Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

MEX 01 00:01:34.1±0.7, 15.52N×96.06W, h20km±37km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.25	349	iP	Pb	00 01 39.3	-0.8
	baz=168,slow=16						
HUIG				iS	Sb	00 01 42.8	-1.3
PEIG	Puerto Escondi	1.15	295	eP	Pn	00 01 51.7	-3.5
CMIG	Matias Romero	1.93	36	eP	Pn	00 02 05.2	-0.6

IDC 01 00:13:14.9±1.9, 11.32S×161.39E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/31, mbtmp3.9/5, ML3.9/1, MS3.6/1, Ms1 3.6/1, ms1mx2.6/32, Error ellipse: s-maj=43.4km s-min=35.9km az=87.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.36	323	Pn	Pn	00 13 55.8	+1.0
	31nm,0.3s,baz=180,slow=12,SNR=6.2						
HNR				Sn	Sn	00 14 23.8	-0.8
	144nm,0.3s,baz=158,slow=19,SNR=8.9						
JAY	Jayapura	22.30	292	LR	LR	00 25 46.9	
	comp=Z,149nm,20.1s,baz=352,slow=34						
WRA	Warramunga Arr	27.39	248	P	P	00 19 02.3	-0.1
	0.4nm,0.7s,baz=78,slow=9.4,SNR=5.3						
SONM	Songino Array	76.41	325	P	P	00 25 06.8	+0.3
	2.3nm,0.6s,baz=138,slow=6.2,SNR=11						
ILAR	Eielson Array	85.17	20	P	P	00 25 52.5	-0.2
	0.2nm,0.4s,baz=230,slow=5.8,SNR=2.6						
MKAR	Makanchi Array	90.82	318	P	P	00 26 19.9	-0.4
	0.6nm,0.6s,baz=101,slow=6.2,SNR=7.4						

DJA 01 00:23:13.7±1.7, 2°S±7°×13°8E±°, h12km±15km, M3.8/5, mB4.9/1, mb4.0/5, MLv3.7/3, Mw(mB)4.2/1
IDC 01 00:23:16.8±1.6, 2.96S×138.64E, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.5/32, mbtmp3.6/4, ML3.8/2, Error ellipse: s-maj=30.5km s-min=17.2km az=117.0
ISC 01 00:23:17.9±1.3, 3.0S±0.1×138.77E±0.09, h10km, n6, σ2.45/11, Irian Jaya

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GENI	Genyem	1.47	73	P	Pb	00 23 46.1	+0.8
GENI				S	Sn	00 23 58.9	-4.8
JAY	Jayapura	2.00	75	Pn	Pb	00 23 54.0	-0.5
	18nm,0.3s,baz=239,slow=11,SNR=50						
JAY				Sn	Sb	00 24 20.5	+1.0
	5.0nm,0.3s,baz=284,slow=22,SNR=1.8						
JAY	Jayapura	2.00	75	P	Pn	00 23 53.4	+1.5
JAY				S	Sg	00 24 23.5	+1.1
WRA	Warramunga Arr	17.36	194	P	P	00 27 22.2	+0.3
	0.4nm,0.3s,baz=18,slow=13,SNR=15						
WRA				S	Sn	00 30 30.5	-3.4
	0.1nm,0.3s,baz=8.8,slow=22,SNR=4.0						
ASAR	Alice Springs	21.05	192	P	P	00 28 03.4	+1.0
	1.5nm,0.7s,baz=22,slow=11,SNR=15						
ASAR				S	S	00 31 59.4	+2.5
	1.6nm,0.9s,baz=12,slow=25,SNR=5.9						
MKAR	Makanchi Array	70.07	322	P	P	00 34 29.8	-0.6
	0.3nm,0.6s,baz=102,slow=4.9,SNR=2.1						

MOS 01 00:32:47.2±1.0, 44.66N×146.93E, h163km, mb3.8/2, Error ellipse: s-maj=17.7km s-min=12.2km az=47.7
SKHL 01 00:32:47.3±0.2, 44.40N×147.20E, h144km±2km, mb4.6/4, msha5.0/4
JMA 01 00:32:49.2±0.5, 44.44N×146.93E, h155km±4km, M3.5
IDC 01 00:32:49.3±2.6, 45.18N×146.82E, h149km±41km, mb3.0/6, mb1 3.3/8, mb1mx3.1/32, mbtmp3.5/8, Error ellipse: s-maj=73.1km s-min=26.0km az=179.0
ISC 01 00:32:47.7±0.8, 44.48N±0.07×147.05E±0.06, h162km±6km, n48, σ0.89/63, mb3.4/7, 5C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	0.95	37	⇓ePN	Pn	00 33 12.1	-1.0
KUR	Kuril'sk	0.95	37	eP	Pn	00 33 12.8	-0.3
KUR				AMB	AMB	00 33 13.3	
	60nm,0.5s						
KUR				eS	Sn	00 33 32.0	-0.7
KUR				A	A	00 33 32.5	
	70nm,0.5s						
KUR				A	A	00 33 32.5	
	130nm,0.5s						
YUK	Yuzh-Kuril'sk	0.96	243	ePN	Pn	00 33 13.6	+0.3
YUK				eS	Sn	00 33 33.5	+0.7
YUK				pmax	pmax		
	comp=N,207nm,0.2s						
YUK				pmax	pmax		
	comp=Z,463nm,0.2s						
YUK				pmax	pmax		
	comp=E,151nm,0.1s						
YUK				smax	smax		
	comp=N,105nm,0.3s						
YUK				smax	smax		
	comp=E,176nm,0.2s						
YUK	Yuzh-Kuril'sk	0.96	243	eP	Pn	00 33 13.5	+0.3
YUK				AMB	AMB	00 33 14.0	
	comp=E,230nm,0.3s						
YUK				eS	Sn	00 33 33.0	+0.2
YUK				A	A	00 33 34.1	
	comp=E,410nm,0.6s						
YUK				A	A	00 33 34.1	
	comp=E,280nm,0.6s						
GRPR	Tuman	1.04	242	⇑iPN	Pn	00 33 14.1	+0.2
GRPR				iS	Sn	00 33 34.5	+0.6
GRPR				pmax	pmax		
	comp=N,67nm,0.1s						
GRPR				pmax	pmax		
	comp=Z,141nm,0.1s						
GRPR				pmax	pmax		
	comp=E,41nm,0.2s						
GRPR				smax	smax		
	comp=N,270nm,0.3s						
GRPR				smax	smax		
	comp=E,253nm,0.3s						
GRPR	Tuman	1.04	242	iP	Pn	00 33 14.0	+0.2
GRPR				AMB	AMB	00 33 15.0	
	comp=E,141nm,0.3s						
GRPR				iS	Sn	00 33 34.0	+0.1
GRPR				A	A	00 33 37.0	
	comp=E,270nm,0.3s						
GRPR				A	A	00 33 37.0	
	comp=E,253nm,0.3s						
GLVR	Golovnino	1.33	237	ePN	Pn	00 33 17.3	+0.9
GLVR				eS	Sn	00 33 38.9	+0.4
GLVR				pmax	pmax		
	comp=Z,481nm,0.1s						
GLVR				smax	smax		
	comp=N,431nm,0.2s						
GLVR				smax	smax		
	comp=E,275nm,0.2s						
GLVR	Golovnino	1.33	237	eP	Pn	00 33 16.7	+0.3
GLVR				AMB	AMB	00 33 18.0	
	comp=E,240nm,0.2s						
GLVR				eS	Sn	00 33 39.1	+0.6
GLVR				A	A	00 33 40.0	
	comp=E,431nm,0.2s						
GLVR				A	A	00 33 40.0	
	comp=E,275nm,0.2s						
RUSJ	Misakicho	1.35	254	⇑iPN	Pn	00 33 16.8	+0.2
RUSJ				eS	Sn	00 33 38.9	+0.1
NEM2	Nemuro 2	1.46	221	P	Pn	00 33 17.6	-0.1
NEM2				eS	Sn	00 33 39.7	-1.1
NMR	Nemuro--Hokkai	1.47	221	⇑iPN	Pn	00 33 17.7	-0.1
NMR				iS	Sn	00 33 40.0	-0.9
NMR	Nemuro--Hokkai	1.47	221	iP	Pn	00 33 17.0	-0.8
NMR				iS	Sn	00 33 40.0	-0.9
JRA	Rausu	1.49	249	P	Pn	00 33 18.0	0.0
JNSB	Nemuroshibetsu	1.63	245	P	Pn	00 33 20.1	+0.6
JNK	Nakash	1.91	243	P	Pn	00 33 22.8	+0.3
JKHN	Kushirohamanak	1.96	225	P	Pn	00 33 23.2	+0.2
AKK	Akkeshi	2.17	228	eP	Pn	00 33 25.5	0.0
AKK				eS	Sn	00 33 54.0	-0.6
JAK	Akkeshi	2.26	230	P	Pn	00 33 26.7	+0.2
JAK				eS	Sn	00 33 55.6	-0.9
JTKR	Abashiri--Toko	2.32	258	P	Pn	00 33 27.2	+0.1
JTKR				eS	Sn	00 33 56.8	-0.8
JAR	Ashorobuto	2.65	245	P	Pn	00 33 32.1	+0.9
JOB	Onbets	2.82	237	P	Pn	00 33 33.9	+0.7
JOB				eS	Sn	00 34 07.4	-1.0
JKK2	Kamakawa 2	3.15	260	P	Pn	00 33 38.2	+0.8
JKK2				eS	Sn	00 34 16.0	0.0
ASAJ	Asahikawa	3.22	265	P	Pn	00 33 39.1	+0.9
	comp=E,2.7nm,0.3s,baz=73,slow=11,SNR=6.6						
ASAJ				S	Sn	00 34 18.1	+0.6
	comp=E,0.6nm,0.3s,baz=168,slow=30,SNR=7.0						
JSE	Soyaes	3.22	280	P	Pn	00 33 38.1	-0.1
JCH	Churui	3.27	236	P	Pn	00 33 39.0	+0.1
JCH				eS	Sn	00 34 16.2	-2.3
JWK2	Keihoku	3.76	285	P	Pn	00 33 46.0	+1.0
ERM	Erimo	3.76	230	d iPN	Pn	00 33 46.2	+1.0
JNBK	Urakawa-nobuka	3.83	236	P	Pn	00 33 45.2	-0.8
JRBN	Rebuntou	4.35	285	P	Pn	00 33 52.7	0.0
USA0B	Ussuriysk Arra	10.80	274	⇑ePN	Pn	00 35 15.7	-2.2
USRK	Ussuriysk Ar.	10.80	274	P	Pn	00 35 17.4	-0.5
	baz=84,slow=14,SNR=5.5						
SEY	Seymchan	18.74	8	⇑eP	P	00 36 54.7	+0.9
SEY	Seymchan	18.74	8	eP	P	00 36 54.7	+0.9
ULN	Ulaanbaatar	27.69	291	⇓eP	P	00 38 21.4	+0.8
ULN				pmax	pmax		
	comp=Z,5.0nm,2.7s						
ULN	Ulaanbaatar	27.69	291	eP	P	00 38 21.4	+0.8
TIXI	Tiksi	28.63	348	⇓eP	P	00 38 27.5	-1.0
TIXI	Tiksi	28.63	348	eP	P	00 38 27.5	-1.0
H11N2	WAKE ISLAND Hy	29.70	140	T	T	01 09 55.2	
	baz=331,slow=76,SNR=25						
H11N1	WAKE ISLAND Hy	29.71	140	T	T	01 09 59.1	
	baz=331,slow=76,SNR=25						
H11N3	WAKE ISLAND Hy	29.72	140	T	T	01 09 59.5	
	baz=331,slow=76,SNR=21						
ILAR	Eielson Array	40.94	37	P	P	00 40 12.9	-1.0
	comp=Z,0.8nm,0.6s,baz=270,slow=8.7,SNR=7.6						
ILAR	Eielson Array	40.94	37	eP	P	00 40 14.5	+0.6
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	Makanchi Array	44.19	297	P	P	00 40 40.1	-0.2
	comp=Z,0.2nm,0.6s,baz=68,slow=9.6,SNR=2.0						
FINES	FINESS Array B	64.19	333	P	P	00 43 02.3	-2.3
	comp=Z,0.3nm,0.4s,baz=45,slow=8.1,SNR=4.8						
FINES	FINESS Array B	64.19	333	iP	P	00 43 03.0	-1.6
NVAR	Mina Array Bea	67.25	58	P	P	00 43 26.5	+1.6
	comp=Z,0.4nm,0.7s,baz=287,slow=4.3,SNR=2.2						
PDAR	Pinedale Array	69.49	50	P	P	00 43 40.2	+1.4
	comp=Z,0.2nm,0.6s,baz=289,slow=2.8,SNR=2.3						
TXAR	Lajitas Array	82.30	56	P	P	00 44 52.6	+1.2
	comp=Z,0.2nm,0.6s,baz=298,slow=2.7,SNR=3.8						

SKHL 01 00:38:36.5±0.6, 44.70N×149.70E, h37km±4km, mb4.5/3
JMA 01 00:38:39.0±0.6, 45.00N×149.07E, h150km, M3.7
ISC 01 00:38:38.3±3.5, 44.84N±0.10×149.3E±0.2, h100km, n22, σ2.27/35, Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.11	291	iP	Pn	00 38 59.1	-0.7
KUR				AMB	AMB	00 38 59.6	
	180nm,0.4s						
KUR				iS	Sn	00 39 16.5	+0.4
KUR				A	A	00 39 22.0	
	428nm,0.3s						
KUR				A	A	00 39 22.0	
	326nm,0.3s						
YUK	Yuzh-Kuril'sk	2.61	253	iP	Pn	00 39 20.3	+1.5
YUK				AMB	AMB	00 39 23.0	
	55nm,0.3s						
YUK				eS	Sn	00 39 52.7	+2.8
YUK				A	A	00 39 58.0	
	213nm,0.3s						
YUK				A	A	00 39 58.0	
	196nm,0.3s						
GRPR	Tuman	2.69	253	iP	Pn	00 39 21.2	+1.4
GRPR				AMB	AMB	00 39 24.0	
	42nm,0.2s						
GRPR				eS	Sn	00 39 56.8	+5.1
GRPR				A	A	00 40 00.0	
	148nm,0.2s						
GRPR				A	A	00 40 00.0	
	116nm,0.2s						
NEM2	Nemuro 2	2.97	241	P	Pn	00 39 25.3	+1.7
NEM2				eS	Sn	00 40 01.4	+2.8
JRA	Rausu	3.15	255	P	Pn	00 39 27.0	+1.1
JNK	Nakash	3.54	251	P	Pn	00 39 32.5	+1.2
AKK	Akkeshi	3.72	242	eP	Pn	00 39 34.7	+1.1
AKK				eS	Sn	00 40 18.4	+2.0
JAK	Akkeshi	3.82	243	P	Pn	00 39 36.0	+1.0
JAK				eS	Sn	00 40 20.8	+1.9
JTKR	Abashiri--Toko	3.98	259	P	Pn	00 39 37.5	+0.4
JAR	Ashorobuto	4.29	251	P	Pn	00 39 42.8	+1.4
JOB	Onbets	4.42	246	P	Pn	00 39 44.1	+1.0
JOB				eS	Sn	00 40 34.4	+1.0
JCH	Churui	4.86	245	P	Pn	00 39 49.8	+0.7
JCH				eS	Sn	00 40 43.4	-0.7
ASAJ	Asahikawa	4.87	264	P	Pn	00 39 48.4	-0.8
JEM	Erimo	5.31	240	P	Pn	00 39 57.0	+1.9
JNBK	Urakawa-nobuka	5.42	244	P	Pn	00 39 56.0	-0.6
JNBK				eS	Sn	00 40 55.1	-2.6
JBT2	Biratori 2	5.44	250	P	Pn	00 39 57.5	+0.5
JBT2				eS	Sn	00 40 57.5	-0.8
JKB	Kayabe	6.73	247	P	Pn	00 40 12.9	-1.5
JKB				eS	Sn	00 41 24.9	-4.6
JSH	Shimam	7.07	255	P	Pn	00 40 18.9	-0.2
JANG	Nango	7.29	235	P	Pn	00 40 21.6	-0.4
JANG				eS	Sn	00 41 37.9	-5.3
JTM	Tenmabayashi	7.30	239	eS	Sn	00 41 37.7	-5.7
OFUJ	Ofunato	8.10	227	P	Pn	00 40 33.9	+0.8
JRG	Rokugo	8.44	233	P	Pn	00 40 38.4	+0.6
JRG				eS	Sn	00 42 10.1	-1.2

IDC 01 01:00:09.1±3.8, 1.53N×99.35E, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.5/31, mbtmp3.7/4, ML4.7/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/38, Error ellipse: s-maj=168.6km s-min=26.0km az=58.0
NEIC 01 01:00:19.6±0.4, 1.4N±0.1×98.97E±0.10, h100km±13km, mb4.1/4, Error ellipse: s-maj=20.5km s-min=5.8km az=139.0
DJA 01 01:00:21.6±0.8, 1°N±4°×9°9E±°, h79km±10km, M3.2/6, MLv3.2/6
ISC 01 01:00:19.2±0.9, 1.46N±0.06×98.94E±0.07, h100km, n18, σ1.55/20, mb3.9/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRSI	Tarutung	0.57	2	P	Pn	01 00 37.5	+1.8
TRSI				S	Sn	01 00 49.8	+1.8
MNSI	Mandailing Nat	0.92	136	P	Pn	01 00 40.4	+1.6
RPSI	Rantau Prapat	1.23	359	Pn	Pn	01 00 43.9	+1.6
PSI	Prapat	1.34	359	P	Pn	01 00 44.0	+0.4
PSI				P	Pn	01 00 44.1	+0.4
GSI	Gunungsitoli	1.37	264		Pn	01 00 44.5	+0.6
GSI				Sn	Sn	01 01 02.9	+0.3
GSI	Gunungsitoli	1.37	264	P	Pn	01 00 44.8	+0.9
PBSI	Pulau Batu	1.64	204	P	Pn	01 00 48.5	+1.3
TPTI		2.51	316	P	Pn	01 00 59.5	+1.0
CMAR	Chiang Mai Arr	16.90	0	Pn	Pn	01 04 06.8	-2.8
	1.0nm,0.3s,baz=173,slow=8.2,SNR=2.8						
PALK	Pallekele	19.07	288	LR	LR	01 12 04.6	
	comp=Z,141nm,19.4s,baz=269,slow=37						
WB0	Warramunga Arr	40.67	123	P	P	01 07 48.7	-1.4
WB0				IAmb	IAmb	01 07 58.7	
	comp=Z,4.4nm,1.5s						
WRA	Warramunga Arr	40.71	123	P	P	01 07 49.4	-1.1
	comp=Z,1.3nm,0.6s,baz=303,slow=8.9,SNR=17						
WRA	Warramunga Arr	40.71	123	P	P	01 07 48.8	-1.6
WB2	Warramunga Arr	40.72	123	P	P	01 07 48.4	-2.1
WB2				IAmb	IAmb	01 07 59.5	
	comp=Z,4.3nm,1.2s						
WR0	Warramunga Arr	40.89	123	P	P	01 07 50.6	-1.3
ASAR	Alice Springs	42.18	129	P	P	01 08 01.2	-1.2
	comp=Z,0.3nm,0.5s,baz=302,slow=7.8,SNR=2.7						
MKAR	Makanchi Array	47.44	345	P	P	01 08 45.5	+1.8
	comp=Z,0.3nm,0.5s,baz=146,slow=8.7,SNR=4.9						
MKAR	Makanchi Array	47.44	345	P	P	01 08 44.2	+0.5

MEX 01 01:24:14.8±0.5, 19.22N×104.10W, h23km±8km, MD3.5, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
R15V		0.12	116	iP	Pb	01 24 18.3	-1.1
R15V				iS	Sb	01 24 21.8	-0.8
COIG	Colima	0.39	96	iP	Pb	01 24 21.8	-1.4
COIG				iS	Sb	01 24 27.2	-1.7
EZ5V		0.53	61	iP	Pb	01 24 23.9	-1.8
EZ5V				iS	Sb	01 24 32.3	-0.8

TUL 01 01:32:43.6±1.1, 36.75N±0.01×97.59W±0.01, h5km±7km, ML2.7, mb_Lg2.7/50(NEIC), Error ellipse: s-maj=1.8km s-min=1.5km az=183.0
NEIC 01 01:32:43.8±0.6, 36.732N±0.007×97.58W±0.02, h5km±7km, Error ellipse: s-maj=2.0km s-min=0.7km az=64.0, Oklahoma

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GC02	Grant County #	0.25	298		Pg	01 32 48.7	-0.1
GC02				Sg	Sg	01 32 52.3	+0.2
KAN13	South Haven SW	0.29	16		Pg	01 32 49.5	0.0
KAN13				Sg	Sg	01 32 53.5	+0.1
BLOK	Blackwell	0.30	84		Pg	01 32 49.8	+0.2
BLOK				Sg	Sg	01 32 54.2	+0.7
KAN17	Caldwell West	0.34	335		Pg	01 32 50.4	-0.1
KAN17				Sg	Sg	01 32 55.1	0.0
KAN14	Manchester OK	0.38	306		Pg	01 32 51.0	-0.2
KAN14				Sg	Sg	01 32 56.1	-0.1
CROK	Carrier	0.40	235		Pg	01 32 51.8	+0.3
CROK				Sg	Sg	01 32 57.4	+0.8
KAN05	Bluff City Nor	0.44	328		Pg	01 32 52.2	-0.2
KAN05				Sg	Sg	01 32 58.8	+0.6
KS20	Mayfield South	0.50	2		Pg	01 32 53.2	-0.2
KS20				Sg	Sg	01 32 59.8	-0.1
OK032	Salt Plains WL	0.51	278	Pg	Pg	01 32 53.5	-0.1
OK032				Sg	Sg	01 33 00.3	0.0
KAN10	Anthony SW Sta	0.57	314		Pg	01 32 54.6	-0.2
KAN10				Sg	Sg	01 33 02.0	-0.1
KAN08	Anthony NE Sta	0.58	328	Pg	Pg	01 32 54.8	-0.3
KAN12	Harper NE Stat	0.66	330		Pg	01 32 56.1	-0.4
T35A	Sooner Cattle	0.88	78	Pg	Pg	01 33 00.4	-0.3
QUOK	Quay	0.90	128	Pg	Pg	01 33 01.0	0.0
OK029	Liberty Lake	0.94	174		Pg	01 33 01.8	0.0
OK031	S. Brethren Rd	0.98	142		Pg	01 33 02.6	-0.1
OK025	Westminster Rd	1.17	170		Pg	01 33 05.9	-0.2
U32A	Winter Ranch,	1.20	253	Pg	Pg	01 33 05.9	-0.9
OKCFA	Oklahoma City	1.32	175		Pn	01 33 08.6	-0.3
OKCSW	OKLAHOMA CITY	1.33	175		Pn	01 33 08.8	-0.3
FNO	Franklin	1.48	174	Pn	Pn	01 33 11.2	+0.1
R32A	Long Quarter,	1.91	332		Pb	01 33 18.5	-0.7
X34A	Smith Ranch, M	2.14	186		Pn	01 33 21.4	+1.2
WMOK	Wichita Mounta	2.22	206		Pn	01 33 21.5	+0.2
U38A	Gravette	2.59	96	Pn	Pn	01 33 26.2	-0.1
CBKS	Cedar Bluff	2.69	321		Pn	01 33 27.5	-0.3
LOOK	Love County	2.75	173		Pn	01 33 28.7	0.0
X37A	Clayton	2.79	139		Pn	01 33 29.6	+0.4
X37A				IAmb_Lg		01 34 17.3	
	comp=Z,22nm,0.7s						
HHAR	Hobbs	2.97	98		Pn	01 33 32.5	+0.9
Z35A	Perchaven, San	3.40	175	Pn	Pn	01 33 37.4	-0.2
W39A	Magazine	3.44	115	IAmb_Lg		01 34 42.0	
	comp=Z,33nm,0.9s						
S39A	Bolivar	3.53	73	Pn	Pn	01 33 39.6	+0.2
AMTX	Amarillo	3.81	242	IAmb_Lg		01 34 47.0	
	comp=Z,25nm,0.8s						
U40A	Yellville	3.83	94		Pn	01 33 43.8	+0.4
U40A				IAmb_Lg		01 34 55.7	
	comp=Z,17nm,0.8s						
MIAR	Mount Ida	3.92	123	Pn	Pn	01 33 45.7	+1.0
MIAR				IAmb_Lg		01 34 58.5	
	comp=Z,21nm,0.7s						
N33A	J Bar K, Exete	4.00	1	Pn	Pn	01 33 45.8	0.0
Z38A	Mt. Pleasant	4.07	148	IAmb_Lg		01 35 00.6	
	comp=Z,22nm,0.8s						
MGMO	Mountain Grove	4.28	83		Pn	01 33 50.2	+0.6
MGMO				IAmb_Lg		01 35 07.7	
	comp=Z,16nm,1.1s						
X40A	Basin Creek Fa	4.47	119	IAmb_Lg		01 35 17.6	
	comp=Z,13nm,0.9s						
FCAR	Ozark Folk Cen	4.49	99	IAmb_Lg		01 35 15.8	
	comp=Z,11nm,0.7s						
R40A	Maddies Statio	4.50	68	IAmb_Lg		01 35 14.4	
	comp=Z,12nm,0.9s						
WHAR	Wooly Hollow	4.53	107	IAmb_Lg		01 35 13.0	
	comp=Z,14nm,1.0s						
KSCO	Kaye Shedlock'	4.59	301	IAmb_Lg		01 35 20.5	
	comp=Z,13nm,0.8s						
BGNE	Belgrade	4.69	355	IAmb_Lg		01 35 24.5	
	comp=Z,16nm,0.8s						
WLAR	White Oak Lake	4.75	128	IAmb_Lg		01 35 28.1	
	comp=Z,12nm,0.9s						
CCM	Cathedral Cave	5.22	73	IAmb_Lg		01 35 41.2	
	comp=Z,9.4nm,0.8s						
LCAR	Lake Charles	5.23	95	IAmb_Lg		01 35 35.3	
	comp=Z,12nm,1.2s						
N38A	Joes South For	5.29	39	IAmb_Lg		01 35 40.7	
	comp=Z,20nm,0.8s						
L34A	Svendsen Farm,	5.31	10	IAmb_Lg		01 35 42.6	
	comp=Z,13nm,0.8s						
T25A	Trinidad	5.49	276	IAmb_Lg		01 35 45.7	
	comp=Z,10nm,1.1s						
PBMO	Poplar Bluff	5.74	87	IAmb_Lg		01 35 49.8	
	comp=Z,7.9nm,0.7s						
SLM	Saint Louis	6.13	70	IAmb_Lg		01 36 09.1	
	comp=Z,9.9nm,0.7s						
S44A	Carbondale	6.71	79	IAmb_Lg		01 36 24.1	
	comp=Z,15nm,0.8s						
SIUC	Southern Illin	6.75	79	IAmb_Lg		01 36 32.9	
	comp=Z,12nm,0.8s						
L40A	Anamosa	7.25	41	IAmb_Lg		01 36 41.2	
	comp=Z,12nm,0.8s						
JFWS	Jewell Farm	8.36	40	IAmb_Lg		01 37 21.4	
	comp=Z,7.4nm,0.8s						
WCI	Wyandotte Cave	9.10	77	IAmb_Lg		01 37 29.3	
	comp=Z,5.8nm,0.8s						

IDC 01 01:33:33.5±1.1, 21.96N×146.84E, h0km, mb4.0/9, mb1 4.1/11, mb1mx3.8/47, mbtmp4.0/11, ML4.0/2, Error ellipse: s-maj=36.6km s-min=19.2km az=81.0
NEIC 01 01:33:36.6±0.9, 22.06N±0.09×146.9E±0.2, h15km±5km, mb4.4/14, Error ellipse: s-maj=25.6km s-min=11.6km az=76.0
ISC 01 01:33:35.6±0.8, 22.04N±0.09×146.7E±0.2, h10km, n31, σ1.37/31, mb4.2/17, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANA2	Anatahan	5.74	189	Pn	Pn	01 35 00.7	-0.2
JCJ	Chichijima	6.49	322	Pn	Pn	01 35 11.6	+0.4
	12nm,0.3s,baz=85,slow=20,SNR=14						
JCJ				Sn	Sn	01 36 21.4	-3.9
	10nm,0.3s,baz=254,slow=23,SNR=8.6						
JCJ	Chichijima	6.49	322	Pn	Pn	01 35 11.7	+0.5
JCJ				Sn	Sn	01 36 22.2	-3.0
MJAR	Matsushiro Arr	16.22	335	Pn	Pn	01 37 23.1	-0.5
	0.1nm,0.3s,baz=159,slow=10,SNR=2.0						
MJAR	Matsushiro Arr	16.22	335		Pn	01 37 24.4	+0.8
KSRS	Korea Array	22.32	318	P	P	01 38 36.2	+2.8
	3.0nm,0.8s,baz=135,slow=9.5,SNR=9.5						
ULN	Ulaanbaatar	40.80	319	P	P	01 41 19.3	+2.0
ULN				IAmb	IAmb	01 41 20.4	
	comp=Z,4.2nm,1.1s						
SONM	Songino Array	41.19	319	P	P	01 41 21.9	+1.4
	comp=Z,1.1nm,0.5s,baz=136,slow=9.3,SNR=7.6						
SONM	Songino Array	41.19	319	P	P	01 41 22.4	+1.9
WB0	Warramunga Arr	43.25	197	P	P	01 41 37.4	0.0
WB0				IAmb	IAmb	01 41 53.0	
	comp=Z,9.6nm,1.5s						
WB2	Warramunga Arr	43.42	197	P	P	01 41 38.9	+0.2
WB2				IAmb	IAmb	01 41 45.0	
	comp=Z,6.8nm,1.3s						
WRA	Warramunga Arr	43.43	197	P	P	01 41 38.7	-0.1
	comp=Z,0.4nm,0.4s,baz=13,slow=8.3,SNR=9.4						
WRA	Warramunga Arr	43.43	197	P	P	01 41 39.2	+0.4
ASAR	Alice Springs	47.10	196	P	P	01 42 06.3	-1.6
	comp=Z,0.5nm,0.6s,baz=16,slow=7.6,SNR=5.7						
DZM	Mont Dzumac	47.89	155	P	P	01 42 13.1	-1.1
TNA	Tin City	52.39	22	P	P	01 42 47.2	-0.5
ZALV	Zalesovo Beam	55.97	321	P	P	01 43 13.6	-0.5
	comp=Z,2.0nm,0.5s,baz=103,slow=8.1,SNR=7.1						
MK31	Makanchi Array	56.86	312	P	P	01 43 21.1	+0.6
MK31				IAmb	IAmb	01 43 22.9	
	comp=Z,2.5nm,0.9s						
MKAR	Makanchi Array	56.86	312	P	P	01 43 21.6	+1.0

comp=Z,2.9nm,0.7s,baz=92,slow=9.2,SNR=26
MKAR Makanchi Array 56.86 312 P **P 01 43 21.4 +0.8**
MAKZ Makanchi 57.08 312 P **P 01 43 22.1 0.0**
MAKZ IAmb IAmb 01 43 24.5
comp=Z,3.2nm,0.7s
ILAR Eielson Array 60.27 27 P **P 01 43 43.9 0.0**
comp=Z,1.3nm,0.8s,baz=262,slow=5.5,SNR=11
ILAR Eielson Array 60.27 27 P **P 01 43 42.9 -1.0**
BRVK Borovoye 64.58 319 P **P 01 44 14.2 +1.2**
BRVK IAmb IAmb 01 44 15.3
comp=Z,4.1nm,0.8s
KK31 Karatay Array 65.39 309 P P 01 44 15.8 -2.7
KKAR Karatay Array 65.39 309 P P 01 44 16.3 -2.1
KKAR IAmb IAmb 01 44 20.7
comp=Z,4.6nm,0.8s
ABKAR Akbulak array 71.55 316 P **P 01 44 57.2 +0.4**
ABKAR IAmb IAmb 01 44 58.3
comp=Z,2.0nm,0.9s
FINES FINESS Array B 84.25 335 P **P 01 46 06.9 -0.3**
comp=Z,1.0nm,0.4s,baz=71,slow=4.9,SNR=13
FINES FINESS Array B 84.25 335 P **P 01 46 07.4 +0.2**
BRTR Keskin Array B 92.44 315 P **P 01 46 46.3 -0.8**
comp=Z,0.6nm,0.7s,baz=69,slow=4.1,SNR=3.6
TORD Torodi Ar. Bea 130.99 312 PKP **PKPdf 01 52 48.2 -0.2**
comp=Z,0.4nm,1.0s,baz=61,slow=0.4,SNR=1.5

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*IDC **01** 01:35:13.3±0.9, 15.°04N×120.°36E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.8/42, mbtmp4.0/8, Error ellipse: s-maj=55.9km s-min=19.5km az=61.0*
ISC 01 01:35:21.2±0.8**, 14.°99N**±0.°08×**119.°74E**±0.°09**, h50km, n12, σ1.s72**/14**, mb3.9**/7**, 2C-1D, Luzon**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PCPH Palayan 1.43 66⇓*e*P **Pn 01 35 44.0 -0.8**
PCPH *e*S **Sn 01 36 02.0 -0.4**
PGP Puerto Galera 1.89 141⇑*e*P **Pn 01 35 50.6 -0.5**
PGP *i* S **Sn 01 36 15.1 +1.3**
LQP Lukban 1.95 116⇑*e*P **Pn 01 35 52.1 +0.1**
LQP *e*S **Sn 01 36 18.6 +3.1**
CMAR Chiang Mai Arr 20.21 283 P Pn 01 39 56.7 +2.3
2.0nm,0.4s,baz=90,slow=9.5,SNR=13
WRA Warramunga Arr 37.57 157 P **P 01 42 27.9 -3.1**
0.7nm,0.4s,baz=335,slow=9.7,SNR=7.2
ASAR Alice Springs 40.84 160 P **P 01 42 55.8 -2.5**
0.6nm,0.3s,baz=334,slow=7.5,SNR=48
ARCES ARCESS Array B 77.55 339 P **P 01 47 12.4 +0.9**
2.1nm,0.8s,baz=76,slow=7.5,SNR=8.9
BRTR Keskin Array B 77.62 308 P **P 01 47 13.4 +0.7**
0.2nm,0.4s,baz=95,slow=4.3,SNR=1.8
FINES FINESS Array B 78.71 331 P **P 01 47 19.0 +1.0**
1.9nm,0.6s,baz=54,slow=7.1,SNR=11
NB2 NORSAR Subarra 85.69 332 P **P 01 47 54.4 -0.2**
comp=Z,2.1nm,0.7s,baz=69,slow=4.8
NOA NORSAR Array B 85.69 332 P **P 01 47 54.4 -0.2**
comp=Z,1.7nm,0.7s,baz=68,slow=4.8,SNR=9.2
GERES GERESS Array B 89.05 321 P **P 01 48 12.4 +1.2**
comp=Z,0.4nm,0.7s,baz=70,slow=5.6,SNR=4.0

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*STR **01** 01:36:26.6±0.9, 47°N±6°×1°1E±°, h0km, MLv2.6/7, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
*ZUR **01** 01:36:28.2, 47.°34N×10.°69E, h4km±3km, MLh2.4/62, Error ellipse: s-maj=5.9km s-min=1.2km az=250.0*
*VIE **01** 01:36:28.1±0.2, 47.°34N×10.°69E, h4km±2km, mb1.6/18, ml2.5/19, Error ellipse: s-maj=1.3km s-min=1.1km az=174.0 11 km NNW of Imst felt 4 ems98 at Namlos / Tyrol*
*ROM **01** 01:36:29.0±0.3, 47.°30N±0.°02×10.°685E±0.°009, h10km, ML2.2/25, Error ellipse: s-maj=2.2km s-min=0.7km az=8.0*
*PRU **01** 01:36:28.0±0.0, 47.°43N×10.°61E, h2km*
*LDG **01** 01:36:28.3±0.1, 47.°35N×10.°71E, h2km, Ml2.5/20, Error ellipse: s-maj=2.9km s-min=2.1km az=49.0*
*BGR **01** 01:36:29.2±0.2, 47.°35N×10.°68E, h10km, ML2.6/20, Error ellipse: s-maj=3.3km s-min=1.1km az=169.0*
ISC 01 01:36:27.5±0.8**, 47.°34N**±0.°01×**10.°67E**±0.°01**, h11**km±6km**, n166, σ1.s40**/298**, 12C-17D, Austria**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RETA Reutte 0.16 23 ⇑Pg **Pg 01 36 31.2 0.0**
RETA ⇑Pg **Pg 01 36 31.2 0.0**
1.3nm,SNR=82
RETA Sg **Sg 01 36 33.8 0.0**
RETA Reutte 0.16 23 *i* Pg **Pg 01 36 31.1 0.0**
1.3nm,0.0s,SNR=371
RETA *e*Sg **Sg 01 36 33.8 0.0**
98nm,0.1s
ZUGS Zugspitze, Sch 0.22 70 *e*Pg **Pg 01 36 32.5 +0.2**
ZUGS *e*Sg **Sg 01 36 36.8 +1.0**
OBER Oberstdorf 0.26 285 *e*Pg **Pg 01 36 33.3 +0.3**
OBER *e*Sg **Sb 01 36 38.1 -0.8**
MOTA Moosalm 0.30 89 *i* Pg **Pg 01 36 33.6 0.0**
38nm,0.1s,SNR=219
MOTA *e*Sg **Sg 01 36 38.5 +0.8**
102nm,0.1s
FETA Feichten 0.32 173 ⇓Pg **Pb 01 36 34.7 -0.7**
0.5nm,SNR=31
FETA ⇓Pg **Pb 01 36 34.7 -0.7**
FETA Sg **Sb 01 36 39.6 -1.0**
FETA Feichten 0.32 173 *i* Pg **Pb 01 36 34.7 -0.7**
4.1nm,0.1s,SNR=107
FETA *e*Sg **Sb 01 36 39.6 -1.0**
54nm,0.1s
PART Garmisch-Parte 0.34 62 *e*Pg **Pg 01 36 34.3 -0.1**
PART *e*Sg **Sb 01 36 40.3 -0.7**
SQTA Sankt Quirin 0.39 108 *e*Pg **Pg 01 36 35.5 +0.3**
30nm,0.2s,SNR=201
SQTA *e*Sg **Sb 01 36 41.4 -1.1**
44nm,0.1s
UBR Ueberruh 0.51 312 ⇓Pg **Pb 01 36 38.8 +0.3**
1.1nm,SNR=40
UBR ⇓Pg **Pb 01 36 38.8 +0.3**
UBR Sg **Sb 01 36 46.7 +0.7**
UBR Ueberruh 0.51 312 *e*Pg **Pb 01 36 38.9 +0.3**
UBR *e*Sg **Sb 01 36 46.8 +0.8**
DAVA Damuels 0.54 265 ⇓Pg **Pg 01 36 38.3 +0.3**
0.8nm,SNR=37
DAVA ⇓Pg **Pg 01 36 38.3 +0.3**
DAVA Sg **Sb 01 36 48.1 +1.3**
DAVA Damuels 0.54 265 *i* Pg **Pg 01 36 38.3 +0.3**
21nm,0.2s,SNR=103
DAVA *e*Sg **Sb 01 36 48.0 +1.1**
50nm,0.2s
DAVA Damuels 0.54 265 *e*Pg **Pg 01 36 38.4 +0.3**
DAVA *e*Sg **Sb 01 36 48.0 +1.1**
SCUC Scuol-Clozza 0.60 205 Pg **Pb 01 36 39.5 -0.5**
0.3nm,SNR=3.1
SCUC Pg **Pb 01 36 39.5 -0.5**
WATA Walderalm 0.62 90 *i* Pg **Pg 01 36 39.1 -0.4**
3.0nm,0.1s,SNR=18
WATA *e*Sg **Sb 01 36 48.9 -0.2**
15nm,0.1s
ROSI Rosskopf 0.65 129 Pg **Pb 01 36 40.6 -0.5**
ROSI Pg **Pb 01 36 40.6 -0.5**
0.3nm,SNR=16
ROSI Rosskopf 0.65 129 ⇓P **Pb 01 36 40.6 -0.5**
ROSI S **Sb 01 36 49.9 -0.3**
ROSI AML AML
comp=E,213μm,1.3s
ROSI AML AML
comp=N,188μm,0.3s
ROSI AML AML
comp=N,188μm,0.3s
WTTA Wattenberg 0.66 96 Pg **Pg 01 36 40.0 -0.4**
WTTA Pg **Pg 01 36 40.0 -0.4**
comp=N,0.3nm,SNR=17
WTTA Wattenberg 0.66 96 *e*Pg **Pg 01 36 40.1 -0.3**
comp=N,2.7nm,0.1s,SNR=44
WTTA *e*Sg **Sb 01 36 50.3 -0.2**
comp=N,27nm,0.2s
WTTA Wattenberg 0.66 96 *e*Pg **Pg 01 36 40.2 -0.1**
WTTA *e*Sg **Sb 01 36 50.4 -0.1**
BE1 Monatshausen 0.68 33 *e*Pg **Pb 01 36 42.1 +0.6**
BE1 *e*Sg **Sg 01 36 50.5 +0.7**
MOSI Grossmontoni 0.73 186 Pg **Pb 01 36 42.2 -0.1**
MOSI Pg **Pb 01 36 42.2 -0.1**
comp=N,0.2nm,SNR=8.0
MOSI Sg **Sb 01 36 52.8 +0.5**
ABSI Aberstueckl 0.76 144 ⇓Pg **Pb 01 36 42.9 +0.1**
ABSI ⇓Pg **Pb 01 36 42.9 +0.1**
comp=N,0.2nm,SNR=15
ABSI Aberstueckl 0.76 144 ⇓P **Pb 01 36 42.9 +0.1**
ABSI S **Sb 01 36 53.0 -0.2**
ABSI AML AML
comp=E,190μm,0.3s
ABSI AML AML
comp=N,168μm,0.5s
DAVOX Davos/Dischmat 0.78 224 Pg **Pg 01 36 42.6 +0.1**
DAVOX Pg **Pg 01 36 42.6 +0.1**
comp=N,0.1nm,SNR=6.7
DAVOX Davos/Dischmat 0.78 224 P **Pb 01 36 42.9 -0.2**
DAVOX S **Sb 01 36 53.7 0.0**
DAVOX AML AML
comp=E,95μm,0.4s
DAVOX AML AML
comp=N,100μm,0.3s
DAVOX AML AML
comp=E,95μm,0.4s
DAVOX AML AML
comp=N,100μm,0.3s
LIENZ Kamor/St.Gall 0.80 267 Pg **Pb 01 36 44.1 +0.5**
LIENZ Pg **Pb 01 36 44.1 +0.5**
comp=N,0.1nm,SNR=5.6
SGT05 Eggersriet 0.83 277 ⇑Pg **Pb 01 36 44.8 +0.8**
comp=N,0.3nm,SNR=8.1
SGT05 ⇑Pg **Pb 01 36 44.8 +0.8**
BRMO Bormio 0.89 193 P **Pb 01 36 45.0 0.0**
BRMO AML AML
comp=E,41μm,0.3s
BRMO AML AML
comp=N,34μm,0.7s
SGT04 Schlatt-Haslen 0.90 271 ⇑Pg **Pn 01 36 46.0 -0.1**
comp=N,0.3nm,SNR=8.0
SGT04 ⇑Pg **Pn 01 36 46.0 -0.1**
FUR Furstenfeldbru 0.92 26 *e*Pg **Pn 01 36 46.8 +0.4**
FUR *e*Sg **Sn 01 36 59.5 -0.2**
PLONS Plons/SG 0.93 252 Pg **Pb 01 36 45.9 +0.4**
comp=N,0.2nm,SNR=6.1
PLONS Pg **Pb 01 36 45.9 +0.4**
PLONS Plons/SG 0.93 252 P **Pb 01 36 46.1 +0.5**
PLONS S **Sn 01 36 59.1 -0.7**
PLONS AML AML
comp=E,101μm,1.5s
PLONS AML AML
comp=N,122μm,0.4s
PLONS AML AML
comp=N,122μm,0.4s
PLONS AML AML
comp=E,101μm,1.5s
PLONS Plons/SG 0.93 252 *e*Pg **Pb 01 36 46.0 +0.4**
PLONS *e*Sg **Sn 01 36 59.3 -0.5**
SGT00 Sennhlsen 0.93 276 Pg **Pn 01 36 46.5 0.0**
comp=E,9.0nm,SNR=7.7
SGT00 Pg **Pn 01 36 46.5 0.0**
ROMAN Romanshorn, Fo 0.93 284 Pg **Pn 01 36 46.6 +0.1**
comp=E,0.1nm,SNR=4.6
ROMAN Pg **Pn 01 36 46.6 +0.1**
APPI Appiano 0.94 156 P **Pb 01 36 46.1 +0.2**
APPI AML AML
comp=E,109μm,0.5s
APPI AML AML
comp=N,112μm,0.6s
APPI AML AML
comp=E,109μm,0.5s
APPI AML AML
comp=N,112μm,0.6s
KOSI Kohlern 1.00 151 ⇑Pg **Pn 01 36 47.6 0.0**
KOSI ⇑Pg **Pn 01 36 47.6 0.0**
comp=N,0.1nm,SNR=6.1
RISI Rein 1.04 112 ⇑P **Pb 01 36 47.6 +0.1**
RISI AML AML
comp=E,228μm,0.2s
RISI AML AML
comp=N,298μm,0.3s
WALHA Wallhausen, DE 1.12 292 *e*Pn **Pn 01 36 50.4 +1.2**
WALHA *e*Sg **Sn 01 37 06.8 +2.1**
WILA Wila 1.20 274 Pg **Pg 01 36 51.5 +1.0**
comp=N,0.2nm,SNR=6.8
WILA Pg **Pg 01 36 51.5 +1.0**
WILA Wila 1.20 274 *e*Pn **Pg 01 36 51.5 +1.0**
WILA *e*Sg **Sn 01 37 08.6 +2.0**
TUE Stuetta 1.25 227 P **Pg 01 36 52.3 +0.7**
TUE AML AML
comp=N,85μm,0.4s
TUE AML AML
comp=N,85μm,0.4s
TUE AML AML
comp=E,116μm,0.3s
GAGG Gaggia 1.27 171 AML AML
comp=E,76μm,0.4s
GAGG AML AML
comp=E,76μm,0.4s
GAGG AML AML
comp=N,72μm,0.5s
GAGG AML AML
comp=N,72μm,0.5s
GUT Gutenstein 1.28 305 Sg **Sn 01 37 09.5 +1.0**
GUT Sn **Sg 01 37 10.8 +2.1**
GUT Gutenstein 1.28 305 Pg **Pg 01 36 52.5 +0.4**
GUT Pn **Pb 01 36 53.2 +1.6**
EMING Emmingen-Lipti 1.35 295 *e*Pn **Pg 01 36 53.5 +0.1**
EMING *e*Pg **Pb 01 36 54.7 +1.8**
EMING *e*Sn **Sn 01 37 11.0 +0.7**
EMING *e*Sg **Sg 01 37 13.4 +2.3**
NORI Noerdlinger Ri 1.38 359 *e*Pn **Pn 01 36 53.2 +0.5**
NORI *e*Pg **Pg 01 36 54.7 +0.7**
NORI *e*Sn **Sn 01 37 11.7 +0.7**
NORI *e*Sg **Sg 01 37 13.4 +1.5**
ABTA Abfaltersbach 1.39 115 *e*Pg **Pg 01 36 54.3 0.0**
comp=N,0.5nm,0.1s,SNR=23
ABTA *e*Sg **Sg 01 37 13.6 +1.2**
comp=N,8.9nm,0.2s
AGOR Agordo 1.42 138 ⇓P **Pg 01 36 55.6 +0.9**
AGOR AML AML
comp=N,81μm,0.3s
AGOR AML AML
comp=N,81μm,0.3s
AGOR AML AML
comp=E,160μm,0.5s
ZUR Degenried 1.42 272 Pg **Pg 01 36 55.6 +0.8**
comp=E,0.2nm,SNR=7.0
ZUR Pg **Pg 01 36 55.6 +0.8**
ZUR Degenried 1.42 272 Sg **Sg 01 37 13.9 +0.8**
ZUR Sn **Sb 01 37 15.2 +3.2**
ZUR Degenried 1.42 272 Pg **Pg 01 36 55.5 +0.8**
RJOB Jochberg 1.50 74 *e*Pg **Pg 01 36 56.7 +0.5**
RJOB *e*Sg **Sg 01 37 19.3 +3.7**
DOSS Dosso del Somm 1.50 166 AML AML
comp=N,85μm,0.3s
DOSS AML AML
comp=E,83μm,0.5s
KW1 Garching a.d. 1.52 58 *e*Pg **Pg 01 36 57.8 +1.2**
KW1 *e*Sg **Sg 01 37 19.7 +3.4**
SLE Schleitheim 1.53 287 Sn **Sg 01 37 18.0 +1.2**
SLE Sg **Sb 01 37 18.3 +3.0**
SLE Schleitheim 1.53 287 Pn **Pb 01 36 55.9 0.0**
SLE Pg **Pg 01 36 57.7 +0.8**
SLE Schleitheim 1.53 287 *e*Pn **Pb 01 36 56.0 0.0**
SLE *e*Pg **Pg 01 36 57.7 +0.8**
SLE *e*Sg **Sg 01 37 17.9 +1.1**
CIMO Cimolais 1.59 130 AML AML
comp=E,31μm,0.3s
CIMO AML AML
comp=E,31μm,0.3s
CIMO AML AML
comp=N,35μm,0.3s
GRC2 Grafenberg Arr 1.60 17 *e*Pn **Pn 01 36 56.7 +1.0**
GRC2 *e*Sg **Sg 01 37 19.9 +0.9**
BNALP Bannalp 1.60 254 ⇑P **Pg 01 36 59.4 +1.2**
BNALP AML AML
comp=E,38μm,0.3s
BNALP AML AML
comp=N,45μm,1.5s
FUSIO Fusio 1.64 238 ⇓P **Pg 01 36 59.6 +0.7**
FUSIO S **Sg 01 37 24.0 +3.9**
FUSIO AML AML
comp=E,50μm,0.3s
FUSIO AML AML
comp=N,49μm,0.5s
FUSIO AML AML
comp=E,50μm,0.3s
GRC3 Grafenberg Arr 1.67 21 *e*Pn **Pn 01 36 57.1 +0.4**
GRC3 *e*Sn **Sn 01 37 18.3 +0.2**
GRC3 *e*Sg **Sg 01 37 21.8 +0.7**
VARN Col Varnada, M 1.67 143 AML AML
comp=E,264μm,0.5s
VARN AML AML
comp=N,191μm,0.5s
VARN AML AML
comp=N,192μm,0.5s
METMA Mettma DE 1.68 284 *e*Pg **Pg 01 37 00.1 +0.4**
METMA *e*Sg **Sg 01 37 22.5 +1.0**
STU Stuttgart 1.74 326 *e*Pn **Pb 01 36 59.4 -0.1**
STU *e*Sn **Sn 01 37 18.7 -1.1**
STU *e*Sg **Sg 01 37 23.6 +0.2**
SULZ Cheisacher 1.75 277 Pg **Pg 01 37 01.8 +0.9**
SULZ Cheisacher 1.75 277 Pn **Pb 01 36 59.2 -0.4**
SULZ Cheisacher 1.75 277 Pg **Pg 01 37 01.8 +0.9**
SULZ Cheisacher 1.75 277 *e*Pg **Pg 01 37 02.0 +1.0**
SULZ *e*Sg **Sg 01 37 24.9 +1.3**
GRC1 Grafenberg Arr 1.75 19 *e*Pn **Pn 01 36 58.0 +0.1**
GRC1 *e*Sg **Sg 01 37 24.2 +0.4**
CLUD Cludinico 1.76 119 ⇓P **Pg 01 37 03.1 +1.9**
CLUD AML AML
comp=N,34μm,0.6s
CLUD AML AML
comp=E,29μm,0.5s
ZOU Zoufplan 1.76 116 P **Pg 01 37 02.8 +1.5**
ZOU AML AML
comp=E,52μm,0.9s
ZOU AML AML
comp=N,54μm,0.9s
BERGE Lenzkirch (DE) 1.77 288 *e*Pn **Pn 01 36 59.2 +1.1**
BERGE *e*Pg **Pg 01 37 01.9 +0.5**
BERGE *e*Sg **Sg 01 37 25.2 +0.9**
STAL STALIGIAL 1.77 127 ⇓P **Pg 01 37 03.2 +1.8**
STAL AML AML
comp=E,218μm,0.3s
STAL AML AML
comp=N,154μm,1.4s
STAL AML AML
comp=E,218μm,0.3s
MUGIO Muggio 1.81 219 AML AML
comp=E,55μm,0.4s
MUGIO AML AML
comp=N,64μm,0.4s
MUGIO AML AML
comp=E,55μm,0.4s
MUGIO AML AML
comp=N,64μm,0.5s
POLC Polcenigo 1.82 136 AML AML
comp=E,177μm,0.5s
POLC AML AML
comp=N,196μm,0.3s
GRC4 Grafenberg Arr 1.84 18 *e*Pn **Pn 01 36 59.2 +0.1**
GRC4 *e*Pg **Pg 01 37 03.4 +0.6**
GRC4 *e*Sg **Sg 01 37 27.0 +0.4**
KBA Koelnbreinsper 1.84 97 *e*Pg **Pg 01 37 03.0 +0.1**
comp=N,22nm,0.3s
KBA Sg **Sg 01 37 28.8 +2.0**
KBA Koelnbreinsper 1.84 97 *e*Pg **Pg 01 37 03.0 +0.1**
KBA *e*Sg **Sg 01 37 28.8 +2.0**
BFO Black Forest 1.86 303 *e*Pg **Pg 01 37 03.7 +0.5**
BFO *e*Sn **Sn 01 37 22.8 0.0**
BFO *e*Sg **Sg 01 37 28.5 +1.2**
GRB5 Grafenberg Arr 1.90 20 *e*Pn **Pn 01 37 00.1 +0.3**
GRB5 *e*Sg **Sg 01 37 28.6 +0.1**
MPRI Monte Prat 1.94 124 ⇑P **Pg 01 37 05.5 +0.9**
MPRI AML AML
comp=N,138μm,0.8s
MPRI AML AML
comp=E,115μm,0.5s
KIZ Kirchzarten 1.96 289 Pg **Pg 01 37 05.1 +0.1**
KIZ Kirchzarten 1.96 289 Pn **Pn 01 37 01.7 +1.0**
KIZ Kirchzarten 1.96 289 Pg **Pg 01 37 05.1 +0.1**
VARE Varese 1.97 222 ⇓P **Pg 01 37 06.7 +1.5**
VARE AML AML
comp=E,79μm,0.8s
VARE AML AML
comp=N,82μm,0.6s
BALST Balsthal 2.02 271 Pg **Pg 01 37 06.4 +0.1**
BALST Balsthal 2.02 271 *e*Pg **Pg 01 37 06.8 +0.6**
BALST *e*Sg **Sg 01 37 33.5 +1.1**
PTCC Patocco-Chiusa 2.07 116 ⇑P **Pg 01 37 07.4 +0.3**
PTCC AML AML
comp=E,29μm,0.6s
PTCC AML AML
comp=N,35μm,1.2s
ACOM Acomizza, Ital 2.10 111 ⇓P **Pg 01 37 07.8 -0.1**
ACOM AML AML
comp=E,55μm,0.5s
ACOM AML AML
comp=N,68μm,1.3s
MYKA Terra Mystica 2.16 108 *e*Pg **Pg 01 37 08.4 -0.4**
comp=N,0.9nm,0.2s
MYKA *e*Sg **Sg 01 37 38.6 +1.8**
comp=N,3.7nm,0.3s
WET Wettzell 2.33 38 *e*Pn **Pn 01 37 06.7 +0.9**
WET *e*Sn **Sn 01 37 34.6 +0.1**
WET *e*Sg **Sg 01 37 40.9 -1.5**
BOURR Bourrignon 2.34 273 Sg **Sg 01 37 43.7 +1.1**
GRF Grafenberg Arr 2.38 9 *e*Pn **Pn 01 37 06.1 -0.4**
GRF *e*Sg **Sg 01 37 43.1 -0.9**
SABO M.te Sabotino 2.44 123 S **Sg 01 37 45.0 -0.7**
WLS Welschbruch 2.48 297 Pg **Pg 01 37 15.7 +0.8**
MOA Molln 2.49 77 *e*Pn **Pn 01 37 09.8 +1.9**
comp=N,0.5nm,0.1s
MOA *e*Pg **Pg 01 37 14.8 -0.3**
comp=N,1.5nm,0.2s
MOA *e*Sg **Sg 01 37 48.0 +0.6**
comp=N,5.2nm,0.2s
MOA Molln 2.49 77 *e*Pg **Pg 01 37 14.8 -0.3**
MOA *e*Sg **Sg 01 37 48.1 +0.7**
CDF Champ du Feu 2.52 296 *e*Pn **Pn 01 37 08.8 +0.3**
CDF Champ du Feu 2.52 296 *e*Pg **Pg 01 37 16.0 +0.2**
CDF *e*Sg **Sg 01 37 48.1 -0.4**
comp=N,32nm,0.7s
GEC2 GERESS Array S 2.53 52 *e*Pn **Pn 01 37 10.0 +1.4**
GEC2 *e*Sn **Sn 01 37 41.6 +2.2**
GEC2 *e*Sg **Sg 01 37 48.8 0.0**
TORNY Torny/Romont 2.60 259 Pg **Pg 01 37 17.9 +0.6**
HINF Hinteralfeld 2.63 282 *e*Pn **Pn 01 37 10.7 +0.8**
HINF Hinteralfeld 2.63 282 *e*Pg **Pg 01 37 18.1 +0.3**
HINF *e*Sg **Sg 01 37 50.8 -1.0**
comp=N,6.9nm,0.2s
ROTZ Rotzenmuhle 2.63 22 *e*Pn **Pn 01 37 09.6 -0.3**
ROTZ *e*Pg **Pg 01 37 17.9 -0.1**
ROTZ *e*Sn **Sn 01 37 40.8 -1.1**
ROTZ *e*Sg **Sg 01 37 50.3 -1.8**
KHC Kasperske Hory 2.65 46 *e*PN **Pn 01 37 11.2 +1.1**
KHC *e*SN **Sn 01 37 43.3 +1.1**
KHC *e*SG **Sg 01 37 51.2 -1.2**
comp=N,15nm,0.4s
OBKA Obir 2.79 106 *e*Pn **Pn 01 37 14.2 +2.1**
comp=N,0.2nm,0.2s
CKRC Cesky Krumlov 2.85 57 *e*PN **Pn 01 37 14.0 +1.0**
CKRC *e*SN **Sn 01 37 49.2 +1.9**
CKRC *e*SG **Sg 01 37 59.0 -0.2**
HAU Haudompre 2.99 284 *e*Pn **Pn 01 37 15.2 +0.3**
HAU Haudompre 2.99 284 *e*P **Pn 01 37 17.9 +3.0**
HAU Haudompre 2.99 284 *e*Pg **Pg 01 37 24.2 -0.6**
HAU *e*S **Sb 01 37 55.7 -1.7**
HAU *e*Sg **Sg 01 38 03.1 -0.5**
comp=N,7.6nm,0.2s
SOKA Soboth 3.06 101 Pg **Pg 01 37 25.5 -0.6**
comp=N,2.0nm,0.4s
SOKA Sg **Sg 01 38 07.3 +1.6**
comp=N,1.5nm,0.3s
NKC Novy Kostel 3.12 21 *e*SN **Sn 01 37 53.7 -0.3**
NKC *e*SG **Sg 01 38 05.6 -2.2**
comp=N,11nm,0.5s
CABF La Chapelle 3.22 259 *e*Pg **Pg 01 37 28.4 -0.8**
CABF *e*Sg **Sg 01 38 10.2 -0.7**
comp=N,2.4nm,0.3s
PBCC Pribram 3.23 42 *e*SG **Sg 01 38 09.7 -1.3**
BRJN Brijuni 3.24 138 *e*Pn **Pb 01 37 21.8 -3.3**
LPG La Plagne 3.28 237 *e*P **Pb 01 37 22.9 -2.9**
LPG La Plagne 3.28 237 *e*Pg **Pg 01 37 29.9 -0.4**
LPG *e*Sn **Sn 01 37 57.0 -1.1**
LPG *e*Sg **Sg 01 38 13.0 +0.3**
comp=N,5.0nm,0.7s
LPL La Plagne 3.28 238 *e*Pn **Pn 01 37 17.8 -1.2**
PAGF Fort de Pagny 3.54 292 *e*Pg **Pg 01 37 33.9 -1.3**
baz=111
PAGF *e*Sg **Sg 01 38 20.5 -0.5**
comp=N,4.3nm,0.3s
CONA Conrad Observa 3.56 79 *i* Pn **Pn 01 37 25.5 +2.8**
comp=N,0.1nm,0.1s
CONA *i* Sn **Sn 01 38 06.7 +1.8**

	comp=N,0.5nm,0.1s						
PRU	Pruhonice	3.69	43	eSG	Sg	01 38 23.9	-2.0
	comp=N,2.8nm,0.3s						
TREC	Trest	3.76	57	eSG	Sg	01 38 26.8	-1.5
	comp=N,3.4nm,0.3s						
MBDF	Montbardon	3.77	227	ePn	Pn	01 37 29.5	+3.9
MBDF				eSn	Sn	01 38 09.4	-0.6
MBDF				eSg	Sg	01 38 25.6	-2.9
	comp=N,4.1nm,0.7s						
CRE	Caprese Michel	3.83	166	P	Pn	01 37 24.0	-2.5
SFTF	Sexfontaines	3.89	285	ePn	Pn	01 37 27.1	-0.1
SFTF	Sexfontaines	3.89	285	ePg	Pg	01 37 41.6	-0.4
SFTF				eSg	Sg	01 38 32.0	-0.5
	comp=N,1.9nm,0.2s						
SAVF	Savonnieres en	3.94	291	ePn	Pn	01 37 26.9	-0.9
SAVF	Savonnieres en	3.94	291	ePg	Pg	01 37 42.0	-0.9
	baz=111						
SAVF				eSg	Sg	01 38 31.6	-2.2
	comp=N,3.3nm,0.3s						
MEZF	Maizieres J'vi	3.95	289	ePg	Pb	01 37 39.7	+2.6
MEZF				eSg	Sg	01 38 32.4	-1.9
NVLJ	Novalja	4.04	132	ePn	Pn	01 37 33.0	+3.8
NVLJ				Sn	Sn	01 38 20.3	+3.9
ORIF	Oris-en-Rattie	4.12	236	ePn	Pn	01 37 34.0	+3.6
ORIF				eSn	Sn	01 38 17.9	-0.6
	comp=N,0.7nm,0.3s						
BRG	Berggiesshubel	4.14	30	Sg	Sg	01 38 39.4	-0.9
BRG				Amp		01 38 40.7	
	comp=Z,5.0nm,0.5s						
SBF	Sospel	4.15	214	ePn	Pn	01 37 31.8	+1.0
SBF				eSn	Sn	01 38 20.1	+0.7
	comp=Z,3.2nm,0.5s						
KRUC	Moravsky	4.20	64	ePN	Pn	01 37 33.0	+1.6
KRUC				ePG	Pg	01 37 46.2	-1.7
KRUC				eSN	Sn	01 38 20.9	+0.5
KRUC				eSG	Sg	01 38 40.5	-1.8
CLL	Collm	4.25	20	eSg	Sg	01 38 43.0	-1.0
	comp=Z,6.0nm,0.5s						
VRAC	Vranov	4.42	61	ePN	Pn	01 37 36.0	+1.6
VRAC				eSN	Sn	01 38 26.2	+0.4
VRAC				eSG	Sg	01 38 46.7	-2.5
DUGI	Dugi Otok	4.55	136	ePn	Pn	01 37 40.1	+3.9
DUGI				Sn	Sn	01 38 34.0	+5.0
LOR	Lormes	4.63	272	ePg	Pg	01 37 53.8	-2.4
	baz=91						
LOR				eSg	Sg	01 38 55.0	-1.2
	comp=Z,2.1nm,0.3s						
FRF	La Foret Royal	4.72	218	ePn	Pn	01 37 39.5	+0.9
FRF	La Foret Royal	4.72	218	eP	Pn	01 37 42.5	+3.9
FRF				eSn	Sn	01 38 31.9	-1.4
	comp=Z,3.5nm,0.7s						
SMF	Signal de Mont	4.72	264	ePn	Pn	01 37 38.9	+0.3
SMF	Signal de Mont	4.72	264	ePg	Pg	01 37 55.5	-2.4
SMF				eSg	Sg	01 38 57.5	-1.6
	comp=Z,3.0nm,0.4s						
UPC	Upice	4.74	46	ePN	Pn	01 37 39.2	+0.4
DPC	Dobruska-Polom	4.80	49	ePN	Pn	01 37 40.8	+1.1
DPC				eSN	Sn	01 38 34.1	-1.1
DPC				eSG	Sg	01 38 59.6	-1.8
	comp=Z,2.5nm,0.3s						
CHVC	Chvalec	4.81	46	ePN	Pn	01 37 40.2	+0.4
CHVC				eSN	Sn	01 38 35.6	+0.1
CHVC				eSG	Sg	01 38 59.6	-2.3
VIVF	Saint-Julien-l	4.85	241	eP	Pn	01 37 42.4	+1.9
VIVF				eSn	Sn	01 38 34.9	-1.7
OSTC	Ostas	4.87	47	ePN	Pn	01 37 41.8	+1.2
OSTC				eSG	Sg	01 39 00.6	-3.1
KRLC	Kraliky	4.88	54	ePN	Pn	01 37 41.9	+1.0
KRLC				eSN	Sn	01 38 37.9	+0.5
KRLC				eSG	Sg	01 39 02.7	-1.6
	comp=Z,2.9nm,0.6s						
SSF	Saint Saulge	4.89	269	ePn	Pn	01 37 41.6	+0.7
SSF	Saint Saulge	4.89	269	ePg	Pg	01 37 59.3	-1.8
SSF				eSn	Sn	01 38 33.0	-4.5
SSF				eSg	Sg	01 39 03.0	-1.4
SMRF	Simiane la Rot	4.91	229	ePn	Pn	01 37 41.7	+0.5
SMRF				eSn	Sn	01 38 35.9	-2.0
LMR	La Mourre	4.96	218	ePn	Pn	01 37 42.3	+0.4
LMR				eSn	Sn	01 38 38.3	-1.0
	comp=Z,0.3nm,0.3s						
AVF	Avril sur Loir	5.03	266	ePn	Pn	01 37 43.4	+0.6
AVF	Avril sur Loir	5.03	266	ePg	Pg	01 38 01.3	-2.5
AVF				eSn	Sn	01 38 40.0	-0.9
AVF				eSg	Sg	01 39 06.1	-2.8
	comp=Z,0.3nm,0.2s						
MORC	Moravsky Berou	5.17	59	ePN	Pn	01 37 46.2	+1.3
AQU	L'Aquila	5.35	158	⇓P	Pn	01 37 52.9	+5.6
BGF	Bois d'Agland	5.41	265	eSg	Sg	01 39 16.9	-4.3
RDP	Rocca di Papa	5.77	165	P	Pb	01 38 06.7	-1.5
LASF	Ste Croix	5.78	238	ePn	Pn	01 37 53.7	+0.6
LASF				eSn	Sn	01 38 57.1	-2.3
	comp=Z,0.7nm,0.4s						
TCF	Toulx Ste Croi	5.90	263	ePn	Pn	01 37 55.6	+0.8
STON	Ston	6.69	129	P	Pb	01 38 19.7	-3.9
ROSF	Rostrenen	9.43	281	ePg	Pn	01 39 26.0	+43
ROSF				eSg	Sn	01 41 25.0	+56

*IDC **01** 01:56:50.9±5.6, 16°.35S×177°.68W, h81^{km}±38^{km}, mb3.7/5, mb1 3.9/7, mb1mx3.6/32, mbtmp4.0/7, MS3.5/2, Ms1 3.5/2, ms1mx3.0/31, Error ellipse: s-maj=140.4km s-min=25.9km az=149.0*

ISC 01 01:56:45.0±2.3**, 16°.4S**±0°.7×**177°.4W**±0°.4**, h35^{km}, n10, σ1^{s}62**/10**, mb4.3**/5**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.57	253	P	Pn	01 57 52.6	+0.9
	2.3nm,0.3s,baz=100,slow=22,SNR=9.1						
MSVF				S	Sn	01 58 45.5	+1.9
	0.7nm,0.3s,baz=325,slow=22,SNR=2.0						
MSVF				LR	LR	01 59 41.4	
	comp=Z,649nm,20.2s,baz=130,slow=40						
DZM	Mont Dzumac	16.27	247	P	Pn	02 00 31.6	+0.5
	0.1nm,0.3s,baz=78,slow=19,SNR=1.9						
PPT	Papeete	26.60	96	LR	LR	02 11 22.4	
	comp=Z,105nm,19.5s,baz=32,slow=32						
CTA	Charters Tower	34.69	258	P	P	02 03 29.2	-2.5
	1.4nm,0.4s,baz=82,slow=7.1,SNR=1.6						
WRA	Warramunga Arr	45.89	258	P	P	02 05 03.5	-1.0
	0.6nm,0.9s,baz=93,slow=6.8,SNR=9.3						
ASAR	Alice Springs	46.16	253	P	P	02 05 05.8	-0.8
	7.4nm,0.7s,baz=87,slow=8.3,SNR=75						
NVAR	Mina Array Bea	77.68	44	P	P	02 08 40.8	+2.3
	0.6nm,0.8s,baz=232,slow=8.8,SNR=3.8						
ILAR	Eielson Array	84.24	13	P	P	02 09 12.1	-0.5
	3.5nm,1.2s,baz=220,slow=6.5,SNR=7.0						
BRTR	Keskin Array B	144.42	317	PKP	PKPab	02 16 15.6	-0.7
	2.0nm,1.1s,baz=77,slow=3.1,SNR=4.1						
GERES	GERESS Array B	146.43	347	PKPbc	PKPab	02 16 23.4	0.0
	0.1nm,0.5s,baz=29,slow=2.2,SNR=4.2						

*IDC **01** 01:58:16.0±1.1, 47°.72N×27°.79W, h0^{km}, mb3.6/8, mb1 3.8/10, mb1mx3.6/45, mbtmp3.6/10, ML3.6/2, MS3.3/14, Ms1 3.3/14, ms1mx3.0/55, Error ellipse: s-maj=32.1km s-min=20.0km az=7.0*

ISC 01 01:58:17.5±1.0**, 47°.8N**±0°.2×**27°.7W**±0°.1**, h10^{km}, n22, σ0^{s}96**/11**, mb3.6**/8**, MS3.3**/12**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EKA	Eskdalemuir Ar	17.01	54	P	P	02 02 16.6	-0.5
	baz=236,slow=15,SNR=2.8						
BORG	Borgarnes	17.39	9	LR	LR	02 06 04.8	
	comp=Z,28nm,20.7s,baz=188,slow=27						
ESDC	Sonseca Array	18.94	106	P	Pn	02 02 40.0	+0.9
	0.1nm,0.3s,baz=295,slow=12,SNR=3.5						
ESDC				LR	LR	02 08 33.4	
	comp=Z,72nm,19.5s,baz=300,slow=33						
SFJD	Kangerlussuaq	22.64	337	LR	LR	02 10 10.1	
	comp=Z,70nm,20.9s,baz=171,slow=32						
SCHQ	Schefferville	25.18	301	LR	LR	02 11 45.2	
	comp=Z,61nm,18.7s,baz=154,slow=32						
NOA	NORSAR Array B	25.83	45	P	P	02 03 50.8	+2.0
	0.6nm,0.8s,baz=256,slow=9.4,SNR=2.2						
NOA				LR	LR	02 12 51.6	
	comp=Z,22nm,18.9s,baz=75,slow=34						
GERES	GERESS Array B	27.35	72	LR	LR	02 14 31.3	
	comp=Z,72nm,18.3s,baz=288,slow=36						
FINES	FINESS Array B	33.01	45	P	P	02 04 52.8	+0.5
	0.4nm,0.6s,baz=284,slow=11,SNR=1.0						
FINES				LR	LR	02 18 18.1	
	comp=Z,46nm,18.3s,baz=24,slow=36						
ARCES	ARCESS Array B	33.61	31	LR	LR	02 16 09.3	
	comp=Z,34nm,18.4s,baz=60,slow=32						
AKASG	Malin Array Be	36.54	64	P	P	02 05 22.1	-0.9
	0.2nm,0.2s,baz=283,slow=8.4,SNR=4.3						
AKASG				LR	LR	02 20 37.6	
	comp=Z,58nm,19.1s,baz=60,slow=37						
TORD	Torodi Ar. Bea	42.33	135	P	P	02 06 11.3	-0.3
	1.0nm,0.8s,baz=324,slow=8.5,SNR=4.7						
TORD				LR	LR	02 21 35.9	
	comp=Z,46nm,21.4s,baz=75,slow=33						
ULM	Lac du Bonnet	43.35	300	LR	LR	02 24 17.0	
	comp=Z,42nm,18.0s,baz=88,slow=36						
DBIC	Dimbokro	45.36	147	LR	LR	02 24 16.7	
	comp=Z,43nm,18.1s,baz=303,slow=34						
BELG	Belogornoye	46.56	55	LR	LR	02 25 27.5	
	comp=Z,61nm,19.9s,baz=148,slow=35						
PDAR	Pinedale Array	55.25	297	P	P	02 07 50.5	-0.4
	0.7nm,0.6s,baz=41,slow=7.4,SNR=7.2						
PDAR				LR	LR	02 29 30.9	
	comp=Z,62nm,18.4s,baz=276,slow=34						
H10N2	ASCENSION HYDR	56.57	164	T	T	03 09 01.1	
	baz=349,slow=76						
H10N3	ASCENSION HYDR	56.58	164	T	T	03 08 54.8	
	baz=349,slow=76						
H10N1	ASCENSION HYDR	56.59	164	T	T	03 09 03.2	
	baz=349,slow=76						
ILAR	Eielson Array	58.27	334	P	P	02 08 11.7	0.0
	0.6nm,0.8s,baz=42,slow=6.1,SNR=4.4						
TXAR	Lajitas Array	59.80	281	P	P	02 08 23.7	+0.7
	0.6nm,0.8s,baz=64,slow=6.3,SNR=5.5						
SONM	Songino Array	76.78	30	P	P	02 10 08.9	-0.2
	0.5nm,0.6s,baz=328,slow=5.1,SNR=2.9						
ASAR	Alice Springs	151.87	38	PKPbc	PKPbc	02 18 11.9	-0.6
	0.6nm,0.8s,baz=302,slow=2.8,SNR=5.0						

*IDC **01** 02:03:59.4±0.8, 11°.34S×166°.23E, h47^{km}±5^{km}, mb3.9/10, mb1 4.2/13, mb1mx4.0/35, mbtmp4.2/13, MS3.6/9, Ms1 3.5/9, ms1mx3.3/25, Error ellipse: s-maj=22.9km s-min=14.9km az=134.0*

*NEIC **01** 02:04:01.1±1.8, 11°.52S±0°.09×166°.3E±0°.1, h63^{km}±10^{km}, mb4.4/12, Error ellipse: s-maj=15.8km s-min=11.9km az=55.0*

ISC 01 02:03:59.3±0.5**, 11°.45S**±0°.06×**166°.24E**±0°.07**, h50^{km}, n51, σ1^{s}47**/53**, mb4.3**/15**, MS3.6**/6**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SANVU	Saraoutou	4.08	167		Pn	02 04 59.7	+0.4
SANVU				Sn	Sn	02 05 45.7	0.0
HNR	Honiara	6.50	287	P	Pn	02 05 32.6	+0.1
	34nm,0.3s,baz=3.5,slow=4.0,SNR=3.9						
HNR				S	Sn	02 06 42.8	-2.6
	18nm,0.3s,baz=232,slow=18,SNR=1.4						
HNR				LR	LR	02 08 13.9	
	comp=Z,441nm,21.7s,baz=134,slow=39						
HNR	Honiara	6.50	287		Pn	02 05 34.2	+1.7
MARNC	Mare, Loyalty	10.12	170	Pn	Pn	02 06 22.9	+0.9
DZM	Mont Dzumac	10.56	179	P	Pn	02 06 29.7	+1.5
	1.1nm,0.3s,baz=116,slow=23,SNR=18						
DZM				S	Sn	02 08 21.4	-3.7
	0.7nm,0.3s,baz=306,slow=19,SNR=2.0						
DZM				LR	LR	02 10 03.2	
	comp=Z,286nm,20.5s,baz=296,slow=34						
DZM	Mont Dzumac	10.56	179	Pn	Pn	02 06 29.6	+1.5
DZM					Sn	02 08 22.6	-2.6
DZM	Mont Dzumac	10.56	179	P	Pn	02 06 30.8	+2.6
YATNC	Mamie plateau,	10.57	177	P	Pn	02 06 30.9	+2.7
NOUC	Port Laguerre	10.59	180	P	Pn	02 06 33.0	+4.5
ONTNC	Ouen Toro	10.80	179	Pn	Pn	02 06 32.0	+0.8
OUENC	Ouen Island, N	10.92	177	Pn	Pn	02 06 32.3	-0.7
PINNC	Pines Island,	11.16	174	Pn	Pn	02 06 36.6	+0.4
PINNC	Pines Island,	11.16	174	P	Pn	02 06 41.8	+5.6
MSVF	Nonsavu	13.02	120	P	Pn	02 07 04.0	+2.2
	baz=297,slow=16,SNR=2.1						
MSVF				LR	LR	02 11 14.8	
	comp=Z,194nm,18.4s,baz=3.4,slow=33						
MSVF	Nonsavu	13.02	120		Pn	02 07 01.2	-0.6
EIDS	Eidsvold	19.93	224	P	Pn	02 08 29.0	-0.1
CTA	Charters Tower	21.04	243	P	P	02 08 40.4	+1.2
	5.8nm,0.7s,baz=71,slow=11,SNR=9.2						
CTAO	Charters Tower	21.04	243	P	P	02 08 38.9	-0.4
CTAO				IAmb	IAmb	02 08 45.3	
	comp=Z,9.3nm,1.0s						
ARMA	Armidale	23.24	214	P	P	02 09 04.0	+1.6
ARMA				IAmb	IAmb	02 09 05.9	
	comp=Z,14nm,0.8s						
URZ	Urewera	28.41	162	LR	LR	02 18 54.4	
	comp=Z,139nm,20.6s,baz=31,slow=31						
BKZ	Black Stump Fm	29.07	163	P	P	02 09 54.9	-0.2
BKZ				IAmb	IAmb	02 09 55.0	
	comp=Z,13nm,1.2s						
H11S2	WAKE ISLAND Hy	29.76	1	T	T	02 40 41.5	
	baz=181,slow=74						
H11S3	WAKE ISLAND Hy	29.76	1	T	T	02 40 41.6	
	baz=181,slow=74						
H11S1	WAKE ISLAND Hy	29.77	1	T	T	02 40 42.9	
	baz=181						
BFZ	Birch Farm	30.42	165	P	P	02 10 04.3	-2.7
STKA	Stephens Creek	30.48	224	P	P	02 10 08.2	+0.6
	comp=Z,3.4nm,0.7s,baz=51,slow=10,SNR=6.2						
STKA				LR	LR	02 22 56.2	
	comp=Z,87nm,18.7s,baz=26,slow=37						
H11N1	WAKE ISLAND Hy	30.98	1	T	T	02 42 13.1	
	baz=182						
H11N3	WAKE ISLAND Hy	30.98	1	T	T	02 42 13.6	
	baz=182						
H11N2	WAKE ISLAND Hy	30.99	1	T	T	02 42 14.5	
	baz=182						
WR0	Warramunga Arr	31.62	251	P	P	02 10 17.3	-0.5
WR0				IAmb	IAmb	02 10 32.9	
	comp=Z,13nm,1.4s						
WB0	Warramunga Arr	31.72	251	P	P	02 10 19.2	+0.6
WB2	Warramunga Arr	31.79	251	P	P	02 10 18.8	-0.5
WB2				IAmb	IAmb	02 10 20.6	
	comp=Z,5.5nm,0.9s						
WRA	Warramunga Arr	31.80	251	P	P	02 10 19.1	-0.3
	comp=Z,4.1nm,0.9s,baz=82,slow=9.0,SNR=22						
WRA				pP	pP	02 10 33.1	+2.0
	comp=Z,2.5nm,0.8s,baz=84,slow=8.9,SNR=7.5						
WRA				PcP	PcP	02 13 09.7	-0.1
	comp=Z,0.7nm,0.8s,baz=80,slow=3.9,SNR=4.3						
WRA	Warramunga Arr	31.80	251	P	P	02 10 18.9	-0.5
AS31	Alice Springs	33.04	244	P	P	02 10 28.6	-1.7
ASAR	Alice Springs	33.04	244	P	P	02 10 30.2	-0.1
	comp=Z,4.8nm,0.7s,baz=74,slow=9.3,SNR=43						
ASAR				pP	pP	02 10 44.0	+2.0
	comp=Z,2.5nm,0.8s,baz=75,slow=9.3,SNR=6.5						
ASAR				PcP	PcP	02 13 13.6	+0.4
	comp=Z,1.0nm,0.7s,baz=75,slow=2.9,SNR=7.7						
MJAR	Matsushiro Arr	54.55	332	P	P	02 13 21.9	-0.6
	comp=Z,0.9nm,0.4s,baz=43,slow=13,SNR=5.1						
MJAR				pP	pP	02 13 34.7	-0.8
	comp=Z,1.9nm,0.5s,baz=260,slow=17,SNR=2.8						
KSRS	Korea Array	60.48	325	LR	LR	02 38 03.1	
	comp=Z,14nm,19.6s,baz=220,slow=34						
CMAR	Chiang Mai Arr	72.72	294	P	P	02 15 24.1	+1.4
	comp=Z,1.1nm,0.3s,baz=134,slow=5.2,SNR=4.3						
CMAR	Chiang Mai Arr	72.72	294	P	P	02 15 22.7	+0.1
QSPA	South Pole Qui	78.56	180	P	P	02 15 55.4	0.0
SONM	Songino Array	79.28	324	P	P	02 15 59.0	-0.6
	comp=Z,0.3nm,0.5s,baz=126,slow=7.3,SNR=3.6						
SONM				pP	pP	02 16 13.7	+0.3
	comp=Z,0.5nm,0.5s,baz=134,slow=8.3,SNR=2.5						
ILAR	Eielson Array	83.74	18	P	P	02 16 21.9	-0.8
	comp=Z,0.5nm,0.7s,baz=237,slow=6.0,SNR=6.5						
ILAR				pP	pP	02 16 35.9	-0.9
	comp=Z,0.8nm,0.6s,baz=250,slow=5.0,SNR=6.3						
MAW	Mawson	84.53	202	LR	LR	02 48 58.5	
	comp=Z,63nm,20.3s,baz=248,slow=32						
NVAR	Mina Array Bea	85.92	50	P	P	02 16 35.6	+1.1
	comp=Z,0.6nm,0.8s,baz=235,slow=9.4,SNR=4.4						
NVAR				pP	pP	02 16 47.7	-1.1
	comp=Z,0.9nm,0.8s,baz=238,slow=7.9,SNR=4.3						
MK31	Makanchi Array	94.15	317	P	P	02 17 12.7	0.0
MK31				IAmb	IAmb	02 17 13.7	
	comp=Z,1.4nm,0.9s						
MKAR	Makanchi Array	94.15	317	P	P	02 17 12.7	0.0
	comp=Z,1.6nm,0.6s,baz=96,slow=6.2,SNR=16						
MKAR				pP	pP	02 17 26.7	0.0
	comp=Z,0.3nm,0.4s,baz=91,slow=6.9,SNR=3.4						
MKAR	Makanchi Array	94.15	317	P	P	02 17 13.1	+0.3
TXAR	Lajitas Array	95.60	61	LR	LR	02 56 38.2	
	comp=Z,30nm,18.1s,baz=0.0,slow=33						
NRIK	Noril'sk	96.67	339	LR	LR	03 01 51.4	
	comp=Z,25nm,18.1s,baz=175,slow=36						
ESDC	Sonseca Array	150.58	344	PKPbc	PKPbc	02 23 45.8	-0.3
	comp=Z,0.2nm,0.5s,baz=63,slow=42,SNR=3.2						
ESDC				PKPab	PKPab	02 23 52.9	+0.1
	comp=Z,0.3nm,0.5s,baz=15,slow=4.3,SNR=2.1						

IDC 01 02:11:32.0±10.0**, 19°.02S**×**178°.49W, h502^{km}**±45^{km}**, mb3.3**/3**, mb1 3.5**/4**, mb1mx3.1**/31**, mbtmp4.1**/4**, Error ellipse: s-maj=267.1km s-min=32.2km az=142.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.52	291	P	P	02 12 47.0	0.0
	4.6nm,0.3s,baz=65,slow=9.4,SNR=20						
WRA	Warramunga Arr	44.37	261	P	P	02 18 57.3	-0.1
	1.3nm,0.3s,baz=97,slow=7.5,SNR=47						
ASAR	Alice Springs	44.43	255	P	P	02 18 57.8	-0.1
	4.3nm,0.6s,baz=90,slow=8.4,SNR=46						
ILAR	Eielson Array	86.98	13	P	P	02 23 22.8	-0.1
	0.4nm,0.7s,baz=222,slow=4.9,SNR=4.1						

*IDC **01** 02:14:55.6±0.7, 11°.97N×57°.98E, h0^{km}, mb4.1/19, mb1 4.2/20, mb1mx3.9/61, mbtmp4.1/20, ML3.8/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/55, Error ellipse: s-maj=17.9km s-min=15.4km az=163.0*

*NEIC **01** 02:14:58.1±1.2, 12°.0N±0°.1×57°.90E±0°.09, h10^{km}±1^{km}, mb4.3/13, Error ellipse: s-maj=19.4km s-min=14.3km az=167.0*

ISC 01 02:14:58.1±0.7**, 12°.0N**±0°.1×**57°.90E**±0°.08**, h16^{km}, n43, σ0^{s}88**/41**, mb4.2**/23**, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SOCY	Socotra	3.84	274		Pn	02 15 56.8	+0.2
SOCY				Sn	Sn	02 16 39.2	-2.3
WSAR	Wadi Sarin	11.23	3	Pn	Pn	02 17 39.0	+0.8
	0.6nm,0.3s,baz=259,slow=9.5,SNR=9.9						
HRA	Herat	22.67	9	P	P	02 19 59.5	+0.4
HRA				IAmb	IAmb	02 20 02.7	
	comp=Z,12nm,1.6s						
KMBO	Kilima Mbogo	24.29	239	P	P	02 20 17.7	+2.4
	comp=Z,1.8nm,0.9s,baz=39,slow=19,SNR=3.6						
NIL	Nilore	25.74	31	P	P	02 20 27.7	-0.4
KKAR	Karatay Array	32.90	17	P	P	02 21 31.5	-0.1
AAK	Ala-Archa	33.79	22	P	P	02 21 40.0	+0.4
AAK				IAmb	IAmb	02 21 43.0	
	comp=Z,4.7nm,0.9s						
BRTR	Keskin Array B	35.00	326	P	P	02 21 50.8	+0.7
	comp=Z,0.6nm,0.8s,baz=96,slow=10,SNR=3.6						
ABKAR	Akbulak array	37.22	2	P	P	02 22 09.5	+0.8
ABKAR	Akbulak array	37.22	2	P	P	02 22 09.8	+1.0
ABKAR				IAmb	IAmb	02 22 11.3	
	comp=Z,8.5nm,1.2s						
AKTO	Aktyubinsk	38.36	0	P	P	02 22 18.9	+0.5
	comp=Z,3.4nm,0.7s,baz=169,slow=8.9,SNR=14						
CMAR	Chiang Mai Arr	40.06	76	P	P	02 22 33.4	+0.4
	comp=Z,2.0nm,0.4s,baz=275,slow=8.7,SNR=10.0						
CMAR	Chiang Mai Arr	40.06	76	P	P	02 22 32.9	-0.2
MAKZ	Makanchi	40.24	26	P	P	02 22 35.1	+1.0
MAKZ				IAmb	IAmb	02 22 36.1	
	comp=Z,6.5nm,1.1s						
MK31	Makanchi Array	40.36	26	P	P	02 22 35.9	+0.7
MKAR	Makanchi Array	40.36	26	P	P	02 22 35.3	+0.1
	comp=Z,1.2nm,0.6s,baz=213,slow=8.9,SNR=14						
MKAR	Makanchi Array	40.36	26	P	P	02 22 35.5	+0.3
MLR	Muntele Rosu	43.08	327	P	P	02 22 58.0	+0.4
	comp=Z,1.1nm,0.6s,baz=163,slow=16,SNR=4.5						
MLR	Muntele Rosu	43.08	327	P	P	02 22 57.6	0.0
MATP	Matopo	43.27	222	P	P	02 23 00.1	+0.7
	comp=Z,1.0nm,0.7s,baz=29,slow=10,SNR=5.1						
MATP				LR	LR	02 39 54.2	
	comp=Z,47nm,18.4s,baz=328,slow=35						
ZAA0	Zalesovo Array	47.01	21	P	P	02 23 28.7	+0.2
ZALV	Zalesovo Beam	47.01	21	P	P	02 23 28.4	-0.1
	comp=Z,11nm,0.6s,baz=223,slow=8.0,SNR=38						
ZALV	Zalesovo Beam	47.01	21	P	P	02 23 28.6	+0.1
SONM	Songino Array	53.90	39	P	P	02 24 21.1	+0.1
	comp=Z,1.1nm,0.8s,baz=249,slow=7.6,SNR=6.3						
SONM	Songino Array	53.90	39	P	P	02 24 21.6	+0.6
FINES	FINESS Array B	54.54	342	P	P	02 24 24.7	-0.5
	comp=Z,2.3nm,1.1s,baz=135,slow=16,SNR=3.0						
FINES	FINESS Array B	54.54	342	P	P	02 24 25.6	+0.5
TORD	Torodi Ar. Bea	54.78	278	P	P	02 24 27.1	-0.6
	comp=Z,0.6nm,0.6s,baz=86,slow=6.0,SNR=5.1						
TORD	Torodi Ar. Bea	54.78	278	P	P	02 24 27.4	-0.3
TORD				IAmb	IAmb	02 24 40.1	
	comp=Z,6.6nm,1.8s						
HFS	Hagfors	58.03	336	P	P	02 24 49.5	-0.7
	comp=Z,2.6nm,1.1s,baz=136,slow=13,SNR=1.7						
ESDC	Sonseca Array	60.85	309	P	P	02 25 10.0	-0.1
	comp=Z,0.6nm,0.8s,baz=79,slow=6.2,SNR=5.6						
ESDC	Sonseca Array	60.85	309	P	P	02 25 10.2	+0.2
ESDC				IAmb	IAmb	02 25 28.4	
	comp=Z,3.5nm,1.7s						
DBIC	Dimbokro	62.05	271	P	P	02 25 19.5	+1.0
	comp=Z,2.5nm,0.7s,baz=91,slow=5.5,SNR=4.3						
EKA	Eskdalemuir Ar	63.92	326	P	P	02 25 28.6	-1.6
	comp=Z,1.0nm,0.7s,baz=95,slow=8.0,SNR=2.2						
KSRS	Korea Array	67.00	54	P	P	02 25 48.4	-2.1
	comp=Z,1.4nm,0.5s,baz=270,slow=6.9,SNR=4.6						
KLR	Kul'dur	70.49	42	P	P	02 26 11.3	-0.7
	comp=Z,1.5nm,0.7s,baz=271,slow=3.2,SNR=4.8						
H01W3	Cape Leeuwin H	70.74	134	T	T	03 43 27.9	
	baz=300,slow=75						
H01W2	Cape Leeuwin H	70.75	134	T	T	03 43 29.6	
	baz=300,slow=75						
H01W1	Cape Leeuwin H	70.76	134	T	T	03 43 28.6	
	baz=300,slow=75						
WRA	Warramunga Arr	81.60	112	P	P	02 27 15.2	-0.7
	comp=Z,0.8nm,0.4s,baz=295,slow=4.4,SNR=37						
ASAR	Alice Springs	82.25	116	P	P	02 27 18.6	-0.7
	comp=Z,1.4nm,0.6s,baz=290,slow=5.1,SNR=14						
PDAR	Pinedale Array	124.34	349	PKP	PKPdf	02 33 56.7	-0.3
	comp=Z,0.2nm,0.5s,baz=0.0,slow=2.7,SNR=2.0						
NVAR	Mina Array Bea	129.75	356	PKP	PKiKP	02 34 08.9	+0.7
	comp=Z,0.6nm,0.9s,baz=284,slow=3.6,SNR=3.1						

IDC 01 02:21:21.9±350.0**, 38°.74N**×**134°.81E, h0^{km}, Error ellipse: s-maj=145.7km s-min=96.0km az=143.0, Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I30JP	ISUMI INFRASON	5.58	126	*i*		02 55 10.0	
	baz=310,slow=315,SNR=0.6						
I45RU	USSURIYSK INFR	5.86	340	*i*		02 57 00.0	
	baz=157,slow=320,SNR=1.6						
I44RU	PETROPAVLOVSK	21.32	40	*i*		04 32 50.0	
	baz=238,slow=323,SNR=1.2						

*IDC **01** 02:30:16.1±0.6, 52°.06S×5°.15W, h0^{km}, mb4.2/11, mb1 4.3/12, mb1mx4.1/32, mbtmp4.1/12, ML3.3/1, MS4.1/12, Ms1 4.1/12, ms1mx4.0/18, Error ellipse: s-maj=20.9km s-min=16.5km az=96.0*

*NEIC **01** 02:30:19.4±1.0, 52°.0S±0°.1×4°.9W±0°.2, h15^{km}±4^{km}, mb4.7/17, Error ellipse: s-maj=17.6km s-min=17.0km az=168.0*

*GCMT **01** 02:30:20.4±0.3, 52°.27S±0°.02×4°.68W±0°.05, h12^{km}, MW4.9/75, Moment Tensor Solution. s25,c27; s75,c107; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.28±.12; $M_{\theta\theta}$2.20±.10; $M_{\phi\phi}$0.07±.12; $M_{r\theta}$-0.73±.35; $M_{\theta\phi}$-1.38±.08; $M_{\phi r}$-1.55±.47; Best double couple: $M_0$3.11400×10^{16} NP1:ϕ_s88.00000°,δ53.00000°,λ-132.00000°. NP2: ϕ_s324.00000°,δ54.00000°,λ-49.00000°. Principal axes: T 2.8790, Plg0.0000°, Azm26.0000°; N 0.4620, Plg32.0000°, Azm117.0000°; P -3.3490, Plg58.0000°, Azm296.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 02:30:17.6±0.5**, 52°.04S**±0°.08×**5°.0W**±0°.1**, h10^{km}, n40, σ0^{s}87**/35**, mb4.4**/13**, MS4.2**/11**, 1C-1D, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	18.74	183	P	Pn	02 34 37.4	+0.9
HOPE	Hope Point	18.94	251	P	P	02 34 38.2	-0.2
HOPE				IAmb	IAmb	02 34 45.3	
	comp=Z,181nm,2.0s						

VNA2	Neumayer--Watz	18.99	182	P	Pn	02 34 39.7	+0.1
VNA3	Neumayer Olymp	19.39	185	P	Pn	02 34 43.6	-0.8
SNAA	Sanae	19.73	178	P	Pn	02 34 48.1	-0.4
SNAA	Sanae	19.73	178	P	P	02 34 47.1	+0.1
	comp=Z,0.1nm,0.3s,baz=13,slow=13,SNR=8.5						
SNAA				LR	LR	02 40 31.5	
	comp=Z,865nm,21.2s,baz=302,slow=31						
SNAA	Sanae	19.73	178	P	Pn	02 34 48.2	-0.4
SNAA				IAmb	IAmb	02 34 59.0	
	comp=Z,34nm,1.3s						
SYO	Syowa Base	26.86	146⇑	*e*pP	pP	02 36 00.4	+0.1
SYO	Syowa Base	26.86	146⇓	*e*pP	pP	02 36 04.8	+4.5
BOSA	Boshof	32.45	56	P	P	02 36 48.5	+0.5
	comp=Z,5.3nm,1.0s,baz=226,slow=8.7,SNR=2.8						
BOSA				LR	LR	02 47 29.3	
	comp=Z,493nm,19.2s,baz=223,slow=32						
MAW	Mawson	35.36	142	P	P	02 37 12.8	+0.2
	comp=Z,5.8nm,1.0s,baz=255,slow=7.4,SNR=8.1						
MAW	Mawson	35.36	142	P	P	02 37 13.2	+0.6
LBTB	Lobatse	35.60	52	P	P	02 37 16.8	+1.5
	comp=Z,3.0nm,0.6s,baz=220,slow=10,SNR=4.2						
LBTB	Lobatse	35.60	52	P	P	02 37 15.9	+0.6
LBTB				IAmb	IAmb	02 37 18.9	
	comp=Z,21nm,1.4s						
QSPA	South Pole Qui	38.22	180	P	P	02 37 36.8	-0.4
	comp=Z,1.3nm,0.6s,baz=252,slow=2.6,SNR=9.2						
QSPA				PcP	PcP	02 39 50.3	-1.0
	comp=Z,3.2nm,1.1s,baz=265,slow=4.6,SNR=4.9						
QSPA	South Pole Qui	38.22	180	P	P	02 37 38.4	+1.1
MATP	Matopo	40.89	52	P	P	02 38 00.1	+0.2
	comp=Z,3.3nm,0.8s,baz=212,slow=8.1,SNR=8.2						
PLCA	Paso Flores	45.14	257	LR	LR	02 55 17.8	
	comp=Z,217nm,18.2s,baz=152,slow=33						
CPUP	Villa Florida	46.71	283	P	P	02 38 45.5	-1.0
	comp=Z,4.3nm,0.9s,baz=123,slow=7.5,SNR=7.6						
CPUP				LR	LR	02 54 43.3	
	comp=Z,59nm,21.8s,baz=149,slow=32						
CPUP	Villa Florida	46.71	283	P	P	02 38 45.3	-1.3
CPUP				IAmb	IAmb	02 38 48.7	
	comp=Z,8.9nm,1.1s						
VNDA	Vanda	50.45	176	P	P	02 39 15.2	+0.5
	comp=Z,2.0nm,1.0s,baz=209,slow=15,SNR=3.9						
VNDA				LR	LR	02 59 29.8	
	comp=Z,238nm,20.0s,baz=196,slow=35						
VNDA	Vanda	50.45	176	P	P	02 39 15.2	+0.5
ABPO	Ambohimpanom	52.21	71	P	P	02 39 26.7	-2.2
CASY	Casey	52.31	153	P	P	02 39 28.3	-0.4
CASY				IAmb	IAmb	02 39 33.0	
	comp=Z,24nm,1.4s						
LVC	Limon Verde	56.52	276	P	P	02 40 01.5	+1.1
PB01	IPOC Station P	58.05	276	P	P	02 40 12.0	+1.1
PB01				IAmb	IAmb	02 40 13.8	
	comp=Z,7.1nm,0.8s						
DBIC	Dimbokro	58.47	0	P	P	02 40 13.3	-0.4
	comp=Z,3.8nm,1.0s,baz=186,slow=8.3,SNR=4.5						
DBIC				LR	LR	03 00 58.2	
	comp=Z,166nm,18.1s,baz=167,slow=32						
DBIC	Dimbokro	58.47	0	P	P	02 40 13.6	-0.1
DBIC				IAmb	IAmb	02 40 25.9	
	comp=Z,13nm,1.3s						
PB11	IPOC Station P	59.12	277	P	P	02 40 19.3	+0.9
LPAZ	La Paz	60.84	281	P	P	02 40 30.7	-0.1
	comp=Z,1.8nm,0.7s,baz=98,slow=5.5,SNR=8.4						
LPAZ				LR	LR	03 07 14.8	
	comp=Z,39nm,18.2s,baz=138,slow=36						
LPAZ	La Paz	60.84	281	P	P	02 40 30.8	0.0
TORD	Torodi Ar. Bea	65.17	7	P	P	02 40 59.1	+0.4
	comp=Z,0.8nm,0.8s,baz=208,slow=4.9,SNR=7.2						
TORD				LR	LR	03 04 07.0	
	comp=Z,241nm,20.3s,baz=175,slow=31						
TORD	Torodi Ar. Bea	65.17	7	P	P	02 40 59.4	+0.7
TORD				IAmb	IAmb	02 41 02.7	
	comp=Z,9.9nm,1.8s						
ROSC	El Rosal	81.29	289	LR	LR	03 16 57.4	
	comp=Z,240nm,18.7s,baz=68,slow=34						
KEST	Kesra	88.30	12	LR	LR	03 18 57.6	
	comp=Z,125nm,21.0s,baz=328,slow=33						
ESDC	Sonseca Array	91.34	1	P	P	02 43 24.5	+1.6
	comp=Z,0.8nm,0.8s,baz=187,slow=5.1						
ESDC				LR	LR	03 22 32.4	
	comp=Z,66nm,18.6s,baz=225,slow=34						
BRTR	Keskin Array B	97.38	29	LR	LR	03 27 55.1	
	comp=Z,216nm,20.5s,baz=232,slow=36						
MJAR	Matsushiro Arr	149.83	106	PKPbc	PKPbc	02 50 07.2	-0.1
	comp=Z,1.3nm,0.6s,baz=161,slow=3.1,SNR=5.7						
MJAR	Matsushiro Arr	149.83	106		PKPbc	02 50 07.6	+0.3
ILAR	Eielson Array	156.75	318	PKPab	PKPab	02 50 39.9	-1.4
	comp=Z,0.6nm,0.9s,baz=64,slow=2.1,SNR=4.5						

*ISK **01** 02:33:16.4, 37°.10N×45°.00E, h9^{km}, ML4.1/21*
*ISN **01** 02:33:16.5±1.3, 37°.69N×45°.10E, h19^{km}±12^{km}, ML4.2*
*DDA **01** 02:33:16.2, 37°.51N×45°.01E, h5^{km}±3^{km}, MW4.1*
*TEH **01** 02:33:20.0, 37°.58N×44°.86E, h6^{km}, ML4.1*
*NEIC **01** 02:33:20.4±2.5, 37°.66N±0°.02×44°.83E±0°.04, h10^{km}± 1^{km}, Error ellipse: s-maj=5.1km s-min=3.8km az=83.0*
*THR **01** 02:33:21.3±0.8, 37°.59N×44°.85E, h14^{km}±8^{km}, ML4.2*
*IDC **01** 02:33:23.4±2.3, 37°.40N×44°.73E, h34^{km}±20^{km}, mb3.7/14, mb1 3.8/25, mb1mx3.6/57, mbtmp3.9/25, ML3.5/9, MS3.0/12, Ms1 3.0/12, ms1mx2.9/48, Error ellipse: s-maj=16.5km s-min=11.0km az=141.0*
ISC 01 02:33:20.0±1.0**, 37°.47N**±0°.02×**44°.87E**±0°.02**, h10**^{km}±7^{km}**, n191,** σ**2^{s}.08**/214**, mb4.1**/18**, MS2.9**/6**, Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOVA	Hakkari_Yksek	0.47	285	*i* P	Pg	02 33 27.6	-1.7
YOVA				*i* S	Sg	02 33 35.6	-0.1
YOVA				IAML		02 33 39.0	
	comp=N,11µm,0.6s						
YOVA				IAML		02 33 43.0	
	comp=E,6µm,0.5s						
IAZR	Azarshahr	0.91	76	Pg	Pg	02 33 37.3	-0.3
IAZR				Sg	Sb	02 33 50.2	0.0
IAZR	Azarshahr	0.91	76	*e*Pg	Pg	02 33 37.2	-0.3
IAZR				*e*Sg	Sb	02 33 50.3	0.0
IAZR				*e*		02 33 53.1	
	comp=Z,1µm,0.3s						
HAKT	HAKKARI	0.93	276	*i* P	Pg	02 33 36.1	-1.7
HAKT				*i* S	Sn	02 33 51.8	-1.0
HAKT				IAML		02 33 55.0	
	comp=E,1µm,0.4s						
HAKT				IAML		02 33 59.0	
	comp=N,1µm,1.2s						
MAHB	Mahabad	0.97	136	Pg	Pb	02 33 38.6	-0.3
MAHB	Mahabad	0.97	136	*e*Pg	Pb	02 33 39.5	+0.6
CUKT	Cukurca	1.03	258	*i* P	Pb	02 33 38.2	-1.7
CUKT				*i* S	Sn	02 33 55.4	+0.4
CUKT				IAML		02 33 59.0	
	comp=N,3µm,0.5s						
CUKT				IAML		02 34 02.0	
	comp=E,6µm,0.6s						
CUKT	Cukurca	1.03	258	PN	Pb	02 33 38.2	-1.7
CUKT				SN	Sg	02 33 54.3	+1.2
CUKT	Cukurca	1.03	258	Pg	Pb	02 33 38.4	-1.6
ITBZ	Tabriz	1.27	53	Pg	Pn	02 33 41.0	-2.9
ITBZ	Tabriz	1.27	53	*e*Pg	Pn	02 33 41.0	-2.9
ITBZ				*e*		02 34 01.2	
	comp=Z,42µm,0.3s						
TABZ	Tabriz	1.30	63	*e*Pg	Pn	02 33 43.5	-0.8
TABZ				*e*		02 34 18.0	
	comp=Z,66µm,0.6s						
OZAP	Van, Ozalp-Mer	1.38	330	*i* P	Pn	02 33 44.5	-1.0
OZAP				IAML		02 34 16.0	
	comp=E,844nm,1.0s						
OZAP				IAML		02 34 18.0	
	comp=N,783nm,0.9s						
IMRD	Marand	1.41	28	Pg	Pn	02 33 43.4	-2.5
IMRD	Marand	1.41	28	*e*Pn	Pn	02 33 43.4	-2.5
VANB	Van	1.62	314	PN	Pn	02 33 47.5	-1.2
VANB				SN	Sg	02 34 14.0	+1.8
VANB	Van	1.62	314	Pn	Pb	02 33 49.7	-0.4
VANB	Van	1.62	314	*e*Pn	Pb	02 33 49.6	-0.4
AKDM	Akdamar-Van	1.72	301	PN	Pn	02 33 50.1	-0.1
AKDM				SN	Sg	02 34 17.1	+1.7
AKDM	Akdamar-Van	1.72	301	Pn	Pn	02 33 50.2	0.0
AKDM				Sn	Sn	02 34 10.1	-2.2
AKDM	Akdamar-Van	1.72	301	*e*Pn	Pn	02 33 50.2	0.0
VMUR	Van-Muradiye	1.83	327	*i* P	Pb	02 33 54.1	+0.4
VMUR				IAML		02 34 27.0	
	comp=N,566nm,1.5s						
VMUR				IAML		02 34 27.0	
	comp=E,818nm,1.0s						
MAKU	Maku	1.89	356	*e*Pg	Pb	02 33 53.7	-1.0
MAKU	Maku	1.89	356	*e*Pn	Pb	02 33 53.7	-1.0
PERV	Siirt/Pervari-	1.91	285	*i* P	Pb	02 33 54.5	-0.5
PERV				*i* S	Sg	02 34 24.4	+3.2
PERV				IAML		02 34 28.0	
	comp=N,1µm,0.6s						
PERV				IAML		02 34 28.0	
	comp=E,2µm,0.7s						
IHSH	Hashtrud	1.92	94	Pn	Pb	02 33 55.1	-0.1
IHSH	Hashtrud	1.92	94	*e*Pn	Pb	02 33 55.2	0.0
IHSH				*e*		02 34 23.4	
	comp=Z,17µm,0.2s						
IHRS	Heris	1.92	63	Pn	Pb	02 33 54.0	-1.3
IHRS	Heris	1.92	63	*e*Pn	Pb	02 33 53.9	-1.3
IHRS				*e*		02 34 21.0	
	comp=Z,19µm,0.5s						
SIRT	Sirnak	1.93	272	PN	Pn	02 33 52.8	-0.2
SIRT	Sirnak	1.93	272	Pn	Pb	02 33 54.5	-0.9
SIRT				Sn	Sn	02 34 16.1	-1.3
SIRT	Sirnak	1.93	272	*e*Pn	Pb	02 33 54.4	-0.9
AHAR	Ahar	2.00	59	*e*Pn	Pb	02 33 55.5	-1.1
IKRK	Kirkuk	2.10	192	*e*Pg	Pb	02 33 59.0	+0.8
IKRK				*e*Sg	Sg	02 34 28.0	+0.3
IKRK				AML	AML	02 34 32.4	
	comp=E,3µm,0.5s						
IKRK				AML	AML	02 34 39.8	
	comp=N,2µm,0.6s						
ADCV	BITLIS_Adilcev	2.16	309	*i* P	Pb	02 33 58.4	-0.9
ADCV				IAML		02 34 35.0	
	comp=N,259nm,1.0s						
ADCV				IAML		02 34 35.0	
	comp=E,280nm,2.1s						
ISRB	Sarab	2.25	80	Pn	Pb	02 33 59.9	-0.9
ISRB	Sarab	2.25	80	*e*Pn	Pb	02 33 59.7	-1.1
BLIS	Bitlis-Merkez	2.37	294	*i* P	Pb	02 34 01.6	-1.3
BLIS				IAML		02 34 47.0	
	comp=N,254nm,1.2s						
BLIS				IAML		02 34 55.0	
	comp=E,224nm,2.2s						
SRTM	Siirt_Merkez	2.39	284	*i* P	Pb	02 34 01.6	-1.6
SRTM				IAML		02 34 43.0	
	comp=N,515nm,0.8s						
SRTM				IAML		02 34 54.0	
	comp=E,498nm,0.9s						
MLAZ	Malazgirt-MUS	2.47	313	PN	Pb	02 34 02.9	-1.7
MLAZ	Malazgirt-MUS	2.47	313	Pn	Pb	02 34 04.7	0.0
IGDI	IGDIR	2.48	346	*i* P	Pb	02 34 05.4	+0.8
IGDI				*i* S	Sg	02 34 44.0	+4.4
IGDI				IAML		02 34 46.0	
	comp=N,174nm,0.9s						
IGDI				IAML		02 34 46.0	
	comp=E,172nm,0.9s						
GURO	Guroymak-BITLI	2.49	297	PN	Pn	02 34 02.1	+1.4
GURO	Guroymak-BITLI	2.49	297		Pn	02 34 00.6	0.0
GURO				Sn	Sn	02 34 28.3	-2.8
GURO	Guroymak-BITLI	2.49	297	Pn	Pb	02 34 03.0	-1.8
GURO	Guroymak-BITLI	2.49	297	*e*Pn	Pb	02 34 03.0	-1.8
TASB	TASBURUN-IGDIR	2.56	349	PN	Pb	02 34 04.6	-1.5
AGRB	Hanur-Agry	2.57	326	PN	Pb	02 34 04.7	-1.6
AGRB	Hanur-Agry	2.57	326	Pn	Pb	02 34 06.5	+0.2
GNI	Garni	2.68	358	Pn	Pb	02 34 08.3	+0.1
	comp=E,12nm,0.3s,baz=263,slow=1.8,SNR=52						
GNI				Sn	Sg	02 34 44.4	-1.8
	comp=E,11nm,0.3s,baz=38,slow=23,SNR=3.2						
GNI	Garni	2.68	358	PN	Pb	02 34 06.2	-2.0
GNI	Garni	2.68	358	Pn	Pn	02 34 00.4	-3.0
GNI				Sn	Sn	02 34 31.0	-4.9
GNI	Garni	2.68	358	P	Pb	02 34 08.0	-0.2
GNI				S	Sg	02 34 49.3	+3.2
GRMI	Germi	2.74	60	*e*Pn	Pn	02 34 06.1	+2.0
GRMI	Germi	2.74	60	*e*Pn	Pn	02 34 06.1	+2.0
MUSM	Mu-Merkez	2.93	296	*i* P	Pn	02 34 08.8	+2.0
MUSM				*i* S	Sg	02 34 57.2	+3.1
MUSM				IAML		02 35 01.0	
	comp=E,55nm,0.8s						
MUSM				IAML		02 35 05.0	
	comp=N,105nm,1.3s						
IDHR	Dehrash	3.02	156	Pn	Pb	02 34 12.6	-1.4
IDHR	Dehrash	3.02	156	*e*Pn	Pb	02 34 12.6	-1.4
IDHR				*e*		02 35 10.2	
	comp=Z,9µm,0.6s						
ILIN	Lien	3.06	146	Pn	Pb	02 34 13.6	-1.0
ILIN	Lien	3.06	146	*e*Pn	Pb	02 34 13.2	-1.4
ILIN				*e*		02 35 11.9	
	comp=Z,5µm,1.0s						
SNGE	Sanandaj	3.10	139	*e*Pn	Pb	02 34 13.0	-2.4
SNGE	Sanandaj	3.10	139	*e*Pn	Pb	02 34 13.0	-2.4
ZNJK	Zanjan	3.15	103	*e*Pn	Pb	02 34 13.8	-2.5
ZNJK				*e*Sg	Sg	02 35 01.0	-0.4
ZNJK				IAML		02 35 06.5	
	comp=N,484nm,0.5s						
ZNJK				IAML		02 35 07.5	
	comp=E,571nm,0.6s						
ZNJK	Zanjan	3.15	103	*e*Pn	Pb	02 34 13.8	-2.5
VRTB	Varto-Mus	3.17	303	Pn	Pb	02 34 13.4	-3.1
VRTB	Varto-Mus	3.17	303	*e*Pn	Pb	02 34 13.4	-3.1
EAK	Akyaka	3.36	343	*i* P	Pg	02 34 22.7	-1.7
EAK				IAML		02 35 26.0	
	comp=N,132nm,1.0s						
EAK				IAML		02 35 51.0	
	comp=E,100nm,1.7s						
IGHG	Ghaleghazi	3.42	156	Pn	Pb	02 34 18.2	-2.6
IGHG	Ghaleghazi	3.42	156	*e*Pn	Pb	02 34 18.0	-2.8
IGHG				*e*		02 35 29.5	
	comp=Z,9µm,0.7s						
KARS	Kars	3.45	337	PN	Pn	02 34 17.1	+3.2
KARS	Kars	3.45	337	Pn	Pn	02 34 11.1	-2.8
KOPR	Koprukoy-ERZUR	3.45	318	PN	Pn	02 34 17.0	+3.1
MAZI	Mazidag	3.52	271	PN	Pn	02 34 14.9	+0.1
KARO	Karliova-Bingo	3.52	303	PN	Pn	02 34 17.1	+2.2
KARO	Karliova-Bingo	3.52	303	Pn	Pn	02 34 18.2	+3.3
QSDN	Sirdan	3.58	104	*e*Pn	Pn	02 34 19.1	+3.3
KER	Kermanshah	3.58	148	*e*Pn	Pn	02 34 19.9	+4.2
BNGB	Bingl	3.63	296	PN	Pn	02 34 18.3	+1.9
KCHF	Cheshme Sefid,	3.64	150	*e*Pn	Pb	02 34 21.4	-3.1
KCHF				*e*		02 35 32.3	
	comp=Z,5µm,0.7s						
SENK	Senkaya-Erzuru	3.66	328	PN	Pn	02 34 20.2	+3.4
IBZA	Bozab	3.85	140	*e*Pn	Pn	02 34 24.3	+4.8
YEDI	Yedisu-Bingol	3.92	301	PN	Pn	02 34 22.8	+2.4
AKH	Akhalkalaki	4.08	345	PN	Pn	02 34 26.2	+3.6
KOVA	Elazig, Kovanc	4.18	289	*i* P	Pn	02 34 25.2	+1.4
KOVA				IAML		02 35 53.0	
	comp=N,82nm,2.2s						
KOVA				IAML		02 36 02.0	
	comp=E,50nm,2.5s						
QABG	Abgarm-Qazvin	4.18	113	*e*Pn	Pn	02 34 27.6	+3.6
BHD	Baghdad	4.21	186	*e*Pn	Pn	02 34 25.0	+0.9
BHD				*e*Sn	Sn	02 35 15.0	+1.7
IGZV	Ghazvin	4.42	103	*e*Pn	Pn	02 34 31.5	+4.2
IBDR	Badra	4.43	168	*e*Pn	Pn	02 34 27.0	-0.2
IBDR				*e*Sn	Sn	02 35 19.0	+0.1
HSAM	Samen	4.44	136	*e*Pn	Pn	02 34 33.0	+5.3
SVRC	Sivrice-ELAZID	4.49	283	PN	Pn	02 34 28.6	+0.4
IDOB	Doab	4.55	143	*e*Pn	Pn	02 34 33.4	+4.3
IRAZ	Razeghan	4.57	115	*e*Pn	Pn	02 34 32.7	+3.3
IKFM	Kafar-mosalman	4.62	147	*e*Pn	Pn	02 34 34.8	+4.9
QALM	Alamut, Qazvin	4.74	101	*e*Pn	Pn	02 34 35.0	+3.2
URFA	Urfa	4.81	272	PN	Pn	02 34 33.3	+0.8
BMDN	Meydan	4.97	138	*e*Pn	Pn	02 34 39.4	+4.5
BMDN				*e*		02 34 41.7	
	comp=Z,872nm,0.4s						
THKV	Tehran--Karaj	5.07	106	*e*Pn	Pn	02 34 40.2	+4.0
THKV	Tehran--Karaj	5.07	106	*e*Pn	Pn	02 34 40.3	+4.0
ASAO	Ashtian	5.09	123	*e*Pn	Pn	02 34 41.1	+4.5
ASAO	Ashtian	5.09	123	*e*Pn	Pn	02 34 41.1	+4.5
ONI	Oni	5.23	348	Pn	Pn	02 34 35.1	-3.2
CHTH	Charan	5.26	105	*e*Pn	Pn	02 34 42.1	+3.2
CHTH	Charan	5.26	105	*e*Pn	Pn	02 34 42.1	+3.2
DARE	Darende-Malaty	5.93	283	PN	Pn	02 34 50.3	+2.3
GHVR	GHOM	6.00	118	*e*Pn	Pn	02 34 52.1	+3.2
GHVR	GHOM	6.00	118	*e*Pn	Pn	02 34 52.1	+3.2
GAZ	Gaziantep	6.11	270	PN	Pn	02 34 51.7	+1.3
GAZ	Gaziantep	6.11	270	Pn	Pn	02 34 51.9	+1.5
KMRS	Kahramanmaras	6.34	273	PN	Pn	02 34 55.1	+1.6
KBZ	Khabaz	6.43	347	Pn	Pn	02 34 58.8	+4.1
	comp=Z,0.0nm,0.3s,baz=156,slow=12,SNR=2.7						
NSR	Nassriya	6.53	170	*e*Pn	Pn	02 34 56.0	0.0
NSR				*e*Sn	Sn	02 36 10.0	-0.5
SVSK	Karacayir	6.62	294	PN	Pn	02 35 00.6	+3.3
SARI	SarD1z-Kayseri	6.74	281	PN	Pn	02 35 01.4	+2.2
IPIR	Pirpir	6.87	132	*e*Pn	Pn	02 35 06.2	+5.2
TAHT	Tahtakopru-Hat	7.04	264	PN	Pn	02 35 03.6	+0.5
BNN	Bunyan	7.24	284	Pn	Pn	02 35 04.1	-1.9
ASF	Jabal al Asfar	8.41	233	Pn	Pn	02 35 23.3	+1.2
	comp=Z,1.3nm,0.3s,baz=43,slow=4.9,SNR=9.4						
ASF				Sn	Sn	02 36 58.4	+1.2
	comp=Z,0.1nm,0.3s,baz=168,slow=20,SNR=1.0						
ASF				Lg	Lg	02 37 50.9	
	comp=Z,0.6nm,0.3s,baz=127,slow=20,SNR=2.5						
MMAI	Mount Meron Ar	8.92	243	Pn	Pn	02 35 29.9	+0.9
	comp=Z,2.6nm,0.3s,baz=68,slow=16,SNR=12						
MMAI				LR	LR	02 39 33.1	
	comp=Z,134nm,20.2s,baz=45,slow=42						
BRTR	Keskin Array B	9.08	288	Pn	Pn	02 35 34.1	+3.0
	comp=Z,0.1nm,0.3s,baz=115,slow=13,SNR=6.0						
BRTR				LR	LR	02 38 53.0	
	comp=Z,102nm,19.3s,baz=107,slow=37						
GHAJ	Ghor Haditha	9.84	234	Pn	Pn	02 35 42.3	+0.8
GEYT	Alibeck	10.51	83	Pn	Pn	02 35 54.4	+3.6
	comp=Z,0.4nm,0.3s,baz=249,slow=24,SNR=2.5						
GEYT				LR	LR	02 41 21.3	
	comp=Z,72nm,20.0s,baz=0.0,slow=45						
EIL	Elat	11.35	230	Pn	Pn	02 36 02.7	+0.6
	comp=Z,0.1nm,0.3s,baz=45,slow=19,SNR=1.4						
EIL				Lg	Lg	02 39 21.4	
	comp=Z,0.1nm,0.3s,baz=71,slow=17,SNR=1.9						
EIL				LR	LR	02 40 34.4	
	comp=Z,69nm,19.2s,baz=66,slow=38						
SHMA	Al-Shehemyia	12.68	154	P	Pn	02 36 19.2	-1.2
SHMA				S	Sn	02 38 41.2	-0.4
TRNA	Turayna	13.80	155	P	Pn	02 36 35.4	-0.2
TRNA				S	Sn	02 39 05.3	-3.7
SHME	Shamm	14.87	137	P	Pn	02 36 51.4	+1.2
BELG	Belogornoye	15.05	7	Pn	Pn	02 36 53.3	+0.8
	comp=Z,0.4nm,0.3s,baz=155,slow=8.8,SNR=2.1						
BELG				LR	LR	02 44 44.4	
	comp=Z,43nm,18.6s,baz=131,slow=45						
BANOM	Banah	15.05	137	P	Pn	02 36 52.6	-0.3
BANOM				S	Sn	02 39 35.3	-4.3
MASF	Masafi	15.42	138	P	Pn	02 36 57.9	+0.3
	SNR=12						
NAZ	Nazwa, Dubai	15.47	140	P	Pn	02 36 58.4	+0.1
MDH	Madha	15.55	138	P	Pn	02 36 59.4	+0.1
MDH				P	Pn	02 36 59.4	+0.1
FAQ	Al Faqa, Dubai	15.64	141	P	Pn	02 37 01.5	+1.0
	SNR=5.9						
UOSS	Minazif	15.79	139	Pn	Pn	02 37 02.1	-0.3
UOSS				IAmb	IAmb	02 37 23.8	
	comp=Z,12nm,0.8s						
UOSS	Minazif	15.79	139	P	Pn	02 37 02.7	+0.3
UOSS				S	Sn	02 39 53.0	-4.5
ASHO	Ashiyiah	15.93	140	P	Pn	02 37 04.5	+0.2
ASHO				P	Pn	02 37 04.5	+0.2
AKTO	Aktyubinsk	16.02	32	Pn	Pn	02 37 06.5	+1.3
	comp=Z,0.1nm,0.3s,baz=211,slow=12,SNR=5.6						
AKTO				LR	LR	02 44 14.8	
	comp=Z,29nm,19.4s,baz=260,slow=40						
ABKAR	Akbulak array	16.06	38	Pn	Pn	02 37 02.6	-3.1
IDI	Anoyia	16.24	268	Pn	Pn	02 37 07.0	-1.2
	comp=Z,0.1nm,0.3s,baz=52,slow=12,SNR=2.2						
MLR	Muntele Rosu	16.27	305	Pn	P	02 37 12.9	+1.3
	comp=Z,0.1nm,0.3s,baz=114,slow=6.2,SNR=5.1						
SOHO	SOHO	16.62	140	P	Pn	02 37 13.1	0.0
SOHO				P	Pn	02 37 13.1	0.0
AKASG	Malin Array Be	17.31	325	P	P	02 37 22.7	-0.3
	comp=Z,0.3nm,0.3s,baz=132,slow=12,SNR=7.1						
HOQ	Hoqain	17.48	139	P	Pn	02 37 24.0	+0.2
BURAR	Bucovina Array	17.63	311		Pn	02 37 24.1	-1.6
BUR08	Bucovina Ar. S	17.66	311		Pn	02 37 23.5	-2.6
BSY	Bisya	18.11	141	P	Pn	02 37 32.3	+0.5
	SNR=5.9						
SMDO	Samad	18.30	138	P	P	02 37 35.7	+1.5
WSAR	Wadi Sarin	18.47	136	P	Pn	02 37 37.0	+1.0
	comp=Z,1.6nm,0.3s,baz=338,slow=10,SNR=9.7						
WSAR	Wadi Sarin	18.47	136	P	Pn	02 37 37.2	+1.2
JMDO	Jabal Madar	18.89	139	P	P	02 37 39.3	-1.3
WBK	Wadi Bani Khal	19.16	137	P	Pn	02 37 47.3	+2.9
JLN	Jalan Bani Buh	19.77	136	P	Pn	02 37 54.4	+2.7
DIVS	Divibare	19.93	297	P	P	02 37 48.9	-3.0
DIVS				IAmb	IAmb	02 37 55.8	
	comp=Z,4.6nm,1.0s						
MHTO	MHTO	19.97	142	P	P	02 37 53.6	+1.2
KWP	Kalwaria Pacla	20.06	314	P	P	02 37 52.0	-1.3
KK31	Karatay Array	20.32	66	P	P	02 37 55.5	-0.7
KKAR	Karatay Array	20.32	66	P	P	02 37 55.0	-1.1
CRVS	Cervenica-Dubn	20.45	311	*e*PN	Pn	02 38 03.1	+3.5
DOK	Doka	20.46	154	P	P	02 37 59.0	+1.3
WHFO	Wadi Hawf	20.99	156	P	P	02 38 04.2	+0.7
	SNR=8.7						
ARU	Arti	21.07	21	P	P	02 38 06.4	+2.3
	comp=Z,0.7nm,0.4s,baz=246,slow=22,SNR=1.5						
ARU				LR	LR	02 48 46.8	
	comp=Z,36nm,18.7s,baz=182,slow=44						
KIRV	Kirov	21.34	7	P	P	02 38 08.7	+1.7
	comp=Z,5.1nm,0.5s,baz=240,slow=5.6,SNR=4.4						
NACGM	Naroch	21.36	331	*i* P	P	02 38 15.7	+8.5
ABTO	Aybut	21.37	157	P	P	02 38 08.1	+0.5
RBK	Rabkut	21.52	155	P	P	02 38 09.9	+0.6
DMTO	DMTO	21.58	153	P	P	02 38 10.4	+0.6
	SNR=21						
TIP	Timpagrande	22.09	283	P	P	02 38 16.8	+1.5
TIP				IAmb	IAmb	02 38 19.4	
	comp=Z,6.9nm,0.7s						
AAK	Ala-Archa	23.19	68	LR	LR	02 49 34.9	
	comp=Z,44nm,19.2s,baz=252,slow=42						
VRAC	Vranov	23.57	309	LR	LR	02 49 57.5	
	comp=Z,54nm,18.5s,baz=110,slow=42						
BVAR	Borovoye Array	23.59	41	P	P	02 38 31.2	+0.6
	comp=Z,1.0nm,0.7s,baz=225,slow=17,SNR=5.1						
CKRC	Cesky Krumlov	24.85	307	*e*P	P	02 38 45.8	+3.3
GERES	GERESS Array B	25.24	307	P	P	02 38 45.7	-0.4
	comp=Z,1.1nm,0.7s,baz=112,slow=10,SNR=8.0						
GERES				LR	LR	02 49 51.9	
	comp=Z,44nm,21.1s,baz=114,slow=39						
GERES	GERESS Array B	25.24	307	P	P	02 38 46.6	+0.5
KHC	Kasperske Hory	25.40	307	*e*P	P	02 38 50.1	+2.7
NKC	Novy Kostel	26.41	309	*e*P	P	02 39 00.4	+3.8
FINES	FINESS Array B	26.73	340	P	P	02 38 58.4	-0.9
	comp=Z,0.6nm,0.7s,baz=116,slow=13,SNR=1.5						
GRFO	Grafenberg	27.03	308	P	P	02 39 01.2	-0.9
GRFO				IAmb	IAmb	02 39 15.5	
	comp=Z,15nm,1.5s						
KURBB	Kurchatov Arra	27.28	50	P	P	02 39 05.0	+0.6
	comp=Z,0.7nm,0.7s,baz=261,slow=9.4,SNR=6.2						
MKAR	Makanchi Array	29.04	59	P	P	02 39 21.7	+1.5
	comp=Z,0.8nm,0.7s,baz=269,slow=5.5,SNR=7.3						
MKAR	Makanchi Array	29.04	59	P	P	02 39 18.5	-1.7
HFS	Hagfors	30.10	329	P	P	02 39 28.9	-0.4
	comp=Z,5.5nm,0.9s,baz=123,slow=11,SNR=6.2						
HFS				LR	LR	02 52 39.9	
	comp=Z,51nm,18.7s,baz=114,slow=38						
NOA	NORSAR Array B	31.63	329	P	P	02 39 43.1	+0.3
	comp=Z,0.2nm,0.5s,baz=134,slow=9.0,SNR=1.9						
NOA				LR	LR	02 53 12.9	
	comp=Z,23nm,21.8s,baz=120,slow=38						
ARCES	ARCESS Array B	33.80	348	P	P	02 40 01.5	-0.2
	comp=Z,3.8nm,1.1s,baz=139,slow=7.0,SNR=4.3						
EKA	Eskdalemuir Ar	36.76	315	P	P	02 40 27.1	-0.3
	comp=Z,1.7nm,0.5s,baz=107,slow=8.4,SNR=14						
ESDC	Sonseca Array	37.87	289	P	P	02 40 35.4	-1.6
	comp=Z,1.2nm,1.3s,baz=71,slow=7.9,SNR=1.8						
ESDC	Sonseca Array	37.87	289	P	P	02 40 37.1	+0.1
ESDC				IAmb	IAmb	02 40 48.1	
	comp=Z,3.1nm,1.4s						
TORD	Torodi Ar. Bea	45.40	249	P	P	02 41 36.6	-2.3
	comp=Z,1.9nm,0.9s,baz=50,slow=9.2,SNR=7.5						
TORD	Torodi Ar. Bea	45.40	249	P	P	02 41 38.8	-0.1
TORD				IAmb	IAmb	02 41 41.7	
	comp=Z,2.7nm,1.0s						
DBIC	Dimbokro	54.49	249	P	P	02 42 47.2	-0.8
	comp=Z,4.1nm,0.8s,baz=64,slow=5.0,SNR=4.9						
DBIC	Dimbokro	54.49	249	P	P	02 42 48.7	+0.7
KIC	Kosan Boka	54.61	248	*e*PKP2	P	02 42 51.7	+2.8
	comp=Z,15nm,0.8s						
TIC	Toumodi	54.63	249	*e*PKP2	P	02 42 51.6	+2.5
LIC	Lamto	54.91	248	*e*PKP2	P	02 42 52.9	+1.8
	comp=Z,32nm,1.0s						

*TRN **01** 02:33:36.4, 13°.92N×58°.61W, h42^{km}, MD3.8*
ISC 01 02:33:38.7±2.7**, 13°.96N**±0°.05×**58°.7W**±0°.1**, h35**^{km}**, n25,** σ**0^{s}.57**/36**, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	Saint Philip	1.15	223	*e*	Pn	02 33 59.0	+0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BBSP				eS	Sn	02 34 13.1	+0.3
BBGH	**Gun Hill**	**1.20**	**228**	eP	**Pn**	**02 33 59.1**	**+0.2**
BBGH				eS	Sn	02 34 13.2	-0.7
MPOM	**Morne Pois Mar**	**2.19**	**283**	eP	**Pn**	**02 34 12.6**	**0.0**
MPOM				eS	Sn	02 34 39.2	+0.6
MCLT	**Moule a Chique**	**2.23**	**264**	eP	**Pn**	**02 34 13.5**	**+0.3**
MCLT				eS	Sn	02 34 40.2	+0.6
SLBI	**Saint Lucia, B**	**2.25**	**272**	eP	**Pn**	**02 34 12.9**	**-0.5**
SLBI				eS	Sn	02 34 40.2	+0.1
LPMF	**Morne Lapointe**	**2.32**	**286**	eP	**Pn**	**02 34 14.0**	**-0.4**
TRMF	**Trois Ilets**	**2.40**	**284**	eP	**Pn**	**02 34 15.4**	**0.0**
BIM	**Bigot**	**2.41**	**284**	eP	**Pn**	**02 34 15.6**	**-0.1**
FDF	**Fort de France**	**2.54**	**288**	eP	**Pn**	**02 34 17.7**	**+0.3**
FDF				eS	Sn	02 34 47.2	0.0
SSV	**Crater Summit**	**2.55**	**256**	eS	**Sn**	**02 34 46.7**	**-0.8**
BAMF	**Morne Balai**	**2.56**	**290**	eP	**Pn**	**02 34 17.9**	**+0.1**
SVV	**Soufriere Volc**	**2.57**	**256**	eS	**Sn**	**02 34 49.0**	**+1.1**
SVB	**Belmont**	**2.62**	**255**	eP	**Pn**	**02 34 18.5**	**0.0**
SVB				eS	Sn	02 34 48.8	-0.2
PCM	**Pelee Case Pet**	**2.62**	**289**	eP	**Pn**	**02 34 18.6**	**+0.1**
DSLB	**Salisbury**	**3.06**	**299**	eP	**Pn**	**02 34 24.4**	**-0.1**
DSLB				eS	Sn	02 34 59.9	0.0
GCMP	**Grenada, Carri**	**3.07**	**242**	eS	**Sn**	**02 34 59.0**	**-1.3**
MAGL	**Barre de l'ile**	**3.22**	**308**	eP	**Pn**	**02 34 27.1**	**+0.3**
MAGL				eS	Sn	02 35 05.0	+1.1
GRGR	**Grenville**	**3.44**	**239**	eS	**Sn**	**02 35 09.0**	**-0.4**
TDBA	**Terre de Bas,**	**3.44**	**304**	eP	**Pn**	**02 34 30.3**	**+0.5**
TDBA				eS	Sn	02 35 09.4	0.0
TBG	**Guadaloupe-3**	**3.45**	**303**	e	**Pn**	**02 34 30.6**	**+0.6**
CBE	**Ff, Capester**	**3.54**	**307**	eP	**Pn**	**02 34 31.5**	**+0.2**
CBE				eS	Sn	02 35 12.3	+0.4
ANBD	**Bethesda, Anti**	**4.29**	**316**	eP	**Pn**	**02 34 41.2**	**-0.3**
ANBD	**Bethesda, Anti**	**4.29**	**316**	eS	**Sn**	**02 35 30.3**	**-0.1**
BPA	**Boggy Peak**	**4.36**	**315**	eP	**Pn**	**02 34 42.1**	**-0.3**
BPA	**Boggy Peak**	**4.36**	**315**	eS	**Sn**	**02 35 30.6**	**-1.4**

IDC 01 02:36:24.2±1.6, 2°.46S×139°.41E, h0km, mb3.0/2, mb1 3.3/3, mb1mx3.2/31, mbtmp3.1/3, ML3.1/1, Error ellipse: s-maj=33.9km s-min=15.9km az=177.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.30**	**93**	Pg	Pg	02 36 49.2	+0.2
	6.1nm,0.3s,baz=244,slow=10,SNR=24						
JAY				Lg	Lg	02 37 05.7	
	10.0nm,0.3s,baz=128,slow=20,SNR=13						
JAY				LR	LR	02 37 31.1	
	comp=Z,93nm,18.7s,baz=350,slow=52						
WRA	**Warramunga Arr**	**18.07**	**196**	P	P	02 40 38.6	+1.2
	0.1nm,0.3s,baz=14,slow=13,SNR=2.2						
ASAR	**Alice Springs**	**21.75**	**194**	P	P	02 41 16.4	-1.1
	0.2nm,0.6s,baz=25,slow=10,SNR=2.2						
MKAR	**Makanchi Array**	**70.02**	**322**	P	P	02 47 37.8	-0.1
	0.2nm,0.7s,baz=116,slow=9.8,SNR=2.3						

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*TUL **01** 03:07:30.5±1.2, 36°.60N±0°.02×98°.39W±0°.04, h1km±7km, ML2.7, mb_Lg2.5/36(NEIC), Error ellipse: s-maj=4.1km s-min=2.5km az=89.0*

NEIC 01 03:07:31.4±1.3, 36°.59N±0°.02×98°.35W±0°.05, h11km±6km, Error ellipse: s-maj=5.7km s-min=3.3km az=80.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.24**	**28**	Pg	Pg	03 07 36.1	-0.4
OK032				Sg	Sg	03 07 39.9	0.0
CROK	**Carrier**	**0.31**	**105**		Pg	03 07 37.5	-0.2
CROK				Sg	Sg	03 07 42.2	+0.4
GC02	**Grant County #**	**0.48**	**56**		Pg	03 07 40.5	-0.3
GC02				Sg	Sg	03 07 47.4	+0.3
KAN14	**Manchester OK**	**0.48**	**40**	Pg	Pg	03 07 40.5	-0.4
KAN14				Sg	Sg	03 07 47.7	+0.4
KAN10	**Anthony SW Sta**	**0.57**	**21**		Pg	03 07 42.0	-0.6
KAN10				Sg	Sg	03 07 50.3	0.0
KAN05	**Bluff City Nor**	**0.65**	**36**	Pg	Pg	03 07 43.2	-0.8
KAN17	**Caldwell West**	**0.66**	**46**		Pg	03 07 43.6	-0.6
KAN17				Sg	Sg	03 07 53.0	+0.1
KAN08	**Anthony NE Sta**	**0.71**	**26**		Pg	03 07 44.5	-0.6
KAN12	**Harper NE Stat**	**0.76**	**22**		Pg	03 07 45.4	-0.8
KAN13	**South Haven SW**	**0.82**	**59**	Pg	Pg	03 07 46.6	-0.7
KS20	**Mayfield South**	**0.91**	**45**	Pg	Pg	03 07 48.1	-0.8
BLOK	**Blackwell**	**0.93**	**79**		Pg	03 07 48.6	-0.8
OK029	**Liberty Lake**	**1.07**	**137**		Pb	03 07 51.4	-0.6
OK025	**Westminster Rd**	**1.30**	**140**		Pn	03 07 54.7	-0.8
OK031	**S. Brethren Rd**	**1.38**	**117**		Pn	03 07 56.5	-0.1
QUOK	**Quay**	**1.39**	**107**	Pn	Pn	03 07 57.0	+0.2
OKCSW	**OKLAHOMA CITY**	**1.39**	**148**		Pn	03 07 56.3	-0.6
T35A	**Sooner Cattle**	**1.52**	**77**		Pn	03 07 58.9	+0.4
FNO	**Franklin**	**1.54**	**149**		Pn	03 07 58.9	+0.1
FNO				IAmb_Lg		03 08 20.4	
	comp=Z,35nm,0.9s						
R32A	**Long Quarter,**	**1.85**	**351**		Pn	03 08 03.0	-0.2
WMOK	**Wichita Mounta**	**1.88**	**191**		Pn	03 08 03.5	0.0
X34A	**Smith Ranch, M**	**2.03**	**168**		Pn	03 08 06.1	+0.5
CBKS	**Cedar Bluff**	**2.48**	**334**	Pn	Pn	03 08 11.5	-0.3
LOOK	**Love County**	**2.76**	**159**	Pn	Pn	03 08 16.1	+0.5
KSU1	**Kansas State U**	**2.86**	**28**		Pn	03 08 17.1	0.0
X37A	**Clayton**	**3.14**	**128**		Pn	03 08 21.5	+0.6
X37A				IAmb_Lg		03 09 19.5	
	comp=Z,11nm,0.8s						
AMTX	**Amarillo**	**3.20**	**239**	IAmb_Lg		03 09 12.9	
	comp=Z,10nm,0.7s						
Z35A	**Perchaven, San**	**3.37**	**164**	Pn	Pn	03 08 24.3	+0.3
HHAR	**Hobbs**	**3.57**	**94**	Pg	Pb	03 08 35.4	+0.7
W39A	**Magazine**	**3.96**	**109**	IAmb_Lg		03 09 44.6	
	comp=Z,12nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.16**	**307**	IAmb_Lg		03 09 46.7	
	comp=Z,11nm,0.7s						
S39A	**Bolivar**	**4.17**	**73**	Pn	Pn	03 08 35.1	+0.1
S39A				IAmb_Lg		03 09 43.2	
	comp=Z,7.8nm,0.8s						
U40A	**Yellville**	**4.44**	**91**	Pn	Pn	03 08 39.6	+0.9
U40A				IAmb_Lg		03 09 54.4	
	comp=Z,13nm,0.9s						
P38A	**Dawn**	**4.86**	**50**	Pn	Pn	03 08 45.2	+0.7
T25A	**Trinidad**	**4.89**	**278**	IAmb_Lg		03 10 14.2	
	comp=Z,13nm,0.8s						
MGMO	**Mountain Grove**	**4.91**	**82**	IAmb_Lg		03 10 06.4	
	comp=Z,6.8nm,0.8s						
X40A	**Basin Creek Fa**	**4.96**	**113**	IAmb_Lg		03 10 17.3	
	comp=Z,9.6nm,0.8s						
FCAR	**Ozark Folk Cen**	**5.08**	**96**	IAmb_Lg		03 10 13.3	
	comp=Z,7.2nm,0.9s						
WHAR	**Wooly Hollow**	**5.09**	**103**	IAmb_Lg		03 10 20.2	
	comp=Z,8.9nm,0.8s						
WLAR	**White Oak Lake**	**5.18**	**122**	IAmb_Lg		03 10 19.2	
	comp=Z,9.1nm,0.8s						
OGNE	**Ogallala**	**5.21**	**328**	Pn	Pn	03 08 49.9	+0.5
P40A	**Paris**	**5.78**	**58**	IAmb_Lg		03 10 38.7	
	comp=Z,7.3nm,0.7s						
LCAR	**Lake Charles**	**5.83**	**93**	IAmb_Lg		03 10 41.2	
	comp=Z,7.2nm,1.0s						
CCM	**Cathedral Cave**	**5.85**	**73**	IAmb_Lg		03 10 38.4	
	comp=Z,8.3nm,0.8s						
PBMO	**Poplar Bluff**	**6.37**	**86**	IAmb_Lg		03 11 02.2	
	comp=Z,7.7nm,0.8s						
SCIA	**State Center**	**6.64**	**35**	IAmb_Lg		03 11 07.2	
	comp=Z,8.2nm,0.8s						

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*DJA **01** 03:11:19.1±0.5, 5°S±4°×14°6E±°, h80km±6km, M4.6/17, mb4.5/17, mB5.2/5, MLv4.7/3, Mw(mB)4.6/5, MwMwp5.2/1, Mwp5.4/1*

*NEIC **01** 03:11:22.1±1.2, 5°.47S±0°.08×146°.12E±0°.10, h105km±6km, mb4.2/15, Error ellipse: s-maj=14.7km s-min=11.1km az=112.0*

*IDC **01** 03:11:28.0±2.8, 5°.49S×145°.76E, h164km±25km, mb3.7/9, mb1 3.9/13, mb1mx3.7/31, mbtmp4.2/13, MS3.7/8, Ms1 3.7/8, ms1mx3.4/25, Error ellipse: s-maj=26.1km s-min=12.3km az=76.0*

ISC 01 03:11:21.6±0.6, 5°.48S±0°.06×146°.12E±0°.07, h100km, n53, σ1s.56/54, mb4.4/19, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**6.15**	**298**	P	**Pn**	**03 12 52.5**	**+2.5**
	1.1nm,0.3s,baz=302,slow=2.9,SNR=4.5						
JAY				S	**Sn**	**03 14 00.2**	**+1.2**
	1.6nm,0.3s,baz=199,slow=4.2,SNR=1.6						
JAY				LR	LR	03 15 46.6	
	comp=Z,375nm,20.4s,baz=22,slow=44						
JAY	**Jayapura**	**6.15**	**298**	P	**Pn**	**03 12 52.7**	**+2.7**
	0.2nm14nm,0.8s						
RABL	**Rabaul**	**6.16**	**78**	Pn	**Pn**	**03 12 50.9**	**+0.8**
GENI	**Genyem**	**6.59**	**296**	P	**Pn**	**03 12 55.6**	**-0.4**
	0.7nm56nm,1.1s						
COEN	**Coen**	**8.91**	**199**		**Pn**	**03 13 25.3**	**-2.2**
COEN				Sn	**Sn**	**03 15 05.9**	**-0.2**
HNR	**Honiara**	**14.26**	**107**	LR	LR	03 19 33.3	
	comp=Z,111nm,21.1s,baz=265,slow=33						
CTA	**Charters Tower**	**14.52**	**179**	P	**P**	**03 14 45.7**	**-0.4**
	0.7nm,0.3s,baz=2.0,slow=13,SNR=8.8						
CTAO	**Charters Tower**	**14.52**	**179**	P	**Pn**	**03 14 43.1**	**+0.8**
SIJI	**Sorong**	**15.52**	**287**	P	**Pn**	**03 14 53.8**	**-1.2**
	2.5nm,0.3s,baz=83,slow=13,SNR=11						
SIJI	**Sorong**	**15.52**	**287**	P	**Pn**	**03 14 55.6**	**+0.6**
	498nm41nm,0.8s						
SWI	**Sorong**	**15.52**	**287**	P	**Pn**	**03 14 56.6**	**+1.5**
	113nm,0.8s						
MTN	**Manton Dam**	**16.49**	**243**	P	**Pn**	**03 15 07.7**	**+0.6**
KRAI	**Karang Ratu**	**17.80**	**276**	P	**Pn**	**03 15 23.3**	**+0.2**
	18nm,1.6s						
WB0	**Warramunga Arr**	**18.21**	**218**	P	**P**	**03 15 25.4**	**-1.5**
WB0				IAmb	IAmb	03 15 30.1	
	comp=Z,8.6nm,1.1s						
WR0	**Warramunga Arr**	**18.27**	**217**	P	**P**	**03 15 27.0**	**-0.6**
WR0				IAmb	IAmb	03 15 45.9	
	comp=Z,7.2nm,0.9s						
WB2	**Warramunga Arr**	**18.37**	**217**	P	**P**	**03 15 28.5**	**-0.2**
WB2				IAmb	IAmb	03 15 44.2	
	comp=Z,7.1nm,0.8s						
WRA	**Warramunga Arr**	**18.38**	**218**	P	**P**	**03 15 28.0**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=31,slow=11,SNR=35						
WRA				PcP	**PcP**	**03 19 52.4**	**-3.7**
	baz=34,slow=2.1,SNR=1.4						
WRA				LR	LR	03 23 36.8	
	comp=Z,219nm,20.0s,baz=10.0,slow=40						
WRA	**Warramunga Arr**	**18.38**	**218**	P	**P**	**03 15 28.8**	**0.0**
WRA					**PcP**	**03 19 56.5**	**+0.4**
KNRA	**Kununurra**	**19.82**	**238**	P	**P**	**03 15 44.2**	**-0.2**
KNRA				IAmb	IAmb	03 15 44.4	
	comp=Z,23nm,1.1s						
SANI	**Sanana**	**20.37**	**279**	P	**P**	**03 15 49.4**	**-1.1**
	comp=Z,38nm,1.0s						
AS31	**Alice Springs**	**21.57**	**212**	P	**P**	**03 16 02.6**	**-0.7**
ASAR	**Alice Springs**	**21.57**	**212**	P	**P**	**03 16 02.3**	**-1.0**
	comp=Z,1.8nm,0.6s,baz=41,slow=11,SNR=18						
ASAR				LR	LR	03 25 10.6	
	comp=Z,313nm,20.6s,baz=2.5,slow=38						
SOEI	**Soe**	**22.06**	**258**	P	**P**	**03 16 08.2**	**-0.5**
SOEI	**Soe**	**22.06**	**258**	P	**P**	**03 16 12.4**	**+3.7**
	comp=Z,48nm,0.9s						
SGSI	**Sangihe**	**22.49**	**293**	P	**P**	**03 16 15.7**	**+2.7**
BATI	**Baumata**	**22.73**	**257**	P	**P**	**03 16 16.8**	**+1.3**
	comp=Z,78nm,0.9s						
GTOI	**Gorontalo**	**23.86**	**284**	P	**P**	**03 16 28.2**	**+2.2**
	comp=Z,892nmcomp=Z,118nm,0.7s						
DAV	**Davao City (W)**	**23.99**	**301**	P	**P**	**03 16 26.1**	**-1.1**
EDFI	**Ende, Flores**	**24.45**	**261**	P	**P**	**03 16 30.8**	**-0.7**
	comp=Z,3μmcomp=Z,8.7nm,0.8s						
APSI	**Ampana**	**24.84**	**280**	P	**P**	**03 16 35.9**	**+1.0**
	comp=Z,796nmcomp=Z,78nm,1.1s						
DZM	**Mont Dzumac**	**25.66**	**132**	P	**P**	**03 16 45.5**	**+3.1**
	comp=Z,7.4nm,0.9s,baz=315,slow=13,SNR=3.0						
BKSI	**Bulukumba**	**25.88**	**269**	P	**P**	**03 16 47.6**	**+3.3**
	comp=Z,22nm,1.3s						
TTSI	**Tana Toraja**	**26.33**	**274**	P	**P**	**03 16 48.2**	**-0.2**
	comp=Z,26nm,1.2s						
STKA	**Stephens Creek**	**26.60**	**189**	P	**P**	**03 16 50.8**	**+0.2**
	comp=Z,4.1nm,0.7s,baz=356,slow=11,SNR=8.3						
STKA				LR	LR	03 27 05.9	
	comp=Z,244nm,19.8s,baz=21,slow=35						
STKA	**Stephens Creek**	**26.60**	**189**	P	**P**	**03 16 51.8**	**+1.2**
MJAR	**Matsushiro Arr**	**42.45**	**351**	P	**P**	**03 19 06.3**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=157,slow=8.9,SNR=4.5						
MJAR	**Matsushiro Arr**	**42.45**	**351**	P	**P**	**03 19 04.5**	**-2.3**
MJAR				IAmb	IAmb	03 19 07.7	
	comp=Z,4.6nm,1.5s						
URZ	**Urewera**	**43.09**	**144**	LR	LR	03 36 38.9	
	comp=Z,102nm,18.9s,baz=33,slow=35						
KSRS	**Korea Array**	**45.96**	**340**	P	**P**	**03 19 35.1**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=160,slow=9.6,SNR=6.1						
KSRS				LR	LR	03 35 40.9	
	comp=Z,49nm,21.7s,baz=160,slow=32						
CMAR	**Chiang Mai Arr**	**52.23**	**298**	P	**P**	**03 20 20.8**	**-2.1**
	comp=Z,3.0nm,0.3s,baz=126,slow=6.5,SNR=5.2						
CMAR	**Chiang Mai Arr**	**52.23**	**298**	P	**P**	**03 20 21.9**	**-0.9**
VNDA	**Vanda**	**72.48**	**176**	P	**P**	**03 22 37.2**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=329,slow=8.1,SNR=5.5						
VNDA	**Vanda**	**72.48**	**176**	P	**P**	**03 22 37.4**	**+0.6**
VNDA				IAmb	IAmb	03 22 38.8	
	comp=Z,3.2nm,1.1s						
MKAR	**Makanchi Array**	**76.54**	**321**	P	**P**	**03 22 58.1**	**-2.9**
	comp=Z,0.6nm,0.8s,baz=116,slow=6.7,SNR=4.8						
MKAR	**Makanchi Array**	**76.54**	**321**	P	**P**	**03 22 59.4**	**-1.6**
KDAK	**Kodiak Island**	**79.87**	**29**	LR	LR	03 52 51.6	
	comp=Z,118nm,22.0s,baz=242,slow=31						
QSPA	**South Pole Qui**	**84.48**	**180**	P	**P**	**03 23 43.6**	**+0.4**
QSPA				IAmb	IAmb	03 23 45.0	
	comp=Z,9.3nm,1.2s						
CCB	**Clear Creek Bu**	**84.94**	**23**	P	**P**	**03 23 45.3**	**0.0**
CCB				IAmb	IAmb	03 23 47.2	
	comp=Z,5.5nm,1.0s						
IL31		**85.36**	**23**	P	**P**	**03 23 47.5**	**+0.2**
IL31				IAmb	IAmb	03 23 49.3	
	comp=Z,3.2nm,0.7s						
ILAR	**Eielson Array**	**85.36**	**23**	P	**P**	**03 23 46.4**	**-1.0**
	comp=Z,2.5nm,0.7s,baz=252,slow=5.1,SNR=31						
ILAR	**Eielson Array**	**85.36**	**23**	P	**P**	**03 23 46.8**	**-0.5**
TORD	**Torodi Ar. Bea**	**144.11**	**285**	PKP	**PKPab**	**03 30 44.5**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=73,slow=3.2,SNR=7.6						
DBIC	**Dimbokro**	**151.11**	**274**	PKPbc	**PKPbc**	**03 31 02.5**	**-1.7**
	comp=Z,3.6nm,0.8s,baz=184,slow=5.8,SNR=4.1						

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*IDC **01** 03:20:31.0±1.7, 9°.75N×125°.85E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/32, mbtmp3.7/5, Error ellipse: s-maj=177.5km s-min=24.8km az=68.0*

ISC 01 03:20:37.5±1.2, 10°.02N±0°.10×126°.4E±0°.1, h50km, n15, σ1s.50/10, mb3.8/5, 3C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.83**	**182**⇑	eP	**Pn**	**03 21 07.1**	**+0.6**
BIPH				eS	**Sn**	**03 21 29.3**	**+0.8**
LLP	**Lapu-Lapu**	**2.44**	**277**⇑	iP	**Pn**	**03 21 15.1**	**+0.2**
LLP				i S	**Sn**	**03 21 43.7**	**+0.1**
KCP	**Kidapawan**	**3.27**	**204**⇓	eP	Pn	03 21 31.6	+5.2
RCP	**Roxas**	**3.93**	**293**⇑	eP	**Pn**	**03 21 36.0**	**+0.7**
WRA	**Warramunga Arr**	**30.78**	**165**	P	**P**	**03 26 48.0**	**-0.5**
	0.4nm,0.8s,baz=347,slow=10,SNR=2.0						
ASAR	**Alice Springs**	**34.27**	**168**	P	**P**	**03 27 17.2**	**-1.9**
	0.2nm,0.5s,baz=354,slow=7.5,SNR=1.6						
H11S3	**WAKE ISLAND Hy**	**39.84**	**73**	T	T	04 11 04.5	
	baz=262,slow=74,SNR=4.5						
H11S1	**WAKE ISLAND Hy**	**39.86**	**73**	T	T	04 11 05.4	
	baz=262,slow=74,SNR=4.3						
H11S2	**WAKE ISLAND Hy**	**39.86**	**73**	T	T	04 11 05.6	
	baz=262,slow=74,SNR=4.2						
H11N1	**WAKE ISLAND Hy**	**40.19**	**71**	T	T	04 11 30.9	
	baz=265,slow=74,SNR=15						
H11N2	**WAKE ISLAND Hy**	**40.19**	**71**	T	T	04 11 23.8	
	baz=265,slow=74,SNR=11						
H11N3	**WAKE ISLAND Hy**	**40.20**	**71**	T	T	04 11 35.5	
	baz=265,slow=74,SNR=18						
MKAR	**Makanchi Array**	**52.32**	**323**	P	**P**	**03 29 42.8**	**-1.4**
	0.7nm,0.6s,baz=128,slow=8.0,SNR=7.3						
ARCES	**ARCESS Array B**	**84.48**	**340**	P	**P**	**03 33 07.6**	**+2.9**
	2.4nm,0.9s,baz=73,slow=6.8,SNR=1.8						
FINES	**FINESS Array B**	**86.18**	**332**	P	**P**	**03 33 13.2**	**-0.1**
	0.9nm,0.8s,baz=64,slow=3.2,SNR=1.6						

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*IDC **01** 03:24:25.8±1.4, 56°.82S×123°.66W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.9/21, mbtmp3.9/4, MS4.3/14, Ms1 4.2/14, ms1mx4.2/16, Error ellipse: s-maj=121.1km s-min=32.7km az=152.0*

*GCMT **01** 03:24:34.0±0.1, 55°.83S±0°.01×123°.76W±0°.01, h23km, MW5.2/127, Moment Tensor Solution. s100,c157; s127,c215; Duration: 1s.0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.02±.02; $M_{\theta\theta}$0.47±.02; $M_{\phi\phi}$-0.44±.01; $M_{r\theta}$-0.14±.03; $M_{\theta\phi}$0.73±.01; $M_{\phi r}$-0.17±.02; Best double couple: $M_0$0.89100×10^{17} NP1:ϕ_s287.00000°, δ77.00000°, λ5.00000°. NP2:ϕ_s196.00000°, δ85.00000°, λ167.00000°. Principal axes: T 0.9200, Plg12.0000°, Azm150.0000°; N -0.0590, Plg77.0000°, Azm356.0000°; P -0.8610, Plg6.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 01 03:24:27.7±1.1, 56°.6S±0°.3×123°.8W±0°.3, h10km, n31, σ0s.58/5, mb3.7/4, MS4.3/18, 1D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**29.26**	**131**	LR	LR	03 39 25.8	
	comp=Z,651nm,19.3s,baz=264,slow=31						
VNDA	**Vanda**	**32.23**	**203**	LR	LR	03 41 44.9	
	comp=Z,277nm,19.2s,baz=89,slow=32						
PLCA	**Paso Flores**	**37.53**	**88**	LR	LR	03 43 09.5	
	comp=Z,276nm,19.2s,baz=230,slow=30						
H03S2	**Juan Fernandez**	**38.01**	**72**	T	T	04 11 33.8	
	baz=218,slow=74,SNR=59						
H03S1	**Juan Fernandez**	**38.01**	**72**	T	T	04 11 38.8	
	baz=218,slow=74,SNR=88						
H03S3	**Juan Fernandez**	**38.02**	**72**	T	T	04 11 34.3	
	baz=218,slow=74,SNR=97						
TBI	**Tubuai**	**38.17**	**320**	eS	S	03 37 27.1	-13
	238nm,27.8s						
TBI				eLQ	LQ	03 40 01.4	
	626nm,28.0s						
TBI				eLR	LR	03 41 37.8	
	comp=Z,1μm,29.8s,baz=160						
TBI	**Tubuai**	**38.17**	**320**	eT	T	04 11 02.9	
	26nm,0.4s						
H03N3	**Juan Fernandez**	**38.30**	**72**	T	T	04 11 56.8	
	baz=221,slow=72,SNR=163						
H03N2	**Juan Fernandez**	**38.31**	**72**	T	T	04 11 55.3	
	baz=221,slow=72,SNR=366						
H03N1	**Juan Fernandez**	**38.32**	**72**	T	T	04 11 56.7	
	baz=221,slow=72,SNR=167						
PPT2	**Papeete2**	**43.54**	**323**	eS	S	03 38 48.0	-12
	381nm,26.5s						
PPT2				eLQ	LQ	03 42 09.8	
	2μm,26.0s						
PPT2				eLR	LR	03 44 05.9	
	comp=Z,1μm,26.5s,baz=155						
VAH	**Vaihoa**	**45.13**	**327**	eT	T	04 19 35.0	
	30nm,0.3s						
TAOE	**Nuku Hiva Isla**	**49.35**	**338**	eS	S	03 40 07.3	-16
	287nm,27.1s						
TAOE				eLR	LR	03 46 44.0	
	comp=Z,944nm,27.9s						
SYO	**Syowa Base**	**54.08**	**173**⇓	eX	**P**	**03 33 52.0**	**+0.3**
CPUP	**Villa Florida**	**55.55**	**86**	LR	LR	03 54 16.3	
	comp=Z,166nm,19.0s,baz=228,slow=32						
MAW	**Mawson**	**55.98**	**183**	LR	LR	03 56 39.4	
	comp=Z,527nm,21.2s,baz=169,slow=35						
LPAZ	**La Paz**	**57.88**	**69**	P	**P**	**03 34 19.9**	**-0.4**
	3.4nm,1.1s,baz=204,slow=10.0,SNR=2.5						
LPAZ				LR	LR	03 52 50.5	
	comp=Z,286nm,20.5s,baz=204,slow=30						
DZM	**Mont Dzumac**	**60.75**	**274**	eLR	LR	03 52 42.4	
	comp=Z,534nm,26.1s						
STKA	**Stephens Creek**	**66.41**	**248**	LR	LR	03 58 24.4	
	comp=Z,100nm,21.0s,baz=149,slow=31						
BDFB	**Brasilia**	**69.26**	**87**	LR	LR	04 03 14.0	
	comp=Z,124nm,20.0s,baz=193,slow=34						
ROSC	**El Rosal**	**73.26**	**52**	LR	LR	04 02 46.0	
	comp=Z,156nm,18.2s,baz=182,slow=31						
H01W1	**Cape Leeuwin H**	**76.49**	**226**	T	T	05 01 50.0	
	baz=150,slow=75,SNR=49						
H01W2	**Cape Leeuwin H**	**76.50**	**226**	T	T	05 01 51.3	
	baz=150,slow=75,SNR=45						
H01W3	**Cape Leeuwin H**	**76.51**	**226**	T	T	05 01 46.7	
	baz=150,slow=75,SNR=48						
ASAR	**Alice Springs**	**77.02**	**247**	P	**P**	**03 36 20.5**	**-0.2**
	0.7nm,0.9s,baz=145,slow=4.6,SNR=4.2						
ASAR				LR	LR	04 05 29.5	
	comp=Z,158nm,20.0s,baz=148,slow=32						
WRA	**Warramunga Arr**	**79.88**	**249**	P	**P**	**03 36 36.3**	**-0.3**
	0.9nm,0.9s,baz=143,slow=5.1,SNR=4.5						
WRA				LR	LR	04 07 12.1	
	comp=Z,180nm,20.7s,baz=155,slow=32						
TXAR	**Lajitas Array**	**87.32**	**18**	P	**P**	**03 37 14.9**	**+0.5**
	0.2nm,0.7s,baz=178,slow=7.2,SNR=4.0						
BOSA	**Boshof**	**91.12**	**153**	LR	LR	04 13 37.4	
	comp=Z,175nm,18.0s,baz=186,slow=32						
NVAR	**Mina Array Bea**	**94.81**	**4**	LR	LR	04 10 23.3	
	comp=Z,232nm,20.5s,baz=130,slow=29						
PDAR	**Pinedale Array**	**99.76**	**11**	LR	LR	04 14 24.6	
	comp=Z,103nm,19.5s,baz=89,slow=30						

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*DNK **01** 03:30:56.7±1.0, 70°.73N×14°.45W, h0km±105km, ML1.7*

*IDC **01** 03:30:57.6±7.2, 70°.34N×14°.12W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.3/30, mbtmp3.6/3, ML3.0/1, MS3.8/1, Ms1 3.8/1, ms1mx2.9/46, Error ellipse: s-maj=131.5km s-min=57.1km az=92.0*

ISC 01 03:30:56.5±1.1, 70°.6N±0°.1×14°.95W±0°.09, h10km, n7, σ1s.29/7, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCO	**Scoresbysund**	**2.35**	**270**	i P	**Pb**	**03 31 38.8**	**0.0**
SCO				e		03 35 07.5	
SCO				IAML		03 35 37.9	
	comp=Z,11nm,0.5s						
DBG	**Daneborg**	**4.03**	**339**	eP	**Pn**	**03 31 58.4**	**+0.3**
DBG				eS	**Sn**	**03 32 44.1**	**-1.2**
DBG				e		03 35 26.7	
DBG				IAML		03 35 46.8	
	comp=Z,2.4nm,0.4s						
SUMG	**Summit**	**7.67**	**296**	i P	**Pn**	**03 32 48.6**	**+0.3**
SUMG				i		03 36 20.5	
SUMG				IAML		03 36 21.8	
	comp=Z,1.9nm,0.4s						
FINES	**FINESS Array B**	**18.61**	**99**	P	**P**	**03 35 12.4**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=323,slow=12,SNR=7.2						
GERES	**GERESS Array B**	**25.68**	**133**	P	**P**	**03 36 25.3**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=348,slow=7.2,SNR=4.5						
DLBC	**Dease Lake**	**43.34**	**316**	LR	LR	03 55 48.5	
	comp=Z,109nm,20.1s,baz=93,slow=34						
MKAR	**Makanchi Array**	**49.00**	**65**	P	**P**	**03 39 44.5**	**+1.7**
	comp=Z,2.7nm,1.3s,baz=352,slow=6.3,SNR=3.9						

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*ISK **01** 03:32:56.7, 38°.57N×43°.00E, h5km, ML3.7/17*

*DDA **01** 03:32:57.0, 38°.56N×43°.00E, h19km±4km, MW3.7*

*NSSP **01** 03:32:57.4, 38°.52N×43°.23E, h10km, Ms3.5*

*TEH **01** 03:32:57.0, 38°.57N×42°.99E, h13km, ML3.4*

ISC 01 03:32:57.2±0.9, 38°.56N±0°.02×43°.01E±0°.02, h15km±7km, n71, σ1s.16/98, 2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKDM	**Akdamar-Van**	**0.23**	**187**	PG	**Pg**	**03 33 01.9**	**-0.6**
AKDM				SG	**Sg**	**03 33 05.9**	**-0.1**
AKDM	**Akdamar-Van**	**0.23**	**187**	ePg	**Pg**	**03 33 02.2**	**-0.3**
VANB	**Van**	**0.30**	**83**	PG	**Pg**	**03 33 03.4**	**-0.1**
VANB				SG	**Sb**	**03 33 08.8**	**-0.4**
VANB	**Van**	**0.30**	**83**	ePg	**Pg**	**03 33 03.4**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.34**	**318**	i P	**Pb**	**03 33 05.0**	**-0.2**
ADCV				i S	**Sb**	**03 33 09.8**	**-0.7**
ERCV	**ERCIS-VAN**	**0.53**	**29**	PG	**Pg**	**03 33 07.3**	**-0.5**
ERCV				SG	**Sb**	**03 33 15.2**	**-0.7**
ERCV	**ERCIS-VAN**	**0.53**	**29**	ePn	**Pg**	**03 33 07.2**	**-0.5**
VMUR	**Van-Muradiye**	**0.61**	**45**	i P	**Pg**	**03 33 09.1**	**-0.3**
VMUR				i S	**Sb**	**03 33 18.7**	**+0.3**
VMUR				IAML		03 33 20.0	
	comp=N,4μm,0.4s						
VMUR				IAML		03 33 21.0	
	comp=E,7μm,1.0s						
MLAZ	**Malazgirt-MUS**	**0.69**	**328**	PG	**Pb**	**03 33 10.7**	**-0.3**
MLAZ	**Malazgirt-MUS**	**0.69**	**328**	ePn	**Pb**	**03 33 10.8**	**-0.3**
PERV	**Siirt/Pervari-**	**0.71**	**211**	i P	**Pg**	**03 33 10.4**	**-0.8**
PERV				i S	**Sn**	**03 33 23.0**	**-0.8**
PERV				IAML		03 33 25.0	
	comp=N,3μm,0.6s						
PERV				IAML		03 33 26.0	
	comp=E,5μm,0.5s						
BLIS	**Bitlis-Merkez**	**0.72**	**259**	i P	**Pg**	**03 33 10.8**	**-0.5**
BLIS				i S	**Sb**	**03 33 20.8**	**-0.6**
BLIS				IAML		03 33 22.0	
	comp=N,4μm,0.4s						
BLIS				IAML		03 33 23.0	
	comp=E,2μm,0.4s						
GURO	**Guroymak-BITLI**	**0.77**	**270**	PG	**Pg**	**03 33 11.7**	**-0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GURO				SG	Sb	03 33 22.7	-0.1
GURO	Guroymak-BITLI	0.77	270	ePn	Pg	03 33 11.8	-0.5
OZAP	Van, Ozalp-Mer	0.77	82	i P	Pg	03 33 11.8	-0.6
OZAP				i S	Sn	03 33 27.0	+1.6
OZAP				IAML		03 33 28.0	
	comp=E,1μm,0.9s						
OZAP				IAML		03 33 30.0	
	comp=N,1μm,1.1s						
AGRB	Hanur-Agry	1.02	359	PG	Pb	03 33 15.9	-0.8
AGRB				SG	Sn	03 33 30.6	-0.8
AGRB	Hanur-Agry	1.02	359	ePg	Pb	03 33 16.2	-0.5
SRTM	Siirt_Merkez	1.03	237	i P	Pn	03 33 17.2	-0.1
SRTM				i S	Sn	03 33 32.4	+0.9
SRTM				IAML		03 33 37.0	
	comp=E,2μm,0.7s						
SRTM				IAML		03 33 39.0	
	comp=N,2μm,0.7s						
DYDN	Diyadin	1.12	28	i P	Pb	03 33 17.2	-1.2
DYDN				IAML		03 33 40.0	
	comp=E,424nm,0.5s						
DYDN				IAML		03 33 50.0	
	comp=N,466nm,0.5s						
SIRT	Sirnak	1.15	203	PN	Pn	03 33 19.0	+0.1
SIRT	Sirnak	1.15	203	ePn	Pg	03 33 19.4	0.0
MUSM	Mu-Merkez	1.19	279	i P	Pb	03 33 18.7	-0.9
MUSM				i S	Sn	03 33 35.9	+0.3
MUSM				IAML		03 33 37.0	
	comp=N,550nm,0.5s						
MUSM				IAML		03 33 39.0	
	comp=E,665nm,0.6s						
VRTB	Varto-Mus	1.36	297	i P	Pg	03 33 23.4	0.0
VRTB				i S	Sg	03 33 43.9	+2.8
VRTB				IAML		03 33 53.0	
	comp=E,1μm,0.6s						
VRTB				IAML		03 33 57.0	
	comp=N,1μm,0.9s						
VRTB	Varto-Mus	1.36	297	PN	Pg	03 33 22.8	-0.6
VRTB	Varto-Mus	1.36	297	ePn	Pg	03 33 23.5	+0.1
CUKT	Cukurca	1.39	160	i P	Pb	03 33 22.8	-0.2
CUKT				IAML		03 33 47.0	
	comp=E,1μm,0.6s						
CUKT				IAML		03 33 48.0	
	comp=N,783nm,0.9s						
CUKT	Cukurca	1.39	160	PN	Pn	03 33 22.1	-0.2
CUKT	Cukurca	1.39	160	ePn	Pb	03 33 22.8	-0.2
YOVA	Hakkari_Yksek	1.40	133	i P	Pn	03 33 22.1	-0.4
YOVA				IAML		03 33 52.0	
	comp=N,230nm,0.4s						
YOVA				IAML		03 33 55.0	
	comp=E,225nm,0.7s						
IGDI	IGDIR	1.55	32	i P	Pb	03 33 25.2	-0.5
IGDI				IAML		03 33 49.0	
	comp=N,130nm,0.8s						
IGDI				IAML		03 33 52.0	
	comp=E,191nm,1.0s						
SLHN	Bingol, Solhan	1.61	285	i P	Pb	03 33 26.9	+0.2
SLHN				i S	Sg	03 33 49.7	+0.7
SLHN				IAML		03 33 52.0	
	comp=N,418nm,0.4s						
SLHN				IAML		03 34 01.0	
	comp=E,702nm,0.6s						
VNNZ	Vanand	1.67	22	i P	Pb	03 33 28.0	+0.3
VNNZ				i S	Sg	03 33 51.3	+0.4
KOPR	Koprukoy-ERZUR	1.69	328	PN	Pb	03 33 27.5	-0.7
TASB	TASBURUN-IGDIR	1.71	33	PN	Pb	03 33 28.0	-0.5
TASB	TASBURUN-IGDIR	1.71	33	ePn	Pb	03 33 28.5	0.0
MIDY	Mardin/Midyat-	1.72	228	i P	Pb	03 33 28.3	-0.3
MIDY				i S	Sg	03 33 52.8	+0.3
MIDY				IAML		03 33 53.0	
	comp=N,1μm,0.9s						
MIDY				IAML		03 33 54.0	
	comp=E,1μm,0.5s						
METS	Metsamor	1.79	27	i P	Pb	03 33 29.4	-0.4
METS				i S	Sg	03 33 53.8	-1.2
EJDE	Erzurum, Palan	1.84	314	i P	Pb	03 33 30.6	-0.2
EJDE				i S	Sg	03 33 57.5	+0.9
EJDE				IAML		03 34 02.0	
	comp=N,848nm,1.0s						
EJDE				IAML		03 34 03.0	
	comp=E,2μm,0.8s						
ERZM	Erzurum	1.86	317	i P	Pb	03 33 31.4	+0.3
ERZM				i S	Sg	03 33 58.2	+1.1
BNGB	Bingl	1.88	284	PN	Pb	03 33 30.1	-1.2
DIGO	Kars	1.88	8	i P	Pb	03 33 30.6	-0.8
DIGO				IAML		03 34 06.0	
	comp=N,211nm,0.5s						
DIGO				IAML		03 34 08.0	
	comp=E,169nm,0.5s						
ARUZ	Aruch	1.92	26	i P	Pb	03 33 31.5	-0.5
ARUZ				i S	Sg	03 33 57.7	-1.2
NRKZ	NAREK	1.93	41	i P	Pg	03 33 33.8	-0.4
NRKZ				i S	Sg	03 34 01.4	+2.2
BINT	Bingol	2.00	280	ePn	Pn	03 33 30.7	0.0
HANI	Diyarbakir_Han	2.06	267	i P	Pb	03 33 33.5	-0.9
HANI				i S	Sg	03 34 05.0	+1.6
HANI				IAML		03 34 12.0	
	comp=N,258nm,0.6s						
HANI				IAML		03 34 18.0	
	comp=E,228nm,1.0s						
ISHB	Shabestar	2.06	97	ePn	Pn	03 33 32.1	+0.5
ISHB				e		03 33 38.4	
	comp=Z,3μm,0.4s						
SENK	Senkaya-Erzuru	2.07	346	PN	Pb	03 33 33.1	-1.5
SENK	Senkaya-Erzuru	2.07	346	ePn	Pb	03 33 33.6	-1.0
KARS	Kars	2.07	1	PN	Pb	03 33 33.0	-1.6
KARS	Kars	2.07	1	ePn	Pb	03 33 33.3	-1.3
GNI	Garni	2.08	40	i P	Pb	03 33 33.6	-1.2
GNI				i S	Sb	03 34 01.2	+0.7
GNI	Garni	2.08	40	PN	Pn	03 33 33.2	+1.4
IMRD	Marand	2.11	85	ePn	Pn	03 33 33.1	+0.8
IMRD				e		03 33 37.7	
	comp=Z,8μm,0.4s						
YEDI	Yedisu-Bingol	2.12	295	PN	Pb	03 33 33.6	-1.8
EMRE	Erzurum,Aziziy	2.16	314	i P	Pg	03 33 37.9	-0.8
EMRE				i S	Sg	03 34 09.0	+2.3
EMRE				IAML		03 34 19.0	
	comp=N,448nm,0.8s						
KAPZ	Kaputan	2.19	36	i P	Pb	03 33 35.5	-1.3
KAPZ				i S	Sb	03 34 04.2	+0.4
MAZI	Mazidag	2.31	242	PN	Pn	03 33 35.4	+0.6
MAZI	Mazidag	2.31	242	ePn	Pn	03 33 35.5	+0.6
DIYA	Diyarbakir	2.36	255	i P	Pb	03 33 38.1	-1.5
DIYA				IAML		03 34 26.0	
	comp=N,289nm,0.7s						
DIYA				IAML		03 34 27.0	
	comp=E,243nm,0.8s						
KRIK	Erzurum-spir	2.40	318	i P	Pg	03 33 41.9	-1.4
KRIK				i S	Sg	03 34 16.8	+2.3
ITBZ	Tabriz	2.48	97	ePn	Pb	03 33 40.2	-1.5
IAZR	Azarshahr	2.50	110	ePn	Pb	03 33 40.9	-1.1
IAZR				e		03 34 25.1	
	comp=Z,6μm,1.4s						
KOVA	Elazig, Kovanc	2.51	274	i P	Pn	03 33 39.2	+1.6
KOVA				IAML		03 34 27.0	
	comp=N,120nm,0.7s						
KOVA				IAML		03 34 28.0	
	comp=E,81nm,0.8s						
STE	Stepanavan	2.65	23	⇓iP	Pb	03 33 42.0	-2.6
STE				⇓S	Sb	03 34 14.8	-2.3
DBAD	Bademkaya	2.66	338	i P	Pg	03 33 46.6	-1.7
DBAD				IAML		03 34 32.0	
	comp=N,63nm,0.7s						
DBAD				IAML		03 34 33.0	
	comp=E,70nm,1.0s						
BAYB	BAYBURT	2.73	309	i P	Pg	03 33 47.5	-2.1
BAYB				IAML		03 34 33.0	
	comp=E,56nm,0.9s						
BAYB				IAML		03 34 35.0	
	comp=N,63nm,0.9s						
MAHB	Mahabad	2.79	129	ePn	Pb	03 33 44.5	-2.3
MAHB				e		03 33 54.4	
	comp=Z,1μm,0.5s						
IHRS	Heris	3.17	93	ePn	Pn	03 33 49.2	+2.3
IHRS				e		03 34 00.7	
	comp=Z,782nm,0.4s						
IHSH	Hashtrud	3.58	109	ePn	Pn	03 33 56.1	+3.4
ISRB	Sarab	3.74	100	ePn	Pn	03 33 56.1	+1.4
IDHR	Dehrash	4.71	144	ePn	Pn	03 34 10.0	+2.0
IDHR				e		03 34 34.0	
	comp=Z,404nm,0.5s						

IDC 01 03:34:17.2±6.4**,70°.77N**×**16°.03W,h0**km**,mb3.5**/3**,mb1 3.6**/5**,mb1mx3.3**/31**,mbtmp3.5**/5**,ML2.1**/2**,MS3.6**/13**, Ms1 3.6**/13**,ms1mx3.4**/46**,Error ellipse: s-maj=113.2km s-min=54.2km az=84.0,Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NOA	NORSAR Array B	14.63	118	Pn	Pn	03 37 44.8	-0.3
	0.0nm,0.3s,baz=328,slow=9.5,SNR=1.4						
NOA				LR	LR	03 42 42.9	
	comp=Z,123nm,18.6s,baz=320,slow=35						
FINES	FINESS Array B	18.99	98	P	P	03 38 39.8	0.0
	0.1nm,0.3s,baz=321,slow=11,SNR=5.6						
GERES	GERESS Array B	26.05	132	P	P	03 39 52.0	+0.1
	0.8nm,0.8s,baz=328,slow=9.9,SNR=5.9						
GERES				LR	LR	03 49 08.7	
	comp=Z,78nm,21.5s,baz=340,slow=34						
SCHQ	Schefferville	27.04	261	LR	LR	03 50 25.7	
	comp=Z,213nm,18.3s,baz=60,slow=36						
OBN	Obninsk	27.39	97	LR	LR	03 50 04.0	
	comp=Z,51nm,18.8s,baz=359,slow=35						
AKASG	Malin Array Be	28.78	110	P	P	03 40 15.7	-0.5
	0.4nm,0.4s,baz=331,slow=9.0,SNR=1.7						
AKASG				LR	LR	03 51 05.8	
	comp=Z,137nm,21.2s,baz=310,slow=35						
KIRV	Kirov	28.86	81	LR	LR	03 50 52.4	
	comp=Z,193nm,19.3s,baz=308,slow=34						
ESDC	Sonseca Array	31.78	162	LR	LR	03 51 32.9	
	comp=Z,42nm,21.5s,baz=325,slow=33						
MLR	Muntele Rosu	32.45	119	LR	LR	03 53 57.0	
	comp=Z,161nm,19.3s,baz=342,slow=36						
YKA	Yellowknife Ar	35.64	308	LR	LR	03 55 41.8	
	comp=Z,111nm,18.8s,baz=0.0,slow=36						
BRTR	Keskin Array B	40.01	114	LR	LR	03 58 24.9	
	comp=Z,93nm,19.9s,baz=336,slow=36						
GNI	Garni	43.12	102	LR	LR	04 00 46.7	
	comp=Z,118nm,18.7s,baz=328,slow=37						
MKAR	Makanchi Array	49.26	64	P	P	03 43 07.2	+0.1
	0.2nm,0.6s,baz=344,slow=7.7,SNR=1.5						
AAK	Ala-Archa	50.62	73	LR	LR	04 02 53.5	
	comp=Z,66nm,18.3s,baz=318,slow=34						
KSRS	Korea Array	69.02	30	LR	LR	04 17 38.9	
	comp=Z,31nm,19.8s,baz=325,slow=38						

MEX 01 03:40:46.9±0.6**,15°.96N**×**94°.25W,h94**km±15km**,MD4.1, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCIG		1.03	104	eP	Pn	03 41 06.2	-1.0
PCIG				eS	Sn	03 41 20.7	-1.7
CMIG	Matias Romero	1.28	332	eP	Pn	03 41 09.2	-1.0
CMIG				i S	Sn	03 41 26.2	-1.5
TGIG		1.36	53	eP	Pn	03 41 09.3	-1.8
TGIG				eS	Sn	03 41 25.4	-4.1
HUIG	Huatulco	1.79	264	i P	Pn	03 41 15.2	-1.4
HUIG				eS	Sn	03 41 37.7	-1.5
VHO	Vista Hermosa	2.62	295	eP	Pn	03 41 28.5	+0.8
VHO				eS	Sn	03 41 58.0	-0.9
PEIG	Puerto Escondi	2.78	271	eP	Pn	03 41 28.5	-1.1
PEIG				eS	Sn	03 42 00.9	-1.6
TOIG	Toxpalan	3.43	309	eP	Pn	03 41 39.5	+1.1
TOIG				eS	Sn	03 42 16.1	-2.1

IDC 01 03:48:04.9±1.1,54°.30N×161°.86W,h0km,mb4.0/16, mb1 4.1/19,mb1mx3.9/58,mbtmp4.0/19,ML3.4/3,MS3.7/4, Ms1 3.8/4,ms1mx3.1/43,Error ellipse: s-maj=27.8km s-min=16.4km az=174.0

AEIC 01 03:48:12±1.5,54°.43N±0°.06×161°.49W±0°.06,h20km±5km, ML3.8,mb4.2/3(NEIC),ML3.9/8(NEIC),Error ellipse: s-maj=8.3km s-min=5.1km az=162.0

NEIC 01 03:48:13.4±1.4,54°.52N±0°.06×161°.57W±0°.04,h54km±9km, Error ellipse: s-maj=8.5km s-min=2.9km az=170.0

ISC 01 03:48:12.3±1.2**,54°.46N**±0°.07×**161°.47W**±0°.04**, h51**km±10km**,n85,**σ**1§21**/90**,mb4.2**/17**,MS4.2**/3**,Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DT1	Dutton Round H	0.80	324		Pn	03 48 26.4	-0.9
HAG	Hague Volcano	0.89	344		Pn	03 48 28.9	+0.3
HAG					Sn	03 48 38.4	-2.2
PS4A	Pavlof South-4	0.91	346		Pn	03 48 28.9	0.0
PS4A					Sn	03 48 39.4	-1.7
PVV	Pavlof Volcano	0.93	349		Pn	03 48 29.2	+0.1
PVV					Sn	03 48 39.9	-1.6
PS1A	Pavlof South-1	0.97	351		Pn	03 48 30.2	+0.6
PN7A	Pavlof North-7	1.02	343		Pn	03 48 31.6	+1.2
PN7A					Sn	03 48 43.6	-0.1
PN6	Pavlof North-6	1.02	346		Pn	03 48 31.2	+0.7
PN6					Sn	03 48 44.8	+0.9
BALA	Baldy Mountain	1.05	315		Pn	03 48 31.1	+0.3
SDPT	Sand Point	1.06	33		Pn	03 48 31.3	+0.5
SDPT					Sn	03 48 45.1	+0.6
CNBA	Chernabura Isl	1.15	71		Pn	03 48 31.6	-0.5
FALS	False Pass	1.20	290		Pn	03 48 32.0	-0.7
FALS					Sn	03 48 46.1	-1.6
ISLZ	Isanotski Laza	1.33	282		Pn	03 48 34.1	-0.4
ISNN	Isanotski Nort	1.39	286		Pn	03 48 35.9	+0.6
SSLS	Shishaldin Sou	1.49	281		Pn	03 48 37.0	+0.2
SSLS					Sn	03 48 56.1	+1.1
SSLW	Shishaldin Wes	1.57	282		Pn	03 48 38.2	+0.4
WESN	West Dahl Nort	1.82	275		Pn	03 48 41.8	+0.7
WESP	Westdahl Peak	1.90	272		Pn	03 48 42.6	+0.3
WESP					Sn	03 49 05.2	+0.2
WEBT	Westdahl Beart	1.92	275		Pn	03 48 43.2	+0.8
WECS	Westdahl Cape	1.93	273		Pn	03 48 43.5	+0.8
VNFG	Fog Glacier, M	2.13	30		Pn	03 48 46.3	+0.8
VNHG	Veniaminof 1	2.20	36		Pn	03 48 47.4	+0.9
AKSA	Akutan Strait	2.50	264		Pn	03 48 51.2	+0.8
AKSA					Sn	03 49 20.1	+0.5
AKSA	Akutan Strait	2.50	264		Pn	03 48 50.6	+0.2
CHGN	Chignik	2.54	42		Pn	03 48 53.4	+2.4
CHGN				IAML		03 49 29.6	
	comp=E,682nm,1.0s						
CHGN				IAML		03 49 37.2	
	comp=N,369nm,0.8s						
AKUT	Akutan	2.54	264		Pn	03 48 51.4	+0.5
AKUT	Akutan	2.54	264	IAML		03 49 26.4	
	comp=N,682nm,0.8s						
AKUT				IAML		03 49 34.8	
	comp=E,472nm,0.7s						
HSB	Akutan Spr's B	2.61	266		Pn	03 48 52.3	+0.3
AKBBA	Akutan Broad B	2.64	264		Pn	03 48 52.8	+0.4
AKBBA					Sn	03 49 23.1	0.0
AKLV	Akutan Long Va	2.64	265		Pn	03 48 53.2	+0.8
AKGG	Akutan Green G	2.66	266		Pn	03 48 53.0	+0.3
AKMO	Akutan Morgan	2.69	264		Pn	03 48 53.7	+0.7
AKMO					Sn	03 49 23.5	-0.7
UNV	Unalaska Valle	3.02	260		Pn	03 48 57.3	-0.3
MTBL	Makushin Table	3.10	263		Pn	03 48 58.8	+0.1
MNAT	Makushin Natee	3.12	261		Pn	03 48 58.8	-0.1
MNAT					Sn	03 49 33.5	-1.4
MSW	Makushin Switc	3.17	262		Pn	03 48 59.2	-0.4
MREP	Makushin Rep't	3.17	260		Pn	03 48 59.5	-0.2
MAPS	Pakushin South	3.28	261		Pn	03 49 01.4	+0.3
OKTU	Okmok Mt. Tuli	4.03	257		Pn	03 49 11.7	+0.3
OKNC	Okmok New Cone	4.05	258		Pn	03 49 12.2	+0.4
OKSP	Okmok Steeple	4.21	256		Pn	03 49 14.2	+0.2
KDAK	Kodiak Island	5.98	53	Pn	Pn	03 49 38.1	0.0
	comp=E,0.9nm,0.3s,baz=197,slow=5.0,SNR=28						
KDAK				Sn	Sn	03 50 40.9	-4.3
	baz=115,slow=23,SNR=1.6						
KDAK	Kodiak Island	5.98	53	Pn	Pn	03 49 38.8	+0.7
O18K	Koktuh Hills	6.39	30		Pn	03 49 44.8	+1.1
N19K	Bonanza Creek	7.39	28	Pn	Pn	03 49 59.4	+1.9
M19K	Big River Lodg	8.34	24	Pn	Pn	03 50 13.1	+2.7
L19K	White Mountain	8.48	22		Pn	03 50 14.3	+1.9
M20K	Styx River	8.64	27		Pn	03 50 18.4	+3.8
K20K	Telida	9.70	20		Pn	03 50 31.3	+2.3
J20K	Nowinta River	10.43	18	Pn	Pn	03 50 40.8	+1.8
TRF	Thorofare Moun	10.69	28		Pn	03 50 43.1	+0.5
KLU	Klutina	10.83	43		Pn	03 50 44.8	+0.3
IMAR	Indian Mountai	12.16	15		Pn	03 51 04.9	+2.3
I23K	Minto, Yukon-K	12.30	25	Pn	Pn	03 51 05.7	+1.3
ILAR	Eielson Array	12.66	30	Pn	Pn	03 51 07.2	-2.2
	comp=E,0.1nm,0.3s,baz=222,slow=14,SNR=2.2						
ILAR				LR	LR	03 56 00.8	
	comp=E,66nm,20.4s,baz=342,slow=37						
TOLK	Toolik Lake Re	15.27	17	Pn	P	03 51 46.5	-1.6
TOLK				IAmb	IAmb	03 51 59.5	
	comp=Z,24nm,1.5s						
EPYK	Eagle Plains	16.92	35	Pn	Pn	03 52 05.4	+0.2
EPYK				IAmb	IAmb	03 52 17.3	
	comp=Z,11nm,0.9s						
INK	Inuvik	19.02	32	P	Pn	03 52 30.6	0.0
	comp=Z,0.2nm,0.3s,baz=190,slow=17,SNR=5.8						
PEA0B	Petropavlovsk-	23.93	284	P	P	03 53 21.4	+0.2
PEA0B				IAmb	IAmb	03 53 30.2	
	comp=Z,11nm,1.1s						
PETK	Petropavlovsk-	23.93	284	P	P	03 53 20.0	-1.1
	comp=Z,2.9nm,0.5s,baz=76,slow=14,SNR=9.6						
PETK	Petropavlovsk-	23.93	284	P	P	03 53 21.0	-0.2
NVAR	Mina Array Bea	33.18	101	P	P	03 54 45.6	+1.6
	comp=Z,0.3nm,0.6s,baz=312,slow=9.6,SNR=2.4						
KLR	Kul'dur	40.18	291	P	P	03 55 41.9	-1.3
	comp=Z,0.7nm,0.4s,baz=118,slow=13,SNR=3.7						
H11N2	WAKE ISLAND Hy	42.20	227	T	T	04 40 52.8	
	baz=27,slow=76,SNR=51						
H11N3	WAKE ISLAND Hy	42.21	227	T	T	04 40 51.9	
	baz=27,slow=76,SNR=80						
H11N1	WAKE ISLAND Hy	42.22	227	T	T	04 40 49.2	
	baz=27,slow=76,SNR=44						
H11S1	WAKE ISLAND Hy	43.37	227	T	T	04 42 18.8	
	baz=27,slow=76,SNR=57						
H11S2	WAKE ISLAND Hy	43.39	227	T	T	04 42 20.2	
	baz=27,slow=76,SNR=33						
H11S3	WAKE ISLAND Hy	43.39	227	T	T	04 42 20.1	
	baz=27,slow=76,SNR=30						
TXAR	Lajitas Array	48.14	97	P	P	03 56 47.8	+0.6
	comp=Z,0.2nm,0.6s,baz=299,slow=5.6,SNR=3.5						
TXAR				PcP	PcP	03 58 14.2	+0.2
	comp=Z,0.2nm,0.7s,baz=305,slow=3.2,SNR=1.9						
KSRS	Korea Array	49.76	280	P	P	03 56 57.7	-1.6
	comp=Z,1.8nm,0.6s,baz=58,slow=7.1,SNR=6.9						
SONM	Songino Array	54.17	304	P	P	03 57 30.1	-2.1
	comp=Z,1.6nm,0.7s,baz=45,slow=6.2,SNR=7.6						
ARCES	ARCESS Array B	56.21	357	P	P	03 57 45.8	-0.6
	comp=Z,3.3nm,0.9s,baz=23,slow=7.2,SNR=2.0						
FINES	FINESS Array B	64.28	356	P	P	03 58 41.3	-0.3
	comp=Z,5.3nm,1.0s,baz=23,slow=10,SNR=9.1						
FINES	FINESS Array B	64.28	356	P	P	03 58 42.4	+0.8
NOA	NORSAR Array B	64.70	4	P	P	03 58 44.5	+0.1
	comp=Z,0.8nm,0.8s,baz=357,slow=9.4,SNR=2.1						
MKAR	Makanchi Array	65.63	317	P	P	03 58 50.5	-0.2
	comp=Z,0.3nm,0.4s,baz=32,slow=6.7,SNR=5.8						
HFS	Hagfors	65.69	3	P	P	03 58 51.7	+0.9
	comp=Z,2.0nm,0.6s,baz=60,slow=7.0,SNR=9.5						
AKTO	Aktyubinsk	70.36	334	P	P	03 59 20.0	-0.2
	comp=Z,2.3nm,0.7s,baz=21,slow=5.7,SNR=9.0						
AKASG	Malin Array Be	74.83	353	P	P	03 59 47.6	+0.9
	comp=Z,7.2nm,1.0s,baz=11,slow=5.6,SNR=11						
GERES	GERESS Array B	76.98	3	P	P	04 00 00.7	+1.5
	comp=Z,0.5nm,0.6s,baz=343,slow=4.2,SNR=6.6						
KBZ	Khabaz	80.00	342	P	P	04 00 16.6	+0.9
	comp=Z,4.6nm,0.9s,baz=248,slow=1.0,SNR=6.8						
CMAR	Chiang Mai Arr	80.61	288	LR	LR	04 38 00.6	
	comp=Z,98nm,19.5s,baz=254,slow=37						
ESDC	Sonseca Array	84.26	17	LR	LR	04 37 55.8	
	comp=Z,39nm,21.4s,baz=185,slow=35						
BRTR	Keskin Array B	85.29	348	P	P	04 00 44.2	+0.6
	comp=Z,1.5nm,0.9s,baz=4.8,slow=3.0,SNR=7.1						
KEST	Kesra	89.82	7	LR	LR	04 43 08.4	
	comp=Z,109nm,20.3s,baz=236,slow=37						

IDC 01 04:06:18.6±1.0,55°.92S×27°.76W,h0km,mb4.2/5, mb1 4.3/5,mb1mx3.9/25,mbtmp4.2/5,Error ellipse: s-maj=37.9km s-min=27.6km az=106.0

NEIC 01 04:06:31.4±1.2,56°.0S±0°.1×27°.70W±0°.09,h105km±10km, mb4.3/8,Error ellipse: s-maj=17.2km s-min=6.6km az=190.0

ISC 01 04:06:30.9±0.7**,55°.99S**±0°.10×**27°.67W**±0°.09**,h100**km**,n26,** σ**0§64**/22**,mb4.3**/7**,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.34	285	Pn	Pn	04 07 48.4	+0.4
HOPE					Sn	04 08 47.2	-1.0
VNA1	Neumayer--Stat	16.96	158	P	Pn	04 10 21.8	+0.3
VNA3	Neumayer Olymp	17.14	160	P	Pn	04 10 23.2	-0.6
VNA2	Neumayer--Watz	17.36	158	P	P	04 10 26.0	-0.2
	baz=314,slow=13						
SNAA	Sanae	18.91	156	P	P	04 10 42.8	-0.5
SNAA	Sanae	18.91	156	P	P	04 10 42.8	-0.5
PMSA	Palmer Station	19.74	229	Pn	Pn	04 10 55.9	+1.2
LC01	Cunco	33.73	282	P	P	04 13 02.7	+0.2
QSPA	South Pole Qui	34.27	180	P	P	04 13 06.9	-0.1
QSPA				IAmb	IAmb	04 13 08.6	
	comp=Z,4.4nm,0.6s						
VNDA	Vanda	46.62	183	P	P	04 14 48.8	+0.5
	comp=Z,2.4nm,0.7s,baz=192,slow=6.7,SNR=12						
VNDA	Vanda	46.62	183	P	P	04 14 48.0	-0.3
VNDA				IAmb	IAmb	04 14 49.3	
	comp=Z,2.7nm,0.8s						
PB01	IPOC Station P	46.64	301	P	P	04 14 49.2	0.0
PB01				IAmb	IAmb	04 14 55.9	
	comp=Z,5.9nm,1.3s						
H10S2	ASCENSION HYDR	48.02	17	T	T	05 06 48.2	
	baz=189						
H10S3	ASCENSION HYDR	48.02	17	T	T	05 06 58.2	
	baz=31						
H10N1	ASCENSION HYDR	49.13	17	T	T	05 08 28.7	
	baz=188						
H10N3	ASCENSION HYDR	49.14	17	T	T	05 08 43.5	
	baz=188						
H10N2	ASCENSION HYDR	49.15	17	T	T	05 08 37.7	
	baz=188						
LPAZ	La Paz	50.12	306	P	P	04 15 15.6	-0.9
	comp=Z,0.6nm,0.5s,baz=129,slow=6.5,SNR=2.8						
LPAZ	La Paz	50.12	306	P	P	04 15 15.6	-0.9
MATP	Matopo	54.52	73	P	P	04 15 48.0	-0.5
	comp=Z,1.1nm,0.6s,baz=198,slow=6.5,SNR=2.2						
DBIC	Dimbokro	65.22	25	P	P	04 17 01.6	+0.2
	comp=Z,3.6nm,0.9s,baz=168,slow=8.2,SNR=3.9						
TORD	Torodi Ar. Bea	73.13	30	P	P	04 17 51.2	+0.9
	comp=Z,4.7nm,0.6s,baz=201,slow=6.6,SNR=50						
TORD	Torodi Ar. Bea	73.13	30	P	P	04 17 51.1	+0.9
TORD				IAmb	IAmb	04 17 51.9	
	comp=Z,4.2nm,0.7s						
ILAR	Eielson Array	149.87	312	PKPbc	PKPbc	04 26 07.6	-0.1
	comp=Z,0.4nm,0.5s,baz=116,slow=1.8,SNR=6.4						
ILAR	Eielson Array	149.87	312		PKPbc	04 26 07.2	-0.5
SONM	Songino Array	151.00	87	PKPbc	PKPbc	04 26 11.0	-0.1
	comp=Z,0.5nm,0.4s,baz=253,slow=3.9,SNR=2.9						

SNET 01 04:12:35.0±0.9,12°.61N×89°.44W,h106km±22km,ML3.5

IDC 01 04:12:39.3±11.0,12°.46N×90°.20W,h0km,mb3.4/2, mb1 4.0/2,mb1mx3.4/32,mbtmp3.5/2,Error ellipse: s-maj=818.1km s-min=70.3km az=65.0

ISC 01 04:12:35.4±3.0**,12°.5N**±0°.1×**89°.38W**±0°.08**,h7**km±15km**,n22,** σ**1§18**/22**,Off coast of central America**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ALJI	Alcalda de J	1.14	44	eP	Pg	04 12 56.9	-0.4
LFRS	El Faro	1.16	16	eP	Pg	04 12 57.0	-0.6
LFRS				eS	Sg	04 13 14.2	+1.5
SJTE	Alcalda de S	1.17	18	eP	Pg	04 12 56.9	-0.9
SJTE				eS	Sg	04 13 14.6	+1.7
TECO	Alcaldia de Te	1.19	30	eP	Pg	04 12 56.6	-1.6
TECO				eS	Sg	04 13 14.7	+1.1
SNET	Serv Nac Est T	1.19	7	eP	Pg	04 12 57.7	-0.5
COEG	Centro de Oper	1.22	24	eP	Pn	04 12 58.0	-0.9
COEG				eS	Sg	04 13 15.2	+0.6
COEG				IAML		04 13 29.2	
	comp=Z,678nm,0.4s						
UEES	Universidad Ev	1.22	7	eP	Pn	04 12 57.5	-1.4
UEES				eS	Sg	04 13 15.3	+0.8
UEES				IAML		04 13 27.7	
	comp=Z,693nm,0.4s						
OPAM	Oficina de Pla	1.22	9	IAML		04 13 23.0	
	comp=Z,555nm,0.3s						
BOQS	Boqueron	1.23	5	eP	Pg	04 12 58.3	-0.8
LFU	La Fuente	1.27	12	eP	Pn	04 12 58.6	-1.1
LBRS	Las Brisas	1.27	15	eP	Pn	04 12 57.9	-1.8
PAVA	Las Pavas	1.28	20	eP	Pn	04 12 59.1	-0.7
PAVA				IAML		04 13 30.1	
	comp=Z,938nm,0.5s						
SBLS	San Blas	1.35	350	eP	Pn	04 12 59.4	-1.6
PQSS	Presa 15 de Se	1.38	36	eP	Pn	04 13 00.0	-1.1
PQSS				eS	Sn	04 13 18.9	-0.6
PQSS				IAML		04 13 24.4	
	comp=Z,235nm,0.2s						
SNJE	San Jose	1.38	351	eP	Pn	04 12 59.9	-1.4
RTR	El Retiro	1.41	350	eP	Pn	04 13 00.1	-1.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SLOZ	Alcaldia de Sa	1.56	346	eP	Pn	04 13 01.2	-2.6
SLOZ				IAML		04 13 36.2	
	comp=Z,404nm,0.7s						
LCND	La Caada	1.66	61	eP	Pn	04 13 03.7	-1.4
LCND				IAML		04 13 32.5	
	comp=Z,540nm,0.3s						
MTO3	Montecristo	1.89	1	eP	Pn	04 13 05.5	-2.8
TXAR	Lajitas Array	21.38	324	P	P	04 17 24.4	+0.6
	comp=Z,1.1nm,0.7s,baz=146,slow=12,SNR=15						
NVAR	Mina Array Bea	36.44	320	P	P	04 19 42.0	+0.7
	comp=Z,0.4nm,0.6s,baz=128,slow=12,SNR=4.9						
WRA	Warramunga Arr	137.47	254	PKP	PKiKP	04 32 04.1	+1.2
	comp=Z,0.1nm,0.4s,baz=89,slow=2.4,SNR=1.4						

MEX 01 04:25:25.9±0.4, 14.30N×92.94W, h17km±999km, MD3.6, Near coast of Chiapas

*KRSC **01** 04:48:04.8±1.9, 50.34N×157.28E, h44km±23km, ML5.6*
*BJI **01** 04:48:06.6±0.0, 50.63N×156.86E, h83km, mB4.8/25, mb4.7/41, Ms4.1/14, Ms7 3.8/15*
*IDC **01** 04:48:07.5±0.5, 50.70N×156.60E, h69km±4km, mb4.3/34, mb1 4.4/38, mb1mx4.4/52, mbtmp4.6/38, MS3.5/22, Ms1 3.5/22, ms1mx3.4/40, Error ellipse: s-maj=11.1km s-min=8.7km az=149.0*
*MOS **01** 04:48:07.3±1.1, 50.52N×156.79E, h81km, mb4.8/69, Error ellipse: s-maj=6.2km s-min=2.9km az=73.9*
MOS Felt (IV) at Severo-Kuril'sk.
*NEIC **01** 04:48:10.6±1.2, 50.56N±0.08×156.87E±0.07, h91km±6km, mb4.8/282, Error ellipse: s-maj=10.9km s-min=6.9km az=176.0*
ISC 01 04:48:07.7±0.4**, 50.57N**±0.04×**156.82E**±0.04**, h70**km±3km**, h69km:pP-P, n859, σ1.47**/909**, mb4.8**/239**, 14C-15D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.46	285	c iPN	Pn	04 48 20.8	+0.7
SKR				eS	Sn	04 48 30.2	+1.1
SKR				pmax	pmax		
	comp=Z,680nm,0.5s						
SKR				pmax	pmax		
	comp=Z,82nm,0.6s						
SKR				smax	smax		
	comp=N,18µm,0.7s						
SKR				smax	smax		
	comp=E,33µm,0.5s						
SKR	Severo-Kuril's	0.46	285	eP	Pn	04 48 20.8	+0.7
SKR				eS	Sn	04 48 30.3	+1.1
ALID	Alaid	0.86	291	PN	Pn	04 48 25.9	+1.3
ALID	Alaid	0.86	291	eP	Pn	04 48 25.9	+1.3
PAU	Pauzhetka	0.90	360	PN	Pn	04 48 26.4	+1.5
PAU				S	Sn	04 48 40.3	+2.6
PAU	Pauzhetka	0.90	360	eP	Pn	04 48 26.4	+1.5
PAU				eS	Sn	04 48 40.3	+2.6
KDTR	Khodutka, Kamc	1.48	32	PN	Pn	04 48 32.7	+0.4
KDTR				S	Sn	04 48 51.5	+0.7
KDTR	Khodutka, Kamc	1.48	32	eP	Pn	04 48 32.7	+0.4
KDTR				eS	Sn	04 48 51.5	+0.7
MIPR	Malaya Ipel'ka	1.71	359	PN	Pn	04 48 37.2	+1.7
MIPR	Malaya Ipel'ka	1.71	359	eP	Pn	04 48 37.2	+1.7
ASAK	Asacha	1.94	20	PN	Pn	04 48 40.1	+1.5
ASAK	Asacha	1.94	20	eP	Pn	04 48 40.1	+1.5
MTVR	Mutnovka	2.10	23	PN	Pn	04 48 42.3	+1.5
MTVR				S	Sn	04 49 08.0	+2.0
MTVR	Mutnovka	2.10	23	eP	Pn	04 48 42.3	+1.5
MTVR				eS	Sn	04 49 08.0	+2.0
GRL	Gorelyy	2.14	21	PN	Pn	04 48 43.2	+1.9
GRL				S	Sn	04 49 10.7	+3.9
GRL	Gorelyy	2.14	21	eP	Pn	04 48 43.2	+1.9
GRL				eS	Sn	04 49 10.7	+3.9
RUS	Russkaya	2.15	29	PN	Pn	04 48 41.9	+0.6
RUS				S	Sn	04 49 07.5	+0.6
RUS	Russkaya	2.15	29	eP	Pn	04 48 41.9	+0.6
RUS				eS	Sn	04 49 07.5	+0.6
APC	Apacha	2.37	5	PN	Pn	04 48 46.0	+1.7
APC	Apacha	2.37	5	eP	Pn	04 48 46.0	+1.7
KRMR	Karymshinskiy	2.41	19	PN	Pn	04 48 46.3	+1.5
KRMR				S	Sn	04 49 17.3	+4.1
KRMR	Karymshinskiy	2.41	19	eP	Pn	04 48 46.3	+1.5
KRMR				eS	Sn	04 49 17.3	+4.1
I44RU	PETROPAVLOVSK-	2.60	12	i		05 00 00.0	
	baz=190,slow=328,SNR=2.6						
PEA0B	Petropavlovsk-	2.60	12	c iPN	Pn	04 48 49.7	+2.2
PEA0B	Petropavlovsk-	2.60	12	Pn	Pn	04 48 49.9	+2.5
PEA0B				Sn	Sn	04 49 23.2	+5.3
PETK	Petropavlovsk-	2.60	12	P	Pn	04 48 48.4	+0.9
	comp=E,57nm,0.3s,baz=154,slow=11,SNR=194						
PETK				LR	LR	04 49 52.2	
	comp=E,542nm,19.9s,baz=193,slow=42						
PETK	Petropavlovsk-	2.60	12	PN	Pn	04 48 49.1	+1.6
PETK	Petropavlovsk-	2.60	12	Pn	Pn	04 48 49.1	+1.6
PET	Petropavlovsk	2.71	24	α iPN	Pn	04 48 50.6	+1.7
PET				eS	Sn	04 49 22.9	+2.3
PET				pmax	pmax		
	comp=Z,373nm,0.5s						
PET				smax	smax		
	comp=E,11µm,1.2s						
PET				smax	smax		
	comp=N,6µm,1.2s						
PET				smax	smax		
	comp=E,8µm,0.7s						
PET				smax	smax		
	comp=N,6µm,0.5s						
PET				MLR	MLR		
	comp=Z,1µm,20.0s						
PET	Petropavlovsk	2.71	24	eP	Pn	04 48 50.8	+1.9
PET				eS	Sn	04 49 24.5	+3.9
PET	Petropavlovsk	2.71	24		Pn	04 48 50.6	+1.7
PET				Sn	Sn	04 49 22.5	+1.9
DALK	Dalny	2.75	25	PN	Pn	04 48 51.1	+1.8
DALK				S	Sn	04 49 24.2	+2.8
DALK	Dalny	2.75	25	eP	Pn	04 48 51.1	+1.8
DALK				eS	Sn	04 49 24.2	+2.8
UGLR	Uglovaya	2.92	24	PN	Pn	04 48 54.5	+2.6
UGLR				S	Sn	04 49 29.8	+3.9
UGLR	Uglovaya	2.92	24	eP	Pn	04 48 54.5	+2.6
UGLR				eS	Sn	04 49 29.8	+3.9
KOK	Koryaka	2.95	22	PN	Pn	04 48 55.6	+3.3
KOK	Koryaka	2.95	22	eP	Pn	04 48 55.6	+3.3
SMAR	Somma	2.97	24	PN	Pn	04 48 55.4	+2.8
SMAR	Somma	2.97	24	eP	Pn	04 48 55.4	+2.8
KRER	Koryakskii	2.99	23	PN	Pn	04 48 55.9	+3.0
KRER	Koryakskii	2.99	23	eP	Pn	04 48 55.9	+3.0
KRER				eS	Sn	04 49 32.6	+4.9
SDLR	Sedlovina	3.00	24	PN	Pn	04 48 55.0	+2.0
SDLR				S	Sn	04 49 33.6	+5.8
SDLR	Sedlovina	3.00	24	eP	Pn	04 48 55.0	+2.0
SDLR				eS	Sn	04 49 33.6	+5.8
KRX	Arik	3.02	21	PN	Pn	04 48 56.3	+3.1
KRX	Arik	3.02	21	eP	Pn	04 48 56.3	+3.1
KRX				eS	Sn	04 49 34.8	+6.6
NLC	Nalytchevo	3.04	30	PN	Pn	04 48 53.6	+0.2
NLC				S	Sn	04 49 28.6	0.0
NLC	Nalytchevo	3.04	30	eP	Pn	04 48 53.6	+0.2
NLC				eS	Sn	04 49 28.6	0.0
GNL	Ganaly	3.21	12	PN	Pn	04 48 58.8	+3.0
GNL	Ganaly	3.21	12	eP	Pn	04 48 58.8	+3.0
SPN	Mys Shipunski	3.22	37	PN	Pn	04 48 56.8	+1.0
SPN				S	Sn	04 49 33.6	+0.6
SPN	Mys Shipunski	3.22	37	eP	Pn	04 48 56.8	+1.0
SPN				eS	Sn	04 49 33.6	+0.6
KII	Karymskiy	3.83	24	PN	Pn	04 49 07.5	+3.3
KII	Karymskiy	3.83	24	eP	Pn	04 49 07.5	+3.3
MKZ	Mys Kozlova	4.99	35	PN	Pn	04 49 20.5	+0.5
MKZ	Mys Kozlova	4.99	35	eP	Pn	04 49 20.5	+0.5
KZV	Kizimen	5.02	23	PN	Pn	04 49 22.8	+2.3
KZV	Kizimen	5.02	23	eP	Pn	04 49 22.8	+2.3
TUMR	Tumrok	5.13	22	PN	Pn	04 49 24.9	+2.8
TUMR	Tumrok	5.13	22	eP	Pn	04 49 24.9	+2.8
KMNR	Kamenistaya	5.59	20	PN	Pn	04 49 33.3	+5.0
KMNR	Kamenistaya	5.59	20	eP	Pn	04 49 33.3	+5.0
KPT	Kopyto	5.78	19	PN	Pn	04 49 33.8	+2.9
KPT	Kopyto	5.78	19	eP	Pn	04 49 33.8	+2.9
KIRR	Kirishev	5.79	20	PN	Pn	04 49 34.9	+3.8
KIRR	Kirishev	5.79	20	eP	Pn	04 49 34.9	+3.8
BZMR	Bezymyannaya	5.81	21	PN	Pn	04 49 34.7	+3.4
BZMR	Bezymyannaya	5.81	21	eP	Pn	04 49 34.7	+3.4
BZWR	Bezymyannyi-We	5.84	21	PN	Pn	04 49 35.0	+3.3
BZWR	Bezymyannyi-We	5.84	21	eP	Pn	04 49 35.0	+3.3
ZLN	Zelenaya	5.96	22	PN	Pn	04 49 37.6	+4.3
ZLN	Zelenaya	5.96	22	eP	Pn	04 49 37.6	+4.3
KRSR	Krestovskiy	6.09	20	PN	Pn	04 49 37.8	+2.8
KRSR	Krestovskiy	6.09	20	eP	Pn	04 49 37.8	+2.8
BDR	Baidarnaya	6.55	22	PN	Pn	04 49 44.2	+2.8
BDR	Baidarnaya	6.55	22	eP	Pn	04 49 44.2	+2.8
SRKR	Sorokina	6.62	21	PN	Pn	04 49 44.7	+2.4
SRKR	Sorokina	6.62	21	eP	Pn	04 49 44.7	+2.4
SMKR	Semkarok	6.63	23	PN	Pn	04 49 44.6	+2.2
SMKR	Semkarok	6.63	23	eP	Pn	04 49 44.6	+2.2
KBTR	Krutoberegovo	6.69	30	PN	Pn	04 49 46.2	+3.0
KBTR	Krutoberegovo	6.69	30	eP	Pn	04 49 46.2	+3.0
KBG	Krutoberegovo	6.70	29	PN	Pn	04 49 47.9	+4.7
KBG	Krutoberegovo	6.70	29	eP	Pn	04 49 47.9	+4.7
BKI	Bering	7.22	46	PN	Pn	04 49 50.4	-0.1
BKI	Bering	7.22	46	eP	Pn	04 49 50.4	-0.1
KUR	Kuril'sk	8.04	232	⇓ePN	Pn	04 50 05.0	+3.4
KUR				i S	Sn	04 51 32.2	+1.3
KUR				pmax	pmax		
	comp=Z,332nm,0.7s						
KUR				pmax	pmax		
	comp=N,30nm,0.3s						
KUR				pmax	pmax		
	comp=E,78nm,0.6s						
KUR				smax	smax		
	comp=N,202nm,0.5s						
KUR				smax	smax		
	comp=E,127nm,0.4s						
TYV	Tymovskoe	8.99	277	ePN	Pn	04 50 18.0	+3.3
TYV				eS	Sn	04 51 54.8	+0.6
TYV				pmax	pmax		
	comp=Z,33nm,1.1s						
TYV				pmax	pmax		
	comp=Z,300nm,4.1s						
TYV				smax	smax		
	comp=N,14nm,1.2s						
TYV				smax	smax		
	comp=N,300nm,4.2s						
UGL	Uglegorsk	9.65	267	ePN	Pn	04 50 28.2	+4.5
UGL				pmax	pmax		
	comp=Z,163nm,0.8s						
MA2	Magadan	9.67	341	P	Pn	04 50 23.2	-0.6
	comp=Z,4.2nm,0.3s,baz=124,slow=7.3,SNR=11						
MA2				S	Sn	04 52 06.8	-3.8
	comp=Z,1.5nm,0.3s,baz=209,slow=23,SNR=1.4						
MA2				LR	LR	04 54 21.0	
	comp=Z,136nm,21.7s,baz=158,slow=39						
MA2	Magadan	9.67	341	⇓ePN	Pn	04 50 25.4	+1.6
MA2	Magadan	9.67	341	Pn	Pn	04 50 25.7	+1.9
YUK	Yuzh-Kuril'sk	9.90	233	⇓ePN	Pn	04 50 29.7	+2.7
YSS	Yuzh-Sakhalins	9.96	254	d iPN	Pn	04 50 30.9	+3.0
YSS				eS	Sn	04 52 19.6	+1.6
YSS				pmax	pmax		
	comp=Z,80nm,0.8s						
YSS				MLR	MLR		
	comp=Z,200nm,15.0s						
YSS	Yuzh-Sakhalins	9.96	254	Pn	Pn	04 50 30.8	+3.0
SMY	Shemya	10.96	72	PN	Pn	04 50 41.0	-0.4
SMY	Shemya	10.96	72	Pn	Pn	04 50 41.0	-0.4
JKA	Kamikawa-asahi	11.60	242	Pn	Pn	04 50 51.4	+1.2
ASAJ	Asahikawa	11.60	242	P	Pn	04 50 50.0	-0.3
	comp=Z,28nm,0.3s,baz=73,slow=13,SNR=117						
ASAJ				LR	LR	04 55 17.0	
	comp=Z,162nm,18.1s,baz=16,slow=37						
ASAJ	Asahikawa	11.60	242	PN	Pn	04 50 51.4	+1.2
SEY	Seymchan	12.63	351	P	Pn	04 51 05.4	+1.3
	comp=Z,0.9nm,0.3s,baz=160,slow=12,SNR=22						
SEY	Seymchan	12.63	351	⇑ePN	Pn	04 51 08.4	+4.3
ERM	Erimo	12.73	233	cePN	Pn	04 51 03.9	-1.7
ERM	Erimo	12.73	233		Pn	04 51 04.3	-1.3
JEW	Eniwo	13.06	240	Pn	Pn	04 51 08.6	-1.5
AMKA	Amchitka	14.18	78	P	Pn	04 51 27.1	+2.2
TEY	Ternei	14.65	256	eP	Pn	04 51 33.3	+2.3
TEY				pmax	pmax		
	comp=E,20nm,0.9s						
TEY				pmax	pmax		
	comp=Z,20nm,0.9s						
KLR	Kul'dur	16.19	275	P	P	04 51 52.0	-0.6
	comp=Z,0.9nm,0.3s,baz=73,slow=13,SNR=36						
KLR				LR	LR	04 58 16.1	
	comp=Z,140nm,20.7s,baz=84,slow=38						
KLR	Kul'dur	16.19	275	d iP	P	04 51 52.8	+0.2
KLR				MLR	MLR		
	comp=Z,169nm,15.0s						
ADK	Adak	16.62	75	P	P	04 51 58.5	+1.2
ADK				pmax	pmax		
	comp=Z,55nm,1.4s						
ADK	Adak	16.62	75		P	04 51 58.5	+1.2
JMM	Marumori	17.07	228	P	P	04 52 02.6	+0.2
JMM				IAmb	IAmb	04 52 09.2	
	comp=Z,24nm,0.5s						
USA0B	Ussuriysk Arra	17.93	259	ceP	Pn	04 52 14.2	+2.1
USA0B	Ussuriysk Arra	17.93	259	P	Pn	04 52 13.2	+1.1
USRK	Ussuriysk Ar.	17.93	259	P	P	04 52 10.8	-1.0
	baz=63,slow=9.4,SNR=22						
USRK				LR	LR	04 59 04.8	
	comp=Z,125nm,20.3s,baz=36,slow=37						
USRK	Ussuriysk Ar.	17.93	259	P	Pn	04 52 13.5	+1.4
USRK	Ussuriysk Ar.	17.93	259	P	Pn	04 52 13.4	+1.4
BILL	Bilibino	18.14	11	deP	Pn	04 52 14.7	+0.3
BILL				pmax	pmax		
	comp=Z,21nm,1.0s						
BILL				MLR	MLR		
	comp=Z,96nm,13.0s						
JSD	Sado	18.19	234	P	P	04 52 13.9	-0.8
JSD				IAmb	IAmb	04 52 18.5	
	comp=Z,44nm,0.6s						
ZEA	Zeya	18.35	291	eP	Pn	04 52 17.6	+0.5
ZEA				pmax	pmax		
	comp=E,20nm,1.0s						
ZEA				pmax	pmax		
	comp=N,10.0nm,0.5s						
ZEA				pmax	pmax		
	comp=Z,30nm,0.7s						
ZEA				MLR	MLR		
	comp=Z,200nm,14.0s						
VLA	Vladivostok	18.55	256	⇑eP	P	04 52 18.0	-0.6
VLA				pmax	pmax		
	comp=Z,19nm,0.6s						
YAK	Yakutsk	18.76	318	eP	Pn	04 52 21.6	-0.4
YAK				eS	S	04 55 45.6	-4.5
YAK				pmax	pmax		
	comp=Z,210nm,0.9s						
YAK				pmax	pmax		
	comp=E,42nm,1.0s						
YAK				pmax	pmax		
	comp=N,14nm,1.1s						
YAK				smax	smax		
	comp=E,91nm,2.4s						
YAK				smax	smax		
	comp=N,69nm,1.5s						
YAK	Yakutsk	18.76	318	P	Pn	04 52 22.8	+0.8
MDJ	Mudanjiang	19.24	263	P	P	04 52 25.6	-0.6
MDJ				pP	pP	04 52 38.8	-1.8
MDJ				S	S	04 55 59.3	-1.0
MDJ				SS	SnSn	04 56 22.5	+4.7
MDJ				pmax	pmax		
	comp=N,32nm,0.8s						
MDJ				pmax	pmax		
	comp=N,87nm,3.5s						
MDJ				LR	LR		
	comp=N,76nm,5.0s						
MDJ				LR	LR		
	comp=N,130nm,11.6s						
MDJ				LR	LR		
	comp=N,290nm,19.6s						
MDJ	Mudanjiang	19.24	263	P	P	04 52 24.5	-1.7
MDJ				IAmb	IAmb	04 52 32.1	
	comp=Z,58nm,0.9s						
MSHR	Mys Shultsa	19.29	255	⇓iP	P	04 52 27.3	+0.6
MSHR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MJB9	Matsu-Tunnel	19.38	231	P	Pn	04 52 29.3	-0.1
MJB9				IAmb	IAmb	04 52 32.1	
	comp=Z,35nm,0.8s						
MAJO	Matsushiro	19.38	231	ceP	Pn	04 52 29.2	-0.3
MAJO				pmax	pmax		
	comp=Z,26nm,0.9s						
MAJO	Matsushiro	19.38	231	P	Pn	04 52 29.3	-0.2
MAT	Matsushiro	19.38	231	P	P	04 52 27.3	-0.4
MAT				eS	S	04 56 04.0	+0.8
MJAR	Matsushiro Arr	19.38	231	P	P	04 52 27.9	+0.1
	comp=Z,0.5nm,0.3s,baz=28,slow=9.1,SNR=5.0						
MJAR				LR	LR	04 59 59.0	
	comp=Z,114nm,21.5s,baz=65,slow=37						
MJAR	Matsushiro Arr	19.38	231	P	Pn	04 52 29.6	+0.1
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MJAR	Matsushiro Arr	19.38	231	P	Pn	04 52 29.6	+0.1
SPIA	Saint Paul Isl	20.36	58	P	Pn	04 52 39.8	-1.1
SPIA	Saint Paul Isl	20.36	58	P	Pn	04 52 40.0	-0.8
	baz=265						
JGF	Kuroka	20.54	231	P	P	04 52 41.8	+1.4
INU	Inuyama	20.91	231	P	P	04 52 43.9	-0.4
GAMB	Gambell	21.30	40	P	P	04 52 48.4	+0.2
	baz=246						
JWT	Wachi	21.78	234	P	P	04 52 53.3	-0.2
JWT				IAmb	IAmb	04 52 56.9	
	comp=Z,20nm,0.6s						
HIA	Hailar	23.75	281	P	P	04 53 12.1	-1.3
HIA				pmax	pmax		
	comp=Z,13nm,0.9s						
HIA	Hailar	23.75	281	P	P	04 53 12.1	-1.3
ANM	Nome	24.17	40	P	P	04 53 18.2	+1.2
ANM				pmax	pmax		
	comp=Z,29nm,1.3s						
ANM	Nome	24.17	40	P	P	04 53 18.2	+1.2
ANM	Nome	24.17	40	P	P	04 53 17.8	+0.8
	baz=253						
FALS	False Pass	24.23	64	P	P	04 53 18.4	+0.8
	baz=276						
KSRS	Korea Array	24.39	249	P	P	04 53 18.9	-0.3
	comp=Z,18nm,0.9s,baz=48,slow=9.7,SNR=33						
KSRS				LR	LR	05 02 58.9	
	comp=Z,92nm,18.4s,baz=354,slow=37						
KS19	Wonju Array Si	24.39	249	P	P	04 53 20.8	+1.5
KSAR	Wonju Array Be	24.42	249	P	P	04 53 20.1	+0.6
KSAR	Wonju Array Be	24.42	249	P	P	04 53 20.1	+0.6
TIXI	Tiksi	24.63	339	LR	LR	05 03 03.9	
	comp=Z,112nm,22.0s,baz=191,slow=37						
TIXI	Tiksi	24.63	339	P	P	04 53 24.9	+3.8
TIXI				pmax	pmax		
	comp=Z,28nm,0.9s						
TIXI	Tiksi	24.63	339	P	P	04 53 24.9	+3.8
TIXI				IAmb	IAmb	04 53 41.4	
	comp=Z,28nm,0.9s						
TJN	Taejon	25.45	247	⇓eP	P	04 53 31.0	+2.2
JTU	Tsushima	25.58	242	P	P	04 53 31.7	+1.6
BOD	Bodaibo	25.70	303	eP	P	04 53 30.4	-0.6
BOD				pmax	pmax		
	comp=Z,20nm,1.3s						
JNU	Nakatsue	25.82	237	P	P	04 53 32.7	+0.4
	comp=Z,42nm,0.9s,baz=38,slow=10,SNR=14						
JNU	Nakatsue	25.82	237	P	P	04 53 32.8	+0.5
SDPT	Sand Point	25.85	63	P	P	04 53 34.5	+2.2
	baz=277						
RDOG	Red Dog Mine	26.28	33	P	P	04 53 38.1	+2.0
RDOG	Red Dog Mine	26.28	33	P	P	04 53 37.8	+1.7
	baz=249						
CHNA	Chernabura Isl	26.43	64	P	P	04 53 37.8	+0.2
	baz=279						
CNBA	Chernabura Isl	26.43	64	P	P	04 53 36.8	-0.8
CHGN	Chignik	26.89	60	P	P	04 53 41.9	+0.2
	baz=277						
SVW2	Sparrevohn	28.09	50	P	P	04 53 53.1	+0.7
L19K	White Mountain	28.46	47	P	P	04 53 56.0	+0.3
L19K	White Mountain	28.46	47	P	P	04 53 56.1	+0.3
	baz=268						
N19K	Bonanza Creek	28.63	50	P	P	04 53 57.7	+0.4
	baz=271						
M19K	Big River Lodg	28.67	48	P	P	04 53 58.7	+1.1
M19K	Big River Lodg	28.67	48	P	P	04 53 57.8	+0.3
	baz=269						
K20K	Telida	28.87	45	P	P	04 54 00.0	+0.7
K20K	Telida	28.87	45	P	P	04 53 59.7	+0.4
	baz=267,SNR=6.7						
J20K	Nowinta River	28.89	43	P	P	04 53 59.9	+0.5
J20K	Nowinta River	28.89	43	P	P	04 53 59.7	+0.3
	baz=266,SNR=10						
IMAR	Indian Mountai	29.25	40	P	P	04 54 02.7	+0.1
M20K	Styx River	29.27	48	P	P	04 54 04.0	+1.1
M20K	Styx River	29.27	48	P	P	04 54 03.6	+0.6
	baz=271						
OHAK	Old Harbor	29.56	57	P	P	04 54 05.0	-0.5
OHAK	Old Harbor	29.56	57	P	P	04 54 05.4	0.0
	baz=279						
PPLA	Purkeypile	29.71	46	P	P	04 54 07.5	+0.7
KDAK	Kodiak Island	29.86	56	P	P	04 54 07.4	-0.7
	comp=Z,8.3nm,0.7s,baz=290,slow=11,SNR=13						
KDAK	Kodiak Island	29.86	56	P	P	04 54 07.7	-0.4
KDAK				pmax	pmax		
	comp=Z,35nm,1.3s						
KDAK	Kodiak Island	29.86	56	P	P	04 54 07.7	-0.4
KDAK				IAmb	IAmb	04 54 33.5	
	comp=Z,35nm,1.2s						
KDAK	Kodiak Island	29.86	56	P	P	04 54 07.9	-0.2
	baz=278						
SKT	Skwentna	30.02	48	P	P	04 54 09.7	+0.2
SKT	Skwentna	30.02	48	P	P	04 54 10.2	+0.7
	baz=272						
BPAW	Bear Paw Mtn.	30.27	44	P	P	04 54 10.9	-0.8
BPAW	Bear Paw Mtn.	30.27	44	P	P	04 54 12.3	+0.6
	baz=269						
CNPM	China Poot	30.34	53	P	P	04 54 12.1	-0.3
CNPM				IAmb	IAmb	04 54 14.2	
	comp=Z,14nm,0.7s						
MLY	Manley	30.41	42	P	P	04 54 13.6	+0.6
MLY	Manley	30.41	42	P	P	04 54 13.4	+0.5
	baz=267,SNR=5.9						
SUA	Susitna One	30.42	49	P	P	04 54 13.4	+0.3
	baz=273						
BRLK	Bradley Lake	30.49	52	P	P	04 54 13.0	-0.6
BRLK				IAmb	IAmb	04 54 25.6	
	comp=Z,29nm,1.2s						
BRSE	Bradley Lake S	30.56	52	P	P	04 54 15.3	+1.0
	baz=276						
TRF	Thorofare Moun	30.57	45	P	P	04 54 14.8	+0.3
TRF				IAmb	IAmb	04 54 16.4	
	comp=Z,18nm,1.2s						
CUT	Chulitna	30.60	47	P	P	04 54 14.3	-0.3
	baz=272						
COLD	Coldfoot	30.80	37	P	P	04 54 16.4	+0.1
COLD	Coldfoot	30.80	37	P	P	04 54 16.4	+0.1
	baz=264,SNR=7.3						
H23K	Yukon River	30.95	40	P	P	04 54 18.4	+0.7
H23K	Yukon River	30.95	40	P	P	04 54 18.2	+0.5
	baz=267,SNR=6.6						
I23K	Minto, Yukon-K	31.00	41	P	P	04 54 18.8	+0.8
I23K	Minto, Yukon-K	31.00	41	P	P	04 54 18.2	+0.2
	baz=268						
NEA2	Nenana	31.11	43	P	P	04 54 19.3	+0.2
NEA2				IAmb	IAmb	04 54 21.2	
	comp=Z,14nm,0.6s						
NEA2	Nenana	31.11	43	P	P	04 54 19.2	+0.2
	baz=270,SNR=18						
SEW	Seward	31.17	51	P	P	04 54 19.1	-0.5
SEW	Seward	31.17	51	P	P	04 54 19.1	-0.5
	baz=277						
MCK	McKinley	31.17	44	P	P	04 54 19.6	0.0
	baz=271,SNR=5.5						
TOLK	Toolik Lake Re	31.20	35	P	P	04 54 20.4	+0.5
TOLK	Toolik Lake Re	31.20	35	P	P	04 54 20.2	+0.3
	baz=262						
RND	Reindeer	31.22	45	P	P	04 54 19.0	-1.1
RND				pmax	pmax		
	comp=Z,12nm,0.8s						
RND	Reindeer	31.22	45	P	P	04 54 19.0	-1.1
RND				IAmb	IAmb	04 54 20.8	
	comp=Z,12nm,0.8s						
WAT1	Susitna Watana	31.38	46	P	P	04 54 21.0	-0.5
	baz=273						
MDM	Murphy Dome	31.47	42	P	P	04 54 22.7	+0.4
KNK	Knik Glacier	31.52	49	P	P	04 54 22.3	-0.5
KNK	Knik Glacier	31.52	49	P	P	04 54 22.7	0.0
	baz=275,SNR=5.1						
SML	Sawmill	31.55	48	P	P	04 54 23.1	+0.1
SML	Sawmill	31.55	48	P	P	04 54 23.1	+0.1
	baz=275,SNR=12						
TCOL	CIGO, UAF Yank	31.63	42	P	P	04 54 23.8	+0.2
TCOL				IAmb	IAmb	04 54 25.1	
	comp=Z,21nm,0.8s						
TCOL	CIGO, UAF Yank	31.63	42	P	P	04 54 23.9	+0.3
	baz=270,SNR=6.8						
COLA	College	31.63	42	P	P	04 54 23.9	+0.3
COLA				pmax	pmax		
	comp=Z,22nm,0.8s						
COLA	College	31.63	42	P	P	04 54 23.9	+0.3
COLA				IAmb	IAmb	04 54 25.1	
	comp=Z,22nm,0.8s						

COLA College 31.63 42 P P 04 54 24.1 +0.5
baz=270
H24K Noodor Dome 31.64 40 P P 04 54 23.8 +0.1
H24K Noodor Dome 31.64 40 P P 04 54 24.1 +0.4
baz=269
CCB Clear Creek Bu 31.66 42 P P 04 54 23.9 +0.1
H11N2 WAKE ISLAND Hy 31.79 162 T T 05 28 01.1
baz=348,slow=76,SNR=1197
H11N3 WAKE ISLAND Hy 31.81 162 T T 05 28 11.5
baz=348,slow=76,SNR=810
H11N1 WAKE ISLAND Hy 31.81 162 T T 05 28 10.4
baz=348,slow=76,SNR=801
POKR Poker Plat Res 31.81 42 P P 04 54 24.7 -0.5
POKR IAmb IAmb 04 54 27.5
comp=Z,12nm,0.6s
POKR Poker Plat Res 31.81 42 P P 04 54 25.8 +0.6
baz=270
SCM Sheep Creek Mo 32.02 48 P P 04 54 27.5 +0.4
SCM pmax pmax
comp=Z,35nm,1.2s
SCM Sheep Creek Mo 32.02 48 P P 04 54 27.5 +0.4
HDA Harding Lake 32.03 43 P P 04 54 27.7 +0.5
HDA Harding Lake 32.03 43 P P 04 54 27.2 +0.1
baz=272,SNR=18
IL31 32.05 42 P P 04 54 27.5 +0.3
IL31 IAmb IAmb 04 54 28.1
comp=Z,12nm,0.9s
ILAR Eielson Array 32.05 42 P P 04 54 26.9 -0.4
comp=Z,6.1nm,0.7s,baz=258,slow=7.0,SNR=76
ILAR PcP PcP 04 57 13.9 -1.2
comp=Z,0.4nm,0.6s,baz=284,slow=3.6,SNR=2.3
ILAR Eielson Array 32.05 42 P P 04 54 27.2 -0.1
ILAR Eielson Array 32.05 42 P P 04 54 27.2 -0.1
ULN Ulaanbaatar 32.13 285 ⇓*i*P P 04 54 28.3 -0.1
ULN pmax pmax
comp=Z,4.0nm,1.0s
ULN Ulaanbaatar 32.13 285 P P 04 54 27.9 -0.5
GLI Glacier Island 32.23 50 P P 04 54 29.4 +0.5
baz=277
M24K Tolsona, Glenn 32.53 47 P P 04 54 32.7 +1.1
M24K Tolsona, Glenn 32.53 47 P P 04 54 32.7 +1.1
baz=276
SONM Songino Array 32.55 285 P P 04 54 29.4 -2.6
comp=Z,1.1nm,0.4s,baz=66,slow=8.1,SNR=8.2
SONM PcP PcP 04 57 15.7 -1.2
comp=Z,1.0nm,0.6s,baz=80,slow=2.4,SNR=3.1
SONM LR LR 05 07 27.6
comp=Z,141nm,21.3s,baz=42,slow=36
HHC Hu-ho-hao-te 32.60 270 *e*P P 04 54 32.9 +0.4
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,99nm,7.7s
PRP Porcupine Dome 32.61 41 P P 04 54 32.9 +0.6
PRP Porcupine Dome 32.61 41 P P 04 54 33.0 +0.6
baz=271
FYU Fort Yukon 32.72 39 P P 04 54 34.5 +1.4
FYU IAmb IAmb 04 54 35.1
comp=Z,17nm,0.7s
KLU Klutina 32.72 48 P P 04 54 33.7 +0.3
baz=277
DIV Divide 32.84 49 P P 04 54 34.6 +0.3
DIV IAmb IAmb 04 54 35.4
comp=Z,9.6nm,0.6s
EYAK Cordova Ski Ar 32.94 50 P P 04 54 35.6 +0.6
EYAK IAmb IAmb 04 55 00.1
comp=Z,35nm,1.4s
EYAK Cordova Ski Ar 32.94 50 P P 04 54 35.3 +0.2
baz=279
H11S1 WAKE ISLAND Hy 32.94 163 T T 05 29 38.0
baz=348,slow=76,SNR=4703
H11S3 WAKE ISLAND Hy 32.95 163 T T 05 29 29.4
baz=348,slow=76,SNR=6934
H11S2 WAKE ISLAND Hy 32.96 163 T T 05 29 30.1
baz=348,slow=76,SNR=3147
HARP HAARP 32.98 47 P P 04 54 35.8 +0.4
baz=276
BMAR Burnt Mountain 32.98 37 P P 04 54 36.5 +1.0
BMAR PcP PcP 04 57 18.0 +0.3
RIDG Independent Ri 32.99 44 P P 04 54 34.8 -0.8
baz=275
N25K Chitina, Valde 33.34 48 P P 04 54 39.6 +0.9
N25K IAmb IAmb 04 54 39.9
comp=Z,7.7nm,0.7s
N25K Chitina, Valde 33.34 48 P P 04 54 39.0 +0.3
baz=278
SCRK Sand Creek 33.35 44 P P 04 54 38.5 -0.3
SCRK IAmb IAmb 04 54 39.2
comp=Z,11nm,1.0s
SCRK Sand Creek 33.35 44 P P 04 54 38.2 -0.6
baz=275,SNR=5.7
BMRM Bremner River 33.43 49 P P 04 54 39.5 +0.1
baz=279
ZAK Zakamensk 33.45 291 *e*P P 04 54 40.1 +0.3
ZAK pmax pmax
comp=Z,8.0nm,1.0s
NJ2 Nanjing 33.52 251 *e*P P 04 54 40.5 +0.1
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
KAIM Kayak Island 33.70 51 P P 04 54 42.0 +0.3
baz=281
L26K Log Cabin Wild 33.73 45 P P 04 54 42.9 +0.9
L26K Log Cabin Wild 33.73 45 P P 04 54 42.4 +0.3
baz=277
GLB Gilahina Butte 33.73 48 P P 04 54 42.9 +0.8
GLB IAmb IAmb 04 55 11.2
comp=Z,15nm,1.4s
M26K Nabesna, AK 33.97 46 P P 04 54 43.9 -0.2
baz=278,SNR=9.2
MCARA McCarthy VSAT 34.12 48 P P 04 54 45.2 -0.1
baz=280
CRQM Cirque 34.17 49 P P 04 54 47.1 +1.1
K27K Chicken 34.18 43 P P 04 54 46.3 +0.5
baz=276
CRQE Cirque 34.19 49 P P 04 54 46.4 +0.2
baz=280
MOY Mondy 34.34 294 *e*P P 04 54 48.3 +0.8
MOY pmax pmax
comp=Z,7.0nm,1.0s
L27K Beaver Creek, 34.41 45 P P 04 54 48.1 +0.1
baz=278,SNR=21
BCAR Beaver Creek A 34.43 45 P P 04 54 49.5 +1.3
M27K Edge Creek, AK 34.49 46 P P 04 54 49.5 +0.7
baz=279
EGAK Eagle 34.50 42 P P 04 54 48.4 -0.2
EGAK Eagle 34.50 42 P P 04 54 48.3 -0.2
baz=276,SNR=16
MESA MESA 34.86 50 P P 04 54 52.7 +0.7
baz=282
YAH Yahtse 34.92 50 P P 04 54 53.8 +1.2
CTG Chitna Glacier 34.99 49 P P 04 54 52.4 -0.7
baz=281
LOGN Logan Glacier 35.19 49 P P 04 54 55.8 +1.0
TABL Table Mountain 35.20 49 P P 04 54 56.0 +1.1
DAWY Dawson 35.35 43 P P 04 54 56.8 +0.8
PINM Pinnacle 35.71 50 P P 04 54 59.7 +0.5
baz=283
EPYK Eagle Plains 36.14 39 P P 04 55 03.8 +1.1
EPYK IAmb IAmb 04 55 04.1
comp=Z,11nm,0.9s
EPYK Eagle Plains 36.14 39 P P 04 55 03.5 +0.8
baz=278,SNR=5.2
NRIK Noril'sk 36.84 326 LR LR 05 11 19.1
comp=Z,90nm,18.5s,baz=36,slow=38
HYT Haines Junctio 36.85 48 P P 04 55 10.5 +1.6
INK Inuvik 37.11 35 P P 04 55 11.0 +0.2
INK pmax pmax
comp=Z,11nm,0.7s
INK Inuvik 37.11 35 P P 04 55 11.0 +0.2
INK IAmb IAmb 04 55 12.2
comp=Z,11nm,0.7s
INK Inuvik 37.11 35 P P 04 55 11.4 +0.6
baz=278
WHY Whitehorse 38.14 48 P P 04 55 21.2 +1.4
WHY Whitehorse 38.14 48 P P 04 55 20.4 +0.6
baz=286,SNR=6.5
SKAG Skagway 38.28 50 P P 04 55 22.4 +1.6
baz=288,SNR=6.2
JIS Juneau Island 39.12 51 P P 04 55 30.6 +2.7
JIS IAmb IAmb 04 55 30.9
comp=Z,15nm,0.8s
A36M Sachs Harbour 39.33 29 P P 04 55 30.2 +0.7
baz=280
LZH Lanzhou 40.29 270 *e*P P 04 55 37.8 -0.3
LZH pP sP 04 56 02.8 -0.4
LZH PP PnPn 04 57 16.0 0.0
LZH pmax pmax
comp=Z,24nm,1.3s
LZH pmax pmax
comp=Z,110nm,5.4s
LZH LR LR
comp=Z,190nm,13.0s
LZH LR LR
comp=Z,200nm,13.6s
LZH LR LR
comp=Z,180nm,17.4s
CRAG Craig 40.80 55 P P 04 55 42.3 +0.5
baz=294
WRAK Wrangell Islan 40.82 53 P P 04 55 43.9 +2.0
baz=293
GTA Gaotai 40.88 277 ⇓P P 04 55 43.2 +0.4
GTA pP pP 04 56 01.4 +1.4
GTA sP sP 04 56 10.9 +2.9
GTA pmax pmax
comp=Z,4.0nm,0.9s
DLBC Dease Lake 41.21 50 P P 04 55 46.7 +1.4
DLBC IAmb IAmb 04 55 48.6
comp=Z,15nm,1.1s
ZALV Zalesovo Beam 42.46 304 P P 04 55 52.6 -2.7
comp=Z,1.1nm,0.5s,baz=61,slow=5.9,SNR=2.8
DGZ Jazzator, Alta 42.98 297 ⇓*i*P P 04 56 01.0 +1.1
DGZ pmax pmax
comp=Z,2.0nm,0.6s
GYA Guiyang 44.96 257 ⇑P P 04 56 16.7 +0.8
GYA pP pP 04 56 36.5 +3.3
GYA pmax pmax
comp=Z,17nm,1.0s
WMQ Urumqi 45.90 290 *e*P P 04 56 26.1 +3.0
WMQ LR LR
comp=Z,120nm,21.7s
YKA Yellowknife Ar 46.40 40 P P 04 56 26.9 +0.2
comp=Z,8.7nm,0.7s,baz=299,slow=6.4,SNR=12
YKA LR LR 05 19 10.9
comp=Z,41nm,18.2s,baz=0.0,slow=40
YKA Yellowknife Ar 46.40 40 P P 04 56 27.4 +0.7
YKA Yellowknife Ar 46.40 40 P P 04 56 27.4 +0.7
KURK Kurtov 47.35 302 P P 04 56 33.5 -0.7
KURK Kurchatov 47.35 302 P P 04 56 33.5 -0.7
MK31 Makanchi Array 47.42 296 P P 04 56 34.2 -0.7
MK31 pmax pmax
comp=Z,6.0nm,1.2s
MK31 Makanchi Array 47.42 296 P P 04 56 34.2 -0.7
MKAR Makanchi Array 47.42 296 P P 04 56 33.7 -1.2
comp=Z,2.1nm,0.4s,baz=62,slow=7.3,SNR=32
MKAR LR LR 05 17 31.1
comp=Z,104nm,19.8s,baz=28,slow=37
MKAR Makanchi Array 47.42 296 P P 04 56 34.4 -0.5
MKAR Makanchi Array 47.42 296 P P 04 56 34.4 -0.5
KURBB Kurchatov Arra 47.45 302 P P 04 56 33.5 -1.5
comp=Z,4.0nm,0.4s,baz=59,slow=7.1,SNR=57
MAKZ Makanchi 47.59 296 P P 04 56 35.8 -0.4
MAKZ pmax pmax
comp=Z,3.0nm,0.7s
MAKZ Makanchi 47.59 296 P P 04 56 35.8 -0.4
KMI Kunming 48.36 259 ⇑P P 04 56 43.9 +1.2
KMI pmax pmax
comp=Z,7.0nm,0.9s
SPITS Spitsbergen Ar 49.28 350 P P 04 56 47.3 -1.4
comp=Z,14nm,0.9s,baz=60,slow=14,SNR=4.3
B05A Bryant 50.27 59 P P 04 56 57.7 +1.0
baz=305
BVAR Borovoye Array 50.37 308 P P 04 56 56.0 -1.3
comp=Z,2.3nm,0.4s,baz=0.0,slow=1.5,SNR=12
BVAR Borovoye Array 50.37 308 P P 04 56 56.0 -1.3
BRVK Borovoye 50.40 309 ⇓*e*P P 04 56 56.3 -1.2
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BRVK Borovoye 50.40 309 P P 04 56 57.2 -0.4
SLVN Son La 50.42 255 P P 04 56 58.9 +0.7
SLVN IAmb IAmb 04 57 00.8
comp=Z,6.1nm,0.8s
BRZS Berezniki 50.93 304 *e*P P 04 57 00.1 -1.5
baz=304
BRZS Berezniki 50.93 304 *e*P P 04 57 00.1 -1.5
E04D Cinebar 51.01 61 P P 04 57 03.3 +1.2
baz=306
NEEM North Greenlan 51.08 8 *i* P P 04 57 01.4 -1.3
NEEM IAmb IAmb 04 57 04.1
comp=Z,14nm,0.9s
SHLS Shalkode 51.16 294 *e*P P 04 57 01.4 -2.2
baz=293
SHLS Shalkode 51.16 294 *e*P P 04 57 01.4 -2.2
G03D McMinnville, O 51.41 63 P P 04 57 06.0 +0.8
baz=307
UZB Uzynbulak 51.42 294 *e*P P 04 57 04.2 -1.4
baz=294
UZB Uzynbulak 51.42 294 *e*P P 04 57 04.2 -1.4
KPKS Kokpek 51.43 294 *e*P P 04 57 05.9 +0.3
baz=294
KPKS Kokpek 51.43 294 *e*P P 04 57 05.8 +0.3
B08A Colville Reser 51.72 58 P P 04 57 08.7 +1.1
B08A IAmb IAmb 04 57 09.3
comp=Z,12nm,1.1s
I02D Swisshome 51.74 64 P P 04 57 08.9 +1.2
baz=307
SATY Saty 51.84 294 *e*P P 04 57 08.5 -0.1
baz=294
SATY Saty 51.84 294 *e*P P 04 57 08.5 -0.1
EDM Edmonton 51.93 50 P P 04 57 10.1 +1.0
EDM pmax pmax
comp=Z,18nm,0.7s
EDM Edmonton 51.93 50 P P 04 57 10.1 +1.0
H04D Lebanon 52.12 63 P P 04 57 11.5 +0.9
baz=307
CHKK Chushkaly 52.17 296 *e*P P 04 57 10.4 -0.5
baz=296
I03D Drain, OR 52.27 65 P P 04 57 12.0 +0.4
baz=308
H04A Detroit Lake 52.34 63 P P 04 57 13.4 +1.3
H04A IAmb IAmb 04 57 14.3
comp=Z,16nm,1.2s
G05D Wamic, OR 52.49 62 P P 04 57 13.8 +0.5
baz=307
E07A Sunnyside 52.51 60 P P 04 57 14.4 +0.9
E07A IAmb IAmb 04 57 14.9
comp=Z,6.5nm,0.6s
KUU Kurty 52.52 296 *e*P P 04 57 11.6 -1.9
baz=296
KUU Kurty 52.52 296 *e*P P 04 57 11.6 -1.9
C09A Chrisman Ranch 52.62 58 P P 04 57 14.9 +0.6
C09A IAmb IAmb 04 57 16.0
comp=Z,13nm,1.3s
K02D Willamette Mer 52.70 66 P P 04 57 15.7 +0.7
baz=308
I04A Tendick Farm, 52.75 64 P P 04 57 16.5 +1.2
baz=308
HAWA Hanford 52.79 60 P P 04 57 15.6 +0.1
HAWA IAmb IAmb 04 57 17.4
comp=Z,9.7nm,1.2s
F07A Phinny Hill Vi 52.87 60 P P 04 57 17.3 +1.3
MTBS Maitube 52.94 295 *e*P P 04 57 15.8 -0.9
baz=295
NEW Newport 52.96 57 P P 04 57 17.3 +0.5
baz=307
I05D Terrebonne, OR 53.03 63 P P 04 57 18.3 +0.9
baz=308
L02E Cave Junction 53.07 66 P P 04 57 18.4 +0.8
baz=308
BTLS Baital 53.12 298 *e*P P 04 57 16.9 -1.1
baz=298
BTLS Baital 53.12 298 *e*P P 04 57 16.8 -1.1
J04D Umpqua Nationa 53.27 64 P P 04 57 20.2 +0.9
baz=308,SNR=7.9
NONG Nongkai 53.36 253 P P 04 57 22.2 +2.3
comp=Z,7μmcomp=Z,28nm,0.9s
NONG Nongkai 53.36 253 P P 04 57 22.2 +2.3
comp=Z,7μmcomp=Z,28nm,0.9s
PINE Pine Mountain 53.59 63 P P 04 57 23.0 +1.3
PINE IAmb IAmb 04 57 24.5
comp=Z,7.4nm,0.8s
PINE PcP PcP 04 58 28.8 +1.4
J05D Fort Rock, OR 53.74 64 P P 04 57 24.1 +1.4
baz=309,SNR=11
SGDS Sogindy 53.77 297 *e*P P 04 57 21.7 -1.1
baz=297
L04D Klamath Falls 53.79 65 P P 04 57 24.7 +1.7
baz=309,SNR=9.3
K04D Chiloquin, OR 53.85 65 P P 04 57 24.8 +1.3
baz=309
YBH Yreka Blue Hor 53.86 66 P P 04 57 24.8 +1.4
YBH IAmb IAmb 04 57 26.6
comp=Z,10nm,0.8s
ARU Arti 53.87 317 P P 04 57 21.3 -1.9
comp=Z,2.1nm,0.4s,baz=20,slow=4.3,SNR=6.2
ARU Arti 53.87 317 *c i*P P 04 57 23.4 +0.2
ARU *PP pP 04 57 40.2 -0.8
ARU S S 05 04 53.4 +0.7
ARU SS SKiKP 05 08 30.4 +1.4
ARU pmax pmax
comp=Z,9.0nm,1.0s
M02C Callahan 53.99 66 P P 04 57 26.1 +1.7
baz=309,SNR=5.4
UBPT Khong Chiam 54.12 248 P P 04 57 28.6 +3.2
comp=Z,19nm,1.1s
UBPT Khong Chiam 54.12 248 P P 04 57 28.7 +3.2
comp=Z,19nm,1.1s
UBPT Khong Chiam 54.12 248 P P 04 57 27.9 +2.4
WALA Waterton Lakes 54.16 54 P P 04 57 26.6 +1.0
WALA IAmb IAmb 04 57 26.9
comp=Z,8.7nm,0.7s
K05A Summer Lake 54.28 64 P P 04 57 28.0 +1.3
M04C Macdoel 54.33 66 P P 04 57 28.3 +1.3
baz=309,SNR=9.1
N02D Trinity Center 54.34 67 P P 04 57 28.6 +1.7
baz=309,SNR=7.9
AAK Ala-Archa 54.36 296 P P 04 57 25.3 -1.9
comp=Z,1.7nm,0.3s,baz=113,slow=5.5,SNR=4.4
AAK Ala-Archa 54.36 296 ⇑*i*P P 04 57 28.1 +0.9
AAK pmax pmax
comp=Z,13nm,1.3s
AAK Ala-Archa 54.36 296 P P 04 57 26.6 -0.6
PAYA Payao 54.39 257 P P 04 57 30.1 +2.6
comp=Z,40nm,0.8s
PAYA Payao 54.39 257 P P 04 57 30.2 +2.6
comp=Z,9.9nm,0.8s
WDC Whiskeytown Da 54.68 67 P P 04 57 30.5 +1.2
WDC pmax pmax
comp=Z,9.0nm,0.9s
WDC Whiskeytown Da 54.68 67 P P 04 57 30.5 +1.2
WDC IAmb IAmb 04 57 32.1
comp=Z,8.6nm,0.8s
JTMT Jette 54.78 56 P P 04 57 30.7 +0.5
JTMT IAmb IAmb 04 57 31.8
comp=Z,6.0nm,0.7s
O02D Mt. Diablo Mer 54.79 68 P P 04 57 31.5 +1.2
baz=310
KHON Khomkaen 54.88 252 P P 04 57 34.6 +3.6
KHON Khomkaen 54.88 252 P P 04 57 34.7 +3.6
BMO Blue Mountains 54.97 60 P P 04 57 31.4 -0.1
BMO pmax pmax
comp=Z,4.0nm,0.7s
BMO Blue Mountains 54.97 60 P P 04 57 31.4 -0.1
ARCES ARCESS Array B 55.04 341 P P 04 57 28.6 -2.9
comp=Z,1.8nm,0.7s,baz=28,slow=8.2,SNR=5.2
ARCES PcP PcP 04 58 31.9 -0.3
comp=Z,2.1nm,0.8s,baz=35,slow=5.5,SNR=1.6
ARCES LR LR 05 24 33.6
comp=Z,41nm,19.4s,baz=35,slow=40
ARCES ARCESS Array B 55.04 341 P P 04 57 31.5 0.0
ARCES pmax pmax
comp=Z,17nm,1.5s
ARCES ARCESS Array B 55.04 341 P P 04 57 31.5 0.0
ARCES IAmb IAmb 04 57 38.6
comp=Z,17nm,1.4s
MOD Modoc Plateau 55.14 65 P P 04 57 34.7 +1.8
LAMP Lampang 55.17 256 P P 04 57 35.7 +2.6
comp=Z,427nmcomp=Z,28nm,0.8s
LAMP Lampang 55.17 256 P P 04 57 35.7 +2.6
comp=Z,107nmcomp=Z,6.9nm,0.8s
J08A Circle Bar Ran 55.26 62 P P 04 57 34.7 +1.0
J08A IAmb IAmb 04 57 36.3
comp=Z,19nm,1.4s
O03E Paynes Creek 55.30 67 P P 04 57 35.0 +1.1
baz=310,SNR=15
CMMT Chiang Mai 55.38 257 P P 04 57 36.2 +1.6
comp=Z,29nm,0.9s
CMMT Chiang Mai 55.38 257 P P 04 57 36.0 +1.4
comp=Z,29nm,0.9s
CHTO Chiang Mai 55.38 257 P P 04 57 34.7 +0.1
CHTO pmax pmax
comp=Z,21nm,0.8s
CHTO Chiang Mai 55.38 257 P P 04 57 36.3 +1.7
comp=Z,29nm,0.9s
CHTO Chiang Mai 55.38 257 P P 04 57 34.6 +0.1
KSH Kashi 55.48 292 P P 04 57 40.0 +4.7
KSH pmax pmax
comp=Z,4.0nm,1.4s
PLID Pearl Lake 55.54 59 P P 04 57 35.7 -0.1
PLID IAmb IAmb 04 57 37.7
comp=Z,11nm,0.8s
MSO Missoula 55.54 56 P P 04 57 36.1 +0.5
baz=310
CMAR Chiang Mai Arr 55.65 257 P P 04 57 35.9 -0.6
comp=Z,16nm,0.9s,baz=28,slow=7.2,SNR=29
CMAR LR LR 05 22 09.2
comp=Z,61nm,18.1s,baz=235,slow=37
CMAR Chiang Mai Arr 55.65 257 *i* P P 04 57 37.2 +0.7
CMAR pmax pmax
comp=Z,17nm,0.9s
CMAR Chiang Mai Arr 55.65 257 P P 04 57 37.0 +0.5
PHIT Phitsanulok 55.70 255 P P 04 57 39.2 +2.4
comp=Z,102nm,0.9s
PHIT Phitsanulok 55.70 255 P P 04 57 39.3 +2.4
comp=Z,25nm,0.9s
CHAI Chaiyaphum 55.72 252 P P 04 57 38.9 +1.8
comp=Z,895nmcomp=Z,37nm,0.9s
CHAI Chaiyaphum 55.72 252 P P 04 57 39.0 +1.8
comp=Z,223nmcomp=Z,9.3nm,0.9s
WVOR Wild Horse Val 55.76 63 P P 04 57 38.3 +1.1
WVOR pmax pmax
comp=Z,23nm,0.9s
WVOR Wild Horse Val 55.76 63 P P 04 57 38.3 +1.1
ORV Oroville 55.95 67 P P 04 57 38.8 +0.3
ORV pmax pmax
comp=Z,9.0nm,0.8s
ORV Oroville 55.95 67 P P 04 57 38.8 +0.3
ORV IAmb IAmb 04 57 40.3
comp=Z,8.7nm,0.8s
KKAR Karatay Array 56.32 299 P P 04 57 40.1 -1.0
KKAR Karatay Array 56.32 299 P P 04 57 40.1 -1.0
BEKR Beckworth 56.42 66 P P 04 57 42.5 +0.4
BEKR IAmb IAmb 04 57 44.3
comp=Z,10.0nm,0.9s
MHMT Maesarieng 56.49 257 P P 04 57 46.2 +3.7
comp=Z,33nm,1.1s
MHMT Maesarieng 56.49 257 P P 04 57 46.0 +3.5
comp=Z,33nm,1.1s
SUMG Summit 56.69 5 *i* P P 04 57 43.0 -0.7
SUMG IAmb IAmb 04 57 45.6
comp=Z,16nm,1.0s
SUMG Summit 56.69 5 P P 04 57 44.1 +0.3
SUMG pmax pmax
comp=Z,16nm,1.0s
SUMG Summit 56.69 5 P P 04 57 44.1 +0.3
MFID Camas Ranch 56.70 61 P P 04 57 44.7 +0.7
MFID IAmb IAmb 04 57 46.4
comp=Z,8.4nm,1.1s
HRY Holter Researc 56.73 55 P P 04 57 45.0 +0.9
EGMT Eagleton 56.95 53 P P 04 57 46.1 +0.5
baz=311
LRM Limekiln Ridge 56.98 57 P P 04 57 47.0 +1.0
PAHR Pah Rah Range 57.09 66 P P 04 57 47.4 +0.6
PAHR IAmb IAmb 04 57 49.2
comp=Z,17nm,1.3s
DLMT Dillon 57.20 57 P P 04 57 48.1 +0.6
VCNR Virginia City 57.21 67 P P 04 57 48.1 +0.4
VCNR IAmb IAmb 04 57 50.2
comp=Z,12nm,0.9s
IUG Iuzhnay 57.21 298 *e*P P 04 57 46.4 -1.1
baz=298
IUG Iuzhnay 57.21 298 *e*P P 04 57 46.4 -1.1
PNTR Pine Nut 57.37 67 P P 04 57 49.4 +0.6
HLID Hailey 57.39 60 P P 04 57 49.6 +0.7
HLID IAmb IAmb 04 57 51.5
comp=Z,11nm,1.2s
HLID Hailey 57.39 60 P P 04 57 50.1 +1.3
baz=311,SNR=9.9
UMPA Umpang Tak 57.40 255 P P 04 57 53.5 +4.5
comp=Z,36nm,1.0s
UMPA Umpang Tak 57.40 255 P P 04 57 53.6 +4.5
comp=Z,8.9nm,1.0s
MCMT McKenzie Canyo 57.41 58 P P 04 57 48.6 -0.5
BCYI Bear Canyon 57.45 58 P P 04 57 49.4 0.0
UTHA Uthaitani 57.54 254 P P 04 57 52.9 +2.9
comp=Z,22nm,0.9s

UTHA Uthaitani 57.54 254 P P 04 57 52.0 +2.0
comp=Z,5.3nm,0.9s
BOZ Bozeman (W) 57.56 56 P P 04 57 50.7 +0.7
BOZ pmax pmax
comp=Z,8.0nm,0.7s
BOZ Bozeman (W) 57.56 56 P P 04 57 50.7 +0.7
BOZ IAmb IAmb 04 57 51.8
comp=Z,7.5nm,0.7s
BOZ Bozeman (W) 57.56 56 P P 04 57 51.3 +1.2
baz=311,SNR=15
CMB Columbia Colle 57.60 68 P P 04 57 51.1 +0.8
CMB pmax pmax
comp=Z,6.0nm,0.9s
CMB Columbia Colle 57.60 68 P P 04 57 51.1 +0.8
YERR Yerington 57.65 67 P P 04 57 51.0 +0.2
ABKAR Akbulak array 57.87 310 P P 04 57 52.0 +0.1
ABKAR Akbulak array 57.87 310 P P 04 57 51.3 -0.6
BMN Battle Mountai 57.87 64 P P 04 57 52.8 +0.6
BMN pmax pmax
comp=Z,12nm,0.8s
BMN Battle Mountai 57.87 64 P P 04 57 52.8 +0.6
BMN IAmb IAmb 04 57 54.9
comp=Z,12nm,0.8s
AKTO Aktyubinsk 58.01 312 P P 04 57 52.2 -0.6
comp=Z,1.6nm,0.4s,baz=69,slow=8.8,SNR=5.4
KLMR Klimovskoe 58.10 329 *e*P P 04 57 45.4 -7.9
KLMR AMP 04 57 54.2
comp=Z,5.0nm,1.0s
KLMR Klimovskoe 58.10 329 *e*P P 04 57 45.5 -7.8
KLMR AMP 04 57 54.2
comp=Z,5.0nm,1.0s
QLMT Earthquake Lak 58.17 57 P P 04 57 55.0 +0.6
KVN Kaiserville 58.27 66 P P 04 57 56.2 +1.1
KVN pmax pmax
comp=Z,21nm,1.1s
KVN Kaiserville 58.27 66 P P 04 57 56.2 +1.1
RYN Ryan 58.31 66 P P 04 57 56.1 +0.8
RYN IAmb IAmb 04 57 57.8
comp=Z,10nm,0.8s
YHB Horse Butte 58.35 57 P P 04 57 56.6 +0.9
YHB IAmb IAmb 04 57 58.9
comp=Z,13nm,1.0s
GCMT Greycliff 58.47 55 P P 04 57 56.9 +0.6
YHH Holmes Hill 58.51 57 P P 04 57 57.2 +0.4
YMR Madison River 58.53 57 P P 04 57 57.8 +0.9
YMR IAmb IAmb 04 57 59.5
comp=Z,9.3nm,0.7s
NVAR Mina Array Bea 58.57 66 P P 04 57 58.4 +1.2
comp=Z,11nm,0.8s,baz=297,slow=7.2,SNR=58
NVAR Mina Array Bea 58.57 66 P P 04 57 57.6 +0.4
LHV Little Huntoon 58.57 67 P P 04 57 57.7 +0.8
MDPB Devils Postpil 58.64 68 P P 04 57 58.2 +0.4
MDPB IAmb IAmb 04 58 00.9
comp=Z,8.3nm,1.1s
YNR Norris Junctio 58.65 57 P P 04 57 57.0 -0.7
YNR IAmb IAmb 04 58 00.9
comp=Z,11nm,1.1s
NV11 Mina Array Sit 58.65 66 P P 04 57 58.7 +1.0
NV11 IAmb IAmb 04 58 00.2
comp=Z,7.3nm,1.0s
ELK Elko 58.79 63 P P 04 57 59.1 +0.3
ELK pmax pmax
comp=Z,5.0nm,0.8s
ELK Elko 58.79 63 P P 04 57 59.1 +0.3
ELK IAmb IAmb 04 58 01.3
comp=Z,5.3nm,0.8s
YNE Yellowstone No 58.81 56 P P 04 57 59.0 +0.1
YNE IAmb IAmb 04 58 01.3
comp=Z,11nm,0.8s
LKWY Lake 58.90 56 P P 04 57 59.7 +0.2
LKWY pmax pmax
comp=Z,10.0nm,0.8s
LKWY Lake 58.90 56 P P 04 57 59.7 +0.2
YMP Mirror Lake PI 58.91 56 P P 04 57 59.3 -0.3
YMP IAmb IAmb 04 58 02.6
comp=Z,8.8nm,0.8s
H17A Grant Village 58.92 57 P P 04 58 00.4 +0.7
H17A Grant Village 58.92 57 P P 04 58 02.3 +2.6
baz=312,SNR=18
IMW Indian Meadow 59.06 57 P P 04 58 00.7 0.0
IMW IAmb IAmb 04 58 04.4
comp=Z,7.2nm,0.8s
FLWY Flagg Ranch 59.06 57 P P 04 58 00.8 +0.3
FLWY IAmb IAmb 04 58 03.9
comp=Z,13nm,1.1s
RLMT Red Lodge 59.12 55 P P 04 58 01.5 +0.5
RLMT Red Lodge 59.12 55 P P 04 58 02.6 +1.7
baz=312,SNR=12
GAR Garm 59.13 295 P P 04 58 00.7 -0.3
FXWY Fox Creek 59.18 58 P P 04 58 01.4 -0.1
FXWY IAmb IAmb 04 58 04.4
comp=Z,7.2nm,0.9s
MOOW Moose Ponds 59.26 57 P P 04 58 02.4 +0.5
MOOW IAmb IAmb 04 58 04.9
comp=Z,12nm,1.2s
TPAW Teton Pass 59.33 58 P P 04 58 02.5 0.0
DGMT Dagmar 59.43 50 P P 04 58 03.6 +0.8
baz=313,SNR=5.7
LOHW Long Hollow 59.43 57 P P 04 58 03.0 -0.1
TPH Tonopah 59.44 66 P P 04 58 03.5 +0.3
TPH pmax pmax
comp=Z,72nm,1.0s
TPH Tonopah 59.44 66 P P 04 58 03.5 +0.3
SNOW Snow King Moun 59.45 58 P P 04 58 03.9 +0.7
SNOW IAmb IAmb 04 58 06.5
comp=Z,8.4nm,0.8s
REDW Red Top Meadow 59.46 58 P P 04 58 03.4 +0.1
PHET Kaeng Krachan 59.47 252 P P 04 58 06.8 +3.4
comp=Z,834nmcomp=Z,66nm,0.8s
PHET Kaeng Krachan 59.47 252 P P 04 58 06.0 +2.6
HVU Hansel Valley 59.48 60 P P 04 58 03.8 +0.4
HVU pmax pmax
comp=Z,9.0nm,1.2s
HVU Hansel Valley 59.48 60 P P 04 58 03.8 +0.4
HVU IAmb IAmb 04 58 06.0
comp=Z,8.8nm,1.2s
TIN Tinemaha, Big 59.53 68 P P 04 58 05.3 +1.5
baz=313
LAO LASA Array 59.63 52 P P 04 58 05.0 +0.7
LAO LASA Array 59.63 52 P P 04 58 05.6 +1.3
baz=313,SNR=13
SMMC Simmler 59.66 70 P P 04 58 05.6 +1.0
baz=313
VES Vestal, Richgr 59.85 69 P P 04 58 06.5 +0.7
baz=313
SPUT South Promonto 59.97 60 P P 04 58 07.8 +1.0
SPUT IAmb IAmb 04 58 09.5
comp=Z,12nm,1.1s
CWC Cottonwood Cre 60.04 68 P P 04 58 08.2 +0.9
baz=313
ICESG Greenland Ices 60.04 7 *i* P P 04 58 06.3 -0.7
ICESG IAmb IAmb 04 58 07.2
comp=Z,15nm,0.6s
PKM Mcpherson Peak 60.06 70 P P 04 58 08.4 +0.9
baz=313
GRAC Grapevine Rang 60.08 67 P P 04 58 08.9 +1.4
baz=313,SNR=7.9
R11A Troy Canyon, C 60.20 65 P P 04 58 09.0 +0.6
R11A IAmb IAmb 04 58 10.6
comp=Z,7.8nm,0.9s
R11A Troy Canyon, C 60.20 65 P P 04 58 09.1 +0.7
baz=313,SNR=16
HWUT Hardware Ranch 60.26 60 P P 04 58 09.9 +1.1
HWUT IAmb IAmb 04 58 11.0
comp=Z,8.2nm,0.8s
ISA Isabella, Lake 60.33 69 P P 04 58 09.5 +0.3
baz=313
SPR3 Spring Creek 3 60.48 64 P P 04 58 10.8 +0.3
DUG Dugway, Tooele 60.53 62 P P 04 58 11.5 +0.9
DUG pmax pmax
comp=Z,16nm,1.2s
DUG Dugway, Tooele 60.53 62 P P 04 58 11.5 +0.9
DUG Dugway, Tooele 60.53 62 P P 04 58 11.3 +0.7
baz=313,SNR=13
BW06 Boulder Array 60.56 58 P P 04 58 11.2 +0.3
BW06 Boulder Array 60.56 58 P P 04 58 11.4 +0.5
baz=313,SNR=25
PD31 Pinedale Array 60.56 58 P P 04 58 11.0 +0.1
PDAR Pinedale Array 60.56 58 P P 04 58 11.7 +0.8
comp=Z,11nm,0.8s,baz=327,slow=2.5,SNR=79
PDAR Pinedale Array 60.56 58 P P 04 58 11.1 +0.1
TCUT Toone Canyon 60.68 60 P P 04 58 11.8 0.0
TCUT IAmb IAmb 04 58 13.8
comp=Z,7.6nm,0.7s
FURC Furnace Creek, 60.74 67 P P 04 58 12.8 +0.9
baz=313,SNR=18
TPNV Topopah Spring 60.77 66 P P 04 58 12.9 +0.6
TPNV pmax pmax
comp=Z,13nm,1.0s
TPNV Topopah Spring 60.77 66 P P 04 58 12.9 +0.6
TPNV IAmb IAmb 04 58 14.6
comp=Z,13nm,0.9s
TPNV Topopah Spring 60.77 66 P P 04 58 13.4 +1.1
baz=313,SNR=11
CTU Camp Tracy 60.78 61 P P 04 58 13.0 +0.7
CTU IAmb IAmb 04 58 14.6
comp=Z,10nm,1.2s
LRMC Laurel Mtn Rad 60.93 69 P P 04 58 13.5 +0.2
baz=314
NIL Nilore 61.02 289 P P 04 58 14.1 +0.2
NIL pmax pmax
comp=Z,23nm,0.9s
NLU North Lily Min 61.10 61 P P 04 58 15.4 +0.8
NLU IAmb IAmb 04 58 17.0
comp=Z,9.0nm,0.9s
EDW2 Edwards Air Fo 61.15 69 P P 04 58 15.8 +1.0
baz=314,SNR=6.8
BELG Belogornoye 61.30 319 P P 04 58 13.9 -1.5
comp=Z,11nm,0.9s,baz=110,slow=11,SNR=4.1
BELG Belogornoye 61.30 319 ‖ *e*P P 04 58 15.8 +0.4
BELG pmax pmax
comp=Z,2.0nm,0.8s
MPU Maple Canyon 61.31 61 P P 04 58 16.2 +0.3
MPU IAmb IAmb 04 58 18.5
comp=Z,10nm,0.9s
SNCC San Nicolas Is 61.36 72 P P 04 58 17.1 +1.0
baz=314
DECC Green Verdugo 61.38 70 P P 04 58 16.8 +0.5
baz=314
SHOC Shoshone, Teco 61.47 67 P P 04 58 17.4 +0.5
baz=314
GSC Goldstone, Bar 61.57 68 P P 04 58 18.1 +0.5
baz=314
FINES FINESS Array B 61.60 336 P P 04 58 15.6 -1.8
comp=Z,0.5nm,0.3s,baz=23,slow=10,SNR=8.3
FINES PcP PcP 04 58 56.8 -1.5
comp=Z,1.6nm,0.6s,baz=46,slow=4.0,SNR=3.7
FINES LR LR 05 28 01.4
comp=Z,57nm,20.0s,baz=46,slow=39
TCRU Three Creeks R 61.82 63 P P 04 58 19.8 +0.3
DY2G Dye2 61.97 10 *i* P P 04 58 19.1 -0.9
DY2G IAmb IAmb 04 58 20.9
comp=Z,6.3nm,0.6s
TUQ Turquoise Moun 62.00 67 P P 04 58 21.2 +0.6
baz=314,SNR=9.8
CCUT Cedar City 62.03 64 P P 04 58 21.4 +0.5
CCUT IAmb IAmb 04 58 23.3
comp=Z,7.8nm,1.0s
MSU Marysvale 62.04 63 P P 04 58 21.4 +0.5
MSU Marysvale 62.04 63 P P 04 58 21.4 +0.5
TMUT Trail Mountain 62.04 61 P P 04 58 21.4 +0.4
ULM Lac du Bonnet 62.04 44 P P 04 58 20.5 0.0
comp=Z,4.3nm,0.5s,baz=321,slow=7.6,SNR=8.3
ULM Lac du Bonnet 62.04 44 IAmb IAmb 04 58 20.6
comp=Z,17nm,1.5s
ULM P P 04 58 20.7 +0.3
MDND Maddock 62.06 48 P P 04 58 20.7 0.0
baz=316
RDMU Red Mountain 62.07 59 P P 04 58 21.3 +0.2
SZCU Shurtz Canyon 62.15 64 P P 04 58 22.2 +0.5
HEC Hector,Ludlow 62.17 68 P P 04 58 22.5 +0.8
baz=314
P17A Butcher Ranch, 62.18 61 P P 04 58 22.8 +1.0
P17A IAmb IAmb 04 58 23.8
comp=Z,7.0nm,0.9s
BBRC Big Bear Solar 62.22 69 P P 04 58 22.8 +0.7
baz=314
K22A Casper 62.26 56 P P 04 58 22.7 +0.5
baz=314
Q16A Castle Valley 62.33 62 P P 04 58 23.4 +0.7
Q16A IAmb IAmb 04 58 25.3
comp=Z,9.5nm,0.9s
MTPU Mount Pierson 62.36 63 P P 04 58 23.8 +0.6
E28A Huff 62.45 49 P P 04 58 24.0 +0.7
LCMT Little Creek M 62.47 65 P P 04 58 24.5 +0.8
LCMT IAmb IAmb 04 58 26.3
comp=Z,11nm,0.9s
MURC Murrieta 62.52 70 P P 04 58 24.7 +0.8
baz=314
RSSD Black Hills 62.52 53 P P 04 58 24.6 +0.5
RSSD pmax pmax
comp=Z,19nm,0.6s
RSSD Black Hills 62.52 53 P P 04 58 24.6 +0.5
RSSD Black Hills 62.52 53 P P 04 58 24.8 +0.7
baz=315
SRU San Rafael Swe 62.55 61 P P 04 58 24.7 +0.4
SRU pmax pmax
comp=Z,22nm,0.9s
SRU San Rafael Swe 62.55 61 P P 04 58 24.7 +0.4
GMRC Granite Mounta 62.60 68 P P 04 58 25.6 +1.0
baz=314,SNR=6.6
KNB Kanab 62.71 64 P P 04 58 26.9 +1.6
KNB pmax pmax
comp=Z,13nm,1.1s
KNB Kanab 62.71 64 P P 04 58 26.9 +1.6
KNB IAmb IAmb 04 58 28.2
comp=Z,13nm,1.1s
PFO Pinyon Flats O 62.95 69 P P 04 58 27.2 +0.3
baz=314
BELC Belle Mtn. Jos 62.95 69 P P 04 58 27.3 +0.4
baz=314,SNR=5.3
TPFO Pinon Flats 62.95 69 P P 04 58 27.6 +0.7
baz=315
O20A White River Ci 63.10 59 P P 04 58 28.2 +0.2
O20A IAmb IAmb 04 58 30.0
comp=Z,11nm,1.0s
O20A White River Ci 63.10 59 P P 04 58 28.8 +0.8
baz=315,SNR=8.7
IRM Iron Mountain 63.35 68 P P 04 58 30.5 +1.1
baz=315,SNR=6.2
MONP2 Monument Peak 63.47 70 P P 04 58 31.0 +0.5
baz=315
AGMN Agassiz Nation 63.47 45 P P 04 58 29.6 -0.4
baz=317
BC3 Big Chuckawall 63.52 69 P P 04 58 31.5 +0.8
baz=315,SNR=5.0
OBN Obninsk 63.52 326 *e*P P 04 58 31.6 +1.5
OBN *e* 04 59 08.4
OBN *e* 05 00 48.6
OBN pmax pmax
comp=Z,11nm,0.5s
OBN MLR MLR
comp=Z,47nm,19.0s
D32A Dogwood Acres, 63.79 47 P P 04 58 32.8 +0.6
PV21 Cone Mtn., Par 63.80 61 P P 04 58 33.1 +0.5
PV21 IAmb IAmb 04 58 34.8
comp=Z,15nm,0.8s
N23A Red Feather La 63.80 57 P P 04 58 34.0 +1.4
baz=315,SNR=9.5
SWSC Sam W. Stewart 63.81 69 P P 04 58 32.9 +0.5
baz=315
IKP In-Ko-Pah, Jac 63.83 70 P P 04 58 33.1 +0.4
baz=315
PDMCI Parker Dam,Lak 63.84 67 P P 04 58 33.2 +0.6
baz=315
PV23 Carpenter Ridg 63.86 61 P P 04 58 33.9 +0.9
PV10 Paradox Valley 63.90 61 P P 04 58 34.6 +1.3
PV14 Lion Creek, Pa 63.91 61 P P 04 58 34.1 +0.8
PV14 IAmb IAmb 04 58 35.4
comp=Z,14nm,0.9s
PV04 Paradox Valley 63.96 61 P P 04 58 33.5 -0.1
PV20 West Nyswonger 63.96 61 P P 04 58 34.1 +0.5
PV19 Morning Glory 63.97 61 P P 04 58 34.0 +0.3
GLA Glamis 64.31 69 P P 04 58 36.6 +0.8
GLA pmax pmax
comp=Z,15nm,0.8s
GLA Glamis 64.31 69 P P 04 58 36.6 +0.8
GLA IAmb IAmb 04 58 37.5
comp=Z,14nm,0.8s
GLA Glamis 64.31 69 P P 04 58 36.2 +0.4
baz=315
B35A Bob, Littlefor 64.39 44 P P 04 58 36.1 +0.1
B35A IAmb IAmb 04 58 36.7
comp=Z,8.5nm,0.8s
SMCO Snowmass 64.47 59 P P 04 58 37.3 +0.2
SMCO IAmb IAmb 04 58 39.2
comp=Z,12nm,0.8s
WUAZ Wupatki 64.59 65 P P 04 58 38.1 +0.4
WUAZ IAmb IAmb 04 58 40.4
comp=Z,13nm,1.2s
WUAZ Wupatki 64.59 65 P P 04 58 39.1 +1.4
baz=315,SNR=8.3
Y14A Wickenburg 64.76 67 P P 04 58 39.3 +0.6
ISCO Idaho Springs 64.76 58 P P 04 58 39.4 +0.4
ISCO pmax pmax
comp=Z,12nm,1.0s
ISCO Idaho Springs 64.76 58 P P 04 58 39.4 +0.4
ISCO IAmb IAmb 04 58 41.5
comp=Z,12nm,0.9s
ISCO Idaho Springs 64.76 58 P P 04 58 40.2 +1.2
baz=316,SNR=19
MVCO Mesa Verde 65.02 61 P P 04 58 40.8 +0.2
MVCO IAmb IAmb 04 58 42.8
comp=Z,12nm,0.8s
MVCO Mesa Verde 65.02 61 P P 04 58 41.5 +0.8
baz=316,SNR=11
F33A 5 Mile Ranch, 65.09 48 P P 04 58 41.1 +0.5
F33A IAmb IAmb 04 58 41.8
comp=Z,10nm,0.9s
X16A Lo Mia Camp, P 65.33 65 P P 04 58 43.1 +0.5
X16A IAmb IAmb 04 58 45.2
comp=Z,9.9nm,0.8s
COEN Coen 65.35 195 P P 04 58 42.7 +0.2
COEN IAmb IAmb 04 58 43.6
comp=Z,12nm,1.1s
NB2 NORSAR Subarra 65.37 342 P P 04 58 41.2 -1.0
comp=Z,0.7nm,0.5s,baz=24,slow=6.9
NOA NORSAR Array B 65.37 342 P P 04 58 41.3 -0.9
comp=Z,0.8nm,0.6s,baz=24,slow=6.5,SNR=7.6
NOA LR LR 05 33 10.0
comp=Z,26nm,18.5s,baz=15,slow=42
S22A 4UR Ranch, Cre 65.57 60 P P 04 58 45.3 +1.1
baz=316,SNR=15
Q24A Divide 65.61 58 P P 04 58 45.2 +0.7
baz=316
EYMN Ely 65.68 43 P P 04 58 44.3 -0.2
EYMN IAmb IAmb 04 58 45.2
comp=Z,13nm,0.7s
EYMN Ely 65.68 43 P P 04 58 44.2 -0.2
baz=320,SNR=7.1
W18A Petrified Fore 65.81 64 P P 04 58 46.5 +0.9
baz=316
OGNE Ogallala 65.83 55 P P 04 58 45.8 +0.2
baz=317
X18A Snowflake 66.11 64 P P 04 58 47.6 0.0
X18A IAmb IAmb 04 58 50.2
comp=Z,12nm,1.0s
214A Organ Pipe Nat 66.28 68 P P 04 58 49.0 +0.5
214A IAmb IAmb 04 58 50.8
comp=Z,21nm,1.3s
214A Organ Pipe Nat 66.28 68 P P 04 58 48.9 +0.4
baz=316
SDCO Great Sand Dun 66.30 59 P P 04 58 48.9 0.0
SDCO Great Sand Dun 66.30 59 P P 04 58 49.2 +0.3
baz=316,SNR=10
ECSD EROS Data Cent 66.50 49 P P 04 58 49.9 +0.2
ECSD IAmb IAmb 04 58 50.7
comp=Z,13nm,0.8s
ECSD EROS Data Cent 66.50 49 P P 04 58 49.3 -0.4
baz=318,SNR=12
GEYT Alibeck 66.72 302 P P 04 58 50.9 -0.4
comp=Z,31nm,0.9s,baz=12,slow=7.6,SNR=4.5
GEYT LR LR 05 30 42.2
comp=Z,58nm,20.5s,baz=5.0,slow=38
MNK Minsk 66.92 330 *i* P P 04 58 47.8 -4.4
MNK *i* *PP *pP* 04 59 08.5 -2.1
MNK *i* 04 59 16.3
MNK *i* *SP *sP* 04 59 17.6 -0.7
MNK *i* S S 05 07 33.2 -6.3
MNK *i* *SS *sS* 05 08 09.1 -1.3
MNK *i* 05 08 46.9
MNK *i* SSS SSS 05 15 04.8
MNK pmax pmax
comp=N,26nm,1.0s
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK pmax pmax
comp=Z,5.0nm,0.6s
MNK MLR MLR
comp=N,95nm,26.0s
MNK MLR MLR
comp=E,12nm,22.0s
MNK MLR MLR
comp=Z,287nm,24.0s
MNK Minsk 66.92 330 *i* P P 04 58 47.9 -4.3
comp=E,3.0nm,1.0s
MNK *i* P P 04 58 47.9 -4.3
comp=N,26nm,1.0s
MNK *i* P P 04 58 47.9 -4.3
comp=Z,5.0nm,0.6s,baz=33
MNK *i* pP *pP* 04 59 08.6 -2.0
MNK *i* PcP *sP* 04 59 16.4 -1.9
MNK *i* sP *PcP* 04 59 17.7 -2.6
MNK *i* PP *PP* 05 01 15.2 -4.5
MNK *i* PPP PPP 05 02 51.5
MNK *i* S S 05 07 33.3 -6.2
MNK *i* sS *sS* 05 08 09.2 -1.2
MNK *i* SS SS 05 12 11.4 +14
MNK *i* SSS SSS 05 15 04.8
MNK *i* LQ LQ 05 24 06.4
MNK *i* LR LR 05 28 25.9
MNK *i* LRM MLR 05 30 35.1
comp=N,95nm,26.1s
MNK *i* LRM MLR 05 30 54.5
comp=E,12nm,22.4s
MNK *i* LRM MLR 05 30 57.4
comp=Z,287nm,23.9s
KSCO Kaye Shedlock' 66.93 56 P P 04 58 52.8 +0.1
baz=317
SPMN Marine on St. 67.17 46 P P 04 58 54.4 +0.5
SPMN IAmb IAmb 04 58 54.8
comp=Z,8.5nm,0.8s
SPMN Marine on St. 67.17 46 P P 04 58 54.4 +0.5
baz=320
TUC Tucson 67.22 67 P P 04 58 54.6 0.0
TUC pmax pmax
comp=Z,6.0nm,1.0s
TUC Tucson 67.22 67 P P 04 58 54.6 0.0
TUC Tucson 67.22 67 P P 04 58 55.1 +0.5
baz=316
T25A Trinidad 67.33 59 P P 04 58 55.2 -0.2
T25A IAmb IAmb 04 58 57.4
comp=Z,11nm,1.0s
T25A Trinidad 67.33 59 P P 04 58 55.5 +0.2
baz=317,SNR=8.4
BGNE Belgrade 67.47 52 P P 04 58 55.5 -0.4
baz=318
ANMO Albuquerque 67.80 62 LR LR 05 28 23.4
comp=Z,26nm,18.4s,baz=288,slow=36
ANMO Albuquerque 67.80 62 P P 04 58 58.2 -0.1
ANMO pmax pmax
comp=Z,6.0nm,0.9s
ANMO Albuquerque 67.80 62 P P 04 58 58.2 -0.1
ANMO Albuquerque 67.80 62 P P 04 58 58.9 +0.6
baz=317
I37A Lemond, Waseca 67.81 47 P P 04 58 58.2 +0.2
L34A Svendsen Farm, 67.94 50 P P 04 58 58.1 -0.7
CBKS Cedar Bluff 68.59 55 P P 04 59 02.6 -0.4
CBKS pmax pmax
comp=Z,12nm,0.8s
CBKS Cedar Bluff 68.59 55 P P 04 59 02.6 -0.4
CBKS IAmb IAmb 04 59 03.2
comp=Z,12nm,0.8s
CBKS Cedar Bluff 68.59 55 P P 04 59 02.7 -0.4
baz=318
319A Douglas 68.78 66 P P 04 59 04.5 +0.1
319A IAmb IAmb 04 59 06.7
comp=Z,17nm,0.9s
121A Cookes Peak, D 68.80 64 P P 04 59 04.0 -0.6
121A IAmb IAmb 04 59 07.4
comp=Z,15nm,1.4s
121A Cookes Peak, D 68.80 64 P P 04 59 05.3 +0.7
baz=317
SCHQ Schefferville 68.82 25 P P 04 59 03.5 -0.6
comp=Z,4.2nm,0.6s,baz=36,slow=13,SNR=7.7
SCHQ pP *pP* 04 59 21.2 -1.3
comp=Z,4.1nm,0.7s,baz=319,slow=6.3,SNR=3.0
N35A Tabor 69.13 51 P P 04 59 06.5 +0.2
I40A Norwalk 69.19 46 P P 04 59 06.3 -0.3
SCIA State Center 69.51 48 P P 04 59 09.1 +0.5
SCIA State Center 69.51 48 P P 04 59 08.8 +0.2
baz=320,SNR=5.6
AKASG Malin Array Be 69.69 328 P P 04 59 07.6 -1.9
comp=Z,1.7nm,0.4s,baz=32,slow=6.5,SNR=10
AKASG LR LR 05 31 26.1
comp=Z,76nm,21.0s,baz=280,slow=37
AKBB Malin Array Si 69.69 328 ‖ *e*P P 04 59 09.2 -0.3

AKBB pmax pmax
comp=Z,5.0nm,1.1s
KIV Kislovodsk 69.85 315 *eP* **P 04 59 09.7 -1.1**
KIV *e* 04 59 32.9
KIV *e* 05 01 42.8
KIV pmax pmax
comp=Z,9.0nm,1.2s
KBZ Khabaz 69.93 315 P **P 04 59 10.2 -1.0**
comp=Z,2.5nm,0.7s,baz=181,slow=1.7,SNR=5.1
KBZ Khabaz 69.93 315 *eP* **P 04 59 11.3 +0.2**
KBZ pmax pmax
comp=Z,3.0nm,0.6s
I42A Draeger Farm, 69.96 45 P **P 04 59 10.7 -0.7**
I42A IAmb IAmb 04 59 11.9
comp=Z,11nm,0.9s
KSU1 Kansas State U 69.98 53 P **P 04 59 10.5 -1.0**
baz=320
JFWS Jewell Farm 70.12 46 P **P 04 59 11.7 -0.7**
baz=322
AMTX Amarillo 70.49 59 P **P 04 59 15.1 +0.2**
AMTX IAmb IAmb 04 59 16.5
comp=Z,12nm,1.1s
AMTX Amarillo 70.49 59 P **P 04 59 14.9 +0.1**
baz=319
MSTX Muleshoe 70.57 60 P **P 04 59 15.7 +0.4**
MSTX IAmb IAmb 04 59 17.0
comp=Z,18nm,1.1s
MSTX Muleshoe 70.57 60 P **P 04 59 15.4 0.0**
baz=318,SNR=8.7
MNTX Cornudas Mount 70.79 63 P **P 04 59 16.7 +0.1**
MNTX Cornudas Mount 70.79 63 P **P 04 59 17.7 +1.0**
baz=318,SNR=13
GLMI Grayling 71.08 41 P **P 04 59 17.9 -0.3**
baz=324
P38A Dawn 71.12 50 P **P 04 59 18.0 -0.4**
P38A IAmb IAmb 04 59 19.2
comp=Z,11nm,0.8s
N41A Harden Midland 71.56 48 P **P 04 59 21.1 0.0**
L44A Lake County Fo 71.76 45 P **P 04 59 22.3 0.0**
baz=323
P40A Paris 71.91 49 P **P 04 59 23.5 +0.3**
P40A IAmb IAmb 04 59 24.2
comp=Z,18nm,1.3s
WMOK Wichita Mounta 72.16 57 P **P 04 59 23.9 -0.9**
WMOK Wichita Mounta 72.16 57 P **P 04 59 24.7 -0.2**
baz=320,SNR=11
J47A Sunmer 72.28 42 P **P 04 59 25.8 +0.4**
J47A IAmb IAmb 04 59 26.4
comp=Z,22nm,0.9s
S39A Bolivar 72.72 51 P **P 04 59 27.5 -0.6**
S39A IAmb IAmb 04 59 28.0
comp=Z,14nm,1.3s
R40A Maddies Statio 72.77 50 P **P 04 59 28.1 -0.2**
R40A IAmb IAmb 04 59 28.9
comp=Z,12nm,0.9s
X34A Smith Ranch, M 72.77 56 P **P 04 59 28.1 -0.3**
X34A IAmb IAmb 04 59 30.9
comp=Z,14nm,1.0s
TUL1 Leonard 72.84 54 P **P 04 59 28.6 -0.2**
baz=321
WRAB Tennant Creek 72.94 202 *iP* **P 04 59 28.2 -1.2**
WRAB pmax pmax
comp=Z,19nm,2.5s
WRA Warramunga Arr 72.95 202 P **P 04 59 29.0 -0.5**
comp=Z,5.7nm,0.6s,baz=17,slow=6.2,SNR=93
WRA pP **pP 04 59 48.0 0.0**
comp=Z,4.6nm,0.7s,baz=17,slow=6.3,SNR=7.4
ABTX Abilene, Hawle 73.30 59 P **P 04 59 31.9 +0.3**
ABTX IAmb IAmb 04 59 33.2
comp=Z,10nm,0.9s
ABTX Abilene, Hawle 73.30 59 P **P 04 59 31.1 -0.6**
baz=320
CCM Cathedral Cave 73.46 50 P **P 04 59 31.7 -0.7**
CCM pmax pmax
comp=Z,9.0nm,1.0s
CCM Cathedral Cave 73.46 50 P **P 04 59 31.7 -0.7**
CCM Cathedral Cave 73.46 50 P **P 04 59 31.8 -0.6**
baz=322
L48A N Adams 73.50 43 P **P 04 59 33.0 +0.4**
L48A IAmb IAmb 04 59 33.4
comp=Z,16nm,0.9s
HHAR Hobbs 73.50 53 P **P 04 59 32.6 -0.1**
HHAR IAmb IAmb 04 59 32.8
comp=Z,8.8nm,0.6s
TX31 Lajitas Ar. Si 73.54 64 P **P 04 59 33.2 +0.1**
TX32 Lajitas Array 73.54 64 P **P 04 59 33.4 +0.3**
TX32 IAmb IAmb 04 59 35.1
comp=Z,14nm,0.8s
TXAR Lajitas Array 73.54 64 P **P 04 59 34.0 +0.9**
comp=Z,15nm,0.7s,baz=298,slow=4.6,SNR=186
TXAR pP **pP 04 59 52.3 +0.5**
comp=Z,4.6nm,0.7s,baz=299,slow=4.4,SNR=7.6
TXAR Lajitas Array 73.54 64 P **P 04 59 33.1 -0.1**
AAM Ann Arbor 73.54 42 P **P 04 59 32.8 0.0**
baz=325
SFIN Lafayette 73.57 46 P **P 04 59 31.9 -1.1**
baz=324
MGMO Mountain Grove 73.66 51 P **P 04 59 33.2 -0.4**
BUR08 Bucovina Ar. S 73.67 328 P **P 04 59 33.9 +0.2**
CLL Collm 73.94 337 *eP* **P 04 59 35.0 0.0**
CLL LmV 05 33 00.0
comp=Z,100nm,19.8s
CLL Collm 73.94 337 *eP* **P 04 59 35.0 0.0**
U40A Yellville 73.99 52 P **P 04 59 35.3 -0.3**
U40A IAmb IAmb 04 59 36.0
comp=Z,20nm,0.9s
U40A Yellville 73.99 52 P **P 04 59 35.1 -0.5**
baz=322,SNR=16
X37A Clayton 74.08 55 P **P 04 59 36.0 -0.1**
X37A IAmb IAmb 05 00 05.1
comp=Z,13nm,0.8s
HPIG 74.18 67 P **P 04 59 36.3 -0.7**
HPIG IAmb IAmb 04 59 38.8
comp=Z,8.9nm,0.7s
T42A Van Buren 74.34 50 P **P 04 59 36.9 -0.7**
W39A Magazine 74.42 53 P **P 04 59 37.9 -0.2**
baz=322
SIUC Southern Illin 74.70 49 P **P 04 59 39.6 -0.1**
SIUC IAmb IAmb 04 59 40.5
comp=Z,11nm,0.7s
FCAR Ozark Folk Cen 74.72 52 P **P 04 59 39.1 -0.7**
FCAR IAmb IAmb 04 59 40.1
comp=Z,12nm,0.9s
JCT Junction City 74.85 60 P **P 04 59 40.8 +0.1**
JCT pmax pmax
comp=Z,14nm,1.0s
JCT Junction City 74.85 60 P **P 04 59 40.8 +0.1**
JCT IAmb IAmb 04 59 42.0
comp=Z,14nm,1.0s
JCT Junction City 74.85 60 P **P 04 59 41.0 +0.3**
baz=320,SNR=6.4
PBMO Poplar Bluff 74.86 50 P **P 04 59 40.7 +0.1**
WHTX Lake Whitney, 74.97 58 P **P 04 59 41.1 -0.2**
baz=321
D62A Allapoint, All 75.00 31 P **P 04 59 40.6 -0.6**
baz=332
MIAR Mount Ida 75.04 54 P **P 04 59 42.0 +0.3**
MIAR pmax pmax
comp=Z,10.0nm,1.0s
MIAR Mount Ida 75.04 54 P **P 04 59 42.0 +0.3**
MIAR IAmb IAmb 04 59 42.8
comp=Z,10nm,0.9s
MIAR Mount Ida 75.04 54 P **P 04 59 41.7 +0.1**
baz=322,SNR=10.0
P48A Milroy 75.07 45 P **P 04 59 41.7 0.0**
P48A IAmb IAmb 04 59 42.1
comp=Z,11nm,0.7s
WHAR Wooly Hollow 75.11 52 P **P 04 59 41.6 -0.5**
WHAR IAmb IAmb 04 59 42.8
comp=Z,15nm,1.3s
J55A Hilton 75.14 38 P **P 04 59 42.0 -0.1**
J55A IAmb IAmb 04 59 42.4
comp=Z,12nm,0.8s
M52A Chesterland 75.14 41 P **P 04 59 42.4 +0.3**
LONY Lake Ozonia 75.22 35 P **P 04 59 41.9 -0.7**
baz=329
N51A Ashland 75.22 42 P **P 04 59 41.8 -0.8**
W41B Gary Mavity, V 75.22 52 P **P 04 59 42.3 -0.4**
baz=322,SNR=7.9
ERPA Erie 75.23 40 P **P 04 59 43.0 +0.4**
ERPA IAmb IAmb 04 59 43.3
comp=Z,17nm,0.9s
ERPA Erie 75.23 40 P **P 04 59 42.4 -0.3**
baz=327
E62A Clayton Lake 75.25 31 P **P 04 59 43.0 +0.3**
E62A IAmb IAmb 04 59 43.9
comp=Z,14nm,1.1s
E62A Clayton Lake 75.25 31 P **P 04 59 42.2 -0.5**
baz=332
PARMO Parma 75.28 50 P **P 04 59 43.4 +0.4**
MLR Muntele Rosu 75.29 327 P **P 04 59 43.4 +0.3**
MLR pmax pmax
comp=Z,3.0nm,0.6s
MLR Muntele Rosu 75.29 327 P **P 04 59 43.4 +0.3**
P49A Miami Univ. Ec 75.33 45 P **P 04 59 43.1 -0.1**
P49A Miami Univ. Ec 75.33 45 P **P 04 59 42.7 -0.5**
baz=325
D63A Stockholm 75.34 30 P **P 04 59 42.1 -1.1**
baz=332
MOQ Mont Orford 75.46 33 P **P 04 59 44.2 +0.2**
X40A Basin Creek Fa 75.46 53 P **P 04 59 43.6 -0.5**
baz=322
M53A WI Miller and 75.51 41 P **P 04 59 43.6 -0.7**
M53A IAmb IAmb 04 59 45.1
comp=Z,18nm,0.8s
M53A WI Miller and 75.51 41 P **P 04 59 44.1 -0.1**
baz=326,SNR=6.4
ACSO Alum Creek Sta 75.52 43 P **P 04 59 43.8 -0.6**
baz=325
MMNY Mt. Morris Dam 75.56 38 P **P 04 59 43.6 -0.9**
WCI Wyandotte Cave 75.67 46 P **P 04 59 45.4 +0.2**
WCI pmax pmax
comp=Z,17nm,0.8s
WCI Wyandotte Cave 75.67 46 P **P 04 59 45.4 +0.2**
WCI IAmb IAmb 04 59 46.2
comp=Z,17nm,0.8s
WCI Wyandotte Cave 75.67 46 P **P 04 59 44.7 -0.5**
baz=324
F62A Pittston Farm, 75.74 32 P **P 04 59 44.7 -0.8**
baz=332
EIDS Eidsvold 75.77 185 P **P 04 59 46.1 +0.5**
KHC Kasperske Hory 75.81 336 *eP* **P 04 59 48.8 +3.0**
KHC *e* 05 00 10.4
KHC Kasperske Hory 75.81 336 *eP* **P 04 59 48.8 +3.0**
KHC *epP* **sP 05 00 10.4 -1.8**
M54A Oil Creek Stat 75.87 40 P **P 04 59 45.7 -0.6**
baz=327
WLAR White Oak Lake 75.95 54 P **P 04 59 47.4 +0.5**
WLAR IAmb IAmb 04 59 48.1
comp=Z,13nm,0.8s
E64A Bridgewater 75.98 30 P **P 04 59 46.0 -0.8**
baz=333
GERES GERESS Array B 76.03 336 P **P 04 59 45.9 -1.3**
comp=Z,0.4nm,0.4s,baz=33,slow=5.1,SNR=4.2
GERES LR LR 05 37 53.1
comp=Z,24nm,18.5s,baz=26,slow=39
J58A Remsen 76.04 36 P **P 04 59 46.9 -0.4**
J58A IAmb IAmb 04 59 47.0
comp=Z,9.1nm,0.8s
P51A Williamsport 76.11 44 P **P 04 59 47.5 -0.2**
G62A West of Eustis 76.14 32 P **P 04 59 47.1 -0.7**
baz=331
F63A Nahmakanta, Br 76.19 31 P **P 04 59 47.4 -0.7**
baz=332
N54A Moraine State 76.19 41 P **P 04 59 48.1 0.0**
N54A IAmb IAmb 04 59 49.0
comp=Z,13nm,0.9s
N54A Moraine State 76.19 41 P **P 04 59 47.6 -0.6**
baz=327
L56A Greenwood 76.20 39 P **P 04 59 48.0 -0.2**
J59A Piesco 76.24 36 P **P 04 59 48.0 -0.4**
J59A IAmb IAmb 04 59 48.5
comp=Z,9.9nm,0.8s
O53A New Philadelph 76.27 42 P **P 04 59 48.0 -0.6**
baz=326
M55A Ridgway 76.28 40 P **P 04 59 48.4 -0.2**
M55A IAmb IAmb 04 59 49.4
comp=Z,18nm,0.9s
T47A Sharon Grove 76.29 48 P **P 04 59 49.0 +0.2**
T47A IAmb IAmb 04 59 50.0
comp=Z,12nm,0.8s
F64A Sherman 76.30 31 P **P 04 59 48.2 -0.5**
baz=332
Q51A Peebles 76.36 44 P **P 04 59 49.0 -0.1**
Q51A IAmb IAmb 04 59 49.9
comp=Z,13nm,0.8s
I60A Shoreham 76.36 35 P **P 04 59 48.4 -0.6**
baz=330
LBNH Lisbon 76.51 34 P **P 04 59 49.5 -0.3**
baz=331
PKME Peaks-Kenny Pk 76.52 32 P **P 04 59 49.1 -0.8**
baz=332
AS31 Alice Springs 76.64 202 P **P 04 59 50.7 0.0**
ASAR Alice Springs 76.64 202 P **P 04 59 51.1 +0.4**
comp=Z,6.3nm,0.6s,baz=14,slow=5.4,SNR=70
ASAR pP **pP 05 00 09.8 +0.4**
comp=Z,3.9nm,0.6s,baz=15,slow=5.4,SNR=7.2
ASAR Alice Springs 76.64 202 P **P 04 59 50.8 +0.1**
WVT Waverly 76.64 49 P **P 04 59 50.6 -0.1**
baz=324
G64A Maxfield 76.71 31 P **P 04 59 50.8 -0.1**
baz=332
BINY Binghamton 76.76 37 P **P 04 59 50.5 -0.9**
baz=329
J61A Chester 77.06 35 P **P 04 59 52.2 -0.8**
baz=330
H64A Troy 77.09 32 P **P 04 59 53.1 0.0**
baz=332
G65A Princeton 77.14 30 P **P 04 59 53.2 -0.2**
baz=333
I63A Otisfield 77.15 33 P **P 04 59 53.5 0.0**
baz=331
BRTR Keskin Array B 77.22 319 P **P 04 59 53.5 -0.6**
comp=Z,0.9nm,0.5s,baz=63,slow=3.8,SNR=5.1
U49A Red Boiling Sp 77.30 47 P **P 04 59 54.4 0.0**
U49A IAmb IAmb 04 59 55.4
comp=Z,8.2nm,0.6s
T50A Nancy 77.32 46 P **P 04 59 54.3 -0.3**
T50A IAmb IAmb 04 59 55.5
comp=Z,11nm,0.7s
SSPA Standing Stone 77.33 40 P **P 04 59 53.5 -1.1**
baz=328
O56A Blue Knob Stat 77.36 40 P **P 04 59 54.9 0.0**
O56A Blue Knob Stat 77.36 40 P **P 04 59 54.2 -0.7**
baz=328
H65A Eastbrook 77.37 31 P **P 04 59 53.7 -1.0**
baz=333
CLTN Cedars of Leba 77.38 48 P **P 04 59 54.8 -0.1**
CLTN IAmb IAmb 04 59 56.0
comp=Z,10nm,0.8s
K61A Williamstown 77.39 35 P **P 04 59 54.1 -0.8**
baz=330
J62A Henniker 77.43 34 P **P 04 59 54.6 -0.4**
baz=331
V48A Smith Brothers 77.43 48 P **P 04 59 55.0 -0.2**
PLAL Pickwick Lake 77.44 50 P **P 04 59 55.0 -0.3**
I64A Boothbay 77.59 32 P **P 04 59 55.4 -0.5**
baz=332
H66A Whiting 77.59 31 P **P 04 59 55.4 -0.6**
baz=333
J63A Strafford 77.65 34 P **P 04 59 55.6 -0.6**
baz=331
SOKA Soboth 77.67 334 *eP* **P 04 59 56.4 0.0**
comp=Z,3.0nm,0.6s
KBA Koelnbreinsper 77.76 335 *eP* **P 04 59 57.3 +0.2**
comp=Z,2.3nm,0.6s
KBA Koelnbreinsper 77.76 335 P **P 04 59 57.5 +0.5**
KBA pmax pmax
comp=Z,6.0nm,0.9s
L61B Northampton 77.79 35 P **P 04 59 56.2 -0.9**
baz=330
N59A State Game Lan 77.94 38 P **P 04 59 57.2 -0.8**
baz=329
CDF Champ du Feu 77.98 340 *eP* **P 04 59 57.6 -0.6**
CDF pmax pmax
comp=Z,11nm,1.3s
K63A Dunstable 78.00 34 P **P 04 59 57.5 -0.7**
baz=331
WTTA Wattenberg 78.03 337 *eP* **P 05 00 01.4 +2.9**
comp=Z,3.0nm,0.5s
WTTA Wattenberg 78.03 337 P **P 05 00 02.1 +3.5**
WTTA pmax pmax
comp=Z,7.0nm,1.0s
HRV Adam Dziewonsk 78.15 34 P **P 04 59 58.7 -0.4**
baz=331
SWET Sewanee 78.28 48 P **P 04 59 59.8 -0.2**
SWET IAmb IAmb 05 00 00.1
comp=Z,12nm,0.6s
TZTN Tazewell 78.30 46 P **P 04 59 59.4 -0.6**
baz=326
R55A Marlinton 78.38 42 P **P 05 00 00.5 0.0**
DIVS Divibare 78.52 330 P **P 05 00 00.1 -1.0**
V51A Loudon 78.54 47 P **P 05 00 01.5 +0.1**
V51A IAmb IAmb 05 00 02.2
comp=Z,17nm,1.2s
PAL Palisades 78.58 37 P **P 05 00 00.9 -0.6**
baz=330
CPCT Cooper Cave 78.75 47 P **P 05 00 02.5 0.0**
146A Union 78.84 52 P **P 05 00 03.2 +0.1**
Z47A Carrollton 78.88 51 P **P 05 00 02.8 -0.4**
Z47A IAmb IAmb 05 00 04.1
comp=Z,16nm,0.8s
L64A Middleborough 78.91 34 P **P 05 00 02.9 -0.3**
baz=331
FPAL Fort Paine 78.98 48 P **P 05 00 03.0 -0.8**
FPAL IAmb IAmb 05 00 04.5
comp=Z,8.7nm,0.7s
U54A Nelsons Funny 79.10 44 P **P 05 00 04.6 +0.1**
M64A Tiverton 79.11 35 P **P 05 00 04.4 +0.1**
baz=331
BLA Blacksburg 79.14 43 P **P 05 00 04.9 +0.2**
baz=327
ZAIG Zacatecas 79.17 67 P **P 05 00 05.0 -0.4**
TUE Stuetta 79.33 338 P **P 05 00 05.8 0.0**
LRAL Lakeview Retre 79.54 50 P **P 05 00 06.1 -0.8**
LRAL Lakeview Retre 79.54 50 P **P 05 00 06.1 -0.8**
baz=325,SNR=5.0
GRR Gorron 79.57 345 *eP* **P 05 00 06.5 -0.2**
GRR pmax pmax
comp=Z,23nm,1.2s
BG3 Lake Jocassee 79.86 46 P **P 05 00 08.9 +0.3**
SGMF Saint Gilles 79.97 346 *eP* **P 05 00 08.3 -0.6**
SGMF pmax pmax
comp=Z,14nm,0.9s
PDG Podgorica 80.25 330 P **P 05 00 09.0 -1.5**
SMF Signal de Mont 80.39 341 *eP* **P 05 00 11.9 +0.7**
SMF pmax pmax
comp=Z,11nm,0.9s
QUIF Quistinic 80.39 346 *eP* **P 05 00 14.6 +3.4**
QUIF pmax pmax
comp=Z,99nm,1.8s
KMSC Kings Mountain 80.47 45 P **P 05 00 11.5 -0.3**
baz=327
LPL La Plagne 80.84 339 *eP* **P 05 00 14.2 +0.3**
LPL pmax pmax
comp=Z,5.0nm,0.8s
LPG La Plagne 80.86 339 *eP* **P 05 00 15.0 +0.9**
LPG pmax pmax
comp=Z,4.0nm,0.5s
GOGA Godfrey 80.92 47 P **P 05 00 13.5 -0.8**
baz=326
TCF Toulx Ste Croi 81.06 342 *eP* **P 05 00 15.1 +0.3**
TCF pmax pmax
comp=Z,6.0nm,0.9s
MBDF Montbardon 81.58 339 *eP* **P 05 00 18.3 +0.5**
MBDF pmax pmax
comp=Z,4.0nm,0.7s
ORIF Oris-en-Rattie 81.60 340 *eP* **P 05 00 18.5 +0.7**
ORIF pmax pmax
comp=Z,12nm,1.1s
VIVF Saint-Julien-l 81.93 340 *eP* **P 05 00 19.4 0.0**
VIVF pmax pmax
comp=Z,20nm,1.5s
RJF Les Rejaudoux 82.13 343 *eP* **P 05 00 22.5 +2.0**
RJF pmax pmax
comp=Z,14nm,1.2s
SBF Sospel 82.25 338 *eP* **P 05 00 20.7 -0.5**
SBF pmax pmax
comp=Z,11nm,1.0s
CAF Calviac 82.39 342 *eP* **P 05 00 21.9 0.0**
CAF pmax pmax
comp=Z,22nm,1.6s
TIGA Tifton 82.50 49 P **P 05 00 22.5 0.0**
TIGA Tifton 82.50 49 P **P 05 00 22.4 -0.2**
baz=326
NHSC New Hope 82.69 45 P **P 05 00 23.1 -0.5**
baz=328
LMR La Mourre 82.96 339 *eP* **P 05 00 24.3 -0.5**
LMR pmax pmax
comp=Z,29nm,1.6s
STKA Stephens Creek 83.18 193 P **P 05 00 25.8 0.0**
comp=Z,4.6nm,0.8s,baz=8.3,slow=1.9,SNR=6.2
TIP Timpagrande 84.00 330 P **P 05 00 29.8 -0.5**
EPF Esparros 84.55 343 *eP* **P 05 00 32.2 -0.8**
EPF pmax pmax
comp=Z,3.0nm,0.6s
SJPF Ste Jean 84.75 344 *eP* **P 05 00 34.2 +0.2**
SJPF pmax pmax
comp=Z,6.0nm,0.8s
ETSF Etsaut 84.84 344 *eP* **P 05 00 34.3 -0.2**
ETSF pmax pmax
comp=Z,16nm,1.3s
ESDC Sonseca Array 88.56 345 P **P 05 00 51.4 -1.3**
comp=Z,2.2nm,0.7s,baz=358,slow=4.4,SNR=12
ESDC pP **pP 05 01 10.1 -1.7**
comp=Z,6.0nm,0.9s,baz=3.3,slow=4.1,SNR=14
ESDC LR LR 05 47 32.0
comp=Z,22nm,19.3s,baz=295,slow=40
ESDC Sonseca Array 88.56 345 P **P 05 00 51.6 -1.0**
ESDC IAmb IAmb 05 01 11.0
comp=Z,6.3nm,0.9s
KEST Kesra 89.41 334 P **P 05 00 55.4 -1.3**
comp=Z,2.8nm,0.5s,baz=282,slow=1.8,SNR=6.8
KEST LR LR 05 47 22.1
comp=Z,69nm,18.3s,baz=263,slow=40
TORD Torodi Ar. Bea 112.92 334 PKKPab PKKPab 05 17 30.6 -3.8
comp=Z,1.2nm,0.9s,baz=219,slow=3.5,SNR=6.2
DBIC Dimbokro 120.83 339 PKP **PKPdf 05 06 51.4 -0.7**
comp=Z,1.2nm,0.5s,baz=34,slow=5.4,SNR=1.7
DBIC pPKP **pPKPdf 05 07 10.4 -1.5**
comp=Z,2.7nm,0.6s,baz=351,slow=3.4,SNR=2.8
VNDA Vanda 127.85 179 PKP **PKPdf 05 07 02.7 -0.8**
comp=Z,0.7nm,0.6s,baz=256,slow=4.2,SNR=2.3
LPAZ La Paz 130.40 63 PKP **PKPdf 05 07 10.8 -0.1**
comp=Z,1.4nm,0.6s,baz=348,slow=3.1,SNR=8.9
MAW Mawson 136.74 214 PKP **PKPdf 05 07 19.5 -0.9**
comp=Z,1.3nm,0.5s,baz=2.8,slow=8.7,SNR=2.6
CPUP Villa Florida 144.44 60 PKP PKPbc 05 07 34.5 +0.2
comp=Z,10.0nm,0.8s,baz=312,slow=3.7,SNR=19
PLCA Paso Flores 145.99 92 PKPbc **PKPdf 05 07 38.3 +0.3**
comp=Z,9.6nm,0.7s,baz=285,slow=3.9,SNR=24
PLCA pPKPbc **pPKPdf 05 07 58.3 +0.3**
comp=Z,9.3nm,0.9s,baz=344,slow=3.0,SNR=5.6
SNAA Sanae 156.91 196 PKPab **PKPab 05 08 23.6 -0.4**
VNA2 Neumayer--Watz 158.31 194 PKPab **PKPab 05 08 29.2 -0.7**
baz=146,slow=2.4
VNA3 Neumayer Olymp 158.35 192 PKPab **PKPab 05 08 29.3 -0.8**
VNA1 Neumayer--Stat 158.69 194 PKPab **PKPab 05 08 31.8 +0.3**

IDC ***01*** *04:52:13.8±20.0, 25°.56S×177°.64W, h251km±181km, mb3.3/4, mb1 3.6/4, mb1mx3.2/25, mbtmp3.9/4, Error ellipse: s-maj=59.9km s-min=30.1km az=93.0*
ISC 01 04:52:03.9±1.0, 25°.6S±0°.2×177°.5W±0°.3, h160km, n8, σ0s66/8, mb3.7/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.58**	**267**	P	**P**	**05 00 00.4**	**+0.1**
	0.7nm,0.5s,baz=102,slow=8.4,SNR=5.3						
MAW	**Mawson**	**76.94**	**200**	P	**P**	**05 03 38.1**	**-0.1**
	1.0nm,0.4s,baz=119,slow=4.7,SNR=7.3						
PETK	**Petropavlovsk-**	**81.31**	**345**	P	**P**	**05 04 01.2**	**-0.7**
	1.9nm,0.7s,baz=124,slow=5.7,SNR=3.7						
NVAR	**Mina Array Bea**	**84.43**	**43**	P	**P**	**05 04 18.8**	**+0.1**
	0.3nm,0.6s,baz=226,slow=8.7,SNR=2.9						
NB2	**NORSAR Subarra**	**144.09**	**353**	PKP	**PKPab**	**05 11 18.2**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=12,slow=3.4						
NOA	**NORSAR Array B**	**144.09**	**353**	PKP	**PKPab**	**05 11 18.2**	**+0.3**
	comp=Z,1.6nm,0.9s,baz=9.9,slow=2.3,SNR=4.4						
AKASG	**Malin Array Be**	**147.63**	**328**	PKPbc	**PKPdf**	**05 11 27.3**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=46,slow=3.2,SNR=2.1						
TORD	**Torodi Ar. Bea**	**167.58**	**176**	PKPab	**PKPab**	**05 12 57.7**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=192,slow=2.7,SNR=2.8						

SNET ***01*** *05:09:24.1±1.0, 12°.38N×89°.38W, h17km±6km, ML3.8*
UCR ***01*** *05:09:25.2±2.0, 12°.53N×89°.33W, h0km±8km, ML3.6, mb4.4(NEIC)*
IDC ***01*** *05:09:28.9±2.8, 12°.54N×89°.22W, h47km±26km, mb3.6/6, mb1 4.0/8, mb1mx3.6/38, mbtmp3.8/8, ML3.5/2, MS3.4/6, Ms1 3.4/6, ms1mx3.0/29, Error ellipse: s-maj=60.3km s-min=22.1km az=35.0*
NEIC ***01*** *05:09:29.8±2.4, 12°.59N±0°.08×89°.27W±0°.08, h42km±9km, mb4.4/82, Error ellipse: s-maj=14.0km s-min=8.2km az=224.0*

ISC 01 05:09:29.8±1.1**,12°.55N**±0°.06×**89°.30W**±0°.06**,h51**km±12km**,**
n142,σ**1.68**/137**,mb4.4**/38**,MS3.3**/6**,Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	Alcalda de J	1.05	43	eP	Pn	05 09 46.2	-2.0
ALJI				eS	Sn	05 10 02.3	+0.4
ALJI	Alcalda de J	1.05	43	eP	Pn	05 09 46.2	-2.0
ALJI				eS	Sn	05 10 02.3	+0.4
LFRS	El Faro	1.09	12	eP	Pn	05 09 46.9	-2.0
LFRS	El Faro	1.09	12	eP	Pn	05 09 46.9	-2.0
SJTE	Alcalda de S	1.09	15	eP	Pn	05 09 46.9	-2.0
SJTE				eS	Sn	05 10 04.1	+1.0
SJTE	Alcalda de S	1.09	15	eP	Pn	05 09 46.9	-2.0
SJTE				eS	Sn	05 10 04.1	+1.0
TECO	Alcaldia de Te	1.10	27	eP	Pn	05 09 46.9	-2.1
TECO				eS	Sn	05 10 04.7	+1.5
SNET	Serv Nac Est T	1.13	4		Pn	05 09 47.2	-2.1
COEG	Centro de Oper	1.14	21	eP	Pn	05 09 47.6	-1.9
COEG				eS	Sn	05 10 06.3	+2.2
COEG	Centro de Oper	1.14	21	eP	Pn	05 09 47.6	-1.9
COEG				eS	Sn	05 10 06.3	+2.2
UEES	Universidad Ev	1.16	3	eP	Pn	05 09 47.9	-1.9
UEES				IAML		05 10 17.7	
	comp=Z,1μm,0.3s						
UEES	Universidad Ev	1.16	3	eP	Pn	05 09 47.9	-1.9
UEES				IAML		05 10 17.7	
	comp=Z,1μm,0.3s						
BOQS	Boqueron	1.18	1	eP	Pn	05 09 48.3	-1.9
BOQS	Boqueron	1.18	1	eP	Pn	05 09 48.3	-1.9
LFU	La Fuente	1.20	9	eP	Pn	05 09 47.9	-2.5
LFU	La Fuente	1.20	9	eP	Pn	05 09 47.9	-2.5
PAVA	Las Pavas	1.21	17	eP	Pn	05 09 48.9	-1.6
PAVA				eS	Sn	05 10 09.2	+3.4
PAVA				IAML		05 10 14.2	
	comp=Z,2μm,0.4s						
PAVA	Las Pavas	1.21	17	eP	Pn	05 09 48.9	-1.6
PAVA				eS	Sn	05 10 09.2	+3.4
PAVA				IAML		05 10 14.2	
	comp=Z,2μm,0.4s						
TECA	Tecapa	1.22	40	eP	Pn	05 09 48.8	-1.9
TECA	Tecapa	1.22	40	eP	Pn	05 09 48.8	-1.9
PQSS	Presa 15 de Se	1.29	34	eP	Pn	05 09 49.9	-1.6
SBLS	San Blas	1.32	346	eP	Pn	05 09 50.3	-1.8
SBLS	San Blas	1.32	346	eP	Pn	05 09 50.3	-1.8
SNJE	San Jose	1.34	347	eP	Pn	05 09 50.6	-1.7
SNJE	San Jose	1.34	347	eP	Pn	05 09 50.6	-1.7
RTR	El Retiro	1.38	346	eP	Pn	05 09 51.1	-1.7
RTR	El Retiro	1.38	346	eP	Pn	05 09 51.1	-1.7
SLOZ	Alcaldia de Sa	1.54	342	eP	Pn	05 09 52.6	-2.3
LCND	La Caada	1.57	61	eP	Pn	05 09 53.5	-1.8
LCND				IAML		05 10 21.4	
	comp=Z,789nm,0.5s						
LCND	La Caada	1.57	61	eP	Pn	05 09 53.5	-1.8
LCND				eS	Sn	05 10 15.0	+0.5
LCND				IAML		05 10 21.4	
	comp=Z,789nm,0.5s						
CNCH	Conchagua	1.60	63	eP	Pn	05 09 54.1	-1.7
CNCH	Conchagua	1.60	63	eP	Pn	05 09 54.1	-1.7
MTO3	Montecristo	1.84	358	Pn	Pn	05 09 58.2	-0.9
ESQI	Esquipulas	2.00	359	Pn	Pn	05 10 00.5	-0.7
CRIN	San Cristobal	2.21	86	Pn	Pn	05 10 03.2	-0.8
TGUH	Tegucigalpa,Un	2.48	53	Pn	Pn	05 10 07.3	-0.6
TGUH	Tegucigalpa,Un	2.48	53	eP	Pn	05 10 06.4	-1.4
CNGN	Cerro Negro	2.54	91		Pn	05 10 08.2	-0.5
RTAL	Retalhuleu	3.04	310	Pn	Pn	05 10 14.7	-0.8
HZTE	Horizontes, Gu	4.07	116	Pn	Pn	05 10 28.2	-1.3
ACON	Acoyapa	4.08	98		Pn	05 10 27.6	-2.0
ORTG	Ortega, Santa	4.35	120	Pn	Pn	05 10 32.3	-1.2
PETF	Flores	4.37	353		Pn	05 10 37.4	+3.7
JTS	Las Juntas de	4.82	117	P	Pn	05 10 38.7	-1.2
	comp=Z,5.6nm,0.3s,baz=9.5,slow=23,SNR=37						
JTS				S	Sn	05 11 29.1	-5.4
	comp=Z,4.5nm,0.3s,baz=258,slow=17,SNR=4.0						
JTS	Las Juntas de	4.82	117	eP	Pn	05 10 38.9	-1.1
JTS				eS	Sn	05 11 29.7	-4.8
CAO2	Cobano, Puntar	5.01	124		Pn	05 10 41.0	-1.4
JACO	JACO, Garabito	5.39	122	Pn	Pn	05 10 48.2	+0.6
RIMA	Rio Macho	6.01	117	Pn	Pn	05 10 56.1	-0.3
PEZE	Perez Zeledon,	6.36	119		Pn	05 11 02.1	+1.0
SRBA	San Rafael, Bu	6.71	119	Pn	Pn	05 11 06.6	+0.8
EDPN	Palmar Norte	6.76	121	eP	Pn	05 11 05.8	-0.7
CMIG	Matias Romero	7.03	311	P	Pn	05 11 08.5	-1.8
	comp=Z,0.3nm,0.3s,baz=116,slow=12,SNR=3.7						
CMIG				S	Sn	05 12 21.4	-7.5
	comp=Z,0.2nm,0.3s,baz=153,slow=8.5,SNR=1.4						
TLIG	Tlapa	10.24	300	Pn	Pn	05 11 54.6	+0.4
CBOC	Ciudad Bolivar	14.70	116	eP	P	05 13 02.3	+2.2
YOTC	Yotoco, Valle	15.38	123	eP	Pn	05 13 04.5	+0.7
GUY2C	Guyana, Caldas	15.57	117	eP	P	05 13 11.6	+1.6
TOLC	Tolima	15.92	119	eP	P	05 13 17.8	+3.9
POPC	Popayan, Colom	15.98	127	eP	P	05 13 14.6	+0.3
ORTC	Ortega, Tolima	16.34	121	eP	Pn	05 13 15.7	-0.3
FLOC	Florencia	17.37	128	P	P	05 13 33.0	+3.4
FLOC				IAmb	IAmb	05 13 42.5	
	comp=Z,33nm,1.5s						
FLOC	Florencia	17.37	128	eP	P	05 13 30.0	+0.5
344A	Westbrook Farm	18.86	356	P	Pn	05 13 48.0	+1.3
344A				IAmb	IAmb	05 13 55.3	
	comp=Z,52nm,1.4s						
342A	Flagon Creek P	18.94	352	P	P	05 13 46.7	+0.1
342A				IAmb	IAmb	05 13 49.9	
	comp=Z,20nm,0.8s						
352A	Blakely	19.26	11	P	P	05 13 50.8	+0.6
352A				IAmb	IAmb	05 13 52.6	
	comp=Z,16nm,0.7s						
TIGA	Tifton	19.52	15	P	Pn	05 13 54.1	-0.5
TIGA				IAmb	IAmb	05 13 55.3	
	comp=Z,18nm,0.8s						
VBMS	Vicksburg	19.61	357	P	Pn	05 13 55.4	-0.3
435B	Jarrell	19.69	338	P	P	05 13 54.1	-0.8
435B				IAmb	IAmb	05 13 56.0	
	comp=Z,20nm,0.8s						
JCT	Junction City	20.31	333	P	P	05 14 00.7	-1.0
152A	Waverly Hall	20.46	11	P	P	05 14 03.0	-0.2
LRAL	Lakeview Retre	20.50	6	P	P	05 14 03.9	+0.3
Z47A	Carrollton	20.58	3	P	P	05 14 05.3	+0.8
Z47A				IAmb	IAmb	05 14 06.5	
	comp=Z,16nm,0.8s						
WHTX	Lake Whitney,	20.75	340	P	P	05 14 06.4	0.0
154A	Montrose	20.76	15	P	P	05 14 07.2	+0.8
154A				IAmb	IAmb	05 14 08.5	
	comp=Z,25nm,1.0s						
HPIG		20.98	315	P	P	05 14 10.1	+0.9
Z51A	Franklin	21.01	10	P	P	05 14 09.9	+0.7
Z51A				IAmb	IAmb	05 14 13.1	
	comp=Z,12nm,0.8s						
Y45A	Yeager Farm, C	21.22	359	P	P	05 14 11.5	+0.1
Y45A				IAmb	IAmb	05 14 15.7	
	comp=Z,29nm,1.1s						
WLAR	White Oak Lake	21.32	351	P	P	05 14 10.9	-1.5
WLAR				IAmb	IAmb	05 14 35.9	
	comp=Z,24nm,1.2s						
Y49A	Blount Mountai	21.37	7	P	P	05 14 12.6	-0.5
TXAR	Lajitas Array	21.38	324	P	P	05 14 14.2	+0.9
	comp=Z,2.8nm,0.6s,baz=142,slow=10,SNR=39						
TXAR	Lajitas Array	21.38	324	P	P	05 14 14.3	+1.1
TX31	Lajitas Ar. Si	21.38	324	P	P	05 14 13.3	0.0
TX31				IAmb	IAmb	05 14 25.4	
	comp=Z,17nm,0.9s						
TX32	Lajitas Array	21.38	324	P	P	05 14 13.5	+0.2
CCAR	Cane Creek	21.39	354	P	P	05 14 14.2	+1.0
CCAR				IAmb	IAmb	05 14 17.1	
	comp=Z,15nm,0.9s						
GOGA	Godfrey	21.44	13	P	P	05 14 14.2	+0.5
X40A	Basin Creek Fa	22.07	352	P	P	05 14 19.9	-0.6
ABTX	Abilene, Hawle	22.11	336	IAmb	IAmb	05 14 33.3	
	comp=Z,13nm,1.1s						
MIAR	Mount Ida	22.24	351	P	P	05 14 22.2	-0.1
MIAR				IAmb	IAmb	05 14 24.9	
	comp=Z,15nm,0.9s						
ATAH	Atahualpa	22.36	150	LR	LR	05 21 41.5	
	comp=Z,81nm,19.5s,baz=310,slow=33						
LOOK	Love County	22.52	343	P	P	05 14 25.1	-0.2
LOOK				IAmb	IAmb	05 14 36.6	
	comp=Z,14nm,0.9s						
X37A	Clayton	22.62	347	IAmb	IAmb	05 14 29.3	
	comp=Z,12nm,0.8s						
WHAR	Wooly Hollow	22.80	354	P	P	05 14 28.4	+0.1
W39A	Magazine	22.91	351	IAmb	IAmb	05 14 31.7	
	comp=Z,16nm,1.1s						
LPAR	Lepanto	22.97	358	P	P	05 14 30.3	+0.3
LPIG	La Paz	22.98	303	LR	LR	05 23 41.4	
	comp=Z,80nm,19.3s,baz=168,slow=37						
SJG	San Juan	22.99	73	LR	LR	05 24 04.3	
	comp=Z,84nm,18.6s,baz=286,slow=38						
X34A	Smith Ranch, M	23.28	342	IAmb	IAmb	05 14 43.7	
	comp=Z,14nm,0.9s						
FCAR	Ozark Folk Cen	23.38	354	P	P	05 14 33.5	-0.5
FCAR				IAmb	IAmb	05 14 35.7	
	comp=Z,19nm,1.2s						
LCAR	Lake Charles	23.48	356	P	P	05 14 34.5	-0.4
LCAR				IAmb	IAmb	05 14 35.9	
	comp=Z,7.4nm,0.7s						
TKL	Tuckaleechee C	23.54	11	P	P	05 14 35.1	-0.4
	comp=Z,6.3nm,0.7s,baz=180,slow=12,SNR=12						
TKL				LR	LR	05 23 39.0	
	comp=Z,124nm,21.6s,baz=206,slow=36						
TKL	Tuckaleechee C	23.54	11	P	P	05 14 35.2	-0.4
TKL				IAmb	IAmb	05 14 36.6	
	comp=Z,6.8nm,0.8s						
CLTN	Cedars of Leba	23.59	6	IAmb	IAmb	05 14 36.8	
	comp=Z,6.4nm,0.7s						
WMOK	Wichita Mounta	23.70	340	P	P	05 14 35.9	-1.2
WMOK				IAmb	IAmb	05 14 36.7	
	comp=Z,14nm,1.3s						
V53A	Saluda	23.75	13	P	P	05 14 37.4	-0.2
V53A				IAmb	IAmb	05 14 38.9	
	comp=Z,9.3nm,1.1s						
FNO	Franklin	23.76	343	P	P	05 14 36.6	-1.1
U40A	Yellville	23.92	353	P	P	05 14 38.1	-1.0
U40A				IAmb	IAmb	05 14 41.0	
	comp=Z,8.9nm,0.8s						
HHAR	Hobbs	23.99	351	P	P	05 14 38.8	-1.0
PARMO	Parma	24.01	359	P	P	05 14 39.8	-0.1
MNTX	Cornudas Mount	24.13	325	P	P	05 14 40.4	-0.6
PBMO	Poplar Bluff	24.14	358	P	P	05 14 40.2	-0.9
OK031	S. Brethren Rd	24.27	345	P	P	05 14 41.6	-0.7
OK031				IAmb	IAmb	05 14 42.4	
	comp=Z,14nm,0.8s						
V55A	Taylorsville	24.32	16	IAmb	IAmb	05 14 43.3	
	comp=Z,11nm,1.0s						
T47A	Sharon Grove	24.41	4	P	P	05 14 42.5	-1.0
T47A				IAmb	IAmb	05 14 44.2	
	comp=Z,14nm,0.9s						
T42A	Van Buren	24.43	357	P	P	05 14 42.7	-1.0
QUOK	Quay	24.45	345	P	P	05 14 43.4	-0.5
MGMO	Mountain Grove	24.64	354	P	P	05 14 45.1	-0.5
U54A	Nelsons Funny	24.80	14	P	P	05 14 46.5	-0.6
U54A				IAmb	IAmb	05 14 49.2	
	comp=Z,14nm,1.0s						
AMTX	Amarillo	24.91	335	P	P	05 14 48.0	-0.2
AMTX				IAmb	IAmb	05 14 49.2	
	comp=Z,9.5nm,0.8s						
BLOK	Blackwell	25.13	345	IAmb	IAmb	05 14 59.6	
	comp=Z,8.9nm,0.9s						
S39A	Bolivar	25.29	353	IAmb	IAmb	05 14 55.0	
	comp=Z,5.8nm,0.8s						
CCM	Cathedral Cave	25.46	356	P	P	05 14 52.5	-0.5
WCI	Wyandotte Cave	25.71	5	P	P	05 14 54.8	-0.6
WCI				IAmb	IAmb	05 14 55.6	
	comp=Z,7.7nm,0.7s						
R40A	Maddies Statio	25.77	355	P	P	05 14 54.3	-1.5
R40A				IAmb	IAmb	05 14 59.2	
	comp=Z,6.5nm,0.8s						
P40A	Paris	26.98	355	IAmb	IAmb	05 15 17.1	
	comp=Z,11nm,1.1s						
T25A	Trinidad	27.98	334	P	P	05 15 17.6	+1.6
L40A	Anamosa	29.45	357	IAmb	IAmb	05 15 28.6	
	comp=Z,11nm,0.9s						
JFWS	Jewell Farm	30.26	359	IAmb	IAmb	05 15 35.7	
	comp=Z,7.9nm,0.7s						
I42A	Draeger Farm,	31.23	1	P	P	05 15 43.1	-1.4
BAR	Barrett	32.08	313	P	P	05 15 52.6	+0.4
G40A	Rib Lake	32.61	359	IAmb	IAmb	05 15 57.2	
	comp=Z,8.2nm,1.1s						
SPMN	Marine on St.	32.70	355	P	P	05 15 55.4	-2.0
PDAR	Pinedale Array	34.85	334	P	P	05 16 16.4	+0.1
	comp=Z,0.1nm,0.4s,baz=134,slow=6.5,SNR=1.7						
REDW	Red Top Meadow	35.90	333	P	P	05 16 25.0	-0.3
REDW				IAmb	IAmb	05 16 35.9	
	comp=Z,3.6nm,0.8s						
SNOW	Snow King Moun	35.93	333	P	P	05 16 26.0	+0.3
SNOW				IAmb	IAmb	05 16 36.3	
	comp=Z,4.3nm,0.7s						
LOHW	Long Hollow	35.98	333	P	P	05 16 26.5	+0.4
NVAR	Mina Array Bea	36.45	320	P	P	05 16 30.5	+0.4
	comp=Z,1.8nm,1.0s,baz=131,slow=7.4,SNR=9.0						
MCMT	McKenzie Canyo	37.94	332	P	P	05 16 44.0	+1.3
YKA	Yellowknife Ar	53.05	346	LR	LR	05 44 09.9	
	comp=Z,66nm,19.4s,baz=0.0,slow=39						
ILAR	Eielson Array	65.20	337	P	P	05 20 05.0	-0.6
	comp=Z,0.8nm,0.9s,baz=74,slow=1.9,SNR=5.5						
NOA	NORSAR Array B	84.15	29	LR	LR	05 58 22.3	
	comp=Z,15nm,20.3s,baz=320,slow=35						
CLL	Collm	87.85	38	esP	sP	05 22 31.0	-2.7
TORD	Torodi Ar. Bea	88.15	77	P	P	05 22 14.1	-1.8
	comp=Z,0.6nm,0.9s,baz=271,slow=5.7,SNR=2.7						
CMAR	Chiang Mai Arr	148.13	345	PKPbc	PKPbc	05 29 10.4	-0.5
	comp=Z,1.8nm,0.3s,baz=339,slow=4.8,SNR=6.3						

*IDC **01** 05:18:54.5±0.8, 27°.74N×142°.90E, h0km, mb4.0/17, mb1 4.1/19, mb1mx4.0/44, mbtmp4.0/19, ML3.0/2, MS3.4/2, Ms1 3.4/2, ms1mx2.7/37, Error ellipse: s-maj=20.6km s-min=13.2km az=106.0*
*JMA **01** 05:18:55.3±0.2, 27°.81N×143°.12E, h13km, M4.5*
*NEIC **01** 05:18:58.0±2.4, 27°.80N±0°.08×143°.0E±0°.2, h22km±8km, mb4.4/5, Error ellipse: s-maj=21.1km s-min=8.9km az=109.0*

ISC 01 05:18:58.2±0.7**,27°.84N**±0°.06×**142°.9E**±0°.1**,h22**km**,n45,**
σ**1.17**/44**,mb4.1**/19**,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	0.96	219	P	Pb	05 19 15.8	-0.3
CBIJ				eS	Sn	05 19 30.3	+1.0
JCJ	Chichijima	0.96	219	Pn	Pb	05 19 15.6	-0.5
	74nm,0.3s,baz=283,slow=23,SNR=58						
JCJ				Sn	Sn	05 19 29.9	+0.6
	140nm,0.3s,baz=254,slow=23,SNR=6.1						
JCJ	Chichijima	0.96	219		Pb	05 19 15.8	-0.3
JHH2	Haha-jima-NKT2	1.35	207	P	Pn	05 19 21.2	-0.5
BSO3	Boso 3	7.23	344	P	Pn	05 20 43.9	+1.7
BSO4	Boso 4	7.45	344	P	Pn	05 20 47.0	+1.6
JSG	Sagara	7.90	331	Pn	Pn	05 20 51.7	0.0
JOD2	Odawara 2	8.07	337	P	Pn	05 20 55.8	+1.7
JRY	Ryogami san	8.82	339	P	Pn	05 21 04.9	+0.5
JRY				eS	Sn	05 22 43.0	-0.1
MJAR	Matsushiro Arr	9.53	337	Pn	Pn	05 21 12.4	-1.7
	0.3nm,0.3s,baz=134,slow=14,SNR=7.2						
MJAR	Matsushiro Arr	9.53	337		Pn	05 21 14.7	+0.6
MAJO	Matsushiro	9.53	337	Pn	Pn	05 21 13.7	-0.4
JMM	Marumori	10.15	351	Pn	Pn	05 21 22.1	-0.4
JMM					Sn	05 23 11.3	-4.4
KSRS	Korea Array	15.80	311	LR	LR	05 28 32.1	
	comp=Z,46nm,18.8s,baz=335,slow=36						
USRK	Ussuriysk Ar.	18.52	335	P	P	05 23 12.9	-0.1
	baz=156,slow=11,SNR=11						
USRK	Ussuriysk Ar.	18.52	335	P	P	05 23 13.2	+0.3
KLR	Kul'dur	23.01	341	P	P	05 24 02.2	+0.7
	0.9nm,0.5s,baz=143,slow=11,SNR=4.8						
H11N2	WAKE ISLAND Hy	23.39	105	T	T	05 48 13.7	
	baz=297						
H11N1	WAKE ISLAND Hy	23.40	105	T	T	05 48 23.2	
	baz=297						
H11N3	WAKE ISLAND Hy	23.41	105	T	T	05 48 23.6	
	baz=297						
PET	Petropavlovsk	27.75	21	P	P	05 24 43.5	-1.5
SONM	Songino Array	34.61	315	P	P	05 25 46.1	+0.5
	0.5nm,0.4s,baz=124,slow=7.9,SNR=4.5						
WRA	Warramunga Arr	48.21	191	P	P	05 27 35.4	-1.9
	5.2nm,0.9s,baz=12,slow=8.3,SNR=27						
ZALV	Zalesovo Beam	49.33	319	P	P	05 27 45.9	+0.4
	0.9nm,0.4s,baz=87,slow=7.4,SNR=2.8						
MKAR	Makanchi Array	50.47	309	P	P	05 27 54.5	+0.1
	1.3nm,0.8s,baz=83,slow=10,SNR=5.2						
ASAR	Alice Springs	51.93	190	P	P	05 28 03.4	-2.1
	0.7nm,0.5s,baz=4.0,slow=5.8,SNR=8.1						
KURK	Kurchatov	52.90	314	P	P	05 28 13.5	+1.1
KURBB	Kurchatov Arra	52.96	314	P	P	05 28 13.5	+0.7
	4.1nm,0.6s,baz=90,slow=7.9,SNR=17						
ILAR	Eielson Array	56.77	29	P	P	05 28 40.9	+0.7
	0.8nm,0.9s,baz=246,slow=6.8,SNR=5.4						
BVAR	Borovoye Array	57.91	317	P	P	05 28 49.2	+0.8
	2.1nm,0.5s,baz=151,slow=4.6,SNR=9.9						
KK31	Karatay Array	59.14	306	P	P	05 28 57.8	+0.5
KK31				IAmb	IAmb	05 28 58.8	
	comp=Z,2.9nm,0.8s						
KKAR	Karatay Array	59.14	306	P	P	05 28 56.5	-0.7
KKAR	Karatay Array	59.14	306	P	P	05 28 57.4	+0.1
KKAR				IAmb	IAmb	05 28 58.8	
	comp=Z,2.9nm,0.8s						
ARU	Arti	64.21	322	P	P	05 29 31.1	0.0
	comp=Z,1.7nm,0.2s,baz=37,slow=6.1,SNR=5.3						
ABKAR	Akbulak array	65.01	314	P	P	05 29 37.7	+1.2
ABKAR	Akbulak array	65.01	314	P	P	05 29 36.8	+0.3
ABKAR				IAmb	IAmb	05 29 38.6	
	comp=Z,4.6nm,1.1s						
AKTO	Aktyubinsk	65.92	316	P	P	05 29 43.8	+1.4
	comp=Z,2.6nm,0.7s,baz=70,slow=13,SNR=8.1						
FINES	FINESS Array B	77.55	334	P	P	05 30 51.9	-0.1
	comp=Z,0.7nm,0.3s,baz=75,slow=7.4,SNR=2.6						
NVAR	Mina Array Bea	79.58	52	P	P	05 31 05.5	+1.5
	comp=Z,0.1nm,0.4s,baz=296,slow=6.4,SNR=3.9						
AKASG	Malin Array Be	82.38	324	P	P	05 31 17.7	-0.7
	comp=Z,0.4nm,0.4s,baz=51,slow=5.3,SNR=2.4						
AKASG	Malin Array Be	82.38	324	IAmb	IAmb	05 31 24.4	
	comp=Z,0.9nm,1.1s						
PDAR	Pinedale Array	83.26	45	P	P	05 31 23.9	+0.5
	comp=Z,0.2nm,0.6s,baz=297,slow=6.0,SNR=2.1						
BRTR	Keskin Array B	85.94	313	P	P	05 31 37.8	+0.8
	comp=Z,0.7nm,0.6s,baz=100,slow=5.0,SNR=4.3						
BRTR				LR	LR	06 12 14.4	
	comp=Z,50nm,19.8s,baz=100,slow=37						
TXAR	Lajitas Array	94.67	53	P	P	05 32 18.8	+0.7
	comp=Z,0.2nm,0.7s,baz=298,slow=2.7,SNR=3.9						
TORD	Torodi Ar. Bea	124.54	312	PKP	PKPdf	05 37 56.0	-0.6
	comp=Z,0.2nm,0.6s,baz=42,slow=2.0,SNR=1.8						

MEX 01 05:31:23.6±0.8**,16°.10N**×**99°.22W,h17**km±12km**,MD4.1,**
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAIG	Los Arroyos	1.00	336	eP	Pb	05 31 39.3	-3.2
DAIG				eS	Sb	05 31 51.1	-4.4
PNIG	Pinotepa	1.09	74	eP	Pb	05 31 40.6	-3.4
PNIG				eS	Sb	05 31 53.4	-4.7
MGIG	Malinaltepec	1.26	27	eP	Pn	05 31 43.1	-3.5
MGIG				eS	Sb	05 31 58.6	-4.5
TLIG	Tlapa	1.58	23	i P	Pn	05 31 48.5	-2.6
TLIG				eS	Sn	05 32 06.9	-4.3
MEIG	Mezcala	1.85	348	i P	Pn	05 31 47.2	-7.5
MEIG				eS	Sn	05 32 14.1	-3.7
PEIG	Puerto Escondi	2.00	93	i P	Pg	05 32 02.9	+0.8
HLIG	Huajuapan de L	2.19	38	i P	Pn	05 31 57.1	-2.3
HLIG				eS	Sn	05 32 26.1	-0.2
VHO	Vista Hermosa	2.58	68	i P	Pn	05 32 03.0	-1.7
VHO				eS	Sn	05 32 30.0	-5.8
TOIG	Toxpalan	2.86	46	eP	Pn	05 32 07.8	-0.8
TOIG				eS	Sn	05 32 45.4	+2.7

GUC 01 05:38:57.3±0.7**,22°.57S**×**68°.26W,h138**km±3km**,ML3.7,**
3C-5D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	San Pedro de A	0.39	169	eP	Pn	05 39 17.5	+0.4
AF01				i S	Sn	05 39 33.0	+0.9
AF01				IAML		05 39 35.1	
	comp=E,1μm,0.4s						
LVC	Limon Verde	0.60	266	eP	Pn	05 39 18.8	+0.5
LVC				eS	Sn	05 39 34.8	+0.7
PB06	IPOC Station P	1.22	263	eP	Pn	05 39 24.2	+1.0
PB06				eS	Sn	05 39 44.4	+1.5
PB06				IAML		05 39 46.0	
	comp=E,936nm,0.1s						
PB15	IPOC Station P	1.29	240	i P	Pn	05 39 24.7	+0.8
PB15				i S	Sn	05 39 45.3	+1.1
PB03	IPOC Station P	1.48	290	⇑iP	Pn	05 39 27.0	+1.1
PB03				eS	Sn	05 39 48.9	+1.3
PB03				IAML		05 39 50.0	
	comp=E,1μm,0.2s						
PB07	IPOC Station P	1.73	299	⇓iP	Pn	05 39 29.8	+1.1
PB07				i S	Sn	05 39 53.8	+1.2
PB07				IAML		05 39 55.5	
	comp=E,1μm,0.5s						
PB04	IPOC Station P	1.76	277	⇑iP	Pn	05 39 29.9	+0.8
PB04				eS	Sn	05 39 54.2	+0.8
PB04				IAML		05 39 57.2	
	comp=N,723nm,0.1s						
PB05	IPOC Station P	1.82	261	⇑iP	Pn	05 39 30.1	+0.4
PB05				eS	Sn	05 39 54.4	0.0
PB05				IAML		05 40 03.3	
	comp=E,368nm,0.3s						
PB05				⇓i		05 40 11.2	
PB01	IPOC Station P	1.90	323	i P	Pn	05 39 31.6	+1.0
PB01				eS	Sn	05 39 57.5	+1.4
PB01				IAML		05 40 00.2	
	comp=N,647nm,0.2s						
PB02	IPOC Station P	1.96	309	⇓iP	Pn	05 39 32.2	+0.9
PB02				eS	Sn	05 39 58.5	+1.1
PB02				IAML		05 40 01.2	
	comp=E,735nm,0.2s						
PB10	IPOC Station P	2.31	246	eP	Pn	05 39 35.2	-0.3
PB10				eS	Sn	05 40 04.3	-0.6
PB10				IAML		05 40 05.0	
	comp=N,326nm,0.3s						
PB08	IPOC Station P	2.55	341	i P	Pn	05 39 40.5	+1.6
PB08				eS	Sn	05 40 14.2	+3.3
PB08				IAML		05 40 15.5	
	comp=E,186nm,0.4s						
TA01	Diego Aracena	2.68	318	eP	Pn	05 39 40.0	-0.1
TA01				eS	Sn	05 40 13.6	+0.6
TA01				IAML		05 40 15.2	
	comp=E,164nm,0.2s						
HMBC	Humberstone	2.74	326	⇓iP	Pn	05 39 40.9	-0.1
HMBC				eS	Sn	05 40 15.1	+0.5
HMBC				IAML		05 40 16.1	
	comp=N,278nm,0.2s						
PB14	IPOC Station P	2.84	223	eP	Pn	05 39 41.7	-0.8
PB14				eS	Sn	05 40 15.3	-2.0
PB14				IAML		05 40 17.1	
	comp=E,155nm,0.4s						
TA02	Huaiquique	2.88	322	eP	Pn	05 39 43.1	+0.5
TA02				eS	Sn	05 40 17.5	0.0
PB11	IPOC Station P	3.08	335	⇓iP	Pn	05 39 45.5	+0.1
PB11				eS	Sn	05 40 22.7	+0.2
PB11				IAML		05 40 25.6	
	comp=E,192nm,0.2s						
PSGC	Pisagua	3.43	329	eP	Pn	05 39 48.7	-1.2
PSGC				eS	Sn	05 40 30.0	-0.6
AC02	Maricunga	4.32	190	i P	Pn	05 40 00.5	-1.5
AC02				eS	Sn	05 40 53.2	+1.0
GO03	Copiap	5.32	199	eP	Pn	05 40 11.3	-3.5
GO03				eS	Sn	05 41 05.3	-10

MEX 01 05:48:35.6±0.7**,15°.22N**×**93°.01W,h82**km±15km**,MD3.6,**
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.52	337	eP	Pn	05 48 48.0	-1.8
PCIG				eS	Sn	05 48 59.0	-1.2
THIG		0.78	114	i P	Pn	05 48 49.4	-2.9
THIG				i S	Sn	05 49 03.5	-1.2
CCIG	Comitan	1.34	38	eP	Pn	05 48 59.0	-0.2
CCIG				eS	Sn	05 49 15.7	-1.3
TGIG		1.55	356	eP	Pn	05 48 59.8	-1.9
TGIG				i S	Sn	05 49 19.2	-2.3
CMIG	Matias Romero	2.59	316	eP	Pn	05 49 15.5	+0.1

*PRU **01** 05:58:26.9±0.0, 52°.17N×6°.99E, h0km*
*BUG **01** 05:58:29.3±0.0, 51°.59N×6°.88E, h1km±1km, MD2.8/16, ML3.0/13*
*UCC **01** 05:58:29.4±0.0, 51°.58N×6°.89E, h7km±3km, ML2.5*
*LDG **01** 05:58:29.5±0.1, 51°.63N×6°.89E, h1km, Md3.1/2, Ml3.1/25, Error ellipse: s-maj=2.2km s-min=1.7km az=20.0, Suspected Mining induced.*
*BNS **01** 05:58:30.9±0.4, 51°.55N×6°.90E, h1km, ML2.5*
*BGR **01** 05:58:30.0±0.3, 51°.56N×6°.85E, h1km, ML2.7/10, Error ellipse: s-maj=4.4km s-min=2.2km az=100.0*
ISC 01 05:58:28.2±0.7**,51°.58N**±0°.02×**6°.77E**±0°.02**,h0**km**,n77,**

σ1s10/138, 14D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BZER	Hlnxe	0.07	56	Pg	Pg	05 58 30.4	+0.7
BZER				Sg	Sg	05 58 30.9	+0.3
LAUG	Laupendahl	0.25	154	ePg	Pb	05 58 34.6	-1.1
BAVN	Auguste-Victor	0.27	54	Pg	Pg	05 58 34.5	+1.1
BAVN				Sg	Sg	05 58 38.3	+1.4
BULI	Ruhr-Universit	0.33	112	Pg	Pg	05 58 35.5	+0.9
BULI				Sg	Sg	05 58 39.8	+1.0
BUG	Bochum--Univer	0.34	114	Pg	Pg	05 58 35.6	+0.8
BUG				Sg	Sg	05 58 39.8	+0.6
BKLB	Ruhr-Universit	0.34	114	Pg	Pg	05 58 35.6	+0.8
BTEZ	Ruhr-Universit	0.34	112	Pg	Pg	05 58 35.7	+0.9
WTSB	Winterswijk	0.39	3	ePg	Pb	05 58 37.7	-0.3
WTSB				eSg	Sb	05 58 43.4	-1.2
ENTS	Ennepetalsperr	0.52	130	ePg	Pg	05 58 39.2	+0.9
ENTS				eSg	Sg	05 58 45.9	+0.8
PLH	Pulheim	0.58	177	ePg	Pb	05 58 40.9	-0.2
PLH				eSg	Sb	05 58 48.8	-1.1
HMES	Hamm, Michael-	0.60	82	Pg	Pg	05 58 40.1	+0.3
HMES				Sg	Sg	05 58 49.5	+2.0
BNS	Bensberg	0.67	157	ePg	Pb	05 58 42.9	+0.2
BNS				eSg	Sb	05 58 51.5	-1.0
	322nm,0.2s						
HOBG	Hohbusch	0.69	149	ePg	Pb	05 58 42.8	-0.4
HOBG				eSg	Sb	05 58 52.2	-1.1
	284nm,0.4s						
SORT	Sorpetalsperre	0.79	106	ePg	Pg	05 58 43.6	+0.3
SORT				eSg	Sg	05 58 53.5	+0.1
	106nm,0.4s						
GSH	Grosshau	0.88	196	ePg	Pb	05 58 47.0	+0.7
GSH				eSg	Sb	05 58 59.0	+0.4
	162nm,0.2s						
IBBS	Ibbenbueren So	0.93	40	Pg	Pb	05 58 48.0	+0.8
IBBS				Sg	Sn	05 59 02.7	+0.1
IBBE	Ibbenbueren Ea	0.96	41	Pg	Pg	05 58 47.1	+0.4
IBBE				Sg	Sg	05 59 00.4	+1.3
HGN	Heimansgroeve	0.97	213	Pg	Pn	05 58 49.2	+0.1
HGN				Sg	Sn	05 59 03.4	-0.2
DREG	Dreilaegerbach	0.98	200	ePg	Pn	05 58 49.3	+0.1
DREG				eSg	Sn	05 59 03.6	-0.2
	307nm,0.3s						
KLL	Kalltalsperre	0.98	197	ePg	Pn	05 58 49.2	0.0
STB	Steinbach	0.99	177	ePg	Pn	05 58 49.2	-0.1
TDN	Todenfeld	1.01	174	ePg	Pb	05 58 49.0	+0.4
TDN				eSg	Sb	05 59 02.4	-0.1
	153nm,0.3s						
BEBN	Eben Emael	1.04	222	dP	Pn	05 58 50.3	+0.2
BEBN				dS	Sn	05 59 04.3	-1.0
AHRW	Bad Neuenahr-A	1.06	169	Pg	Pb	05 58 49.9	+0.5
AHRW				eSg	Sn	05 59 04.9	-0.8
MEM	Membach	1.08	207	dP	Pn	05 58 50.3	-0.3
MEM				dP	Pn	05 58 50.3	-0.3
MEM				dS	Sn	05 59 05.5	-0.8
MEM				dS	Sn	05 59 05.5	-0.8
MEM	Membach	1.08	207	ePg	Pn	05 58 50.4	-0.3
MEM				eSg	Sn	05 59 05.8	-0.5
KASTN	Kahler Asten	1.10	109	Pg	Pg	05 58 49.5	+0.2
KASTN				eSg	Sg	05 59 03.5	0.0
OLFT	Oleftalsperre	1.11	192	ePg	Pn	05 58 51.1	+0.1
OLFT				eSg	Sn	05 59 06.3	-0.8
BLCH	La Chartreuse	1.20	219	dP	Pn	05 58 53.1	+1.0
BSTI	Sart Tilman	1.25	218	dP	Pn	05 58 54.0	+1.0
BHE	Schloss Buerre	1.25	168	ePg	Pn	05 58 53.3	+0.2
BHE				eSg	Sb	05 59 09.5	+0.1
	87nm,0.3s						
KOE	Koeppel	1.30	152	ePg	Pb	05 58 53.8	+0.2
BHOU	Houvegnez	1.32	202	dP	Pn	05 58 54.9	+0.9
BHOU				dS	Sn	05 59 12.3	+0.1
LOH	Wallersheim-Lo	1.41	186	ePg	Pb	05 58 56.0	+0.7
LOH				eSg	Sn	05 59 14.3	0.0
BGG	Burgeitz	1.42	165	ePg	Pb	05 58 55.7	+0.1
BCLA	Clavier	1.48	219	dP	Pb	05 58 56.9	+0.2
BCLA				dS	Sn	05 59 17.8	+1.5
BGES	Gesves	1.60	222	dP	Pb	05 58 58.5	-0.1
BGES				dS	Sg	05 59 19.6	0.0
TNS	Taunus Mts	1.72	141	Pn	Pb	05 59 00.4	-0.4
TNS				eSg	Sn	05 59 22.1	-0.1
ABH	Alteburg	1.77	163	ePn	Pn	05 59 00.6	+0.5
ABH				eSg	Sn	05 59 23.2	-0.1
RIVT	Riveris	1.87	180	ePn	Pb	05 59 02.8	-0.5
GIVF	Givet	1.93	221	ePn	Pn	05 59 02.7	+0.5
GIVF	Givet	1.93	221	eP	Pg	05 59 05.0	-0.1
GIVF	Givet	1.93	221	ePg	Pg	05 59 06.8	+1.7
GIVF				eSn	Sn	05 59 27.2	+0.1
	22nm,0.2s						
GIVF				eSg	Sg	05 59 33.1	+3.0
	54nm,0.3s						
BODE	Bodenheim	1.93	149	eSg	Sb	05 59 29.5	+0.6
WLF	Walferdange	1.96	192	Pn	Pg	05 59 07.6	+1.9
WLF				Sn	Sb	05 59 30.2	+0.6
UBBA	Unterbreizbach	2.17	109	Pn	Pb	05 59 08.6	+0.3
BAIF	Baives	2.23	228	ePn	Pn	05 59 06.4	0.0
BAIF	Baives	2.23	228	ePg	Pg	05 59 12.4	+1.5
BAIF				eSn	Sn	05 59 33.5	-1.0
	9.7nm,0.2s						
BAIF				eSg	Sg	05 59 42.2	+2.5
	24nm,0.4s						
CLZ	Clausthal	2.26	82	Pn	Pn	05 59 06.0	-0.8
HROE	Hohe Rhon--Fla	2.38	115	ePn	Pn	05 59 08.6	+0.1
CHRS	Christianenhau	2.52	88	ePn	Pn	05 59 09.3	-1.2
CHRS				eSn	Sn	05 59 39.2	-2.8
POSS	Possen	2.58	94	ePn	Pn	05 59 10.6	-0.6
POSS				eSn	Sn	05 59 41.3	-1.9
PAGF	Fort de Pagny	3.10	193	ePn	Pn	05 59 18.7	+0.3
PAGF	Fort de Pagny	3.10	193	ePg	Pg	05 59 28.2	+0.6
	baz=16						
PAGF				eSn	Sn	05 59 54.4	-1.8
	8.8nm,0.3s						
PAGF				eSg	Sg	06 00 09.0	+1.2
	31nm,0.5s,baz=21						
SAVF	Savonnieres en	3.15	200	ePg	Pg	05 59 29.2	+0.6
	baz=20						
SAVF				eSg	Sg	06 00 10.6	+1.2
	16nm,0.4s,baz=20						
CDF	Champ du Feu	3.19	174	ePn	Pn	05 59 19.5	-0.2
CDF	Champ du Feu	3.19	174	eP	Pn	05 59 22.5	+2.8
CDF				eSn	Sn	05 59 56.3	-2.1
	7.9nm,0.4s						
CDF				eSg	Sg	06 00 11.0	+0.4
	7.8nm,0.3s						
MEZF	Maizieres J'vi	3.27	200	ePn	Pn	05 59 20.9	+0.1
	baz=27						
MEZF				eSg	Sg	06 00 14.4	+1.1
	11nm,0.3s,baz=20						
SFTF	Sexfontaines	3.56	199	ePn	Pn	05 59 24.8	+0.1
SFTF	Sexfontaines	3.56	199	ePg	Pg	05 59 36.7	+0.3
	baz=14						
SFTF				eSg	Sg	06 00 23.5	+1.0
	9.3nm,0.2s						
HAU	Haudompre	3.59	185	ePn	Pn	05 59 25.1	0.0
HAU	Haudompre	3.59	185	ePg	Pg	05 59 37.1	+0.1
HAU				eSn	Sn	06 00 06.3	-1.9
HAU				eSg	Sg	06 00 23.9	+0.5
	17nm,0.4s						
HINF	Hinteralfeld	3.77	179	eP	Pn	05 59 30.7	+3.1
HINF	Hinteralfeld	3.77	179	ePg	Pg	05 59 40.1	-0.3
HINF				eSg	Sg	06 00 29.4	+0.2
	6.2nm,0.3s						
WERN	Wernitzgruen	3.77	108	ePn	Pn	05 59 28.0	+0.3
LOR	Lormes	4.71	205	ePn	Pn	05 59 41.1	+0.5
	baz=29						
LOR				eSn	Sn	06 00 33.3	-2.6
	4.1nm,0.2s,baz=17						
LOR				eSg	Sg	06 00 59.7	+0.1
	6.8nm,0.3s,baz=22						
CABF	La Chapelle	4.99	185	ePn	Pn	05 59 44.3	-0.2
CABF				eSg	Sg	06 01 08.0	-0.5
	26nm,0.8s						
SSF	Saint Saulge	5.00	207	ePn	Pn	05 59 44.4	-0.1
SSF				eSg	Sg	06 01 08.7	-0.1
	7.3nm,0.3s						
KHC	Kasperske Hory	5.00	117	eSG	Sg	06 01 11.2	+2.4
	comp=Z,4.4nm,0.8s						
AVF	Avril sur Loir	5.29	206	ePn	Pn	05 59 48.3	-0.2
AVF				eSg	Sg	06 01 17.7	-0.4
	7.0nm,0.5s						
SMF	Signal de Mont	5.30	202	ePn	Pn	05 59 48.6	0.0
SMF				eSg	Sg	06 01 18.1	-0.3
	4.3nm,0.3s						
LDF	La Druitiere	5.35	239	ePn	Pn	05 59 49.1	-0.2
LDF				eSn	Sn	06 00 48.7	-2.8
	3.3nm,0.3s						
FLN	La Foliniere	5.45	242	ePn	Pn	05 59 51.5	+0.9
	baz=53						
FLN				eSn	Sn	06 00 51.1	-2.8
	3.4nm,0.3s						
BGF	Bois d'Agland	5.65	209	ePn	Pn	05 59 53.2	-0.2
BGF				eSn	Sn	06 00 55.5	-3.4
	11nm,0.4s						
BGF				eSg	Sg	06 01 29.1	-0.4
	23nm,0.5s						
GRR	Gorron	5.87	240	ePn	Pn	05 59 56.6	+0.2
GRR				eSn	Sn	06 01 00.9	-3.3
	7.8nm,0.2s						
TCF	Toulx Ste Croi	6.09	211	ePn	Pn	06 00 00.1	+0.7
TCF				eSg	Sg	06 01 43.1	-0.5
	1.5nm,0.3s						
QUIF	Quistinic	7.41	244	ePn	Pn	06 00 16.8	-0.7

*DJA **01** 06:01:01.8±0.5, 7°S±4°×13°0E±°, h181km±12km, M4.2/5, mb4.0/3, MLv4.3/5*
*IDC **01** 06:01:02.8±8.2, 7°11S×129°97E, h132km±85km, mb3.7/1, mb1 3.5/4, mb1mx3.2/38, mbtmp3.9/4, MS3.0/1, Ms1 3.0/1, ms1mx2.5/28, Error ellipse: s-maj=72.8km s-min=27.9km az=34.0*
ISC 01 06:01:02.7±1.0, **7°16S**±0°07×**129°94E**±0°07, **h150**km, **n9**, σ**3s89**/12, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.58	121	P	Pn	06 01 36.0	+2.9
SAUI				S	Sn	06 02 00.9	+4.5
MSAI	Masohi	3.92	345	P	Pn	06 02 00.4	-1.6
FAKI	Fak Fak	4.80	29	P	Pn	06 02 11.5	-2.0
SOEI	Soe	6.17	245	P	Pn	06 02 34.0	+2.1
	0.3nm61nm,0.5s						
SIJI	Sorong	6.39	12	LR	LR	06 05 47.9	
	comp=Z,115nm,19.1s,baz=176,slow=45						
BATI	Baumata	6.90	244	P	Pn	06 02 44.1	+2.5
	5.1nm,0.3s,baz=77,slow=8.5,SNR=1.7						
BATI				S	Sn	06 04 00.1	+1.1
	7.7nm,0.3s,baz=269,slow=22,SNR=2.6						
WRA	Warramunga Arr	13.40	162	P	Pn	06 04 06.7	-0.5
	0.4nm,0.3s,baz=338,slow=14,SNR=19						
WRA				S	Sn	06 06 29.4	-6.2
	1.1nm,0.3s,baz=336,slow=23,SNR=13						
ASAR	Alice Springs	16.85	167	P	Pn	06 04 52.1	+2.2
	0.3nm,0.3s,baz=345,slow=9.9,SNR=18						
ASAR				S	S	06 07 50.8	-6.5
	0.1nm,0.3s,baz=353,slow=27,SNR=5.0						
MKAR	Makanchi Array	68.33	327	P	P	06 11 49.5	+1.8
	1.0nm,0.5s,baz=119,slow=7.5,SNR=11						

*IDC **01** 06:01:14.1±1.2, 5°80S×151°98E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/34, mbtmp3.7/7, MS2.8/1, Ms1 2.8/1, ms1mx2.5/27, Error ellipse: s-maj=48.8km s-min=24.1km az=107.0*
ISC 01 06:01:19.8±1.3, **5°8S**±0°2×**151°9E**±0°3, **h36**km, **n9**, σ**0s85**/8, **mb3.7**/7, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	8.74	115	LR	LR	06 07 06.9	
	comp=Z,57nm,18.5s,baz=332,slow=41						
WRA	Warramunga Arr	22.12	229	P	P	06 06 12.3	0.0
	0.5nm,0.4s,baz=55,slow=11,SNR=3.6						
ASAR	Alice Springs	24.81	222	P	P	06 06 39.0	+0.2
	0.9nm,0.9s,baz=54,slow=9.6,SNR=4.9						
KSRS	Korea Array	48.51	334	P	P	06 09 58.6	-0.5
	0.6nm,0.4s,baz=204,slow=40,SNR=1.7						
SONM	Songino Array	66.71	328	P	P	06 12 07.1	-0.2
	0.4nm,0.5s,baz=106,slow=42,SNR=2.1						
MKAR	Makanchi Array	80.50	319	P	P	06 13 29.5	+1.2
	0.2nm,0.5s,baz=111,slow=7.9,SNR=1.9						
ILAR	Eielson Array	83.42	22	P	P	06 13 43.4	+0.2
	1.4nm,0.6s,baz=248,slow=5.1,SNR=20						
QSPA	South Pole Qui	84.16	180	P	P	06 13 47.1	0.0
	0.4nm,0.7s,baz=62,slow=5.9,SNR=5.8						
TORD	Torodi Ar. Bea	149.76	286	PKPbc	PKPbc	06 21 05.7	-1.3
	1.3nm,0.6s,baz=88,slow=2.2,SNR=8.9						

*IDC **01** 06:07:54.1±1.4, 55°72S×124°00W, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.9/23, mbtmp4.0/6, MS3.7/6, Ms1 3.7/6, ms1mx3.5/21, Error ellipse: s-maj=38.3km s-min=31.6km az=171.0*
ISC 01 06:07:55.7±1.5, **55°7S**±0°2×**124°0W**±0°2, **h10**km, **n29**, σ**0s27**/10, **mb4.1**/6, **MS3.9**/6, **Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNDA	Vanda	33.03	203	LR	LR	06 25 14.8	
	comp=Z,65nm,20.7s,baz=60,slow=32						
QSPA	South Pole Qui	34.46	180	P	P	06 14 43.6	+0.3
	0.8nm,0.7s,baz=86,slow=3.3,SNR=2.5						
H03S2	Juan Fernandez	37.85	74	T	T	06 55 08.8	
	baz=218,slow=74,SNR=31						
H03S1	Juan Fernandez	37.85	74	T	T	06 55 14.7	
	baz=218,slow=74,SNR=49						
H03S3	Juan Fernandez	37.87	74	T	T	06 55 09.8	
	baz=218,slow=74,SNR=52						
H03N3	Juan Fernandez	38.14	73	T	T	06 55 28.4	
	baz=221,slow=72,SNR=60						
H03N2	Juan Fernandez	38.15	73	T	T	06 55 41.6	
	baz=221,slow=72,SNR=132						
H03N1	Juan Fernandez	38.16	73	T	T	06 55 30.9	
	baz=221,slow=72,SNR=74						
VNA3	Neumayer Olymp	45.18	155	P	P	06 16 11.8	-0.3
VNA1	Neumayer--Stat	45.93	155	P	P	06 16 18.3	+0.4
VNA2	Neumayer--Watz	45.94	156	P	P	06 16 18.2	+0.2
SNAA	Sanae	46.40	158	P	P	06 16 21.5	-0.2
SNAA	Sanae	46.40	158	P	P	06 16 21.5	-0.2
	2.3nm,0.8s,baz=204,slow=6.2,SNR=5.5						
CPUP	Villa Florida	55.60	87	LR	LR	06 37 52.2	
	comp=Z,42nm,18.0s,baz=224,slow=32						
MAW	Mawson	56.88	183	P	P	06 17 39.6	-0.3
	2.2nm,0.9s,baz=241,slow=10,SNR=3.7						
MAW				LR	LR	06 40 39.2	
	comp=Z,102nm,18.3s,baz=200,slow=34						
LPAZ	La Paz	57.67	70	P	P	06 17 46.9	0.0
	1.8nm,1.1s,baz=211,slow=5.9,SNR=4.2						
LPAZ				LR	LR	06 36 06.2	
	comp=Z,85nm,19.4s,baz=162,slow=29						
ROSC	El Rosal	72.80	53	LR	LR	06 46 13.2	
	comp=Z,78nm,20.1s,baz=198,slow=32						
H01W1	Cape Leeuwin H	77.05	226	T	T	07 45 20.5	
	baz=150,slow=76,SNR=26						
H01W2	Cape Leeuwin H	77.06	226	T	T	07 45 25.5	
	baz=150,slow=76,SNR=30						
H01W3	Cape Leeuwin H	77.07	226	T	T	07 45 31.9	
	baz=150,slow=76,SNR=25						
ASAR	Alice Springs	77.27	247	P	P	06 19 50.2	0.0
	0.8nm,0.7s,baz=152,slow=6.0,SNR=6.2						
WRA	Warramunga Arr	80.10	249	P	P	06 20 05.8	0.0
	2.2nm,0.8s,baz=146,slow=4.7,SNR=16						
BOSA	Boshof	91.98	153	LR	LR	06 57 56.7	
	comp=Z,37nm,19.9s,baz=180,slow=33						
H11S2	WAKE ISLAND Hy	94.03	297	T	T	08 05 47.0	
	baz=148,slow=76,SNR=8.3						
H11S3	WAKE ISLAND Hy	94.04	297	T	T	08 05 50.7	
	baz=148,slow=76,SNR=9.8						
H11S1	WAKE ISLAND Hy	94.04	297	T	T	08 05 55.5	
	baz=148,slow=76,SNR=8.4						
H11N3	WAKE ISLAND Hy	94.96	298	T	T	08 06 56.5	
	baz=147,slow=74						
H11N1	WAKE ISLAND Hy	94.96	298	T	T	08 07 01.0	
	baz=147,slow=74						
H11N2	WAKE ISLAND Hy	94.97	298	T	T	08 06 54.6	
	baz=147						

IDC 01 06:26:09.7±6.9, **4°88S**×**141°64E**, **h196**km±83km, **mb2.5**/1, **mb1 2.8**/3, **mb1mx2.7**/22, **mbtmp3.2**/3, **Error ellipse: s-maj=191.6km s-min=38.2km az=105.0**, **New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAY	Jayapura	2.53	338	P	Pn	06 26 54.6	+0.9
	0.8nm,0.3s,baz=213,slow=14,SNR=1.8						
JAY				S	Sn	06 27 28.2	+0.1
	1.0nm,0.3s,baz=320,slow=13,SNR=2.4						
WRA	Warramunga Arr	16.57	205	P	P	06 29 49.3	-1.1
	0.1nm,0.3s,baz=28,slow=12,SNR=6.0						
ASAR	Alice Springs	20.11	201	P	P	06 30 29.3	+0.5
	0.4nm,0.5s,baz=32,slow=12,SNR=5.4						
TORD	Torodi Ar. Bea	139.65	285	PKhKP	PKPpre	06 45 03.1	
	0.4nm,0.8s,baz=83,slow=3.5,SNR=2.5						
LPAZ	La Paz	143.81	126	PKP	PKPbc	06 45 22.4	+0.8
	3.1nm,0.3s,baz=271,slow=3.8,SNR=44						

*NEIC **01** 06:34:41.4±1.5, 5°6S±0°1×153°8E±0°1, h48km±8km, mb4.4/12, Error ellipse: s-maj=17.3km s-min=13.9km az=225.0*
*IDC **01** 06:34:45.0±7.2, 5°71S×153°80E, h87km±67km, mb3.9/9, mb1 4.1/10, mb1mx3.8/35, mbtmp4.3/10, ML3.6/1, MS3.5/9, Ms1 3.6/9, ms1mx3.3/27, Error ellipse: s-maj=29.1km s-min=26.7km az=168.0*
ISC 01 06:34:41.6±0.7, **5°60S**±0°10×**153°8E**±0°1, **h50**km, **n34**, σ**1s27**/26, **mb4.3**/13, **MS3.5**/7, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	Rabaul	2.15	310	Pn	Pn	06 35 15.5	+0.4
HNR	Honiara	7.18	122	LR	LR	06 38 59.0	
	comp=Z,330nm,20.2s,baz=302,slow=36						
MANU	Manus Island	7.33	299	Pn	Pn	06 36 25.4	-0.8
PATS	Pohnpei	13.15	20	Pn	Pn	06 37 42.9	-2.9
COEN	Coen	13.36	231	Pn	Pn	06 37 50.4	+1.6
JAY	Jayapura	13.42	283	LR	LR	06 43 10.7	
	comp=Z,158nm,20.9s,baz=2.0,slow=38						
CTA	Charters Tower	16.17	206	P	Pn	06 38 26.3	+0.7
	0.1nm,0.3s,baz=27,slow=11,SNR=6.2						
DZM	Mont Dzumac	20.43	144	P	P	06 39 14.6	-0.5
	8.7nm,0.5s,baz=285,slow=7.5,SNR=30						
DZM				LR	LR	06 46 27.0	
	comp=Z,226nm,20.8s,baz=34,slow=34						
DZM	Mont Dzumac	20.43	144	P	P	06 39 14.4	-0.6
DZM				IAmb	IAmb	06 39 16.7	
	comp=Z,44nm,1.4s						
OUENC	Ouen Island, N	20.93	144	P	P	06 39 19.9	-0.4
WR0	Warramunga Arr	23.55	231	P	P	06 39 47.5	-0.3
WR0				IAmb	IAmb	06 39 47.7	
	comp=Z,10.0nm,1.0s						
WB0	Warramunga Arr	23.56	232	P	P	06 39 47.1	-0.7
WB0				IAmb	IAmb	06 39 47.7	
	comp=Z,14nm,1.1s						
WRAB	Tennant Creek	23.69	231	P	P	06 39 46.3	-2.7
WRAB				IAmb	IAmb	06 39 48.7	
	comp=Z,8.9nm,0.6s						
WB2	Warramunga Arr	23.69	231	P	P	06 39 48.2	-0.9
WB2				IAmb	IAmb	06 39 48.9	
	comp=Z,10.0nm,0.9s						
WRA	Warramunga Arr	23.70	231	P	P	06 39 48.3	-0.8
	comp=Z,5.9nm,0.8s,baz=55,slow=9.5,SNR=28						
WRA				PcP	PcP	06 43 31.4	-1.0
	comp=Z,0.6nm,0.9s,baz=59,slow=2.7,SNR=1.7						
WRA				LR	LR	06 49 10.6	
	comp=Z,88nm,18.6s,baz=275,slow=37						
ASAR	Alice Springs	26.27	225	P	P	06 40 11.4	-1.0
	comp=Z,5.0nm,1.0s,baz=58,slow=9.6,SNR=16						
ASAR				PcP	PcP	06 43 37.4	-0.8
	comp=Z,0.3nm,0.6s,baz=73,slow=2.5,SNR=2.1						
ASAR				LR	LR	06 50 09.5	
	comp=Z,120nm,20.9s,baz=89,slow=35						
KNRA	Kununurra	26.54	246	P	P	06 40 14.8	-0.2
H11S3	WAKE ISLAND Hy	27.10	28	T	T	07 08 37.4	
	baz=208,slow=76,SNR=68						
H11S2	WAKE ISLAND Hy	27.11	28	T	T	07 08 44.6	
	baz=208,slow=76,SNR=69						
H11S1	WAKE ISLAND Hy	27.12	28	T	T	07 08 38.3	
	baz=208,slow=76,SNR=57						
STKA	Stephens Creek	28.53	202	LR	LR	06 52 29.3	
	comp=Z,78nm,18.3s,baz=23,slow=37						
FORT	Forrest	34.82	221	P	P	06 41 26.5	-1.4
QRZ	Quartz Range	38.88	157	P	P	06 42 03.7	+1.5
BKZ	Black Stump Fm	39.21	152	P	P	06 42 04.7	-0.4
CMAR	Chiang Mai Arr	59.12	295	P	P	06 44 37.2	-0.4
	comp=Z,2.5nm,0.3s,baz=108,slow=5.0,SNR=11						
SONM	Songino Array	67.53	328	P	P	06 45 33.8	+1.0
	comp=Z,0.6nm,0.7s,baz=146,slow=8.0,SNR=2.4						
MKAR	Makanchi Array	81.58	319	P	P	06 46 53.5	-0.7
	comp=Z,1.4nm,1.0s,baz=113,slow=5.9,SNR=5.1						
ZALV	Zalesovo Beam	82.37	326	P	P	06 46 56.8	-1.3
	comp=Z,1.0nm,0.3s,baz=104,slow=7.9,SNR=4.5						
ILAR	Eielson Array	82.52	22	P	P	06 46 58.2	-0.5
	comp=Z,0.6nm,0.6s,baz=247,slow=5.4,SNR=9.9						
ILAR				LR	LR	07 22 36.2	
	comp=Z,26nm,18.5s,baz=174,slow=35						
BOOM	Boomskoye usch	84.87	313	P	P	06 47 10.7	-0.8
BOOM				IAmb	IAmb	06 47 23.0	
	comp=Z,2.6nm,0.7s						
NRIK	Noril'sk	87.04	341	P	P	06 47 21.5	+0.1
	comp=Z,3.7nm,0.5s,baz=136,slow=7.3,SNR=2.7						
NVAR	Mina Array Bea	91.79	52	LR	LR	07 25 24.8	
	comp=Z,36nm,18.0s,baz=238,slow=33						
PDAR	Pinedale Array	98.64	48	LR	LR	07 26 06.8	
	comp=Z,32nm,21.4s,baz=267,slow=31						
TORD	Torodi Ar. Bea	151.50	287	PKPbc	PKPdf	06 54 28.8	+3.7
	comp=Z,0.4nm,0.4s,baz=62,slow=2.4,SNR=4.1						

MEX 01 06:40:45.8±0.9, **16°12N**×**99°30W**, **h19**km±124km, **MD3.9**, **1D**, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAIG	Los Arroyos	0.96	339	eP	Pb	06 41 00.5	-3.3
DAIG				eS	Sb	06 41 12.4	-3.8
PNIG	Pinotepa	1.16	76	eP	Pn	06 41 03.1	-4.0
PNIG				eS	Sb	06 41 15.8	-6.1
MGIG	Malinaltepec	1.28	30	eP	Pn	06 41 05.5	-3.4
MGIG				eS	Sb	06 41 20.8	-4.7
TLIG	Tlapa	1.60	26	eP	Pn	06 41 10.7	-2.5
TLIG				eS	Sn	06 41 29.7	-3.7
MEIG	Mezcala	1.82	350	⇓eP	Pn	06 41 14.6	-1.7
MEIG				eS	Sn	06 41 36.1	-2.8
HLIG	Huajuapan de L	2.22	40	eP	Pn	06 41 18.8	-3.1
HLIG				eS	Sn	06 41 46.9	-2.0
TOIG	Toxpalan	2.90	47	eP	Pn	06 41 28.1	-3.0
TOIG				eS	Sn	06 42 03.2	-2.4

EAF 01 07:08:59.8±0.5, **9°13N**×**38°62E**, **h0**km±92km, **1D**, **Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAE	Adis Abeba	0.18	125	eP	Pg	07 09 02.8	-0.4
AAE				eS	Sg	07 09 05.0	-0.5
AAE				eS		07 09 11.1	
AAE	Adis Abeba	0.18	125	eP	Pg	07 09 02.8	-0.5
AAE				eS	Sg	07 09 05.0	-0.6
AAE	Adis Abeba	0.18	125	eP	Pg	07 09 02.8	-0.5
AAE				eS	Sg	07 09 05.3	-0.2
AAE	Adis Abeba	0.18	125	i P	Pg	07 09 02.8	-0.5
AAE				i S	Sg	07 09 05.0	-0.5
AAE	Adis Abeba	0.18	125	eP	Pg	07 09 02.6	-0.6
AAE				⇓eS	Sg	07 09 05.4	-0.1
FURI	Furi	0.24	165	eP	Pg	07 09 04.1	-0.3
FURI				eS	Sg	07 09 12.3	+4.8
FURI	Furi	0.24	165	i P	Pg	07 09 04.2	-0.2
FURI				i S	Sg	07 09 06.9	-0.7
FURI	Furi	0.24	165	i P	Pg	07 09 04.2	-0.2
FURI				i S	Sg	07 09 07.6	+0.1
FURI	Furi	0.24	165	i P	Pg	07 09 04.2	-0.2
FURI				eS	Sg	07 09 07.6	0.0
FURI	Furi	0.24	165	i P	Pg	07 09 04.2	-0.2
FURI				i S	Sg	07 09 07.7	+0.1
ANKE	Ethiopia-Afar	1.19	67	eP	Pg	07 09 21.3	-1.4
ANKE				eS	Sg	07 09 37.4	-0.8
ANKE	Ethiopia-Afar	1.19	67	i P	Pn	07 09 37.6	+13
ANKE				i S	Sn	07 09 42.5	+1.3

*DJA **01** 07:25:32.1±0.6, 3°N±4°×12°8E±°, h10km, M4.3/6, mb4.3/2, mB4.6/2, MLv4.4/6, Mw(mB)3.8/2*
*IDC **01** 07:25:32.2±1.0, 2°57N×127°84E, h0km, mb4.0/7, mb1 4.2/8, mb1mx3.9/42, mbtmp4.1/8, ML4.6/1, MS3.4/9, Ms1 3.4/9, ms1mx3.2/33, Error ellipse: s-maj=46.2km s-min=15.9km az=69.0*
*NEIC **01** 07:25:34.5±0.5, 2°53N±0°09×127°7E±0°1, h10km±2km, mb4.4/11, Error ellipse: s-maj=24.7km s-min=15.6km az=93.0*
ISC 01 07:25:37.0±0.7, **2°55N**±0°06×**127°81E**±0°07, **h35**km, **n41**, σ**1s30**/36, **mb4.2**/11, **MS3.5**/6, **1D**, **Northern Molucca Sea**

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GAMI	**Galela, Maluku**	**0.70**	**181**	P	**Pn**	**07 25 48.3**	**-2.2**
GAMI				S	**Sn**	**07 25 59.0**	**-1.1**
TNTI	**Ternate**	**1.81**	**194**	Pn	**Pn**	**07 26 05.9**	**+0.1**
TNTI	**Ternate**	**1.81**	**194**	P	**Pn**	**07 26 05.2**	**-0.6**
TNTI				S	**Sn**	**07 26 30.9**	**+3.3**
SGSI	**Sangihe**	**2.54**	**297**	P	Pn	07 26 09.9	-5.8
MNI	**Manado**	**3.16**	**250**	P	**Pn**	**07 26 21.3**	**-3.0**
KMSI	**Cibinong**	**4.29**	**243**	P	**Pn**	**07 26 38.9**	**-1.0**
SWI	**Sorong**	**4.84**	**134**	P	**Pn**	**07 26 47.7**	**+0.4**
SIJI	**Sorong**	**4.84**	**134**	Pn	**Pn**	**07 26 47.3**	**-0.2**
	27nm,0.3s,baz=342,slow=19,SNR=16						
SIJI				Sn	**Sn**	**07 27 41.4**	**-1.0**
	4.5nm,0.3s,baz=236,slow=22,SNR=1.6						
SIJI				LR	LR	07 28 50.0	
	comp=Z,372nm,19.8s,baz=120,slow=41						
SIJI	**Sorong**	**4.84**	**134**	P	**Pn**	**07 26 47.3**	**-0.2**
SANI	**Sanana**	**4.91**	**202**	P	**Pn**	**07 26 47.0**	**-1.4**
	0.2nm909nm32nm,1.0s						
SANI				S	**Sn**	**07 27 46.6**	**+2.6**
	0.2nm909nm32nm,1.0s						
GTOI	**Gorontalo**	**5.15**	**248**	P	**Pn**	**07 26 51.9**	**+0.2**
KCP	**Kidapawan**	**5.20**	**329**	⇓*e*P	**Pn**	**07 26 53.5**	**+1.1**
FAKI	**Fak Fak**	**7.01**	**141**	Pn	**Pn**	**07 27 18.4**	**+1.2**
KAPI	**Kappang**	**11.01**	**227**	LR	LR	07 31 54.6	
	comp=Z,58nm,20.0s,baz=97,slow=35						
JAY	**Jayapura**	**13.84**	**111**	LR	LR	07 32 55.0	
	comp=Z,124nm,20.2s,baz=152,slow=32						
MTN	**Manton Dam**	**15.64**	**168**	Pn	**P**	**07 29 14.9**	**-3.8**
MTN				IAmb	IAmb	07 29 28.0	
	comp=Z,24nm,1.1s						
KNRA	**Kununurra**	**18.13**	**177**		**P**	**07 29 46.2**	**0.0**
KNRA				IAmb	IAmb	07 30 00.3	
	comp=Z,35nm,1.4s						
GUMO	**Guam**	**20.12**	**56**	LR	LR	07 36 15.3	
	comp=Z,123nm,19.8s,baz=228,slow=32						
COEN	**Coen**	**22.39**	**137**	P	**P**	**07 30 32.6**	**+0.1**
COEN				IAmb	IAmb	07 30 40.5	
	comp=Z,5.8nm,0.9s						
WB0	**Warramunga Arr**	**23.10**	**164**	P	**P**	**07 30 40.0**	**0.0**
WB0				IAmb	IAmb	07 30 47.3	
	comp=Z,17nm,0.8s						
WRAB	**Tennant Creek**	**23.24**	**164**	P	**P**	**07 30 41.6**	**+0.2**
WRAB				IAmb	IAmb	07 30 46.8	
	comp=Z,22nm,0.9s						
WRA	**Warramunga Arr**	**23.25**	**164**	P	**P**	**07 30 41.3**	**-0.1**
	comp=Z,7.4nm,0.8s,baz=342,slow=10,SNR=39						
WB2	**Warramunga Arr**	**23.25**	**164**	P	**P**	**07 30 41.4**	**-0.1**
WR0	**Warramunga Arr**	**23.32**	**164**	P	**P**	**07 30 42.5**	**+0.4**
WR0				IAmb	IAmb	07 31 05.5	
	comp=Z,13nm,1.1s						
AS31	**Alice Springs**	**26.72**	**167**	P	**P**	**07 31 13.5**	**+0.1**
ASAR	**Alice Springs**	**26.72**	**167**	P	**P**	**07 31 13.8**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=349,slow=6.7,SNR=14						
ASAR	**Alice Springs**	**26.72**	**167**	P	**P**	**07 31 13.5**	**+0.1**
JCJ	**Chichijima**	**28.03**	**28**	LR	LR	07 41 59.5	
	comp=Z,28nm,20.0s,baz=134,slow=35						
CMAR	**Chiang Mai Arr**	**32.40**	**301**	P	**P**	**07 32 04.1**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=112,slow=8.9,SNR=2.2						
CMAR				LR	LR	07 46 53.7	
	comp=Z,96nm,18.3s,baz=264,slow=40						
BBOO	**Buckleboo**	**36.02**	**168**	P	**P**	**07 32 35.0**	**+0.1**
STKA	**Stephens Creek**	**36.65**	**160**	P	**P**	**07 32 41.0**	**+0.7**
	comp=Z,4.6nm,0.6s,baz=335,slow=9.8,SNR=10						
STKA				LR	LR	07 50 39.7	
	comp=Z,98nm,20.5s,baz=21,slow=41						
STKA	**Stephens Creek**	**36.65**	**160**	P	**P**	**07 32 40.5**	**+0.1**
STKA				IAmb	IAmb	07 32 52.0	
	comp=Z,4.2nm,1.2s						
H11S3	**WAKE ISLAND Hy**	**41.24**	**65**	T	T	08 17 10.5	
	baz=252,slow=75,SNR=29						
H11S2	**WAKE ISLAND Hy**	**41.26**	**65**	T	T	08 17 18.3	
	baz=252,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**41.26**	**65**	T	T	08 17 14.2	
	baz=252,slow=75,SNR=11						
USRK	**Ussuriysk Ar.**	**41.65**	**5**	P	**P**	**07 33 22.1**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=179,slow=8.8,SNR=2.0						
USRK	**Ussuriysk Ar.**	**41.65**	**5**	P	**P**	**07 33 22.9**	**+1.0**
KLR	**Kul'dur**	**46.63**	**4**	P	**P**	**07 34 01.9**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=178,slow=17,SNR=1.6						
SONM	**Songino Array**	**48.76**	**341**	P	**P**	**07 34 18.7**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=158,slow=6.4,SNR=3.5						
SONM				LR	LR	07 57 01.3	
	comp=Z,78nm,18.6s,baz=226,slow=39						
SONM	**Songino Array**	**48.76**	**341**	P	**P**	**07 34 19.0**	**+0.5**
ARCES	**ARCESS Array B**	**91.92**	**340**	LR	LR	08 25 09.4	
	comp=Z,41nm,18.4s,baz=60,slow=39						

*NNC **01** 07:32:27.4±0.4, 44°.37N×76°.12E, h0^{km}±3^{km}, mb4.3, mpv4.3, Error ellipse: s-maj=2.7km s-min=2.1km az=171.0, Suspected Mining explosion.*
*SOME **01** 07:32:28.3, 44°.38N×76°.13E, h20^{km}, MS2.4*
ISC 01 07:32:26.6±0.8**, 44°.39N**±0°.02×**76°.07E**±0°.02**, h0^{km}, n72, σ1^s.00**/117**, 11C-6D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUU	**Kurty**	**0.53**	**158**	*e*P	**Pb**	**07 32 38.2**	**-0.6**
	1µm,0.2s						
KUU				*e*S	**Sg**	**07 32 44.9**	**+1.2**
	2µm,0.1s						
KUU	**Kurty**	**0.53**	**158**	P	**Pb**	**07 32 37.8**	**-1.0**
	1µm,0.2s						
KUU				S	**Sg**	**07 32 44.4**	**+0.8**
	2µm,0.2s						
KRBS	**Karabastau**	**0.75**	**202**	*e*P	**Pb**	**07 32 42.2**	**-0.3**
	555nm,0.2s						
KRBS				*e*S	**Sg**	**07 32 51.9**	**+1.3**
	922nm,0.2s						
KRBS	**Karabastau**	**0.75**	**202**	P	**Pb**	**07 32 42.2**	**-0.3**
	555nm,0.2s						
KRBS				S	**Sg**	**07 32 51.9**	**+1.3**
	922nm,0.2s						
KTBS	**Karatobe**	**0.81**	**147**	*e*P	**Pb**	**07 32 43.0**	**-0.6**
	152nm,0.2s						
KTBS				*e*S	**Sg**	**07 32 53.4**	**+0.8**
	3µm,0.3s						
KTBS	**Karatobe**	**0.81**	**147**	P	**Pb**	**07 32 43.0**	**-0.6**
	152nm,0.2s						
KTBS				S	**Sg**	**07 32 53.4**	**+0.8**
	3µm,0.3s						
CHKK	**Chushkaly**	**0.85**	**129**	*e*P	**Pb**	**07 32 43.5**	**-0.7**
	209nm,0.2s						
CHKK				*e*S	**Sg**	**07 32 54.2**	**+0.3**
	2µm,0.3s						
CHKK	**Chushkaly**	**0.85**	**129**	P	**Pb**	**07 32 43.5**	**-0.7**
	209nm,0.2s						
CHKK				S	**Sg**	**07 32 54.2**	**+0.3**
	2µm,0.3s						
DGS	**Degeres**	**1.17**	**191**	*e*P	**Pb**	**07 32 49.3**	**-0.4**
	268nm,0.2s						
DGS				*e*S	**Sg**	**07 33 04.0**	**0.0**
	558nm,0.2s						
DGS	**Degeres**	**1.17**	**191**	P	**Pb**	**07 32 49.3**	**-0.4**
	268nm,0.2s						
DGS				S	**Sg**	**07 33 04.0**	**0.0**
	558nm,0.2s						
ARXS	**Arharly**	**1.27**	**97**	*e*P	**Pb**	**07 32 50.8**	**-0.7**
	1µm,0.3s						
ARXS				*e*S	**Sg**	**07 33 06.7**	**-0.8**
	708nm,0.4s						
ARXS	**Arharly**	**1.27**	**97**	P	**Pb**	**07 32 50.8**	**-0.7**
	1µm,0.3s						
ARXS				S	**Sg**	**07 33 06.7**	**-0.8**
	708nm,0.4s						
MTBS	**Maitube**	**1.28**	**168**	*e*P	**Pn**	**07 32 51.7**	**-0.2**
	227nm,0.2s						
MTBS				*e*S	**Sb**	**07 33 08.4**	**-0.4**
	436nm,0.4s						
MTBS	**Maitube**	**1.28**	**168**	P	**Pn**	**07 32 51.7**	**-0.2**
	227nm,0.2s						
MTBS				S	**Sb**	**07 33 08.4**	**-0.4**
	436nm,0.4s						
AAA	**Alma-Ata**	**1.33**	**152**	*e*P	**Pn**	**07 32 52.6**	**+0.2**
	230nm,0.2s						
AAA				*e*S	**Sb**	**07 33 09.9**	**-0.2**
	1µm,0.1s						
KNDC	**Almaty**	**1.34**	**151**	⇓P	**Pn**	**07 32 52.9**	**+0.3**
	66nm,0.3s						
KNDC				⇑S	**Sn**	**07 33 10.9**	**-0.2**
	220nm,0.3s						
KST	**Kastek**	**1.35**	**183**	*e*P	**Pb**	**07 32 52.7**	**0.0**
	96nm,0.3s						
KST				*e*S	**Sg**	**07 33 09.9**	**+0.1**
	136nm,0.3s						
KST	**Kastek**	**1.35**	**183**	P	**Pb**	**07 32 52.7**	**0.0**
	96nm,0.3s						
KST				S	**Sg**	**07 33 09.9**	**+0.1**
	136nm,0.3s						
KOTS	**Kotyrbulak**	**1.38**	**146**	*e*P	**Pb**	**07 32 53.4**	**+0.1**
	104nm,0.1s						
KOTS				*e*S	**Sb**	**07 33 11.1**	**-0.5**
	1µm,0.5s						
KOTS	**Kotyrbulak**	**1.38**	**146**	P	**Pb**	**07 32 53.4**	**+0.1**
	104nm,0.1s						
KOTS				S	**Sb**	**07 33 11.1**	**-0.5**
	1µm,0.5s						
SGDS	**Sogindy**	**1.40**	**228**	P	**Pb**	**07 32 54.0**	**+0.4**
	98nm,0.2s						
SGDS				S	**Sb**	**07 33 12.2**	**+0.1**
	728nm,0.3s						
IZV	**Izvestkoviy**	**1.41**	**164**	*e*P	**Pb**	**07 32 54.0**	**+0.2**
	130nm,0.2s						
IZV				*e*S	**Sb**	**07 33 12.1**	**-0.3**
	495nm,0.2s						
IZV	**Izvestkoviy**	**1.41**	**164**	P	**Pb**	**07 32 54.0**	**+0.2**
	130nm,0.2s						
IZV				S	**Sb**	**07 33 12.1**	**-0.3**
	495nm,0.2s						
MDOK	**Medeo**	**1.42**	**150**	*e*P	**Pb**	**07 32 53.9**	**0.0**
	90nm,0.4s						
MDOK				*e*S	**Sb**	**07 33 12.2**	**-0.4**
	547nm,0.4s						
MDOK	**Medeo**	**1.42**	**150**	⇑P	**Pb**	**07 32 53.7**	**-0.3**
	42nm,0.4s						
MDOK				⇑S	**Sb**	**07 33 12.5**	**-0.1**
	124nm,0.3s						
MDOK	**Medeo**	**1.42**	**150**	Pg	**Pb**	**07 32 53.9**	**0.0**
	90nm,0.4s						
MDOK				Lg	Lg	07 33 12.2	
	547nm,0.4s						
TNSS	**Tian-Shan**	**1.49**	**154**	P	**Pb**	**07 32 55.1**	**-0.3**
	89nm,0.1s						
TNSS				S	**Sg**	**07 33 14.4**	**-0.2**
	532nm,0.2s						
TKM2	**Tokmak 2**	**1.51**	**193**	P	**Pb**	**07 32 55.9**	**+0.4**
	SNR=402						
BTLS	**Baital**	**1.58**	**295**	*e*P	**Pg**	**07 32 57.2**	**+0.3**
	160nm,0.5s						
BTLS				*e*S	**Sg**	**07 33 17.7**	**+0.3**
	164nm,0.3s						
BTLS	**Baital**	**1.58**	**295**	P	**Pg**	**07 32 57.2**	**+0.3**
	160nm,0.5s						
BTLS				S	**Sg**	**07 33 17.7**	**+0.3**
	164nm,0.3s						
USP	**Ospenovka**	**1.60**	**226**	P	**Pg**	**07 32 57.8**	**+0.6**
	SNR=297						
CHMS	**Chumysh**	**1.69**	**215**	P	**Pg**	**07 32 59.4**	**+0.5**
	SNR=52						
KURS	**Kuram**	**1.77**	**120**	*e*P	**Pg**	**07 32 59.7**	**-0.7**
	65nm,0.4s						
KURS				*e*S	**Sb**	**07 33 22.0**	**-0.5**
	398nm,0.4s						
KURS	**Kuram**	**1.77**	**120**	P	**Pg**	**07 32 59.7**	**-0.7**
	65nm,0.4s						
KURS				S	**Sb**	**07 33 22.0**	**-0.5**
	398nm,0.4s						
TDK	**Taldyqorghan**	**1.78**	**69**	*e*P	**Pb**	**07 32 59.7**	**-0.3**
	2µm,0.5s						
TDK				*e*S	**Sb**	**07 33 22.0**	**-0.8**
	4µm,0.5s						
TDK	**Taldyqorghan**	**1.78**	**69**	P	**Pb**	**07 32 59.7**	**-0.3**
	2µm,0.5s						
TDK				S	**Sb**	**07 33 22.0**	**-0.8**
	4µm,0.5s						
KBK	**Karagaybulak**	**1.91**	**206**	P	**Pg**	**07 33 02.9**	**-0.4**
	SNR=46						
AAK	**Ala-Archa**	**2.09**	**214**	P	**Pb**	**07 33 06.0**	**+0.5**
	SNR=27						
KPKS	**Kokpek**	**2.10**	**115**	*e*P	**Pb**	**07 33 04.7**	**-0.9**
	162nm,0.3s						
KPKS				*e*S	**Sb**	**07 33 31.0**	**-1.4**
	571nm,0.4s						
ZHN	**Zhinishke**	**2.10**	**125**	*e*P	**Pb**	**07 33 05.3**	**-0.3**
	107nm,0.3s						
ZHN				*e*S	**Sb**	**07 33 31.8**	**-0.6**
	136nm,0.3s						
ZHN	**Zhinishke**	**2.10**	**125**	Pg	**Pb**	**07 33 05.3**	**-0.3**
	107nm,0.3s						
ZHN				Lg	Lg	07 33 31.8	
	136nm,0.3s						
ULHL	**Ulahol**	**2.15**	**177**	P	**Pb**	**07 33 06.3**	**-0.1**
	SNR=556						
SATY	**Saty**	**2.15**	**127**	*e*P	**Pb**	**07 33 05.9**	**-0.7**
	31nm,0.3s						
SATY				*e*S	**Sb**	**07 33 33.0**	**-0.8**
	1µm,0.1s						
SATY	**Saty**	**2.15**	**127**	Pg	**Pb**	**07 33 05.9**	**-0.7**
	31nm,0.3s						
SATY				Lg	Lg	07 33 33.0	
	1µm,0.1s						
KZA	**Kyzart**	**2.39**	**195**	P	**Pb**	**07 33 10.4**	**-0.3**
	SNR=102						
EKS2	**Erkin-Say**	**2.40**	**225**	P	**Pb**	**07 33 09.7**	**-1.1**
	SNR=21						
UZB	**Uzynbulak**	**2.47**	**119**	*e*P	**Pb**	**07 33 11.2**	**-0.8**
	40nm,0.2s						
UZB				*e*S	**Sb**	**07 33 41.7**	**-1.3**
	257nm,0.3s						
UZB	**Uzynbulak**	**2.47**	**119**	Pg	**Pb**	**07 33 11.2**	**-0.8**
	40nm,0.2s						
UZB				Lg	Lg	07 33 41.7	
	257nm,0.3s						
KAPS	**Kapalarasan**	**2.50**	**68**	*e*P	**Pb**	**07 33 12.2**	**-0.2**
	11nm,0.3s						
KAPS				*e*S	**Sb**	**07 33 43.8**	**-0.1**
	75nm,0.3s						
KAPS	**Kapalarasan**	**2.50**	**68**	Pg	**Pb**	**07 33 12.2**	**-0.2**
	11nm,0.3s						
KAPS				Lg	Lg	07 33 43.8	
	75nm,0.3s						
MRKS	**Merke**	**2.64**	**232**	*e*P	**Pg**	**07 33 16.0**	**-1.2**
	29nm,0.3s						
MRKS				*e*S	**Sg**	**07 33 49.9**	**-1.5**
	362nm,0.5s						
MRKS	**Merke**	**2.64**	**232**	Pg	**Pg**	**07 33 16.0**	**-1.2**
	29nm,0.3s						
MRKS				Lg	Lg	07 33 49.9	
	362nm,0.5s						
DJR	**Jarkent**	**2.67**	**90**	*e*P	**Pb**	**07 33 15.3**	**0.0**
	8.6nm,0.3s						
DJR				*e*S	**Sb**	**07 33 48.6**	**0.0**
	10nm,0.3s						
DJR	**Jarkent**	**2.67**	**90**	Pg	**Pb**	**07 33 15.3**	**0.0**
	8.6nm,0.3s						
DJR				Lg	Lg	07 33 48.6	
	10nm,0.3s						
PDGK	**Podgornoye**	**2.69**	**112**	Pg	**Pb**	**07 33 15.0**	**-0.7**
	27nm,0.5s						
PDGK				Lg	Lg	07 33 48.2	
	80nm,0.6s						
PDGK	**Podgornoye**	**2.69**	**112**	⇑Pg	**Pb**	**07 33 15.7**	**0.0**
	38nm,0.6s						
PDGK				⇑Lg	Lg	07 33 48.5	
	102nm,0.6s						
SHLS	**Shalkode**	**2.75**	**115**	*e*P	**Pg**	**07 33 21.1**	**+1.8**
	60nm,0.3s						
SHLS				*e*S	**Sg**	**07 33 58.6**	**+3.7**
	272nm,0.5s						
SHLS	**Shalkode**	**2.75**	**115**	Pg	**Pg**	**07 33 21.1**	**+1.8**
	60nm,0.3s						
SHLS				Lg	Lg	07 33 58.6	
	272nm,0.5s						
AML	**Almayashu**	**2.85**	**218**	P	**Pb**	**07 33 17.1**	**-1.4**
	SNR=11						
KTMS	**Ketmen**	**3.23**	**105**	*e*P	**Pb**	**07 33 24.2**	**-0.8**
	0.1nm,0.1s						
KTMS				*e*S	**Sb**	**07 34 04.0**	**-0.9**
	41nm,0.2s						
KTMS	**Ketmen**	**3.23**	**105**	Pg	**Pb**	**07 33 24.2**	**-0.8**
	0.1nm,0.1s						
KTMS				Lg	Lg	07 34 04.0	
	41nm,0.2s						
DZA	**Taraz**	**3.75**	**248**	*e*P	**Pg**	**07 33 37.4**	**-1.1**
	67nm,0.1s						
DZA				*e*S	**Sg**	**07 34 26.3**	**-0.7**
	231nm,0.3s						
DZA	**Taraz**	**3.75**	**248**	Pg	**Pg**	**07 33 37.4**	**-1.1**
	67nm,0.1s						
DZA				Lg	Lg	07 34 26.3	
	231nm,0.3s						
KK31	**Karatay Array**	**4.23**	**254**	⇓Pn	**Pn**	**07 33 34.2**	**+2.0**
	0.6nm,0.4s,baz=74,slow=11,SNR=56						
KK31				⇑Pg	**Pg**	**07 33 45.5**	**-2.1**
	7.3nm,0.3s,baz=67,slow=17,SNR=10						
KK31				⇓Lg	Lg	07 34 43.6	
	18nm,0.3s,baz=71,slow=30,SNR=15						
OTUK	**Ortayu**	**4.64**	**327**	⇑Pg	**Pg**	**07 33 54.8**	**-0.7**
	4.5nm,0.3s						
OTUK				⇑Lg	Lg	07 34 53.1	
	33nm,0.4s						
BRLS	**Borolday**	**4.72**	**255**	*e*P	**Pg**	**07 33 59.0**	**+2.0**
	4.8nm,0.2s						
BRLS				*e*S	**Sg**	**07 35 03.5**	**+5.4**
	40nm,0.5s						
BRLS	**Borolday**	**4.72**	**255**	Pg	**Pg**	**07 33 59.0**	**+2.0**
	4.8nm,0.2s						
BRLS				Lg	Lg	07 35 03.5	
	40nm,0.5s						
MAKZ	**Makanchi**	**4.80**	**58**	⇓Pn	**Pn**	**07 33 40.7**	**+0.6**
	5.4nm,0.7s						
MAKZ				⇑Lg	Lg	07 34 54.9	
	17nm,0.5s						
IUG	**Iuzhnay**	**4.95**	**245**	*e*P	**Pg**	**07 33 60.0**	**-1.4**
	423nm,0.7s						
IUG				*e*S	**Sg**	**07 35 05.0**	**-0.4**
	201nm,0.8s						
IUG	**Iuzhnay**	**4.95**	**245**	Pg	**Pg**	**07 33 60.0**	**-1.4**
	423nm,0.7s						
IUG				Lg	Lg	07 35 05.0	
	201nm,0.8s						
MK31	**Makanchi Array**	**4.99**	**59**	⇓Pn	**Pn**	**07 33 43.6**	**+0.9**
	2.8nm,0.3s,baz=240,slow=11,SNR=142						
MK31				⇑Lg	Lg	07 34 59.0	
	28nm,0.7s,baz=242,slow=26,SNR=6.2						
KURBB	**Kurchatov Arra**	**6.46**	**14**	⇓Pn	**Pn**	**07 34 02.3**	**-0.5**
	1.6nm,0.3s						
KURBB				⇑Lg	Lg	07 35 48.1	
	68nm,0.6s						

MEX 01 07:41:23.8±1.2**, 16°.55N**×**98°.43W, h20^{km}**±7^{km}**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.34**	**119**	*i* P	Pb	07 41 29.4	-1.7
PNIG				*i* S	Sb	07 41 34.5	-1.5
MGIG	**Malinaltepec**	**0.70**	**344**	*i* P	Pb	07 41 34.4	-3.1
MGIG				*i* S	Sb	07 41 44.4	-2.4
TLIG	**Tlapa**	**1.01**	**353**	*i* P	Pb	07 41 39.8	-2.9
TLIG				*e*S	Sb	07 41 51.8	-3.9
DAIG	**Los Arroyos**	**1.25**	**292**	*i* P	Pn	07 41 43.4	-2.8
DAIG				*e*S	Sn	07 41 57.8	-4.8
PEIG	**Puerto Escondi**	**1.35**	**114**	*i* P	Pn	07 41 45.5	-2.1
PEIG				*e*S	Sn	07 42 00.9	-4.1
HLIG	**Huajuapan de L**	**1.41**	**25**	*i* P	Pn	07 41 45.8	-2.7
HLIG				*e*S	Sn	07 42 03.9	-2.7
VHO	**Vista Hermosa**	**1.71**	**72**	*i* P	Pn	07 41 51.3	-1.3
VHO				*i* S	Sn	07 42 10.9	-3.1

GCMT 01 07:51:59.0±0.2**, 62°.76S**±0°.01×**158°.57W**±0°.03**, h17^{km}**±1^{km}**, MW5.0**/96**, Moment Tensor Solution. s17,c18; s96,c132; Duration: 0 Moment tensor: Scale** 10^{16} **Nm;** M_{rr}-1.31±.19; $M_{\theta\theta}$3.93±.17; $M_{\phi\phi}$-2.63±.11; $M_{r\theta}$-0.27±.32; $M_{\theta\phi}$1.09±.09; $M_{\phi r}$2.66±.48; **Best double couple:** $M_0$4.47200×10^{16} **NP1:**ϕ_s119.00000°,δ63.00000°, λ-27.00000°. **NP2:**ϕ_s222.00000°,δ66.00000°, λ-150.00000°. **Principal axes:** T 4.1120, Plg2.0000°, Azm350.0000°; N 0.7090, Plg53.0000°, Azm257.0000°; P -4.8310, Plg37.0000°, Azm82.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBI	**Tubuai**	**39.87**	**13**	*e*LR	LR	08 10 08.7	
	comp=Z,575nm,27.5s						
TBI	**Tubuai**	**39.87**	**13**	*e*T	T	08 42 46.4	
	22nm,0.3s						
VNA3	**Neumayer Olymp**	**44.55**	**166**	P	P	08 00 02.3	-6.8
VNA2	**Neumayer--Watz**	**45.09**	**167**	P	P	08 00 06.4	-7.0
	baz=211,slow=6.6						
VNA1	**Neumayer--Stat**	**45.27**	**167**	P	P	08 00 08.3	-6.5
PPT2	**Papeete2**	**45.56**	**12**	*e*LR	LR	08 12 41.8	
	comp=Z,670nm,27.2s,baz=210						
PPT2	**Papeete2**	**45.56**	**12**	*e*T	T	08 49 52.5	
	3.4nm,0.3s						
TIAR	**Tiarei**	**45.61**	**12**	*e*T	T	08 49 56.4	
	0.9nm,0.3s						
DZM	**Mont Dzumac**	**47.05**	**313**	*e*LR	LR	08 14 06.0	
	comp=Z,415nm,23.1s						
VAH	**Vaihoa**	**48.09**	**14**	*e*T	T	08 53 02.0	
	80nm,0.3s						
TAOE	**Nuku Hiva Isla**	**55.44**	**22**	*e*LR	LR	08 18 08.3	
	comp=Z,296nm,23.8s						

*IDC **01** 07:54:50.4±1.7, 1°.84S×139°.23E, h0^{km}, mb3.5/2, mb1 3.9/3, mb1mx3.5/29, mbtmp3.7/3, ML3.9/1 Error ellipse: s-maj=32.8km s-min=24.0km az=29.0*
*DJA **01** 07:54:51.9±1.6, 1°S±12°×13°9E±°, h10^{km}, M3.6/3, MLv3.6/3*
ISC 01 07:54:54.9±1.5**, 1°.8S**±0°.2×**139°.2E**±0°.1**, h35^{km}, n14, σ1^s.81**/9**, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.30**	**129**	P	**Pn**	**07 55 16.5**	**-0.1**
GENI				S	**Sn**	**07 55 35.5**	**+2.7**
JAY	**Jayapura**	**1.71**	**116**	Pn	**Pn**	**07 55 20.4**	**-2.0**
	4.3nm,0.3s,baz=262,slow=11,SNR=15						
JAY				Sn	**Sn**	**07 55 42.9**	**-0.2**
	40nm,0.3s,baz=113,slow=15,SNR=18						
JAY	**Jayapura**	**1.71**	**116**	P	**Pn**	**07 55 20.7**	**-1.7**
JAY				S	**Sn**	**07 55 44.5**	**+1.4**
WAMI	**Wamena**	**2.15**	**192**	P	Pn	07 55 37.3	+9.1
WRA	**Warramunga Arr**	**18.66**	**194**	P	**Pn**	**07 59 09.2**	**-1.4**
	0.4nm,0.3s,baz=17,slow=11,SNR=25						
ASAR	**Alice Springs**	**22.35**	**193**	P	**P**	**07 59 50.1**	**0.0**
	2.4nm,0.7s,baz=26,slow=9.8,SNR=21						
H11S3	**WAKE ISLAND Hy**	**33.75**	**52**	T	T	08 37 15.1	
	baz=236,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**33.77**	**52**	T	T	08 37 14.4	
	baz=236,slow=76,SNR=8.9						
H11S1	**WAKE ISLAND Hy**	**33.77**	**52**	T	T	08 37 14.1	
	baz=236,slow=76,SNR=10						
H11N1	**WAKE ISLAND Hy**	**34.60**	**51**	T	T	08 38 17.4	
	baz=236						
H11N2	**WAKE ISLAND Hy**	**34.61**	**51**	T	T	08 38 22.9	
	baz=236						
H11N3	**WAKE ISLAND Hy**	**34.61**	**51**	T	T	08 38 19.1	
	baz=236						
MKAR	**Makanchi Array**	**69.33**	**322**	P	**P**	**08 06 00.2**	**+1.2**
	0.2nm,0.5s,baz=129,slow=7.9,SNR=2.4						
TORD	**Torodi Ar. Bea**	**136.41**	**287**	PKhKP	PKPpre	08 14 09.5	
	0.8nm,1.0s,baz=106,slow=2.1,SNR=2.4						

MEX 01 08:01:42.7±0.8**, 17°.27N**×**99°.75W, h38^{km}**±10^{km}**, MD3.6, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAIG	**Los Arroyos**	**0.27**	**160**	*i* P	Pn	08 01 48.6	-2.3
DAIG				*i* S	Sn	08 01 54.4	-3.3
MEIG	**Mezcala**	**0.66**	**10**	*e*P	Pn	08 01 53.6	-2.2
MEIG				*e*S	Sn	08 02 01.6	-3.4
MGIG	**Malinaltepec**	**1.06**	**92**	*e*P	Pn	08 01 59.7	-1.6
MGIG				*e*S	Sn	08 02 11.6	-3.3
PLIG	**Platanillo**	**1.14**	**12**	*e*P	Pn	08 02 00.9	-1.3
PLIG				*e*S	Sn	08 02 14.3	-2.4
ARIG	**Puente Sto Nin**	**1.16**	**330**	*e*P	Pn	08 02 00.9	-1.5
ARIG				*e*S	Sn	08 02 15.5	-1.5
TLIG	**Tlapa**	**1.16**	**75**	*e*P	Pn	08 02 00.9	-1.7
TLIG				*e*S	Sn	08 02 15.6	-1.7

*TUL **01** 08:12:58.4±1.5, 36°.71N±0°.01×97°.64W±0°.02, h1^{km}±7^{km}, ML2.9, mb_Lg2.9/76(NEIC), Error ellipse: s-maj=2.4km s-min=1.6km az=62.0*
NEIC 01 08:12:58.6±1.1**, 36°.70N**±0°.01×**97°.62W**±0°.02**, h3^{km}**±5^{km}**, Error ellipse: s-maj=2.2km s-min=1.7km az=64.0, Oklahoma**

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

GC02	Grant County #	0.24	309		Pg	08 13 03.2	-0.2
GC02				Sg	Sg	08 13 06.8	+0.2
BLOK	Blackwell	0.33	79		Pg	08 13 05.0	0.0
BLOK				Sg	Sg	08 13 09.9	+0.5
KAN13	South Haven SW	0.34	20		Pg	08 13 05.1	0.0
KAN13				Sg	Sg	08 13 09.6	+0.1
CROK	Carrier	0.35	236		Pg	08 13 05.4	+0.1
CROK				Sg	Sg	08 13 10.3	+0.4
KAN17	Caldwell West	0.36	342		Pg	08 13 05.5	-0.1
KAN17				Sg	Sg	08 13 10.5	+0.1
KAN14	Manchester OK	0.38	314		Pg	08 13 06.0	+0.1
KAN14				Sg	Sg	08 13 10.8	0.0
KAN05	Bluff City Nor	0.46	334		Pg	08 13 07.2	-0.2
KAN05				Sg	Sg	08 13 13.7	+0.4
OK032	Salt Plains WL	0.48	283		Pg	08 13 07.8	-0.1
OK032				Sg	Sg	08 13 14.0	-0.2
KS20	Mayfield South	0.53	6		Pg	08 13 08.6	-0.3
KS20				Sg	Sg	08 13 16.2	+0.4
KAN10	Anthony SW Sta	0.57	318		Pg	08 13 09.5	0.0
KAN10					Sg	08 13 16.9	-0.1
KAN08	Anthony NE Sta	0.60	332		Pg	08 13 10.4	+0.3
KAN08				Sg	Sg	08 13 17.9	+0.1
KAN12	Harper NE Stat	0.67	333		Pg	08 13 11.4	-0.1
KAN12				Sg	Sg	08 13 20.0	-0.2
QUOK	Quay	0.91	125	Pg	Pg	08 13 15.9	-0.1
QUOK				Sg	Sg	08 13 27.4	-0.4
OK029	Liberty Lake	0.91	171		Pg	08 13 15.8	-0.2
OK029				Sg	Sg	08 13 27.9	0.0
T35A	Sooner Cattle	0.92	76	Pg	Pg	08 13 16.0	-0.2
T35A				Sg	Sg	08 13 27.9	-0.2
OK031	S. Brethren Rd	0.98	139		Pg	08 13 17.2	-0.2
OK031				Sg	Sg	08 13 29.7	-0.3
OK005	Luther M Schoo	1.10	161	Pg	Pb	08 13 20.4	+0.1
OK005				Sg	Sb	08 13 34.7	-0.3
OK009	Oakdale Elemen	1.13	172	Pg	Pb	08 13 20.7	-0.1
OK009				Sg	Sb	08 13 36.1	+0.2
OK025	Westminster Rd	1.14	168		Pg	08 13 20.0	-0.4
OK025				Sg	Sg	08 13 35.7	+0.5
U32A	Winter Ranch,	1.16	254		Pg	08 13 20.2	-0.6
U32A				Sg	Sg	08 13 34.9	-0.9
OKCFA	Oklahoma City	1.29	174		Pg	08 13 22.5	-0.8
OKCFA				Sg	Sb	08 13 40.5	0.0
OKCSW	OKLAHOMA CITY	1.30	173		Pg	08 13 22.9	-0.7
OKCSW				Sg	Sg	08 13 40.4	+0.1
FNO	Franklin	1.45	173	Pn	Pn	08 13 25.3	-0.5
R32A	Long Quarter,	1.93	334		Pn	08 13 33.0	+0.6
X34A	Smith Ranch, M	2.10	185		Pn	08 13 35.9	+1.1
WMOK	Wichita Mounta	2.17	206		Pn	08 13 35.8	0.0
KSU1	Kansas State U	2.53	18		Pn	08 13 40.7	0.0
U38A	Gravette	2.62	95	Pn	Pn	08 13 42.5	+0.6
CBKS	Cedar Bluff	2.70	322	Pn	Pn	08 13 43.8	+0.8
LOOK	Love County	2.72	172		Pn	08 13 43.0	-0.4
X37A	Clayton	2.79	138		Pn	08 13 44.9	+0.6
X37A				IAmb_Lg		08 14 32.2	
	comp=Z,29nm,0.8s						
HHAR	Hobbs	3.00	97		Pn	08 13 47.2	+0.1
Z35A	Perchaven, San	3.37	175	Pn	Pn	08 13 51.9	-0.4
W39A	Magazine	3.46	115		Pn	08 13 54.2	+0.8
W39A				IAmb_Lg		08 14 57.4	
	comp=Z,34nm,0.8s						
S39A	Bolivar	3.57	73		Pn	08 13 56.1	+1.0
AMTX	Amarillo	3.76	242		Pn	08 13 58.1	+0.4
AMTX				IAmb_Lg		08 15 03.8	
	comp=Z,33nm,0.7s						
U40A	Yellville	3.86	94		Pn	08 13 59.5	+0.6
U40A				IAmb_Lg		08 15 00.9	
	comp=Z,22nm,0.7s						
MIAR	Mount Ida	3.93	122		Pn	08 13 59.7	-0.3
MIAR				IAmb_Lg		08 15 07.7	
	comp=Z,24nm,0.8s						
N33A	J Bar K, Exete	4.04	2	Pn	Pn	08 14 00.1	-1.3
N33A				IAmb_Lg		08 15 08.4	
	comp=Z,27nm,1.0s						
Z38A	Mt. Pleasant	4.06	147		Pn	08 14 01.1	-0.5
MGMO	Mountain Grove	4.31	82		Pn	08 14 05.4	+0.1
MGMO				IAmb_Lg		08 15 13.3	
	comp=Z,24nm,0.8s						
P38A	Dawn	4.35	47		Pn	08 14 06.5	+0.7
P38A				IAmb_Lg		08 15 18.6	
	comp=Z,39nm,0.8s						
ABTX	Abilene, Hawle	4.39	203	Pn	Pn	08 14 06.7	+0.4
N35A	Tabor	4.43	20		Pn	08 14 06.7	-0.1
N35A				IAmb_Lg		08 15 23.2	
	comp=Z,38nm,0.8s						
X40A	Basin Creek Fa	4.48	118		Pn	08 14 07.3	-0.3
X40A				IAmb_Lg		08 15 21.3	
	comp=Z,20nm,0.8s						
FCAR	Ozark Folk Cen	4.51	99		Pn	08 14 08.7	+0.7
FCAR				IAmb_Lg		08 15 21.1	
	comp=Z,14nm,0.7s						
R40A	Maddies Statio	4.54	68		Pn	08 14 08.4	0.0
R40A				IAmb_Lg		08 15 31.3	
	comp=Z,14nm,0.7s						
WHAR	Wooly Hollow	4.55	106		Pn	08 14 07.2	-1.2
WHAR				IAmb_Lg		08 15 24.6	
	comp=Z,18nm,0.9s						
KSCO	Kaye Shedlock'	4.58	302		Pn	08 14 09.0	0.0
KSCO				IAmb_Lg		08 15 34.4	
	comp=Z,24nm,0.7s						
WHTX	Lake Whitney,	4.70	178	Pn	Pn	08 14 09.7	-0.8
BGNE	Belgrade	4.72	355	Pn	Pn	08 14 10.4	-0.4
BGNE				IAmb_Lg		08 15 39.5	
	comp=Z,37nm,0.7s						
WLAR	White Oak Lake	4.76	128	Pn	Pn	08 14 11.1	-0.3
WLAR				IAmb_Lg		08 15 30.1	
	comp=Z,16nm,0.8s						
237A	Washetta, Mont	4.92	162	Pn	Pn	08 14 12.8	-0.7
237A				IAmb_Lg		08 15 31.2	
	comp=Z,16nm,0.7s						
MSTX	Muleshoe	5.01	239	Pn	Pn	08 14 14.2	-0.7
P40A	Paris	5.23	56	Pn	Pn	08 14 18.2	+0.4
P40A				IAmb_Lg		08 15 48.1	
	comp=Z,21nm,0.8s						
T42A	Van Buren	5.25	84	Pn	Pn	08 14 17.7	-0.3
LCAR	Lake Charles	5.26	95	Pn	Pn	08 14 19.4	+1.2
LCAR				IAmb_Lg		08 15 49.0	
	comp=Z,12nm,0.9s						
CCM	Cathedral Cave	5.26	73		Pn	08 14 18.9	+0.7
N38A	Joes South For	5.34	39	Pn	Pn	08 14 19.4	+0.2
N38A				IAmb_Lg		08 15 58.9	
	comp=Z,26nm,0.8s						
L34A	Svendsen Farm,	5.35	10	IAmb_Lg		08 15 57.2	
	comp=Z,27nm,0.7s						
T25A	Trinidad	5.46	277	Pn	Pn	08 14 21.2	+0.1
T25A				IAmb_Lg		08 15 53.1	
	comp=Z,16nm,0.9s						
OGNE	Ogallala	5.46	322	Pn	Pn	08 14 19.4	-1.7
OGNE				IAmb_Lg		08 15 58.8	
	comp=Z,26nm,0.9s						
CCAR	Cane Creek	5.53	118	Pn	Pn	08 14 21.0	-0.9
PBMO	Poplar Bluff	5.78	87	Pn	Pn	08 14 24.8	-0.5
435B	Jarrell	5.90	180	Pn	Pn	08 14 26.0	-1.0
435B				IAmb_Lg		08 16 15.0	
	comp=Z,13nm,0.8s						
K31A	O'Neill	5.98	352	Pn	Pn	08 14 27.2	-0.9
LPAR	Lepanto	6.03	98	IAmb_Lg		08 16 24.4	
	comp=Z,19nm,0.9s						
SCIA	State Center	6.22	32	Pn	Pn	08 14 32.4	+1.0
SCIA				IAmb_Lg		08 16 31.2	
	comp=Z,24nm,0.9s						
PARMO	Parma	6.33	88	Pn	Pn	08 14 31.9	-0.9
SDCO	Great Sand Dun	6.37	282	Pn	Pn	08 14 34.2	+0.5
JCT	Junction City	6.46	197	Pn	Pn	08 14 35.4	+0.6
JCT				IAmb_Lg		08 16 28.3	
	comp=Z,18nm,1.1s						
143A	Socs Landing,	6.49	126	Pn	Pn	08 14 34.0	-1.1
LNXT	Lenox	6.59	93	Pn	Pn	08 14 36.1	-0.3
N41A	Harden Midland	6.63	51	Pn	Pn	08 14 37.3	+0.2
N41A				IAmb_Lg		08 16 35.6	
	comp=Z,22nm,0.7s						
GLAT	Glass	6.73	91	Pn	Pn	08 14 39.0	+0.6
HICK	Hickman	6.75	89	Pn	Pn	08 14 38.2	-0.5
S44A	Carbondale	6.75	79	Pn	Pn	08 14 37.8	-1.0
S44A				IAmb_Lg		08 16 31.1	
	comp=Z,25nm,0.8s						
SIUC	Southern Illin	6.79	79	Pn	Pn	08 14 39.0	-0.1
ISCO	Idaho Springs	7.01	299	Pn	Pn	08 14 41.0	-1.5
W45A	Hickory Valley	7.02	100	IAmb_Lg		08 16 41.6	
	comp=Z,12nm,0.8s						
K38A	Parkersburg	7.02	31	Pn	Pn	08 14 42.3	-0.1
K38A				IAmb_Lg		08 16 53.4	
	comp=Z,18nm,0.7s						
P43A	Skaggs, Pawnee	7.03	63	Pn	Pn	08 14 42.3	-0.2
P43A				IAmb_Lg		08 16 47.3	
	comp=Z,22nm,0.7s						
OXF	Oxford	7.04	106	Pn	Pn	08 14 43.2	+0.6
ECSD	EROS Data Cent	7.07	6	Pn	Pn	08 14 42.0	-1.1
Q44A	Meyer Farm, Va	7.16	70	Pn	Pn	08 14 43.1	-1.2
L40A	Anamosa	7.30	41	Pn	Pn	08 14 46.4	+0.2
L40A				IAmb_Lg		08 16 49.8	
	comp=Z,13nm,0.8s						
ANMO	Albuquerque	7.39	259	Pn	Pn	08 14 46.5	-1.1
HDIL	Hopedale	7.57	57	Pn	Pn	08 14 49.5	-0.4
PHWY	Pilot Hill	7.64	309	Pn	Pn	08 14 51.8	+0.7
BNM	Barren Site	7.78	254	Pn	Pn	08 14 51.5	-1.6
SMCO	Snowmass	7.79	291	Pn	Pn	08 14 52.9	-0.5
SUSD	Miller	7.80	353	IAmb_Lg		08 17 10.4	
	comp=Z,9.7nm,0.8s						
WVT	Waverly	7.92	91	Pn	Pn	08 14 53.7	-0.9
PLAL	Pickwick Lake	7.94	100	Pn	Pn	08 14 54.5	-0.5
LENM	Lemitar	8.04	254	Pn	Pn	08 14 56.3	-0.2
L42A	Oliver, Polo	8.12	47	Pn	Pn	08 14 58.2	+0.6
MNTX	Cornudas Mount	8.13	234	Pn	Pn	08 14 57.1	-0.6
JFWS	Jewell Farm	8.41	40	Pn	Pn	08 15 01.4	0.0
JFWS				IAmb_Lg		08 17 24.9	
	comp=Z,12nm,0.8s						
T47A	Sharon Grove	8.44	85	IAmb_Lg		08 17 30.0	
	comp=Z,10nm,0.8s						
M44A	Midewin, Midew	8.80	55	IAmb_Lg		08 17 47.6	
	comp=Z,8.2nm,0.7s						
SFIN	Lafayette	9.03	63	IAmb_Lg		08 17 48.3	
	comp=Z,14nm,0.7s						
BLO	Bloomington	9.11	71	IAmb_Lg		08 17 58.0	
	comp=Z,14nm,0.8s						

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*NEIC **01** 08:41:06.9±1.0, 23°.5S±0°.1×179°.8W±0°.2, h540km±9km, mb4.7/34, Error ellipse: s-maj=21.6km s-min=17.2km az=100.0*

*IDC **01** 08:41:08.2±1.6, 23°.25S×179°.91E, h553km±17km, mb3.2/9, mb1 3.5/10, mb1mx3.3/29, mbtmp4.1/10, Error ellipse: s-maj=22.5km s-min=12.6km az=155.0*

ISC 01 08:41:07.3±0.6**, 23°.48S**±0°.07×**179°.94W**±0°.09**, h550**km**, n107,** σ1s45/111**, mb4.2**/22**, 1D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.02	341	P	P	08 42 45.4	-0.9
	3.3nm,0.3s,baz=217,slow=22,SNR=20						
MSVF	Nonsavu	6.02	341	P	P	08 42 45.1	-1.3
GLKZ	Green Lake	6.03	163	P	P	08 42 46.9	+0.8
PINNC	Pines Island,	11.65	272	P	P	08 43 42.4	+0.2
OUZ	Omahuta	12.98	204	P	P	08 43 54.9	-0.8
WCZ	Waipu Caves	13.37	200	P	P	08 44 01.8	+2.1
HAZ	Te Kaha	14.36	187	P	P	08 44 09.5	-0.5
PKGZ	Pakihiroa	14.46	186	P	P	08 44 12.9	+1.8
RUGZ	Raukumara Rang	14.58	188	P	P	08 44 12.6	+0.2
PUZ	Puketiti	14.62	186	P	P	08 44 13.7	+1.0
PUZ				S	S	08 46 47.2	+1.7
TOZ	Tahuroa Road	14.73	194	P	P	08 44 16.5	+2.7
TWGZ	Tauwhareparae	14.76	186	P	P	08 44 14.5	+0.4
URZ	Urewera	14.94	189	P	P	08 44 13.5	-2.5
	4.0nm,0.3s,baz=271,slow=4.0,SNR=20						
URZ				S	S	08 46 44.0	-7.4
	0.3nm,0.3s,baz=272,slow=14,SNR=1.1						
URZ	Urewera	14.94	189	P	P	08 44 16.4	+0.4
URZ	Urewera	14.94	189	P	P	08 44 13.4	-2.6
MWZ	Matawai	14.96	188	P	P	08 44 14.7	-1.6
TKGZ	Te Karaka	15.03	187	P	P	08 44 17.6	+0.8
HRRZ	Handcock Road	15.21	191	P	P	08 44 19.2	+0.4
MUGZ	Murupara	15.21	190	P	P	08 44 17.8	-1.0
PRRZ	Plateau Road	15.29	191	P	P	08 44 18.3	-1.3
RIGZ	Rimuhau	15.30	187	P	P	08 44 18.0	-1.7
RIGZ				S	S	08 46 54.4	-3.4
SNGZ	Shannon Statio	15.43	188	P	P	08 44 20.4	-0.6
MTHZ	Maungataniwha	15.56	189	P	P	08 44 21.3	-1.1
RAHZ	Arahi	15.59	189	P	P	08 44 21.7	-0.9
MRHZ	Matea Rd	15.62	191	P	P	08 44 20.8	-2.2
HIZ	Hauiti	15.63	195	P	P	08 44 23.8	+0.8
HIZ				IAmb	IAmb	08 44 24.0	
	comp=Z,67nm,1.3s						
HIZ	Hauiti	15.63	195	P	P	08 44 24.9	+1.9
RATZ	Rangitukua	15.77	192	P	P	08 44 23.7	-0.7
NMHZ	Naumai	15.81	189	P	P	08 44 24.0	-0.9
BKZ	Black Stump Fm	15.93	190	P	P	08 44 25.1	-0.9
BKZ				IAmb	IAmb	08 44 42.8	
	comp=Z,36nm,1.3s						
BKZ	Black Stump Fm	15.93	190	P	P	08 44 22.9	-3.1
TMVZ	Te Maari	16.02	192	P	P	08 44 25.5	-1.5
MCHZ	McNeill Hill	16.17	189	P	P	08 44 26.8	-1.5
FWVZ	Far West T-bar	16.18	193	P	P	08 44 27.4	-1.3
KWHZ	Kaweka Forest	16.19	190	P	P	08 44 25.7	-2.8
VRZ	Vera Road	16.23	195	P	P	08 44 29.9	+1.1
WNVZ	Wahianoa	16.24	192	P	P	08 44 28.6	-0.6
MOVZ	Moawhango	16.29	192	P	P	08 44 28.7	-0.8
BHHZ	Black Hill Sta	16.31	191	P	P	08 44 25.9	-3.8
KRHZ	Kereru	16.41	190	P	P	08 44 28.6	-1.9
KAHZ	Kahuranaki	16.48	189	P	P	08 44 30.2	-1.0
PNHZ	Pukenui	16.70	190	P	P	08 44 31.7	-1.5
NMEZ	Namu Road	16.73	197	P	P	08 44 35.8	+2.5
WAZ	Wanganui	16.78	194	P	P	08 44 33.6	-0.2
TSZ	Takapari Road	16.89	191	P	P	08 44 34.0	-0.9
DVHZ	Dannevirke	17.09	190	P	P	08 44 35.3	-1.4
ANWZ	Angora Road	17.20	189	P	P	08 44 36.8	-0.7
BFZ	Birch Farm	17.45	190	P	P	08 44 39.5	-0.4
BFZ	Birch Farm	17.45	190	P	P	08 44 38.0	-1.9
TIWZ	Tintock	17.60	191	P	P	08 44 39.8	-1.5
OGWZ	Otaki Gorge	17.77	192	P	P	08 44 40.7	-2.1
HOWZ	Holdsworth Sta	17.78	191	P	P	08 44 41.2	-1.8
KIW	Kapiti Island	17.86	193	P	P	08 44 42.4	-1.3
CAW	Cannon Point	18.07	192	P	P	08 44 44.7	-0.9
MSWZ	Moikau Station	18.33	192	P	P	08 44 47.8	-0.2
SNZO	South Karori	18.34	193	P	P	08 44 47.6	-0.4
QRZ	Quartz Range	18.42	198	P	P	08 44 50.0	+1.2
PLWZ	Palliser	18.48	191	P	P	08 44 49.8	+0.4
NNZ	Nelson	18.55	196	P	P	08 44 49.5	-0.4
TUWZ	Tuamarina	18.61	195	P	P	08 44 50.6	0.0
BSWZ	Blackbirch Sta	18.90	194	P	P	08 44 53.6	+0.4
THZ	Tophouse	19.18	196	P	P	08 44 56.2	+0.3
THZ				IAmb	IAmb	08 45 03.5	
	comp=Z,71nm,1.1s						
KHZ	Kahutara	19.65	194	P	P	08 45 01.0	+1.1
KHZ				IAmb	IAmb	08 45 26.8	
	comp=Z,82nm,1.4s						
LTZ	Lake Taylor	20.30	197	P	P	08 45 05.7	-0.3
LTZ				IAmb	IAmb	08 45 08.8	
	comp=Z,44nm,0.6s						
OXZ	Oxford	20.87	197	P	P	08 45 11.0	0.0
MQZ	McQueen's Vall	21.07	195	P	P	08 45 13.1	+0.2
RPZ	Rata Peaks	21.50	198	P	P	08 45 16.7	-0.1
FOZ	Fox Glacier	21.71	200	P	P	08 45 18.3	-0.2
WKZ	Wanaka	23.13	200	P	P	08 45 31.2	-0.1
WKZ				IAmb	IAmb	08 45 48.1	
	comp=Z,96nm,1.4s						
MLZ	Mavora Lakes	23.90	201	P	P	08 45 38.6	+0.5
MLZ				IAmb	IAmb	08 45 52.6	
	comp=Z,42nm,1.3s						
WHZ	Wether Hill Ro	24.42	201	P	P	08 45 43.7	+1.0
WHZ				IAmb	IAmb	08 45 44.9	
	comp=Z,39nm,0.7s						
CAN	Canberra	29.40	239	P	P	08 46 27.4	+0.8
CAN				IAmb	IAmb	08 46 39.7	
	comp=Z,34nm,1.5s						
CTAO	Charters Tower	31.53	270	P	P	08 46 45.6	+0.5
CTAO				IAmb	IAmb	08 47 08.1	
	comp=Z,17nm,1.4s						
TOO	Toolangi	32.72	237	P	P	08 46 55.8	+0.9
TOO				IAmb	IAmb	08 47 02.4	
	comp=Z,7.2nm,1.2s						
TAU	Tasmania Unive	33.26	226	P	P	08 47 00.1	+0.7
TAU				IAmb	IAmb	08 47 20.8	
	comp=Z,55nm,1.4s						
STKA	Stephens Creek	34.93	248	P	P	08 47 13.9	+0.3
	comp=Z,2.7nm,0.6s,baz=88,slow=11,SNR=8.5						
STKA	Stephens Creek	34.93	248	P	P	08 47 14.5	+0.9
COEN	Coen	36.11	279	P	P	08 47 23.9	+0.3
COEN				IAmb	IAmb	08 47 33.3	
	comp=Z,9.1nm,1.4s						
AS31	Alice Springs	42.16	260	P	P	08 48 12.6	+0.4
ASAR	Alice Springs	42.16	260	P	P	08 48 12.3	+0.1
	comp=Z,1.0nm,0.4s,baz=99,slow=7.1,SNR=15						
ASAR				ScP	ScP	08 52 54.0	+1.8
	comp=Z,0.4nm,0.8s,baz=106,slow=4.6,SNR=2.9						
ASAR				S	S	08 53 52.7	-0.2
	comp=Z,0.3nm,0.7s,baz=99,slow=16,SNR=4.2						
WR0	Warramunga Arr	42.30	266	P	P	08 48 13.7	+0.3
WR0				IAmb	IAmb	08 48 37.1	
	comp=Z,9.0nm,1.5s						
WB2	Warramunga Arr	42.48	266	P	P	08 48 14.2	-0.6
WB0	Warramunga Arr	42.48	266	P	P	08 48 14.7	-0.1
WRAB	Tennant Creek	42.48	266	P	P	08 48 14.4	-0.4
WRAB				IAmb	IAmb	08 48 34.0	
	comp=Z,12nm,1.4s						
WRA	Warramunga Arr	42.49	266	P	P	08 48 14.3	-0.6
	comp=Z,1.4nm,0.3s,baz=89,slow=6.0,SNR=56						
WRA				S	S	08 53 55.2	-2.4
	comp=Z,0.3nm,0.8s,baz=91,slow=14,SNR=2.1						
WRA	Warramunga Arr	42.49	266	P	P	08 48 15.6	+0.7
KNRA	Kununurra	48.75	269	P	P	08 49 02.8	+0.2
KNRA				IAmb	IAmb	08 49 25.2	
	comp=Z,30nm,1.4s						
SBA	Scott Base	54.80	183	P	P	08 49 45.9	+0.9
VNDA	Vanda	54.80	185	P	P	08 49 47.1	+2.0
	comp=Z,1.0nm,0.5s,baz=358,slow=5.5,SNR=7.3						
VNDA	Vanda	54.80	185	P	P	08 49 45.3	+0.2
CASY	Casey	60.51	206	P	P	08 50 24.6	+0.6
QSPA	South Pole Qui	66.60	180	P	P	08 51 04.3	+1.2
QSPA				IAmb	IAmb	08 51 07.4	
	comp=Z,13nm,1.4s						
PETK	Petropavlovsk-	78.71	346	P	P	08 52 12.4	-0.2
	comp=Z,1.6nm,0.7s,baz=150,slow=7.4,SNR=4.7						
PETK	Petropavlovsk-	78.71	346	P	P	08 52 12.7	+0.2
SYO	Syowa Base	83.43	193	⇓ePcP	PcP	08 52 40.4	+0.7
NVAR	Mina Array Bea	84.42	44	P	P	08 52 42.1	-0.4
	comp=Z,0.9nm,0.9s,baz=224,slow=6.2,SNR=4.7						
NVAR	Mina Array Bea	84.42	44	P	P	08 52 42.0	-0.4
J08A	Circle Bar Ran	87.20	40	P	P	08 52 55.8	+0.3
J08A				IAmb	IAmb	08 52 56.8	
	comp=Z,6.2nm,1.3s						
TXAR	Lajitas Array	90.16	58	P	P	08 53 10.4	+0.9
	comp=Z,0.8nm,0.7s,baz=211,slow=6.2,SNR=14						
TXAR	Lajitas Array	90.16	58	P	P	08 53 09.8	+0.2
ILAR	Eielson Array	91.61	14	P	P	08 53 13.8	-1.5
	comp=Z,0.3nm,0.8s,baz=183,slow=3.6,SNR=3.0						
PDAR	Pinedale Array	92.35	44	P	P	08 53 19.0	-0.5
	comp=Z,0.5nm,0.7s,baz=228,slow=2.9,SNR=5.8						
PDAR	Pinedale Array	92.35	44	P	P	08 53 19.5	0.0
AKASG	Malin Array Be	144.65	328	PKP	PKPbc	08 59 40.5	-1.0
	comp=Z,1.8nm,0.5s,baz=44,slow=4.3,SNR=9.3						
AKBB	Malin Array Si	144.65	328		PKPbc	08 59 40.5	-1.1
BRTR	Keskin Array B	147.37	308	PKPbc	PKPbc	08 59 49.5	-0.3
	comp=Z,0.8nm,0.4s,baz=120,slow=3.7,SNR=2.7						
CLL	Collm	150.47	343	i PKPbc	PKiKP	08 59 56.6	-0.7
	comp=Z,7.0nm,0.6s						

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*JMA **01** 08:51:31.3±0.2, 35°.61N×140°.11E, h68km±2km, M3.3 Broadband fault plane solution: P waves. NP1: φs305.00000°, δ5.00000°, λ-158.00000°. NP2: φs193.00000°, δ88.00000°, λ-85.00000°. Principal axes: T Plg43.0000°, Azm278.0000°; N Plg5.0000°, Azm13.0000°; P Plg47.0000°, Azm108.0000°;*

JMA Felt I J1.

*IDC **01** 08:51:34.7±2.5, 35°.35N×139°.79E, h80km±15km, mb3.2/3, mb1 3.3/4, mb1mx3.1/42, mbtmp3.5/4, MS3.5/1, Ms1 3.5/1, ms1mx2.5/28 Error ellipse: s-maj=46.3km s-min=6.8km az=67.0*

ISC 01 08:51:31.8±1.0**, 35°.49N**±0°.06×**140°.16E**±0°.06**, h73**km±8km**, n27,** σ1s85/28**, mb3.6**/3**, 6D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCN	Nagara	0.08	155	⇓P	Pn	08 51 42.4	0.0
JCN				eS	Sn	08 51 51.0	+0.8
JSMT	Sammumatsuo	0.28	58	P	Pn	08 51 42.7	-0.5
BSO3	Boso 3	0.75	157	⇓P	Pn	08 51 47.7	+0.5
JOD2	Odawara 2	0.91	256	⇓P	Pn	08 51 48.7	-0.6
JOD2				S	Sn	08 52 01.2	-1.2
JIM2	Oshima 3	0.98	218	P	Pn	08 51 49.7	-0.5
BSO1	Boso 1	1.07	141	P	Pn	08 51 51.4	+0.5
JAG	Ashikaga	1.09	329	⇓P	Pn	08 51 49.8	-1.8
JRY	Ryogami san	1.15	297	⇓P	Pn	08 51 51.7	-0.7
JFNN	Fujinakano	1.24	256	P	Pn	08 51 53.3	-0.2
JFNN				S	Sn	08 52 09.7	-0.1
JIZS	Izushimoda	1.30	234	P	Pn	08 51 54.2	-0.1
JIZS				S	Sn	08 52 10.8	-0.4
JYN	Shimob	1.32	271	⇓P	Pn	08 51 54.0	-0.6
JKT	Katashina	1.47	330	P	Pn	08 51 55.1	-1.5
MJAR	Matsushiro Arr	1.90	304	P	Pn	08 52 01.1	-1.0
	3.7nm,0.3s,baz=139,slow=15,SNR=88						
MJAR				S	Sn	08 52 24.8	-0.4
	5.7nm,0.3s,baz=129,slow=17,SNR=7.5						
MJAR				LR	LR	08 52 32.2	
	comp=Z,31nm,18.9s,baz=310,slow=34						
MAT	Matsushiro	1.90	304	P	Pn	08 52 01.6	-0.6
MAT				S	Sn	08 52 25.0	-0.3
JHJ	Hachijo jima 2	2.39	188	P	Pn	08 52 09.5	+0.7
	20nm,0.3s,baz=82,slow=22,SNR=12						
JHJ				S	Sn	08 52 37.1	0.0
	66nm,0.3s,baz=264,slow=22,SNR=6.9						
JCJ	Chichijima	8.55	168	P	Pn	08 53 31.1	-1.8
	4.3nm,0.3s,baz=304,slow=23,SNR=5.5						
JCJ				S	Sn	08 55 00.7	-7.0
	2.7nm,0.3s,baz=273,slow=23,SNR=1.7						
KSRS	Korea Array	10.05	285	P	Pn	08 53 56.5	+3.3
	0.2nm,0.3s,baz=107,slow=13,SNR=4.7						
H11N2	WAKE ISLAND Hy	28.30	117	T	T	09 27 04.5	
	baz=309						
H11N1	WAKE ISLAND Hy	28.31	117	T	T	09 27 05.8	
	baz=309						
H11N3	WAKE ISLAND Hy	28.32	117	T	T	09 27 07.3	
	baz=309						
H11S3	WAKE ISLAND Hy	28.94	119	T	T	09 27 52.5	
	baz=314						
H11S1	WAKE ISLAND Hy	28.94	119	T	T	09 27 53.1	
	baz=314						
H11S2	WAKE ISLAND Hy	28.96	119	T	T	09 27 54.4	
	baz=314						
MKAR	Makanchi Array	44.09	303	P	P	08 59 33.1	+0.4
	0.6nm,0.6s,baz=86,slow=9.3,SNR=8.1						
NRIK	Noril'sk	44.25	336	LR	LR	09 20 07.4	
	comp=Z,60nm,19.3s,baz=236,slow=39						
WRA	Warramunga Arr	55.41	187	P	P	09 00 59.0	+0.4
	0.5nm,0.5s,baz=0.5,slow=7.6,SNR=12						
ASAR	Alice Springs	59.13	187	P	P	09 01 27.3	+2.4
	0.1nm,0.5s,baz=12,slow=10,SNR=1.7						

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*IDC **01** 08:57:20.9±0.6, 19°.17S×167°.57E, h0km, mb4.7/22, mb1 4.7/24, mb1mx4.7/38, mbtmp4.6/24, ML4.9/2, MS4.1/28, Ms1 4.1/28, ms1mx4.0/45, Error ellipse: s-maj=20.1km s-min=14.0km az=118.0*

*NOU **01** 08:57:20.5, 19°.15S×167°.70E, h0km, ML5.2/33, Vanuatu Islands Region*

*NEIC **01** 08:57:21.7±1.1, 19°.16S±0°.05×167°.83E±0°.07, h29km±3km, mb5.1/125, Error ellipse: s-maj=10.5km s-min=6.2km az=112.0*

*BGR **01** 08:57:22.1±0.0, 20°.85S×168°.50E, h41km±2km*

*BJI **01** 08:57:23.0±0.0, 19°.30S×167°.60E, h30km, mB5.2/29, mb5.0/41, Ms4.7/8, Ms7 4.5/9*

*GCMT **01** 08:57:26.7±0.2, 19°.12S±0°.02×167°.52E±0°.01, h18km, MW5.1/123, Moment Tensor Solution. s71,c87; s123,c194; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr-5.16±.15; Mθθ-0.13±.09; Mφφ5.29±.11; Mrθ-0.79±.27; Mθφ-0.59±.08; Mφr1.77±.22; Best double couple: M0 5.60400×10^{16} NP1:φs0.00000°, δ36.00000°, λ-80.00000°. NP2:φs168.00000°, δ55.00000°, λ-97.00000°. Principal axes: T 5.6690, Plg10.0000°, Azm263.0000°; N -0.1250, Plg6.0000°, Azm172.0000°; P -5.5390, Plg79.0000°, Azm50.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 08:57:23.4±0.8**, 19°.21S**±0°.04×**167°.78E**±0°.06**, h34**km±2km**, n336,** σ2s04/333**, mb5.1**/89**, MS4.1**/31**, 1C-15D, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DVP	Devils Point	1.52	15	P	Pn	08 57 47.9	-0.3
RTV	Rentapao	1.54	24	P	Pn	08 57 48.6	+0.2
LIFNC	LIFOU	1.64	198		Pn	08 57 48.4	-1.5
LIFNC	LIFOU	1.64	198	P	Pn	08 57 49.0	-0.8
MARNC	Mare, Loyalty	2.27	174	Pn	Pn	08 57 58.1	-0.5
MARNC	Mare, Loyalty	2.27	174	P	Pn	08 57 58.4	-0.2

YATNC **Mamie plateau,** 2.96 196 P Pn 08 58 08.2 +0.3
DZM **Mont Dzumac** 3.11 203 *e*Pn Pn 08 58 09.8 -0.3
209nm,0.8s
DZM *e*Sn **Sn** 08 58 43.0 -3.2
3µm,1.1s
DZM *e*LR LR 08 58 46.1
comp=Z,2µm,22.4s
DZM Mont Dzumac 3.11 203 Pn **Pn 08 58 10.6 +0.5**
62nm,0.3s,baz=70,slow=13,SNR=1408
DZM Sn **Sn 08 58 43.8 -2.4**
189nm,0.3s,baz=318,slow=23,SNR=38
DZM LR LR 08 59 20.1
comp=Z,3µm,18.5s,baz=44,slow=39
DZM Mont Dzumac 3.11 203 Pn **Pn 08 58 10.1 -0.1**
DZM Mont Dzumac 3.11 203 P **Pn 08 58 11.2 +1.1**
NOUC Port Laguerre 3.19 205 P **Pn 08 58 12.3 +1.1**
OUENC **Ouen Island, N 3.31 195** **Pn 08 58 13.0 +0.1**
OUENC **Ouen Island, N 3.31 195** P **Pn 08 58 15.0 +2.2**
ONTNC **Ouen Toro 3.32 202** **Pn 08 58 13.3 +0.3**
ONTNC **Ouen Toro 3.32 202** P **Pn 08 58 14.2 +1.2**
PINNC **Pines Island, 3.40 185** **Pn 08 58 13.3 -0.8**
PINNC **Pines Island, 3.40 185** P **Pn 08 58 16.9 +2.8**
KOUNC **Koumac, New Ca 3.55 247** P **Pn 08 58 15.4 -0.6**
SANVU **Saraoutou 3.78 352** Pn **Pn 08 58 17.8 -1.5**
SANVU **Saraoutou 3.78 352** P **Pn 08 58 17.6 -1.7**
MSVF **Nonsavu 9.86 83** Pn Pn 08 59 48.6 +5.8
0.6nm,0.3s,baz=277,slow=16,SNR=7.6
MSVF LR LR 09 03 16.2
comp=Z,3µm,19.8s,baz=288,slow=35
MSVF Nonsavu 9.86 83 **Pn 08 59 40.4 -2.5**
MSVF Nonsavu 9.86 83 P **Pn 08 59 44.9 +2.0**
44nm,1.8s
EIDS Eidsvold 16.62 245 P **P 09 01 16.3 +0.3**
baz=17,SNR=6.7
EIDS Eidsvold 16.62 245 Pn **Pn 09 01 12.6 -1.2**
OUZ Omahuta 16.76 163 Pn **Pn 09 01 13.8 -1.8**
ARMA Armidale 18.40 230 P **Pn 09 01 37.5 +1.5**
baz=19,SNR=3.7
ARMA Armidale 18.40 230 **P 09 01 34.1 -1.7**
RMQ Roma 18.95 244 P **Pn 09 01 43.7 +1.1**
baz=19,SNR=4.3
CTA Charters Tower 20.29 264 P Pn 09 01 58.1 -0.4
42nm,1.1s,baz=84,slow=13,SNR=22
CTAO Charters Tower 20.29 264 P **P 09 01 54.9 -1.6**
URZ Urewera 20.65 159 LR LR 09 08 48.2
comp=Z,600nm,19.6s,baz=31,slow=33
URZ Urewera 20.65 159 P **P 09 01 58.8 -1.3**
BKZ Black Stump Fm 21.27 161 P **P 09 02 05.6 -1.3**
MTSU Mount Surprise 22.25 269 P **P 09 02 19.2 +1.6**
baz=22,SNR=11
BFZ Birch Farm 22.60 163 P **P 09 02 19.5 -1.6**
BFZ IAmb IAmb 09 02 47.7
comp=Z,89nm,1.1s
TUWZ Tuamarina 22.77 168 P **P 09 02 20.9 -1.9**
CNB Canberra Magne 22.86 222 P **P 09 02 26.8 +2.9**
baz=23,SNR=7.5
YNG Young 22.86 225 P **P 09 02 27.2 +3.3**
baz=23,SNR=5.5
QLP Quilpie 22.87 247 P **P 09 02 25.6 +1.5**
baz=23,SNR=15
THZ Tophouse 22.90 170 P **P 09 02 23.4 -0.9**
THZ IAmb IAmb 09 02 42.7
comp=Z,83nm,1.5s
MSWZ Moikau Station 23.04 166 P **P 09 02 23.9 -1.8**
CAN Canberra 23.09 222 P **P 09 02 25.3 -0.9**
CMSA Cobar Meteorol 23.38 234 P **P 09 02 30.9 +1.8**
baz=24,SNR=13
LTZ Lake Taylor 23.81 172 P **P 09 02 32.6 -0.5**
LTZ IAmb IAmb 09 02 38.8
comp=Z,56nm,1.3s
COEN Coen 24.14 279 P **P 09 02 34.8 -1.6**
OXZ Oxford 24.31 172 P **P 09 02 36.7 -1.1**
OXZ IAmb IAmb 09 02 41.9
comp=Z,83nm,1.5s
RPZ Rata Peaks 24.59 174 P **P 09 02 39.2 -1.1**
RPZ IAmb IAmb 09 03 02.5
comp=Z,91nm,1.3s
MQZ McQueen's Vall 24.77 172 P **P 09 02 39.9 -1.9**
QIS Mount Isa 26.51 262 P **P 09 02 59.2 +1.2**
baz=27,SNR=5.2
STKA Stephens Creek 26.70 237 P **P 09 03 01.4 +1.9**
baz=27,SNR=9.5
STKA Stephens Creek 26.70 237 P **P 09 03 01.4 +1.9**
comp=Z,11nm,0.9s,baz=53,slow=8.6,SNR=13
STKA LR LR 09 12 25.4
comp=Z,459nm,22.0s,baz=76,slow=34
STKA Stephens Creek 26.70 237 P **P 09 02 57.8 -1.7**
TOO Toolangi 26.70 222 P **P 09 03 01.6 +2.0**
baz=27,SNR=7.6
TOO Toolangi 26.70 222 P **P 09 02 58.2 -1.4**
JAY Jayapura 31.25 299 LR LR 09 16 17.0
comp=Z,298nm,18.0s,baz=173,slow=37
WR0 Warramunga Arr 31.30 263 P **P 09 03 38.4 -2.1**
BBOO Buckleboo 31.43 238 P **P 09 03 40.0 -1.6**
BBOO IAmb IAmb 09 03 56.8
comp=Z,47nm,1.3s
WB2 Warramunga Arr 31.47 263 P **P 09 03 40.8 -1.3**
WRAB Tennant Creek 31.48 263 P **P 09 03 40.5 -1.6**
WRA Warramunga Arr 31.48 263 P **P 09 03 41.5 -0.7**
comp=Z,1.1nm,0.4s,baz=87,slow=8.3,SNR=62
WRA LR LR 09 15 15.8
comp=Z,330nm,21.4s,baz=90,slow=34
WRA Warramunga Arr 31.48 263 P **P 09 03 40.9 -1.3**
AS31 Alice Springs 31.79 256 P **P 09 03 44.3 -0.6**
ASAR Alice Springs 31.79 256 P **P 09 03 45.5 +0.5**
comp=Z,6.1nm,0.5s,baz=83,slow=8.3,SNR=86
ASAR LR LR 09 17 00.7
comp=Z,489nm,19.0s,baz=94,slow=37
ASAR Alice Springs 31.79 256 P **P 09 03 43.9 -1.1**
MTN Manton Dam 35.73 275 P **P 09 04 20.0 +0.8**
baz=36,SNR=7.6
MTN Manton Dam 35.73 275 P **P 09 04 17.4 -1.9**
MTN IAmb IAmb 09 04 32.2
comp=Z,24nm,0.9s
MCQ Macquarie Isla 35.87 189 P **P 09 04 21.0 +1.2**
baz=36,SNR=3.2
MCQ Macquarie Isla 35.87 189 P **P 09 04 19.5 -0.4**
WRKA Warakurna 36.94 254 P **P 09 04 31.3 +1.8**
baz=37,SNR=7.1
KNRA Kununurra 37.33 269 P **P 09 04 33.2 +0.4**
baz=37,SNR=4.0
KNRA Kununurra 37.33 269 P **P 09 04 31.0 -1.8**
KNRA IAmb IAmb 09 04 45.4
comp=Z,34nm,1.4s
FORT Forrest 37.61 244 P **P 09 04 33.9 -1.2**
FORT IAmb IAmb 09 04 36.9
comp=Z,38nm,0.8s
FAKI Fak Fak 38.31 291 P **P 09 04 39.4 -1.8**
FAKI IAmb IAmb 09 04 53.9
comp=Z,43nm,1.2s
TBI Tubuai 39.96 104 *e*S S 09 11 08.4 +10
comp=Z,217nm,28.0s
TBI *e*LQ LQ 09 14 19.5
comp=Z,977nm,30.5s
TBI *e*LR LR 09 15 57.7
comp=Z,593nm,32.8s
SIJI Sorong 40.15 293 LR LR 09 21 03.2
comp=Z,255nm,20.8s,baz=104,slow=36
PPT2 Papeete2 40.43 95 *e*S S 09 11 18.0 +13
comp=Z,328nm,25.5s
PPT2 *e*LR LR 09 16 13.5
comp=Z,1µm,31.2s
PPT Papeete 40.43 95 LR LR 09 17 24.6
comp=Z,277nm,21.4s,baz=290,slow=30
KRAI Karang Ratu 41.58 287 P **P 09 05 07.3 -1.0**
SOEI Soe 43.06 276 P **P 09 05 18.0 -2.5**
SOEI IAmb IAmb 09 05 35.1
comp=Z,33nm,0.9s
BATI Baumata 43.49 275 LR LR 09 23 28.2
comp=Z,425nm,20.3s,baz=174,slow=36
PSA00 Pilbara Seismi 44.85 258 P **P 09 05 33.4 -1.3**
PSA00 IAmb IAmb 09 05 36.8
comp=Z,28nm,0.9s
PSA00 Pilbara Seismi 44.85 258 P **P 09 05 33.2 -1.5**
PSA00 IAmb IAmb 09 05 48.6
comp=Z,22nm,1.2s
MEEK Meekatharra 45.66 251 P **P 09 05 42.3 +1.2**
baz=46,SNR=22
NWAO Narrogin (SRO) 47.00 243 P **P 09 05 52.5 +1.0**
comp=Z,23nm,0.9s,baz=101,slow=5.2,SNR=4.1
NWAO LR LR 09 25 14.5
comp=Z,383nm,18.5s,baz=83,slow=36
NWAO Narrogin (SRO) 47.00 243 P **P 09 05 50.6 -0.9**
MORW Morawa 47.90 248 P **P 09 06 00.3 +1.7**
baz=48,SNR=4.3
MORW Morawa 47.90 248 P **P 09 05 57.0 -1.6**

MORW IAmb IAmb 09 06 00.6
comp=Z,20nm,0.8s
KAPI Kappang 48.85 280 LR LR 09 26 49.9
comp=Z,107nm,18.4s,baz=139,slow=36
GIRL Giralia 49.91 256 P **P 09 06 11.7 -2.4**
TWSI Taliwang, Sumb 50.31 275 P **P 09 06 18.7 +1.5**
comp=Z,27nm,1.3s
MPSI Mapaga 50.81 287 P **P 09 06 21.9 +1.0**
TAOE Nuku Hiva Isla 51.39 86 *e*S S 09 13 55.1 +12
comp=Z,218nm,29.7s
TAOE *e*LR LR 09 21 16.8
comp=Z,444nm,30.5s
JCJ Chichijima 52.29 331 P **P 09 06 32.2 +0.6**
comp=Z,60nm,0.9s,baz=140,slow=8.2,SNR=3.6
JCJ LR LR 09 25 27.4
comp=Z,74nm,21.6s,baz=120,slow=32
VNDA Vanda 58.42 182 P **P 09 07 18.3 +3.1**
comp=Z,0.8nm,0.7s,baz=49,slow=2.7,SNR=4.4
VNDA LR LR 09 29 34.9
comp=Z,78nm,18.6s,baz=18,slow=33
VNDA Vanda 58.42 182 P **P 09 07 14.6 -0.6**
SBA Scott Base 58.68 180 P **P 09 07 16.9 -0.1**
SBA IAmb IAmb 09 07 21.8
comp=Z,16nm,1.1s
CASY Casey 59.61 203 P **P 09 07 23.1 -0.5**
LEM Lembang 59.63 273 LR LR 09 36 07.3
comp=Z,130nm,18.2s,baz=162,slow=39
MJAR Matsushiro Arr 62.09 333 P **P 09 07 41.7 +0.9**
comp=Z,1.6nm,0.7s,baz=172,slow=7.2,SNR=5.3
MJAR LR LR 09 35 01.3
comp=Z,40nm,19.3s,baz=70,slow=36
MAT Matsushiro 62.09 333 P **P 09 07 41.6 +0.8**
YHNB Yeheng 62.80 312 P **P 09 07 44.0 -1.8**
JNU Nakatsue 62.85 326 P **P 09 07 47.5 +1.5**
comp=Z,9.7nm,0.8s,baz=184,slow=11,SNR=4.7
JNU Nakatsue 62.85 326 P **P 09 07 44.1 -1.9**
JNU IAmb IAmb 09 07 48.6
comp=Z,17nm,1.0s
JKA Kamikawa-asahi 67.10 341 P **P 09 08 11.5 -1.9**
JKA IAmb IAmb 09 08 18.2
comp=Z,18nm,0.9s
ASAJ Asahikawa 67.10 341 P **P 09 08 16.4 +3.0**
comp=Z,17nm,0.8s,baz=212,slow=10,SNR=24
KSRS Korea Array 67.71 327 P **P 09 08 19.4 +2.1**
comp=Z,2.9nm,0.8s,baz=144,slow=6.4,SNR=10.0
KSRS LR LR 09 35 45.2
comp=Z,53nm,19.1s,baz=172,slow=34
NJ2 Nanjing 69.23 317 *e*P **P 09 08 30.7 +3.7**
NJ2 pmax pmax
comp=Z,13nm,0.6s
QSPA South Pole Qui 70.84 180 P **P 09 08 36.5 -0.2**
RPSI Rantau Prapat 71.02 280 P **P 09 08 36.6 -1.8**
RPSI IAmb IAmb 09 08 40.1
comp=Z,16nm,0.9s
USRK Ussuriysk Ar. 71.08 334 P **P 09 08 40.5 +2.5**
comp=Z,3.0nm,0.7s,baz=132,slow=5.1,SNR=9.2
USRK Ussuriysk Ar. 71.08 334 P **P 09 08 36.9 -1.2**
GSI Gunungsitoli 71.78 278 P **P 09 08 41.4 -1.7**
KIWB Kanaga Island 71.97 10 P **P 09 08 42.6 -0.7**
ADK Adak 72.08 10 P **P 09 08 43.4 -0.4**
ADK IAmb IAmb 09 09 12.3
comp=Z,38nm,1.2s
MDJ Mudanjiang 72.45 332 P **P 09 08 49.9 +3.6**
MDJ pmax pmax
comp=Z,9.0nm,0.6s
MDJ pmax pmax
comp=Z,170nm,6.0s
PEA0B Petropavlovsk- 72.54 354 P **P 09 08 45.9 -0.8**
PEA0B IAmb IAmb 09 09 01.2
comp=Z,34nm,1.4s
PETK Petropavlovsk- 72.54 354 P **P 09 08 50.1 +3.4**
comp=Z,4.9nm,0.8s,baz=190,slow=14,SNR=9.7
PETK LR LR 09 36 21.2
comp=Z,132nm,19.9s,baz=151,slow=32
PETK Petropavlovsk- 72.54 354 P **P 09 08 46.3 -0.3**
ATKA Atka Island 72.83 12 P **P 09 08 46.2 -2.1**
TIA Tai'an 73.01 319 P **P 09 08 51.8 +2.0**
TIA pmax pmax
comp=Z,7.0nm,0.7s
ENH Enshi 74.59 310 P **P 09 08 56.8 -2.5**
ENH IAmb IAmb 09 09 01.1
comp=Z,16nm,1.1s
NIKH Nikolski High 74.68 14 P **P 09 08 58.4 -0.8**
KLR Kul'dur 75.28 337 P **P 09 09 06.0 +3.3**
comp=Z,6.1nm,0.9s,baz=76,slow=1.2,SNR=20
BJT Baijiatuan 76.04 322 P **P 09 09 05.1 -2.2**
BJI Beijing 76.05 322 P **P 09 09 09.4 +2.0**
BJI pmax pmax
comp=Z,14nm,0.8s
UNV Unalaska Valle 76.05 15 P **P 09 09 05.2 -1.9**
KMI Kunming 77.09 303 ⇑P **P 09 09 17.1 +3.2**
KMI pP pwP 09 09 30.0 -0.5
KMI sP PcP 09 09 32.6 +7.9
KMI pmax pmax
comp=Z,16nm,0.8s
CMAR Chiang Mai Arr 77.23 295 P **P 09 09 17.2 +2.7**
comp=Z,3.8nm,0.7s,baz=134,slow=4.6,SNR=15
CMAR LR LR 09 43 54.4
comp=Z,106nm,18.6s,baz=228,slow=36
CMAR Chiang Mai Arr 77.23 295 P **P 09 09 12.6 -2.0**
CHTO Chiang Mai 77.39 295 P **P 09 09 13.7 -1.7**
MAW Mawson 77.94 202 P **P 09 09 20.5 +2.9**
comp=Z,3.7nm,0.7s,baz=115,slow=5.7,SNR=8.4
MAW LR LR 09 40 14.2
comp=Z,121nm,19.4s,baz=62,slow=33
MAW Mawson 77.94 202 P **P 09 09 16.9 -0.8**
HHC Hu-ho-hao-te 79.30 320 *e*P **P 09 09 28.3 +2.6**
HHC pmax pmax
comp=Z,24nm,0.8s
HHC pmax pmax
comp=Z,110nm,5.6s
HHC LR LR
comp=Z,88nm,14.5s
HHC LR LR
comp=Z,120nm,14.5s
HHC LR LR
comp=Z,100nm,15.3s
MA2 Magadan 79.72 351 LR LR 09 39 35.1
comp=Z,83nm,20.6s,baz=196,slow=32
LZH Lanzhou 81.69 313 *e*P **P 09 09 42.0 +3.4**
LZH pP pwP 09 09 54.5 -0.8
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,150nm,7.1s
LZH LR LR
comp=Z,230nm,17.2s
LZH LR LR
comp=Z,300nm,17.0s
LZH LR LR
comp=Z,340nm,19.1s
SEY Seymchan 82.76 353 P **P 09 09 45.7 +2.3**
comp=Z,0.8nm,0.3s,baz=170,slow=12,SNR=4.4
SEY LR LR 09 42 07.9
comp=Z,129nm,19.9s,baz=128,slow=32
OHAK Old Harbor 82.80 20 P **P 09 09 42.4 -1.3**
KDAK Kodiak Island 83.47 20 P **P 09 09 46.1 -1.1**
Q19K Cape Douglas, 84.06 19 P **P 09 09 49.1 -1.2**
P19K Oil Pt 84.77 19 P **P 09 09 52.5 -1.3**
P19K Oil Pt 84.77 19 P **P 09 09 56.8 +3.1**
baz=217
N18K Kilae Creek 84.83 17 P **P 09 09 52.6 -1.5**
N18K IAmb IAmb 09 10 09.8
comp=Z,21nm,1.4s
N18K Kilae Creek 84.83 17 P **P 09 09 57.6 +3.5**
baz=214
O19K Port Alsworth 84.88 18 P **P 09 09 53.0 -1.3**
O19K Port Alsworth 84.88 18 P **P 09 09 57.4 +3.1**
baz=216
SVW2 Sparrevohn 85.27 17 P **P 09 09 54.7 -1.5**
SVW2 IAmb IAmb 09 10 01.8
comp=Z,27nm,1.3s
N19K Bonanza Creek 85.34 18 P **P 09 09 56.2 -0.6**
N19K IAmb IAmb 09 10 00.3
comp=Z,11nm,0.8s
RSO Redoubt South 85.56 18 P **P 09 09 56.6 -1.3**
BRLK Bradley Lake 85.58 20 P **P 09 09 57.5 -0.3**
ULN Ulaanbaatar 86.02 324 P **P 09 09 59.6 -0.9**
ULN IAmb IAmb 09 10 03.5
comp=Z,14nm,0.8s
GTA Gaotai 86.11 314 *e*P **P 09 10 03.9 +2.8**
GTA pP pwP 09 10 15.2 -2.6
GTA sP sP 09 10 19.6 +6.4
GTA pmax pmax
comp=Z,5.0nm,0.9s
M19K Big River Lodg 86.26 17 P **P 09 10 04.2 +3.0**
baz=215
L19K White Mountain 86.36 17 P **P 09 10 00.3 -1.3**
L19K IAmb IAmb 09 10 18.9
comp=Z,16nm,1.1s
SONM Songino Array 86.37 324 P **P 09 10 04.3 +2.1**
comp=Z,6.7nm,0.7s,baz=146,slow=5.2,SNR=39
SONM LR LR 09 49 01.7
comp=Z,65nm,19.1s,baz=142,slow=36
SONM Songino Array 86.37 324 P **P 09 10 00.1 -2.1**
SONM IAmb IAmb 09 10 05.0
comp=Z,8.0nm,0.8s
YAK Yakutsk 86.43 343 P **P 09 10 01.5 -0.5**
M20K Styx River 86.59 17 P **P 09 10 01.5 -1.4**
M20K IAmb IAmb 09 10 26.1
comp=Z,12nm,1.4s
HOPS Hopland Field 86.72 47 P **P 09 10 02.3 -1.7**
L20K Farewell, AK 86.86 17 P **P 09 10 07.0 +2.8**
baz=216
KMRM Mail Ridge 86.87 46 P **P 09 10 02.4 -2.4**
JCC Jacoby Creek, 86.93 45 P **P 09 10 03.5 -1.4**
O02D Mt. Diablo Mer 87.47 46 P **P 09 10 12.3 +4.6**
baz=242
K20K Telida 87.53 16 P **P 09 10 05.6 -1.7**
K20K Telida 87.53 16 P **P 09 10 10.1 +2.8**
baz=216
WDC Whiskeytown Da 87.82 46 P **P 09 10 07.6 -1.6**
WDC IAmb IAmb 09 10 25.4
comp=Z,16nm,1.1s
N02D Trinity Center 87.89 45 P **P 09 10 14.0 +4.3**
baz=242
M02C Callahan 87.99 45 P **P 09 10 14.5 +4.4**
baz=242
ORV Oroville 88.06 47 P **P 09 10 08.6 -1.8**
ORV IAmb IAmb 09 10 26.2
comp=Z,12nm,0.9s
AFDM Forest Hills D 88.16 48 P **P 09 10 09.7 -1.2**
AFDM IAmb IAmb 09 10 26.7
comp=Z,16nm,1.0s
CMB Columbia Colle 88.17 49 P **P 09 10 09.1 -2.0**
CMB IAmb IAmb 09 10 27.1
comp=Z,9.8nm,0.8s
J20K Nowinta River 88.18 16 P **P 09 10 08.9 -1.5**
J20K IAmb IAmb 09 10 16.2
comp=Z,5.8nm,0.8s
J20K Nowinta River 88.18 16 P **P 09 10 13.2 +2.9**
baz=216
O03E Paynes Creek 88.19 46 P **P 09 10 14.5 +3.3**
baz=243
YBH Yreka Blue Hor 88.24 45 P **P 09 10 09.8 -1.5**
YBH IAmb IAmb 09 10 27.6
comp=Z,18nm,1.1s
SCM Sheep Creek Mo 88.29 20 P **P 09 10 09.3 -1.8**
HUMO Hull Mountain 88.49 44 P **P 09 10 10.2 -2.2**
HUMO IAmb IAmb 09 10 30.0
comp=Z,13nm,0.9s
ISA Isabella, Lake 88.54 51 P **P 09 10 10.2 -2.7**
ISA IAmb IAmb 09 10 28.8
comp=Z,11nm,1.0s
ISA Isabella, Lake 88.54 51 P **P 09 10 16.5 +3.6**
baz=245
L04D Klamath Falls 88.73 44 P **P 09 10 17.8 +4.1**
baz=242
M04C Macdoel 88.84 45 P **P 09 10 18.1 +3.9**
baz=243
MDPB Devils Postpil 88.93 49 P **P 09 10 12.2 -2.7**
MDPB IAmb IAmb 09 10 30.8
comp=Z,6.9nm,0.9s
MONP2 **Monument Peak 88.95 55** P **P 09 10 18.8 +3.7**
baz=246
RND Reindeer 89.02 18 P **P 09 10 13.8 -0.7**
RND IAmb IAmb 09 10 19.3
comp=Z,8.9nm,0.9s
LRMC Laurel Mtn Rad 89.05 52 P **P 09 10 19.1 +3.7**
baz=246
ISLE Juniper Island 89.09 22 P **P 09 10 13.9 -1.0**
SNAA Sanae 89.13 183 P **P 09 10 16.7 +1.7**
SNAA Sanae 89.13 183 P **P 09 10 13.6 -1.4**
SNAA IAmb IAmb 09 10 17.3
comp=Z,4.8nm,0.7s
CWC Cottonwood Cre 89.15 51 P **P 09 10 19.2 +3.3**
baz=245
PNTR Pine Nut 89.18 48 P **P 09 10 14.2 -1.8**
PNTR IAmb IAmb 09 10 32.0
comp=Z,14nm,1.0s
J04D Umpqua Nationa 89.33 43 P **P 09 10 20.5 +3.9**
baz=243
YERR Yerington 89.39 48 P **P 09 10 15.7 -1.3**
YERR IAmb IAmb 09 10 32.8
comp=Z,13nm,1.2s
I04A Tendick Farm, 89.39 43 P **P 09 10 19.9 +3.3**
baz=242
PALK Pallekele 89.61 278 P **P 09 10 20.5 +2.2**
comp=Z,12nm,0.9s,baz=187,slow=8.1,SNR=2.6
PALK LR LR 09 52 21.6
comp=Z,100nm,18.1s,baz=215,slow=37
GSC Goldstone, Bar 89.63 52 P **P 09 10 16.0 -2.1**
GSC IAmb IAmb 09 10 23.4
comp=Z,14nm,1.5s
BELC Belle Mtn. Jos 89.72 54 P **P 09 10 22.2 +3.7**
baz=246
IMAR Indian Mountai 89.75 15 P **P 09 10 16.2 -1.5**
RYN Ryan 89.75 49 P **P 09 10 17.3 -1.2**
RYN IAmb IAmb 09 10 34.4
comp=Z,8.5nm,1.0s
MLY Manley 89.75 16 P **P 09 10 17.2 -0.6**
VNA3 Neumayer Olymp 89.77 181 P **P 09 10 19.6 +1.6**
HEC Hector,Ludlow 89.79 53 P **P 09 10 21.9 +3.1**
baz=246
NVAR Mina Array Bea 89.82 49 P **P 09 10 22.4 +3.3**
comp=Z,1.9nm,0.7s,baz=227,slow=8.5,SNR=19
NVAR LR LR 09 44 57.1
comp=Z,77nm,18.9s,baz=248,slow=32
NVAR Mina Array Bea 89.82 49 P **P 09 10 17.3 -1.7**
K05A Summer Lake 89.89 44 P **P 09 10 17.1 -2.1**
J05D Fort Rock, OR 89.92 44 P **P 09 10 23.3 +4.1**
baz=243
NV11 Mina Array Sit 89.93 49 P **P 09 10 17.6 -1.8**
NV11 IAmb IAmb 09 10 35.2
comp=Z,10nm,1.0s
H04A Detroit Lake 89.94 42 P **P 09 10 17.4 -1.8**
H04A IAmb IAmb 09 10 34.7
comp=Z,15nm,0.9s
VNA2 Neumayer--Watz 90.04 182 P **P 09 10 21.2 +1.9**
baz=182,slow=3.8
FURC Furnace Creek, 90.06 51 P **P 09 10 23.5 +3.6**
baz=246
KVN Kaiserville 90.22 48 P **P 09 10 18.3 -2.5**
KVN IAmb IAmb 09 10 36.5
comp=Z,9.3nm,0.9s
CCB Clear Creek Bu 90.26 18 P **P 09 10 18.7 -1.4**
GMRC Granite Mounta 90.29 53 P P 09 10 26.0 +4.9
baz=247
I05D Terrebonne, OR 90.33 43 P **P 09 10 24.6 +3.5**
baz=243
HDA Harding Lake 90.33 18 P **P 09 10 19.2 -1.2**
HDA IAmb IAmb 09 10 35.4
comp=Z,7.6nm,1.0s
HDA Harding Lake 90.33 18 P **P 09 10 22.2 +1.7**
baz=222
PINE Pine Mountain 90.34 43 P **P 09 10 19.2 -2.1**
VNA1 Neumayer--Stat 90.34 181 P **P 09 10 21.8 +1.3**
TUQ Turquoise Moun 90.34 53 P **P 09 10 24.7 +3.3**
baz=247
F04A Amboy 90.37 41 P **P 09 10 19.6 -1.5**
TCOL CIGO, UAF Yank 90.42 17 P **P 09 10 19.7 -1.2**
TCOL IAmb IAmb 09 10 35.8
comp=Z,12nm,1.1s
TCOL CIGO, UAF Yank 90.42 17 P **P 09 10 22.3 +1.5**
baz=221
COLA College 90.42 17 P **P 09 10 19.6 -1.2**
COLA IAmb IAmb 09 10 35.8
comp=Z,12nm,1.1s
TPH Tonopah 90.45 50 P **P 09 10 20.6 -1.3**
IL31 90.62 18 P **P 09 10 19.9 -1.8**
ILAR Eielson Array 90.62 18 P **P 09 10 22.9 +1.1**
comp=Z,3.1nm,0.6s,baz=238,slow=4.8,SNR=43
ILAR LR LR 09 49 11.3
comp=Z,69nm,19.2s,baz=250,slow=34
DOT Dot Lake 90.65 19 P **P 09 10 21.1 -0.9**
TPNV Topopah Spring 90.70 51 P **P 09 10 21.2 -1.8**
TPNV IAmb IAmb 09 10 38.9
comp=Z,9.0nm,0.9s
TPNV Topopah Spring 90.70 51 P **P 09 10 27.1 +4.0**
baz=246
SCRK Sand Creek 90.91 19 P **P 09 10 26.0 +2.7**
baz=225

F05D	White Salmon	90.95	41	P	P	09 10 27.9	+4.1
	baz=243						
L27K	Beaver Creek,	90.96	21	P	P	09 10 26.6	+3.1
	baz=227						
LON	Longmire	91.12	40	P	P	09 10 22.6	-2.0
LON				IAmb	IAmb	09 10 47.6	
	comp=Z,6.7nm,0.8s						
D05A	Enumclaw	91.22	40	P	P	09 10 22.4	-2.5
WVOR	Wild Horse Val	91.27	45	P	P	09 10 23.3	-2.2
SHPR	Sheep Range	91.33	52	P	P	09 10 23.9	-2.1
I07A	Izee	91.40	44	P	P	09 10 23.9	-2.2
BMN	Battle Mountai	91.41	48	P	P	09 10 24.0	-2.3
BMN				IAmb	IAmb	09 10 42.1	
	comp=Z,13nm,0.9s						
COLD	Coldfoot	91.60	15	P	P	09 10 26.0	-0.4
COLD				IAmb	IAmb	09 10 31.0	
	comp=Z,6.8nm,0.9s						
COLD	Coldfoot	91.60	15	P	P	09 10 29.6	+3.3
	baz=219						
R11A	Troy Canyon, C	91.74	50	P	P	09 10 31.5	+3.6
	baz=247						
PRN	Pahroc Range	91.76	51	P	P	09 10 26.1	-1.9
PRN				IAmb	IAmb	09 10 44.1	
	comp=Z,12nm,0.8s						
J08A	Circle Bar Ran	91.77	44	P	P	09 10 25.2	-2.6
J08A				IAmb	IAmb	09 10 43.6	
	comp=Z,11nm,0.9s						
LTY	Liberty	92.05	40	P	P	09 10 26.4	-2.6
LTY				IAmb	IAmb	09 10 44.4	
	comp=Z,12nm,1.1s						
E07A	Sunnyside	92.25	41	P	P	09 10 28.5	-1.4
G08A	Pilot Rock	92.27	43	P	P	09 10 27.7	-2.4
EGAK	Eagle	92.35	19	P	P	09 10 28.6	-1.3
EGAK				IAmb	IAmb	09 10 46.4	
	comp=Z,8.5nm,1.0s						
EGAK	Eagle	92.35	19	P	P	09 10 32.1	+2.3
	baz=227						
HAWA	Hanford	92.38	41	P	P	09 10 29.5	-0.9
HAWA				IAmb	IAmb	09 10 46.5	
	comp=Z,15nm,1.1s						
ELK	Elko	92.92	48	P	P	09 10 31.1	-2.2
LCMT	Little Creek M	92.95	52	P	P	09 10 31.3	-2.1
LCMT				IAmb	IAmb	09 10 49.3	
	comp=Z,6.6nm,0.9s						
D08A	Wollman Farm,	93.04	41	P	P	09 10 31.7	-1.7
D08A				IAmb	IAmb	09 10 50.3	
	comp=Z,5.8nm,0.7s						
CCUT	Cedar City	93.06	51	P	P	09 10 32.3	-1.8
X16A	Lo Mia Camp, P	93.37	55	P	P	09 10 33.3	-2.3
X16A				IAmb	IAmb	09 10 52.2	
	comp=Z,5.7nm,0.9s						
U15A	North Rim	93.45	53	P	P	09 10 34.0	-2.0
U15A				IAmb	IAmb	09 10 52.0	
	comp=Z,6.1nm,0.9s						
F10A	Beach Ranch, E	93.66	42	P	P	09 10 35.0	-1.5
F10A				IAmb	IAmb	09 10 54.6	
	comp=Z,5.0nm,0.8s						
MTPU	Mount Pierson	94.11	51	P	P	09 10 37.2	-1.9
TIXI	Tiksi	94.43	348	LR	LR	09 51 06.9	
	comp=Z,66nm,19.1s,baz=249,slow=34						
WMQ	Urumqi	96.19	314	eP	P	09 10 55.0	+6.9
WMQ				pP	sP	09 10 59.4	-0.8
WMQ				pmax	pmax		
	comp=Z,100nm,5.5s						
TXAR	Lajitas Array	97.97	62	P	Pdif	09 11 00.7	+4.2
	comp=Z,0.3nm,0.6s,baz=220,slow=5.9,SNR=6.4						
TXAR				LR	LR	09 47 03.2	
	comp=Z,72nm,21.0s,baz=0.0,slow=30						
MKAR	Makanchi Array	100.75	316	P	Pdif	09 11 10.0	+1.6
	comp=Z,0.6nm,0.6s,baz=101,slow=6.0,SNR=8.0						
M53A	WI Miller and	118.46	53	P	PKiKP	09 16 09.3	+1.7
	baz=269						
N54A	Moraine State	118.97	53	P	PKiKP	09 16 10.2	+1.5
	baz=269						
O56A	Blue Knob Stat	120.05	54	P	PKiKP	09 16 12.7	+1.8
	baz=270						
SSPA	Standing Stone	120.56	54	P	PKiKP	09 16 13.3	+1.5
	baz=270						
I60A	Shoreham	123.82	50	P	PKiKP	09 16 19.6	+1.5
	baz=276						
L61B	Northampton	124.39	51	P	PKiKP	09 16 20.3	+1.1
	baz=275						
J61A	Chester	124.40	50	P	PKiKP	09 16 21.0	+1.7
	baz=276						
ARCES	ARCESS Array B	124.68	345	PKP	PKiKP	09 16 20.8	+1.7
	comp=Z,2.8nm,0.8s,baz=29,slow=2.8,SNR=5.2						
ARCES	ARCESS Array B	124.68	345		PKPdf	09 16 16.5	-2.3
K63A	Dunstable	125.21	51	P	PKiKP	09 16 22.5	+1.6
	baz=276						
J63A	Strafford	125.48	50	P	PKiKP	09 16 23.4	+2.0
	baz=277						
D62A	Allapoint, All	126.31	45	P	PKiKP	09 16 24.3	+1.4
	baz=281						
I64A	Boothbay	126.43	49	P	PKiKP	09 16 25.4	+2.1
	baz=278						
PKME	Peaks-Kenny Pk	126.47	47	P	PKiKP	09 16 25.1	+1.9
	baz=280						
F63A	Nahmakanta, Br	126.52	47	P	PKiKP	09 16 24.3	+0.9
	baz=280						
H64A	Troy	126.62	48	P	PKiKP	09 16 25.2	+1.6
	baz=279						
HUMP	Col San Antoni	129.36	82	PKPdf	PKPdf	09 16 26.0	-3.1
AKASG	Malin Array Be	134.66	324	PKP	PKiKP	09 16 39.5	-0.1
	comp=Z,1.5nm,0.6s,baz=60,slow=1.9,SNR=4.7						
AKASG	Malin Array Be	134.66	324		PKPdf	09 16 36.0	-2.1
DPC	Dobruska-Polom	141.53	331	ePKP	PKPdf	09 16 49.5	-1.4
CONA	Conrad Observa	143.39	328	eP	PKiKP	09 16 56.1	-1.6
	comp=Z,3.0nm,0.6s						
CKRC	Cesky Krumlov	143.53	330	ePKP	PKPdf	09 16 54.6	+0.1
KHC	Kasperske Hory	143.65	331	ePKP	PKPdf	09 16 55.4	+0.7
GERES	GERESS Array B	143.80	331	PKP	PKPdf	09 16 55.5	+0.4
	comp=Z,2.0nm,0.7s,baz=45,slow=2.1,SNR=14						
FNA	Florina	144.14	314		PKPab	09 16 52.9	-0.7
MOA	Molln	144.23	329	eP	PKPdf	09 16 56.8	+1.1
	comp=Z,3.7nm,0.9s						
PERS	Pernice	144.63	327	i PKPbc	PKPdf	09 16 57.2	+0.7
SOKA	Soboth	144.65	327	eP	PKPdf	09 16 57.5	+0.9
	comp=Z,5.4nm,0.7s,SNR=5.8						
TNS	Taunus Mts	144.94	337	ePKPbc	PKiKP	09 16 59.0	-1.8
	baz=40,slow=3.1						
TNS				epPKPbc	sPKPdf	09 17 10.8	+1.4
	baz=41,slow=3.0						
OBKA	Obir	145.01	327	eP	PKPdf	09 16 58.6	+1.4
	comp=Z,5.6nm,0.8s						
AHRW	Bad Neuenahr-A	145.18	338	ePKPbc	PKiKP	09 16 59.4	-1.7
	baz=40,slow=3.1						
AHRW				epPKPbc	sPKPdf	09 17 12.3	+2.6
	baz=41,slow=3.0						
KBA	Koelnbreinsper	145.22	329	eP	PKPdf	09 16 58.6	+0.9
	comp=Z,4.4nm,0.7s,SNR=8.0						
BOJS	Bojanci	145.30	325	i PKPbc	PKiKP	09 16 60.0	-1.6
LJU	Ljubljana	145.33	327	i PKPbc	PKiKP	09 16 59.8	-1.9
LJU				i		09 17 11.8	
MYKA	Terra Mystica	145.38	328	eP	PKPab	09 16 59.6	+1.6
	comp=Z,8.0nm,0.6s,SNR=5.5						
FUR	Furstenfeldbru	145.40	332	ePKPbc	PKiKP	09 17 00.5	-1.2
	baz=40,slow=3.1						
FUR				epPKPbc	sPKPbc	09 17 12.7	+2.6
	baz=41,slow=3.0						
BEBN	Eben Emael	145.43	340	dPKP	PKiKP	09 16 59.8	-1.8
BEBN				dpPKP	sPKPab	09 17 09.7	-0.3
BTNL	Ternell	145.46	339	dPKP	PKPab	09 16 59.9	+1.9
BTNL				dsPKP		09 17 12.2	
MEM	Membach	145.48	339	dPKP	PKiKP	09 17 00.2	-1.5
MEM				dx	x	09 17 11.8	
BSTI	Sart Tilman	145.65	340	dPKP	PKiKP	09 17 01.3	-0.8
BHOU	Houvegnez	145.70	339	dPKP	PKiKP	09 17 01.3	-1.0
STU	Stuttgart	145.82	335	ePKPbc	PKiKP	09 17 01.7	-0.8
	baz=40,slow=3.1						
STU				epPKPbc	sPKPab	09 17 13.8	+2.2
	baz=41,slow=3.0						
ABTA	Abfaltersbach	145.86	329	eP	PKPab	09 17 00.9	+1.2
	comp=Z,15nm,0.9s,SNR=7.8						
BCLA	Clavier	145.88	340	dPKP	PKiKP	09 17 01.6	-0.9
WATA	Walderalm	145.88	331	eP	PKiKP	09 17 01.4	-1.5
	comp=Z,8.5nm,1.0s						
WTTA	Wattenberg	145.90	331	eP	PKiKP	09 17 01.5	-1.5
	comp=Z,7.7nm,0.6s						
BGES	Gesves	145.98	340	dPKP	PKiKP	09 17 01.7	-1.1
MOTA	Moosalm	146.09	331	eP	PKiKP	09 17 02.0	-1.3
	comp=Z,12nm,0.9s,SNR=9.4						
STAL	STALIGIAL	146.10	328		PKPdf	09 16 56.3	-2.8
SQTA	Sankt Quirin	146.13	331	eP	PKiKP	09 17 02.4	-1.0
	comp=Z,14nm,0.9s						
RETA	Reutte	146.13	332	eP	PKiKP	09 17 02.1	-1.3
	comp=Z,6.1nm,0.9s						
BMRD	Maredsous	146.15	340	dPKP	PKiKP	09 17 02.6	-0.5
BMRD				dsPKP		09 17 14.7	
WLF	Walferdange	146.24	338	dPKP	PKiKP	09 17 03.4	0.0
WLF				dsPKP		09 17 15.1	
WLF	Walferdange	146.24	338	PKPdf	PKPdf	09 16 56.7	-2.4
WLF	Walferdange	146.24	338	ePKPbc	PKiKP	09 17 03.5	+0.2
	baz=40,slow=3.1						
WLF				epPKPbc	sPKPab	09 17 15.6	+2.4
	baz=41,slow=3.0						
UBR	Ueberruh	146.28	332	ePKPbc	PKiKP	09 17 02.7	-0.9
	baz=40,slow=3.1						
UBR				epPKPbc	sPKPab	09 17 14.9	+1.4
	baz=41,slow=3.0						
DOU	Dourbes	146.38	340	dPKP	PKiKP	09 17 04.1	+0.5
FETA	Feichten	146.50	331	eP	PKiKP	09 17 03.6	-0.6
	comp=Z,6.3nm,0.7s,SNR=9.3						
BFO	Black Forest	146.52	335	ePKPbc	PKiKP	09 17 03.4	-0.6
	baz=40,slow=3.1						
BFO				epPKPbc	sPKPab	09 17 15.6	+1.3
	baz=41,slow=3.0						
DAVA	Damuels	146.68	332	eP	PKiKP	09 17 04.0	-0.6
	comp=Z,7.9nm,0.9s						
CTI	Castel Tesino	146.78	329	PKPdf	PKPdf	09 16 56.8	-3.5
TEOL	Teolo	147.25	328		PKPdf	09 17 00.8	-0.1
SGRT	San Giovanni R	147.30	320	PKPdf	PKPdf	09 16 58.7	-2.5
SGRT					PKPbc	09 17 01.5	-2.1
TUE	Stuetta	147.54	332		PKPdf	09 17 00.9	-0.8
TUE					PKPab	09 17 06.9	+0.5
TIP	Timpagrande	148.03	315		PKPdf	09 16 59.7	-2.8
TIP				PKPbc	PKPbc	09 17 03.3	-2.4
NRCA	Norcia	148.19	323	PKPdf	PKPdf	09 16 59.3	-3.4
NRCA					PKPbc	09 17 06.6	+0.6
MURB	Monte Urbino	148.24	324		PKPbc	09 17 06.9	+0.8
INTR	Introdacqua	148.25	321	PKPdf	PKPdf	09 16 59.2	-3.6
INTR					PKPbc	09 17 06.9	+0.7
ZCCA	Zocca	148.32	327	PKPdf	PKPdf	09 17 00.5	-2.4
SENIN	Lac Senin/Sane	148.51	334		PKiKP	09 17 08.1	-0.4
RAFF	Raffo Rosso	150.64	313		PKPdf	09 17 03.5	-3.2
RAFF				PKPbc	PKPbc	09 17 07.7	-4.4
RAFF				PKPab	sPKPdf	09 17 15.0	-4.1
ESDC	Sonseca Array	158.39	342	PKPab	PKPab	09 17 54.0	+2.1
	comp=Z,0.8nm,0.9s,baz=15,slow=3.6,SNR=5.1						
ESDC	Sonseca Array	158.39	342	PKPdf	PKPdf	09 17 14.4	-3.0
ESDC					PKPab	09 17 49.6	-2.3
TORD	Torodi Ar. Bea	165.34	248	PKP	PKPdf	09 17 27.0	+1.9
	comp=Z,0.6nm,0.8s,baz=45,slow=1.1,SNR=2.9						
TORD				PKPab	PKPab	09 18 24.2	+1.2
	comp=Z,1.1nm,0.7s,baz=111,slow=3.3,SNR=5.7						
TORD	Torodi Ar. Bea	165.34	248	PKPdf	PKPdf	09 17 20.3	-4.8
TORD					PKPab	09 18 19.2	-3.8

IDC 01 09:01:26.5±4.0, 46°.02N×152°.69E, h50km±38km, mb3.2/4, mb1 3.5/6, mb1mx3.3/49, mbtmp3.5/6, ML3.1/2, MS3.7/2, Ms1 3.7/2, ms1mx2.7/55, Error ellipse: s-maj=44.7km s-min=20.8km az=136.0

ISC 01 09:01:25.6±1.0, 45°.9N±0°.2×152°.6E±0°.1, h50km, n27, σ1.s60/25, mb3.3/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	5.48	245	P	Pn	09 02 44.3	-0.2
NEM2				eS	Sn	09 03 45.4	-0.8
JNK	Nakash	6.04	251	P	Pn	09 02 53.1	+0.8
JAK	Akkeshi	6.32	246	P	Pn	09 02 56.2	0.0
JAK				eS	Sn	09 04 04.8	-2.2
JTKR	Abashiri--Toko	6.44	256	P	Pn	09 02 59.6	+1.9
JAR	Ashorobuto	6.79	251	P	Pn	09 03 03.7	+1.1
JAR				eS	Sn	09 04 19.2	+0.7
JOB	Onbets	6.92	248	P	Pn	09 03 04.5	+0.1
JOB				eS	Sn	09 04 20.7	-1.0
JKK2	Kamakawa 2	7.26	258	P	Pn	09 03 10.7	+1.7
ASAJ	Asahikawa	7.29	260	P	Pn	09 03 11.7	+2.3
	0.7nm,0.3s,baz=102,slow=20,SNR=4.5						
JCH	Churui	7.37	247	P	Pn	09 03 10.3	-0.2
JCH				eS	Sn	09 04 29.7	-2.9
JEM	Erimo	7.80	244	eS	Sn	09 04 41.8	-1.6
JNBK	Urakawa-nobuka	7.92	247	eS	Sn	09 04 43.1	-3.2
JBT2	Biratori 2	7.94	251	P	Pn	09 03 18.8	+0.4
JBT2				eS	Sn	09 04 46.8	0.0
PETK	Petropavlovsk-	7.99	23	P	Pn	09 03 17.8	-1.2
	0.2nm,0.3s,baz=192,slow=12,SNR=8.6						
JKB	Kayabe	9.23	249	P	Pn	09 03 35.3	-0.7
JKB				eS	Sn	09 05 13.5	-4.9
H11N2	WAKE ISLAND Hy	28.61	151	T	T	09 37 52.1	
	baz=340,slow=76,SNR=77						
H11N1	WAKE ISLAND Hy	28.62	151	T	T	09 37 48.7	
	baz=340,slow=76,SNR=53						
H11N3	WAKE ISLAND Hy	28.62	151	T	T	09 37 52.1	
	baz=340,slow=76,SNR=51						
H11S1	WAKE ISLAND Hy	29.68	152	T	T	09 39 13.3	
	baz=340,slow=76,SNR=55						
H11S3	WAKE ISLAND Hy	29.69	152	T	T	09 39 13.3	
	baz=340,slow=76,SNR=42						
H11S2	WAKE ISLAND Hy	29.70	152	T	T	09 39 13.3	
	baz=340,slow=76,SNR=38						
GUMO	Guam	32.81	194	LR	LR	09 18 58.9	
	comp=Z,143nm,21.5s,baz=144,slow=32						
ILAR	Eielson Array	37.48	38	P	P	09 08 32.2	-1.7
	0.2nm,0.6s,baz=266,slow=7.0,SNR=5.6						
MKAR	Makanchi Array	47.03	298	P	P	09 09 52.6	+0.8
	0.2nm,0.5s,baz=72,slow=7.8,SNR=3.5						
AKTO	Aktyubinsk	59.05	312	LR	LR	09 38 41.2	
	comp=Z,50nm,19.1s,baz=239,slow=38						
WRA	Warramunga Arr	67.54	199	P	P	09 12 17.8	+1.3
	0.4nm,1.0s,baz=17,slow=7.0,SNR=2.3						
ASAR	Alice Springs	71.24	198	P	P	09 12 41.8	+2.5
	0.3nm,0.8s,baz=8.9,slow=6.6,SNR=1.8						
TXAR	Lajitas Array	78.26	60	P	P	09 13 20.8	+0.5
	0.5nm,0.5s,baz=298,slow=4.3,SNR=10						

IDC 01 09:10:49.1±1.5, 28°.27N×87°.98E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.5/48, mbtmp3.6/6, ML3.6/1, Error ellipse: s-maj=64.3km s-min=21.6km az=64.0

NDI 01 09:10:52.6±3.2, 28°.24N×87°.16E, h15km±18km, ML3.9

DMN 01 09:10:53.1±0.0, 28°.33N×87°.31E, h87km, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0

ISC 01 09:10:56.1±0.9, 28°.25N±0°.07×87°.15E±0°.04, h96km±10km, n27, σ2.s44/47, mb3.6/5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TAPN	Taplejung	1.03	151	ePg	Pn	09 11 15.2	-1.7
TAPN				eSg	Sn	09 11 30.5	-1.9
TAPN				eSg	Sn	09 11 30.5	-1.9
JIRN	Jiri	1.03	235	ePg	Pn	09 11 16.6	-0.3
GUN	Gumba	1.17	254	ePg	Pn	09 11 18.4	-0.1
GUN				eSg	Sn	09 11 36.4	+1.1
GUN				eSg	Sn	09 11 36.5	+1.1
RAMN	Ramite	1.38	201	ePg	Pn	09 11 20.1	-0.9
ODAN	Odare	1.40	171	ePg	Pn	09 11 20.3	-0.9
ODAN				eSg	Sn	09 11 39.0	-1.0
ODAN				eSg	Sn	09 11 39.1	-1.0
GTK	Tadong	1.59	125	eP	Pn	09 11 21.5	-1.9
GTK				eS	Sn	09 11 41.5	-2.6
PKI	Pulchoki	1.68	247	ePg	Pn	09 11 24.8	+0.1
PKI				eSg	Sn	09 11 48.1	+1.7
PKIN	Phulchoki	1.69	247	ePg	Pn	09 11 24.8	0.0
PKIN				eSg	Sn	09 11 48.2	+1.7
	637nm,0.2s						
KKN	Kakani	1.71	255	ePg	Pn	09 11 25.1	+0.1
KKN				eSg	Sn	09 11 48.3	+1.3
	432nm,0.2s						
KKN				eSg	Sn	09 11 48.4	+1.4
DMN	Daman	1.91	251	ePn	Pn	09 11 27.8	+0.1
DMN				eSn	Sn	09 11 52.7	+1.0
	295nm,0.3s						
GKN	Gorkha	2.23	264	ePn	Pn	09 11 30.9	-0.8
GKN				eSn	Sn	09 11 59.1	+0.2
	480nm,0.2s						
DANN	Dangsing	2.99	273	ePn	Pn	09 11 39.8	-2.0
DANN				eSn	Sn	09 12 15.7	-1.4
	483nm,0.3s						
KOLN	Koldanda	3.17	262	ePn	Pn	09 11 43.0	-1.2
KOLN				eSn	Sn	09 12 21.2	-0.2
	305nm,0.2s						
DHUB	DHUBRI	3.37	131	eP	Pn	09 11 44.7	-2.0
DHUB				eS	Sn	09 12 24.3	-1.6
PYUN	Piuthan	3.67	269	ePn	Pn	09 11 49.6	-1.4
PYUN				eSn	Sn	09 12 32.2	-1.2
	155nm,0.2s						
BOK	Bokaro	4.58	195	eP	Pn	09 12 02.6	-0.5
BOK				eS	Sn	09 12 49.1	-6.1
BOK				IAML		09 12 55.1	
	comp=N,252nm,0.6s						
BOK				IAML		09 12 55.9	
	comp=E,165nm,0.2s						
SHL	Shillong	5.00	121	eP	Pn	09 12 05.0	-4.0
SHL				eP	Pn	09 12 05.8	-3.2
SHL				i S	Sn	09 12 59.0	-6.7
SHL				IAML		09 13 02.0	
	comp=N,237nm,0.3s						
SHL				IAML		09 13 04.2	
	comp=E,83nm,0.4s						
DDI	Dehra Dun	8.20	287	ex	x	09 14 20.8	
JBP	Jabalpur	8.20	234	eP	Pn	09 12 52.3	-0.1
JBP				eS	Sn	09 14 20.5	-2.9
SMLA	Simla	9.14	291	eP	Pn	09 13 03.0	-2.1
SMLA				eS	Sn	09 14 39.3	-6.9
SMLA				IAML		09 14 47.8	
	comp=E,108nm,0.5s						
BHPL	Bhopal	10.08	243	eP	Pn	09 13 13.9	-4.1
BHPL				eS	Sn	09 14 59.6	-10
BHPL				IAML		09 15 04.4	
	comp=N,67nm,0.2s						
BHPL				IAML		09 15 07.3	
	comp=E,69nm,0.2s						
MKAR	Makanchi Array	18.90	350	P	Pn	09 15 11.5	+0.8
	comp=E,0.2nm,0.3s,baz=175,slow=10,SNR=5.0						
KURBB	Kurchatov Arra	23.28	346	P	P	09 15 58.3	+3.0
	comp=E,0.4nm,0.5s,baz=162,slow=10,SNR=1.9						
SONM	Songino Array	24.62	32	P	P	09 16 08.3	+0.8
	comp=E,0.4nm,0.3s,baz=223,slow=9.6,SNR=3.8						
FINES	FINESS Array B	51.83	328	P	P	09 20 02.9	+8.9
	comp=E,0.3nm,0.5s,baz=110,slow=12,SNR=3.4						
WRA	Warramunga Arr	66.15	131	P	P	09 21 34.9	+1.3
	comp=E,0.4nm,0.3s,baz=319,slow=4.4,SNR=1.8						
ASAR	Alice Springs	68.52	134	P	P	09 21 50.4	+1.9
	comp=E,1.3nm,0.6s,baz=316,slow=6.2,SNR=17						

IDC 01 09:12:10.4±1.1, 0°.69S×126°.38E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.5/45, mbtmp3.7/5, ML2.9/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/38, Error ellipse: s-maj=39.9km s-min=20.0km az=54.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	4.89	92	Pn	Pn	09 13 26.8	+1.5
	0.5nm,0.3s,baz=303,slow=23,SNR=1.3						
SIJI				Sn	Sn	09 14 23.9	+1.2
	1.0nm,0.3s,baz=190,slow=20,SNR=2.2						
WRA	Warramunga Arr	20.66	158	P	P	09 16 51.5	-0.5
	0.4nm,0.4s,baz=340,slow=12,SNR=12						
ASAR	Alice Springs	23.98	163	P	P	09 17 27.0	+0.1
	0.5nm,0.4s,baz=344,slow=11,SNR=13						
JHJ	Hachijo jima 2	35.92	19	LR	LR	09 34 02.9	
	comp=Z,44nm,19.0s,baz=103,slow=36						
MKAR	Makanchi Array	61.00	327	P	P	09 22 26.3	+0.5
	0.7nm,0.4s,baz=119,slow=7.6,SNR=13						
KURBB	Kurchatov Arra	65.27	329	P	P	09 22 53.3	-0.7
	0.7nm,0.6s,baz=129,slow=6.1,SNR=8.6						

IDC 01 09:21:00.5±1.8, 1°.80S×139°.18E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.5/46, mbtmp3.7/3, ML4.1/1, Error ellipse: s-maj=32.6km s-min=15.6km az=21.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAY	Jayapura	1.68	115	Pg	Pn	09 21 31.2	-0.1
	6.1nm,0.3s,baz=302,slow=19,SNR=16						
JAY				Lg	Lg	09 21 53.8	
	12nm,0.3s,baz=117,slow=17,SNR=4.7						
WRA	Warramunga Arr	18.64	194	P	P	09 25 19.9	-0.2
	0.6nm,0.3s,baz=17,slow=12,SNR=20						
ASAR	Alice Springs	22.33	193	P	P	09 26 00.3	+0.2
	2.2nm,0.6s,baz=22,slow=9.5,SNR=20						
H11S3	WAKE ISLAND Hy	33.75	52	T	T	10 03 25.3	
	baz=236,slow=75,SNR=8.1						
H11S2	WAKE ISLAND Hy	33.76	52	T	T	10 03 23.7	
	baz=236,slow=75,SNR=5.1						
H11S1	WAKE ISLAND Hy	33.77	52	T	T	10 03 21.0	
	baz=236,slow=75,SNR=6.0						
H11N1	WAKE ISLAND Hy	34.59	51	T	T	10 04 31.0	
	baz=233						
H11N2	WAKE ISLAND Hy	34.61	50	T	T	10 04 32.7	
	baz=233						
H11N3	WAKE ISLAND Hy	34.61	51	T	T	10 04 33.0	
	baz=233						
MKAR	Makanchi Array	69.36	322	P	P	09 32 10.0	-0.2
	0.2nm,0.5s,baz=101,slow=7.5,SNR=2.8						

TAP 01 09:34:34.3, 22°.44N×119°.71E, h48km, ML4.1, 9C-9D, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAU	Kaohsiung	0.56	77	i P	Pn	09 34 47.1	+0.9
	baz=78						
KAU				i S	Sn	09 34 56.5	+1.7
	baz=78						
TWP	Hsiaoliuchiu	0.61	99	⇑i P	Pn	09 34 47.5	+0.7
	baz=104						
TWP				S	Sn	09 34 58.2	+2.4
	baz=104						
WLCH	Liuqiu	0.62	98	⇑i P	Pn	09 34 47.6	+0.7
	baz=103						
WLCH				i S	Sn	09 34 58.0	+1.9
	baz=103						
SNJT	Kaohsiung City	0.65	62	i P	Pn	09 34 47.9	+0.6
	baz=62						
SNJT				S	Sn	09 34 57.6	+0.8
	baz=62						
TAI1	Yung-k'ang	0.76	39	⇓P	Pn	09 34 49.7	+1.0
	baz=39						
TAI1				S	Sn	09 35 01.4	+2.2
	baz=39						
TSPT	Pingtung City	0.76	72	eP	Pn	09 34 50.4	+1.6
	baz=63						
SGLT	Jiouru	0.77	69	eP	Pn	09 34 50.6	+1.7
	baz=61						
SGLT				eS	Sn	09 35 01.7	+2.2
	baz=61						
SCZT	Fangliau	0.84	95	⇑i P	Pn	09 34 50.5	+0.6
	baz=95						
SCZT				S	Sn	09 35 03.1	+1.8
	baz=95						
SCST	Cishan	0.84	59	P	Pn	09 34 51.1	+1.2
	baz=59						
SCST				eS	Sn	09 35 01.8	+0.5
	baz=59						
SCLT	Jiali	0.85	31	P	Pn	09 34 50.9	+0.9
	baz=32						
SCLT				eS	Sn	09 35 03.8	+2.4
	baz=32						
MASBT	Mashibuluo	0.87	79	⇑i P	Pn	09 34 51.0	+0.8
	baz=79						
MASBT				S	Sn	09 35 04.4	+2.6
	baz=79						
CHN3	Shinhua	0.87	44	P	Pn	09 34 51.5	+1.3
	baz=44						
CHN3				eS	Sn	09 35 04.1	+2.2
	baz=44						
TSMG	Majia	0.90	73	i P	Pn	09 34 51.4	+0.8
	baz=86						
TSMG				eS	Sn	09 35 04.6	+2.0
	baz=86						
SSD	Sandimen	0.90	70	i P	Pn	09 34 51.6	+1.0
	baz=71						
CHN8	Yiju	1.01	27	eP	Pn	09 34 53.0	+1.0
	baz=16						
SLGT	Liugui	1.02	57	P	Pn	09 34 52.9	+0.6
	baz=58						
SLGT				S	Sn	09 35 06.3	+0.8
	baz=58						
SGST	Jiashian	1.02	52	P	Pn	09 34 52.6	+0.3
	baz=52						
SGST				eS	Sn	09 35 05.7	0.0
	baz=52						
SLIU	Shizi	1.03	102	⇑i P	Pn	09 34 52.9	+0.5
	baz=103						
SLIU				eS	Sn	09 35 07.4	+1.6
	baz=103						
HEN	Hengchun	1.05	114	⇑i P	Pn	09 34 53.5	+0.9
	baz=103						
HEN				S	Sn	09 35 08.2	+2.1
	baz=103						

ICHU	Yijhu	1.05	30	⇓iP	Pn	09 34 53.3	+0.6
	baz=18						
ICHU				eS	Sn	09 35 07.1	+0.9
	baz=18						
EAST	Anshuo	1.05	93	P	Pn	09 34 53.8	+1.1
	baz=93						
EAST				eS	Sn	09 35 08.1	+1.8
	baz=93						
CHN1	Nanshi	1.05	45	⇓iP	Pn	09 34 53.5	+0.8
	baz=46						
CHN1				S	Sn	09 35 07.2	+0.9
	baz=46						
SNST	Tainan City	1.06	43	⇓P	Pn	09 34 53.6	+0.9
	baz=43						
SNST				eS	Sn	09 35 07.6	+1.2
	baz=43						
PHUB	P'eng-hu	1.07	353	⇓iP	Pn	09 34 53.2	+0.3
	baz=353						
PHUB				S	Sn	09 35 07.2	+0.5
	baz=353						
TWK	Hsinying	1.09	41	P	Pn	09 34 54.0	+0.8
	baz=42						
TWK				eS	Sn	09 35 08.3	+1.0
	baz=42						
TAW	Tawu	1.10	94	eP	Pn	09 34 54.4	+1.1
	baz=95						
TAW				eS	Sn	09 35 08.9	+1.5
	baz=95						
PNG	Penghu	1.13	353	P	Pn	09 34 54.0	+0.3
	baz=353						
PNG				eS	Sn	09 35 08.6	+0.5
	baz=353						
TWK1	Hengchun	1.13	116	⇑iP	Pn	09 34 54.5	+0.8
	baz=105						
TWK1				S	Sn	09 35 09.5	+1.4
	baz=105						
TWKBT	Hengchun	1.14	116	⇑iP	Pn	09 34 54.5	+0.7
	baz=105						
TWKBT				S	Sn	09 35 09.2	+0.9
	baz=105						
WTP	Ta-pu	1.15	46	⇓iP	Pn	09 34 54.7	+0.6
	baz=46						
WTP				eS	Sn	09 35 09.3	+0.5
	baz=46						
ECL	Taimali	1.16	82	⇑iP	Pn	09 34 55.1	+1.0
	baz=94						
ECL				S	Sn	09 35 09.5	+0.7
	baz=94						
STYT	Tauyuan	1.20	53	eP	Pn	09 34 55.6	+0.8
	baz=43						
STYT				eS	Sn	09 35 11.5	+1.5
	baz=43						
TPUB	Ta-pu	1.20	45	⇓iP	Pn	09 34 55.2	+0.5
	baz=45						
TPUB				eS	Sn	09 35 10.2	+0.3
	baz=45						
STYH	Taoyuan	1.22	53	eP	Pn	09 34 56.2	+1.2
	baz=42						
STYH				eS	Sn	09 35 11.5	+1.2
	baz=42						
TSEB	Hengchuen, Pin	1.23	116	P	Pn	09 34 55.3	+0.3
	baz=106						
TSEB				eS	Sn	09 35 11.2	+0.7
	baz=106						
CHY	Chiayi	1.24	32	eP	Pn	09 34 55.9	+0.8
	baz=32						
CHY				eS	Sn	09 35 11.9	+1.2
	baz=32						
WSF	Szhu	1.28	21	eP	Pn	09 34 56.5	+0.8
	baz=22						
WSF				eS	Sn	09 35 14.2	+2.5
	baz=22						
CHN2	Minshiung	1.29	33	eP	Pn	09 34 56.8	+0.9
	baz=22						
CHN2				eS	Sn	09 35 12.9	+0.8
	baz=22						
TWG	Pinlang	1.31	73	eP	Pn	09 34 57.5	+1.3
	baz=85						
TWG				eS	Sn	09 35 13.4	+0.8
	baz=85						
TWGBT	Beinan	1.32	73	eP	Pn	09 34 57.6	+1.3
	baz=85						
TWGBT				eS	Sn	09 35 14.2	+1.5
	baz=85						
TTN	Taitung	1.36	77	eP	Pn	09 34 58.0	+1.2
	baz=87						
WTK	Tuku	1.39	27	⇓P	Pn	09 34 57.8	+0.6
	baz=17						
WTK				eS	Sn	09 35 15.9	+1.6
	baz=17						
LONT	Longtian	1.39	70	eP	Pn	09 34 59.0	+1.7
	baz=70						
LONT				eS	Sn	09 35 16.2	+1.7
	baz=70						
ELDTW	Lidau	1.41	58	eP	Pn	09 34 59.1	+1.4
	baz=49						
ELDTW				eS	Sn	09 35 16.5	+1.2
	baz=49						
WDLH	Douliu	1.45	31	eP	Pn	09 34 59.0	+0.8
	baz=43						
WDLH				eS	Sn	09 35 16.9	+0.9
	baz=43						
ALS	Alishan	1.46	43	⇓P	Pn	09 34 59.3	+0.7
	baz=44						
ALS				eS	Sn	09 35 17.7	+0.9
	baz=44						
WGK	Gukeng	1.46	32	eP	Pn	09 34 59.2	+0.9
	baz=44						
ECS	Chishang	1.54	65	eP	Pn	09 35 01.2	+1.9
	baz=65						
ECS				eS	Sn	09 35 19.5	+1.4
	baz=65						
EDH	Donghe	1.56	70	eP	Pn	09 35 01.1	+1.5
	baz=70						
EDH				eS	Sn	09 35 20.0	+1.3
	baz=70						
WRL	Guolierlin Hig	1.57	23	eP	Pn	09 35 00.8	+1.0
	baz=23						
WRL				eS	Sn	09 35 20.1	+1.1
	baz=23						
WHYT	Xinyi Township	1.63	40	eP	Pn	09 35 01.3	+0.7
	baz=40						
WHYT				eS	Sn	09 35 21.6	+1.1
	baz=40						
LDUT	Ludao	1.64	82	eP	Pn	09 35 01.8	+1.1
	baz=91						
LDUT				eS	Sn	09 35 21.9	+1.3
	baz=91						
FULB	Fuli	1.64	62	eP	Pn	09 35 02.4	+1.7
	baz=63						
FULB				eS	Sn	09 35 23.1	+2.4
	baz=63						
CHKT	Chengkung	1.66	67	eP	Pn	09 35 03.9	+2.9
	baz=67						
WJS	Zhushan	1.66	34	eP	Pn	09 35 01.5	+0.5
	baz=34						
WNT	Mingjian	1.68	32	eP	Pn	09 35 02.4	+1.1
	baz=21						
TWF1	Yuli	1.72	58	eP	Pn	09 35 03.3	+1.6
	baz=50						
TWF1				eS	Sn	09 35 24.2	+1.6
	baz=50						
EYUL	Yuli	1.73	58	eP	Pn	09 35 03.4	+1.4
	baz=50						
EYUL				eS	Sn	09 35 24.2	+1.3
	baz=50						
YULB	Yu-li	1.74	57	eP	Pn	09 35 03.3	+1.2
	baz=49						
YULB				eS	Sn	09 35 24.3	+1.2
	baz=49						
LAY	Lan-yu	1.75	103	eP	Pn	09 35 02.6	+0.4
	baz=94						
LAY				eS	Sn	09 35 23.9	+0.5
	baz=94						
SSLB	Suanglung	1.76	40	eP	Pn	09 35 03.3	+0.9
	baz=50						
SSLB				eS	Sn	09 35 23.9	+0.2
	baz=50						
TYC	Yuchr	1.79	36	eP	Pn	09 35 04.0	+1.2
	baz=36						
TYC				eS	Sn	09 35 26.7	+2.3
	baz=36						
SMLT	Sun Moon Lake	1.80	37	eP	Pn	09 35 04.2	+1.2
	baz=48						
SMLT				eS	Sn	09 35 26.5	+1.7
	baz=48						
WCHH	Zhanghua	1.80	25	eP	Pn	09 35 04.4	+1.5
	baz=17						
WCHH				eS	Sn	09 35 25.8	+1.2
	baz=17						
EHY	Hungye	1.82	54	eP	Pn	09 35 04.0	+0.8
	baz=55						
EHY				eS	Sn	09 35 26.8	+1.7
	baz=55						
WWF	Wufeng	1.83	29	eP	Pn	09 35 04.9	+1.6
	baz=20						
HGSD	Ruisui	1.89	56	eP	Pn	09 35 06.3	+2.2
	baz=46						
WPL	Puli Township	1.94	36	eP	Pn	09 35 05.8	+1.1
	baz=47						
DPDB	Guoxing	1.94	35	eP	Pn	09 35 06.0	+1.2
	baz=35						
DPDB				eS	Sn	09 35 28.5	+0.5
	baz=35						
WCS	Beigang Elemen	1.95	34	eP	Pn	09 35 06.4	+1.5
	baz=23						
EGFH	Guangfu	2.00	52	eP	Pn	09 35 06.7	+1.1
	baz=52						
OWD	Renai	2.02	42	eP	Pn	09 35 07.7	+1.7
	baz=42						
WDJ	Dajia District	2.08	24	eP	Pn	09 35 09.1	+2.4
	baz=24						
ESL	Shilin	2.09	49	eP	Pn	09 35 08.1	+1.2
	baz=49						
CHGB	Renai	2.10	40	eP	Pn	09 35 08.6	+1.4
	baz=48						
CHGB				eS	Sn	09 35 31.4	-0.7
	baz=48						
TWQ1	Liyutan	2.13	27	eP	Pn	09 35 08.0	+0.5
	baz=27						
WHP	Taichung City	2.15	32	eP	Pn	09 35 09.4	+1.6
	baz=32						
WHP				eS	Sn	09 35 35.4	+2.1
	baz=32						
WHF	Hehuan Shan	2.21	40	eP	Pn	09 35 10.5	+1.6
	baz=40						
TWT	Tachien	2.25	36	eP	Pn	09 35 09.9	+0.7
	baz=46						
FUSS	Fushou	2.28	38	eP	Pn	09 35 11.2	+1.5
	baz=47						
KNM	Kinmen	2.29	329	eP	Pn	09 35 11.9	+2.3
	baz=327						
NMLH	Miaoli	2.31	25	eP	Pn	09 35 13.0	+3.1
	baz=15						
ZPLA	Ao Xicun	2.33	310	eP	Pn	09 35 11.6	+1.4
	baz=310						
KNMB	Chin-men Tao	2.35	329	eP	Pn	09 35 11.6	+1.2
	baz=329						
TWD	Chiawan	2.38	46	eP	Pn	09 35 12.7	+1.9
	baz=55						
ETLH	Xiulin Townshi	2.39	42	eP	Pn	09 35 13.3	+2.2
	baz=43						
NACB	Ninganchiao	2.44	45	eP	Pn	09 35 12.6	+0.9
	baz=45						
NACB				eS	Sn	09 35 40.0	-0.3
	baz=45						
NSTT	Nanjuang	2.48	28	eP	Pn	09 35 13.2	+1.1
	baz=29						
LIOB	Emei	2.50	28	eP	Pn	09 35 13.8	+1.4
	baz=29						
NNS	Nan Shan	2.50	37	eP	Pn	09 35 14.3	+1.7
	baz=27						
PTMZ	Houxiangcun	2.64	348	eP	Pn	09 35 15.2	+0.8
	baz=349						
NSK	Sanguang	2.69	34	eP	Pn	09 35 17.0	+1.9
	baz=21						
YHNB	Yeheng	2.69	34	eP	Pn	09 35 16.8	+1.6
	baz=25						
EWUT	Wuta	2.75	43	eP	Pn	09 35 17.3	+1.4
	baz=53						
NDS	Dongshan	2.85	40	eP	Pn	09 35 19.8	+2.5
	baz=40						
TWE	Neicheng	2.89	38	eP	Pn	09 35 20.5	+2.7
	baz=25						
AXDP	Jialang	2.92	327	eP	Pn	09 35 20.4	+2.1
	baz=327						
NTC	Toucheng	3.09	39	eP	Pn	09 35 21.1	+0.6
	baz=27						
EGS		3.14	40	eP	Pn	09 35 24.6	+3.4
	baz=40						
TIPB	Shuangxi	3.18	37	eP	Pn	09 35 23.8	+2.0
	baz=27						
TIPB				eS	Sn	09 35 58.0	-0.4
	baz=27						
YM01	YM01	3.18	32	eP	Pn	09 35 23.2	+1.3
	baz=32						
ANP	Anpu	3.19	31	eP	Pn	09 35 22.2	+0.1
	baz=31						
NWF	Wu-fen Shan	3.23	36	eP	Pn	09 35 23.5	+0.9
	baz=24						
WFSB	Wu-fen Shan	3.23	36	eP	Pn	09 35 23.3	+0.8
	baz=24						
TWB1	Santiao Chiao	3.30	39	eP	Pn	09 35 25.7	+2.3
	baz=27						
TWB1				eS	Sn	09 36 04.5	+3.1
	baz=27						
MHZQ	Yeshan	3.69	350	eP	Pn	09 35 30.0	+1.2
	baz=351						
MATB	Ma-tsu	3.70	3	eP	Pn	09 35 30.0	+1.1
	baz=3.0						
LYJJ	Jianjiangzhen	4.09	1	eP	Pn	09 35 35.6	+1.4
	baz=1.0						
XPSS	Dashiqiu	4.49	5	eP	Pn	09 35 41.1	+1.3
	baz=6.0						

MEX 01 09:39:33.1±1.5, 15°.64N×92°.04W, h138 km±51 km, MD3.9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCIG	Comitan	0.65	351	iP	Pn	09 39 53.9	-0.3
CCIG				iS	Sn	09 40 07.2	-3.0

*IASPEI **01** 09:43:50.2±1.0, 35°.96N±0°.02×96°.78W±0°.03, h6 km±7 km, Error ellipse: s-maj=4.2km s-min=3.1km az=125.3, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009*

*NEIC **01** 09:43:50.4±1.3, 35°.97N±0°.01×96°.78W±0°.03, h5 km±1 km, Error ellipse: s-maj=4.1km s-min=2.8km az=105.0*

*ANF **01** 09:43:50.6±0.2, 35°.97N×96°.78W, h5 km, ML3.2/12, Error ellipse: s-maj=2.5km s-min=1.8km az=156.0*

*TUL **01** 09:43:50±1.3, 35°.95N±0°.01×96°.78W±0°.03, h4 km±4 km, ML3.4, mb_Lg3.1/87(NEIC), Error ellipse: s-maj=3.5km s-min=1.8km az=105.0*

ISC 01 09:43:50.5±0.9, 35°.97N±0°.02×96°.80W±0°.02, h5 km±6 km, n112, σ0.s64/102, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK031	S. Brethren Rd	0.04	243		Pg	09 43 51.4	-0.2
OK031				Sg	Sg	09 43 52.5	+0.1
QUOK	Quay	0.21	20		Pg	09 43 55.0	+0.3
QUOK				Sg	Sg	09 43 58.4	+0.9
OK005	Luther M Schoo	0.45	226	Pg	Pg	09 43 59.1	0.0
OK005				Sg	Sg	09 44 05.5	+0.5
OK011	Prague	0.49	169	Pg	Pg	09 43 59.7	-0.3
OK011				Sg	Sg	09 44 06.3	0.0
OK029	Liberty Lake	0.56	252		Pg	09 44 01.3	0.0
OK029				Sg	Sg	09 44 09.3	+0.7
OK001	Jones High Sch	0.57	225	Pg	Pg	09 44 01.2	-0.2
OK025	Westminster Rd	0.59	229		Pg	09 44 01.6	-0.2
OK025				Sg	Sg	09 44 10.0	+0.6
OKCFA	Oklahoma City	0.77	224		Pg	09 44 04.6	-0.7
OKCFA				Sg	Sg	09 44 15.8	+0.5
OKCFA	Oklahoma City	0.77	224	P	Pg	09 44 04.5	-0.7
	baz=43						
OKCFA				S	Sg	09 44 15.4	+0.2
	baz=43						
OKCSW	OKLAHOMA CITY	0.77	223		Pg	09 44 04.8	-0.4
OKCSW				Sg	Sg	09 44 15.1	-0.1
TUL1	Leonard	0.82	94	P	Pg	09 44 05.4	-0.7
	baz=275,SNR=365						
TUL1				S	Sg	09 44 16.4	-0.4
	baz=275						
TUL1	Leonard	0.82	94	P	Pg	09 44 05.5	-0.7
	baz=275						
TUL1				S	Sg	09 44 16.4	-0.4
	baz=275						
BLOK	Blackwell	0.86	337		Pg	09 44 06.9	-0.1
BLOK				Sg	Sg	09 44 18.7	+0.6
FNO	Franklin	0.86	215	Pg	Pg	09 44 06.1	-0.9
FNO				IAmb_Lg		09 44 17.4	
	comp=Z,292nm,0.9s						
FNO				Sg	Sg	09 44 18.4	+0.1
T35A	Sooner Cattle	0.97	14	Pg	Pg	09 44 08.9	-0.3
T35A				Sg	Sb	09 44 22.4	-0.6
T35B	Sooner Cattle	0.97	14	P	Pg	09 44 08.9	-0.3
	baz=194,SNR=156						
T35B				S	Sb	09 44 22.4	-0.6
	baz=194						
CROK	Carrier	1.10	299		Pg	09 44 11.1	-0.4
KAN13	South Haven SW	1.18	332		Pg	09 44 12.7	-0.4
GC02	Grant County #	1.23	316		Pg	09 44 13.6	-0.4
KAN17	Caldwell West	1.32	324		Pn	09 44 15.2	-0.5
KAN14	Manchester OK	1.36	317		Pn	09 44 15.8	-0.4
KS20	Mayfield South	1.40	334		Pn	09 44 16.6	-0.1
OK032	Salt Plains WL	1.41	307		Pn	09 44 16.5	-0.4
KAN05	Bluff City Nor	1.43	323		Pn	09 44 17.1	-0.1
KAN10	Anthony SW Sta	1.56	318		Pn	09 44 19.0	+0.1
KAN08	Anthony NE Sta	1.57	323		Pn	09 44 19.2	+0.1
X34A	Smith Ranch, M	1.61	212		Pn	09 44 19.5	-0.1
KAN12	Harper NE Stat	1.64	324		Pb	09 44 20.7	-0.5
X37A	Clayton	1.81	139		Pn	09 44 22.6	+0.3
X37A				IAmb_Lg		09 44 50.2	
	comp=Z,86nm,0.8s						
X37A	Clayton	1.81	139	P	Pn	09 44 22.4	0.0
	baz=320,SNR=116						
X37A				S	Sb	09 44 46.7	-0.3
	baz=320						
U32A	Winter Ranch,	1.83	284		Pn	09 44 22.6	-0.1
U32A	Winter Ranch,	1.83	284	P	Pn	09 44 22.8	+0.2
	baz=102						
U32A				S	Sg	09 44 48.7	-0.5
	baz=102						
LOOK	Love County	2.00	189	Pn	Pn	09 44 25.2	+0.2
U38A	Gravette	2.01	76		Pn	09 44 25.4	+0.3
U38A	Gravette	2.01	76	P	Pn	09 44 25.4	+0.3
	baz=257,SNR=67						
U38A				S	Sb	09 44 52.9	+0.1
	baz=257						
WMOK	Wichita Mounta	2.04	233		Pn	09 44 25.8	+0.4
WMOK	Wichita Mounta	2.04	233	P	Pn	09 44 25.9	+0.4
	baz=52						
WMOK				S	Sb	09 44 53.4	-0.2
	baz=52						
WMOK	Wichita Mounta	2.04	233	P	Pn	09 44 25.9	+0.4
	baz=52						
WMOK				S	Sb	09 44 53.4	-0.2
	baz=52						
HHAR	Hobbs	2.33	82		Pn	09 44 29.8	+0.3
HHAR	Hobbs	2.33	82	P	Pn	09 44 29.9	+0.3
	baz=263						
W39A	Magazine	2.58	107		Pn	09 44 33.5	+0.7
W39A	Magazine	2.58	107	P	Pn	09 44 33.1	+0.2
	baz=288,SNR=7.2						
W39A	Magazine	2.58	107	P	Pn	09 44 33.4	+0.5
	baz=288						
Z35A	Perchaven, San	2.66	188		Pn	09 44 34.7	+0.7
Z35A	Perchaven, San	2.66	188	P	Pn	09 44 34.3	+0.3
	baz=7.9,SNR=16						
R32A	Long Quarter,	2.88	329	Pn	Pn	09 44 37.2	0.0
MIAR	Mount Ida	3.00	117	Pn	Pn	09 44 38.9	+0.2
MIAR				IAmb_Lg		09 45 32.4	
	comp=Z,28nm,0.9s						
MIAR	Mount Ida	3.00	117	P	Pn	09 44 39.1	+0.5
	baz=299,SNR=32						
MIAR	Mount Ida	3.00	117	P	Pn	09 44 39.2	+0.5
	baz=299						
Z38A	Mt. Pleasant	3.09	151	Pn	Pn	09 44 37.8	-2.2
Z38A				IAmb_Lg		09 45 34.0	
	comp=Z,40nm,0.8s						
KSU1	Kansas State U	3.13	3	P	Pn	09 44 40.6	+0.1
	baz=183						
KSU1	Kansas State U	3.13	3	Pb	Pb	09 44 48.2	+1.5
	baz=183						
U40A	Yellville	3.21	82		Pn	09 44 42.1	+0.4
U40A	Yellville	3.21	82	P	Pn	09 44 41.7	0.0
	baz=264,SNR=39						
U40A				S	Sn	09 45 20.7	+0.3
	baz=264						
U40A				S	Sn	09 45 20.7	+0.3
	baz=264						
U40A	Yellville	3.21	82	S	Sn	09 45 20.7	+0.3
	baz=264						
S39A	Bolivar	3.27	57	Pn	Pn	09 44 42.7	+0.1
S39A	Bolivar	3.27	57	P	Pn	09 44 42.6	+0.1
	baz=239,SNR=56						
X40A	Basin Creek Fa	3.57	113		Pn	09 44 46.4	-0.1
X40A	Basin Creek Fa	3.57	113	P	Pn	09 44 46.8	+0.3
	baz=296,SNR=6.8						
CBKS	Cedar Bluff	3.68	321	Pn	Pn	09 44 48.2	+0.1
CBKS	Cedar Bluff	3.68	321	Sb	Sg	09 45 46.1	-2.6
	baz=140						
WHAR	Wooly Hollow	3.73	99	Pn	Pn	09 44 48.9	0.0
WLAR	White Oak Lake	3.79	126	Pn	Pn	09 44 50.1	+0.5
FCAR	Ozark Folk Cen	3.79	90	Pn	Pn	09 44 50.0	+0.3
FCAR				IAmb_Lg		09 45 52.9	
	comp=Z,67nm,0.7s						
W41B	Gary Mavity, V	3.79	101	P	Pn	09 44 49.5	-0.2
	baz=284,SNR=27						
W41B				S	Sn	09 45 35.2	+0.5
	baz=284						
W41B	Gary Mavity, V	3.79	101	P	Pn	09 44 49.7	+0.1
	baz=284						
W41B				S	Sn	09 45 35.2	+0.5
	baz=284						
MGMO	Mountain Grove	3.83	71	Pn	Pn	09 44 49.8	-0.4
WHTX	Lake Whitney,	4.01	188	Pn	Pn	09 44 52.8	+0.2
ABTX	Abilene, Hawle	4.09	216	Pb	Pb	09 45 03.0	0.0
	baz=34						
AMTX	Amarillo	4.13	256	Pn	Pn	09 44 52.5	-1.9
AMTX				IAmb_Lg		09 46 10.6	
	comp=Z,32nm,0.7s						
AMTX	Amarillo	4.13	256	S	Sn	09 45 45.5	+2.3
	baz=73						
Z41A	Richland Creek	4.26	128	S	Sn	09 45 45.8	-0.5
	baz=311						
R40A	Maddies Statio	4.30	56		Pn	09 44 57.3	+0.7
R40A				IAmb_Lg		09 46 05.5	
	comp=Z,35nm,0.9s						
P38A	Dawn	4.47	34	IAmb_Lg		09 46 12.9	
	comp=Z,55nm,0.8s						
LCAR	Lake Charles	4.58	87	IAmb_Lg		09 46 21.1	
	comp=Z,28nm,0.9s						
T42A	Van Buren	4.72	75	IAmb_Lg		09 46 16.5	
	comp=Z,27nm,0.8s						
N33A	J Bar K, Exete	4.79	354	Pn	Pn	09 45 03.6	+0.3
N33A				IAmb_Lg		09 46 29.7	
	comp=Z,28nm,0.9s						
CCM	Cathedral Cave	4.91	63	Pn	Pn	09 45 04.5	-0.5
CCM				IAmb_Lg		09 46 34.2	
	comp=Z,34nm,0.9s						
N35A	Tabor	4.97	10	Pn	Pn	09 45 04.9	-0.8
P40A	Paris	5.17	45	Pn	Pn	09 45 07.9	-0.7
P40A				IAmb_Lg		09 46 34.6	
	comp=Z,35nm,0.8s						
PBMO	Poplar Bluff	5.20	79	IAmb_Lg		09 46 39.9	
	comp=Z,35nm,0.7s						
LPAR	Lepanto	5.29	92	IAmb_Lg		09 46 44.2	
	comp=Z,36nm,0.8s						
GNAR	Gosnell	5.50	88	IAmb_Lg		09 46 53.6	
	comp=Z,39nm,0.8s						
KSCO	Kaye Shedlock'	5.54	305	IAmb_Lg		09 46 59.8	
	comp=Z,14nm,0.9s						
KSCO	Kaye Shedlock'	5.54	305	P	Pn	09 45 15.1	+1.3
	baz=122						
N38A	Joes South For	5.57	29	IAmb_Lg		09 46 59.8	
	comp=Z,32nm,0.8s						
LNXT	Lenox	5.92	87	IAmb_Lg		09 46 58.2	
	comp=Z,42nm,0.8s						
T25A	Trinidad	6.24	283	IAmb_Lg		09 47 14.0	
	comp=Z,14nm,0.9s						
W45A	Hickory Valley	6.26	95	IAmb_Lg		09 47 15.0	
	comp=Z,24nm,0.8s						
OGNE	Ogallala	6.45	322	IAmb_Lg		09 47 19.9	
	comp=Z,23nm,0.8s						
SCIA	State Center	6.55	24	IAmb_Lg		09 47 33.3	
	comp=Z,14nm,0.7s						
K31A	O'Neill	6.81	348	IAmb_Lg		09 47 38.7	
	comp=Z,28nm,0.8s						
Q44A	Meyer Farm, Va	6.85	62	IAmb_Lg		09 47 33.1	
	comp=Z,37nm,0.7s						
K38A	Parkersburg	7.36	24	IAmb_Lg		09 47 49.6	
	comp=Z,13nm,0.7s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
L40A	Anamosa	7.47	34	IAmb_Lg		09 47 48.2	
	comp=Z,14nm,0.8s						
O44A	Mansfield	7.78	55	IAmb_Lg		09 48 02.8	
	comp=Z,20nm,0.7s						
V48A	Smith Brothers	8.10	89	IAmb_Lg		09 48 12.8	
	comp=Z,18nm,1.2s						
L42A	Oliver, Polo	8.19	40	IAmb_Lg		09 48 17.3	
	comp=Z,24nm,0.9s						
CLTN	Cedars of Leba	8.48	86	IAmb_Lg		09 48 22.2	
	comp=Z,9.9nm,1.0s						
JFWS	Jewell Farm	8.59	34	IAmb_Lg		09 48 24.9	
	comp=Z,14nm,0.7s						
SUSD	Miller	8.62	350	IAmb_Lg		09 48 30.1	
	comp=Z,13nm,0.9s						
WCI	Wyandotte Cave	8.69	72	IAmb_Lg		09 48 22.5	
	comp=Z,19nm,0.9s						
BLO	Bloomington	8.76	66	IAmb_Lg		09 48 29.0	
	comp=Z,25nm,0.8s						
SFIN	Lafayette	8.81	57	IAmb_Lg		09 48 28.9	
	comp=Z,14nm,0.8s						
SWET	Sewanee	8.88	92	IAmb_Lg		09 48 32.1	
	comp=Z,20nm,1.3s						
I40A	Norwalk	9.22	29	IAmb_Lg		09 48 45.4	
	comp=Z,8.4nm,0.8s						
FPAL	Fort Paine	9.26	96	IAmb_Lg		09 48 48.5	
	comp=Z,12nm,0.9s						
K43A	Burlington	9.39	42	IAmb_Lg		09 48 56.7	
	comp=Z,15nm,0.9s						
W50A	Signal Mountai	9.39	91	IAmb_Lg		09 48 52.2	
	comp=Z,15nm,1.0s						
P48A	Milroy	9.66	65	IAmb_Lg		09 49 03.1	
	comp=Z,15nm,0.8s						
X51A	Calhoun	9.86	95	IAmb_Lg		09 49 08.7	
	comp=Z,8.9nm,0.9s						
N47A	Urbana	9.99	57	IAmb_Lg		09 49 14.3	
	comp=Z,15nm,1.0s						

*IDC **01** 09:44:39.1±2.1, 8°.32S×119°.62E, h0^{km}, mb3.5/2, mb1 3.7/4, mb1mx3.5/36, mbtmp3.5/4, ML3.4/2, MS2.7/1, Ms1 2.7/1, ms1mx2.5/22, Error ellipse: s-maj=90.7km s-min=24.7km az=61.0*

*DJA **01** 09:44:43.0±1.4, 8°S±2°×12°0E±°, h18^{km}±12^{km}, M3.7/7, MLv3.7/7*

ISC 01 09:44:41.3±1.0,**8°.11S**±0°.04×**119°.87E**±0°.05,**h10^{km},n14, σ1^{s}33**/18,**Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.59**	**197**	P	**Pn**	**09 45 10.1**	**+0.4**
WBSI				S	**Sn**	**09 45 31.4**	**+1.0**
WSI	**Waingapu**	**1.61**	**165**	P	**Pn**	**09 45 08.2**	**-1.6**
EDFI	**Ende, Flores**	**1.91**	**110**	P	**Pn**	**09 45 15.2**	**+1.2**
EDFI				S	**Sn**	**09 45 39.0**	**+0.9**
BSSI	**Bau Bau, Buton**	**2.05**	**17**	P	**Pn**	**09 45 15.9**	**+0.1**
BSSI				S	**Sn**	**09 45 41.4**	**0.0**
PLAI	**Plampang**	**2.19**	**251**	P	**Pn**	**09 45 19.0**	**+1.2**
MMRI	**Maumere**	**2.40**	**103**	P	**Pn**	**09 45 21.7**	**+1.1**
BKSI	**Bulukumba**	**2.78**	**5**	P	**Pn**	**09 45 26.8**	**+0.9**
TWSI	**Taliwang, Sumb**	**3.02**	**258**	P	**Pn**	**09 45 29.9**	**+0.6**
KAPI	**Kappang**	**3.08**	**358**	Pn	**Pn**	**09 45 31.1**	**+1.1**
	2.9nm,0.3s,baz=174,slow=10,SNR=7.0						
KAPI				Sn	**Sn**	**09 46 03.6**	**-3.3**
	5.2nm,0.3s,baz=173,slow=14,SNR=5.1						
KAPI				LR	LR	09 47 14.7	
	comp=Z,114nm,19.2s,baz=262,slow=47						
KAPI	**Kappang**	**3.08**	**358**	P	**Pn**	**09 45 30.9**	**+0.9**
BNSI	**Bone**	**3.69**	**4**	P	**Pn**	**09 45 40.2**	**+1.8**
WRA	**Warramunga Arr**	**18.29**	**132**	P	**Pn**	**09 48 54.4**	**-1.0**
	0.1nm,0.3s,baz=289,slow=12,SNR=8.7						
ASAR	**Alice Springs**	**20.50**	**141**	P	**P**	**09 49 19.3**	**-0.4**
	1.1nm,0.4s,baz=317,slow=10,SNR=22						
MKAR	**Makanchi Array**	**64.07**	**332**	P	**P**	**09 55 15.6**	**+0.1**
	0.4nm,0.8s,baz=142,slow=6.1,SNR=3.8						

IDC 01 09:49:21.1±3.2,**26°.55N**×**44°.77W,h0^{km},mb3.6**/5,**mb1 3.9**/5,**mb1mx3.5**/46,**mbtmp3.6**/5,**MS3.5**/10,**Ms1 3.5**/10,**ms1mx3.2**/36,**Error ellipse: s-maj=94.4km s-min=35.1km az=97.0,Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**21.46**	**251**	LR	LR	10 02 49.3	
	comp=Z,30nm,18.9s,baz=158,slow=38						
MDT	**Midelt**	**35.30**	**70**	LR	LR	10 07 08.7	
	comp=Z,99nm,21.2s,baz=318,slow=30						
ROSC	**El Rosal**	**35.53**	**238**	LR	LR	10 10 46.7	
	comp=Z,58nm,20.4s,baz=36,slow=36						
FRB	**Frobisher Bay**	**40.29**	**344**	P	P	09 56 59.3	-0.4
	9.8nm,1.0s,baz=180,slow=7.1,SNR=2.1						
DBIC	**Dimbokro**	**42.80**	**110**	LR	LR	10 11 05.3	
	comp=Z,63nm,21.0s,baz=216,slow=30						
H10N2	**ASCENSION HYDR**	**45.07**	**135**	T	T	10 45 38.3	
	baz=321,slow=74,SNR=82						
H10N3	**ASCENSION HYDR**	**45.07**	**135**	T	T	10 45 41.5	
	baz=321,slow=74,SNR=74						
H10N1	**ASCENSION HYDR**	**45.09**	**135**	T	T	10 45 39.7	
	baz=321,slow=74,SNR=77						
LPAZ	**La Paz**	**48.26**	**211**	P	P	09 58 04.6	-0.1
	0.9nm,0.9s,baz=24,slow=10.0,SNR=2.3						
LPAZ				LR	LR	10 15 41.7	
	comp=Z,36nm,20.0s,baz=316,slow=33						
TXAR	**Lajitas Array**	**51.63**	**288**	P	P	09 58 29.2	-0.6
	0.1nm,0.5s,baz=84,slow=8.3,SNR=1.1						
TXAR				LR	LR	10 20 18.6	
	comp=Z,30nm,19.3s,baz=0.0,slow=36						
PDAR	**Pinedale Array**	**54.42**	**305**	P	P	09 58 50.9	+0.5
	0.5nm,0.8s,baz=84,slow=8.4,SNR=2.8						
PDAR				LR	LR	10 19 45.2	
	comp=Z,51nm,20.9s,baz=128,slow=34						
YKA	**Yellowknife Ar**	**57.51**	**329**	LR	LR	10 24 02.5	
	comp=Z,70nm,18.3s,baz=0.0,slow=36						
NVAR	**Mina Array Bea**	**61.66**	**301**	LR	LR	10 25 15.6	
	comp=Z,70nm,18.3s,baz=122,slow=35						
ILAR	**Eielson Array**	**71.27**	**334**	P	P	10 00 42.1	+0.1
	1.1nm,0.9s,baz=62,slow=5.2,SNR=5.3						
ZALV	**Zalesovo Beam**	**88.79**	**27**	LR	LR	10 42 29.3	
	comp=Z,29nm,18.5s,baz=108,slow=36						

MEX 01 10:17:41.5±0.5,**17°.24N**×**95°.47W,h112^{km}**±5^{km},**MD4.0,1D, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.58**	**105**⇓	*i*P	Pn	10 17 58.0	-1.2
CMIG				*i* S	Sn	10 18 10.5	-1.9
VHO	**Vista Hermosa**	**1.22**	**262**	*e*P	Pn	10 18 04.7	-0.7
VHO				*i* S	Sn	10 18 22.4	-1.0
HUIG	**Huatulco**	**1.59**	**203**	*i* P	Pn	10 18 08.2	-1.3
HUIG				*i* S	Sn	10 18 30.1	-0.7
TOIG	**Toxpalan**	**1.74**	**299**	*i* P	Pn	10 18 08.0	-3.4
TOIG				*i* S	Sn	10 18 33.6	-0.6
PEIG	**Puerto Escondi**	**2.03**	**233**	*i* P	Pn	10 18 13.1	-1.9
PEIG				*i* S	Sn	10 18 40.5	0.0
TGIG		**2.30**	**101**	*e*P	Pn	10 18 13.4	-5.0
TGIG				*i* S	Sn	10 18 43.4	-3.3
HLIG	**Huajuapan de L**	**2.30**	**285**	*e*P	Pn	10 18 18.1	-0.4
HLIG				*e*S	Sn	10 18 43.2	-3.7

*IDC **01** 10:28:47.2±0.9, 21°.13S×66°.89W, h230^{km}±11^{km}, mb3.1/4, mb1 3.3/9, mb1mx3.1/32, mbtmp3.8/9, Error ellipse: s-maj=20.3km s-min=15.5km az=126.0*

*NEIC **01** 10:28:49.1±2.0, 21°.37S±0°.07×66°.93W±0°.10, h250^{km}±8^{km}, mb4.0/3, Error ellipse: s-maj=13.2km s-min=9.9km az=90.0*

*GUC **01** 10:28:49.3±0.7, 21°.51S×66°.88W, h249^{km}±8^{km}, ML4.0*

ISC 01 10:28:47.9±0.7,**21°.37S**±0°.05×**66°.89W**±0°.06,**h251^{km}**±7^{km},**n54,σ1^{s}46**/77,**mb3.8**/4,**5C,Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.98**	**217**	Pn	**Pn**	**10 29 31.0**	**+0.3**
AF01				Sn	**S**	**10 30 04.8**	**+0.4**
PB09	**IPOC Station P**	**2.23**	**259**	Pn	**Pn**	**10 29 34.1**	**+1.2**
PB09				Sn	**S**	**10 30 10.6**	**+2.3**
LVC	**Limon Verde**	**2.25**	**236**	P	**Pn**	**10 29 33.5**	**+0.3**
	10nm,0.3s,baz=96,slow=4.1,SNR=100						
LVC				S	**S**	**10 30 07.5**	**-1.4**
	7.5nm,0.3s,baz=240,slow=20,SNR=19						
LVC	**Limon Verde**	**2.25**	**236**⇑	*i*P	**Pn**	**10 29 33.5**	**+0.3**
LVC				*i* S	**S**	**10 30 07.4**	**-1.5**
PB01	**IPOC Station P**	**2.45**	**277**	*e*P	**Pn**	**10 29 35.9**	**+1.1**
PB01				*e*S	**S**	**10 30 11.6**	**-0.3**
PB01				IAML		10 30 15.4	
	comp=N,340nm,0.2s						
PB01	**IPOC Station P**	**2.45**	**277**	Pn	**Pn**	**10 29 35.9**	**+1.1**
PB01				Sn	**S**	**10 30 11.8**	**-0.1**
PB08	**IPOC Station P**	**2.45**	**300**⇑	*i*P	**Pn**	**10 29 37.0**	**+1.8**
PB08				*i* S	**S**	**10 30 13.8**	**+1.4**
PB08				IAML		10 30 17.4	
	comp=E,140nm,0.2s						
PB08	**IPOC Station P**	**2.45**	**300**	Pn	**Pn**	**10 29 37.0**	**+1.8**
PB08				Sn	**S**	**10 30 13.4**	**+0.9**
PB03	**IPOC Station P**	**2.75**	**255**	*e*P	**Pn**	**10 29 39.0**	**+1.0**
PB03				*e*S	**S**	**10 30 16.3**	**-1.3**
PB03				IAML		10 30 16.9	
	comp=N,359nm,0.2s						
PB02	**IPOC Station P**	**2.81**	**270**⇑	*i*P	**Pn**	**10 29 39.6**	**+1.1**
PB02				*e*S	**S**	**10 30 17.6**	**-0.9**
PB07	**IPOC Station P**	**2.81**	**262**	*e*P	**Pn**	**10 29 39.5**	**+0.8**
PB07				*i* S	**S**	**10 30 17.6**	**-1.2**
PB07	**IPOC Station P**	**2.81**	**262**	Pn	**Pn**	**10 29 39.8**	**+1.1**
PB07				Sn	**S**	**10 30 18.2**	**-0.6**
PB06	**IPOC Station P**	**2.82**	**241**	Pn	**Pn**	**10 29 39.3**	**+0.5**
PB06				Sn	**S**	**10 30 17.9**	**-1.1**
PB15	**IPOC Station P**	**3.01**	**232**	Pn	**Pn**	**10 29 42.2**	**+1.3**
PB11	**IPOC Station P**	**3.05**	**301**⇑	*i*P	**Pn**	**10 29 42.5**	**+1.3**
PB11				*i* S	**S**	**10 30 23.6**	**+0.3**
PB11	**IPOC Station P**	**3.05**	**301**	Pn	**Pn**	**10 29 42.5**	**+1.3**
PB11				Sn	**S**	**10 30 23.3**	**-0.1**
PB04	**IPOC Station P**	**3.18**	**252**	*e*P	**Pn**	**10 29 43.3**	**+0.7**
PB04				*i* S	**S**	**10 30 24.1**	**-1.8**
PB04	**IPOC Station P**	**3.18**	**252**	Pn	**Pn**	**10 29 43.4**	**+0.7**
TA01	**Diego Aracena**	**3.18**	**284**	*e*P	**Pn**	**10 29 43.1**	**+0.7**
TA01				*i* S	**S**	**10 30 25.0**	**-0.6**
TA01	**Diego Aracena**	**3.18**	**284**	Pn	**Pn**	**10 29 43.5**	**+1.0**
TA02	**Huaiquique**	**3.23**	**289**	*e*P	**Pn**	**10 29 43.6**	**+0.7**
TA02				*i* S	**S**	**10 30 25.7**	**-0.8**
TA02	**Huaiquique**	**3.23**	**289**	Pn	**Pn**	**10 29 43.7**	**+0.7**
PB05	**IPOC Station P**	**3.41**	**244**	*e*P	**Pn**	**10 29 45.8**	**+0.6**
PB05				*i* S	**S**	**10 30 28.2**	**-2.3**
PSGC	**Pisagua**	**3.51**	**300**	*e*P	**Pn**	**10 29 46.7**	**+0.5**
PSGC				*i* S	**S**	**10 30 32.0**	**-0.5**
PSGCX	**Pisagua**	**3.51**	**300**	Pn	**Pn**	**10 29 47.3**	**+1.0**
SLA	**San Lorenzo**	**3.57**	**159**⇑	*i*P	**Pn**	**10 29 45.1**	**-1.9**
SLA				*e*S	**S**	**10 30 34.2**	**+0.3**
PB10	**IPOC Station P**	**4.01**	**237**	*e*P	**Pn**	**10 29 52.1**	**+0.3**
PB10				*i* S	**S**	**10 30 39.9**	**-2.7**
PB10	**IPOC Station P**	**4.01**	**237**		**Pn**	**10 29 51.9**	**+0.1**
PB14	**IPOC Station P**	**4.58**	**224**	*e*P	**Pn**	**10 29 58.6**	**-0.4**
PB14	**IPOC Station P**	**4.58**	**224**	Pn	**Pn**	**10 29 58.9**	**-0.1**
LPAZ	**La Paz**	**5.19**	**347**	P	**Pn**	**10 30 08.9**	**+2.2**
	comp=N,3.8nm,0.3s,baz=96,slow=3.9,SNR=100						
LPAZ	**La Paz**	**5.19**	**347**		**Pn**	**10 30 08.5**	**+1.8**
AC02	**Maricunga**	**5.82**	**200**	Pn	**Pn**	**10 30 13.1**	**-1.1**
SIV	**San Ignacio**	**7.68**	**47**	P	**Pn**	**10 30 35.0**	**-2.3**
	comp=N,3.1nm,0.3s,baz=229,slow=14,SNR=39						
SIV				S	**S**	**10 31 58.4**	**-6.8**
	baz=146,slow=22,SNR=1.7						
CPUP	**Villa Florida**	**10.04**	**121**	P	**Pn**	**10 31 08.9**	**+1.9**
	comp=N,0.1nm,0.3s,baz=308,slow=15,SNR=1.3						
CO02	**Combarbal**	**10.47**	**200**	Pn	**Pn**	**10 31 11.8**	**-0.7**
VA03	**San Esteban**	**11.81**	**195**	Pn	**Pn**	**10 31 30.1**	**+1.0**
MT09	**Talagante**	**12.88**	**195**		**Pn**	**10 31 43.9**	**+1.4**
BO01	**Tunca**	**13.49**	**195**		**Pn**	**10 31 50.5**	**+0.7**
BO02	**Sierra Bellavi**	**13.81**	**194**		**P**	**10 31 55.4**	**+0.9**
TRQA	**Tornquist**	**17.16**	**167**	P	**P**	**10 32 31.6**	**+0.3**
TRQA				IAmb	IAmb	10 32 33.1	
	comp=Z,10nm,1.1s						
ATAH	**Atahualpa**	**18.00**	**320**	P	**P**	**10 32 38.9**	**-2.1**
	comp=Z,0.6nm,0.3s,baz=64,slow=16,SNR=2.1						
PLCA	**Paso Flores**	**19.55**	**188**	P	**Pn**	**10 33 00.3**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=356,slow=6.2,SNR=3.1						
PLCA	**Paso Flores**	**19.55**	**188**	P	**P**	**10 32 57.9**	**+0.8**
PLCA				IAmb	IAmb	10 33 04.6	
	comp=Z,9.0nm,1.5s						
PTGA	**Pitinga**	**21.59**	**19**	P	**P**	**10 33 17.5**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=351,slow=22,SNR=2.5						
PTGA	**Pitinga**	**21.59**	**19**	P	**P**	**10 33 17.8**	**-0.5**
PTGA				IAmb	IAmb	10 33 21.2	
	comp=Z,4.0nm,1.4s						
MDP	**Montagnes des**	**29.79**	**30**	P	**P**	**10 34 30.8**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=56,slow=22,SNR=1.1						
TXAR	**Lajitas Array**	**61.62**	**324**	P	**P**	**10 38 40.0**	**+0.7**
	comp=Z,0.1nm,0.7s,baz=104,slow=3.8,SNR=1.8						
TORD	**Torodi Ar. Bea**	**75.54**	**69**	P	**P**	**10 40 05.7**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=260,slow=5.4,SNR=9.0						
ASAR	**Alice Springs**	**130.87**	**205**	PKP	**PKiKP**	**10 47 32.2**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=143,slow=2.1,SNR=6.5						
ASAR	**Alice Springs**	**130.87**	**205**		**PKPdf**	**10 47 28.2**	**-2.0**
WRA	**Warramunga Arr**	**133.99**	**208**	PKP	**PKiKP**	**10 47 38.8**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=172,slow=2.1,SNR=16						
ZALV	**Zalesovo Beam**	**141.01**	**26**	PKP	**PKiKP**	**10 47 50.4**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=270,slow=2.2,SNR=1.8						
MKAR	**Makanchi Array**	**144.41**	**37**	PKP	**PKPdf**	**10 47 56.1**	**+2.0**
	comp=Z,1.2nm,0.6s,baz=308,slow=4.1,SNR=11						

KMA 01 10:30:47.5±0.2,**38°.30N**×**128°.56E,h0^{km},Error ellipse: s-maj=3.2km s-min=0.8km az=34.0,North Korea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSSKC	**Sokcho**	**0.03**	**248**	P	Pg	10 30 48.3	+0.3
	SNR=114						
KSSKC	**Sokcho**	**0.03**	**248**	P	Pg	10 30 48.3	+0.3
	SNR=114						
KSSKC	**Sokcho**	**0.03**	**248**	P	Pg	10 30 48.3	+0.3
	SNR=114						
KSSKC	**Sokcho**	**0.03**	**248**	P	Pg	10 30 48.3	+0.3
	SNR=114						
SEHB	**SEOHWA**	**0.24**	**262**	P	Pg	10 30 51.9	-0.2
	SNR=101						
SEHB	**SEOHWA**	**0.24**	**262**	P	Pg	10 30 51.9	-0.2
	SNR=101						
SEHB	**SEOHWA**	**0.24**	**262**	P	Pg	10 30 51.9	-0.2
	SNR=101						
SEHB	**SEOHWA**	**0.24**	**262**	P	Pg	10 30 51.9	-0.2
	SNR=101						
SEHB	**SEOHWA**	**0.24**	**262**	P	Pg	10 30 51.9	-0.2
	SNR=101						
KSJMJ	**Jumunjin**	**0.45**	**160**	P	Pg	10 30 55.6	-0.4
	SNR=9.8						
KSJMJ	**Jumunjin**	**0.45**	**160**	P	Pg	10 30 55.6	-0.4
	SNR=9.8						
KSJMJ	**Jumunjin**	**0.45**	**160**	P	Pg	10 30 55.6	-0.4
	SNR=9.8						
KSJMJ	**Jumunjin**	**0.45**	**160**	P	Pg	10 30 55.6	-0.4
	SNR=9.8						
KSJMJ	**Jumunjin**	**0.45**	**160**	P	Pg	10 30 55.6	-0.4
	SNR=9.8						
KSDGY	**Daegwallycong**	**0.62**	**172**	P	Pg	10 30 58.9	-0.4
KSCHC	**Chuncheon**	**0.79**	**229**	P	Pg	10 31 02.4	-0.2
	SNR=44						
KSCHC	**Chuncheon**	**0.79**	**229**	P	Pg	10 31 02.4	-0.2
	SNR=44						
KSCHC	**Chuncheon**	**0.79**	**229**	P	Pg	10 31 02.4	-0.2
	SNR=44						
KSCHC	**Chuncheon**	**0.79**	**229**	P	Pg	10 31 02.4	-0.2
	SNR=44						
KSCHC	**Chuncheon**	**0.79**	**229**	P	Pg	10 31 02.4	-0.2
	SNR=44						
KSWJU	**Wonju**	**0.98**	**204**	P	Pg	10 31 06.1	-0.2
	SNR=13						
KSWJU	**Wonju**	**0.98**	**204**	P	Pg	10 31 06.1	-0.2
	SNR=13						
KSWJU	**Wonju**	**0.98**	**204**	P	Pg	10 31 06.1	-0.2
	SNR=13						
KSWJU	**Wonju**	**0.98**	**204**	P	Pg	10 31 06.1	-0.2
	SNR=13						
KSWJU	**Wonju**	**0.98**	**204**	P	Pg	10 31 06.1	-0.2
	SNR=13						
KSYOW	**Yeongwol**	**1.13**	**184**	P	Pg	10 31 08.7	-0.4
	SNR=9.4						
KSYOW	**Yeongwol**	**1.13**	**184**	P	Pg	10 31 08.7	-0.4
	SNR=9.4						
KSYOW	**Yeongwol**	**1.13**	**184**	P	Pg	10 31 08.7	-0.4
	SNR=9.4						
KSYOW	**Yeongwol**	**1.13**	**184**	P	Pg	10 31 08.7	-0.4
	SNR=9.4						
KSYOW	**Yeongwol**	**1.13**	**184**	P	Pg	10 31 08.7	-0.4
	SNR=9.4						
YNCB	**YEONCHEON**	**1.31**	**259**	P	Pg	10 31 12.6	0.0
	SNR=7.9						
YNCB	**YEONCHEON**	**1.31**	**259**	P	Pg	10 31 12.6	0.0
	SNR=7.9						
YNCB	**YEONCHEON**	**1.31**	**259**	P	Pg	10 31 12.6	0.0
	SNR=7.9						
YNCB	**YEONCHEON**	**1.31**	**259**	P	Pg	10 31 12.6	0.0
	SNR=7.9						
KSICN	**Icheon**	**1.36**	**222**	P	Pg	10 31 13.3	-0.2
	SNR=7.6						
KSICN	**Icheon**	**1.36**	**222**	P	Pg	10 31 13.3	-0.2
	SNR=7.6						
KSICN	**Icheon**	**1.36**	**222**	P	Pg	10 31 13.3	-0.2
	SNR=7.6						
KSICN	**Icheon**	**1.36**	**222**	P	Pg	10 31 13.3	-0.2
	SNR=7.6						
KSMUS	**Musan**	**1.48**	**254**	P	Pn	10 31 15.2	-0.2
	SNR=12						
KSMUS	**Musan**	**1.48**	**254**	P	Pn	10 31 15.2	-0.2
	SNR=12						
KSMUS	**Musan**	**1.48**	**254**	P	Pn	10 31 15.2	-0.2
	SNR=12						
KSMUS	**Musan**	**1.48**	**254**	P	Pn	10 31 15.2	-0.2
	SNR=12						
KSCHJ	**Chungju**	**1.50**	**198**	P	Pb	10 31 16.0	-0.2
	SNR=7.3						
KSCHJ	**Chungju**	**1.50**	**198**	P	Pb	10 31 16.0	-0.2
	SNR=7.3						
KSCHJ	**Chungju**	**1.50**	**198**	P	Pb	10 31 16.0	-0.2
	SNR=7.3						
KSCHJ	**Chungju**	**1.50**	**198**	P	Pb	10 31 16.0	-0.2
	SNR=7.3						
KSMGY	**Mungyeong**	**1.69**	**194**	P	Pb	10 31 18.9	-0.5
	SNR=5.7						
KSMGY	**Mungyeong**	**1.69**	**194**	P	Pb	10 31 18.9	-0.5
	SNR=5.7						
KSMGY	**Mungyeong**	**1.69**	**194**	P	Pb	10 31 18.9	-0.5
	SNR=5.7						
KSMGY	**Mungyeong**	**1.69**	**194**	P	Pb	10 31 18.9	-0.5
	SNR=5.7						
KSCEA	**Cheonan**	**1.80**	**215**	P	Pb	10 31 21.0	-0.4
	SNR=8.5						
KSCEA	**Cheonan**	**1.80**	**215**	P	Pb	10 31 21.0	-0.4
	SNR=8.5						
KSCEA	**Cheonan**	**1.80**	**215**	P	Pb	10 31 21.0	-0.4
	SNR=8.5						
HAWB	**Hwaseong-si**	**1.87**	**230**	P	Pb	10 31 22.1	-0.4
	SNR=5.3						
HAWB	**Hwaseong-si**	**1.87**	**230**	P	Pb	10 31 22.1	-0.4
	SNR=5.3						

IDC 01 10:45:26.0±1.7,**6°.91S**×**128°.62E,h0^{km},mb4.0**/1,**mb1 3.8**/4,**mb1mx3.5**/42,**mbtmp3.7**/4,**ML3.5**/3,**Error ellipse: s-maj=58.8km s-min=28.9km az=76.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.56**	**24**	Pn	Pn	10 47 04.6	+0.8
	0.8nm,0.3s,baz=180,slow=20,SNR=2.1						
SIJI				Sn	Sn	10 48 07.4	-12
	2.3nm,0.3s,baz=283,slow=23,SNR=8.5						
WRA	**Warramunga Arr**	**14.09**	**157**	Pn	Pn	10 48 45.8	-1.3
	0.3nm,0.3s,baz=337,slow=14,SNR=18						
WRA				Sn	Sn	10 51 09.1	-15
	0.5nm,0.3s,baz=343,slow=23,SNR=8.2						
ASAR	**Alice Springs**	**17.41**	**164**	P	P	10 49 31.7	-0.3
	0.2nm,0.3s,baz=346,slow=12,SNR=22						
MKAR	**Makanchi Array**	**67.41**	**327**	P	P	10 56 23.2	-0.1
	0.6nm,0.4s,baz=130,slow=6.4,SNR=9.6						

*IDC **01** 10:49:08.6±1.6, 42°.12N×142°.94E, h84^{km}±13^{km}, mb3.5/11, mb1 3.7/16, mb1mx3.5/56, mbtmp3.8/16, Error ellipse: s-maj=19.4km s-min=12.0km az=111.0*

*NEIC **01** 10:49:10.3±2.5, 42°.12N±0°.06×142°.6E±0°.1, h99^{km}±7^{km}, mb4.1/13, Error ellipse: s-maj=12.8km s-min=6.7km az=126.0*

*JMA **01** 10:49:10.5±0.1, 42°.25N×142°.74E, h96^{km}±1^{km}, M3.4*

ISC 01 10:49:09.4±0.6,**42°.14N**±0°.04×**142°.72E**±0°.04,**h97^{km}**±5^{km},**n76,σ1^{s}37**/92,**mb3.9**/19,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.14**	**11**	P	**Pn**	**10 49 24.0**	**+0.9**
JNBK				*e*S	**Sn**	**10 49 33.9**	**+0.7**
JSHD	**Hidakashinhida**	**0.33**	**326**	P	**Pn**	**10 49 24.6**	**+0.8**
JSHD				*e*S	**Sn**	**10 49 35.7**	**+1.2**
ERM	**Erimo**	**0.35**	**110**	Pn	**Pn**	**10 49 25.2**	**+1.3**
JEM	**Erimo**	**0.35**	**110**	P	**Pn**	**10 49 25.1**	**+1.2**
JEM				*e*S	**Sn**	**10 49 36.3**	**+1.6**
JTHR	**Tokachihiroo**	**0.46**	**70**	P	**Pn**	**10 49 25.5**	**+1.0**
JTHR				*e*S	**Sn**	**10 49 36.4**	**+0.5**
JCH	**Churui**	**0.68**	**45**	P	**Pn**	**10 49 26.6**	**+0.3**
JCH				*e*S	**Sn**	**10 49 37.9**	**-1.0**
JBT2	**Biratori 2**	**0.69**	**338**	P	**Pn**	**10 49 26.3**	**-0.1**
JBT2				*e*S	**Sn**	**10 49 38.4**	**-0.8**
JIAM	**Iburiatsuma**	**0.76**	**310**	P	**Pn**	**10 49 28.3**	**+1.2**
JIAM				*e*S	**Sn**	**10 49 41.5**	**+1.2**
JFR	**Furan**	**1.03**	**355**	P	**Pn**	**10 49 29.9**	**0.0**
JFR				*e*S	**Sn**	**10 49 44.4**	**-0.9**
JOB	**Onbets**	**1.13**	**47**	P	**Pn**	**10 49 31.7**	**+0.7**
JOB				*e*S	**Sn**	**10 49 46.9**	**-0.4**
JEW	**Eniwo**	**1.17**	**307**	P	**Pn**	**10 49 31.9**	**+0.4**
JEW				*e*S	**Sn**	**10 49 47.6**	**-0.6**
JEW	**Eniwo**	**1.17**	**307**		**Pn**	**10 49 31.8**	**+0.4**
JKB	**Kayabe**	**1.28**	**259**	P	**Pn**	**10 49 33.3**	**+0.6**
JKB				*e*S	**Sn**	**10 49 50.0**	**-0.4**
JNB	**Noboribetsu**	**1.29**	**285**	P	**Pn**	**10 49 32.3**	**-0.6**
JNB				*e*S	**Sn**	**10 49 49.2**	**-1.4**
JAR	**Ashorobuto**	**1.39**	**34**	P	**Pn**	**10 49 34.0**	**-0.2**
JAR				*e*S	**Sn**	**10 49 50.9**	**-2.0**
JAB	**Ashibetsu**	**1.41**	**345**	P	**Pn**	**10 49 34.8**	**+0.4**
JAB				*e*S	**Sn**	**10 49 53.6**	**+0.3**
JOT	**Ohata**	**1.46**	**239**	P	**Pn**	**10 49 35.7**	**+0.8**
JOT				*e*S	**Sn**	**10 49 54.1**	**-0.2**
JISS	**Ishikarishitsu**	**1.48**	**320**	P	**Pn**	**10 49 35.7**	**+0.4**
JISS				*e*S	**Sn**	**10 49 54.4**	**-0.5**
JAK	**Akkeshi**	**1.70**	**59**	P	**Pn**	**10 49 37.9**	**0.0**
JAK				*e*S	**Sn**	**10 49 58.1**	**-1.5**
JKK2	**Kamakawa 2**	**1.73**	**1**	P	**Pn**	**10 49 38.4**	**0.0**
JKK2				*e*S	**Sn**	**10 50 00.1**	**-0.4**
JHR	**Hokuryu**	**1.76**	**336**	P	**Pn**	**10 49 39.2**	**+0.4**
JHR				*e*S	**Sn**	**10 50 01.9**	**+0.8**
JTM	**Tenmabayashi**	**1.83**	**223**	Pn	**Pn**	**10 49 40.9**	**+1.3**
ASAJ	**Asahikawa**	**1.98**	**358**	P	**Pn**	**10 49 41.9**	**+0.3**
	33nm,0.3s,baz=214,slow=8.8,SNR=210						
ASAJ				S	**Sn**	**10 50 05.7**	**-0.4**
	7.9nm,0.3s,baz=324,slow=25,SNR=14						
JKA	**Kamikawa-asahi**	**1.98**	**358**		**Pn**	**10 49 41.8**	**+0.3**
JMM	**Marumori**	**4.51**	**200**		**Pn**	**10 50 16.2**	**+0.8**
YSS	**Yuzh-Sakhalins**	**4.81**	**0**		**Pn**	**10 50 20.3**	**+0.8**
JSD	**Sado**	**5.33**	**221**	Pn	**Pn**	**10 50 28.6**	**+2.0**
JYT	**Yasato**	**6.22**	**199**		**Pn**	**10 50 37.9**	**-0.7**
MJB9	**Matsu-Tunnel**	**6.59**	**214**		**Pn**	**10 50 43.4**	**-0.3**
MAJO	**Matsushiro**	**6.59**	**213**	Pn	**Pn**	**10 50 44.8**	**+1.1**
MJAR	**Matsushiro Arr**	**6.59**	**213**	P	**Pn**	**10 50 43.7**	**0.0**
	0.2nm,0.3s,baz=26,slow=12,SNR=9.9						
MJAR	**Matsushiro Arr**	**6.59**	**213**		**Pn**	**10 50 43.3**	**-0.4**
JGF	**Kuroka**	**7.75**	**214**	Pn	**Pn**	**10 51 00.0**	**+0.5**
USRK	**Ussuriysk Ar.**	**8.11**	**288**	P	**Pn**	**10 51 05.8**	**+1.5**
	baz=106,slow=15,SNR=2.7						
USRK	**Ussuriysk Ar.**	**8.11**	**288**		**Pn**	**10 51 04.5**	**+0.3**
INU	**Inuyama**	**8.11**	**215**	Pn	**Pn**	**10 51 04.4**	**+0.1**
JHJ	**Hachijo jima 2**	**9.30**	**195**	P	**Pn**	**10 51 19.2**	**-1.4**
	11nm,0.3s,baz=36,slow=22,SNR=12						
JHJ				S	**Sn**	**10 52 57.1**	**-6.1**
	2.0nm,0.3s,baz=93,slow=23,SNR=1.5						
PETK	**Petropavlovsk-**	**14.88**	**37**	P	**Pn**	**10 52 33.0**	**-1.6**
	0.1nm,0.3s,baz=222,slow=12,SNR=1.6						
JCJ	**Chichijima**	**15.01**	**182**	Pn	**Pn**	**10 52 37.1**	**+0.7**
SEY	**Seymchan**	**21.59**	**12**	P	**P**	**10 53 49.9**	**-1.2**
	1.4nm,0.3s,baz=183,slow=8.9,SNR=6.4						
SONM	**Songino Array**	**26.14**	**295**	P	**P**	**10 54 36.7**	**+2.3**
	0.4nm,0.3s,baz=97,slow=12,SNR=2.5						
SONM				PcP	**PcP**	**10 58 00.2**	**+1.0**
	0.9nm,0.6s,baz=82,slow=2.9,SNR=6.6						
H11N2	**WAKE ISLAND Hy**	**30.29**	**130**	T	T	11 26 57.8	
	baz=322,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**30.30**	**130**	T	T	11 27 02.0	
	baz=322,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	**30.31**	**130**	T	T	11 26 58.1	
	baz=322,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**31.16**	**132**	T	T	11 28 04.2	
	baz=328,slow=75,SNR=22						
H11S3	**WAKE ISLAND Hy**	**31.16**	**132**	T	T	11 28 07.0	
	baz=328,slow=75,SNR=18						
H11S2	**WAKE ISLAND Hy**	**31.18**	**132**	T	T	11 28 04.8	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=328,slow=75,SNR=24						
J20K	**Nowinta River**	**41.57**	**36**	P	**P**	**10 56 49.5**	**+2.3**
J20K				IAmb	IAmb	10 57 00.3	
	comp=Z,5.8nm,1.4s						
K20K	**Telida**	**41.60**	**37**	P	**P**	**10 56 50.0**	**+2.6**
IMAR	**Indian Mountai**	**41.79**	**33**	P	**P**	**10 56 50.1**	**+1.2**
MKAR	**Makanchi Array**	**42.45**	**298**	P	**P**	**10 56 55.3**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=81,slow=8.9,SNR=2.3						
KDAK	**Kodiak Island**	**42.72**	**46**	P	**P**	**10 56 56.2**	**-0.3**
	comp=Z,7.2nm,0.8s,baz=310,slow=7.9,SNR=9.2						
KDAK	**Kodiak Island**	**42.72**	**46**	IAmb	IAmb	10 56 57.4	
	comp=Z,25nm,1.2s						
KURK	**Kurchatov**	**43.73**	**304**	P	**P**	**10 57 06.9**	**+2.2**
KURBB	**Kurchatov Arra**	**43.81**	**304**	P	**P**	**10 57 06.9**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=78,slow=8.8,SNR=5.7						
IL31		**44.69**	**35**	P	**P**	**10 57 12.2**	**0.0**
IL31				IAmb	IAmb	10 57 23.2	
	comp=Z,2.4nm,1.2s						
ILAR	**Eielson Array**	**44.69**	**35**	P	**P**	**10 57 13.8**	**+1.5**
	comp=Z,1.1nm,0.9s,baz=260,slow=5.3,SNR=12						
ILAR	**Eielson Array**	**44.69**	**35**	P	**P**	**10 57 13.3**	**+1.0**
BMAR	**Burnt Mountain**	**45.41**	**31**	P	**P**	**10 57 19.3**	**+1.4**
SCRK	**Sand Creek**	**46.04**	**36**	P	**P**	**10 57 22.6**	**-0.4**
DOT	**Dot Lake**	**46.05**	**36**	P	**P**	**10 57 23.1**	**+0.1**
DOT				IAmb	IAmb	10 57 46.6	
	comp=Z,4.9nm,1.4s						
K27K	**Chicken**	**46.86**	**36**	P	**P**	**10 57 31.4**	**+2.1**
K27K				IAmb	IAmb	10 57 43.4	
	comp=Z,6.9nm,1.5s						
EGAK	**Eagle**	**47.13**	**35**	P	**P**	**10 57 33.0**	**+1.7**
L27K	**Beaver Creek,**	**47.15**	**37**	P	**P**	**10 57 33.1**	**+1.5**
L27K				IAmb	IAmb	10 57 44.2	
	comp=Z,6.6nm,1.4s						
BCAR	**Beaver Creek A**	**47.16**	**37**	P	**P**	**10 57 34.1**	**+2.4**
M27K	**Edge Creek, AK**	**47.26**	**38**	P	**P**	**10 57 35.3**	**+2.7**
M27K				IAmb	IAmb	10 57 44.5	
	comp=Z,2.5nm,1.1s						
BOOM	**Boomskoye usch**	**48.18**	**294**	P	**P**	**10 57 37.2**	**-2.8**
BOOM				IAmb	IAmb	10 58 00.9	
	comp=Z,3.6nm,1.0s						
EPYK	**Eagle Plains**	**48.63**	**32**	P	**P**	**10 57 42.5**	**-0.5**
INK	**Inuvik**	**49.41**	**29**	P	**P**	**10 57 50.1**	**+1.3**
	comp=Z,6.5nm,0.9s,baz=310,slow=17,SNR=2.4						
ABKAR	**Akbulak array**	**55.51**	**308**	P	**P**	**10 58 34.2**	**+0.1**
WRA	**Warramunga Arr**	**62.25**	**189**	P	**P**	**10 59 22.1**	**+1.2**
	comp=Z,0.9nm,1.1s,baz=11,slow=4.8,SNR=1.6						
WRA				pP	**pP**	**10 59 43.3**	**-1.5**
	comp=Z,0.2nm,0.9s,baz=5.9,slow=6.9,SNR=1.2						
FINES	**FINESS Array B**	**64.79**	**332**	P	**P**	**10 59 38.1**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=57,slow=7.0,SNR=6.1						
ASAR	**Alice Springs**	**65.98**	**189**	pP	pP	11 00 08.5	-0.8
	comp=Z,0.2nm,0.7s,baz=8.7,slow=8.0,SNR=1.4						
NVAR	**Mina Array Bea**	**71.18**	**55**	P	**P**	**11 00 16.0**	**-2.0**
	comp=Z,0.2nm,0.6s,baz=313,slow=9.3,SNR=2.8						
NVAR				pP	**pP**	**11 00 41.2**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=276,slow=8.1,SNR=1.6						
PDAR	**Pinedale Array**	**73.41**	**47**	P	**P**	**11 00 29.3**	**-1.9**
	comp=Z,0.3nm,0.7s,baz=324,slow=4.5,SNR=4.1						
PDAR	**Pinedale Array**	**73.41**	**47**	P	**P**	**11 00 31.3**	**+0.2**

*TUL **01** 10:59:11.4±1.5, 36°.447N±0°.010×97°.12W±0°.02, h9km±7km, ML2.8, mb_Lg2.9/57(NEIC), Error ellipse: s-maj=2.4km s-min=1.4km az=83.0*

NEIC 01 10:59:11.6±1.3**, 36°.447N**±0°.007×**97°.13W**±0°.02**, h5**km±2km**, Error ellipse: s-maj=3.1km s-min=2.6km az=88.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BLOK	**Blackwell**	**0.32**	**347**		Pg	10 59 17.9	0.0
BLOK				Sg	Sg	10 59 22.9	+0.8
QUOK	**Quay**	**0.43**	**129**	Pg	Pg	10 59 19.9	-0.1
QUOK				Sg	Sg	10 59 25.6	0.0
OK031	**S. Brethren Rd**	**0.54**	**155**		Pg	10 59 21.9	-0.2
OK031				Sg	Sg	10 59 29.4	+0.3
KAN13	**South Haven SW**	**0.63**	**333**		Pg	10 59 23.6	-0.2
T35A	**Sooner Cattle**	**0.68**	**46**	Pg	Pg	10 59 24.4	-0.3
T35A				Sg	Sg	10 59 33.3	-0.2
CROK	**Carrier**	**0.69**	**275**		Pg	10 59 24.7	-0.2
CROK				Sg	Sg	10 59 34.3	+0.4
OK029	**Liberty Lake**	**0.70**	**202**		Pg	10 59 24.7	-0.3
GC02	**Grant County #**	**0.72**	**305**		Pg	10 59 25.0	-0.3
GC02				Sg	Sg	10 59 34.8	+0.2
KAN17	**Caldwell West**	**0.79**	**319**		Pg	10 59 26.4	-0.4
KAN17				Sg	Sg	10 59 37.3	+0.4
KAN14	**Manchester OK**	**0.84**	**307**		Pg	10 59 27.4	-0.5
KAN14				Sg	Sg	10 59 39.0	+0.2
KS20	**Mayfield South**	**0.85**	**336**		Pg	10 59 27.6	-0.4
KS20				Sg	Sg	10 59 39.1	0.0
OK025	**Westminster Rd**	**0.88**	**191**		Pg	10 59 28.1	-0.4
KAN05	**Bluff City Nor**	**0.89**	**318**		Pg	10 59 28.0	-0.8
KAN05				Sg	Sg	10 59 40.3	0.0
OK032	**Salt Plains WL**	**0.94**	**293**		Pg	10 59 29.2	-0.5
OK032				Sg	Sg	10 59 41.9	-0.1
KAN10	**Anthony SW Sta**	**1.03**	**311**	Pg	Pg	10 59 30.8	-0.6
KAN08	**Anthony NE Sta**	**1.03**	**319**		Pg	10 59 30.9	-0.6
OKCFA	**Oklahoma City**	**1.06**	**195**		Pg	10 59 31.3	-0.7
OKCSW	**OKLAHOMA CITY**	**1.07**	**194**		Pg	10 59 31.4	-0.7
KAN12	**Harper NE Stat**	**1.10**	**321**		Pg	10 59 32.0	-0.7
FNO	**Franklin**	**1.21**	**191**		Pg	10 59 33.5	-1.2
U32A	**Winter Ranch,**	**1.52**	**268**		Pn	10 59 39.6	+0.1
X34A	**Smith Ranch, M**	**1.93**	**198**		Pn	10 59 46.1	+1.0
X34A				IAmb_Lg		11 00 15.8	
	comp=Z,76nm,1.0s						
WMOK	**Wichita Mounta**	**2.17**	**219**	Pn	Pn	10 59 49.0	+0.5
WMOK				IAmb_Lg		11 00 21.4	
	comp=Z,48nm,1.1s						
U38A	**Gravette**	**2.21**	**89**	Pn	Pn	10 59 49.4	+0.4
X37A	**Clayton**	**2.34**	**142**		Pn	10 59 51.1	+0.4
X37A				IAmb_Lg		11 00 26.3	
	comp=Z,46nm,0.7s						
R32A	**Long Quarter,**	**2.34**	**328**		Pn	10 59 51.3	+0.5
LOOK	**Love County**	**2.45**	**181**	Pn	Pn	10 59 53.0	+0.8
HHAR	**Hobbs**	**2.58**	**93**		Pn	10 59 54.1	+0.1
W39A	**Magazine**	**2.99**	**114**		Pn	10 59 60.0	+0.3
W39A				IAmb_Lg		11 00 51.6	
	comp=Z,25nm,0.7s						
Z35A	**Perchaven, San**	**3.11**	**182**	Pn	Pn	11 00 02.0	+0.7
S39A	**Bolivar**	**3.29**	**67**	Pn	Pn	11 00 04.2	+0.5
U40A	**Yellville**	**3.45**	**90**		Pn	11 00 06.1	+0.1
MIAR	**Mount Ida**	**3.46**	**122**	Pn	Pn	11 00 06.2	+0.1
Z38A	**Mt. Pleasant**	**3.63**	**150**	IAmb_Lg		11 01 14.6	
	comp=Z,44nm,0.8s						
MGMO	**Mountain Grove**	**3.96**	**78**		Pn	11 00 13.8	+0.8
X40A	**Basin Creek Fa**	**4.01**	**118**		Pn	11 00 14.3	+0.6
X40A				IAmb_Lg		11 01 20.1	
	comp=Z,26nm,0.8s						
AMTX	**Amarillo**	**4.02**	**249**	Pn	Pn	11 00 11.7	-2.3
AMTX				IAmb_Lg		11 01 23.1	
	comp=Z,21nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.08**	**96**	Pn	Pn	11 00 15.0	+0.3
WHAR	**Wooly Hollow**	**4.09**	**105**	Pn	Pn	11 00 14.7	-0.2
WHAR				IAmb_Lg		11 01 21.0	
	comp=Z,28nm,1.1s						
P38A	**Dawn**	**4.26**	**41**	Pn	Pn	11 00 15.1	-1.9
P38A				IAmb_Lg		11 01 28.7	
	comp=Z,22nm,0.7s						
R40A	**Maddies Statio**	**4.28**	**63**		Pn	11 00 17.5	0.0
R40A				IAmb_Lg		11 01 25.7	
	comp=Z,24nm,0.8s						
ABTX	**Abilene, Hawle**	**4.34**	**209**	Pn	Pn	11 00 18.0	-0.3
LCAR	**Lake Charles**	**4.84**	**93**	IAmb_Lg		11 01 42.7	
	comp=Z,16nm,0.9s						
T42A	**Van Buren**	**4.88**	**81**	Pn	Pn	11 00 26.1	+0.5
CCM	**Cathedral Cave**	**4.96**	**69**	Pn	Pn	11 00 27.7	+1.0
BGNE	**Belgrade**	**5.02**	**351**	IAmb_Lg		11 01 52.0	
	comp=Z,19nm,0.8s						
P40A	**Paris**	**5.05**	**51**	IAmb_Lg		11 01 57.3	
	comp=Z,20nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.06**	**302**	Pn	Pn	11 00 28.4	+0.2
CCAR	**Cane Creek**	**5.06**	**118**	Pn	Pn	11 00 27.1	-0.9
MSTX	**Muleshoe**	**5.24**	**244**	IAmb_Lg		11 02 07.9	
	comp=Z,17nm,1.2s						
N38A	**Joes South For**	**5.30**	**34**	IAmb_Lg		11 02 10.4	
	comp=Z,23nm,0.7s						
PBMO	**Poplar Bluff**	**5.40**	**84**	IAmb_Lg		11 02 00.7	
	comp=Z,14nm,0.7s						
L34A	**Svendsen Farm,**	**5.54**	**6**	IAmb_Lg		11 02 11.1	
	comp=Z,23nm,0.7s						
435B	**Jarrell**	**5.66**	**184**	IAmb_Lg		11 02 19.2	
	comp=Z,14nm,0.8s						
T25A	**Trinidad**	**5.89**	**279**	Pn	Pn	11 00 40.4	+0.7
SLM	**Saint Louis**	**5.89**	**66**	IAmb_Lg		11 02 15.6	
	comp=Z,22nm,0.8s						
SCIA	**State Center**	**6.24**	**28**	IAmb_Lg		11 02 32.2	
	comp=Z,22nm,0.7s						
K31A	**O'Neill**	**6.29**	**349**	IAmb_Lg		11 02 37.3	
	comp=Z,22nm,0.8s						
JCT	**Junction City**	**6.36**	**201**	IAmb_Lg		11 02 48.4	
	comp=Z,12nm,0.8s						
S44A	**Carbondale**	**6.41**	**76**	IAmb_Lg		11 02 33.1	
	comp=Z,18nm,0.9s						
SIUC	**Southern Illin**	**6.45**	**76**	IAmb_Lg		11 02 34.8	
	comp=Z,22nm,0.7s						
K38A	**Parkersburg**	**7.05**	**27**	IAmb_Lg		11 03 02.8	
	comp=Z,17nm,0.7s						
HDIL	**Hopedale**	**7.38**	**54**	IAmb_Lg		11 03 13.4	
	comp=Z,19nm,0.8s						
L42A	**Oliver, Polo**	**8.02**	**44**	IAmb_Lg		11 03 26.0	
	comp=Z,9.6nm,0.7s						
JFWS	**Jewell Farm**	**8.35**	**37**	IAmb_Lg		11 03 41.4	
	comp=Z,9.7nm,0.8s						

KMA 01 11:01:08.3±0.1**, 37°.52N**×**129°.46E, h6**km**, Error ellipse: s-maj=2.4km s-min=0.7km az=246.0, South Korea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IMWB	**Imwonan-gil** SNR=34	**0.30**	**199**	P	Pg	11 01 14.1	+0.1
IMWB	**Imwonan-gil** SNR=34	**0.30**	**199**	P	Pg	11 01 14.1	+0.1
IMWB	**Imwonan-gil** SNR=34	**0.30**	**199**	P	Pg	11 01 14.1	+0.1
IMWB	**Imwonan-gil** SNR=34	**0.30**	**199**	P	Pg	11 01 14.1	+0.1
KSTBA	**Taebaek** SNR=9.1	**0.57**	**226**	P	Pg	11 01 18.8	-0.3
KSTBA	**Taebaek** SNR=9.1	**0.57**	**226**	P	Pg	11 01 18.8	-0.3
KSTBA	**Taebaek** SNR=9.1	**0.57**	**226**	P	Pg	11 01 18.8	-0.3
KSTBA	**Taebaek** SNR=9.1	**0.57**	**226**	P	Pg	11 01 18.8	-0.3
KSDGY	**Daegwallycong** SNR=19	**0.65**	**286**	P	Pg	11 01 20.6	-0.2
KSDGY	**Daegwallycong** SNR=19	**0.65**	**286**	P	Pg	11 01 20.6	-0.2
KSDGY	**Daegwallycong** SNR=19	**0.65**	**286**	P	Pg	11 01 20.6	-0.2
KSDGY	**Daegwallycong** SNR=19	**0.65**	**286**	P	Pg	11 01 20.6	-0.2
KSJMJ	**Jumunjin** SNR=21	**0.67**	**303**	P	Pg	11 01 21.3	+0.3
KSJMJ	**Jumunjin** SNR=21	**0.67**	**303**	P	Pg	11 01 21.3	+0.3
KSJMJ	**Jumunjin** SNR=21	**0.67**	**303**	P	Pg	11 01 21.3	+0.3
KSJMJ	**Jumunjin** SNR=21	**0.67**	**303**	P	Pg	11 01 21.3	+0.3
KSULJ	**Uljin** SNR=26	**0.82**	**183**	P	Pg	11 01 24.0	0.0
KSULJ	**Uljin** SNR=26	**0.82**	**183**	P	Pg	11 01 24.0	0.0
KSULJ	**Uljin** SNR=26	**0.82**	**183**	P	Pg	11 01 24.0	0.0
KSULJ	**Uljin** SNR=26	**0.82**	**183**	P	Pg	11 01 24.0	0.0
KSWJU	**Wonju** SNR=17	**1.13**	**265**	P	Pg	11 01 29.7	-0.1
KSWJU	**Wonju** SNR=17	**1.13**	**265**	P	Pg	11 01 29.7	-0.1
KSWJU	**Wonju** SNR=17	**1.13**	**265**	P	Pg	11 01 29.7	-0.1
KSWJU	**Wonju** SNR=17	**1.13**	**265**	P	Pg	11 01 29.7	-0.1
SEHB	**SEOHWA** SNR=52	**1.21**	**308**	P	Pg	11 01 31.5	-0.1
SEHB	**SEOHWA** SNR=52	**1.21**	**308**	P	Pg	11 01 31.5	-0.1
SEHB	**SEOHWA** SNR=52	**1.21**	**308**	P	Pg	11 01 31.5	-0.1
SEHB	**SEOHWA** SNR=52	**1.21**	**308**	P	Pg	11 01 31.5	-0.1
KSPHA	**Pohang** SNR=5.4	**1.33**	**183**	P	Pn	11 01 33.2	-0.1
KSPHA	**Pohang** SNR=5.4	**1.33**	**183**	P	Pn	11 01 33.2	-0.1
KSPHA	**Pohang** SNR=5.4	**1.33**	**183**	P	Pn	11 01 33.2	-0.1
KSPHA	**Pohang** SNR=5.4	**1.33**	**183**	P	Pn	11 01 33.2	-0.1
KSCHC	**Chuncheon** SNR=36	**1.33**	**282**	P	Pn	11 01 33.0	-0.4
KSCHC	**Chuncheon** SNR=36	**1.33**	**282**	P	Pn	11 01 33.0	-0.4
KSCHC	**Chuncheon** SNR=36	**1.33**	**282**	P	Pn	11 01 33.0	-0.4
KSCHJ	**Chungju** SNR=15	**1.35**	**242**	P	Pn	11 01 33.6	-0.1
KSCHJ	**Chungju** SNR=15	**1.35**	**242**	P	Pn	11 01 33.6	-0.1
KSCHJ	**Chungju** SNR=15	**1.35**	**242**	P	Pn	11 01 33.6	-0.1
KSMGY	**Mungyeong** SNR=18	**1.41**	**233**	P	Pn	11 01 34.4	-0.1
KSMGY	**Mungyeong** SNR=18	**1.41**	**233**	P	Pn	11 01 34.4	-0.1
KSMGY	**Mungyeong** SNR=18	**1.41**	**233**	P	Pn	11 01 34.4	-0.1
KSBON	**Boeun** SNR=13	**1.67**	**233**	P	Pn	11 01 38.8	+0.7
KSBON	**Boeun** SNR=13	**1.67**	**233**	P	Pn	11 01 38.8	+0.7
KSBON	**Boeun** SNR=13	**1.67**	**233**	P	Pn	11 01 38.8	+0.7
OKCB	**Cheongsan-myeo** SNR=12	**1.78**	**229**	P	Pn	11 01 40.3	+0.8
OKCB	**Cheongsan-myeo** SNR=12	**1.78**	**229**	P	Pn	11 01 40.3	+0.8
OKCB	**Cheongsan-myeo** SNR=12	**1.78**	**229**	P	Pn	11 01 40.3	+0.8
OKCB	**Cheongsan-myeo** SNR=12	**1.78**	**229**	P	Pn	11 01 40.3	+0.8
KSDAG	**Daegu** SNR=12	**1.81**	**195**	P	Pb	11 01 42.0	+0.2
KSDAG	**Daegu** SNR=12	**1.81**	**195**	P	Pb	11 01 42.0	+0.2
KSDAG	**Daegu** SNR=12	**1.81**	**195**	P	Pb	11 01 42.0	+0.2
PYTK	**Pyeongtaek** SNR=10	**1.95**	**255**	P	Pn	11 01 39.9	-2.0
KSMUS	**Musan** SNR=9.8	**2.17**	**281**	P	Pn	11 01 41.8	-3.2

*TUL **01** 11:08:12.8±1.1, 35°.89N±0°.01×97°.28W±0°.02, h7km±6km, ML2.5, mb_Lg2.2/9(NEIC), Error ellipse: s-maj=1.8km s-min=1.6km az=94.0*

NEIC 01 11:08:13.0±0.8**, 35°.916N**±0°.009×**97°.30W**±0°.02**, h10**km±4km**, Error ellipse: s-maj=2.1km s-min=0.9km az=58.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.17**	**226**		Pg	11 08 16.6	-0.1
OK029				Sg	Sg	11 08 19.5	+0.2
OK025	**Westminster Rd**	**0.34**	**185**		Pg	11 08 19.4	-0.3
OK025				Sg	Sg	11 08 24.1	0.0
OK031	**S. Brethren Rd**	**0.38**	**84**	Pg	Pg	11 08 20.2	-0.2
OK031				Sg	Sg	11 08 25.4	-0.1
QUOK	**Quay**	**0.54**	**62**		Pg	11 08 23.4	-0.1
QUOK				Sg	Sg	11 08 30.7	0.0
FNO	**Franklin**	**0.66**	**187**	Pg	Pg	11 08 25.6	-0.2
FNO				Sg	Sg	11 08 34.3	-0.2
CROK	**Carrier**	**0.81**	**317**		Pg	11 08 28.6	+0.1
CROK				Sg	Sg	11 08 38.5	-0.6
BLOK	**Blackwell**	**0.85**	**5**	Pg	Pg	11 08 29.4	+0.1
BLOK				Sg	Sb	11 08 40.8	-0.3
GC02	**Grant County #**	**1.04**	**334**		Pg	11 08 32.8	-0.1
GC02				Sg	Sb	11 08 46.7	0.0
KAN13	**South Haven SW**	**1.10**	**353**	Pg	Pb	11 08 33.8	-0.4
KAN13				Sg	Sb	11 08 49.0	+0.4
KAN14	**Manchester OK**	**1.17**	**333**		Pb	11 08 35.3	0.0
T35A	**Sooner Cattle**	**1.18**	**32**		Pb	11 08 35.0	-0.5
T35A				Sg	Sg	11 08 51.0	-0.1
KAN17	**Caldwell West**	**1.19**	**342**		Pg	11 08 35.8	+0.1
KS20	**Mayfield South**	**1.33**	**351**	Pn	Pb	11 08 37.9	-0.1
X34A	**Smith Ranch, M**	**1.38**	**198**		Pn	11 08 38.1	-0.2
KAN08	**Anthony NE Sta**	**1.42**	**338**	Pn	Pb	11 08 39.2	-0.3
U32A	**Winter Ranch,**	**1.45**	**289**	Pn	Pn	11 08 39.6	+0.3
WMOK	**Wichita Mounta**	**1.69**	**226**		Pb	11 08 43.5	-0.6
WMOK				IAmb_Lg		11 09 08.6	
	comp=Z,9.7nm,0.8s						
LOOK	**Love County**	**1.92**	**177**	Pn	Pn	11 08 45.8	+0.1
X37A	**Clayton**	**2.06**	**129**		Pn	11 08 48.0	+0.3
W39A	**Magazine**	**2.96**	**103**	IAmb_Lg		11 09 49.6	
	comp=Z,6.6nm,0.7s						
MIAR	**Mount Ida**	**3.34**	**113**	Pn	Pn	11 09 06.6	+1.4
WHTX	**Lake Whitney,**	**3.92**	**182**	IAmb_Lg		11 10 13.9	
	comp=Z,9.4nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.20**	**89**	IAmb_Lg		11 10 29.6	
	comp=Z,5.2nm,0.8s						
MGMO	**Mountain Grove**	**4.24**	**72**	IAmb_Lg		11 10 37.4	
	comp=Z,3.8nm,0.9s						

ISC 01 11:12:31.2±1.4**, 48°.99N**±0°.06×**18°.11E**±0°.07**, h10**km**, n5, σ0ˢ.54**/7**, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAVC	**Velka Javorina**	**0.32**	**245**	*e*PG	**Pg**	**11 12 37.3**	**-0.3**
KOLL	**Kolacno**	**0.46**	**155**	*e*PG	**Pg**	**11 12 39.8**	**-0.4**
KOLL				*e*SG	**Sg**	**11 12 47.1**	**+0.9**
VYHS	**Vyhne**	**0.69**	**136**	*e*PG	**Pg**	**11 12 44.3**	**-0.3**
MORC	**Moravsky Berou**	**0.87**	**335**	*e*PG	**Pg**	**11 12 47.8**	**-0.1**
MORC				*e*SG	**Sb**	**11 13 00.0**	**-0.1**
VRAC	**Vranov**	**1.04**	**288**	*e*PG	**Pg**	**11 12 51.2**	**-0.1**

*IDC **01** 11:32:26.7±0.7, 6°.86N×73°.06W, h158km±9km, mb3.2/5, mb1 3.5/9, mb1mx3.2/35, mbtmp3.8/9, Error ellipse: s-maj=27.4km s-min=7.4km az=132.0*

*NEIC **01** 11:32:27.1±2.0, 6°.94N±0°.03×73°.18W±0°.07, h143km±10km, mb4.2/2, Error ellipse: s-maj=10.0km s-min=3.9km az=83.0*

*RSNC **01** 11:32:27.5±1.1, 6°.84N×73°.14W, h150km±4km, ML3.7, Mw4.0, Fault plane solution: NP1:φs22.00000°, δ38.00000°, λ118.00000°.*

ISC 01 11:32:26.5±0.7**, 6°.87N**±0°.03×**73°.12W**±0°.04**, h154**km±5km**, n62, σ1ˢ.85**/109**, mb3.4**/6**, 6C-3D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.28**	**192** ⇑	*i*P	**Pn**	**11 32 47.9**	**+0.1**
BARC				*e*S	**Sn**	**11 33 03.2**	**-0.8**
BARC				*i*		11 33 05.6	
	comp=Z,858nm,0.3s						
BRRC	**Barranca, Sant**	**0.63**	**292** ⇑	*i*P	**Pn**	**11 32 49.7**	**+0.7**
BRRC				*e*S	**Sn**	**11 33 06.1**	**0.0**
BRRC				*i*		11 33 15.6	
	comp=Z,476nm,0.2s						
RUSC	**La Rusia**	**0.97**	**178**		**Pn**	**11 32 51.5**	**-0.6**
RUSC				Sn	**Sn**	**11 33 11.2**	**-0.3**
RUSC	**La Rusia**	**0.97**	**178** ⇑	*e*P	**Pn**	**11 32 52.0**	**0.0**
RUSC				*e*S	**Sn**	**11 33 10.4**	**-1.1**
RUSC				*i*		11 33 12.6	
	comp=Z,773nm,0.3s						
OCAC	**Ocana**	**1.37**	**352**	*e*P	**Pn**	**11 32 55.9**	**+0.6**
OCAC				*e*S	**Sn**	**11 33 18.0**	**+0.6**
OCAC				*i*		11 33 23.2	
	comp=Z,789nm,0.2s						
TAMC	**Tame, Arauca**	**1.39**	**108** ⇓	*i*P	**Pn**	**11 32 56.3**	**+1.0**
TAMC				*e*S	**Sn**	**11 33 16.6**	**-0.7**
TAMC				*i*		11 33 18.5	
	comp=Z,363nm,0.3s						
SPBC	**San Pablo de B**	**1.54**	**218** ⇑	*e*P	**Pn**	**11 32 56.9**	**0.0**
SPBC				*e*S	**Sn**	**11 33 18.9**	**-1.2**
SPBC				*i*		11 33 26.4	
	comp=Z,990nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.83**	**290**	*e*P	**Pn**	**11 33 00.2**	**+0.2**
ZARC				*e*S	**Sn**	**11 33 25.8**	**+0.2**
ZARC				*i*		11 33 31.6	
	comp=Z,666nm,0.4s						
SMLC	**San Martn de**	**2.13**	**334**	*e*P	**Pn**	**11 33 04.1**	**+0.6**
SMLC				*e*S	**Sn**	**11 33 31.9**	**0.0**
SMLC				*i*		11 33 34.8	
	comp=Z,237nm,0.1s						
NORC	**Norcasia**	**2.17**	**233**	*e*P	**Pn**	**11 33 03.8**	**-0.2**
NORC				*e*S	**Sn**	**11 33 32.1**	**-0.7**
NORC				*i*		11 33 37.2	
	comp=Z,497nm,0.4s						
CHIC	**Chingaza**	**2.31**	**195**	*e*P	**Pn**	**11 33 06.2**	**+0.3**
CHIC				*e*S	**Sn**	**11 33 35.1**	**-1.3**
CHIC				*i*		11 33 42.4	
	comp=Z,214nm,0.4s						
ROSC	**El Rosal**	**2.34**	**211**	P	**Pn**	**11 33 08.1**	**+1.8**
	comp=Z,153nm,0.3s,baz=218,slow=0.9,SNR=166						
ROSC				S	**Sn**	**11 33 38.2**	**+1.2**
	comp=Z,165nm,0.3s,baz=214,slow=21,SNR=13						
ROSC	**El Rosal**	**2.34**	**211**		**Pn**	**11 33 07.6**	**+1.3**
ROSC				Sn	**Sn**	**11 33 39.4**	**+2.3**
ROSC	**El Rosal**	**2.34**	**211** ⇑	*e*P	**Pn**	**11 33 07.8**	**+1.4**
ROSC				*e*S	**Sn**	**11 33 38.1**	**+1.0**
ROSC				*i*		11 33 45.1	
	comp=Z,418nm,0.3s						
HELC	**Santa Helena**	**2.48**	**254**	*e*P	**Pn**	**11 33 08.7**	**+0.6**
HELC				*e*S	**Sn**	**11 33 39.3**	**-0.7**
HELC				*i*		11 33 46.8	
	comp=Z,379nm,0.4s						
UREC	**San Jos de Ur**	**2.54**	**290**	*e*P	**Pn**	**11 33 07.9**	**-0.5**
UREC				*e*S	**Sn**	**11 33 39.2**	**-1.6**
UREC				*i*		11 33 52.9	
	comp=Z,289nm,0.2s						
LL2C	**La Loma 2 Cana**	**2.69**	**353**	*e*P	**Pn**	**11 33 11.1**	**+0.9**
LL2C				*e*S	**Sn**	**11 33 44.9**	**+1.0**
LL1C	**La Loma 1 Cana**	**2.69**	**351**	*e*P	**Pn**	**11 33 11.0**	**+0.8**
LL1C				*i*		11 33 55.3	
	comp=Z,493nm,0.3s						
GUY2C	**Guyana, Caldas**	**2.77**	**234**	*e*P	**Pn**	**11 33 12.4**	**+0.8**
GUY2C				*e*S	**Sn**	**11 33 46.4**	**+0.1**
GUY2C				*i*		11 33 56.6	
	comp=Z,444nm,0.4s						
VILC	**Villavicencio,**	**2.80**	**192**	*e*P	**Pn**	**11 33 11.8**	**+0.1**
VILC				*e*S	**Sn**	**11 33 46.0**	**-0.7**
VILC				*i*		11 33 52.4	
	comp=Z,311nm,0.4s						
PTGC	**Puerto Gaitan,**	**2.83**	**160** ⇑	*e*P	**Pn**	**11 33 11.3**	**-0.7**
PTGC				*e*S	**Sn**	**11 33 44.5**	**-2.6**
PTGC				*i*		11 33 46.5	
	comp=Z,189nm,0.6s						
CBOC	**Ciudad Bolivar**	**3.04**	**251**	*e*P	**Pn**	**11 33 15.7**	**+0.9**
CBOC				*e*S	**Sn**	**11 33 51.5**	**-0.6**
CBOC				*i*		11 34 04.2	
	comp=Z,136nm,0.5s						
DBBC	**Dabeiba**	**3.07**	**273** ⇓	*i*P	**Pn**	**11 33 15.5**	**+0.5**
DBBC				*e*S	**Sn**	**11 33 51.5**	**-1.0**
TOLC	**Tolima**	**3.15**	**224**	*e*P	**Pn**	**11 33 17.1**	**+0.7**
TOLC				*e*S	**Sn**	**11 33 54.7**	**-0.2**
TOLC				*i*		11 34 01.5	
	comp=Z,278nm,0.5s						
ARGC	**Ariguani, Magd**	**3.17**	**340**	*e*P	**Pn**	**11 33 17.8**	**+1.6**
ARGC				*e*S	**Sn**	**11 33 54.2**	**-0.6**
ARGC				*i*		11 34 03.6	
	comp=Z,59nm,0.4s						
SDV	**Santo Domingo**	**3.18**	**51**	P	**Pn**	**11 33 17.6**	**+1.1**
	comp=Z,22nm,0.3s,baz=227,slow=11,SNR=12						
SDV				S	**Sn**	**11 33 54.3**	**-0.9**
	comp=Z,37nm,0.3s,baz=52,slow=22,SNR=33						
SDV	**Santo Domingo**	**3.18**	**51**		**Pn**	**11 33 17.2**	**+0.7**
SDV				Sn	**Sn**	**11 33 53.9**	**-1.3**
SDV	**Santo Domingo**	**3.18**	**51**	*e*P	**Pn**	**11 33 17.5**	**+1.0**
SDV				*e*S	**Sn**	**11 33 53.3**	**-1.9**
PRAC	**Prado**	**3.59**	**209**	*e*P	**Pn**	**11 33 21.4**	**-0.4**
PRAC				*e*S	**Sn**	**11 34 03.1**	**-1.5**
PRAC				*i*		11 34 08.8	
	comp=Z,261nm,0.3s						
CVALL	**Valledupar, Ce**	**3.62**	**358**	*e*P	**Pn**	**11 33 21.5**	**-0.5**
CVALL				*e*S	**Sn**	**11 33 57.3**	**-7.8**
ORTC	**Ortega, Tolima**	**3.62**	**216**	*e*P	**Pn**	**11 33 22.2**	**+0.1**
ORTC				*e*S	**Sn**	**11 34 04.6**	**-0.6**
ORTC				*i*		11 34 12.8	
	comp=Z,139nm,0.3s						
SJCC	**San Jacinto, C**	**3.63**	**326**		**Pn**	**11 33 21.6**	**-0.6**
SJCC				Sn	**Sn**	**11 34 02.9**	**-2.5**
SJCC	**San Jacinto, C**	**3.63**	**326** ⇓	*e*P	**Pn**	**11 33 21.6**	**-0.6**
SJCC				*e*S	**Sn**	**11 34 02.6**	**-2.8**
SJCC				*i*		11 34 06.2	
	comp=Z,78nm,0.6s						
LCBC	**Los crdobas,**	**3.77**	**302**	*e*P	**Pn**	**11 33 23.4**	**-0.5**
LCBC				*e*S	**Sn**	**11 34 07.3**	**-1.2**

LCBC				*i*		11 34 29.5	
	comp=Z,68nm,0.5s						
CRJC	**Cerrejon, Guaj**	**4.13**	**3**	*e*P	**Pn**	**11 33 27.8**	**-0.9**
CRJC				*e*S	**Sn**	**11 34 16.4**	**-0.7**
CRJC				*i*		11 34 17.1	
	comp=Z,54nm,0.2s						
YOTC	**Yotoco, Valle**	**4.30**	**228**	*e*P	**Pn**	**11 33 30.9**	**-0.1**
YOTC				*e*S	**Sn**	**11 34 20.9**	**-0.2**
GUVC	**San Jose del G**	**4.33**	**173**	*e*P	**Pn**	**11 33 31.0**	**-0.2**
GUVC				*e*S	**Sn**	**11 34 19.0**	**-2.6**
GUVC				*i*		11 34 24.5	
	comp=Z,114nm,0.1s						
SMRC	**Santa Marta, M**	**4.40**	**346**	*e*P	**Pn**	**11 33 31.2**	**-1.0**
SMRC				*e*S	**Sn**	**11 34 20.3**	**-3.1**
CAPC	**Capurgana**	**4.54**	**293**	*e*P	**Pn**	**11 33 33.1**	**-0.9**
CAPC				*e*S	**Sn**	**11 34 22.5**	**-4.1**
CAPC				*i*		11 34 31.0	
	comp=Z,39nm,0.2s						
MACC	**Macarena, Meta**	**4.75**	**189**	*e*P	**Pn**	**11 33 35.4**	**-1.4**
MACC				*e*S	**Sn**	**11 34 24.9**	**-6.7**
MACC				*i*		11 34 32.1	
	comp=Z,42nm,0.3s						
BETC	**Betania**	**4.76**	**209**	*e*P	**Pn**	**11 33 35.4**	**-1.6**
BETC				*e*S	**Sn**	**11 34 27.8**	**-4.1**
BETC				*i*		11 34 37.3	
	comp=Z,48nm,0.6s						
MARP	**Paez Belalcaza**	**4.90**	**215**	*e*P	**Pn**	**11 33 38.7**	**-0.3**
MARP				*e*S	**Sn**	**11 34 34.0**	**-1.4**
URIC	**Uribia, Colomb**	**4.93**	**13**		**Pn**	**11 33 38.3**	**-0.8**
URIC				Sn	**Sn**	**11 34 32.6**	**-3.1**
GARC	**Garzon, Huila**	**5.22**	**207**	*e*P	**Pn**	**11 33 42.2**	**-1.0**
GARC				*e*S	**Sn**	**11 34 39.3**	**-3.8**
GARC				*i*		11 34 46.5	
	comp=Z,62nm,0.3s						
POPC	**Popayan, Colom**	**5.57**	**220**	*e*P	**Pn**	**11 33 48.1**	**+0.2**
POPC				*e*S	**Sn**	**11 34 50.7**	**-0.7**
FLOC	**Florencia**	**5.83**	**206**		**Pn**	**11 33 50.7**	**-0.4**
FLOC	**Florencia**	**5.83**	**206**	*e*P	**Pn**	**11 33 50.5**	**-0.6**
FLOC				*e*S	**Sn**	**11 34 55.8**	**-1.4**
FLOC				*i*		11 35 27.8	
	comp=Z,18nm,0.6s						
BBAC	**Balboa, Cauca**	**6.33**	**221**	*e*P	**Pn**	**11 33 59.7**	**+1.7**
BBAC				*e*S	**Sn**	**11 35 02.6**	**-7.0**
BBAC				*i*		11 35 14.1	
	comp=Z,16nm,0.3s						
BCIP	**Isla Barro Col**	**7.03**	**289**	Pn	**Pn**	**11 34 05.5**	**-1.5**
PCRV	**Puerto La Cruz**	**9.01**	**68**	P	**Pn**	**11 34 34.4**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=231,slow=9.0,SNR=1.4						
PCRV				S	**Sn**	**11 36 09.5**	**-4.2**
	comp=Z,0.6nm,0.3s,baz=296,slow=8.8,SNR=1.9						
PLCV	**Puerto La Cruz**	**9.05**	**68**		**Pn**	**11 34 34.4**	**+0.4**
JTS	**Las Juntas de**	**12.18**	**287**	P	**Pn**	**11 35 16.7**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=180,slow=20,SNR=2.1						
WVT	**Waverly**	**32.09**	**337**	P	**P**	**11 38 40.7**	**+1.7**
WVT				IAmb	IAmb	11 38 58.4	
	comp=Z,2.0nm,0.8s						
TXAR	**Lajitas Array**	**36.43**	**312**	P	**P**	**11 39 16.7**	**0.0**
	comp=Z,0.1nm,0.3s,baz=138,slow=9.6,SNR=2.7						
PDAR	**Pinedale Array**	**48.04**	**324**	P	**P**	**11 40 50.4**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=126,slow=9.1,SNR=1.8						
SCHQ	**Schefferville**	**48.09**	**5**	P	**P**	**11 40 51.3**	**+0.8**
	comp=Z,5.3nm,0.8s,baz=214,slow=6.8,SNR=6.5						
SCHQ	**Schefferville**	**48.09**	**5**	P	**P**	**11 40 51.9**	**+1.4**
SCHQ				IAmb	IAmb	11 40 57.9	
	comp=Z,8.7nm,1.2s						
YKA	**Yellowknife Ar**	**63.22**	**340**	P	**P**	**11 42 37.0**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=122,slow=7.8,SNR=4.1						
ILAR	**Eielson Array**	**76.92**	**335**	P	**P**	**11 44 01.7**	**0.0**
	comp=Z,0.2nm,0.6s,baz=100,slow=2.8,SNR=2.2						
ASAR	**Alice Springs**	**149.14**	**234**	PKPbc	**PKPdf**	**11 51 56.5**	**+3.1**
	comp=Z,0.2nm,0.3s,baz=115,slow=3.4,SNR=4.3						
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc	**PKPbc**	**11 51 60.0**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=117,slow=2.5,SNR=12						
CMAR	**Chiang Mai Arr**	**153.64**	**17**	PKPbc	**PKPbc**	**11 52 08.1**	**0.0**
	comp=Z,0.5nm,0.3s,baz=333,slow=3.0,SNR=2.1						

*IASPEI **01** 11:41:00.0±1.0, 37.°06N±0.°03×97.°51W±0.°02, h9km±7km, Error ellipse: s-maj=4.6km s-min=3.2km az=28.1, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009*
*NEIC **01** 11:41:00.1±0.6, 37.°06N±0.°02×97.°51W±0.°01, h10km±4km, Error ellipse: s-maj=2.6km s-min=1.4km az=202.0*
*ANF **01** 11:41:00.5±0.5, 37.°06N×97.°54W, h7km, ML3.5/9, Error ellipse: s-maj=5.8km s-min=5.1km az=41.0*
ISC 01 11:41:00.4±0.8**, 37.°05N**±0.°02×**97.°51W**±0.°02**, h8**km±6km**, n102,** σ**1.s04**/74**, Kansas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.04**	**142**		**Pg**	**11 41 01.9**	**-0.1**
KAN13					**Sg**	**11 41 03.1**	**-0.1**
KS20	**Mayfield South**	**0.18**	**349**		**Pg**	**11 41 03.8**	**-0.4**
KS20				Sg	**Sg**	**11 41 06.4**	**-0.4**
KAN17	**Caldwell West**	**0.20**	**269**		**Pg**	**11 41 04.2**	**-0.3**
KAN17				Sg	**Sg**	**11 41 07.1**	**-0.1**
KS21	**Milan North St**	**0.27**	**333**		**Pg**	**11 41 05.3**	**-0.5**
KS21					**Sg**	**11 41 08.9**	**-0.4**
KAN05	**Bluff City Nor**	**0.29**	**282**		**Pg**	**11 41 05.9**	**-0.3**
KAN05				Sg	**Sg**	**11 41 10.0**	**-0.2**
GC02	**Grant County #**	**0.34**	**235**		**Pg**	**11 41 06.9**	**-0.2**
GC02				Sg	**Sg**	**11 41 11.8**	**+0.2**
KAN06	**Argonia West S**	**0.34**	**306**		**Pg**	**11 41 06.7**	**-0.5**
KAN06					**Sg**	**11 41 11.3**	**-0.3**
BLOK	**Blackwell**	**0.37**	**140**		**Pg**	**11 41 07.8**	**+0.2**
BLOK				Sg	**Sg**	**11 41 12.9**	**+0.3**
KAN14	**Manchester OK**	**0.37**	**256**		**Pg**	**11 41 07.4**	**-0.3**
KAN14	**Manchester OK**	**0.37**	**256**		**Sg**	**11 41 12.4**	**-0.2**
KAN08	**Anthony NE Sta**	**0.41**	**296**		**Pg**	**11 41 08.0**	**-0.4**
KAN12	**Harper NE Stat**	**0.46**	**303**		**Sg**	**11 41 15.2**	**-0.3**
KAN10	**Anthony SW Sta**	**0.47**	**279**		**Pg**	**11 41 09.2**	**-0.3**
OK032	**Salt Plains WL**	**0.61**	**247**		**Pg**	**11 41 11.9**	**-0.3**
OK032	**Salt Plains WL**	**0.61**	**247**		**Sg**	**11 41 20.2**	**0.0**
CROK	**Carrier**	**0.66**	**215**		**Pg**	**11 41 13.0**	**-0.1**
T35A	**Sooner Cattle**	**0.81**	**99**		**Pg**	**11 41 15.7**	**-0.3**
T35B	**Sooner Cattle**	**0.81**	**99**	P	**Pg**	**11 41 15.6**	**-0.4**
	baz=279						
T35B				S	**Sg**	**11 41 26.5**	**0.0**
	baz=279						
QUOK	**Quay**	**1.09**	**143**	Pg	**Pg**	**11 41 20.7**	**-0.5**
OK031	**S. Brethren Rd**	**1.22**	**153**		**Pg**	**11 41 23.3**	**-0.5**
OK029	**Liberty Lake**	**1.25**	**178**		**Pg**	**11 41 23.8**	**-0.6**
U32A	**Winter Ranch,**	**1.37**	**241**		**Pn**	**11 41 25.4**	**-0.6**
U32A				IAmb_Lg		11 41 45.5	
	comp=Z,98nm,0.7s						
U32A	**Winter Ranch,**	**1.37**	**241**	P	**Pn**	**11 41 25.3**	**-0.6**
	baz=60						
U32A				S	**Sb**	**11 41 43.9**	**-0.1**
	baz=60						
OK025	**Westminster Rd**	**1.47**	**174**		**Pn**	**11 41 27.3**	**0.0**
OKCFA	**Oklahoma City**	**1.63**	**178**	P	**Pb**	**11 41 30.4**	**-0.3**
	baz=358						
OKCFA				Sb	**Sg**	**11 41 52.8**	**0.0**
	baz=358						
OKCSW	**OKLAHOMA CITY**	**1.64**	**178**		**Pn**	**11 41 29.9**	**+0.3**
R32A	**Long Quarter,**	**1.67**	**326**		**Pn**	**11 41 30.5**	**+0.4**
R32A	**Long Quarter,**	**1.67**	**326**	P	**Pn**	**11 41 30.3**	**+0.3**
	baz=146						
R32A				S	**Sb**	**11 41 52.3**	**-0.4**
	baz=146						
FNO	**Franklin**	**1.79**	**177**	Pn	**Pn**	**11 41 32.0**	**+0.3**
TUL1	**Leonard**	**1.79**	**129**	P	**Pn**	**11 41 32.7**	**+1.0**
	baz=309						
TUL1				S	**Sb**	**11 41 56.7**	**+0.6**
	baz=309						
TUL1	**Leonard**	**1.79**	**129**	P	**Pn**	**11 41 32.7**	**+1.0**
	baz=309						
TUL1				S	**Sb**	**11 41 56.7**	**+0.6**
	baz=309						
KSU1	**Kansas State U**	**2.17**	**19**	Pn	**Pn**	**11 41 37.4**	**+0.4**
KSU1	**Kansas State U**	**2.17**	**19**	P	**Pn**	**11 41 37.2**	**+0.4**
	baz=200						
KSU1	**Kansas State U**	**2.17**	**19**	P	**Pn**	**11 41 37.3**	**+0.4**
	baz=200						
CBKS	**Cedar Bluff**	**2.49**	**316**	Pn	**Pn**	**11 41 41.8**	**+0.5**
CBKS	**Cedar Bluff**	**2.49**	**316**	Sb	**Sb**	**11 42 17.4**	**+1.1**
	baz=135						
WMOK	**Wichita Mounta**	**2.52**	**204**		**Pn**	**11 41 42.2**	**+0.4**
WMOK	**Wichita Mounta**	**2.52**	**204**	P	**Pn**	**11 41 42.2**	**+0.4**
	baz=23						
WMOK				S	**Sn**	**11 42 14.4**	**+1.6**
	baz=23						
WMOK	**Wichita Mounta**	**2.52**	**204**	P	**Pn**	**11 41 42.2**	**+0.4**
	baz=23						
HHAR	**Hobbs**	**2.97**	**104**	IAmb_Lg		11 42 41.5	
	comp=Z,39nm,0.7s						
X37A	**Clayton**	**3.01**	**144**	IAmb_Lg		11 42 39.3	
	comp=Z,45nm,0.8s						
X37A	**Clayton**	**3.01**	**144**	S	**Sb**	**11 42 33.2**	**+2.1**
	baz=325						
S39A	**Bolivar**	**3.40**	**78**		**Pn**	**11 41 53.8**	**0.0**
W39A	**Magazine**	**3.54**	**120**	IAmb_Lg		11 42 58.0	
	comp=Z,63nm,0.7s						
W39A	**Magazine**	**3.54**	**120**	Pb	**Pb**	**11 42 04.2**	**+0.9**
	baz=302						
N33A	**J Bar K, Exete**	**3.69**	**1**	Pn	**Pn**	**11 41 57.8**	**+0.1**
N33A				IAmb_Lg		11 43 04.5	
	comp=Z,30nm,1.0s						
Z35A	**Perchaven, San**	**3.71**	**177**	IAmb_Lg		11 43 07.9	
	comp=Z,28nm,0.8s						
U40A	**Yellville**	**3.81**	**99**		**Pn**	**11 41 59.3**	**-0.1**
U40A	**Yellville**	**3.81**	**99**	P	**Pn**	**11 42 00.1**	**+0.7**
	baz=282						
AMTX	**Amarillo**	**4.01**	**239**	IAmb_Lg		11 43 10.5	
	comp=Z,67nm,0.7s						
AMTX	**Amarillo**	**4.01**	**239**	Sb	**Sg**	**11 43 05.6**	**-3.6**
	baz=56						
P38A	**Dawn**	**4.05**	**49**	IAmb_Lg		11 43 11.8	
	comp=Z,51nm,0.8s						
MIAR	**Mount Ida**	**4.06**	**127**	IAmb_Lg		11 43 15.6	
	comp=Z,29nm,0.7s						
MIAR	**Mount Ida**	**4.06**	**127**	Sb	**Sg**	**11 43 07.4**	**-3.3**
	baz=309						
N35A	**Tabor**	**4.08**	**20**	Pn	**Pn**	**11 42 03.6**	**+0.5**
N35A	**Tabor**	**4.08**	**20**	P	**Pn**	**11 42 03.6**	**+0.5**
	baz=202						
MGMO	**Mountain Grove**	**4.19**	**87**	IAmb_Lg		11 43 24.3	
	comp=Z,24nm,0.7s						
Z38A	**Mt. Pleasant**	**4.31**	**151**	IAmb_Lg		11 43 20.4	
	comp=Z,54nm,0.8s						
R40A	**Maddies Statio**	**4.34**	**72**	IAmb_Lg		11 43 23.3	
	comp=Z,24nm,0.8s						
BGNE	**Belgrade**	**4.38**	**354**	Pn	**Pn**	**11 42 07.6**	**+0.2**
BGNE	**Belgrade**	**4.38**	**354**	P	**Pn**	**11 42 07.6**	**+0.2**
	baz=174						
BGNE	**Belgrade**	**4.38**	**354**	P	**Pn**	**11 42 07.5**	**+0.2**
	baz=174						
KSCO	**Kaye Shedlock'**	**4.49**	**297**	Pn	**Pn**	**11 42 09.1**	**+0.2**
FCAR	**Ozark Folk Cen**	**4.49**	**103**	Pn	**Pn**	**11 42 08.7**	**-0.1**
FCAR				IAmb_Lg		11 43 21.4	
	comp=Z,23nm,0.9s						
WHAR	**Wooly Hollow**	**4.58**	**111**	IAmb_Lg		11 43 23.4	
	comp=Z,44nm,1.1s						
X40A	**Basin Creek Fa**	**4.58**	**123**	P	**Pn**	**11 42 12.4**	**+2.3**
	baz=305						
W41B	**Gary Mavity, V**	**4.65**	**112**	Sb	**Sg**	**11 43 24.6**	**-5.3**
	baz=295						
WLAR	**White Oak Lake**	**4.92**	**132**	IAmb_Lg		11 43 47.0	
	comp=Z,25nm,0.8s						
P40A	**Paris**	**4.96**	**58**	IAmb_Lg		11 43 38.8	
	comp=Z,35nm,0.8s						
L34A	**Svendsen Farm,**	**4.99**	**10**	IAmb_Lg		11 43 34.5	
	comp=Z,32nm,1.0s						
N38A	**Joes South For**	**5.01**	**40**	IAmb_Lg		11 43 52.7	
	comp=Z,41nm,0.8s						
237A	**Washetta, Mont**	**5.23**	**164**	Pn	**Pn**	**11 42 19.1**	**+0.2**
237A				IAmb_Lg		11 43 56.9	
	comp=Z,23nm,0.9s						
OGNE	**Ogallala**	**5.25**	**319**	IAmb_Lg		11 43 47.5	
	comp=Z,36nm,0.9s						
T25A	**Trinidad**	**5.52**	**273**		**Pn**	**11 42 23.0**	**-0.1**
T25A				IAmb_Lg		11 44 09.1	
	comp=Z,20nm,0.9s						
K31A	**O'Neill**	**5.65**	**351**	IAmb_Lg		11 44 10.9	
	comp=Z,29nm,0.7s						
PBMO	**Poplar Bluff**	**5.68**	**91**	IAmb_Lg		11 44 07.1	
	comp=Z,20nm,0.7s						
HBAR	**Harrisburg**	**5.73**	**103**	IAmb_Lg		11 44 08.4	
	comp=Z,38nm,0.8s						
NATX	**Nacogdoches**	**5.78**	**155**	IAmb_Lg		11 44 20.1	
	comp=Z,36nm,0.9s						
SCIA	**State Center**	**5.88**	**33**	IAmb_Lg		11 44 09.3	
	comp=Z,30nm,0.7s						
LPAR	**Lepanto**	**6.00**	**102**	IAmb_Lg		11 44 09.3	
	comp=Z,28nm,0.9s						
435B	**Jarrell**	**6.25**	**181**	IAmb_Lg		11 44 21.4	
	comp=Z,26nm,0.8s						
143A	**Socs Landing,**	**6.63**	**129**	IAmb_Lg		11 44 33.9	
	comp=Z,17nm,0.7s						
SIUC	**Southern Illin**	**6.64**	**82**	IAmb_Lg		11 44 33.7	
	comp=Z,37nm,0.7s						
HICK	**Hickman**	**6.67**	**92**	IAmb_Lg		11 44 29.6	
	comp=Z,32nm,0.7s						
K38A	**Parkersburg**	**6.68**	**32**	IAmb_Lg		11 44 38.9	
	comp=Z,21nm,0.7s						
ECSD	**EROS Data Cent**	**6.71**	**6**	P	**Pn**	**11 42 38.6**	**-0.7**
	baz=186						
JCT	**Junction City**	**6.82**	**197**	IAmb_Lg		11 44 52.8	
	comp=Z,15nm,0.9s						
L40A	**Anamosa**	**6.98**	**42**	IAmb_Lg		11 44 38.9	
	comp=Z,25nm,0.8s						
OXF	**Oxford**	**7.05**	**109**	IAmb_Lg		11 44 54.1	
	comp=Z,15nm,0.9s						
SUSD	**Miller**	**7.47**	**352**	IAmb_Lg		11 45 17.1	
	comp=Z,19nm,0.9s						
OLIL	**Olney**	**7.63**	**74**	IAmb_Lg		11 45 03.4	
	comp=Z,29nm,1.0s						
JFWS	**Jewell Farm**	**8.09**	**41**	IAmb_Lg		11 45 17.4	
	comp=Z,20nm,0.7s						
Y22D	**IRIS PASSCAL I**	**8.22**	**252**	IAmb_Lg		11 45 36.5	
	comp=Z,20nm,0.8s						
T47A	**Sharon Grove**	**8.32**	**87**	IAmb_Lg		11 45 22.1	
	comp=Z,12nm,0.8s						
I40A	**Norwalk**	**8.62**	**35**	IAmb_Lg		11 45 39.6	
	comp=Z,11nm,0.8s						
RWWY	**Rawlins**	**8.82**	**305**	IAmb_Lg		11 46 00.4	
	comp=Z,13nm,1.1s						
K22A	**Casper**	**8.90**	**312**	IAmb_Lg		11 45 54.6	
	comp=Z,12nm,0.9s						
WCI	**Wyandotte Cave**	**8.98**	**79**	IAmb_Lg		11 45 45.1	
	comp=Z,11nm,0.8s						
I42A	**Draeger Farm,**	**9.46**	**41**	IAmb_Lg		11 46 09.2	
	comp=Z,9.8nm,0.8s						
121A	**Cookes Peak, D**	**9.57**	**245**	IAmb_Lg		11 46 19.5	
	comp=Z,11nm,1.2s						
P48A	**Milroy**	**9.81**	**72**	IAmb_Lg		11 46 15.0	
	comp=Z,12nm,0.8s						
N47A	**Urbana**	**9.97**	**64**	IAmb_Lg		11 46 15.7	
	comp=Z,14nm,0.7s						

*IDC **01** 11:53:15.8±0.7, 10.°14S×158.°84E, h0km, mb4.2/13, mb1 4.4/15, mb1mx4.2/32, mbtmp4.2/15, ML3.8/2, MS3.5/10, Ms1 3.5/10, ms1mx3.3/30, Error ellipse: s-maj=21.0km s-min=15.8km az=135.0*
*NEIC **01** 11:53:17.2±1.3, 10.°18S±0.°06×158.°99E±0.°08, h14km±4km, mb4.5/18, Error ellipse: s-maj=12.4km s-min=7.4km az=66.0*
ISC 01 11:53:18.2±0.5**, 10.°16S**±0.°07×**158.°96E**±0.°06**, h19**km**, n66,** σ**1.s29**/64**, mb4.7**/35**, MS3.4**/7**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.21**	**53**	Pn	**Pn**	**11 53 39.8**	**-0.3**
	460nm,0.3s,baz=223,slow=3.6,SNR=87						
HNR				Sn	**Sb**	**11 53 55.8**	**-0.1**
	1μm,0.3s,baz=158,slow=23,SNR=5.6						
HNR	**Honiara**	**1.21**	**53**	Pn	**Pn**	**11 53 39.4**	**-0.8**
SANVU	**Saraoutou**	**9.60**	**124**	Pn	**Pn**	**11 55 34.1**	**-1.4**
LIFNC	**LIFOU**	**13.22**	**144**	Pn	**Pn**	**11 56 23.2**	**-1.9**
DZM	**Mont Dzumac**	**13.85**	**150**	*e*Pn	**P**	**11 56 44.0**	**+2.1**
	14nm,0.7s						
DZM				*e*LR	LR	11 59 47.4	
	comp=Z,626nm,26.2s						
DZM	**Mont Dzumac**	**13.85**	**150**	Pn	**Pn**	**11 56 35.9**	**+2.3**
	0.2nm,0.3s,baz=313,slow=19,SNR=2.1						
DZM				LR	LR	12 01 06.6	
	comp=Z,208nm,21.0s,baz=20,slow=34						
DZM	**Mont Dzumac**	**13.85**	**150**		**Pn**	**11 56 33.5**	**-0.2**
OUENC	**Ouen Island, N**	**14.34**	**149**	Pn	**Pn**	**11 56 40.9**	**+0.6**
CTA	**Charters Tower**	**15.73**	**230**	Pn	**Pn**	**11 56 57.0**	**-2.0**
	0.4nm,0.3s,baz=53,slow=14,SNR=12						
CTAO	**Charters Tower**	**15.73**	**230**	Pn	**Pn**	**11 56 58.2**	**-0.8**
CTAO				IAmb	IAmb	11 57 05.0	
	comp=Z,32nm,1.0s						
COEN	**Coen**	**15.89**	**255**	Pn	**Pn**	**11 57 01.0**	**-0.1**
COEN				IAmb	IAmb	11 57 08.2	
	comp=Z,24nm,1.2s						
EIDS	**Eidsvold**	**16.87**	**205**	Pn	**Pn**	**11 57 11.6**	**-1.9**
EIDS				IAmb	IAmb	11 57 16.8	
	comp=Z,22nm,1.0s						
PATS	**Pohnpei**	**16.90**	**358**	Pn	**Pn**	**11 57 11.8**	**-2.0**
JAY	**Jayapura**	**19.66**	**292**	LR	LR	12 04 43.0	
	comp=Z,166nm,21.8s,baz=16,slow=35						
JAY	**Jayapura**	**19.66**	**292**	P	**Pn**	**11 57 47.5**	**-0.3**
	comp=Z,34nm,1.1s						
MSVF	**Nonsavu**	**19.98**	**114**	P	Pn	11 57 51.7	+0.1
	comp=Z,8.6nm,0.8s,baz=23,slow=22,SNR=2.0						
MSVF				LR	LR	12 04 16.2	
	comp=Z,152nm,20.4s,baz=117,slow=33						
ARMA	**Armidale**	**21.28**	**198**	P	**P**	**11 58 03.0**	**-0.9**
ARMA				IAmb	IAmb	11 58 19.7	
	comp=Z,13nm,0.9s						
BAKI	**Biak**	**24.41**	**290**	P	**P**	**11 58 37.7**	**+1.9**
	comp=Z,57nm,1.2s						
WR0	**Warramunga Arr**	**25.48**	**245**	P	**P**	**11 58 45.7**	**+0.2**
WRAB	**Tennant Creek**	**25.64**	**245**	P	**P**	**11 58 46.3**	**-0.7**
WB2	**Warramunga Arr**	**25.65**	**245**	P	**P**	**11 58 46.1**	**-0.9**
WB2				IAmb	IAmb	11 58 51.3	
	comp=Z,25nm,0.8s						
WRA	**Warramunga Arr**	**25.66**	**245**	P	**P**	**11 58 46.5**	**-0.6**
	comp=Z,22nm,0.7s,baz=72,slow=9.6,SNR=99						
WRA				PcP	**PcP**	**12 02 18.8**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=70,slow=2.6,SNR=1.7						
WRA	**Warramunga Arr**	**25.66**	**245**	P	**P**	**11 58 45.8**	**-1.3**
CAN	**Canberra**	**26.64**	**198**	P	**P**	**11 58 52.3**	**-3.5**
CAN				IAmb	IAmb	11 59 20.7	
	comp=Z,31nm,1.3s						
STKA	**Stephens Creek**	**26.93**	**214**	P	**P**	**11 58 57.1**	**-1.4**
	comp=Z,10nm,0.7s,baz=44,slow=14,SNR=16						
STKA				LR	LR	12 08 58.7	
	comp=Z,182nm,18.4s,baz=30,slow=35						
STKA	**Stephens Creek**	**26.93**	**214**	P	**P**	**11 58 58.4**	**-0.1**
AS31	**Alice Springs**	**27.41**	**238**	P	**P**	**11 59 01.5**	**-1.4**
ASAR	**Alice Springs**	**27.42**	**238**	P	**P**	**11 59 01.4**	**-1.6**
	comp=Z,7.3nm,0.7s,baz=62,slow=10.0,SNR=31						
ASAR				PcP	**PcP**	**12 02 21.3**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=53,slow=3.6,SNR=1.3						
ASAR				LR	LR	12 08 57.1	
	comp=Z,195nm,21.0s,baz=68,slow=34						
ASAR	**Alice Springs**	**27.42**	**238**	P	**P**	**11 59 00.9**	**-2.1**
GUMO	**Guam**	**27.43**	**329**	LR	LR	12 10 30.1	
	comp=Z,46nm,18.3s,baz=136,slow=38						
FAKI	**Fak Fak**	**27.48**	**283**	P	**P**	**11 59 05.1**	**+1.5**
	comp=Z,24nm,1.2s						
BNDI	**Bandanaira**	**29.35**	**279**	P	**P**	**11 59 22.6**	**+2.4**
	comp=Z,74nm,1.3s						
KNRA	**Kununurra**	**29.92**	**256**	P	**P**	**11 59 24.8**	**-0.6**
KNRA				IAmb	IAmb	11 59 35.0	
	comp=Z,11nm,0.8s						
MSAI	**Masohi**	**30.57**	**281**	P	**P**	**11 59 32.2**	**+1.1**
	comp=Z,287nmcomp=Z,2.1nm,0.5s						
BBOO	**Buckleboo**	**30.88**	**220**	P	**P**	**11 59 32.5**	**-1.1**
GAMI	**Galela, Maluku**	**33.25**	**289**	P	**P**	**11 59 55.6**	**+1.0**
	comp=Z,38nm,1.0s						
TNTI	**Ternate**	**33.26**	**287**	P	**P**	**11 59 56.2**	**+1.4**
	comp=Z,42nm,1.7s						
SANI	**Sanana**	**33.73**	**282**	P	**P**	**12 00 00.0**	**+1.1**
	comp=Z,15nm,1.0s						
SOEI	**Soe**	**34.17**	**268**	P	**P**	**12 00 02.5**	**-0.3**
	comp=Z,11nm,0.5s						
BATI	**Baumata**	**34.73**	**267**	P	**P**	**12 00 08.0**	**+0.4**
	comp=Z,25nm,1.2s						
MMRI	**Maumere**	**36.25**	**269**	P	**P**	**12 00 20.8**	**+0.2**
	comp=Z,32nm,0.8s						
GTOI	**Gorontalo**	**37.35**	**285**	P	**P**	**12 00 31.6**	**+1.7**
	comp=Z,8.9nm,0.8s						
BKSI	**Bulukumba**	**38.77**	**274**	P	**P**	**12 00 43.3**	**+1.4**
	comp=Z,449nmcomp=Z,9.0nm,1.3s						
BNSI	**Bone**	**38.94**	**276**	P	**P**	**12 00 44.3**	**+0.9**
	comp=Z,14nm,1.9s						
WBSI	**Waikabubak, Su**	**38.97**	**267**	P	**P**	**12 00 44.3**	**+0.6**
	comp=Z,32nm,1.3s						
KAPI	**Kappang**	**39.18**	**275**	LR	LR	12 18 18.8	
	comp=Z,53nm,18.7s,baz=144,slow=38						
KAPI	**Kappang**	**39.18**	**275**	P	**P**	**12 00 45.8**	**+0.4**
	comp=Z,15nm,1.0s						
PSA00	**Pilbara Seismi**	**39.19**	**248**	P	**P**	**12 00 45.2**	**-0.2**
MKS	**Makassar**	**39.42**	**274**	P	**P**	**12 00 48.6**	**+1.2**
	comp=Z,73nm,1.0s						
TTSI	**Tana Toraja**	**39.49**	**278**	P	**P**	**12 00 48.9**	**+0.9**
	comp=Z,5.6nm,0.7s						
KLNI	**Mataram**	**42.32**	**269**	P	**P**	**12 01 11.3**	**0.0**
	comp=Z,23nm,1.0s						
BWJI	**Bawean**	**46.02**	**272**	P	**P**	**12 01 41.6**	**+0.6**
MJAR	**Matsushiro Arr**	**50.40**	**338**	LR	LR	12 20 56.9	
	comp=Z,17nm,22.0s,baz=185,slow=33						
KSRS	**Korea Array**	**55.59**	**330**	P	**P**	**12 02 51.9**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=156,slow=9.0,SNR=1.3						
KSRS				LR	LR	12 25 00.5	
	comp=Z,30nm,20.1s,baz=145,slow=34						
CMAR	**Chiang Mai Arr**	**65.68**	**296**	P	**P**	**12 04 03.0**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=109,slow=4.2,SNR=4.6						
CMAR	**Chiang Mai Arr**	**65.68**	**296**	P	**P**	**12 04 00.6**	**-1.4**
VNDA	**Vanda**	**67.36**	**179**	P	**P**	**12 04 13.5**	**+1.8**
	comp=Z,0.8nm,0.7s,baz=354,slow=5.7,SNR=3.8						
VNDA	**Vanda**	**67.36**	**179**	P	**P**	**12 04 11.5**	**-0.2**
VNDA				IAmb	IAmb	12 04 31.5	
	comp=Z,2.4nm,0.9s						
SONM	**Songino Array**	**74.12**	**326**	P	**P**	**12 04 55.3**	**+1.8**
	comp=Z,1.2nm,0.6s,baz=130,slow=4.7,SNR=4.8						
SONM	**Songino Array**	**74.12**	**326**	P	**P**	**12 04 53.6**	**+0.2**
SONM				IAmb	IAmb	12 05 10.6	
	comp=Z,3.1nm,0.9s						
QSPA	**South Pole Qui**	**79.83**	**180**	P	**P**	**12 05 27.3**	**+2.0**
	comp=Z,0.9nm,0.9s,baz=28,slow=20,SNR=1.4						
ILAR	**Eielson Array**	**84.91**	**20**	P	**P**	**12 05 51.9**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=244,slow=5.7,SNR=5.5						
MKAR	**Makanchi Array**	**88.36**	**318**	P	**P**	**12 06 08.8**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=103,slow=5.5,SNR=6.6						
ZALV	**Zalesovo Beam**	**88.99**	**325**	P	**P**	**12 06 11.7**	**0.0**
	comp=Z,0.7nm,0.4s,baz=87,slow=9.4,SNR=1.8						
ZALV				LR	LR	12 49 37.7	
	comp=Z,23nm,18.1s,baz=103,slow=38						
NVAR	**Mina Array Bea**	**90.61**	**51**	P	**P**	**12 06 21.4**	**+1.5**
	comp=Z,0.8nm,0.9s,baz=240,slow=5.4,SNR=5.4						
WVOR	**Wild Horse Val**	**91.23**	**47**	P	**P**	**12 06 22.1**	**-0.5**
WVOR				IAmb	IAmb	12 06 30.3	
	comp=Z,7.0nm,1.4s						

*IDC **01** 12:06:11.5±1.8, 6.°29S×104.°99E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/47, mbtmp3.9/5, ML5.6/1, Error ellipse: s-maj=79.4km s-min=22.2km az=52.0*
*DJA **01** 12:06:35.1±0.2, 6°S±4°×10°6E±°, h172km±2km, M4.1/19, mb4.6/6, mB6.1/1, MLv3.8/19, Mw(mB)5.7/1*
ISC 01 12:06:34.9±0.7**, 5.°91S**±0.°07×**106.°03E**±0.°06**, h176**km±6km**, n33,** σ**1.s03**/46**, mb3.8**/5**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBJI	**Serang**	**0.23**	**154**	P	**Pn**	**12 06 58.4**	**0.0**
SBJI				S	**Sn**	**12 07 16.2**	**-0.3**
TNG	**Tangerang**	**0.67**	**113**	P	**Pn**	**12 07 00.8**	**+0.8**
TNG				P	**Pn**	**12 07 00.2**	**+0.2**
TNG				S	**Sn**	**12 07 19.1**	**-0.2**
TNG				S	**Sn**	**12 07 20.2**	**+0.9**
BLSI	**Bandar Lampung**	**0.94**	**305**	P	**Pn**	**12 07 02.8**	**+1.0**
BLSI				S	**Sn**	**12 07 22.9**	**+0.4**
DBJI	**Dramaga**	**0.96**	**132**	P	**Pn**	**12 07 01.7**	**-0.2**
DBJI				S	**Sn**	**12 07 22.7**	**-0.1**
SKJI	**Sukabumi**	**1.21**	**154**	P	**Pn**	**12 07 03.4**	**-0.5**
SKJI				S	**Sn**	**12 07 25.6**	**-0.8**
KASI	**Kota Agung**	**1.57**	**284**	P	**Pn**	**12 07 08.4**	**+1.3**
KASI				S	**Sn**	**12 07 32.0**	**-0.1**
CNJI	**Cibinong**	**1.77**	**142**	P	**Pn**	**12 07 08.8**	**-0.4**
CNJI				S	**Sn**	**12 07 35.2**	**-0.7**
LEM	**Lembang**	**1.83**	**120**	Sn	Sn	12 07 22.2	-15
	4.6nm,0.3s,baz=165,slow=23,SNR=1.7						
LEM	**Lembang**	**1.83**	**120**	P	**Pn**	**12 07 10.2**	**+0.2**
LWLI	**Liwa**	**2.15**	**294**	P	**Pn**	**12 07 13.9**	**+0.5**
LWLI				S	**Sn**	**12 07 44.4**	**+1.1**
MDSI	**Maura Dua**	**2.32**	**307**	P	**Pn**	**12 07 16.7**	**+1.4**
MDSI				S	**Sn**	**12 07 48.1**	**+1.5**
CISI	**Cisompet, Garu**	**2.42**	**133**	P	**Pn**	**12 07 16.2**	**-0.2**
CISI				S	**Sn**	**12 07 48.9**	**+0.2**
KPJI	**Karang Pucung**	**3.21**	**116**	P	**Pn**	**12 07 26.5**	**+0.5**
LHSI	**Lahat**	**3.24**	**310**	P	**Pn**	**12 07 26.7**	**+0.4**
CTJI	**Waduk Cacaban**	**3.32**	**109**	P	**Pn**	**12 07 27.9**	**+0.6**
TPI	**Tanjungpandan**	**3.53**	**27**	P	**Pn**	**12 07 29.8**	**-0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PPBI	**Pangkal Pinang**	**3.72**	**2**	P	**Pn**	**12 07 33.9**	**+1.5**
EGSI	**Enggano, Bengk**	**3.77**	**278**	P	**Pn**	**12 07 34.2**	**+1.2**
KSI	**Kapahiang**	**4.09**	**303**	P	**Pn**	**12 07 36.7**	**-0.4**
UBSI	**University, Be**	**4.31**	**300**	P	**Pn**	**12 07 39.8**	**0.0**
SMRI	**Semarang**	**4.53**	**105**	P	**Pn**	**12 07 43.7**	**+1.0**
UGM	**Wanagama**	**4.89**	**114**	P	**Pn**	**12 07 47.3**	**-0.1**
TBJI	**Tambak Boyo**	**5.86**	**99**	P	**Pn**	**12 07 59.3**	**-0.7**
	0.5nm110nm,1.2s						
SRBI	**Singaraja**	**9.37**	**104**	P	**Pn**	**12 08 48.3**	**+2.0**
	50nm,1.5s						
BSI	**Banda Aceh**	**15.59**	**316**	P	**Pn**	**12 10 02.8**	**-2.7**
	16µm1µm,1.0s						
BATI	**Baumata**	**17.98**	**105**	P	**P**	**12 10 34.1**	**+1.9**
	20nm,0.3s,baz=25,slow=2.0,SNR=13						
BATI	**Baumata**	**17.98**	**105**	P	**P**	**12 10 33.8**	**+1.6**
	38nm,0.7s						
SOEI	**Soe**	**18.47**	**103**	P	**P**	**12 10 38.0**	**+0.3**
WRA	**Warramunga Arr**	**30.85**	**120**	P	**P**	**12 12 35.2**	**+0.5**
	0.5nm,0.3s,baz=292,slow=7.6,SNR=57						
WRA				PcP	**PcP**	**12 15 27.7**	**+0.2**
	0.2nm,0.3s,baz=304,slow=2.2,SNR=6.5						
ASAR	**Alice Springs**	**32.11**	**126**	P	**P**	**12 12 46.8**	**+1.0**
	0.9nm,0.5s,baz=298,slow=7.8,SNR=28						
ASAR				PcP	**PcP**	**12 15 29.9**	**-1.0**
	0.3nm,0.5s,baz=281,slow=2.3,SNR=2.4						
STKA	**Stephens Creek**	**42.09**	**132**	P	**P**	**12 14 11.0**	**+1.4**
	1.9nm,0.7s,baz=318,slow=12,SNR=4.2						
SONM	**Songino Array**	**53.51**	**0**	P	**P**	**12 15 36.4**	**-0.9**
	0.3nm,0.3s,baz=177,slow=8.7,SNR=1.9						
MKAR	**Makanchi Array**	**56.54**	**341**	P	**P**	**12 15 56.9**	**-2.0**
	0.7nm,0.5s,baz=149,slow=8.0,SNR=4.3						

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*NNC **01** 12:12:16.4±0.3, 43°.25N×78°.72E, h3km±3km, mb3.3, mpv3.3, Error ellipse: s-maj=4.0km s-min=1.8km az=174.0*
*KRNET **01** 12:12:17.3±0.1, 43°.23N×78°.69E, h15km, mb2.8*
*SOME **01** 12:12:18.4, 43°.27N×78°.60E, h10km*
ISC 01 12:12:17.4±0.9**, 43°.24N**±0°.02×**78°.70E**±0°.01**, h8**km±7km**,**
n63, σ1**°.15**/117**, 21C-5D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHN	**Zhinishke**	**0.21**	**250**	*e*P	**Pg**	**12 12 21.6**	**0.0**
	baz=51						
ZHN				*e*S	**Sg**	**12 12 24.4**	**-0.1**
	baz=51						
ZHN	**Zhinishke**	**0.21**	**250**	*e*P	**Pg**	**12 12 21.6**	**0.0**
	210nm,0.1s						
ZHN				*e*S	**Sg**	**12 12 24.3**	**-0.1**
	170nm,0.1s						
ZHN	**Zhinishke**	**0.21**	**250**	P	**Pg**	**12 12 21.6**	**0.0**
	210nm,0.1s						
ZHN				S	**Sg**	**12 12 24.3**	**-0.1**
	170nm,0.1s						
KPKS	**Kokpek**	**0.23**	**357**	*e*P	**Pg**	**12 12 22.4**	**+0.4**
	baz=59						
KPKS				*e*S	**Sg**	**12 12 25.4**	**+0.3**
	baz=59						
KPKS	**Kokpek**	**0.23**	**357**	*e*P	**Pg**	**12 12 22.4**	**+0.4**
	294nm,0.1s						
KPKS				*e*S	**Sg**	**12 12 25.4**	**+0.3**
	770nm,0.3s						
UZB	**Uzynbulak**	**0.25**	**111**	*e*P	**Pg**	**12 12 22.3**	**-0.1**
	baz=9.0						
UZB				*e*S	**Sg**	**12 12 25.7**	**-0.1**
	baz=9.0						
UZB	**Uzynbulak**	**0.25**	**111**	*e*P	**Pg**	**12 12 22.3**	**-0.1**
	158nm,0.2s						
UZB				*e*S	**Sg**	**12 12 25.7**	**-0.1**
	1µm,0.1s						
UZB	**Uzynbulak**	**0.25**	**111**	P	**Pg**	**12 12 22.3**	**-0.1**
	158nm,0.2s						
UZB				S	**Sg**	**12 12 25.7**	**-0.1**
	1µm,0.1s						
SATY	**Saty**	**0.28**	**230**	*e*P	**Pg**	**12 12 23.1**	**+0.1**
	baz=31						
SATY				*e*S	**Sg**	**12 12 27.1**	**+0.4**
	baz=31						
SATY	**Saty**	**0.28**	**230**	*e*P	**Pg**	**12 12 23.1**	**+0.1**
	170nm,0.1s						
SATY				*e*S	**Sg**	**12 12 27.1**	**+0.4**
	1µm,0.1s						
SATY	**Saty**	**0.28**	**230**	P	**Pg**	**12 12 23.1**	**+0.1**
	170nm,0.1s						
SATY				S	**Sg**	**12 12 27.1**	**+0.4**
	1µm,0.1s						
KURS	**Kuram**	**0.46**	**303**	*e*P	**Pg**	**12 12 26.5**	**+0.1**
	baz=4.0						
KURS				*e*S	**Sg**	**12 12 32.4**	**0.0**
	baz=4.0						
KURS	**Kuram**	**0.46**	**303**	*e*P	**Pg**	**12 12 26.4**	**+0.1**
	15nm,0.3s						
KURS				*e*S	**Sg**	**12 12 32.3**	**0.0**
	63nm,0.4s						
KURS	**Kuram**	**0.46**	**303**	P	**Pg**	**12 12 26.4**	**+0.1**
	15nm,0.3s						
KURS				S	**Sg**	**12 12 32.3**	**0.0**
	63nm,0.4s						
SHLS	**Shalkode**	**0.56**	**98**	*e*P	**Pn**	**12 12 33.2**	**+1.4**
	11nm,0.1s						
SHLS				*e*S	**Sn**	**12 12 44.6**	**+3.2**
	68nm,0.3s						
SHLS	**Shalkode**	**0.56**	**98**	P	**Pn**	**12 12 33.2**	**+1.4**
	11nm,0.1s						
SHLS				S	**Sn**	**12 12 44.6**	**+3.2**
	68nm,0.3s						
PDGK	**Podgornoye**	**0.58**	**81**	P	**Pg**	**12 12 28.3**	**-0.3**
	5.9nm,0.1s						
PDGK				S	**Sg**	**12 12 35.5**	**-0.8**
	40nm,0.2s						
PDGK	**Podgornoye**	**0.58**	**81**	⇑P	**Pg**	**12 12 28.4**	**-0.3**
	5.6nm,0.5s						
PDGK				⇑S	**Sg**	**12 12 35.3**	**-1.0**
	29nm,0.5s						
PRZ	**Przheval'sk**	**0.79**	**197**	⇑*i*P	**Pg**	**12 12 32.3**	**-0.2**
	baz=96						
PRZ				⇑*i*S	**Sg**	**12 12 42.4**	**-0.4**
	baz=96						
ANVS	**Anan'yevo**	**0.89**	**239**	⇓*i*P	**Pg**	**12 12 33.7**	**-0.7**
	baz=40						
ANVS				⇓*i*S	**Sg**	**12 12 46.0**	**+0.1**
	baz=40						
ARXS	**Arharly**	**1.16**	**327**	*e*P	**Pb**	**12 12 38.7**	**-1.1**
	38nm,0.3s						
ARXS				*e*S	**Sb**	**12 12 53.3**	**-1.8**
	16nm,0.3s						
ARXS	**Arharly**	**1.16**	**327**	P	**Pb**	**12 12 38.7**	**-1.1**
	38nm,0.3s						
ARXS				S	**Sb**	**12 12 53.3**	**-1.8**
	16nm,0.3s						
KOTS	**Kotyrbulak**	**1.16**	**270**	*e*P	**Pb**	**12 12 37.7**	**-2.2**
	14nm,0.2s						
KOTS				*e*S	**Sg**	**12 12 51.4**	**-3.3**
	99nm,0.3s						
KOTS	**Kotyrbulak**	**1.16**	**270**	P	**Pb**	**12 12 37.7**	**-2.2**
	14nm,0.2s						
KOTS				S	**Sg**	**12 12 51.4**	**-3.3**
	99nm,0.3s						
MDOK	**Medeo**	**1.21**	**267**	*e*P	**Pb**	**12 12 40.1**	**-0.6**
	7.5nm,0.2s						
MDOK				*e*S	**Sb**	**12 12 55.7**	**-0.8**
	57nm,0.4s						
MDOK	**Medeo**	**1.21**	**267**	P	**Pb**	**12 12 40.2**	**-0.6**
	4.5nm,0.8s						
MDOK				S	**Sb**	**12 12 55.4**	**-1.1**
	31nm,0.4s						
MDOK	**Medeo**	**1.21**	**267**	Pg	**Pb**	**12 12 40.1**	**-0.6**
	7.5nm,0.2s						
MDOK				Lg	Lg	12 12 55.7	
	57nm,0.4s						
KTMS	**Ketmen**	**1.22**	**80**	*e*P	**Pn**	**12 12 39.8**	**-1.2**
	0.2nm,0.1s						
KTMS				*e*S	**Sb**	**12 12 55.2**	**-1.6**
	118nm,0.3s						
KTMS	**Ketmen**	**1.22**	**80**	P	**Pn**	**12 12 39.8**	**-1.2**
	0.2nm,0.1s						
KTMS				S	**Sb**	**12 12 55.2**	**-1.6**
	118nm,0.3s						
TNSS	**Tian-Shan**	**1.30**	**262**	P	**Pn**	**12 12 41.4**	**-0.8**
	4.4nm,0.1s						
TNSS				S	**Sb**	**12 12 58.4**	**-1.0**
	30nm,0.4s						
DJR	**Jarkent**	**1.35**	**35**	*e*P	**Pn**	**12 12 42.5**	**-0.2**
	1.6nm,0.2s						
DJR				*e*S	**Sb**	**12 12 59.6**	**-0.8**
	5.9nm,0.2s						
DJR	**Jarkent**	**1.35**	**35**	P	**Pn**	**12 12 42.4**	**-0.2**
	1.6nm,0.2s						
DJR				S	**Sb**	**12 12 59.6**	**-0.8**
	5.9nm,0.2s						
CHKK	**Chushkaly**	**1.39**	**297**	*e*P	**Pb**	**12 12 43.2**	**-0.5**
	11nm,0.3s						
CHKK				*e*S	**Sn**	**12 13 01.1**	**-0.6**
	52nm,0.2s						
CHKK	**Chushkaly**	**1.39**	**297**	P	**Pb**	**12 12 43.2**	**-0.5**
	11nm,0.3s						
CHKK				S	**Sn**	**12 13 01.1**	**-0.6**
	52nm,0.2s						
IZV	**Izvestkoviy**	**1.54**	**263**	*e*P	**Pb**	**12 12 46.2**	**-0.1**
	7.4nm,0.2s						
IZV				*e*S	**Sg**	**12 13 06.3**	**-0.6**
	27nm,0.2s						
IZV	**Izvestkoviy**	**1.54**	**263**	P	**Pb**	**12 12 46.2**	**-0.1**
	7.4nm,0.2s						
IZV				S	**Sg**	**12 13 06.3**	**-0.6**
	27nm,0.2s						
KTBS	**Karatobe**	**1.54**	**289**	*e*P	**Pb**	**12 12 45.9**	**-0.4**
	14nm,0.2s						
KTBS				*e*S	**Sb**	**12 13 05.8**	**-0.2**
	43nm,0.2s						
KTBS	**Karatobe**	**1.54**	**289**	P	**Pb**	**12 12 45.9**	**-0.4**
	14nm,0.2s						
KTBS				S	**Sb**	**12 13 05.8**	**-0.2**
	43nm,0.2s						
KDJ	**Kajisay**	**1.58**	**226**	⇑*i*P	**Pb**	**12 12 46.3**	**-0.6**
	baz=26						
KDJ				⇑*i*S	**Sb**	**12 13 06.5**	**-0.6**
	baz=26						
MTBS	**Maitube**	**1.67**	**267**	*e*P	**Pb**	**12 12 48.1**	**-0.3**
	9.4nm,0.2s						
MTBS				*e*S	**Sb**	**12 13 09.6**	**0.0**
	21nm,0.2s						
MTBS	**Maitube**	**1.67**	**267**	P	**Pb**	**12 12 48.1**	**-0.3**
	9.4nm,0.2s						
MTBS				S	**Sb**	**12 13 09.5**	**0.0**
	21nm,0.2s						
KUU	**Kurty**	**1.84**	**292**	*e*P	**Pb**	**12 12 50.9**	**-0.3**
	17nm,0.2s						
KUU				*e*S	**Sb**	**12 13 14.4**	**-0.1**
	40nm,0.2s						
KUU	**Kurty**	**1.84**	**292**	P	**Pb**	**12 12 50.9**	**-0.3**
	17nm,0.2s						
KUU				S	**Sb**	**12 13 14.4**	**-0.1**
	40nm,0.2s						
KST	**Kastek**	**2.02**	**265**	*e*P	**Pb**	**12 12 54.7**	**+0.4**
	4.1nm,0.3s						
KST				*e*S	**Sg**	**12 13 20.7**	**-1.4**
	9.6nm,0.3s						
KST	**Kastek**	**2.02**	**265**	Pg	**Pb**	**12 12 54.7**	**+0.4**
	4.1nm,0.3s						
KST				Lg	Lg	12 13 20.7	
	9.6nm,0.3s						
ULHL	**Ulahol**	**2.07**	**242**	⇑*i*P	**Pb**	**12 12 54.4**	**-0.9**
	baz=42						
ULHL				⇑*i*S	**Sb**	**12 13 20.9**	**-0.3**
	baz=42						
KAPS	**Kapalarasan**	**2.10**	**13**	*e*P	**Pb**	**12 12 56.1**	**+0.4**
	0.4nm,0.3s						
KAPS				*e*S	**Sg**	**12 13 23.4**	**-1.4**
	7.4nm,0.3s						
KAPS	**Kapalarasan**	**2.10**	**13**	Pg	**Pb**	**12 12 56.1**	**+0.4**
	0.4nm,0.3s						
KAPS				Lg	Lg	12 13 23.4	
	7.4nm,0.3s						
DGS	**Degeres**	**2.14**	**271**	*e*P	**Pb**	**12 12 55.9**	**-0.6**
	14nm,0.4s						
DGS				*e*S	**Sb**	**12 13 23.3**	**0.0**
	55nm,0.4s						
DGS	**Degeres**	**2.14**	**271**	Pg	**Pb**	**12 12 55.9**	**-0.6**
	14nm,0.4s						
DGS				Lg	Lg	12 13 23.7	
	55nm,0.4s						
BOOM	**Boomskoye usch**	**2.17**	**251**	⇑*i*P	**Pb**	**12 12 56.3**	**-0.6**
	baz=51						
BOOM				⇑*i*S	**Sb**	**12 13 22.9**	**-1.1**
	baz=51						
KRBS	**Karabastau**	**2.25**	**283**	*e*P	**Pb**	**12 12 58.4**	**0.0**
	3.4nm,0.2s						
KRBS				*e*S	**Sb**	**12 13 27.2**	**+0.8**
	42nm,0.4s						
KRBS	**Karabastau**	**2.25**	**283**	Pg	**Pb**	**12 12 58.4**	**0.0**
	3.4nm,0.2s						
KRBS				Lg	Lg	12 13 27.2	
	42nm,0.4s						
TKM2	**Tokmak 2**	**2.30**	**263**	⇑*i*P	**Pb**	**12 12 58.0**	**-1.2**
	baz=63						
TKM2				⇑*i*S	**Sb**	**12 13 26.2**	**-1.7**
	baz=63						
KZA	**Kyzart**	**2.80**	**247**	⇑*i*P	**Pb**	**12 13 05.1**	**-2.8**
	baz=47						
KZA				⇑*i*S	**Sn**	**12 13 38.6**	**+1.6**
	baz=47						
CHMS	**Chumysh**	**2.90**	**267**	⇑*i*P	**Pn**	**12 13 06.2**	**+2.3**
	baz=67						
CHMS				⇑*i*S	**Sn**	**12 13 40.4**	**+1.3**
	baz=67						
SGDS	**Sogindy**	**2.98**	**275**	Pg	**Pg**	**12 13 12.6**	**-1.8**
	1.6nm,0.2s						
SGDS				Lg	Lg	12 13 50.1	
	8.4nm,0.4s						
USP	**Ospenovka**	**3.07**	**272**	⇑*i*P	**Pn**	**12 13 08.6**	**+2.3**
	baz=72						
USP				⇑*i*S	**Sn**	**12 13 44.7**	**+1.5**
	baz=72						
AAK	**Ala-Archa**	**3.15**	**260**	⇑*i*P	**Pn**	**12 13 09.8**	**+2.4**
	baz=61						
AAK				⇑*i*S	**Sn**	**12 13 46.6**	**+1.3**
	baz=61						
BTLS	**Baital**	**3.81**	**300**	*e*P	**Pb**	**12 13 26.0**	**+1.2**
	2.4nm,0.4s						
BTLS				*e*S	**Sb**	**12 14 14.4**	**+3.4**
	1.3nm,0.2s						
BTLS	**Baital**	**3.81**	**300**	Pg	**Pb**	**12 13 26.0**	**+1.2**
	2.4nm,0.4s						
BTLS				Lg	Lg	12 14 14.4	
	1.3nm,0.2s						
MAKZ	**Makanchi**	**4.26**	**32**	⇓Pg	**Pb**	**12 13 32.2**	**-0.3**
	0.4nm,0.6s						
MAKZ				⇓Lg	Lg	12 14 28.6	
	0.6nm,0.3s						
MK31	**Makanchi Array**	**4.37**	**34**	⇑Pg	**Pb**	**12 13 32.9**	**-1.5**
	0.1nm,0.2s,baz=212,slow=15,SNR=6.1						
MK31				⇓Lg	Lg	12 14 33.8	
	1.3nm,0.5s,baz=212,slow=31,SNR=6.5						

NEIC 01 12:21:31.9±0.8**, 37°.058N**±0°.010×**97°.85W**±0°.01**, h5**km±2km**,**
Error ellipse: s-maj=3.0km s-min=1.8km az=315.0,
Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN05	**Bluff City Nor**	**0.05**	**344**	Pg	Pg	12 21 33.0	-0.3
KAN05				Sg	Sg	12 21 34.1	-0.2
KAN17	**Caldwell West**	**0.07**	**101**	Pg	Pg	12 21 33.6	0.0
KAN17				Sg	Sg	12 21 35.0	+0.3
KAN14	**Manchester OK**	**0.13**	**221**	Pg	Pg	12 21 34.5	-0.1
KAN14				Sg	Sg	12 21 36.6	+0.2
KAN06	**Argonia West S**	**0.19**	**359**		Pg	12 21 35.7	0.0
KAN06					Sg	12 21 38.5	+0.3
KAN08	**Anthony NE Sta**	**0.19**	**331**	Pg	Pg	12 21 35.8	0.0
KAN08				Sg	Sg	12 21 38.9	+0.6
KAN10	**Anthony SW Sta**	**0.20**	**289**	Pg	Pg	12 21 35.9	-0.1
KAN10				Sg	Sg	12 21 38.8	+0.2
GC02	**Grant County #**	**0.21**	**181**	Pg	Pg	12 21 35.8	-0.2
GC02				Sg	Sg	12 21 39.0	+0.3
KAN12	**Harper NE Stat**	**0.27**	**334**	Pg	Pg	12 21 37.0	-0.1
KAN12				Sg	Sg	12 21 41.1	+0.4
KS21	**Milan North St**	**0.28**	**34**		Pg	12 21 37.2	0.0
KS21					Sg	12 21 41.3	+0.3
KS20	**Mayfield South**	**0.29**	**54**	Pg	Pg	12 21 37.6	-0.1
KS20				Sg	Sg	12 21 41.9	+0.3
KAN13	**South Haven SW**	**0.30**	**98**	Pg	Pg	12 21 37.7	-0.1
KAN13				Sg	Sg	12 21 42.1	+0.3
OK032	**Salt Plains WL**	**0.38**	**229**	Pg	Pg	12 21 39.1	-0.2
OK032				Sg	Sg	12 21 44.5	+0.2
CROK	**Carrier**	**0.56**	**191**		Pg	12 21 42.5	-0.2
CROK				Sg	Sg	12 21 50.2	+0.2
BLOK	**Blackwell**	**0.59**	**120**	Pg	Pg	12 21 43.1	-0.2
BLOK				Sg	Sg	12 21 51.2	+0.2
T35A	**Sooner Cattle**	**1.08**	**97**	Pg	Pg	12 21 52.0	-0.8
T35A				Sg	Sg	12 22 06.2	-0.6
U32A	**Winter Ranch,**	**1.14**	**234**	Pg	Pg	12 21 53.1	-0.8
QUOK	**Quay**	**1.28**	**133**	Pg	Pg	12 21 56.0	-0.4
QUOK				Sg	Sg	12 22 12.7	-0.3
OK029	**Liberty Lake**	**1.30**	**166**	Pn	Pn	12 21 55.9	-0.8
OK031	**S. Brethren Rd**	**1.37**	**143**	Pn	Pn	12 21 57.4	-0.4
R32A	**Long Quarter,**	**1.52**	**334**		Pn	12 21 59.8	-0.1
OK025	**Westminster Rd**	**1.53**	**164**	Pn	Pn	12 21 59.9	-0.1
FNO	**Franklin**	**1.83**	**168**	Pn	Pn	12 22 04.8	+0.7
CBKS	**Cedar Bluff**	**2.30**	**320**	Pn	Pn	12 22 09.9	-0.7
WMOK	**Wichita Mounta**	**2.43**	**198**	Pn	Pn	12 22 14.0	+1.6
X34A	**Smith Ranch, M**	**2.45**	**180**	IAmb_Lg		12 22 52.9	
	comp=Z,9.1nm,0.8s						
X37A	**Clayton**	**3.18**	**140**	Pn	Pn	12 22 23.2	+0.6
HHAR	**Hobbs**	**3.24**	**103**	Pn	Pn	12 22 24.1	+0.7
S39A	**Bolivar**	**3.66**	**79**	Pn	Pn	12 22 29.5	+0.2
S39A				IAmb_Lg		12 23 27.9	
	comp=Z,5.4nm,1.1s						
U40A	**Yellville**	**4.08**	**98**		Pn	12 22 35.4	+0.4
U40A				IAmb_Lg		12 23 42.6	
	comp=Z,8.1nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.24**	**299**	IAmb_Lg		12 23 48.4	
	comp=Z,6.2nm,0.7s						
R40A	**Maddies Statio**	**4.60**	**73**	Pn	Pn	12 22 42.4	+0.3
FCAR	**Ozark Folk Cen**	**4.76**	**102**	Pn	Pn	12 22 44.0	-0.4
X40A	**Basin Creek Fa**	**4.82**	**121**	IAmb_Lg		12 24 09.6	
	comp=Z,7.2nm,0.9s						
WHAR	**Wooly Hollow**	**4.83**	**110**	IAmb_Lg		12 24 13.1	
	comp=Z,7.1nm,0.8s						

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*IDC **01** 13:24:41.8±0.4, 23°.84N×121°.59E, h0km, mb4.7/37, mb1 4.8/39, mb1mx4.7/55, mbtmp4.7/39, ML4.0/2, MS4.3/22, Ms1 4.3/22, ms1mx4.1/43, Error ellipse: s-maj=13.6km s-min=9.7km az=64.0*
*BJI **01** 13:24:44.8±0.0, 23°.93N×121°.54E, h10km, mB5.0/56, mb4.7/71, ML5.2/12, Ms5.2/87, Ms7 5.1/82*
*NEIC **01** 13:24:44.9, 23°.88N×121°.53E, h21km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}2.57; $M_{\theta\theta}$-1.24; $M_{\phi\phi}$-1.33; $M_{r\theta}$0.01; $M_{\theta\phi}$-1.55; $M_{\phi r}$0.90; Fault plane solution: $M_0$2.86000×10^{16} NP1:ϕ_s237.74000°, δ39.81000°, λ111.21000°. NP2:ϕ_s30.94000°, δ53.36000°, λ73.22000°. Principal axes: T 2.7938, Plg75.0000°, Azm250.0000°; N 0.1244, Plg13.0000°, Azm41.0000°; P -2.9182, Plg7.0000°, Azm133.0000°;*
*NIED **01** 13:24:45.7, 23°.90N×121°.53E, h15km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.64; $M_{\theta\theta}$-0.00; $M_{\phi\phi}$-1.64; $M_{r\theta}$0.76; $M_{\theta\phi}$-0.88; $M_{\phi r}$-0.69; Fault plane solution: $M_0$2.13000×10^{16} NP1: ϕ_s178.00000°, δ57.00000°, λ56.00000°. NP2:ϕ_s49.00000°, δ46.00000°, λ130.00000°.*
*TAP **01** 13:24:45.6, 23°.92N×121°.49E, h17km, ML5.5, B*
*GCMT **01** 13:24:45.9±0.2, 23°.89N±0°.02×121°.46E±0°.02, h22km, MW5.0/92, Moment Tensor Solution. s61,c84; s92,c144; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.82±.15; $M_{\theta\theta}$-1.15±.09; $M_{\phi\phi}$-2.67±.11; $M_{r\theta}$0.33±.14; $M_{\theta\phi}$-1.68±.06; $M_{\phi r}$-0.70±.16; Best double couple: $M_0$3.86300×10^{16} NP1:ϕ_s42.00000°, δ43.00000°, λ104.00000°. NP2: ϕ_s204.00000°, δ49.00000°, λ78.00000°. Principal axes: T 3.9500, Plg80.0000°, Azm51.0000°; N -0.1740, Plg9.0000°, Azm212.0000°; P -3.7760, Plg3.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **01** 13:24:45.1±1.6, 23°.89N±0°.05×121°.52E±0°.05, h19km±3km, mb5.3/204, Mwr4.9/24, Mww5.0 Error ellipse: s-maj=8.2km s-min=5.6km az=213.0*
*JMA **01** 13:24:45.7, 23°.90N×121°.53E, h15km±2km, M4.9*
*ASIES **01** 13:24:45.6, 23°.91N×121°.55E, h21km, MW4.8*
*MOS **01** 13:24:46.3±1.1, 23°.86N×121°.62E, h46km, mb5.2/62, MS4.8/13, Error ellipse: s-maj=6.8km s-min=4.3km az=115.6*
*NEIC **01** 13:24:49, 23°.98N×121°.53E, h26km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}3.48; $M_{\theta\theta}$-1.55; $M_{\phi\phi}$-1.93; $M_{r\theta}$-0.63; $M_{\theta\phi}$-1.98; $M_{\phi r}$-0.53; Fault plane solution: $M_0$3.71000×10^{16} NP1:ϕ_s40.00000°, δ39.00000°, λ87.00000°. NP2:ϕ_s224.00000°, δ51.00000°, λ92.00000°. Principal axes: T 3.5760, Plg83.0000°, Azm149.0000°; N 0.2474, Plg2.0000°, Azm43.0000°; P -3.8234, Plg6.0000°, Azm312.0000°;*
ISC 01 13:24:45.3±0.5**, 23°.89N**±0°.01×**121°.55E**±0°.01**, h20**km±2km**,**
n815, σ1**°.45**/962**, mb5.2**/214**, MS4.8**/51**, 68C-72D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEYL	**Yanliau Villag**	**0.05**	**118**	⇑*i*P	**Pb**	**13 24 49.7**	**+0.8**
	baz=97						
TEYL				S	**Sb**	**13 24 52.8**	**+1.4**
	baz=97						
ETM	**Tongmen**	**0.09**	**326**	⇑*i*P	**Pb**	**13 24 48.9**	**-0.3**
	baz=2.0						
ETM				*i* S	**Sb**	**13 24 51.0**	**-0.9**
	baz=2.0						
HWA	**Hwalien**	**0.10**	**33**	⇓*i*P	**Pb**	**13 24 50.2**	**+0.8**
	baz=62						
HWA				*i* S	**Sb**	**13 24 53.4**	**+1.3**
	baz=62						
ESL	**Shilin**	**0.13**	**233**	⇑*i*P	**Pb**	**13 24 49.3**	**-1.7**
	baz=204						
ESL				*i* S	**Sb**	**13 24 51.6**	**-3.5**
	baz=204						
TEGC	**Jichi Village**	**0.18**	**182**	⇓*i*P	**Pb**	**13 24 51.2**	**+0.4**
	baz=171						
TEGC				S	**Sb**	**13 24 55.9**	**+1.2**
	baz=171						
TWD	**Chiawan**	**0.19**	**14**	⇑*i*P	**Pb**	**13 24 50.6**	**-0.3**
	baz=32						
TWD				*i* S	**Sb**	**13 24 53.7**	**-1.1**
	baz=32						
EGFH	**Guangfu**	**0.25**	**206**	⇓P	**Pb**	**13 24 51.2**	**-0.1**
	baz=193						
EGFH				*i* S	**Sb**	**13 24 55.1**	**-0.4**
	baz=193						
ETL	**Fush Village**	**0.27**	**15**	⇑*i*P	**Pb**	**13 24 51.7**	**0.0**
	baz=26						
ETL				S	**Sb**	**13 24 55.5**	**-0.5**
	baz=26						
NACB	**Ninganchiao**	**0.28**	**9**	⇓P	**Pb**	**13 24 51.6**	**-0.1**
	baz=20						
NACB				*i* S	**Sb**	**13 24 55.6**	**-0.6**
	baz=20						
NACB	**Ninganchiao**	**0.28**	**9**		**Pb**	**13 24 51.3**	**-0.4**
NACB				Sg	**Sb**	**13 24 55.5**	**-0.7**
ETLH	**Xiulin Townshi**	**0.32**	**349**	⇓*i*P	**Pb**	**13 24 52.1**	**-0.2**
	baz=358						
ETLH				S	**Sb**	**13 24 56.2**	**-0.9**
	baz=358						
OWD	**Renai**	**0.34**	**280**	⇓*i*P	**Pb**	**13 24 52.2**	**-0.5**
	baz=282						
OWD				S	**Sb**	**13 24 56.4**	**-1.4**
	baz=282						
WHF	**Hehuan Shan**	**0.36**	**314**	⇓*i*P	**Pb**	**13 24 52.5**	**-0.6**
	baz=314						
WHF				*i* S	**Sb**	**13 24 56.8**	**-1.8**
	baz=314						
CHGB	**Renai**	**0.38**	**296**	⇓*i*P	**Pb**	**13 24 53.0**	**-0.4**
	baz=301						
CHGB				*i* S	**Sb**	**13 24 57.8**	**-1.1**
	baz=301						
HGSD	**Ruisui**	**0.41**	**196**	⇓*i*P	**Pb**	**13 24 54.5**	**+0.6**
	baz=194						
HGSD				*e*S	**Sb**	**13 25 01.4**	**+1.7**
	baz=194						
EHY	**Hungye**	**0.44**	**208**	⇓P	**Pb**	**13 24 53.7**	**-0.5**
	baz=193						
EHY				*i* S	**Sb**	**13 25 00.4**	**+0.1**
	baz=193						
FUSS	**Fushou**	**0.45**	**322**	⇓*i*P	**Pb**	**13 24 54.4**	**-0.2**
	baz=326						
FUSS				*i* S	**Sb**	**13 25 00.2**	**-0.7**
	baz=326						
EHP	**Heping Village**	**0.45**	**23**	P	**Pb**	**13 24 54.9**	**+0.4**
	baz=32						
EHP				S	**Sb**	**13 25 01.4**	**+0.6**
	baz=32						
TWT	**Tachien**	**0.49**	**317**	⇓*i*P	**Pb**	**13 24 55.3**	**-0.1**
	baz=312						
TWT				S	**Sb**	**13 25 01.4**	**-0.8**
	baz=312						
YULB	**Yu-li**	**0.55**	**205**	⇓*i*P	**Pb**	**13 24 55.3**	**-1.0**
	baz=193						
YULB				S	**Sb**	**13 25 03.6**	**-0.1**
	baz=193						

YULB	**Yu-li**	**0.55**	**205**		**Pb**	**13 24 55.8**	**-0.5**
YULB				Sg	**Sb**	**13 25 02.9**	**-0.9**
SSLB	**Suanglung**	**0.55**	**259**	⇓*i*P	**Pb**	**13 24 55.9**	**-0.5**
	baz=263						
SSLB				*i* S	**Sb**	**13 25 02.0**	**-1.9**
	baz=263						
SSLB	**Suanglung**	**0.55**	**259**		**Pb**	**13 24 55.5**	**-0.8**
WPL	**Puli Township**	**0.55**	**282**	⇓*i*P	**Pb**	**13 24 55.9**	**-0.4**
	baz=281						
WPL				S	**Sb**	**13 25 02.7**	**-1.2**
	baz=281						
ENA	**Nanau**	**0.56**	**18**	⇑*i*P	**Pb**	**13 24 56.6**	**+0.1**
	baz=25						
ENA				S	**Sb**	**13 25 04.1**	**-0.1**
	baz=25						
NNS	**Nan Shan**	**0.57**	**344**	⇓*i*P	**Pb**	**13 24 56.6**	**-0.1**
	baz=349						
NNS				*i* S	**Sb**	**13 25 03.7**	**-0.7**
	baz=349						
ECBN	**Changbin**	**0.58**	**189**	⇓P	**Pn**	**13 24 57.6**	**-0.7**
	baz=183						
ECBN				S	**Sn**	**13 25 06.8**	**-0.4**
	baz=183						
EYUL	**Yuli**	**0.58**	**201**	*e*P	**Pb**	**13 24 56.3**	**-0.6**
	baz=200						
EYUL				S	**Sb**	**13 25 05.1**	**+0.4**
	baz=200						
DPDB	**Guoxing**	**0.58**	**284**	⇓*i*P	**Pb**	**13 24 56.6**	**-0.3**
	baz=282						
DPDB				S	**Sb**	**13 25 04.1**	**-0.7**
	baz=282						
TWF1	**Yuli**	**0.58**	**203**	⇓*e*P	**Pb**	**13 24 56.0**	**-1.0**
	baz=196						
TWF1				S	**Sb**	**13 25 05.3**	**+0.5**
	baz=196						
EWUT	**Wuta**	**0.59**	**21**	⇑*i*P	**Pb**	**13 24 57.0**	**+0.1**
	baz=27						
EWUT				S	**Sb**	**13 25 05.3**	**+0.3**
	baz=27						
SMLT	**Sun Moon Lake**	**0.59**	**269**	⇓*i*P	**Pb**	**13 24 56.8**	**-0.3**
	baz=266						
SMLT				*i* S	**Sb**	**13 25 04.0**	**-1.1**
	baz=266						
WCS	**Beigang Elemen**	**0.60**	**286**	⇓*i*P	**Pb**	**13 24 56.9**	**-0.3**
	baz=285						
WCS				*e*S	**Sb**	**13 25 04.6**	**-0.8**
	baz=285						
TYC	**Yuchr**	**0.63**	**271**	⇓*i*P	**Pb**	**13 24 57.2**	**-0.4**
	baz=274						
TYC				*i* S	**Sb**	**13 25 04.7**	**-1.4**
	baz=274						
WHYT	**Xinyi Township**	**0.66**	**253**	⇓P	**Pb**	**13 24 58.0**	**-0.2**
	baz=250						
WHP	**Taichung City**	**0.67**	**305**	⇓*i*P	**Pb**	**13 24 58.0**	**-0.4**
	baz=299						
YUS	**Yu-Shan**	**0.68**	**234**	⇓*i*P	**Pb**	**13 24 58.8**	**+0.1**
	baz=219						
YUS				*i* S	**Sb**	**13 25 07.2**	**-0.7**
	baz=219						
NDT	**Datong Townshi**	**0.71**	**358**	⇑P	**Pb**	**13 24 58.9**	**0.0**
	baz=2.0						
NDT				S	**Sb**	**13 25 08.1**	**-0.1**
	baz=2.0						
FULB	**Fuli**	**0.73**	**199**	*e*P	**Pb**	**13 24 59.0**	**-0.3**
	baz=203						
FULB				S	**Sn**	**13 25 11.6**	**+0.6**
	baz=203						
WJS	**Zhushan**	**0.75**	**265**	⇓P	**Pn**	**13 25 00.3**	**-0.4**
	baz=264						
WJS				S	**Sn**	**13 25 11.0**	**-0.5**
	baz=264						
NDS	**Dongshan**	**0.75**	**12**	⇑P	**Pb**	**13 24 59.5**	**-0.2**
	baz=16						
NDS				S	**Sb**	**13 25 10.1**	**+0.5**
	baz=16						
TWC	**Suao**	**0.76**	**21**	⇑*i*P	**Pb**	**13 24 59.9**	**0.0**
	baz=20						
TWC				S	**Sb**	**13 25 10.3**	**+0.5**
	baz=20						
ALS	**Alishan**	**0.78**	**241**	⇓*i*P	**Pb**	**13 25 00.7**	**+0.4**
	baz=228						
ALS				*i* S	**Sb**	**13 25 10.0**	**-0.5**
	baz=228						
YHNB	**Yeheng**	**0.79**	**349**	⇑*i*P	**Pb**	**13 25 00.3**	**0.0**
	baz=344						
YHNB				*i* S	**Sb**	**13 25 10.6**	**0.0**
	baz=344						
YHNB	**Yeheng**	**0.79**	**349**	Pg	**Pb**	**13 25 00.5**	**+0.1**
YHNB				Sg	**Sb**	**13 25 10.3**	**-0.3**
WNT	**Mingjian**	**0.79**	**269**	⇓*i*P	**Pn**	**13 25 01.1**	**-0.1**
	baz=269						
WNT				S	**Sb**	**13 25 11.3**	**+0.8**
	baz=269						
WWF	**Wufeng**	**0.79**	**281**	⇓P	**Pn**	**13 25 01.1**	**-0.1**
	baz=282						
WWF				*e*S	**Sn**	**13 25 11.8**	**-0.6**
	baz=282						
WNT1	**Nantou City**	**0.79**	**271**	⇓P	**Pn**	**13 25 01.4**	**+0.1**
	baz=271						
WNT1				S	**Sn**	**13 25 12.6**	**+0.1**
	baz=271						
NSK	**Sanguang**	**0.80**	**348**	⇑P	**Pb**	**13 25 00.6**	**0.0**
	baz=344						
NSK				*i* S	**Sb**	**13 25 10.7**	**-0.2**
	baz=344						
CHKT	**Chengkung**	**0.81**	**192**	*e*P	**Pb**	**13 25 00.3**	**-0.3**
	baz=187						
CHKT				*e*S	**Sn**	**13 25 12.0**	**-0.9**
	baz=187						
TWE	**Neicheng**	**0.83**	**8**	⇑*i*P	**Pb**	**13 25 01.0**	**-0.1**
	baz=13						
TWE				S	**Sb**	**13 25 12.2**	**+0.5**
	baz=13						
TCU	**Taichung**	**0.83**	**288**	⇓*e*P	**Pn**	**13 25 02.2**	**+0.3**
	baz=285						
TCU				*e*S	**Sn**	**13 25 13.7**	**+0.1**
	baz=285						
TWQ1	**Liyutan**	**0.84**	**303**	⇓*i*P	**Pn**	**13 25 01.8**	**-0.2**
	baz=305						
ECS	**Chishang**	**0.85**	**201**	*e*P	**Pb**	**13 25 00.9**	**-0.4**
	baz=196						
ELDTW	**Lidau**	**0.85**	**215**	⇓*e*P	**Pb**	**13 25 00.3**	**-1.2**
	baz=218						
ELDTW				*e*S	**Sb**	**13 25 12.3**	**-0.2**
	baz=218						
NSY	**Sanyi**	**0.89**	**306**	⇓*i*P	**Pn**	**13 25 03.0**	**+0.5**
	baz=316						
NSY				S	**Sn**	**13 25 14.3**	**-0.6**
	baz=316						
NSTT	**Nanjuang**	**0.89**	**326**	⇓*i*P	**Pn**	**13 25 02.4**	**-0.2**
	baz=328						
NSTT				*i* S	**Sb**	**13 25 13.4**	**0.0**
	baz=328						
WYL	**Yuanlin Townsh**	**0.89**	**275**	⇓*e*P	**Pn**	**13 25 03.0**	**+0.4**
	baz=259						
WYL				*e*S	**Sn**	**13 25 15.0**	**+0.2**
	baz=259						
ILA	**Ilan**	**0.89**	**12**	*e*P	**Pb**	**13 25 02.0**	**0.0**
	baz=16						
ILA				*e*S	**Sb**	**13 25 14.1**	**+0.7**
	baz=16						
LIOB	**Emei**	**0.89**	**327**	⇓*i*P	**Pn**	**13 25 02.7**	**0.0**
	baz=329						
LIOB				*e*S	**Sb**	**13 25 13.9**	**+0.4**
	baz=329						
WCHH	**Zhanghua**	**0.92**	**282**	⇓*i*P	**Pn**	**13 25 03.5**	**+0.4**
	baz=281						
WGK	**Gukeng**	**0.93**	**257**	⇓*i*P	**Pn**	**13 25 03.5**	**+0.5**
	baz=254						
WGK				*e*S	**Sn**	**13 25 16.1**	**+0.3**
	baz=254						
NJD	**Zhudong**	**0.94**	**334**	*e*P	**Pn**	**13 25 03.7**	**+0.4**
	baz=344						
NJD				*e*S	**Sn**	**13 25 16.1**	**0.0**
	baz=344						
NMLH	**Miaoli**	**0.94**	**313**	⇓*i*P	**Pn**	**13 25 04.2**	**+0.9**
	baz=323						
NMLH				*e*S	**Sn**	**13 25 16.2**	**0.0**
	baz=323						
EDH	**Donghe**	**0.94**	**194**	⇓*e*P	**Pb**	**13 25 01.9**	**-1.0**
	baz=189						
EDH				*e*S	**Sn**	**13 25 16.6**	**+0.4**
	baz=189						
WDJ	**Dajia District**	**0.94**	**299**	⇓*i*P	**Pn**	**13 25 04.2**	**+0.9**
	baz=299						
WDJ				*e*S	**Sn**	**13 25 16.5**	**+0.3**
	baz=299						
WDLH	**Douliu**	**0.94**	**258**	⇓P	**Pn**	**13 25 04.0**	**+0.6**
	baz=255						
WDLH				*e*S	**Sn**	**13 25 16.2**	**-0.1**
	baz=255						
NTC	**Toucheng**	**0.99**	**15**	⇑*e*P	**Pb**	**13 25 03.6**	**-0.1**
	baz=19						
NTC				*e*S	**Sn**	**13 25 17.4**	**0.0**
	baz=19						
NJN	**Zhunan**	**1.00**	**322**	⇓P	**Pn**	**13 25 04.9**	**+0.8**
	baz=324						
NJN				*e*S	**Sn**	**13 25 17.5**	**-0.1**
	baz=324						
HSN1	**Hsinchu**	**1.00**	**331**	⇓P	**Pn**	**13 25 05.2**	**+1.0**
	baz=326						
HSN1				S	**Sn**	**13 25 18.0**	**+0.2**
	baz=326						
STYH	**Taoyuan**	**1.01**	**225**	⇓*e*P	**Pn**	**13 25 04.2**	**-0.1**
	baz=220						
STYH				S	**Sn**	**13 25 17.8**	**0.0**
	baz=220						
EGS		**1.01**	**20**	⇑*i*P	**Pb**	**13 25 04.1**	**0.0**
	baz=25						
EGS				S	**Sn**	**13 25 18.7**	**+0.8**
	baz=25						
STYT	**Tauyuan**	**1.03**	**225**	⇓P	**Pn**	**13 25 04.5**	**0.0**
	baz=214						
STYT				S	**Sn**	**13 25 18.0**	**-0.3**
	baz=214						
TPUB	**Ta-pu**	**1.03**	**235**	⇑*i*P	**Pn**	**13 25 05.2**	**+0.7**
	baz=221						
TPUB				S	**Sn**	**13 25 18.1**	**-0.3**
	baz=221						
TPUB	**Ta-pu**	**1.03**	**235**		**Pn**	**13 25 04.8**	**+0.3**
SBCB	**Hsinchu**	**1.03**	**330**	⇓*i*P	**Pn**	**13 25 05.9**	**+1.3**
	baz=325						
SBCB				*e*S	**Sn**	**13 25 18.2**	**-0.1**
	baz=325						
CHN2	**Minshiung**	**1.05**	**250**	*e*P	**Pn**	**13 25 05.5**	**+0.7**
	baz=247						
CHN2				*e*S	**Sn**	**13 25 19.8**	**+1.0**
	baz=247						
HSN	**Hsinchu**	**1.05**	**330**	⇓P	**Pn**	**13 25 06.2**	**+1.4**
	baz=342						
HSN				*e*S	**Sn**	**13 25 19.4**	**+0.6**
	baz=342						
LONT	**Longtian**	**1.05**	**201**	*e*P	**Pb**	**13 25 03.2**	**-1.6**
	baz=183						
NHDH	**Xindian Distri**	**1.06**	**359**	⇑P	**Pn**	**13 25 05.3**	**+0.3**
	baz=2.0						
NHDH				*e*S	**Sn**	**13 25 19.1**	**-0.1**
	baz=2.0						
WRL	**Guolierlin Hig**	**1.07**	**271**	⇓*e*P	**Pn**	**13 25 05.6**	**+0.5**
	baz=270						
WTP	**Ta-pu**	**1.07**	**233**	⇑*i*P	**Pn**	**13 25 06.0**	**+0.9**
	baz=219						
WTP				S	**Sn**	**13 25 19.8**	**+0.4**
	baz=219						
TATO	**Taipei**	**1.08**	**357**	⇑*i*P	**Pb**	**13 25 05.5**	**+0.3**
	baz=14						
TATO				*i* S	**Sb**	**13 25 19.1**	**+0.2**
	baz=14						
TATO	**Taipei**	**1.08**	**357**		**Pb**	**13 25 05.7**	**+0.4**
TATO				Sn	**Sn**	**13 25 19.4**	**-0.1**
WTK	**Tuku**	**1.08**	**259**	*e*P	**Pb**	**13 25 05.6**	**+0.3**
	baz=258						
TWA	**Mucha**	**1.08**	**2**	⇑*i*P	**Pb**	**13 25 05.4**	**0.0**
	baz=358						
TWA				S	**Sb**	**13 25 19.1**	**+0.1**
	baz=358						
CHY	**Chiayi**	**1.10**	**249**	*e*P	**Pb**	**13 25 06.2**	**+0.6**
	baz=247						
BACT	**New Taipei Cit**	**1.10**	**355**	*e*P	**Pb**	**13 25 06.0**	**+0.4**
	baz=8.0						
TIPB	**Shuangxi**	**1.10**	**13**	⇑*i*P	**Pn**	**13 25 05.3**	**-0.3**
	baz=17						
TIPB				*e*S	**Sn**	**13 25 20.5**	**+0.2**
	baz=17						
NCUH	**Zhongli**	**1.12**	**343**	⇑P	**Pb**	**13 25 07.2**	**+1.3**
	baz=346						
NCUH				S	**Sn**	**13 25 23.0**	**+2.4**
	baz=346						
NCU	**National Centr**	**1.12**	**343**	⇑*i*P	**Pb**	**13 25 07.2**	**+1.2**
	baz=346						
NCU				S	**Sn**	**13 25 22.6**	**+2.0**
	baz=346						
NTY	**Taoyuan**	**1.12**	**348**	⇑*i*P	**Pb**	**13 25 07.0**	**+1.0**
	baz=357						
NTY				*e*S	**Sn**	**13 25 22.2**	**+1.5**
	baz=357						
NHY	**Taipei**	**1.14**	**1**	*e*P	**Pb**	**13 25 07.1**	**+0.8**
	baz=14						
TAP	**Taipei**	**1.14**	**358**	⇑P	**Pb**	**13 25 06.4**	**+0.1**
	baz=1.0						
TAP				*e*S	**Sn**	**13 25 22.2**	**+1.1**
	baz=1.0						
TAP1	**Taipei**	**1.14**	**359**	⇑*e*P	**Pb**	**13 25 07.3**	**+1.0**
	baz=1.0						
TAP1				S	**Sn**	**13 25 21.9**	**+0.8**
	baz=1.0						
TWG	**Pinlang**	**1.15**	**202**	*e*P	**Pn**	**13 25 04.2**	**-2.1**
	baz=184						
TWG	**Pinlang**	**1.15**	**202**		**Pn**	**13 25 05.8**	**-0.4**
TWGBT	**Beinan**	**1.15**	**202**	*e*P	**Pn**	**13 25 04.2**	**-2.1**
	baz=184						
TWGBT				*e*S	**Sn**	**13 25 21.9**	**+0.5**
	baz=184						
TWK	**Hsinying**	**1.15**	**237**	⇑*e*P	**Pb**	**13 25 07.3**	**+0.7**
	baz=233						
TWK				S	**Sn**	**13 25 23.0**	**+1.5**
	baz=233						
CHN1	**Nanshi**	**1.17**	**233**	⇑P	**Pb**	**13 25 07.6**	**+0.8**
	baz=220						
CHN1				*e*S	**Sn**	**13 25 22.7**	**+0.8**
	baz=220						
SNST	**Tainan City**	**1.17**	**235**	⇑P	**Pb**	**13 25 07.3**	**+0.5**
	baz=232						
SNST				*e*S	**Sn**	**13 25 23.0**	**+1.1**
	baz=232						
TWB1	**Santiao Chiao**	**1.18**	**20**	*e*P	**Pn**	**13 25 06.5**	**-0.1**
	baz=24						
TWB1				*e*S	**Sn**	**13 25 22.7**	**+0.6**
	baz=24						
NWF	**Wu-fen Shan**	**1.19**	**10**	⇑*i*P	**Pn**	**13 25 07.0**	**+0.2**
	baz=13						
NWF				S	**Sn**	**13 25 22.9**	**+0.4**
	baz=13						
TTN	**Taitung**	**1.19**	**198**	*e*P	**Pn**	**13 25 05.9**	**-0.9**
	baz=193						
WFSB	**Wu-fen Shan**	**1.19**	**10**	⇑*i*P	**Pb**	**13 25 07.1**	**-0.1**
	baz=13						
WFSB				S	**Sn**	**13 25 23.6**	**+1.2**
	baz=13						
SGST	**Jiashian**	**1.20**	**228**	⇑*e*P	**Pb**	**13 25 07.2**	**-0.1**
	baz=224						
SGST				*e*S	**Sn**	**13 25 23.6**	**+1.0**
	baz=224						
TWS1	**Kuangyinshan**	**1.21**	**354**	⇑*e*P	**Pn**	**13 25 06.8**	**-0.2**
	baz=11						
TWS1				*e*S	**Sn**	**13 25 23.9**	**+1.1**
	baz=11						
WMLT	**Mailiao**	**1.22**	**266**	*e*P	**Pb**	**13 25 07.7**	**+0.2**
	baz=264						
WMLT				*e*S	**Sn**	**13 25 24.1**	**+1.2**
	baz=264						
LDUT	**Ludao**	**1.22**	**183**	*e*P	**Pn**	**13 25 05.9**	**-1.2**
	baz=179						
LDUT				*e*S	**Sb**	**13 25 21.2**	**-1.6**
	baz=179						
SLGT	**Liugui**	**1.22**	**223**	*e*P	**Pb**	**13 25 07.8**	**+0.2**
	baz=219						
WSF	**Szhu**	**1.24**	**258**	*e*P	**Pb**	**13 25 07.8**	**-0.1**
	baz=256						
WSF				*e*S	**Sn**	**13 25 25.1**	**+1.6**
	baz=256						
YM01	**YM01**	**1.25**	**1**	⇑*e*P	**Pn**	**13 25 07.5**	**0.0**
	baz=4.0						
YM01				S	**Sn**	**13 25 24.0**	**+0.2**
	baz=4.0						
NTST	**Danshui**	**1.27**	**356**	⇑*e*P	**Pb**	**13 25 08.4**	**-0.1**
	baz=12						
NTST				*e*S	**Sb**	**13 25 26.2**	**+1.8**
	baz=12						
TNOU	**National Taiwa**	**1.27**	**9**	*e*P	**Pn**	**13 25 06.5**	**-1.3**
	baz=12						
TNOU				*e*S	**Sn**	**13 25 24.0**	**-0.2**
	baz=12						
ICHU	**Yijhu**	**1.28**	**246**	⇑*e*P	**Pb**	**13 25 09.3**	**+0.7**
	baz=243						
ICHU				*e*S	**Sb**	**13 25 26.4**	**+1.9**
	baz=243						
ANP	**Anpu**	**1.29**	**359**	⇑*e*P	**Pn**	**13 25 07.9**	**-0.3**
	baz=23						
YM08	**YM08**	**1.29**	**2**	⇑*e*P	**Pn**	**13 25 07.8**	**-0.4**
	baz=7.0						
NWRT	**Kuosheng**	**1.31**	**5**	*e*P	**Pb**	**13 25 09.2**	**+0.1**
	baz=16						
CHN8	**Yiju**	**1.34**	**246**	⇑P	**Pb**	**13 25 10.0**	**+0.3**
	baz=243						
CHN8				*e*S	**Sb**	**13 25 27.7**	**+1.3**
	baz=243						
CHN3	**Shinhua**	**1.36**	**233**	⇑P	**Pb**	**13 25 11.2**	**+1.2**
	baz=230						
CHN3				*e*S	**Sb**	**13 25 29.4**	**+2.5**
	baz=230						
TWY	**Chenhua**	**1.38**	**2**	⇑*e*P	**Pn**	**13 25 09.6**	**+0.3**
	baz=7.0						
JYNG	**Yonagunijimaku**	**1.39**	**66**	P	**Pb**	**13 25 10.6**	**0.0**
JYNG				S	**Sb**	**13 25 28.2**	**+0.3**
SCST	**Cishan**	**1.39**	**224**	*e*P	**Pb**	**13 25 12.1**	**+1.5**
	baz=220						
ECL	**Taimali**	**1.40**	**203**	*e*P	**Pn**	**13 25 08.1**	**-1.5**
	baz=185						
SSD	**Sandimen**	**1.42**	**217**	*e*P	**Pn**	**13 25 10.4**	**+0.5**
	baz=224						
SSD				*e*S	**Sb**	**13 25 29.9**	**+1.2**
	baz=224						
SCLT	**Jiali**	**1.43**	**240**	*e*P	**Pb**	**13 25 11.3**	**0.0**
	baz=237						
SCLT				*e*S	**Sb**	**13 25 31.4**	**+2.3**
	baz=237						
TSMG	**Majia**	**1.44**	**215**	*e*P	**Pb**	**13 25 11.1**	**-0.4**
	baz=223						
TSMG				*e*S	**Sb**	**13 25 30.0**	**+0.6**
	baz=223						
YOJ	**Yonaguni jima**	**1.45**	**67**	P	**Pb**	**13 25 11.3**	**-0.3**
YOJ				S	**Sb**	**13 25 30.0**	**+0.4**
YOJ	**Yonaguni jima**	**1.45**	**67**	⇑*i*P	**Pb**	**13 25 11.4**	**-0.2**
	baz=67						
YOJ				*i* S	**Sb**	**13 25 31.0**	**+1.4**
	baz=67						
YOJ	**Yonaguni jima**	**1.45**	**67**	P	**Pb**	**13 25 11.1**	**-0.5**
YOJ	**Yonaguni jima**	**1.45**	**67**		**Pb**	**13 25 11.1**	**-0.5**
TAI1	**Yung-k'ang**	**1.48**	**235**	⇑*e*P	**Pb**	**13 25 12.3**	**+0.2**
	baz=232						
SGLT	**Jiouru**	**1.51**	**220**	P	**Pb**	**13 25 14.0**	**+1.4**
	baz=216						
SGLT				*e*S	**Sb**	**13 25 35.9**	**+4.5**
	baz=216						
MASBT	**Mashibuluo**	**1.53**	**214**	*e*P	**Pn**	**13 25 11.5**	**+0.1**
	baz=227						
MASBT				*e*S	**Sb**	**13 25 33.4**	**+1.6**
	baz=227						
TSPT	**Pingtung City**	**1.55**	**219**	*e*P	**Pb**	**13 25 14.5**	**+1.3**
	baz=215						
TSPT				*e*S	**Sb**	**13 25 36.1**	**+3.7**
	baz=215						
SNJT	**Kaohsiung City**	**1.59**	**225**	⇑P	**Pb**	**13 25 14.7**	**+0.8**
	baz=221						
EAST	**Anshuo**	**1.64**	**203**	*e*P	**Pn**	**13 25 11.7**	**-1.2**
	baz=187						
TAW	**Tawu**	**1.64**	**202**	*e*P	**Pn**	**13 25 11.8**	**-1.1**
	baz=187						
SCZT	**Fangliau**	**1.74**	**210**	*e*P	**Pn**	**13 25 15.0**	**+0.8**
	baz=187						
KAU	**Kaohsiung**	**1.74**	**221**	*e*P	**Pb**	**13 25 16.5**	**-0.1**
	baz=236						
PCYT	**Pengchaiyu**	**1.79**	**15**	*e*P	**Pn**	**13 25 15.1**	**+0.1**
	baz=21						
SLIU	**Shizi**	**1.81**	**203**	*e*P	**Pn**	**13 25 15.9**	**+0.7**
	baz=184						
LAY	**Lan-yu**	**1.85**	**180**	⇑*e*P	**Pn**	**13 25 14.7**	**-1.1**
	baz=169						
LAY				*e*S	**Sn**	**13 25 37.2**	**-1.3**
	baz=169						
PHUB	**P'eng-hu**	**1.85**	**259**	⇓P	**Pn**	**13 25 16.8**	**+1.0**
	baz=257						
PHUB				S	**Sn**	**13 25 39.7**	**+1.1**
	baz=257						
PNG	**Penghu**	**1.85**	**260**	⇓P	**Pn**	**13 25 16.6**	**+0.8**
	baz=258						
PNG				*e*S	**Sn**	**13 25 39.7**	**+1.0**
	baz=258						
WLCH	**Liuqiu**	**1.87**	**215**	*e*P	**Pb**	**13 25 19.1**	**+0.3**
	baz=231						
TWP	**Hsiaoliuchiu**	**1.89**	**216**	*e*P	**Pb**	**13 25 19.2**	**+0.2**
	baz=231						
HEN	**Hengchun**	**2.02**	**202**	*e*P	**Pb**	**13 25 20.6**	**-0.7**
	baz=187						
IRIF	**Iriomote-Funau**	**2.04**	**77**	P	**Pn**	**13 25 19.9**	**+1.4**
IRIF				*e*S	**Sn**	**13 25 44.9**	**+1.5**
TWK1	**Hengchun**	**2.06**	**200**	*e*P	**Pn**	**13 25 19.3**	**+0.6**
	baz=187						
TWKBT	**Hengchun**	**2.06**	**199**	*e*P	**Pn**	**13 25 19.2**	**+0.6**
	baz=187						
VCHM	**Qimei**	**2.06**	**251**	*e*P	**Pn**	**13 25 19.4**	**+0.7**
	baz=248						
VCHM				*e*S	**Sn**	**13 25 44.8**	**+1.1**
	baz=248						
SNW	**Nanwan**	**2.06**	**201**	*e*P	**Pb**	**13 25 22.1**	**+0.1**
	baz=188						
TSEB	**Hengchuen, Pin**	**2.07**	**197**	*e*P	**Pn**	**13 25 19.6**	**+0.8**
	baz=181						
HATJ	**Hateruma jima**	**2.07**	**85**	P	**Pn**	**13 25 20.1**	**+1.2**
HATJ				*e*S	**Sb**	**13 25 46.8**	**-0.7**
VWUC	**VWUC**	**2.20**	**300**	⇓*e*P	**Pn**	**13 25 20.1**	**-0.6**
	baz=303						
JKRS	**Kuro-shima**	**2.28**	**81**	P	**Pn**	**13 25 23.5**	**+1.8**
JKRS				*e*S	**Sb**	**13 25 51.5**	**-1.9**
JIJ	**Ishigaki jima**	**2.42**	**78**	P	**Pn**	**13 25 24.6**	**+1.0**
JIJ				*e*S	**Sn**	**13 25 52.7**	**+0.1**
PTMZ	**Houxiangcun**	**2.49**	**298**	⇓*e*P	**Pn**	**13 25 24.0**	**-0.6**
	baz=300						
JISG	**Ishigakijimahi**	**2.62**	**74**	P	**Pn**	**13 25 27.3**	**+0.9**
JISG				S	**Sn**	**13 25 58.2**	**+0.7**
MATB	**Ma-tsu**	**2.68**	**327**	⇓*e*P	**Pn**	**13 25 26.8**	**-0.4**
	baz=331						
MATB				*e*S	**Sn**	**13 25 57.9**	**-1.1**
	baz=331						
QZH	**Quanzhou**	**2.89**	**292**	⇓*i*Pn	**Pn**	**13 25 29.5**	**-0.6**
QZH				Sn	**Sn**	**13 26 02.9**	**-1.3**
QZH				smax	smax		
	comp=N,4μm,0.9s						
QZH				smax	smax		
	comp=E,3μm,1.0s						
KNM	**Kinmen**	**2.89**	**281**	⇓*e*P	**Pn**	**13 25 31.9**	**+1.7**
	baz=280						
KNMB	**Chin-men Tao**	**2.94**	**282**	⇓*e*P	**Pn**	**13 25 30.7**	**-0.1**
	baz=281						
KNMB	**Chin-men Tao**	**2.94**	**282**	Pn	**Pn**	**13 25 30.4**	**-0.4**
JTJ	**Tarama**	**2.98**	**75**	P	**Pn**	**13 25 32.5**	**+1.2**
JTJ				S	**Sn**	**13 26 07.7**	**+1.3**
LYJJ	**Jianjiangzhen**	**3.10**	**329**	⇓*e*P	**Pn**	**13 25 32.7**	**-0.3**
	baz=337						
MHZQ	**Yeshan**	**3.17**	**314**	*e*P	**Pn**	**13 25 34.0**	**+0.1**
	baz=320						
XPSS	**Dashiqiu**	**3.26**	**338**	⇑*e*P	**Pn**	**13 25 35.0**	**-0.2**
	baz=334						
AXDP	**Jialang**	**3.41**	**288**	⇓*e*P	**Pn**	**13 25 37.7**	**+0.4**
	baz=288						
JIRB	**Irabujima**	**3.44**	**74**	P	**Pn**	**13 25 38.8**	**+1.2**
JIRB				*e*S	**Sn**	**13 26 18.6**	**+0.8**
ZPLA	**Ao Xicun**	**3.47**	**271**	⇓*e*P	**Pn**	**13 25 38.6**	**+0.5**
	baz=268						
JIKM	**Ikemajima**	**3.53**	**72**	P	**Pn**	**13 25 41.0**	**+2.1**
JIKM				*e*S	**Sn**	**13 26 22.1**	**+2.1**
JMJ	**Miyako jima 2**	**3.54**	**74**	⇓*e*P	**Pn**	**13 25 41.0**	**+1.9**
	baz=75						
JMJ				S	**Sn**	**13 26 21.9**	**+1.6**
	baz=75						
JMJ2	**Miyako jima3**	**3.55**	**75**	P	**Pn**	**13 25 40.8**	**+1.6**
JMJ2				*e*S	**Sn**	**13 26 23.2**	**+2.6**
JOGS	**Gusukube**	**3.63**	**75**	P	**Pn**	**13 25 42.0**	**+1.8**
JOGS				*e*S	**Sn**	**13 26 25.9**	**+3.5**
VDOS	**Pratas Island**	**5.47**	**235**	*e*P	**Pn**	**13 26 07.5**	**+1.8**
	baz=232						
VDOS				*e*S	**Sn**	**13 27 07.1**	**-0.9**
	baz=232						
JOW	**Kunigami**	**6.75**	**63**	⇑*e*P	**Pn**	**13 26 23.0**	**-0.3**
	baz=52						
JOW	**Kunigami**	**6.75**	**63**	Pn	**Pn**	**13 26 22.6**	**-0.6**
HKPS	**Hong Kong Po S**	**7.00**	**258**	*e*P	**Pn**	**13 26 27.3**	**+0.6**
	baz=249						
SSE	**Sheshan**	**7.18**	**358**	Pn	**Pn**	**13 26 29.3**	**+0.2**
SSE				Sn	**Sn**	**13 27 50.4**	**+0.3**
SSE				smax	smax		
	comp=N,320nm,1.1s						

SSE smax smax
comp=E,280nm,1.0s
SSE LR LR
comp=N,3µm,13.1s
SSE LR LR
comp=E,2µm,12.9s
MCO Taipa Grande 7.57 258 P **Pn 13 26 33.0 -1.4**
GZH Guangzhou 7.57 266 Pn **Pn 13 26 31.0 -3.5**
GZH Sn Sn 13 27 48.1 -12
GZH smax smax
comp=N,2µm,1.2s
GZH smax smax
comp=E,1µm,1.1s
NJ2 Nanjing 8.47 344 ⇓P **Pn 13 26 46.3 -0.5**
NJ2 S **Sn 13 28 16.2 -5.5**
NJ2 pmax pmax
comp=Z,110nm,0.7s
NJ2 smax smax
comp=N,740nm,1.1s
NJ2 smax smax
comp=E,610nm,1.1s
NJ2 LR LR
comp=N,14µm,9.5s
NJ2 LR LR
comp=E,4µm,9.3s
NJ2 LR LR
comp=Z,14µm,10.2s
JMZ Minamidaito 2 8.99 76 Pn **Pn 13 26 50.1 -3.9**
WHN Wuhan 9.21 318 ⇓P **Pn 13 26 56.6 -0.4**
WHN LR LR
comp=N,18µm,9.3s
WHN LR LR
comp=E,11µm,6.5s
WHN LR LR
comp=Z,27µm,12.0s
LQP Lukban 9.73 180 *e*P **Pn 13 27 07.7 +3.4**
JSU Suzuyama 10.94 44 Pn **Pn 13 27 21.9 +1.2**
QIZ Qiongzhong 11.92 248 P **Pn 13 27 37.4 +3.2**
QIZ S **Sn 13 29 52.0 +5.4**
QIZ LR LR
comp=N,2µm,17.2s
QIZ LR LR
comp=E,2µm,17.7s
QIZ LR LR
comp=Z,2µm,19.1s
QIZ Qiongzhong 11.92 248 Pn **Pn 13 27 33.5 -0.7**
JNU Nakatsue 12.32 40 Pn **Pn 13 27 41.8 +2.2**
1.2nm,0.3s,baz=180,slow=6.0,SNR=12
ENH Enshi 12.48 303 Pn **Pn 13 27 40.5 -1.2**
JTU Tsushima 12.61 31 Pn **Pn 13 27 43.2 -0.4**
TIA Tai'an 12.86 344 P **Pn 13 27 47.4 +0.5**
TIA sP **P 13 27 56.1 -1.5**
TIA pmax pmax
comp=Z,5.0nm,0.4s
TIA LR LR
comp=N,6µm,10.7s
TIA LR LR
comp=E,2µm,7.8s
TIA LR LR
comp=Z,8µm,9.3s
GYA Guiyang 13.72 284 ⇓P **Pn 13 28 01.3 +2.5**
GYA pP P 13 28 07.2 -0.1
GYA S **Sn 13 30 36.0 +5.4**
GYA SS **S 13 30 52.0 -1.1**
GYA pmax pmax
comp=Z,30nm,1.3s
GYA pmax pmax
comp=Z,130nm,3.5s
GYA LR LR
comp=N,4µm,5.9s
GYA LR LR
comp=E,6µm,8.0s
GYA LR LR
comp=Z,14µm,10.6s
INCN Inchon 14.23 17 P **P 13 28 13.7 +0.9**
INCN Inchon 14.23 17 P **P 13 28 13.7 +0.9**
KSAR Wonju Array Be 14.56 20 P **P 13 28 17.0 +0.5**
KSAR Wonju Array Be 14.56 20 P **P 13 28 17.0 +0.5**
JMN Monobe 14.58 45 Pn **Pn 13 28 05.9 -4.5**
KSRS Korea Array 14.58 21 Pn **P 13 28 14.4 -2.3**
2.9nm,0.3s,baz=208,slow=13,SNR=99
KSRS LR LR 13 34 24.4
comp=Z,934nm,19.4s,baz=198,slow=40
KS19 Wonju Array Si 14.61 20 Pn **Pn 13 28 10.0 -0.8**
KS19 P **P 13 28 16.9 -0.1**
JHS Saijyo 14.95 40 Pn **Pn 13 28 11.9 -3.6**
XAN Xi'an 14.96 315 P **Pn 13 28 16.2 +0.6**
XAN pP P 13 28 25.2 +4.2
XAN sP 13 28 30.6
XAN S **Sn 13 31 06.6 +5.8**
XAN pmax pmax
comp=Z,60nm,1.1s
XAN LR LR
comp=N,4µm,4.6s
XAN LR LR
comp=E,3µm,4.1s
XAN LR LR
comp=Z,7µm,12.9s
DL2 Dalian 14.97 0 P **Pn 13 28 18.1 +2.5**
DL2 S **Sn 13 31 04.4 +3.6**
DL2 pmax pmax
comp=Z,47nm,0.9s
DL2 pmax pmax
comp=Z,280nm,4.1s
DL2 LR LR
comp=N,3µm,12.5s
DL2 LR LR
comp=E,1µm,5.8s
DL2 LR LR
comp=Z,4µm,12.9s
TIY Taiyuan 15.83 333 *e*P **P 13 28 30.8 +0.1**
TIY S **S 13 31 29.3 -6.9**
TIY pmax pmax
comp=Z,110nm,1.1s
TIY LR LR
comp=N,7µm,9.7s
TIY LR LR
comp=E,4µm,10.0s
TIY LR LR
comp=Z,7µm,10.9s
SLVN Son La 16.49 265 Pn **Pn 13 28 33.9 -1.7**
BJT Baijiatuau 16.71 345 P **P 13 28 41.2 +0.9**
BJT pmax pmax
comp=Z,43nm,1.2s
BJT Baijiatuau 16.71 345 P **P 13 28 41.1 +0.9**
BJI Beijing 16.73 346 P **P 13 28 40.8 +0.3**
BJI pmax pmax
comp=Z,26nm,2.0s
BJI pmax pmax
comp=Z,530nm,9.3s
KMI Kunming 17.16 278 ⇑P **Pn 13 28 43.4 -0.8**
KMI pP pP 13 28 49.7 -2.2
KMI sP sP 13 28 52.8 -2.2
KMI PP **PnPn 13 29 01.3 +7.2**
KMI S **Sn 13 31 53.9 -0.7**
KMI sS sS 13 32 10.0 -1.6
KMI pmax pmax
comp=Z,13nm,0.5s
KMI pmax pmax
comp=Z,180nm,5.1s
KMI LR LR
comp=Z,2µm,7.8s
KMI LR LR
comp=Z,6µm,13.7s
KMI LR LR
comp=Z,7µm,12.7s
CD2 Chengdu 17.26 298 P **Pn 13 28 44.1 -1.1**
CD2 S **Sn 13 31 56.5 -0.2**
CD2 SS **SnSn 13 32 17.1 +6.9**
CD2 pmax pmax
comp=Z,100nm,0.7s
CD2 pmax pmax
comp=Z,510nm,9.1s
CD2 LR LR
comp=Z,8µm,9.4s
CD2 LR LR
comp=Z,11µm,10.1s
CD2 LR LR
comp=Z,16µm,11.3s
INU Inuyama 17.62 46 P **P 13 28 50.5 +0.1**
SNY Shenyang 17.97 5 ⇓P **P 13 28 57.0 +2.8**
SNY S **S 13 32 23.2 +3.7**
SNY pmax pmax
comp=Z,19nm,2.3s
SNY pmax pmax
comp=Z,470nm,11.5s
SNY LR LR
comp=Z,3µm,13.6s
SNY LR LR
comp=Z,2µm,11.6s
SNY LR LR
comp=Z,4µm,12.7s
JGF Kuroka 17.99 46 **Pn 13 28 54.4 +0.2**
JHJ Hachijo jima 2 18.45 56 P **Pn 13 29 02.6 +2.8**
comp=Z,12nm,0.3s,baz=195,slow=7.2,SNR=6.5
JHJ LR LR 13 35 40.7
comp=Z,413nm,21.9s,baz=86,slow=36
JHJ2 Mitsune 18.48 56 P **P 13 28 59.4 -0.5**
JHJ2 IAmb IAmb 13 29 03.6
comp=Z,189nm,0.8s
HHC Hu-ho-hao-te 18.87 336 *e*P **Pn 13 29 07.9 +3.0**
HHC sP sP 13 29 15.3 +1.5
HHC S **Sn 13 32 33.0 -2.6**
HHC SS S 13 32 56.0 +18
HHC pmax pmax
comp=Z,51nm,1.1s
HHC pmax pmax
comp=Z,730nm,5.1s
HHC LR LR
comp=Z,4µm,12.3s
HHC LR LR
comp=Z,2µm,11.4s
HHC LR LR
comp=Z,4µm,13.2s
JCJ Chichijima 18.90 76 P **P 13 29 04.8 +0.1**
comp=Z,3.5nm,0.3s,baz=275,slow=6.2,SNR=7.5
JCJ LR LR 13 35 48.4
comp=Z,688nm,19.8s,baz=232,slow=35
JCJ Chichijima 18.90 76 P **P 13 29 04.4 -0.2**
JCJ IAmb IAmb 13 29 10.2
comp=Z,320nm,1.2s
MAJO Matsushiro 19.10 45⇑*e*P **P 13 29 06.9 +0.1**
MAJO pmax pmax
comp=Z,7.0nm,1.1s
MAJO Matsushiro 19.10 45 P **P 13 29 05.7 -1.1**
MAT Matsushiro 19.10 45 P **P 13 29 04.7 -2.1**
MAT S **S 13 32 46.2 +3.6**
MJAR Matsushiro Arr 19.10 45 P **P 13 29 05.7 -1.1**
comp=Z,0.1nm,0.3s,baz=233,slow=10,SNR=8.2
MJAR LR LR 13 37 40.2
comp=Z,398nm,18.2s,baz=235,slow=41
MJAR Matsushiro Arr 19.10 45 P **P 13 29 05.3 -1.5**
MJAR pmax pmax
comp=Z,9.0nm,1.1s
MJAR Matsushiro Arr 19.10 45 P **P 13 29 05.3 -1.5**
BTO Baotou 19.27 333 *e*P **Pn 13 29 12.4 +2.6**
BTO LR LR
comp=Z,28µm,12.2s
BTO LR LR
comp=Z,12µm,12.4s
LZH Lanzhou 19.53 313 ⇑P **Pn 13 29 14.7 +1.8**
LZH pP sP 13 29 20.3 -0.8
LZH PP pP 13 29 32.8 +15
LZH *e*S **S 13 32 50.8 -0.6**
LZH sS sS 13 32 59.5 +0.7
LZH SS **SnSn 13 33 19.6 +14**
LZH pmax pmax
comp=Z,66nm,1.3s
LZH pmax pmax
comp=Z,590nm,5.4s
LZH LR LR
comp=Z,4µm,11.4s
LZH LR LR
comp=Z,5µm,11.9s
LZH LR LR
comp=Z,5µm,13.6s
SPMM Sapulut 19.69 195 P **Pn 13 29 15.0 +0.1**
JSD Sado 20.06 41 P **P 13 29 16.0 -1.2**
JYT Yasato 20.25 48 P **P 13 29 17.3 -1.9**
MSHR Mys Shultsa 20.27 21*ce*P Pn 13 29 21.0 -0.5
MSHR pmax pmax
comp=Z,19nm,1.0s
PBKT Sadao Pong 20.62 253 P **P 13 29 22.1 -1.3**
PBKT Sadao Pong 20.62 253 P Pn 13 29 25.1 -0.7
comp=Z,47nm,1.1s
VLA Vladivostok 20.99 22*ce*P **P 13 29 27.4 +0.2**
JMM Marumori 21.55 45 P **P 13 29 29.1 -4.2**
CMMT Chiang Mai 21.64 261 P **P 13 29 36.7 +2.3**
comp=Z,1µmcomp=Z,105nm,1.2s
CHTO Chiang Mai 21.64 261 P **P 13 29 33.9 -0.5**
CHTO pmax pmax
comp=Z,110nm,1.1s
CHTO Chiang Mai 21.64 261 P **P 13 29 33.9 -0.5**
CHTO IAmb IAmb 13 29 45.8
comp=Z,110nm,1.1s
CHTO Chiang Mai 21.64 261 P **P 13 29 36.8 +2.3**
comp=Z,687nmcomp=Z,63nm,1.2s
MDJ Mudanjiang 21.69 16 P **P 13 29 34.8 0.0**
MDJ S **S 13 33 35.4 +1.4**
MDJ SS **SnSn 13 34 04.4 +5.6**
MDJ pmax pmax
comp=Z,18nm,0.8s
MDJ pmax pmax
comp=Z,230nm,6.0s
MDJ LR LR
comp=Z,3µm,12.7s
MDJ LR LR
comp=Z,3µm,13.7s
MDJ LR LR
comp=Z,3µm,13.5s
MDJ Mudanjiang 21.69 16 P **P 13 29 33.5 -1.3**
CMAR Chiang Mai Arr 21.75 260 P **P 13 29 38.3 +2.7**
comp=Z,25nm,0.9s,baz=62,slow=8.6,SNR=75
CMAR PcP **PcP 13 33 36.9 +0.8**
comp=Z,3.1nm,0.8s,baz=41,slow=1.3,SNR=8.2
CMAR LR LR 13 38 40.7
comp=Z,634nm,21.7s,baz=110,slow=38
CMAR Chiang Mai Arr 21.75 260 P **P 13 29 37.1 +1.5**
USA0B Ussuriysk Arra 21.99 20⇑*i*P **P 13 29 38.3 +0.3**
USA0B Ussuriysk Arra 21.99 20 P **P 13 29 38.0 +0.1**
USRK Ussuriysk Ar. 21.99 20 P **P 13 29 38.4 +0.4**
comp=Z,7.4nm,0.7s,baz=216,slow=10,SNR=18
USRK Ussuriysk Ar. 21.99 20 P **P 13 29 38.0 +0.1**
USRK Ussuriysk Ar. 21.99 20 P **P 13 29 38.0 +0.1**
TOLI2 Tolitoli 22.66 182 P **P 13 29 43.6 -1.8**
GAMI Galela, Maluku 22.74 164 P **P 13 29 44.6 -1.6**
comp=Z,68nm,1.4s
SBUM Sibu 23.15 204 P **P 13 29 50.0 -0.4**
GTOI Gorontalo 23.16 176 P **P 13 29 49.5 -1.1**
comp=Z,340nmcomp=Z,33nm,0.8s
MRSI Marisa 23.28 179 P **P 13 29 52.1 +0.4**
comp=Z,64nm,0.7s
MPSI Mapaga 23.47 184 P **P 13 29 53.4 -0.2**
comp=Z,489nmcomp=Z,32nm,0.7s
JTM Tenmabayashi 23.49 40 P **P 13 29 49.0 -4.6**
GTA Gaotai 24.02 315 ⇑P **P 13 30 00.0 +1.0**
GTA pP pP 13 30 06.1 +0.6
GTA sP sP 13 30 09.6 +1.1
GTA S **S 13 34 19.1 +3.9**
GTA sS sS 13 34 28.9 +3.0
GTA pmax pmax
comp=Z,45nm,1.9s
GTA pmax pmax
comp=Z,440nm,6.2s
GTA LR LR
comp=Z,2µm,13.5s
GTA LR LR
comp=Z,3µm,16.0s
GTA LR LR
comp=Z,4µm,14.9s
GUMO Guam 24.31 111 P **P 13 30 01.7 +0.1**
comp=Z,138nm,1.1s,baz=180,slow=1.1,SNR=9.4
GUMO Guam 24.31 111 P **P 13 30 01.6 -0.1**
GUMO pmax pmax
comp=Z,323nm,1.3s
GUMO Guam 24.31 111 P **P 13 30 01.6 -0.1**
APSI Ampana 24.66 180 P **P 13 30 05.1 +0.4**
comp=Z,651nmcomp=Z,67nm,0.8s
KSM Kuching 24.80 208 P **P 13 30 06.0 -0.1**
JEW Eniwo 25.06 36 P **P 13 30 05.7 -2.5**
ERM Erimo 25.48 40⇑*e*P **P 13 30 09.6 -2.4**
ERM pmax pmax
comp=Z,2.0nm,0.3s
ERM Erimo 25.48 40 P **P 13 30 09.4 -2.6**
MTKI Muara Teweh, K 25.52 196 P **P 13 30 13.8 +1.2**
comp=Z,42nm,0.7s
STKI Sintang 25.62 204 P **P 13 30 14.9 +1.4**
comp=Z,32nm,1.1s
SANI Sanana 26.15 170 P **P 13 30 18.8 +0.6**
comp=Z,27nm,0.8s
KLR Kul'dur 26.53 15 P **P 13 30 21.4 -0.1**
comp=Z,6.2nm,0.5s,baz=234,slow=7.2,SNR=29
KLR LR LR 13 41 50.1
comp=Z,883nm,18.6s,baz=199,slow=39
KLR Kul'dur 26.53 15 *e*P **P 13 30 21.4 -0.1**
KLR pmax pmax
comp=Z,22nm,1.5s
ASAJ Asahikawa 26.54 35 P **P 13 30 21.5 -0.1**
comp=Z,2.0nm,0.3s,baz=250,slow=7.7,SNR=7.1
ASAJ Asahikawa 26.54 35 P **P 13 30 18.4 -3.2**
ASAJ pmax pmax
comp=Z,8.0nm,0.9s
JKA Kamikawa-asahi 26.54 35 P **P 13 30 18.4 -3.1**
ULN Ulaanbaatar 26.56 338*c i*P **P 13 30 22.3 +0.4**
ULN pmax pmax
comp=Z,21nm,0.8s
ULN Ulaanbaatar 26.56 338 P **P 13 30 21.5 -0.4**
ULN Ulaanbaatar 26.56 338 P **P 13 30 22.3 +0.4**
comp=Z,2µmcomp=Z,118nm,0.8s
SONM Songino Array 26.76 337 P **P 13 30 24.0 +0.2**
comp=Z,13nm,0.8s,baz=161,slow=9.2,SNR=34
SONM LR LR 13 42 23.5
comp=Z,2µm,20.1s,baz=149,slow=40
SONM Songino Array 26.76 337 P **P 13 30 23.4 -0.4**
SONM pmax pmax
comp=Z,19nm,0.9s
SONM Songino Array 26.76 337 P **P 13 30 23.4 -0.4**
TTSI Tana Toraja 26.83 184 P **P 13 30 25.3 +0.9**
comp=Z,1µmcomp=Z,31nm,1.0s
SHL Shillong 26.97 280 P **P 13 30 25.6 -0.3**
SHL pmax pmax
comp=Z,139nm,1.0s
SHL Shillong 26.97 280 P **P 13 30 25.6 -0.3**
LSA Lhasa 27.69 289 P **P 13 30 32.4 -0.3**
LSA pmax pmax
comp=Z,30nm,0.8s
LSA Lhasa 27.69 289 P **P 13 30 32.4 -0.3**
LSA IAmb IAmb 13 30 40.8
comp=Z,30nm,0.8s
BBKI Banjar Baru 27.96 194 P **P 13 30 35.5 +0.9**
comp=Z,33nm,1.3s
YUK Yuzh-Kuril'sk 28.29 39 P **P 13 30 34.4 -2.8**
YUK S **S 13 35 14.3 -8.1**
YUK MLR MLR
comp=Z,340nm,17.0s
YSS Yuzh-Sakhalins 28.60 31 *e*P **P 13 30 40.5 +0.5**
YSS *e* 13 31 45.2
YSS *e*S **S 13 35 27.6 +0.3**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS pmax pmax
comp=Z,200nm,4.3s
YSS MLR MLR
comp=N,500nm,13.0s
YSS MLR MLR
comp=Z,900nm,13.0s
YSS MLR MLR
comp=E,400nm,14.0s
YSS Yuzh-Sakhalins 28.60 31 P **P 13 30 40.3 +0.2**
FAKI Fak Fak 28.62 157 P **P 13 30 39.6 -0.8**
ZAK Zakamensk 30.02 336 *e*P **P 13 30 51.7 -1.0**
ZAK pmax pmax
comp=Z,7.0nm,1.2s
ZEA Zeya 30.11 7 *e*P **P 13 30 53.0 -0.3**
ZEA pmax pmax
comp=N,100nm,6.4s
ZEA pmax pmax
comp=Z,100nm,6.1s
ZEA pmax pmax
comp=N,10.0nm,1.0s
ZEA pmax pmax
comp=Z,20nm,1.2s
ZEA MLR MLR
comp=E,300nm,9.0s
ZEA MLR MLR
comp=N,1µm,13.0s
ZEA MLR MLR
comp=Z,1µm,13.0s
PSI Prapat 30.30 230 P **P 13 30 56.0 +0.5**
comp=Z,5.6nm,0.4s,baz=14,slow=3.7,SNR=2.4
PSI LR LR 13 42 40.3
comp=Z,436nm,21.5s,baz=86,slow=36
PSI Prapat 30.30 230 P **P 13 30 56.0 +0.5**
PSI pmax pmax
comp=Z,26nm,1.1s
PSI Prapat 30.30 230 P **P 13 30 57.2 +1.7**
comp=Z,11nm,1.7s,comp=Z,23nm,1.7s
PSI P **P 13 30 57.5 +2.0**
comp=Z,11nm,1.7s,comp=Z,23nm,1.7s
RPSI Rantau Prapat 30.37 229 P **P 13 30 55.2 -0.8**
RPSI Rantau Prapat 30.37 229 P **P 13 30 56.0 0.0**
TAPN Taplejung 30.65 284 *e*Pg **P 13 31 00.8 +2.0**
comp=Z,118nm,0.9s
ODAN Odare 30.95 283 *e*P **P 13 31 03.0 +1.7**
comp=Z,89nm,0.9s
IRK Irkutsk 31.23 339 *e*P **P 13 31 01.6 -1.7**
IRK *e* 13 31 16.7
IRK pmax pmax
comp=Z,31nm,1.3s
MNSI Mandailing Nat 31.31 226 P **P 13 31 05.4 +1.1**
comp=Z,29nm,1.0s
TYV Tymovskoe 31.50 26 *e*P **P 13 31 08.6 +3.0**
TYV pmax pmax
comp=Z,7.0nm,1.2s
TYV pmax pmax
comp=Z,200nm,3.8s
RAMN Ramite 31.65 283 *e*P **P 13 31 09.5 +2.0**
comp=Z,40nm,0.9s
MOY Mondy 31.91 336 *e*P **P 13 31 09.6 +0.2**
MOY pmax pmax
comp=Z,27nm,1.9s
JIRN Jiri 31.99 284 *e*P **P 13 31 12.3 +1.6**
comp=Z,116nm,0.9s
GUN Gumba 32.26 285 *e*P **P 13 31 15.2 +2.2**
EDFI Ende, Flores 32.44 180 P **P 13 31 12.8 -1.5**
comp=Z,470nmcomp=Z,41nm,0.7s
PKI Pulchoki 32.69 284 *e*P **P 13 31 17.7 +1.0**
comp=Z,80nm,1.1s
PKIN Phulchoki 32.70 284 *e*P **P 13 31 17.4 +0.6**
comp=Z,63nm,1.0s
KKN Kakani 32.80 285 *e*P **P 13 31 18.9 +1.3**
SJI Sawahan 32.85 198 P **P 13 31 19.3 +1.4**
MDSI Maura Dua 32.90 213 P **P 13 31 19.4 +1.2**
comp=Z,27nm,1.2s
DMN Daman 32.95 284 *e*P **P 13 31 20.2 +1.2**
CTJI Waduk Cacaban 33.00 203 P **P 13 31 20.3 +1.2**
comp=Z,40nm,1.1s
PWJI Pagerwojo 33.12 198 P **P 13 31 21.8 +1.7**
comp=Z,88nm,0.9s
GKN Gorkha 33.36 285 *e*P **P 13 31 23.3 +0.9**
comp=Z,150nm,1.2s
KPJI Karang Pucung 33.39 203 P **P 13 31 22.8 +0.3**
comp=Z,35nm,1.3s
LEM Lembang 33.42 206 LR LR 13 46 15.3
comp=Z,193nm,18.9s,baz=33,slow=39
SOEI Soe 33.55 175 P **P 13 31 24.1 +0.1**
comp=Z,34nm,0.8s
BATI Baumata 33.95 176 P **P 13 31 25.1 -2.4**
comp=Z,40nm,0.6s,baz=332,slow=4.3,SNR=8.4
BATI Baumata 33.95 176 P **P 13 31 27.3 -0.1**
comp=Z,31nm,0.6s
WMQ Urumqi 34.09 314 *e*P **P 13 31 31.6 +3.1**
WMQ pP sP 13 31 37.6 -0.6
WMQ pmax pmax
comp=Z,32nm,1.3s
WMQ pmax pmax
comp=Z,230nm,3.7s
WMQ LR LR
comp=Z,2µm,14.3s
WMQ LR LR
comp=Z,2µm,13.5s
WMQ LR LR
comp=Z,1µm,13.9s
DANN Dangsing 34.12 286 *e*P **P 13 31 31.0 +1.8**
comp=Z,178nm,1.1s
KOLN Koldanda 34.28 285 *e*P **P 13 31 31.8 +1.3**
comp=Z,154nm,1.0s
PYUN Piuthan 34.81 285 *e*P **P 13 31 36.5 +1.4**
MANU Manus Island 35.99 132 P **P 13 31 44.5 -0.6**
MANU IAmb IAmb 13 31 47.7
comp=Z,25nm,0.8s
DGZ Jazzator, Alta 37.03 323⇑*e*P **P 13 31 54.2 +0.5**
DGZ pmax pmax
comp=Z,4.0nm,0.8s
ZSN Zaisan 37.44 318 *e*P **P 13 31 56.9 -0.2**
baz=317

ZSN Zaisan 37.44 318 *e*P P **13 31 56.9 -0.2**
MTN Manton Dam 37.70 165 P P **13 31 56.7 -2.8**
MTN IAmb IAmb 13 31 59.6
comp=Z,29nm,0.8s
YAK Yakutsk 38.52 6 *e*P P **13 32 09.4 +3.5**
YAK pmax pmax
comp=Z,16nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.3s
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK MLR MLR
comp=Z,2µm,14.0s
YAK MLR MLR
comp=E,440nm,13.0s
YAK MLR MLR
comp=N,868nm,13.0s
MK31 Makanchi Array 38.78 316 *i* P P **13 32 08.0 -0.4**
MK31 Makanchi Array 38.78 316 P P **13 32 07.8 -0.6**
MKAR Makanchi Array 38.78 316 P P **13 32 09.2 +0.8**
comp=N,23nm,0.8s,baz=106,slow=8.4,SNR=92
MKAR PcP **PcP 13 34 20.0 +0.4**
comp=N,2.9nm,0.7s,baz=88,slow=4.5,SNR=4.6
MKAR Makanchi Array 38.78 316 *i* P P **13 32 09.1 +0.7**
MKAR pmax pmax
comp=Z,23nm,0.8s
MKAR Makanchi Array 38.78 316 P P **13 32 08.7 +0.3**
MAKZ Makanchi 38.98 316 P P **13 32 10.4 +0.3**
MAKZ Makanchi 38.98 316 P P **13 32 10.5 +0.4**
MAKZ IAmb IAmb 13 32 13.6
comp=Z,34nm,0.9s
SHLS Shalkode 39.50 310 *e*P P **13 32 13.0 -1.7**
comp=Z,35nm,2.0s,baz=309
SHLS *e*S **S 13 38 09.0 -7.0**
baz=309
SHLS Shalkode 39.50 310 *e*P P **13 32 12.9 -1.7**
SHLS *e*S **S 13 38 08.9 -7.0**
SHLS pmax pmax
comp=Z,35nm,2.0s
UZB Uzynbulak 39.81 309 *e*P P **13 32 18.1 +0.9**
comp=Z,27nm,1.8s,baz=309
UZB Uzynbulak 39.81 309 *e*P P **13 32 18.1 +0.9**
UZB pmax pmax
comp=Z,27nm,1.8s
PETK Petropavlovsk- 39.92 34 P P **13 32 18.5 +0.7**
comp=Z,1.0nm,0.7s,baz=194,slow=4.2,SNR=2.3
PETK LR LR 13 49 24.2
comp=Z,341nm,18.1s,baz=228,slow=37
KNRA Kununurra 39.96 169 P P **13 32 17.1 -1.3**
KPKS Kokpek 40.13 310 *e*P P **13 32 20.7 +0.9**
comp=Z,58nm,2.3s,baz=309
KPKS Kokpek 40.13 310 *e*P P **13 32 20.6 +0.8**
KPKS pmax pmax
comp=Z,57nm,2.3s
SATY Saty 40.23 309 *e*P P **13 32 21.6 +0.9**
comp=Z,22nm,1.6s,baz=308
SATY Saty 40.23 309 *e*P P **13 32 21.6 +0.9**
SATY pmax pmax
comp=Z,22nm,1.6s
PET Petropavlovsk 40.37 34‖ *e*P P **13 32 22.6 +1.1**
PET pmax pmax
comp=Z,35nm,2.5s
HYB Hyderabad 40.62 269 *i* P P **13 32 25.0 +0.9**
ZAA0 Zalesovo Array 40.67 327 P P **13 32 22.3 -1.7**
ZALV Zalesovo Beam 40.67 327 P P **13 32 23.8 -0.2**
comp=Z,18nm,0.8s,baz=114,slow=7.8,SNR=28
ZALV Zalesovo Beam 40.67 327 *i* P P **13 32 23.6 -0.4**
ZALV pmax pmax
comp=Z,18nm,0.8s
ZALV Zalesovo Beam 40.67 327 P P **13 32 22.4 -1.5**
KDJ Kajisay 40.89 307 P P **13 32 25.8 -0.5**
KDJ pmax pmax
comp=Z,17nm,1.0s
KDJ Kajisay 40.89 307 P P **13 32 25.8 -0.5**
ARXS Arharly 40.92 311 *e*P P **13 32 27.9 +1.5**
MDOK Medeo 41.22 309 *e*P P **13 32 29.5 +0.6**
baz=308
MDOK *e*S S 13 38 52.4 +11
baz=308
MDOK Medeo 41.22 309 *e*P P **13 32 29.4 +0.6**
KSH Kashi 41.33 303 P P **13 32 33.8 +3.9**
KSH pP sP 13 32 40.5 +1.0
KSH S **S 13 38 48.6 +5.2**
KSH sS sS 13 38 56.9 +2.5
KSH pmax pmax
comp=Z,17nm,1.6s
KSH pmax pmax
comp=Z,160nm,3.0s
KSH LR LR
comp=N,2µm,9.2s
KSH LR LR
comp=E,2µm,9.3s
KSH LR LR
comp=Z,2µm,9.8s
KSH Kashi 41.33 303 P P **13 32 34.2 +4.3**
KSH pP sP 13 32 40.7 +1.2
KSH PcP **PcP 13 34 30.8 +2.7**
KSH pmax pmax
comp=Z,22nm,1.3s
KSH LR LR
comp=Z,2µm,13.3s
KSH LR LR
comp=Z,2µm,14.4s
KSH LR LR
comp=Z,2µm,17.2s
CHKK Chushkaly 41.42 310 *e*P P **13 32 30.6 +0.2**
baz=309
MTBS Maitube 41.65 309 *e*P P **13 32 33.5 +1.1**
baz=308
BOOM Boomskoye usch 41.87 308 P P **13 32 34.1 -0.1**
BOOM pmax pmax
comp=Z,9.0nm,1.1s
BOOM Boomskoye usch 41.87 308 P P **13 32 34.1 -0.1**
KUU Kurty 41.88 310 *e*P P **13 32 34.5 +0.3**
comp=Z,111nm,2.4s,baz=309
KUU Kurty 41.88 310 *e*P P **13 32 34.4 +0.3**
KUU pmax pmax
comp=Z,111nm,2.4s
H11N1 WAKE ISLAND Hy 42.17 87 T T 14 17 36.7
baz=283,slow=75,SNR=209
H11N2 WAKE ISLAND Hy 42.17 87 T T 14 17 36.7
baz=283,slow=75,SNR=204
H11N3 WAKE ISLAND Hy 42.19 87 T T 14 17 38.7
baz=283,slow=75,SNR=235
H11S3 WAKE ISLAND Hy 42.30 88 T T 14 17 47.4
baz=284,slow=75,SNR=178
H11S1 WAKE ISLAND Hy 42.30 88 T T 14 17 47.6
baz=284,slow=75,SNR=571
H11S2 WAKE ISLAND Hy 42.31 88 T T 14 17 49.0
baz=284,slow=75,SNR=486
KURK Kurchatov 42.53 320 P P **13 32 39.5 +0.2**
KURK Kurchatov 42.53 320 P P **13 32 39.5 +0.2**
KURBB Kurchatov Arra 42.54 320 P P **13 32 39.5 +0.1**
comp=Z,16nm,1.0s,baz=111,slow=7.6,SNR=16
KURBB Kurchatov Arra 42.54 320 P P **13 32 39.1 -0.3**
AAK Ala-Archa 42.95 308 P P **13 32 43.6 +0.6**
comp=Z,1.9nm,0.4s,baz=102,slow=8.9,SNR=7.7
AAK Ala-Archa 42.95 308 *de*P P **13 32 45.4 +2.4**
AAK pmax pmax
comp=Z,57nm,2.5s
AAK Ala-Archa 42.95 308 P P **13 32 42.3 -0.7**
SGDS Sogindy 43.00 309 *e*P P **13 32 43.5 +0.1**
baz=308
NIL Nilore 43.10 294 P P **13 32 43.9 -0.4**
NIL pmax pmax
comp=Z,48nm,1.4s
NIL Nilore 43.10 294 P P **13 32 43.9 -0.4**
NIL IAmb IAmb 13 32 53.0
comp=Z,48nm,1.4s
COEN Coen 43.15 148 P P **13 32 44.1 -0.6**
COEN IAmb IAmb 13 32 49.1
comp=Z,41nm,0.9s
BTLS Baital 43.74 311 *e*P P **13 32 49.7 +0.5**
comp=Z,29nm,2.5s,baz=310
BTLS Baital 43.74 311 *e*P P **13 32 49.7 +0.5**
BTLS pmax pmax
comp=Z,29nm,2.5s
SEY Seymchan 44.14 20‖ *e*P P **13 32 51.6 -0.5**
PSA00 Pilbara Seismi 45.22 182 P P **13 32 59.2 -2.0**
PSA00 IAmb IAmb 13 33 02.8
comp=Z,25nm,0.7s
PSA00 Pilbara Seismi 45.22 182 P P **13 32 59.0 -2.2**
PSA00 IAmb IAmb 13 33 02.8
comp=Z,8.7nm,0.8s
WRAB Tennant Creek 45.31 163 *ce*P P **13 33 00.5 -1.4**
WRAB pmax pmax
comp=Z,22nm,1.0s
WRAB Tennant Creek 45.31 163 P P **13 33 00.2 -1.8**
WRAB IAmb IAmb 13 33 02.0
comp=Z,20nm,0.8s
WRA Warramunga Arr 45.32 163 P P **13 33 00.8 -1.2**
comp=Z,17nm,0.6s,baz=345,slow=8.9,SNR=176
WRA LR LR 13 51 49.3
comp=Z,119nm,21.7s,baz=345,slow=36
WRA Warramunga Arr 45.32 163 *i* P P **13 33 00.7 -1.2**
WRA pmax pmax
comp=Z,18nm,0.6s
WRA Warramunga Arr 45.32 163 P P **13 33 00.4 -1.6**
WB2 Warramunga Arr 45.32 163 P P **13 33 00.5 -1.5**
WB2 IAmb IAmb 13 33 02.1
comp=Z,25nm,0.7s
WR0 Warramunga Arr 45.39 163 P P **13 33 01.1 -1.4**
WR0 IAmb IAmb 13 33 02.6
comp=Z,24nm,0.7s
GAR Garm 45.65 302 P P **13 33 04.4 -0.2**
GAR IAmb IAmb 13 33 13.8
comp=Z,62nm,1.2s
BRZS Berezniki 45.87 317 *e*P P **13 33 06.4 +0.3**
comp=Z,12nm,1.1s,baz=317
BRZS Berezniki 45.87 317 *e*P P **13 33 06.4 +0.3**
BRZS pmax pmax
comp=Z,12nm,1.1s
KK31 Karatay Array 45.91 308 P P **13 33 06.9 +0.4**
KK31 pmax pmax
comp=Z,20nm,1.1s
KK31 Karatay Array 45.91 308 P P **13 33 06.9 +0.4**
KK31 IAmb IAmb 13 33 15.7
comp=Z,20nm,1.1s
KKAR Karatay Array 45.91 308 P P **13 33 06.3 -0.2**
KKAR Karatay Array 45.91 308 P P **13 33 06.3 -0.2**
KKAR Karatay Array 45.91 308 P P **13 33 06.9 +0.4**
KKAR IAmb IAmb 13 33 15.7
comp=Z,20nm,1.1s
IUG luzhnay 46.14 306 *e*P P **13 33 09.4 +0.9**
baz=306
IUG luzhnay 46.14 306 *e*P P **13 33 09.3 +0.9**
KBL Kabul 46.59 296 P P **13 33 12.4 +0.2**
KBL pmax pmax
comp=Z,104nm,1.4s
KBL Kabul 46.59 296 P P **13 33 12.4 +0.2**
GIRL Giralia 46.80 189 P P **13 33 13.6 +0.1**
TIXI Tiksi 47.97 3‖ *e*P P **13 33 22.3 +0.2**
BVAR Borovoye Array 48.11 321 P P **13 33 23.9 +0.4**
comp=Z,9.3nm,0.7s,baz=150,slow=6.8,SNR=23
BRVK Borovoye 48.18 321 P P **13 33 23.7 -0.4**
BRVK pmax pmax
comp=Z,13nm,0.7s
BRVK Borovoye 48.18 321 P P **13 33 23.7 -0.4**
BRVK IAmb IAmb 13 33 32.3
comp=Z,12nm,0.7s
AS31 Alice Springs 48.77 165 P P **13 33 27.2 -1.7**
ASAR Alice Springs 48.77 165 P P **13 33 28.4 -0.6**
comp=Z,15nm,1.0s,baz=341,slow=6.4,SNR=73
ASAR Alice Springs 48.77 165 P P **13 33 27.3 -1.7**
ASAR Alice Springs 48.77 165 P P **13 33 27.3 -1.7**
NRIK Noril'sk 49.77 345 P P **13 33 34.8 -1.2**
comp=Z,6.9nm,0.9s,baz=119,slow=4.8,SNR=5.3
NRIK Noril'sk 49.77 345 *ce*P P **13 33 34.3 -1.7**
NRIK pmax pmax
comp=Z,22nm,1.5s
NRIK Noril'sk 49.77 345 IAmb IAmb 13 33 38.6
comp=Z,12nm,1.1s
CTA Charters Tower 49.91 149 P P **13 33 37.1 -0.6**
comp=Z,12nm,0.8s,baz=327,slow=10,SNR=14
CTAO Charters Tower 49.91 149 P P **13 33 37.5 -0.2**
CTAO pmax pmax
comp=Z,18nm,0.9s
CTAO Charters Tower 49.91 149 P P **13 33 37.5 -0.2**
CTAO IAmb IAmb 13 33 40.2
comp=Z,18nm,0.9s
AMKA Amchitka 51.69 42 P P **13 33 50.3 -0.5**
BILL Bilibino 51.84 20 *e*P P **13 33 52.3 +0.7**
BILL *e* 13 35 04.9
BILL *e* 13 35 48.6
BILL pmax pmax
comp=Z,7.0nm,1.0s
BILL MLR MLR
comp=Z,384nm,15.0s
MORW Morawa 52.92 186 P P **13 33 58.7 -1.4**
MORW IAmb IAmb 13 34 00.9
comp=Z,25nm,1.1s
AB31 Akbulak array 53.88 314 *i* P P **13 34 07.0 0.0**
SVE Sverdlovsk 54.47 324‖ *e*P P **13 34 11.9 +0.7**
SVE pmax pmax
comp=Z,40nm,1.5s
SVE MLR MLR
comp=Z,1µm,15.0s
MIDW Midway 54.55 71 P P **13 34 11.2 -0.9**
FORT Forrest 54.72 173 P P **13 34 13.2 0.0**
AKTO Aktyubinsk 55.21 316 P P **13 34 16.9 +0.2**
comp=Z,7.0nm,0.9s,baz=89,slow=15,SNR=5.1
AKTO Aktyubinsk 55.21 316 P P **13 34 17.3 +0.7**
GEYT Alibeck 55.23 301 P P **13 34 18.0 +1.0**
comp=Z,124nm,0.8s,baz=184,slow=4.0,SNR=14
GEYT Alibeck 55.23 301 IAmb IAmb 13 34 23.3
comp=Z,106nm,0.8s
ARU Arti 55.54 323 *c* *i* P P **13 34 18.7 -0.2**
ARU 13 35 16.0
ARU 13 36 20.7
ARU S **S 13 42 05.9 +2.8**
ARU pmax pmax
comp=Z,28nm,1.0s
ARU MLR MLR
comp=Z,413nm,14.0s
ARU Arti 55.54 323 P P **13 34 17.7 -1.2**
ARU IAmb IAmb 13 34 22.6
comp=Z,20nm,0.9s
NWAO Narrogin (SRO) 56.65 184 P P **13 34 26.2 -0.8**
baz=35,slow=7.4
EIDS Eidsvold 56.71 148 P P **13 34 26.8 -0.8**
WSAR Wadi Sarin 57.23 283 P P **13 34 32.3 +0.8**
comp=Z,5.3nm,0.8s,baz=121,slow=5.9,SNR=2.9
BBOO Buckleboo 58.06 166 P P **13 34 35.2 -1.8**
STKA Stephens Creek 58.68 160 P P **13 34 40.9 -0.4**
comp=Z,15nm,0.6s,baz=337,slow=8.3,SNR=47
STKA LR LR 14 02 23.8
comp=Z,77nm,20.0s,baz=21,slow=39
STKA Stephens Creek 58.68 160 P P **13 34 40.6 -0.7**
STKA pmax pmax
comp=Z,4.0nm,0.6s
STKA Stephens Creek 58.68 160 P P **13 34 40.5 -0.7**
SANVU Saraoutou 59.31 127 P P **13 34 45.1 -0.9**
SANVU IAmb IAmb 13 34 53.6
comp=Z,22nm,0.8s
TNA Tin City 60.45 27 P P **13 34 53.2 +0.1**
baz=263
KIRV Kirov 60.65 325 P P **13 34 54.3 -0.3**
comp=Z,27nm,0.6s,baz=106,slow=0.6,SNR=6.2
KIRV Kirov 60.65 325 *c* *i* P P **13 34 54.1 -0.5**
ARMA Armidale 61.23 150 P P **13 34 58.3 -0.8**
ARMA IAmb IAmb 13 35 11.0
comp=Z,27nm,1.5s
BELG Belogornoye 61.73 318 *ce*P P **13 35 03.9 +1.9**
BELG pmax pmax
comp=Z,6.0nm,1.1s
FALS False Pass 62.27 39 P P **13 35 05.6 0.0**
baz=273
PRGR Permogore 62.60 329 *e*P P **13 35 06.7 -1.0**
PRGR pmax pmax
comp=Z,34nm,1.1s
MAK Makhachkala 62.73 307 *e*P P **13 35 04.8 -4.1**
MAK *e*S **S 13 43 29.2 -7.4**
MAK pmax pmax
comp=Z,53nm,0.4s
MAK MLR MLR
comp=Z,394nm,13.0s
DZM Mont Dzumac 63.20 133 *e*P P **13 35 14.3 +2.0**
comp=Z,46nm,1.3s
DZM *e*LR LR 13 54 12.9
comp=Z,295nm,21.9s
DZM Mont Dzumac 63.20 133 P P **13 35 12.5 +0.2**
DZM IAmb IAmb 13 35 17.5
comp=Z,20nm,1.1s
OUENC Ouen Island, N 63.70 133 P P **13 35 16.3 +0.8**
OUENC IAmb IAmb 13 35 20.4
comp=Z,18nm,0.8s
MARNC Mare, Loyalty 63.87 131 P P **13 35 14.8 -1.9**
SDPT Sand Point 63.93 38 P P **13 35 14.9 -1.7**
SDPT IAmb IAmb 13 35 31.8
comp=Z,24nm,0.8s
SDPT Sand Point 63.93 38 P P **13 35 15.1 -1.5**
baz=275
GROC Groznyy 63.93 308 *e*P P **13 35 15.9 -1.0**
GROC *e* 13 37 38.3
GROC *e*S S **13 43 47.3 -4.3**
GROC pmax pmax
comp=Z,27nm,0.5s
CAN Canberra 64.38 155 P P **13 35 19.9 +0.1**
CAN pmax pmax
comp=Z,36nm,1.4s
CAN Canberra 64.38 155 P P **13 35 19.9 +0.1**
CAN IAmb IAmb 13 35 48.0
comp=Z,36nm,1.4s
CHNA Chernabura Isl 64.48 39 P P **13 35 19.6 -0.6**
baz=276,SNR=6.6
CNBA Chernabura Isl 64.48 39 P P **13 35 19.3 -1.0**
CNBA IAmb IAmb 13 35 20.9
comp=Z,26nm,0.8s
CHGN Chignik 65.00 37 P P **13 35 22.6 -1.0**
CHGN IAmb IAmb 13 35 44.3
comp=Z,16nm,1.0s
TOO Toolangi 65.16 159 P P **13 35 22.3 -2.5**
TOO pmax pmax
comp=Z,13nm,0.8s
TOO Toolangi 65.16 159 P P **13 35 22.3 -2.5**
TOO IAmb IAmb 13 35 26.0
comp=Z,13nm,0.8s
KBD Kabd 65.30 292 *e*P P **13 35 25.7 -0.4**
ZEI Tsey 65.37 308 *e*P P **13 35 26.8 +0.2**
ZEI pmax pmax
comp=Z,8.0nm,1.0s
MIB Mutribah 65.44 293 *e*P P **13 35 26.9 0.0**
RDF Al-Radifah 65.48 292 *e*P P **13 35 27.5 +0.2**
VRH Novokhopyorsk 65.49 317 *e*P P **13 35 28.6 +1.7**
VRH pmax pmax
comp=Z,60nm,1.1s
KLMR Klimovskoe 65.58 328 *e*P P **13 35 24.0 -3.3**
KLMR pmax pmax
comp=Z,43nm,1.4s
KLMR Klimovskoe 65.58 328 *e*P P **13 35 24.0 -3.3**
KLMR AMP 13 35 34.5
comp=Z,43nm,1.4s
ONI Oni 65.73 308 P P **13 35 32.0 +3.3**
RST Umm Al-Ruwaisa 65.80 293 *e*P P **13 35 28.7 -0.6**
N18K Kilae Creek 65.86 32 P P **13 35 29.2 0.0**
N18K IAmb IAmb 13 35 31.8
comp=Z,18nm,1.1s
N18K Kilae Creek 65.86 32 P P **13 35 29.6 +0.4**
baz=276
KBZ Khabaz 65.92 309 P P **13 35 30.1 +0.3**
comp=Z,8.6nm,0.8s,baz=106,slow=4.4,SNR=12
KBZ Khabaz 65.92 309‖ *e*P P **13 35 30.5 +0.7**
KBZ pmax pmax
comp=Z,10.0nm,0.9s
AKH Akhalkalaki 65.93 306 P P **13 35 34.0 +3.8**
SVW2 Sparrevohn 65.97 32 P P **13 35 30.2 +0.3**
SVW2 IAmb IAmb 13 35 32.3
comp=Z,26nm,0.9s
KIV Kislovodsk 66.03 309 *ce*P P **13 35 31.5 +0.8**
KIV *e* 13 36 00.9
KIV *e* 13 37 56.4
KIV *e*PPP PPP 13 39 29.6
KIV pmax pmax
comp=Z,14nm,0.8s
KIV MLR MLR
comp=Z,178nm,17.0s
L19K White Mountain 66.20 31 P P **13 35 31.8 +0.5**
L19K White Mountain 66.20 31 P P **13 35 31.9 +0.5**
baz=276,SNR=13
IMAR Indian Mountai 66.29 26 P P **13 35 31.7 -0.1**
J20K Nowinta River 66.31 28 P P **13 35 32.4 +0.4**
J20K Nowinta River 66.31 28 P P **13 35 32.4 +0.4**
baz=276,SNR=19
K20K Telida 66.43 29 P P **13 35 33.3 +0.6**
K20K IAmb IAmb 13 35 35.5
comp=Z,28nm,0.9s
K20K Telida 66.43 29 P P **13 35 33.7 +0.9**
baz=276,SNR=15
M19K Big River Lodg 66.45 31 P P **13 35 33.5 +0.6**
M19K IAmb IAmb 13 35 35.6
comp=Z,30nm,0.9s
M19K Big River Lodg 66.45 31 P P **13 35 33.5 +0.6**
baz=277
N19K Bonanza Creek 66.53 32 P P **13 35 34.1 +0.5**
N19K IAmb IAmb 13 35 36.0
comp=Z,30nm,0.9s
N19K Bonanza Creek 66.53 32 P P **13 35 33.7 +0.1**
baz=277,SNR=5.3
CHIR Chirikof Islan 66.61 38 P P **13 35 33.8 -0.2**
baz=278
M20K Styx River 67.04 31 P P **13 35 37.8 +1.0**
M20K IAmb IAmb 13 35 39.4
comp=Z,32nm,0.9s
M20K Styx River 67.04 31 P P **13 35 37.1 +0.3**
baz=278,SNR=11
VORD Divnogorie 67.04 317 *e*P P **13 35 37.9 +1.0**
VORD pmax pmax
comp=Z,10.0nm,1.0s
I21K Tanana 67.11 27 P P **13 35 37.7 +0.6**
I21K IAmb IAmb 13 35 39.7
comp=Z,34nm,0.9s
I21K Tanana 67.11 27 P P **13 35 37.7 +0.6**
baz=277,SNR=21
CHUM Lake Minchumin 67.14 29 P P **13 35 37.5 +0.2**
baz=278,SNR=9.9
Q19K Cape Douglas, 67.21 34 P P **13 35 38.1 +0.2**
Q19K Cape Douglas, 67.21 34 P P **13 35 37.9 0.0**
baz=279
MOS Moscow 67.23 322 *e*P P **13 35 35.9 -2.1**
MOS pmax pmax
comp=Z,46nm,0.8s
MOS MLR MLR
comp=Z,700nm,16.0s
SII Sitkinak Islan 67.29 37 P P **13 35 38.5 +0.1**
baz=279
P19K Oil Pt 67.31 33 P P **13 35 37.9 -0.6**
P19K Oil Pt 67.31 33 P P **13 35 37.5 -1.0**
baz=279
PPLA Purkeypile 67.33 30 P P **13 35 38.5 -0.3**
PPLA Purkeypile 67.33 30 P P **13 35 38.6 -0.1**
baz=276
RSO Redoubt South 67.43 32 P P **13 35 39.2 -0.2**
APA Apatity 67.46 335‖ *i* P P **13 35 25.9 -13**
APA pmax pmax
comp=Z,7.0nm,1.0s
APA MLR MLR
comp=Z,1µm,15.0s
COLD Coldfoot 67.55 25 P P **13 35 40.1 +0.3**
COLD IAmb IAmb 13 35 42.2
comp=Z,23nm,1.4s
COLD Coldfoot 67.55 25 P P **13 35 40.1 +0.3**
baz=278,SNR=6.7
SPCR Spurr Chakacha 67.58 32 P P **13 35 40.2 0.0**
baz=279
TOLK Toolik Lake Re 67.58 23 P P **13 35 40.4 +0.3**
TOLK IAmb IAmb 13 35 44.8
comp=Z,12nm,0.8s
TOLK Toolik Lake Re 67.58 23 P P **13 35 40.3 +0.3**
baz=278
MLY Manley 67.66 27 P P **13 35 40.5 -0.1**
MLY Manley 67.66 27 P P **13 35 41.2 +0.6**
baz=279,SNR=30
OHAK Old Harbor 67.67 36 P P **13 35 40.9 +0.2**
OHAK IAmb IAmb 13 35 41.9
comp=Z,22nm,0.8s
OHAK Old Harbor 67.67 36 P P **13 35 40.4 -0.3**
baz=280
BPAW Bear Paw Mtn. 67.69 28 P P **13 35 41.0 +0.1**
BPAW IAmb IAmb 13 35 42.9
comp=Z,32nm,1.0s
BPAW Bear Paw Mtn. 67.69 28 P P **13 35 40.9 +0.1**
baz=279,SNR=16
SKT Skwentna 67.78 31 P P **13 35 40.9 -0.5**
SKT IAmb IAmb 13 35 42.5
comp=Z,22nm,0.9s
SKT Skwentna 67.78 31 P P **13 35 41.4 0.0**
baz=279,SNR=7.2
OBN Obninsk 67.93 322 *e*P P **13 35 43.1 +0.7**
OBN *e* 13 36 07.5
OBN *e*PPP PPP 13 39 50.9
OBN pmax pmax
comp=Z,50nm,1.7s
OBN MLR MLR
comp=Z,317nm,15.0s
KDAK Kodiak Island 67.95 35 P P **13 35 42.1 -0.4**
KDAK pmax pmax
comp=Z,40nm,0.9s

KDAK **Kodiak Island** 67.95 35 P P 13 35 42.0 -0.4
KDAK **Kodiak Island** 67.95 35 P P 13 35 42.6 +0.2
baz=280
H23K **Yukon River** 68.03 26 P P 13 35 42.6 -0.3
H23K **Yukon River** 68.03 26 P P 13 35 43.3 +0.4
baz=279,SNR=33
SOC **Sochi** 68.21 309 eP P 13 35 40.9 -3.5
SOC ePPP PPP 13 39 48.1
SOC eS S 13 44 40.3 -3.4
SOC MLR MLR
comp=Z,304nm,15.0s
I23K **Minto, Yukon-K** 68.21 27 P P 13 35 44.0 0.0
I23K IAmb IAmb 13 35 46.2
comp=Z,22nm,1.1s
I23K **Minto, Yukon-K** 68.21 27 P P 13 35 43.8 -0.2
baz=280,SNR=12
SUA **Susitna One** 68.23 31 P P 13 35 44.5 +0.1
SUA **Susitna One** 68.23 31 P P 13 35 44.4 +0.1
baz=280,SNR=5.4
CUT **Chulitna** 68.29 30 P P 13 35 44.2 -0.3
CUT **Chulitna** 68.29 30 P P 13 35 44.2 -0.3
baz=280,SNR=6.3
CNPM **China Poot** 68.34 33 P P 13 35 44.3 -0.6
CNPM IAmb IAmb 13 35 47.4
comp=Z,31nm,1.0s
BWN **Browne** 68.34 28 P P 13 35 44.7 -0.1
NEA2 **Nenana** 68.43 28 P P 13 35 44.9 -0.5
NEA2 **Nenana** 68.43 28 P P 13 35 45.2 -0.2
baz=280,SNR=22
BRLK **Bradley Lake** 68.47 33 P P 13 35 44.7 -1.0
BRSE **Bradley Lake S** 68.54 33 P P 13 35 46.6 +0.4
baz=281
MCK **McKinley** 68.65 29 P P 13 35 45.6 -1.2
MCK pmax pmax
comp=Z,38nm,1.0s
MCK **McKinley** 68.65 29 P P 13 35 45.6 -1.2
MCK **McKinley** 68.65 29 P P 13 35 46.9 +0.1
baz=281,SNR=16
H24K **Noodor Dome** 68.70 26 P P 13 35 47.4 +0.3
H24K IAmb IAmb 13 35 49.7
comp=Z,28nm,1.0s
H24K **Noodor Dome** 68.70 26 P P 13 35 47.7 +0.6
baz=281,SNR=14
MDM **Murphy Dome** 68.72 27 P P 13 35 47.3 +0.1
RND **Reindeer** 68.74 29 P P 13 35 47.0 -0.5
RND pmax pmax
comp=Z,91nm,0.8s
RND **Reindeer** 68.74 29 P P 13 35 47.0 -0.5
RC01 **Rabbit Creek A** 68.78 31 P P 13 35 47.5 -0.1
WRH **Wood River Hil** 68.87 28 P P 13 35 48.9 +0.8
WRH IAmb IAmb 13 35 50.6
comp=Z,24nm,0.9s
TCOL **CIGO, UAF Yank** 68.89 27 P P 13 35 48.2 0.0
TCOL IAmb IAmb 13 35 56.7
comp=Z,18nm,0.8s
TCOL **CIGO, UAF Yank** 68.89 27 P P 13 35 48.3 +0.1
baz=281,SNR=8.6
COLA **College** 68.89 27 P P 13 35 48.1 -0.1
COLA pmax pmax
comp=Z,17nm,0.8s
COLA **College** 68.89 27 P P 13 35 48.1 -0.1
COLA IAmb IAmb 13 35 54.4
comp=Z,17nm,0.8s
COLA **College** 68.89 27 P P 13 35 48.8 +0.6
baz=281
MSVF **Nonsavu** 68.93 122 LR LR 14 00 42.3
comp=Z,119nm,19.9s,baz=332,slow=31
CCB **Clear Creek Bu** 68.96 27 P P 13 35 48.1 -0.5
PMR **Palmer** 68.97 31 P P 13 35 47.8 -0.9
PMR pmax pmax
comp=Z,29nm,0.9s
PMR **Palmer** 68.97 31 P P 13 35 47.8 -0.9
PMR IAmb IAmb 13 35 49.6
comp=Z,29nm,0.9s
PMR **Palmer** 68.97 31 P P 13 35 48.5 -0.2
baz=281,SNR=7.4
POKR **Poker Plat Res** 69.02 27 P P 13 35 48.5 -0.5
POKR **Poker Plat Res** 69.02 27 P P 13 35 49.0 -0.1
baz=282,SNR=10
SEW **Seward** 69.11 32 P P 13 35 48.7 -1.0
SEW **Seward** 69.11 32 P P 13 35 49.5 -0.1
baz=282
SML **Sawmill** 69.30 31 P P 13 35 50.3 -0.6
SML pmax pmax
comp=Z,37nm,0.8s
SML **Sawmill** 69.30 31 P P 13 35 50.3 -0.6
SML **Sawmill** 69.30 31 P P 13 35 50.5 -0.4
baz=282,SNR=12
IL31 69.32 27 P P 13 35 49.4 -1.4
ILAR **Eielson Array** 69.32 27 P P 13 35 50.0 -0.9
comp=Z,4.0nm,0.8s,baz=277,slow=6.7,SNR=36
ILAR **Eielson Array** 69.32 27 P P 13 35 49.0 -1.9
ILAR **Eielson Array** 69.32 27 P P 13 35 49.0 -1.9
KNK **Knik Glacier** 69.32 31 P P 13 35 50.9 -0.1
KNK **Knik Glacier** 69.32 31 P P 13 35 50.5 -0.6
baz=282,SNR=12
HDA **Harding Lake** 69.37 28 P P 13 35 50.3 -0.9
HDA IAmb IAmb 13 35 51.8
comp=Z,28nm,1.0s
HDA **Harding Lake** 69.37 28 P P 13 35 50.2 -1.0
baz=282,SNR=14
WAT6 **Susitna Watana** 69.41 30 P P 13 35 50.9 -0.8
baz=282,SNR=8.7
PWL **Port Wells** 69.50 32 P P 13 35 51.6 -0.5
ANN **Anapa** 69.53 311 eP P 13 35 50.9 -1.7
ANN eS S 13 44 56.4 -2.9
ANN pmax pmax
comp=Z,66nm,1.0s
ANN MLR MLR
comp=Z,445nm,15.0s
BMAR **Burnt Mountain** 69.66 24 P P 13 35 53.6 +0.6
PRP **Porcupine Dome** 69.72 26 P P 13 35 52.9 -0.7
baz=283
SCM **Sheep Creek Mo** 69.76 30 P P 13 35 53.6 -0.2
SCM pmax pmax
comp=Z,85nm,0.8s
SCM **Sheep Creek Mo** 69.76 30 P P 13 35 53.6 -0.2
ARCES **ARCESS Array B** 69.93 338 P P 13 35 55.1 +0.5
comp=Z,3.6nm,0.8s,baz=58,slow=7.3,SNR=4.5
ARCES LR LR 14 09 54.0
comp=Z,336nm,18.2s,baz=70,slow=39
GLI **Glacier Island** 70.08 31 P P 13 35 55.0 -0.7
GLI **Glacier Island** 70.08 31 P P 13 35 55.3 -0.4
baz=283,SNR=7.6
M24K **Tolsona, Glenn** 70.22 30 P P 13 35 56.0 -0.6
M24K **Tolsona, Glenn** 70.22 30 P P 13 35 56.6 -0.1
baz=284,SNR=12
PAX **Paxson** 70.34 29 P P 13 35 57.3 -0.1
baz=284
FID **Port Fidalgo** 70.41 31 P P 13 35 57.5 -0.2
RIDG **Independent Ri** 70.42 28 P P 13 35 57.0 -0.8
RIDG **Independent Ri** 70.42 28 P P 13 35 57.7 -0.1
baz=284,SNR=14
HIN **Hinchinbrook I** 70.48 32 P P 13 35 57.0 -1.2
KLU **Klutina** 70.49 31 P P 13 35 57.7 -0.5
KLU IAmb IAmb 13 35 59.4
comp=Z,22nm,0.7s
KLU **Klutina** 70.49 31 P P 13 35 58.1 -0.2
baz=284,SNR=9.1
TAU **Tasmania Unive** 70.59 160 P P 13 35 59.1 +0.3
TAU pmax pmax
comp=Z,29nm,1.3s
TAU **Tasmania Unive** 70.59 160 P P 13 35 59.1 +0.3
TAU IAmb IAmb 13 36 19.6
comp=Z,29nm,1.2s
HARP **HAARP** 70.62 30 P P 13 35 58.9 -0.1
baz=284,SNR=6.5
DIV **Divide** 70.65 31 P P 13 35 59.2 0.0
SCRK **Sand Creek** 70.73 28 P P 13 35 59.2 -0.6
SCRK IAmb IAmb 13 36 00.8
comp=Z,20nm,0.9s
SCRK **Sand Creek** 70.73 28 P P 13 35 59.4 -0.3
baz=285,SNR=16
DOT **Dot Lake** 70.78 28 P P 13 35 59.5 -0.5
DOT IAmb IAmb 13 36 00.9
comp=Z,24nm,1.0s
Q23K **Middleton Isla** 70.79 33 P P 13 35 59.7 -0.3
baz=284
EYAK **Cordova Ski Ar** 70.80 32 P P 13 36 00.0 0.0
EYAK **Cordova Ski Ar** 70.80 32 P P 13 36 00.4 +0.3
baz=285,SNR=5.0
N25K **Chitina, Valde** 71.07 30 P P 13 36 01.8 0.0
N25K IAmb IAmb 13 36 11.3
comp=Z,18nm,0.9s
N25K **Chitina, Valde** 71.07 30 P P 13 36 02.4 +0.6
baz=285,SNR=11
MENT **Mentasta** 71.12 29 P P 13 36 02.1 +0.1
BMRM **Bremner River** 71.24 31 P P 13 36 02.1 -0.7
BMRM **Bremner River** 71.24 31 P P 13 36 02.9 +0.1
baz=285,SNR=9.5
L26K **Log Cabin Wild** 71.26 29 P P 13 36 03.2 +0.3
L26K IAmb IAmb 13 36 04.8
comp=Z,22nm,0.8s
L26K **Log Cabin Wild** 71.26 29 P P 13 36 03.2 +0.3
baz=286,SNR=6.4
GLB **Gilahina Butte** 71.48 30 P P 13 36 03.9 -0.4
GLB IAmb IAmb 13 36 07.8
comp=Z,37nm,0.9s
M26K **Nabesna, AK** 71.59 29 P P 13 36 04.6 -0.3
M26K **Nabesna, AK** 71.59 29 P P 13 36 05.0 +0.1
baz=286,SNR=28
KAIM **Kayak Island** 71.61 32 P P 13 36 05.4 +0.4
KAIM **Kayak Island** 71.61 32 P P 13 36 05.1 +0.1
baz=286
EGAK **Eagle** 71.69 27 P P 13 36 04.5 -0.9
EGAK IAmb IAmb 13 36 06.6
comp=Z,26nm,0.8s
EGAK **Eagle** 71.69 27 P P 13 36 05.1 -0.3
baz=287,SNR=18
VRDI **Verde Repeater** 71.71 31 P P 13 36 04.5 -1.3
VRDI IAmb IAmb 13 36 07.3
comp=Z,31nm,0.9s
BERG **Berg Lake** 71.82 31 P P 13 36 06.5 +0.3
FIA1 **FINESS Array S** 71.86 330 P P 13 36 06.3 -0.2
FIA1 IAmb IAmb 13 36 21.1
comp=Z,20nm,1.1s
MCARA **McCarthy VSAT** 71.86 30 P P 13 36 06.4 -0.1
MCARA IAmb IAmb 13 36 09.5
comp=Z,36nm,0.9s
MCARA **McCarthy VSAT** 71.86 30 P P 13 36 06.0 -0.5
baz=286,SNR=10
FINES **FINESS Array B** 71.86 330 P P 13 36 06.5 0.0
comp=Z,3.4nm,0.7s,baz=55,slow=6.6,SNR=16
FINES LR LR 14 10 34.6
comp=Z,750nm,18.7s,baz=72,slow=38
FINES **FINESS Array B** 71.86 330 P P 13 36 06.3 -0.1
SUCK **Suckling Hills** 71.88 32 P P 13 36 07.3 +0.7
SUCK IAmb IAmb 13 36 17.2
comp=Z,46nm,1.2s
L27K **Beaver Creek,** 71.91 28 P P 13 36 07.4 +0.6
L27K **Beaver Creek,** 71.91 28 P P 13 36 07.3 +0.6
baz=287,SNR=30
BCAR **Beaver Creek A** 71.93 28 P P 13 36 07.8 +0.9
CRQM **Cirque** 71.99 31 P P 13 36 08.4 +1.0
CRQE **Cirque** 72.01 31 P P 13 36 07.5 0.0
baz=287,SNR=6.1
M27K **Edge Creek, AK** 72.10 29 P P 13 36 08.4 +0.4
M27K IAmb IAmb 13 36 10.3
comp=Z,18nm,0.8s
M27K **Edge Creek, AK** 72.10 29 P P 13 36 08.7 +0.6
baz=287,SNR=9.6
BGLC **Bering Glacier** 72.10 32 P P 13 36 08.3 +0.4
baz=287
TGL **Tana Glacier** 72.13 31 P P 13 36 08.4 +0.1
TGL IAmb IAmb 13 36 09.7
comp=Z,32nm,0.9s
ISLE **Juniper Island** 72.41 31 P P 13 36 09.1 -0.8
ISLE IAmb IAmb 13 36 16.1
comp=Z,27nm,1.1s
BARN **Barnard Glacie** 72.59 30 P P 13 36 11.0 -0.1
BARN IAmb IAmb 13 36 13.0
comp=Z,27nm,0.8s
DAWY **Dawson** 72.64 27 P P 13 36 10.8 -0.4
DAWY IAmb IAmb 13 36 12.8
comp=Z,31nm,0.8s
MESA **MESA** 72.72 31 P P 13 36 12.0 +0.1
baz=288
CTG **Chitna Glacier** 72.77 30 P P 13 36 12.4 +0.3
baz=288,SNR=11
CTGM **Chitina Glacie** 72.77 30 P P 13 36 12.4 +0.3
EPYK **Eagle Plains** 72.93 24 P P 13 36 12.2 -0.7
EPYK IAmb IAmb 13 36 17.3
comp=Z,25nm,0.7s
EPYK **Eagle Plains** 72.93 24 P P 13 36 12.7 -0.1
baz=290,SNR=9.9
MNK **Minsk** 72.96 322 *i* P P 13 36 13.1 0.0
MNK *i* 13 36 29.8
MNK *i* 13 38 55.3
MNK *i* PPP PPP 13 40 39.7
MNK *i* S S 13 45 39.3 +0.6
MNK *i* 13 46 19.6
MNK *i* SS SS 13 50 16.3 -2.4
MNK pmax pmax
comp=E,8.0nm,1.0s
MNK pmax pmax
comp=N,31nm,0.9s
MNK pmax pmax
comp=Z,18nm,0.9s
MNK MLR MLR
comp=E,47nm,17.0s
MNK MLR MLR
comp=N,525nm,23.0s
MNK MLR MLR
comp=Z,559nm,20.0s
MNK **Minsk** 72.96 322 *i* P P 13 36 13.2 0.0
comp=E,8.0nm,1.0s
MNK *i* P P 13 36 13.2 0.0
comp=N,31nm,0.9s
MNK *i* P P 13 36 13.2 0.0
comp=Z,18nm,0.9s,baz=73
MNK *i* PcP PcP 13 36 29.8 -0.2
MNK *i* PP PP 13 38 55.3 0.0
MNK *i* PPP PPP 13 40 39.7
MNK *i* S S 13 45 39.4 +0.6
MNK *i* SS SS 13 50 16.4 -2.4
MNK *i* SSS SSS 13 53 41.4
MNK *i* LR LR 14 08 20.1
MNK *i* LRM MLR 14 10 39.7
comp=E,47nm,16.6s
MNK *i* LRM MLR 14 10 45.2
comp=N,525nm,23.1s
MNK *i* LRM MLR 14 10 60.0
comp=Z,559nm,20.2s
LOGN **Logan Glacier** 72.97 31 P P 13 36 13.7 +0.4
LOGN IAmb IAmb 13 36 20.1
comp=Z,36nm,1.0s
TABL **Table Mountain** 73.02 31 P P 13 36 14.0 +0.3
TABL IAmb IAmb 13 36 15.5
comp=Z,24nm,0.9s
AKASG **Malin Array Be** 73.31 318 P P 13 36 15.3 +0.1
comp=Z,0.7nm,0.4s,baz=59,slow=6.0,SNR=9.1
AKASG LR LR 14 12 30.8
comp=Z,159nm,18.7s,baz=135,slow=39
AKASG **Malin Array Be** 73.31 318 *i* P P 13 36 14.6 -0.7
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG **Malin Array Be** 73.31 318 P P 13 36 14.2 -1.1
AKBB **Malin Array Si** 73.31 318 ||*e*P P 13 36 14.6 -0.7
INK **Inuvik** 73.37 22 P P 13 36 14.7 -0.6
INK pmax pmax
comp=Z,20nm,0.8s
INK **Inuvik** 73.37 22 P P 13 36 14.7 -0.6
INK IAmb IAmb 13 36 19.4
comp=Z,20nm,0.8s
INK **Inuvik** 73.37 22 P P 13 36 15.5 +0.2
baz=293
NACGM **Naroch** 73.45 323 *i* P P 13 36 12.4 -3.6
PCA **Pinnacle** 73.55 31 P P 13 36 17.4 +0.7
PINM **Pinnacle** 73.55 31 P P 13 36 16.9 +0.2
baz=289,SNR=7.1
BR131 **Keskin Array S** 73.61 307 ||*e*P P 13 36 17.7 +0.2
BRTR **Keskin Array B** 73.61 307 P P 13 36 18.0 +0.5
comp=Z,3.8nm,0.7s,baz=88,slow=4.3,SNR=9.3
BRTR **Keskin Array B** 73.61 307 P P 13 36 15.8 -1.6
HYT **Haines Junctio** 74.58 30 P P 13 36 22.5 -0.2
HYT IAmb IAmb 13 36 25.0
comp=Z,29nm,1.0s
CSS **Mathiatis** 75.33 302 P P 13 36 26.8 -0.6
CSS IAmb IAmb 13 36 35.3
comp=Z,22nm,0.8s
SUW **Suwalki** 75.73 323 P P 13 36 28.5 -0.8
SUW pmax pmax
comp=Z,35nm,0.8s
SUW **Suwalki** 75.73 323 P P 13 36 28.5 -0.8
SUW IAmb IAmb 13 36 37.9
comp=Z,35nm,0.8s
WHY **Whitehorse** 75.83 30 P P 13 36 30.3 +0.4
WHY IAmb IAmb 13 36 32.0
comp=Z,31nm,0.9s
WHY **Whitehorse** 75.83 30 P P 13 36 30.4 +0.4
baz=294,SNR=11
SKAG **Skagway** 76.11 31 P P 13 36 31.9 +0.6
SKAG IAmb IAmb 13 36 34.2
comp=Z,44nm,1.0s
SKAG **Skagway** 76.11 31 P P 13 36 31.9 +0.6
baz=293,SNR=13
VRI **Vrincioaia** 76.44 314 P P 13 36 35.7 +2.1
LVV **L'vov** 76.74 319 eP P 13 36 33.8 -1.3
BUR08 **Bucovina Ar. S** 76.80 316 P P 13 36 34.5 -1.1
SIT **Sitka** 77.07 33 P P 13 36 37.1 +0.3
baz=294
MLR **Muntele Rosu** 77.09 314 P P 13 36 35.6 -1.7
MLR pmax pmax
comp=Z,9.0nm,0.8s
MLR **Muntele Rosu** 77.09 314 P P 13 36 35.6 -1.7
ELL **Elmali** 77.35 305 P P 13 36 39.1 +0.1
ELL pmax pmax
comp=Z,77nm,1.1s
ELL **Elmali** 77.35 305 P P 13 36 39.1 +0.1
HFS **Hagfors** 77.98 331 P P 13 36 42.4 +0.5
comp=Z,5.7nm,0.8s,baz=74,slow=11,SNR=5.7
NC405 **NORSAR Array S** 78.39 332 P P 13 36 43.0 -1.1
NC405 IAmb IAmb 13 36 59.2
comp=Z,36nm,1.0s
NC303 **NORSAR Array S** 78.48 332 P P 13 36 42.1 -2.5
NC303 IAmb IAmb 13 37 10.2
comp=Z,19nm,1.2s
NB201 **NORSAR Array S** 78.60 332 P P 13 36 43.0 -2.3
NB201 IAmb IAmb 13 36 54.9
comp=Z,38nm,1.1s
NB2 **NORSAR Subarra** 78.64 332 P P 13 36 44.4 -1.1
comp=Z,9.2nm,1.2s,baz=62,slow=5.6
NOA **NORSAR Array B** 78.64 332 P P 13 36 44.7 -0.8
comp=Z,1.7nm,0.6s,baz=62,slow=5.3,SNR=6.4
NOA LR LR 14 14 46.1
comp=Z,835nm,18.2s,baz=55,slow=38
NC204 **NORSAR Array S** 78.71 333 P P 13 36 45.2 -0.8
NC204 IAmb IAmb 13 37 11.8
comp=Z,44nm,1.4s
WRAK **Wrangell Islan** 78.83 33 P P 13 36 47.4 +0.8
baz=296
CRAG **Craig** 78.86 34 P P 13 36 46.6 -0.1
baz=296
DLBC **Dease Lake** 79.03 31 P P 13 36 48.3 +0.6
DLBC IAmb IAmb 13 36 50.2
comp=Z,30nm,1.1s
OJC **Ojcow** 79.11 320 eP P 13 36 48.9 +0.6
NIE **Niedzica** 79.14 319 eP P 13 36 46.6 -1.9
VTS **Vitosha** 79.98 312 P P 13 36 52.0 -1.4
VTS pmax pmax
comp=Z,19nm,1.0s
VTS **Vitosha** 79.98 312 P P 13 36 52.0 -1.4
VTS IAmb IAmb 13 37 02.5
comp=Z,19nm,1.0s
OKC **Ostrava-Krasne** 80.23 320 AMS AMS 14 15 00.0
comp=Z,400nm,15.7s
VYHS **Vyhne** 80.40 319 eP P 13 36 58.0 +2.6
VYHS **Vyhne** 80.40 319 eP P 13 36 58.0 +2.6
MORC **Moravsky Berou** 80.61 320 eP P 13 36 56.4 -0.1
KSP **Ksiaz** 80.86 322 eP P 13 36 57.5 -0.3
KRLC **Kraliky** 80.92 321 AMS AMS 14 15 30.0
comp=Z,400nm,16.5s
JAVC **Velka Javorina** 80.94 320 eP P 13 36 59.3 +1.0
OSTC **Ostas** 81.03 321 AMS AMS 14 17 40.0
comp=Z,400nm,12.3s
DPC **Dobruska-Polom** 81.07 321 eP P 13 37 00.0 +1.1
DPC *e* 13 37 09.6
DPC MLR MLR
comp=Z,400nm,13.1s
DPC **Dobruska-Polom** 81.07 321 eP P 13 37 00.0 +1.1
DPC *ex* x 13 37 09.6
DPC AMS AMS 14 16 20.0
comp=Z,400nm,13.1s
CHVC **Chvalec** 81.11 322 AMS AMS 14 17 30.0
comp=Z,500nm,13.9s
UPC **Upice** 81.17 321 AMS AMS 14 17 50.0
comp=Z,500nm,14.4s
VRAC **Vranov** 81.38 320 P P 13 37 00.6 0.0
comp=Z,2.0nm,0.6s,baz=74,slow=5.2,SNR=4.1
VRAC **Vranov** 81.38 320 eP P 13 36 59.8 -0.8
DIVS **Divibare** 81.53 314 P P 13 37 00.0 -1.5
KRUC **Moravsky** 81.60 320 eP P 13 36 59.9 -1.8
PVCC **Panska Ves** 81.98 322 AMS AMS 14 17 00.0
comp=Z,400nm,16.3s
TREC **Trest** 82.03 321 AMS AMS 14 16 10.0
comp=Z,500nm,17.9s
PRU **Pruhonice** 82.25 321 AMS AMS 14 18 00.0
comp=Z,400nm,18.0s
PRA **Prague** 82.27 322 AMS AMS 14 18 20.0
comp=Z,600nm,24.1s
CLL **Collm** 82.48 323 eP P 13 37 05.0 -1.3
comp=Z,15nm,1.6s
CLL *e*(sP) sP 13 37 15.0 -1.1
CLL **Collm** 82.48 323 eP P 13 37 05.0 -1.3
CLL *e* 13 37 15.0
CLL pmax pmax
comp=Z,15nm,1.6s
CKRC **Cesky Krumlov** 82.94 320 eP P 13 37 11.5 +2.8
CKRC *ex* x 13 37 19.2
YKA **Yellowknife Ar** 83.11 23 P P 13 37 09.4 +0.1
comp=Z,10nm,0.7s,baz=321,slow=4.0,SNR=18
YKA LR LR 14 17 33.7
comp=Z,121nm,18.3s,baz=0.0,slow=38
YKA **Yellowknife Ar** 83.11 23 *i* P P 13 37 09.6 +0.3
YKA pmax pmax
comp=Z,10.0nm,0.7s
YKA **Yellowknife Ar** 83.11 23 P P 13 37 08.5 -0.8
KHC **Kasperske Hory** 83.21 321 eP P 13 37 08.8 -1.4
KHC *e* 13 37 20.6
KHC MLR MLR
comp=Z,400nm,15.8s
KHC **Kasperske Hory** 83.21 321 eP P 13 37 08.8 -1.4
KHC *ex* x 13 37 20.6
KHC AMS AMS 14 17 00.0
comp=Z,400nm,15.8s
GERES **GERESS Array B** 83.28 321 P P 13 37 10.8 +0.2
comp=Z,1.5nm,0.7s,baz=45,slow=4.3,SNR=9.4
GERES LR LR 14 17 30.9
comp=Z,394nm,18.0s,baz=48,slow=38
GERES **GERESS Array B** 83.28 321 P P 13 37 09.4 -1.2
GERES **GERESS Array B** 83.28 321 P P 13 37 09.4 -1.2
NKC **Novy Kostel** 83.31 322 AMS AMS 14 18 00.0
comp=Z,700nm,13.0s
GRF **Grafenberg Arr** 84.27 322 eP P 13 37 15.6 0.0
comp=Z,11nm,1.0s,baz=60,slow=4.8
KMBO **Kilima Mbogo** 85.23 267 P P 13 37 21.9 +0.6
comp=Z,3.7nm,0.7s,baz=75,slow=4.3,SNR=8.6
TIP **Timpagrande** 85.88 311 P P 13 37 22.7 -1.3
TIP IAmb IAmb 13 37 32.6
comp=Z,14nm,1.3s
DAVOX **Davos/Dischmat** 86.54 320 P P 13 37 27.5 +0.3
comp=Z,0.9nm,0.4s,baz=11,slow=5.2,SNR=1.5
NRCA **Norcia** 86.56 316 P P 13 37 25.7 -1.5
NRCA IAmb IAmb 13 37 43.4
comp=Z,13nm,1.0s
LLLB **Lillooet** 87.16 35 P P 13 37 29.6 -0.4
LLLB IAmb IAmb 13 37 38.4
comp=Z,34nm,1.3s
A04D **Lummi Island** 87.80 37 P P 13 37 32.9 0.0
baz=304
VAE **Valguarnera** 88.31 310 LR LR 14 22 48.4
comp=Z,58nm,19.9s,baz=164,slow=39
B05A **Bryant** 88.39 37 P P 13 37 36.1 +0.3
baz=305
D04E **Lakebay** 88.63 38 P P 13 37 36.7 -0.2
baz=304
F04A **Amboy** 89.54 39 P P 13 37 41.5 +0.2
F04A IAmb IAmb 13 37 46.1
comp=Z,23nm,0.9s
EDM **Edmonton** 89.69 29 P P 13 37 41.7 -0.2
EDM pmax pmax
comp=Z,28nm,1.2s
EDM **Edmonton** 89.69 29 P P 13 37 41.7 -0.2
EDM IAmb IAmb 13 37 43.7
comp=Z,28nm,1.2s
I02D **Swisshome** 89.73 41 P P 13 37 41.7 -0.4
baz=304
LTY **Liberty** 89.76 37 P P 13 37 42.1 -0.3
B08A **Colville Reser** 89.83 36 P P 13 37 42.9 +0.3
B08A IAmb IAmb 13 37 45.4
comp=Z,20nm,1.1s
H04D **Lebanon** 90.15 40 P P 13 37 44.0 -0.1
baz=305
J01E **Myrtle Point** 90.20 42 P P 13 37 44.4 0.0
baz=304
I03D **Drain, OR** 90.25 41 P P 13 37 44.3 -0.3

	baz=304						
CASY	**Casey**	**90.28**	**184**	P	**P**	**13 37 43.0**	**-0.9**
K02D	**Willamette Mer**	**90.62**	**42**	P	**P**	**13 37 47.3**	**+0.8**
	baz=304						
E07A	**Sunnyside**	**90.62**	**37**	P	**P**	**13 37 45.2**	**-1.2**
E07A				IAmb	IAmb	13 37 52.1	
	comp=Z,12nm,0.9s						
C09A	**Chrisman Ranch**	**90.73**	**36**	P	**P**	**13 37 46.9**	**+0.1**
C09A				IAmb	IAmb	13 38 02.1	
	comp=Z,14nm,1.1s						
I04A	**Tendick Farm,**	**90.76**	**41**	P	**P**	**13 37 47.9**	**+0.8**
	baz=305						
HAWA	**Hanford**	**90.90**	**37**	P	**P**	**13 37 47.8**	**+0.2**
HAWA				IAmb	IAmb	13 37 50.8	
	comp=Z,11nm,1.1s						
L02E	**Cave Junction**	**90.96**	**42**	P	**P**	**13 37 49.1**	**+1.1**
	baz=304						
NEW	**Newport**	**91.05**	**35**	P	**P**	**13 37 49.2**	**+0.8**
	baz=309						
I05D	**Terrebonne, OR**	**91.08**	**40**	P	**P**	**13 37 49.3**	**+0.7**
	baz=306						
HUMO	**Hull Mountain**	**91.10**	**42**	P	**P**	**13 37 48.1**	**-0.5**
J04D	**Umpqua Nationa**	**91.25**	**41**	P	**P**	**13 37 50.2**	**+0.6**
	baz=305						
L04D	**Klamath Falls**	**91.72**	**42**	P	**P**	**13 37 52.6**	**+0.9**
	baz=305						
YBH	**Yreka Blue Hor**	**91.75**	**42**	P	**P**	**13 37 51.3**	**-0.4**
YBH				pmax	pmax		
	comp=Z,17nm,1.3s						
YBH	**Yreka Blue Hor**	**91.75**	**42**	P	**P**	**13 37 51.3**	**-0.4**
YBH				IAmb	IAmb	13 38 00.2	
	comp=Z,17nm,1.3s						
J05D	**Fort Rock, OR**	**91.75**	**41**	P	**P**	**13 37 52.7**	**+0.9**
	baz=306						
K04D	**Chiloquin, OR**	**91.82**	**41**	P	**P**	**13 37 53.1**	**+0.9**
	baz=305						
M02C	**Callahan**	**91.85**	**43**	P	**P**	**13 37 53.2**	**+1.0**
	baz=304						
M04C	**Macdoel**	**92.25**	**42**	P	**P**	**13 37 54.7**	**+0.6**
	baz=305						
K05A	**Summer Lake**	**92.28**	**41**	P	**P**	**13 37 53.9**	**-0.4**
I07A	**Izee**	**92.30**	**39**	P	**P**	**13 37 54.3**	**0.0**
O02D	**Mt. Diablo Mer**	**92.58**	**44**	P	**P**	**13 37 56.6**	**+1.0**
	baz=304						
KEST	**Kesra**	**92.71**	**311**	P	**P**	**13 37 56.4**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=225,slow=1.4,SNR=3.3						
KEST	**Kesra**	**92.71**	**311**	IAmb	IAmb	13 38 02.3	
	comp=Z,7.2nm,1.1s						
BMO	**Blue Mountains**	**93.08**	**38**	P	**P**	**13 37 57.6**	**-0.3**
BMO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BMO	**Blue Mountains**	**93.08**	**38**	P	**P**	**13 37 57.6**	**-0.3**
MOD	**Modoc Plateau**	**93.12**	**41**	P	**P**	**13 37 58.2**	**0.0**
MOD				IAmb	IAmb	13 38 00.2	
	comp=Z,14nm,1.1s						
O03E	**Paynes Creek**	**93.13**	**43**	P	**P**	**13 37 58.0**	**-0.2**
	baz=305						
FFC	**Flin Flon**	**93.26**	**24**	P	**P**	**13 37 58.0**	**-0.3**
FFC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
FFC	**Flin Flon**	**93.26**	**24**	P	**P**	**13 37 58.0**	**-0.3**
FFC				IAmb	IAmb	13 37 59.7	
	comp=Z,9.2nm,1.0s						
MSO	**Missoula**	**93.63**	**35**	P	**P**	**13 38 00.2**	**-0.1**
	baz=311						
PLID	**Pearl Lake**	**93.65**	**37**	P	**P**	**13 37 59.9**	**-0.8**
BEKR	**Beckworth**	**94.28**	**43**	P	**P**	**13 38 02.8**	**-0.8**
BEKR				IAmb	IAmb	13 38 11.3	
	comp=Z,7.8nm,0.9s						
AFDM	**Forest Hills D**	**94.43**	**44**	P	**P**	**13 38 03.1**	**-1.0**
MFID	**Camas Ranch**	**94.81**	**38**	P	**P**	**13 38 04.8**	**-1.0**
EGMT	**Eagleton**	**94.91**	**32**	P	**P**	**13 38 06.6**	**+0.4**
	baz=314						
PAHR	**Pah Rah Range**	**94.98**	**43**	P	**P**	**13 38 06.6**	**-0.2**
PAHR				IAmb	IAmb	13 38 15.2	
	comp=Z,9.2nm,1.0s						
PNTR	**Pine Nut**	**95.21**	**43**	P	**P**	**13 38 06.7**	**-1.2**
PNTR				IAmb	IAmb	13 38 09.7	
	comp=Z,14nm,1.1s						
CMB	**Columbia Colle**	**95.33**	**44**	P	**P**	**13 38 07.1**	**-1.2**
CMB				pmax	pmax		
	comp=Z,12nm,1.2s						
CMB	**Columbia Colle**	**95.33**	**44**	P	**P**	**13 38 07.1**	**-1.2**
CMB				IAmb	IAmb	13 38 16.5	
	comp=Z,12nm,1.2s						
YERR	**Yerington**	**95.50**	**43**	P	**P**	**13 38 08.8**	**-0.4**
YERR				IAmb	IAmb	13 38 35.3	
	comp=Z,11nm,1.4s						
HLID	**Hailey**	**95.50**	**37**	P	**P**	**13 38 09.5**	**+0.4**
	baz=310						
BOZ	**Bozeman (W)**	**95.64**	**34**	P	**P**	**13 38 10.1**	**+0.4**
	baz=313						
RYN	**Ryan**	**96.16**	**43**	P	**P**	**13 38 11.4**	**-0.8**
RYN				IAmb	IAmb	13 38 20.3	
	comp=Z,4.9nm,0.9s						
LHV	**Little Huntoon**	**96.40**	**43**	P	**P**	**13 38 13.2**	**+0.1**
LHV				IAmb	IAmb	13 38 15.3	
	comp=Z,9.3nm,1.2s						
NVAR	**Mina Array Bea**	**96.42**	**43**	P	**P**	**13 38 14.1**	**+0.7**
	comp=Z,2.3nm,0.9s,baz=280,slow=5.4,SNR=14						
NVAR	**Mina Array Bea**	**96.42**	**43**	P	**P**	**13 38 12.6**	**-0.9**
ISA	**Isabella, Lake**	**97.97**	**45**	P	**P**	**13 38 20.3**	**0.0**
	baz=307						
R11A	**Troy Canyon, C**	**98.15**	**42**	P	**P**	**13 38 21.0**	**-0.2**
	baz=309						
PDAR	**Pinedale Array**	**98.67**	**35**	P	**P**	**13 38 23.5**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=319,slow=3.6,SNR=3.1						
ESDC	**Sonseca Array**	**98.87**	**321**	LR	LR	14 28 15.5	
	comp=Z,108nm,18.1s,baz=325,slow=38						
ULM	**Lac du Bonnet**	**99.08**	**23**	LR	LR	14 26 29.8	
	comp=Z,127nm,18.3s,baz=315,slow=37						
SYO	**Syowa Base**	**109.24**	**202**⇓	*e*Pdiff	**Pdif**	**13 39 12.7**	**+3.3**
SYO	**Syowa Base**	**109.24**	**202**⇑	*e*X	**PKiKP**	**13 43 10.9**	**-2.1**
TORD	**Torodi Ar. Bea**	**110.66**	**295**	PKiKP	**PKiKP**	**13 43 16.1**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=13,slow=3.0,SNR=4.2						
TORD				PP	**PP**	**13 43 54.2**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=63,slow=8.2,SNR=4.4						
TXAR	**Lajitas Array**	**111.51**	**42**	PKiKP	**PKiKP**	**13 43 18.4**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=316,slow=2.5,SNR=2.4						
DBIC	**Dimbokro**	**119.54**	**293**	PKP	**PKPdf**	**13 43 33.5**	**-0.9**
	comp=Z,3.3nm,0.8s,baz=288,slow=3.2,SNR=3.1						
SNAA	**Sanae**	**123.07**	**198**	P	**PKPdf**	**13 43 38.5**	**-1.0**
VNA2	**Neumayer--Watz**	**124.72**	**198**	P	**PKPdf**	**13 43 41.9**	**-0.8**
VNA1	**Neumayer--Stat**	**125.10**	**198**	P	**PKPdf**	**13 43 43.3**	**-0.1**
VNA3	**Neumayer Olymp**	**125.18**	**197**	P	**PKPdf**	**13 43 42.7**	**-0.8**
DBBC	**Dabeiba**	**144.72**	**32**	*e*P	**PKPab**	**13 44 19.9**	**-0.4**
CBOC	**Ciudad Bolivar**	**145.82**	**32**	*e*P	**PKPdf**	**13 44 22.8**	**-0.8**
BARC	**Barichara**	**146.46**	**27**	*e*P	**PKPbc**	**13 44 26.0**	**-0.1**
NORC	**Norcasia**	**146.63**	**31**	*e*P	**PKPab**	**13 44 27.0**	**-0.3**
GUY2C	**Guyana, Caldas**	**146.69**	**32**	*e*P	**PKPdf**	**13 44 25.2**	**-0.3**
RUSC	**La Rusia**	**147.13**	**28**	*e*P	**PKPbc**	**13 44 28.6**	**+0.3**
YOTC	**Yotoco, Valle**	**147.26**	**35**	*e*P	**PKPbc**	**13 44 27.5**	**-0.8**
TOLC	**Tolima**	**147.26**	**32**	*e*P	**PKPab**	**13 44 29.6**	**-0.6**
CHIC	**Chingaza**	**147.97**	**30**	*e*P	**PKPbc**	**13 44 30.1**	**-0.5**
BBAC	**Balboa, Cauca**	**148.41**	**38**	*e*P	**PKPdf**	**13 44 26.0**	**-2.0**
VILC	**Villavicencio,**	**148.45**	**30**	*e*P	**PKPab**	**13 44 34.0**	**-0.6**
LPAZ	**La Paz**	**168.18**	**52**	PKP	**PKPdf**	**13 44 52.0**	**0.0**
	comp=Z,2.1nm,0.9s,baz=56,slow=3.6,SNR=5.5						
LPAZ				PKPab	**PKPab**	**13 45 59.3**	**-0.7**
	comp=Z,2.3nm,0.8s,baz=350,slow=7.4,SNR=4.6						
LPAZ	**La Paz**	**168.18**	**52**	*e*P	**PKPdf**	**13 44 52.0**	**0.0**

REY ***01*** *13:24:44.4, 70°.00N×13°.80W, h10^{km}*
IDC ***01*** *13:24:46.1±1.0, 70°.24N×15°.27W, h0^{km}, mb3.6/6, mb1 3.8/9, mb1mx3.6/54, mbtmp3.7/9, ML3.4/3, Error ellipse: s-maj=25.5km s-min=21.0km az=48.0*
ISC 01 13:24:46.7±0.6**, 70°.17N**±0°.06×**15°.08W**±0°.07**, h10**^{km}**, n32,** σ1^{s}**86**/39**, mb3.6**/6**, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCO	**Scoresbysund**	**2.34**	**281**	*e*P	**Pg**	**13 25 31.0**	**-0.5**
IGRI	**Grimsey**	**3.80**	**198**	P	**Pn**	**13 25 43.9**	**-1.3**
	baz=206						
IGRI				S	**Sn**	**13 26 29.7**	**-0.2**
	baz=206						
ILEI	**Leirhofn**	**3.82**	**189**	P	**Pn**	**13 25 42.9**	**-2.5**
	baz=197						
ILEI				S	**Sn**	**13 26 28.5**	**-1.7**
	baz=197						
IGIL	**Gilhagi**	**4.14**	**187**	P	**Pn**	**13 25 47.3**	**-2.6**
	baz=195						
IGIL				S	**Sn**	**13 26 36.7**	**-1.6**
	baz=195						
IHED	**Heoinshofoi**	**4.19**	**193**	P	**Pn**	**13 25 48.5**	**-2.1**
	baz=200						
IHED				S	**Sn**	**13 26 38.8**	**-0.7**
	baz=200						
IBRE	**Brettingsstaoi**	**4.20**	**196**	P	**Pn**	**13 25 49.4**	**-1.3**
	baz=204						
IDIM	**Dimmadalss**	**4.29**	**190**	P	**Pn**	**13 25 49.7**	**-2.2**
	baz=198						
IDIM				S	**Sn**	**13 26 40.7**	**-1.1**
	baz=198						
ISIG	**Siglufjorour**	**4.30**	**201**	P	**Pn**	**13 25 51.4**	**-0.7**
	baz=209						
IGRA	**Granastaoir**	**4.38**	**194**	P	**Pn**	**13 25 51.6**	**-1.5**
	baz=201						
IGRA				S	**Sn**	**13 26 43.8**	**-0.2**
	baz=201						
ISKI	**Skildingahlsh**	**4.38**	**191**	P	**Pn**	**13 25 51.1**	**-2.1**
	baz=198						
IGHA	**Grjothals**	**4.39**	**189**	P	**Pn**	**13 25 50.9**	**-2.4**
	baz=196						
DBG	**Daneborg**	**4.44**	**342**	*e*	Pn	13 25 46.2	-7.8
	baz=180,slow=10						
DBG				*e*P	**Pn**	**13 25 49.7**	**-4.3**
IHRN	**Hraun**	**4.49**	**207**	P	**Pn**	**13 25 54.6**	**-0.1**
	baz=214						
IHRN				S	**Sn**	**13 26 48.1**	**+1.2**
	baz=214						
IKVO	**Krokottuvotn**	**4.53**	**189**	P	**Pn**	**13 25 53.2**	**-2.0**
	baz=197						
IGRS	**Grimsstaoir**	**4.57**	**185**	P	**Pn**	**13 25 53.3**	**-2.5**
	baz=192						
IREN	**Reynihlio**	**4.60**	**189**	P	**Pn**	**13 25 54.4**	**-1.8**
	baz=196						
IMEL	**Melhnausar**	**4.66**	**188**	P	**Pn**	**13 25 54.8**	**-2.3**
	baz=195						
ISVA	**Svartarkot**	**4.93**	**191**	P	**Pn**	**13 25 59.0**	**-1.7**
	baz=197						
IADA	**Aoalbol**	**5.18**	**182**	P	**Pn**	**13 26 01.8**	**-2.3**
	baz=189						
THOR	**Thorvaldshraun**	**5.30**	**187**	P	**Pn**	**13 26 03.7**	**-2.1**
	baz=194						
BORG	**Borgarnes**	**5.95**	**207**	Pn	**Pn**	**13 26 16.2**	**+1.6**
	1.4nm,0.3s,baz=12,slow=5.4,SNR=7.7						
SUMG	**Summit**	**7.83**	**299**	*e*	**Pn**	**13 26 40.8**	**0.0**
NOR	**Nord**	**11.50**	**359**	*i*	**Pn**	**13 27 28.0**	**-2.6**
SPITS	**Spitsbergen Ar**	**11.54**	**33**	Pn	**Pn**	**13 27 31.1**	**0.0**
	baz=243,slow=13,SNR=16						
FINES	**FINESS Array B**	**18.59**	**97**	P	**Pn**	**13 29 05.7**	**+1.9**
	0.1nm,0.3s,baz=322,slow=12,SNR=4.6						
KLMR	**Klimovskoe**	**23.59**	**86**	*e*	**P**	**13 29 55.5**	**-1.6**
KLMR				AMP		13 30 09.0	
	comp=Z,32nm,1.6s						
GERES	**GERESS Array B**	**25.41**	**132**	P	**P**	**13 30 17.1**	**+3.1**
	comp=Z,0.8nm,0.6s,baz=328,slow=7.2,SNR=6.3						
AKASG	**Malin Array Be**	**28.27**	**110**	P	**P**	**13 30 40.0**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=330,slow=8.6,SNR=1.2						
ILAR	**Eielson Array**	**41.25**	**331**	P	**P**	**13 32 31.9**	**+0.6**
	comp=Z,1.0nm,1.0s,baz=18,slow=6.6,SNR=7.3						
SONM	**Songino Array**	**54.93**	**45**	P	**P**	**13 34 18.2**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=351,slow=7.4,SNR=2.3						
TORD	**Torodi Ar. Bea**	**57.95**	**161**	P	**P**	**13 34 40.0**	**+1.1**
	comp=Z,0.9nm,1.0s,baz=352,slow=5.8,SNR=3.7						
TXAR	**Lajitas Array**	**62.26**	**279**	P	**P**	**13 35 08.6**	**+0.1**
	comp=Z,0.4nm,0.9s,baz=25,slow=6.9,SNR=4.1						

GCMT ***01*** *13:26:28.4±0.2, 70°.31N±0°.02×15°.30W±0°.03, h12^{km}, MW5.0/118, Moment Tensor Solution. s38,c41; s118,c196; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.38±.07; $M_{\theta\theta}$0.37±.08; $M_{\phi\phi}$3.01±.06; $M_{r\theta}$0.18±.33; $M_{\theta\phi}$0.70±.06; $M_{\phi r}$-0.73±.23; Best double couple: $M_0$3.36500×10^{16} NP1:ϕ_s199.00000°, δ40.00000°, λ-82.00000°. NP2:ϕ_s8.00000°, δ51.00000°, λ-97.00000°. Principal axes: T 3.2520, Plg6.0000°, Azm103.0000°; N 0.2260, Plg5.0000°, Azm13.0000°; P -3.4790, Plg82.0000°, Azm240.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
REY ***01*** *13:26:28.6, 69°.91N×14°.01W, h10^{km}*
IDC ***01*** *13:26:28.2±0.6, 70°.24N×15°.28W, h0^{km}, mb4.0/18, mb1 4.1/23, mb1mx4.0/55, mbtmp4.0/23, ML3.2/3, MS4.4/29, Ms1 4.4/29, ms1mx4.2/46, Error ellipse: s-maj=16.4km s-min=12.2km az=12.0*
NEIC ***01*** *13:26:29.4±1.9, 70°.28N±0°.03×15°.4W±0°.2, h10^{km}±1^{km}, mb4.4/65, Error ellipse: s-maj=11.7km s-min=3.1km az=63.0*
DNK ***01*** *13:26:36.2±4.0, 70°.72N×16°.37W, h103^{km}±83^{km}*
ISC 01 13:26:29.1±0.3**, 70°.29N**±0°.04×**15°.17W**±0°.04**, h10**^{km}**, n196,** σ**2^{s}61**/201**, mb4.4**/51**, MS4.3**/35**, 6D, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCO	**Scoresbysund**	**2.30**	**278**	Pn	**Pn**	**13 27 06.2**	**-0.7**
SCO	**Scoresbysund**	**2.30**	**278**	*i* Sg	**Pg**	**13 27 13.4**	**+0.3**
JMIC	**Jan Mayen**	**2.33**	**69**	Pn	Pn	13 26 60.0	-7.4
	baz=154,slow=21,SNR=6.4						
JMIC				Sn	**Sn**	**13 27 27.8**	**-8.2**
	baz=259,slow=6.5,SNR=6.0						
JMIC	**Jan Mayen**	**2.33**	**69**	IAML		13 27 07.0	
	comp=Z,23nm,0.5s						
JMIC	**Jan Mayen**	**2.33**	**69**	*e*P	Pn	13 26 59.9	-7.6
IGRI	**Grimsey**	**3.91**	**197**	P	**Pn**	**13 27 26.5**	**-2.6**
	baz=206						
IGRI				S	**Sn**	**13 28 11.6**	**-3.3**
	baz=206						
ILEI	**Leirhofn**	**3.93**	**188**	P	**Pn**	**13 27 25.4**	**-4.0**
	baz=196						
ILEI				S	**Sn**	**13 28 09.8**	**-5.7**
	baz=196						
IGIL	**Gilhagi**	**4.26**	**187**	P	**Pn**	**13 27 29.7**	**-4.1**
	baz=194						
IGIL				S	**Sn**	**13 28 18.2**	**-5.3**
	baz=194						
IHED	**Heoinshofoi**	**4.30**	**192**	P	**Pn**	**13 27 31.1**	**-3.4**
	baz=199						
IHED				S	**Sn**	**13 28 19.9**	**-4.8**
	baz=199						
IBRE	**Brettingsstaoi**	**4.31**	**195**	P	**Pn**	**13 27 32.0**	**-2.6**
	baz=203						
IBRE				S	**Sn**	**13 28 20.5**	**-4.3**
	baz=203						
DBG	**Daneborg**	**4.32**	**341**	*e*P	**Pn**	**13 27 31.9**	**-2.8**
DBG				*e*S	Sn	13 28 16.6	-8.5
DBG	**Daneborg**	**4.32**	**341**	*i* Sg	**Pn**	**13 27 31.4**	**-3.3**
IDIM	**Dimmadalss**	**4.40**	**189**	P	**Pn**	**13 27 32.2**	**-3.6**
	baz=197						
IDIM				S	**Sn**	**13 28 22.4**	**-4.6**
	baz=197						
ISIG	**Siglufjorour**	**4.41**	**200**	P	**Pn**	**13 27 34.2**	**-1.7**
	baz=208						
ISIG				S	**Sn**	**13 28 24.2**	**-2.9**
	baz=208						
IGRA	**Granastaoir**	**4.49**	**193**	P	**Pn**	**13 27 34.1**	**-2.9**
	baz=200						
IGRA				S	**Sn**	**13 28 25.0**	**-4.1**
	baz=200						
ISKI	**Skildingahlsh**	**4.50**	**190**	P	**Pn**	**13 27 33.9**	**-3.3**
	baz=197						
ISKI				S	**Sn**	**13 28 24.3**	**-5.1**
	baz=197						
IGHA	**Grjothals**	**4.50**	**188**	P	**Pn**	**13 27 33.5**	**-3.7**
	baz=195						
IGHA				S	**Sn**	**13 28 24.5**	**-5.1**
	baz=195						
IHRN	**Hraun**	**4.59**	**206**	P	**Pn**	**13 27 36.9**	**-1.5**
	baz=214						
IHRN				S	**Sn**	**13 28 30.2**	**-1.4**
	baz=214						
IKVO	**Krokottuvotn**	**4.64**	**189**	P	**Pn**	**13 27 35.6**	**-3.6**
	baz=196						
IKVO				S	**Sn**	**13 28 28.4**	**-4.7**
	baz=196						
IGRS	**Grimsstaoir**	**4.69**	**185**	P	**Pn**	**13 27 35.9**	**-3.9**
	baz=192						
IGRS				S	**Sn**	**13 28 29.0**	**-5.2**
	baz=192						
IREN	**Reynihlio**	**4.71**	**189**	P	**Pn**	**13 27 36.9**	**-3.2**
	baz=196						
IREN				S	**Sn**	**13 28 30.2**	**-4.5**
	baz=196						
IMEL	**Melhnausar**	**4.78**	**187**	P	**Pn**	**13 27 37.4**	**-3.6**
	baz=194						
ISVA	**Svartarkot**	**5.04**	**190**	P	**Pn**	**13 27 41.8**	**-2.9**
	baz=197						
ISVA				S	**Sn**	**13 28 39.1**	**-3.8**
	baz=197						
IADA	**Aoalbol**	**5.30**	**182**	P	**Pn**	**13 27 44.4**	**-3.8**
	baz=188						
THOR	**Thorvaldshraun**	**5.41**	**187**	P	**Pn**	**13 27 47.1**	**-2.7**
	baz=193						
IURH	**Urdarhals**	**5.55**	**189**	P	**Pn**	**13 27 48.7**	**-3.0**
	baz=195						
IKRE	**Kreppuhraun**	**5.55**	**185**	P	**Pn**	**13 27 48.0**	**-3.7**
	baz=191						
BORG	**Borgarnes**	**6.04**	**206**	Pn	**Pn**	**13 27 58.5**	**+0.1**
	comp=Z,4.1nm,0.3s,baz=36,slow=6.2,SNR=13						
BORG				Sn	**Sn**	**13 29 08.1**	**+0.6**
	baz=234,slow=19,SNR=0.5						
BORG				LR	LR	13 29 42.8	
	comp=Z,1μm,19.8s,baz=13,slow=32						
BORG	**Borgarnes**	**6.04**	**206**	Pn	**Pn**	**13 27 57.4**	**-1.0**
SUMG	**Summit**	**7.75**	**298**	*i* P	**Pn**	**13 28 20.3**	**-1.8**
SUMG	**Summit**	**7.75**	**298**	Pn	**Pn**	**13 28 20.8**	**-1.3**
SUMG	**Summit**	**7.75**	**298**	*e*	**Pn**	**13 28 21.8**	**-0.3**
HSPB	**Hornsund (broa**	**10.79**	**38**	*e*P	**Pn**	**13 29 03.3**	**-0.5**
KBS	**Kingsbay**	**11.09**	**27**	*i* P	**Pn**	**13 29 08.1**	**+0.7**
KBS	**Kingsbay**	**11.09**	**27**	Pn	**Pn**	**13 29 07.4**	**0.0**
KBS	**Kingsbay**	**11.09**	**27**	*e*P	**Pn**	**13 29 07.5**	**-0.4**
NOR	**Nord**	**11.38**	**359**	*i* P	**Pn**	**13 29 12.4**	**+1.0**
NOR				*e*S	**Sn**	**13 31 10.4**	**-8.0**
SPA0	**Spitsbergen Ar**	**11.45**	**33**	*e*P	**Pn**	**13 29 13.4**	**+0.6**
SPITS	**Spitsbergen Ar**	**11.45**	**33**	Pn	**Pn**	**13 29 13.9**	**+1.6**
	baz=228,slow=13,SNR=32						
SPITS				LR	LR	13 32 32.6	
	comp=Z,1μm,20.3s,baz=225,slow=32						
SPB2	**Spitsbergen Ar**	**11.45**	**33**	Pn	**Pn**	**13 29 13.3**	**+1.0**
DY2G	**Dye2**	**11.99**	**267**	*i* P	**Pn**	**13 29 18.4**	**-1.5**
NEEM	**North Greenlan**	**12.03**	**322**	*i* P	Pn	13 29 15.8	-4.8
SFJD	**Kangerlussuaq**	**13.19**	**273**	LR	LR	13 34 24.3	
	comp=Z,4μm,18.0s,baz=60,slow=36						
ARCES	**ARCESS Array B**	**13.81**	**74**	Pn	**P**	**13 29 51.0**	**-2.1**
	baz=303,slow=12,SNR=1.9						
ARCES				LR	LR	13 34 03.9	
	comp=Z,2μm,19.3s,baz=290,slow=33						
NOA	**NORSAR Array B**	**14.14**	**118**	Pn	**Pn**	**13 29 49.0**	**-0.2**
	comp=Z,0.0nm,0.3s,baz=320,slow=12,SNR=3.5						
NOA				LR	LR	13 34 40.6	
	comp=Z,927nm,20.9s,baz=320,slow=35						
NC602	**NORSAR Array S**	**14.48**	**118**	P	**P**	**13 30 02.6**	**+2.0**
KONO	**Kongsberg**	**14.80**	**124**	P	**P**	**13 30 06.3**	**+2.2**
HFS	**Hagfors**	**15.61**	**116**	Pn	**P**	**13 30 14.2**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=305,slow=5.2,SNR=8.8						
HFS				LR	LR	13 35 25.6	
	comp=Z,1μm,21.3s,baz=316,slow=34						
EKA	**Eskdalemuir Ar**	**15.93**	**154**	Pn	**Pn**	**13 30 13.4**	**+0.5**
	baz=345,slow=12,SNR=4.7						
ESK	**Eskdalemuir**	**15.94**	**154**		**P**	**13 30 16.6**	**-0.1**
LVZ	**Lovozero**	**17.53**	**74**		**P**	**13 30 35.7**	**+1.4**
FIA1	**FINESS Array S**	**18.64**	**98**		**Pn**	**13 30 47.1**	**+0.3**
FINES	**FINESS Array B**	**18.64**	**98**	P	**Pn**	**13 30 47.1**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=325,slow=10.0,SNR=19						
FINES				LR	LR	13 37 08.4	
	comp=Z,2μm,19.7s,baz=319,slow=34						
FINES	**FINESS Array B**	**18.64**	**98**	P	**Pn**	**13 30 46.8**	**0.0**
FRB	**Frobisher Bay**	**21.16**	**279**	LR	LR	13 39 14.0	
	comp=Z,967nm,18.8s,baz=40,slow=36						
BEBN	**Eben Emael**	**21.84**	**143**	*d*P	**P**	**13 31 22.6**	**+1.3**
MEM	**Membach**	**22.09**	**142**	*d*P	**P**	**13 31 25.3**	**+1.3**
BCLA	**Clavier**	**22.12**	**144**	*d*P	**P**	**13 31 24.7**	**+0.4**
BTNL	**Ternell**	**22.14**	**142**	*d*P	**P**	**13 31 26.3**	**+1.8**
DOU	**Dourbes**	**22.29**	**145**	*d*P	**P**	**13 31 27.2**	**+1.0**
PABE	**Paberze**	**22.58**	**111**	P	**P**	**13 31 29.4**	**+0.2**
RES	**Resolute Bay**	**22.64**	**317**	LR	LR	13 40 14.5	
	comp=Z,1μm,18.3s,baz=82,slow=36						
LSH	**Leshukonskoye**	**22.91**	**73**	*e*P	**P**	**13 31 29.5**	**-3.1**
	comp=Z,56nm,1.3s						
WLF	**Walferdange**	**23.02**	**143**	*d*P	**P**	**13 31 32.9**	**-0.9**
CLL	**Collm**	**23.07**	**131**	*e*P	**P**	**13 31 35.0**	**+0.6**
CLL				*e*		13 31 46.0	
CLL				*e*PP	**PnPn**	**13 31 58.0**	**-1.1**
CLL				*e*PPP	PPP	13 32 06.0	
CLL				*e*S	**S**	**13 35 47.0**	**+2.0**
CLL				*e*SSS	SSS	13 36 28.0	
KLMR	**Klimovskoe**	**23.61**	**86**	*e*P	**P**	**13 31 36.7**	**-3.0**
	comp=Z,50nm,1.1s						
KLMR	**Klimovskoe**	**23.61**	**86**	*e*	**P**	**13 31 37.9**	**-1.8**
KLMR				AMP		13 31 42.4	
	comp=Z,98nm,1.9s						
BRG	**Berggiesshubel**	**23.71**	**130**	*e*P	**P**	**13 31 41.3**	**+0.5**
BRG				Amp		13 31 42.7	
	comp=Z,61nm,2.1s						
BRG	**Berggiesshubel**	**23.71**	**130**	P	P	13 31 51.5	+11
BRG				Amp		13 31 52.7	
	comp=Z,27nm,1.8s						
BRG	**Berggiesshubel**	**23.71**	**130**	S	**S**	**13 36 03.0**	**+7.5**
BRG				Amp		13 41 58.0	
	comp=E,0.4nm,18.8s						
BRG				Amp		13 42 03.0	
	comp=N,0.5nm,14.8s						
BRG				Amp		13 42 08.0	
	comp=Z,0.8nm,13.5s						
BRG				Amp		14 18 40.0	
	comp=Z,0.7nm,14.3s						
BRG				Amp		14 18 44.0	
	comp=E,0.4nm,14.2s						
BRG				Amp		14 18 44.0	
	comp=N,0.5nm,15.5s						
NKC	**Novy Kostel**	**23.92**	**133**	*e*P	**P**	**13 31 43.5**	**+0.7**
NKC				AMS	AMS	13 43 10.0	
	comp=N,600nm,13.8s						
GRA1	**Grafenberg Arr**	**24.12**	**135**	P	**P**	**13 31 44.3**	**-0.3**
GRFO	**Grafenberg**	**24.12**	**135**	P	**P**	**13 31 44.6**	**0.0**
PVCC	**Panska Ves**	**24.19**	**129**	*e*P	**P**	**13 31 46.0**	**+0.7**
PVCC				AMS	AMS	13 41 40.0	
	comp=N,700nm,15.4s						
KSP	**Ksiaz**	**24.36**	**127**	*e*P	**P**	**13 31 47.3**	**+0.4**
CHVC	**Chvalec**	**24.53**	**127**	*e*P	**P**	**13 31 47.2**	**-1.2**
CHVC				AMS	AMS	13 41 20.0	
	comp=N,900nm,19.9s						
PRA	**Prague**	**24.57**	**130**	AMS	AMS	13 41 50.0	
	comp=N,800nm,18.2s						
UPC	**Upice**	**24.59**	**127**	*e*P	**P**	**13 31 47.2**	**-1.8**
UPC				*e*S	**S**	**13 36 14.5**	**+4.9**
UPC				AMS	AMS	13 41 30.0	
	comp=N,1μm,19.2s						
OSTC	**Ostas**	**24.60**	**127**	*e*P	**P**	**13 31 48.4**	**-0.7**
OSTC				*e*S	**S**	**13 36 09.1**	**-0.7**
OSTC				AMS	AMS	13 41 20.0	
	comp=N,900nm,20.2s						
PRU	**Pruhonice**	**24.68**	**130**	*e*P	**P**	**13 31 49.7**	**0.0**
PRU				*e*S	**S**	**13 36 19.8**	**+8.9**
PRU				AMS	AMS	13 42 00.0	
	comp=N,800nm,18.1s						
BFO	**Black Forest**	**24.74**	**141**	P	**P**	**13 31 48.8**	**-1.6**
DPC	**Dobruska-Polom**	**24.82**	**127**	*e*P	**P**	**13 31 44.7**	**-6.4**
DPC				*e*S	**S**	**13 36 20.7**	**+7.4**
DPC				AMS	AMS	13 41 30.0	
	comp=N,900nm,17.5s						
KRLC	**Kraliky**	**25.19**	**127**	*e*P	**P**	**13 31 54.6**	**+0.2**
KRLC				*e*S	**S**	**13 36 27.8**	**+8.5**
KRLC				AMS	AMS	13 41 40.0	
	comp=N,800nm,17.9s						
KHC	**Kasperske Hory**	**25.22**	**132**	*e*P	**P**	**13 31 54.7**	**0.0**
KHC				*e*S	**S**	**13 36 22.0**	**+2.3**
KHC				AMS	AMS	13 40 10.0	
	comp=N,600nm,23.8s						
KHC	**Kasperske Hory**	**25.22**	**132**	P	**P**	**13 31 53.8**	**-0.9**
KHC				IAmb	IAmb	13 32 02.6	
	comp=Z,8.9nm,1.3s						
GEC2	**GERESS Array S**	**25.51**	**132**	P	**P**	**13 31 57.9**	**+0.5**
GEC2				IAmb	IAmb	13 32 13.9	
	comp=Z,8.7nm,1.2s						
GERES	**GERESS Array B**	**25.51**	**132**	P	**P**	**13 31 58.5**	**+1.1**
	comp=Z,1.8nm,0.7s,baz=337,slow=8.8,SNR=8.4						
GERES				LR	LR	13 42 19.0	
	comp=Z,476nm,19.6s,baz=338,slow=37						
GERES	**GERESS Array B**	**25.51**	**132**	P	**P**	**13 31 57.9**	**+0.5**
TREC	**Trest**	**25.56**	**129**	AMS	AMS	13 42 10.0	
	comp=Z,900nm,20.3s						
MORC	**Moravsky Berou**	**25.67**	**126**	P	**P**	**13 31 57.7**	**-1.1**
MORC	**Moravsky Berou**	**25.67**	**126**	*e*P	**P**	**13 31 57.6**	**-1.1**
CKRC	**Cesky Krumlov**	**25.69**	**131**	*e*P	**P**	**13 32 00.8**	**+1.9**
CKRC				*e*S	**S**	**13 36 37.3**	**+10**
OKC	**Ostrava-Krasne**	**25.78**	**125**	*e*P	**P**	**13 31 55.9**	**-3.8**
OKC				AMS	AMS	13 41 40.0	
	comp=Z,600nm,18.3s						
VRAC	**Vranov**	**25.84**	**128**	P	**P**	**13 32 00.6**	**+0.3**
	comp=Z,2.3nm,0.5s,baz=312,slow=8.8,SNR=1.6						

VRAC				LR	LR	13 42 35.4	
	comp=Z,924nm,18.3s,baz=336,slow=37						
VRAC	Vranov	25.84	128	eP	P	13 32 02.5	+2.2
OJC	Ojcow	25.90	123	eP	P	13 32 02.6	+1.8
KRUC	Moravsky	26.01	128	eP	P	13 32 03.0	+1.2
DAVOX	Davos/Dischmat	26.55	139	LR	LR	13 42 56.8	
	comp=Z,636nm,19.6s,baz=270,slow=37						
NIE	Niedzica	26.77	123	eP	P	13 32 09.9	+1.2
OBN	Obninsk	27.05	97	LR	LR	13 42 20.4	
	comp=Z,330nm,18.8s,baz=349,slow=35						
SCHQ	Schefferville	27.25	262	P	P	13 32 13.2	+0.3
	comp=Z,4.5nm,0.8s,baz=52,slow=11,SNR=4.3						
SCHQ				LR	LR	13 42 15.0	
	comp=Z,1µm,20.7s,baz=51,slow=35						
SCHQ	Schefferville	27.25	262	P	P	13 32 12.1	-0.9
SCHQ				IAmb	IAmb	13 32 26.5	
	comp=Z,12nm,1.1s						
PSZ	Piszkesteto	28.01	125	P	P	13 32 19.4	-0.4
AKASG	Malin Array Be	28.34	110	P	P	13 32 22.7	+0.1
	comp=Z,0.3nm,0.3s,baz=333,slow=9.1,SNR=2.2						
AKASG				LR	LR	13 43 13.2	
	comp=Z,768nm,20.8s,baz=325,slow=35						
KIRV	Kirov	28.65	81	LR	LR	13 42 59.9	
	comp=Z,1µm,18.1s,baz=313,slow=35						
ESDC	Sonseca Array	31.24	163	LR	LR	13 45 16.9	
	comp=Z,359nm,18.3s,baz=330,slow=36						
NRIK	Noril'sk	31.47	42	P	P	13 32 51.5	+1.3
	comp=Z,1.5nm,0.4s,baz=63,slow=4.5,SNR=3.7						
NRIK				LR	LR	13 47 27.8	
	comp=Z,261nm,18.8s,baz=125,slow=40						
YKA	Yellowknife Ar	36.16	309	P	P	13 33 31.0	0.0
	comp=Z,5.0nm,1.1s,baz=40,slow=8.5,SNR=4.0						
KEST	Kesra	37.05	146	LR	LR	13 48 45.4	
	comp=Z,351nm,18.5s,baz=290,slow=36						
EPYK	Eagle Plains	37.88	326	P	P	13 33 45.8	+0.2
EPYK				IAmb	IAmb	13 34 11.9	
	comp=Z,7.2nm,1.1s						
TOLK	Toolik Lake Re	37.97	335	P	P	13 33 48.1	+1.8
AKTO	Aktyubinsk	38.19	82	P	P	13 33 49.4	+1.0
	comp=Z,1.1nm,0.3s,baz=318,slow=10,SNR=5.3						
FFC	Flin Flon	39.00	293	P	P	13 33 55.5	+0.5
FFC				IAmb	IAmb	13 33 57.7	
	comp=Z,7.6nm,0.9s						
ANTO	Ankara	39.15	115	P	P	13 33 57.7	+1.1
ANTO				IAmb	IAmb	13 33 58.1	
	comp=Z,7.3nm,0.7s						
BRTR	Keskin Array B	39.54	114	LR	LR	13 50 43.1	
	comp=Z,510nm,22.0s,baz=348,slow=37						
BRTR	Keskin Array B	39.54	114	P	P	13 34 00.9	+0.9
ABKAR	Akbulak array	39.85	81	P	P	13 34 03.2	+1.0
EGAK	Eagle	40.13	327	P	P	13 34 05.2	+0.8
EGAK				IAmb	IAmb	13 34 19.6	
	comp=Z,14nm,1.3s						
H24K	Noodor Dome	40.31	332	P	P	13 34 07.7	+1.8
H24K				IAmb	IAmb	13 34 10.9	
	comp=Z,11nm,1.4s						
ULM	Lac du Bonnet	40.85	284	P	P	13 34 10.6	+0.1
	comp=Z,2.2nm,0.7s,baz=22,slow=11,SNR=3.6						
ULM	Lac du Bonnet	40.85	284	IAmb	IAmb	13 34 36.5	
	comp=Z,9.3nm,1.4s						
K27K	Chicken	40.98	328	P	P	13 34 12.5	+1.0
IMAR	Indian Mountai	41.05	336	P	P	13 34 13.7	+1.7
ILAR	Eielson Array	41.14	331	P	P	13 34 14.0	+1.3
	comp=Z,1.3nm,0.9s,baz=12,slow=8.1,SNR=10						
ILAR				LR	LR	13 54 31.3	
	comp=Z,245nm,20.1s,baz=40,slow=41						
ILAR	Eielson Array	41.14	331	P	P	13 34 12.3	-0.4
HDA	Harding Lake	41.48	331	P	P	13 34 17.7	+2.1
MLY	Manley	41.51	333	P	P	13 34 17.9	+2.1
MLY				IAmb	IAmb	13 34 20.6	
	comp=Z,9.8nm,1.4s						
DOT	Dot Lake	41.69	329	P	P	13 34 18.8	+1.5
DOT				IAmb	IAmb	13 34 34.9	
	comp=Z,9.6nm,1.3s						
KARS	Kars	41.75	104	P	P	13 34 20.2	+2.0
BCAR	Beaver Creek A	41.81	327	P	P	13 34 20.5	+2.2
L27K	Beaver Creek,	41.82	327	P	P	13 34 19.9	+1.5
L27K				IAmb	IAmb	13 34 33.8	
	comp=Z,18nm,1.4s						
BPAW	Bear Paw Mtn.	42.42	333	P	P	13 34 25.4	+2.2
BPAW				IAmb	IAmb	13 34 39.1	
	comp=Z,8.8nm,1.3s						
J20K	Nowinta River	42.81	335	P	P	13 34 29.1	+2.7
J20K				IAmb	IAmb	13 34 43.1	
	comp=Z,13nm,1.5s						
VRDI	Verde Repeater	43.82	327	P	P	13 34 35.0	+0.2
VRDI				IAmb	IAmb	13 34 35.5	
	comp=Z,13nm,1.4s						
SKT	Skwentna	44.50	332	P	P	13 34 40.9	+0.8
SKT				IAmb	IAmb	13 34 41.9	
	comp=Z,9.9nm,1.1s						
KURBB	Kurchatov Arra	44.66	65	P	P	13 34 42.5	+1.1
	comp=Z,0.9nm,0.2s,baz=334,slow=7.4,SNR=6.4						
EGMT	Eagleton	47.23	294	P	P	13 35 02.7	+0.9
KK31	Karatay Array	48.76	76	P	P	13 35 15.2	+1.6
KKAR	Karatay Array	48.76	76	P	P	13 35 15.1	+1.5
KKAR	Karatay Array	48.76	76	P	P	13 35 15.2	+1.6
KKAR				IAmb	IAmb	13 35 16.4	
	comp=Z,12nm,1.4s						
MAKZ	Makanchi	49.10	64	P	P	13 35 17.0	+0.8
MAKZ				IAmb	IAmb	13 35 18.3	
	comp=Z,6.3nm,1.3s						
GCMT	Greycliff	49.20	293	P	P	13 35 16.7	-0.4
MK31	Makanchi Array	49.21	64	P	P	13 35 18.0	+0.9
MK31				IAmb	IAmb	13 35 28.4	
	comp=Z,4.5nm,1.1s						
MKAR	Makanchi Array	49.21	64	P	P	13 35 17.9	+0.9
	comp=Z,2.4nm,0.9s,baz=343,slow=9.2,SNR=2.2						
MKAR	Makanchi Array	49.21	64	P	P	13 35 17.4	+0.4
GEYT	Alibeck	49.23	90	LR	LR	13 57 38.4	
	comp=Z,867nm,19.5s,baz=0.0,slow=38						
V51A	Loudon	49.77	264	P	P	13 35 22.0	+0.6
V51A				IAmb	IAmb	13 35 22.7	
	comp=Z,7.4nm,1.1s						
R40A	Maddies Statio	50.20	273	P	P	13 35 24.1	-0.5
R40A				IAmb	IAmb	13 35 30.1	
	comp=Z,6.6nm,0.9s						
AAK	Ala-Archa	50.48	73	P	P	13 35 27.6	+0.7
	comp=Z,1.1nm,0.4s,baz=20,slow=11,SNR=3.9						
T42A	Van Buren	50.94	272	P	P	13 35 29.0	-1.2
T42A				IAmb	IAmb	13 35 35.8	
	comp=Z,3.7nm,0.8s						
MCMT	McKenzie Canyo	51.05	295	P	P	13 35 31.8	+0.5
S39A	Bolivar	51.10	274	P	P	13 35 31.6	+0.2
S39A				IAmb	IAmb	13 35 38.1	
	comp=Z,7.6nm,1.1s						
MGMO	Mountain Grove	51.23	273	P	P	13 35 31.0	-1.5
BCYI	Bear Canyon	51.69	295	P	P	13 35 34.7	-1.3
KDJ	Kajisay	51.80	71	P	P	13 35 36.5	-0.4
BW06	Boulder Array	51.88	291	P	P	13 35 37.2	-0.3
PD31	Pinedale Array	51.88	291	P	P	13 35 36.7	-0.7
PDAR	Pinedale Array	51.88	291	P	P	13 35 37.6	+0.2
	comp=Z,0.8nm,0.8s,baz=36,slow=6.7,SNR=5.6						
PDAR				LR	LR	13 57 18.2	
	comp=Z,801nm,20.4s,baz=18,slow=36						
PDAR	Pinedale Array	51.88	291	P	P	13 35 36.8	-0.7
U40A	Yellville	52.15	273	P	P	13 35 38.8	-0.5
U40A				IAmb	IAmb	13 35 45.1	
	comp=Z,7.0nm,0.9s						
BMO	Blue Mountains	52.38	299	P	P	13 35 40.4	-0.6
G08A	Pilot Rock	52.47	300	P	P	13 35 40.7	-1.0
HLID	Hailey	52.67	296	P	P	13 35 42.5	-0.8
HLID				IAmb	IAmb	13 35 49.6	
	comp=Z,6.1nm,1.5s						
WMQ	Urumqi	53.53	61	eP	P	13 35 52.5	+3.0
WMQ				LR	LR		
	comp=N,670nm,15.1s						
WMQ				LR	LR		
	comp=Z,400nm,17.1s						
KSH	Kashi	53.77	73	P	P	13 35 55.9	+4.5
KSH				pmax	pmax		
	comp=Z,16nm,2.1s						
MIAR	Mount Ida	54.04	273	P	P	13 35 52.6	-0.6
SONM	Songino Array	54.87	45	P	P	13 36 00.4	+1.1
	comp=Z,1.4nm,0.9s,baz=330,slow=5.6,SNR=4.8						
SONM	Songino Array	54.87	45	P	P	13 35 59.4	+0.2
SONM				IAmb	IAmb	13 36 04.9	
	comp=Z,5.1nm,1.3s						
ULN	Ulaanbaatar	54.99	44	P	P	13 36 01.0	+0.8
DUG	Dugway, Tooele	55.24	292	P	P	13 36 01.5	-0.5
DUG				IAmb	IAmb	13 36 08.9	
	comp=Z,8.9nm,1.4s						
PV22	Blue Mesa, Par	55.47	288	P	P	13 36 03.0	-0.8
PV22				IAmb	IAmb	13 36 30.4	
	comp=Z,6.2nm,1.4s						
SRU	San Rafael Swe	55.50	290	P	P	13 36 03.2	-0.8
SRU				IAmb	IAmb	13 36 10.2	
	comp=Z,4.3nm,1.0s						
PV14	Lion Creek, Pa	55.69	288	P	P	13 36 03.7	-1.8
PV14				IAmb	IAmb	13 36 10.9	
	comp=Z,3.8nm,1.0s						
MVCO	Mesa Verde	56.59	287	P	P	13 36 11.9	+0.1
SPR3	Spring Creek 3	56.81	293	P	P	13 36 14.7	+1.2
YBH	Yreka Blue Hor	56.82	301	LR	LR	14 00 59.2	
	comp=Z,316nm,19.2s,baz=5.0,slow=36						
PSUT	Pine Spring	57.08	293	P	P	13 36 15.8	+0.5
PSUT				IAmb	IAmb	13 36 22.9	
	comp=Z,5.0nm,1.1s						
PKCU	Pink Cliffs	57.59	291	P	P	13 36 18.7	-0.4
R11A	Troy Canyon, C	57.79	294	P	P	13 36 20.2	-0.1
R11A				IAmb	IAmb	13 36 45.8	
	comp=Z,6.4nm,1.4s						
KVN	Kaiserville	57.92	296	P	P	13 36 20.9	-0.3
TORD	Torodi Ar. Bea	58.07	161	P	P	13 36 22.4	+0.2
	comp=Z,1.2nm,0.8s,baz=350,slow=6.5,SNR=6.3						
TORD	Torodi Ar. Bea	58.07	161	IAmb	IAmb	13 36 31.6	
	comp=Z,3.8nm,1.4s						
LCMT	Little Creek M	58.28	291	P	P	13 36 24.2	+0.5
LCMT				IAmb	IAmb	13 36 30.4	
	comp=Z,3.1nm,1.0s						
KLR	Kul'dur	58.40	25	P	P	13 36 25.6	+1.4
	comp=Z,1.0nm,0.6s,baz=0.0,slow=3.0,SNR=2.3						
KLR				LR	LR	14 03 56.9	
	comp=Z,61nm,20.2s,baz=342,slow=38						
RYN	Ryan	58.44	297	P	P	13 36 24.2	-0.6
NVAR	Mina Array Bea	58.55	296	P	P	13 36 26.7	+1.0
	comp=Z,0.2nm,0.5s,baz=47,slow=2.8,SNR=3.7						
NVAR				LR	LR	14 02 22.5	
	comp=Z,923nm,18.0s,baz=8.0,slow=37						
MNTX	Cornudas Mount	60.61	282	P	P	13 36 39.1	-0.5
BANI	BANI	61.39	243	P	P	13 36 45.7	+0.6
TXAR	Lajitas Array	62.21	279	P	P	13 36 51.1	+0.5
	comp=Z,0.4nm,0.7s,baz=41,slow=6.0,SNR=6.7						
TXAR				LR	LR	14 04 04.7	
	comp=Z,851nm,18.8s,baz=0.0,slow=36						
TXAR	Lajitas Array	62.21	279	P	P	13 36 50.0	-0.5
HHC	Hu-ho-hao-te	62.68	43	eP	P	13 36 53.9	+0.3
HHC				pmax	pmax		
	comp=Z,16nm,0.9s						
HHC				pmax	pmax		
	comp=Z,4µm,9.4s						
MAT	Matsushiro	71.73	22	P	P	13 37 51.9	+0.9
MJAR	Matsushiro Arr	71.73	22	P	P	13 37 50.7	-0.3
MJAR				IAmb	IAmb	13 37 55.3	
	comp=Z,5.0nm,1.2s						
LPAZ	La Paz	93.78	230	LR	LR	14 19 11.6	
	comp=Z,26nm,19.5s,baz=334,slow=34						
MATP	Matopo	95.52	139	LR	LR	14 24 24.7	
	comp=Z,159nm,21.2s,baz=3.0,slow=36						
WRA	Warramunga Arr	126.44	36	PKP	PKPdf	13 45 31.8	+0.1
	comp=Z,0.5nm,0.8s,baz=340,slow=1.9,SNR=4.6						

BER 01 13:27:00.1±1.9,**71°.27N**×**8°.86W**,**h10km**,**ML1.3**,
Confirmed Earthquake,Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	Jan Mayen West	0.28	149	eP	Pg	13 27 05.4	-0.2
JNW				eS	Sg	13 27 09.2	-0.1
JNW				IAML		13 27 10.5	
	comp=Z,39nm,0.7s						
JNE	Jan Mayen East	0.33	146	eP	Pg	13 27 05.4	-1.3
JNE				eS	Sg	13 27 10.9	-0.1
JNE				IAML		13 27 12.5	
	comp=Z,52nm,0.4s						
JMI	Jan Mayen	0.34	173	eP	Pg	13 27 06.8	-0.1
JMI				eS	Sg	13 27 11.2	-0.1
JMI				IAML		13 27 11.9	
	comp=Z,24nm,0.9s						

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*NEIC **01** 13:30:49.8±0.8, 19°.18N±0°.08×67°.01W±0°.04, h25km±15km, Error ellipse: s-maj=11.9km s-min=6.0km az=185.0*
*RSPR **01** 13:30:50.2, 19°.29N×67°.00W, h34km±7km, MD3.4/6*
ISC 01 13:30:47.1±1.6,**19°.31N**±0°.08×**66°.93W**±0°.05,**h25km**,**n35**,
σ**0s.69**/37,**7C,Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.85	191	⇑eP	Pn	13 31 04.0	+0.5
AGPR	Aguadilla, PR	0.85	191	eS	Sn	13 31 14.9	-0.3
AGPR	Aguadilla, PR	0.85	191		Pn	13 31 04.0	+0.5
AGPR					Sn	13 31 14.9	-0.3
AGPR	Aguadilla, PR	0.85	191	IAML		13 31 16.7	
	comp=E,610nm,0.4s						
AOPR	Arecibo Observ	0.97	170	⇑eP	Pb	13 31 06.0	+0.7
AOPR	Arecibo Observ	0.97	170	eS	Sn	13 31 18.1	-0.1
AOPR	Arecibo Observ	0.97	170		Pb	13 31 06.0	+0.7
AOPR					Sn	13 31 18.1	-0.1
AOPR	Arecibo Observ	0.97	170	IAML		13 31 27.2	
	comp=N,472nm,0.3s						
CELP	Cerrillos	1.27	165	⇑eP	Pb	13 31 10.9	+0.5
CELP				eS	Sb	13 31 26.1	-0.3
CELP	Cerrillos	1.27	165		Pb	13 31 10.9	+0.5
CELP					Sb	13 31 26.1	-0.3
GCPR	Guaynabo City	1.28	141	Pn	Pb	13 31 11.2	+0.7
OBIP	Obispado Ponce	1.30	166	⇑eP	Pb	13 31 10.3	-0.5
OBIP	Obispado Ponce	1.30	166	eS	Sb	13 31 26.7	-0.4
OBIP	Obispado Ponce	1.30	166		Pb	13 31 10.3	-0.5
OBIP					Sb	13 31 26.7	-0.4
OBIP	Obispado Ponce	1.30	166	IAML		13 31 29.9	
	comp=N,193nm,0.8s						
CRPR	Cabo Rojo, PR	1.30	187	⇑eP	Pb	13 31 10.4	-0.5
CRPR	Cabo Rojo, PR	1.30	187	eS	Sn	13 31 26.0	-0.4
CRPR	Cabo Rojo, PR	1.30	187		Pb	13 31 10.4	-0.5
CRPR					Sn	13 31 26.0	-0.4
CRPR	Cabo Rojo, PR	1.30	187	IAML		13 31 30.4	
	comp=E,256nm,0.4s						
MLPR	Magueyes Islan	1.33	184	⇑eP	Pb	13 31 11.0	-0.5
MLPR	Magueyes Islan	1.33	184	eS	Sn	13 31 26.7	-0.4
MLPR	Magueyes Islan	1.33	184		Pb	13 31 11.0	-0.5
MLPR					Sn	13 31 26.7	-0.4
MLPR	Magueyes Islan	1.33	184	IAML		13 31 33.6	
	comp=E,118nm,0.6s						
MLPR				IAML		13 31 38.2	
	comp=N,102nm,0.3s						
SJG	San Juan	1.40	148	Pn	Pb	13 31 13.2	+0.6
SJG				IAML		13 31 37.6	
	comp=N,103nm,0.3s						
SJG				IAML		13 31 42.2	
	comp=N,90nm,0.4s						
ICMP	Isla Caja de M	1.47	165	Pn	Pb	13 31 13.2	-0.5
ICMP				IAML		13 31 41.1	
	comp=N,145nm,0.6s						
ICMP				IAML		13 31 43.8	
	comp=E,130nm,0.7s						
PDPR	Patillas Dam,	1.55	146		Pb	13 31 15.4	+0.3
PDPR				IAML		13 31 39.9	
	comp=E,226nm,0.1s						
IGPR	InterUniversit	1.55	149	⇑eP	Pb	13 31 14.4	-0.7
HUMP	Col San Antoni	1.55	138	Pn	Pb	13 31 15.4	+0.3
HUMP				IAML		13 31 41.1	
	comp=E,91nm,0.2s						
HUMP				IAML		13 31 46.6	
	comp=N,66nm,0.2s						
PCDR	Punta Cana, DR	1.58	240	Pn	Pb	13 31 14.4	-1.2
PCDR				IAML		13 31 39.2	
	comp=N,165nm,1.3s						
PCDR				IAML		13 31 43.1	
	comp=E,92nm,1.6s						
MTP	Monte Pirata	1.78	132	Pn	Pb	13 31 18.5	-0.6
CUPR	Culebra, Puert	1.85	122	Pn	Pb	13 31 19.7	-0.6
STVI	Saint Thomas	2.10	117	Pn	Pb	13 31 22.9	-1.7
DR12	Loma Pena Alta	2.37	258		Pn	13 31 25.0	+0.5
BANI	BANI	3.37	255	Pn	Pn	13 31 39.2	+1.0
SDDR	Presa de Saban	4.13	266		Pn	13 31 50.4	+1.8

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*AEIC **01** 13:52:42±1.7, 52°.22N±0°.08×170°.46W±0°.08, h26km±4km, Error ellipse: s-maj=12.1km s-min=4.5km az=153.0*
*IDC **01** 13:52:43.9±2.4, 52°.32N×170°.71W, h51km±21km, mb3.9/20, mb1 4.1/22, mb1mx3.8/57, mbtmp4.1/22, ML3.6/2, MS3.6/4, Ms1 3.6/4, ms1mx3.1/40, Error ellipse: s-maj=22.3km s-min=10.6km az=178.0*
*NEIC **01** 13:52:44.7±1.5, 52°.37N±0°.08×170°.54W±0°.08, h50km±5km, mb4.5/197, ML4.2(AEIC), Error ellipse: s-maj=12.9km s-min=5.2km az=155.0*

ISC 01 13:52:43.7±1.1,**52°.32N**±0°.10×**170°.50W**±0°.04,**h50km**±9km,
n465,σ**1s.14**/468,**mb4.4**/109,**MS3.6**/4,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	1.20	56		Pn	13 53 02.8	-1.2
NIKH					Sn	13 53 18.4	-0.7
NIKH	Nikolski High	1.20	56	P	Pn	13 53 02.9	-1.2
	baz=232,SNR=93						
OKSP	Okmok Steeple	1.64	54		Pn	13 53 09.3	-0.8
OKSO	Okmok South	1.76	53		Pn	13 53 11.2	-0.5
OKSO					Sn	13 53 35.0	+2.0
OKWE	Okmok W'ng Wal	1.79	49		Pn	13 53 12.4	+0.2
OKCE	Okmok Cone E	1.80	51		Pn	13 53 12.9	+0.6
OKTU	Okmok Mt. Tuli	1.83	54		Pn	13 53 12.8	0.0
OKNC	Okmok New Cone	1.84	51		Pn	13 53 13.3	+0.5
OKNC					Sn	13 53 38.0	+3.2
OKFG	Magazine Ridge	1.91	54		Pn	13 53 14.0	+0.2
OKFG					Sn	13 53 38.2	+1.6
KOFP	Korovin Flat P	2.21	270		Pn	13 53 18.3	+0.4
KOKL	Mount Kliuchef	2.27	272		Pn	13 53 19.4	+0.7
ATKA	Atka Island	2.27	268		Pn	13 53 18.5	-0.2
ATKA					Sn	13 53 45.4	-0.1
MAPS	Pakushin South	2.61	54		Pn	13 53 23.7	+0.2
MAPS					Sn	13 53 55.4	+1.5
MSW	Makushin Switc	2.75	53		Pn	13 53 26.0	+0.7
MNAT	Makushin Natee	2.78	54		Pn	13 53 26.1	+0.3
MNAT					Sn	13 54 01.6	+3.5
MTBL	Makushin Table	2.83	53		Pn	13 53 27.1	+0.6
UNV	Unalaska Valle	2.85	56		Pn	13 53 26.9	+0.3
UNV					Sn	13 54 03.2	+3.5
UNV	Unalaska Valle	2.85	56	P	Pn	13 53 26.5	-0.2
	baz=237,SNR=36						
AKRB	Akutan Reef Bi	3.22	54		Pn	13 53 33.1	+1.3
AKMO	Akutan Morgan	3.23	55		Pn	13 53 33.3	+1.4
AKBBA	Akutan Broad B	3.27	55		Pn	13 53 34.1	+1.7
AKLV	Akutan Long Va	3.30	54		Pn	13 53 33.7	+0.9
AKGG	Akutan Green G	3.30	53		Pn	13 53 34.0	+1.2
HSB	Akutan Spr's B	3.33	54		Pn	13 53 34.2	+1.0
GSIG	Igitkin Island	3.36	266		Pn	13 53 33.9	+0.3
AKUT	Akutan	3.37	56		Pn	13 53 35.2	+1.4
AKSA	Akutan Strait	3.41	56		Pn	13 53 35.5	+1.2
GSTR	Great Sitkin T	3.43	268		Pn	13 53 35.2	+0.7
GSMY	Great Sitkin M	3.43	268		Pn	13 53 35.2	+0.6
GSTD	Great Sitkin T	3.48	268		Pn	13 53 35.9	+0.5
ADK	Adak	3.84	266		Pn	13 53 40.5	+0.4
WECS	Westdahl Cape	4.08	55		Pn	13 53 44.4	+0.9
KIWB	Kanaga Island	4.13	266		Pn	13 53 45.5	+1.3
KICM	Kanaga Island	4.14	267		Pn	13 53 45.5	+1.1
KIMD	Kanaga Island	4.20	265		Pn	13 53 46.3	+1.2
TAPA	Tanaga Point A	4.54	266		Pn	13 53 51.0	+1.2
TAFP	Tanaga Falls P	4.63	268		Pn	13 53 52.2	+1.1
TASE	Tanaga Southea	4.67	267		Pn	13 53 53.2	+1.5
ISLZ	Isanotski Laza	4.71	57		Pn	13 53 53.3	+1.0
SPIA	Saint Paul Isl	4.87	2		Pn	13 53 55.7	+1.4
SPIA	Saint Paul Isl	4.87	2	P	Pn	13 53 55.2	+1.0
	baz=182						
FALS	False Pass	4.92	56	Pn	Pn	13 53 55.4	+0.4
FALS	False Pass	4.92	56	P	Pn	13 53 55.2	+0.1
	baz=240						
DT1	Dutton Round H	5.62	57		Pn	13 54 05.6	+1.0
CESW	Semis' Southwe	6.14	270		Pn	13 54 13.7	+2.1
AMKA	Amchitka	6.39	266		Pn	13 54 16.5	+1.4
SDPT	Sand Point	6.66	59		Pn	13 54 19.3	+0.4
SDPT	Sand Point	6.66	59	P	Pn	13 54 18.9	0.0
	baz=246,SNR=8.3						
CNBA	Chernabura Isl	6.96	65		Pn	13 54 22.4	-0.6
CHNA	Chernabura Isl	6.97	65	P	Pn	13 54 22.3	-0.8
	baz=252						
CHGN	Chignik	8.11	56	Pn	Pn	13 54 38.8	+0.2
CHGN	Chignik	8.11	56	P	Pn	13 54 38.9	+0.2
	baz=245						
CHIR	Chirikof Islan	9.42	62	Pn	Pn	13 54 55.2	-1.5
SII	Sitkinak Islan	10.40	59	Pn	Pn	13 55 06.6	-3.5
OHAK	Old Harbor	11.08	57	Pn	Pn	13 55 16.2	-3.0
OHAK	Old Harbor	11.08	57	P	Pn	13 55 17.2	-2.0
	baz=250						
O18K	Koktuh Hills	11.38	42		Pn	13 55 23.1	-0.3
O18K	Koktuh Hills	11.38	42	P	Pn	13 55 22.2	-1.2
	baz=235						
GAMB	Gambell	11.51	357	Pn	Pn	13 55 26.8	+1.8
GAMB	Gambell	11.51	357	P	Pn	13 55 25.7	+0.7
	baz=176						
Q19K	Cape Douglas,	11.58	49	Pn	Pn	13 55 26.8	+0.6
Q19K	Cape Douglas,	11.58	49	P	Pn	13 55 24.1	-2.0
	baz=242						
N18K	Kilae Creek	11.61	38	Pn	Pn	13 55 28.5	+2.0
N18K	Kilae Creek	11.61	38	P	Pn	13 55 27.1	+0.6
	baz=230						
KDAK	Kodiak Island	11.62	55	P	Pn	13 55 23.4	-3.3
	0.3nm,0.3s,baz=216,slow=14,SNR=26						
KDAK				S	Sn	13 57 27.7	-7.1
	0.2nm,0.3s,baz=0.0,slow=20,SNR=1.5						
O19K	Port Alsworth	11.94	42	P	Pn	13 55 31.0	+0.1
	baz=235						
SVW2	Sparrevohn	11.99	37	Pn	Pn	13 55 34.1	+2.4
P19K	Oil Pt	12.11	46	P	Pn	13 55 33.2	-0.2
	baz=240						
N19K	Bonanza Creek	12.23	40	Pn	Pn	13 55 32.8	-2.3
N19K	Bonanza Creek	12.23	40	P	Pn	13 55 34.9	-0.2
	baz=233						
ANM	Nome	12.56	10	P	Pn	13 55 40.8	+1.3
	baz=194						
O20K	Slope Mountain	12.59	45	P	Pn	13 55 39.8	-0.2
	baz=239						
RSO	Redoubt South	12.74	43	Pn	Pn	13 55 42.0	-0.1
M19K	Big River Lodg	12.95	36		Pn	13 55 43.6	-1.2
M19K	Big River Lodg	12.95	36	P	Pn	13 55 44.9	+0.1
	baz=229						
CNPM	China Poot	12.96	49	Pn	Pn	13 55 42.8	-2.0
L19K	White Mountain	12.97	34	Pn	Pn	13 55 46.2	+1.1
L19K	White Mountain	12.97	34	P	Pn	13 55 45.5	+0.4
	baz=227,SNR=6.4						
BRLK	Bradley Lake	13.22	48	Pn	Pn	13 55 47.3	-1.2
BRSE	Bradley Lake S	13.28	48	P	Pn	13 55 48.9	-0.3
	baz=244						
TNA	Tin City	13.35	5	P	Pn	13 55 50.6	+0.5
	baz=187						
SPCR	Spurr Chakacha	13.36	41	P	Pn	13 55 51.9	+1.5
	baz=236						
M20K	Styx River	13.40	38	Pn	Pn	13 55 53.9	+2.9
M20K	Styx River	13.40	38	P	Pn	13 55 52.0	+1.0
	baz=232						
L20K	Farewell, AK	13.51	35	P	Pn	13 55 52.6	+0.2
	baz=228						
SEW	Seward	14.02	48	Pn	Pn	13 55 57.4	-1.8
SEW	Seward	14.02	48	P	Pn	13 55 58.8	-0.4
	baz=245						
K20K	Telida	14.05	32	Pn	Pn	13 56 00.3	+0.6
K20K	Telida	14.05	32	P	Pn	13 55 59.3	-0.4
	baz=225,SNR=7.8						
SKT	Skwentna	14.07	39	Pn	Pn	13 55 59.9	-0.2
SKT	Skwentna	14.07	39	P	Pn	13 55 58.9	-1.1
	baz=235						
RC01	Rabbit Creek A	14.33	44	Pn	Pn	13 56 03.2	-0.3
J20K	Nowinta River	14.61	29	Pn	Pn	13 56 07.8	+0.7
J20K	Nowinta River	14.61	29	P	Pn	13 56 08.4	+1.3
	baz=223,SNR=7.6						
CUT	Chulitna	14.80	39	P	Pn	13 56 10.3	+0.7
	baz=236						
PMR	Palmer	14.83	43	P	Pn	13 56 11.9	+1.9
	baz=240						
PWL	Port Wells	14.84	46	Pn	Pn	13 56 07.0	-3.2
CHUM	Lake Minchumin	14.98	32	P	P	13 56 15.1	-1.4
	baz=228						
GHO	Glory Hole Cre	15.01	42	Pn	Pn	13 56 08.6	-3.8
KNK	Knik Glacier	15.03	44	Pn	Pn	13 56 08.1	-4.6
KNK	Knik Glacier	15.03	44	P	Pn	13 56 14.6	+1.9
	baz=242						
Q23K	Middleton Isla	15.24	53	P	Pn	13 56 16.5	+1.1
	baz=252						
SML	Sawmill	15.27	43	Pn	Pn	13 56 13.6	-2.2
SML	Sawmill	15.27	43	P	Pn	13 56 17.1	+1.3
	baz=241						
TRF	Thorofare Moun	15.40	36	P	Pn	13 56 18.2	+0.7
	baz=233						
BPAW	Bear Paw Mtn.	15.56	33	Pn	Pn	13 56 20.6	+1.1
BPAW	Bear Paw Mtn.	15.56	33	P	P	13 56 22.0	-1.0
	baz=230						
RND	Reindeer	15.90	37	Pn	Pn	13 56 24.9	+1.0
I21K	Tanana	15.98	29		P	13 56 29.4	+1.8
I21K	Tanana	15.98	29	P	P	13 56 27.9	+0.3
	baz=225						
MCK	McKinley	16.05	36	P	P	13 56 28.3	-0.1

baz=234
IMAR Indian Mountai 16.08 25 P P 13 56 30.4 +1.7
MLY Manley 16.26 31 P P 13 56 31.6 +0.9
MLY Manley 16.26 31 P P 13 56 31.2 +0.4
baz=228
M24K Tolsona, Glenn 16.31 44 Pn Pn 13 56 30.2 +1.1
M24K IAmb IAmb 13 56 45.7
comp=Z,16nm,0.6s
M24K Tolsona, Glenn 16.31 44 P P 13 56 30.5 -0.8
baz=244
KAIM Kayak Island 16.33 52 P Pn 13 56 30.3 +1.1
baz=253
BMRM Bremner River 16.56 48 Pn Pn 13 56 32.2 0.0
BMRM Bremner River 16.56 48 P Pn 13 56 32.8 +0.5
baz=250
I23K Minto, Yukon-K 16.78 32 P 13 56 36.1 -0.3
I23K Minto, Yukon-K 16.78 32 P P 13 56 37.5 +1.1
baz=230
BERG Berg Lake 16.80 51 P 13 56 36.3 -0.5
BERG IAmb IAmb 13 56 41.5
comp=Z,54nm,1.2s
CCB Clear Creek Bu 16.99 35 Pn 13 56 36.4 -1.1
MDM Murphy Dome 17.03 33 Pn Pn 13 56 37.4 -0.6
GLB Gilahina Butte 17.09 47 Pn Pn 13 56 36.2 -2.5
HDA Harding Lake 17.16 36 P P 13 56 41.6 +0.9
H23K Yukon River 17.16 30 P P 13 56 42.4 +1.7
H23K Yukon River 17.16 30 P P 13 56 42.3 +1.6
baz=228
VRDI Verde Repeater 17.18 48 Pn Pn 13 56 39.4 -0.7
TGL Tana Glacier 17.32 50 Pn Pn 13 56 41.7 0.0
IL31 17.39 35 Pn Pn 13 56 42.3 0.0
ILAR Eielson Array 17.39 35 P P 13 56 43.4 +0.2
comp=Z,0.2nm,0.3s,baz=219,slow=10,SNR=13
ILAR PcP PcP 14 01 21.1 -0.1
comp=Z,0.0nm,0.3s,baz=256,slow=3.3,SNR=6.7
ILAR ScP ScP 14 04 51.9 +0.1
comp=Z,0.0nm,0.3s,baz=274,slow=3.2,SNR=4.9
POKR Poker Plat Res 17.40 34 P P 13 56 45.7 +2.4
baz=233
MCARA McCarthy VSAT 17.42 48 P P 13 56 45.0 +1.4
MCARA McCarthy VSAT 17.42 48 P P 13 56 45.0 +1.4
baz=251
ISLE Juniper Island 17.51 51 Pn Pn 13 56 43.8 -0.3
MESA MESA 17.59 52 P P 13 56 46.5 +0.9
MESA IAmb IAmb 13 57 13.4
comp=Z,55nm,1.4s
MESA MESA 17.59 52 P P 13 56 46.0 +0.4
baz=256
RIDG Independent Ri 17.60 40 P P 13 56 47.4 +1.8
H24K Noodor Dome 17.69 31 P 13 56 47.9 +1.3
H24K Noodor Dome 17.69 31 P P 13 56 48.7 +2.2
baz=231
MENT Mentasta 17.70 43 P 13 56 47.6 +1.0
YAH Yahtse 17.73 52 P P 13 56 48.2 +0.9
M26K Nabesna, AK 17.79 45 P P 13 56 49.0 +1.3
baz=248,SNR=5.4
J25K Salcha River, 17.84 37 P P 13 56 48.5 +0.3
baz=238
DOT Dot Lake 17.87 40 P 13 56 49.3 +0.8
L26K Log Cabin Wild 17.89 43 P P 13 56 49.7 +1.0
baz=245
BARN Barnard Glacie 17.95 50 P P 13 56 51.6 +2.0
COLD Coldfoot 17.96 26 P 13 56 49.8 +0.4
COLD Coldfoot 17.96 26 P P 13 56 50.9 +1.5
baz=223
TABL Table Mountain 18.04 52 Pn 13 56 51.7 +1.0
TABL IAmb IAmb 13 57 14.7
comp=Z,31nm,1.3s
SCRK Sand Creek 18.05 39 P 13 56 50.2 -0.4
SCRK Sand Creek 18.05 39 P Pn 13 56 51.5 +0.9
baz=242
CTG Chitna Glacier 18.08 50 P P 13 56 50.7 -0.2
baz=254
LOGN Logan Glacier 18.20 51 Pn 13 56 53.8 +1.2
M27K Edge Creek, AK 18.26 45 P Pn 13 56 54.4 +1.1
M27K Edge Creek, AK 18.26 45 P Pn 13 56 54.0 +0.7
baz=249
PCA Pinnacle 18.40 53 P Pn 13 56 55.7 +0.9
PCA IAmb IAmb 13 56 58.4
comp=Z,23nm,1.1s
PINM Pinnacle 18.40 53 P P 13 56 54.3 -0.1
baz=258
L27K Beaver Creek, 18.54 43 P Pn 13 56 56.5 0.0
L27K Beaver Creek, 18.54 43 P Pn 13 56 57.0 +0.5
baz=248
BCAR Beaver Creek A 18.56 43 P Pn 13 56 57.1 +0.3
K27K Chicken 18.83 40 P Pn 13 57 01.1 +1.1
K27K Chicken 18.83 40 P P 13 56 58.7 -0.3
baz=244
FYU Fort Yukon 18.99 32 P Pn 13 57 02.5 +0.6
FYU IAmb IAmb 13 57 28.3
comp=Z,32nm,1.4s
TOLK Toolik Lake Re 19.16 23 P P 13 57 02.0 -0.6
baz=222
PEA0B Petropavlovsk- 19.20 285 P P 13 57 03.0 -0.2
PETK Petropavlovsk- 19.20 285 P P 13 57 02.4 -0.8
comp=Z,0.8nm,0.3s,baz=92,slow=12,SNR=19
EGAK Eagle 19.51 39 P P 13 57 06.0 -0.5
EGAK Eagle 19.51 39 P Pn 13 57 07.5 -0.6
baz=244
BMAR Burnt Mountain 19.72 30 P Pn 13 57 09.8 -0.7
HYT Haines Junctio 19.88 52 P Pn 13 57 12.4 -0.2
HYT IAmb IAmb 13 57 15.1
comp=Z,15nm,0.9s
DAWY Dawson 19.93 42 P Pn 13 57 12.5 -0.5
EPYK Eagle Plains 21.86 37 P P 13 57 30.2 -1.5
EPYK IAmb IAmb 13 57 50.4
comp=Z,13nm,1.1s
EPYK Eagle Plains 21.86 37 P P 13 57 32.4 +0.6
baz=246
CRAG Craig 22.07 67 P P 13 57 34.3 +0.2
baz=277
SEY Seymchan 22.19 313 P P 13 57 35.0 -0.3
comp=Z,2.2nm,0.6s,baz=113,slow=11,SNR=3.4
DLBC Dease Lake 23.51 59 P P 13 57 51.1 +2.2
comp=Z,5.9nm,1.0s,baz=289,slow=9.2,SNR=7.4
DLBC Dease Lake 23.51 59 P P 13 57 50.9 +2.0
DLBC IAmb IAmb 13 57 56.5
comp=Z,13nm,1.1s
INK Inuvik 23.77 34 P P 13 57 51.8 +0.7
comp=Z,4.3nm,0.7s,baz=246,slow=10.0,SNR=2.4
INK Inuvik 23.77 34 IAmb IAmb 13 58 08.5
comp=Z,12nm,1.2s
B05A Bryant 30.73 78 P P 13 58 54.3 +0.7
baz=296
E04D Cinebar 31.22 81 P P 13 58 58.2 +0.1
baz=298
J01E Myrtle Point 32.13 88 P P 13 59 06.4 +0.3
baz=303
B08A Colville Reser 32.34 76 P P 13 59 08.9 +1.0
B08A IAmb IAmb 13 59 10.2
comp=Z,5.0nm,0.8s
H04A Detroit Lake 32.39 84 P P 13 59 10.3 +1.9
H04A IAmb IAmb 13 59 11.6
comp=Z,8.7nm,0.8s
G05D Wamic, OR 32.63 83 P P 13 59 10.6 +0.1
baz=300
I04A Tendick Farm, 32.72 86 P P 13 59 11.2 -0.1
baz=302
L02E Cave Junction 32.89 89 P P 13 59 13.6 +0.8
baz=304
I05D Terrebonne, OR 33.09 84 P P 13 59 15.3 +0.8
baz=302
HAWA Hanford 33.14 80 P P 13 59 16.5 +1.6
HAWA IAmb IAmb 13 59 16.9
comp=Z,6.4nm,0.8s
D08A Wollman Farm, 33.19 78 P P 13 59 16.4 +1.1
D08A IAmb IAmb 13 59 17.4
comp=Z,3.8nm,0.7s
J04D Umpqua Nationa 33.20 86 P P 13 59 16.5 +0.8
baz=303
PINE Pine Mountain 33.62 85 P P 13 59 20.4 +1.0
PINE IAmb IAmb 13 59 23.2
comp=Z,15nm,1.4s
YBH Yreka Blue Hor 33.68 89 P P 13 59 22.2 +2.5
comp=Z,1.5nm,0.8s,baz=320,slow=7.9,SNR=5.5
YBH Yreka Blue Hor 33.68 89 IAmb IAmb 13 59 23.1
comp=Z,3.9nm,1.1s
NEW Newport 33.70 75 P P 13 59 20.7 +0.9
comp=Z,7.0nm,0.7s,baz=297,slow=8.0,SNR=17
NEW Newport 33.70 75 P P 13 59 20.8 +0.9
NEW Newport 33.70 75 P P 13 59 20.5 +0.8
baz=297,SNR=7.6
J05D Fort Rock, OR 33.71 86 P P 13 59 21.6 +1.4
baz=303
EDM Edmonton 33.80 65 P P 13 59 21.4 +0.8
G08A Pilot Rock 34.04 81 P P 13 59 23.7 +0.8
G08A IAmb IAmb 13 59 32.7
comp=Z,4.7nm,1.2s
N02D Trinity Center 34.12 90 P P 13 59 24.6 +1.0
baz=306
M04C Macdoel 34.18 88 P P 13 59 25.1 +1.0
baz=305
I07A Izee 34.34 83 P P 13 59 27.2 +1.7
I07A IAmb IAmb 13 59 28.2
comp=Z,7.4nm,0.8s
O02D Mt. Diablo Mer 34.54 91 P P 13 59 28.5 +1.2
baz=307
MOD Modoc Plateau 35.05 87 P P 13 59 33.4 +1.7
MOD IAmb IAmb 13 59 34.6
comp=Z,3.5nm,0.7s
O03E Paynes Creek 35.07 90 P P 13 59 33.4 +1.6
baz=306
BMO Blue Mountains 35.27 81 P P 13 59 34.5 +1.1
BMO IAmb IAmb 13 59 35.7
comp=Z,6.5nm,1.4s
J08A Circle Bar Ran 35.36 83 P P 13 59 35.4 +1.2
JTMT Jette 35.62 74 P P 13 59 37.2 +0.7
JTMT IAmb IAmb 13 59 43.8
comp=Z,4.8nm,1.0s
WVOR Wild Horse Val 35.77 85 P P 13 59 38.8 +1.0
KLR Kul'dur 35.82 289 P P 13 59 36.4 -1.6
comp=Z,0.6nm,0.4s,baz=75,slow=9.8,SNR=2.2
PLID Pearl Lake 35.93 79 P P 13 59 40.5 +1.2
MSO Missoula 36.27 76 P P 13 59 43.5 +1.4
baz=300
PAHR Pah Rah Range 36.91 89 P P 13 59 48.8 +1.2
PAHR IAmb IAmb 13 59 50.1
comp=Z,5.3nm,0.8s
MFID Camas Ranch 36.94 82 P P 13 59 48.9 +1.1
MFID IAmb IAmb 13 59 49.7
comp=Z,4.9nm,0.8s
H11N2 WAKE ISLAND Hy 36.99 217 T T 14 39 24.5
baz=24,slow=76,SNR=26
H11N3 WAKE ISLAND Hy 37.00 217 T T 14 39 24.6
baz=24,slow=76,SNR=32
H11N1 WAKE ISLAND Hy 37.01 217 T T 14 39 17.3
baz=24,slow=76,SNR=23
PNTR Pine Nut 37.16 90 P P 13 59 50.8 +1.0
YERR Yerington 37.44 90 P P 13 59 53.8 +1.7
YERR IAmb IAmb 13 59 54.9
comp=Z,7.2nm,0.8s
HRY Holter Researc 37.59 75 P P 13 59 53.7 +0.5
HLID Hailey 37.71 80 P P 13 59 54.9 +0.4
HLID IAmb IAmb 13 59 56.6
comp=Z,9.3nm,1.5s
HLID PcP 14 02 11.6 +1.1
HLID Hailey 37.71 80 P P 13 59 55.5 +1.1
baz=304,SNR=6.2
BMN Battle Mountai 37.80 87 P P 13 59 56.2 +1.1
BMN IAmb IAmb 14 00 19.1
comp=Z,4.3nm,0.8s
DLMT Dillon 37.83 77 PcP 14 02 11.8 +0.9
BCYI Bear Canyon 37.91 79 P P 13 59 56.6 +0.5
MCMT McKenzie Canyo 37.97 78 P P 13 59 57.0 +0.4
KVN Kaiserville 38.10 89 P P 13 59 59.1 +1.3
KVN IAmb IAmb 14 00 00.1
comp=Z,3.4nm,0.8s
RYN Ryan 38.10 90 P P 13 59 58.9 +1.2
RYN IAmb IAmb 14 00 00.2
comp=Z,5.5nm,0.9s
EGMT Eagleton 38.14 72 P P 13 59 59.0 +1.2
EGMT Eagleton 38.14 72 P P 13 59 58.9 +1.1
baz=300
H11S1 WAKE ISLAND Hy 38.18 216 T T 14 41 06.9
baz=22,slow=76,SNR=300
H11S2 WAKE ISLAND Hy 38.20 216 T T 14 40 56.4
baz=22,slow=76,SNR=209
H11S3 WAKE ISLAND Hy 38.20 217 T T 14 41 03.4
baz=22,slow=76,SNR=155
BOZ Bozeman (W) 38.28 76 P P 13 59 59.5 +0.3
BOZ IAmb IAmb 14 00 00.7
comp=Z,3.9nm,0.8s
BOZ Bozeman (W) 38.28 76 P P 13 59 59.9 +0.7
baz=302
NVAR Mina Array Bea 38.36 90 P P 14 00 01.4 +1.5
comp=Z,3.8nm,0.7s,baz=297,slow=8.1,SNR=27
NVAR PcP PcP 14 02 13.1 +0.4
comp=Z,0.9nm,0.8s,baz=295,slow=2.5,SNR=5.2
NVAR ScP ScP 14 05 57.0 +0.9
comp=Z,0.4nm,0.5s,baz=273,slow=4.0,SNR=5.0
NVAR Mina Array Bea 38.36 90 P P 14 00 00.9 +1.0
MDPB Devils Postpil 38.38 92 P P 14 00 01.8 +1.6
MDPB IAmb IAmb 14 00 03.1
comp=Z,6.4nm,0.8s
NV11 Mina Array Sit 38.45 90 P P 14 00 02.0 +1.4
ELK Elko 38.83 85 P P 14 00 04.8 +0.9
ELK IAmb IAmb 14 00 06.1
comp=Z,4.8nm,0.8s
PAGB Antelope Grade 38.89 95 P P 14 00 05.8 +1.6
YHB Horse Butte 39.00 77 P P 14 00 06.1 +0.8
YHB IAmb IAmb 14 00 07.0
comp=Z,6.1nm,0.9s
MAJO Matsushiro 39.00 267 P P 14 00 04.5 -0.6
MAJO IAmb IAmb 14 00 20.9
comp=Z,6.8nm,0.8s
MAT Matsushiro 39.00 267 P P 14 00 04.6 -0.5
MJAR Matsushiro Arr 39.00 267 P P 14 00 04.7 -0.4
comp=Z,2.3nm,0.7s,baz=44,slow=7.2,SNR=4.9
MJAR PcP PcP 14 02 13.8 -0.7
comp=Z,1.3nm,0.7s,baz=90,slow=3.6,SNR=4.1
MJAR Matsushiro Arr 39.00 267 PcP 14 02 14.3 -0.1
YHH Holmes Hill 39.18 77 P P 14 00 07.6 +0.7
YHH IAmb IAmb 14 00 08.6
comp=Z,6.7nm,0.9s
TPH Tonopah 39.24 90 P P 14 00 08.3 +1.0
TIN Tinemaha, Big 39.27 92 P P 14 00 08.7 +1.2
baz=310
SMMC Simmler 39.32 95 P P 14 00 08.6 +0.8
baz=312
YNR Norris Junctio 39.33 77 P P 14 00 09.5 +1.5
YNR IAmb IAmb 14 00 10.4
comp=Z,6.8nm,0.7s
GCMT Greycliff 39.35 75 P P 14 00 08.9 +0.8
H17A Grant Village 39.56 77 P P 14 00 12.0 +2.0
H17A IAmb IAmb 14 00 13.3
comp=Z,12nm,1.4s
H17A Grant Village 39.56 77 P P 14 00 11.4 +1.4
baz=303
IMW Indian Meadow 39.62 78 P P 14 00 11.5 +1.0
IMW IAmb IAmb 14 00 12.8
comp=Z,5.0nm,0.9s
PKM Mcpherson Peak 39.72 96 P P 14 00 13.0 +1.7
baz=312
HVU Hansel Valley 39.72 82 P P 14 00 12.2 +0.9
HVU IAmb IAmb 14 00 13.3
comp=Z,6.5nm,0.8s
CWC Cottonwood Cre 39.76 92 P P 14 00 13.3 +1.7
baz=310
MOOW Moose Ponds 39.82 78 P P 14 00 12.8 +0.7
GRAC Grapevine Rang 39.84 91 P P 14 00 13.6 +1.5
baz=310
RLMT Red Lodge 39.95 75 P P 14 00 14.2 +1.1
RLMT IAmb IAmb 14 00 15.2
comp=Z,11nm,1.2s
RLMT Red Lodge 39.95 75 P P 14 00 14.3 +1.2
baz=303
LOHW Long Hollow 39.98 78 P P 14 00 13.2 -0.3
ISA Isabella, Lake 40.03 94 P P 14 00 14.2 +0.5
ISA IAmb IAmb 14 00 15.5
comp=Z,6.7nm,0.9s
ISA Isabella, Lake 40.03 94 P P 14 00 14.7 +1.0
baz=311,SNR=5.4
BGU Big Grassy Mou 40.07 83 P P 14 00 15.2 +1.1
R11A Troy Canyon, C 40.08 88 P P 14 00 15.3 +1.0
R11A IAmb IAmb 14 00 16.2
comp=Z,4.8nm,0.8s
R11A Troy Canyon, C 40.08 88 P P 14 00 15.3 +1.0
baz=309,SNR=10.0
SPR3 Spring Creek 3 40.44 86 P P 14 00 19.0 +1.6
FURC Furnace Creek, 40.49 91 P P 14 00 19.0 +1.6
baz=310,SNR=8.0
TPNV Topopah Spring 40.55 90 P P 14 00 18.6 +0.4
TPNV IAmb IAmb 14 00 20.5
comp=Z,11nm,0.8s
TPNV Topopah Spring 40.55 90 P P 14 00 19.4 +1.2
baz=310,SNR=16
HWUT Hardware Ranch 40.56 81 P P 14 00 19.1 +0.9
LRMC Laurel Mtn Rad 40.63 93 P P 14 00 20.2 +1.4
baz=311
DUG Dugway, Tooele 40.64 84 P P 14 00 19.8 +0.9
DUG IAmb IAmb 14 00 21.0
comp=Z,11nm,1.1s
DUG Dugway, Tooele 40.64 84 P P 14 00 19.8 +0.9
baz=307,SNR=8.3
EDW2 Edwards Air Fo 40.84 94 P P 14 00 21.8 +1.4
baz=312
LAO LASA Array 40.89 71 P P 14 00 21.7 +1.0
LAO IAmb IAmb 14 00 45.0
comp=Z,4.4nm,0.7s
LAO LASA Array 40.89 71 P P 14 00 21.8 +1.2
baz=302
TCUT Toone Canyon 40.94 82 P P 14 00 22.3 +0.8
TCUT IAmb IAmb 14 00 23.4
comp=Z,6.3nm,0.7s
CTU Camp Tracy 40.99 82 P P 14 00 22.1 +0.4
CTU IAmb IAmb 14 00 23.4
comp=Z,5.0nm,0.8s
PRN Pahroc Range 41.00 89 P P 14 00 23.1 +1.3
PRN IAmb IAmb 14 00 24.2
comp=Z,13nm,0.9s
PSUT Pine Spring 41.02 86 P P 14 00 22.7 +0.7
PSUT IAmb IAmb 14 00 24.1
comp=Z,7.3nm,1.0s
BW06 Boulder Array 41.09 78 P P 14 00 22.9 +0.2
BW06 IAmb IAmb 14 00 24.3
comp=Z,7.7nm,0.9s
BW06 Boulder Array 41.09 78 P P 14 00 23.3 +0.7
baz=305,SNR=11
PD31 Pinedale Array 41.09 78 P P 14 00 23.1 +0.4
PD31 IAmb IAmb 14 00 24.3
comp=Z,6.9nm,0.9s
PDAR Pinedale Array 41.09 78 P P 14 00 23.3 +0.7
comp=Z,4.6nm,0.7s,baz=306,slow=5.1,SNR=40
PDAR PcP PcP 14 02 20.9 -0.5
comp=Z,0.3nm,0.4s,baz=207,slow=0.2,SNR=2.0
PDAR Pinedale Array 41.09 78 P P 14 00 22.7 0.0
JLU Jordanelle 41.23 82 P P 14 00 24.6 +0.8
NLU North Lily Min 41.23 83 P P 14 00 24.3 +0.5
NLU IAmb IAmb 14 00 25.8
comp=Z,5.9nm,0.9s
GSC Goldstone, Bar 41.29 93 P P 14 00 25.2 +1.0
GSC Goldstone, Bar 41.29 93 P P 14 00 25.3 +1.2
baz=311,SNR=13
MPU Maple Canyon 41.47 83 P P 14 00 26.3 +0.6
MPU IAmb IAmb 14 00 27.6
comp=Z,6.0nm,0.8s
JWT Wachi 41.54 268 P P 14 00 26.7 +0.6
CIS Catalina Islan 41.58 96 P P 14 00 27.8 +1.3
baz=313
TUQ Turquoise Moun 41.74 92 P P 14 00 28.9 +1.0
baz=311
SCI2 San Clemente I 41.78 97 P P 14 00 28.8 +0.7
baz=314
TCRU Three Creeks R 41.84 85 P P 14 00 30.0 +1.2
HEC Hector,Ludlow 41.89 93 P P 14 00 30.7 +1.6
baz=312
BBRC Big Bear Solar 41.91 94 P P 14 00 30.6 +1.3
baz=312
CCUT Cedar City 41.94 87 P P 14 00 30.9 +1.2
MVU Marysvale 42.05 85 P P 14 00 31.7 +1.2
MSU Marysvale 42.06 85 P P 14 00 31.8 +1.2
TMUT Trail Mountain 42.17 84 P P 14 00 32.2 +0.7
TMUT IAmb IAmb 14 00 33.8
comp=Z,10nm,0.8s
MURC Murrieta 42.19 95 P P 14 00 32.6 +1.1
baz=313
GMRC Granite Mounta 42.33 92 P P 14 00 33.8 +1.1
baz=312,SNR=9.5
P17A Butcher Ranch, 42.34 83 P P 14 00 33.8 +1.0
P17A IAmb IAmb 14 00 34.9
comp=Z,6.6nm,0.7s
MTPU Mount Pierson 42.35 86 P P 14 00 34.1 +1.0
MTPU IAmb IAmb 14 00 35.7
comp=Z,7.1nm,1.0s
LCMT Little Creek M 42.36 88 P P 14 00 34.3 +1.3
LCMT IAmb IAmb 14 00 35.4
comp=Z,6.2nm,0.8s
RDMU Red Mountain 42.38 81 P P 14 00 34.2 +1.0
RDMU IAmb IAmb 14 00 35.2
comp=Z,14nm,0.9s
Q16A Castle Valley 42.42 84 P P 14 00 34.8 +1.3
Q16A IAmb IAmb 14 00 35.9
comp=Z,9.7nm,1.0s
KNB Kanab 42.62 87 P P 14 00 36.1 +1.1
PFO Pinyon Flats O 42.63 94 P P 14 00 35.8 +0.7
PFO IAmb IAmb 14 00 37.0
comp=Z,7.1nm,0.9s
PFO Pinyon Flats O 42.63 94 P P 14 00 36.5 +1.3
baz=313
TPFO Pinon Flats 42.64 94 P P 14 00 36.5 +1.3
baz=313
BELC Belle Mtn. Jos 42.65 93 P P 14 00 35.8 +0.5
baz=312,SNR=5.8
PKCU Pink Cliffs 42.66 87 P P 14 00 36.4 +0.9
PKCU IAmb IAmb 14 00 37.6
comp=Z,9.8nm,0.8s
SRU San Rafael Swe 42.70 83 P P 14 00 36.4 +0.7
SRU IAmb IAmb 14 00 38.6
comp=Z,9.4nm,0.7s
109C Camp Elliot, M 42.73 95 P P 14 00 37.3 +1.5
baz=313
K22A Casper 42.98 77 P P 14 00 38.9 +1.0
baz=306
IRM Iron Mountain 43.07 92 P P 14 00 39.8 +1.3
baz=312
BAR Barrett 43.13 95 P P 14 00 40.2 +1.1
BAR IAmb IAmb 14 00 41.2
comp=Z,9.2nm,0.8s
RWWY Rawlins 43.14 78 P P 14 00 39.1 -0.2
RWWY IAmb IAmb 14 00 39.3
comp=Z,8.0nm,1.1s
MONP2 Monument Peak 43.14 95 P P 14 00 40.0 +0.6
baz=313,SNR=5.1
W13A Hualapai Mount 43.21 90 P P 14 00 40.9 +0.9
W13A IAmb IAmb 14 00 42.0
comp=Z,6.7nm,0.8s
BC3 Big Chuckawall 43.22 93 P P 14 00 40.8 +0.9
baz=313
U15A North Rim 43.32 88 P P 14 00 42.0 +1.2
U15A IAmb IAmb 14 00 43.3
comp=Z,9.6nm,0.9s
CBX Cerro Bola 43.39 96 P P 14 00 42.4 +1.1
CBX IAmb IAmb 14 00 43.9
comp=Z,5.2nm,0.7s
O20A White River Ci 43.45 81 P P 14 00 42.4 +0.6
O20A White River Ci 43.45 81 P P 14 00 42.4 +0.6
baz=308,SNR=8.5
IKP In-Ko-Pah, Jac 43.50 95 P P 14 00 43.1 +1.0
baz=314,SNR=7.3
PDMCI Parker Dam,Lak 43.58 91 P P 14 00 44.0 +1.4
baz=312
RSSD Black Hills 43.60 73 P P 14 00 43.1 +0.1
RSSD Black Hills 43.60 73 P P 14 00 42.6 -0.4
baz=305
PV21 Cone Mtn., Par 43.99 83 P P 14 00 46.2 +0.1
PV21 IAmb IAmb 14 00 52.1
comp=Z,5.7nm,0.7s
GLA Glamis 44.01 93 P P 14 00 46.8 +0.6
GLA IAmb IAmb 14 00 48.2
comp=Z,12nm,0.8s
GLA Glamis 44.01 93 P P 14 00 46.6 +0.4
baz=313
PV23 Carpenter Ridg 44.03 83 P P 14 00 46.9 +0.3
PV23 IAmb IAmb 14 00 48.0
comp=Z,7.6nm,0.8s
MDND Maddock 44.05 66 P P 14 00 47.6 +1.3
baz=303
PV14 Lion Creek, Pa 44.08 83 P P 14 00 47.2 +0.4
PV14 IAmb IAmb 14 00 48.2
comp=Z,5.9nm,0.8s
PV22 Blue Mesa, Par 44.12 83 P P 14 00 47.5 +0.3
PV22 IAmb IAmb 14 00 48.5
comp=Z,6.2nm,0.8s
PV20 West Nyswonger 44.13 83 P P 14 00 47.2 0.0
PV20 IAmb IAmb 14 00 48.5
comp=Z,4.4nm,0.8s
PV04 Paradox Valley 44.13 83 P P 14 00 47.5 +0.2
PV19 Morning Glory 44.14 83 P P 14 00 47.8 +0.4
PV19 IAmb IAmb 14 00 48.7
comp=Z,5.1nm,0.8s
PV17 East Wray Mesa 44.17 83 P P 14 00 48.0 +0.4
PV16 Nyswonger Mesa 44.18 83 P P 14 00 48.0 +0.3
PV16 IAmb IAmb 14 00 49.1
comp=Z,7.0nm,0.7s
PV11 David Mesa, Pa 44.21 83 P P 14 00 48.3 +0.4
PV05 Paradox Valley 44.22 84 P P 14 00 48.5 +0.5
PV05 IAmb IAmb 14 00 56.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,5.2nm,0.8s						
PV18	**Skein Mesa, Pa**	**44.23**	**83**	P	**P**	**14 00 48.2**	**+0.2**
PV18				IAmb	IAmb	14 00 49.4	
	comp=Z,11nm,0.8s						
PV12	**Saucer Basin,**	**44.24**	**83**	P	**P**	**14 00 48.5**	**+0.2**
PV12				IAmb	IAmb	14 00 49.7	
	comp=Z,10nm,0.8s						
PV03	**Paradox Valley**	**44.26**	**83**	P	**P**	**14 00 48.7**	**+0.4**
PV03				IAmb	IAmb	14 00 49.7	
	comp=Z,9.2nm,0.7s						
PV07	**Paradox Valley**	**44.26**	**83**	P	**P**	**14 00 48.5**	**+0.1**
PV07				IAmb	IAmb	14 00 49.6	
	comp=Z,5.8nm,0.7s						
PV13	**Radium Mtn., P**	**44.34**	**83**	P	**P**	**14 00 49.4**	**+0.4**
PV02	**Paradox Valley**	**44.35**	**83**	P	**P**	**14 00 49.6**	**+0.5**
N23A	**Red Feather La**	**44.38**	**78**	P	**P**	**14 00 49.8**	**+0.5**
	baz=308						
PV15	**Paradox Valley**	**44.43**	**83**	P	**P**	**14 00 50.0**	**+0.4**
PV15				IAmb	IAmb	14 00 51.0	
	comp=Z,6.7nm,0.9s						
WUAZ	**Wupatki**	**44.48**	**88**	P	**P**	**14 00 51.0**	**+0.9**
WUAZ				IAmb	IAmb	14 00 52.3	
	comp=Z,10nm,0.8s						
WUAZ	**Wupatki**	**44.48**	**88**	P	**P**	**14 00 50.7**	**+0.7**
	baz=311,SNR=7.5						
KSRS	**Korea Array**	**44.72**	**276**	P	**P**	**14 00 51.4**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=46,slow=7.9,SNR=7.0						
ULM	**Lac du Bonnet**	**44.78**	**61**	P	**P**	**14 00 52.2**	**+0.1**
	comp=Z,2.0nm,0.5s,baz=307,slow=10,SNR=2.1						
113A	**Mohawk Valley,**	**44.85**	**93**	P	**P**	**14 00 53.6**	**+0.7**
113A				IAmb	IAmb	14 00 54.5	
	comp=Z,11nm,1.2s						
MVCO	**Mesa Verde**	**45.14**	**84**	P	**P**	**14 00 55.8**	**+0.4**
MVCO				IAmb	IAmb	14 00 56.3	
	comp=Z,3.6nm,0.8s						
MVCO	**Mesa Verde**	**45.14**	**84**	P	**P**	**14 00 55.6**	**+0.3**
	baz=310						
X16A	**Lo Mia Camp, P**	**45.16**	**89**	P	**P**	**14 00 56.7**	**+1.1**
X16A				IAmb	IAmb	14 00 58.1	
	comp=Z,6.6nm,1.0s						
ISCO	**Idaho Springs**	**45.25**	**79**	P	**P**	**14 00 56.5**	**+0.2**
	baz=308						
W18A	**Petrified Fore**	**45.74**	**87**	P	**P**	**14 01 00.7**	**+0.6**
W18A				IAmb	IAmb	14 01 02.3	
	comp=Z,11nm,1.1s						
W18A	**Petrified Fore**	**45.74**	**87**	P	**P**	**14 01 00.7**	**+0.6**
	baz=312,SNR=6.0						
S22A	**4UR Ranch, Cre**	**45.81**	**82**	P	**P**	**14 01 01.9**	**+1.2**
	baz=310						
214A	**Organ Pipe Nat**	**46.00**	**93**	P	**P**	**14 01 02.9**	**+1.0**
	baz=314						
Q24A	**Divide**	**46.05**	**80**	P	**P**	**14 01 03.4**	**+0.8**
	baz=309						
SUSD	**Miller**	**46.37**	**70**	P	**P**	**14 01 04.7**	**0.0**
	baz=306						
SDCO	**Great Sand Dun**	**46.62**	**81**	P	**P**	**14 01 07.9**	**+0.9**
SDCO				IAmb	IAmb	14 01 09.0	
	comp=Z,5.1nm,0.9s						
SDCO	**Great Sand Dun**	**46.62**	**81**	P	**P**	**14 01 07.8**	**+0.8**
	baz=310,SNR=8.1						
TUC	**Tucson**	**47.00**	**91**	P	**P**	**14 01 10.8**	**+0.9**
TUC				IAmb	IAmb	14 01 12.0	
	comp=Z,7.1nm,0.8s						
TUC	**Tucson**	**47.00**	**91**	P	**P**	**14 01 10.6**	**+0.8**
	baz=314						
KSCO	**Kaye Shedlock’**	**47.54**	**78**	P	**P**	**14 01 15.1**	**+1.0**
	baz=310						
T25A	**Trinidad**	**47.67**	**81**	P	**P**	**14 01 16.1**	**+0.9**
T25A	**Trinidad**	**47.67**	**81**	P	**P**	**14 01 15.5**	**+0.3**
	baz=311,SNR=9.2						
ANMO	**Albuquerque**	**47.87**	**85**	P	**P**	**14 01 17.5**	**+0.8**
ANMO	**Albuquerque**	**47.87**	**85**	P	**P**	**14 01 17.4**	**+0.7**
	baz=312						
LENM	**Lemitar**	**48.07**	**86**	P	**P**	**14 01 19.3**	**+1.0**
ECSD	**EROS Data Cent**	**48.14**	**69**	P	**P**	**14 01 17.7**	**-0.8**
ECSD				IAmb	IAmb	14 01 35.4	
	comp=Z,4.7nm,1.1s						
ECSD	**EROS Data Cent**	**48.14**	**69**	P	**P**	**14 01 18.9**	**+0.4**
	baz=308						
BNM	**Barren Site**	**48.30**	**86**	P	**P**	**14 01 20.9**	**+0.8**
EYMN	**Ely**	**48.46**	**62**	P	**P**	**14 01 20.3**	**-0.6**
EYMN				IAmb	IAmb	14 01 21.8	
	comp=Z,5.3nm,0.9s						
EYMN	**Ely**	**48.46**	**62**	P	**P**	**14 01 21.2**	**+0.2**
	baz=306						
F36A	**Milaca**	**48.60**	**65**	P	**P**	**14 01 22.2**	**+0.3**
F36A				IAmb	IAmb	14 01 48.2	
	comp=Z,7.9nm,1.4s						
121A	**Cookes Peak, D**	**48.69**	**88**	P	**P**	**14 01 23.9**	**+0.9**
121A	**Cookes Peak, D**	**48.69**	**88**	P	**P**	**14 01 23.3**	**+0.3**
	baz=313						
N35A	**Tabor**	**50.50**	**72**	P	**P**	**14 01 36.5**	**0.0**
SONM	**Songino Array**	**50.73**	**300**	P	**P**	**14 01 37.5**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=44,slow=8.0,SNR=2.6						
SONM				LR	LR	14 24 45.8	
	comp=Z,77nm,20.3s,baz=290,slow=38						
MNTX	**Cornudas Mount**	**50.73**	**87**	P	**P**	**14 01 39.1**	**+0.7**
MNTX	**Cornudas Mount**	**50.73**	**87**	P	**P**	**14 01 39.2**	**+0.7**
	baz=314,SNR=15						
MSTX	**Muleshoe**	**50.77**	**83**	P	**P**	**14 01 38.6**	**-0.2**
MSTX	**Muleshoe**	**50.77**	**83**	P	**P**	**14 01 38.9**	**+0.1**
	baz=313						
AMTX	**Amarillo**	**50.82**	**81**	P	**P**	**14 01 39.9**	**+0.8**
	baz=312						
P38A	**Dawn**	**52.53**	**71**	P	**P**	**14 01 50.3**	**-1.4**
T35A	**Sooner Cattle**	**52.57**	**76**	P	**P**	**14 01 52.2**	**+0.2**
T35A				IAmb	IAmb	14 01 52.7	
	comp=Z,6.5nm,0.9s						
WMOK	**Wichita Mounta**	**52.67**	**80**	P	**P**	**14 01 53.0**	**+0.1**
WMOK	**Wichita Mounta**	**52.67**	**80**	P	**P**	**14 01 53.0**	**+0.1**
	baz=313,SNR=11						
TX31	**Lajitas Ar. Si**	**53.44**	**88**	P	**P**	**14 01 58.8**	**+0.2**
TX32	**Lajitas Array**	**53.44**	**88**	P	**P**	**14 01 58.8**	**+0.2**
TXAR	**Lajitas Array**	**53.44**	**88**	P	**P**	**14 01 59.3**	**+0.6**
	comp=Z,8.1nm,0.7s,baz=297,slow=5.3,SNR=124						
TXAR				PcP	**PcP**	**14 03 05.9**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=223,slow=1.1,SNR=5.9						
TXAR	**Lajitas Array**	**53.44**	**88**	P	**P**	**14 01 58.8**	**+0.2**
P40A	**Paris**	**53.45**	**71**	P	**P**	**14 01 57.5**	**-1.0**
ABTX	**Abilene, Hawle**	**53.60**	**82**	P	**P**	**14 02 00.1**	**+0.4**
SLBS	**Sierra La Lagu**	**53.70**	**98**	P	**P**	**14 02 01.0**	**+0.4**
LOOK	**Love County**	**54.15**	**79**	P	**P**	**14 02 03.7**	**+0.1**
X37A	**Clayton**	**54.83**	**77**	P	**P**	**14 02 08.7**	**+0.1**
JCT	**Junction City**	**55.00**	**84**	P	**P**	**14 02 09.8**	**-0.1**
	baz=315						
U40A	**Yellville**	**55.11**	**74**	P	**P**	**14 02 09.1**	**-1.5**
U40A				IAmb	IAmb	14 02 09.4	
	comp=Z,2.6nm,0.5s						
U40A	**Yellville**	**55.11**	**74**	P	**P**	**14 02 09.4**	**-1.2**
	baz=313						
W39A	**Magazine**	**55.36**	**76**	P	**P**	**14 02 12.0**	**-0.4**
W39A				IAmb	IAmb	14 02 12.1	
	comp=Z,3.5nm,0.8s						
W39A	**Magazine**	**55.36**	**76**	P	**P**	**14 02 12.3**	**0.0**
	baz=313						
WHTX	**Lake Whitney,**	**55.37**	**81**	P	**P**	**14 02 13.0**	**+0.6**
WHTX	**Lake Whitney,**	**55.37**	**81**	P	**P**	**14 02 13.0**	**+0.6**
	baz=314						
FCAR	**Ozark Folk Cen**	**55.86**	**74**	P	**P**	**14 02 14.6**	**-1.4**
FCAR				IAmb	IAmb	14 02 16.0	
	comp=Z,3.5nm,0.6s						
MIAR	**Mount Ida**	**55.93**	**76**	P	**P**	**14 02 16.2**	**-0.2**
MIAR	**Mount Ida**	**55.93**	**76**	P	**P**	**14 02 16.2**	**-0.2**
	baz=314,SNR=5.5						
SCHQ	**Schefferville**	**55.94**	**43**	P	**P**	**14 02 16.3**	**0.0**
	comp=Z,2.0nm,0.6s,baz=291,slow=8.6,SNR=1.4						
W41B	**Gary Mavity, V**	**56.28**	**75**	P	**P**	**14 02 18.5**	**-0.5**
	baz=314						
X40A	**Basin Creek Fa**	**56.41**	**76**	P	**P**	**14 02 19.4**	**-0.6**
X40A				IAmb	IAmb	14 02 19.8	
	comp=Z,4.7nm,1.1s						
X40A	**Basin Creek Fa**	**56.41**	**76**	P	**P**	**14 02 19.3**	**-0.6**
	baz=314						
833A	**Chaparral WMA,**	**56.78**	**86**	P	**P**	**14 02 23.2**	**+0.6**
	baz=316						
WLAR	**White Oak Lake**	**56.80**	**77**	P	**P**	**14 02 22.6**	**0.0**
N49A	**Columbus Grove**	**56.98**	**64**	P	**P**	**14 02 22.8**	**-1.0**
N49A				IAmb	IAmb	14 02 24.7	
	comp=Z,5.6nm,0.8s						
ARCES	**ARCESS Array B**	**57.89**	**353**	P	**P**	**14 02 29.8**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=6.2,slow=10.0,SNR=1.2						
PLVO	**Plevna**	**57.95**	**57**	P	**P**	**14 02 30.6**	**0.0**
T47A	**Sharon Grove**	**58.03**	**70**	P	**P**	**14 02 30.6**	**-0.7**
WVT	**Waverly**	**58.21**	**71**	P	**P**	**14 02 31.9**	**-0.6**
WVT				IAmb	IAmb	14 02 36.7	
	comp=Z,2.4nm,0.8s						
J54A	**Appleton**	**58.35**	**59**	P	**P**	**14 02 33.0**	**-0.4**
M53A	**WI Miller and**	**58.54**	**62**	P	**P**	**14 02 34.3**	**-0.5**
	baz=314						
Q51A	**Peebles**	**58.75**	**66**	P	**P**	**14 02 36.7**	**+0.4**
M54A	**Oil Creek Stat**	**59.04**	**61**	P	**P**	**14 02 37.7**	**-0.5**
M54A	**Oil Creek Stat**	**59.04**	**61**	P	**P**	**14 02 38.0**	**-0.2**
	baz=314						
TZTN	**Tazewell**	**60.38**	**68**	P	**P**	**14 02 47.2**	**-0.3**
TZTN	**Tazewell**	**60.38**	**68**	P	**P**	**14 02 47.3**	**-0.2**
	baz=315						
SSPA	**Standing Stone**	**60.60**	**61**	P	**P**	**14 02 48.8**	**-0.2**
SSPA	**Standing Stone**	**60.60**	**61**	P	**P**	**14 02 48.9**	**-0.1**
	baz=315						
S54A	**Dingess, Beckl**	**60.74**	**65**	P	**P**	**14 02 50.8**	**+0.7**
TKL	**Tuckaleechee C**	**60.88**	**69**	P	**P**	**14 02 51.3**	**+0.4**
TKL				IAmb	IAmb	14 02 51.9	
	comp=Z,3.4nm,0.8s						
BATG	**Bathurst New B**	**61.71**	**48**	P	**P**	**14 02 56.0**	**-0.4**
T57A	**Hurt**	**62.46**	**65**	P	**P**	**14 03 01.0**	**-0.6**
HODGE	**Hodges**	**62.76**	**69**	P	**P**	**14 03 03.1**	**-0.5**
HODGE				IAmb	IAmb	14 03 04.6	
	comp=Z,6.4nm,1.2s						
MKAR	**Makanchi Array**	**63.33**	**313**	P	**P**	**14 03 07.1**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=54,slow=7.3,SNR=2.2						
LMN	**Caledonia Moun**	**63.35**	**49**	P	**P**	**14 03 07.3**	**0.0**
FINES	**FINESS Array B**	**65.82**	**351**	P	**P**	**14 03 22.5**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=19,slow=8.8,SNR=2.0						
FINES				LR	LR	14 34 09.4	
	comp=Z,48nm,18.1s,baz=60,slow=38						
NC405	**NORSAR Array S**	**66.90**	**359**	P	**P**	**14 03 29.5**	**-0.7**
NB201	**NORSAR Array S**	**66.97**	**359**	P	**P**	**14 03 30.3**	**-0.3**
NOA	**NORSAR Array B**	**66.98**	**359**	P	**P**	**14 03 30.4**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=0.5,slow=6.4,SNR=2.2						
JAY	**Jayapura**	**68.31**	**234**	LR	LR	14 26 39.5	
	comp=Z,30nm,21.9s,baz=16,slow=30						
BOOM	**Boomskoye usch**	**69.52**	**314**	P	**P**	**14 03 49.3**	**+2.3**
ABKAR	**Akbulak array**	**70.11**	**328**	P	**P**	**14 03 50.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**75.95**	**282**	P	**P**	**14 04 25.0**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=34,slow=7.1,SNR=4.4						
AKASG	**Malin Array Be**	**76.00**	**347**	LR	LR	14 39 06.1	
	comp=Z,28nm,21.9s,baz=155,slow=37						
WRA	**Warramunga Arr**	**86.43**	**231**	P	**P**	**14 05 19.3**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=34,slow=7.3,SNR=7.2						
WRA	**Warramunga Arr**	**86.43**	**231**	IAmb	IAmb	14 05 20.7	
	comp=Z,0.5nm,1.4s						
ASAR	**Alice Springs**	**89.83**	**229**	P	**P**	**14 05 36.3**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=30,slow=4.7,SNR=26						
H03N2	**Juan Fernandez**	**116.56**	**111**	T	T	16 18 53.0	
	baz=318,slow=77,SNR=11						
H03N1	**Juan Fernandez**	**116.57**	**111**	T	T	16 18 43.0	
	baz=318,slow=77,SNR=14						
H03N3	**Juan Fernandez**	**116.57**	**111**	T	T	16 18 49.5	
	baz=318,slow=77,SNR=11						
MAW	**Mawson**	**150.40**	**219**	PKPbc	**PKPbc**	**14 12 26.8**	**-1.2**
	comp=Z,1.9nm,0.3s,baz=188,slow=7.1,SNR=6.9						

TAP 01 13:55:31.4, 23°.91N×121°.45E, h14km±1km, ML1.0, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETM	**Tongmen**	**0.07**	**36**	P	Pg	13 55 34.9	+0.7
	baz=35						
ETM				S	Sg	13 55 37.0	+0.8
	baz=35						
ESL	**Shilin**	**0.10**	**189**	*i* P	Pg	13 55 35.3	+0.7
	baz=183						
ESL				*i* S	Sg	13 55 37.4	+0.8
	baz=183						
TEGC	**Jichi Village**	**0.22**	**157**	P	Pb	13 55 36.9	-0.2
	baz=155						
TEGC				*e*S	Sb	13 55 42.5	+1.6
	baz=155						
EGFH	**Guangfu**	**0.24**	**185**	P	Pb	13 55 37.2	-0.3
	baz=184						
EGFH				*e*S	Sb	13 55 41.2	-0.4
	baz=184						
OWD	**Renai**	**0.25**	**280**	*e*P	Pb	13 55 38.7	+0.8
	baz=280						
OWD				S	Sb	13 55 42.3	+0.1
	baz=280						
WHF	**Hehuan Shan**	**0.29**	**324**	*e*S	Sb	13 55 43.0	-0.5
	baz=325						
ETLH	**Xiulin Townshi**	**0.30**	**6**	*e*P	Pb	13 55 39.8	+1.2
	baz=5.0						
ETLH				*e*S	Sg	13 55 42.5	+0.5
	baz=5.0						
FUSS	**Fushou**	**0.39**	**331**	S	Sb	13 55 45.9	-0.1
	baz=330						
YULB	**Yu-li**	**0.53**	**195**	*e*S	Sb	13 55 50.7	+0.6
	baz=195						

JMA 01 13:55:58.2±0.2, 24°.71N×122°.83E, h15km±3km, M1.4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.28**	**158**	P	Pg	13 56 04.2	+0.1
JYNG				S	Sg	13 56 08.1	-0.1
YOJ	**Yonaguni jima**	**0.30**	**146**	P	Pg	13 56 04.4	-0.1
YOJ				S	Sg	13 56 08.6	-0.1
IRIF	**Iriomote-Funau**	**0.90**	**114**	P	Pb	13 56 15.0	-0.5
IRIF				*e*S	Sg	13 56 27.9	+0.4
HATJ	**Hateruma jima**	**1.10**	**126**	P	Pn	13 56 19.2	+0.1
HATJ				*e*S	Sn	13 56 34.0	0.0
JKRS	**Kuro-shima**	**1.17**	**113**	P	Pn	13 56 19.4	-0.7
JKRS				*e*S	Sb	13 56 35.2	0.0
JIJ	**Ishigaki jima**	**1.24**	**106**	P	Pn	13 56 20.0	-1.1
JIJ				*e*S	Sb	13 56 36.1	-1.1

MEX 01 14:01:07.9±0.3, 15°.80N×99°.61W, h30km±9km, MD3.9, Off coast of Guerrero

*IDC **01** 14:08:28.3±1.9, 7°.03S×130°.10E, h0km, mb3.9/2, mb1 4.2/4, mb1mx3.6/38, mbtmp4.0/4, ML4.1/2, Error ellipse: s-maj=128.5km s-min=29.7km az=69.0*
*NEIC **01** 14:08:38.0±1.5, 6°.86S±0°.04×130°.7E±0°.1, h128km±11km, mb4.3/5, Error ellipse: s-maj=15.2km s-min=5.6km az=97.0*
ISC 01 14:08:36.8±0.6**, 6°.90S**±0°.07×**130°.68E**±0°.09**, h100km, n24,** σ**2s.35**/25**, mb4.1**/4**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.24**	**150**		**Pn**	**14 09 03.5**	**+3.6**
SAUI				Sn	**Sn**	**14 09 20.5**	**+3.1**
FAKI	**Fak Fak**	**4.25**	**22**	Pn	**Pn**	**14 09 41.0**	**+1.6**
MTN	**Manton Dam**	**5.92**	**176**	Pn	**Pn**	**14 10 03.6**	**+1.6**
SOEI	**Soe**	**6.95**	**246**	Pn	**Pn**	**14 10 17.8**	**+1.6**
KNRA	**Kununurra**	**8.92**	**192**	Pn	**Pn**	**14 10 43.1**	**+0.2**
WRAB	**Tennant Creek**	**13.43**	**165**		**Pn**	**14 11 41.1**	**-2.3**
WRA	**Warramunga Arr**	**13.44**	**165**	Pn	**Pn**	**14 11 41.0**	**-2.6**
	1.0nm,0.3s,baz=346,slow=13,SNR=65						
WRA				Sn	Sn	14 14 00.4	-11
	2.2nm,0.3s,baz=344,slow=23,SNR=13						
WRA	**Warramunga Arr**	**13.44**	**165**		**Pn**	**14 11 41.2**	**-2.3**
WB2	**Warramunga Arr**	**13.44**	**165**	Pn	**Pn**	**14 11 40.9**	**-2.7**
WR0	**Warramunga Arr**	**13.51**	**164**	Pn	**Pn**	**14 11 41.5**	**-2.9**
COEN	**Coen**	**14.14**	**121**	Pn	**Pn**	**14 11 53.2**	**+0.5**
AS31	**Alice Springs**	**16.95**	**170**		**Pn**	**14 12 27.5**	**-0.4**
ASAR	**Alice Springs**	**16.95**	**170**	Pn	**Pn**	**14 12 27.0**	**-0.9**
	0.9nm,0.3s,baz=342,slow=9.7,SNR=53						
ASAR				Sn	Sn	14 15 23.9	-12
	0.3nm,0.3s,baz=354,slow=26,SNR=6.7						
ASAR	**Alice Springs**	**16.95**	**170**	P	**Pn**	**14 12 27.6**	**-0.4**
PSA00	**Pilbara Seismi**	**17.95**	**215**	P	**P**	**14 12 38.1**	**-1.2**
PSA00				IAmb	IAmb	14 12 53.0	
	comp=Z,33nm,1.5s						
CTAO	**Charters Tower**	**20.00**	**132**	P	**P**	**14 12 60.0**	**-1.7**
CTAO				IAmb	IAmb	14 13 15.0	
	comp=Z,11nm,1.2s						
YHNB	**Yeheng**	**32.67**	**344**	P	**P**	**14 14 56.1**	**-3.5**
TOO	**Toolangi**	**33.37**	**158**	P	**P**	**14 15 02.8**	**-2.8**
TOO				IAmb	IAmb	14 15 11.9	
	comp=Z,11nm,1.4s						
MARNC	**Mare, Loyalty**	**38.87**	**116**	P	**P**	**14 15 50.8**	**-1.9**
HHC	**Hu-ho-hao-te**	**50.67**	**341**	*e*P	**P**	**14 17 28.0**	**+1.9**
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC				pmax	pmax		
	comp=Z,110nm,6.6s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WMQ	**Urumqi**	**63.68**	**327**	*e*P	**P**	**14 18 57.2**	**-0.5**
MKAR	**Makanchi Array**	**68.52**	**326**	P	**P**	**14 19 31.5**	**+3.0**
	comp=Z,0.7nm,0.5s,baz=120,slow=7.8,SNR=15						
KURBB	**Kurchatov Arra**	**72.78**	**328**	P	**P**	**14 19 57.1**	**+2.9**
	comp=Z,0.6nm,0.4s,baz=124,slow=4.9,SNR=6.6						
KURK	**Kurchatov**	**72.79**	**328**	P	**P**	**14 19 57.1**	**+2.8**

*ISK **01** 14:14:04.8, 37°.50N×43°.00E, h6km, ML4.2/20*
*ISN **01** 14:14:04.2±1.2, 37°.68N×43°.05E, h20km±7km, ML4.1*
*DDA **01** 14:14:04.9, 37°.47N×42°.99E, h15km±1km, MW4.2*
*TEH **01** 14:14:05.2, 37°.45N×42°.98E, h4km, ML4.1*
*IDC **01** 14:14:07.2±0.9, 37°.58N×42°.86E, h0km, mb3.7/9, mb1 3.8/17, mb1mx3.6/52, mbtmp3.7/17, ML3.5/6, MS3.2/5, Ms1 3.2/5, ms1mx2.8/53, Error ellipse: s-maj=17.1km s-min=9.9km az=139.0*
ISC 01 14:14:07.1±0.5**, 37°.48N**±0°.02×**43°.00E**±0°.02**, h10km, n116,** σ**1s.58**/138**, mb3.7**/10**, 10C-1D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRT	**Sirnak**	**0.45**	**273**	PG	**Pg**	**14 14 14.2**	**-1.7**
SIRT	**Sirnak**	**0.45**	**273**	*e*Pg	**Pg**	**14 14 14.5**	**-1.4**
SIRN	**Sırnak**	**0.47**	**272**	⇑*i*P	**Pg**	**14 14 14.4**	**-1.8**
SIRN				*i* S	**Sg**	**14 14 21.6**	**-0.8**
SIRN	**Sırnak**	**0.47**	**272**	*e*Pg	**Pg**	**14 14 14.5**	**-1.8**
CUKT	**Cukurca**	**0.54**	**116**	⇑*i*P	**Pg**	**14 14 15.9**	**-1.8**
CUKT				*i* S	**Sg**	**14 14 23.7**	**-1.1**
CUKT	**Cukurca**	**0.54**	**116**	PG	**Pg**	**14 14 15.9**	**-1.8**
CUKT				SG	**Sg**	**14 14 23.9**	**-0.9**
CUKT	**Cukurca**	**0.54**	**116**	*e*Pg	**Pg**	**14 14 15.5**	**-2.1**
HAKT	**HAKKARI**	**0.57**	**82**	⇑*i*P	**Pg**	**14 14 16.2**	**-2.0**
HAKT				*i* S	**Sg**	**14 14 24.8**	**-1.0**
HAKT	**HAKKARI**	**0.57**	**82**	*e*Pg	**Pg**	**14 14 16.2**	**-2.0**
PERV	**Siirt/Pervari-**	**0.59**	**322**	⇑*i*P	**Pg**	**14 14 16.5**	**-2.1**
PERV				*i* S	**Sg**	**14 14 25.2**	**-1.2**
AKDM	**Akdamar-Van**	**0.84**	**359**	PG	**Pg**	**14 14 20.6**	**-2.9**
AKDM				SG	**Sg**	**14 14 33.4**	**-1.1**
SRTM	**Siirt_Merkez**	**0.99**	**301**	⇑*i*P	**Pg**	**14 14 24.2**	**-2.1**
SRTM				*i* S	**Sn**	**14 14 42.8**	**+1.4**
SRTM	**Siirt_Merkez**	**0.99**	**301**	*e*Pg	**Pg**	**14 14 24.2**	**-2.1**
YOVA	**Hakkari_Yksek**	**1.03**	**84**	⇑*i*P	**Pg**	**14 14 24.4**	**-2.6**
YOVA				*i* S	**Sg**	**14 14 39.3**	**-1.1**
VANB	**Van**	**1.15**	**15**	PG	**Pb**	**14 14 25.5**	**-3.7**
BLIS	**Bitlis-Merkez**	**1.16**	**323**	⇑*i*P	**Pb**	**14 14 27.0**	**-2.5**
BLIS				*i* S	**Sn**	**14 14 44.4**	**-1.3**
MIDY	**Mardin/Midyat-**	**1.28**	**267**	⇑*i*P	**Pn**	**14 14 29.9**	**-1.2**
MIDY				*i* S	**Sn**	**14 14 48.6**	**+0.3**
GURO	**Guroymak-BITLI**	**1.31**	**325**	PN	**Pn**	**14 14 29.6**	**-2.1**
GURO				SN	**Sg**	**14 14 48.7**	**-0.7**
ADCV	**BITLIS_Adilcev**	**1.34**	**351**	*i* P	**Pn**	**14 14 30.6**	**-1.5**
ADCV				*i* S	**Sg**	**14 14 49.9**	**-0.5**
ADCV	**BITLIS_Adilcev**	**1.34**	**351**	*e*Pg	**Pn**	**14 14 30.6**	**-1.5**
OZAP	**Van, Ozalp-Mer**	**1.42**	**33**	*i* P	**Pn**	**14 14 32.2**	**-1.0**
OZAP				*i* S	**Sg**	**14 14 57.7**	**+5.0**
VMUR	**Van-Muradiye**	**1.57**	**17**	⇓*i*P	**Pn**	**14 14 34.8**	**-0.4**
VMUR				*i* S	**Sg**	**14 14 58.5**	**+0.8**
VMUR	**Van-Muradiye**	**1.57**	**17**	*e*Pg	**Pb**	**14 14 35.8**	**-0.6**
MLAZ	**Malazgirt-MUS**	**1.69**	**348**	PN	**Pn**	**14 14 35.6**	**-1.3**
MUSM	**Mu-Merkez**	**1.71**	**317**	⇑*i*P	**Pn**	**14 14 36.2**	**-0.8**
MUSM				*i* S	**Sb**	**14 14 59.2**	**-1.0**
MUSM	**Mu-Merkez**	**1.71**	**317**	*e*Pn	**Pn**	**14 14 36.6**	**-0.5**
MARD	**Mardin**	**1.78**	**265**	⇑*i*P	**Pn**	**14 14 37.8**	**-0.2**
MARD				*i* S	**Sg**	**14 15 02.8**	**-1.5**
MAZI	**Mazidag**	**2.03**	**270**	PN	**Pn**	**14 14 40.1**	**-1.4**
MAZI	**Mazidag**	**2.03**	**270**	*e*Pn	**Pn**	**14 14 41.7**	**+0.2**
VRTB	**Varto-Mus**	**2.07**	**325**	*i* P	**Pb**	**14 14 43.7**	**-1.1**
VRTB				*i* S	**Sg**	**14 15 13.3**	**-0.3**
VRTB	**Varto-Mus**	**2.07**	**325**	PN	**Pn**	**14 14 40.7**	**-1.4**
VRTB	**Varto-Mus**	**2.07**	**325**	*e*Pn	**Pb**	**14 14 42.9**	**-2.0**
AGRB	**Hanur-Agry**	**2.09**	**360**	PN	**Pn**	**14 14 40.9**	**-1.5**
AGRB	**Hanur-Agry**	**2.09**	**360**	*e*Pn	**Pb**	**14 14 44.0**	**-1.3**
DYDN	**Diyadin**	**2.13**	**15**	*i* P	**Pb**	**14 14 45.2**	**-0.8**
DYDN	**Diyadin**	**2.13**	**15**	*e*Pn	**Pb**	**14 14 45.1**	**-0.8**
SLHN	**Bingol, Solhan**	**2.14**	**314**	*i* P	**Pn**	**14 14 43.2**	**+0.1**
SLHN				*i* S	**Sb**	**14 15 13.2**	**+0.4**
ISHB	**Shabestar**	**2.22**	**68**	*e*Pn	**Pb**	**14 14 45.2**	**-2.3**
HANI	**Diyarbakir_Han**	**2.26**	**295**	*i* P	**Pn**	**14 14 43.4**	**-1.2**
HANI				*i* S	**Sb**	**14 15 15.3**	**-0.7**
MAHB	**Mahabad**	**2.28**	**107**	*e*Pn	**Pb**	**14 14 47.1**	**-1.3**
MAHB				*e*		14 15 20.1	
	comp=Z,26μm,0.5s						
DIYA	**Diyarbakir**	**2.33**	**282**	*i* P	**Pn**	**14 14 44.6**	**-0.9**
DIYA				*i* S	**Sb**	**14 15 16.4**	**-1.6**
IKRK	**Kirkuk**	**2.34**	**152**	*e*Pg	**Pb**	**14 14 49.0**	**-0.4**
IKRK				*e*Sg	**Sg**	**14 15 20.0**	**-2.4**
IKRK				AML	AML	14 15 28.9	
	comp=E,4μm,0.6s						
IKRK				AML	AML	14 15 29.8	
	comp=N,3μm,0.5s						
IKRK				*e*		14 15 48.5	
BNGB	**Bingl**	**2.37**	**310**	PN	**Pn**	**14 14 43.9**	**-2.3**
IAZR	**Azarshahr**	**2.38**	**84**	*e*Pn	**Pb**	**14 14 48.7**	**-1.5**
IAZR				*e*		14 15 30.3	
	comp=Z,18μm,0.7s						
BINT	**Bingol**	**2.42**	**306**	*e*Pn	**Pn**	**14 14 46.3**	**-0.6**
IMRD	**Marand**	**2.46**	**59**	*e*Pn	**Pb**	**14 14 48.8**	**-2.8**
IMRD				*e*		14 15 10.4	
	comp=Z,6μm,0.7s						
IGDI	**IGDIR**	**2.53**	**19**	*i* P	**Pb**	**14 14 50.1**	**-2.5**
ITBZ	**Tabriz**	**2.60**	**72**	*e*Pn	**Pb**	**14 14 51.1**	**-2.9**
KOPR	**Koprukoy-ERZUR**	**2.66**	**341**	PN	**Pn**	**14 14 49.4**	**-0.8**
TASB	**TASBURUN-IGDIR**	**2.68**	**21**	PN	**Pn**	**14 14 49.5**	**-0.9**
EJDE	**Erzurum, Palan**	**2.70**	**331**	*i* P	**Pb**	**14 14 54.4**	**-1.4**
YEDI	**Yedisu-Bingol**	**2.74**	**316**	PN	**Pn**	**14 14 50.4**	**-1.0**
KOVA	**Elazig, Kovanc**	**2.79**	**297**	*i* P	**Pn**	**14 14 51.6**	**-0.4**
GNI	**Garni**	**2.99**	**27**	Pn	**Pb**	**14 14 57.5**	**-3.1**
	comp=Z,4.4nm,0.3s,baz=205,slow=1.3,SNR=15						
GNI				Lg	Lg	14 15 39.5	
	comp=Z,5.1nm,0.3s,baz=56,slow=18,SNR=3.5						
GNI	**Garni**	**2.99**	**27**	PN	**Pn**	**14 14 53.9**	**-0.9**
SVRC	**Sivrice-ELAZID**	**3.05**	**288**	PN	**Pn**	**14 14 54.4**	**-1.2**
KARS	**Kars**	**3.14**	**1**	PN	**Pn**	**14 14 55.9**	**-0.9**
SANL	**SANLIURFA_Merk**	**3.21**	**266**	*i* P	**Pn**	**14 14 57.2**	**-0.4**
IHRS	**Heris**	**3.31**	**74**	*e*Pn	**Pn**	**14 15 01.1**	**+1.9**
ERZN	**Erzincan**	**3.32**	**310**	PN	**Pn**	**14 14 58.9**	**-0.3**
URFA	**Urfa**	**3.32**	**271**	PN	**Pn**	**14 14 58.7**	**-0.6**
ELZG	**Elazig**	**3.33**	**289**	*i* P	**Pn**	**14 14 58.4**	**-1.1**
AHAR	**Ahar**	**3.36**	**71**	*e*Pn	**Pn**	**14 15 01.6**	**+1.8**
IHSH	**Hashtrud**	**3.40**	**92**	*e*Pn	**Pn**	**14 15 02.7**	**+2.2**
IHSH				*e*		14 16 10.0	
	comp=Z,3μm,0.6s						
ISRB	**Sarab**	**3.72**	**83**	*e*		14 15 19.3	
	comp=Z,2μm,0.4s						
ISRB				*e*Pn	**Pn**	**14 15 07.0**	**+2.2**
IDHR	**Dehrash**	**3.90**	**134**	*e*Pn	**Pn**	**14 15 08.1**	**+0.8**
ARPR	**Arapgir-MALATY**	**4.01**	**295**	PN	**Pn**	**14 15 08.7**	**0.0**
ILIN	**Lien**	**4.10**	**127**	*e*Pn	**Pn**	**14 15 10.7**	**+0.6**
ILIN				*e*		14 16 27.6	
	comp=Z,3μm,1.1s						
IGHG	**Ghaleghazi**	**4.28**	**136**	*e*Pn	**Pn**	**14 15 13.6**	**+1.1**
IGHG				*e*		14 16 37.3	
	comp=Z,6μm,0.8s						
BHD	**Baghdad**	**4.35**	**165**	*e*Pn	**Pn**	**14 15 13.0**	**-0.3**
BHD				*e*Sn	**Sn**	**14 16 05.0**	**+1.0**
DARE	**Darende-Malaty**	**4.49**	**286**	PN	**Pn**	**14 15 15.1**	**-0.2**
KER	**Kermanshah**	**4.56**	**131**	*e*Pn	**Pn**	**14 15 17.3**	**+1.0**
KCHF	**Cheshme Sefid,**	**4.58**	**133**	*e*Pn	**Pn**	**14 15 17.4**	**+0.7**
KCHF				*e*		14 16 47.1	
	comp=Z,5μm,0.8s						
IALM	**Almabolaq**	**4.93**	**120**	*e*Pn	**Pn**	**14 15 23.2**	**+1.6**
IBZA	**Bozab**	**4.96**	**126**	*e*Pn	**Pn**	**14 15 22.7**	**+0.8**
IBZA				*e*		14 16 55.8	
	comp=Z,2μm,1.2s						
IBDR	**Badra**	**4.98**	**150**	*e*Pn	**Pn**	**14 15 22.0**	**+0.1**
IBDR				*e*Sn	**Sn**	**14 16 19.0**	**-0.5**
IBDR				AML	AML	14 16 22.0	
	comp=N,107nm,0.4s						
IBDR				AML	AML	14 16 30.7	
	comp=E,88nm,0.6s						
QSDN	**Sirdan**	**5.04**	**99**	*e*Pn	**Pn**	**14 15 24.8**	**+1.8**
QABG	**Abgarm-Qazvin**	**5.58**	**106**	*e*Pn	**Pn**	**14 15 31.2**	**+0.7**
IKFM	**Kafar-mosalman**	**5.59**	**134**	*e*Pn	**Pn**	**14 15 30.5**	**+0.2**
HSAM	**Samen**	**5.60**	**124**	*e*Pn	**Pn**	**14 15 31.5**	**+0.8**
IDOB	**Doab**	**5.60**	**130**	*e*Pn	**Pn**	**14 15 30.6**	**-0.1**
IRAZ	**Razeghan**	**5.96**	**108**	*e*Pn	**Pn**	**14 15 37.3**	**+1.7**
IRAZ				*e*		14 17 44.6	
	comp=Z,542nm,0.9s						
BMDN	**Meydan**	**6.08**	**127**	*e*Pn	**Pn**	**14 15 38.0**	**+0.7**
BMDN				*e*		14 17 41.6	
	comp=Z,995nm,1.0s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
QALM	Alamut, Qazvin	6.21	97	ePn	Pn	14 15 40.6	+1.5
KBZ	Khabaz	6.24	359	Pn	Pn	14 15 45.0	+5.7
	comp=Z,0.1nm,0.3s,baz=190,slow=18,SNR=2.0						
KBZ				LR	LR	14 18 22.3	
	comp=Z,256nm,18.2s,baz=160,slow=42						
NSR	Nassriya	6.96	157	ePn	Pn	14 15 50.0	+0.9
NSR				eSn	Sn	14 17 07.0	-1.3
ASF	Jabal al Asfar	7.29	225	Pn	Pn	14 15 55.6	+1.8
	comp=Z,0.7nm,0.3s,baz=345,slow=9.7,SNR=3.6						
ASF				Lg	Lg	14 17 58.5	
	comp=Z,3.7nm,0.3s,baz=181,slow=22,SNR=11						
MMAI	Mount Meron Ar	7.64	237	Pn	Pn	14 16 00.3	+1.7
	comp=Z,2.0nm,0.3s,baz=58,slow=15,SNR=5.3						
MMAI				Lg	Lg	14 18 08.8	
	comp=Z,2.0nm,0.3s,baz=55,slow=29,SNR=3.1						
BRTR	Keskin Array B	7.66	290	Pn	Pn	14 15 59.8	+0.9
	comp=Z,0.3nm,0.3s,baz=125,slow=12,SNR=2.8						
BRTR				Pg	Pb	14 16 23.7	+3.6
	comp=Z,0.2nm,0.3s,baz=123,slow=16,SNR=3.3						
ISFB	Sefidab	8.12	110	ePn	Pn	14 16 07.4	+2.2
KRSH	Karshahi	8.21	113	ePn	Pn	14 16 07.8	+1.3
MIB	Mutribah	8.47	153	eP	Pn	14 16 08.0	-1.9
RST	Umm Al-Ruwaisa	8.63	156	eP	Pn	14 16 09.7	-2.4
KBD	Kabd	9.17	153	eP	Pn	14 16 17.4	-2.0
RDF	Al-Radifah	9.34	155	eP	Pn	14 16 19.4	-2.4
IRAM	Ramesheh	9.58	123	ePn	Pn	14 16 25.6	+0.3
KLNJ	Kolanjah	9.60	130	ePn	Pn	14 16 25.9	+0.2
EIL	Elat	10.28	223	Pn	Pn	14 16 35.4	+0.7
	comp=Z,0.1nm,0.3s,baz=50,slow=19,SNR=1.6						
EIL				Pg	Pg	14 17 18.2	
	comp=Z,0.5nm,0.3s,baz=58,slow=15,SNR=2.1						
EIL				Lg	Lg	14 19 35.4	
	comp=Z,0.5nm,0.3s,baz=84,slow=20,SNR=4.6						
SBZV	Sabzevar	11.75	91	ePn	Pn	14 16 58.2	+3.2
ISFR	Sfrayin	11.96	87	ePn	Pn	14 17 00.6	+2.6
GEYT	Alibeck	11.99	83	LR	LR	14 22 27.7	
	comp=Z,100nm,20.6s,baz=275,slow=41						
TKDS	Koohdasht(Taba	12.13	104	ePn	Pn	14 17 02.3	+2.1
BELG	Belogornoye	15.26	11	LR	LR	14 23 49.6	
	comp=Z,103nm,19.4s,baz=155,slow=38						
AKASG	Malin Array Be	16.47	328	Pn	Pn	14 17 57.0	-1.1
	baz=134,slow=12,SNR=5.7						
AKTO	Aktyubinsk	16.82	35	Pn	P	14 18 04.4	-0.4
	comp=Z,0.2nm,0.3s,baz=234,slow=12,SNR=4.6						
AKTO				LR	LR	14 26 56.2	
	comp=Z,80nm,18.0s,baz=208,slow=46						
WSAR	Wadi Sarin	19.54	132	P	Pn	14 18 37.9	+1.7
	comp=Z,0.7nm,0.3s,baz=328,slow=13,SNR=6.3						
ARU	Arti	21.63	24	P	P	14 18 58.2	+0.9
	comp=Z,0.9nm,0.3s,baz=208,slow=11,SNR=8.6						
ARU				LR	LR	14 28 53.2	
	comp=Z,73nm,20.6s,baz=234,slow=41						
GERES	GERESS Array B	24.05	308	P	P	14 19 22.4	0.0
	comp=Z,0.8nm,0.5s,baz=110,slow=12,SNR=7.7						
BVAR	Borovoye Array	24.56	42	P	P	14 19 28.6	+1.7
	comp=Z,0.2nm,0.3s,baz=224,slow=18,SNR=1.9						
CLL	Collm	25.29	313	eP	P	14 19 35.0	+1.5
	comp=Z,10.0nm,1.4s						
FINES	FINESS Array B	26.22	342	P	P	14 19 42.0	+0.1
	comp=Z,1.0nm,0.5s,baz=154,slow=10.0,SNR=5.5						
KURBB	Kurchatov Arra	28.42	51	P	P	14 20 03.6	+1.8
	comp=Z,0.7nm,0.6s,baz=262,slow=9.1,SNR=5.6						
HFS	Hagfors	29.33	330	P	P	14 20 09.9	+0.1
	comp=Z,1.3nm,0.6s,baz=155,slow=17,SNR=1.7						
ESDC	Sonseca Array	36.45	288	P	P	14 21 12.1	-0.2
	comp=Z,0.5nm,0.6s,baz=70,slow=8.0,SNR=3.1						
TORD	Torodi Ar. Bea	44.02	248	P	P	14 22 15.5	+0.4
	comp=Z,0.8nm,0.9s,baz=66,slow=7.3,SNR=3.7						
CMAR	Chiang Mai Arr	52.15	95	P	P	14 23 19.9	+1.9
	comp=Z,0.5nm,0.5s,baz=300,slow=9.1,SNR=4.3						

*IDC **01** 14:16:33.3±1.8, 1°.30N×126°.22E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/46, mbtmp3.3/4, Error ellipse: s-maj=177.0km s-min=22.2km az=66.0*
*DJA **01** 14:16:37.1±1.6, 1°N±5°×12°6E±°, h12km±15km, M3.2/7, MLv3.2/7*
ISC 01 14:16:39.6±1.0**, 1°.14N**±0°.07×**126°.15E**±0°.05**, h44**km**, n12, σ1s.00**/14**, mb3.3**/4**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.27	107	P	Pn	14 17 00.6	-0.2
TNTI				S	Sn	14 17 17.8	+1.1
MNI	Manado	1.35	283	P	Pn	14 17 01.1	-0.8
MNI				S	Sn	14 17 18.8	+0.2
GAMI	Galela, Maluku	1.78	67	P	Pn	14 17 06.6	-1.2
SGSI	Sangihe	2.60	346	P	Pn	14 17 20.3	+1.1
SANI	Sanana	3.17	183	P	Pn	14 17 27.1	+0.1
GTOI	Gorontalo	3.18	261	P	Pn	14 17 28.7	+1.6
MRSI	Marisa	4.26	261	P	Pn	14 17 41.2	-0.8
APSI	Ampana	4.94	246	P	Pn	14 17 50.1	-1.2
WRA	Warramunga Arr	22.44	159	P	P	14 21 35.5	+0.5
	0.7nm,0.6s,baz=338,slow=11,SNR=16						
ASAR	Alice Springs	25.78	163	P	P	14 22 07.4	+0.8
	0.2nm,0.3s,baz=347,slow=12,SNR=9.2						
MKAR	Makanchi Array	59.36	326	P	P	14 26 36.5	-0.8
	0.1nm,0.3s,baz=118,slow=7.7,SNR=4.6						
KURBB	Kurchatov Arra	63.61	328	P	P	14 27 05.5	-0.4
	0.2nm,0.5s,baz=129,slow=6.1,SNR=2.3						

MEX 01 14:26:48.8±0.3**, 17°.04N**×**94°.77W, h135**km±3km**, MD3.9, Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.12	295	i P	Pn	14 27 05.8	-1.4
CMIG				i S	Sn	14 27 18.9	-2.1
TGIG		1.59	99	i P	Pn	14 27 15.8	-2.6
TGIG				i S	Sn	14 27 35.5	-5.4
HUIG	Huatulco	1.80	226	i P	Pn	14 27 19.4	-1.3
HUIG				i S	Sn	14 27 46.6	+1.4
VHO	Vista Hermosa	1.88	271	i P	Pn	14 27 22.7	+0.8
VHO				i S	Sn	14 27 49.2	+2.1
PCIG		1.99	132	i P	Pn	14 27 21.7	-1.3
TOIG	Toxpalan	2.43	296	eP	Pn	14 27 28.4	-0.1
TOIG				i S	Sn	14 27 58.6	-0.4
PEIG	Puerto Escondi	2.51	246	eP	Pn	14 27 28.1	-1.3
HLIG	Huajuapan de L	3.00	286	i P	Pn	14 27 34.5	-1.4
HLIG				i S	Sn	14 28 11.2	-1.0

*LVSN **01** 14:27:35.6±4.7, 56°.34N×20°.30E, h0km±38km, ML2.4*
*HEL **01** 14:27:36.9±0.3, 56°.41N×20°.68E, h0km, ML2.5, Explosion*
*EST **01** 14:27:37.7±0.2, 56°.46N×20°.67E, h0km, ML2.5(HEL), Explosion*
*DNK **01** 14:27:38.9±2.1, 56°.44N×20°.37E, h0km, ML2.1, Suspected explosion*
*IDC **01** 14:27:40.3±2.4, 56°.69N×20°.77E, h0km, mb1 3.3/4, mb1mx3.1/34, mbtmp3.2/4, ML2.3/4, Error ellipse: s-maj=22.2km s-min=11.1km az=172.0*
*UPP **01** 14:27:41.6±1.1, 56°.61N×20°.24E, h0km, ML2.6, Suspected explosion*
ISC 01 14:27:36.4±0.9**, 56°.49N**±0°.04×**20°.64E**±0°.03**, h0**km**, n71, σ1s.61**/87**, Baltic Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PBUR	Paburge	0.86	122	eP	Pg	14 27 52.3	-0.5
PBUR				IAML		14 28 10.1	
	comp=Z,36nm,0.2s						
PBUR				IAML		14 29 04.5	
	comp=Z,29nm,0.6s						
PBUR	Paburge	0.86	122	eP	Pg	14 27 52.3	-0.5
PBUR				eS	Sg	14 28 04.0	+0.1
PBUR				AML	AML	14 29 01.1	
	comp=E,88nm,0.7s						
PBUR				AML	AML	14 29 03.3	
	comp=N,41nm,0.8s						
PBUR				AML	AML	14 29 04.7	
	comp=Z,42nm,0.7s						
SLIT	Slitere, Latvi	1.46	38	eP	Pn	14 28 02.8	-1.1
SLIT	Slitere, Latvi	1.46	38	eP	Pn	14 28 02.8	-1.1
SLIT				eSB	Sb	14 28 24.6	+1.2
SLIT	Slitere, Latvi	1.46	38	eP	Pn	14 28 02.7	-1.1
SLIT				AML	AML	14 28 05.2	
	comp=Z,172nm,0.1s						
SLIT				eS	Sn	14 28 24.8	+1.2
SLIT				AML	AML	14 28 26.9	
	comp=E,174nm,0.3s						
SLIT				AML	AML	14 28 28.2	
	comp=N,190nm,0.7s						
GOTU	Gotland	1.65	318	P	Pn	14 28 07.4	+0.8
GOTU				S	Sn	14 28 28.4	0.0
GOTU	Gotland	1.65	318	P	Pn	14 28 07.4	+0.8
GOTU				S	Sn	14 28 28.4	0.0
GOTU	Gotland	1.65	318	eP	Pn	14 28 07.3	+0.8
GOTU				eS	Sn	14 28 29.6	+1.2
PABE	Paberze	2.12	116	eP	Pn	14 28 14.4	+1.5
PABE				IAML		14 29 19.3	
	comp=Z,8.5nm,0.5s						
PABE	Paberze	2.12	116	eP	Pn	14 28 14.4	+1.5
PABE				eS	Sn	14 28 40.5	+0.6
PABE	Paberze	2.12	116	eP	Pn	14 28 14.2	+1.3
PABE				eS	Sn	14 28 40.5	+0.6
PABE				AML	AML	14 28 44.3	
	comp=N,40nm,0.2s						
PABE				AML	AML	14 28 45.5	
	comp=E,38nm,0.3s						
PABE				AML	AML	14 28 48.1	
	comp=Z,23nm,0.5s						
BYXU	Byxelkrok	2.15	293	P	Pn	14 28 15.5	+2.1
BYXU	Byxelkrok	2.15	293	P	Pn	14 28 15.5	+2.1
OSKU	Oskarshamn	2.59	288	P	Pn	14 28 20.9	+1.4
OSKU	Oskarshamn	2.59	288	P	Pn	14 28 20.9	+1.4
MTSE	Matsula	2.81	36	eP	Pn	14 28 23.0	+0.5
MTSE	Matsula	2.81	36	eP	Pn	14 28 23.6	+1.1
MTSE				eS	Sn	14 28 58.5	+1.5
MTSE	Matsula	2.81	36	eP	Pn	14 28 23.4	+0.9
MTSE				eS	Sb	14 29 01.3	-1.0
MTSE				AML	AML	14 29 08.3	
	comp=E,94nm,0.2s						
MTSE				AML	AML	14 29 09.1	
	comp=N,59nm,0.2s						
MTSE				AML	AML	14 29 31.2	
	comp=Z,33nm,0.7s						
SUW	Suwalki	2.88	149	eP	Pn	14 28 24.6	+1.2
NYNU	Nynaeshamn	2.89	332	P	Pn	14 28 25.9	+2.3
NYNU	Nynaeshamn	2.89	332	P	Pn	14 28 25.9	+2.3
VIKU	Vikbolandet	2.93	315	P	Pn	14 28 25.9	+1.8
VIKU	Vikbolandet	2.93	315	P	Pn	14 28 25.9	+1.8
EKSU	Eksjoe	3.11	293	P	Pn	14 28 28.7	+2.0
EKSU	Eksjoe	3.11	293	P	Pn	14 28 28.7	+2.0
ISAL	Salakas	3.21	104	eP	Pn	14 28 26.7	-1.4
ISAL				IAML		14 29 06.3	
	comp=Z,6.5nm,0.4s						
LNKU	Linkoeping	3.28	304	P	Pn	14 28 31.1	+2.2
LNKU	Linkoeping	3.28	304	P	Pn	14 28 31.1	+2.2
IIGN	Ignalina	3.34	108	eP	Pn	14 28 31.9	+2.1
IIGN				IAML		14 29 06.5	
	comp=Z,2.9nm,0.4s						
NRTU	Norrtaelje	3.37	342	P	Pn	14 28 33.0	+2.9
NRTU	Norrtaelje	3.37	342	P	Pn	14 28 33.0	+2.9
NRTU	Norrtaelje	3.37	342	eP	Pn	14 28 32.6	+2.4
EE02	Kiisa, Saku	3.47	37	eP	Pn	14 28 33.3	+1.7
BSD	Bornholm Skovb	3.51	249	e	Pn	14 28 31.3	-0.8
	baz=49,slow=12						
BSD				i P	Pb	14 28 32.0	-7.3
BSD				IAML		14 28 41.9	
	comp=Z,4.4nm,0.3s						
ESKU	Eskilstuna	3.56	322	P	Pn	14 28 35.1	+2.3
ESKU	Eskilstuna	3.56	322	P	Pn	14 28 35.1	+2.3
IDID	Didziasalis	3.63	106	IAML		14 29 11.1	
	comp=Z,15nm,0.4s						
AAL	Aland	3.72	355	eP	Pn	14 28 36.7	+1.8
AAL	Aland	3.72	355	eP	Pn	14 28 36.9	+2.0
UPP	Uppsala	3.74	336	eP	Pn	14 28 37.4	+2.2
DEL	Delary	3.75	273	i P	Pn	14 28 35.8	+0.4
DEL				IAML		14 28 47.5	
	comp=Z,0.9nm,0.3s						
VSU	Vasula	3.84	56	eP	Pn	14 28 38.4	+1.8
VSU	Vasula	3.84	56	eP	Pn	14 28 38.4	+1.8
VSU	Vasula	3.84	56	eS	Sn	14 29 24.8	+2.4
EE03	Tooma soojaam,	3.85	49	eP	Pn	14 28 37.6	+0.8
BACU	Backbrunna	3.86	332	P	Pn	14 28 39.0	+2.1
BACU	Backbrunna	3.86	332	P	Pn	14 28 39.0	+2.1
ASKU	Askersund	3.94	310	P	Pn	14 28 39.8	+1.8
ASKU	Askersund	3.94	310	P	Pn	14 28 39.8	+1.8
ARBE	Arbavere	4.10	42	eP	Pn	14 28 41.8	+1.6
FKPU	Falk	4.11	297	P	Pn	14 28 42.4	+2.1
FKPU	Falk	4.11	297	P	Pn	14 28 42.4	+2.1
MEF	Metsahovi	4.23	26	eP	Pn	14 28 43.4	+1.5
MEF				eS	Sn	14 29 33.0	+1.0
MEF				MSN		14 29 52.2	
	comp=Z,2.7nm,0.2s						
BJUU	Bjuv	4.26	268	i P	Pn	14 28 42.7	+0.2
NRAU	Nora	4.29	318	P	Pn	14 28 44.4	+1.6
NRAU	Nora	4.29	318	P	Pn	14 28 44.4	+1.6
BORU	Boraas	4.45	288	P	Pn	14 28 46.2	+1.3
BORU				i P	Pb	14 28 46.8	-8.4
BORU	Boraas	4.45	288	P	Pn	14 28 46.2	+1.3
NUR	Nurmijrvi	4.55	26	eP	Pn	14 28 48.4	+2.0
RAF	Rauma	4.59	7	eP	Pn	14 28 48.5	+1.6
RAF				eS	Sn	14 29 41.5	+0.7
RAF				MSN		14 30 06.4	
	comp=Z,1.8nm,0.2s						
ONAU	Onsala	4.86	284	i P	Pn	14 28 51.5	+0.8
PVF	Pernaja	4.90	32	eP	Pn	14 28 52.9	+1.7
PVF				MSN		14 30 11.8	
	comp=Z,2.7nm,0.2s						
HFS	Hagfors	5.17	318	Pn	Pn	14 28 56.5	+1.5
	comp=Z,0.5nm,0.3s,baz=126,slow=14,SNR=13						
HFS				Sn	Sn	14 29 53.9	-1.3
	comp=Z,0.4nm,0.3s,baz=126,slow=29,SNR=1.6						
HFS				Lg	Lg	14 30 17.0	
	comp=Z,0.7nm,0.3s,baz=130,slow=29,SNR=5.9						
VJF	Virojoki	5.44	39	eP	Pn	14 28 59.7	+1.1
VJF				eS	Sn	14 30 00.7	-1.2
VJF				MSN		14 30 34.1	
	comp=Z,1.5nm,0.2s						
STRU	Stroemstad	5.67	301	i P	Pn	14 29 01.4	-0.3
FINES	FINESS Array B	5.71	27	Pn	Pn	14 29 02.8	+0.5
	comp=Z,0.2nm,0.3s,baz=216,slow=12,SNR=11						
FINES				Sn	Sn	14 30 07.0	-1.4
	comp=Z,0.5nm,0.3s,baz=206,slow=24,SNR=10						
FINES				Lg	Lg	14 30 32.5	
	comp=Z,0.5nm,0.3s,baz=215,slow=24,SNR=5.2						
FIA1	FINESS Array S	5.71	27	eP	Pn	14 29 03.0	+0.7
FIA1				eS	Sn	14 30 07.2	-1.3
KAF	Kangasniemi	6.34	25	eP	Pn	14 29 11.6	+0.6
NOA	NORSAR Array B	6.69	317	Pn	Pn	14 29 15.9	+0.1
	comp=Z,0.0nm,0.3s,baz=150,slow=16,SNR=7.2						
NOA				Sn	Sn	14 30 30.9	-1.9
	comp=Z,0.0nm,0.3s,baz=195,slow=18,SNR=1.4						
NOA				Lg	Lg	14 31 08.0	
	comp=Z,0.1nm,0.3s,baz=130,slow=21,SNR=2.7						
JOF	Joensuu	8.40	35	eP	Pn	14 29 38.0	-1.1
ARCES	ARCESS Array B	13.27	7	Pn	Pn	14 30 42.5	-3.2
	baz=194,slow=13,SNR=6.8						
ARCES				Sn	Sn	14 33 03.1	-11
	baz=194,slow=26,SNR=2.3						

*VAO **01** 14:52:07.3±0.7, 11°.06S×75°.97W, h10km, mb4.2*
*NEIC **01** 14:52:08.2±1.9, 11°.18S±0°.06×76°.12W±0°.08, h105km±8km, Error ellipse: s-maj=11.1km s-min=9.0km az=92.0*
*IDC **01** 14:52:09.3±1.4, 11°.14S×76°.29W, h112km±21km, mb3.2/2, mb1 3.6/6, mb1mx3.3/34, mbtmp3.7/6, Error ellipse: s-maj=38.4km s-min=20.9km az=42.0*
*ARE **01** 14:52:09±3.1, 11°.15S±0°.07×76°.32W±0°.09, h106km±6km, ML4.4, mb4.4/26(NEIC), Error ellipse: s-maj=0.0km s-min=0.0km az=200.0*
ISC 01 14:52:08.7±0.5**, 11°.11S**±0°.05×**76°.18W**±0°.07**, h117**km**, n58, σ1s.79**/59**, mb4.4**/13**, Central Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NNA	Nana	1.08	217	P	Pn	14 52 30.7	-0.7
	208nm,0.3s,baz=44,slow=8.7,SNR=295						
NNA				S	Sn	14 52 47.3	-1.3
	2μm,0.3s,baz=166,slow=18,SNR=84						
NNA	Nana	1.08	217	Pn	Pn	14 52 30.5	-0.9
NNA				Sn	Sn	14 52 46.1	-2.5
ATAH	Atahualpa	4.51	331	P	Pn	14 53 15.5	+0.1
	20nm,0.3s,baz=165,slow=4.9,SNR=69						
ATAH				S	Sn	14 54 02.3	-5.0
	5.9nm,0.3s,baz=194,slow=20,SNR=4.8						
CZSB	Cruzeiro do Su	4.80	46	eP	Pn	14 53 18.6	-0.3
CZSB				eS	Sn	14 54 11.7	-1.9
TBTG	Tabatinga, AM	9.27	43	eP	Pn	14 54 18.1	-1.3
LPAZ	La Paz	9.36	124	P	Pn	14 54 22.1	+0.9
	0.2nm,0.3s,baz=300,slow=14,SNR=4.9						
LPAZ	La Paz	9.36	124	Pn	Pn	14 54 21.0	-0.2
LPAZ	La Paz	9.36	124	eP	Pn	14 54 20.7	-0.5
ETMB	Extrema	9.89	83	eP	Pn	14 54 26.1	-1.6
PSGCX	Pisagua	10.26	146	Pn	Pn	14 54 29.1	-3.7
PB11	IPOC Station P	10.65	145	Pn	Pn	14 54 34.2	-4.0
TA01	Diego Aracena	11.03	149	Pn	Pn	14 54 41.1	-2.0
PB08	IPOC Station P	11.24	144	Pn	Pn	14 54 42.5	-3.8
OTAV	Otavalo	11.50	349	eP	Pn	14 54 51.3	+1.5
PB01	IPOC Station P	11.78	148	Pn	Pn	14 54 51.0	-2.2
PB07	IPOC Station P	12.16	151	Pn	Pn	14 54 54.7	-3.5
FLOC	Florencia	12.62	2	Pn	Pn	14 55 01.8	-2.4
FLOC	Florencia	12.62	2	eP	Pn	14 55 00.0	-4.2
SAML	Samuel	12.98	82	Pn	Pn	14 55 05.9	-3.0
SAML	Samuel	12.98	82	eP	Pn	14 55 06.0	-2.8
BBAC	Balboa, Cauca	13.09	355	eP	Pn	14 55 09.8	-0.7
GARC	Garzon, Huila	13.23	3	eP	Pn	14 55 09.0	-3.4
LVC	Limon Verde	13.38	150	P	Pn	14 55 15.3	+1.0
	0.4nm,0.3s,baz=296,slow=9.8,SNR=1.9						
LVC	Limon Verde	13.38	150	P	P	14 55 20.5	+0.8
LVC	Limon Verde	13.38	150	eP	Pn	14 55 16.8	+2.5
MARP	Paez Belalcaza	13.87	1	eP	Pn	14 55 20.8	+0.2
PB14	IPOC Station P	14.52	159	Pn	Pn	14 55 29.4	+0.5
SIV	San Ignacio	15.47	110	P	P	14 55 44.1	+1.6
	0.2nm,0.3s,baz=299,slow=11,SNR=2.0						
VILB	Vilhena	15.74	98	eP	P	14 55 47.2	+1.6
ROSC	El Rosal	15.96	7	Pn	Pn	14 55 47.3	+0.3
ROSC				IAmb	IAmb	14 55 47.9	
	comp=Z,22nm,0.5s						
AC02	Maricunga	17.00	158	Pn	Pn	14 55 58.6	-1.2
PTLB	Pontes e Lacer	17.14	106	eP	Pn	14 56 03.9	+2.8
PTGA	Pitinga	19.13	58	eP	P	14 56 12.5	-10
CO02	Combarbal	20.56	167	P	P	14 56 37.8	-0.5
CO02				IAmb	IAmb	14 56 50.7	
	comp=Z,32nm,1.3s						
SJCC	San Jacinto, C	20.89	3	P	P	14 56 43.1	+1.2
SJCC				IAmb	IAmb	14 56 44.6	
	comp=Z,18nm,0.9s						
346A	Big Creek Wild	44.13	344	P	P	15 00 05.5	-0.1
TXAR	Lajitas Array	48.17	327	P	P	15 00 38.5	+1.1
	comp=Z,0.8nm,0.6s,baz=150,slow=9.0,SNR=14						
TX31	Lajitas Ar. Si	48.17	327	P	P	15 00 38.4	+1.0
TX32	Lajitas Array	48.17	327	P	P	15 00 38.1	+0.7
ABTX	Abilene, Hawle	48.92	334	P	P	15 00 44.2	+1.2
ABTX				IAmb	IAmb	15 00 44.9	
	comp=Z,5.2nm,0.5s						
X37A	Clayton	48.96	339	P	P	15 00 45.6	+2.4
X37A				IAmb	IAmb	15 00 45.9	
	comp=Z,5.3nm,0.8s						
MNTX	Cornudas Mount	50.94	328	P	P	15 00 58.9	+0.6
O52A	Adamsville	51.23	354	P	P	15 01 01.0	+0.7
P43A	Skaggs, Pawnee	51.99	347	P	P	15 01 05.6	-0.4
T25A	Trinidad	54.83	332	P	P	15 01 28.5	+1.4
T25A				IAmb	IAmb	15 01 29.0	
	comp=Z,3.2nm,0.8s						
SDCO	Great Sand Dun	55.83	332	P	P	15 01 35.3	+1.1
SDCO				IAmb	IAmb	15 01 36.6	
	comp=Z,2.5nm,1.0s						
W18A	Petrified Fore	55.88	327	P	P	15 01 35.0	+0.4
W18A				IAmb	IAmb	15 01 46.7	
	comp=Z,4.1nm,0.7s						
PLVO	Plevna	55.89	359	P	P	15 01 34.5	+0.3
PLVO				IAmb	IAmb	15 01 48.5	
	comp=Z,17nm,1.5s						
PV02	Paradox Valley	57.74	330	P	P	15 01 49.6	+1.9
PV02				IAmb	IAmb	15 02 17.2	
	comp=Z,3.5nm,0.9s						
D41A	Chassel	58.96	350	P	P	15 01 57.3	+1.7
PD31	Pinedale Array	61.70	333	P	P	15 02 14.8	0.0
PDAR	Pinedale Array	61.70	333	P	P	15 02 15.4	+0.6
	comp=Z,0.2nm,0.4s,baz=123,slow=9.8,SNR=1.7						
EGMT	Eagleton	65.98	336	P	P	15 02 42.9	+0.4
EGMT				IAmb	IAmb	15 02 51.2	
	comp=Z,7.6nm,1.2s						
E08A	Dider Farm, El	68.99	330	P	P	15 03 01.7	+0.4
E08A				IAmb	IAmb	15 03 27.4	
	comp=Z,3.1nm,0.5s						
NLWA	Neilton Lookou	72.03	328	P	P	15 03 20.4	+0.5
SNAA	Sanae	74.30	162	P	P	15 03 33.2	+0.3
SNAA				IAmb	IAmb	15 03 50.0	
	comp=Z,3.2nm,1.4s						
BBB	Bella Bella	77.19	330	P	P	15 03 49.7	+0.2
QSPA	South Pole Qui	79.02	180	P	P	15 04 00.7	+1.1
QSPA				IAmb	IAmb	15 04 01.3	
	comp=Z,3.3nm,1.2s						

*NEIC **01** 15:02:09.5±2.1, 25°.40S±0°.08×177°.5W±0°.1, h175km±5km, mb4.3/24, Error ellipse: s-maj=17.8km s-min=9.5km az=65.0*
*IDC **01** 15:02:09.0±5.3, 25°.39S×177°.59W, h166km±42km, mb3.6/9, mb1 3.8/10, mb1mx3.6/37, mbtmp4.1/10, MS4.5/1, Ms1 4.5/1, ms1mx3.3/40, Error ellipse: s-maj=40.6km s-min=19.1km az=133.0*
ISC 01 15:02:07.9±0.6**, 25°.40S**±0°.08×**177°.5W**±0°.1**, h160**km**, n49, σ1s.33**/44**, mb4.0**/21**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.86	186	Pn	Pn	15 03 09.1	+2.6
MSVF	Nonsavu	8.69	330	P	Pn	15 04 11.3	+0.7
	0.4nm,0.3s,baz=110,slow=12,SNR=4.9						
NIUE	Niue	9.40	49	Pn	Pn	15 04 14.7	-5.2
DZM	Mont Dzumac	15.10	279	P	P	15 05 38.0	+3.4
	0.6nm,0.3s,baz=99,slow=12,SNR=6.2						
WHZ	Wether Hill Ro	23.56	206	P	P	15 07 01.8	-1.9
ARMA	Armidale	27.71	253	P	P	15 07 40.1	-1.3
ARMA				IAmb	IAmb	15 07 52.8	
	comp=Z,14nm,1.4s						
EIDS	Eidsvold	28.38	263	P	P	15 07 48.7	+1.4
EIDS				IAmb	IAmb	15 07 49.8	
	comp=Z,6.5nm,0.7s						
TOO	Toolangi	33.63	240	P	P	15 08 32.5	-0.7
TOO				IAmb	IAmb	15 08 58.9	
	comp=Z,13nm,1.4s						
CTAO	Charters Tower	33.80	271	P	P	15 08 35.9	+1.0
CTAO				IAmb	IAmb	15 08 58.7	
	comp=Z,17nm,1.4s						
STKA	Stephens Creek	36.34	250	P	P	15 08 56.4	-0.1
	comp=Z,1.6nm,0.5s,baz=88,slow=10,SNR=6.1						
BBOO	Buckleboo	41.01	249	P	P	15 09 35.3	-0.1
AS31	Alice Springs	44.08	262	P	P	15 09 59.3	-1.0
AS31				IAmb	IAmb	15 10 02.2	
	comp=Z,1.8nm,0.5s						
ASAR	Alice Springs	44.08	262	P	P	15 09 59.6	-0.7
	comp=Z,1.8nm,0.5s,baz=88,slow=6.8,SNR=106						
WR0	Warramunga Arr	44.42	267	P	P	15 10 01.5	-1.6
WB2	Warramunga Arr	44.60	267	P	P	15 10 02.9	-1.6
WB2				IAmb	IAmb	15 10 13.9	
	comp=Z,6.9nm,1.4s						
WRAB	Tennant Creek	44.60	267	P	P	15 10 03.0	-1.5
WRAB				IAmb	IAmb	15 10 05.7	
	comp=Z,8.6nm,1.3s						
WB0	Warramunga Arr	44.61	267	P	P	15 10 02.8	-1.8
WB0				IAmb	IAmb	15 10 07.2	
	comp=Z,14nm,1.5s						
WRA	Warramunga Arr	44.61	267	P	P	15 10 03.1	-1.5
	comp=Z,1.1nm,0.5s,baz=101,slow=6.9,SNR=44						
WRA	Warramunga Arr	44.61	267	P	P	15 10 02.6	-1.9
FORT	Forrest	47.97	251	P	P	15 10 28.8	-1.7
MTN	Manton Dam	49.87	274	P	P	15 10 44.3	-0.9
MTN				IAmb	IAmb	15 11 09.2	
	comp=Z,19nm,1.2s						
KNRA	Kununurra	50.99	270	P	P	15 10 52.5	-1.0
KNRA				IAmb	IAmb	15 11 01.7	
	comp=Z,20nm,1.3s						
VNDA	Vanda	53.10	186	P	P	15 11 09.3	+1.0
NWAO	Narrogin (SRO)	56.72	246	P	P	15 11 35.0	-0.1
PSA00	Pilbara Seismi	57.16	260	P	P	15 11 36.6	-1.7
PSA00				IAmb	IAmb	15 11 57.5	
	comp=Z,6.3nm,1.2s						
BATI	Baumata	57.63	274	LR	LR	15 35 04.0	
	comp=Z,429nm,20.8s,baz=232,slow=34						
MORW	Morawa	58.53	250	P	P	15 11 46.3	-1.5
CASY	Casey	59.79	206	P	P	15 11 54.4	-1.3
QSPA	South Pole Qui	64.69	180	P	P	15 12 27.4	-1.2
QSPA				IAmb	IAmb	15 12 46.8	
	comp=Z,2.6nm,1.1s						
KIWB	Kanaga Island	76.92	0	P	P	15 13 42.1	0.0
MAW	Mawson	77.14	200	P	P	15 13 44.2	+0.9
	comp=Z,1.0nm,0.5s,baz=164,slow=7.4,SNR=2.1						
MAW	Mawson	77.14	200	IAmb	IAmb	15 13 50.1	
	comp=Z,1.3nm,1.1s						
UNV	Unalaska Valle	79.48	7	P	P	15 13 55.3	-0.8
KSRS	Korea Array	80.88	319	P	P	15 14 05.5	+1.5
	comp=Z,1.2nm,0.8s,baz=140,slow=5.7,SNR=5.3						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**81.11**	**345**	P	**P**	**15 14 04.8**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=116,slow=6.8,SNR=12						
PETK	**Petropavlovsk-**	**81.11**	**345**	P	**P**	**15 14 04.4**	**-0.5**
NVAR	**Mina Array Bea**	**84.26**	**43**	P	**P**	**15 14 22.9**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=223,slow=8.2,SNR=7.5						
NVAR	**Mina Array Bea**	**84.26**	**43**	P	**P**	**15 14 22.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**92.20**	**289**	P	**P**	**15 15 01.4**	**+1.6**
	comp=Z,0.6nm,0.5s,baz=127,slow=4.2,SNR=4.1						
CMAR	**Chiang Mai Arr**	**92.20**	**289**	P	**P**	**15 14 59.0**	**-0.8**
ILAR	**Eielson Array**	**92.97**	**13**	P	**P**	**15 15 01.1**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=210,slow=5.1,SNR=1.6						
BVAR	**Borovoye Array**	**123.08**	**318**	PKP	**PKPdf**	**15 20 44.6**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=210,slow=5.7,SNR=5.5						
ARCES	**ARCESS Array B**	**133.80**	**349**	PKP	**PKPdf**	**15 21 04.7**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=17,slow=8.9,SNR=8.0						
FINES	**FINESS Array B**	**140.58**	**342**	PKhKP	PKPpre	15 21 11.5	
	comp=Z,0.5nm,0.4s,baz=64,slow=4.4,SNR=7.0						
NOA	**NORSAR Array B**	**143.88**	**353**	PKP	PKPbc	15 21 21.5	-0.2
	comp=Z,0.3nm,0.6s,baz=65,slow=1.2,SNR=8.4						
AKASG	**Malin Array Be**	**147.47**	**328**	PKPbc	**PKPdf**	**15 21 31.2**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=45,slow=3.7,SNR=8.8						
BRTR	**Keskin Array B**	**150.31**	**306**	PKPbc	**PKPbc**	**15 21 40.1**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=143,slow=2.5,SNR=2.9						
MMAI	**Mount Meron Ar**	**150.41**	**293**	PKPbc	**PKPbc**	**15 21 41.8**	**+1.1**
	comp=Z,3.9nm,0.5s,baz=76,slow=7.0,SNR=7.6						
TORD	**Torodi Ar. Bea**	**167.79**	**176**	PKP	**PKPdf**	**15 21 55.2**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=286,slow=0.1,SNR=3.0						

*TUL **01** 15:05:34.3±0.8, 35°.98N±0°.01×97°.56W±0°.02, h6km±5km, ML2.9, mb_Lg2.9/61(NEIC), Error ellipse: s-maj=2.4km s-min=1.7km az=86.0*

NEIC 01 15:05:34.2±0.4**, 36°.00N**±0°.01×**97°.56W**±0°.02**, h6**km±7km**, Error ellipse: s-maj=2.6km s-min=1.8km az=72.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.22**	**156**		Pg	15 05 38.7	+0.2
OK029				Sg	Sg	15 05 41.8	+0.4
OK025	**Westminster Rd**	**0.45**	**156**	Pg	Pg	15 05 43.0	+0.1
OKCFA	**Oklahoma City**	**0.58**	**171**		Pg	15 05 45.4	-0.1
OK031	**S. Brethren Rd**	**0.59**	**94**		Pg	15 05 45.5	0.0
OK031				Sg	Sg	15 05 52.9	-0.3
OKCSW	**OKLAHOMA CITY**	**0.60**	**170**		Pg	15 05 45.5	-0.2
CROK	**Carrier**	**0.61**	**326**	Pg	Pg	15 05 46.4	+0.4
QUOK	**Quay**	**0.71**	**75**	Pg	Pg	15 05 48.0	0.0
QUOK				Sg	Sg	15 05 57.1	-0.1
FNO	**Franklin**	**0.75**	**170**	Pg	Pg	15 05 48.2	-0.4
FNO				Sg	Sg	15 05 57.9	-0.3
BLOK	**Blackwell**	**0.81**	**20**	Pg	Pg	15 05 50.0	+0.2
GC02	**Grant County #**	**0.89**	**344**	Pg	Pg	15 05 51.3	0.0
GC02				Sg	Sg	15 06 02.7	-0.1
OK032	**Salt Plains WL**	**0.96**	**327**	Pg	Pg	15 05 52.5	-0.2
KAN14	**Manchester OK**	**1.01**	**342**	Pg	Pg	15 05 53.6	-0.1
KAN14				Sg	Sg	15 06 07.0	+0.1
KAN13	**South Haven SW**	**1.02**	**4**	Pg	Pg	15 05 53.7	0.0
KAN17	**Caldwell West**	**1.06**	**351**	Pg	Pg	15 05 54.5	-0.1
KAN05	**Bluff City Nor**	**1.14**	**347**	Pg	Pg	15 05 55.9	-0.2
KAN10	**Anthony SW Sta**	**1.21**	**339**	Pg	Pg	15 05 57.1	-0.3
U32A	**Winter Ranch,**	**1.23**	**289**	Pg	Pg	15 05 57.3	-0.5
KS20	**Mayfield South**	**1.23**	**0**	Pg	Pg	15 05 57.6	-0.3
T35A	**Sooner Cattle**	**1.25**	**42**	Pg	Pg	15 05 57.5	-0.7
KAN08	**Anthony NE Sta**	**1.27**	**345**		Pn	15 05 58.2	-0.4
X34A	**Smith Ranch, M**	**1.41**	**189**	Pn	Pn	15 06 00.6	+0.2
WMOK	**Wichita Mounta**	**1.60**	**219**		Pn	15 06 03.0	-0.1
X37A	**Clayton**	**2.27**	**127**	IAmb_Lg		15 06 50.7	
	comp=Z,61nm,0.9s						
U38A	**Gravette**	**2.61**	**79**		Pn	15 06 17.3	+0.3
Z35A	**Perchaven, San**	**2.67**	**174**	Pn	Pn	15 06 17.7	-0.1
HHAR	**Hobbs**	**2.95**	**83**	Pn	Pn	15 06 21.6	0.0
W39A	**Magazine**	**3.18**	**103**	IAmb_Lg		15 07 22.4	
	comp=Z,37nm,0.8s						
CBKS	**Cedar Bluff**	**3.31**	**329**	IAmb_Lg		15 07 27.7	
	comp=Z,27nm,0.8s						
Z38A	**Mt. Pleasant**	**3.46**	**141**	IAmb_Lg		15 07 27.1	
	comp=Z,27nm,0.8s						
AMTX	**Amarillo**	**3.54**	**253**	Pn	Pn	15 06 29.8	-0.1
AMTX				IAmb_Lg		15 07 31.2	
	comp=Z,23nm,0.9s						
MIAR	**Mount Ida**	**3.57**	**113**	IAmb_Lg		15 07 35.0	
	comp=Z,28nm,0.8s						
S39A	**Bolivar**	**3.80**	**62**		Pn	15 06 33.6	+0.3
S39A				IAmb_Lg		15 07 37.8	
	comp=Z,20nm,0.7s						
U40A	**Yellville**	**3.83**	**83**	Pn	Pn	15 06 33.7	0.0
WHTX	**Lake Whitney,**	**3.99**	**179**	Pn	Pn	15 06 35.8	-0.2
X40A	**Basin Creek Fa**	**4.15**	**110**	Pn	Pn	15 06 37.6	-0.6
X40A				IAmb_Lg		15 07 45.7	
	comp=Z,37nm,1.0s						
WLAR	**White Oak Lake**	**4.32**	**121**	IAmb_Lg		15 07 55.9	
	comp=Z,24nm,0.8s						
WHAR	**Wooly Hollow**	**4.35**	**98**	Pn	Pn	15 06 40.9	0.0
WHAR				IAmb_Lg		15 07 58.0	
	comp=Z,22nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.41**	**90**	Pn	Pn	15 06 41.6	-0.1
FCAR				IAmb_Lg		15 07 51.1	
	comp=Z,22nm,0.7s						
MGMO	**Mountain Grove**	**4.42**	**73**	Pn	Pn	15 06 41.6	-0.1
MGMO				IAmb_Lg		15 07 54.2	
	comp=Z,20nm,0.7s						
R40A	**Maddies Statio**	**4.81**	**60**		Pn	15 06 47.1	-0.1
R40A				IAmb_Lg		15 08 11.8	
	comp=Z,15nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.03**	**308**	Pn	Pn	15 06 50.1	-0.2
KSCO				IAmb_Lg		15 08 20.1	
	comp=Z,14nm,0.8s						
LCAR	**Lake Charles**	**5.19**	**87**	Pn	Pn	15 06 52.1	-0.4
LCAR				IAmb_Lg		15 08 22.2	
	comp=Z,15nm,0.8s						
T42A	**Van Buren**	**5.31**	**77**	Pn	Pn	15 06 53.5	-0.6
BGNE	**Belgrade**	**5.42**	**355**	Pn	Pn	15 06 55.2	-0.5
BGNE				IAmb_Lg		15 08 42.2	
	comp=Z,22nm,0.8s						
CCM	**Cathedral Cave**	**5.46**	**66**	Pn	Pn	15 06 56.0	-0.1
CCM				IAmb_Lg		15 08 39.3	
	comp=Z,13nm,0.8s						
P40A	**Paris**	**5.62**	**49**	Pn	Pn	15 06 58.2	-0.1
T25A	**Trinidad**	**5.63**	**284**	IAmb_Lg		15 08 38.6	
	comp=Z,24nm,1.0s						
PBMO	**Poplar Bluff**	**5.81**	**80**	IAmb_Lg		15 08 39.5	
	comp=Z,24nm,0.7s						
JCT	**Junction City**	**5.81**	**199**	IAmb_Lg		15 08 47.8	
	comp=Z,25nm,0.7s						
OGNE	**Ogallala**	**6.06**	**326**	IAmb_Lg		15 09 02.9	
	comp=Z,18nm,0.8s						
OXF	**Oxford**	**6.83**	**100**	IAmb_Lg		15 09 07.5	
	comp=Z,21nm,0.8s						
S44A	**Carbondale**	**6.87**	**73**	IAmb_Lg		15 09 30.5	
	comp=Z,11nm,0.7s						
SIUC	**Southern Illin**	**6.91**	**73**	IAmb_Lg		15 09 27.5	
	comp=Z,11nm,0.9s						
P43A	**Skaggs, Pawnee**	**7.33**	**58**	IAmb_Lg		15 09 27.2	
	comp=Z,17nm,1.0s						
L40A	**Anamosa**	**7.81**	**37**	IAmb_Lg		15 09 47.1	
	comp=Z,18nm,0.8s						
T47A	**Sharon Grove**	**8.48**	**80**	IAmb_Lg		15 10 17.8	
	comp=Z,13nm,1.1s						
JFWS	**Jewell Farm**	**8.93**	**37**	IAmb_Lg		15 10 25.0	
	comp=Z,11nm,0.7s						
P46A	**Rosedale**	**8.96**	**63**	IAmb_Lg		15 10 24.3	
	comp=Z,15nm,0.9s						
RSSD	**Black Hills**	**9.51**	**331**	IAmb_Lg		15 10 46.6	
	comp=Z,7.5nm,1.1s						
W18A	**Petrified Fore**	**9.96**	**269**	IAmb_Lg		15 11 11.3	
	comp=Z,12nm,0.8s						

*BJI **01** 15:11:04.9±0.0, 8°.97N×123°.65E, h98km, mB4.8/23, mb4.5/35*
*DJA **01** 15:11:05.7±0.4, 9°N±3°×12°4E±°, h68km±5km, M4.6/36, mb4.6/36, mB5.2/9, MLv4.8/1, Mw(mB)4.5/9, MwMwp4.8/2, Mwp5.2/2*
*NEIC **01** 15:11:07.3±1.4, 9°.10N±0°.08×123°.7E±0°.1, h97km±7km, mb4.7/45, Error ellipse: s-maj=16.3km s-min=10.7km az=66.0*
*IDC **01** 15:11:10.1±1.5, 9°.03N×123°.73E, h128km±16km, mb3.9/21, mb1 4.0/23, mb1mx3.9/46, mbtmp4.3/23, MS1.7/1, Ms1 1.7/1, ms1mx1.7/57, Error ellipse: s-maj=18.4km s-min=11.0km az=76.0*
ISC 01 15:11:01.3±0.8**, 9°.10N**±0°.04×**123°.76E**±0°.05**, h44**km±8km**, n137, σ1.76**/139**, mb4.5**/47**, 2C-6D, Negros**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.57**	**295**	⇓*i*P	**Pn**	**15 11 09.7**	**-3.6**
SNPH				*i* S	**Sn**	**15 11 17.3**	**-4.4**
DCPH	**Dipolog City**	**0.65**	**218**	⇑*e*P	**Pn**	**15 11 11.5**	**-2.7**
DCPH				*e*S	**Sn**	**15 11 20.7**	**-2.8**
LLP	**Lapu-Lapu**	**1.23**	**9**	⇓*i*P	**Pn**	**15 11 20.9**	**-1.2**
LLP				*i* S	**Sn**	**15 11 37.9**	**+0.4**
SCPH	**Surigao**	**1.83**	**68**	*e*P	**Pn**	**15 11 29.9**	**-0.5**
SCPH				*i* S	**Sn**	**15 11 46.1**	**-6.3**
JAP	**San Jose, Anti**	**2.42**	**313**	⇓*e*P	**Pn**	**15 11 38.6**	**+0.1**
JAP				*e*S	**Sn**	**15 12 10.4**	**+3.5**
KCP	**Kidapawan**	**2.46**	**148**	⇓*e*P	**Pn**	**15 11 40.6**	**+1.6**
KCP				*i* S	Sn	15 12 32.2	+24
RCP	**Roxas**	**2.64**	**338**	⇓*e*P	**Pn**	**15 11 41.1**	**-0.4**
DAV	**Davao City (W)**	**2.70**	**138**	P	Pn	15 11 51.3	+9.0
	55nm,0.3s,baz=111,slow=10,SNR=5.9						
DAV				S	Sn	15 12 26.1	+12
	73nm,0.3s,baz=320,slow=23,SNR=6.6						
DAV				LR	LR	15 12 28.1	
	comp=Z,16nm,21.4s,baz=176,slow=29						
DAV	**Davao City (W)**	**2.70**	**138**		Pn	15 11 49.5	+7.2
DAV	**Davao City (W)**	**2.70**	**138**	P	Pn	15 11 48.6	+6.2
LQP	**Lukban**	**5.43**	**337**	*e*P	**Pn**	**15 12 18.2**	**-1.8**
MNI	**Manado**	**7.68**	**172**	P	**Pn**	**15 12 54.3**	**+3.6**
	48nm,0.6s						
GAMI	**Galela, Maluku**	**8.25**	**151**	P	Pn	15 13 04.0	+5.4
	12µm987nm46nm,1.2s						
GTOI	**Gorontalo**	**8.44**	**185**	P	**Pn**	**15 13 01.5**	**+0.3**
	300nm31nm,0.8s						
TOLI2	**Tolitoli**	**8.47**	**201**	Pn	**Pn**	**15 13 01.7**	**+0.2**
TNTI	**Ternate**	**9.02**	**156**	Pn	Pn	15 13 14.7	+5.6
TNTI	**Ternate**	**9.02**	**156**	P	**Pn**	**15 13 13.7**	**+4.6**
	26nm,1.4s						
MPSI	**Mapaga**	**9.52**	**204**	P	**Pn**	**15 13 18.4**	**+2.5**
	7.7nm,0.8s						
APSI	**Ampana**	**10.16**	**192**	P	**Pn**	**15 13 28.0**	**+3.2**
	452nm59nm,1.0s						
SANI	**Sanana**	**11.30**	**169**	P	**Pn**	**15 13 44.2**	**+3.9**
	25nm,1.1s						
BKB	**Balikpapan**	**12.36**	**214**	P	**Pn**	**15 13 56.2**	**+1.4**
	215nm,1.5s						
SIJI	**Sorong**	**12.41**	**143**	P	Pn	15 14 00.4	+4.9
	7.3nm,1.1s						
TTSI	**Tana Toraja**	**12.69**	**198**	P	**Pn**	**15 14 04.0**	**+4.7**
	20nm,0.8s						
KRAI	**Karang Ratu**	**13.17**	**159**	P	**P**	**15 14 11.1**	**-3.9**
	3µm31nm,0.9s						
MTKI	**Muara Teweh, K**	**13.32**	**222**	P	**Pn**	**15 14 10.2**	**+2.2**
KKSI	**Kolaka, Sulawe**	**13.35**	**189**	P	**Pn**	**15 14 12.0**	**+3.6**
MSAI	**Masohi**	**13.39**	**157**	P	**Pn**	**15 14 13.1**	**+4.1**
	88nm3.0nm,1.0s						
PMSI	**Majene**	**13.42**	**201**	P	**Pn**	**15 14 12.8**	**+3.5**
	73nm,0.9s						
BNSI	**Bone**	**13.90**	**195**	P	**Pn**	**15 14 18.2**	**+2.4**
	830nm25nm,1.2s						
YULB	**Yu-li**	**14.41**	**351**	Pn	**P**	**15 14 26.9**	**-1.8**
TPUB	**Ta-pu**	**14.44**	**348**	Pn	**P**	**15 14 26.4**	**-2.6**
KAPI	**Kappang**	**14.58**	**196**	P	**Pn**	**15 14 27.4**	**+2.4**
	12nm,1.4s						
FAKI	**Fak Fak**	**14.63**	**144**	P	**P**	**15 14 31.4**	**+0.2**
	16nm,1.2s						
BKSI	**Bulukumba**	**14.78**	**194**	P	**Pn**	**15 14 29.5**	**+1.9**
	9.1nm,0.9s						
SSLB	**Suanglung**	**14.85**	**350**		**P**	**15 14 35.2**	**+1.6**
BNDI	**Bandanaira**	**14.85**	**155**	P	**P**	**15 14 33.5**	**-0.1**
	57nm,1.5s						
STKI	**Sintang**	**15.17**	**234**	P	**Pn**	**15 14 33.5**	**+0.7**
	4µm13nm,0.5s						
BBKI	**Banjar Baru**	**15.32**	**216**	P	**Pn**	**15 14 36.2**	**+1.4**
	29nm,1.5s						
QIZ	**Qiongzhong**	**16.71**	**308**	P	**P**	**15 14 53.8**	**-0.5**
QIZ				S	**Sn**	**15 17 59.8**	**+2.6**
QIZ				LR	LR		
	comp=N,330nm,14.7s						
QIZ				LR	LR		
	comp=E,310nm,14.7s						
QIZ				LR	LR		
	comp=Z,390nm,20.0s						
MMRI	**Maumere**	**17.68**	**185**	P	**P**	**15 15 07.4**	**+2.4**
	2µm60nm,1.2s						
EDFI	**Ende, Flores**	**17.85**	**187**	P	**P**	**15 15 07.6**	**+0.6**
	15nm,0.9s						
JOW	**Kunigami**	**18.15**	**13**	P	**Pn**	**15 15 12.0**	**+1.8**
JOW				IAmb	IAmb	15 15 15.7	
	comp=Z,32nm,1.1s						
SAUI	**Saumlaki**	**18.56**	**156**	P	**Pn**	**15 15 16.9**	**+1.7**
	comp=Z,3µmcomp=Z,62nm,0.8s						
KMMI	**Kalianget**	**18.78**	**212**	P	**Pn**	**15 15 18.4**	**+0.5**
	comp=Z,80nm,2.3s						
SRBI	**Singaraja**	**19.08**	**207**	P	**Pn**	**15 15 21.0**	**-0.5**
	comp=Z,72nm,1.2s						
BATI	**Baumata**	**19.18**	**180**	P	**Pn**	**15 15 23.3**	**+0.6**
	comp=Z,2.4nm,0.3s,baz=100,slow=1.3,SNR=13						
BATI				LR	LR	15 24 34.8	
	comp=Z,489nm,18.1s,baz=292,slow=42						
BATI	**Baumata**	**19.18**	**180**	P	**Pn**	**15 15 23.9**	**+1.2**
	comp=Z,65nm,0.9s						
JAGI	**Jajag, Banyuwa**	**19.91**	**209**	P	**Pn**	**15 15 30.6**	**-0.8**
JAGI				IAmb	IAmb	15 15 45.0	
	comp=Z,70nm,1.0s						
GENI	**Genyem**	**20.06**	**125**	P	Pn	15 15 35.0	+1.8
	comp=Z,37nm,1.1s						
JAY	**Jayapura**	**20.45**	**124**	P	Pn	15 15 39.1	+1.2
	comp=Z,22nm,1.1s						
SJI	**Sawahan**	**20.55**	**216**	P	**P**	**15 15 37.7**	**+1.1**
	comp=Z,34nm,2.4s						
PPBI	**Pangkal Pinang**	**20.82**	**238**	P	**P**	**15 15 40.5**	**+1.1**
	comp=Z,45nm,1.2s						
WHN	**Wuhan**	**23.07**	**339**	⇓P	**P**	**15 16 05.2**	**+2.0**
JSU	**Suzuyama**	**23.15**	**15**	P	**P**	**15 16 03.8**	**-0.2**
NJ2	**Nanjing**	**23.29**	**349**	*e*P	**P**	**15 16 07.3**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MDSI	**Maura Dua**	**23.73**	**236**	P	**P**	**15 16 11.1**	**+1.4**
	comp=Z,16nm,1.2s						
KNRA	**Kununurra**	**25.11**	**169**	P	**P**	**15 16 22.2**	**-0.1**
KNRA				IAmb	IAmb	15 16 41.8	
	comp=Z,40nm,1.5s						
MNSI	**Mandailing Nat**	**25.44**	**252**	P	**P**	**15 16 25.6**	**+0.2**
	comp=Z,13nm,0.8s						
PSI	**Prapat**	**25.47**	**257**	P	**P**	**15 16 26.4**	**+0.6**
	comp=Z,15nm,0.9s,baz=337,slow=1.5						
PSI	**Prapat**	**25.47**	**257**	P	**P**	**15 16 26.2**	**+0.4**
	comp=Z,260nmcomp=Z,10.0nm,1.0s,comp=Z,21nm,1.1s						
PSI				P	**P**	**15 16 26.7**	**+0.9**
	comp=Z,260nmcomp=Z,10.0nm,1.0s,comp=Z,21nm,1.1s						
RPSI	**Rantau Prapat**	**25.50**	**257**	P	**P**	**15 16 24.3**	**-1.6**
RPSI				IAmb	IAmb	15 16 27.5	
	comp=Z,14nm,0.8s						
RPSI	**Rantau Prapat**	**25.50**	**257**	P	**P**	**15 16 26.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**25.80**	**294**	P	**P**	**15 16 29.6**	**+0.9**
	comp=Z,4.7nm,1.0s,baz=115,slow=7.5,SNR=22						
CMAR	**Chiang Mai Arr**	**25.80**	**294**	P	**P**	**15 16 26.1**	**-2.6**
KSRS	**Korea Array**	**28.48**	**7**	P	**P**	**15 16 54.3**	**+1.9**
	comp=Z,1.3nm,0.7s,baz=182,slow=9.6,SNR=6.2						
COEN	**Coen**	**29.93**	**140**	P	**P**	**15 17 04.7**	**-0.9**
WRAB	**Tennant Creek**	**30.68**	**160**	P	**P**	**15 17 10.9**	**-1.1**
WRAB				IAmb	IAmb	15 17 12.5	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**30.68**	**160**	P	**P**	**15 17 11.6**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=330,slow=11,SNR=28						
WRA	**Warramunga Arr**	**30.68**	**160**	P	**P**	**15 17 11.0**	**-1.1**
WB2	**Warramunga Arr**	**30.69**	**160**	P	**P**	**15 17 11.3**	**-0.9**
WR0	**Warramunga Arr**	**30.77**	**160**	P	**P**	**15 17 12.3**	**-0.5**
BJT	**Baijiatuau**	**31.52**	**349**	P	**P**	**15 17 19.2**	**-0.1**
BJT				IAmb	IAmb	15 17 31.3	
	comp=Z,11nm,1.2s						
BJI	**Beijing**	**31.55**	**349**	P	**P**	**15 17 20.0**	**+0.5**
BJI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
LZH	**Lanzhou**	**32.41**	**329**	*e*P	**P**	**15 17 28.0**	**+0.6**
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
LZH				pmax	pmax		
	comp=Z,100nm,5.4s						
HHC	**Hu-ho-hao-te**	**33.42**	**343**	*e*P	**P**	**15 17 39.0**	**+2.9**
HHC				S	**S**	**15 22 56.3**	**+1.8**
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC				pmax	pmax		
	comp=Z,86nm,5.2s						
AS31	**Alice Springs**	**34.04**	**163**	P	**P**	**15 17 41.3**	**-0.2**
ASAR	**Alice Springs**	**34.04**	**163**	P	**P**	**15 17 41.6**	**+0.1**
	comp=Z,6.4nm,0.7s,baz=338,slow=6.8,SNR=102						
ASAR	**Alice Springs**	**34.04**	**163**	P	**P**	**15 17 41.2**	**-0.4**
SHL	**Shillong**	**34.42**	**302**	P	**P**	**15 17 44.7**	**-0.4**
USA0B	**Ussuriysk Arra**	**35.69**	**10**	P	**P**	**15 17 55.5**	**0.0**
USA0B				IAmb	IAmb	15 18 04.6	
	comp=Z,10nm,1.1s						
USRK	**Ussuriysk Ar.**	**35.69**	**10**	P	**P**	**15 17 57.4**	**+1.9**
	comp=Z,2.9nm,0.8s,baz=214,slow=10,SNR=6.0						
USRK	**Ussuriysk Ar.**	**35.69**	**10**	P	**P**	**15 17 56.1**	**+0.6**
MDJ	**Mudanjiang**	**35.74**	**7**	P	**P**	**15 17 57.6**	**+1.7**
MDJ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,110nm,5.3s						
MDJ	**Mudanjiang**	**35.74**	**7**	P	**P**	**15 17 55.6**	**-0.3**
MDJ				IAmb	IAmb	15 18 05.6	
	comp=Z,10nm,1.0s						
CTAO	**Charters Tower**	**36.49**	**143**	P	**P**	**15 18 03.4**	**+0.8**
CTAO				IAmb	IAmb	15 18 04.7	
	comp=Z,21nm,1.4s						
GTA	**Gaotai**	**37.01**	**329**	⇑P	**P**	**15 18 08.4**	**+1.4**
GTA				pP	sP	15 18 30.6	+6.6
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,90nm,8.7s						
GTA				LR	LR		
	comp=Z,410nm,8.7s						
GTA				LR	LR		
	comp=Z,3µm,12.4s						
GTA				LR	LR		
	comp=Z,3µm,13.1s						
MORW	**Morawa**	**38.67**	**191**	P	**P**	**15 18 20.7**	**-0.2**
MORW				IAmb	IAmb	15 18 21.5	
	comp=Z,19nm,1.1s						
FORT	**Forrest**	**39.87**	**174**	P	**P**	**15 18 31.1**	**+0.2**
HNR	**Honiara**	**40.46**	**116**	P	**P**	**15 18 36.2**	**+0.2**
KLR	**Kul'dur**	**40.56**	**8**	P	**P**	**15 18 37.1**	**+0.7**
	comp=Z,0.9nm,0.4s,baz=221,slow=6.6,SNR=1.5						
YSS	**Yuzh-Sakhalins**	**41.05**	**20**	P	**P**	**15 18 40.0**	**-0.4**
YSS				IAmb	IAmb	15 18 42.7	
	comp=Z,11nm,1.2s						
ULN	**Ulaanbaatar**	**41.14**	**343**	P	**P**	**15 18 41.4**	**0.0**
ULN				IAmb	IAmb	15 18 53.6	
	comp=Z,5.9nm,0.9s						
ULN	**Ulaanbaatar**	**41.14**	**343**	P	**P**	**15 18 42.3**	**+0.9**
	comp=Z,28nm,1.0s						
SONM	**Songino Array**	**41.31**	**342**	P	**P**	**15 18 43.4**	**+0.6**
	comp=Z,4.0nm,1.0s,baz=161,slow=9.4,SNR=18						
SONM	**Songino Array**	**41.31**	**342**	P	**P**	**15 18 41.7**	**-1.0**
NWAO	**Narrogin (SRO)**	**42.25**	**188**	P	**P**	**15 18 49.6**	**-0.9**
BBOO	**Buckleboo**	**43.30**	**165**	P	**P**	**15 18 59.0**	**+0.1**
STKA	**Stephens Creek**	**44.17**	**158**	P	**P**	**15 19 06.1**	**+0.1**
	comp=Z,6.0nm,0.8s,baz=325,slow=7.8,SNR=10						
STKA	**Stephens Creek**	**44.17**	**158**	P	**P**	**15 19 06.1**	**+0.1**
WMQ	**Urumqi**	**46.67**	**324**	*e*P	**P**	**15 19 27.3**	**+1.5**
MNCI	**Minicoy**	**50.09**	**273**	P	**P**	**15 19 51.4**	**-1.1**
TOO	**Toolangi**	**50.69**	**158**	P	**P**	**15 19 57.0**	**+0.4**
TOO				IAmb	IAmb	15 19 59.6	
	comp=Z,26nm,1.4s						
MK31	**Makanchi Array**	**51.49**	**324**	P	**P**	**15 20 02.3**	**-0.3**
MKAR	**Makanchi Array**	**51.49**	**324**	P	**P**	**15 20 03.1**	**+0.5**
	comp=Z,3.4nm,0.8s,baz=128,slow=8.0,SNR=30						
MKAR				PcP	**PcP**	**15 21 16.1**	**-0.3**
	comp=Z,2.7nm,0.9s,baz=121,slow=5.8,SNR=6.5						
MKAR	**Makanchi Array**	**51.49**	**324**	P	**P**	**15 20 02.4**	**-0.2**
MAKZ	**Makanchi**	**51.68**	**324**	P	**P**	**15 20 03.7**	**-0.3**
PETK	**Petropavlovsk-**	**51.73**	**25**	P	**P**	**15 20 03.8**	**-0.5**
	comp=Z,1.8nm,1.0s,baz=188,slow=5.2,SNR=5.1						
KSH	**Kashi**	**52.20**	**314**	P	**P**	**15 20 09.4**	**+1.2**
KSH				pP	sP	15 20 35.2	+10
KSH				PcP	**PcP**	**15 21 21.2**	**+1.8**
KSH				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KSH				LR	LR		
	comp=Z,1µm,10.4s						
KSH				LR	LR		
	comp=Z,2µm,10.4s						
KSH				LR	LR		
	comp=Z,1µm,14.0s						
NIL	**Nilore**	**52.37**	**306**	P	**P**	**15 20 09.4**	**0.0**
KDJ	**Kajisay**	**52.41**	**317**	P	**P**	**15 20 09.7**	**-0.1**
KDJ				IAmb	IAmb	15 20 11.2	
	comp=Z,3.9nm,0.7s						
ZAA0	**Zalesovo Array**	**54.49**	**333**	P	**P**	**15 20 23.7**	**-0.8**
ZAA0				IAmb	IAmb	15 20 25.1	
	comp=Z,6.2nm,1.1s						
ZALV	**Zalesovo Beam**	**54.49**	**333**	P	**P**	**15 20 23.7**	**-0.8**
	comp=Z,2.2nm,0.7s,baz=137,slow=5.2,SNR=6.8						
ZALV	**Zalesovo Beam**	**54.49**	**333**	P	**P**	**15 20 23.1**	**-1.4**
GAR	**Garm**	**56.16**	**311**	P	**P**	**15 20 36.4**	**-0.6**
CHGR	**Chuyangaron**	**56.93**	**310**	P	**P**	**15 20 41.3**	**-1.2**
KK31	**Karatay Array**	**57.33**	**316**	P	**P**	**15 20 43.9**	**-1.2**
KK31				IAmb	IAmb	15 20 46.3	
	comp=Z,7.5nm,0.8s						
KKAR	**Karatay Array**	**57.33**	**316**	P	**P**	**15 20 43.6**	**-1.5**
BVAR	**Borovoye Array**	**61.24**	**326**	P	**P**	**15 21 12.1**	**+0.2**
	comp=Z,8.4nm,0.9s,baz=171,slow=10,SNR=37						
BRVK	**Borovoye**	**61.31**	**326**	P	**P**	**15 21 11.8**	**-0.6**
NRIK	**Noril'sk**	**64.55**	**347**	P	**P**	**15 21 33.2**	**-0.3**
	comp=Z,3.8nm,0.8s,baz=117,slow=8.1,SNR=6.3						
NRIK	**Noril'sk**	**64.55**	**347**	P	**P**	**15 21 33.0**	**-0.6**
NRIK				IAmb	IAmb	15 21 34.9	
	comp=Z,5.1nm,0.9s						
ABKAR	**Akbulak array**	**66.16**	**320**	P	**P**	**15 21 41.8**	**-2.6**
ABKAR				IAmb	IAmb	15 21 45.2	
	comp=Z,12nm,0.9s						
BKZ	**Black Stump Fm**	**68.53**	**138**	P	**P**	**15 21 59.7**	**+0.1**
ARU	**Arti**	**68.85**	**327**	P	**P**	**15 22 00.4**	**-0.8**
ARU				IAmb	IAmb	15 22 01.5	
	comp=Z,13nm,0.8s						
SDPT	**Sand Point**	**74.47**	**35**	P	**P**	**15 22 35.3**	**+0.2**
SDPT				IAmb	IAmb	15 22 46.5	
	comp=Z,14nm,1.1s						
KBZ	**Khabaz**	**77.18**	**313**	P	**P**	**15 22 49.6**	**-1.2**
	comp=Z,3.9nm,1.1s,baz=197,slow=6.5,SNR=4.5						
L19K	**White Mountain**	**77.98**	**28**	P	**P**	**15 22 55.8**	**+0.8**
L19K				IAmb	IAmb	15 22 58.4	
	comp=Z,8.5nm,1.3s						
ILAR	**Eielson Array**	**81.56**	**26**	P	**P**	**15 23 13.4**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=258,slow=4.3,SNR=3.7						
ASF	**Jabal al Asfar**	**82.58**	**301**	P	**P**	**15 23 19.9**	**-0.5**
	comp=Z,2.5nm,1.0s,baz=132,slow=13,SNR=3.1						
K27K	**Chicken**	**83.71**	**26**	P	**P**	**15 23 26.4**	**+1.0**
BRTR	**Keskin Array B**	**84.35**	**309**	P	**P**	**15 23 28.8**	**-0.6**
	comp=Z,3.0nm,0.8s,baz=132,slow=3.7,SNR=6.7						
BRTR	**Keskin Array B**	**84.35**	**309**	P	**P**	**15 23 26.6**	**-2.8**
FINES	**FINESS Array B**	**85.74**	**331**	P	**P**	**15 23 34.8**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=91,slow=9.7,SNR=1.9						
AKASG	**Malin Array Be**	**85.89**	**321**	P	**P**	**15 23 35.4**	**-1.2**
	comp=Z,6.0nm,0.8s,baz=70,slow=4.4,SNR=17						
AKASG	**Malin Array Be**	**85.89**	**321**	P	**P**	**15 23 35.1**	**-1.6**
NOA	**NORSAR Array B**	**92.69**	**333**	P	**P**	**15 24 07.0**	**-1.7**
	comp=Z,0.4nm,0.4s,baz=72,slow=4.4,SNR=3.1						
TORD	**Torodi Ar. Bea**	**118.37**	**290**	PKP	**PKPdf**	**15 29 44.2**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=174,slow=1.4,SNR=2.6						

*IDC **01** 15:14:38.0±0.8, 13°.69N×51°.77E, h0km, mb3.6/13, mb1 3.8/14, mb1mx3.6/52, mbtmp3.7/14, ML3.7/1, MS3.6/3, Ms1 3.6/3, ms1mx3.1/68, Error ellipse: s-maj=21.9km s-min=18.3km az=136.0*
*OMAN **01** 15:14:42.1±1.5, 13°.88N×51°.73E, h48km±72km, mb5.1/6, ml4.0/4, Error ellipse: s-maj=21.6km s-min=11.4km az=113.0*
ISC 01 15:14:40.4±0.6**, 13°.79N**±0°.08×**51°.87E**±0°.09**, h16**km**, n30, σ1.66**/31**, mb3.7**/13**, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SOCY	**Socotra**	**2.61**	**127**	P	**Pn**	**15 15 18.9**	**-3.1**
	SNR=583						
ABTO	**Aybut**	**3.80**	**21**	S	**Sn**	**15 16 21.5**	**-1.3**
RBK	**Rabkut**	**4.32**	**31**	S	**Sn**	**15 16 35.4**	**-0.4**
WHFO	**Wadi Hawf**	**4.50**	**24**	S	**Sn**	**15 16 38.3**	**-1.7**
DMTO	**DMTO**	**4.90**	**37**	P	**Pn**	**15 15 54.1**	**+0.6**
	SNR=53						
DMTO				S	**Sn**	**15 16 51.0**	**+1.0**
DOK	**Doka**	**5.27**	**24**	P	**Pn**	**15 15 58.2**	**-0.3**
	SNR=26						
ATD	**Arta Tunnel**	**9.09**	**257**	Pn	**Pn**	**15 16 51.6**	**+0.5**
	1.6nm,0.3s,baz=81,slow=6.5,SNR=6.6						
ATD				LR	LR	15 19 24.6	
	comp=Z,226nm,19.5s,baz=93,slow=32						
WBK	**Wadi Bani Khal**	**11.06**	**37**	P	**Pn**	**15 17 18.1**	**0.0**
	SNR=7.0						
ASUD	**Al Ashush, Dub**	**11.26**	**16**	P	**Pn**	**15 17 20.3**	**-0.5**

SNR=13
WSAR Wadi Sarin 11.37 33 Pn Pn 15 17 21.9 -0.5
0.5nm,0.3s,baz=272,slow=17,SNR=10
WSAR Sn Sn 15 19 23.0 -6.2
0.4nm,0.3s,baz=36,slow=5.1,SNR=1.8
WSAR Wadi Sarin 11.37 33 P Pn 15 17 22.4 0.0
SNR=8.5
MASF Masafi 12.21 19 P Pn 15 17 33.5 -0.3
BANOM Banah 12.77 18 P Pn 15 17 40.5 -0.9
SHME Shamm 12.84 18 P Pn 15 17 41.5 -0.8
KMBO Kilima Mbogo 20.72 225 P P 15 19 18.6 -2.0
1.0nm,0.4s,baz=39,slow=14,SNR=4.0
KMBO LR LR 15 27 12.1
comp=Z,93nm,20.2s,baz=96,slow=37
MMAI Mount Meron Ar 24.32 325 P P 15 19 57.9 +0.4
0.3nm,0.3s,baz=152,slow=36,SNR=1.9
GEYT Alibeck 24.68 12 P P 15 20 02.9 +2.2
55nm,0.8s,baz=209,slow=21,SNR=4.0
MATP Matopo 41.04 215 P P 15 22 22.0 -1.4
1.9nm,0.7s,baz=33,slow=9.0,SNR=4.0
AKASG Malin Array Be 41.15 338 P P 15 22 23.5 -0.3
0.1nm,0.3s,baz=146,slow=7.3,SNR=1.5
MKAR Makanchi Array 41.61 32 P P 15 22 29.3 +1.6
0.6nm,0.6s,baz=225,slow=8.1,SNR=3.0
CMAR Chiang Mai Arr 45.36 78 P P 15 22 60.0 +1.5
1.7nm,0.7s,baz=274,slow=8.7,SNR=12
ZALV Zalesovo Beam 47.70 26 P P 15 23 16.5 +0.2
0.7nm,0.5s,baz=225,slow=9.8,SNR=2.2
TORD Torodi Ar. Bea 48.73 275 P P 15 23 24.9 +0.2
0.4nm,0.7s,baz=101,slow=7.5,SNR=2.5
FINES FINESS Array B 51.09 344 P P 15 23 41.9 -0.1
2.5nm,0.9s,baz=152,slow=8.6,SNR=3.9
MDT Midelt 54.58 301 LR LR 15 47 13.4
comp=Z,185nm,18.2s,baz=245,slow=36
ESDC Sonseca Array 55.13 309 P P 15 24 11.8 -0.4
0.5nm,0.7s,baz=93,slow=7.8,SNR=2.6
SONM Songino Array 56.30 41 P P 15 24 21.9 +1.3
0.4nm,0.6s,baz=243,slow=9.5,SNR=2.9
WRA Warramunga Arr 87.74 111 P P 15 27 29.1 -0.1
0.3nm,0.6s,baz=316,slow=4.0,SNR=5.2
ASAR Alice Springs 88.34 115 P P 15 27 32.0 0.0
0.2nm,0.5s,baz=282,slow=4.7,SNR=5.2
NVAR Mina Array Bea 127.25 350 PKP PKiKP 15 33 47.1 +1.6
0.1nm,0.3s,baz=13,slow=1.9,SNR=1.4

JMA 01 15:18:26.5±0.1, 24°.70N×122°.81E, h16km±2km, M1.3, Taiwan region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.28**	**154**	P	Pg	15 18 32.4	-0.1
JYNG				S	Sg	15 18 36.5	0.0
YOJ	**Yonaguni jima**	**0.30**	**142**	P	Pg	15 18 32.7	-0.2
YOJ				S	Sg	15 18 37.1	-0.1
IRIF	**Iriomote-Funau**	**0.91**	**113**	P	Pb	15 18 43.4	-0.6
IRIF				*e*S	Sb	15 18 56.0	+0.1
HATJ	**Hateruma jima**	**1.11**	**125**	P	Pb	15 18 47.2	-0.1
JKRS	**Kuro-shima**	**1.19**	**113**	P	Pn	15 18 47.8	-0.6
JKRS				*e*S	Sb	15 19 03.5	-0.2
JIJ	**Ishigaki jima**	**1.26**	**105**	P	Pb	15 18 50.0	+0.1
JIJ				*e*S	Sn	15 19 06.0	-0.1

TAP 01 15:19:00.8, 23°.90N×121°.46E, h16km, ML1.2, C, Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ETM	**Tongmen** baz=29	**0.07**	**28**	P	Pg	15 19 04.3	+0.3
ETM	baz=29			S	Sg	15 19 06.3	+0.1
ESL	**Shilin** baz=188	**0.09**	**194**	*i* P	Pg	15 19 04.4	+0.1
ESL	baz=188			*i* S	Sg	15 19 06.5	0.0
HWA	**Hwalien** baz=64	**0.15**	**62**	P	Pb	15 19 05.4	+0.1
HWA	baz=64			S	Sb	15 19 08.6	+0.3
EGFH	**Guangfu** baz=186	**0.24**	**187**	P	Pg	15 19 06.2	0.0
EGFH	baz=186			S	Sg	15 19 09.8	0.0
OWD	**Renai** baz=286	**0.26**	**281**	*e*S	Sb	15 19 11.6	0.0
WHF	**Hehuan Shan** baz=325	**0.30**	**324**	P	Pg	15 19 07.7	+0.2
WHF	baz=325			S	Sg	15 19 12.2	+0.2
ETLH	**Xiulin Townshi** baz=5.0	**0.30**	**4**	P	Pg	15 19 07.3	-0.1
ETLH	baz=5.0			S	Sg	15 19 11.2	-0.7
FUSS	**Fushou** baz=324	**0.39**	**330**	P	Pb	15 19 09.7	+0.1
FUSS	baz=324			S	Sg	15 19 14.8	+0.2
YULB	**Yu-li** baz=187	**0.53**	**196**	P	Pb	15 19 11.7	0.0
YULB	baz=187			S	Sb	15 19 18.9	-0.3

*BJI **01** 15:24:03.8±0.0, 31°.27N×141°.85E, h5km, mB5.4/65, mb5.2/82, Ms5.9/88, Ms7 5.9/83*
*IDC **01** 15:24:06.8±0.3, 31°.21N×141°.67E, h0km, mb5.1/53, mb1 5.2/58, mb1mx5.2/67, mbtmp5.1/58, ML4.2/4, Error ellipse: s-maj=11.2km s-min=7.8km az=87.0*
*MOS **01** 15:24:07.5±1.1, 31°.21N×141°.70E, h16km, mb5.7/147, MS5.8/33, Error ellipse: s-maj=5.7km s-min=3.2km az=114.6*
*NEIC **01** 15:24:08.5±1.5, 31°.28N±0°.05×141°.71E±0°.08, h10km±1km, mb5.6/410, Error ellipse: s-maj=12.1km s-min=8.2km az=70.0*
*BGR **01** 15:24:13.5±0.0, 31°.52N×142°.19E, h33km, mb5.6*
*JMA **01** 15:24:14.3±0.6, 31°.72N×141°.62E, h22km*
ISC 01 15:24:08.7±0.5, **31°.30N**±0°.03×**141°.75E**±0°.04, **h14**km±2km, **h14km:pP-P, n1490, σ1s.58**/1558, **mb5.5**/481, **MS5.8**/59, **256C-52D, Fault plane solution: NP1:**φs42.47333°, δ72.60947°, λ101.16966°. **NP2:**φs189.02284°, δ20.57492°, λ58.26307°. **Principal axes:** T Plg60.8497°, Azm328.8057°; N Plg10.6530°, Azm219.0959°; P Plg26.7861°, Azm123.6469°; **Southeast of Honshu**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JAOM Aogashimamukai 2.05 305 P Pn 15 24 43.8 +1.0
JHCJ Hachijojimakas 2.42 317 P Pn 15 24 48.7 +0.8
JHJ2 Mitsune 2.44 318 P Pn 15 24 48.6 +0.5
JHJ2 Mitsune 2.44 318 Pn Pn 15 24 48.3 +0.2
JHJ Hachijo jima 2 2.46 318 Pn Pn 15 24 48.8 +0.3
58nm,0.3s,baz=204,slow=7.8,SNR=18
JHJ Sn Sn 15 25 18.9 +0.7
216nm,0.3s,baz=256,slow=22,SNR=3.6
BSO1 Boso 1 3.40 349 P Pn 15 25 01.8 +0.9
BSO3 Boso 3 3.64 344 P Pn 15 25 05.7 +1.3
JIZS Izushimoda 4.17 325 P Pn 15 25 13.4 +1.4
JCJ Chichijima 4.21 175 Pn Pn 15 25 12.5 0.0
46nm,0.3s,baz=19,slow=19,SNR=70
JCJ Sn Sn 15 25 57.4 -4.1
99nm,0.3s,baz=278,slow=22,SNR=4.2
JCJ Chichijima 4.21 175 Pn 15 25 12.1 -0.4
JHTM Izuhatsuma 4.31 329 P Pn 15 25 15.4 +1.5
JSG Sagara 4.50 319 Pn 15 25 17.4 +0.9
JOD2 Odawara 2 4.53 331 P Pn 15 25 17.3 +0.3
JSGW Sagamiharawaka 4.78 334 P Pn 15 25 21.3 +0.9
JSGW S Sn 15 26 15.8 +0.2
JYN Shimob 4.97 328 P Pn 15 25 24.8 +1.8
JHU Hanno 4.98 336 *e*S Sn 15 26 16.3 -4.2
JYT Yasato 5.08 346 P Pn 15 25 25.0 +0.6
JYT Yasato 5.08 346 Pn Pn 15 25 25.0 +0.6
JNY Yasuok 5.19 322 P Pn 15 25 29.5 +3.5
JRY Ryogami san 5.27 334 P Pn 15 25 27.7 +0.7
JHO Hitachi 5.38 350 P Pn 15 25 28.2 -0.4
JHO *e*S Sn 15 26 25.8 -4.6
JAG Ashikaga 5.45 340 P Pn 15 25 29.1 -0.5
JGF Kuroka 5.64 321 Pn Pn 15 25 34.7 +2.5
INU Inuyama 5.65 317 Pn Pn 15 25 34.0 +1.6
JNG Nsakai 5.93 330 P Pn 15 25 39.3 +3.1
JYTA Yamagatataniai 5.99 317 P Pn 15 25 40.1 +3.2
MJAR Matsushiro Arr 6.00 332 Pn Pn 15 25 38.7 +1.6
3.0nm,0.3s,baz=150,slow=10,SNR=209
MAJO Matsushiro 6.00 332*ce*P Pn 15 25 38.8 +1.7
MAJO Matsushiro 6.00 332 Pn Pn 15 25 39.4 +2.4
MAT Matsushiro 6.00 332 P Pn 15 25 38.3 +1.2
MAT Matsushiro 6.00 332 *e*S Sn 15 26 41.4 -4.2
MAT Matsushiro 6.00 332 P Pn 15 25 39.9 +2.8
MAT Matsushiro 6.00 332 P Sn 15 26 41.7 -3.9
MJB9 Matsu-Tunnel 6.00 332 Pn 15 25 39.5 +2.4
JMM Marumori 6.59 353 Pn 15 25 44.8 -0.4
JWT Wachi 6.63 308 Pn 15 25 46.8 +1.0
JMN Monobe 7.07 292 Pn Pn 15 25 51.5 -0.4
JIO Ouri 7.14 357 P Pn 15 25 51.8 -1.0
JSD Sado 7.31 338 Pn Pn 15 25 54.2 -0.8
JYK Kaneyama 7.68 352 P Pn 15 26 00.6 +0.4
OFUJ Ofunato 7.76 360 P Pn 15 26 00.7 -0.5
JHS Saijyo 8.12 299 Pn 15 26 07.7 +1.4
JSZI Iwateshizukuis 8.45 356 P Pn 15 26 11.1 +0.4
JKI Kunimi 8.91 288 P Pn 15 26 23.3 +6.3
JNU Nakatsue 9.38 284 Pn Pn 15 26 27.4 +3.8
0.9nm,0.3s,baz=68,slow=8.5,SNR=20
JNU Nakatsue 9.38 284 Pn 15 26 24.8 +1.2
JTM Tenmabayashi 9.48 357 Pn 15 26 24.0 -0.9
JSU Suzuyama 9.65 274 Pn 15 26 28.0 +0.7
JFI Itaya 9.84 285 P Pn 15 26 36.0 +6.2
JMZ Minamidaito 2 10.74 242 Pn Pn 15 26 42.1 -0.1
ERM Erimo 10.75 6⇑*e*P Pn 15 26 40.0 -2.2
ERM pmax pmax
comp=Z,73nm,0.7s
ERM Erimo 10.75 6 Pn Pn 15 26 39.8 -2.4
JEW Eniwo 11.52 359 Pn 15 26 50.5 -2.2
GWYB Gwangyang 12.33 291 P Pn 15 27 09.1 +5.3
SNR=8.1
GWYB Gwangyang 12.33 291 P Pn 15 27 09.1 +5.3
SNR=8.1
KSDGY Daegwallycong 12.52 304 P P 15 27 15.0 -3.3
SNR=5.9
KSDGY Daegwallycong 12.52 304 P P 15 27 15.0 -3.3
SNR=5.9
KSDGY Daegwallycong 12.52 304 P P 15 27 15.0 -3.3
SNR=5.9
JOW Kunigami 12.60 253 Pn 15 27 09.3 +1.8
JKA Kamikawa-asahi 12.81 3 Pn 15 27 08.1 -2.3
JKA Kamikawa-asahi 12.81 3 Sn 15 29 26.4 -6.3
ASAJ Asahikawa 12.81 3 Pn Pn 15 27 09.1 -1.3
comp=Z,4.0nm,0.3s,baz=214,slow=9.9,SNR=39
ASAJ Sn Sn 15 29 26.4 -6.3
comp=Z,1.3nm,0.3s,baz=7.4,slow=30,SNR=5.8
KSWJU Wonju 12.84 302 P P 15 27 19.0 -2.8
SNR=18
KSWJU Wonju 12.84 302 P P 15 27 19.0 -2.8
SNR=18
KSWJU Wonju 12.84 302 P P 15 27 19.0 -2.8
SNR=18
KSRS Korea Array 12.96 302 Pn Pn 15 27 16.2 +3.8
comp=Z,0.6nm,0.3s,baz=118,slow=15,SNR=26
KSAR Wonju Array Be 12.98 302 P Pn 15 27 13.1 +0.4
KSAR Wonju Array Be 12.98 302 Pn 15 27 13.1 +0.4
TJN Taejon 12.98 297*c i*P Pn 15 27 16.3 +3.6
KS19 Wonju Array Si 13.02 302 Pn Pn 15 27 14.6 +1.3
KSJEU Jeongeup 13.06 293 P Pn 15 27 18.7 +4.8
SNR=11
KSJEU Jeongeup 13.06 293 P Pn 15 27 18.7 +4.8
SNR=11
KSJEU Jeongeup 13.06 293 P Pn 15 27 18.7 +4.8
SNR=11
YUK Yuzh-Kuril'sk 13.12 13*ce*P Pn 15 27 10.4 -4.2
KSCHC Chuncheon 13.17 303 P P 15 27 23.1 -2.3
SNR=7.2
KSCHC Chuncheon 13.17 303 P P 15 27 23.1 -2.3
SNR=7.2
KSCHC Chuncheon 13.17 303 P P 15 27 23.1 -2.3
SNR=7.2
KOJ2 Gongju-si 13.18 297 P P 15 27 21.0 -4.5
SNR=11
KOJ2 Gongju-si 13.18 297 P P 15 27 21.0 -4.5
SNR=11
KOJ2 Gongju-si 13.18 297 P P 15 27 21.0 -4.5
SNR=11
KSCEA Cheonan 13.21 299 P P 15 27 21.1 -4.7
SNR=14
KSCEA Cheonan 13.21 299 P P 15 27 21.1 -4.7
SNR=14
KSCEA Cheonan 13.21 299 P P 15 27 21.1 -4.7
SNR=14
GOCB Gochang-gun 13.29 292 P P 15 27 23.0 -3.8
SNR=10
GOCB Gochang-gun 13.29 292 P P 15 27 23.0 -3.8
SNR=10
GOCB Gochang-gun 13.29 292 P P 15 27 23.0 -3.8
SNR=10
KSJDO Jindo 13.35 288 P P 15 27 23.4 -4.0
SNR=7.3
KSJDO Jindo 13.35 288 P P 15 27 23.4 -4.0
SNR=11
KSJDO Jindo 13.35 288 P P 15 27 23.4 -4.0
SNR=11
SMKB Mukjeong-gil 13.41 293 P P 15 27 24.0 -4.1
SNR=13
SMKB Mukjeong-gil 13.41 293 P P 15 27 24.0 -4.1
SNR=13
SMKB Mukjeong-gil 13.41 293 P P 15 27 24.0 -4.1
SNR=13
KSCWO Cheorwon 13.51 304 P P 15 27 27.8 -1.5
SNR=7.7
KSCWO Cheorwon 13.51 304 P P 15 27 27.8 -1.5
SNR=7.7
KSCWO Cheorwon 13.51 304 P P 15 27 27.8 -1.5
SNR=7.7
HAWB Hwaseong-si 13.66 299 P P 15 27 27.1 -3.7
SNR=15
HAWB Hwaseong-si 13.66 299 P P 15 27 27.1 -3.7
SNR=15
HAWB Hwaseong-si 13.66 299 P P 15 27 27.1 -3.7
SNR=15
KSSES Seosan 13.81 297 P Pn 15 27 28.0 +4.0
SNR=28
KSSES Seosan 13.81 297 P Pn 15 27 28.0 +4.0
SNR=28
KSSES Seosan 13.81 297 P Pn 15 27 28.0 +4.0
SNR=28
INCN Inchon 13.91 300 P Pn 15 27 27.2 +1.7
INCN Inchon 13.91 300 Pn 15 27 27.2 +1.7
YNCB YEONCHEON 13.92 303 P P 15 27 31.5 -2.1
SNR=12
YNCB YEONCHEON 13.92 303 P P 15 27 31.5 -2.1
SNR=12
YNCB YEONCHEON 13.92 303 P P 15 27 31.5 -2.1
SNR=12
KSMUS Musan 13.98 302 P P 15 27 32.6 -1.7
SNR=14
KSMUS Musan 13.98 302 P P 15 27 32.6 -1.7
SNR=14
KSMUS Musan 13.98 302 P P 15 27 32.6 -1.7
SNR=14
MSHR Mys Shultsa 14.07 326⇓*e*P Pn 15 27 28.1 +0.5
MSHR pmax pmax
comp=Z,56nm,1.3s
KSGAH Ganghwa 14.13 301 P P 15 27 34.0 -2.1
SNR=12
KSGAH Ganghwa 14.13 301 P P 15 27 34.0 -2.1
SNR=12
VLA Vladivostok 14.16 329*de*P Pn 15 27 30.1 +1.3
TEY Ternei 14.29 345⇑*e*P Pn 15 27 29.1 -1.5
TEY pmax pmax
comp=N,10.0nm,1.0s
TEY pmax pmax
comp=Z,10.0nm,1.0s
KSGBI Gyogryolbido 14.44 296 P P 15 27 38.3 -1.2
SNR=28
KSGBI Gyogryolbido 14.44 296 P P 15 27 38.3 -1.2
SNR=28
KSGBI Gyogryolbido 14.44 296 P P 15 27 38.3 -1.2
SNR=28
KUR Kuril'sk 14.71 17*de*P Pn 15 27 33.7 -2.6
KUR pmax pmax
comp=Z,124nm,0.9s
KUR pmax pmax
comp=Z,2μm,3.2s
KUR pmax pmax
comp=E,65nm,0.9s
KUR pmax pmax
comp=N,48nm,1.4s
USA0B Ussuriysk Arra 14.99 332*ce*P Pn 15 27 38.9 -1.3
USA0B Ussuriysk Arra 14.99 332 Pn Pn 15 27 38.1 -2.1
USRK Ussuriysk Ar. 14.99 332 Pn Pn 15 27 38.8 -1.4
baz=145,slow=12,SNR=53
USRK Ussuriysk Ar. 14.99 332 Pn 15 27 38.0 -2.2
DACB Daecheong-do R 15.47 300 P P 15 27 53.1 +2.2
SNR=8.9
DACB Daecheong-do R 15.47 300 P P 15 27 53.1 +2.2
SNR=8.9
KSBAR Backryungdo 15.51 300 P P 15 27 52.4 +1.0
SNR=20
KSBAR Backryungdo 15.51 300 P P 15 27 52.4 +1.0
SNR=20
YSS Yuzh-Sakhalins 15.65 3⇓*i*P Pn 15 27 46.7 -2.1
YSS *e*S Sn 15 30 39.7 -2.2
YSS pmax pmax
comp=N,110nm,1.0s
YSS pmax pmax
comp=Z,140nm,1.0s
YSS pmax pmax
comp=E,70nm,0.9s
YSS pmax pmax
comp=Z,1μm,2.7s
YSS Yuzh-Sakhalins 15.65 3 Pn Pn 15 27 47.2 -1.5
MDJ Mudanjiang 16.36 328 P Pn 15 27 58.1 +0.2
MDJ pP P 15 28 00.2 -0.6
MDJ PP sP 15 28 05.4 +1.3
MDJ S Sn 15 31 01.5 +2.3
MDJ pmax pmax
comp=Z,40nm,1.1s
MDJ pmax pmax
comp=Z,220nm,4.0s
MDJ LR LR
comp=Z,28μm,18.6s
MDJ LR LR
comp=Z,37μm,18.1s
MDJ LR LR
comp=Z,40μm,15.1s
MDJ Mudanjiang 16.36 328 Pn 15 27 56.4 -1.6
SSE Sheshan 17.59 275 P Pn 15 28 13.8 +0.3
SSE S Sn 15 31 28.0 -1.3
SSE pmax pmax
comp=Z,40nm,0.8s
SSE pmax pmax
comp=Z,820nm,6.6s
SSE LR LR
comp=Z,7μm,17.9s
SSE LR LR
comp=Z,6μm,18.2s
UGL Uglegorsk 17.76 1⇑*i*P P 15 28 18.6 +2.4
UGL pmax pmax
comp=Z,700nm,2.4s
UGL MLR MLR
comp=Z,26μm,16.0s
UGL MLR MLR
comp=E,16μm,16.0s
GUMO Guam 17.86 170 P P 15 28 17.8 +0.3
comp=E,7.1nm,0.3s,baz=279,slow=1.6,SNR=10
GUMO Guam 17.86 170 Pn 15 28 16.4 -0.5
GUMO Guam 17.86 170 P P 15 28 19.4 +1.9
YOJ Yonaguni jima 17.90 252 P P 15 28 18.6 +0.7
YOJ pmax pmax
comp=Z,375nm,1.0s
YOJ Yonaguni jima 17.90 252 P P 15 28 18.6 +0.7
YOJ IAmb IAmb 15 28 46.3
comp=Z,375nm,1.0s
CN2 Changchun 17.92 319 *e*P Pn 15 28 14.6 -2.9
CN2 *e*PP PnPn 15 28 29.3 +0.9
CN2 *e*S Sn 15 31 30.6 -6.5
CN2 pmax pmax
comp=Z,50nm,1.6s
CN2 LR LR
comp=Z,34μm,14.0s
CN2 LR LR
comp=Z,41μm,16.0s
SNY Shenyang 17.95 311 ⇓P P 15 28 18.9 +0.6
SNY S Sn 15 31 25.7 -12
SNY pmax pmax
comp=Z,110nm,1.0s
SNY pmax pmax
comp=Z,2μm,7.3s
SNY LR LR
comp=Z,34μm,14.1s
SNY LR LR
comp=Z,33μm,16.5s
SNY LR LR
comp=Z,46μm,14.3s
DL2 Dalian 18.10 300 P Pn 15 28 17.4 -2.4
DL2 sP pwP 15 28 30.1 +1.0
DL2 S Sn 15 31 38.4 -3.1
DL2 pmax pmax
comp=Z,68nm,1.2s
DL2 pmax pmax
comp=Z,1μm,7.2s
DL2 LR LR
comp=Z,10μm,12.1s
DL2 LR LR
comp=Z,23μm,19.1s
DL2 LR LR
comp=Z,24μm,19.1s
TATO Taipei 18.93 256 P P 15 28 29.3 0.0
TATO IAmb IAmb 15 28 44.1
comp=Z,740nm,1.5s
YHNB Yeheng 19.15 255 P P 15 28 31.8 0.0
NACB Ninganchiao 19.18 253 P P 15 28 31.7 -0.3
KLR Kul'dur 19.43 340 P P 15 28 34.1 -0.5
comp=Z,0.7nm,0.3s,baz=147,slow=10,SNR=39
KLR Kul'dur 19.43 340*ce*P P 15 28 33.2 -1.4
KLR pmax pmax
comp=Z,85nm,1.0s
NJ2 Nanjing 19.50 278 *e*P P 15 28 35.1 -0.3
NJ2 sP pwP 15 28 42.4 -2.1
NJ2 S S 15 32 18.8 +3.4
NJ2 pmax pmax
comp=Z,22nm,0.9s
NJ2 pmax pmax
comp=Z,250nm,3.5s
NJ2 LR LR
comp=Z,22μm,16.1s
NJ2 LR LR
comp=Z,18μm,20.4s
NJ2 LR LR
comp=Z,32μm,18.5s
TYV Tymovskoe 19.55 2 *e*P Pn 15 28 38.3 +1.1
TYV *e*S Sn 15 32 21.7 +5.3
TYV pmax pmax
comp=Z,600nm,4.0s
TYV pmax pmax
comp=Z,95nm,1.5s
TYV smax smax
comp=N,25nm,1.6s
TYV smax smax
comp=N,2μm,9.4s
YULB Yu-li 19.78 252 P P 15 28 38.1 -0.6
YULB IAmb IAmb 15 28 50.3
comp=Z,230nm,0.8s
GRNR Gornyy 19.85 350⇑*i*P Pn 15 28 40.2 -0.6
GRNR *e*S Sn 15 32 26.6 +3.1
GRNR pmax pmax
comp=E,10.0nm,1.0s
GRNR pmax pmax
comp=N,30nm,1.1s
GRNR pmax pmax
comp=Z,30nm,1.0s
GRNR smax smax
comp=N,10.0nm,1.0s
SSLB Suanglung 19.88 253 P P 15 28 40.1 +0.4
TWG Pinlang 20.23 250 P P 15 28 41.4 -2.2
TWG IAmb IAmb 15 28 52.0
comp=Z,307nm,1.2s
TPUB Ta-pu 20.37 252 P P 15 28 44.2 -0.8
TPUB IAmb IAmb 15 28 58.8
comp=Z,403nm,1.1s
QZH Quanzhou 21.36 259 ⇑P P 15 28 55.0 -0.7
QZH S S 15 32 53.7 +1.1
QZH pmax pmax
comp=Z,53nm,1.2s
QZH pmax pmax
comp=Z,1μm,7.8s
QZH LR LR
comp=Z,15μm,19.0s
QZH LR LR
comp=Z,13μm,19.4s
QZH LR LR
comp=Z,40μm,17.0s
KNMB Chin-men Tao 21.72 258 P P 15 28 59.0 -0.6
NKL Nikolayevsk 21.85 358 *e*P P 15 29 01.3 +0.6
NKL pmax pmax
comp=N,413nm,1.2s
NKL pmax pmax
comp=Z,165nm,1.2s
NKL MLR MLR

	comp=N,12µm,17.0s						
NKL				MLR	MLR		
	comp=Z,9µm,16.0s						
SKR	Severo-Kuril's	22.12	25	eP	P	15 29 06.6	+3.0
SKR				pmax	pmax		
	comp=Z,200nm,2.4s						
SKR				pmax	pmax		
	comp=Z,235nm,1.1s						
SKR				MLR	MLR		
	comp=Z,4µm,11.0s						
BJI	Beijing	22.47	300	P	P	15 29 05.6	-1.9
BJI				pmax	pmax		
	comp=Z,210nm,1.3s						
BJI				LR	LR		
	comp=Z,25µm,14.8s						
BJI				LR	LR		
	comp=Z,37µm,17.2s						
BJI				LR	LR		
	comp=Z,56µm,17.2s						
BJT	Baijiatuau	22.47	300	P	P	15 29 05.3	-2.2
BJT				pmax	pmax		
	comp=Z,319nm,1.3s						
BJT	Baijiatuau	22.47	300	P	P	15 29 05.3	-2.2
BJT				IAmb	IAmb	15 29 08.9	
	comp=Z,319nm,1.3s						
WHN	Wuhan	23.50	275	⇑P	P	15 29 16.9	-1.3
WHN				S	S	15 33 31.6	+0.1
WHN				pmax	pmax		
	comp=Z,230nm,1.5s						
HIA	Hailar	24.42	324	P	P	15 29 26.1	-0.8
HIA				pmax	pmax		
	comp=Z,192nm,1.0s						
HIA	Hailar	24.42	324	P	P	15 29 26.1	-0.8
HIA				IAmb	IAmb	15 29 42.3	
	comp=Z,192nm,1.0s						
PEA0B	Petropavlovsk-	24.68	23	deP	P	15 29 30.3	+1.3
PEA0B	Petropavlovsk-	24.68	23	P	P	15 29 29.8	+0.8
PETK	Petropavlovsk-	24.68	23	P	P	15 29 29.8	+0.7
	comp=Z,20nm,0.9s,baz=210,slow=7.9,SNR=19						
ZEA	Zeya	24.74	339	eP	P	15 29 30.5	+0.9
ZEA				eS	S	15 33 46.5	-4.6
ZEA				eSS	SnSn	15 35 02.6	+25
ZEA				pmax	pmax		
	comp=E,50nm,0.7s						
ZEA				pmax	pmax		
	comp=N,230nm,1.1s						
ZEA				pmax	pmax		
	comp=Z,450nm,1.3s						
ZEA				pmax	pmax		
	comp=N,600nm,1.6s						
ZEA				pmax	pmax		
	comp=Z,800nm,3.6s						
ZEA				pmax	pmax		
	comp=E,1µm,8.7s						
ZEA				pmax	pmax		
	comp=N,2µm,8.9s						
ZEA				pmax	pmax		
	comp=Z,4µm,10.8s						
ZEA				smax	smax		
	comp=E,2µm,13.8s						
ZEA				MLR	MLR		
	comp=N,10µm,16.0s						
TIY	Taiyuan	24.93	293	eP	P	15 29 31.6	+0.1
TIY				S	S	15 33 45.2	-9.4
TIY				pmax	pmax		
	comp=N,98nm,0.8s						
TIY				LR	LR		
	comp=N,19µm,16.0s						
TIY				LR	LR		
	comp=N,37µm,16.6s						
TIY				LR	LR		
	comp=N,43µm,17.1s						
PET	Petropavlovsk	24.94	25	eP	P	15 29 29.4	-2.0
PET				eS	S	15 33 53.1	-1.2
PET				pmax	pmax		
	comp=Z,1µm,8.0s						
PET				pmax	pmax		
	comp=Z,500nm,8.2s						
PET				pmax	pmax		
	comp=Z,126nm,1.2s						
PET				MLR	MLR		
	comp=Z,11µm,16.0s						
PET				MLR	MLR		
	comp=Z,11µm,16.0s						
PET	Petropavlovsk	24.94	25	P	P	15 29 30.2	-1.2
PET				IAmb	IAmb	15 29 46.8	
	comp=Z,122nm,1.2s						
LQP	Lukban	25.23	232	eP	P	15 29 33.4	-1.1
PGP	Puerto Galera	26.06	232	⇑eP	P	15 29 40.0	-1.9
HHC	Hu-ho-hao-te	26.08	300	eP	P	15 29 41.2	-0.8
HHC				pmax	pmax		
	comp=Z,72nm,1.3s						
HHC				pmax	pmax		
	comp=Z,750nm,6.5s						
HHC				LR	LR		
	comp=Z,17µm,12.8s						
HHC				LR	LR		
	comp=Z,38µm,12.8s						
HHC				LR	LR		
	comp=Z,39µm,12.1s						
GZH	Guangzhou	26.50	259	⇓iP	P	15 29 42.7	-3.1
GZH				S	S	15 34 12.4	-7.2
GZH				pmax	pmax		
	comp=Z,61nm,1.3s						
GZH				LR	LR		
	comp=Z,14µm,19.9s						
GZH				LR	LR		
	comp=Z,16µm,20.1s						
BTO	Baotou	27.19	299	ePg	P	15 29 53.2	+1.2
BTO				smax	smax		
	comp=N,170nm,1.0s						
BTO				smax	smax		
	comp=E,720nm,1.2s						
BTO	Baotou	27.19	299	eP	P	15 29 52.3	+0.3
ENH	Enshi	27.68	276	P	P	15 29 52.4	-4.0
MA2	Magadan	28.92	9	P	P	15 30 09.3	+2.2
	comp=E,23nm,1.0s,baz=200,slow=10.0,SNR=9.6						
MA2	Magadan	28.92	9	ceP	P	15 30 10.0	+2.9
MA2				pmax	pmax		
	comp=Z,129nm,2.1s						
MA2				MLR	MLR		
	comp=Z,8µm,17.0s						
MA2	Magadan	28.92	9	P	P	15 30 06.0	-1.2
MA2				IAmb	IAmb	15 30 15.2	
	comp=Z,130nm,1.4s						
CIT	Chita	29.23	323	eP	P	15 30 10.9	+0.9
CIT				e		15 30 20.2	
CIT				pmax	pmax		
	comp=Z,541nm,2.4s						
GYA	Guiyang	31.01	270	⇓P	P	15 30 27.8	+1.6
GYA				sP	pwP	15 30 33.5	-2.5
GYA				PP	PnPn	15 31 26.6	-0.6
GYA				S	S	15 35 33.5	+2.7
GYA				pmax	pmax		
	comp=Z,19nm,1.6s						
GYA				pmax	pmax		
	comp=Z,510nm,8.5s						
GYA				LR	LR		
	comp=Z,8µm,17.6s						
GYA				LR	LR		
	comp=Z,15µm,16.0s						
GYA				LR	LR		
	comp=Z,20µm,16.0s						
ULN	Ulaanbaatar	31.11	312c	iP	P	15 30 28.2	+1.4
ULN				pmax	pmax		
	comp=Z,148nm,1.2s						
ULN				MLR	MLR		
	comp=Z,34µm,16.0s						
ULN	Ulaanbaatar	31.11	312	P	P	15 30 27.2	+0.4
ULN	Ulaanbaatar	31.11	312	P	P	15 30 28.3	+1.4
	comp=Z,39µmcomp=Z,9µmcomp=Z,605nm,1.4s						
QIZ	Qiongzhong	31.24	255	P	P	15 30 27.4	-0.7
QIZ				S	S	15 35 41.4	+7.2
QIZ				pmax	pmax		
	comp=Z,430nm,8.1s						
QIZ				LR	LR		
	comp=Z,7µm,16.2s						
QIZ				LR	LR		
	comp=Z,9µm,20.6s						
QIZ				LR	LR		
	comp=Z,12µm,20.1s						
SONM	Songino Array	31.52	312	P	P	15 30 31.8	+1.4
	comp=Z,82nm,1.0s,baz=121,slow=7.5,SNR=277						
SONM	Songino Array	31.52	312	P	P	15 30 31.4	+1.0
YAK	Yakutsk	31.73	349	P	P	15 30 32.1	+0.2
	comp=Z,19nm,0.9s,baz=147,slow=6.1,SNR=26						
YAK	Yakutsk	31.73	349c	iP	P	15 30 32.0	+0.2
YAK				e*PP	pwP	15 30 39.7	-2.1
YAK				ePPP	PPP	15 31 42.9	
YAK				e		15 33 17.1	
YAK				eS	S	15 35 32.4	-8.5
YAK				e		15 41 03.6	
YAK				pmax	pmax		
	comp=Z,49nm,1.0s						
YAK				pmax	pmax		
	comp=N,32nm,1.3s						
YAK				pmax	pmax		
	comp=E,5.0nm,0.9s						
YAK				smax	smax		
	comp=E,513nm,12.7s						
YAK				smax	smax		
	comp=N,441nm,13.1s						
YAK				MLR	MLR		
	comp=Z,12µm,14.0s						
YAK				MLR	MLR		
	comp=N,6µm,15.0s						
YAK				MLR	MLR		
	comp=E,5µm,13.0s						
YAK	Yakutsk	31.73	349	P	P	15 30 31.3	-0.6
YAK				IAmb	IAmb	15 30 55.0	
	comp=Z,78nm,1.1s						
LZH	Lanzhou	31.76	289	⇑P	P	15 30 31.3	-1.4
LZH				pP	sP	15 30 36.8	+0.4
LZH				PP	PnPn	15 31 31.5	-5.3
LZH				eS	S	15 35 35.8	-6.6
LZH				sS	sS	15 35 46.4	-0.3
LZH				SS	SnSn	15 37 33.9	+4.5
LZH				pmax	pmax		
	comp=Z,67nm,1.3s						
LZH				pmax	pmax		
	comp=Z,330nm,5.4s						
LZH				LR	LR		
	comp=Z,16µm,13.6s						
LZH				LR	LR		
	comp=Z,13µm,14.0s						
LZH				LR	LR		
	comp=Z,13µm,16.7s						
SEY	Seymchan	32.37	9	P	P	15 30 38.4	+0.9
	comp=Z,9.5nm,0.5s,baz=188,slow=9.1,SNR=40						
SEY	Seymchan	32.37	9	deP	P	15 30 38.9	+1.4
CD2	Chengdu	32.42	279	⇓P	P	15 30 37.0	-1.5
CD2				PcP	PcP	15 33 25.8	+0.1
CD2				S	S	15 35 53.9	+1.2
CD2				PcS	PcS	15 37 12.8	+2.0
CD2				pmax	pmax		
	comp=Z,50nm,1.3s						
CD2				pmax	pmax		
	comp=Z,330nm,9.6s						
CD2				LR	LR		
	comp=Z,26µm,15.1s						
CD2				LR	LR		
	comp=Z,51µm,16.1s						
CD2				LR	LR		
	comp=Z,61µm,15.7s						
BOD	Bodaibo	32.63	332	eP	P	15 30 40.2	+0.3
BOD				pmax	pmax		
	comp=Z,130nm,1.6s						
TNTI	Ternate	33.28	207	P	P	15 30 43.9	-2.0
TNTI				IAmb	IAmb	15 30 50.0	
	comp=Z,134nm,1.3s						
TNTI	Ternate	33.28	207	P	P	15 30 46.7	+0.8
	comp=Z,2µmcomp=Z,2µmcomp=Z,82nm,1.2s						
SRPI	Serui, Papua	33.40	190	P	P	15 30 48.8	+1.8
	comp=Z,67nm,1.0s						
SWI	Sorong	33.50	199	P	P	15 30 49.2	+1.3
	comp=Z,3µmcomp=Z,1µmcomp=Z,40nm,1.3s						
SIJI	Sorong	33.51	199	P	P	15 30 45.8	-2.1
	comp=Z,22nm,0.9s,baz=351,slow=10,SNR=6.2						
SIJI	Sorong	33.51	199	P	P	15 30 49.5	+1.6
	comp=Z,715nmcomp=Z,20nm,1.3s						
MANU	Manus Island	33.59	170	P	P	15 30 45.8	-2.8
JAY	Jayapura	33.65	182	P	P	15 30 47.2	-1.9
	comp=Z,16nm,0.9s,baz=278,slow=17,SNR=1.7						
MNI	Manado	33.73	212	P	P	15 30 49.2	-0.7
MNI				pmax	pmax		
	comp=Z,69nm,1.2s						
MNI	Manado	33.73	212	P	P	15 30 49.0	-0.9
	comp=Z,68nm,1.2s						
GENI	Genyem	33.74	183	P	P	15 30 51.2	+1.3
	comp=Z,89nm,1.4s						
AMKA	Amchitka	34.09	43	P	P	15 30 51.3	-1.4
ZAK	Zakamensk	34.28	315	eP	P	15 30 55.2	+0.7
ZAK				pmax	pmax		
	comp=Z,151nm,1.6s						
IRK	Irkutsk	34.37	318	eP	P	15 30 55.5	+0.4
IRK				pmax	pmax		
	comp=Z,212nm,2.1s						
KMI	Kunming	34.79	270	⇑P	P	15 31 01.7	+2.4
KMI				pP	sP	15 31 05.7	+2.7
KMI				sP	pwP	15 31 06.6	-2.5
KMI				S	S	15 36 29.4	-0.4
KMI				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KMI				pmax	pmax		
	comp=Z,380nm,9.7s						
KMI				LR	LR		
	comp=Z,8µm,19.3s						
KMI				LR	LR		
	comp=Z,5µm,27.3s						
KMI				LR	LR		
	comp=Z,6µm,26.2s						
GTA	Gaotai	34.89	295	⇑P	P	15 30 58.6	-1.3
GTA				pP	sP	15 31 03.4	-0.3
GTA				sP	pP	15 31 06.0	+3.4
GTA				ScS	ScS	15 41 20.0	-1.3
GTA				pmax	pmax		
	comp=Z,33nm,1.4s						
GTA				pmax	pmax		
	comp=Z,380nm,10.2s						
GTA				LR	LR		
	comp=Z,14µm,16.7s						
GTA				LR	LR		
	comp=Z,13µm,18.2s						
GTA				LR	LR		
	comp=Z,14µm,19.6s						
SLVN	Son La	35.19	263	P	P	15 31 00.7	-1.9
FAKI	Fak Fak	35.21	197	P	P	15 31 01.7	-1.0
FAKI	Fak Fak	35.21	197	P	P	15 31 01.7	-1.0
	comp=Z,3µmcomp=Z,32nm,1.1s						
GTOI	Gorontalo	35.29	214	P	P	15 31 02.7	-0.6
	comp=Z,500nmcomp=Z,36nm,1.4s						
SPMM	Sapulut	35.55	227	P	P	15 31 06.0	+0.3
MRSI	Marisa	35.94	215	P	P	15 31 09.1	+0.1
	comp=Z,4µmcomp=Z,3µmcomp=Z,202nm,1.3s						
TOLI2	Tolitoli	35.99	218	P	P	15 31 06.8	-2.6
MOY	Mondy	36.07	316	eP	P	15 31 11.0	+1.1
MOY				pmax	pmax		
	comp=Z,152nm,1.7s						
KIWB	Kanaga Island	36.33	43	P	P	15 31 12.2	+0.3
SANI	Sanana	36.40	207	P	P	15 31 11.0	-1.9
	comp=Z,3µmcomp=Z,1µmcomp=Z,79nm,1.3s						
MSAI	Masohi	36.56	202	P	P	15 31 16.3	+2.1
	comp=Z,193nmcomp=Z,23nm,1.1s						
ADK	Adak	36.62	44	P	P	15 31 13.2	-1.2
ADK				pmax	pmax		
	comp=Z,122nm,1.3s						
ADK	Adak	36.62	44	P	P	15 31 13.2	-1.2
ADK				IAmb	IAmb	15 31 28.4	
	comp=Z,122nm,1.2s						
KRAI	Karang Ratu	36.70	203	P	P	15 31 16.2	+0.7
	comp=Z,2µmcomp=Z,92nm,1.4s						
GSTR	Great Sitkin T	37.05	43	P	P	15 31 18.6	+0.5
SKNT	Sakolnakorn	37.10	256	P	P	15 31 18.7	-0.2
	comp=Z,51nm,1.1s						
MPSI	Mapaga	37.11	218	P	P	15 31 18.5	-0.4
	comp=Z,3µmcomp=Z,584nmcomp=Z,20nm,1.1s						
NONG	Nongkai	37.28	259	P	P	15 31 20.3	-0.1
	comp=Z,6µmcomp=Z,57nm,0.9s						
APSI	Ampana	37.29	215	P	P	15 31 19.6	-0.9
	comp=Z,1µmcomp=Z,128nm,1.3s						
BNDI	Bandanaira	37.37	200	P	P	15 31 22.8	+1.7
	comp=Z,3µmcomp=Z,3µmcomp=Z,113nm,1.6s						
CHAI	Chaiyaphum	39.29	256	P	P	15 31 36.6	-0.8
	comp=Z,549nmcomp=Z,78nm,0.9s						
BILL	Bilibino	39.47	14	⇓eP	P	15 31 39.0	+0.7
BILL				i *PP	sP	15 31 43.8	+2.2
BILL				i *SP	pwP	15 31 47.9	-1.0
BILL				e		15 33 09.1	
BILL				e		15 33 50.9	
BILL				eS	S	15 37 39.8	+0.2
BILL				pmax	pmax		
	comp=Z,127nm,2.5s						
BILL				MLR	MLR		
	comp=Z,5µm,17.0s						
BILL	Bilibino	39.47	14	P	P	15 31 38.0	-0.3
UTTA	Uttaradit	39.60	260	P	P	15 31 39.2	-0.8
	comp=Z,407nmcomp=Z,64nm,0.8s						
PBKT	Sadao Pong	39.81	258	P	P	15 31 40.4	-1.3
PHIT	Phitsanulok	39.98	259	P	P	15 31 43.2	+0.1
	comp=Z,72nm,0.8s						
SBUM	Sibu	40.00	230	P	P	15 31 43.0	-0.2
LKP	Lekhapani	40.00	276	eP	P	15 31 43.0	-0.2
LKP				IAmb	IAmb	15 31 44.4	
	comp=Z,36nm,0.8s						
LAMP	Lampang	40.03	262	P	P	15 31 49.4	+5.9
	comp=Z,610nmcomp=Z,39nm,0.7s						
TTSI	Tana Toraja	40.03	215	P	P	15 31 45.7	+2.2
	comp=Z,881nmcomp=Z,30nm,1.0s						
BKB	Balikpapan	40.07	221	P	P	15 31 44.0	+0.2
	comp=Z,7µmcomp=Z,224nm,1.8s						
KKSI	Kolaka, Sulawe	40.15	212	P	P	15 31 45.7	+1.3
	comp=Z,1µmcomp=Z,33nm,1.1s						
SAUI	Saumlaki	40.32	196	P	P	15 31 44.2	-1.7
SAUI				IAmb	IAmb	15 32 13.3	
	comp=Z,127nm,1.0s						
SAUI	Saumlaki	40.32	196	P	P	15 31 47.5	+1.6
	comp=Z,128nm,1.0s						
CMMT	Chiang Mai	40.48	262	P	P	15 31 46.1	-1.2
	comp=Z,704nmcomp=Z,32nm,0.9s						
CMMT	Chiang Mai	40.48	262	P	P	15 31 46.1	-1.2
	comp=Z,672nmcomp=Z,31nm,0.9s						
CHTO	Chiang Mai	40.48	262	P	P	15 31 45.7	-1.6
CHTO				pmax	pmax		
	comp=Z,22nm,0.8s						
CHTO	Chiang Mai	40.48	262	P	P	15 31 46.2	-1.1
	comp=Z,668nmcomp=Z,32nm,0.9s						
CHTO	Chiang Mai	40.48	262	P	P	15 31 45.7	-1.6
CHTO	Chiang Mai	40.48	262	P	P	15 31 46.2	-1.1
	comp=Z,3µmcomp=Z,376nmcomp=Z,18nm,0.9s						
CM09	Chiang Mai Arr	40.61	262	P	P	15 31 49.9	+1.6
	comp=Z,183nmcomp=Z,20nm,0.8s						
CM04	Chiang Mai Arr	40.64	262	P	P	15 31 54.1	+5.5
	comp=Z,281nmcomp=Z,14nm,0.9s						
CM31	Chiang Mai Arr	40.64	262	P	P	15 31 46.9	-1.7
CM31	Chiang Mai Arr	40.64	262	P	P	15 31 48.7	+0.1
	SNR=5.8						
CMAR	Chiang Mai Arr	40.64	262	P	P	15 31 47.1	-1.5
	comp=Z,1.4nm,0.5s,baz=53,slow=7.6,SNR=19						
CMAR	Chiang Mai Arr	40.64	262	i P	P	15 31 47.5	-1.1
CMAR	Chiang Mai Arr	40.64	262	P	P	15 31 46.3	-2.3
CM01	Chiang Mai Arr	40.64	262	P	P	15 31 53.2	+4.6
	comp=Z,223nmcomp=Z,26nm,0.8s						
CM02	Chiang Mai Arr	40.65	262	P	P	15 31 50.7	+2.0
	comp=Z,295nmcomp=Z,22nm,0.8s						
CM15	Chiang Mai Arr	40.66	262	P	P	15 31 50.5	+1.7
	comp=Z,251nmcomp=Z,21nm,0.8s						
CM05	Chiang Mai Arr	40.66	262	P	P	15 31 53.9	+5.1
	comp=Z,192nmcomp=Z,12nm,0.8s						
CM13	Chiang Mai Arr	40.69	262	P	P	15 31 53.1	+4.1
	comp=Z,231nmcomp=Z,18nm,0.7s						
PMSI	Majene	40.88	216	P	P	15 31 50.6	+0.1
	comp=Z,937nmcomp=Z,44nm,0.9s						
MTKI	Muara Teweh, K	40.96	224	P	P	15 31 51.8	+0.6
	comp=Z,2µmcomp=Z,29nm,1.7s						
TIXI	Tiksi	41.00	354	P	P	15 31 50.2	-0.7
	comp=Z,5.6nm,0.6s,baz=283,slow=13,SNR=3.6						
TIXI	Tiksi	41.00	354c	eP	P	15 31 50.9	0.0
BNSI	Bone	41.07	214	P	P	15 31 53.1	+1.0
	comp=Z,2µmcomp=Z,63nm,1.3s						
NIKH	Nikolski High	41.53	44	P	P	15 31 54.2	-1.2
NIKH				IAmb	IAmb	15 31 59.3	
	comp=Z,161nm,0.9s						
NIKH	Nikolski High	41.53	44	P	P	15 31 54.3	-1.2
	baz=259						
UTHA	Uthaitani	41.58	258	P	P	15 31 57.4	+1.1
	comp=Z,305nmcomp=Z,25nm,1.0s						
MHMT	Maesarieng	41.62	262	P	P	15 31 57.5	+0.8
	comp=Z,908nmcomp=Z,31nm,1.5s						
UMPA	Umpang Tak	41.76	259	P	P	15 32 00.4	+2.6
	comp=Z,1µmcomp=Z,37nm,1.1s						
KAPI	Kappang	41.77	214	P	P	15 31 56.7	-1.2
	comp=Z,48nm,1.2s,baz=359,slow=3.3,SNR=9.7						
KAPI	Kappang	41.77	214	P	P	15 31 56.8	-1.0
KAPI				pmax	pmax		
	comp=Z,109nm,1.3s						
KAPI	Kappang	41.77	214	P	P	15 31 56.8	-1.0
KAPI	Kappang	41.77	214	P	P	15 31 58.4	+0.5
KAPI				P	P	15 31 58.4	+0.5
KAPI	Kappang	41.77	214	P	P	15 32 00.1	+2.3
	comp=Z,1µmcomp=Z,58nm,1.2s						
SPIA	Saint Paul Isl	41.80	37	P	P	15 31 56.8	-0.8
	baz=253						
ITAN	ITANAGAR	41.86	277	eP	P	15 31 58.6	+0.1
ITAN				IAmb	IAmb	15 31 59.7	
	comp=Z,39nm,0.4s						
BKSI	Bulukumba	41.87	213	P	P	15 31 59.5	+0.9
	comp=Z,840nmcomp=Z,30nm,1.1s						
KSM	Kuching	41.99	231	P	P	15 32 01.0	+1.3
MKS	Makassar	42.09	214	P	P	15 32 02.1	+1.7
	comp=Z,2µmcomp=Z,117nm,1.1s						
KBKI	Kotabaru	42.16	220	P	P	15 32 01.7	+0.7
	comp=Z,1µmcomp=Z,31nm,1.6s						
STKI	Sintang	42.28	229	P	P	15 32 06.0	+4.0
	comp=Z,3µmcomp=Z,21nm,0.9s						
BSSI	Bau Bau, Buton	42.42	212	P	P	15 32 06.3	+3.2
	comp=Z,2µmcomp=Z,917nmcomp=Z,59nm,1.3s						
SRDT	SRDT	42.46	256	P	P	15 32 04.8	+1.3
	comp=Z,21µmcomp=Z,28nm,1.9s						
SRDT	SRDT	42.46	256	P	P	15 32 04.1	+0.6
	comp=Z,20µmcomp=Z,27nm,1.9s						
PHET	Kaeng Krachan	42.79	254	P	P	15 32 16.7	+11
BBKI	Banjar Baru	43.04	221	P	P	15 32 07.5	-0.7
	comp=Z,43nm,1.6s						
UNV	Unalaska Valle	43.07	43	P	P	15 32 06.3	-1.7
	baz=260						
LSA	Lhasa	43.31	281	P	P	15 32 11.4	+0.5
LSA				pmax	pmax		
	comp=Z,24nm,1.1s						
GAMB	Gambell	43.55	28	P	P	15 32 12.5	+0.8
	baz=244						
MMRI	Maumere	43.89	208	P	P	15 32 11.6	-3.4
MMRI	Maumere	43.89	208	P	P	15 32 18.2	+3.2
	comp=Z,4µmcomp=Z,2µmcomp=Z,109nm,1.2s						
WMQ	Urumqi	43.91	302	P	P	15 32 16.2	+1.2
WMQ				sP	pwP	15 32 24.2	-0.5
WMQ				pmax	pmax		
	comp=Z,110nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,990nm,7.5s						
WMQ				LR	LR		
	comp=Z,10µm,16.7s						
WMQ				LR	LR		
	comp=Z,6µm,12.3s						
WMQ				LR	LR		
	comp=Z,7µm,20.1s						
SHL	Shillong	43.92	275	P	P	15 32 13.2	-2.3
SHL				pmax	pmax		
	comp=Z,72nm,1.3s						
SHL	Shillong	43.92	275	P	P	15 32 13.2	-2.3
SHL	Shillong	43.92	275	eP	P	15 32 13.7	-1.8
SHL				IAmb	IAmb	15 32 21.1	
	comp=Z,8.3nm,0.6s						
SOEI	Soe	44.13	205	P	P	15 32 14.4	-2.7
SOEI				IAmb	IAmb	15 32 39.1	
	comp=Z,128nm,1.1s						
SOEI	Soe	44.13	205	P	P	15 32 16.0	-1.1
	comp=Z,2µmcomp=Z,116nm,1.8s						
DGZ	Jazzator, Alta	44.16	311c	iP	P	15 32 17.9	+0.8
DGZ				pmax	pmax		
	comp=Z,159nm,1.2s						
DGZ				MLR	MLR		
	comp=Z,25µm,15.0s						
EDFI	Ende, Flores	44.22	209	P	P	15 32 16.6	-1.2
	comp=Z,658nmcomp=Z,46nm,1.6s						
PBKI	Pangkalan Bun	44.30	226	P	P	15 32 18.1	-0.3
	comp=Z,88nm,0.6s						
BATI	Baumata	44.77	206	P	P	15 32 20.4	-1.6
	comp=Z,105nm,1.1s,baz=28,slow=22,SNR=5.5						
BATI	Baumata	44.77	206	P	P	15 32 21.2	-0.9
	comp=Z,872nmcomp=Z,81nm,1.2s						
FALS	False Pass	45.02	42	P	P	15 32 24.0	+0.4
	baz=262						
COEN	Coen	45.02	178	P	P	15 32 23.7	-0.3
COEN				IAmb	IAmb	15 32 32.5	
	comp=Z,95nm,0.9s						
MTN	Manton Dam	45.06	195	P	P	15 32 22.2	-2.1
TNA	Tin City	45.77	27	P	P	15 32 30.4	+1.0
	baz=247						
ZSN	Zaisan	45.80	308	⇑iP	P	15 32 31.1	+1.1

comp=Z,112nm,1.4s,baz=308
ZSN *e*S **S** **15 39 20.4 +7.0**
baz=308
ZSN Zaisan 45.80 308*c i*P **P** **15 32 31.1 +1.1**
ZSN *e*S **S** **15 39 20.3 +7.0**
ZSN pmax pmax
comp=Z,112nm,1.4s
JRMM Jerantut 45.90 242 P **P** **15 32 32.0 +0.9**
WBSI Waikabubak, Su 46.01 211 P **P** **15 32 33.9 +2.0**
comp=Z,51nm,1.1s
PLAI Plampang 46.04 214 P **P** **15 32 31.1 -1.0**
comp=Z,95nm,1.1s
ZAA0 Zalesovo Array 46.12 317 P **P** **15 32 32.4 0.0**
ZALV Zalesovo Beam 46.12 317 P **P** **15 32 32.9 +0.5**
comp=Z,48nm,1.0s,baz=96,slow=6.1,SNR=114
ZALV Zalesovo Beam 46.12 317 *i*P **P** **15 32 32.9 +0.5**
ZALV pmax pmax
comp=Z,49nm,1.0s
ZALV Zalesovo Beam 46.12 317 P **P** **15 32 32.5 +0.1**
BWJI Bawean 46.23 222 P **P** **15 32 33.1 -0.5**
comp=Z,2µmcomp=Z,5µmcomp=Z,312nm,1.2s
TWSI Taliwang, Sumb 46.39 215 P **P** **15 32 34.0 -0.9**
comp=Z,42nm,1.0s
ANM Nome 46.42 28 P **P** **15 32 34.7 +0.1**
baz=250
KMMI Kalianget 46.48 220 P **P** **15 32 36.3 +0.7**
comp=Z,67nm,1.4s
BTDF Bukit Timah Da 46.62 238 P **P** **15 32 36.9 +0.1**
comp=Z,656nmcomp=Z,11nm,1.4s
PKDT Phuket 46.65 249 P P 15 32 49.0 +12
SRBI Singaraja 46.68 217 P **P** **15 32 37.5 +0.3**
comp=Z,76nm,1.2s
SDPT Sand Point 46.76 42 P **P** **15 32 36.3 -1.1**
SDPT IAmb IAmb 15 32 41.0
comp=Z,58nm,0.9s
SDPT Sand Point 46.76 42 P **P** **15 32 36.9 -0.4**
baz=264
CHNA Chernabura Isl 47.22 42 P **P** **15 32 41.3 +0.3**
baz=265,SNR=17
CNBA Chernabura Isl 47.22 42 P **P** **15 32 40.4 -0.5**
CNBA IAmb IAmb 15 32 45.5
comp=Z,79nm,1.0s
BYJI Banyuwangi 47.24 218 P **P** **15 32 41.5 0.0**
comp=Z,217nm,1.2s
PPBI Pangkal Pinang 47.46 232 P **P** **15 32 43.8 +0.5**
MK31 Makanchi Array 47.58 307 *i*P **P** **15 32 44.6 +0.6**
MK31 Makanchi Array 47.58 307 P **P** **15 32 44.1 +0.1**
MK31 IAmb IAmb 15 32 55.8
comp=Z,54nm,0.9s
MKAR Makanchi Array 47.58 307 P **P** **15 32 44.5 +0.5**
comp=Z,32nm,0.9s,baz=90,slow=9.5,SNR=199
MKAR Makanchi Array 47.58 307 P **P** **15 32 44.0 0.0**
MAKZ Makanchi 47.80 307 P **P** **15 32 46.1 +0.5**
MAKZ Makanchi 47.80 307 P **P** **15 32 45.8 +0.1**
CHGN Chignik 48.01 40 P **P** **15 32 46.9 -0.2**
CHGN Chignik 48.01 40 P **P** **15 32 47.5 +0.4**
baz=265
SJI Sawahan 48.27 222 P **P** **15 32 49.7 +0.1**
comp=Z,65nm,1.7s
KNRA Kununurra 48.35 197 P **P** **15 32 49.0 -1.0**
KNRA IAmb IAmb 15 33 12.8
comp=Z,68nm,1.2s
PWJI Pagerwojo 48.48 221 P **P** **15 32 51.5 +0.3**
comp=Z,48nm,0.9s
SMRI Semarang 48.48 224 P **P** **15 32 50.8 -0.4**
comp=Z,91nm,0.9s
RDOG Red Dog Mine 48.54 24 P **P** **15 32 51.3 +0.2**
RDOG Red Dog Mine 48.54 24 P **P** **15 32 50.9 -0.1**
baz=250,SNR=27
NRIK Noril'sk 48.62 337 P **P** **15 32 52.4 +0.8**
comp=Z,75nm,1.1s,baz=113,slow=9.3,SNR=44
NRIK Noril'sk 48.62 337*c i*P **P** **15 32 52.2 +0.6**
NRIK pmax pmax
comp=Z,92nm,1.1s
NRIK MLR MLR
comp=Z,5µm,18.0s
NRIK Noril'sk 48.62 337 P **P** **15 32 51.4 -0.2**
NRIK IAmb IAmb 15 32 53.7
comp=Z,80nm,1.1s
PCJI Pacitan 48.98 222 P **P** **15 32 56.0 +1.0**
comp=Z,91nm,2.4s
UGM Wanagama 49.12 223 P **P** **15 32 55.9 -0.3**
comp=Z,235nm,1.7s
YOGI Yogyakarta 49.18 223 P **P** **15 32 57.3 +0.7**
comp=Z,227nm,1.8s
CTJI Waduk Cacaban 49.20 225 P **P** **15 32 56.6 -0.1**
comp=Z,28nm,1.5s
PSI Prapat 49.29 244 P **P** **15 32 56.3 -1.3**
comp=Z,3.3nm,0.5s,baz=2.3,slow=4.4,SNR=5.4
PSI Prapat 49.29 244 P **P** **15 32 57.5 -0.1**
comp=Z,2µmcomp=Z,11nm,1.1s,comp=Z,5µm,1.1s,
comp=Z,22nm,1.1s
PSI P **pP** **15 32 59.9 -0.4**
comp=Z,2µmcomp=Z,11nm,1.1s,comp=Z,5µm,1.1s,
comp=Z,22nm,1.1s
RPSI Rantau Prapat 49.36 243 P **P** **15 32 55.7 -2.3**
CHIR Chirikof Islan 49.54 41 P **P** **15 32 58.6 -0.2**
CHIR Chirikof Islan 49.54 41 P **P** **15 32 58.4 -0.5**
baz=268
KPJI Karang Pucung 49.61 225 P **P** **15 32 59.2 -0.6**
comp=Z,69nm,1.2s
BOK Bokaro 49.65 276 *e*P **P** **15 32 59.3 -0.8**
BOK IAmb IAmb 15 33 07.8
comp=Z,30nm,1.2s
N18K Kilae Creek 49.80 35 P **P** **15 33 02.3 +1.5**
N18K IAmb IAmb 15 33 07.2
comp=Z,55nm,1.1s
N18K Kilae Creek 49.80 35 P **P** **15 32 58.3 -2.5**
baz=263,SNR=8.1
KURBB Kurchatov Arra 49.89 312 P **P** **15 33 01.0 -0.6**
SHLS Shalkode 49.93 302⇑ *i*P **P** **15 32 59.3 -3.0**
comp=Z,74nm,1.8s,baz=302
SHLS *e*S **S** **15 40 06.4 -5.8**
baz=302
SHLS Shalkode 49.93 302*c i*P **P** **15 32 59.2 -3.0**
SHLS *e*S **S** **15 40 06.4 -5.8**
SHLS pmax pmax
comp=Z,74nm,1.8s
SVW2 Sparrevohn 50.00 34 P **P** **15 33 03.2 +0.9**
LEM Lembang 50.02 227 P **P** **15 33 01.6 -1.5**
comp=Z,21nm,0.4s,baz=68,slow=5.7,SNR=8.1
LEM Lembang 50.02 227 P **P** **15 33 02.8 -0.3**
comp=Z,89nm,1.0s
O18K Koktuh Hills 50.05 36 P **P** **15 33 01.6 -1.1**
O18K IAmb IAmb 15 33 08.8
comp=Z,53nm,0.9s
MNSI Mandailing Nat 50.09 241 P **P** **15 33 05.1 +1.5**
comp=Z,1µmcomp=Z,12nm,0.9s
CBJI Citeko 50.19 228 P **P** **15 33 05.4 +1.2**
comp=Z,58nm,1.6s
UZB Uzynbulak 50.25 302⇑ *i*P **P** **15 33 03.9 -0.9**
comp=Z,58nm,1.8s,baz=302
UZB Uzynbulak 50.25 302*c i*P **P** **15 33 03.8 -0.9**
UZB pmax pmax
comp=Z,58nm,1.8s
SII Sitkinak Islan 50.37 40 P **P** **15 33 04.3 -0.9**
SII Sitkinak Islan 50.37 40 P **P** **15 33 04.7 -0.5**
baz=268
TDK Taldyqorghan 50.44 305 *e*P **P** **15 33 05.5 -0.5**
comp=Z,153nm,1.3s,baz=305
TDK *e*LR LR 15 56 04.0
comp=Z,9µm,12.9s,baz=305
TDK Taldyqorghan 50.44 305 *e*P **P** **15 33 05.4 -0.5**
TDK pmax pmax
comp=Z,153nm,1.3s
TDK MLR MLR
comp=Z,9µm,13.0s
KPKS Kokpek 50.45 303⇑ *i*P **P** **15 33 06.0 -0.1**
comp=Z,112nm,2.3s,baz=303
KPKS Kokpek 50.45 303*c i*P **P** **15 33 06.0 -0.1**
KPKS pmax pmax
comp=Z,112nm,2.3s
LHSI Lahat 50.45 233 P **P** **15 33 07.2 +0.9**
comp=Z,2µmcomp=Z,88nm,1.4s
CISI Cisompet, Garu 50.46 226 P **P** **15 33 06.5 +0.1**
comp=Z,2µmcomp=Z,7µmcomp=Z,23nm,0.5s
L19K White Mountain 50.48 33 P **P** **15 33 07.4 +1.5**
L19K White Mountain 50.48 33 P **P** **15 33 03.7 -2.3**
baz=263,SNR=8.6
MDSI Maura Dua 50.49 232 P **P** **15 33 06.0 -0.5**
comp=Z,3µmcomp=Z,54nm,1.5s
N19K Bonanza Creek 50.50 35 P **P** **15 33 05.7 -0.5**
baz=264
O19K Port Alsworth 50.52 36 P **P** **15 33 07.2 +1.0**
O19K IAmb IAmb 15 33 21.4
comp=Z,125nm,1.3s
M19K Big River Lodg 50.66 33 P **P** **15 33 08.0 +0.7**
baz=264,SNR=9.7
SATY Saty 50.71 302⇑ *i*P **P** **15 33 07.9 -0.2**
comp=Z,78nm,2.1s,baz=302
SATY Saty 50.71 302*c i*P **P** **15 33 07.9 -0.2**
SATY pmax pmax
comp=Z,78nm,2.1s
Q19K Cape Douglas, 50.77 37 P **P** **15 33 09.1 +0.9**
Q19K IAmb IAmb 15 33 20.9
comp=Z,73nm,1.1s
Q19K Cape Douglas, 50.77 37 P **P** **15 33 06.9 -1.3**
baz=267
OHAK Old Harbor 50.89 39 P **P** **15 33 09.0 0.0**
OHAK IAmb IAmb 15 33 23.7
comp=Z,56nm,1.0s
OHAK Old Harbor 50.89 39 P **P** **15 33 08.0 -1.0**
baz=268
LWLI Liwa 50.96 232 P **P** **15 33 10.4 +0.2**
comp=Z,66nm,0.7s
K20K Telida 50.98 31 P **P** **15 33 09.7 0.0**
K20K IAmb IAmb 15 33 16.8
comp=Z,98nm,1.1s
K20K Telida 50.98 31 P **P** **15 33 08.1 -1.6**
baz=263,SNR=56
P19K Oil Pt 51.03 36 P **P** **15 33 10.9 +0.8**
P19K IAmb IAmb 15 33 16.0
comp=Z,82nm,1.0s
P19K Oil Pt 51.03 36 P **P** **15 33 09.1 -1.0**
baz=266
KASI Kota Agung 51.04 231 P **P** **15 33 10.3 -0.4**
J20K Nowinta River 51.06 30 P **P** **15 33 11.0 +0.8**
J20K IAmb IAmb 15 33 17.3
comp=Z,126nm,1.2s
J20K Nowinta River 51.06 30 P **P** **15 33 08.4 -1.9**
baz=262,SNR=42
M20K Styx River 51.25 33 P **P** **15 33 11.9 +0.1**
M20K Styx River 51.25 33 P **P** **15 33 10.3 -1.5**
baz=265,SNR=7.9
WB0 Warramunga Arr 51.27 189 P **P** **15 33 10.8 -1.5**
WB0 IAmb IAmb 15 33 19.9
comp=Z,97nm,1.1s
CTA Charters Tower 51.28 175 P **P** **15 33 12.2 -0.2**
comp=Z,6.5nm,0.6s,baz=360,slow=8.1,SNR=11
CTAO Charters Tower 51.28 175 P **P** **15 33 11.8 -0.6**
CTAO pmax pmax
comp=Z,59nm,1.4s
CTAO Charters Tower 51.28 175 P **P** **15 33 11.8 -0.6**
GSI Gunungsitoli 51.28 243 P **P** **15 33 10.2 -2.3**
GSI IAmb IAmb 15 33 24.9
comp=Z,101nm,1.2s
GSI Gunungsitoli 51.28 243 P **P** **15 33 12.3 -0.3**
comp=Z,79nm,1.3s
KDAK Kodiak Island 51.28 39 P **P** **15 33 12.5 +0.6**
comp=Z,74nm,1.0s,baz=301,slow=6.5,SNR=16
KDAK Kodiak Island 51.28 39 P **P** **15 33 11.7 -0.3**
KDAK IAmb IAmb 15 33 26.0
comp=Z,118nm,1.1s
KDAK Kodiak Island 51.28 39 P **P** **15 33 09.1 -2.8**
baz=268
RSO Redoubt South 51.32 35 P **P** **15 33 12.8 +0.3**
O20K Slope Mountain 51.36 36 P **P** **15 33 10.0 -2.6**
baz=267
TARG Taragay, Kyrgy 51.37 301 P **P** **15 33 13.6 +0.1**
TARG IAmb IAmb 15 33 16.0
comp=Z,109nm,1.4s
WRAB Tennant Creek 51.44 189 P **P** **15 33 12.4 -1.1**
WRAB pmax pmax
comp=Z,134nm,1.2s
WRAB Tennant Creek 51.44 189 P **P** **15 33 12.4 -1.1**
WRAB IAmb IAmb 15 33 36.3
comp=Z,134nm,1.2s
WR0 Warramunga Arr 51.44 189 P **P** **15 33 12.2 -1.3**
WR0 IAmb IAmb 15 33 21.3
comp=Z,86nm,1.0s
WB2 Warramunga Arr 51.44 189 P **P** **15 33 12.2 -1.3**
WB2 IAmb IAmb 15 33 35.9
comp=Z,93nm,0.9s
WRA Warramunga Arr 51.45 189 P **P** **15 33 12.5 -1.1**
comp=Z,15nm,0.5s,baz=5.8,slow=7.0,SNR=193
WRA Warramunga Arr 51.45 189 P **P** **15 33 12.2 -1.4**
IMAR Indian Mountai 51.50 28 P **P** **15 33 14.6 +1.1**
CHKK Chushkaly 51.61 303⇑ *i*P **P** **15 33 14.3 -0.4**
baz=303
SPCR Spurr Chakacha 51.64 34 P **P** **15 33 13.2 -1.6**
baz=266,SNR=7.1
MDOK Medeo 51.68 303 *i*P **P** **15 33 15.8 +0.4**
baz=303
MDOK *e*S **S** **15 40 44.1 +7.6**
baz=303
MDOK *e*LR LR 15 56 19.9
comp=Z,8µm,15.2s,baz=303
MDOK Medeo 51.68 303 *i*P **P** **15 33 15.8 +0.4**
MDOK *e*S **S** **15 40 44.9 +8.4**
MDOK MLR MLR
comp=Z,8µm,15.0s
KDJ Kajisay 51.76 301 P **P** **15 33 16.0 -0.1**
KDJ pmax pmax
comp=Z,43nm,1.2s
KDJ Kajisay 51.76 301 P **P** **15 33 16.0 -0.1**
AAA Alma-Ata 51.77 303 *e*P **P** **15 33 15.1 -0.9**
baz=303
AAA *e*LR LR 15 57 12.0
comp=Z,11µm,15.5s,baz=303
AAA Alma-Ata 51.77 303 *e*P **P** **15 33 15.0 -0.9**
AAA MLR MLR
comp=Z,11µm,15.0s
PPLA Purkeypile 51.78 32 P **P** **15 33 16.7 +0.8**
PPLA IAmb IAmb 15 33 32.2
comp=Z,100nm,1.2s
PPLA Purkeypile 51.78 32 P **P** **15 33 15.3 -0.5**
baz=265
CHUM Lake Minchumin 51.82 31 P **P** **15 33 15.1 -0.8**
baz=264
SKT Skwentna 52.01 33 P **P** **15 33 17.9 +0.4**
SKT IAmb IAmb 15 33 23.3
comp=Z,73nm,1.3s
SKT Skwentna 52.01 33 P **P** **15 33 16.4 -1.0**
baz=266,SNR=9.1
CNPM China Poot 52.04 37 P **P** **15 33 18.3 +0.7**
CNPM IAmb IAmb 15 33 31.2
comp=Z,62nm,1.1s
KUU Kurty 52.07 304⇑ *i*P **P** **15 33 18.0 -0.1**
comp=Z,305nm,1.8s,baz=304
KUU Kurty 52.07 304*c i*P **P** **15 33 18.0 -0.1**
KUU pmax pmax
comp=Z,305nm,1.8s
I21K Tanana 52.11 29 P **P** **15 33 17.7 -0.4**
I21K IAmb IAmb 15 33 25.4
comp=Z,112nm,1.2s
I21K Tanana 52.11 29 P **P** **15 33 18.1 0.0**
baz=263,SNR=42
CAPN Captain Cook N 52.12 35 P **P** **15 33 17.9 -0.3**
MTBS Maitube 52.13 303⇑ *i*P **P** **15 33 19.2 +0.5**
baz=303
BRLK Bradley Lake 52.22 36 P **P** **15 33 19.1 0.0**
BRLK IAmb IAmb 15 33 24.9
comp=Z,66nm,1.0s
BRSE Bradley Lake S 52.29 36 P **P** **15 33 18.6 -1.0**
baz=269
SUA Susitna One 52.36 34 P **P** **15 33 19.4 -0.7**
SUA IAmb IAmb 15 33 24.8
comp=Z,65nm,0.9s
SUA Susitna One 52.36 34 P **P** **15 33 19.0 -1.1**
baz=267
ULHL Ulahol 52.42 302 P **P** **15 33 22.3 +1.3**
SNR=13
BPAW Bear Paw Mtn. 52.43 31 P **P** **15 33 20.5 0.0**
BPAW Bear Paw Mtn. 52.43 31 P **P** **15 33 19.9 -0.6**
baz=265,SNR=11
SANVU Saraoutou 52.52 149 P **P** **15 33 22.2 +0.6**
SANVU IAmb IAmb 15 33 28.2
comp=Z,105nm,0.9s
SANVU Saraoutou 52.52 149 P **P** **15 33 23.2 +1.6**
BOOM Boomskoye usch 52.60 302 P **P** **15 33 22.3 0.0**
BOOM pmax pmax
comp=Z,95nm,1.5s
BOOM Boomskoye usch 52.60 302 P **P** **15 33 22.3 0.0**
BOOM IAmb IAmb 15 33 47.1
comp=Z,95nm,1.5s
MLY Manley 52.62 30 P **P** **15 33 23.2 +1.3**
MLY IAmb IAmb 15 33 28.9
comp=Z,83nm,1.2s
MLY Manley 52.62 30 P **P** **15 33 20.8 -1.2**
baz=264,SNR=45
CUT Chulitna 52.63 33 P **P** **15 33 21.1 -0.9**
baz=267
TRF Thorofare Moun 52.69 32 P **P** **15 33 23.6 +1.0**
TRF IAmb IAmb 15 33 28.7
comp=Z,64nm,1.1s
TKM2 Tokmak 2 52.77 302 P **P** **15 33 24.5 +0.9**
SNR=44
O22K Cooper Landing 52.82 35 P **P** **15 33 23.9 +0.5**
O22K Cooper Landing 52.82 35 P **P** **15 33 22.2 -1.2**
baz=269
RC01 Rabbit Creek A 52.83 35 P **P** **15 33 23.2 -0.2**
RC01 IAmb IAmb 15 33 28.9
comp=Z,81nm,1.2s
RC01 Rabbit Creek A 52.83 35 P **P** **15 33 22.2 -1.2**
baz=268
SEW Seward 52.95 36 P **P** **15 33 24.3 0.0**
SEW IAmb IAmb 15 33 29.7
comp=Z,92nm,1.1s
SEW Seward 52.95 36 P **P** **15 33 22.9 -1.4**
baz=269,SNR=6.8
COLD Coldfoot 53.08 27 P **P** **15 33 25.8 +0.6**
COLD Coldfoot 53.08 27 P **P** **15 33 27.6 +2.4**
baz=263,SNR=10
PMR Palmer 53.13 34 P **P** **15 33 26.1 +0.4**
PMR pmax pmax
comp=Z,106nm,1.2s
PMR Palmer 53.13 34 P **P** **15 33 26.1 +0.4**
PMR IAmb IAmb 15 33 31.1
comp=Z,106nm,1.2s
PMR Palmer 53.13 34 P **P** **15 33 25.3 -0.4**
baz=269,SNR=8.1
KSH Kashi 53.18 298 P **P** **15 33 30.4 +3.8**
KSH pmax pmax
comp=Z,42nm,1.7s
KSH pmax pmax
comp=Z,700nm,5.2s
KSH LR LR
comp=Z,16µm,12.8s
KSH LR LR
comp=Z,22µm,14.4s
KSH LR LR
comp=Z,24µm,11.0s
KZA Kyzart 53.18 301 P **P** **15 33 28.5 +1.6**
SNR=40
H23K Yukon River 53.19 29 P **P** **15 33 27.7 +1.6**
H23K IAmb IAmb 15 33 42.8
comp=Z,83nm,1.4s
H23K Yukon River 53.19 29 P **P** **15 33 26.3 +0.2**
baz=265,SNR=22
I23K Minto, Yukon-K 53.21 29 P **P** **15 33 27.3 +1.1**
I23K IAmb IAmb 15 33 33.1
comp=Z,98nm,1.5s
I23K Minto, Yukon-K 53.21 29 P **P** **15 33 26.4 +0.2**
baz=266,SNR=25
GHO Glory Hole Cre 53.24 34 P **P** **15 33 27.1 +0.5**
GHO IAmb IAmb 15 33 33.3
comp=Z,99nm,1.2s
KBK Karagaybulak 53.29 302 P **P** **15 33 28.9 +1.5**
SNR=26
NEA2 Nenana 53.30 30 P **P** **15 33 27.2 +0.3**
NEA2 Nenana 53.30 30 P **P** **15 33 25.8 -1.1**
baz=266,SNR=43
MCK McKinley 53.31 31 P **P** **15 33 26.9 -0.1**
MCK pmax pmax
comp=Z,107nm,1.3s
MCK McKinley 53.31 31 P **P** **15 33 26.9 -0.1**
MCK IAmb IAmb 15 33 33.0
comp=Z,107nm,1.3s
MCK McKinley 53.31 31 P **P** **15 33 27.5 +0.5**
baz=267,SNR=8.9
RND Reindeer 53.33 32 P **P** **15 33 27.2 0.0**
RND pmax pmax
comp=Z,66nm,1.0s
RND Reindeer 53.33 32 P **P** **15 33 27.2 0.0**
RND IAmb IAmb 15 33 32.2
comp=Z,66nm,1.0s
CHMS Chumysh 53.36 303 P **P** **15 33 29.0 +1.2**
SNR=24
SGDS Sogindy 53.37 303⇑ *i*P **P** **15 33 28.0 +0.2**
comp=Z,55nm,1.7s,baz=303
SGDS Sogindy 53.37 303 *e*P **P** **15 33 28.0 +0.2**
WAT1 Susitna Watana 53.44 32 P **P** **15 33 27.3 -0.7**
baz=268
KNK Knik Glacier 53.45 34 P **P** **15 33 28.1 -0.1**
KNK Knik Glacier 53.45 34 P **P** **15 33 27.0 -1.1**
baz=269,SNR=23
TOLK Toolik Lake Re 53.48 25 P **P** **15 33 29.0 +0.8**
TOLK IAmb IAmb 15 33 35.0
comp=Z,68nm,0.9s
TOLK Toolik Lake Re 53.48 25 P **P** **15 33 28.2 0.0**
baz=263,SNR=18
FRU1 Bishkek 53.49 302 P **P** **15 33 28.6 -0.1**
FRU1 pmax pmax
comp=Z,102nm,1.1s
FRU1 Bishkek 53.49 302 P **P** **15 33 28.6 -0.1**
FRU1 IAmb IAmb 15 33 40.9
comp=Z,102nm,1.1s
USP Ospenovka 53.49 303 P **P** **15 33 29.2 +0.5**
SNR=42
BTLS Baital 53.50 305⇑ *i*P **P** **15 33 29.0 +0.3**
comp=Z,102nm,1.6s,baz=305
BTLS Baital 53.50 305*c i*P **P** **15 33 28.9 +0.3**
BTLS pmax pmax
comp=Z,102nm,1.6s
PWL Port Wells 53.51 35 P **P** **15 33 28.3 -0.2**
PWL IAmb IAmb 15 33 33.9
comp=Z,77nm,1.0s
SML Sawmill 53.52 34 P **P** **15 33 29.0 +0.4**
SML IAmb IAmb 15 33 33.9
comp=Z,98nm,1.0s
SML Sawmill 53.52 34 P **P** **15 33 28.2 -0.4**
baz=269,SNR=26
AAK Ala-Archa 53.62 302 P **P** **15 33 31.0 +1.2**
SNR=18
AAK Ala-Archa 53.62 302 *i*P **P** **15 33 30.6 +0.8**
SNR=20
AAK Ala-Archa 53.62 302*c i*P **P** **15 33 30.0 +0.2**
AAK pmax pmax
comp=Z,306nm,2.5s
AAK MLR MLR
comp=Z,33µm,18.0s
AAK Ala-Archa 53.62 302 P **P** **15 33 29.8 0.0**
AAK IAmb IAmb 15 33 41.8
comp=Z,78nm,1.4s
AAK Ala-Archa 53.62 302 P **P** **15 33 31.3 +1.5**
MDM Murphy Dome 53.68 30 P **P** **15 33 30.4 +0.7**
BRZS Berezniki 53.68 312⇑ *i*P **P** **15 33 30.2 +0.2**
comp=Z,132nm,2.7s,baz=312
BRZS Berezniki 53.68 312*c i*P **P** **15 33 30.2 +0.2**
BRZS pmax pmax
comp=Z,132nm,2.7s
WRH Wood River Hil 53.71 30 P **P** **15 33 30.9 +1.0**
WAT6 Susitna Watana 53.81 33 P **P** **15 33 29.7 -1.2**
baz=269,SNR=27
TCOL CIGO, UAF Yank 53.83 30 P **P** **15 33 31.2 +0.5**
baz=267
COLA College 53.84 30 P **P** **15 33 31.0 +0.2**
baz=267
CCB Clear Creek Bu 53.84 30 P **P** **15 33 32.3 +1.4**
H24K Noodor Dome 53.88 29 P **P** **15 33 32.4 +1.2**
H24K IAmb IAmb 15 33 38.3
comp=Z,72nm,1.2s
H24K Noodor Dome 53.88 29 P **P** **15 33 32.5 +1.3**
baz=267,SNR=33
SCM Sheep Creek Mo 54.00 34 P **P** **15 33 33.1 +0.9**
SCM pmax pmax
comp=Z,162nm,1.1s
SCM Sheep Creek Mo 54.00 34 P **P** **15 33 33.1 +0.9**
DDI Dehra Dun 54.00 287 *e*P **P** **15 33 33.0 +0.4**
DDI IAmb IAmb 15 33 33.9
POKR Poker Plat Res 54.02 30 P **P** **15 33 33.4 +1.2**
POKR IAmb IAmb 15 33 39.1
comp=Z,96nm,1.2s
POKR Poker Plat Res 54.02 30 P **P** **15 33 34.1 +1.9**
baz=268,SNR=8.0
GLI Glacier Island 54.12 35 P **P** **15 33 33.4 +0.5**
GLI IAmb IAmb 15 33 38.7
comp=Z,66nm,1.1s
GLI Glacier Island 54.12 35 P **P** **15 33 31.6 -1.3**
baz=271,SNR=7.8
EKS2 Erkin-Say 54.13 302 P **P** **15 33 34.8 +1.3**
SNR=19
HDA Harding Lake 54.21 30 P **P** **15 33 33.8 +0.2**
HDA IAmb IAmb 15 33 38.2
comp=Z,49nm,1.0s
HDA Harding Lake 54.21 30 P **P** **15 33 33.7 +0.2**
baz=268,SNR=28
IL31 54.24 30 P **P** **15 33 34.1 +0.3**

IL31 IAmb IAmb 15 33 39.3
comp=Z,72nm,1.1s
ILAR Eielson Array 54.24 30 P **P** **15 33 34.4 +0.6**
comp=Z,33nm,1.0s,baz=262,slow=5.9,SNR=50
ILAR Eielson Array 54.24 30 P **P** **15 33 33.5 -0.3**
AML Almayashu 54.30 302 P **P** **15 33 37.0 +1.9**
SNR=55
HIN Hinchinbrook I 54.42 35 P **P** **15 33 35.3 +0.1**
FID Port Fidalgo 54.42 35 P **P** **15 33 34.8 -0.4**
FID IAmb IAmb 15 33 41.0
comp=Z,98nm,1.2s
SMLA Simla 54.48 288 *e*P **P** **15 33 35.6 -0.4**
SMLA IAmb IAmb 15 33 40.8
comp=Z,59nm,0.6s
Q23K Middleton Isla 54.53 37 P **P** **15 33 33.9 -2.0**
baz=273
M24K Tolsona, Glenn 54.54 33 P **P** **15 33 35.3 -0.8**
M24K IAmb IAmb 15 33 56.0
comp=Z,96nm,1.1s
M24K Tolsona, Glenn 54.54 33 P **P** **15 33 35.0 -1.0**
baz=271,SNR=5.8
KLU Klutina 54.67 34 P **P** **15 33 37.4 +0.4**
KLU IAmb IAmb 15 33 43.4
comp=Z,87nm,1.1s
KLU Klutina 54.67 34 P **P** **15 33 36.5 -0.6**
baz=271,SNR=24
DIV Divide 54.75 35 P **P** **15 33 37.8 +0.1**
DIV IAmb IAmb 15 33 44.1
comp=Z,97nm,1.0s
EYAK Cordova Ski Ar 54.78 35 P **P** **15 33 37.9 +0.1**
EYAK IAmb IAmb 15 33 44.1
comp=Z,60nm,1.0s
EYAK Cordova Ski Ar 54.78 35 P **P** **15 33 36.9 -0.8**
baz=272,SNR=6.1
BRVK Borovoye 54.80 316*c i*P **P** **15 33 38.7 +0.7**
BRVK pmax pmax
comp=Z,78nm,1.3s
BRVK MLR MLR
comp=Z,12μm,16.0s
BRVK Borovoye 54.80 316 P **P** **15 33 38.4 +0.4**
BRVK IAmb IAmb 15 33 49.4
comp=Z,95nm,1.3s
BRVK Borovoye 54.80 316 P **P** **15 33 39.5 +1.5**
DHRM DHARAMSHALA 54.83 289 *e*P **P** **15 33 39.1 +0.2**
DHRM IAmb IAmb 15 33 43.8
comp=Z,146nm,1.4s
PRP Porcupine Dome 54.84 29 P **P** **15 33 38.7 +0.4**
PRP Porcupine Dome 54.84 29 P **P** **15 33 37.2 -1.1**
baz=269,SNR=7.7
PAX Paxson 54.85 32 P **P** **15 33 38.2 -0.2**
PAX pmax pmax
comp=Z,37nm,1.1s
PAX Paxson 54.85 32 P **P** **15 33 38.2 -0.2**
PAX Paxson 54.85 32 P **P** **15 33 37.9 -0.5**
baz=271
HARP HAARP 55.01 33 P **P** **15 33 39.0 -0.5**
baz=272,SNR=9.7
RIDG Independent Ri 55.13 31 P **P** **15 33 39.7 -0.6**
RIDG Independent Ri 55.13 31 P **P** **15 33 39.3 -1.0**
baz=271,SNR=7.0
AS31 Alice Springs 55.17 189 P **P** **15 33 39.6 -1.3**
ASAR Alice Springs 55.17 189 P **P** **15 33 40.3 -0.7**
comp=Z,9.7nm,0.4s,baz=1.0,slow=5.1,SNR=272
ASAR PKP2bc 16 04 06.5
comp=Z,0.8nm,0.9s,baz=187,slow=1.3,SNR=5.1
ASAR Alice Springs 55.17 189 P **P** **15 33 39.8 -1.1**
BMAR Burnt Mountain 55.26 27 P **P** **15 33 42.7 +1.5**
N25K Chitina, Valde 55.30 34 P **P** **15 33 42.5 +0.9**
N25K Chitina, Valde 55.30 34 P **P** **15 33 40.5 -1.1**
baz=272
BMRM Bremner River 55.33 35 P **P** **15 33 42.7 +0.9**
BMRM Bremner River 55.33 35 P **P** **15 33 41.5 -0.3**
baz=273,SNR=20
DOT Dot Lake 55.48 31 P **P** **15 33 43.4 +0.6**
DOT IAmb IAmb 15 33 49.8
comp=Z,44nm,1.0s
KAIM Kayak Island 55.48 36 P **P** **15 33 43.1 +0.3**
baz=274
SCRK Sand Creek 55.50 31 P **P** **15 33 42.8 -0.3**
SCRK IAmb IAmb 15 33 58.4
comp=Z,57nm,1.1s
SCRK Sand Creek 55.50 31 P **P** **15 33 44.2 +1.1**
baz=271,SNR=31
MENT Mentasta 55.66 32 P **P** **15 33 44.9 +0.8**
GLB Gilahina Butte 55.69 34 P **P** **15 33 44.9 +0.5**
GLB IAmb IAmb 15 33 51.0
comp=Z,91nm,1.3s
L26K Log Cabin Wild 55.82 32 P **P** **15 33 45.9 +0.6**
baz=273,SNR=22
DZA Taraz 55.84 303 *e*P **P** **15 33 44.6 -1.1**
comp=Z,35nm,1.3s,baz=303
DZA Taraz 55.84 303 *e*P **P** **15 33 44.6 -1.1**
DZA pmax pmax
comp=Z,35nm,1.3s
VRDI Verde Repeater 55.87 34 P **P** **15 33 45.1 -0.8**
VRDI IAmb IAmb 15 33 52.3
comp=Z,112nm,1.4s
KOUNC Koumac, New Ca 55.91 154 P **P** **15 33 48.6 +2.3**
M26K Nabesna, AK 56.02 33 P **P** **15 33 46.4 -0.3**
M26K IAmb IAmb 15 33 53.5
comp=Z,66nm,1.4s
M26K Nabesna, AK 56.02 33 P **P** **15 33 46.5 -0.3**
baz=273,SNR=11
BGLC Bering Glacier 56.03 36 P **P** **15 33 45.2 -1.5**
baz=275
CRQM Cirque 56.06 35 P **P** **15 33 47.1 -0.1**
MCARA McCarthy VSAT 56.07 34 P **P** **15 33 47.0 -0.1**
MCARA McCarthy VSAT 56.07 34 P **P** **15 33 46.8 -0.2**
baz=274,SNR=23
CRQE Cirque 56.08 35 P **P** **15 33 47.4 +0.1**
baz=274,SNR=20
MBWA Marble Bar 56.28 205 P **P** **15 33 48.9 0.0**
K27K Chicken 56.34 31 P **P** **15 33 49.2 +0.2**
K27K IAmb IAmb 15 34 04.3
comp=Z,79nm,1.4s
KK31 Karatay Array 56.38 304 *i* P **P** **15 33 50.2 +0.6**
KK31 Karatay Array 56.38 304 P **P** **15 33 49.6 0.0**
KKAR Karatay Array 56.38 304 P **P** **15 33 49.7 +0.1**
KKAR Karatay Array 56.38 304 P **P** **15 33 49.7 +0.1**
ISLE Juniper Island 56.46 35 P **P** **15 33 50.6 +0.6**
ISLE IAmb IAmb 15 33 57.4
comp=Z,66nm,1.1s
L27K Beaver Creek, 56.51 32 P **P** **15 33 51.6 +1.4**
L27K IAmb IAmb 15 33 57.0
comp=Z,81nm,1.1s
L27K Beaver Creek, 56.51 32 P **P** **15 33 49.7 -0.5**
baz=274,SNR=62
BCAR Beaver Creek A 56.53 32 P **P** **15 33 51.9 +1.5**
M27K Edge Creek, AK 56.54 33 P **P** **15 33 51.7 +1.1**
M27K IAmb IAmb 15 33 57.2
comp=Z,74nm,1.1s
M27K Edge Creek, AK 56.54 33 P **P** **15 33 48.1 -2.5**
baz=274,SNR=25
PSA00 Pilbara Seismi 56.62 205 P **P** **15 33 50.8 -0.6**
MESA MESA 56.69 36 P **P** **15 33 51.3 -0.5**
baz=276
EGAK Eagle 56.70 30 P **P** **15 33 52.0 +0.6**
EGAK Eagle 56.70 30 P **P** **15 33 51.9 +0.5**
baz=273,SNR=10
BARN Barnard Glacie 56.75 34 P **P** **15 33 52.8 +0.6**
NIL Nilore 56.85 292 P **P** **15 33 53.0 -0.1**
NIL Nilore 56.85 292 P **P** **15 33 53.0 -0.1**
NIL IAmb IAmb 15 33 55.3
comp=Z,100nm,1.1s
CTG Chitna Glacier 56.92 35 P **P** **15 33 52.7 -0.5**
baz=276,SNR=7.6
CTGM Chitina Glacie 56.92 35 P **P** **15 33 53.5 +0.3**
IUG luzhnay 56.95 303⇑*i*P **P** **15 33 54.7 +0.9**
baz=303
IUG luzhnay 56.95 303*c i*P **P** **15 33 54.6 +0.9**
BVCY Beaver Creek 57.01 33 P **P** **15 33 54.1 +0.3**
baz=275,SNR=8.8
BHPL Bhopal 57.04 279 *e*P **P** **15 33 53.6 -1.0**
BHPL IAmb IAmb 15 33 58.4
comp=Z,12nm,0.8s
EIDS Eidsvold 57.05 170 P **P** **15 33 53.0 -1.3**
TABL Table Mountain 57.07 35 P **P** **15 33 52.9 -1.6**
TABL IAmb IAmb 15 34 09.7
comp=Z,56nm,1.3s
YUK3 Moose Creek 57.26 34 P **P** **15 33 56.2 +0.4**
baz=276,SNR=9.2
DAWY Dawson 57.52 31 P **P** **15 33 58.9 +1.5**
DAWY IAmb IAmb 15 34 04.2
comp=Z,99nm,1.4s
DAWY Dawson 57.52 31 P **P** **15 33 57.4 0.0**
baz=275,SNR=26
PINM Pinnacle 57.55 36 P **P** **15 33 56.0 -1.6**
baz=277,SNR=6.0
GAR Garm 57.56 299 P **P** **15 33 58.0 -0.1**
TAS Tashkent 57.69 302 P **P** **15 33 59.3 +0.4**
TAS pmax pmax
comp=Z,239nm,1.4s
TAS Tashkent 57.69 302 P **P** **15 33 59.3 +0.4**
NOUC Port Laguerre 58.09 153 P **P** **15 34 04.1 +2.4**
DZM Mont Dzumac 58.12 153 *e*P **P** **15 34 03.2 +1.2**
DZM Mont Dzumac 58.12 153 P **P** **15 34 03.8 +1.8**
comp=Z,35nm,1.1s,baz=5.2,slow=10,SNR=12
DZM Mont Dzumac 58.12 153 P **P** **15 34 01.8 -0.2**
DZM Mont Dzumac 58.12 153 P **P** **15 34 04.3 +2.3**
YUK4 Talbot Arm 58.17 34 P **P** **15 34 01.4 -0.8**
baz=278,SNR=21
YATNC Mamie plateau, 58.28 152 P **P** **15 34 06.0 +2.9**
ONTNC Ouen Toro 58.33 153 P **P** **15 34 06.3 +2.9**
YUK6 Outpost Mounta 58.36 34 P **P** **15 34 03.6 0.0**
baz=278,SNR=8.4
EPYK Eagle Plains 58.40 28 P **P** **15 34 04.8 +1.3**
EPYK Eagle Plains 58.40 28 P **P** **15 34 03.6 +0.1**
baz=276,SNR=15
HYB Hyderabad 58.51 272 *e*P **P** **15 34 04.1 -0.9**
HYB IAmb IAmb 15 34 05.3
comp=Z,88nm,1.7s
HYB Hyderabad 58.51 272 *i* P **P** **15 34 04.0 -0.9**
HYB *e*PP **PP** **15 36 16.0 +1.6**
CHGR Chuyangaron 58.52 299 P **P** **15 34 04.9 0.0**
OUENC Ouen Island, N 58.58 153 P **P** **15 34 07.8 +2.6**
HYT Haines Junctio 58.79 34 P **P** **15 34 07.6 +1.2**
HYT IAmb IAmb 15 34 13.7
comp=Z,77nm,1.1s
HYT Haines Junctio 58.79 34 P **P** **15 34 06.5 0.0**
baz=279,SNR=32
INK Inuvik 59.39 25 P **P** **15 34 11.6 +1.3**
comp=Z,36nm,1.1s,baz=261,slow=8.4,SNR=10
INK Inuvik 59.39 25 P **P** **15 34 11.0 +0.8**
INK IAmb IAmb 15 34 16.4
comp=Z,49nm,1.1s
INK Inuvik 59.39 25 P **P** **15 34 09.1 -1.1**
baz=278,SNR=7.9
SVE Sverdlovsk 59.70 321*de*P **P** **15 34 13.6 +1.1**
SVE *e* 15 36 26.5
SVE *e*S **S** **15 42 26.0 +3.3**
SVE pmax pmax
comp=Z,213nm,1.3s
SVE MLR MLR
comp=Z,8μm,17.0s
KBL Kabul 59.88 294 P **P** **15 34 13.3 -1.1**
KBL pmax pmax
comp=Z,62nm,1.3s
KBL Kabul 59.88 294 P **P** **15 34 13.3 -1.1**
KBL IAmb IAmb 15 34 26.0
comp=Z,62nm,1.3s
KBL Kabul 59.88 294 P **P** **15 34 16.8 +2.4**
SNR=29
MSVF Nonsavu 59.94 139 P **P** **15 34 15.1 +0.4**
comp=Z,9.1nm,1.0s,baz=161,slow=6.9,SNR=2.8
MSVF Nonsavu 59.94 139 P **P** **15 34 15.1 +0.4**
MSVF pmax pmax
comp=Z,71nm,1.5s
MSVF Nonsavu 59.94 139 IAmb IAmb 15 34 22.4
comp=Z,71nm,1.5s
MSVF Nonsavu 59.94 139 P **P** **15 34 16.7 +2.0**
WHY Whitehorse 60.09 34 P **P** **15 34 15.2 -0.2**
WHY IAmb IAmb 15 34 22.4
comp=Z,79nm,1.2s
WHY Whitehorse 60.09 34 P **P** **15 34 14.7 -0.7**
baz=281,SNR=12
SKAG Skagway 60.11 36 P **P** **15 34 14.8 -0.5**
SKAG IAmb IAmb 15 34 25.0
comp=Z,38nm,1.1s
SKAG Skagway 60.11 36 P **P** **15 34 15.9 +0.6**
baz=282,SNR=7.2
FARO Faro, Yukon 60.50 32 P **P** **15 34 17.8 -0.3**
baz=282,SNR=32
ARU Arti 60.90 321*c i*P **P** **15 34 21.5 +0.7**
ARU S **S** **15 42 40.4 +2.3**
ARU SS **SS** **15 46 33.7 -3.1**
ARU SSS SSS 15 49 17.0
ARU pmax pmax
comp=Z,335nm,1.4s
ARU MLR MLR
comp=Z,10μm,16.0s
ARU Arti 60.90 321 P **P** **15 34 21.1 +0.3**
MMPY Sheldon Lake, 61.37 32 P **P** **15 34 22.3 -1.6**
baz=283,SNR=13
PALK Pallekele 61.57 261 P **P** **15 34 25.8 -0.2**
comp=Z,12nm,1.0s,baz=171,slow=6.4,SNR=3.0
PALK Pallekele 61.57 261 P **P** **15 34 26.9 +0.9**
PALK Pallekele 61.57 261 P **P** **15 34 27.9 +1.9**
comp=Z,3μmcomp=Z,27nm,1.2s
AB31 Akbulak array 61.93 313 *i* P **P** **15 34 28.3 +0.4**
ABKAR Akbulak array 61.93 313 P **P** **15 34 28.2 +0.3**
ABKAR IAmb IAmb 15 34 31.5
comp=Z,65nm,1.1s
AKTO Aktyubinsk 62.79 314 P **P** **15 34 34.3 +0.7**
STKA Stephens Creek 62.84 180 P **P** **15 34 33.2 -0.8**
comp=Z,6.1nm,0.8s,baz=344,slow=8.9,SNR=11
STKA Stephens Creek 62.84 180 P **P** **15 34 33.7 -0.3**
STKA pmax pmax
comp=Z,3.0nm,0.8s
STKA Stephens Creek 62.84 180 P **P** **15 34 33.7 -0.3**
TGTN Hyland Airport 63.01 33 P **P** **15 34 35.1 +0.2**
baz=286,SNR=7.0
DLBC Dease Lake 63.02 36 P **P** **15 34 36.3 +1.1**
comp=Z,26nm,1.0s,baz=284,slow=6.5,SNR=12
DLBC Dease Lake 63.02 36 P **P** **15 34 34.6 -0.5**
DLBC IAmb IAmb 15 34 41.7
comp=Z,46nm,1.1s
FORT Forrest 63.09 193 P **P** **15 34 35.0 -0.7**
GOA Goa 63.42 273 *e*P **P** **15 34 37.5 -0.8**
GOA IAmb IAmb 15 34 38.9
comp=Z,45nm,1.1s
BBOO Buckleboo 63.99 185 P **P** **15 34 41.4 -0.2**
BBOO IAmb IAmb 15 34 59.1
comp=Z,77nm,1.4s
MORW Morawa 64.83 205 P **P** **15 34 47.1 -0.1**
KIRV Kirov 65.03 325*c i*P **P** **15 34 48.8 +0.6**
HRA Herat 65.19 296 P **P** **15 34 50.4 +0.5**
PRGR Permogore 65.75 329 *e*P **P** **15 34 53.1 +0.3**
PRGR pmax pmax
comp=Z,115nm,1.3s
EUNU Eureka 65.80 8 P **P** **15 34 53.4 +0.4**
EUNU IAmb IAmb 15 35 06.7
comp=Z,56nm,1.4s
SPA0 Spitsbergen Ar 66.19 349 *e*P **P** **15 34 57.0 +1.6**
SPB2 Spitsbergen Ar 66.19 349 P **P** **15 34 56.4 +1.0**
SPB2 IAmb IAmb 15 35 12.8
comp=Z,52nm,1.2s
SPITS Spitsbergen Ar 66.19 349 P **P** **15 34 54.5 -1.0**
SPITS pmax pmax
comp=Z,94nm,1.4s
KBS Kingsbay 66.34 351⇑*e*P **P** **15 34 57.6 +1.2**
KBS pmax pmax
comp=Z,55nm,1.3s
KBS MLR MLR
comp=Z,4μm,16.0s
CAN Canberra 66.62 174 P **P** **15 34 59.6 +0.9**
CAN pmax pmax
comp=Z,30nm,1.1s
CAN Canberra 66.62 174 P **P** **15 34 59.6 +0.9**
NOR Nord 66.78 357⇑*i*P **P** **15 34 59.9 +0.7**
NOR IAmb IAmb 15 35 01.0
comp=Z,11nm,1.2s
NOR IAMs_20 IAMs_20 16 06 30.3
comp=Z,2μm,18.1s
NOR Nord 66.78 357⇑*i*P **P** **15 34 59.8 +0.7**
NOR pmax pmax
comp=Z,11nm,1.2s
NOR MLR MLR
comp=Z,2μm,18.0s
GEYT Alibeck 66.95 301 P **P** **15 35 02.3 +1.3**
comp=Z,46nm,0.5s,baz=64,slow=3.4,SNR=48
GYA0B ALIBECK ARRAY 66.95 301 P **P** **15 35 01.6 +0.6**
HSPB Hornsund (broa 67.10 349 *e*P **P** **15 35 02.8 +1.6**
LVZ Lovozero 67.46 337⇑*e*P **P** **15 35 02.9 -0.8**
LVZ pmax pmax
comp=Z,88nm,2.5s
LVZ MLR MLR
comp=Z,7μm,18.0s
NWAO Narrogin (SRO) 67.96 202 P **P** **15 35 07.8 +0.6**
comp=Z,8.7nm,0.8s,baz=68,slow=13,SNR=2.4
NWAO Narrogin (SRO) 67.96 202 P **P** **15 35 07.5 +0.4**
NWAO pmax pmax
comp=Z,53nm,1.1s
NWAO Narrogin (SRO) 67.96 202 P **P** **15 35 07.5 +0.4**
NWAO IAmb IAmb 15 35 28.1
comp=Z,53nm,1.1s
APA Apatity 68.03 337⇓*i*P **P** **15 35 05.5 -1.8**
APA pmax pmax
comp=Z,32nm,1.1s
RES Resolute Bay 68.08 14 P **P** **15 35 07.8 +0.4**
RES pmax pmax
comp=Z,62nm,1.5s
RES Resolute Bay 68.08 14 P **P** **15 35 07.8 +0.4**
RES IAmb IAmb 15 35 20.7
comp=Z,62nm,1.5s
BELG Belogornoye 68.23 319 P **P** **15 35 09.7 +0.9**
comp=Z,85nm,1.1s,baz=278,slow=0.7,SNR=34
BELG Belogornoye 68.23 319*c i*P **P** **15 35 09.3 +0.6**
BELG pmax pmax
comp=Z,23nm,1.3s
BELG MLR MLR
comp=Z,2μm,16.0s
TOO Toolangi 68.61 177 P **P** **15 35 12.7 +1.6**
TOO pmax pmax
comp=Z,26nm,1.1s
TOO Toolangi 68.61 177 P **P** **15 35 12.7 +1.6**
YKA Yellowknife Ar 68.65 29 P **P** **15 35 12.2 +1.0**
comp=Z,13nm,1.0s,baz=297,slow=5.0,SNR=14
KLMR Klimovskoe 68.77 329 *e*P **P** **15 35 10.4 -1.6**
KLMR S **S** **15 44 12.6 -2.3**
KLMR pmax pmax
comp=Z,144nm,1.7s
KLMR Klimovskoe 68.77 329 *e*P **P** **15 35 10.4 -1.6**
KLMR *e*P **P** **15 35 10.4 -1.6**
KLMR *e*P **P** **15 35 10.4 -1.6**
KLMR AMP 15 35 26.3
comp=Z,144nm,1.7s
KLMR S **S** **15 44 12.6 -2.3**
KLMR S **S** **15 44 12.6 -2.3**
KLMR LQ LQ 16 00 16.8
KLMR LQ LQ 16 00 16.8
KLMR LR LR 16 01 41.9
KLMR AMP 16 11 04.7
comp=Z,4μm,14.1s
KEV Kevo 68.90 340 P **P** **15 35 13.1 +0.5**
KEV pmax pmax
comp=Z,102nm,1.4s
KEV Kevo 68.90 340 P **P** **15 35 13.1 +0.5**
HAMF Hammerfest 69.32 342 *e*P **P** **15 35 16.5 +1.3**
ARCES ARCESS Array B 69.46 340 P **P** **15 35 17.3 +1.1**
comp=Z,37nm,1.1s,baz=51,slow=9.6,SNR=19
ARCES ARCESS Array B 69.46 340 P **P** **15 35 16.9 +0.7**
ARCES pmax pmax
comp=Z,50nm,1.2s
ARCES ARCESS Array B 69.46 340 P **P** **15 35 16.9 +0.7**
ARCES IAmb IAmb 15 35 18.6
comp=Z,50nm,1.1s
LLLB Lillooet 70.25 42 P **P** **15 35 22.2 +0.8**
SGF Sodankyl 70.35 338 P **P** **15 35 22.9 +1.3**
SGF pmax pmax
comp=Z,55nm,1.2s
MSF Maaselka 70.38 336 P **P** **15 35 23.0 +1.2**
MSF pmax pmax
comp=Z,34nm,1.4s
KTK1 Kautokeino 70.42 340 *e*P **P** **15 35 23.8 +1.7**
TULEG Thule 70.73 7 P **P** **15 35 22.8 -1.1**
TULEG IAmb IAmb 15 35 33.2
comp=Z,104nm,1.4s
B05A Bryant 71.14 45 P **P** **15 35 26.3 -0.4**
baz=296,SNR=5.2
NEEM North Greenlan 71.22 3 *i* P **P** **15 35 28.4 +1.2**
NEEM IAmb IAmb 15 35 29.3
comp=Z,37nm,1.2s
NEEM IAMs_20 IAMs_20 16 08 56.3
comp=Z,4μm,17.8s
TRO Tromso 71.22 342 *e*P **P** **15 35 27.9 +1.0**
E04D Cinebar 71.60 46 P **P** **15 35 27.6 -2.0**
baz=296
G03D McMinnville, O 71.75 48 P **P** **15 35 28.5 -2.0**
baz=296
OUL Oulu 71.93 336 P **P** **15 35 32.0 +0.8**
OUL pmax pmax
comp=Z,47nm,1.3s
F04A Amboy 71.97 47 P **P** **15 35 32.2 +0.4**
MOS Moscow 72.05 325 *e*P **P** **15 35 31.1 -1.0**
MOS *e* 15 35 50.0
MOS *e* 15 38 08.9
MOS *e*PPP PPP 15 39 51.9
MOS *e*S **S** **15 44 50.0 -3.2**
MOS *e* 15 45 39.9
MOS pmax pmax
comp=Z,156nm,1.8s
MOS pmax pmax
comp=N,49nm,0.8s
MOS MLR MLR
comp=N,6μm,16.0s
MOS MLR MLR
comp=Z,11μm,16.0s
MOS MLR MLR
comp=E,9μm,17.0s
VRH Novokhopyorsk 72.05 319 *e*P **P** **15 35 31.9 -0.3**
VRH *e*S **S** **15 44 51.0 -2.5**
VRH pmax pmax
comp=Z,20nm,0.8s
VRH smax smax
comp=E,870nm,4.7s
VRH MLR MLR
comp=Z,11μm,15.0s
J01E Myrtle Point 72.23 50 P **P** **15 35 33.5 +0.1**
baz=296
MAK Makhachkala 72.27 310 *e*P **P** **15 35 29.9 -3.7**
MAK *e*PPP PPP 15 39 56.9
MAK *e*S **S** **15 44 52.0 -4.2**
MAK pmax pmax
comp=Z,198nm,1.1s
I03D Drain, OR 72.37 49 P **P** **15 35 34.1 -0.2**
baz=297
H04D Lebanon 72.40 48 P **P** **15 35 33.4 -1.0**
baz=297
LTY Liberty 72.45 45 P **P** **15 35 35.7 +0.9**
KBO Bosley Butte 72.46 51 P **P** **15 35 36.0 +1.1**
KBO IAmb IAmb 15 35 58.3
comp=Z,91nm,1.4s
JLN Jalan Bani Buh 72.56 286 P **P** **15 35 36.6 +0.8**
SNR=7.1
F05D White Salmon 72.59 47 P **P** **15 35 34.5 -1.0**
baz=297
K02D Willamette Mer 72.61 50 P **P** **15 35 35.0 -0.9**
baz=297,SNR=6.9
WBK Wadi Bani Khal 72.72 286 P **P** **15 35 38.2 +1.4**
SNR=11
B08A Colville Reser 72.74 44 P **P** **15 35 36.7 +0.2**
B08A IAmb IAmb 15 35 42.7
comp=Z,50nm,1.1s
OBN Obninsk 72.88 325 P **P** **15 35 38.0 +1.0**
comp=Z,5.7nm,0.4s,baz=36,slow=2.7,SNR=12
OBN Obninsk 72.88 325*c i*P **P** **15 35 37.5 +0.5**
OBN *e* 15 35 49.5
OBN *e* 15 38 18.6
OBN *e*PPP PPP 15 40 04.2
OBN *e*S **S** **15 45 03.3 +0.6**
OBN *e*SS **SS** **15 49 44.4 +2.3**
OBN pmax pmax
comp=Z,108nm,1.7s
OBN MLR MLR
comp=Z,14μm,18.0s
L02E Cave Junction 72.89 51 P **P** **15 35 36.7 -0.8**
baz=297,SNR=6.8
I04A Tendick Farm, 72.94 49 P **P** **15 35 36.6 -1.1**
baz=297,SNR=7.1
G05D Wamic, OR 72.97 47 P **P** **15 35 37.6 -0.3**
baz=297
BIDO Bidbid 72.99 287 P **P** **15 35 40.0 +1.7**
SNR=18
HUMO Hull Mountain 73.12 50 P **P** **15 35 38.9 +0.1**
N2IH Innhavet 73.15 341 *e*P **P** **15 35 39.9 +1.4**
VORR Voronezh 73.21 321 *e*P **P** **15 35 37.0 -2.1**
VORR pmax pmax
comp=Z,250nm,1.6s
SEKA Sheki 73.26 308 P **P** **15 35 40.9 +1.2**
E07A Sunnyside 73.27 45 P **P** **15 35 40.7 +1.1**
E07A IAmb IAmb 15 35 46.1
comp=Z,57nm,1.2s
SMDO Samad 73.27 287 P **P** **15 35 41.6 +1.5**
SNR=13
GROC Groznyy 73.28 311 *e*P **P** **15 35 37.5 -2.1**

GROC				e		15 35 58.6	
GROC				eS	S	15 45 04.3	-3.4
GROC				pmax	pmax		
	comp=Z,81nm,1.0s						
LKRN	Lenkeran, Azer	73.30	305	P	P	15 35 41.9	+2.0
STEI	Steigen	73.37	342	eP	P	15 35 40.8	+1.1
I05D	Terrebonne, OR	73.37	48	P	P	15 35 38.9	-1.4
	baz=298						
BANOM	Banah	73.38	290	i P	P	15 35 41.8	+1.1
	SNR=17						
J04D	Umpqua Nationa	73.38	49	P	P	15 35 41.1	+0.5
	baz=298,SNR=6.7						
ZKTA	Zakatala	73.45	309	P	P	15 35 41.9	+1.2
SHME	Shamm	73.45	291	i P	P	15 35 42.2	+1.2
	SNR=35						
SHME	Shamm	73.45	291	P	P	15 35 42.5	+1.5
	SNR=26						
N2NF	Nordfold	73.49	341	eP	P	15 35 41.6	+1.2
VORD	Divnogorie	73.51	320	eP	P	15 35 40.6	-0.3
VORD				pmax	pmax		
	comp=Z,70nm,1.6s						
VORD				MLR	MLR		
	comp=Z,6µm,14.0s						
MNGR	Mingechevir, A	73.53	308	P	P	15 35 43.9	+2.7
HAWA	Hanford	73.54	46	P	P	15 35 40.5	-0.6
D08A	Wollman Farm,	73.60	45	P	P	15 35 41.6	+0.1
D08A				IAmb	IAmb	15 35 47.7	
	comp=Z,46nm,1.1s						
C09A	Chrisman Ranch	73.63	44	P	P	15 35 41.1	-0.6
C09A				IAmb	IAmb	15 35 47.9	
	comp=Z,81nm,1.4s						
N2TV	T¥rnvik	73.65	341	eP	P	15 35 42.6	+1.2
MDH	Madha	73.67	290	P	P	15 35 42.7	+0.4
MDH	Madha	73.67	290	P	P	15 35 42.7	+0.4
N2ST	Straumen	73.68	341	eP	P	15 35 43.0	+1.4
LOF	Lofoten	73.68	342	eP	P	15 35 42.4	+0.8
YBH	Yreka Blue Hor	73.68	51	P	P	15 35 40.7	-1.5
YBH				pmax	pmax		
	comp=Z,45nm,1.2s						
YBH	Yreka Blue Hor	73.68	51	P	P	15 35 40.7	-1.5
EDM	Edmonton	73.70	37	P	P	15 35 41.8	-0.2
EDM				pmax	pmax		
	comp=Z,113nm,1.2s						
EDM	Edmonton	73.70	37	P	P	15 35 41.8	-0.2
L04D	Klamath Falls	73.73	50	P	P	15 35 41.9	-0.7
	baz=298,SNR=7.7						
FAUS	Fauske	73.74	341	eP	P	15 35 43.2	+1.3
M02C	Callahan	73.74	51	P	P	15 35 41.2	-1.4
	baz=298,SNR=8.8						
MSFE	Esma-Masafi	73.75	290	i P	P	15 35 43.8	+1.0
	SNR=11						
DDFL	Dedoflistskaro	73.87	309	P	P	15 35 46.4	+3.1
PINE	Pine Mountain	73.88	48	P	P	15 35 43.5	0.0
PINE				IAmb	IAmb	15 35 50.4	
	comp=Z,88nm,1.1s						
K04D	Chiloquin, OR	73.90	50	P	P	15 35 41.8	-1.7
	baz=298						
UOSS	Minazif	73.91	290	i P	P	15 35 44.1	+0.4
	SNR=10.0						
UOSS	Minazif	73.91	290	P	P	15 35 43.2	-0.5
UOSS				IAmb	IAmb	15 35 45.7	
	comp=Z,108nm,1.3s						
UOSS	Minazif	73.91	290	P	P	15 35 44.9	+1.2
NBB08	Skaug oppvekst	73.92	341	eP	P	15 35 44.3	+1.4
J05D	Fort Rock, OR	73.93	49	P	P	15 35 43.8	0.0
	baz=298,SNR=20						
DBG	Daneborg	73.98	355	eP	P	15 35 44.1	+0.9
DBG				IAmb	IAmb	15 35 48.4	
	comp=Z,46nm,1.5s						
DBG				IAMs_20	IAMs_20	16 16 55.5	
	comp=Z,2µm,16.2s						
SOHO	SOHO	74.01	289	i P	P	15 35 44.9	+0.7
	SNR=26						
SOHO	SOHO	74.01	289	P	P	15 35 45.8	+1.5
HATD	Hatta, Dubai	74.02	290	i P	P	15 35 45.4	+1.1
	SNR=18						
FIA1	FINESS Array S	74.02	333	P	P	15 35 43.8	+0.1
FIA1				IAmb	IAmb	15 35 45.8	
	comp=Z,111nm,1.4s						
FINES	FINESS Array B	74.02	333	P	P	15 35 44.4	+0.7
	comp=Z,26nm,1.0s,baz=66,slow=6.7,SNR=31						
FINES	FINESS Array B	74.02	333	P	P	15 35 43.6	-0.1
TAU	Tasmania Unive	74.03	176	P	P	15 35 46.6	+2.9
TAU				pmax	pmax		
	comp=Z,84nm,1.4s						
N02D	Trinity Center	74.03	52	P	P	15 35 44.6	+0.3
	baz=298,SNR=8.0						
NEW	Newport	74.08	43	P	P	15 35 45.2	+0.8
NEW				pmax	pmax		
	comp=Z,68nm,1.1s						
NEW	Newport	74.08	43	P	P	15 35 45.2	+0.8
NEW				IAmb	IAmb	15 35 50.7	
	comp=Z,68nm,1.1s						
NEW	Newport	74.08	43	P	P	15 35 44.7	+0.3
	baz=299,SNR=36						
NBB28	Valnes	74.10	341	eP	P	15 35 45.3	+1.2
GANJ	Ganja	74.10	308	P	P	15 35 45.9	+1.3
ASHO	Ashiyiah	74.14	289	i P	P	15 35 45.5	+0.4
	SNR=22						
GOF	Gofitskoye	74.16	313	⇑eP	P	15 35 46.5	+1.7
GOF				pmax	pmax		
	comp=Z,104nm,1.2s						
M04C	Macdoel	74.23	51	P	P	15 35 45.9	+0.4
	baz=298,SNR=17						
NAZ	Nazwa, Dubai	74.32	290	i P	P	15 35 47.1	+1.0
	SNR=7.9						
E09A	Wood Farm, Sta	74.33	45	P	P	15 35 46.5	+0.8
E09A				IAmb	IAmb	15 35 52.2	
	comp=Z,79nm,1.2s						
WDC	Whiskeytown Da	74.33	52	P	P	15 35 45.4	-0.5
WDC				pmax	pmax		
	comp=Z,41nm,1.2s						
WDC	Whiskeytown Da	74.33	52	P	P	15 35 45.4	-0.5
NBB05	Inndyr	74.33	341	eP	P	15 35 46.6	+1.2
O02D	Mt. Diablo Mer	74.35	52	P	P	15 35 45.3	-0.9
	baz=298						
K05A	Summer Lake	74.41	49	P	P	15 35 46.6	0.0
G08A	Pilot Rock	74.42	46	P	P	15 35 46.5	0.0
NBB30	Finnes	74.46	341	eP	P	15 35 47.4	+1.3
GUDG	Gudauri	74.48	310	P	P	15 35 46.6	-0.4
FAQ	Al Faqa, Dubai	74.49	290	i P	P	15 35 48.0	+0.9
	SNR=11						
N2RO	R¸st	74.50	342	eP	P	15 35 47.7	+1.4
NBB17	Glomfjord B¥r	74.51	341	eP	P	15 35 47.4	+1.0
I07A	Izee	74.66	48	P	P	15 35 48.2	+0.3
NBB15	Halsa Church	74.67	341	eP	P	15 35 48.5	+1.1
ALNE	Al Ain	74.68	289	i P	P	15 35 49.4	+1.2
	SNR=9.1						
ZEI	Tsey	74.70	311	eP	P	15 35 47.1	-1.2
ZEI				pmax	pmax		
	comp=Z,16nm,1.3s						
ASUD	Al Ashush, Dub	74.76	290	i P	P	15 35 49.8	+1.2
	SNR=8.7						
NBB13	Alf Garage	74.82	341	eP	P	15 35 49.3	+1.1
MOR8	Moi Rana	74.83	340	eP	P	15 35 48.0	-0.3
KBZ	Khabaz	74.89	312	P	P	15 35 50.5	+1.4
	comp=Z,36nm,1.0s,baz=59,slow=4.0,SNR=76						
KBZ	Khabaz	74.89	312c	iP	P	15 35 50.4	+1.4
KBZ				pmax	pmax		
	comp=Z,124nm,1.4s						
KIV	Kislovodsk	74.92	312	⇑P	P	15 35 51.6	+2.3
KIV	Kislovodsk	74.92	312	i P	P	15 35 51.0	+1.6
	SNR=37						
KIV	Kislovodsk	74.92	312c	iP	P	15 35 50.7	+1.3
KIV				e		15 36 02.9	
KIV				e		15 38 38.5	
KIV				eS	S	15 45 26.6	+0.2
KIV				eSS	SS	15 50 15.9	+1.9
KIV				pmax	pmax		
	comp=Z,185nm,1.7s						
KIV	Kislovodsk	74.92	312	P	P	15 35 49.8	+0.4
KIV	Kislovodsk	74.92	312	P	P	15 35 51.3	+1.9
O03E	Paynes Creek	74.96	52	P	P	15 35 48.8	-0.9
	baz=298,SNR=8.6						
KONS	Konsvik	74.97	341	eP	P	15 35 50.5	+1.4
NBB40	Tonnes	74.99	341	eP	P	15 35 50.7	+1.5
KZRT	Kazreti	75.04	309	P	P	15 35 51.7	+1.6
AJN	Ajban	75.06	290	i P	P	15 35 50.8	+0.4
	SNR=9.0						
AJN	Ajban	75.06	290	P	P	15 35 50.2	-0.2
	SNR=6.7						
ONI	Oni	75.08	311	P	P	15 35 50.5	+0.2
ONI				pmax	pmax		
	comp=Z,145nm,1.5s						
ONI	Oni	75.08	311	P	P	15 35 50.5	+0.2
MOD	Modoc Plateau	75.19	50	P	P	15 35 50.9	-0.2
NAX	Nakhchivan	75.36	307	P	P	15 35 53.0	+1.0
GNI	Garni	75.40	308	P	P	15 35 54.3	+2.0
	comp=Z,138nm,1.3s,baz=187,slow=2.0,SNR=40						
GNI	Garni	75.40	308c	iP	P	15 35 54.2	+1.9
GNI				pmax	pmax		
	comp=Z,188nm,1.7s						
GNI				MLR	MLR		
	comp=Z,7µm,16.0s						
GNI	Garni	75.40	308	P	P	15 35 52.5	+0.2
ORV	Oroville	75.52	52	P	P	15 35 52.6	-0.2
ORV				pmax	pmax		
	comp=Z,45nm,1.2s						
ORV	Oroville	75.52	52	P	P	15 35 52.6	-0.2
WALA	Waterton Lakes	75.53	41	P	P	15 35 53.3	+0.5
WALA				IAmb	IAmb	15 35 58.6	
	comp=Z,54nm,1.1s						
VSU	Vasula	75.55	331	eP	P	15 35 54.1	+1.5
VSU	Vasula	75.55	331	deP	P	15 35 53.8	+1.3
VSU				pmax	pmax		
	comp=Z,200nm,1.2s						
VSU				MLR	MLR		
	comp=Z,13µm,18.0s						
AKH	Akhalkalaki	75.63	310	⇑P	P	15 35 55.3	+1.7
AKH	Akhalkalaki	75.63	310	P	P	15 35 55.7	+2.1
BMO	Blue Mountains	75.65	46	P	P	15 35 53.9	+0.3
BMO				pmax	pmax		
	comp=Z,72nm,1.4s						
BMO	Blue Mountains	75.65	46	P	P	15 35 53.9	+0.3
BMO				IAmb	IAmb	15 36 00.0	
	comp=Z,72nm,1.4s						
J08A	Circle Bar Ran	75.66	48	P	P	15 35 53.8	+0.1
J08A				IAmb	IAmb	15 36 00.3	
	comp=Z,64nm,1.2s						
UMZA	Um Al Zommool	75.78	288	P	P	15 35 54.9	+0.4
CHVG	Ch'k'valeri	75.90	311	⇑P	P	15 35 56.9	+2.0
JTMT	Jette	75.99	42	P	P	15 35 55.8	+0.2
WVOR	Wild Horse Val	76.01	49	P	P	15 35 56.4	+0.7
WVOR				pmax	pmax		
	comp=Z,47nm,1.3s						
WVOR	Wild Horse Val	76.01	49	P	P	15 35 56.4	+0.7
BEKR	Beckworth	76.14	52	P	P	15 35 56.7	+0.1
BEKR				IAmb	IAmb	15 36 02.4	
	comp=Z,57nm,1.0s						
AFDM	Forest Hills D	76.17	53	P	P	15 35 56.2	-0.3
KARS	Kars	76.28	309	P	P	15 36 00.7	+3.4
PLID	Pearl Lake	76.34	45	P	P	15 35 57.8	+0.2
SUMG	Summit	76.40	0	⇑iP	P	15 35 59.5	+1.8
SUMG				IAmb	IAmb	15 36 04.3	
	comp=Z,50nm,1.1s						
SUMG				IAMs_20	IAMs_20	16 11 46.6	
	comp=Z,4µm,19.5s						
SUMG	Summit	76.40	0	⇑iP	P	15 35 59.5	+1.8
SUMG				pmax	pmax		
	comp=Z,50nm,1.1s						
SUMG				MLR	MLR		
	comp=Z,4µm,20.0s						
SUMG	Summit	76.40	0	P	P	15 35 58.6	+0.9
SUMG				IAmb	IAmb	15 36 13.1	
	comp=Z,39nm,1.0s						
MTSE	Matsula	76.60	332	eP	P	15 35 60.0	+1.4
URZ	Urewera	76.66	152	P	P	15 36 00.7	+1.7
	comp=Z,16nm,1.0s,baz=266,slow=7.2,SNR=3.7						
URZ	Urewera	76.66	152	IAmb	IAmb	15 36 08.3	
	comp=Z,44nm,1.2s						
MSO	Missoula	76.67	43	P	P	15 35 59.6	+0.3
MSO				IAmb	IAmb	15 36 05.3	
	comp=Z,41nm,1.1s						
MSO	Missoula	76.67	43	P	P	15 35 58.5	-0.9
	baz=302,SNR=13						
RUBR	Rubicon Trail	76.67	52	P	P	15 35 59.3	-0.3
RUBR				IAmb	IAmb	15 36 15.4	
	comp=Z,63nm,1.0s						
BATM	Batumi	76.71	311	⇑P	P	15 36 01.0	+1.5
BATM	Batumi	76.71	311	P	P	15 36 02.7	+3.2
NSS	Namsos	76.74	340	eP	P	15 36 00.7	+1.5
BCA	Borcka	76.83	311	⇑P	P	15 36 01.8	+1.6
PAHR	Pah Rah Range	76.87	52	P	P	15 36 00.8	+0.2
SAO	San Andreas Ge	76.90	55	P	P	15 36 00.2	-0.5
SAO				pmax	pmax		
	comp=Z,43nm,1.1s						
SAO	San Andreas Ge	76.90	55	P	P	15 36 00.2	-0.5
SAO				IAmb	IAmb	15 36 15.0	
	comp=Z,43nm,1.1s						
SOC	Sochi	76.97	313	⇑iP	P	15 36 01.8	+0.9
SOC				ePP	PP	15 38 52.7	-1.0
SOC				eS	S	15 45 52.8	+4.0
SOC				eSS	SS	15 50 54.1	+9.3
SOC				pmax	pmax		
	comp=Z,82nm,1.1s						
SOC				MLR	MLR		
	comp=Z,4µm,14.0s						
CMB	Columbia Colle	77.01	53	P	P	15 36 01.8	+0.4
CMB				pmax	pmax		
	comp=Z,67nm,1.1s						
CMB	Columbia Colle	77.01	53	P	P	15 36 01.8	+0.4
CMB				IAmb	IAmb	15 36 07.4	
	comp=Z,66nm,1.1s						
PNTR	Pine Nut	77.03	52	P	P	15 36 01.8	+0.1
PNTR				IAmb	IAmb	15 36 08.1	
	comp=Z,67nm,1.2s						
AAL	Aland	77.14	334	eP	P	15 36 02.5	+1.0
MFID	Camas Ranch	77.30	47	P	P	15 36 03.0	0.0
MFID				IAmb	IAmb	15 36 09.5	
	comp=Z,90nm,1.2s						
YERR	Yerington	77.32	52	P	P	15 36 02.6	-0.7
YERR				IAmb	IAmb	15 36 09.5	
	comp=Z,69nm,1.1s						
MNK	Minsk	77.41	327	i P	P	15 36 01.7	-1.5
	comp=E,7.0nm,1.1s						
MNK				i P	P	15 36 01.7	-1.5
	comp=N,58nm,1.2s						
MNK				i P	P	15 36 01.7	-1.5
	comp=Z,66nm,1.2s,baz=54						
MNK				i PcP	pwP	15 36 11.9	-1.0
MNK				i PP	PP	15 38 55.7	-1.4
MNK				i PPP	PPP	15 40 42.9	
MNK				i S	S	15 45 51.3	-1.9
MNK				i SS	SS	15 50 59.5	+8.7
MNK				i LQ	LQ	16 05 04.9	
MNK				i LR	LR	16 10 58.1	
MNK				i LRM	MLR	16 13 31.4	
	comp=N,4µm,15.2s						
MNK				i LRM	MLR	16 14 17.0	
	comp=Z,9µm,17.4s						
MNK				i LRM	MLR	16 14 22.0	
	comp=E,1µm,15.9s						
ISAL	Salakas	77.57	328	eP	P	15 36 05.2	+1.2
SHAO	Shalim	77.64	284	P	P	15 36 06.7	+1.6
IIGN	Ignalina	77.66	328	eP	P	15 36 06.8	+2.3
NACGM	Naroch	77.68	328	i P	P	15 36 05.1	+0.4
ANN	Anapa	77.74	315c	iP	P	15 36 05.9	+0.7
ANN				i		15 36 18.0	
ANN				i		15 39 02.0	
ANN				eS	S	15 45 56.1	-1.0
ANN				pmax	pmax		
	comp=Z,148nm,1.5s						
ANN				MLR	MLR		
	comp=Z,3µm,21.0s						
SCO	Scoresbysund	77.83	354	eP	P	15 36 07.2	+2.0
SCO				IAMs_20	IAMs_20	16 19 57.7	
	comp=Z,2µm,14.9s						
SCO	Scoresbysund	77.83	354	eP	P	15 36 07.2	+2.0
SCO				MLR	MLR		
	comp=Z,2µm,15.0s						
NNZ	Nelson	77.85	156	P	P	15 36 06.3	+0.7
BMN	Battle Mountai	77.94	50	P	P	15 36 07.3	+0.7
BMN				pmax	pmax		
	comp=Z,52nm,1.2s						
BMN	Battle Mountai	77.94	50	P	P	15 36 07.3	+0.7
BMN				IAmb	IAmb	15 36 13.1	
	comp=Z,52nm,1.2s						
HRY	Holter Researc	77.96	42	P	P	15 36 06.8	+0.2
RYN	Ryan	77.99	52	P	P	15 36 07.3	+0.4
RYN				IAmb	IAmb	15 36 13.1	
	comp=Z,49nm,1.1s						
GURO	Guroymak-BITLI	78.02	308	P	P	15 36 07.9	+0.8
GURO				IAmb	IAmb	15 36 24.4	
	comp=Z,57nm,1.0s						
KVN	Kaiserville	78.06	52	P	P	15 36 08.0	+0.6
KVN				pmax	pmax		
	comp=Z,55nm,1.0s						
KVN	Kaiserville	78.06	52	P	P	15 36 08.0	+0.6
KVN				IAmb	IAmb	15 36 13.5	
	comp=Z,55nm,1.0s						
LRM	Limekiln Ridge	78.08	43	P	P	15 36 08.2	+0.7
HLID	Hailey	78.10	46	P	P	15 36 08.2	+0.6
HLID	Hailey	78.10	46	P	P	15 36 07.2	-0.4
	baz=302,SNR=40						
THZ	Tophouse	78.17	157	P	P	15 36 07.9	+0.4
THZ				IAmb	IAmb	15 36 17.1	
	comp=Z,105nm,1.4s						
LHV	Little Huntoon	78.19	52	P	P	15 36 08.3	+0.5
LHV				IAmb	IAmb	15 36 14.7	
	comp=Z,79nm,1.1s						
UPP	Uppsala	78.23	335	eP	P	15 36 08.8	+1.2
TUWZ	Tuamarina	78.24	156	P	P	15 36 08.2	+0.5
NVAR	Mina Array Bea	78.24	52	P	P	15 36 09.7	+1.3
	comp=Z,27nm,0.8s,baz=286,slow=5.7,SNR=65						
NVAR	Mina Array Bea	78.24	52	P	P	15 36 08.8	+0.4
DLMT	Dillon	78.24	44	P	P	15 36 08.8	+0.6
DLMT				IAmb	IAmb	15 36 14.5	
	comp=Z,115nm,1.4s						
MLAC	Mammoth, Mammo	78.28	53	P	P	15 36 08.4	-0.3
	baz=300						
KOPT	Kop Dagi	78.29	310	P	P	15 36 09.2	+0.5
KOPT				IAmb	IAmb	15 36 25.5	
	comp=Z,94nm,1.2s						
BCYI	Bear Canyon	78.32	45	P	P	15 36 09.3	+0.5
NV11	Mina Array Sit	78.34	52	P	P	15 36 09.5	+0.6
MCMT	McKenzie Canyo	78.38	44	P	P	15 36 09.4	+0.2
FFC	Flin Flon	78.39	32	P	P	15 36 08.9	+0.3
FFC				pmax	pmax		
	comp=Z,55nm,1.1s						
FFC	Flin Flon	78.39	32	P	P	15 36 08.9	+0.3
FFC				IAmb	IAmb	15 36 14.3	
	comp=Z,55nm,1.1s						
UMR	Umm Al-Rimmam	78.39	297	eP	P	15 36 09.3	+0.2
EGMT	Eagleton	78.41	41	P	P	15 36 09.0	0.0
	baz=304,SNR=7.5						
MIB	Mutribah	78.55	298	eP	P	15 36 09.6	-0.4
PABE	Paberze	78.57	329	eP	P	15 36 10.7	+1.1
PABE	Paberze	78.57	329	P	P	15 36 09.2	-0.4
PABE				IAmb	IAmb	15 36 12.0	
	comp=Z,112nm,1.4s						
KBD	Kabd	78.59	297	eP	P	15 36 10.7	+0.5
DOK	Doka	78.59	285	P	P	15 36 10.8	+0.5
QRN	Al-Qurain	78.63	297	eP	P	15 36 10.5	+0.1
SMMC	Simmler	78.64	56	P	P	15 36 10.2	-0.3
	baz=300						
BOZ	Bozeman (W)	78.68	43	P	P	15 36 11.2	+0.5
BOZ				pmax	pmax		
	comp=Z,45nm,1.2s						
BOZ	Bozeman (W)	78.68	43	P	P	15 36 11.2	+0.5
BOZ	Bozeman (W)	78.68	43	P	P	15 36 08.7	-2.0
	baz=303,SNR=39						
RDF	Al-Radifah	78.82	297	eP	P	15 36 11.6	+0.1
PLWZ	Palliser	78.83	155	P	P	15 36 10.8	-0.3
RST	Umm Al-Ruwaisa	78.96	298	eP	P	15 36 12.3	0.0
PKM	Mcpherson Peak	78.98	56	P	P	15 36 11.8	-0.7
	baz=300						
TIN	Tinemaha, Big	78.99	53	P	P	15 36 11.0	-1.4
	baz=301,SNR=9.2						
VES	Vestal, Richgr	79.01	55	P	P	15 36 11.2	-1.2
	baz=301,SNR=6.2						
AKASG	Malin Array Be	79.02	323	P	P	15 36 12.6	+0.5
	comp=Z,4.7nm,0.4s,baz=47,slow=6.0,SNR=58						
AKASG	Malin Array Be	79.02	323	P	P	15 36 11.8	-0.4
AKASG				pmax	pmax		
	comp=Z,110nm,1.5s						
AKASG	Malin Array Be	79.02	323	P	P	15 36 11.8	-0.4
AKASG				IAmb	IAmb	15 36 26.5	
	comp=Z,110nm,1.4s						
AKBB	Malin Array Si	79.02	323c	iP	P	15 36 12.7	+0.5
AKBB	Malin Array Si	79.02	323	P	P	15 36 12.2	0.0
AKBB				IAmb	IAmb	15 36 26.4	
	comp=Z,102nm,1.4s						
ELK	Elko	79.06	49	P	P	15 36 13.1	+0.1
ELK				pmax	pmax		
	comp=Z,44nm,1.1s						
ELK	Elko	79.06	49	P	P	15 36 13.1	+0.1
RBK	Rabkut	79.07	284	P	P	15 36 13.5	+0.4
TPH	Tonopah	79.15	52	P	P	15 36 13.2	-0.2
TPH				pmax	pmax		
	comp=Z,270nm,1.3s						
TPH	Tonopah	79.15	52	P	P	15 36 13.2	-0.2
QLMT	Earthquake Lak	79.22	44	P	P	15 36 14.7	+1.0
WHFO	Wadi Hawf	79.23	284	P	P	15 36 14.2	+0.2
ILULI	Ilulissat	79.34	5	i P	P	15 36 14.8	+1.2
ILULI				IAMs_20	IAMs_20	16 13 48.4	
	comp=Z,3µm,19.6s						
ILULI	Ilulissat	79.34	5	i P	P	15 36 14.7	+1.2
ILULI				MLR	MLR		
	comp=Z,3µm,20.0s						
NC300	NORSAR Array S	79.35	338	P	P	15 36 13.8	0.0
NC300				IAmb	IAmb	15 36 15.8	
	comp=Z,54nm,1.2s						
NC405	NORSAR Array S	79.36	338	P	P	15 36 13.0	-0.9
YHB	Horse Butte	79.41	44	P	P	15 36 13.2	-1.5
YHB				IAmb	IAmb	15 36 20.8	
	comp=Z,51nm,0.9s						
HFS	Hagfors	79.42	336	P	P	15 36 14.2	0.0
	comp=Z,24nm,1.0s,baz=100,slow=3.3,SNR=24						
MARD	Mardin	79.50	307	P	P	15 36 15.4	+0.2
MARD				IAmb	IAmb	15 36 32.1	
	comp=Z,49nm,1.0s						
MOL	Molde	79.52	340	eP	P	15 36 16.2	+1.5
ISA	Isabella, Lake	79.53	55	P	P	15 36 14.6	-0.8
ISA				pmax	pmax		
	comp=Z,16nm,1.1s						
ISA	Isabella, Lake	79.53	55	P	P	15 36 14.6	-0.8
ISA	Isabella, Lake	79.53	55	P	P	15 36 15.4	0.0
	baz=301,SNR=7.0						
NC204	NORSAR Array S	79.54	338	P	P	15 36 15.0	+0.1
NB201	NORSAR Array S	79.55	338	P	P	15 36 15.2	+0.2
ARVC	Arvin	79.56	55	P	P	15 36 15.0	-0.5
	baz=301						
NB2	NORSAR Subarra	79.58	338	P	P	15 36 15.3	+0.2
	comp=Z,70nm,1.2s,baz=41,slow=5.6						
NB2	NORSAR Subarra	79.58	338	P	P	15 36 13.8	-1.3
NB2				pmax	pmax		
	comp=Z,64nm,1.3s						
NB2	NORSAR Subarra	79.58	338	P	P	15 36 15.3	+0.2
	baz=41,slow=5.6						
NOA	NORSAR Array B	79.58	338	P	P	15 36 15.6	+0.5
	comp=Z,21nm,1.0s,baz=40,slow=5.3,SNR=27						
YHH	Holmes Hill	79.59	44	P	P	15 36 15.6	-0.2
GRAC	Grapevine Rang	79.61	53	P	P	15 36 15.8	0.0
	baz=301,SNR=35						
NC602	NORSAR Array S	79.70	338	eP	P	15 36 17.0	+1.3
NORES	NORESS Array B	79.70	338	P	P	15 36 19.2	+3.5
GCMT	Greycliff	79.72	42	P	P	15 36 16.4	+0.1
NBO00	NORSAR Array S	79.72	338	P	P	15 36 15.0	-0.9
NAO01	NORSAR Array S	79.83	338	P	P	15 36 16.5	0.0
NAO01				IAmb	IAmb	15 36 17.6	
	comp=Z,72nm,1.2s						
SUW	Suwalki	79.88	328	eP	P	15 36 17.3	+0.5
SUW				eL	L	16 16 15.5	
	comp=Z,9µm,16.1s						
SUW	Suwalki	79.88	328	eP	P	15 36 17.7	+1.0
SUW	Suwalki	79.88	328	P	P	15 36 16.6	-0.2
SUW				pmax	pmax		
	comp=Z,94nm,1.2s						
SUW	Suwalki	79.88	328	P	P	15 36 16.6	-0.2
SUW				IAmb	IAmb	15 36 26.1	
	comp=Z,94nm,1.2s						
OSI	Osito Audit: C	79.89	56	P	P	15 36 17.4	0.0
	baz=301						
ABTO	Aybut	79.90	284	P	P	15 36 18.3	+0.7
ICESG	Greenland Ices	79.90	1	⇑iP	P	15 36 18.7	+1.6
ICESG				IAmb	IAmb	15 36 19.6	
	comp=Z,36nm,1.1s						
ICESG				IAMs_20	IAMs_20	16 13 43.9	
	comp=Z,4µm,19.3s						
YNE	Yellowstone No	79.96	43	P	P	15 36 18.6	+0.8
H17A	Grant Village	79.97	44	P	P	15 36 17.3	-0.6
	baz=304,SNR=35						
SNCC	San Nicolas Is	80.02	57	P	P	15 36 17.3	-0.7
	baz=301						
IMW	Indian Meadow	80.03	44	P	P	15 36 19.6	+1.3
IMW				IAmb	IAmb	15 36 25.3	
	comp=Z,71nm,1.1s						
FLWY	Flagg Ranch	80.07	44	P	P	15 36 20.1	+1.8
FLWY				IAmb	IAmb	15 36 25.8	
	comp=Z,99nm,1.2s						
HVU	Hansel Valley	80.08	47	P	P	15 36 18.8	+0.4
HVU				pmax	pmax		
	comp=Z,51nm,1.0s						
HVU	Hansel Valley	80.08	47	P	P	15 36 18.8	+0.4

HVU IAmb IAmb 15 36 24.4
comp=Z,50nm,1.0s
R11A Troy Canyon, C 80.10 51 P **P 15 36 19.3 +0.7**
R11A Troy Canyon, C 80.10 51 P **P 15 36 17.3 -1.3**
baz=302,SNR=67
FXWY Fox Creek 80.13 45 P **P 15 36 19.2 +0.6**
LRMC Laurel Mtn Rad 80.18 55 P **P 15 36 19.7 +0.7**
baz=302,SNR=7.9
FURC Furnace Creek, 80.23 53 P **P 15 36 19.4 +0.4**
baz=302,SNR=8.4
MOOW Moose Ponds 80.23 45 P **P 15 36 20.2 +1.0**
EDW2 Edwards Air Fo 80.27 55 P **P 15 36 20.5 +1.1**
baz=301,SNR=24
RLMT Red Lodge 80.33 43 P **P 15 36 19.4 -0.4**
RLMT Red Lodge 80.33 43 P **P 15 36 21.6 +1.9**
baz=305,SNR=12
DECC Green Verdugo 80.36 56 P **P 15 36 20.1 +0.3**
baz=301
BGU Big Grassy Mou 80.38 48 P **P 15 36 20.2 +0.2**
REDW Red Top Meadow 80.39 45 P **P 15 36 20.4 +0.4**
LOHW Long Hollow 80.39 45 P **P 15 36 20.1 -0.1**
TPNV Topopah Spring 80.40 53 P **P 15 36 20.2 0.0**
TPNV pmax pmax
comp=Z,92nm,1.1s
TPNV Topopah Spring 80.40 53 P **P 15 36 20.2 0.0**
TPNV IAmb IAmb 15 36 26.1
comp=Z,92nm,1.1s
TPNV Topopah Spring 80.40 53 P **P 15 36 20.5 +0.3**
baz=302,SNR=74
SPUT South Promonto 80.54 47 P **P 15 36 20.6 -0.3**
SPUT IAmb IAmb 15 36 27.5
comp=Z,62nm,1.2s
MWC Mount Wilson 80.57 56 P **P 15 36 20.6 -0.6**
MWC pmax pmax
comp=Z,39nm,1.1s
MWC Mount Wilson 80.57 56 P **P 15 36 20.6 -0.6**
AHID Auburn Hatcher 80.57 46 P **P 15 36 21.4 +0.3**
AHID IAmb IAmb 15 36 27.3
comp=Z,70nm,1.4s
SPR3 Spring Creek 3 80.59 50 P **P 15 36 20.8 -0.6**
SPR3 IAmb IAmb 15 36 28.1
comp=Z,66nm,1.4s
KVT Kavak 80.60 312 P **P 15 36 23.4 +2.4**
CIS Catalina Islan 80.74 57 P **P 15 36 20.3 -1.6**
baz=301
SKAR Skarslia 80.77 339 *e*P **P 15 36 22.7 +1.1**
SCI2 San Clemente I 80.86 57 P **P 15 36 22.9 +0.3**
baz=301
GSC Goldstone, Bar 80.88 54 P **P 15 36 23.6 +0.8**
baz=302,SNR=6.8
DUG Dugway, Tooele 80.92 48 P **P 15 36 23.2 +0.3**
DUG pmax pmax
comp=Z,112nm,1.3s
DUG Dugway, Tooele 80.92 48 P **P 15 36 23.2 +0.3**
DUG IAmb IAmb 15 36 29.4
comp=Z,112nm,1.3s
DUG Dugway, Tooele 80.92 48 P **P 15 36 23.8 +0.9**
baz=303,SNR=51
HWUT Hardware Ranch 80.93 47 P **P 15 36 23.1 +0.1**
PRN Pahroc Range 80.96 52 P **P 15 36 23.3 +0.1**
PRN IAmb IAmb 15 36 29.4
comp=Z,61nm,1.0s
RRX Edison Barstow 80.97 55 P **P 15 36 23.4 +0.3**
baz=302
FOO Floro 81.01 341 *e*P **P 15 36 24.0 +1.2**
SORM Soroca 81.01 322 ⇓P **P 15 36 23.8 +0.8**
LAO LASA Array 81.14 40 P **P 15 36 23.3 -0.6**
baz=307,SNR=9.2
PSUT Pine Spring 81.15 50 P **P 15 36 24.6 +0.4**
PSUT IAmb IAmb 15 36 30.3
comp=Z,65nm,1.0s
DGMT Dagmar 81.16 38 P **P 15 36 23.1 -0.8**
baz=308
TCUT Toone Canyon 81.30 47 P **P 15 36 24.5 -0.6**
TCUT IAmb IAmb 15 36 41.4
comp=Z,78nm,1.1s
CTU Camp Tracy 81.32 48 P **P 15 36 25.0 -0.1**
CTU IAmb IAmb 15 36 31.3
comp=Z,89nm,1.2s
SHPR Sheep Range 81.37 53 P **P 15 36 25.2 -0.2**
SHPR IAmb IAmb 15 36 31.8
comp=Z,67nm,1.2s
TUQ Turquoise Moun 81.42 54 P **P 15 36 25.7 0.0**
baz=302,SNR=20
HEC Hector Ludlow 81.46 54 P **P 15 36 24.7 -1.1**
baz=302,SNR=7.8
MURC Murrieta 81.50 56 P **P 15 36 24.9 -1.1**
baz=302,SNR=5.8
BW06 Boulder Array 81.50 45 P **P 15 36 23.7 -2.4**
baz=305
PD31 Pinedale Array 81.50 45 P **P 15 36 26.0 -0.1**
PDAR Pinedale Array 81.50 45 P **P 15 36 26.1 0.0**
comp=Z,16nm,0.8s,baz=274,slow=2.1,SNR=27
PDAR Pinedale Array 81.50 45 P **P 15 36 25.6 -0.4**
NLU North Lily Min 81.53 48 P **P 15 36 26.5 +0.3**
NLU IAmb IAmb 15 36 32.5
comp=Z,54nm,1.1s
SFJD Kangerlussuaq 81.56 5 *i*P **P 15 36 26.6 +1.1**
SFJD IAmb IAmb 15 36 30.7
comp=Z,28nm,1.2s
SFJD IAMs_20 IAMs_20 16 14 10.5
comp=Z,2µm,19.6s
SFJD Kangerlussuaq 81.56 5 *i*P **P 15 36 26.6 +1.1**
SFJD pmax pmax
comp=Z,28nm,1.2s
SFJD MLR MLR
comp=Z,2µm,20.0s
SFJD Kangerlussuaq 81.56 5 P **P 15 36 26.0 +0.5**
JLU Jordanelle 81.56 47 P **P 15 36 26.7 +0.3**
MPU Maple Canyon 81.77 48 P **P 15 36 27.9 +0.4**
MPU IAmb IAmb 15 36 33.8
comp=Z,76nm,1.1s
BER Bergen 81.91 340 *e*P **P 15 36 28.7 +1.2**
GMRC Granite Mounta 81.95 54 P **P 15 36 27.1 -1.3**
baz=303,SNR=35
BNN Bunyan 81.96 311 P **P 15 36 28.1 -0.3**
GAZ Gaziantep 81.98 309 P **P 15 36 28.6 +0.1**
GAZ IAmb IAmb 15 36 46.7
comp=Z,72nm,1.3s
CCUT Cedar City 82.01 51 P **P 15 36 29.3 +0.5**
CCUT IAmb IAmb 15 36 35.2
comp=Z,51nm,1.2s
PFO Pinyon Flats O 82.02 56 P **P 15 36 29.5 +0.7**
comp=Z,30nm,0.9s,baz=314,slow=6.4,SNR=5.6
PFO Pinyon Flats O 82.02 56 P **P 15 36 29.1 +0.3**
PFO pmax pmax
comp=Z,78nm,1.3s
PFO Pinyon Flats O 82.02 56 P **P 15 36 29.1 +0.3**
PFO IAmb IAmb 15 36 34.6
comp=Z,78nm,1.2s
PFO Pinyon Flats O 82.02 56 P **P 15 36 27.4 -1.4**
baz=302,SNR=28
TPFO Pinon Flats 82.02 56 P **P 15 36 28.6 -0.3**
baz=302,SNR=24
ILGA Ilgaz 82.08 313 P **P 15 36 29.1 0.0**
ILGA IAmb IAmb 15 36 44.6
comp=Z,69nm,1.1s
BELC Belle Mtn. Jos 82.14 55 P **P 15 36 28.5 -1.0**
baz=302,SNR=28
SZCU Shurtz Canyon 82.17 51 P **P 15 36 29.2 -0.5**
LVV L'vov 82.18 325 *e*P **P 15 36 29.9 +0.7**
LVV *e* 15 36 33.5
LVV *e*S **S 15 46 40.5 -3.3**
MVU Marysvale 82.24 50 P **P 15 36 31.2 +1.2**
MSU Marysvale 82.26 50 P **P 15 36 31.1 +0.9**
MSU Marysvale 82.26 50 P **P 15 36 31.1 +0.9**
BLS5 Blasjo 82.34 339 *e*P **P 15 36 31.0 +1.1**
DY2G Dye2 82.34 3 *i*P **P 15 36 31.3 +1.3**
DY2G IAmb IAmb 15 36 33.3
comp=Z,117nm,1.8s
DY2G IAMs_20 IAMs_20 16 15 57.4
comp=Z,3µm,17.6s
BAR Barrett 82.36 56 P **P 15 36 30.9 +0.4**
BAR IAmb IAmb 15 36 36.1
comp=Z,44nm,1.0s
LCMT Little Creek M 82.39 51 P **P 15 36 31.2 +0.5**
LCMT IAmb IAmb 15 36 37.0
comp=Z,72nm,1.2s
BEL Belsk 82.40 328 *e*P **P 15 36 31.5 +1.2**
BEL *e*pP **P 15 36 32.3 +2.0**
BEL *e*L L 16 18 10.0
comp=Z,11µm,15.3s
BEL Belsk 82.40 328 P **P 15 36 32.5 +2.2**
BEL pmax pmax
comp=Z,116nm,0.7s

MONP2 Monument Peak 82.43 56 P **P 15 36 30.1 -1.0**
baz=302,SNR=25
TMUT Trail Mountain 82.45 48 P **P 15 36 31.4 +0.2**
TMUT IAmb IAmb 15 36 36.7
comp=Z,35nm,0.9s
MTPU Mount Pierson 82.52 50 P **P 15 36 32.3 +0.7**
MTPU IAmb IAmb 15 36 38.3
comp=Z,62nm,1.1s
CBX Cerro Bola 82.56 57 P **P 15 36 32.1 +0.4**
BSD Bornholm Skovb 82.63 332 IAmb IAmb 15 36 32.8
comp=Z,36nm,1.2s
BSD IAMs_20 IAMs_20 16 18 50.5
comp=Z,4µm,15.1s
P17A Butcher Ranch, 82.65 48 P **P 15 36 32.8 +0.8**
IRM Iron Mountain 82.65 55 P **P 15 36 31.2 -0.8**
baz=303,SNR=34
KNB Kanab 82.67 51 P **P 15 36 32.9 +0.7**
NEE2 Needles Airpor 82.68 54 P **P 15 36 31.9 -0.2**
baz=303
Q16A Castle Valley 82.69 49 P **P 15 36 33.2 +0.9**
Q16A IAmb IAmb 15 36 38.9
comp=Z,72nm,1.1s
BC3 Big Chuckawall 82.70 55 P **P 15 36 32.5 +0.1**
baz=303,SNR=41
SCTR Scanteiesti 82.71 320 ⇑P **P 15 36 33.3 +1.3**
RDMU Red Mountain 82.76 47 P **P 15 36 33.7 +1.1**
IKP In-Ko-Pah, Jac 82.78 56 P **P 15 36 31.6 -1.1**
baz=303,SNR=11
RMX La Rumorosa 82.83 56 P **P 15 36 33.6 +0.5**
RMX IAmb IAmb 15 36 39.2
comp=Z,41nm,1.0s
SWSC Sam W. Stewart 82.84 56 P **P 15 36 33.1 +0.2**
baz=303,SNR=6.9
BR131 Keskin Array S 82.88 312 *c i*P **P 15 36 34.0 +0.7**
BR131 Keskin Array S 82.88 312 P **P 15 36 33.9 +0.7**
BRTR Keskin Array B 82.88 312 P **P 15 36 34.4 +1.1**
comp=Z,31nm,1.0s,baz=101,slow=3.9,SNR=65
BRTR Keskin Array B 82.88 312 *i*P **P 15 36 34.7 +1.5**
BRTR pmax pmax
comp=Z,31nm,1.0s
BRTR Keskin Array B 82.88 312 P **P 15 36 33.8 +0.6**
TESR Tescani 82.93 321 ⇑P **P 15 36 34.1 +0.9**
CFR Carcaliu 82.93 319 ⇑P **P 15 36 34.7 +1.5**
CFR Carcaliu 82.93 319 P **P 15 36 34.0 +0.8**
CFR pmax pmax
comp=Z,18nm,1.6s
BIZ Bicaz 82.95 322 ⇑P **P 15 36 34.5 +1.2**
TPGR Topolog 82.97 319 ⇑P **P 15 36 34.5 +1.1**
BUR08 Bucovina Ar. S 82.98 322 P **P 15 36 34.0 +0.5**
BUR08 IAmb IAmb 15 36 53.3
comp=Z,54nm,1.4s
GKP Gorka Klasztor 82.99 330 *e*P **P 15 36 34.3 +1.1**
GKP *e*L L 16 18 46.5
comp=Z,10µm,16.0s
BURAR Bucovina Array 82.99 322 ⇑P **P 15 36 34.8 +1.2**
BURAR Bucovina Array 82.99 322 P **P 15 36 34.2 +0.6**
SRU San Rafael Swe 82.99 48 P **P 15 36 34.3 +0.4**
SRU pmax pmax
comp=Z,93nm,1.2s
SRU San Rafael Swe 82.99 48 P **P 15 36 34.3 +0.4**
W13A Hualapai Mount 83.01 53 P **P 15 36 34.0 -0.1**
ODBI Odobesti 83.17 320 ⇑P **P 15 36 35.6 +1.2**
TIRR Tirgusor 83.22 319 ⇑P **P 15 36 35.5 +0.9**
TIRR Tirgusor 83.22 319 P **P 15 36 35.0 +0.4**
TIRR pmax pmax
comp=Z,116nm,1.4s
TIRR Tirgusor 83.22 319 P **P 15 36 35.0 +0.4**
PDMCI Parker Dam,Lak 83.27 54 P **P 15 36 35.6 +0.5**
baz=303,SNR=8.5
VRI Vrincioaia 83.29 320 ⇑P **P 15 36 36.5 +1.4**
VRI Vrincioaia 83.29 320 P **P 15 36 36.6 +1.6**
VRI pmax pmax
comp=Z,61nm,1.5s
ANTO Ankara 83.33 313 P **P 15 36 36.2 +0.7**
ANTO pmax pmax
comp=Z,114nm,1.3s
ANTO Ankara 83.33 313 P **P 15 36 36.2 +0.7**
PLOR Plostina 83.34 320 ⇑P **P 15 36 36.9 +1.6**
U15A North Rim 83.35 51 P **P 15 36 35.3 -0.6**
U15A IAmb IAmb 15 36 42.4
comp=Z,34nm,1.1s
HARR Harsova 83.35 319 ⇑P **P 15 36 36.5 +1.2**
BORG Borgarnes 83.35 353 P **P 15 36 36.3 +1.3**
BORG pmax pmax
comp=Z,54nm,1.4s
BORG Borgarnes 83.35 353 P **P 15 36 36.3 +1.3**
BORG IAmb IAmb 15 36 53.4
comp=Z,54nm,1.4s
K22A Casper 83.38 44 P **P 15 36 36.2 +0.4**
K22A IAmb IAmb 15 36 50.3
comp=Z,59nm,1.4s
K22A Casper 83.38 44 P **P 15 36 35.6 -0.2**
baz=307,SNR=5.6
GLA Glamis 83.47 55 P **P 15 36 36.6 +0.4**
GLA pmax pmax
comp=Z,63nm,1.1s
GLA Glamis 83.47 55 P **P 15 36 36.6 +0.4**
GLA IAmb IAmb 15 36 42.3
comp=Z,63nm,1.1s
GLA Glamis 83.47 55 P **P 15 36 37.0 +0.7**
baz=303,SNR=8.5
BISRR Bisoca 83.50 320 ⇑P **P 15 36 37.4 +1.2**
RWWY Rawlins 83.55 45 P **P 15 36 36.7 -0.1**
COVR Voineasa-Covas 83.58 321 ⇑P **P 15 36 37.9 +1.3**
KOLS Kolonicke sedl 83.63 325 *e*P **P 15 36 38.0 +1.3**
KOLS pmax pmax
comp=Z,48nm,1.3s
KOLS Kolonicke sedl 83.63 325 *e*P **P 15 36 38.0 +1.3**
OZUR 83.65 321 ⇑P **P 15 36 38.2 +1.3**
RGN Rugen 83.67 333 *e*P **P 15 36 37.3 +0.5**
comp=Z,434nm,1.6s,baz=40,slow=4.8
MUD Monsted U'grnd 83.77 336 *e*P **P 15 36 32.8 -4.4**
MUD IAMs_20 IAMs_20 16 22 14.8
comp=Z,6µm,15.4s
MUD Monsted U'grnd 83.77 336 *e*P **P 15 36 32.8 -4.4**
MUD MLR MLR
comp=Z,6µm,15.0s
ARCR ARCALIA 83.78 322 ⇑P **P 15 36 38.6 +1.1**
NEHR Nehoiu 83.80 320 ⇑P **P 15 36 38.4 +0.7**
UZH Uzhgorod 83.82 324 ⇓*e*P **P 15 36 38.0 +0.3**
UZH *e* 15 36 41.3
UZH *e*S **S 15 46 59.8 -0.7**
UZH MLR MLR
comp=N,1µm,16.0s
UZH MLR MLR
comp=E,3µm,16.0s
UZH MLR MLR
comp=Z,1µm,16.0s
O20A White River Ci 83.84 46 P **P 15 36 38.4 +0.2**
O20A White River Ci 83.84 46 P **P 15 36 37.7 -0.5**
baz=306,SNR=26
BMR Baia Mare 83.84 323 ⇑P **P 15 36 39.1 +1.3**
ISR Istrita 83.86 320 ⇑P **P 15 36 38.9 +0.8**
ISR Istrita 83.86 320 P **P 15 36 39.1 +1.1**
ISR pmax pmax
comp=Z,56nm,1.2s
RSSD Black Hills 83.93 41 P **P 15 36 38.0 -0.6**
RSSD pmax pmax
comp=Z,22nm,1.2s
RSSD Black Hills 83.93 41 P **P 15 36 38.0 -0.6**
RSSD Black Hills 83.93 41 P **P 15 36 38.1 -0.5**
baz=308
MDND Maddock 83.93 36 P **P 15 36 37.6 -0.8**
baz=311
DOPR Dopca 83.95 321 ⇑P **P 15 36 39.4 +1.0**
MLR Muntele Rosu 83.95 320 ⇑P **P 15 36 39.3 +0.7**
MLR Muntele Rosu 83.95 320 P **P 15 36 38.6 0.0**
comp=Z,24nm,1.2s,baz=31,slow=4.9,SNR=19
MLR Muntele Rosu 83.95 320 P **P 15 36 38.1 -0.5**
MLR pmax pmax
comp=Z,73nm,1.5s
MLR Muntele Rosu 83.95 320 P **P 15 36 38.1 -0.5**
MLR IAmb IAmb 15 36 52.2
comp=Z,73nm,1.5s
OJC Ojcow 83.96 327 *e*P **P 15 36 39.4 +1.0**
OJC *e*PPP PPP 15 40 54.0
OJC *e*L L 16 18 21.9
comp=Z,6µm,17.8s
OJC Ojcow 83.96 327 P **P 15 36 38.4 0.0**
OJC pmax pmax
comp=Z,178nm,1.5s
OJC Ojcow 83.96 327 P **P 15 36 38.4 0.0**
MDUB Mudurnu 83.97 314 P **P 15 36 39.0 +0.3**
TRPA Tarpa 84.03 324 ⇑P **P 15 36 40.0 +1.2**

CRVS Cervenica-Dubn 84.05 325 *e*P **P 15 36 40.0 +1.1**
CRVS pmax pmax
comp=Z,172nm,1.5s
CRVS Cervenica-Dubn 84.05 325 *e*P **P 15 36 40.0 +1.1**
ULM Lac du Bonnet 84.14 33 P **P 15 36 39.1 -0.2**
comp=Z,12nm,1.0s,baz=313,slow=4.9,SNR=8.6
ULM Lac du Bonnet 84.14 33 P **P 15 36 40.5 +1.2**
ULM pmax pmax
comp=Z,26nm,1.2s
ULM Lac du Bonnet 84.14 33 P **P 15 36 40.5 +1.2**
SECR 84.17 320 ⇑P **P 15 36 40.6 +1.1**
NUUK Nuuk 84.25 6 *i*P **P 15 36 41.5 +2.0**
Y14A Wickenburg 84.25 54 P **P 15 36 40.8 +0.5**
Y14A IAmb IAmb 15 36 46.2
comp=Z,52nm,1.1s
NIE Niedzica 84.27 326 *e*P **P 15 36 42.2 +2.2**
NIE *e*PPP PPP 15 40 58.5
NIE *e*L L 16 18 02.1
comp=Z,3µm,18.2s
NIE Niedzica 84.27 326 P **P 15 36 42.3 +2.3**
NIE pmax pmax
comp=Z,26nm,1.4s
PV21 Cone Mtn., Par 84.30 48 P **P 15 36 41.2 +0.5**
PV23 Carpenter Ridg 84.34 48 P **P 15 36 40.8 -0.1**
PV10 Paradox Valley 84.36 48 P **P 15 36 41.1 +0.1**
113A Mohawk Valley, 84.37 55 P **P 15 36 40.8 0.0**
113A IAmb IAmb 15 36 46.7
comp=Z,48nm,1.1s
PV14 Lion Creek, Pa 84.38 48 P **P 15 36 41.3 +0.3**
PV20 West Nyswonger 84.43 48 P **P 15 36 41.5 +0.3**
PV22 Blue Mesa, Par 84.43 48 P **P 15 36 42.2 +0.9**
PV19 Morning Glory 84.44 48 P **P 15 36 41.5 +0.2**
PV04 Paradox Valley 84.44 48 P **P 15 36 41.6 +0.3**
PV17 East Wray Mesa 84.47 48 P **P 15 36 41.9 +0.4**
VOIR 84.47 321 ⇑P **P 15 36 42.2 +1.0**
VOIR 84.47 321 P **P 15 36 42.2 +1.0**
VOIR pmax pmax
comp=Z,20nm,1.8s
WUAZ Wupatki 84.48 52 P **P 15 36 41.6 +0.1**
WUAZ Wupatki 84.48 52 P **P 15 36 41.1 -0.5**
baz=305,SNR=58
PV16 Nyswonger Mesa 84.48 48 P **P 15 36 41.4 -0.2**
PV05 Paradox Valley 84.50 48 P **P 15 36 42.2 +0.5**
PV11 David Mesa, Pa 84.51 48 P **P 15 36 42.3 +0.6**
PV18 Skein Mesa, Pa 84.52 48 P **P 15 36 42.1 +0.4**
PV12 Saucer Basin, 84.55 48 P **P 15 36 42.4 +0.5**
PV03 Paradox Valley 84.56 48 P **P 15 36 42.7 +0.8**
PV07 Paradox Valley 84.58 48 P **P 15 36 41.4 -0.6**
PV07 IAmb IAmb 15 36 48.2
comp=Z,47nm,1.2s
PV13 Radium Mtn., P 84.63 48 P **P 15 36 42.5 +0.2**
PV02 Paradox Valley 84.65 48 P **P 15 36 42.2 -0.3**
PV15 Paradox Valley 84.74 48 P **P 15 36 42.9 0.0**
PV15 IAmb IAmb 15 36 48.9
comp=Z,42nm,1.0s
ARR Arges 84.74 321 ⇑P **P 15 36 43.7 +1.1**
N23A Red Feather La 84.79 45 P **P 15 36 43.6 +0.5**
baz=308,SNR=32
PV01 Paradox Valley 84.80 48 P **P 15 36 43.1 -0.1**
KECS Kecovo 84.81 325 *e*P **P 15 36 44.1 +1.4**
KECS pmax pmax
comp=Z,20nm,1.4s
KECS Kecovo 84.81 325 *e*P **P 15 36 44.1 +1.4**
DRGR 84.83 323 ⇑P **P 15 36 43.9 +1.0**
DRGR 84.83 323 P **P 15 36 43.9 +1.0**
DRGR pmax pmax
comp=Z,22nm,1.5s
PHWY Pilot Hill 84.83 44 P **P 15 36 42.9 -0.5**
PHWY IAmb IAmb 15 36 49.5
comp=Z,60nm,1.4s
LANS Liptovska Anna 84.85 326 *e*P **P 15 36 45.6 +2.6**
LANS pmax pmax
comp=Z,28nm,1.3s
LANS Liptovska Anna 84.85 326 *e*P **P 15 36 45.5 +2.6**
ASF Jabal al Asfar 84.96 305 P **P 15 36 45.2 +1.3**
comp=Z,30nm,1.1s,baz=347,slow=0.6,SNR=39
OKC Ostrava-Krasne 84.99 327 *e*P **P 15 36 44.2 +0.6**
OKC Ostrava-Krasne 84.99 327 *e*P **P 15 36 44.2 +0.6**
RUE Ruedersdorf 85.01 331 *e*P **P 15 36 44.8 +1.2**
comp=Z,168nm,1.7s,baz=40,slow=4.8
X16A Lo Mia Camp, P 85.05 53 P **P 15 36 44.2 -0.3**
X16A IAmb IAmb 15 36 50.8
comp=Z,50nm,1.1s
KSP Ksiaz 85.12 329 *e*P **P 15 36 45.2 +1.0**
KSP *e*PPP PPP 15 41 07.8
KSP *e*L L 16 19 36.9
comp=Z,8µm,17.6s
KSP Ksiaz 85.12 329 P **P 15 36 45.5 +1.3**
KSP pmax pmax
comp=Z,37nm,0.9s
SMCO Snowmass 85.19 47 P **P 15 36 46.1 +0.7**
SMCO IAmb IAmb 15 36 51.8
comp=Z,69nm,1.2s
BSEG Bad Segeberg 85.29 334 P **P 15 36 46.2 +1.2**
BSEG pmax pmax
comp=Z,37nm,1.4s
BSEG Bad Segeberg 85.29 334 *e*P **P 15 36 46.0 +1.0**
comp=Z,59nm,1.3s,baz=40,slow=4.8
MORC Moravsky Berou 85.31 327 ⇑P **P 15 36 46.1 +0.8**
MORC Moravsky Berou 85.31 327 P **P 15 36 45.8 +0.5**
MORC pmax pmax
comp=Z,72nm,1.5s
MORC Moravsky Berou 85.31 327 P **P 15 36 45.8 +0.5**
MORC IAmb IAmb 15 36 47.8
comp=Z,72nm,1.5s
MORC Moravsky Berou 85.31 327 *e*P **P 15 36 46.1 +0.8**
MORC Moravsky Berou 85.31 327 *e*S **S 15 47 13.6 -1.9**
OSTC Ostas 85.36 329 *e*P **P 15 36 46.8 +1.3**
MVCO Mesa Verde 85.39 49 P **P 15 36 46.4 +0.2**
MVCO IAmb IAmb 15 36 52.1
comp=Z,32nm,0.9s
MVCO Mesa Verde 85.39 49 P **P 15 36 46.7 +0.5**
baz=306,SNR=12
CHVC Chvalec 85.41 329 *e*P **P 15 36 46.2 +0.5**
KRLC Kraliky 85.45 328 *e*P **P 15 36 46.6 +0.6**
KRLC Kraliky 85.45 328 *e*P **P 15 36 46.6 +0.6**
DPC Dobruska-Polom 85.46 328 *e*P **P 15 36 46.7 +0.7**
DPC Dobruska-Polom 85.46 328 *e*P **P 15 36 46.7 +0.7**
PSZ Piszkesteto 85.49 325 ⇓P **P 15 36 47.0 +0.8**
PSZ Piszkesteto 85.49 325 *e*P **P 15 36 47.0 +0.8**
PSZ Piszkesteto 85.49 325 P **P 15 36 46.4 +0.2**
PSZ pmax pmax
comp=Z,74nm,1.4s
PSZ Piszkesteto 85.49 325 P **P 15 36 46.4 +0.2**
PSZ IAmb IAmb 15 36 48.8
comp=Z,74nm,1.4s
UPC Upice 85.49 329 *e*P **P 15 36 47.1 +1.0**
UPC Upice 85.49 329 *e*P **P 15 36 47.1 +1.0**
AGMN Agassiz Nation 85.49 34 P **P 15 36 46.7 +0.6**
AGMN Agassiz Nation 85.49 34 P **P 15 36 46.4 +0.3**
baz=314,SNR=5.4
214A Organ Pipe Nat 85.49 55 P **P 15 36 47.3 +0.8**
214A IAmb IAmb 15 36 52.7
comp=Z,74nm,1.1s
214A Organ Pipe Nat 85.49 55 P **P 15 36 46.0 -0.5**
baz=304,SNR=13
MMAI Mount Meron Ar 85.53 306 P **P 15 36 47.1 +0.4**
comp=Z,68nm,1.3s,baz=64,slow=1.9,SNR=17
VYHS Vyhne 85.60 326 *e*P **P 15 36 47.7 +1.0**
VYHS pmax pmax
comp=Z,96nm,1.6s
VYHS Vyhne 85.60 326 *e*P **P 15 36 47.7 +1.0**
ISCO Idaho Springs 85.65 45 P **P 15 36 47.2 -0.4**
ISCO pmax pmax
comp=Z,30nm,1.2s
ISCO Idaho Springs 85.65 45 P **P 15 36 47.2 -0.4**
ISCO Idaho Springs 85.65 45 P **P 15 36 47.1 -0.4**
baz=308,SNR=11
GZR Gura Zlata 85.71 322 ⇑P **P 15 36 48.1 +0.7**
W18A Petrified Fore 85.80 51 P **P 15 36 48.5 +0.3**
baz=306
JAVC Velka Javorina 85.90 327 *e*P **P 15 36 50.2 +2.0**
VRAC Vranov 86.08 328 ⇑P **P 15 36 50.1 +1.1**
VRAC Vranov 86.08 328 P **P 15 36 49.2 +0.1**
comp=Z,17nm,1.1s,baz=56,slow=4.5,SNR=29
VRAC Vranov 86.08 328 *e*P **P 15 36 49.9 +0.8**
VRAC Vranov 86.08 328 *e*S **S 15 47 20.7 -2.3**
PVCC Panska Ves 86.11 329 *e*P **P 15 36 49.7 +0.5**
PVCC Panska Ves 86.11 329 *e*P **P 15 36 49.7 +0.5**
BRG Berggiesshubel 86.13 330 P **P 15 36 50.0 +0.8**
BRG pmax pmax
comp=Z,17nm,1.0s
BRG Berggiesshubel 86.13 330 *e*P **P 15 36 49.8 +0.6**
comp=Z,63nm,1.7s,baz=40,slow=4.8

BRG Berggiesshubel 86.13 330 eP P 15 36 50.4 +1.1
BRG Amp 15 36 52.4
comp=Z,62nm,1.7s
BRG Berggiesshubel 86.13 330 P P 15 37 04.6 +15
BRG Amp 15 37 06.0
comp=Z,11nm,1.0s
BRG Berggiesshubel 86.13 330 S S 15 47 22.0 -1.3
S22A 4UR Ranch, Cre 86.14 48 P P 15 36 47.2 -2.8
baz=307,SNR=32
FLTG Flechtingen 86.16 332 eP P 15 36 49.6 +0.2
comp=Z,68nm,1.3s,baz=40,slow=4.8
BZS Buzias 86.17 323 P P 15 36 49.9 +0.3
BZS pmax pmax
comp=Z,14nm,1.9s
CLL Collm 86.20 331⇑iP P 15 36 50.0 +0.4
comp=Z,73nm,1.4s
CLL i 15 37 22.1
CLL ePP PP 15 40 11.0 +1.5
CLL eS S 15 47 23.0 -1.0
CLL Collm 86.20 331⇑iP P 15 36 50.0 +0.4
CLL eS S 15 47 23.0 -1.0
CLL pmax pmax
comp=Z,73nm,1.4s
CLL Collm 86.20 331 P P 15 36 49.2 -0.4
CLL IAmb IAmb 15 36 51.5
comp=Z,60nm,1.3s
CLL Collm 86.20 331 eP P 15 36 50.0 +0.4
comp=Z,73nm,1.4s,baz=40,slow=4.8
HERR Herculane 86.25 322 ⇑P P 15 36 50.3 +0.4
SMOL Smolenice 86.26 327 eP P 15 36 51.3 +1.3
SMOL pmax pmax
comp=Z,39nm,1.6s
SMOL Smolenice 86.26 327 eP P 15 36 51.3 +1.3
FBE Freiberg 86.34 330 eP P 15 36 51.3 +1.0
comp=Z,118nm,1.6s,baz=40,slow=4.8
KRUC Moravsky 86.35 327 P P 15 36 51.4 +1.0
KRUC pmax pmax
comp=Z,26nm,1.3s
KRUC Moravsky 86.35 327 eP P 15 36 51.2 +0.8
KRUC Moravsky 86.35 327 eS S 15 47 25.6 0.0
Q24A Divide 86.45 46 P P 15 36 49.8 -1.7
baz=308,SNR=6.3
B35A Bob, Littlefor 86.47 33 P P 15 36 50.4 -0.6
B35A IAmb IAmb 15 36 56.3
comp=Z,57nm,1.4s
NRDL Niedersach Rie 86.48 333 eP P 15 36 51.3 +0.5
comp=Z,73nm,1.8s,baz=40,slow=4.8
BALB Balikesir 86.50 315 P P 15 36 50.9 -0.3
BALB IAmb IAmb 15 36 58.4
comp=Z,25nm,0.5s
PRU Pruhonice 86.52 329 eP P 15 36 51.4 +0.2
PRU Pruhonice 86.52 329 eP P 15 36 51.4 +0.2
SUSD Miller 86.52 39 P P 15 36 51.1 -0.3
SUSD Miller 86.52 39 P P 15 36 51.3 0.0
baz=312
ASSE Asse, Remlinge 86.54 332 eP P 15 36 51.8 +0.7
comp=Z,33nm,1.4s,baz=40,slow=4.8
ZST Bratislava 86.64 327 eP P 15 36 53.3 +1.5
ZST pmax pmax
comp=Z,156nm,1.6s
ZST Bratislava 86.64 327 eP P 15 36 53.3 +1.5
MDVR Moldovita 86.68 322 ⇑P P 15 36 52.5 +0.3
TUC Tucson 86.71 54 P P 15 36 50.6 -2.0
TUC pmax pmax
comp=Z,34nm,1.2s
TUC Tucson 86.71 54 P P 15 36 50.6 -2.0
TUC IAmb IAmb 15 36 58.7
comp=Z,34nm,1.2s
TUC Tucson 86.71 54 P P 15 36 52.8 +0.2
baz=305
NEUB Neuenburg 86.79 331 eP P 15 36 53.1 +0.7
comp=Z,119nm,1.6s,baz=40,slow=4.8
CLZ Clausthal 86.88 332 eP P 15 36 53.6 +0.7
comp=Z,77nm,1.5s,baz=40,slow=4.8
F33A 5 Mile Ranch, 86.97 36 P P 15 36 52.5 -1.0
SDCO Great Sand Dun 86.98 47 P P 15 36 53.5 -0.6
SDCO Great Sand Dun 86.98 47 P P 15 36 52.1 -2.0
baz=308,SNR=34
ELL Elmali 87.00 312 P P 15 36 52.1 -1.9
ELL pmax pmax
comp=Z,106nm,1.0s
ELL Elmali 87.00 312 P P 15 36 52.1 -1.9
OGNE Ogallala 87.08 43 P P 15 36 53.7 -0.5
OGNE IAmb IAmb 15 36 59.0
comp=Z,43nm,1.1s
OGNE Ogallala 87.08 43 P P 15 36 55.2 +0.9
baz=310
TANN Tannenbergstha 87.10 330 eP P 15 36 54.3 +0.2
comp=Z,55nm,1.9s,baz=40,slow=4.8
WERD Werda 87.14 330 eP P 15 36 54.8 +0.5
comp=Z,67nm,2.0s,baz=40,slow=4.8
PLN Plauen 87.17 330 eP P 15 36 55.0 +0.6
comp=Z,46nm,1.7s,baz=40,slow=4.8
GUNZ Gunzen 87.19 330 eP P 15 36 55.1 +0.5
comp=Z,81nm,1.9s,baz=40,slow=4.8
WERN Wernitzgruen 87.23 330 eP P 15 36 55.3 +0.6
comp=Z,63nm,1.9s,baz=40,slow=4.8
NKC Novy Kostel 87.24 330 eP P 15 36 55.3 +0.6
NKC Novy Kostel 87.24 330 eP P 15 36 55.3 +0.6
SOP Sopron 87.26 326 P P 15 36 56.0 +1.2
SOP pmax pmax
comp=Z,19nm,1.5s
GTTG Gottingen 87.27 332 eP P 15 36 55.4 +0.6
comp=Z,61nm,1.5s,baz=40,slow=4.8
MOX Moxa 87.28 331 P P 15 36 56.1 +1.2
MOX pmax pmax
comp=Z,17nm,1.8s
MOX Moxa 87.28 331 eP P 15 36 55.3 +0.4
comp=Z,58nm,1.8s,baz=40,slow=4.8
VTS Vitosha 87.30 320 ⇑P P 15 36 55.4 +0.1
VTS Vitosha 87.30 320 P P 15 36 54.0 -1.4
VTS pmax pmax
comp=Z,17nm,1.3s
VTS Vitosha 87.30 320 P P 15 36 54.0 -1.4
CONA Conrad Observa 87.41 327 iP P 15 36 56.7 +1.0
comp=Z,35nm,1.5s,SNR=18
FRGS Fruska Gora 87.42 323 ⇑P P 15 36 55.9 +0.2
FRGS Fruska Gora 87.42 323⇑iP P 15 36 56.1 +0.4
BOVS Bovan 87.46 321 ⇑P P 15 36 55.5 -0.4
CKRC Cesky Krumlov 87.47 328 eP P 15 36 55.9 0.0
KHC Kasperske Hory 87.57 329 eP P 15 36 56.1 -0.3
KHC Kasperske Hory 87.57 329 eP P 15 36 56.1 -0.3
KHC Kasperske Hory 87.57 329 P P 15 36 55.1 -1.2
MANZ Manzenberg 87.57 330 eP P 15 36 56.0 -0.3
comp=Z,63nm,2.0s,baz=40,slow=4.8
ROTZ Rotzenmuhle 87.69 330 eP P 15 36 57.8 +0.8
comp=Z,95nm,1.9s,baz=40,slow=4.8
GEC2 GERESS Array S 87.73 329 P P 15 36 56.4 -0.8
GEC2 GERESS Array S 87.73 329 eP P 15 36 57.1 -0.1
comp=Z,37nm,1.7s,baz=40,slow=4.8
GERES GERESS Array B 87.73 329 P P 15 36 57.1 -0.1
comp=Z,1.4nm,0.8s,baz=57,slow=4.9,SNR=14
GERES GERESS Array B 87.73 329 P P 15 36 55.6 -1.6
EIL Elat 87.74 304 P P 15 36 57.6 0.0
comp=Z,6.3nm,1.0s,baz=127,slow=4.0,SNR=8.0
YER Yerkesik 87.80 313 P P 15 37 04.5 +6.8
YER pmax pmax
comp=Z,48nm,0.9s
EYMN Ely 87.80 33 P P 15 36 57.2 -0.2
baz=317,SNR=13
UBBA Unterbreizbach 87.81 332 eP P 15 36 57.8 +0.5
comp=Z,52nm,1.8s,baz=40,slow=4.8
K31A O'Neill 87.84 40 P P 15 36 57.5 -0.3
WET Wettzell 87.87 329 P P 15 36 59.0 +1.2
WET pmax pmax
comp=Z,10.0nm,2.0s
WET Wettzell 87.87 329 eP P 15 36 58.2 +0.4
comp=Z,38nm,1.8s,baz=40,slow=4.8
KSCO Kaye Shedlock' 87.95 45 P P 15 36 58.6 +0.1
baz=310
TEKS Tekeris 87.98 323⇑iP P 15 36 57.8 -0.6
BEHE Becsehely 88.02 325⇑iP P 15 36 58.8 +0.3
T25A Trinidad 88.03 47 P P 15 36 59.6 +0.5
baz=309
DIVS Divibare 88.05 322⇑iP P 15 36 58.8 -0.1
DIVS Divibare 88.05 322 P P 15 36 58.3 -0.6
ARSA Arzberg 88.06 327 eP P 15 36 59.1 +0.4
comp=Z,24nm,1.6s,SNR=9.7
ANMO Albuquerque 88.07 50⇑eP P 15 37 00.3 +1.1
ANMO pmax pmax
comp=Z,22nm,1.7s
ANMO MLR MLR
comp=Z,8µm,20.0s
ANMO Albuquerque 88.07 50 P P 15 36 58.4 -0.9
ANMO Albuquerque 88.07 50 P P 15 36 59.5 +0.3
baz=308
SRS Serrai 88.08 318 P P 15 36 59.0 +0.1
SRS pmax pmax
comp=Z,8.0nm,1.4s
KASTN Kahler Asten 88.15 333 eP P 15 36 59.5 +0.5
comp=Z,36nm,1.7s,baz=40,slow=4.8
GRF Grafenberg Arr 88.17 330 eP P 15 37 00.1 +0.9
comp=Z,79nm,1.6s,baz=40,slow=4.8
GRF ePP PP 15 40 27.0 +1.7
baz=34,slow=7.3
GRFO Grafenberg 88.17 330 P P 15 36 59.1 -0.1
GRFO pmax pmax
comp=Z,27nm,1.3s
GRFO Grafenberg 88.17 330 P P 15 36 59.1 -0.1
MOA Molln 88.21 328 eP P 15 36 59.8 +0.4
comp=Z,19nm,1.4s,SNR=9.7
ECSD EROS Data Cent 88.24 38 P P 15 36 59.4 -0.3
ECSD IAmb IAmb 15 37 05.0
comp=Z,55nm,1.1s
ECSD EROS Data Cent 88.24 38 P P 15 36 59.7 0.0
baz=313,SNR=27
KOGS Kog 88.29 326 iP P 15 36 59.5 -0.3
F36A Milaca 88.33 35 P P 15 36 58.9 -1.2
F36A IAmb IAmb 15 37 05.3
comp=Z,35nm,1.1s
BUG Bochum--Univer 88.40 333 P P 15 37 01.1 +0.9
BUG pmax pmax
comp=Z,18nm,1.2s
BUG Bochum--Univer 88.40 333 eP P 15 37 00.4 +0.2
comp=Z,36nm,1.4s,baz=40,slow=4.8
KALN Kalnik 88.42 325 iP P 15 36 60.0 -0.5
BBLS Lazići 88.52 322 eP P 15 37 01.5 +0.5
EKA Eskdalemuir Ar 88.62 341 P P 15 37 00.7 -0.4
comp=Z,5.5nm,1.1s,baz=24,slow=33,SNR=5.3
121A Cookes Peak, D 88.63 52 P P 15 37 02.9 +0.9
baz=307,SNR=5.4
MOSL Moslavina 88.64 325 iP P 15 37 00.6 -0.9
SOKA Soboth 88.70 326 eP P 15 37 02.1 +0.2
comp=Z,42nm,1.3s,SNR=9.8
E38A The Farm, Brul 88.75 34 P P 15 37 00.9 -1.1
RJOB Jochberg 88.96 328 eP P 15 37 03.7 +0.7
comp=Z,241nm,1.8s,baz=40,slow=4.8
BGNE Belgrade 88.98 41 P P 15 37 04.0 +0.8
baz=312
MRAK Mrakovica 89.00 324⇑iP P 15 37 02.9 -0.4
BLY Banja Luka 89.04 324⇑iP P 15 37 03.6 +0.2
OBKA Obir 89.06 327 eP P 15 37 03.3 -0.3
comp=Z,7.8nm,1.2s
CRES Cresnjev 89.12 326⇑iP P 15 37 03.6 -0.2
SPMN Marine on St. 89.14 35 P P 15 37 04.9 +1.1
baz=316
KBA Koelnbreinsper 89.20 328 eP P 15 37 04.2 0.0
comp=Z,12nm,1.7s
KBA Koelnbreinsper 89.20 328 P P 15 37 04.3 0.0
KBA pmax pmax
comp=Z,9.0nm,0.7s
OZLJ Ozalj 89.27 326 iP P 15 37 04.1 -0.3
FUR Furstenfeldbru 89.31 329 eP P 15 37 05.0 +0.4
comp=Z,107nm,1.7s,baz=40,slow=4.8
MGRS Mrkonjic Grad 89.33 324 eP P 15 37 05.4 +0.6
MYKA Terra Mystica 89.39 327 eP P 15 37 04.8 -0.3
comp=Z,17nm,1.1s,SNR=7.7
LJU Ljubljana 89.41 326⇑iP P 15 37 04.8 -0.3
LJU Ljubljana 89.41 326 iP P 15 37 04.8 -0.3
LJU ePP PP 15 40 38.0 +2.6
BOJS Bojanci 89.45 326⇑iP P 15 37 05.4 +0.1
BEBN Eben Emael 89.52 334 dP P 15 37 04.8 -0.6
MEM Membach 89.55 334 dP P 15 37 04.4 -1.2
L34A Svendsen Farm, 89.58 39 P P 15 37 05.8 -0.2
L34A IAmb IAmb 15 37 10.6
comp=Z,49nm,0.9s
PDG Podgorica 89.59 321 ⇑P P 15 37 05.7 -0.3
PDG Podgorica 89.59 321 eP P 15 37 05.7 -0.3
PDG Podgorica 89.59 321 P P 15 37 05.2 -0.8
CEY Cerknica 89.68 326⇑iP P 15 37 05.9 -0.5
CEY Cerknica 89.68 326 iP P 15 37 06.3 -0.1
comp=Z,105nm,1.6s
I37A Lemond, Waseca 89.71 36 P P 15 37 06.8 +0.2
BHOU Houvegnez 89.75 333 dP P 15 37 05.8 -0.8
ZOU Zoufplan 89.75 327 P P 15 37 05.6 -1.3
ZOU IAmb IAmb 15 37 14.3
comp=Z,50nm,1.5s
DRME Dracevica, Mon 89.80 321⇑iP P 15 37 06.8 -0.2
WATA Walderalm 89.80 329 eP P 15 37 07.0 -0.1
comp=Z,12nm,1.2s
ABTA Abfaltersbach 89.82 328 eP P 15 37 06.4 -0.7
comp=Z,14nm,1.2s,SNR=11
WTTA Wattenberg 89.83 329 iP P 15 37 07.4 +0.1
comp=Z,16nm,1.7s
WTTA Wattenberg 89.83 329 P P 15 37 07.7 +0.4
WTTA pmax pmax
comp=Z,11nm,2.3s
UDBI Udbina 89.91 325 iP P 15 37 07.3 -0.3
RICI Ricice 89.96 323 iP P 15 37 07.6 -0.2
BCLA Clavier 89.97 334 dPcP P 15 37 07.6 0.0
KBN Korca 89.99 319 P P 15 37 06.4 -1.6
KBN pmax pmax
comp=Z,30nm,1.3s
KBN Korca 89.99 319 P P 15 37 06.4 -1.6
MOTA Moosalm 90.00 329 eP P 15 37 07.9 -0.1
comp=Z,22nm,1.6s,SNR=7.5
SKDS Skadanscina 90.02 326⇑iP P 15 37 06.7 -1.3
RETA Reutte 90.05 329 eP P 15 37 08.4 +0.2
comp=Z,19nm,1.3s,SNR=11
SQTA Sankt Quirin 90.05 329 eP P 15 37 08.4 +0.2
comp=Z,18nm,1.3s,SNR=6.0
BGES Gesves 90.08 334 dP P 15 37 05.9 -2.2
STAL STALIGIAL 90.10 327 P P 15 37 05.3 -3.1
STAL IAmb IAmb 15 37 14.1
comp=Z,32nm,1.2s
STON Ston 90.11 322⇑iP P 15 37 07.3 -1.1
UBR Ueberruh 90.18 330 eP P 15 37 08.7 0.0
comp=Z,29nm,1.6s,baz=40,slow=4.8
WLF Walferdange 90.25 333 dPcP PcP 15 37 09.6 -0.5
BMRD Maredsous 90.26 334 dP P 15 37 08.2 -0.7
NVLJ Novalja 90.32 325 iP P 15 37 07.3 -2.1
G40A Rib Lake 90.37 34 P P 15 37 08.3 -1.3
G40A IAmb IAmb 15 37 15.3
comp=Z,45nm,1.2s
FETA Feichten 90.42 329 eP P 15 37 09.8 -0.2
comp=Z,13nm,1.2s,SNR=9.7
BFO Black Forest 90.43 331 eP P 15 37 10.1 +0.2
comp=Z,43nm,1.5s,baz=40,slow=4.8
DOU Dourbes 90.50 334 dPcP PcP 15 37 10.8 -0.4
DAVA Damuels 90.59 330 eP P 15 37 10.9 +0.1
comp=Z,26nm,1.3s,SNR=6.5
ZIRJ Zirje 90.60 324 iP P 15 37 09.8 -0.9
DUGI Dugi Otok 90.65 325 iP P 15 37 09.2 -1.8
CTI Castel Tesino 90.74 328 P P 15 37 09.5 -2.0
CTI pmax pmax
comp=Z,14nm,1.0s
CTI Castel Tesino 90.74 328 P P 15 37 09.5 -2.0
SCHQ Schefferville 90.76 16 P P 15 37 08.5 -2.7
comp=Z,4.4nm,0.9s,baz=258,slow=12,SNR=2.5
SCHQ Schefferville 90.76 16 IAmb IAmb 15 37 26.5
comp=Z,44nm,1.5s
MNTX Cornudas Mount 90.76 52 P P 15 37 12.0 +0.3
MNTX Cornudas Mount 90.76 52 P P 15 37 11.7 0.0
baz=308,SNR=9.8
SLE Schleitheim 90.81 331 P P 15 37 12.2 +0.6
SLE pmax pmax
comp=Z,11nm,1.4s
DAVOX Davos/Dischmat 90.98 329 P P 15 37 12.4 -0.2
comp=Z,9.0nm,1.0s,baz=48,slow=2.0,SNR=16
E43A Lone Tree Farm 91.02 31 P P 15 37 11.9 -0.7
E43A IAmb IAmb 15 37 18.2
comp=Z,46nm,1.2s
MSTX Muleshoe 91.06 49 P P 15 37 13.5 +0.4
baz=310
IDI Anoyia 91.09 313 P P 15 37 12.1 -1.1
comp=Z,12nm,1.0s,baz=141,slow=6.4,SNR=6.1
AMTX Amarillo 91.17 47 P P 15 37 15.6 +2.0
baz=310
SCIA State Center 91.31 38 P P 15 37 15.3 +1.3
baz=316
KSU1 Kansas State U 91.41 42 P P 15 37 14.4 -0.2
KSU1 Kansas State U 91.41 42 P P 15 37 14.5 0.0
baz=313
TUE Stuetta 91.45 329 P P 15 37 14.0 -0.8
TUE IAmb IAmb 15 37 18.2
comp=Z,38nm,1.2s
ITM Ithomi 91.65 316 P P 15 37 14.0 -1.7
ITM IAmb IAmb 15 37 35.0
comp=Z,51nm,1.2s
KAN05 Bluff City Nor 92.03 44 P P 15 37 15.5 -2.0
JFWS Jewell Farm 92.09 35 P P 15 37 17.8 +0.2
baz=318
ZCCA Zocca 92.34 327 P P 15 37 17.5 -1.4
SENIN Lac Senin/Sane 92.41 330 P P 15 37 17.5 -1.9
SENIN IAmb IAmb 15 37 32.0
comp=Z,36nm,1.5s
MURB Monte Urbino 92.43 325 P P 15 37 19.5 +0.2
MURB IAmb IAmb 15 37 34.0
comp=Z,41nm,1.3s
NRCA Norcia 92.46 325 P P 15 37 19.4 -0.1
NRCA IAmb IAmb 15 37 40.7
comp=Z,24nm,1.1s
BLOK Blackwell 92.66 44 P P 15 37 20.1 -0.3
BLOK IAmb IAmb 15 37 25.9
comp=Z,36nm,1.1s
AQU L'Aquila 92.67 324⇑iP P 15 37 20.5 +0.1
P38A Dawn 92.76 39 P P 15 37 20.7 -0.1
L42A Oliver, Polo 93.05 36 P P 15 37 21.7 -0.3
L42A IAmb IAmb 15 37 27.1
comp=Z,27nm,1.1s
WMOK Wichita Mounta 93.07 46 P P 15 37 21.7 -0.6
baz=312
LOR Lormes 93.09 333 P P 15 37 23.0 +0.8
LOR pmax pmax
comp=Z,18nm,1.4s
OK029 Liberty Lake 93.17 44 P P 15 37 22.6 -0.2
TIP Timpagrande 93.22 320 ⇑P P 15 37 22.1 -0.9
TIP Timpagrande 93.22 320 P P 15 37 22.9 -0.1
TX31 Lajitas Ar. Si 93.38 53 P P 15 37 24.1 +0.1
TX32 Lajitas Array 93.38 53 P P 15 37 24.5 +0.5
TXAR Lajitas Array 93.38 53 P P 15 37 25.2 +1.2
comp=Z,42nm,0.8s,baz=298,slow=3.1,SNR=111
TXAR Lajitas Array 93.38 53 P P 15 37 24.3 +0.3
OK031 S. Brethren Rd 93.43 44 P P 15 37 24.2 +0.3
P40A Paris 93.63 39 P P 15 37 24.2 -0.5
BNI Bardonecchia 93.72 330 P P 15 37 26.4 +1.1
BNI pmax pmax
comp=Z,18nm,1.2s
ABTX Abilene, Hawle 93.93 48 P P 15 37 24.4 -1.9
ABTX Abilene, Hawle 93.93 48 P P 15 37 26.5 +0.1
baz=311
HDIL Hopedale 94.31 36 P P 15 37 28.1 +0.2
baz=318
R40A Maddies Statio 94.40 40 P P 15 37 26.6 -1.7
R40A IAmb IAmb 15 37 33.4
comp=Z,47nm,1.2s
U38A Gravette 94.53 42 P P 15 37 28.6 -0.4
U38A IAmb IAmb 15 37 34.1
comp=Z,31nm,1.1s
CCM Cathedral Cave 95.13 39 P P 15 37 31.3 -0.4
CCM pmax pmax
comp=Z,49nm,1.3s
CCM Cathedral Cave 95.13 39 P P 15 37 31.3 -0.4
CCM Cathedral Cave 95.13 39 P P 15 37 31.6 -0.1
baz=317
U40A Yellville 95.46 41 P P 15 37 32.7 -0.5
U40A Yellville 95.46 41 P P 15 37 33.4 +0.1
baz=316,SNR=7.1
T42A Van Buren 95.95 40 P P 15 37 35.0 -0.5
T42A IAmb IAmb 15 37 40.6
comp=Z,25nm,1.2s
MIAR Mount Ida 96.32 43 P P 15 37 36.6 -0.6
MIAR pmax pmax
comp=Z,32nm,1.1s
MIAR Mount Ida 96.32 43 P P 15 37 36.6 -0.6
MIAR IAmb IAmb 15 37 42.5
comp=Z,32nm,1.1s
MIAR Mount Ida 96.32 43 P P 15 37 39.2 +2.0
baz=315,SNR=7.4
WHAR Wooly Hollow 96.54 42 P P 15 37 37.8 -0.4
WHAR IAmb IAmb 15 37 51.5
comp=Z,33nm,1.4s
TORD Torodi Ar. Bea 121.49 313 PKP PKPdf 15 43 02.5 0.0
comp=Z,2.6nm,0.7s,baz=13,slow=2.0,SNR=1.4
TORD PKKPbc PKKPab 15 53 07.5 +2.4
comp=Z,3.8nm,1.1s,baz=220,slow=4.3,SNR=6.7
OTAV Otavalo 130.67 58 eP PKiKP 15 43 23.9 +2.3
TBTG Tabatinga, AM 139.84 54 eP PKiKP 15 43 40.6 +1.1
CZSB Cruzeiro do Su 140.23 61 eP PKiKP 15 43 41.5 +1.1
PTGA Pitinga 143.30 38 PKPdf PKPdf 15 43 42.5 -0.8
MACA Manacapuru-AM 144.92 42 eP PKPdf 15 43 47.8 +1.6
ETMB Extrema 146.38 57 eP PKPab 15 43 51.0 +0.3
MCPB Macapa, AP 146.56 26 eP PKiKP 15 43 52.9 -0.5
SAML Samuel 147.87 52 PKIKP PKPdf 15 43 50.8 -0.3
SAML Samuel 147.87 52 PKPdf PKPdf 15 43 50.8 -0.3
SAML Samuel 147.87 52 eP PKiKP 15 43 55.3 -0.8
ITTB Itaituba 148.56 35 eP PKPbc 15 43 56.1 +0.2
LPAZ La Paz 148.97 68 PKP PKPdf 15 43 55.0 +1.4
comp=Z,15nm,1.1s,baz=215,slow=0.8,SNR=5.6
LPAZ PKPbc PKiKP 15 43 58.5 -0.5
comp=Z,16nm,0.9s,baz=17,slow=4.4,SNR=12
LPAZ La Paz 148.97 68 eP PKPbc 15 43 56.3 -1.3
TA01 Diego Aracena 149.46 77 PKPdf PKPdf 15 43 54.1 +0.6
PB11 IPOC Station P 149.53 75 PKPbc PKPbc 15 43 58.6 +0.2
TMAB Tom-Au,PA,Br 149.76 20 eP PKPbc 15 43 58.2 -0.7
PB07 IPOC Station P 150.22 79 PKPbc 15 43 59.8 -0.3
PB04 IPOC Station P 150.25 80 PKPbc 15 43 59.9 -0.2
PB01 IPOC Station P 150.25 78 PKPbc 15 43 59.8 -0.3
PB10 IPOC Station P 150.37 83 PKPbc 15 44 00.5 +0.3
PB09 IPOC Station P 150.79 79 PKPbc 15 44 01.5 +0.1
PB06 IPOC Station P 150.89 81 PKiKP 15 44 02.0 -0.2
PB14 IPOC Station P 150.90 85 PKPbc 15 44 01.0 -0.8
LL02 Futaleuf 150.93 124 PKiKP 15 44 01.1 -0.3
NPGB Novo Progresso 151.05 37 eP PKPbc 15 44 00.1 -1.9
PB15 IPOC Station P 151.17 81 PKPbc 15 44 02.3 0.0
ROSB Rosrio 151.21 12 eP PKPbc 15 44 00.1 -2.3
LVC Limon Verde 151.41 80 PKIKP PKPbc 15 44 02.7 -0.4
LVC Limon Verde 151.41 80 PKPbc 15 44 02.7 -0.4
LVC Limon Verde 151.41 80 eP PKPbc 15 44 01.2 -1.9
CO02 Combarbal 152.06 98 PKiKP 15 44 04.4 +0.1
NBMO Morrinhos-CE 152.11 4 eP PKPdf 15 43 59.9 +2.1
PLCA Paso Flores 152.36 119 PKPbc PKPbc 15 44 03.0 -1.4
comp=Z,11nm,1.2s,baz=190,slow=7.3,SNR=5.5
PLCA Paso Flores 152.36 119 eP PKPbc 15 44 01.8 -2.5
AC02 Maricunga 152.70 88 PKPbc 15 44 04.5 -1.6
PRPB Parauapebas 152.75 26 eP PKPbc 15 44 03.3 -2.6
VILB Vilhena 152.77 53 eP PKPdf 15 44 02.3 +3.5
NBCL Cascavel-CE 153.06 0 eP PKPbc 15 44 03.1 -3.5
NBPS Pedro II - PI 153.06 7 eP PKPbc 15 44 03.5 -3.2
CLDB Colider 153.97 42 eP PKPbc 15 44 05.0 -3.5
NBPB Pedra_Branca-C 154.34 3 eP PKPdf 15 44 04.2 +3.0
RCBR Riachuelo 154.56 355 eP PKPdf 15 44 04.6 +3.1
PTLB Pontes e Lacer 155.24 55 eP PKPdf 15 44 06.5 +4.3
NBLV Livramento - P 156.15 357 eP PKPdf 15 44 07.6 +4.0
SALV Santo Antonio 157.90 50 eP PKPdf 15 44 10.1 +4.5
ARAG Araguaiana, MT 160.14 42 eP PKPdf 15 44 12.7 +4.4
GDU01 Guandu, BA 162.46 4 eP PKPdf 15 44 15.8 +5.1
JANB Januaria 162.91 20 eP PKPdf 15 44 15.8 +4.6

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*BJI **01** 15:25:06.6±0.0, 31.°19N×141.°88E, h20km, mB6.0/56, mb5.3/58, Ms6.1/61, Ms7 5.9/58*

*IDC **01** 15:25:07.5±0.3, 31.°19N×141.°60E, h0km, mb5.2/55, mb1 5.3/62, mb1mx5.3/71, mbtmp5.3/62, ML4.8/6, MS5.6/12, Ms1 5.6/12, ms1mx4.9/29, Error ellipse: s-maj=12.6km s-min=7.9km az=85.0*

*NEIC **01** 15:25:09.5±1.6, 31.°18N±0.°07×141.°60E±0.°09, h8km±1km, mb5.6/251, Ms_20 5.7/557, Mwb5.8/89, Mww6.0, Mwc5.9(GCMT), Error ellipse: s-maj=13.6km s-min=11.4km az=77.0*

*MOS **01** 15:25:09.3±0.9, 31.°14N×141.°62E, h20km, mb5.8/71, MS5.8/39, Error ellipse: s-maj=7.6km s-min=4.4km az=107.0*

*NIED **01** 15:25:10.2, 31.°47N×142.°14E, h57km, MW6.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{18}Nm; M_{rr}0.65; $M_{\theta\theta}$-0.07; $M_{\phi\phi}$-0.59; $M_{r\theta}$-0.47; $M_{\theta\phi}$0.11; $M_{\phi r}$0.99; Fault plane solution: $M_0$1.26000×10^{18} NP1: ϕ_s337.00000°, δ75.00000°, λ85.00000°. NP2: ϕ_s177.00000°, δ16.00000°, λ109.00000°.*

*NEIC **01** 15:25:10, 31.°17N×141.°60E, h10km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}4.31; $M_{\theta\theta}$-0.78; $M_{\phi\phi}$-3.53; $M_{r\theta}$0.29; $M_{\theta\phi}$-2.00; $M_{\phi r}$4.69; Fault plane solution: $M_0$6.48000×10^{17} NP1: ϕ_s223.74000°, δ24.78000°, λ120.59000°. NP2: ϕ_s10.67000°, δ68.85000°, λ76.78000°. Principal axes: T 6.5534, Plg64.0000°, Azm259.0000°; N -0.1534, Plg12.0000°, Azm16.0000°; P -6.4000, Plg23.0000°, Azm111.0000°;*

*JMA **01** 15:25:10.2±0.2, 31.°47N×142.°14E, h57km, M6.1*

*GCMT **01** 15:25:13.5±0.1, 31.°16N±0.°01×141.°80E, h12km,*

MW5.8/156, Moment Tensor Solution. s146,c307; s156,c500; Duration: 2s0 Moment tensor: Scale 10^{18} Nm; M_{rr}0.60±.00; $M_{\theta\theta}$0.14±.00; $M_{\phi\phi}$-0.73±.00; $M_{r\theta}$-0.03±.01; $M_{\theta\phi}$-0.12±.00; $M_{\phi r}$0.28±.01; Best double couple: $M_0$0.73000×10^{18} NP1:ϕ_s196.00000°,δ35.00000°,λ102.00000°. NP2:ϕ_s1.00000°,δ56.00000°,λ82.00000°. Principal axes: T 0.6570, Plg77.0000°, Azm244.0000°; N 0.1460, Plg7.0000°, Azm5.0000°; P -0.8030, Plg11.0000°, Azm97.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function

*NEIC **01** 15:25:14,31.°13N×141.°85E,h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}6.15; $M_{\theta\theta}$1.53; $M_{\phi\phi}$-7.69; $M_{r\theta}$0.36; $M_{\theta\phi}$-1.17; $M_{\phi r}$5.28; Fault plane solution: $M_0$8.89000×10^{17} NP1:ϕ_s190.00000°, δ27.00000°,λ95.00000°. NP2:ϕ_s5.00000°,δ64.00000°, λ87.00000°. Principal axes: T 7.9378, Plg71.0000°, Azm269.0000°; N 1.6676, Plg2.0000°, Azm6.0000°; P -9.6054, Plg19.0000°, Azm97.0000°;*

*NEIC **01** 15:25:15,31.°25N×141.°71E,h12km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}0.55; $M_{\theta\theta}$0.15; $M_{\phi\phi}$-0.70; $M_{r\theta}$0.41; $M_{\theta\phi}$-0.11; $M_{\phi r}$0.92; Fault plane solution: $M_0$1.20000×10^{18} NP1:ϕ_s167.00000°, δ18.00000°,λ56.00000°. NP2:ϕ_s22.00000°,δ75.00000°, λ100.00000°. Principal axes: T 1.1409, Plg59.0000°, Azm307.0000°; N 0.1093, Plg10.0000°, Azm199.0000°; P -1.2502, Plg29.0000°, Azm104.0000°;*

ISC 01 15:25:11.8±0.8**,31.°19N**±0.°03×**141.°66E**±0.°04**,h27**km±4km**, n1066,**σ**1.s85**/911**,mb5.6**/262**,MS5.7**/321**,56C-32D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.47**	**321**	Pn	**Pn**	**15 25 52.3**	**+1.9**
JHJ	**Hachijo jima 2**	**2.50**	**321**	Pn	**Pn**	**15 25 50.2**	**-0.5**
	322nm,0.3s,baz=298,slow=17,SNR=3.9						
JHJ				Sn	**Sn**	**15 26 16.9**	**-3.3**
	295nm,0.3s,baz=74,slow=22,SNR=2.3						
JHJ				LR	LR	15 26 50.0	
	comp=Z,158μm,18.1s,baz=36,slow=42						
CBIJ	**Chichi jima**	**4.10**	**173**	P	**Pn**	**15 26 14.9**	**+2.1**
JCJ	**Chichijima**	**4.10**	**173**	Pn	**Pn**	**15 26 12.3**	**-0.5**
	283nm,0.3s,baz=272,slow=23,SNR=8.1						
JCJ				Sn	**Sn**	**15 26 58.1**	**-1.8**
	142nm,0.3s,baz=136,slow=22,SNR=3.6						
JCJ				LR	LR	15 27 37.7	
	comp=Z,50μm,20.7s,baz=357,slow=36						
JCJ	**Chichijima**	**4.10**	**173**	Pn	**Pn**	**15 26 15.0**	**+2.2**
JHU	**Hanno**	**5.06**	**338**	*e*S	**Sn**	**15 27 19.6**	**-3.8**
JYT	**Yasato**	**5.17**	**347**	Pn	**Pn**	**15 26 28.8**	**+1.3**
MJAR	**Matsushiro Arr**	**6.06**	**333**	Pn	**Pn**	**15 26 39.7**	**0.0**
	9.2nm,0.3s,baz=156,slow=11,SNR=2.2						
MJAR				LR	LR	15 29 08.4	
	comp=Z,66μm,18.3s,baz=160,slow=40						
MJAR	**Matsushiro Arr**	**6.06**	**333**	P	**Pn**	**15 26 40.8**	**+1.1**
MJAR	**Matsushiro Arr**	**6.06**	**333**	Pn	**Pn**	**15 26 40.8**	**+1.1**
MAJO	**Matsushiro**	**6.06**	**333**	P	**Pn**	**15 26 40.9**	**+1.1**
MAJO	**Matsushiro**	**6.06**	**333**	Pn	**Pn**	**15 26 40.9**	**+1.1**
MAT	**Matsushiro**	**6.06**	**333**	*e*S	**Sn**	**15 27 50.0**	**+1.8**
MJB9	**Matsu-Tunnel**	**6.07**	**333**	Pn	**Pn**	**15 26 40.8**	**+1.0**
JFK	**Kawauchi**	**6.20**	**354**	*e*S	**Sn**	**15 27 43.8**	**-7.8**
JMM	**Marumori**	**6.70**	**354**	Pn	**Pn**	**15 26 47.5**	**-1.0**
JSD	**Sado**	**7.38**	**339**	Pn	**Pn**	**15 26 57.4**	**-0.5**
JNU	**Nakatsue**	**9.34**	**285**	Pn	Pn	15 27 29.7	+5.0
	2.8nm,0.3s,baz=10,slow=7.6,SNR=5.3						
JNU				LR	LR	15 31 07.1	
	comp=Z,80μm,18.1s,baz=148,slow=39						
JTM	**Tenmabayashi**	**9.59**	**357**	Pn	**Pn**	**15 27 28.0**	**-0.1**
ERM	**Erimo**	**10.88**	**6**	P	**Pn**	**15 27 44.5**	**-1.1**
ERM	**Erimo**	**10.88**	**6**	Pn	**Pn**	**15 27 44.5**	**-1.1**
JKA	**Kamikawa-asahi**	**12.93**	**3**	Pn	**Pn**	**15 28 12.3**	**-1.4**
ASAJ	**Asahikawa**	**12.93**	**3**	Pn	**Pn**	**15 28 11.4**	**-2.3**
	7.8nm,0.3s,baz=205,slow=11,SNR=13						
ASAJ				Sn	Sn	15 30 27.1	-10
	1.2nm,0.3s,baz=325,slow=19,SNR=1.6						
ASAJ				LR	LR	15 33 48.1	
	comp=Z,32μm,21.4s,baz=188,slow=40						
ASAJ	**Asahikawa**	**12.93**	**3**	P	**Pn**	**15 28 12.3**	**-1.4**
KSRS	**Korea Array**	**12.95**	**303**	Pn	**Pn**	**15 28 17.9**	**+3.8**
	0.1nm,0.3s,baz=107,slow=10,SNR=1.5						
KSRS				LR	LR	15 33 13.9	
	comp=Z,38μm,18.2s,baz=118,slow=38						
KS19	**Wonju Array Si**	**13.01**	**303**	Pn	**Pn**	**15 28 12.8**	**-2.1**
USRK	**Ussuriysk Ar.**	**15.06**	**332**	Pn	**Pn**	**15 28 42.1**	**-0.6**
	baz=139,slow=11,SNR=3.4						
USRK				LR	LR	15 34 30.5	
	comp=Z,30μm,18.3s,baz=137,slow=37						
USRK	**Ussuriysk Ar.**	**15.06**	**332**	Pn	**Pn**	**15 28 41.2**	**-1.6**
USA0B	**Ussuriysk Arra**	**15.06**	**332**	P	**Pn**	**15 28 41.2**	**-1.6**
USA0B				pmax	pmax		
	comp=Z,133nm,1.3s						
USA0B	**Ussuriysk Arra**	**15.06**	**332**	Pn	**Pn**	**15 28 41.2**	**-1.6**
YSS	**Yuzh-Sakhalins**	**15.77**	**3**	*e*P	**Pn**	**15 28 46.7**	**-5.2**
YSS				pmax	pmax		
	comp=Z,190nm,1.0s						
YSS	**Yuzh-Sakhalins**	**15.77**	**3**	Pn	**Pn**	**15 28 49.6**	**-2.4**
MDJ	**Mudanjiang**	**16.42**	**328**	P	**Pn**	**15 29 01.1**	**+0.8**
MDJ				pP	P	15 29 03.2	+0.3
MDJ				PP	**PnPn**	**15 29 09.7**	**+0.2**
MDJ				S	**Sn**	**15 32 00.1**	**-1.5**
MDJ				pmax	pmax		
	comp=Z,74nm,1.2s						
MDJ				LR	LR		
	comp=Z,28μm,11.6s						
MDJ				LR	LR		
	comp=Z,32μm,11.4s						
MDJ				LR	LR		
	comp=Z,39μm,14.4s						
MDJ	**Mudanjiang**	**16.42**	**328**		**P**	**15 29 01.8**	**-1.1**
SSE	**Sheshan**	**17.52**	**275**	P	**Pn**	**15 29 13.3**	**-0.9**
SSE				S	**Sn**	**15 32 28.9**	**+0.3**
SSE				pmax	pmax		
	comp=Z,25nm,0.8s						
SSE				pmax	pmax		
	comp=Z,3μm,9.3s						
SSE				LR	LR		
	comp=Z,7μm,18.2s						
SSE				LR	LR		
	comp=Z,6μm,18.3s						
GUMO	**Guam**	**17.76**	**170**	P	**Pn**	**15 29 17.2**	**0.0**
	comp=Z,1.4nm,0.3s,baz=9.7,slow=8.1,SNR=1.4						
GUMO				LR	LR	15 34 19.5	
	comp=Z,11μm,19.5s,baz=351,slow=31						
GUMO	**Guam**	**17.76**	**170**	P	**P**	**15 29 19.5**	**+1.6**
GUMO				pmax	pmax		
	comp=Z,2μm,1.3s						
GUMO	**Guam**	**17.76**	**170**	P	**P**	**15 29 19.5**	**+1.6**
CN2	**Changchun**	**17.96**	**319**	*e*P	**Pn**	**15 29 16.4**	**-3.1**
CN2				*e*PP	**PnPn**	**15 29 31.2**	**+0.6**
CN2				*e*S	**Sn**	**15 32 32.5**	**-6.4**
CN2				LR	LR		
	comp=Z,32μm,14.0s						
CN2				LR	LR		
	comp=Z,39μm,14.0s						
CN2				LR	LR		
	comp=Z,13μm,16.0s						
DL2	**Dalian**	**18.09**	**301**	P	**Pn**	**15 29 18.6**	**-2.6**
DL2				S	**Sn**	**15 32 43.6**	**+1.3**
DL2				pmax	pmax		
	comp=Z,64nm,1.2s						
DL2				pmax	pmax		
	comp=Z,6μm,7.6s						
DL2				LR	LR		
	comp=Z,12μm,11.0s						
DL2				LR	LR		
	comp=Z,47μm,16.3s						
DL2				LR	LR		
	comp=Z,55μm,16.4s						
YHNB	**Yeheng**	**19.05**	**255**		**P**	**15 29 30.7**	**-1.4**
YHNB				IAmb	IAmb	15 29 41.3	
	comp=Z,381nm,1.0s						
NACB	**Ninganchiao**	**19.07**	**253**		**P**	**15 29 31.6**	**-0.7**
NJ2	**Nanjing**	**19.43**	**279**	*e*P	**P**	**15 29 35.3**	**-0.9**
NJ2				sP	**pP**	**15 29 42.2**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,64nm,1.1s						
NJ2				pmax	pmax		
	comp=Z,5μm,4.3s						
NJ2				LR	LR		
	comp=Z,21μm,17.5s						
NJ2				LR	LR		
	comp=Z,20μm,19.9s						
NJ2				LR	LR		
	comp=Z,32μm,19.4s						
KLR	**Kul'dur**	**19.52**	**340**	P	**P**	**15 29 37.0**	**+0.1**
	comp=Z,6.6nm,0.3s,baz=162,slow=10,SNR=12						
YULB	**Yu-li**	**19.67**	**252**	P	**P**	**15 29 36.9**	**-2.0**
YULB				IAmb	IAmb	15 29 53.7	
	comp=Z,587nm,1.0s						
QZH	**Quanzhou**	**21.26**	**259**	P	**P**	**15 29 58.0**	**+1.9**
QZH				S	Sn	15 33 55.9	-2.9
QZH				pmax	pmax		
	comp=Z,170nm,2.3s						
QZH				pmax	pmax		
	comp=Z,6μm,7.9s						
QZH				LR	LR		
	comp=Z,8μm,16.6s						
QZH				LR	LR		
	comp=Z,18μm,16.8s						
QZH				LR	LR		
	comp=Z,21μm,17.3s						
KNMB	**Chin-men Tao**	**21.62**	**258**	P	**P**	**15 29 59.5**	**-0.4**
KNMB				IAmb	IAmb	15 30 03.0	
	comp=Z,272nm,1.2s						
KNMB				IAMs_20	IAMs_20	15 39 35.4	
	comp=Z,24μm,18.0s						
BJT	**Baijiatuau**	**22.46**	**300**	P	**P**	**15 30 07.5**	**-1.4**
BJT				pmax	pmax		
	comp=Z,356nm,1.2s						
BJT				MLR	MLR		
	comp=Z,33μm,19.0s						
BJT	**Baijiatuau**	**22.46**	**300**	P	**P**	**15 30 07.5**	**-1.4**
BJT				IAmb	IAmb	15 30 10.6	
	comp=Z,356nm,1.2s						
BJT	**Baijiatuau**	**22.46**	**300**	IAMs_20	IAMs_20	15 39 22.2	
	comp=Z,33μm,19.0s						
BJI	**Beijing**	**22.46**	**300**	P	**P**	**15 30 07.9**	**-0.9**
BJI				PP	**PnPn**	**15 30 34.0**	**+1.7**
BJI				S	**S**	**15 34 09.6**	**-4.2**
BJI				pmax	pmax		
	comp=Z,310nm,1.2s						
BJI				pmax	pmax		
	comp=Z,4μm,9.6s						
BJI				LR	LR		
	comp=Z,25μm,14.8s						
BJI				LR	LR		
	comp=Z,37μm,17.2s						
BJI				LR	LR		
	comp=Z,56μm,17.2s						
HIA	**Hailar**	**24.47**	**324**	P	**P**	**15 30 27.2**	**-1.3**
HIA				pmax	pmax		
	comp=Z,214nm,1.1s						
HIA				MLR	MLR		
	comp=Z,16μm,18.0s						
HIA	**Hailar**	**24.47**	**324**	P	**P**	**15 30 27.2**	**-1.3**
HIA				IAmb	IAmb	15 30 32.7	
	comp=Z,214nm,1.1s						
HIA	**Hailar**	**24.47**	**324**	IAMs_20	IAMs_20	15 40 05.0	
	comp=Z,16μm,18.0s						
PETK	**Petropavlovsk-**	**24.82**	**23**	P	**P**	**15 30 31.8**	**+0.2**
	comp=Z,17nm,1.0s,baz=207,slow=2.8,SNR=1.5						
H11N2	**WAKE ISLAND Hy**	**25.42**	**111**	T	T	15 57 12.7	
	baz=304,slow=74						
H11N1	**WAKE ISLAND Hy**	**25.43**	**111**	T	T	15 57 07.9	
	baz=304,slow=74						
H11N3	**WAKE ISLAND Hy**	**25.44**	**111**	T	T	15 57 11.0	
	baz=304,slow=74						
WAKE	**Wake Island**	**25.47**	**112**	IAMs_20	IAMs_20	15 39 05.2	
	comp=Z,15μm,18.0s						
H11S3	**WAKE ISLAND Hy**	**25.92**	**113**	T	T	15 57 47.2	
	baz=304						
H11S1	**WAKE ISLAND Hy**	**25.93**	**113**	T	T	15 57 46.1	
	baz=304,slow=74						
H11S2	**WAKE ISLAND Hy**	**25.94**	**113**	T	T	15 57 50.2	
	baz=304,slow=74						
HHC	**Hu-ho-hao-te**	**26.07**	**300**	*e*P	**P**	**15 30 41.0**	**-2.2**
HHC				PP	**PnPn**	**15 31 24.2**	**+2.5**
HHC				S	**S**	**15 35 13.0**	**+0.1**
HHC				SS	**SnSn**	**15 36 13.8**	**+2.2**
HHC				pmax	pmax		
	comp=Z,66nm,1.0s						
HHC				pmax	pmax		
	comp=Z,4μm,9.5s						
HHC				LR	LR		
	comp=Z,17μm,12.8s						
HHC				LR	LR		
	comp=Z,38μm,12.8s						
HHC				LR	LR		
	comp=Z,39μm,12.1s						
GZH	**Guangzhou**	**26.40**	**259**	⇓*i*P	**P**	**15 30 44.2**	**-2.0**
GZH				S	**S**	**15 35 14.1**	**-4.0**
GZH				pmax	pmax		
	comp=Z,3μm,8.2s						
GZH				LR	LR		
	comp=Z,10μm,13.9s						
GZH				LR	LR		
	comp=Z,22μm,16.8s						
ENH	**Enshi**	**27.62**	**277**	P	**P**	**15 30 56.1**	**-1.1**
PATS	**Pohnpei**	**28.81**	**144**	IAMs_20	IAMs_20	15 44 25.6	
	comp=Z,19μm,19.0s						
MA2	**Magadan**	**29.05**	**10**	P	**P**	**15 31 10.9**	**+1.4**
	comp=Z,11nm,0.8s,baz=132,slow=15,SNR=1.2						
MA2				LR	LR	15 42 42.9	
	comp=Z,6μm,21.1s,baz=200,slow=36						
CIT	**Chita**	**29.28**	**323**	*e*	**P**	**15 31 13.4**	**+1.7**
GYA	**Guiyang**	**30.93**	**270**	⇑P	**P**	**15 31 27.7**	**+1.0**
GYA				pP	pP	15 31 31.1	-2.1
GYA				PP	**PnPn**	**15 32 31.7**	**+3.9**
GYA				S	**S**	**15 36 32.5**	**+2.8**
GYA				SS	**SnSn**	**15 38 15.8**	**+5.3**
GYA				pmax	pmax		
	comp=Z,31nm,1.1s						
GYA				LR	LR		
	comp=Z,9μm,12.7s						
GYA				LR	LR		
	comp=Z,15μm,15.6s						
GYA				LR	LR		
	comp=Z,20μm,16.0s						
QIZ	**Qiongzhong**	**31.13**	**255**	P	**P**	**15 31 27.2**	**-1.2**
QIZ				pmax	pmax		
	comp=Z,1μm,10.8s						
QIZ				LR	LR		
	comp=Z,7μm,16.2s						
QIZ				LR	LR		
	comp=Z,9μm,20.6s						
QIZ				LR	LR		
	comp=Z,12μm,20.1s						
QIZ	**Qiongzhong**	**31.13**	**255**	IAMs_20	IAMs_20	15 43 26.5	
	comp=Z,14μm,21.0s						
ULN	**Ulaanbaatar**	**31.13**	**312**	P	**P**	**15 31 29.4**	**+1.1**
ULN				pmax	pmax		
	comp=Z,182nm,1.2s						
ULN				MLR	MLR		
	comp=Z,12μm,19.0s						
ULN	**Ulaanbaatar**	**31.13**	**312**	P	**P**	**15 31 29.4**	**+1.1**
ULN	**Ulaanbaatar**	**31.13**	**312**	IAMs_20	IAMs_20	15 43 35.0	
	comp=Z,12μm,19.0s						
SONM	**Songino Array**	**31.54**	**312**	P	**P**	**15 31 31.4**	**-0.5**
	comp=Z,86nm,0.9s,baz=104,slow=9.1,SNR=9.3						
SONM	**Songino Array**	**31.54**	**312**	P	**P**	**15 31 31.2**	**-0.7**
SONM				pmax	pmax		
	comp=Z,143nm,1.1s						
SONM	**Songino Array**	**31.54**	**312**	P	**P**	**15 31 31.2**	**-0.7**
SONM				IAmb	IAmb	15 31 34.3	
	comp=Z,143nm,1.1s						
LZH	**Lanzhou**	**31.72**	**289**	⇑P	**P**	**15 31 32.7**	**-0.9**
LZH				PP	**PnPn**	**15 32 39.3**	**+1.3**
LZH				S	**S**	**15 36 41.8**	**-0.1**
LZH				sS	pS	15 36 49.9	+0.3
LZH				SS	**SnSn**	**15 38 32.9**	**+3.4**
LZH				pmax	pmax		
	comp=Z,89nm,1.3s						
LZH				pmax	pmax		
	comp=Z,1μm,6.0s						
LZH				LR	LR		
	comp=Z,18μm,13.4s						
LZH				LR	LR		
	comp=Z,19μm,13.6s						
LZH				LR	LR		
	comp=Z,14μm,15.7s						
YAK	**Yakutsk**	**31.82**	**349**	P	**P**	**15 31 32.9**	**-1.1**
	comp=Z,15nm,0.6s,baz=26,slow=1.1,SNR=2.7						
YAK				LR	LR	15 44 25.0	
	comp=Z,7μm,18.1s,baz=160,slow=36						
YAK	**Yakutsk**	**31.82**	**349**	IAmb	IAmb	15 31 56.0	
	comp=Z,136nm,1.1s						
CD2	**Chengdu**	**32.37**	**280**	P	**P**	**15 31 39.0**	**-0.2**
CD2				S	**S**	**15 36 53.7**	**+1.9**
CD2				pmax	pmax		
	comp=Z,60nm,1.1s						
CD2				pmax	pmax		
	comp=Z,2μm,9.1s						
SEY	**Seymchan**	**32.50**	**9**	P	**P**	**15 31 38.3**	**-1.6**
	comp=Z,19nm,0.9s,baz=186,slow=7.6,SNR=3.6						
SWI	**Sorong**	**33.37**	**199**	P	**P**	**15 31 47.1**	**-0.9**
SWI				pmax	pmax		
	comp=Z,61nm,1.1s						
SIJI	**Sorong**	**33.37**	**199**	P	**P**	**15 31 46.1**	**-1.9**
	comp=Z,26nm,0.7s,baz=33,slow=9.9,SNR=4.8						
MANU	**Manus Island**	**33.49**	**170**	P	**P**	**15 31 49.1**	**+0.1**
JAY	**Jayapura**	**33.53**	**182**	P	**P**	**15 31 48.3**	**-1.1**
	comp=Z,18nm,0.7s,baz=0.5,slow=7.3,SNR=4.3						
ZAK	**Zakamensk**	**34.31**	**315**	*e*P	**P**	**15 31 56.1**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,142nm,1.4s						
KMI	**Kunming**	**34.71**	**270**	⇓P	**P**	**15 31 59.7**	**-0.2**
KMI				pP	pP	15 32 04.1	-2.3
KMI				sP	sP	15 32 06.0	-3.2
KMI				PP	**PP**	**15 33 17.9**	**-0.8**
KMI				S	**S**	**15 37 30.1**	**+1.5**
KMI				sS	sS	15 37 39.2	-0.4
KMI				pmax	pmax		
	comp=Z,13nm,1.2s						
KMI				pmax	pmax		
	comp=Z,1μm,9.7s						
KMI				LR	LR		
	comp=Z,5μm,17.1s						
KMI				LR	LR		
	comp=Z,14μm,14.8s						
KMI				LR	LR		
	comp=Z,14μm,15.9s						
GTA	**Gaotai**	**34.87**	**295**	⇑P	**P**	**15 31 59.0**	**-2.0**
GTA				pP	pP	15 32 03.3	-4.3
GTA				sP	sP	15 32 06.4	-4.0
GTA				PP	**PnPn**	**15 33 17.4**	**-0.4**
GTA				S	**S**	**15 37 27.0**	**-3.6**
GTA				pmax	pmax		
	comp=Z,28nm,1.4s						
GTA				pmax	pmax		
	comp=Z,2μm,10.2s						
GTA				LR	LR		
	comp=Z,14μm,17.1s						
GTA				LR	LR		
	comp=Z,28μm,16.0s						
GTA				LR	LR		
	comp=Z,29μm,16.0s						
FAKI	**Fak Fak**	**35.08**	**196**	P	**P**	**15 32 02.4**	**-0.4**
FAKI				IAMs_20	IAMs_20	15 45 27.3	
	comp=Z,12μm,19.0s						
SLVN	**Son La**	**35.10**	**263**	P	**P**	**15 32 01.2**	**-1.9**
SLVN				IAMs_20	IAMs_20	15 46 22.8	
	comp=Z,12μm,19.0s						
MIDW	**Midway**	**35.58**	**84**	IAMs_20	IAMs_20	15 45 30.1	
	comp=Z,10μm,19.0s						
TOLI2	**Tolitoli**	**35.85**	**217**	P	**P**	**15 32 07.9**	**-1.5**
KIWB	**Kanaga Island**	**36.47**	**43**	P	**P**	**15 32 16.8**	**+2.4**
ADK	**Adak**	**36.75**	**44**	P	**P**	**15 32 18.6**	**+1.8**
ADK				pmax	pmax		
	comp=Z,52nm,1.0s						
ADK				MLR	MLR		
	comp=Z,6μm,20.0s						
ADK	**Adak**	**36.75**	**44**	P	**P**	**15 32 18.6**	**+1.8**
CHAI	**Chaiyaphum**	**39.19**	**256**	P	**P**	**15 32 39.1**	**+1.3**
	comp=Z,1μmcomp=Z,141nm,1.0s						
PHIT	**Phitsanulok**	**39.88**	**259**	P	**P**	**15 32 45.1**	**+1.6**
	comp=Z,191nm,1.1s						
PHIT	**Phitsanulok**	**39.88**	**259**	P	**P**	**15 32 45.2**	**+1.6**
	comp=Z,48nm,1.1s						
BKB	**Balikpapan**	**39.93**	**221**	IAMs_20	IAMs_20	15 49 12.6	
	comp=Z,10μm,18.0s						
LAMP	**Lampang**	**39.93**	**262**	P	**P**	**15 32 45.5**	**+1.6**
	comp=Z,855nmcomp=Z,92nm,0.8s						
LAMP	**Lampang**	**39.93**	**262**	P	**P**	**15 32 45.6**	**+1.6**
	comp=Z,213nmcomp=Z,23nm,0.8s						
LKP	**Lekhapani**	**39.93**	**276**	*e*P	**P**	**15 32 42.5**	**-1.3**
LKP				IAmb	IAmb	15 32 46.2	
	comp=Z,240nm,0.8s						
CM34	**Chiang Mai Arr**	**40.20**	**262**	P	**P**	**15 32 46.0**	**-0.2**
CMMT	**Chiang Mai**	**40.38**	**263**	P	**P**	**15 32 47.8**	**+0.1**
	comp=Z,2μmcomp=Z,71nm,0.9s						
CMMT	**Chiang Mai**	**40.38**	**263**	P	**P**	**15 32 47.0**	**-0.7**
	comp=Z,2μmcomp=Z,71nm,0.9s						
CHTO	**Chiang Mai**	**40.39**	**263**	P	**P**	**15 32 47.2**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,63nm,1.0s						
CHTO				MLR	MLR		
	comp=Z,8μm,20.0s						
CHTO	**Chiang Mai**	**40.39**	**263**	P	**P**	**15 32 47.2**	**-0.5**
CHTO	**Chiang Mai**	**40.39**	**263**	IAMs_20	IAMs_20	15 49 54.8	
	comp=Z,8μm,20.0s						
CM36	**Chiang Mai Arr**	**40.39**	**262**	P	**P**	**15 32 48.0**	**+0.2**
CM09	**Chiang Mai Arr**	**40.51**	**262**	P	**P**	**15 32 50.3**	**+1.5**
	comp=Z,392nmcomp=Z,46nm,0.8s						
CM09	**Chiang Mai Arr**	**40.51**	**262**	P	**P**	**15 32 50.4**	**+1.6**
	comp=Z,392nmcomp=Z,46nm,0.8s						
CM32	**Chiang Mai Arr**	**40.54**	**262**	P	**P**	**15 32 51.0**	**+2.0**
CM04	**Chiang Mai Arr**	**40.54**	**262**	P	**P**	**15 32 50.3**	**+1.3**
	comp=Z,292nmcomp=Z,31nm,1.3s						
CM04	**Chiang Mai Arr**	**40.54**	**262**	P	**P**	**15 32 50.4**	**+1.3**
	comp=Z,292nmcomp=Z,31nm,1.3s						
CM31	**Chiang Mai Arr**	**40.55**	**262**	P	**P**	**15 32 50.2**	**+1.1**
	comp=Z,10μmcomp=Z,996nm,0.7s						
CM31	**Chiang Mai Arr**	**40.55**	**262**	P	**P**	**15 32 49.2**	**+0.2**
CMAR	**Chiang Mai Arr**	**40.55**	**262**	P	**P**	**15 32 48.3**	**-0.8**
	comp=Z,18nm,0.8s,baz=68,slow=5.4,SNR=13						
CMAR				ScP	**ScP**	**15 38 42.9**	**+4.1**
	comp=Z,1.3nm,0.9s,baz=35,slow=2.2,SNR=2.2						
CMAR	**Chiang Mai Arr**	**40.55**	**262**	P	**P**	**15 32 50.2**	**+1.1**
CM02	**Chiang Mai Arr**	**40.55**	**262**	P	**P**	**15 32 50.4**	**+1.3**
	comp=Z,296nmcomp=Z,34nm,0.8s						
CM02	**Chiang Mai Arr**	**40.55**	**262**	P	**P**	**15 32 50.5**	**+1.3**
	comp=Z,296nmcomp=Z,34nm,0.8s						
CM15	**Chiang Mai Arr**	**40.56**	**262**	P	**P**	**15 32 50.5**	**+1.3**
	comp=Z,351nmcomp=Z,41nm,0.8s						
CM05	**Chiang Mai Arr**	**40.57**	**262**	P	**P**	**15 32 50.4**	**+1.2**
	comp=Z,208nmcomp=Z,22nm,0.8s						
CM05	**Chiang Mai Arr**	**40.57**	**262**	P	**P**	**15 32 50.5**	**+1.2**
	comp=Z,208nmcomp=Z,22nm,0.8s						
CM13	**Chiang Mai Arr**	**40.59**	**262**	P	**P**	**15 32 50.6**	**+1.1**
	comp=Z,298nmcomp=Z,33nm,0.8s						
CM13	**Chiang Mai Arr**	**40.59**	**262**	P	**P**	**15 32 50.0**	**+0.5**
	comp=Z,298nmcomp=Z,33nm,0.8s						
TIXI	**Tiksi**	**41.11**	**354**	P	**P**	**15 32 52.1**	**-0.9**
	comp=Z,14nm,0.6s,baz=116,slow=8.1,SNR=2.3						
TIXI	**Tiksi**	**41.11**	**354**	P	**P**	**15 32 52.9**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,27nm,0.9s						
TIXI				MLR	MLR		
	comp=Z,4μm,20.0s						
TIXI	**Tiksi**	**41.11**	**354**	P	**P**	**15 32 52.9**	**-0.1**
UTHA	**Uthaitani**	**41.48**	**258**	P	**P**	**15 32 58.6**	**+1.8**
	comp=Z,549nmcomp=Z,56nm,0.9s						
UTHA	**Uthaitani**	**41.48**	**258**	P	**P**	**15 32 58.7**	**+1.9**
	comp=Z,136nmcomp=Z,14nm,0.9s						
MHMT	**Maesarieng**	**41.53**	**262**	P	P	15 33 08.0	+11
KAPI	**Kappang**	**41.63**	**214**	P	**P**	**15 32 56.7**	**-1.2**
	comp=Z,51nm,1.1s,baz=59,slow=8.4,SNR=5.7						
KAPI				PcP	**PcP**	**15 34 54.7**	**+0.1**
	comp=Z,34nm,1.0s,baz=318,slow=4.5,SNR=2.9						
KAPI	**Kappang**	**41.63**	**214**	P	**P**	**15 32 57.2**	**-0.7**
KAPI				IAmb	IAmb	15 33 16.3	
	comp=Z,194nm,1.4s						
UMPA	**Umpang Tak**	**41.66**	**259**	P	**P**	**15 33 01.2**	**+3.0**
	comp=Z,65nm,1.0s						
UMPA	**Umpang Tak**	**41.66**	**259**	P	**P**	**15 33 01.3**	**+3.0**
	comp=Z,16nm,1.0s						
NIKH	**Nikolski High**	**41.66**	**44**	P	**P**	**15 32 59.2**	**+1.3**
NIKH				IAmb	IAmb	15 33 12.3	
	comp=Z,185nm,1.0s						
ITAN	**ITANAGAR**	**41.80**	**277**	*e*P	**P**	**15 32 59.3**	**0.0**
ITAN				IAmb	IAmb	15 33 00.3	
	comp=Z,106nm,0.8s						
TARA	**Tarawa**	**41.89**	**129**	IAMs_20	IAMs_20	15 48 39.8	
	comp=Z,10μm,20.0s						
LSA	**Lhasa**	**43.26**	**282**	P	**P**	**15 33 09.2**	**-2.5**
LSA				pmax	pmax		
	comp=Z,32nm,1.1s						
LSA				MLR	MLR		
	comp=Z,15μm,20.0s						
LSA	**Lhasa**	**43.26**	**282**	P	**P**	**15 33 09.2**	**-2.5**
MMRI	**Maumere**	**43.75**	**208**	P	**P**	**15 33 13.7**	**-1.4**
SHL	**Shillong**	**43.86**	**276**	IAMs_20	IAMs_20	15 53 21.9	
	comp=Z,9μm,18.0s						
SHL	**Shillong**	**43.86**	**276**	*e*P	**P**	**15 33 13.4**	**-2.8**

SHL IAmb IAmb 15 33 17.9
comp=Z,21nm,0.6s
WMQ Urumqi 43.90 302 P **P** **15 33 15.6 -0.6**
WMQ sP sP 15 33 25.2 -0.2
WMQ PP **PcP** **15 35 02.1 +0.1**
WMQ S **S** **15 39 49.0 +3.0**
WMQ sS sS 15 40 02.9 +5.6
WMQ ScS **ScS** **15 43 15.4 +2.0**
WMQ pmax pmax
comp=Z,120nm,1.5s
WMQ pmax pmax
comp=Z,3μm,5.7s
WMQ LR LR
comp=Z,13μm,15.7s
WMQ LR LR
comp=Z,19μm,15.7s
WMQ LR LR
comp=Z,8μm,21.9s
SOEI Soe 43.99 205 P **P** **15 33 17.1 0.0**
HNR Honiara 44.03 154 IAMs_20 IAMs_20 15 50 47.4
comp=Z,9μm,19.0s
BATI Baumata 44.63 206 P **P** **15 33 20.6 -1.6**
comp=Z,158nm,1.1s,baz=220,slow=7.2,SNR=3.3
COEN Coen 44.91 178 P **P** **15 33 23.8 -0.5**
COEN IAmb IAmb 15 33 34.1
comp=Z,155nm,1.1s
MTN Manton Dam 44.93 195 P **P** **15 33 23.1 -1.4**
MTN IAmb IAmb 15 33 50.1
comp=Z,107nm,1.1s
AGT Agartala 44.97 274 *eP* **P** **15 33 24.2 -0.7**
SKLT Songkhla 45.14 247 P P 15 33 32.6 +6.3
TRTT Trang 45.48 248 P P 15 33 35.9 +6.9
ZAA0 Zalesovo Array 46.15 317 P **P** **15 33 34.4 +0.5**
ZALV Zalesovo Beam 46.15 317 P **P** **15 33 33.1 -0.8**
comp=Z,28nm,0.5s,baz=105,slow=7.9,SNR=17
ZALV PcP **PcP** **15 35 09.4 -0.1**
comp=Z,50nm,0.7s,baz=107,slow=3.4,SNR=7.8
ZALV ScP **ScP** **15 39 02.2 +1.3**
comp=Z,5.8nm,1.0s,baz=27,slow=1.6,SNR=3.8
ZALV Zalesovo Beam 46.15 317 P **P** **15 33 34.2 +0.4**
ZALV Zalesovo Beam 46.15 317 P **P** **15 33 34.2 +0.4**
SDPT Sand Point 46.90 41 P **P** **15 33 40.5 +0.9**
SDPT IAmb IAmb 15 33 54.9
comp=Z,82nm,1.1s
CHNA Chernabura Isl 47.35 42 P **P** **15 33 42.6 -0.6**
baz=265
CNBA Chernabura Isl 47.35 42 P **P** **15 33 42.8 -0.4**
JAGI Jajag, Banyuwa 47.42 218 P **P** **15 33 43.5 -0.7**
MK31 Makanchi Array 47.59 307 P **P** **15 33 45.8 +0.6**
MK31 pmax pmax
comp=Z,80nm,1.1s
MK31 Makanchi Array 47.59 307 P **P** **15 33 45.8 +0.6**
MK31 IAmb IAmb 15 33 58.2
comp=Z,80nm,1.1s
MKAR Makanchi Array 47.59 307 P **P** **15 33 44.5 -0.8**
comp=Z,20nm,0.4s,baz=88,slow=8.7,SNR=28
MKAR ScP **ScP** **15 39 08.4 +1.3**
comp=Z,5.2nm,1.0s,baz=84,slow=5.5,SNR=3.5
MKAR PKPPKP **P'P'df** **16 04 59.3 -5.4**
comp=Z,0.5nm,0.9s,baz=238,slow=2.7,SNR=3.6
MAKZ Makanchi 47.80 307 P **P** **15 33 46.3 -0.6**
MAKZ pmax pmax
comp=Z,94nm,1.0s
MAKZ MLR MLR
comp=Z,10μm,21.0s
MAKZ Makanchi 47.80 307 P **P** **15 33 46.3 -0.6**
MAKZ IAMs_20 IAMs_20 15 54 03.0
comp=Z,10μm,21.0s
CHGN Chignik 48.15 40 P **P** **15 33 48.6 -0.8**
CHGN Chignik 48.15 40 P **P** **15 33 48.7 -0.6**
baz=265
KNRA Kununurra 48.21 197 P **P** **15 33 49.7 -0.5**
KNRA IAmb IAmb 15 33 51.9
comp=Z,53nm,0.9s
NRIK Noril'sk 48.69 337 P **P** **15 33 53.0 -0.4**
comp=Z,53nm,0.9s,baz=118,slow=7.2,SNR=5.7
NRIK Noril'sk 48.69 337 P **P** **15 33 54.5 +1.1**
NRIK pmax pmax
comp=Z,172nm,1.2s
NRIK MLR MLR
comp=Z,6μm,20.0s
NRIK Noril'sk 48.69 337 P **P** **15 33 54.5 +1.1**
NRIK IAMs_20 IAMs_20 15 57 15.3
comp=Z,6μm,20.0s
UGM Wanagama 48.99 223 P **P** **15 33 55.1 -1.2**
UGM IAMs_20 IAMs_20 15 56 50.0
comp=Z,6μm,20.0s
PSI Prapat 49.17 244 P **P** **15 33 57.2 -0.7**
comp=Z,6.0nm,0.4s,baz=327,slow=2.7,SNR=3.8
PSI PcP **PcP** **15 35 21.9 +0.8**
comp=Z,38nm,0.9s,baz=0.2,slow=5.3,SNR=5.5
BKNI Bangkinang 49.20 239 IAMs_20 IAMs_20 15 52 43.3
comp=Z,6μm,19.0s
RPSI Rantau Prapat 49.24 243 P **P** **15 33 57.2 -1.1**
RPSI **PcP** **15 35 21.9 +0.8**
BOK Bokaro 49.58 276 *eP* **P** **15 34 00.4 -0.5**
BOK IAmb IAmb 15 34 04.1
comp=Z,67nm,1.0s
CHIR Chirikof Islan 49.68 41 IAMs_20 IAMs_20 15 57 25.2
comp=Z,5μm,20.0s
LEM Lembang 49.88 227 P **P** **15 34 03.2 -0.1**
comp=Z,203nm,0.8s,baz=347,slow=8.9,SNR=7.7
SVW2 Sparrevohn 50.14 34 P **P** **15 34 05.8 +1.2**
SII Sitkinak Islan 50.51 40 IAMs_20 IAMs_20 15 52 00.1
comp=Z,5μm,18.0s
Q19K Cape Douglas, 50.91 37 IAMs_20 IAMs_20 15 53 14.6
comp=Z,5μm,18.0s
GSI Gunungsitoli 51.16 243 P **P** **15 34 12.7 -0.2**
P19K Oil Pt 51.17 36 P **P** **15 34 12.2 -0.1**
P19K IAmb IAmb 15 34 18.6
comp=Z,66nm,1.0s
P19K Oil Pt 51.17 36 P **P** **15 34 13.1 +0.7**
baz=266
CTA Charters Tower 51.17 174 P **P** **15 34 12.9 +0.2**
comp=Z,22nm,0.6s,baz=359,slow=7.8,SNR=14
CTA S **S** **15 41 28.3 -1.1**
comp=Z,1.1nm,0.9s,baz=227,slow=19,SNR=0.8
CTAO Charters Tower 51.17 174 P **P** **15 34 13.6 +0.9**
CTAO pmax pmax
comp=Z,68nm,1.1s
CTAO Charters Tower 51.17 174 P **P** **15 34 13.6 +0.9**
CTAO IAmb IAmb 15 34 30.4
comp=Z,68nm,1.1s
J20K Nowinta River 51.20 30 P **P** **15 34 14.2 +1.7**
J20K IAmb IAmb 15 34 35.9
comp=Z,110nm,1.2s
J20K IAMs_20 IAMs_20 15 56 31.9
comp=Z,5μm,18.0s
WB5 Warramunga Arr 51.25 189 IAMs_20 IAMs_20 15 53 49.2
comp=Z,7μm,22.0s
WB4 Warramunga Arr 51.28 189 IAMs_20 IAMs_20 15 54 01.9
comp=Z,7μm,20.0s
WB3 Warramunga Arr 51.30 189 IAMs_20 IAMs_20 15 53 51.4
comp=Z,8μm,21.0s
WC1 Warramunga Arr 51.30 189 IAMs_20 IAMs_20 15 53 51.5
comp=Z,7μm,21.0s
WRAB Tennant Creek 51.31 189 P **P** **15 34 13.6 -0.2**
WRAB pmax pmax
comp=Z,86nm,0.8s
WRAB Tennant Creek 51.31 189 P **P** **15 34 13.6 -0.2**
WRAB IAmb IAmb 15 34 35.6
comp=Z,86nm,0.8s
WRAB Tennant Creek 51.31 189 IAMs_20 IAMs_20 15 53 51.6
comp=Z,7μm,21.0s
WR0 Warramunga Arr 51.31 189 P **P** **15 34 13.4 -0.3**
WR0 IAmb IAmb 15 34 15.3
comp=Z,91nm,0.8s
WR0 IAMs_20 IAMs_20 15 53 51.7
comp=Z,7μm,21.0s
WR8 Warramunga Arr 51.31 189 IAMs_20 IAMs_20 15 53 40.8
comp=Z,8μm,22.0s
WR9 Warramunga Arr 51.31 189 IAMs_20 IAMs_20 15 53 40.8
comp=Z,8μm,22.0s
WR7 Warramunga Arr 51.31 189 IAMs_20 IAMs_20 15 53 51.8
comp=Z,8μm,22.0s
WB2 Warramunga Arr 51.32 189 P **P** **15 34 12.9 -0.9**
WB2 IAmb IAmb 15 34 35.7
comp=Z,81nm,0.8s
WB2 IAMs_20 IAMs_20 15 53 51.9
comp=Z,8μm,21.0s
WR3 Warramunga Arr 51.32 189 IAMs_20 IAMs_20 15 53 52.0
comp=Z,8μm,21.0s
WR4 Warramunga Arr 51.32 189 IAMs_20 IAMs_20 15 53 40.9
comp=Z,8μm,22.0s
WRA Warramunga Arr 51.32 189 P **P** **15 34 13.0 -0.8**
comp=Z,54nm,0.6s,baz=6.5,slow=7.4,SNR=18
WRA S **S** **15 41 27.0 -4.4**
comp=Z,5.9nm,0.8s,baz=8.5,slow=14,SNR=6.8
WRA Warramunga Arr 51.32 189 P **P** **15 34 13.0 -0.8**
WRA Warramunga Arr 51.32 189 P **P** **15 34 13.1 -0.8**
WR2 Warramunga Arr 51.32 189 IAMs_20 IAMs_20 15 53 52.0
comp=Z,7μm,22.0s
WC3 Warramunga Arr 51.33 189 IAMs_20 IAMs_20 15 53 52.3
comp=Z,7μm,20.0s
WB1 Warramunga Ar. 51.34 189 IAMs_20 IAMs_20 15 53 52.4
comp=Z,8μm,21.0s
WC4 Warramunga Arr 51.34 189 IAMs_20 IAMs_20 15 53 51.5
comp=Z,8μm,22.0s
M20K Styx River 51.39 33 P **P** **15 34 15.1 +1.0**
KDAK Kodiak Island 51.42 39 P **P** **15 34 13.6 -0.7**
comp=Z,25nm,0.8s,baz=219,slow=2.5,SNR=10
KDAK Kodiak Island 51.42 39 P **P** **15 34 13.1 -1.1**
KDAK pmax pmax
comp=Z,63nm,1.0s
KDAK MLR MLR
comp=Z,6μm,20.0s
KDAK Kodiak Island 51.42 39 P **P** **15 34 13.1 -1.1**
KDAK IAmb IAmb 15 34 31.1
comp=Z,63nm,1.0s
KDAK Kodiak Island 51.42 39 IAMs_20 IAMs_20 15 55 55.1
comp=Z,6μm,20.0s
IMAR Indian Mountai 51.64 28 P **P** **15 34 16.3 +0.6**
KDJ Kajisay 51.75 301 P **P** **15 34 18.8 +1.6**
KDJ pmax pmax
comp=Z,32nm,0.9s
KDJ MLR MLR
comp=Z,11μm,18.0s
KDJ Kajisay 51.75 301 P **P** **15 34 18.8 +1.6**
A21K Barrow 51.79 21 P **P** **15 34 19.1 +2.4**
PPLA Purkeypile 51.92 32 P **P** **15 34 19.4 +1.3**
PPLA IAmb IAmb 15 34 38.0
comp=Z,138nm,1.2s
CNPM China Poot 52.18 36 P **P** **15 34 19.7 -0.2**
CNPM IAmb IAmb 15 34 46.6
comp=Z,103nm,1.4s
BRLK Bradley Lake 52.36 36 P **P** **15 34 21.0 -0.3**
BRLK IAmb IAmb 15 34 27.4
comp=Z,96nm,1.4s
SANVU Saraoutou 52.46 148 P **P** **15 34 23.4 +1.0**
SANVU IAMs_20 IAMs_20 15 50 46.3
comp=Z,5μm,20.0s
SUA Susitna One 52.50 34 P **P** **15 34 22.0 -0.3**
SUA IAmb IAmb 15 34 25.3
comp=Z,77nm,1.2s
BOOM Boomskoye usch 52.59 302 IAMs_20 IAMs_20 15 57 30.6
comp=Z,9μm,19.0s
MLY Manley 52.76 30 P **P** **15 34 25.5 +1.3**
MLY IAmb IAmb 15 34 48.0
comp=Z,70nm,1.2s
O22K Cooper Landing 52.96 35 IAMs_20 IAMs_20 15 57 13.0
comp=Z,7μm,19.0s
KSH Kashi 53.16 298 P **P** **15 34 34.3 +6.7**
KSH PcP **PcP** **15 35 40.9 +5.4**
KSH pmax pmax
comp=Z,52nm,0.9s
KSH LR LR
comp=Z,16μm,15.6s
KSH LR LR
comp=Z,23μm,14.2s
KSH LR LR
comp=Z,20μm,15.2s
H23K Yukon River 53.33 29 P **P** **15 34 29.6 +1.2**
H23K IAmb IAmb 15 34 52.7
comp=Z,110nm,1.4s
NEA2 Nenana 53.44 30 P **P** **15 34 29.8 +0.7**
NEA2 IAmb IAmb 15 34 52.7
comp=Z,118nm,1.2s
RND Reindeer 53.47 32 P **P** **15 34 29.3 -0.1**
RND pmax pmax
comp=Z,42nm,1.0s
RND MLR MLR
comp=Z,4μm,18.0s
RND Reindeer 53.47 32 P **P** **15 34 29.3 -0.1**
KNK Knik Glacier 53.59 34 P **P** **15 34 30.3 0.0**
KNK IAmb IAmb 15 34 37.9
comp=Z,96nm,1.0s
AAK Ala-Archa 53.61 302 P **P** **15 34 32.4 +1.5**
AAK pmax pmax
comp=Z,51nm,1.2s
AAK MLR MLR
comp=Z,12μm,18.0s
AAK Ala-Archa 53.61 302 P **P** **15 34 32.4 +1.5**
TOLK Toolik Lake Re 53.62 25 P **P** **15 34 30.9 +0.5**
TOLK IAmb IAmb 15 34 46.6
comp=Z,49nm,0.9s
PWL Port Wells 53.65 35 P **P** **15 34 30.8 +0.1**
PWL IAmb IAmb 15 34 53.2
comp=Z,56nm,1.0s
PWL IAMs_20 IAMs_20 15 57 15.2
comp=Z,7μm,19.0s
SML Sawmill 53.66 34 P **P** **15 34 30.8 0.0**
SML pmax pmax
comp=Z,43nm,0.8s
SML Sawmill 53.66 34 P **P** **15 34 30.8 0.0**
SML IAmb IAmb 15 34 53.1
comp=Z,44nm,0.8s
SML IAMs_20 IAMs_20 15 59 18.1
comp=Z,4μm,18.0s
DDI Dehra Dun 53.96 287 *eP* **P** **15 34 34.6 +1.1**
DDI IAmb IAmb 15 34 36.5
comp=Z,204nm,0.5s
SCM Sheep Creek Mo 54.14 34 P **P** **15 34 34.9 +0.6**
SCM pmax pmax
comp=Z,120nm,1.0s
SCM MLR MLR
comp=Z,3μm,19.0s
SCM Sheep Creek Mo 54.14 34 P **P** **15 34 34.9 +0.6**
GLI Glacier Island 54.26 35 P **P** **15 34 35.3 +0.2**
GLI IAmb IAmb 15 34 51.2
comp=Z,56nm,0.9s
GLI IAMs_20 IAMs_20 15 59 21.8
comp=Z,5μm,19.0s
HDA Harding Lake 54.35 30 P **P** **15 34 37.2 +1.5**
HDA IAMs_20 IAMs_20 15 58 09.1
comp=Z,4μm,18.0s
IL31 54.38 30 P **P** **15 34 37.4 +1.5**
IL31 IAmb IAmb 15 34 58.4
comp=Z,104nm,1.4s
ILAR Eielson Array 54.38 30 P **P** **15 34 35.6 -0.4**
comp=Z,10nm,0.9s,baz=255,slow=7.8,SNR=1.7
ILAR PKP2bc 16 05 00.2
comp=Z,0.3nm,0.3s,baz=90,slow=1.8,SNR=4.5
ILAR Eielson Array 54.38 30 P **P** **15 34 38.0 +2.0**
ILAR Eielson Array 54.38 30 P **P** **15 34 38.0 +2.0**
SMLA Simla 54.44 288 *eP* **P** **15 34 36.8 -0.1**
SMLA IAmb IAmb 15 34 38.2
comp=Z,106nm,0.7s
HIN Hinchinbrook I 54.56 35 P **P** **15 34 37.6 +0.2**
HIN IAmb IAmb 15 34 43.9
comp=Z,88nm,1.0s
FID Port Fidalgo 54.56 35 P **P** **15 34 37.5 +0.1**
FID IAMs_20 IAMs_20 16 01 44.1
comp=Z,6μm,19.0s
DHH Diamond Head 54.63 85 P **P** **15 34 38.7 +0.3**
DHH Diamond Head 54.63 85 P **P** **15 34 38.6 +0.3**
Q23K Middleton Isla 54.67 37 P **P** **15 34 40.0 +1.8**
MID Middleton Isla 54.68 37 P **P** **15 34 40.0 +1.8**
MID pmax pmax
comp=Z,352nm,1.1s
MID Middleton Isla 54.68 37 P **P** **15 34 40.0 +1.8**
M24K Tolsona, Glenn 54.68 33 P **P** **15 34 39.1 +0.8**
DHRM DHARAMSHALA 54.80 290 *eP* **P** **15 34 39.9 +0.1**
DHRM IAmb IAmb 15 34 42.4
comp=Z,60nm,0.7s
KLU Klutina 54.81 34 P **P** **15 34 39.6 +0.4**
KLU IAmb IAmb 15 35 02.0
comp=Z,73nm,1.0s
KLU IAMs_20 IAMs_20 16 00 11.5
comp=Z,5μm,19.0s
BRVK Borovoye 54.83 316 P **P** **15 34 40.7 +1.3**
BRVK pmax pmax
comp=Z,101nm,1.1s
BRVK MLR MLR
comp=Z,8μm,18.0s
BRVK Borovoye 54.83 316 P **P** **15 34 40.7 +1.3**
BRVK IAmb IAmb 15 34 54.0
comp=Z,101nm,1.1s
BRVK Borovoye 54.83 316 IAMs_20 IAMs_20 15 58 37.7
comp=Z,8μm,18.0s
EYAK Cordova Ski Ar 54.92 35 P **P** **15 34 40.7 +0.7**
EYAK IAmb IAmb 15 34 57.9
comp=Z,41nm,0.9s
PAX Paxson 54.99 32 P **P** **15 34 41.7 +1.1**
PAX pmax pmax
comp=Z,64nm,1.4s
PAX Paxson 54.99 32 P **P** **15 34 41.7 +1.1**
PAX IAmb IAmb 15 34 46.7
comp=Z,64nm,1.4s
AS31 Alice Springs 55.04 189 P **P** **15 34 41.2 -0.1**
ASAR Alice Springs 55.05 189 P **P** **15 34 41.0 -0.3**
comp=Z,24nm,0.4s,baz=360,slow=4.8,SNR=17
ASAR S **S** **15 42 18.7 -3.4**
comp=Z,4.5nm,1.0s,baz=13,slow=16,SNR=5.3
ASAR PKPPKP P'P'df 16 04 50.9 +8.5
comp=Z,1.1nm,1.0s,baz=132,slow=2.8,SNR=4.2
ASAR PKP2bc 16 05 06.2
comp=Z,1.6nm,1.0s,baz=183,slow=2.1,SNR=4.4
ASAR Alice Springs 55.05 189 P **P** **15 34 41.0 -0.3**
FYU Fort Yukon 55.12 28 P **P** **15 34 43.0 +1.7**
FYU IAmb IAmb 15 34 50.6
comp=Z,135nm,1.3s
RIDG Independent Ri 55.27 31 IAMs_20 IAMs_20 15 59 02.4
comp=Z,5μm,19.0s
N25K Chitina, Valde 55.44 34 P **P** **15 34 45.3 +1.5**
N25K IAMs_20 IAMs_20 16 00 38.5
comp=Z,4μm,18.0s
BMRM Bremner River 55.47 35 P **P** **15 34 44.1 +0.1**
BMRM IAmb IAmb 15 35 09.7
comp=Z,118nm,1.2s
BMRM IAMs_20 IAMs_20 15 57 44.9
comp=Z,6μm,20.0s
DOT Dot Lake 55.62 31 P **P** **15 34 44.7 -0.3**
SCRK Sand Creek 55.64 31 P **P** **15 34 45.3 +0.1**
HMT Hamilton 55.67 35 IAMs_20 IAMs_20 15 59 32.3
comp=Z,4μm,18.0s
MENT Mentasta 55.80 32 P **P** **15 34 46.5 +0.2**
L26K Log Cabin Wild 55.96 32 IAMs_20 IAMs_20 16 00 19.8
comp=Z,5μm,19.0s
M26K Nabesna, AK 56.16 33 IAMs_20 IAMs_20 16 00 23.0
comp=Z,6μm,20.0s
CRQM Cirque 56.20 35 P **P** **15 34 50.2 +0.8**
CRQM IAMs_20 IAMs_20 15 55 12.8
comp=Z,5μm,21.0s
TGL Tana Glacier 56.35 35 P **P** **15 34 51.5 +1.1**
TGL IAmb IAmb 15 35 15.7
comp=Z,53nm,1.0s
TGL IAMs_20 IAMs_20 15 55 17.2
comp=Z,5μm,21.0s
KK31 Karatay Array 56.38 304 P **P** **15 34 50.7 -0.1**
KK31 pmax pmax
comp=Z,130nm,1.0s
KK31 Karatay Array 56.38 304 P **P** **15 34 50.7 -0.1**
KKAR Karatay Array 56.38 304 P **P** **15 34 50.6 -0.2**
KKAR Karatay Array 56.38 304 P **P** **15 34 50.6 -0.2**
PSA00 Pilbara Seismi 56.48 205 P **P** **15 34 50.1 -1.4**
PSA00 IAmb IAmb 15 34 56.9
comp=Z,77nm,1.1s
K27K Chicken 56.48 31 P **P** **15 34 53.1 +2.0**
ISLE Juniper Island 56.60 35 P **P** **15 34 52.0 -0.2**
ISLE IAmb IAmb 15 34 59.3
comp=Z,67nm,1.1s
ISLE IAMs_20 IAMs_20 16 03 11.7
comp=Z,4μm,18.0s
L27K Beaver Creek, 56.65 32 P **P** **15 34 53.6 +1.2**
L27K IAmb IAmb 15 35 18.2
comp=Z,56nm,1.1s
L27K IAMs_20 IAMs_20 16 00 47.4
comp=Z,6μm,18.0s
BCAR Beaver Creek A 56.67 32 P **P** **15 34 53.8 +1.2**
NIL Nilore 56.82 292 P **P** **15 34 54.5 +0.5**
NIL pmax pmax
comp=Z,104nm,0.7s
NIL MLR MLR
comp=Z,7μm,20.0s
NIL Nilore 56.82 292 P **P** **15 34 54.5 +0.5**
NIL Nilore 56.82 292 IAMs_20 IAMs_20 16 01 26.2
comp=Z,7μm,20.0s
MESA MESA 56.84 35 P **P** **15 34 55.6 +1.7**
MESA IAmb IAmb 15 35 19.9
comp=Z,108nm,1.4s
MESA IAMs_20 IAMs_20 15 59 31.1
comp=Z,5μm,19.0s
EGAK Eagle 56.84 30 P **P** **15 34 55.4 +1.7**
BARN Barnard Glacie 56.89 34 IAMs_20 IAMs_20 16 00 49.5
comp=Z,4μm,18.0s
YAH Yahtse 56.92 35 IAMs_20 IAMs_20 15 54 52.2
comp=Z,5μm,19.0s
EIDS Eidsvold 56.95 170 P **P** **15 34 55.6 +0.8**
EIDS IAmb IAmb 15 35 17.1
comp=Z,63nm,1.0s
BHPL Bhopal 56.98 279 *eP* **P** **15 34 53.8 -1.5**
BHPL IAmb IAmb 15 34 58.0
comp=Z,100nm,1.3s
CTGM Chitina Glacie 57.06 35 IAMs_20 IAMs_20 16 01 01.9
comp=Z,4μm,18.0s
LIFNC LIFOU 57.21 151 P **P** **15 34 58.0 +1.3**
TABL Table Mountain 57.21 35 P **P** **15 34 57.3 +0.8**
TABL IAmb IAmb 15 35 16.6
comp=Z,54nm,1.1s
TABL IAMs_20 IAMs_20 15 54 50.9
comp=Z,5μm,20.0s
KHU Kahuku 57.33 86 P **P** **15 34 58.7 +0.7**
KHU pmax pmax
comp=Z,183nm,1.3s
KHU Kahuku 57.33 86 P **P** **15 34 58.7 +0.7**
AIN Ainahou 57.41 86 P **P** **15 34 59.2 +0.6**
GAR Garm 57.55 299 P **P** **15 34 59.8 +0.6**
BCPM Bancas Point 58.01 36 P **P** **15 35 03.2 +1.2**
BCPM IAmb IAmb 15 35 27.4
comp=Z,50nm,0.9s
DZM Mont Dzumac 58.05 153 *eP* **P** **15 35 04.4 +1.7**
comp=Z,341nm,1.4s
DZM *eS* **S** **15 43 00.1 -1.9**
comp=Z,10μm,27.2s
DZM *eLQ* LQ 15 49 29.4
comp=Z,9μm,36.3s
DZM *eLR* LR 15 51 53.0
comp=Z,5μm,23.2s
DZM Mont Dzumac 58.05 153 P **P** **15 35 04.2 +1.5**
comp=Z,73nm,1.1s,baz=359,slow=8.0,SNR=6.4
DZM S **S** **15 43 06.1 +4.1**
comp=Z,3.8nm,0.9s,baz=147,slow=23,SNR=2.3
DZM Mont Dzumac 58.05 153 IAmb IAmb 15 35 13.8
comp=Z,135nm,1.1s
DZM IAMs_20 IAMs_20 15 56 05.0
comp=Z,6μm,19.0s
ONTNC Ouen Toro 58.27 153 IAMs_20 IAMs_20 15 57 48.4
comp=Z,5μm,19.0s
HYB Hyderabad 58.44 272 *eP* **P** **15 35 04.5 -1.1**
HYB IAmb IAmb 15 35 06.8
comp=Z,49nm,1.2s
HYB Hyderabad 58.44 272 *i* P **P** **15 35 05.0 -0.6**
CHGR Chuyangaron 58.51 299 P **P** **15 35 06.2 +0.2**
OUENC Ouen Island, N 58.52 152 IAMs_20 IAMs_20 16 00 32.1
comp=Z,5μm,19.0s
HYT Haines Junctio 58.93 34 P **P** **15 35 10.3 +1.8**
HYT IAmb IAmb 15 35 34.8
comp=Z,62nm,1.0s
MDRS Chennai 58.97 267 *eP* **P** **15 35 09.7 +0.3**
MDRS IAmb IAmb 15 35 11.6
comp=Z,50nm,1.0s
INK Inuvik 59.53 25 P **P** **15 35 12.4 0.0**
comp=Z,12nm,0.9s,baz=283,slow=11,SNR=1.8
INK Inuvik 59.53 25 P **P** **15 35 12.6 +0.2**
INK pmax pmax
comp=Z,54nm,1.3s
INK Inuvik 59.53 25 P **P** **15 35 12.6 +0.2**
INK IAmb IAmb 15 35 23.8
comp=Z,54nm,1.2s
KBL Kabul 59.85 294 P **P** **15 35 12.7 -2.7**
KBL pmax pmax
comp=Z,60nm,1.0s
KBL Kabul 59.85 294 P **P** **15 35 12.7 -2.7**
KBL IAmb IAmb 15 35 30.8
comp=Z,60nm,1.0s
MSVF Nonsavu 59.90 139 IAMs_20 IAMs_20 16 01 58.0
comp=Z,5μm,18.0s
SKAG Skagway 60.25 36 P **P** **15 35 17.9 +0.5**
ARU Arti 60.94 321 P **P** **15 35 22.7 +0.5**
JIS Juneau Island 60.98 37 P **P** **15 35 23.7 +1.3**
JIS IAmb IAmb 15 35 24.3
comp=Z,44nm,1.1s
PALK Pallekele 61.47 261 P **P** **15 35 25.3 -1.2**
comp=Z,16nm,0.9s,baz=121,slow=5.1,SNR=3.8
PALK Pallekele 61.47 261 P **P** **15 35 27.1 +0.6**
PALK pmax pmax
comp=Z,44nm,1.6s
PALK Pallekele 61.47 261 IAMs_20 IAMs_20 16 02 48.7

comp=Z,6µm,21.0s
PALK Pallekele 61.47 261 IAmb IAmb 15 35 42.4
comp=Z,56nm,1.2s
ABKAR Akbulak array 61.95 313 P **P** **15 35 29.6 +0.4**
POO Poona 61.97 276 *eP* **P** **15 35 29.2 -0.6**
POO IAmb IAmb 15 35 30.7
comp=Z,44nm,0.8s
ARMA Armidale 61.99 170 P **P** **15 35 30.1 +0.4**
ARMA IAmb IAmb 15 35 35.8
comp=Z,39nm,0.8s
STKA Stephens Creek 62.72 180 P **P** **15 35 34.1 -0.2**
comp=Z,23nm,0.7s,baz=344,slow=9.1,SNR=12
STKA Stephens Creek 62.72 180 P **P** **15 35 34.8 +0.4**
STKA pmax pmax
comp=Z,10.0nm,1.1s
STKA Stephens Creek 62.72 180 P **P** **15 35 34.8 +0.4**
FORT Forrest 62.96 193 P **P** **15 35 36.3 +0.3**
FORT IAMs_20 IAMs_20 16 02 07.2
comp=Z,4µm,20.0s
DLBC Dease Lake 63.16 36 P **P** **15 35 36.9 -0.3**
comp=Z,9.0nm,0.9s,baz=295,slow=6.1,SNR=3.1
DLBC Dease Lake 63.16 36 P **P** **15 35 38.2 +1.0**
DLBC IAmb IAmb 15 36 03.4
comp=Z,50nm,1.1s
DIB Dawson Inlet, 63.34 42 P **P** **15 35 39.2 +0.8**
DIB IAmb IAmb 15 36 06.2
comp=Z,101nm,1.4s
GOA Goa 63.35 273 *eP* **P** **15 35 38.4 -0.6**
GOA IAmb IAmb 15 35 41.7
comp=Z,50nm,1.1s
BBOO Buckleboo 63.87 185 P **P** **15 35 42.3 +0.3**
BBOO IAMs_20 IAMs_20 16 01 35.6
comp=Z,6µm,22.0s
TRD Trivandrum 64.02 264 *eP* **P** **15 35 43.5 +0.1**
TRD IAmb IAmb 15 35 44.7
comp=Z,52nm,0.8s
MORW Morawa 64.69 205 P **P** **15 35 48.1 +0.6**
HRA Herat 65.17 296 P **P** **15 35 51.0 +0.1**
EUNU Eureka 65.93 8 P **P** **15 35 54.9 -0.1**
EUNU IAmb IAmb 15 36 18.4
comp=Z,57nm,1.4s
SPB2 Spitsbergen Ar 66.29 349 P **P** **15 35 58.0 +0.8**
SPB2 IAmb IAmb 15 36 03.0
comp=Z,51nm,0.9s
SPITS Spitsbergen Ar 66.29 349 P **P** **15 35 57.8 +0.6**
SPITS pmax pmax
comp=Z,103nm,1.5s
KBS Kingsbay 66.44 351 P **P** **15 35 59.5 +1.4**
KBS pmax pmax
comp=Z,50nm,0.9s
KBS MLR MLR
comp=Z,2µm,18.0s
KBS Kingsbay 66.44 351 P **P** **15 35 59.5 +1.4**
KBS IAmb IAmb 15 36 08.1
comp=Z,50nm,0.9s
CAN Canberra 66.52 173 P **P** **15 36 00.3 +1.1**
CAN pmax pmax
comp=Z,91nm,1.3s
CAN MLR MLR
comp=Z,4µm,19.0s
CAN Canberra 66.52 173 P **P** **15 36 00.3 +1.1**
CAN IAmb IAmb 15 36 25.2
comp=Z,91nm,1.3s
CAN IAMs_20 IAMs_20 16 04 47.7
comp=Z,4µm,19.0s
GEYT Alibeck 66.94 301 P **P** **15 36 02.5 +0.4**
comp=Z,73nm,0.5s,baz=207,slow=0.7,SNR=6.8
GEYT LR LR 16 07 09.9
comp=Z,3µm,18.8s,baz=65,slow=38
GYA0B ALIBECK ARRAY 66.94 301 P **P** **15 36 02.9 +0.8**
HSPB Hornsund (broa 67.20 349 *eP* **P** **15 36 03.5 +0.5**
MNCI Minicoy 67.46 266 P **P** **15 36 03.2 -2.4**
LVZ Lovozero 67.53 337 P **P** **15 36 05.5 +0.2**
LVZ pmax pmax
comp=Z,51nm,1.0s
LVZ MLR MLR
comp=Z,8µm,19.0s
LVZ Lovozero 67.53 337 P **P** **15 36 05.5 +0.2**
LVZ IAmb IAmb 15 36 32.7
comp=Z,51nm,1.0s
NWAO Narrogin (SRO) 67.82 202 P **P** **15 36 07.8 +0.4**
comp=Z,21nm,0.9s,baz=39,slow=6.7,SNR=5.6
NWAO Narrogin (SRO) 67.82 202 P **P** **15 36 07.6 +0.2**
NWAO pmax pmax
comp=Z,36nm,0.8s
NWAO Narrogin (SRO) 67.82 202 P **P** **15 36 07.6 +0.2**
NWAO IAmb IAmb 15 36 26.4
comp=Z,36nm,0.8s
APA Apatity 68.11 337⇑ *i*P **P** **15 36 07.4 -1.5**
APA *i* 15 36 30.5
APA pmax pmax
comp=Z,34nm,0.9s
RES Resolute Bay 68.21 14 P **P** **15 36 10.0 +0.6**
RES pmax pmax
comp=Z,41nm,1.1s
RES Resolute Bay 68.21 14 P **P** **15 36 10.0 +0.6**
RES IAmb IAmb 15 36 22.4
comp=Z,41nm,1.1s
BELG Belogornoye 68.27 319 P **P** **15 36 10.6 +0.5**
comp=Z,120nm,0.9s,baz=282,slow=4.0,SNR=2.9
TOO Toolangi 68.50 177 P **P** **15 36 12.5 +0.9**
TOO pmax pmax
comp=Z,78nm,1.2s
TOO Toolangi 68.50 177 P **P** **15 36 12.5 +0.9**
TOO IAmb IAmb 15 36 32.0
comp=Z,78nm,1.1s
YKA Yellowknife Ar 68.79 29 P **P** **15 36 12.9 -0.2**
comp=Z,8.7nm,0.8s,baz=300,slow=5.5,SNR=3.2
KLMR Klimovskoe 68.83 329 **P** **15 36 13.8 +0.3**
KEV Kevo 68.98 340 P **P** **15 36 14.5 +0.2**
KEV pmax pmax
comp=Z,53nm,1.1s
KEV MLR MLR
comp=Z,7µm,19.0s
KEV Kevo 68.98 340 P **P** **15 36 14.5 +0.2**
KEV IAmb IAmb 15 36 22.3
comp=Z,53nm,1.1s
HAMF Hammerfest 69.41 342 *eP* **P** **15 36 16.6 -0.3**
ARCES ARCESS Array B 69.54 340 P **P** **15 36 18.1 +0.3**
comp=Z,37nm,0.8s,baz=60,slow=7.2,SNR=12
ARCES ARCESS Array B 69.54 340 P **P** **15 36 18.3 +0.5**
ARCES pmax pmax
comp=Z,52nm,1.0s
ARCES ARCESS Array B 69.54 340 P **P** **15 36 18.3 +0.5**
ARCES IAmb IAmb 15 36 20.5
comp=Z,52nm,0.9s
PGC Sidney 70.30 45 P **P** **15 36 22.7 0.0**
PGC IAmb IAmb 15 36 49.0
comp=Z,49nm,1.1s
LLLB Lillooet 70.39 42 P **P** **15 36 24.0 +0.6**
KTK1 Kautokeino 70.50 340 *eP* **P** **15 36 23.2 -0.5**
NLWA Neilton Lookou 70.57 46 P **P** **15 36 25.6 +1.0**
NLWA IAmb IAmb 15 36 47.2
comp=Z,52nm,1.2s
TULEG Thule 70.86 7 P **P** **15 36 26.3 +0.5**
TULEG IAMs_20 IAMs_20 16 10 07.4
comp=Z,4µm,18.0s
TRO Tromso 71.31 342 *eP* **P** **15 36 27.7 -0.8**
NEEM North Greenlan 71.34 3 *i* **P** **15 36 29.7 +0.6**
B06A Marblemount 71.53 44 P **P** **15 36 30.4 +0.2**
B06A IAmb IAmb 15 36 56.2
comp=Z,61nm,1.1s
F04A Amboy 72.11 47 P **P** **15 36 34.7 +1.0**
F04A IAmb IAmb 15 37 00.6
comp=Z,96nm,1.1s
LON Longmire 72.12 46 P **P** **15 36 35.2 +1.2**
LON pmax pmax
comp=Z,38nm,1.2s
LON Longmire 72.12 46 P **P** **15 36 35.1 +1.2**
COR Corvallis 72.14 48 IAMs_20 IAMs_20 16 03 52.7
comp=Z,4µm,20.0s
MAK Makhachkala 72.28 310 *eP* **P** **15 36 31.9 -2.9**
MAK *e*PPP PPP 15 40 59.1
MAK *e*S **S** **15 45 55.5 -0.7**
MAK *e*SS **SS** **15 50 28.6 -5.1**
MAK pmax pmax
comp=Z,262nm,1.2s
MAK pmax pmax
comp=Z,2µm,3.6s
MAK smax smax
comp=N,3µm,6.3s
MAK smax smax
comp=E,3µm,5.5s
MAK MLR MLR
comp=E,29µm,16.0s

MAK MLR MLR
comp=Z,22µm,16.0s
MAK MLR MLR
comp=N,19µm,15.0s
BUCK Buck Mountain 72.52 49 IAMs_20 IAMs_20 16 03 44.0
comp=Z,4µm,20.0s
OUZ Omahuta 72.56 153 IAMs_20 IAMs_20 16 05 30.5
comp=Z,4µm,19.0s
LTY Liberty 72.58 45 P **P** **15 36 36.8 +0.1**
KBO Bosley Butte 72.59 51 P **P** **15 36 37.3 +0.4**
KBO IAmb IAmb 15 36 50.0
comp=Z,112nm,1.2s
H04A Detroit Lake 72.81 48 P **P** **15 36 38.8 +0.7**
H04A IAmb IAmb 15 37 07.0
comp=Z,64nm,1.1s
B08A Colville Reser 72.88 44 P **P** **15 36 39.3 +0.9**
B08A IAmb IAmb 15 37 04.3
comp=Z,61nm,1.1s
OBN Obninsk 72.93 325 P **P** **15 36 38.2 -0.2**
comp=Z,5.6nm,0.4s,baz=116,slow=18,SNR=1.6
N2IH Innhavet 73.24 341 *eP* **P** **15 36 40.3 +0.2**
HUMO Hull Mountain 73.25 50 P **P** **15 36 41.6 +0.8**
HUMO IAMs_20 IAMs_20 16 05 31.5
comp=Z,5µm,20.0s
GROC Groznyy 73.29 311 *eP* **P** **15 36 39.2 -1.7**
GROC *e* 15 39 22.7
GROC *e*S **S** **15 46 07.4 -0.3**
GROC pmax pmax
comp=Z,83nm,0.8s
GROC MLR MLR
comp=Z,6µm,15.0s
JCC Jacoby Creek, 73.35 52 P **P** **15 36 43.0 +1.7**
JCC IAmb IAmb 15 37 02.5
comp=Z,89nm,1.3s
JCC IAMs_20 IAMs_20 16 04 28.2
comp=Z,5µm,19.0s
STEI Steigen 73.45 342 *eP* **P** **15 36 41.3 0.0**
KHMM Horse Mountain 73.52 52 P **P** **15 36 43.9 +1.4**
KHMM IAmb IAmb 15 37 03.6
comp=Z,62nm,1.1s
KHMM IAMs_20 IAMs_20 16 04 45.8
comp=Z,5µm,20.0s
N2NF Nordfold 73.57 341 *eP* **P** **15 36 42.3 +0.2**
D08A Wollman Farm, 73.73 45 P **P** **15 36 43.4 0.0**
D08A IAmb IAmb 15 37 09.3
comp=Z,62nm,1.2s
N2TV TΨrnvik 73.74 341 *eP* **P** **15 36 43.4 +0.4**
N2ST Straumen 73.76 341 *eP* **P** **15 36 43.1 0.0**
LOF Lofoten 73.77 342 *eP* **P** **15 36 43.6 +0.5**
YBH Yreka Blue Hor 73.82 51 P **P** **15 36 44.4 +0.3**
YBH pmax pmax
comp=Z,34nm,1.1s
YBH Yreka Blue Hor 73.82 51 P **P** **15 36 44.4 +0.3**
YBH IAMs_20 IAMs_20 16 02 49.1
comp=Z,4µm,20.0s
FAUS Fauske 73.82 341 *eP* **P** **15 36 43.8 +0.3**
EDM Edmonton 73.84 37 P **P** **15 36 43.6 -0.4**
EDM pmax pmax
comp=Z,56nm,1.0s
EDM Edmonton 73.84 37 P **P** **15 36 43.6 -0.4**
EDM IAmb IAmb 15 36 55.4
comp=Z,56nm,1.0s
KMRM Mail Ridge 73.84 53 P **P** **15 36 45.5 +1.2**
KMRM IAmb IAmb 15 36 57.5
comp=Z,57nm,1.2s
UOSS Minazif 73.87 290 P **P** **15 36 44.9 +0.3**
UOSS Minazif 73.87 290 IAMs_20 IAMs_20 16 14 32.2
comp=Z,3µm,19.0s
TAU Tasmania Unive 73.92 176 P **P** **15 36 44.9 +0.7**
TAU pmax pmax
comp=Z,49nm,1.2s
TAU Tasmania Unive 73.92 176 P **P** **15 36 44.9 +0.7**
NBB08 Skaug oppvekst 74.00 341 *eP* **P** **15 36 45.1 +0.6**
PINE Pine Mountain 74.02 48 P **P** **15 36 45.0 -0.4**
PINE IAmb IAmb 15 37 06.5
comp=Z,71nm,0.9s
PINE IAMs_20 IAMs_20 16 05 14.6
comp=Z,4µm,19.0s
FIA1 FINESS Array S 74.09 333 P **P** **15 36 45.7 +0.5**
FIA1 IAmb IAmb 15 36 47.6
comp=Z,82nm,1.1s
FINES FINESS Array B 74.09 333 P **P** **15 36 44.9 -0.3**
comp=Z,22nm,0.6s,baz=59,slow=5.5,SNR=8.8
FINES FINESS Array B 74.09 333 P **P** **15 36 45.3 +0.1**
FINES FINESS Array B 74.09 333 P **P** **15 36 45.3 +0.1**
NBB28 Valnes 74.19 341 *eP* **P** **15 36 45.6 0.0**
NEW Newport 74.22 43 P **P** **15 36 46.7 +0.4**
NEW pmax pmax
comp=Z,65nm,1.1s
NEW MLR MLR
comp=Z,2µm,19.0s
NEW Newport 74.22 43 P **P** **15 36 46.7 +0.4**
NEW IAmb IAmb 15 37 12.2
comp=Z,64nm,1.1s
NEW Newport 74.22 43 P **P** **15 36 47.0 +0.7**
baz=299
NBB05 Inndyr 74.42 341 *eP* **P** **15 36 47.5 +0.6**
WDC Whiskeytown Da 74.46 52 IAMs_20 IAMs_20 16 05 16.3
comp=Z,4µm,19.0s
NBB30 Finnes 74.54 341 *eP* **P** **15 36 48.2 +0.5**
G08A Pilot Rock 74.56 46 P **P** **15 36 48.7 +0.3**
N2RO R¸st 74.58 342 *eP* **P** **15 36 48.3 +0.3**
NBB17 Glomfjord BΨr 74.59 341 *eP* **P** **15 36 48.2 +0.2**
ZEI Tsey 74.71 311 *eP* **P** **15 36 50.7 +1.2**
ZEI pmax pmax
comp=Z,33nm,1.5s
NBB15 Halsa Church 74.75 341 *eP* **P** **15 36 49.2 +0.3**
I07A Izee 74.79 48 P **P** **15 36 50.3 +0.5**
NBB13 Alf Garage 74.90 341 *eP* **P** **15 36 50.0 +0.2**
KBZ Khabaz 74.91 312 P **P** **15 36 50.4 +0.1**
comp=Z,70nm,0.9s,baz=66,slow=7.1,SNR=6.8
MOR8 Moi Rana 74.92 340 *eP* **P** **15 36 48.7 -1.2**
KIV Kislovodsk 74.94 312⇑ P **P** **15 36 52.7 +2.1**
KIV Kislovodsk 74.94 312 *i* P **P** **15 36 50.7 +0.1**
KIV Kislovodsk 74.94 312 P **P** **15 36 50.6 +0.1**
KIV IAMs_20 IAMs_20 16 12 16.7
comp=Z,5µm,19.0s
KONS Konsvik 75.05 341 *eP* **P** **15 36 51.1 +0.4**
ONI Oni 75.10 311 P **P** **15 36 51.7 +0.2**
ONI pmax pmax
comp=Z,113nm,1.2s
ONI Oni 75.10 311 P **P** **15 36 51.7 +0.2**
ONI IAmb IAmb 15 37 01.4
comp=Z,113nm,1.2s
STOK Stokkvaagen 75.20 341 *eP* **P** **15 36 52.1 +0.6**
F10A Beach Ranch, E 75.28 45 P **P** **15 36 52.8 +0.2**
GNI Garni 75.41 308 P **P** **15 36 54.3 +0.9**
comp=Z,53nm,0.9s,baz=165,slow=5.2,SNR=4.1
GNI Garni 75.41 308 P **P** **15 36 54.4 +0.9**
GNI pmax pmax
comp=Z,289nm,1.3s
GNI MLR MLR
comp=Z,3µm,20.0s
GNI Garni 75.41 308 IAMs_20 IAMs_20 16 11 51.4
comp=Z,3µm,20.0s
VSU Vasula 75.61 331 *eP* **P** **15 36 53.8 -0.2**
AKH Akhalkalaki 75.64 310⇑ P **P** **15 36 56.0 +1.2**
ORV Oroville 75.65 52 P **P** **15 36 54.9 +0.2**
ORV pmax pmax
comp=Z,30nm,1.1s
ORV Oroville 75.65 52 P **P** **15 36 54.9 +0.2**
WALA Waterton Lakes 75.67 41 P **P** **15 36 55.2 +0.4**
WALA IAmb IAmb 15 37 06.7
comp=Z,49nm,1.0s
BMO Blue Mountains 75.79 46 P **P** **15 36 56.0 +0.5**
BMO pmax pmax
comp=Z,62nm,1.2s
BMO Blue Mountains 75.79 46 P **P** **15 36 56.0 +0.5**
BMO IAmb IAmb 15 37 21.6
comp=Z,62nm,1.1s
J08A Circle Bar Ran 75.80 48 P **P** **15 36 56.3 +0.7**
J08A IAmb IAmb 15 37 21.9
comp=Z,51nm,1.0s
J08A IAMs_20 IAMs_20 16 04 32.7
comp=Z,3µm,20.0s
CHVG Ch'k'valeri 75.92 311⇑ P **P** **15 36 58.0 +1.8**
CHVG Ch'k'valeri 75.92 311⇑ P **P** **15 36 58.0 +1.8**
HIZ Hauiti 75.93 154 P **P** **15 36 56.7 +0.7**
JTMT Jette 76.13 42 P **P** **15 36 58.3 +0.9**
JTMT IAmb IAmb 15 37 04.5
comp=Z,70nm,0.9s
WVOR Wild Horse Val 76.15 49 P **P** **15 36 57.8 +0.2**
WVOR pmax pmax
comp=Z,37nm,1.2s
WVOR Wild Horse Val 76.15 49 P **P** **15 36 57.8 +0.2**

BEKR Beckworth 76.27 52 P **P** **15 36 57.4 -1.0**
BEKR IAmb IAmb 15 37 12.7
comp=Z,40nm,1.0s
DGAR Diego Garcia 76.36 253 IAMs_20 IAMs_20 16 09 57.3
comp=Z,4µm,20.0s
PLID Pearl Lake 76.47 45 P **P** **15 36 59.5 -0.1**
SUMG Summit 76.52 0 P **P** **15 36 59.6 +0.1**
SUMG pmax pmax
comp=Z,98nm,1.2s
SUMG MLR MLR
comp=Z,4µm,20.0s
SUMG Summit 76.52 0 P **P** **15 36 59.6 +0.1**
SUMG IAmb IAmb 15 37 09.5
comp=Z,98nm,1.2s
SUMG IAMs_20 IAMs_20 16 11 52.8
comp=Z,4µm,20.0s
SUMG Summit 76.52 0 *i* **P** **15 36 59.9 +0.4**
URZ Urewera 76.60 152 P **P** **15 37 00.6 +0.9**
comp=Z,12nm,0.8s,baz=278,slow=7.1,SNR=2.0
URZ Urewera 76.60 152 IAmb IAmb 15 37 08.6
comp=Z,180nm,1.4s
URZ IAMs_20 IAMs_20 16 05 33.9
comp=Z,4µm,21.0s
MTSE Matsula 76.66 332 *eP* **P** **15 37 00.2 +0.2**
BATM Batumi 76.72 311⇓ P **P** **15 37 01.5 +0.8**
BATM Batumi 76.72 311⇓ P **P** **15 37 01.5 +0.8**
MSO Missoula 76.81 43 P **P** **15 37 01.5 +0.3**
MSO IAmb IAmb 15 37 08.2
comp=Z,77nm,1.4s
NSS Namsos 76.82 340 *eP* **P** **15 37 00.7 -0.1**
BCA Borcka 76.85 311⇑ P **P** **15 37 02.1 +0.7**
PAHR Pah Rah Range 77.00 51 P **P** **15 37 02.7 +0.1**
PAHR IAMs_20 IAMs_20 16 07 11.8
comp=Z,5µm,20.0s
BKZ Black Stump Fm 77.13 153 P **P** **15 37 03.1 +0.2**
CMB Columbia Colle 77.15 53 P **P** **15 37 03.7 +0.4**
CMB pmax pmax
comp=Z,48nm,1.0s
CMB Columbia Colle 77.15 53 P **P** **15 37 03.7 +0.4**
CMB IAmb IAmb 15 37 23.1
comp=Z,48nm,1.0s
CMB IAMs_20 IAMs_20 16 07 02.5
comp=Z,4µm,20.0s
PNTR Pine Nut 77.16 52 P **P** **15 37 04.1 +0.5**
PNTR IAmb IAmb 15 37 23.0
comp=Z,79nm,1.3s
AAL Aland 77.21 334 *eP* **P** **15 37 03.0 0.0**
MFID Camas Ranch 77.44 47 P **P** **15 37 05.4 +0.6**
MFID IAmb IAmb 15 37 31.1
comp=Z,68nm,1.1s
YERR Yerington 77.46 52 P **P** **15 37 04.5 -0.7**
YERR IAmb IAmb 15 37 11.9
comp=Z,48nm,0.9s
ISAL Salakas 77.62 328 *eP* **P** **15 37 05.5 +0.1**
IIGN Ignalina 77.72 328 *eP* **P** **15 37 06.1 +0.1**
PMPB Monarch Peak 77.75 55 P **P** **15 37 05.2 -1.5**
PMPB IAmb IAmb 15 37 31.0
comp=Z,68nm,1.2s
ANN Anapa 77.76 315*c i*P **P** **15 37 06.3 -0.1**
ANN *i* 15 37 15.4
ANN *e* 15 40 02.4
ANN *e*PPP PPP 15 41 49.5
ANN *e*S **S** **15 46 58.7 +1.6**
ANN *e*SS **SS** **15 52 01.0 +4.3**
ANN *e*SSS SSS 15 55 23.9
ANN pmax pmax
comp=Z,235nm,1.6s
ANN pmax pmax
comp=N,38nm,0.7s
ANN pmax pmax
comp=Z,565nm,1.4s
ANN smax smax
comp=E,415nm,3.0s
ANN smax smax
comp=N,847nm,5.6s
ANN smax smax
comp=Z,362nm,5.9s
NNZ Nelson 77.78 156 P **P** **15 37 06.5 +0.2**
SCO Scoresbysund 77.94 354 *i* **P** **15 37 08.8 +1.8**
HRY Holter Researc 78.10 42 P **P** **15 37 07.8 -0.7**
THZ Tophouse 78.10 157 P **P** **15 37 08.7 +0.5**
RYN Ryan 78.12 52 P **P** **15 37 09.5 +0.7**
TUWZ Tuamarina 78.16 156 P **P** **15 37 08.6 +0.1**
KVN Kaiserville 78.19 52 P **P** **15 37 09.9 +0.7**
KVN pmax pmax
comp=Z,36nm,0.9s
KVN Kaiserville 78.19 52 P **P** **15 37 09.9 +0.7**
LRM Limekiln Ridge 78.22 43 P **P** **15 37 10.2 +0.8**
HLID Hailey 78.24 46 P **P** **15 37 09.8 +0.4**
HLID IAMs_20 IAMs_20 16 16 28.2
comp=Z,2µm,18.0s
HLID Hailey 78.24 46 P **P** **15 37 10.5 +1.1**
baz=302
MDPB Devils Postpil 78.24 53 IAMs_20 IAMs_20 16 07 57.8
comp=Z,4µm,20.0s
UPP Uppsala 78.30 335 *eP* **P** **15 37 09.4 +0.3**
LHV Little Huntoon 78.33 52 P **P** **15 37 10.1 +0.4**
SNZO South Karori 78.33 155 P **P** **15 37 09.6 +0.2**
BFZ Birch Farm 78.35 154 P **P** **15 37 10.0 +0.5**
NVAR Mina Array Bea 78.37 52 P **P** **15 37 11.0 +0.7**
comp=Z,16nm,0.7s,baz=252,slow=3.9,SNR=3.7
NVAR Mina Array Bea 78.37 52 P **P** **15 37 09.4 -0.9**
DLMT Dillon 78.38 44 P **P** **15 37 10.3 +0.2**
DLMT IAmb IAmb 15 37 22.6
comp=Z,82nm,1.1s
PAGB Antelope Grade 78.38 55 P **P** **15 37 10.5 +0.4**
PAGB IAmb IAmb 15 37 30.8
comp=Z,50nm,1.0s
BSWZ Blackbirch Sta 78.39 156 P **P** **15 37 09.2 -0.5**
BCYI Bear Canyon 78.46 45 P **P** **15 37 11.1 +0.4**
NV11 Mina Array Sit 78.47 52 P **P** **15 37 11.3 +0.5**
MCMT McKenzie Canyo 78.52 44 P **P** **15 37 11.3 +0.3**
FFC Flin Flon 78.53 32 P **P** **15 37 10.3 -0.2**
FFC pmax pmax
comp=Z,34nm,0.9s
FFC MLR MLR
comp=Z,2µm,20.0s
FFC Flin Flon 78.53 32 P **P** **15 37 10.3 -0.2**
FFC Flin Flon 78.53 32 IAMs_20 IAMs_20 16 12 39.4
comp=Z,3µm,20.0s
EGMT Eagleton 78.55 40 P **P** **15 37 10.8 -0.1**
EGMT IAmb IAmb 15 37 23.4
comp=Z,89nm,1.4s
MSWZ Moikau Station 78.62 155 P **P** **15 37 12.0 +1.0**
PABE Paberze 78.63 329 *eP* **P** **15 37 11.2 +0.2**
PABE Paberze 78.63 329 P **P** **15 37 10.8 -0.2**
PABE IAmb IAmb 15 37 26.7
comp=Z,84nm,0.9s
PABE IAMs_20 IAMs_20 16 09 30.7
comp=Z,4µm,20.0s
PLWZ Palliser 78.75 155 P **P** **15 37 12.0 +0.2**
LTZ Lake Taylor 78.80 158 P **P** **15 37 12.2 +0.2**
BOZ Bozeman (W) 78.82 43 P **P** **15 37 12.8 +0.2**
BOZ Bozeman (W) 78.82 43 P **P** **15 37 12.8 +0.2**
BOZ Bozeman (W) 78.82 43 P **P** **15 37 13.3 +0.8**
baz=303
KHZ Kahutara 78.89 157 P **P** **15 37 12.4 0.0**
KHZ IAmb IAmb 15 37 29.6
comp=Z,149nm,1.4s
AKASG Malin Array Be 79.06 323 P **P** **15 37 14.1 +0.6**
comp=Z,6.8nm,0.4s,baz=50,slow=5.4,SNR=10
AKASG Malin Array Be 79.06 323 P **P** **15 37 13.8 +0.3**
AKASG pmax pmax
comp=Z,69nm,1.0s
AKASG Malin Array Be 79.06 323 P **P** **15 37 13.8 +0.3**
AKASG IAmb IAmb 15 37 28.8
comp=Z,69nm,1.0s
AKBB Malin Array Si 79.06 323 P **P** **15 37 13.2 -0.3**
AKBB pmax pmax
comp=Z,54nm,0.8s
AKBB Malin Array Si 79.06 323 P **P** **15 37 13.2 -0.3**
AKBB IAmb IAmb 15 37 30.5
comp=Z,54nm,0.8s
FCC Fort Churchill 79.14 26 P **P** **15 37 13.6 -0.2**
FCC pmax pmax
comp=Z,43nm,1.1s
FCC Fort Churchill 79.14 26 P **P** **15 37 13.6 -0.2**
ELK Elko 79.20 49 P **P** **15 37 15.2 +0.3**
ELK pmax pmax
comp=Z,36nm,1.2s
ELK Elko 79.20 49 P **P** **15 37 15.2 +0.3**
OXZ Oxford 79.21 158 P **P** **15 37 13.8 -0.4**
OXZ IAmb IAmb 15 37 18.8
comp=Z,96nm,1.4s

RPZ Rata Peaks 79.25 159 P P 15 37 15.2 +0.8
RPZ IAmb IAmb 15 37 18.9
comp=Z,148nm,1.4s
TPH Tonopah 79.28 52 P P 15 37 15.1 -0.2
TPH pmax pmax
comp=Z,262nm,1.2s
TPH Tonopah 79.28 52 P P 15 37 15.1 -0.2
QLMT Earthquake Lak 79.36 44 P P 15 37 15.7 +0.1
NC405 NORSAR Array S 79.44 338 P P 15 37 15.2 -0.2
ILULI Ilulissat 79.46 5 IAMs_20 IAMs_20 16 13 45.6
comp=Z,3µm,20.0s
ILULI Ilulissat 79.46 5 *i* **P 15 37 14.5 -0.9**
NC303 NORSAR Array S 79.47 338 P P 15 37 16.5 +0.9
NC303 IAmb IAmb 15 37 41.0
comp=Z,74nm,1.1s
HFS Hagfors 79.50 336 P P 15 37 15.1 -0.7
comp=Z,19nm,0.8s,baz=74,slow=11,SNR=5.5
MARD Mardin 79.51 307 P P 15 37 16.1 -0.3
MARD IAmb IAmb 15 37 34.2
comp=Z,77nm,0.8s
YHB Horse Butte 79.55 44 P P 15 37 16.9 +0.3
YHB IAmb IAmb 15 37 28.9
comp=Z,60nm,1.0s
LBZ Lake Benmore 79.59 160 P P 15 37 16.9 +0.7
LBZ IAmb IAmb 15 37 26.7
comp=Z,104nm,1.5s
MOL Molde 79.60 340 *e*P **P 15 37 16.8 +0.6**
NB201 NORSAR Array S 79.62 338 P P 15 37 16.1 -0.3
NC204 NORSAR Array S 79.62 338 P P 15 37 16.4 -0.1
NOA NORSAR Array B 79.66 338 P P 15 37 15.9 -0.7
comp=Z,4.3nm,0.7s,baz=62,slow=9.4,SNR=7.2
SIM Simferopol' 79.67 317 *d* **iP P 15 37 17.9 +1.0**
SIM pmax pmax
comp=Z,89nm,0.8s
YHH Holmes Hill 79.73 44 P P 15 37 18.2 +0.5
NC602 NORSAR Array S 79.78 338 *e*P **P 15 37 17.4 +0.2**
NORES NORESS Array B 79.78 338 P P 15 37 17.3 +0.1
NBO00 NORSAR Array S 79.80 338 P P 15 37 17.1 -0.3
NBO00 IAmb IAmb 15 37 41.1
comp=Z,101nm,1.1s
GCMT Greycliff 79.86 42 P P 15 37 19.0 +0.8
MLZ Mavora Lakes 79.90 161 P P 15 37 18.6 +0.7
NAO01 NORSAR Array S 79.91 338 P P 15 37 18.6 +0.6
NAO01 IAmb IAmb 15 37 43.2
comp=Z,89nm,1.1s
SUW Suwalki 79.93 328 *e*P **P 15 37 19.0 +0.8**
SUW Suwalki 79.93 328 P P 15 37 17.5 -0.7
SUW pmax pmax
comp=Z,196nm,1.2s
SUW Suwalki 79.93 328 P P 15 37 17.5 -0.7
SUW Suwalki 79.93 328 *e*S **S 15 47 17.7 -2.3**
SUW Suwalki 79.93 328 *e* **P 15 37 18.5 +0.3**
ICESG Greenland Ices 80.02 0 *i* **P 15 37 19.8 +1.0**
AKN Aaknes 80.07 340 *e*P **P 15 37 19.3 +0.5**
H17A Grant Village 80.11 44 IAMs_20 IAMs_20 16 17 05.5
comp=Z,3µm,18.0s
RLMT Red Lodge 80.47 43 P P 15 37 22.4 +0.9
baz=305
TPNV Topopah Spring 80.53 53 P P 15 37 23.0 +1.0
baz=302
OSL Oslo 80.65 337 *e*P **P 15 37 22.4 +0.5**
AHID Auburn Hatcher 80.71 45 IAMs_20 IAMs_20 16 07 15.4
comp=Z,3µm,21.0s
SPR3 Spring Creek 3 80.72 50 IAMs_20 IAMs_20 16 07 28.2
comp=Z,3µm,20.0s
SKAR Skarslia 80.85 339 *e*P **P 15 37 23.1 0.0**
GSC Goldstone, Bar 81.01 54 IAMs_20 IAMs_20 16 10 09.2
comp=Z,4µm,18.0s
DUG Dugway, Tooele 81.06 48 IAMs_20 IAMs_20 16 10 37.9
comp=Z,5µm,20.0s
DUG Dugway, Tooele 81.06 48 P P 15 37 26.3 +1.6
baz=303
SORM Soroca 81.06 321 ⇑P P 15 37 23.9 -0.4
SORM Soroca 81.06 321 ⇑P P 15 37 23.9 -0.4
FOO Floro 81.10 341 *e*P **P 15 37 24.6 +0.3**
HYA Hoyanger 81.11 340 *e*P **P 15 37 24.7 +0.3**
KONO Kongsberg 81.24 338 *e*P **P 15 37 25.2 +0.2**
CTU Camp Tracy 81.46 47 P P 15 37 26.7 -0.2
CTU IAmb IAmb 15 37 33.7
comp=Z,54nm,0.9s
KIS Kishinev 81.49 320 ⇑ *i* **P P 15 37 22.9 -3.7**
comp=Z,1µm,10.6s
KIS Kishinev 81.49 320 *e*PP PP 15 40 24.0 -8.5
KIS *e*S **S 15 47 28.0 -8.5**
KIS *e*ScS **SKSac 15 47 45.0 +0.5**
KIS *e*LR LR 16 14 08.0
comp=Z,5µm,15.0s
KIS Kishinev 81.49 320 *c* **iP P 15 37 23.0 -3.7**
KIS *e* 15 42 30.0
KIS *e*S **S 15 47 28.0 -8.5**
KIS *e* 15 47 45.0
KIS *e* 15 48 34.0
KIS pmax pmax
comp=Z,1µm,10.6s
KIS MLR MLR
comp=N,4µm,15.0s
KIS MLR MLR
comp=E,2µm,15.0s
KIS MLR MLR
comp=Z,5µm,15.0s
TUQ Turquoise Moun 81.55 54 P P 15 37 28.6 +1.1
baz=302
HEC Hector,Ludlow 81.59 54 P P 15 37 28.4 +0.8
baz=302
PDAR Pinedale Array 81.64 45 P P 15 37 28.4 +0.5
comp=Z,9.2nm,0.7s,baz=245,slow=2.1,SNR=6.8
SFJD Kangerlussuaq 81.68 5 P P 15 37 27.7 +0.4
SFJD pmax pmax
comp=Z,122nm,1.5s
SFJD MLR MLR
comp=Z,3µm,20.0s
SFJD Kangerlussuaq 81.68 5 P P 15 37 27.7 +0.4
SFJD IAmb IAmb 15 37 51.2
comp=Z,122nm,1.5s
SFJD Kangerlussuaq 81.68 5 IAMs_20 IAMs_20 16 14 27.7
comp=Z,3µm,20.0s
SFJD Kangerlussuaq 81.68 5 *i* **P 15 37 26.9 -0.4**
SOCY Socotra 81.83 279 P P 15 37 27.4 -1.7
PPT2 Papeete2 81.88 116 *e*S **S 15 47 38.2 -3.2**
comp=Z,4µm,30.0s
PPT2 Papeete2 81.88 116 *e*LQ LQ 15 59 21.7
comp=Z,1µm,25.5s
PPT2 *e*LR LR 16 02 38.7
comp=Z,9µm,30.5s,baz=312
MPU Maple Canyon 81.91 48 P P 15 37 29.2 -0.1
MPU IAmb IAmb 15 37 36.2
comp=Z,42nm,1.0s
ASK Askoy 81.95 340 *e*P **P 15 37 29.4 +0.6**
BNN Bunyan 81.97 311 P P 15 37 29.6 +0.1
109C Camp Elliot, M 82.07 56 IAMs_20 IAMs_20 16 09 54.4
comp=Z,4µm,20.0s
ILGA Ilgaz 82.10 313 IAMs_20 IAMs_20 16 18 27.2
comp=Z,3µm,19.0s
CCUT Cedar City 82.15 51 P P 15 37 30.4 -0.2
CCUT IAmb IAmb 15 37 42.5
comp=Z,62nm,1.3s
PFO Pinyon Flats O 82.15 56 P P 15 37 29.4 -1.2
comp=Z,16nm,0.9s,baz=266,slow=2.8,SNR=2.8
LVV L'vov 82.23 325 *e*P **P 15 37 32.4 +1.9**
BELC Belle Mtn. Jos 82.27 55 P P 15 37 31.9 +0.7
baz=302
BLS5 Blasjo 82.42 339 *e*P **P 15 37 31.7 +0.3**
BEL Belsk 82.46 328 *e*S **S 15 47 49.2 +2.9**
BEL Belsk 82.46 328 *e* **P 15 37 33.7 +2.0**
DY2G Dye2 82.46 3 *i* **P 15 37 31.5 -0.2**
BAR Barrett 82.49 56 IAMs_20 IAMs_20 16 09 47.5
comp=Z,4µm,20.0s
TLCR 82.58 319 ⇑P P 15 37 33.2 +0.8
TLCR 82.58 319 ⇑P P 15 37 33.2 +0.8
BC3 Big Chuckawall 82.83 55 P P 15 37 34.6 +0.5
baz=303
BR131 Keskin Array S 82.90 312 P P 15 37 34.2 -0.2
BR131 pmax pmax
comp=Z,202nm,1.3s
BR131 Keskin Array S 82.90 312 P P 15 37 34.2 -0.2
BRTR Keskin Array B 82.90 312 P P 15 37 34.7 +0.3
comp=Z,43nm,0.8s,baz=108,slow=4.0,SNR=12
CCX Cicese 82.93 57 IAMs_20 IAMs_20 16 10 27.2
comp=Z,4µm,20.0s
RMX La Rumorosa 82.96 56 P P 15 37 34.9 0.0
TESR Tescani 82.97 321 ⇑P P 15 37 33.8 -0.7
CFR Carcaliu 82.97 319 ⇑P P 15 37 39.5 +5.1
CFR Carcaliu 82.97 319 ⇑P P 15 37 39.5 +5.1
BIZ Bicaz 82.99 321 ⇑P P 15 37 34.8 +0.2
TPGR Topolog 83.01 319 ⇓P P 15 37 35.2 +0.5

BURAR Bucovina Array 83.03 322 ⇑P P 15 37 34.9 0.0
BURAR Bucovina Array 83.03 322 ⇑P P 15 37 34.9 0.0
GKP Gorka Klasztor 83.05 330 *e*S **S 15 47 52.8 +0.5**
GKP Gorka Klasztor 83.05 330 *e* **P 15 37 34.9 +0.2**
W13A Hualapai Mount 83.14 53 IAMs_20 IAMs_20 16 10 54.4
comp=Z,4µm,19.0s
TIRR Tirgusor 83.25 319 ⇑P P 15 37 34.8 -1.1
TIRR Tirgusor 83.25 319 P P 15 37 36.2 +0.3
TIRR pmax pmax
comp=Z,190nm,1.3s
TIRR MLR MLR
comp=Z,16µm,18.0s
TIRR Tirgusor 83.25 319 P P 15 37 36.2 +0.3
VRI Vrincioaia 83.33 320 ⇑P P 15 37 37.4 +1.1
VRI Vrincioaia 83.33 320 ⇑P P 15 37 37.4 +1.1
ANTO Ankara 83.35 313 P P 15 37 36.6 0.0
ANTO pmax pmax
comp=Z,187nm,1.3s
ANTO MLR MLR
comp=Z,5µm,18.0s
ANTO Ankara 83.35 313 P P 15 37 36.6 0.0
HARR Harsova 83.39 319 ⇑P P 15 37 35.9 -0.7
HARR Harsova 83.39 319 ⇑P P 15 37 35.9 -0.7
BORG Borgarnes 83.46 353 P P 15 37 37.6 +1.0
BORG pmax pmax
comp=Z,65nm,1.2s
BORG Borgarnes 83.46 353 P P 15 37 37.6 +1.0
BORG IAmb IAmb 15 37 45.1
comp=Z,65nm,1.2s
ANGG Ammassalik, Gr 83.51 360 IAMs_20 IAMs_20 16 16 06.6
comp=Z,3µm,21.0s
BISRR Bisoca 83.53 320 ⇑P P 15 37 38.1 +0.7
GLA Glamis 83.60 55 IAMs_20 IAMs_20 16 11 29.8
comp=Z,4µm,20.0s
GLA Glamis 83.60 55 P P 15 37 38.5 +0.4
baz=303
COVR Voineasa-Covas 83.62 321 ⇑P P 15 37 36.3 -1.6
KOLS Kolonicke sedl 83.68 325 *e*P **P 15 37 38.9 +0.8**
KOLS pmax pmax
comp=Z,79nm,1.3s
KOLS Kolonicke sedl 83.68 325 *e*P **P 15 37 38.9 +0.8**
KOLS Kolonicke sedl 83.68 325 *e*S **S 15 47 56.4 -2.5**
KOLS *e*L L 16 18 16.5
OZUR 83.69 321 ⇑P P 15 37 39.1 +0.9
RGN Rugen 83.74 333 IAMs_20 IAMs_20 16 17 00.9
comp=Z,4µm,21.0s
ARCR ARCALIA 83.82 322 ⇑P P 15 37 45.3 +6.5
GUVIX Guadalupe Vict 83.83 56 IAMs_20 IAMs_20 16 10 39.0
comp=Z,3µm,19.0s
UZH Uzhgorod 83.87 324 ⇑ *i* **P P 15 37 41.4 +2.4**
UZH Uzhgorod 83.87 324 *i* 15 48 00.8
BMR Baia Mare 83.89 323 ⇑P P 15 37 39.7 +0.6
BMR Baia Mare 83.89 323 ⇑P P 15 37 39.7 +0.6
ISR Istrita 83.89 320 ⇓P P 15 37 39.6 +0.3
ISR Istrita 83.89 320 ⇓P P 15 37 39.6 +0.3
MLR Muntele Rosu 83.99 320 P P 15 37 39.2 -0.7
comp=Z,25nm,1.0s,baz=168,slow=6.2,SNR=3.6
MLR Muntele Rosu 83.99 320 P P 15 37 39.2 -0.7
MLR pmax pmax
comp=Z,69nm,1.3s
MLR MLR MLR
comp=Z,6µm,19.0s
MLR Muntele Rosu 83.99 320 IAmb IAmb 15 37 47.9
comp=Z,69nm,1.3s
MLR IAMs_20 IAMs_20 16 19 33.0
comp=Z,6µm,19.0s
DOPR Dopca 83.99 321 ⇑P P 15 37 41.4 +1.7
MDUB Mudurnu 83.99 314 P P 15 37 39.6 -0.3
OJC Ojcow 84.01 327 *e*S **S 15 47 60.0 -2.2**
OJC Ojcow 84.01 327 *e* **P 15 37 39.6 -0.1**
TRPA Tarpa 84.08 324 ⇑P P 15 37 40.3 +0.2
CRVS Cervenica-Dubn 84.10 325 *e*P **P 15 37 40.8 +0.6**
CRVS *e*S **S 15 48 02.0 -1.1**
CRVS MLR MLR
comp=Z,19µm,17.1s
CRVS Cervenica-Dubn 84.10 325 *e*P **P 15 37 40.8 +0.6**
CRVS Cervenica-Dubn 84.10 325 *e*S **S 15 48 02.0 -1.1**
CRVS *e*L L 16 18 45.5
SECR 84.21 320 ⇑P P 15 37 40.2 -0.6
ULM Lac du Bonnet 84.28 33 P P 15 37 40.1 -1.0
comp=Z,7.1nm,0.9s,baz=320,slow=6.4,SNR=3.5
ULM Lac du Bonnet 84.28 33 P P 15 37 40.1 -1.0
ULM pmax pmax
comp=Z,27nm,1.2s
NIE Niedzica 84.32 326 *e*S **S 15 48 07.4 +2.1**
NIE Niedzica 84.32 326 *e* **P 15 37 42.8 +1.4**
NUUK Nuuk 84.37 6 *i* **P 15 37 42.1 +0.9**
Y14A Wickenburg 84.38 54 P P 15 37 42.1 +0.1
Y14A IAmb IAmb 15 37 53.6
comp=Z,44nm,1.2s
Y14A IAMs_20 IAMs_20 16 14 26.4
comp=Z,3µm,18.0s
PV21 Cone Mtn., Par 84.43 48 IAMs_20 IAMs_20 16 13 08.2
comp=Z,4µm,20.0s
113A Mohawk Valley, 84.50 55 IAMs_20 IAMs_20 16 12 08.6
comp=Z,4µm,20.0s
VOIR 84.51 321 ⇑P P 15 37 42.6 +0.1
VOIR 84.51 321 ⇑P P 15 37 42.6 +0.1
TAOE Nuku Hiva Isla 84.58 104 *e*S **S 15 48 05.8 -3.2**
comp=Z,1µm,28.6s
TAOE Nuku Hiva Isla 84.58 104 *e*LR LR 16 03 49.8
comp=Z,8µm,32.5s,baz=304
WUAZ Wupatki 84.61 52 IAMs_20 IAMs_20 16 12 01.2
comp=Z,4µm,20.0s
SFX San Felipe 84.68 57 IAMs_20 IAMs_20 16 19 30.5
comp=Z,2µm,18.0s
ARR Arges 84.78 321 ⇑P P 15 37 44.6 +0.8
KECS Kecovo 84.86 325 *e*P **P 15 37 44.8 +0.7**
KECS pmax pmax
comp=Z,21nm,1.0s
KECS Kecovo 84.86 325 *e*P **P 15 37 44.8 +0.7**
DRGR 84.87 323 ⇑P P 15 37 44.6 +0.3
DRGR 84.87 323 ⇑P P 15 37 44.6 +0.3
LANS Liptovska Anna 84.90 326 *e*P **P 15 37 46.0 +1.7**
LANS pmax pmax
comp=Z,55nm,1.3s
LANS Liptovska Anna 84.90 326 *e*P **P 15 37 46.0 +1.7**
PV01 Paradox Valley 84.94 48 P P 15 37 44.3 -0.7
PV01 IAmb IAmb 15 37 49.4
comp=Z,36nm,0.8s
ASF Jabal al Asfar 84.96 305 P P 15 37 44.7 -0.3
comp=Z,38nm,1.0s,baz=49,slow=3.4,SNR=6.2
OKC Ostrava-Krasne 85.05 327 *e*P **P 15 37 45.9 +0.9**
OKC *e* 15 48 10.4
OKC MLR MLR
comp=Z,6µm,17.0s
OKC Ostrava-Krasne 85.05 327 *e*P **P 15 37 45.9 +0.9**
OKC *e*SKS S **15 48 10.4 -2.1**
OKC AMS AMS 16 18 10.0
comp=Z,6µm,17.0s
KSP Ksiaz 85.18 329 *e*S **S 15 48 11.7 -2.1**
KSP Ksiaz 85.18 329 *e* **P 15 37 46.0 +0.3**
X16A Lo Mia Camp, P 85.19 53 IAMs_20 IAMs_20 16 13 28.6
comp=Z,4µm,20.0s
SMCO Snowmass 85.33 47 IAMs_20 IAMs_20 16 12 58.8
comp=Z,2µm,20.0s
MORC Moravsky Berou 85.37 327 ⇑P P 15 37 47.1 +0.4
MORC Moravsky Berou 85.37 327 ⇑P P 15 37 47.1 +0.4
MORC Moravsky Berou 85.37 327 *e*P **P 15 37 48.3 +1.6**
MORC Moravsky Berou 85.37 327 *e*S **S 15 48 13.3 -2.5**
TBI Tubuai 85.37 121 *e*S **S 15 48 13.0 -3.2**
comp=Z,3µm,25.8s
TBI Tubuai 85.37 121 *e*LQ LQ 16 00 49.6
comp=Z,2µm,30.5s
TBI *e*LR LR 16 04 07.4
comp=Z,5µm,34.0s,baz=311
OSTC Ostas 85.42 329 *e*P **P 15 37 49.1 +2.2**
OSTC *e*PP **PP 15 41 06.9 +2.4**
OSTC *e*SKS **SKSac 15 48 07.6 -2.6**
OSTC AMS AMS 16 20 00.0
comp=Z,10µm,15.4s
CHVC Chvalec 85.47 329 *e*P **P 15 37 48.1 +1.0**
CHVC AMS AMS 16 20 00.0
comp=Z,9µm,15.8s
KRLC Kraliky 85.51 328 *e*P **P 15 37 47.7 +0.4**
KRLC *e* 15 41 07.8
KRLC *e* 15 48 13.8
KRLC MLR MLR
comp=Z,7µm,14.8s
KRLC Kraliky 85.51 328 *e*P **P 15 37 47.7 +0.4**
KRLC *e*PP **PP 15 41 07.8 +2.6**
KRLC *e*SKS **SKSac 15 48 13.8 +3.0**
KRLC AMS AMS 16 20 20.0
comp=Z,7µm,14.8s

DPC Dobruska-Polom 85.52 328 *e*P **P 15 37 48.5 +1.1**
DPC *e* 15 41 05.3
DPC *e* 15 48 10.1
DPC MLR MLR
comp=Z,9µm,15.6s
DPC Dobruska-Polom 85.52 328 *e*P **P 15 37 48.5 +1.1**
DPC *e*PP **PP 15 41 05.3 0.0**
DPC *e*SKS **SKSac 15 48 10.1 -0.8**
DPC AMS AMS 16 19 50.0
comp=Z,9µm,15.6s
MVCO Mesa Verde 85.53 49 IAMs_20 IAMs_20 16 17 31.3
comp=Z,3µm,19.0s
MMAI Mount Meron Ar 85.53 306 P P 15 37 49.4 +1.5
comp=Z,33nm,0.8s,baz=50,slow=4.5,SNR=4.9
PSZ Piszkesteto 85.54 325 ⇑P P 15 37 44.8 -2.7
PSZ Piszkesteto 85.54 325 ⇑P P 15 37 44.8 -2.7
UPC Upice 85.55 329 *e*P **P 15 37 48.1 +0.6**
UPC *e* 15 48 09.5
UPC MLR MLR
comp=Z,10µm,15.5s
UPC Upice 85.55 329 *e*P **P 15 37 48.1 +0.6**
UPC *e*SKS **SKSac 15 48 09.5 -1.4**
UPC AMS AMS 16 20 00.0
comp=Z,10µm,15.5s
214A Organ Pipe Nat 85.62 55 IAMs_20 IAMs_20 16 12 19.4
comp=Z,4µm,20.0s
VYHS Vyhne 85.66 326 *e*P **P 15 37 48.2 +0.1**
VYHS pmax pmax
comp=Z,105nm,1.4s
VYHS Vyhne 85.66 326 *e*P **P 15 37 48.2 +0.1**
VYHS Vyhne 85.66 326 *e*S **S 15 48 14.3 -4.3**
VYHS *e*L L 16 20 00.7
GZR Gura Zlata 85.76 322 ⇑P P 15 37 50.4 +1.7
GZR Gura Zlata 85.76 322 ⇑P P 15 37 50.4 +1.7
ISCO Idaho Springs 85.79 45 IAMs_20 IAMs_20 16 10 12.7
comp=Z,2µm,20.0s
D32A Dogwood Acres, 85.86 36 IAMs_20 IAMs_20 16 18 04.9
comp=Z,2µm,19.0s
W18A Petrified Fore 85.94 51 IAMs_20 IAMs_20 16 12 06.3
comp=Z,4µm,20.0s
JAVC Velka Javorina 85.95 327 *e*P **P 15 37 52.3 +2.7**
JAVC Velka Javorina 85.95 327 *e*S **S 15 48 19.2 -2.4**
X18A Snowflake 86.13 52 IAMs_20 IAMs_20 16 14 34.6
comp=Z,3µm,19.0s
VRAC Vranov 86.14 328 ⇑P P 15 37 51.7 +1.3
VRAC Vranov 86.14 328 P P 15 37 51.3 +0.9
comp=Z,28nm,0.9s,baz=34,slow=4.7,SNR=6.1
VRAC Vranov 86.14 328 *e*P **P 15 37 52.0 +1.6**
VRAC *e*PP **PP 15 41 08.5 -1.8**
VRAC *e*S **S 15 48 19.0 -4.3**
PVCC Panska Ves 86.17 329 *e*P **P 15 37 51.3 +0.8**
PVCC *e* 15 41 12.6
PVCC *e* 15 48 14.4
PVCC MLR MLR
comp=Z,10µm,15.3s
PVCC Panska Ves 86.17 329 *e*P **P 15 37 51.3 +0.8**
PVCC *e*PP **PP 15 41 12.6 +2.1**
PVCC *e*SKS **SKSac 15 48 14.4 -0.4**
PVCC AMS AMS 16 21 00.0
comp=Z,10µm,15.3s
BRG Berggiesshubel 86.19 330 *e*P **P 15 37 52.3 +1.6**
BRG Amp 15 37 57.9
comp=Z,58nm,1.4s
BRG Berggiesshubel 86.19 330 PP PP 15 41 13.0 +2.4
BRG Amp 15 41 21.3
comp=Z,24nm,1.2s
BRG Berggiesshubel 86.19 330 S **S 15 48 15.0 -8.6**
BRG Berggiesshubel 86.19 330 SP **S 15 48 22.0 -1.6**
BRG Berggiesshubel 86.19 330 SS SS 15 54 00.0 -1.4
BRG Amp 16 21 16.0
comp=Z,7.8nm,15.2s
BRG Amp 16 21 20.0
comp=E,2.8nm,16.0s
BRG Amp 16 21 29.0
comp=N,7.4nm,14.6s
BZS Buzias 86.22 322 P P 15 37 54.2 +3.3
FLTG Flechtingen 86.22 332 *e*P **P 15 37 50.6 -0.2**
comp=N,143nm,1.5s,baz=41,slow=4.9
CLL Collm 86.27 331 *i* **P P 15 37 50.3 -0.7**
comp=Z,70nm,1.2s
CLL *e*Pmax 15 37 57.0
CLL *i* 15 38 00.5
CLL *e* 15 40 50.0
CLL *e*PPk 15 41 02.0
CLL *e*PP **PP 15 41 13.0 +1.8**
CLL *e* 15 41 24.0
CLL *e*S **S 15 48 23.0 -1.4**
comp=N,700nm,18.6s
CLL *e*S **S 15 48 23.0 -1.4**
comp=E,3µm,19.8s
CLL *e*PS **PnS 15 49 24.0 +0.1**
CLL *e*PPS PPS 15 49 54.0
CLL *e*SS **SS 15 54 01.0 -1.5**
CLL *e*SSS SSS 15 57 30.0
CLL *e* 15 59 00.0
CLL *e*SSSS 16 00 30.0
CLL *e*PKPPKPdf **P'P'df 16 04 00.0 -0.6**
CLL Lmax 16 22 00.0
CLL Collm 86.27 331 *i* **P P 15 37 50.3 -0.7**
CLL *e*S **S 15 48 19.0 -5.4**
CLL pmax pmax
comp=Z,70nm,1.2s
CLL Collm 86.27 331 IAMs_20 IAMs_20 16 20 14.8
comp=Z,4µm,19.0s
CLL Collm 86.27 331 *e*P **P 15 37 51.1 +0.1**
comp=Z,118nm,1.5s,baz=41,slow=4.9
HERR Herculane 86.29 322 ⇑P P 15 37 50.3 -0.9
SMOL Smolenice 86.31 327 *e*P **P 15 37 51.7 +0.4**
SMOL pmax pmax
comp=Z,34nm,1.1s
SMOL Smolenice 86.31 327 *e*P **P 15 37 51.7 +0.4**
GHAJ Ghor Haditha 86.38 305 IAMs_20 IAMs_20 16 20 42.9
comp=Z,3µm,19.0s
FBE Freiberg 86.40 330 *e*P **P 15 37 52.2 +0.5**
comp=Z,207nm,1.9s,baz=41,slow=4.9
KRUC Moravsky 86.41 327 *e*P **P 15 37 53.1 +1.4**
KRUC *e*PP **PP 15 41 13.7 +1.3**
KRUC *e*S **S 15 48 17.6 -8.2**
PRA Prague 86.56 329 *e*SKS **SKSac 15 48 19.2 +2.0**
PRA AMS AMS 16 20 40.0
comp=Z,9µm,15.7s
PRU Pruhonice 86.57 329 *e*P **P 15 37 54.3 +1.8**
PRU *e* 15 41 18.0
PRU *e* 15 48 18.5
PRU MLR MLR
comp=Z,9µm,16.0s
PRU Pruhonice 86.57 329 *e*P **P 15 37 54.3 +1.8**
PRU *e*PP **PP 15 41 18.0 +4.2**
PRU *e*SKS **SKSac 15 48 18.5 +1.2**
PRU AMS AMS 16 20 40.0
comp=Z,9µm,16.0s
ASSE Asse, Remlinge 86.60 332 *e*P **P 15 37 52.8 +0.3**
comp=Z,230nm,2.5s,baz=41,slow=4.9
TREC Trest 86.65 328 *e*P **P 15 37 54.1 +1.1**
TREC *e* 15 41 18.4
TREC *e* 15 48 19.1
TREC MLR MLR
comp=Z,7µm,15.4s
TREC Trest 86.65 328 *e*P **P 15 37 54.1 +1.1**
TREC *e*PP **PP 15 41 18.4 +3.9**
TREC *e*SKS **SKSac 15 48 19.1 +1.2**
TREC AMS AMS 16 20 30.0
comp=Z,7µm,15.4s
SUSD Miller 86.66 39 P P 15 37 52.4 -0.7
SUSD Miller 86.66 39 P P 15 37 53.1 0.0
baz=312
ZST Bratislava 86.69 326 *e*P **P 15 37 54.8 +1.7**
ZST *e*S **S 15 48 26.3 -2.3**
ZST Bratislava 86.69 326 *e*P **P 15 37 54.8 +1.7**
ZST Bratislava 86.69 326 *e*S **S 15 48 26.3 -2.3**
MDVR Moldovita 86.73 322 ⇑P P 15 37 52.7 -0.7
ELL Elmali 87.02 312 P P 15 37 55.0 -0.2
ELL pmax pmax
comp=Z,77nm,0.8s
ELL Elmali 87.02 312 P P 15 37 55.0 -0.2
F33A 5 Mile Ranch, 87.11 36 P P 15 37 55.0 -0.2
F33A IAMs_20 IAMs_20 16 13 00.0
comp=Z,2µm,19.0s
SDCO Great Sand Dun 87.11 47 IAMs_20 IAMs_20 16 15 39.2
comp=Z,3µm,20.0s
TANN Tannenbergstha 87.16 330 *e*P **P 15 37 55.8 +0.3**
comp=Z,250nm,2.6s,baz=41,slow=4.9
WERD Werda 87.20 330 *e*P **P 15 37 56.0 +0.3**
comp=Z,120nm,2.0s,baz=41,slow=4.9

WERN	Wernitzgruen	87.29	330	eP	P	15 37 56.4	+0.3
	comp=Z,430nm,3.1s,baz=41,slow=4.9						
NKC	Novy Kostel	87.30	330	eP	P	15 37 54.8	-1.3
NKC				e		15 41 22.1	
NKC				e		15 48 25.3	
NKC				MLR	MLR		
	comp=Z,8µm,14.2s						
NKC	Novy Kostel	87.30	330	eP	P	15 37 54.8	-1.3
NKC				ePP	PP	15 41 22.1	+2.4
NKC				eSKS	SKSac	15 48 25.3	+3.4
NKC				AMS	AMS	16 21 10.0	
	comp=Z,8µm,14.2s						
VTS	Vitosha	87.33	319	⇑P	P	15 37 56.5	-0.1
VTS	Vitosha	87.33	319	⇑P	P	15 37 56.5	-0.1
VTS	Vitosha	87.33	319	P	P	15 37 55.2	-1.4
VTS				IAMs_20	IAMs_20	16 19 41.5	
	comp=Z,3µm,18.0s						
GTTG	Gottingen	87.33	332	eP	P	15 37 56.5	+0.3
	comp=Z,60nm,1.2s,baz=41,slow=4.9						
MOX	Moxa	87.34	331	eL	L	16 15 37.1	
	comp=Z,2µm,21.8s						
CONA	Conrad Observa	87.47	327	eP	P	15 37 58.9	+1.9
	comp=Z,23nm,1.1s						
FRGS	Fruska Gora	87.47	323	⇑P	P	15 37 56.3	-0.8
BOVS	Bovan	87.50	321	⇑P	P	15 37 54.5	-2.6
CKRC	Cesky Krumlov	87.53	328	eP	P	15 37 56.6	-0.7
CKRC				ePP	PP	15 41 22.7	+1.2
CKRC				eSKS	SKSac	15 48 26.8	+3.5
KHC	Kasperske Hory	87.63	329	eP	P	15 37 57.6	-0.1
KHC				e		15 41 22.4	
KHC				e		15 48 29.3	
KHC				MLR	MLR		
	comp=Z,9µm,16.0s						
KHC	Kasperske Hory	87.63	329	eP	P	15 37 57.6	-0.1
KHC				ePP	PP	15 41 22.4	+0.1
KHC				eSKS	SKSac	15 48 29.3	+5.4
KHC				AMS	AMS	16 20 40.0	
	comp=Z,9µm,16.0s						
EIL	Elat	87.74	303	P	P	15 37 57.3	-1.3
	comp=Z,14nm,1.0s,baz=122,slow=5.6,SNR=3.1						
GEC2	GERESS Array S	87.78	329	eP	P	15 37 59.9	+1.3
	comp=Z,176nm,2.6s,baz=41,slow=4.9						
GERES	GERESS Array B	87.78	329	P	P	15 37 57.1	-1.5
	comp=Z,2.9nm,0.6s,baz=40,slow=6.9,SNR=6.1						
GERES	GERESS Array B	87.78	329	P	P	15 37 57.4	-1.1
NRS	Narsarsuaq	87.81	3	IAMs_20	IAMs_20	16 18 03.6	
	comp=Z,3µm,21.0s						
EYMN	Ely	87.94	33	IAMs_20	IAMs_20	16 20 00.9	
	comp=Z,2µm,19.0s						
DIVS	Divibare	88.10	322	IAMs_20	IAMs_20	16 19 49.6	
	comp=Z,3µm,20.0s						
ARSA	Arzberg	88.11	327	eP	P	15 38 00.8	+0.7
	comp=Z,19nm,1.3s						
T25A	Trinidad	88.17	47	IAMs_20	IAMs_20	16 14 28.8	
	comp=Z,4µm,20.0s						
GRF	Grafenberg Arr	88.23	330	eP	P	15 38 01.9	+1.3
	comp=Z,82nm,1.5s,baz=41,slow=4.9						
GRF				ePP	PP	15 41 28.9	+1.8
	baz=34,slow=7.4						
GRF				eL	L	16 21 31.9	
	comp=Z,4µm,18.9s						
MOA	Molln	88.26	328	eP	P	15 38 02.1	+1.4
	comp=Z,8.0nm,0.8s						
KOGS	Kog	88.34	326	i P	P	15 38 01.7	+0.6
KOGS				ePP	PP	15 41 31.1	+3.0
KOGS				eSKSac	S	15 48 39.6	-5.0
KOGS				eSP	SPn	15 49 43.1	-2.1
Y22D	IRIS PASSCAL I	88.42	51	IAMs_20	IAMs_20	16 14 00.1	
	comp=Z,3µm,20.0s						
F36A	Milaca	88.47	35	IAMs_20	IAMs_20	16 20 05.2	
	comp=Z,2µm,20.0s						
HSIG		88.61	57	IAMs_20	IAMs_20	16 13 21.6	
	comp=Z,3µm,20.0s						
EKA	Eskdalemuir Ar	88.70	341	P	P	15 38 01.2	-1.5
	comp=Z,2.6nm,0.7s,baz=186,slow=34,SNR=2.0						
ESK	Eskdalemuir	88.73	341	IAMs_20	IAMs_20	16 21 26.5	
	comp=Z,3µm,19.0s						
SOKA	Soboth	88.76	326	i P	P	15 38 03.5	+0.3
	SNR=4.8						
RJOB	Jochberg	89.01	328	eP	P	15 38 06.3	+1.9
	comp=Z,119nm,1.0s,baz=41,slow=4.9						
OBKA	Obir	89.11	327	eP	P	15 38 03.8	-1.1
	comp=Z,10nm,0.8s						
KBA	Koelnbreinsper	89.25	328	eP	P	15 38 06.4	+0.7
	comp=Z,9.2nm,0.8s						
AHRW	Bad Neuenahr-A	89.26	333	eP	P	15 38 04.5	-0.9
	comp=Z,56nm,1.6s,baz=41,slow=4.9						
MYKA	Terra Mystica	89.45	327	eP	P	15 38 06.9	+0.5
	comp=Z,17nm,1.0s						
LJU	Ljubljana	89.46	326	i P	P	15 38 05.3	-1.1
LJU				ePP	PP	15 41 39.2	+2.1
BTNL	Ternell	89.59	333	dP	P	15 38 07.3	+0.4
BTNL				dx	x	15 38 27.8	
BEBN	Eben Emael	89.59	334	dP	P	15 38 06.0	-0.9
BEBN				dx	x	15 38 17.4	
BEBN				dx	x	15 38 27.0	
MEM	Membach	89.62	334	dP	P	15 38 06.2	-0.8
MEM				dx	x	15 38 16.8	
MEM				dx	x	15 38 24.2	
PDG	Podgorica	89.63	321	⇑P	P	15 38 05.2	-2.0
PDG	Podgorica	89.63	321	P	P	15 38 05.5	-1.7
PDG				IAmb	IAmb	15 38 14.4	
	comp=Z,32nm,1.0s						
PDG				IAMs_20	IAMs_20	16 20 12.2	
	comp=Z,4µm,20.0s						
CEY	Cerknica	89.73	326	i P	P	15 38 06.2	-1.5
STU	Stuttgart	89.79	331	eP	P	15 38 09.6	+1.7
	comp=Z,90nm,1.6s,baz=41,slow=4.9						
BHOU	Houvegnez	89.82	333	dP	P	15 38 09.4	+1.4
BHOU				dx	x	15 38 17.8	
BHOU				dx	x	15 38 28.2	
WATA	Walderalm	89.86	329	eP	P	15 38 09.1	+0.7
	comp=Z,11nm,0.7s						
ABTA	Abfaltersbach	89.88	328	eP	P	15 38 08.7	+0.2
	comp=Z,17nm,0.9s						
WTTA	Wattenberg	89.89	329	eP	P	15 38 09.4	+0.8
	comp=Z,26nm,1.2s						
N33A	J Bar K, Exete	89.97	41	IAMs_20	IAMs_20	16 21 50.1	
	comp=Z,2µm,18.0s						
BCLA	Clavier	90.04	334	dP	P	15 38 10.1	+1.1
SANT	Santorini	90.06	314	IAMs_20	IAMs_20	16 26 40.2	
	comp=Z,3µm,18.0s						
MOTA	Moosalm	90.06	329	eP	P	15 38 10.5	+1.1
	comp=Z,18nm,1.2s						
TRI	Trieste	90.07	326	IAMs_20	IAMs_20	16 22 42.6	
	comp=Z,3µm,20.0s						
EPT	El Paso	90.09	52	IAMs_20	IAMs_20	16 18 55.0	
	comp=Z,2µm,19.0s						
RETA	Reutte	90.11	329	eP	P	15 38 09.4	-0.1
	comp=Z,20nm,1.1s						
SQTA	Sankt Quirin	90.11	329	eP	P	15 38 09.6	0.0
	comp=Z,27nm,1.1s						
BGES	Gesves	90.15	334	dP	P	15 38 15.8	+6.3
BGES				dx	x	15 38 19.9	
AGG	Agios Georgios	90.22	317	IAMs_20	IAMs_20	16 25 11.0	
	comp=Z,2µm,18.0s						
WLF	Walferdange	90.32	333	dP	P	15 38 10.5	+0.2
WLF				dx	x	15 38 31.7	
BMRD	Maredsous	90.33	334	dP	P	15 38 12.2	+1.8
BMRD				dx	x	15 38 20.8	
SNF	Seneffe	90.35	334	dP	P	15 38 09.2	-1.2
SNF				dx	x	15 38 30.1	
FETA	Feichten	90.48	329	eP	P	15 38 12.4	+1.1
	comp=Z,30nm,1.0s,SNR=5.1						
BFO	Black Forest	90.50	331	P	P	15 38 10.9	-0.3
BFO				pmax	pmax		
	comp=Z,31nm,1.1s						
BFO				MLR	MLR		
	comp=Z,3µm,18.0s						
BFO	Black Forest	90.50	331	P	P	15 38 10.9	-0.3
BFO				IAmb	IAmb	15 38 21.4	
	comp=Z,31nm,1.1s						
BFO				IAMs_20	IAMs_20	16 25 40.7	
	comp=Z,3µm,18.0s						
BFO	Black Forest	90.50	331	eP	P	15 38 11.2	0.0
	comp=Z,95nm,1.6s,baz=41,slow=4.9						
G40A	Rib Lake	90.51	34	IAMs_20	IAMs_20	16 20 10.0	
	comp=Z,2µm,20.0s						
DOU	Dourbes	90.57	334	dP	P	15 38 10.5	-1.0
DOU				dx	x	15 38 21.4	
DOU				dx	x	15 38 31.7	
DAVA	Damuels	90.64	329	eP	P	15 38 11.3	-0.8
	comp=Z,48nm,1.1s						
SCHQ	Schefferville	90.89	16	P	P	15 38 10.1	-2.9
	comp=Z,4.1nm,0.8s,baz=124,slow=16,SNR=1.6						
SCHQ	Schefferville	90.89	16	IAmb	IAmb	15 38 28.3	
	comp=Z,34nm,1.4s						
MNTX	Cornudas Mount	90.89	52	IAMs_20	IAMs_20	16 16 02.6	
	comp=Z,2µm,19.0s						
DAVOX	Davos/Dischmat	91.03	329	P	P	15 38 13.2	-0.8
	comp=Z,25nm,0.9s,baz=43,slow=7.8,SNR=7.2						
IDI	Anoyia	91.11	313	P	P	15 38 12.8	-1.6
	comp=Z,7.8nm,0.7s,baz=11,slow=9.7,SNR=2.3						
K38A	Parkersburg	91.15	37	IAMs_20	IAMs_20	16 21 20.1	
	comp=Z,3µm,20.0s						
SCIA	State Center	91.45	38	IAMs_20	IAMs_20	16 19 23.0	
	comp=Z,2µm,20.0s						
KSU1	Kansas State U	91.55	41	IAMs_20	IAMs_20	16 19 55.2	
	comp=Z,2µm,19.0s						
KSU1	Kansas State U	91.55	41	P	P	15 38 16.6	+0.3
	baz=313						
ITM	Ithomi	91.68	316	IAMs_20	IAMs_20	16 25 57.8	
	comp=Z,2µm,18.0s						
OK032	Salt Plains WL	92.18	44	IAMs_20	IAMs_20	16 18 05.9	
	comp=Z,2µm,19.0s						
JFWS	Jewell Farm	92.23	35	IAMs_20	IAMs_20	16 22 14.5	
	comp=Z,2µm,18.0s						
INTR	Introdacqua	92.72	324	P	P	15 38 21.5	-0.2
INTR				IAmb	IAmb	15 38 38.8	
	comp=Z,30nm,1.0s						
WMOK	Wichita Mounta	93.21	46	IAMs_20	IAMs_20	16 18 04.4	
	comp=Z,3µm,20.0s						
WMOK	Wichita Mounta	93.21	46	P	P	15 38 24.4	+0.4
	baz=312						
TIP	Timpagrande	93.26	320	⇓P	P	15 38 24.7	+0.5
I45A	Fountain	93.30	32	IAMs_20	IAMs_20	16 23 16.6	
	comp=Z,2µm,20.0s						
TXAR	Lajitas Array	93.52	53	P	P	15 38 26.2	+0.5
	comp=Z,20nm,0.7s,baz=302,slow=3.0,SNR=6.7						
L44A	Lake County Fo	93.92	35	IAMs_20	IAMs_20	16 27 39.4	
	comp=Z,2µm,20.0s						
HQIL	Hanson Quary C	94.24	35	IAMs_20	IAMs_20	16 27 41.1	
	comp=Z,2µm,19.0s						
S39A	Bolivar	94.39	41	IAMs_20	IAMs_20	16 19 19.1	
	comp=Z,2µm,19.0s						
HDIL	Hopedale	94.45	36	IAMs_20	IAMs_20	16 23 29.5	
	comp=Z,2µm,19.0s						
SSB	Saint Sauveur	94.50	331	P	P	15 38 29.0	-0.8
SSB				pmax	pmax		
	comp=Z,23nm,1.1s						
SSB				MLR	MLR		
	comp=Z,4µm,19.0s						
SSB	Saint Sauveur	94.50	331		P	15 38 29.0	-0.8
SSB				IAmb	IAmb	15 38 39.9	
	comp=Z,23nm,1.1s						
U38A	Gravette	94.66	42	IAMs_20	IAMs_20	16 24 44.6	
	comp=Z,2µm,18.0s						
CCM	Cathedral Cave	95.27	39	IAMs_20	IAMs_20	16 29 30.7	
	comp=Z,2µm,18.0s						
X37A	Clayton	95.37	44	IAMs_20	IAMs_20	16 27 22.5	
	comp=Z,2µm,18.0s						
U40A	Yellville	95.60	41	IAMs_20	IAMs_20	16 25 50.2	
	comp=Z,2µm,18.0s						
SADO	Sadowa	95.77	28	LR	LR	16 25 46.0	
	comp=Z,939nm,20.2s,baz=358,slow=38						
Q44A	Meyer Farm, Va	95.83	37	IAMs_20	IAMs_20	16 24 12.9	
	comp=Z,2µm,19.0s						
AAM	Ann Arbor	95.83	32	IAMs_20	IAMs_20	16 23 16.6	
	comp=Z,2µm,20.0s						
W39A	Magazine	95.88	43	IAMs_20	IAMs_20	16 18 25.0	
	comp=Z,2µm,21.0s						
CLTB	Caltabellotta	96.34	321	IAMs_20	IAMs_20	16 27 50.7	
	comp=Z,3µm,18.0s						
FCAR	Ozark Folk Cen	96.34	41	IAMs_20	IAMs_20	16 26 38.0	
	comp=Z,2µm,19.0s						
FURI	Furi	96.37	284	IAMs_20	IAMs_20	16 28 19.9	
	comp=Z,3µm,19.0s						
OLIL	Olney	96.43	37	IAMs_20	IAMs_20	16 24 41.8	
	comp=Z,2µm,19.0s						
DELO	Deloro Mine	96.58	27	IAMs_20	IAMs_20	16 30 12.9	
	comp=Z,2µm,18.0s						
S44A	Carbondale	96.60	38	IAMs_20	IAMs_20	16 23 31.5	
	comp=Z,2µm,19.0s						
SIUC	Southern Illin	96.60	38	IAMs_20	IAMs_20	16 23 31.4	
	comp=Z,2µm,20.0s						
WHAR	Wooly Hollow	96.68	42	IAMs_20	IAMs_20	16 20 36.9	
	comp=Z,2µm,20.0s						
LCAR	Lake Charles	96.76	41	IAMs_20	IAMs_20	16 20 56.9	
	comp=Z,2µm,19.0s						
X40A	Basin Creek Fa	96.94	43	IAMs_20	IAMs_20	16 28 30.8	
	comp=Z,3µm,18.0s						
PENMO	Penman	97.32	39	IAMs_20	IAMs_20	16 21 49.6	
	comp=Z,2µm,18.0s						
GNAR	Gosnell	97.46	40	IAMs_20	IAMs_20	16 23 09.5	
	comp=Z,2µm,20.0s						
P49A	Miami Univ. Ec	97.50	34	IAMs_20	IAMs_20	16 19 16.7	
	comp=Z,2µm,21.0s						
E62A	Clayton Lake	97.59	21	IAMs_20	IAMs_20	16 25 33.6	
	comp=Z,2µm,20.0s						
ERPA	Erie	97.60	30	IAMs_20	IAMs_20	16 19 34.7	
	comp=Z,2µm,20.0s						
GLAT	Glass	97.64	39	IAMs_20	IAMs_20	16 26 16.0	
	comp=Z,2µm,20.0s						
LONY	Lake Ozonia	97.64	25	IAMs_20	IAMs_20	16 27 40.2	
	comp=Z,2µm,20.0s						
WCI	Wyandotte Cave	97.73	36	IAMs_20	IAMs_20	16 25 29.3	
	comp=Z,2µm,19.0s						
NATX	Nacogdoches	97.76	46	IAMs_20	IAMs_20	16 25 51.8	
	comp=Z,3µm,19.0s						
ACSO	Alum Creek Sta	97.78	33	IAMs_20	IAMs_20	16 29 03.2	
	comp=Z,2µm,19.0s						
M53A	WI Miller and	97.85	31	IAMs_20	IAMs_20	16 31 05.3	
	comp=Z,2µm,19.0s						
HALT	Halls	97.87	40	IAMs_20	IAMs_20	16 25 21.3	
	comp=Z,2µm,20.0s						
CCAR	Cane Creek	97.96	42	IAMs_20	IAMs_20	16 24 05.8	
	comp=Z,3µm,19.0s						
PQI	Presque Isle	98.00	20	IAMs_20	IAMs_20	16 22 26.5	
	comp=Z,2µm,20.0s						
E63A	Oxbow	98.10	20	IAMs_20	IAMs_20	16 29 26.8	
	comp=Z,3µm,18.0s						
M54A	Oil Creek Stat	98.23	30	IAMs_20	IAMs_20	16 31 16.4	
	comp=Z,2µm,19.0s						
N53A	Lisbon	98.29	31	IAMs_20	IAMs_20	16 30 44.7	
	comp=Z,2µm,18.0s						
G62A	West of Eustis	98.52	22	IAMs_20	IAMs_20	16 25 07.2	
	comp=Z,2µm,20.0s						
WVT	Waverly	98.53	38	IAMs_20	IAMs_20	16 21 39.5	
	comp=Z,2µm,19.0s						
F63A	Nahmakanta, Br	98.54	21	IAMs_20	IAMs_20	16 29 55.7	
	comp=Z,3µm,19.0s						
N54A	Moraine State	98.54	31	IAMs_20	IAMs_20	16 27 17.8	
	comp=Z,2µm,19.0s						
VT1	Waterbury	98.55	24	IAMs_20	IAMs_20	16 29 26.4	
	comp=Z,3µm,18.0s						
Q51A	Peebles	98.56	34	IAMs_20	IAMs_20	16 28 51.0	
	comp=Z,2µm,19.0s						
O53A	New Philadelph	98.58	32	IAMs_20	IAMs_20	16 30 31.8	
	comp=Z,2µm,20.0s						
F64A	Sherman	98.63	21	IAMs_20	IAMs_20	16 27 48.3	
	comp=Z,2µm,20.0s						
P52A	Corning	98.65	33	IAMs_20	IAMs_20	16 30 24.9	
	comp=Z,2µm,19.0s						
OXF	Oxford	98.87	41	IAMs_20	IAMs_20	16 31 19.4	
	comp=Z,2µm,18.0s						
PKME	Peaks-Kenny Pk	98.88	22	IAMs_20	IAMs_20	16 29 19.6	
	comp=Z,2µm,19.0s						
LBNH	Lisbon	98.91	24	IAMs_20	IAMs_20	16 28 02.8	
	comp=Z,2µm,20.0s						
BINY	Binghamton	99.17	27	IAMs_20	IAMs_20	16 29 53.0	
	comp=Z,2µm,19.0s						
PLAL	Pickwick Lake	99.25	39	IAMs_20	IAMs_20	16 26 26.8	
	comp=Z,2µm,18.0s						
HNH	Hanover	99.26	24	IAMs_20	IAMs_20	16 29 37.2	
	comp=Z,3µm,19.0s						
U49A	Red Boiling Sp	99.31	37	IAMs_20	IAMs_20	16 26 31.1	
	comp=Z,2µm,18.0s						
WVL	Waterville	99.38	22	IAMs_20	IAMs_20	16 26 47.3	
	comp=Z,2µm,20.0s						
I62A	Tamworth	99.44	24	IAMs_20	IAMs_20	16 28 26.9	
	comp=Z,2µm,19.0s						
G65A	Princeton	99.46	20	IAMs_20	IAMs_20	16 22 58.1	
	comp=Z,2µm,19.0s						
I63A	Otisfield	99.54	23	IAMs_20	IAMs_20	16 29 34.2	
	comp=Z,2µm,20.0s						
TRY	Troy	99.61	26	IAMs_20	IAMs_20	16 30 38.2	
	comp=Z,2µm,18.0s						
MCWV	Mont Chateau	99.67	31	IAMs_20	IAMs_20	16 32 02.1	
	comp=Z,2µm,19.0s						
FFD	Franklin Falls	99.68	24	IAMs_20	IAMs_20	16 29 29.4	
	comp=Z,3µm,20.0s						
SSPA	Standing Stone	99.71	29	IAMs_20	IAMs_20	16 20 51.6	
	comp=Z,2µm,21.0s						
O56A	Blue Knob Stat	99.73	30	IAMs_20	IAMs_20	16 33 11.9	
	comp=Z,2µm,18.0s						
KEST	Kesra	99.78	322	P	Pdif	15 38 52.0	-1.8
	comp=Z,5.4nm,0.9s,baz=199,slow=6.4,SNR=4.7						
EMMW	East Machias	99.94	21	IAMs_20	IAMs_20	16 28 35.0	
	comp=Z,2µm,18.0s						
K62A	Royalston	100.18	25	IAMs_20	IAMs_20	16 30 08.7	
	comp=Z,2µm,18.0s						
N59A	State Game Lan	100.35	28	IAMs_20	IAMs_20	16 31 52.3	
	comp=Z,3µm,19.0s						
K63A	Dunstable	100.41	24	IAMs_20	IAMs_20	16 30 02.8	
	comp=Z,2µm,19.0s						
TZTN	Tazewell	100.42	36	IAMs_20	IAMs_20	16 33 39.7	
	comp=Z,2µm,19.0s						
QUA2	Belchertown	100.48	25	IAMs_20	IAMs_20	16 30 28.3	
	comp=Z,3µm,19.0s						
HRV	Adam Dziewonsk	100.56	24	IAMs_20	IAMs_20	16 28 32.8	
	comp=Z,3µm,19.0s						
WES	Weston	100.75	24	IAMs_20	IAMs_20	16 30 31.5	
	comp=Z,3µm,20.0s						
PAL	Palisades	101.00	27	IAMs_20	IAMs_20	16 28 48.3	
	comp=Z,2µm,20.0s						
WSPT	Westport, CT	101.08	26	IAMs_20	IAMs_20	16 28 16.6	
	comp=Z,2µm,20.0s						
BRYW	Bryant College	101.09	25	IAMs_20	IAMs_20	16 30 54.7	
	comp=Z,3µm,19.0s						
YLE	Yale	101.10	26	IAMs_20	IAMs_20	16 29 37.2	
	comp=Z,2µm,21.0s						
L63A	North Scituate	101.11	25	IAMs_20	IAMs_20	16 30 47.2	
	comp=Z,3µm,19.0s						
P60A	Greenville	101.34	28	IAMs_20	IAMs_20	16 32 06.6	
	comp=Z,3µm,19.0s						
BLA	Blacksburg	101.40	33	IAMs_20	IAMs_20	16 32 36.9	
	comp=Z,3µm,20.0s						
M64A	Tiverton	101.53	25	IAMs_20	IAMs_20	16 30 57.0	
	comp=Z,3µm,19.0s						
M65A	Busby, Falmout	101.72	24	IAMs_20	IAMs_20	16 30 58.3	
	comp=Z,3µm,19.0s						
PBRG	Braganca	101.74	336	ePdif	Pdif	15 39 07.8	+5.3
PBRG	Braganca	101.74	336	ePP	PP	15 43 17.8	+5.7
UCM	Universidad Co	101.78	333	Pdif	Pdif	15 39 03.1	+0.5
UCM	Universidad Co	101.78	333	PP	PP	15 43 16.1	+3.7
CBN	Corbin Frederi	101.95	30	IAMs_20	IAMs_20	16 30 52.9	
	comp=Z,2µm,19.0s						
Z51A	Franklin	102.08	39	IAMs_20	IAMs_20	16 27 00.6	
	comp=Z,2µm,20.0s						
PGAV	Gavieira, Arco	102.11	338	ePdif	Pdif	15 39 07.2	+3.0
PGAV	Gavieira, Arco	102.11	338	ePP	PP	15 43 17.9	+3.0
PGAV				eSKSac	SKSac	15 49 46.3	+4.1
PGAV	Gavieira, Arco	102.11	338	eLR	LR	16 19 30.8	
	comp=Z,3µm,20.0s						
MVO	Moncorvo	102.41	336	ePdif	Pdif	15 39 11.1	+5.6
MVO	Moncorvo	102.41	336	ePP	PP	15 43 22.4	+5.3
MVO				eSKSac	SKSac	15 49 48.0	+4.5
MVO				eSdif	Sdif	15 50 48.4	+0.5
MVO	Moncorvo	102.41	336	eLR	LR	16 20 07.1	
	comp=Z,3µm,18.0s						
POLO	Lamas de Olo	102.48	337	ePdif	Pdif	15 39 07.1	+1.3
POLO	Lamas de Olo	102.48	337	ePP	PP	15 43 20.7	+3.0
POLO				eSKSac	SKSac	15 49 47.6	+3.7
POLO				eSdif	Sdif	15 50 48.1	-0.5
250A	Grady	102.50	40	IAMs_20	IAMs_20	16 26 24.0	
	comp=Z,2µm,20.0s						
ES19	SONSECA Array	102.56	333	IAMs_20	IAMs_20	16 33 47.4	
	comp=Z,3µm,20.0s						
BRAL	Brewton	102.67	41	IAMs_20	IAMs_20	16 31 57.6	
	comp=Z,2µm,18.0s						
KMBO	Kilima Mbogo	102.90	277	Pdiff	Pdif	15 39 09.0	+0.7
	comp=Z,1.3nm,0.6s,baz=44,slow=15,SNR=2.1						
CART	Cartagena	103.20	330	Pdif	Pdif	15 39 06.4	-2.5
CART	Cartagena	103.20	330	PP	PP	15 43 25.8	+2.8
ABPO	Ambohimpanom	103.27	256	IAMs_20	IAMs_20	16 27 56.1	
	comp=Z,2µm,19.0s						
MTE	Manteigas	103.27	336	ePdif	Pdif	15 39 11.9	+2.6
MTE	Manteigas	103.27	336	ePP	PP	15 43 29.3	+5.7
MTE				eSKSac	SKSac	15 49 51.9	+4.3
MTE				eSdif	Sdif	15 50 55.5	+0.4
MTE	Manteigas	103.27	336	eLR	LR	16 20 16.2	
	comp=Z,3µm,18.0s						
PCAS	Casmilo, Conde	103.90	337	ePdif	Pdif	15 39 16.1	+4.0
PCAS	Casmilo, Conde	103.90	337	ePP	PP	15 43 34.9	+6.7
PCAS				eSKSac	SKSac	15 49 52.5	+2.1
PMRV	Marv??o	104.08	336	esPdif	Pdif	15 39 18.4	+5.5
PMRV	Marv??o	104.08	336	ePP	PP	15 43 33.6	+4.0
PMRV				eSKSac	SKSac	15 49 55.8	+4.5
PMRV	Marv??o	104.08	336	eLR	LR	16 20 43.4	
	comp=Z,3µm,18.0s						
CNNC	Cliffs of the	104.18	33	IAMs_20	IAMs_20	16 35 22.6	
	comp=Z,2µm,19.0s						
PSBE	So Bento	104.49	337	ePdif	Pdif	15 39 19.9	+5.2
PSBE	So Bento	104.49	337	ePP	PP	15 43 36.0	+3.4
PSBE				eSKSac	SKSac	15 49 57.1	+4.0
PSBE				eSdif	Sdif	15 51 08.4	+3.1
PESTR	Estremoz	104.65	336	ePdif	Pdif	15 39 21.1	+5.7
PESTR	Estremoz	104.65	336	ePP	PP	15 43 37.9	+4.1
PESTR				eSKSac	SKSac	15 49 56.6	+2.7
PESTR				eSdif	Sdif	15 51 09.5	+2.9
PESTR	Estremoz	104.65	336	IAMs_20	IAMs_20	16 30 17.1	
	comp=Z,2µm,20.0s						
PMTG	Montargil	104.69	336	ePdif	Pdif	15 39 13.8	-1.8
PMTG	Montargil	104.69	336	ePP	PP	15 43 37.3	+3.2
PMTG				eSKSac	SKSac	15 49 58.1	+4.1
NHSC	New Hope	104.82	35	IAMs_20	IAMs_20	16 34 21.9	
	comp=Z,2µm,20.0s						
VOI	Vohitsoka	104.99	253	IAMs_20	IAMs_20	16 24 27.4	
	comp=Z,2µm,21.0s						
PBAR	Barrancos	105.07	335	ePdif	Pdif	15 39 22.0	+4.8
PBAR	Barrancos	105.07	335	ePP	PP	15 43 39.6	+2.7
PBAR				eSKSac	SKSac	15 50 02.9	+7.2
PMAFR	Mafra	105.16	337	epPdif	Pdif	15 39 19.3	+1.7
PMAFR	Mafra	105.16	337	ePP	PP	15 43 45.4	+7.9
PMAFR				eSKSac	SKSac	15 50 00.2	+4.1
EMAL	Malaga-Limoner	105.31	332	Pdif	Pdif	15 39 18.1	-0.2
EMAL	Malaga-Limoner	105.31	332	PP	PP	15 43 39.5	+0.7
LIS	Lisbon	105.33	337	ePP	PP	15 43 40.1	+1.3
PNCL	Nicolau / Gran	105.66	336	ePdif	Pdif	15 39 19.9	+0.1
PNCL	Nicolau / Gran	105.66	336	ePP	PP	15 43 46.7	+5.5
PNCL				eSKSac	SKSac	15 50 01.9	+3.6
PNCL	Nicolau / Gran	105.66	336	ePP	PKiKP	15 43 45.5	+13
MESJ	Messejana	105.79	336	ePdif	Pdif	15 39 20.9	+0.4
MESJ				ePP	PP	15 43 43.5	+1.2
MESJ	Messejana	105.79	336	ePP	PP	15 43 48.5	+6.3
ARNO	Arenosillo	105.91	334	Pdif	Pdif	15 39 19.9	-1.1
ARNO	Arenosillo	105.91	334	PP	PP	15 43 46.3	+3.2
PCVE	Castro Verde	105.91	335	ePdif	Pdif	15 39 26.3	+5.3
PCVE	Castro Verde	105.91	335	ePP	PP	15 43 46.2	+3.1
MELI	Melilla	105.96	330	Pdif	Pdif	15 39 16.0	-5.3
MELI	Melilla	105.96	330	PP	PP	15 43 45.1	+1.5
PVAQ	Vaqueiros	106.00	335	ePdif	Pdif	15 39 26.3	+4.9
PVAQ	Vaqueiros	106.00	335	ePP	PP	15 43 41.9	-1.9
PVAQ				eSKSac	SKSac	15 50 04.6	+4.7
PVAQ				eSdif	Sdif	15 51 20.8	+3.0
PVAQ	Vaqueiros	106.00	335	eLR	LR	16 22 14.0	
	comp=Z,3µm,18.0s						
PBDV	Barranco-do-Ve	106.22	335	ePdif	Pdif	15 39 25.6	+3.2
PBDV	Barranco-do-Ve	106.22	335	ePP	PP	15 43 51.2	+5.7
PBDV				eSKSac	SKSac	15 50 07.4	+6.4
PBDV	Barranco-do-Ve	106.22	335	ePP	PKiKP	15 43 45.6	+12
SFS	San Fernando	106.26	333	PP	PP	15 43 49.0	+3.2
MORF	Marmelete	106.42	336	ePdif	Pdif	15 39 23.6	+0.3
MORF				ePP	PP	15 43 48.0	+1.1
MORF	Marmelete	106.42	336	ePP	PP	15 43 52.0	+5.1
MORF				eSKSac	SKSac	15 50 07.0	+5.1
MORF	Marmelete	106.42	336	ePP	PKiKP	15 43 51.1	+17
CEU	Ceuta	106.44	333	Pdif	Pdif	15 39 19.3	-4.1
CEU	Ceuta	106.44	333	PP	PP	15 43 48.9	+1.8
PVLZ	Peæn de	106.64	331	PP	PP	15 43 45.7	-2.8
PFVI	Vila Bisbo	106.64	336	ePP	PP	15 43 53.8	+5.3
MBAR	Mbarara	108.14	281	IAMs_20	IAMs_20	16 31 12.0	
	comp=Z,3µm,21.0s						
DWPF	Disney Wildern	108.14	39	IAMs_20	IAMs_20	16 31 42.2	
	comp=Z,3µm,20.0s						
IFR	Ifrane	108.41	331	Pdif	Pdif	15 39 37.0	+4.6
IFR	Ifrane	108.41	331	PP	PP	15 44 02.1	+0.3
AVE	Averroes	109.52	333	Pdif	Pdif	15 39 37.2	+0.1
AVE	Averroes	109.52	333	PP	PP	15 44 13.2	+3.6
SBA	Scott Base	109.83	175	IAMs_20	IAMs_20	16 30 15.6	
	comp=Z,1µm,18.0s						
PMOZ	Porto Moniz, M	113.27	341	ePP	PP	15 44 41.0	+4.5
PMOZ	Porto Moniz, M	113.27	341	eLR	LR	16 27 49.5	
	comp=Z,2µm,20.0s						
SNET	Serv Nac Est T	113.85	56	IAMs_20	IAMs_20	16 29 06.8	
	comp=Z,2µm,20.0s						
TGUH	Tegucigalpa,Un	114.97	54	IAMs_20	IAMs_20	16 29 15.5	

	comp=Z,2µm,20.0s						
MTDJ	Mount Denham	118.11	43	IAMs_20	IAMs_20	16 39 46.6	
	comp=Z,2µm,20.0s						
GTBY	Guantanamo Bay	118.12	40	IAMs_20	IAMs_20	16 38 34.7	
	comp=Z,2µm,19.0s						
GRTK	Grand Turk	118.89	35	IAMs_20	IAMs_20	16 42 41.3	
	comp=Z,2µm,20.0s						
JTS	Las Juntas de	119.21	55	IAMs_20	IAMs_20	16 31 06.7	
	comp=Z,1µm,21.0s						
CAO2	Cobano, Puntar	119.52	56	IAMs_20	IAMs_20	16 46 21.1	
	comp=Z,2µm,18.0s						
PEZE	Perez Zeledon,	120.73	55	IAMs_20	IAMs_20	16 31 25.5	
	comp=Z,1µm,20.0s						
TORD	Torodi Ar. Bea	121.51	313	PKP	PKPdf	15 44 03.3	-0.2
	comp=Z,4.7nm,0.7s,baz=21,slow=1.8,SNR=3.5						
TORD				PKKPbc	PKKPab	15 54 04.5	-1.5
	comp=Z,2.0nm,1.0s,baz=222,slow=4.7,SNR=3.3						
CDITO	Canoas	121.87	55	IAMs_20	IAMs_20	16 47 32.2	
	comp=Z,1µm,18.0s						
SDD	Santo Domingo	122.07	36	IAMs_20	IAMs_20	16 35 21.6	
	comp=Z,2µm,20.0s						
PAYG	Puerto Ayora	122.30	69	IAMs_20	IAMs_20	16 33 27.1	
	comp=Z,2µm,20.0s						
BCIP	Isla Barro Col	123.53	52	IAMs_20	IAMs_20	16 40 42.1	
	comp=Z,2µm,21.0s						
KOWA	Kowa	123.87	319	PKP	PKPdf	15 44 07.8	-0.3
	comp=Z,5.2nm,0.5s,baz=232,slow=0.7,SNR=3.6						
KOWA	Kowa	123.87	319	P	Pdif	15 40 34.9	-6.4
LBTB	Lobatse	123.94	259	PKP	PKiKP	15 44 08.4	+0.1
	comp=Z,4.9nm,0.9s,baz=175,slow=3.6,SNR=2.0						
SJG	San Juan	124.18	32	IAMs_20	IAMs_20	16 46 11.9	
	comp=Z,1µm,19.0s						
SEUS	St. Eustatius	126.12	30	IAMs_20	IAMs_20	16 46 35.0	
	comp=Z,1µm,19.0s						
ANWB	Willy Bob	126.46	28	IAMs_20	IAMs_20	16 36 18.6	
	comp=Z,1µm,22.0s						
HATO	Hato, Curacao	127.82	39	IAMs_20	IAMs_20	16 38 49.1	
	comp=Z,1µm,21.0s						
SVN	Savane Anatole	129.25	29	IAMs_20	IAMs_20	16 42 31.0	
	comp=Z,2µm,21.0s						
FDF	Fort de France	129.36	29	IAMs_20	IAMs_20	16 42 34.8	
	comp=Z,1µm,20.0s						
SDV	Santo Domingo	129.56	43	IAMs_20	IAMs_20	16 50 03.7	
	comp=Z,2µm,20.0s						
DBIC	Dimbokro	130.58	314	PKP	PKiKP	15 44 21.4	-0.4
	comp=Z,9.0nm,0.8s,baz=135,slow=0.7,SNR=5.3						
OTAV	Otavalo	130.80	58	IAMs_20	IAMs_20	16 39 35.3	
	comp=Z,1µm,19.0s						
BBGH	Gun Hill	131.44	28	IAMs_20	IAMs_20	16 43 24.7	
	comp=Z,2µm,20.0s						
GRGR	Grenville	131.46	31	IAMs_20	IAMs_20	16 42 20.5	
	comp=Z,1µm,22.0s						
SNAA	Sanae	135.20	195	PKPdf	PKiKP	15 44 29.3	-0.2
SNAA	Sanae	135.20	195	PKP	PKPdf	15 44 28.2	+0.2
	comp=Z,3.4nm,0.9s,baz=279,slow=1.7,SNR=2.9						
SNAA	Sanae	135.20	195	IAMs_20	IAMs_20	16 44 39.1	
	comp=Z,2µm,19.0s						
VNA2	Neumayer--Watz	136.74	194	PKPdf	PKiKP	15 44 33.1	+0.6
VNA3	Neumayer Olymp	136.95	193	PKPdf	PKiKP	15 44 32.1	-0.8
VNA1	Neumayer--Stat	137.14	194	PKPdf	PKPdf	15 44 31.6	+0.2
NNA	Nana	139.70	70	IAMs_20	IAMs_20	16 44 27.6	
	comp=Z,2µm,19.0s						
PTGA	Pitinga	143.44	38	IAMs_20	IAMs_20	16 51 38.3	
	comp=Z,1µm,20.0s						
GO09	Cerro Castillo	147.92	139	PKPbc	PKiKP	15 44 55.2	-0.8
LPAZ	La Paz	149.09	68	PKPbc	PKiKP	15 45 00.3	+0.1
	comp=Z,36nm,0.9s,baz=8.6,slow=3.5,SNR=8.3						
PSGCX	Pisagua	149.17	76		PKPbc	15 44 59.0	+0.5
PB04	IPOC Station P	150.35	80		PKPbc	15 45 01.3	-0.1
PB10	IPOC Station P	150.47	83		PKPbc	15 45 01.4	-0.1
LL01	San Ignacio de	150.70	122		PKiKP	15 45 02.0	0.0
LL02	Futaleuf	150.94	124		PKiKP	15 45 02.6	+0.1
PB15	IPOC Station P	151.27	82		PKPbc	15 45 03.7	+0.1
GO03	Copiap	152.04	91	PKPdf	PKPdf	15 44 58.2	-0.2
PLCA	Paso Flores	152.38	119	PKPbc	PKPbc	15 45 04.2	-1.3
	comp=Z,12nm,0.8s,baz=226,slow=5.1,SNR=7.6						
VA03	San Esteban	152.69	102		PKPbc	15 45 06.0	-0.4
RCBR	Riachuelo	154.67	354	IAMs_20	IAMs_20	17 05 00.9	
	comp=Z,1µm,19.0s						
CPUP	Villa Florida	162.67	79	PKP	PKPdf	15 45 13.4	+1.7
	comp=Z,14nm,1.1s,baz=207,slow=3.1,SNR=4.1						

MEX 01 15:25:22.1±0.5**, 16°.47N**×**99°.22W, h16**km±7km**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAIG	Los Arroyos	0.68	323	i P	Pg	15 25 33.0	-2.5
DAIG				i S	Sg	15 25 41.7	-2.9
MGIG	Malinaltepec	0.94	37	i P	Pb	15 25 37.2	-3.0
MGIG				i S	Sb	15 25 48.5	-4.0
PNIG	Pinotepa	1.05	94	eP	Pb	15 25 38.5	-3.5
PNIG				eS	Sb	15 25 51.0	-4.5
TLIG	Tlapa	1.25	30	eP	Pn	15 25 41.9	-3.2
TLIG				eS	Sb	15 25 57.4	-4.0
MEIG	Mezcala	1.49	345	eP	Pn	15 25 42.8	-5.6
MEIG				eS	Sn	15 26 04.7	-2.8
HLIG	Huajuapan de L	1.91	45	eP	Pn	15 25 51.2	-3.0
HLIG				eS	Sn	15 26 15.3	-2.8
PLIG	Platanillo	1.93	352	eP	Pn	15 25 50.8	-3.5
PLIG				eS	Sn	15 26 16.3	-2.0
ARIG	Puente Sto Nin	2.09	329	eP	Pn	15 25 54.4	-2.2
ARIG				eS	Sn	15 26 20.1	-2.2

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*MOS **01** 15:28:47.8±1.0, 19°.54S×69°.11W, h76km, mb5.4/44, Error ellipse: s-maj=11.6km s-min=5.2km az=113.1*
*NEIC **01** 15:28:50.1±1.7, 19°.68S±0°.04×69°.08W±0°.05, h86km±3km, Error ellipse: s-maj=7.5km s-min=5.9km az=66.0*
*NEIC **01** 15:28:51.6, 19°.79S×69°.25W, h100km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.60; $M_{\theta\theta}$1.02; $M_{\phi\phi}$-0.42; $M_{r\theta}$-0.06; $M_{\theta\phi}$0.85; $M_{\phi r}$-0.40; Fault plane solution: $M_0$1.30000×10^{17} NP1:ϕ_s284.92000°, δ59.80000°, λ-23.34000°. NP2:ϕ_s27.17000°, δ69.97000°, λ-147.63000°. Principal axes: T 1.4392, Plg7.0000°, Azm154.0000°; N -0.3665, Plg53.0000°, Azm56.0000°; P -1.0728, Plg37.0000°, Azm249.0000°;*
*GUC **01** 15:28:51.9±0.7, 19°.77S×69°.21W, h100km±2km, ML5.7*
*SJA **01** 15:28:51.2±0.6, 19°.78S×69°.28W, h100km±2km, ML5.6, MW5.3*
*VAO **01** 15:28:51.2±0.2, 19°.67S×69°.05W, h90km, mb5.3*
*IDC **01** 15:28:52.1±0.3, 19°.69S×69°.01W, h106km±2km, mb4.7/25, mb1 4.8/29, mb1mx4.7/44, mbtmp5.1/29, MS4.2/6, Ms1 4.1/6, ms1mx3.9/35, Error ellipse: s-maj=10.6km s-min=7.1km az=86.0*
*NEIC **01** 15:28:55, 19°.69S×69°.15W, h90km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.40; $M_{\theta\theta}$1.46; $M_{\phi\phi}$-1.06; $M_{r\theta}$-0.14; $M_{\theta\phi}$0.91; $M_{\phi r}$-0.18; Fault plane solution: $M_0$1.61000×10^{17} NP1:ϕ_s297.00000°, δ81.00000°, λ-1.00000°. NP2:ϕ_s27.00000°, δ88.00000°, λ-171.00000°. Principal axes: T 1.7674, Plg5.0000°, Azm162.0000°; N -0.3987, Plg81.0000°, Azm39.0000°; P -1.3687, Plg8.0000°, Azm253.0000°;*
*GCMT **01** 15:28:59.0±0.2, 19°.73S±0°.01×69°.35W±0°.02, h137km±1km, MW5.4/107, Moment Tensor Solution. s68,c87; s107,c176; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.94±.03; $M_{\theta\theta}$1.38±.04; $M_{\phi\phi}$-0.44±.05; $M_{r\theta}$-0.17±.03; $M_{\theta\phi}$1.19±.04; $M_{\phi r}$-0.39±.04; Best double couple: $M_0$1.64100×10^{17} NP1:ϕ_s282.00000°, δ57.00000°, λ-28.00000°. NP2:ϕ_s28.00000°, δ67.00000°, λ-144.00000°. Principal axes: T 2.0030, Plg6.0000°, Azm153.0000°; N -0.7280, Plg48.0000°, Azm56.0000°; P -1.2790, Plg41.0000°, Azm249.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 15:28:50.7±0.3**, 19°.76S**±0°.03×**69°.26W**±0°.04**, h99**km±2km**, h99**km**:pP-P, n1022, σ1s50**/1071**, mb5.3**/270**, 27C-14D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB11	IPOC Station P	0.37	270	⇓iP	Pn	15 29 06.6	+0.9
PB11				i S	Sn	15 29 18.2	+1.3
PB11				IAML		15 29 19.2	
	comp=E,326µm,0.3s						
PB11	IPOC Station P	0.37	270	Pn	Pn	15 29 05.8	+0.1
PB11				Sn	Sn	15 29 17.4	+0.5
PB11	IPOC Station P	0.37	270	eP	Pn	15 29 06.8	+1.1
PB11				eS	Sn	15 29 18.2	+1.3
PB11				IAML		15 29 22.4	
	comp=Z,112µm,0.5s						
PB08	IPOC Station P	0.39	165	⇓iP	Pn	15 29 07.1	+1.0
PB08				i S	Sn	15 29 19.1	+1.5
PB08				IAML		15 29 20.5	
	comp=N,566µm,0.4s						
PB08	IPOC Station P	0.39	165		Pn	15 29 06.1	-0.1
PB08				Sn	Sn	15 29 18.3	+0.7
PB08	IPOC Station P	0.39	165	eP	Pn	15 29 07.3	+1.1
PB08				eS	Sn	15 29 19.1	+1.5
PB08				IAML		15 29 21.5	
	comp=Z,167µm,0.3s						
HMBC	Humberstone	0.78	229	⇓iP	Pn	15 29 09.7	+0.8
HMBC				i S	Sn	15 29 23.9	+1.3
HMBC				IAML		15 29 26.7	
	comp=N,152µm,0.3s						
PSGC	Pisagua	0.83	281	⇑iP	Pn	15 29 10.4	+1.0
PSGC				i S	Sn	15 29 24.8	+1.4
PSGC				IAML		15 29 29.5	
	comp=E,157µm,0.4s						
PSGCX	Pisagua	0.83	281		Pn	15 29 10.3	+0.9
PSGCX				Sn	Sn	15 29 24.1	+0.8
PSGCX	Pisagua	0.83	281	eP	Pn	15 29 10.5	+1.2
PSGCX				IAML		15 29 28.7	
	comp=Z,79µm,0.6s						
TA02	Huaiquique	0.96	238	⇑iP	Pn	15 29 12.0	+1.4
TA02				i S	Sn	15 29 26.9	+1.3
TA02				IAML		15 29 27.8	
	comp=N,281µm,0.5s						
TA02	Huaiquique	0.96	238		Pn	15 29 11.6	+1.0
TA02	Huaiquique	0.96	238	eP	Pn	15 29 12.0	+1.4
TA02				IAML		15 29 29.0	
	comp=Z,94µm,2.5s						
TA01	Diego Aracena	1.18	227	⇓iP	Pn	15 29 13.8	+0.8
TA01				i S	Sn	15 29 30.7	+0.9
TA01	Diego Aracena	1.18	227	Pn	Pn	15 29 13.7	+0.7
TA01	Diego Aracena	1.18	227	eP	Pn	15 29 14.0	+1.0
TA01				eS	Sn	15 29 31.3	+1.4
TA01				IAML		15 29 37.8	
	comp=Z,40µm,0.7s						
PB01	IPOC Station P	1.29	189	⇑iP	Pn	15 29 15.5	+0.9
PB01				i S	Sn	15 29 33.7	+1.2
PB01	IPOC Station P	1.29	189		Pn	15 29 15.4	+0.9
PB01	IPOC Station P	1.29	189	eS	Sn	15 29 33.9	+1.5
PB01				IAML		15 29 35.2	
	comp=Z,113µm,0.6s						
PB02	IPOC Station P	1.66	201	⇑iP	Pn	15 29 19.8	+0.7
PB02				i S	Sn	15 29 41.6	+1.1
PB02	IPOC Station P	1.66	201	eS	Sn	15 29 40.9	+0.4
PB02				IAML		15 29 48.6	
	comp=Z,118µm,0.3s						
AP01	Chacalluta	1.72	323	⇑iP	Pn	15 29 20.9	+1.2
AP01				i S	Sn	15 29 43.5	+1.9
AP01	Chacalluta	1.72	323		Pn	15 29 20.8	+1.2
AP01	Chacalluta	1.72	323	eS	Sn	15 29 43.6	+2.0
AP01				IAML		15 29 52.0	
	comp=Z,76µm,0.5s						
PB09	IPOC Station P	2.03	179	⇑iP	Pn	15 29 25.0	+1.2
PB09				i S	Sn	15 29 50.1	+1.1
PB09				IAML		15 29 56.0	
	comp=E,36µm,0.3s						
PB09	IPOC Station P	2.03	179		Pn	15 29 24.8	+1.0
PB09	IPOC Station P	2.03	179	eP	Pn	15 29 25.6	+1.8
PB09				eS	Sn	15 29 51.5	+2.5
PB09				IAML		15 29 57.5	
	comp=Z,41µm,0.4s						
PB07	IPOC Station P	2.04	197	⇑iP	Pn	15 29 24.5	+0.5
PB07				eS	Sn	15 29 50.5	+1.1
PB07				i S		15 29 50.9	
PB07				IAML		15 29 56.8	
	comp=E,59µm,0.4s						
PB07	IPOC Station P	2.04	197		Pn	15 29 24.8	+0.9
PB07	IPOC Station P	2.04	197	eP	Pn	15 29 25.2	+1.2
PB07				eS	Sn	15 29 51.4	+2.1
PB07				IAML		15 30 00.9	
	comp=Z,33µm,1.0s						
PB03	IPOC Station P	2.32	191	⇑iP	Pn	15 29 28.1	+0.4
PB03				eS	Sn	15 29 55.3	-0.5
PB03				IAML		15 30 01.9	
	comp=E,32µm,0.2s						
PB03	IPOC Station P	2.32	191	eS	Sn	15 29 55.2	-0.7
PB03				IAML		15 30 04.3	
	comp=Z,38µm,0.3s						
PB04	IPOC Station P	2.69	198	⇑iP	Pn	15 29 32.3	-0.2
PB04				eS	Sn	15 30 07.4	+2.8
PB04				IAML		15 30 16.9	
	comp=E,30µm,0.4s						
PB04	IPOC Station P	2.69	198		Pn	15 29 32.7	+0.2
PB04	IPOC Station P	2.69	198	eS	Sn	15 29 58.7	-5.9
PB04				IAML		15 30 19.9	
	comp=Z,22µm,0.3s						
LVC	Limon Verde	2.85	173	P	Pn	15 29 35.8	+1.0
	comp=Z,901nm,0.3s,baz=354,slow=11,SNR=944						
LVC				S	Sn	15 30 11.8	+3.1
	comp=Z,2µm,0.3s,baz=359,slow=24,SNR=16						
LVC	Limon Verde	2.85	173	Pn	Pn	15 29 36.1	+1.2
LVC	Limon Verde	2.85	173	eP	Pn	15 29 36.5	+1.6
LVC				eS	Sn	15 30 11.0	+2.2
LVC	Limon Verde	2.85	173	eS	Sn	15 30 03.5	-5.2
PB06	IPOC Station P	2.94	186	⇑iP	Pn	15 29 35.8	-0.1
PB06				i S	Sn	15 30 09.6	-1.0
PB06				IAML		15 30 20.1	
	comp=E,26µm,0.3s						
PB06	IPOC Station P	2.94	186		Pn	15 29 36.0	+0.1
PB06	IPOC Station P	2.94	186	eS	Sn	15 30 09.6	-1.1
PB06				IAML		15 30 20.2	
	comp=Z,21µm,0.7s						
PB05	IPOC Station P	3.20	196	⇓iP	Pn	15 29 39.7	+0.5
PB05				eS	Sn	15 30 22.9	+6.3
PB05				IAML		15 30 30.3	
	comp=E,23µm,0.4s						
PB05	IPOC Station P	3.20	196	eS	Sn	15 30 22.4	+5.8
PB05				IAML		15 30 33.0	
	comp=Z,12µm,0.4s						
AF01	San Pedro de A	3.33	163	⇑eP	Pn	15 29 43.0	+1.8
AF01	San Pedro de A	3.33	163		Pn	15 29 42.8	+1.6
PB15	IPOC Station P	3.44	183	⇑iP	Pn	15 29 42.8	+0.3
PB15	IPOC Station P	3.44	183		Pn	15 29 42.8	+0.3
PB15	IPOC Station P	3.44	183	eP	Pn	15 29 43.1	+0.6
PB15				eS	Sn	15 30 29.9	+7.5
PB15				IAML		15 30 35.8	
	comp=Z,30µm,0.4s						
I08BO	LAS PENAS INFR	3.61	12	P	Pn	15 29 50.0	+4.9
	baz=210,slow=22,SNR=6.3						
LPAZ	La Paz	3.62	17	P	Pn	15 29 48.7	+3.4
	comp=Z,384nm,0.3s,baz=200,slow=5.3,SNR=3314						
LPAZ				S	Sn	15 30 31.3	+3.9
	comp=Z,69nm,0.3s,baz=221,slow=12,SNR=1.2						
LPAZ	La Paz	3.62	17	eP	Pn	15 29 48.5	+3.2
LPAZ	La Paz	3.62	17	Pn	Pn	15 29 48.5	+3.2
LPAZ	La Paz	3.62	17	eS	Sn	15 30 32.2	+4.8
PB10	IPOC Station P	3.92	198	eP	Pn	15 29 48.2	-0.7
PB10				eS	Sn	15 30 34.7	+0.8
PB10	IPOC Station P	3.92	198	Pn	Pn	15 29 47.5	-1.3
PB10	IPOC Station P	3.92	198	eP	Pn	15 29 48.0	-0.9
PB10				eS	Sn	15 30 33.8	-0.1
PB10				IAML		15 30 52.4	
	comp=Z,5µm,0.4s						
YJA	Yavi	4.25	125	eP	Pn	15 29 56.6	+3.0
YJA				eS	Sn	15 30 49.0	+6.6
PB14	IPOC Station P	4.96	192	eP	Pn	15 30 03.5	+0.4
PB14				eS	Sn	15 31 10.7	+11
PB14	IPOC Station P	4.96	192	Pn	Pn	15 30 01.8	-1.3
PB14	IPOC Station P	4.96	192	eP	Pn	15 30 02.8	-0.3
PB14				eS	Sn	15 31 10.7	+11
PB14				IAML		15 31 19.0	
	comp=Z,5µm,0.4s						
SLA	San Lorenzo	6.04	146	⇑iP	Pn	15 30 19.1	+1.4
SLA	San Lorenzo	6.04	146	eP	Pn	15 30 19.3	+1.6
FSA	Cafayete	7.01	155	eP	Pn	15 30 31.6	+0.7
AC02	Maricunga	7.04	179	Pn	Pn	15 30 30.4	-1.3
AC02	Maricunga	7.04	179	eP	Pn	15 30 30.6	-1.1
AC02				IAML		15 32 31.1	
	comp=Z,2µm,1.2s						
GO03	Copiap	7.85	186	Pn	Pn	15 30 39.5	-2.8
GO03	Copiap	7.85	186	eP	Pn	15 30 40.0	-2.2
AHML	Horco Molle	7.87	153	eP	Pn	15 30 42.6	+0.1
AC04	Llanos de Chal	8.57	191	Pn	Pn	15 30 47.2	-4.7
SIV	San Ignacio	8.65	66	P	Pn	15 30 51.1	-2.1
	comp=Z,24nm,0.3s,baz=265,slow=9.9,SNR=423						
SIV				S	Sn	15 32 17.8	-11
	comp=Z,7.2nm,0.3s,baz=262,slow=12,SNR=1.2						
SIV				LR	LR	15 34 56.8	
	comp=Z,656nm,19.3s,baz=270,slow=43						
VCA	Vinchina	8.99	174	eP	Pn	15 30 56.6	-1.2
LCO	Las Campanas	9.30	188	P	Pn	15 30 58.8	-3.4
AGUA	GUANDACOL	9.71	176	eP	Pn	15 31 05.2	-2.4
ETMB	Extrema	10.31	17	eP	Pn	15 31 13.4	-2.3
GO04	Tololo Observa	10.46	187		Pn	15 31 14.4	-3.5
PTLB	Pontes e Lacer	10.56	68	eP	Pn	15 31 17.2	-1.9
NNA	Nana	10.62	316	P	Pn	15 31 17.5	-2.5
	comp=Z,20nm,0.3s,baz=151,slow=10,SNR=21						
NNA				S	Sn	15 33 09.0	-8.1
	comp=Z,16nm,0.3s,baz=17,slow=19,SNR=1.5						
NNA	Nana	10.62	316	P	Pn	15 31 17.2	-2.8
NNA	Nana	10.62	316		Pn	15 31 17.2	-2.8
VILB	Vilhena	11.02	53	eP	Pn	15 31 23.4	-2.0
CO03	El Pedregal	11.11	186	Pn	Pn	15 31 21.2	-5.3
CO02	Combarbal	11.50	187	Pn	Pn	15 31 26.1	-5.8
ZON	Zonda	11.75	178	P	Pn	15 31 31.0	-4.1
ZON	Zonda	11.75	178	Pn	Pn	15 31 31.0	-4.1
RTLS	Leoncito	11.99	180	eP	Pn	15 31 35.1	-3.4
SAML	Samuel	12.25	30	P	Pn	15 31 38.3	-3.6
SAML	Samuel	12.25	30	Pn	Pn	15 31 38.3	-3.6
SAML	Samuel	12.25	30	eP	Pn	15 31 39.4	-2.4
SAML	Samuel	12.25	30	eP	Pn	15 31 38.8	-3.0
AQDB	Aquidauana	12.76	96		Pn	15 31 44.7	-3.9
AQDB	Aquidauana	12.76	96	eP	Pn	15 31 45.4	-3.2
CPUP	Villa Florida	12.78	123	P	Pn	15 31 46.2	-2.5
	comp=Z,4.1nm,0.3s,baz=301,slow=12,SNR=98						
CPUP				LR	LR	15 37 56.6	
	comp=Z,1µm,19.5s,baz=298,slow=43						
CPUP	Villa Florida	12.78	123		Pn	15 31 45.0	-3.8
CPUP	Villa Florida	12.78	123	eP	Pn	15 31 48.2	-0.6
VA03	San Esteban	13.00	185		Pn	15 31 52.3	+0.5
AAGR	Agrelo	13.28	178	eP	Pn	15 31 54.1	-1.3
SALV	Santo Antonio	13.48	76	eP	Pn	15 31 55.5	-2.5
MT05	Renca	13.64	185	Pn	Pn	15 32 00.4	+0.3
VA05	Santo Domingo	14.00	188		Pn	15 32 04.2	-0.4
MT09	Talagante	14.04	186	Pn	Pn	15 32 04.7	-0.7
MT01	Popeta	14.16	187		Pn	15 32 06.1	-0.7
BO01	Tunca	14.66	186		Pn	15 32 12.4	-0.8
BO02	Sierra Bellavi	15.04	185	Pn	Pn	15 32 17.5	-0.5
BO02				IAmb	IAmb	15 32 24.4	
	comp=Z,279nm,0.8s						
ITQB	Itaqui	15.13	133	Pn	Pn	15 32 15.5	-3.6
ITQB				IAmb	IAmb	15 32 21.0	
	comp=Z,165nm,1.2s						
ATAH	Atahualpa	15.37	324	P	Pn	15 32 22.8	+0.2
	comp=Z,1.1nm,0.3s,baz=136,slow=11,SNR=22						
GO05	Huala	15.37	188		Pn	15 32 20.4	-1.9
CLDB	Colider	15.70	58	eP	Pn	15 32 23.1	-3.4
TRCB	Terra Rica	15.79	104	P	Pn	15 32 25.7	-1.9
TRCB	Terra Rica	15.79	104	eP	Pn	15 32 27.2	-0.3
ML02	Panimavida	16.05	186	P	Pn	15 32 29.6	-1.1
ML02				IAmb	IAmb	15 32 35.4	
	comp=Z,350nm,0.9s						
H03N1	Juan Fernandez	16.11	210	T	T	15 49 06.0	
	baz=32,slow=73,SNR=149						
H03N2	Juan Fernandez	16.12	210	T	T	15 49 06.6	
	baz=32,slow=73,SNR=174						
H03N3	Juan Fernandez	16.13	210	T	T	15 49 11.5	
	baz=32,slow=73,SNR=155						
PTGB	Pitanga	16.66	110	eP	Pn	15 32 37.8	-0.7
PCMB	Pacaembu	16.95	99	eP	Pn	15 32 41.1	-0.7
ARAG	Araguaiana, MT	17.10	79	eP	Pn	15 32 42.1	-1.7
ITAB	Concordia	17.37	119	P	P	15 32 45.8	-1.1
ITAB				IAmb	IAmb	15 32 49.6	
	comp=Z,187nm,1.0s						
ITAB	Concordia	17.37	119	eP	P	15 32 46.3	-0.6
ITRB	Iturama	17.80	93	eP	P	15 32 50.4	-1.2
CPSB	Cacapava Do Su	17.80	130	eP	P	15 32 51.0	-0.5
PLTB	Pedras Altas	18.46	133	P	P	15 32 56.5	-2.3
PLTB	Pedras Altas	18.46	133	eP	P	15 32 58.4	-0.4
NPGB	Novo Progresso	18.49	49	eP	P	15 32 57.6	-1.7
MACA	Manacapuru-AM	18.50	28	eP	P	15 32 58.2	-1.1
FRTB	Fartura	18.66	105	eP	P	15 33 00.4	-0.8
SNDB	Serra Nova Dou	18.93	69	eP	P	15 33 03.2	-0.8
LC01	Cunco	19.20	186	P	P	15 33 07.2	+0.3
LC01				IAmb	IAmb	15 33 11.7	
	comp=Z,111nm,0.9s						
TRQA	Tornquist	19.30	162	P	P	15 33 07.6	-0.3
TRQA				pmax	pmax		
	comp=Z,437nm,1.2s						
TRQA	Tornquist	19.30	162	P	P	15 33 07.5	-0.3
TRQA	Tornquist	19.30	162	eP	P	15 33 08.3	+0.4
BB19B	Bebedouro	19.48	97	eP	P	15 33 09.3	-0.7
IPMB	Ipameri, GO	20.00	88	eP	P	15 33 14.2	-1.5
ITTB	Itaituba	20.20	42	eP	P	15 33 16.2	-1.6
TER01	Tubaro-SC	20.32	119	eP	P	15 33 18.8	-0.2
RCLB	Rio Claro- Sao	20.45	101	eP	P	15 33 19.2	-1.3
PTLC	Puerto Leguiza	20.54	344	eP	P	15 33 19.0	-2.5
SPB	Sao Paulo	20.64	105	P	P	15 33 21.3	-1.2
SPB				IAmb	IAmb	15 33 26.8	
	comp=Z,178nm,1.4s						
SPB	Sao Paulo	20.64	105	eP	P	15 33 21.2	-1.3
BDFB	Brasilia	20.65	82	P	P	15 33 21.6	-1.2
	comp=Z,44nm,0.4s,baz=257,slow=11,SNR=35						
BDFB				LR	LR	15 41 41.8	
	comp=Z,404nm,20.0s,baz=263,slow=38						
BDFB	Brasilia	20.65	82	P	P	15 33 21.2	-1.6
BDFB				pmax	pmax		
	comp=Z,64nm,0.6s						
BDFB	Brasilia	20.65	82	P	P	15 33 21.2	-1.6
BDFB				IAmb	IAmb	15 33 26.3	
	comp=Z,64nm,0.6s						
PET01	Itanhaem-SP	20.87	106	eP	P	15 33 24.3	-0.7
PLCA	Paso Flores	20.93	183	P	P	15 33 26.5	+0.9
	comp=Z,37nm,1.1s,baz=2.8,slow=12,SNR=50						
PLCA	Paso Flores	20.93	183	eP	P	15 33 25.9	+0.3
PLCA	Paso Flores	20.93	183	P	P	15 33 25.4	-0.2
PLCA	Paso Flores	20.93	183	eP	P	15 33 27.1	+1.6
PTGA	Pitinga	20.99	27	P	P	15 33 24.2	-2.0
	comp=Z,36nm,0.3s,baz=204,slow=17,SNR=140						
PTGA	Pitinga	20.99	27	P	P	15 33 23.7	-2.6
PTGA	Pitinga	20.99	27	eP	P	15 33 25.5	-0.8
VAO	Valinhos	21.01	103	eP	P	15 33 24.9	-1.6
LL04	Puerto Octay	21.25	187	P	P	15 33 28.7	-0.2
LL04				IAmb	IAmb	15 33 35.2	
	comp=Z,188nm,1.1s						
PEXB	Peixe	21.53	72	eP	P	15 33 31.1	-1.0
OTAV	Otavalo	21.82	335	P	P	15 33 35.3	-0.3
OTAV				pmax	pmax		
	comp=Z,293nm,1.2s						
OTAV	Otavalo	21.82	335	P	P	15 33 35.3	-0.3
OTAV				IAmb	IAmb	15 33 52.3	
	comp=Z,293nm,1.2s						
OTAV	Otavalo	21.82	335	eP	P	15 33 39.2	+3.5
OTAV	Otavalo	21.82	335	eP	P	15 33 37.6	+2.0
CUSE	Cuicocha Este	21.86	335	eP	P	15 33 41.4	+5.4
FLOC	Florencia	22.12	343	P	P	15 33 36.7	-1.6
FLOC				IAmb	IAmb	15 33 55.7	
	comp=Z,218nm,1.3s						
FLOC	Florencia	22.12	343	eP	P	15 33 37.3	-1.0
MACC	Macarena, Meta	22.23	348	eP	P	15 33 40.1	+0.6
PARB	Paraibuna	22.27	103	eP	P	15 33 37.8	-2.1
GCUF	Volcan Galeras	22.31	338	eP	P	15 33 43.9	+3.1
CRUC	La Cruz	22.50	340	eP	P	15 33 45.9	+3.2
GARC	Garzon, Huila	22.65	344	eP	P	15 33 43.2	-0.9
LL01	San Ignacio de	22.71	186	P	P	15 33 43.6	-0.5
LL01				IAmb	IAmb	15 34 09.8	
	comp=Z,151nm,1.3s						
SOTA	Rioblanco	22.92	341	eP	P	15 33 47.8	+0.7
BSCB	Bom Sucesso	22.98	97	eP	P	15 33 46.0	-1.3
BBAC	Balboa, Cauca	23.02	339	eP	P	15 33 49.2	+1.5
PCON	Cinco Dias	23.04	342	eP	P	15 33 50.5	+2.2
MALB	Monte Alegre	23.06	41	eP	P	15 33 46.0	-1.9
BETC	Betania	23.11	344	eP	P	15 33 47.8	-0.7
PRPB	Parauapebas	23.23	57	eP	P	15 33 47.8	-1.8
POPC	Popayan, Colom	23.33	341	eP	P	15 33 52.1	+1.5
CTUM2	Tumaco	23.37	336	eP	P	15 33 47.6	-3.2
TUMC	Tumaco	23.38	336	P	P	15 33 50.1	-0.7
MARP	Paez Belalcaza	23.41	343	eP	P	15 33 51.9	+0.5
LL02	Futaleuf	23.46	185	P	P	15 33 50.1	-1.2
GO07	Milladeo Hill,	23.58	188	P	P	15 33 50.9	-1.5
GO07				IAmb	IAmb	15 33 55.7	
	comp=Z,116nm,0.5s						
SMTB	Santa Maria do	23.60	66	eP	P	15 33 52.3	-0.6
BOAV	Boa Vista	23.63	22	eP	P	15 33 52.9	-0.2
PRAC	Prado	23.97	346	eP	P	15 33 55.8	-0.5
PTGC	Puerto Gaitan,	23.98	353	eP	P	15 33 56.0	-0.2
VILC	Villavicencio,	24.12	349	eP	P	15 33 59.2	+1.6
VAS01	Vassouras-RJ	24.22	101	eP	P	15 33 57.3	-1.2
DIAM	Diamantina, MG	24.23	91	eP	P	15 33 58.7	0.0
MC01	Montes Claros	24.23	87	eP	P	15 33 57.7	-1.0

ORTC Ortega, Tolima 24.25 345 *e*P P **15 33 58.3 -0.4**
JANB Januaria 24.25 83 *e*P P **15 33 57.1 -1.7**
GR1C Gorgona, Isla 24.25 338 *e*P P **15 34 02.4 +3.7**
SDBA SAO DESIDERIO 24.50 76 *e*P P **15 33 59.9 -1.2**
YOTC Yotoco, Valle 24.60 343 *e*P P **15 34 04.1 +2.1**
CHIC Chingaza 24.63 349 *e*P P **15 34 02.6 0.0**
TOLC Tolima 24.92 346 *e*P P **15 34 04.1 -1.0**
ROSC El Rosal 24.95 348 P P **15 34 05.7 +0.2**
comp=Z,9.4nm,0.3s,baz=45,slow=2.9,SNR=6.9
ROSC LR LR 15 45 04.7
comp=Z,1µm,18.7s,baz=192,slow=39
ROSC El Rosal 24.95 348 P P **15 34 03.7 -1.8**
ROSC pmax pmax
comp=Z,76nm,1.3s
ROSC El Rosal 24.95 348 P P **15 34 03.7 -1.8**
DUB01 Friburgo-RJ 25.21 100 *e*P P **15 34 08.0 +0.5**
GUY2C Guyana, Caldas 25.54 346 *e*P P **15 34 12.6 +1.6**
MCPB Macapa, AP 25.61 43 *e*P P **15 34 10.0 -1.1**
SPBC San Pablo de B 25.69 349 *e*P P **15 34 11.7 -0.1**
NORC Norcasia 25.76 347 *e*P P **15 34 12.4 -0.1**
RUSC La Rusia 25.77 351 P P **15 34 12.2 -0.8**
RUSC La Rusia 25.77 351 *e*P P **15 34 13.9 +0.9**
CAM01 Campos-RJ 25.88 99 *e*P P **15 34 13.6 +0.1**
TAMC Tame, Arauca 26.15 354 *e*P P **15 34 16.8 +0.8**
TAMC Tame, Arauca 26.15 354 *e*P P **15 34 16.6 +0.7**
CBOC Ciudad Bolivar 26.32 345 *e*P P **15 34 17.5 -0.1**
BARC Barichara 26.47 351 *e*P P **15 34 19.7 +0.7**
HELC Santa Helena 26.52 346 *e*P P **15 34 19.0 +0.6**
SJMB Sao Joao De Ma 26.52 92 *e*P P **15 34 18.5 -0.8**
ELOV Elorza 26.59 360 *e*P P **15 34 20.1 +0.2**
ALF01 Guarapari-ES 26.79 97 *e*P P **15 34 21.3 -0.4**
TMAB Tom-Au,PA,Br 26.95 53 *e*P P **15 34 24.1 +0.9**
RIB01 Linhares ES 27.20 94 *e*P P **15 34 24.6 -0.7**
DBBC Dabeiba 27.47 345 *e*P P **15 34 28.8 +0.9**
NAN01 Guarapari, ES 27.63 91 *e*P P **15 34 28.4 -0.9**
ZARC Zaragoza, Cauc 27.64 348 *e*P P **15 34 27.5 -1.7**
PAYG Puerto Ayora 27.99 310 P P **15 34 31.9 -0.6**
UREC San Jos de Ur 28.03 347 *e*P P **15 34 31.3 -1.4**
GUA01 Guaratinga, BA 28.15 88 *e*P P **15 34 33.6 -0.3**
SDV Santo Domingo 28.50 357 P P **15 34 36.9 -0.2**
comp=Z,18nm,0.3s,baz=197,slow=6.0,SNR=17
SDV Santo Domingo 28.50 357 P P **15 34 35.4 -1.7**
SDV IAmb IAmb 15 34 38.9
comp=Z,56nm,0.9s
SDV Santo Domingo 28.50 357 *e*P P **15 34 36.8 -0.4**
SDV Santo Domingo 28.50 357 *e*P P **15 34 37.1 0.0**
CMC01 Camacan, BA 28.67 86 *e*P P **15 34 38.1 -0.4**
SMLC San Martn de 28.77 350 *e*P P **15 34 36.8 -2.6**
GDU01 Guandu, BA 29.03 83 *e*P P **15 34 41.1 -0.6**
NBPN Ponto Novo - B 29.36 77 *e*P P **15 34 44.1 -0.6**
MDP Montagnes des 29.63 35 P P **15 34 45.3 -1.6**
comp=Z,21nm,0.8s,baz=207,slow=9.2,SNR=9.5
MDP pP **pP 15 35 09.3 -1.1**
comp=Z,16nm,1.0s,baz=212,slow=6.3,SNR=3.4
ROSB Rosrio 29.72 59 *e*P P **15 34 48.9 +1.0**
ARGC Ariguani, Magd 29.84 350 *e*P P **15 34 47.2 -1.5**
SJCC San Jacinto, C 30.04 348 P P **15 34 49.2 -1.4**
SJCC IAmb IAmb 15 34 51.6
comp=Z,103nm,1.3s
SJCC San Jacinto, C 30.04 348 *e*P P **15 34 50.4 -0.3**
NBPS Pedro II - PI 31.11 64 *e*P P **15 34 59.8 -0.4**
URIC Uribia, Colomb 31.38 355 P P **15 34 59.9 -2.5**
SRBA San Rafael, Bu 31.98 333 P P **15 35 08.3 +0.5**
NBMA Muriti-CE 32.03 72 *e*P P **15 35 07.7 -0.6**
TOSP Speyside 32.04 16 P P **15 35 07.5 -0.6**
NBPB Pedra_Branca-C 32.14 68 *e*P P **15 35 09.1 -0.1**
GRGR Grenville 32.56 14 P P **15 35 11.9 -0.8**
MG02 Cerro Sombrero 32.96 180 P P **15 35 17.5 +1.8**
EFI East Falkland 33.04 167 *e*P P **15 35 15.5 -1.0**
EFI pmax pmax
comp=Z,56nm,1.2s
EFI East Falkland 33.04 167 P P **15 35 15.3 -1.3**
EFI IAmb IAmb 15 35 28.8
comp=Z,108nm,1.2s
GO10 Punta Arenas 33.36 182 P P **15 35 21.1 +1.8**
NBAN Anadia - AL 33.38 77 *e*P P **15 35 19.4 -0.6**
JTS Las Juntas de 33.62 331 *de*P P **15 35 23.8 +1.8**
JTS pmax pmax
comp=Z,20nm,0.9s
JTS Las Juntas de 33.62 331 *e*P P **15 35 23.6 +1.5**
NBLV Livramento - P 33.69 73 *e*P P **15 35 22.6 -0.2**
SVB Belmont 33.76 14 P P **15 35 21.6 -1.6**
NBCL Cascavel-CE 33.90 67 *e*P P **15 35 24.9 +0.5**
ORTG Ortega, Santa 33.92 331 P P **15 35 26.2 +1.5**
MCLT Moule a Chique 34.25 14 *e*P P **15 35 25.6 -1.8**
MCLT Moule a Chique 34.25 14 P P **15 35 26.7 -0.7**
SLBI Saint Lucia, B 34.55 14 *e*P P **15 35 30.5 +0.6**
NBRF Rio Formoso - 34.80 76 *e*P P **15 35 31.7 -0.6**
MPOM Morne Pois Mar 34.98 14 *e*P P **15 35 32.9 -0.7**
MPOM Morne Pois Mar 34.98 14 P P **15 35 31.9 -1.8**
BIM Bigot 35.00 14 P P **15 35 32.0 -1.9**
FDF Fort de France 35.19 14 P P **15 35 34.6 -0.9**
FDF pmax pmax
comp=Z,71nm,0.6s
FDF Fort de France 35.19 14 P P **15 35 34.6 -0.9**
RCBR Riachuelo 35.26 71 P P **15 35 36.1 -0.2**
RCBR pmax pmax
comp=Z,159nm,1.3s
RCBR Riachuelo 35.26 71 P P **15 35 36.1 -0.2**
RCBR Riachuelo 35.26 71 *e*P P **15 35 36.9 +0.6**
NBPV Pedro Velho 35.55 73 *e*P P **15 35 39.0 +0.3**
RPN Rapa Nui 37.37 251 LR LR 15 47 41.6
comp=Z,236nm,21.8s,baz=85,slow=30
ICMP Isla Caja de M 37.51 4 P P **15 35 55.4 +0.3**
MLPR Magueyes Islan 37.56 3 P P **15 35 53.8 -1.8**
CRPR Cabo Rojo, PR 37.59 3 P P **15 35 54.2 -1.7**
OBIP Obispado Ponce 37.66 4 P P **15 35 53.5 -2.9**
PDPR Patillas Dam, 37.68 5 P P **15 35 54.5 -2.1**
PDPR IAmb IAmb 15 36 21.0
comp=Z,64nm,0.8s
SJG San Juan 37.76 5 LR LR 15 53 02.8
comp=Z,408nm,18.6s,baz=186,slow=38
SJG San Juan 37.76 5 P P **15 35 54.6 -2.7**
SJG pmax pmax
comp=Z,61nm,1.0s
SJG San Juan 37.76 5 P P **15 35 54.6 -2.7**
SJG IAmb IAmb 15 35 56.4
comp=Z,61nm,0.9s
MTP Monte Pirata 37.80 6 P P **15 35 54.9 -2.7**
MTP IAmb IAmb 15 35 56.3
comp=Z,46nm,1.1s
HUMP Col San Antoni 37.81 5 P P **15 35 55.3 -2.5**
HUMP IAmb IAmb 15 35 58.4
comp=Z,44nm,1.1s
ANWB Willy Bob 37.91 12 P P **15 35 55.1 -3.4**
BANI BANI 37.93 358 P P **15 35 58.3 -0.6**
CBYP Canovanas 37.94 5 P P **15 35 56.7 -2.2**
AOPR Arecibo Observ 37.95 4 P P **15 35 57.5 -1.4**
GCPR Guaynabo City 37.96 5 P P **15 35 56.8 -2.2**
GCPR IAmb IAmb 15 35 58.8
comp=Z,41nm,0.7s
CUPR Culebra, Puert 38.03 6 P P **15 35 57.5 -2.0**
SMRT St. Maarten 38.06 10 P P **15 35 56.7 -3.1**
STVI Saint Thomas 38.11 7 P P **15 35 59.3 -0.9**
STVI IAmb IAmb 15 36 13.6
comp=Z,69nm,1.5s
DR12 Loma Pena Alta 38.31 360 P P **15 35 60.0 -2.0**
SDDR Presa de Saban 38.55 357 P P **15 36 03.0 -1.0**
SDDR Presa de Saban 38.55 357 *e*P P **15 35 60.0 -4.0**
ABVI Anegada Island 38.55 8 P P **15 36 01.7 -2.2**
MTDJ Mount Denham 38.61 347 P P **15 36 03.8 -0.8**
MTDJ IAmb IAmb 15 36 16.0
comp=Z,88nm,1.1s
MTO3 Montecristo 39.28 328 P P **15 36 12.1 +1.7**
MTO3 IAmb IAmb 15 36 14.3
comp=Z,46nm,0.9s
ESQI Esquipulas 39.41 328 P P **15 36 13.2 +1.9**
ESQI IAmb IAmb 15 36 19.9
comp=Z,65nm,0.9s
GTBY Guantanamo Bay 39.86 351 P P **15 36 14.7 -0.1**
GTBY IAmb IAmb 15 36 15.8
comp=Z,62nm,0.9s
PETF Flores 41.69 330 P P **15 36 31.1 +1.1**
PETF IAmb IAmb 15 36 38.5
comp=Z,55nm,0.9s
HOPE Hope Point 42.56 152 P P **15 36 37.6 +1.0**
HOPE pmax pmax
comp=Z,92nm,1.0s
HOPE Hope Point 42.56 152 P P **15 36 37.6 +1.0**
HOPE IAmb IAmb 15 36 39.2
comp=Z,92nm,1.0s
SOR Soroa 44.37 342 P P **15 36 52.1 +0.7**
SOR pmax pmax
comp=Z,90nm,0.9s
SOR Soroa 44.37 342 P P **15 36 52.1 +0.7**
PMSA Palmer Station 45.12 177 P P **15 36 59.2 +2.3**
061Z Ochoppi 46.74 346 P P **15 37 10.9 +0.8**
TLIG Tlapa 46.94 320 P P **15 37 13.5 +1.5**
TLIG IAmb IAmb 15 37 15.6
comp=Z,31nm,0.8s
DWPF Disney Wildern 49.02 346 P P **15 37 28.9 +1.2**
DWPF Disney Wildern 49.02 346 P P **15 37 29.3 +1.7**
baz=165
656A Willston 50.49 345 P P **15 37 39.6 +0.9**
553A Crawfordville 51.76 343 P P **15 37 49.3 +1.1**
BBSR BB Station 52.02 5 P P **15 37 50.1 0.0**
BBSR IAmb IAmb 15 37 50.8
comp=Z,40nm,0.9s
255A Hazlehurst 52.93 346 P P **15 37 57.4 +0.5**
352A Blakely 53.12 343 P P **15 37 58.7 +0.4**
ZAIG Zacatecas 53.33 321 P P **15 38 00.9 +0.6**
NHSC New Hope 53.59 349 P P **15 38 03.8 +2.1**
baz=167
Y60A Bolivia 54.14 351 P P **15 38 06.3 +0.7**
152A Waverly Hall 54.19 344 P P **15 38 05.8 -0.3**
GOGA Godfrey 54.58 345 pmax pmax
comp=Z,16nm,0.6s
GOGA Godfrey 54.58 345 P P **15 38 08.3 -0.6**
GOGA pmax pmax
comp=Z,15nm,1.0s
GOGA Godfrey 54.58 345 P P **15 38 08.3 -0.6**
GOGA Godfrey 54.58 345 P P **15 38 08.7 -0.2**
Z51A Franklin 54.92 344 P P **15 38 11.2 -0.2**
Z51A IAmb IAmb 15 38 39.1
comp=Z,31nm,0.6s
344A Westbrook Farm 54.93 338 P P **15 38 11.6 +0.2**
344A IAmb IAmb 15 38 13.2
comp=Z,38nm,0.8s
HODGE Hodges 55.10 347 P P **15 38 12.8 +0.2**
HODGE IAmb IAmb 15 38 39.9
comp=Z,23nm,0.6s
BIRD Birdtown, Kers 55.14 349 P P **15 38 12.9 0.0**
Y52A Lilburn 55.16 345 P P **15 38 12.7 -0.3**
Y52A IAmb IAmb 15 38 40.6
comp=Z,16nm,0.7s
LRAL Lakeview Retre 55.17 342 P P **15 38 12.5 -0.6**
LRAL IAmb IAmb 15 38 40.9
comp=Z,40nm,1.1s
LRAL Lakeview Retre 55.17 342 P P **15 38 13.2 +0.1**
baz=159
146A Union 55.44 340 P P **15 38 15.5 +0.4**
146A IAmb IAmb 15 38 22.8
comp=Z,35nm,0.8s
342A Flagon Creek P 55.45 336 P P **15 38 16.1 +0.9**
VBMS Vicksburg 55.55 338 P P **15 38 16.4 +0.6**
VBMS IAmb IAmb 15 38 45.4
comp=Z,36nm,1.1s
W57A Gilead 55.55 349 P P **15 38 16.2 +0.4**
W57A IAmb IAmb 15 38 43.1
comp=Z,61nm,1.0s
HKT Hockley 55.66 332 *de*P P **15 38 17.4 +0.8**
HKT pmax pmax
comp=Z,32nm,1.2s
Y49A Blount Mountai 55.77 343 P P **15 38 17.0 -0.5**
Y49A IAmb IAmb 15 38 45.3
comp=Z,32nm,0.6s
KMSC Kings Mountain 55.79 348 P P **15 38 17.4 -0.1**
KMSC Kings Mountain 55.79 348 P P **15 38 18.6 +1.0**
baz=166
833A Chaparral WMA, 55.98 328 P P **15 38 20.5 +1.5**
baz=145
X51A Calhoun 56.02 344 P P **15 38 18.7 -0.5**
X51A IAmb IAmb 15 38 47.1
comp=Z,34nm,0.8s
V58A Windy Hill, Pi 56.03 350 P P **15 38 19.0 -0.2**
V58A IAmb IAmb 15 38 47.7
comp=Z,28nm,1.0s
FPAL Fort Paine 56.20 344 P P **15 38 19.6 -0.9**
FPAL IAmb IAmb 15 38 48.0
comp=Z,25nm,0.6s
W52A Murphy 56.30 346 P P **15 38 20.7 -0.5**
W52A IAmb IAmb 15 38 48.9
comp=Z,17nm,0.7s
U59A Littleton 56.39 352 P P **15 38 21.6 -0.1**
U59A IAmb IAmb 15 38 48.9
comp=Z,35nm,1.2s
V55A Taylorsville 56.45 348 P P **15 38 21.9 -0.4**
X48A Hartselle 56.51 342 P P **15 38 21.7 -1.0**
V53A Saluda 56.60 347 P P **15 38 22.9 -0.5**
V53A IAmb IAmb 15 38 51.1
comp=Z,18nm,0.7s
NATX Nacogdoches 56.72 334 P P **15 38 25.3 +1.0**
NATX Nacogdoches 56.72 334 P P **15 38 26.3 +2.0**
baz=151
Y45A Yeager Farm, C 56.72 340 P P **15 38 24.0 -0.2**
Y45A IAmb IAmb 15 38 25.5
comp=Z,35nm,0.8s
W50A Signal Mountai 56.74 344 P P **15 38 23.5 -0.9**
CPCT Cooper Cave 56.78 345 P P **15 38 23.1 -1.5**
CPCT IAmb IAmb 15 38 52.1
comp=Z,40nm,1.2s
U56A King 56.78 349 P P **15 38 25.1 +0.4**
TKL Tuckaleechee C 56.81 346 P P **15 38 23.6 -1.2**
TKL pmax pmax
comp=Z,31nm,0.8s
TKL Tuckaleechee C 56.81 346 P P **15 38 23.6 -1.2**
TKL IAmb IAmb 15 38 52.6
comp=Z,31nm,0.8s
SWET Sewanee 56.92 344 P P **15 38 25.1 -0.5**
V52A Sevierville 56.94 346 P P **15 38 25.4 -0.4**
T59A Double "B" Far 56.97 352 P P **15 38 25.5 -0.3**
V51A Loudon 57.08 345 P P **15 38 26.4 -0.3**
V51A IAmb IAmb 15 38 54.6
comp=Z,38nm,1.1s
U54A Nelsons Funny 57.22 348 P P **15 38 27.6 -0.1**
T57A Hurt 57.23 350 P P **15 38 28.0 +0.2**
T57A IAmb IAmb 15 38 55.4
comp=Z,58nm,1.1s
OXF Oxford 57.27 340 P P **15 38 27.3 -0.8**
OXF pmax pmax
comp=Z,81nm,1.2s
OXF Oxford 57.27 340 P P **15 38 27.3 -0.8**
OXF Oxford 57.27 340 P P **15 38 28.6 +0.5**
baz=157
PLAL Pickwick Lake 57.30 342 P P **15 38 27.3 -1.0**
PLAL IAmb IAmb 15 38 55.6
comp=Z,39nm,1.1s
237A Washetta, Mont 57.41 333 P P **15 38 30.3 +1.2**
BLA Blacksburg 57.63 349 P P **15 38 30.8 +0.2**
BLA pmax pmax
comp=Z,32nm,0.7s
BLA Blacksburg 57.63 349 P P **15 38 30.8 +0.2**
BLA IAmb IAmb 15 38 59.4
comp=Z,32nm,0.7s
V48A Smith Brothers 57.65 343 P P **15 38 29.9 -0.9**
W45A Hickory Valley 57.80 341 P P **15 38 30.7 -1.0**
WLAR White Oak Lake 57.81 337 P P **15 38 31.9 0.0**
CLTN Cedars of Leba 57.85 344 P P **15 38 31.6 -0.5**
S57A Dark Hollow, R 57.94 351 P P **15 38 32.9 +0.3**
S57A IAmb IAmb 15 39 00.4
comp=Z,43nm,1.1s
JCT Junction City 57.95 329 P P **15 38 33.2 +0.2**
JCT pmax pmax
comp=Z,28nm,1.0s
JCT Junction City 57.95 329 P P **15 38 33.2 +0.2**
JCT IAmb IAmb 15 38 34.7
comp=Z,28nm,0.9s
JCT Junction City 57.95 329 P P **15 38 34.0 +1.0**
baz=146
R58B Mineral 57.98 352 P P **15 38 33.4 +0.4**
R58B IAmb IAmb 15 39 00.6
comp=Z,27nm,0.8s
U49A Red Boiling Sp 58.10 344 P P **15 38 33.0 -0.9**
U49A IAmb IAmb 15 39 01.6
comp=Z,32nm,0.6s
WHTX Lake Whitney, 58.12 332 P P **15 38 34.8 +0.7**
WHTX IAmb IAmb 15 38 36.1
comp=Z,29nm,0.8s
WHTX Lake Whitney, 58.12 332 P P **15 38 35.6 +1.5**
baz=148
Z38A Mt. Pleasant 58.16 335 P P **15 38 35.1 +0.8**
WVT Waverly 58.30 342 P P **15 38 34.1 -1.1**
WVT pmax pmax
comp=Z,60nm,1.2s
WVT Waverly 58.30 342 P P **15 38 34.1 -1.1**
WVT IAmb IAmb 15 39 02.6
comp=Z,60nm,1.1s
WVT Waverly 58.30 342 P P **15 38 35.0 -0.3**
baz=159
S54A Dingess, Beckl 58.36 349 P P **15 38 35.0 -0.8**
R55A Marlinton 58.63 350 P P **15 38 38.2 +0.7**
MIAR Mount Ida 58.75 337 P P **15 38 37.5 -0.9**
MIAR pmax pmax
comp=Z,32nm,1.0s
MIAR Mount Ida 58.75 337 P P **15 38 37.5 -0.9**
MIAR IAmb IAmb 15 38 39.9
comp=Z,32nm,1.0s
MIAR Mount Ida 58.75 337 P P **15 38 39.2 +0.8**
baz=153
GNAR Gosnell 58.80 340 P P **15 38 38.7 0.0**
W41B Gary Mavity, V 58.83 338 P P **15 38 39.4 +0.5**
baz=154
GLAT Glass 58.86 341 P P **15 38 38.9 -0.2**
T47A Sharon Grove 58.90 343 P P **15 38 38.5 -0.9**
WHAR Wooly Hollow 58.95 338 P P **15 38 39.1 -0.6**
WHAR IAmb IAmb 15 38 40.4
comp=Z,23nm,1.0s
R53A Hurricane 59.00 348 P P **15 38 39.2 -0.9**
Z35A Perchaven, San 59.17 333 P P **15 38 41.6 +0.3**
Q56A Snyder Ridge, 59.23 351 P P **15 38 42.2 +0.6**
LCAR Lake Charles 59.27 339 P P **15 38 41.1 -0.9**
LCAR IAmb IAmb 15 38 42.7
comp=Z,17nm,0.9s
SDMD Soldier's Deli 59.28 353 P P **15 38 42.2 +0.2**
T45A Paducah 59.36 342 P P **15 38 41.9 -0.6**
W39A Magazine 59.41 337 P P **15 38 43.0 +0.1**
W39A IAmb IAmb 15 38 45.0
comp=Z,38nm,0.8s
W39A Magazine 59.41 337 P P **15 38 44.3 +1.4**
baz=153
Q54A Coxs Mills 59.43 350 P P **15 38 42.7 -0.3**
R50A Paris 59.44 346 P P **15 38 42.3 -0.8**
R50A IAmb IAmb 15 39 11.2
comp=Z,27nm,0.8s
X37A Clayton 59.48 335 P P **15 38 43.9 +0.5**
P57A Homestead Farm 59.50 352 P P **15 38 44.5 +1.0**
P57A IAmb IAmb 15 39 11.8
comp=Z,26nm,0.8s
P60A Greenville 59.56 354 P P **15 38 43.5 -0.4**
R49A Shelbyville 59.65 346 P P **15 38 43.8 -0.8**
R49A IAmb IAmb 15 38 58.1
comp=Z,30nm,1.0s
ABTX Abilene, Hawle 59.65 330 P P **15 38 45.0 +0.3**
ABTX IAmb IAmb 15 39 12.6
comp=Z,53nm,1.1s
ABTX Abilene, Hawle 59.65 330 P P **15 38 45.9 +1.2**
baz=146
Q52A Bidwell 59.67 348 P P **15 38 44.2 -0.5**
Q52A IAmb IAmb 15 39 13.0
comp=Z,21nm,0.8s
WUPA West Chester U 59.68 354 P P **15 38 44.8 +0.1**
WUPA IAmb IAmb 15 39 12.2
comp=Z,18nm,0.7s
PBMO Poplar Bluff 59.68 340 P P **15 38 44.2 -0.5**
PBMO IAmb IAmb 15 38 45.6
comp=Z,29nm,0.7s
LOOK Love County 59.71 333 P P **15 38 45.2 +0.2**
MVL Millersville 59.81 354 P P **15 38 46.0 +0.4**
MVL IAmb IAmb 15 39 13.3
comp=Z,29nm,0.7s
MCWV Mont Chateau 59.93 351 P P **15 38 47.1 +0.7**
MCWV Mont Chateau 59.93 351 P P **15 38 48.6 +2.2**
baz=168
Q51A Peebles 59.95 347 P P **15 38 46.6 0.0**
Q51A IAmb IAmb 15 39 14.1
comp=Z,47nm,1.1s
P53A Whipple 60.02 349 P P **15 38 46.8 -0.2**
U40A Yellville 60.11 338 P P **15 38 47.4 -0.4**
U40A IAmb IAmb 15 38 48.8
comp=Z,34nm,0.9s
T42A Van Buren 60.12 340 P P **15 38 47.2 -0.6**
T42A IAmb IAmb 15 38 48.2
comp=Z,20nm,0.9s
S44A Carbondale 60.17 342 P P **15 38 47.6 -0.4**
SIUC Southern Illin 60.17 342 P P **15 38 47.6 -0.5**
P52A Corning 60.30 349 P P **15 38 48.3 -0.6**
P52A Corning 60.30 349 P P **15 38 49.3 +0.4**
baz=166
O56A Blue Knob Stat 60.34 352 P P **15 38 49.3 0.0**
O56A IAmb IAmb 15 39 17.6
comp=Z,34nm,0.8s
O56A Blue Knob Stat 60.34 352 P P **15 38 51.4 +2.1**
baz=170
HHAR Hobbs 60.43 337 P P **15 38 49.6 -0.3**
HHAR IAmb IAmb 15 38 51.2
comp=Z,48nm,1.2s
X34A Smith Ranch, M 60.51 333 P P **15 38 50.7 +0.2**
X34A IAmb IAmb 15 38 52.3
comp=Z,37nm,0.8s
O54A Avella 60.52 350 P P **15 38 50.3 -0.1**
O54A IAmb IAmb 15 39 18.6
comp=Z,24nm,0.7s
PAL Palisades 60.61 356 P P **15 38 50.8 -0.2**
PAL pmax pmax
comp=Z,27nm,1.2s
PAL Palisades 60.61 356 P P **15 38 50.8 -0.2**
PAL IAmb IAmb 15 39 19.0
comp=Z,27nm,1.2s
SSPA Standing Stone 60.62 352 P P **15 38 51.0 -0.1**
SSPA Standing Stone 60.62 352 P P **15 38 52.5 +1.4**
baz=170
MGMO Mountain Grove 60.62 339 P P **15 38 51.0 -0.2**
MGMO IAmb IAmb 15 38 51.9
comp=Z,30nm,0.9s
N58A Sunbury 60.69 354 P P **15 38 51.9 +0.4**
N58A IAmb IAmb 15 39 19.5
comp=Z,33nm,0.8s
O52A Adamsville 60.71 349 P P **15 38 51.6 -0.1**
P49A Miami Univ. Ec 60.73 346 P P **15 38 51.6 -0.3**
baz=163
O53A New Philadelph 60.73 350 P P **15 38 51.9 0.0**
O53A IAmb IAmb 15 39 20.1
comp=Z,36nm,0.7s
O53A New Philadelph 60.73 350 P P **15 38 52.7 +0.8**
baz=167
WSPT Westport, CT 60.73 356 P P **15 38 51.8 0.0**
WSPT IAmb IAmb 15 39 19.1
comp=Z,27nm,0.7s
BLO Bloomington 60.81 345 P P **15 38 52.0 -0.4**
BLO pmax pmax
comp=Z,90nm,1.3s
BLO Bloomington 60.81 345 P P **15 38 52.0 -0.4**
P48A Milroy 60.82 346 P P **15 38 51.6 -0.9**
P48A IAmb IAmb 15 39 19.9
comp=Z,25nm,0.7s
M63A Gales Ferry 60.91 358 P P **15 38 52.9 -0.1**
M63A IAmb IAmb 15 39 15.9
comp=Z,39nm,1.2s
ACSO Alum Creek Sta 61.04 348 P P **15 38 53.8 -0.2**
CCM Cathedral Cave 61.11 340 P P **15 38 54.1 -0.4**
CCM pmax pmax
comp=Z,40nm,1.1s
CCM Cathedral Cave 61.11 340 P P **15 38 54.1 -0.4**
CCM IAmb IAmb 15 38 55.5
comp=Z,40nm,1.1s
OK025 Westminster Rd 61.14 334 P P **15 38 54.5 -0.2**
N53A Lisbon 61.21 350 P P **15 38 54.9 -0.2**
M57A Sunshine Farm, 61.22 353 P P **15 38 54.8 -0.4**
M57A IAmb IAmb 15 39 23.1
comp=Z,20nm,0.7s
Q44A Meyer Farm, Va 61.22 342 P P **15 38 54.1 -1.1**
Q44A IAmb IAmb 15 38 55.5
comp=Z,50nm,0.9s
N54A Moraine State 61.23 351 P P **15 38 55.0 -0.3**
N54A Moraine State 61.23 351 P P **15 38 56.5 +1.3**
baz=168
OK031 S. Brethren Rd 61.26 335 P P **15 38 55.2 -0.3**
O49A Covington 61.27 347 P P **15 38 54.5 -1.1**
O49A IAmb IAmb 15 39 23.5
comp=Z,35nm,0.8s
KSCT Kent School, K 61.30 356 P P **15 38 55.7 +0.1**
KSPA Keystone Colle 61.30 354 P P **15 38 55.4 -0.4**
L63A North Scituate 61.35 358 P P **15 38 55.6 -0.4**
L63A North Scituate 61.35 358 P P **15 38 57.2 +1.2**
baz=177
OK029 Liberty Lake 61.37 334 P P **15 38 56.4 +0.1**
OK029 IAmb IAmb 15 38 57.0
comp=Z,46nm,0.8s
QUOK Quay 61.39 335 P P **15 38 56.4 -0.1**
BRYW Bryant College 61.40 358 P P **15 38 56.5 +0.1**
P46A Rosedale 61.40 344 P P **15 38 55.6 -0.9**

P46A				IAmb	IAmb	15 39 24.2	
	comp=Z,26nm,0.8s						
S39A	Bolivar	61.47	338	P	P	15 38 56.6	-0.3
M55A	Ridgway	61.55	352	P	P	15 38 58.3	+0.9
M55A				IAmb	IAmb	15 39 25.5	
	comp=Z,30nm,0.8s						
N51A	Ashland	61.59	349	P	P	15 38 56.7	-0.9
R40A	Maddies Statio	61.65	340	P	P	15 38 57.8	-0.3
R40A				IAmb	IAmb	15 38 58.6	
	comp=Z,32nm,0.9s						
M54A	Oil Creek Stat	61.71	351	P	P	15 38 58.4	-0.1
M54A	Oil Creek Stat	61.71	351	P	P	15 39 00.1	+1.6
	baz=169						
MNTX	Cornudas Mount	61.79	325	P	P	15 38 58.8	-0.4
MNTX				IAmb	IAmb	15 39 00.5	
	comp=Z,19nm,0.9s						
MNTX	Cornudas Mount	61.79	325	P	P	15 38 59.9	+0.7
	baz=141						
M53A	WI Miller and	61.80	350	P	P	15 38 59.0	0.0
M53A	WI Miller and	61.80	350	P	P	15 38 60.0	+0.9
	baz=168						
VNA3	Neumayer Olymp	61.82	162	P	P	15 39 00.1	+1.2
L59A	Walton	61.87	355	P	P	15 39 00.1	+0.6
L59A				IAmb	IAmb	15 39 27.8	
	comp=Z,33nm,0.8s						
ALLY	Alegheny Colle	61.92	351	P	P	15 39 00.1	+0.2
N49A	Columbus Grove	61.94	347	P	P	15 38 59.1	-0.9
BINY	Binghamton	61.96	354	P	P	15 38 59.9	-0.2
BINY				IAmb	IAmb	15 39 28.4	
	comp=Z,37nm,0.8s						
BINY	Binghamton	61.96	354	P	P	15 39 01.8	+1.7
	baz=173						
T35A	Sooner Cattle	61.96	335	P	P	15 39 00.3	0.0
T35A				IAmb	IAmb	15 39 02.0	
	comp=Z,60nm,1.1s						
M52A	Chesterland	62.01	350	P	P	15 39 00.1	-0.4
VNA1	Neumayer--Stat	62.03	161	P	P	15 39 01.9	+1.6
P43A	Skaggs, Pawnee	62.05	342	P	P	15 39 00.0	-0.7
L56A	Greenwood	62.06	353	P	P	15 39 00.7	-0.2
L56A				IAmb	IAmb	15 39 02.7	
	comp=Z,88nm,1.4s						
SFIN	Lafayette	62.09	345	P	P	15 38 59.5	-1.6
SFIN	Lafayette	62.09	345	P	P	15 39 00.3	-0.8
	baz=161						
BLOK	Blackwell	62.10	335	P	P	15 39 00.2	-1.0
CROK	Carrier	62.20	334	P	P	15 39 01.8	-0.1
CROK				IAmb	IAmb	15 39 03.1	
	comp=Z,49nm,0.9s						
N47A	Urbana	62.23	346	P	P	15 39 01.0	-1.0
O44A	Mansfield	62.23	343	P	P	15 39 00.6	-1.4
O44A				IAmb	IAmb	15 39 28.8	
	comp=Z,43nm,1.1s						
MSTX	Muleshoe	62.24	329	P	P	15 39 01.8	-0.5
MSTX	Muleshoe	62.24	329	P	P	15 39 03.0	+0.7
	baz=144						
TRY	Troy	62.31	356	P	P	15 39 02.2	-0.2
TRY				IAmb	IAmb	15 39 31.2	
	comp=Z,39nm,1.0s						
ERPA	Erie	62.36	351	P	P	15 39 02.4	-0.4
ERPA	Erie	62.36	351	P	P	15 39 03.8	+1.0
	baz=168						
VNA2	Neumayer--Watz	62.39	161	P	P	15 39 03.8	+1.1
	baz=280,slow=7.6						
KAN13	South Haven SW	62.43	335	P	P	15 39 03.6	+0.3
K57A	Scipio Center	62.54	354	P	P	15 39 04.4	+0.4
K57A				IAmb	IAmb	15 39 33.0	
	comp=Z,32nm,0.7s						
OK032	Salt Plains WL	62.55	334	P	P	15 39 04.3	+0.2
OK032				IAmb	IAmb	15 39 05.1	
	comp=Z,39nm,0.9s						
KAN14	Manchester OK	62.58	334	P	P	15 39 04.5	+0.2
KAN14				IAmb	IAmb	15 39 06.9	
	comp=Z,34nm,1.0s						
MMNY	Mt. Morris Dam	62.69	353	P	P	15 39 05.1	+0.2
MMNY				IAmb	IAmb	15 39 34.1	
	comp=Z,38nm,1.0s						
P40A	Paris	62.71	340	P	P	15 39 04.4	-0.8
P40A				IAmb	IAmb	15 39 06.2	
	comp=Z,42nm,0.8s						
KAN08	Anthony NE Sta	62.81	334	P	P	15 39 06.3	+0.4
KAN08				IAmb	IAmb	15 39 07.6	
	comp=Z,54nm,0.8s						
KAN12	Harper NE Stat	62.88	334	P	P	15 39 06.9	+0.5
KAN12				IAmb	IAmb	15 39 08.1	
	comp=Z,65nm,1.0s						
L48A	N Adams	62.98	347	P	P	15 39 06.4	-0.5
J58A	Remsen	63.05	355	P	P	15 39 07.6	+0.2
J58A				IAmb	IAmb	15 39 10.2	
	comp=Z,32nm,1.2s						
J59A	Piesco	63.09	356	P	P	15 39 07.2	-0.5
J59A				IAmb	IAmb	15 39 09.9	
	comp=Z,66nm,1.2s						
J56A	Wolcott	63.11	354	P	P	15 39 07.3	-0.4
J56A				IAmb	IAmb	15 39 09.2	
	comp=Z,29nm,0.8s						
J57A	Williamstown	63.16	355	P	P	15 39 08.7	+0.6
J57A				IAmb	IAmb	15 39 09.8	
	comp=Z,23nm,0.9s						
J55A	Hilton	63.20	353	P	P	15 39 08.4	+0.1
J55A				IAmb	IAmb	15 39 09.9	
	comp=Z,49nm,1.1s						
HNH	Hanover	63.21	358	P	P	15 39 09.4	+1.0
HNH				IAmb	IAmb	15 39 11.7	
	comp=Z,31nm,1.2s						
P38A	Dawn	63.28	339	P	P	15 39 08.7	-0.3
J54A	Appleton	63.31	352	P	P	15 39 09.0	0.0
J54A				IAmb	IAmb	15 39 38.3	
	comp=Z,34nm,1.1s						
I60A	Shoreham	63.40	357	P	P	15 39 11.3	+1.7
	baz=176						
N41A	Harden Midland	63.42	342	P	P	15 39 08.5	-1.4
N41A				IAmb	IAmb	15 39 10.4	
	comp=Z,39nm,0.8s						
I63A	Otisfield	63.51	359	P	P	15 39 12.3	+2.0
	baz=178						
319A	Douglas	63.72	322	P	P	15 39 12.6	+0.5
319A				IAmb	IAmb	15 39 15.0	
	comp=Z,49nm,0.8s						
LBNH	Lisbon	63.73	358	P	P	15 39 11.9	+0.1
LBNH				pmax	pmax		
	comp=Z,17nm,1.0s						
LBNH	Lisbon	63.73	358	P	P	15 39 11.9	+0.1
121A	Cookes Peak, D	63.73	324	P	P	15 39 13.0	+0.7
121A				IAmb	IAmb	15 39 14.8	
	comp=Z,29nm,1.0s						
121A	Cookes Peak, D	63.73	324	P	P	15 39 14.7	+2.4
	baz=139						
PECO	Prince Edward	63.77	354	P	P	15 39 11.0	-1.0
PECO				IAmb	IAmb	15 39 13.8	
	comp=Z,38nm,1.1s						
KSU1	Kansas State U	63.91	337	P	P	15 39 12.8	-0.3
KSU1				IAmb	IAmb	15 39 14.2	
	comp=Z,56nm,1.0s						
KSU1	Kansas State U	63.91	337	P	P	15 39 14.0	+0.9
	baz=151						
SNAA	Sanae	64.02	161	P	P	15 39 14.7	+1.1
SNAA	Sanae	64.02	161	*de*P	P	15 39 14.7	+1.1
SNAA				*i* *PP	pP	15 39 41.5	+2.3
SNAA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SNAA	Sanae	64.02	161	P	P	15 39 14.0	+0.4
R32A	Long Quarter,	64.14	335	P	P	15 39 15.2	+0.5
R32A				IAmb	IAmb	15 39 16.4	
	comp=Z,49nm,1.0s						
EMMW	East Machias	64.17	1	P	P	15 39 15.4	+0.8
EMMW				IAmb	IAmb	15 39 16.5	
	comp=Z,51nm,1.3s						
N38A	Joes South For	64.24	340	P	P	15 39 14.9	-0.3
N38A				IAmb	IAmb	15 39 16.1	
	comp=Z,46nm,1.0s						
LONY	Lake Ozonia	64.25	356	P	P	15 39 15.9	+0.6
LONY				IAmb	IAmb	15 39 17.3	
	comp=Z,32nm,1.1s						
LONY	Lake Ozonia	64.25	356	P	P	15 39 16.8	+1.6
	baz=174						
L42A	Oliver, Polo	64.29	343	P	P	15 39 15.0	-0.5
L42A				IAmb	IAmb	15 39 43.2	
	comp=Z,21nm,0.7s						
J47A	Sunmer	64.30	347	P	P	15 39 15.0	-0.5
BNM	Barren Site	64.34	326	P	P	15 39 17.0	+0.7
FRNY	Flat Rock	64.40	357	P	P	15 39 17.1	+0.9
FRNY				IAmb	IAmb	15 39 18.3	
	comp=Z,55nm,1.4s						
DELO	Deloro Mine	64.42	353	P	P	15 39 16.5	+0.2
DELO				IAmb	IAmb	15 39 17.9	
	comp=Z,60nm,1.4s						
LENM	Lemitar	64.54	326	P	P	15 39 18.2	+0.7
K43A	Burlington	64.59	345	P	P	15 39 16.8	-0.7
K43A				IAmb	IAmb	15 39 46.3	
	comp=Z,71nm,1.1s						
I49A	Point Hope	64.59	349	P	P	15 39 17.2	-0.3
G65A	Princeton	64.66	1	P	P	15 39 17.8	0.0
G65A	Princeton	64.66	1	P	P	15 39 19.4	+1.6
	baz=182						
G62A	West of Eustis	64.67	359	P	P	15 39 18.0	0.0
G62A				IAmb	IAmb	15 39 23.4	
	comp=Z,48nm,1.2s						
G62A	West of Eustis	64.67	359	P	P	15 39 19.7	+1.7
	baz=178						
PKME	Peaks-Kenny Pk	64.71	360	P	P	15 39 18.6	+0.5
PKME				IAmb	IAmb	15 39 47.8	
	comp=Z,18nm,0.7s						
PKME	Peaks-Kenny Pk	64.71	360	P	P	15 39 19.6	+1.4
	baz=180						
L40A	Anamosa	64.78	342	P	P	15 39 18.2	-0.5
L40A				IAmb	IAmb	15 39 47.5	
	comp=Z,34nm,0.9s						
MOQ	Mont Orford	64.81	358	P	P	15 39 18.5	-0.5
SADO	Sadowa	64.85	352	P	P	15 39 18.6	-0.5
SADO				IAmb	IAmb	15 39 20.5	
	comp=Z,41nm,1.3s						
ANMO	Albuquerque	64.87	327⇓	*e*P	P	15 39 20.7	+1.0
ANMO				pmax	pmax		
	comp=Z,40nm,2.1s						
ANMO	Albuquerque	64.87	327	P	P	15 39 19.2	-0.5
PLVO	Plevna	64.88	354	P	P	15 39 19.1	-0.1
PLVO				IAmb	IAmb	15 39 21.0	
	comp=Z,60nm,1.5s						
CBKS	Cedar Bluff	64.89	334	P	P	15 39 20.0	+0.4
CBKS				pmax	pmax		
	comp=Z,51nm,0.9s						
CBKS	Cedar Bluff	64.89	334	P	P	15 39 20.0	+0.4
CBKS				IAmb	IAmb	15 39 21.6	
	comp=Z,51nm,0.9s						
CBKS	Cedar Bluff	64.89	334	P	P	15 39 20.9	+1.4
	baz=148						
N35A	Tabor	65.11	338	P	P	15 39 20.2	-0.7
GBN	Guysborough	65.24	6	P	P	15 39 21.1	-0.5
GBN				IAmb	IAmb	15 39 22.7	
	comp=Z,72nm,1.3s						
SCIA	State Center	65.24	341	P	P	15 39 21.4	-0.3
SCIA				IAmb	IAmb	15 39 22.8	
	comp=Z,56nm,0.8s						
SCIA	State Center	65.24	341	P	P	15 39 22.5	+0.8
	baz=155						
TUC	Tucson	65.27	322	P	P	15 39 22.4	+0.2
TUC				pmax	pmax		
	comp=Z,38nm,1.4s						
TUC	Tucson	65.27	322	P	P	15 39 22.4	+0.2
TUC				IAmb	IAmb	15 39 25.4	
	comp=Z,38nm,1.4s						
TUC	Tucson	65.27	322	P	P	15 39 24.4	+2.1
	baz=136						
JFWS	Jewell Farm	65.29	343	P	P	15 39 21.4	-0.6
JFWS				pmax	pmax		
	comp=Z,55nm,0.9s						
JFWS	Jewell Farm	65.29	343	P	P	15 39 21.4	-0.6
JFWS				IAmb	IAmb	15 39 50.5	
	comp=Z,55nm,0.8s						
JFWS	Jewell Farm	65.29	343	P	P	15 39 22.4	+0.4
	baz=158						
F64A	Sherman	65.31	1	P	P	15 39 22.1	+0.1
F64A	Sherman	65.31	1	P	P	15 39 23.4	+1.3
	baz=181						
T25A	Trinidad	65.58	330	P	P	15 39 24.4	+0.1
T25A	Trinidad	65.58	330	P	P	15 39 26.0	+1.7
	baz=143						
N33A	J Bar K, Exete	65.65	337	P	P	15 39 23.5	-0.9
K38A	Parkersburg	65.77	341	P	P	15 39 24.3	-0.8
K38A				IAmb	IAmb	15 39 25.5	
	comp=Z,55nm,1.1s						
I42A	Draeger Farm,	65.85	345	P	P	15 39 25.1	-0.5
I42A				IAmb	IAmb	15 39 54.4	
	comp=Z,54nm,1.0s						
E63A	Oxbow	65.87	1	P	P	15 39 25.6	0.0
E62A	Clayton Lake	66.07	360	P	P	15 39 27.3	+0.4
E62A				IAmb	IAmb	15 39 29.2	
	comp=Z,55nm,1.3s						
E62A	Clayton Lake	66.07	360	P	P	15 39 28.8	+1.9
	baz=180						
PQI	Presque Isle	66.13	1	P	P	15 39 27.6	+0.3
214A	Organ Pipe Nat	66.22	320	P	P	15 39 29.9	+1.6
214A				IAmb	IAmb	15 39 31.7	
	comp=Z,56nm,0.9s						
214A	Organ Pipe Nat	66.22	320	P	P	15 39 30.9	+2.6
	baz=135						
KSCO	Kaye Shedlock'	66.29	332	P	P	15 39 29.2	+0.5
KSCO				IAmb	IAmb	15 39 31.1	
	comp=Z,50nm,1.0s						
KSCO	Kaye Shedlock'	66.29	332	P	P	15 39 30.3	+1.6
	baz=145						
I40A	Norwalk	66.30	343	P	P	15 39 28.3	-0.2
L34A	Svendsen Farm,	66.34	338	P	P	15 39 28.6	-0.2
X18A	Snowflake	66.42	324	P	P	15 39 31.3	+1.6
BGNE	Belgrade	66.49	337	P	P	15 39 30.1	+0.2
BGNE	Belgrade	66.49	337	P	P	15 39 30.9	+1.1
	baz=150						
D62A	Allapoint, All	66.53	0	P	P	15 39 30.2	+0.4
D62A	Allapoint, All	66.53	0	P	P	15 39 31.1	+1.3
	baz=180						
SDCO	Great Sand Dun	66.59	329	P	P	15 39 31.5	+0.6
SDCO				IAmb	IAmb	15 39 33.4	
	comp=Z,30nm,1.1s						
SDCO	Great Sand Dun	66.59	329	P	P	15 39 32.8	+2.0
	baz=142						
W18A	Petrified Fore	66.74	325	P	P	15 39 32.6	+0.8
W18A				IAmb	IAmb	15 39 34.8	
	comp=Z,40nm,1.1s						
W18A	Petrified Fore	66.74	325	P	P	15 39 33.8	+2.1
	baz=138						
X16A	Lo Mia Camp, P	67.18	323	P	P	15 39 34.8	+0.3
I37A	Lemond, Waseca	67.21	341	P	P	15 39 34.0	-0.2
E46A	Sault Ste Mari	67.21	349	P	P	15 39 33.2	-0.9
E46A				IAmb	IAmb	15 40 01.0	
	comp=Z,33nm,1.1s						
S22A	4UR Ranch, Cre	67.24	328	P	P	15 39 36.9	+1.9
	baz=141						
113A	Mohawk Valley,	67.36	320	P	P	15 39 36.3	+0.8
Q24A	Divide	67.39	330	P	P	15 39 37.8	+1.8
	baz=143						
G40A	Rib Lake	67.47	344	P	P	15 39 35.6	-0.3
OGNE	Ogallala	67.64	334	P	P	15 39 37.2	0.0
OGNE				IAmb	IAmb	15 39 39.2	
	comp=Z,31nm,0.8s						
OGNE	Ogallala	67.64	334	P	P	15 39 38.5	+1.4
	baz=146						
MVCO	Mesa Verde	67.66	327	P	P	15 39 38.2	+0.6
MVCO				IAmb	IAmb	15 39 39.7	
	comp=Z,43nm,1.2s						
MVCO	Mesa Verde	67.66	327	P	P	15 39 39.5	+1.9
	baz=140						
Y14A	Wickenburg	67.73	322	P	P	15 39 38.3	+0.5
E43A	Lone Tree Farm	67.75	347	P	P	15 39 37.2	-0.4
E43A				IAmb	IAmb	15 40 06.4	
	comp=Z,24nm,0.7s						
K31A	O'Neill	67.77	337	P	P	15 39 38.1	+0.3
WUAZ	Wupatki	67.94	324	P	P	15 39 40.1	+0.9
WUAZ				IAmb	IAmb	15 39 42.7	
	comp=Z,39nm,0.9s						
ECSD	EROS Data Cent	67.98	339	P	P	15 39 38.8	-0.4
SPMN	Marine on St.	68.13	342	P	P	15 39 39.7	-0.4
SPMN				IAmb	IAmb	15 40 07.7	
	comp=Z,34nm,0.9s						
GLA	Glamis	68.20	320	P	P	15 39 42.0	+1.2
GLA				pmax	pmax		
	comp=Z,16nm,1.0s						
GLA	Glamis	68.20	320	P	P	15 39 42.0	+1.2
LIC	Lamto	68.23	75	*e*P	P	15 39 40.1	-1.2
	comp=Z,80nm,0.5s						
ISCO	Idaho Springs	68.28	331	P	P	15 39 42.0	+0.5
ISCO				pmax	pmax		
	comp=Z,20nm,0.9s						
ISCO	Idaho Springs	68.28	331	P	P	15 39 42.0	+0.5
ISCO	Idaho Springs	68.28	331	P	P	15 39 43.1	+1.7
	baz=143						
PV01	Paradox Valley	68.41	328	P	P	15 39 42.9	+0.7
TIC	Toumodi	68.41	74	*e*P	P	15 39 42.3	-0.2
SMCO	Snowmass	68.43	329	P	P	15 39 43.6	+1.1
KIC	Kosan Boka	68.55	75	*e*P	P	15 39 43.3	0.0
	comp=Z,78nm,0.5s						
DBIC	Dimbokro	68.57	74	P	P	15 39 42.4	-1.1
	comp=Z,53nm,0.7s,baz=243,slow=5.5,SNR=60						
DBIC				pP	pP	15 40 09.4	-0.4
	comp=Z,20nm,0.5s,baz=242,slow=6.3,SNR=4.3						
DBIC	Dimbokro	68.57	74	P	P	15 39 42.2	-1.2
DBIC				pmax	pmax		
	comp=Z,162nm,1.3s						
DBIC	Dimbokro	68.57	74	P	P	15 39 42.2	-1.2
PDMCI	Parker Dam,Lak	68.66	321	P	P	15 39 45.6	+2.0
	baz=134						
RMX	La Rumorosa	68.67	319	P	P	15 39 44.8	+0.9
RMX				IAmb	IAmb	15 39 47.1	
	comp=Z,48nm,1.0s						
IKP	In-Ko-Pah, Jac	68.72	319	P	P	15 39 46.9	+2.8
	baz=132						
SWSC	Sam W. Stewart	68.72	319	P	P	15 39 46.6	+2.6
	baz=133						
D41A	Chassel	68.75	346	P	P	15 39 43.7	-0.2
D41A				IAmb	IAmb	15 40 12.2	
	comp=Z,62nm,1.1s						
CBX	Cerro Bola	68.84	318	P	P	15 39 47.0	+2.1
F36A	Milaca	68.92	342	P	P	15 39 44.0	-0.9
BC3	Big Chuckawall	69.00	320	P	P	15 39 48.2	+2.4
	baz=133						
E38A	The Farm, Brul	69.06	344	P	P	15 39 45.0	-0.7
E38A				IAmb	IAmb	15 40 13.7	
	comp=Z,42nm,1.1s						
W13A	Hualapai Mount	69.07	322	P	P	15 39 46.6	+0.2
MONP2	Monument Peak	69.07	319	P	P	15 39 48.9	+2.4
	baz=132						
BAR	Barrett	69.09	318	P	P	15 39 47.6	+1.3
BAR				IAmb	IAmb	15 39 49.7	
	comp=Z,42nm,0.9s						
U15A	North Rim	69.11	324	P	P	15 39 47.5	+0.8
U15A				IAmb	IAmb	15 39 49.8	
	comp=Z,37nm,1.0s						
TAOE	Nuku Hiva Isla	69.14	268	*e*T	T	16 54 11.0	
	comp=Z,107nm,0.2s						
IRM	Iron Mountain	69.15	320	P	P	15 39 49.5	+2.8
	baz=134						
NEE2	Needles Airpor	69.26	321	P	P	15 39 50.0	+2.7
	baz=134						
N23A	Red Feather La	69.30	331	P	P	15 39 49.6	+1.9
	baz=143						
PHWY	Pilot Hill	69.41	332	P	P	15 39 49.0	+0.6
SUSD	Miller	69.42	338	P	P	15 39 48.4	+0.3
SUSD				IAmb	IAmb	15 39 49.4	
	comp=Z,53nm,0.9s						
SUSD	Miller	69.42	338	P	P	15 39 48.9	+0.8
	baz=150						
DRLN	Deer Lake	69.50	8	P	P	15 39 48.4	0.0
DRLN				IAmb	IAmb	15 39 51.2	
	comp=Z,37nm,1.0s						
109C	Camp Elliot, M	69.50	318	P	P	15 39 48.9	+0.1
BELC	Belle Mtn. Jos	69.56	320	P	P	15 39 52.0	+2.7
	baz=133						
TPFO	Pinon Flats	69.57	319	P	P	15 39 52.4	+2.9
	baz=132						
PFO	Pinyon Flats O	69.58	319	P	P	15 39 51.5	+2.1
	comp=Z,26nm,0.9s,baz=117,slow=5.8,SNR=7.7						
PFO	Pinyon Flats O	69.58	319	P	P	15 39 50.2	+0.8
PFO				pmax	pmax		
	comp=Z,36nm,1.0s						
PFO	Pinyon Flats O	69.58	319	P	P	15 39 50.2	+0.8
PFO				IAmb	IAmb	15 39 53.0	
	comp=Z,36nm,1.0s						
PFO	Pinyon Flats O	69.58	319	P	P	15 39 52.3	+2.8
	baz=132						
F33A	5 Mile Ranch,	69.75	340	P	P	15 39 49.6	-0.4
O20A	White River Ci	69.79	329	P	P	15 39 51.3	+0.7
KNB	Kanab	69.83	324	P	P	15 39 52.6	+1.6
KNB				pmax	pmax		
	comp=Z,77nm,1.0s						
KNB	Kanab	69.83	324	P	P	15 39 52.6	+1.6
KNB				IAmb	IAmb	15 39 54.9	
	comp=Z,77nm,1.0s						
GMRC	Granite Mounta	69.89	321	P	P	15 39 54.3	+2.9
	baz=133						
LCMT	Little Creek M	70.06	324	P	P	15 39 53.7	+1.4
SRU	San Rafael Swe	70.14	327	P	P	15 39 53.4	+0.6
SRU				pmax	pmax		
	comp=Z,33nm,0.8s						
SRU	San Rafael Swe	70.14	327	P	P	15 39 53.4	+0.6
SRU				IAmb	IAmb	15 39 55.5	
	comp=Z,33nm,0.8s						
MTPU	Mount Pierson	70.23	325	P	P	15 39 53.2	-0.4
EYMN	Ely	70.28	344	P	P	15 39 52.8	-0.4
EYMN				IAmb	IAmb	15 40 21.1	
	comp=Z,41nm,1.2s						
EYMN	Ely	70.28	344	P	P	15 39 53.3	0.0
	baz=158						
HEC	Hector,Ludlow	70.33	320	P	P	15 39 57.0	+3.1
	baz=133						
Q16A	Castle Valley	70.33	326	P	P	15 39 54.1	0.0
QSPA	South Pole Qui	70.42	180	P	P	15 39 55.3	+1.2
QSPA				IAmb	IAmb	15 39 57.2	
	comp=Z,43nm,0.9s						
SCI2	San Clemente I	70.47	317	P	P	15 39 57.7	+3.0
	baz=131						
TUQ	Turquoise Moun	70.50	321	P	P	15 39 57.6	+2.6
	baz=133						
CCUT	Cedar City	70.51	324	P	P	15 39 57.0	+1.8
CCUT				IAmb	IAmb	15 39 59.2	
	comp=Z,49nm,0.9s						
RWWY	Rawlins	70.51	331	P	P	15 39 55.5	+0.3
P17A	Butcher Ranch,	70.53	327	P	P	15 39 55.7	+0.6
P17A				IAmb	IAmb	15 39 58.0	
	comp=Z,41nm,0.9s						
MSU	Marysvale	70.57	325	P	P	15 39 56.3	+0.8
MSU	Marysvale	70.57	325	P	P	15 39 56.3	+0.8
MVU	Marysvale	70.58	325	P	P	15 39 56.7	+1.1
TMUT	Trail Mountain	70.64	327	P	P	15 39 56.8	+0.8
RRX	Edison Barstow	70.76	320	P	P	15 39 59.6	+3.1
	baz=132						
RDMU	Red Mountain	70.77	329	P	P	15 39 57.4	+0.8
RDMU				IAmb	IAmb	15 39 58.6	
	comp=Z,28nm,0.9s						
SHPR	Sheep Range	70.79	322	P	P	15 39 57.4	+0.6
GSC	Goldstone, Bar	70.93	320	P	P	15 39 58.5	+0.9
GSC				pmax	pmax		
	comp=Z,34nm,1.0s						
GSC	Goldstone, Bar	70.93	320	P	P	15 39 58.5	+0.9
GSC				IAmb	IAmb	15 40 00.6	
	comp=Z,34nm,1.0s						
GSC	Goldstone, Bar	70.93	320	P	P	15 40 00.5	+2.9
	baz=133						
K22A	Casper	70.97	332	P	P	15 39 58.6	+0.9
K22A	Casper	70.97	332	P	P	15 39 59.6	+1.8
	baz=143						
MWC	Mount Wilson	70.98	319	P	P	15 39 59.3	+1.3
MWC				pmax	pmax		
	comp=Z,47nm,1.0s						
MWC	Mount Wilson	70.98	319	P	P	15 39 59.3	+1.3
MWC				IAmb	IAmb	15 40 01.4	
	comp=Z,47nm,1.0s						
PASC	Pasadena Art C	71.02	319	P	P	15 39 59.5	+1.5
PASC				IAmb	IAmb	15 40 01.6	
	comp=Z,61nm,1.1s						
SHOC	Shoshone, Teco	71.02	321	P	P	15 40 01.4	+3.4
	baz=133						
RSSD	Black Hills	71.09	334	P	P	15 39 59.5	+0.9
RSSD				pmax	pmax		
	comp=Z,26nm,0.8s						
RSSD	Black Hills	71.09	334	P	P	15 39 59.5	+0.9
RSSD				IAmb	IAmb	15 40 00.8	
	comp=Z,26nm,0.8s						
RSSD	Black Hills	71.09	334	P	P	15 40 00.3	+1.8
	baz=145						
DECC	Green Verdugo	71.17	319	P	P	15 40 01.9	+2.9
	baz=131						
B35A	Bob, Littlefor	71.26	343	P	P	15 39 58.6	-0.5
B35A				IAmb	IAmb	15 40 00.1	
	comp=Z,41nm,1.1s						
EDW2	Edwards Air Fo	71.37	319	P	P	15 40 02.6	+2.4
	baz=132						
MPU	Maple Canyon	71.39	327	P	P	15 40 01.2	+0.8
PSUT	Pine Spring	71.49	325	P	P	15 40 02.4	+1.4
PSUT				IAmb	IAmb	15 40 05.7	
	comp=Z,36nm,0.9s						
NLU	North Lily Min	71.57	327	P	P	15 40 03.0	+1.4
LRMC	Laurel Mtn Rad	71.58	320	P	P	15 40 04.2	+2.6
	baz=132						
OSI	Osito Audit: C	71.65	319	P	P	15 40 03.0	+1.2
OSI				IAmb	IAmb	15 40 05.0	
	comp=Z,34nm,0.8s						
TPNV	Topopah Spring	71.73	322	P	P	15 40 04.4	+1.9

TPNV pmax pmax
comp=Z,41nm,1.0s
TPNV Topopah Spring 71.73 322 P P 15 40 04.4 +1.9
TPNV IAmb IAmb 15 40 05.7
comp=Z,41nm,0.9s
TPNV Topopah Spring 71.73 322 P P 15 40 05.4 +3.0
baz=133
JLU Jordanelle 71.73 327 P P 15 40 03.6 +1.1
FURC Furnace Creek, 71.76 321 P P 15 40 05.5 +3.1
baz=133
AGMN Agassiz Nation 71.81 342 P P 15 40 02.5 +0.1
AGMN IAmb IAmb 15 40 30.6
comp=Z,34nm,1.1s
AGMN Agassiz Nation 71.81 342 P P 15 40 03.1 +0.6
baz=154
E28A Huff 71.88 338 P P 15 40 03.5 +0.6
E28A IAmb IAmb 15 40 04.6
comp=Z,82nm,0.9s
SPR3 Spring Creek 3 72.08 325 P P 15 40 05.9 +1.2
TCUT Toone Canyon 72.09 328 P P 15 40 05.5 +0.9
DUG Dugway, Tooele 72.13 326 P P 15 40 05.7 +0.9
DUG pmax pmax
comp=Z,52nm,1.2s
DUG Dugway, Tooele 72.13 326 P P 15 40 05.7 +0.9
DUG IAmb IAmb 15 40 08.1
comp=Z,52nm,1.1s
DUG Dugway, Tooele 72.13 326 P P 15 40 07.3 +2.5
baz=137
ISA Isabella, Lake 72.19 320 P P 15 40 06.2 +1.1
ISA Isabella, Lake 72.19 320 P P 15 40 06.2 +1.1
ISA IAmb IAmb 15 40 08.7
comp=Z,38nm,0.8s
ISA Isabella, Lake 72.19 320 P P 15 40 08.0 +2.9
baz=131
R11A Troy Canyon, C 72.32 323 P P 15 40 07.8 +1.8
R11A Troy Canyon, C 72.32 323 P P 15 40 08.8 +2.8
baz=134
GRAC Grapevine Rang 72.41 321 P P 15 40 09.3 +2.9
baz=133
BW06 Boulder Array 72.44 330 P P 15 40 05.6 -1.1
PD31 Pinedale Array 72.44 330 P P 15 40 05.5 -1.2
PDAR Pinedale Array 72.44 330 P P 15 40 07.5 +0.8
comp=Z,4.2nm,0.6s,baz=131,slow=5.9,SNR=4.8
PDAR pP **pP 15 40 33.8 +1.2**
comp=Z,4.3nm,0.7s,baz=134,slow=8.5,SNR=2.5
PDAR Pinedale Array 72.44 330 P P 15 40 05.6 -1.2
CWC Cottonwood Cre 72.46 320 P P 15 40 09.6 +2.8
baz=132
PKM Mcpherson Peak 72.51 318 P P 15 40 09.9 +2.7
baz=130
HWUT Hardware Ranch 72.54 328 P P 15 40 07.3 +0.1
MDND Maddock 72.60 339 P P 15 40 07.4 +0.2
MDND Maddock 72.60 339 P P 15 40 08.3 +1.1
baz=150
KOWA Kowa 72.64 67 P P 15 40 07.3 -0.8
comp=Z,11nm,0.5s,baz=252,slow=9.7,SNR=24
KOWA pP **pP 15 40 34.0 -0.7**
comp=Z,19nm,0.7s,baz=248,slow=3.5,SNR=4.8
KOWA sP **sP 15 40 44.5 -1.4**
comp=Z,10nm,0.5s,baz=254,slow=3.4,SNR=3.4
KOWA Kowa 72.64 67 P P 15 40 06.5 -1.7
VES Vestal, Richgr 72.67 319 P P 15 40 10.6 +2.7
baz=131
SPUT South Promonto 72.76 327 P P 15 40 09.0 +0.5
SPUT IAmb IAmb 15 40 11.3
comp=Z,33nm,1.0s
BGU Big Grassy Mou 72.78 327 P P 15 40 08.8 +0.1
TIN Tinemaha, Big 72.96 321 P P 15 40 12.6 +2.9
baz=132
TPH Tonopah 73.06 322 P P 15 40 10.0 -0.4
TPH pmax pmax
comp=Z,136nm,1.0s
TPH Tonopah 73.06 322 P P 15 40 10.0 -0.4
AHID Auburn Hatcher 73.18 329 P P 15 40 11.2 +0.2
AHID IAmb IAmb 15 40 13.4
comp=Z,32nm,0.9s
HVU Hansel Valley 73.28 327 P P 15 40 12.2 +0.7
HVU pmax pmax
comp=Z,27nm,1.1s
HVU Hansel Valley 73.28 327 P P 15 40 12.2 +0.7
PAGB Antelope Grade 73.32 319 P P 15 40 13.3 +1.5
PAGB IAmb IAmb 15 40 14.8
comp=Z,50nm,1.0s
REDW Red Top Meadow 73.51 330 P P 15 40 14.2 +1.2
SNOW Snow King Moun 73.54 330 P P 15 40 14.0 +0.8
ULM Lac du Bonnet 73.57 343 P P 15 40 12.3 -0.5
comp=Z,20nm,0.8s,baz=153,slow=6.8,SNR=13
ULM pP **pP 15 40 39.2 +0.3**
comp=Z,21nm,0.7s,baz=150,slow=6.9,SNR=5.4
ULM Lac du Bonnet 73.57 343 P P 15 40 12.3 -0.5
ULM pmax pmax
comp=Z,36nm,1.1s
ULM Lac du Bonnet 73.57 343 P P 15 40 12.3 -0.5
ULM IAmb IAmb 15 40 13.4
comp=Z,36nm,1.1s
LOHW Long Hollow 73.58 330 P P 15 40 13.4 +0.1
TPAW Teton Pass 73.66 330 P P 15 40 13.4 -0.4
MOOW Moose Ponds 73.75 330 P P 15 40 14.3 -0.1
FXWY Fox Creek 73.80 330 P P 15 40 15.2 +0.5
ELK Elko 73.81 325 P P 15 40 14.9 +0.1
ELK pmax pmax
comp=Z,21nm,1.1s
ELK Elko 73.81 325 P P 15 40 14.9 +0.1
NV11 Mina Array Sit 73.84 322 P P 15 40 15.4 +0.5
LHV Little Huntoon 73.92 322 P P 15 40 16.8 +1.7
LHV IAmb IAmb 15 40 18.9
comp=Z,32nm,0.8s
NVAR Mina Array Bea 73.93 322 P P 15 40 17.1 +1.6
comp=Z,17nm,0.8s,baz=152,slow=5.9,SNR=22
NVAR Mina Array Bea 73.93 322 P P 15 40 16.3 +0.8
IMW Indian Meadow 73.96 330 P P 15 40 16.9 +1.3
PMPB Monarch Peak 73.98 319 P P 15 40 17.0 +1.4
PMPB IAmb IAmb 15 40 19.3
comp=Z,58nm,0.9s
FLWY Flagg Ranch 73.99 330 P P 15 40 17.3 +1.6
FLWY IAmb IAmb 15 40 18.9
comp=Z,53nm,0.8s
LAO LASA Array 74.08 335 P P 15 40 16.7 +0.7
LAO IAmb IAmb 15 40 18.5
comp=Z,57nm,1.2s
LAO LASA Array 74.08 335 P P 15 40 17.6 +1.6
baz=144
RLMT Red Lodge 74.13 332 P P 15 40 17.2 +0.7
RLMT Red Lodge 74.13 332 P P 15 40 18.5 +2.0
baz=141
H17A Grant Village 74.17 331 P P 15 40 19.7 +2.9
baz=140
RYN Ryan 74.19 322 P P 15 40 18.0 +1.1
LKWY Lake 74.22 331 P P 15 40 18.6 +1.5
LKWY pmax pmax
comp=Z,37nm,1.0s
LKWY Lake 74.22 331 P P 15 40 18.6 +1.5
LKWY IAmb IAmb 15 40 21.0
comp=Z,37nm,0.9s
KVN Kaiserville 74.23 322 P P 15 40 18.0 +0.8
KVN pmax pmax
comp=Z,38nm,0.9s
KVN Kaiserville 74.23 322 P P 15 40 18.0 +0.8
KVN IAmb IAmb 15 40 20.1
comp=Z,38nm,0.9s
YMP Mirror Lake Pl 74.24 331 P P 15 40 18.6 +1.3
VAH Vaihoa 74.27 259 eP P 15 40 20.2 +2.5
comp=Z,118nm,1.1s
SCHQ Schefferville 74.32 1 P P 15 40 16.4 -0.7
comp=Z,9.8nm,0.8s,baz=201,slow=6.7,SNR=7.4
SCHQ Schefferville 74.32 1 P P 15 40 17.2 +0.1
YNE Yellowstone No 74.38 331 P P 15 40 18.9 +0.9
YNE IAmb IAmb 15 40 20.8
comp=Z,76nm,0.8s
YNR Norris Junctio 74.46 331 P P 15 40 19.6 +1.1
YMR Madison River 74.56 330 P P 15 40 20.7 +1.7
YMR IAmb IAmb 15 40 22.7
comp=Z,63nm,1.1s
PMOR Pomariorio Ree 74.58 259 eP P 15 40 22.1 +2.6
comp=Z,148nm,1.0s
YHH Holmes Hill 74.59 331 P P 15 40 20.7 +1.4
YHH IAmb IAmb 15 40 22.9
comp=Z,49nm,1.0s
BMN Battle Mountai 74.67 324 P P 15 40 20.0 +0.3
BMN pmax pmax
comp=Z,7.0nm,1.0s
BMN Battle Mountai 74.67 324 P P 15 40 20.0 +0.3
SAO San Andreas Ge 74.73 319 P P 15 40 20.6 +0.7
SAO pmax pmax
comp=Z,15nm,0.9s

SAO San Andreas Ge 74.73 319 P P 15 40 20.6 +0.7
YHB Horse Butte 74.73 330 P P 15 40 21.1 +1.1
YHB IAmb IAmb 15 40 23.3
comp=Z,37nm,0.9s
DGMT Dagmar 74.75 337 P P 15 40 20.7 +0.9
DGMT IAmb IAmb 15 40 22.4
comp=Z,59nm,0.8s
DGMT Dagmar 74.75 337 P P 15 40 21.6 +1.8
baz=146
GCMT Greycliff 74.83 332 P P 15 40 21.0 +0.5
YERR Yerington 74.84 322 P P 15 40 22.2 +1.4
YERR IAmb IAmb 15 40 24.3
comp=Z,69nm,1.4s
QLMT Earthquake Lak 74.89 330 P P 15 40 22.4 +1.5
CMB Columbia Colle 74.90 320 P P 15 40 22.5 +1.6
CMB pmax pmax
comp=Z,11nm,1.0s
CMB Columbia Colle 74.90 320 P P 15 40 22.5 +1.6
PNTR Pine Nut 75.12 322 P P 15 40 23.8 +1.4
PNTR IAmb IAmb 15 40 26.0
comp=Z,30nm,0.9s
PAE Paea 75.38 256 eP P 15 40 26.8 +2.7
comp=Z,29nm,1.0s
PPT2 Papeete2 75.40 256 eP P 15 40 26.9 +2.6
comp=Z,76nm,1.2s
HLID Hailey 75.40 328 P P 15 40 25.1 +1.3
HLID IAmb IAmb 15 40 27.3
comp=Z,36nm,0.9s
HLID Hailey 75.40 328 P P 15 40 26.6 +2.7
baz=136
PAHR Pah Rah Range 75.41 322 P P 15 40 25.6 +1.6
PAHR IAmb IAmb 15 40 27.4
comp=Z,69nm,0.9s
PPT Papeete 75.41 256 P P 15 40 26.4 +2.1
comp=Z,67nm,0.9s,baz=76,slow=5.8,SNR=3.0
BCYI Bear Canyon 75.45 329 P P 15 40 25.4 +1.2
MCMT McKenzie Canyo 75.56 330 P P 15 40 25.9 +1.0
BOZ Bozeman (W) 75.57 331 P P 15 40 25.8 +1.1
BOZ pmax pmax
comp=Z,24nm,1.2s
BOZ Bozeman (W) 75.57 331 P P 15 40 25.8 +1.1
BOZ Bozeman (W) 75.57 331 P P 15 40 26.6 +1.9
baz=135
AFDM Forest Hills D 75.84 321 P P 15 40 27.3 +1.0
DLMT Dillon 75.84 330 P P 15 40 27.1 +0.8
DLMT IAmb IAmb 15 40 29.4
comp=Z,57nm,1.4s
MFID Camas Ranch 76.01 327 P P 15 40 28.0 +0.7
MFID IAmb IAmb 15 40 30.7
comp=Z,59nm,1.2s
BEKR Beckworth 76.08 322 P P 15 40 28.5 +0.7
LRM Limekiln Ridge 76.12 330 P P 15 40 29.0 +1.0
MCCM Marconi Confer 76.48 319 P P 15 40 31.4 +1.6
MCCM IAmb IAmb 15 40 43.8
comp=Z,60nm,0.8s
HRY Holter Researc 76.50 331 P P 15 40 31.3 +1.3
ORV Oroville 76.54 321 P P 15 40 31.6 +1.4
ORV pmax pmax
comp=Z,76nm,1.2s
ORV Oroville 76.54 321 P P 15 40 31.6 +1.4
ORV IAmb IAmb 15 40 33.7
comp=Z,76nm,1.1s
EGMT Eagleton 76.60 333 P P 15 40 31.4 +0.9
EGMT IAmb IAmb 15 40 32.6
comp=Z,52nm,1.0s
EGMT Eagleton 76.60 333 P P 15 40 32.0 +1.6
baz=141
TORD Torodi Ar. Bea 77.09 71 P P 15 40 32.5 -1.3
comp=Z,33nm,0.4s,baz=253,slow=5.3,SNR=372
TORD pP **pP 15 40 59.1 -1.5**
comp=Z,42nm,0.8s,baz=256,slow=5.4,SNR=9.0
TORD sP **sP 15 41 11.4 -0.3**
comp=Z,42nm,1.1s,baz=263,slow=5.2,SNR=3.8
TORD Torodi Ar. Bea 77.09 71 P P 15 40 32.3 -1.5
TORD IAmb IAmb 15 40 34.0
comp=Z,84nm,1.3s
O03E Paynes Creek 77.19 321 P P 15 40 35.0 +1.0
baz=130
PLID Pearl Lake 77.29 328 P P 15 40 35.5 +0.9
PLID IAmb IAmb 15 40 37.4
comp=Z,39nm,0.9s
J08A Circle Bar Ran 77.36 326 P P 15 40 35.3 +0.5
MOD Modoc Plateau 77.38 323 P P 15 40 36.0 +1.0
SBA Scott Base 77.47 190 P P 15 40 36.0 +1.1
SBA pmax pmax
comp=Z,30nm,1.3s
SBA Scott Base 77.47 190 P P 15 40 37.0 +2.1
MSO Missoula 77.56 330 P P 15 40 36.8 +0.9
MSO IAmb IAmb 15 40 39.2
comp=Z,57nm,1.5s
MSO Missoula 77.56 330 P P 15 40 38.7 +2.8
baz=137
O02D Mt. Diablo Mer 77.70 321 P P 15 40 38.3 +1.6
baz=129
BMO Blue Mountains 77.78 327 P P 15 40 38.1 +1.0
BMO pmax pmax
comp=Z,27nm,0.9s
BMO Blue Mountains 77.78 327 P P 15 40 38.1 +1.0
WDC Whiskeytown Da 77.81 321 P P 15 40 37.0 -0.3
WDC pmax pmax
comp=Z,13nm,0.9s
WDC Whiskeytown Da 77.81 321 P P 15 40 37.0 -0.3
N02D Trinity Center 78.16 322 P P 15 40 40.4 +1.1
baz=129
M04C Macdoel 78.17 323 P P 15 40 41.1 +1.7
baz=130
SYO Syowa Base 78.24 160 epP pP 15 41 02.2 -3.6
SYO Syowa Base 78.24 160 esP sP 15 41 11.1 -5.7
K05A Summer Lake 78.25 324 P P 15 40 41.6 +1.7
K05A IAmb IAmb 15 40 43.5
comp=Z,80nm,1.3s
JTMT Jette 78.39 331 P P 15 40 41.2 +0.8
I07A Izee 78.40 326 P P 15 40 41.9 +1.3
VNDA Vanda 78.50 190 P P 15 40 42.5 +1.9
comp=Z,4.8nm,0.9s,baz=131,slow=4.8,SNR=16
VNDA Vanda 78.50 190 P P 15 40 41.9 +1.4
VNDA pmax pmax
comp=Z,12nm,1.1s
VNDA Vanda 78.50 190 P P 15 40 41.9 +1.4
M02C Callahan 78.51 322 P P 15 40 42.6 +1.4
baz=129
F10A Beach Ranch, E 78.53 328 P P 15 40 42.0 +0.8
YBH Yreka Blue Hor 78.64 322 P P 15 40 42.3 +0.3
YBH pmax pmax
comp=Z,13nm,1.0s
YBH Yreka Blue Hor 78.64 322 P P 15 40 42.3 +0.3
KHMM Horse Mountain 78.70 321 P P 15 40 43.9 +1.5
L04D Klamath Falls 78.72 323 P P 15 40 44.0 +1.6
baz=130
J05D Fort Rock, OR 78.81 324 P P 15 40 45.3 +2.4
baz=131
JCC Jacoby Creek, 78.84 321 P P 15 40 44.3 +1.4
JCC IAmb IAmb 15 40 46.2
comp=Z,66nm,1.2s
G08A Pilot Rock 78.93 327 P P 15 40 44.4 +0.9
PINE Pine Mountain 78.98 325 P P 15 40 44.8 +0.9
PINE IAmb IAmb 15 40 47.5
comp=Z,60nm,1.2s
WALA Waterton Lakes 79.19 332 P P 15 40 45.6 +0.9
WALA IAmb IAmb 15 40 47.3
comp=Z,32nm,0.9s
J04D Umpqua Nationa 79.27 324 P P 15 40 47.5 +2.0
baz=130
FFC Flin Flon 79.28 341 P P 15 40 45.1 +0.1
FFC pmax pmax
comp=Z,24nm,1.3s
FFC Flin Flon 79.28 341 P P 15 40 45.1 +0.1
HUMO Hull Mountain 79.34 323 P P 15 40 45.4 -0.2
E09A Wood Farm, Sta 79.36 328 P P 15 40 45.9 +0.3
E09A IAmb IAmb 15 40 48.3
comp=Z,40nm,1.3s
L02E Cave Junction 79.43 322 P P 15 40 48.5 +2.4
baz=129
I05D Terrebonne, OR 79.56 325 P P 15 40 49.6 +2.7
baz=131
SUR Sutherland 79.74 121 P P 15 40 49.1 +0.6
comp=Z,3.5nm,0.5s,baz=226,slow=6.7,SNR=10
I04A Tendick Farm, 79.79 324 P P 15 40 49.6 +1.5
baz=130
K02D Willamette Mer 79.80 322 P P 15 40 50.8 +2.6
baz=129
E08A Dider Farm, El 79.80 328 P P 15 40 49.1 +1.1
KBO Bosley Butte 79.82 322 P P 15 40 49.8 +1.5
KBO IAmb IAmb 15 40 52.0
comp=Z,106nm,1.5s

HAWA Hanford 79.97 327 P P 15 40 50.0 +1.1
HAWA IAmb IAmb 15 40 52.2
comp=Z,38nm,1.0s
NEW Newport 80.08 330 P P 15 40 50.2 +0.6
NEW pmax pmax
comp=Z,10.0nm,0.9s
NEW Newport 80.08 330 P P 15 40 50.2 +0.6
D08A Wollman Farm, 80.12 328 P P 15 40 50.9 +1.2
G05D Wamic, OR 80.14 326 P P 15 40 52.8 +2.9
baz=131
H04A Detroit Lake 80.24 325 P P 15 40 51.1 +0.6
J01E Myrtle Point 80.24 323 P P 15 40 53.4 +2.9
baz=129
I03D Drain, OR 80.25 323 P P 15 40 52.8 +2.3
baz=129
KEBM Edson Butte 80.29 322 P P 15 40 52.1 +1.3
KEBM IAmb IAmb 15 40 54.2
comp=Z,61nm,1.0s
C09A Chrisman Ranch 80.31 329 P P 15 40 52.1 +1.4
C09A IAmb IAmb 15 40 53.7
comp=Z,46nm,0.8s
BUCK Buck Mountain 80.37 324 P P 15 40 52.7 +1.4
BUCK IAmb IAmb 15 40 54.0
comp=Z,50nm,0.8s
MORF Marmelete 80.46 45 eP P 15 40 54.3 +2.4
ARF Arif 80.49 52 P P 15 40 56.0 +3.8
F05D White Salmon 80.63 326 P P 15 40 55.0 +2.5
baz=131
I02D Swisshome 80.79 324 P P 15 40 56.2 +2.9
baz=129
COR Corvallis 80.79 324 P P 15 40 55.3 +2.0
COR pmax pmax
comp=Z,105nm,1.2s
COR Corvallis 80.79 324 P P 15 40 55.3 +2.0
COR IAmb IAmb 15 40 56.9
comp=Z,105nm,1.1s
TSUM Tsumeb 80.86 107 P P 15 40 54.5 0.0
comp=Z,18nm,0.9s,baz=237,slow=4.8,SNR=11
TSUM pP **pP 15 41 21.7 +0.2**
comp=Z,13nm,0.9s,baz=231,slow=9.0,SNR=4.2
TSUM Tsumeb 80.86 107 P P 15 40 54.6 0.0
MDT Midelt 80.89 50 P P 15 40 54.0 -0.3
comp=Z,8.7nm,0.8s,baz=254,slow=3.8,SNR=12
MDT pP **pP 15 41 22.1 +0.7**
comp=Z,21nm,1.1s,baz=248,slow=6.5,SNR=8.2
PNCL Nicolau / Gran 80.99 44 eP P 15 40 56.0 +1.4
MESJ Messejana 81.04 45 eP P 15 40 55.4 +0.5
comp=Z,27nm,1.8s
PCVE Castro Verde 81.05 45 eP P 15 40 56.0 +1.1
comp=Z,20nm,1.7s
LTY Liberty 81.13 327 P P 15 40 56.4 +1.1
LTY IAmb IAmb 15 40 58.1
comp=Z,58nm,1.2s
F04A Amboy 81.17 326 P P 15 40 56.7 +1.3
F04A IAmb IAmb 15 40 58.1
comp=Z,72nm,1.0s
B08A Colville Reser 81.21 329 P P 15 40 55.7 +0.1
PBEJ Beja 81.38 45 eP P 15 40 58.1 +1.5
comp=Z,21nm,1.8s
LON Longmire 81.38 326 P P 15 40 57.3 +0.8
LON pmax pmax
comp=Z,19nm,1.1s
LON Longmire 81.38 326 P P 15 40 57.3 +0.8
PMTG Montargil 81.72 43 eP P 15 40 59.1 +0.7
D05A Enumclaw 81.76 327 P P 15 40 59.2 +0.7
D05A IAmb IAmb 15 41 01.0
comp=Z,76nm,1.0s
PBAR Barrancos 82.00 45 eP P 15 40 59.7 -0.2
comp=Z,16nm,1.9s
EDM Edmonton 82.05 335 P P 15 40 59.8 -0.1
EDM pmax pmax
comp=Z,151nm,1.0s
EDM Edmonton 82.05 335 P P 15 40 59.8 -0.1
B06A Marblemount 82.38 328 P P 15 41 01.7 +0.1
B06A IAmb IAmb 15 41 03.5
comp=Z,51nm,0.8s
B05A Bryant 82.52 328 P P 15 41 03.6 +1.2
baz=131
MTE Manteigas 82.89 43 eP P 15 41 06.1 +1.5
comp=Z,41nm,1.5s
FIGM Figuig 83.02 52 P P 15 41 07.0 +1.4
A04D Lummi Island 83.13 328 P P 15 41 07.5 +2.0
baz=130
POLO Lamas de Olo 83.27 42 eP P 15 41 07.0 +0.5
comp=Z,17nm,1.8s
PGC Sidney 83.46 327 P P 15 41 07.7 +0.6
PGC IAmb IAmb 15 41 09.5
comp=Z,48nm,0.9s
MVO Moncorvo 83.63 42 eP P 15 41 08.4 0.0
LLLB Lillooet 83.96 329 P P 15 41 09.9 +0.1
LLLB IAmb IAmb 15 41 11.9
comp=Z,45nm,1.1s
PBRG Braganca 84.16 42 eP P 15 41 11.3 +0.3
comp=Z,37nm,1.3s
PAB San Pablo 84.51 45 P P 15 41 12.3 -0.6
PAB pmax pmax
comp=Z,20nm,1.1s
PAB San Pablo 84.51 45 P P 15 41 12.3 -0.6
BOSA Boshof 84.56 118 P P 15 41 13.5 0.0
comp=Z,10nm,0.8s,baz=267,slow=5.6,SNR=5.7
BOSA pP **pP 15 41 41.0 +0.3**
comp=Z,24nm,1.0s,baz=243,slow=3.6,SNR=8.6
ESDC Sonseca Array 84.83 45 P P 15 41 14.4 -0.1
comp=Z,6.6nm,0.9s,baz=249,slow=5.0,SNR=24
ESDC pP **pP 15 41 41.9 +0.2**
comp=Z,11nm,1.0s,baz=247,slow=5.0,SNR=9.4
ESDC Sonseca Array 84.83 45 P P 15 41 14.2 -0.3
ESBB Sonseca Array 84.83 45 P P 15 41 14.5 +0.1
LBTB Lobatse 86.05 115 P P 15 41 20.6 -0.4
comp=Z,3.5nm,0.6s,baz=258,slow=8.0,SNR=3.7
LBTB pP **pP 15 41 48.3 +0.1**
comp=Z,14nm,1.0s,baz=261,slow=7.5,SNR=5.3
LBTB Lobatse 86.05 115 P P 15 41 20.6 -0.4
LBTB pmax pmax
comp=Z,40nm,1.2s
LBTB Lobatse 86.05 115 IAmb IAmb 15 41 49.9
comp=Z,40nm,1.2s
MAW Mawson 86.08 163 P P 15 41 20.3 +0.2
comp=Z,5.8nm,1.0s,baz=202,slow=5.5,SNR=6.8
MAW pP **pP 15 41 48.2 +1.0**
comp=Z,6.8nm,1.0s,baz=213,slow=9.2,SNR=4.4
MAW Mawson 86.08 163 IAmb IAmb 15 41 23.6
comp=Z,1.4nm,1.1s
YKA Yellowknife Ar 89.44 341 P P 15 41 36.9 +0.8
comp=Z,56nm,0.8s,baz=130,slow=5.5,SNR=114
YKA pP **pP 15 42 04.7 +1.6**
comp=Z,47nm,1.0s,baz=129,slow=5.6,SNR=7.5
YKA Yellowknife Ar 89.44 341 P P 15 41 36.4 +0.3
MATP Matopo 90.15 112 P P 15 41 40.2 -0.5
comp=Z,2.4nm,0.4s,baz=272,slow=7.8,SNR=7.3
MATP pP **pP 15 42 08.4 +0.3**
comp=Z,9.0nm,1.0s,baz=214,slow=2.1,SNR=2.9
WRAK Wrangell Islan 92.44 330 P P 15 41 51.8 +1.7
baz=123
DLBC Dease Lake 92.52 333 P P 15 41 51.5 +0.9
DLBC IAmb IAmb 15 41 53.1
comp=Z,28nm,1.1s
KEST Kesra 92.52 53 P P 15 41 49.2 -2.0
comp=Z,3.8nm,0.9s,baz=333,slow=4.5,SNR=2.6
KIP Kipapa 95.91 291 ||eP P 15 42 05.5 -1.4
KIP pmax pmax
comp=Z,56nm,1.5s
GERES GERESS Array B 100.14 42 PKKPbc PKKPbc 15 58 43.0 -1.7
comp=Z,0.2nm,0.4s,baz=18,slow=4.1,SNR=3.9
ILAR Eielson Array 102.54 335 Pdiff Pdif 15 42 34.5 -1.1
comp=Z,0.4nm,0.8s,baz=142,slow=4.5,SNR=2.7
ILAR PP **PP 15 46 48.3 -1.7**
comp=Z,0.8nm,0.9s,baz=96,slow=7.5,SNR=2.9
MLR Muntele Rosu 107.40 47 PP PP 15 47 23.2 -3.4
comp=Z,4.1nm,0.8s,baz=275,slow=5.2,SNR=6.4
FINES FINESS Array B 109.69 31 PKKPbc PKKPbc 15 58 15.1 -0.8
comp=Z,0.8nm,0.7s,baz=72,slow=6.2,SNR=4.7
MNK Minsk 109.96 38 i P Pdif 15 43 15.1 +6.4
comp=E,3.0nm,0.7s
MNK *i* P **Pdif 15 43 15.1 +6.4**
comp=N,24nm,1.1s
MNK *i* P **Pdif 15 43 15.1 +6.4**
comp=Z,16nm,0.6s,baz=264
MNK *i* PKP **PKiKP 15 47 07.0 -3.3**
MNK *i* PP **PP 15 47 41.4 -3.4**
MNK *i* PPP PPP 15 50 01.1
MNK *i* SKS **SKSdf 15 54 09.1 -4.1**
MNK *i* SP SP 15 57 00.2 -2.4
MNK *i* PS **PS 15 57 12.2 -2.6**
MNK *i* SS **SS 16 03 01.2 -1.1**
MNK *i* SSS SSS 16 07 08.9

MNK				i LR	LR	16 31 12.0	
MNK				i LRM	MLR	16 33 45.3	
	comp=Z,946nm,18.5s						
MNK				i LRM	MLR	16 33 47.2	
	comp=E,137nm,15.3s						
MNK				i LRM	MLR	16 33 48.5	
	comp=N,565nm,14.1s						
MNK	Minsk	109.96	38	i SSS	SSS	15 54 09.2	
ARCES	ARCESS Array B	110.01	22	PKKPbc	PKKPbc	15 58 12.8	-2.3
	comp=N,1.7nm,0.8s,baz=83,slow=2.9,SNR=8.0						
BRTR	Keskin Array B	112.09	54	PP	PP	15 48 00.9	+0.2
	comp=N,1.7nm,0.7s,baz=252,slow=7.3,SNR=3.6						
OBN	Obninsk	115.00	38	ePKIKP	PKPdf	15 47 20.1	+0.3
OBN				e		15 48 21.0	
OBN				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ANN	Anapa	115.38	49	⇑iPKIKP	PKPdf	15 47 20.0	-0.9
SOC	Sochi	116.97	50	i PKIKP	PKiKP	15 47 24.5	+0.5
SOC				e		15 48 36.0	
SOC				ePPP	PPP	15 51 09.3	
SOC				ePS	PKKPab	15 58 02.4	+10
KIV	Kislovodsk	119.12	50	ePKIKP	PKPdf	15 47 28.0	-0.3
KIV				e		15 48 51.1	
KIV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
STKA	Stephens Creek	120.75	211	PKP	PKPdf	15 47 31.9	+0.1
	comp=Z,3.4nm,0.5s,baz=111,slow=5.2,SNR=19						
STKA				PKKPbc	PKKPbc	15 57 35.5	-1.4
	comp=Z,0.5nm,0.4s,baz=326,slow=17,SNR=4.1						
BILL	Bilibino	120.79	339	i PKIKP	PKiKP	15 47 31.6	+0.8
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BELG	Belogornoye	121.78	40	⇑iPKIKP	PKiKP	15 47 34.1	+1.0
ARU	Arti	126.89	33	i PKIKP	PKiKP	15 47 43.0	-0.2
ARU						15 49 43.3	
ARU						15 54 44.6	
ARU				SS	SS	16 06 41.9	+1.3
TIXI	Tiksi	127.03	353	⇑iPKIKP	PKiKP	15 47 44.4	+1.4
NWAO	Narrogin (SRO)	127.24	187	PKP	PKPdf	15 47 44.2	0.0
	comp=Z,13nm,0.9s,baz=90,slow=1.0,SNR=2.5						
SEY	Seymchan	128.38	337	⇑iPKIKP	PKiKP	15 47 46.8	+0.9
NRIK	Noril'sk	128.42	10	PKP	PKPdf	15 47 44.9	-0.3
	comp=Z,1.3nm,0.4s,baz=22,slow=1.0,SNR=2.2						
NRIK	Noril'sk	128.42	10	⇑iPKIKP	PKPdf	15 47 45.3	+0.1
ABKAR	Akbulak array	130.09	42	PKPdf	PKiKP	15 47 49.4	-0.4
PEA0B	Petropavlovsk-	130.97	324	⇑iPKIKP	PKiKP	15 47 51.5	0.0
PETK	Petropavlovsk-	130.97	324	PKP	PKiKP	15 47 51.4	-0.1
	comp=Z,6.4nm,0.9s,baz=140,slow=4.8,SNR=10						
ASAR	Alice Springs	131.28	209	PKhKP	PKPpre	15 47 33.3	
	comp=Z,0.2nm,0.5s,baz=134,slow=3.1,SNR=7.4						
ASAR				PKP	PKPdf	15 47 52.5	+0.3
	comp=Z,6.1nm,0.5s,baz=127,slow=1.7,SNR=80						
ASAR				pPKP	pPKPdf	15 48 20.6	+0.4
	comp=Z,1.4nm,0.4s,baz=113,slow=1.6,SNR=2.8						
ASAR				PP	PP	15 50 08.9	-0.9
	comp=Z,3.4nm,1.1s,baz=150,slow=5.4,SNR=7.0						
ASAR				SKPbc	SKPbc	15 51 07.4	-0.9
	comp=Z,5.9nm,1.0s,baz=145,slow=4.4,SNR=11						
ASAR	Alice Springs	131.28	209	PKPdf	PKPdf	15 47 51.6	-0.6
ASAR				SKPbc	SKPbc	15 51 07.5	-0.9
AS31	Alice Springs	131.28	209	PKPdf	PKPdf	15 47 51.9	-0.3
WSAR	Wadi Sarin	131.60	76	PKP	PKPdf	15 47 51.4	-1.3
	comp=Z,5.7nm,0.9s,baz=281,slow=4.6,SNR=3.5						
WB2	Warramunga Arr	134.26	212	PKPdf	PKPdf	15 47 57.8	0.0
WRA	Warramunga Arr	134.27	212	PKhKP	PKPpre	15 47 38.9	
	comp=Z,1.1nm,0.8s,baz=129,slow=2.7,SNR=3.7						
WRA				PKP	PKPdf	15 47 58.5	+0.7
	comp=Z,11nm,0.4s,baz=148,slow=1.7,SNR=32						
WRA				pPKP	pPKPdf	15 48 28.7	+2.8
	comp=Z,2.0nm,0.4s,baz=152,slow=2.0,SNR=2.5						
WRA				PP	PP	15 50 28.7	-0.3
	comp=Z,2.3nm,1.1s,baz=156,slow=5.1,SNR=4.3						
WRA				SKPbc	SKPbc	15 51 17.9	-0.8
	comp=Z,6.1nm,1.1s,baz=176,slow=5.7,SNR=7.2						
WRAB	Tennant Creek	134.27	212	⇓iPKIKP	PKPdf	15 47 58.2	+0.3
BRVK	Borovoye	134.47	33	⇑iPKIKP	PKiKP	15 47 58.6	+0.1
YAK	Yakutsk	135.75	347	⇑iPKIKP	PKiKP	15 48 00.3	-0.5
PSA00	Pilbara Seismi	137.97	193	PKPdf	PKPdf	15 48 03.4	-1.3
CHGR	Chuyangaron	139.52	53	PKPdf	PKPdf	15 48 07.4	+0.3
ZALV	Zalesovo Beam	140.51	24	PKhKP	PKPpre	15 48 00.5	
	comp=Z,1.4nm,0.4s,baz=305,slow=3.0,SNR=6.0						
ZALV				PKP	PKPdf	15 48 09.3	+1.1
	comp=Z,4.4nm,0.4s,baz=294,slow=1.5,SNR=18						
ZALV				SKPbc	SKPbc	15 51 35.3	-0.5
	comp=Z,5.6nm,1.0s,baz=0.0,slow=1.4,SNR=5.6						
ZALV	Zalesovo Beam	140.51	24		PKPpre	15 47 59.8	
ZALV				PKPdf	PKPdf	15 48 09.1	+0.8
AAK	Ala-Archa	141.94	45	⇓iPKIKP	PKiKP	15 48 13.9	-0.5
YSS	Yuzh-Sakhalins	142.36	324	ePKIKP	PKPdf	15 48 10.3	-1.5
YSS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ZEA	Zeya	143.78	343	ePKIKP	PKPdf	15 48 13.1	-1.0
ZEA				e		15 48 41.6	
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.6s						
KDJ	Kajisay	143.94	44	PKIKP	PKPdf	15 48 15.0	0.0
KDJ	Kajisay	143.94	44	PKPdf	PKPdf	15 48 15.0	0.0
NIL	Nilore	143.97	60	PKIKP	PKPdf	15 48 14.1	-1.0
NIL	Nilore	143.97	60		PKPbc	15 48 14.1	+0.8
JKA	Kamikawa-asahi	144.03	320		PKPbc	15 48 13.1	+0.1
ASAJ	Asahikawa	144.03	320	PKP	PKPbc	15 48 13.9	+1.0
	comp=Z,14nm,0.9s,baz=272,slow=6.4,SNR=18						
ASAJ	Asahikawa	144.03	320	PKIKP	PKPdf	15 48 14.0	-0.8
KSH	Kashi	144.24	49	PKP	PKPdf	15 48 14.8	-0.7
KSH				pPKP	pPKPdf	15 48 43.5	-0.2
MK31	Makanchi Array	144.41	34	PKIKP	PKPbc	15 48 14.1	0.0
MK31	Makanchi Array	144.41	34	PKPdf	PKPbc	15 48 14.1	-0.1
MKAR	Makanchi Array	144.41	34	PKP	PKPbc	15 48 14.1	-0.1
	comp=Z,2.7nm,0.4s,baz=332,slow=2.5,SNR=94						
MKAR				SKPbc	SKPbc	15 51 45.7	0.0
	comp=Z,1.5nm,0.8s,baz=321,slow=3.7,SNR=3.3						
DGZ	Jazzator, Alta	144.81	26	⇓ePKIKP	PKPdf	15 48 16.0	-0.2
POO	Poona	145.17	86	eP	PKPbc	15 48 16.0	-1.4
JEW	Eniwo	145.41	319	PKPdf	PKPdf	15 48 17.1	-0.2
KLR	Kul'dur	146.11	335	PKPbc	PKPbc	15 48 19.1	-0.2
	comp=Z,16nm,0.7s,baz=27,slow=3.4,SNR=6.4						
KLR				pPKPbc	pPKPab	15 48 48.9	+1.5
	comp=Z,14nm,0.9s,baz=28,slow=4.8,SNR=3.8						
GUMO	Guam	146.78	265	PKPbc	PKPdf	15 48 21.3	+0.9
	comp=Z,331nm,1.0s,baz=167,slow=6.9,SNR=18						
GUMO	Guam	146.78	265	PKPdf	PKPdf	15 48 19.5	-0.8
TEY	Ternei	146.92	325	⇑ePKP2	PKPbc	15 48 21.5	-0.3
TEY				pmax	pmax		
	comp=E,10.0nm,1.3s						
TEY				pmax	pmax		
	comp=Z,20nm,1.1s						
TEY				pmax	pmax		
	comp=Z,20nm,1.4s						
IRK	Irkutsk	147.19	7	ePKIKP	PKPdf	15 48 20.7	+0.7
IRK				e		15 48 49.2	
IRK				pmax	pmax		
	comp=Z,103nm,1.8s						
MOY	Mondy	147.25	11	ePKP2	PKPbc	15 48 22.4	-0.3
MOY				pmax	pmax		
	comp=Z,102nm,1.7s						
JMM	Marumori	148.28	311	PKPbc	PKPbc	15 48 26.1	+0.4
PALK	Pallekele	148.34	109	PKPbc	PKPbc	15 48 26.2	-0.4
	comp=Z,3.2nm,0.4s,baz=358,slow=3.3,SNR=6.8						
ZAK	Zakamensk	148.88	9	ePKIKP	PKPdf	15 48 23.2	+0.2
ZAK				e		15 48 52.6	
ZAK				pmax	pmax		
	comp=Z,35nm,1.6s						
ZAK				pmax	pmax		
	comp=Z,25nm,1.8s						
FAKI	Fak Fak	149.10	225	PKPbc	PKPbc	15 48 28.9	+0.4
WMQ	Urumqi	149.23	34	ePKPbc	PKPdf	15 48 25.1	+1.4
JYT	Yasato	149.41	309		PKPbc	15 48 28.9	+0.3
HYB	Hyderabad	149.43	89	i PKP	PKPdf	15 48 25.0	+0.3
MMRI	Maumere	149.59	203		PKPbc	15 48 29.5	-0.3
HIA	Hailar	149.69	348	⇑ePKHKP	PKPpre	15 48 25.0	
USA0B	Ussuriysk Arra	149.86	329	PKP2	PKiKP	15 48 30.0	-0.4
USA0B	Ussuriysk Arra	149.86	329		PKiKP	15 48 30.0	-0.4
USRK	Ussuriysk Ar.	149.86	329	PKP	PKPdf	15 48 25.5	+0.9
	comp=Z,8.5nm,1.0s,baz=318,slow=2.6,SNR=7.7						
USRK				PKPbc	PKiKP	15 48 30.6	+0.2
	comp=Z,37nm,0.9s,baz=17,slow=1.2,SNR=54						
USRK				pPKPbc	pPKPbc	15 48 58.6	+1.4
	comp=Z,20nm,1.0s,baz=359,slow=0.3,SNR=4.6						
USRK	Ussuriysk Ar.	149.86	329		PKPbc	15 48 29.9	+0.5
JCJ	Chichijima	150.29	290	PKPbc	PKiKP	15 48 31.8	0.0
	comp=Z,103nm,0.8s,baz=264,slow=21,SNR=7.9						
MDJ	Mudanjiang	150.67	332	PKPbc	PKPdf	15 48 26.8	+1.0
MJAR	Matsushiro Arr	150.72	311	PKP	PKPdf	15 48 26.7	+0.5
	comp=Z,2.2nm,0.9s,baz=58,slow=10,SNR=3.2						
MJAR				PKPbc	PKiKP	15 48 32.4	0.0
	comp=Z,20nm,0.8s,baz=99,slow=4.7,SNR=36						
MJAR				pPKPbc	pPKPbc	15 49 00.9	+1.3
	comp=Z,6.5nm,0.8s,baz=116,slow=3.3,SNR=2.6						
MAJO	Matsushiro	150.72	311	PKIKP	PKPbc	15 48 32.0	+0.2
MAJO	Matsushiro	150.72	311		PKPbc	15 48 32.0	+0.2
MAT	Matsushiro	150.72	311	PKP	PKiKP	15 48 32.4	0.0
JAGI	Jajag, Banyuwa	151.75	187		PKPbc	15 48 34.3	-0.5
SONM	Songino Array	151.77	6	PKP	PKPdf	15 48 28.3	+0.7
	comp=Z,3.1nm,0.9s,baz=305,slow=0.7,SNR=15						
SONM				PKPbc	PKiKP	15 48 34.8	+0.4
	comp=Z,12nm,0.4s,baz=294,slow=1.2,SNR=148						
ULN	Ulaanbaatar	151.81	5	PKPdf	PKPdf	15 48 28.1	+0.5
ULN				PKPbc	PKiKP	15 48 35.0	+0.5
ULN				PKPab	PKPab	15 48 44.0	+0.6
CN2	Changchun	153.05	336	eP	PKPab	15 48 47.1	-1.4
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KAPI	Kappang	153.83	201	PKP2	PKPab	15 48 53.6	+1.1
KAPI	Kappang	153.83	201	PKPab	PKPab	15 48 53.6	+1.1
KSRS	Korea Array	156.86	323	PKP	PKPdf	15 48 35.7	+0.9
	comp=Z,3.1nm,0.9s,baz=49,slow=1.1,SNR=13						
KSRS				PKPab	PKPab	15 49 06.3	+1.3
	comp=Z,7.6nm,0.8s,baz=66,slow=4.2,SNR=19						
KSAR	Wonju Array Be	156.89	323	PKP2	PKPab	15 49 05.4	+0.3
KSAR						16 48 34.7	
KSAR	Wonju Array Be	156.89	323	PKPdf	PKPdf	15 48 34.7	-0.1
KSAR				PKPab	PKPab	15 49 05.4	+0.3
JNU	Nakatsue	157.64	311	PKPab	PKPab	15 49 08.0	-0.7
	comp=Z,5.5nm,0.7s,baz=90,slow=2.4,SNR=3.8						
GTA	Gaotai	158.27	23	⇓PKP	PKPdf	15 48 37.6	+0.9
HHC	Hu-ho-hao-te	158.97	358	ePKP	PKPdf	15 48 37.3	-0.2
BJI	Beijing	159.25	348	PKP	PKPdf	15 48 38.8	+1.2
IPM	Ipoh	162.10	147	P	PKPdf	15 48 42.0	+0.4
KULM	Kulim	162.58	144	P	PKPdf	15 48 43.0	+1.0
TIA	Tai'an	162.68	342	PKP	PKPdf	15 48 42.4	+0.9
SBUM	Sibu	162.74	185	P	PKPdf	15 48 44.0	+1.8
SPMM	Sapulut	164.03	201	P	PKPdf	15 48 43.0	-0.5
NJ2	Nanjing	165.75	331	ePKP	PKPdf	15 48 45.1	+0.8
CM13	Chiang Mai Arr	168.74	95	PKP	PKPdf	15 48 50.2	+3.3
CM05	Chiang Mai Arr	168.77	95	PKP	PKPdf	15 48 48.1	+1.2
CM02	Chiang Mai Arr	168.77	95	PKP	PKPdf	15 48 50.2	+3.3
CMAR	Chiang Mai Arr	168.77	95	PKP	PKPdf	15 48 46.7	-0.2
	comp=Z,2.8nm,0.9s,baz=262,slow=2.4,SNR=12						
CMAR				pPKP	pPKPdf	15 49 17.5	+2.2
	comp=Z,0.5nm,0.3s,baz=307,slow=1.8,SNR=1.9						
CMAR				PKPab	PKPab	15 49 56.9	-1.1
	comp=Z,0.6nm,0.3s,baz=282,slow=6.6,SNR=5.3						
CMAR				pPKPab	pPKPab	15 50 25.8	+0.3
	comp=Z,1.8nm,0.7s,baz=252,slow=6.2,SNR=3.0						
CM01	Chiang Mai Arr	168.78	95	PKP	PKPdf	15 48 52.6	+5.7
CM04	Chiang Mai Arr	168.80	95	PKP	PKPdf	15 48 48.2	+1.3
CM09	Chiang Mai Arr	168.82	95	PKP	PKPdf	15 48 49.1	+2.1
CHTO	Chiang Mai	168.82	93	PKIKP	PKPdf	15 48 48.4	+1.4
CHTO	Chiang Mai	168.82	93	PKP	PKPdf	15 48 48.4	+1.4
CMMT	Chiang Mai	168.83	93	PKP	PKPdf	15 48 48.3	+1.3
UTTA	Uttaradit	170.15	100	PKP	PKPdf	15 48 49.6	+1.9
KMI	Kunming	170.88	53	PKP	PKPdf	15 48 49.4	+1.1
GYA	Guiyang	172.35	29	⇑PKP	PKPdf	15 48 49.7	+0.9
NONG	Nongkai	172.62	102	PKP	PKPdf	15 48 51.1	+2.1

IDC 01 15:35:26.8±5.9**,31°.14N**×**142°.21E,h0km,mb3.4**/2**, mb1 3.6**/3**,mb1mx3.3**/66**,mbtmp3.3**/3**,ML2.4**/1**,Error ellipse: s-maj=247.8km s-min=35.8km az=73.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	6.33	329	Pn	Pn	15 37 01.2	-0.2
	0.1nm,0.3s,baz=141,slow=14,SNR=4.6						
WRA	Warramunga Arr	51.35	189	P	P	15 44 33.0	-0.2
	0.2nm,0.4s,baz=5.9,slow=7.4,SNR=1.5						
ASAR	Alice Springs	55.08	189	P	P	15 45 00.5	-0.1
	0.2nm,0.5s,baz=0.3,slow=4.7,SNR=4.8						

IDC 01 15:36:45.0±6.2**,31°.37N**×**142°.82E,h0km,mb3.4**/2**, mb1 3.5**/3**,mb1mx3.3**/60**,mbtmp3.3**/3**,ML2.2**/1**,Error ellipse: s-maj=232.0km s-min=36.8km az=70.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	6.42	325	Pn	Pn	15 38 21.1	+0.2
	0.1nm,0.3s,baz=136,slow=14,SNR=1.8						
WRA	Warramunga Arr	51.67	190	P	P	15 45 53.3	-0.4
	0.6nm,1.0s,baz=5.6,slow=6.8,SNR=6.1						
ASAR	Alice Springs	55.39	190	P	P	15 46 21.1	0.0
	0.2nm,0.4s,baz=2.1,slow=5.2,SNR=7.1						

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*IDC **01** 15:48:57.0±0.9, 31°.16N×141°.85E, h0km, mb3.9/8, mb1 4.0/12, mb1mx3.8/41, mbtmp3.9/12, ML3.5/4, Error ellipse: s-maj=33.6km s-min=16.0km az=72.0*

*NEIC **01** 15:48:58.4±1.7, 31°.22N±0°.03×141°.9E±0°.1, h10km±1km, mb4.3/12, Error ellipse: s-maj=16.3km s-min=3.3km az=72.0*

*JMA **01** 15:48:59.4±0.2, 31°.25N×141°.84E, h29km, M4.2*

ISC 01 15:48:60.0±0.6**,31°.22N**±0°.06×**141°.90E**±0°.09**,h24km,n47,** σ1^{s}**50**/52**,mb4.0**/13**,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.58	318	eS	Sn	15 50 09.9	-1.0
JHJ2	Mitsune	2.58	318	Pn	Pn	15 49 39.3	-1.0
JHJ	Hachijo jima 2	2.61	317	Pn	Pn	15 49 40.6	0.0
	10nm,0.3s,baz=55,slow=20,SNR=11						
JHJ				Sn	Sn	15 50 06.1	-5.5
	60nm,0.3s,baz=97,slow=22,SNR=9.0						
BSO3	Boso 3	3.76	342	P	Pn	15 49 56.2	0.0
CBIJ	Chichi jima	4.12	176	P	Pn	15 50 02.7	+1.4
JCJ	Chichijima	4.12	176	Pn	Pn	15 50 01.7	+0.4
	18nm,0.3s,baz=287,slow=22,SNR=23						
JCJ				Sn	Sn	15 50 45.8	-2.9
	7.3nm,0.3s,baz=254,slow=21,SNR=1.4						
JCJ	Chichijima	4.12	176	Pn	Pn	15 50 01.9	+0.5
JOD2	Odawara 2	4.67	331	P	Pn	15 50 11.1	+2.1
JHU	Hanno	5.11	335	P	Pn	15 50 16.6	+1.6
JYT	Yasato	5.19	345	P	Pn	15 50 16.7	+0.5
JYT				eS	Sn	15 51 14.1	-1.2
JYT	Yasato	5.19	345	Pn	Pn	15 50 16.7	+0.5
JNY	Yasuok	5.33	322	P	Pn	15 50 22.6	+4.4
JRY	Ryogami san	5.40	333	P	Pn	15 50 20.9	+1.9
JAG	Ashikaga	5.58	339	P	Pn	15 50 20.8	-0.6
JAG				eS	Sn	15 51 22.0	-2.8
JGF	Kuroka	5.79	320	Pn	Pn	15 50 24.9	+0.5
MJAR	Matsushiro Arr	6.13	331	Pn	Pn	15 50 30.0	+0.9
	0.3nm,0.3s,baz=154,slow=11,SNR=4.6						
MAJO	Matsushiro	6.13	331	Pn	Pn	15 50 30.4	+1.4
MAT	Matsushiro	6.13	331	P	Pn	15 50 30.9	+1.8
MAT				S	Sn	15 51 38.1	-0.4
JMM	Marumori	6.69	352		Pn	15 50 36.1	-0.6
JWT	Wachi	6.78	308	Pn	Pn	15 50 37.8	-0.2
JSD	Sado	7.43	337	Pn	Pn	15 50 46.6	-0.2
ERM	Erimo	10.82	5	Pn	Pn	15 51 31.5	-1.8
ASAJ	Asahikawa	12.89	2	Pn	Pn	15 51 59.5	-2.1
	0.4nm,0.3s,baz=314,slow=13,SNR=2.5						
KLR	Kul'dur	19.56	340	P	P	15 53 25.9	0.0
	0.1nm,0.3s,baz=180,slow=14,SNR=1.3						
YULB	Yu-li	19.87	252	Pn	Pn	15 53 30.9	-0.3
YULB				IAmb	IAmb	15 53 48.8	
	comp=Z,15nm,1.2s						
SONM	Songino Array	31.67	312	P	P	15 55 22.4	+0.8
	comp=Z,0.7nm,0.3s,baz=118,slow=8.7,SNR=5.2						
ZAA0	Zalesovo Array	46.27	317	P	P	15 57 23.8	+0.5
ZAA0				IAmb	IAmb	15 57 51.8	
	comp=Z,1.6nm,0.8s						
ZALV	Zalesovo Beam	46.27	317	P	P	15 57 24.5	+1.2
	comp=Z,0.6nm,0.4s,baz=76,slow=9.5,SNR=2.8						
ZALV	Zalesovo Beam	46.27	317	P	P	15 57 23.7	+0.4
MK31	Makanchi Array	47.73	307	P	P	15 57 34.2	-0.7
MKAR	Makanchi Array	47.73	307	P	P	15 57 35.0	+0.1
	comp=Z,0.6nm,0.4s,baz=91,slow=8.6,SNR=13						
MKAR	Makanchi Array	47.73	307	P	P	15 57 34.0	-0.9
MAKZ	Makanchi	47.95	307	P	P	15 57 36.8	+0.3
MAKZ				IAmb	IAmb	15 57 49.5	
	comp=Z,3.1nm,1.3s						
WRAB	Tennant Creek	51.37	189	P	P	15 58 02.0	-0.8
WRAB				IAmb	IAmb	15 58 20.8	
	comp=Z,4.0nm,1.1s						
WR0	Warramunga Arr	51.37	189	P	P	15 58 01.9	-0.8
WR0				IAmb	IAmb	15 58 26.6	
	comp=Z,5.9nm,1.2s						
WB2	Warramunga Arr	51.38	189	P	P	15 58 02.1	-0.7
WB2				IAmb	IAmb	15 58 02.6	
	comp=Z,10nm,1.4s						
WRA	Warramunga Arr	51.38	189	P	P	15 58 02.5	-0.3
	comp=Z,0.7nm,0.3s,baz=6.1,slow=7.2,SNR=32						
AS31	Alice Springs	55.10	189	P	P	15 58 30.4	+0.1
ASAR	Alice Springs	55.11	189	P	P	15 58 30.7	+0.5
	comp=Z,0.5nm,0.4s,baz=0.8,slow=4.5,SNR=29						
RIDG	Independent Ri	55.13	31	P	P	15 58 30.3	+0.3
ABKAR	Akbulak array	62.08	313	P	P	15 59 18.1	-0.5
YKA	Yellowknife Ar	68.66	29	P	P	16 00 01.3	+0.4
KHMM	Horse Mountain	73.34	52	P	P	16 00 29.1	-0.8
FINES	FINESS Array B	74.16	333	P	P	16 00 35.4	+1.3
	comp=Z,0.4nm,0.5s,baz=95,slow=8.2,SNR=4.1						
PDAR	Pinedale Array	81.47	45	P	P	16 01 16.6	+1.1
	comp=Z,0.3nm,0.3s,baz=0.0,slow=3.3,SNR=4.2						
TXAR	Lajitas Array	93.33	53	P	P	16 02 14.9	+1.5
	comp=Z,0.7nm,0.7s,baz=298,slow=3.6,SNR=8.1						
TXAR	Lajitas Array	93.33	53	P	P	16 02 14.0	+0.6

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*NEIC **01** 15:51:56.4±2.3, 53°.6N±0°.1×159°.4E±0°.1, h146km±9km, mb4.5/17, Error ellipse: s-maj=21.6km s-min=8.9km az=181.0*

*KRSC **01** 15:51:57.4±0.7, 53°.59N×159°.32E, h142km±6km, ML4.0*

*IDC **01** 15:51:59.0±0.7, 53°.77N×158°.73E, h142km±13km, mb3.5/9, mb1 3.6/12, mb1mx3.4/44, mbtmp3.9/12, Error ellipse: s-maj=31.2km s-min=18.7km az=21.0*

ISC 01 15:51:57.3±0.6**,53°.60N**±0°.04×**159°.26E**±0°.05**,h145km**±5km**, n74,** σ1^{s}**37**/102**,mb4.3**/15**,Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDLR	Sedlovina	0.39	215	eP	Pn	15 52 17.9	+0.2
SDLR				eS	Sn	15 52 33.4	+0.3
KRER	Koryakskii	0.42	226	eP	Pn	15 52 18.6	+0.6
KRER				eS	Sn	15 52 34.1	+0.5
NLC	Nalytchevo	0.43	173	eP	Pn	15 52 18.3	+0.6
NLC				eS	Sn	15 52 33.8	+0.7
SMAR	Somma	0.43	219	eP	Pn	15 52 18.4	+0.4
SMAR				eS	Sn	15 52 34.6	+0.9
KRX	Arik	0.44	237	eP	Pn	15 52 18.3	+0.4
KRX				eS	Sn	15 52 33.8	+0.3
KII	Karymskiy	0.45	15	eP	Pn	15 52 18.1	+0.2
AVH	Avacha	0.46	223	eP	Pn	15 52 18.5	+0.6
AVH				eS	Sn	15 52 34.5	+0.9
UGLR	Uglovaya	0.47	214	eP	Pn	15 52 18.7	+0.6
UGLR				eS	Sn	15 52 34.5	+0.8
KOK	Koryaka	0.48	231	eP	Pn	15 52 18.7	+0.6
KOK				eS	Sn	15 52 34.8	+1.0
DALK	Dalny	0.65	208	eP	Pn	15 52 19.3	+0.4
DALK				eS	Sn	15 52 34.9	-0.3
PET	Petropavlovsk	0.68	212	eP	Pn	15 52 19.6	+0.5
PET				eS	Sn	15 52 35.5	-0.1
PET	Petropavlovsk	0.68	212	Pn	Pn	15 52 19.6	+0.5
PET				Sn	Sn	15 52 35.1	-0.5
SPN	Mys Shipunski	0.68	137	eP	Pn	15 52 19.3	+0.2
SPN				eS	Sn	15 52 35.6	0.0
GNL	Ganaly	0.79	277	eP	Pn	15 52 19.7	-0.3
KRMR	Karymshinskiy	1.03	222	eP	Pn	15 52 23.7	+1.9
KRMR				eS	Sn	15 52 42.5	+2.1
PEA0B	Petropavlovsk-	1.06	243		Pn	15 52 22.2	+0.1
PETK	Petropavlovsk-	1.06	243	P	Pn	15 52 21.4	-0.7
	92nm,0.3s,baz=69,slow=12,SNR=4457						
PETK				S	Sn	15 52 40.5	-0.4
	12nm,0.3s,baz=62,slow=20,SNR=13						
RUS	Russkaya	1.25	201	eP	Pn	15 52 24.2	+0.3
RUS				eS	Sn	15 52 43.9	-0.2
GRL	Gorelyy	1.27	215	eP	Pn	15 52 25.3	+1.1
GRL				eS	Sn	15 52 46.1	+1.4
MTVR	Mutnovka	1.29	211	eP	Pn	15 52 25.6	+1.1
MTVR				eS	Sn	15 52 46.5	+1.3
APC	Apacha	1.43	243	eP	Pn	15 52 26.5	+0.8
APC				eS	Sn	15 52 47.7	+0.4
ASAK	Asacha	1.47	214	eP	Pn	15 52 27.5	+1.3
ASAK				eS	Sn	15 52 50.3	+2.0
KZV	Kizimen	1.63	21	eP	Pn	15 52 28.8	+0.8
KZV				eS	Sn	15 52 51.6	0.0
TUMR	Tumrok	1.77	17	eP	Pn	15 52 30.8	+1.3
TUMR				eS	Sn	15 52 55.1	+0.9
KDTR	Khodutka, Kamc	1.93	202	eP	Pn	15 52 32.0	+0.7
KDTR				eS	Sn	15 52 57.1	-0.2
KMNR	Kamenistaya	2.23	14	eP	Pn	15 52 36.2	+1.2
KMNR				eS	Sn	15 53 06.4	+2.4
ESO	Esso	2.35	352	eP	Pn	15 52 38.4	+2.1
KPT	Kopyto	2.44	13	eP	Pn	15 52 38.3	+0.9
KIRR	Kirishev	2.44	14	eP	Pn	15 52 39.0	+1.5
KIRR				eS	Sn	15 53 09.7	+1.2
BZWR	Bezymyannyi-We	2.48	16	eP	Pn	15 52 39.7	+1.7
BZWR				eS	Sn	15 53 11.4	+2.1
KOZ	Kozyrevsk	2.49	8	eP	Pn	15 52 38.8	+0.8
ZLN	Zelenaya	2.58	20	eP	Pn	15 52 42.0	+2.8
PAU	Pauzhetka	2.61	216	eP	Pn	15 52 41.5	+2.0
KRSR	Krestovskiy	2.73	16	eP	Pn	15 52 42.3	+1.2
KLY	Klyuchi	2.84	16	eP	Pn	15 52 44.7	+2.4
BDR	Baidarnaya	3.18	20	eP	Pn	15 52 49.0	+2.2
BDR				eS	Sn	15 53 27.1	+2.1
SMKR	Semkarok	3.25	22	eP	Pn	15 52 49.1	+1.5
SMKR				eS	Sn	15 53 26.8	+0.2
SRKR	Sorokina	3.25	19	eP	Pn	15 52 49.7	+2.0
KBG	Krutoberegovo	3.32	35	eP	Pn	15 52 49.9	+1.4
KBG				eS	Sn	15 53 27.7	-0.4
KBTR	Krutoberegovo	3.33	37	eP	Pn	15 52 50.0	+1.5
SKR	Severo-Kuril's	3.50	215	eP	Pn	15 52 52.9	+2.0
SKR				eS	Sn	15 53 33.4	+1.0
ALID	Alaid	3.56	221	eP	Pn	15 52 54.8	+3.0
BKI	Bering	4.24	65	eP	Pn	15 53 01.3	+0.8
BKI				eS	Sn	15 53 48.6	-1.0
MA2	Magadan	7.60	325	P	Pn	15 53 44.0	-1.2
	0.2nm,0.3s,baz=144,slow=20,SNR=1.6						
MA2				S	Sn	15 54 49.7	-20
	0.1nm,0.3s,baz=157,slow=18,SNR=1.2						
SEY	Seymchan	10.03	342	P	Pn	15 54 15.9	-1.6
	0.1nm,0.3s,baz=163,slow=19,SNR=1.9						
KIWB	Kanaga Island	14.39	87	P	Pn	15 55 13.2	-0.9
ERM	Erimo	15.81	229		P	15 55 31.3	-1.4
YAK	Yakutsk	17.73	310	P	Pn	15 55 53.6	-1.2
	0.1nm,0.3s,baz=58,slow=1.8,SNR=6.2						
YAK	Yakutsk	17.73	310	IAmb	IAmb	15 55 55.4	
	comp=Z,9.8nm,0.7s						
NIKH	Nikolski High	19.00	79	Pn	P	15 56 06.8	-0.7
KSAR	Wonju Array Be	26.98	246	P	P	15 57 25.1	-0.2
MK31	Makanchi Array	47.48	295	P	P	16 00 15.3	-2.1
MKAR	Makanchi Array	47.48	295	P	P	16 00 16.6	-0.7
	comp=Z,0.6nm,0.4s,baz=55,slow=6.4,SNR=17						
MKAR	Makanchi Array	47.48	295	P	P	16 00 15.8	-1.6
MAKZ	Makanchi	47.65	295	P	P	16 00 17.5	-1.1
BRVK	Borovoye	49.71	308	P	P	16 00 32.8	-1.4
ARCES	ARCESS Array B	52.65	341	P	P	16 00 55.1	-0.8
	comp=Z,2.7nm,0.7s,baz=41,slow=7.5,SNR=2.1						
ARCES	ARCESS Array B	52.65	341	IAmb	IAmb	16 01 04.9	
	comp=Z,21nm,1.4s						
SUMG	Summit	53.51	7	P	P	16 01 04.1	+1.4
SUMG				IAmb	IAmb	16 01 31.9	
	comp=Z,5.8nm,1.3s						
FRB	Frobisher Bay	57.24	23	P	P	16 01 29.6	+0.7
	comp=Z,4.0nm,0.8s,baz=342,slow=6.7,SNR=1.4						
PDAR	Pinedale Array	57.71	61	P	P	16 01 36.5	+3.7
	comp=Z,0.8nm,0.5s,baz=349,slow=3.0,SNR=5.8						
GAR	Garm	59.21	295	P	P	16 01 43.0	-0.1
GAR				IAmb	IAmb	16 01 45.4	
	comp=Z,3.7nm,0.6s						
FIA1	FINESS Array S	59.45	336	P	P	16 01 44.6	+0.4
FIA1				IAmb	IAmb	16 02 07.3	
	comp=Z,12nm,1.3s						
FINES	FINESS Array B	59.45	336	P	P	16 01 44.6	+0.3
	comp=Z,0.8nm,0.4s,baz=38,slow=7.0,SNR=6.6						
RSSD	Black Hills	59.54	56	P	P	16 01 43.9	-1.5
RSSD				IAmb	IAmb	16 01 49.7	
	comp=Z,3.2nm,0.8s						
PV14	Lion Creek, Pa	61.16	64	P	P	16 01 53.1	-3.4
PV14				IAmb	IAmb	16 02 19.9	
	comp=Z,5.5nm,1.3s						
NC405	NORSAR Array S	62.76	343	P	P	16 02 05.7	-0.8
NC204	NORSAR Array S	62.77	344	P	P	16 02 06.8	+0.2
NC204				IAmb	IAmb	16 02 21.2	
	comp=Z,13nm,1.1s						
NB201	NORSAR Array S	62.89	343	P	P	16 02 07.5	+0.1
NOA	NORSAR Array B	62.91	343	P	P	16 02 07.0	-0.6
	comp=Z,0.4nm,0.4s,baz=23,slow=6.0,SNR=4.2						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
N38A	Joes South For	67.27	52	P	P	16 02 33.8	-2.2
AKASG	Malin Array Be	67.92	328	P	P	16 02 39.0	-0.8
	comp=Z,0.6nm,0.5s,baz=31,slow=6.7,SNR=1.8						
TXAR	Lajitas Array	70.90	66	P	P	16 03 02.5	+3.8
	comp=Z,0.6nm,0.5s,baz=290,slow=4.9,SNR=12						
GERES	GERESS Array B	73.85	337	P	P	16 03 16.6	+0.7
	comp=Z,0.3nm,0.3s,baz=23,slow=5.3,SNR=2.2						

IDC 01 15:54:59.1±2.5**, 30°.85N**×**140°.88E, h0**km**, mb3.7**/2**, mb1 3.7**/5**, mb1mx3.4**/37**, mbtmp3.7**/5**, ML3.1**/3**, Error ellipse: s-maj=130.9km s-min=20.7km az=75.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	2.45	338	Pn	Pn	15 55 39.9	-0.4
	3.4nm,0.3s,baz=52,slow=24,SNR=1.7						
JHJ				Sn	Sn	15 56 07.5	-3.4
	10nm,0.3s,baz=84,slow=21,SNR=2.1						
JCJ	Chichijima	3.91	163	Pn	Pn	15 56 00.9	+0.4
	7.5nm,0.3s,baz=88,slow=17,SNR=8.1						
JCJ				Sn	Sn	15 56 47.4	+0.3
	4.0nm,0.3s,baz=304,slow=21,SNR=1.5						
MJAR	Matsushiro Arr	6.10	339	Pn	Pn	15 56 30.6	+0.1
	0.2nm,0.3s,baz=159,slow=12,SNR=8.9						
WRA	Warramunga Arr	50.89	188	P	P	16 04 01.9	-0.1
	0.5nm,0.4s,baz=6.4,slow=7.0,SNR=12						
ASAR	Alice Springs	54.62	188	P	P	16 04 29.3	-0.3
	0.4nm,0.3s,baz=1.5,slow=4.7,SNR=13						

MEX 01 15:55:48.7±0.5**, 18°.49N**×**101°.14W, h23**km±79km**, MD3.5, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	Puente Sto Nin	0.78	106	*i* P	Pb	15 56 01.3	-2.3
ARIG				*i* S	Sb	15 56 10.8	-3.0
UON	La Union	0.83	231	*i* P	Pb	15 56 02.8	-1.6
UON				*i* S	Sb	15 56 13.4	-1.8
ZIIG	Zihuatanejo	0.93	200	*e*P	Pb	15 56 03.2	-3.0
ZIIG				*e*S	Sb	15 56 15.2	-3.0

IDC 01 16:05:40.4±2.8**, 31°.01N**×**141°.30E, h0**km**, mb3.3**/2**, mb1 3.4**/5**, mb1mx3.3**/47**, mbtmp3.4**/5**, ML2.8**/3**, Error ellipse: s-maj=105.1km s-min=18.4km az=70.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	2.46	329	Pn	Pn	16 06 22.1	+0.2
	2.8nm,0.3s,baz=143,slow=20,SNR=1.4						
JHJ				Sn	Sn	16 06 51.6	-1.0
	7.4nm,0.3s,baz=53,slow=20,SNR=1.7						
JCJ	Chichijima	3.98	169	Pn	Pn	16 06 43.2	+0.5
	3.3nm,0.3s,baz=353,slow=22,SNR=7.5						
JCJ				Sn	Sn	16 07 29.4	-0.6
	4.5nm,0.3s,baz=93,slow=22,SNR=1.1						
MJAR	Matsushiro Arr	6.09	336	Pn	Pn	16 07 11.8	+0.2
	0.1nm,0.3s,baz=149,slow=11,SNR=4.4						
MKAR	Makanchi Array	47.45	307	P	P	16 14 16.6	-0.2
	0.2nm,0.5s,baz=93,slow=9.1,SNR=2.4						
WRA	Warramunga Arr	51.10	188	P	P	16 14 44.7	-0.2
	0.4nm,0.5s,baz=5.2,slow=7.4,SNR=8.8						

*BJI **01** 16:08:24.9±0.0, 29°.15S×178°.92E, h551km, mB5.6/11, mb4.9/43*

*NEIC **01** 16:08:26.2±1.8, 29°.68S±0°.06×178°.7E±0°.1, h566km±5km, mb5.1/118, Error ellipse: s-maj=13.8km s-min=8.9km az=86.0*

*MOS **01** 16:08:26.1±1.6, 29°.65S×178°.61E, h573km, mb5.1/33, Error ellipse: s-maj=10.2km s-min=8.4km az=109.2*

*IDC **01** 16:08:26.7±0.7, 29°.64S×178°.54E, h569km±6km, mb4.3/33, mb1 4.3/37, mb1mx4.3/45, mbtmp5.2/37, Error ellipse: s-maj=8.2km s-min=7.2km az=34.0*

*NOU **01** 16:08:27.3, 29°.72S×178°.79E, h573km, ML5.0/104, Kermadec Islands Region*

*GCMT **01** 16:08:32.2±0.4, 29°.62S±0°.04×178°.67E±0°.04, h583km±3km, MW5.7/67, Moment Tensor Solution. s67,c87; Duration: 1s7 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.16±.10; $M_{\theta\theta}$-3.36±.15; $M_{\phi\phi}$3.52±.15; $M_{r\theta}$-1.27±.16; $M_{\theta\phi}$-0.95±.16; $M_{\phi r}$-1.44±.17; Best double couple: $M_0$4.05400×10^{17} NP1:ϕ_s128.00000°,δ62.00000°,λ-177.00000°. NP2: ϕ_s37.00000°,δ88.00000°,λ-28.00000°. Principal axes: T 4.0500, Plg18.0000°, Azm86.0000°; N 0.0070, Plg62.0000°, Azm212.0000°; P -4.0590, Plg21.0000°, Azm349.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 01 16:08:26.0±0.2**, 29°.72S**±0°.04×**178°.67E**±0°.04**, h566**km**, n764,** σ1s**17**/807**, mb5.0**/127**, 35C-52D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	Raoul Island	3.01	82	P	P	16 09 45.6	+3.2
RIZ				S	S	16 10 39.3	-5.2
GLKZ	Green Lake	3.01	82	P	P	16 09 45.6	+3.3
GLKZ				S	S	16 10 39.8	-4.8
RAO	Raoul Island	3.02	82	P	P	16 09 44.2	+1.8
	287nm,0.3s,baz=68,slow=13,SNR=12						
RAO				S	S	16 10 40.8	-3.8
	572nm,0.3s,baz=88,slow=18,SNR=7.0						
RAO	Raoul Island	3.02	82	P	P	16 09 45.1	+2.7
RAO	Raoul Island	3.02	82	P	P	16 09 45.1	+2.7
OUZ	Omahuta	6.96	217		P	16 10 17.6	+3.7
MXZ	Matakaoa Point	7.83	182		P	16 10 21.5	-0.8
URZ	Urewera	8.61	188	P	P	16 10 29.8	-0.2
	127nm,0.3s,baz=250,slow=3.6,SNR=298						
URZ				S	S	16 12 08.5	-3.5
	38nm,0.3s,baz=193,slow=21,SNR=13						
URZ	Urewera	8.61	188		P	16 10 28.8	-1.2
URZ	Urewera	8.61	188	P	P	16 10 30.0	0.0
URZ				S	S	16 12 08.4	-3.5
TKGZ	Te Karaka	8.72	184	P	P	16 10 31.3	+0.2
TKGZ				S	S	16 12 10.5	-3.3
RRRZ	Republican Roa	8.78	191	P	P	16 10 33.7	+2.0
RAGZ	Rawiri	8.81	186	P	P	16 10 32.6	+0.5
RTZ	Ruatahuna	8.98	188	P	P	16 10 34.1	+0.4
RIGZ	Rimuhau	8.99	185	P	P	16 10 34.3	+0.5
RIGZ				S	S	16 12 16.1	-2.8
SNGZ	Shannon Statio	9.10	187	P	P	16 10 34.8	-0.1
SNGZ				S	S	16 12 18.1	-2.8
PRGZ	Paritu Road	9.20	184	P	P	16 10 36.4	+0.5
PRGZ				S	S	16 12 20.1	-2.5
MTHZ	Maungataniwha	9.23	189	P	P	16 10 37.2	+1.0
MTHZ				S	S	16 12 21.5	-1.7
RAHZ	Arahi	9.26	188	P	P	16 10 36.9	+0.3
KNZ	Kokohu	9.31	185	P	P	16 10 37.2	+0.2
HIZ	Hauiti	9.32	199	P	P	16 10 40.0	+2.9
NFK	Norfolk Island	9.38	271	P	P	16 10 40.7	+2.8
	baz=9.5,SNR=11						
NFK	Norfolk Island	9.38	271	P	P	16 10 40.9	+3.0
WHHZ	Waihua	9.41	187	P	P	16 10 38.0	0.0
MHGZ	Mahia Peninsul	9.43	184	P	P	16 10 38.2	0.0
NMHZ	Naumai	9.48	189	P	P	16 10 39.3	+0.6
BKZ	Black Stump Fm	9.59	190		P	16 10 38.6	-1.3
BKZ	Black Stump Fm	9.59	190	P	P	16 10 39.5	-0.3
ARHZ	Aropaoanui	9.62	188	P	P	16 10 40.2	+0.1
MCHZ	McNeill Hill	9.83	189	P	P	16 10 42.3	0.0
KWHZ	Kaweka Forest	9.85	190	P	P	16 10 42.2	-0.3
WNVZ	Wahianoa	9.91	194	P	P	16 10 43.5	+0.3
MOVZ	Moawhango	9.95	193	P	P	16 10 43.3	-0.2
BHHZ	Black Hill Sta	9.98	192	P	P	16 10 43.2	-0.5
KRHZ	Kereru	10.07	190	P	P	16 10 43.9	-0.9
KAHZ	Kahuranaki	10.15	188	P	P	16 10 45.7	+0.1
PNHZ	Pukenui	10.37	191	P	P	16 10 46.8	-0.9
PXZ	Pawanui	10.39	188	P	P	16 10 47.7	-0.1
WPHZ	Waipukurau	10.48	189	P	P	16 10 48.4	-0.4
DVHZ	Dannevirke	10.75	190	P	P	16 10 50.9	-0.7
ANWZ	Angora Road	10.86	189	P	P	16 10 52.3	-0.4
POWZ	Post Office Ro	10.90	192	P	P	16 10 52.3	-0.9
BFZ	Birch Farm	11.11	190		P	16 10 53.8	-1.4
MSVF	Nonsavu	11.95	357	P	P	16 11 02.9	-1.4
	15nm,0.3s,baz=146,slow=10,SNR=63						
MSVF				ScP	ScP	16 18 39.5	+1.2
	0.3nm,0.3s,baz=10,slow=18,SNR=5.4						
MSVF	Nonsavu	11.95	357	*d i*P	P	16 11 03.2	-1.1
MSVF				pmax	pmax		
	comp=Z,427nm,1.1s						
MSVF	Nonsavu	11.95	357	P	P	16 11 02.5	-1.8
MSVF	Nonsavu	11.95	357	P	P	16 11 03.5	-0.8
MSWZ	Moikau Station	11.99	192	P	P	16 11 02.6	-1.7
SNZO	South Karori	12.00	194	P	P	16 11 02.6	-1.7
BHW	Baring Head	12.06	194	P	P	16 11 03.3	-1.6
PLWZ	Palliser	12.14	192		P	16 11 04.0	-1.9
QRZ	Quartz Range	12.15	203		P	16 11 07.2	+1.2
NNZ	Nelson	12.25	199	P	P	16 11 06.6	-0.3
TUWZ	Tuamarina	12.29	197	P	P	16 11 06.1	-1.3
PINNC	Pines Island,	12.31	303	P	P	16 11 08.8	+0.9
PINNC	Pines Island,	12.31	303	P	P	16 11 09.8	+2.0
CMWZ	Cape Campbell	12.53	196	P	P	16 11 09.1	-0.7
BSWZ	Blackbirch Sta	12.58	197	P	P	16 11 09.9	-0.5
MARNC	Mare, Loyalty	12.62	308	P	P	16 11 11.1	0.0
MARNC	Mare, Loyalty	12.62	308	P	P	16 11 13.2	+2.2
OUENC	Ouen Island, N	12.87	302	P	P	16 11 14.8	+1.1
OUENC	Ouen Island, N	12.87	302	P	P	16 11 15.6	+2.0
THZ	Tophouse	12.89	200		P	16 11 12.8	-0.7
YATNC	Mamie plateau,	13.05	303	P	P	16 11 17.6	+2.1
ONTNC	Ouen Toro	13.22	301	P	P	16 11 18.2	+0.9
ONTNC	Ouen Toro	13.22	301	P	P	16 11 19.7	+2.4
KHZ	Kahutara	13.32	197		P	16 11 16.2	-1.7
DZM	Mont Dzumac	13.37	302	*e*P	P	16 11 20.5	+1.6
	comp=Z,297nm,1.2s						
DZM	Mont Dzumac	13.37	302	P	P	16 11 20.2	+1.3
	comp=Z,4.3nm,0.3s,baz=149,slow=8.9,SNR=36						
DZM				S	S	16 13 44.5	+3.3
	comp=Z,0.1nm,0.3s,baz=356,slow=21,SNR=10						
DZM				ScP	ScP	16 18 42.5	+1.9
	comp=Z,2.3nm,0.3s,baz=184,slow=4.0,SNR=27						
DZM	Mont Dzumac	13.37	302	P	P	16 11 18.6	-0.3
DZM	Mont Dzumac	13.37	302	P	P	16 11 21.2	+2.3
NOUC	Port Laguerre	13.46	301	P	P	16 11 21.8	+2.1
LIFNC	LIFOU	13.64	308	P	P	16 11 21.3	-0.2
LIFNC	LIFOU	13.64	308	P	P	16 11 23.5	+2.0
LTZ	Lake Taylor	14.01	200		P	16 11 23.5	-1.5
OXZ	Oxford	14.58	200	P	P	16 11 29.3	-1.4
MQZ	McQueen's Vall	14.76	197	P	P	16 11 31.5	-0.9
RTV	Rentapao	15.12	319	P	P	16 11 39.8	+3.4
RPZ	Rata Peaks	15.23	201	P	P	16 11 36.2	-1.0
DVP	Devils Point	15.31	319	P	P	16 11 41.1	+2.8
FOZ	Fox Glacier	15.49	205	P	P	16 11 38.9	-0.8
KOUNC	Koumac, New Ca	15.89	302	P	P	16 11 45.8	+1.8
LBZ	Lake Benmore	16.11	202	P	P	16 11 44.0	-1.7
ODZ	Otahua Downs	16.55	200	P	P	16 11 49.2	-0.5
WKZ	Wanaka	16.90	204	P	P	16 11 52.4	-0.5
LHI	Lord Howe Isla	16.97	259	P	P	16 11 55.2	+1.5
	baz=17,SNR=3.7						
LHI	Lord Howe Isla	16.97	259	P	P	16 11 56.2	+2.6
LHI	Lord Howe Isla	16.97	259	P	P	16 11 56.4	+2.7
MLZ	Mavora Lakes	17.69	205	P	P	16 12 00.9	+0.9
SANVU	Saraoutou	17.70	321	P	P	16 12 00.1	-0.4
SANVU	Saraoutou	17.70	321	P	P	16 12 01.1	+0.6
WHZ	Wether Hill Ro	18.20	205	P	P	16 12 04.7	0.0
PYZ	Puysegur Point	18.91	206	P	P	16 12 11.9	+0.8
FUNA	Funafuti	21.09	1	P	P	16 12 30.4	-0.9
FUNA	Funafuti	21.09	1	P	P	16 12 32.9	+1.6
RAR	Rarotonga	21.20	71	P	P	16 12 33.0	+0.8
	comp=Z,16nm,0.5s,baz=220,slow=7.3,SNR=5.0						
RAR				ScP	ScP	16 18 55.7	-1.2
	comp=Z,20nm,0.7s,baz=257,slow=4.5,SNR=4.0						
RAR	Rarotonga	21.20	71	P	P	16 12 32.2	0.0
RAR				pmax	pmax		
	comp=Z,160nm,1.3s						
RAR	Rarotonga	21.20	71	P	P	16 12 32.2	0.0
ARMA	Armidale	23.39	262	P	P	16 12 53.1	+1.3
	baz=24,SNR=35						
ARMA	Armidale	23.39	262	P	P	16 12 53.6	+1.8
ARMA				IAmb	IAmb	16 12 55.6	
	comp=Z,113nm,1.1s						
RIV	Riverview	23.71	253	P	P	16 12 55.5	+1.1
	baz=24,SNR=3.8						
EIDS	Eidsvold	24.81	273	P	P	16 13 05.1	+0.7
	baz=25,SNR=32						
EIDS	Eidsvold	24.81	273	P	P	16 13 04.4	+0.1
EIDS				IAmb	IAmb	16 13 06.5	
	comp=Z,131nm,1.2s						
CNB	Canberra Magne	25.28	250	P	P	16 13 10.0	+1.6
	baz=25,SNR=41						
CAN	Canberra	25.58	250	P	P	16 13 12.9	+1.9
CAN				pmax	pmax		
	comp=Z,166nm,1.2s						
CAN	Canberra	25.58	250	P	P	16 13 12.9	+1.9
YNG	Young	26.02	252	P	P	16 13 17.7	+2.8
	baz=26,SNR=8.4						
RMQ	Roma	26.54	270	P	P	16 13 21.5	+1.9
	baz=27,SNR=99						
HNR	Honiara	26.73	315	P	P	16 13 19.7	-1.5
	comp=Z,168nm,0.9s,baz=189,slow=3.6,SNR=7.2						
HNR				S	S	16 17 15.6	-2.3
	comp=Z,77nm,0.8s,baz=211,slow=19,SNR=1.6						
HNR	Honiara	26.73	315	P	P	16 13 19.9	-1.4
HNR				S	S	16 17 15.6	-2.3
HNR				pmax	pmax		
	comp=Z,398nm,1.2s						
HNR	Honiara	26.73	315	P	P	16 13 19.9	-1.4
HNR	Honiara	26.73	315	P	P	16 13 23.2	+1.9
MOO	Moorlands	28.26	235	P	P	16 13 37.8	+3.5
	baz=28,SNR=11						
TAU	Tasmania Unive	28.30	234	P	P	16 13 35.0	+0.3
TAU				pmax	pmax		
	comp=Z,175nm,1.4s						
TAU	Tasmania Unive	28.30	234	P	P	16 13 35.0	+0.3
CMSA	Cobar Meteorol	28.38	258	P	P	16 13 36.8	+1.3
	baz=28,SNR=118						
TOO	Toolangi	28.59	245	P	P	16 13 39.2	+1.8
	baz=29,SNR=35						
TOO	Toolangi	28.59	245	P	P	16 13 39.2	+1.8
TOO				pmax	pmax		
	comp=Z,115nm,1.1s						
TOO	Toolangi	28.59	245	P	P	16 13 39.2	+1.8
TOO				IAmb	IAmb	16 13 40.7	
	comp=Z,115nm,1.1s						
QLP	Quilpie	30.45	267	P	P	16 13 53.8	+0.3
	baz=30,SNR=30						
CTA	Charters Tower	30.83	281	P	P	16 13 57.6	+0.7
	comp=Z,20nm,0.3s,baz=104,slow=10,SNR=100						
CTA				S	S	16 18 21.4	-0.1
	comp=Z,3.6nm,0.8s,baz=356,slow=21,SNR=5.6						
CTA				ScP	ScP	16 19 25.5	-0.1
	comp=Z,7.9nm,0.8s,baz=244,slow=3.5,SNR=4.4						
CTAO	Charters Tower	30.83	281	P	P	16 13 57.5	+0.7
CTAO				pmax	pmax		
	comp=Z,83nm,1.0s						
CTAO	Charters Tower	30.83	281	P	P	16 13 57.5	+0.7
CTAO				IAmb	IAmb	16 13 59.3	
	comp=Z,83nm,1.0s						
PAE	Paea	31.35	75	*e*P	P	16 14 02.2	+0.9
	comp=Z,32nm,1.1s						
TARA	Tarawa	31.39	349	P	P	16 13 59.8	-1.8
TARA	Tarawa	31.39	349	P	P	16 14 02.3	+0.7
PPT2	Papeete2	31.39	75	*e*P	P	16 14 02.9	+1.2
	comp=Z,110nm,1.3s						
PPT	Papeete	31.40	75	P	P	16 14 02.2	+0.5
	comp=Z,54nm,0.7s,baz=73,slow=17,SNR=3.7						
ARPS	Mount Arapiles	31.45	247	P	P	16 14 03.7	+1.8
	baz=32,SNR=22						
TIAR	Tiarei	31.60	75	*e*P	P	16 14 04.7	+1.3
	comp=Z,19nm,0.9s						
STKA	Stephens Creek	31.82	257	P	P	16 14 06.3	+1.2
	baz=32,SNR=40						
STKA	Stephens Creek	31.82	257	P	P	16 14 06.4	+1.2
	comp=Z,74nm,0.7s,baz=95,slow=9.8,SNR=102						
STKA				S	S	16 18 35.4	-0.8
	comp=Z,3.3nm,0.6s,baz=252,slow=17,SNR=3.5						
STKA				ScP	ScP	16 19 27.9	-0.8
	comp=Z,7.2nm,0.9s,baz=130,slow=6.8,SNR=3.0						
STKA	Stephens Creek	31.82	257	P	P	16 14 05.7	+0.6
STKA				pmax	pmax		
	comp=Z,33nm,1.0s						
STKA	Stephens Creek	31.82	257	P	P	16 14 05.7	+0.6
STKA				IAmb	IAmb	16 14 07.8	
	comp=Z,33nm,1.0s						
MTSU	Mount Surprise	33.33	282	P	P	16 14 18.9	+0.8
	baz=33,SNR=28						
HTT	Hallett	33.92	253	P	P	16 14 23.5	+0.6
	baz=34,SNR=55						
PMOR	Pomariorio Ree	34.07	72	*e*P	P	16 14 25.7	+1.4
	comp=Z,121nm,1.4s						
VAH	Vaihoa	34.17	72	*e*P	P	16 14 26.0	+0.9
	comp=Z,144nm,1.3s						
RABL	Rabaul	35.69	310	P	P	16 14 36.0	-1.7
RABL	Rabaul	35.69	310	P	P	16 14 38.8	+1.0
	comp=Z,425nm,1.0s						
COEN	Coen	36.31	288	P	P	16 14 42.7	-0.2
BBOO	Buckleboo	36.37	254	P	P	16 14 43.1	0.0
	baz=36,SNR=42						
BBOO	Buckleboo	36.37	254	P	P	16 14 43.0	-0.2
QIS	Mount Isa	36.38	275	P	P	16 14 43.4	+0.1
	baz=36,SNR=11						
KWAJ	Kwajalein Atol	39.75	343	P	P	16 15 10.7	0.0
KWAJ				pmax	pmax		
	comp=Z,539nm,1.2s						
KWAJ	Kwajalein Atol	39.75	343	P	P	16 15 10.7	0.0
KWAJ	Kwajalein Atol	39.75	343	P	P	16 15 12.0	+1.3
AS31	Alice Springs	40.25	268	P	P	16 15 14.4	-0.3
ASAR	Alice Springs	40.25	268	P	P	16 15 14.6	-0.2
	comp=Z,75nm,1.0s,baz=106,slow=7.5,SNR=608						
ASAR				ScP	ScP	16 19 59.4	-0.8
	comp=Z,3.3nm,0.6s,baz=115,slow=5.6,SNR=5.1						
ASAR				S	S	16 20 38.7	-3.4
	comp=Z,17nm,0.9s,baz=109,slow=14,SNR=12						
MANU	Manus Island	40.51	307	P	P	16 15 16.6	-0.3
MANU				IAmb	IAmb	16 15 18.2	
	comp=Z,72nm,1.1s						
WR0	Warramunga Arr	41.00	273	P	P	16 15 20.2	-0.5
WR0				IAmb	IAmb	16 15 21.9	
	comp=Z,84nm,0.9s						
WB2	Warramunga Arr	41.17	273	P	P	16 15 21.4	-0.6
WRAB	Tennant Creek	41.17	273	*c i*P	P	16 15 22.0	-0.1
WRAB				pmax	pmax		
	comp=Z,180nm,1.3s						
WRAB	Tennant Creek	41.17	273	P	P	16 15 21.6	-0.4
WRAB				IAmb	IAmb	16 15 23.2	
	comp=Z,134nm,1.0s						
WRA	Warramunga Arr	41.18	273	P	P	16 15 21.8	-0.3
	comp=Z,78nm,0.9s,baz=107,slow=8.0,SNR=400						
WRA				ScP	ScP	16 20 02.9	-1.1
	comp=Z,6.4nm,0.8s,baz=110,slow=4.0,SNR=5.9						
WRA				S	S	16 20 51.5	-3.9
	comp=Z,19nm,0.8s,baz=108,slow=14,SNR=12						
WRA	Warramunga Arr	41.18	273	P	P	16 15 20.5	-1.6
WRA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
WRA	Warramunga Arr	41.18	273	P	P	16 15 20.5	-1.6
PATS	Pohnpei	41.28	328	P	P	16 15 22.9	0.0
	baz=41,SNR=9.7						
PATS	Pohnpei	41.28	328	P	P	16 15 22.1	-0.7
FORT	Forrest	43.42	255	P	P	16 15 39.1	-0.4
	baz=44,SNR=36						
FORT	Forrest	43.42	255	P	P	16 15 38.8	-0.8
WRKA	Warakurna	44.69	263	P	P	16 15 48.6	-0.8
	baz=45,SNR=41						
GENI	Genyem	45.39	299	P	P	16 15 55.8	+0.9
	comp=Z,120nm,1.0s						
KDU	Kakadu	45.95	282	P	P	16 15 58.3	-0.8
	baz=46,SNR=20						
MTN	Manton Dam	47.02	280	P	P	16 16 06.5	-0.7
	baz=47,SNR=16						
MTN	Manton Dam	47.02	280	P	P	16 16 06.0	-1.2
MTN				IAmb	IAmb	16 16 07.8	
	comp=Z,22nm,0.7s						
KNRA	Kununurra	47.77	276	P	P	16 16 12.8	+0.1
	baz=48,SNR=18						
KNRA	Kununurra	47.77	276	P	P	16 16 12.7	-0.1
KNRA				IAmb	IAmb	16 16 14.2	
	comp=Z,84nm,1.1s						
VNDA	Vanda	48.50	185	P	P	16 16 18.5	+1.2
	comp=Z,3.2nm,0.5s,baz=8.0,slow=8.7,SNR=38						
VNDA				ScP	ScP	16 20 33.0	-0.3
	comp=Z,3.6nm,0.7s,baz=354,slow=4.8,SNR=9.0						
VNDA	Vanda	48.50	185	P	P	16 16 17.9	+0.6
VNDA				pmax	pmax		
	comp=Z,11nm,1.3s						
VNDA	Vanda	48.50	185	P	P	16 16 17.9	+0.6
SBA	Scott Base	48.52	183	P	P	16 16 19.5	+2.1
SBA				pmax	pmax		
	comp=Z,21nm,1.0s						
SBA	Scott Base	48.52	183	P	P	16 16 19.5	+2.1
WAKE	Wake Island	50.08	345	P	P	16 16 29.0	-0.6
FAKI	Fak Fak	51.40	292	P	P	16 16 39.3	-0.2
	comp=Z,25nm,1.0s						
NWAO	Narrogin (SRO)	51.92	250	P	P	16 16 42.6	-0.4
	baz=52,SNR=6.0						
BNDI	Bandanaira	52.39	289	P	P	16 16 44.9	-1.6
	comp=Z,79nm,1.1s						
MEEK	Meekatharra	52.51	258	P	P	16 16 46.3	-1.0
	baz=53,SNR=14						
BLDU	Ballidu	52.95	252	P	P	16 16 50.1	-0.3
	baz=53,SNR=6.5						
MUN	Mundaring	53.00	251	P	P	16 16 50.5	-0.1
	baz=53,SNR=3.8						
PSA00	Pilbara Seismi	53.16	264	P	P	16 16 51.2	-0.8
PSA00				IAmb	IAmb	16 16 52.7	
	comp=Z,83nm,1.1s						
PSA00	Pilbara Seismi	53.16	264	P	P	16 16 50.9	-1.1
PSA00				IAmb	IAmb	16 16 52.8	
	comp=Z,55nm,1.1s						
SIJI	Sorong	53.41	294	P	P	16 16 52.8	-1.0
	comp=Z,25nm,0.9s,baz=134,slow=2.9,SNR=7.5						
SIJI	Sorong	53.41	294	P	P	16 16 53.9	+0.1
	comp=Z,24nm,1.1s						
SWI	Sorong	53.41	294	P	P	16 16 54.3	+0.5
	comp=Z,37nm,1.3s						
MSAI	Masohi	53.85	289	P	P	16 16 57.0	+0.1
	comp=Z,4.9nm,0.6s						
MORW	Morawa	53.94	254	P	P	16 16 56.9	-0.5
	baz=54,SNR=14						
MORW	Morawa	53.94	254	P	P	16 16 56.5	-0.9
GUMO	Guam	54.00	318	P	P	16 16 56.4	-1.4
	comp=Z,69nm,0.7s,baz=226,slow=1.8,SNR=8.0						
GUMO	Guam	54.00	318	P	P	16 16 56.7	-1.2
GUMO				pmax	pmax		
	comp=Z,388nm,1.5s						
GUMO	Guam	54.00	318	P	P	16 16 56.7	-1.2
GUMO	Guam	54.00	318	P	P	16 16 57.8	-0.1
KRAI	Karang Ratu	54.31	289	P	P	16 17 00.7	+0.6
	comp=Z,3μmcomp=Z,34nm,1.0s						
CASY	Casey	54.39	208	P	P	16 16 59.8	-0.1
SOEI	Soe	54.40	280	P	P	16 17 00.2	-0.7
	comp=Z,53nm,1.2s						
HMH	Humu'ula Sheep	55.01	30	P	P	16 17 06.2	+1.0
GIRL	Giralia	57.61	261	P	P	16 17 23.9	+1.1
	baz=58,SNR=5.1						
QSPA	South Pole Qui	60.38	180	P	P	16 17 42.3	+1.5
	comp=Z,38nm,0.7s,baz=306,slow=0.3,SNR=174						
QSPA				S	S	16 25 13.2	+0.9
	comp=Z,2.0nm,0.8s,baz=104,slow=11,SNR=9.8						
QSPA	South Pole Qui	60.38	180	P	P	16 17 42.1	+1.3
QSPA				IAmb	IAmb	16 17 43.6	
	comp=Z,40nm,0.8s						
TTSI	Tana Toraja	61.61	284	P	P	16 17 50.0	+0.5
	comp=Z,11nm,1.5s						
DAV	Davao City (W)	62.73	297	P	P	16 17 56.1	-0.6
	comp=Z,186nm,0.5s,baz=278,slow=9.4,SNR=4.4						
MPSI	Mapaga	63.38	287	P	P	16 18 01.1	+0.2
JCJ	Chichijima	66.42	325	P	P	16 18 18.4	-1.3
	comp=Z,49nm,0.4s,baz=261,slow=17,SNR=14						
JCJ				S	S	16 26 24.9	-1.1
	comp=Z,11nm,0.5s,baz=270,slow=20,SNR=1.0						
JCJ	Chichijima	66.42	325	P	P	16 18 18.1	-1.6
SPMM	Sapulut	68.65	289	P	P	16 18 34.0	+0.3
BELA	Belgrano 2	70.83	173	P	P	16 18 46.1	+0.5
MAW	Mawson	71.91	201	P	P	16 18 53.0	+1.1
	baz=72,SNR=6.6						
MAW	Mawson	71.91	201	P	P	16 18 52.5	+0.6
	comp=Z,4.0nm,0.6s,baz=134,slow=6.8,SNR=9.8						
MAW	Mawson	71.91	201	P	P	16 18 52.5	+0.6
MAW				pmax	pmax		
	comp=Z,3.0nm,1.2s						
MAW	Mawson	71.91	201	P	P	16 18 52.5	+0.6
JHJ2	Mitsune	72.52	326	P	P	16 18 55.4	-0.6
JHJ	Hachijo jima 2	72.54	326	P	P	16 18 55.3	-0.8
	comp=Z,98nm,0.8s,baz=57,slow=17,SNR=2.6						
PMSA	Palmer Station	74.05	157	P	P	16 19 03.7	-0.6
	comp=Z,3.5nm,0.9s,baz=160,slow=15						
PMSA	Palmer Station	74.05	157	P	P	16 19 03.6	-0.6
JOW	Kunigami	74.09	314	P	P	16 19 04.2	-0.9
JOW				IAmb	IAmb	16 19 06.4	
	comp=Z,43nm,1.0s						
MDSI	Maura Dua	74.32	274	P	P	16 19 06.9	+0.2
	comp=Z,16nm,0.9s						
JYT	Yasato	74.91	329	P	P	16 19 09.0	-0.4
JYT				IAmb	IAmb	16 19 10.9	
	comp=Z,109nm,1.1s						
INU	Inuyama	75.69	326	P	P	16 19 12.8	-1.0
INU				IAmb	IAmb	16 19 14.8	
	comp=Z,51nm,1.1s						
JGF	Kuroka	75.72	326	P	P	16 19 12.8	-1.2
YOJ	Yonaguni jima	75.87	309	P	P	16 19 14.0	-1.0

YOJ pmax pmax
comp=Z,63nm,0.9s
YOJ Yonaguni jima 75.87 309 P P 16 19 14.0 -1.0
YOJ IAmb IAmb 16 19 15.8
comp=Z,63nm,0.9s
JMM Marumori 76.00 330 P P 16 19 14.7 -0.8
JMM IAmb IAmb 16 19 16.4
comp=Z,42nm,1.0s
MJAR Matsushiro Arr 76.08 327 P P 16 19 14.4 -1.6
comp=Z,12nm,0.8s,baz=161,slow=6.3,SNR=26
MJAR Matsushiro Arr 76.08 327 P P 16 19 15.0 -1.0
MJAR pmax pmax
comp=Z,20nm,1.1s
MJAR Matsushiro Arr 76.08 327 P P 16 19 15.0 -1.0
MAJO Matsushiro 76.08 327 *d i* P **P 16 19 15.2 -0.8**
MAJO pmax pmax
comp=Z,32nm,1.2s
MAJO Matsushiro 76.08 327 P P 16 19 14.9 -1.1
MAJO IAmb IAmb 16 19 16.7
comp=Z,53nm,1.2s
MAT Matsushiro 76.08 327 P P 16 19 15.3 -0.7
MJB9 Matsu-Tunnel 76.08 327 P P 16 19 15.2 -0.8
MJB9 IAmb IAmb 16 19 16.7
comp=Z,28nm,0.8s
TWG Pinlang 76.12 307 P P 16 19 14.4 -2.1
TWG IAmb IAmb 16 19 15.5
comp=Z,34nm,1.0s
JSU Suzuyama 76.20 319 P P 16 19 15.7 -1.0
JSU IAmb IAmb 16 19 17.8
comp=Z,77nm,1.1s
YULB Yu-li 76.34 307 P P 16 19 15.7 -2.0
JWT Wachi 76.43 325 P P 16 19 17.3 -0.6
JWT IAmb IAmb 16 19 18.7
comp=Z,30nm,0.8s
NACB Ninganchiao 76.64 308 P P 16 19 18.3 -1.0
NACB IAmb IAmb 16 19 20.1
comp=Z,49nm,1.1s
TPUB Ta-pu 76.74 307 P P 16 19 18.1 -1.8
TPUB IAmb IAmb 16 19 20.1
comp=Z,60nm,0.9s
SSLB Suanglung 76.83 307 P P 16 19 18.4 -2.0
SSLB IAmb IAmb 16 19 20.4
comp=Z,46nm,0.8s
SYO Syowa Base 77.09 194⇑ *e* P **P 16 19 20.6 -0.4**
SYO Syowa Base 77.09 194⇑ *e* PcP **PcP 16 19 29.2 +0.1**
JNU Nakatsue 77.16 320 P P 16 19 21.8 -0.2
comp=Z,64nm,1.0s,baz=96,slow=4.4,SNR=23
JNU Nakatsue 77.16 320 P P 16 19 21.3 -0.7
JNU IAmb IAmb 16 19 23.1
comp=Z,108nm,1.1s
TATO Taipei 77.25 309 P P 16 19 21.7 -0.9
TATO IAmb IAmb 16 19 23.0
comp=Z,125nm,1.4s
JSD Sado 77.27 328 P P 16 19 21.7 -0.7
JSD IAmb IAmb 16 19 23.7
comp=Z,57nm,1.1s
JHS Saijyo 77.38 323 P P 16 19 22.9 -0.3
JHS IAmb IAmb 16 19 24.7
comp=Z,92nm,1.0s
JTM Tenmabayashi 78.33 332 P P 16 19 28.0 0.0
JTM IAmb IAmb 16 19 29.8
comp=Z,188nm,1.4s
ERM Erimo 78.54 334 *de* P **P 16 19 30.3 +1.2**
ERM pmax pmax
comp=Z,139nm,1.3s
ERM Erimo 78.54 334 P P 16 19 29.1 +0.1
ERM IAmb IAmb 16 19 32.8
comp=Z,74nm,1.1s
SNAA Sanae 78.88 180 P P 16 19 31.0 +0.3
SNAA S **S 16 28 40.8 -1.9**
SNAA Sanae 78.88 180 *ce* P **P 16 19 31.5 +0.8**
SNAA *i* *PP **pP 16 21 32.4 +2.7**
SNAA pmax pmax
comp=Z,10.0nm,1.0s
SNAA Sanae 78.88 180 P P 16 19 30.6 -0.1
VNA3 Neumayer Olymp 79.14 177 P P 16 19 32.3 +0.3
VNA3 S **S 16 28 43.5 -1.8**
YUK Yuzh-Kuril'sk 79.30 337 *de* P **P 16 19 33.5 +0.4**
VNA2 Neumayer--Watz 79.54 178 P P 16 19 34.7 +0.6
baz=187,slow=4.7
VNA2 S **S 16 28 48.8 -0.6**
KUR Kuril'sk 79.69 338 *de* P **P 16 19 36.0 +0.9**
KUR pmax pmax
comp=Z,72nm,1.0s
VNA1 Neumayer--Stat 79.79 178 P P 16 19 36.1 +0.7
VNA1 S **S 16 28 53.4 +1.5**
JEW Eniwo 79.90 333 P P 16 19 36.1 -0.2
JEW IAmb IAmb 16 19 38.4
comp=Z,109nm,1.0s
JKA Kamikawa-asahi 80.55 335 P P 16 19 39.7 +0.1
JKA IAmb IAmb 16 19 41.9
comp=Z,42nm,1.0s
ASAJ Asahikawa 80.55 335 P P 16 19 40.7 +1.1
comp=Z,27nm,0.9s,baz=211,slow=8.6,SNR=44
ASAJ Asahikawa 80.55 335 P P 16 19 39.7 +0.1
ASAJ pmax pmax
comp=Z,42nm,1.0s
MNSI Mandailing Nat 80.92 276 P P 16 19 44.4 +2.1
KIWB Kanaga Island 81.31 3 P P 16 19 43.3 0.0
ADK Adak 81.36 3 P P 16 19 43.4 -0.2
ADK pmax pmax
comp=Z,132nm,1.1s
ADK Adak 81.36 3 P P 16 19 43.4 -0.2
ADK IAmb IAmb 16 19 45.0
comp=Z,132nm,1.1s
TJN Taejon 81.51 320 *de* P **P 16 19 45.3 +0.6**
KSRS Korea Array 81.99 322 P P 16 19 47.6 +0.5
comp=Z,22nm,1.0s,baz=143,slow=5.6,SNR=51
KSRS PP **PP 16 23 05.7 -0.2**
comp=Z,3.4nm,1.0s,baz=151,slow=9.4,SNR=6.7
KSAR Wonju Array Be 82.00 321 P P 16 19 46.7 -0.6
KSAR Wonju Array Be 82.00 321 P P 16 19 46.6 -0.6
KS19 Wonju Array Si 82.06 322 P P 16 19 47.6 0.0
KS19 IAmb IAmb 16 19 49.3
comp=Z,32nm,1.0s
SMY Shemya 82.20 357 P P 16 19 47.9 +0.1
SMY pmax pmax
comp=Z,174nm,1.0s
SMY Shemya 82.20 357 P P 16 19 47.9 +0.1
LL02 Futaleuf 82.87 136 P P 16 19 51.0 -0.8
YSS Yuzh-Sakhalins 82.92 336⇓ *e* P **P 16 19 52.7 +1.1**
YSS *e* 16 21 55.9
YSS pmax pmax
comp=Z,120nm,0.7s
YSS Yuzh-Sakhalins 82.92 336 P P 16 19 51.4 -0.2
YSS IAmb IAmb 16 19 54.3
comp=Z,90nm,0.7s
NIKH Nikolski High 83.06 8 P P 16 19 52.5 +0.4
baz=191
NJ2 Nanjing 83.63 312 ⇓ P **P 16 19 56.4 +0.9**
NJ2 pmax pmax
comp=Z,22nm,0.6s
MSHR Mys Shultsa 84.18 327 *de* P **P 16 19 59.0 +1.1**
MSHR pmax pmax
comp=Z,63nm,1.7s
UNV Unalaska Valle 84.21 9 P P 16 19 58.3 +0.5
baz=193
PET Petropavlovsk 84.23 348 *de* P **P 16 19 58.3 +0.4**
PET pmax pmax
comp=Z,72nm,1.3s
PET Petropavlovsk 84.23 348 P P 16 19 57.8 -0.1
PET IAmb IAmb 16 19 59.4
comp=Z,50nm,1.0s
VLA Vladivostok 84.25 328 *d i* P **P 16 19 59.0 +0.7**
VLA pmax pmax
comp=Z,30nm,1.0s
PEA0B Petropavlovsk- 84.48 347 *d i* P **P 16 20 00.0 +0.8**
PETK Petropavlovsk- 84.48 347 P P 16 19 59.3 +0.1
comp=Z,61nm,0.9s,baz=151,slow=6.8,SNR=56
USA0B Ussuriysk Arra 85.03 328 *d i* P **P 16 20 03.0 +0.9**
USA0B Ussuriysk Arra 85.03 328 P P 16 20 02.1 0.0
USA0B IAmb IAmb 16 20 04.4
comp=Z,88nm,1.1s
USRK Ussuriysk Ar. 85.03 328 P P 16 20 02.7 +0.6
comp=Z,40nm,0.9s,baz=142,slow=3.2,SNR=130
USRK Ussuriysk Ar. 85.03 328 P P 16 20 02.2 +0.1
USRK Ussuriysk Ar. 85.03 328 P P 16 20 02.2 +0.1
PLCA Paso Flores 85.06 135 P P 16 20 04.2 +1.6
comp=Z,4.8nm,0.9s,baz=229,slow=4.0,SNR=10
LC01 Cunco 85.28 132 P P 16 20 02.5 -1.2
LC01 IAmb IAmb 16 20 06.9
comp=Z,24nm,0.9s
WHN Wuhan 85.65 309 ⇓ P **P 16 20 06.0 +0.6**
CNBA Chernabura Isl 86.25 12 P P 16 20 08.0 +0.3
CNBA IAmb IAmb 16 20 09.8
comp=Z,82nm,1.0s
CHNA Chernabura Isl 86.27 12 P P 16 20 08.4 +0.7
baz=199
TYV Tymovskoe 86.31 338 *e* P **P 16 20 09.5 +1.5**
TYV *e* S **S 16 29 50.1 -6.1**
TYV pmax pmax
comp=Z,98nm,1.1s
TYV pmax pmax
comp=Z,2μm,5.9s
TYV smax smax
comp=N,500nm,6.9s
MDJ Mudanjiang 86.46 327 P P 16 20 10.2 +1.3
MDJ pmax pmax
comp=N,39nm,1.2s
MDJ pmax pmax
comp=N,650nm,11.2s
MDJ Mudanjiang 86.46 327 P P 16 20 09.2 +0.3
MDJ IAmb IAmb 16 20 11.2
comp=Z,74nm,1.4s
CIS Catalina Islan 86.50 48 P P 16 20 09.9 +0.4
baz=231
SDPT Sand Point 86.60 12 P P 16 20 09.4 +0.2
SDPT Sand Point 86.60 12 P P 16 20 09.8 +0.6
baz=198
SPIA Saint Paul Isl 87.06 6 P P 16 20 13.0 +1.6
baz=190
MONP2 Monument Peak 87.50 50 P P 16 20 15.5 +1.1
baz=232,SNR=8.5
IKP In-Ko-Pah, Jac 87.56 50 P P 16 20 16.0 +1.5
baz=232
VES Vestal, Richgr 87.62 46 P P 16 20 15.6 +1.0
baz=230
EDW2 Edwards Air Fo 87.70 47 P P 16 20 16.1 +1.0
baz=231,SNR=7.6
CHGN Chignik 87.88 13 P P 16 20 15.4 +0.2
CHGN Chignik 87.88 13 P P 16 20 16.7 +1.5
baz=200
CN2 Changchun 87.89 325 *e* P **P 16 20 14.8 -0.8**
CN2 pmax pmax
comp=Z,40nm,1.0s
ISA Isabella, Lake 87.89 46 P P 16 20 15.5 -0.4
ISA pmax pmax
comp=Z,14nm,1.0s
ISA Isabella, Lake 87.89 46 P P 16 20 15.5 -0.4
ISA IAmb IAmb 16 20 19.6
comp=Z,14nm,0.9s
ISA Isabella, Lake 87.89 46 P P 16 20 16.7 +0.7
baz=231,SNR=11
PFO Pinyon Flats O 87.91 49 P P 16 20 16.9 +0.8
comp=Z,5.2nm,0.8s,baz=295,slow=6.9,SNR=5.4
PFO Pinyon Flats O 87.91 49 P P 16 20 17.2 +1.0
baz=232
TPFO Pinon Flats 87.91 49 P P 16 20 17.2 +1.0
baz=232
SWSC Sam W. Stewart 87.94 50 P P 16 20 17.3 +1.2
baz=232
SLVN Son La 88.01 296 P P 16 20 15.7 -1.1
SLVN IAmb IAmb 16 20 19.9
comp=Z,20nm,1.5s
O02D Mt. Diablo Mer 88.24 41 P P 16 20 19.2 +1.7
baz=228,SNR=9.3
LRMC Laurel Mtn Rad 88.28 47 P P 16 20 18.8 +1.0
baz=231
BO02 Sierra Bellavi 88.35 130 P P 16 20 17.9 -0.4
BO02 IAmb IAmb 16 20 21.1
comp=Z,41nm,1.2s
GRNR Gornyy 88.41 335⇑ *i* P **P 16 20 19.3 +1.4**
GRNR pmax pmax
comp=Z,50nm,1.0s
GRNR MLR MLR
comp=E,460nm,15.0s
GRNR MLR MLR
comp=N,280nm,13.0s
GRNR MLR MLR
comp=Z,450nm,13.0s
BELC Belle Mtn. Jos 88.45 49 P P 16 20 19.7 +1.0
baz=232,SNR=6.4
ORV Oroville 88.56 42 P P 16 20 18.8 -0.1
ORV pmax pmax
comp=Z,9.0nm,1.2s
ORV Oroville 88.56 42 P P 16 20 18.8 -0.1
BC3 Big Chuckawall 88.60 50 P P 16 20 20.3 +0.9
baz=232
CWC Cottonwood Cre 88.63 46 P P 16 20 20.4 +0.9
baz=231
WDC Whiskeytown Da 88.65 41 P P 16 20 18.7 -0.5
WDC pmax pmax
comp=Z,16nm,1.1s
WDC Whiskeytown Da 88.65 41 P P 16 20 18.7 -0.5
WDC IAmb IAmb 16 20 22.9
comp=Z,16nm,1.1s
GLA Glamis 88.66 50 P P 16 20 19.2 -0.3
GLA pmax pmax
comp=Z,15nm,1.0s
GLA Glamis 88.66 50 P P 16 20 19.2 -0.3
GLA IAmb IAmb 16 20 23.5
comp=Z,15nm,1.0s
GLA Glamis 88.66 50 P P 16 20 20.9 +1.3
baz=233
GYA Guiyang 88.72 301⇑ P **P 16 20 21.0 +0.9**
GYA pmax pmax
comp=Z,16nm,1.4s
GSC Goldstone, Bar 88.73 48 P P 16 20 21.1 +1.3
baz=232
HEC Hector,Ludlow 88.74 48 P P 16 20 20.5 +0.6
baz=232
MDPB Devils Postpil 88.76 45 P P 16 20 18.8 -1.4
N02D Trinity Center 88.82 40 P P 16 20 21.6 +1.4
baz=228,SNR=7.7
ENH Enshi 88.85 306 P P 16 20 20.4 -0.1
ENH IAmb IAmb 16 20 23.3
comp=Z,49nm,1.2s
O03E Paynes Creek 88.88 41 P P 16 20 20.9 +0.5
baz=228,SNR=7.5
TIN Tinemaha, Big 88.92 46 P P 16 20 22.1 +1.3
baz=231
M02C Callahan 89.01 40 P P 16 20 22.9 +1.8
baz=228,SNR=9.1
KLR Kur 89.03 331 P P 16 20 21.4 +0.7
comp=Z,13nm,0.9s,baz=119,slow=2.4,SNR=31
KLR Kul'dur 89.03 331 *de* P **P 16 20 21.7 +0.9**
KLR pmax pmax
comp=Z,38nm,1.5s
IRM Iron Mountain 89.11 49 P P 16 20 22.5 +0.9
baz=233
L02E Cave Junction 89.11 39 P P 16 20 22.6 +1.2
baz=227
GMRC Granite Mounta 89.15 49 P P 16 20 22.7 +0.8
baz=232
YBH Yreka Blue Hor 89.32 40 P P 16 20 23.6 +1.1
comp=Z,6.5nm,0.8s,baz=208,slow=1.8,SNR=15
YBH Yreka Blue Hor 89.32 40 P P 16 20 22.2 -0.3
YBH pmax pmax
comp=Z,18nm,1.3s
YBH Yreka Blue Hor 89.32 40 P P 16 20 22.1 -0.3
YBH IAmb IAmb 16 20 26.2
comp=Z,18nm,1.3s
214A Organ Pipe Nat 89.38 52 P P 16 20 23.9 +1.0
baz=234
PNTR Pine Nut 89.38 43 P P 16 20 22.5 -0.5
PNTR IAmb IAmb 16 20 25.8
comp=Z,9.9nm,0.9s
FURC Furnace Creek, 89.41 47 P P 16 20 24.1 +1.2
baz=232
GRAC Grapevine Rang 89.42 46 P P 16 20 24.4 +1.4
baz=231
BEKR Beckworth 89.43 42 P P 16 20 23.0 -0.2
SHOC Shoshone, Teco 89.44 47 P P 16 20 24.3 +1.2
baz=232
K02D Willamette Mer 89.44 39 P P 16 20 24.5 +1.5
baz=227
LHV Little Huntoon 89.51 44 P P 16 20 24.2 +1.0
YERR Yerington 89.53 44 P P 16 20 24.1 +0.4
J01E Myrtle Point 89.62 38 P P 16 20 25.1 +1.4
baz=227
NVAR Mina Array Bea 89.74 44 P P 16 20 25.2 +0.5
comp=Z,5.7nm,0.8s,baz=221,slow=7.9,SNR=31
NVAR Mina Array Bea 89.74 44 P P 16 20 24.6 -0.1
NV11 Mina Array Sit 89.83 44 P P 16 20 25.3 +0.3
M04C Meadorcl 89.84 40 P P 16 20 26.3 +1.3
baz=228,SNR=5.1
PDMCI Parker Dam,Lak 89.86 50 P P 16 20 26.2 +1.2
baz=233
L04D Klamath Falls 89.87 40 P P 16 20 26.5 +1.5
baz=228
PAHR Pah Rah Range 89.90 43 P P 16 20 24.9 -0.4
TPNV Topopah Spring 90.10 47 P P 16 20 27.4 +1.1
baz=232,SNR=11
TPH Tonopah 90.18 45 P P 16 20 26.2 -0.5
TPH pmax pmax
comp=Z,45nm,1.0s
TPH Tonopah 90.18 45 P P 16 20 26.1 -0.5
TPH IAmb IAmb 16 20 29.4
comp=Z,45nm,1.0s
KVN Kaiserville 90.26 44 P P 16 20 27.0 0.0
KVN pmax pmax
comp=Z,5.0nm,0.9s
KVN Kaiserville 90.26 44 P P 16 20 27.0 0.0
BJT Baijiatuao 90.43 317 P P 16 20 27.7 +0.2
BJT pmax pmax
comp=Z,20nm,1.0s
BJT Baijiatuao 90.43 317 P P 16 20 27.7 +0.2
BJT IAmb IAmb 16 20 29.6
comp=Z,20nm,1.0s
BJI Beijing 90.44 317 P P 16 20 28.4 +0.9
BJI SKS **SKSac 16 30 09.3 +4.5**
BJI S **ScS 16 30 36.9 +0.3**
BJI pmax pmax
comp=Z,23nm,1.1s
CMAR Chiang Mai Arr 90.45 291 P P 16 20 29.2 +1.1
comp=Z,2.9nm,1.0s,baz=138,slow=3.7,SNR=13
CMAR Chiang Mai Arr 90.45 291 *i* P **P 16 20 30.0 +1.9**
CMAR pmax pmax
comp=Z,3.0nm,1.0s
CMAR Chiang Mai Arr 90.45 291 P P 16 20 28.1 -0.1
CMMT Chiang Mai 90.63 291 P P 16 20 31.3 +2.3
comp=Z,4.0nm,0.9s
CHTO Chiang Mai 90.64 291 P P 16 20 28.5 -0.5
CHTO pmax pmax
comp=Z,5.0nm,1.1s
CHTO Chiang Mai 90.64 291 P P 16 20 28.5 -0.5
CHTO Chiang Mai 90.64 291 P P 16 20 30.1 +1.1
J04D Umpqua Nationa 90.66 39 P P 16 20 30.0 +1.3
baz=228
CO03 El Pedregal 90.70 126 P P 16 20 30.0 +0.7
CO03 IAmb IAmb 16 20 31.7
comp=Z,39nm,1.2s
MOD Modoc Plateau 90.79 41 P P 16 20 29.2 -0.1
MOD IAmb IAmb 16 20 32.0
comp=Z,12nm,1.0s
I04A Tendick Farm, 90.86 38 P P 16 20 31.1 +1.6
baz=228
KMI Kunming 90.95 298 ⇓ P **P 16 20 32.1 +1.5**
KMI pP pP 16 22 35.4 +2.5
KMI sP sP 16 23 31.6 +2.6
KMI pmax pmax
comp=Z,12nm,1.1s
TUC Tucson 90.98 53 P P 16 20 31.5 +1.2
baz=235
K05A Summer Lake 90.99 40 P P 16 20 30.2 -0.1
K05A IAmb IAmb 16 20 33.3
comp=Z,8.3nm,0.8s
J05D Fort Rock, OR 91.17 39 P P 16 20 32.4 +1.3
baz=229
R11A Troy Canyon, C 91.37 46 P P 16 20 33.1 +0.9
baz=232
XAN Xi'an 91.42 309 P P 16 20 33.5 +1.2
XAN pmax pmax
comp=Z,13nm,1.6s
BMN Battle Mountai 91.65 43 P P 16 20 32.3 -1.0
BMN pmax pmax
comp=Z,13nm,1.2s
BMN Battle Mountai 91.65 43 P P 16 20 32.3 -1.0
BMN IAmb IAmb 16 20 36.4
comp=Z,13nm,1.2s
MA2 Magadan 91.91 346 P P 16 20 33.7 -0.2
comp=Z,13nm,1.0s,baz=121,slow=4.7,SNR=3.9
MA2 Magadan 91.91 346⇑ *eP* **P 16 20 33.8 -0.1**
MA2 pmax pmax
comp=Z,15nm,1.1s
U15A North Rim 92.33 49 P P 16 20 36.6 -0.2
WUAZ Wupatki 92.42 50 P P 16 20 38.2 +1.2
baz=235
SPR3 Spring Creek 3 92.54 46 P P 16 20 37.3 -0.4
BRSE Bradley Lake S 92.64 15 P P 16 20 38.4 +1.2
baz=206
N19K Bonanza Creek 92.84 13 P P 16 20 38.2 -0.1
baz=203
ELK Elko 93.03 44 P P 16 20 40.7 +0.9
comp=Z,2.7nm,0.8s,baz=225,slow=3.4,SNR=12
MTPU Mount Pierson 93.34 48 P P 16 20 40.1 -1.4
HHC Hu-ho-hao-te 93.71 316 *eP* **P 16 20 47.3 +4.6**
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,930nm,8.9s
M19K Big River Lodg 93.86 12 P P 16 20 43.5 +0.7
baz=203
L19K White Mountain 94.03 12 P P 16 20 44.0 +0.4
L19K IAmb IAmb 16 20 46.0
comp=Z,27nm,1.1s
L19K White Mountain 94.03 12 P P 16 20 44.1 +0.6
baz=203
RC01 Rabbit Creek A 94.08 15 P P 16 20 44.3 +0.6
baz=207
ZEA Zeya 94.27 332 *eP* **P 16 20 45.5 +0.7**
ZEA pmax pmax
comp=Z,10.0nm,1.2s
MNTX Cornudas Mount 94.47 56 P P 16 20 46.3 0.0
baz=238
TXAR Lajitas Array 94.48 59 P P 16 20 47.0 +0.4
comp=Z,0.4nm,0.8s,baz=208,slow=7.2,SNR=4.3
SKT Skwentna 94.49 14 P P 16 20 45.5 -0.2
baz=206
GLI Glacier Island 94.50 16 P P 16 20 45.5 -0.2
baz=209
PMR Palmer 94.66 15 P P 16 20 46.3 0.0
baz=208
SEY Seymchan 94.69 348⇑ *eP* **P 16 20 46.8 +0.3**
HVU Hansel Valley 95.14 44 P P 16 20 49.1 -0.2
HVU pmax pmax
comp=Z,3.0nm,0.6s
HVU Hansel Valley 95.14 44 P P 16 20 49.1 -0.2
HLID Hailey 95.21 42 P P 16 20 49.5 -0.1
baz=233
K20K Telida 95.26 12 P P 16 20 49.5 +0.4
baz=204
N25K Chitina, Valde 95.74 17 P P 16 20 52.1 +0.7
baz=212
M24K Tolsona, Glenn 95.79 16 P P 16 20 51.1 -0.4
baz=210
WAT6 Susitna Watana 95.84 15 P P 16 20 51.5 -0.4
baz=209
WAT1 Susitna Watana 95.88 14 P P 16 20 52.3 +0.4
baz=208
MCARA McCarthy VSAT 95.96 17 P P 16 20 52.8 +0.5
baz=213
J20K Nowinta River 96.00 12 P P 16 20 53.1 +0.7
baz=204
CTG Chitna Glacier 96.06 18 P P 16 20 53.3 +0.4
baz=214
RND Reindeer 96.33 14 P P 16 20 53.6 -0.4
RND pmax pmax
comp=Z,14nm,1.2s
RND Reindeer 96.33 14 P P 16 20 53.6 -0.4
RND IAmb IAmb 16 20 55.7
comp=Z,14nm,1.2s
NEW Newport 96.55 37 P P 16 20 56.8 +1.5
comp=Z,1.4nm,0.6s,baz=189,slow=19,SNR=2.0
NEW Newport 96.55 37 P P 16 20 56.8 +1.5
NEW pmax pmax
comp=Z,3.0nm,0.6s
PAX Paxson 96.70 16 P P 16 20 56.4 +0.8
baz=211
YUK3 Moose Creek 96.97 18 P P 16 20 57.6 +0.5
baz=215
HYT Haines Junctio 97.04 20 P P 16 20 58.0 +0.7
baz=217
O20A White River Ci 97.05 48 P Pdif 16 20 58.0 +0.1
baz=237
I21K Tanana 97.31 12 P P 16 20 59.0 +0.8
baz=205
BVCY Beaver Creek 97.39 18 P P 16 20 58.7 +0.1
baz=215
MLY Manley 97.40 13 P P 16 20 58.9 +0.2
baz=206
CCB Clear Creek Bu 97.64 14 Pdif 16 20 59.4 -0.2
CCB IAmb IAmb 16 21 01.1
comp=Z,12nm,1.4s
PDAR Pinedale Array 97.67 45 P P 16 21 01.1 +0.5
comp=Z,0.7nm,0.8s,baz=198,slow=3.0,SNR=5.0
I23K Minto, Yukon-K 97.77 13 P P 16 21 01.4 +1.1
baz=208

BILL Bilibino 97.90 355 *e*P P 16 21 01.2 +0.4
BILL *e**PP pP 16 23 02.8 -1.0
BILL *e**SP sP 16 24 01.0 +1.1
BILL *e* 16 25 06.3
BILL pmax pmax
comp=Z,4.0nm,1.0s
SCRK Sand Creek 97.91 16 P P 16 21 01.9 +0.8
baz=212
ILAR Eielson Array 97.95 14 P P 16 21 01.4 +0.3
comp=Z,5.5nm,1.1s,baz=232,slow=6.3,SNR=14
ILAR PP PP 16 25 10.5 +0.7
comp=Z,1.8nm,1.0s,baz=234,slow=6.0,SNR=4.7
T25A Trinidad 98.01 52 P Pdif 16 21 01.8 -0.5
baz=239
H23K Yukon River 98.34 13 P P 16 21 03.5 +0.7
baz=208
PRP Porcupine Dome 98.88 14 P P 16 21 06.5 +1.0
baz=211
N23A Red Feather La 98.94 48 P Pdif 16 21 06.2 -0.2
baz=238
DAWY Dawson 99.12 17 P Pdif 16 21 06.9 +0.5
baz=216
EGAK Eagle 99.26 16 P Pdif 16 21 08.1 +1.2
baz=215
YAK Yakutsk 99.55 339⇑*e*P Pdif 16 21 08.1 -0.1
YAK pmax pmax
comp=Z,5.0nm,0.6s
ULN Ulaanbaatar 100.37 319⇑*e*P Pdif 16 21 12.7 +0.3
ULN pmax pmax
comp=Z,1.0nm,0.8s
GTA Gaotai 100.46 309 *e*P Pdif 16 21 14.6 +1.6
GTA pmax pmax
comp=Z,2.0nm,1.2s
SONM Songino Array 100.72 319 P Pdif 16 21 12.9 -1.1
comp=Z,0.7nm,0.9s,baz=159,slow=4.5,SNR=4.3
SONM PP PP 16 25 31.3 +0.1
comp=Z,5.0nm,1.1s,baz=122,slow=5.6,SNR=7.1
TOLK Toolik Lake Re 100.84 11 P Pdif 16 21 14.0 +0.1
baz=208
WMQ Urumqi 110.55 309 *e*PKP PKiKP 16 25 54.0 -0.5
MK31 Makanchi Array 115.14 311 PKIKP PKPdf 16 26 01.9 -1.2
MK31 Makanchi Array 115.14 311 PKPdf PKPdf 16 26 01.9 -1.2
MKAR Makanchi Array 115.14 311 PKP PKPdf 16 26 02.4 -0.7
comp=Z,1.8nm,0.6s,baz=91,slow=2.2,SNR=18
MKAR SKP 16 28 44.3
comp=Z,4.9nm,0.9s,baz=100,slow=1.5,SNR=13
MKAR PKKPbc PKKPbc 16 36 40.8 +0.1
comp=Z,0.7nm,0.4s,baz=275,slow=3.7,SNR=20
MKAR PKKPab PKKPab 16 36 47.9 +1.6
comp=Z,1.3nm,0.7s,baz=277,slow=3.5,SNR=8.6
MKAR SKKPbc SKKPbc 16 39 30.9 -2.9
comp=Z,0.4nm,0.8s,baz=296,slow=4.6,SNR=4.6
MKAR Makanchi Array 115.14 311 PKIKP PKPdf 16 26 01.9 -1.3
MKAR Makanchi Array 115.14 311 PKPdf PKPdf 16 26 01.9 -1.3
MAKZ Makanchi 115.35 311 PKIKP PKPdf 16 26 02.0 -1.5
MAKZ Makanchi 115.35 311 PKPdf 16 26 02.0 -1.5
ZALV Zalesovo Beam 115.62 319 PKP PKPdf 16 26 03.0 -0.8
comp=Z,0.8nm,0.5s,baz=163,slow=3.0,SNR=5.2
ZALV SKP 16 28 45.1
comp=Z,1.6nm,0.7s,baz=178,slow=1.7,SNR=4.6
ZALV Zalesovo Beam 115.62 319 PKIKP PKPdf 16 26 02.6 -1.2
ZALV Zalesovo Beam 115.62 319 PKPdf 16 26 02.6 -1.2
O53A New Philadelph 115.75 57 P PKPdf 16 26 04.1 -0.4
baz=252
KSH Kashi 117.42 302 PKP PKiKP 16 26 08.8 +0.9
NRIK Noril'sk 117.85 336 PKP PKPdf 16 26 07.2 -0.4
comp=Z,1.0nm,0.3s,baz=74,slow=3.4,SNR=5.4
BOOM Boomskoye usch118.28 305 PKIKP PKPdf 16 26 08.6 -0.9
BOOM Boomskoye usch118.28 305 PKPdf PKPdf 16 26 08.6 -0.9
SSPA Standing Stone 118.29 57 P PKPdf 16 26 08.8 -0.5
baz=254
KURK Kurchatov 118.50 315 SKPdf 16 28 51.2 -0.3
KURBB Kurchatov Arra 118.54 314 PKP PKPdf 16 26 08.4 -1.1
comp=Z,3.3nm,0.6s,baz=116,slow=2.0,SNR=38
KURBB SKP 16 28 51.2
comp=Z,7.8nm,0.8s,baz=107,slow=2.1,SNR=25
KURBB PKKPbc PKKPbc 16 36 29.4 +0.5
comp=Z,1.0nm,0.8s,baz=282,slow=4.7,SNR=6.9
AAK Ala-Archa 119.34 305 PKP PKPdf 16 26 10.9 -0.7
comp=Z,1.6nm,0.4s,baz=103,slow=0.8,SNR=5.7
AAK PKKPbc PKKPbc 16 36 26.1 0.0
comp=Z,0.6nm,0.3s,baz=218,slow=10,SNR=1.8
AAK Ala-Archa 119.34 305 PKIKP PKPdf 16 26 11.2 -0.4
AAK Ala-Archa 119.34 305 PKPdf 16 26 11.2 -0.4
KBL Kabul 121.30 294 PKIKP PKPdf 16 26 15.3 -0.3
KBL Kabul 121.30 294 PKPdf PKPdf 16 26 15.3 -0.3
GAR Garm 121.50 300 PKPdf 16 26 15.4 -0.3
CHGR Chuyangaron 122.30 299 PKPdf PKPdf 16 26 16.5 -0.8
KK31 Karatay Array 122.30 305 PKIKP PKPdf 16 26 16.3 -0.7
KK31 Karatay Array 122.30 305 PKPdf PKPdf 16 26 16.3 -0.7
KKAR Karatay Array 122.30 305 PKIKP PKPdf 16 26 16.3 -0.8
KKAR Karatay Array 122.30 305 PKPdf PKPdf 16 26 16.2 -0.8
L61B Northampton 122.52 56 P PKPdf 16 26 17.1 -0.3
baz=258
J61A Chester 122.80 55 P PKPdf 16 26 17.2 -0.7
baz=258
K62A Royalston 122.89 56 P PKPdf 16 26 17.7 -0.4
baz=258
J62A Henniker 123.31 56 P PKPdf 16 26 19.1 +0.2
baz=259
LBNH Lisbon 123.42 54 P PKPdf 16 26 18.9 -0.2
baz=259
BRVK Borovoye 123.98 316 PKIKP PKPdf 16 26 19.7 -0.2
BRVK Borovoye 123.98 316 PKPdf PKPdf 16 26 19.7 -0.2
I63A Otisfield 124.34 55 P PKPdf 16 26 20.1 -0.7
baz=260
G62A West of Eustis 124.56 53 P PKPdf 16 26 20.8 -0.5
baz=261
I64A Boothbay 124.99 55 P PKPdf 16 26 21.9 -0.1
baz=261
F62A Pittston Farm, 125.06 53 P PKPdf 16 26 22.2 0.0
baz=262
H64A Troy 125.39 54 P PKPdf 16 26 22.9 +0.1
baz=261
PKME Peaks-Kenny Pk 125.44 53 P PKPdf 16 26 23.1 +0.2
baz=262
E62A Clayton Lake 125.46 52 P PKPdf 16 26 22.8 -0.1
baz=262
F63A Nahmakanta, Br 125.63 53 P PKPdf 16 26 23.4 +0.1
baz=262
G64A Maxfield 125.81 54 P PKPdf 16 26 23.3 -0.4
baz=262
D62A Allapoint, All 125.84 51 P PKPdf 16 26 23.8 +0.1
baz=263
NEEM North Greenlan 127.18 12 *i* P PKPdf 16 26 26.0 +0.2
SCHQ Schefferville 127.67 42 SKPbc SKPbc 16 28 50.8
comp=Z,9.5nm,0.9s,baz=271,slow=3.0,SNR=7.6
BATG Bathurst New B 127.89 51 PKPdf PKPdf 16 26 26.6 -1.0
ABKAR Akbulak array 130.28 311 PKPdf PKPdf 16 26 31.3 -0.7
ABKAR SKPbc SKPbc 16 29 01.9 -0.9
GEYT Alibeck 130.66 296 PKP PKPdf 16 26 33.3 +0.1
comp=Z,4.2nm,0.8s,baz=224,slow=12,SNR=6.2
GEYT SKPab SKPbc 16 29 04.4 -0.3
comp=Z,12nm,0.5s,baz=130,slow=2.3,SNR=20
ARU Arti 130.73 321 *i* PKIKP PKPdf 16 26 33.0 +0.3
ARU 16 28 56.1
ARU 16 32 49.2
ARU Arti 130.73 321 PKPdf PKPdf 16 26 32.9 +0.3
ARU SKPbc SKPbc 16 29 03.4 -0.9
SPITS Spitsbergen Ar 130.81 355 PKP PKPdf 16 26 32.3 0.0
comp=Z,4.8nm,0.5s,baz=91,slow=5.0,SNR=11
SPITS SKPab SKPbc 16 29 03.9 -0.2
comp=Z,22nm,0.6s,baz=73,slow=7.2,SNR=16
KIRV Kirov 135.11 325⇑*i*PKIKP PKPdf 16 26 41.2 +0.4
PRGR Permogore 135.80 330 *e*PKIKP PKPdf 16 26 40.3 -1.7
PRGR pmax pmax
comp=Z,29nm,1.4s
HAMF Hammerfest 136.71 348 *e*PKPdf PKPdf 16 26 43.3 -0.1
ARCES ARCESS Array B 137.29 346 PKhKP PKPpre 16 26 35.4
comp=Z,5.2nm,0.8s,baz=47,slow=1.6,SNR=31
ARCES PKP PKPdf 16 26 44.5 -0.1
comp=Z,2.6nm,0.4s,baz=35,slow=2.2,SNR=3.7
ARCES SKP 16 29 25.4
comp=Z,22nm,0.6s,baz=35,slow=3.3,SNR=43
KLMR Klimovskoe 138.78 331 *e*PKHKP PKPpre 16 26 38.9
KLMR pmax pmax
comp=Z,24nm,1.4s
KLMR Klimovskoe 138.78 331 *e*PKPdf PKPdf 16 26 38.9 -8.6
KLMR AMP 16 26 50.5
comp=Z,24nm,1.4s
KLMR *e*PP PP 16 29 25.8 -21
VRH Novokhopyorsk 141.56 316 *e*PKIKP PKPdf 16 26 51.2 -1.6
VRH pmax pmax
comp=Z,7.0nm,0.6s
MOS Moscow 142.13 325 *i* PKHKP PKPpre 16 26 47.9
MOS pmax pmax
comp=Z,45nm,0.8s
KBZ Khabaz 142.34 304 PKhKP PKPpre 16 26 51.9
comp=Z,3.1nm,0.6s,baz=345,slow=1.0,SNR=7.0
KBZ SKPbc SKiKP 16 29 39.9 -0.4
comp=Z,5.7nm,0.8s,baz=108,slow=4.6,SNR=8.8
KIV Kislovodsk 142.46 305 *e*PKHKP PKPpre 16 26 51.3
KIV pmax pmax
comp=Z,9.0nm,1.0s
OBN Obninsk 142.95 324 *e*PKHKP PKPpre 16 26 51.7
OBN pmax pmax
comp=Z,22nm,1.1s
VORD Divnogorie 143.09 317 *e*PKHKP PKPpre 16 26 52.2
VORD pmax pmax
comp=Z,10.0nm,1.0s
GURO Guroymak-BITLI 143.32 296 PKPbc 16 26 55.7 +0.6
FIA1 FINESS Array S 143.48 338 PKPab 16 26 53.8 -0.7
FINES FINESS Array B 143.48 338 PKP PKPab 16 26 54.0 -0.5
comp=Z,53nm,0.5s,baz=59,slow=4.0,SNR=330
FINES SKPbc SKPbc 16 29 41.5 +0.2
comp=Z,16nm,0.6s,baz=84,slow=4.3,SNR=15
FINES FINESS Array B 143.48 338 PKIKP PKPab 16 26 53.7 -0.8
FINES FINESS Array B 143.48 338 PKPab 16 26 53.7 -0.8
FINES SKPbc SKPbc 16 29 41.1 -0.1
NSS Namsos 144.18 350 *e*PKPab PKPbc 16 26 56.9 +0.2
MARD Mardin 144.31 294 PKPdf 16 26 58.5 +0.2
VSU Vasula 145.40 334 *e*P PKPbc 16 27 00.8 +0.2
ANN Anapa 146.02 307 *i* PKIKP PKPbc 16 27 02.4 -0.4
ANN pmax pmax
comp=Z,77nm,1.0s
MTSE Matsula 146.27 336 *e*P PKPbc 16 27 03.4 +0.4
AAL Aland 146.33 341 *e*P PKPbc 16 27 02.8 -0.3
MOL Molde 146.64 353 *e*PKPbc PKPbc 16 27 04.2 +0.3
AKN Aaknes 147.08 353 *e*PKPbc PKPbc 16 27 05.6 +0.4
UPP Uppsala 147.25 342 *e*P PKPbc 16 27 05.8 +0.2
NC303 NORSAR Array S 147.38 349 PKPbc 16 27 05.6 -0.3
NC405 NORSAR Array S 147.43 348 PKPbc 16 27 05.0 -1.1
NC204 NORSAR Array S 147.44 349 PKPbc 16 27 06.2 +0.1
IDID Didziasalis 147.51 330 *e*P PKiKP 16 27 07.4 -0.5
MNK Minsk 147.51 328 *i* PKHKP PKPpre 16 26 59.6
MNK *i* 16 30 36.7
MNK *i* 16 33 14.2
MNK *i* PPP PPP 16 34 00.9
MNK *i* SS SS 16 48 56.6 -0.4
MNK *i* SSS SSS 16 54 41.9
MNK pmax pmax
comp=Z,107nm,1.1s
MNK pmax pmax
comp=N,33nm,1.2s
MNK pmax pmax
comp=E,6.0nm,1.2s
MNK MLR MLR
comp=N,383nm,17.0s
MNK MLR MLR
comp=Z,158nm,12.0s
MNK MLR MLR
comp=E,13nm,16.0s
MNK Minsk 147.51 328 *i* PKP PKPdf 16 26 59.6 -3.3
comp=E,6.0nm,1.2s
MNK *i* PKP PKPdf 16 26 59.6 -3.3
comp=N,33nm,1.2s
MNK *i* PKP PKPdf 16 26 59.6 -3.3
comp=Z,107nm,1.1s,baz=51
MNK *i* pPKP pPKPdf 16 29 12.6 -1.3
MNK *i* PP PP 16 30 36.8 -2.1
MNK *i* SKS SKSdf 16 33 14.3 -3.6
MNK *i* PPP PPP 16 34 00.9
MNK *i* SKKS SKKSdf 16 42 15.1 -5.7
MNK *i* SS SS 16 48 56.6 -0.3
MNK *i* SSS SSS 16 54 41.9
MNK *i* LRM MLR 17 33 44.6
comp=N,383nm,16.6s
MNK *i* LRM MLR 17 33 55.4
comp=Z,158nm,11.6s
MNK *i* LRM MLR 17 34 00.9
comp=E,13nm,15.9s
NB201 NORSAR Array S 147.56 349 PKPbc 16 27 06.1 -0.3
NB2 NORSAR Subarra147.58 349 PKP PKPbc 16 27 06.2 -0.3
comp=Z,60nm,1.0s,baz=22,slow=2.6
NB2 NORSAR Subarra147.58 349 PKPab PKPbc 16 27 06.2 -0.3
baz=22,slow=2.6
NOA NORSAR Array B 147.58 349 PKPbc PKPbc 16 27 06.1 -0.4
comp=Z,26nm,0.9s,baz=18,slow=4.2,SNR=51
ISAL Salakas 147.61 331 *e*P PKPbc 16 27 07.4 +0.7
NBO00 NORSAR Array S 147.66 349 PKPbc 16 27 05.5 -1.2
IIGN Ignalina 147.71 330 *e*P PKPbc 16 27 07.7 +0.7
NACGM Naroch 147.76 329 *i* PKP PKPbc 16 27 06.5 -0.5
NC602 NORSAR Array S 147.81 348 *e*PKPbc PKPbc 16 27 06.5 -0.5
NC602 NORSAR Array S 147.81 348 PKPbc PKPbc 16 27 06.3 -0.7
NAO01 NORSAR Array S 147.82 349 PKPbc 16 27 07.0 0.0
FOO Floro 147.84 354 *e*PKPbc PKPbc 16 27 07.0 -0.1
HFS Hagfors 147.94 346 PKPbc PKPbc 16 27 06.9 -0.5
comp=Z,13nm,0.5s,baz=72,slow=2.8,SNR=63
BNN Bunyan 148.14 297 PKPbc 16 27 08.4 -0.4
DIKM Dikmen 148.21 302 ⇓P PKPab 16 27 18.4 +4.5
SKAR Skarslia 148.37 351 *e*PKPbc PKPbc 16 27 09.1 +0.6
PABE Paberze 148.55 332 *e*P PKiKP 16 27 09.8 -0.3
PABE Paberze 148.55 332 PKPbc 16 27 08.9 -0.1
ASK Askoy 148.93 354 *e*PKPbc PKPbc 16 27 09.6 -0.2
PBUR Paburge 148.97 335 *e*P PKiKP 16 27 10.8 -0.2
AKASG Malin Array Be 148.99 321 PKP PKPdf 16 27 04.6 -0.8
comp=Z,0.4nm,0.4s,baz=45,slow=0.7,SNR=7.1
AKASG PKPbc PKPbc 16 27 09.8 -0.5
comp=Z,25nm,0.7s,baz=50,slow=2.7,SNR=72
AKBB Malin Array Si 148.99 321 PKHKP PKPpre 16 27 09.8
AKBB Malin Array Si 148.99 321 PKPbc 16 27 09.8 -0.4
BER Bergen 149.01 354 *e*PKPbc PKPbc 16 27 10.4 +0.4
KONO Kongsberg 149.17 349 PKHKP PKPpre 16 27 10.4
KONO Kongsberg 149.17 349 PKPbc 16 27 10.4 0.0
ILGA Ilgaz 149.46 301 PKPbc 16 27 12.0 0.0
STRU Stroemstad 149.46 347 *i* P PKPbc 16 27 11.1 0.0
BR131 Keskin Array S 149.74 299 PKHKP PKPpre 16 27 12.2
BR131 Keskin Array S 149.74 299 PKPbc 16 27 12.2 -0.4
BRTR Keskin Array B 149.74 299 PKPbc PKPbc 16 27 12.3 -0.3
comp=Z,5.4nm,0.5s,baz=129,slow=3.3,SNR=23
BRTR PKPab PKPab 16 27 20.2 -0.3
comp=Z,4.8nm,0.8s,baz=119,slow=4.4,SNR=6.4
BRTR Keskin Array B 149.74 299 PKHKP PKPpre 16 27 11.7
BRTR Keskin Array B 149.74 299 PKPbc PKPbc 16 27 11.7 -1.0
BLS5 Blasjo 149.83 352 *e*PKPbc PKPbc 16 27 12.2 +0.2
SUW Suwalki 149.92 331 *e*PKP PKPbc 16 27 12.6 +0.3
SUW Suwalki 149.92 331 *e*P PKiKP 16 27 13.2 +0.2
SUW Suwalki 149.92 331 PKHKP PKPpre 16 27 12.2
SUW Suwalki 149.92 331 PKPbc 16 27 12.2 -0.1
KMY Karmoy 150.17 353 *e*PKPbc PKiKP 16 27 13.2 -0.1
CSS Mathiatis 150.35 289 PKPbc PKPbc 16 27 13.1 -0.9
ANTO Ankara 150.36 299 ⇑P PKPab 16 27 21.7 -1.4
ANTO Ankara 150.36 299 PKIKP PKPbc 16 27 13.9 -0.1
ANTO Ankara 150.36 299 PKPbc 16 27 13.9 -0.1
BORU Boraas 150.42 345 *i* P PKPbc 16 27 13.3 -0.1
HOMB Homborsund 150.66 349 *i* P PKiKP 16 27 14.6 +0.3
HOMB IAmb IAmb 16 27 15.2
comp=Z,83nm,1.0s
HOMB Homborsund 150.66 349 *e*PKPbc PKPbc 16 27 14.1 +0.2
SORM Soroca 150.75 317 ⇓P PKPbc 16 27 14.3 -0.1
SORM Soroca 150.75 317 ⇓PKIKP PKPbc 16 27 14.3 -0.1
SNART Snartemo 150.79 351 *i* P PKiKP 16 27 14.8 +0.2
ONAU Onsala 150.82 345 *i* P PKPbc 16 27 14.2 -0.1
DEL Delary 151.19 342 *i* P PKPbc 16 27 15.2 0.0
DEL IAmb IAmb 16 27 16.7
comp=Z,52nm,1.3s
MDUB Mudurnu 151.45 301 PKPbc 16 27 15.6 -0.9
BJUU Bjuv 151.76 343 *i* P PKPbc 16 27 16.4 0.0
BSD Bornholm Skovb 152.07 340 *i* P PKiKP 16 27 17.5 +0.1
BSD IAmb IAmb 16 27 17.9
comp=Z,11nm,0.6s
BSD Bornholm Skovb 152.07 340 *i* PKIKP PKiKP 16 27 17.4 +0.1
BSD pmax pmax
comp=Z,11nm,0.6s
TPGR Topolog 152.11 311 ⇓P PKiKP 16 27 18.2 +0.4
CFR Carcaliu 152.17 312 ⇓P PKiKP 16 27 18.0 +0.1
CFR Carcaliu 152.17 312 ⇓PKIKP PKiKP 16 27 18.0 +0.1
LVV L'vov 152.24 323 *e*PKP2 PKPab 16 27 30.8 +0.3
BEL Belsk 152.48 330 *e*PKP PKiKP 16 27 19.2 +0.9
HARR Harsova 152.50 311 ⇑P PKPab 16 27 32.0 +0.2
HARR Harsova 152.50 311 ⇑PKP2 PKPab 16 27 32.0 +0.2
TESR Tescani 152.53 315 ⇓P PKPab 16 27 32.2 +0.4
BIZ Bicaz 152.66 317 ⇑P PKiKP 16 27 19.7 +0.8
VRI Vrincioaia 152.78 314 ⇑P PKPab 16 27 33.9 +0.9
VRI Vrincioaia 152.78 314 ⇑PKP2 PKPab 16 27 33.9 +0.9
BUR08 Bucovina Ar. S 152.83 319 PKPbc 16 27 19.2 -0.1
PLOR Plostina 152.83 314 ⇑P PKPab 16 27 34.1 +0.9
PLOR Plostina 152.83 314 ⇑PKP2 PKPab 16 27 34.1 +0.9
BURAR Bucovina Array 152.84 319 ⇑P PKiKP 16 27 20.4 +1.0
BURAR Bucovina Array 152.84 319 PKP2 PKPab 16 27 33.3 0.0
BURAR Bucovina Array 152.84 319 PKPbc PKiKP 16 27 19.8 +0.5
BURAR PKPab PKPab 16 27 33.3 0.0
BISRR Bisoca 152.93 313 ⇓P PKPab 16 27 35.6 +1.9
MLR Muntele Rosu 153.44 314 ⇓P PKPab 16 27 36.3 +0.4
MLR Muntele Rosu 153.44 314 PKPbc PKiKP 16 27 20.9 +0.2
comp=Z,3.9nm,0.9s,baz=132,slow=1.7,SNR=6.9
MLR PKPab PKPab 16 27 35.4 -0.5
comp=Z,7.9nm,0.9s,baz=34,slow=4.0,SNR=9.4
MLR Muntele Rosu 153.44 314 ⇓PKP2 PKPab 16 27 36.3 +0.4
DOPR Dopca 153.56 315 ⇑P PKPab 16 27 37.6 +1.3
SECR 153.56 313 ⇑P PKPab 16 27 36.6 +0.2
KOLS Kolonicke sedl 153.70 323 *e*PKP PKiKP 16 27 22.3 +1.3
KOLS *e* 16 27 37.0
BMR Baia Mare 153.78 320 ⇑P PKPab 16 27 37.8 +0.7
BMR Baia Mare 153.78 320 ⇑PKP2 PKPab 16 27 37.8 +0.7
UZH Uzhgorod 153.87 323 *e*PKIKP PKPbc 16 27 20.8 -0.5
UZH *i* 16 27 36.7
VOIR 154.02 314 ⇓P PKPab 16 27 39.2 +0.8
VOIR 154.02 314 ⇓PKP2 PKPab 16 27 39.2 +0.8
TRPA Tarpa 154.04 322 ⇑P PKPab 16 27 38.9 +0.7
CRVS Cervenica-Dubn 154.13 324 *e*PKP2 PKPab 16 27 39.3 +0.7
CJR Cluj-Napoca 154.25 318 ⇓P PKPab 16 27 40.4 +1.1
CJR Cluj-Napoca 154.25 318 ⇓PKP2 PKPab 16 27 40.4 +1.1
ARR Arges 154.31 315 ⇑P PKPab 16 27 41.0 +1.4
BSEG Bad Segeberg 154.36 344 *e*PKPab PKPab 16 27 40.0 +0.6
baz=27,slow=4.3
EKA Eskdalemuir Ar 154.37 2 PKPbc PKiKP 16 27 21.8 -0.4
comp=Z,0.3nm,0.3s,baz=332,slow=2.4,SNR=2.2
EKA PKPab PKPab 16 27 38.4 -0.9
comp=Z,2.0nm,0.4s,baz=357,slow=2.8,SNR=9.6
DRGR 154.72 319 ⇓P PKPab 16 27 41.7 +0.4
DRGR 154.72 319 ⇓PKP2 PKPab 16 27 41.7 +0.4
OSTC Ostas 155.36 333 *e*PKPAB PKPab 16 27 44.2 +0.4
MORC Moravsky Berou 155.39 330 ⇑P PKPab 16 27 42.8 -1.3
MORC Moravsky Berou 155.39 330 PKP2 PKPab 16 27 43.3 -0.8
MORC Moravsky Berou 155.39 330 PKPab PKPab 16 27 43.3 -0.8
CHVC Chvalec 155.40 333 *e*PKPAB PKPab 16 27 44.0 0.0
GZR Gura Zlata 155.43 316 ⇑P PKPab 16 27 45.3 +0.8
GZR Gura Zlata 155.43 316 ⇑PKP2 PKPab 16 27 45.3 +0.8
DPC Dobruska-Polom 155.47 332 *e*PKP2 PKPab 16 27 44.4 0.0
DPC Dobruska-Polom 155.47 332 *e*PKPAB PKPab 16 27 44.4 0.0
UPC Upice 155.48 333 *e*PKP2 PKPab 16 27 44.4 +0.1
UPC Upice 155.48 333 *e*PKPAB PKPab 16 27 44.4 +0.1
KRLC Kraliky 155.50 331 *e*PKP2 PKPab 16 27 44.6 +0.1
KRLC Kraliky 155.50 331 *e*PKPAB PKPab 16 27 44.6 +0.1
PSZ Piszkesteto 155.56 324 ⇓P PKPab 16 27 45.0 +0.1
PSZ Piszkesteto 155.56 324 ⇓PKP2 PKPab 16 27 45.0 +0.1
FLTG Flechtingen 155.57 341 *e*PKPab PKPab 16 27 44.8 +0.2
baz=27,slow=4.3
SIRR Siria 155.61 319 ⇓P PKPab 16 27 46.7 +1.6
VYHS Vyhne 155.71 326 *e*PKP2 PKPab 16 27 46.0 +0.6
NRDL Niedersach Rie 155.73 343 *e*PKPab PKPab 16 27 45.7 +0.4
baz=27,slow=4.3
ASSE Asse, Remlinge 155.91 342 *e*PKPab PKPab 16 27 46.7 +0.7
baz=27,slow=4.3
HERR Herculane 155.92 315 ⇓P PKPab 16 27 47.1 +0.6
CLL Collm 155.93 338⇑*i*PKPdiff PKPdf 16 27 26.3 +11
CLL ⇓*i*PKPab PKPab 16 27 46.1 -0.1
comp=Z,45nm,1.1s
CLL *e*pPKPab pPKPab 16 29 50.0 -0.1
CLL *e*PP PP 16 31 23.0 -2.9
CLL Collm 155.93 338 PKP2 PKPab 16 27 45.3 -0.9
CLL Collm 155.93 338 PKPab PKPab 16 27 45.3 -0.9
BRG Berggiesshubel 155.97 336 P PKPdf 16 27 26.9 +11
BRG Amp 16 27 28.0
comp=Z,4.7nm,0.9s
BRG *i* PKPab PKPab 16 27 46.8 +0.4
BRG Amp 16 27 48.2
comp=Z,38nm,1.2s
BRG Berggiesshubel 155.97 336⇓*e*PKPf 16 27 17.1
BRG Berggiesshubel 155.97 336 Amp 16 27 20.0
comp=Z,4.0nm,1.1s
BZS Buzias 156.00 318 ⇓P PKPab 16 27 46.3 -0.5
BZS Buzias 156.00 318 ⇓PKP2 PKPab 16 27 46.3 -0.5
PVCC Panska Ves 156.02 335 *e*PKP2 PKPab 16 27 47.3 +0.6
PVCC Panska Ves 156.02 335 *e*PKPAB PKPab 16 27 47.3 +0.6
FBE Freiberg 156.13 337 *e*PKPab PKPab 16 27 47.9 +0.8
baz=27,slow=4.3
VRAC Vranov 156.16 330 ⇓P PKPab 16 27 47.4 +0.1
VRAC Vranov 156.16 330 PKPab PKPab 16 27 47.0 -0.3
comp=Z,9.6nm,0.8s,baz=55,slow=4.2,SNR=13
VRAC Vranov 156.16 330 PKP2 PKPab 16 27 47.0 -0.3
CLZ Clausthal 156.25 342 *e*PKPab PKPab 16 27 48.3 +0.7
baz=27,slow=4.3
MDVR Moldovita 156.40 316 ⇑P PKPab 16 27 49.4 +0.8
NEUB Neuenburg 156.40 339 *e*PKPab PKPab 16 27 48.9 +0.6
baz=27,slow=4.3
BANR Banloc 156.41 318 ⇑P PKPdf 16 27 28.1 +12
VTS Vitosha 156.46 310 ⇓P PKPab 16 27 50.0 +0.9
VTS Vitosha 156.46 310 PKP2 PKPab 16 27 48.6 -0.5
VTS Vitosha 156.46 310 PKPab PKPab 16 27 48.6 -0.5
PRU Pruhonice 156.47 334 *e*PKP2 PKPab 16 27 48.6 0.0
PRU Pruhonice 156.47 334 *e*PKPAB PKPab 16 27 48.6 0.0
SANT Santorini 156.63 294 P PKPdf 16 27 22.4 +5.5
GTTG Gottingen 156.63 342 *e*PKPab PKPab 16 27 50.0 +0.7
baz=27,slow=4.3
TREC Trest 156.63 331 *e*PKP2 PKPab 16 27 49.6 +0.2
TREC Trest 156.63 331 *e*PKPAB PKPab 16 27 49.6 +0.2
ZST Bratislava 156.74 328 *e*PKP2 PKPab 16 27 50.9 +1.0
TANN Tannenbergstha 156.87 337 *e*PKPab PKPab 16 27 51.0 +0.6
baz=27,slow=4.3
WERD Werda 156.89 337 *e*PKPab PKPab 16 27 51.2 +0.7
baz=27,slow=4.3
PLN Plauen 156.91 338 *e*PKPab PKPab 16 27 51.1 +0.6
baz=27,slow=4.3
MOX Moxa 156.94 339 *e*PKPab PKPab 16 27 51.1 +0.5
baz=27,slow=4.3
GUNZ Gunzen 156.95 337 *e*PKPab PKPab 16 27 51.5 +0.8
baz=27,slow=4.3
WERN Wernitzgruen 157.00 337 *e*PKPab PKPab 16 27 51.9 +0.9
baz=27,slow=4.3
NKC Novy Kostel 157.02 337 *e*PKP2 PKPab 16 27 51.3 +0.3
NKC Novy Kostel 157.02 337 *e*PKPAB PKPab 16 27 51.3 +0.3
MPLH Magyarpolny 157.25 325 *e*PKP PKPdf 16 27 16.1 -1.2
UBBA Unterbreizbach 157.27 341 *e*PKPab PKPab 16 27 52.4 +0.5
baz=27,slow=4.3
FRGS Fruska Gora 157.31 319 ⇑P PKPab 16 27 53.0 +0.5
KASTN Kahler Asten 157.34 344 *e*PKPab PKPab 16 27 52.5 +0.2
baz=27,slow=4.3
MANZ Manzenberg 157.35 337 *e*PKPab PKPab 16 27 52.1 -0.4
baz=27,slow=4.3
BUG Bochum--Univer 157.37 346 *e*PKPab PKPab 16 27 52.5 +0.1
baz=27,slow=4.3
CKRC Cesky Krumlov 157.49 332 *e*PKPAB PKPab 16 27 53.0 -0.1
ROTZ Rotzenmuhle 157.50 337 *e*PKPab PKPab 16 27 54.1 +1.0
baz=27,slow=4.3
CONA Conrad Observa 157.51 329 *i* P PKPab 16 27 53.8 +0.5
comp=Z,12nm,1.0s,SNR=10
KHC Kasperske Hory 157.53 334 PKP2 PKPab 16 27 52.8 -0.5
KHC Kasperske Hory 157.53 334 *e*PKPAB PKPab 16 27 53.0 -0.3
KHC Kasperske Hory 157.53 334 PKPab 16 27 52.8 -0.5
KOVH Kovagotottos 157.69 322 *e*PKP PKPdf 16 27 12.9 -4.9
GEC2 GERESS Array S 157.71 333 PKPab PKPab 16 27 53.5 -0.6
GEC2 GERESS Array S 157.71 333 *e*PKPab PKPab 16 27 54.3 +0.2
baz=27,slow=4.3
GERES GERESS Array B 157.71 333 PKP PKPdf 16 27 17.5 -0.4
comp=Z,0.2nm,0.4s,baz=5.7,slow=3.0,SNR=4.9
GERES PKPab PKPab 16 27 54.1 0.0
comp=Z,6.7nm,0.9s,baz=39,slow=5.1,SNR=26
GERES GERESS Array B 157.71 333 PKP2 PKPab 16 27 53.7 -0.5
GERES GERESS Array B 157.71 333 PKPab PKPab 16 27 53.7 -0.5
WET Wettzell 157.78 335 *e*PKPab PKPab 16 27 55.0 +0.6
baz=27,slow=4.3
DIVS Divibare 157.80 316 PKPab PKPab 16 27 54.3 -0.5
GRF Grafenberg Arr 157.90 338 *e*PKPab PKPab 16 27 55.8 +1.0
baz=27,slow=4.3
GRFO Grafenberg 157.90 338 PKP2 PKPab 16 27 54.9 +0.1
GRFO Grafenberg 157.90 338 PKPab 16 27 54.9 +0.1
ARSA Arzberg 158.16 328 *e*P PKPab 16 27 56.3 +0.2
comp=Z,9.4nm,1.1s
TNS Taunus Mts 158.23 343 *e*PKPab PKPab 16 27 56.7 +0.3
baz=27,slow=4.3
AHRW Bad Neuenahr-A 158.26 345 *e*PKPab PKPab 16 27 56.7 +0.3
baz=27,slow=4.3
MOA Molln 158.27 331 *e*P PKPab 16 27 57.0 +0.4
comp=Z,6.6nm,0.9s,SNR=6.6
BEBN Eben Emael 158.30 348 *d*PKP PKPab 16 27 56.6 +0.2
MILB Miltenberg 158.36 341 *e*PKPab PKPab 16 27 57.3 +0.5
baz=27,slow=4.3
BTNL Ternell 158.41 347 *d*PKP PKPab 16 27 56.7 -0.3
MEM Membach 158.42 347 *d*PKP PKPab 16 27 57.1 +0.1
BHOU Houvegnez 158.66 347 *d*PKP PKPab 16 27 58.1 -0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BCLA	Clavier	158.73	348	*d*PKP	PKPab	16 27 58.1	-0.3
GROS	Grobnik	158.75	326	*e*PKPdf	PKPdf	16 27 18.7	-0.5
GROS				*e*PKPab	PKPab	16 27 58.1	-0.6
BGES	Gesves	158.80	349	*d*PKP	PKPab	16 27 58.5	-0.2
SNF	Seneffe	158.81	350	*d*PcP	PKPab	16 27 58.6	-0.1
SOKA	Soboth	158.81	328	*i* P	PKPab	16 27 58.9	-0.2
	comp=Z,8.1nm,1.0s,SNR=7.4						
BMRD	Maredsous	158.93	349	*d*PKP	PKPab	16 27 59.0	-0.2
RJOB	Jochberg	158.96	333	*e*PKPab	PKPab	16 28 00.2	+0.6
	baz=27,slow=4.3						
PDG	Podgorica	159.14	313	⇑P	PKPab	16 28 00.5	0.0
OBKA	Obir	159.16	328	*i* P	PKPab	16 28 00.2	-0.3
	comp=Z,2.2nm,0.6s						
DOU	Dourbes	159.16	349	*d*PKP	PKPab	16 28 00.1	-0.2
FUR	Furstenfeldbru	159.19	336	*e*PKPab	PKPab	16 28 01.4	+0.8
	baz=27,slow=4.3						
KBA	Koelnbreinsper	159.26	331	*i* P	PKPab	16 28 00.6	-0.5
	comp=Z,6.1nm,1.0s						
WLF	Walferdange	159.29	346	*d*PKP	PKPab	16 28 01.8	+1.0
WLF	Walferdange	159.29	346	*e*PKPab	PKPab	16 28 01.6	+0.7
	baz=27,slow=4.3						
STU	Stuttgart	159.34	340	*e*PKPab	PKPab	16 28 01.9	+0.7
	baz=27,slow=4.3						
LJU	Ljubljana	159.51	327	*i* PKPdf	PKPdf	16 27 20.1	+0.1
LJU				*i* PKPab	PKPab	16 28 01.8	-0.3
BOJS	Bojanci	159.55	325	*i* PKPab	PKPab	16 28 02.2	0.0
WATA	Walderalm	159.77	334	*i* P	PKPab	16 28 03.3	+0.1
	comp=Z,11nm,1.1s						
WTTA	Wattenberg	159.81	334	*i* P	PKPab	16 28 03.6	+0.1
	comp=Z,10nm,1.0s						
ZOU	Zoufplan	159.83	330		PKPab	16 28 01.9	-1.7
ABTA	Abfaltersbach	159.87	331	*i* P	PKPab	16 28 02.8	-0.9
	comp=Z,14nm,1.1s,SNR=5.7						
MOTA	Moosalm	159.94	335	*i* P	PKPab	16 28 04.3	+0.2
	comp=Z,19nm,1.1s,SNR=11						
RETA	Reutte	159.94	336	*i* P	PKPab	16 28 04.4	+0.5
	comp=Z,18nm,0.9s,SNR=11						
BFO	Black Forest	159.99	341	PKP2	PKPab	16 28 03.6	-0.4
BFO	Black Forest	159.99	341	PKPab	PKPab	16 28 03.6	-0.4
BFO	Black Forest	159.99	341	*e*PKPab	PKPab	16 28 04.4	+0.4
	baz=27,slow=4.3						
SQTA	Sankt Quirin	160.00	334	*e*P	PKPab	16 28 04.6	+0.3
	comp=Z,14nm,1.0s,SNR=7.1						
UBR	Ueberruh	160.01	337	*e*PKPab	PKPab	16 28 04.3	+0.2
	baz=27,slow=4.3						
STAL	STALIGIAL	160.17	330		PKPab	16 28 03.3	-1.6
FETA	Feichten	160.35	335	*e*P	PKPab	16 28 06.2	+0.4
	comp=Z,22nm,1.0s,SNR=10						
DAVA	Damuels	160.43	337	*i* P	PKPab	16 28 06.5	+0.3
	comp=Z,23nm,1.0s,SNR=11						
DAVOX	Davos/Dischmat	160.86	336	PKP	PKPdf	16 27 22.0	+0.3
	comp=Z,1.8nm,0.7s,baz=175,slow=21,SNR=3.2						
DAVOX				PKPab	PKPab	16 28 08.1	-0.1
	comp=Z,13nm,0.8s,baz=3.6,slow=2.4,SNR=18						
DAVOX	Davos/Dischmat	160.86	336	PKIKP	PKPdf	16 27 22.0	+0.3
TUE	Stuetta	161.31	336	PKPab	PKPab	16 28 09.8	-0.3
CLF	Chambon-Foret	161.51	352	PKPab	PKPab	16 28 10.7	+0.1
SGRT	San Giovanni R	161.70	316	PKPab	PKPab	16 28 11.2	-0.6
SENIN	Lac Senin/Sane	162.07	340	PKPab	PKPab	16 28 13.5	0.0
TIP	Timpagrande	162.37	307	⇑P	PKPab	16 28 15.3	+0.3
TIP	Timpagrande	162.37	307	PKPab	PKPab	16 28 14.7	-0.3
TORD	Torodi Ar. Bea	163.27	190	PKP	PKPdf	16 27 24.9	+0.2
	comp=Z,1.8nm,1.0s,baz=173,slow=13,SNR=6.4						
TORD				PKPab	PKPab	16 28 19.6	+0.5
	comp=Z,3.4nm,1.0s,baz=181,slow=3.2,SNR=7.4						
TORD	Torodi Ar. Bea	163.27	190		PKPab	16 28 18.9	-0.2
BNI	Bardonecchia	163.44	340	PKP2	PKPab	16 28 19.3	-0.1
BNI	Bardonecchia	163.44	340		PKPab	16 28 19.2	-0.1
KEST	Kesra	169.20	306	PKPab	PKPab	16 28 45.6	+0.4
	comp=Z,4.7nm,0.9s,baz=243,slow=2.9,SNR=4.5						
KEST	Kesra	169.20	306		PKPab	16 28 43.8	-1.4
ESDC	Sonseca Array	169.84	12	PKP	PKPdf	16 27 28.7	-0.4
	comp=Z,1.1nm,0.9s,baz=1.9,slow=4.5,SNR=4.8						
ESDC				PKPab	PKPab	16 28 48.0	+0.2
	comp=Z,10nm,1.2s,baz=344,slow=4.2,SNR=24						
ESDC	Sonseca Array	169.84	12	PKPab	PKPab	16 28 47.5	-0.2

*NEIC **01** 16:17:19.0±2.6, 0.°1N±0.°2×127.°8E±0.°2, h116km±12km, mb4.2/5, Error ellipse: s-maj=31.4km s-min=17.1km az=56.0*

*IDC **01** 16:17:33.8±1.7, 0.°96N×128.°22E, h398km±24km, mb3.0/5, mb1 3.2/7, mb1mx2.9/50, mbtmp3.8/7, Error ellipse: s-maj=62.9km s-min=15.8km az=71.0*

ISC 01 16:17:33.2±1.1, **0.°7S**±0.°1×**127.°0E**±0.°1, **h250**km, **n16, σ1.s28**/12, **mb3.4**/5, **Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	Sorong	4.32	93	P	Pn	16 18 40.2	-0.6
	0.3nm,0.3s,baz=50,slow=1.3,SNR=3.9						
DAV	Davao City (W)	7.82	350	P	Pn	16 19 14.8	-9.5
	25nm,0.3s,baz=260,slow=6.1,SNR=1.7						
SOEI	Soe	9.40	196	Pn	Pn	16 19 42.2	-2.2
BKB	Balikpapan	10.07	267	Pn	Pn	16 19 53.7	+1.0
MTN	Manton Dam	12.78	161	P	Pn	16 20 27.0	+0.5
WB0	Warramunga Arr	20.32	159	P	P	16 21 51.1	+0.4
WB0				IAmb	IAmb	16 21 56.9	
	comp=Z,12nm,1.1s						
WRAB	Tennant Creek	20.46	160	P	P	16 21 53.2	+0.9
WRAB				IAmb	IAmb	16 21 56.4	
	comp=Z,33nm,1.5s						
WRA	Warramunga Arr	20.46	160	P	P	16 21 53.3	+1.0
	comp=Z,1.9nm,0.5s,baz=342,slow=11,SNR=5.6						
WRA	Warramunga Arr	20.46	160	P	P	16 21 53.1	+0.8
ASAR	Alice Springs	23.82	164	P	P	16 22 25.3	+1.3
	comp=Z,0.5nm,0.4s,baz=345,slow=11,SNR=1.8						
BBOO	Buckleboo	33.09	166	P	P	16 23 47.0	+1.2
CHTO	Chiang Mai	33.65	307	P	P	16 23 50.6	-0.2
CHTO				IAmb	IAmb	16 24 17.6	
	comp=Z,4.7nm,1.3s						
USRK	Ussuriysk Ar.	44.91	5	P	P	16 24 57.5	-26
	comp=Z,0.4nm,0.6s,baz=183,slow=6.8,SNR=1.3						
TUWZ	Tuamarina	58.62	140	P	P	16 27 02.8	-1.5
MKAR	Makanchi Array	61.31	327	P	P	16 27 03.8	-19
	comp=Z,0.4nm,0.4s,baz=113,slow=7.8,SNR=4.2						
KURBB	Kurchatov Arra	65.57	328	P	P	16 27 31.5	-19
	comp=Z,0.8nm,0.4s,baz=126,slow=5.8,SNR=6.1						

IDC 01 16:20:28.1±2.4, **29.°23N**×**105.°52E**, **h0**km, **mb3.5**/3, **mb1 3.7**/3, **mb1mx3.3**/65, **mbtmp3.5**/3, **Error ellipse: s-maj=506.0km s-min=27.4km az=54.0, Sichuan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	25.20	320	P	P	16 25 55.4	0.0
	0.7nm,0.8s,baz=117,slow=9.7,SNR=5.3						
WRA	Warramunga Arr	56.24	147	P	P	16 30 10.4	+0.1
	0.4nm,0.5s,baz=334,slow=8.0,SNR=8.6						
ASAR	Alice Springs	59.26	150	P	P	16 30 31.4	-0.2
	0.3nm,0.7s,baz=328,slow=7.0,SNR=6.6						

IDC 01 16:21:11.2±2.1, **2.°88N**×**128.°29E**, **h0**km, **mb3.3**/4, **mb1 3.5**/4, **mb1mx3.2**/46, **mbtmp3.3**/4, **Error ellipse: s-maj=166.9km s-min=23.2km az=68.0, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.44	166	P	P	16 26 22.5	+0.1
	0.2nm,0.3s,baz=345,slow=10,SNR=8.7						
ASAR	Alice Springs	26.94	169	P	P	16 26 54.0	-0.5
	0.2nm,0.4s,baz=354,slow=7.3,SNR=7.6						
MKAR	Makanchi Array	59.14	325	P	P	16 31 14.1	+0.3
	0.1nm,0.4s,baz=119,slow=6.8,SNR=1.1						
KURBB	Kurchatov Arra	63.29	327	P	P	16 31 41.7	0.0
	0.2nm,0.5s,baz=111,slow=5.1,SNR=1.7						

DDA 01 16:24:54.1, 38.°25N×**28.°84E, h7**km±2km, **ML1.6, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MANT	Manisa	0.32	317	*i* P	Pg	16 25 00.9	+0.4
MANT				*i* S	Sg	16 25 04.7	-0.2
MANT				IAML		16 25 05.0	
	comp=N,56nm,0.3s						
USAK	Uak-Merkez	0.48	17	*i* P	Pb	16 25 04.4	-0.6
USAK				IAML		16 25 09.0	
	comp=N,61nm,1.3s						
USAK				*i* S	Sg	16 25 11.0	+1.2
USAK				IAML		16 25 20.0	
	comp=E,69nm,0.7s						
PASA	Karahalli, USA	0.52	79	*i* P	Pg	16 25 04.4	+0.2
PASA				*i* S	Sg	16 25 12.0	+1.0
TAVA	DENIZLI_Tavas	0.79	176	*i* P	Pg	16 25 09.3	0.0
DEMI	Demirci	0.80	353	*i* P	Pg	16 25 09.3	-0.2
DEMI				*i* S	Sg	16 25 20.4	+0.6
DEMI				IAML		16 25 22.0	
	comp=E,20nm,0.2s						
DEMI				IAML		16 25 27.0	
	comp=N,17nm,0.4s						
AYDN	Tasoluk	0.96	232	*i* P	Pg	16 25 11.3	-1.2
AYDN				*i* S	Sg	16 25 25.1	+0.1

*JMA **01** 16:28:39.5±0.1, 24.°68N×122.°81E, h22km±2km, M3.6*

*TAP **01** 16:28:40.2, 24.°73N×122.°78E, h19km±1km, ML3.9, D*

ISC 01 16:28:38.9±1.0, **24.°70N**±0.°03×**122.°80E**±0.°02, **h19**km±2km, **n114, σ0.s99**/167, **1C-10D, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.28	152	P	Pg	16 28 45.4	+0.2
JYNG				S	Sb	16 28 49.5	+0.2
YOJ	Yonaguni jima	0.30	141	P	Pb	16 28 45.8	+0.1
YOJ				S	Sg	16 28 50.1	0.0
YOJ	Yonaguni jima	0.30	141	⇓P	Pb	16 28 45.8	+0.1
	baz=141						
TWB1	Santiao Chiao	0.80	293	⇓P	Pb	16 28 54.5	+0.2
	baz=291						
TWB1				S	Sb	16 29 04.3	-0.5
	baz=291						
EGS		0.81	281	⇓*i*P	Pg	16 28 54.9	+0.2
	baz=278						
EGS				S	Sb	16 29 04.9	+0.1
	baz=278						
TWC	Suao	0.87	265	*i* P	Pb	16 28 55.5	+0.1
	baz=262						
TWC				*i* S	Sb	16 29 07.0	+0.3
	baz=262						
NTC	Toucheng	0.90	280	P	Pg	16 28 56.8	+0.3
	baz=278						
NTC				S	Sb	16 29 06.8	-0.7
	baz=278						
IRIF	Iriomote-Funau	0.92	113	P	Pb	16 28 56.3	+0.1
IRIF				S	Sg	16 29 09.0	0.0
TIPB	Shuangxi	0.93	287	*i* P	Pb	16 28 56.7	+0.3
	baz=285						
TIPB				S	Sb	16 29 08.1	-0.3
	baz=285						
ILA	Ilan	0.96	274	⇑P	Pn	16 28 57.7	+0.3
	baz=272						
ILA				S	Sg	16 29 10.7	+0.3
	baz=272						
EWUT	Wuta	0.96	255	P	Pn	16 28 57.5	0.0
	baz=252						
EWUT				S	Sb	16 29 09.6	+0.1
	baz=252						
NDS	Dongshan	0.99	267	⇓P	Pn	16 28 57.9	+0.1
	baz=264						
NDS				S	Sn	16 29 11.0	-0.3
	baz=264						
NWF	Wu-fen Shan	1.00	292	⇓*i*P	Pb	16 28 57.7	0.0
	baz=290						
NWF				S	Sb	16 29 09.9	-0.6
	baz=290						
WFSB	Wu-fen Shan	1.00	292	⇓P	Pn	16 28 57.9	0.0
	baz=290						
WFSB				S	Sb	16 29 10.0	-0.5
	baz=290						
ENA	Nanau	1.00	255	P	Pb	16 28 57.9	+0.2
	baz=252						
ENA				S	Sb	16 29 10.4	-0.1
	baz=252						
TWE	Neicheng	1.03	272	*i* P	Pb	16 28 58.2	0.0
	baz=269						
TWE				*i* S	Sb	16 29 10.8	-0.5
	baz=269						
TNOU	National Taiwa	1.04	296	P	Pb	16 28 57.0	-1.3
	baz=294						
EHP	Heping Village	1.04	249	*e*S	Sn	16 29 12.7	+0.1
	baz=246						
HATJ	Hateruma jima	1.11	125	P	Pb	16 28 59.7	+0.1
HATJ				S	Sb	16 29 13.9	+0.2
TWA	Mucha	1.14	285	⇓*i*P	Pb	16 29 00.3	+0.2
	baz=283						
TWA				*i* S	Sg	16 29 16.0	-0.1
	baz=283						
NHY	Taipei	1.17	287	*e*S	Sb	16 29 14.4	-1.0
	baz=285						
NDT	Datong Townshi	1.18	266	P	Pb	16 29 01.2	+0.6
	baz=263						
NDT				*e*S	Sb	16 29 14.4	-1.2
	baz=263						
JKRS	Kuro-shima	1.19	112	P	Pn	16 29 00.6	+0.1
JKRS				S	Sn	16 29 16.3	+0.1
NHDH	Xindian Distri	1.19	283	P	Pb	16 29 01.3	+0.4
	baz=281						
NHDH				S	Sn	16 29 16.3	+0.1
	baz=281						
YM08	YM08	1.21	294	P	Pn	16 29 00.7	-0.1
	baz=293						
YM01	YM01	1.21	292	⇓P	Pn	16 29 01.0	+0.1
	baz=290						
YM01				*e*S	Sb	16 29 15.9	-0.5
	baz=290						
NACB	Ninganchiao	1.22	245	P	Pb	16 29 01.9	+0.5
	baz=243						
NACB				S	Sn	16 29 17.5	+0.6
	baz=243						
TAP	Taipei	1.23	286	P	Pb	16 29 01.8	+0.3
	baz=285						
TAP				S	Sn	16 29 17.7	+0.6
	baz=285						
TWY	Chenhua	1.23	298	P	Pn	16 29 01.5	+0.3
	baz=297						
TWD	Chiawan	1.26	241	P	Pb	16 29 02.7	+0.6
	baz=239						
TWD				S	Sb	16 29 19.2	+1.3
	baz=239						
ANP	Anpu	1.26	293	P	Pn	16 29 01.2	-0.4
	baz=291						
JIJ	Ishigaki jima	1.27	105	P	Pn	16 29 01.0	-0.6
JIJ				S	Sn	16 29 17.4	-0.6
YHNB	Yeheng	1.30	269	⇓P	Pb	16 29 02.8	0.0
	baz=267						
YHNB				S	Sn	16 29 16.6	-2.4
	baz=267						
ETLH	Xiulin Townshi	1.30	248	*e*P	Pb	16 29 03.2	+0.5
	baz=246						
ETLH				S	Sb	16 29 20.1	+1.0
	baz=246						
HWA	Hwalien	1.31	237	P	Pb	16 29 03.6	+0.7
	baz=234						
HWA				S	Sb	16 29 20.2	+1.0
	baz=234						
NSK	Sanguang	1.31	269	⇓P	Pb	16 29 03.1	0.0
	baz=267						
NSK				S	Sn	16 29 17.8	-1.6
	baz=267						
NTST	Danshui	1.31	291	*e*P	Pn	16 29 02.7	+0.5
	baz=289						
TWS1	Kuangyinshan	1.32	288	P	Pn	16 29 02.4	0.0
	baz=286						
TWS1				S	Sb	16 29 20.1	+0.4
	baz=286						
NNS	Nan Shan	1.33	259	*i* P	Pb	16 29 03.9	+0.6
	baz=257						
NNS				S	Sn	16 29 19.4	-0.4
	baz=257						
JISG	Ishigakijimahi	1.38	94	P	Pn	16 29 02.5	-0.6
FUSS	Fushou	1.49	253	*e*P	Pn	16 29 05.6	+0.7
	baz=251						
FUSS				*e*S	Sb	16 29 24.6	-0.1
	baz=251						
NCUH	Zhongli	1.50	281	P	Pn	16 29 05.4	+0.6
	baz=279						
WHF	Hehuan Shan	1.50	249	*i* P	Pb	16 29 07.5	+0.9
	baz=247						
WHF				*i* S	Sb	16 29 25.5	+0.1
	baz=247						
ESL	Shilin	1.53	235	*i* P	Pb	16 29 06.2	-0.5
	baz=233						
ESL				S	Sb	16 29 25.4	-0.2
	baz=233						
TWT	Tachien	1.55	254	*e*P	Pg	16 29 08.2	-0.5
	baz=252						
TWT				S	Sb	16 29 26.7	+0.4
	baz=252						
CHGB	Renai	1.61	247	P	Pb	16 29 08.7	+0.5
	baz=245						
CHGB				S	Sb	16 29 28.1	-0.3
	baz=245						
EGFH	Guangfu	1.62	231	*e*P	Pn	16 29 06.7	+0.2
	baz=229						
EGFH				*e*S	Sn	16 29 27.6	+0.8
	baz=229						
LIOB	Emei	1.63	269	*e*P	Pb	16 29 08.0	-0.4
	baz=267						
LIOB				*e*S	Sn	16 29 27.1	+0.1
	baz=267						
NSTT	Nanjuang	1.64	268	P	Pb	16 29 09.3	+0.7
	baz=266						
NSTT				*e*S	Sn	16 29 27.8	+0.4
	baz=266						
SBCB	Hsinchu	1.66	274	P	Pn	16 29 07.5	+0.6
	baz=272						
SBCB				S	Sn	16 29 28.0	+0.3
	baz=272						
OWD	Renai	1.66	244	P	Pb	16 29 08.8	-0.1
	baz=242						
OWD				*e*S	Sn	16 29 28.2	+0.2
	baz=242						
HSN	Hsinchu	1.67	274	P	Pn	16 29 07.3	+0.2
	baz=273						
HSN				S	Sn	16 29 26.3	-1.8
	baz=273						
JTJ	Tarama	1.73	91	P	Pn	16 29 08.5	+0.5
HGSD	Ruisui	1.74	227	P	Pn	16 29 09.3	+1.2
	baz=225						
HGSD				*e*S	Sn	16 29 30.4	+0.7
	baz=225						
WHP	Taichung City	1.74	257	P	Pn	16 29 09.1	+0.9
	baz=255						
WHP				*e*S	Sn	16 29 30.1	+0.1
	baz=255						
EHY	Hungye	1.80	229	*e*P	Pn	16 29 10.0	+1.1
	baz=227						
EHY				*e*S	Sn	16 29 31.1	-0.1
	baz=227						
NMLH	Miaoli	1.84	265	*e*P	Pb	16 29 12.9	+1.0
	baz=264						
WCS	Beigang Elemen	1.84	250	*e*P	Pb	16 29 12.5	+0.6
	baz=248						
NSY	Sanyi	1.88	262	*e*P	Pb	16 29 13.1	+0.4
	baz=260						
TWQ1	Liyutan	1.88	260	*e*P	Pb	16 29 12.5	-0.2
	baz=258						
YULB	Yu-li	1.89	227	*e*P	Pn	16 29 11.0	+0.8
	baz=225						
YULB				*e*S	Sn	16 29 32.2	-1.4
	baz=225						
EYUL	Yuli	1.91	226	*e*P	Pb	16 29 12.3	-0.8
	baz=224						
EYUL				*e*S	Sb	16 29 35.6	-1.0
	baz=224						
SSLB	Suanglung	1.92	242	*e*P	Pb	16 29 12.4	-0.9
	baz=240						
SMLT	Sun Moon Lake	1.92	245	P	Pb	16 29 13.2	-0.1
	baz=243						
TYC	Yuchr	1.94	246	P	Pb	16 29 13.8	+0.1
	baz=244						
FULB	Fuli	2.03	223	*e*P	Pn	16 29 12.1	-0.1
	baz=221						
WHYT	Xinyi Township	2.04	241	*e*P	Pb	16 29 15.2	-0.2
	baz=239						
CHKT	Chengkung	2.06	220	*e*P	Pn	16 29 12.1	-0.5
	baz=218						
CHKT				*e*S	Sn	16 29 37.1	-0.6
	baz=218						
YUS	Yu-Shan	2.07	235	P	Pn	16 29 14.7	+1.5
	baz=233						
YUS				S	Sn	16 29 38.9	+0.1
	baz=233						
WJS	Zhushan	2.08	246	*e*P	Pb	16 29 15.5	-0.6
	baz=244						
WNT	Mingjian	2.10	248	*e*P	Pb	16 29 16.7	+0.3
	baz=246						
JIRB	Irabujima	2.16	86	P	Pn	16 29 15.4	+1.5
ALS	Alishan	2.17	238	*e*P	Pb	16 29 16.7	-1.2
	baz=235						
EDH	Donghe	2.20	219	*e*P	Pn	16 29 13.8	-0.6
	baz=217						
EDH				S	Sn	16 29 41.1	+0.1
	baz=217						
ELDTW	Lidau	2.22	228	*e*P	Pn	16 29 15.5	+0.7
	baz=226						
ELDTW				*e*S	Sn	16 29 42.0	+0.2
	baz=226						
JIKM	Ikemajima	2.23	84	P	Pb	16 29 17.2	-1.5
JMJ2	Miyako jima3	2.30	88	P	Pn	16 29 17.5	+1.7
WDLH	Douliu	2.30	245	*e*P	Pb	16 29 19.2	-0.6
	baz=243						
LONT	Longtian	2.35	221	*e*P	Pn	16 29 18.1	+1.6
	baz=219						
WRL	Guolierlin Hig	2.35	251	*e*P	Pn	16 29 18.4	+1.8
	baz=249						
LDUT	Ludao	2.35	212	P	Pn	16 29 16.4	-0.2
	baz=210						
LDUT				*e*S	Sn	16 29 44.0	-1.0
	baz=210						
JOGS	Gusukube	2.37	88	P	Pn	16 29 18.4	+1.6
JOGS				*e*S	Sn	16 29 46.3	+1.0
STYH	Taoyuan	2.40	231	*e*P	Pb	16 29 19.5	-2.0
	baz=229						
WTK	Tuku	2.42	246	*e*P	Pb	16 29 20.4	-1.5
	baz=244						
TPUB	Ta-pu	2.42	235	*e*P	Pb	16 29 20.4	-1.6
	baz=234						
TWGBT	Beinan	2.45	221	*e*P	Pn	16 29 18.6	+0.8
	baz=219						
TWG	Pinlang	2.45	221	*e*P	Pn	16 29 18.6	+0.8
	baz=219						
WTP	Ta-pu	2.47	235	*e*P	Pn	16 29 20.4	+2.2
	baz=233						
TWK	Hsinying	2.55	237	*e*P	Pb	16 29 22.1	-2.1
	baz=235						
CHN1	Nanshi	2.57	235	*e*P	Pn	16 29 22.1	+2.5
	baz=233						
WSF	Szhu	2.58	246	*e*P	Pn	16 29 22.1	+2.4
	baz=245						
SGST	Jiashian	2.59	232	*e*P	Pn	16 29 21.8	+1.9
	baz=230						
SLGT	Liugui	2.60	230	*e*P	Pn	16 29 22.6	+2.6
	baz=228						
ICHU	Yijhu	2.66	241	*e*P	Pb	16 29 24.1	-1.9
	baz=239						
ECL	Taimali	2.69	219	*e*P	Pn	16 29 22.6	+1.4
	baz=218						
SCST	Cishan	2.78	230	*e*P	Pb	16 29 25.8	-2.2
	baz=228						
SSD	Sandimen	2.78	226	*e*P	Pb	16 29 25.5	-2.5
	baz=224						
TSMG	Majia	2.80	225	*e*P	Pb	16 29 25.8	-2.6
	baz=224						
MASBT	Mashibuluo	2.87	224	*e*P	Pn	16 29 24.6	+0.9
	baz=223						
LAY	Lan-yu	2.88	204	*e*P	Pn	16 29 23.5	-0.4
	baz=202						
EAST	Anshuo	2.92	218	*e*P	Pn	16 29 25.5	+1.1
	baz=217						
MATB	Ma-tsu	2.96	300	*e*P	Pn	16 29 26.1	+1.1
	baz=298						
SCZT	Fangliau	3.06	221	*e*P	Pn	16 29 28.9	+2.6
	baz=220						
VWUC	VWUC	3.06	276	*e*P	Pn	16 29 26.3	+0.1
	baz=274						
PNG	Penghu	3.17	250	*e*P	Pn	16 29 29.2	+1.4
	baz=248						
PHUB	P'eng-hu	3.18	249	*e*P	Pn	16 29 29.5	+1.6
	baz=247						
XPSS	Dashiqiu	3.24	314	*e*P	Pn	16 29 29.2	+0.4
	baz=313						
TWKBT	Hengchun	3.30	214	*e*P	Pn	16 29 29.8	+0.2
	baz=213						
TWK1	Hengchun	3.30	214	*e*P	Pn	16 29 30.6	+1.0
	baz=213						
LYJJ	Jianjiangzhen	3.31	305	*e*P	Pn	16 29 30.3	+0.6
	baz=303						
KNM	Kinmen	3.99	267	*e*P	Pn	16 29 42.0	+2.9
	baz=265						
KNMB	Chin-men Tao	4.03	268	*e*P	Pn	16 29 40.3	+0.7
	baz=266						
AXDP	Jialang	4.40	274	*e*P	Pn	16 29 46.0	+1.3
	baz=272						
ZPLA	Ao Xicun	4.67	262	*e*P	Pn	16 29 48.8	+0.4
	baz=260						

*IDC **01** 16:32:09.4±4.8, 6.°40S×147.°84E, h63km±44km, mb3.5/6, mb1 3.7/8, mb1mx3.4/47, mbtmp3.8/8, ML3.9/2, Error ellipse: s-maj=43.6km s-min=12.0km az=114.0*

ISC 01 16:32:08.0±1.4**, 6.°4S**±0.°1×**147.°9E**±0.°3**, h51**km**, n9, σ0.s61**/11**, mb3.7**/6**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**17.43**	**288**	P	**P**	**16 36 08.4**	**0.0**
	1.2nm,0.3s,baz=120,slow=20,SNR=2.0						
WRA	**Warramunga Arr**	**18.81**	**223**	P	**P**	**16 36 23.6**	**-0.1**
	0.3nm,0.3s,baz=50,slow=10,SNR=18						
WRA				S	**S**	**16 39 55.9**	**+0.8**
	0.0nm,0.3s,baz=58,slow=15,SNR=2.2						
ASAR	**Alice Springs**	**21.80**	**217**	P	**P**	**16 36 56.5**	**+0.5**
	3.7nm,0.6s,baz=52,slow=9.2,SNR=121						
ASAR				S	**S**	**16 40 53.8**	**-0.7**
	1.4nm,1.0s,baz=35,slow=23,SNR=4.9						
STKA	**Stephens Creek**	**26.03**	**192**	P	**P**	**16 37 36.4**	**-0.2**
	1.3nm,0.4s,baz=159,slow=14,SNR=2.0						
USRK	**Ussuriysk Ar.**	**52.34**	**346**	P	**P**	**16 41 14.4**	**-0.3**
	0.3nm,0.6s,baz=148,slow=8.5,SNR=5.0						
PETK	**Petropavlovsk-**	**59.85**	**7**	P	**P**	**16 42 08.7**	**+0.4**
	1.2nm,0.9s,baz=202,slow=6.2,SNR=1.6						
SONM	**Songino Array**	**65.15**	**331**	P	**P**	**16 42 44.6**	**+0.7**
	0.2nm,0.3s,baz=126,slow=7.4,SNR=2.8						
MKAR	**Makanchi Array**	**78.33**	**320**	P	**P**	**16 44 02.0**	**-0.9**
	0.2nm,0.3s,baz=96,slow=9.9,SNR=5.2						
TORD	**Torodi Ar. Bea**	**146.00**	**284**	PKPbc	**PKPbc**	**16 51 43.2**	**-0.1**
	1.7nm,0.5s,baz=67,slow=4.0,SNR=17						

MEX 01 16:40:34.6±0.9**, 17.°13N×94.°41W, h169**km±12km**, MD3.8, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.46**	**266**	*e*P	Pn	16 40 56.9	-1.1
CMIG				*e*S	Sn	16 41 13.0	-2.8
PCIG		**1.82**	**141**	*e*P	Pn	16 41 01.5	-7.5
PCIG				*e*S	Sn	16 41 27.8	-7.7
HUIG	**Huatulco**	**2.12**	**231**	*e*P	Pn	16 41 10.4	-1.9
HUIG				*e*S	Sn	16 41 40.0	-1.4

*IDC **01** 16:42:43.9±0.6, 48.°43N×119.°08W, h0km, mb3.7/9, mb1 3.9/15, mb1mx3.8/45, mbtmp3.7/15, ML3.5/6, Error ellipse: s-maj=9.0km s-min=5.9km az=18.0*

*ANF **01** 16:42:44.6±0.2, 48.°20N×118.°98W, h0km, ML4.4/14, Error ellipse: s-maj=3.4km s-min=2.4km az=175.0*

*NEIC **01** 16:42:44.9±1.5, 48.°26N±0.°03×119.°00W±0.°03, h4km±4km, Error ellipse: s-maj=5.3km s-min=1.6km az=201.0*

*SEA **01** 16:42:45.6±1.8, 48.°31N±0.°03×119.°02W±0.°04, h10km±3km, ML4.3/154, mb4.2/25(NEIC), ML3.9(OTT), ML4.3/60(NEIC), Error ellipse: s-maj=4.8km s-min=4.2km az=206.0*

*PNSN **01** 16:42:45.6, 48.°31N×119.°02W, h9km, MD4.2, Fault plane solution: NP1:φs65.00000°, δ30.00000°, λ100.00000°.*

*PGC **01** 16:42:45.4, 48.°29N×119.°01W, h7km, ML3.9/25, ML4.3, 141km Sse of Penticton, Bc Washington*

ISC 01 16:42:44.7±1.1**, 48.°30N**±0.°02×**119.°00W**±0.°02**, h5**km±7km**, n293, σ1.s37**/328**, mb4.2**/19**, Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
B08A	**Colville Reser**	**0.23**	**285**	P	**Pg**	**16 42 49.6**	**+0.4**
B08A				S	**Sg**	**16 42 52.9**	**+0.7**
B08A	**Colville Reser**	**0.23**	**285**		**Pg**	**16 42 49.8**	**+0.6**
B08A				Sg	**Sg**	**16 42 52.8**	**+0.6**
B08A				IAML		16 42 53.3	
	comp=N,53μm,0.5s						
DHW2	**Dyer Hill 2**	**0.60**	**239**		**Pg**	**16 42 56.8**	**+0.6**
SAW	**Saint Andrews**	**0.66**	**204**		**Pg**	**16 42 57.8**	**+0.5**
C09A	**Chrisman Ranch**	**0.70**	**135**	P	**Pg**	**16 42 58.5**	**+0.5**
C09A				S	**Sn**	**16 43 11.4**	**-0.9**
C09A	**Chrisman Ranch**	**0.70**	**135**		**Pg**	**16 42 58.5**	**+0.5**
CBSW	**Chelan Butte S**	**0.86**	**235**		**Pg**	**16 43 01.3**	**+0.2**
WTV	**Waterville**	**0.88**	**227**		**Pg**	**16 43 01.7**	**+0.2**
NLW	**Nelson Butte**	**0.92**	**257**		**Pg**	**16 43 02.4**	**0.0**
OD2	**Odessa Site #2**	**0.93**	**168**		**Pg**	**16 43 02.8**	**+0.3**
EPH	**Ephrata**	**1.03**	**203**		**Pg**	**16 43 04.3**	**0.0**
PNT	**Penticton**	**1.10**	**338**	P	**Pg**	**16 43 05.4**	**-0.3**
PNT				S	**Sg**	**16 43 19.5**	**-0.4**
PNT	**Penticton**	**1.10**	**338**		**Pg**	**16 43 05.4**	**-0.3**
SLFW	**Sugar Loaf**	**1.16**	**243**		**Pg**	**16 43 06.6**	**-0.3**
D08A	**Wollman Farm,**	**1.24**	**177**	Pn	**Pn**	**16 43 08.1**	**-0.6**
D08A				Sn	**Sb**	**16 43 23.6**	**-1.3**
D08A				IAML		16 43 26.5	
	comp=E,5μm,0.2s						
D08A				IAML		16 43 27.2	
	comp=N,4μm,0.2s						
NEW	**Newport**	**1.25**	**91**	Pg	**Pn**	**16 43 08.4**	**-0.5**
	comp=N,241nm,0.3s,baz=281,slow=13,SNR=1804						
NEW				Lg	Lg	16 43 24.9	
	comp=N,569nm,0.3s,baz=206,slow=22,SNR=66						
NEW	**Newport**	**1.25**	**91**		**Pn**	**16 43 08.4**	**-0.5**
NEW				IAML		16 43 27.2	
	comp=N,4μm,0.5s						
NEW				IAML		16 43 27.4	
	comp=N,5μm,0.3s						
NEW	**Newport**	**1.25**	**91**	P	**Pn**	**16 43 08.4**	**-0.5**
	baz=273,SNR=903						
NEW				S	**Sb**	**16 43 25.2**	**-0.1**
	baz=273						
C06D	**Leavenworth**	**1.32**	**254**		**Pn**	**16 43 09.0**	**-0.8**
C06D	**Leavenworth**	**1.32**	**254**	P	**Pn**	**16 43 08.9**	**-0.8**
	baz=72,SNR=212						
C06D				S	**Sg**	**16 43 27.3**	**+0.1**
	baz=72						
WRW	**Wenatchee Ridg**	**1.34**	**251**		**Pn**	**16 43 09.3**	**-0.7**
FHE	**Frenchman Hill**	**1.39**	**194**		**Pn**	**16 43 09.8**	**-0.9**
GPW	**Glacier Peak**	**1.44**	**264**	P	**Pn**	**16 43 11.3**	**-0.3**
GPW	**Glacier Peak**	**1.44**	**264**		**Pn**	**16 43 11.4**	**-0.3**
VT2	**Vantage 2**	**1.50**	**207**		**Pn**	**16 43 11.6**	**-0.5**
CRF	**Corfu**	**1.50**	**190**		**Pn**	**16 43 09.9**	**-2.2**
LTY	**Liberty**	**1.53**	**228**	Pn	**Pn**	**16 43 11.1**	**-1.6**
LTY				Sn	**Sn**	**16 43 30.2**	**-2.9**
LTY	**Liberty**	**1.53**	**228**		**Pn**	**16 43 12.2**	**-0.5**
TBM	**Table Mountain**	**1.56**	**224**		**Pn**	**16 43 13.1**	**-0.1**
BVW	**Beverly**	**1.60**	**202**		**Pn**	**16 43 13.0**	**-0.7**
B06A	**Marblemount**	**1.67**	**278**	Pn	**Pn**	**16 43 14.3**	**-0.2**
B06A				Sn	**Sg**	**16 43 37.9**	**-0.4**
B06A	**Marblemount**	**1.67**	**278**		**Pn**	**16 43 14.2**	**-0.2**
B06A				IAML		16 43 39.0	
	comp=E,4μm,0.3s						
RPW	**Rockport**	**1.68**	**276**	Pn	**Pn**	**16 43 14.6**	**-0.1**
RPW	**Rockport**	**1.68**	**276**		**Pn**	**16 43 14.6**	**-0.1**
TWW	**Teanaway**	**1.71**	**228**		**Pn**	**16 43 15.5**	**+0.3**
EBG	**Ellensburg**	**1.75**	**218**		**Pn**	**16 43 15.7**	**0.0**
E08A	**Dider Farm, El**	**1.81**	**181**		**Pn**	**16 43 15.2**	**-1.2**
E08A				IAML		16 43 43.4	
	comp=E,3μm,0.4s						
E08A				IAML		16 43 49.6	
	comp=N,2μm,0.5s						
E07A	**Sunnyside**	**1.84**	**199**	Pn	**Pn**	**16 43 16.0**	**-0.8**
SHUK	**Shuksan-Mt. Ba**	**1.86**	**288**		**Pn**	**16 43 17.3**	**0.0**
E09A	**Wood Farm, Sta**	**1.88**	**162**	Pn	**Pn**	**16 43 16.4**	**-1.0**
E09A				IAML		16 43 47.4	
	comp=N,3μm,0.1s						
C05A	**Tolt Reservoir**	**1.91**	**252**	Pn	**Pn**	**16 43 17.2**	**-0.5**
C05A				Sn	**Sn**	**16 43 42.1**	**0.0**
C05A	**Tolt Reservoir**	**1.91**	**252**		**Pb**	**16 43 20.0**	**+0.1**
H2OWA	**Water**	**1.93**	**189**		**Pg**	**16 43 21.3**	**-0.3**
HOPB	**Hope**	**1.93**	**305**	Pn	**Pn**	**16 43 18.4**	**+0.2**
HOPB				Sn	**Sn**	**16 43 42.6**	**-0.2**
MXC	**Moxie City**	**1.93**	**207**		**Pn**	**16 43 17.8**	**-0.3**
HAWA	**Hanford**	**1.94**	**191**	Pn	**Pn**	**16 43 17.1**	**-1.2**
HAWA				IAML		16 43 48.8	
	comp=N,3μm,0.6s						
HAWA				IAML		16 43 53.8	
	comp=N,2μm,0.6s						
JCW	**Jim Creek**	**1.96**	**268**	Pn	**Pn**	**16 43 19.2**	**+0.7**
JCW	**Jim Creek**	**1.96**	**268**		**Pb**	**16 43 21.1**	**+0.3**
MBW	**Mount Baker**	**1.99**	**285**	Pn	**Pn**	**16 43 19.2**	**+0.2**
MBW	**Mount Baker**	**1.99**	**285**		**Pn**	**16 43 19.3**	**+0.2**
NAC	**Naches**	**2.00**	**219**		**Pn**	**16 43 19.2**	**+0.1**
YA2	**Yakima**	**2.06**	**211**		**Pn**	**16 43 17.9**	**-1.9**
B05A	**Bryant**	**2.07**	**270**		**Pn**	**16 43 20.7**	**+0.7**
B05A					**Pg**	**16 43 24.7**	**+0.4**
B05A	**Bryant**	**2.07**	**270**	P	**Pn**	**16 43 20.6**	**+0.6**
	baz=88,SNR=190						
B05A				Sb	**Sg**	**16 43 49.7**	**-1.4**
	baz=88						
RATT	**Rattlesnake La**	**2.08**	**246**		**Pn**	**16 43 20.3**	**+0.2**
CMW	**Cultus Mountai**	**2.08**	**275**	Pn	**Pb**	**16 43 21.7**	**-1.3**
VDB	**Vedder Mountai**	**2.18**	**291**	Pn	**Pn**	**16 43 21.9**	**+0.3**
VDB	**Vedder Mountai**	**2.18**	**291**		**Pn**	**16 43 21.9**	**+0.3**
SR41	**SR410 Landslid**	**2.22**	**231**		**Pn**	**16 43 22.1**	**-0.1**
YPT	**Yellepit**	**2.25**	**179**		**Pb**	**16 43 26.8**	**+1.0**
TRW	**Toppenish Ridg**	**2.27**	**208**		**Pn**	**16 43 23.0**	**+0.2**
FMW	**Mount Fremont**	**2.27**	**234**	Pn	**Pn**	**16 43 22.6**	**-0.3**
FMW	**Mount Fremont**	**2.27**	**234**		**Pn**	**16 43 22.6**	**-0.3**
PANH	**Panhandle Gap,**	**2.30**	**232**		**Pn**	**16 43 23.3**	**-0.1**
D05A	**Enumclaw**	**2.30**	**242**	Pn	**Pn**	**16 43 23.6**	**+0.4**
D05A	**Enumclaw**	**2.30**	**242**	Pn	**Pn**	**16 43 23.5**	**+0.3**
D05A				IAML		16 44 00.3	
	comp=N,1μm,0.8s						
RCM	**Mount Rainier-**	**2.36**	**233**		**Pn**	**16 43 21.2**	**-3.1**
RVC	**Mount Rainier-**	**2.42**	**237**		**Pn**	**16 43 25.2**	**+0.2**
REMR	**Mount Rainier-**	**2.43**	**233**		**Pn**	**16 43 25.2**	**+0.1**
LON	**Longmire**	**2.46**	**232**	Pn	**Pn**	**16 43 25.5**	**+0.2**
LON				Sn	**Sn**	**16 43 54.8**	**-1.0**
LON	**Longmire**	**2.46**	**232**		**Pn**	**16 43 25.4**	**0.0**
LON	**Longmire**	**2.46**	**232**		**Pn**	**16 43 25.6**	**+0.3**
GLK	**Glacier Lake**	**2.48**	**227**		**Pn**	**16 43 26.5**	**+0.7**
F07A	**Phinny Hill Vi**	**2.49**	**195**		**Pn**	**16 43 25.3**	**-0.5**
F07A				IAML		16 44 14.1	
	comp=N,2μm,0.4s						
A04D	**Lummi Island**	**2.50**	**281**	P	**Pn**	**16 43 26.1**	**+0.3**
	baz=98,SNR=20						
HNBB	**Haney**	**2.56**	**294**	Pn	**Pn**	**16 43 26.9**	**+0.1**
HNBB				Sg	**Sb**	**16 44 03.5**	**+0.8**
MCW	**Mount Constitu**	**2.58**	**280**	Pg	**Pb**	**16 43 32.4**	**+1.1**
F10A	**Beach Ranch, E**	**2.62**	**152**		**Pn**	**16 43 27.3**	**-0.4**
GMW	**Gold Mountain**	**2.65**	**255**		**Pn**	**16 43 28.2**	**+0.1**
GNW	**Green Mountain**	**2.67**	**255**	Pn	**Pn**	**16 43 28.2**	**-0.1**
GNW	**Green Mountain**	**2.67**	**255**		**Pn**	**16 43 28.5**	**+0.2**
C04A	**Brinnon**	**2.73**	**259**		**Pn**	**16 43 29.3**	**+0.3**
BHMT	**Big Hole Peak**	**2.76**	**104**	Pn	**Pn**	**16 43 29.3**	**-0.3**
D04E	**Lakebay**	**2.78**	**248**		**Pb**	**16 43 33.3**	**-1.4**
D04E	**Lakebay**	**2.78**	**248**	P	**Pn**	**16 43 30.2**	**+0.5**
	baz=64						
HDW	**Hoodsport**	**2.80**	**258**	Pn	**Pn**	**16 43 30.0**	**-0.1**
HDW	**Hoodsport**	**2.80**	**258**		**Pn**	**16 43 30.1**	**-0.1**
SNB	**Saturna Island**	**2.81**	**281**	Pn	**Pn**	**16 43 31.7**	**+1.5**
SNB				Pg	**Pb**	**16 43 36.8**	**+1.5**
SNB				Sg	**Sg**	**16 44 14.1**	**-0.8**
BSMT	**Bassoo Peak**	**2.86**	**97**	Pn	**Pn**	**16 43 30.8**	**-0.2**
BSMT	**Bassoo Peak**	**2.86**	**97**		**Pn**	**16 43 31.0**	**-0.1**
MKMT	**Mink Peak**	**2.88**	**113**		**Pn**	**16 43 31.3**	**-0.1**
VGZ	**Gonzales**	**2.88**	**274**	Pn	**Pb**	**16 43 33.9**	**-2.6**
VGZ				Sg	**Sb**	**16 44 12.9**	**+0.8**
SLEB	**Sale Mountain**	**2.92**	**11**	Pn	**Pn**	**16 43 32.6**	**+0.7**
SLEB				Sg	**Sb**	**16 44 15.5**	**+2.0**
TDL	**Tradedollar La**	**2.93**	**229**		**Pn**	**16 43 33.9**	**+2.0**
F05D	**White Salmon**	**2.94**	**216**		**Pn**	**16 43 33.3**	**+1.3**
F05D	**White Salmon**	**2.94**	**216**	P	**Pn**	**16 43 32.5**	**+0.5**
	baz=34,SNR=14						
GULW	**Guler Mountain**	**2.96**	**218**		**Pb**	**16 43 35.4**	**-2.5**
LLLB	**Lillooet**	**2.98**	**322**	Pn	**Pn**	**16 43 33.0**	**+0.4**
LLLB				Sg	**Sg**	**16 44 17.6**	**-2.7**
LLLB	**Lillooet**	**2.98**	**322**		**Pn**	**16 43 32.3**	**-0.3**
LLLB				IAML		16 44 18.6	
	comp=N,1μm,0.7s						
B011	**North Saanich**	**2.98**	**278**	Pn	**Pb**	**16 43 38.0**	**-0.2**
B011				Sg	**Sb**	**16 44 16.1**	**+1.3**
B011	**North Saanich**	**2.98**	**278**		**Pg**	**16 43 40.5**	**-1.2**
PA12	**PA12 Sannich**	**2.98**	**278**	Pn	**Pb**	**16 43 37.5**	**-0.6**
B009	**North Saanich**	**2.98**	**278**	Pn	**Pb**	**16 43 37.2**	**-1.0**
B009				Sg	**Sb**	**16 44 16.6**	**+1.8**
B010	**North Saanich**	**2.98**	**278**	Pn	**Pb**	**16 43 37.7**	**-0.5**
B010				Sg	**Sb**	**16 44 16.8**	**+1.9**
PGC	**Sidney**	**2.98**	**278**	Pn	**Pb**	**16 43 37.6**	**-0.6**
PGC				Sg	**Sb**	**16 44 17.0**	**+2.2**
E04D	**Cinebar**	**2.98**	**236**	P	**Pn**	**16 43 33.1**	**+0.6**
	baz=53,SNR=15						
E04D				Sb	**Sb**	**16 44 17.6**	**+2.7**
	baz=53						
G08A	**Pilot Rock**	**3.01**	**179**	Pn	**Pn**	**16 43 32.3**	**-0.8**
G08A				IAML		16 44 23.3	
	comp=E,804nm,0.6s						
G08A				IAML		16 44 31.5	
	comp=N,703nm,0.7s						
CDFW	**Cedar Flats**	**3.01**	**225**		**Pb**	**16 43 36.1**	**-2.6**
B04A	**Port Angeles**	**3.02**	**267**		**Pn**	**16 43 35.0**	**+1.9**
SWF2	**Southwest Flan**	**3.05**	**227**		**Pb**	**16 43 38.0**	**-1.5**
BIB	**Bowen Island**	**3.05**	**293**	Pn	**Pn**	**16 43 34.1**	**+0.7**
GOBB	**Galiano Island**	**3.06**	**284**	Pn	**Pn**	**16 43 34.7**	**+1.1**
CPW	**Capitol Peak**	**3.10**	**246**	Pn	**Pn**	**16 43 34.7**	**+0.5**
STW	**Striped Peak**	**3.12**	**269**	Pn	**Pn**	**16 43 36.5**	**+2.0**
WSLR	**Whistler**	**3.15**	**307**	Pn	**Pn**	**16 43 35.8**	**+0.8**
WSLR				Sg	**Sb**	**16 44 22.1**	**+2.1**
WSLR	**Whistler**	**3.15**	**307**		**Pb**	**16 43 42.2**	**+1.0**
OSD	**Olympics--Snow**	**3.19**	**263**	Pn	**Pn**	**16 43 37.1**	**+1.6**
FBMT	**Ferry Basin**	**3.21**	**104**	Pn	**Pn**	**16 43 35.5**	**-0.3**
JTMT	**Jette**	**3.21**	**98**	Pn	**Pn**	**16 43 35.5**	**-0.3**
JTMT	**Jette**	**3.21**	**98**	Pn	**Pn**	**16 43 35.3**	**-0.6**
JTMT				IAML		16 44 31.9	
	comp=N,853nm,0.8s						
SHRK	**Shell Rock**	**3.32**	**212**		**Pn**	**16 43 38.3**	**+0.9**
F04A	**Amboy**	**3.33**	**226**	Pn	**Pn**	**16 43 36.9**	**-0.4**
YBMT	**Yellow Bay**	**3.37**	**96**	Pn	**Pn**	**16 43 37.7**	**-0.4**
NLWA	**Neilton Lookou**	**3.40**	**256**	Pn	**Pn**	**16 43 38.8**	**+0.5**
OBC	**Olympics--Boni**	**3.41**	**267**	Pn	**Pn**	**16 43 40.1**	**+1.6**
NLLB	**Nanaimo Lost L**	**3.43**	**288**	Pn	**Pn**	**16 43 40.9**	**+2.3**
NLLB				Sg	**Sb**	**16 44 29.3**	**+1.6**
VFP	**Flag Point**	**3.43**	**210**		**Pn**	**16 43 40.0**	**+1.2**
B926	**Mesachie Lake**	**3.45**	**281**	Pn	**Pn**	**16 43 40.1**	**+1.1**
B926	**Mesachie Lake**	**3.45**	**281**		**Pn**	**16 43 40.5**	**+1.6**
G05D	**Wamic, OR**	**3.45**	**208**		**Pn**	**16 43 39.9**	**+0.9**
G05D	**Wamic, OR**	**3.45**	**208**	P	**Pn**	**16 43 39.3**	**+0.3**
	baz=26,SNR=12						
G05D				S	**Sn**	**16 44 21.3**	**+1.1**
	baz=26						
HIYU	**Hiyu Mountain**	**3.45**	**215**		**Pn**	**16 43 42.0**	**+2.9**
SWMT	**Swartz Lake**	**3.46**	**101**	Pn	**Pn**	**16 43 39.2**	**0.0**
WALA	**Waterton Lakes**	**3.46**	**75**	Pn	**Pn**	**16 43 39.7**	**+0.5**
WALA				Sn	**Sn**	**16 44 20.4**	**-0.2**
WALA				Sg	**Sb**	**16 44 32.1**	**+3.4**
WALA	**Waterton Lakes**	**3.46**	**75**	Pn	**Pn**	**16 43 39.4**	**+0.2**
WALA				IAML		16 44 36.1	
	comp=N,555nm,0.7s						
SHB	**Sechelt**	**3.46**	**294**	Pn	**Pn**	**16 43 42.2**	**+3.0**
SHB				Sg	**Sb**	**16 44 30.9**	**+2.1**
SHB	**Sechelt**	**3.46**	**294**		**Pb**	**16 43 45.8**	**-0.7**
HOOD	**Mount Hood Mea**	**3.49**	**212**		**Pn**	**16 43 41.6**	**+1.9**
E03A	**Lebam**	**3.56**	**242**	Pn	**Pn**	**16 43 41.2**	**+0.7**
E03A				Sg	**Sb**	**16 44 34.0**	**+2.5**
E03A	**Lebam**	**3.56**	**242**	Pn	**Pn**	**16 43 40.5**	**+0.1**
GHNB	**Nanoose**	**3.60**	**288**	Pn	**Pn**	**16 43 43.7**	**+2.6**
GHNB				Sg	**Sb**	**16 44 34.9**	**+2.1**
BMO	**Blue Mountains**	**3.64**	**161**		**Pn**	**16 43 41.3**	**-0.4**
BMO				IAML		16 44 44.8	
	comp=N,469nm,0.7s						
BMO				IAML		16 44 46.4	
	comp=N,380nm,0.9s						
MSO	**Missoula**	**3.73**	**111**	Pn	**Pn**	**16 43 42.3**	**-0.6**
MSO				IAML		16 44 51.5	
	comp=N,579nm,0.8s						
MSO				IAML		16 44 53.1	
	comp=N,589nm,0.6s						
MSO	**Missoula**	**3.73**	**111**	P	**Pn**	**16 43 42.1**	**-0.8**
	baz=295,SNR=31						
BLBC	**Blue River**	**3.75**	**358**	Pn	**Pn**	**16 43 43.9**	**+0.5**
VCMT	**Victor**	**3.76**	**118**		**Pn**	**16 43 43.1**	**-0.2**
PLID	**Pearl Lake**	**3.82**	**146**	Pn	**Pn**	**16 43 44.6**	**+0.3**
PLID				IAML		16 44 53.5	
	comp=N,310nm,0.8s						
PLID				IAML		16 44 54.2	
	comp=N,309nm,0.8s						
MGB	**Mount Grey**	**3.84**	**283**	Pn	**Pn**	**16 43 46.5**	**+2.1**
MGB				Sg	**Sb**	**16 44 42.0**	**+2.4**
TXB	**Texada**	**3.84**	**293**	Pn	**Pn**	**16 43 47.0**	**+2.6**
SLMT	**Seeley Lake**	**3.86**	**104**	Pn	**Pn**	**16 43 44.2**	**-0.6**
MNB	**Mounoet Dainar**	**3.92**	**6**	Pn	**Pn**	**16 43 47.1**	**+1.3**
B927	**Port Alberni**	**3.95**	**286**	Pn	**Pn**	**16 43 49.6**	**+3.8**
VIPM	**Ingram Point**	**3.95**	**197**		**Pn**	**16 43 46.0**	**-0.1**
PRDA	**Priddis**	**4.00**	**48**	Pn	**Pn**	**16 43 46.9**	**+0.3**
PRDA				Sg	**Sb**	**16 44 49.2**	**+5.0**
B928	**Bamfield**	**4.11**	**280**	Sg	**Sb**	**16 44 51.4**	**+4.2**
CHMT	**Chamberlain Mo**	**4.13**	**107**		**Pn**	**16 43 48.1**	**-0.4**
BPMT	**Black Pine Rid**	**4.21**	**114**	Pn	**Pn**	**16 43 49.4**	**-0.3**
H04A	**Detroit Lake**	**4.23**	**212**	Pn	**Pn**	**16 43 49.7**	**-0.1**
I07A	**Izee**	**4.23**	**185**	Pn	**Pn**	**16 43 49.5**	**-0.4**
I07A				IAML		16 45 09.3	
	comp=N,385nm,0.8s						
I07A				IAML		16 45 12.7	
	comp=E,253nm,0.8s						
OVMT	**Ovando**	**4.24**	**105**	Pn	**Pn**	**16 43 49.3**	**-0.7**
G03D	**McMinnville, O**	**4.26**	**225**	P	**Pn**	**16 43 50.6**	**+0.5**
	baz=42						
I05D	**Terrebonne, OR**	**4.28**	**203**	P	**Pn**	**16 43 50.5**	**+0.1**
	baz=21						
BTB	**Buttle Lake**	**4.46**	**288**	Pn	**Pn**	**16 43 55.7**	**+2.7**
CBB	**Campbell River**	**4.52**	**295**	Pn	**Pn**	**16 43 56.0**	**+2.3**
CBB				Sg	**Sb**	**16 45 01.7**	**+2.5**
H04D	**Lebanon**	**4.58**	**216**	P	**Pn**	**16 43 54.7**	**+0.2**
	baz=33						
SPLB	**Strathcona Par**	**4.65**	**293**	Sg	**Sb**	**16 45 05.0**	**+2.1**
PINE	**Pine Mountain**	**4.71**	**197**	Pn	**Pn**	**16 43 56.0**	**-0.5**
BURN	**Burns**	**4.73**	**181**		Pn	16 44 01.8	+5.1
LYMT	**Lyon Mountain**	**4.73**	**104**	Pn	**Pn**	**16 43 57.4**	**+0.6**
ELMT	**Elliston**	**4.76**	**110**	Pn	**Pn**	**16 43 57.0**	**-0.2**
GDR	**Gold River**	**4.86**	**290**	Pn	**Pn**	**16 44 02.3**	**+4.0**
J08A	**Circle Bar Ran**	**4.96**	**176**	Pn	**Pn**	**16 43 59.6**	**-0.2**
J08A				IAML		16 45 39.6	
	comp=N,264nm,0.9s						
J08A				IAML		16 45 41.6	
	comp=E,198nm,1.2s						
HBMT	**Mount Humbug**	**5.04**	**117**	Pn	**Pn**	**16 44 00.8**	**-0.3**
HRY	**Holter Researc**	**5.11**	**105**	Pn	**Pn**	**16 44 01.9**	**0.0**
HRY	**Holter Researc**	**5.11**	**105**		**Pn**	**16 44 01.6**	**-0.3**
LRM	**Limekiln Ridge**	**5.12**	**117**	Pn	**Pn**	**16 44 01.8**	**-0.3**
LRM	**Limekiln Ridge**	**5.12**	**117**		**Pn**	**16 44 01.4**	**-0.7**
J05D	**Fort Rock, OR**	**5.25**	**198**	P	**Pn**	**16 44 03.6**	**-0.3**
	baz=16						
DLMT	**Dillon**	**5.29**	**121**		**Pn**	**16 44 04.0**	**-0.3**
MFID	**Camas Ranch**	**5.36**	**154**	Pn	**Pn**	**16 44 04.8**	**-0.6**
MFID				IAML		16 45 44.3	
	comp=E,138nm,1.5s						
MFID				IAML		16 45 47.9	
	comp=E,124nm,0.8s						
I02D	**Swisshome**	**5.38**	**221**	P	**Pn**	**16 44 06.8**	**+1.4**
	baz=37						
MCMT	**McKenzie Canyo**	**5.48**	**127**		**Pn**	**16 44 07.0**	**-0.1**
J04D	**Umpqua Nationa**	**5.51**	**204**	P	**Pn**	**16 44 07.2**	**-0.2**
	baz=22						
BCYI	**Bear Canyon**	**5.56**	**134**		**Pn**	**16 44 08.1**	**-0.1**
UBRB	**Upper Baezaeko**	**5.62**	**327**	Pn	**Pn**	**16 44 09.4**	**+0.5**
UBRB				Sg	**Sg**	**16 45 38.8**	**-6.2**
HLID	**Hailey**	**5.72**	**144**	Pn	**Pn**	**16 44 10.0**	**-0.2**
HLID	**Hailey**	**5.72**	**144**	P	**Pn**	**16 44 10.5**	**+0.2**
	baz=328,SNR=36						
BOZ	**Bozeman (W)**	**5.72**	**115**		**Pn**	**16 44 09.7**	**-0.6**
BOZ	**Bozeman (W)**	**5.72**	**115**	P	**Pn**	**16 44 10.2**	**-0.2**
	baz=301,SNR=16						
MAYB	**Maynard**	**5.74**	**295**	Pn	**Pn**	**16 44 12.5**	**+1.9**
WVOR	**Wild Horse Val**	**5.87**	**177**	Pn	**Pn**	**16 44 13.0**	**+0.6**
MOMT	**Monida**	**5.88**	**127**	Pn	**Pn**	**16 44 13.3**	**+0.7**
PACB	**Port Alice, BC**	**5.95**	**294**	Pn	**Pn**	**16 44 15.5**	**+2.3**
PHC	**Port Hardy**	**6.00**	**297**	Sg	**Sb**	**16 45 45.3**	**+3.8**
EDM	**Edmonton**	**6.09**	**34**	Pn	**Pn**	**16 44 18.6**	**+3.3**
QLMT	**Earthquake Lak**	**6.27**	**121**		**Pn**	**16 44 18.1**	**+0.2**
YHB	**Horse Butte**	**6.45**	**120**		**Pn**	**16 44 20.6**	**+0.2**
KEBM	**Edson Butte**	**6.59**	**217**	Pn	**Pn**	**16 44 22.8**	**+0.6**
YHH	**Holmes Hill**	**6.63**	**119**	Pn	**Pn**	**16 44 23.2**	**+0.4**
YMR	**Madison River**	**6.63**	**120**		**Pn**	**16 44 23.6**	**+0.8**
YNR	**Norris Junctio**	**6.77**	**119**	Pn	**Pn**	**16 44 25.1**	**+0.3**
YNE	**Yellowstone No**	**7.01**	**115**	Pn	**Pn**	**16 44 28.6**	**+0.5**
H17A	**Grant Village**	**7.02**	**121**	P	**Pn**	**16 44 29.4**	**+1.2**
	baz=307						
BBB	**Bella Bella**	**7.02**	**307**	Pn	**Pn**	**16 44 25.1**	**-2.8**
	comp=E,0.3nm,0.3s,baz=140,slow=13,SNR=2.2						
BBB				Lg	Lg	16 46 19.7	
	comp=E,1.3nm,0.3s,baz=184,slow=13,SNR=1.4						
FSB	**Fort Saint Jam**	**7.03**	**334**	Pn	**Pn**	**16 44 29.3**	**+1.2**
YBH	**Yreka Blue Hor**	**7.07**	**203**	Pn	**Pn**	**16 44 31.4**	**+2.6**
	comp=E,0.2nm,0.3s,baz=341,slow=3.3,SNR=6.7						
YBH				Lg	Lg	16 46 27.7	
	comp=E,0.1nm,0.3s,baz=122,slow=8.0,SNR=5.2						
IMW	**Indian Meadow**	**7.12**	**125**		**Pn**	**16 44 30.6**	**+0.8**
FLWY	**Flagg Ranch**	**7.14**	**123**	Pn	**Pn**	**16 44 30.8**	**+0.9**
FXWY	**Fox Creek**	**7.25**	**127**	Pn	**Pn**	**16 44 31.7**	**+0.3**
MOOW	**Moose Ponds**	**7.33**	**125**	Pn	**Pn**	**16 44 33.7**	**+1.2**
TPAW	**Teton Pass**	**7.39**	**128**	Pn	**Pn**	**16 44 34.8**	**+1.4**
RLMT	**Red Lodge**	**7.41**	**112**	Pn	**Pn**	**16 44 35.0**	**+1.5**
RLMT	**Red Lodge**	**7.41**	**112**	P	**Pn**	**16 44 34.2**	**+0.6**
	baz=299						
RLMT				S	**Sn**	**16 45 56.5**	**-1.5**
	baz=299						
N02D	**Trinity Center**	**7.79**	**201**	P	**Pn**	**16 44 39.4**	**+0.8**
	baz=18						
ELK	**Elko**	**8.02**	**159**	Pn	**Pn**	**16 44 45.7**	**+3.8**
	comp=E,0.7nm,0.3s,baz=340,slow=12,SNR=25						
ELK				Lg	Lg	16 47 01.1	
	comp=E,0.4nm,0.3s,baz=224,slow=18,SNR=2.8						
ELK	**Elko**	**8.02**	**159**	Pn	**Pn**	**16 44 44.5**	**+2.6**
KHMM	**Horse Mountain**	**8.15**	**206**	Pn	**Pn**	**16 44 44.1**	**+0.4**
O03E	**Paynes Creek**	**8.25**	**195**	P	**Pn**	**16 44 45.8**	**+0.8**
	baz=13						
KITB	**Kitimat**	**8.37**	**317**	Pn	**Pn**	**16 44 49.6**	**+3.2**
PD31	**Pinedale Array**	**8.63**	**126**	Pn	**Pn**	**16 44 51.5**	**+1.2**
PDAR	**Pinedale Array**	**8.63**	**126**	Pn	**Pn**	**16 44 54.8**	**+4.4**
	comp=E,0.4nm,0.3s,baz=318,slow=14,SNR=13						
PDAR				Lg	Lg	16 47 17.4	
	comp=E,0.3nm,0.3s,baz=338,slow=26,SNR=3.8						
PDAR	**Pinedale Array**	**8.63**	**126**	Pn	**Pn**	**16 44 50.1**	**-0.2**
NBC5	**NorthernBC 5**	**9.50**	**348**	Pn	Pn	16 45 07.8	+5.8
DGMT	**Dagmar**	**9.86**	**83**	P	**Pn**	**16 45 08.0**	**+1.1**
	baz=275						
NVAR	**Mina Array Bea**	**9.88**	**177**	Pn	**Pn**	**16 45 11.8**	**+4.4**
	comp=E,0.1nm,0.3s,baz=346,slow=12,SNR=5.6						
NVAR				Lg	Lg	16 47 58.1	
	comp=E,0.1nm,0.3s,baz=122,slow=35,SNR=2.1						
NBC6	**NorthernBC 6**	**10.40**	**353**	Pn	Pn	16 45 19.1	+4.9
K22A	**Casper**	**10.42**	**118**	P	**Pn**	**16 45 13.3**	**-1.5**
	baz=307						
NBC2	**NorthernBC 2**	**11.68**	**351**	Pn	**Pn**	**16 45 32.5**	**+0.7**
PKCU	**Pink Cliffs**	**11.90**	**153**	Pn	**Pn**	**16 45 35.2**	**0.0**
DLBC	**Dease Lake**	**12.08**	**331**	Pn	**Pn**	**16 45 37.2**	**-0.2**
	comp=E,0.2nm,0.3s,baz=135,slow=11,SNR=1.9						
DLBC				Lg	Lg	16 48 59.0	
	comp=E,0.2nm,0.3s,baz=210,slow=27,SNR=1.6						
YKA	**Yellowknife Ar**	**14.44**	**8**	Pn	**Pn**	**16 46 06.4**	**-3.0**
	comp=E,0.2nm,0.3s,baz=188,slow=13,SNR=5.3						
YKA				Lg	Lg	16 50 13.5	
	comp=E,0.2nm,0.3s,baz=319,slow=2.8,SNR=4.6						
ULM	**Lac du Bonnet**	**15.21**	**74**	Pn	**P**	**16 46 23.4**	**-1.6**
	comp=E,0.5nm,0.3s,baz=264,slow=10,SNR=5.2						
ULM				Lg	Lg	16 50 36.7	
	comp=E,0.3nm,0.3s,baz=353,slow=20,SNR=4.4						
ULM	**Lac du Bonnet**	**15.21**	**74**	P	**P**	**16 46 24.7**	**-0.3**
MMPY	**Sheldon Lake,**	**15.90**	**339**	P	**Pn**	**16 46 30.7**	**+1.8**
	baz=149						
FARO	**Faro, Yukon**	**16.12**	**335**	P	**Pn**	**16 46 32.6**	**+0.9**
	baz=144						
ANMO	**Albuquerque**	**16.28**	**140**	Pn	**P**	**16 46 37.1**	**-0.1**
	comp=E,0.2nm,0.3s,baz=301,slow=7.2,SNR=2.3						
HYT	**Haines Junctio**	**16.43**	**327**	P	**Pn**	**16 46 36.0**	**+0.2**
	baz=132						
EYMN	**Ely**	**18.33**	**81**	P	**Pn**	**16 46 59.6**	**+0.1**
	baz=281						
BERG	**Berg Lake**	**18.67**	**320**	P	**P**	**16 47 00.8**	**-2.4**
BERG				IAmb	IAmb	16 47 00.8	
	comp=Z,22nm,1.1s						
DAWY	**Dawson**	**19.30**	**332**	P	**P**	**16 47 09.8**	**-0.4**
	baz=135						
L27K	**Beaver Creek,**	**19.44**	**328**	P	**P**	**16 47 11.7**	**+0.1**
	baz=129						
M26K	**Nabesna, AK**	**19.46**	**325**	P	**P**	**16 47 12.0**	**+0.1**
	baz=126						
MNTX	**Cornudas Mount**	**19.54**	**143**	P	**P**	**16 47 13.7**	**+0.7**
	baz=332						
SCRK	**Sand Creek**	**20.76**	**328**	P	**P**	**16 47 26.2**	**0.0**
SCRK				IAmb	IAmb	16 47 34.4	
	comp=Z,13nm,1.4s						
PWL	**Port Wells**	**20.92**	**318**	P	**P**	**16 47 27.4**	**-0.4**
RIDG	**Independent Ri**	**20.93**	**327**	P	**P**	**16 47 28.4**	**+0.5**
RIDG				IAmb	IAmb	16 47 48.4	
	comp=Z,6.4nm,0.8s						
RIDG	**Independent Ri**	**20.93**	**327**	P	**P**	**16 47 27.9**	**0.0**
	baz=126						
WAT6	**Susitna Watana**	**21.43**	**322**	P	**P**	**16 47 34.9**	**+1.5**
	baz=118						
E43A	**Lone Tree Farm**	**21.70**	**83**	P	**P**	**16 47 35.8**	**-0.4**
E43A				IAmb	IAmb	16 47 37.1	
	comp=Z,8.3nm,0.8s						
R40A	**Maddies Statio**	**21.78**	**107**	P	**P**	**16 47 36.8**	**-0.3**
HDA	**Harding Lake**	**22.07**	**327**	P	**P**	**16 47 41.8**	**+1.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=124						
PRP	Porcupine Dome	22.23	331	P	P	16 47 43.5	+1.6
	baz=128						
ILAR	Eielson Array	22.25	328	P	P	16 47 38.7	-3.4
	comp=Z,0.3nm,0.4s,baz=136,slow=9.9,SNR=1.7						
TXAR	Lajitas Array	22.32	143	P	P	16 47 44.2	+1.2
	comp=Z,0.4nm,0.8s,baz=328,slow=3.2,SNR=4.0						
TXAR				PcP	PcP	16 51 37.9	-0.8
	comp=Z,0.2nm,0.7s,baz=14,slow=1.9,SNR=2.4						
CCB	Clear Creek Bu	22.51	327	P	P	16 47 45.6	+0.8
WRH	Wood River Hil	22.52	327	P	P	16 47 45.3	+0.4
WRH				IAmb	IAmb	16 47 51.7	
	comp=Z,11nm,1.2s						
CCM	Cathedral Cave	22.57	107	P	P	16 47 45.4	-0.2
MDM	Murphy Dome	22.84	328	P	P	16 47 48.5	+0.2
BMAR	Burnt Mountain	23.19	335	P	P	16 47 52.7	+0.8
H24K	Noodor Dome	23.21	330	P	P	16 47 52.1	0.0
H24K				IAmb	IAmb	16 48 00.1	
	comp=Z,4.1nm,0.8s						
H24K	Noodor Dome	23.21	330	P	P	16 47 52.1	0.0
	baz=125						
I23K	Minto, Yukon-K	23.34	327	P	P	16 47 54.5	+1.1
I23K	Minto, Yukon-K	23.34	327	P	P	16 47 54.1	+0.7
	baz=122						
PPLA	Purkeypile	23.41	321	P	P	16 47 54.6	+0.3
PPLA				IAmb	IAmb	16 48 13.1	
	comp=Z,14nm,1.4s						
BPAW	Bear Paw Mtn.	23.44	324	P	P	16 47 54.6	+0.2
BPAW	Bear Paw Mtn.	23.44	324	P	P	16 47 55.5	+1.1
	baz=117						
M20K	Styx River	23.45	318	P	P	16 47 54.8	+0.1
MLY	Manley	23.79	326	P	P	16 47 59.5	+1.6
MLY				IAmb	IAmb	16 48 00.8	
	comp=Z,5.0nm,0.6s						
MLY	Manley	23.79	326	P	P	16 47 59.2	+1.3
	baz=120						
L19K	White Mountain	24.31	318	P	P	16 48 02.9	+0.1
L19K				IAmb	IAmb	16 48 20.0	
	comp=Z,8.6nm,1.4s						
I21K	Tanana	24.32	326	P	P	16 48 03.1	+0.3
I21K				IAmb	IAmb	16 48 06.4	
	comp=Z,8.2nm,1.1s						
I21K	Tanana	24.32	326	P	P	16 48 03.8	+1.1
	baz=118						
K20K	Telida	24.38	321	P	P	16 48 03.7	+0.4
K20K				IAmb	IAmb	16 48 08.8	
	comp=Z,10nm,1.5s						
J20K	Nowinta River	24.72	323	P	P	16 48 06.7	+0.3
J20K				IAmb	IAmb	16 48 14.1	
	comp=Z,5.8nm,1.1s						
J20K	Nowinta River	24.72	323	P	P	16 48 05.8	-0.6
	baz=113						
COLD	Coldfoot	24.77	331	P	P	16 48 06.7	-0.1
	baz=124						
CHGN	Chignik	25.10	303	P	P	16 48 09.8	0.0
	baz=92						
IMAR	Indian Mountai	25.34	327	P	P	16 48 13.9	+1.9
SEY	Seymchan	47.98	322	P	P	16 51 23.7	-0.2
	comp=Z,1.5nm,0.9s,baz=70,slow=10,SNR=5.5						
PETK	Petropavlovsk-	50.14	309	P	P	16 51 38.6	-1.9
	comp=Z,1.7nm,0.9s,baz=63,slow=13,SNR=4.2						
YAK	Yakutsk	57.18	328	P	P	16 52 31.9	0.0
USA0B	Ussuriysk Arra	68.85	313	P	P	16 53 49.8	-0.1
USRK	Ussuriysk Ar.	68.85	313	P	P	16 53 49.7	-0.1
	comp=Z,0.6nm,0.5s,baz=43,slow=6.8,SNR=6.5						
ESDC	Sonseca Array	75.21	46	P	P	16 54 28.2	+0.1
	comp=Z,0.3nm,0.4s,baz=315,slow=4.2,SNR=4.5						
ESDC	Sonseca Array	75.21	46	P	P	16 54 28.4	+0.3
ZALV	Zalesovo Beam	76.15	346	P	P	16 54 32.9	-0.2
	comp=Z,0.5nm,0.5s,baz=30,slow=9.0,SNR=2.4						
ZALV	Zalesovo Beam	76.15	346	P	P	16 54 32.6	-0.6
LPAZ	La Paz	78.63	131	P	P	16 54 49.8	+1.6
	comp=Z,0.7nm,0.5s,baz=74,slow=4.6,SNR=3.5						
LPAZ	La Paz	78.63	131	IAmb	IAmb	16 54 55.2	
	comp=Z,2.9nm,1.2s						
HHC	Hu-ho-hao-te	80.60	324	eP	P	16 54 56.1	-2.1
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
HHC				pmax	pmax		
	comp=Z,550nm,5.8s						
MKAR	Makanchi Array	83.49	345	P	P	16 55 12.4	-0.7
	comp=Z,1.4nm,0.8s,baz=346,slow=5.4,SNR=11						
WMQ	Urumqi	85.31	341	eP	P	16 55 24.4	+2.0
WRA	Warramunga Arr	115.63	268	PKP	PKiKP	17 01 30.1	+2.3
	comp=Z,0.5nm,1.1s,baz=31,slow=1.4,SNR=1.6						

*IDC **01** 16:50:46.3±1.5, 8°.68S×105°.65E, h0km, mb3.7/6, mb1 3.9/8, mb1mx3.7/37, mbtmp3.8/8, ML4.3/2, Error ellipse: s-maj=36.4km s-min=20.6km az=47.0*
*DJA **01** 16:50:47.5±1.0, 9°S±2°×10°6E±°, h18km±9km, M4.3/17, mb4.6/3, MLv4.1/17*
*NEIC **01** 16:50:49.6±1.8, 8°.78S±0°.03×105°.83E±0°.05, h34km±6km, mb4.4/16, Error ellipse: s-maj=7.2km s-min=3.7km az=63.0*
ISC 01 16:50:45.6±3.2**, 8°.75S**±0°.04×**105°.78E**±0°.06**, h9**km±21km**, n54,** σ1^{s}**74**/57**, mb4.2**/13**, South of Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
XMIS	Christmas Isla	1.72	184	Pn	Pb	16 51 16.8	-0.7
XMIS				Sn	Sn	16 51 35.7	-2.3
SKJI	Sukabumi	1.90	24	P	Pn	16 51 19.3	+1.1
SKJI				S	Sb	16 51 44.3	0.0
CNJI	Cibinong	1.96	43	P	Pn	16 51 19.7	+0.6
CNJI				S	Sb	16 51 46.1	0.0
CISI	Cisompet, Garu	2.34	60	Pn	Pn	16 51 25.5	+1.1
CISI				Sn	Sn	16 51 50.9	-2.5
CISI	Cisompet, Garu	2.34	60	P	Pn	16 51 25.4	+1.1
CISI				S	Sn	16 51 53.4	+0.1
DBJI	Dramaga	2.39	24	P	Pn	16 51 27.1	+2.1
SBJI	Serang	2.64	8	P	Pn	16 51 29.8	+1.4
LEM	Lembang	2.64	44	Pn	Pb	16 51 31.9	-1.4
	30nm,0.3s,baz=323,slow=9.5,SNR=21						
LEM				Sn	Sb	16 52 05.2	-0.7
	24nm,0.3s,baz=351,slow=23,SNR=5.5						
LEM	Lembang	2.64	44	P	Pn	16 51 30.5	+1.9
TNG	Tangerang	2.71	19	P	Pn	16 51 30.4	+1.1
BLSI	Bandar Lampung	3.40	351	P	Pn	16 51 39.8	+0.8
KPJI	Karang Pucung	3.43	66	P	Pn	16 51 40.7	+1.5
CTJI	Waduk Cacaban	3.79	63	P	Pn	16 51 47.0	+2.7
LWLI	Liwa	4.08	335	P	Pn	16 51 49.2	+0.8
MDSI	Maura Dua	4.53	339	P	Pn	16 51 55.2	+0.8
YOGI	Yogyakarta	4.57	79	P	Pn	16 51 56.6	+1.7
UGM	Wanagama	4.77	80	Pn	Pn	16 51 57.9	+0.1
UGM	Wanagama	4.77	80	P	Pn	16 51 59.9	+2.1
EGSI	Enggano, Bengk	4.84	314	P	Pn	16 51 58.4	-0.4
SMRI	Semarang	4.92	70	P	Pn	16 51 59.8	0.0
PWJI	Pagerwojo	6.01	84	P	Pn	16 52 15.7	+1.0
	0.3nm46nm,1.4s						
SJI	Sawahan	6.01	81	P	Pn	16 52 17.7	+2.8
UBSI	University, Be	6.06	325	P	Pn	16 52 14.8	-0.7
	0.8nm171nm,0.6s						
JAGI	Jajag, Banyuwa	8.29	89	Pn	Pn	16 52 46.9	+0.8
BATI	Baumata	17.70	96	Pn	P	16 54 56.3	+2.8
	1.8nm,0.3s,baz=299,slow=19,SNR=1.2						
SOEI	Soe	18.28	95		Pn	16 54 57.0	-2.8
SOEI				IAmb	IAmb	16 55 13.0	
	comp=Z,54nm,1.5s						
KNRA	Kununurra	23.48	109	P	P	16 55 59.4	+3.5
MTN	Manton Dam	25.23	102	P	P	16 56 10.8	-1.3
MTN				IAmb	IAmb	16 56 29.7	
	comp=Z,16nm,1.1s						
H01W3	Cape Leeuwin H	27.11	165	T	T	17 24 59.3	
	baz=342,slow=76						
H01W1	Cape Leeuwin H	27.13	165	T	T	17 24 59.2	
	baz=342,slow=76						
H01W2	Cape Leeuwin H	27.13	165	T	T	17 24 58.6	
	baz=342,slow=76						
CM31	Chiang Mai Arr	27.86	346	P	P	16 56 34.8	-1.1
CMAR	Chiang Mai Arr	27.86	346	P	P	16 56 37.2	+1.3
	comp=Z,0.8nm,0.6s,baz=182,slow=8.1,SNR=9.8						
CMAR	Chiang Mai Arr	27.86	346	P	P	16 56 35.5	-0.3
WB0	Warramunga Arr	29.76	115	P	P	16 56 55.4	+2.6
WB0				IAmb	IAmb	16 57 11.3	
	comp=Z,7.0nm,1.4s						
WRA	Warramunga Arr	29.77	115	P	P	16 56 56.1	+3.2
	comp=Z,0.4nm,0.6s,baz=290,slow=11,SNR=5.3						
WRAB	Tennant Creek	29.77	115	P	P	16 56 51.9	-1.1
WRAB				IAmb	IAmb	16 56 59.9	
	comp=Z,11nm,1.5s						
WB2	Warramunga Arr	29.78	115	P	P	16 56 56.4	+3.4
WB2				IAmb	IAmb	16 57 12.2	
	comp=Z,6.1nm,1.2s						
WR0	Warramunga Arr	29.95	115	P	P	16 56 53.4	-1.1
WR0				IAmb	IAmb	16 57 08.0	
	comp=Z,7.2nm,1.4s						
ASAR	Alice Springs	30.72	122	P	P	16 57 04.8	+3.5
	comp=Z,0.2nm,0.5s,baz=296,slow=8.2,SNR=6.2						
ASAR	Alice Springs	30.72	122	P	P	16 57 00.9	-0.4
YULB	Yu-li	35.37	25	P	P	16 57 41.0	-0.8
EIDS	Eidsvold	46.10	117	P	P	16 59 10.9	+0.4
EIDS				IAmb	IAmb	16 59 35.9	
	comp=Z,7.1nm,1.4s						
USA0B	Ussuriysk Arra	57.80	22	P	P	17 00 35.4	-2.0
USA0B				IAmb	IAmb	17 00 42.8	
	comp=Z,3.7nm,1.4s						
USRK	Ussuriysk Ar.	57.80	22	P	P	17 00 38.0	+0.7
	comp=Z,0.5nm,0.6s,baz=207,slow=7.8,SNR=5.5						
USRK	Ussuriysk Ar.	57.80	22	P	P	17 00 34.7	-2.6
MK31	Makanchi Array	59.13	341	P	P	17 00 47.1	+0.5
MKAR	Makanchi Array	59.13	341	P	P	17 00 48.0	+1.4
	comp=Z,1.0nm,0.6s,baz=153,slow=8.0,SNR=16						
MKAR	Makanchi Array	59.13	341	P	P	17 00 47.3	+0.7
SANVU	Saraoutou	60.27	103	P	P	17 00 53.1	-1.9
ZAA0	Zalesovo Array	64.93	347	P	P	17 01 26.8	+1.4
ZALV	Zalesovo Beam	64.93	347	P	P	17 01 27.4	+2.0
	comp=Z,0.7nm,0.4s,baz=155,slow=6.3,SNR=2.8						
ZALV	Zalesovo Beam	64.93	347	P	P	17 01 27.0	+1.6
ABKAR	Akbulak array	70.30	330	P	P	17 02 00.2	+0.8

MEX 01 16:51:53.7±0.8**, 15°.58N**×**94°.43W, h20**km±31km**, MD3.9, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
PCIG		1.17	84	iP	Pn	16 52 11.5	-3.4
PCIG				iS	Sb	16 52 26.1	-3.9
CMIG	Matias Romero	1.56	344	eP	Pn	16 52 12.9	-7.4
CMIG				eS	Sn	16 52 30.4	-10

IDC 01 16:57:13.1±9.5**, 31°.66S**×**177°.65W, h95**km±89km**, mb3.5**/3**, mb1 3.7**/4**, mb1mx3.4**/38**, mbtmp3.9**/4**, ML3.0**/1**, Error ellipse: s-maj=75.2km s-min=56.3km az=171.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
URZ	Urewera	7.86	212	P	Pn	16 59 04.4	-0.2
	0.2nm,0.3s,baz=20,slow=12,SNR=2.0						
URZ				S	Sn	17 00 32.5	+0.7
	1.8nm,0.3s,baz=14,slow=23,SNR=10.0						
CTA	Charters Tower	34.31	281	P	P	17 03 51.0	+0.3
	1.1nm,0.4s,baz=101,slow=11,SNR=1.4						
ASAR	Alice Springs	43.35	268	P	P	17 05 06.2	+0.1
	0.6nm,0.6s,baz=106,slow=7.2,SNR=13						
WRA	Warramunga Arr	44.45	273	P	P	17 05 14.7	-0.4
	0.9nm,0.5s,baz=116,slow=7.9,SNR=14						
FINES	FINESS Array B	146.43	340	PKPbc	PKPdf	17 16 41.4	+0.4
	0.8nm,0.6s,baz=29,slow=3.2,SNR=4.9						

TAP 01 16:57:36.2, 23°.57N×**120°.67E, h15**km**, ML1.2, B, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
ALS	Alishan	0.14	117	iP	Pb	16 57 40.8	+0.1
	baz=117						
ALS				iS	Sb	16 57 44.1	+0.4
	baz=117						
WGK	Gukeng	0.15	318	iP	Pb	16 57 40.8	+0.1
	baz=320						
WGK				S	Sb	16 57 44.1	+0.3
	baz=320						
WDLH	Douliu	0.17	313	iP	Pb	16 57 41.0	0.0
	baz=313						
WDLH				iS	Sb	16 57 44.8	+0.5
	baz=313						
WHYT	Xinyi Township	0.21	54	P	Pb	16 57 41.5	-0.2
	baz=53						
WHYT				S	Sb	16 57 45.4	-0.1
	baz=53						
CHY	Chiayi	0.24	252	S	Sb	16 57 46.6	+0.3
	baz=251						
WJS	Zhushan	0.25	12	P	Pb	16 57 42.5	+0.1
	baz=12						
WJS				eS	Sb	16 57 47.3	+0.6
	baz=12						
TPUB	Ta-pu	0.28	188	P	Pb	16 57 42.8	-0.1
	baz=188						
TPUB				S	Sb	16 57 47.3	0.0
	baz=188						
WTK	Tuku	0.28	294	P	Pb	16 57 42.8	-0.1
	baz=294						
WTK				iS	Sb	16 57 48.0	+0.5
	baz=294						
WNT	Mingjian	0.30	2	P	Pb	16 57 43.6	+0.3
	baz=4.0						
WNT				S	Sb	16 57 48.8	+0.6
	baz=4.0						
WTP	Ta-pu	0.33	189	P	Pb	16 57 43.6	-0.2
	baz=188						
WTP				iS	Sb	16 57 49.0	0.0
	baz=188						
SSLB	Suanglung	0.34	51	P	Pg	16 57 43.5	+0.3
	baz=42						
SSLB				S	Sb	16 57 49.0	-0.1
	baz=42						
SSLB	Suanglung	0.34	51	P	Pb	16 57 43.8	-0.2
TWK	Hsinying	0.35	209	P	Pb	16 57 44.2	+0.1
	baz=207						
TWK				S	Sb	16 57 49.9	+0.4
	baz=207						
TYC	Yuchr	0.37	27	eP	Pb	16 57 44.4	-0.1
	baz=29						
TYC				S	Sb	16 57 51.1	+1.0
	baz=29						
CHN1	Nanshi	0.41	199	iP	Pb	16 57 44.9	-0.2
	baz=198						
CHN1				iS	Sb	16 57 51.9	+0.7
	baz=198						
STYT	Tauyuan	0.42	169	eS	Sb	16 57 51.2	-0.3
	baz=162						
WCS	Beigang Elemen	0.53	25	P	Pb	16 57 47.4	+0.2
	baz=25						
WCS				S	Sb	16 57 55.0	+0.3
	baz=25						
SLGT	Liugui	0.58	182	eS	Sb	16 57 57.6	+1.5
	baz=170						
YULB	Yu-li	0.60	107	P	Pb	16 57 48.3	-0.2
	baz=115						
YULB				S	Sb	16 57 57.3	+0.5
	baz=115						
TWF1	Yuli	0.62	111	P	Pb	16 57 49.1	+0.5
	baz=111						
TWF1				S	Sb	16 57 58.0	+0.8
	baz=111						

*NEIC **01** 16:59:11.2±1.8, 19°.05N±0°.09×64°.25W±0°.06, h51km±27km, Error ellipse: s-maj=15.6km s-min=1.9km az=150.0*
RSPR 01 16:59:11.1, 19°.09N×**64°.17W, h51**km±1km**, MD3.3**/7**, 8C-13D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
ABV	Anegada	0.39	203	⇓eP	Pn	16 59 20.2	-0.9
ABV	Anegada	0.39	203	eS	Sn	16 59 27.9	-0.4
ABV	Anegada	0.39	203	⇓eP	Pn	16 59 20.2	-0.9
ABV	Anegada	0.39	203	eS	Sn	16 59 27.8	-0.5
ABVI	Anegada Island	0.39	203		Pn	16 59 20.2	-0.9
ABVI					Sn	16 59 27.8	-0.5
ABVI	Anegada Island	0.39	203	IAML		16 59 28.5	
	comp=E,2μm,0.4s						
ABVI				IAML		16 59 30.7	
	comp=N,755nm,0.4s						
VGBI	Virgin Gorda,	0.63	200	⇓eP	Pn	16 59 23.4	-0.7
VGBI	Virgin Gorda,	0.63	200	eS	Sn	16 59 32.7	-0.6
VGBI	Virgin Gorda,	0.63	200	⇓eP	Pn	16 59 23.3	-0.7
VGBI	Virgin Gorda,	0.63	200	eS	Sn	16 59 32.7	-0.6
VGBI	Virgin Gorda,	0.63	200		Pn	16 59 23.3	-0.7
VGBI					Sn	16 59 32.7	-0.6
TBVI	Tortola	0.79	212	⇓eP	Pn	16 59 25.1	-0.9
TBVI	Tortola	0.79	212	eS	Sn	16 59 36.0	-0.9
TBVI	Tortola	0.79	212	⇑eP	Pn	16 59 25.0	-1.0
TBVI	Tortola	0.79	212	eS	Sn	16 59 35.6	-1.2
STVI	Saint Thomas	1.04	225	⇑eP	Pn	16 59 28.2	-1.2
STVI	Saint Thomas	1.04	225	eS	Sn	16 59 41.9	-1.0
STVI	Saint Thomas	1.04	225	⇑eP	Pn	16 59 27.9	-1.5
STVI	Saint Thomas	1.04	225	eS	Sn	16 59 40.8	-2.1
STVI	Saint Thomas	1.04	225		Pn	16 59 27.9	-1.5
STVI					Sn	16 59 40.8	-2.1
STVI	Saint Thomas	1.04	225	IAML		16 59 47.7	
	comp=N,186nm,0.3s						
STVI				IAML		16 59 49.2	
	comp=E,179nm,0.3s						
CUPR	Culebra, Puert	1.31	234	⇑eP	Pn	16 59 32.1	-0.9
CUPR	Culebra, Puert	1.31	234	eS	Sn	16 59 48.2	-1.1
CUPR	Culebra, Puert	1.31	234	⇑eP	Pn	16 59 31.9	-1.1
CUPR	Culebra, Puert	1.31	234	eS	Sn	16 59 46.5	-2.8
CUPR	Culebra, Puert	1.31	234		Pn	16 59 31.9	-1.1
CUPR					Sn	16 59 46.5	-2.8
CDVI	St. Croix	1.44	203	Pn	Pn	16 59 35.1	+0.3
MTP	Monte Pirata	1.64	233	⇓eP	Pn	16 59 37.1	-0.4
MTP	Monte Pirata	1.64	233	eS	Sn	16 59 56.6	-0.8
MTP	Monte Pirata	1.64	233	⇓eP	Pn	16 59 36.4	-1.1
MTP	Monte Pirata	1.64	233		Pn	16 59 36.4	-1.1
MTP					Sn	16 59 56.6	-0.8
MTP	Monte Pirata	1.64	233	IAML		17 00 04.1	
	comp=N,95nm,0.3s						
MTP				IAML		17 00 04.2	
	comp=E,115nm,0.4s						
CBYP	Canovanas	1.79	243	⇑eP	Pn	16 59 38.8	-0.8
CBYP	Canovanas	1.79	243	eS	Sn	17 00 00.5	-0.7
CBYP	Canovanas	1.79	243	⇑eP	Pn	16 59 38.4	-1.2
CBYP	Canovanas	1.79	243		Pn	16 59 38.4	-1.2
CBYP					Sn	17 00 00.5	-0.7
CBYP	Canovanas	1.79	243	IAML		17 00 07.9	
	comp=N,234nm,0.2s						
HUMP	Col San Antoni	1.85	240	⇓eP	Pn	16 59 39.7	-0.7
HUMP	Col San Antoni	1.85	240	eS	Sn	17 00 01.5	-1.1
HUMP	Col San Antoni	1.85	240	⇑eP	Pn	16 59 39.2	-1.2
HUMP	Col San Antoni	1.85	240		Pn	16 59 39.2	-1.2
HUMP					Sn	17 00 01.5	-1.1
CELP	Cerrillos	2.50	247	⇓eP	Pn	16 59 48.6	-0.6
CELP	Cerrillos	2.50	247	eS	Sn	17 00 17.6	-0.9
CELP	Cerrillos	2.50	247	⇓eP	Pn	16 59 48.5	-0.7
CELP	Cerrillos	2.50	247	eS	Sn	17 00 16.1	-2.3
CELP	Cerrillos	2.50	247		Pn	16 59 48.5	-0.7
CELP					Sn	17 00 16.1	-2.3
AOPR	Arecibo Observ	2.56	254	⇓eP	Pn	16 59 49.5	-0.6
AOPR	Arecibo Observ	2.56	254	eS	Sn	17 00 19.4	-0.6
AOPR	Arecibo Observ	2.56	254		Pn	16 59 48.0	-2.0
AOPR				IAML		17 00 32.3	
	comp=N,65nm,0.5s						
MLPR	Magueyes Islan	2.94	248	⇓eP	Pn	16 59 54.9	-0.5
MLPR	Magueyes Islan	2.94	248	eS	Sn	17 00 29.1	-0.3
MLPR	Magueyes Islan	2.94	248		Pn	16 59 54.9	-0.5
MLPR					Sn	17 00 29.1	-0.3
MLPR	Magueyes Islan	2.94	248	IAML		17 00 47.1	
	comp=E,24nm,2.7s						
CRPR	Cabo Rojo, PR	2.99	249	⇓eP	Pn	16 59 55.5	-0.4
CRPR	Cabo Rojo, PR	2.99	249		Pn	16 59 55.5	-0.4
CRPR	Cabo Rojo, PR	2.99	249	IAML		17 00 43.0	
	comp=N,28nm,1.2s						
CRPR				IAML		17 00 52.2	
	comp=E,26nm,1.9s						
DLPL	La Plaine	4.67	143	Pn	Pn	17 00 18.4	-0.6

*IDC **01** 17:00:37.4±1.2, 67°.13N×21°.21E, h0km, mb1 2.8/3, mb1mx2.7/46, mbtmp2.7/3, ML1.8/3, Error ellipse: s-maj=18.6km s-min=7.8km az=106.0*
*HEL **01** 17:00:37.2, 67°.05N×20°.84E, h0km, ML2.0, Explosion*
*UPP **01** 17:00:37.5±0.1, 67°.06N×20°.92E, h0km, ML2.3, Explosion*
ISC 01 17:00:37.5±0.8**, 67°.06N**±0°.02×**20°.87E**±0°.03**, h0**km**, n34,** σ0^{s}**78**/47**, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
MASU	Masugnsbyn	0.59	48	P	Pg	17 00 48.6	-0.2
MASU	Masugnsbyn	0.59	48	iP	Pg	17 00 48.6	-0.2
PAJU	Pajala	0.88	91	P	Pg	17 00 53.5	-0.8
PAJU				S	Sg	17 01 06.1	+0.4
PAJU	Pajala	0.88	91	eP	Pg	17 00 53.3	-1.0
PAJU				eSB	Sg	17 01 04.9	-0.8
HARU	Harads	0.90	177	P	Pg	17 00 54.4	-0.3
HARU	Harads	0.90	177	eP	Pg	17 00 54.4	-0.3
RATU	Laukkuluspa	0.91	328	P	Pg	17 00 54.8	0.0
RATU	Laukkuluspa	0.91	328	eP	Pg	17 00 54.8	0.0
KUA	Kurravaara	0.92	347	P	Pg	17 00 54.8	-0.2
KUA	Kurravaara	0.92	347	eP	Pg	17 00 54.8	-0.2
LANU	Lannavaara	1.08	23	P	Pg	17 00 57.3	-0.9
LANU	Lannavaara	1.08	23	eP	Pg	17 00 57.2	-0.9
LANU				eSB	Sg	17 01 12.4	+0.2
KLF	Kolari	1.22	80	eP	Pg	17 00 59.6	-1.3
SJUU	Sjulsmark	1.59	169	P	Pn	17 01 06.6	-0.2
SJUU	Sjulsmark	1.59	169	eP	Pn	17 01 06.6	-0.2
TOF	Tornio	1.70	124	ePG	Pn	17 01 08.1	-0.2
TOF				MSG		17 01 28.0	
	comp=Z,15nm,0.2s						
TOF				eSN	Sn	17 01 30.6	-0.1
HEF	Hetta	1.72	37	eP	Pn	17 01 08.3	-0.3
	baz=217						
HEF				MSG		17 01 29.0	
	comp=Z,12nm,0.2s						
HEF				eSG	Sn	17 01 30.6	-0.7
LILU	Lilltraesk	1.83	194	P	Pn	17 01 10.7	+0.6
LILU				S	Sb	17 01 35.2	0.0
LILU	Lilltraesk	1.83	194	eP	Pn	17 01 10.7	+0.6
LILU				eS	Sb	17 01 35.2	0.0
KIF	Kilpisjarvi	1.95	359	eP	Pn	17 01 11.6	-0.2
KIF				MSG		17 01 36.8	
	comp=Z,18nm,0.2s						
KIF				eSG	Sg	17 01 40.9	+0.8
RNF	Rovaniemi	2.09	100	ePB	Pn	17 01 14.2	+0.6
RNF				eSG	Sb	17 01 43.2	+0.7
KTK1	Kautokeino	2.15	23	eP	Pb	17 01 16.0	-1.2
FAUS	Fauske	2.19	281	eP	Pb	17 01 17.1	-0.8
SGF	Sodankyl	2.23	78	ePB	Pn	17 01 16.5	+0.9
SGF				eSG	Sb	17 01 47.3	+0.6
OUL	Oulu	2.85	132	ePB	Pn	17 01 25.9	+1.8
OBF0	Syolatti, Pyha	2.93	150	ePB	Pn	17 01 27.3	+2.2
ARA0	ARCESS Array S	3.02	33	ePG	Pb	17 01 33.2	+1.1
	baz=218						
ARCES	ARCESS Array B	3.02	33	Pn	Pn	17 01 26.8	+0.2
	baz=218,slow=14,SNR=17						
ARCES				Lg	Lg	17 02 05.5	
	baz=218,slow=21,SNR=8.7						
OUF	Merijarvi	3.14	148	eP	Pn	17 01 29.1	+0.9
OUF				MSG		17 02 09.2	
	comp=Z,1.3nm,0.2s						
VRF	Varrio	3.44	74	eP	Pn	17 01 33.2	+0.9
VRF				eSG	Sb	17 02 22.1	+0.4
KEV	Kevo	3.53	37	eP	Pn	17 01 34.7	+1.3
KEV				eS	Sn	17 02 15.6	-0.3
KU6	Riekki	3.76	102	eP	Pn	17 01 36.9	+0.4
	baz=290						
FINES	FINESS Array B	6.08	156	Pn	Pn	17 02 09.5	+1.1
	comp=Z,0.1nm,0.3s,baz=346,slow=13,SNR=5.9						
FINES				Sn	Sn	17 03 18.4	-0.2
	comp=Z,0.2nm,0.3s,baz=346,slow=22,SNR=5.7						
FINES				Lg	Lg	17 03 46.1	
	comp=Z,0.1nm,0.3s,baz=340,slow=27,SNR=2.6						
NOA	NORSAR Array B	7.37	219	Pn	Pn	17 02 25.6	-0.6
	comp=Z,0.0nm,0.3s,baz=38,slow=20,SNR=1.6						
NOA				Lg	Lg	17 04 31.2	
	comp=Z,0.0nm,0.3s,baz=28,slow=21,SNR=3.3						

*MOS **01** 17:04:11.4±1.2, 15°.43N×92°.55W, h90km, mb5.2/14, Error ellipse: s-maj=11.4km s-min=5.6km az=114.0*
*IDC **01** 17:04:14.0±0.3, 15°.52N×92°.44W, h104km±2km, mb4.3/36, mb1 4.4/39, mb1mx4.4/53, mbtmp4.7/39, MS4.3/18, Ms1 4.3/18, ms1mx4.1/42, Error ellipse: s-maj=12.6km s-min=6.0km az=58.0*
*NEIC **01** 17:04:14.6±2.1, 15°.39N±0°.05×92°.72W±0°.05, h104km±3km, mb5.3/470, Mwr5.3/17, Mww5.4, Md5.3/123(MEX), Error ellipse: s-maj=8.7km s-min=5.6km az=49.0*
*GCMT **01** 17:04:15.1±0.2, 15°.45N±0°.01×92°.78W±0°.01, h88km±1km, MW5.3/131, Moment Tensor Solution. s99,c139; s131,c224; Duration: 1^{s}1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.65±.02; $M_{\theta\theta}$0.19±.03; $M_{\phi\phi}$0.46±.03; $M_{r\theta}$0.83±.01; $M_{\theta\phi}$-0.56±.02; $M_{\phi r}$-0.56±.01; Best double couple: $M_0$1.28100×10^{17} NP1:ϕ_s164.00000°, δ22.00000°, λ-54.00000°. NP2:ϕ_s306.00000°, δ72.00000°, λ-104.00000°. Principal axes: T 1.3700, Plg26.0000°, Azm47.0000°; N -0.1770, Plg13.0000°, Azm310.0000°; P*

-1.1920, Plg61.0000°, Azm196.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

*MEX **01** 17:04:15.0±1.6, 15.35N×92.82W, h106km±9km, MD5.3*

*NEIC **01** 17:04:15.3, 15.40N×92.65W, h90km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.99; $M_{\theta\theta}$0.49; $M_{\phi\phi}$0.50; $M_{r\theta}$0.46; $M_{\theta\phi}$-0.38; $M_{\phi r}$-0.31; Fault plane solution: $M_0$1.09000×10^{17} NP1:ϕ_s139.58000°, δ29.93000°, λ-81.66000°. NP2:ϕ_s309.98000°, δ60.41000°, λ-94.77000°. Principal axes: T 1.0264, Plg15.0000°, Azm43.0000°; N 0.1193, Plg4.0000°, Azm312.0000°; P -1.1457, Plg74.0000°, Azm208.0000°;*

*NEIC **01** 17:04:18, 15.42N×92.68W, h100km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.69; $M_{\theta\theta}$0.24; $M_{\phi\phi}$0.45; $M_{r\theta}$0.97; $M_{\theta\phi}$-0.43; $M_{\phi r}$-0.84; Fault plane solution: $M_0$1.48000×10^{17} NP1:ϕ_s154.00000°, δ16.00000°, λ-68.00000°. NP2:ϕ_s312.00000°, δ75.00000°, λ-95.00000°. Principal axes: T 1.5166, Plg30.0000°, Azm47.0000°; N -0.0720, Plg6.0000°, Azm314.0000°; P -1.4446, Plg59.0000°, Azm214.0000°;*

*BGR **01** 17:04:19.4±0.0, 15.64N×91.92W, h111km±2km, mb5.2*

ISC 01 17:04:13.4±0.2**, 15.35N**±0.03×**92.76W**±0.03**, h105**km±1km**, h106**km**:pP-P, n979,** σ1.56/1012**, mb5.2**/248**, 58C-52D, Fault plane solution: NP1:**ϕ_s281.37842°, δ75.81245°, λ-107.60299°. **NP2:**ϕ_s153.69222°, δ22.46670°, λ-39.89394°. **Principal axes:** T Plg28.6938°, Azm25.4881°; N Plg17.0494°, Azm285.8250°; P Plg55.7661°, Azm169.0375°; **Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		0.57	308	eP	Pn	17 04 30.2	-0.1
PCIG				eS	Sn	17 04 42.2	-0.6
PCIG		0.57	308		Pn	17 04 30.2	-0.1
PCIG					Sn	17 04 42.2	-0.6
THIG		0.64	133	eP	Pn	17 04 31.5	+0.7
THIG				eS	Sn	17 04 45.2	+1.3
THIG		0.64	133		Pn	17 04 31.5	+0.7
THIG					Sn	17 04 45.2	+1.3
CCIG	Comitan	1.10	33	eP	Pn	17 04 37.3	+1.7
CCIG				eS	Sn	17 04 52.5	+0.3
CCIG	Comitan	1.10	33		Pn	17 04 37.0	+1.5
CCIG				Sn	Sn	17 04 54.8	+2.6
HUEH	Huehuetenango	1.21	91		Pn	17 04 38.3	+1.5
HUEH				Sn	Sn	17 04 56.6	+2.2
RTAL	Retalhuleu	1.31	128		Pn	17 04 39.0	+1.2
RTAL				Sn	Sn	17 04 57.8	+1.6
TGBT	Tuxtla Gutierr	1.46	347	eP	Pn	17 04 40.5	+1.0
TGBT				eP	Pn	17 04 41.2	+1.8
TGBT				eS	Sn	17 04 58.1	-1.0
TGBT				eS	Sn	17 04 58.7	-0.4
TGBT	Tuxtla Gutierr	1.46	347		Pn	17 04 41.2	+1.8
TGBT					Sn	17 04 58.7	-0.4
TGIG		1.47	346	eP	Pn	17 04 39.8	+0.2
TGIG				eS	Sn	17 04 58.5	-1.0
TGIG		1.47	346		Pn	17 04 39.8	+0.2
TGIG					Sn	17 04 58.5	-1.0
FUG	Fuego 3	2.05	116	eP	Pn	17 04 49.6	+2.5
PCG	Pacaya	2.28	114	eP	Pn	17 04 52.9	+2.8
NBG	Las Nubes	2.45	108	eP	Pn	17 04 55.7	+3.5
CMIG	Matias Romero	2.68	311	P	Pn	17 04 55.1	0.0
	354nm,0.3s,baz=140,slow=12,SNR=861						
CMIG				S	Sn	17 05 21.2	-5.9
	1µm,0.3s,baz=119,slow=14,SNR=13						
CMIG				LR	LR	17 05 42.4	
	comp=Z,4µm,19.0s,baz=312,slow=31						
CMIG	Matias Romero	2.68	311	eP	Pn	17 04 54.9	-0.2
CMIG				eS	Sn	17 05 20.9	-6.2
CMIG	Matias Romero	2.68	311		Pn	17 04 54.9	-0.2
CMIG					Sn	17 05 20.9	-6.2
MRL	Marmol	2.98	95	eP	Pn	17 05 01.3	+2.1
TUIG	Tuzandepetl	3.11	329	eP	Pn	17 05 00.4	-0.4
TUIG				eS	Sn	17 05 33.9	-3.4
TUIG	Tuzandepetl	3.11	329		Pn	17 05 00.4	-0.4
TUIG					Sn	17 05 33.9	-3.4
PETF	Flores	3.18	60		Pn	17 05 03.2	+1.4
PETF				Sn	Sn	17 05 39.5	+0.5
HUIG	Huatulco	3.26	278	eP	Pn	17 05 00.9	-1.8
HUIG	Huatulco	3.26	278		Pn	17 05 00.9	-1.8
ESQI	Esquipulas	3.39	103		Pn	17 05 06.2	+1.6
ESQI				Sn	Sn	17 05 39.8	-4.4
MTO3	Montecristo	3.42	106	Pn	Pn	17 05 06.7	+1.6
PANG	Puerto Angel	3.60	276	i P	Pn	17 05 05.3	-1.9
PANG				eP	Pn	17 05 07.0	-0.3
PANG				i S	Sn	17 05 38.9	-10
PANG				eS	Sn	17 05 41.2	-7.7
PANG	Puerto Angel	3.60	276		Pn	17 05 07.0	-0.3
PANG					Sn	17 05 38.9	-10
PANG					Sn	17 05 41.2	-7.7
SNET	Serv Nac Est T	3.79	115		Pn	17 05 12.4	+2.4
SCIG	Sabancuy	3.90	22	eP	Pn	17 05 11.9	+0.6
SCIG				eS	Sn	17 05 56.6	+0.4
SCIG	Sabancuy	3.90	22		Pn	17 05 11.9	+0.6
SCIG					Sn	17 05 56.6	+0.4
OXBJ	Oaxaca	4.18	295	eP	Pn	17 05 16.4	+1.1
OXBJ				eP	Pn	17 05 16.5	+1.3
OXBJ				eS	Sn	17 06 00.9	-2.3
OXBJ				eS	Sn	17 06 00.9	-2.3
OXBJ	Oaxaca	4.18	295		Pn	17 05 16.5	+1.3
OXBJ					Sn	17 06 00.9	-2.3
VHO	Vista Hermosa	4.19	295	eP	Pn	17 05 16.5	+1.1
VHO				eS	Sn	17 05 51.2	-12
PEIG	Puerto Escondi	4.28	279	eP	Pn	17 05 14.8	-1.6
PEIG				i S	Sn	17 05 57.3	-8.2
TOIG	Toxpalan	4.95	304	eP	Pn	17 05 26.4	+0.7
TOIG				eS	Sn	17 06 09.6	-12
TOIG				eS	Sn	17 06 19.0	-2.8
PNIG	Pinotepa	5.27	282	i P	Pn	17 05 29.1	-0.8
PNIG				eS	Sn	17 06 12.9	-17
PNIG	Pinotepa	5.27	282		Pn	17 05 29.1	-0.8
PNIG					Sn	17 06 12.9	-17
TPIG	Tehuac#an	5.36	305	eS	Sn	17 06 30.4	-1.5
TPIG	Tehuac#an	5.36	305		Sn	17 06 30.4	-1.5
HLIG	Huajuapan de L	5.43	298	eP	Pn	17 05 33.7	+1.5
HLIG				eS	Sn	17 06 12.1	-22
TGUH	Tegucigalpa,Un	5.46	103	Pn	Pn	17 05 33.2	+0.7
TLIG	Tlapa	6.00	292	eP	Pn	17 05 40.8	+1.0
TLIG				eS	Sn	17 06 45.8	-1.4
TLIG	Tlapa	6.00	292	Pn	Pn	17 05 41.1	+1.3
TLIG	Tlapa	6.00	292		Sn	17 06 45.8	-1.4
CRIN	San Cristobal	6.13	115		Pn	17 05 42.1	+0.5
CNGN	Cerro Negro	6.53	115		Pn	17 05 46.6	-0.3
PPM	Popocatepetl	6.72	304	i P	Pn	17 05 53.4	+3.4
PPM				i S	Sn	17 07 18.3	+13
DAIG	Los Arroyos	6.83	285	i P	Pn	17 05 51.1	0.0
DAIG				eS	Sn	17 06 56.6	-11
DAIG	Los Arroyos	6.83	285		Pn	17 05 51.1	0.0
DAIG					Sn	17 06 56.6	-11
AMVM	AMECAMECA	6.88	304	eP	Pn	17 05 55.3	+3.4
AMVM				i S	Sn	17 07 30.7	+22
AMVM	AMECAMECA	6.88	304		Pn	17 05 56.5	+4.5
AMVM					Sn	17 07 30.7	+22
MEIG	Mezcala	7.06	292	i P	Pn	17 05 56.0	+1.7
MEIG				eS	Sn	17 07 09.4	-3.7
MEIG	Mezcala	7.06	292		Pn	17 05 56.0	+1.7
MEIG					Sn	17 07 09.4	-3.7
PLIG	Platanillo	7.13	296	eP	Pn	17 05 57.3	+2.1
PLIG				eS	Sn	17 07 12.2	-2.6
PLIG	Platanillo	7.13	296		Pn	17 05 57.3	+2.1
PLIG					Sn	17 07 12.2	-2.6
PBVM	Pinon	7.29	305	eP	Pn	17 05 55.0	-2.2
PBVM	Pinon	7.29	305		Pn	17 05 55.0	-2.2
UNM	Universidad Na	7.30	304	P	Pn	17 05 56.9	-0.8
UNM	Universidad Na	7.30	304	Pn	Pn	17 05 56.9	-0.8
MAVM	Malinalco, Edo	7.37	300	eP	Pn	17 06 01.5	+2.9
MAVM				eS	Sn	17 07 21.2	+0.4
MAVM	Malinalco, Edo	7.37	300		Pn	17 06 01.5	+2.9
MAVM					Sn	17 07 21.2	+0.4
TOVM	TOLUCA	7.68	302	eP	Pn	17 06 07.1	+4.2
TOVM				i S	Sn	17 07 35.7	+7.2
TOVM	TOLUCA	7.68	302		Pn	17 06 07.1	+4.2
TOVM					Sn	17 07 35.7	+7.2
DEIG	Demacu	7.75	310	i P	Pn	17 06 06.9	+3.2
ACON	Acoyapa	8.10	114		Pn	17 06 08.2	-0.1
HZTE	Horizontes, Gu	8.36	123		Pn	17 06 12.7	+0.9
GBS3	Finca Las Img	8.44	122	eP	Pn	17 06 14.8	+1.9
LAPC	Finca la Perla	8.46	122	eP	Pn	17 06 14.7	+1.5
GB1A	Borinquen Arri	8.46	121	eP	Pn	17 06 15.3	+1.9
BUEV	Buena Vista	8.47	121	eP	Pn	17 06 15.0	+1.6
BUAI	Buenos Aires	8.49	121	eP	Pn	17 06 15.4	+1.9
ZIIG	Zihuatanejo	8.65	286	i P	Pn	17 06 17.0	+1.2
ZIIG				eS	Sn	17 07 51.0	-0.6
ZIIG	Zihuatanejo	8.65	286		Pn	17 06 17.0	+1.2
ZIIG					Sn	17 07 51.0	-0.6
ORTG	Ortega, Santa	8.67	124	Pn	Pn	17 06 18.6	+2.4
GUAI	GUAI	8.68	125	eP	Pn	17 06 18.8	+2.6
HORNC	Hornillas	8.70	121	eP	Pn	17 06 18.4	+1.8
COLC	Colonia	8.71	121	eP	Pn	17 06 19.8	+3.2
CUI	Cuipilapa	8.74	121	eP	Pn	17 06 19.2	+2.1
DUNO	Dulce Nombre,	8.81	126		Pn	17 06 19.3	+1.4
JTS	Las Juntas de	9.12	123	P	Pn	17 06 19.2	-3.0
	3.9nm,0.3s,baz=356,slow=16,SNR=4.9						
JTS				S	Sn	17 07 59.1	-4.0
	baz=36,slow=22,SNR=0.9						
JTS	Las Juntas de	9.12	123	d iP	Pn	17 06 24.2	+2.0
JTS	Las Juntas de	9.12	123	Pn	Pn	17 06 23.6	+1.5
MOIG	Morelia	9.12	299	eP	Pn	17 06 25.7	+3.3
MOIG				eS	Sn	17 08 30.4	+27
MOIG	Morelia	9.12	299		Sn	17 08 30.4	+27
MOIG	Morelia	9.12	299	Pn	Pn	17 06 25.1	+2.7
CASO	Castillo	9.22	121	eP	Pn	17 06 25.9	+2.3
CAO2	Cobano, Puntar	9.35	126		Pn	17 06 26.2	+1.0
COVE	Coope Vega, Sa	9.35	118		Pn	17 06 26.1	+0.9
JACO	JACO, Garabito	9.71	125	Pn	Pn	17 06 31.7	+1.5
HDC	Heredia	9.96	121	Pn	Pn	17 06 36.0	+2.2
CVTR	Volcan Turrial	10.25	120		Pn	17 06 38.5	+0.6
RIMA	Rio Macho	10.30	122		Pn	17 06 39.7	+1.3
MMIG	Aquila	10.55	288	eP	Pn	17 06 40.7	-0.9
MMIG	Aquila	10.55	288		Pn	17 06 40.7	-0.9
PEZE	Perez Zeledon,	10.66	123		Pn	17 06 43.5	+0.2
SRBA	San Rafael, Bu	11.01	122		Pn	17 06 48.8	+0.9
EDPN	Palmar Norte	11.08	124	eP	Pn	17 06 52.5	+3.7
COIG	Colima	11.12	292	i P	Pn	17 06 53.0	+3.7
PRVC	Isla de Provid	11.21	99	Pn	Pn	17 06 51.0	+0.5
R15V		11.38	291	i P	Pn	17 06 55.8	+3.0
R15V		11.38	291		Pn	17 06 55.8	+3.0
FSCY	Frank Sound, G	11.73	69		Pn	17 06 57.3	-0.1
CDITO	Canoas	11.78	124	Pn	Pn	17 06 58.5	+0.4
SOR	Soroa	11.82	50	P	Pn	17 06 56.8	-1.7
SOR	Soroa	11.82	50		Pn	17 06 56.8	-1.7
ZAIG	Zacatecas	11.85	310	Pn	Pn	17 07 01.4	+2.1
LCCY	Blossom Villag	12.83	69	Pn	Pn	17 07 12.0	+0.1
KVTX	Kingsville	13.04	339		Pn	17 07 15.3	+0.6
CBCY	The Bluff, Cay	13.14	69		Pn	17 07 15.3	-0.7
735A	Kenedy	14.23	342		Pn	17 07 31.3	+1.2
833A	Chaparral WMA,	14.30	336	P	Pn	17 07 31.9	+0.9
	baz=153,SNR=38						
545A	Edgard	14.78	8		Pn	17 07 36.7	-0.3
HKT	Hockley	14.81	349	c iP	Pn	17 07 38.4	+1.0
HKT	Hockley	14.81	349	Pn	Pn	17 07 37.7	+0.4
MTDJ	Mount Denham	14.85	77	Pn	Pn	17 07 36.8	-1.4
MTDJ	Mount Denham	14.85	77	eP	Pn	17 07 38.3	+0.1
061Z	Ochoppi	15.24	45		Pn	17 07 42.8	-0.1
441A	DeRidder	15.34	359		Pn	17 07 45.0	+0.9
342A	Flagon Creek P	15.96	1		Pn	17 07 52.5	+0.7
435B	Jarrell	15.99	345	P	P	17 07 53.1	-0.6
435B				IAmb	IAmb	17 08 44.5	
	comp=Z,239nm,1.1s						
435B	Jarrell	15.99	345	P	P	17 07 53.3	-0.4
	baz=162,SNR=7.7						
PAYG	Puerto Ayora	16.11	171		P	17 07 55.3	+0.2
344A	Westbrook Farm	16.14	6	P	P	17 07 55.7	+0.4
346A	Big Creek Wild	16.25	10	P	P	17 07 56.6	+0.1
060A	Indiantown	16.38	43	P	P	17 07 57.9	-0.2
JCT	Junction City	16.39	338	P	P	17 07 58.1	-0.1
JCT				pmax	pmax		
	comp=Z,105nm,0.7s						
JCT	Junction City	16.39	338	P	P	17 07 58.1	-0.1
JCT				IAmb	IAmb	17 08 44.4	
	comp=Z,105nm,0.7s						
JCT	Junction City	16.39	338	P	P	17 07 58.0	-0.1
	baz=155						
NATX	Nacogdoches	16.43	354		P	17 07 58.5	-0.1
NATX	Nacogdoches	16.43	354	P	P	17 07 58.5	-0.1
	baz=173,SNR=16						
DWPF	Disney Wildern	16.47	38	P	P	17 07 58.9	-0.2
DWPF	Disney Wildern	16.47	38	P	Pn	17 07 58.2	0.0
	baz=222						
451A	Vernon	16.50	22	P	P	17 08 00.4	+1.1
BRAL	Brewton	16.59	17	P	P	17 08 01.7	+1.4
BRAL	Brewton	16.59	17	P	P	17 08 02.4	+2.1
	baz=199,SNR=20						
553A	Crawfordville	16.63	26		P	17 08 01.3	+0.5
237A	Washetta, Mont	16.81	351	P	P	17 08 03.1	+0.4
237A				IAmb	IAmb	17 08 16.3	
	comp=Z,309nm,1.2s						
656A	Willston	16.84	32	P	P	17 08 03.5	+0.5
VBMS	Vicksburg	16.92	7	P	P	17 08 04.8	+0.9
VBMS	Vicksburg	16.92	7	P	P	17 08 04.8	+0.9
	baz=187,SNR=11						
WHTX	Lake Whitney,	17.11	346	P	P	17 08 06.4	+0.3
WHTX				IAmb	IAmb	17 08 53.9	
	comp=Z,113nm,0.6s						
WHTX	Lake Whitney,	17.11	346	P	P	17 08 07.0	+0.9
	baz=164,SNR=19						
TXAR	Lajitas Array	17.18	326	P	Pn	17 08 08.3	+1.4
	comp=Z,1.3nm,0.3s,baz=148,slow=10,SNR=83						
TXAR				S	Sn	17 11 16.4	-1.7
	comp=Z,0.4nm,0.3s,baz=106,slow=16,SNR=1.3						
TXAR				LR	LR	17 14 34.8	
	comp=Z,444nm,20.0s,baz=0.0,slow=36						
TXAR	Lajitas Array	17.18	326	P	Pn	17 08 08.7	+1.7
TXAR	Lajitas Array	17.18	326		Pn	17 08 08.7	+1.7
TX31	Lajitas Ar. Si	17.18	326	P	Pn	17 08 09.0	+2.0
TX32	Lajitas Array	17.18	326	P	Pn	17 08 08.6	+1.6
TX32				IAmb	IAmb	17 08 13.2	
	comp=Z,202nm,1.4s						
143A	Socs Landing,	17.32	4	P	Pn	17 08 08.9	+0.4
143A				IAmb	IAmb	17 08 12.6	
	comp=Z,285nm,1.1s						
GTBY	Guantanamo Bay	17.42	72		P	17 08 09.4	-0.1
GTBY				IAmb	IAmb	17 08 12.9	
	comp=Z,283nm,1.2s						
GTBY	Guantanamo Bay	17.42	72	eP	Pn	17 08 10.1	+0.2
146A	Union	17.54	10	P	Pn	17 08 11.5	+0.3
352A	Blakely	17.58	23	P	Pn	17 08 13.3	+1.6
250A	Grady	17.58	19	P	Pn	17 08 13.0	+1.3
250A				IAmb	IAmb	17 08 29.3	
	comp=Z,358nm,1.4s						
Z41A	Richland Creek	17.83	360	P	Pn	17 08 15.4	+0.7
	baz=180,SNR=12						
Z38A	Mt. Pleasant	17.95	354	P	Pn	17 08 16.6	+0.5
SJCC	San Jacinto, C	17.98	105		P	17 08 15.3	-0.6
SJCC	San Jacinto, C	17.98	105	eP	P	17 08 14.7	-1.2
TIGA	Tifton	18.07	26	P	Pn	17 08 18.1	+0.4
TIGA					S	17 11 32.7	-5.8
TIGA	Tifton	18.07	26	P	Pn	17 08 18.9	+1.2
	baz=209,SNR=29						
SLBS	Sierra La Lagu	18.19	300	P	Pn	17 08 21.1	+1.9
456A	Hilliard	18.20	31	P	Pn	17 08 18.8	-0.3
456A				IAmb	IAmb	17 08 46.9	
	comp=Z,217nm,0.9s						
DBBC	Dabeiba	18.21	115	eP	Pn	17 08 21.0	+1.5
WLAR	White Oak Lake	18.26	359		Pn	17 08 19.9	0.0
Z47A	Carrollton	18.27	13	P	Pn	17 08 19.5	-0.5
Z47A				IAmb	IAmb	17 08 40.1	
	comp=Z,238nm,1.0s						
ABTX	Abilene, Hawle	18.30	341	P	P	17 08 19.3	+0.1
ABTX				IAmb	IAmb	17 09 05.2	
	comp=Z,73nm,0.6s						
ABTX	Abilene, Hawle	18.30	341	P	Pn	17 08 20.5	+0.1
	baz=158,SNR=15						
Z35A	Perchaven, San	18.36	348	P	Pn	17 08 20.6	-0.5
LRAL	Lakeview Retre	18.37	16	P	Pn	17 08 20.7	-0.5
LRAL				IAmb	IAmb	17 08 25.9	
	comp=Z,291nm,1.4s						
LRAL	Lakeview Retre	18.37	16	P	Pn	17 08 21.3	+0.1
	baz=198,SNR=52						
UREC	San Jos de Ur	18.48	112	eP	P	17 08 19.8	-1.5
CCAR	Cane Creek	18.51	3	P	Pn	17 08 22.1	-0.7
CCAR					S	17 11 40.8	-6.4
LPIG	La Paz	18.66	301	P	Pn	17 08 25.8	+1.1
	comp=Z,10nm,0.3s,baz=159,slow=8.6,SNR=11						
LPIG				LR	LR	17 15 28.0	
	comp=Z,1µm,18.4s,baz=102,slow=36						
Y45A	Yeager Farm, C	18.66	8		P	17 08 23.6	+0.5
152A	Waverly Hall	18.73	22	P	P	17 08 24.1	+0.2
152A				IAmb	IAmb	17 08 29.3	
	comp=Z,351nm,1.5s						
CBOC	Ciudad Bolivar	18.95	118	eP	P	17 08 27.4	+0.9
255A	Hazlehurst	18.98	28	P	P	17 08 26.8	+0.2
LOOK	Love County	18.99	349		P	17 08 27.5	+0.8
LOOK				IAmb	IAmb	17 09 02.5	
	comp=Z,183nm,1.0s						
X40A	Basin Creek Fa	19.06	360	P	P	17 08 26.9	-0.5
X40A				IAmb	IAmb	17 08 52.6	
	comp=Z,144nm,1.4s						
X40A	Basin Creek Fa	19.06	360	P	P	17 08 28.0	+0.6
	baz=180						
MIAR	Mount Ida	19.13	358	P	P	17 08 28.0	-0.2
MIAR				pmax	pmax		
	comp=Z,375nm,1.2s						
MIAR	Mount Ida	19.13	358	P	P	17 08 28.0	-0.2
MIAR	Mount Ida	19.13	358	P	P	17 08 28.6	+0.4
	baz=177,SNR=152						
Z51A	Franklin	19.16	20	P	P	17 08 28.9	+0.3
Z51A				IAmb	IAmb	17 08 38.9	
	comp=Z,262nm,1.4s						
ZARC	Zaragoza, Cauc	19.19	112	eP	P	17 08 27.4	-1.6
154A	Montrose	19.30	25	P	P	17 08 30.8	+0.7
Y49A	Blount Mountai	19.30	16	P	P	17 08 30.4	+0.3
X37A	Clayton	19.30	353	P	P	17 08 30.5	+0.4
SMLC	San Martn de	19.39	107	eP	P	17 08 29.5	-1.7
LGNH	Logne	19.53	78	P	P	17 08 32.3	-0.4
LGNH				IAmb	IAmb	17 08 38.9	
	comp=Z,235nm,1.3s						
JAKH	Jacmel	19.59	79	P	P	17 08 33.6	+0.4
JAKH				IAmb	IAmb	17 08 37.1	
	comp=Z,172nm,1.0s						
257A	Skidaway Islan	19.70	31	P	P	17 08 34.6	+0.1
X48A	Hartselle	19.71	14	P	P	17 08 34.3	-0.2
X48A				IAmb	IAmb	17 08 43.9	
	comp=Z,326nm,1.6s						
YOTC	Yotoco, Valle	19.71	123	eP	Pn	17 08 36.1	-1.1
X34A	Smith Ranch, M	19.71	347	P	P	17 08 34.5	0.0
X34A				IAmb	IAmb	17 09 31.6	
	comp=Z,153nm,0.9s						
W41B	Gary Mavity, V	19.75	1	P	P	17 08 35.4	+0.5
	baz=181,SNR=16						
W39A	Magazine	19.79	358	P	P	17 08 36.2	+0.9
W39A	Magazine	19.79	358	P	P	17 08 35.7	+0.4
	baz=177,SNR=19						
GOGA	Godfrey	19.85	23	P	P	17 08 36.0	-0.1
GOGA				pmax	pmax		
	comp=Z,413nm,1.5s						
GOGA	Godfrey	19.85	23	P	P	17 08 36.0	-0.1
GOGA	Godfrey	19.85	23	P	P	17 08 37.3	+1.2
	baz=207,SNR=58						
WHAR	Wooly Hollow	19.86	1	P	P	17 08 35.9	-0.2
WHAR				IAmb	IAmb	17 08 45.4	
	comp=Z,227nm,1.3s						
MNTX	Cornudas Mount	19.94	327	P	P	17 08 38.0	+0.9
MNTX	Cornudas Mount	19.94	327	P	Pn	17 08 38.8	-0.9
	baz=142,SNR=60						
W45A	Hickory Valley	19.98	9	P	P	17 08 37.6	+0.2
W45A					S	17 12 10.8	-5.6
PLAL	Pickwick Lake	20.00	11	P	P	17 08 38.3	+0.7
PLAL				IAmb	IAmb	17 08 47.7	
	comp=Z,246nm,1.3s						
Y52A	Lilburn	20.04	22	P	P	17 08 37.8	-0.3
Y52A					S	17 12 16.6	-1.0
WMOK	Wichita Mounta	20.05	345	P	P	17 08 38.0	-0.3
WMOK				pmax	pmax		
	comp=Z,223nm,1.5s						
WMOK	Wichita Mounta	20.05	345	P	P	17 08 38.0	-0.3
WMOK				IAmb	IAmb	17 09 14.0	
	comp=Z,223nm,1.5s						
WMOK	Wichita Mounta	20.05	345	P	P	17 08 38.1	-0.2
	baz=163,SNR=27						
NORC	Norcasia	20.08	117	eP	P	17 08 39.9	+1.2
FPAL	Fort Paine	20.16	17	P	P	17 08 38.9	-0.6
TOLC	Tolima	20.21	120	eP	Pn	17 08 42.8	-0.5
HBAR	Harrisburg	20.21	5	P	P	17 08 40.7	+0.8
BBAC	Balboa, Cauca	20.23	129	eP	Pn	17 08 43.4	0.0
FNO	Franklin	20.26	349	P	P	17 08 40.4	0.0
POPC	Popayan, Colom	20.33	127	eP	Pn	17 08 43.9	-0.7
OKCFA	Oklahoma City	20.42	349	P	P	17 08 42.8	+0.6
FCAR	Ozark Folk Cen	20.46	1	IAmb	IAmb	17 09 20.4	
	comp=Z,119nm,0.9s						
URIC	Uribia, Colomb	20.51	98	P	P	17 08 42.4	-0.9
URIC				IAmb	IAmb	17 09 08.8	
	comp=Z,102nm,1.2s						
OTAV	Otavalo	20.62	135	P	P	17 08 46.4	+1.4
OTAV				pmax	pmax		
	comp=Z,22nm,0.8s						
OTAV	Otavalo	20.62	135	P	P	17 08 46.4	+1.4
OTAV	Otavalo	20.62	135	eP	Pn	17 08 47.9	-0.3
OTAV	Otavalo	20.62	135	eP	Pn	17 08 47.1	-1.1
SOTA	Rioblanco	20.64	128	eP	Pn	17 08 48.9	+0.4
ORTC	Ortega, Tolima	20.64	122	eP	P	17 08 45.9	+1.1
TUL1	Leonard	20.66	353	P	P	17 08 45.4	+0.7
	baz=171,SNR=13						
LCAR	Lake Charles	20.69	4	IAmb	IAmb	17 09 09.7	
	comp=Z,132nm,1.0s						
HALT	Halls	20.70	8	P	P	17 08 45.8	+0.6
HALT				IAmb	IAmb	17 09 23.3	
	comp=Z,195nm,0.9s						
SWET	Sewanee	20.71	16	IAmb	IAmb	17 09 10.6	
	comp=Z,172nm,1.3s						
SDDR	Presa de Saban	20.82	77	P	P	17 08 46.0	-0.7
SDDR				IAmb	IAmb	17 09 12.1	
	comp=Z,87nm,0.8s						
SDDR	Presa de Saban	20.82	77	eP	P	17 08 47.4	+0.6
OK031	S. Brethren Rd	20.84	351	P	P	17 08 45.8	-0.9
OK031				IAmb	IAmb	17 09 24.9	
	comp=Z,166nm,1.0s						
W50A	Signal Mountai	20.87	17	P	P	17 08 47.0	0.0
W50A				IAmb	IAmb	17 09 01.2	
	comp=Z,212nm,1.2s						
HHAR	Hobbs	20.88	357	IAmb	IAmb	17 09 25.5	
	comp=Z,91nm,1.0s						
ROSC	El Rosal	20.92	118	P	P	17 08 47.3	-0.8
	comp=Z,14nm,0.4s,baz=277,slow=13,SNR=1.6						
ROSC	El Rosal	20.92	118	P	P	17 08 46.8	-1.3
ROSC				pmax	pmax		
	comp=Z,34nm,0.7s						
ROSC	El Rosal	20.92	118	P	P	17 08 46.8	-1.3
U40A	Yellville	20.92	360	IAmb	IAmb	17 09 28.1	
	comp=Z,166nm,1.1s						
U40A	Yellville	20.92	360	P	P	17 08 47.2	-0.3
	baz=180,SNR=13						
V48A	Smith Brothers	20.99	14	IAmb	IAmb	17 09 30.1	
	comp=Z,114nm,1.2s						
NHSC	New Hope	21.04	31	P	P	17 08 49.7	+0.9
NHSC	New Hope	21.04	31	P	P	17 08 50.5	+1.7
	baz=216,SNR=19						
AMTX	Amarillo	21.04	339	IAmb	IAmb	17 09 32.6	
	comp=Z,168nm,0.9s						
AMTX	Amarillo	21.04	339	P	P	17 08 49.9	+0.9
	baz=155						
PRAC	Prado	21.05	122	eP	P	17 08 50.9	+1.7
U38A	Gravette	21.06	356	IAmb	IAmb	17 09 28.4	
	comp=Z,107nm,1.0s						
GLAT	Glass	21.06	8	P	P	17 08 47.3	-1.8
BARC	Barichara	21.08	112	eP	P	17 08 49.5	-0.2
WVT	Waverly	21.16	11	P	P	17 08 49.6	-0.5
WVT				pmax	pmax		
	comp=Z,42nm,0.8s						
WVT	Waverly	21.16	11	P	P	17 08 49.6	-0.5
WVT	Waverly	21.16	11	P	P	17 08 50.0	0.0
	baz=193						
W52A	Murphy	21.20	20	IAmb	IAmb	17 09 08.7	
	comp=Z,104nm,1.1s						
CPCT	Cooper Cave	21.34	19	P	P	17 08 52.8	+0.8
CPCT				IAmb	IAmb	17 09 10.5	
	comp=Z,315nm,1.7s						
HICK	Hickman	21.34	8	P	P	17 08 52.0	0.0
GRTK	Grand Turk	21.40	70	P	P	17 08 52.0	-0.7
SC01	Santiago de lo	21.40	76	P	P	17 08 51.1	-1.7
CLTN	Cedars of Leba	21.44	14	IAmb	IAmb	17 09 04.6	
	comp=Z,218nm,1.4s						
PBMO	Poplar Bluff	21.44	5	P	P	17 08 51.7	-1.4
PBMO				IAmb	IAmb	17 09 32.5	
	comp=Z,158nm,0.9s						
RUSC	La Rusia	21.48	114	P	P	17 08 52.3	-1.9
RUSC	La Rusia	21.48	114	eP	P	17 08 53.0	-1.2
HENM	Henderson Moun	21.48	7	P	P	17 08 54.1	+0.6
JSC	Jenkinsville	21.51	27	IAmb	IAmb	17 09 03.3	
	comp=Z,304nm,1.5s						
CHIC	Chingaza	21.53	118	eP	P	17 08 54.4	-0.3
BANI	BANI	21.64	79	P	P	17 08 56.1	+0.6
T42A	Van Buren	21.65	4	IAmb	IAmb	17 09 32.1	
	comp=Z,102nm,1.1s						

SRIG **Santa Rosalia** 21.68 307 P **P** 17 08 58.5 +2.8
SRIG IAmb IAmb 17 09 49.4
comp=Z,126nm,1.3s
U32A **Winter Ranch,** 21.68 346 IAmb IAmb 17 09 40.7
comp=Z,164nm,1.1s
Y57A **Sumter** 21.68 29 P **P** 17 08 56.3 +0.6
BLOK **Blackwell** 21.69 350 IAmb IAmb 17 09 34.2
comp=Z,164nm,1.1s
V51A **Loudon** 21.71 19 IAmb IAmb 17 09 16.1
comp=Z,129nm,0.9s
FLOC **Florencia** 21.72 127 P **P** 17 08 56.0 -0.4
FLOC pP **pP** 17 09 19.4 +2.7
FLOC IAmb IAmb 17 09 37.5
comp=Z,132nm,1.2s
FLOC **Florencia** 21.72 127 *e*P **P** 17 08 59.8 +3.5
MGMO **Mountain Grove** 21.72 1 IAmb IAmb 17 09 36.5
comp=Z,183nm,1.4s
T35A **Sooner Cattle** 21.74 352 IAmb IAmb 17 09 34.9
comp=Z,173nm,0.8s
TKL **Tuckaleechee C** 21.77 20 P **P** 17 08 54.3 -2.3
comp=Z,5.5nm,0.7s,baz=207,slow=8.9,SNR=7.9
TKL pP **pP** 17 09 15.3 -1.9
comp=Z,245nm,1.1s,baz=207,slow=13,SNR=24
TKL S **S** 17 12 49.6 -1.5
comp=Z,6.2nm,0.8s,baz=213,slow=20,SNR=1.0
TKL LR LR 17 19 16.7
comp=Z,723nm,18.3s,baz=206,slow=42
TKL **Tuckaleechee C** 21.77 20 P **P** 17 08 56.4 -0.2
TKL pmax pmax
comp=Z,359nm,1.1s
TKL **Tuckaleechee C** 21.77 20 P **P** 17 08 56.4 -0.2
TKL pP **pP** 17 09 15.0 -2.2
TKL sP **sP** 17 09 24.8 -5.9
T45A **Paducah** 21.89 9 P **P** 17 08 59.9 +2.0
121A **Cookes Peak, D** 21.89 324 IAmb IAmb 17 09 33.7
comp=Z,102nm,1.1s
121A **Cookes Peak, D** 21.89 324 P **P** 17 09 00.9 +2.7
baz=138,SNR=51
OK032 **Salt Plains WL** 21.91 348 IAmb IAmb 17 09 36.7
comp=Z,126nm,1.1s
Y58A **Scranton** 21.94 30 P **P** 17 08 58.7 +0.3
319A **Douglas** 21.97 319 IAmb IAmb 17 09 38.2
comp=Z,102nm,0.9s
U49A **Red Boiling Sp** 21.98 15 IAmb IAmb 17 09 38.3
comp=Z,94nm,0.9s
KAN13 **South Haven SW** 21.98 350 P **P** 17 08 57.3 -1.6
KAN13 IAmb IAmb 17 09 38.2
comp=Z,226nm,1.1s
V52A **Sevierville** 21.99 20 IAmb IAmb 17 09 09.7
comp=Z,286nm,1.4s
KAN14 **Manchester OK** 22.02 349 IAmb IAmb 17 09 37.4
comp=Z,178nm,1.5s
KAN17 **Caldwell West** 22.06 349 P **P** 17 08 59.1 -0.6
SDD **Santo Domingo** 22.07 79 P **P** 17 08 58.4 -1.5
SDD IAmb IAmb 17 09 03.8
comp=Z,167nm,0.8s
T47A **Sharon Grove** 22.13 12 P **P** 17 08 59.3 -1.1
T47A IAmb IAmb 17 09 23.0
comp=Z,81nm,0.8s
BIRD **Birdtown, Kers** 22.17 28 P **P** 17 09 00.7 -0.2
BIRD IAmb IAmb 17 09 27.3
comp=Z,338nm,1.6s
KAN10 **Anthony SW Sta** 22.20 349 P **P** 17 09 00.8 -0.3
KAN10 IAmb IAmb 17 09 38.0
comp=Z,256nm,1.7s
KMSC **Kings Mountain** 22.22 25 P **P** 17 09 00.6 -0.7
KMSC **Kings Mountain** 22.22 25 P **P** 17 09 01.7 +0.3
baz=210,SNR=16
S39A **Bolivar** 22.26 359 P **P** 17 09 00.5 -1.3
S39A pP **pP** 17 09 23.7 +1.4
S39A IAmb IAmb 17 09 26.4
comp=Z,126nm,1.1s
S39A sP **sP** 17 09 35.4 -0.1
KAN08 **Anthony NE Sta** 22.28 349 P **P** 17 09 01.4 -0.6
KAN08 IAmb IAmb 17 09 03.1
comp=Z,82nm,0.7s
KAN12 **Harper NE Stat** 22.35 349 IAmb IAmb 17 09 04.5
comp=Z,216nm,1.4s
Y59A **Loris** 22.40 32 IAmb IAmb 17 09 05.3
comp=Z,129nm,0.9s
S44A **Carbondale** 22.47 7 P **P** 17 09 02.2 -1.7
S44A IAmb IAmb 17 09 42.0
comp=Z,136nm,0.9s
SIUC **Southern Illin** 22.50 7 P **P** 17 09 02.7 -1.5
SIUC IAmb IAmb 17 09 42.2
comp=Z,119nm,0.9s
SDV **Santo Domingo** 22.55 104 P **P** 17 09 03.7 -1.4
comp=Z,11nm,0.4s,baz=310,slow=5.0,SNR=5.9
SDV ScP **ScP** 17 16 25.6 +2.2
comp=Z,6.7nm,0.3s,baz=270,slow=4.9,SNR=6.6
SDV LR LR 17 18 11.2
comp=Z,642nm,19.7s,baz=304,slow=38
SDV **Santo Domingo** 22.55 104 P **P** 17 09 03.3 -1.9
SDV pP **pP** 17 09 28.4 +2.1
SDV **Santo Domingo** 22.55 104 *e*P **P** 17 09 04.0 -1.2
DR12 **Loma Pena Alta** 22.60 78 P **P** 17 09 05.0 -0.5
Y22D **IRIS PASSCAL I** 22.61 328 P **P** 17 09 07.0 +1.5
baz=142
TZTN **Tazewell** 22.65 20 P **P** 17 09 05.5 -0.2
baz=203
CCM **Cathedral Cave** 22.66 3 P **P** 17 09 03.5 -2.2
CCM pP **pP** 17 09 27.0 +0.5
CCM **Cathedral Cave** 22.66 3 P **P** 17 09 04.7 -1.1
baz=184
W57A **Gilead** 22.81 28 P **P** 17 09 06.5 -0.8
W57A IAmb IAmb 17 09 46.5
comp=Z,237nm,1.4s
V55A **Taylorsville** 22.88 25 IAmb IAmb 17 09 50.5
comp=Z,213nm,1.4s
ANMO **Albuquerque** 23.07 330 P **P** 17 09 11.2 +1.1
comp=Z,15nm,0.6s,baz=146,slow=11,SNR=31
ANMO pP **pP** 17 09 33.5 +2.2
comp=Z,28nm,0.8s,baz=147,slow=13,SNR=8.6
ANMO **Albuquerque** 23.07 330 *c i*P **P** 17 09 11.9 +1.8
ANMO pmax pmax
comp=Z,27nm,1.0s
ANMO **Albuquerque** 23.07 330 P **P** 17 09 11.4 +1.2
ANMO pP **pP** 17 09 35.9 +4.6
ANMO **Albuquerque** 23.07 330 P **P** 17 09 10.9 +0.8
baz=144
U54A **Nelsons Funny** 23.23 23 IAmb IAmb 17 09 49.8
comp=Z,168nm,1.0s
PTLC **Puerto Leguiza** 23.28 129 *e*P **P** 17 09 17.0 +4.9
WCI **Wyandotte Cave** 23.50 13 P **P** 17 09 12.1 -1.7
WCI *PP **pP** 17 09 36.6 +1.1
WCI pmax pmax
comp=Z,243nm,1.5s
WCI **Wyandotte Cave** 23.50 13 P **P** 17 09 12.1 -1.7
WCI IAmb IAmb 17 09 29.0
comp=Z,243nm,1.4s
WCI pP **pP** 17 09 36.6 +1.1
WCI **Wyandotte Cave** 23.50 13 P **P** 17 09 12.6 -1.2
baz=196
TUC **Tucson** 23.54 319 P **P** 17 09 16.1 +1.8
TUC *PP **pP** 17 09 37.7 +1.4
TUC *SP **sP** 17 09 52.6 +3.0
TUC pmax pmax
comp=Z,66nm,1.1s
TUC **Tucson** 23.54 319 P **P** 17 09 16.1 +1.8
TUC pP **pP** 17 09 37.7 +1.4
TUC sP **sP** 17 09 52.6 +3.0
TUC **Tucson** 23.54 319 P **P** 17 09 16.1 +1.8
baz=132
R32A **Long Quarter,** 23.58 348 IAmb IAmb 17 09 37.8
comp=Z,75nm,0.9s
S51A **Beattyville** 23.64 18 IAmb IAmb 17 09 42.2
comp=Z,184nm,1.1s
OLIL **Olney** 23.65 9 IAmb IAmb 17 09 55.7
comp=Z,119nm,0.8s
Q44A **Meyer Farm, Va** 23.69 7 IAmb IAmb 17 09 33.1
comp=Z,213nm,1.1s
R49A **Shelbyville** 23.82 15 IAmb IAmb 17 09 31.9
comp=Z,100nm,1.0s
CNNC **Cliffs of the** 23.88 31 IAmb IAmb 17 09 19.1
comp=Z,96nm,0.7s
CNNC **Cliffs of the** 23.88 31 P **P** 17 09 17.0 -0.2
baz=217
KSU1 **Kansas State U** 23.90 353 IAmb IAmb 17 09 18.2
comp=Z,62nm,0.8s
KSU1 **Kansas State U** 23.90 353 P **P** 17 09 16.0 -1.5
baz=171,SNR=10
R50A **Paris** 24.02 16 P **P** 17 09 17.8 -0.7
R50A IAmb IAmb 17 09 35.5
comp=Z,92nm,1.1s
T25A **Trinidad** 24.05 337 IAmb IAmb 17 10 06.2
comp=Z,87nm,1.0s

T25A **Trinidad** 24.05 337 P **P** 17 09 20.8 +1.8
baz=151,SNR=36
P40A **Paris** 24.10 1 P **P** 17 09 17.7 -1.5
P40A IAmb IAmb 17 09 56.5
comp=Z,103nm,0.8s
CBKS **Cedar Bluff** 24.17 347 IAmb IAmb 17 10 14.8
comp=Z,216nm,1.5s
CBKS **Cedar Bluff** 24.17 347 P **P** 17 09 19.7 -0.1
baz=163
P38A **Dawn** 24.20 359 IAmb IAmb 17 09 44.8
comp=Z,144nm,1.4s
BLA **Blacksburg** 24.38 24 IAmb IAmb 17 10 12.2
comp=Z,94nm,0.9s
BLA **Blacksburg** 24.38 24 P **P** 17 09 21.9 +0.1
baz=210
S54A **Dingess, Beckl** 24.55 22 IAmb IAmb 17 10 02.1
comp=Z,222nm,1.7s
214A **Organ Pipe Nat** 24.64 316 P **P** 17 09 26.4 +2.1
214A pP **pP** 17 09 49.1 +1.6
214A IAmb IAmb 17 09 53.3
comp=Z,89nm,1.2s
214A **Organ Pipe Nat** 24.64 316 P **P** 17 09 26.0 +1.7
baz=127
T57A **Hurt** 24.68 27 IAmb IAmb 17 09 53.4
comp=Z,93nm,1.1s
CRPR **Cabo Rojo, PR** 24.70 80 P **P** 17 09 26.1 +1.2
CRPR IAmb IAmb 17 10 04.5
comp=Z,93nm,1.2s
MLPR **Magueyes Islan** 24.76 80 P **P** 17 09 26.4 +1.0
MLPR pP **pP** 17 09 52.1 +3.2
MLPR IAmb IAmb 17 09 55.4
comp=Z,74nm,1.1s
P48A **Milroy** 24.87 14 P **P** 17 09 24.0 -2.1
P48A pP **pP** 17 09 49.6 +0.2
P48A IAmb IAmb 17 09 59.1
comp=Z,168nm,1.2s
W18A **Petrified Fore** 24.90 325 P **P** 17 09 29.0 +2.3
baz=138
SDCO **Great Sand Dun** 25.00 336 P **P** 17 09 29.1 +1.4
baz=150,SNR=29
P49A **Miami Univ. Ec** 25.10 15 P **P** 17 09 29.1 +0.8
baz=198
KSCO **Kaye Shedlock'** 25.12 342 P **P** 17 09 28.4 -0.2
KSCO pP **pP** 17 09 52.0 0.0
KSCO **Kaye Shedlock'** 25.12 342 P **P** 17 09 29.1 +0.4
baz=157,SNR=7.1
Q52A **Bidwell** 25.27 19 IAmb IAmb 17 10 02.2
comp=Z,175nm,1.1s
HDIL **Hopedale** 25.30 6 P **P** 17 09 30.6 +0.5
baz=188
N38A **Joes South For** 25.36 359 P **P** 17 09 29.1 -1.5
N38A pP **pP** 17 09 53.2 -0.8
X16A **Lo Mia Camp, P** 25.37 322 P **P** 17 09 32.4 +1.3
X16A pP **pP** 17 09 53.7 -0.8
R55A **Marlinton** 25.42 24 IAmb IAmb 17 10 02.3
comp=Z,75nm,1.1s
SFIN **Lafayette** 25.42 10 P **P** 17 09 32.3 +1.2
baz=192
T59A **Double "B" Far** 25.43 29 P **P** 17 09 31.4 +0.2
T59A pP **pP** 17 09 54.9 +0.4
T59A IAmb IAmb 17 09 59.5
comp=Z,123nm,1.1s
S57A **Dark Hollow, R** 25.45 26 IAmb IAmb 17 10 11.0
comp=Z,112nm,1.2s
S22A **4UR Ranch, Cre** 25.55 333 P **P** 17 09 34.5 +1.7
baz=147,SNR=30
SJG **San Juan** 25.62 80 P **P** 17 09 32.0 -1.2
comp=Z,17nm,0.3s,baz=270,slow=7.8,SNR=5.5
SJG pP **pP** 17 09 54.3 -2.4
comp=Z,11nm,0.3s,baz=278,slow=7.8,SNR=2.5
SJG ScP **ScP** 17 16 32.5 +1.0
comp=Z,3.8nm,0.3s,baz=231,slow=4.4,SNR=3.1
SJG **San Juan** 25.62 80 P **P** 17 09 31.4 -1.8
SJG *PP **pP** 17 09 56.2 -0.6
SJG pmax pmax
comp=Z,75nm,1.3s
SJG **San Juan** 25.62 80 P **P** 17 09 31.4 -1.8
SJG pP **pP** 17 09 56.2 -0.6
PDPR **Patillas Dam,** 25.74 80 P **P** 17 09 32.4 -1.8
PDPR pP **pP** 17 09 57.1 -0.7
Q54A **Coxs Mills** 25.77 22 IAmb IAmb 17 10 03.5
comp=Z,63nm,1.1s
113A **Mohawk Valley,** 25.78 316 IAmb IAmb 17 10 04.4
comp=Z,73nm,1.1s
JSRW **J. Sargeant Re** 25.86 28 P **P** 17 09 33.2 -2.0
JSRW pP **pP** 17 09 59.3 +0.8
MVCO **Mesa Verde** 25.88 330 IAmb IAmb 17 09 39.3
comp=Z,159nm,1.1s
MVCO **Mesa Verde** 25.88 330 P **P** 17 09 36.9 +1.3
baz=143,SNR=84
CBYP **Canovanas** 25.90 80 P **P** 17 09 35.0 -0.8
CBYP IAmb IAmb 17 10 00.7
comp=Z,64nm,1.1s
HUMP **Col San Antoni** 25.91 80 P **P** 17 09 35.0 -0.7
HUMP pP **pP** 17 09 58.2 -1.3
P52A **Corning** 25.92 19 P **P** 17 09 36.9 +1.2
baz=204
T60A **Surry** 25.95 30 IAmb IAmb 17 10 15.7
comp=Z,158nm,1.1s
Y14A **Wickenburg** 26.01 319 IAmb IAmb 17 10 07.3
comp=Z,68nm,1.2s
P53A **Whipple** 26.03 20 IAmb IAmb 17 10 13.1
comp=Z,144nm,1.1s
R58B **Mineral** 26.09 27 IAmb IAmb 17 10 18.6
comp=Z,68nm,1.1s
WUAZ **Wupatki** 26.11 324 P **P** 17 09 39.2 +1.6
baz=135,SNR=18
N47A **Urbana** 26.17 12 IAmb IAmb 17 10 19.2
comp=Z,49nm,0.8s
MTP **Monte Pirata** 26.19 80 P **P** 17 09 36.4 -1.9
MTP pP **pP** 17 10 02.8 +0.8
ACSO **Alum Creek Sta** 26.22 17 P **P** 17 09 38.9 +0.6
baz=202
BGNE **Belgrade** 26.39 351 P **P** 17 09 40.2 +0.3
BGNE IAmb IAmb 17 10 27.6
comp=Z,106nm,0.8s
BGNE **Belgrade** 26.39 351 P **P** 17 09 40.5 +0.6
baz=168
Q56A **Snyder Ridge,** 26.44 24 IAmb IAmb 17 10 31.3
comp=Z,171nm,1.6s
CUPR **Culebra, Puert** 26.45 80 P **P** 17 09 39.5 -1.2
CUPR pP **pP** 17 10 04.1 -0.3
SCIA **State Center** 26.47 359 P **P** 17 09 41.7 +1.1
baz=179
ATAH **Atalpa** 26.49 147 P **P** 17 09 42.6 +1.1
comp=Z,22nm,0.9s,baz=352,slow=5.1,SNR=15
ATAH pP **pP** 17 10 06.4 +1.7
comp=Z,31nm,1.0s,baz=6.5,slow=3.7,SNR=4.0
ATAH ScP **ScP** 17 16 36.1 +1.5
comp=Z,8.1nm,0.9s,baz=20,slow=8.0,SNR=2.7
CBN **Corbin Frederi** 26.51 28 P **P** 17 09 41.2 +0.2
baz=215
PV01 **Paradox Valley** 26.65 331 IAmb IAmb 17 10 12.7
comp=Z,70nm,1.2s
L40A **Anamosa** 26.65 3 P **P** 17 09 40.6 -1.6
L40A pP **pP** 17 10 05.6 0.0
L40A IAmb IAmb 17 10 07.5
comp=Z,61nm,0.9s
GLA **Glamis** 26.66 315 P **P** 17 09 44.6 +2.0
baz=126
L42A **Oliver, Polo** 26.70 5 IAmb IAmb 17 10 07.8
comp=Z,83nm,0.9s
L34A **Svendsen Farm,** 26.71 354 IAmb IAmb 17 10 25.6
comp=Z,96nm,0.8s
MCWV **Mont Chateau** 26.73 23 P **P** 17 09 43.6 +0.7
baz=208
OGNE **Ogallala** 26.75 344 P **P** 17 09 43.4 +0.1
OGNE pP **pP** 17 10 06.5 -0.2
OGNE IAmb IAmb 17 10 08.2
comp=Z,93nm,1.1s
OGNE **Ogallala** 26.75 344 P **P** 17 09 43.8 +0.5
baz=160
STVI **Saint Thomas** 26.76 80 P **P** 17 09 42.4 -1.1
STVI pP **pP** 17 10 05.8 -1.5
STVI IAmb IAmb 17 10 20.4
comp=Z,81nm,0.9s
O53A **New Philadelph** 26.78 20 P **P** 17 09 43.6 +0.2
baz=205
PV15 **Paradox Valley** 26.78 332 IAmb IAmb 17 10 14.1
comp=Z,64nm,1.1s
PV02 **Paradox Valley** 26.79 331 IAmb IAmb 17 09 47.8
comp=Z,109nm,1.2s
PV13 **Radium Mtn., P** 26.79 331 IAmb IAmb 17 09 47.6
comp=Z,117nm,1.1s
ISCO **Idaho Springs** 26.83 338 P **P** 17 09 44.8 +0.5
ISCO pmax pmax
comp=Z,26nm,1.2s
ISCO **Idaho Springs** 26.83 338 P **P** 17 09 44.8 +0.5
ISCO **Idaho Springs** 26.83 338 P **P** 17 09 45.4 +1.2
baz=151
PV05 **Paradox Valley** 26.85 331 IAmb IAmb 17 09 47.9
comp=Z,104nm,1.1s
PV03 **Paradox Valley** 26.88 331 IAmb IAmb 17 09 48.4
comp=Z,108nm,1.2s
PV18 **Skein Mesa, Pa** 26.90 331 IAmb IAmb 17 09 48.4
comp=Z,124nm,1.2s
PV12 **Saucer Basin,** 26.91 331 P **P** 17 09 46.4 +1.5
PV12 IAmb IAmb 17 09 48.8
comp=Z,152nm,1.2s
PV12 pP **pP** 17 10 09.8 +1.6
PV11 **David Mesa, Pa** 26.92 331 IAmb IAmb 17 09 48.8
comp=Z,154nm,1.3s
PV07 **Paradox Valley** 26.93 332 IAmb IAmb 17 09 49.0
comp=Z,69nm,1.2s
PV17 **East Wray Mesa** 26.95 331 IAmb IAmb 17 09 48.9
comp=Z,129nm,1.2s
PV16 **Nyswonger Mesa** 26.95 331 IAmb IAmb 17 09 49.0
comp=Z,117nm,1.2s
PDMCI **Parker Dam,Lak** 26.97 318 P **P** 17 09 47.2 +2.0
baz=129,SNR=11
PV19 **Morning Glory** 26.98 331 IAmb IAmb 17 09 49.2
comp=Z,94nm,1.2s
PV20 **West Nyswonger** 27.00 331 P **P** 17 09 47.5 +1.8
PV20 IAmb IAmb 17 09 49.3
comp=Z,90nm,1.2s
PV04 **Paradox Valley** 27.02 331 P **P** 17 09 47.5 +1.7
PV04 IAmb IAmb 17 10 15.2
comp=Z,124nm,1.1s
PV14 **Lion Creek, Pa** 27.05 331 IAmb IAmb 17 09 49.8
comp=Z,114nm,1.2s
L44A **Lake County Fo** 27.06 8 P **P** 17 09 48.3 +2.4
baz=190
PV23 **Carpenter Ridg** 27.11 331 IAmb IAmb 17 10 15.5
comp=Z,64nm,0.8s
SWSC **Sam W. Stewart** 27.27 314 P **P** 17 09 48.9 +1.0
baz=124
RMX **La Rumorosa** 27.27 313 P **P** 17 09 47.7 -0.4
RMX pP **pP** 17 10 11.7 +0.1
P57A **Homestead Farm** 27.30 25 P **P** 17 09 47.8 -0.3
P57A IAmb IAmb 17 10 27.5
comp=Z,174nm,1.6s
IKP **In-Ko-Pah, Jac** 27.32 313 P **P** 17 09 49.8 +1.3
baz=124
N53A **Lisbon** 27.40 20 P **P** 17 09 50.0 +1.0
BC3 **Big Chuckawall** 27.44 316 P **P** 17 09 52.2 +2.6
baz=126,SNR=11
L48A **N Adams** 27.46 14 P **P** 17 09 49.4 -0.1
L48A IAmb IAmb 17 10 40.3
comp=Z,71nm,0.9s
IRM **Iron Mountain** 27.53 317 P **P** 17 09 52.7 +2.4
baz=127,SNR=7.4
JFWS **Jewell Farm** 27.56 4 P **P** 17 09 50.7 +0.4
baz=185
NEE2 **Needles Airpor** 27.57 319 P **P** 17 09 51.2 +0.6
baz=129
MONP2 **Monument Peak** 27.67 313 P **P** 17 09 52.5 +0.7
baz=123
SDMD **Soldier's Deli** 27.74 27 **P** 17 09 50.9 -1.1
O56A **Blue Knob Stat** 27.74 24 P **P** 17 09 52.9 +0.8
baz=210
N54A **Moraine State** 27.83 21 P **P** 17 09 53.8 +1.0
baz=207
N23A **Red Feather La** 27.92 338 P **P** 17 09 55.0 +1.1
baz=152
KNB **Kanab** 27.99 324 P **P** 17 09 56.9 +2.3
KNB pP **pP** 17 10 19.9 +1.8
BELC **Belle Mtn. Jos** 28.01 316 P **P** 17 09 56.5 +1.8
baz=126
M53A **WI Miller and** 28.02 20 P **P** 17 09 54.9 +0.4
baz=205
TPFO **Pinon Flats** 28.09 315 P **P** 17 09 57.6 +2.2
baz=124
PFO **Pinyon Flats O** 28.10 315 P **P** 17 09 56.2 +0.8
comp=Z,1.7nm,0.7s,baz=135,slow=14,SNR=1.6
PFO pP **pP** 17 10 20.6 +1.5
comp=Z,12nm,1.1s,baz=116,slow=7.1,SNR=6.0
PFO LR LR 17 21 53.9
comp=Z,371nm,18.5s,baz=119,slow=38
PFO **Pinyon Flats O** 28.10 315 P **P** 17 09 56.2 +0.8
PFO pmax pmax
comp=Z,20nm,1.2s
PFO **Pinyon Flats O** 28.10 315 P **P** 17 09 57.4 +1.9
baz=124
O20A **White River Ci** 28.15 334 P **P** 17 09 57.4 +1.5
baz=147
GMRC **Granite Mounta** 28.25 317 P **P** 17 09 59.2 +2.4
baz=127,SNR=10
SSPA **Standing Stone** 28.32 24 P **P** 17 09 58.5 +1.3
baz=211
ECSD **EROS Data Cent** 28.48 354 IAmb IAmb 17 10 22.6
comp=Z,47nm,0.8s
ECSD **EROS Data Cent** 28.48 354 P **P** 17 09 57.9 -0.7
baz=172
Q16A **Castle Valley** 28.52 329 P **P** 17 10 00.5 +1.3
Q16A IAmb IAmb 17 10 03.3
comp=Z,62nm,1.3s
Q16A pP **pP** 17 10 24.0 +1.1
Q16A sP **sP** 17 10 36.3 +0.9
CCUT **Cedar City** 28.67 324 P **P** 17 10 02.8 +2.1
CCUT pP **pP** 17 10 23.5 -0.8
HEC **Hector,Ludlow** 28.72 317 P **P** 17 10 03.3 +2.3
baz=126
P17A **Butcher Ranch,** 28.74 330 IAmb IAmb 17 10 04.7
comp=Z,66nm,1.2s
TUQ **Turquoise Moun** 28.82 318 P **P** 17 10 04.2 +2.4
baz=128,SNR=6.6
SHPR **Sheep Range** 29.02 321 P **P** 17 10 05.7 +2.1
SHPR pP **pP** 17 10 28.2 +0.9
RWWY **Rawlins** 29.07 337 IAmb IAmb 17 11 09.2
comp=Z,91nm,1.7s
SCI2 **San Clemente I** 29.23 312 P **P** 17 10 08.2 +2.9
baz=121
LUPA **Lehigh Univers** 29.36 28 IAmb IAmb 17 10 44.7
comp=Z,94nm,1.4s
N59A **State Game Lan** 29.44 27 P **P** 17 10 08.0 +0.9
baz=215
MPU **Maple Canyon** 29.59 330 P **P** 17 10 10.2 +1.5
K22A **Casper** 29.67 339 P **P** 17 10 10.1 +0.8
baz=152
NLU **North Lily Min** 29.76 329 P **P** 17 10 11.0 +0.7
NLU pP **pP** 17 10 35.2 +1.2
SPMN **Marine on St.** 29.78 360 IAmb IAmb 17 10 34.4
comp=Z,57nm,1.1s
EDW2 **Edwards Air Fo** 29.86 315 P **P** 17 10 13.4 +2.3
baz=124
TPNV **Topopah Spring** 29.97 320 P **P** 17 10 15.0 +2.9
baz=130,SNR=8.4
LRMC **Laurel Mtn Rad** 30.00 317 P **P** 17 10 14.0 +1.7
baz=126
FURC **Furnace Creek,** 30.06 319 P **P** 17 10 15.7 +3.2
baz=128,SNR=8.7
MMNY **Mt. Morris Dam** 30.12 22 IAmb IAmb 17 10 50.3
comp=Z,69nm,1.4s
CTU **Camp Tracy** 30.18 331 P **P** 17 10 14.8 +1.0
CTU IAmb IAmb 17 10 17.5
comp=Z,43nm,1.2s
SPR3 **Spring Creek 3** 30.24 325 P **P** 17 10 16.3 +1.8
SPR3 pP **pP** 17 10 37.7 -0.6
SPR3 ScP **ScP** 17 16 43.9 -1.9
RSSD **Black Hills** 30.24 344 P **P** 17 10 15.3 +0.9
baz=158
DUG **Dugway, Tooele** 30.31 329 P **P** 17 10 17.9 +2.9
DUG pmax pmax
comp=Z,18nm,2.2s
DUG **Dugway, Tooele** 30.31 329 P **P** 17 10 17.8 +2.9
baz=139,SNR=7.4
PAL **Palisades** 30.35 29 P **P** 17 10 15.1 0.0
baz=218
BINY **Binghamton** 30.41 25 P **P** 17 10 16.2 +0.5
baz=213
R11A **Troy Canyon, C** 30.50 323 P **P** 17 10 19.4 +2.7
baz=132,SNR=18
BBSR **BB Station** 30.61 51 P **P** 17 10 16.7 -0.8
BBSR IAmb IAmb 17 10 18.7
comp=Z,60nm,0.7s
ISA **Isabella, Lake** 30.63 316 P **P** 17 10 19.0 +1.2
baz=125
GRAC **Grapevine Rang** 30.70 319 P **P** 17 10 21.1 +2.7
baz=128
HWUT **Hardware Ranch** 30.81 332 P **P** 17 10 20.6 +1.1
HWUT pP **pP** 17 10 43.5 +0.2
SBC **Santa Barbara** 30.82 313 P **P** 17 10 21.5 +2.2
baz=121

CWC	Cottonwood Cre	30.82	318	P	P	17 10 21.5	+2.0
	baz=126						
BW06	Boulder Array	30.90	336	P	P	17 10 20.1	-0.2
BW06				pP	pP	17 10 43.8	-0.1
BW06	Boulder Array	30.90	336	P	P	17 10 22.2	+2.0
	baz=147,SNR=5.9						
PDAR	Pinedale Array	30.90	336	P	P	17 10 20.6	+0.4
	comp=Z,10.0nm,1.1s,baz=128,slow=9.6,SNR=19						
PDAR				pP	pP	17 10 44.9	+0.9
	comp=Z,1.1nm,0.6s,baz=182,slow=7.1,SNR=2.6						
PDAR				PcP	PcP	17 13 15.0	+0.5
	comp=Z,1.6nm,0.7s,baz=152,slow=4.1,SNR=2.5						
PDAR				LR	LR	17 23 44.3	
	comp=Z,281nm,19.6s,baz=126,slow=38						
TIN	Tinemaha, Big	31.28	318	P	P	17 10 26.6	+3.0
	baz=127,SNR=7.1						
TPH	Tonopah	31.29	321	IAmb	IAmb	17 10 27.8	
	comp=Z,73nm,1.1s						
NNA	Nana	31.40	149	P	P	17 10 25.9	+1.2
	comp=Z,14nm,0.9s,baz=340,slow=8.8,SNR=4.9						
NNA	Nana	31.40	149	*ce*P	P	17 10 27.2	+2.5
NNA				pmax	pmax		
	comp=Z,5.0nm,0.3s						
NNA	Nana	31.40	149	P	P	17 10 25.3	+0.7
HVU	Hansel Valley	31.51	331	IAmb	IAmb	17 10 29.2	
	comp=Z,64nm,1.3s						
SADO	Sadowa	31.51	19	P	P	17 10 24.1	-1.2
	comp=Z,2.4nm,0.6s,baz=208,slow=11,SNR=1.6						
M63A	Gales Ferry	31.55	31	P	P	17 10 26.3	+0.6
M63A				IAmb	IAmb	17 10 27.9	
	comp=Z,47nm,0.8s						
M63A				pP	pP	17 10 49.1	-0.3
M63A					sP	17 11 01.9	+0.3
UCCT	U. Connecticut	31.76	30	IAmb	IAmb	17 10 54.5	
	comp=Z,67nm,1.0s						
REDW	Red Top Meadow	31.92	335	IAmb	IAmb	17 11 23.8	
	comp=Z,93nm,1.1s						
K61A	Williamstown	31.96	28	P	P	17 10 30.7	+1.4
	baz=217						
SNOW	Snow King Moun	31.96	335	IAmb	IAmb	17 10 34.2	
	comp=Z,76nm,1.1s						
ELK	Elko	31.97	327	P	P	17 10 32.1	+2.5
	comp=Z,10nm,0.9s,baz=135,slow=5.7,SNR=35						
ELK				pP	pP	17 10 54.4	+0.9
	comp=Z,3.2nm,0.8s,baz=150,slow=6.3,SNR=2.3						
LOHW	Long Hollow	32.02	335	IAmb	IAmb	17 11 24.6	
	comp=Z,42nm,1.2s						
L61B	Northampton	32.05	29	P	P	17 10 30.8	+0.7
	baz=218						
TPAW	Teton Pass	32.06	335	IAmb	IAmb	17 11 27.5	
	comp=Z,57nm,1.2s						
J59A	Piesco	32.07	25	P	P	17 10 30.2	-0.1
J59A					pP	17 10 53.4	-0.6
J59A				sP	sP	17 11 07.2	+0.9
J59A				IAmb	IAmb	17 11 08.9	
	comp=Z,102nm,1.6s						
J59A				PP	PnPn	17 11 38.3	-1.6
M64A	Tiverton	32.07	31	P	P	17 10 31.4	+1.2
	baz=222						
NV11	Mina Array Sit	32.08	321	IAmb	IAmb	17 10 35.3	
	comp=Z,38nm,1.1s						
L63A	North Scituate	32.11	30	P	P	17 10 31.3	+0.7
	baz=221						
MDPB	Devils Postpil	32.17	319	P	P	17 10 33.0	+1.5
MDPB				pP	pP	17 10 56.6	+1.2
MDPB				sP	sP	17 11 09.7	+2.0
NVAR	Mina Array Bea	32.17	320	P	P	17 10 33.8	+2.4
	comp=Z,31nm,0.9s,baz=136,slow=9.0,SNR=180						
NVAR				pP	pP	17 10 57.4	+2.1
	comp=Z,18nm,0.9s,baz=133,slow=9.0,SNR=5.5						
NVAR				PcP	PcP	17 13 19.6	+1.6
	comp=Z,2.2nm,0.6s,baz=172,slow=3.9,SNR=4.6						
NVAR				ScP	ScP	17 16 55.0	+2.9
	comp=Z,0.9nm,0.6s,baz=123,slow=4.1,SNR=5.1						
NVAR				LR	LR	17 24 57.3	
	comp=Z,597nm,18.2s,baz=102,slow=39						
LHV	Little Huntoon	32.18	320	IAmb	IAmb	17 11 11.0	
	comp=Z,54nm,1.2s						
FXWY	Fox Creek	32.22	335	P	P	17 10 32.5	+0.6
FXWY				pP	pP	17 10 55.8	+0.2
FXWY					PcP	17 13 19.2	+1.1
K62A	Royalston	32.43	29	P	P	17 10 34.1	+0.7
	baz=219						
KVN	Kaiserville	32.44	322	IAmb	IAmb	17 10 38.6	
	comp=Z,33nm,1.0s						
L64A	Middleborough	32.55	31	P	P	17 10 35.4	+1.0
	baz=222,SNR=5.2						
H17A	Grant Village	32.67	336	P	P	17 10 37.7	+2.0
	baz=147						
K63A	Dunstable	32.78	30	P	P	17 10 37.2	+0.8
	baz=220						
RLMT	Red Lodge	32.79	338	P	P	17 10 38.0	+1.2
	baz=150						
J61A	Chester	32.81	28	P	P	17 10 37.5	+0.8
	baz=218						
BMN	Battle Mountai	32.84	324	P	P	17 10 39.1	+1.9
BMN				pP	pP	17 11 02.1	+1.1
I60A	Shoreham	32.89	26	P	P	17 10 38.1	+0.8
	baz=216						
LONY	Lake Ozonia	32.99	24	P	P	17 10 39.5	+1.3
	baz=213						
J62A	Henniker	33.06	29	P	P	17 10 39.7	+0.8
	baz=219						
CMB	Columbia Colle	33.24	318	P	P	17 10 43.9	+3.3
CMB				P	pP	17 11 05.9	+1.3
CMB				pmax	pmax		
	comp=Z,15nm,1.2s						
CMB	Columbia Colle	33.24	318	P	P	17 10 41.9	+1.3
CMB				pP	pP	17 11 04.6	0.0
CMB				sP	sP	17 11 17.4	+0.5
PNTR	Pine Nut	33.38	320	IAmb	IAmb	17 11 25.8	
	comp=Z,28nm,0.9s						
J63A	Strafford	33.44	29	P	P	17 10 43.1	+0.9
	baz=220						
HLID	Hailey	33.65	331	IAmb	IAmb	17 10 47.7	
	comp=Z,39nm,1.3s						
HLID	Hailey	33.65	331	P	P	17 10 46.0	+1.8
	baz=140,SNR=31						
I62A	Tamworth	33.78	28	P	P	17 10 46.2	+1.1
	baz=219						
BOZ	Bozeman (W)	34.08	336	P	P	17 10 49.5	+1.6
	baz=146,SNR=5.7						
I63A	Otisfield	34.26	29	P	P	17 10 50.2	+0.9
	baz=220						
DLMT	Dillon	34.27	335	IAmb	IAmb	17 11 29.0	
	comp=Z,31nm,1.1s						
BOAV	Boa Vista	34.28	109	*e*P	P	17 10 48.1	-1.7
BEKR	Beckworth	34.31	321	IAmb	IAmb	17 10 54.8	
	comp=Z,28nm,1.0s						
I64A	Boothbay	34.61	30	P	P	17 10 53.2	+0.9
	baz=222						
ORV	Oroville	34.84	319	P	P	17 10 57.8	+3.5
ORV				P	pP	17 11 20.4	+2.0
ORV				pmax	pmax		
	comp=Z,31nm,1.4s						
ORV	Oroville	34.84	319	P	P	17 10 56.6	+2.3
ORV				pP	pP	17 11 18.9	+0.5
ULM	Lac du Bonnet	34.90	356	P	P	17 10 53.1	-1.5
	comp=Z,3.8nm,0.7s,baz=168,slow=11,SNR=5.5						
ULM				pP	pP	17 11 17.1	-1.6
	comp=Z,42nm,1.1s,baz=181,slow=9.3,SNR=14						
ULM				PcP	PcP	17 13 25.4	+0.2
	comp=Z,4.7nm,0.4s,baz=201,slow=3.4,SNR=2.5						
ULM				LR	LR	17 26 15.6	
	comp=Z,507nm,19.7s,baz=160,slow=38						
ULM	Lac du Bonnet	34.90	356	IAmb	IAmb	17 11 18.3	
	comp=Z,46nm,1.1s						
WVOR	Wild Horse Val	34.97	326	P	P	17 10 58.1	+2.5
WVOR				pmax	pmax		
	comp=Z,35nm,1.7s						
WVOR	Wild Horse Val	34.97	326	IAmb	IAmb	17 10 59.2	
	comp=Z,39nm,1.1s						
G62A	West of Eustis	35.18	28	P	P	17 10 58.0	+0.8
	baz=219						
H64A	Troy	35.35	30	P	P	17 10 59.5	+0.9
	baz=222						
O03E	Paynes Creek	35.46	320	P	P	17 11 01.7	+2.0
	baz=126,SNR=8.3						
PLID	Pearl Lake	35.55	331	IAmb	IAmb	17 11 03.4	
	comp=Z,56nm,1.1s						
MOD	Modoc Plateau	35.55	324	P	P	17 11 01.5	+0.9
MOD				pP	pP	17 11 24.7	0.0
PKME	Peaks-Kenny Pk	35.78	29	P	P	17 11 03.5	+1.2
	baz=221						
F62A	Pittston Farm,	35.96	27	P	P	17 11 04.2	+0.4
	baz=219						
BMO	Blue Mountains	35.99	330	IAmb	IAmb	17 11 29.5	
	comp=Z,32nm,1.2s						
O02D	Mt. Diablo Mer	36.00	319	P	P	17 11 05.8	+1.4
	baz=125,SNR=6.7						
MSO	Missoula	36.01	335	P	P	17 11 05.6	+1.2
MSO				pP	pP	17 11 28.0	-0.6
MSO	Missoula	36.01	335	P	P	17 11 05.2	+0.8
	baz=144,SNR=7.7						
G64A	Maxfield	36.02	29	P	P	17 11 04.5	+0.1
	baz=222						
WDC	Whiskeytown Da	36.08	320	P	P	17 11 04.9	0.0
WDC				*PP	pP	17 11 28.3	-0.8
WDC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
WDC	Whiskeytown Da	36.08	320	P	P	17 11 04.9	0.0
WDC				pP	pP	17 11 28.3	-0.8
PTGA	Pitinga	36.13	113	P	P	17 11 04.7	-1.0
PTGA				ScP	ScP	17 17 08.8	+2.4
F63A	Nahmakanta, Br	36.20	28	P	P	17 11 06.8	+0.9
	baz=221						
ETMB	Extrema	36.28	132	*e*P	P	17 11 08.4	+1.5
M04C	Macdoel	36.37	322	P	P	17 11 09.4	+1.9
	baz=128,SNR=12						
H66A	Whiting	36.38	31	P	P	17 11 08.5	+1.1
	baz=224						
N02D	Trinity Center	36.41	320	P	P	17 11 08.9	+1.1
	baz=126						
G65A	Princeton	36.56	30	P	P	17 11 09.7	+0.8
	baz=223						
I07A	Izee	36.56	327	IAmb	IAmb	17 11 11.9	
	comp=Z,33nm,1.1s						
KMRM	Mail Ridge	36.61	319	IAmb	IAmb	17 11 13.7	
	comp=Z,38nm,1.1s						
F64A	Sherman	36.67	29	P	P	17 11 10.5	+0.7
	baz=222						
M02C	Callahan	36.75	321	P	P	17 11 11.3	+0.6
	baz=126						
YBH	Yreka Blue Hor	36.86	321	P	P	17 11 12.4	+0.7
	comp=Z,2.7nm,0.6s,baz=79,slow=9.2,SNR=9.2						
YBH	Yreka Blue Hor	36.86	321	P	P	17 11 11.6	-0.1
YBH				*PP	pP	17 11 34.2	-1.7
YBH				pmax	pmax		
	comp=Z,6.0nm,1.1s						
YBH	Yreka Blue Hor	36.86	321	P	P	17 11 11.6	-0.1
YBH				pP	pP	17 11 34.2	-1.7
JTMT	Jette	36.89	336	P	P	17 11 12.6	+0.7
JTMT				pP	pP	17 11 35.8	-0.3
JTMT					PcP	17 13 32.1	+0.7
J05D	Fort Rock, OR	36.97	325	P	P	17 11 14.0	+1.4
	baz=130						
KHMM	Horse Mountain	36.99	320	IAmb	IAmb	17 11 17.1	
	comp=Z,23nm,0.9s						
E63A	Oxbow	37.05	28	P	P	17 11 13.3	+0.2
	baz=221						
G08A	Pilot Rock	37.12	329	P	P	17 11 14.8	+0.9
G08A				pP	pP	17 11 36.6	-1.6
PINE	Pine Mountain	37.13	325	IAmb	IAmb	17 11 16.9	
	comp=Z,26nm,1.1s						
D62A	Allapoint, All	37.27	27	P	P	17 11 15.6	+0.6
	baz=220						
E64A	Bridgewater	37.33	29	P	P	17 11 16.1	+0.7
	baz=222						
J04D	Umpqua Nationa	37.43	324	P	P	17 11 18.4	+1.8
	baz=129,SNR=8.4						
KRMB	Red Mountain	37.47	320	IAmb	IAmb	17 12 39.5	
	comp=Z,44nm,1.6s						
E09A	Wood Farm, Sta	37.61	331	IAmb	IAmb	17 11 42.8	
	comp=Z,26nm,1.1s						
L02E	Cave Junction	37.65	321	P	P	17 11 19.6	+1.4
	baz=126						
I05D	Terrebonne, OR	37.71	326	P	P	17 11 20.7	+1.9
	baz=131						
I04A	Tendick Farm,	37.95	324	P	P	17 11 22.3	+1.5
	baz=129,SNR=6.3						
SAML	Samuel	37.97	128	P	P	17 11 20.4	-0.8
SAML				pmax	pmax		
	comp=Z,22nm,1.0s						
SAML	Samuel	37.97	128	P	P	17 11 19.4	-1.7
SAML				pP	pP	17 11 42.6	-2.7
SAML	Samuel	37.97	128	*e*P	P	17 11 20.3	-0.8
K02D	Willamette Mer	38.00	322	P	P	17 11 22.9	+1.6
	baz=126						
G05D	Wamic, OR	38.30	327	P	P	17 11 25.1	+1.4
	baz=132,SNR=8.9						
I03D	Drain, OR	38.42	324	P	P	17 11 26.4	+1.7
	baz=128,SNR=5.2						
J01E	Myrtle Point	38.44	322	P	P	17 11 26.3	+1.5
	baz=126,SNR=5.1						
NEW	Newport	38.47	334	P	P	17 11 25.8	+0.7
NEW				*PP	pP	17 11 48.3	-1.1
NEW				pmax	pmax		
	comp=Z,47nm,1.8s						
NEW	Newport	38.47	334	P	P	17 11 25.8	+0.7
NEW				pP	pP	17 11 48.3	-1.1
NEW				IAmb	IAmb	17 11 50.3	
	comp=Z,47nm,1.8s						
NEW	Newport	38.47	334	P	P	17 11 25.6	+0.5
	baz=140,SNR=5.2						
H04D	Lebanon	38.59	325	P	P	17 11 27.4	+1.2
	baz=129,SNR=6.9						
C09A	Chrisman Ranch	38.62	332	IAmb	IAmb	17 11 51.9	
	comp=Z,79nm,1.6s						
F05D	White Salmon	38.80	328	P	P	17 11 29.9	+2.1
	baz=132,SNR=14						
I02D	Swisshome	38.96	324	P	P	17 11 30.8	+1.6
	baz=128						
G03D	McMinnville, O	39.32	326	P	P	17 11 34.1	+2.0
	baz=129						
LTY	Liberty	39.35	330	IAmb	IAmb	17 11 58.5	
	comp=Z,58nm,1.3s						
LON	Longmire	39.56	328	IAmb	IAmb	17 11 37.3	
	comp=Z,31nm,1.1s						
LPAZ	La Paz	39.74	141	P	P	17 11 37.0	+0.4
	comp=Z,8.5nm,0.8s,baz=334,slow=7.6,SNR=36						
LPAZ				pP	pP	17 12 02.5	+1.7
	comp=Z,11nm,0.9s,baz=336,slow=8.4,SNR=7.1						
LPAZ				PcP	PcP	17 13 43.0	+1.8
	comp=Z,3.4nm,0.8s,baz=26,slow=6.4,SNR=2.3						
LPAZ	La Paz	39.74	141	P	P	17 11 36.5	-0.1
LPAZ				pmax	pmax		
	comp=Z,10.0nm,0.9s						
LPAZ	La Paz	39.74	141	P	P	17 11 36.5	-0.1
LPAZ	La Paz	39.74	141	*e*P	P	17 11 37.4	+0.8
F04D	Rainier, OR	39.74	327	P	P	17 11 37.6	+2.0
	baz=130						
E04D	Cinebar	39.82	328	P	P	17 11 38.1	+1.8
	baz=131						
FFC	Flin Flon	39.94	352	P	P	17 11 36.2	-0.9
FFC				*PP	pP	17 12 00.7	-0.9
FFC				pmax	pmax		
	comp=Z,20nm,0.8s						
FFC	Flin Flon	39.94	352	P	P	17 11 36.2	-0.9
FFC				pP	pP	17 12 00.7	-0.9
D05A	Enumclaw	39.95	329	IAmb	IAmb	17 11 41.0	
	comp=Z,51nm,1.2s						
D04E	Lakebay	40.34	328	P	P	17 11 41.9	+1.3
	baz=132						
B06A	Marblemount	40.63	331	IAmb	IAmb	17 11 45.1	
	comp=Z,42nm,1.1s						
B05A	Bryant	40.74	330	P	P	17 11 44.8	+1.0
	baz=134						
NLWA	Neilton Lookou	41.04	328	P	P	17 11 48.2	+1.8
NLWA				IAmb	IAmb	17 11 49.9	
	comp=Z,64nm,1.1s						
PSGCX	Pisagua	41.25	147	P	P	17 11 48.7	+0.3
PSGCX				PcP	PcP	17 13 47.0	+1.6
A04D	Lummi Island	41.35	330	P	P	17 11 49.8	+1.0
	baz=133						
ITTB	Itaituba	41.56	115	*e*P	P	17 11 50.2	-0.8
PB11	IPOC Station P	41.63	146	P	P	17 11 52.7	+1.0
PB11				IAmb	IAmb	17 11 54.3	
	comp=Z,49nm,1.0s						
PB11				PcP	PcP	17 13 48.8	+2.0
PGC	Sidney	41.67	329	P	P	17 11 52.8	+1.5
PGC				IAmb	IAmb	17 11 54.3	
	comp=Z,87nm,1.2s						
TA01	Diego Aracena	42.02	147	P	P	17 11 54.9	+0.3
TA01				IAmb	IAmb	17 11 57.4	
	comp=Z,39nm,1.0s						
PB08	IPOC Station P	42.21	146	P	P	17 11 56.9	+0.2
PB08					PcP	17 13 51.3	+2.3
LLLB	Lillooet	42.29	333	P	P	17 11 57.8	+1.2
LLLB				pP	pP	17 12 20.6	-0.6
LLLB				IAmb	IAmb	17 12 22.6	
	comp=Z,75nm,1.6s						
VILB	Vilhena	42.76	129	*e*P	P	17 12 01.2	+0.5
PB01	IPOC Station P	42.77	147	P	P	17 12 01.4	+0.6
PB01					pP	17 12 25.1	-0.2
PB01				PcP	PcP	17 13 51.7	+1.2
MCPB	Macapa, AP	43.13	107	*e*P	P	17 12 03.2	-0.6
PB07	IPOC Station P	43.13	148	P	P	17 12 04.7	+0.9
PB07				IAmb	IAmb	17 12 06.6	
	comp=Z,32nm,0.9s						
NPGB	Novo Progresso	43.22	118	*e*P	P	17 12 03.2	-1.3
PB04	IPOC Station P	43.51	149	P	P	17 12 06.5	-0.3
PB04				IAmb	IAmb	17 12 09.7	
	comp=Z,58nm,1.5s						
PB09	IPOC Station P	43.52	147	P	P	17 12 07.2	+0.2
PB09				IAmb	IAmb	17 12 10.3	
	comp=Z,37nm,1.0s						
PB09				pP	pP	17 12 32.6	+1.2
PB06	IPOC Station P	44.11	149	P	P	17 12 12.4	+0.8
PB06				IAmb	IAmb	17 12 14.4	
	comp=Z,33nm,0.9s						
PB06				pP	pP	17 12 37.6	+1.4
SIV	San Ignacio	44.14	134	P	P	17 12 12.2	+0.4
	comp=Z,24nm,0.8s,baz=318,slow=7.5,SNR=84						
SIV				pP	pP	17 12 35.2	-1.1
	comp=Z,15nm,0.9s,baz=337,slow=10,SNR=3.5						
SIV				PcP	PP	17 13 56.2	-0.6
	comp=Z,11nm,0.8s,baz=321,slow=1.6,SNR=5.4						
SCHQ	Schefferville	44.23	21	P	P	17 12 09.8	-2.2
	comp=Z,3.2nm,0.8s,baz=229,slow=20,SNR=1.6						
SCHQ				pP	pP	17 12 34.2	-2.6
	comp=Z,15nm,1.0s,baz=221,slow=5.8,SNR=5.7						
SCHQ				LR	LR	17 31 45.8	
	comp=Z,648nm,18.2s,baz=215,slow=38						
LVC	Limon Verde	44.37	148	P	P	17 12 15.4	+1.5
	comp=Z,16nm,0.9s,baz=292,slow=6.3,SNR=15						
LVC	Limon Verde	44.37	148	P	P	17 12 14.7	+0.8
LVC				PcP	PcP	17 13 56.5	+0.2
LVC	Limon Verde	44.37	148	*e*P	P	17 12 15.7	+1.8
PB15	IPOC Station P	44.58	149	P	P	17 12 15.9	+0.5
PB15				IAmb	IAmb	17 12 18.4	
	comp=Z,64nm,1.9s						
PB15				PcP	PcP	17 13 58.6	+1.9
CLDB	Colider	44.93	123	*e*P	P	17 12 16.1	-2.0
AF01	San Pedro de A	45.03	147	P	P	17 12 19.3	+0.2
PTLB	Pontes e Lacer	45.16	131	*e*P	P	17 12 19.9	+0.1
PB14	IPOC Station P	45.33	151	P	P	17 12 21.8	+0.4
PB14				IAmb	IAmb	17 12 24.0	
	comp=Z,32nm,1.0s						
AC02	Maricunga	47.80	151	P	P	17 12 40.9	-0.1
AC02				IAmb	IAmb	17 12 44.4	
	comp=Z,41nm,0.9s						
AC02				pP	pP	17 13 07.4	+1.6
SALV	Santo Antonio	48.00	129	*e*P	P	17 12 42.6	+0.5
LCO	Las Campanas	48.98	154	P	P	17 12 51.6	+1.9
LCO				pmax	pmax		
	comp=Z,30nm,0.9s						
SNDB	Serra Nova Dou	49.21	121	*e*P	P	17 12 51.4	0.0
YKA	Yellowknife Ar	49.55	347	P	P	17 12 52.8	-0.5
	comp=Z,6.4nm,0.8s,baz=143,slow=8.5,SNR=14						
YKA				pP	pP	17 13 17.8	-0.7
	comp=Z,10nm,0.9s,baz=144,slow=8.5,SNR=8.3						
YKA				ScP	ScP	17 18 01.5	+2.1
	comp=Z,0.9nm,0.7s,baz=132,slow=8.2,SNR=1.7						
PP1B	Ponte de Pedra	49.66	130	*e*P	P	17 12 55.2	+0.4
AROD	Rodeo	50.51	154	*i* P	P	17 13 03.8	+2.5
CO03	El Pedregal	50.59	155	P	P	17 13 02.7	+1.1
CYA	Choya	50.75	149	*i* P	P	17 13 03.9	+1.1
CO02	Combarbal	50.79	156	P	P	17 13 04.2	+1.0
SMTB	Santa Maria do	50.80	115	*e*P	P	17 13 03.6	+0.2
ARAG	Araguaiana, MT	50.87	126	*e*P	P	17 13 04.0	+0.2
AQDB	Aquidauana	50.92	133	P	P	17 13 03.9	-0.3
AQDB	Aquidauana	50.92	133	*e*P	P	17 13 04.4	+0.2
ACLC	CERRO LA CRUZ	51.01	151	*i* P	P	17 13 06.2	+1.3
ACCO	Cerro Coronel	51.05	154	*i* P	P	17 13 07.2	+1.8
DLBC	Dease Lake	51.13	336	P	P	17 13 04.2	-1.2
	comp=Z,36nm,1.1s,baz=145,slow=11,SNR=12						
DLBC				pP	pP	17 13 31.5	+0.7
	comp=Z,30nm,1.0s,baz=129,slow=6.8,SNR=7.6						
DLBC	Dease Lake	51.13	336	P	P	17 13 06.1	+0.8
ROSB	Rosrio	51.42	107	*e*P	P	17 13 09.0	+0.9
PEXB	Peixe	51.77	119	*e*P	P	17 13 10.2	-0.5
RTLS	Leoncito	52.00	155	*i* P	P	17 13 14.4	+2.0
APLL	PUNTA DE LOS L	52.02	151	*i* P	P	17 13 13.6	+1.3
ZON	Zonda	52.04	154	P	P	17 13 12.9	+0.5
ZON				*PP	pP	17 13 36.3	-1.3
ZON				pmax	pmax		
	comp=Z,30nm,1.0s						
ZON	Zonda	52.04	154	P	P	17 13 12.9	+0.5
ZON				IAmb	IAmb	17 13 15.5	
	comp=Z,30nm,1.0s						
ZON				pP	pP	17 13 36.3	-1.3
AUSP	Uspallata	52.33	155	*i* P	P	17 13 17.3	+2.5
VA03	San Esteban	52.34	156	P	P	17 13 15.1	+0.4
RTCV	Cerro Valdivia	52.37	154	*i* P	P	17 13 16.5	+1.6
TGTN	Hyland Airport	52.61	339	P	P	17 13 17.7	+1.4
	baz=135,SNR=6.0						
ASAL	Salagasta	52.88	155	*i* P	P	17 13 20.9	+2.3
ARCO	CERRO ARCO	53.06	155	*i* P	P	17 13 22.1	+2.1
MT01	Popeta	53.06	158	P	P	17 13 20.1	+0.3
MT01				IAmb	IAmb	17 13 21.2	
	comp=Z,29nm,1.1s						
MT09	Talagante	53.08	157	P	P	17 13 20.4	+0.2
MT09				pP	pP	17 13 44.7	-0.7
AAGR	Agrelo	53.31	155	*i* P	P	17 13 23.9	+2.1
BO01	Tunca	53.59	158	P	P	17 13 24.4	+0.7
BO01				IAmb	IAmb	17 13 26.3	
	comp=Z,46nm,1.0s						
GO05	Huala	53.84	159	P	P	17 13 26.0	+0.4
GO05				IAmb	IAmb	17 13 27.8	
	comp=Z,33nm,0.9s						
BDFB	Brasilia	53.86	123	P	P	17 13 24.8	-1.3
	comp=Z,11nm,0.8s,baz=264,slow=6.9,SNR=12						
BDFB				pP	pP	17 13 51.4	-0.3
	comp=Z,4.8nm,0.6s,baz=266,slow=8.0,SNR=2.3						
BDFB	Brasilia	53.86	123	P	P	17 13 25.9	-0.2
BDFB				pmax	pmax		
	comp=Z,18nm,1.1s						
BDFB	Brasilia	53.86	123	P	P	17 13 25.9	-0.2
CPUP	Villa Florida	53.88	140	P	P	17 13 25.0	-0.9
	comp=Z,8.5nm,0.9s,baz=318,slow=9.2,SNR=9.3						
CPUP				pP	pP	17 13 49.3	-2.0
	comp=Z,6.8nm,1.0s,baz=345,slow=6.6,SNR=2.9						
CPUP	Villa Florida	53.88	140	P	P	17 13 25.2	-0.8
CPUP				pmax	pmax		
	comp=Z,17nm,1.2s						
CPUP	Villa Florida	53.88	140	P	P	17 13 25.2	-0.8
CPUP	Villa Florida	53.88	140	*e*P	P	17 13 26.1	+0.1
SKAG	Skagway	53.92	335	P	P	17 13 26.9	+1.2
	baz=126						
BO02	Sierra Bellavi	54.06	158	P	P	17 13 28.1	+0.9
BO02				IAmb	IAmb	17 13 55.9	
	comp=Z,37nm,1.2s						
MRA	San Martin	54.09	152	*i* P	P	17 13 28.2	+0.7
ITRB	Iturama	54.33	129	*e*P	P	17 13 29.7	+0.3
MMPY	Sheldon Lake,	54.39	339	P	P	17 13 30.2	+0.9
	baz=132,SNR=19						
NBPS	Pedro II - PI	54.45	107	*e*P	P	17 13 30.1	-0.4
WHY	Whitehorse	54.46	336	IAmb	IAmb	17 13 57.2	
	comp=Z,28nm,1.4s						
WHY	Whitehorse	54.46	336	P	P	17 13 31.0	+1.2
	baz=127						
TRCB	Terra Rica	54.59	133	*e*P	P	17 13 31.0	-0.2
SDBA	SAO DESIDERIO	54.81	118	*e*P	P	17 13 31.6	-1.4
PCMB	Pacaembu	54.82	131	*e*P	P	17 13 33.4	+0.5
FARO	Faro, Yukon	54.86	338	P	P	17 13 33.9	+1.3
	baz=130						
IPMB	Ipameri, GO	54.99	125	*e*P	P	17 13 33.9	-0.3
HYT	Haines Junctio	55.60	335	IAmb	IAmb	17 14 06.4	
	comp=Z,52nm,1.5s						
HYT	Haines Junctio	55.60	335	P	P	17 13 39.1	+1.1
	baz=124,SNR=8.0						
YUK6	Outpost Mounta	56.01	335	P	P	17 13 43.1	+1.9
	baz=124						
PTGB	Pitanga	56.23	134	*e*P	P	17 13 42.5	-0.5
PINM	Pinnacle	56.34	334	P	P	17 13 44.8	+1.5
	baz=121						
PCA	Pinnacle	56.34	334	IAmb	IAmb	17 13 47.0	
	comp=Z,43nm,1.0s						
YUK4	Talbot Arm	56.35	335	P	P	17 13 45.0	+1.5
	baz=124						
BB19B	Bebedouro	56.52	129	*e*P	P	17 13 45.4	+0.4
JANB	Januaria	56.61	120	*e*P	P	17 13 45.1	-0.8
ITQB	Itaqui	56.73	142	*e*P	P	17 13 46.9	+0.6
LOGN	Logan Glacier	57.04	334	IAmb	IAmb	17 13 52.6	
	comp=Z,42nm,1.3s						
FRTB	Fartura	57.12	131	*e*P	P	17 13 49.7	+0.4
CTG	Chitna Glacier	57.25	334	P	P	17 13 51.6	+1.8

baz=121
YUK3 **Moose Creek** 57.31 335 P P 17 13 51.1 +0.8
baz=122,SNR=9.1
NBCL **Cascavel-CE** 57.32 105 eP P 17 13 49.4 -1.4
LC01 **Cunco** 57.39 161 P P 17 13 50.5 -0.3
LC01 pP pP 17 14 16.5 0.0
LC01 IAmb IAmb 17 14 19.1
comp=Z,33nm,1.0s
BGLC **Bering Glacier** 57.67 333 P P 17 13 54.2 +1.7
baz=118
MC01 **Montes Claros** 57.74 121 eP P 17 13 54.3 +0.4
BVCY **Beaver Creek** 57.81 336 P P 17 13 55.0 +1.5
baz=122
ITAB **Concordia** 57.84 137 eP P 17 13 54.5 +0.2
CRQE **Cirque** 57.89 333 P P 17 13 55.9 +1.7
baz=119
CRQM **Cirque** 57.91 333 IAmb IAmb 17 13 57.7
comp=Z,52nm,1.1s
NBMA **Muriti-CE** 58.05 109 eP P 17 13 55.8 -0.3
RCLB **Rio Claro- Sao** 58.06 129 eP P 17 13 57.0 +1.1
KAIM **Kayak Island** 58.09 332 P P 17 13 57.5 +2.1
baz=117
DAWY **Dawson** 58.16 338 P P 17 13 57.0 +1.0
baz=124
MCARA **McCarthy VSAT** 58.17 334 P P 17 13 57.9 +1.9
baz=119,SNR=6.7
M27K **Edge Creek, AK** 58.19 335 IAmb IAmb 17 13 59.5
comp=Z,32nm,1.4s
M27K **Edge Creek, AK** 58.19 335 P P 17 13 57.2 +0.8
baz=121,SNR=6.0
NBPN **Ponto Novo - B** 58.19 113 eP P 17 13 56.0 -1.0
VRDI **Verde Repeater** 58.27 334 IAmb IAmb 17 14 00.3
comp=Z,38nm,1.2s
BCAR **Beaver Creek A** 58.52 336 P P 17 13 59.6 +1.1
BCAR pP pP 17 14 23.0 -1.7
GLB **Gilahina Butte** 58.53 334 IAmb IAmb 17 14 02.0
comp=Z,34nm,1.1s
L27K **Beaver Creek,** 58.53 336 IAmb IAmb 17 14 01.4
comp=Z,30nm,1.1s
L27K **Beaver Creek,** 58.53 336 P P 17 13 59.9 +1.3
baz=121,SNR=21
EPYK **Eagle Plains** 58.62 341 IAmb IAmb 17 14 49.8
comp=Z,28nm,1.1s
EPYK **Eagle Plains** 58.62 341 P P 17 14 00.4 +1.3
baz=128
BMRM **Bremner River** 58.65 333 P P 17 14 00.3 +0.9
baz=117,SNR=7.8
M26K **Nabesna, AK** 58.66 335 IAmb IAmb 17 14 02.5
comp=Z,32nm,1.3s
M26K **Nabesna, AK** 58.66 335 P P 17 14 00.6 +1.1
baz=120,SNR=13
Q23K **Middleton Isla** 58.75 331 P P 17 14 01.5 +1.5
baz=115
DIAM **Diamantina, MG** 58.78 123 eP P 17 14 00.8 -0.3
VAO **Valinhos** 58.82 129 eP P 17 14 01.8 +0.6
SPB **Sao Paulo** 58.83 130 P P 17 14 01.2 +0.1
SPB IAmb IAmb 17 14 04.3
comp=Z,20nm,0.9s
SPB **Sao Paulo** 58.83 130 eP P 17 14 01.8 +0.7
N25K **Chitina, Valde** 58.94 334 P P 17 14 02.9 +1.4
baz=118,SNR=15
INK **Inuvik** 58.95 344 P P 17 14 01.3 0.0
comp=Z,15nm,0.9s,baz=118,slow=7.9,SNR=6.7
INK **Inuvik** 58.95 344 P P 17 14 01.3 0.0
INK pmax pmax
comp=Z,24nm,1.2s
INK **Inuvik** 58.95 344 P P 17 14 01.8 +0.6
baz=133,SNR=5.7
EYAK **Cordova Ski Ar** 58.96 333 P P 17 14 03.2 +1.7
baz=116,SNR=5.6
LL04 **Puerto Octay** 59.07 162 P P 17 14 02.0 -0.5
LL04 IAmb IAmb 17 14 04.4
comp=Z,20nm,0.9s
LL04 pP pP 17 14 28.6 +0.4
L26K **Log Cabin Wild** 59.11 336 P P 17 14 03.9 +1.3
baz=120
CPSB **Cacapava Do Su** 59.18 140 eP P 17 14 03.7 +0.2
EGAK **Eagle** 59.20 338 IAmb IAmb 17 14 04.8
comp=Z,24nm,1.2s
EGAK **Eagle** 59.20 338 P P 17 14 03.4 +0.3
baz=123,SNR=10
MENT **Mentasta** 59.22 336 IAmb IAmb 17 14 06.2
comp=Z,33nm,1.5s
BSCB **Bom Sucesso** 59.35 126 eP P 17 14 06.0 +1.1
PET01 **Itanhaem-SP** 59.36 131 eP P 17 14 05.2 +0.4
KLU **Klutina** 59.45 334 P P 17 14 07.2 +2.1
baz=116,SNR=13
PLCA **Paso Flores** 59.48 161 P P 17 14 06.0 +0.5
comp=Z,17nm,0.9s,baz=338,slow=9.1,SNR=23
PLCA pP pP 17 14 31.6 +0.3
comp=Z,23nm,1.1s,baz=344,slow=5.8,SNR=7.8
PLCA **Paso Flores** 59.48 161 P P 17 14 05.7 +0.3
PLCA *PP pP 17 14 32.4 +1.2
PLCA pmax pmax
comp=Z,51nm,1.3s
PLCA **Paso Flores** 59.48 161 P P 17 14 05.7 +0.3
PLCA pP pP 17 14 32.4 +1.2
PLCA **Paso Flores** 59.48 161 eP P 17 14 06.9 +1.4
HARP **HAARP** 59.54 335 P P 17 14 07.7 +2.2
baz=117,SNR=7.6
DOT **Dot Lake** 59.70 336 IAmb IAmb 17 14 09.5
comp=Z,44nm,1.3s
GLI **Glacier Island** 59.70 333 P P 17 14 08.5 +1.9
baz=115
SCRK **Sand Creek** 59.83 337 IAmb IAmb 17 14 10.6
comp=Z,41nm,1.4s
SCRK **Sand Creek** 59.83 337 P P 17 14 09.0 +1.3
baz=119
M24K **Tolsona, Glenn** 59.83 334 P P 17 14 08.9 +1.3
M24K pP pP 17 14 34.3 +0.4
M24K **Tolsona, Glenn** 59.83 334 P P 17 14 09.5 +1.9
baz=116,SNR=10
PAX **Paxson** 59.93 335 P P 17 14 09.5 +1.2
baz=117,SNR=14
GDU01 **Guandu, BA** 60.01 116 eP P 17 14 08.0 -1.4
PARB **Paraibuna** 60.02 129 eP P 17 14 10.3 +0.8
PLTB **Pedras Altas** 60.03 142 eP P 17 14 08.9 -0.4
RIDG **Independent Ri** 60.05 336 P P 17 14 10.3 +1.3
baz=118
RCBR **Riachuelo** 60.11 106 eP P 17 14 10.0 -0.3
LL01 **San Ignacio de** 60.42 163 P P 17 14 12.3 +0.6
LL01 pP 17 14 38.3 +0.7
LL01 IAmb IAmb 17 14 40.4
comp=Z,44nm,1.1s
SEW **Seward** 60.46 331 P P 17 14 13.0 +1.3
baz=112
TRQA **Tornquist** 60.47 152 eP P 17 14 13.0 +0.8
KNK **Knik Glacier** 60.52 333 P P 17 14 13.4 +1.1
baz=114,SNR=9.2
SML **Sawmill** 60.63 333 P P 17 14 14.1 +1.0
SML **Sawmill** 60.63 333 P P 17 14 14.3 +1.3
baz=114,SNR=8.8
TER01 **Tubaro-SC** 60.69 136 eP P 17 14 14.0 +0.1
WAT6 **Susitna Watana** 60.70 334 P P 17 14 14.7 +1.1
baz=115,SNR=30
CMC01 **Camacan, BA** 60.80 118 eP P 17 14 14.3 -0.5
PMR **Palmer** 60.89 333 P P 17 14 15.8 +1.1
baz=113
NBPV **Pedro Velho** 60.89 106 eP P 17 14 14.6 -0.9
BRSE **Bradley Lake S** 60.93 331 P P 17 14 16.4 +1.3
baz=110
RC01 **Rabbit Creek A** 60.96 332 IAmb IAmb 17 14 17.8
comp=Z,46nm,1.1s
RC01 **Rabbit Creek A** 60.96 332 P P 17 14 16.2 +1.0
baz=112
SJMB **Sao Joao De Ma** 61.02 122 eP P 17 14 16.0 -0.3
VAS01 **Vassouras-RJ** 61.09 127 eP P 17 14 17.0 +0.3
CNPM **China Poot** 61.09 330 P P 17 14 17.0 +0.8
GUA01 **Guaratinga, BA** 61.13 119 eP P 17 14 17.2 +0.2
WAT1 **Susitna Watana** 61.14 334 P P 17 14 17.4 +0.9
baz=114
PRP **Porcupine Dome** 61.16 338 IAmb IAmb 17 14 19.0
comp=Z,38nm,1.1s
PRP **Porcupine Dome** 61.16 338 P P 17 14 17.4 +0.7
baz=119,SNR=15
HDA **Harding Lake** 61.18 336 IAmb IAmb 17 14 18.8
comp=Z,53nm,1.4s
HDA **Harding Lake** 61.18 336 P P 17 14 17.2 +0.6
baz=117,SNR=16
KDAK **Kodiak Island** 61.19 328 P P 17 14 17.6 +0.8
comp=Z,15nm,0.8s,baz=194,slow=1.2,SNR=10
KDAK **Kodiak Island** 61.19 328 P P 17 14 18.0 +1.2
baz=108
NBAN **Anadia - AL** 61.22 110 eP P 17 14 14.9 -2.8
IL31 61.32 337 IAmb IAmb 17 14 19.8
comp=Z,38nm,1.1s

ILAR **Eielson Array** 61.32 337 P P 17 14 18.0 +0.4
comp=Z,22nm,1.1s,baz=126,slow=4.9,SNR=95
ILAR pP pP 17 14 42.7 -1.2
comp=Z,7.3nm,1.0s,baz=136,slow=5.1,SNR=5.2
LL02 **Futaleuf** 61.33 163 P P 17 14 17.9 +0.1
LL02 pP pP 17 14 43.9 +0.1
BSFB **Barra de Sao F** 61.36 122 eP P 17 14 18.8 +0.2
OHAK **Old Harbor** 61.39 327 P P 17 14 19.9 +1.8
baz=107
SUA **Susitna One** 61.56 332 P P 17 14 20.4 +1.0
baz=111
FYU **Fort Yukon** 61.57 339 IAmb IAmb 17 14 21.8
comp=Z,78nm,1.7s
MCK **McKinley** 61.67 335 P P 17 14 20.6 +0.6
baz=114,SNR=9.2
SII **Sitkinak Islan** 61.67 326 P P 17 14 20.9 +0.8
baz=106
POKR **Poker Flat Res** 61.68 337 P P 17 14 20.8 +0.8
baz=116
CUT **Chulitna** 61.70 334 P P 17 14 21.4 +1.3
baz=112,SNR=12
COLA **College** 61.73 337 P P 17 14 21.6 +1.3
COLA pmax pmax
comp=Z,36nm,1.3s
DUB01 **Friburgo-RJ** 61.81 126 eP P 17 14 22.0 +0.3
MDM **Murphy Dome** 61.92 337 IAmb IAmb 17 14 48.4
comp=Z,34nm,1.5s
O20K **Slope Mountain** 61.94 331 P P 17 14 22.9 +1.0
baz=109
RIB01 **Linhares ES** 61.97 122 eP P 17 14 22.1 -0.5
Q19K **Cape Douglas,** 62.07 329 P P 17 14 23.7 +0.9
baz=107
NEA2 **Nenana** 62.09 336 P P 17 14 23.4 +0.6
baz=115
SKT **Skwentna** 62.09 333 P P 17 14 23.8 +1.0
baz=111,SNR=21
P19K **Oil Pt** 62.09 330 P P 17 14 24.4 +1.5
baz=108
SPCR **Spur Chakacha** 62.12 332 P P 17 14 24.1 +1.0
baz=110
H24K **Noodor Dome** 62.17 338 IAmb IAmb 17 14 25.7
comp=Z,63nm,1.3s
H24K **Noodor Dome** 62.17 338 P P 17 14 24.4 +1.0
baz=116,SNR=24
CAM01 **Campos-RJ** 62.24 125 eP P 17 14 25.3 +0.9
ALF01 **Guarapari-ES** 62.36 124 eP P 17 14 26.2 +1.1
I23K **Minto, Yukon-K** 62.43 337 P P 17 14 25.9 +0.9
I23K pP pP 17 14 51.1 -0.3
I23K **Minto, Yukon-K** 62.43 337 P P 17 14 26.2 +1.2
baz=115,SNR=43
BPAW **Bear Paw Mtn.** 62.65 335 IAmb IAmb 17 14 28.6
comp=Z,46nm,1.2s
BPAW **Bear Paw Mtn.** 62.65 335 P P 17 14 27.1 +0.6
baz=112,SNR=21
PPLA **Purkeypile** 62.71 334 IAmb IAmb 17 14 29.2
comp=Z,49nm,1.2s
PPLA **Purkeypile** 62.71 334 P P 17 14 27.9 +0.8
baz=111,SNR=10
M20K **Styx River** 62.77 332 IAmb IAmb 17 14 29.7
comp=Z,37nm,1.2s
M20K **Styx River** 62.77 332 P P 17 14 28.4 +0.9
baz=109,SNR=12
H23K **Yukon River** 62.79 337 IAmb IAmb 17 14 54.7
comp=Z,52nm,1.6s
H23K **Yukon River** 62.79 337 P P 17 14 28.5 +1.1
baz=115,SNR=6.6
MLY **Manley** 62.92 336 P P 17 14 29.1 +0.8
MLY IAmb IAmb 17 14 30.5
comp=Z,60nm,1.3s
MLY pP pP 17 14 54.1 -0.7
MLY **Manley** 62.92 336 P P 17 14 29.3 +1.0
baz=113,SNR=33
N19K **Bonanza Creek** 63.05 331 P P 17 14 30.3 +1.0
baz=108,SNR=14
CHUM **Lake Minchumin** 63.12 335 P P 17 14 30.2 +0.6
baz=111,SNR=6.7
M19K **Big River Lodg** 63.34 332 IAmb IAmb 17 14 33.6
comp=Z,58nm,1.3s
M19K **Big River Lodg** 63.34 332 P P 17 14 32.3 +1.2
baz=108,SNR=15
I21K **Tanana** 63.46 336 IAmb IAmb 17 14 34.0
comp=Z,40nm,1.3s
I21K **Tanana** 63.46 336 P P 17 14 32.7 +0.8
baz=112,SNR=7.1
COLD **Coldfoot** 63.62 339 P P 17 14 33.2 +0.4
COLD IAmb IAmb 17 14 36.1
comp=Z,35nm,1.3s
COLD pP pP 17 14 58.5 -0.8
COLD **Coldfoot** 63.62 339 P P 17 14 34.4 +1.6
baz=115,SNR=13
L19K **White Mountain** 63.63 332 IAmb IAmb 17 15 00.2
comp=Z,41nm,1.4s
L19K **White Mountain** 63.63 332 P P 17 14 33.9 +0.8
baz=108,SNR=12
SVW2 **Sparrevohn** 63.64 331 P P 17 14 33.1 0.0
K20K **Telida** 63.67 334 P P 17 14 33.9 +0.6
baz=109,SNR=26
CHGN **Chignik** 63.89 326 IAmb IAmb 17 14 37.5
comp=Z,39nm,1.0s
CHGN **Chignik** 63.89 326 P P 17 14 35.5 +0.7
baz=102,SNR=10
J20K **Nowinta River** 63.97 335 IAmb IAmb 17 14 37.1
comp=Z,46nm,1.4s
J20K **Nowinta River** 63.97 335 P P 17 14 35.6 +0.4
baz=109,SNR=20
TOLK **Toolik Lake Re** 64.01 340 IAmb IAmb 17 15 03.1
comp=Z,61nm,1.6s
TOLK **Toolik Lake Re** 64.01 340 P P 17 14 36.5 +1.0
baz=116,SNR=6.0
CHNA **Chernabura Isl** 64.27 324 P P 17 14 38.2 +0.9
baz=100
SDPT **Sand Point** 64.86 324 IAmb IAmb 17 14 43.8
comp=Z,42nm,1.0s
SDPT **Sand Point** 64.86 324 P P 17 14 42.3 +1.2
baz=99,SNR=5.2
FALS **False Pass** 66.46 323 P P 17 14 52.4 +1.0
baz=97
UNV **Unalaska Valle** 68.17 322 P P 17 15 02.6 +0.4
UNV IAmb IAmb 17 15 31.2
comp=Z,64nm,1.0s
UNV **Unalaska Valle** 68.17 322 P P 17 15 03.1 +0.9
baz=94
RDOG **Red Dog Mine** 68.48 338 IAmb IAmb 17 15 07.7
comp=Z,39nm,1.4s
RDOG **Red Dog Mine** 68.48 338 P P 17 15 05.9 +2.0
baz=103
TNA **Tin City** 70.00 335 P P 17 15 14.3 +1.0
baz=97
SPIA **Saint Paul Isl** 70.46 326 P P 17 15 18.0 +1.7
baz=92
GAMB **Gambell** 71.47 333 P P 17 15 23.9 +1.6
baz=93
SPITS **Spitsbergen Ar** 78.92 11 LR LR 17 52 33.1
comp=Z,250nm,21.0s,baz=220,slow=37
ESDC **Sonseca Array** 79.46 52 P P 17 16 06.7 -1.8
comp=Z,0.8nm,0.7s,baz=292,slow=5.6,SNR=2.3
ESDC pP pP 17 16 34.4 -1.6
comp=Z,2.6nm,1.0s,baz=293,slow=5.5,SNR=5.0
ESDC PP PP 17 19 11.9 +2.0
comp=Z,0.5nm,0.4s,baz=302,slow=5.9,SNR=2.3
BILL **Bilibino** 79.94 338 *d* iP P 17 16 11.5 +1.0
BILL *e*PP pP 17 16 38.1 +0.1
BILL *e*SP sP 17 16 48.7 -0.8
BILL pmax pmax
comp=Z,104nm,1.7s
BILL **Bilibino** 79.94 338 P P 17 16 11.9 +1.4
BILL IAmb IAmb 17 16 13.0
comp=Z,78nm,1.2s
BILL pP pP 17 16 38.0 -0.1
PMSA **Palmer Station** 82.82 168 eP P 17 16 26.9 +1.5
DOU **Dourbes** 83.01 40 *d*pP pP 17 16 52.9 -1.8
DOU *d*sP sP 17 17 07.5 +1.4
BGES **Gesves** 83.23 40 *d*P P 17 16 26.5 -1.7
BGES *d*pP pP 17 16 56.6 +0.7
BGES *d*sP sP 17 17 09.5 +2.2
NB2 **NORSAR Subarra** 83.31 28 P P 17 16 28.4 0.0
comp=Z,1.0nm,0.6s,baz=291,slow=5.1
NOA **NORSAR Array B** 83.31 28 P P 17 16 27.2 -1.2
comp=Z,1.5nm,0.7s,baz=291,slow=4.9,SNR=8.1
NOA pP pP 17 16 53.5 -2.6
comp=Z,5.5nm,1.1s,baz=290,slow=5.1,SNR=6.1
NOA LR LR 17 54 30.6
comp=Z,104nm,18.1s,baz=285,slow=36
BCLA **Clavier** 83.36 40 *d*P P 17 16 28.3 -0.5
BCLA *d*pP pP 17 16 56.0 -0.5
MEM **Membach** 83.74 39 *d*P P 17 16 29.5 -1.2
BTNL **Ternell** 83.82 39 *d*P P 17 16 30.8 -0.4

WLF **Walferdange** 84.10 40 *d*PcP PcP 17 16 35.0 -1.2
BUG **Bochum--Univer** 84.26 38 *e*pP pP 17 17 02.4 +1.3
baz=290,slow=4.9
HFS **Hagfors** 84.78 29 LR LR 17 52 54.0
comp=Z,180nm,19.9s,baz=268,slow=35
KASTN **Kahler Asten** 85.02 38 *e*pP pP 17 17 06.3 +1.3
baz=290,slow=4.9
KOWA **Kowa** 85.07 76 P P 17 16 36.4 -1.7
ARCES **ARCESS Array B** 85.09 18 P P 17 16 36.3 -0.9
comp=Z,1.5nm,0.7s,baz=292,slow=3.8,SNR=7.2
ARCES pP pP 17 17 04.8 -0.2
comp=Z,1.3nm,0.6s,baz=308,slow=4.5,SNR=1.2
ARCES LR LR 17 54 38.2
comp=Z,205nm,21.4s,baz=215,slow=36
BSEG **Bad Segeberg** 85.23 35 *e*pP pP 17 17 07.6 +1.7
baz=290,slow=4.9
TNS **Taunus Mts** 85.34 39 *e*P P 17 16 39.1 +0.2
comp=Z,22nm,1.3s
TNS *e*pP pP 17 17 08.1 +1.4
baz=290,slow=4.9
NRDL **Niedersach Rie** 85.59 37 *e*pP pP 17 17 09.6 +1.9
baz=290,slow=4.9
GTTG **Gottingen** 85.83 38 *e*pP pP 17 17 10.7 +1.7
baz=290,slow=4.9
CLZ **Clausthal** 85.97 37 *e*pP pP 17 17 11.5 +1.8
baz=290,slow=4.9
MILB **Miltenberg** 85.98 39 *e*P P 17 16 42.3 +0.2
comp=Z,65nm,1.9s
MILB *e*pP pP 17 17 11.3 +1.4
baz=290,slow=4.9
ASSE **Asse, Remlinge** 86.04 37 *e*pP pP 17 17 11.7 +1.7
baz=290,slow=4.9
UBBA **Unterbreizbach** 86.09 38 *e*pP pP 17 17 11.9 +1.7
baz=290,slow=4.9
FLTG **Flechtingen** 86.30 37 *e*pP pP 17 17 12.6 +1.2
baz=290,slow=4.9
MOX **Moxa** 87.11 38 *e*pP pP 17 17 16.7 +1.3
baz=290,slow=4.9
UBR **Ueberruh** 87.20 41 *e*pP pP 17 17 17.1 +1.1
baz=290,slow=4.9
GRF **Grafenberg Arr** 87.21 39 *e*P P 17 16 49.4 +1.4
comp=Z,24nm,1.7s
GRF *e*pP pP 17 17 17.6 +1.7
comp=Z,22nm,1.5s,baz=290,slow=4.9
SEY **Seymchan** 87.23 335 *d* iP P 17 16 49.2 +1.4
PLN **Plauen** 87.49 38 *e*pP pP 17 17 18.8 +1.5
baz=290,slow=4.9
GUNZ **Gunzen** 87.64 38 *e*pP pP 17 17 19.5 +1.5
baz=290,slow=4.9
MANZ **Manzenberg** 87.64 39 *e*sP sP 17 17 33.4 +4.0
baz=290,slow=4.2
CLL **Collm** 87.69 37 *i* pP pP 17 17 19.3 +1.1
comp=Z,64nm,2.2s
CLL *e*sP sP 17 17 32.0 +2.5
CLL **Collm** 87.69 37 *e*P P 17 16 49.0 -1.2
CLL *i* *PP pP 17 17 19.3 +1.1
CLL **Collm** 87.69 37 *e*pP pP 17 17 19.4 +1.3
baz=290,slow=4.9
WERN **Wernitzgruen** 87.69 38 *e*pP pP 17 17 19.8 +1.5
baz=290,slow=4.9
TANN **Tannenbergstha** 87.70 38 *e*pP pP 17 17 20.0 +1.6
baz=290,slow=4.9
ROTZ **Rotzenmuhle** 87.78 39 *e*pP pP 17 17 20.4 +1.7
baz=290,slow=4.9
FBE **Freiberg** 88.04 37 *e*pP pP 17 17 21.5 +1.6
baz=290,slow=4.9
BRG **Berggiesshubel** 88.40 37 *e*pP pP 17 17 23.0 +1.4
baz=290,slow=4.9
BRG *e*sP sP 17 17 36.4 +3.5
baz=290,slow=4.2
WET **Wettzell** 88.42 39 *e*pP pP 17 17 23.5 +1.7
baz=290,slow=4.9
WET *e*sP sP 17 17 36.6 +3.5
baz=290,slow=4.2
TIXI **Tiksi** 88.79 348 P P 17 16 54.1 -0.9
comp=Z,12nm,0.8s,baz=336,slow=4.2,SNR=3.3
TIXI **Tiksi** 88.79 348 || *e*P P 17 16 55.1 +0.1
KHC **Kasperske Hory** 88.85 39 *e*sP sP 17 17 38.1 +2.9
KHC *e*x x 17 18 02.8
RJOB **Jochberg** 88.88 41 *e*sP sP 17 17 38.4 +3.0
baz=290,slow=4.2
GEC2 **GERESS Array S** 89.03 39 *e*pP pP 17 17 26.0 +1.2
baz=290,slow=4.9
GEC2 *e*sP sP 17 17 39.3 +3.2
baz=290,slow=4.2
GERES **GERESS Array B** 89.03 39 P P 17 16 55.3 -1.5
comp=Z,0.6nm,0.7s,baz=306,slow=4.6,SNR=5.3
PRU **Pruhonice** 89.10 38 *e*sP sP 17 17 39.7 +3.4
PRU *e*x x 17 18 10.8
PEA0B **Petropavlovsk-** 89.13 325 || *e*P P 17 16 58.7 +1.7
PETK **Petropavlovsk-** 89.13 325 P P 17 16 58.3 +1.3
comp=Z,1.9nm,0.7s,baz=72,slow=9.5,SNR=6.3
PETK pP pP 17 17 25.1 +0.2
comp=Z,1.0nm,0.8s,baz=100,slow=28,SNR=1.4
MA2 **Magadan** 89.57 333 *ce*P P 17 16 59.9 +1.0
MA2 pmax pmax
comp=Z,20nm,1.7s
FINES **FINESS Array B** 89.59 25 P P 17 16 59.1 +0.2
comp=Z,1.9nm,0.7s,baz=5.2,slow=2.1,SNR=5.6
DPC **Dobruska-Polom** 90.00 37 *e*sP sP 17 17 44.2 +3.6
VRAC **Vranov** 90.59 38 LR LR 18 00 20.5
comp=Z,143nm,18.2s,baz=273,slow=37
KEST **Kesra** 90.67 53 P P 17 17 03.4 -1.3
comp=Z,1.6nm,0.6s,baz=326,slow=7.3,SNR=2.2
TORD **Torodi Ar. Bea** 90.77 76 P P 17 17 03.0 -2.4
comp=Z,0.4nm,0.5s,baz=292,slow=5.5,SNR=2.4
TORD pP pP 17 17 30.7 -3.0
comp=Z,0.1nm,0.3s,baz=274,slow=23,SNR=1.7
MSVF **Nonsavu** 93.83 253 LR LR 17 49 53.8
comp=Z,146nm,21.6s,baz=97,slow=29
MNK **Minsk** 94.19 30 *i* P P 17 17 19.0 -1.4
MNK *i* *PP pP 17 17 47.7 -0.9
MNK *i* 17 21 05.2
MNK *i* S SKSac 17 27 42.8 -2.9
MNK *i* SS SS 17 34 40.2 -4.5
MNK *i* SSS SSS 17 38 21.8
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK pmax pmax
comp=N,10.0nm,0.6s
MNK pmax pmax
comp=Z,10.0nm,0.7s
MNK MLR MLR
comp=E,13nm,19.0s
MNK MLR MLR
comp=N,58nm,16.0s
MNK MLR MLR
comp=Z,461nm,22.0s
MNK **Minsk** 94.19 30 *i* P P 17 17 19.1 -1.3
comp=E,2.0nm,0.7s
MNK *i* P P 17 17 19.1 -1.3
comp=N,10.0nm,0.7s
MNK *i* P P 17 17 19.1 -1.3
comp=Z,10.0nm,0.7s,baz=123
MNK *i* pP pP 17 17 47.8 -0.8
MNK *i* PP PP 17 21 05.2 -2.5
MNK *i* S SKSac 17 27 42.9 -2.9
MNK *i* sS ScS 17 28 35.0 +11
MNK *i* SS SS 17 34 40.3 -4.4
MNK *i* SSS SSS 17 38 21.9
MNK *i* LRM MLR 18 00 42.3
comp=E,13nm,18.8s
MNK *i* LRM MLR 18 00 50.3
comp=N,58nm,15.9s
MNK *i* LRM MLR 18 00 53.2
comp=Z,461nm,21.7s
NRIK **Noril'sk** 95.54 360 LR LR 18 05 48.5
comp=Z,217nm,18.4s,baz=89,slow=39
YAK **Yakutsk** 95.95 341 P P 17 17 28.0 -0.3
comp=Z,2.6nm,0.6s,baz=76,slow=2.6,SNR=6.4
YAK **Yakutsk** 95.95 341 *d* iP P 17 17 28.8 +0.6
YAK pmax pmax
comp=Z,10.0nm,1.0s
YAK **Yakutsk** 95.95 341 IAmb IAmb 17 17 30.2
comp=Z,8.3nm,0.9s
OBN **Obninsk** 97.81 27 LR LR 18 01 49.4
comp=Z,44nm,19.2s,baz=347,slow=35
OBN **Obninsk** 97.81 27 *e*P Pdif 17 17 38.1 +1.3
OBN *e**PP pP 17 18 04.5 -0.5
OBN *e*SP sP 17 18 16.0 -0.4
OBN *e* 17 21 38.4
OBN pmax pmax
comp=Z,7.0nm,0.5s
BELA **Belgrano 2** 98.59 170 P P 17 17 38.5 -1.2
BELA IAmb IAmb 17 17 41.7
comp=Z,14nm,1.6s
MJAR **Matsushiro Arr** 109.48 318 PKKPbc PKKPbc 17 33 39.9 +2.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,2.5nm,0.3s,baz=225,slow=10,SNR=16						
BRVK	Borovoye	110.32	11	⇓iPKIKP	PKiKP	17 22 34.3	+1.2
ZALV	Zalesovo Beam	110.95	2	PKiKP	PKiKP	17 22 33.7	-0.5
	comp=Z,1.0nm,0.6s,baz=318,slow=0.6,SNR=4.7						
GNI	Garni	112.10	34	d iPKIKP	PKiKP	17 22 35.9	-1.2
GNI				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KURBB	Kurchatov Arra	113.87	6	PKiKP	PKiKP	17 22 39.8	-0.1
	comp=Z,1.2nm,0.6s,baz=344,slow=2.3,SNR=10						
ULN	Ulaanbaatar	114.63	345	⇓iPKIKP	PKPdf	17 22 42.5	+0.8
ULN				pmax	pmax		
	comp=Z,3.0nm,1.3s						
SONM	Songino Array	114.81	346	PKP	PKPdf	17 22 42.2	+0.2
	comp=Z,1.3nm,0.9s,baz=312,slow=0.7,SNR=8.0						
SONM				PP	PP	17 23 41.3	+0.9
	comp=Z,0.1nm,0.4s,baz=359,slow=7.4,SNR=4.0						
SONM				PKKPbc	PKKPbc	17 33 19.4	-1.5
	comp=Z,0.5nm,0.7s,baz=229,slow=4.7,SNR=4.1						
DGZ	Jazzator, Alta	115.24	360	⇑iPKIKP	PKPdf	17 22 43.2	+0.4
GUMO	Guam	116.16	294	PKP	PKPdf	17 22 45.1	-0.1
	comp=Z,32nm,0.7s,baz=50,slow=3.9,SNR=3.0						
MK31	Makanchi Array	117.99	4	PKIKP	PKPdf	17 22 47.3	-0.7
MK31	Makanchi Array	117.99	4	PKPdf	PKPdf	17 22 47.3	-0.7
MKAR	Makanchi Array	117.99	4	PKP	PKPdf	17 22 47.5	-0.5
	comp=Z,1.1nm,0.7s,baz=348,slow=2.9,SNR=11						
MKAR				pPKP	pPKPdf	17 23 14.9	-2.3
	comp=Z,0.9nm,0.9s,baz=318,slow=1.6,SNR=2.9						
MKAR				PKKPbc	PKKPbc	17 33 08.0	-1.6
	comp=Z,0.6nm,0.9s,baz=145,slow=4.4,SNR=4.0						
MKAR				PKKP	PKKPdf	17 33 36.7	-0.2
	comp=Z,0.5nm,0.9s,baz=141,slow=4.8,SNR=2.8						
HHC	Hu-ho-hao-te	119.71	339	ePKP	PKiKP	17 22 53.3	+1.7
WMQ	Urumqi	121.12	360	ePKP	PKiKP	17 22 55.0	+0.7
AAK	Ala-Archa	121.12	11	⇓iPKIKP	PKiKP	17 22 55.5	+1.1
AAK				pmax	pmax		
	comp=Z,11nm,1.7s						
BOOM	Boomskoye usch	121.52	10	PKIKP	PKiKP	17 22 56.0	+0.7
BOOM	Boomskoye usch	121.52	10	PKPdf	PKiKP	17 22 56.0	+0.7
BOSA	Boshof	121.58	114	PKP	PKiKP	17 22 56.1	+0.5
	comp=Z,11nm,0.9s,baz=285,slow=1.8,SNR=16						
BOSA				pPKP	pPKPdf	17 23 23.7	-0.6
	comp=Z,7.2nm,0.9s,baz=244,slow=5.5,SNR=3.3						
MBAR	Mbarara	122.35	81	c iPKIKP	PKiKP	17 23 00.3	+2.7
CHGR	Chuyangaron	123.67	17	PKPdf	PKiKP	17 22 59.7	+0.2
CTA	Charters Tower	123.83	256	PKP	PKiKP	17 23 01.4	+1.3
	comp=Z,2.6nm,0.6s,baz=123,slow=3.2,SNR=5.4						
NJ2	Nanjing	123.97	328	ePKP	PKiKP	17 23 00.8	+0.7
GTA	Gaotai	124.28	348	⇑PKP	PKiKP	17 23 01.1	+0.4
GTA				sPKP		17 23 39.3	
KSH	Kashi	124.42	11	PKP	PKiKP	17 23 03.4	+2.4
MAW	Mawson	125.43	169	PKP	PKiKP	17 23 02.4	+0.6
	comp=Z,1.7nm,0.5s,baz=151,slow=5.4,SNR=6.1						
LZH	Lanzhou	126.49	343	⇓PKP	PKiKP	17 23 06.5	+1.2
XAN	Xi'an	126.72	338	PKP	PKiKP	17 23 06.3	+0.7
STKA	Stephens Creek	128.07	241	PKP	PKiKP	17 23 08.4	+0.2
	comp=Z,6.9nm,0.8s,baz=114,slow=1.7,SNR=9.8						
STKA				pPKP	pPKPdf	17 23 37.2	+0.8
	comp=Z,4.8nm,0.8s,baz=90,slow=2.0,SNR=3.5						
WB2	Warramunga Arr	134.99	257	PKPdf	PKiKP	17 23 21.9	-0.7
WRAB	Tennant Creek	134.99	257	⇑iPKIKP	PKiKP	17 23 22.4	-0.1
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WRA	Warramunga Arr	135.00	257	PKhKP	PKPpre	17 23 12.3	
	comp=Z,0.5nm,0.6s,baz=93,slow=3.4,SNR=8.5						
WRA				PKP	PKPdf	17 23 21.4	+0.4
	comp=Z,3.5nm,0.7s,baz=88,slow=2.2,SNR=10						
ASAR	Alice Springs	135.41	252	PKhKP	PKPpre	17 23 12.7	
	comp=Z,0.7nm,0.6s,baz=106,slow=3.6,SNR=12						
ASAR				PKP	PKiKP	17 23 22.9	-0.5
	comp=Z,2.0nm,0.7s,baz=106,slow=1.7,SNR=13						
ASAR				pPKP	pPKPdf	17 23 51.9	+1.2
	comp=Z,1.1nm,0.7s,baz=114,slow=1.8,SNR=3.1						
NONG	Nongkai	143.29	334	PKP	PKPbc	17 23 34.6	+1.1
SKNT	Sakolnakorn	143.89	332	PKP	PKPdf	17 23 36.4	-0.9
BATI	Baumata	144.15	274	PKP	PKPdf	17 23 38.5	+0.6
	comp=Z,35nm,1.0s,baz=134,slow=4.0,SNR=3.6						
CHTO	Chiang Mai	144.15	341	PKIKP	PKPab	17 23 35.6	+0.1
CHTO	Chiang Mai	144.15	341	PKPdf	PKPab	17 23 35.6	+0.1
CM09	Chiang Mai Arr	144.48	341	PKP	PKPdf	17 23 38.0	-0.3
CM31	Chiang Mai Arr	144.49	341		PKPbc	17 23 37.5	+0.5
CMAR	Chiang Mai Arr	144.49	341	PKP	PKPbc	17 23 37.3	+0.2
	comp=Z,13nm,0.9s,baz=339,slow=3.8,SNR=63						
CMAR				pPKP	pPKPdf	17 24 05.4	-2.0
	comp=Z,3.3nm,0.8s,baz=349,slow=3.6,SNR=3.2						
CMAR				SKPbc	SKiKP	17 27 10.7	+1.9
	comp=Z,0.4nm,0.3s,baz=352,slow=3.6,SNR=2.2						
CMAR	Chiang Mai Arr	144.49	341	PKIKP	PKPab	17 23 36.9	+0.1
CMAR	Chiang Mai Arr	144.49	341	PKPdf	PKPab	17 23 36.9	+0.1
CMAR				pPKPdf	pPKPdf	17 24 04.4	-3.0
CM15	Chiang Mai Arr	144.50	341	PKP	PKPdf	17 23 38.0	-0.4
UTTA	Uttaradit	144.60	338	PKP	PKPdf	17 23 38.3	-0.2
CHAI	Chaiyaphum	145.71	334	PKP	PKPab	17 23 41.8	+0.4
KAPI	Kappang	146.45	284	PKPbc	PKPbc	17 23 43.1	-0.2
	comp=Z,5.4nm,0.4s,baz=139,slow=4.7,SNR=2.2						
UMPA	Umpang Tak	146.62	339	PKP	PKiKP	17 23 45.8	-0.7
UTHA	Uthaitani	147.01	338	PKP	PKPab	17 23 46.0	-0.4
PSA00	Pilbara Seismi	148.50	254	PKPdf	PKPdf	17 23 44.5	-0.5
PSA00				PKPbc	PKPbc	17 23 49.4	+0.7
PHET	Kaeng Krachan	149.37	336	PKP	PKiKP	17 23 52.8	+0.7
MORW	Morawa	150.15	238	PKPdf	PKPdf	17 23 46.4	-1.0
MORW					PKPbc	17 23 52.6	0.0
PSI	Prapat	158.58	326	PKP	PKPdf	17 23 58.2	-1.5
	comp=Z,3.2nm,0.4s,baz=27,slow=1.8						
PSI				PKPab	PKPab	17 24 36.2	+1.2
	baz=358,slow=1.3						
RPSI	Rantau Prapat	158.67	326		PKPab	17 24 36.2	+1.0

MEX 01 17:08:59.4±1.0**,15°.49N**×**92°.74W,h111**km±9km**,MD3.6,**
Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCIG		0.51	295	eP	Pn	17 09 15.1	-1.3
PCIG				eS	Sn	17 09 27.6	-1.6
THIG		0.73	142	eP	Pn	17 09 17.4	-0.7
THIG				eS	Sn	17 09 30.4	-1.8

MEX 01 17:09:24.0±0.6**,15°.14N**×**92°.93W,h103**km±22km**,MD3.6,**
Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCIG		0.63	333	eP	Pn	17 09 39.7	-1.4
PCIG				eS	Sn	17 09 51.9	-2.0

MEX 01 17:11:03.4±0.8**,14°.95N**×**93°.12W,h78**km±59km**,MD3.6,**
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCIG		0.76	353	eP	Pn	17 11 18.2	-1.4
PCIG				eS	Sn	17 11 30.1	-1.4

MEX 01 17:12:34.8±0.5**,15°.07N**×**93°.02W,h99**km±22km**,MD3.6,**
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCIG		0.66	343	eP	Pn	17 12 50.6	-1.2
PCIG				eS	Sn	17 13 04.4	-0.2

MEX 01 17:18:15.3±0.5**,15°.04N**×**93°.01W,h98**km±21km**,MD3.5,**
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCIG		0.69	343	eP	Pn	17 18 31.2	-1.3
PCIG				eS	Sn	17 18 43.6	-1.7

*IDC **01** 17:19:09.7±1.1, 23°.97N×122°.15E, h0km, mb4.1/8, mb1 4.2/9, mb1mx3.8/51, mbtmp4.1/9, ML3.5/1, Error ellipse: s-maj=64.8km s-min=18.0km az=67.0*
*JMA **01** 17:19:12.9±0.1, 23°.94N×122°.37E, h20km±3km, M3.7*
*NEIC **01** 17:19:13.2±2.4, 23°.97N±0°.04×122°.41E±0°.03, h28km±6km, mb4.2/9, Error ellipse: s-maj=5.8km s-min=3.5km az=152.0*
*TAP **01** 17:19:13.7, 24°.00N×122°.40E, h32km, ML4.3, D*
ISC 01 17:19:11.8±0.9**,23°.98N**±0°.02×**122°.42E**±0°.01**,h18**km±3km**, n199,**σ**0.94**/358**,mb4.2**/13**,Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.68	45	P	Pn	17 19 26.8	+0.4
JYNG				S	Sn	17 19 35.6	-0.8
EHP	Heping Village	0.70	298	eP	Pn	17 19 27.7	+0.9
	baz=307						
EHP				S	Sn	17 19 38.1	+1.0
	baz=307						
YOJ	Yonaguni jima	0.73	48	P	Pn	17 19 27.8	+0.7
YOJ				S	Sn	17 19 37.3	-0.4
YOJ	Yonaguni jima	0.73	48	P	Pn	17 19 28.1	+1.0
	baz=50						
YOJ				S	Sn	17 19 37.4	-0.3
	baz=50						
YOJ	Yonaguni jima	0.73	48		Pn	17 19 27.6	+0.6
YOJ				Sn	Sg	17 19 36.6	+0.8
HWA	Hwalien	0.74	270	P	Pn	17 19 27.5	+0.1
	baz=256						
HWA				eS	Sn	17 19 38.9	+0.8
	baz=256						
EWUT	Wuta	0.75	309	P	Pn	17 19 26.9	-0.5
	baz=317						
EWUT				eS	Sn	17 19 37.0	-1.2
	baz=317						
ETL	Fush Village	0.75	284	P	Pn	17 19 27.4	-0.1
	baz=268						
ETL				S	Sn	17 19 38.0	-0.3
	baz=268						
TEYL	Yanliau Villag	0.76	262	P	Pn	17 19 27.7	+0.2
	baz=251						
TEYL				eS	Sn	17 19 39.4	+1.0
	baz=251						
TWD	Chiawan	0.76	278	i P	Pn	17 19 27.3	-0.3
	baz=276						
TWD				i S	Sg	17 19 37.3	+0.5
	baz=276						
ENA	Nanau	0.77	306	P	Pn	17 19 27.2	-0.4
	baz=315						
ENA				S	Sn	17 19 38.2	-0.5
	baz=315						
NACB	Ninganchiao	0.78	285	P	Pn	17 19 27.7	-0.1
	baz=271						
NACB				S	Sn	17 19 38.5	-0.5
	baz=271						
NACB	Ninganchiao	0.78	285		Pg	17 19 27.1	+0.1
NACB				Sn	Sg	17 19 37.2	-0.2
TWC	Suao	0.82	321	P	Pn	17 19 28.0	-0.3
	baz=321						
TWC				eS	Sb	17 19 37.7	-0.4
	baz=321						
ETM	Tongmen	0.85	269	P	Pn	17 19 28.5	-0.3
	baz=259						
ETM				S	Sn	17 19 40.0	-0.7
	baz=259						
TEGC	Jichi Village	0.85	252	eP	Pb	17 19 27.1	-0.8
	baz=249						
TEGC				S	Sn	17 19 40.4	-0.2
	baz=249						
ETLH	Xiulin Townshi	0.89	285	i P	Pn	17 19 29.4	0.0
	baz=272						
ETLH				S	Sn	17 19 41.3	-0.5
	baz=272						
ESL	Shilin	0.92	260	i P	Pb	17 19 29.2	+0.1
	baz=249						
ESL				i S	Sg	17 19 41.7	0.0
	baz=249						
NDS	Dongshan	0.92	316	P	Pn	17 19 30.2	+0.5
	baz=323						
NDS				eS	Sg	17 19 41.4	-0.4
	baz=323						
EGFH	Guangfu	0.96	252	P	Pn	17 19 30.1	-0.2
	baz=249						
EGFH				S	Sg	17 19 43.1	+0.1
	baz=249						
EGS		0.97	333	i P	Pg	17 19 31.2	+0.5
	baz=321						
EGS				S	Sn	17 19 44.8	+1.0
	baz=321						
ILA	Ilan	1.00	322	P	Pg	17 19 32.1	+0.9
	baz=322						
ILA				S	Sn	17 19 45.0	+0.6
	baz=322						
TWE	Neicheng	1.01	317	i P	Pg	17 19 31.9	+0.5
	baz=317						
TWE				i S	Sn	17 19 44.4	-0.3
	baz=317						
NTC	Toucheng	1.03	329	P	Pg	17 19 32.2	+0.5
	baz=328						
NTC				eS	Sn	17 19 45.1	0.0
	baz=328						
HGSD	Ruisui	1.03	242	P	Pn	17 19 31.2	0.0
	baz=240						
HGSD				eS	Sn	17 19 44.9	-0.3
	baz=240						
NDT	Datong Townshi	1.03	307	P	Pg	17 19 32.4	+0.5
	baz=306						
NDT				S	Sn	17 19 45.1	-0.3
	baz=306						
NNS	Nan Shan	1.06	296	P	Pg	17 19 32.5	+0.1
	baz=283						
NNS				S	Sg	17 19 46.2	-0.2
	baz=283						
WHF	Hehuan Shan	1.07	279	i P	Pg	17 19 32.3	-0.3
	baz=265						
WHF				i S	Sb	17 19 45.9	+0.2
	baz=265						
TWB1	Santiao Chiao	1.10	339	P	Pg	17 19 33.0	-0.1
	baz=356						
TWB1				eS	Sn	17 19 46.5	-0.4
	baz=356						
ECBN	Changbin	1.10	234	P	Pb	17 19 32.5	+0.3
	baz=231						
ECBN				S	Sb	17 19 46.4	+0.1
	baz=231						
FUSS	Fushou	1.11	284	i P	Pg	17 19 33.0	-0.3
	baz=282						
FUSS				S	Sn	17 19 47.1	-0.4
	baz=282						
EHY	Hungye	1.11	245	P	Pn	17 19 32.3	0.0
	baz=257						
EHY				S	Sb	17 19 46.5	+0.1
	baz=257						
TIPB	Shuangxi	1.13	332	i P	Pg	17 19 34.0	+0.3
	baz=331						
TIPB				i S	Sg	17 19 48.4	-0.1
	baz=331						
OWD	Renai	1.14	269	P	Pg	17 19 33.5	-0.4
	baz=267						
OWD				S	Sb	17 19 47.3	-0.1
	baz=267						
CHGB	Renai	1.14	274	P	Pg	17 19 33.4	-0.5
	baz=272						
CHGB				S	Sn	17 19 48.4	+0.1
	baz=272						
TWT	Tachien	1.17	284	i P	Pg	17 19 34.6	+0.2
	baz=272						
TWT				S	Sg	17 19 49.1	-0.7
	baz=272						
YHNB	Yeheng	1.18	306	P	Pg	17 19 34.3	-0.2
	baz=292						
YHNB				S	Sn	17 19 49.1	+0.2
	baz=292						
YHNB	Yeheng	1.18	306		Pg	17 19 34.0	-0.6
YHNB				Sn	Sn	17 19 48.6	-0.3
YULB	Yu-li	1.18	241	P	Pb	17 19 33.6	0.0
	baz=254						
YULB				eS	Sb	17 19 47.8	-0.7
	baz=254						
YULB	Yu-li	1.18	241		Pn	17 19 33.1	-0.2
YULB				Sn	Sb	17 19 47.5	-1.1
EYUL	Yuli	1.19	238	P	Pb	17 19 33.9	+0.2
	baz=236						
EYUL				S	Sb	17 19 48.8	+0.1
	baz=236						
NSK	Sanguang	1.19	306	P	Pg	17 19 34.6	-0.3
	baz=304						
NSK				S	Sn	17 19 48.9	-0.5
	baz=304						
TWF1	Yuli	1.20	239	P	Pb	17 19 34.1	+0.2
	baz=227						
TWF1				S	Sb	17 19 49.3	+0.2
	baz=227						
NWF	Wu-fen Shan	1.23	332	i P	Pg	17 19 35.4	-0.4
	baz=331						
NWF				i S	Sg	17 19 51.6	-0.3
	baz=331						
WFSB	Wu-fen Shan	1.23	332	P	Pg	17 19 35.2	-0.5
	baz=332						
WFSB				eS	Sg	17 19 51.9	+0.1
	baz=332						
IRIF	Iriomote-Funau	1.25	73	P	Pg	17 19 36.2	+0.2
IRIF				S	Sg	17 19 52.9	+0.6
TWA	Mucha	1.26	323	i P	Pg	17 19 36.1	0.0
	baz=322						
TWA				eS	Sg	17 19 53.3	+0.7
	baz=322						
HATJ	Hateruma jima	1.27	86	P	Pg	17 19 36.7	+0.3
HATJ				S	Sg	17 19 53.9	+0.9
NHDH	Xindian Distri	1.28	321	P	Pg	17 19 36.7	+0.3
	baz=319						
NHDH				eS	Sg	17 19 53.7	+0.6
	baz=319						
FULB	Fuli	1.29	233	i P	Pn	17 19 35.2	+0.3
	baz=220						
FULB				i S	Sn	17 19 51.5	-0.2
	baz=220						
CHKT	Chengkung	1.30	228	i P	Pn	17 19 34.8	-0.2
	baz=226						
CHKT				eS	Sn	17 19 49.1	-2.8
	baz=226						
TATO	Taipei	1.31	320	i P	Pg	17 19 36.8	-0.3
	baz=318						
TATO				S	Sg	17 19 53.3	-0.8
	baz=318						
TATO	Taipei	1.31	320		Pg	17 19 36.6	-0.4
TATO				Sn	Sg	17 19 52.7	-1.4
TNOU	National Taiwa	1.31	333	eP	Pn	17 19 34.6	-0.5
	baz=332						
TNOU				S	Sb	17 19 52.3	+0.1
	baz=332						
NHY	Taipei	1.31	324	P	Pg	17 19 37.4	+0.2
	baz=339						
NHY				S	Sg	17 19 54.3	0.0
	baz=339						
TAP1	Taipei	1.34	323	P	Pg	17 19 38.0	+0.4
	baz=321						
TAP1				eS	Sg	17 19 55.3	+0.2
	baz=321						
WPL	Puli Township	1.34	272	P	Pb	17 19 36.3	0.0
	baz=270						
WPL				eS	Sn	17 19 51.4	-1.4
	baz=270						
TAP	Taipei	1.35	322	P	Pg	17 19 37.1	-0.7
	baz=321						
TAP				eS	Sg	17 19 55.5	+0.1
	baz=321						
BACT	New Taipei Cit	1.35	319	eP	Pg	17 19 38.4	+0.5
	baz=318						
BACT				eS	Sg	17 19 56.2	+0.7
	baz=318						
SSLB	Suanglung	1.35	262	P	Pb	17 19 36.4	-0.2
	baz=261						
SSLB	Suanglung	1.35	262		Pn	17 19 36.0	+0.3
SSLB				Sn	Sn	17 19 52.9	-0.3
DPDB	Guoxing	1.36	273	i P	Pb	17 19 37.2	+0.4
	baz=263						
DPDB				eS	Sg	17 19 56.2	+0.2
	baz=263						
WHP	Taichung City	1.38	283	P	Pb	17 19 37.4	+0.4
	baz=271						
WHP				eS	Sg	17 19 56.9	+0.4
	baz=271						
WCS	Beigang Elemen	1.38	274	P	Pb	17 19 37.2	+0.2
	baz=265						
WCS				S	Sb	17 19 54.6	+0.3
	baz=265						
SMLT	Sun Moon Lake	1.39	266	i P	Pb	17 19 37.2	0.0
	baz=264						
SMLT				S	Sb	17 19 54.9	+0.2
	baz=264						
YM01	YM01	1.40	327	P	Pb	17 19 37.2	-0.2
	baz=341						
YM01				eS	Sg	17 19 56.8	-0.3
	baz=341						
NWRT	Kuosheng	1.40	331	eP	Pg	17 19 40.1	+1.3
	baz=330						
NWRT				S	Sb	17 19 55.3	+0.4
	baz=330						
ECS	Chishang	1.41	232	P	Pb	17 19 37.5	0.0
	baz=220						
ECS				eS	Sn	17 19 52.3	-2.3
	baz=220						
YM08	YM08	1.42	328	P	Pb	17 19 37.8	0.0
	baz=327						
YM08				S	Sb	17 19 56.1	+0.5
	baz=327						
YUS	Yu-Shan	1.43	250	i S	Sn	17 19 55.4	-0.3
	baz=248						
EDH	Donghe	1.43	226	P	Pn	17 19 36.6	-0.1
	baz=215						
EDH				S	Sn	17 19 53.1	-1.9
	baz=215						
NJD	Zhudong	1.43	302	P	Pg	17 19 39.0	-0.4
	baz=300						
NJD				eS	Sg	17 19 58.2	+0.2
	baz=300						
TYC	Yuchr	1.43	267	P	Pb	17 19 37.8	0.0
	baz=265						
TYC				eS	Sb	17 19 56.7	+0.9
	baz=265						
LIOB	Emei	1.44	298	i P	Pg	17 19 39.1	-0.6
	baz=296						
LIOB				i S	Sb	17 19 56.8	+0.7
	baz=296						
NTY	Taoyuan	1.44	315	P	Pg	17 19 39.1	-0.6
	baz=314						
NTY				S	Sg	17 19 57.9	-0.6
	baz=314						
TWS1	Kuangyinshan	1.44	321	P	Pb	17 19 37.9	-0.2
	baz=336						
TWS1				eS	Sb	17 19 56.4	+0.3
	baz=336						
NSTT	Nanjuang	1.45	297	i P	Pg	17 19 39.0	-0.8
	baz=295						
NSTT				i S	Sg	17 19 57.3	-1.3
	baz=295						
ANP	Anpu	1.46	326	i P	Pb	17 19 38.2	-0.2
	baz=325						
ANP				eS	Sg	17 19 59.5	+0.5
	baz=325						
WHYT	Xinyi Township	1.46	259	eP	Pg	17 19 39.8	-0.2
	baz=258						
NTST	Danshui	1.48	323	i P	Pb	17 19 38.3	-0.3
	baz=338						
NTST				eS	Sg	17 19 59.9	+0.4
	baz=338						
JKRS	Kuro-shima	1.48	80	P	Pg	17 19 40.2	-0.1
JKRS				S	Sg	17 19 59.4	-0.2
TWY	Chenhua	1.49	330	eP	Pg	17 19 40.1	-0.5
	baz=329						
TWY				eS	Sg	17 19 58.5	-1.6
	baz=329						
NCU	National Centr	1.50	312	P	Pb	17 19 39.3	+0.3
	baz=310						
NCU				S	Sg	17 19 59.1	-1.1
	baz=310						
NCUH	Zhongli	1.50	312	i P	Pb	17 19 39.2	+0.2
	baz=309						
NCUH				eS	Sg	17 19 59.4	-0.7
	baz=309						
ELDTW	Lidau	1.50	239	i P	Pn	17 19 38.3	+0.3
	baz=236						
ELDTW				S	Sn	17 19 55.5	-1.6
	baz=236						
HSN1	Hsinchu	1.51	302	P	Pg	17 19 40.0	-0.8
	baz=300						
HSN1				eS	Sg	17 20 00.4	-0.1
	baz=300						
SBCB	Hsinchu	1.54	302	P	Pg	17 19 40.4	-1.0
	baz=300						
SBCB				S	Sb	17 19 59.5	+0.7
	baz=300						
TWQ1	Liyutan	1.55	284	i P	Pg	17 19 40.9	-0.7
	baz=282						
TWQ1				eS	Sg	17 20 01.0	-0.8
	baz=282						
ALS	Alishan	1.55	253	P	Pb	17 19 40.1	0.0
	baz=251						
ALS				S	Sb	17 19 59.0	-0.5
	baz=251						
WJS	Zhushan	1.55	265	i P	Pg	17 19 41.2	-0.6
	baz=263						
WJS				i S	Sg	17 20 01.3	-0.7
	baz=263						

HSN	**Hsinchu**	**1.56 302**	P		**Pb**	17 19 39.8	-0.2
	baz=302						
HSN			*e*S		**Sg**	17 20 00.6	-1.4
	baz=302						
LDUT	**Ludao**	**1.56 214**	P		**Pn**	17 19 38.6	0.0
	baz=212						
LDUT			*e*S		**Sn**	17 19 56.0	-2.4
	baz=212						
WWF	**Wufeng**	**1.57 273**	P		**Pg**	17 19 41.5	-0.6
	baz=267						
WWF			S		**Sg**	17 20 02.1	-0.5
	baz=267						
NSY	**Sanyi**	**1.57 286**	P		**Pg**	17 19 41.3	-0.8
	baz=284						
NSY			*e*S		**Sg**	17 20 02.0	-0.6
	baz=284						
NJN	**Zhunan**	**1.58 297**	P		**Pb**	17 19 40.9	+0.5
	baz=295						
NJN			*e*S		**Sg**	17 20 02.5	-0.3
	baz=295						
NMLH	**Miaoli**	**1.59 291**	*i* P		**Pb**	17 19 41.1	+0.5
	baz=289						
NMLH			*i* S		**Sg**	17 20 01.4	-1.7
	baz=289						
WNT	**Mingjian**	**1.59 267**	P		**Pg**	17 19 41.6	-0.8
	baz=265						
WNT			S		**Sb**	17 20 01.6	+1.2
	baz=265						
LONT	**Longtian**	**1.59 228**	*e*P		**Pn**	17 19 39.4	+0.4
	baz=239						
LONT			S		**Sn**	17 19 59.0	-0.1
	baz=239						
WNT1	**Nantou City**	**1.59 268**	P		**Pg**	17 19 41.7	-0.7
	baz=266						
WNT1			S		**Sg**	17 20 01.9	-1.3
	baz=266						
TCU	**Taichung**	**1.60 276**	*i* P		**Pb**	17 19 41.5	+0.7
	baz=274						
TCU			S		**Sg**	17 20 02.4	-1.1
	baz=274						
JIJ	**Ishigaki jima**	**1.62 76**	P		**Pb**	17 19 41.4	+0.3
JIJ			S		**Sg**	17 20 03.2	-1.0
WDJ	**Dajia District**	**1.67 283**	P		**Pb**	17 19 42.0	+0.2
	baz=281						
WDJ			S		**Sb**	17 20 03.3	+0.7
	baz=281						
PCYT	**Pengchaiyu**	**1.68 349**	P		**Pb**	17 19 41.3	-0.7
	baz=333						
PCYT			*e*S		**Sb**	17 20 03.6	+0.8
	baz=333						
WYL	**Yuanlin Townsh**	**1.68 270**	P		**Pg**	17 19 43.1	-1.1
	baz=268						
WYL			*e*S		**Sg**	17 20 04.5	-1.6
	baz=268						
TWGBT	**Beinan**	**1.69 227**	*e*P		**Pn**	17 19 40.7	+0.4
	baz=237						
TWGBT			*e*S		**Sn**	17 20 01.4	0.0
	baz=237						
TTN	**Taitung**	**1.69 224**	*e*P		**Pb**	17 19 42.0	-0.2
	baz=222						
TTN			S		**Sn**	17 20 01.5	+0.1
	baz=222						
TWG	**Pinlang**	**1.69 227**	*e*P		**Pn**	17 19 40.5	+0.2
	baz=237						
TWG			*e*S		**Sn**	17 20 00.9	-0.6
	baz=237						
TWG	**Pinlang**	**1.69 227**			**Pn**	17 19 40.3	-0.1
TWG				Sn	**Sn**	17 20 00.1	-1.3
WCHH	**Zhanghua**	**1.70 274**	*i* P		**Pb**	17 19 42.7	+0.2
	baz=272						
WCHH			S		**Sg**	17 20 05.2	-1.6
	baz=272						
STYH	**Taoyuan**	**1.71 242**	P		**Pb**	17 19 41.9	-0.7
	baz=232						
STYH			S		**Sn**	17 20 02.7	+0.8
	baz=232						
WGK	**Gukeng**	**1.72 261**	*i* P		**Pb**	17 19 43.5	+0.6
	baz=259						
WGK			*e*S		**Sb**	17 20 05.4	+1.2
	baz=259						
STYT	**Tauyuan**	**1.73 242**	*e*P		**Pb**	17 19 42.4	-0.5
	baz=232						
STYT			*e*S		**Sb**	17 20 03.9	-0.4
	baz=232						
WDLH	**Douliu**	**1.75 261**	P		**Pb**	17 19 43.8	+0.6
	baz=259						
WDLH			S		**Sb**	17 20 05.4	+0.6
	baz=259						
TPUB	**Ta-pu**	**1.77 248**	P		**Pb**	17 19 43.6	-0.1
	baz=246						
TPUB			*e*S		**Sb**	17 20 06.7	+1.0
	baz=246						
TPUB	**Ta-pu**	**1.77 248**			**Pb**	17 19 43.4	-0.3
TPUB				Sn	**Sb**	17 20 05.4	-0.2
WTP	**Ta-pu**	**1.81 247**	*i* P		**Pb**	17 19 44.1	-0.2
	baz=244						
WTP			*e*S		**Sb**	17 20 07.3	+0.7
	baz=244						
JISG	**Ishigakijimahi**	**1.83 70**	P		**Pb**	17 19 44.3	-0.4
JISG			S		**Sb**	17 20 07.2	-0.1
CHN2	**Minshiung**	**1.83 256**	*e*P		**Pg**	17 19 46.4	-0.7
	baz=255						
CHN2			*e*S		**Sg**	17 20 09.4	-1.5
	baz=255						
WRL	**Guolierlin Hig**	**1.87 268**	P		**Pb**	17 19 45.2	-0.2
	baz=279						
WRL			S		**Sb**	17 20 08.5	+0.1
	baz=279						
WTK	**Tuku**	**1.88 262**	P		**Pb**	17 19 45.5	0.0
	baz=260						
WTK			S		**Sb**	17 20 08.8	+0.1
	baz=260						
CHY	**Chiayi**	**1.89 256**	*i* P		**Pb**	17 19 45.6	0.0
	baz=254						
CHY			*e*S		**Sb**	17 20 10.1	+1.2
	baz=254						
SLGT	**Liugui**	**1.90 239**	P		**Pb**	17 19 45.3	-0.6
	baz=230						
SLGT			*e*S		**Sb**	17 20 08.2	-1.0
	baz=230						
CHN1	**Nanshi**	**1.90 246**	P		**Pb**	17 19 46.2	+0.2
	baz=244						
CHN1			*e*S		**Sb**	17 20 10.0	+0.6
	baz=244						
SGST	**Jiashian**	**1.91 243**	P		**Pb**	17 19 45.4	-0.6
	baz=233						
SGST			*e*S		**Sn**	17 20 06.6	-0.2
	baz=233						
TWK	**Hsinying**	**1.91 249**	P		**Pb**	17 19 46.3	+0.3
	baz=247						
TWK			*e*S		**Sb**	17 20 10.9	+1.4
	baz=247						
SNST	**Tainan City**	**1.92 247**	*e*P		**Pb**	17 19 46.7	+0.5
	baz=246						
SNST			*e*S		**Sb**	17 20 10.2	+0.5
	baz=246						
ECL	**Taimali**	**1.92 225**	P		**Pn**	17 19 43.7	+0.2
	baz=222						
ECL			S		**Sn**	17 20 05.3	-1.9
	baz=222						
WMLT	**Mailiao**	**2.02 266**	*e*S		**Sb**	17 20 13.4	+0.8
	baz=278						
WSF	**Szhu**	**2.04 261**	P		**Pb**	17 19 47.7	-0.5
	baz=259						
WSF			*e*S		**Sb**	17 20 13.5	+0.2
	baz=259						
SSD	**Sandimen**	**2.05 234**	*e*P		**Pb**	17 19 48.6	+0.2
	baz=226						
SSD			S		**Sn**	17 20 10.5	+0.2
	baz=226						
ICHU	**Yijhu**	**2.05 253**	*i* P		**Pb**	17 19 47.9	-0.6
	baz=251						
ICHU			*i* S		**Sb**	17 20 12.8	-0.9
	baz=251						
TSMG	**Majia**	**2.06 233**	*i* P		**Pn**	17 19 46.9	+1.4
	baz=226						
TSMG			*e*S		**Sn**	17 20 12.3	+1.6
	baz=226						
SCST	**Cishan**	**2.07 239**	*i* P		**Pb**	17 19 49.3	+0.5
	baz=225						
SCST			*i* S		**Sb**	17 20 15.6	+1.3
	baz=225						
CHN3	**Shinhua**	**2.09 245**	*e*P		**Pb**	17 19 50.0	+1.0
	baz=243						
CHN3			*e*S		**Sb**	17 20 16.0	+1.4
	baz=243						
LAY	**Lan-yu**	**2.09 203**	P		**Pn**	17 19 45.8	0.0
	baz=201						
LAY			*e*S		**Sn**	17 20 08.7	-2.7
	baz=201						
CHN8	**Yiju**	**2.12 253**	P		**Pb**	17 19 48.8	-0.9
	baz=251						
CHN8			S		**Sb**	17 20 14.2	-1.4
	baz=251						
MASBT	**Mashibuluo**	**2.13 231**	P		**Pn**	17 19 47.9	+1.5
	baz=222						
TAW	**Tawu**	**2.13 221**	*e*P		**Pn**	17 19 47.0	+0.6
	baz=229						
TAW			*i* S		**Sn**	17 20 10.7	-1.8
	baz=229						
EAST	**Anshuo**	**2.15 223**	*e*P		**Pn**	17 19 45.1	-1.6
	baz=221						
EAST			*e*S		**Sn**	17 20 12.7	-0.1
	baz=221						
SGLT	**Jiouru**	**2.17 235**	*e*P		**Pn**	17 19 47.8	+1.0
	baz=235						
JTJ	**Tarama**	**2.19 72**	P		**Pb**	17 19 50.6	-0.2
JTJ			S		**Sb**	17 20 18.2	+0.7
TSPT	**Pingtung City**	**2.19 234**	*e*P		**Pb**	17 19 50.4	-0.4
	baz=232						
TSPT			*e*S		**Sb**	17 20 18.5	+1.0
	baz=232						
SCLT	**Jiali**	**2.19 249**	P		**Pb**	17 19 49.9	-1.0
	baz=247						
SCLT			S		**Sb**	17 20 16.7	-0.9
	baz=247						
TAI1	**Yung-k'ang**	**2.22 246**	*e*P		**Pb**	17 19 50.6	-0.7
	baz=257						
TAI1			*e*S		**Sb**	17 20 19.3	+1.0
	baz=257						
SNJT	**Kaohsiung City**	**2.27 238**	P		**Pb**	17 19 52.5	+0.3
	baz=236						
SNJT			S		**Sb**	17 20 21.1	+1.2
	baz=236						
SCZT	**Fangliau**	**2.30 226**	*e*P		**Pn**	17 19 50.5	+1.7
	baz=225						
SLIU	**Shizi**	**2.30 221**	*i* P		**Pn**	17 19 49.5	+0.7
	baz=228						
SLIU			S		**Sn**	17 20 16.6	+0.1
	baz=228						
WLCH	**Liuqiu**	**2.48 230**	P		**Pb**	17 19 56.2	+0.5
	baz=242						
WLCH			*e*S		**Sb**	17 20 27.9	+2.0
	baz=242						
TWP	**Hsiaoliuchiu**	**2.49 230**	*i* P		**Pb**	17 19 54.8	-1.2
	baz=242						
TWP			*e*S		**Sb**	17 20 28.8	+2.5
	baz=242						
TSEB	**Hengchuen, Pin**	**2.50 214**	*i* P		**Pn**	17 19 53.7	+2.3
	baz=221						
TSEB			*i* S		**Sn**	17 20 22.9	+1.6
	baz=221						
HEN	**Hengchun**	**2.50 219**	P		**Pn**	17 19 52.8	+1.3
	baz=216						
HEN			S		**Sn**	17 20 22.0	+0.6
	baz=216						
TWKBT	**Hengchun**	**2.51 216**	P		**Pn**	17 19 53.1	+1.5
	baz=214						
TWKBT			S		**Sn**	17 20 22.4	+0.7
	baz=214						
TWK1	**Hengchun**	**2.51 217**	P		**Pn**	17 19 53.5	+1.9
	baz=214						
TWK1			S		**Sn**	17 20 23.1	+1.3
	baz=214						
SNW	**Nanwan**	**2.53 218**	*e*P		**Pb**	17 19 55.5	-1.1
	baz=215						
SNW			*e*S		**Sn**	17 20 24.8	+2.6
	baz=215						
PHUB	**P'eng-hu**	**2.65 261**	P		**Pn**	17 19 55.1	+1.6
	baz=261						
JIRB	**Irabujima**	**2.65 71**	P		**Pb**	17 19 56.3	-2.4
JIRB			S		**Sn**	17 20 27.7	+2.5
PNG	**Penghu**	**2.65 262**	P		**Pn**	17 19 54.2	+0.6
	baz=260						
PNG			S		**Sn**	17 20 26.2	+0.9
	baz=260						
JIKM	**Ikemajima**	**2.75 69**	P		**Pb**	17 19 58.5	-1.8
JIKM			S		**Sb**	17 20 31.4	-2.2
JMJ	**Miyako jima 2**	**2.75 72**	*e*P		**Pb**	17 19 58.6	-1.8
	baz=75						
JMJ			*e*S		**Sb**	17 20 31.5	-2.3
	baz=75						
JMJ2	**Miyako jima3**	**2.76 73**	P		**Pb**	17 19 58.8	-1.8
JMJ2			S		**Sb**	17 20 31.7	-2.3
JOGS	**Gusukube**	**2.83 73**	P		**Pn**	17 19 58.9	+2.8
JOGS			*e*S		**Sb**	17 20 33.5	-2.7
VCHM	**Qimei**	**2.85 255**	P		**Pn**	17 19 57.7	+1.5
	baz=254						
VCHM			S		**Sn**	17 20 31.1	+1.1
	baz=254						
VWUC	**VWUC**	**2.89 291**	*e*P		**Pn**	17 19 57.5	+0.6
	baz=291						
MATB	**Ma-tsu**	**3.12 315**	*e*P		**Pn**	17 19 59.9	-0.1
	baz=310						
MATB			*e*S		**Sn**	17 20 35.5	-1.2
	baz=310						
PTMZ	**Houxiangcun**	**3.19 290**	*e*P		**Pn**	17 20 01.4	+0.5
	baz=291						
LYJJ	**Jianjiangzhen**	**3.52 317**	*e*P		**Pn**	17 20 05.8	+0.3
	baz=313						
LYJJ			*e*S		**Sn**	17 20 44.9	-1.7
	baz=313						
XPSS	**Dashiqiu**	**3.56 326**	*e*P		**Pn**	17 20 07.0	+0.9
	baz=332						
XPSS			*e*S		**Sn**	17 20 46.3	-1.4
	baz=332						
KNM	**Kinmen**	**3.67 278**	*e*P		**Pn**	17 20 09.8	+2.3
	baz=275						
KNM			*e*S		**Sn**	17 20 51.1	+0.8
	baz=275						
KNMB	**Chin-men Tao**	**3.71 278**	*e*P		**Pn**	17 20 08.5	+0.4
	baz=279						
KNMB	**Chin-men Tao**	**3.71 278**			**Pn**	17 20 08.6	+0.4
MHZQ	**Yeshan**	**3.73 305**	*e*P		**Pn**	17 20 08.5	+0.1
	baz=304						
AXDP	**Jialang**	**4.16 284**	P		**Pn**	17 20 15.4	+1.2
	baz=284						
ZPLA	**Ao Xicun**	**4.27 270**	P		**Pn**	17 20 16.7	+0.8
	baz=268						
ZPLA			S		**Sn**	17 21 03.1	-2.1
	baz=268						
JOW	**Kunigami**	**6.01 61**	Pn		**Pn**	17 20 40.3	+0.6
VDOS	**Pratas Island**	**6.19 239**	*e*P		**Pn**	17 20 45.2	+3.0
	baz=241						
KSAR	**Wonju Array Be**	**14.22 18**	P		**P**	17 22 38.1	-1.4
KSRS	**Korea Array**	**14.24 18**	Pn		**Pn**	17 22 35.2	+2.8
	0.2nm,0.3s,baz=204,slow=14,SNR=4.1						
KS19	**Wonju Array Si**	**14.27 18**	P		**P**	17 22 38.6	-1.4
SONM	**Songino Array**	**27.01 336**	P		**P**	17 24 52.4	-0.3
	3.1nm,0.8s,baz=146,slow=9.8,SNR=19						
SONM	**Songino Array**	**27.01 336**	P		**P**	17 24 52.5	-0.3
MK31	**Makanchi Array**	**39.27 316**	P		**P**	17 26 39.1	-0.3
MKAR	**Makanchi Array**	**39.27 316**	P		**P**	17 26 39.5	+0.2
	1.3nm,0.4s,baz=100,slow=9.5,SNR=20						
MKAR	**Makanchi Array**	**39.27 316**	P		**P**	17 26 39.0	-0.4
MAKZ	**Makanchi**	**39.48 316**	P		**P**	17 26 41.4	+0.3
MAKZ				IAmb	IAmb	17 26 42.2	
	comp=Z,2.7nm,0.6s						
ZAA0	**Zalesovo Array**	**41.03 327**	P		**P**	17 26 52.0	-1.8
ZAA0				IAmb	IAmb	17 26 53.5	
	comp=Z,3.3nm,0.7s						
ZALV	**Zalesovo Beam**	**41.03 327**	P		**P**	17 26 52.4	-1.4
	comp=Z,3.9nm,0.6s,baz=110,slow=7.8,SNR=17						
ZALV	**Zalesovo Beam**	**41.03 327**	P		**P**	17 26 52.7	-1.1
WRA	**Warramunga Arr**	**45.17 164**	P		**P**	17 27 28.4	+0.8
	comp=Z,6.0nm,0.8s,baz=343,slow=9.0,SNR=19						
WB2	**Warramunga Arr**	**45.18 164**	P		**P**	17 27 29.3	+1.6
WR0	**Warramunga Arr**	**45.24 164**	P		**P**	17 27 27.5	-0.6
KK31	**Karatay Array**	**46.49 307**	P		**P**	17 27 35.9	-2.0
KK31				IAmb	IAmb	17 27 39.0	
	comp=Z,3.7nm,1.5s						
KKAR	**Karatay Array**	**46.49 307**	P		**P**	17 27 37.5	-0.4
KKAR	**Karatay Array**	**46.49 307**	P		**P**	17 27 36.5	-1.5
KKAR				IAmb	IAmb	17 27 39.0	
	comp=Z,3.7nm,1.5s						
ASAR	**Alice Springs**	**48.65 166**	P		**P**	17 27 56.4	+1.6
	comp=Z,0.6nm,0.9s,baz=346,slow=7.4,SNR=4.7						
ABKAR	**Akbulak array**	**54.39 314**	P		**P**	17 28 37.4	-0.1
ABKAR	**Akbulak array**	**54.39 314**	P		**P**	17 28 38.0	+0.4
ABKAR				IAmb	IAmb	17 28 38.8	
	comp=Z,2.3nm,0.8s						
KBZ	**Khabaz**	**66.49 309**	P		**P**	17 30 01.1	+0.8
	comp=Z,1.2nm,0.6s,baz=91,slow=6.4,SNR=2.7						
FINES	**FINESS Array B**	**72.19 330**	P		**P**	17 30 35.4	+0.1
	comp=Z,0.9nm,0.8s,baz=60,slow=8.2,SNR=1.6						
BRTR	**Keskin Array B**	**74.20 307**	P		**P**	17 30 47.2	-0.5
	comp=Z,1.4nm,0.7s,baz=94,slow=7.3,SNR=2.6						

MEX 01 17:19:28.6±1.1, 16.49N×94.49W, h106km±13km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.71**	**328**	*e*P	Pn	17 19 45.7	-0.9
CMIG				*e*S	Sn	17 19 58.5	-1.7
PCIG		**1.45**	**122**	*e*S	Sn	17 20 13.2	-1.0
HUIG	**Huatulco**	**1.71**	**246**	*e*P	Pn	17 19 56.0	-1.8
HUIG				*e*S	Sn	17 20 18.6	-1.4
VHO	**Vista Hermosa**	**2.23**	**285**	*e*P	Pn	17 20 03.5	-1.0
VHO				*e*S	Sn	17 20 30.9	-1.1
PEIG	**Puerto Escondi**	**2.60**	**260**	*e*P	Pn	17 20 07.5	-1.7
PEIG				*e*S	Sn	17 20 38.9	-1.6
TOIG	**Toxpalan**	**2.93**	**303**	*e*P	Pn	17 20 13.0	-0.7
TOIG				*e*S	Sn	17 20 47.0	-1.5

*IDC **01** 17:20:22.6±1.3, 23.97N×122.10E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/46, mbtmp3.7/7, ML3.5/1, Error ellipse: s-maj=43.4km s-min=21.1km az=69.0*
*JMA **01** 17:20:25.9±0.1, 23.97N×122.37E, h19km±3km, M3.8*
*TAP **01** 17:20:26.7, 24.02N×122.38E, h31km, ML4.2, D*

ISC 01 17:20:25.2±1.0, 23.97N±0.02×122.36E±0.01, h18km±5km, n168, σ0.88/320, mb3.7/6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.66**	**301**	P	**Pn**	17 20 39.8	+0.1
	baz=305						
EHP				S	**Sn**	17 20 49.8	+0.1
	baz=305						
HWA	**Hwalien**	**0.69**	**271**	P	**Pn**	17 20 40.0	-0.2
	baz=255						
HWA				*e*S	**Sn**	17 20 51.3	+0.8
	baz=255						
ETL	**Fush Village**	**0.70**	**286**	P	**Pn**	17 20 40.1	-0.2
	baz=267						
ETL				S	**Sn**	17 20 50.6	-0.1
	baz=267						
TEYL	**Yanliau Villag**	**0.71**	**262**	P	**Pn**	17 20 40.2	-0.1
	baz=249						
TEYL				*e*S	**Sn**	17 20 51.7	+0.9
	baz=249						
TWD	**Chiawan**	**0.71**	**279**	P	**Pb**	17 20 39.6	+0.5
	baz=275						
TWD				S	**Sn**	17 20 50.0	-0.8
	baz=275						
EWUT	**Wuta**	**0.71**	**312**	*e*P	**Pb**	17 20 39.5	+0.3
	baz=317						
EWUT				*e*S	**Sn**	17 20 50.0	-1.0
	baz=317						
JYNG	**Yonagunijimaku**	**0.71**	**48**	P	**Pb**	17 20 39.4	+0.2
JYNG				S	**Sg**	17 20 48.2	-0.6
ENA	**Nanau**	**0.73**	**309**	P	**Pb**	17 20 39.7	+0.3
	baz=313						
ENA				S	**Sn**	17 20 50.8	-0.6
	baz=313						
NACB	**Ninganchiao**	**0.73**	**286**	*i* P	**Pb**	17 20 39.9	+0.5
	baz=269						
NACB				*e*S	**Sb**	17 20 50.3	+1.2
	baz=269						
YOJ	**Yonaguni jima**	**0.77**	**50**	P	**Pg**	17 20 40.4	+0.1
YOJ				S	**Sb**	17 20 49.5	-0.6
YOJ	**Yonaguni jima**	**0.77**	**50**	P	**Pn**	17 20 40.7	-0.4
	baz=52						
YOJ				*e*S	**Sb**	17 20 49.6	-0.6
	baz=52						
TWC	**Suao**	**0.79**	**324**	*i* P	**Pg**	17 20 40.6	-0.1
	baz=321						
TWC				*e*S	**Sb**	17 20 50.3	-0.5
	baz=321						
ETM	**Tongmen**	**0.80**	**270**	P	**Pg**	17 20 41.0	+0.2
	baz=257						
ETM				S	**Sg**	17 20 52.1	+0.8
	baz=257						
TEGC	**Jichi Village**	**0.80**	**251**	P	**Pn**	17 20 41.6	+0.1
	baz=248						
TEGC				S	**Sn**	17 20 53.0	0.0
	baz=248						
ETLH	**Xiulin Townshi**	**0.84**	**286**	P	**Pn**	17 20 42.0	-0.2
	baz=271						
ETLH				S	**Sg**	17 20 53.5	+0.7
	baz=271						
ESL	**Shilin**	**0.86**	**260**	*i* P	**Pg**	17 20 42.2	+0.1
	baz=248						
ESL				*e*S	**Sb**	17 20 53.2	+0.2
	baz=248						
NDS	**Dongshan**	**0.89**	**318**	P	**Pg**	17 20 42.6	+0.1
	baz=321						
NDS				*e*S	**Sb**	17 20 53.7	+0.1
	baz=321						
EGFH	**Guangfu**	**0.91**	**251**	P	**Pg**	17 20 42.9	0.0
	baz=248						
EGFH				S	**Sg**	17 20 55.6	+0.7
	baz=248						
EGS		**0.95**	**336**	*i* P	**Pn**	17 20 44.1	+0.3
	baz=323						
EGS				*i* S	**Sg**	17 20 56.3	-0.1
	baz=323						
ILA	**Ilan**	**0.97**	**325**	P	**Pn**	17 20 44.2	+0.2
	baz=322						
ILA				S	**Sn**	17 20 57.7	+0.4
	baz=322						
TWE	**Neicheng**	**0.98**	**320**	P	**Pn**	17 20 44.6	+0.6
	baz=317						
TWE				S	**Sn**	17 20 58.2	+0.7
	baz=317						
HGSD	**Ruisui**	**0.98**	**241**	*e*S	**Sb**	17 20 56.0	-0.4
	baz=239						
NDT	**Datong Townshi**	**1.00**	**309**	*i* P	**Pg**	17 20 44.8	+0.2
	baz=306						
NDT				*e*S	**Sg**	17 20 57.3	-0.5
	baz=306						
NTC	**Toucheng**	**1.00**	**331**	P	**Pg**	17 20 44.8	0.0
	baz=339						
NNS	**Nan Shan**	**1.02**	**298**	P	**Pg**	17 20 45.0	0.0
	baz=294						
NNS				S	**Sn**	17 20 58.6	0.0
	baz=294						
WHF	**Hehuan Shan**	**1.02**	**280**	*i* P	**Pg**	17 20 45.1	0.0
	baz=265						
WHF				S	**Sg**	17 20 58.7	+0.2
	baz=265						
FUSS	**Fushou**	**1.06**	**285**	P	**Pg**	17 20 45.7	-0.1
	baz=282						
FUSS				S	**Sg**	17 20 59.5	-0.3
	baz=282						
ECBN	**Changbin**	**1.06**	**232**	S	**Sb**	17 20 58.6	0.0
	baz=230						
EHY	**Hungye**	**1.06**	**244**	P	**Pb**	17 20 44.8	-0.2
	baz=256						
EHY				*e*S	**Sb**	17 20 58.2	-0.4
	baz=256						
OWD	**Renai**	**1.09**	**269**	P	**Pn**	17 20 46.0	+0.3
	baz=266						
OWD				S	**Sb**	17 20 59.8	+0.3
	baz=266						
TWB1	**Santiao Chiao**	**1.09**	**342**	P	**Pn**	17 20 45.7	+0.1
	baz=355						
TWB1				S	**Sb**	17 20 59.1	-0.3
	baz=355						
CHGB	**Renai**	**1.09**	**275**	P	**Pn**	17 20 46.1	+0.3
	baz=260						
CHGB				S	**Sg**	17 21 00.8	0.0
	baz=260						
TIPB	**Shuangxi**	**1.11**	**334**	P	**Pg**	17 20 46.5	-0.3
	baz=331						
TIPB				S	**Sn**	17 21 00.7	-0.1
	baz=331						
TWT	**Tachien**	**1.12**	**285**	P	**Pg**	17 20 47.1	+0.2
	baz=270						
TWT				S	**Sg**	17 21 02.5	+0.7
	baz=270						
YULB	**Yu-li**	**1.13**	**240**	P	**Pb**	17 20 46.5	+0.2
	baz=253						
YULB				*e*S	**Sb**	17 21 00.1	-0.6
	baz=253						
YHNB	**Yeheng**	**1.14**	**308**	P	**Pg**	17 20 46.9	-0.4
	baz=293						
YHNB				S	**Sn**	17 21 01.7	+0.1
	baz=293						
EYUL	**Yuli**	**1.14**	**237**	P	**Pb**	17 20 46.6	+0.2

Code	Station Name	Δ° AZ°	Op	Phase ID	Time h m s	Res
	baz=236					
EYUL			S	Sb	17 21 01.6	+0.7
	baz=236					
NSK	Sanguang	1.16 308	P	Pg	17 20 47.2	-0.4
	baz=304					
NSK			S	Sn	17 21 01.9	-0.1
	baz=304					
TWF1	Yuli	1.16 238	P	Pn	17 20 46.5	0.0
	baz=225					
TWF1			S	Sb	17 21 01.8	+0.5
	baz=225					
NWF	Wu-fen Shan	1.22 334	P	Pb	17 20 47.7	-0.1
	baz=331					
NWF			S	Sb	17 21 02.7	-0.5
	baz=331					
WFSB	Wu-fen Shan	1.22 334	P	Pb	17 20 47.7	0.0
	baz=331					
WFSB			S	Sn	17 21 03.6	+0.2
	baz=331					
TWA	Mucha	1.23 325	iP	Pg	17 20 49.1	+0.1
	baz=338					
FULB	Fuli	1.25 232	eP	Pg	17 20 49.1	-0.2
	baz=220					
FULB			eS	Sb	17 21 03.3	-0.6
	baz=220					
NHDH	Xindian Distri	1.25 322	P	Pg	17 20 49.2	-0.1
	baz=319					
NHDH			S	Sg	17 21 06.1	+0.4
	baz=319					
CHKT	Chengkung	1.26 227	eP	Pn	17 20 46.5	-1.4
	baz=215					
CHKT			eS	Sb	17 21 02.8	-1.6
	baz=215					
TATO	Taipei	1.28 322	P	Pg	17 20 49.5	-0.5
	baz=318					
TATO			S	Sg	17 21 05.9	-0.8
	baz=318					
NHY	Taipei	1.29 326	P	Pg	17 20 49.9	-0.2
	baz=322					
NHY			S	Sg	17 21 05.9	-1.0
	baz=322					
WPL	Puli Township	1.29 272	P	Pb	17 20 49.3	+0.4
	baz=261					
WPL			eS	Sn	17 21 06.0	+0.9
	baz=261					
TNOU	National Taiwa	1.29 336	eP	Pn	17 20 47.2	-1.1
	baz=332					
TNOU			S	Sb	17 21 04.9	-0.4
	baz=332					
IRIF	Iriomote-Funau	1.30 74	P	Pb	17 20 49.5	+0.4
IRIF			S	Sg	17 21 06.4	-0.9
SSLB	Suanglung	1.30 262	P	Pn	17 20 48.9	+0.4
	baz=260					
SSLB			eS	Sb	17 21 06.0	+0.4
	baz=260					
TAP1	Taipei	1.31 324	P	Pg	17 20 49.9	-0.6
	baz=321					
TAP1			eS	Sg	17 21 08.3	+0.6
	baz=321					
DPDB	Guoxing	1.31 273	P	Pb	17 20 49.6	+0.2
	baz=262					
DPDB			eS	Sn	17 21 06.2	+0.3
	baz=262					
TAP	Taipei	1.32 324	P	Pb	17 20 49.8	+0.3
	baz=321					
TAP			eS	Sg	17 21 08.4	+0.5
	baz=321					
HATJ	Hateruma jima	1.32 86	P	Pb	17 20 49.7	+0.2
HATJ			eS	Sb	17 21 06.6	+0.5
BACT	New Taipei Cit	1.32 321	P	Pg	17 20 50.1	-0.6
	baz=317					
BACT			eS	Sg	17 21 08.8	+0.7
	baz=317					
WCS	Beigang Elemen	1.33 274	P	Pb	17 20 49.8	+0.2
	baz=264					
WCS			eS	Sb	17 21 07.3	+1.0
	baz=264					
WHP	Taichung City	1.33 284	eP	Pg	17 20 50.4	-0.5
	baz=271					
WHP			eS	Sb	17 21 07.0	+0.5
	baz=271					
SMLT	Sun Moon Lake	1.34 267	iP	Pb	17 20 49.8	-0.1
	baz=264					
SMLT			S	Sb	17 21 07.3	+0.5
	baz=264					
ECS	Chishang	1.36 231	P	Pb	17 20 50.6	+0.3
	baz=220					
ECS			S	Sb	17 21 08.4	+1.0
	baz=220					
YM01	YM01	1.38 328	P	Pb	17 20 50.6	+0.1
	baz=341					
YM01			S	Sn	17 21 07.1	-0.3
	baz=341					
YUS	Yu-Shan	1.38 250	P	Pb	17 20 50.7	-0.1
	baz=248					
YUS			eS	Sb	17 21 08.6	+0.3
	baz=248					
TYC	Yuchr	1.38 268	P	Pb	17 20 50.5	0.0
	baz=265					
TYC			S	Sb	17 21 08.2	+0.4
	baz=265					
NWRT	Kuosheng	1.38 333	eP	Pg	17 20 51.7	-0.2
	baz=329					
NWRT			eS	Sn	17 21 07.1	-0.4
	baz=329					
EDH	Donghe	1.39 225	P	Pn	17 20 48.8	-1.0
	baz=215					
EDH			eS	Sn	17 21 05.7	-2.0
	baz=215					
NJD	Zhudong	1.39 303	P	Pg	17 20 51.4	-0.6
	baz=300					
NJD			eS	Sg	17 21 10.5	+0.3
	baz=300					
LIOB	Emei	1.40 299	P	Pg	17 20 51.7	-0.6
	baz=296					
YM08	YM08	1.40 330	P	Pb	17 20 50.8	-0.1
	baz=326					
YM08			eS	Sn	17 21 07.8	-0.2
	baz=326					
NSTT	Nanjuang	1.41 298	P	Pg	17 20 51.8	-0.6
	baz=295					
NSTT			S	Sb	17 21 09.5	+0.9
	baz=295					
WHYT	Xinyi Township	1.41 259	P	Pb	17 20 51.2	+0.2
	baz=258					
NTY	Taoyuan	1.41 317	P	Pb	17 20 51.2	+0.2
	baz=313					
NTY			eS	Sn	17 21 08.2	0.0
	baz=313					
TWS1	Kuangyinshan	1.42 323	P	Pn	17 20 50.4	+0.3
	baz=319					
TWS1			S	Sb	17 21 08.9	+0.1
	baz=319					
ANP	Anpu	1.43 328	P	Pb	17 20 51.4	-0.1
	baz=338					
ANP			S	Sn	17 21 08.4	-0.5
	baz=338					
NTST	Danshui	1.45 325	P	Pb	17 20 51.7	0.0
	baz=337					
NTST			S	Sn	17 21 09.2	+0.1
	baz=337					
ELDTW	Lidau	1.46 238	iP	Pn	17 20 50.9	+0.1
	baz=237					
ELDTW			eS	Sn	17 21 07.2	-2.3
	baz=237					
NCU	National Centr	1.46 313	P	Pb	17 20 52.2	+0.3
	baz=309					
NCU			eS	Sn	17 21 09.1	-0.4
	baz=309					
NCUH	Zhongli	1.46 313	P	Pb	17 20 52.0	+0.1
	baz=309					
NCUH			eS	Sn	17 21 09.6	+0.1
	baz=309					
HSN1	Hsinchu	1.47 304	P	Pb	17 20 52.6	+0.7
	baz=300					
HSN1			eS	Sn	17 21 09.6	0.0
	baz=300					
TWY	Chenhua	1.47 332	eP	Pb	17 20 52.7	+0.6
	baz=329					
TWY			eS	Sn	17 21 08.1	-1.6
	baz=329					
ALS	Alishan	1.50 253	eP	Pg	17 20 54.0	-0.2
	baz=250					
ALS			S	Sb	17 21 11.8	+0.3
	baz=250					
SBCB	Hsinchu	1.50 303	P	Pb	17 20 53.2	+0.6
	baz=299					
SBCB			eS	Sn	17 21 10.8	+0.5
	baz=299					
TWQ1	Liyutan	1.50 285	P	Pg	17 20 53.4	-0.7
	baz=282					
TWQ1			S	Sg	17 21 13.1	-0.6
	baz=282					
WJS	Zhushan	1.50 265	P	Pg	17 20 54.0	-0.2
	baz=262					
WJS			S	Sg	17 21 14.2	+0.3
	baz=262					
HSN	Hsinchu	1.52 303	P	Pn	17 20 52.1	+0.6
	baz=301					
HSN			eS	Sn	17 21 10.4	-0.4
	baz=301					
WWF	Wufeng	1.52 273	P	Pg	17 20 54.2	-0.4
	baz=270					
WWF			S	Sg	17 21 14.7	+0.3
	baz=270					
JKRS	Kuro-shima	1.53 80	P	Pb	17 20 52.7	-0.3
JKRS			eS	Sb	17 21 12.5	+0.5
NSY	Sanyi	1.53 287	P	Pb	17 20 53.7	+0.6
	baz=284					
NSY			eS	Sg	17 21 14.7	+0.1
	baz=284					
LDUT	Ludao	1.53 213	P	Pn	17 20 50.9	-0.8
	baz=212					
LDUT			eS	Sn	17 21 08.5	-2.6
	baz=212					
NJN	Zhunan	1.54 298	P	Pb	17 20 53.2	+0.1
	baz=294					
NJN			eS	Sb	17 21 12.2	-0.1
	baz=294					
WNT	Mingjian	1.54 267	P	Pb	17 20 54.1	+0.9
	baz=265					
WNT			S	Sg	17 21 13.9	-1.0
	baz=265					
WNT1	Nantou City	1.54 268	P	Pg	17 20 54.2	-0.7
	baz=266					
WNT1			S	Sg	17 21 14.5	-0.6
	baz=266					
NMLH	Miaoli	1.54 292	P	Pb	17 20 53.9	+0.6
	baz=288					
NMLH			S	Sg	17 21 13.9	-1.1
	baz=288					
LONT	Longtian	1.55 227	P	Pn	17 20 52.0	+0.1
	baz=239					
LONT			eS	Sn	17 21 11.8	+0.2
	baz=239					
TCU	Taichung	1.55 277	P	Pb	17 20 54.2	+0.8
	baz=274					
TCU			eS	Sg	17 21 15.4	0.0
	baz=274					
WDJ	Dajia District	1.62 284	P	Pb	17 20 54.7	+0.1
	baz=281					
WDJ			eS	Sg	17 21 17.0	-0.4
	baz=281					
WYL	Yuanlin Townsh	1.63 270	P	Pb	17 20 55.5	+0.7
	baz=268					
WYL			S	Sg	17 21 17.4	-0.5
	baz=268					
TWGBT	Beinan	1.65 226	P	Pn	17 20 53.1	-0.1
	baz=237					
TWGBT			eS	Sn	17 21 13.0	-1.0
	baz=237					
TTN	Taitung	1.65 223	P	Pb	17 20 54.7	-0.4
	baz=222					
TTN			S	Sn	17 21 13.7	-0.3
	baz=222					
TWG	Pinlang	1.65 226	P	Pn	17 20 53.9	+0.6
	baz=237					
TWG			S	Sn	17 21 13.2	-0.9
	baz=237					
WCHH	Zhanghua	1.65 274	iP	Pb	17 20 55.5	+0.3
	baz=271					
WCHH			iS	Sb	17 21 17.2	+1.5
	baz=271					
STYH	Taoyuan	1.66 242	P	Pb	17 20 54.8	-0.4
	baz=232					
STYH			S	Sn	17 21 15.0	+0.7
	baz=232					
JIJ	Ishigaki jima	1.67 76	P	Pb	17 20 54.9	-0.6
JIJ			S	Sb	17 21 15.7	-0.5
PCYT	Pengchaiyu	1.67 351	P	Pn	17 20 53.9	+0.2
	baz=332					
PCYT			eS	Sn	17 21 13.8	-0.9
	baz=332					
WGK	Gukeng	1.67 261	iP	Pb	17 20 55.6	+0.1
	baz=259					
WGK			eS	Sg	17 21 20.2	+1.0
	baz=259					
STYT	Tauyuan	1.68 242	P	Pn	17 20 54.8	+1.0
	baz=232					
STYT			S	Sn	17 21 15.8	+0.9
	baz=232					
WDLH	Douliu	1.69 261	P	Pb	17 20 55.9	+0.1
	baz=259					
WDLH			S	Sb	17 21 17.6	+0.7
	baz=259					
TPUB	Ta-pu	1.72 248	P	Pb	17 20 56.6	+0.2
	baz=246					
TPUB			eS	Sb	17 21 18.9	+1.2
	baz=246					
WTP	Ta-pu	1.76 246	P	Pb	17 20 57.4	+0.4
	baz=245					
WTP			S	Sb	17 21 19.9	+1.1
	baz=245					
CHN2	Minshiung	1.78 256	P	Pb	17 20 58.2	+0.8
	baz=255					
CHN2			eS	Sg	17 21 22.0	-0.8
	baz=255					
WRL	Guolierlin Hig	1.82 268	P	Pb	17 20 58.0	0.0
	baz=279					
WRL			S	Sb	17 21 21.2	+0.8
	baz=279					
WTK	Tuku	1.83 262	P	Pb	17 20 58.5	+0.3
	baz=260					
WTK			eS	Sg	17 21 22.8	-1.4
	baz=260					
CHY	Chiayi	1.84 256	P	Pb	17 20 58.4	+0.1
	baz=254					
CHY			S	Sb	17 21 21.7	+0.7
	baz=254					
SLGT	Liugui	1.85 239	P	Pb	17 20 58.9	+0.4
	baz=230					
SLGT			S	Sb	17 21 21.7	+0.2
	baz=230					
CHN1	Nanshi	1.86 245	iP	Pb	17 20 58.9	+0.3
	baz=245					
CHN1			eS	Sb	17 21 23.3	+1.8
	baz=245					
TWK	Hsinying	1.86 248	P	Pb	17 20 58.5	-0.2
	baz=247					
TWK			eS	Sb	17 21 22.9	+1.3
	baz=247					
SGST	Jiashian	1.86 242	P	Pb	17 20 58.1	-0.5
	baz=233					
SGST			S	Sb	17 21 21.7	+0.1
	baz=233					
SNST	Tainan City	1.87 247	iP	Pb	17 20 59.0	+0.1
	baz=246					
SNST			eS	Sb	17 21 23.4	+1.5
	baz=246					
JISG	Ishigakijimahi	1.88 71	P	Pb	17 20 58.1	-0.9
JISG			S	Sn	17 21 20.9	+1.2
ECL	Taimali	1.88 224	eP	Pn	17 20 57.7	+1.2
	baz=223					
ECL			S	Sn	17 21 18.0	-1.8
	baz=223					
WMLT	Mailiao	1.97 266	P	Pb	17 20 59.9	-0.6
	baz=278					
WMLT			eS	Sb	17 21 25.9	+1.3
	baz=278					
WSF	Szhu	1.99 261	P	Pb	17 21 00.3	-0.6
	baz=259					
WSF			eS	Sb	17 21 26.7	+1.3
	baz=259					
SSD	Sandimen	2.00 233	eP	Pb	17 21 00.4	-0.7
	baz=227					
SSD			eS	Sn	17 21 22.4	-0.4
	baz=227					
ICHU	Yijhu	2.00 253	P	Pb	17 21 00.4	-0.8
	baz=252					
ICHU			S	Sb	17 21 25.5	-0.3
	baz=252					
TSMG	Majia	2.02 232	eP	Pb	17 21 00.7	-0.8
	baz=227					
TSMG			eS	Sb	17 21 25.3	-1.0
	baz=227					
SCST	Cishan	2.03 238	iP	Pb	17 21 02.3	+0.7
	baz=226					
SCST			S	Sb	17 21 27.6	+1.1
	baz=226					
CHN3	Shinhua	2.04 244	P	Pb	17 21 02.0	+0.3
	baz=244					
CHN3			S	Sb	17 21 28.7	+1.9
	baz=244					
LAY	Lan-yu	2.06 201	iP	Pn	17 20 58.9	-0.1
	baz=200					
LAY			eS	Sn	17 21 21.8	-2.5
	baz=200					
CHN8	Yiju	2.07 253	eP	Pb	17 21 01.1	-1.2
	baz=252					
CHN8			eS	Sb	17 21 27.4	-0.2
	baz=252					
MASBT	Mashibuluo	2.09 230	P	Pb	17 21 01.4	-1.2
	baz=225					
MASBT			eS	Sb	17 21 28.8	+0.6
	baz=225					
TAW	Tawu	2.10 220	P	Pn	17 21 00.8	+1.4
	baz=229					
TAW			S	Sn	17 21 24.1	-1.0
	baz=229					
EAST	Anshuo	2.11 222	eP	Pn	17 21 01.4	+1.7
	baz=221					
EAST			S	Sn	17 21 25.6	+0.2
	baz=221					
SGLT	Jiouru	2.12 235	eP	Pb	17 21 04.2	+1.1
	baz=234					
SGLT			eS	Sb	17 21 27.9	-1.2
	baz=234					
SCLT	Jiali	2.14 249	P	Pb	17 21 02.8	-0.7
	baz=248					
SCLT			S	Sb	17 21 29.8	+0.1
	baz=248					
TAI1	Yung-k'ang	2.17 245	eP	Pb	17 21 05.2	+1.3
	baz=257					
TAI1			eS	Sb	17 21 31.8	+1.3
	baz=257					
SNJT	Kaohsiung City	2.22 237	P	Pb	17 21 05.0	+0.2
	baz=238					
SNJT			S	Sb	17 21 33.2	+1.2
	baz=238					
JTJ	Tarama	2.24 72	P	Pn	17 21 03.0	+1.6
JTJ			eS	Sb	17 21 30.6	-1.8
SCZT	Fangliau	2.26 226	eP	Pb	17 21 05.3	-0.2
	baz=220					
SCZT			eS	Sn	17 21 31.0	+1.9
	baz=220					
SLIU	Shizi	2.26 220	eP	Pn	17 21 01.8	0.0
	baz=228					
SLIU			eS	Sn	17 21 28.6	-0.7
	baz=228					
WLCH	Liuqiu	2.44 229	P	Pb	17 21 09.2	+0.7
	baz=244					
WLCH			eS	Sb	17 21 40.8	+2.5
	baz=244					
HEN	Hengchun	2.46 218	eP	Pb	17 21 07.8	-1.2
	baz=218					
HEN			S	Sn	17 21 35.4	+1.3
	baz=218					
TSEB	Hengchuen, Pin	2.46 213	eP	Pb	17 21 07.4	-1.6
	baz=223					
TSEB			S	Sn	17 21 36.0	+1.9
	baz=223					
TWKBT	Hengchun	2.48 216	P	Pn	17 21 06.3	+1.7
	baz=216					
TWKBT			S	Sn	17 21 34.5	+0.1
	baz=216					
TWK1	Hengchun	2.48 216	P	Pn	17 21 06.6	+1.9
	baz=216					
TWK1			S	Sn	17 21 35.1	+0.6
	baz=216					
SNW	Nanwan	2.49 217	eS	Sb	17 21 38.2	-1.7
	baz=217					
PHUB	P'eng-hu	2.60 260	P	Pn	17 21 07.8	+1.5
	baz=259					
PHUB			S	Sn	17 21 38.4	+0.9
	baz=259					
PNG	Penghu	2.60 262	P	Pn	17 21 07.8	+1.4
	baz=260					
PNG			eS	Sn	17 21 38.0	+0.4
	baz=260					
JIRB	Irabujima	2.70 71	eS	Sn	17 21 41.0	+1.0
JIKM	Ikemajima	2.79 70	P	Pn	17 21 10.9	+1.8
JIKM			eS	Sn	17 21 43.8	+1.5
VCHM	Qimei	2.80 255	P	Pn	17 21 10.6	+1.6
	baz=254					
VCHM			S	Sn	17 21 43.8	+1.4
	baz=254					
JMJ	Miyako jima 2	2.80 72	P	Pn	17 21 10.4	+1.3
	baz=75					
JMJ			S	Sn	17 21 41.2	-1.3
	baz=75					
JMJ2	Miyako jima3	2.81 74	eS	Sn	17 21 45.4	+2.7
VWUC	VWUC	2.84 292	eP	Pn	17 21 09.1	-0.6
	baz=288					
VWUC			eS	Sn	17 21 41.6	-1.9
	baz=288					
JOGS	Gusukube	2.88 74	P	Pn	17 21 12.6	+2.3
JOGS			eS	Sn	17 21 46.7	+2.2
MATB	Ma-tsu	3.09 315	eP	Pn	17 21 13.0	0.0
	baz=310					
MATB			eS	Sn	17 21 48.3	-1.2
	baz=310					
PTMZ	Houxiangcun	3.14 290	eP	Pn	17 21 14.1	+0.3
	baz=287					
PTMZ			eS	Sn	17 21 49.1	-1.7
	baz=287					
LYJJ	Jianjiangzhen	3.49 318	eP	Pn	17 21 18.2	-0.4
	baz=312					
LYJJ			eS	Sn	17 21 58.6	-0.8
	baz=312					
XPSS	Dashiqiu	3.54 327	eP	Pn	17 21 19.0	-0.3
	baz=331					
XPSS			eS	Sn	17 22 01.0	+0.2
	baz=331					
KNM	Kinmen	3.62 278	P	Pn	17 21 22.7	+2.3
	baz=275					
KNM			eS	Sn	17 22 03.3	+0.7
	baz=275					
KNMB	Chin-men Tao	3.66 279	eP	Pn	17 21 20.8	-0.2
	baz=276					
KNMB			eS	Sn	17 22 02.5	-1.3
	baz=276					
MHZQ	Yeshan	3.69 306	eP	Pn	17 21 21.4	0.0
	baz=300					
MHZQ			eS	Sn	17 22 02.7	-1.8
	baz=300					
AXDP	Jialang	4.11 284	P	Pn	17 21 28.7	+1.6
	baz=271					
AXDP			eS	Sn	17 22 13.7	-1.1
	baz=271					
KSRS	Korea Array	14.26 18	Pn	Pn	17 23 48.6	+2.4
	0.2nm,0.3s,baz=198,slow=11,SNR=5.4					
CMAR	Chiang Mai Arr	22.50 260	P	P	17 25 21.8	-2.2
	0.3nm,0.4s,baz=32,slow=5.3,SNR=1.7					
SONM	Songino Array	26.99 336	P	P	17 26 04.9	-1.3
	1.9nm,0.7s,baz=144,slow=9.6,SNR=7.5					
MKAR	Makanchi Array	39.24 316	P	P	17 27 52.1	-0.5
	1.0nm,0.4s,baz=98,slow=9.5,SNR=11					
ZALV	Zalesovo Beam	41.01 327	P	P	17 28 05.3	-1.8
	3.1nm,0.6s,baz=113,slow=7.5,SNR=9.2					
WRA	Warramunga Arr	45.18 164	P	P	17 28 41.6	+0.4
	0.5nm,0.7s,baz=344,slow=9.0,SNR=2.0					
ASAR	Alice Springs	48.66 166	P	P	17 29 09.2	+0.8
	0.2nm,0.7s,baz=345,slow=7.1,SNR=1.6					

MEX 01 17:20:27.4±0.6, 15.44N×92.76W, h114km±5km, MD3.7, Mexico-Guatemala border region

Code	Station Name	Δ° AZ°	Op	Phase ID ISC	Time h m s	Res ISC
PCIG		0.51 301	eP	Pn	17 20 43.7	-1.1
PCIG			eS	Sn	17 20 56.0	-1.9
PCIG		0.51 301	eP	Pn	17 20 43.6	-1.2
THIG		0.71 138	iP	Pn	17 20 45.1	-1.2
THIG			eS	Sn	17 20 59.0	-1.6
CCIG	Comitan	1.03 36	iP	Pn	17 20 51.0	+1.6

BJI 01 17:34:06.8±0.0, 24.06N×122.41E, h21km, mB4.8/35, mb4.4/55, ML4.4/11, Ms4.7/63, Ms7 4.6/57
NIED 01 17:34:06.8, 23.95N×122.36E, h19km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}0.68; $M_{\theta\theta}$-1.21; $M_{\phi\phi}$0.53; $M_{r\theta}$1.16; $M_{r\phi}$-0.19; $M_{\theta\phi}$1.09;

Fault plane solution: M_o1.92000×10^{16} NP1:ϕ_s52.00000°, δ78.00000°, λ65.00000°. NP2:ϕ_s298.00000°, δ28.00000°, λ154.00000°.

NEIC ***01*** *17:34:06.9±1.8, 23°.96N±0°.04×122°.42E±0°.04, h26km±4km, mb4.8/94, Mwr4.7/27, ML4.8(TAP) Error ellipse: s-maj=7.4km s-min=1.8km az=132.0*

NEIC ***01*** *17:34:06.6, 23°.94N×122°.44E, h29km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.46; $M_{\theta\theta}$-0.77; $M_{\phi\phi}$0.31; $M_{r\theta}$0.94; $M_{r\phi}$0.18; $M_{\theta\phi}$0.94; Fault plane solution: M_o1.50000×10^{16} NP1:ϕ_s307.38000°, δ25.15000°, λ160.12000°. NP2:ϕ_s55.50000°, δ81.69000°, λ66.18000°. Principal axes: T 1.6181, Plg48.0000°, Azm300.0000°; N -0.2728, Plg24.0000°, Azm59.0000°; P -1.3452, Plg33.0000°, Azm165.0000°;*

JMA ***01*** *17:34:06.8±0.1, 23°.95N×122°.36E, h19km±3km, M4.7*

TAP ***01*** *17:34:07.5, 24°.01N×122°.37E, h26km, ML5.0, D*

IDC ***01*** *17:34:09.6±2.6, 24°.18N×122°.47E, h47km±25km, mb4.1/37, mb1 4.1/41, mb1mx4.1/64, mbtmp4.3/41, ML3.5/4, MS4.2/23, Ms1 4.3/23, ms1mx4.0/49, Error ellipse: s-maj=14.5km s-min=12.5km az=54.0*

ISC 01 17:34:06.7±0.7, 23°.96N±0°.02×122°.43E±0°.01, h29km±5km, n336, σ1$20/457, mb4.7/80, MS4.4/23, 28C-10D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.68**	**44**	**P**	**Pn**	**17 34 20.6**	**+0.2**
JYNG				S	**Sb**	**17 34 29.6**	**+0.3**
EHP	**Heping Village**	**0.72**	**300**	*eP*	**Pn**	**17 34 20.8**	**0.0**
	baz=297						
EHP				*eS*	**Sn**	**17 34 30.7**	**-0.2**
	baz=297						
YOJ	**Yonaguni jima**	**0.73**	**47**	P	**Pn**	**17 34 21.6**	**+0.5**
YOJ				S	**Sn**	**17 34 31.1**	**-0.2**
YOJ	**Yonaguni jima**	**0.73**	**47**	⇑*iP*	**Pn**	**17 34 21.7**	**+0.7**
	baz=61						
YOJ				S	**Sb**	**17 34 30.9**	**+0.2**
	baz=61						
YOJ	**Yonaguni jima**	**0.73**	**47**		**Pn**	**17 34 21.3**	**+0.3**
YOJ				Sg	**Sb**	**17 34 30.9**	**+0.2**
HWA	**Hwalien**	**0.75**	**272**	P	**Pb**	**17 34 20.9**	**-0.3**
	baz=254						
ETL	**Fush Village**	**0.76**	**286**	P	**Pb**	**17 34 21.0**	**-0.4**
	baz=267						
ETL				*eS*	**Sb**	**17 34 31.5**	**0.0**
	baz=267						
TEYL	**Yanliau Villag**	**0.76**	**264**	P	**Pn**	**17 34 21.3**	**-0.1**
	baz=250						
TEYL				S	**Sn**	**17 34 32.1**	**+0.2**
	baz=250						
EWUT	**Wuta**	**0.77**	**310**	⇓*iP*	**Pb**	**17 34 20.7**	**-0.8**
	baz=316						
EWUT				S	**Sb**	**17 34 30.6**	**-0.9**
	baz=316						
TWD	**Chiawan**	**0.77**	**279**	⇑*iP*	**Pb**	**17 34 20.8**	**-0.7**
	baz=275						
TWD				*i* S	**Sb**	**17 34 30.8**	**-0.8**
	baz=275						
ENA	**Nanau**	**0.78**	**307**	⇓*iP*	**Pb**	**17 34 20.9**	**-0.8**
	baz=314						
ENA				S	**Sb**	**17 34 31.3**	**-0.8**
	baz=314						
NACB	**Ninganchiao**	**0.79**	**286**	⇑*iP*	**Pb**	**17 34 21.2**	**-0.7**
	baz=268						
NACB				*i* S	**Sb**	**17 34 30.4**	**-1.8**
	baz=268						
NACB	**Ninganchiao**	**0.79**	**286**		**Pb**	**17 34 20.5**	**-1.4**
TWC	**Suao**	**0.84**	**321**	⇓*iP*	**Pn**	**17 34 21.6**	**-0.9**
	baz=321						
TWC				*i* S	**Sb**	**17 34 31.8**	**-1.8**
	baz=321						
TEGC	**Jichi Village**	**0.85**	**253**	*eP*	**Pn**	**17 34 22.4**	**-0.2**
	baz=248						
TEGC				*eS*	**Sn**	**17 34 34.1**	**+0.1**
	baz=248						
ETM	**Tongmen**	**0.85**	**271**	P	**Pn**	**17 34 22.1**	**-0.6**
	baz=258						
ETM				S	**Sb**	**17 34 33.4**	**-0.7**
	baz=258						
ETLH	**Xiulin Townshi**	**0.90**	**286**	⇑*iP*	**Pn**	**17 34 23.0**	**-0.4**
	baz=272						
ETLH				S	**Sb**	**17 34 34.3**	**-1.2**
	baz=272						
ESL	**Shilin**	**0.92**	**261**	⇑*iP*	**Pn**	**17 34 22.8**	**-0.8**
	baz=248						
ESL				S	**Sb**	**17 34 34.5**	**-1.4**
	baz=248						
NDS	**Dongshan**	**0.94**	**316**	⇓*iP*	**Pn**	**17 34 23.8**	**-0.1**
	baz=315						
NDS				*i* S	**Sb**	**17 34 35.5**	**-0.9**
	baz=315						
EGFH	**Guangfu**	**0.96**	**253**	*eP*	**Pb**	**17 34 24.4**	**-0.3**
	baz=248						
EGFH				*eS*	**Sb**	**17 34 35.7**	**-1.3**
	baz=248						
EGS		**0.99**	**333**	⇓*iP*	**Pn**	**17 34 24.8**	**+0.2**
	baz=324						
EGS				*i* S	**Sb**	**17 34 38.3**	**+0.3**
	baz=324						
ILA	**Ilan**	**1.01**	**323**	⇓*iP*	**Pb**	**17 34 25.4**	**-0.3**
	baz=322						
ILA				*i* S	**Sb**	**17 34 39.3**	**+0.6**
	baz=322						
HGSD	**Ruisui**	**1.03**	**243**	*eP*	**Pn**	**17 34 24.9**	**-0.2**
	baz=239						
HGSD				*eS*	**Sn**	**17 34 37.9**	**-0.6**
	baz=239						
TWE	**Neicheng**	**1.03**	**318**	⇓*iP*	**Pn**	**17 34 25.3**	**+0.2**
	baz=325						
TWE				S	**Sn**	**17 34 38.6**	**0.0**
	baz=325						
NTC	**Toucheng**	**1.05**	**329**	P	**Pb**	**17 34 25.7**	**-0.5**
	baz=328						
NTC				S	**Sb**	**17 34 39.3**	**-0.3**
	baz=328						
NDT	**Datong Townshi**	**1.05**	**308**	⇑*iP*	**Pb**	**17 34 25.9**	**-0.4**
	baz=306						
NDT				S	**Sn**	**17 34 38.7**	**-0.5**
	baz=306						
NNS	**Nan Shan**	**1.07**	**297**	⇑*iP*	**Pn**	**17 34 26.0**	**+0.1**
	baz=282						
NNS				*i* S	**Sn**	**17 34 39.1**	**-0.8**
	baz=282						
WHF	**Hehuan Shan**	**1.08**	**280**	⇑*iP*	**Pn**	**17 34 25.8**	**-0.4**
	baz=265						
WHF				*i* S	**Sn**	**17 34 39.2**	**-1.2**
	baz=265						
ECBN	**Changbin**	**1.10**	**235**	*eP*	**Pb**	**17 34 26.5**	**-0.5**
	baz=231						
ECBN				*eS*	**Sn**	**17 34 40.0**	**-0.2**
	baz=231						
EHY	**Hungye**	**1.11**	**246**	*eP*	**Pn**	**17 34 26.2**	**0.0**
	baz=242						
EHY				*eS*	**Sn**	**17 34 40.5**	**+0.1**
	baz=242						
FUSS	**Fushou**	**1.12**	**285**	P	**Pn**	**17 34 26.8**	**+0.2**
	baz=282						
FUSS				S	**Sn**	**17 34 39.6**	**-1.5**
	baz=282						
TWB1	**Santiao Chiao**	**1.12**	**339**	⇑*iP*	**Pn**	**17 34 26.5**	**+0.1**
	baz=324						
TWB1				*eS*	**Sn**	**17 34 40.9**	**+0.1**
	baz=324						
OWD	**Renai**	**1.14**	**270**	P	**Pn**	**17 34 26.7**	**-0.1**
	baz=267						
OWD				S	**Sn**	**17 34 40.6**	**-1.0**
	baz=267						
CHGB	**Renai**	**1.15**	**275**	⇑*iP*	**Pn**	**17 34 27.1**	**+0.1**
	baz=261						
CHGB				S	**Sn**	**17 34 40.9**	**-1.0**
	baz=261						
TIPB	**Shuangxi**	**1.15**	**332**	⇑*iP*	**Pn**	**17 34 27.3**	**+0.4**
	baz=331						
TIPB				S	**Sn**	**17 34 41.3**	**-0.3**
	baz=331						
YULB	**Yu-li**	**1.18**	**242**	P	**Pn**	**17 34 27.3**	**+0.1**
	baz=254						
YULB				S	**Sn**	**17 34 41.8**	**-0.5**
	baz=254						
YULB	**Yu-li**	**1.18**	**242**		**Pn**	**17 34 26.9**	**-0.3**
YULB					**Sn**	**17 34 39.6**	**-2.6**
TWT	**Tachien**	**1.18**	**285**	P	**Pb**	**17 34 28.1**	**-0.5**
	baz=270						
TWT				S	**Sb**	**17 34 43.1**	**-0.5**
	baz=270						
EYUL	**Yuli**	**1.18**	**239**	*eP*	**Pb**	**17 34 28.1**	**-0.4**
	baz=236						
EYUL				*eS*	**Sb**	**17 34 43.0**	**-0.4**
	baz=236						
YHNB	**Yeheng**	**1.19**	**307**	⇑*iP*	**Pn**	**17 34 27.9**	**+0.5**
	baz=304						
YHNB				S	**Sn**	**17 34 42.5**	**-0.3**
	baz=304						
YHNB	**Yeheng**	**1.19**	**307**	Pn	**Pn**	**17 34 27.4**	**-0.1**
TDCB	**Techi**	**1.20**	**285**	*eS*	**Sb**	**17 34 43.5**	**-0.4**
	baz=271						
NSK	**Sanguang**	**1.21**	**307**	⇑*iP*	**Pn**	**17 34 28.1**	**+0.4**
	baz=304						
NSK				*i* S	**Sn**	**17 34 43.2**	**+0.1**
	baz=304						
IRIF	**Iriomote-Funau**	**1.25**	**72**	P	**Pb**	**17 34 30.4**	**+0.8**
IRIF				S	**Sb**	**17 34 48.4**	**+3.0**
NWF	**Wu-fen Shan**	**1.25**	**332**	⇑*iP*	**Pn**	**17 34 28.9**	**+0.5**
	baz=331						
NWF				*i* S	**Sb**	**17 34 45.1**	**-0.5**
	baz=331						
HATJ	**Hateruma jima**	**1.27**	**85**	P	**Pb**	**17 34 30.8**	**+0.9**
HATJ				S	**Sb**	**17 34 48.6**	**+2.8**
TWA	**Mucha**	**1.28**	**323**	P	**Pb**	**17 34 29.9**	**-0.2**
	baz=322						
TWA				S	**Sb**	**17 34 46.0**	**-0.1**
	baz=322						
FULB	**Fuli**	**1.28**	**234**	*eP*	**Pn**	**17 34 29.0**	**+0.4**
	baz=219						
FULB				*eS*	**Sn**	**17 34 44.9**	**+0.1**
	baz=219						
CHKT	**Chengkung**	**1.29**	**229**	⇓*iP*	**Pn**	**17 34 28.5**	**-0.3**
	baz=226						
CHKT				S	**Sn**	**17 34 44.0**	**-1.1**
	baz=226						
NHDH	**Xindian Distri**	**1.29**	**321**	⇑*iP*	**Pb**	**17 34 30.3**	**-0.1**
	baz=319						
NHDH				S	**Sb**	**17 34 47.2**	**+0.5**
	baz=319						
TATO	**Taipei**	**1.33**	**320**		**Pb**	**17 34 30.3**	**-0.6**
TATO				Sn	**Sn**	**17 34 45.4**	**-0.5**
SSLB	**Suanglung**	**1.36**	**263**	P	**Pn**	**17 34 30.0**	**+0.3**
	baz=260						
SSLB				*eS*	**Sn**	**17 34 45.5**	**-1.3**
	baz=260						
SSLB	**Suanglung**	**1.36**	**263**		**Pn**	**17 34 29.9**	**+0.2**
SSLB				Sn	**Sn**	**17 34 45.8**	**-0.9**
TAP	**Taipei**	**1.36**	**322**	⇑*iP*	**Pb**	**17 34 31.2**	**-0.4**
	baz=321						
TAP				S	**Sb**	**17 34 48.8**	**+0.2**
	baz=321						
WCS	**Beigang Elemen**	**1.39**	**274**	*eP*	**Pn**	**17 34 30.8**	**+0.8**
	baz=264						
WCS				*eS*	**Sn**	**17 34 47.8**	**+0.4**
	baz=264						
WHP	**Taichung City**	**1.39**	**284**	*eP*	**Pb**	**17 34 32.7**	**+0.6**
	baz=270						
WHP				*eS*	**Sb**	**17 34 50.0**	**+0.5**
	baz=270						
SMLT	**Sun Moon Lake**	**1.40**	**267**	⇑*iP*	**Pn**	**17 34 31.0**	**+0.7**
	baz=254						
SMLT				S	**Sn**	**17 34 47.4**	**-0.4**
	baz=254						
YM01	**YM01**	**1.42**	**327**	P	**Pn**	**17 34 30.9**	**+0.4**
	baz=340						
YM01				*eS*	**Sb**	**17 34 49.4**	**-0.8**
	baz=340						
EDH	**Donghe**	**1.42**	**227**	*eP*	**Pn**	**17 34 31.1**	**+0.6**
	baz=215						
EDH				*eS*	**Sn**	**17 34 47.0**	**-1.3**
	baz=215						
YUS	**Yu-Shan**	**1.43**	**251**	P	**Pn**	**17 34 31.6**	**+0.5**
	baz=248						
YUS				S	**Sn**	**17 34 48.9**	**-0.2**
	baz=248						
TYC	**Yuchr**	**1.44**	**268**	⇑*iP*	**Pn**	**17 34 31.4**	**+0.7**
	baz=265						
TYC				S	**Sn**	**17 34 48.7**	**+0.1**
	baz=265						
LIOB	**Emei**	**1.46**	**298**	⇑*iP*	**Pb**	**17 34 32.7**	**-0.4**
	baz=296						
LIOB				S	**Sn**	**17 34 49.5**	**+0.3**
	baz=296						
WHYT	**Xinyi Township**	**1.46**	**260**	*eP*	**Pb**	**17 34 33.3**	**0.0**
	baz=257						
NSTT	**Nanjuang**	**1.46**	**298**	⇑*iP*	**Pb**	**17 34 32.7**	**-0.6**
	baz=295						
NSTT				*i* S	**Sb**	**17 34 50.7**	**-0.8**
	baz=295						
TWS1	**Kuangyinshan**	**1.46**	**321**	*i* P	**Pn**	**17 34 31.5**	**+0.4**
	baz=320						
TWS1				S	**Sb**	**17 34 50.8**	**-0.7**
	baz=320						
JKRS	**Kuro-shima**	**1.48**	**79**	P	**Pb**	**17 34 34.0**	**+0.6**
JKRS				S	**Sb**	**17 34 53.3**	**+1.5**
ANP	**Anpu**	**1.48**	**326**	P	**Pn**	**17 34 32.3**	**+0.9**
	baz=324						
ANP				S	**Sb**	**17 34 52.5**	**+0.5**
	baz=324						
NTST	**Danshui**	**1.50**	**324**	*eP*	**Pb**	**17 34 32.8**	**-1.0**
	baz=338						
NTST				*eS*	**Sb**	**17 34 53.6**	**+1.2**
	baz=338						
ELDTW	**Lidau**	**1.50**	**240**	⇑*iP*	**Pn**	**17 34 31.8**	**0.0**
	baz=237						
ELDTW				S	**Sn**	**17 34 49.0**	**-1.4**
	baz=237						
TWY	**Chenhua**	**1.51**	**330**	P	**Pb**	**17 34 33.5**	**-0.6**
	baz=329						
TWY				*eS*	**Sb**	**17 34 53.8**	**+0.9**
	baz=329						
NCU	**National Centr**	**1.51**	**312**	P	**Pb**	**17 34 33.1**	**-1.0**
	baz=309						
NCU				S	**Sb**	**17 34 52.8**	**-0.1**
	baz=309						
NCUH	**Zhongli**	**1.51**	**312**	P	**Pb**	**17 34 33.1**	**-1.1**
	baz=309						
NCUH				S	**Sb**	**17 34 52.9**	**0.0**
	baz=309						
ALS	**Alishan**	**1.55**	**254**	⇑*iP*	**Pb**	**17 34 33.7**	**-1.2**
	baz=251						
ALS				S	**Sn**	**17 34 52.3**	**+0.4**
	baz=251						
LDUT	**Ludao**	**1.55**	**215**	P	**Pn**	**17 34 32.3**	**0.0**
	baz=213						
LDUT				S	**Sn**	**17 34 49.8**	**-1.6**
	baz=213						
SBCB	**Hsinchu**	**1.55**	**303**	P	**Pb**	**17 34 33.7**	**-1.2**
	baz=299						
SBCB				*eS*	**Sb**	**17 34 54.1**	**0.0**
	baz=299						
TWQ1	**Liyutan**	**1.56**	**285**	⇑*iP*	**Pb**	**17 34 34.4**	**-0.5**
	baz=281						
TWQ1				S	**Sb**	**17 34 54.0**	**-0.2**
	baz=281						
WJS	**Zhushan**	**1.56**	**265**	*eP*	**Pb**	**17 34 35.0**	**+0.1**
	baz=262						
WJS				*eS*	**Sb**	**17 34 55.7**	**+1.5**
	baz=262						
HSN	**Hsinchu**	**1.57**	**303**	P	**Pn**	**17 34 33.5**	**+0.9**
	baz=301						
HSN				S	**Sb**	**17 34 54.4**	**-0.2**
	baz=301						
LONT	**Longtian**	**1.58**	**229**	*eP*	**Pn**	**17 34 33.8**	**+1.0**
	baz=239						
LONT				*eS*	**Sn**	**17 34 52.3**	**0.0**
	baz=239						
NSY	**Sanyi**	**1.59**	**287**	P	**Pb**	**17 34 34.9**	**-0.5**
	baz=284						
NSY				S	**Sb**	**17 34 54.9**	**-0.1**
	baz=284						
WNT	**Mingjian**	**1.59**	**268**	P	**Pb**	**17 34 35.0**	**-0.5**
	baz=264						
WNT				S	**Sb**	**17 34 55.2**	**0.0**
	baz=264						
NMLH	**Miaoli**	**1.60**	**292**	*eP*	**Pb**	**17 34 34.8**	**-0.8**
	baz=288						
NMLH				*eS*	**Sb**	**17 34 54.9**	**-0.5**
	baz=288						
TCU	**Taichung**	**1.61**	**277**	*eP*	**Pb**	**17 34 35.3**	**-0.4**
	baz=274						
TCU				*eS*	**Sb**	**17 34 56.0**	**+0.4**
	baz=274						
JIJ	**Ishigaki jima**	**1.62**	**75**	P	**Pb**	**17 34 35.1**	**-0.8**
JIJ				S	**Sb**	**17 34 56.7**	**+0.7**
WDJ	**Dajia District**	**1.68**	**284**	*eP*	**Pb**	**17 34 35.9**	**-1.0**
	baz=280						
WDJ				*eS*	**Sb**	**17 34 56.5**	**-1.1**
	baz=280						
TTN	**Taitung**	**1.68**	**225**	*eP*	**Pb**	**17 34 35.4**	**-1.5**
	baz=223						
TTN				*eS*	**Sn**	**17 34 54.9**	**+0.3**
	baz=223						
TWGBT	**Beinan**	**1.68**	**228**	*eP*	**Pn**	**17 34 34.1**	**0.0**
	baz=238						
TWGBT				*eS*	**Sn**	**17 34 52.9**	**-1.7**
	baz=238						
TWG	**Pinlang**	**1.68**	**228**	P	**Pn**	**17 34 34.4**	**+0.3**
	baz=238						
TWG				S	**Sn**	**17 34 55.0**	**+0.4**
	baz=238						
TWG	**Pinlang**	**1.68**	**228**		**Pn**	**17 34 34.1**	**0.0**
PCYT	**Pengchaiyu**	**1.70**	**349**	*eP*	**Pn**	**17 34 34.3**	**-0.1**
	baz=348						
STYH	**Taoyuan**	**1.70**	**243**	*eP*	**Pb**	**17 34 35.7**	**-1.6**
	baz=231						
STYH				*eS*	**Sn**	**17 34 55.8**	**+0.6**
	baz=231						
WCHH	**Zhanghua**	**1.71**	**274**	*eP*	**Pb**	**17 34 36.6**	**-0.9**
	baz=271						
WCHH				*eS*	**Sb**	**17 34 57.7**	**-0.9**
	baz=271						
WDLH	**Douliu**	**1.75**	**262**	*eP*	**Pb**	**17 34 37.4**	**-0.7**
	baz=259						
WDLH				*eS*	**Sb**	**17 34 59.2**	**-0.4**
	baz=259						
TPUB	**Ta-pu**	**1.77**	**249**	*eP*	**Pb**	**17 34 37.2**	**-1.3**
	baz=246						
TPUB				*eS*	**Sb**	**17 34 58.7**	**-1.7**
	baz=246						
TPUB	**Ta-pu**	**1.77**	**249**	Pn	**Pn**	**17 34 36.8**	**+1.4**
WTP	**Ta-pu**	**1.81**	**247**	⇑*iP*	**Pb**	**17 34 37.8**	**-1.3**
	baz=245						
WTP				S	**Sb**	**17 35 00.4**	**-1.0**
	baz=245						
JISG	**Ishigakijimahi**	**1.83**	**70**	P	**Pb**	**17 34 37.8**	**-1.7**
JISG				S	**Sb**	**17 35 02.4**	**+0.3**
CHN2	**Minshiung**	**1.84**	**257**	P	**Pb**	**17 34 38.8**	**-0.8**
	baz=254						
CHN2				S	**Sb**	**17 35 01.6**	**-0.6**
	baz=254						
WRL	**Guolierlin Hig**	**1.88**	**269**	*eP*	**Pb**	**17 34 38.9**	**-1.4**
	baz=279						
WRL				*eS*	**Sb**	**17 35 01.8**	**-1.4**
	baz=279						
WTK	**Tuku**	**1.88**	**262**	*eP*	**Pb**	**17 34 39.8**	**-0.7**
	baz=259						
WTK				*eS*	**Sb**	**17 35 04.3**	**+0.8**
	baz=259						
CHY	**Chiayi**	**1.89**	**256**	*eP*	**Pb**	**17 34 39.3**	**-1.2**
	baz=254						
CHY				*eS*	**Sb**	**17 35 02.8**	**-1.0**
	baz=254						
SLGT	**Liugui**	**1.89**	**240**	*eP*	**Pb**	**17 34 39.6**	**-0.9**
	baz=229						
SLGT				*eS*	**Sn**	**17 35 01.5**	**+1.5**
	baz=229						
CHN1	**Nanshi**	**1.90**	**247**	P	**Pb**	**17 34 39.8**	**-1.0**
	baz=244						
CHN1				S	**Sb**	**17 35 04.5**	**+0.3**
	baz=244						
SGST	**Jiashian**	**1.90**	**243**	P	**Pb**	**17 34 39.1**	**-1.6**
	baz=232						
SGST				S	**Sb**	**17 35 03.7**	**-0.4**
	baz=232						
TWK	**Hsinying**	**1.91**	**249**	*eP*	**Pb**	**17 34 39.9**	**-0.9**
	baz=247						
TWK				*eS*	**Sb**	**17 35 03.2**	**-1.0**
	baz=247						
ECL	**Taimali**	**1.91**	**225**	*eP*	**Pn**	**17 34 38.2**	**+0.9**
	baz=234						
SNST	**Tainan City**	**1.91**	**248**	*eP*	**Pb**	**17 34 40.1**	**-0.8**
	baz=246						
SNST				*eS*	**Sb**	**17 35 03.5**	**-0.9**
	baz=246						
SSD	**Sandimen**	**2.04**	**234**	*eP*	**Pb**	**17 34 41.4**	**-1.8**
	baz=224						
WSF	**Szhu**	**2.04**	**262**	P	**Pb**	**17 34 41.3**	**-1.8**
	baz=259						
WSF				*eS*	**Sb**	**17 35 07.5**	**-0.6**
	baz=259						
ICHU	**Yijhu**	**2.06**	**254**	*eP*	**Pn**	**17 34 41.0**	**+1.8**
	baz=251						
ICHU				*eS*	**Sn**	**17 35 05.3**	**+1.4**
	baz=251						
TSMG	**Majia**	**2.06**	**233**	*eP*	**Pb**	**17 34 43.5**	**+0.1**
	baz=226						
TSMG				*eS*	**Sb**	**17 35 06.7**	**-1.8**
	baz=226						
SCST	**Cishan**	**2.07**	**239**	*eP*	**Pb**	**17 34 43.8**	**+0.2**
	baz=226						
SCST				S	**Sb**	**17 35 07.8**	**-1.1**
	baz=226						
LAY	**Lan-yu**	**2.07**	**203**	*eP*	**Pn**	**17 34 39.8**	**+0.3**
	baz=211						
LAY				*eS*	**Sn**	**17 35 02.4**	**-2.0**
	baz=211						
CHN3	**Shinhua**	**2.08**	**246**	P	**Pb**	**17 34 43.5**	**-0.3**
	baz=244						
CHN3				S	**Sb**	**17 35 09.6**	**+0.3**
	baz=244						
CHN8	**Yiju**	**2.12**	**254**	P	**Pb**	**17 34 42.2**	**-2.2**
	baz=251						
CHN8				S	**Sb**	**17 35 08.6**	**-1.7**
	baz=251						
MASBT	**Mashibuluo**	**2.12**	**231**	*eP*	**Pn**	**17 34 42.0**	**+1.9**
	baz=224						
MASBT				*eS*	**Sb**	**17 35 08.7**	**-1.7**
	baz=224						
TAW	**Tawu**	**2.12**	**222**	*eP*	**Pn**	**17 34 41.3**	**+1.1**
	baz=230						
TAW				*eS*	**Sn**	**17 35 05.5**	**-0.1**
	baz=230						
EAST	**Anshuo**	**2.13**	**223**	*eP*	**Pn**	**17 34 42.3**	**+1.9**
	baz=222						
SGLT	**Jiouru**	**2.16**	**236**	*eP*	**Pb**	**17 34 45.3**	**+0.2**
	baz=234						
SGLT				*eS*	**Sb**	**17 35 12.6**	**+1.1**
	baz=234						
JTJ	**Tarama**	**2.19**	**71**	P	**Pb**	**17 34 43.2**	**-2.4**
JTJ				S	**Sb**	**17 35 11.0**	**-1.2**
SCLT	**Jiali**	**2.19**	**250**	*eS*	**Sb**	**17 35 10.7**	**-1.6**
	baz=247						
TAI1	**Yung-k'ang**	**2.21**	**246**	*eP*	**Pb**	**17 34 44.0**	**-2.0**
	baz=245						
SNJT	**Kaohsiung City**	**2.26**	**238**	*eP*	**Pb**	**17 34 46.2**	**-0.7**
	baz=237						
SNJT				*eS*	**Sb**	**17 35 13.4**	**-1.0**
	baz=237						
SLIU	**Shizi**	**2.29**	**221**	*eP*	**Pn**	**17 34 44.6**	**+2.2**
	baz=221						
SLIU				*eS*	**Sn**	**17 35 11.8**	**+2.1**
	baz=221						
SCZT	**Fangliau**	**2.29**	**227**	*eP*	**Pb**	**17 34 45.9**	**-1.5**
	baz=220						
SCZT				*eS*	**Sb**	**17 35 13.4**	**-1.9**
	baz=220						
WLCH	**Liuqiu**	**2.47**	**230**	*eP*	**Pb**	**17 34 50.2**	**-0.2**
	baz=244						
WLCH				*eS*	**Sb**	**17 35 20.8**	**+0.4**
	baz=244						
TSEB	**Hengchuen, Pin**	**2.48**	**215**	*eP*	**Pb**	**17 34 47.8**	**-2.8**
	baz=216						
TSEB				*eS*	**Sn**	**17 35 16.6**	**+2.1**
	baz=216						
HEN	**Hengchun**	**2.49**	**219**	*eP*	**Pb**	**17 34 48.5**	**-2.2**
	baz=219						
HEN				*eS*	**Sn**	**17 35 16.0**	**+1.5**
	baz=219						
TWKBT	**Hengchun**	**2.50**	**217**	*eP*	**Pn**	**17 34 46.9**	**+1.6**
	baz=217						
TWKBT				*eS*	**Sn**	**17 35 15.0**	**+0.2**
	baz=217						
TWK1	**Hengchun**	**2.50**	**217**	*eP*	**Pn**	**17 34 47.0**	**+1.6**
	baz=217						
TWK1				*eS*	**Sn**	**17 35 15.1**	**+0.2**
	baz=217						
JIRB	**Irabujima**	**2.65**	**70**	P	**Pb**	**17 34 50.4**	**-3.1**
JIRB				S	**Sb**	**17 35 22.4**	**-3.2**
PHUB	**P'eng-hu**	**2.65**	**261**	*eP*	**Pn**	**17 34 48.4**	**+0.9**
	baz=258						
PHUB				*eS*	**Sn**	**17 35 18.2**	**-0.4**
	baz=258						
PNG	**Penghu**	**2.66**	**262**	P	**Pn**	**17 34 48.6**	**+1.1**
	baz=259						
PNG				S	**Sn**	**17 35 19.8**	**+1.1**

baz=259
JIKM Ikemajima 2.75 69 P **Pb** **17 34 52.0 -3.1**
JIKM S **Sb** **17 35 25.1 -3.3**
JMJ2 Miyako jima3 2.76 73 P **Pb** **17 34 52.2 -3.1**
JMJ2 S **Sn** **17 35 23.9 +2.6**
JOGS Gusukube 2.83 73 P **Pb** **17 34 53.3 -3.3**
JOGS S **Sb** **17 35 28.1 -2.8**
VCHM Qimei 2.85 255 *e*P **Pn** **17 34 51.2 +1.1**
baz=253
VCHM *e*S **Sn** **17 35 22.2 -1.2**
baz=253
VWUC VWUC 2.90 291 *e*P **Pn** **17 34 51.1 +0.2**
baz=289
MATB Ma-tsu 3.14 315 *e*P **Pn** **17 34 53.3 -0.8**
baz=312
PTMZ Houxiangcun 3.20 290 ⇑P **Pn** **17 34 55.1 +0.2**
baz=288
LYJJ Jianjiangzhen 3.53 318 *e*P **Pn** **17 34 59.3 -0.3**
baz=315
XPSS Dashiqiu 3.58 326 *e*P **Pn** **17 35 00.1 -0.1**
baz=333
QZH Quanzhou 3.63 286 ⇑*i*Pn **Pn** **17 35 00.9 0.0**
QZH Sn **Sn** **17 35 40.2 -2.5**
QZH smax smax
comp=N,500nm,0.9s
QZH smax smax
comp=E,350nm,1.0s
QZH LR LR
comp=N,4μm,13.1s
QZH LR LR
comp=E,5μm,11.5s
QZH LR LR
comp=Z,7μm,12.7s
KNM Kinmen 3.67 278 *e*P **Pn** **17 35 03.4 +1.9**
baz=276
KNMB Chin-men Tao 3.72 279 *e*P **Pn** **17 35 02.1 0.0**
baz=277
KNMB Chin-men Tao 3.72 279 Pn **Pn** **17 35 02.1 0.0**
MHZQ Yeshan 3.75 305 *e*P **Pn** **17 35 01.6 -0.9**
baz=303
AXDP Jialang 4.17 284 *e*P **Pn** **17 35 08.8 +0.5**
baz=282
ZPLA Ao Xicun 4.28 271 *e*P **Pn** **17 35 10.2 +0.4**
baz=269
JOW Kunigami 6.01 60 Pn **Pn** **17 35 33.7 0.0**
SIPP Brgy, Tapao 6.28 197 ⇓*i*P **Pn** **17 35 40.8 +3.4**
SSE Sheshan 7.20 351 Pn **Pn** **17 35 50.4 +0.5**
SSE Sn **Sn** **17 37 08.3 -2.3**
SSE smax smax
comp=N,44nm,1.5s
SSE smax smax
comp=E,60nm,1.0s
SSE LR LR
comp=N,1μm,17.1s
SSE LR LR
comp=E,480nm,17.2s
JMZ Minamidaito 2 8.20 75 Pn **Pn** **17 36 03.3 -0.4**
GZH Guangzhou 8.38 266 *e*P **Pn** **17 36 03.8 -2.4**
GZH S Sn 17 37 26.3 -14
GZH smax smax
comp=N,290nm,1.1s
GZH smax smax
comp=E,210nm,1.0s
NJ2 Nanjing 8.66 339 *e*P **Pn** **17 36 10.8 +0.8**
NJ2 sP 17 36 19.2
NJ2 S **Sn** **17 37 44.0 -2.6**
NJ2 pmax pmax
comp=Z,20nm,0.6s
NJ2 smax smax
comp=N,96nm,1.2s
NJ2 smax smax
comp=E,130nm,1.4s
NJ2 LR LR
comp=N,5μm,11.8s
NJ2 LR LR
comp=E,3μm,12.5s
NJ2 LR LR
comp=Z,5μm,11.2s
JNU Nakatsue 11.77 37 P **Pn** **17 36 53.6 +1.0**
0.2nm,0.3s,baz=160,slow=12,SNR=1.8
QIZ Qiongzhong 12.69 250 P **Pn** **17 37 03.4 -1.9**
QIZ S **Sn** **17 39 29.7 +4.0**
QIZ pmax pmax
comp=Z,170nm,7.4s
QIZ LR LR
comp=N,790nm,17.2s
QIZ LR LR
comp=E,620nm,19.6s
QIZ LR LR
comp=Z,590nm,17.3s
QIZ Qiongzhong 12.69 250 Pn **Pn** **17 37 06.2 +0.9**
ENH Enshi 13.12 301 Pn **Pn** **17 37 10.8 -0.4**
KSAR Wonju Array Be 14.23 18 Pn **Pn** **17 37 26.9 +0.6**
KSRS Korea Array 14.26 18 P **Pn** **17 37 25.9 -0.6**
comp=Z,0.4nm,0.3s,baz=200,slow=14,SNR=20
KSRS LR LR 17 43 28.8
comp=Z,825nm,19.1s,baz=192,slow=40
KS19 Wonju Array Si 14.29 18 **Pn** **17 37 26.9 -0.1**
GYA Guiyang 14.48 283 ⇑P **Pn** **17 37 31.8 +2.0**
GYA sP P 17 37 40.4 +4.2
GYA S **Sn** **17 40 14.2 +4.7**
GYA SS **S** **17 40 31.6 +3.0**
GYA pmax pmax
comp=Z,13nm,0.6s
GYA LR LR
comp=Z,2μm,9.5s
GYA LR LR
comp=Z,2μm,14.8s
GYA LR LR
comp=Z,3μm,16.6s
XAN Xi'an 15.49 313 P **P** **17 37 48.9 +1.6**
XAN pmax pmax
comp=Z,22nm,1.1s
BJT Baijiatuau 16.86 343 Pn **Pn** **17 37 59.7 -0.9**
BJI Beijing 16.88 343 P **P** **17 38 04.2 +1.6**
BJI pP **pP** **17 38 09.9 +0.3**
BJI sP **pwP** **17 38 14.1 +0.9**
BJI pmax pmax
comp=Z,6.0nm,1.7s
INU Inuyama 17.00 45 P **P** **17 38 04.8 +0.8**
SLVN Son La 17.29 265 P **P** **17 38 07.7 +0.3**
JHJ Hachijo jima 2 17.76 55 LR LR 17 45 08.7
comp=Z,448nm,19.6s,baz=108,slow=37
CD2 Chengdu 17.95 297 P **P** **17 38 15.1 +0.6**
CD2 S **Sn** **17 41 32.2 -1.3**
CD2 pmax pmax
comp=Z,30nm,0.8s
CD2 LR LR
comp=Z,2μm,12.1s
CD2 LR LR
comp=Z,3μm,16.2s
CD2 LR LR
comp=Z,3μm,13.6s
KMI Kunming 17.95 278 ⇓P **P** **17 38 16.4 +1.6**
KMI pP pP 17 38 22.1 +0.3
KMI sP pwP 17 38 25.9 +0.1
KMI pmax pmax
comp=Z,12nm,2.1s
KMI LR LR
comp=Z,790nm,10.8s
KMI LR LR
comp=Z,2μm,15.3s
KMI LR LR
comp=Z,2μm,14.0s
JCJ Chichijima 18.11 76 P **Pn** **17 38 15.8 -0.3**
comp=Z,0.5nm,0.3s,baz=277,slow=16,SNR=1.6
JCJ LR LR 17 44 57.4
comp=Z,533nm,19.4s,baz=240,slow=36
JCJ Chichijima 18.11 76 IAmb IAmb 17 38 21.9
comp=Z,52nm,0.8s
MJAR Matsushiro Arr 18.50 44 P **P** **17 38 20.0 -0.5**
comp=Z,0.0nm,0.3s,baz=243,slow=8.0,SNR=2.4
MJAR LR LR 17 45 16.0
comp=Z,440nm,19.9s,baz=215,slow=36
HHC Hu-ho-hao-te 19.15 334 *e*P **Pn** **17 38 30.2 +1.4**
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,190nm,5.2s
HHC LR LR
comp=Z,2μm,12.8s
HHC LR LR
comp=Z,1μm,13.2s
HHC LR LR
comp=Z,3μm,14.5s
MDJ Mudanjiang 21.43 14 P **P** **17 38 52.0 -0.2**
MDJ pmax pmax
comp=Z,4.0nm,1.4s
MDJ pmax pmax
comp=Z,160nm,5.4s
MDJ LR LR
comp=Z,1μm,12.2s
MDJ LR LR
comp=Z,1μm,14.0s
MDJ LR LR
comp=Z,2μm,12.1s
MDJ Mudanjiang 21.43 14 P **P** **17 38 50.6 -1.6**
USA0B Ussuriysk Arra 21.66 19 P **P** **17 38 52.6 -2.2**
USRK Ussuriysk Ar. 21.66 19 P **P** **17 38 53.1 -1.6**
comp=Z,3.9nm,0.8s,baz=212,slow=11,SNR=9.7
USRK LR LR 17 47 49.8
comp=Z,591nm,18.7s,baz=191,slow=38
USRK Ussuriysk Ar. 21.66 19 P **P** **17 38 52.3 -2.5**
CMMT Chiang Mai 22.44 261 P **P** **17 39 07.5 +4.1**
comp=Z,13nm,1.7s
CHTO Chiang Mai 22.44 261 P **P** **17 39 02.8 -0.6**
CHTO IAmb IAmb 17 39 08.4
comp=Z,28nm,1.6s
CHTO Chiang Mai 22.44 261 P **P** **17 39 06.4 +3.0**
comp=Z,6.5nm,1.7s
CMAR Chiang Mai Arr 22.55 260 P **P** **17 39 06.8 +2.2**
comp=Z,3.2nm,1.1s,baz=63,slow=9.1,SNR=13
CMAR LR LR 17 48 54.2
comp=Z,303nm,19.9s,baz=100,slow=39
CMAR Chiang Mai Arr 22.55 260 P **P** **17 39 03.2 -1.4**
CM31 Chiang Mai Arr 22.55 260 P **P** **17 39 04.5 -0.1**
TOLI2 Tolitoli 22.77 184 P **P** **17 39 05.1 -1.7**
TNTI Ternate 23.54 168 P **P** **17 39 13.4 -1.2**
TNTI IAmb IAmb 17 39 42.8
comp=Z,52nm,1.2s
GUMO Guam 23.59 112 LR LR 17 48 10.6
comp=Z,331nm,18.6s,baz=297,slow=36
GUMO Guam 23.59 112 P **P** **17 39 13.8 -1.2**
JEW Eniwo 24.54 35 P **P** **17 39 24.0 +0.3**
JEW IAmb IAmb 17 40 00.6
comp=Z,34nm,1.1s
GTA Gaotai 24.55 314 ⇑P **P** **17 39 24.4 +0.3**
GTA pP pP 17 39 30.8 -0.8
GTA sP sP 17 39 34.6 -0.2
GTA pmax pmax
comp=Z,11nm,1.9s
GTA pmax pmax
comp=Z,210nm,7.6s
GTA LR LR
comp=Z,250nm,12.4s
GTA LR LR
comp=Z,860nm,14.2s
GTA LR LR
comp=Z,1μm,14.9s
ERM Erimo 24.93 39 P **P** **17 39 24.4 -2.8**
ERM IAmb IAmb 17 39 59.8
comp=Z,19nm,0.9s
HIA Hailar 25.35 356 P **P** **17 39 31.9 +0.9**
ASAJ Asahikawa 26.02 34 P **P** **17 39 35.6 -1.5**
comp=Z,1.6nm,0.3s,baz=257,slow=7.7,SNR=12
SIJI Sorong 26.13 160 LR LR 17 48 57.3
comp=Z,195nm,19.6s,baz=68,slow=34
KLR Kul'dur 26.27 14 P **P** **17 39 38.9 -0.5**
comp=Z,0.9nm,0.6s,baz=214,slow=5.4,SNR=2.5
KLR LR LR 17 50 44.9
comp=Z,765nm,18.7s,baz=195,slow=38
ULN Ulaanbaatar 26.81 337 P **P** **17 39 43.1 -1.3**
ULN Ulaanbaatar 26.81 337 P **P** **17 39 44.4 0.0**
comp=Z,42nm,1.5s
SONM Songino Array 27.03 336 P **P** **17 39 46.2 -0.2**
comp=Z,11nm,0.8s,baz=147,slow=9.0,SNR=81
SONM PcP **PcP** **17 43 08.1 +0.9**
comp=Z,0.4nm,0.6s,baz=180,slow=4.3,SNR=2.3
SONM LR LR 17 51 38.7
comp=Z,1μm,18.1s,baz=154,slow=39
SONM Songino Array 27.03 336 P **P** **17 39 45.9 -0.5**
SONM IAmb IAmb 17 39 47.2
comp=Z,14nm,0.9s
SHL Shillong 27.75 280 P **P** **17 39 52.0 -1.1**
SHL IAmb IAmb 17 40 35.2
comp=Z,20nm,1.1s
YSS Yuzh-Sakhalins 28.14 30 P **P** **17 39 55.9 -0.2**
BRDH Baladhala 28.27 274 LR LR 17 51 21.9
comp=Z,312nm,19.6s,baz=114,slow=36
LSA Lhasa 28.44 288 P **P** **17 40 00.8 +1.2**
KAPI Kappang 28.91 186 LR LR 17 52 04.1
comp=Z,173nm,20.0s,baz=26,slow=37
RPSI Rantau Prapat 31.03 231 P **P** **17 40 21.8 -0.2**
RPSI IAmb IAmb 17 40 40.9
comp=Z,7.9nm,1.1s
JAY Jayapura 31.76 143 LR LR 17 50 29.6
comp=Z,358nm,19.9s,baz=346,slow=31
UGM Wanagama 33.74 202 P **P** **17 40 44.9 -0.9**
WMQ Urumqi 34.63 313 *e*P **P** **17 40 53.2 -0.2**
WMQ pmax pmax
comp=Z,8.0nm,0.7s
WMQ pmax pmax
comp=Z,84nm,5.9s
WMQ LR LR
comp=Z,670nm,12.5s
WMQ LR LR
comp=Z,500nm,12.5s
WMQ LR LR
comp=Z,280nm,15.1s
MTN Manton Dam 37.55 166 P **P** **17 41 18.5 0.0**
XMIS Christmas Isla 37.95 207 P **P** **17 41 21.7 -0.2**
YAK Yakutsk 38.38 6 P **P** **17 41 22.8 -2.2**
comp=Z,1.9nm,0.6s,baz=198,slow=9.6,SNR=1.8
YAK LR LR 17 58 12.6
comp=Z,310nm,18.5s,baz=214,slow=38
YAK Yakutsk 38.38 6 P **P** **17 41 22.6 -2.3**
YAK IAmb IAmb 17 41 31.8
comp=Z,9.1nm,1.2s
PATS Pohnpei 38.40 110 P **P** **17 41 23.2 -2.5**
MK31 Makanchi Array 39.29 316 P **P** **17 41 33.0 +0.1**
MKAR Makanchi Array 39.29 316 P **P** **17 41 33.2 +0.3**
comp=Z,7.7nm,0.7s,baz=105,slow=9.8,SNR=78
MKAR PcP **PcP** **17 43 41.4 0.0**
comp=Z,0.6nm,0.7s,baz=82,slow=4.8,SNR=2.1
PETK Petropavlovsk- 39.43 33 P **P** **17 41 32.9 -1.0**
comp=Z,2.0nm,1.0s,baz=260,slow=10,SNR=1.2
PETK Petropavlovsk- 39.43 33 P **P** **17 41 33.4 -0.5**
MAKZ Makanchi 39.50 316 P **P** **17 41 35.0 +0.3**
MAKZ IAmb IAmb 17 41 35.6
comp=Z,12nm,0.9s
KNRA Kununurra 39.88 170 P **P** **17 41 36.6 -1.3**
KNRA IAmb IAmb 17 42 00.7
comp=Z,36nm,1.4s
ZAA0 Zalesovo Array 41.05 327 P **P** **17 41 46.2 -1.1**
ZAA0 IAmb IAmb 17 41 47.4
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 41.05 327 P **P** **17 41 46.4 -1.0**
comp=Z,12nm,0.8s,baz=111,slow=7.8,SNR=54
ZALV PcP **PcP** **17 43 45.9 -0.8**
comp=Z,0.4nm,0.3s,baz=77,slow=4.7,SNR=1.4
ZALV Zalesovo Beam 41.05 327 P **P** **17 41 46.1 -1.3**
H11N1 WAKE ISLAND Hy 41.37 87 T T 18 27 17.2
baz=283,slow=75,SNR=5.2
H11N2 WAKE ISLAND Hy 41.37 87 T T 18 27 21.3
baz=283,slow=75,SNR=5.8
H11N3 WAKE ISLAND Hy 41.38 87 T T 18 27 20.7
baz=283,slow=75,SNR=5.4
H11S3 WAKE ISLAND Hy 41.49 89 T T 18 27 31.6
baz=284,slow=75,SNR=6.5
KDJ Kajisay 41.50 307 P **P** **17 41 51.9 +0.5**
H11S1 WAKE ISLAND Hy 41.50 89 T T 18 27 33.9
baz=284,slow=75,SNR=6.2
H11S2 WAKE ISLAND Hy 41.51 89 T T 18 27 32.2
baz=284,slow=75,SNR=5.0
KSH Kashi 41.97 303 P **P** **17 41 59.5 +4.2**
KSH pP pwP 17 42 06.6 -0.6
KSH pmax pmax
comp=Z,9.0nm,1.0s
KSH LR LR
comp=Z,370nm,15.6s
KSH LR LR
comp=Z,820nm,16.6s
KSH LR LR
comp=Z,820nm,15.4s
ULHL Ulahol 42.20 307 P **P** **17 41 59.1 +1.8**
SNR=9.5
BOOM Boomskoye usch 42.47 307 P **P** **17 41 60.0 +0.6**
COEN Coen 42.79 150 P **P** **17 42 02.6 +0.7**
COEN IAmb IAmb 17 42 28.1
comp=Z,41nm,1.7s
TKM2 Tokmak 2 42.80 308 P **P** **17 42 03.8 +1.7**
SNR=11
KZA Kyzart 42.90 307 P **P** **17 42 05.4 +2.3**
SNR=6.1
KURK Kurchatov 42.99 320 P **P** **17 42 03.4 +0.2**
KURBB Kurchatov Arra 43.01 320 P **P** **17 42 03.4 0.0**
comp=Z,1.2nm,0.3s,baz=114,slow=7.6,SNR=20
KBK Karagaybulak 43.22 307 P **P** **17 42 07.4 +1.9**
SNR=6.1
CHMS Chumysh 43.42 308 P **P** **17 42 08.6 +1.7**
SNR=5.9
FRU1 Bishkek 43.48 308 P **P** **17 42 07.8 +0.4**
FRU1 IAmb IAmb 17 42 49.8
comp=Z,10nm,0.5s
AAK Ala-Archa 43.55 307 P **P** **17 42 09.1 +1.0**
comp=Z,3.4nm,0.6s,baz=123,slow=6.4,SNR=11
AAK LR LR 18 03 05.4
comp=Z,629nm,18.4s,baz=66,slow=40
AAK Ala-Archa 43.55 307 P **P** **17 42 08.2 +0.2**
NIL Nilore 43.81 294 P **P** **17 42 10.2 +0.1**
AML Almayashu 44.05 306 P **P** **17 42 13.5 +1.1**
SNR=6.5
EKS2 Erkin-Say 44.07 307 P **P** **17 42 13.8 +1.5**
SNR=8.8
WRAB Tennant Creek 45.15 164 P **P** **17 42 22.0 +1.2**
WRAB IAmb IAmb 17 42 34.7
comp=Z,22nm,1.6s
WRA Warramunga Arr 45.15 164 P **P** **17 42 22.8 +1.9**
comp=Z,3.6nm,0.7s,baz=349,slow=9.7,SNR=42
WRA Warramunga Arr 45.15 164 P **P** **17 42 22.0 +1.1**
WB2 Warramunga Arr 45.16 164 P **P** **17 42 21.4 +0.5**
WR0 Warramunga Arr 45.22 164 P **P** **17 42 22.6 +1.2**
WR0 IAmb IAmb 17 42 30.4
comp=Z,18nm,1.5s
PSA00 Pilbara Seismi 45.33 183 P **P** **17 42 22.6 +0.4**
PSA00 Pilbara Seismi 45.33 183 P **P** **17 42 22.6 +0.4**
PSA00 IAmb IAmb 17 42 40.2
comp=Z,16nm,1.7s
GAR Garm 46.30 302 P **P** **17 42 30.1 +0.1**
KK31 Karatay Array 46.51 307 P **P** **17 42 31.9 +0.5**
KK31 IAmb IAmb 17 42 33.0
comp=Z,15nm,1.6s
KKAR Karatay Array 46.51 307 P **P** **17 42 31.7 +0.3**
CHGR Chuyangaron 47.19 301 P **P** **17 42 36.7 -0.2**
CHGR IAmb IAmb 17 42 38.4
comp=Z,10nm,0.8s
KBL Kabul 47.28 296 P **P** **17 42 38.4 +0.5**
KBL IAmb IAmb 17 43 18.3
comp=Z,11nm,1.1s
TIXI Tiksi 47.86 3 LR LR 18 05 25.7
comp=Z,920nm,18.4s,baz=206,slow=39
SMY Shemya 48.28 40 P **P** **17 42 46.2 +1.3**
BVAR Borovoye Array 48.57 321 P **P** **17 42 46.6 -0.7**
comp=Z,2.6nm,0.5s,baz=151,slow=10,SNR=13
AS31 Alice Springs 48.63 166 P **P** **17 42 48.6 +0.6**
ASAR Alice Springs 48.63 166 P **P** **17 42 50.4 +2.3**
comp=Z,1.3nm,0.6s,baz=347,slow=6.9,SNR=29
ASAR Alice Springs 48.63 166 P **P** **17 42 49.2 +1.2**
BRVK Borovoye 48.64 321 P **P** **17 42 47.5 -0.2**
BRVK IAmb IAmb 17 42 49.6
comp=Z,8.3nm,0.9s
ABKAR Akbulak array 54.41 314 P **P** **17 43 31.4 +0.4**
ABKAR PcP **PcP** **17 44 32.6 -1.8**
ABKAR Akbulak array 54.41 314 P **P** **17 43 31.5 +0.5**
ABKAR IAmb IAmb 17 43 32.7
comp=Z,9.1nm,0.8s
AKTO Aktyubinsk 55.73 316 P **P** **17 43 40.1 -0.4**
comp=Z,1.6nm,0.7s,baz=84,slow=5.9,SNR=5.8
GEYT Alibeck 55.89 301 P **P** **17 43 42.0 +0.1**
comp=Z,16nm,0.7s,baz=215,slow=10.0,SNR=5.1
GEYT LR LR 18 09 02.1
comp=Z,384nm,21.6s,baz=45,slow=38
ARU Arti 55.97 323 P **P** **17 43 41.0 -1.1**
comp=Z,1.3nm,0.4s,baz=94,slow=8.6,SNR=6.9
ARU Arti 55.97 323 P **P** **17 43 40.8 -1.4**
ARU IAmb IAmb 17 43 42.0
comp=Z,5.4nm,0.6s
BBOO Buckleboo 57.93 166 P **P** **17 43 56.6 +0.4**
STKA Stephens Creek 58.47 161 P **P** **17 44 02.1 +2.2**
comp=Z,1.3nm,0.4s,baz=326,slow=11,SNR=1.6
KIRV Kirov 61.05 325 P **P** **17 44 17.4 -0.1**
comp=Z,8.0nm,0.7s,baz=144,slow=8.7,SNR=5.1
GNI Garni 65.86 305 P **P** **17 44 51.3 +1.4**
comp=Z,2.0nm,0.3s,baz=1.9,slow=9.2,SNR=4.5
GNI Garni 65.86 305 P **P** **17 44 51.2 +1.3**
GNI IAmb IAmb 17 45 01.5
comp=Z,8.1nm,0.8s
J20K Nowinta River 65.87 28 P **P** **17 44 50.0 +0.7**
J20K IAmb IAmb 17 45 30.8
comp=Z,13nm,1.6s
KLMR Klimovskoe 65.96 328 *e*P **P** **17 44 47.1 -2.8**
KLMR AMP 17 44 54.1
comp=Z,16nm,1.6s
K20K Telida 65.98 29 P **P** **17 44 50.7 +0.6**
K20K IAmb IAmb 17 44 51.1
comp=Z,8.2nm,1.4s
ONI Oni 66.33 308 P **P** **17 44 53.7 +1.0**
ONI IAmb IAmb 17 44 56.8
comp=Z,9.1nm,1.0s
KBZ Khabaz 66.50 309 P **P** **17 44 53.6 -0.1**
comp=Z,4.3nm,0.8s,baz=124,slow=5.9,SNR=9.1
PPLA Purkeypile 66.88 30 P **P** **17 44 56.0 0.0**
TOLK Toolik Lake Re 67.21 23 P **P** **17 44 59.4 +1.6**
TOLK IAmb IAmb 17 45 38.4
comp=Z,16nm,1.8s
MLY Manley 67.23 27 P **P** **17 44 59.0 +1.0**
MLY IAmb IAmb 17 45 31.1
comp=Z,4.2nm,1.1s
BPAW Bear Paw Mtn. 67.25 28 P **P** **17 44 58.9 +0.7**
BPAW IAmb IAmb 17 45 32.4
comp=Z,16nm,1.8s
H23K Yukon River 67.61 26 P **P** **17 45 01.7 +1.3**
H23K IAmb IAmb 17 45 37.6
comp=Z,12nm,1.4s
SUA Susitna One 67.76 31 P **P** **17 45 00.4 -1.1**
I23K Minto, Yukon-K 67.79 27 P **P** **17 45 02.3 +0.8**
I23K IAmb IAmb 17 45 38.9
comp=Z,15nm,1.6s
BRLK Bradley Lake 67.98 33 P **P** **17 45 02.5 -0.3**
GURO Guroymak-BITLI 68.27 304 P **P** **17 45 06.4 +1.2**
GURO IAmb IAmb 17 45 07.4
comp=Z,6.0nm,1.0s
H24K Noodor Dome 68.29 26 P **P** **17 45 06.1 +1.4**
H24K IAmb IAmb 17 45 34.3
comp=Z,20nm,1.8s
MDM Murphy Dome 68.30 27 P **P** **17 45 04.4 -0.3**
MDM IAmb IAmb 17 45 38.9
comp=Z,13nm,1.4s
ILAR Eielson Array 68.89 27 P **P** **17 45 09.8 +1.4**
comp=Z,0.2nm,0.3s,baz=287,slow=6.5,SNR=1.5
PWL Port Wells 69.02 32 P **P** **17 45 08.3 -1.0**
BMAR Burnt Mountain 69.27 24 P **P** **17 45 11.2 +0.4**
SCM Sheep Creek Mo 69.30 30 P **P** **17 45 11.4 +0.3**
M24K Tolsona, Glenn 69.77 30 P **P** **17 45 13.8 -0.2**
FID Port Fidalgo 69.93 32 P **P** **17 45 14.1 -0.8**
SPITS Spitsbergen Ar 69.94 348 P **P** **17 45 14.3 -0.5**
comp=Z,8.7nm,0.7s,baz=90,slow=12,SNR=4.5
ARCES ARCESS Array B 70.17 338 P **P** **17 45 16.4 +0.2**
comp=Z,6.5nm,1.0s,baz=84,slow=5.0,SNR=3.6
ARCES LR LR 18 19 38.4
comp=Z,159nm,18.2s,baz=185,slow=39
GLB Gilahina Butte 71.02 30 P **P** **17 45 21.6 0.0**
L27K Beaver Creek, 71.47 29 P **P** **17 45 26.3 +2.0**
L27K IAmb IAmb 17 45 57.5
comp=Z,15nm,1.7s
BCAR Beaver Creek A 71.49 29 P **P** **17 45 24.9 +0.4**
FIA1 FINESS Array S 72.21 330 P **P** **17 45 28.7 0.0**
FINES FINESS Array B 72.21 330 P **P** **17 45 28.5 -0.1**
comp=Z,2.8nm,0.8s,baz=20,slow=6.3,SNR=7.6
FINES LR LR 18 20 28.5
comp=Z,590nm,18.7s,baz=74,slow=39
FINES FINESS Array B 72.21 330 P **P** **17 45 28.7 0.0**
CTGM Chitina Glacie 72.31 31 P **P** **17 45 30.8 +1.3**
CTGM IAmb IAmb 17 46 09.0
comp=Z,14nm,1.2s
BNN Bunyan 72.85 305 P **P** **17 45 32.9 -0.2**
AKASG Malin Array Be 73.79 319 P **P** **17 45 37.5 -0.7**
comp=Z,1.5nm,0.6s,baz=61,slow=6.2,SNR=8.3
AKASG LR LR 18 20 35.8
comp=Z,124nm,20.1s,baz=235,slow=38
NACGM Naroch 73.88 323 *i*P P 17 45 46.5 +7.9
ASF Jabal al Asfar 74.07 298 P **P** **17 45 41.0 +0.7**
comp=Z,3.1nm,0.9s,baz=352,slow=3.4,SNR=2.7
BR131 Keskin Array S 74.22 307 P **P** **17 45 41.2 +0.1**
BR131 IAmb IAmb 17 45 42.3
comp=Z,10nm,0.8s
BRTR Keskin Array B 74.22 307 P **P** **17 45 42.0 +0.8**

comp=Z,4.8nm,0.7s,baz=110,slow=5.8,SNR=14
BRTR Keskin Array B 74.22 307 P P 17 45 41.2 +0.1
CSS Mathiatis 75.98 302 P P 17 45 51.4 +0.1
CSS IAmb IAmb 17 45 53.9
comp=Z,12nm,0.9s
MLR Muntele Rosu 77.62 314 P P 17 46 00.3 -0.1
comp=Z,3.1nm,0.7s,baz=131,slow=9.3,SNR=7.1
ELL Elmali 77.98 305 P P 17 46 02.6 0.0
HFS Hagfors 78.32 331 P P 17 46 03.3 -0.6
comp=Z,2.9nm,0.8s,baz=43,slow=8.7,SNR=2.7
NB2 NORSAR Subarra 78.95 332 P P 17 46 06.7 -0.7
comp=Z,2.5nm,1.1s,baz=62,slow=5.6
NOA NORSAR Array B 78.95 332 P P 17 46 05.6 -1.8
comp=Z,1.2nm,0.8s,baz=59,slow=5.7,SNR=5.3
NOA LR LR 18 24 32.7
comp=Z,393nm,19.1s,baz=80,slow=38
OJC Ojcow 79.57 320 eP P 17 46 10.8 -0.2
NIE Niedzica 79.61 320 eP P 17 46 13.4 +2.2
VTS Vitosha 80.53 312 P P 17 46 16.6 +0.2
VTS IAmb IAmb 17 46 19.6
comp=Z,7.7nm,1.1s
YKA Yellowknife Ar 82.74 23 P P 17 46 27.0 -0.5
comp=Z,0.4nm,0.6s,baz=320,slow=5.7,SNR=2.7
GERES GERESS Array B 83.73 321 P P 17 46 32.3 -0.7
comp=Z,0.7nm,0.7s,baz=69,slow=7.3,SNR=6.7
GERES LR LR 18 28 07.8
comp=Z,212nm,18.9s,baz=84,slow=39
LODK Lodwar 85.94 272 P P 17 46 44.7 -0.1
LODK IAmb IAmb 17 46 47.5
comp=Z,12nm,1.7s
KMBO Kilima Mbogo 86.04 267 P P 17 46 46.6 +1.2
comp=Z,0.8nm,0.5s,baz=35,slow=7.0,SNR=1.7
LTY Liberty 89.22 37 P P 17 46 59.9 0.0
LTY IAmb IAmb 17 47 01.8
comp=Z,8.0nm,1.1s
B08A Colville Reser 89.31 36 P P 17 47 01.1 +0.8
B08A IAmb IAmb 17 47 02.4
comp=Z,6.3nm,0.8s
D08A Wollman Farm, 90.30 37 P P 17 47 06.1 +1.2
NEW Newport 90.54 35 P P 17 47 06.9 +0.9
comp=Z,1.9nm,0.6s,baz=338,slow=2.3,SNR=5.1
NEW Newport 90.54 35 P P 17 47 07.2 +1.1
NEW IAmb IAmb 17 47 07.9
comp=Z,5.4nm,1.1s
NVAR Mina Array Bea 95.82 44 P P 17 47 31.8 +1.0
comp=Z,0.7nm,0.8s,baz=283,slow=5.7,SNR=5.6
PDAR Pinedale Array 98.15 36 P P 17 47 40.4 -0.8
comp=Z,0.7nm,0.3s,baz=346,slow=5.9,SNR=1.7
ESDC Sonseca Array 99.33 321 LR LR 18 38 32.3
comp=Z,110nm,18.3s,baz=315,slow=39

TAP 01 17:39:54.9,23.19N×120.91E,h8km,ML2.0,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau** baz=93	**0.10**	**92**	P	Pg	17 39 58.5	+1.0
ELDTW				S	Sg	17 40 00.3	+1.1
STYH	**Taoyuan** baz=259	**0.12**	**260**	P	Pg	17 39 58.2	+0.6
STYH				S	Sg	17 39 59.8	+0.3
STYT	**Tauyuan** baz=256	**0.14**	**258**	P	Pg	17 39 58.6	+0.7
STYT				S	Sg	17 40 01.1	+1.1
WTP	**Ta-pu** baz=281	**0.27**	**281**	P	Pb	17 40 01.8	-0.3
WTP				S	Sb	17 40 06.1	-0.8
TPUB	**Ta-pu** baz=292	**0.28**	**293**	P	Pb	17 40 01.7	-0.5
TPUB				S	Sb	17 40 05.8	-1.2
YUS	**Yu-Shan** baz=8.0	**0.30**	**8**	P	Pg	17 40 01.7	+0.6
YUS				S	Sg	17 40 06.5	+1.4
ECS	**Chishang** baz=108	**0.30**	**108**	eP	Pb	17 40 02.7	0.0
ECS				eS	Sb	17 40 07.9	0.0
SLGT	**Liugui** baz=230	**0.31**	**230**	P	Pb	17 40 02.4	-0.4
SLGT				S	Sb	17 40 07.1	-0.9
SGST	**Jiashian** baz=248	**0.32**	**250**	P	Pg	17 40 01.8	+0.6
SGST				S	Sb	17 40 06.8	-1.4
ALS	**Alishan** baz=344	**0.33**	**344**	P	Pb	17 40 02.5	-0.8
ALS				S	Sg	17 40 07.2	+1.2
CHN1	**Nanshi** baz=268	**0.35**	**269**	P	Pb	17 40 03.9	+0.5
CHN1				S	Sb	17 40 08.7	-0.4
LONT	**Longtian** baz=144	**0.35**	**144**	P	Pb	17 40 03.4	-0.1
LONT				S	Sb	17 40 08.4	-0.8
FULB	**Fuli** baz=89	**0.36**	**89**	P	Pb	17 40 03.9	+0.3
FULB				S	Sb	17 40 09.8	+0.4
SNST	**Tainan City** baz=274	**0.38**	**274**	eP	Pb	17 40 03.5	-0.4
SNST				eS	Sb	17 40 09.8	0.0
TWK	**Hsinying** baz=280	**0.39**	**281**	P	Pb	17 40 03.5	-0.6
TWK				eS	Sb	17 40 10.1	-0.2
TWG	**Pinlang** baz=156	**0.40**	**157**	P	Pb	17 40 04.4	+0.1
TWG				S	Sb	17 40 10.1	-0.5
TWGBT	**Beinan** baz=156	**0.41**	**157**	P	Pb	17 40 04.4	0.0
TWGBT				S	Sb	17 40 10.0	-0.8
EYUL	**Yuli** baz=67	**0.41**	**68**	P	Pb	17 40 04.0	-0.5
EYUL				S	Sg	17 40 09.4	+1.0
YULB	**Yu-li** baz=61	**0.41**	**61**	P	Pb	17 40 03.9	-0.6
YULB				S	Sg	17 40 08.8	+0.4
EDH	**Donghe** baz=120	**0.43**	**121**	eP	Pb	17 40 04.3	-0.4
EDH				eS	Sb	17 40 12.3	+1.0
CHKT	**Chengkung** baz=102	**0.43**	**102**	eP	Pb	17 40 05.7	+0.8
CHKT				eS	Sb	17 40 12.2	+0.7
SCST	**Cishan** baz=231	**0.49**	**231**	eP	Pb	17 40 05.5	-0.3
SCST				eS	Sb	17 40 13.3	+0.3
TTN	**Taitung** baz=152	**0.49**	**153**	eP	Pb	17 40 05.7	-0.1
TTN				eS	Sb	17 40 13.2	0.0
EHY	**Hungye** baz=51	**0.49**	**51**	P	Pb	17 40 05.5	-0.4
EHY				S	Sg	17 40 11.7	+0.6
WHYT	**Xinyi Township** baz=354	**0.50**	**355**	P	Pb	17 40 05.9	-0.2
WHYT				S	Sg	17 40 12.3	+1.0
SSD	**Sandimen** baz=208	**0.51**	**210**	P	Pb	17 40 05.8	-0.4
SSD				eS	Sb	17 40 13.9	+0.2
CHY	**Chiayi** baz=304	**0.54**	**305**	eP	Pb	17 40 06.2	-0.4
CHY				eS	Sb	17 40 14.3	-0.2
TSMG	**Majia** baz=206	**0.54**	**206**	eP	Pb	17 40 06.1	-0.5
TSMG				eS	Sg	17 40 13.0	+0.5
	baz=206						
HGSD	**Ruisui** baz=57	**0.56**	**58**	eP	Pb	17 40 07.2	+0.1
HGSD				eS	Sb	17 40 15.7	+0.4
ECL	**Taimali** baz=174	**0.59**	**176**	eP	Pb	17 40 07.2	-0.4
ECL				eS	Sb	17 40 16.4	+0.3
SSLB	**Suanglung** baz=4.0	**0.59**	**4**	eP	Pb	17 40 07.1	-0.5
SSLB				eS	Sg	17 40 15.1	+0.9
WDLH	**Douliu** baz=325	**0.60**	**326**	eP	Pb	17 40 07.8	+0.1
WDLH				eS	Sb	17 40 16.8	+0.5
ICHU	**Yijhu** baz=286	**0.60**	**286**	eP	Pb	17 40 07.5	-0.2
ICHU				eS	Sb	17 40 16.8	+0.5
SGLT	**Jiouru** baz=218	**0.60**	**219**	eP	Pb	17 40 07.2	-0.5
SGLT				eS	Sb	17 40 16.6	+0.3
MASBT	**Mashibuluo** baz=203	**0.63**	**204**	eP	Pb	17 40 07.9	-0.3
MASBT				eS	Sb	17 40 17.5	+0.3
WJS	**Zhushan** baz=345	**0.65**	**345**	eP	Pb	17 40 08.7	+0.2
WJS				eS	Sb	17 40 18.4	+0.7
EGFH	**Guangfu** baz=45	**0.68**	**45**	eP	Pb	17 40 09.4	+0.4
EGFH				eS	Sb	17 40 18.4	-0.1
WTK	**Tuku** baz=316	**0.68**	**316**	eP	Pb	17 40 09.2	+0.1
WTK				eS	Sb	17 40 19.6	+0.9
SMLT	**Sun Moon Lake** baz=316	**0.69**	**360**	eP	Pb	17 40 09.4	+0.2
SMLT				eS	Sb	17 40 19.4	+0.4
TYC	**Yuchr** baz=357	**0.71**	**356**	eP	Pb	17 40 10.2	+0.6
TYC				eS	Sb	17 40 20.2	+0.7
WNT	**Mingjian** baz=344	**0.71**	**344**	eP	Pb	17 40 09.7	0.0
WNT				eS	Sb	17 40 20.3	+0.7
ESL	**Shilin** baz=38	**0.79**	**38**	eP	Pb	17 40 11.4	+0.5
ESL				eS	Sb	17 40 22.7	+1.0
OWD	**Renai** baz=18	**0.80**	**18**	eP	Pg	17 40 10.8	+0.4
SCZT	**Fangliau** baz=197	**0.86**	**198**	eP	Pb	17 40 12.2	+0.2
WCS	**Beigang Elemen**	**0.86**	**0**	eP	Pn	17 40 13.5	+0.1
WCS				eS	Sn	17 40 25.6	-0.5

*IDC **01** 17:41:38.8±2.1,24.18N×122.44E,h0km,mb3.4/6, mb1 3.5/6,mb1mx3.3/66,mbtmp3.4/6,MS3.7/1,Ms1 3.7/1, ms1mx3.0/27,Error ellipse: s-maj=176.4km s-min=21.0km az=65.0*
*TAP **01** 17:41:43.3,24.04N×122.36E,h29km,ML3.5,D*
ISC 01 17:41:40.7±1.2,24.01N±0.02×122.41E±0.03,h12km±8km, n128,σ1§00/246,mb3.4/6,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village** baz=304	**0.68**	**296**	eP	**Pb**	**17 41 54.5**	**0.0**
EHP				eS	**Sb**	**17 42 03.0**	**-1.0**
YOJ	**Yonaguni jima** baz=60	**0.71**	**50**	P	**Pn**	**17 41 57.4**	**+0.7**
YOJ				eS	**Sn**	**17 42 08.3**	**+0.7**
EWUT	**Wuta** baz=315	**0.72**	**307**	P	**Pn**	**17 41 56.2**	**-0.6**
EWUT				eS	**Sn**	**17 42 06.6**	**-1.2**
ETL	**Fush Village** baz=266	**0.73**	**282**	eP	**Pn**	**17 41 56.8**	**-0.2**
ETL				eS	**Sb**	**17 42 06.0**	**+0.5**
HWA	**Hwalien** baz=252	**0.73**	**268**	eP	**Pn**	**17 41 56.6**	**-0.4**
HWA				eS	**Sn**	**17 42 07.2**	**-0.9**
ENA	**Nanau** baz=313	**0.74**	**305**	P	**Pn**	**17 41 56.5**	**-0.6**
ENA				eS	**Sn**	**17 42 06.5**	**-1.8**
TWD	**Chiawan** baz=274	**0.75**	**276**	P	**Pn**	**17 41 56.4**	**-0.7**
TWD				S	**Sb**	**17 42 06.5**	**+0.6**
TEYL	**Yanliau Villag** baz=248	**0.75**	**260**	eP	**Pn**	**17 41 57.2**	**-0.1**
TEYL				eS	**Sb**	**17 42 07.4**	**+1.3**
NACB	**Ninganchiao** baz=267	**0.76**	**283**	P	**Pn**	**17 41 56.7**	**-0.6**
NACB				eS	**Sb**	**17 42 05.7**	**-0.6**
TWC	**Suao** baz=321	**0.79**	**320**	P	**Pn**	**17 41 57.0**	**-0.7**
TWC				eS	**Sn**	**17 42 07.2**	**-2.2**
ETM	**Tongmen** baz=256	**0.84**	**267**	P	**Pb**	**17 41 57.7**	**+0.4**
ETM				eS	**Sg**	**17 42 08.4**	**+0.5**
TEGC	**Jichi Village** baz=247	**0.85**	**250**	eP	**Pb**	**17 41 57.5**	**+0.1**
TEGC				eS	**Sg**	**17 42 09.4**	**+1.2**
ETLH	**Xiulin Townshi** baz=270	**0.87**	**283**	P	**Pn**	**17 41 58.5**	**-0.5**
ETLH				S	**Sn**	**17 42 10.0**	**-1.6**
NDS	**Dongshan** baz=314	**0.89**	**315**	P	**Pn**	**17 41 59.2**	**+0.2**
NDS				eS	**Sn**	**17 42 11.6**	**-0.3**
ESL	**Shilin** baz=247	**0.91**	**258**	eP	**Pb**	**17 41 58.5**	**0.0**
ESL				eS	**Sb**	**17 42 09.9**	**-0.8**
EGS	baz=325	**0.94**	**333**	P	**Pn**	**17 42 00.3**	**+0.5**
EGS				eS	**Sn**	**17 42 13.0**	**-0.2**
EGFH	**Guangfu** baz=247	**0.96**	**250**	eP	**Pb**	**17 41 59.6**	**+0.2**
EGFH				S	**Sb**	**17 42 12.2**	**+0.2**
ILA	**Ilan** baz=322	**0.97**	**322**	eP	**Pn**	**17 42 00.8**	**+0.7**
ILA				eS	**Sn**	**17 42 14.0**	**+0.1**
TWE	**Neicheng** baz=323	**0.98**	**317**	P	**Pn**	**17 42 00.8**	**+0.5**
TWE				S	**Sn**	**17 42 13.6**	**-0.6**
NTC	**Toucheng** baz=328	**0.99**	**328**	P	**Pn**	**17 42 01.2**	**+0.6**
NTC				S	**Sn**	**17 42 14.6**	**0.0**
NDT	**Datong Townshi** baz=305	**1.01**	**306**	P	**Pn**	**17 42 01.4**	**+0.6**
NDT				S	**Sn**	**17 42 15.2**	**+0.3**
HGSD	**Ruisui** baz=238	**1.04**	**241**	P	**Pb**	**17 42 00.9**	**+0.3**
HGSD				S	**Sb**	**17 42 14.6**	**+0.3**
NNS	**Nan Shan** baz=294	**1.04**	**295**	P	**Pn**	**17 42 01.6**	**+0.3**
NNS				S	**Sn**	**17 42 15.4**	**-0.4**
WHF	**Hehuan Shan** baz=264	**1.05**	**278**	P	**Pg**	**17 42 01.2**	**+0.1**
WHF				S	**Sg**	**17 42 15.0**	**+0.1**
	baz=264						
TWB1	**Santiao Chiao** baz=355	**1.07**	**339**	eP	**Pn**	**17 42 02.1**	**+0.6**
TWB1				eS	**Sn**	**17 42 16.7**	**+0.3**
FUSS	**Fushou** baz=282	**1.09**	**283**	P	**Pn**	**17 42 02.3**	**+0.2**
FUSS				eS	**Sg**	**17 42 15.8**	**-0.3**
TIPB	**Shuangxi** baz=331	**1.10**	**331**	P	**Pn**	**17 42 02.7**	**+0.7**
TIPB				S	**Sn**	**17 42 16.3**	**-0.9**
EHY	**Hungye** baz=256	**1.11**	**244**	P	**Pn**	**17 42 02.3**	**+0.1**
EHY				eS	**Sb**	**17 42 16.2**	**-0.3**
OWD	**Renai** baz=266	**1.13**	**268**	P	**Pb**	**17 42 02.5**	**+0.1**
OWD				eS	**Sb**	**17 42 16.6**	**-0.4**
CHGB	**Renai** baz=260	**1.13**	**273**	P	**Pb**	**17 42 02.4**	**0.0**
CHGB				S	**Sb**	**17 42 16.8**	**-0.3**
YHNB	**Yeheng** baz=292	**1.15**	**305**	P	**Pg**	**17 42 03.5**	**+0.6**
YHNB				eS	**Sn**	**17 42 17.3**	**-1.2**
TWT	**Tachien** baz=268	**1.15**	**283**	eP	**Pg**	**17 42 03.1**	**+0.1**
TWT				eS	**Sg**	**17 42 17.5**	**-0.5**
NSK	**Sanguang** baz=304	**1.17**	**305**	P	**Pg**	**17 42 03.5**	**+0.2**
NSK				eS	**Sn**	**17 42 18.6**	**-0.3**
TDCB	**Techi** baz=268	**1.17**	**282**	eP	**Pg**	**17 42 03.3**	**0.0**
TDCB				eS	**Sb**	**17 42 17.9**	**-0.3**
YULB	**Yu-li** baz=253	**1.19**	**239**	P	**Pn**	**17 42 03.1**	**-0.1**
YULB				S	**Sb**	**17 42 17.4**	**-1.2**
EYUL	**Yuli** baz=235	**1.20**	**237**	P	**Pn**	**17 42 03.4**	**+0.1**
EYUL				S	**Sb**	**17 42 18.9**	**+0.1**
NWF	**Wu-fen Shan** baz=331	**1.20**	**332**	P	**Pg**	**17 42 04.4**	**+0.4**
NWF				S	**Sn**	**17 42 20.3**	**+0.4**
TWA	**Mucha** baz=322	**1.23**	**322**	P	**Pg**	**17 42 05.2**	**+0.9**
TWA				eS	**Sn**	**17 42 21.0**	**+0.7**
NHDH	**Xindian Distri** baz=319	**1.25**	**320**	P	**Pg**	**17 42 05.6**	**+0.9**
NHDH				eS	**Sg**	**17 42 21.9**	**+0.9**
FULB	**Fuli** baz=219	**1.30**	**232**	eP	**Pn**	**17 42 04.4**	**-0.4**
FULB				eS	**Sn**	**17 42 21.8**	**-0.4**
CHKT	**Chengkung** baz=214	**1.32**	**227**	eP	**Pn**	**17 42 04.2**	**-0.7**
CHKT				eS	**Sn**	**17 42 19.5**	**-3.0**
TAP	**Taipei** baz=321	**1.32**	**322**	eP	**Pg**	**17 42 06.8**	**+0.7**
TAP				eS	**Sg**	**17 42 23.9**	**+0.7**
SSLB	**Suanglung** baz=259	**1.35**	**261**	eP	**Pn**	**17 42 05.4**	**-0.1**
SSLB				eS	**Sn**	**17 42 22.7**	**-0.6**
WHP	**Taichung City** baz=269	**1.36**	**282**	P	**Pg**	**17 42 06.7**	**-0.2**
WHP				S	**Sn**	**17 42 23.4**	**-0.4**
YM01	**YM01** baz=341	**1.37**	**326**	eP	**Pg**	**17 42 07.4**	**+0.4**
YM01				eS	**Sg**	**17 42 24.0**	**-0.8**
WCS	**Beigang Elemen** baz=263	**1.37**	**272**	P	**Pb**	**17 42 06.4**	**0.0**
WCS				S	**Sn**	**17 42 23.1**	**-0.7**
SMLT	**Sun Moon Lake** baz=263	**1.39**	**265**	P	**Pb**	**17 42 06.8**	**+0.1**
SMLT				S	**Sn**	**17 42 24.1**	**-0.2**
TWS1	**Kuangyinshan** baz=335	**1.41**	**321**	P	**Pg**	**17 42 07.2**	**-0.7**
TWS1				eS	**Sg**	**17 42 26.4**	**+0.1**
LIOB	**Emei** baz=296	**1.42**	**297**	P	**Pg**	**17 42 08.4**	**+0.4**
LIOB				eS	**Sg**	**17 42 26.2**	**-0.3**
TYC	**Yuchr** baz=265	**1.42**	**266**	P	**Pn**	**17 42 06.9**	**+0.4**
TYC				eS	**Sn**	**17 42 24.8**	**-0.3**
ANP	**Anpu** baz=325	**1.43**	**326**	eP	**Pg**	**17 42 07.5**	**-0.6**
ANP				eS	**Sg**	**17 42 25.4**	**-1.4**
NSTT	**Nanjuang** baz=295	**1.43**	**296**	P	**Pg**	**17 42 08.4**	**+0.3**
NSTT				S	**Sg**	**17 42 25.5**	**-1.2**
YUS	**Yu-Shan** baz=247	**1.43**	**249**	eP	**Pn**	**17 42 07.7**	**+0.7**
YUS				eS	**Sn**	**17 42 24.5**	**-1.5**
EDH	**Donghe** baz=214	**1.45**	**225**	eP	**Pn**	**17 42 06.3**	**-0.4**
EDH				eS	**Sn**	**17 42 23.0**	**-2.7**
NTST	**Danshui** baz=337	**1.45**	**323**	eP	**Pg**	**17 42 08.0**	**-0.6**
NTST				eS	**Sg**	**17 42 26.7**	**-0.6**
WHYT	**Xinyi Township** baz=245	**1.46**	**258**	P	**Pb**	**17 42 08.1**	**+0.2**
WHYT				eS	**Sn**	**17 42 25.9**	**-0.2**
TWY	**Chenhua** baz=329	**1.46**	**330**	eP	**Pg**	**17 42 08.3**	**-0.6**
TWY				eS	**Sg**	**17 42 26.6**	**-1.3**
NCUH	**Zhongli** baz=309	**1.47**	**311**	eP	**Pg**	**17 42 08.4**	**-0.5**
NCUH				eS	**Sg**	**17 42 27.2**	**-0.9**
ELDTW	**Lidau** baz=236	**1.51**	**238**	eP	**Pn**	**17 42 07.4**	**-0.4**
ELDTW				eS	**Sn**	**17 42 25.0**	**-2.5**
SBCB	**Hsinchu** baz=300	**1.52**	**301**	eP	**Pg**	**17 42 09.2**	**-0.7**
SBCB				eS	**Sg**	**17 42 28.9**	**-0.7**
HSN	**Hsinchu** baz=301	**1.53**	**301**	eP	**Pb**	**17 42 08.9**	**-0.2**
HSN				eS	**Sg**	**17 42 28.2**	**-1.9**
TWQ1	**Liyutan** baz=282	**1.53**	**283**	eP	**Pg**	**17 42 10.2**	**+0.1**
TWQ1				eS	**Sg**	**17 42 29.5**	**-0.6**
WJS	**Zhushan** baz=262	**1.55**	**264**	eP	**Pg**	**17 42 10.6**	**+0.1**
WJS				eS	**Sb**	**17 42 29.8**	**+0.8**
ALS	**Alishan** baz=250	**1.55**	**252**	eP	**Pb**	**17 42 09.6**	**0.0**
ALS				eS	**Sn**	**17 42 28.0**	**-0.7**
NSY	**Sanyi** baz=284	**1.56**	**285**	eP	**Pg**	**17 42 10.4**	**-0.3**
NSY				eS	**Sg**	**17 42 29.8**	**-1.1**
NMLH	**Miaoli** baz=288	**1.57**	**290**	eP	**Pg**	**17 42 10.7**	**-0.2**
NMLH				eS	**Sg**	**17 42 30.2**	**-1.0**
	baz=288						

LDUT	Ludao	1.58	213	eP	Pn	17 42 08.1	-0.6
	baz=213						
LDUT				eS	Sn	17 42 27.4	-1.7
	baz=213						
WNT	Mingjian	1.58	266	eP	Pg	17 42 11.1	0.0
	baz=264						
WNT				eS	Sb	17 42 30.5	+0.6
	baz=264						
TCU	Taichung	1.59	275	eP	Pg	17 42 11.1	-0.2
	baz=274						
TCU				eS	Sb	17 42 30.5	+0.3
	baz=274						
LONT	Longtian	1.61	227	eP	Pn	17 42 08.7	-0.3
	baz=239						
LONT				eS	Sn	17 42 27.8	-1.9
	baz=239						
PCYT	Pengchaiyu	1.64	349	eP	Pg	17 42 10.6	-1.7
	baz=334						
WDJ	Dajia District	1.65	282	eP	Pg	17 42 11.7	-0.8
	baz=281						
WDJ				eS	Sb	17 42 32.0	+0.1
	baz=281						
WCHH	Zhanghua	1.69	273	eP	Pg	17 42 12.8	-0.5
	baz=271						
WCHH				eS	Sb	17 42 33.8	+0.7
	baz=271						
TWGBT	Beinan	1.70	226	eP	Pn	17 42 10.7	+0.4
	baz=237						
TWGBT				eS	Sn	17 42 31.1	-0.8
	baz=237						
TTN	Taitung	1.70	223	eS	Sn	17 42 31.2	-0.8
	baz=222						
TWG	Pinlang	1.70	226	eP	Pn	17 42 10.6	+0.2
	baz=237						
TWG				eS	Sn	17 42 30.7	-1.4
	baz=237						
STYH	Taoyuan	1.71	241	eP	Pn	17 42 11.5	+1.0
	baz=230						
STYH				eS	Sn	17 42 32.0	-0.3
	baz=230						
WDLH	Douliu	1.74	260	eP	Pb	17 42 12.6	0.0
	baz=258						
WDLH				eS	Sb	17 42 35.0	+0.4
	baz=258						
TPUB	Ta-pu	1.78	247	P	Pb	17 42 13.8	+0.5
	baz=246						
TPUB				eS	Sn	17 42 35.5	+1.6
	baz=246						
WTP	Ta-pu	1.81	246	eP	Pb	17 42 14.4	+0.5
	baz=244						
WTP				eS	Sn	17 42 36.2	+1.4
	baz=244						
CHN2	Minshiung	1.83	255	eP	Pb	17 42 14.4	+0.1
	baz=254						
CHN2				eS	Sb	17 42 37.0	-0.1
	baz=254						
WRL	Guolierlin Hig	1.86	267	eP	Pb	17 42 14.5	-0.3
	baz=279						
WRL				eS	Sb	17 42 37.9	-0.1
	baz=279						
WTK	Tuku	1.88	261	eP	Pb	17 42 15.1	+0.1
	baz=259						
WTK				eS	Sb	17 42 38.9	+0.5
	baz=259						
CHY	Chiayi	1.89	255	eP	Pb	17 42 15.7	+0.5
	baz=253						
CHY				eS	Sb	17 42 38.2	-0.5
	baz=253						
SLGT	Liugui	1.91	238	eP	Pn	17 42 15.0	+1.9
	baz=229						
SLGT				eS	Sn	17 42 37.9	+0.8
	baz=229						
CHN1	Nanshi	1.91	245	eP	Pb	17 42 15.9	+0.4
	baz=244						
CHN1				eS	Sn	17 42 39.2	+2.1
	baz=244						
TWK	Hsinying	1.91	248	eP	Pb	17 42 15.1	-0.5
	baz=246						
TWK				eS	Sn	17 42 38.5	+1.3
	baz=246						
SGST	Jiashian	1.91	242	eP	Pn	17 42 14.8	+1.6
	baz=230						
SGST				eS	Sn	17 42 38.1	+0.9
	baz=230						
SNST	Tainan City	1.92	246	eP	Pb	17 42 15.2	-0.5
	baz=245						
SNST				eS	Sn	17 42 38.8	+1.4
	baz=245						
ECL	Taimali	1.94	224	eP	Pn	17 42 12.7	-0.8
	baz=223						
ECL				eS	Sn	17 42 35.9	-2.0
	baz=223						
WSF	Szhu	2.04	260	eP	Pb	17 42 16.9	-0.8
	baz=259						
WSF				eS	Sb	17 42 42.1	-0.9
	baz=259						
ICHU	Yijhu	2.06	252	eP	Pn	17 42 16.7	+1.6
	baz=251						
ICHU				eS	Sn	17 42 42.1	+1.4
	baz=251						
SSD	Sandimen	2.06	233	eP	Pn	17 42 16.1	+0.9
	baz=226						
SSD				eS	Sn	17 42 40.9	+0.1
	baz=226						
TSMG	Majia	2.08	232	eP	Pn	17 42 16.6	+1.1
	baz=226						
TSMG				eS	Sn	17 42 40.6	-0.6
	baz=226						
SCST	Cishan	2.08	238	eP	Pb	17 42 18.4	-0.1
	baz=226						
SCST				eS	Sb	17 42 44.9	+0.5
	baz=226						
CHN3	Shinhua	2.09	244	eS	Sb	17 42 44.8	+0.2
	baz=243						
LAY	Lan-yu	2.11	202	eP	Pn	17 42 15.8	-0.2
	baz=210						
LAY				eS	Sn	17 42 41.2	-1.0
	baz=210						
CHN8	Yiju	2.12	252	eP	Pn	17 42 17.7	+1.6
	baz=251						
CHN8				eS	Sn	17 42 44.2	+1.9
	baz=251						
MASBT	Mashibuluo	2.14	230	eP	Pn	17 42 17.3	+0.9
	baz=224						
MASBT				eS	Sn	17 42 44.0	+1.1
	baz=224						
EAST	Anshuo	2.16	222	eP	Pn	17 42 16.9	+0.2
	baz=222						
EAST				eS	Sn	17 42 41.8	-1.6
	baz=222						
SGLT	Jiouru	2.17	234	eP	Pb	17 42 20.0	-0.1
	baz=234						
SGLT				eS	Sn	17 42 46.5	+2.8
	baz=234						
SCLT	Jiali	2.19	248	eP	Pn	17 42 19.2	+2.2
	baz=247						
SCLT				eS	Sn	17 42 45.7	+1.5
	baz=247						
SCZT	Fangliau	2.31	226	eP	Pn	17 42 19.7	+0.9
	baz=219						
SCZT				eS	Sn	17 42 47.0	-0.1
	baz=219						
SLIU	Shizi	2.32	220	eP	Pn	17 42 19.0	+0.2
	baz=220						
SLIU				eS	Sn	17 42 46.8	-0.5
	baz=220						
WLCH	Liuqiu	2.49	229	eP	Pb	17 42 26.2	+0.8
	baz=244						
TSEB	Hengchuen, Pin	2.52	214	eP	Pn	17 42 23.1	+1.6
	baz=215						
TSEB				eS	Sn	17 42 53.3	+1.2
	baz=215						
HEN	Hengchun	2.52	218	eP	Pn	17 42 23.0	+1.5
	baz=218						
HEN				eS	Sn	17 42 52.5	+0.4
	baz=218						
TWKBT	Hengchun	2.53	216	eP	Pn	17 42 22.8	+1.2
	baz=216						
TWKBT				eS	Sn	17 42 52.4	0.0
	baz=216						
TWK1	Hengchun	2.53	216	eP	Pn	17 42 23.8	+2.1
	baz=216						
TWK1				eS	Sn	17 42 53.2	+0.7
	baz=216						
PHUB	P'eng-hu	2.65	260	P	Pn	17 42 24.7	+1.5
	baz=273						
PHUB				S	Sn	17 42 55.1	-0.2
	baz=273						
PNG	Penghu	2.65	261	P	Pn	17 42 24.5	+1.2
	baz=260						
PNG				S	Sn	17 42 55.7	+0.3
	baz=260						
VCHM	Qimei	2.85	254	P	Pn	17 42 27.9	+1.9
	baz=253						
VCHM				S	Sn	17 43 00.6	+0.3
	baz=253						
VWUC	VWUC	2.87	291	eP	Pn	17 42 27.8	+1.5
	baz=289						
VWUC				eS	Sn	17 43 00.9	+0.1
	baz=289						
MATB	Ma-tsu	3.09	314	eP	Pn	17 42 31.2	+1.9
	baz=310						
MATB				eS	Sn	17 43 06.8	+0.5
	baz=310						
PTMZ	Houxiangcun	3.17	290	eP	Pn	17 42 31.8	+1.4
	baz=287						
PTMZ				eS	Sn	17 43 08.3	+0.1
	baz=287						
LYJJ	Jianjiangzhen	3.49	317	eP	Pn	17 42 37.1	+2.2
	baz=313						
LYJJ				eS	Sn	17 43 16.8	+0.7
	baz=313						
XPSS	Dashiqiu	3.53	326	eP	Pn	17 42 37.5	+2.0
	baz=332						
XPSS				eS	Sn	17 43 18.0	+0.8
	baz=332						
KNM	Kinmen	3.65	277	eP	Pn	17 42 40.5	+3.4
	baz=275						
KNM				eS	Sn	17 43 22.2	+2.1
	baz=275						
KNMB	Chin-men Tao	3.70	278	eP	Pn	17 42 39.2	+1.4
	baz=276						
KNMB				eS	Sn	17 43 20.9	-0.3
	baz=276						
MHZQ	Yeshan	3.71	305	eP	Pn	17 42 39.7	+1.9
	baz=301						
MHZQ				eS	Sn	17 43 21.6	+0.1
	baz=301						
AXDP	Jialang	4.14	283	eP	Pn	17 42 44.8	+1.0
	baz=269						
AXDP				eS	Sn	17 43 31.7	-0.6
	baz=269						
ZPLA	Ao Xicun	4.26	270	eP	Pn	17 42 46.6	+1.1
	baz=268						
ZPLA				eS	Sn	17 43 33.4	-1.8
	baz=268						
SONM	Songino Array	26.98	336	P	P	17 47 21.7	-0.7
	0.6nm,0.7s,baz=148,slow=8.5,SNR=5.4						
MKAR	Makanchi Array	39.24	316	P	P	17 49 08.8	-0.3
	0.3nm,0.6s,baz=107,slow=8.4,SNR=3.8						
ZALV	Zalesovo Beam	41.00	327	P	P	17 49 20.5	-3.0
	0.8nm,0.6s,baz=132,slow=9.9,SNR=2.6						
WRA	Warramunga Arr	45.20	164	P	P	17 49 58.9	+1.0
	0.6nm,1.1s,baz=340,slow=6.0,SNR=4.8						
WRA				LR	LR	18 09 59.1	
	comp=Z,99nm,21.2s,baz=260,slow=38						
BVAR	Borovoye Array	48.52	321	P	P	17 50 22.4	-1.1
	0.3nm,0.5s,baz=104,slow=6.1,SNR=2.5						
ASAR	Alice Springs	48.69	166	P	P	17 50 26.2	+1.1
	0.3nm,0.8s,baz=344,slow=6.5,SNR=2.4						

MEX 01 17:49:33.2±0.6**, 15°.26N×92°.88W, h110**km±10km**, MD3.7, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.55	323	eP	Pn	17 49 49.4	-1.0
PCIG				eS	Sn	17 50 01.4	-1.9
CMIG	Matias Romero	2.65	314	eP	Pn	17 50 11.9	-2.7
CMIG				eS	Sn	17 50 42.9	-3.5

IDC 01 17:51:26.4±494.0**, 58°.94N×55°.23E, h0**km**, Error ellipse: s-maj=159.4km s-min=62.1km az=138.0, Ural Mountains region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	8.70	168	i		18 46 20.0	
	baz=348,slow=325,SNR=2.5						
I43RU	DUBNA INFRASON	9.86	265	i		18 52 40.0	
	baz=71,slow=333,SNR=0.7						
I37NO	I37NO	18.65	318	i		19 49 20.0	
	baz=104,slow=330,SNR=1.0						

IDC 01 17:58:60.0±7.1**, 8°.67S×74°.09W, h103**km±86km**, mb3.2**/2**, mb1 3.3**/3**, mb1mx3.1**/36**, mbtmp3.4**/3**, ML2.7**/1**, Error ellipse: s-maj=132.7km s-min=37.7km az=32.0, Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	9.55	143	P	Pn	18 01 15.1	0.0
	0.0nm,0.3s,baz=312,slow=7.7,SNR=1.3						
LPAZ				S	Sn	18 02 59.8	-1.1
	0.1nm,0.3s,baz=241,slow=7.2,SNR=1.8						
TXAR	Lajitas Array	47.32	324	P	P	18 07 23.5	-0.1
	0.1nm,0.4s,baz=146,slow=8.3,SNR=1.0						
TORD	Torodi Ar. Bea	78.31	75	P	P	18 10 49.5	0.0
	0.2nm,0.3s,baz=266,slow=5.4,SNR=4.8						
WRA	Warramunga Arr	140.10	224	PKP	PKPdf	18 18 17.2	-0.3
	0.6nm,1.0s,baz=134,slow=2.1,SNR=4.7						

*TUL **01** 18:00:46.4±1.3, 35°.95N±0°.02×96°.78W±0°.03, h4km±3km, ML3.0, mb_Lg2.5/34(NEIC), Error ellipse: s-maj=3.6km s-min=1.9km az=108.0*

NEIC 01 18:00:46.5±1.1**, 35°.96N**±0°.02×**96°.79W**±0°.02**, h5**km±3km**, Error ellipse: s-maj=3.2km s-min=1.7km az=124.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	S. Brethren Rd	0.04	261	Pg	Pg	18 00 47.9	+0.1
OK031				Sg	Sg	18 00 48.9	+0.2
QUOK	Quay	0.22	17	Pg	Pg	18 00 51.3	+0.4
QUOK				Sg	Sg	18 00 54.6	+0.8
OK029	Liberty Lake	0.56	253	Pg	Pg	18 00 57.5	+0.1
OK029				Sg	Sg	18 01 05.6	+0.9
OK025	Westminster Rd	0.58	230	Pg	Pg	18 00 57.8	0.0
OK025				Sg	Sg	18 01 06.2	+0.8
OKCFA	Oklahoma City	0.77	225	Pg	Pg	18 00 59.9	-1.3
FNO	Franklin	0.86	216	Pg	Pg	18 01 02.5	-0.5
FNO				Sg	Sg	18 01 14.7	+0.5
BLOK	Blackwell	0.87	337	Pg	Pg	18 01 03.1	-0.1
BLOK				Sg	Sg	18 01 15.2	+0.6
T35A	Sooner Cattle	0.98	13	Pg	Pg	18 01 05.2	-0.2
T35A				Sg	Sg	18 01 18.7	+0.6
CROK	Carrier	1.11	300	Pg	Pg	18 01 07.5	-0.3
KAN13	South Haven SW	1.19	332	Pg	Pg	18 01 09.0	-0.3
KAN13				Sg	Sg	18 01 24.8	0.0
GC02	Grant County #	1.24	316	Pg	Pg	18 01 09.7	-0.6
GC02				Sg	Sb	18 01 27.1	+0.4
KAN17	Caldwell West	1.34	324	Pn	Pn	18 01 11.7	-0.2
KAN14	Manchester OK	1.37	317	Pn	Pn	18 01 12.3	-0.1
OK032	Salt Plains WL	1.42	307	Pn	Pn	18 01 12.6	-0.4
KAN05	Bluff City Nor	1.44	323	Pn	Pb	18 01 13.7	-0.1
KAN10	Anthony SW Sta	1.57	318	Pn	Pn	18 01 15.2	+0.2
KAN08	Anthony NE Sta	1.58	323	Pn	Pb	18 01 16.2	0.0
KAN08				IAmb_Lg		18 01 36.7	
	comp=Z,22nm,1.2s						
X34A	Smith Ranch, M	1.60	212		Pn	18 01 15.8	+0.3
X34A				IAmb_Lg		18 01 40.1	
	comp=Z,29nm,1.0s						
KAN12	Harper NE Stat	1.65	324	Pn	Pn	18 01 15.9	-0.3
X37A	Clayton	1.79	139		Pn	18 01 19.0	+0.8
X37A				IAmb_Lg		18 01 46.4	
	comp=Z,22nm,0.8s						
U32A	Winter Ranch,	1.84	284	Pn	Pn	18 01 19.5	+0.7
U32A				IAmb_Lg		18 01 49.5	
	comp=Z,30nm,0.8s						
LOOK	Love County	1.99	189	Pn	Pn	18 01 20.9	+0.1
LOOK				IAmb_Lg		18 01 49.5	
	comp=Z,20nm,1.0s						
U38A	Gravette	2.00	75	Pn	Pn	18 01 20.6	-0.5
WMOK	Wichita Mounta	2.03	234		Pn	18 01 22.3	+0.8
HHAR	Hobbs	2.33	81	Pn	Pn	18 01 24.0	-1.5
W39A	Magazine	2.57	106	Pn	Pb	18 01 31.1	-2.0
W39A				IAmb_Lg		18 02 10.3	
	comp=Z,16nm,0.8s						
R32A	Long Quarter,	2.90	329	Pn	Pn	18 01 33.2	-0.1
MIAR	Mount Ida	2.98	117		Pn	18 01 35.3	+0.8
Z38A	Mt. Pleasant	3.08	151	IAmb_Lg		18 02 30.0	
	comp=Z,14nm,0.8s						
KSU1	Kansas State U	3.14	3	IAmb_Lg		18 02 33.0	
	comp=Z,13nm,0.7s						
U40A	Yellville	3.21	82	Pn	Pn	18 01 37.5	-0.1
U40A				IAmb_Lg		18 02 34.3	
	comp=Z,14nm,0.8s						
S39A	Bolivar	3.27	57	Pn	Pn	18 01 37.0	-1.6
S39A				IAmb_Lg		18 02 35.4	
	comp=Z,11nm,0.8s						
X40A	Basin Creek Fa	3.56	113	Pn	Pn	18 01 40.9	-1.5
WHAR	Wooly Hollow	3.73	99	Pn	Pn	18 01 44.5	-0.2
FCAR	Ozark Folk Cen	3.79	90	Pn	Pn	18 01 45.4	-0.1
MGMO	Mountain Grove	3.83	71	Pn	Pn	18 01 44.5	-1.6
AMTX	Amarillo	4.13	256	Pn	Pn	18 01 48.8	-1.6
AMTX				IAmb_Lg		18 03 05.2	
	comp=Z,13nm,0.9s						
R40A	Maddies Statio	4.30	56	Pn	Pn	18 01 52.0	-0.6
R40A				IAmb_Lg		18 03 02.4	
	comp=Z,12nm,1.0s						
P38A	Dawn	4.48	34	Pn	Pn	18 01 55.0	0.0
LCAR	Lake Charles	4.57	87	Pn	Pn	18 01 55.8	-0.5
LCAR				IAmb_Lg		18 03 14.3	
	comp=Z,11nm,0.8s						
T42A	Van Buren	4.71	75	Pn	Pn	18 01 59.2	+1.0
T42A				IAmb_Lg		18 03 23.2	
	comp=Z,13nm,0.9s						
CCM	Cathedral Cave	4.91	63	Pn	Pn	18 02 00.4	-0.5
CCM				IAmb_Lg		18 03 29.9	
	comp=Z,11nm,0.8s						
N35A	Tabor	4.98	10	IAmb_Lg		18 03 35.9	
	comp=Z,16nm,0.8s						
P40A	Paris	5.18	45	Pn	Pn	18 02 03.3	-1.3
P40A				IAmb_Lg		18 03 37.0	
	comp=Z,11nm,0.9s						
JCT	Junction City	6.02	206	IAmb_Lg		18 04 13.3	
	comp=Z,5.4nm,0.8s						

*TUL **01** 18:08:01.3±1.3, 35°.67N±0°.01×97°.41W±0°.01, h6km±3km, ML2.2, mb_Lg2.1/4(NEIC), Error ellipse: s-maj=1.9km s-min=1.1km az=219.0*

NEIC 01 18:08:01.5±1.3**, 35°.678N**±0°.010×**97°.42W**±0°.02**, h5**km±1km**, Error ellipse: s-maj=2.9km s-min=2.4km az=81.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	Oakdale Elemen	0.10	183	Pg	Pg	18 08 03.6	0.0
OK025	Westminster Rd	0.12	147	Pg	Pg	18 08 04.0	0.0
OK025				Sg	Sg	18 08 05.9	+0.4
OK029	Liberty Lake	0.12	345	Pg	Pg	18 08 04.5	+0.4
OK029				Sg	Sg	18 08 06.8	+1.1
OK005	Luther M Schoo	0.18	97	Pg	Pg	18 08 05.3	+0.1
OKCFA	Oklahoma City	0.26	186		Pb	18 08 07.7	-1.1
FNO	Franklin	0.42	178	Pg	Pg	18 08 09.6	0.0
FNO				Sg	Sg	18 08 15.7	+0.6
OK031	S. Brethren Rd	0.54	59	Pg	Pg	18 08 12.0	0.0
OK031				Sg	Sg	18 08 19.3	+0.3
QUOK	Quay	0.76	49	Pg	Pg	18 08 15.8	-0.2
CROK	Carrier	0.94	331	Pg	Pg	18 08 19.5	-0.2
BLOK	Blackwell	1.09	8	Pg	Pg	18 08 21.6	-0.9
X34A	Smith Ranch, M	1.13	198	Pg	Pg	18 08 22.7	-0.4
X34A					Sb	18 08 38.8	+0.4
GC02	Grant County #	1.23	343	Pg	Pg	18 08 24.4	-0.7
OK032	Salt Plains WL	1.29	330	Pn	Pn	18 08 25.5	-0.8
KAN13	South Haven SW	1.33	358	Pn	Pn	18 08 26.3	-0.5
KAN14	Manchester OK	1.35	341	Pn	Pn	18 08 26.5	-0.6
KAN17	Caldwell West	1.39	348	Pn	Pn	18 08 27.6	0.0
T35A	Sooner Cattle	1.44	30	Pn	Pn	18 08 27.3	-0.9
WMOK	Wichita Mounta	1.46	230	Pn	Pn	18 08 27.7	-0.8
U32A	Winter Ranch,	1.46	299	Pn	Pn	18 08 28.2	-0.4
KAN12	Harper NE Stat	1.68	344	IAmb_Lg		18 08 55.3	
	comp=Z,10nm,0.8s						
X37A	Clayton	2.00	122	Pn	Pn	18 08 36.5	+0.6
U38A	Gravette	2.57	72	Pn	Pn	18 08 43.4	-0.4
S39A	Bolivar	3.85	57	Pn	Pn	18 09 00.4	-1.1
FCAR	Ozark Folk Cen	4.31	86	IAmb_Lg		18 10 23.9	
	comp=Z,4.0nm,1.1s						

IDC 01 18:19:00.1±2.5**, 4°.54S×152°.84E, h0**km**, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.3**/40**, mbtmp3.4**/3**, Error ellipse: s-maj=54.3km s-min=41.6km az=11.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	21.85	144	P	P	18 23 53.7	-0.9
	2.5nm,0.6s,baz=275,slow=12,SNR=2.6						
WRA	Warramunga Arr	23.64	228	P	P	18 24 12.8	-0.5
	0.3nm,0.3s,baz=51,slow=9.8,SNR=6.7						
ASAR	Alice Springs	26.36	222	P	P	18 24 39.6	+1.3
	0.1nm,0.5s,baz=52,slow=8.7,SNR=1.9						
TORD	Torodi Ar. Bea	150.26	289	PKPbc	PKPbc	18 38 53.8	-0.6
	0.2nm,0.5s,baz=92,slow=2.4,SNR=2.1						

*SNET **01** 18:20:32.8±1.0, 12°.60N×88°.22W, h32km±3km, ML3.9*
*INET **01** 18:20:32.1, 12°.47N×87°.85W, h26km, MW4.0*
*UCR **01** 18:20:32.3±1.7, 12°.56N×88°.22W, h32km±6km, ML3.9*

ISC 01 18:20:32.6±1.8**, 12°.56N**±0°.05×**88°.23W**±0°.05**, h31**km±15km**, n33, σ0s.63**/49**, 4C-3D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	Jucuar¡n	0.69	358	eP	**Pn**	**18 20 45.9**	**-0.5**
JUCU				eS	**Sn**	**18 20 55.9**	**-0.2**
JUCU				IAML		18 21 00.3	
	comp=Z,5μm,0.3s						
JUCU	Jucuar¡n	0.69	358	eP	**Pn**	**18 20 45.9**	**-0.5**
JUCU				eS	**Sn**	**18 20 55.9**	**-0.2**
JUCU				IAML		18 21 00.3	
	comp=Z,5μm,0.3s						
CNCH	Conchagua	0.81	28	eP	**Pn**	**18 20 47.6**	**-0.5**
CNCH				eS	**Sb**	**18 20 59.1**	**+0.1**
CNCH	Conchagua	0.81	28	eP	**Pn**	**18 20 47.6**	**-0.5**
CNCH				eS	**Sb**	**18 20 59.1**	**+0.1**
LCND	La Caada	0.81	24⇑	eP	**Pn**	**18 20 47.4**	**-0.6**
LCND				eS	**Sb**	**18 20 59.1**	**+0.1**
LCND				IAML		18 21 02.8	
	comp=Z,5μm,0.2s						
LCND	La Caada	0.81	24⇑	eP	**Pn**	**18 20 47.4**	**-0.6**
LCND				eS	**Sb**	**18 20 59.1**	**+0.1**
LCND				IAML		18 21 02.8	
	comp=Z,5μm,0.2s						
ALJI	Alcalda de J	0.83	336	eP	**Pn**	**18 20 48.0**	**-0.2**
ALJI				eS	**Sb**	**18 20 59.8**	**+0.3**
ALJI	Alcalda de J	0.83	336	eP	**Pn**	**18 20 48.0**	**-0.2**
ALJI				eS	**Sb**	**18 20 59.8**	**+0.3**
BLLM	Bellamira	0.88	359⇓	eP	**Pn**	**18 20 48.6**	**-0.3**
BLLM	Bellamira	0.88	359⇓	eP	**Pn**	**18 20 48.6**	**-0.3**
TECA	Tecapa	0.97	344	eP	**Pn**	**18 20 50.1**	**-0.2**
TECA	Tecapa	0.97	344	eP	**Pn**	**18 20 50.1**	**-0.2**
COEB	Comit de Eme	0.98	343	eP	**Pn**	**18 20 50.0**	**-0.4**
COEB				eS	**Sb**	**18 21 03.4**	**-0.3**
COEB				IAML		18 21 09.6	
	comp=Z,3μm,0.3s						
COEB	Comit de Eme	0.98	343	eP	**Pn**	**18 20 50.0**	**-0.4**
COEB				eS	**Sb**	**18 21 03.4**	**-0.3**
COEB				IAML		18 21 09.6	
	comp=Z,3μm,0.3s						
PQSS	Presa 15 de Se	1.11	343	eP	**Pn**	**18 20 52.3**	**+0.3**
PQSS				eS	**Sb**	**18 21 07.0**	**-0.2**
TECO	Alcaldia de Te	1.11	331	eP	**Pn**	**18 20 51.5**	**-0.6**
TECO				eS	**Sn**	**18 21 06.1**	**-0.3**
COEG	Centro de Oper	1.23	329	eP	**Pn**	**18 20 53.3**	**-0.5**
COEG				eS	**Sn**	**18 21 09.6**	**+0.2**
COEG	Centro de Oper	1.23	329	eP	**Pn**	**18 20 53.3**	**-0.5**
COEG				eS	**Sn**	**18 21 09.6**	**+0.2**
LFRS	El Faro	1.33	323	eP	**Pn**	**18 20 54.9**	**-0.4**
LFRS	El Faro	1.33	323	eP	**Pn**	**18 20 54.9**	**-0.4**
PAVA	Las Pavas	1.34	329	eP	**Pn**	**18 20 55.3**	**0.0**
PAVA				eS	**Sn**	**18 21 12.8**	**+0.6**
PAVA	Las Pavas	1.34	329	eP	**Pn**	**18 20 55.3**	**0.0**
PAVA				eS	**Sn**	**18 21 12.8**	**+0.6**
LBRS	Las Brisas	1.41	326	eP	**Pn**	**18 20 56.7**	**+0.3**
LBRS	Las Brisas	1.41	326	eP	**Pn**	**18 20 56.7**	**+0.3**
TGUH	Tegucigalpa,Un	1.75	32⇑	eP	**Pn**	**18 21 01.0**	**-0.1**
TGUH	Tegucigalpa,Un	1.75	32⇑	eP	**Pn**	**18 21 01.0**	**-0.1**
SAJU	San Juanillo,	3.50	135	eP	**Pn**	**18 21 23.4**	**-1.6**
GRZA	Playa Garza	3.66	136	eP	**Pn**	**18 21 25.8**	**-1.3**

INDI	Punta indio, G	3.79	135	eP	Pn	18 21 28.0	-0.8
LAFE	Finca La Fe, P	4.25	130	eP	Pn	18 21 34.3	-1.0
JACO	JACO, Garabito	4.54	129	eP	Pn	18 21 40.5	+1.2
LCR2	La Lucha 2	5.00	124⇓	eP	Pn	18 21 47.8	+1.9
RIMA	Rio Macho	5.11	123	eP	Pn	18 21 48.2	+1.0

*IDC **01** 18:23:28.0±1.9, 59.°93N×153.°38W, h116km±34km, mb3.3/4, mb1 3.6/8, mb1mx3.2/49, mbtmp3.8/8, Error ellipse: s-maj=43.1km s-min=17.0km az=114.0*

*NEIC **01** 18:23:28.8±1.6, 59.°91N±0.°04×153.°38W±0.°08, h141km±3km, Error ellipse: s-maj=5.5km s-min=5.4km az=105.0*

*ANF **01** 18:23:29.0±0.3, 59.°91N×153.°33W, h136km±3km, ML3.8/45, ML3.8/46, Error ellipse: s-maj=3.7km s-min=2.7km az=108.0*

*AEIC **01** 18:23:30±1.9, 59.°90N±0.°04×153.°37W±0.°07, h136km±3km, ML3.4, ML3.8/114(NEIC), Error ellipse: s-maj=5.3km s-min=4.9km az=213.0*

ISC 01 18:23:29.2±0.7**, 59.°90N**±0.°03×**153.°31W**±0.°03**, h146**km±5km**, n258, σ1.**s**38**/349**, mb3.5**/4**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILS	Iliamna Low So	0.14	65		Pn	18 23 48.2	-0.7
ILS					Sn	18 24 02.3	-1.7
IVE	Iliamna Volcan	0.19	52		Pn	18 23 48.3	-0.8
IVE					Sn	18 24 02.6	-1.6
OPT	Oil Point	0.25	171		Pn	18 23 48.6	-0.6
P19K	Oil Pt	0.25	171		Pn	18 23 48.5	-0.6
P19K				Sn	Sn	18 24 02.4	-1.8
P19K	Oil Pt	0.25	171	P	Pn	18 23 48.5	-0.6
	baz=344,SNR=42						
P19K				S	Sn	18 24 02.8	-1.4
	baz=344						
O20K	Slope Mountain	0.39	62		Pn	18 23 49.2	-0.4
O20K					Sn	18 24 04.3	-0.9
O20K	Slope Mountain	0.39	62	P	Pn	18 23 49.2	-0.4
	baz=245,SNR=37						
O20K				S	Sn	18 24 04.0	-1.2
	baz=245						
AUL	Augustine Lava	0.52	187		Pn	18 23 49.7	-0.4
AUL					Sn	18 24 05.0	-1.1
AU22	Augustine Moun	0.53	182		Pn	18 23 49.7	-0.5
AU22					Sn	18 24 04.9	-1.2
AUW	Augustine West	0.54	189		Pn	18 23 49.8	-0.4
AUCH	Augustine Cone	0.54	187		Pn	18 23 50.0	-0.4
AGU	Augustine-Summ	0.55	186		Pn	18 23 50.0	-0.5
AGU					Sn	18 24 05.4	-1.1
AUQ	Augustine Qik’	0.55	185		Pn	18 23 50.0	-0.4
O19K	Port Alsworth	0.59	301		Pn	18 23 49.3	-1.1
O19K				Sn	Sn	18 24 04.1	-2.6
O19K				IAML		18 24 04.7	
	comp=E,1μm,0.6s						
O19K				IAML		18 24 04.8	
	comp=N,1μm,0.5s						
RED	Redoubt Volcan	0.59	27		Pn	18 23 50.0	-0.6
RED					Sn	18 24 05.3	-1.7
RDSO	Redoubt South	0.62	27		Pn	18 23 50.4	-0.6
RSO	Redoubt South	0.63	26		Pn	18 23 50.4	-0.6
RDWB	Redoubt West	0.64	22		Pn	18 23 50.3	-0.6
RDWB					Sn	18 24 05.9	-1.7
NCT	North Crescent	0.69	16		Pn	18 23 50.8	-0.5
NCT					Sn	18 24 06.9	-1.2
DFR	Drift River	0.76	24		Pn	18 23 51.3	-0.4
DFR					Sn	18 24 07.7	-1.2
HOM	Homer	0.88	105		Pn	18 23 51.0	-1.6
HOM				Sn	Sn	18 24 09.6	-0.6
HOM	Homer	0.88	105	P	Pn	18 23 52.4	-0.1
	baz=287						
HOM				S	Sn	18 24 09.6	-0.6
	baz=287						
O18K	Koktuh Hills	0.96	268		Pn	18 23 52.0	-1.2
O18K				Sn	Sn	18 24 08.5	-2.9
Q19K	Cape Douglas,	0.99	190		Pn	18 23 52.8	-0.7
Q19K				Sn	Sn	18 24 10.3	-1.6
Q19K				IAML		18 24 11.1	
	comp=E,884nm,1.0s						
Q19K				IAML		18 24 16.0	
	comp=N,1μm,0.9s						
Q19K	Cape Douglas,	0.99	190	P	Pn	18 23 52.9	-0.7
	baz=8.0,SNR=78						
Q19K				S	Sn	18 24 10.4	-1.6
	baz=8.0						
N19K	Bonanza Creek	1.08	328	Pn	Pn	18 23 53.4	-1.0
N19K				Sn	Sn	18 24 11.2	-2.4
N19K	Bonanza Creek	1.08	328	P	Pn	18 23 53.6	-0.8
	baz=148,SNR=29						
N19K				S	Sn	18 24 11.3	-2.4
	baz=148						
CNPM	China Poot	1.12	109		Pn	18 23 54.5	-0.2
CNPM				Sn	Sn	18 24 12.4	-1.6
BRLK	Bradley Lake	1.23	95	Pn	Pn	18 23 55.6	-0.1
BRLK				Sn	Sn	18 24 14.5	-1.4
BRLK				IAML		18 24 16.1	
	comp=E,1μm,0.2s						
BRSE	Bradley Lake S	1.31	96		Pn	18 23 56.5	0.0
BRSE	Bradley Lake S	1.31	96	P	Pn	18 23 56.4	-0.1
	baz=278,SNR=38						
BRSE				S	Sn	18 24 15.8	-1.4
	baz=278						
CAPN	Captain Cook N	1.38	50	Pn	Pn	18 23 58.8	+1.7
CAPN				Sn	Sn	18 24 21.2	+2.7
CAPN				IAML		18 24 29.8	
	comp=E,1μm,0.5s						
CAPN				IAML		18 24 32.2	
	comp=N,1μm,0.8s						
CAPN	Captain Cook N	1.38	50	P	Pn	18 23 58.7	+1.6
	baz=233						
CAPN				S	Sn	18 24 16.1	-2.4
	baz=233						
KAPH	Katmai Pasha	1.41	203		Pn	18 23 57.1	-0.5
SPCR	Spurr Chakacha	1.41	22		Pn	18 23 57.6	+0.1
SPCR	Spurr Chakacha	1.41	22	P	Pn	18 23 57.6	+0.1
	baz=204,SNR=42						
SPCR				S	Sn	18 24 17.9	-1.4
	baz=204						
CKN	Chakachatna No	1.44	22		Pn	18 23 58.1	+0.3
SPBG	Spurr Blockage	1.44	18		Pn	18 23 58.2	+0.3
SPCN	Chakachatna No	1.44	22		Pn	18 23 58.1	+0.3
SPCN					Sn	18 24 20.0	+0.2
CRP	Crater Peak	1.49	22		Pn	18 23 58.6	+0.2
CRP					Sn	18 24 21.1	+0.3
SPCP	Crater Peak Br	1.49	22		Pn	18 23 58.6	+0.2
KAHC	Katmai Hardscr	1.53	215		Pn	18 23 58.1	-0.7
SPCG	Spurr Capps Gl	1.54	24		Pn	18 23 58.9	0.0
KAHG	Katmai Hook Gl	1.55	205		Pn	18 23 58.7	-0.3
SVW2	Sparrevohn	1.64	318		Pn	18 23 58.8	-1.1
SVW2				Sn	Sn	18 24 20.7	-2.8
SLKM	Skilak Lake	1.66	67		Pn	18 23 59.8	-0.4
SLKM					Sn	18 24 22.5	-1.4
KAWH	Katmai	1.70	207		Pn	18 24 00.1	-0.6
STLK	Strandline Lak	1.76	24		Pn	18 24 01.5	+0.2
KVTA	Katmai Vly 10	1.83	215		Pn	18 24 01.7	-0.5
KAKN	Katmai Knife C	1.84	210		Pn	18 24 01.7	-0.6
KAKN					Sn	18 24 25.7	-2.0
KCG	Knife Ck. Glac	1.85	211		Pn	18 24 01.9	-0.4
O22K	Cooper Landing	1.89	70		Pn	18 24 02.9	+0.2
O22K				Sn	Sn	18 24 26.5	-1.8
O22K				IAML		18 24 33.7	
	comp=E,845nm,0.3s						
O22K	Cooper Landing	1.89	70	P	Pn	18 24 02.9	+0.2
	baz=254,SNR=12						
O22K				S	Sn	18 24 26.5	-1.8
	baz=254						
KCE	Katmai Mt Cerb	1.92	211		Pn	18 24 03.3	+0.1
KABU	Katmai Buttres	1.93	213		Pn	18 24 03.0	-0.3
SEW	Seward	1.95	82	Pn	Pn	18 24 03.5	+0.1
SEW	Seward	1.95	82	P	Pn	18 24 03.6	+0.2
	baz=266,SNR=15						
SEW				S	Sn	18 24 27.8	-1.9
	baz=266						
KABR	Katmai Barrier	1.97	206		Pn	18 24 03.1	-0.6
FIS	Fire Island	1.98	49	Pn	Pn	18 24 02.8	-0.9
FIS				IAML		18 24 32.3	
	comp=N,519nm,0.7s						
FIS				IAML		18 24 43.5	
	comp=E,460nm,0.6s						
M20K	Styx River	1.99	2		Pn	18 24 03.9	-0.1
M20K				Sn	Sn	18 24 29.3	-1.4
M20K	Styx River	1.99	2	P	Pn	18 24 04.0	0.0
	baz=184,SNR=14						
M20K				S	Sn	18 24 29.4	-1.3
	baz=184						
SUA	Susitna One	2.01	38	Pn	Pn	18 24 04.5	+0.2
SUA				Sn	Sn	18 24 30.6	-0.7
SUA				IAML		18 24 32.4	
	comp=N,486nm,0.7s						
SUA				IAML		18 24 33.1	
	comp=E,534nm,0.4s						
SUA	Susitna One	2.01	38	P	Pn	18 24 04.5	+0.2
	baz=221,SNR=26						
SUA				S	Sn	18 24 30.3	-0.9
	baz=221						
ANCK	Angle Creek	2.04	214		Pn	18 24 04.4	-0.3
M19K	Big River Lodg	2.08	346	Pn	Pn	18 24 04.2	-0.7
M19K				Sn	Sn	18 24 30.8	-1.7
M19K	Big River Lodg	2.08	346	P	Pn	18 24 04.4	-0.5
	baz=166,SNR=43						
M19K				S	Sn	18 24 30.5	-2.0
	baz=166						
CAHL	Cahill	2.12	210		Pn	18 24 05.4	-0.2
RC01	Rabbit Creek A	2.13	54		Pn	18 24 05.4	-0.2
RC01				Sn	Sn	18 24 32.0	-1.5
RC01				IAML		18 24 33.4	
	comp=E,654nm,0.3s						
RC01				IAML		18 24 34.0	
	comp=N,425nm,0.2s						
RC01	Rabbit Creek A	2.13	54	P	Pn	18 24 05.3	-0.2
	baz=238,SNR=12						
RC01				S	Sn	18 24 32.3	-1.3
	baz=238						
KDAK	Kodiak Island	2.16	170	P	Pn	18 24 04.5	-1.5
	comp=N,20nm,0.3s,baz=21,slow=7.1,SNR=355						
KDAK				S	Sn	18 24 31.3	-2.7
	comp=N,35nm,0.3s,baz=209,slow=22,SNR=19						
KDAK	Kodiak Island	2.16	170	Pn	Pn	18 24 04.4	-1.5
KDAK				Sn	Sn	18 24 31.4	-2.7
KDAK	Kodiak Island	2.16	170	P	Pn	18 24 04.5	-1.4
	baz=349						
KDAK				S	Sn	18 24 31.3	-2.8
	baz=349						
KJL	Kejulik	2.19	213		Pn	18 24 06.3	-0.1
SKT	Skwentna	2.26	22		Pn	18 24 07.1	0.0
SKT				Sn	Sn	18 24 36.0	-0.4
SKT	Skwentna	2.26	22	P	Pn	18 24 07.2	0.0
	baz=204,SNR=15						
SKT				S	Sn	18 24 35.7	-0.7
	baz=204						
L19K	White Mountain	2.41	343	Pn	Pn	18 24 08.1	-0.8
L19K				Sn	Sn	18 24 38.3	-1.3
L19K	White Mountain	2.41	343	P	Pn	18 24 08.3	-0.7
	baz=162,SNR=49						
L19K				S	Sn	18 24 37.2	-2.4
	baz=162						
PWL	Port Wells	2.65	67		Pn	18 24 11.2	-0.7
PWL				Sn	Sn	18 24 42.0	-2.9
PWL				IAML		18 24 48.8	
	comp=E,163nm,0.4s						
PWL				IAML		18 24 51.6	
	comp=N,230nm,0.4s						
PMR	Palmer	2.66	49		Pn	18 24 11.3	-0.7
PMR				Sn	Sn	18 24 42.0	-3.2
PMR	Palmer	2.66	49	P	Pn	18 24 11.2	-0.8
	baz=233						
PMR				S	Sn	18 24 42.4	-2.7
	baz=233						
OHAK	Old Harbor	2.69	180	Pn	Pn	18 24 10.6	-1.7
OHAK				Sn	Sn	18 24 42.2	-3.4
OHAK				IAML		18 24 43.6	
	comp=E,153nm,0.3s						
OHAK				IAML		18 24 44.0	
	comp=N,169nm,0.3s						
OHAK	Old Harbor	2.69	180	P	Pn	18 24 10.6	-1.7
	baz=359,SNR=9.4						
OHAK				S	Sn	18 24 42.0	-3.6
	baz=359						
PLK3	Peulik 3	2.70	216		Pn	18 24 12.4	-0.1
PLK1	Peulik 1	2.71	221		Pn	18 24 12.5	-0.2
KNK	Knik Glacier	2.83	55		Pn	18 24 13.4	-0.8
KNK				Sn	Sn	18 24 46.5	-2.5
KNK				IAML		18 24 49.4	
	comp=E,192nm,0.5s						
KNK				IAML		18 24 51.3	
	comp=N,214nm,0.6s						
KNK	Knik Glacier	2.83	55	P	Pn	18 24 13.5	-0.8
	baz=240,SNR=19						
KNK				S	Sn	18 24 46.5	-2.5
	baz=240						
GHO	Glory Hole Cre	2.85	47		Pn	18 24 13.5	-1.1
GHO				IAML		18 24 48.1	
	comp=E,238nm,0.5s						
GHO				IAML		18 24 58.5	
	comp=N,202nm,0.7s						
CUT	Chulitna	2.91	29		Pn	18 24 15.3	+0.1
CUT				Sn	Sn	18 24 49.6	-1.1
CUT	Chulitna	2.91	29	P	Pn	18 24 15.4	+0.1
	baz=212,SNR=7.3						
CUT				S	Sn	18 24 49.7	-1.1
	baz=212						
PPLA	Purkeypile	3.06	10		Pn	18 24 17.8	+0.7
PPLA	Purkeypile	3.06	10		Sn	18 24 52.7	-1.6
PPLA	Purkeypile	3.06	10	P	Pn	18 24 18.0	+0.8
	baz=191,SNR=17						
PPLA				S	Sn	18 24 53.4	-0.8
	baz=191						
SML	Sawmill	3.10	50		Pn	18 24 16.7	-0.9
SML				IAML		18 24 54.9	
	comp=N,127nm,0.6s						
SML				IAML		18 25 02.0	
	comp=E,112nm,0.8s						
SML	Sawmill	3.10	50	P	Pn	18 24 16.7	-0.9
	baz=234						
SML				S	Sn	18 24 52.4	-2.6
	baz=234						
GLI	Glacier Island	3.24	70		Pn	18 24 17.9	-1.5
GLI				IAML		18 24 57.8	
	comp=E,153nm,0.2s						
GLI				IAML		18 24 58.5	
	comp=N,146nm,0.3s						
GLI	Glacier Island	3.24	70	P	Pn	18 24 18.1	-1.3
	baz=255						
GLI				S	Sn	18 24 55.6	-2.6
	baz=255						
TT01	Tatalina	3.29	338		Pn	18 24 19.2	-0.7
TTA	Tatalina	3.31	338	Pn	Pn	18 24 19.7	-0.5
SII	Sitkinak Islan	3.38	188	Pn	Pn	18 24 19.1	-2.2
SII				IAML		18 25 00.4	
	comp=N,196nm,0.6s						
SII				IAML		18 25 09.6	
	comp=E,273nm,0.7s						
SII	Sitkinak Islan	3.38	188	P	Pn	18 24 19.6	-1.6
	baz=6.9						
HIN	Hinchinbrook I	3.44	79		Pn	18 24 21.2	-0.8
HIN				IAML		18 25 04.4	
	comp=E,158nm,0.6s						
HIN				IAML		18 25 04.6	
	comp=N,160nm,0.8s						
K20K	Telida	3.49	354		Pn	18 24 21.8	-0.8
K20K	Telida	3.49	354	P	Pn	18 24 22.4	-0.2
	baz=174,SNR=47						
FID	Port Fidalgo	3.50	73		Pn	18 24 21.3	-1.5
FID				IAML		18 25 03.8	
	comp=E,233nm,0.2s						
SCM	Sheep Creek Mo	3.51	54		Pn	18 24 22.1	-0.9
SCM				IAML		18 25 04.9	
	comp=E,247nm,0.8s						
SCM				IAML		18 25 07.0	
	comp=N,239nm,0.8s						
Q23K	Middleton Isla	3.56	95	Pn	Pn	18 24 22.0	-1.5
Q23K				IAML		18 25 55.9	
	comp=N,229nm,2.2s						
Q23K	Middleton Isla	3.56	95	P	Pn	18 24 23.8	+0.3
	baz=281						
MID	Middleton Isla	3.57	95	Pn	Pn	18 24 22.6	-1.0
MID				IAML		18 25 46.6	
	comp=N,240nm,2.4s						
WAT7	Susitna Watana	3.64	34		Pn	18 24 24.5	-0.2
WAT1	Susitna Watana	3.73	36		Pn	18 24 25.4	-0.3
WAT1	Susitna Watana	3.73	36	P	Pn	18 24 25.4	-0.3
	baz=220						
WAT1				S	Sn	18 25 06.7	-2.9
	baz=220						
WAT6	Susitna Watana	3.81	43		Pn	18 24 26.3	-0.6
WAT6	Susitna Watana	3.81	43	P	Pn	18 24 26.2	-0.6
	baz=228,SNR=6.5						
WAT6				S	Sn	18 25 09.8	-1.8
	baz=228						
EYAK	Cordova Ski Ar	3.83	77		Pn	18 24 25.7	-1.3
EYAK	Cordova Ski Ar	3.83	77	P	Pn	18 24 27.0	0.0
	baz=264						
EYAK				S	Sn	18 25 10.3	-1.5
	baz=264						
TRF	Thorofare Moun	3.84	21		Pn	18 24 27.1	-0.3
TRF				IAML		18 25 14.4	
	comp=N,207nm,0.5s						
TRF				IAML		18 25 15.4	
	comp=E,134nm,0.7s						
DIV	Divide	3.93	68	Pn	Pn	18 24 26.9	-1.4
KLU	Klutina	3.97	63		Pn	18 24 28.4	-0.6
KLU				IAML		18 25 16.8	
	comp=E,163nm,0.4s						
KLU	Klutina	3.97	63	P	Pn	18 24 28.3	-0.6
	baz=250,SNR=42						
KLU				S	Sn	18 25 13.5	-1.8
	baz=250						
CHUM	Lake Minchumin	4.03	6		Pn	18 24 29.7	+0.2
CHUM	Lake Minchumin	4.03	6	P	Pn	18 24 29.6	+0.1
	baz=188,SNR=26						
CHUM				S	Sn	18 25 15.2	-1.3
	baz=188						
ANPB	Aniakchak Plen	4.06	222		Pn	18 24 29.7	-0.4
RND	Reindeer	4.11	29	Pn	Pn	18 24 29.0	-1.7
RND				IAML		18 25 20.2	
	comp=E,68nm,0.4s						
RND				IAML		18 25 23.1	
	comp=N,59nm,0.5s						
M24K	Tolsona, Glenn	4.12	54		Pn	18 24 29.1	-1.8
M24K	Tolsona, Glenn	4.12	54	P	Pn	18 24 30.7	-0.2
	baz=241,SNR=8.2						
M24K				S	Sn	18 25 18.4	-0.4
	baz=241						
CHIR	Chirikof Islan	4.27	198	Pn	Pn	18 24 31.0	-1.8
CHIR				IAML		18 25 55.3	
	comp=N,155nm,2.3s						
CHIR				IAML		18 25 58.0	
	comp=E,110nm,2.5s						
J20K	Nowinta River	4.31	355	Pn	Pn	18 24 32.3	-0.9
J20K	Nowinta River	4.31	355	P	Pn	18 24 33.3	0.0
	baz=175,SNR=34						
RAGM	Ragged Mountai	4.35	80	Pn	Pn	18 24 33.2	-0.6
BPAW	Bear Paw Mtn.	4.36	14		Pn	18 24 32.2	-1.7
BPAW				IAML		18 25 22.5	
	comp=E,50nm,0.7s						
BPAW				IAML		18 25 22.9	
	comp=N,43nm,0.6s						
BPAW	Bear Paw Mtn.	4.36	14	P	Pn	18 24 33.4	-0.6
	baz=196,SNR=19						
BPAW				S	Sn	18 25 20.6	-3.6
	baz=196						
MCK	McKinley	4.37	26		Pn	18 24 33.7	-0.4
MCK				IAML		18 25 24.2	
	comp=N,56nm,0.5s						
MCK				IAML		18 25 26.7	
	comp=E,55nm,0.4s						
MCK	McKinley	4.37	26	P	Pn	18 24 34.0	-0.1
	baz=211,SNR=9.0						
MCK				S	Sn	18 25 22.1	-2.5
	baz=211						
BMRM	Bremner River	4.45	72	Pn	Pn	18 24 34.5	-0.7
BMRM	Bremner River	4.45	72	P	Pn	18 24 35.3	+0.1
	baz=260,SNR=9.2						
BMRM				S	Sn	18 25 24.3	-2.2
	baz=260						
KAIM	Kayak Island	4.48	86		Pn	18 24 35.6	0.0
KAIM	Kayak Island	4.48	86	P	Pn	18 24 36.3	+0.7
	baz=274						
CHGN	Chignik	4.51	219		Pn	18 24 35.0	-1.0
CHGN				IAML		18 25 28.0	
	comp=N,78nm,0.3s						
CHGN				IAML		18 25 30.0	
	comp=E,120nm,0.1s						
CHGN	Chignik	4.51	219	P	Pn	18 24 35.3	-0.6
	baz=34,SNR=5.0						
HMT	Hamilton	4.55	81	Pn	Pn	18 24 36.7	+0.2
HMT				IAML		18 25 31.2	
	comp=N,101nm,0.4s						
N25K	Chitina, Valde	4.61	64		Pn	18 24 36.5	-0.7
N25K				IAML		18 25 31.3	
	comp=E,115nm,0.5s						
N25K				IAML		18 25 31.4	
	comp=N,88nm,0.6s						
N25K	Chitina, Valde	4.61	64	P	Pn	18 24 37.1	-0.2
	baz=252,SNR=32						
N25K				S	Sn	18 25 29.1	-1.2
	baz=252						
BWN	Browne	4.65	21		Pn	18 24 37.8	-0.1
BWN				IAML		18 25 40.3	
	comp=N,49nm,0.9s						
BWN				IAML		18 25 50.9	
	comp=E,59nm,1.0s						
HARP	HAARP	4.68	54	P	Pn	18 24 38.2	+0.1
	baz=242						
HARP				S	Sn	18 25 31.1	-0.8
	baz=242						
SUCK	Suckling Hills	4.79	84	Pn	Pn	18 24 40.0	+0.3
SUCK				IAML		18 25 32.5	
	comp=E,109nm,3.3s						
SUCK					Sn	18 25 34.6	0.0
VNHG	Veniaminof 1	4.82	223		Pn	18 24 40.4	+0.2
BERG	Berg Lake	4.83	80	Pn	Pn	18 24 40.2	+0.1
PAX	Paxson	4.86	47		Pn	18 24 40.3	-0.4
PAX	Paxson	4.86	47	P	Pn	18 24 40.6	-0.1
	baz=234,SNR=6.2						
PAX				S	Sn	18 25 34.0	-2.4
	baz=234						
GLB	Gilahina Butte	4.92	68		Pn	18 24 41.3	-0.1
GLB				IAML		18 25 38.4	
	comp=N,51nm,0.9s						
GLB				IAML		18 25 38.9	
	comp=E,41nm,0.4s						
GRIN	Grindle Hills	5.02	81		Pn	18 24 43.0	+0.3
VRDI	Verde Repeater	5.04	70		Pn	18 24 43.1	-0.1
VRDI				IAML		18 25 40.2	
	comp=E,40nm,0.5s						
VRDI				IAML		18 25 40.9	
	comp=N,62nm,0.6s						
KHIT	Khitrov Hills	5.06	79		Pn	18 24 43.5	+0.2
NEA2	Nenana	5.11	21		Pn	18 24 42.8	-1.0
NEA2	Nenana	5.11	21	P	Pn	18 24 43.2	-0.7
	baz=205,SNR=37						
NEA2				S	Sn	18 25 37.5	-4.6
	baz=205						
CRQM	Cirque	5.13	76		Pn	18 24 44.6	+0.3
CRQE	Cirque	5.15	76	P	Pn	18 24 44.3	-0.3
	baz=265						
CRQE				S	Sn	18 25 41.2	-2.1
	baz=265						
WRH	Wood River Hil	5.20	26		Pn	18 24 44.3	-0.7
WAX	Waxell Ridge	5.25	79	Pn	Pn	18 24 46.1	+0.3
MCARA	McCarthy VSAT	5.28	69	Pn	Pn	18 24 46.4	+0.3
MCARA	McCarthy VSAT	5.28	69	P	Pn	18 24 46.9	+0.8
	baz=258,SNR=5.8						
MCARA				S	Sn	18 25 45.5	-0.6
	baz=258						
TGL	Tana Glacier	5.28	76		Pn	18 24 45.6	-0.6
MLY	Manley	5.29	12		Pn	18 24 45.4	-0.9
MLY	Manley	5.29	12	P	Pn	18 24 45.3	-0.9
	baz=194,SNR=18						
MLY				S	Sn	18 25 43.6	-2.8
	baz=194						
I21K	Tanana	5.34	6		Pn	18 24 46.5	-0.3
I21K	Tanana	5.34	6	P	Pn	18 24 46.6	-0.3
	baz=188,SNR=7.0						
I21K				S	Sn	18 25 44.2	-3.2
	baz=188						
CCB	Clear Creek Bu	5.41	26		Pn	18 24 46.6	-1.3
HDA	Harding Lake	5.42	31		Pn	18 24 47.1	-0.9
HDA	Harding Lake	5.42	31	P	Pn	18 24 47.4	-0.6
	baz=216,SNR=16						
HDA				S	Sn	18 25 46.2	-3.2
	baz=216						
HDA				S	Sn	18 25 46.2	-3.2
	baz=216						
PTPK	Patty Peak	5.51	72		Pn	18 24 49.3	-0.1
ISLE	Juniper Island	5.51	78		Pn	18 24 49.8	+0.5
MENT	Mentasta	5.52	52		Pn	18 24 48.7	-0.7
KIAG	Kiagna River	5.53	75		Pn	18 24 49.4	-0.1
BALM	Baldy	5.54	73		Pn	18 24 49.8	0.0
RIDG	Independent Ri	5.56	43		Pn	18 24 49.4	-0.5
RIDG	Independent Ri	5.56	43	P	Pn	18 24 49.7	-0.2
	baz=230,SNR=8.5						
RIDG				S	Sn	18 25 49.8	-3.1
	baz=230						

I23K	Minto, Yukon-K	5.58	17			Pn	18 24 49.3	-0.7
I23K	Minto, Yukon-K	5.58	17	P		Pn	18 24 49.6	-0.4
	baz=201,SNR=51							
M26K	Nabesna, AK	5.59	59			Pn	18 24 49.2	-1.1
M26K	Nabesna, AK	5.59	59	P		Pn	18 24 51.3	+0.9
	baz=248,SNR=26							
M26K					S	Sn	18 25 52.1	-1.6
	baz=248							
TCOL	CIGO, UAF Yank	5.60	25	Pn		Pn	18 24 49.1	-1.2
TCOL	CIGO, UAF Yank	5.60	25	S		Sn	18 25 50.1	-3.6
	baz=210							
MDM	Murphy Dome	5.60	23			Pn	18 24 49.4	-0.9
COLA	College	5.60	25	Pn		Pn	18 24 49.3	-1.1
BAGL	Bagley Icefiel	5.63	79			Pn	18 24 51.3	+0.5
MESA	MESA	5.70	82			Pn	18 24 52.4	+0.4
MESA	MESA	5.70	82	P		Pn	18 24 52.8	+0.9
	baz=272,SNR=7.4							
MESA					S	Sn	18 25 53.5	-3.1
	baz=272							
L26K	Log Cabin Wild	5.71	52			Pn	18 24 52.0	+0.1
L26K	Log Cabin Wild	5.71	52	P		Pn	18 24 52.0	+0.1
	baz=241							
IL31		5.73	29			Pn	18 24 50.3	-1.8
ILAR	Eielson Array	5.73	29	P		Pn	18 24 49.8	-2.4
	comp=N,4.4nm,0.3s,baz=218,slow=13,SNR=124							
ILAR					S	Sn	18 25 52.2	-4.7
	comp=N,4.2nm,0.3s,baz=219,slow=24,SNR=6.2							
ILAR	Eielson Array	5.73	29			Pn	18 24 50.4	-1.7
DOT	Dot Lake	5.78	45	Pn		Pn	18 24 52.8	0.0
YAH	Yahtse	5.80	80			Pn	18 24 53.9	+0.6
BARN	Barnard Glacie	5.88	74			Pn	18 24 54.4	+0.1
POKR	Poker Plat Res	5.90	25	Pn		Pn	18 24 53.6	-0.7
POKR	Poker Plat Res	5.90	25	P		Pn	18 24 53.6	-0.7
	baz=210							
POKR					S	Sn	18 25 58.5	-2.5
	baz=210							
SDPT	Sand Point	5.97	223	Pn		Pn	18 24 54.0	-1.3
SDPT	Sand Point	5.97	223	P		Pn	18 24 54.0	-1.3
	baz=37							
RKAV	Rock Avalanche	6.00	81			Pn	18 24 56.1	+0.2
SCRK	Sand Creek	6.01	43			Pn	18 24 54.2	-1.7
SCRK	Sand Creek	6.01	43	P		Pn	18 24 55.2	-0.8
	baz=232							
SCRK					S	Sn	18 25 58.9	-4.7
	baz=232							
CTG	Chitna Glacier	6.03	75	P		Pn	18 24 57.4	+1.2
	baz=265,SNR=9.2							
CTG					S	Sn	18 26 02.1	-2.1
	baz=265							
CTGM	Chitina Glacie	6.03	75			Pn	18 24 57.3	+1.0
M27K	Edge Creek, AK	6.06	61			Pn	18 24 57.4	+0.7
M27K	Edge Creek, AK	6.06	61	P		Pn	18 24 57.6	+0.9
	baz=251,SNR=8.6							
TABL	Table Mountain	6.10	80			Pn	18 24 58.1	+0.8
CHNA	Chernabura Isl	6.11	216	P		Pn	18 24 55.0	-2.2
	baz=31							
IMAR	Indian Mountai	6.11	358			Pn	18 24 57.0	-0.1
CNBA	Chernabura Isl	6.12	216	Pn		Pn	18 24 54.9	-2.5
LOGN	Logan Glacier	6.18	76			Pn	18 24 59.3	+1.0
H23K	Yukon River	6.19	15			Pn	18 24 57.4	-0.9
H23K	Yukon River	6.19	15	P		Pn	18 24 58.2	-0.1
	baz=198,SNR=40							
H23K					S	Sn	18 26 04.9	-3.0
	baz=198							
L27K	Beaver Creek,	6.35	55			Pn	18 25 00.1	-0.3
BC03		6.37	55			Pn	18 25 00.1	-0.5
BCAR	Beaver Creek A	6.37	55	Pn		Pn	18 25 01.0	+0.4
YUK2	White River	6.38	67			Pn	18 25 00.8	-0.1
H24K	Noodor Dome	6.45	20			Pn	18 25 01.0	-0.8
H24K	Noodor Dome	6.45	20	P		Pn	18 25 01.4	-0.4
	baz=205,SNR=16							
PCA	Pinnacle	6.55	83			Pn	18 25 04.3	+1.1
PINM	Pinnacle	6.56	83	P		Pn	18 25 04.0	+0.8
	baz=274,SNR=8.4							
YUK3	Moose Creek	6.56	68			Pn	18 25 04.1	+0.7
YUK3	Moose Creek	6.56	68	P		Pn	18 25 03.9	+0.5
	baz=259,SNR=15							
PRP	Porcupine Dome	6.67	29			Pn	18 25 04.6	-0.2
PRP	Porcupine Dome	6.67	29	P		Pn	18 25 04.5	-0.3
	baz=216,SNR=15							
PRP					S	Sn	18 26 16.3	-3.4
	baz=216							
K27K	Chicken	6.72	47			Pn	18 25 06.8	+1.5
DT1	Dutton Round H	6.81	229			Pn	18 25 06.2	-0.4
BCPM	Bancas Point	6.88	84			Pn	18 25 08.8	+1.4
PNL	Peninsula	7.03	86			Pn	18 25 10.2	+0.7
EGAK	Eagle	7.47	44			Pn	18 25 13.2	-2.2
COLD	Coldfoot	7.49	9			Pn	18 25 14.6	-0.9
COLD	Coldfoot	7.49	9	P		Pn	18 25 15.1	-0.4
	baz=192							
FYU	Fort Yukon	7.61	25	Pn		Pn	18 25 16.6	-0.6
HYT	Haines Junctio	7.89	76	Pn		Pn	18 25 23.3	+2.1
HYT	Haines Junctio	7.89	76	P		Pn	18 25 21.8	+0.6
	baz=270							
BMAR	Burnt Mountain	8.48	23	Pn		Pn	18 25 27.4	-1.5
TOLK	Toolik Lake Re	8.92	9			Pn	18 25 35.1	+0.3
TOLK	Toolik Lake Re	8.92	9	P		Pn	18 25 34.9	+0.2
	baz=192							
SKAG	Skagway	9.11	85	Pn		Pn	18 25 39.9	+2.7
WHY	Whitehorse	9.19	77	Pn		Pn	18 25 39.3	+0.9
BESE	Bessie Mountai	9.55	90	Pn		Pn	18 25 42.3	-0.9
SIT	Sitka	9.84	99	Pn		Pn	18 25 49.3	+2.4
JIS	Juneau Island	9.87	91	Pn		Pn	18 25 48.8	+1.4
EPYK	Eagle Plains	9.90	42	P		Pn	18 25 47.8	+0.1
	baz=237							
FARO	Faro, Yukon	9.94	68	P		Pn	18 25 48.8	+0.4
	baz=265							
MMPY	Sheldon Lake,	10.94	66	P		Pn	18 26 02.0	+0.4
	baz=266							
CRAG	Craig	11.66	104	Pn		Pn	18 26 11.7	+0.8
INK	Inuvik	12.01	37	P		Pn	18 26 16.3	+0.9
	comp=N,0.5nm,0.3s,baz=222,slow=12,SNR=2.0							
INK	Inuvik	12.01	37	Pn		Pn	18 26 15.8	+0.4
DLBC	Dease Lake	12.02	87	P		P	18 26 20.5	-2.0
	comp=N,0.8nm,0.3s,baz=234,slow=8.7,SNR=6.2							
ADK	Adak	15.30	249	P		P	18 26 59.0	+0.2
KIWB	Kanaga Island	15.54	249	P		P	18 27 01.8	+0.3
YKA	Yellowknife Ar	18.64	65	P		Pn	18 27 36.8	-0.5
	comp=N,0.1nm,0.3s,baz=278,slow=10,SNR=2.7							
YKA	Yellowknife Ar	18.64	65	P		P	18 27 36.4	+1.1
KSRS	Korea Array	53.05	282	P		P	18 32 33.2	+2.3
	comp=N,0.5nm,0.4s,baz=46,slow=8.1,SNR=2.0							
SONM	Songino Array	54.72	306	P		P	18 32 45.8	+2.6
	comp=N,0.3nm,0.6s,baz=54,slow=7.3,SNR=2.4							
ZALV	Zalesovo Beam	57.36	323	P		P	18 33 02.6	+1.0
	comp=N,1.1nm,0.4s,baz=27,slow=6.8,SNR=5.5							
MKAR	Makanchi Array	64.41	321	P		P	18 33 50.0	+0.6
	comp=N,0.1nm,0.3s,baz=27,slow=5.5,SNR=4.1							

JMA ***01*** *18:23:43.9N 0.1, 23.96W 122.37E, h21km 3km, M3.3*
TAP ***01*** *18:23:44.4, 23.99N 122.39E, h37km, ML3.7, D*
IDC ***01*** *18:24:20.7 6.6, 24.85N 123.69E, h448km 95km, mb2.8/6, mb1 2.8/7, mb1mx2.6/48, mbtmp3.6/7, Error ellipse: s-maj=75.3km s-min=17.4km az=66.0*

ISC 01 18:23:42.9 0.7, 23.97N 0.02 122.42E 0.02, h20km 5km, n153, 0 88/280, mb3.4/6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JYNG	Yonagunijimaku	0.68	45	P		Pn	18 23 57.6	+0.2
JYNG				S		Sn	18 24 06.3	-1.1
YOJ	Yonaguni jima	0.73	48	P		Pn	18 23 58.5	+0.5
YOJ				S		Sn	18 24 08.0	-0.6
YOJ	Yonaguni jima	0.73	48	*i* P		Pn	18 23 58.6	+0.5
	baz=59							
YOJ				S		Sn	18 24 07.6	-1.0
	baz=59							
HWA	Hwalien	0.74	271	P		Pn	18 23 58.0	-0.2
	baz=259							
HWA				*e*S		Sb	18 24 07.4	+0.5
	baz=259							
ETL	Fush Village	0.75	285	P		Pn	18 23 58.0	-0.4
	baz=273							
ETL				*e*S		Sn	18 24 09.8	+0.7
	baz=273							
EWUT	Wuta	0.75	309	P		Pb	18 23 57.5	+0.3
	baz=318							
EWUT				*e*S		Sb	18 24 07.6	+0.5
	baz=318							
TEYL	Yanliau Villag	0.76	262	P		Pn	18 23 58.2	-0.2
	baz=254							
TEYL				*e*S		Sn	18 24 09.6	+0.3
	baz=254							
TWD	Chiawan	0.76	278	*i* P		Pb	18 23 57.6	+0.2
	baz=277							
TWD				S		Sb	18 24 07.5	+0.2
	baz=277							
ENA	Nanau	0.77	307	P		Pb	18 23 57.7	+0.1
	baz=316							
ENA				*e*S		Sb	18 24 08.2	+0.6
	baz=316							
NACB	Ninganchiao	0.78	285	P		Pb	18 23 58.1	+0.3
	baz=273							
NACB				*e*S		Sb	18 24 08.0	+0.1
	baz=273							
TWC	Suao	0.82	321	*e*P		Pb	18 23 58.4	-0.1
	baz=322							
TWC				*e*S		Sb	18 24 07.7	-1.4
	baz=322							
TEGC	Jichi Village	0.84	252	*e*P		Pn	18 23 59.8	+0.2
	baz=250							
TEGC				*e*S		Sn	18 24 11.6	+0.2
	baz=250							
ETM	Tongmen	0.85	270	*e*P		Pn	18 24 00.1	+0.4
	baz=261							
ETM				*e*S		Sn	18 24 12.1	+0.6
	baz=261							
ETLH	Xiulin Townshi	0.89	286	*i* P		Pb	18 23 59.8	+0.1
	baz=276							
ETLH				S		Sb	18 24 11.2	+0.1
	baz=276							
ESL	Shilin	0.91	260	*e*P		Pb	18 23 59.8	-0.3
	baz=252							
ESL				*e*S		Sb	18 24 11.5	-0.3
	baz=252							
NDS	Dongshan	0.92	316	*e*P		Pb	18 24 00.4	+0.2
	baz=316							
NDS				*e*S		Sb	18 24 10.4	-1.5
	baz=316							
EGFH	Guangfu	0.95	252	*e*P		Pn	18 24 01.5	+0.3
	baz=250							
EGFH				*e*S		Sb	18 24 13.3	+0.3
	baz=250							
EGS		0.98	333	P		Pn	18 24 01.9	+0.5
	baz=324							
EGS				S		Sn	18 24 15.0	+0.3
	baz=324							
ILA	Ilan	1.00	322	P		Pn	18 24 02.4	+0.6
	baz=323							
ILA				S		Sn	18 24 15.9	+0.7
	baz=323							
TWE	Neicheng	1.01	318	P		Pn	18 24 02.4	+0.4
	baz=318							
TWE				*e*S		Sn	18 24 16.2	+0.6
	baz=318							
HGSD	Ruisui	1.03	243	*i* P		Pb	18 24 01.9	-0.1
	baz=240							
HGSD				*e*S		Sb	18 24 14.2	-0.8
	baz=240							
NTC	Toucheng	1.03	329	*i* P		Pn	18 24 02.7	+0.5
	baz=329							
NTC				*e*S		Sb	18 24 15.3	+0.2
	baz=329							
NDT	Datong Townshi	1.04	307	P		Pn	18 24 02.7	+0.4
	baz=307							
NDT				S		Sn	18 24 16.4	+0.2
	baz=307							
NNS	Nan Shan	1.06	296	P		Pn	18 24 02.9	+0.2
	baz=287							
NNS				*e*S		Sn	18 24 17.4	+0.4
	baz=287							
WHF	Hehuan Shan	1.07	280	P		Pb	18 24 02.7	-0.2
	baz=269							
WHF				*e*S		Sb	18 24 16.5	-0.1
	baz=269							
ECBN	Changbin	1.10	234	P		Pb	18 24 03.4	+0.2
	baz=221							
ECBN				*e*S		Sn	18 24 17.8	0.0
	baz=221							
TWB1	Santiao Chiao	1.10	339	P		Pb	18 24 03.6	+0.3
	baz=354							
TWB1				*e*S		Sn	18 24 18.8	+1.0
	baz=354							
EHY	Hungye	1.10	245	*e*P		Pb	18 24 03.5	+0.1
	baz=257							
EHY				S		Sb	18 24 17.2	-0.1
	baz=257							
FUSS	Fushou	1.11	285	P		Pn	18 24 03.5	0.0
	baz=284							
FUSS				*e*S		Sn	18 24 18.7	+0.4
	baz=284							
TIPB	Shuangxi	1.13	332	P		Pb	18 24 04.2	+0.3
	baz=332							
TIPB				*e*S		Sn	18 24 18.6	0.0
	baz=332							
OWD	Renai	1.14	269	P		Pn	18 24 03.7	0.0
	baz=268							
OWD				S		Sb	18 24 17.9	-0.4
	baz=268							
CHGB	Renai	1.14	275	P		Pn	18 24 03.9	-0.1
	baz=273							
CHGB				*e*S		Sb	18 24 18.3	-0.3
	baz=273							
TWT	Tachien	1.17	284	P		Pb	18 24 05.0	+0.5
	baz=274							
TWT				S		Sn	18 24 20.1	+0.4
	baz=274							
YULB	Yu-li	1.18	241	P		Pn	18 24 04.3	+0.1
	baz=254							
YULB				S		Sb	18 24 18.6	-0.8
	baz=254							
YHNB	Yeheng	1.18	306	*i* P		Pb	18 24 04.7	+0.1
	baz=306							
YHNB				*e*S		Sb	18 24 19.4	-0.1
	baz=306							
EYUL	Yuli	1.18	239	P		Pb	18 24 04.6	-0.1
	baz=237							
EYUL				*e*S		Sn	18 24 19.9	+0.1
	baz=237							
TDCB	Techi	1.18	284	*e*S		Sn	18 24 20.2	+0.2
	baz=274							
NSK	Sanguang	1.19	306	P		Pb	18 24 05.0	+0.1
	baz=306							
NSK				*e*S		Sn	18 24 20.8	+0.6
	baz=306							
TWF1	Yuli	1.20	239	P		Pn	18 24 04.8	+0.3
	baz=228							
TWF1				*e*S		Sb	18 24 20.2	+0.2
	baz=228							
NWF	Wu-fen Shan	1.24	332	P		Pb	18 24 05.6	-0.1
	baz=332							
NWF				S		Sb	18 24 23.0	+1.8
	baz=332							
WFSB	Wu-fen Shan	1.24	332	P		Pb	18 24 05.7	+0.1
	baz=332							
WFSB				*e*S		Sn	18 24 20.8	-0.4
	baz=332							
IRIF	Iriomote-Funau	1.25	73	P		Pb	18 24 07.2	+1.4
IRIF				S		Sb	18 24 23.5	+2.0
TWA	Mucha	1.26	323	P		Pb	18 24 06.5	+0.5
	baz=323							
TWA				*e*S		Sb	18 24 22.5	+0.7
	baz=323							
HATJ	Hateruma jima	1.27	86	P		Pb	18 24 07.9	+1.7
HATJ				S		Sb	18 24 24.9	+2.8
NHDH	Xindian Distri	1.28	321	P		Pb	18 24 07.2	+0.9
	baz=320							
NHDH				*e*S		Sb	18 24 23.1	+0.8
	baz=320							
FULB	Fuli	1.29	233	*e*P		Pn	18 24 06.0	+0.3
	baz=221							
FULB				*e*S		Sn	18 24 22.1	-0.3
	baz=221							
CHKT	Chengkung	1.30	228	*e*P		Pn	18 24 05.5	-0.3
	baz=218							
CHKT				*e*S		Sn	18 24 20.6	-2.0
	baz=218							
TATO	Taipei	1.31	320	*e*P		Pb	18 24 07.6	+0.8
	baz=307							
TNOU	National Taiwa	1.31	334	P		Pb	18 24 07.3	+0.4
	baz=333							
TNOU				S		Sb	18 24 23.3	+0.1
	baz=333							
WPL	Puli Township	1.34	272	P		Pb	18 24 07.1	-0.2
	baz=271							
WPL				*e*S		Sb	18 24 24.4	+0.5
	baz=271							
TAP	Taipei	1.35	322	*e*P		Pn	18 24 07.1	+0.5
	baz=322							
TAP				*e*S		Sb	18 24 25.4	+1.0
	baz=322							
SSLB	Suanglung	1.35	263	P		Pb	18 24 07.5	0.0
	baz=261							
SSLB				*e*S		Sn	18 24 23.9	-0.2
	baz=261							
WCS	Beigang Elemen	1.38	274	P		Pb	18 24 08.2	+0.2
	baz=267							
WCS				*e*S		Sb	18 24 25.3	+0.1
	baz=267							
WHP	Taichung City	1.38	283	*e*P		Pb	18 24 07.8	-0.3
	baz=273							
WHP				S		Sb	18 24 25.4	+0.1
	baz=273							
SMLT	Sun Moon Lake	1.39	267	P		Pb	18 24 08.0	-0.3
	baz=265							
SMLT				*e*S		Sn	18 24 25.3	+0.2
	baz=265							
YM01	YM01	1.40	327	P		Pb	18 24 08.4	0.0
	baz=342							
YM01				*e*S		Sb	18 24 26.8	+0.9
	baz=342							
ECS	Chishang	1.40	232	*e*P		Pn	18 24 07.7	+0.3
	baz=221							
ECS				*e*S		Sn	18 24 25.3	0.0
	baz=221							
EDH	Donghe	1.43	226	P		Pn	18 24 07.6	0.0
	baz=217							
EDH				S		Sn	18 24 23.8	-2.0
	baz=217							
YUS	Yu-Shan	1.43	251	S		Sn	18 24 26.0	-0.5
	baz=249							
YM08	YM08	1.43	328	P		Pb	18 24 08.8	-0.1
	baz=329							
TYC	Yuchr	1.43	268	*e*P		Pn	18 24 08.2	+0.5
	baz=266							
TYC				*e*S		Sn	18 24 26.2	+0.3
	baz=266							
NJD	Zhudong	1.43	302	*e*P		Pb	18 24 08.6	-0.3
	baz=302							
NJD				*e*S		Sn	18 24 25.8	-0.2
	baz=302							
LIOB	Emei	1.44	298	P		Pb	18 24 09.6	+0.4
	baz=297							
LIOB				*e*S		Sb	18 24 27.1	0.0
	baz=297							
TWS1	Kuangyinshan	1.45	321	P		Pn	18 24 08.5	+0.5
	baz=334							
TWS1				*e*S		Sb	18 24 27.2	+0.1
	baz=334							
NSTT	Nanjuang	1.45	297	P		Pb	18 24 09.0	-0.2
	baz=296							
NSTT				S		Sb	18 24 27.5	+0.3
	baz=296							
WHYT	Xinyi Township	1.46	259	*e*P		Pn	18 24 08.7	+0.6
	baz=249							
WHYT				*e*S		Sn	18 24 26.4	-0.2
	baz=249							
ANP	Anpu	1.46	326	P		Pb	18 24 09.0	-0.4
	baz=339							
ANP				*e*S		Sb	18 24 27.6	0.0
	baz=339							
JKRS	Kuro-shima	1.48	79	P		Pb	18 24 10.9	+1.2
JKRS				S		Sb	18 24 31.1	+3.1
NTST	Danshui	1.48	324	P		Pb	18 24 09.5	-0.3
	baz=337							
NTST				*e*S		Sn	18 24 27.6	+0.5
	baz=337							
TWY	Chenhua	1.50	330	*e*P		Pb	18 24 09.5	-0.5
	baz=330							
TWY				*e*S		Sb	18 24 28.3	-0.2
	baz=330							
NCU	National Centr	1.50	312	*e*S		Sb	18 24 29.2	+0.6
	baz=311							
NCUH	Zhongli	1.50	312	P		Pb	18 24 10.0	-0.1
	baz=311							
NCUH				*e*S		Sb	18 24 28.6	-0.1
	baz=311							
ELDTW	Lidau	1.50	239	P		Pn	18 24 09.0	+0.2
	baz=237							
ELDTW				*e*S		Sn	18 24 27.5	-0.3
	baz=237							
HSN1	Hsinchu	1.51	302	*e*P		Pb	18 24 09.7	-0.5
	baz=302							
HSN1				*e*S		Sb	18 24 28.8	-0.1
	baz=302							
SBCB	Hsinchu	1.54	302	P		Pb	18 24 10.7	0.0
	baz=302							
SBCB				*e*S		Sb	18 24 29.4	-0.4
	baz=302							
ALS	Alishan	1.55	253	*e*P		Pn	18 24 09.9	+0.3
	baz=252							
ALS				*e*S		Sn	18 24 29.0	-0.2
	baz=252							
TWQ1	Liyutan	1.55	284	*e*P		Pn	18 24 10.2	+0.9
	baz=284							
TWQ1				*e*S		Sn	18 24 29.6	+0.8
	baz=284							
WJS	Zhushan	1.55	265	*e*P		Pn	18 24 10.1	+0.7
	baz=264							
WJS				*e*S		Sn	18 24 29.5	+0.6
	baz=264							
HSN	Hsinchu	1.56	302	*e*S		Sb	18 24 29.9	-0.5
	baz=303							
LDUT	Ludao	1.56	214	*e*P		Pn	18 24 09.2	-0.2
	baz=212							
LDUT				*e*S		Sn	18 24 26.7	-2.4
	baz=212							
WWF	Wufeng	1.57	273	*e*P		Pn	18 24 10.5	+0.8
	baz=269							
WWF				*e*S		Sn	18 24 30.1	+0.7
	baz=269							
NSY	Sanyi	1.58	287	*e*P		Pn	18 24 10.5	+0.8
	baz=286							
NSY				*e*S		Sn	18 24 30.1	+0.6
	baz=286							
LONT	Longtian	1.59	228	P		Pn	18 24 10.6	+0.7
	baz=239							
LONT				*e*S		Sn	18 24 29.8	0.0
	baz=239							
NMLH	Miaoli	1.59	291	*e*P		Pn	18 24 10.8	+0.9
	baz=290							
NMLH				*e*S		Sn	18 24 30.7	+0.8
	baz=290							
WNT	Mingjian	1.59	267	*e*P		Pb	18 24 11.0	-0.6
	baz=266							
WNT				*e*S		Sn	18 24 30.5	+0.7
	baz=266							
WNT1	Nantou City	1.59	268	*e*P		Pn	18 24 10.7	+0.8
	baz=267							
WNT1				*e*S		Sn	18 24 30.5	+0.6
	baz=267							
TCU	Taichung	1.60	277	*e*P		Pb	18 24 11.4	-0.4
	baz=276							
TCU				*e*S		Sb	18 24 31.2	-0.4
	baz=276							
JIJ	Ishigaki jima	1.62	76	P		Pb	18 24 12.4	+0.2
JIJ				S		Sb	18 24 32.4	+0.2
WDJ	Dajia District	1.67	283	P		Pn	18 24 11.8	+0.9
	baz=282							
WDJ				S		Sn	18 24 32.5	+0.7
	baz=282							
PCYT	Pengchaiyu	1.68	349	P		Pn	18 24 11.8	+0.7
	baz=337							
TWGBT	Beinan	1.68	227	P		Pn	18 24 11.5	+0.3
	baz=238							
TWGBT				*e*S		Sn	18 24 32.2	+0.1
	baz=238							
TTN	Taitung	1.68	224	*e*S		Sn	18 24 32.5	+0.4
	baz=214							
TWG	Pinlang	1.69	227	P		Pn	18 24 11.9	+0.7
	baz=238							
TWG				*e*S		Sn	18 24 32.1	-0.1
	baz=238							
WCHH	Zhanghua	1.70	274	*e*P		Pb	18 24 13.1	-0.4
	baz=285							
WCHH				*e*S		Sn	18 24 33.8	+1.1
	baz=285							
STYH	Taoyuan	1.70	242	*e*P		Pn	18 24 12.1	+0.6
	baz=234							
STYH				*e*S		Sn	18 24 32.9	+0.3
	baz=234							
WGK	Gukeng	1.72	261	*e*P		Pn	18 24 12.4	+0.7
	baz=260							
WGK				*e*S		Sn	18 24 33.5	+0.4
	baz=260							
STYT	Tauyuan	1.72	242	*e*P		Pn	18 24 12.3	+0.5
	baz=234							
STYT				*e*S		Sn	18 24 33.2	0.0
	baz=234							

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WDLH	**Douliu** baz=260	1.74	261	P	Pn	18 24 13.1	+1.1
WDLH	baz=260			S	Sn	18 24 34.6	+1.0
TPUB	**Ta-pu** baz=247	1.77	248	P	Pb	18 24 14.3	-0.4
TPUB	baz=247			*e*S	Sn	18 24 34.4	0.0
WTP	**Ta-pu** baz=246	1.81	247	*e*P	Pn	18 24 13.5	+0.6
WTP	baz=246			*e*S	Sn	18 24 35.3	+0.1
JISG	**Ishigakijimahi**	1.83	70	P	Pb	18 24 14.6	-1.1
JISG				S	Sb	18 24 39.0	+0.7
WRL	**Guolierlin Hig** baz=280	1.87	268	*e*P	Pn	18 24 14.6	+0.9
WRL	baz=280			*e*S	Sn	18 24 37.0	+0.3
WTK	**Tuku** baz=261	1.88	262	*e*P	Pn	18 24 14.8	+0.9
WTK	baz=261			*e*S	Sn	18 24 37.8	+0.9
CHY	**Chiayi** baz=255	1.89	256	*e*P	Pn	18 24 14.7	+0.8
CHY	baz=255			*e*S	Sn	18 24 37.5	+0.3
SLGT	**Liugui** baz=231	1.90	239	P	Pb	18 24 15.7	-1.1
SLGT	baz=231			*e*S	Sn	18 24 38.1	+0.6
CHN1	**Nanshi** baz=245	1.90	246	*e*P	Pn	18 24 14.9	+0.7
CHN1	baz=245			*e*S	Sn	18 24 37.9	+0.3
SGST	**Jiashian** baz=232	1.90	243	*e*P	Pn	18 24 14.9	+0.6
SGST	baz=232			*e*S	Sn	18 24 37.7	+0.1
TWK	**Hsinying** baz=247	1.90	249	*e*P	Pn	18 24 15.5	+1.2
TWK	baz=247			*e*S	Sn	18 24 37.8	+0.2
SNST	**Tainan City** baz=246	1.91	247	*e*S	Sn	18 24 38.5	+0.6
ECL	**Taimali** baz=223	1.92	225	*e*P	Pn	18 24 15.3	+0.8
ECL	baz=223			*e*S	Sn	18 24 37.4	-0.6
WSF	**Szhu** baz=260	2.04	261	P	Pn	18 24 17.2	+1.1
WSF	baz=260			*e*S	Sn	18 24 41.7	+0.8
SSD	**Sandimen** baz=228	2.04	234	*e*P	Pn	18 24 16.6	+0.4
SSD	baz=228			*e*S	Sn	18 24 40.6	-0.4
ICHU	**Yijhu** baz=252	2.05	253	*e*P	Pn	18 24 17.2	+0.9
ICHU	baz=252			*e*S	Sn	18 24 41.7	+0.5
TSMG	**Majia** baz=227	2.06	233	*e*P	Pn	18 24 17.4	+1.1
TSMG	baz=227			*e*S	Sn	18 24 41.7	+0.3
SCST	**Cishan** baz=227	2.07	239	*e*S	Sb	18 24 44.7	-0.4
LAY	**Lan-yu** baz=200	2.08	203	*e*P	Pn	18 24 17.1	+0.4
CHN3	**Shinhua** baz=244	2.08	245	*e*S	Sn	18 24 42.8	+0.8
CHN8	**Yiju** baz=252	2.12	253	*e*P	Pn	18 24 17.9	+0.7
CHN8	baz=252			*e*S	Sn	18 24 44.3	+1.5
MASBT	**Mashibuluo** baz=226	2.13	231	*e*P	Pn	18 24 18.0	+0.7
MASBT	baz=226			*e*S	Sn	18 24 43.2	+0.1
TAW	**Tawu** baz=228	2.13	221	*e*P	Pn	18 24 18.3	+0.9
TAW	baz=228			*e*S	Sn	18 24 42.8	-0.4
EAST	**Anshuo** baz=221	2.14	223	*e*P	Pn	18 24 18.1	+0.5
EAST	baz=221			*e*S	Sn	18 24 43.4	-0.1
SGLT	**Jiouru** baz=234	2.16	235	*e*S	Sn	18 24 44.5	+0.6
SCLT	**Jiali** baz=248	2.19	249	*e*S	Sn	18 24 45.6	+1.0
JTJ	**Tarama**	2.19	72	P	Pb	18 24 21.2	-0.6
JTJ				S	Sb	18 24 47.7	-0.8
SCZT	**Fangliau** baz=220	2.29	226	*e*P	Pn	18 24 20.9	+1.2
SCZT	baz=220			*e*S	Sn	18 24 47.7	+0.5
SLIU	**Shizi** baz=227	2.30	221	*e*P	Pn	18 24 20.4	+0.7
SLIU	baz=227			*e*S	Sn	18 24 47.2	-0.1
TSEB	**Hengchuen, Pin** baz=221	2.49	214	*e*S	Sn	18 24 53.1	+1.0
HEN	**Hengchun** baz=217	2.49	219	*e*P	Pn	18 24 23.4	+1.1
HEN	baz=217			*e*S	Sn	18 24 52.7	+0.5
TWKBT	**Hengchun** baz=214	2.50	217	*e*P	Pn	18 24 23.6	+1.2
TWKBT	baz=214			*e*S	Sn	18 24 52.7	+0.2
TWK1	**Hengchun** baz=214	2.51	217	*e*P	Pn	18 24 24.1	+1.6
TWK1	baz=214			*e*S	Sn	18 24 52.9	+0.4
PHUB	**P'eng-hu** baz=275	2.65	261	P	Pn	18 24 25.8	+1.4
PHUB	baz=275			S	Sn	18 24 56.1	+0.2
JIRB	**Irabujima**	2.65	71	P	Pb	18 24 27.9	-1.8
JIRB				S	Sb	18 24 59.6	-2.3
PNG	**Penghu** baz=276	2.65	262	P	Pn	18 24 25.6	+1.1
PNG	baz=276			S	Sn	18 24 56.5	+0.5
JIKM	**Ikemajima**	2.75	69	P	Pb	18 24 29.1	-2.3
JIKM				*e*S	Sn	18 25 00.8	+2.3
JMJ2	**Miyako jima3**	2.76	73	P	Pb	18 24 29.2	-2.4
JMJ2				S	Sb	18 25 02.4	-2.6
JOGS	**Gusukube**	2.84	73	P	Pb	18 24 30.4	-2.5
JOGS				S	Sb	18 25 04.8	-2.4
VWUC	**VWUC** baz=290	2.89	291	*e*P	Pn	18 24 27.7	0.0
VWUC	baz=290			*e*S	Sn	18 24 59.8	-2.1
MATB	**Ma-tsu** baz=314	3.12	315	*e*P	Pn	18 24 31.0	0.0
PTMZ	**Houxiangcun** baz=289	3.19	290	*e*P	Pn	18 24 32.0	+0.2
PTMZ	baz=289			*e*S	Sn	18 25 06.9	-2.4
LYJJ	**Jianjiangzhen** baz=317	3.52	317	*e*P	Pn	18 24 36.3	-0.1
XPSS	**Dashiqiu** baz=335	3.57	326	*e*P	Pn	18 24 36.8	-0.3
KNM	**Kinmen** baz=277	3.67	278	*e*P	Pn	18 24 40.4	+2.0
KNM	baz=277			*e*S	Sn	18 25 22.1	+1.1
KNMB	**Chin-men Tao** baz=278	3.71	278	P	Pn	18 24 39.4	+0.3
KNMB	baz=278			*e*S	Sn	18 25 20.0	-2.2
MHZQ	**Yeshan** baz=304	3.73	305	*e*P	Pn	18 24 39.1	-0.2
MHZQ	baz=304			*e*S	Sn	18 25 20.6	-2.1
AXDP	**Jialang** baz=283	4.16	284	P	Pn	18 24 46.0	+0.8
AXDP	baz=283			*e*S	Sn	18 25 32.2	-1.0
ZPLA	**Ao Xicun** baz=271	4.27	270	*e*P	Pn	18 24 46.9	+0.1
ZPLA	baz=271			*e*S	Sn	18 25 33.1	-2.9
KSRS	**Korea Array** 0.2nm,0.3s,baz=196,slow=11,SNR=5.8	14.24	18	P	P	18 27 10.2	-0.4
SONM	**Songino Array** 0.8nm,0.7s,baz=139,slow=8.6,SNR=7.7	27.01	336	P	P	18 29 23.2	-0.5
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=100,slow=9.5,SNR=5.5	39.28	316	P	P	18 31 10.2	0.0
ZALV	**Zalesovo Beam** 1.2nm,0.6s,baz=122,slow=7.4,SNR=4.2	41.04	327	P	P	18 31 22.4	-2.2
WRA	**Warramunga Arr** 0.2nm,0.6s,baz=344,slow=8.7,SNR=1.7	45.17	164	P	P	18 31 59.3	+0.9
ASAR	**Alice Springs** 0.2nm,0.8s,baz=336,slow=6.6,SNR=2.1	48.65	166	P	P	18 32 27.8	+2.1
NRIK	**Noril'sk** 1.8nm,0.4s,baz=140,slow=7.9,SNR=4.1	49.90	345	P	P	18 32 27.0	-7.7

*JMA **01** 18:35:49.4±0.2, 23.°97N×122.°35E, h18km±5km, M2.5*
*TAP **01** 18:35:49.8, 24.°01N×122.°36E, h30km, ML3.1, D*
ISC 01 18:35:49.2±1.1**, 23.°96N**±0.°02×**122.°35E**±0.°02**, h23**km±13km**,**
n105, σ0.s73/205, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EHP	**Heping Village** baz=306	0.66	302	*e*P	Pb	18 36 01.9	-0.2
EHP	baz=306			*e*S	Sn	18 36 11.8	-1.0
HWA	**Hwalien** baz=255	0.69	272	*e*P	Pb	18 36 02.8	+0.2
HWA	baz=255			*e*S	Sn	18 36 13.6	+0.1
ETL	**Fush Village** baz=269	0.70	287	*e*P	Pb	18 36 02.9	+0.1
ETL	baz=269			*e*S	Sn	18 36 13.1	-0.8
TEYL	**Yanliau Villag** baz=250	0.70	263	P	Pb	18 36 02.8	0.0
TEYL	baz=250			*e*S	Sb	18 36 12.8	+0.8
TWD	**Chiawan** baz=275	0.70	280	P	Pb	18 36 02.8	0.0
TWD	baz=275			S	Sb	18 36 12.5	+0.4
EWUT	**Wuta** baz=316	0.72	313	P	Pb	18 36 03.0	-0.1
EWUT	baz=316			S	Sn	18 36 13.3	-0.9
NACB	**Ninganchiao** baz=270	0.73	287	P	Pb	18 36 03.5	+0.3
NACB	baz=270			*e*S	Sn	18 36 13.9	-0.6
JYNG	**Yonagunijimaku**	0.73	47	P	Pb	18 36 03.1	-0.2
JYNG				S	Sb	18 36 11.5	-1.4
ENA	**Nanau** baz=312	0.73	310	*e*P	Pb	18 36 03.4	+0.1
ENA	baz=312			S	Sn	18 36 13.7	-0.8
YOJ	**Yonaguni jima**	0.78	50	P	Pb	18 36 04.0	-0.2
YOJ				S	Sb	18 36 13.4	-1.0
YOJ	**Yonaguni jima** baz=52	0.78	50	P	Pb	18 36 04.2	0.0
YOJ	baz=52			S	Sb	18 36 13.2	-1.2
TEGC	**Jichi Village** baz=248	0.79	252	P	Pb	18 36 04.3	+0.1
TEGC	baz=248			S	Sb	18 36 15.4	+1.0
ETM	**Tongmen** baz=258	0.79	271	P	Pb	18 36 04.4	+0.1
ETM	baz=258			*e*S	Sn	18 36 15.7	-0.3
TWC	**Suao** baz=322	0.80	325	*e*P	Pb	18 36 04.0	-0.4
TWC	baz=322			*e*S	Sb	18 36 13.9	-0.9
ETLH	**Xiulin Townshi** baz=272	0.83	288	P	Pb	18 36 05.1	0.0
ETLH	baz=272			*e*S	Sb	18 36 16.2	+0.1
ESL	**Shilin** baz=248	0.85	261	*e*P	Pb	18 36 05.2	-0.3
ESL	baz=248			*e*S	Sb	18 36 15.8	-0.7
NDS	**Dongshan** baz=322	0.89	319	*e*P	Pb	18 36 06.0	0.0
NDS	baz=322			*e*S	Sb	18 36 17.3	-0.2
EGFH	**Guangfu** baz=248	0.90	252	*e*P	Pb	18 36 06.2	+0.1
EGFH	baz=248			*e*S	Sb	18 36 17.1	-0.5
HGSD	**Ruisui** baz=239	0.97	242	*e*P	Pn	18 36 07.3	-0.1
HGSD	baz=239			*e*S	Sb	18 36 19.4	-0.4
ILA	**Ilan** baz=322	0.98	326	*e*P	Pb	18 36 07.2	-0.3
ILA	baz=322			*e*S	Sn	18 36 21.4	+0.8
TWE	**Neicheng** baz=318	0.99	321	*e*P	Pb	18 36 07.9	+0.2
TWE	baz=318			*e*S	Sb	18 36 20.1	-0.1
NDT	**Datong Townshi** baz=306	1.00	310	*e*P	Pn	18 36 07.9	0.0
NDT	baz=306			*e*S	Sn	18 36 20.9	-0.4
WHF	**Hehuan Shan** baz=265	1.01	281	*e*P	Pn	18 36 08.2	-0.2
WHF	baz=265			*e*S	Sb	18 36 21.1	-0.4
NTC	**Toucheng** baz=328	1.01	332	*e*P	Pn	18 36 07.5	-0.5
NTC	baz=328			*e*S	Sn	18 36 21.3	-0.2
NNS	**Nan Shan** baz=294	1.02	298	*e*P	Pn	18 36 08.3	+0.1
NNS	baz=294			*e*S	Sb	18 36 21.4	+0.1
ECBN	**Changbin** baz=231	1.04	233	P	Pn	18 36 08.9	+0.5
ECBN	baz=231			*e*S	Sn	18 36 23.5	+1.2
EHY	**Hungye** baz=257	1.05	245	*e*P	Pn	18 36 08.9	+0.4
EHY	baz=257			*e*S	Sb	18 36 21.1	-0.8
FUSS	**Fushou** baz=282	1.05	286	*e*P	Pn	18 36 09.1	+0.3
FUSS	baz=282			*e*S	Sn	18 36 23.2	+0.3
OWD	**Renai** baz=267	1.08	270	*e*P	Pn	18 36 09.2	+0.1
OWD	baz=267			*e*S	Sb	18 36 22.1	-0.9
CHGB	**Renai** baz=272	1.08	276	*e*P	Pn	18 36 09.1	-0.1
CHGB	baz=272			*e*S	Sb	18 36 23.3	0.0
TWB1	**Santiao Chiao** baz=339	1.10	342	*e*P	Pb	18 36 10.0	+0.5
TWB1	baz=339			*e*S	Sn	18 36 23.1	-0.5
TWT	**Tachien** baz=270	1.12	286	*e*P	Pb	18 36 11.3	+1.4
TWT	baz=270			*e*S	Sb	18 36 24.2	+0.1
TIPB	**Shuangxi** baz=331	1.12	335	*e*P	Pn	18 36 09.5	0.0
TIPB	baz=331			*e*S	Sb	18 36 23.0	-1.2
YULB	**Yu-li** baz=253	1.12	240	P	Pn	18 36 09.5	0.0
YULB	baz=253			S	Sn	18 36 23.0	-1.2
EYUL	**Yuli** baz=236	1.13	238	*e*P	Pn	18 36 09.7	+0.2
EYUL	baz=236			S	Sn	18 36 24.8	+0.4
TDCB	**Techi** baz=270	1.13	285	*e*P	Pb	18 36 12.1	+1.9
TDCB	baz=270			*e*S	Sn	18 36 26.0	+1.4
TWF1	**Yuli** baz=226	1.14	238	P	Pn	18 36 10.3	+0.5
TWF1	baz=226			*e*S	Sb	18 36 25.9	+1.2
YHNB	**Yeheng** baz=293	1.14	309	*e*P	Pn	18 36 10.0	+0.2
YHNB	baz=293			*e*S	Sn	18 36 24.7	-0.2
NSK	**Sanguang** baz=293	1.16	308	*e*P	Pn	18 36 10.4	+0.3
NSK	baz=293			*e*S	Sb	18 36 25.2	-0.1
NWF	**Wu-fen Shan** baz=331	1.23	335	*e*P	Pn	18 36 11.1	+0.1
NWF	baz=331			*e*S	Sb	18 36 27.9	+0.7
WFSB	**Wu-fen Shan** baz=331	1.23	335	P	Pb	18 36 11.5	-0.2
WFSB	baz=331			*e*S	Sn	18 36 25.9	-0.9
FULB	**Fuli** baz=220	1.23	232	*e*P	Pn	18 36 11.1	0.0
FULB	baz=220			*e*S	Sn	18 36 26.3	-0.7
TWA	**Mucha** baz=322	1.24	326	*e*P	Pb	18 36 12.6	+0.7
TWA	baz=322			*e*S	Sb	18 36 29.0	+1.5
CHKT	**Chengkung** baz=216	1.25	227	*e*P	Pn	18 36 10.8	-0.4
CHKT	baz=216			*e*S	Sn	18 36 25.6	-1.7
NHDH	**Xindian Distri** baz=319	1.25	323	*e*P	Pn	18 36 11.2	-0.1
NHDH	baz=319			*e*S	Sb	18 36 28.7	+0.7
SSLB	**Suanglung** baz=260	1.29	263	*e*P	Pn	18 36 11.3	-0.6
SSLB	baz=260			*e*S	Sn	18 36 28.0	-0.5
IRIF	**Iriomote-Funau**	1.31	73	P	Pb	18 36 13.4	+0.2
IRIF				S	Sb	18 36 29.9	+0.3
WCS	**Beigang Elemen** baz=265	1.32	275	*e*P	Pn	18 36 13.1	+0.9
WCS	baz=265			*e*S	Sb	18 36 29.9	-0.1
TAP	**Taipei** baz=321	1.33	325	*e*P	Pb	18 36 13.7	+0.2
TAP	baz=321			*e*S	Sn	18 36 28.8	-0.4
WHP	**Taichung City** baz=271	1.33	284	*e*P	Pb	18 36 13.4	-0.1
WHP	baz=271			*e*S	Sb	18 36 31.0	+0.9
HATJ	**Hateruma jima**	1.33	85	P	Pb	18 36 13.8	+0.3
HATJ				S	Sb	18 36 30.3	+0.2
SMLT	**Sun Moon Lake** baz=264	1.33	267	*e*P	Pn	18 36 13.1	+0.6
SMLT	baz=264			*e*S	Sn	18 36 29.5	-0.1
ECS	**Chishang** baz=220	1.35	231	*e*P	Pn	18 36 13.4	+0.7
ECS	baz=220			*e*S	Sn	18 36 31.2	+1.3
YUS	**Yu-Shan** baz=248	1.37	250	*e*P	Pn	18 36 14.0	+0.7
YUS	baz=248			S	Sn	18 36 30.8	-0.2
TYC	**Yuchr** baz=265	1.37	268	*e*P	Pn	18 36 13.8	+0.9
TYC	baz=265			*e*S	Sn	18 36 29.4	-0.9
EDH	**Donghe** baz=216	1.38	225	*e*P	Pn	18 36 12.8	-0.2
EDH	baz=216			*e*S	Sn	18 36 28.8	-1.6
YM01	**YM01** baz=341	1.38	329	P	Pb	18 36 14.9	+0.5
YM01	baz=341			*e*S	Sb	18 36 31.6	-0.1
WHYT	**Xinyi Township** baz=246	1.40	260	*e*P	Pb	18 36 14.6	-0.2
WHYT	baz=246			*e*S	Sb	18 36 33.0	+0.8
LIOB	**Emei** baz=296	1.40	300	P	Pb	18 36 15.0	+0.2
LIOB	baz=296			S	Sb	18 36 33.2	+1.0
NSTT	**Nanjuang** baz=295	1.41	299	*e*P	Pb	18 36 14.5	-0.3
NSTT	baz=295			*e*S	Sb	18 36 32.7	+0.4
TWS1	**Kuangyinshan** baz=320	1.42	323	*e*P	Pn	18 36 13.4	-0.3
TWS1	baz=320			*e*S	Sn	18 36 31.6	0.0
ANP	**Anpu** baz=325	1.44	328	*e*P	Pn	18 36 13.2	-0.8
ANP	baz=325			*e*S	Sb	18 36 32.6	-0.8
ELDTW	**Lidau** baz=237	1.45	238	*e*P	Pn	18 36 14.3	+0.2
ELDTW	baz=237			*e*S	Sn	18 36 29.3	-3.1
NTST	**Danshui** baz=338	1.46	326	*e*P	Pn	18 36 14.6	+0.5
NTST	baz=338			*e*S	Sb	18 36 33.8	0.0
NCU	**National Centr** baz=309	1.47	314	*e*P	Pn	18 36 13.9	-0.4
NCU	baz=309			*e*S	Sb	18 36 34.4	+0.3
NCUH	**Zhongli** baz=309	1.47	314	*e*P	Pn	18 36 14.9	+0.6
NCUH	baz=309			*e*S	Sb	18 36 33.3	-0.8
TWY	**Chenhua** baz=329	1.48	333	*e*P	Pb	18 36 15.3	-0.8
TWY	baz=329			*e*S	Sb	18 36 34.5	0.0
ALS	**Alishan** baz=251	1.49	253	*e*P	Pn	18 36 16.0	+1.2
ALS	baz=251			*e*S	Sn	18 36 33.0	-0.6
WJS	**Zhushan** baz=262	1.50	265	*e*P	Pb	18 36 16.1	-0.2
WJS	baz=262			*e*S	Sb	18 36 35.3	+0.5
TWQ1	**Liyutan** baz=282	1.50	285	*e*P	Pb	18 36 16.2	-0.2
TWQ1	baz=282			*e*S	Sb	18 36 34.9	-0.1
SBCB	**Hsinchu** baz=302	1.50	304	*e*P	Pn	18 36 13.3	-1.4
LDUT	**Ludao** baz=213	1.51	213	*e*P	Pn	18 36 14.1	-0.8
LDUT	baz=213			*e*S	Sn	18 36 31.2	-2.7
WWF	**Wufeng** baz=270	1.52	274	P	Pn	18 36 15.8	+0.8
WWF	baz=270			*e*S	Sb	18 36 35.3	-0.2
HSN	**Hsinchu** baz=303	1.52	304	*e*P	Pn	18 36 14.3	-0.7
NSY	**Sanyi** baz=284	1.52	288	*e*P	Pn	18 36 15.5	+0.4
NSY	baz=284			*e*S	Sb	18 36 36.7	+0.9
WNT	**Mingjian** baz=265	1.53	267	*e*P	Pb	18 36 17.0	+0.1
WNT	baz=265			*e*S	Sb	18 36 36.7	+0.8
WNT1	**Nantou City** baz=266	1.53	268	*e*P	Pn	18 36 16.0	+0.9
WNT1	baz=266			*e*S	Sb	18 36 35.7	-0.3
LONT	**Longtian** baz=239	1.54	227	*e*P	Pn	18 36 15.7	+0.5
LONT	baz=239			S	Sn	18 36 34.7	+0.3
JKRS	**Kuro-shima**	1.54	79	P	Pb	18 36 17.3	+0.3
JKRS				S	Sb	18 36 36.9	+0.8
NMLH	**Miaoli** baz=288	1.54	292	*e*P	Pn	18 36 16.1	+0.8
NMLH	baz=288			*e*S	Sb	18 36 37.2	+1.1
TCU	**Taichung** baz=274	1.55	277	*e*P	Pn	18 36 15.7	+0.3
TCU	baz=274			*e*S	Sb	18 36 36.0	-0.3
WDJ	**Dajia District** baz=281	1.61	284	*e*P	Pb	18 36 17.9	-0.5
WDJ	baz=281			*e*S	Sn	18 36 35.4	-1.0
TWGBT	**Beinan** baz=237	1.63	226	*e*P	Pn	18 36 16.4	-0.1
TWGBT	baz=237			*e*S	Sn	18 36 36.1	-0.7

	baz=237						
TTN	**Taitung**	**1.63**	**223**	eP	**Pn**	**18 36 17.2**	**+0.7**
	baz=223						
TTN				eS	**Sn**	**18 36 36.4**	**-0.4**
	baz=223						
TWG	**Pinlang**	**1.63**	**226**	eP	**Pn**	**18 36 16.6**	**+0.1**
	baz=238						
TWG				eS	**Sn**	**18 36 35.2**	**-1.6**
	baz=238						
STYH	**Taoyuan**	**1.65**	**242**	eP	**Pn**	**18 36 17.4**	**+0.7**
	baz=232						
STYH				eS	**Sn**	**18 36 38.4**	**+1.3**
	baz=232						
WCHH	**Zhanghua**	**1.65**	**275**	eP	**Pb**	**18 36 18.8**	**-0.1**
	baz=272						
WCHH				eS	**Sn**	**18 36 38.5**	**+1.3**
	baz=272						
JIJ	**Ishigaki jima**	**1.68**	**76**	P	**Pn**	**18 36 18.3**	**+1.1**
JIJ				S	**Sb**	**18 36 39.5**	**-0.8**
WDLH	**Douliu**	**1.68**	**261**	eP	**Pn**	**18 36 18.3**	**+1.1**
	baz=259						
WDLH				eS	**Sb**	**18 36 41.0**	**+0.7**
	baz=259						
PCYT	**Pengchaiyu**	**1.69**	**351**	eP	**Pn**	**18 36 16.9**	**-0.3**
	baz=335						
TPUB	**Ta-pu**	**1.71**	**248**	eP	**Pb**	**18 36 19.4**	**-0.6**
	baz=246						
TPUB				eS	**Sb**	**18 36 41.1**	**-0.1**
	baz=246						
WTP	**Ta-pu**	**1.75**	**246**	eP	**Pb**	**18 36 20.8**	**+0.2**
	baz=245						
WTP				eS	**Sb**	**18 36 42.5**	**+0.4**
	baz=245						
CHN2	**Minshiung**	**1.77**	**257**	eP	**Pn**	**18 36 18.6**	**+0.1**
	baz=255						
CHN2				eS	**Sb**	**18 36 43.2**	**+0.3**
	baz=255						
WRL	**Guolierlin Hig**	**1.81**	**269**	eP	**Pn**	**18 36 20.3**	**+1.4**
	baz=279						
WRL				eS	**Sb**	**18 36 44.4**	**+0.5**
	baz=279						
WTK	**Tuku**	**1.82**	**262**	eP	**Pb**	**18 36 21.6**	**-0.2**
	baz=260						
WTK				eS	**Sb**	**18 36 44.2**	**0.0**
	baz=260						
CHY	**Chiayi**	**1.83**	**256**	eP	**Pn**	**18 36 19.5**	**+0.3**
	baz=254						
CHY				eS	**Sb**	**18 36 44.6**	**+0.2**
	baz=254						
SLGT	**Liugui**	**1.84**	**239**	eP	**Pb**	**18 36 21.6**	**-0.5**
	baz=230						
SLGT				eS	**Sb**	**18 36 44.8**	**0.0**
	baz=230						
CHN1	**Nanshi**	**1.84**	**246**	eP	**Pb**	**18 36 21.9**	**-0.3**
	baz=244						
CHN1				eS	**Sb**	**18 36 45.0**	**0.0**
	baz=244						
SGST	**Jiashian**	**1.84**	**242**	eP	**Pn**	**18 36 19.5**	**+0.1**
	baz=231						
SGST				eS	**Sb**	**18 36 45.0**	**0.0**
	baz=231						
TWK	**Hsinying**	**1.84**	**249**	eP	**Pn**	**18 36 19.1**	**-0.4**
	baz=247						
TWK				eS	**Sb**	**18 36 44.9**	**-0.1**
	baz=247						
SNST	**Tainan City**	**1.85**	**247**	eS	**Sb**	**18 36 45.3**	**0.0**
	baz=246						
ECL	**Taimali**	**1.87**	**224**	eP	**Pn**	**18 36 20.5**	**+0.7**
	baz=224						
ECL				eS	**Sn**	**18 36 41.3**	**-1.3**
	baz=224						
JISG	**Ishigakijimahi**	**1.89**	**70**	P	**Pn**	**18 36 20.9**	**+0.8**
JISG				eS	**Sn**	**18 36 43.3**	**+0.1**
WSF	**Szhu**	**1.98**	**261**	eP	**Pn**	**18 36 22.7**	**+1.4**
	baz=259						
WSF				eS	**Sb**	**18 36 48.9**	**+0.1**
	baz=259						
JTJ	**Tarama**	**2.25**	**72**	eS	**Sn**	**18 36 54.1**	**+2.1**

*IDC **01** 18:39:28.1±1.6, 37.°19N×22.°07E, h0km, mb3.4/6, mb1 3.5/6, mb1mx3.4/34, mbtmp3.4/6, Error ellipse: s-maj=41.6km s-min=26.0km az=143.0*
*ATH **01** 18:39:30.1, 37.°06N×22.°13E, h12km±1km, ML3.6/10, Error ellipse: s-maj=1.7km s-min=0.9km az=211.0*
*THE **01** 18:39:30.4, 37.°07N×22.°15E, h0km±2km, ML3.5/13, Error ellipse: s-maj=2.1km s-min=0.7km az=200.0*
*ISK **01** 18:39:31.5, 37.°13N×22.°37E, h5km, ML3.2/6*
ISC 01 18:39:30.1±0.9**, 37.°10N**±0.°03×**22.°15E**±0.°02**, h10**km±6km**, n68,** σ1s**29**/87**, mb3.4**/5**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.19**	**295**	P	**Pg**	**18 39 34.4**	**+0.1**
ITM				S	**Sg**	**18 39 37.4**	**+0.3**
	21μm,0.2s						
ITM	**Ithomi**	**0.19**	**295**	P	**Pg**	**18 39 34.3**	**+0.1**
ITM				S	**Sg**	**18 39 37.2**	**+0.2**
ITM				AML	AML	18 39 37.5	
	comp=N,56638μm,0.4s						
ITM				AML	AML	18 39 39.5	
	comp=E,30053μm,0.4s						
VLX	**Vlachokerasia**	**0.33**	**35**	P	**Pb**	**18 39 37.4**	**-0.8**
VLX				S	**Sb**	**18 39 42.7**	**-0.8**
	comp=E,12μm,0.5s						
VLX	**Vlachokerasia**	**0.33**	**35**	P	**Pb**	**18 39 37.4**	**-0.8**
VLX				S	**Sb**	**18 39 42.6**	**-1.0**
VLX				AML	AML	18 39 43.9	
	comp=E,21668μm,0.3s						
VLX				AML	AML	18 39 44.8	
	comp=N,19452μm,0.4s						
AMT	**Artemida-Makis**	**0.56**	**321**	P	**Pg**	**18 39 41.0**	**0.0**
AMT				S	**Sb**	**18 39 49.7**	**-0.3**
	comp=N,16μm,0.3s						
AMT	**Artemida-Makis**	**0.56**	**321**	P	**Pg**	**18 39 41.1**	**+0.2**
AMT				S	**Sb**	**18 39 49.4**	**-0.5**
AMT				AML	AML	18 39 50.2	
	comp=N,31765μm,0.4s						
AMT				AML	AML	18 39 52.5	
	comp=E,29668μm,0.3s						
VLI	**Veliai**	**0.74**	**121**	P	**Pg**	**18 39 44.4**	**0.0**
VLI				S	**Sg**	**18 39 54.5**	**+0.4**
	comp=E,2μm,0.6s						
VLI	**Veliai**	**0.74**	**121**	P	**Pg**	**18 39 44.5**	**+0.1**
VLI				S	**Sg**	**18 39 53.8**	**-0.3**
VLI				AML	AML	18 40 02.8	
	comp=N,4109μm,0.7s						
VLI				AML	AML	18 40 03.5	
	comp=E,3843μm,0.5s						
MNVA	**Monemvasia**	**0.82**	**120**	P	**Pg**	**18 39 45.7**	**-0.4**
KRND	**KRANIDI**	**0.85**	**70**	P	**Pb**	**18 39 46.9**	**-0.1**
KRND				S	**Sb**	**18 39 58.1**	**-0.3**
	comp=E,2μm,0.6s						
KRND	**KRANIDI**	**0.85**	**70**	P	**Pb**	**18 39 46.9**	**-0.1**
KRND				AML	AML	18 40 02.5	
	comp=N,5553μm,0.6s						
KRND				AML	AML	18 40 04.1	
	comp=E,4327μm,0.5s						
EPID	**Epidavros**	**0.93**	**56**	P	**Pg**	**18 39 47.9**	**-0.2**
KLV	**Kalavryta, Ach**	**0.94**	**0**	P	**Pg**	**18 39 47.6**	**-0.7**
KLV	**Kalavryta, Ach**	**0.94**	**0**	P	**Pg**	**18 39 47.8**	**-0.5**
KLV				AML	AML	18 40 05.0	
	comp=N,3915μm,0.3s						
KLV				AML	AML	18 40 05.8	
	comp=E,6352μm,0.3s						
THAL	**Thalero**	**1.02**	**24**	P	**Pg**	**18 39 49.2**	**-0.7**
THAL				AML	AML	18 40 14.5	
	comp=N,7616μm,0.6s						
THAL				AML	AML	18 40 15.8	
	comp=E,9726μm,0.6s						
RLS	**Riolos of Patr**	**1.10**	**331**	P	**Pg**	**18 39 50.9**	**-0.4**
RLS				S	**Sn**	**18 40 07.8**	**+1.1**
	comp=E,3μm,0.5s						
RLS	**Riolos of Patr**	**1.10**	**331**	P	**Pg**	**18 39 50.9**	**-0.4**
LOUT	**Loutraki**	**1.11**	**36**	P	**Pb**	**18 39 51.3**	**-0.1**
VTN	**Vitineika**	**1.12**	**317**	P	**Pn**	**18 39 52.3**	**+0.5**
KTHA	**Kythira Island**	**1.12**	**138**	P	**Pg**	**18 39 51.0**	**-0.6**
KTHA				S	**Sg**	**18 40 06.8**	**+0.6**
	comp=E,2μm,0.7s						
KTHA	**Kythira Island**	**1.12**	**138**	PG	**Pg**	**18 39 51.7**	**+0.1**
LTK	**Loutraki**	**1.13**	**35**	P	**Pb**	**18 39 51.7**	**-0.1**
LTK				S	**Sn**	**18 40 08.2**	**+0.6**
	comp=E,1μm,0.4s						
LTK	**Loutraki**	**1.13**	**35**	P	**Pb**	**18 39 51.6**	**-0.1**
LAKA	**Lakka**	**1.15**	**353**	P	**Pg**	**18 39 51.7**	**-0.5**
LAKA				S	**Sb**	**18 40 07.6**	**+0.6**
LAKA				AML	AML	18 40 10.8	
	comp=E,11377μm,0.4s						
LAKA				AML	AML	18 40 12.1	
	comp=N,20472μm,0.4s						
LTHK	**Lithakia**	**1.21**	**301**	P	**Pg**	**18 39 52.4**	**-0.9**
LTHK				S	**Sn**	**18 40 12.2**	**+2.8**
	comp=N,4μm,0.5s						
LTHK	**Lithakia**	**1.21**	**301**	P	**Pg**	**18 39 52.3**	**-1.1**
LTHK				AML	AML	18 40 18.0	
	comp=N,7850μm,0.5s						
LTHK				AML	AML	18 40 23.1	
	comp=E,7253μm,0.5s						
UPR	**University Cam**	**1.22**	**347**	P	**Pn**	**18 39 54.2**	**+1.0**
SERG	**Sergoula**	**1.31**	**357**	P	**Pn**	**18 39 53.5**	**-1.0**
SERG				S	**Sn**	**18 40 16.0**	**+3.9**
	comp=E,1μm,0.3s						
SERG	**Sergoula**	**1.31**	**357**	P	**Pn**	**18 39 53.8**	**-0.7**
SERG				AML	AML	18 40 16.2	
	comp=N,2408μm,0.2s						
SERG				AML	AML	18 40 16.9	
	comp=E,2764μm,0.4s						
EFP	**Efpalio**	**1.34**	**352**	P	**Pn**	**18 39 55.1**	**+0.3**
EFP				S	**Sn**	**18 40 17.1**	**+4.4**
	comp=E,1μm,0.4s						
EFP	**Efpalio**	**1.34**	**352**	P	**Pn**	**18 39 55.1**	**+0.3**
VLMS	**Volimes, Zakyn**	**1.41**	**304**	P	**Pn**	**18 39 55.8**	**-0.1**
VLMS				S	**Sn**	**18 40 17.7**	**+3.2**
	comp=E,2μm,0.5s						
VLMS	**Volimes, Zakyn**	**1.41**	**304**	P	**Pn**	**18 39 55.7**	**-0.1**
ANX	**Ano Chora**	**1.50**	**353**	P	**Pn**	**18 39 57.7**	**+0.5**
VLY	**Voula,Athens**	**1.51**	**60**	P	**Pb**	**18 39 58.3**	**0.0**
ATH	**Athens Observa**	**1.52**	**55**	P	**Pb**	**18 39 58.6**	**+0.2**
ATH				S	**Sg**	**18 40 20.0**	**+0.8**
	comp=E,1μm,0.8s						
PVO	**Paravola**	**1.59**	**342**	P	**Pg**	**18 40 00.8**	**+0.1**
PSDA	**Pessada-Kefalo**	**1.60**	**310**	P	**Pn**	**18 39 59.2**	**+0.8**
VLS	**Valsamata**	**1.64**	**312**	P	**Pn**	**18 39 59.9**	**+0.9**
VLS	**Valsamata**	**1.64**	**312**	P	**Pn**	**18 40 00.1**	**+1.1**
LKR	**Lokris**	**1.69**	**23**	P	**Pb**	**18 40 01.4**	**+0.1**
DION	**Dionisos Attik**	**1.72**	**55**	P	**Pn**	**18 40 01.3**	**+1.1**
KEF5	**Kardakata, Kep**	**1.78**	**312**	P	**Pn**	**18 40 02.2**	**+1.3**
KEF4	**Livadi, Kephal**	**1.79**	**311**	P	**Pb**	**18 40 03.0**	**0.0**
KEF3	**Kipouria, Keph**	**1.80**	**308**	P	**Pn**	**18 40 02.5**	**+1.3**
DMLN	**Damoulianata-K**	**1.81**	**310**	P	**Pn**	**18 40 02.8**	**+1.5**
EVR	**Evrytania**	**1.83**	**352**	P	**Pb**	**18 40 04.2**	**+0.4**
FSK	**Fiskardo**	**1.85**	**318**	P	**Pb**	**18 40 03.9**	**-0.1**
AGG	**Agios Georgios**	**1.93**	**4**	P	**Pb**	**18 40 04.8**	**-0.5**
AGG	**Agios Georgios**	**1.93**	**4**	PN	**Pb**	**18 40 05.1**	**-0.2**
AGG				SN	**Sb**	**18 40 29.6**	**+0.2**
IMMV	**Iera Moni Meta**	**2.21**	**137**	PN	**Pn**	**18 40 08.8**	**+2.0**
KNDR	**Palaiochora Ch**	**2.24**	**146**	PN	**Pn**	**18 40 08.8**	**+1.6**
APE	**Apeiranthos**	**2.71**	**90**	PN	**Pn**	**18 40 14.3**	**+0.6**
SANT	**Santorini**	**2.76**	**104**	PN	**Pn**	**18 40 15.2**	**+0.8**
HRKL	**Herakleio**	**2.98**	**126**	PN	**Pn**	**18 40 19.1**	**+1.7**
CHOS	**Chios island**	**3.36**	**66**	PN	**Pn**	**18 40 23.7**	**+1.1**
OUR	**Ouranopolis**	**3.54**	**23**	PN	**Pn**	**18 40 27.4**	**+2.4**
HORT	**Hortiatis**	**3.57**	**12**	PN	**Pn**	**18 40 28.4**	**+2.8**
SIGR	**SIGRI**	**3.61**	**53**	PN	**Pn**	**18 40 27.2**	**+1.2**
GRG	**Griva**	**3.86**	**3**	PN	**Pn**	**18 40 33.4**	**+3.9**
RDO	**Rodhopi**	**4.83**	**32**	PN	**Pn**	**18 40 45.5**	**+2.7**
AKASG	**Malin Array Be**	**14.51**	**18**	Pn	**P**	**18 42 59.8**	**-2.2**
	comp=E,0.3nm,0.3s,baz=212,slow=10,SNR=2.0						
ESDC	**Sonseca Array**	**20.61**	**285**	P	**P**	**18 44 08.1**	**-1.3**
	comp=E,0.4nm,0.7s,baz=81,slow=9.0,SNR=1.5						
FINES	**FINESS Array B**	**24.49**	**5**	P	**P**	**18 44 47.7**	**-1.5**
	comp=E,0.4nm,0.4s,baz=166,slow=12,SNR=1.1						
NOA	**NORSAR Array B**	**24.94**	**347**	P	**P**	**18 44 52.3**	**-1.0**
	comp=E,0.6nm,0.6s,baz=156,slow=8.8,SNR=2.9						
TORD	**Torodi Ar. Bea**	**30.06**	**223**	P	**P**	**18 45 39.2**	**-0.3**
	comp=E,0.4nm,0.8s,baz=30,slow=8.9,SNR=2.6						
MKAR	**Makanchi Array**	**44.78**	**58**	P	**P**	**18 47 44.3**	**+0.5**
	comp=E,0.2nm,0.5s,baz=264,slow=9.0,SNR=2.5						
ZALV	**Zalesovo Beam**	**45.46**	**47**	P	**P**	**18 47 47.5**	**-1.5**
	comp=E,1.4nm,0.7s,baz=265,slow=9.0,SNR=4.2						

*NEIC **01** 18:45:21.5±1.7, 17.°6S±0.°2×178.°6W±0.°2, h584km±7km, mb4.2/14, Error ellipse: s-maj=31.8km s-min=20.0km az=147.0*
*IDC **01** 18:45:22.3±2.1, 17.°29S×178.°83W, h591km±20km, mb3.1/5, mb1 3.4/7, mb1mx3.0/40, mbtmp4.0/7, Error ellipse: s-maj=108.9km s-min=20.8km az=153.0*
ISC 01 18:45:22.6±0.9**, 17.°5S**±0.°3×**178.°7W**±0.°2**, h600**km**, n23,** σ**0s73**/24**, mb4.0**/13**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.07**	**266**	P	**P**	**18 46 40.7**	**-1.6**
	6.9nm,0.3s,baz=96,slow=18,SNR=36						
PINNC	**Pines Island,**	**13.93**	**246**	P	**P**	**18 48 20.1**	**-0.7**
OUENC	**Ouen Island, N**	**14.40**	**248**	P	**P**	**18 48 25.8**	**+0.4**
DZM	**Mont Dzumac**	**14.66**	**250**	P	**P**	**18 48 28.5**	**+0.7**
	0.3nm,0.3s,baz=84,slow=18,SNR=1.9						
COEN	**Coen**	**36.79**	**270**	P	**P**	**18 51 42.7**	**+1.2**
COEN				IAmb	IAmb	18 51 43.0	
	comp=Z,4.3nm,0.6s						
STKA	**Stephens Creek**	**38.54**	**241**	P	**P**	**18 51 55.9**	**+0.5**
	comp=Z,1.2nm,0.4s,baz=80,slow=11,SNR=4.4						
BBOO	**Buckleboo**	**43.32**	**241**	P	**P**	**18 52 33.3**	**+0.1**
WR0	**Warramunga Arr**	**44.20**	**259**	P	**P**	**18 52 39.5**	**-0.7**
WR0				IAmb	IAmb	18 52 52.0	
	comp=Z,6.3nm,1.3s						
WB0	**Warramunga Arr**	**44.36**	**259**	P	**P**	**18 52 40.9**	**-0.5**
WB0				IAmb	IAmb	18 52 42.1	
	comp=Z,11nm,1.4s						
WB2	**Warramunga Arr**	**44.38**	**259**	P	**P**	**18 52 41.1**	**-0.4**
WB2				IAmb	IAmb	18 53 10.3	
	comp=Z,7.3nm,1.4s						
WRAB	**Tennant Creek**	**44.38**	**259**	P	**P**	**18 52 40.9**	**-0.7**
WRAB				IAmb	IAmb	18 53 03.5	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**44.39**	**259**	P	**P**	**18 52 40.9**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=95,slow=6.8,SNR=67						
WRA	**Warramunga Arr**	**44.39**	**259**	P	**P**	**18 52 40.1**	**-1.5**
AS31	**Alice Springs**	**44.59**	**254**	P	**P**	**18 52 43.2**	**0.0**
AS31				IAmb	IAmb	18 52 43.9	
	comp=Z,3.6nm,0.7s						
ASAR	**Alice Springs**	**44.59**	**254**	P	**P**	**18 52 43.4**	**+0.2**
	comp=Z,14nm,0.6s,baz=89,slow=7.8,SNR=324						
ASAR				PcP	**PcP**	**18 54 13.1**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=101,slow=4.8,SNR=1.8						
ASAR	**Alice Springs**	**44.59**	**254**	P	**P**	**18 52 42.8**	**-0.4**
MTN	**Manton Dam**	**48.49**	**268**	P	**P**	**18 53 11.9**	**-0.7**
FORT	**Forrest**	**49.89**	**244**	P	**P**	**18 53 22.0**	**-0.5**
KNRA	**Kununurra**	**50.22**	**264**	P	**P**	**18 53 25.8**	**+0.6**
KNRA				IAmb	IAmb	18 53 27.5	
	comp=Z,21nm,1.4s						
PSA00	**Pilbara Seismi**	**57.70**	**255**	P	**P**	**18 54 17.8**	**+0.1**
PSA00				IAmb	IAmb	18 54 37.4	
	comp=Z,20nm,1.4s						
QSPA	**South Pole Qui**	**72.53**	**180**	P	**P**	**18 55 49.7**	**0.0**
NVAR	**Mina Array Bea**	**79.37**	**44**	P	**P**	**18 56 27.7**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=224,slow=6.2,SNR=1.9						
TXAR	**Lajitas Array**	**86.06**	**58**	P	**P**	**18 57 01.6**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=209,slow=7.2,SNR=3.9						

MEX 01 18:51:48.9±0.4**, 13.°85N**×**93.°04W, h10**km**, MD4.0, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.86**	**355**	iP	Pn	18 52 17.5	-3.3
PCIG				eS	Sn	18 52 30.7	-14
CCIG	**Comitan**	**2.57**	**20**	eP	Pn	18 52 27.8	-3.0
CCIG				eS	Sn	18 52 57.7	-4.7
TGIG		**2.92**	**358**	eP	Pn	18 52 31.6	-3.9
TGIG				eS	Sn	18 53 04.3	-6.3
CMIG	**Matias Romero**	**3.69**	**331**	eP	Pn	18 52 43.3	-2.7
CMIG				eS	Sn	18 53 26.4	-3.1

MEX 01 19:07:33.6±0.5**, 15.°12N**×**92.°95W, h107**km±18km**, MD3.6, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.64**	**336**	eP	Pn	19 07 50.2	-0.9
PCIG				eS	Sn	19 08 02.6	-1.8

*NNC **01** 19:17:05.3±2.2, 36.°48N×70.°94E, h214km±21km, mb4.4, mpv5.4, Error ellipse: s-maj=21.0km s-min=11.7km az=165.0*
*BJI **01** 19:17:06.5±0.0, 36.°50N×71.°20E, h236km, mB4.6/29, mb4.7/53*
*MOS **01** 19:17:06.0±0.9, 36.°44N×71.°15E, h241km, mb4.5/28, Error ellipse: s-maj=5.3km s-min=3.9km az=101.9*
*NEIC **01** 19:17:07.3±1.8, 36.°45N±0.°05×71.°08E±0.°07, h240km±4km, mb4.7/106, Error ellipse: s-maj=8.5km s-min=7.0km az=107.0*
*IDC **01** 19:17:08.3±0.5, 36.°41N×71.°15E, h250km±4km, mb4.1/40, mb1 4.2/46, mb1mx4.2/52, mbtmp4.8/46, Error ellipse: s-maj=7.2km s-min=6.0km az=141.0*
ISC 01 19:17:07.2±0.3**, 36.°41N**±0.°03×**71.°12E**±0.°03**, h240**km±2km**, h240**km**:pP-P, n587,** σ**1s36**/680**, mb4.5**/147**, 44C-31D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.52**	**223**	PN	**Pn**	**19 17 54.1**	**-0.1**
KBL	**Kabul**	**2.52**	**223**	Pn	**Pn**	**19 17 54.0**	**-0.1**
KBL				Sn	**S**	**19 18 28.5**	**-2.7**
CEP	**Cherat**	**2.66**	**166**	P	**Pn**	**19 17 55.8**	**+0.1**
CEP				S	**S**	**19 18 32.0**	**-1.8**
GAR	**Garm**	**2.66**	**346**		**Pn**	**19 17 55.1**	**-0.4**
GAR				Sn	**S**	**19 18 29.5**	**-4.1**
CHGR	**Chuyangaron**	**2.73**	**326**	Pn	**Pn**	**19 17 55.5**	**-0.6**
CHGR				Sn	**S**	**19 18 30.7**	**-4.2**
CHCP	**Chirah Chowk**	**3.26**	**147**	P	**Pn**	**19 18 02.5**	**+0.4**
NIL	**Nilore**	**3.26**	**147**	PN	**Pn**	**19 18 02.3**	**+0.2**
NIL	**Nilore**	**3.26**	**147**		**Pn**	**19 18 02.3**	**+0.2**
THW	**Thamme Wali**	**3.64**	**172**	P	**Pn**	**19 18 06.4**	**-0.1**
SARP	**Sargodha**	**4.66**	**163**	P	**Pn**	**19 18 18.0**	**-0.6**
JMU	**Jammu**	**4.83**	**139**	ex	x	19 18 33.2	
JMU				ex	x	19 19 44.4	
KSH	**Kashi**	**4.93**	**50**	⇑iP	Pn	19 18 16.2	-5.7
KSH				S	S	19 19 07.6	-14
KSH				smax	smax		
	comp=N,5μm,0.4s						
KSH				smax	smax		
	comp=E,1μm,0.3s						
TAS	**Tashkent**	**5.11**	**344**	PN	**Pn**	**19 18 23.8**	**-0.1**
TAS	**Tashkent**	**5.11**	**344**	Pn	**Pn**	**19 18 23.8**	**-0.1**
DHRM	**DHARAMSHALA**	**5.97**	**133**	eP	**Pn**	**19 18 34.2**	**-0.7**
AML	**Almayashu**	**6.05**	**19**	P	**Pn**	**19 18 35.3**	**-0.8**
	SNR=2420						
KZA	**Kyzart**	**6.50**	**28**	P	**Pn**	**19 18 40.5**	**-1.3**
	SNR=236						
EKS2	**Erkin-Say**	**6.57**	**17**	P	**Pn**	**19 18 41.8**	**-0.6**
	SNR=447						
KK31	**Karatay Array**	**6.70**	**356**	⇑P	**Pn**	**19 18 42.9**	**-0.9**
	57nm,0.3s,baz=187,slow=13,SNR=1540						
KK31				⇓S	**S**	**19 19 55.8**	**-5.5**
	756nm,0.5s,baz=192,slow=24,SNR=28						
KK31	**Karatay Array**	**6.70**	**356**	PN	**Pn**	**19 18 43.2**	**-0.7**
KK31	**Karatay Array**	**6.70**	**356**	Pn	**Pn**	**19 18 43.2**	**-0.7**
KKAR	**Karatay Array**	**6.70**	**356**	PN	**Pn**	**19 18 43.1**	**-0.8**
KKAR	**Karatay Array**	**6.70**	**356**		**Pn**	**19 18 43.2**	**-0.7**
KKAR	**Karatay Array**	**6.70**	**356**	Pn	**Pn**	**19 18 43.1**	**-0.8**
AAK	**Ala-Archa**	**6.74**	**22**	P	**Pn**	**19 18 44.2**	**-0.4**
	176nm,0.3s,baz=188,slow=5.9,SNR=852						
AAK				S	S	19 19 52.8	-10
	50nm,0.3s,baz=229,slow=12,SNR=5.4						
AAK	**Ala-Archa**	**6.74**	**22**	P	**Pn**	**19 18 44.2**	**-0.4**
	SNR=532						
AAK	**Ala-Archa**	**6.74**	**22**	iP	**Pn**	**19 18 44.2**	**-0.4**
	SNR=626						
AAK	**Ala-Archa**	**6.74**	**22c**	iPN	**Pn**	**19 18 43.9**	**-0.7**
AAK				pmax	pmax		
	comp=Z,636nm,0.5s						
AAK	**Ala-Archa**	**6.74**	**22**	Pn	**Pn**	**19 18 44.0**	**-0.5**
KBK	**Karagaybulak**	**6.90**	**24**	P	**Pn**	**19 18 46.5**	**-0.1**
	SNR=303						
FRU1	**Bishkek**	**6.94**	**22**	PN	**Pn**	**19 18 46.7**	**-0.3**
FRU1	**Bishkek**	**6.94**	**22**		**Pn**	**19 18 46.7**	**-0.3**
ULHL	**Ulahol**	**7.05**	**33**	P	**Pn**	**19 18 47.4**	**-1.1**
	SNR=212						
BOOM	**Boomskoye usch**	**7.13**	**30**	PN	**Pn**	**19 18 48.6**	**-0.8**
BOOM	**Boomskoye usch**	**7.13**	**30**		**Pn**	**19 18 48.6**	**-0.8**
CHMS	**Chumysh**	**7.15**	**22**	P	**Pn**	**19 18 49.3**	**-0.2**
	SNR=212						
SMLA	**Simla**	**7.29**	**135**	eP	**Pn**	**19 18 50.6**	**-0.8**
SMLA				eS	**S**	**19 20 08.8**	**-6.2**
SMLA				IAML		19 20 12.3	
	comp=E,1μm,0.5s						
SMLA				IAML		19 20 12.5	
	comp=N,1μm,0.4s						
USP	**Ospenovka**	**7.33**	**20**	P	**Pn**	**19 18 51.2**	**-0.6**
	SNR=257						
TKM2	**Tokmak 2**	**7.36**	**27**	P	**Pn**	**19 18 51.7**	**-0.8**
	SNR=726						
KDJ	**Kajisay**	**7.40**	**38**	PN	**Pn**	**19 18 51.4**	**-1.5**
KDJ	**Kajisay**	**7.40**	**38**		**Pn**	**19 18 51.4**	**-1.5**
HRA	**Herat**	**7.52**	**257**	Pn	**Pn**	**19 18 54.5**	**-0.1**
MDOK	**Medeo**	**8.14**	**32**	⇓P	**Pn**	**19 19 00.9**	**-1.4**
	comp=N,51nm,0.5s						
MDOK				⇓S	**S**	**19 20 33.4**	**-1.5**
	comp=N,76nm,0.7s						
MDOK	**Medeo**	**8.14**	**32**	PN	**Pn**	**19 19 00.9**	**-1.4**
KNDC	**Almaty**	**8.15**	**32**	⇑P	**Pn**	**19 19 02.2**	**-0.1**
	comp=N,545nm,0.8s						
KNDC				⇑S	**S**	**19 20 32.1**	**-2.8**
	comp=N,232nm,0.8s						
KNDC	**Almaty**	**8.15**	**32**	PN	**Pn**	**19 19 02.2**	**-0.1**
KNDC				S	**S**	**19 20 32.1**	**-2.8**
DDI	**Dehra Dun**	**8.40**	**134**	eP	**Pn**	**19 19 04.6**	**-1.0**
DDI				eS	**S**	**19 20 32.8**	**-8.2**
DDI				IAML		19 20 45.4	
	comp=N,947nm,0.5s						
DDI				IAML		19 20 48.9	
	comp=E,574nm,0.6s						
NDI	**New Delhi**	**9.26**	**145**	ex	**Pn**	**19 19 15.0**	**-1.6**
NDI				ex	x	19 20 56.0	
PDGK	**Podgornoye**	**9.44**	**40**	⇑P	**Pn**	**19 19 16.7**	**-2.1**
	comp=E,49nm,1.0s						
PDGK				⇓S	**S**	**19 21 05.0**	**-0.1**
	comp=E,140nm,1.1s						
PDGK	**Podgornoye**	**9.44**	**40**	P	**Pn**	**19 19 16.7**	**-2.1**
PDGK				S	**S**	**19 21 05.3**	**+0.2**
GEYT	**Alibeck**	**10.48**	**282**	P	**Pn**	**19 19 30.6**	**-1.3**
	comp=E,3.7nm,0.3s,baz=115,slow=12,SNR=34						
GEYT				S	**S**	**19 21 22.2**	**-7.3**
	comp=E,1.0nm,0.3s,baz=70,slow=17,SNR=1.8						
GYA0B	**ALIBECK ARRAY**	**10.48**	**282**	⇑P	**Pn**	**19 19 29.5**	**-2.5**
GYA0B				⇓S	**S**	**19 21 21.3**	**-8.3**
GYA0B	**ALIBECK ARRAY**	**10.48**	**282**		**Pn**	**19 19 29.7**	**-2.3**
OTUK	**Ortayu**	**11.86**	**4**	⇓P	**Pn**	**19 19 48.0**	**-1.2**
	comp=E,39nm,0.6s						
OTUK				⇑S	**S**	**19 21 59.8**	**-1.0**
	comp=E,153nm,1.1s						
OTUK	**Ortayu**	**11.86**	**4**	P	**Pn**	**19 19 47.9**	**-1.2**
OTUK				S	**S**	**19 21 59.8**	**-1.0**
PYUN	**Piuthan**	**13.02**	**126**	eP	**Pn**	**19 20 02.1**	**-1.7**
	comp=E,239nm,0.5s						
MAKZ	**Makanchi**	**13.18**	**35**	⇑P	**Pn**	**19 20 04.1**	**-1.2**
	comp=E,169nm,0.7s						
MAKZ	**Makanchi**	**13.18**	**35**	P	**Pn**	**19 20 04.2**	**-1.2**
MAKZ	**Makanchi**	**13.18**	**35**	P	**Pn**	**19 20 04.2**	**-1.2**
MK31	**Makanchi Array**	**13.31**	**35**	⇑P	**Pn**	**19 20 05.2**	**-1.9**
	comp=E,69nm,0.8s,baz=217,slow=17,SNR=884						
MK31	**Makanchi Array**	**13.31**	**35**	P	**Pn**	**19 20 05.2**	**-1.9**
MK31	**Makanchi Array**	**13.31**	**35**	P	**Pn**	**19 20 05.2**	**-1.9**
MKAR	**Makanchi Array**	**13.31**	**35**	P	**Pn**	**19 20 06.0**	**-1.0**
	comp=E,6.4nm,0.3s,baz=217,slow=16,SNR=144						
MKAR				S	**S**	**19 22 34.1**	**-0.3**
	baz=227,slow=22,SNR=2.2						
MKAR	**Makanchi Array**	**13.31**	**35**	iP	**Pn**	**19 20 05.5**	**-1.6**
MKAR				pmax	pmax		
	comp=Z,23nm,0.4s						
MKAR	**Makanchi Array**	**13.31**	**35**	P	**Pn**	**19 20 05.4**	**-1.7**
DANN	**Dangsing**	**13.36**	**123**	eP	**Pn**	**19 20 06.6**	**-1.6**
	comp=Z,113nm,0.4s						
DANN				eS	**S**	**19 22 28.5**	**-7.9**
KOLN	**Koldanda**	**13.63**	**126**	eP	**Pn**	**19 20 10.0**	**-1.4**
	comp=Z,57nm,0.4s						
GKN	**Gorkha**	**14.18**	**122**	eP	**Pn**	**19 20 17.1**	**-0.9**
	comp=Z,151nm,0.3s						
BHPL	**Bhopal**	**14.21**	**156**	eP	**Pn**	**19 20 18.6**	**+0.3**
BHPL				ex	x	19 22 50.9	
WMQ	**Urumqi**	**14.67**	**55**	eP	**P**	**19 20 24.0**	**+0.1**
WMQ				S	**S**	**19 22 59.2**	**-6.8**
WMQ				pmax	pmax		
	comp=Z,55nm,0.9s						
WMQ				pmax	pmax		

comp=Z,300nm,3.7s
DMN Daman 14.75 123 *e*P Pn 19 20 23.9 -1.1
comp=Z,81nm,0.5s
KKN Kakani 14.75 122 *e*P Pn 19 20 23.5 -1.5
comp=Z,169nm,0.6s
PKIN Phulchoki 14.97 122 *e*P P 19 20 26.3 -1.2
comp=Z,165nm,0.5s
PKI Pulchoki 14.98 122 *e*P P 19 20 26.7 -1.0
comp=Z,197nm,0.5s
KURBB Kurchatov Arra 15.18 18 P P 19 20 28.3 -1.0
comp=Z,3.1nm,0.3s,baz=206,slow=11,SNR=42
KURBB S S 19 23 12.8 -4.1
comp=Z,0.1nm,0.3s,baz=204,slow=20,SNR=2.7
KURBB Kurchatov Arra 15.18 18 ⇓P P 19 20 28.0 -1.4
comp=Z,98nm,0.8s
KURBB Kurchatov Arra 15.18 18 P P 19 20 27.9 -1.4
AB31 Akbulak array 15.21 331 ⇓P P 19 20 28.1 -1.5
comp=Z,16nm,0.5s,baz=139,slow=13,SNR=432
AB31 ⇑S S 19 23 19.7 +2.2
comp=Z,9.7nm,0.6s,baz=152,slow=24,SNR=4.0
AB31 Akbulak array 15.21 331 P P 19 20 28.1 -1.5
AB31 S S 19 23 19.7 +2.2
ABKAR Akbulak array 15.21 331 P P 19 20 28.1 -1.5
ABKAR Akbulak array 15.21 331 P P 19 20 28.2 -1.5
ABKAR IAmb IAmb 19 20 32.7
comp=Z,53nm,0.9s
JBP Jabalpur 15.27 147 *ex* P 19 20 29.9 -0.6
JBP *ex* x 19 23 11.5
KURK Kurchatov 15.29 18 P P 19 20 28.3 -2.2
KURK Kurchatov 15.29 18 P P 19 20 28.3 -2.2
JIRN Jiri 15.46 120 *e*P P 19 20 33.3 +0.2
comp=Z,340nm,0.6s
RAMN Ramite 16.19 121 *e*P Pn 19 20 41.7 -0.5
comp=Z,105nm,0.6s
BANOM Banah 16.41 235 *i* P P 19 20 42.9 -0.3
SNR=16
BANOM Banah 16.41 235 P P 19 20 43.5 +0.3
SNR=16
SHME Shamm 16.43 235 *i* P P 19 20 43.1 -0.2
SNR=9.7
BVAR Borovoye Array 16.62 358 P P 19 20 45.7 +0.6
comp=Z,26nm,0.3s,baz=184,slow=17,SNR=151
BVAR S S 19 23 43.8 -2.5
baz=176,slow=23,SNR=2.9
BRVK Borovoye 16.66 358 ⇑P P 19 20 45.7 +0.2
comp=Z,78nm,0.5s
BRVK Borovoye 16.66 358 *d* iP P 19 20 46.1 +0.6
BRVK pmax pmax
comp=Z,146nm,0.8s
BRVK Borovoye 16.66 358 P P 19 20 45.6 +0.1
TAPN Taplejung 16.72 118 *e*P Pn 19 20 48.5 0.0
comp=Z,116nm,0.7s
ODAN Odare 16.79 120 *e*P Pn 19 20 48.9 -0.4
comp=Z,105nm,0.6s
MDH Madha 16.84 233 *i* P Pn 19 20 49.0 -0.7
SNR=10
MDH Madha 16.84 233 P Pn 19 20 49.2 -0.5
MASF Masafi 16.89 233 P Pn 19 20 50.4 +0.2
SNR=12
MSFE Esma-Masafi 16.89 233 *i* P Pn 19 20 49.8 -0.5
SNR=24
AKTO Aktyubinsk 16.90 330 P Pn 19 20 49.2 -0.9
comp=Z,21nm,0.3s,baz=138,slow=10,SNR=322
AKTO S S 19 23 51.2 -0.7
comp=Z,0.2nm,0.3s,baz=305,slow=23,SNR=1.8
AKTO Aktyubinsk 16.90 330 ⇑P P 19 20 48.8 +0.6
comp=Z,157nm,0.8s
AKTO ⇓S S 19 23 50.7 -1.3
comp=Z,94nm,1.4s
WSAR Wadi Sarin 17.00 223 P Pn 19 20 51.2 -0.3
comp=Z,2.7nm,0.3s,baz=61,slow=10,SNR=27
WSAR Wadi Sarin 17.00 223 P Pn 19 20 51.5 0.0
SNR=13
UOSS Minazif 17.15 232 *i* P P 19 20 50.7 -0.6
SNR=20
UOSS Minazif 17.15 232 P P 19 20 49.7 -1.5
HATD Hatta, Dubai 17.29 232 *i* P P 19 20 53.5 +0.8
SNR=13
HATD Hatta, Dubai 17.29 232 P P 19 20 53.1 +0.4
SNR=5.8
WBK Wadi Bani Khal 17.32 221 P Pn 19 20 55.1 -0.3
SNR=14
ASHO Ashiyiah 17.43 232 *i* P P 19 20 55.4 +1.1
SNR=56
ASHO Ashiyiah 17.43 232 P P 19 20 55.4 +1.1
SNR=16
SMDO Samad 17.46 224 P Pn 19 20 55.9 -1.1
SNR=8.0
JLN Jalan Bani Buh 17.47 219 P Pn 19 20 56.6 -0.5
SNR=12
NAZ Nazwa, Dubai 17.47 234 *i* P P 19 20 55.3 +0.6
SNR=13
NAZ Nazwa, Dubai 17.47 234 P P 19 20 55.2 +0.6
SNR=14
HOQ Hoqain 17.48 227 P P 19 20 55.3 +0.5
SOHO SOHO 17.53 230 P P 19 20 54.3 -1.1
SOHO SOHO 17.53 230 P P 19 20 54.8 -0.5
FAQ Al Faqa, Dubai 17.69 233 *i* P P 19 20 57.4 +0.3
SNR=7.8
FAQ Al Faqa, Dubai 17.69 233 P P 19 20 57.2 +0.2
FAQ P Pn 19 21 05.0 +5.5
SNR=5.4
DGZ Jazzator, Alta 17.80 37 *d* iP P 19 20 58.8 +0.7
LKRN Lenkeran, Azer 17.85 284 P P 19 20 59.5 +0.8
BOK Bokaro 17.90 131 *e*P P 19 21 00.3 +1.0
BOK *e*S S 19 24 15.0 +2.7
ASUD Al Ashush, Dub 17.94 233 *i* P P 19 21 00.7 +0.9
SNR=17
POO Poona 17.98 172 ⇑*ix* P 19 21 00.0 -0.2
POO *e*P Pn 19 21 01.9 -1.1
POO IAmb IAmb 19 21 05.5
comp=Z,44nm,0.9s
POO *ex* x 19 24 47.0
JMDO Jabal Madar 17.98 222 P Pn 19 21 02.3 -0.7
SNR=15
LSA Lhasa 18.06 106 *i* P Pn 19 21 03.9 -0.5
SNR=7.6
LSA Lhasa 18.06 106 P P 19 21 02.8 +1.2
LSA pmax pmax
comp=Z,53nm,1.4s
LSA Lhasa 18.06 106 P P 19 21 02.8 +1.2
LSA IAmb IAmb 19 21 05.8
comp=Z,53nm,1.4s
ALNE Al Ain 18.08 231 *i* P P 19 21 01.9 +0.6
SNR=22
ALNE Al Ain 18.08 231 P P 19 21 01.8 +0.5
SNR=7.0
BSY Bisya 18.19 225 P Pn 19 21 05.0 -0.5
SNR=13
AJN Ajban 18.21 234 *i* P P 19 21 03.0 +0.3
SNR=10
AJN Ajban 18.21 234 P P 19 21 03.6 +0.9
SNR=7.3
MHTO MHTO 19.18 220 P P 19 21 14.9 +1.7
SNR=18
SEKA Sheki 19.22 292 P P 19 21 13.2 -0.3
MNGR Mingechevir, A 19.26 290 P P 19 21 15.3 +1.5
JRN Qarnain Island 19.39 239 P P 19 21 13.8 -1.6
GANJ Ganja 19.83 290 P P 19 21 20.9 +0.9
ZAA0 Zalesovo Array 19.96 24 ⇑P P 19 21 19.7 -1.4
comp=Z,8.5nm,0.7s
ZAA0 Zalesovo Array 19.96 24 P P 19 21 20.0 -1.1
ZALV Zalesovo Beam 19.96 24 P P 19 21 20.5 -0.6
comp=Z,18nm,0.3s,baz=216,slow=11,SNR=196
ZALV S S 19 24 50.2 -1.8
comp=Z,0.5nm,0.3s,baz=221,slow=17,SNR=3.1
ZALV Zalesovo Beam 19.96 24 *i* P P 19 21 20.5 -0.6
ZALV pmax pmax
comp=Z,43nm,0.4s
ZALV Zalesovo Beam 19.96 24 P P 19 21 20.0 -1.1
HYB Hyderabad 20.03 159 *e*P P 19 21 22.6 +0.3
HYB Hyderabad 20.03 159 *i* P P 19 21 22.0 -0.3
HYB *es*P sP 19 22 32.0 +0.4
HYB *e*S S 19 24 56.0 +1.9
DDFL Dedoflistskaro 20.06 292 P Pn 19 21 26.1 -1.3
SHMA Al-Shehemyia 20.17 244 P P 19 21 22.7 -0.9
DQM DQM 20.28 220 P P 19 21 26.0 +1.1
SNR=7.9
NAX Nakhchivan 20.41 286 P P 19 21 29.0 +2.7
GROC Groznyy 20.55 297 *e*P P 19 21 26.3 -1.3
GROC *e*S S 19 25 06.2 +3.2
GROC pmax pmax
comp=Z,54nm,1.0s
TRNA Turayna 20.67 241 P P 19 21 27.4 -1.7
SLWR Sila 20.76 239 P P 19 21 29.6 -0.3
UMR Umm Al-Rimmam 20.76 257 *e*P P 19 21 29.7 -0.2

SHL Shillong 20.79 116 P P 19 21 29.5 -0.9
SHL pmax pmax
comp=Z,40nm,0.8s
SHL Shillong 20.79 116 P P 19 21 29.5 -0.9
SHL Shillong 20.79 116 *e*P P 19 21 30.7 +0.3
SHL IAmb IAmb 19 21 32.3
comp=Z,18nm,0.7s
SHL *i* x x 19 21 37.3
KBD Kabd 20.94 257 *e*P P 19 21 31.1 -0.7
MIB Mutribah 20.95 259 *e*P P 19 21 31.5 -0.4
QRN Al-Qurain 20.96 255 *e*P P 19 21 31.1 -0.9
GOA Goa 20.97 173 *e*P P 19 21 33.2 +1.0
GOA IAmb IAmb 19 21 35.5
comp=Z,47nm,0.7s
GNI Garni 21.01 288 P P 19 21 35.0 +2.4
comp=Z,40nm,1.0s,baz=76,slow=4.2,SNR=18
GNI Garni 21.01 288 P P 19 21 34.4 +1.8
GNI Garni 21.01 288 *de*P P 19 21 35.1 +2.5
GNI pmax pmax
comp=Z,64nm,1.3s
GNI Garni 21.01 288 P P 19 21 34.2 +1.6
RDF Al-Radifah 21.16 256 *e*P P 19 21 33.6 -0.4
KZRT Kazreti 21.34 292 P P 19 21 37.9 +2.2
RST Umm Al-Ruwaisa 21.35 258 *e*P P 19 21 35.4 -0.5
GUDG Gudauri 21.40 295 P P 19 21 37.2 +0.8
SVE Sverdlovsk 21.61 344 ⇓*i* P P 19 21 38.9 +0.9
SVE pmax pmax
comp=Z,24nm,0.7s
ARU Arti 21.75 341 P P 19 21 40.1 +0.8
comp=Z,6.8nm,0.4s,baz=163,slow=4.5,SNR=62
ARU Arti 21.75 341 *c* iP P 19 21 39.9 +0.6
ARU S S 19 25 24.2 +1.7
ARU pmax pmax
comp=Z,30nm,0.7s
ARU Arti 21.75 341 P P 19 21 38.8 -0.5
ZEI Tsey 21.86 295 *e*P P 19 21 41.5 +0.7
ZEI pmax pmax
comp=Z,5.0nm,0.7s
AKH Akhalkalaki 22.02 292 P P 19 21 44.6 +2.3
ONI Oni 22.16 295 P P 19 21 44.1 +0.7
ONI pmax pmax
comp=Z,19nm,1.2s
ONI Oni 22.16 295 P P 19 21 44.1 +0.7
ONI IAmb IAmb 19 21 47.0
comp=Z,19nm,1.2s
KARS Kars 22.29 289 P P 19 21 43.9 -0.9
KARS pmax pmax
comp=Z,82nm,0.9s
KARS Kars 22.29 289 P P 19 21 43.9 -0.9
KBZ Khabaz 22.73 297 P P 19 21 48.9 +0.5
comp=Z,5.3nm,0.7s,baz=124,slow=8.3,SNR=14
KBZ Khabaz 22.73 297 *ce*P P 19 21 48.3 -0.1
KBZ pmax pmax
comp=Z,7.0nm,0.9s
GTA Gaotai 22.80 74 ⇓P P 19 21 51.1 +1.8
GTA pP pP 19 22 30.9 -1.6
GTA sP sP 19 23 01.4 -2.2
GTA pmax pmax
comp=Z,92nm,0.8s
SHAO Shalim 22.86 221 *i* P P 19 21 51.6 +1.7
SNR=9.2
KIV Kislovodsk 22.91 298 P P 19 21 50.7 +0.5
KIV Kislovodsk 22.91 298 *d* iP P 19 21 51.8 +1.6
KIV *e**SP sP 19 23 04.0 +0.9
KIV *i* 19 25 31.7
KIV pmax pmax
comp=Z,13nm,1.0s
KIV Kislovodsk 22.91 298 P P 19 21 49.5 -0.8
KIV IAmb IAmb 19 22 31.1
comp=Z,16nm,1.1s
BELG Belogornoye 23.02 321 P P 19 21 52.2 +1.3
comp=Z,60nm,0.6s,baz=112,slow=5.4,SNR=26
BELG Belogornoye 23.02 321 *d* iP P 19 21 51.7 +0.8
BELG pmax pmax
comp=Z,11nm,0.9s
GURO Guroymak-BITLI 23.14 284 P P 19 21 52.5 +0.1
DOK Doka 23.20 225 P P 19 21 53.7 +0.7
DMTO DMTO 23.47 222 P P 19 21 56.1 +0.6
WHFO Wadi Hawf 23.96 224 P P 19 22 00.4 +0.5
RBK Rabkut 24.05 223 P P 19 22 01.3 +0.5
ABTO Aybut 24.68 224 P P 19 22 06.8 +0.4
VRH Novokhopyorsk 25.64 314 *e*P P 19 22 13.4 -1.3
VRH pmax pmax
comp=Z,8.0nm,0.8s
MOY Mondy 26.10 45 *e*P P 19 22 20.5 +1.5
MOY *e* 19 23 09.2
MOY pmax pmax
comp=Z,32nm,2.2s
LZH Lanzhou 26.33 81 ⇓P P 19 22 23.1 +1.8
LZH pP pP 19 23 08.9 -1.0
LZH pmax pmax
comp=Z,27nm,1.3s
LZH pmax pmax
comp=Z,86nm,4.6s
KIRV Kirov 26.36 334 P P 19 22 22.1 +1.1
comp=Z,23nm,0.5s,baz=157,slow=5.9,SNR=7.7
KIRV pP pP 19 23 09.9 +1.0
comp=Z,16nm,0.5s,baz=43,slow=3.5,SNR=3.3
KIRV Kirov 26.36 334 *d* iP P 19 22 21.9 +0.9
ZAK Zakamensk 26.98 49 *e*P P 19 22 27.4 +0.6
ZAK *e* 19 23 12.6
ZAK pmax pmax
comp=Z,20nm,1.0s
ZAK pmax pmax
comp=Z,22nm,1.7s
GAZ Gaziantep 27.08 282 P P 19 22 27.3 -0.5
CD2 Chengdu 27.64 92 ⇓*i* P P 19 22 33.7 +0.9
CD2 pmax pmax
comp=Z,30nm,0.9s
BNN Bunyan 27.93 286 P P 19 22 34.7 -0.8
BNN IAmb IAmb 19 22 59.9
comp=Z,18nm,1.0s
SNOP Sinop 28.24 293 P P 19 22 37.2 -0.7
SONM Songino Array 28.31 55 P P 19 22 40.0 +1.3
comp=Z,26nm,0.8s,baz=258,slow=9.5,SNR=190
SONM pP pP 19 23 29.2 +1.7
comp=Z,7.0nm,0.9s,baz=257,slow=8.6,SNR=4.8
SONM Songino Array 28.31 55 P P 19 22 39.4 +0.7
SONM pP 19 23 27.2 -0.2
SOCY Socotra 28.63 217 P P 19 22 40.5 -1.2
ULN Ulaanbaatar 28.75 55 *d* iP P 19 22 43.5 +0.9
ULN pmax pmax
comp=Z,25nm,0.8s
ULN Ulaanbaatar 28.75 55 P P 19 22 43.4 +0.8
ULN IAmb IAmb 19 22 44.7
comp=Z,21nm,0.8s
ULN pP 19 23 31.7 +0.2
ULN Ulaanbaatar 28.75 55 P P 19 22 43.5 +0.9
comp=Z,1μmcomp=Z,133nm,0.8s
MMAI Mount Meron Ar 29.45 274 P P 19 22 50.6 +1.7
comp=Z,0.4nm,0.4s,baz=57,slow=5.3,SNR=2.1
BR131 Keskin Array S 29.55 288 *d* iP P 19 22 50.6 +0.9
BR131 Keskin Array S 29.55 288 P P 19 22 50.1 +0.3
BR131 IAmb IAmb 19 22 51.4
comp=Z,10nm,0.7s
BRTR Keskin Array B 29.55 288 P P 19 22 50.6 +0.9
comp=Z,4.3nm,0.6s,baz=104,slow=9.1,SNR=15
BRTR ScP ScP 19 29 05.2 -1.8
comp=Z,2.6nm,0.9s,baz=163,slow=4.7,SNR=4.9
BRTR Keskin Array B 29.55 288 P P 19 22 49.0 -0.8
GHAJ Ghor Haditha 29.85 271 P P 19 22 51.5 -0.7
PRGR Permogore 29.89 336 *e*P P 19 22 52.1 -0.1
PRGR pmax pmax
comp=Z,36nm,0.8s
OBN Obninsk 30.07 319 P P 19 22 54.8 +0.9
comp=Z,2.2nm,0.4s,baz=97,slow=8.1,SNR=1.8
OBN Obninsk 30.07 319 *e*P P 19 22 54.1 +0.3
OBN *e**PP pP 19 23 47.1 +5.3
OBN *e**SP sP 19 24 13.1 +3.3
OBN pmax pmax
comp=Z,9.0nm,0.6s
OBN Obninsk 30.07 319 P P 19 22 53.1 -0.7
CHTO Chiang Mai 30.10 118 P P 19 22 56.2 +1.6
CHTO pP 19 23 43.4 -0.2
CHTO Chiang Mai 30.10 118 P P 19 22 56.1 +1.6
comp=Z,1.9nm,1.4s
CMMT Chiang Mai 30.10 118 P P 19 22 55.7 +1.1
comp=Z,3.3nm,1.4s
ANTO Ankara 30.18 288 P P 19 22 55.2 0.0
ANTO pmax pmax
comp=Z,7.0nm,0.8s
ANTO Ankara 30.18 288 P P 19 22 55.2 0.0
PALK Pallekele 30.30 161 P P 19 22 57.4 +1.4
comp=Z,10nm,0.8s,baz=94,slow=9.8,SNR=4.7

PALK Pallekele 30.30 161 P P 19 22 57.4 +1.0
PALK pmax pmax
comp=Z,40nm,1.4s
PALK Pallekele 30.30 161 P P 19 22 57.4 +1.0
PALK IAmb IAmb 19 23 21.5
comp=Z,40nm,1.4s
PALK Pallekele 30.30 161 P P 19 22 57.7 +1.4
comp=Z,23nm,1.7s
CM31 Chiang Mai Arr 30.33 119 P P 19 22 56.2 -0.4
CMAR Chiang Mai Arr 30.33 119 P P 19 22 57.9 +1.3
comp=Z,1.3nm,0.6s,baz=304,slow=7.8,SNR=8.0
CMAR ScP ScP 19 29 07.8 -1.9
comp=Z,1.0nm,0.7s,baz=289,slow=4.8,SNR=4.7
CMAR Chiang Mai Arr 30.33 119 *i* P P 19 23 00.3 +3.7
CMAR pmax pmax
comp=Z,2.0nm,0.9s
CMAR Chiang Mai Arr 30.33 119 P P 19 22 56.5 -0.2
EIL Elat 30.92 268 P P 19 23 02.4 +0.7
comp=Z,2.9nm,0.8s,baz=88,slow=14,SNR=3.0
EIL ScP ScP 19 29 11.1 -0.4
comp=Z,2.7nm,0.7s,baz=122,slow=1.9,SNR=4.5
KLMR Klimovskoe 31.61 331 *e*P P 19 23 06.3 -1.0
KLMR *e**PP pP 19 23 54.3 -1.3
KLMR *e* 19 24 22.3
KLMR *e* 19 25 51.7
KLMR pmax pmax
comp=Z,21nm,1.1s
KLMR Klimovskoe 31.61 331 *e*P P 19 23 06.4 -0.9
KLMR AMP 19 23 08.5
comp=Z,21nm,1.1s
KLMR *ep*P pP 19 23 54.4 -1.2
KLMR *e*PP PnPn 19 24 22.4 +0.5
KLMR *e*PcP PcP 19 25 51.7 -1.5
HHC Hu-ho-hao-te 31.71 69 *e*P P 19 23 10.3 +1.7
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,100nm,5.4s
GYA Guiyang 31.76 98 ⇑P P 19 23 10.3 +1.1
GYA pmax pmax
comp=Z,11nm,0.6s
UTTA Uttaradit 31.95 118 P P 19 23 13.8 +3.1
comp=Z,7.9nm,0.5s
SLVN Son La 32.22 109 P P 19 23 13.7 +0.5
ENH Enshi 32.48 90 P P 19 23 16.0 +0.7
ENH IAmb IAmb 19 23 17.5
comp=Z,40nm,1.4s
ELL Elmali 32.91 283 P P 19 23 19.2 +0.1
ELL pmax pmax
comp=Z,99nm,1.2s
ELL Elmali 32.91 283 P P 19 23 19.2 +0.1
AKASG Malin Array Be 33.07 309 P P 19 23 20.0 -0.1
comp=Z,4.4nm,0.5s,baz=81,slow=6.9,SNR=36
AKASG ScP ScP 19 29 16.0 -2.5
comp=Z,0.3nm,0.3s,baz=66,slow=3.7,SNR=4.4
AKASG Malin Array Be 33.07 309 P P 19 23 20.0 -0.1
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 33.07 309 P P 19 23 20.0 -0.1
AKBB Malin Array Si 33.07 309 *de*P P 19 23 20.2 0.0
AKBB Malin Array Si 33.07 309 P P 19 23 18.8 -1.3
AKBB IAmb IAmb 19 23 20.9
comp=Z,10.0nm,0.6s
SRDT SRDT 33.30 124 P P 19 23 21.7 -0.8
comp=Z,5μmcomp=Z,11nm,2.2s
SORM Soroca 33.33 304 ⇑P P 19 23 22.2 -0.2
SORM Soroca 33.33 304 ⇑P P 19 23 22.2 -0.2
CIT Chita 33.64 49 *e*P P 19 23 24.8 -0.3
CIT *e* 19 24 15.2
BALB Balikesir 33.97 289 P P 19 23 27.8 -0.3
BALB IAmb IAmb 19 23 29.6
comp=Z,13nm,0.9s
NRIK Noril'sk 34.20 10 P P 19 23 30.8 +1.2
comp=Z,31nm,0.5s,baz=200,slow=5.9,SNR=28
NRIK Noril'sk 34.20 10 *d* iP P 19 23 30.6 +1.0
NRIK pmax pmax
comp=Z,35nm,0.6s
NRIK Noril'sk 34.20 10 P P 19 23 30.3 +0.8
VRI Vrincioaia 34.35 300 ⇑P P 19 23 38.6 +7.3
VRI Vrincioaia 34.35 300 ⇑P P 19 23 38.6 +7.3
PLOR Plostina 34.41 300 ⇑P P 19 23 33.7 +1.9
PLOR Plostina 34.41 300 ⇑P P 19 23 33.7 +1.9
MNK Minsk 34.63 315 *i* P P 19 23 33.4 -0.1
MNK *i* *PP pP 19 24 21.9 -0.2
MNK *i* *SP sP 19 24 49.7 -0.2
MNK *i* 19 24 57.2
MNK *i* 19 26 02.1
MNK *i* S S 19 28 44.8 +0.3
MNK *i* *SS sS 19 30 12.2 -1.3
MNK *i* 19 33 27.6
MNK pmax pmax
comp=N,7.0nm,0.4s
MNK pmax pmax
comp=Z,16nm,0.8s
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK MLR MLR
comp=E,9.0nm,20.0s
MNK MLR MLR
comp=Z,100nm,18.0s
MNK MLR MLR
comp=N,41nm,15.0s
MNK Minsk 34.63 315 *i* P P 19 23 33.4 0.0
comp=E,2.0nm,0.7s
MNK *i* P P 19 23 33.4 0.0
comp=N,7.0nm,0.4s
MNK *i* P P 19 23 33.4 0.0
comp=Z,16nm,0.8s,baz=283
MNK *i* pP pP 19 24 21.9 -0.2
MNK *i* sP sP 19 24 49.8 -0.1
MNK *i* PP PP 19 24 57.2 0.0
MNK *i* PcP PcP 19 26 02.2 +0.3
MNK *i* S S 19 28 44.8 +0.3
MNK *i* sS sS 19 30 12.2 -1.3
MNK *i* SS SS 19 31 26.0 +0.7
MNK *i* LRM MLR 19 39 00.5
comp=E,9.0nm,19.5s
MNK *i* LRM MLR 19 39 10.6
comp=Z,111nm,18.1s
MNK *i* LRM MLR 19 39 29.4
comp=N,41nm,15.2s
COVR Voineasa-Covas 34.72 300 ⇑P P 19 23 35.6 +1.2
MLR Muntele Rosu 34.91 299 ⇑P P 19 23 38.3 +2.2
MLR Muntele Rosu 34.91 299 P P 19 23 36.9 +0.7
MLR pmax pmax
comp=Z,15nm,0.9s
MLR Muntele Rosu 34.91 299 P P 19 23 36.9 +0.7
MLR IAmb IAmb 19 23 39.1
comp=Z,15nm,0.9s
DOPR Dopca 35.29 300 ⇑P P 19 23 39.7 +0.4
BJT Baijiatuau 35.30 70 P P 19 23 40.6 +1.2
BJT *PP pP 19 24 30.4 +0.8
BJT pmax pmax
comp=Z,6.0nm,0.8s
BJT Baijiatuau 35.30 70 P P 19 23 40.6 +1.2
BJT pP pP 19 24 30.4 +0.8
BJI Beijing 35.30 70 P P 19 23 40.6 +1.2
BJI pP pP 19 24 31.2 +1.6
BJI PP PP 19 25 08.7 +3.9
BJI PcP PcP 19 26 04.8 +0.7
BJI ScP ScP 19 29 25.4 -1.2
BJI PcS PcS 19 29 54.3 +3.0
BJI pmax pmax
comp=Z,9.0nm,0.8s
NACGM Naroch 35.34 316 *i* P P 19 23 37.5 -2.0
BOD Bodaibo 35.36 39 *e*P P 19 23 39.7 +0.1
BOD pmax pmax
comp=Z,34nm,1.2s
BURAR Bucovina Array 35.41 303 ⇑P P 19 23 41.2 +0.8
BURAR Bucovina Array 35.41 303 ⇑P P 19 23 41.2 +0.8
BUR08 Bucovina Ar. S 35.42 303 P P 19 23 40.3 -0.2
VOIR 35.54 299 ⇑P P 19 23 42.5 +1.1
VOIR 35.54 299 ⇑P P 19 23 42.5 +1.1
ATD Arta Tunnel 35.54 233 P P 19 23 44.0 +2.3
comp=Z,37nm,1.0s,baz=14,slow=5.1,SNR=14
ATD Arta Tunnel 35.54 233 P P 19 23 42.8 +1.1
IIGN Ignalina 35.76 316 *e*P P 19 23 44.2 +1.2
ARR Arges 35.83 299 ⇓P P 19 23 44.9 +0.9
ISAL Salakas 35.86 317 *e*P P 19 23 45.0 +1.1
ARCR ARCALIA 35.99 302 ⇑P P 19 23 47.3 +2.1
WHN Wuhan 36.30 86 ⇑P P 19 23 49.7 +1.7
WHN pmax pmax
comp=Z,40nm,1.0s
TIA Tai'an 36.80 76 P P 19 23 53.9 +1.7

TIA pmax pmax
comp=Z,13nm,0.8s
PABE Paberze 37.05 316 *e*P **P** **19 23 54.7 +0.8**
DRGR 37.12 302 ⇑P **P** **19 23 55.9 +1.1**
DRGR 37.12 302 ⇑P **P** **19 23 55.9 +1.1**
GZR Gura Zlata 37.14 299 ⇑P **P** **19 23 55.0 +0.1**
TRPA Tarpa 37.22 304 ⇑P **P** **19 23 56.6 +1.1**
TRPA Tarpa 37.22 304 *e*P **P** **19 23 57.5 +2.0**
UZH Uzhgorod 37.39 305 ⇑*i*P **P** **19 23 57.3 +0.4**
FIA1 FINESS Array S 37.61 326 P **P** **19 23 58.3 -0.2**
FIA1 IAmb IAmb 19 24 00.1
comp=Z,11nm,0.8s
FINES FINESS Array B 37.61 326 P **P** **19 23 59.2 +0.6**
comp=Z,9.9nm,0.7s,baz=112,slow=8.3,SNR=28
SIRR Siria 37.87 301 ⇑P **P** **19 24 02.3 +1.3**
CRVS Cervenica-Dubn 37.94 305 *e*P **P** **19 24 03.4 +1.9**
CRVS Cervenica-Dubn 37.94 305 *e*P **P** **19 24 03.4 +1.9**
PBUR Paburge 38.27 317 *e*P **P** **19 24 04.8 +0.7**
NIE Niedzica 38.70 306 *e*P **P** **19 24 10.4 +2.5**
NIE Niedzica 38.70 306 P **P** **19 24 10.1 +2.2**
OJC Ojcow 39.03 307 *e*P **P** **19 24 11.2 +0.6**
DIVS Divibare 39.23 298 P **P** **19 24 11.6 -0.7**
NJ2 Nanjing 39.40 82 *e*P **P** **19 24 14.4 +0.6**
NJ2 pmax pmax
comp=Z,13nm,0.5s
KOVH Kovagotottos 40.35 301 *e*P **P** **19 24 22.5 +1.1**
MORC Moravsky Berou 40.49 307 ⇑P **P** **19 24 23.6 +1.0**
MORC Moravsky Berou 40.49 307 P **P** **19 24 22.3 -0.3**
MORC pmax pmax
comp=Z,5.0nm,0.7s
MORC Moravsky Berou 40.49 307 P **P** **19 24 22.3 -0.3**
MORC Moravsky Berou 40.49 307 *e*P **P** **19 24 23.5 +0.9**
GKP Gorka Klasztor 40.70 312 *e*P **P** **19 24 25.0 +0.8**
GKP Gorka Klasztor 40.70 312 *e*P **P** **19 24 25.2 +1.0**
TPTI 40.81 138 P **P** **19 24 25.4 -0.1**
comp=Z,3.6nm,1.0s
KRLC Kraliky 40.97 307 *e*P **P** **19 24 27.2 +0.7**
KRLC Kraliky 40.97 307 *e*P **P** **19 24 27.2 +0.7**
KRLC *e*pP **sP** **19 25 44.8 +0.8**
VRAC Vranov 41.13 306 ⇑P **P** **19 24 27.7 -0.1**
VRAC Vranov 41.13 306 ⇑P **P** **19 24 27.7 -0.1**
VRAC Vranov 41.13 306 *e*P **P** **19 24 28.7 +0.9**
DPC Dobruska-Polom 41.26 307 *e*P **P** **19 24 29.7 +0.8**
DPC Dobruska-Polom 41.26 307 *e*P **P** **19 24 29.7 +0.8**
DPC *e*pP **sP** **19 25 46.2 -0.1**
ARA0 ARCESS Array S 41.26 338 *e*P **P** **19 24 29.6 +1.1**
ARCES ARCESS Array B 41.26 338 P **P** **19 24 29.5 +0.9**
comp=Z,13nm,0.5s,baz=113,slow=8.0,SNR=58
ARCES pP **pP** **19 25 21.4 +2.3**
comp=Z,2.4nm,0.5s,baz=110,slow=7.7,SNR=1.9
ARCES ARCESS Array B 41.26 338 P **P** **19 24 29.5 +0.9**
ARCES pmax pmax
comp=Z,25nm,1.2s
ARCES ARCESS Array B 41.26 338 IAmb IAmb 19 24 30.9
comp=Z,25nm,1.1s
KRUC Moravsky 41.27 306 *e*P **P** **19 24 29.7 +0.8**
OSTC Ostas 41.32 308 *e*P **P** **19 24 30.5 +1.2**
CHVC Chvalec 41.42 308 *e*P **P** **19 24 30.8 +0.6**
UPC Upice 41.45 308 *e*P **P** **19 24 31.0 +0.6**
UPC Upice 41.45 308 *e*P **P** **19 24 31.0 +0.6**
CONA Conrad Observa 41.71 304 *e*P **P** **19 24 33.4 +0.9**
comp=Z,6.5nm,0.7s,SNR=7.0
KTK1 Kautokeino 41.74 336 *e*P **P** **19 24 32.9 +0.5**
ZEA Zeya 42.06 47 *e*P **P** **19 24 36.8 +1.6**
ZEA *e* 19 25 28.7
ZEA pmax pmax
comp=E,10.0nm,0.6s
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,20nm,0.7s
GROS Grobnik 42.10 302 *i*P **P** **19 24 35.8 +0.1**
BSD Bornholm Skovb 42.14 315 *i*P **P** **19 24 36.4 +0.6**
BSD Bornholm Skovb 42.14 315 *i*P **P** **19 24 36.4 +0.6**
PSI Prapat 42.15 136 P **P** **19 24 35.7 -0.8**
PSI pmax pmax
comp=Z,14nm,1.1s
PSI Prapat 42.15 136 P **P** **19 24 36.9 +0.4**
comp=Z,4.5nm,0.4s,comp=Z,13nm,0.7s
PSI P **P** **19 24 36.6 +0.1**
comp=Z,4.5nm,0.4s,comp=Z,13nm,0.7s
RPSI Rantau Prapat 42.24 136 P **P** **19 24 35.7 -1.4**
HAMF Hammerfest 42.34 339 *e*P **P** **19 24 38.5 +1.2**
PERS Pernice 42.34 302 *i*P **P** **19 24 38.4 +0.7**
SOKA Soboth 42.40 302 *e*P **P** **19 24 38.9 +0.8**
comp=Z,6.4nm,0.7s,SNR=5.7
SOKA *e*S **ScP** **19 29 52.8 -1.2**
comp=Z,3.5nm,1.4s
PRU Pruhonice 42.42 307 *e*P **P** **19 24 39.0 +0.8**
PRU Pruhonice 42.42 307 *e*P **P** **19 24 39.0 +0.8**
PRU *e*pP **sP** **19 25 55.6 -0.2**
CKRC Cesky Krumlov 42.66 305 *e*P **P** **19 24 41.1 +1.0**
GSI Gunungsitoli 42.66 139 P **P** **19 24 41.0 +0.6**
GSI IAmb IAmb 19 24 42.7
comp=Z,32nm,0.7s
GSI Gunungsitoli 42.66 139 P **P** **19 24 41.1 +0.6**
comp=Z,49nm,0.8s
OBKA Obir 42.75 302 *e*S **ScP** **19 29 54.3 -1.1**
BRG Berggiesshubel 42.75 308 *i*P **P** **19 24 41.6 +0.8**
BRG Amp 19 24 43.7
comp=Z,7.4nm,0.7s
BRG Berggiesshubel 42.75 308 P P 19 24 55.4 +15
BRG Amp 19 24 56.7
comp=Z,2.8nm,0.8s
BRG pP pP 19 25 33.3 +2.1
BRG Amp 19 25 36.0
comp=Z,5.0nm,1.1s
DEL Delary 42.79 317 *i*P **P** **19 24 41.0 0.0**
DEL *i*P **P** **19 24 41.1 +0.1**
TRSI Tarutung 42.81 137 P **P** **19 24 42.0 +0.2**
comp=Z,38nm,1.1s
JETT Jettan, Norway 42.88 336 *e*P **P** **19 24 42.9 +1.3**
GERES GERESS Array B 43.06 305 P **P** **19 24 43.9 +0.5**
comp=Z,0.6nm,0.5s,baz=75,slow=5.7,SNR=4.7
GERES PcP **PP** **19 26 28.1 -0.4**
comp=Z,0.9nm,0.6s,baz=94,slow=3.9,SNR=2.5
GERES ScP **ScP** **19 29 55.2 -1.5**
comp=Z,1.8nm,0.9s,baz=72,slow=4.2,SNR=4.0
KHC Kasperske Hory 43.11 306 *e*P **P** **19 24 44.7 +0.9**
KHC Kasperske Hory 43.11 306 *e*P **P** **19 24 44.7 +0.9**
KHC *e*pP sP 19 25 49.6 -12
BJUU Bjuv 43.25 316 *i*P **P** **19 24 48.1 +3.4**
CLL Collm 43.32 309 *i*P **P** **19 24 45.4 +0.1**
comp=Z,3.0nm,0.7s
CLL *e*pP **pP** **19 25 38.0 +2.1**
CLL *e*sP **sP** **19 26 01.0 -2.1**
CLL *e*PP **PP** **19 26 32.0 +0.9**
CLL *e*sPP 19 27 46.0
CLL *e*S **S** **19 30 56.0 +1.8**
CLL Collm 43.32 309 *i*P **P** **19 24 45.5 +0.1**
CLL *e**PP **pP** **19 25 38.0 +2.1**
CADS Cadrg 43.34 302 *i*P **P** **19 24 45.6 0.0**
TRO Tromso 43.39 336 *e*P **P** **19 24 46.3 +0.7**
BORU Boraas 43.45 318 *i*P **P** **19 24 46.6 +0.4**
KBA Koelnbreinsper 43.49 303 *e*P **P** **19 24 47.2 +0.2**
comp=Z,1.8nm,0.6s
KBA *e*S **ScP** **19 29 56.1 -2.4**
comp=Z,2.2nm,0.9s
ONAU Onsala 43.90 318 *e*P **P** **19 24 48.0 -1.8**
FAUS Fauske 43.93 333 *e*P **P** **19 24 50.2 +0.3**
MOR8 Moi Rana 43.94 331 *e*P **P** **19 24 49.9 -0.1**
YAK Yakutsk 43.98 35 P **P** **19 24 50.3 -0.1**
comp=Z,35nm,0.7s,baz=212,slow=0.9,SNR=52
YAK pP **pP** **19 25 43.0 +0.7**
comp=Z,5.4nm,0.5s,baz=335,slow=1.0,SNR=2.2
YAK Yakutsk 43.98 35*d*i*P* **P** **19 24 50.1 -0.3**
YAK *e* 19 25 42.6
YAK pmax pmax
comp=Z,64nm,0.9s
YAK pmax pmax
comp=N,7.0nm,0.9s
STEI Steigen 44.09 333 *e*P **P** **19 24 52.0 +0.8**
MNSI Mandailing Nat 44.17 137 P **P** **19 24 53.8 +1.3**
comp=N,35nm,0.9s
NORES NORESS Array B 44.32 323 P **P** **19 24 53.1 0.0**
STRU Stroemstad 44.37 320 *i*P **P** **19 24 53.5 0.0**
NC303 NORSAR Array S 44.45 323 P **P** **19 24 53.5 -0.6**
NB2 NORSAR Subarra 44.51 323 P **P** **19 24 54.3 -0.4**
comp=Z,4.8nm,0.7s,baz=96,slow=7.9
NB2 NORSAR Subarra 44.51 323 P **P** **19 24 54.3 -0.4**
baz=96,slow=7.9
NOA NORSAR Array B 44.51 323 P **P** **19 24 54.5 -0.1**
comp=Z,3.9nm,0.7s,baz=96,slow=7.7,SNR=17
NOA pP **pP** **19 25 47.5 +1.8**
comp=Z,2.8nm,0.8s,baz=95,slow=8.0,SNR=2.7
KONS Konsvik 44.53 331 *e*P **P** **19 24 55.3 +0.6**
WTTA Wattenberg 44.62 303 *e*P **P** **19 24 55.6 -0.3**
comp=Z,2.2nm,0.5s
WTTA *e*S **ScP** **19 30 01.0 -2.2**
comp=Z,3.4nm,0.7s
WATA Walderalm 44.65 303 *e*S **ScP** **19 30 01.5 -1.7**
comp=Z,4.9nm,0.9s
MURB Monte Urbino 44.71 298 P **P** **19 24 56.9 +0.3**
MURB IAmb IAmb 19 24 58.9
comp=Z,21nm,1.1s
LOF Lofoten 44.77 333 *e*P **P** **19 24 56.8 +0.3**
KSAR Wonju Array Be 44.80 71 P **P** **19 24 57.0 -0.2**
KSAR Wonju Array Be 44.80 71 P **P** **19 24 57.0 -0.2**
CTI Castel Tesino 44.80 302 P **P** **19 24 56.9 -0.4**
CTI pmax pmax
comp=Z,6.0nm,0.7s
CTI Castel Tesino 44.80 302 P **P** **19 24 56.9 -0.4**
KSRS Korea Array 44.82 71 P **P** **19 24 57.8 +0.4**
comp=Z,1.9nm,0.5s,baz=271,slow=7.0,SNR=17
KSRS ScP **ScP** **19 30 00.7 -3.2**
comp=Z,0.6nm,0.6s,baz=282,slow=2.7,SNR=4.4
SQTA Sankt Quirin 44.92 303 *e*S **ScP** **19 30 02.7 -1.6**
comp=Z,4.4nm,0.8s
MOTA Moosalm 44.97 304 *e*P **P** **19 24 57.9 -0.7**
comp=Z,4.7nm,0.7s,SNR=5.1
MOTA *e*S **ScP** **19 30 02.9 -1.7**
comp=Z,4.5nm,0.9s
TWG Pinlang 45.03 93 P **P** **19 24 59.3 +0.1**
TWG IAmb IAmb 19 25 02.6
comp=Z,24nm,0.5s
KLR Kul'dur 45.12 54 P **P** **19 25 00.6 +1.0**
comp=Z,6.1nm,0.6s,baz=286,slow=8.9,SNR=23
KLR Kul'dur 45.12 54*d*i*P* **P** **19 24 59.7 +0.1**
KLR pmax pmax
comp=Z,10.0nm,0.9s
KONO Kongsberg 45.21 321 *e*P **P** **19 25 00.3 +0.2**
FETA Feichten 45.27 303 *e*P **P** **19 25 00.5 -0.5**
comp=Z,1.7nm,0.6s
FETA *e*S **ScP** **19 30 04.7 -1.2**
comp=Z,6.6nm,1.0s
DAVA Damuels 45.80 304 *e*P **P** **19 25 04.8 -0.3**
comp=Z,7.8nm,0.6s,SNR=8.2
DAVA *e*S **ScP** **19 30 06.4 -1.7**
comp=Z,8.4nm,0.8s
TIXI Tiksi 45.82 22*d*i*P* **P** **19 25 04.8 +0.1**
TIXI Tiksi 45.82 22 P **P** **19 25 04.7 -0.1**
TIXI IAmb IAmb 19 25 05.4
comp=Z,20nm,0.7s
MYKOM Kota Tinggi 45.85 131 P P 19 25 11.0 +5.3
USRK Ussuriysk Ar. 46.13 61 P **P** **19 25 07.2 -0.4**
comp=Z,1.7nm,0.8s,baz=269,slow=7.1,SNR=2.7
VLA Vladivostok 46.30 62*de*P **P** **19 25 09.2 +0.4**
VLA pmax pmax
comp=Z,10.0nm,1.4s
SNART Snartemo 46.43 319 *e*P **P** **19 25 10.4 +0.8**
LODK Lodwar 46.48 234 P **P** **19 25 10.9 +0.2**
LODK IAmb IAmb 19 25 13.7
comp=Z,38nm,1.6s
BLS5 Blasjo 46.81 321 *e*P **P** **19 25 11.3 -1.3**
CDF Champ du Feu 47.34 306 *e*P **P** **19 25 21.2 +4.2**
CDF pmax pmax
comp=Z,2.0nm,0.8s
PGF Pioggiola 47.39 297 *e*P **P** **19 25 16.5 -1.0**
PGF pmax pmax
comp=Z,6.0nm,0.8s
SPA0 Spitsbergen Ar 47.60 347 *e*P **P** **19 25 18.0 -0.4**
SENIN Lac Senin/Sane 47.71 303 P **P** **19 25 19.5 -0.5**
HINF Hinteralfeld 47.73 305 *e*P **P** **19 25 19.1 -0.8**
HINF pmax pmax
comp=Z,3.0nm,0.7s
HAU Haudompre 48.02 305 *e*P **P** **19 25 21.5 -0.6**
HAU pmax pmax
comp=Z,4.0nm,0.6s
LPG La Plagne 48.27 302 *e*P **P** **19 25 24.9 +0.5**
LPG pmax pmax
comp=Z,6.0nm,0.8s
LPL La Plagne 48.28 302 *e*P **P** **19 25 24.2 -0.2**
LPL pmax pmax
comp=Z,9.0nm,0.9s
KBS Kingsbay 48.72 347 *e*S **S** **19 32 11.2 +0.9**
KMBO Kilima Mbogo 48.84 228 P **P** **19 25 30.4 +1.4**
comp=Z,9.0nm,0.7s,baz=39,slow=9.9,SNR=23
KMBO Kilima Mbogo 48.84 228*c*i*P* **P** **19 25 30.3 +1.3**
KMBO pmax pmax
comp=Z,9.0nm,0.7s
KEST Kesra 49.15 289 P **P** **19 25 31.2 +0.3**
comp=Z,8.1nm,1.2s,baz=65,slow=1.2,SNR=4.7
KEST Kesra 49.15 289 P **P** **19 25 30.8 -0.2**
KIBK Kibwezi 49.35 226 P **P** **19 25 32.8 +0.2**
KIBK IAmb IAmb 19 25 35.3
comp=Z,24nm,0.8s
SSB Saint Sauveur 49.84 302 P **P** **19 25 35.7 -0.2**
SSB pmax pmax
comp=Z,4.0nm,0.6s
SSB Saint Sauveur 49.84 302 P **P** **19 25 35.7 -0.2**
VIVF Saint-Julien-l 49.85 301 *e*P **P** **19 25 35.7 -0.3**
VIVF pmax pmax
comp=Z,6.0nm,0.7s
AVF Avril sur Loir 50.27 304 *e*P **P** **19 25 38.4 -0.7**
AVF pmax pmax
comp=Z,7.0nm,0.6s
PPBI Pangkal Pinang 50.35 132 P **P** **19 25 40.9 +0.8**
SBUM Sibu 50.77 122 P **P** **19 25 45.0 +1.8**
SPMM Sapulut 52.18 116 P **P** **19 25 57.0 +3.4**
EKA Eskdalemuir Ar 52.42 316 P **P** **19 25 54.5 -0.3**
MBAR Mbarara 52.53 235 P **P** **19 25 57.3 +0.9**
comp=Z,20nm,0.7s,baz=25,slow=9.9,SNR=38
MBAR Mbarara 52.53 235 P **P** **19 25 56.4 0.0**
MBAR IAmb IAmb 19 25 58.1
comp=Z,22nm,0.8s
YSS Yuzh-Sakhalins 52.80 55*ce*P **P** **19 25 58.0 +0.3**
YSS pmax pmax
comp=Z,17nm,1.0s
YSS Yuzh-Sakhalins 52.80 55 P **P** **19 25 57.1 -0.7**
YSS IAmb IAmb 19 25 59.4
comp=Z,12nm,0.7s
MAT Matsushiro 52.90 68 P **P** **19 25 58.0 -0.7**
MJAR Matsushiro Arr 52.90 68 P **P** **19 25 59.0 +0.3**
comp=Z,2.2nm,0.8s,baz=341,slow=4.9,SNR=3.8
MJAR pP **pP** **19 26 52.8 +0.4**
comp=Z,2.5nm,0.7s,baz=288,slow=7.8,SNR=4.0
NOR Nord 53.91 350 *i*P **P** **19 26 06.1 +0.8**
NOR IAmb IAmb 19 26 06.5
comp=Z,5.2nm,0.9s
NOR Nord 53.91 350 *i*P **P** **19 26 06.1 +0.8**
NOR pmax pmax
comp=Z,5.0nm,0.9s
ETSF Etsaut 54.04 300 *e*P **P** **19 26 06.6 -0.3**
ETSF pmax pmax
comp=Z,6.0nm,0.6s
SEY Seymchan 54.44 34*d*i*P* **P** **19 26 10.0 +0.7**
ESDC Sonseca Array 57.58 298 P **P** **19 26 31.9 -0.1**
comp=Z,2.3nm,0.9s,baz=59,slow=7.6,SNR=14
ESDC Sonseca Array 57.58 298 P **P** **19 26 30.7 -1.3**
BILL Bilibino 58.65 26*d*i*P* **P** **19 26 39.4 +0.6**
BILL *e* 19 27 26.5
BILL *e**PP **pP** **19 27 33.6 -0.1**
BILL *e**SP **sP** **19 28 00.6 +0.2**
BILL *e* 19 28 49.6
BILL pmax pmax
comp=Z,7.0nm,0.4s
OPO Ambohidratompo 59.18 207 P **P** **19 26 43.3 0.0**
comp=Z,11nm,1.0s,baz=28,slow=8.2,SNR=7.4
ABPO Ambohimpanom 59.58 206 P **P** **19 26 46.0 0.0**
ABPO pmax pmax
comp=Z,31nm,1.1s
ABPO Ambohimpanom 59.58 206 P **P** **19 26 46.0 0.0**
ABPO IAmb IAmb 19 26 47.9
comp=Z,31nm,1.1s
PETK Petropavlovsk- 59.97 44 P **P** **19 26 46.9 -1.2**
comp=Z,1.3nm,0.5s,baz=249,slow=6.0,SNR=3.7
NEEM North Greenlan 61.14 348 *i*P **P** **19 26 56.0 0.0**
NEEM IAmb IAmb 19 26 58.0
comp=Z,9.7nm,0.8s
SUMG Summit 61.18 341 *i*P **P** **19 26 57.3 +0.9**
SUMG IAmb IAmb 19 26 58.5
comp=Z,12nm,0.9s
SUMG Summit 61.18 341 *i*P **P** **19 26 57.3 +0.9**
SUMG pmax pmax
comp=Z,13nm,0.9s
SUMG Summit 61.18 341 P **P** **19 26 56.2 -0.2**
SUMG IAmb IAmb 19 26 58.7
comp=Z,11nm,0.8s
SUMG pP **pP** **19 27 51.2 -0.2**
VOI Vohitsoka 62.39 206 P **P** **19 27 05.0 +0.2**
VOI Vohitsoka 62.39 206 P **P** **19 27 06.0 +1.2**
ICESG Greenland Ices 63.33 338 *i*P **P** **19 27 11.4 +0.8**
ICESG IAmb IAmb 19 27 13.0
comp=Z,8.3nm,0.8s
TORD Torodi Ar. Bea 65.81 269 P **P** **19 27 25.6 -1.5**
comp=Z,16nm,0.5s,baz=48,slow=6.0,SNR=164
TORD Torodi Ar. Bea 65.81 269 P **P** **19 27 25.2 -1.9**
TORD IAmb IAmb 19 27 26.2
comp=Z,6.4nm,0.8s
DY2G Dye2 66.90 337 *i*P **P** **19 27 33.3 -0.1**
DY2G IAmb IAmb 19 27 35.2
comp=Z,8.8nm,0.8s
RDOG Red Dog Mine 68.31 19 P **P** **19 27 40.9 -1.1**
baz=315
MATP Matopo 69.41 223 P **P** **19 27 49.6 +0.2**
comp=Z,39nm,0.8s,baz=28,slow=5.7,SNR=78
MATP pP **pP** **19 28 45.8 -0.5**
comp=Z,4.3nm,0.7s,baz=68,slow=12,SNR=2.2
KOWA Kowa 69.67 273 P **P** **19 27 49.5 -1.6**
ANM Nome 70.08 23 P **P** **19 27 53.0 +0.2**
baz=314
TOLK Toolik Lake Re 70.98 15 P **P** **19 27 58.5 +0.3**
TOLK pP **pP** **19 28 55.1 0.0**
TOLK Toolik Lake Re 70.98 15 P **P** **19 27 59.0 +0.8**
baz=326
A36M Sachs Harbour 71.29 5 P **P** **19 28 00.5 +0.6**
baz=346
COLD Coldfoot 72.03 16 P **P** **19 28 04.8 +0.3**
COLD IAmb IAmb 19 28 06.2
comp=Z,17nm,0.9s
COLD pP **pP** **19 29 00.5 -1.0**
COLD Coldfoot 72.03 16 P **P** **19 28 05.1 +0.7**
baz=326,SNR=13
IMAR Indian Mountai 72.23 18 P **P** **19 28 06.0 +0.3**
IMAR pP **pP** **19 28 58.9 -3.6**
BMAR Burnt Mountain 73.01 14 P **P** **19 28 11.1 +0.8**
BMAR pP **pP** **19 29 03.7 -3.5**
I21K Tanana 73.31 18 P **P** **19 28 11.6 -0.4**
I21K IAmb IAmb 19 28 13.7
comp=Z,10.0nm,0.9s
I21K Tanana 73.31 18 P **P** **19 28 12.5 +0.5**
baz=325
H23K Yukon River 73.35 16 P **P** **19 28 13.3 +1.1**
H23K IAmb IAmb 19 28 14.4
comp=Z,16nm,0.9s
H23K pP **pP** **19 29 06.6 -2.9**
H23K Yukon River 73.35 16 P **P** **19 28 13.3 +1.1**
baz=327,SNR=10
J20K Nowinta River 73.58 19 P **P** **19 28 14.2 +0.6**
J20K IAmb IAmb 19 28 15.4
comp=Z,18nm,0.8s
J20K pP **pP** **19 29 08.9 -1.9**
J20K Nowinta River 73.58 19 P **P** **19 28 14.3 +0.6**
baz=323,SNR=15
FYU Fort Yukon 73.63 14 IAmb IAmb 19 28 16.2
comp=Z,25nm,1.1s
H24K Noodor Dome 73.71 16 P **P** **19 28 15.3 +0.9**
H24K IAmb IAmb 19 28 16.4
comp=Z,10nm,1.0s
H24K Noodor Dome 73.71 16 P **P** **19 28 15.2 +0.9**
baz=328,SNR=11
MLY Manley 73.74 17 P **P** **19 28 14.2 -0.4**
MLY IAmb IAmb 19 28 16.1
comp=Z,11nm,1.0s
MLY pP **pP** **19 29 11.4 -0.6**
MLY Manley 73.74 17 P **P** **19 28 15.1 +0.5**
baz=326,SNR=11
I23K Minto, Yukon-K 73.96 17 P **P** **19 28 15.8 0.0**
I23K IAmb IAmb 19 28 17.6
comp=Z,15nm,1.0s
I23K pP **pP** **19 29 13.4 +0.3**
I23K Minto, Yukon-K 73.96 17 P **P** **19 28 16.6 +0.9**
baz=327,SNR=6.6
INK Inuvik 73.98 9 P **P** **19 28 16.1 +0.4**
comp=Z,8.4nm,0.5s,baz=334,slow=6.3,SNR=19
INK Inuvik 73.98 9 P **P** **19 28 16.4 +0.6**
INK pmax pmax
comp=Z,28nm,1.2s
INK Inuvik 73.98 9 P **P** **19 28 16.4 +0.6**
INK IAmb IAmb 19 28 17.6
comp=Z,28nm,1.1s
INK Inuvik 73.98 9 P **P** **19 28 16.8 +1.0**
baz=340,SNR=5.5
K20K Telida 74.27 19 P **P** **19 28 17.8 +0.2**
K20K IAmb IAmb 19 28 19.5
comp=Z,23nm,0.9s
K20K pP **pP** **19 29 15.7 +0.8**
K20K Telida 74.27 19 P **P** **19 28 18.3 +0.7**
baz=324,SNR=22
CHUM Lake Minchumin 74.30 18 P **P** **19 28 18.4 +0.7**
baz=325
MDM Murphy Dome 74.38 16 IAmb IAmb 19 28 19.8
comp=Z,17nm,0.9s
MDM pP 19 29 15.8 +0.2
POKR Poker Plat Res 74.42 16 P **P** **19 28 18.8 +0.4**
POKR Poker Plat Res 74.42 16 P **P** **19 28 19.2 +0.8**
baz=329,SNR=5.5
BPAW Bear Paw Mtn. 74.45 18 P **P** **19 28 18.9 +0.2**
BPAW IAmb IAmb 19 28 19.8
comp=Z,22nm,1.2s
BPAW Bear Paw Mtn. 74.45 18 P **P** **19 28 18.7 +0.1**
baz=326,SNR=8.9
PRP Porcupine Dome 74.49 15 IAmb IAmb 19 28 23.5
comp=Z,12nm,1.4s
PRP Porcupine Dome 74.49 15 P **P** **19 28 19.3 +0.3**
baz=330
NEA2 Nenana 74.50 17 P **P** **19 28 19.0 +0.1**
NEA2 IAmb IAmb 19 28 20.1
comp=Z,21nm,0.9s
NEA2 pP **pP** **19 29 15.1 -1.2**
NEA2 Nenana 74.50 17 P **P** **19 28 18.9 +0.1**
baz=327,SNR=13
LBTB Lobatse 74.67 222 P **P** **19 28 20.8 +0.3**
LBTB pmax pmax
comp=Z,33nm,1.2s
LBTB Lobatse 74.67 222 P **P** **19 28 20.8 +0.3**
BWN Browne 74.76 17 P **P** **19 28 20.9 +0.5**
DBIC Dimbokro 74.79 267 P **P** **19 28 20.1 -1.3**
comp=Z,6.4nm,0.5s,baz=46,slow=5.5,SNR=21
IL31 74.84 16 IAmb IAmb 19 28 21.6
comp=Z,11nm,1.1s
ILAR Eielson Array 74.84 16 P **P** **19 28 20.8 -0.1**
comp=Z,4.5nm,0.8s,baz=316,slow=4.7,SNR=41
ILAR pP **pP** **19 29 18.6 +0.3**
comp=Z,2.9nm,1.0s,baz=318,slow=4.8,SNR=4.4
ILAR Eielson Array 74.84 16 P **P** **19 28 20.1 -0.7**
ILAR pP **pP** **19 29 17.6 -0.7**
KIC Kosan Boka 74.87 267 *e*PKIKP **P** **19 28 21.6 -0.3**
comp=Z,19nm,0.5s
TIC Toumodi 74.93 267 *e*PKIKP **P** **19 28 21.8 -0.4**
TSUM Tsumeb 74.94 232 P **P** **19 28 22.5 +0.3**
comp=Z,6.4nm,0.5s,baz=13,slow=8.1,SNR=11
L19K White Mountain 75.00 20 P **P** **19 28 22.4 +0.6**
L19K IAmb IAmb 19 28 23.7
comp=Z,15nm,1.1s
L19K pP **pP** **19 29 19.9 +0.7**
L19K White Mountain 75.00 20 P **P** **19 28 22.7 +0.8**
baz=323,SNR=6.5
HDA Harding Lake 75.14 16 IAmb IAmb 19 28 22.8
comp=Z,12nm,1.3s
HDA Harding Lake 75.14 16 P **P** **19 28 21.9 -0.6**
baz=329
PPLA Purkeypile 75.14 19 P **P** **19 28 22.9 +0.2**
baz=325
LIC Lamto 75.18 267 *e*PKIKP **P** **19 28 22.1 -1.5**
comp=Z,28nm,0.5s
MCK McKinley 75.26 17 P **P** **19 28 23.7 +0.4**
baz=328
EPYK Eagle Plains 75.33 11 P **P** **19 28 23.7 0.0**
baz=337
M19K Big River Lodg 75.35 20 P **P** **19 28 24.0 +0.2**
baz=324
M20K Styx River 75.72 20 P **P** **19 28 25.9 -0.1**
baz=325
EGAK Eagle 76.01 14 P **P** **19 28 27.5 +0.1**
baz=334
SKT Skwentna 76.07 19 P **P** **19 28 27.3 -0.6**
SKT IAmb IAmb 19 28 29.1
comp=Z,31nm,1.2s
SKT pP **pP** **19 29 25.4 -0.1**
SKT Skwentna 76.07 19 P **P** **19 28 28.5 +0.6**
baz=326,SNR=8.4
WAT1 Susitna Watana 76.12 18 P **P** **19 28 27.5 -0.6**
baz=328

SCRK	**Sand Creek**	**76.16**	**15**	P	**P**	**19 28 28.3**	**-0.2**
SCRK				IAmb	IAmb	19 28 29.8	
	comp=Z,15nm,1.3s						
SCRK	**Sand Creek**	**76.16**	**15**	P	**P**	**19 28 28.9**	**+0.4**
	baz=332,SNR=6.1						
RIDG	**Independent Ri**	**76.18**	**16**	P	**P**	**19 28 28.4**	**-0.2**
	baz=331						
N19K	**Bonanza Creek**	**76.20**	**21**	P	**P**	**19 28 29.1**	**+0.4**
	baz=324						
K27K	**Chicken**	**76.50**	**14**	P	**P**	**19 28 30.9**	**+0.6**
K27K				IAmb	IAmb	19 28 32.2	
	comp=Z,13nm,1.1s						
WAT6	**Susitna Watana**	**76.53**	**17**	P	**P**	**19 28 30.5**	**-0.2**
	baz=329						
PAX	**Paxson**	**76.72**	**16**	IAmb	IAmb	19 28 32.6	
	comp=Z,18nm,1.2s						
PAX	**Paxson**	**76.72**	**16**	P	**P**	**19 28 31.5**	**-0.1**
	baz=330,SNR=6.1						
O18K	**Koktuh Hills**	**76.76**	**22**	IAmb	IAmb	19 28 34.0	
	comp=Z,23nm,1.0s						
DAWY	**Dawson**	**76.99**	**13**	P	**P**	**19 28 33.2**	**+0.2**
DAWY				IAmb	IAmb	19 28 34.5	
	comp=Z,15nm,1.2s						
DAWY	**Dawson**	**76.99**	**13**	P	**P**	**19 28 33.2**	**+0.2**
	baz=335,SNR=6.5						
SML	**Sawmill**	**77.04**	**18**	P	**P**	**19 28 33.5**	**+0.1**
SML					**pP**	**19 29 31.6**	**+0.5**
SML	**Sawmill**	**77.04**	**18**	P	**P**	**19 28 33.2**	**-0.2**
	baz=328,SNR=5.7						
HARP	**HAARP**	**77.29**	**16**	P	**P**	**19 28 35.8**	**+1.1**
	baz=331,SNR=7.1						
RC01	**Rabbit Creek A**	**77.29**	**19**	P	**P**	**19 28 34.5**	**-0.2**
	baz=327						
M24K	**Tolsona, Glenn**	**77.31**	**17**	P	**P**	**19 28 35.8**	**+1.0**
	baz=330,SNR=7.5						
O20K	**Slope Mountain**	**77.34**	**21**	P	**P**	**19 28 35.2**	**+0.1**
	baz=325						
KNK	**Knik Glacier**	**77.35**	**18**	IAmb	IAmb	19 28 36.9	
	comp=Z,22nm,1.1s						
KNK	**Knik Glacier**	**77.35**	**18**	P	**P**	**19 28 35.6**	**+0.6**
	baz=328						
L27K	**Beaver Creek,**	**77.42**	**15**	P	**P**	**19 28 36.3**	**+0.9**
L27K	**Beaver Creek,**	**77.42**	**15**	P	**P**	**19 28 36.4**	**+0.9**
	baz=333,SNR=5.9						
BCAR	**Beaver Creek A**	**77.43**	**15**	P	**P**	**19 28 36.0**	**+0.6**
BOSA	**Boshof**	**77.74**	**220**	P	**P**	**19 28 36.9**	**-0.8**
	comp=Z,10.0nm,0.9s,baz=7.7,slow=3.8,SNR=13						
M26K	**Nabesna, AK**	**77.77**	**16**	P	**P**	**19 28 37.9**	**+0.5**
	baz=332						
KLU	**Klutina**	**77.90**	**17**	IAmb	IAmb	19 28 39.7	
	comp=Z,17nm,1.1s						
KLU	**Klutina**	**77.90**	**17**	P	**P**	**19 28 38.7**	**+0.5**
	baz=330						
M27K	**Edge Creek, AK**	**78.04**	**15**	IAmb	IAmb	19 28 42.2	
	comp=Z,18nm,1.2s						
M27K	**Edge Creek, AK**	**78.04**	**15**	P	**P**	**19 28 40.0**	**+1.0**
	baz=333,SNR=8.0						
N25K	**Chitina, Valde**	**78.11**	**17**	P	**P**	**19 28 40.2**	**+0.9**
	baz=331						
GLI	**Glacier Island**	**78.15**	**18**	P	**P**	**19 28 39.7**	**+0.3**
	baz=329						
BRSE	**Bradley Lake S**	**78.15**	**20**	P	**P**	**19 28 39.6**	**+0.1**
	baz=327						
BVCY	**Beaver Creek**	**78.20**	**15**	P	**P**	**19 28 40.1**	**+0.3**
	baz=334						
SDPT	**Sand Point**	**78.53**	**27**	P	**P**	**19 28 42.3**	**+0.7**
	baz=320						
MCARA	**McCarthy VSAT**	**78.67**	**16**	P	**P**	**19 28 42.6**	**+0.4**
	baz=333						
BMRM	**Bremner River**	**78.67**	**17**	P	**P**	**19 28 42.9**	**+0.5**
	baz=331						
EYAK	**Cordova Ski Ar**	**78.77**	**18**	P	**P**	**19 28 43.4**	**+0.6**
	baz=330						
YUK3	**Moose Creek**	**78.86**	**15**	P	**P**	**19 28 44.1**	**+0.6**
	baz=335						
KDAK	**Kodiak Island**	**79.25**	**22**	P	**P**	**19 28 45.5**	**+0.1**
	baz=326						
CHNA	**Chernabura Isl**	**79.25**	**27**	P	**P**	**19 28 45.7**	**+0.2**
	baz=321						
CNBA	**Chernabura Isl**	**79.26**	**27**	P	**P**	**19 28 45.4**	**-0.2**
CTG	**Chitna Glacier**	**79.41**	**15**	P	**P**	**19 28 46.7**	**+0.2**
	baz=334						
OHAK	**Old Harbor**	**79.49**	**23**	P	**P**	**19 28 47.3**	**+0.6**
	baz=325						
Q23K	**Middleton Isla**	**79.59**	**18**	P	**P**	**19 28 48.0**	**+0.8**
	baz=330						
YUK4	**Talbot Arm**	**79.62**	**14**	P	**P**	**19 28 48.1**	**+0.4**
	baz=336						
MMPY	**Sheldon Lake,**	**79.68**	**10**	P	**P**	**19 28 48.5**	**+0.8**
	baz=342						
FARO	**Faro, Yukon**	**79.73**	**11**	P	**P**	**19 28 48.7**	**+0.6**
	baz=340						
HYT	**Haines Junctio**	**80.32**	**14**	P	**P**	**19 28 52.0**	**+0.7**
	baz=337						
PINM	**Pinnacle**	**80.43**	**15**	P	**P**	**19 28 52.4**	**+0.5**
	baz=335						
WHY	**Whitehorse**	**80.95**	**13**	P	**P**	**19 28 55.0**	**+0.4**
	baz=339						
YKA	**Yellowknife Ar**	**81.33**	**3**	P	**P**	**19 28 57.0**	**+0.6**
	comp=Z,2.6nm,0.5s,baz=2.5,slow=5.2,SNR=20						
YKA				pP	**pP**	**19 29 55.1**	**+0.2**
	comp=Z,5.2nm,0.9s,baz=356,slow=4.6,SNR=5.9						
WRA	**Warramunga Arr**	**81.86**	**122**	P	**P**	**19 28 58.9**	**-1.0**
	comp=Z,3.3nm,0.3s,baz=322,slow=4.7,SNR=116						
WRAB	**Tennant Creek**	**81.87**	**122**	*eP*	**P**	**19 28 59.2**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,8.0nm,1.0s						
WRAB	**Tennant Creek**	**81.87**	**122**	P	**P**	**19 28 59.0**	**-0.9**
WRAB				IAmb	IAmb	19 29 00.2	
	comp=Z,11nm,1.0s						
WB2	**Warramunga Arr**	**81.87**	**122**	P	**P**	**19 28 59.0**	**-0.9**
WB2				IAmb	IAmb	19 28 59.8	
	comp=Z,12nm,1.0s						
WR0	**Warramunga Arr**	**82.01**	**122**	IAmb	IAmb	19 29 01.4	
	comp=Z,18nm,1.4s						
AS31	**Alice Springs**	**84.13**	**125**	P	**P**	**19 29 10.4**	**-1.0**
ASAR	**Alice Springs**	**84.13**	**125**	P	**P**	**19 29 10.4**	**-1.0**
	comp=Z,6.0nm,0.6s,baz=311,slow=5.0,SNR=115						
ASAR				pP	**pP**	**19 30 10.0**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=306,slow=4.9,SNR=3.5						
D62A	**Allapoint, All**	**89.54**	**334**	P	**P**	**19 29 37.5**	**+0.4**
	baz=31						
ULM	**Lac du Bonnet**	**92.95**	**352**	P	**P**	**19 29 52.5**	**-0.3**
	comp=Z,1.3nm,0.3s,baz=50,slow=4.8,SNR=3.6						
SNAA	**Sanae**	**119.34**	**200**	P	**PKPdf**	**19 35 25.9**	**-0.8**
VNA2	**Neumayer--Watz**	**120.35**	**202**	P	**PKPdf**	**19 35 27.9**	**-0.7**
VNA1	**Neumayer--Stat**	**120.51**	**202**	P	**PKPdf**	**19 35 28.6**	**-0.2**
VNA3	**Neumayer Olymp**	**121.16**	**202**	P	**PKPdf**	**19 35 29.4**	**-0.7**
CPUP	**Villa Florida**	**135.30**	**268**	PKP	**PKPdf**	**19 35 57.4**	**-1.0**
	comp=Z,2.9nm,0.7s,baz=92,slow=3.3,SNR=4.3						
ACLC	**CERRO LA CRUZ**	**144.33**	**269**	*i* P	**PKPab**	**19 36 13.2**	**-0.5**
APLL	**PUNTA DE LOS L**	**144.35**	**267**	*i* P	**PKPab**	**19 36 12.8**	**-0.7**
ACHE	**Chepes**	**144.73**	**266**	*i* P	PKPbc	19 36 14.2	-0.9
VCA	**Vinchina**	**145.08**	**271**	*i* P	**PKPbc**	**19 36 16.3**	**0.0**
AVFE	**Valle Fertil**	**145.19**	**267**	*i* P	**PKPdf**	**19 36 15.9**	**-0.3**
ACCO	**Cerro Coronel**	**146.46**	**268**	*i* P	**PKPdf**	**19 36 19.2**	**+0.5**
RTCV	**Cerro Valdivia**	**146.47**	**266**	*eP*	**PKPbc**	**19 36 19.3**	**-0.8**
ASAL	**Salagasta**	**146.94**	**265**	*i* P	**PKPdf**	**19 36 20.1**	**+1.0**
AUSP	**Uspallata**	**147.27**	**266**	*i* P	**PKPdf**	**19 36 20.9**	**+0.9**
PLCA	**Paso Flores**	**149.88**	**250**	PKPbc	**PKPbc**	**19 36 29.0**	**+0.2**
	comp=Z,9.5nm,0.9s,baz=98,slow=2.3,SNR=18						
PLCA	**Paso Flores**	**149.88**	**250**	PKP2	**PKPbc**	**19 36 29.0**	**+0.2**
PLCA	**Paso Flores**	**149.88**	**250**		**PKPbc**	**19 36 29.0**	**+0.2**

JMA 01 19:17:43.0±0.1,24°.69N×122°.81E,h19km±2km,M1.5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.27**	**153**	P	Pg	19 17 48.8	-0.3
JYNG				S	Sb	19 17 53.1	0.0
YOJ	**Yonaguni jima**	**0.29**	**141**	P	Pg	19 17 49.3	-0.2
YOJ				S	Sg	19 17 53.5	-0.4
IRIF	**Iriomote-Funau**	**0.91**	**113**	P	Pb	19 17 59.9	-0.3
IRIF				*e*S	Sb	19 18 12.2	+0.3
HATJ	**Hateruma jima**	**1.10**	**125**	P	Pb	19 18 03.5	0.0
JKRS	**Kuro-shima**	**1.18**	**112**	P	Pn	19 18 04.3	-0.2
JKRS				S	Sn	19 18 20.0	-0.1
JIJ	**Ishigaki jima**	**1.26**	**105**	P	Pn	19 18 04.6	-0.9
JIJ				*e*S	Sb	19 18 20.5	-1.4
JISG	**Ishigakijimahi**	**1.37**	**94**	P	Pn	19 18 07.1	0.0

TAP 01 19:17:51.4,23°.89N×121°.46E,h16km,ML1.2,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETM	**Tongmen**	**0.08**	**24**	P	Pg	19 17 55.3	+0.6
ETM	baz=23			S	Sg	19 17 57.4	+0.6
ESL	**Shilin**	**0.08**	**196**	*i* P	Pg	19 17 55.4	+0.7
ESL	baz=191			S	Sg	19 17 57.4	+0.6
HWA	**Hwalien**	**0.16**	**58**	*e*P	Pb	19 17 56.6	+0.5
HWA	baz=59			*e*S	Sb	19 17 59.9	+0.8
EGFH	**Guangfu**	**0.22**	**187**	P	Pb	19 17 57.4	+0.2
EGFH	baz=187			*e*S	Sb	19 18 00.9	-0.1
TWD	**Chiawan**	**0.23**	**34**	*e*P	Pb	19 17 57.8	+0.6
TWD	baz=35			*e*S	Sb	19 18 01.7	+0.6
OWD	**Renai**	**0.27**	**284**	*e*P	Pb	19 17 58.7	+0.8
OWD	baz=283			*e*S	Sb	19 18 02.8	+0.5
ETL	**Fush Village**	**0.31**	**30**	*e*P	Pb	19 17 59.8	+1.2
ETL	baz=29			*e*S	Sg	19 18 02.5	0.0
NACB	**Ninganchiao**	**0.31**	**24**	*e*P	Pg	19 17 58.0	+0.1
NACB	baz=23			*e*S	Sg	19 18 02.7	+0.3
WHF	**Hehuan Shan**	**0.31**	**325**	P	Pb	19 17 58.8	0.0
WHF	baz=325			S	Sb	19 18 03.4	-0.4
CHGB	**Renai**	**0.31**	**303**	*e*P	Pb	19 17 59.1	+0.4
CHGB	baz=302			*e*S	Sb	19 18 03.8	+0.2
ETLH	**Xiulin Townshi**	**0.31**	**4**	*e*P	Pb	19 17 58.8	0.0
ETLH	baz=3.0			*e*S	Sg	19 18 03.2	+0.5
EHY	**Hungye**	**0.40**	**198**	*e*P	Pb	19 18 00.2	-0.1
EHY	baz=196			*e*S	Sb	19 18 06.2	+0.1
FUSS	**Fushou**	**0.41**	**331**	*e*P	Pb	19 18 00.6	+0.2
FUSS	baz=331			*e*S	Sb	19 18 06.4	-0.1
YULB	**Yu-li**	**0.52**	**197**	*e*P	Pb	19 18 02.3	+0.1
YULB	baz=196			*e*S	Sb	19 18 09.6	+0.2

*JMA **01** 19:18:24.7±0.2,23°.96N×122°.37E,h19km±4km,M2.6*
*TAP **01** 19:18:25.1,24°.01N×122°.38E,h24km,ML3.0,D*
ISC 01 19:18:23.6±1.0,23°.93N±0°.02×122°.35E±0°.02,h13km±8km, n127,σ0°.78/243,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.68**	**274**	P	**Pn**	**19 18 38.9**	**0.0**
HWA	baz=253			S	**Sn**	**19 18 49.4**	**+0.1**
TEYL	**Yanliau Villag**	**0.69**	**265**	*e*P	**Pn**	**19 18 39.0**	**+0.1**
TEYL	baz=248			*e*S	**Sn**	**19 18 49.7**	**+0.2**
ETL	**Fush Village**	**0.70**	**289**	*e*P	**Pn**	**19 18 39.8**	**+0.6**
ETL	baz=267			*e*S	**Sn**	**19 18 49.4**	**-0.5**
TWD	**Chiawan**	**0.70**	**282**	*i* P	**Pn**	**19 18 38.5**	**-0.7**
TWD	baz=275			S	**Sn**	**19 18 48.7**	**-1.2**
NACB	**Ninganchiao**	**0.73**	**290**	P	**Pn**	**19 18 38.9**	**-0.6**
NACB	baz=268			S	**Sn**	**19 18 49.3**	**-1.3**
EWUT	**Wuta**	**0.73**	**315**	P	**Pb**	**19 18 38.5**	**+0.4**
EWUT	baz=307			S	**Sb**	**19 18 48.8**	**+0.7**
ENA	**Nanau**	**0.74**	**312**	*i* P	**Pb**	**19 18 38.7**	**+0.3**
ENA	baz=316			S	**Sb**	**19 18 49.0**	**+0.5**
JYNG	**Yonagunijimaku**	**0.75**	**46**	P	**Pg**	**19 18 38.4**	**+0.2**
JYNG				S	**Sg**	**19 18 46.9**	**-1.3**
TEGC	**Jichi Village**	**0.77**	**254**	*e*P	**Pn**	**19 18 40.2**	**+0.1**
TEGC	baz=248			*e*S	**Sn**	**19 18 51.7**	**+0.1**
ETM	**Tongmen**	**0.78**	**273**	*e*P	**Pn**	**19 18 39.8**	**-0.5**
ETM	baz=256			*e*S	**Sn**	**19 18 50.7**	**-1.2**
YOJ	**Yonaguni jima**	**0.81**	**49**	P	**Pg**	**19 18 39.3**	**+0.1**
YOJ				S	**Sg**	**19 18 48.6**	**-1.2**
YOJ	**Yonaguni jima**	**0.81**	**49**	*i* P	**Pg**	**19 18 39.4**	**+0.2**
YOJ	baz=62			S	**Sg**	**19 18 48.8**	**-1.0**
TWC	**Suao**	**0.82**	**326**	P	**Pb**	**19 18 39.4**	**-0.2**
TWC	baz=321			S	**Sg**	**19 18 49.7**	**-0.5**
ETLH	**Xiulin Townshi**	**0.84**	**289**	*e*P	**Pn**	**19 18 40.7**	**-0.4**
ETLH	baz=270			*e*S	**Sn**	**19 18 53.1**	**-0.3**
ESL	**Shilin**	**0.84**	**262**	*e*P	**Pb**	**19 18 40.5**	**+0.4**
ESL	baz=247			*e*S	**Sg**	**19 18 50.5**	**-0.5**
EGFH	**Guangfu**	**0.88**	**253**	*e*P	**Pn**	**19 18 41.7**	**0.0**
EGFH	baz=248			*e*S	**Sn**	**19 18 53.6**	**-0.7**
NDS	**Dongshan**	**0.91**	**321**	P	**Pb**	**19 18 41.5**	**+0.3**
NDS	baz=315			S	**Sb**	**19 18 53.5**	**+0.3**
HGSD	**Ruisui**	**0.95**	**243**	*e*P	**Pn**	**19 18 42.6**	**0.0**
HGSD	baz=239			*e*S	**Sn**	**19 18 55.3**	**-0.7**
EGS		**0.99**	**338**	*e*P	**Pn**	**19 18 43.0**	**-0.1**
EGS	baz=323			*e*S	**Sn**	**19 18 56.4**	**-0.5**
ILA	**Ilan**	**1.00**	**327**	*e*P	**Pn**	**19 18 45.0**	**+1.7**
ILA	baz=322			*e*S	**Sn**	**19 18 56.6**	**-0.6**
TWE	**Neicheng**	**1.00**	**322**	*i* P	**Pn**	**19 18 43.3**	**0.0**
TWE	baz=317			S	**Sn**	**19 18 56.9**	**-0.4**
WHF	**Hehuan Shan**	**1.01**	**282**	*e*P	**Pn**	**19 18 43.7**	**-0.1**
WHF	baz=263			S	**Sn**	**19 18 57.3**	**-0.9**
NDT	**Datong Townshi**	**1.01**	**312**	*e*P	**Pn**	**19 18 43.7**	**+0.2**
NDT	baz=317			*e*S	**Sn**	**19 18 57.5**	**-0.1**
ECBN	**Changbin**	**1.02**	**234**	*e*P	**Pn**	**19 18 44.0**	**+0.4**
ECBN	baz=231			*e*S	**Sg**	**19 18 57.2**	**+0.5**
NNS	**Nan Shan**	**1.02**	**300**	P	**Pn**	**19 18 43.8**	**0.0**
NNS	baz=282			S	**Sn**	**19 18 57.5**	**-0.6**
EHY	**Hungye**	**1.03**	**246**	*e*P	**Pn**	**19 18 44.1**	**+0.4**
EHY	baz=242			*e*S	**Sg**	**19 18 56.8**	**-0.1**
NTC	**Toucheng**	**1.03**	**333**	*e*P	**Pn**	**19 18 43.7**	**-0.1**
NTC	baz=328			*e*S	**Sg**	**19 18 56.9**	**-0.2**
FUSS	**Fushou**	**1.06**	**288**	*e*P	**Pn**	**19 18 44.6**	**+0.4**
FUSS	baz=282			*e*S	**Sn**	**19 18 58.8**	**-0.2**
OWD	**Renai**	**1.07**	**272**	*e*P	**Pn**	**19 18 44.7**	**+0.3**
OWD	baz=266			*e*S	**Sn**	**19 18 58.4**	**-0.8**
CHGB	**Renai**	**1.08**	**277**	*e*P	**Pn**	**19 18 44.8**	**+0.2**
CHGB	baz=260			*e*S	**Sn**	**19 18 59.7**	**+0.2**
YULB	**Yu-li**	**1.10**	**241**	*e*P	**Pn**	**19 18 45.0**	**+0.3**
YULB	baz=254			*e*S	**Sg**	**19 18 59.4**	**+0.2**
EYUL	**Yuli**	**1.11**	**239**	*e*P	**Pn**	**19 18 45.0**	**+0.3**
EYUL	baz=236			*e*S	**Sn**	**19 19 00.7**	**+0.9**
TWT	**Tachien**	**1.12**	**287**	*e*P	**Pn**	**19 18 46.8**	**+1.8**
TWT	baz=271			*e*S	**Sn**	**19 19 01.3**	**+0.9**
TWF1	**Yuli**	**1.12**	**239**	*e*P	**Pg**	**19 18 45.5**	**+0.3**
TWF1	baz=236			*e*S	**Sn**	**19 19 00.1**	**-0.1**
TWB1	**Santiao Chiao**	**1.12**	**343**	*e*P	**Pb**	**19 18 43.5**	**-1.3**
TWB1	baz=326			*e*S	**Sb**	**19 18 58.5**	**-0.8**
TDCB	**Techi**	**1.13**	**287**	*e*P	**Pn**	**19 18 47.3**	**+2.1**
TDCB	baz=271			*e*S	**Sn**	**19 19 00.7**	**0.0**
TIPB	**Shuangxi**	**1.14**	**336**	P	**Pb**	**19 18 45.0**	**-0.2**
TIPB	baz=331			S	**Sb**	**19 18 59.8**	**-0.2**
YHNB	**Yeheng**	**1.15**	**310**	P	**Pg**	**19 18 45.7**	**-0.1**
YHNB	baz=304			*e*S	**Sn**	**19 19 01.5**	**+0.3**
NSK	**Sanguang**	**1.17**	**310**	*e*P	**Pg**	**19 18 45.8**	**-0.3**
NSK	baz=304			*e*S	**Sn**	**19 19 01.1**	**-0.4**
FULB	**Fuli**	**1.21**	**233**	*e*P	**Pn**	**19 18 46.3**	**+0.1**
FULB	baz=231			*e*S	**Sb**	**19 19 01.4**	**-0.5**
CHKT	**Chengkung**	**1.22**	**228**	*e*P	**Pn**	**19 18 46.1**	**-0.2**
CHKT	baz=225			*e*S	**Sb**	**19 19 01.1**	**-1.1**
NWF	**Wu-fen Shan**	**1.25**	**336**	*e*P	**Pn**	**19 18 46.6**	**-0.1**
NWF	baz=332			*e*S	**Sg**	**19 19 03.9**	**0.0**
WFSB	**Wu-fen Shan**	**1.25**	**336**	*e*P	**Pn**	**19 18 46.7**	**0.0**
WFSB	baz=331			*e*S	**Sg**	**19 19 03.7**	**-0.2**
TWA	**Mucha**	**1.26**	**327**	*e*P	**Pg**	**19 18 48.0**	**+0.2**
TWA	baz=321			*e*S	**Sg**	**19 19 05.3**	**+1.1**
NHDH	**Xindian Distri**	**1.27**	**324**	*e*P	**Pg**	**19 18 48.1**	**0.0**
NHDH	baz=318			*e*S	**Sg**	**19 19 04.9**	**+0.2**
WPL	**Puli Township**	**1.27**	**274**	*e*P	**Pg**	**19 18 48.5**	**+0.4**
WPL	baz=261			*e*S	**Sg**	**19 19 04.9**	**+0.2**
SSLB	**Suanglung**	**1.28**	**264**	*e*P	**Pg**	**19 18 49.1**	**+0.9**
SSLB	baz=250			*e*S	**Sg**	**19 19 05.1**	**0.0**
TATO	**Taipei**	**1.30**	**323**	*e*P	**Pb**	**19 18 48.0**	**+0.1**
TATO	baz=317			*e*S	**Sg**	**19 19 05.5**	**-0.2**
DPDB	**Guoxing**	**1.30**	**275**	*e*P	**Pg**	**19 18 48.6**	**-0.1**
DPDB	baz=262			*e*S	**Sg**	**19 19 06.0**	**+0.3**
NHY	**Taipei**	**1.31**	**327**	*e*P	**Pg**	**19 18 49.6**	**+0.7**
WCS	**Beigang Elemen**	**1.32**	**276**	*e*P	**Pg**	**19 18 48.7**	**-0.3**
WCS	baz=263			*e*S	**Sg**	**19 19 06.2**	**+0.1**
TNOU	**National Taiwa**	**1.32**	**337**	*e*P	**Pn**	**19 18 47.8**	**0.0**
TNOU	baz=332			*e*S	**Sg**	**19 19 06.7**	**+0.4**
SMLT	**Sun Moon Lake**	**1.32**	**268**	*e*P	**Pg**	**19 18 48.7**	**-0.4**
SMLT	baz=255			*e*S	**Sb**	**19 19 03.9**	**-1.4**
IRIF	**Iriomote-Funau**	**1.33**	**72**	P	**Pn**	**19 18 48.7**	**+0.9**
IRIF				S	**Sb**	**19 19 05.5**	**+0.3**
ECS	**Chishang**	**1.33**	**232**	*e*P	**Pb**	**19 18 48.7**	**+0.4**
ECS	baz=218			*e*S	**Sg**	**19 19 06.5**	**+0.1**
WHP	**Taichung City**	**1.33**	**285**	*e*P	**Pg**	**19 18 49.6**	**+0.5**
WHP	baz=270			*e*S	**Sg**	**19 19 07.8**	**+1.3**
HATJ	**Hateruma jima**	**1.34**	**84**	P	**Pn**	**19 18 48.3**	**+0.4**
HATJ				S	**Sn**	**19 19 05.3**	**-0.3**
TAP	**Taipei**	**1.34**	**325**	*e*P	**Pg**	**19 18 49.7**	**+0.3**
TAP	baz=320			*e*S	**Sg**	**19 19 07.9**	**+0.9**
EDH	**Donghe**	**1.35**	**225**	*e*P	**Pn**	**19 18 48.3**	**+0.2**
EDH	baz=224			*e*S	**Sb**	**19 19 04.2**	**-1.7**
TYC	**Yuchr**	**1.36**	**269**	*e*P	**Pb**	**19 18 48.8**	**-0.1**
TYC	baz=265			*e*S	**Sn**	**19 19 06.3**	**+0.2**
WHYT	**Xinyi Township**	**1.39**	**261**	*e*P	**Pg**	**19 18 50.9**	**+0.6**
WHYT	baz=245			*e*S	**Sg**	**19 19 08.7**	**+0.3**
NJD	**Zhudong**	**1.40**	**305**	*e*P	**Pg**	**19 18 50.9**	**+0.3**
NJD	baz=300			*e*S	**Sg**	**19 19 09.7**	**+0.9**
YM01	**YM01**	**1.40**	**330**	*e*P	**Pb**	**19 18 49.8**	**+0.2**
YM01	baz=340			*e*S	**Sg**	**19 19 08.6**	**-0.3**
LIOB	**Emei**	**1.41**	**301**	*e*P	**Pg**	**19 18 50.8**	**+0.1**
LIOB	baz=295			*e*S	**Sg**	**19 19 09.0**	**0.0**
NSTT	**Nanjuang**	**1.41**	**300**	*e*P	**Pg**	**19 18 50.7**	**-0.1**
NSTT	baz=295			*e*S	**Sg**	**19 19 08.1**	**-1.1**
ELDTW	**Lidau**	**1.43**	**239**	*e*P	**Pb**	**19 18 50.0**	**-0.1**
ELDTW	baz=236			*e*S	**Sn**	**19 19 07.1**	**-0.8**
YM08	**YM08**	**1.43**	**331**	*e*P	**Pn**	**19 18 49.6**	**+0.4**
TWS1	**Kuangyinshan**	**1.44**	**324**	*e*P	**Pn**	**19 18 49.5**	**+0.1**
TWS1	baz=319			*e*S	**Sg**	**19 19 09.4**	**-0.7**
ANP	**Anpu**	**1.46**	**329**	*e*P	**Pb**	**19 18 50.3**	**-0.3**
ALS	**Alishan**	**1.47**	**254**	*e*P	**Pb**	**19 18 51.2**	**+0.2**
ALS	baz=251			*e*S	**Sg**	**19 19 11.1**	**-0.1**
NTST	**Danshui**	**1.48**	**327**	*e*P	**Pn**	**19 18 48.6**	**-1.2**
WJS	**Zhushan**	**1.49**	**266**	*e*P	**Pg**	**19 18 52.4**	**+0.2**

	baz=263						
WJS				eS	Sg	19 19 12.2	+0.7
	baz=263						
LDUT	**Ludao**	**1.49**	**213**	eP	**Pn**	**19 18 49.9**	**-0.1**
	baz=211						
LDUT				eS	**Sn**	**19 19 07.4**	**-1.9**
	baz=211						
TWQ1	**Liyutan**	**1.50**	**286**	eP	**Pg**	**19 18 51.9**	**-0.5**
	baz=281						
TWQ1				eS	**Sg**	**19 19 11.9**	**0.0**
	baz=281						
TWY	**Chenhua**	**1.50**	**333**	eP	**Pb**	**19 18 51.6**	**+0.3**
	baz=328						
TWY				eS	**Sg**	**19 19 11.3**	**-0.8**
	baz=328						
LONT	**Longtian**	**1.51**	**228**	eP	**Pn**	**19 18 50.6**	**+0.2**
	baz=239						
LONT				eS	**Sn**	**19 19 10.1**	**+0.2**
	baz=239						
WWF	**Wufeng**	**1.51**	**275**	eP	**Pg**	**19 18 53.0**	**+0.3**
	baz=265						
WWF				eS	**Sg**	**19 19 13.4**	**+1.1**
	baz=265						
WNT	**Mingjian**	**1.52**	**268**	eP	**Pg**	**19 18 52.3**	**-0.5**
	baz=265						
WNT				eS	**Sg**	**19 19 12.7**	**+0.1**
	baz=265						
WNT1	**Nantou City**	**1.53**	**270**	eP	**Pg**	**19 18 52.8**	**-0.1**
	baz=266						
WNT1				eS	**Sg**	**19 19 13.2**	**+0.4**
	baz=266						
NMLH	**Miaoli**	**1.54**	**293**	eP	**Pg**	**19 18 52.7**	**-0.6**
	baz=289						
JKRS	**Kuro-shima**	**1.55**	**78**	P	**Pb**	**19 18 52.3**	**+0.2**
JKRS				S	**Sn**	**19 19 11.5**	**+0.7**
TWGBT	**Beinan**	**1.61**	**227**	eP	**Pn**	**19 18 51.9**	**+0.3**
	baz=237						
TWGBT				eS	**Sn**	**19 19 11.9**	**-0.3**
	baz=237						
TWG	**Pinlang**	**1.61**	**227**	eP	**Pn**	**19 18 52.0**	**+0.3**
	baz=237						
TWG				eS	**Sn**	**19 19 11.8**	**-0.5**
	baz=237						
WYL	**Yuanlin Townsh**	**1.62**	**271**	eP	**Pg**	**19 18 54.7**	**+0.1**
	baz=267						
WYL				eS	**Sg**	**19 19 16.1**	**+0.5**
	baz=267						
STYH	**Taoyuan**	**1.63**	**243**	eP	**Pb**	**19 18 53.6**	**+0.1**
	baz=230						
STYH				eS	**Sb**	**19 19 14.6**	**+0.7**
	baz=230						
WCHH	**Zhanghua**	**1.64**	**276**	eP	**Pg**	**19 18 54.5**	**-0.7**
	baz=271						
WCHH				eS	**Sg**	**19 19 16.5**	**0.0**
	baz=271						
STYT	**Tauyuan**	**1.65**	**243**	eP	**Pn**	**19 18 53.0**	**+0.8**
	baz=230						
STYT				eS	**Sb**	**19 19 15.1**	**+0.6**
	baz=230						
WGK	**Gukeng**	**1.65**	**262**	eP	**Pb**	**19 18 54.4**	**+0.5**
	baz=259						
WGK				eS	**Sb**	**19 19 15.3**	**+0.7**
	baz=259						
WDLH	**Douliu**	**1.67**	**262**	eP	**Pb**	**19 18 54.3**	**+0.1**
	baz=259						
WDLH				eS	**Sg**	**19 19 16.8**	**-0.7**
	baz=259						
TPUB	**Ta-pu**	**1.69**	**249**	eP	**Pb**	**19 18 55.2**	**+0.6**
	baz=247						
TPUB				eS	**Sg**	**19 19 16.8**	**-1.3**
	baz=247						
JIJ	**Ishigaki jima**	**1.70**	**75**	P	**Pn**	**19 18 53.1**	**+0.2**
JIJ				S	**Sn**	**19 19 13.1**	**-1.3**
PCYT	**Pengchaiyu**	**1.71**	**352**	eP	**Pn**	**19 18 52.9**	**-0.2**
	baz=348						
WTP	**Ta-pu**	**1.73**	**247**	eP	**Pb**	**19 18 55.8**	**+0.6**
	baz=245						
WTP				eS	**Sg**	**19 19 18.1**	**-1.2**
	baz=245						
WRL	**Guolierlin Hig**	**1.80**	**270**	eP	**Pb**	**19 18 56.6**	**+0.1**
	baz=266						
WRL				eS	**Sb**	**19 19 19.8**	**+0.9**
	baz=266						
WTK	**Tuku**	**1.81**	**263**	eP	**Pg**	**19 18 57.4**	**-0.9**
	baz=260						
WTK				eS	**Sg**	**19 19 20.5**	**-1.4**
	baz=260						
SLGT	**Liugui**	**1.82**	**240**	eP	**Pg**	**19 18 57.8**	**-0.7**
	baz=229						
SLGT				eS	**Sb**	**19 19 20.4**	**+1.0**
	baz=229						
CHN1	**Nanshi**	**1.83**	**246**	eP	**Pg**	**19 18 57.8**	**-0.8**
	baz=245						
CHN1				eS	**Sg**	**19 19 20.9**	**-1.5**
	baz=245						
SGST	**Jiashian**	**1.83**	**243**	eP	**Pb**	**19 18 57.2**	**+0.3**
	baz=231						
SGST				eS	**Sg**	**19 19 21.0**	**-1.3**
	baz=231						
TWK	**Hsinying**	**1.83**	**249**	eP	**Pb**	**19 18 57.5**	**+0.6**
	baz=247						
TWK				eS	**Sb**	**19 19 20.8**	**+1.1**
	baz=247						
ECL	**Taimali**	**1.84**	**224**	eP	**Pn**	**19 18 55.9**	**+1.0**
	baz=223						
ECL				eS	**Sn**	**19 19 17.4**	**-0.7**
	baz=223						
JISG	**Ishigakijimahi**	**1.91**	**70**	P	**Pn**	**19 18 55.8**	**0.0**
JISG				S	**Sn**	**19 19 17.8**	**-1.8**
SSD	**Sandimen**	**1.97**	**234**	eP	**Pb**	**19 18 58.8**	**-0.5**
	baz=225						
SSD				eS	**Sb**	**19 19 23.9**	**+0.2**
	baz=225						
WSF	**Szhu**	**1.97**	**262**	eP	**Pb**	**19 18 59.3**	**0.0**
	baz=259						
WSF				eS	**Sg**	**19 19 25.0**	**-1.9**
	baz=259						
TSMG	**Majia**	**1.98**	**232**	eP	**Pb**	**19 18 59.0**	**-0.6**
	baz=225						
TSMG				eS	**Sb**	**19 19 24.0**	**-0.1**
	baz=225						
SCST	**Cishan**	**2.00**	**239**	eP	**Pg**	**19 19 01.1**	**-0.8**
	baz=225						
SCST				eS	**Sg**	**19 19 26.7**	**-1.1**
	baz=225						
LAY	**Lan-yu**	**2.02**	**201**	eP	**Pn**	**19 18 56.5**	**-0.8**
	baz=200						
LAY				eS	**Sn**	**19 19 20.2**	**-2.2**
	baz=200						
MASBT	**Mashibuluo**	**2.05**	**231**	eP	**Pn**	**19 18 59.3**	**+1.5**
	baz=223						
MASBT				eS	**Sb**	**19 19 26.6**	**+0.6**
	baz=223						
TAW	**Tawu**	**2.06**	**221**	eP	**Pn**	**19 18 58.4**	**+0.5**
	baz=229						
TAW				eS	**Sn**	**19 19 23.0**	**-0.3**
	baz=229						
EAST	**Anshuo**	**2.07**	**222**	eP	**Pn**	**19 18 58.9**	**+0.9**
	baz=221						
EAST				eS	**Sn**	**19 19 23.2**	**-0.4**
	baz=221						
SCZT	**Fangliau**	**2.22**	**226**	eP	**Pb**	**19 19 03.0**	**-0.6**
	baz=218						
SCZT				eS	**Sn**	**19 19 29.3**	**+2.0**
	baz=218						
SLIU	**Shizi**	**2.22**	**220**	eP	**Pn**	**19 19 00.7**	**+0.5**
	baz=219						
SLIU				eS	**Sn**	**19 19 27.4**	**-0.1**
	baz=219						
JTJ	**Tarama**	**2.26**	**71**	P	**Pn**	**19 19 01.8**	**+1.2**
JTJ				eS	**Sn**	**19 19 28.4**	**0.0**
HEN	**Hengchun**	**2.42**	**218**	eP	**Pn**	**19 19 04.7**	**+1.9**
	baz=217						
HEN				eS	**Sn**	**19 19 33.3**	**+1.0**
	baz=217						
TWKBT	**Hengchun**	**2.43**	**216**	eP	**Pn**	**19 19 04.4**	**+1.4**
	baz=216						
TWKBT				eS	**Sn**	**19 19 33.6**	**+1.0**
	baz=216						
TWK1	**Hengchun**	**2.44**	**216**	eP	**Pn**	**19 19 05.3**	**+2.3**
	baz=216						
TWK1				eS	**Sn**	**19 19 33.5**	**+0.9**
	baz=216						
PHUB	**P'eng-hu**	**2.58**	**261**	eP	**Pn**	**19 19 06.6**	**+1.7**
	baz=259						
PHUB				eS	**Sn**	**19 19 37.3**	**+1.1**
	baz=259						
PNG	**Penghu**	**2.58**	**263**	eP	**Pn**	**19 19 06.7**	**+1.7**
	baz=260						
PNG				eS	**Sn**	**19 19 37.3**	**+1.0**
	baz=260						
JIRB	**Irabujima**	**2.73**	**70**	eS	**Sn**	**19 19 41.2**	**+1.3**
JIKM	**Ikemajima**	**2.82**	**69**	eS	**Sn**	**19 19 43.0**	**+0.8**
JMJ2	**Miyako jima3**	**2.84**	**73**	eS	**Sn**	**19 19 43.3**	**+0.7**
VWUC	**VWUC**	**2.84**	**292**	eP	**Pn**	**19 19 08.8**	**+0.2**
	baz=287						
VWUC				eS	**Sn**	**19 19 41.3**	**-1.5**
	baz=287						
JOGS	**Gusukube**	**2.91**	**73**	eS	**Sn**	**19 19 45.4**	**+1.0**
PTMZ	**Houxiangcun**	**3.14**	**291**	eP	**Pn**	**19 19 13.1**	**+0.4**
	baz=286						
PTMZ				eS	**Sn**	**19 19 49.1**	**-1.0**
	baz=286						
XPSS	**Dashiqiu**	**3.57**	**327**	eP	**Pn**	**19 19 18.4**	**-0.2**
	baz=332						
KNMB	**Chin-men Tao**	**3.65**	**279**	eP	**Pn**	**19 19 20.3**	**+0.5**
	baz=275						
KNMB				eS	**Sn**	**19 20 01.3**	**-1.5**
	baz=275						
AXDP	**Jialang**	**4.11**	**285**	eP	**Pn**	**19 19 26.9**	**+0.9**
	baz=268						
AXDP				eS	**Sn**	**19 20 12.8**	**-1.1**
	baz=268						
ZPLA	**Ao Xicun**	**4.21**	**271**	eP	**Pn**	**19 19 28.2**	**+0.8**
	baz=267						
ZPLA				eS	**Sn**	**19 20 14.4**	**-1.9**
	baz=267						

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*IDC **01** 19:18:50.3±3.5, 21°.53S×172°.59W, h0km, mb4.2/3, mb1 4.3/4, mb1mx3.8/28, mbtmp4.1/4, ML3.3/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/39, Error ellipse: s-maj=276.5km s-min=36.5km az=1.0*

*NEIC **01** 19:18:54.0±1.8, 21°.5S±0°.2×172°.6W±0°.2, h16km±5km, mb4.3/12, Error ellipse: s-maj=31.5km s-min=15.4km az=216.0*

ISC 01 19:18:55.7±1.4**, 21°.5S**±0°.3×**172°.6W**±0°.2**, h35**km**, n17, σ0.s85**/14**, mb4.4**/7**, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.93**	**206**	LR	LR	19 30 19.7	
	comp=Z,91nm,18.7s,baz=31,slow=36						
DZM	**Mont Dzumac**	**19.50**	**264**	P	**P**	**19 23 19.2**	**-0.8**
	0.1nm,0.3s,baz=107,slow=11,SNR=3.1						
DZM	**Mont Dzumac**	**19.50**	**264**	IAmb	IAmb	19 23 39.6	
	comp=Z,21nm,1.5s						
CTAO	**Charters Tower**	**38.44**	**264**	P	**P**	**19 26 15.1**	**+0.7**
MCQ	**Macquarie Isla**	**39.34**	**206**	P	**P**	**19 26 21.4**	**+0.1**
AS31	**Alice Springs**	**49.23**	**257**	P	**P**	**19 27 40.1**	**-1.0**
AS31				IAmb	IAmb	19 27 45.0	
	comp=Z,3.1nm,1.4s						
ASAR	**Alice Springs**	**49.23**	**257**	P	**P**	**19 27 39.9**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=94,slow=7.2,SNR=37						
WR0	**Warramunga Arr**	**49.29**	**262**	P	**P**	**19 27 41.6**	**+0.1**
WR0				IAmb	IAmb	19 27 50.8	
	comp=Z,8.3nm,1.4s						
WB0	**Warramunga Arr**	**49.47**	**262**	P	**P**	**19 27 43.4**	**+0.5**
WB0				IAmb	IAmb	19 28 08.2	
	comp=Z,6.0nm,1.4s						
WB2	**Warramunga Arr**	**49.47**	**262**	P	**P**	**19 27 43.2**	**+0.3**
WB2				IAmb	IAmb	19 27 49.8	
	comp=Z,5.4nm,1.4s						
WRAB	**Tennant Creek**	**49.47**	**262**	P	**P**	**19 27 43.2**	**+0.3**
WRA	**Warramunga Arr**	**49.48**	**262**	P	**P**	**19 27 43.3**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=101,slow=8.4,SNR=72						
WRA	**Warramunga Arr**	**49.48**	**262**	P	**P**	**19 27 42.5**	**-0.5**
MTN	**Manton Dam**	**54.23**	**269**	P	**P**	**19 28 20.3**	**+1.8**
JWT	**Wachi**	**74.97**	**318**	P	**P**	**19 30 33.0**	**-0.5**
LPAZ	**La Paz**	**96.98**	**110**	P	**P**	**19 32 25.1**	**0.0**
	comp=Z,0.7nm,0.4s,baz=243,slow=5.6,SNR=3.6						
LPAZ	**La Paz**	**96.98**	**110**	IAmb	IAmb	19 32 26.2	
	comp=Z,7.2nm,1.6s						

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*TUL **01** 19:19:08.4±1.6, 36°.69N±0°.02×98°.61W±0°.02, h6km±6km, ML2.5, mb_Lg2.6/15(NEIC), Error ellipse: s-maj=3.1km s-min=2.0km az=137.0*

NEIC 01 19:19:08.5±1.1**, 36°.69N**±0°.02×**98°.61W**±0°.02**, h13**km±3km**, Error ellipse: s-maj=4.1km s-min=0.6km az=138.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.34**	**70**		Pg	19 19 15.3	0.0
OK032				Sg	Sg	19 19 20.3	+0.3
U32A	**Winter Ranch,**	**0.44**	**226**		Pg	19 19 17.3	-0.1
U32A				Sg	Sg	19 19 23.6	+0.3
CROK	**Carrier**	**0.53**	**110**		Pg	19 19 18.8	-0.1
CROK				Sg	Sg	19 19 26.4	+0.3
KAN14	**Manchester OK**	**0.58**	**62**		Pg	19 19 19.7	-0.2
KAN14				Sg	Sg	19 19 27.8	+0.2
KAN10	**Anthony SW Sta**	**0.60**	**43**	Pg	Pg	19 19 19.6	-0.6
KAN10				Sg	Sg	19 19 28.3	+0.2
GC02	**Grant County #**	**0.62**	**75**		Pg	19 19 20.5	-0.1
GC02				Sg	Sg	19 19 29.0	+0.2
KAN05	**Bluff City Nor**	**0.72**	**54**	Pg	Pg	19 19 22.4	-0.1
KAN05				Sg	Sb	19 19 32.8	0.0
KAN08	**Anthony NE Sta**	**0.74**	**43**	Pg	Pg	19 19 22.5	-0.3
KAN17	**Caldwell West**	**0.76**	**62**		Pg	19 19 22.5	-0.8
KAN12	**Harper NE Stat**	**0.78**	**39**		Pg	19 19 23.5	-0.1
KAN13	**South Haven SW**	**0.96**	**70**	Pg	Pb	19 19 26.6	-0.4
KAN13				Sg	Sg	19 19 39.1	-0.5
KS20	**Mayfield South**	**1.00**	**57**	Pg	Pb	19 19 27.5	-0.2
KS20				Sg	Sg	19 19 40.9	0.0
BLOK	**Blackwell**	**1.12**	**86**	Pg	Pb	19 19 29.5	-0.2
BLOK				Sg	Sb	19 19 43.6	-0.6
OK029	**Liberty Lake**	**1.29**	**133**	Pn	Pn	19 19 32.3	+0.1
OK029					Sg	19 19 49.7	-0.4
OK025	**Westminster Rd**	**1.51**	**137**	Pn	Pn	19 19 35.5	+0.3
OK031	**S. Brethren Rd**	**1.60**	**117**	Pn	Pb	19 19 37.7	-0.3
QUOK	**Quay**	**1.61**	**108**	Pn	Pb	19 19 38.1	0.0
T35A	**Sooner Cattle**	**1.69**	**82**		Pb	19 19 39.4	-0.2
FNO	**Franklin**	**1.73**	**145**	Pn	Pb	19 19 39.8	-0.3
R32A	**Long Quarter,**	**1.73**	**357**	Pn	Pb	19 19 40.2	0.0
WMOK	**Wichita Mounta**	**1.95**	**184**	Pn	Pn	19 19 42.6	+1.2
X34A	**Smith Ranch, M**	**2.18**	**163**	Pn	Pn	19 19 45.2	+0.7
X34A				IAmb_Lg		19 20 23.3	
	comp=Z,16nm,0.9s						
CBKS	**Cedar Bluff**	**2.30**	**337**	Pn	Pn	19 19 45.3	-0.9
AMTX	**Amarillo**	**3.08**	**235**	Pn	Pn	19 19 55.1	-1.8
X37A	**Clayton**	**3.37**	**128**	Pn	Pn	19 19 59.9	-0.9
U38A	**Gravette**	**3.41**	**93**	Pn	Pn	19 20 01.1	-0.2
Z35A	**Perchaven, San**	**3.53**	**161**	Pn	Pn	19 20 02.5	-0.5
Z35A				IAmb_Lg		19 21 07.3	
	comp=Z,10.0nm,0.8s						
S39A	**Bolivar**	**4.33**	**75**	IAmb_Lg		19 21 31.5	
	comp=Z,7.0nm,1.1s						
U40A	**Yellville**	**4.64**	**92**	IAmb_Lg		19 21 33.6	
	comp=Z,10.0nm,1.1s						
T25A	**Trinidad**	**4.67**	**277**	IAmb_Lg		19 21 41.7	
	comp=Z,8.2nm,1.1s						
N35A	**Tabor**	**4.76**	**28**	IAmb_Lg		19 21 49.8	
	comp=Z,16nm,0.8s						
P38A	**Dawn**	**4.96**	**52**	IAmb_Lg		19 21 54.5	
	comp=Z,5.1nm,1.0s						
OGNE	**Ogallala**	**5.02**	**329**	Pn	Pn	19 20 26.3	+2.7
R40A	**Maddies Statio**	**5.29**	**70**	Pn	Pn	19 20 28.8	+1.6
FCAR	**Ozark Folk Cen**	**5.30**	**97**	Pn	Pn	19 20 25.5	-1.8
WHAR	**Wooly Hollow**	**5.31**	**103**	Pn	Pn	19 20 27.2	-0.3
P43A	**Skaggs, Pawnee**	**7.74**	**65**	IAmb_Lg		19 23 27.1	
	comp=Z,40nm,0.7s						
I40A	**Norwalk**	**9.43**	**38**	IAmb_Lg		19 24 22.6	
	comp=Z,23nm,0.9s						

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*JMA **01** 19:22:17.8±0.2, 23°.96N×122°.36E, h17km±4km, M2.3*

*TAP **01** 19:22:18.3, 24°.02N×122°.37E, h27km, ML2.8, D*

ISC 01 19:22:17.9±1.3**, 23°.95N**±0°.02×**122°.37E**±0°.02**, h21**km±4km**, n103, σ0.s85**/202**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.70**	**273**	eP	**Pb**	**19 22 31.9**	**+0.4**
	baz=255						
HWA				eS	**Sn**	**19 22 42.6**	**-0.2**
	baz=255						
TEYL	**Yanliau Villag**	**0.71**	**264**	eP	**Pb**	**19 22 32.0**	**+0.4**
	baz=250						
TEYL				eS	**Sn**	**19 22 42.1**	**-0.9**
	baz=250						
ETL	**Fush Village**	**0.71**	**287**	eP	**Pb**	**19 22 31.2**	**-0.5**
	baz=267						
ETL				eS	**Sn**	**19 22 41.9**	**-1.3**
	baz=267						
TWD	**Chiawan**	**0.72**	**281**	P	**Pb**	**19 22 31.5**	**-0.2**
	baz=275						
TWD				S	**Sb**	**19 22 41.6**	**+0.4**
	baz=275						
JYNG	**Yonagunijimaku**	**0.73**	**46**	P	**Pb**	**19 22 31.5**	**-0.4**
JYNG				S	**Sb**	**19 22 39.9**	**-1.6**
EWUT	**Wuta**	**0.73**	**313**	P	**Pb**	**19 22 31.6**	**-0.4**
	baz=316						
EWUT				S	**Sb**	**19 22 41.4**	**-0.2**
	baz=316						
NACB	**Ninganchiao**	**0.74**	**288**	P	**Pb**	**19 22 32.0**	**-0.2**
	baz=268						
NACB				S	**Sb**	**19 22 42.4**	**+0.6**
	baz=268						
ENA	**Nanau**	**0.75**	**310**	P	**Pb**	**19 22 31.9**	**-0.4**
	baz=314						
ENA				S	**Sn**	**19 22 42.4**	**-1.5**
	baz=314						
YOJ	**Yonaguni jima**	**0.78**	**49**	P	**Pb**	**19 22 32.6**	**-0.2**
YOJ				S	**Sb**	**19 22 41.9**	**-1.0**
YOJ	**Yonaguni jima**	**0.78**	**49**	P	**Pb**	**19 22 32.7**	**-0.2**
	baz=60						
YOJ				S	**Sb**	**19 22 42.6**	**-0.3**
	baz=60						
ETM	**Tongmen**	**0.80**	**271**	eP	**Pb**	**19 22 32.9**	**-0.3**
	baz=258						
ETM				eS	**Sb**	**19 22 44.0**	**+0.4**
	baz=258						
TWC	**Suao**	**0.81**	**324**	P	**Pb**	**19 22 32.6**	**-0.8**
	baz=321						
TWC				S	**Sb**	**19 22 42.6**	**-1.3**
	baz=321						
ETLH	**Xiulin Townshi**	**0.85**	**288**	P	**Pb**	**19 22 33.9**	**-0.2**
	baz=271						
ETLH				S	**Sn**	**19 22 45.6**	**-1.0**
	baz=271						
ESL	**Shilin**	**0.87**	**261**	eP	**Pb**	**19 22 33.5**	**-0.8**
	baz=248						
ESL				eS	**Sb**	**19 22 44.4**	**-1.1**
	baz=248						
EGFH	**Guangfu**	**0.91**	**252**	eP	**Pb**	**19 22 35.2**	**+0.2**
	baz=248						
EGFH				eS	**Sn**	**19 22 47.8**	**-0.1**
	baz=248						
NDS	**Dongshan**	**0.91**	**319**	eP	**Pb**	**19 22 34.7**	**-0.2**
	baz=315						
NDS				eS	**Sb**	**19 22 46.0**	**-0.6**
	baz=315						
HGSD	**Ruisui**	**0.98**	**243**	eP	**Pb**	**19 22 36.0**	**-0.1**
	baz=239						
HGSD				eS	**Sb**	**19 22 48.5**	**-0.1**
	baz=239						
EGS		**0.98**	**336**	eP	**Pn**	**19 22 36.2**	**-0.2**
	baz=325						
EGS				eS	**Sn**	**19 22 49.6**	**-0.1**
	baz=325						
TWE	**Neicheng**	**1.00**	**320**	P	**Pn**	**19 22 36.4**	**-0.4**
	baz=317						
TWE				S	**Sn**	**19 22 50.7**	**+0.4**
	baz=317						
NDT	**Datong Townshi**	**1.02**	**310**	eP	**Pn**	**19 22 36.8**	**-0.2**
	baz=305						
NDT				eS	**Sn**	**19 22 49.7**	**-1.0**
	baz=305						
NTC	**Toucheng**	**1.03**	**332**	eP	**Pn**	**19 22 37.2**	**+0.1**
	baz=328						
NTC				eS	**Sn**	**19 22 50.9**	**0.0**
	baz=328						
WHF	**Hehuan Shan**	**1.03**	**281**	P	**Pb**	**19 22 36.8**	**-0.5**
	baz=265						
WHF				eS	**Sb**	**19 22 49.9**	**-0.5**
	baz=265						
NNS	**Nan Shan**	**1.03**	**299**	iP	**Pb**	**19 22 37.0**	**-0.2**
	baz=294						
NNS				S	**Sb**	**19 22 50.2**	**-0.1**
	baz=294						
ECBN	**Changbin**	**1.05**	**233**	eP	**Pn**	**19 22 36.3**	**-1.1**
	baz=231						
ECBN				eS	**Sb**	**19 22 50.4**	**-0.3**
	baz=231						
EHY	**Hungye**	**1.05**	**246**	eP	**Pn**	**19 22 37.6**	**0.0**
	baz=257						
EHY				eS	**Sb**	**19 22 50.4**	**-0.4**
	baz=257						
FUSS	**Fushou**	**1.07**	**286**	eP	**Pb**	**19 22 38.0**	**+0.1**
	baz=282						
FUSS				eS	**Sb**	**19 22 51.4**	**-0.1**
	baz=282						
OWD	**Renai**	**1.09**	**271**	eP	**Pn**	**19 22 37.8**	**-0.4**
	baz=266						
OWD				eS	**Sb**	**19 22 51.3**	**-0.8**
	baz=266						
CHGB	**Renai**	**1.10**	**276**	eP	**Pn**	**19 22 37.9**	**-0.4**
	baz=260						
CHGB				eS	**Sn**	**19 22 52.9**	**-0.1**
	baz=260						
TWB1	**Santiao Chiao**	**1.11**	**342**	eP	**Pn**	**19 22 37.3**	**-1.0**
	baz=355						
TWB1				eS	**Sn**	**19 22 52.9**	**-0.1**
	baz=355						
YULB	**Yu-li**	**1.13**	**241**	P	**Pn**	**19 22 38.2**	**-0.3**
	baz=254						
YULB				S	**Sb**	**19 22 52.3**	**-0.6**
	baz=254						
EYUL	**Yuli**	**1.13**	**238**	eP	**Pn**	**19 22 38.3**	**-0.3**
	baz=236						
EYUL				eS	**Sb**	**19 22 53.2**	**+0.1**
	baz=236						
TIPB	**Shuangxi**	**1.13**	**334**	eP	**Pb**	**19 22 38.9**	**0.0**
	baz=331						
TIPB				eS	**Sn**	**19 22 52.8**	**-0.8**
	baz=331						
TDCB	**Techi**	**1.15**	**286**	eP	**Pb**	**19 22 40.4**	**+1.3**
	baz=269						
TDCB				eS	**Sn**	**19 22 55.4**	**+1.4**
	baz=269						
TWF1	**Yuli**	**1.15**	**239**	eP	**Pn**	**19 22 38.6**	**-0.2**
	baz=236						
TWF1				eS	**Sb**	**19 22 53.6**	**0.0**
	baz=236						
YHNB	**Yeheng**	**1.16**	**309**	P	**Pn**	**19 22 38.7**	**-0.3**
	baz=304						
YHNB				S	**Sn**	**19 22 54.2**	**0.0**
	baz=304						
NSK	**Sanguang**	**1.17**	**308**	eP	**Pb**	**19 22 39.1**	**-0.5**
	baz=304						
NSK				eS	**Sn**	**19 22 54.2**	**-0.4**
	baz=304						
FULB	**Fuli**	**1.24**	**233**	eP	**Pn**	**19 22 39.2**	**-0.9**
	baz=219						
FULB				eS	**Sn**	**19 22 55.7**	**-0.4**
	baz=219						
NWF	**Wu-fen Shan**	**1.24**	**335**	eP	**Pn**	**19 22 39.9**	**-0.3**
	baz=332						
NWF				eS	**Sb**	**19 22 57.0**	**+0.7**
	baz=332						
WFSB	**Wu-fen Shan**	**1.24**	**335**	eP	**Pn**	**19 22 39.8**	**-0.2**
	baz=332						
WFSB				eS	**Sb**	**19 22 57.1**	**+0.9**
	baz=332						
CHKT	**Chengkung**	**1.25**	**228**	eP	**Pn**	**19 22 39.4**	**-0.8**
	baz=226						
CHKT				eS	**Sn**	**19 22 54.4**	**-1.9**
	baz=226						
TWA	**Mucha**	**1.25**	**325**	eP	**Pb**	**19 22 41.3**	**+0.4**
	baz=322						
TWA				eS	**Sb**	**19 22 58.0**	**+1.4**
	baz=322						
NHDH	**Xindian Distri**	**1.27**	**323**	eP	**Pb**	**19 22 41.3**	**+0.2**
	baz=319						
NHDH				eS	**Sb**	**19 22 58.3**	**+1.3**
	baz=319						
WPL	**Puli Township**	**1.29**	**273**	eP	**Pn**	**19 22 41.0**	**+0.2**
	baz=270						
TATO	**Taipei**	**1.30**	**322**	eP	**Pb**	**19 22 41.3**	**-0.4**
	baz=318						
TATO				eS	**Sb**	**19 22 58.7**	**+0.8**
	baz=318						
IRIF	**Iriomote-Funau**	**1.30**	**73**	P	**Pb**	**19 22 41.7**	**0.0**
SSLB	**Suanglung**	**1.30**	**263**	eP	**Pb**	**19 22 41.9**	**+0.1**
	baz=260						
SSLB				eS	**Sb**	**19 22 58.2**	**+0.2**
	baz=260						
HATJ	**Hateruma jima**	**1.32**	**85**	P	**Pb**	**19 22 41.9**	**-0.1**

HATJ				S	Sb	19 22 58.7	+0.3
DPDB	**Guoxing**	**1.32**	**274**	eP	**Pn**	**19 22 41.6**	**+0.4**
	baz=261						
DPDB				eS	**Sn**	**19 22 58.0**	**-0.3**
	baz=261						
WCS	**Beigang Elemen**	**1.34**	**275**	eP	**Pb**	**19 22 42.6**	**+0.3**
	baz=263						
WCS				eS	**Sb**	**19 22 58.9**	**-0.1**
	baz=263						
WHP	**Taichung City**	**1.34**	**284**	eP	**Pb**	**19 22 42.9**	**+0.5**
	baz=270						
WHP				eS	**Sb**	**19 22 59.5**	**+0.4**
	baz=270						
SMLT	**Sun Moon Lake**	**1.34**	**268**	eP	**Pn**	**19 22 41.9**	**+0.3**
	baz=264						
SMLT				eS	**Sb**	**19 22 59.4**	**0.0**
	baz=264						
ECS	**Chishang**	**1.35**	**231**	eP	**Pb**	**19 22 42.6**	**0.0**
	baz=219						
ECS				eS	**Sn**	**19 22 58.8**	**-0.2**
	baz=219						
YUS	**Yu-Shan**	**1.38**	**251**	eP	**Pn**	**19 22 42.8**	**+0.5**
	baz=248						
YUS				eS	**Sn**	**19 22 59.4**	**-0.8**
	baz=248						
EDH	**Donghe**	**1.38**	**225**	eP	**Pn**	**19 22 41.3**	**-0.7**
	baz=214						
EDH				eS	**Sn**	**19 22 57.7**	**-1.9**
	baz=214						
TYC	**Yuchr**	**1.38**	**269**	eP	**Pn**	**19 22 42.5**	**+0.5**
	baz=265						
TYC				eS	**Sb**	**19 23 01.0**	**+0.7**
	baz=265						
YM01	**YM01**	**1.40**	**329**	eP	**Pb**	**19 22 43.0**	**-0.3**
	baz=341						
YM01				eS	**Sb**	**19 23 01.8**	**+1.1**
	baz=341						
NJD	**Zhudong**	**1.41**	**304**	eP	**Pb**	**19 22 43.6**	**+0.1**
	baz=300						
NJD				eS	**Sb**	**19 23 01.9**	**+0.9**
	baz=300						
WHYT	**Xinyi Township**	**1.41**	**260**	eP	**Pb**	**19 22 43.2**	**-0.3**
	baz=245						
WHYT				eS	**Sb**	**19 23 01.1**	**0.0**
	baz=245						
LIOB	**Emei**	**1.42**	**300**	eP	**Pb**	**19 22 43.8**	**+0.2**
	baz=295						
LIOB				eS	**Sb**	**19 23 02.0**	**+0.7**
	baz=295						
NSTT	**Nanjuang**	**1.42**	**299**	eP	**Pb**	**19 22 43.9**	**+0.1**
	baz=295						
NSTT				eS	**Sb**	**19 23 01.6**	**+0.2**
	baz=295						
YM08	**YM08**	**1.42**	**330**	eP	**Pb**	**19 22 42.9**	**-0.9**
	baz=327						
TWS1	**Kuangyinshan**	**1.44**	**323**	eP	**Pn**	**19 22 42.6**	**-0.2**
	baz=320						
TWS1				eS	**Sb**	**19 23 02.1**	**+0.2**
	baz=320						
ELDTW	**Lidau**	**1.45**	**239**	eP	**Pn**	**19 22 42.7**	**-0.4**
	baz=237						
ELDTW				eS	**Sn**	**19 22 59.4**	**-2.1**
	baz=237						
ANP	**Anpu**	**1.46**	**328**	eP	**Pb**	**19 22 43.4**	**-1.0**
	baz=325						
NTST	**Danshui**	**1.47**	**326**	eP	**Pb**	**19 22 44.0**	**-0.7**
	baz=338						
NTST				eS	**Sb**	**19 23 03.3**	**+0.4**
	baz=338						
ALS	**Alishan**	**1.50**	**253**	eP	**Pn**	**19 22 44.6**	**+0.8**
	baz=250						
ALS				eS	**Sn**	**19 23 02.5**	**-0.5**
	baz=250						
TWQ1	**Liyutan**	**1.51**	**286**	eP	**Pb**	**19 22 44.9**	**-0.4**
	baz=281						
TWQ1				eS	**Sb**	**19 23 04.9**	**+0.9**
	baz=281						
LDUT	**Ludao**	**1.51**	**213**	eP	**Pn**	**19 22 43.0**	**-0.9**
	baz=212						
LDUT				eS	**Sn**	**19 23 00.4**	**-2.5**
	baz=212						
JKRS	**Kuro-shima**	**1.53**	**79**	P	**Pb**	**19 22 45.0**	**-0.5**
JKRS				eS	**Sb**	**19 23 04.2**	**-0.3**
WWF	**Wufeng**	**1.53**	**274**	eP	**Pb**	**19 22 46.1**	**+0.5**
	baz=265						
WWF				eS	**Sb**	**19 23 06.6**	**+2.1**
	baz=265						
LONT	**Longtian**	**1.54**	**228**	eP	**Pn**	**19 22 43.8**	**-0.4**
	baz=239						
LONT				eS	**Sn**	**19 23 03.0**	**-0.6**
	baz=239						
WNT	**Mingjian**	**1.54**	**268**	eP	**Pb**	**19 22 46.1**	**+0.3**
	baz=264						
WNT				eS	**Sb**	**19 23 05.8**	**+0.9**
	baz=264						
WNT1	**Nantou City**	**1.54**	**269**	eP	**Pb**	**19 22 46.5**	**+0.7**
	baz=265						
WNT1				eS	**Sb**	**19 23 07.2**	**+2.2**
	baz=265						
TWGBT	**Beinan**	**1.63**	**227**	eP	**Pn**	**19 22 45.8**	**+0.3**
	baz=238						
TWGBT				eS	**Sn**	**19 23 05.2**	**-0.7**
	baz=238						
TWG	**Pinlang**	**1.64**	**227**	eP	**Pn**	**19 22 44.4**	**-1.1**
	baz=238						
TWG				eS	**Sn**	**19 23 04.9**	**-1.0**
	baz=238						
WYL	**Yuanlin Townsh**	**1.64**	**271**	eP	**Pb**	**19 22 47.6**	**+0.2**
	baz=267						
WYL				eS	**Sb**	**19 23 09.7**	**+2.1**
	baz=267						
STYH	**Taoyuan**	**1.65**	**242**	eP	**Pn**	**19 22 46.5**	**+0.8**
	baz=231						
STYH				eS	**Sn**	**19 23 07.0**	**+0.6**
	baz=231						
STYT	**Tauyuan**	**1.67**	**242**	eP	**Pn**	**19 22 47.3**	**+1.2**
	baz=231						
STYT				eS	**Sn**	**19 23 08.2**	**+1.3**
	baz=231						
JIJ	**Ishigaki jima**	**1.67**	**75**	P	**Pn**	**19 22 46.5**	**+0.5**
JIJ				S	**Sn**	**19 23 05.9**	**-1.0**
WGK	**Gukeng**	**1.67**	**261**	eP	**Pb**	**19 22 48.1**	**+0.1**
	baz=258						
WGK				eS	**Sb**	**19 23 08.3**	**-0.4**
	baz=258						
WDLH	**Douliu**	**1.69**	**262**	eP	**Pb**	**19 22 48.3**	**-0.2**
	baz=259						
WDLH				eS	**Sb**	**19 23 09.9**	**+0.6**
	baz=259						
TPUB	**Ta-pu**	**1.72**	**248**	eP	**Pb**	**19 22 48.7**	**-0.2**
	baz=246						
TPUB				eS	**Sb**	**19 23 10.9**	**+0.8**
	baz=246						
WTP	**Ta-pu**	**1.75**	**247**	eP	**Pb**	**19 22 49.6**	**+0.1**
	baz=245						
WTP				eS	**Sb**	**19 23 11.7**	**+0.6**
	baz=245						
WRL	**Guolierlin Hig**	**1.82**	**269**	eP	**Pb**	**19 22 49.8**	**-0.8**
	baz=279						
WRL				eS	**Sb**	**19 23 13.4**	**+0.4**
	baz=279						
WTK	**Tuku**	**1.83**	**262**	eP	**Pb**	**19 22 50.7**	**0.0**
	baz=259						
WTK				eS	**Sb**	**19 23 13.7**	**+0.5**
	baz=259						
SLGT	**Liugui**	**1.84**	**239**	eP	**Pb**	**19 22 51.2**	**+0.3**
	baz=230						
SLGT				eS	**Sb**	**19 23 13.8**	**+0.2**
	baz=230						
CHN1	**Nanshi**	**1.85**	**246**	eP	**Pb**	**19 22 51.1**	**0.0**
	baz=244						
CHN1				eS	**Sb**	**19 23 14.6**	**+0.7**
	baz=244						
SGST	**Jiashian**	**1.85**	**243**	eP	**Pb**	**19 22 51.1**	**0.0**
	baz=232						
SGST				eS	**Sb**	**19 23 13.6**	**-0.2**
	baz=232						
JISG	**Ishigakijimahi**	**1.88**	**70**	P	**Pn**	**19 22 49.1**	**+0.2**
JISG				S	**Sn**	**19 23 10.8**	**-1.3**
WSF	**Szhu**	**1.99**	**262**	eP	**Pb**	**19 22 52.1**	**-1.3**
	baz=259						
WSF				eS	**Sb**	**19 23 17.9**	**+0.1**
	baz=259						
SSD	**Sandimen**	**1.99**	**233**	eP	**Pn**	**19 22 52.0**	**+1.6**
	baz=226						
SSD				eS	**Sn**	**19 23 14.9**	**+0.1**
	baz=226						
TSMG	**Majia**	**2.01**	**232**	eP	**Pn**	**19 22 52.4**	**+1.7**
	baz=226						
TSMG				eS	**Sn**	**19 23 15.9**	**+0.7**
	baz=226						
LAY	**Lan-yu**	**2.04**	**202**	eP	**Pn**	**19 22 50.9**	**-0.2**
	baz=210						
LAY				eS	**Sn**	**19 23 13.6**	**-2.5**
	baz=210						
MASBT	**Mashibuluo**	**2.08**	**231**	eP	**Pn**	**19 22 52.4**	**+0.8**
	baz=225						
MASBT				eS	**Sn**	**19 23 17.9**	**+1.0**
	baz=225						
EAST	**Anshuo**	**2.09**	**222**	eP	**Pn**	**19 22 53.1**	**+1.2**
	baz=222						
EAST				eS	**Sn**	**19 23 15.3**	**-2.0**
	baz=222						
JTJ	**Tarama**	**2.24**	**72**	P	**Pn**	**19 22 55.4**	**+1.6**
JTJ				eS	**Sn**	**19 23 22.1**	**+1.3**
SLIU	**Shizi**	**2.25**	**220**	eP	**Pn**	**19 22 55.3**	**+1.3**
	baz=221						
SLIU				eS	**Sn**	**19 23 20.2**	**-0.9**
	baz=221						
HEN	**Hengchun**	**2.45**	**218**	eP	**Pn**	**19 22 59.1**	**+2.5**
	baz=219						
HEN				eS	**Sn**	**19 23 26.3**	**+0.3**
	baz=219						
PNG	**Penghu**	**2.60**	**262**	eP	**Pn**	**19 22 59.6**	**+0.8**
	baz=259						
PNG				eS	**Sn**	**19 23 30.8**	**+0.9**
	baz=259						
JIRB	**Irabujima**	**2.70**	**71**	P	**Pn**	**19 23 01.7**	**+1.5**
JIRB				eS	**Sn**	**19 23 33.9**	**+1.6**
VWUC	**VWUC**	**2.85**	**292**	eP	**Pn**	**19 23 01.9**	**-0.4**
	baz=287						
VWUC				eS	**Sn**	**19 23 34.0**	**-2.0**
	baz=287						
PTMZ	**Houxiangcun**	**3.15**	**291**	eP	**Pn**	**19 23 06.1**	**-0.3**
	baz=286						
PTMZ				eS	**Sn**	**19 23 41.4**	**-2.0**
	baz=286						
ZPLA	**Ao Xicun**	**4.22**	**271**	eP	**Pn**	**19 23 21.2**	**+0.1**
	baz=267						
ZPLA				eS	**Sn**	**19 24 08.4**	**-1.5**
	baz=267						

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*JMA **01** 19:40:50.6±0.2, 31.°34N×142.°88E, h45km, M3.8*
*IDC **01** 19:40:53.9±2.8, 30.°90N×141.°03E, h0km, mb3.5/4, mb1 3.5/7, mb1mx3.4/35, mbtmp3.5/7, ML3.0/3, Error ellipse: s-maj=117.9km s-min=18.3km az=71.0*
ISC 01 19:40:53.5±1.1**, 31.°19N**±0.°06×**142.°0E**±0.°2**, h24km, n16, σ2.°07**/19**, mb3.6**/4**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.70**	**316**	Pn	**Pn**	**19 41 34.8**	**-0.7**
	3.7nm,0.3s,baz=288,slow=23,SNR=1.0						
JHJ				Sn	**Sn**	**19 42 03.8**	**-3.6**
	7.0nm,0.3s,baz=225,slow=24,SNR=2.2						
BSO1	**Boso 1**	**3.56**	**346**	eS	**Sn**	**19 42 28.0**	**+0.1**
BSO3	**Boso 3**	**3.82**	**341**	P	**Pn**	**19 41 51.2**	**+0.7**
CBIJ	**Chichi jima**	**4.08**	**178**	P	**Pn**	**19 41 55.0**	**+0.6**
JCJ	**Chichijima**	**4.08**	**178**	Pn	**Pn**	**19 41 55.6**	**+1.2**
	5.5nm,0.3s,baz=289,slow=23,SNR=13						
JCJ				Sn	**Sn**	**19 42 38.4**	**-3.0**
	2.5nm,0.3s,baz=88,slow=23,SNR=2.6						
JOD2	**Odawara 2**	**4.75**	**330**	P	**Pn**	**19 42 05.9**	**+2.3**
JYT	**Yasato**	**5.25**	**344**	eS	**Sn**	**19 43 12.0**	**+1.8**
JRY	**Ryogami san**	**5.47**	**332**	P	**Pn**	**19 42 15.5**	**+2.0**
JHO	**Hitachi**	**5.54**	**348**	P	**Pn**	**19 42 13.9**	**-0.5**
JHO				S	**Sn**	**19 43 15.9**	**-1.5**
JAG	**Ashikaga**	**5.64**	**338**	P	**Pn**	**19 42 16.4**	**+0.6**
MJAR	**Matsushiro Arr**	**6.21**	**330**	Pn	**Pn**	**19 42 25.1**	**+1.5**
	0.2nm,0.3s,baz=156,slow=11,SNR=8.2						
JMK	**Ichinoseki**	**7.77**	**355**	eS	**Sn**	**19 44 07.5**	**-4.8**
SONM	**Songino Array**	**31.78**	**312**	P	**P**	**19 47 17.0**	**+1.0**
	0.6nm,0.9s,baz=124,slow=9.2,SNR=3.6						
MKAR	**Makanchi Array**	**47.84**	**307**	P	**P**	**19 49 28.5**	**-0.8**
	0.3nm,0.5s,baz=90,slow=9.1,SNR=2.9						
WRA	**Warramunga Arr**	**51.37**	**189**	P	**P**	**19 49 57.2**	**+1.0**
	0.3nm,0.2s,baz=6.8,slow=7.7,SNR=26						
ASAR	**Alice Springs**	**55.10**	**189**	P	**P**	**19 50 24.8**	**+1.1**
	0.3nm,0.3s,baz=3.0,slow=4.8,SNR=7.3						

IDC 01 19:49:48.3±3.1**, 42.°01S**×**75.°02W, h0km, mb3.8**/2**, mb1 3.9**/3**, mb1mx3.6**/31**, mbtmp3.7**/3**, ML3.3**/1**, Error ellipse: s-maj=94.5km s-min=33.6km az=161.0, Off coast of southern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.60**	**71**	Pn	Pn	19 50 47.0	+1.6
	0.6nm,0.3s,baz=242,slow=15,SNR=15						
PLCA				Lg	Lg	19 51 41.7	
	0.4nm,0.3s,baz=247,slow=17,SNR=3.0						
H03S1	**Juan Fernandez**	**8.71**	**338**	T	T	20 02 32.8	
	baz=159,slow=73,SNR=17						
H03S2	**Juan Fernandez**	**8.72**	**338**	T	T	20 02 25.9	
	baz=159,slow=73,SNR=15						
H03S3	**Juan Fernandez**	**8.73**	**338**	T	T	20 02 35.6	
	baz=159,slow=73,SNR=21						
CPUP	**Villa Florida**	**21.36**	**48**	P	P	19 54 36.8	-0.2
	2.5nm,0.5s,baz=228,slow=11,SNR=4.5						
TORD	**Torodi Ar. Bea**	**89.08**	**71**	P	P	20 02 45.2	-0.4
	0.4nm,0.7s,baz=224,slow=3.7,SNR=2.6						

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*IDC **01** 19:52:11.3±1.0, 27.°83N×131.°38E, h0km, mb3.8/11, mb1 3.9/14, mb1mx3.7/65, mbtmp3.8/14, ML3.8/2, MS2.9/4, Ms1 2.9/4, ms1mx2.7/42, Error ellipse: s-maj=32.1km s-min=16.4km az=79.0*
*NIED **01** 19:52:13.1, 27.°71N×131.°16E, h76km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.26; $M_{\theta\theta}$0.36; $M_{\phi\phi}$0.90; $M_{r\theta}$0.09; $M_{\theta\phi}$0.33; $M_{\phi r}$0.17; Fault plane solution: $M_0$1.18000×10^{15} NP1: ϕ_s206.00000°, δ50.00000°, λ-89.00000°. NP2: ϕ_s25.00000°, δ40.00000°, λ-91.00000°.*
*JMA **01** 19:52:13.1±0.1, 27.°71N×131.°16E, h76km±3km, M3.8*
*NEIC **01** 19:52:15.2±2.8, 27.°71N±0.°04×131.°14E±0.°07, h22km±6km, mb4.4/12, Error ellipse: s-maj=9.2km s-min=6.0km az=84.0*
ISC 01 19:52:12.9±1.9**, 27.°73N**±0.°03×**131.°14E**±0.°04**, h10km**±12km**, n67, σ2.°06**/92**, mb4.1**/19**, Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**1.19**	**300**	P	**Pg**	**19 52 34.9**	**-0.8**
JZK				S	**Sb**	**19 52 51.8**	**+1.0**
JAM	**Amami Oshima**	**1.52**	**297**	P	**Pn**	**19 52 39.3**	**-0.8**
JAM				S	**Sn**	**19 52 58.0**	**-1.8**
JKDJ	**Kitadaitoujima**	**1.78**	**175**	P	**Pn**	**19 52 41.6**	**-2.1**
JKDJ				S	**Sn**	**19 53 03.5**	**-2.9**
JAMN	**Amaminishikomi**	**1.81**	**287**	P	**Pn**	**19 52 43.3**	**-0.8**
JAMN				S	**Sn**	**19 53 05.9**	**-1.2**
JMZ	**Minamidaito 2**	**1.91**	**178**	P	**Pn**	**19 52 44.1**	**-1.3**
JMZ				S	**Sn**	**19 53 05.9**	**-3.6**
JMZ	**Minamidaito 2**	**1.91**	**178**		**Pn**	**19 52 44.0**	**-1.5**
JMZ				Sn	**Sn**	**19 53 05.6**	**-3.9**
JTK	**Tokunoshima**	**1.94**	**272**	P	**Pn**	**19 52 45.3**	**-0.6**
JTK				S	**Sn**	**19 53 07.5**	**-2.9**
JTAJ	**Takarajima**	**2.22**	**310**	P	**Pn**	**19 52 48.5**	**-1.2**
JTAJ				S	**Sn**	**19 53 13.7**	**-3.5**
JOKE	**Okinoerabujima**	**2.31**	**261**	P	**Pn**	**19 52 50.1**	**-0.9**
JOKE				S	**Sn**	**19 53 16.3**	**-3.2**
JNN	**Nakanoshima**	**2.38**	**332**	P	**Pn**	**19 52 51.1**	**-0.8**
JNN				S	**Sn**	**19 53 18.6**	**-2.5**
JYRO	**Yoronjima**	**2.49**	**254**	P	**Pn**	**19 52 52.4**	**-1.1**
JYRO				S	**Sn**	**19 53 20.8**	**-3.2**
JYAK	**Yakushimahirau**	**2.56**	**348**	P	**Pn**	**19 52 53.7**	**-0.7**
JYAK				S	**Sn**	**19 53 22.6**	**-2.9**
JMTN	**Minamitane**	**2.66**	**356**	P	**Pn**	**19 52 55.1**	**-0.8**
JMTN				eS	**Sn**	**19 53 26.3**	**-1.9**
JOW	**Kunigami**	**2.70**	**251**	P	**Pn**	**19 52 55.3**	**-1.1**
JOW				S	**Sn**	**19 53 26.2**	**-3.0**
JOW	**Kunigami**	**2.70**	**251**		**Pn**	**19 52 55.3**	**-1.1**
JOW				Sn	**Sn**	**19 53 25.6**	**-3.6**
JKC	**Kuchinoerabu**	**2.84**	**343**	P	**Pn**	**19 52 57.6**	**-0.7**
JKC				S	**Sn**	**19 53 29.4**	**-3.2**
JIH	**Iheya**	**2.91**	**257**	P	**Pn**	**19 52 58.2**	**-1.0**
JIH				S	**Sn**	**19 53 30.3**	**-3.9**
JTN	**Tanegashima 3**	**2.91**	**357**	P	**Pn**	**19 52 58.5**	**-0.8**
JTN				S	**Sn**	**19 53 30.9**	**-3.5**
JNTH	**Nagotoyohara**	**3.03**	**247**	P	**Pn**	**19 53 00.1**	**-0.8**
JNTH				S	**Sn**	**19 53 33.8**	**-3.5**
JJT3	**Tamagusuku3**	**3.39**	**243**	P	**Pn**	**19 53 05.2**	**-0.6**
JJT3				S	**Sn**	**19 53 43.0**	**-3.1**
JAGN	**Aguni-jima**	**3.66**	**253**	P	**Pn**	**19 53 09.0**	**-0.5**
JAGN				S	**Sn**	**19 53 49.6**	**-3.1**
JSU	**Suzuyama**	**3.81**	**351**	P	**Pn**	**19 53 10.8**	**-0.8**
JSU				S	**Sn**	**19 53 53.3**	**-3.2**
JSU	**Suzuyama**	**3.81**	**351**		**Pn**	**19 53 10.7**	**-0.9**
JSU				Sn	**Sn**	**19 53 51.4**	**-5.1**
JSJ	**Shimokoshiki**	**4.12**	**343**	P	**Pn**	**19 53 15.0**	**-0.9**
JSJ				S	**Sn**	**19 54 00.2**	**-4.0**
JKE	**Kume jima 2**	**4.13**	**251**	P	**Pn**	**19 53 14.3**	**-1.7**
JKE				S	**Sn**	**19 54 00.1**	**-4.3**
JNU	**Nakatsue**	**5.38**	**358**	Pn	**Pn**	**19 53 33.7**	**+0.5**
	2.8nm,0.3s,baz=179,slow=18,SNR=25						
JNU				Sn	**Sn**	**19 54 31.9**	**-3.3**
	3.8nm,0.3s,baz=332,slow=23,SNR=8.5						
JNU	**Nakatsue**	**5.38**	**358**		**Pn**	**19 53 34.0**	**+0.8**
JNU				Sn	**Sn**	**19 54 30.1**	**-5.1**
JMN	**Monobe**	**6.42**	**21**	Pn	**Pn**	**19 53 47.3**	**-0.3**
JTU	**Tsushima**	**6.93**	**348**	Pn	**Pn**	**19 53 55.3**	**+0.8**
JHS	**Saijyo**	**7.44**	**13**	Pn	**Pn**	**19 54 01.9**	**+0.4**
YOJ	**Yonaguni jima**	**8.00**	**248**	Pn	**Pn**	**19 54 08.3**	**-0.9**
JWT	**Wachi**	**8.36**	**25**	Pn	**Pn**	**19 54 14.2**	**+0.2**
INU	**Inuyama**	**9.10**	**32**	Pn	**Pn**	**19 54 25.5**	**+1.3**
JHJ	**Hachijo jima 2**	**9.19**	**52**	Pn	**Pn**	**19 54 23.4**	**-2.0**
	5.9nm,0.3s,baz=240,slow=21,SNR=1.4						
JCJ	**Chichijima**	**9.84**	**91**	LR	LR	19 57 43.2	
	comp=Z,65nm,21.0s,baz=114,slow=34						
YULB	**Yu-li**	**9.88**	**246**	Pn	**Pn**	**19 54 32.2**	**-2.9**
SSLB	**Suanglung**	**9.99**	**249**	Pn	**Pn**	**19 54 34.9**	**-1.6**
KSRS	**Korea Array**	**10.06**	**345**	Pn	**Pn**	**19 54 37.1**	**-0.4**
	0.0nm,0.3s,baz=260,slow=15,SNR=1.8						
KSRS				LR	LR	19 58 45.4	
	comp=Z,60nm,19.3s,baz=150,slow=39						
MAJO	**Matsushiro**	**10.63**	**32**	Pn	**Pn**	**19 54 46.1**	**+0.9**
MJAR	**Matsushiro Arr**	**10.63**	**33**	Pn	**Pn**	**19 54 46.5**	**+1.3**
	0.1nm,0.3s,baz=197,slow=16,SNR=4.5						
USRK	**Ussuriysk Ar.**	**16.45**	**2**	Pn	**P**	**19 56 06.6**	**+0.2**
	baz=108,slow=7.7,SNR=1.9						
USRK	**Ussuriysk Ar.**	**16.45**	**2**	P	**P**	**19 56 06.2**	**-0.2**
GUMO	**Guam**	**19.03**	**135**	LR	LR	20 02 04.6	
	comp=Z,27nm,19.5s,baz=234,slow=31						
KLR	**Kul'dur**	**21.47**	**1**	P	**P**	**19 57 00.6**	**-0.8**
	0.9nm,0.6s,baz=232,slow=7.7,SNR=5.4						
SONM	**Songino Array**	**27.82**	**323**	P	**P**	**19 58 02.6**	**+0.2**
	0.2nm,0.5s,baz=106,slow=9.2,SNR=2.0						
SONM				LR	LR	20 08 52.7	
	comp=Z,47nm,19.6s,baz=122,slow=36						
TOLI2	**Tolitoli**	**28.27**	**202**	P	**P**	**19 58 07.2**	**+0.7**
TOLI2				IAmb	IAmb	19 58 07.6	
	comp=Z,5.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**30.95**	**260**	P	**P**	**19 58 33.5**	**+3.2**
	comp=Z,0.5nm,0.3s,baz=52,slow=19,SNR=2.2						
MK31	**Makanchi Array**	**42.52**	**310**	P	**P**	**20 00 10.6**	**+2.1**
MK31				IAmb	IAmb	20 00 20.9	
	comp=Z,1.4nm,1.1s						
MKAR	**Makanchi Array**	**42.52**	**310**	P	**P**	**20 00 09.7**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=93,slow=9.7,SNR=3.8						
ZALV	**Zalesovo Beam**	**42.67**	**321**	P	**P**	**20 00 09.7**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=129,slow=12,SNR=3.5						
KNRA	**Kununurra**	**43.21**	**183**	P	**P**	**20 00 14.9**	**+0.6**
WB0	**Warramunga Arr**	**47.33**	**176**	P	**P**	**20 00 47.1**	**+0.2**
WRAB	**Tennant Creek**	**47.49**	**176**	P	**P**	**20 00 48.6**	**+0.4**
WRAB				IAmb	IAmb	20 01 10.6	
	comp=Z,7.4nm,1.4s						
WRA	**Warramunga Arr**	**47.50**	**176**	P	**P**	**20 00 48.8**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=354,slow=7.8,SNR=16						
WB2	**Warramunga Arr**	**47.50**	**176**	P	**P**	**20 00 48.4**	**+0.2**
WB2				IAmb	IAmb	20 00 53.6	
	comp=Z,9.3nm,1.4s						
PSA00	**Pilbara Seismi**	**50.22**	**194**	P	**P**	**20 01 09.6**	**+0.4**
PSA00	**Pilbara Seismi**	**50.22**	**194**	P	**P**	**20 01 09.5**	**+0.4**
PSA00				IAmb	IAmb	20 01 28.3	
	comp=Z,5.2nm,1.1s						
KK31	**Karatay Array**	**50.69**	**304**	P	**P**	**20 01 13.6**	**+1.0**
KK31				IAmb	IAmb	20 01 15.2	
	comp=Z,6.2nm,1.6s						
KKAR	**Karatay Array**	**50.69**	**304**	P	**P**	**20 01 13.6**	**+1.0**
KKAR				IAmb	IAmb	20 01 15.2	
	comp=Z,6.2nm,1.6s						
KKAR	**Karatay Array**	**50.69**	**304**	P	**P**	**20 01 13.5**	**+0.9**
BVAR	**Borovoye Array**	**50.91**	**317**	P	**P**	**20 01 14.8**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=111,slow=6.5,SNR=6.7						
ASAR	**Alice Springs**	**51.17**	**177**	P	**P**	**20 01 17.1**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=6.2,slow=15,SNR=16						
ASAR	**Alice Springs**	**51.17**	**177**	P	**P**	**20 01 16.7**	**+0.4**
KBZ	**Khabaz**	**70.21**	**310**	P	**P**	**20 03 26.8**	**+0.8**
	comp=Z,2.7nm,0.9s,baz=131,slow=1.8,SNR=4.8						
FINES	**FINESS Array B**	**72.83**	**331**	P	**P**	**20 03 41.0**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=90,slow=4.6,SNR=5.8						
NOA	**NORSAR Array B**	**79.10**	**335**	P	**P**	**20 04 16.0**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=50,slow=5.6,SNR=2.3						
CLL	**Collm**	**84.38**	**326**	eP	**P**	**20 04 45.0**	**-0.3**
	comp=Z,4.0nm,0.8s						

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*IDC **01** 19:56:01.3±1.8, 37.°72N×141.°98E, h0km, mb3.4/3, mb1 3.5/6, mb1mx3.3/67, mbtmp3.5/6, ML2.9/3, Error ellipse: s-maj=37.8km s-min=22.0km az=95.0*
*JMA **01** 19:56:03.8±0.1, 37.°73N×141.°89E, h21km±2km, M3.6*
*NIED **01** 19:56:03.8, 37.°73N×141.°89E, h21km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.25; $M_{\theta\theta}$1.14; $M_{\phi\phi}$0.11; $M_{r\theta}$-0.44; $M_{\theta\phi}$-0.79; $M_{\phi r}$1.11; Fault plane solution: $M_0$1.87000×10^{14} NP1: ϕ_s143.00000°, δ66.00000°, λ-65.00000°. NP2: ϕ_s274.00000°, δ34.00000°, λ-134.00000°.*
ISC 01 19:56:02.1±1.7**, 37.°72N**±0.°04×**141.°93E**±0.°07**, h8km**±10km**, n20, σ1.°07**/36**, mb3.4**/3**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.70**	**328**	P	**Pb**	**19 56 16.6**	**0.0**
JIKH				S	**Sg**	**19 56 25.2**	**+0.5**
JMST	**Minamisoumatoc**	**0.83**	**271**	P	**Pg**	**19 56 18.4**	**+0.4**
JMST				S	**Sg**	**19 56 28.6**	**-0.2**
JIO	**Ouri**	**0.87**	**328**	P	**Pb**	**19 56 19.4**	**-0.1**
JIO				S	**Sg**	**19 56 30.3**	**+0.2**
JFK	**Kawauchi**	**0.91**	**248**	P	**Pb**	**19 56 20.1**	**-0.1**
JFK				S	**Sg**	**19 56 31.5**	**+0.1**
JMM	**Marumori**	**0.92**	**280**	P	**Pg**	**19 56 19.8**	**+0.1**
JMM				eS	**Sg**	**19 56 32.0**	**+0.4**
ONAJ	**Iwakimizuishiy**	**1.09**	**236**	P	**Pg**	**19 56 23.2**	**+0.2**
ONAJ				eS	**Sg**	**19 56 37.2**	**0.0**
JKMT	**Kesennumamotoy**	**1.15**	**342**	P	**Pb**	**19 56 23.8**	**-0.5**
JKMT				S	**Sg**	**19 56 37.9**	**-1.3**
JOU	**Okura**	**1.19**	**303**	P	**Pb**	**19 56 25.0**	**0.0**
JOU				S	**Sb**	**19 56 39.7**	**-1.0**
JFT	**Otama**	**1.28**	**262**	P	**Pb**	**19 56 26.5**	**0.0**
JFT				eS	**Sn**	**19 56 43.6**	**-0.2**
JMK	**Ichinoseki**	**1.36**	**336**	P	**Pn**	**19 56 27.5**	**+0.1**
JMK				eS	**Sb**	**19 56 44.6**	**-0.7**
JYS	**Shirataka**	**1.56**	**289**	P	**Pb**	**19 56 30.9**	**-0.3**
JYS				S	**Sn**	**19 56 50.6**	**0.0**
JYK	**Kaneyama**	**1.72**	**315**	P	**Pn**	**19 56 32.7**	**+0.2**
JFY	**Yanaizu**	**1.80**	**261**	P	**Pb**	**19 56 34.5**	**-0.8**
JFY				eS	**Sn**	**19 56 56.4**	**-0.1**
MJAR	**Matsushiro Arr**	**3.20**	**250**	Pn	**Pn**	**19 56 53.7**	**+0.9**
	0.6nm,0.3s,baz=78,slow=18,SNR=21						
MJAR				Sn	**Sn**	**19 57 33.6**	**+2.6**
	0.3nm,0.3s,baz=71,slow=27,SNR=4.1						
MAT	**Matsushiro**	**3.20**	**250**	P	**Pn**	**19 56 54.8**	**+2.1**
MAT				eS	**Sb**	**19 57 34.9**	**-3.5**
JHJ	**Hachijo jima 2**	**4.91**	**202**	Pn	**Pn**	**19 57 15.2**	**-1.0**
	3.4nm,0.3s,baz=221,slow=19,SNR=1.3						
JHJ				Sn	**Sn**	**19 58 11.8**	**-1.5**
	9.2nm,0.3s,baz=69,slow=20,SNR=1.9						
ASAJ	**Asahikawa**	**6.42**	**4**	Pn	**Pn**	**19 57 37.8**	**+0.9**
	0.2nm,0.3s,baz=199,slow=16,SNR=2.0						
ASAJ				Sn	**Sn**	**19 58 50.4**	**+0.1**
	0.1nm,0.3s,baz=76,slow=31,SNR=1.3						
MKAR	**Makanchi Array**	**44.11**	**302**	P	**P**	**20 04 09.7**	**-1.2**
	0.3nm,0.8s,baz=79,slow=9.0,SNR=3.1						
KURBB	**Kurchatov Arra**	**45.91**	**308**	P	**P**	**20 04 26.2**	**+1.2**
	0.5nm,0.6s,baz=81,slow=8.2,SNR=5.6						
WRA	**Warramunga Arr**	**57.79**	**188**	P	**P**	**20 05 55.0**	**+1.0**
	0.2nm,0.5s,baz=7.8,slow=7.7,SNR=5.4						

MEX 01 19:58:49.0±1.0**, 18.°59N**×**104.°12W, h10km, MD3.9, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
R15V		0.59	13	eP	Pg	19 58 59.0	-1.5
R15V				i S	Sg	19 59 07.3	-1.1
COIG	Colima	0.72	35	eP	Pg	19 59 00.8	-2.0
COIG				i S	Sg	19 59 10.8	-1.5
MMIG	Aquila	0.80	112	eP	Pg	19 59 02.0	-2.4
MMIG				i S	Sg	19 59 12.8	-2.0
EZ5V		1.01	29	eP	Pg	19 59 06.8	-1.7
EZ5V				eS	Sg	19 59 19.9	-1.9
CJM	Chamela	1.25	316	eP	Pn	19 59 09.9	-2.7
CJM				eS	Sb	19 59 27.8	-1.2

IDC 01 20:14:09.2±5.4, 37°.41N×70°.98E, h73km±33km, mb3.3/2, mb1 3.5/7, mb1mx3.1/46, mbtmp3.7/7, ML3.5/6, Error ellipse: s-maj=77.8km s-min=24.5km az=146.0
NNC 01 20:14:14.3±7.7, 37°.61N×70°.12E, h26km±209km, mb4.1, mpv3.9, Error ellipse: s-maj=170.2km s-min=31.9km az=168.0
ISC 01 20:14:09.7±1.7, 37°.5N±0°.1×70°.84E±0°.08, h68km, n18, σ2s03/23, 5C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	5.13	24	P	Pn	20 15 25.9	+1.5
	SNR=36						
KK31	Karatay Array	5.62	358	⇑P	Pn	20 15 33.6	+3.0
	3.7nm,0.2s,baz=182,slow=14,SNR=314						
KK31				⇑S	Sn	20 16 37.1	+3.3
	4.1nm,0.5s,baz=181,slow=22						
EKS2	Erkin-Say	5.64	23	P	Pn	20 15 32.8	+1.8
	SNR=29						
KZA	Kyzart	5.71	35	P	Pn	20 15 32.3	0.0
	SNR=13						
AAK	Ala-Archa	5.86	27	P	Pn	20 15 35.4	+1.4
	4.2nm,0.3s,baz=200,slow=12,SNR=23						
AAK				S	Sn	20 16 40.7	+0.7
	0.2nm,0.3s,baz=142,slow=23,SNR=1.1						
AAK	Ala-Archa	5.86	27	P	Pn	20 15 35.8	+1.7
	SNR=13						
CHMS	Chumysh	6.27	27	P	Pn	20 15 40.8	+1.3
	SNR=20						
USP	Ospenovka	6.42	25	P	Pn	20 15 42.5	+0.9
	SNR=19						
TKM2	Tokmak 2	6.54	32	P	Pn	20 15 43.8	+0.4
	SNR=11						
GEYT	Alibeck	10.09	276	P	Pn	20 16 31.7	0.0
	0.5nm,0.3s,baz=84,slow=13,SNR=2.7						
GEYT				S	Sn	20 18 24.1	+0.8
	1.2nm,0.3s,baz=110,slow=22,SNR=7.9						
MKAR	Makanchi Array	12.59	39	P	Pn	20 17 03.7	-2.1
	0.1nm,0.3s,baz=224,slow=15,SNR=8.5						
AB31	Akbulak array	14.16	330	⇑P	Pn	20 17 26.8	0.0
	0.4nm,0.3s,baz=139,slow=13,SNR=26						
AB31				⇑S	Sn	20 19 57.4	-4.9
	2.0nm,0.6s,baz=148,slow=24,SNR=6.5						
KURBB	Kurchatov Arra	14.24	20	P	Pn	20 17 29.4	+1.7
	0.0nm,0.3s,baz=208,slow=10,SNR=1.9						
BVAR	Borovoye Array	15.54	359	P	Pn	20 17 44.6	0.0
	0.4nm,0.3s,baz=184,slow=17,SNR=5.4						
AKTO	Aktyubinsk	15.87	329	⇑P	P	20 17 52.1	+1.0
	6.6nm,0.9s						
AKTO				⇓S	Sn	20 20 40.4	-3.2
	2.1nm,0.9s						
ZALV	Zalesovo Beam	19.08	26	P	P	20 18 24.1	-2.4
	0.7nm,0.3s,baz=224,slow=11,SNR=12						
HFS	Hagfors	42.21	321	P	P	20 21 56.0	+0.4
	1.0nm,0.6s,baz=112,slow=12,SNR=4.0						
NOA	NORSAR Array B	43.52	322	P	P	20 22 06.4	+0.2
	0.5nm,0.7s,baz=109,slow=7.9,SNR=1.6						

MDD 01 20:14:46.9±1.1, 37°.63N×0°.42E, h5km±8km, mbLg2.4/22, Error ellipse: s-maj=8.6km s-min=4.4km az=150.0, PRXIMO
LDG 01 20:14:48.6±0.2, 37°.68N×0°.36E, h2km, Ml2.7/6, Error ellipse: s-maj=4.6km s-min=2.4km az=157.0
ISC 01 20:14:45.2±1.7, 37°.63N±0°.05×0°.49E±0°.04, h10km±10km, n42, σ1s84/73, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ETRV	Los Montesinos	1.07	292	P	Pg	20 15 05.6	-0.2
	87nm,0.2s,SNR=7.9						
ETRV				S	Sg	20 15 18.4	-1.3
	804nm,0.4s,SNR=7.9						
EBEN2	Beniarda presa	1.18	333	P	Pb	20 15 07.7	+0.1
	6.1nm,0.2s,SNR=7.9						
EBEN2				S	Sg	20 15 24.4	+1.2
	267nm,0.4s,SNR=7.9						
CART	Cartagena	1.19	269	P	Pb	20 15 08.4	+0.6
CART				S	Sb	20 15 23.0	-0.2
CART	Cartagena	1.19	269	P	Pb	20 15 08.4	+0.6
CART				S	Sb	20 15 23.0	-0.2
AFON	Font Roja	1.32	322	P	Pn	20 15 10.4	+0.6
	1.4nm,0.3s,SNR=16						
AFON				S	Sn	20 15 28.8	+1.3
	166nm,0.4s,SNR=7.1						
EMUR	La Murta	1.39	279	P	Pn	20 15 09.5	-1.2
	3.7nm,0.3s,SNR=5.2						
EMUR				S	Sg	20 15 29.8	-0.1
	131nm,0.5s,SNR=8.0						
EIBI	Ibiza	1.55	25	P	Pn	20 15 13.9	+1.1
	0.5nm,0.1s,SNR=29						
EIBI				S	Sn	20 15 32.9	-0.1
	36nm,0.2s,SNR=8.3						
ETOB	Tobarra	1.91	303	P	Pn	20 15 17.6	-0.2
	1.6nm,0.2s,SNR=24						
ETOB				S	Sn	20 15 42.4	+0.6
	27nm,0.5s,SNR=5.6						
ENIJ	Nijar	2.25	254	P	Pn	20 15 23.2	+0.7
	0.2nm,0.4s,SNR=7.9						
ENIJ				S	Sn	20 15 47.4	-2.9
	16nm,0.4s,SNR=7.9						
ECHE	Chera	2.27	330	P	Pn	20 15 23.1	+0.3
	0.8nm,0.2s,SNR=7.9						
ECHE				S	Sn	20 15 50.7	-0.2
	17nm,0.4s,SNR=4.0						
SESP	Santiago Espad	2.46	283	P	Pn	20 15 25.6	+0.2
	3.9nm,0.4s,SNR=7.9						
SESP				S	Sn	20 15 54.5	-1.1
	17nm,0.4s,SNR=7.9						
EBER	Berja	2.79	256	P	Pn	20 15 29.9	-0.2
	0.4nm,0.2s,SNR=6.1						
EBER				S	Sn	20 16 02.3	-1.7
	8.6nm,0.4s						
ETOS	Mallorca	2.81	40	P	Pn	20 15 32.0	+1.9
	11nm,0.4s,SNR=9.9						
ETOS				S	Sn	20 16 04.0	0.0
	11nm,0.3s,SNR=5.5						
EQES	Quesada	2.83	275	P	Pn	20 15 30.9	+0.4
	2.6nm,0.2s,SNR=28						
EQES				S	Sn	20 16 04.1	-0.7
	9.2nm,0.3s						
EMOS	Mosqueruela	2.84	345	P	Pn	20 15 31.5	+0.8
	0.3nm,0.1s,SNR=8.8						
EMOS				S	Sn	20 16 04.3	-0.7
	1.9nm,0.2s,SNR=7.9						
EQUE	Quentar	3.16	264	P	Pn	20 15 37.6	+2.5
	0.3nm,0.4s,SNR=7.7						
EQUE				S	Sn	20 16 12.6	-0.2
	3.3nm,0.4s						
ERTA	Horta de San J	3.33	358	P	Pn	20 15 39.4	+2.1
	0.3nm,0.2s,SNR=7.9						
ERTA				S	Sn	20 16 14.7	-2.2
	4.5nm,0.3s,SNR=7.9						
ELGU	Los Guajares,	3.37	258	P	Pn	20 15 39.4	+1.5
	2.1nm,0.4s,SNR=7.9						
TAF	Taforalt	3.66	221	P	Pn	20 15 43.3	+1.4
TAF				S	Sn	20 16 22.9	-2.3
EPOB	Poblet	3.75	7	P	Pn	20 15 45.2	+2.1
	1.4nm,0.2s,SNR=7.9						
EPOB				S	Sn	20 16 24.0	-3.4
	5.0nm,0.3s,SNR=7.9						
UCM	Universidad Co	3.96	314	P	Pb	20 15 53.9	-1.1
UCM				S	Sb	20 16 45.9	+2.9
UCM	Universidad Co	3.96	314	P	Pb	20 15 53.9	-1.1
UCM				S	Sb	20 16 45.9	+2.9
JBK	JBK	4.12	218	P	Pn	20 15 49.5	+1.2
JBK				S	Sn	20 16 33.1	-3.5
CFON	Fontmartina	4.39	19	P	Pn	20 15 53.1	+1.2
	2.4nm,4.1s,SNR=7.9						
CFON				S	Sn	20 16 39.8	-3.5
	3.0nm,0.3s,SNR=7.9						
CSOR	Sort	4.77	6	S	Sn	20 16 51.5	-1.1
	1.1nm,0.2s,SNR=7.9						
CLLI	Llivia	4.98	13	S	Sn	20 16 56.8	-0.9
	0.5nm,0.3s,SNR=7.9						
ETSF	Etsaut	5.33	352	ePn	Pn	20 16 06.2	+1.4
ETSF	Etsaut	5.33	352	eP	Pn	20 16 10.7	+5.9
ETSF	Etsaut	5.33	352	P	Pn	20 16 06.2	+1.4
EPF	Esparros	5.40	359	ePn	Pn	20 16 07.0	+1.2
EPF				eSg	Sg	20 17 35.7	-2.8
	1.6nm,0.4s						
EPF	Esparros	5.40	359	P	Pn	20 16 07.0	+1.2
EPF				S	Sg	20 17 35.7	-2.8
	0.8nm,0.4s						
SJPF	Ste Jean	5.64	347	ePn	Pn	20 16 10.3	+1.3
SJPF	Ste Jean	5.64	347	eP	Pn	20 16 14.4	+5.4
SJPF	Ste Jean	5.64	347	P	Pn	20 16 10.3	+1.3
LMR	La Mourre	7.32	37	ePn	Pn	20 16 35.2	+3.2
LMR				eSn	Sn	20 17 53.1	-1.9
	0.4nm,0.2s						
LMR	La Mourre	7.32	37	P	Pn	20 16 35.2	+3.2
LMR				S	Sn	20 17 53.1	-1.9
	0.2nm,0.2s						
FRF	La Foret Royal	7.55	36	ePn	Pn	20 16 38.2	+2.9
FRF				eSn	Sn	20 17 59.0	-1.9
	0.4nm,0.3s						
FRF	La Foret Royal	7.55	36	P	Pn	20 16 38.2	+2.9
FRF				S	Sn	20 17 59.0	-1.9
	0.2nm,0.3s						
SBF	Sospel	8.16	38	ePn	Pn	20 16 46.0	+2.4
SBF				eSn	Sn	20 18 13.8	-2.1
	3.5nm,0.5s						
SBF	Sospel	8.16	38	P	Pn	20 16 46.0	+2.4
SBF				S	Sn	20 18 13.8	-2.1
	1.8nm,0.5s						
PGF	Pioggiola	8.16	50	ePn	Pn	20 16 46.6	+2.8
PGF				eSn	Sn	20 18 14.9	-1.2
	0.2nm,0.2s						
PGF	Pioggiola	8.16	50	P	Pn	20 16 46.6	+2.8
PGF				S	Sn	20 18 14.9	-1.2
	0.1nm,0.2s						

MEX 01 20:16:18.2±1.1, 15°.76N×96°.14W, h38km±7km, MD4.3, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	0.03	82	eP	Pn	20 16 22.9	-1.4
HUIG				i S	Sn	20 16 26.7	-1.9
PANG	Puerto Angel	0.33	253	eP	Pn	20 16 26.2	-0.4
PANG				i S	Sn	20 16 32.8	-0.5
PEIG	Puerto Escondi	0.99	284	eP	Pn	20 16 33.9	-1.8
VHO	Vista Hermosa	1.42	337	eP	Pn	20 16 39.8	-1.8
VHO				i S	Sn	20 16 56.5	-2.7
CMIG	Matias Romero	1.79	42	eP	Pn	20 16 44.6	-1.9
CMIG				eS	Sn	20 17 06.1	-1.9
PNIG	Pinotepa	2.01	288	eP	Pn	20 16 48.1	-1.5
TOIG	Toxpalan	2.48	339	eP	Pn	20 16 57.3	+1.1
TOIG				eS	Sn	20 17 25.1	-0.2
HLIG	Huajuapan de L	2.60	322	eP	Pn	20 16 59.0	+1.1
HLIG				eS	Sn	20 17 26.1	-2.2
MGIG	Malinaltepec	2.80	302	eP	Pn	20 16 59.6	-1.1
MGIG				eS	Sn	20 17 30.7	-2.6
PCIG		2.82	91	eP	Pn	20 16 59.7	-1.0
PCIG				eS	Sn	20 17 28.4	-4.9
TPIG	Tehuac#an	2.89	336	eS	Sn	20 17 33.8	-1.6
TLIG	Tlapa	2.93	308	eP	Pn	20 17 00.5	-1.9
TLIG				eS	Sn	20 17 32.8	-3.6
TGIG		3.07	70	eP	Pn	20 17 01.1	-3.1
TGIG				eS	Sn	20 17 42.2	+2.4
LVIG	Laguna Verde	3.95	356	eP	Pn	20 17 13.1	-3.2
LVIG				eS	Sn	20 18 00.3	-0.9
MEIG	Mezcala	3.96	303	eP	Pn	20 17 16.7	+0.2
MEIG				eS	Sn	20 18 00.4	-1.4
PPM	Popocatepetl	4.05	325	eP	Pn	20 17 22.5	+4.4
PPM				eS	Sn	20 18 03.1	-1.5
PLIG	Platanillo	4.14	310	eP	Pn	20 17 24.8	+5.8
PLIG				eS	Sn	20 18 05.8	-0.4

NOU 01 20:20:32.8, 41°.81S×175°.08E, h0km, ML3.7/8, North Island, New Zealand
WEL 01 20:20:37.0, 42°S±3°×17°5E±°, h31km±3km, M3.2/21, ML3.5/21, MLv3.2/21, Error ellipse: s-maj=0.0km s-min=0.0km az=141.7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BHW	Baring Head	0.16	346	P	Pn	20 20 43.4	+0.1
BHW				S	Sn	20 20 48.1	+0.9
PLWZ	Palliser	0.25	92	P	Pb	20 20 43.9	-0.1
PLWZ				S	Sn	20 20 49.3	-0.2
MSWZ	Moikau Station	0.29	59	P	Pn	20 20 45.0	-0.1
MSWZ				S	Sn	20 20 51.1	+0.8
WEL	Wellington	0.30	337	P	Pn	20 20 45.5	+0.2
PAWZ	Paruwai Farm	0.42	65	P	Pn	20 20 46.9	-0.1
PAWZ				S	Sn	20 20 54.5	+0.8
CAW	Cannon Point	0.47	13	P	Pn	20 20 48.2	+0.6
CAW				S	Sn	20 20 56.7	+1.9
CMWZ	Cape Campbell	0.56	250	P	Pb	20 20 48.3	-0.2
MTW	Mount Morrison	0.59	47	P	Pn	20 20 49.5	+0.2
MTW				S	Sn	20 20 59.1	+1.2
TRWZ	Traveller	0.60	74	P	Pb	20 20 48.9	-0.2
TCW	Tory Channel	0.60	306	P	Pn	20 20 49.6	+0.2
TCW				S	Sn	20 20 58.9	+0.8
KIW	Kapiti Island	0.70	359	P	Pn	20 20 51.7	+0.9
KIW				S	Sn	20 21 02.6	+2.0
TUWZ	Tuamarina	0.75	280	P	Pn	20 20 50.8	-0.6
OGWZ	Otaki Gorge	0.77	14	P	Pb	20 20 52.5	+0.6
OGWZ				S	Sn	20 21 04.5	+2.3
BSWZ	Blackbirch Sta	0.80	259	P	Pn	20 20 51.6	-0.6
HOWZ	Holdsworth Sta	0.80	34	P	Pb	20 20 52.8	+0.3
HOWZ				S	Sn	20 21 04.5	+1.4
TMWZ	Te Maipa	0.86	58	P	Pn	20 20 52.8	-0.2
MRZ	Mangatainoka R	1.03	29	P	Pb	20 20 56.0	-0.3
MRZ				S	Sb	20 21 10.3	+0.8
TIWZ	Tintock	1.07	43	P	Pb	20 20 56.6	-0.4
DUWZ	D'Urville Isla	1.07	315	P	Pb	20 20 57.2	+0.2
NNZ	Nelson	1.21	286	P	Pn	20 20 58.2	+0.4
NNZ				S	Sb	20 21 14.1	-0.5
PRWZ	Pori Road	1.28	39	P	Pn	20 20 59.2	+0.4
PRWZ				S	Sb	20 21 17.0	+0.4
BFZ	Birch Farm	1.33	49	P	Pn	20 20 59.0	-0.4
POWZ	Post Office Ro	1.33	29	P	Pn	20 21 00.4	+0.9
KHZ	Kahutara	1.34	230	P	Pn	20 20 57.9	-1.6
THZ	Tophouse	1.52	262	P	Pn	20 21 01.4	-0.8
DVHZ	Dannevirke	1.58	37	P	Pn	20 21 02.7	-0.2
ANWZ	Angora Road	1.61	47	P	Pn	20 21 02.8	-0.5
WAZ	Wanganui	1.81	2	P	Pb	20 21 09.1	-0.4
WAZ				S	Sb	20 21 31.6	-0.1
WPHZ	Waipukurau	1.89	38	P	Pn	20 21 07.1	-0.1
PNHZ	Pukenui	1.91	31	P	Pn	20 21 07.8	+0.3
QRZ	Quartz Range	1.95	291	P	Pn	20 21 09.4	+1.5
GVZ	Greta Valley S	1.98	224	P	Pn	20 21 06.5	-1.9
PXZ	Pawanui	2.12	45	P	Pn	20 21 10.0	-0.4
KRHZ	Kereru	2.21	30	P	Pn	20 21 11.7	+0.1
KRHZ				S	Sn	20 21 40.2	+2.3
MOVZ	Moawhango	2.25	17	P	Pn	20 21 13.3	+1.2
MOVZ				S	Sn	20 21 41.0	+2.2
BHHZ	Black Hill Sta	2.25	23	P	Pn	20 21 12.9	+0.8
BHHZ				S	Sn	20 21 40.9	+2.1
WNVZ	Wahianoa	2.29	13	P	Pn	20 21 14.7	+1.9
KAHZ	Kahuranaki	2.31	41	P	Pn	20 21 12.1	-0.8
TRVZ	Turoa	2.31	12	P	Pn	20 21 15.3	+2.2
LTZ	Lake Taylor	2.32	237	P	Pn	20 21 11.4	-1.7
LTZ				S	Sn	20 21 36.8	-3.7
WHVZ	Whangaehu Hut	2.33	13	P	Pn	20 21 15.5	+2.0
DSZ	Denniston Nort	2.34	265	P	Pn	20 21 13.1	-0.3
FWVZ	Far West T-bar	2.35	12	P	Pn	20 21 15.7	+2.0
KWHZ	Kaweka Forest	2.42	29	P	Pn	20 21 14.8	+0.2
VRZ	Vera Road	2.44	357	P	Pb	20 21 17.8	-2.3
NGZ	Ngauruhoe	2.44	12	P	Pn	20 21 17.2	+2.4
NNVZ	North Ngauruho	2.48	13	P	Pn	20 21 17.6	+2.1
WTVZ	West Tongariro	2.50	12	P	Pn	20 21 17.8	+2.2
MCHZ	McNeill Hill	2.51	33	P	Pn	20 21 16.2	+0.5
TMVZ	Te Maari	2.52	14	P	Pn	20 21 17.7	+1.8
TWVZ	Taurewa	2.52	9	P	Pn	20 21 17.9	+2.0
KRVZ	Karewarewa	2.53	13	P	Pn	20 21 18.2	+2.2
NTVZ	North Tongarir	2.53	13	P	Pn	20 21 18.1	+2.0
OKCZ	Okains Bay	2.56	212	P	Pn	20 21 13.9	-2.4
BKZ	Black Stump Fm	2.68	27	P	Pn	20 21 18.4	+0.4
MQZ	McQueen's Vall	2.72	217	P	Pn	20 21 15.1	-3.4
AKCZ	Akaroa Harbour	2.74	212	P	Pn	20 21 16.2	-2.7
ARHZ	Aropaoanui	2.79	35	P	Pn	20 21 18.9	-0.6
INZ	Inchbonnie	2.83	245	P	Pn	20 21 18.6	-1.5
HIZ	Hauiti	3.05	359	P	Pn	20 21 25.9	+2.8
MHCZ	Mount Hutt	3.16	230	P	Pn	20 21 21.6	-3.1
WACZ	Wakanui South	3.29	223	P	Pn	20 21 23.5	-2.9
RPZ	Rata Peaks	3.57	232	P	Pn	20 21 27.7	-2.6
ARCZ	Arundel	3.65	228	P	Pn	20 21 28.3	-3.0
LIRZ	Lichensteins R	3.73	18	P	Pn	20 21 31.6	-0.8
MWZ	Matawai	3.80	33	P	Pn	20 21 32.1	-1.2
TOZ	Tahuroa Road	3.85	7	P	Pn	20 21 36.4	+2.3
TMZ	Timaru	4.03	224	P	Pn	20 21 33.6	-2.9
LBZ	Lake Benmore	4.48	229	P	Pn	20 21 40.2	-2.5
ODZ	Otahua Downs	4.67	220	P	Pn	20 21 42.4	-3.0

IDC 01 20:32:26.7±3.2, 14°.31N×93°.93W, h0km, mb3.8/5, mb1 4.1/7, mb1mx3.9/26, mbtmp3.8/7, ML3.6/2, MS4.0/2, Ms1 4.0/2, ms1mx3.0/37, Error ellipse: s-maj=120.5km s-min=31.7km az=39.0
MEX 01 20:32:27.7±0.5, 14°.54N×93°.45W, h123km±22km, MD4.3
NEIC 01 20:32:32.4±2.5, 14°.63N±0°.06×93°.40W±0°.03, h33km±4km, mb4.0/6, Md4.3/12(MEX), Error ellipse: s-maj=8.4km s-min=4.4km az=170.0
ISC 01 20:32:29.8±2.8, 14°.56N±0°.08×93°.47W±0°.06, h18km±17km, n37, σ1s46/40, mb3.9/7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		1.17	12	i P	Pn	20 32 50.5	-0.8
PCIG				i S	Sg	20 33 08.4	+0.7
PCIG		1.17	12		Pn	20 32 50.5	-0.8
THIG		1.22	73	i P	Pn	20 32 50.4	-1.5
THIG				i S	Sb	20 33 08.1	+0.3
THIG		1.22	73		Pn	20 32 50.4	-1.5
THIG					Sb	20 33 08.1	+0.3
RTAL	Retalhuleu	1.72	91		Pn	20 32 57.4	-1.5
HUEH	Huehuetenango	2.05	68		Pn	20 33 03.3	-0.3
CCIG	Comitan	2.15	37	eP	Pb	20 33 06.9	-1.4
CCIG				eS	Sb	20 33 37.0	+2.3
CCIG	Comitan	2.15	37		Pn	20 33 06.7	+1.8
CCIG	Comitan	2.15	37		LR	20 33 37.0	
TGIG		2.23	9	eP	Pn	20 33 07.5	+1.5
TGIG				i S	Sb	20 33 37.2	+0.1
TGIG		2.23	9		Pn	20 33 07.5	+1.5
CMIG	Matias Romero	2.86	332	eP	Pn	20 33 14.2	-0.4
CMIG				i S	Sn	20 33 48.5	-0.1
CMIG	Matias Romero	2.86	332		Pn	20 33 14.2	-0.4
MTO3	Montecristo	3.99	92		Pn	20 33 30.6	+0.3
ESQI	Esquipulas	4.00	89		Pn	20 33 32.1	+1.8
PETF	Flores	4.19	55		Pn	20 33 33.3	+0.4
TLIG	Tlapa	5.74	302	Pn	Pn	20 33 55.4	+1.1
TGUH	Tegucigalpa,Un	6.03	94	Pn	Pn	20 33 59.8	+1.5
ORTG	Ortega, Santa	8.87	117	Pn	Pn	20 34 35.2	-2.1
JTS	Las Juntas de	9.34	116	Pn	Pn	20 34 47.7	+4.0
	0.7nm,0.3s,baz=135,slow=20,SNR=1.5						
RIMA	Rio Macho	10.53	116	Pn	Pn	20 35 00.5	+0.4
SOR	Soroa	12.86	49	Pn	Pn	20 35 30.2	-1.5
TX31	Lajitas Ar. Si	17.47	329	P	P	20 36 34.1	+0.3
TX31				IAmb	IAmb	20 36 47.0	
	comp=Z,9.3nm,1.1s						
TX32	Lajitas Array	17.47	329	P	Pn	20 36 33.3	+0.6
TXAR	Lajitas Array	17.47	329	P	Pn	20 36 32.8	+0.2
	comp=Z,0.0nm,0.3s,baz=149,slow=11,SNR=8.3						
TXAR	Lajitas Array	17.47	329	P	P	20 36 33.5	-0.4
FPAL	Fort Paine	21.12	18	P	P	20 37 11.2	-2.6
SDCO	Great Sand Dun	25.45	337	P	P	20 37 57.8	+0.7
SDCO				IAmb	IAmb	20 37 59.1	
	comp=Z,4.0nm,1.2s						
PDAR	Pinedale Array	31.34	337	P	P	20 38 50.8	+1.2
	comp=Z,0.2nm,0.5s,baz=138,slow=9.6,SNR=1.8						
NVAR	Mina Array Bea	32.35	322	P	P	20 38 58.9	+0.4
	comp=Z,1.1nm,0.7s,baz=125,slow=8.9,SNR=3.1						
F10A	Beach Ranch, E	37.15	332	P	P	20 39 38.5	-1.2
F10A				IAmb	IAmb	20 39 43.0	
	comp=Z,4.6nm,0.9s						
YKA	Yellowknife Ar	50.17	347	P	P	20 41 22.9	-1.2
	comp=Z,0.8nm,0.7s,baz=147,slow=8.4,SNR=5.2						
SFJD	Kangerlussuaq	59.42	18	LR	LR	21 08 35.2	
	comp=Z,33nm,18.2s,baz=286,slow=36						
ILAR	Eielson Array	61.77	337	P	P	20 42 46.8	-0.3
	comp=Z,0.4nm,0.7s,baz=126,slow=4.7,SNR=4.6						
RAR	Rarotonga	74.14	243	LR	LR	21 07 33.6	
	comp=Z,351nm,19.3s,baz=279,slow=29						
ARCES	ARCESS Array B	86.05	18	P	P	20 45 12.0	+2.8
	comp=Z,2.2nm,0.8s,baz=285,slow=5.3,SNR=3.9						
CMAR	Chiang Mai Arr	144.99	339	PKPbc	PKPab	20 52 04.7	-1.5
	comp=Z,1.2nm,0.8s,baz=350,slow=2.1,SNR=9.3						

MEX 01 20:38:57.5±0.4, 17°.11N×101°.67W, h33km±11km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.53	21	eP	Pb	20 39 06.6	-2.0
ZIIG				i S	Sb	20 39 14.1	-2.1
ARIG	Puente Sto Nin	1.72	47	eP	Pn	20 39 23.4	-1.7
ARIG				i S	Sn	20 39 43.4	-2.5
MEIG	Mezcala	2.12	67	eP	Pn	20 39 29.3	-1.4
MEIG				i S	Sn	20 39 53.4	-2.5
PLIG	Platanillo	2.43	58	eP	Pn	20 39 34.0	-1.0
PLIG				eS	Sn	20 40 01.2	-2.3
TLIG	Tlapa	3.00	81	eP	Pn	20 39 40.1	-2.8
TLIG				eS	Sn	20 40 14.1	-3.6

MEX 01 20:59:19.0±1.0, 14°.23N×93°.65W, h10km, MD4.3
NEIC 01 20:59:22.3±2.5, 14°.55N±0°.04×93°.45W±0°.04, h22km±6km, Error ellipse: s-maj=6.4km s-min=5.5km az=121.0
IDC 01 20:59:26.9±3.4, 14°.82N×93°.27W, h52km±23km, mb3.8/6, mb1 4.1/9, mb1mx3.6/59, mbtmp4.0/9, ML3.7/3, MS3.5/8, Ms1 3.5/8, ms1mx3.2/27, Error ellipse: s-maj=75.3km s-min=19.1km az=46.0
ISC 01 20:59:18.2±4.1, 14°.47N±0°.06×93°.64W±0°.04, h4km±27km, n88, σ1s93/89, mb4.2/19, MS3.7/6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		1.29	18	eP	Pn	20 59 42.5	-0.6
PCIG				eS	Sb	20 59 55.6	-4.6
PCIG		1.29	18		Pn	20 59 42.5	-0.6
PCIG					Sb	20 59 55.6	-4.6
THIG		1.40	72	eP	Pn	20 59 42.4	-2.1
THIG				eS	Sb	21 00 00.1	-3.1
THIG		1.40	72		Pn	20 59 42.4	-2.1
THIG					Sb	21 00 00.1	-3.1
RTAL	Retalhuleu	1.88	88		Pn	20 59 48.9	-2.4
HUEH	Huehuetenango	2.23	68		Pn	20 59 55.0	-1.2
CCIG	Comitan	2.31	39	eP	Pn	20 59 59.0	+1.7
CCIG				eS	Sn	21 00 26.6	+0.2
CCIG	Comitan	2.31	39		Pn	20 59 58.7	+1.4
CCIG	Comitan	2.31	39		Sn	21 00 26.6	+0.2
TGIG		2.35	12	eP	Pn	20 59 58.5	+0.8
TGIG				i S	Sn	21 00 29.2	+2.2
TGIG		2.35	12		Pn	20 59 58.5	+0.8
TGIG					Sn	21 00 29.2	+2.2
HUIG	Huatulco	2.71	299	eP	Pn	21 00 02.6	0.0
HUIG				eS	Sn	21 00 31.4	-4.5
HUIG	Huatulco	2.71	299		Pn	21 00 02.6	0.0
HUIG					Sn	21 00 31.4	-4.5
CMIG	Matias Romero	2.87	335	P	Pn	21 00 06.7	+1.9
	11nm,0.3s,baz=164,slow=12,SNR=98						
CMIG				S	Sn	21 00 41.1	+1.2
	38nm,0.3s,baz=144,slow=18,SNR=8.3						
CMIG	Matias Romero	2.87	335	eP	Pn	21 00 06.1	+1.2
CMIG				eS	Sn	21 00 38.5	-1.3
CMIG	Matias Romero	2.87	335		Pn	21 00 06.1	+1.2
CMIG					Sn	21 00 38.5	-1.3
MTO3	Montecristo	4.14	90		Pn	21 00 20.3	-2.3
ESQI	Esquipulas	4.16	88		Pn	21 00 21.9	-0.9
SNET	Serv Nac Est T	4.35	100	Pn	Pn	21 00 23.8	-1.5
PETF	Flores	4.37	56		Pn	21 00 24.8	-0.7
TLIG	Tlapa	5.65	304	Pn	Pn	21 00 47.0	+3.8
TGUH	Tegucigalpa,Un	6.19	93	Pn	Pn	21 00 48.4	-2.2
CRIN	San Cristobal	6.64	105	Pn	Pn	21 00 56.3	-0.5
CNGN	Cerro Negro	7.03	105	Pn	Pn	21 01 01.8	-0.3
JTS	Las Juntas de	9.45	115	P	Pn	21 01 39.7	+4.4
	1.2nm,0.3s,baz=30,slow=21,SNR=2.0						
JTS	Las Juntas de	9.45	115	eP	Pn	21 01 48.6	+13

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RIMA	Rio Macho	10.64	115		Pn	21 01 50.6	-1.2
PEZE	Perez Zeledon,	10.98	116	Pn	Pn	21 01 53.4	-3.0
SOR	Soroa	13.03	49		Pn	21 02 22.9	-1.4
JCT	Junction City	16.91	341		P	21 03 17.9	-0.1
TX31	Lajitas Ar. Si	17.46	330	P	P	21 03 24.5	+0.3
TX31				IAmb	IAmb	21 03 44.5	
	comp=Z,30nm,1.4s						
TX32	Lajitas Array	17.46	330	P	P	21 03 24.6	+0.4
TXAR	Lajitas Array	17.46	330	P	P	21 03 26.4	+2.3
	comp=Z,0.0nm,0.3s,baz=157,slow=13,SNR=14						
TXAR				LR	LR	21 10 00.0	
	comp=Z,72nm,19.7s,baz=0.0,slow=36						
TXAR	Lajitas Array	17.46	330	P	P	21 03 24.7	+0.6
LPIG	La Paz	18.40	304	LR	LR	21 11 12.4	
	comp=Z,103nm,21.3s,baz=193,slow=38						
DBBC	Dabeiba	18.65	112	eP	P	21 03 37.2	-0.2
LRAL	Lakeview Retre	19.44	17	P	P	21 03 44.1	-1.8
SMLC	San Martn de	19.97	104	eP	Pn	21 03 54.1	+0.7
MIAR	Mount Ida	19.99	0	P	P	21 03 51.9	+0.1
MIAR				IAmb	IAmb	21 04 00.2	
	comp=Z,9.6nm,1.1s						
GUY2C	Guyana, Caldas	20.20	115	eP	P	21 03 55.2	+0.4
MNTX	Cornudas Mount	20.24	330	P	Pn	21 03 57.0	+0.4
POPC	Popayan, Colom	20.52	124	eP	P	21 03 58.0	0.0
TOLC	Tolima	20.54	117	eP	P	21 03 59.4	+1.0
WHAR	Wooly Hollow	20.77	3		Pn	21 04 02.4	-0.2
WHAR				IAmb	IAmb	21 04 09.8	
	comp=Z,11nm,1.1s						
MARP	Paez Belalcaza	20.93	122	eP	Pn	21 04 05.3	+0.3
ORTC	Ortega, Tolima	20.95	118	eP	P	21 04 02.6	+0.1
FNO	Franklin	20.97	351	P	Pn	21 04 06.1	+1.0
MSTX	Muleshoe	21.10	339	P	P	21 04 05.8	+1.8
MSTX				IAmb	IAmb	21 04 11.8	
	comp=Z,10.0nm,0.9s						
Y52A	Lilburn	21.17	23	P	P	21 04 06.3	+1.7
Y52A				IAmb	IAmb	21 04 26.4	
	comp=Z,14nm,1.1s						
FCAR	Ozark Folk Cen	21.37	3	P	P	21 04 08.3	+1.6
AMTX	Amarillo	21.58	342	P	P	21 04 09.6	+0.5
LCAR	Lake Charles	21.62	5	P	P	21 04 09.6	+0.1
U40A	Yellville	21.81	2	P	P	21 04 11.7	+0.2
RUSC	La Rusia	21.94	111	P	P	21 04 10.1	-3.5
121A	Cookes Peak, D	22.13	327	P	P	21 04 17.7	+2.5
121A				IAmb	IAmb	21 04 22.2	
	comp=Z,10nm,0.9s						
HODGE	Hodges	22.20	26	P	P	21 04 17.7	+1.9
HODGE				IAmb	IAmb	21 04 28.4	
	comp=Z,13nm,1.3s						
NHSC	New Hope	22.23	31	P	P	21 04 17.6	+1.6
BNM	Barren Site	22.85	331	P	P	21 04 25.4	+2.5
S39A	Bolivar	23.13	1	P	P	21 04 24.7	-0.8
ANMO	Albuquerque	23.43	333	P	P	21 04 28.5	-0.4
	comp=Z,0.5nm,0.4s,baz=147,slow=7.3,SNR=1.7						
CCM	Cathedral Cave	23.59	5	P	P	21 04 28.8	-1.3
CCM				IAmb	IAmb	21 04 30.5	
	comp=Z,8.1nm,1.1s						
TUC	Tucson	23.67	322	P	P	21 04 32.5	+1.4
TUC				IAmb	IAmb	21 04 35.8	
	comp=Z,7.7nm,1.1s						
T25A	Trinidad	24.53	339	P	P	21 04 40.1	+0.8
SDCO	Great Sand Dun	25.46	338	P	P	21 04 49.7	+1.9
SDCO				IAmb	IAmb	21 04 51.3	
	comp=Z,4.4nm,1.1s						
PV01	Paradox Valley	27.03	333	P	P	21 05 03.4	+1.5
PV01				IAmb	IAmb	21 05 08.3	
	comp=Z,6.4nm,1.1s						
PV13	Radium Mtn., P	27.16	333	P	P	21 05 04.6	+1.5
PV13				IAmb	IAmb	21 05 06.7	
	comp=Z,3.4nm,0.9s						
PV12	Saucer Basin,	27.28	333	P	P	21 05 04.6	+0.4
PV04	Paradox Valley	27.39	333	P	P	21 05 06.5	+1.4
PV04				IAmb	IAmb	21 05 08.8	
	comp=Z,6.0nm,1.0s						
NV11	Mina Array Sit	32.23	322	P	P	21 05 50.5	+2.6
NV11				IAmb	IAmb	21 05 51.9	
	comp=Z,4.7nm,1.1s						
ELK	Elko	32.25	328	P	P	21 05 51.1	+3.0
	comp=Z,0.5nm,0.3s,baz=177,slow=9.0,SNR=4.6						
ELK	Elko	32.25	328	P	P	21 05 50.4	+2.2
ELK				IAmb	IAmb	21 05 52.1	
	comp=Z,2.3nm,1.0s						
NVAR	Mina Array Bea	32.32	322	P	P	21 05 52.1	+3.3
	comp=Z,1.8nm,0.8s,baz=136,slow=8.4,SNR=12						
HLID	Hailey	34.01	333		P	21 06 05.3	+1.8
HLID				IAmb	IAmb	21 06 09.3	
	comp=Z,2.8nm,0.9s						
MCMT	McKenzie Canyo	34.37	335	P	P	21 06 09.2	+2.5
ULM	Lac du Bonnet	35.73	358	LR	LR	21 24 21.6	
	comp=Z,55nm,18.2s,baz=252,slow=42						
PLID	Pearl Lake	35.92	333	P	P	21 06 20.9	+0.9
F10A	Beach Ranch, E	37.15	332	P	P	21 06 31.5	+1.2
SCHQ	Schefferville	45.35	22	LR	LR	21 27 47.3	
	comp=Z,157nm,18.6s,baz=241,slow=38						
YKA	Yellowknife Ar	50.22	348	P	P	21 08 15.4	+0.3
	comp=Z,4.0nm,0.8s,baz=146,slow=8.3,SNR=10.0						
ILAR	Eielson Array	61.79	337	P	P	21 09 38.8	+0.8
	comp=Z,0.5nm,0.3s,baz=133,slow=5.1,SNR=8.0						
NEEM	North Greenlan	66.52	9	iP	P	21 10 09.0	-0.3
NEEM				IAmb	IAmb	21 10 10.9	
	comp=Z,6.8nm,0.8s						
NOA	NORSAR Array B	84.49	28	LR	LR	21 49 37.4	
	comp=Z,22nm,18.1s,baz=330,slow=36						
ARCES	ARCESS Array B	86.19	18	P	P	21 11 59.6	-0.9
	comp=Z,4.9nm,1.0s,baz=320,slow=5.4,SNR=4.1						
ARCES				LR	LR	21 51 18.4	
	comp=Z,37nm,18.3s,baz=340,slow=36						
GERES	GERESS Array B	90.25	39	LR	LR	21 54 23.2	
	comp=Z,24nm,18.1s,baz=321,slow=37						
FINES	FINESS Array B	90.74	25	LR	LR	21 55 16.2	
	comp=Z,26nm,18.7s,baz=330,slow=37						
WRA	Warramunga Arr	133.97	256	PKP	PKiKP	21 18 39.1	0.0
	comp=Z,0.4nm,0.7s,baz=218,slow=0.4,SNR=6.6						
CMAR	Chiang Mai Arr	145.01	339	PKP	PKPab	21 18 56.9	-0.2
	comp=Z,2.3nm,0.8s,baz=338,slow=3.3,SNR=18						
CMAR	Chiang Mai Arr	145.01	339		PKPab	21 18 55.6	-1.4

MEX 01 21:01:45.7±0.8, 15.°29N×93.°10W, h128km±17km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCIG		0.43	345	eP	Pn	21 02 02.9	-1.3
THIG		0.89	115	iP	Pn	21 02 03.8	-3.7
THIG				iS	Sn	21 02 21.8	-2.1
CCIG	Comitan	1.36	43	eP	Pn	21 02 20.9	+8.6
TGIG		1.48	359	eP	Pn	21 02 20.9	+7.4

IDC 01 21:03:29.4±3.0, 1.°36N×128.°29E, h104km±30km, mb3.9/12, mb1 4.0/13, mb1mx3.8/37, mbtmp4.2/13, Error ellipse: s-maj=30.5km s-min=13.2km az=78.0

DJA 01 21:03:29.0±0.3, 1°N±3°×12°8E±°, h101km±4km, M4.1/13, mb4.3/13, MLv4.0/13

NEIC 01 21:03:29.5±1.4, 1.°37N±0.°09×128.°25E±0.°05, h100km±8km, mb4.5/48, Error ellipse: s-maj=12.7km s-min=7.2km az=165.0

ISC 01 21:03:28.9±0.4, 1.°36N±0.°05×128.°23E±0.°05, h100km, n105, σ0.s81/103, mb4.5/36, Halmahera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GAMI	Galela, Maluku	0.65	318	P	Pn	21 03 46.9	+1.0
GAMI				S	Sn	21 04 00.4	+1.7
TNTI	Ternate	1.04	236		Pn	21 03 50.1	+0.3
TNTI				Sn	Sn	21 04 06.3	+0.9
TNTI	Ternate	1.04	236	P	Pn	21 03 50.4	+0.6
TNTI				S	Sn	21 04 05.6	+0.2
MNI	Manado	3.39	272	P	Pn	21 04 20.7	+0.8
MNI				S	Sn	21 04 59.3	0.0
SGSI	Sangihe	3.55	311	P	Pn	21 04 22.1	0.0
SWI	Sorong	3.75	126	P	Pn	21 04 25.9	+1.1
SIJI	Sorong	3.76	126	P	Pn	21 04 24.7	-0.2
	5.9nm,0.3s,baz=326,slow=18,SNR=12						
SIJI				S	Sn	21 05 07.7	-0.6
	2.1nm,0.3s,baz=336,slow=23,SNR=1.6						
SIJI	Sorong	3.76	126	P	Pn	21 04 25.5	+0.6
SANI	Sanana	4.05	213	P	Pn	21 04 28.9	0.0
KRAI	Karang Ratu	4.65	178	P	Pn	21 04 38.2	+1.3
MSAI	Masohi	4.72	171	P	Pn	21 04 39.8	+1.8
GTOI	Gorontalo	5.26	262	P	Pn	21 04 46.1	+0.8
	0.1nm12nm,0.7s						
FAKI	Fak Fak	5.85	137	Pn	Pn	21 04 54.5	+1.3
FAKI	Fak Fak	5.85	137	P	Pn	21 04 54.2	+1.0
	0.2nm34nm,1.1s						
BNDI	Bandanaira	6.08	164	P	Pn	21 04 58.2	+1.9
	0.4nm62nm,1.1s						
MRSI	Marisa	6.34	262	P	Pn	21 04 59.2	-0.8
	0.4nm17nm,0.6s						
APSI	Ampana	6.95	251	P	Pn	21 05 07.2	-1.0
	0.1nm20nm,0.9s						
TOLI2	Tolitoli	7.45	268	Pn	Pn	21 05 15.8	+0.9
BAKI	Biak	8.28	108	P	Pn	21 05 25.9	-0.4
	59nm,1.2s						
MPSI	Mapaga	8.39	263	P	Pn	21 05 27.4	-0.4
	6.2nm,0.8s						
TTSI	Tana Toraja	9.47	243	P	Pn	21 05 43.2	+0.7
	6.6nm,1.2s						
SAUI	Saumlaki	9.77	162	P	Pn	21 05 47.8	+1.2
	108nm,0.9s						
BNSI	Bone	9.93	235	P	Pn	21 05 48.4	-0.3
	12nm,1.0s						
BKSI	Bulukumba	10.46	231	P	Pn	21 05 55.7	-0.3
	11nm,0.8s						
PMSI	Majene	10.48	243	P	Pn	21 05 56.1	-0.2
	45nm,0.7s						
MTN	Manton Dam	14.40	169	Pn	Pn	21 06 47.5	-0.6
KNRA	Kununurra	16.93	178		P	21 07 19.6	-0.6
KNRA				IAmb	IAmb	21 07 44.0	
	comp=Z,29nm,1.4s						
UGM	Wanagama	19.91	242		Pn	21 07 55.5	0.0
COEN	Coen	21.23	136	P	P	21 08 08.6	+1.5
WRAB	Tennant Creek	21.99	164	P	P	21 08 15.1	0.0
WRA	Warramunga Arr	22.00	164	P	P	21 08 15.0	-0.2
	comp=Z,6.5nm,0.6s,baz=342,slow=12,SNR=54						
WRA	Warramunga Arr	22.00	164	P	P	21 08 14.9	-0.2
WR0	Warramunga Arr	22.07	164	P	P	21 08 15.7	-0.2
TWG	Pinlang	22.44	342	P	P	21 08 18.0	-1.8
TWG				IAmb	IAmb	21 08 18.9	
	comp=Z,30nm,0.8s						
YULB	Yu-li	22.91	343	P	P	21 08 22.8	-1.7
SSLB	Suanglung	23.39	343	P	P	21 08 27.5	-1.5
SSLB				IAmb	IAmb	21 08 30.7	
	comp=Z,9.4nm,0.7s						
YHNB	Yeheng	24.11	345	P	P	21 08 36.0	+0.5
YHNB				IAmb	IAmb	21 08 37.2	
	comp=Z,28nm,1.0s						
QIZ	Qiongzhong	25.16	315	P	P	21 08 45.7	+0.6
QIZ				IAmb	IAmb	21 09 00.4	
	comp=Z,33nm,1.4s						
AS31	Alice Springs	25.48	168	P	P	21 08 47.9	0.0
ASAR	Alice Springs	25.48	168	P	P	21 08 48.1	+0.2
	comp=Z,1.7nm,0.9s,baz=358,slow=8.3,SNR=19						
ASAR	Alice Springs	25.48	168	P	P	21 08 47.6	-0.4
GSI	Gunungsitoli	30.64	270	P	P	21 09 33.0	-1.2
JNU	Nakatsue	31.70	4	P	P	21 09 42.7	-0.5
JNU				IAmb	IAmb	21 09 52.9	
	comp=Z,12nm,1.1s						
CMAR	Chiang Mai Arr	33.38	302	P	P	21 09 59.3	+1.3
	comp=Z,0.7nm,0.8s,baz=116,slow=6.3,SNR=5.0						
ENH	Enshi	33.82	330	P	P	21 10 02.4	+0.7
ENH				IAmb	IAmb	21 10 03.8	
	comp=Z,6.6nm,0.9s						
BBOO	Buckleboo	34.78	168	P	P	21 10 09.6	-0.3
STKA	Stephens Creek	35.40	160	P	P	21 10 15.7	+0.4
	comp=Z,1.3nm,0.4s,baz=341,slow=9.4,SNR=8.8						
STKA	Stephens Creek	35.40	160	P	P	21 10 15.2	0.0
KSRS	Korea Array	35.92	360	P	P	21 10 20.1	+0.4
	comp=Z,3.6nm,0.5s,baz=174,slow=9.5,SNR=19						
KS19	Wonju Array Si	35.97	360	P	P	21 10 19.9	-0.2
KS19				IAmb	IAmb	21 10 32.8	
	comp=Z,11nm,1.1s						
MJAR	Matsushiro Arr	36.21	14	P	P	21 10 21.1	-1.1
	comp=Z,1.2nm,0.6s,baz=171,slow=9.2,SNR=4.4						
BJT	Baijiatuau	40.02	346		P	21 10 54.1	+0.1
H11S3	WAKE ISLAND Hy	41.38	63	T	T	21 55 06.7	
	baz=249						
H11S2	WAKE ISLAND Hy	41.40	63	T	T	21 55 06.8	
	baz=249						
H11S1	WAKE ISLAND Hy	41.40	63	T	T	21 55 05.7	
	baz=249						
H11N1	WAKE ISLAND Hy	41.99	62	T	T	21 55 55.9	
	baz=248,slow=75,SNR=4.9						
H11N2	WAKE ISLAND Hy	42.00	62	T	T	21 55 56.4	
	baz=248,slow=75,SNR=4.1						
H11N3	WAKE ISLAND Hy	42.01	62	T	T	21 55 50.1	
	baz=248,slow=75,SNR=7.6						
SHL	Shillong	42.49	308	P	P	21 11 15.0	+0.2
USA0B	Ussuriysk Arra	42.79	4	P	P	21 11 17.0	+0.3
USRK	Ussuriysk Ar.	42.79	4	P	P	21 11 17.1	+0.4
	comp=Z,1.5nm,0.4s,baz=181,slow=8.1,SNR=13						
USRK	Ussuriysk Ar.	42.79	4	P	P	21 11 16.5	-0.2
LSA	Lhasa	45.12	312	P	P	21 11 37.1	+0.9
LSA				IAmb	IAmb	21 11 38.4	
	comp=Z,4.7nm,0.5s						
ODAN	Odare	46.66	307	eP	P	21 11 48.7	+0.6
	comp=Z,18nm,0.7s						
RAMN	Ramite	47.34	306	eP	P	21 11 54.3	+1.0
	comp=Z,15nm,0.4s						
PKI	Pulchoki	48.56	306	eP	P	21 12 03.0	+0.2
ULN	Ulaanbaatar	49.83	341	P	P	21 12 12.2	+0.3
ULN				IAmb	IAmb	21 12 13.3	
	comp=Z,7.6nm,1.1s						
SONM	Songino Array	50.01	341	P	P	21 12 13.6	+0.3
	comp=Z,2.3nm,0.6s,baz=153,slow=7.9,SNR=19						
SONM	Songino Array	50.01	341	P	P	21 12 13.4	+0.2
SONM				IAmb	IAmb	21 12 14.6	
	comp=Z,1.9nm,0.7s						
KOLN	Koldanda	50.11	306	eP	P	21 12 15.2	+0.7
PYUN	Piuthan	50.73	306	eP	P	21 12 20.0	+0.8
MK31	Makanchi Array	60.34	325	P	P	21 13 27.4	0.0
MK31				IAmb	IAmb	21 13 28.3	
	comp=Z,3.4nm,0.7s						
MKAR	Makanchi Array	60.34	325	P	P	21 13 27.5	0.0
	comp=Z,5.8nm,0.7s,baz=116,slow=8.3,SNR=54						
MKAR	Makanchi Array	60.34	325	P	P	21 13 27.4	-0.1
MAKZ	Makanchi	60.53	325	P	P	21 13 28.7	0.0
MAKZ				IAmb	IAmb	21 13 29.5	
	comp=Z,7.9nm,1.1s						
YAK	Yakutsk	60.53	1	P	P	21 13 28.4	0.0
MA2	Magadan	60.65	13	P	P	21 13 30.2	+1.0
KDJ	Kajisay	61.10	319	P	P	21 13 33.4	+0.5
KDJ				IAmb	IAmb	21 13 33.8	
	comp=Z,3.1nm,0.5s						
ZAA0	Zalesovo Array	63.37	333	P	P	21 13 47.5	0.0
ZALV	Zalesovo Beam	63.37	333	P	P	21 13 46.6	-0.9
	comp=Z,0.9nm,0.4s,baz=138,slow=7.5,SNR=4.8						
ZALV	Zalesovo Beam	63.37	333	P	P	21 13 47.4	-0.1
GAR	Garm	64.62	313	P	P	21 13 55.7	-0.6
GAR				IAmb	IAmb	21 14 22.5	
	comp=Z,5.7nm,1.0s						
KKAR	Karatay Array	65.98	317	P	P	21 14 04.3	-0.5
BRVK	Borovoye	70.18	327	P	P	21 14 30.0	-0.8
BRVK				IAmb	IAmb	21 14 31.2	
	comp=Z,5.4nm,0.9s						
TIXI	Tiksi	70.19	0	P	P	21 14 30.1	-0.4
TIXI				IAmb	IAmb	21 14 30.9	
	comp=Z,6.9nm,1.0s						
ABKAR	Akbulak array	74.92	321	P	P	21 14 58.3	-0.7
ABKAR	Akbulak array	74.92	321	P	P	21 14 58.2	-0.9
ABKAR				IAmb	IAmb	21 14 58.9	
	comp=Z,2.0nm,0.9s						
L19K	White Mountain	82.71	27	P	P	21 15 42.5	+1.1
M19K	Big River Lodg	82.87	28	P	P	21 15 43.7	+1.4
M19K				IAmb	IAmb	21 15 44.4	
	comp=Z,7.9nm,1.2s						
KDAK	Kodiak Island	83.09	32	P	P	21 15 44.0	+0.6
	comp=Z,5.6nm,0.7s,baz=260,slow=9.1,SNR=5.2						
KDAK	Kodiak Island	83.09	32	P	P	21 15 44.1	+0.7
J20K	Nowinta River	83.40	26	P	P	21 15 46.2	+1.3
M20K	Styx River	83.46	28	P	P	21 15 46.6	+1.3
M20K				IAmb	IAmb	21 15 47.0	
	comp=Z,4.5nm,0.8s						
IMAR	Indian Mountai	83.90	24	P	P	21 15 47.6	+0.2
PPLA	Purkeypile	84.05	27	P	P	21 15 49.1	+0.7
PPLA				IAmb	IAmb	21 16 10.6	
	comp=Z,8.4nm,1.3s						
SKT	Skwentna	84.22	28	P	P	21 15 48.9	-0.3
SUA	Susitna One	84.52	28	P	P	21 15 50.9	+0.1
BPAW	Bear Paw Mtn.	84.76	26	P	P	21 15 52.5	+0.6
BPAW				IAmb	IAmb	21 16 04.0	
	comp=Z,4.4nm,1.3s						
COLD	Coldfoot	85.49	23	P	P	21 15 56.0	+0.6
COLD				IAmb	IAmb	21 16 10.0	
	comp=Z,3.6nm,1.2s						
I23K	Minto, Yukon-K	85.58	25	P	P	21 15 57.0	+1.1
I23K				IAmb	IAmb	21 15 58.0	
	comp=Z,2.2nm,0.7s						
KNK	Knik Glacier	85.61	29	P	P	21 15 56.0	-0.1
KNK				IAmb	IAmb	21 16 02.0	
	comp=Z,9.9nm,1.2s						
SML	Sawmill	85.70	28	P	P	21 15 56.4	-0.2
BMAR	Burnt Mountain	87.67	23	P	P	21 16 06.7	+0.6
ARCES	ARCESS Array B	93.18	340	P	P	21 16 30.5	-1.1
	comp=Z,2.5nm,0.9s,baz=49,slow=5.5,SNR=4.9						
TORD	Torodi Ar. Bea	125.06	287	PKP	PKiKP	21 22 17.4	-1.6
	comp=Z,0.8nm,0.9s,baz=57,slow=1.8,SNR=3.5						

TAP 01 21:15:07.5, 24.°88N×122.°03E, h11km, ML2.7, C

JMA 01 21:15:08.5, 24.°80N×121.°97E, h31km, M2.3

ISC 01 21:15:07.0±0.8, 24.°86N±0.°03×122.°07E±0.°02, h13km±6km, n39, σ0.s65/64, 4C, Taiwan region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EGS		0.12	262	iP	Pg	21 15 10.5	+0.2
	baz=249						
EGS				S	Sg	21 15 12.4	-0.1
	baz=249						
TWB1	Santiao Chiao	0.16	334	⇑iP	Pg	21 15 11.0	+0.1
	baz=347						
TWB1				iS	Sg	21 15 13.2	-0.4
	baz=347						
NTC	Toucheng	0.21	268	P	Pg	21 15 12.0	+0.3
	baz=271						
NTC				S	Sg	21 15 14.8	0.0
	baz=271						
TIPB	Shuangxi	0.24	297	⇑iP	Pg	21 15 12.6	+0.4
	baz=298						
TIPB				iS	Sg	21 15 15.6	-0.1
	baz=298						
TWC	Suao	0.32	218	P	Pb	21 15 14.1	-0.5
	baz=221						
TWC				S	Sg	21 15 17.9	0.0
	baz=221						
NWF	Wu-fen Shan	0.33	309	⇑iP	Pg	21 15 14.4	+0.6
	baz=302						
NWF				S	Sg	21 15 19.1	+0.7
	baz=302						
WFSB	Wu-fen Shan	0.33	309	P	Pg	21 15 14.4	+0.6
	baz=302						
WFSB				S	Sg	21 15 18.8	+0.5
	baz=302						
TWE	Neicheng	0.39	249	⇑iP	Pb	21 15 15.1	-0.7
	baz=246						
TWE				S	Sg	21 15 19.7	-0.3
	baz=246						
NDS	Dongshan	0.39	235	eP	Pb	21 15 15.1	-0.7
	baz=232						
NDS				eS	Sg	21 15 20.2	+0.1
	baz=232						
TNOU	National Taiwa	0.39	317	eP	Pg	21 15 14.2	-0.7
	baz=319						
TNOU				eS	Sg	21 15 19.1	-1.0
	baz=319						
TWA	Mucha	0.45	285	P	Pb	21 15 16.6	-0.3
	baz=285						
TWA				S	Sg	21 15 22.1	0.0
	baz=285						
EWUT	Wuta	0.49	212	eP	Pb	21 15 17.9	+0.4
	baz=216						
NHDH	Xindian Distri	0.50	282	eP	Pn	21 15 19.1	-0.8
	baz=276						
NHDH				eS	Sg	21 15 23.9	+0.3
	baz=276						
ENA	Nanau	0.52	214	eP	Pb	21 15 18.2	+0.1
	baz=219						
ENA				eS	Sb	21 15 25.2	-0.3
	baz=219						
YM01	YM01	0.53	302	P	Pb	21 15 18.4	+0.1
	baz=303						
YM01				eS	Sg	21 15 24.7	+0.2
	baz=303						
NDT	Datong Townshi	0.56	243	eP	Pb	21 15 18.4	-0.4
	baz=235						
TWY	Chenhua	0.59	314	eP	Pb	21 15 19.5	+0.3
	baz=314						
ANP	Anpu	0.59	303	eP	Pb	21 15 19.3	0.0
	baz=296						
TWS1	Kuangyinshan	0.64	292	eP	Pb	21 15 19.8	-0.1
	baz=293						
TWS1				eS	Sb	21 15 29.5	+0.7
	baz=293						
YHNB	Yeheng	0.66	253	eP	Pg	21 15 19.5	-0.3
	baz=253						
YHNB				eS	Sg	21 15 26.8	-1.7
	baz=253						
NSK	Sanguang	0.67	254	eP	Pg	21 15 19.8	-0.3
	baz=254						
NSK				eS	Sg	21 15 27.1	-1.7
	baz=254						
NNS	Nan Shan	0.76	237	eP	Pb	21 15 22.0	-0.1
	baz=235						
NCUH	Zhongli	0.81	278	eP	Pn	21 15 23.9	-0.2
	baz=277						
NACB	Ninganchiao	0.81	212	eP	Pn	21 15 23.6	-0.5
	baz=222						
NACB				eS	Sg	21 15 33.6	+0.4
	baz=222						
ETLH	Xiulin Townshi	0.84	219	eP	Pn	21 15 24.5	-0.1
	baz=229						
ETLH				eS	Sn	21 15 35.8	-1.1
	baz=229						
JYNG	Yonagunijimaku	0.90	117	P	Pn	21 15 25.8	+0.5
JYNG				eS	Sn	21 15 37.9	-0.3
YOJ	Yonaguni jima	0.95	115	P	Pn	21 15 26.3	+0.3
YOJ				eS	Sg	21 15 38.5	+0.8
YOJ	Yonaguni jima	0.95	115	eP	Pn	21 15 26.5	+0.4
	baz=115						
FUSS	Fushou	0.97	231	eP	Pn	21 15 26.1	-0.4
	baz=226						
LIOB	Emei	0.98	258	eP	Pn	21 15 27.4	+0.9
	baz=260						
LIOB				eS	Sn	21 15 41.3	+1.1
	baz=260						
NSTT	Nanjuang	0.99	257	eP	Pn	21 15 27.6	+0.9
	baz=257						
WHF	Hehuan Shan	1.02	226	P	Pn	21 15 27.3	-0.1
	baz=226						
CHGB	Renai	1.14	226	eP	Pg	21 15 29.8	+0.8
	baz=227						
WHP	Taichung City	1.17	241	eP	Pg	21 15 31.6	+2.0
	baz=242						
IRIF	Iriomote-Funau	1.60	109	P	Pb	21 15 36.3	-0.2
IRIF				eS	Sn	21 15 55.7	+0.1
HATJ	Hateruma jima	1.78	116	P	Pb	21 15 39.1	-0.3
JKRS	Kuro-shima	1.88	109	P	Pb	21 15 40.4	-0.7
JKRS				eS	Sn	21 16 02.6	+0.3
JIJ	Ishigaki jima	1.96	104	P	Pb	21 15 42.0	-0.5
JIJ				eS	Sb	21 16 06.1	-0.7
JISG	Ishigakijimahi	2.06	97	P	Pb	21 15 43.4	-0.9

IDC 01 21:51:42.4±1.4, 44.°37N×81.°27E, h0km, mb3.9/3, mb1 3.6/11, mb1mx3.5/54, mbtmp3.6/11, ML3.1/8, MS2.3/1, Ms1 2.3/1, ms1mx2.0/62, Error ellipse: s-maj=18.8km s-min=10.1km az=125.0

NNC 01 21:51:46.5±0.8, 44.°36N×81.°19E, h10km±5km, mb4.4, mpv4.1, Error ellipse: s-maj=7.2km s-min=3.3km az=125.0

SOME 01 21:51:47.2, 44.°27N×81.°10E, h15km, MS3.2

ISC 01 21:51:45.1±1.1, 44.°33N±0.°03×81.°23E±0.°03, h15km±8km, n82, σ2.s66/121, mb4.0/3, 16C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DJR	Jarkent	1.03	270	eP	Pn	21 52 06.6	+1.4
	169nm,0.3s						
DJR				eS	Sn	21 52 21.1	+1.8
	994nm,0.4s						
DJR	Jarkent	1.03	270	P	Pn	21 52 06.6	+1.4
	169nm,0.3s						
DJR				S	Sn	21 52 21.1	+1.8
	994nm,0.4s						
KTMS	Ketmen	1.09	216	eP	Pg	21 52 07.3	+1.2
	2.3nm,0.4s						
KTMS				eS	Sb	21 52 22.7	+2.9
	1µm,0.3s						
KTMS	Ketmen	1.09	216	P	Pg	21 52 07.3	+1.2
	2.3nm,0.4s						
KTMS				S	Sb	21 52 22.7	+2.9
	1µm,0.3s						
PDGK	Podgornoye	1.61	232	P	Pb	21 52 16.3	+1.7
	60nm,0.2s						

Code	Station	Δ°	AZ°	Op	ISC	Time	Res
PDGK				S	**Sb**	**21 52 37.4**	**+2.6**
	1μm,0.5s						
PDGK	**Podgornoye**	**1.61**	**232**	⇑Pg	**Pn**	**21 52 15.4**	**+2.3**
	61nm,0.3s						
PDGK				⇓Lg	Lg	21 52 37.5	
	437nm,0.4s						
KAPS	**Kapalarasan**	**1.64**	**306**	*e*P	**Pg**	**21 52 16.8**	**+0.2**
	637nm,0.4s						
KAPS				*e*S	**Sg**	**21 52 38.1**	**+0.2**
	1μm,0.3s						
KAPS	**Kapalarasan**	**1.64**	**306**	P	**Pg**	**21 52 16.8**	**+0.2**
	637nm,0.4s						
KAPS				S	**Sg**	**21 52 38.1**	**+0.2**
	1μm,0.3s						
SHLS	**Shalkode**	**1.74**	**228**	*e*P	**Pn**	**21 52 14.2**	**-0.6**
	865nm,0.4s						
SHLS				*e*S	**Sn**	**21 52 33.9**	**-2.9**
	6μm,0.4s						
SHLS	**Shalkode**	**1.74**	**228**	P	**Pn**	**21 52 14.2**	**-0.6**
	865nm,0.4s						
SHLS				S	**Sn**	**21 52 34.8**	**-2.0**
	6μm,0.4s						
UZB	**Uzynbulak**	**1.99**	**234**	*e*P	**Pb**	**21 52 21.7**	**+0.6**
	67nm,0.2s						
UZB				*e*S	**Sn**	**21 52 46.4**	**+3.3**
	667nm,0.4s						
UZB	**Uzynbulak**	**1.99**	**234**	P	**Pb**	**21 52 21.7**	**+0.6**
	67nm,0.2s						
UZB				S	**Sn**	**21 52 46.4**	**+3.3**
	667nm,0.4s						
KPKS	**Kokpek**	**2.03**	**246**	*e*P	**Pb**	**21 52 23.0**	**+1.2**
	240nm,0.2s						
KPKS				*e*S	**Sb**	**21 52 48.8**	**+1.8**
	4μm,0.5s						
TDK	**Taldyqorghan**	**2.12**	**289**	*e*P	**Pb**	**21 52 24.9**	**+1.6**
	359nm,0.4s						
TDK				*e*S	**Sb**	**21 52 51.8**	**+2.4**
	1μm,0.4s						
TDK	**Taldyqorghan**	**2.12**	**289**	Pg	**Pb**	**21 52 24.9**	**+1.6**
	359nm,0.4s						
TDK				Lg	Lg	21 52 51.8	
	1μm,0.4s						
ZHN	**Zhinishke**	**2.33**	**241**	*e*P	**Pb**	**21 52 26.9**	**-0.1**
	123nm,0.4s						
ZHN				*e*S	**Sb**	**21 52 55.8**	**+0.1**
	161nm,0.2s						
ZHN	**Zhinishke**	**2.33**	**241**	Pg	**Pb**	**21 52 26.9**	**-0.1**
	123nm,0.4s						
ZHN				Lg	Lg	21 52 55.8	
	161nm,0.2s						
KURS	**Kuram**	**2.37**	**250**	*e*P	**Pb**	**21 52 29.7**	**+2.3**
	49nm,0.3s						
KURS				*e*S	**Sg**	**21 53 00.2**	**-0.9**
	115nm,0.3s						
KURS	**Kuram**	**2.37**	**250**	Pg	**Pb**	**21 52 29.7**	**+2.3**
	49nm,0.3s						
KURS				Lg	Lg	21 53 00.2	
	115nm,0.3s						
SATY	**Saty**	**2.41**	**239**	*e*P	**Pb**	**21 52 28.7**	**+0.5**
	54nm,0.2s						
SATY				*e*S	**Sb**	**21 52 58.4**	**+0.5**
	541nm,0.3s						
SATY	**Saty**	**2.41**	**239**	Pg	**Pb**	**21 52 28.7**	**+0.5**
	54nm,0.2s						
SATY				Lg	Lg	21 52 58.4	
	541nm,0.3s						
ARXS	**Arharly**	**2.45**	**268**	*e*P	**Pb**	**21 52 30.8**	**+2.0**
	151nm,0.3s						
ARXS				*e*S	**Sg**	**21 53 02.4**	**-1.3**
	662nm,0.5s						
ARXS	**Arharly**	**2.45**	**268**	Pg	**Pb**	**21 52 30.8**	**+2.0**
	151nm,0.3s						
ARXS				Lg	Lg	21 53 02.4	
	662nm,0.5s						
MAKZ	**Makanchi**	**2.53**	**12**	⇑Pn	**Pn**	**21 52 26.3**	**+0.7**
	6.2nm,0.7s						
MAKZ				⇑Pg	**Pg**	**21 52 33.5**	**-0.1**
	27nm,0.5s						
MAKZ				⇓Sn	**Sn**	**21 52 58.0**	**+1.8**
	71nm,0.4s						
MAKZ				⇑Lg	Lg	21 53 10.6	
	101nm,0.7s						
MK31	**Makanchi Array**	**2.57**	**17**	⇑Pn	**Pn**	**21 52 27.3**	**+1.0**
	1.2nm,0.2s,baz=197,slow=14						
MK31				⇑Pg	**Pg**	**21 52 35.1**	**+0.8**
	43nm,0.5s,baz=190,slow=17						
MK31				⇑Sn	**Sn**	**21 52 57.7**	**+0.4**
	36nm,0.3s,baz=198,slow=22						
MK31				⇓Lg	Lg	21 53 10.6	
	106nm,0.5s,baz=196,slow=29						
MKAR	**Makanchi Array**	**2.57**	**17**	Pn	**Pn**	**21 52 27.3**	**+1.0**
	3.7nm,0.3s,baz=204,slow=13,SNR=226						
MKAR				LR	LR	21 52 57.7	
	comp=Z,57nm,20.4s,baz=300,slow=30						
MKAR				Sn	**Sn**	**21 52 58.0**	**+0.7**
	54nm,0.3s,baz=204,slow=25,SNR=16						
CHKK	**Chushkaly**	**3.09**	**263**	*e*P	**Pb**	**21 52 42.0**	**+2.2**
	56nm,0.4s						
CHKK				*e*S	**Sb**	**21 53 20.7**	**+3.4**
	337nm,0.4s						
CHKK	**Chushkaly**	**3.09**	**263**	Pg	**Pb**	**21 52 42.1**	**+2.2**
	56nm,0.4s						
CHKK				Lg	Lg	21 53 20.7	
	337nm,0.4s						
KOTS	**Kotyrbulak**	**3.18**	**251**	*e*P	**Pb**	**21 52 43.8**	**+2.5**
	69nm,0.4s						
KOTS				*e*S	**Sb**	**21 53 24.5**	**+4.5**
	341nm,0.6s						
KOTS	**Kotyrbulak**	**3.18**	**251**	Pg	**Pb**	**21 52 43.8**	**+2.5**
	69nm,0.4s						
KOTS				Lg	Lg	21 53 24.5	
	341nm,0.6s						
MDOK	**Medeo**	**3.25**	**250**	*e*P	**Pb**	**21 52 44.9**	**+2.4**
	45nm,0.5s						
MDOK				*e*S	**Sb**	**21 53 26.2**	**+4.3**
	90nm,0.4s						
MDOK	**Medeo**	**3.25**	**250**	⇑Pg	**Pg**	**21 52 47.7**	**+0.4**
	25nm,0.4s						
MDOK				⇑Lg	Lg	21 53 30.9	
	135nm,0.5s						
MDOK	**Medeo**	**3.25**	**250**	Pg	**Pb**	**21 52 44.9**	**+2.4**
	45nm,0.5s						
MDOK				Lg	Lg	21 53 26.2	
	90nm,0.4s						
KNDC	**Almaty**	**3.28**	**252**	⇑Pg	**Pg**	**21 52 47.2**	**-0.8**
	31nm,0.3s						
KNDC				⇓Lg	Lg	21 53 32.8	
	482nm,0.6s						
AAA	**Alma-Ata**	**3.32**	**252**	*e*P	**Pb**	**21 52 45.9**	**+2.2**
	28nm,0.3s						
AAA				*e*S	**Sb**	**21 53 28.5**	**+4.6**
	217nm,0.5s						
AAA	**Alma-Ata**	**3.32**	**252**	Pg	**Pb**	**21 52 45.9**	**+2.2**
	28nm,0.3s						
AAA				Lg	Lg	21 53 28.5	
	217nm,0.5s						
KTBS	**Karatobe**	**3.34**	**261**	*e*P	**Pb**	**21 52 47.6**	**+3.6**
	38nm,0.6s						
KTBS				*e*S	**Sg**	**21 53 30.8**	**-1.4**
	413nm,0.5s						
KTBS	**Karatobe**	**3.34**	**261**	Pg	**Pb**	**21 52 47.6**	**+3.6**
	38nm,0.6s						
KTBS				Lg	Lg	21 53 30.8	
	413nm,0.5s						
TNSS	**Tian-Shan**	**3.37**	**249**	Pg	**Pb**	**21 52 47.6**	**+2.9**
	24nm,0.7s						
TNSS				Lg	Lg	21 53 30.8	
	205nm,0.8s						
KUU	**Kurty**	**3.55**	**265**	*e*P	**Pb**	**21 52 49.5**	**+1.9**
	19nm,0.3s						
KUU				*e*S	**Sb**	**21 53 34.0**	**+3.6**
	205nm,0.4s						
KUU	**Kurty**	**3.55**	**265**	Pg	**Pb**	**21 52 49.5**	**+1.9**
	19nm,0.3s						
KUU				Lg	Lg	21 53 34.0	
	205nm,0.4s						
IZV	**Izvestkoviy**	**3.59**	**250**	*e*P	**Pb**	**21 52 51.3**	**+2.9**
	16nm,0.4s						
IZV				*e*S	**Sb**	**21 53 37.3**	**+5.5**
	88nm,0.5s						
IZV	**Izvestkoviy**	**3.59**	**250**	Pg	**Pb**	**21 52 51.3**	**+2.9**
	16nm,0.4s						
IZV				Lg	Lg	21 53 37.3	
	88nm,0.5s						
MTBS	**Maitube**	**3.68**	**253**	*e*P	**Pb**	**21 52 52.2**	**+2.4**
	27nm,0.3s						
MTBS				*e*S	**Sb**	**21 53 38.7**	**+4.4**
	124nm,0.4s						
MTBS	**Maitube**	**3.68**	**253**	Pg	**Pb**	**21 52 52.2**	**+2.4**
	27nm,0.3s						
MTBS				Lg	Lg	21 53 38.7	
	124nm,0.4s						
ZSN	**Zaisan**	**4.02**	**38**	*e*P	**Pb**	**21 52 58.8**	**+3.2**
	16nm,0.5s						
ZSN				*e*S	**Sb**	**21 53 49.9**	**+5.9**
	137nm,0.5s						
ZSN	**Zaisan**	**4.02**	**38**	Pg	**Pb**	**21 52 58.8**	**+3.2**
	16nm,0.5s						
ZSN				Lg	Lg	21 53 49.9	
	137nm,0.5s						
KST	**Kastek**	**4.03**	**253**	*e*P	**Pb**	**21 53 00.0**	**+4.1**
	21nm,0.4s						
KST				*e*S	**Sg**	**21 53 52.1**	**-2.4**
	137nm,0.7s						
KST	**Kastek**	**4.03**	**253**	Pg	**Pb**	**21 53 00.0**	**+4.1**
	21nm,0.4s						
KST				Lg	Lg	21 53 52.1	
	137nm,0.7s						
KRBS	**Karabastau**	**4.06**	**263**	*e*P	**Pb**	**21 52 59.2**	**+2.9**
	11nm,0.3s						
KRBS				*e*S	**Sb**	**21 53 50.7**	**+5.6**
	52nm,0.5s						
KRBS	**Karabastau**	**4.06**	**263**	Pg	**Pb**	**21 52 59.2**	**+2.9**
	11nm,0.3s						
KRBS				Lg	Lg	21 53 50.7	
	52nm,0.5s						
DGS	**Degeres**	**4.10**	**256**	*e*P	**Pb**	**21 52 59.0**	**+1.9**
	22nm,0.3s						
DGS				*e*S	**Sb**	**21 53 51.9**	**+5.5**
	133nm,0.6s						
DGS	**Degeres**	**4.10**	**256**	Pg	**Pb**	**21 52 59.0**	**+1.9**
	22nm,0.3s						
DGS				Lg	Lg	21 53 51.9	
	133nm,0.6s						
ULHL	**Ulahol**	**4.20**	**242**	P	**Pn**	**21 52 52.0**	**+3.2**
	SNR=23						
TKM2	**Tokmak 2**	**4.33**	**253**	P	**Pn**	**21 52 52.9**	**+2.4**
	SNR=16						
WMQ	**Urumqi**	**4.69**	**94**	*e*Pn	**Pn**	**21 52 58.1**	**+2.7**
WMQ				Sn	**Sn**	**21 53 51.0**	**+1.5**
WMQ				Sg	**Sg**	**21 54 13.3**	**-2.3**
WMQ				smax	smax		
	comp=N,78nm,0.9s						
WMQ				smax	smax		
	comp=E,77nm,0.7s						
SGDS	**Sogindy**	**4.85**	**262**	Pg	Pb	21 53 14.6	+4.8
	comp=E,5.0nm,0.4s						
SGDS				Lg	Lg	21 54 17.0	
	comp=E,49nm,0.7s						
KBK	**Karagaybulak**	**4.87**	**252**	P	**Pn**	**21 53 00.9**	**+3.0**
	SNR=17						
CHMS	**Chumysh**	**4.88**	**256**	P	**Pn**	**21 53 00.2**	**+2.2**
	SNR=27						
USP	**Ospenovka**	**4.99**	**260**	P	**Pn**	**21 53 01.4**	**+1.9**
	SNR=20						
BTLS	**Baital**	**5.17**	**280**	*e*P	Pb	21 53 20.0	+4.8
	comp=E,4.8nm,0.3s						
BTLS				*e*S	**Sg**	**21 54 26.3**	**-4.7**
	comp=E,25nm,0.5s						
AAK	**Ala-Archa**	**5.18**	**253**	Pn	**Pn**	**21 53 05.1**	**+2.9**
	comp=E,1.6nm,0.3s,baz=86,slow=7.4,SNR=8.4						
AAK				Lg	Lg	21 54 28.4	
	comp=E,2.9nm,0.3s,baz=352,slow=21,SNR=8.6						
EKS2	**Erkin-Say**	**5.67**	**255**	P	**Pn**	**21 53 11.6**	**+2.7**
	SNR=17						
AML	**Almayashu**	**5.93**	**251**	P	**Pn**	**21 53 16.8**	**+4.1**
	SNR=7.4						
MRKS	**Merke**	**6.03**	**258**	*e*P	**Pg**	**21 53 37.1**	**-3.4**
	comp=E,5.4nm,0.6s						
MRKS				*e*S	**Sg**	**21 54 55.6**	**-2.9**
	comp=E,23nm,0.4s						
MRKS	**Merke**	**6.03**	**258**	Pg	**Pg**	**21 53 37.1**	**-3.4**
	comp=E,5.4nm,0.6s						
MRKS				Lg	Lg	21 54 55.6	
	comp=E,23nm,0.4s						
KSH	**Kashi**	**6.21**	**221**	Pn	Pn	21 53 25.7	+9.4
KSH				Sn	**Sb**	**21 54 46.5**	**-0.5**
KSH				smax	smax		
	comp=N,18nm,1.0s						
KSH				smax	smax		
	comp=E,32nm,1.0s						
KURBB	**Kurchatov Arra**	**6.55**	**345**	Pn	**Pn**	**21 53 20.7**	**-0.1**
	comp=E,0.5nm,0.3s,baz=169,slow=12,SNR=25						
KURBB				Sn	**Sn**	**21 54 32.6**	**-2.6**
	comp=E,0.9nm,0.3s,baz=160,slow=24,SNR=3.0						
KURBB				Lg	Lg	21 55 08.4	
	comp=E,1.0nm,0.3s,baz=164,slow=32,SNR=6.4						
KURBB	**Kurchatov Arra**	**6.55**	**345**	⇑Pn	**Pn**	**21 53 20.4**	**-0.5**
	comp=E,1.7nm,0.5s						
KURBB				⇑Lg	Lg	21 55 17.8	
	comp=E,171nm,0.7s						
OTUK	**Ortayu**	**7.29**	**306**	⇑Pn	**Pn**	**21 53 30.5**	**-0.6**
	comp=E,0.9nm,0.2s						
OTUK				⇑Lg	Lg	21 55 40.6	
	comp=E,34nm,0.6s						
KK31	**Karatay Array**	**7.86**	**265**	⇑Pg	**Pg**	**21 54 12.0**	**-3.5**
	comp=E,0.4nm,0.3s,baz=73,slow=16,SNR=3.9						
KK31				⇓Lg	Lg	21 55 56.4	
	comp=E,13nm,0.6s,baz=67,slow=28,SNR=5.5						
BRZS	**Berezniki**	**8.11**	**317**	*e*P	Pb	21 54 12.9	+7.7
	comp=E,4.2nm,0.4s						
BRZS				*e*S	**Sg**	**21 55 58.6**	**-6.6**
	comp=E,72nm,1.0s						
ZALV	**Zalesovo Beam**	**9.90**	**12**	Pn	**Pn**	**21 54 06.0**	**-0.8**
	comp=E,0.4nm,0.3s,baz=201,slow=13,SNR=7.3						
ZALV				Sn	**Sn**	**21 55 53.4**	**-4.3**
	comp=E,1.6nm,0.3s,baz=189,slow=24,SNR=6.1						
ZALV				Lg	Lg	21 56 58.7	
	comp=E,0.3nm,0.3s,baz=202,slow=26,SNR=2.1						
BVAR	**Borovoye Array**	**11.26**	**324**	Pn	**Pn**	**21 54 24.6**	**-0.7**
	comp=E,0.2nm,0.3s,baz=146,slow=13,SNR=2.3						
BVAR				Sn	**Sn**	**21 56 25.7**	**-5.1**
	comp=E,0.3nm,0.3s,baz=124,slow=18,SNR=1.7						
BVAR				Lg	Lg	21 57 35.8	
	comp=E,0.8nm,0.3s,baz=150,slow=15,SNR=5.4						
AB31	**Akbulak array**	**15.37**	**296**	P	**Pn**	**21 55 18.9**	**-2.4**
	comp=E,0.7nm,0.5s,baz=109,slow=8.9,SNR=14						
AKTO	**Aktyubinsk**	**16.83**	**299**	Pn	**Pn**	**21 55 37.5**	**-2.4**
	comp=E,0.2nm,0.3s,baz=108,slow=13,SNR=3.0						
AKTO	**Aktyubinsk**	**16.83**	**299**	⇑P	**P**	**21 55 45.4**	**+3.4**
SONM	**Songino Array**	**17.78**	**70**	P	**Pn**	**21 55 51.4**	**-0.6**
	comp=E,0.1nm,0.3s,baz=271,slow=11,SNR=4.4						
ARU	**Arti**	**18.75**	**318**	P	**P**	**21 56 03.2**	**0.0**
	comp=E,0.0nm,0.3s,baz=123,slow=8.1,SNR=5.0						
ARCES	**ARCESS Array B**	**37.43**	**331**	P	**P**	**21 58 56.3**	**-0.9**
	comp=E,3.0nm,0.8s,baz=87,slow=9.8,SNR=11						
NOA	**NORSAR Array B**	**43.30**	**318**	P	**P**	**21 59 45.1**	**-0.8**
	comp=E,0.4nm,0.6s,baz=80,slow=8.1,SNR=2.1						
TORD	**Torodi Ar. Bea**	**73.48**	**272**	P	**P**	**22 03 15.8**	**-1.4**
	comp=E,0.6nm,0.4s,baz=40,slow=5.4,SNR=9.9						

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*ISK **01** 21:56:11.9, 38°.63N×26°.15E, h14km, ML3.4/14*
*DDA **01** 21:56:12.3, 38°.62N×26°.16E, h6km±3km, MW3.6*
*ATH **01** 21:56:12.9, 38°.61N×26°.13E, h18km±3km, ML3.6/5, Error*
ellipse: s-maj=5.1km s-min=1.5km az=233.0
*THE **01** 21:56:13.4, 38°.60N×26°.12E, h17km±1km, ML3.3/10, Error*
ellipse: s-maj=1.5km s-min=0.6km az=234.0
ISC 01 21:56:12.6±0.8**, 38°.62N**±0°.02×**26°.14E**±0°.02**, h17**km±6km**,**
n103, σ0s.62/134**, 22C-3D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.24**	**195**	P	**Pg**	**21 56 18.1**	**-0.1**
CHOS				S	**Sg**	**21 56 21.8**	**-0.1**
	16μm,0.2s						
CHOS	**Chios island**	**0.24**	**195**	P	**Pg**	**21 56 18.1**	**-0.1**
CHOS				S	**Sg**	**21 56 22.0**	**+0.1**
CHOS				AML	AML	21 56 22.3	
	comp=E,39291μm,0.2s						
CHOS				AML	AML	21 56 23.5	
	comp=N,26045μm,0.2s						
CHOS	**Chios island**	**0.24**	**195**	PG	**Pg**	**21 56 18.1**	**-0.1**
CHOS				SG	**Sg**	**21 56 22.2**	**+0.3**
KRBN	**Karaburun**	**0.33**	**94**	PG	**Pg**	**21 56 19.5**	**-0.1**
KRBN				SG	**Sg**	**21 56 23.9**	**-0.4**
URLA	**Izmir**	**0.44**	**125**	*i* P	**Pg**	**21 56 21.2**	**-0.4**
URLA				*i* S	**Sg**	**21 56 27.6**	**-0.1**
URLA				IAML		21 56 28.0	
	comp=N,1μm,0.6s						
URLA				IAML		21 56 28.0	
	comp=E,1μm,0.4s						
URLA	**Izmir**	**0.44**	**125**	PG	**Pg**	**21 56 21.4**	**-0.2**
URLA				SG	**Sg**	**21 56 27.6**	**-0.1**
PSRA	**Psara**	**0.46**	**260**	P	**Pb**	**21 56 22.7**	**+0.5**
FOCM	**Foa**	**0.47**	**78**	PG	**Pg**	**21 56 21.6**	**-0.6**
FOCM				SG	**Sg**	**21 56 27.9**	**-0.7**
ZEYE	**Izmir, Urla-Ze**	**0.48**	**143**	*i* P	**Pg**	**21 56 21.7**	**-0.5**
ZEYE				*i* S	**Sg**	**21 56 28.1**	**-0.6**
ZEYE				IAML		21 56 29.0	
	comp=E,3μm,0.4s						
ZEYE				IAML		21 56 30.0	
	comp=N,3μm,0.2s						
SIGR	**SIGRI**	**0.63**	**340**	P	**Pg**	**21 56 24.8**	**-0.3**
SIGR				S	**Sn**	**21 56 36.5**	**0.0**
	comp=N,11μm,0.4s						
SIGR	**SIGRI**	**0.63**	**340**	P	**Pg**	**21 56 24.8**	**-0.3**
SIGR				AML	AML	21 56 36.7	
	comp=E,16575μm,0.4s						
SIGR				AML	AML	21 56 37.3	
	comp=N,26806μm,0.5s						
SIGR	**SIGRI**	**0.63**	**340**	PG	**Pg**	**21 56 24.8**	**-0.3**
PRK	**Paraskevi**	**0.64**	**10**	P	**Pb**	**21 56 25.7**	**+0.4**
PRK				S	**Sn**	**21 56 37.2**	**+0.6**
	comp=N,7μm,0.3s						
PRK	**Paraskevi**	**0.64**	**10**	P	**Pb**	**21 56 25.7**	**+0.4**
PRK				AML	AML	21 56 37.6	
	comp=N,16866μm,0.4s						
PRK				AML	AML	21 56 38.3	
	comp=E,12728μm,0.3s						
AYVA	**Ayvalik**	**0.81**	**32**	*i* P	**Pb**	**21 56 28.2**	**-0.1**
AYVA				*i* S	**Sb**	**21 56 38.5**	**-0.5**
AYVA				IAML		21 56 40.0	
	comp=N,1μm,0.6s						
AYVA				IAML		21 56 43.0	
	comp=E,1μm,0.7s						
ZEDA	**zmir-Bergama**	**0.81**	**64**	*i* P	**Pb**	**21 56 27.9**	**-0.4**
ZEDA				*i* S	**Sg**	**21 56 39.6**	**+0.4**
ZEDA				IAML		21 56 41.0	
	comp=N,2μm,0.2s						
ZEDA				IAML		21 56 42.0	
	comp=E,978nm,0.2s						
KOCA	**Canakkale, Ayv**	**0.88**	**0**	*i* P	**Pb**	**21 56 29.2**	**-0.3**
KOCA				*i* S	**Sg**	**21 56 41.8**	**+0.4**
KOCA				IAML		21 56 43.0	
	comp=E,1μm,0.7s						
KOCA				IAML		21 56 44.0	
	comp=N,1μm,0.5s						
SMG	**Samos**	**1.06**	**148**	P	**Pb**	**21 56 32.1**	**-0.4**
SMG				S	**Sg**	**21 56 46.8**	**-0.4**
	comp=N,3μm,0.4s						
SMG	**Samos**	**1.06**	**148**	P	**Pb**	**21 56 32.2**	**-0.4**
SMG				AML	AML	21 56 48.4	
	comp=E,7687μm,0.5s						
SMG				AML	AML	21 56 50.3	
	comp=N,4458μm,0.4s						
BUHA	**Balikesir, Bur**	**1.15**	**39**	*i* P	**Pn**	**21 56 33.6**	**-0.3**
BUHA				*i* S	**Sn**	**21 56 49.5**	**+0.3**
BUHA				IAML		21 56 55.0	
	comp=E,975nm,0.3s						
BUHA				IAML		21 56 55.0	
	comp=N,866nm,0.4s						
EZN	**Ezine**	**1.21**	**7**	P	**Pn**	**21 56 34.6**	**-0.2**
EZN				S	**Sn**	**21 56 51.1**	**+0.2**
	comp=N,1μm,0.4s						
EZN	**Ezine**	**1.21**	**7**	PN	**Pn**	**21 56 34.6**	**-0.2**
BOZC	**Bozcaada**	**1.22**	**357**	*i* P	**Pn**	**21 56 34.2**	**-0.8**
BOZC				*i* P	**Pn**	**21 56 34.4**	**-0.5**
BOZC				*i* S	**Sb**	**21 56 50.0**	**-0.8**
BOZC				IAML		21 56 51.0	
	comp=N,289nm,0.3s						
BOZC				IAML		21 56 55.0	
	comp=N,346nm,0.3s						
BOZC				IAML		21 57 03.0	
	comp=E,300nm,0.5s						
BOZC	**Bozcaada**	**1.22**	**357**	PN	**Pn**	**21 56 34.5**	**-0.5**
GCAM	**G?zelcaml?**	**1.26**	**136**	*i* P	**Pb**	**21 56 36.1**	**+0.2**
GCAM				*i* S	**Sb**	**21 56 51.8**	**0.0**
GCAM				IAML		21 56 54.0	
	comp=E,368nm,0.4s						
GCAM				IAML		21 56 54.0	
	comp=N,584nm,0.4s						
GCAM	**G?zelcaml?**	**1.26**	**136**	PN	**Pn**	**21 56 35.8**	**+0.4**
SKY	**Skiros Island**	**1.27**	**282**	P	**Pn**	**21 56 35.7**	**+0.1**
SKY	**Skiros Island**	**1.27**	**282**	P	**Pn**	**21 56 35.6**	**0.0**
TNSA	**Tinos**	**1.32**	**216**	P	**Pn**	**21 56 35.5**	**-0.8**
ECEA	**Canakkale, Ece**	**1.42**	**1**	*i* P	**Pn**	**21 56 37.9**	**+0.2**
ECEA				*i* S	**Sn**	**21 56 55.6**	**-0.5**
ECEA				IAML		21 57 01.0	
	comp=E,613nm,0.3s						
STEP	**BALIKESIR_Sava**	**1.45**	**58**	*i* P	**Pn**	**21 56 38.6**	**+0.5**
STEP				*i* S	**Sn**	**21 56 56.6**	**-0.1**
STEP				IAML		21 57 02.0	
	comp=N,1μm,0.5s						
STEP				IAML		21 57 03.0	
	comp=E,920nm,0.6s						
DDIM	**Aydin, Didim**	**1.45**	**143**	*i* P	**Pg**	**21 56 40.1**	**-0.4**
DDIM				*i* S	**Sg**	**21 56 58.8**	**-0.7**
DDIM				IAML		21 57 06.0	
	comp=E,295nm,0.5s						
LIA	**Limnos Island**	**1.48**	**330**	P	**Pn**	**21 56 38.8**	**+0.4**
LIA				S	**Sn**	**21 56 56.9**	**-0.4**
	comp=E,590nm,0.6s						
LIA	**Limnos Island**	**1.48**	**330**	P	**Pn**	**21 56 38.8**	**+0.4**
LIA				AML	AML	21 56 57.0	
	comp=E,1157μm,0.3s						
LIA				AML	AML	21 57 02.7	
	comp=N,1472μm,0.6s						
AYDB	**Zeytinkoy-Aydi**	**1.54**	**115**	PN	**Pn**	**21 56 39.6**	**+0.2**
GOKA	**anakkale-Gk**	**1.58**	**354**	*i* P	**Pn**	**21 56 40.0**	**+0.1**
GADA	**Gvkgeada**	**1.58**	**353**	P	**Pn**	**21 56 39.9**	**0.0**
GADA				S	**Sn**	**21 56 59.3**	**-0.6**
	comp=N,248nm,0.4s						
KYMI	**Kymi, Euboea I**	**1.59**	**271**	P	**Pn**	**21 56 40.1**	**0.0**
BALY	**Balya**	**1.61**	**45**	*i* P	**Pb**	**21 56 42.4**	**+0.5**
BALY				*i* S	**Sg**	**21 57 03.5**	**-1.0**
BALY				IAML		21 57 07.0	
	comp=N,688nm,0.8s						
BALY				IAML		21 57 07.0	
	comp=E,402nm,0.4s						
APE	**Apeiranthos**	**1.62**	**197**	⇑P	**Pn**	**21 56 40.6**	**+0.1**
APE	**Apeiranthos**	**1.62**	**197**	P	**Pn**	**21 56 40.7**	**+0.3**
APE	**Apeiranthos**	**1.62**	**197**	PN	**Pn**	**21 56 40.8**	**+0.3**
BALB	**Balikesir**	**1.70**	**53**	PN	**Pn**	**21 56 41.8**	**+0.3**
GELI	**Tayfur-Gelibol**	**1.80**	**8**	PN	**Pn**	**21 56 42.9**	**+0.1**
BODT	**Bodrum**	**1.81**	**149**	P	**Pn**	**21 56 43.0**	**-0.1**
BODT	**Bodrum**	**1.81**	**149**	PN	**Pn**	**21 56 42.9**	**-0.1**
DION	**Dionisos Attik**	**1.81**	**253**	P	**Pn**	**21 56 43.1**	**0.0**
DION				S	**Sn**	**21 57 05.0**	**-0.7**
	comp=E,700nm,0.6s						
LPK	**Lapseki**	**1.82**	**15**	PN	**Pn**	**21 56 43.5**	**+0.4**
MLSB	**Milas**	**1.85**	**135**	PN	**Pn**	**21 56 44.3**	**+0.7**
BDRM	**Kayabasi**	**1.86**	**146**	*i* P	**Pg**	**21 56 47.9**	**-0.6**
BDRM				*i* P	**Pb**	**21 56 48.4**	**+2.2**
BDRM				*i* S	**Sg**	**21 57 11.6**	**-1.1**
SMTH	**Samothraki Isl**	**1.91**	**346**	P	**Pn**	**21 56 44.4**	**0.0**
SMTH				S	**Sn**	**21 57 07.1**	**-0.9**
	comp=E,190nm,0.3s						
KNL	**Balıkesir**	**1.97**	**33**	*i* P	**Pb**	**21 56 48.9**	**+0.9**
KOSK	**Kos Island**	**1.98**	**160**	PN	**Pn**	**21 56 46.1**	**+0.8**
KULA	**Kula-Manisa**	**1.98**	**92**	P	**Pn**	**21 56 46.0**	**+0.6**
KULA	**Kula-Manisa**	**1.98**	**92**	PN	**Pn**	**21 56 46.1**	**+0.6**
KRBG	**Karabiga-Canak**	**1.99**	**27**	PN	**Pn**	**21 56 45.5**	**+0.1**
VLY	**Voula,Athens**	**2.00**	**248**	P	**Pn**	**21 56 45.7**	**+0.1**
DEMI	**Demirci**	**2.06**	**77**	*i* P	**Pb**	**21 56 49.6**	**0.0**
CAVK	**Edirne/Enez-Ca**	**2.07**	**1**	*i* P	**Pn**	**21 56 46.9**	**+0.3**
ENEZ	**Enez**	**2.12**	**0**	P	**Pn**	**21 56 47.9**	**+0.7**
ENEZ				S	**Sn**	**21 57 14.8**	**+1.7**
	comp=E,338nm,0.7s						
MULA	**Mugla, Merkez-**	**2.20**	**128**	*i* P	**Pg**	**21 56 55.4**	**+0.5**
DAT	**Datca**	**2.21**	**148**	P	**Pn**	**21 56 48.5**	**-0.1**
THAS	**Thassos island**	**2.27**	**332**	P	**Pn**	**21 56 49.4**	**+0.1**
SANT	**Santorini**	**2.31**	**194**	⇑P	**Pn**	**21 56 48.1**	**-1.8**
PAIG	**Paliouri**	**2.31**	**305**	P	**Pn**	**21 56 50.2**	**+0.3**
THR9	**Santorini-Faro**	**2.34**	**196**	P	**Pn**	**21 56 50.1**	**-0.2**
MHLO	**Agia Marina, M**	**2.37**	**216**	P	**Pn**	**21 56 50.0**	**-0.7**
NEO	**Neokhori**	**2.37**	**288**	P	**Pn**	**21 56 51.0**	**+0.2**
OUR	**Ouranopolis**	**2.39**	**316**	P	**Pn**	**21 56 51.6**	**+0.6**
OUR				S	**Sn**	**21 57 19.2**	**-0.7**
XOR	**Xorichti**	**2.41**	**289**	P	**Pn**	**21 56 51.5**	**+0.2**
TURN	**Turunc**	**2.49**	**137**	*i* P	**Pn**	**21 56 53.3**	**+1.0**
RDO	**Rodhopi**	**2.57**	**350**	P	**Pn**	**21 56 53.9**	**+0.5**
KAVA	**Kavala**	**2.68**	**333**	P	**Pn**	**21 56 55.5**	**+0.5**
AGG	**Agios Georgios**	**3.00**	**279**	P	**Pn**	**21 56 59.6**	**+0.2**
NVR	**Nevrokopi**	**3.24**	**328**	P	**Pn**	**21 57 03.5**	**+0.8**
KIRK	**Kırklareli**	**3.24**	**13**	*i* P	**Pn**	**21 57 02.7**	**0.0**
EDRB	**Edirne**	**3.26**	**8**	P	**Pn**	**21 57 02.8**	**-0.1**
EFP	**Efpalio**	**3.32**	**268**	P	**Pn**	**21 57 05.0**	**+1.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IDI	Anoyia	3.47	197	P	Pn	21 57 05.2	-0.7
STIP	Stip	4.31	317	*i* Pn	Pn	21 57 17.8	+0.4
VTS	Vitosha	4.56	332	⇓P	Pn	21 57 22.6	+1.5
ICOR	Ion Corvin	5.63	12	⇑P	Pn	21 57 36.3	+0.7
BOVS	Bovan	6.03	328	⇑P	Pn	21 57 41.9	+0.9
SULR		6.06	1	⇑P	Pn	21 57 42.9	+1.5
TIRR	Tirgusor	6.08	16	⇓P	Pn	21 57 42.0	+0.3
HARR	Harsova	6.21	12	⇑P	Pn	21 57 43.8	+0.3
TPGR	Topolog	6.46	15	⇑P	Pn	21 57 47.5	+0.6
CFR	Carcaliu	6.72	12	⇑P	Pn	21 57 50.5	+0.1
ARR	Arges	6.84	351	⇑P	Pn	21 57 52.8	+0.7
HERR	Herculane	6.85	337	⇑P	Pn	21 57 52.8	+0.6
VOIR		6.86	354	⇑P	Pn	21 57 52.6	+0.1
MLR	Muntele Rosu	6.87	359	⇑P	Pn	21 57 53.3	+0.6
LOT	Lotru	7.05	346	⇑P	Pn	21 57 55.3	+0.2
GZR	Gura Zlata	7.22	341	⇑P	Pn	21 57 57.4	+0.1
COVR	Voineasa-Covas	7.22	0	⇑P	Pn	21 57 58.8	+1.4
PLOR	Plostina	7.24	3	⇓P	Pn	21 57 58.8	+1.2
VRI	Vrincioaia	7.26	3	⇑P	Pn	21 57 58.8	+0.9
DOPR	Dopca	7.37	356	⇑P	Pn	21 57 59.3	0.0
BZS	Buzias	7.76	336	⇑P	Pn	21 58 05.1	+0.4
BIZ	Bicaz	8.32	360	⇑P	Pn	21 58 13.8	+1.4
SIRR	Siria	8.33	338	⇑P	Pn	21 58 12.3	-0.3
BURAR	Bucovina Array	9.02	356	⇑P	Pn	21 58 23.6	+1.5
SORM	Soroca	9.65	9	⇑P	Pn	21 58 30.6	0.0

IDC 01 21:57:05.1±16.0**, 17°.28S**×**178°.61W, h602**km±34km**, mb3.4**/3**, mb1 3.4**/5**, mb1mx2.9**/38**, mbtmp4.2**/5**, Error ellipse: s-maj=318.5km s-min=106.6km az=83.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.22	261	P	P	21 58 25.7	-0.1
	2.3nm,0.3s,baz=119,slow=10,SNR=12						
DZM	Mont Dzumac	14.86	249	P	P	22 00 13.1	+1.1
	0.3nm,0.3s,baz=90,slow=20,SNR=2.0						
STKA	Stephens Creek	38.76	240	P	P	22 03 39.6	0.0
	1.8nm,0.3s,baz=96,slow=10.0,SNR=7.6						
WRA	Warramunga Arr	44.56	259	P	P	22 04 25.1	-0.1
	0.7nm,0.3s,baz=93,slow=8.4,SNR=44						
ASAR	Alice Springs	44.78	254	P	P	22 04 26.7	-0.2
	11nm,0.6s,baz=88,slow=8.4,SNR=113						

*IDC **01** 22:19:13.3±0.6, 57°.33S×25°.83W, h0km, mb4.4/8, mb1 4.4/10, mb1mx4.2/29, mbtmp4.3/10, ML4.0/2, MS3.6/2, Ms1 3.6/2, ms1mx3.2/18, Error ellipse: s-maj=26.2km s-min=17.9km az=83.0*

*NEIC **01** 22:19:20.6±1.9, 57°.45S±0°.07×25°.6W±0°.2, h51km±6km, mb4.5/20, Error ellipse: s-maj=16.1km s-min=10.6km az=83.0*

ISC 01 22:19:19.4±0.6**, 57°.43S**±0°.08×**25°.7W**±0°.1**, h43**km**, n50,** σ**0s.79**/42**, mb4.5**/9**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	6.82	293	Pn	Pn	22 21 01.6	+4.9
VNA1	Neumayer--Stat	15.21	158	P	Pn	22 22 51.2	+0.4
VNA3	Neumayer Olymp	15.42	160	P	Pn	22 22 53.8	+0.3
VNA2	Neumayer--Watz	15.61	157	P	Pn	22 22 56.5	+0.5
	baz=321,slow=14						
SNAA	Sanae	17.15	155	P	P	22 23 16.9	+0.2
SNAA	Sanae	17.15	155	P	P	22 23 17.0	+0.2
	1.1nm,0.3s,baz=306,slow=11,SNR=86						
SNAA				S	Sn	22 26 13.6	-11
	0.0nm,0.3s,baz=221,slow=23,SNR=1.6						
SNAA	Sanae	17.15	155	P	P	22 23 17.0	+0.2
EFI	East Falkland	19.48	273	P	Pn	22 23 44.4	+0.6
PMSA	Palmer Station	19.64	232	P	P	22 23 43.8	-0.1
	0.2nm,0.3s,baz=12,slow=16,SNR=1.9						
PMSA	Palmer Station	19.64	232	P	Pn	22 23 44.9	-0.7
PMSA				IAmb	IAmb	22 24 07.1	
	comp=Z,30nm,1.2s						
BELA	Belgrano 2	20.76	185	P	P	22 23 54.7	-1.3
BELA				IAmb	IAmb	22 24 01.1	
	comp=Z,24nm,1.3s						
TRQA	Tornquist	30.60	294	P	P	22 25 30.6	+1.6
PLTB	Pedras Altas	32.01	311	P	P	22 25 41.6	+0.2
QSPA	South Pole Qui	32.81	180	P	P	22 25 48.9	+0.6
	comp=Z,4.1nm,0.6s,baz=196,slow=2.6,SNR=24						
QSPA	South Pole Qui	32.81	180	P	P	22 25 48.6	+0.2
QSPA				IAmb	IAmb	22 25 49.7	
	comp=Z,7.2nm,0.8s						
PLCA	Paso Flores	33.04	281	P	P	22 25 49.9	-0.6
	comp=Z,2.1nm,0.9s,baz=144,slow=5.0,SNR=3.3						
PLCA				LR	LR	22 39 48.2	
	comp=Z,134nm,19.2s,baz=155,slow=38						
PLCA	Paso Flores	33.04	281	P	P	22 25 49.6	-0.8
PLCA				IAmb	IAmb	22 25 51.0	
	comp=Z,8.0nm,1.3s						
CPUP	Villa Florida	38.32	311	LR	LR	22 43 39.8	
	comp=Z,64nm,18.1s,baz=208,slow=38						
SBA	Scott Base	44.75	184	P	P	22 27 28.4	+0.6
SBA				IAmb	IAmb	22 27 30.4	
	comp=Z,9.0nm,1.2s						
BDFB	Brasilia	44.96	329	P	P	22 27 29.7	-0.6
	comp=Z,2.2nm,0.4s,baz=70,slow=6.2,SNR=4.4						
BDFB	Brasilia	44.96	329	P	P	22 27 31.7	+1.5
VNDA	Vanda	45.22	182	P	P	22 27 32.6	+1.1
	comp=Z,2.3nm,0.6s,baz=193,slow=6.5,SNR=18						
VNDA	Vanda	45.22	182	P	P	22 27 32.4	+0.8
PB08	IPOC Station P	48.92	301	P	P	22 28 04.2	+2.7
PB08				IAmb	IAmb	22 28 13.7	
	comp=Z,12nm,1.5s						
H10S2	ASCENSION HYDR	49.12	15	T	T	23 21 49.8	
	baz=32,slow=74,SNR=23						
H10S3	ASCENSION HYDR	49.12	15	T	T	23 21 45.8	
	baz=188,slow=74,SNR=64						
H10N1	ASCENSION HYDR	50.24	15	T	T	23 22 59.3	
	baz=188,slow=75,SNR=25						
H10N3	ASCENSION HYDR	50.24	15	T	T	23 23 06.9	
	baz=188,slow=75,SNR=71						
H10N2	ASCENSION HYDR	50.26	15	T	T	23 23 07.6	
	baz=188,slow=75,SNR=47						
LPAZ	La Paz	51.82	305	P	P	22 28 22.9	-0.7
	comp=Z,3.3nm,0.6s,baz=205,slow=0.4,SNR=12						
LPAZ	La Paz	51.82	305	P	P	22 28 23.2	-0.4
LPAZ				IAmb	IAmb	22 28 29.5	
	comp=Z,3.7nm,0.7s						
SAML	Samuel	56.34	314	P	P	22 28 55.8	-0.1
PTGA	Pitinga	62.75	321	P	P	22 29 39.7	-0.3
TORD	Torodi Ar. Bea	73.89	28	P	P	22 30 50.1	+0.6
	comp=Z,5.7nm,0.7s,baz=201,slow=6.0,SNR=31						
TORD	Torodi Ar. Bea	73.89	28	P	P	22 30 50.0	+0.4
TORD				IAmb	IAmb	22 30 51.3	
	comp=Z,5.7nm,0.8s						
KOWA	Kowa	73.89	22	P	P	22 30 49.8	+0.2
	comp=Z,1.7nm,0.7s,baz=204,slow=3.2,SNR=3.9						
KOWA	Kowa	73.89	22	P	P	22 30 49.5	-0.1
KOWA				IAmb	IAmb	22 31 08.8	
	comp=Z,7.7nm,1.5s						
ASAR	Alice Springs	97.42	161	P	Pdif	22 32 49.2	+0.8
	comp=Z,0.5nm,0.9s,baz=184,slow=3.8,SNR=2.5						
NVAR	Mina Array Bea	122.66	291	PKP	PKiKP	22 38 09.3	-0.7
	comp=Z,0.7nm,0.8s,baz=127,slow=6.1,SNR=4.6						
NVAR	Mina Array Bea	122.66	291		PKiKP	22 38 09.8	-0.2
FINES	FINESS Array B	125.24	28	PKP	PKiKP	22 38 13.1	-0.8
	comp=Z,2.1nm,0.8s,baz=289,slow=5.8,SNR=5.7						
YKA	Yellowknife Ar	137.73	316	PKP	PKPdf	22 38 36.5	-0.7
	comp=Z,1.7nm,0.7s,baz=120,slow=3.0,SNR=5.5						
YKA	Yellowknife Ar	137.73	316		PKPdf	22 38 37.0	-0.2
INK	Inuvik	147.38	319	PKPbc	PKPbc	22 38 56.5	-0.1
	comp=Z,4.7nm,0.5s,baz=358,slow=7.1,SNR=5.6						
INK	Inuvik	147.38	319		PKPbc	22 38 55.7	-0.9
SONM	Songino Array	150.00	88	PKPbc	PKPbc	22 39 03.8	-0.4
	comp=Z,3.7nm,0.9s,baz=223,slow=2.4,SNR=13						
SONM	Songino Array	150.00	88		PKPbc	22 39 03.6	-0.6
ILAR	Eielson Array	151.62	309	PKPbc	PKiKP	22 39 07.0	-0.7
	comp=Z,10nm,0.9s,baz=136,slow=1.9,SNR=61						
KDAK	Kodiak Island	152.13	294	PKPbc	PKiKP	22 39 08.6	-0.3
	comp=Z,5.0nm,0.6s,baz=166,slow=3.6,SNR=11						
KDAK	Kodiak Island	152.13	294		PKiKP	22 39 08.8	-0.1

*NOU **01** 22:33:26.6, 40°.85S×176°.38E, h74km, ML3.6/5, North Island, New Zealand*

*IDC **01** 22:33:26.3±2.2, 40°.34S×175°.60E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/21, mbtmp3.6/2, ML2.2/1, Error ellipse: s-maj=54.0km s-min=27.4km az=141.0*

*WEL **01** 22:33:30.1, 41°S±2°×17°6E±°, h26km±2km, M3.2/34, ML3.6/34, MLv3.2/34, Error ellipse: s-maj=0.0km s-min=0.0km az=81.1*

ISC 01 22:33:30.3±0.8**, 40°.53S**±0°.02×**175°.78E**±0°.02**, h30**km±5km**, n75,** σ**0s.86**/94**, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
POWZ	Post Office Ro	0.14	355	P	Pb	22 33 35.9	-0.1
POWZ				S	Sn	22 33 40.1	0.0
PRWZ	Pori Road	0.14	99	P	Pb	22 33 35.9	0.0
PRWZ				S	Sn	22 33 40.6	+0.4
MRZ	Mangatainoka R	0.20	231	P	Pb	22 33 36.5	0.0
MRZ				S	Sb	22 33 41.0	+0.2
TIWZ	Tintock	0.26	162	P	Pb	22 33 37.3	+0.1
TIWZ				S	Sn	22 33 42.6	-0.4
DVHZ	Dannevirke	0.37	51	P	Pb	22 33 38.5	-0.3
DVHZ				S	Sb	22 33 44.9	+0.3
BFZ	Birch Farm	0.38	113	P	Pb	22 33 38.8	-0.1
BFZ				S	Sn	22 33 45.8	-0.2
HOWZ	Holdsworth Sta	0.42	209	P	Pb	22 33 39.5	0.0
HOWZ				S	Sb	22 33 46.1	+0.4
OHWZ	Ohakea	0.48	312	P	Pn	22 33 41.5	+0.4
CPWZ	Castlepoint	0.49	140	P	Pn	22 33 41.3	0.0
CPWZ				S	Sn	22 33 50.8	+2.0
TSZ	Takapari Road	0.49	16	P	Pb	22 33 40.5	-0.1
TSZ				S	Sb	22 33 47.7	0.0
ANWZ	Angora Road	0.53	82	P	Pb	22 33 41.3	+0.1
ANWZ				S	Sn	22 33 50.2	+0.5
OGWZ	Otaki Gorge	0.55	239	P	Pb	22 33 41.6	+0.1
OGWZ				S	Sb	22 33 49.3	+0.2
TMWZ	Te Maipa	0.58	172	P	Pb	22 33 42.0	-0.1
TMWZ				S	Sn	22 33 51.7	+0.8
MTW	Mount Morrison	0.66	199	P	Pb	22 33 43.1	-0.2
WPHZ	Waipukurau	0.69	47	P	Pn	22 33 43.9	0.0
WPHZ				S	Sn	22 33 54.8	+1.3
PNHZ	Pukenui	0.70	27	P	Pb	22 33 43.9	0.0
PNHZ				S	Sn	22 33 54.8	+0.9
KIW	Kapiti Island	0.74	243	P	Pb	22 33 44.9	+0.2
KIW				S	Sn	22 33 55.3	+0.3
CAW	Cannon Point	0.79	223	P	Pn	22 33 45.2	-0.2
CAW				S	Sn	22 33 56.2	0.0
TRWZ	Traveller	0.87	185	P	Pn	22 33 46.0	-0.4
PAWZ	Paruwai Farm	0.89	198	P	Pn	22 33 46.3	-0.5
PXZ	Pawanui	0.96	59	P	Pn	22 33 47.3	-0.4
MSWZ	Moikau Station	0.97	204	P	Pn	22 33 47.1	-0.7
WAZ	Wanganui	0.99	322	P	Pb	22 33 49.9	+1.0
WAZ				S	Sb	22 34 04.7	+3.1
KRHZ	Kereru	1.00	27	P	Pn	22 33 48.4	+0.2
KRHZ				S	Sb	22 34 02.8	+1.1
BHHZ	Black Hill Sta	1.06	12	P	Pb	22 33 49.8	-0.4
WEL	Wellington	1.07	225	P	Pn	22 33 49.0	-0.3
PLWZ	Palliser	1.11	201	P	Pn	22 33 48.7	-1.1
BHW	Baring Head	1.11	218	P	Pn	22 33 49.1	-0.7
KAHZ	Kahuranaki	1.12	49	P	Pn	22 33 49.7	-0.2
MOVZ	Moawhango	1.12	359	P	Pb	22 33 50.8	-0.3
MTVZ	Mangateitei	1.17	348	P	Pb	22 33 52.2	+0.2
KWHZ	Kaweka Forest	1.21	24	P	Pn	22 33 51.3	+0.1
WNVZ	Wahianoa	1.21	353	P	Pb	22 33 52.4	-0.3
TRVZ	Turoa	1.25	352	P	Pb	22 33 53.2	-0.1
WHVZ	Whangaehu Hut	1.26	353	P	Pb	22 33 53.4	-0.1
DRZ	Dome Shelter	1.27	352	P	Pb	22 33 54.3	+0.6
TUVZ	Tukino	1.27	355	P	Pb	22 33 53.7	+0.1
FWVZ	Far West T-bar	1.29	352	P	Pb	22 33 53.6	-0.5
MCHZ	McNeill Hill	1.29	33	P	Pn	22 33 53.0	+0.7
TCW	Tory Channel	1.33	239	P	Pn	22 33 52.4	-0.4
SNVZ	South Ngauruho	1.35	355	P	Pb	22 33 54.7	-0.4
NGZ	Ngauruhoe	1.36	354	P	Pb	22 33 54.9	-0.3
OTVZ	Oturere	1.37	356	P	Pb	22 33 54.9	-0.4
ETVZ	East Tongariro	1.40	358	P	Pb	22 33 55.1	-0.7
NNVZ	North Ngauruho	1.41	355	P	Pb	22 33 55.3	-0.7
TMVZ	Te Maari	1.42	357	P	Pb	22 33 55.3	-0.8
WTVZ	West Tongariro	1.42	354	P	Pb	22 33 55.5	-0.8
NTVZ	North Tongarir	1.44	357	P	Pb	22 33 55.7	-0.7
KRVZ	Karewarewa	1.44	356	P	Pb	22 33 55.8	-0.8
DUWZ	D'Urville Isla	1.44	259	P	Pn	22 33 54.7	+0.4
BKZ	Black Stump Fm	1.47	22	P	Pn	22 33 55.2	+0.5
TWVZ	Taurewa	1.48	350	P	Pb	22 33 56.5	-0.8
LREZ	Lake Rotokare	1.51	315	P	Pb	22 33 57.8	+0.2
RITZ	Rihia Road	1.56	2	P	Pn	22 33 57.0	+1.1
KATZ	Kakaramea	1.56	357	P	Pb	22 33 57.9	-0.7
ARHZ	Aropaoanui	1.57	37	P	Pn	22 33 56.7	+0.6
VRZ	Vera Road	1.61	330	P	Pb	22 33 58.2	-1.2
NMHZ	Naumai	1.64	29	P	Pb	22 34 01.1	+1.3
TUWZ	Tuamarina	1.66	237	P	Pn	22 33 56.4	-0.9
CMWZ	Cape Campbell	1.70	224	P	Pb	22 34 04.2	+3.4
PREZ	Palmer Road	1.73	313	P	Pb	22 34 01.2	-0.1
NEZ	North Egmont	1.81	314	P	Pb	22 34 02.6	-0.1
KHEZ	Kahui Hut	1.84	312	P	Pb	22 34 02.9	-0.4
NMEZ	Namu Road	1.84	307	P	Pb	22 34 03.0	-0.3
BSWZ	Blackbirch Sta	1.86	230	P	Pn	22 33 59.2	-0.9
PKE	Pukeiti	1.92	313	P	Pb	22 34 04.3	-0.4
NBEZ	Newall Road No	1.94	310	P	Pb	22 34 04.6	-0.3
NNZ	Nelson	1.95	249	P	Pn	22 34 01.1	-0.2
HIZ	Hauiti	2.14	340	P	Pb	22 34 06.5	-1.8
URZ	Urewera	2.49	25	Pn	Pn	22 34 06.8	-1.9
	0.6nm,0.3s,baz=152,slow=18,SNR=1.2						
URZ				Sn	Sn	22 34 36.9	-1.2
	1.7nm,0.3s,baz=79,slow=8.7,SNR=7.3						
THZ	Tophouse	2.50	240	P	Pn	22 34 07.6	-1.2
KHZ	Kahutara	2.53	221	P	Pn	22 34 07.2	-2.0
ASAR	Alice Springs	38.86	283	P	P	22 40 51.9	-1.0
	0.4nm,0.5s,baz=126,slow=6.8,SNR=6.2						
WRA	Warramunga Arr	40.80	288	P	P	22 41 07.7	-1.3
	0.3nm,0.5s,baz=128,slow=8.6,SNR=12						
TORD	Torodi Ar. Bea	152.23	192	PKPbc	PKiKP	22 53 24.5	+0.9
	0.3nm,0.7s,baz=189,slow=1.6,SNR=1.3						

MEX 01 22:59:00.0±1.5**, 19°.31N**×**104°.04W, h13**km±7km**, MD3.6, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
R15V		0.15	159	*e*P	Pg	22 59 02.6	-1.1
R15V				*i* S	Sg	22 59 06.2	-0.2
COIG	Colima	0.36	112	*e*P	Pg	22 59 05.8	-1.4
COIG				*i* S	Sg	22 59 11.4	-0.7
EZ5V		0.45	68	*e*P	Pg	22 59 08.9	-0.1
EZ5V				*e*S	Sb	22 59 16.5	-0.1
MMIG	Aquila	1.21	147	*i* P	Pn	22 59 18.9	-3.8
MMIG				*i* S	Sb	22 59 34.4	-4.0

*IDC **01** 23:06:23.5±0.7, 18°.97S×167°.70E, h0km, mb4.2/16, mb1 4.4/17, mb1mx4.3/32, mbtmp4.2/17, ML4.1/1, MS3.6/8, Ms1 3.5/8, ms1mx3.2/34, Error ellipse: s-maj=22.7km s-min=16.9km az=122.0*

*NOU **01** 23:06:23.3, 18°.97S×167°.62E, h0km, ML4.6/17, Vanuatu Islands*

*BJI **01** 23:06:25.5±0.0, 19°.16S×168°.00E, h24km, mB5.0/12, mb4.8/23, Ms4.7/3, Ms7 4.4/4*

*NEIC **01** 23:06:28.8±1.9, 19°.22S±0°.07×167°.7E±0°.1, h27km±4km, mb5.0/42, Error ellipse: s-maj=15.4km s-min=10.0km az=106.0*

ISC 01 23:06:28.4±0.3**, 19°.09S**±0°.04×**167°.72E**±0°.06**, h28**km**, n182,** σ**1s.43**/174**, mb4.9**/49**, MS3.5**/7**, 3C-2D, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DVP	Devils Point	1.43	18	P	Pn	23 06 48.8	-3.7
RTV	Rentapao	1.46	27	P	Pn	23 06 49.6	-3.2
LIFNC	LIFOU	1.74	195		Pn	23 06 54.4	-2.4
LIFNC				Sn	Sn	23 07 13.9	-4.0
LIFNC	LIFOU	1.74	195	P	Pn	23 06 54.6	-2.1
MARNC	Mare, Loyalty	2.39	173	Pn	Pn	23 07 04.0	-1.8
MARNC	Mare, Loyalty	2.39	173	P	Pn	23 07 04.4	-1.4
YATNC	Mamie plateau,	3.05	195	P	Pn	23 07 13.6	-1.2
DZM	Mont Dzumac	3.20	202	*e*LR	LR	23 07 16.2	
	comp=Z,142nm,1.1s						
DZM				*e*Sn	Sn	23 07 44.3	-10
	211nm,0.9s						
DZM	Mont Dzumac	3.20	202	Pn	Pn	23 07 16.0	-0.9
	20nm,0.3s,baz=79,slow=12,SNR=166						
DZM				Sn	Sn	23 07 51.6	-2.6
	30nm,0.3s,baz=127,slow=23,SNR=5.6						
DZM				LR	LR	23 08 08.2	
	comp=Z,170nm,21.1s,baz=144,slow=32						
DZM	Mont Dzumac	3.20	202	Pn	Pn	23 07 15.6	-1.3
DZM	Mont Dzumac	3.20	202	P	Pn	23 07 16.2	-0.7
NOUC	Port Laguerre	3.27	204	P	Pn	23 07 17.3	-0.6
OUENC	Ouen Island, N	3.41	194	Pn	Pn	23 07 19.6	-0.2
OUENC	Ouen Island, N	3.41	194	P	Pn	23 07 19.6	-0.2
ONTNC	Ouen Toro	3.41	200	Pn	Pn	23 07 18.7	-1.1
ONTNC	Ouen Toro	3.41	200	P	Pn	23 07 19.4	-0.4
PINNC	Pines Island,	3.51	184	Pn	Pn	23 07 19.6	-1.5
PINNC	Pines Island,	3.51	184	P	Pn	23 07 20.8	-0.3
KOUNC	Koumac, New Ca	3.54	245	P	Pn	23 07 20.0	-1.6
SANVU	Saraoutou	3.66	352		Pn	23 07 18.2	-5.0
SANVU	Saraoutou	3.66	352	P	Pn	23 07 18.4	-4.8
MSVF	Nonsavu	9.90	84	Pn	Pn	23 08 50.7	+1.7
	0.5nm,0.3s,baz=272,slow=14,SNR=5.1						
MSVF				LR	LR	23 12 17.3	
	comp=Z,439nm,20.4s,baz=248,slow=36						
MSVF	Nonsavu	9.90	84		Pn	23 08 53.8	+4.8
LHI	Lord Howe Isla	14.63	211	Pn	Pn	23 09 50.8	-2.8
FUNA	Funafuti	15.30	48		P	23 10 06.5	-0.6
CTA	Charters Tower	20.25	264	P	P	23 11 01.3	-0.4
	3.4nm,0.6s,baz=95,slow=12,SNR=5.8						
CTAO	Charters Tower	20.25	264	P	Pn	23 11 03.6	-0.1
CTAO				IAmb	IAmb	23 11 14.8	
	comp=Z,85nm,1.4s						
URZ	Urewera	20.77	159	P	P	23 11 07.4	+0.3
	comp=Z,6.5nm,1.0s,baz=150,slow=12,SNR=1.3						
URZ				LR	LR	23 18 15.2	
	comp=Z,173nm,18.1s,baz=31,slow=34						
BKZ	Black Stump Fm	21.40	161	P	P	23 11 16.1	+2.1
BKZ				IAmb	IAmb	23 11 29.2	
	comp=Z,66nm,1.7s						
CMSA	Cobar Meteorol	23.40	234	P	P	23 11 35.8	+0.7
	baz=28						
RPZ	Rata Peaks	24.71	174	P	P	23 11 49.1	+1.9
QIS	Mount Isa	26.48	262	P	P	23 12 09.3	+5.8
	baz=32						
STKA	Stephens Creek	26.72	236	P	P	23 12 07.4	+1.9
	baz=32						
STKA	Stephens Creek	26.72	236	P	P	23 12 05.4	-0.1
	comp=Z,4.5nm,0.8s,baz=80,slow=11,SNR=6.4						
STKA				LR	LR	23 21 17.9	
	comp=Z,74nm,21.0s,baz=34,slow=33						
STKA	Stephens Creek	26.72	236	P	P	23 12 07.9	+2.4
MMPI	Merauke	28.53	288	P	P	23 12 24.5	+2.6
	comp=Z,564nm,0.4s						
JAY	Jayapura	31.15	299	P	P	23 12 46.6	+1.5
	comp=Z,7.6nm,1.0s						
WR0	Warramunga Arr	31.26	263	P	P	23 12 44.2	-1.9
WB0	Warramunga Arr	31.41	263	P	P	23 12 46.8	-0.6
WB2	Warramunga Arr	31.44	263	P	P	23 12 46.7	-0.9
WRAB	Tennant Creek	31.44	263	P	P	23 12 46.6	-1.0
BBOO	Buckleboo	31.44	238	P	P	23 12 48.0	+0.4
WRA	Warramunga Arr	31.45	263	P	P	23 12 45.3	-2.5
	comp=Z,0.2nm,0.3s,baz=84,slow=8.0,SNR=2.6						
WRA				PcP	PcP	23 15 40.0	-0.8
	comp=Z,0.7nm,0.8s,baz=85,slow=2.4,SNR=3.3						
WRA				LR	LR	23 23 47.0	
	comp=Z,83nm,21.1s,baz=90,slow=33						
GENI	Genyem	31.55	298	P	P	23 12 50.1	+1.5
	comp=Z,31nm,0.6s						
AS31	Alice Springs	31.77	256	P	P	23 12 49.5	-1.1
ASAR	Alice Springs	31.77	256	P	P	23 12 49.9	-0.7
	comp=Z,2.7nm,0.7s,baz=83,slow=8.3,SNR=23						
ASAR				LR	LR	23 24 59.2	
	comp=Z,112nm,20.3s,baz=102,slow=35						
SRPI	Serui, Papua	35.26	295	P	P	23 13 21.8	+0.9
	comp=Z,213nm,0.4s						
MTN	Manton Dam	35.67	274	P	P	23 13 28.1	+3.5
	baz=41,SNR=8.4						
MTN	Manton Dam	35.67	274	P	P	23 13 22.7	-1.8
BAKI	Biak	35.72	296	P	P	23 13 26.8	+1.9
	comp=Z,24nm,1.2s						
WRKA	Warakurna	36.92	254	P	P	23 13 38.1	+2.9
	baz=42,SNR=3.1						
SAUI	Saumlaki	37.01	282	P	P	23 13 37.3	+1.3
	comp=Z,6µmcomp=Z,54nm,0.6s						
KNRA	Kununurra	37.28	269	P	P	23 13 38.2	-0.1
	baz=42,SNR=6.2						
KNRA	Kununurra	37.28	269	P	P	23 13 37.1	-1.1
KNRA				IAmb	IAmb	23 13 48.5	
	comp=Z,22nm,0.7s						
FORT	Forrest	37.62	244	P	P	23 13 37.2	-3.8
FAKI	Fak Fak	38.22	290	P	P	23 13 48.6	+2.4
	comp=Z,33nm,1.4s						
BNDI	Bandanaira	39.63	287	P	P	23 14 00.1	+2.1
	comp=Z,10µmcomp=Z,51nm,0.9s						
BATI	Baumata	43.43	275	LR	LR	23 33 25.0	
	comp=Z,268nm,19.6s,baz=266,slow=37						
BATI	Baumata	43.43	275	P	P	23 14 29.8	+0.6
	comp=Z,31nm,1.1s						
SANI	Sanana	44.21	287	P	P	23 14 38.2	+2.8
	comp=Z,19nm,1.2s						
NWAO	Narrogin (SRO)	47.01	243	LR	LR	23 35 41.8	
	comp=Z,82nm,18.2s,baz=214,slow=37						
NWAO	Narrogin (SRO)	47.01	243	P	P	23 14 57.0	-0.4
MORW	Morawa	47.90	248	P	P	23 15 04.7	+0.3
TOLI2	Tolitoli	50.26	288	P	P	23 15 23.0	+0.4
MPSI	Mapaga	50.73	287	P	P	23 15 37.6	+11
VNDA	Vanda	58.53	181	P	P	23 16 22.3	+0.5
	comp=Z,0.5nm,0.8s,baz=347,slow=6.3,SNR=2.5						
VNDA	Vanda	58.53	181	P	P	23 16 23.0	+1.1
CASY	Casey	59.69	203	P	P	23 16 29.7	-0.3
CASY				IAmb	IAmb	23 18 02.9	
	comp=Z,18nm,1.8s						
DBJI	Dramaga	60.48	273	P	P	23 16 49.5	+13
JKA	Kamikawa-asahi	66.97	341	P	P	23 17 17.8	-0.6
JKA				IAmb	IAmb	23 17 19.9	
	comp=Z,25nm,1.4s						
ASAJ	Asahikawa	66.97	341	P	P	23 17 17.3	-1.1
	comp=Z,3.9nm,0.5s,baz=212,slow=17,SNR=4.8						
KSRS	Korea Array	67.58	327	P	P	23 17 21.1	-1.4
	comp=Z,0.9nm,0.8s,baz=142,slow=9.2,SNR=5.0						
NJ2	Nanjing	69.11	317	*e*P	P	23 17 34.6	+2.5
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
QSPA	South Pole Qui	70.96	180	P	P	23 17 43.4	+0.2
PETK	Petropavlovsk-	72.42	354	P	P	23 17 50.7	-1.1
	comp=Z,3.5nm,0.7s,baz=171,slow=10,SNR=6.4						
PETK	Petropavlovsk-	72.42	354	P	P	23 17 52.6	+0.7
GYA	Guiyang	74.56	306	⇑P	P	23 18 12.9	+7.7
GYA				pmax	pmax		
	comp=Z,21nm,0.7s						
KMI	Kunming	76.98	303	⇑P	P	23 18 20.2	+1.0
KMI				pP	PcP	23 18 31.6	+1.5
KMI				sP	pwP	23 18 34.4	+0.7
KMI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CMAR	Chiang Mai Arr	77.14	295	P	P	23 18 19.5	-0.4
	comp=Z,1.1nm,0.3s,baz=126,slow=4.0,SNR=9.6						
CMAR	Chiang Mai Arr	77.14	295	P	P	23 18 20.0	+0.1
CD2	Chengdu	79.01	308	P	P	23 18 30.3	+0.2
CD2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
LZH	Lanzhou	81.57	313	*e*P	P	23 18 44.8	+0.9
LZH				pP	sP	23 18 53.6	-0.1
LZH				PP	PP	23 21 49.6	-1.3
LZH				*e*S	S	23 28 59.2	+4.7
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
LZH				pmax	pmax		
	comp=Z,150nm,8.4s						
LZH				LR	LR		
	comp=Z,170nm,17.0s						
LZH				LR	LR		
	comp=Z,190nm,19.0s						
BELA	Belgrano 2	82.36	175	P	P	23 18 47.0	-0.3
SEY	Seymchan	82.64	353	P	P	23 18 47.8	-0.9
	comp=Z,0.9nm,0.3s,baz=147,slow=8.4,SNR=3.8						
Q19K	Cape Douglas,	83.97	19	P	P	23 18 56.7	+1.0
SYO	Syowa Base	84.67	197	⇓*e*P	P	23 18 57.3	-1.9
SYO	Syowa Base	84.67	197	⇑*e*pP	pP	23 19 05.8	-0.5
O19K	Port Alsworth	84.79	18	P	P	23 19 00.1	+0.4
	baz=216						
SVW2	Sparrevohn	85.17	17	P	P	23 19 02.1	+0.4
SVW2				IAmb	IAmb	23 19 02.6	
	comp=Z,20nm,1.2s						
ULN	Ulaanbaatar	85.90	324	P	P	23 19 05.8	-0.1
ULN	Ulaanbaatar	85.90	324	P	P	23 19 06.1	+0.3
M19K	Big River Lodg	86.16	17	P	P	23 19 06.9	+0.3
	baz=216						
SONM	Songino Array	86.25	324	P	P	23 19 07.1	-0.4
	comp=Z,7.8nm,0.8s,baz=149,slow=5.6,SNR=38						
SONM	Songino Array	86.25	324	P	P	23 19 07.6	+0.1
SONM				IAmb	IAmb	23 19 08.5	
	comp=Z,9.6nm,0.9s						
L19K	White Mountain	86.26	17	P	P	23 19 07.7	+0.6
L19K				IAmb	IAmb	23 19 13.4	
	comp=Z,11nm,1.4s						
L19K	White Mountain	86.26	17	P	P	23 19 07.5	+0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=215						
L20K	Farewell, AK	86.77	17	P	P	23 19 10.1	+0.5
	baz=216						
PKM	Mcpherson Peak	87.19	52	P	P	23 19 13.7	+1.2
	baz=244						
O02D	Mt. Diablo Mer	87.42	46	P	P	23 19 15.1	+1.7
	baz=242						
N02D	Trinity Center	87.85	45	P	P	23 19 16.9	+1.5
	baz=242						
M02C	Callahan	87.94	45	P	P	23 19 17.2	+1.4
	baz=242						
ORV	Oroville	88.02	47	P	P	23 19 17.0	+0.9
ORV				IAmb	IAmb	23 19 17.2	
	comp=Z,5.9nm,0.9s						
J20K	Nowinta River	88.08	16	P	P	23 19 15.8	0.0
J20K				IAmb	IAmb	23 19 17.4	
	comp=Z,4.6nm,0.8s						
J20K	Nowinta River	88.08	16	P	P	23 19 16.0	+0.2
	baz=216						
O03E	Paynes Creek	88.15	46	P	P	23 19 17.8	+0.9
	baz=243						
HUMO	Hull Mountain	88.44	44	P	P	23 19 19.4	+1.3
HUMO				IAmb	IAmb	23 19 19.8	
	comp=Z,5.5nm,0.9s						
ISA	Isabella, Lake	88.51	51	P	P	23 19 19.4	+0.7
ISA				IAmb	IAmb	23 19 19.8	
	comp=Z,5.5nm,0.8s						
ISA	Isabella, Lake	88.51	51	P	P	23 19 19.5	+0.9
	baz=245						
TRF	Thorofare Moun	88.54	18	P	P	23 19 16.6	-1.7
TRF				IAmb	IAmb	23 19 18.8	
	comp=Z,6.6nm,0.9s						
TRF	Thorofare Moun	88.54	18	P	P	23 19 17.6	-0.7
	baz=219						
WAT1	Susitna Watana	88.58	19	P	P	23 19 17.7	-0.5
	baz=221						
L04D	Klamath Falls	88.69	44	P	P	23 19 19.9	+0.5
	baz=242						
BEKR	Beckworth	88.95	47	P	P	23 19 20.5	-0.3
BEKR				IAmb	IAmb	23 19 21.8	
	comp=Z,6.3nm,0.8s						
SNAA	Sanae	89.24	183	P	P	23 19 21.4	-0.1
I04A	Tendick Farm,	89.34	43	P	P	23 19 23.0	+0.6
	baz=242						
NVAR	Mina Array Bea	89.78	49	P	P	23 19 24.0	-0.8
	comp=Z,4.4nm,0.8s,baz=226,slow=8.4,SNR=31						
NVAR	Mina Array Bea	89.78	49	P	P	23 19 24.4	-0.4
K05A	Summer Lake	89.85	44	P	P	23 19 25.2	+0.3
K05A				IAmb	IAmb	23 19 26.3	
	comp=Z,11nm,0.8s						
J05D	Fort Rock, OR	89.87	44	P	P	23 19 25.8	+0.9
	baz=243						
VNA3	Neumayer Olymp	89.88	181	P	P	23 19 24.3	-0.2
NV11	Mina Array Sit	89.89	49	P	P	23 19 25.0	-0.2
NV11				IAmb	IAmb	23 19 26.2	
	comp=Z,5.8nm,0.8s						
FURC	Furnace Creek,	90.03	51	P	P	23 19 26.7	+1.1
	baz=246						
VNA2	Neumayer--Watz	90.16	182	P	P	23 19 25.8	+0.1
	baz=176,slow=4.6						
KVN	Kaiserville	90.19	49	P	P	23 19 27.1	+0.5
KVN				IAmb	IAmb	23 19 27.5	
	comp=Z,6.7nm,0.8s						
SHOC	Shoshone, Teco	90.23	52	P	P	23 19 27.6	+0.9
	baz=246						
MDM	Murphy Dome	90.28	17	P	P	23 19 24.8	-1.4
MDM				IAmb	IAmb	23 22 19.0	
	comp=Z,17nm,1.8s						
PINE	Pine Mountain	90.29	43	P	P	23 19 27.8	+0.8
RIDG	Independent Ri	90.38	19	P	P	23 19 25.4	-1.3
RIDG				IAmb	IAmb	23 22 40.6	
	comp=Z,13nm,1.0s						
IRM	Iron Mountain	90.41	54	P	P	23 19 28.8	+1.3
	baz=247						
VNA1	Neumayer--Stat	90.45	181	P	P	23 19 27.5	+0.4
ILAR	Eielson Array	90.52	18	P	P	23 19 25.6	-1.6
	comp=Z,2.3nm,0.8s,baz=232,slow=6.1,SNR=23						
TPNV	Topopah Spring	90.67	51	P	P	23 19 29.8	+1.0
	baz=246						
G05D	Wamic, OR	90.70	42	P	P	23 19 29.2	+0.6
	baz=243						
PDMCI	Parker Dam,Lak	91.23	54	P	P	23 19 32.5	+1.2
	baz=248						
I07A	Izee	91.35	44	P	P	23 19 31.9	+0.1
I07A				IAmb	IAmb	23 19 33.0	
	comp=Z,8.8nm,0.9s						
B05A	Bryant	91.59	39	P	P	23 19 33.5	+1.0
	baz=243						
R11A	Troy Canyon, C	91.70	50	P	P	23 19 33.9	+0.3
	baz=247						
G08A	Pilot Rock	92.22	43	P	P	23 19 36.6	+0.8
G08A				IAmb	IAmb	23 19 36.7	
	comp=Z,7.6nm,0.9s						
U15A	North Rim	93.42	53	P	P	23 19 42.2	+0.5
U15A				IAmb	IAmb	23 19 42.9	
	comp=Z,3.5nm,0.7s						
HLID	Hailey	94.52	45	P	P	23 19 46.5	0.0
	baz=248						
WMQ	Urumqi	96.07	314	eP	P	23 19 55.6	+2.1
PDAR	Pinedale Array	97.57	47	P	P	23 19 59.9	-0.6
	comp=Z,0.1nm,0.3s,baz=253,slow=9.3,SNR=1.5						
TXAR	Lajitas Array	97.96	62	P	P	23 20 01.9	-0.5
	comp=Z,0.4nm,0.7s,baz=219,slow=6.2,SNR=5.8						
MKAR	Makanchi Array	100.63	316	P	Pdif	23 20 13.1	-0.7
	comp=Z,0.3nm,0.7s,baz=90,slow=6.3,SNR=2.4						
ARCES	ARCESS Array B	124.56	345	PKP	PKPdf	23 25 23.4	-1.1
	comp=Z,3.9nm,1.0s,baz=39,slow=3.5,SNR=4.1						
ARCES	ARCESS Array B	124.56	345		PKPdf	23 25 24.5	0.0
NRS	Narsarsuaq	131.94	21		PKPdf	23 25 37.8	-0.9
GERES	GERESS Array B	143.68	331	PKhKP	PKPpre	23 25 57.0	
	comp=Z,0.4nm,0.5s,baz=48,slow=2.0,SNR=5.9						
GERES	GERESS Array B	143.68	331		PKPpre	23 25 57.4	
MILB	Miltenberg	144.81	336	ePKPbc	PKPbc	23 26 01.9	+0.3
	baz=40,slow=3.1						
OBKA	Obir	144.88	327	eP	PKPab	23 26 02.0	-0.1
	comp=Z,6.5nm,1.0s						
RJOB	Jochberg	144.89	330	ePKPbc	PKPbc	23 26 02.2	+0.1
	baz=40,slow=3.1						
KBA	Koelnbreinsper	145.09	329	eP	PKPbc	23 26 02.6	-0.3
	comp=Z,8.7nm,1.1s						
MYKA	Terra Mystica	145.26	328	i P	PKPbc	23 26 02.9	-0.4
	comp=Z,7.0nm,0.7s						
FUR	Furstenfeldbru	145.27	332	ePKPbc	PKPdf	23 26 03.7	+0.1
	baz=40,slow=3.1						
ZOU	Zoufplan	145.64	329		PKPdf	23 26 03.5	-0.9
STU	Stuttgart	145.69	335		PKPdf	23 26 03.2	-1.0
STU	Stuttgart	145.69	335	ePKPbc	PKPab	23 26 04.9	0.0
	baz=40,slow=3.1						
ABTA	Abfaltersbach	145.73	329	i P	PKPdf	23 26 04.2	-0.3
	SNR=13						
WTTA	Wattenberg	145.78	331	i P	PKPbc	23 26 05.0	-0.1
	SNR=7.1						
MOTA	Moosalm	145.96	331	eP	PKPbc	23 26 05.8	+0.2
	comp=Z,14nm,0.9s,SNR=10						
STAL	STALIGIAL	145.98	328		PKPdf	23 26 03.8	-1.0
SQTA	Sankt Quirin	146.00	331	i P	PKPbc	23 26 05.8	+0.1
	comp=Z,15nm,0.7s,SNR=9.6						
BMRD	Maredsous	146.02	340	dPKP	PKPbc	23 26 05.5	0.0
WLF	Walferdange	146.11	338		PKPdf	23 26 03.2	-1.7
WLF	Walferdange	146.11	338	ePKPbc	PKPab	23 26 06.6	+0.2
	baz=40,slow=3.1						
UBR	Ueberruh	146.15	332	ePKPbc	PKPbc	23 26 06.2	+0.1
	baz=40,slow=3.1						
FETA	Feichten	146.37	331	eP	PKPbc	23 26 07.2	+0.3
	comp=Z,4.0nm,0.6s						
BFO	Black Forest	146.39	335		PKPbc	23 26 06.9	+0.2
BFO	Black Forest	146.39	335	ePKPbc	PKPbc	23 26 06.7	0.0
	baz=40,slow=3.1						
CTI	Castel Tesino	146.65	329		PKPbc	23 26 07.2	-0.5
TEOL	Teolo	147.13	328		PKPbc	23 26 09.0	+0.1
TUE	Stuetta	147.41	332		PKPbc	23 26 10.1	+0.2
NRCA	Norcia	148.07	323	PKPbc	PKPbc	23 26 11.3	-0.4
MURB	Monte Urbino	148.12	325	PKPbc	PKPbc	23 26 11.1	-0.7
INTR	Introdacqua	148.13	321		PKPbc	23 26 11.5	-0.3
ZCCA	Zocca	148.19	327		PKPbc	23 26 12.3	+0.4
AQU	L'Aquila	148.21	322		PKPbc	23 26 12.4	+0.5
SENIN	Lac Senin/Sane	148.38	334	PKPbc	PKPbc	23 26 12.4	-0.2
BNI	Bardonecchia	149.69	333	PKPbc	PKPbc	23 26 15.7	-0.1
TORD	Torodi Ar. Bea	165.34	248	PKP	PKPdf	23 26 30.4	-0.7
	comp=Z,0.9nm,1.0s,baz=158,slow=1.6,SNR=3.7						
TORD				PKPab	PKPab	23 27 28.4	-0.6
	comp=Z,0.7nm,0.7s,baz=98,slow=3.9,SNR=4.9						
TORD	Torodi Ar. Bea	165.34	248		PKPab	23 27 27.5	-1.4

*IDC **01** 23:06:35.9±1.1, 27°.46N×85°.95E, h0km, mb3.9/10, mb1 4.0/13, mb1mx3.7/51, mbtmp3.9/13, ML3.8/2, MS3.3/3, Ms1 3.3/3, ms1mx2.8/51, Error ellipse: s-maj=32.7km s-min=18.4km az=57.0*

*NDI **01** 23:06:39.9±3.5, 27°.51N×86°.15E, h10km, ML4.0, mb4.1(NEIC)*

*NEIC **01** 23:06:40.6±1.6, 27°.68N±0°.09×86°.28E±0°.06, h16km±5km, mb4.1/19, Error ellipse: s-maj=14.0km s-min=5.2km az=150.0*

ISC 01 23:06:39.5±0.5**, 27°.65N**±0°.05×**86°.07E**±0°.04**, h19**km**, n52,** σ**2s.08**/62**, mb3.9**/12**, Nepal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOK	Bokaro	3.84	182	eP	Pn	23 07 38.4	+0.8
BOK				eS	Sb	23 08 35.9	+3.1
LSA	Lhasa	4.91	64	Pn	Pn	23 07 50.1	-2.6
SHL	Shillong	5.60	110	Pn	Pn	23 07 59.4	-2.6
SHL	Shillong	5.60	110	eP	Pn	23 08 02.0	0.0
SHL				eP	Pn	23 08 02.9	+0.9
SHL				eS	Sn	23 09 00.2	-5.8
SHL				i S	Sb	23 09 25.0	+1.3
JBP	Jabalpur	7.08	232	eP	Pn	23 08 24.0	+1.9
JBP				eS	Sn	23 09 40.0	-2.1
SMLA	Simla	8.50	296	eP	Pn	23 08 43.9	+2.3
SMLA				eS	Sn	23 10 16.3	-0.8
SMLA				IAML		23 10 21.1	
	comp=N,84nm,0.6s						
SMLA				IAML		23 10 21.9	
	comp=E,77nm,0.6s						
BHPL	Bhopal	8.96	243	eP	Pn	23 08 45.1	-2.8
BHPL				eS	Sn	23 10 24.1	-4.3
DHRM	DHARAMSHALA	9.63	301	eP	Pn	23 08 58.5	+1.2
DHRM				eS	Sn	23 10 42.8	-2.4
DHRM				IAML		23 10 46.8	
	comp=E,89nm,0.8s						
DHRM				IAML		23 10 47.9	
	comp=N,49nm,1.0s						
HYB	Hyderabad	12.32	216	i P	Pn	23 09 30.0	-4.0
HYB				eS	Sn	23 11 54.0	+3.2
CHCP	Chirah Chowk	12.54	302	P	Pn	23 09 38.7	+1.7
NIL	Nilore	12.55	302	Pn	Pn	23 09 34.5	-2.6
THW	Thamme Wali	13.40	296	P	Pn	23 09 50.3	+1.6
KSH	Kashi	14.51	327	P	Pn	23 10 01.1	-2.8
KSH				sP	P	23 10 08.2	-2.2
KSH				S	Sn	23 12 37.6	-6.7
KSH				pmax	pmax		
	comp=Z,13nm,1.1s						
CMAR	Chiang Mai Arr	14.96	125	Pn	Pn	23 10 08.9	-1.2
	baz=307,slow=10.0,SNR=1.3						
KBL	Kabul	16.11	299	Pn	P	23 10 29.1	+0.8
KBL				IAmb	IAmb	23 10 42.6	
	comp=Z,4.6nm,0.8s						
WMQ	Urumqi	16.19	4	eP	P	23 10 29.4	+0.3
GTA	Gaotai	16.38	41	eP	P	23 10 34.8	+3.6
GTA				pP	sP	23 10 39.3	-0.7
GTA				sP	pP	23 10 42.2	+5.2
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BOOM	Boomskoye usch	16.95	334	P	P	23 10 37.3	-0.3
AAK	Ala-Archa	17.67	331	P	Pn	23 10 45.2	+0.5
	comp=Z,0.2nm,0.3s,baz=166,slow=13,SNR=3.0						
AAK				LR	LR	23 18 18.0	
	comp=Z,61nm,18.5s,baz=134,slow=40						
AAK	Ala-Archa	17.67	331	P	P	23 10 47.6	+2.1
CHGR	Chuyangaron	17.89	312		Pn	23 10 44.3	-3.0
CHGR				IAmb	IAmb	23 10 50.7	
	comp=Z,18nm,0.7s						
MK31	Makanchi Array	19.34	352	P	Pn	23 11 04.7	-0.2
MK31				IAmb	IAmb	23 11 06.1	
	comp=Z,5.3nm,0.8s						
MKAR	Makanchi Array	19.34	352	P	Pn	23 11 05.0	+0.1
	comp=Z,0.3nm,0.3s,baz=172,slow=12,SNR=37						
MKAR	Makanchi Array	19.34	352	P	Pn	23 11 05.0	+0.1
MAKZ	Makanchi	19.39	352	P	Pn	23 11 05.8	+0.3
MAKZ				IAmb	IAmb	23 11 06.6	
	comp=Z,4.2nm,0.8s						
KK31	Karatay Array	19.91	325	P	P	23 11 10.8	+0.7
KKAR	Karatay Array	19.91	325	P	Pn	23 11 11.4	-0.3
KURBB	Kurchatov Arra	23.65	348	P	P	23 11 50.4	+0.9
	comp=Z,1.6nm,0.4s,baz=167,slow=9.3,SNR=16						
KURK	Kurchatov	23.72	348	P	P	23 11 50.4	+0.2
SONM	Songino Array	25.64	33	P	P	23 12 08.5	+0.5
	comp=Z,0.9nm,0.5s,baz=218,slow=10,SNR=7.3						
SONM				LR	LR	23 23 17.2	
	comp=Z,76nm,18.5s,baz=222,slow=39						
SONM	Songino Array	25.64	33	P	P	23 12 08.8	+0.9
SONM				IAmb	IAmb	23 12 18.6	
	comp=Z,1.3nm,0.9s						
ZALV	Zalesovo Beam	26.29	358	P	P	23 12 14.5	+0.9
	comp=Z,1.5nm,0.5s,baz=176,slow=8.1,SNR=6.1						
ZALV				LR	LR	23 24 19.3	
	comp=Z,86nm,18.3s,baz=170,slow=40						
ZALV	Zalesovo Beam	26.29	358	P	P	23 12 14.8	+1.2
ABKAR	Akbulak array	29.48	324	P	P	23 12 44.2	+2.0
KSRS	Korea Array	36.36	64	P	P	23 13 43.5	+1.2
	comp=Z,1.0nm,0.5s,baz=272,slow=9.9,SNR=2.2						
NRIK	Noril'sk	41.73	1	P	P	23 14 27.9	+1.0
	comp=Z,2.0nm,0.7s,baz=204,slow=4.9,SNR=3.8						
NRIK	Noril'sk	41.73	1	P	P	23 14 28.5	+1.6
NRIK				IAmb	IAmb	23 14 47.2	
	comp=Z,4.5nm,1.2s						
ELL	Elmali	47.80	296	P	P	23 15 16.1	+0.2
FIA1	FINESS Array S	51.83	328	P	P	23 15 48.4	+2.4
FINES	FINESS Array B	51.83	328	P	P	23 15 46.3	+0.3
	comp=Z,1.2nm,0.7s,baz=132,slow=8.3,SNR=1.9						
FINES	FINESS Array B	51.83	328	P	P	23 15 48.3	+2.3
ARCES	ARCESS Array B	54.16	338	P	P	23 16 03.5	+0.3
	comp=Z,4.4nm,1.0s,baz=100,slow=5.0,SNR=1.7						
WB0	Warramunga Arr	66.40	130	P	P	23 17 26.7	-0.9
WB0				IAmb	IAmb	23 17 27.7	
	comp=Z,5.5nm,1.4s						
WRA	Warramunga Arr	66.49	130	P	P	23 17 27.5	-0.6
	comp=Z,0.7nm,0.9s,baz=324,slow=6.6,SNR=4.9						
WRA	Warramunga Arr	66.49	130	P	P	23 17 28.6	+0.4
WRAB	Tennant Creek	66.49	130	P	P	23 17 28.0	-0.2
WRAB				IAmb	IAmb	23 17 35.8	
	comp=Z,2.1nm,0.7s						
WB2	Warramunga Arr	66.50	130	P	P	23 17 28.3	+0.1
WR0	Warramunga Arr	66.64	130	P	P	23 17 29.2	+0.2
ASAR	Alice Springs	68.80	133	P	P	23 17 41.4	-1.3
	comp=Z,0.3nm,0.5s,baz=306,slow=6.0,SNR=2.0						
BMAR	Burnt Mountain	77.95	18	P	P	23 18 37.4	+1.3
TORD	Torodi Ar. Bea	79.10	279	P	P	23 18 42.3	-0.9
	comp=Z,0.4nm,0.9s,baz=65,slow=3.8,SNR=2.2						
BCAR	Beaver Creek A	81.96	20	P	P	23 18 59.1	+1.3

*IDC **01** 23:27:36.6±6.0, 7°.38S×128°.67E, h106km±58km, mb3.8/5, mb1 3.9/8, mb1mx3.6/41, mbtmp4.2/8, MS3.2/1, Ms1 3.2/1, ms1mx2.6/28, Error ellipse: s-maj=72.4km s-min=21.3km az=56.0*

*NEIC **01** 23:27:39.8±1.2, 7°.4S±0°.1×128°.5E±0°.1, h124km±8km, mb3.9/8, Error ellipse: s-maj=21.5km s-min=5.5km az=139.0*

ISC 01 23:27:37.2±0.7**, 7°.46S**±0°.09×**128°.47E**±0°.10**, h100**km**, n30,** σ**1s.38**/25**, mb4.0**/9**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SOEI	Soe	4.74	241	Pn	Pn	23 28 49.3	+2.8
BATI	Baumata	5.48	240	P	Pn	23 28 58.9	+2.4
	18nm,0.3s,baz=179,slow=2.9,SNR=11						
BATI				S	Sn	23 29 56.8	-1.5
	18nm,0.3s,baz=269,slow=16,SNR=19						
FAKI	Fak Fak	5.87	40	Pn	Pn	23 29 03.9	+2.1
WB0	Warramunga Arr	13.51	155	Pn	Pn	23 30 43.1	-1.8
WRAB	Tennant Creek	13.65	156	Pn	Pn	23 30 45.4	-1.2
WRA	Warramunga Arr	13.65	156	P	Pn	23 30 44.8	-1.8
	1.8nm,0.3s,baz=333,slow=14,SNR=88						
WRA				S	Sn	23 33 06.8	-10
	2.7nm,0.3s,baz=332,slow=22,SNR=18						
WRA	Warramunga Arr	13.65	156	Pn	Pn	23 30 43.5	-3.2
WB2	Warramunga Arr	13.65	156	Pn	Pn	23 30 45.1	-1.6
WR0	Warramunga Arr	13.75	155		Pn	23 30 45.6	-2.3
AS31	Alice Springs	16.93	163	P	Pn	23 31 28.4	+0.3
ASAR	Alice Springs	16.94	163	P	Pn	23 31 27.8	-0.3
	0.8nm,0.3s,baz=333,slow=9.3,SNR=37						
ASAR				S	Sn	23 34 27.5	-8.9
	0.9nm,0.3s,baz=318,slow=17,SNR=7.6						
ASAR	Alice Springs	16.94	163	P	Pn	23 31 29.4	+1.3
GUMO	Guam	26.50	38	LR	LR	23 44 40.2	
	comp=Z,51nm,19.0s,baz=122,slow=39						
STKA	Stephens Creek	27.20	155	P	P	23 33 10.7	-0.9
	1.5nm,0.5s,baz=324,slow=11,SNR=3.9						
STKA	Stephens Creek	27.20	155	P	P	23 33 11.9	+0.3
SONM	Songino Array	58.41	343	P	P	23 37 21.4	-1.0
	1.7nm,0.7s,baz=158,slow=7.4,SNR=9.1						
SONM	Songino Array	58.41	343	P	P	23 37 21.9	-0.6
MK31	Makanchi Array	67.79	328	P	P	23 38 24.5	+0.1
MK31				IAmb	IAmb	23 38 24.8	
	comp=Z,1.8nm,0.8s						
MKAR	Makanchi Array	67.79	328	P	P	23 38 23.6	-0.8
	comp=Z,0.8nm,0.6s,baz=118,slow=8.6,SNR=9.9						
MKAR	Makanchi Array	67.79	328	P	P	23 38 24.0	-0.4
MAKZ	Makanchi	67.97	327	P	P	23 38 25.5	0.0
ZAA0	Zalesovo Array	71.33	334	P	P	23 38 44.5	-1.4
ZAA0				IAmb	IAmb	23 38 45.7	
	comp=Z,3.9nm,1.1s						
ZALV	Zalesovo Beam	71.33	334	P	P	23 38 44.8	-1.1
	comp=Z,1.9nm,0.7s,baz=48,slow=2.2,SNR=6.3						
ZALV	Zalesovo Beam	71.33	334	P	P	23 38 44.9	-1.0
KURBB	Kurchatov Arra	72.12	329	P	P	23 38 48.8	-1.9
	comp=Z,0.7nm,0.2s,baz=128,slow=4.8,SNR=6.1						
KURK	Kurchatov	72.13	329	P	P	23 38 48.8	-2.0
BRVK	Borovoye	77.72	328	P	P	23 39 22.8	-0.2
BRVK				IAmb	IAmb	23 39 23.8	
	comp=Z,1.3nm,0.7s						
ABKAR	Akbulak array	81.93	322	P	P	23 39 44.6	-1.1
QSPA	South Pole Qui	82.52	180	P	P	23 39 48.8	0.0
QSPA				IAmb	IAmb	23 39 59.3	
	comp=Z,1.8nm,1.1s						
TORD	Torodi Ar. Bea	127.41	281	PKP	PKPdf	23 46 30.1	-1.2
	comp=Z,0.3nm,0.7s,baz=109,slow=1.4,SNR=1.9						

*IDC **01** 23:27:60.0±3.6, 22°.49N×121°.64E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.7/58, mbtmp3.7/9, ML3.4/1, MS3.3/5, Ms1 3.4/5, ms1mx2.9/42, Error ellipse: s-maj=78.0km s-min=31.6km az=149.0*

*NEIC **01** 23:28:03.6±1.8, 22°.64N±0°.07×121°.54E±0°.04, h10km±7km, mb4.0/2, ML4.2(TAP), Error ellipse: s-maj=11.5km s-min=1.9km az=207.0*

*JMA **01** 23:28:03.0±0.1, 22°.63N×121°.55E, h7km±3km, M4.5*

*NIED **01** 23:28:03.0, 22°.63N×121°.55E, h7km, MW4.0, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.12; $M_{\theta\theta}$1.13; $M_{\phi\phi}$-1.01; $M_{r\theta}$0.05; $M_{\theta\phi}$0.08; $M_{\phi r}$0.01; Fault plane solution: $M_0$1.08000×10^{15} NP1:ϕ_s43.00000°, δ89.00000°, λ178.00000°. NP2:ϕ_s133.00000°, δ88.00000°, λ1.00000°.*

*TAP **01** 23:28:04.9, 22°.62N×121°.43E, h19km, ML4.3, B*

*ASIES **01** 23:28:04.6, 22°.59N×121°.42E, h16km, MW3.8*

ISC 01 23:28:04.6±0.6**, 22°.63N**±0°.02×**121°.49E**±0°.02**, h20**km±2km**, n175,** σ**1s.21**/277**, mb3.8**/9**, MS3.3**/5**, 24C-20D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LDUT	Ludao	0.05	343	⇓iP	Pb	23 28 08.8	+0.6
	baz=36						
LDUT				i S	Sb	23 28 11.5	+0.8
	baz=36						
TTN	Taitung	0.34	292	⇓iP	Pb	23 28 11.6	-0.4
	baz=307						
TTN				eS	Sb	23 28 16.6	-0.3
	baz=307						
EDH	Donghe	0.38	334	⇑iP	Pb	23 28 12.3	-0.4
	baz=343						
EDH				eS	Sb	23 28 18.5	+0.2
	baz=343						
TWGBT	Beinan	0.42	297	i P	Pb	23 28 12.6	-0.9
	baz=310						
TWGBT				eS	Sb	23 28 19.1	-0.3
	baz=310						
TWG	Pinlang	0.43	297	⇓iP	Pb	23 28 12.6	-0.9
	baz=310						
TWG				S	Sb	23 28 19.1	-0.5
	baz=310						
TWG	Pinlang	0.43	297	Pg	Pb	23 28 12.6	-0.9
TWG				Sg	Sb	23 28 18.9	-0.7
LONT	Longtian	0.43	311	⇑iP	Pb	23 28 12.7	-0.9
	baz=324						
LONT				eS	Sb	23 28 20.1	+0.5
	baz=324						
CHKT	Chengkung	0.48	347	⇑iP	Pb	23 28 14.1	-0.4
CHKT				i S	Sb	23 28 21.1	-0.1
ECL	Taimali	0.49	267	⇓iP	Pb	23 28 13.6	-1.0
	baz=268						
ECL				i S	Sb	23 28 19.9	-1.5
	baz=268						
ECS	Chishang	0.53	332	eP	Pb	23 28 15.2	-0.1
	baz=347						
ECS				eS	Sb	23 28 23.8	+1.3
	baz=347						
LAY	Lan-yu	0.59	174	⇑iP	Pb	23 28 15.8	-0.4
	baz=168						
LAY				S	Sb	23 28 24.4	+0.2
	baz=168						
FULB	Fuli	0.60	343	⇑iP	Pb	23 28 15.8	-0.7
	baz=358						
FULB				S	Sb	23 28 25.0	+0.5
	baz=358						
TAW	Tawu	0.61	244	⇓iP	Pb	23 28 15.7	-0.9
	baz=250						
TAW				S	Sb	23 28 23.6	-1.1
	baz=250						
EAST	Anshuo	0.64	248	⇓eP	Pb	23 28 16.1	-1.0
	baz=246						
EAST				eS	Sb	23 28 24.1	-1.5
	baz=246						
ECBN	Changbin	0.69	357	P	Pb	23 28 17.6	-0.4
	baz=12						
ECBN				eS	Sb	23 28 27.6	+0.5
	baz=12						
ELDTW	Lidau	0.71	323	⇑iP	Pb	23 28 17.3	-1.1
	baz=328						
ELDTW				S	Sb	23 28 26.0	-1.7
	baz=328						
EYUL	Yuli	0.73	348	⇑iP	Pb	23 28 18.1	-0.7
	baz=1.0						
EYUL				eS	Sn	23 28 29.6	-0.9
	baz=1.0						
TWF1	Yuli	0.74	347	⇑P	Pb	23 28 18.1	-0.8
	baz=360						
TWF1				eS	Sb	23 28 28.8	+0.1
	baz=360						
SLIU	Shizi	0.75	238	⇓iP	Pb	23 28 17.9	-1.2
	baz=236						
SLIU				eS	Sb	23 28 27.0	-2.0
	baz=236						
TSMG	Majia	0.78	276	⇓iP	Pb	23 28 18.2	-1.4
	baz=272						
TSMG				eS	Sb	23 28 27.4	-2.3
	baz=272						
YULB	Yu-li	0.78	347	⇑P	Pb	23 28 18.5	-1.1
	baz=359						
YULB				eS	Sb	23 28 28.2	-1.7
	baz=359						
YULB	Yu-li	0.78	347	Pg	Pb	23 28 18.6	-1.1
MASBT	Mashibuluo	0.79	269	⇓iP	Pb	23 28 18.4	-1.3
	baz=270						
MASBT				S	Sb	23 28 27.8	-2.2
	baz=270						
SSD	Sandimen	0.80	279	⇓iP	Pb	23 28 18.4	-1.4
	baz=277						
SSD				eS	Sb	23 28 28.1	-2.0
	baz=277						
SCZT	Fangliau	0.84	253	⇓P	Pb	23 28 19.3	-1.2
	baz=258						
SCZT				eS	Sb	23 28 29.6	-1.8
	baz=258						
STYH	Taoyuan	0.85	310	i P	Pb	23 28 20.0	-0.7
	baz=314						
STYH				S	Sb	23 28 30.5	-1.2
	baz=314						
SLGT	Liugui	0.86	296	⇓eP	Pb	23 28 19.9	-1.0
	baz=293						
SLGT				eS	Sb	23 28 30.9	-1.0
	baz=293						
STYT	Tauyuan	0.86	309	⇓eP	Pb	23 28 20.0	-0.9
	baz=313						
STYT				eS	Sb	23 28 30.7	-1.3
	baz=313						
HGSD	Ruisui	0.86	356	⇑P	Pb	23 28 19.8	-1.2
	baz=8.0						
HGSD				eS	Sb	23 28 32.5	+0.3
	baz=8.0						
EHY	Hungye	0.89	350	eP	Pb	23 28 20.4	-1.1
	baz=1.0						

EHY				eS	Sb	23 28 33.1	+0.2
	baz=1.0						
TSEB	Hengchuen, Pin	0.90	217	⇑iP	Pb	23 28 21.0	-0.6
	baz=217						
TSEB				eS	Sb	23 28 33.6	+0.4
	baz=217						
TSPT	Pingtung City	0.92	273	eP	Pn	23 28 22.7	+0.4
	baz=269						
TWKBT	Hengchun	0.92	223	⇑P	Pb	23 28 20.8	-1.1
	baz=220						
TWKBT				eS	Sb	23 28 32.6	-1.2
	baz=220						
SGLT	Jiouru	0.92	276	eP	Pb	23 28 21.8	-0.2
	baz=275						
SGLT				eS	Sb	23 28 32.9	-1.0
	baz=275						
TWK1	Hengchun	0.93	223	⇑iP	Pb	23 28 20.8	-1.2
	baz=220						
TWK1				eS	Sb	23 28 32.6	-1.3
	baz=220						
HEN	Hengchun	0.93	228	⇑P	Pb	23 28 21.2	-0.8
	baz=217						
HEN				eS	Sb	23 28 32.8	-1.1
	baz=217						
SGST	Jiashian	0.95	299	⇓eP	Pb	23 28 21.3	-1.1
	baz=302						
SGST				eS	Sb	23 28 34.8	+0.2
	baz=302						
SNW	Nanwan	0.95	226	eP	Pb	23 28 22.0	-0.4
	baz=214						
SCST	Cishan	0.95	286	eP	Pb	23 28 22.2	-0.3
	baz=283						
WTP	Ta-pu	1.01	308	eP	Pb	23 28 23.3	-0.3
	baz=312						
WTP				eS	Sb	23 28 36.9	+0.4
	baz=312						
TPUB	Ta-pu	1.04	311	⇑eP	Pb	23 28 23.8	-0.2
	baz=314						
TPUB				eS	Sb	23 28 37.1	-0.1
	baz=314						
TPUB	Ta-pu	1.04	311		Pb	23 28 23.6	-0.3
EGFH	Guangfu	1.04	357	eP	Pb	23 28 22.6	-1.4
	baz=344						
EGFH				eS	Sb	23 28 37.2	0.0
	baz=344						
CHN1	Nanshi	1.04	302	⇓eP	Pn	23 28 24.3	+0.1
	baz=315						
CHN1				eS	Sn	23 28 37.9	-0.3
	baz=315						
WLCH	Liuqiu	1.06	255	⇓eP	Pn	23 28 26.2	+1.9
	baz=256						
WLCH				eS	Sn	23 28 43.1	+4.6
	baz=256						
SNJT	Kaohsiung City	1.07	277	⇓eP	Pn	23 28 25.9	+1.4
	baz=279						
SNJT				eS	Sn	23 28 42.5	+3.7
	baz=279						
TWP	Hsiaoliuchiu	1.07	255	eP	Pn	23 28 26.6	+2.0
	baz=256						
TWP				eS	Sn	23 28 43.4	+4.5
	baz=256						
TEGC	Jichi Village	1.08	3	eP	Pn	23 28 24.5	-0.2
	baz=14						
TEGC				eS	Sb	23 28 38.2	-0.1
	baz=14						
ALS	Alishan	1.08	325	⇑eP	Pb	23 28 24.4	-0.5
	baz=334						
ALS				eS	Sb	23 28 37.9	-0.8
	baz=334						
SNST	Tainan City	1.09	303	eP	Pb	23 28 24.9	+0.2
	baz=317						
KAU	Kaohsiung	1.09	267	eP	Pb	23 28 26.8	+2.0
	baz=268						
TWK	Hsinying	1.12	305	eP	Pb	23 28 25.4	+0.1
	baz=320						
TWK				eS	Sn	23 28 41.6	+1.5
	baz=320						
CHN3	Shinhua	1.13	294	eP	Pb	23 28 26.7	+1.3
	baz=297						
CHN3				eS	Sn	23 28 43.8	+3.6
	baz=297						
ESL	Shilin	1.19	358	eP	Pn	23 28 24.8	-1.4
	baz=1.0						
ESL				eS	Sb	23 28 40.6	-0.8
	baz=1.0						
WHYT	Xinyi Township	1.22	331	eP	Pn	23 28 26.6	+0.1
	baz=340						
WHYT				eS	Sb	23 28 41.7	-0.6
	baz=340						
TAI1	Yung-k'ang	1.23	290	eP	Pb	23 28 28.4	+1.1
	baz=292						
TEYL	Yanliau Villag	1.24	5	eP	Pn	23 28 26.4	-0.5
	baz=20						
TEYL				eS	Sn	23 28 43.3	+0.3
	baz=20						
SSLB	Suanglung	1.26	337	⇑eP	Pn	23 28 26.6	-0.5
	baz=347						
SSLB				eS	Sn	23 28 44.2	+0.7
	baz=347						
SSLB	Suanglung	1.26	337	Pn	Pn	23 28 26.6	-0.5
CHN2	Minshiung	1.30	314	eP	Pb	23 28 29.3	+0.9
	baz=319						
CHN2				eS	Sb	23 28 46.7	+2.1
	baz=319						
CHY	Chiayi	1.31	312	⇑eP	Pb	23 28 28.9	+0.4
	baz=316						
CHY				eS	Sb	23 28 45.8	+0.9
	baz=316						
SCLT	Jiali	1.31	295	eP	Pb	23 28 28.9	+0.3
	baz=299						
SCLT				eS	Sb	23 28 46.6	+1.6
	baz=299						
ICHU	Yijhu	1.33	304	eP	Pb	23 28 29.2	+0.3
	baz=308						
ICHU				eS	Sb	23 28 46.5	+1.0
	baz=308						
ETM	Tongmen	1.33	0	eP	Pn	23 28 27.3	-0.9
	baz=3.0						
HWA	Hwalien	1.35	5	eP	Pn	23 28 28.2	-0.1
	baz=19						
OWD	Renai	1.35	348	eP	Pn	23 28 28.0	-0.5
	baz=5.0						
WGK	Gukeng	1.36	321	eP	Pb	23 28 30.0	+0.6
	baz=326						
WGK				eS	Sb	23 28 48.4	+2.1
	baz=326						
SMLT	Sun Moon Lake	1.36	337	eP	Pn	23 28 29.0	+0.3
	baz=341						
SMLT				eS	Sb	23 28 48.3	+1.7
	baz=341						
WDLH	Douliu	1.37	321	eP	Pb	23 28 30.1	+0.5
	baz=325						
WDLH				eS	Sb	23 28 48.4	+1.7
	baz=325						
CHN8	Yiju	1.38	302	eP	Pb	23 28 29.3	-0.4
	baz=306						
CHN8				eS	Sb	23 28 48.0	+1.1
	baz=306						
WJS	Zhushan	1.38	330	⇑eP	Pb	23 28 30.1	+0.3
	baz=334						
WJS				eS	Sb	23 28 49.0	+2.0
	baz=334						
TYC	Yuchr	1.40	336	eP	Pb	23 28 29.7	-0.4
	baz=340						
TYC				eS	Sb	23 28 48.9	+1.4
	baz=340						
WNT	Mingjian	1.45	330	eP	Pb	23 28 31.6	+0.6
	baz=334						
WNT				eS	Sb	23 28 50.6	+1.6
	baz=334						
TWD	Chiawan	1.45	4	eP	Pn	23 28 28.9	-0.9
	baz=18						
TWD				eS	Sn	23 28 47.8	-0.5
	baz=18						
CHGB	Renai	1.46	349	⇑eP	Pn	23 28 29.5	-0.5
	baz=5.0						
WTK	Tuku	1.46	317	eP	Pb	23 28 30.8	-0.4
	baz=321						
WTK				eS	Sb	23 28 50.0	+0.6
	baz=321						
WCS	Beigang Elemen	1.52	340	⇑eP	Pb	23 28 31.5	-0.7
	baz=356						
WCS				eS	Sb	23 28 50.8	-0.3
	baz=356						
WHF	Hehuan Shan	1.53	352	eP	Pn	23 28 30.4	-0.8
	baz=356						
WHF				eS	Sn	23 28 51.0	+0.3
	baz=356						
ETL	Fush Village	1.53	5	eP	Pn	23 28 29.9	-1.0
	baz=17						
ETL				eS	Sn	23 28 49.8	-0.5
	baz=17						
WSF	Szhu	1.54	311	eP	Pb	23 28 31.8	-0.7
	baz=315						
NACB	Ninganchiao	1.54	4	⇑eP	Pn	23 28 29.9	-1.2
	baz=353						
NACB				eS	Sn	23 28 49.8	-0.7
	baz=353						
NACB	Ninganchiao	1.54	4	Pn	Pn	23 28 30.0	-1.0
ETLH	Xiulin Townshi	1.57	360	eP	Pn	23 28 30.4	-1.2
	baz=2.0						
ETLH				eS	Sn	23 28 50.4	-1.0
	baz=2.0						
WWF	Wufeng	1.59	333	eP	Pb	23 28 33.6	+0.3
	baz=337						
WWF				eS	Sb	23 28 54.9	+1.9
	baz=337						
WRL	Guolierlin Hig	1.63	321	eP	Pn	23 28 32.9	+0.7
	baz=325						
FUSS	Fushou	1.63	352	eP	Pn	23 28 32.3	-0.2
	baz=6.0						
FUSS				eS	Sn	23 28 52.7	-0.3
	baz=6.0						
TWT	Tachien	1.65	350	eP	Pn	23 28 32.6	0.0
	baz=4.0						
TDCB	Techi	1.65	350	⇑eP	Pb	23 28 35.9	+1.4
	baz=4.0						
WCHH	Zhanghua	1.68	330	eP	Pb	23 28 34.4	-0.4
	baz=334						
WCHH				eS	Sb	23 28 56.1	+0.4
	baz=334						
TCU	Taichung	1.69	334	eP	Pb	23 28 35.1	+0.1
	baz=338						
WHP	Taichung City	1.72	343	eP	Pb	23 28 34.7	-0.9
	baz=357						
WHP				eS	Sb	23 28 58.3	+1.5
	baz=357						
ENA	Nanau	1.81	7	eP	Pn	23 28 34.2	-0.5
	baz=18						
NNS	Nan Shan	1.81	357	eP	Pn	23 28 34.9	+0.1
	baz=12						
EWUT	Wuta	1.83	8	eP	Pn	23 28 34.1	-0.9
	baz=19						
EWUT				eS	Sn	23 28 55.3	-2.3
	baz=19						
TWQ1	Liyutan	1.84	339	eP	Pb	23 28 37.1	-0.5
	baz=344						
TWQ1				eS	Sb	23 29 01.6	+1.5
	baz=344						
WDJ	Dajia District	1.88	336	eP	Pb	23 28 37.5	-0.8
	baz=340						
NSY	Sanyi	1.90	340	eP	Pb	23 28 38.3	-0.4
	baz=344						
NSY				eS	Sb	23 29 03.5	+1.4
	baz=344						
NDT	Datong Townshi	1.97	1	eP	Pn	23 28 37.8	+0.9
	baz=3.0						
PHUB	P'eng-hu	1.97	297	⇓eP	Pn	23 28 36.5	-0.4
	baz=300						
PHUB				eS	Sn	23 28 59.5	-1.6
	baz=300						
VCHM	Qimei	1.98	287	eP	Pn	23 28 36.4	-0.7
	baz=290						
VCHM				eS	Sn	23 29 00.3	-1.0
	baz=290						
TWC	Suao	2.00	10	eP	Pn	23 28 37.6	+0.2
	baz=21						
TWC				eS	Sn	23 29 01.4	-0.4
	baz=21						
NMLH	Miaoli	2.01	342	eP	Pb	23 28 39.0	-1.5
	baz=345						
PNG	Penghu	2.01	298	eP	Pn	23 28 37.2	-0.2
	baz=301						
PNG				eS	Sn	23 29 00.9	-1.1
	baz=301						
NDS	Dongshan	2.01	6	eP	Pn	23 28 37.7	+0.3
	baz=356						
YHNB	Yeheng	2.04	357	eP	Pn	23 28 38.9	+0.9
	baz=360						
YHNB				eS	Sn	23 29 03.4	+0.5
	baz=360						
YHNB	Yeheng	2.04	357	Pn	Pn	23 28 38.6	+0.7
NSK	Sanguang	2.04	357	eP	Pn	23 28 38.3	+0.3
	baz=359						
NSK				eS	Sn	23 29 03.7	+0.7
	baz=359						
NSTT	Nanjuang	2.05	348	eP	Pn	23 28 39.5	+1.5
	baz=2.0						
LIOB	Emei	2.06	348	⇑eP	Pb	23 28 39.7	-1.6
	baz=2.0						
LIOB				eS	Sb	23 29 06.0	-0.5
	baz=2.0						
TWE	Neicheng	2.09	5	eP	Pn	23 28 38.7	+0.1
	baz=7.0						
TWE				eS	Sn	23 29 04.8	+0.7
	baz=7.0						
NTC	Toucheng	2.24	8	eP	Pn	23 28 42.4	+1.7
	baz=359						
NTC				eS	Sn	23 29 08.5	+0.8
	baz=359						
EGS		2.25	10	eP	Pn	23 28 41.8	+1.0
	baz=24						
EGS				eS	Sn	23 29 09.2	+1.4
	baz=24						
JYNG	Yonagunijimaku	2.26	36	P	Pn	23 28 41.8	+0.9
JYNG				eS	Sn	23 29 08.6	+0.5
YOJ	Yonaguni jima	2.30	37	P	Pn	23 28 42.2	+0.7
YOJ				eS	Sn	23 29 10.1	+0.9
YOJ	Yonaguni jima	2.30	37	eP	Pn	23 28 42.2	+0.7
	baz=49						
YOJ				eS	Sn	23 29 09.8	+0.5
	baz=49						
YOJ	Yonaguni jima	2.30	37	Pn	Pn	23 28 41.5	+0.1
NHDH	Xindian Distri	2.33	1	eP	Pn	23 28 43.2	+1.4
	baz=11						
TATO	Taipei	2.34	0	eP	Pn	23 28 43.1	+1.1
	baz=12						
TATO	Taipei	2.34	0	Pn	Pn	23 28 43.0	+1.1
TWA	Mucha	2.35	2	eP	Pn	23 28 42.1	0.0
	baz=13						
TIPB	Shuangxi	2.36	8	eP	Pn	23 28 43.3	+1.1
	baz=359						
TIPB				eS	Sn	23 29 12.2	+1.6
	baz=359						
TWB1	Santiao Chiao	2.42	11	eP	Pn	23 28 44.3	+1.3
	baz=12						
NWF	Wu-fen Shan	2.45	6	eP	Pn	23 28 44.7	+1.1
	baz=359						
NWF				eS	Sn	23 29 15.2	+2.2
	baz=359						
WFSB	Wu-fen Shan	2.45	6	eP	Pn	23 28 44.7	+1.2
	baz=8.0						
YM01	YM01	2.51	2	eP	Pn	23 28 45.4	+1.0
	baz=4.0						
YM08	YM08	2.55	2	eP	Pn	23 28 44.1	-0.9
	baz=4.0						
HATJ	Hateruma jima	2.56	56	P	Pn	23 28 45.6	+0.5
HATJ				S	Sn	23 29 15.3	-0.4
IRIF	Iriomote-Funau	2.67	50	P	Pn	23 28 47.4	+0.8
IRIF				eS	Sn	23 29 19.4	+1.0
JKRS	Kuro-shima	2.82	55	P	Pn	23 28 49.6	+1.0
JKRS				eS	Sn	23 29 22.7	+0.7
JIJ	Ishigaki jima	2.99	54	P	Pn	23 28 51.5	+0.6
JIJ				eS	Sn	23 29 26.4	+0.2
VWUC	VWUC	3.00	322	eP	Pn	23 28 51.4	+0.2
	baz=326						
VWUC				eS	Sn	23 29 25.0	-1.6
	baz=326						
PCYT	Pengchaiyu	3.04	10	eP	Pn	23 28 52.6	+1.0
	baz=2.0						
PTMZ	Houxiangcun	3.24	318	eP	Pn	23 28 54.6	+0.3
	baz=322						
PTMZ				eS	Sn	23 29 30.5	-1.7
	baz=322						
JISG	Ishigakijimahi	3.25	52	P	Pn	23 28 53.8	-0.6
JISG				S	Sn	23 29 32.1	-0.4
KNM	Kinmen	3.32	303	⇓eP	Pn	23 28 57.0	+1.6
	baz=303						
KNM				eS	Sn	23 29 35.0	+0.7
	baz=303						
KNMB	Chin-men Tao	3.38	303	eP	Pn	23 28 56.3	0.0
	baz=305						
KNMB				eS	Sn	23 29 33.5	-2.3
	baz=305						
KNMB	Chin-men Tao	3.38	303	Pn	Pn	23 28 56.2	0.0
JTJ	Tarama	3.57	55	P	Pn	23 29 00.0	+1.1
JTJ				S	Sn	23 29 40.6	+0.2
ZPLA	Ao Xicun	3.67	291	⇓eP	Pn	23 29 00.3	0.0
	baz=292						
ZPLA				eS	Sn	23 29 41.2	-1.9
	baz=292						
MATB	Ma-tsu	3.78	339	eP	Pn	23 29 01.7	-0.1
	baz=343						
MATB				eS	Sn	23 29 43.0	-2.8
	baz=343						
AXDP	Jialang	3.94	306	eP	Pn	23 29 04.6	+0.6
	baz=308						
AXDP				eS	Sn	23 29 47.8	-1.8
	baz=308						
JIRB	Irabujima	4.03	56	P	Pn	23 29 05.9	+0.7
JIRB				eS	Sn	23 29 51.1	-0.7
JMJ2	Miyako jima3	4.10	58	P	Pn	23 29 07.5	+1.3
JMJ2				S	Sn	23 29 53.3	-0.4
JMJ	Miyako jima 2	4.12	57	eP	Pn	23 29 07.2	+0.9
	baz=58						
JMJ				eS	Sn	23 29 52.2	-1.7
	baz=58						
MHZQ	Yeshan	4.12	328	eP	Pn	23 29 06.5	+0.1
	baz=330						
MHZQ				eS	Sn	23 29 51.6	-2.5
	baz=330						
JIKM	Ikemajima	4.14	56	P	Pn	23 29 08.0	+1.3
JIKM				eS	Sn	23 29 54.9	+0.4
JOGS	Gusukube	4.17	59	P	Pn	23 29 07.9	+0.7
JOGS				eS	Sn	23 29 57.4	+1.9
LYJJ	Jianjiangzhen	4.21	338	eP	Pn	23 29 07.5	-0.2
	baz=343						
LYJJ				eS	Sn	23 29 54.3	-2.0
	baz=343						
XPSS	Dashiqiu	4.45	345	eP	Pn	23 29 10.8	-0.1
	baz=350						
XPSS				eS	Sn	23 30 00.3	-1.8
	baz=350						
JOW	Kunigami	7.46	54	Pn	Pn	23 29 51.3	-1.1
KSRS	Korea Array	15.79	19	Pn	Pn	23 31 45.0	-0.8
	0.1nm,0.3s,baz=197,slow=12,SNR=2.6						
MJAR	Matsushiro Arr	20.05	43	P	P	23 32 36.1	-0.5
	1.0nm,0.5s,baz=226,slow=10,SNR=2.1						
CMAR	Chiang Mai Arr	21.51	263	P	P	23 32 52.6	+0.1
	1.5nm,0.3s,baz=72,slow=8.7,SNR=5.7						
USA0B	Ussuriysk Arra	23.20	19	P	P	23 33 06.1	-4.0
USA0B				IAmb	IAmb	23 33 07.2	
	comp=Z,3.8nm,0.7s						
USRK	Ussuriysk Ar.	23.20	19	P	P	23 33 06.3	-3.8
KAPI	Kappang	27.52	184	LR	LR	23 44 59.0	
	comp=Z,64nm,18.1s,baz=20,slow=37						
KLR	Kul'dur	27.77	15	LR	LR	23 43 53.9	
	comp=Z,27nm,21.1s,baz=202,slow=34						
SONM	Songino Array	27.91	338	P	P	23 33 52.9	-0.5
	comp=Z,0.2nm,0.3s,baz=159,slow=9.0,SNR=1.4						
SONM				LR	LR	23 46 00.6	
	comp=Z,73nm,18.5s,baz=233,slow=38						
WMQ	Urumqi	34.94	315	eP	P	23 34 57.4	+2.1
MK31	Makanchi Array	39.66	317	P	P	23 35 38.2	+3.0
MK31				IAmb	IAmb	23 36 03.1	
	comp=Z,3.6nm,1.4s						
MKAR	Makanchi Array	39.66	317	P	P	23 35 36.3	+1.1
	comp=Z,0.8nm,0.7s,baz=105,slow=9.5,SNR=7.1						
MKAR	Makanchi Array	39.66	317	P	P	23 35 37.2	+2.1
ZALV	Zalesovo Beam	41.70	328	P	P	23 35 51.4	-0.6
	comp=Z,1.2nm,0.5s,baz=109,slow=8.0,SNR=4.1						
H11N1	WAKE ISLAND Hy	42.32	85	T	T	00 21 09.3	
	baz=282,slow=75,SNR=161						
H11N2	WAKE ISLAND Hy	42.32	85	T	T	00 21 09.8	
	baz=282,slow=75,SNR=299						
H11N3	WAKE ISLAND Hy	42.34	85	T	T	00 21 09.8	
	baz=282,slow=75,SNR=158						
H11S3	WAKE ISLAND Hy	42.40	87	T	T	00 21 13.1	
	baz=284,slow=75,SNR=497						
H11S1	WAKE ISLAND Hy	42.41	87	T	T	00 21 17.2	
	baz=284,slow=75,SNR=388						
H11S2	WAKE ISLAND Hy	42.42	87	T	T	00 21 14.2	
	baz=284,slow=75,SNR=336						
KKAR	Karatay Array	46.64	309	P	P	23 36 33.3	+1.6
ABKAR	Akbulak array	54.73	315	P	P	23 37 33.3	+0.7
AKTO	Aktyubinsk	56.08	316	LR	LR	00 02 11.7	
	comp=Z,53nm,19.5s,baz=108,slow=36						
FINES	FINESS Array B	72.93	330	P	P	23 39 32.0	-0.3
	comp=Z,3.2nm,1.1s,baz=46,slow=8.2,SNR=6.3						
NOA	NORSAR Array B	79.73	332	P	P	23 40 09.6	-1.3
	comp=Z,0.6nm,0.7s,baz=57,slow=5.7,SNR=2.0						
NOA				LR	LR	00 19 46.7	
	comp=Z,17nm,18.4s,baz=100,slow=39						
GERES	GERESS Array B	84.22	321	P	P	23 40 34.0	-0.9
	comp=Z,0.1nm,0.3s,baz=46,slow=7.0,SNR=2.1						

TUL ***01*** *23:41:15.8±1.3, 36°.68N±0°.02×98°.22W±0°.01, h5km±5km, ML2.5, mb_Lg2.5/25(NEIC), Error ellipse: s-maj=2.8km s-min=0.6km az=149.0*

NEIC 01 23:41:16.2±1.1, 36°.68N±0°.02×98°.22W±0°.02, h9km±4km, Error ellipse: s-maj=2.3km s-min=1.9km az=203.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	Salt Plains WL	0.13	3	Pg	Pg	23 41 18.9	-0.2
OK032				Sg	Sg	23 41 21.1	0.0
CROK	Carrier	0.26	132	Pg	Pg	23 41 21.1	-0.2
CROK				Sg	Sg	23 41 24.9	+0.1
GC02	Grant County #	0.34	59	Pg	Pg	23 41 22.7	-0.1
GC02				Sg	Sg	23 41 27.7	+0.4
KAN14	Manchester OK	0.34	36	Pg	Pg	23 41 22.9	-0.1
KAN14				Sg	Sg	23 41 28.0	+0.4
KAN10	Anthony SW Sta	0.46	12	Pg	Pg	23 41 24.8	-0.2
KAN10				Sg	Sg	23 41 31.4	+0.4
KAN05	Bluff City Nor	0.51	33	Pg	Pg	23 41 25.0	-1.1
KAN05				Sg	Sg	23 41 33.1	+0.3
KAN17	Caldwell West	0.52	45	Pg	Pg	23 41 25.9	-0.3
KAN17				Sg	Sg	23 41 33.1	+0.1
KAN08	Anthony NE Sta	0.58	20	Pg	Pg	23 41 27.1	-0.4
KAN12	Harper NE Stat	0.64	16	Pg	Pg	23 41 28.1	-0.5
KAN13	South Haven SW	0.68	60	Pg	Pg	23 41 29.1	-0.2
KAN13				Sg	Sg	23 41 38.4	+0.2
U32A	Winter Ranch,	0.70	245	Pg	Pg	23 41 29.1	-0.6
U32A				Sg	Sg	23 41 38.8	+0.1
BLOK	Blackwell	0.81	84		Pg	23 41 31.2	-0.6
BLOK				Sg	Sg	23 41 41.9	-0.4
OK025	Westminster Rd	1.31	147		Pn	23 41 39.9	-0.8
OK025					Sn	23 42 01.2	+2.9
QUOK	Quay	1.32	112		Pn	23 41 40.4	-0.4
OK031	S. Brethren Rd	1.33	123		Pn	23 41 40.5	-0.4
T35A	Sooner Cattle	1.39	80		Pn	23 41 41.7	-0.1
FNO	Franklin	1.56	155	Pn	Pn	23 41 44.0	-0.2
WMOK	Wichita Mounta	1.99	193	Pn	Pn	23 41 50.3	+0.2
X34A	Smith Ranch, M	2.10	171	Pn	Pn	23 41 52.8	+1.3
X34A				IAmb_Lg		23 42 25.8	
	comp=Z,22nm,0.7s						
CBKS	Cedar Bluff	2.45	331	IAmb_Lg		23 42 32.8	
	comp=Z,11nm,0.7s						
KSU1	Kansas State U	2.73	27	Pn	Pn	23 41 59.0	-1.2
U38A	Gravette	3.09	93	Pn	Pn	23 42 05.2	0.0
AMTX	Amarillo	3.34	239	Pn	Pn	23 42 06.6	-2.1
HHAR	Hobbs	3.47	95	Pn	Pn	23 42 09.8	-0.6
W39A	Magazine	3.89	111	Pn	Pn	23 42 17.1	+0.9
W39A				IAmb_Lg		23 43 19.9	
	comp=Z,15nm,1.2s						
S39A	Bolivar	4.04	74	Pn	Pn	23 42 18.6	+0.4
S39A				IAmb_Lg		23 43 25.1	
	comp=Z,7.6nm,0.7s						
U40A	Yellville	4.33	93	Pn	Pn	23 42 23.2	+1.0
U40A				IAmb_Lg		23 43 33.2	
	comp=Z,8.0nm,0.7s						
WHTX	Lake Whitney,	4.72	172	Pn	Pn	23 42 28.0	+0.5
P38A	Dawn	4.72	50	IAmb_Lg		23 43 49.0	
	comp=Z,7.2nm,0.9s						
MGMO	Mountain Grove	4.79	83	Pn	Pn	23 42 28.7	+0.2
MGMO				IAmb_Lg		23 43 51.8	
	comp=Z,8.5nm,0.8s						
R40A	Maddies Statio	5.00	69	Pn	Pn	23 42 32.8	+1.4
R40A				IAmb_Lg		23 43 58.0	
	comp=Z,7.9nm,0.7s						
WLAR	White Oak Lake	5.14	124	IAmb_Lg		23 43 57.2	
	comp=Z,7.8nm,0.8s						
P40A	Paris	5.64	58	IAmb_Lg		23 44 17.0	
	comp=Z,11nm,0.8s						
N38A	Joes South For	5.66	42	IAmb_Lg		23 44 27.9	
	comp=Z,10nm,0.7s						
CCM	Cathedral Cave	5.72	74	IAmb_Lg		23 44 18.1	
	comp=Z,7.2nm,0.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
S44A	Carbondale	7.23	79	IAmb_Lg		23 45 07.9	
	comp=Z,7.1nm,0.8s						

*NNC **01** 23:47:12.8±5.3, 37°.51N×69°.22E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=46.2km s-min=34.2km az=138.0*
*KRNET **01** 23:47:27.2±0.1, 38°.73N×70°.58E, h10km, mb3.4*
ISC 01 23:47:30.1±1.6**, 38°.83N**±0°.08×**70°.35E**±0°.06**, h13**km±7km**, n18,** σ2s42/27**, 11C-10D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GAR	Garm	0.17	352	⇓iP	Pg	23 47 34.0	-0.2
	baz=24						
GAR				⇓iS	Sg	23 47 38.8	+1.7
	baz=24						
CHGR	Chuyangaron	0.94	260	⇑eP	Pb	23 47 48.3	-0.1
	baz=67						
CHGR				⇑iS	Sn	23 48 03.7	+1.1
	baz=67						
BTK	Batken	1.28	16	⇓iP	Pn	23 47 52.5	-1.3
	baz=8.0						
BTK				⇓iS	Sb	23 48 11.0	+0.4
	baz=8.0						
DRK	Karamyk	1.30	60	⇑iP	Pn	23 47 50.1	-4.2
	baz=51						
DRK				⇑iS	Sb	23 48 07.2	-4.3
	baz=51						
TRKS	Terek-Say	2.77	12	⇑eP	Pn	23 48 14.9	+0.6
	baz=9.0						
TRKS				⇑iS	Sn	23 48 49.5	+1.8
	baz=9.0						
MNAS	Manas	4.01	23	⇓iP	Pn	23 48 32.3	+1.0
	baz=21						
MNAS				⇓iS	Sn	23 49 20.1	+1.9
	baz=21						
AML	Almayashu	4.17	37	⇓eP	Pn	23 48 34.3	+0.5
	baz=34						
AML				⇓iS	Sn	23 49 22.7	0.0
	baz=34						
AML	Almayashu	4.17	37	P	Pn	23 48 36.5	+2.7
	SNR=6.9						
KK31	Karatay Array	4.27	2	⇑P	Pn	23 48 37.5	+2.6
	2.2nm,0.3s,baz=184,slow=13,SNR=159						
KK31				⇑S	Sg	23 49 45.7	-1.5
	24nm,0.8s,baz=178,slow=29,SNR=14						
EKS2	Erkin-Say	4.63	33	⇑eP	Pn	23 48 40.4	+0.5
	baz=31						
EKS2				⇑iS	Sn	23 49 33.8	+0.2
	baz=31						
EKS2	Erkin-Say	4.63	33	P	Pn	23 48 43.0	+3.1
	SNR=9.3						
AAK	Ala-Archa	4.94	38	P	Pn	23 48 47.3	+3.1
	SNR=7.7						
KZA	Kyzart	4.95	47	P	Pn	23 48 48.0	+3.4
	SNR=7.5						
KBK	Karagaybulak	5.18	41	P	Pn	23 48 51.2	+3.7
	SNR=25						
CHMS	Chumysh	5.34	37	P	Pn	23 48 52.5	+3.0
	SNR=6.4						
TKM2	Tokmak 2	5.71	43	P	Pn	23 48 57.6	+2.9
	SNR=15						
AB31	Akbulak array	12.82	328	P	Pn	23 50 27.8	-4.2
	0.8nm,0.6s,baz=261,slow=36,SNR=15						
AB31				⇓S	Sn	23 52 55.9	+1.5
	0.2nm,0.4s						
AKTO	Aktyubinsk	14.53	327	⇓P	Pn	23 50 49.2	-6.1
	1.4nm,0.7s						
AKTO				⇑S	Sn	23 53 38.2	+2.1
	1.2nm,0.8s						

*NNC **01** 23:50:52.4±6.3, 37°.17N×69°.50E, h56km±234km, mb3.7, mpv3.6, Error ellipse: s-maj=102.8km s-min=44.0km az=98.0*
ISC 01 23:50:52.5±3.5**, 37°.2N**±0°.2×**69°.5E**±0°.1**, h37**km**, n11,** σ**1s14**/14**, 3C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.92	32	P	Pn	23 52 16.5	-1.4
	SNR=14						
KK31	Karatay Array	5.96	7	⇓P	Pn	23 52 17.7	-0.5
	1.7nm,0.2s,baz=177,slow=12,SNR=117						
KK31				⇑S	Sn	23 53 26.2	+1.0
	23nm,0.8s,baz=180,slow=28,SNR=14						
EKS2	Erkin-Say	6.39	30	P	Pn	23 52 23.3	-0.9
	SNR=5.7						
KZA	Kyzart	6.62	41	P	Pn	23 52 28.1	+0.6
	SNR=6.9						
AAK	Ala-Archa	6.68	34	P	Pn	23 52 27.9	-0.2
	SNR=6.6						
KBK	Karagaybulak	6.90	36	P	Pn	23 52 31.7	+0.5
	SNR=21						
CHMS	Chumysh	7.08	33	P	Pn	23 52 32.3	-1.2
	SNR=5.1						
USP	Ospenovka	7.19	31	P	Pn	23 52 33.0	-2.1
	SNR=15						
TKM2	Tokmak 2	7.41	37	P	Pn	23 52 38.1	-0.2
	SNR=11						
AB31	Akbulak array	13.90	333	⇓P	Pn	23 54 08.3	+1.5
	0.7nm,0.5s,baz=164,slow=10,SNR=12						
AB31				⇑S	Sn	23 56 39.5	-0.2
	0.9nm,0.8s						
AKTO	Aktyubinsk	15.58	332	⇑P	Pn	23 54 28.4	-0.9
	2.4nm,1.2s						
AKTO				⇓S	Sn	23 57 19.7	-0.9
	1.4nm,0.8s						

MEX 02 00:08:57.4±0.5**, 14°.43N**×**92°.25W, h64**km±34km**, MD3.7, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCIG		1.57	324	eP	Pn	00 09 22.2	-1.0
PCIG				eS	Sn	00 09 40.5	-2.1

IDC 02 00:21:15.8±2.1**, 8°.54S**×**128°.11E, h0**km**, mb3.3**/1**, mb1 4.0**/4**, mb1mx3.6**/36**, mbtmp3.8**/4**, ML3.9**/3**, Error ellipse: s-maj=39.7km s-min=26.7km az=55.0, Timor Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	Baumata	4.69	249	Pn	Pn	00 22 28.1	+0.2
	5.9nm,0.3s,baz=11,slow=19,SNR=2.1						
BATI				Sn	Sn	00 23 22.3	-0.8
	8.6nm,0.3s,baz=66,slow=18,SNR=5.7						
WRA	Warramunga Arr	12.85	153	Pn	Pn	00 24 20.2	+0.4
	0.7nm,0.3s,baz=325,slow=14,SNR=39						
WRA				Sn	Sn	00 26 44.4	+0.7
	1.0nm,0.3s,baz=337,slow=23,SNR=9.4						
ASAR	Alice Springs	16.04	160	Pn	Pn	00 25 03.2	+0.3
	0.4nm,0.3s,baz=341,slow=11,SNR=28						
ASAR				Sn	Sn	00 28 01.7	+0.1
	0.2nm,0.3s,baz=350,slow=26,SNR=2.6						
MKAR	Makanchi Array	68.50	328	P	P	00 32 20.1	+0.1
	0.2nm,0.5s,baz=132,slow=6.4,SNR=2.1						

*TUL **02** 00:21:25.7±1.2, 35°.95N±0°.01×96°.78W±0°.02, h4km±3km, ML2.6, mb_Lg2.3/17(NEIC), Error ellipse: s-maj=2.5km s-min=1.3km az=135.0*
NEIC 02 00:21:26.0±1.1**, 35°.96N**±0°.01×**96°.79W**±0°.03**, h5**km±1km**, Error ellipse: s-maj=3.1km s-min=1.7km az=112.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OK031	S. Brethren Rd	0.04	258	Pg	Pg	00 21 27.2	0.0
OK031				Sg	Sg	00 21 28.2	+0.2
QUOK	Quay	0.22	18	Pg	Pg	00 21 30.6	+0.2
QUOK				Sg	Sg	00 21 33.9	+0.6
OK029	Liberty Lake	0.56	253	Pg	Pg	00 21 36.6	-0.2
OK029				Sg	Sg	00 21 44.8	+0.6
OK025	Westminster Rd	0.58	230	Pg	Pg	00 21 37.1	-0.2
OK025				Sg	Sg	00 21 45.4	+0.6
OKCSW	OKLAHOMA CITY	0.76	224	Pg	Pg	00 21 40.1	-0.6
OKCFA	Oklahoma City	0.76	225	Pg	Pg	00 21 39.9	-0.8
FNO	Franklin	0.86	215	Pg	Pg	00 21 41.7	-0.8
FNO				Sg	Sg	00 21 53.9	+0.2
BLOK	Blackwell	0.87	337	Pg	Pg	00 21 42.3	-0.4
BLOK				Sg	Sg	00 21 54.4	+0.4
T35A	Sooner Cattle	0.98	13		Pg	00 21 44.4	-0.5
T35A				Sg	Sg	00 21 57.7	+0.1
CROK	Carrier	1.10	300		Pg	00 21 46.8	-0.5
CROK				Sg	Sg	00 22 01.8	+0.2
KAN13	South Haven SW	1.19	332	Pg	Pg	00 21 48.3	-0.5
KAN13				Sg	Sg	00 22 04.2	0.0
GC02	Grant County #	1.24	316		Pg	00 21 49.1	-0.7
GC02				Sg	Sg	00 22 05.9	+0.1
KAN17	Caldwell West	1.33	324	Pn	Pn	00 21 51.3	-0.1
KAN14	Manchester OK	1.37	317	Pn	Pn	00 21 51.5	-0.4
OK032	Salt Plains WL	1.42	307	Pn	Pn	00 21 52.2	-0.4
KS21	Milan North St	1.50	332	IAmb_Lg		00 22 14.7	
	comp=Z,27nm,0.7s						
KAN10	Anthony SW Sta	1.56	318	Pn	Pn	00 21 54.1	-0.5
X34A	Smith Ranch, M	1.60	212	Pn	Pn	00 21 54.6	-0.4
X37A	Clayton	1.80	139	Pn	Pn	00 21 58.0	+0.3
U32A	Winter Ranch,	1.83	284	Pn	Pn	00 21 58.2	-0.1
U32A				IAmb_Lg		00 22 29.1	
	comp=Z,12nm,0.7s						
LOOK	Love County	1.99	189	Pn	Pn	00 22 00.4	0.0
LOOK				IAmb_Lg		00 22 28.9	
	comp=Z,15nm,1.1s						
U38A	Gravette	2.00	76	Pn	Pn	00 22 00.9	+0.3
WMOK	Wichita Mounta	2.03	234	Pn	Pn	00 22 01.5	+0.5
W39A	Magazine	2.57	106	Pn	Pn	00 22 08.4	+0.1
MIAR	Mount Ida	2.99	117	Pn	Pn	00 22 14.6	+0.5
KSU1	Kansas State U	3.14	3	IAmb_Lg		00 23 11.8	
	comp=Z,6.6nm,0.8s						
CBKS	Cedar Bluff	3.69	321	IAmb_Lg		00 23 24.0	
	comp=Z,9.7nm,0.8s						
WHAR	Wooly Hollow	3.73	99	Pn	Pn	00 22 23.4	-0.9
FCAR	Ozark Folk Cen	3.79	90	Pn	Pn	00 22 25.1	-0.1
AMTX	Amarillo	4.13	256	IAmb_Lg		00 23 46.2	
	comp=Z,6.8nm,0.8s						
R40A	Maddies Statio	4.30	56	Pn	Pn	00 22 33.1	+1.0
P38A	Dawn	4.48	34	Pn	Pn	00 22 34.7	+0.1
P38A				IAmb_Lg		00 23 47.7	
	comp=Z,9.0nm,0.8s						
P40A	Paris	5.18	45	IAmb_Lg		00 24 08.1	
	comp=Z,5.4nm,0.8s						
SIUC	Southern Illin	6.32	72	IAmb_Lg		00 24 44.4	
	comp=Z,6.3nm,0.8s						

*IDC **02** 00:22:32.7±0.7, 33°.63S×72°.15W, h0km, mb4.0/10, mb1 4.2/14, mb1mx4.1/29, mbtmp4.0/14, ML4.2/4, MS3.5/7, Ms1 3.5/7, ms1mx3.3/22, Error ellipse: s-maj=28.1km s-min=16.1km az=96.0*
*NEIC **02** 00:22:37.7±1.9, 33°.69S±0°.04×72°.35W±0°.05, h35km±5km, mb4.3/22, Mwr4.3/35, ML4.5(GUC), Error ellipse: s-maj=6.4km s-min=5.1km az=84.0*
*VAO **02** 00:22:37.9±0.7, 33°.70S×71°.84W, h10km, mb4.4*
*NEIC **02** 00:22:37.7, 33°.69S×72°.33W, h44km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-2.54; $M_{\theta\theta}$-0.38; $M_{\phi\phi}$2.92; $M_{r\theta}$1.50; $M_{\theta\phi}$1.07; $M_{\phi r}$-1.42; Fault plane solution: $M_0$3.60000×10^{15} NP1:ϕ_s222.79000°, δ43.08000°, λ-44.12000°. NP2:ϕ_s348.10000°, δ61.61000°, λ-123.88000°. Principal axes: T 3.4072, Plg10.0000°, Azm102.0000°; N 0.3639, Plg29.0000°, Azm6.0000°; P -3.7710, Plg59.0000°, Azm209.0000°;*
*GUC **02** 00:22:37.8±0.8, 33°.72S×72°.30W, h35km±2km, ML4.5*
ISC 02 00:22:36.3±1.4**, 33°.66S**±0°.03×**72°.39W**±0°.05**, h26**km±9km**, n122,** σ**1s27**/128**, mb4.2**/17**, MS3.3**/4**, 9C-4D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VA05	Santo Domingo	0.64	90	eP	Pb	00 22 49.9	+1.0
VA05				eS	Sb	00 22 58.5	+0.9
VA05	Santo Domingo	0.64	90		Pb	00 22 49.9	+1.0
VA05				Sn	Sb	00 22 58.7	+1.1
VA01	Torpederas	0.88	45	⇓iP	Pn	00 22 53.1	+0.1
VA01				eS	Sb	00 23 04.8	+0.5
VA01	Torpederas	0.88	45		Pn	00 22 53.0	0.0
VA01				Sn	Sb	00 23 04.6	+0.2
BO03	Pichilemu	0.91	157	⇑eP	Pn	00 22 53.5	+0.2
BO03				eS	Sb	00 23 04.7	-0.4
BO03				IAML		00 23 05.7	
	comp=E,28µm,0.3s						
MT01	Popeta	0.97	103	⇑iP	Pn	00 22 54.0	-0.2
MT01				eS	Sn	00 23 05.5	-1.6
MT01				IAML		00 23 06.3	
	comp=N,24µm,0.4s						
MT01	Popeta	0.97	103		Pn	00 22 54.0	-0.2
MT01				Sn	Sn	00 23 05.4	-1.6
MT09	Talagante	1.17	96	⇑iP	Pn	00 22 56.8	-0.3
MT09				eS	Sn	00 23 11.0	-1.3
MT09				IAML		00 23 11.7	
	comp=N,22µm,0.4s						
MT09	Talagante	1.17	96	Pn	Pn	00 22 56.8	-0.3
MT09				Sn	Sn	00 23 10.7	-1.6
BO01	Tunca	1.31	125	⇑eP	Pn	00 22 58.5	-0.3
BO01				eS	Sn	00 23 15.1	-0.4
BO01	Tunca	1.31	125		Pn	00 22 58.5	-0.3
BO01				Sn	Sn	00 23 13.3	-2.1
ROCH	El Roble	1.34	60	⇓eP	Pn	00 22 59.8	+0.3
ROCH				eS	Sn	00 23 16.1	-0.4
GO05	Huala	1.40	164	⇑eP	Pn	00 23 00.3	+0.1
GO05				eS	Sn	00 23 17.0	-0.8
GO05				IAML		00 23 17.9	
	comp=E,8µm,0.4s						
GO05	Huala	1.40	164	Pn	Pn	00 22 59.8	-0.4
MT05	Renca	1.40	80	⇑eP	Pn	00 23 01.0	+0.8
MT05				eS	Sn	00 23 18.5	+0.7
MT05				IAML		00 23 20.4	
	comp=E,10µm,0.3s						
MT05	Renca	1.40	80	Pn	Pn	00 23 00.6	+0.4
BO02	Sierra Bellavi	1.75	131	⇑iP	Pn	00 23 05.6	+0.6
BO02				eS	Sn	00 23 26.0	-0.4
BO02				IAML		00 23 27.8	
	comp=N,18µm,0.2s						
BO02	Sierra Bellavi	1.75	131	Pn	Pn	00 23 05.6	+0.6
VA03	San Esteban	1.78	60	⇓eP	Pn	00 23 06.2	+0.8
VA03				eS	Sn	00 23 27.6	+0.3
VA03	San Esteban	1.78	60		Pn	00 23 06.0	+0.6
LMEL	Las Melosas	1.83	97	⇑eP	Pn	00 23 06.8	+0.6
LMEL				eS	Sn	00 23 28.4	-0.1
LMEL				IAML		00 23 30.9	
	comp=N,8µm,0.3s						
ML02	Panimavida	2.25	159	⇑eP	Pn	00 23 12.4	+0.6
ML02				eS	Sn	00 23 37.4	-1.2
ML02				IAML		00 23 53.3	
	comp=E,5µm,0.5s						
ML02	Panimavida	2.25	159	Pn	Pn	00 23 12.4	+0.6
CO02	Combarbal	2.71	26	⇓iP	Pn	00 23 18.9	+0.6
CO02				i S	Sn	00 23 50.2	-0.1
CO02				IAML		00 23 53.3	
	comp=E,5µm,0.2s						
CO02	Combarbal	2.71	26		Pn	00 23 19.1	+0.8
CO06	Fray Jorge	3.04	12	Pn	Pn	00 23 22.5	-0.2
CO03	El Pedregal	3.16	28		Pn	00 23 25.1	+0.7
GO04	Tololo Observa	3.73	22	Pn	Pn	00 23 32.7	+0.3
ZON	Zonda	3.77	57	Pn	Pn	00 23 35.0	+2.2
CO05	La Serena	3.85	15		Pn	00 23 34.0	+0.2
LCO	Las Campanas	4.85	18	Pn	Pn	00 23 47.7	-0.1
LC01	Cunco	5.25	176		Pn	00 23 52.7	-0.3
VA04	Juan Fernndez	5.37	268	Pn	Pn	00 23 55.8	+1.1
H03S1	Juan Fernandez	5.43	266	T	T	00 30 06.5	
	baz=86,slow=75,SNR=70						
H03S3	Juan Fernandez	5.44	266	T	T	00 30 26.5	
	baz=86,slow=75,SNR=272						
H03S2	Juan Fernandez	5.45	266	T	T	00 30 25.8	
	baz=86,slow=75,SNR=169						
H03N1	Juan Fernandez	5.45	270	T	T	00 28 35.6	
	baz=88,slow=74,SNR=8.8						
H03N3	Juan Fernandez	5.46	270	T	T	00 28 35.7	
	baz=88,slow=74,SNR=9.1						
H03N2	Juan Fernandez	5.47	270	T	T	00 28 37.3	
	baz=88,slow=74,SNR=11						
AC04	Llanos de Chal	5.55	12	Pn	Pn	00 23 56.4	-0.8
GO03	Copiap	6.32	18	Pn	Pn	00 24 06.9	-1.0
PLCA	Paso Flores	7.21	169	Pn	Pn	00 24 21.3	+1.2
	comp=E,5.2nm,0.3s,baz=334,slow=12,SNR=134						
PLCA				Sn	Sn	00 25 40.7	-0.4
	comp=E,1.1nm,0.3s,baz=11,slow=13,SNR=3.2						
PLCA	Paso Flores	7.21	169	eP	Pn	00 24 21.3	+1.2
LL04	Puerto Octay	7.24	180	Pn	Pn	00 24 20.5	+0.2
AC02	Maricunga	7.36	23	Pn	Pn	00 24 21.8	-0.7
LL05	Los Muermos	7.78	186	Pn	Pn	00 24 27.2	-0.6
LL01	San Ignacio de	8.71	180	Pn	Pn	00 24 38.9	-1.6
TRQA	Tornquist	9.52	120		Pn	00 24 52.0	+0.4
PB15	IPOC Station P	10.72	15	Pn	Pn	00 25 05.5	-2.8
LVC	Limon Verde	11.42	16	Pn	Pn	00 25 15.6	-2.5
	comp=E,0.3nm,0.3s,baz=174,slow=10,SNR=1.5						
LVC				Sn	Sn	00 27 18.5	-6.5
	comp=E,0.2nm,0.3s,baz=202,slow=19,SNR=1.5						
LVC				LR	LR	00 29 52.1	
	comp=E,247nm,20.6s,baz=202,slow=39						
ITQB	Itaqui	14.00	78	Pn	Pn	00 25 50.2	-2.7
ITQB	Itaqui	14.00	78	eP	Pn	00 25 49.4	-3.5
PSGCX	Pisagua	14.15	9	Pn	Pn	00 25 53.7	-1.4
CPUP	Villa Florida	14.94	65	Pn	Pn	00 26 00.9	-4.8
	comp=E,0.3nm,0.3s,baz=262,slow=8.0,SNR=3.3						
CPUP				Sn	Sn	00 28 50.3	-0.1
	comp=E,0.1nm,0.3s,baz=270,slow=20,SNR=2.3						
CPUP				LR	LR	00 32 26.9	
	comp=E,197nm,20.4s,baz=235,slow=40						
CPUP	Villa Florida	14.94	65		Pn	00 26 00.3	-5.4
AP01	Chacalluta	15.33	7	Pn	Pn	00 26 09.4	-1.5
PLTB	Pedras Altas	15.93	88	Pn	Pn	00 26 15.1	-3.5
PLTB				IAmb	IAmb	00 26 17.6	
	comp=Z,18nm,1.0s						
PLTB	Pedras Altas	15.93	88	eP	Pn	00 26 16.1	-2.4
CPSB	Cacapava Do Su	16.39	84	eP	Pn	00 26 21.8	-2.8
LPAZ	La Paz	17.72	14	P	Pn	00 26 42.5	+0.7
	comp=Z,0.1nm,0.3s,baz=189,slow=4.0,SNR=11						
LPAZ				LR	LR	00 35 01.3	
	comp=Z,67nm,20.1s,baz=192,slow=42						
LPAZ	La Paz	17.72	14	P	P	00 26 43.7	+1.2
LPAZ	La Paz	17.72	14	eP	P	00 26 43.8	+1.2
ITAB	Concordia	18.59	75	P	P	00 26 52.0	+0.5
ITAB				IAmb	IAmb	00 26 53.2	
	comp=Z,46nm,1.2s						
AQDB	Aquidauana	19.79	53	eP	P	00 27 04.9	+0.3
PTGB	Pitanga	19.83	69	eP	P	00 27 05.2	0.0
SIV	San Ignacio	20.34	33	P	P	00 27 10.4	-0.3
	comp=Z,1.4nm,0.5s,baz=234,slow=11,SNR=12						
SIV				LR	LR	00 36 20.6	
	comp=Z,166nm,18.6s,baz=132,slow=41						
TER01	Tubaro-SC	20.55	82	eP	P	00 27 12.1	-0.8
EFI	East Falkland	20.79	154	P	P	00 27 15.2	-0.1
PTLB	Pontes e Lacer	21.73	37	eP	P	00 27 25.8	+0.2
NNA	Nana	21.95	348	LR	LR	00 33 56.7	
	comp=Z,83nm,20.4s,baz=173,slow=31						
PCMB	Pacaembu	22.18	63	eP	P	00 27 29.6	-0.9
FRTB	Fartura	22.49	69	eP	P	00 27 33.7	-0.1
SALV	Santo Antonio	23.23	44	eP	P	00 27 41.8	+0.4
VILB	Vilhena	23.41	31	eP	P	00 27 44.3	+1.0
PET01	Itanhaem-SP	23.82	74	eP	P	00 27 47.5	+0.3
ITRB	Iturama	24.02	60	eP	P	00 27 49.5	+0.3
SPB	Sao Paulo	24.04	72	eP	P	00 27 50.1	+0.9
SAML	Samuel	26.01	21	eP	P	00 28 10.6	+3.4
ATAH	Atahualpa	26.97	347	LR	LR	00 36 40.9	
	comp=Z,64nm,18.1s,baz=210,slow=31						
CLDB	Colider	27.30	38	eP	P	00 28 22.0	+3.1
BDFB	Brasilia	28.38	57	P	P	00 28 27.1	-1.6
	comp=Z,3.4nm,0.7s,baz=249,slow=10,SNR=4.5						
BDFB				LR	LR	00 41 20.2	
	comp=Z,226nm,19.4s,baz=103,slow=40						
BDFB	Brasilia	28.38	57	P	P	00 28 27.6	-1.1
BDFB				IAmb	IAmb	00 28 32.5	
	comp=Z,3.8nm,0.8s						
VNA3	Neumayer Olymp	49.78	158	P	P	00 31 27.0	+0.7
VNA3	Neumayer Olymp	49.78	158	pP	pP	00 31 35.9	+2.2
VNA2	Neumayer--Watz	50.44	157	P	P	00 31 31.2	+0.1
	baz=291,slow=8.7						
VNA2	Neumayer--Watz	50.44	157	pP	pP	00 31 40.9	+2.1
SNAA	Sanae	52.01	158	P	P	00 31 43.2	+0.1
SNAA	Sanae	52.01	158	pP	pP	00 31 53.3	+2.7
SNAA	Sanae	52.01	158	P	P	00 31 43.3	+0.3
SNAA				IAmb	IAmb	00 31 53.9	
	comp=Z,5.4nm,1.0s						
QSPA	South Pole Qui	56.58	180	P	P	00 32 17.3	+0.8
	comp=Z,11nm,0.9s,baz=151,slow=1.6,SNR=51						
QSPA	South Pole Qui	56.58	180	P	P	00 32 17.3	+0.8
VNDA	Vanda	64.38	191	P	P	00 33 10.9	+1.5
	comp=Z,0.5nm,0.9s,baz=110,slow=5.8,SNR=3.7						
VNDA	Vanda	64.38	191	P	P	00 33 08.4	-0.9
TX31	Lajitas Ar. Si	69.30	331	P	P	00 33 42.3	+1.0
TX31				IAmb	IAmb	00 34 01.6	
	comp=Z,4.2nm,0.8s						
TX32	Lajitas Array	69.30	331	P	P	00 33 42.1	+0.8
TX32				IAmb	IAmb	00 34 01.6	
	comp=Z,1.5nm,0.8s						
TXAR	Lajitas Array	69.30	331	P	P	00 33 42.4	+1.1
	comp=Z,0.6nm,0.5s,baz=150,slow=7.3,SNR=9.6						
V48A	Smith Brothers	70.35	348	P	P	00 33 47.8	+0.3
WVT	Waverly	70.91	347	P	P	00 33 51.2	+0.3
LCAR	Lake Charles	71.55	344	P	P	00 33 55.0	+0.3
LCAR				IAmb	IAmb	00 34 10.4	
	comp=Z,4.7nm,0.8s						
FCAR	Ozark Folk Cen	71.61	343	P	P	00 33 55.2	0.0
FCAR				IAmb	IAmb	00 34 10.7	
	comp=Z,2.3nm,0.7s						
MNTX	Cornudas Mount	72.07	331	P	P	00 33 58.2	+0.2
MNTX				IAmb	IAmb	00 33 58.6	
	comp=Z,1.9nm,0.8s						
MAW	Mawson	73.59	164	P	P	00 34 07.1	+0.5
	comp=Z,1.6nm,0.4s,baz=219,slow=4.5,SNR=5.2						
MAW	Mawson	73.59	164	P	P	00 34 06.9	+0.3
SDCO	Great Sand Dun	77.44	334	P	P	00 34 30.4	+1.1
ECSD	EROS Data Cent	80.13	342	P	P	00 34 43.9	+0.2
ECSD				IAmb	IAmb	00 34 59.8	
	comp=Z,6.9nm,1.2s						
HWUT	Hardware Ranch	83.11	331	P	P	00 35 00.7	+1.0
HWUT				IAmb	IAmb	00 35 21.3	
	comp=Z,2.3nm,0.9s						
PDAR	Pinedale Array	83.33	333	P	P	00 35 02.2	+1.3
	comp=Z,0.1nm,0.3s,baz=147,slow=5.3,SNR=2.5						
NVAR	Mina Array Bea	83.44	325	P	P	00 35 02.8	+1.3
	comp=Z,0.6nm,0.6s,baz=143,slow=5.5,SNR=6.1						
NVAR	Mina Array Bea	83.44	325	P	P	00 35 03.0	+1.5
ELK	Elko	83.92	329	P	P	00 35 04.9	+0.9
	comp=Z,0.7nm,0.7s,baz=195,slow=12,SNR=3.8						
ELK	Elko	83.92	329	P	P	00 35 04.1	+0.2
ELK				IAmb	IAmb	00 35 25.5	
	comp=Z,1.3nm,0.8s						
TORD	Torodi Ar. Bea	84.37	70	P	P	00 35 06.3	-0.2
	comp=Z,0.6nm,0.8s,baz=207,slow=5.9,SNR=2.9						
BUR08	Bucovina Ar. S	118.74	50		PKPdf	00 41 22.4	+0.6
WRA	Warramunga Arr	120.92	210	PKP	PKPdf	00 41 25.8	-1.0
	comp=Z,0.4nm,0.5s,baz=175,slow=1.8,SNR=5.2						
H11S2	WAKE ISLAND Hy	125.48	270	T	T	03 00 37.0	
	baz=118,slow=74,SNR=16						
H11S1	WAKE ISLAND Hy	125.50	270	T	T	03 00 36.0	
	baz=118,slow=74,SNR=15						
H11S3	WAKE ISLAND Hy	125.50	270	T	T	03 00 36.4	
	baz=118,slow=74,SNR=15						
KK31	Karatay Array	149.63	61	PKPbc	PKPdf	00 42 20.2	+1.5
KKAR	Karatay Array	149.63	61	PKPbc	PKPdf	00 42 20.9	+2.2
ZALV	Zalesovo Beam	154.09	32	PKPbc	PKPbc	00 42 32.9	-0.1
	comp=Z,1.7nm,0.5s,baz=313,slow=3.7,SNR=8.2						
ZALV				PKPab	PKPab	00 42 47.4	+0.7
	comp=Z,0.9nm,0.5s,baz=315,slow=4.8,SNR=5.1						
ZALV	Zalesovo Beam	154.09	32	PKPbc	PKPbc	00 42 31.9	-1.1
MKAR	Makanchi Array	156.75	48	PKPab	PKPab	00 42 56.9	-1.6
	comp=Z,0.4nm,0.8s,baz=301,slow=3.5,SNR=2.4						

ZUR 02 00:27:23.3, 46°.66N×**7°.58E, h9**km±1km**, MLh0.7**/6**, 8C-4D, Error ellipse: s-maj=2.0km s-min=0.7km az=251.0, Switzerland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WIMIS	Wimmis	0.03	73	⇑Pg	Pg	00 27 25.2	+0.1
WIMIS				⇑Pg	Pg	00 27 25.2	+0.1
	0.2nm,SNR=7.8						
WIMIS				Sg	Sg	00 27 26.6	+0.2
WIMIS	Wimmis	0.03	73	⇑Pg	Pg	00 27 25.2	+0.1
WIMIS				⇑Pg	Pg	00 27 25.2	+0.1
	0.2nm,SNR=7.8						
WIMIS				Sg	Sg	00 27 26.6	+0.2
STHK	Thun, Kantonss	0.09	20	⇑Pg	Pg	00 27 26.0	+0.3
	1.3nm,SNR=8.4						
STHK				⇑Pg	Pg	00 27 26.0	+0.3
STHK				Sg	Sg	00 27 28.1	+0.7
STHK	Thun, Kantonss	0.09	20	⇑Pg	Pg	00 27 26.0	+0.3
	1.3nm,SNR=8.4						
STHK				⇑Pg	Pg	00 27 26.0	+0.3
STHK				Sg	Sg	00 27 28.1	+0.7
SINS	Interlaken, Sc	0.20	81	Sg	Sg	00 27 31.6	+1.4
LKBD	Leukerbad	0.27	173	Pg	Pg	00 27 29.1	+0.3
	0.1nm,SNR=2.4						
LKBD				Pg	Pg	00 27 29.1	+0.3
LKBD				Sg	Sg	00 27 33.0	+0.6

LKBD	Leukerbad	0.27	173	Pg	Pg	00 27 29.1	+0.3
LKBD				Pg	Pg	00 27 29.1	+0.3
	0.1nm,SNR=2.4						
LKBD				Sg	Sg	00 27 33.0	+0.6
LAUCH	Lauchernalp	0.27	151	Pg	Pg	00 27 29.2	+0.4
LAUCH				Pg	Pg	00 27 29.2	+0.4
	SNR=1.7						
LAUCH	Lauchernalp	0.27	151	Pg	Pg	00 27 29.2	+0.4
LAUCH				Pg	Pg	00 27 29.2	+0.4
	SNR=1.7						
LAUCH				Sg	Sg	00 27 33.3	+0.7
SENIN	Lac Senin/Sane	0.35	214	Sg	Sg	00 27 35.6	+0.6
SENIN	Lac Senin/Sane	0.35	214	Sg	Sg	00 27 35.6	+0.6
WOLEN	Wohlen bei Ber	0.37	337	Pg	Pg	00 27 31.1	+0.5
WOLEN				Pg	Pg	00 27 31.1	+0.5
	0.1nm,SNR=1.6						
WOLEN				Sg	Sg	00 27 36.4	+0.8
WOLEN	Wohlen bei Ber	0.37	337	Pg	Pg	00 27 31.1	+0.5
WOLEN				Pg	Pg	00 27 31.1	+0.5
	0.1nm,SNR=1.6						
WOLEN				Sg	Sg	00 27 36.4	+0.8
HASLI	Hasliberg/Brie	0.40	75	Sg	Sg	00 27 37.2	+0.6
HASLI	Hasliberg/Brie	0.40	75	Sg	Sg	00 27 37.2	+0.6
FIESA	Fiescheralp	0.43	121	⇓Pg	Pg	00 27 32.1	+0.4
	SNR=1.2						
FIESA				⇓Pg	Pg	00 27 32.1	+0.4
FIESA				Sg	Sg	00 27 38.0	+0.7
FIESA	Fiescheralp	0.43	121	⇓Pg	Pg	00 27 32.1	+0.4
FIESA				⇓Pg	Pg	00 27 32.1	+0.4
	SNR=1.2						
FIESA				Sg	Sg	00 27 38.0	+0.7

*SKHL **02** 00:28:30.6±0.3, 48°.20N×153°.40E, h130km±9km, mb5.1/4, msha5.9/5*
*MOS **02** 00:28:31.8±1.0, 48°.27N×153°.27E, h161km, mb4.2/19, Error ellipse: s-maj=9.2km s-min=7.2km az=72.8*
*NEIC **02** 00:28:34.0±2.1, 48°.5N±0°.1×152°.9E±0°.2, h146km±6km, mb4.2/60, Error ellipse: s-maj=17.6km s-min=11.1km az=134.0*
*IDC **02** 00:28:33.0±1.6, 48°.27N×153°.20E, h157km±14km, mb3.7/20, mb1 3.9/26, mb1mx3.7/44, mbtmp4.2/26, Error ellipse: s-maj=14.2km s-min=8.8km az=142.0*
ISC 02 00:28:31.9±0.4**, 48°.19N**±0°.05×**153°.23E**±0°.06**, h150**km**, n200, σ1s.57**/208**, mb4.2**/60**, 8C-7D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.12	36	ePN	Pn	00 29 19.4	-1.3
SKR				eS	Sn	00 29 55.0	-3.6
SKR				pmax	pmax		
	comp=Z,358nm,0.7s						
SKR				smax	smax		
	comp=E,4µm,0.6s						
SKR				smax	smax		
	comp=N,3µm,0.9s						
SKR	Severo-Kuril's	3.12	36	eP	Pn	00 29 19.7	-1.0
SKR				AMB	AMB	00 29 21.0	
	comp=N,150nm,0.5s						
SKR				eS	Sn	00 29 56.8	-1.8
SKR				A	A	00 29 58.8	
	comp=N,360nm,0.3s						
SKR				A	A	00 29 58.8	
	comp=N,570nm,0.3s						
PAU	Pauzhetka	4.01	34	eP	Pn	00 29 31.3	-0.9
PAU				AMB	AMB	00 29 31.9	
	comp=N,54nm,0.3s						
PAU				eS	Sn	00 30 16.6	-2.6
PAU				A	A	00 30 18.0	
	comp=N,470nm,0.4s						
PAU				A	A	00 30 18.0	
	comp=N,730nm,0.4s						
KUR	Kuril'sk	4.73	233	⇓iPN	Pn	00 29 43.4	+1.7
KUR				i S	Sn	00 30 40.2	+4.2
KUR				pmax	pmax		
	comp=N,30nm,0.4s						
KUR				pmax	pmax		
	comp=Z,78nm,0.4s						
KUR				smax	smax		
	comp=N,150nm,0.4s						
KUR				smax	smax		
	comp=E,241nm,0.4s						
KUR	Kuril'sk	4.73	233	eP	Pn	00 29 43.2	+1.5
KUR				AMB	AMB	00 29 45.0	
	comp=E,90nm,0.6s						
KUR				i S	Sn	00 30 38.6	+2.6
KUR				A	A	00 30 43.7	
	comp=E,300nm,0.5s						
KUR				A	A	00 30 43.7	
	comp=E,170nm,0.5s						
PEA0B	Petropavlovsk-	5.68	28	⇓ePN	Pn	00 29 54.2	-0.1
PEA0B	Petropavlovsk-	5.68	28	Pn	Pn	00 29 54.1	-0.2
PETK	Petropavlovsk-	5.68	28	P	Pn	00 29 54.2	-0.1
	comp=E,1.5nm,0.3s,baz=206,slow=15,SNR=19						
PETK				S	Sn	00 30 57.6	-1.0
	comp=E,1.5nm,0.3s,baz=242,slow=24,SNR=1.5						
PETK	Petropavlovsk-	5.68	28	PN	Pn	00 29 53.7	-0.6
PETK	Petropavlovsk-	5.68	28		Pn	00 29 53.7	-0.6
PET	Petropavlovsk	5.94	33	eS	Sn	00 31 01.6	-3.2
PET				A	A	00 31 07.0	
	comp=E,130nm,0.7s						
YUK	Yuzh-Kuril'sk	6.60	234	eP	Pn	00 30 07.7	+1.2
YUK				AMB	AMB	00 30 07.9	
	comp=E,230nm,0.5s						
YUK				eS	Sn	00 31 22.8	+2.3
YUK				A	A	00 31 23.8	
	comp=E,320nm,0.3s						
YUK				A	A	00 31 23.8	
	comp=E,370nm,0.3s						
JRA	Rausu	7.06	236	P	Pn	00 30 13.1	+0.4
NEM2	Nemuro 2	7.12	230	P	Pn	00 30 11.3	-2.2
NEM2				eS	Sn	00 31 26.4	-6.7
YSS	Yuzh-Sakhalins	7.20	264	⇑ePN	Pn	00 30 16.3	+1.8
YSS				pmax	pmax		
	comp=Z,24nm,0.9s						
YSS	Yuzh-Sakhalins	7.20	264	eP	Pn	00 30 16.5	+2.0
TYV	Tymovskoe	7.38	295	eP	Pn	00 30 18.0	+1.1
TYV				eS	Sn	00 31 40.2	+0.8
JNK	Nakash	7.51	235	P	Pn	00 30 18.8	+0.1
JTKR	Abashiri--Toko	7.73	240	P	Pn	00 30 22.7	+1.0
JAK	Akkeshi	7.92	232	P	Pn	00 30 22.1	-2.1
JAK				eS	Sn	00 31 45.9	-6.5
JAR	Ashorobuto	8.23	237	P	Pn	00 30 28.4	+0.1
JKA	Kamikawa-asahi	8.43	245	Pn	Pn	00 30 33.4	+2.5
JKA	Kamikawa-asahi	8.43	245	eP	Pn	00 30 33.1	+2.1
ASAJ	Asahikawa	8.43	245	P	Pn	00 30 33.1	+2.1
	comp=Z,5.0nm,0.3s,baz=76,slow=15,SNR=16						
ASAJ				S	Sn	00 32 04.0	-0.7
	comp=Z,0.4nm,0.3s,baz=94,slow=31,SNR=0.8						
ASAJ	Asahikawa	8.43	245	P	Pn	00 30 33.4	+2.4
JOB	Onbets	8.45	235	P	Pn	00 30 29.9	-1.3
JKK2	Kamakawa 2	8.47	243	P	Pn	00 30 32.7	+1.1
JRBN	Rebuntou	8.79	256	P	Pn	00 30 39.2	+3.5
JCH	Churui	8.90	235	P	Pn	00 30 35.4	-1.8
JCH				eS	Sn	00 32 07.9	-8.1
ERM	Erimo	9.42	233	⇓ePN	Pn	00 30 43.9	-0.3
ERM	Erimo	9.42	233	Pn	Pn	00 30 42.1	-2.1
JNBK	Urakawa-nobuka	9.46	235	P	Pn	00 30 41.5	-3.2
JKB	Kayabe	10.68	238	eS	Sn	00 32 48.6	-10
EKMR	Ekimchan	13.75	298	eP	P	00 31 42.8	-1.3
EKMR				AMB	AMB	00 31 46.9	
	comp=Z,8.0nm,0.6s						
KLR	Kul'dur	14.22	282	P	P	00 31 48.0	-1.2
	comp=Z,0.6nm,0.3s,baz=85,slow=14,SNR=27						
KLR	Kul'dur	14.22	282	deP	P	00 31 48.6	-0.6
KLR				pmax	pmax		
	comp=Z,19nm,1.0s						
KLR	Kul'dur	14.22	282	eP	P	00 31 49.3	+0.1
SEY	Seymchan	14.79	358	P	P	00 31 54.7	-0.7
	comp=Z,0.2nm,0.3s,baz=175,slow=18,SNR=1.8						
JSD	Sado	14.89	233		P	00 32 00.4	+3.6
USA0B	Ussuriysk Arra	15.23	263	ceP	P	00 31 59.6	-0.9
USA0B	Ussuriysk Arra	15.23	263	P	P	00 32 00.9	+0.4
USA0B				IAmb	IAmb	00 32 02.6	
	comp=Z,10nm,0.9s						
USRK	Ussuriysk Ar.	15.23	263	P	P	00 31 59.8	-0.7
	baz=72,slow=12,SNR=14						
USRK	Ussuriysk Ar.	15.23	263	P	P	00 32 00.2	-0.3
MJAR	Matsushiro Arr	16.05	229	P	P	00 32 10.4	+0.7
	comp=Z,0.2nm,0.3s,baz=32,slow=10,SNR=8.5						
MJAR	Matsushiro Arr	16.05	229	P	P	00 32 10.1	+0.4
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MJAR	Matsushiro Arr	16.05	229		P	00 32 10.1	+0.4
MAT	Matsushiro	16.05	229	P	P	00 32 09.1	-0.6
KROS	Kirovskiy	17.50	301	eP	Pn	00 32 25.0	-1.5
JWT	Wachi	18.47	232	P	Pn	00 32 37.5	-0.6
JWT				IAmb	IAmb	00 32 46.0	
	comp=Z,16nm,1.1s						
CN2	Changchun	19.75	268	eP	P	00 32 48.4	-1.5
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
JHS	Saijyo	19.93	236	P	Pn	00 32 54.7	-0.5
JHS				IAmb	IAmb	00 32 56.7	
	comp=Z,11nm,1.0s						
KSRS	Korea Array	21.35	249	P	P	00 33 08.6	+1.5
	comp=Z,5.2nm,0.6s,baz=49,slow=10,SNR=17						
KS19	Wonju Array Si	21.35	249	P	P	00 33 09.3	+2.1
KS19				IAmb	IAmb	00 33 13.4	
	comp=Z,13nm,0.9s						
KSAR	Wonju Array Be	21.38	249	P	P	00 33 09.1	+1.7
KSAR	Wonju Array Be	21.38	249	P	P	00 33 09.1	+1.7
JNU	Nakatsue	22.56	236	P	P	00 33 21.3	+1.9
	comp=Z,6.6nm,0.8s,baz=16,slow=7.4,SNR=2.4						
JNU	Nakatsue	22.56	236	P	P	00 33 20.7	+1.3
HHC	Hu-ho-hao-te	30.30	272	eP	P	00 34 29.6	+0.6
HHC				pmax	pmax		
	comp=Z,20nm,0.7s						
HHC				pmax	pmax		
	comp=Z,95nm,5.1s						
H11N2	WAKE ISLAND Hy	30.47	154	T	T	01 06 51.3	
	baz=343,slow=76,SNR=135						
H11N1	WAKE ISLAND Hy	30.48	154	T	T	01 06 38.5	
	baz=343,slow=76,SNR=201						
H11N3	WAKE ISLAND Hy	30.49	154	T	T	01 06 38.5	
	baz=343,slow=76,SNR=125						
ULN	Ulaanbaatar	30.53	287	⇓eP	P	00 34 30.8	-0.2
ULN				i *PP	pwP	00 35 06.5	+0.5
ULN				pmax	pmax		
	comp=Z,5.0nm,2.5s						
ULN	Ulaanbaatar	30.53	287	eP	P	00 34 30.8	-0.2
SONM	Songino Array	30.96	287	P	P	00 34 34.5	-0.2
	comp=Z,1.0nm,0.7s,baz=73,slow=8.4,SNR=5.4						
SONM				ScP	ScP	00 40 54.2	-1.5
	comp=Z,0.4nm,0.7s,baz=77,slow=3.1,SNR=2.1						
SONM	Songino Array	30.96	287	P	P	00 34 34.2	-0.5
H11S1	WAKE ISLAND Hy	31.57	155	T	T	01 08 11.2	
	baz=344,slow=76,SNR=550						
H11S3	WAKE ISLAND Hy	31.58	155	T	T	01 08 09.6	
	baz=344,slow=76,SNR=544						
H11S2	WAKE ISLAND Hy	31.59	155	T	T	01 08 05.5	
	baz=344,slow=76,SNR=396						
IMAR	Indian Mountai	32.56	37	P	P	00 34 48.9	+0.5
BPAW	Bear Paw Mtn.	33.60	41	P	P	00 34 59.6	+2.2
COLD	Coldfoot	34.10	35	P	P	00 35 02.4	+0.7
COLD				IAmb	IAmb	00 35 03.0	
	comp=Z,4.2nm,0.6s						
H23K	Yukon River	34.27	38	P	P	00 35 04.7	+1.5
H23K				IAmb	IAmb	00 35 05.0	
	comp=Z,3.5nm,0.7s						
WHN	Wuhan	34.40	253	⇑P	P	00 35 05.5	+0.9
TOLK	Toolik Lake Re	34.48	33	P	P	00 35 05.7	+0.7
TOLK				IAmb	IAmb	00 35 06.3	
	comp=Z,4.9nm,0.6s						
SML	Sawmill	34.88	45	P	P	00 35 08.8	+0.3
SML	Sawmill	34.88	45	P	P	00 35 08.8	+0.3
H24K	Noodor Dome	34.96	38	P	P	00 35 10.1	+1.0
ILAR	Eielson Array	35.38	40	P	P	00 35 12.7	0.0
	comp=Z,1.1nm,1.0s,baz=286,slow=8.2,SNR=7.6						
ILAR	Eielson Array	35.38	40	P	P	00 35 13.1	+0.4
PRP	Porcupine Dome	35.94	38	P	P	00 35 19.1	+1.5
PRP				IAmb	IAmb	00 35 19.9	
	comp=Z,2.7nm,0.8s						
BMAR	Burnt Mountain	36.29	35	P	P	00 35 21.9	+1.4
N25K	Chitina, Valde	36.67	45	P	P	00 35 26.7	+2.9
N25K				IAmb	IAmb	00 35 47.6	
	comp=Z,4.5nm,1.1s						
L27K	Beaver Creek,	37.75	42	P	P	00 35 33.9	+1.1
BCAR	Beaver Creek A	37.77	42	P	P	00 35 34.4	+1.4
EPYK	Eagle Plains	39.45	37	P	P	00 35 48.2	+1.3
INK	Inuvik	40.40	33	P	P	00 35 55.1	+0.5
	comp=Z,3.4nm,0.6s,baz=280,slow=6.9,SNR=6.4						
INK	Inuvik	40.40	33	P	P	00 35 55.9	+1.3
CD2	Chengdu	41.10	264	⇓iP	P	00 36 01.8	+0.8
CD2				pmax	pmax		
	comp=Z,20nm,0.7s						
ZAA0	Zalesovo Array	41.85	305	P	P	00 36 06.4	-0.2
ZAA0				IAmb	IAmb	00 36 06.6	
	comp=Z,3.8nm,0.8s						
ZALV	Zalesovo Beam	41.85	305	P	P	00 36 06.0	-0.7
	comp=Z,3.7nm,0.7s,baz=62,slow=7.8,SNR=17						
ZALV				PcP	PcP	00 38 00.2	+0.7
	comp=Z,0.5nm,0.4s,baz=90,slow=1.4,SNR=2.1						
ZALV	Zalesovo Beam	41.85	305	i P	P	00 36 06.0	-0.7
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZALV	Zalesovo Beam	41.85	305	P	P	00 36 06.3	-0.4
DGZ	Jazzator, Alta	41.99	298	deP	P	00 36 08.5	+0.4
DGZ				i *PP	pP	00 36 39.5	-0.6
DGZ				pmax	pmax		
	comp=Z,4.0nm,1.1s						
WMQ	Urumqi	44.49	290	eP	P	00 36 30.7	+2.5
WMQ				pmax	pmax		
	comp=Z,12nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,140nm,5.1s						
MK31	Makanchi Array	46.36	296	P	P	00 36 42.8	+0.1
MK31				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MK31	Makanchi Array	46.36	296	P	P	00 36 42.8	+0.1
MK31				IAmb	IAmb	00 36 43.7	
	comp=Z,5.8nm,0.8s						
MKAR	Makanchi Array	46.36	296	P	P	00 36 42.5	-0.3
	comp=Z,6.2nm,0.8s,baz=69,slow=8.1,SNR=36						
MKAR	Makanchi Array	46.36	296	⇑eP	P	00 36 42.7	-0.1
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MKAR	Makanchi Array	46.36	296	P	P	00 36 42.7	-0.1
MKAR	Makanchi Array	46.36	296	eP	P	00 36 42.6	-0.2
MAKZ	Makanchi	46.55	296	P	P	00 36 43.9	-0.3
MAKZ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MAKZ	Makanchi	46.55	296	P	P	00 36 43.9	-0.3
MAKZ				IAmb	IAmb	00 36 45.7	
	comp=Z,4.8nm,0.9s						
BRVK	Borovoye	50.05	309	i P	P	00 37 10.5	-0.4
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BRVK	Borovoye	50.05	309	P	P	00 37 10.5	-0.4
BRVK	Borovoye	50.05	309	eP	P	00 37 10.5	-0.4
KDJ	Kajisay	51.93	294	P	P	00 37 26.3	+1.0
KDJ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KDJ	Kajisay	51.93	294	P	P	00 37 26.3	+1.0
KDJ				IAmb	IAmb	00 37 27.1	
	comp=Z,6.4nm,0.8s						
BOOM	Boomskoye usch	52.48	295	P	P	00 37 30.7	+1.3
BOOM				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BOOM	Boomskoye usch	52.48	295	P	P	00 37 30.7	+1.3
CHTO	Chiang Mai	52.54	256	P	P	00 37 32.7	+2.8
CHTO				pmax	pmax		
	comp=Z,4.0nm,1.1s						
CHTO	Chiang Mai	52.54	256		P	00 37 32.7	+2.8
CHTO				IAmb	IAmb	00 37 35.5	
	comp=Z,3.8nm,1.1s						
CMAR	Chiang Mai Arr	52.80	255	P	P	00 37 32.0	+0.2
	comp=Z,1.7nm,0.4s,baz=35,slow=6.7,SNR=6.1						
CMAR	Chiang Mai Arr	52.80	255	ceP	P	00 37 32.9	+1.1
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AAK	Ala-Archa	53.28	295	i P	P	00 37 35.6	+0.4
AAK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
AAK	Ala-Archa	53.28	295	P	P	00 37 35.6	+0.4
AAK				IAmb	IAmb	00 37 36.7	
	comp=Z,4.5nm,0.7s						
AAK	Ala-Archa	53.28	295	eP	P	00 37 35.6	+0.4
ARU	Arti	54.01	317	c iP	P	00 37 39.1	-1.0
ARU				*PP	pwP	00 38 16.7	-1.0
ARU						00 38 41.3	
ARU				S	S	00 45 02.8	-1.2
ARU				SS	SKiKP	00 48 39.3	+3.6
ARU				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ARU	Arti	54.01	317	P	P	00 37 39.1	-1.0
ARU	Arti	54.01	317	eP	P	00 37 39.2	-0.9
KSH	Kashi	54.19	292	P	P	00 37 46.7	+4.9
KSH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KK31	Karatay Array	55.38	298	P	P	00 37 49.9	-0.3
KK31				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KK31	Karatay Array	55.38	298	P	P	00 37 49.9	-0.3
KK31				IAmb	IAmb	00 37 51.0	
	comp=Z,3.1nm,0.7s						
KKAR	Karatay Array	55.38	298	P	P	00 37 49.5	-0.7
KKAR	Karatay Array	55.38	298	P	P	00 37 49.5	-0.7
HUMO	Hull Mountain	56.32	62	P	P	00 37 58.4	+1.5
ARCES	ARCESS Array B	56.52	341	P	P	00 37 57.4	-0.4
	comp=Z,4.4nm,0.9s,baz=23,slow=7.8,SNR=2.3						
KIRV	Kirov	56.68	323	ceP	P	00 37 57.9	-1.2
PINE	Pine Mountain	56.79	60	P	P	00 38 02.0	+1.6
PINE				IAmb	IAmb	00 38 02.5	
	comp=Z,3.8nm,0.8s						
WALA	Waterton Lakes	57.47	51	P	P	00 38 05.3	+0.3
WALA				IAmb	IAmb	00 38 16.3	
	comp=Z,4.1nm,1.1s						
ABKAR	Akbulak array	57.57	309	P	P	00 38 05.3	-0.2
GAR	Garm	57.99	294	P	P	00 38 09.9	+1.1
PLID	Pearl Lake	58.79	56	P	P	00 38 15.1	+0.7
CHGR	Chuyangaron	58.91	295	P	P	00 38 15.8	+0.7
MCCM	Marconi Confer	59.12	66	P	P	00 38 19.9	+3.5
SUMG	Summit	59.26	4	P	P	00 38 17.4	+0.1
SUMG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SUMG	Summit	59.26	4	P	P	00 38 17.4	+0.1
SUMG				IAmb	IAmb	00 38 18.5	
	comp=Z,2.4nm,0.6s						
NIL	Nilore	59.54	288	P	P	00 38 20.3	+0.9
NIL				pmax	pmax		
	comp=Z,16nm,0.9s						
NIL	Nilore	59.54	288	P	P	00 38 20.3	+0.9
PAHR	Pah Rah Range	60.23	63	P	P	00 38 24.5	+0.3
PAHR				IAmb	IAmb	00 38 25.0	
	comp=Z,2.3nm,0.8s						
LRM	Limekiln Ridge	60.26	53	P	P	00 38 25.6	+1.1
BOZ	Bozeman (W)	60.85	53	P	P	00 38 29.1	+0.8
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BOZ	Bozeman (W)	60.85	53	P	P	00 38 29.1	+0.8
BOZ				IAmb	IAmb	00 38 29.5	
	comp=Z,1.7nm,0.8s						
KVN	Kaiserville	61.42	62	P	P	00 38 32.9	+0.6
KVN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KVN	Kaiserville	61.42	62	P	P	00 38 32.9	+0.6
KVN				IAmb	IAmb	00 38 33.6	
	comp=Z,2.2nm,0.8s						
NVAR	Mina Array Bea	61.70	63	P	P	00 38 35.0	+0.7
	comp=Z,1.2nm,0.5s,baz=296,slow=7.6,SNR=13						
NVAR	Mina Array Bea	61.70	63	P	P	00 38 35.1	+0.9
TPAW	Teton Pass	62.59	55	P	P	00 38 41.0	+0.8
TPAW				IAmb	IAmb	00 38 41.5	
	comp=Z,3.7nm,0.9s						
FIA1	FINESS Array S	62.77	334	P	P	00 38 40.3	-0.4
FINES	FINESS Array B	62.77	334	P	P	00 38 40.3	-0.4
	comp=Z,1.4nm,0.3s,baz=31,slow=7.5,SNR=29						
FINES	FINESS Array B	62.77	334	i P	P	00 38 40.0	-0.7
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PD31	Pinedale Array	63.84	54	P	P	00 38 49.0	+0.7
PDAR	Pinedale Array	63.84	54	P	P	00 38 48.6	+0.3
	comp=Z,0.9nm,0.6s,baz=267,slow=0.8,SNR=12						
PDAR	Pinedale Array	63.84	54	P	P	00 38 49.2	+0.9
NOA	NORSAR Array B	66.89	341	P	P	00 39 07.3	0.0
	comp=Z,0.4nm,0.5s,baz=27,slow=6.5,SNR=7.0						
ISCO	Idaho Springs	68.03	55	P	P	00 39 18.1	+2.8
ISCO				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ISCO	Idaho Springs	68.03	55	P	P	00 39 18.1	+2.8
KONO	Kongsberg	68.50	341	ceP	P	00 39 16.3	-1.1
KONO				pmax	pmax		
	comp=Z,49nm,2.5s						
WR0	Warramunga Arr	69.88	199	P	P	00 39 26.0	-0.3
WR0				IAmb	IAmb	00 39 26.8	
	comp=Z,5.2nm,0.8s						
WB2	Warramunga Arr	69.90	199	P	P	00 39 26.3	-0.1
WRA	Warramunga Arr	69.90	199	P	P	00 39 26.4	0.0
	comp=Z,4.4nm,0.7s,baz=17,slow=6.2,SNR=48						
WRA	Warramunga Arr	69.90	199	i P	P	00 39 26.3	-0.2
WRA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WRA	Warramunga Arr	69.90	199	P	P	00 39 26.4	0.0
AKASG	Malin Array Be	70.40	326	P	P	00 39 28.5	-0.7
	comp=Z,0.5nm,0.3s,baz=33,slow=6.4,SNR=2.2						
OUENC	Ouen Island, N	71.34	167	P	P	00 39 41.2	+6.1
SCHQ	Schefferville	71.95	23	P	P	00 39 38.5	0.0
	comp=Z,1.5nm,0.5s,baz=319,slow=11,SNR=6.0						
AS31	Alice Springs	73.60	198	P	P	00 39 49.8	+1.3
ASAR	Alice Springs	73.60	198	P	P	00 39 49.2	+0.7
	comp=Z,1.8nm,0.6s,baz=13,slow=5.5,SNR=23						
BUR08	Bucovina Ar. S	74.41	326	P	P	00 39 53.0	-0.2
BURAR	Bucovina Array	74.43	326	P	P	00 39 53.4	+0.1
CRVS	Cervenica-Dubn	74.68	329	eP	P	00 39 55.1	+0.5
CRVS	Cervenica-Dubn	74.68	329	eP	P	00 39 55.1	+0.5
LANS	Liptovska Anna	75.13	331	eP	P	00 39 58.3	+1.1
LANS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
LANS	Liptovska Anna	75.13	331	eP	P	00 39 58.3	+1.1
CLL	Collm	75.19	335	eP	P	00 39 58.0	+0.6
CLL	Collm	75.19	335	eP	P	00 39 58.0	+0.6
MORC	Moravsky Berou	75.20	332	P	P	00 39 58.2	+0.6
MORC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MORC	Moravsky Berou	75.20	332	P	P	00 39 58.2	+0.6
TX31	Lajitas Ar. Si	76.72	61	P	P	00 40 06.8	+0.1
TX32	Lajitas Array	76.72	61	P	P	00 40 06.9	+0.3
TX32				IAmb	IAmb	00 40 07.5	
	comp=Z,2.7nm,0.8s						
TXAR	Lajitas Array	76.72	61	P	P	00 40 06.7	+0.1
	comp=Z,1.9nm,0.6s,baz=297,slow=4.4,SNR=34						
TXAR	Lajitas Array	76.72	61	P	P	00 40 06.8	+0.2
KHC	Kasperske Hory	76.98	334	eP	P	00 40 08.0	+0.3
KHC	Kasperske Hory	76.98	334	eP	P	00 40 08.0	+0.3
KHC	Kasperske Hory	76.98	334	P	P	00 40 08.7	+1.0
KHC				IAmb	IAmb	00 40 09.0	
	comp=Z,2.5nm,0.7s						
GERES	GERESS Array B	77.20	334	P	P	00 40 09.2	+0.2
	comp=Z,0.5nm,0.5s,baz=37,slow=6.9,SNR=6.2						
GERES	GERESS Array B	77.20	334	P	P	00 40 09.4	+0.4
BRTR	Keskin Array B	77.40	317	P	P	00 40 10.8	+0.5
	comp=Z,0.7nm,0.5s,baz=64,slow=6.6,SNR=2.5						
VTS	Vitosha	79.41	325	P	P	00 40 22.2	+0.9
VTS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
VTS	Vitosha	79.41	325	P	P	00 40 22.2	+0.9
VTS				IAmb	IAmb	00 40 22.4	
	comp=Z,2.6nm,0.7s						
PDG	Podgorica	81.05	327	P	P	00 40 29.6	-0.2
PDG				IAmb	IAmb	00 40 30.5	
	comp=Z,3.4nm,0.7s						
NRCA	Norcia	82.78	332	P	P	00 40 39.7	+0.7
NRCA				IAmb	IAmb	00 40 41.9	
	comp=Z,3.6nm,0.9s						
QSPA	South Pole Qui	137.93	180		PKiKP	00 47 37.9	-1.4
H03N2	Juan Fernandez	138.66	89	T	T	03 21 33.9	
	baz=310,slow=77,SNR=16						
H03N1	Juan Fernandez	138.67	89	T	T	03 21 32.2	
	baz=310,slow=77,SNR=26						
H03N3	Juan Fernandez	138.67	89	T	T	03 21 36.7	
	baz=310,slow=77,SNR=18						
PLCA	Paso Flores	148.23	93	PKPbc	PKiKP	00 47 59.6	-1.7
	comp=Z,3.2nm,0.9s,baz=267,slow=4.4,SNR=5.2						
PLCA	Paso Flores	148.23	93	PKP2	PKiKP	00 47 59.9	-1.4
PLCA	Paso Flores	148.23	93	PKPdf	PKiKP	00 47 59.9	-1.4
BELA	Belgrano 2	150.05	177	PKPdf	PKPbc	00 48 01.6	-1.5
BELA				PKPbc	PKPab	00 48 07.8	-1.8
SNAA	Sanae	153.96	197	PKPdf	PKPbc	00 48 10.0	-2.1

MEX 02 00:34:37.8±0.4**, 17°.34N×101°.69W, h7**km±5km**, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.34	40	eP	Pg	00 34 44.1	-0.4
ZIIG				i S	Sg	00 34 49.1	+0.1
ZIIG	Zihuatanejo	0.34	40	eP	Pg	00 34 44.1	-0.4
ZIIG				eS	Sg	00 34 48.4	-0.6
ARIG	Puente Sto Nin	1.58	54	eP	Pn	00 35 02.9	-3.4
ARIG				i S	Sn	00 35 22.2	-4.9

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARIG	Puente Sto Nin	1.58	54	eP	Pn	00 35 03.1	-3.3
ARIG				eS	Sn	00 35 22.0	-5.1
MEIG	Mezcala	2.06	73	eP	Pn	00 35 11.3	-1.7
MEIG				i S	Sn	00 35 34.3	-4.7
MEIG	Mezcala	2.06	73	eP	Pn	00 35 10.7	-2.2
MEIG				eS	Sn	00 35 35.3	-3.6
TLIG	Tlapa	2.99	85	i P	Pn	00 35 23.6	-2.2
TLIG				i S	Sn	00 35 59.8	-2.2

IDC 02 00:49:08.4±9.4, 29°.26N×139°.89E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/28, mbtmp3.5/3, Error ellipse: s-maj=357.9km s-min=35.1km az=67.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	47.55	308	P	P	00 57 45.6	0.0
	0.5nm,0.9s,baz=92,slow=9.7,SNR=2.6						
WRA	Warramunga Arr	49.20	187	P	P	00 57 58.3	-0.2
	0.5nm,0.5s,baz=4.8,slow=7.3,SNR=8.7						
ASAR	Alice Springs	52.93	187	P	P	00 58 26.4	-0.1
	0.2nm,0.4s,baz=0.9,slow=5.8,SNR=4.7						

IDC 02 00:51:13.9±1.0, 30°.94S×177°.60W, h0km, mb4.3/4, mb1 4.6/4, mb1mx4.0/24, mbtmp4.3/4, MS4.0/4, Ms1 4.0/4, ms1mx3.5/40, Error ellipse: s-maj=31.4km s-min=23.0km az=117.0

NEIC 02 00:51:17.1±2.0, 30°.88S±0°.10×177°.7W±0°.1, h10km±1km, mb4.6/15, Error ellipse: s-maj=21.1km s-min=8.2km az=44.0

ISC 02 00:51:17.9±0.6, 30°.88S±0°.07×177°.5W±0°.1, h27km, n56, σ1s07/48, mb4.7/9, MS3.8/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	1.67	347	Pn	Pn	00 51 45.5	+0.1
	180nm,0.3s,baz=212,slow=23,SNR=6.1						
RAO				Sn	Sb	00 52 07.6	-0.9
	448nm,0.3s,baz=107,slow=19,SNR=5.6						
RAO				LR	LR	00 52 12.9	
	comp=Z,641nm,20.1s,baz=170,slow=35						
RAO	Raoul Island	1.67	347		Pn	00 51 45.7	+0.4
URZ	Urewera	8.60	210	Pn	Pn	00 53 13.7	-6.8
	0.7nm,0.3s,baz=280,slow=6.0,SNR=7.9						
URZ				Sn	Sn	00 54 45.5	-11
	7.9nm,0.3s,baz=84,slow=19,SNR=14						
OUZ	Omahuta	8.64	238	Pn	Pn	00 53 23.3	+2.2
MSVF	Nonsavu	13.71	342	LR	LR	00 58 59.0	
	comp=Z,412nm,18.8s,baz=168,slow=34						
RPZ	Rata Peaks	15.70	212	Pn	Pn	00 54 56.4	-0.8
RPZ				IAmb	IAmb	00 55 18.6	
	comp=Z,61nm,1.4s						
PINNC	Pines Island,	15.76	298	Pn	Pn	00 54 56.8	-1.3
PINNC				IAmb	IAmb	00 55 06.0	
	comp=Z,25nm,0.9s						
DZM	Mont Dzumac	16.83	298	eLR	LR	00 59 14.9	
	comp=Z,798nm,22.9s						
DZM	Mont Dzumac	16.83	298	Pn	P	00 55 14.0	+0.3
	comp=Z,0.2nm,0.3s,baz=116,slow=23,SNR=5.3						
DZM	Mont Dzumac	16.83	298	P	P	00 55 16.8	+3.0
DZM				IAmb	IAmb	00 55 19.8	
	comp=Z,22nm,1.2s						
WHZ	Wether Hill Ro	18.79	213	P	P	00 55 32.8	-2.3
WHZ				IAmb	IAmb	00 55 33.8	
	comp=Z,45nm,1.3s						
TBI	Tubuai	26.01	80	eLR	LR	01 03 28.9	
	comp=Z,254nm,25.0s						
PPT2	Papeete2	28.59	69	eLR	LR	01 04 38.9	
	comp=Z,274nm,22.8s						
PPT	Papeete	28.61	69	LR	LR	01 08 41.3	
	comp=Z,105nm,18.2s,baz=1.5,slow=36						
CTAO	Charters Tower	34.31	280	P	P	00 58 03.3	+1.0
CTAO				IAmb	IAmb	00 58 03.4	
	comp=Z,16nm,1.1s						
STKA	Stephens Creek	34.80	258	P	P	00 58 06.2	-0.2
	comp=Z,3.4nm,0.5s,baz=104,slow=12,SNR=7.7						
STKA				LR	LR	01 11 23.5	
	comp=Z,197nm,18.8s,baz=58,slow=35						
STKA	Stephens Creek	34.80	258	P	P	00 58 06.4	+0.1
AS31	Alice Springs	43.52	267	P	P	00 59 18.7	-0.7
ASAR	Alice Springs	43.52	267	P	P	00 59 18.4	-1.0
	comp=Z,2.1nm,0.5s,baz=104,slow=7.2,SNR=23						
ASAR				PcP	PcP	01 01 06.2	-0.9
	comp=Z,0.5nm,0.5s,baz=114,slow=4.0,SNR=2.3						
ASAR	Alice Springs	43.52	267	P	P	00 59 18.0	-1.4
WR0	Warramunga Arr	44.37	272	P	P	00 59 25.2	-1.0
WR0				IAmb	IAmb	00 59 25.9	
	comp=Z,6.0nm,0.5s						
WB2	Warramunga Arr	44.54	272	P	P	00 59 26.9	-0.8
WRAB	Tennant Creek	44.55	272	P	P	00 59 26.5	-1.2
WRAB				IAmb	IAmb	00 59 32.7	
	comp=Z,12nm,0.9s						
WRA	Warramunga Arr	44.55	272	P	P	00 59 26.3	-1.4
	comp=Z,5.3nm,0.4s,baz=112,slow=7.9,SNR=155						
WRA				PcP	PcP	01 01 09.7	-0.9
	comp=Z,0.7nm,0.6s,baz=108,slow=4.3,SNR=2.8						
WRA	Warramunga Arr	44.55	272	P	P	00 59 25.8	-1.9
WB0	Warramunga Arr	44.58	273	P	P	00 59 27.1	-0.8
VNDA	Vanda	47.66	186	P	P	00 59 52.7	+1.4
VNDA				IAmb	IAmb	01 00 13.8	
	comp=Z,2.5nm,1.4s						
CASY	Casey	54.92	208	P	P	01 00 43.9	-2.0
CASY				IAmb	IAmb	01 00 57.0	
	comp=Z,12nm,1.1s						
QSPA	South Pole Qui	59.23	180	P	P	01 01 17.5	+0.9
SNAA	Sanae	77.66	178	P	P	01 03 20.4	+8.9
VNA3	Neumayer Olymp	77.80	176	P	P	01 03 23.0	+11
VNA2	Neumayer--Watz	78.23	177	P	P	01 03 23.8	+9.1
	baz=182,slow=5.2						
H03S2	Juan Fernandez	79.83	123	T	T	02 31 13.6	
	baz=232						
H03S1	Juan Fernandez	79.84	123	T	T	02 31 15.6	
	baz=232						
H03S3	Juan Fernandez	79.85	123	T	T	02 31 15.0	
	baz=232						
KSRS	Korea Array	85.00	319	LR	LR	01 40 45.4	
	comp=Z,267nm,18.1s,baz=194,slow=35						
NVAR	Mina Array Bea	88.30	42	P	P	01 04 07.6	+0.5
	comp=Z,0.4nm,0.7s,baz=220,slow=3.5,SNR=1.8						
MKAR	Makanchi Array	118.42	310	PKP	PKPdf	01 10 01.9	-0.8
	comp=Z,0.4nm,0.6s,baz=217,slow=1.6,SNR=2.6						
KK31	Karatay Array	125.70	303		PKPdf	01 10 16.2	-0.6
KKAR	Karatay Array	125.70	303	PKPdf	PKPdf	01 10 16.5	-0.3
ONI	Oni	145.48	301		PKPbc	01 10 53.4	-0.2
KBZ	Khabaz	145.74	303	PKPbc	PKPab	01 10 54.4	-0.2
	comp=Z,3.0nm,0.9s,baz=28,slow=4.0,SNR=5.1						
FINES	FINESS Array B	145.75	340	PKPbc	PKPdf	01 10 53.5	+0.3
	comp=Z,5.1nm,0.7s,baz=56,slow=4.5,SNR=14						
FINES	FINESS Array B	145.75	340	PKPdf	PKPdf	01 10 53.0	-0.2
MARD	Mardin	147.83	292		PKPbc	01 11 01.4	+0.8
NB2	NORSAR Subarra	149.29	352	PKP	PKPbc	01 11 02.5	-1.0
	comp=Z,0.4nm,0.5s,baz=17,slow=2.6						
NOA	NORSAR Array B	149.29	352	PKPbc	PKPbc	01 11 03.1	-0.4
	comp=Z,1.0nm,1.0s,baz=19,slow=4.2,SNR=1.9						
BNN	Bunyan	151.63	295	PKPbc	PKPbc	01 11 09.0	-0.9
AKASG	Malin Array Be	151.95	323	PKPbc	PKPbc	01 11 09.9	-0.1
	comp=Z,0.7nm,0.4s,baz=50,slow=2.9,SNR=5.9						
AKASG				PKPab	sPKPbc	01 11 20.5	+0.6
	comp=Z,6.3nm,0.7s,baz=49,slow=2.9,SNR=8.0						
AKASG	Malin Array Be	151.95	323		PKPbc	01 11 09.8	-0.2
AKBB	Malin Array Si	151.95	323		PKPab	01 11 20.1	+0.7
CLL	Collm	158.16	342	ePKPab	PKPab	01 11 46.0	+0.2
	comp=Z,28nm,1.9s						
GERES	GERESS Array B	160.15	338	PKPab	PKPab	01 11 55.2	+0.6
	comp=Z,0.4nm,0.6s,baz=18,slow=6.7,SNR=2.9						
GERES	GERESS Array B	160.15	338		PKPab	01 11 54.7	+0.1
TORD	Torodi Ar. Bea	162.33	177	PKPab	PKPab	01 12 05.3	+0.5
	comp=Z,1.2nm,1.1s,baz=243,slow=3.0,SNR=4.3						
TORD	Torodi Ar. Bea	162.33	177	PKPdf	PKPdf	01 11 19.2	+1.5
TORD					PKPab	01 12 05.3	+0.5

IDC 02 01:04:36.6±2.2, 7°.06S×128°.67E, h0km, mb3.4/1, mb1 3.5/3, mb1mx3.3/37, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=121.2km s-min=34.0km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.94	157	Pn	Pn	01 07 54.7	-0.9
	0.1nm,0.3s,baz=336,slow=14,SNR=2.4						
ASAR	Alice Springs	17.26	164	P	Pn	01 08 40.0	+0.7
	0.2nm,0.3s,baz=351,slow=10,SNR=5.1						
MKAR	Makanchi Array	67.56	327	P	P	01 15 35.0	0.0
	0.2nm,0.4s,baz=116,slow=6.6,SNR=1.9						

MEX 02 01:04:41.3±0.6, 17°.37N×101°.52W, h6km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.24	13	eP	Pg	01 04 45.6	-0.5
UON	La Union	0.66	335	i P	Pg	01 04 53.5	-0.6
ARIG	Puente Sto Nin	1.44	51	eP	Pn	01 05 04.3	-3.7
ARIG				eS	Sb	01 05 23.3	-3.9
DAIG	Los Arroyos	1.82	101	eP	Pn	01 05 09.2	-4.0
DAIG				eS	Sn	01 05 31.9	-4.7
MEIG	Mezcala	1.90	73	eP	Pn	01 05 11.2	-3.1
MEIG				eS	Sn	01 05 30.7	-7.9
PLIG	Platanillo	2.18	62	eP	Pn	01 05 15.9	-2.3
PLIG				eS	Sn	01 05 42.8	-2.7
MGIG	Malinaltepec	2.76	92	eP	Pn	01 05 23.5	-2.8
MGIG				eS	Sn	01 06 01.3	+1.2
TLIG	Tlapa	2.83	86	eP	Pb	01 05 30.0	-2.3
TLIG				eS	Sn	01 06 02.0	+0.4

MEX 02 01:10:41.5±0.5, 16°.77N×100°.20W, h20km, MD3.6, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAIG	Los Arroyos	0.58	65	eP	Pb	01 10 51.1	-2.0
DAIG				eS	Sb	01 10 58.9	-2.1
MEIG	Mezcala	1.27	26	eP	Pn	01 11 00.7	-3.5
MEIG				eS	Sn	01 11 16.1	-4.8
ARIG	Puente Sto Nin	1.51	355	eP	Pn	01 11 04.4	-3.0
ARIG				eS	Sn	01 11 23.0	-3.5
MGIG	Malinaltepec	1.57	73	eP	Pn	01 11 06.3	-2.0
MGIG				eS	Sn	01 11 24.6	-3.6
PLIG	Platanillo	1.74	22	eP	Pn	01 11 07.8	-3.0
PLIG				eS	Sn	01 11 28.1	-4.3
TLIG	Tlapa	1.75	63⇓	eP	Pn	01 11 09.6	-1.3
TLIG				eS	Sn	01 11 28.8	-3.8

OMAN 02 01:13:47.4±0.1, 14°.22N×53°.38E, h10km, mb5.5/16, ml4.3/6, ms4.8/14, Mwp5.5/20, Error ellipse: s-maj=6.7km s-min=2.0km az=267.0

IDC 02 01:13:48.9±0.7, 14°.23N×53°.79E, h0km, mb4.4/28, mb1 4.5/30, mb1mx4.4/62, mbtmp4.4/30, ML3.9/2, MS4.5/38, Ms1 4.5/38, ms1mx4.4/57, Error ellipse: s-maj=16.4km s-min=12.1km az=140.0

GCMT 02 01:13:49.5±0.1, 14°.26N±0°.01×53°.49E±0°.01, h12km, MW5.3/133, Moment Tensor Solution. s74,c126; s133,c262; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.88±.01; $M_{\theta\theta}$0.82±.01; $M_{\phi\phi}$0.05±.02; $M_{r\theta}$0.71±.04; $M_{\theta\phi}$-0.32±.01; $M_{\phi r}$0.22±.04; Best double couple: $M_0$1.17200×10^{17} NP1:ϕ_s129.00000°, δ31.00000°, λ-54.00000°. NP2:ϕ_s268.00000°, δ65.00000°, λ-109.00000°. Principal axes: T 1.1270, Plg18.0000°, Azm13.0000°; N 0.0920, Plg18.0000°, Azm277.0000°; P -1.2180, Plg64.0000°, Azm145.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

NEIC 02 01:13:51.5±2.5, 14°.04N±0°.06×53°.91E±0°.10, h10km±1km, mb4.9/70, Mwb5.3/32, Mwc5.3(GCMT) Error ellipse: s-maj=16.2km s-min=10.9km az=89.0

NEIC 02 01:13:51.7, 14°.03N×53°.90E, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.00; $M_{\theta\theta}$0.01; $M_{\phi\phi}$-0.01; $M_{r\theta}$1.08; $M_{\theta\phi}$-0.37; $M_{\phi r}$-0.37; Fault plane solution: $M_0$1.20000×10^{17} NP1:ϕ_s285.33000°, δ87.81000°, λ-105.21000°. NP2:ϕ_s187.34000°, δ15.36000°, λ-8.28000°. Principal axes: T 1.2933, Plg41.0000°, Azm30.0000°; N -0.2198, Plg15.0000°, Azm286.0000°; P -1.0734, Plg45.0000°, Azm180.0000°;

NEIC 02 01:13:53, 14°.43N×53°.45E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-1.00; $M_{\theta\theta}$0.94; $M_{\phi\phi}$0.06; $M_{r\theta}$0.53; $M_{\theta\phi}$-0.33; $M_{\phi r}$-0.11; Fault plane solution: $M_0$1.16000×10^{17} NP1:ϕ_s112.00000°, δ31.00000°, λ-85.00000°. NP2:ϕ_s285.00000°, δ59.00000°, λ-93.00000°. Principal axes: T 1.1774, Plg14.0000°, Azm18.0000°; N -0.0434, Plg3.0000°, Azm287.0000°; P -1.1340, Plg76.0000°, Azm186.0000°;

ISC 02 01:13:51.3±0.4, 14°.28N±0°.05×53°.70E±0°.05, h10km, n300, σ1s91/254, mb4.8/96, MS4.5/52, 33C-3D, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SOCY	Socotra	2.10	172	Pn	Pn	01 14 18.0	-8.7
SOCY				Sn	Sn	01 14 38.5	-14
SOCY	Socotra	2.10	172	P	Pn	01 14 18.5	-8.2
	SNR=24						
ABTO	Aybut	3.08	353	P	Pn	01 14 37.8	-2.3
	SNR=29						
ABTO				P	Pn	01 14 37.8	-2.3
	SNR=29						
ABTO				S	Sn	01 15 14.9	-2.1
ABTO				S	Sn	01 15 14.9	-2.1
RBK	Rabkut	3.24	8	P	Pn	01 14 39.9	-2.4
	SNR=8.5						
RBK				P	Pn	01 14 39.9	-2.4
	SNR=8.5						
WHFO	Wadi Hawf	3.62	1	P	Pn	01 14 45.3	-2.2
	SNR=42						
WHFO				P	Pn	01 14 45.3	-2.2
	SNR=42						
DMTO	DMTO	3.62	19	P	Pn	01 14 45.4	-2.1
	SNR=35						
DMTO				P	Pn	01 14 45.4	-2.1
	SNR=35						
SHAO	Shalim	4.15	26	Pn	Pn	01 14 50.8	-4.1
SHAO	Shalim	4.15	26	P	Pn	01 14 53.5	-1.3
	SNR=9.5						
SHAO				P	Pn	01 14 53.5	-1.3
	SNR=9.5						
DOK	Doka	4.33	5	P	Pn	01 14 55.3	-1.9
	SNR=30						
DOK				P	Pn	01 14 55.3	-1.9
	SNR=30						
DQM	DQM	6.71	33	P	Pn	01 15 30.0	0.0
DQM				P	Pn	01 15 30.0	0.0
MHTO	MHTO	7.81	31	P	Pn	01 15 45.2	+0.1
MHTO				P	Pn	01 15 45.2	+0.1
MHTO				P	Pn	01 15 45.2	+0.1
UMZA	Um Al Zommool	8.50	9	P	Pn	01 15 53.5	-1.1
BSY	Bisya	9.04	21	P	Pn	01 16 00.2	-1.9
BSY				P	Pn	01 16 00.2	-1.9
JMDO	Jabal Madar	9.06	27	P	Pn	01 16 00.1	-2.2
JMDO				P	Pn	01 16 00.1	-2.2
JLN	Jalan Bani Buh	9.52	34	P	Pn	01 16 06.5	-2.1
JLN				P	Pn	01 16 06.5	-2.1
SMDO	Samad	9.65	25	P	Pn	01 16 08.9	-1.6
SMDO				P	Pn	01 16 08.9	-1.6
SMDO				P	Pn	01 16 08.9	-1.6
GHWR	Ruwais	9.66	355	P	Pn	01 16 07.3	-3.2
WBK	Wadi Bani Khal	9.67	30	P	Pn	01 16 10.6	-0.1
WBK				P	Pn	01 16 10.6	-0.1
HOQ	Hoqain	9.86	20	P	Pn	01 16 11.5	-1.8
	SNR=6.4						
HOQ				P	Pn	01 16 11.5	-1.8
	SNR=6.4						
ALNE	Al Ain	9.91	11	Pn	Pn	01 16 08.4	-5.6
ALNE	Al Ain	9.91	11	P	Pn	01 16 13.7	-0.3
SLWR	Sila	9.92	349	P	Pn	01 16 14.4	+0.3
WSAR	Wadi Sarin	10.05	27	Pn	Pn	01 16 13.8	-2.1
	0.6nm,0.3s,baz=265,slow=3.5,SNR=8.4						
WSAR				Sn	Sn	01 17 58.1	-11
	0.2nm,0.3s,baz=240,slow=8.1,SNR=1.7						
WSAR	Wadi Sarin	10.05	27	P	Pn	01 16 13.7	-2.2
	SNR=7.7						
BIDO	Bidbid	10.10	24	P	Pn	01 16 16.4	-0.1
BIDO				P	Pn	01 16 16.4	-0.1
SOHO	SOHO	10.16	15	Pn	Pn	01 16 10.1	-7.2
SOHO	SOHO	10.16	15	P	Pn	01 16 17.3	0.0
SOHO				P	Pn	01 16 17.3	0.0
ASUD	Al Ashush, Dub	10.40	8	Pn	Pn	01 16 15.0	-5.7
ASUD	Al Ashush, Dub	10.40	8	P	Pn	01 16 17.3	-3.4
FAQ	Al Faqa, Dubai	10.56	9	Pn	Pn	01 16 16.5	-6.3
FAQ	Al Faqa, Dubai	10.56	9	P	Pn	01 16 19.9	-2.9
FAQ				P	Pn	01 16 19.9	-2.9
ASHO	Ashiyiah	10.58	12	Pn	Pn	01 16 15.6	-7.5
ASHO	Ashiyiah	10.58	12	P	Pn	01 16 21.1	-2.1
TRNA	Turayna	10.66	348	P	Pn	01 16 20.5	-3.7
HATD	Hatta, Dubai	10.73	12	Pn	Pn	01 16 19.6	-5.6
HATD	Hatta, Dubai	10.73	12	P	Pn	01 16 23.1	-2.1
HATD				P	Pn	01 16 23.1	-2.1
HATD				P	Pn	01 16 23.1	-2.1
NAZ	Nazwa, Dubai	10.81	10	Pn	Pn	01 16 20.8	-5.4
NAZ	Nazwa, Dubai	10.81	10	P	Pn	01 16 23.5	-2.7
NAZ				P	Pn	01 16 23.5	-2.7
UOSS	Minazif	10.87	12	Pn	Pn	01 16 21.9	-5.2
UOSS	Minazif	10.87	12	Pn	Pn	01 16 25.8	-1.2
UOSS	Minazif	10.87	12	P	Pn	01 16 25.8	-1.2
UOSS				P	Pn	01 16 25.8	-1.2
UOSS				P	Pn	01 16 25.8	-1.2
ATD	Arta Tunnel	10.93	257	Pn	Pn	01 16 28.8	+0.8
	1.4nm,0.3s,baz=194,slow=19,SNR=3.8						
ATD				LR	LR	01 19 33.4	
	comp=Z,13µm,18.5s,baz=71,slow=31						
ATD	Arta Tunnel	10.93	257	Pn	Pn	01 16 28.2	+0.2
MDH	Madha	11.23	12	Pn	Pn	01 16 25.9	-6.1
MDH	Madha	11.23	12	P	Pn	01 16 31.3	-0.7
MSFE	Esma-Masafi	11.26	11	Pn	Pn	01 16 25.8	-6.6
MASF	Masafi	11.27	11	P	Pn	01 16 30.1	-2.5
MASF				P	Pn	01 16 30.1	-2.5
SHMA	Al-Shehemyia	11.80	348	P	Pn	01 16 36.4	-3.3
BANOM	Banah	11.83	11	Pn	Pn	01 16 35.7	-4.6
BANOM	Banah	11.83	11	P	Pn	01 16 36.3	-4.0
BANOM				P	Pn	01 16 36.3	-4.0
SHME	Shamm	11.93	11	Pn	Pn	01 16 33.2	-8.3
SHME	Shamm	11.93	11	P	Pn	01 16 40.9	-0.7
SHME				P	Pn	01 16 40.9	-0.7
TEND	Ethiopian Broa	12.62	260	eP	Pn	01 16 57.0	+5.9
TEND				eS	Sn	01 19 36.5	+25
DESE	Dese	14.08	259	eP	Pn	01 17 07.0	-4.4
DESE				i S	S	01 20 08.4	-1.1
AAE	Adis Abeba	15.53	252	i P	Pn	01 17 31.1	+0.2
AAE				i S	S	01 21 24.1	+45
FURI	Furi	15.66	252	eP	P	01 17 36.9	+0.1
FURI				eS	S	01 21 24.1	+42
KBD	Kabd	15.83	340	eP	Pn	01 17 29.9	-4.5
RST	Umm Al-Ruwaisa	16.36	339	eP	Pn	01 17 37.1	-4.2
MIB	Mutribah	16.53	340	eP	Pn	01 17 39.2	-4.1
DILA	Dilla	17.05	244	eP	P	01 17 52.8	+0.9
LODK	Lodwar	21.07	241	P	P	01 18 36.3	+0.2
HRA	Herat	21.45	20	P	P	01 18 41.7	+1.5
HRA				IAmb	IAmb	01 18 55.9	
	comp=Z,46nm,1.1s						
KMBO	Kilima Mbogo	22.36	228	P	P	01 18 48.5	-1.6
	comp=Z,7.1nm,0.9s,baz=50,slow=13,SNR=17						
KMBO				LR	LR	01 28 00.2	
	comp=Z,3µm,18.0s,baz=54,slow=38						
KIBK	Kibwezi	22.66	224	P	P	01 18 51.4	-1.7
KIBK				IAmb	IAmb	01 18 58.1	
	comp=Z,42nm,1.3s						
KIBK	Kibwezi	22.66	224	P	P	01 18 49.3	-3.8
	SNR=5.5						
EIL	Elat	23.12	315	P	P	01 18 59.4	+1.7
	comp=Z,17nm,0.8s,baz=155,slow=4.8,SNR=19						
EIL				LR	LR	01 27 46.2	
	comp=Z,975nm,19.0s,baz=136,slow=36						
ASF	Jabal al Asfar	23.51	322	P	P	01 19 02.5	+0.8
	comp=Z,8.9nm,0.9s,baz=261,slow=2.8,SNR=14						
GHAJ	Ghor Haditha	23.74	319	P	P	01 19 04.4	+0.6
GHAJ				IAmb	IAmb	01 19 17.6	
	comp=Z,44nm,1.0s						
GEYT	Alibeck	23.88	9	P	P	01 19 06.0	+0.8
	comp=Z,8.8nm,0.7s,baz=204,slow=11,SNR=11						
GEYT				LR	LR	01 30 03.3	
	comp=Z,3µm,18.4s,baz=165,slow=41						
GYA0B	ALIBECK ARRAY	23.88	9	P	P	01 19 06.1	+1.0
GYA0B				IAmb	IAmb	01 19 18.4	
	comp=Z,40nm,1.1s						
HYB	Hyderabad	24.10	79	i P	P	01 19 08.0	+0.5
KBL	Kabul	24.47	32	P	P	01 19 11.1	+0.2
KBL				IAmb	IAmb	01 19 17.3	
	comp=Z,21nm,0.8s						
THW	Thamme Wali	24.69	39	P	P	01 19 13.9	+1.2
MMAI	Mount Meron Ar	25.00	321	P	P	01 19 16.7	+1.2
	comp=Z,16nm,1.0s,baz=108,slow=9.3,SNR=10						
MMAI				LR	LR	01 29 49.2	
	comp=Z,837nm,18.5s,baz=195,slow=38						
CEP	Cherat	25.51	37	P	P	01 19 22.2	+2.0
MARD	Mardin	25.66	336	P	P	01 19 24.2	+2.6
MARD				IAmb	IAmb	01 19 33.1	
	comp=Z,46nm,1.4s						
NIL	Nilore	26.20	39	P	P	01 19 27.1	+0.8
NIL				IAmb	IAmb	01 19 42.1	
	comp=Z,24nm,1.1s						
CHCP	Chirah Chowk	26.21	39	P	P	01 19 29.1	+2.6
GURO	Guroymak-BITLI	26.29	339	P	P	01 19 29.6	+2.4
GNI	Garni	26.94	345	P	P	01 19 34.1	+1.0
	comp=Z,11nm,0.9s,baz=30,slow=5.4,SNR=6.0						
GNI				LR	LR	01 32 19.6	
	comp=Z,2µm,18.1s,baz=146,slow=41						
GNI	Garni	26.94	345	P	P	01 19 32.3	-0.8
GNI	Garni	26.94	345	P	P	01 19 36.4	+3.3
GNI				IAmb	IAmb	01 19 53.6	
	comp=Z,31nm,0.9s						
MBAR	Mbarara	27.12	239	LR	LR	01 29 17.4	
	comp=Z,538nm,20.2s,baz=53,slow=34						
KARS	Kars	27.84	343	P	P	01 19 44.5	+3.3
CHGR	Chuyangaron	27.86	27	P	P	01 19 42.3	+1.0
KOPT	Kop Dagi	28.13	338	P	P	01 19 45.8	+1.8
KOPT				IAmb	IAmb	01 19 59.7	
	comp=Z,26nm,1.0s						
GAR	Garm	28.65	28	P	P	01 19 50.2	+1.8
GAR				IAmb	IAmb	01 20 12.9	
	comp=Z,17nm,1.1s						
BNN	Bunyan	29.11	331	P	P	01 19 54.9	+2.3
BNN				IAmb	IAmb	01 20 06.9	
	comp=Z,26nm,1.2s						
DRK	Karamyk	29.72	29	P	P	01 19 58.6	+0.4
KBZ	Khabaz	30.77	345	P	P	01 20 06.8	-0.1
	comp=Z,1.6nm,0.8s,baz=168,slow=7.2,SNR=6.1						
KBZ				LR	LR	01 35 28.2	
	comp=Z,2µm,18.1s,baz=164,slow=42						
ELL	Elmali	30.85	321	P	P	01 20 08.7	+0.7
BRTR	Keskin Array B	30.87	329	P	P	01 20 08.7	+0.6
	comp=Z,1.4nm,0.8s,baz=168,slow=7.4,SNR=2.8						
BRTR				LR	LR	01 35 33.4	
	comp=Z,679nm,19.4s,baz=146,slow=42						
BRTR	Keskin Array B	30.87	329	P	P	01 20 08.4	+0.4
KIV	Kislovodsk	31.04	344	P	P	01 20 11.2	+1.7
KIV	Kislovodsk	31.04	344	P	P	01 20 12.2	+2.8
BR231	Keskin MP Arra	31.39	328	P	P	01 20 16.0	+3.4
BR231				IAmb	IAmb	01 20 19.6	
	comp=Z,16nm,0.9s						
ANTO	Ankara	31.40	328	P	P	01 20 15.9	+3.2
KSH	Kashi	31.86	34	P	P	01 20 13.5	-3.3
KSH				pmax	pmax		
	comp=Z,13nm,0.8s						
KSH				LR	LR		
	comp=Z,1µm,13.3s						
KSH				LR	LR		
	comp=Z,800nm,13.0s						
KSH				LR	LR		
	comp=Z,710nm,14.0s						
KK31	Karatay Array	32.15	23	P	P	01 20 19.1	-0.1
KKAR	Karatay Array	32.15	23	P	P	01 20 19.0	-0.2
KKAR	Karatay Array	32.15	23	P	P	01 20 19.3	+0.1
IDI	Anoyia	33.29	314	LR	LR	01 35 14.2	
	comp=Z,354nm,21.5s,baz=116,slow=38						
AAK	Ala-Archa	33.46	28	LR	LR	01 36 04.8	
	comp=Z,886nm,19.3s,baz=227,slow=40						
AAK	Ala-Archa	33.46	28	P	P	01 20 32.8	+2.0
BOOM	Boomskoye usch	34.03	30	P	P	01 20 37.5	+1.7
TARG	Taragay, Kyrgy	34.41	33	P	P	01 20 40.4	+0.9
TARG				IAmb	IAmb	01 20 52.0	
	comp=Z,12nm,0.9s						
ABKAR	Akbulak array	35.25	7	P	P	01 20 44.5	-1.5
AKTO	Aktyubinsk	36.23	5	LR	LR	01 38 32.2	
	comp=Z,1µm,19.9s,baz=175,slow=41						
ITM	Ithomi	36.31	315	P	P	01 20 57.8	+2.4
ITM				IAmb	IAmb	01 21 06.4	
	comp=Z,12nm,0.7s						
BRDH	Bariadhala	36.85	71	LR	LR	01 35 47.9	
	comp=Z,2µm,21.0s,baz=274,slow=36						
TIRR	Tirgusor	36.98	329	⇑P	P	01 21 00.9	0.0
TIRR	Tirgusor	36.98	329	P	P	01 21 04.2	+3.3
AGG	Agios Georgios	37.01	318	P	P	01 21 02.9	+1.5
AGG				IAmb	IAmb	01 21 17.8	
	comp=Z,18nm,1.3s						

TLBR Topalu 37.23 329 ⇑P P 01 21 03.9 +0.9
TPGR Topolog 37.27 330 ⇑P P 01 21 04.2 +0.8
RAZG Razgrad 37.33 327 ⇑P P 01 21 05.1 +1.1
HARR Harsova 37.39 329 ⇑P P 01 21 07.2 +2.8
SHL Shillong 37.48 67 P P 01 21 05.2 -0.4
CFR Carcaliu 37.64 330 ⇑P P 01 21 06.0 -0.5
BELG Belogornoye 38.33 354 P P 01 21 10.7 -1.5
comp=Z,6.2nm,0.8s,baz=254,slow=10.0,SNR=1.6
BELG LR LR 01 41 09.9
comp=Z,664nm,19.9s,baz=165,slow=43
ISR Istrita 38.39 329 ⇑P P 01 21 18.7 +5.8
VTS Vitosha 38.54 323 ⇑P P 01 21 13.0 -1.4
VTS Vitosha 38.54 323 P P 01 21 13.6 -0.7
BISRR Bisoca 38.60 329 ⇑P P 01 21 18.8 +4.0
MILM Milestii Mici 38.62 332 ⇑P P 01 21 15.4 +0.7
VRI Vrincioaia 38.82 330 ⇑P P 01 21 16.8 +0.3
PLOR Plostina 38.85 330 ⇑P P 01 21 18.8 +2.0
KBN Korca 38.88 319 P P 01 21 16.7 -0.4
KBN IAmb IAmb 01 21 33.2
comp=Z,40nm,1.2s
MLR Muntele Rosu 38.95 329 ⇑P P 01 21 20.3 +2.6
MLR Muntele Rosu 38.95 329 LR LR 01 40 45.8
comp=Z,484nm,18.9s,baz=146,slow=41
MLR Muntele Rosu 38.95 329 P P 01 21 21.8 +4.1
COVR Voineasa-Covas 39.07 329 ⇑P P 01 21 21.9 +3.3
VOIR 39.37 328 ⇑P P 01 21 21.7 +0.5
OZUR 39.45 329 ⇑P P 01 21 22.9 +1.1
ARR Arges 39.54 327 ⇓P P 01 21 22.7 +0.2
DOPR Dopca 39.56 329 ⇓P P 01 21 23.5 +0.8
SORM Soroca 39.74 333 ⇑P P 01 21 25.4 +1.2
BIZ Bicaz 39.89 330 ⇑P P 01 21 28.1 +2.7
LOT Lotru 40.05 327 ⇑P P 01 21 27.2 +0.3
BOVS Bovan 40.05 323 ⇑P P 01 21 28.6 +1.9
SCTE Santa Cesarea 40.11 317 P P 01 21 29.2 +2.0
SCTE IAmb IAmb 01 21 43.5
comp=Z,36nm,1.2s
MAKZ Makanchi 40.12 30 P P 01 21 29.4 +2.0
PRAR RASCA 40.13 331 ⇑P P 01 21 30.3 +2.9
PUK Puka 40.22 320 P P 01 21 28.9 +0.7
MK31 Makanchi Array 40.27 31 P P 01 21 27.8 -0.7
MKAR Makanchi Array 40.27 31 P P 01 21 27.6 -1.0
comp=Z,4.9nm,1.0s,baz=214,slow=8.1,SNR=16
MKAR LR LR 01 40 09.4
comp=Z,1μm,20.6s,baz=209,slow=39
MKAR Makanchi Array 40.27 31 P P 01 21 27.7 -0.9
HERR Herculane 40.41 325 ⇑P P 01 21 33.4 +3.7
BURAR Bucovina Array 40.80 330 ⇑P P 01 21 36.5 +3.5
BURAR Bucovina Array 40.80 330 P P 01 21 34.4 +1.4
BUR08 Bucovina Ar. S 40.83 330 P P 01 21 36.1 +2.9
ARCR ARCALIA 40.85 329 ⇑P P 01 21 37.7 +4.4
BVAR Borovoye Array 40.86 15 P P 01 21 32.0 -1.3
comp=Z,6.9nm,0.7s,baz=212,slow=14,SNR=18
BRVK Borovoye 40.86 15 P P 01 21 33.0 -0.3
BRVK IAmb IAmb 01 21 48.5
comp=Z,16nm,0.9s
CJR Cluj-Napoca 40.98 328 ⇑P P 01 21 36.1 +1.6
CBBR Cluj-Babes-Bol 41.04 328 ⇑P P 01 21 37.4 +2.5
DIVS Divibare 41.32 323 P P 01 21 39.8 +2.4
WMQ Urumqi 41.32 38 *e*P P 01 21 38.9 +1.5
WMQ pP pwP 01 21 44.0 +0.2
WMQ S S 01 27 55.4 +3.6
WMQ pmax pmax
comp=Z,19nm,0.7s
WMQ pmax pmax
comp=Z,280nm,3.9s
WMQ LR LR
comp=Z,1μm,22.1s
WMQ LR LR
comp=Z,1μm,16.1s
WMQ LR LR
comp=Z,690nm,22.7s
AKASG Malin Array Be 41.38 337 P P 01 21 36.1 -1.5
comp=Z,8.8nm,0.9s,baz=135,slow=7.7,SNR=13
AKASG LR LR 01 42 32.5
comp=Z,476nm,19.2s,baz=145,slow=42
AKASG Malin Array Be 41.38 337 P P 01 21 38.8 +1.1
AKBB Malin Array Si 41.38 337 P P 01 21 38.2 +0.6
KURBB Kurchatov Arra 41.46 24 P P 01 21 36.9 -1.4
comp=Z,5.0nm,0.9s,baz=225,slow=8.2,SNR=32
DRGR 41.48 328 ⇑P P 01 21 42.1 +3.5
KURK Kurchatov 41.56 24 P P 01 21 36.9 -2.3
BMR Baia Mare 41.68 329 ⇑P P 01 21 43.1 +3.0
SIRR Siria 41.70 326 ⇑P P 01 21 40.1 -0.3
RAFF Raffo Rosso 41.74 311 P P 01 21 43.6 +2.8
VAE Valguarnera 41.80 311 LR LR 01 40 08.4
comp=Z,235nm,18.0s,baz=170,slow=38
ARU Arti 42.23 4 LR LR 01 42 27.3
comp=Z,1μm,19.5s,baz=186,slow=41
ARU Arti 42.23 4 P P 01 21 45.9 +1.4
TRPA Tarpa 42.46 329 ⇑P P 01 21 50.0 +3.5
MATP Matopo 42.47 216 P P 01 21 46.3 -0.7
comp=Z,15nm,1.2s,baz=29,slow=10,SNR=8.5
MHMT Maesarieng 42.57 79 P P 01 21 51.9 +4.1
comp=Z,2μmcomp=Z,58nm,1.3s
OBN Obninsk 42.87 346 LR LR 01 42 46.0
comp=Z,260nm,21.5s,baz=162,slow=40
KOLS Kolonicke sedl 43.13 330 *e*P P 01 21 55.9 +4.0
MLSI Meulaboh, Aceh 43.23 99 P P 01 21 51.4 -1.8
comp=Z,35nm,0.9s
CM15 Chiang Mai Arr 43.50 78 P P 01 22 01.1 +5.7
CRVS Cervenica-Dubn 43.51 329 *e*P P 01 21 59.6 +4.6
CMAR Chiang Mai Arr 43.52 78 P P 01 21 55.6 +0.1
comp=Z,2.9nm,0.3s,baz=267,slow=9.5,SNR=18
CM02 Chiang Mai Arr 43.52 78 P P 01 21 57.9 +2.3
comp=Z,202nmcomp=Z,14nm,1.2s
CM05 Chiang Mai Arr 43.52 78 P P 01 21 58.2 +2.6
comp=Z,147nmcomp=Z,14nm,1.4s
CM01 Chiang Mai Arr 43.54 78 P P 01 21 58.3 +2.6
comp=Z,193nmcomp=Z,17nm,1.1s
UMPA Umpang Tak 43.55 81 P P 01 21 59.8 +4.0
comp=Z,26nm,1.2s
CM04 Chiang Mai Arr 43.56 78 P P 01 21 58.0 +2.2
comp=Z,198nmcomp=Z,21nm,1.2s
STHS Stebnicka Huta 43.96 330 *e*P P 01 22 04.9 +6.3
INTR Introdacqua 44.06 317 P P 01 22 03.0 +3.3
INTR IAmb IAmb 01 22 15.8
comp=Z,32nm,1.5s
UTHA Uthaitani 44.15 82 P P 01 22 03.2 +2.6
comp=Z,23nm,0.9s
KIRV Kirov 44.34 357 LR LR 01 43 43.3
comp=Z,567nm,21.0s,baz=181,slow=40
SRO Srobarova 44.45 326 *e*P P 01 22 08.5 +5.9
VYHS Vyhne 44.59 327 *e*P P 01 22 09.9 +6.2
LANS Liptovska Anna 44.67 328 *e*P P 01 22 11.2 +6.8
NRCA Norcia 44.96 317 P P 01 22 08.7 +1.9
NRCA IAmb IAmb 01 22 19.5
comp=Z,13nm,1.0s
PHIT Phitsanulok 44.97 80 P P 01 22 10.4 +3.2
comp=Z,39nm,0.9s
KEST Kesra 45.05 307 P P 01 22 08.8 +1.2
comp=Z,17nm,0.8s,baz=270,slow=3.6,SNR=16
KEST LR LR 01 42 57.7
comp=Z,404nm,18.6s,baz=154,slow=39
KEST Kesra 45.05 307 P P 01 22 08.2 +0.6
UTTA Uttaradit 45.08 79 P P 01 22 11.1 +3.1
comp=Z,12nm,1.3s
OJC Ojcow 45.19 330 P P 01 22 10.7 +2.3
TRTT Trang 45.52 93 P P 01 22 15.0 +3.4
comp=Z,871nmcomp=Z,23nm,1.4s
NACGM Naroch 45.62 339 *i* P P 01 22 10.6 -1.1
ARSA Arzberg 45.68 324 *e*P P 01 22 16.5 +4.1
comp=Z,2.4nm,0.8s
OKC Ostrava-Krasne 45.77 328 *e*S S 01 29 02.3 +5.7
OKC AMS AMS 01 44 30.0
comp=Z,600nm,20.3s
OBKA Obir 45.85 323 *e*P P 01 22 19.7 +5.8
comp=Z,1.6nm,0.7s
CONA Conrad Observa 45.87 325 *e*P P 01 22 12.8 -1.1
comp=Z,5.0nm,1.1s
MORC Moravsky Berou 46.05 328 ⇓P P 01 22 17.2 +1.9
MORC Moravsky Berou 46.05 328 P P 01 22 16.7 +1.4
MORC IAmb IAmb 01 22 32.0
comp=Z,12nm,1.2s
MORC Moravsky Berou 46.05 328 *e*P P 01 22 16.4 +1.1
PSI Prapat 46.05 100 P P 01 22 16.0 +0.1
comp=Z,12nm,1.3s
KRUC Moravsky 46.22 326 *e*P P 01 22 14.4 -2.2
VRAC Vranov 46.26 327 LR LR 01 44 10.1
comp=Z,164nm,22.0s,baz=136,slow=39
VRAC Vranov 46.26 327 *e*P P 01 22 14.9 -2.0
PBSI Pulau Batu 46.34 104 P P 01 22 16.1 -1.9
comp=Z,105nm,1.1s
MYKA Terra Mystica 46.45 322 *e*P P 01 22 17.7 -0.8
comp=Z,2.3nm,0.8s

ZAA0 Zalesovo Array 46.50 25 P P 01 22 16.8 -1.9
ZAA0 IAmb IAmb 01 22 30.1
comp=Z,12nm,1.1s
ZALV Zalesovo Beam 46.50 25 P P 01 22 16.7 -2.0
comp=Z,8.8nm,0.8s,baz=232,slow=8.2,SNR=15
ZALV LR LR 01 43 45.9
comp=Z,832nm,20.0s,baz=192,slow=39
ZALV Zalesovo Beam 46.50 25 P P 01 22 17.0 -1.7
KRLC Kraliky 46.62 328 *e*P P 01 22 23.2 +3.4
KRLC *e*S S 01 29 11.1 +2.2
KRLC AMS AMS 01 44 20.0
comp=Z,400nm,20.0s
MOA Molln 46.72 324 *e*P P 01 22 20.4 -0.2
comp=Z,4.2nm,0.8s
ZOU Zoufplan 46.81 322 P P 01 22 23.1 +1.5
STAL STALIGIAL 46.82 321 P P 01 22 24.0 +2.5
TREC Trest 46.84 326 AMS AMS 01 47 40.0
comp=Z,400nm,15.3s
DPC Dobruska-Polom 47.02 328 *e*P P 01 22 26.3 +3.4
DPC *e*S S 01 29 14.8 +0.2
DPC AMS AMS 01 45 10.0
comp=Z,500nm,21.2s
ZCCA Zocca 47.02 318 P P 01 22 26.2 +3.1
ABTA Abfaltersbach 47.18 322 *e*P P 01 22 26.1 +1.8
comp=Z,3.6nm,1.4s
KMI Kunming 47.18 69 ⇑P P 01 22 29.6 +4.8
KMI sP pwP 01 22 35.1 +3.8
KMI pmax pmax
comp=Z,10.0nm,0.8s
OSTC Ostas 47.20 328 *e*S S 01 29 17.7 +0.6
OSTC AMS AMS 01 45 30.0
comp=Z,400nm,15.9s
CKRC Cesky Krumlov 47.22 325 *e*S S 01 29 17.1 -0.4
CKRC AMS AMS 01 45 50.0
comp=Z,500nm,18.1s
UPC Upice 47.27 328 *e*S S 01 29 18.8 +0.7
UPC AMS AMS 01 44 50.0
comp=Z,400nm,15.6s
CHVC Chvalec 47.30 328 *e*P P 01 22 27.8 +2.7
CHVC AMS AMS 01 45 20.0
comp=Z,400nm,17.4s
NONG Nongkai 47.53 78 P P 01 22 31.8 +4.5
comp=Z,12nm,1.0s
GERES GERESS Array B 47.57 325 P P 01 22 27.2 -0.1
comp=Z,0.6nm,0.8s,baz=52,slow=39,SNR=2.2
GERES LR LR 01 46 21.6
comp=Z,315nm,18.2s,baz=126,slow=41
GERES GERESS Array B 47.57 325 P P 01 22 29.7 +2.4
LBTB Lobatse 47.72 215 P P 01 22 28.0 -0.7
comp=Z,5.6nm,0.8s,baz=35,slow=8.7,SNR=10
LBTB Lobatse 47.72 215 P P 01 22 28.5 -0.2
PRU Pruhonice 47.74 327 *e*S S 01 29 23.6 -1.2
PRU AMS AMS 01 48 00.0
comp=Z,400nm,17.0s
KHC Kasperske Hory 47.80 325 *e*P P 01 22 32.2 +3.2
KHC *e*S S 01 29 25.4 -0.3
KHC AMS AMS 01 46 10.0
comp=Z,500nm,13.1s
PRA Prague 47.85 327 *e*S S 01 29 27.4 +1.1
PRA AMS AMS 01 51 00.0
comp=Z,400nm,21.3s
WTTA Wattenberg 47.96 322 *e*P P 01 22 28.9 -1.6
comp=Z,3.0nm,0.7s
WATA Walderalm 48.03 322 *e*P P 01 22 29.5 -1.5
comp=Z,5.0nm,0.8s
PVCC Panska Ves 48.03 327 *e*S S 01 29 29.3 +0.4
PVCC AMS AMS 01 44 30.0
comp=Z,400nm,24.7s
SQTA Sankt Quirin 48.19 322 *e*P P 01 22 28.5 -3.7
comp=Z,5.2nm,0.9s
MOTA Moosalm 48.31 322 *e*P P 01 22 31.3 -1.9
comp=Z,3.5nm,0.9s
FETA Feichten 48.39 321 *e*P P 01 22 29.2 -4.6
comp=Z,0.8nm,0.8s
BRG Berggiesshubel 48.56 327 *e*P P 01 22 43.7 +8.9
BRG Amp 01 22 51.1
comp=Z,9.0nm,1.4s
BRG Berggiesshubel 48.56 327 S S 01 29 38.0 +1.7
RETA Reutte 48.59 322 *e*P P 01 22 35.1 -0.1
comp=Z,8.9nm,1.4s
DAVOX Davos/Dischmat 48.79 321 LR LR 01 48 00.1
comp=Z,200nm,18.7s,baz=100,slow=42
NKC Novy Kostel 49.01 326 *e*S S 01 29 46.0 +3.3
NKC AMS AMS 01 48 40.0
comp=Z,400nm,14.8s
DAVA Damuels 49.02 321 *e*P P 01 22 36.7 -2.0
comp=Z,7.9nm,1.4s
CLL Collm 49.29 327 *e*P P 01 22 44.0 +3.6
CLL *e* 01 22 51.0
comp=Z,34nm,1.9s
CLL *e*S S 01 29 48.0 +1.4
CLL *e*SS SS 01 33 36.0 +18
CLL *e*SSS SSS 01 34 42.0
GRF Grafenberg Arr 49.40 325 *e*P P 01 22 48.8 +7.5
comp=Z,52nm,2.4s,baz=120,slow=8.7
SENIN Lac Senin/Sane 50.22 319 P P 01 22 49.8 +2.0
SENIN IAmb IAmb 01 23 07.2
comp=Z,16nm,1.2s
BFO Black Forest 50.43 322 P P 01 22 50.9 +1.8
BFO IAmb IAmb 01 23 00.7
comp=Z,16nm,1.2s
TORD Torodi Ar. Bea 50.45 275 P P 01 22 47.9 -1.9
comp=Z,3.8nm,0.8s,baz=87,slow=4.6,SNR=18
TORD LR LR 01 43 34.6
comp=Z,662nm,19.6s,baz=100,slow=35
TORD Torodi Ar. Bea 50.45 275 P P 01 22 51.0 +1.2
TORD IAmb IAmb 01 23 05.2
comp=Z,12nm,1.2s
BOSA Boshof 50.75 213 LR LR 01 44 09.1
comp=Z,633nm,20.9s,baz=30,slow=36
GYA Guiyang 50.79 67 ⇑P P 01 22 53.5 +1.2
GYA sP pwP 01 23 00.0 +1.2
GYA pmax pmax
comp=Z,18nm,1.1s
FINES FINESS Array B 51.12 343 P P 01 22 52.0 -2.0
comp=Z,5.0nm,0.7s,baz=134,slow=8.2,SNR=14
FINES LR LR 01 48 44.0
comp=Z,407nm,20.6s,baz=148,slow=41
SSB Saint Sauveur 51.59 317 P P 01 23 00.0 +2.0
SSB IAmb IAmb 01 23 17.4
comp=Z,16nm,1.2s
CLF Chambon-Foret 54.03 320 P P 01 23 18.8 +2.9
HFS Hagfors 54.27 337 LR LR 01 50 54.4
comp=Z,430nm,18.1s,baz=128,slow=41
SONM Songino Array 54.76 41 P P 01 23 21.8 +0.5
comp=Z,3.8nm,0.8s,baz=250,slow=7.5,SNR=13
SONM Songino Array 54.76 41 P P 01 23 21.2 -0.2
SONM IAmb IAmb 01 23 34.1
comp=Z,16nm,1.2s
ULN Ulaanbaatar 55.18 41 P P 01 23 25.0 +0.5
ULN IAmb IAmb 01 23 36.7
comp=Z,14nm,1.1s
ULN Ulaanbaatar 55.18 41 P P 01 23 24.7 +0.2
KOWA Kowa 55.77 278 P P 01 23 29.8 +0.7
KOWA IAmb IAmb 01 23 39.0
comp=Z,13nm,0.9s
NB2 NORSAR Subarra 55.80 337 P P 01 23 26.6 -1.9
comp=Z,5.1nm,0.9s,baz=124,slow=7.9
NOA NORSAR Array B 55.80 337 P P 01 23 28.5 0.0
comp=Z,3.2nm,0.9s,baz=123,slow=7.6,SNR=6.2
NOA LR LR 01 51 50.9
comp=Z,333nm,19.0s,baz=120,slow=41
ESBB Sonseca Array 56.22 308 P P 01 23 35.2 +3.3
ESBB IAmb IAmb 01 23 37.4
comp=Z,8.2nm,0.9s
ESDC Sonseca Array 56.22 308 P P 01 23 30.5 -1.4
comp=Z,5.6nm,0.7s,baz=87,slow=5.7,SNR=13
ESDC Sonseca Array 56.22 308 P P 01 23 34.8 +2.9
ESDC IAmb IAmb 01 23 48.2
comp=Z,15nm,1.4s
PAB San Pablo 56.49 308 P P 01 23 35.4 +1.5
PAB IAmb IAmb 01 23 50.2
comp=Z,16nm,1.3s
HHC Hu-ho-hao-te 56.56 50 *e*P P 01 23 35.1 +0.6
HHC pmax pmax
comp=Z,12nm,1.1s
HHC pmax pmax
comp=Z,160nm,5.2s
KIC Kosan Boka 57.91 269 *e*P P 01 23 51.7 +7.5
comp=Z,29nm,1.2s
DBIC Dimbokro 57.95 269 LR LR 01 49 40.5
comp=Z,416nm,18.6s,baz=90,slow=37
ARCES ARCESS Array B 57.99 349 P P 01 23 42.5 -1.4
comp=Z,3.1nm,0.6s,baz=149,slow=5.7,SNR=8.6
ARCES LR LR 01 51 34.0
comp=Z,780nm,21.8s,baz=135,slow=39

TIC Toumodi 58.12 269 *e*P P 01 23 53.3 +7.6
LIC Lamto 58.22 269 *e*P P 01 23 51.5 +5.1
comp=Z,55nm,1.2s
NRIK Noril'sk 59.01 13 P P 01 23 49.7 -1.2
comp=Z,1.8nm,0.4s,baz=174,slow=3.9,SNR=4.7
NRIK LR LR 01 53 55.5
comp=Z,1μm,19.0s,baz=229,slow=41
NRIK Noril'sk 59.01 13 P P 01 23 51.9 +1.0
NRIK IAmb IAmb 01 24 03.0
comp=Z,11nm,1.1s
EKA Eskdalemuir Ar 59.73 326 LR LR 01 54 44.9
comp=Z,155nm,18.7s,baz=80,slow=41
NJ2 Nanjing 61.61 61 *e*P P 01 24 08.5 -0.9
NJ2 pmax pmax
comp=Z,44nm,0.6s
CN2 Changchun 67.11 48 *e*P P 01 24 44.8 -0.5
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,4.0s
YAK Yakutsk 70.92 29 P P 01 25 09.8 +1.2
KLR Kul'dur 71.53 43 P P 01 25 10.1 -2.5
comp=Z,2.8nm,0.9s,baz=285,slow=7.5,SNR=8.7
USRK Ussuriysk Ar. 71.83 48 P P 01 25 12.7 -1.7
comp=Z,3.1nm,0.8s,baz=251,slow=7.4,SNR=6.6
USRK LR LR 02 00 09.3
comp=Z,344nm,19.6s,baz=237,slow=39
USRK Ussuriysk Ar. 71.83 48 P P 01 25 13.1 -1.4
NOR Nord 73.12 352 *i* P P 01 25 18.5 -3.0
NOR IAmb IAmb 01 25 31.7
comp=Z,5.3nm,1.0s
H01W3 Cape Leeuwin H 75.30 132 T T 02 47 56.1
baz=300,slow=75,SNR=72
H01W2 Cape Leeuwin H 75.31 132 T T 02 47 53.1
baz=300,slow=75,SNR=78
H01W1 Cape Leeuwin H 75.32 132 T T 02 47 57.4
baz=300,slow=75,SNR=83
SUMG Summit 77.13 342 *i* P P 01 25 43.0 -2.2
SUMG IAmb IAmb 01 25 50.6
comp=Z,12nm,1.1s
SUMG Summit 77.13 342 P P 01 25 46.5 +1.3
SUMG IAmb IAmb 01 26 06.3
comp=Z,20nm,1.3s
NEEM North Greenlan 79.33 348 *i* P P 01 25 56.0 -1.3
NEEM IAmb IAmb 01 26 01.9
comp=Z,12nm,0.9s
MAW Mawson 81.93 176 LR LR 01 55 54.1
comp=Z,590nm,21.6s,baz=22,slow=31
SYO Syowa Base 83.68 185⇑*e*P P 01 26 21.8 +2.0
STKA Stephens Creek 95.65 121 LR LR 02 09 56.3
comp=Z,156nm,18.1s,baz=320,slow=35
PDAR Pinedale Array 121.19 346 PKP PKiKP 01 32 46.2 +0.8
comp=Z,0.4nm,0.6s,baz=90,slow=3.0,SNR=4.1
PDAR Pinedale Array 121.19 346 PKiKP 01 32 45.7 +0.4
TXAR Lajitas Array 131.44 333 PKP PKiKP 01 33 04.1 -1.9
comp=Z,0.3nm,0.7s,baz=325,slow=1.5,SNR=3.9
TXAR Lajitas Array 131.44 333 PKiKP 01 33 03.8 -2.1

IDC 02 01:16:38.8±5.1, 14°.25N×53°.60E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.6/56, mbtmp3.9/5, Error ellipse: s-maj=132.4km s-min=32.7km az=154.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	40.35	31	P	P	01 24 17.9	-0.4
	0.7nm,0.6s,baz=219,slow=5.4,SNR=2.8						
ZALV	Zalesovo Beam	46.57	25	P	P	01 25 08.4	+0.1
	0.5nm,0.4s,baz=211,slow=8.2,SNR=1.8						
TORD	Torodi Ar. Bea	50.36	275	P	P	01 25 38.2	+0.1
	1.6nm,0.9s,baz=79,slow=7.3,SNR=5.0						
FINES	FINESS Array B	51.12	343	P	P	01 25 43.3	+0.2
	3.4nm,1.0s,baz=128,slow=12,SNR=2.3						
ESDC	Sonseca Array	56.16	308	P	P	01 26 20.1	-0.5
	1.5nm,0.9s,baz=96,slow=6.1,SNR=4.8						

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*IDC **02** 01:16:59.6±2.2, 14°.59N×53°.33E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.8/57, mbtmp4.0/7, Error ellipse: s-maj=60.9km s-min=24.4km az=135.0*
*NEIC **02** 01:17:03.1±2.8, 14°.25N±0°.06×53°.6E±0°.2, h10km±2km, mb4.4/6, Error ellipse: s-maj=25.7km s-min=7.1km az=254.0*
ISC 02 01:17:00.6±0.9, 14°.1N±0°.1×53°.7E±0°.2, h10km, n20, σ2s.20/15, mb4.2/9, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCY	Socotra	1.93	173	Pn	Pn	01 17 33.8	+0.2
LODK	Lodwar	21.02	241	P	P	01 21 44.9	+0.2
LODK				IAmb	IAmb	01 21 55.9	
	comp=Z,15nm,1.3s						
KMBO	Kilima Mbogo	22.27	228	P	P	01 21 59.5	+1.1
	comp=Z,4.0nm,0.8s,baz=36,slow=13,SNR=4.8						
GYA0B	ALIBECK ARRAY	24.04	9	P	P	01 22 16.4	+0.4
GYA0B				IAmb	IAmb	01 22 35.1	
	comp=Z,18nm,1.1s						
KOPT	Kop Dagi	28.30	338	P	P	01 22 57.6	+2.8
ABKAR	Akbulak array	35.41	7	P	P	01 23 55.2	-1.5
MK31	Makanchi Array	40.40	30	P	P	01 24 41.6	+2.7
MKAR	Makanchi Array	40.40	30	P	P	01 24 37.4	-1.5
	comp=Z,1.0nm,0.6s,baz=211,slow=8.0,SNR=4.0						
MKAR	Makanchi Array	40.40	30	P	P	01 24 41.5	+2.5
ZALV	Zalesovo Beam	46.64	25	P	P	01 25 27.2	-1.8
	comp=Z,2.2nm,0.7s,baz=234,slow=7.1,SNR=3.6						
ZALV	Zalesovo Beam	46.64	25	P	P	01 25 27.8	-1.3
GERES	GERESS Array B	47.73	325	P	P	01 25 40.5	+2.7
TORD	Torodi Ar. Bea	50.51	276	P	P	01 25 56.3	-3.2
	comp=Z,1.6nm,0.8s,baz=76,slow=6.8,SNR=4.4						
TORD	Torodi Ar. Bea	50.51	276	P	P	01 25 58.7	-0.8
TORD				IAmb	IAmb	01 26 09.2	
	comp=Z,8.2nm,1.4s						
FINES	FINESS Array B	51.29	343	P	P	01 26 01.9	-2.7
	comp=Z,1.9nm,0.6s,baz=139,slow=7.0,SNR=5.4						
ESDC	Sonseca Array	56.35	308	P	P	01 26 37.7	-4.5
	comp=Z,1.2nm,0.7s,baz=89,slow=6.4,SNR=5.5						
ARCES	ARCESS Array B	58.17	349	P	P	01 26 50.9	-3.6
	comp=Z,2.8nm,1.0s,baz=162,slow=7.2,SNR=1.5						
H01W3	Cape Leeuwin H	75.16	132	T	T	02 50 58.9	
	baz=300						
H01W2	Cape Leeuwin H	75.17	132	T	T	02 50 59.9	
	baz=300						
H01W1	Cape Leeuwin H	75.18	132	T	T	02 51 00.9	
	baz=300						

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*BJI **02** 01:18:27.2±0.0, 4°.12N×125°.00E, h331km, mB5.6/53, mb5.7/90*
*MAN **02** 01:18:28.4, 4°.27N×124°.86E, h330km, mb6.4, ML5.5, MS6.1*
*NEIC **02** 01:18:29.6, 4°.41N×124°.63E, h300km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-2.89; $M_{\theta\theta}$-1.01; $M_{\phi\phi}$3.89; $M_{r\theta}$-2.29; $M_{\theta\phi}$0.16; $M_{\phi r}$-2.70; Fault plane solution: $M_0$4.98000×10^{17} NP1:ϕ_s28.71000°, δ70.07000°, λ-65.02000°. NP2:ϕ_s154.89000°, δ31.55000°, λ-139.36000°. Principal axes: T 4.9850, Plg21.0000°, Azm100.0000°; N -0.0124, Plg23.0000°, Azm200.0000°; P -4.9725, Plg58.0000°, Azm332.0000°;*
*MOS **02** 01:18:29.0±0.8, 4°.36N×124°.63E, h321km, mb6.0/65 Error ellipse: s-maj=7.4km s-min=4.2km az=106.9*
*NEIC **02** 01:18:29.1±2.6, 4°.41N±0°.07×124°.63E±0°.07, h296km±1km, mb5.9/316, Mwb5.7/23, Mwc5.7/21, Mww5.7, Mwc5.8(GCMT), Error ellipse: s-maj=11.7km s-min=11.0km az=111.0*
*DJA **02** 01:18:29.8±0.1, 4°N±2°×12°5E±°, h308km±2km, M5.5/128, mB5.9/91, mb5.6/128, MLv6.2/9, Mw5.7/23, Mw(mB)5.5/91, MwMwp5.4/30, Mwp5.6/30*
*GCMT **02** 01:18:30.1±0.2, 4°.40N±0°.02×124°.53E±0°.01, h310km, MW5.7/138, Moment Tensor Solution. s138, c260; Duration: 1s.8 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.37±.06; $M_{\theta\theta}$-1.43±.08; $M_{\phi\phi}$3.81±.09; $M_{r\theta}$-2.98±.07; $M_{\theta\phi}$0.51±.08; $M_{\phi r}$-2.62±.08; Best double couple: $M_0$5.20500×10^{17} NP1:ϕ_s154.00000°, δ33.00000°, λ-150.00000°. NP2:ϕ_s38.00000°, δ74.00000°, λ-61.00000°. Principal axes: T 5.1630, Plg24.0000°, Azm106.0000°; N 0.0930, Plg28.0000°, Azm210.0000°; P -5.2460, Plg52.0000°, Azm342.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
*IDC **02** 01:18:30.1±0.5, 4°.37N×124°.57E, h316km±3km, mb5.3/60,*

mb1 5.4/64, mb1mx5.3/70, mbtmp6.0/64 Error ellipse: s-maj=6.6km s-min=5.0km az=76.0

*KLM **02** 01:18:31, 4°.36N×124°.72E, h313km, mb5.9*

*NEIC **02** 01:18:31, 4°.36N×124°.72E, h310km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-2.28; $M_{\theta\theta}$-2.08; $M_{\phi\phi}$4.37; $M_{r\theta}$-2.72; $M_{\theta\phi}$0.63; $M_{\phi r}$-1.57; Fault plane solution: $M_0$4.96000×10^{17} NP1:ϕ_s151.00000°, δ44.00000°, λ-152.00000°. NP2:ϕ_s40.00000°, δ71.00000°, λ-48.00000°. Principal axes: T 4.9593, Plg16.0000°, Azm101.0000°; N -0.0015, Plg38.0000°, Azm205.0000°; P -4.9578, Plg47.0000°, Azm353.0000°;*

*NEIC **02** 01:18:31, 4°.37N×124°.65E, h312km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-2.29; $M_{\theta\theta}$-1.67; $M_{\phi\phi}$3.96; $M_{r\theta}$-3.32; $M_{\theta\phi}$0.50; $M_{\phi r}$-2.74; Fault plane solution: $M_0$5.54000×10^{17} NP1:ϕ_s152.00000°, δ33.00000°, λ-153.00000°. NP2:ϕ_s40.00000°, δ76.00000°, λ-60.00000°. Principal axes: T 5.4289, Plg25.0000°, Azm106.0000°; N 0.2065, Plg29.0000°, Azm211.0000°; P -5.6354, Plg50.0000°, Azm343.0000°;*

*NEIC **02** 01:18:37.6, 4°.13N×124°.69E, h343km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-1.83; $M_{\theta\theta}$-1.34; $M_{\phi\phi}$3.16; $M_{r\theta}$-3.12; $M_{\theta\phi}$0.49; $M_{\phi r}$-2.73; Fault plane solution: $M_0$5.00000×10^{17} NP1:ϕ_s153.30000°, δ28.84000°, λ-154.96000°. NP2:ϕ_s41.04000°, δ78.22000°, λ-63.48000°. Principal axes: T 4.9125, Plg28.0000°, Azm110.0000°; N 0.1725, Plg26.0000°, Azm215.0000°; P -5.0850, Plg50.0000°, Azm340.0000°;*

ISC 02 01:18:30.4±0.2**, 4°.32N**±0°.02×**124°.62E**±0°.03**, h322**km±1km**, h323**km**:pP-P, n1819,** σ1ˢ**49**/2128**, mb5.8**/347**, 197C-355D, Fault plane solution: NP1:**ϕ_s56.34732°**,** δ78.89066°**,** λ-55.42384°. **NP2:**ϕ_s161.96605°**,** δ36.10450°**,** λ-160.91382°. **Principal axes:** T Plg25.7888°**,** Azm119.8810°**;** N Plg33.8394°**,** Azm228.7825°**;** P Plg45.0359°**,** Azm0.9482°**; Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.10**	**125**	P	**Pn**	**01 19 11.4**	**-2.2**
SGSI				S	**S**	**01 19 44.8**	**-3.3**
KCP	**Kidapawan**	**2.71**	**10**	⇑iP	**Pn**	**01 19 24.5**	**-0.6**
KCP				iS	**S**	**01 20 04.3**	**-4.6**
MNI	**Manado**	**2.86**	**176**	P	**Pn**	**01 19 25.2**	**-1.3**
MNI	**Manado**	**2.86**	**176**	P	**Pn**	**01 19 25.0**	**-1.5**
MNI				S	**S**	**01 20 09.9**	**-1.5**
DAV	**Davao City (W)**	**2.90**	**19**	P	**Pn**	**01 19 26.6**	**-0.2**
	322nm,0.3s,baz=96,slow=1.9,SNR=49						
DAV				S	**S**	**01 20 10.2**	**-1.6**
	1µm,0.3s,baz=83,slow=23,SNR=8.4						
DAV	**Davao City (W)**	**2.90**	**19**		**Pn**	**01 19 26.3**	**-0.4**
DAV	**Davao City (W)**	**2.90**	**19**	P	**Pn**	**01 19 26.8**	**+0.1**
DAV				S	**S**	**01 20 07.3**	**-4.6**
BUKP	**Musuan**	**3.56**	**7**	⇑iP	**Pn**	**01 19 33.4**	**0.0**
BUKP				eS	**S**	**01 20 25.7**	**+1.9**
PAGZ	**Pagadian**	**3.72**	**341**	⇑iP	**Pn**	**01 19 35.3**	**+0.5**
KMSI	**Cibinong**	**3.77**	**190**	P	**Pn**	**01 19 35.1**	**-0.3**
GTOI	**Gorontalo**	**4.00**	**204**	P	**Pn**	**01 19 36.1**	**-1.7**
GAMI	**Galela, Maluku**	**4.01**	**128**	P	**Pn**	**01 19 35.1**	**-2.8**
BIPH	**Bislig**	**4.21**	**24**	⇓eP	**Pn**	**01 19 38.7**	**-1.4**
BIPH				eS	**S**	**01 20 33.1**	**-3.0**
DCPH	**Dipolog City**	**4.42**	**344**	⇓eP	**Pn**	**01 19 44.6**	**+2.3**
TNTI	**Ternate**	**4.46**	**142**	Pn	**Pn**	**01 19 40.1**	**-2.7**
TNTI	**Ternate**	**4.46**	**142**	P	**Pn**	**01 19 40.6**	**-2.3**
MRSI	**Marisa**	**4.66**	**215**	P	**Pn**	**01 19 45.5**	**+0.5**
MRSI				S	**S**	**01 20 45.3**	**+0.2**
SNPH	**Sibulan**	**5.18**	**345**	⇑eP	**Pn**	**01 19 51.9**	**+1.0**
SNPH				eS	**S**	**01 20 57.3**	**+1.5**
MSLP	**Maasin**	**5.78**	**2**	⇓eP	**Pn**	**01 19 58.9**	**+1.1**
MSLP				eS	**S**	**01 21 08.6**	**+0.2**
CNOP	**Candoni, Negro**	**5.82**	**340**	⇑iP	**Pn**	**01 19 58.5**	**+0.3**
CNOP				iS	**S**	**01 21 08.8**	**-0.3**
APSI	**Ampana**	**5.98**	**210**	P	**Pn**	**01 19 59.8**	**-0.4**
	12nm7µm30µm3µm,1.4s						
LLP	**Lapu-Lapu**	**6.00**	**354**	⇓iP	**Pn**	**01 20 00.9**	**+0.6**
LLP				iS	S	01 21 03.1	-10
MPSI	**Mapaga**	**6.16**	**230**	P	**Pn**	**01 20 02.5**	**+0.3**
	6.6nm13µm13µm2µm,0.9s						
SANI	**Sanana**	**6.47**	**168**	P	**Pn**	**01 20 03.1**	**-2.8**
	31nm43µm93µm6µm,1.4s						
JAP	**San Jose, Anti**	**6.92**	**338**	⇑eP	**Pn**	**01 20 12.1**	**+1.0**
RCP	**Roxas**	**7.43**	**346**	⇑eP	**Pn**	**01 20 17.5**	**+0.1**
PPR	**Puerto Princes**	**7.97**	**313**	⇑eP	**Pn**	**01 20 24.4**	**+0.5**
PPR				eS	**S**	**01 22 00.0**	**+3.8**
SWI	**Sorong**	**8.40**	**128**	P	**Pn**	**01 20 28.6**	**-0.5**
SWI				pmax	pmax		
	comp=Z,77nm,1.1s						
SWI	**Sorong**	**8.40**	**128**	P	**Pn**	**01 20 28.3**	**-0.8**
	comp=Z,20µmcomp=Z,11µmcomp=Z,781nm,1.4s						
SIJI	**Sorong**	**8.40**	**128**	P	**Pn**	**01 20 27.6**	**-1.6**
	comp=Z,17nm,0.3s,baz=327,slow=10,SNR=95						
SIJI	**Sorong**	**8.40**	**128**	P	**Pn**	**01 20 27.8**	**-1.4**
	comp=Z,14µmcomp=Z,7µmcomp=Z,374nm,1.6s						
KDI	**Kendari**	**8.46**	**194**	P	**Pn**	**01 20 28.7**	**-1.1**
KRAI	**Karang Ratu**	**8.47**	**154**	P	**Pn**	**01 20 29.6**	**-0.4**
	comp=Z,23µmcomp=Z,24µmcomp=Z,2µm,0.6s						
MSAI	**Masohi**	**8.75**	**150**	P	**Pn**	**01 20 33.5**	**+0.2**
	comp=Z,3µmcomp=Z,232nm,0.6s						
TTSI	**Tana Toraja**	**8.75**	**213**	P	**Pn**	**01 20 34.5**	**+1.2**
	comp=Z,6µmcomp=Z,19µmcomp=Z,2µm,1.1s						
SMKI	**Samarinda**	**8.79**	**238**	P	**P**	**01 20 36.1**	**-1.6**
	comp=Z,17µmcomp=Z,27µmcomp=Z,2µm,1.1s						
KKSI	**Kolaka, Sulawe**	**8.94**	**199**	P	**Pn**	**01 20 35.7**	**+0.1**
	comp=Z,6µmcomp=Z,452nm,0.9s						
BKB	**Balikpapan**	**9.50**	**234**	Pn	**Pn**	**01 20 43.8**	**+1.4**
BKB	**Balikpapan**	**9.50**	**234**	P	**Pn**	**01 20 43.6**	**+1.1**
	comp=Z,10µmcomp=Z,27µmcomp=Z,2µm,1.1s						
PMSI	**Majene**	**9.63**	**216**	P	**P**	**01 20 45.7**	**-1.4**
	comp=Z,5µmcomp=Z,502nm,1.1s						
BNSI	**Bone**	**9.76**	**208**	P	**Pn**	**01 20 46.9**	**+1.3**
	comp=Z,13µmcomp=Z,1µm,1.1s						
GQP	**Guinayangan**	**9.77**	**347**	⇓iP	**Pn**	**01 20 46.6**	**+1.0**
PGP	**Puerto Galera**	**9.82**	**339**	⇑eP	**P**	**01 20 48.2**	**-0.9**
JCNP	**Jose Panganiba**	**10.09**	**349**	⇓iP	**Pn**	**01 20 49.8**	**+0.2**
BNDI	**Bandanaira**	**10.25**	**149**	P	**Pn**	**01 20 51.1**	**-0.4**
	comp=Z,9µmcomp=Z,66µmcomp=Z,4µm,1.2s						
LUBP	**Lubang**	**10.30**	**336**	⇓iP	**P**	**01 20 54.0**	**-0.5**
TGY	**Tagaytay City**	**10.38**	**340**	⇑eP	**P**	**01 20 56.9**	**+1.5**
KAPI	**Kappang**	**10.47**	**208**	P	**Pn**	**01 20 54.1**	**-0.1**
	comp=Z,4.8nm,0.3s,baz=44,slow=7.3,SNR=53						
KAPI	**Kappang**	**10.47**	**208**		**Pn**	**01 20 54.4**	**+0.2**
KAPI				ScP	**ScP**	**01 29 30.1**	**+0.9**
KAPI	**Kappang**	**10.47**	**208**	P	**Pn**	**01 20 55.1**	**+0.9**
	comp=Z,3µmcomp=Z,306nm,1.0s						
FAKI	**Fak Fak**	**10.48**	**133**	Pn	**Pn**	**01 20 53.2**	**-1.1**
FAKI				ScP	**ScP**	**01 29 30.4**	**+1.2**
FAKI	**Fak Fak**	**10.48**	**133**	P	**Pn**	**01 20 53.9**	**-0.4**
	comp=Z,9µmcomp=Z,19µmcomp=Z,1µm,1.1s						
BKSI	**Bulukumba**	**10.58**	**205**	P	**Pn**	**01 20 56.3**	**+0.8**
	comp=Z,4µmcomp=Z,403nm,1.2s						
MKS	**Makassar**	**10.78**	**209**	P	**P**	**01 20 59.5**	**-0.3**
	comp=Z,4µmcomp=Z,300nm,1.1s						
MTKI	**Muara Teweh, K**	**11.03**	**242**	P	**P**	**01 21 02.6**	**0.0**
	comp=Z,4µmcomp=Z,13µmcomp=Z,364nm,1.6s						
BSSI	**Bau Bau, Buton**	**11.18**	**202**	P	**P**	**01 21 03.8**	**-0.5**
	comp=Z,4µmcomp=Z,245nm,1.1s						
KBKI	**Kotabaru**	**11.34**	**228**	P	**P**	**01 21 06.6**	**+0.5**
	comp=Z,8µmcomp=Z,1000nm,1.0s						
PCPH	**Palayan**	**11.70**	**343**	⇑eP	**P**	**01 21 09.6**	**-0.4**
KMPI	**Kaimana, Papua**	**12.05**	**131**	P	**Pn**	**01 21 12.4**	**-0.9**
	comp=Z,38µmcomp=Z,3µm,1.5s						
BBKI	**Banjar Baru**	**12.46**	**232**	P	**P**	**01 21 20.1**	**+1.6**
	comp=Z,8µmcomp=Z,676nm,0.9s						
PKKI	**Palangkaraya**	**12.48**	**239**	P	**P**	**01 21 19.8**	**+1.1**
	comp=Z,24µmcomp=Z,2µm,0.8s						
BAKI	**Biak**	**12.72**	**115**	P	**P**	**01 21 21.5**	**+0.2**
	comp=Z,4µm,1.1s						
MMRI	**Maumere**	**13.09**	**190**	P	**Pn**	**01 21 26.1**	**+0.5**
MMRI	**Maumere**	**13.09**	**190**	P	**Pn**	**01 21 26.5**	**+0.9**
	comp=Z,8µmcomp=Z,634nm,1.3s						
SRPI	**Serui, Papua**	**13.14**	**118**	P	**Pn**	**01 21 27.2**	**+0.9**
	comp=Z,40µmcomp=Z,2µm,1.1s						
EDFI	**Ende, Flores**	**13.31**	**193**	P	**Pn**	**01 21 29.2**	**+0.8**
	comp=Z,4µmcomp=Z,4µmcomp=Z,326nm,1.2s						
STKI	**Sintang**	**13.79**	**252**	P	**Pn**	**01 21 36.3**	**+2.2**
	comp=Z,11µmcomp=Z,625nm,1.6s						
APYP	**Conner**	**13.86**	**346**	⇑eP	**Pn**	**01 21 35.4**	**+0.6**
SOEI	**Soe**	**13.98**	**181**		**Pn**	**01 21 37.0**	**+0.6**
SOEI	**Soe**	**13.98**	**181**	P	**Pn**	**01 21 37.7**	**+1.3**
	comp=Z,5µmcomp=Z,10µmcomp=Z,1µm,1.1s						
BATI	**Baumata**	**14.46**	**184**	P	**Pn**	**01 21 41.3**	**-0.6**
	comp=Z,76nm,0.3s,baz=359,slow=0.3,SNR=83						
BATI				S	**S**	**01 24 19.8**	**+1.2**
	comp=Z,29nm,0.3s,baz=111,slow=23,SNR=13						
BATI	**Baumata**	**14.46**	**184**	P	**Pn**	**01 21 42.5**	**+0.6**
	comp=Z,10µmcomp=Z,1µm,0.9s						
PBKI	**Pangkalan Bun**	**14.70**	**242**	P	**Pn**	**01 21 46.4**	**+1.6**
	comp=Z,22µmcomp=Z,2µm,1.1s						
PLAI	**Plampang**	**14.73**	**208**	P	**Pn**	**01 21 46.5**	**+1.4**
	comp=Z,5µmcomp=Z,439nm,0.7s						
WBSI	**Waikabubak, Su**	**14.81**	**201**	P	**Pn**	**01 21 45.7**	**-0.4**
	comp=Z,4µmcomp=Z,393nm,1.1s						
TWSI	**Taliwang, Sumb**	**15.09**	**211**	P	**Pn**	**01 21 49.1**	**-0.2**
	comp=Z,3µmcomp=Z,501nm,0.9s						
KHKI	**Kahang-Kahang**	**15.48**	**216**	P	**Pn**	**01 21 53.8**	**0.0**
SRBI	**Singaraja**	**15.49**	**217**	P	**Pn**	**01 21 53.6**	**-0.3**
	comp=Z,4µmcomp=Z,210nm,0.7s						
KMMI	**Kalianget**	**15.51**	**223**	P	**Pn**	**01 21 53.5**	**-0.7**
	comp=Z,5µmcomp=Z,348nm,0.9s						
BWJI	**Bawean**	**15.64**	**230**	P	**Pn**	**01 21 57.6**	**+1.8**
	comp=Z,11µmcomp=Z,1µm,1.2s						
ABJI	**Asem Bagus**	**15.88**	**221**	P	**Pn**	**01 21 58.9**	**+0.4**
	comp=Z,4µmcomp=Z,207nm,0.9s						
DNP	**Denpasar**	**15.96**	**216**	P	**Pn**	**01 21 58.9**	**-0.5**
DNP				pmax	pmax		
	comp=Z,672nm,0.9s						
DNP	**Denpasar**	**15.96**	**216**	P	**Pn**	**01 21 58.7**	**-0.7**
	comp=Z,30µmcomp=Z,716nm,0.6s						
BYJI	**Banyuwangi**	**16.12**	**219**	P	**P**	**01 21 59.6**	**+0.9**
	comp=Z,11µmcomp=Z,422nm,1.0s						
BBP	**Basco**	**16.23**	**351**	⇓eP	**P**	**01 21 56.6**	**-3.2**
JAGI	**Jajag, Banyuwa**	**16.44**	**219**	P	**Pn**	**01 22 04.0**	**-1.0**
JAGI				IAmb	IAmb	01 22 09.4	
	comp=Z,271nm,0.7s						
JAGI	**Jajag, Banyuwa**	**16.44**	**219**	P	**Pn**	**01 22 04.6**	**-0.5**
	comp=Z,4µmcomp=Z,416nm,0.9s						
GRJI	**Gresik**	**16.47**	**227**	P	**Pn**	**01 22 04.9**	**-0.5**
	comp=Z,7µmcomp=Z,617nm,0.6s						
TBJI	**Tambak Boyo**	**16.88**	**229**	P	**Pn**	**01 22 11.2**	**+1.1**
	comp=Z,4µmcomp=Z,349nm,1.1s						
GENI	**Genyem**	**16.99**	**114**	P	**P**	**01 22 09.1**	**+1.0**
	comp=Z,14µmcomp=Z,55µmcomp=Z,4µm,2.0s						
KRKI	**Karangkates**	**17.35**	**224**	P	**Pn**	**01 22 15.9**	**+0.4**
	comp=Z,482nm,0.8s						
JAY	**Jayapura**	**17.45**	**113**	P	**P**	**01 22 13.3**	**+0.1**
	comp=Z,24nm,0.3s,baz=274,slow=6.7,SNR=83						
JAY				S	**S**	**01 25 23.7**	**+5.7**
	baz=332,slow=20,SNR=7.3						
JAY	**Jayapura**	**17.45**	**113**	P	**P**	**01 22 13.2**	**+0.1**
	comp=Z,5µmcomp=Z,256nm,1.5s						
SJI	**Sawahan**	**17.54**	**227**	P	**Pn**	**01 22 16.4**	**-1.5**
	comp=Z,7µmcomp=Z,297nm,1.0s						
PWJI	**Pagerwojo**	**17.71**	**226**	P	**P**	**01 22 17.8**	**+1.9**
	comp=Z,188nm,0.8s						
SMRI	**Semarang**	**18.11**	**231**	P	**P**	**01 22 22.5**	**+2.4**
SMRI				IAmb	IAmb	01 22 32.7	
	comp=Z,337nm,1.2s						
SMRI	**Semarang**	**18.11**	**231**	P	**P**	**01 22 23.4**	**+3.2**
	comp=Z,195nm,1.2s						
MTN	**Manton Dam**	**18.24**	**159**	P	**P**	**01 22 20.9**	**-0.6**
	baz=18,SNR=147						
MTN	**Manton Dam**	**18.24**	**159**	P	**P**	**01 22 21.0**	**-0.5**
MTN				IAmb	IAmb	01 22 22.5	
	comp=Z,871nm,1.1s						
PCJI	**Pacitan**	**18.28**	**227**	P	**P**	**01 22 25.0**	**+3.0**
	comp=Z,250nm,1.1s						
TPI	**Tanjungpandan**	**18.35**	**248**	P	**P**	**01 22 24.5**	**+1.7**
	comp=Z,2µmcomp=Z,266nm,0.8s						
UGM	**Wanagama**	**18.59**	**229**	P	**P**	**01 22 26.1**	**+0.8**
UGM	**Wanagama**	**18.59**	**229**	P	**P**	**01 22 27.0**	**+1.7**
	comp=Z,299nm,1.7s						
KDU	**Kakadu**	**18.61**	**155**	P	**P**	**01 22 24.9**	**-0.5**
	baz=19,SNR=281						
YOGI	**Yogyakarta**	**18.70**	**230**	P	**P**	**01 22 28.5**	**+2.1**
	comp=Z,178nm,0.7s						
TWG	**Pinlang**	**18.71**	**350**	P	**P**	**01 22 23.7**	**-2.8**
TWG				IAmb	IAmb	01 22 40.6	
	comp=Z,906nm,1.1s						
CTJI	**Waduk Cacaban**	**19.08**	**234**	P	**P**	**01 22 32.8**	**+2.3**
	comp=Z,262nm,1.2s						
YULB	**Yu-li**	**19.23**	**351**	P	**P**	**01 22 28.5**	**-3.6**
TPUB	**Ta-pu**	**19.26**	**349**	P	**P**	**01 22 31.0**	**-1.4**
KPJI	**Karang Pucung**	**19.47**	**234**	P	**P**	**01 22 36.8**	**+2.1**
	comp=Z,201nm,0.8s						
JCJI	**Jatiwangi**	**19.54**	**237**	P	**P**	**01 22 39.8**	**+4.4**
	comp=Z,374nm,1.2s						
PPBI	**Pangkal Pinang**	**19.56**	**251**	P	**P**	**01 22 36.7**	**+1.0**
	comp=Z,62µmcomp=Z,314nm,1.2s						
SSLB	**Suanglung**	**19.68**	**350**		**P**	**01 22 34.6**	**-2.2**
SSLB				ScP	**ScP**	**01 29 46.4**	**+0.5**
NACB	**Ninganchiao**	**19.95**	**352**	P	**P**	**01 22 36.9**	**-2.7**
YOJ	**Yonaguni jima**	**20.09**	**356**	P	**P**	**01 22 40.1**	**-0.9**
YOJ				pmax	pmax		
	comp=Z,2µm,1.2s						
YOJ	**Yonaguni jima**	**20.09**	**356**	P	**P**	**01 22 39.7**	**-1.3**
YOJ				PcP	**PcP**	**01 26 42.3**	**+1.0**
MMPI	**Merauke**	**20.21**	**129**	P	**P**	**01 22 42.9**	**+0.6**
	comp=Z,45µmcomp=Z,2µm,1.0s						
LEM	**Lembang**	**20.26**	**237**	P	**P**	**01 22 43.8**	**+0.8**
	comp=Z,211nm,0.9s,baz=60,slow=7.4,SNR=27						
LEM	**Lembang**	**20.26**	**237**	P	**P**	**01 22 45.3**	**+2.3**
	comp=Z,5µmcomp=Z,3µmcomp=Z,245nm,0.9s						
KNRA	**Kununurra**	**20.29**	**168**	P	**P**	**01 22 41.7**	**-1.3**
	baz=20,SNR=240						
KNRA	**Kununurra**	**20.29**	**168**	P	**P**	**01 22 41.5**	**-1.5**
YHNB	**Yeheng**	**20.47**	**352**	P	**P**	**01 22 43.0**	**-1.8**
CISI	**Cisompet, Garu**	**20.50**	**235**	P	**P**	**01 22 45.3**	**0.0**
CISI	**Cisompet, Garu**	**20.50**	**235**	P	**P**	**01 22 45.2**	**0.0**
	comp=Z,4µmcomp=Z,2µmcomp=Z,118nm,0.9s						
QIZ	**Qiongzhong**	**20.54**	**317**	P	**P**	**01 22 46.0**	**+0.5**
QIZ				S	**S**	**01 26 16.9**	**+2.2**
QIZ				pmax	pmax		
	comp=Z,2µm,1.3s						
QIZ	**Qiongzhong**	**20.54**	**317**	P	**P**	**01 22 45.7**	**+0.2**
DSRI	**Dabo**	**20.58**	**257**	P	**P**	**01 22 47.2**	**+1.2**
	comp=Z,5µmcomp=Z,5µmcomp=Z,256nm,0.9s						
MCO	**Taipa Grande**	**20.69**	**330**	P	**P**	**01 22 48.0**	**+1.1**
CBJI	**Citeko**	**20.70**	**239**	P	**P**	**01 22 48.8**	**+1.8**
	comp=Z,621nm,1.1s						
TNG	**Tangerang**	**20.75**	**240**	P	**P**	**01 22 49.4**	**+1.9**
	comp=Z,12µmcomp=Z,500nm,1.2s						
TNG				P	**P**	**01 22 48.8**	**+1.3**
	comp=Z,743nm,0.6s						
TATO	**Taipei**	**20.76**	**352**	P	**P**	**01 22 44.8**	**-2.6**
TATO				IAmb	IAmb	01 22 49.1	
	comp=Z,394nm,0.8s						
DBJI	**Dramaga**	**20.85**	**239**	P	**P**	**01 22 50.9**	**+2.4**
	comp=Z,198nm,1.2s						
KNMB	**Chin-men Tao**	**20.91**	**344**	P	**P**	**01 22 48.6**	**-0.2**
CNJI	**Cibinong**	**20.93**	**237**	P	**P**	**01 22 52.2**	**+3.0**
	comp=Z,5µmcomp=Z,337nm,0.9s						
BTDF	**Bukit Timah Da**	**21.02**	**263**	P	**P**	**01 22 51.7**	**+1.6**
	comp=Z,6µmcomp=Z,6µmcomp=Z,659nm,0.9s						
BTDF	**Bukit Timah Da**	**21.02**	**263**	P	**P**	**01 22 50.0**	**-0.1**
PMBI	**Palembang**	**21.10**	**250**	P	**P**	**01 22 53.3**	**+2.5**
PMBI	**Palembang**	**21.10**	**250**	P	**P**	**01 22 54.2**	**+3.5**
	comp=Z,44µmcomp=Z,3µm,1.3s						
SBJI	**Serang**	**21.18**	**241**	P	**P**	**01 22 53.5**	**+2.1**
	comp=Z,7µmcomp=Z,407nm,0.7s						
SKJI	**Sukabumi**	**21.25**	**238**	P	**P**	**01 22 53.2**	**+1.1**
	comp=Z,6µmcomp=Z,5µmcomp=Z,331nm,1.0s						
QZH	**Quanzhou**	**21.31**	**345**	⇓iP	**P**	**01 22 52.5**	**0.0**
QZH				S	**S**	**01 26 28.3**	**+1.5**
QZH				ScP	**ScP**	**01 29 51.1**	**+1.4**
QZH				pmax	pmax		
	comp=Z,2µm,1.2s						
QZH				LR	LR		
	comp=Z,2µm,9.8s						
QZH				LR	LR		
	comp=Z,2µm,12.2s						
QZH				LR	LR		
	comp=Z,1µm,11.9s						
GZH	**Guangzhou**	**21.61**	**331**	⇓iP	**P**	**01 22 59.1**	**+3.8**
GZH				S	**S**	**01 26 40.5**	**+8.8**
GZH				pmax	pmax		
	comp=Z,7µm,2.4s						
BLSI	**Bandar Lampung**	**21.61**	**244**	P	**P**	**01 22 57.1**	**+1.7**
	comp=Z,388nm,0.8s						
GUMO	**Guam**	**22.00**	**64**	P	**P**	**01 22 59.1**	**+0.2**
	comp=Z,142nm,0.4s,baz=170,slow=18,SNR=16						
GUMO				ScP	**ScP**	**01 29 50.9**	**-0.7**
	comp=Z,44nm,0.6s,baz=104,slow=3.8,SNR=4.3						
GUMO	**Guam**	**22.00**	**64**	P	**P**	**01 22 59.0**	**+0.1**
GUMO				IAmb	IAmb	01 23 00.7	
	comp=Z,846nm,1.4s						
GUMO	**Guam**	**22.00**	**64**	P	**P**	**01 22 58.8**	**-0.1**
JRMM	**Jerantut**	**22.09**	**270**	P	**P**	**01 23 01.0**	**+1.2**
MDSI	**Maura Dua**	**22.21**	**247**	P	**P**	**01 23 02.4**	**+1.5**
	comp=Z,3µmcomp=Z,2µmcomp=Z,189nm,1.3s						
JMZ	**Minamidaito 2**	**22.30**	**16**	P	**P**	**01 23 00.9**	**-0.6**
JMZ				IAmb	IAmb	01 23 04.3	
	comp=Z,1µm,1.3s						
KASI	**Kota Agung**	**22.35**	**244**	P	**P**	**01 23 03.3**	**+1.2**
	comp=Z,3µmcomp=Z,297nm,0.7s						
LWLI	**Liwa**	**22.54**	**246**	P	**P**	**01 23 05.6**	**+1.7**
	comp=Z,727nm,0.7s						
LHSI	**Lahat**	**22.58**	**249**	P	**P**	**01 23 06.4**	**+2.2**
	comp=Z,6µmcomp=Z,424nm,1.0s						
JOW	**Kunigami**	**22.66**	**9**	P	**P**	**01 23 05.3**	**+0.5**
RGRI	**Rengat**	**22.74**	**259**	P	**P**	**01 23 07.1**	**+1.4**
	comp=Z,84µmcomp=Z,214nm,0.6s						
KSI	**Kapahiang**	**23.39**	**251**	P	**P**	**01 23 14.1**	**+2.4**
	comp=Z,11µmcomp=Z,219nm,0.7s						
MASI	**Maura Aman, Be**	**23.56**	**252**	P	**P**	**01 23 15.3**	**+2.1**
	comp=Z,11µmcomp=Z,1µm,0.8s						
MANU	**Manus Island**	**23.59**	**105**	P	**P**	**01 23 14.9**	**+1.4**
MANU				IAmb	IAmb	01 23 18.1	
	comp=Z,1µm,1.4s						
MANU				ScP	**ScP**	**01 29 58.9**	**+2.9**
UBSI	**University, Be**	**23.73**	**251**	P	**P**	**01 23 19.7**	**+5.1**
SKNT	**Sakolnakorn**	**23.83**	**303**	P	**P**	**01 23 16.3**	**+0.8**
	comp=Z,14µmcomp=Z,1µm,1.3s						
SKNT	**Sakolnakorn**	**23.83**	**303**	P	**P**	**01 23 16.0**	**+0.5**
	comp=Z,14µmcomp=Z,1µm,1.3s						
KULM	**Kulim**	**23.91**	**273**	P	**P**	**01 23 17.0**	**+0.8**
ANA2	**Anatahan**	**23.91**	**58**	P	**P**	**01 23 18.1**	**+1.8**
ANA2	**Anatahan**	**23.91**	**58**	P	**P**	**01 23 17.9**	**+1.6**
SKLT	**Songkhla**	**24.04**	**278**	P	**P**	**01 23 18.9**	**+1.4**
	comp=Z,5µmcomp=Z,369nm,1.5s						
SKLT	**Songkhla**	**24.04**	**278**	P	**P**	**01 23 18.9**	**+1.4**
	comp=Z,5µmcomp=Z,369nm,1.5s						
SRAK	**Srakaew**	**24.25**	**295**	P	**P**	**01 23 15.1**	**-4.3**
	comp=Z,104µmcomp=Z,14µm,0.9s						
EGSI	**Enggano, Bengk**	**24.30**	**247**	P	**P**	**01 23 19.4**	**-0.4**
	comp=Z,168nm,0.8s						
KHON	**Khomkaen**	**24.51**	**301**	P	**P**	**01 23 22.8**	**+1.2**
	comp=Z,11µmcomp=Z,1µm,1.0s						
KHON	**Khomkaen**	**24.51**	**301**	P	**P**	**01 23 22.9**	**+1.2**
	comp=Z,3µmcomp=Z,323nm,1.0s						
PDSI	**Padang**	**24.69**	**258**	P	**P**	**01 23 23.6**	**+0.2**
	comp=Z,30µmcomp=Z,10µmcomp=Z,141nm,0.6s						
PATY	**Pattaya**	**24.97**	**292**	P	**P**	**01 23 26.9**	**+1.1**
	comp=Z,4µmcomp=Z,232nm,0.9s						
PATY	**Pattaya**	**24.97**	**292**	P	**P**	**01 23 27.0**	**+1.1**
	comp=Z,1µmcomp=Z,60nm,0.9s						
TRTT	**Trang**	**25.03**	**279**	P	**P**	**01 23 27.8**	**+1.4**
	comp=Z,3µmcomp=Z,222nm,1.6s						
TRTT	**Trang**	**25.03**	**279**	P	**P**	**01 23 27.8**	**+1.4**
	comp=Z,3µmcomp=Z,222nm,1.6s						
CHAI	**Chaiyaphum**	**25.04**	**299**	P	**P**	**01 23 27.1**	**+0.6**
	comp=Z,7µmcomp=Z,933nm,0.8s						
CHAI	**Chaiyaphum**	**25.04**	**299**	P	**P**	**01 23 27.1**	**+0.7**
	comp=Z,2µmcomp=Z,232nm,0.8s						
NONG	**Nongkai**	**25.06**	**305**	P	**P**	**01 23 27.0**	**+0.4**
	comp=Z,17µmcomp=Z,701nm,1.1s						
NONG	**Nongkai**	**25.06**	**305**	P	**P**	**01 23 27.1**	**+0.5**
	comp=Z,17µmcomp=Z,708nm,1.1s						
MNSI	**Mandailing Nat**	**25.25**	**263**	P	**P**	**01 23 28.5**	**+0.1**
	comp=Z,29µmcomp=Z,3µmcomp=Z,200nm,0.8s						
SURA	**Surathani**	**25.27**	**282**	P	**P**	**01 23 30.0**	**+1.5**
	comp=Z,284nm,1.4s						
SURA	**Surathani**	**25.27**	**282**	P	**P**	**01 23 30.1**	**+1.6**
	comp=Z,280nm,1.4s						
TMDB	**BangkokBB_BH_I**	**25.45**	**293**	P	**P**	**01 23 33.7**	**+3.7**
	comp=Z,136µmcomp=Z,11µm,1.3s						
TMDB	**BangkokBB_BH_I**	**25.45**	**293**	P	**P**	**01 23 33.8**	**+3.7**
	comp=Z,138µmcomp=Z,12µm,1.3s						
PSI	**Prapat**	**25.69**	**268**	P	**P**	**01 23 32.8**	**+0.4**
	comp=Z,111nm,0.8s						
PSI				pP	**pP**	**01 24 27.8**	**-1.6**
	comp=Z,48nm,0.9s,baz=8.4,slow=1.2,SNR=1.9						
PSI				PcP	**PcP**	**01 26 53.1**	**-0.4**
	comp=Z,62nm,0.8s,baz=180,slow=12,SNR=6.7						
PSI				ScP	**ScP**	**01 30 01.7**	**-0.3**
	comp=Z,58nm,0.8s,baz=360,slow=1.7,SNR=13						
PSI	**Prapat**	**25.69**	**268**	P	**P**	**01 23 32.8**	**+0.4**
PSI						01 26 53.5	
PSI				pmax	pmax		
	comp=Z,549nm,1.5s						
PSI	**Prapat**	**25.69**	**268**	P	**P**	**01 23 32.4**	**0.0**
	comp=Z,3µmcomp=Z,1µmcomp=Z,83nm,1.0s,comp=Z,8µm,1.0s,						
	comp=Z,3µm,1.0s,comp=Z,176nm,1.0s						
PSI				P	**P**	**01 23 32.8**	**+0.4**
	comp=Z,3µmcomp=Z,1µmcomp=Z,83nm,1.0s,comp=Z,8µm,1.0s,						
	comp=Z,3µm,1.0s,comp=Z,176nm,1.0s						
RPSI	**Rantau Prapat**	**25.70**	**267**	P	**P**	**01 23 32.8**	**+0.4**
RPSI	**Rantau Prapat**	**25.70**	**267**	P	**P**	**01 23 32.6**	**+0.2**
RPSI				IAmb	IAmb	01 24 36.9	
	comp=Z,549nm,1.5s						
RPSI				PcP	**PcP**	**01 26 53.5**	**+0.1**
MBWA	**Marble Bar**	**25.77**	**191**	P	**P**	**01 23 32.4**	**-0.5**
COEN	**Coen**	**25.86**	**135**	P	**P**	**01 23 32.5**	**-1.2**
COEN				ScP	**ScP**	**01 30 04.0**	**+1.7**
WRAB	**Tennant Creek**	**25.93**	**159**	c iP	**P**	**01 23 33.2**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,549nm,1.7s						
WRAB	**Tennant Creek**	**25.93**	**159**	P	**P**	**01 23 33.4**	**-0.9**
WRAB				IAmb	IAmb	01 23 34.8	
	comp=Z,352nm,1.0s						
WRA	**Warramunga Arr**	**25.93**	**159**	P	**P**	**01 23 33.2**	**-1.1**
	comp=Z,88nm,0.3s,baz=330,slow=11,SNR=1831						
WRA				pP	**pP**	**01 24 32.5**	**+0.1**
	comp=Z,53nm,0.8s,baz=338,slow=9.8,SNR=2.4						
WRA				S	**S**	**01 27 35.6**	**-4.9**
	comp=Z,66nm,1.2s,baz=328,slow=16,SNR=6.6						
WRA				ScP	**ScP**	**01 30 02.8**	**+0.4**
	comp=Z,34nm,1.0s,baz=336,slow=3.4,SNR=5.2						
WRA				P3KPbc		01 56 17.1	
	comp=Z,5.0nm,0.9s,baz=156,slow=4.1,SNR=18						
WRA	**Warramunga Arr**	**25.93**	**159**	P	**P**	**01 23 32.9**	**-1.5**
WB2	**Warramunga Arr**	**25.94**	**159**	P	**P**	**01 23 33.3**	**-1.0**
WB2				IAmb	IAmb	01 23 34.7	
	comp=Z,349nm,1.1s						
TSI	**Tuntungan**	**26.01**	**269**	P	**P**	**01 23 36.1**	**+1.0**
	comp=Z,8µmcomp=Z,9µmcomp=Z,177nm,0.6s						
WR0	**Warramunga Arr**	**26.02**	**158**	P	**P**	**01 23 34.0**	**-1.2**
SURT	**Suratani**	**26.05**	**282**	P	**P**	**01 23 37.2**	**+1.7**
	comp=Z,105nmcomp=Z,13nm,1.1s						
SURT	**Suratani**	**26.05**	**282**	P	**P**	**01 23 37.3**	**+1.7**
	comp=Z,105nmcomp=Z,13nm,1.1s						
SISI	**Saibi**	**26.12**	**258**	P	**P**	**01 23 37.8**	**+1.7**
	comp=Z,156nm,0.7s						
PSA00	**Pilbara Seismi**	**26.15**	**190**	P	**P**	**01 23 35.9**	**-0.4**
PBKT	**Sadao Pong**	**26.21**	**299**	P	**P**	**01 23 38.6**	**+1.8**
	comp=Z,121nm,0.8s						
PBKT	**Sadao Pong**	**26.21**	**299**	P	**P**	**01 23 38.0**	**+1.2**
	comp=Z,121nm,0.8s						
PBKT	**Sadao Pong**	**26.21**	**299**	P	**P**	**01 23 38.3**	**+1.5**
PBKT	**Sadao Pong**	**26.21**	**299**	P	**P**	**01 23 38.0**	**+1.2**
	comp=Z,116nm,0.8s						
SLVN	**Son La**	**26.28**	**312**	P	**P**	**01 23 39.0**	**+1.5**
SLVN				IAmb	IAmb	01 23 41.6	
	comp=Z,719nm,1.3s						
PKDT	**Phuket**	**26.37**	**279**	P	**P**	**01 23 39.4**	**+1.1**
	comp=Z,5µmcomp=Z,465nm,1.0s						
PKDT	**Phuket**	**26.37**	**279**	P	**P**	**01 23 39.4**	**+1.1**
	comp=Z,5µmcomp=Z,465nm,1.0s						
LASI	**Langsa, Aceh**	**26.57**	**271**	P	**P**	**01 23 41.8**	**+1.7**
	comp=Z,267nm,0.4s						
PBSI	**Pulau Batu**	**26.67**	**261**	P	**P**	**01 23 40.8**	**-0.2**
	comp=Z,295nm,0.7s						
SSE	**Sheshan**	**26.83**	**353**	P	**P**	**01 23 43.9**	**+1.7**
SSE				pP	**pP**	**01 24 44.5**	**+1.9**
SSE				S	**S**	**01 28 00.1**	**+5.8**
SSE				pmax	pmax		
	comp=Z,100nm,1.4s						
SSE				LR	LR		
	comp=Z,340nm,14.3s						
PHIT	**Phitsanulok**	**26.95**	**300**	P	**P**	**01 23 45.0**	**+1.6**
	comp=Z,23µmcomp=Z,3µm,1.0s						
PHIT	**Phitsanulok**	**26.95**	**300**	P	**P**	**01 23 45.1**	**+1.6**
	comp=Z,6µmcomp=Z,677nm,1.0s						
SRDT	**SRDT**	**27.03**	**293**	P	**P**	**01 23 45.9**	**+1.7**
	comp=Z,715nm,1.2s						
SRDT	**SRDT**	**27.03**	**293**	P	**P**	**01 23 45.9**	**+1.8**
	comp=Z,715nm,1.2s						
SRDT	**SRDT**	**27.03**	**293**	P	**P**	**01 23 46.1**	**+1.9**
	comp=Z,683nm,1.2s						
UTTA	**Uttaradit**	**27.08**	**301**	P	**P**	**01 23 45.8**	**+1.3**
	comp=Z,5µmcomp=Z,576nm,1.1s						
UTTA	**Uttaradit**	**27.08**	**301**	P	**P**	**01 23 45.9**	**+1.4**
	comp=Z,1µmcomp=Z,144nm,1.1s						
GSI	**Gunungsitoli**	**27.17**	**264**	P	**P**	**01 23 44.7**	**-0.7**
GSI				ScP	**ScP**	**01 30 07.5**	**+1.2**
GSI	**Gunungsitoli**	**27.17**	**264**	P	**P**	**01 23 45.4**	**-0.1**

comp=Z,4µmcomp=Z,333nm,0.8s
TPTI 27.40 269 P **P** **01 23 47.5 0.0**
comp=Z,950nmcomp=Z,52nm,0.7s
NANT Nan 27.44 304 P **P** **01 23 50.4 +2.6**
comp=Z,146µmcomp=Z,4µm,0.8s
NANT Nan 27.44 304 P **P** **01 23 50.0 +2.2**
comp=Z,37µmcomp=Z,1µm,0.8s
JSU Suzuyama 27.60 11 P **P** **01 23 48.2 -0.8**
JSU IAmb IAmb 01 23 49.9
comp=Z,235nm,0.9s
JSU **PcP** **01 26 58.0 +0.4**
KHLT Khaolaem Dam 27.66 294 P **P** **01 23 51.5 +1.7**
comp=Z,4µmcomp=Z,454nm,0.9s
KHLT Khaolaem Dam 27.66 294 P **P** **01 23 51.5 +1.7**
comp=Z,4µmcomp=Z,454nm,0.9s
WHN Wuhan 27.83 341 ⇓*i*P **P** **01 23 52.3 +1.3**
WHN PcP **PcP** **01 26 58.1 0.0**
WHN ScP **ScP** **01 30 08.4 +0.5**
WHN ScS **ScS** **01 34 00.5 -0.2**
WHN pmax pmax
comp=Z,3µm,1.4s
UMPA Umpang Tak 27.92 297 P **P** **01 23 53.0 +1.0**
comp=Z,403nm,1.2s
UMPA Umpang Tak 27.92 297 P **P** **01 23 53.1 +1.0**
comp=Z,100nm,1.2s
GYA Guiyang 27.93 324 ⇓*i*P **P** **01 23 53.4 +1.3**
GYA pP pP 01 24 52.8 +1.2
GYA PcP **PcP** **01 26 59.1 +0.5**
GYA S **S** **01 28 14.7 +2.7**
GYA sS ScP 01 30 05.3 -3.2
GYA ScP SS 01 30 09.3 -17
GYA SS SS 01 30 16.1 -10
GYA ScS **ScS** **01 34 01.3 -0.4**
GYA pmax pmax
comp=Z,310nm,1.0s
GYA pmax pmax
comp=Z,2µm,4.3s
GYA LR LR
comp=Z,1µm,9.5s
GYA LR LR
comp=Z,1µm,13.3s
GYA LR LR
comp=Z,2µm,13.9s
NJ2 Nanjing 28.11 350 ⇓*i*P **P** **01 23 54.0 +0.5**
NJ2 sP **sP** **01 25 29.1 -3.0**
NJ2 S **S** **01 28 15.7 +1.2**
NJ2 sS **sS** **01 30 04.2 +0.9**
NJ2 ScP **ScP** **01 30 10.5 +1.8**
NJ2 pmax pmax
comp=Z,89nm,0.9s
NJ2 LR LR
comp=Z,870nm,14.7s
NJ2 LR LR
comp=Z,760nm,13.5s
NJ2 LR LR
comp=Z,1µm,16.9s
MLSI Meulaboh, Aceh 28.14 271 P **P** **01 23 53.5 -0.5**
comp=Z,3µmcomp=Z,230nm,0.7s
JCJ Chichijima 28.18 35 P **P** **01 23 53.3 -0.9**
comp=Z,1µm,0.8s,baz=242,slow=3.5,SNR=88
JCJ S **S** **01 28 10.9 -4.9**
comp=Z,694nm,1.0s,baz=81,slow=22,SNR=36
LAMP Lampang 28.21 302 P **P** **01 23 56.2 +1.6**
comp=Z,6µmcomp=Z,690nm,0.9s
LAMP Lampang 28.21 302 P **P** **01 23 56.3 +1.7**
comp=Z,1µmcomp=Z,172nm,0.9s
LAMP Lampang 28.21 302 P **ScP** **01 30 11.7 +2.4**
PAYA Payao 28.40 304 P **P** **01 23 58.4 +2.2**
comp=Z,5µmcomp=Z,527nm,1.3s
PAYA Payao 28.40 304 P **P** **01 23 58.4 +2.2**
comp=Z,1µmcomp=Z,132nm,1.3s
PAYA Payao 28.40 304 P **ScP** **01 30 12.0 +2.0**
GIRL Giralia 28.66 200 P **P** **01 23 59.6 +1.3**
baz=29,SNR=3.3
GIRL Giralia 28.66 200 P **P** **01 23 59.7 +1.3**
GIRL IAmb IAmb 01 25 03.6
comp=Z,626nm,1.4s
CM36 Chiang Mai Arr 28.66 302 P **P** **01 24 00.0 +1.4**
CM35 Chiang Mai Arr 28.68 302 P **P** **01 24 00.0 +1.2**
CM04 Chiang Mai Arr 28.71 301 P **P** **01 24 00.7 +1.7**
comp=Z,3µmcomp=Z,304nm,1.0s
CM04 Chiang Mai Arr 28.71 301 P **P** **01 24 00.0 +1.0**
comp=Z,3µmcomp=Z,304nm,1.0s
CM04 Chiang Mai Arr 28.71 301 P **ScP** **01 30 13.4 +2.5**
CM09 Chiang Mai Arr 28.72 301 P **P** **01 24 00.9 +1.8**
comp=Z,3µmcomp=Z,393nm,0.9s
CM09 Chiang Mai Arr 28.72 301 P **P** **01 24 00.9 +1.8**
comp=Z,3µmcomp=Z,393nm,0.9s
CM09 Chiang Mai Arr 28.72 301 P **ScP** **01 30 13.7 +2.7**
CM01 Chiang Mai Arr 28.73 301 P **P** **01 24 01.0 +1.8**
comp=Z,3µmcomp=Z,330nm,1.0s
CM01 Chiang Mai Arr 28.73 301 P **P** **01 24 01.0 +1.8**
comp=Z,3µmcomp=Z,330nm,1.0s
CM01 Chiang Mai Arr 28.73 301 P **ScP** **01 30 13.7 +2.6**
CM05 Chiang Mai Arr 28.74 301 P **P** **01 24 00.9 +1.6**
comp=Z,2µmcomp=Z,211nm,1.1s
CM05 Chiang Mai Arr 28.74 301 P **P** **01 24 00.9 +1.7**
comp=Z,2µmcomp=Z,211nm,1.1s
CM05 Chiang Mai Arr 28.74 301 P **ScP** **01 30 13.6 +2.5**
CM02 Chiang Mai Arr 28.75 301 P **P** **01 24 01.1 +1.7**
comp=Z,144nmcomp=Z,3µmcomp=Z,325nm,1.0s
CM02 Chiang Mai Arr 28.75 301 P **P** **01 24 01.0 +1.6**
comp=Z,144nmcomp=Z,3µmcomp=Z,325nm,1.0s
CM02 Chiang Mai Arr 28.75 301 P **ScP** **01 30 13.0 +1.9**
CM34 Chiang Mai Arr 28.76 302 P **P** **01 24 00.0 +0.5**
CM31 Chiang Mai Arr 28.77 301 P **P** **01 24 01.2 +1.8**
comp=Z,73µmcomp=Z,8µm,1.0s
CM31 Chiang Mai Arr 28.77 301 IAmb IAmb 01 24 02.5
comp=Z,405nm,0.9s
CM31 Chiang Mai Arr 28.77 301 P **P** **01 24 01.2 +1.8**
SNR=72
CMAR Chiang Mai Arr 28.77 301 P **P** **01 24 00.9 +1.4**
comp=Z,187nm,0.8s,baz=116,slow=7.2,SNR=427
CMAR PcP **PcP** **01 27 01.2 +0.5**
comp=Z,10nm,0.6s,baz=184,slow=1.1,SNR=4.2
CMAR ScP **ScP** **01 30 12.1 +1.0**
comp=Z,53nm,0.9s,baz=148,slow=1.8,SNR=32
CMAR PKiKP **PKiKP** **01 34 34.7 -0.2**
comp=Z,1.4nm,0.4s,baz=271,slow=1.4,SNR=4.5
CMAR Chiang Mai Arr 28.77 301 ScP **ScP** **01 30 12.5 +1.3**
QIS Mount Isa 28.77 150 P **P** **01 23 59.0 -0.5**
baz=29,SNR=137
CM13 Chiang Mai Arr 28.78 301 P **P** **01 24 01.8 +2.2**
comp=Z,2µmcomp=Z,298nm,0.9s
CM13 Chiang Mai Arr 28.78 301 P **P** **01 24 01.0 +1.4**
comp=Z,2µmcomp=Z,298nm,0.9s
CM13 Chiang Mai Arr 28.78 301 P **ScP** **01 30 13.6 +2.4**
RABL Rabaul 28.79 107 P **P** **01 24 00.7 +0.9**
RABL Rabaul 28.79 107 P **P** **01 24 01.9 +2.1**
CMMT Chiang Mai 28.92 302 P **P** **01 24 01.8 +1.0**
comp=Z,8µmcomp=Z,752nm,1.4s
CMMT Chiang Mai 28.92 302 P **P** **01 24 01.9 +1.0**
comp=Z,8µmcomp=Z,752nm,1.4s
CMMT Chiang Mai 28.92 302 P **ScP** **01 30 13.4 +1.8**
CMMT Chiang Mai 28.92 302 P **P** **01 24 02.4 +1.6**
comp=Z,8µmcomp=Z,718nm,1.1s
CM33 Chiang Mai Arr 28.92 302 P **P** **01 24 01.0 +0.1**
CHTO Chiang Mai 28.92 302 P **P** **01 24 01.9 +1.0**
CHTO pmax pmax
comp=Z,513nm,1.0s
CHTO Chiang Mai 28.92 302 P **P** **01 24 01.9 +1.0**
comp=Z,8µmcomp=Z,761nm,1.4s
CHTO Chiang Mai 28.92 302 P **P** **01 24 01.9 +1.0**
CHTO IAmb IAmb 01 24 03.6
comp=Z,513nm,1.0s
CHTO Chiang Mai 28.92 302 P **P** **01 24 02.4 +1.5**
CHTO Chiang Mai 28.92 302 P **P** **01 24 02.5 +1.6**
comp=Z,3µmcomp=Z,5µmcomp=Z,428nm,1.4s
CM32 Chiang Mai Arr 28.93 302 P **P** **01 24 02.0 +1.0**
BSI Banda Aceh 29.24 274 P **P** **01 24 05.5 +1.8**
comp=Z,2µm,0.8s
JNU Nakatsue 29.25 11 P **P** **01 24 03.1 -0.5**
comp=Z,274nm,1.0s,baz=186,slow=4.7,SNR=82
JNU Nakatsue 29.25 11 IAmb IAmb 01 24 04.5
comp=Z,358nm,1.0s
ASAR Alice Springs 29.25 162 P **P** **01 24 03.2 -0.5**
comp=Z,30nm,0.3s,baz=341,slow=7.7,SNR=332
ASAR PcP **PcP** **01 27 01.9 +0.1**
comp=Z,24nm,0.7s,baz=344,slow=3.2,SNR=6.2
ASAR S **S** **01 28 30.5 -2.1**
comp=Z,66nm,1.1s,baz=352,slow=20,SNR=15
ASAR ScP **ScP** **01 30 12.6 +0.1**
comp=Z,51nm,1.0s,baz=349,slow=3.1,SNR=18
ASAR P3KPbc 01 56 02.3
comp=Z,1.7nm,0.8s,baz=150,slow=4.8,SNR=9.0
ASAR Alice Springs 29.25 162 P **P** **01 24 03.6 -0.1**
ASAR Alice Springs 29.25 162 P **P** **01 24 03.6 -0.1**
ASAR PcP **PcP** **01 27 01.6 -0.2**
ASAR ScP **ScP** **01 30 12.4 -0.1**
WRKA Warakurna 29.40 173 P **P** **01 24 04.7 -0.3**
baz=30,SNR=74
KMI Kunming 29.49 317 ⇓P **P** **01 24 08.4 +2.3**
KMI pP pP 01 25 06.2 +0.3
KMI PP **PP** **01 25 21.6 +1.2**
KMI S **S** **01 28 39.7 +3.0**
KMI ScP **ScP** **01 30 15.0 +1.4**
KMI pmax pmax
comp=Z,1µm,1.2s
KMI pmax pmax
comp=Z,3µm,3.5s
KMI LR LR
comp=Z,2µm,12.9s
KMI LR LR
comp=Z,730nm,10.2s
KMI LR LR
comp=Z,2µm,13.6s
ENH Enshi 29.51 333 P **P** **01 24 05.8 -0.1**
ENH ScP **ScP** **01 30 13.5 +0.2**
MHMT Maesarieng 29.51 300 P **P** **01 24 07.6 +1.5**
comp=Z,12µmcomp=Z,2µm,1.0s
MHMT Maesarieng 29.51 300 P **P** **01 24 07.7 +1.6**
comp=Z,12µmcomp=Z,2µm,1.0s
MTSU Mount Surprise 29.58 140 P **P** **01 24 06.7 0.0**
baz=30,SNR=30
JTU Tsushima 30.38 8 P **P** **01 24 13.2 -0.2**
JTU IAmb IAmb 01 24 14.9
comp=Z,679nm,1.7s
JTU **PcP** **01 27 05.2 +0.7**
MEEK Meekatharra 31.32 190 P **P** **01 24 21.1 -0.6**
baz=32,SNR=51
JHS Saijyo 31.53 13 P **P** **01 24 24.1 +0.7**
JHS IAmb IAmb 01 24 25.4
comp=Z,522nm,1.1s
JHS ScP **ScP** **01 30 21.3 +1.4**
JHJ Hachijo jima 2 31.96 24 P **P** **01 24 26.4 -0.9**
comp=Z,465nm,0.7s,baz=199,slow=15,SNR=16
TJN Taejon 32.00 4*d* *i*P **P** **01 24 26.6 -0.9**
CTA Charters Tower 32.25 140 P **P** **01 24 30.4 +0.5**
comp=Z,160nm,1.0s,baz=322,slow=11,SNR=99
CTA PP **PnPn** **01 25 51.4 -0.4**
comp=Z,56nm,1.1s,baz=325,slow=13,SNR=3.8
CTA S **S** **01 29 19.4 +0.2**
comp=Z,17nm,1.0s,baz=183,slow=17,SNR=4.3
CTA ScP **ScP** **01 30 24.0 +1.4**
comp=Z,42nm,1.1s,baz=305,slow=5.7,SNR=8.2
CTAO Charters Tower 32.25 140 P **P** **01 24 30.0 +0.1**
CTAO pmax pmax
comp=Z,339nm,1.2s
CTAO Charters Tower 32.25 140 P **P** **01 24 30.0 +0.1**
CTAO IAmb IAmb 01 24 31.9
comp=Z,339nm,1.1s
CTAO **ScP** **01 30 24.1 +1.5**
PBA Port Blair 32.37 285 IAmb IAmb 01 24 55.8
comp=Z,616nm,1.3s
PBA Port Blair 32.37 285 *i* P P 01 24 32.0 +0.9
PBA Port Blair 32.37 285 P P 01 24 32.7 +1.6
SNR=6.7
JWT Wachi 32.39 17 P **P** **01 24 30.9 +0.1**
JWT PcP **PcP** **01 27 11.3 +1.3**
TIA Tai'an 32.48 349 ⇓P **P** **01 24 31.3 -0.4**
TIA PP **PnPn** **01 25 56.4 +2.1**
TIA pmax pmax
comp=Z,330nm,1.1s
TIA LR LR
comp=Z,720nm,12.7s
TIA LR LR
comp=Z,500nm,12.7s
TIA LR LR
comp=Z,910nm,14.8s
CD2 Chengdu 32.95 326 ⇓*i*P **P** **01 24 36.4 +0.5**
CD2 PP **PP** **01 25 58.4 +0.1**
CD2 S **S** **01 29 32.0 +2.1**
CD2 sS sS 01 31 21.6 +1.8
CD2 pmax pmax
comp=Z,660nm,1.4s
CD2 pmax pmax
comp=Z,2µm,4.2s
CD2 LR LR
comp=Z,2µm,14.3s
CD2 LR LR
comp=Z,2µm,13.7s
CD2 LR LR
comp=Z,2µm,12.4s
XAN Xi'an 32.98 336 P **P** **01 24 36.2 +0.1**
XAN PP **PnPn** **01 26 01.6 +1.3**
XAN S **S** **01 29 31.1 +0.9**
XAN pmax pmax
comp=Z,820nm,1.2s
XAN LR LR
comp=Z,2µm,16.5s
XAN LR LR
comp=Z,2µm,15.6s
XAN LR LR
comp=Z,2µm,19.0s
INCN Inchon 33.06 3 **P** **01 24 36.3 -0.4**
INCN PcP **PcP** **01 27 12.8 +0.9**
KSAR Wonju Array Be 33.10 5 P **P** **01 24 36.9 -0.1**
KSAR Wonju Array Be 33.10 5 P **P** **01 24 36.9 -0.1**
KSAR PcP **PcP** **01 27 12.8 +0.8**
KSRS Korea Array 33.12 5 P **P** **01 24 37.4 +0.2**
comp=Z,86nm,1.0s,baz=182,slow=10,SNR=199
KSRS PP **PnPn** **01 26 01.6 -0.2**
comp=Z,21nm,1.0s,baz=189,slow=11,SNR=5.4
KSRS PcP **PcP** **01 27 12.6 +0.6**
comp=Z,61nm,0.9s,baz=188,slow=3.0,SNR=24
KSRS ScP **ScP** **01 30 25.9 +0.6**
comp=Z,54nm,0.7s,baz=188,slow=3.5,SNR=53
JGF Kuroka 33.28 19 IAmb IAmb 01 24 40.7
comp=Z,271nm,0.8s
MORW Morawa 34.20 193 P **P** **01 24 46.2 -0.4**
baz=34,SNR=35
MORW Morawa 34.20 193 P **P** **01 24 46.5 -0.1**
MORW ScP **ScP** **01 30 29.6 +0.4**
MJAR Matsushiro Arr 34.42 20 P **P** **01 24 46.6 -1.7**
comp=Z,405nm,0.8s,baz=188,slow=9.3,SNR=367
MJAR S **S** **01 29 51.3 -0.9**
comp=Z,7.9nm,0.9s,baz=180,slow=13,SNR=4.9
MJAR ScP **ScP** **01 30 30.8 +0.9**
comp=Z,36nm,0.9s,baz=189,slow=3.9,SNR=11
MJAR Matsushiro Arr 34.42 20 P **P** **01 24 46.7 -1.7**
MJAR 01 27 16.0
MJAR pmax pmax
comp=Z,438nm,0.9s
MJAR Matsushiro Arr 34.42 20 P **P** **01 24 46.7 -1.7**
MJAR IAmb IAmb 01 24 48.9
comp=Z,438nm,0.8s
MJAR PcP **PcP** **01 27 16.0 +0.2**
MAJO Matsushiro 34.42 20 P **P** **01 24 47.1 -1.2**
MAJO pmax pmax
comp=Z,609nm,1.0s
MAJO Matsushiro 34.42 20 P **P** **01 24 47.1 -1.2**
MAJO IAmb IAmb 01 24 48.9
comp=Z,609nm,0.9s
MAT Matsushiro 34.42 20 P **P** **01 24 47.4 -0.9**
MAT S **S** **01 29 48.6 -3.5**
DL2 Dalian 34.54 356 ⇓*i*P **P** **01 24 49.0 -0.2**
DL2 PcP **PcP** **01 27 17.1 +1.1**
DL2 S **S** **01 29 51.9 -1.8**
DL2 ScP **ScP** **01 30 31.2 +1.0**
DL2 sS **sS** **01 31 47.8 +3.6**
DL2 ScS **ScS** **01 34 34.8 +0.9**
DL2 pmax pmax
comp=Z,750nm,0.8s
DL2 pmax pmax
comp=Z,1µm,5.0s
JYT Yasato 34.84 22 IAmb IAmb 01 24 51.1
comp=Z,378nm,1.1s
FORT Forrest 35.05 175 P **P** **01 24 53.9 +0.1**
baz=35,SNR=39
FORT Forrest 35.05 175 P **P** **01 24 53.7 0.0**
FORT IAmb IAmb 01 24 55.0
comp=Z,312nm,0.8s
FORT ScP **ScP** **01 30 32.9 +0.6**
TIY Taiyuan 35.06 343 *e*P **P** **01 24 53.9 +0.1**
TIY pP **pP** **01 25 53.7 -2.2**
TIY PP **PP** **01 26 21.6 +0.3**
TIY pmax pmax
comp=Z,86nm,0.6s
TIY pmax pmax
comp=Z,750nm,3.7s
TIY LR LR
comp=Z,630nm,9.4s
TIY LR LR
comp=Z,580nm,11.9s
TIY LR LR
comp=Z,1µm,17.3s
BLDU Ballidu 35.55 192 P **P** **01 24 57.5 -0.4**
baz=36,SNR=26
QLP Quilpie 36.11 149 P **P** **01 25 02.5 -0.2**
baz=36,SNR=18
BJT Baijiatuan 36.35 349 P **P** **01 25 04.4 -0.2**
BJT IAmb IAmb 01 25 06.5
comp=Z,644nm,1.0s
BJT PcP **PcP** **01 27 22.7 +1.2**
BJT ScP **ScP** **01 30 38.0 +1.1**
BJI Beijing 36.37 349 P **P** **01 25 04.4 -0.3**
BJI PP **PP** **01 26 37.1 +1.6**
BJI PcP **PcP** **01 27 22.5 +1.0**
BJI S **S** **01 30 28.2 +6.6**
BJI ScP **ScP** **01 30 38.2 +1.3**
BJI ScS **ScS** **01 34 45.5 +1.5**
BJI pmax pmax
comp=Z,800nm,1.2s
BJI LR LR
comp=Z,810nm,16.1s
BRDH Bariadhala 36.74 303 P **P** **01 25 10.5 +2.4**
comp=Z,1µm,0.6s,baz=84,slow=8.0,SNR=47
LZH Lanzhou 36.96 331 ⇓P **P** **01 25 11.5 +1.5**
LZH pP pwP 01 26 14.8 -2.8
LZH PP **PnPn** **01 26 45.0 -2.2**
LZH PcP **PcP** **01 27 24.9 +1.3**
LZH S **S** **01 30 33.8 +2.9**
LZH SS **SS** **01 33 24.2 -4.3**
LZH pmax pmax
comp=Z,1µm,1.3s
LZH pmax pmax
comp=Z,4µm,5.6s
LZH LR LR
comp=Z,1µm,13.2s
LZH LR LR
comp=Z,1µm,14.0s
LZH LR LR
comp=Z,1µm,16.5s
MUN Mundaring 36.97 192 P **P** **01 25 10.0 +0.1**
baz=37,SNR=8.7
SNY Shenyang 37.36 359 ⇓P **P** **01 25 12.5 -0.5**
SNY pP **pP** **01 26 14.6 -1.5**
SNY sP **sP** **01 26 51.6 -1.5**
SNY S **S** **01 30 35.4 -1.0**
SNY SS **SS** **01 33 27.6 -8.3**
SNY pmax pmax
comp=Z,170nm,0.9s
SNY LR LR
comp=Z,580nm,14.1s
SNY LR LR
comp=Z,220nm,11.8s
SNY LR LR
comp=Z,860nm,13.9s
NWAO Narrogin (SRO) 37.70 190 P **P** **01 25 16.3 +0.4**
baz=38,SNR=25
NWAO Narrogin (SRO) 37.70 190 P **P** **01 25 16.3 +0.4**
comp=Z,114nm,0.9s,baz=30,slow=8.0,SNR=28
NWAO S **S** **01 30 40.5 -1.2**
comp=Z,30nm,1.0s,baz=270,slow=7.7,SNR=4.9
NWAO ScP **ScP** **01 30 42.3 +0.2**
comp=Z,30nm,1.0s,baz=44,slow=6.1,SNR=4.4
NWAO Narrogin (SRO) 37.70 190 P **P** **01 25 16.1 +0.1**
SHL Shillong 37.84 307 P **P** **01 25 18.3 +0.9**
SHL ScP **ScP** **01 30 43.4 +0.3**
SHL Shillong 37.84 307 *i* P **P** **01 25 18.0 +0.5**
SHL ⇓*i*P P 01 25 18.2 +0.7
SHL *ex* x 01 34 50.0
SHL Shillong 37.84 307 P **P** **01 25 18.4 +0.9**
SNR=164
HHC Hu-ho-hao-te 38.22 344 *e*P **P** **01 25 20.5 +0.2**
HHC S **S** **01 30 54.4 +4.8**
HHC sS sS 01 32 45.1 +3.7
HHC pmax pmax
comp=Z,340nm,1.3s
HHC pmax pmax
comp=Z,2µm,4.1s
BTO Baotou 38.45 342 *e*P **P** **01 25 22.9 +0.7**
BTO S **S** **01 30 51.8 -1.1**
BTO LR LR
comp=Z,2µm,15.7s
BTO LR LR
comp=Z,3µm,7.9s
BBOO Buckleboo 38.49 164 P **P** **01 25 22.7 +0.3**
baz=39,SNR=427
BBOO Buckleboo 38.49 164 P **P** **01 25 22.5 0.0**
BBOO IAmb IAmb 01 25 24.1
comp=Z,464nm,0.8s
RMQ Roma 38.52 144 P **P** **01 25 23.1 +0.2**
baz=39,SNR=7.7
MSHR Mys Shultsa 38.54 8*d* *i*P **P** **01 25 23.3 +0.5**
MSHR pmax pmax
comp=Z,244nm,1.7s
EIDS Eidsvold 39.13 140 P **P** **01 25 27.3 -0.6**
baz=39,SNR=57
EIDS Eidsvold 39.13 140 P **P** **01 25 27.1 -0.8**
EIDS PP **PP** **01 27 04.9 -0.7**
VLA Vladivostok 39.17 8*d* *i*P **P** **01 25 28.4 +0.4**
VLA pmax pmax
comp=Z,224nm,1.4s
CN2 Changchun 39.33 1 *e*P **P** **01 25 28.0 -1.2**
CN2 *ep*P pP 01 26 32.6 -0.4
CN2 PcP **PcP** **01 27 31.2 +0.6**
CN2 ScP **ScP** **01 30 48.2 +0.1**
CN2 ScS **ScS** **01 35 01.4 +0.4**
CN2 pmax pmax
comp=Z,400nm,8.0s
STKA Stephens Creek 39.46 157 P **P** **01 25 31.2 +0.7**
baz=40,SNR=221
STKA Stephens Creek 39.46 157 P **P** **01 25 31.1 +0.7**
comp=Z,213nm,0.5s,baz=338,slow=8.0,SNR=286
STKA PP **sP** **01 27 09.7 -0.6**
baz=34,SNR=35
comp=Z,72nm,0.9s,baz=338,slow=9.8,SNR=2.8
STKA ScP **ScP** **01 30 49.2 +0.4**
comp=Z,57nm,0.9s,baz=337,slow=7.0,SNR=11
STKA S **S** **01 31 08.0 +0.1**
comp=Z,27nm,1.0s,baz=235,slow=23,SNR=9.0
STKA Stephens Creek 39.46 157 P **P** **01 25 31.0 +0.5**
STKA ScP **ScP** **01 30 49.8 +0.9**
HTT Hallett 39.91 161 P **P** **01 25 34.9 +0.6**
baz=40,SNR=151
USRK Ussuriysk Ar. 40.25 8 P **P** **01 25 36.9 +0.2**
comp=Z,51nm,0.7s,baz=192,slow=7.3,SNR=115
USRK PP **PP** **01 27 16.6 -0.7**
comp=Z,22nm,0.8s,baz=201,slow=9.6,SNR=4.9
USRK PcP **PcP** **01 27 33.7 +0.1**
comp=Z,36nm,0.7s,baz=174,slow=2.2,SNR=6.4
USRK ScP **ScP** **01 30 52.0 +0.3**
comp=Z,5.0nm,0.7s,baz=207,slow=3.8,SNR=4.3
USRK Ussuriysk Ar. 40.25 8 P **P** **01 25 35.8 -0.9**
USRK PP **PP** **01 27 15.8 -1.4**
USRK PcP **PcP** **01 27 33.4 -0.2**
USA0B Ussuriysk Arra 40.25 8*d* *i*P **P** **01 25 36.8 +0.1**
USA0B Ussuriysk Arra 40.25 8 P **P** **01 25 36.5 -0.2**
MDJ Mudanjiang 40.37 5 P **P** **01 25 37.9 +0.1**
MDJ pP pP 01 26 40.2 -1.7
MDJ sP sP 01 27 15.5 -3.1
MDJ S **S** **01 31 26.0 +4.8**
MDJ sS sS 01 33 16.8 +2.9
MDJ pmax pmax
comp=Z,240nm,0.8s
MDJ pmax pmax
comp=Z,1µm,6.5s
LSA Lhasa 40.48 312 *i* P **P** **01 25 41.4 +1.9**
SNR=178
LSA Lhasa 40.48 312 IAmb IAmb 01 25 43.5
comp=Z,475nm,0.6s
LSA Lhasa 40.48 312 P **P** **01 25 41.8 +2.3**
CMSA Cobar Meteorol 40.92 152 P **P** **01 25 43.4 +1.0**
baz=41,SNR=44
ERM Erimo 41.02 21*d* *i*P **P** **01 25 44.2 +1.1**
ERM pmax pmax
comp=Z,461nm,0.7s
ERM Erimo 41.02 21 P **P** **01 25 43.9 +0.8**
ERM IAmb IAmb 01 25 45.6
comp=Z,356nm,0.8s
JEW Eniwo 41.17 19 P **P** **01 25 45.1 +0.9**
GTA Gaotai 41.53 331 ⇓P **P** **01 25 48.1 +0.7**
GTA pP pwP 01 26 57.4 +1.0
GTA sP sP 01 27 27.8 +1.3
GTA PcP **PcP** **01 27 39.2 +1.1**
GTA ScP **ScP** **01 30 57.9 +0.8**

GTA PcS **PcS** **01 31 29.4 -0.7**
GTA S **S** **01 31 41.2 +2.5**
GTA SS **SS** **01 34 49.9 -8.2**
GTA ScS **ScS** **01 35 13.0 -1.8**
GTA pmax pmax
comp=Z,420nm,1.0s
GTA pmax pmax
comp=Z,2μm,10.9s
GTA LR LR
comp=Z,1μm,14.2s
GTA LR LR
comp=Z,1μm,15.6s
GTA LR LR
comp=Z,2μm,20.0s
TEY Ternei 41.89 13 ⇓*i*P **P** **01 25 50.6 +0.6**
TEY *e* 01 27 39.8
TEY pmax pmax
comp=Z,900nm,2.0s
TEY pmax pmax
comp=E,30nm,1.3s
TEY pmax pmax
comp=N,510nm,0.9s
TEY pmax pmax
comp=N,30nm,0.8s
TEY pmax pmax
comp=Z,80nm,0.9s
BOK Bokaro 42.05 301 ⇓*i*P **P** **01 25 52.8 +1.1**
BOK IAmb IAmb 01 25 54.6
comp=Z,144nm,0.6s
ASAJ Asahikawa 42.69 19 P **P** **01 25 57.6 +1.2**
comp=Z,732nm,0.8s,baz=233,slow=13,SNR=438
JKA Kamikawa-asahi 42.69 19 IAmb IAmb 01 25 58.8
comp=Z,986nm,0.9s
ARMA Armidale 43.13 145 P **P** **01 26 01.5 +1.2**
baz=43,SNR=65
ARMA Armidale 43.13 145 P **P** **01 26 01.0 +0.7**
YUK Yuzh-Kuril'sk 43.77 22*d*i*P* **P** **01 26 05.6 +0.7**
PALK Pallekele 43.78 276 P **P** **01 26 05.9 +0.3**
comp=Z,18nm,0.7s,baz=174,slow=6.0,SNR=9.3
PALK PcP **PcP** **01 27 46.8 +0.8**
comp=Z,12nm,0.6s,baz=164,slow=3.7,SNR=4.1
PALK ScP **ScP** **01 31 07.3 +0.7**
comp=Z,14nm,0.8s,baz=119,slow=0.7,SNR=4.8
PALK Pallekele 43.78 276 P **P** **01 26 05.8 +0.2**
PALK Pallekele 43.78 276 P **P** **01 26 07.0 +1.3**
PALK Pallekele 43.78 276 P **P** **01 26 06.3 +0.7**
comp=Z,2μmcomp=Z,58nm,1.5s
ARPS Mount Arapiles 43.92 160 P **P** **01 26 07.3 +1.0**
baz=44,SNR=96
YNG Young 44.48 152 P **P** **01 26 12.6 +1.8**
baz=45,SNR=71
MDRS Chennai 44.65 284 *i*P **P** **01 26 11.7 -0.7**
HIA Hailar 44.98 355 P **P** **01 26 14.1 -0.4**
HIA 01 27 50.1
HIA pmax pmax
comp=Z,540nm,1.3s
HIA Hailar 44.98 355 P **P** **01 26 14.1 -0.4**
HIA IAmb IAmb 01 26 16.8
comp=Z,540nm,1.3s
HIA PcP **PcP** **01 27 50.1 +0.6**
KLR Kul'dur 45.16 7 P **P** **01 26 15.6 -0.3**
comp=Z,65nm,0.6s,baz=201,slow=5.6,SNR=136
KLR PcP **PcP** **01 27 50.4 +0.3**
comp=Z,74nm,0.9s,baz=248,slow=2.8,SNR=6.8
KLR ScP **ScP** **01 31 11.6 +0.1**
comp=Z,5.4nm,0.6s,baz=168,slow=5.4,SNR=5.5
KLR Kul'dur 45.16 7*d*i*P* **P** **01 26 15.3 -0.5**
YSS Yuzh-Sakhalins 45.28 17*de*P **P** **01 26 16.8 0.0**
YSS *e**PP **pP** **01 27 25.5 +3.0**
YSS *e* 01 27 51.3
YSS *e**SP **sP** **01 28 01.2 +2.4**
YSS *e*SS SS 01 35 30.8 -30
YSS pmax pmax
comp=Z,2μm,3.2s
YSS pmax pmax
comp=N,700nm,3.5s
YSS MLR MLR
comp=Z,300nm,16.0s
YSS Yuzh-Sakhalins 45.28 17 P **P** **01 26 16.9 +0.2**
YSS IAmb IAmb 01 26 18.5
comp=Z,826nm,1.2s
RIV Riverview 45.48 149 P **P** **01 26 21.4 +2.9**
baz=46,SNR=11
KUR Kuril'sk 45.55 23*d*i*P* **P** **01 26 19.7 +0.8**
KUR *e* 01 27 54.1
KUR *i*S **S** **01 32 37.1 +1.1**
KUR *i*SS **ScS** **01 35 43.6 +4.0**
KUR pmax pmax
comp=Z,1μm,1.3s
KUR pmax pmax
comp=Z,2μm,3.8s
CAN Canberra 45.60 152 P **P** **01 26 21.4 +1.9**
CAN pmax pmax
comp=Z,424nm,1.0s
CAN Canberra 45.60 152 P **P** **01 26 21.4 +1.9**
CAN IAmb IAmb 01 26 22.8
comp=Z,424nm,1.0s
CNB Canberra Magne 45.77 151 P **P** **01 26 22.7 +1.9**
baz=46,SNR=23
ULN Ulaanbaatar 45.94 344*d*i*P* **P** **01 26 22.1 0.0**
ULN pmax pmax
comp=Z,1μm,1.7s
ULN Ulaanbaatar 45.94 344 P **P** **01 26 22.8 +0.6**
ULN IAmb IAmb 01 26 25.0
comp=Z,1μm,1.6s
ULN Ulaanbaatar 45.94 344 P **P** **01 26 22.7 +0.6**
ULN Ulaanbaatar 45.94 344 P **P** **01 26 22.1 0.0**
comp=Z,11μmcomp=Z,30μmcomp=Z,2μm,1.4s
TOO Toolangi 45.98 157 P **P** **01 26 24.3 +1.9**
baz=46,SNR=40
TOO Toolangi 45.98 157 P **P** **01 26 24.4 +2.0**
TOO pmax pmax
comp=Z,329nm,1.1s
TOO Toolangi 45.98 157 P **P** **01 26 24.4 +2.0**
SONM Songino Array 46.10 343 P **P** **01 26 23.3 0.0**
comp=Z,245nm,0.9s,baz=159,slow=7.3,SNR=269
SONM PcP **PcP** **01 27 53.7 +0.1**
comp=Z,32nm,0.8s,baz=164,slow=2.9,SNR=4.9
SONM PP **PP** **01 28 18.7 +2.5**
comp=Z,12nm,0.8s,baz=134,slow=8.5,SNR=3.7
SONM ScP **ScP** **01 31 15.8 +0.2**
comp=Z,26nm,0.9s,baz=162,slow=4.1,SNR=10
SONM Songino Array 46.10 343 P **P** **01 26 23.7 +0.4**
SONM ScP **ScP** **01 31 16.0 +0.4**
KOUNC Koumac, New Ca 46.11 124 P **P** **01 26 24.7 +1.0**
SANVU Saraoutou 46.51 116 P **P** **01 26 27.4 +0.6**
SANVU Saraoutou 46.51 116 P **P** **01 26 28.3 +1.5**
HYB Hyderabad 46.94 290 ⇓*i*P **P** **01 26 30.2 0.0**
HYB IAmb IAmb 01 26 32.7
comp=Z,139nm,0.9s
HYB Hyderabad 46.94 290 *i*P **P** **01 26 30.0 -0.2**
HYB *e*pP **pP** **01 27 33.0 -1.9**
HYB *e*PcP **PcP** **01 27 57.0 -0.1**
HYB *e*S **S** **01 33 00.0 +3.4**
JBP Jabalpur 46.98 298 *e*P **P** **01 26 31.1 +0.8**
JBP *ex* x 01 32 59.0
UGL Uglegorsk 47.01 16 ⇓*i*P **P** **01 26 31.3 +1.2**
UGL *e*S **S** **01 32 56.9 +0.4**
UGL pmax pmax
comp=Z,4μm,1.4s
UGL pmax pmax
comp=E,2μm,0.7s
UGL pmax pmax
comp=N,600nm,0.6s
UGL pmax pmax
comp=Z,2μm,1.1s
UGL smax smax
comp=N,2μm,6.0s
MILA Mila 47.09 153 P **P** **01 26 32.6 +1.6**
baz=47,SNR=5.0
GRNR Gornyy 47.34 10 ⇓*i*P **P** **01 26 33.5 +0.8**
GRNR *e*S **S** **01 33 03.5 +2.2**
GRNR pmax pmax
comp=E,30nm,0.8s
GRNR pmax pmax
comp=N,150nm,1.1s
GRNR pmax pmax
comp=Z,280nm,1.1s
GRNR smax smax
comp=N,3.0nm,0.8s
DVP Devils Point 48.24 118 P **P** **01 26 42.9 +2.9**
comp=N,162μm,1.2s
CIT Chita 48.43 351 *e*P **P** **01 26 41.0 0.0**
CIT *e* 01 28 02.4
CIT pmax pmax
comp=Z,1μm,1.7s
NOUC Port Laguerre 48.49 125 P **P** **01 26 42.8 +0.9**
DZM Mont Dzumac 48.60 124 *e*P **P** **01 26 43.4 +0.6**
comp=Z,322nm,1.3s
DZM Mont Dzumac 48.60 124 P **P** **01 26 43.6 +0.8**
comp=Z,77nm,1.0s,baz=274,slow=7.9,SNR=62
DZM PP **PP** **01 28 42.2 +2.9**
comp=Z,18nm,0.4s,baz=295,slow=13,SNR=4.9
DZM Mont Dzumac 48.60 124 P **P** **01 26 44.1 +1.3**
LIFNC LIFOU 48.68 122 P **P** **01 26 45.4 +2.1**
ONTNC Ouen Toro 48.71 125 P **P** **01 26 44.9 +1.4**
TYV Tymovskoe 48.80 15 *e*P **P** **01 26 45.0 +1.3**
TYV *e*S **S** **01 33 23.2 +1.7**
TYV pmax pmax
comp=Z,215nm,0.9s
TYV pmax pmax
comp=Z,1μm,2.7s
TYV smax smax
comp=N,700nm,5.5s
YATNC Mamie plateau, 48.96 124 P **P** **01 26 47.3 +1.9**
OUENC Ouen Island, N 49.08 125 P **P** **01 26 47.7 +1.4**
BHPL Bhopal 49.26 297 ⇓*i*P **P** **01 26 47.6 -0.1**
ZAK Zakamensk 49.30 342 *e*P **P** **01 26 47.2 -0.4**
ZAK pmax pmax
comp=Z,269nm,1.5s
ZEA Zeya 49.31 2 *e*P **P** **01 26 46.9 -0.6**
ZEA *e* 01 28 05.7
ZEA *e* 01 28 50.9
ZEA pmax pmax
comp=Z,70nm,1.1s
MARNC Mare, Loyalty 49.65 123 P **P** **01 26 52.1 +1.5**
PINNC Pines Island, 49.67 125 P **P** **01 26 52.4 +1.7**
NKL Nikolayevsk 50.44 12 *e*P **P** **01 26 54.7 -1.2**
NKL pmax pmax
comp=N,1μm,0.7s
NKL pmax pmax
comp=Z,771nm,1.1s
IRK Irkutsk 50.66 344 *e*P **P** **01 26 57.5 -0.1**
IRK pmax pmax
comp=Z,757nm,2.0s
MOO Moorlands 50.85 159 P **P** **01 27 01.2 +2.0**
baz=51,SNR=4.4
DDI Dehra Dun 50.92 306 *e*P **P** **01 27 00.6 +0.6**
DDI IAmb IAmb 01 27 03.6
comp=Z,230nm,0.7s
KAD Karad 51.03 289 ⇓*i*x **P** **01 27 01.0 0.0**
WMQ Urumqi 51.05 326 *e*P **P** **01 27 02.0 +1.2**
WMQ pP pP 01 28 06.7 0.0
WMQ ScP **ScP** **01 31 36.8 +0.1**
WMQ S **S** **01 33 54.4 +1.5**
WMQ ScS **ScS** **01 36 17.2 +0.2**
WMQ pmax pmax
comp=N,930nm,1.3s
WMQ pmax pmax
comp=Z,1μm,3.8s
WMQ LR LR
comp=Z,1μm,21.7s
WMQ LR LR
comp=Z,580nm,16.7s
WMQ LR LR
comp=Z,510nm,18.9s
MOY Mondy 51.13 341 *e*P **P** **01 27 01.8 +0.5**
MOY pmax pmax
comp=Z,1μm,1.8s
TAU Tasmania Unive 51.31 159 P **P** **01 27 03.7 +1.2**
TAU pmax pmax
comp=Z,113nm,1.2s
TAU Tasmania Unive 51.31 159 P **P** **01 27 03.7 +1.2**
POO Poona 51.54 290 ⇓*i*P **P** **01 27 02.0 -2.7**
SMLA Simla 51.92 307 ⇓*i*P **P** **01 27 08.2 +0.9**
SMLA IAmb IAmb 01 27 10.9
comp=Z,337nm,0.5s
DHRM DHARAMSHALA 53.02 308 *i*P **P** **01 27 15.8 +0.2**
NFK Norfolk Island 53.19 131 P **P** **01 27 19.9 +3.4**
comp=Z,792nm,1.6s
SKR Severo-Kuril's 53.23 25*de*P **P** **01 27 16.8 +0.4**
H08S2 Diego Garcia H 53.35 257 P **P** **01 27 17.9 +0.3**
baz=47,slow=12,SNR=4.7
H08S3 Diego Garcia H 53.35 257 P **P** **01 27 17.9 +0.3**
baz=47,slow=12,SNR=6.0
H08S1 Diego Carcia H 53.37 257 P **P** **01 27 18.0 +0.3**
baz=47,slow=12,SNR=4.7
THN Thein Dam 53.54 308 ⇑*i*x **P** **01 27 22.5 +3.5**
THN *i*x x 01 34 29.0
BOD Bodaibo 54.01 353 *e*P **P** **01 27 21.4 -0.5**
BOD pmax pmax
comp=Z,483nm,1.4s
ZSN Zaisan 54.88 328 ⇓*i*P **P** **01 27 28.5 0.0**
comp=Z,164nm,1.1s,baz=327
ZSN *e*S **S** **01 34 45.0 +0.8**
baz=327
ZSN Zaisan 54.88 328*d*i*P* **P** **01 27 28.4 0.0**
ZSN *e*S **S** **01 34 45.0 +0.8**
ZSN pmax pmax
comp=Z,164nm,1.1s
DGZ Jazzator, Alta 55.06 331*d*i*P* **P** **01 27 30.0 +0.2**
DGZ pmax pmax
comp=Z,220nm,1.1s
SHLS Shalkode 55.56 321 ⇓*i*P **P** **01 27 32.3 -1.1**
comp=Z,498nm,1.0s,baz=321
SHLS *i*S **S** **01 34 52.8 -0.7**
comp=Z,131nm,1.4s,baz=321
SHLS Shalkode 55.56 321*d*i*P* **P** **01 27 32.3 -1.1**
SHLS *i*S **S** **01 34 52.8 -0.7**
SHLS pmax pmax
comp=Z,498nm,1.0s
SHLS smax smax
comp=N,131nm,1.4s
PEA0B Petropavlovsk- 55.71 23*d*i*P* **P** **01 27 35.3 +1.2**
PEA0B Petropavlovsk- 55.71 23 IAmb IAmb 01 27 36.6
comp=Z,666nm,1.0s
PETK Petropavlovsk- 55.71 23 P **P** **01 27 34.5 +0.4**
comp=Z,426nm,0.9s,baz=202,slow=6.2,SNR=313
PETK PcP **PcP** **01 28 29.5 +0.3**
comp=Z,33nm,0.6s,baz=215,slow=3.2,SNR=8.5
PETK ScP **ScP** **01 31 57.0 +0.2**
comp=Z,14nm,0.9s,baz=197,slow=9.3,SNR=3.9
PETK Petropavlovsk- 55.71 23 P **P** **01 27 34.7 +0.6**
PETK PcP **PcP** **01 28 29.0 -0.1**
PETK **ScP** **01 31 56.5 -0.2**
UZB Uzynbulak 55.83 321 ⇓*i*P **P** **01 27 36.0 +0.6**
comp=Z,244nm,0.8s,baz=320
UZB *i*S **S** **01 34 59.4 +2.3**
comp=Z,83nm,2.5s,baz=320
UZB Uzynbulak 55.83 321*d*i*P* **P** **01 27 35.9 +0.6**
UZB *i*S **S** **01 34 59.3 +2.2**
UZB pmax pmax
comp=Z,244nm,0.8s
UZB smax smax
comp=N,83nm,2.5s
MK31 Makanchi Array 55.88 326 *i*P **P** **01 27 35.8 +0.3**
MK31 Makanchi Array 55.88 326 P **P** **01 27 36.3 +0.7**
MK31 IAmb IAmb 01 27 37.3
comp=Z,426nm,0.8s
MK31 ScP **ScP** **01 31 57.4 -0.4**
MKAR Makanchi Array 55.88 326 P **P** **01 27 35.9 +0.4**
comp=Z,465nm,0.8s,baz=124,slow=8.3,SNR=1282
MKAR PcP **PcP** **01 28 29.6 -0.4**
comp=Z,156nm,0.8s,baz=120,slow=4.3,SNR=11
MKAR ScP **ScP** **01 31 57.4 -0.4**
comp=Z,20nm,0.5s,baz=106,slow=6.0,SNR=15
MKAR S **S** **01 34 59.3 +1.9**
comp=Z,6.3nm,1.1s,baz=156,slow=9.3,SNR=4.0
MKAR PKPPKP P'P'df 01 57 19.5 -18
comp=Z,0.6nm,0.6s,baz=217,slow=0.7,SNR=4.2
MKAR PKP2bc 01 57 37.9
comp=Z,2.5nm,0.8s,baz=27,slow=3.0,SNR=4.9
MKAR P4KPbc 02 04 48.1
comp=Z,11nm,0.7s,baz=117,slow=3.8,SNR=57
FUNA Funafuti 55.90 103 P **P** **01 27 37.4 +1.3**
FUNA IAmb IAmb 01 27 38.7
comp=Z,434nm,1.1s
FUNA Funafuti 55.90 103 P **P** **01 27 38.0 +1.9**
NIL Nilore 55.91 308 P **P** **01 27 35.7 -0.2**
NIL pmax pmax
comp=Z,1μm,1.4s
NIL Nilore 55.91 308 P **P** **01 27 35.7 -0.2**
NIL Nilore 55.91 308 P **P** **01 27 36.8 +0.8**
PET Petropavlovsk 56.03 24 ⇓*i*P **P** **01 27 37.3 +1.0**
PET *e* 01 28 29.4
PET *e**PP **pP** **01 28 45.6 +0.4**
PET *i*S **S** **01 35 01.3 +2.4**
PET *e* 01 36 50.4
PET 01 41 15.4
PET pmax pmax
comp=Z,802nm,1.2s
PET pmax pmax
comp=Z,800nm,14.3s
PET MLR MLR
comp=Z,300nm,17.0s
PET Petropavlovsk 56.03 24 P **P** **01 27 37.1 +0.8**
PET IAmb IAmb 01 27 38.7
comp=Z,972nm,1.3s
MAKZ Makanchi 56.07 326 P **P** **01 27 37.0 +0.2**
MAKZ Makanchi 56.07 326 P **P** **01 27 36.2 -0.5**
MAKZ IAmb IAmb 01 27 38.5
comp=Z,614nm,0.8s
MAKZ **PcP** **01 28 31.4 +0.6**
MAKZ ScP **ScP** **01 31 57.4 -1.1**
KSH Kashi 56.15 316 P **P** **01 27 39.6 +2.0**
KSH PcP **PcP** **01 28 34.0 +2.7**
KSH pmax pmax
comp=Z,620nm,1.1s
KSH pmax pmax
comp=Z,2μm,2.7s
KSH LR LR
comp=Z,280nm,15.2s
KSH LR LR
comp=Z,610nm,19.4s
SATY Saty 56.18 320 ⇓*i*P **P** **01 27 38.6 +0.8**
comp=Z,506nm,0.9s,baz=320
SATY *e*S **S** **01 35 04.7 +3.1**
comp=Z,46nm,1.3s,baz=320
SATY Saty 56.18 320*d*i*P* **P** **01 27 38.5 +0.8**
SATY *e*S **S** **01 35 04.7 +3.1**
SATY pmax pmax
comp=Z,506nm,0.9s
SATY smax smax
comp=N,46nm,1.3s
KPKS Kokpek 56.21 321 ⇓*i*P **P** **01 27 38.5 +0.6**
comp=N,604nm,0.8s,baz=320
KPKS *e*S **S** **01 35 02.7 +0.8**
baz=320
KPKS Kokpek 56.21 321*d*i*P* **P** **01 27 38.5 +0.6**
KPKS *e*S **S** **01 35 02.7 +0.8**
KPKS pmax pmax
comp=Z,604nm,0.8s
MSVF Nonsavu 57.07 114 P **P** **01 27 45.9 +1.6**
comp=Z,58nm,1.0s,baz=249,slow=4.2,SNR=22
MSVF PcP **PcP** **01 28 34.7 -0.5**
comp=Z,22nm,0.8s,baz=277,slow=13,SNR=5.9
MSVF Nonsavu 57.07 114*c*i*P* **P** **01 27 45.7 +1.4**
MSVF pmax pmax
comp=Z,104nm,1.1s
MSVF Nonsavu 57.07 114 P **P** **01 27 45.6 +1.2**
MSVF Nonsavu 57.07 114 P **P** **01 27 46.4 +2.1**
MDOK Medeo 57.09 320 *i*P **P** **01 27 45.0 +0.8**
baz=320
MDOK *e*S **S** **01 35 14.6 +1.0**
baz=320
MDOK Medeo 57.09 320 *i*P **P** **01 27 45.0 +0.8**
MDOK *e*S **S** **01 35 14.6 +1.0**
ARXS Arharly 57.12 321 *e*P **P** **01 27 44.0 -0.3**
TDK Taldyqorghan 57.16 322 *i*P **P** **01 27 45.1 +0.6**
comp=Z,712nm,0.8s,baz=322
TDK *e*S **S** **01 35 15.0 +0.9**
comp=Z,197nm,3.3s,baz=322
TDK Taldyqorghan 57.16 322 *i*P **P** **01 27 45.0 +0.6**
TDK *e*S **S** **01 35 15.0 +0.9**
TDK pmax pmax
comp=Z,712nm,0.8s
TDK smax smax
comp=N,197nm,3.3s
KNDC Almaty 57.17 320 P **P** **01 27 45.7 +1.0**
ULHL Ulahol 57.19 319 P **P** **01 27 46.0 +1.1**
SNR=14
AAA Alma-Ata 57.20 320 ⇓*i*P **P** **01 27 45.4 +0.5**
comp=N,859nm,0.8s,baz=320
AAA Alma-Ata 57.20 320*d*i*P* **P** **01 27 45.4 +0.5**
AAA pmax pmax
comp=Z,859nm,0.8s
CHKK Chushkaly 57.47 321 ⇓*i*P **P** **01 27 46.9 +0.3**
baz=320
MTBS Maitube 57.48 320 ⇓*i*P **P** **01 27 47.4 +0.6**
baz=319
MTBS *e*S **S** **01 35 20.3 +1.9**
baz=319
BOOM Boomskoye usch 57.50 319 P **P** **01 27 48.1 +1.0**
BOOM pmax pmax
comp=Z,680nm,1.4s
BOOM Boomskoye usch 57.50 319 P **P** **01 27 48.1 +1.0**
BOOM IAmb IAmb 01 27 49.3
comp=Z,680nm,1.4s
BOOM ScP **ScP** **01 32 06.2 +1.1**
YAK Yakutsk 57.71 3*d*i*P* **P** **01 27 47.7 -0.1**
YAK *e* 01 28 36.9
YAK *e**PP **pP** **01 28 56.6 -0.8**
YAK *e* 01 29 58.9
YAK *e*PPP PPP 01 31 24.9
YAK *e*S **S** **01 35 18.4 -2.1**
YAK *e* 01 37 01.6
YAK *e*SS **SS** **01 39 16.7 0.0**
YAK pmax pmax
comp=Z,412nm,0.8s
YAK pmax pmax
comp=N,78nm,0.9s
YAK pmax pmax
comp=E,27nm,0.9s
YAK pmax pmax
comp=Z,188nm,1.4s
YAK pmax pmax
comp=E,48nm,1.5s
YAK pmax pmax
comp=N,128nm,1.6s
YAK smax smax
comp=N,231nm,1.5s
YAK smax smax
comp=E,246nm,1.6s
YAK Yakutsk 57.71 3 P **P** **01 27 47.5 -0.4**
YAK IAmb IAmb 01 27 48.8
comp=Z,502nm,0.8s
YAK PcP **PcP** **01 28 37.0 +0.2**
KZA Kyzart 57.77 318 P **P** **01 27 50.5 +1.3**
SNR=473
KUU Kurty 57.90 320 ⇓*i*P **P** **01 27 50.2 +0.6**
comp=Z,1μm,0.9s,baz=320
KUU *e*S **S** **01 35 25.6 +1.8**
comp=Z,295nm,2.2s,baz=320
KUU Kurty 57.90 320*d*i*P* **P** **01 27 50.1 +0.6**
KUU *e*S **S** **01 35 25.5 +1.8**
KUU pmax pmax
comp=Z,1μm,0.9s
KUU smax smax
comp=N,295nm,2.2s
TKM2 Tokmak 2 57.92 319 P **P** **01 27 50.8 +0.8**
SNR=433
KBK Karagaybulak 58.23 319 P **P** **01 27 53.3 +1.2**
SNR=51
FRU1 Bishkek 58.50 319 IAmb IAmb 01 27 56.8
comp=Z,219nm,0.9s
CHMS Chumysh 58.51 319 P **P** **01 27 54.6 +0.8**
SNR=5.7
AAK Ala-Archa 58.52 318 P **P** **01 27 55.0 +0.9**
comp=Z,151nm,0.8s,baz=148,slow=7.1
AAK Ala-Archa 58.52 318 P **P** **01 27 55.0 +0.9**
SNR=168
AAK Ala-Archa 58.52 318 *i*P **P** **01 27 55.1 +0.9**
SNR=190
AAK Ala-Archa 58.52 318*d*i*P* **P** **01 27 54.8 +0.7**
AAK pmax pmax
comp=Z,2μm,1.7s
AAK Ala-Archa 58.52 318 P **P** **01 27 54.9 +0.9**
AAK IAmb IAmb 01 27 58.4
comp=Z,364nm,1.1s
AAK PcP **PcP** **01 28 42.1 +1.4**
MA2 Magadan 58.67 15 P **P** **01 27 55.9 +1.3**
comp=Z,1μm,0.7s,baz=199,slow=6.4,SNR=514
MA2 ScP **ScP** **01 32 11.8 +2.1**
comp=Z,34nm,0.9s,baz=163,slow=4.0,SNR=4.9
MA2 Magadan 58.67 15*d*i*P* **P** **01 27 55.7 +1.2**
MA2 pmax pmax
comp=Z,2μm,1.0s
MA2 Magadan 58.67 15 P **P** **01 27 56.3 +1.7**
SGDS Sogindy 58.79 319 ⇓*i*P **P** **01 27 56.0 +0.2**
comp=Z,147nm,1.1s,baz=319
SGDS *i*S **S** **01 35 37.0 +1.7**
baz=319
USP Ospenovka 58.79 319 P **P** **01 27 56.8 +1.0**
SNR=8.8
AML Almayashu 58.83 318 P **P** **01 27 57.4 +0.9**
SNR=757

EKS2 **Erkin-Say** 59.00 318 P **P** 01 27 58.4 +1.1
SNR=383
ZAA0 **Zalesovo Array** 59.12 334 P **P** 01 27 57.0 -0.7
ZAA0 IAmb IAmb 01 27 59.4
comp=Z,498nm,1.4s
ZALV **Zalesovo Beam** 59.12 334 P **P** 01 27 56.7 -1.0
comp=Z,69nm,0.8s,baz=116,slow=5.7,SNR=123
ZALV PcP **PcP** 01 28 42.5 -0.1
comp=Z,21nm,0.6s,baz=201,slow=1.4,SNR=4.4
ZALV S **S** 01 35 38.2 -0.8
comp=Z,3.6nm,0.7s,baz=125,slow=9.6,SNR=4.2
ZALV PKPPKP **P'P'df** 01 57 26.4 -6.2
comp=Z,2.7nm,0.8s,baz=306,slow=5.3,SNR=8.7
ZALV P4KPbc 02 05 02.2
comp=Z,0.9nm,0.6s,baz=107,slow=2.0,SNR=5.4
ZALV **Zalesovo Beam** 59.12 334 P **P** 01 27 56.4 -1.4
ZALV PcP **PcP** 01 28 42.2 -0.4
KBL **Kabul** 59.50 308 P **P** 01 28 01.8 +0.8
KBL pmax pmax
comp=Z,448nm,0.8s
KBL **Kabul** 59.50 308 P **P** 01 28 01.8 +0.8
KBL IAmb IAmb 01 28 02.4
comp=Z,448nm,0.8s
KBL **Kabul** 59.50 308 P **P** 01 28 01.3 +0.4
SNR=186
BTLS **Baital** 59.88 321 ⇓ *i* P **P** 01 28 03.1 0.0
comp=Z,173nm,0.9s,baz=320
BTLS *e*S **S** 01 35 50.1 +1.0
comp=Z,14nm,1.5s,baz=320
BTLS **Baital** 59.88 321 *d i* P **P** 01 28 03.1 0.0
BTLS *e*S **S** 01 35 50.0 +1.0
BTLS pmax pmax
comp=Z,173nm,0.9s
BTLS smax smax
comp=N,14nm,1.5s
KURBB **Kurchatov Arra** 60.12 328 P **P** 01 28 04.3 -0.2
comp=N,300nm,0.7s,baz=132,slow=6.5,SNR=1125
KURK **Kurchatov** 60.12 328 P **P** 01 28 04.3 -0.3
KURK **Kurchatov** 60.12 328 P **P** 01 28 04.3 -0.3
CHGR **Chuyangaron** 60.71 312 P **P** 01 28 08.7 -0.2
DZA **Taraz** 60.74 318 ⇓ *i* P **P** 01 28 09.0 0.0
comp=N,470nm,1.1s,baz=317
DZA *e*S **S** 01 36 01.1 +1.1
baz=317
DZA **Taraz** 60.74 318 *d i* P **P** 01 28 08.9 0.0
DZA *e*S **S** 01 36 01.1 +1.1
DZA pmax pmax
comp=Z,470nm,1.1s
IUG **Iuzhnay** 61.33 316 ⇓ *i* P **P** 01 28 13.6 +0.6
baz=316
IUG *e*S **S** 01 36 09.4 +1.8
baz=316
IUG **Iuzhnay** 61.33 316 *d i* P **P** 01 28 13.6 +0.6
IUG *e*S **S** 01 36 09.4 +1.8
KK31 **Karatay Array** 61.37 317 *i* P **P** 01 28 13.0 -0.2
TAS **Tashkent** 61.54 315 P **P** 01 28 15.9 +1.6
TAS pmax pmax
comp=Z,942nm,0.9s
TAS **Tashkent** 61.54 315 P **P** 01 28 15.9 +1.6
CHM **Chimkent** 61.69 316 *e*S **S** 01 36 12.2 +0.2
baz=316
SEY **Seymchan** 61.95 14 P **P** 01 28 17.9 +1.4
comp=Z,323nm,1.1s,baz=224,slow=6.4,SNR=201
SEY **Seymchan** 61.95 14 *d i* P **P** 01 28 17.8 +1.3
PYZ **Puysegur Point** 62.56 148 P **P** 01 28 22.1 +1.3
QRZ **Quartz Range** 62.71 141 IAmb IAmb 01 28 25.3
comp=Z,309nm,1.2s
BRZS **Berezniki** 63.00 325 ⇓ *i* P **P** 01 28 23.7 -0.1
comp=Z,435nm,1.6s,baz=325
BRZS *e*S **S** 01 36 28.0 +0.1
baz=325
BRZS **Berezniki** 63.00 325 *d i* P **P** 01 28 23.6 -0.1
BRZS *e*S **S** 01 36 27.9 +0.1
BRZS pmax pmax
comp=Z,435nm,1.6s
LBZ **Lake Benmore** 63.36 145 IAmb IAmb 01 28 28.2
comp=Z,180nm,1.0s
RPZ **Rata Peaks** 63.46 144 P **P** 01 28 28.0 +1.2
RPZ IAmb IAmb 01 28 28.8
comp=Z,146nm,0.9s
THZ **Tophouse** 63.46 141 IAmb IAmb 01 28 28.8
comp=Z,108nm,0.7s
LTZ **Lake Taylor** 63.64 143 IAmb IAmb 01 28 30.0
comp=Z,150nm,1.0s
OPRZ **Ohinepanea** 63.83 136 P **P** 01 28 31.4 +2.1
FWVZ **Far West T-bar** 63.84 138 P **P** 01 28 31.5 +1.9
TRVZ **Turoa** 63.86 138 P **P** 01 28 31.7 +1.9
TMVZ **Te Maari** 63.88 138 P **P** 01 28 33.1 +3.4
WNVZ **Wahianoa** 63.91 138 P **P** 01 28 33.0 +3.0
MOVZ **Moawhango** 64.06 138 P **P** 01 28 31.6 +0.8
BHHZ **Black Hill Sta** 64.30 138 P **P** 01 28 33.1 +0.7
SNZO **South Karori** 64.35 140 P **P** 01 28 31.1 -1.4
SNZO IAmb IAmb 01 28 33.3
comp=Z,152nm,0.8s
MQZ **McQueen's Vall** 64.40 143 IAmb IAmb 01 28 35.9
comp=Z,168nm,1.0s
URZ **Urewera** 64.41 136 P **P** 01 28 33.3 +0.2
comp=Z,55nm,0.6s,baz=260,slow=4.3,SNR=33
URZ **Urewera** 64.41 136 IAmb IAmb 01 28 34.5
comp=Z,141nm,1.0s
URZ **Urewera** 64.41 136 P **P** 01 28 33.3 +0.2
BKZ **Black Stump Fm** 64.43 137 IAmb IAmb 01 28 35.1
comp=Z,255nm,1.0s
BHW **Baring Head** 64.51 140 P **P** 01 28 33.1 -0.5
KWHZ **Kaweka Forest** 64.51 138 P **P** 01 28 34.8 +1.1
RUGZ **Raukumara Rang** 64.67 136 P **P** 01 28 34.8 0.0
MCQ **Macquarie Isla** 65.19 159 P **P** 01 28 39.9 +2.3
baz=65,SNR=4.4
MCQ **Macquarie Isla** 65.19 159 IAmb IAmb 01 28 40.7
comp=Z,243nm,1.1s
MCQ **Macquarie Isla** 65.19 159 P **P** 01 28 39.2 +1.5
JLN **Jalan Bani Buh** 65.44 292 P **P** 01 28 39.4 -0.5
SNR=13
BVAR **Borovoye Array** 65.69 327 P **P** 01 28 40.5 -0.5
comp=Z,166nm,1.0s,baz=173,slow=13,SNR=158
BVAR S **S** 01 36 59.1 -1.4
comp=Z,24nm,1.1s,baz=155,slow=1.1,SNR=16
BRVK **Borovoye** 65.76 327 *d i* P **P** 01 28 40.9 -0.5
BRVK pmax pmax
comp=Z,958nm,1.7s
BRVK **Borovoye** 65.76 327 P **P** 01 28 40.7 -0.7
WBK **Wadi Bani Khal** 65.89 293 P **P** 01 28 42.7 -0.1
SNR=19
WSAR **Wadi Sarin** 66.26 293 P **P** 01 28 44.4 -0.8
comp=Z,54nm,0.9s,baz=121,slow=7.4,SNR=27
WSAR **Wadi Sarin** 66.26 293 P **P** 01 28 45.0 -0.2
SNR=17
JMDO **Jabal Madar** 66.66 292 P **P** 01 28 47.1 -0.6
SNR=17
MHTO **MHTO** 66.68 291 P **P** 01 28 47.2 -0.5
SNR=28
BIDO **Bidbid** 66.75 294 P **P** 01 28 48.0 -0.2
SNR=28
SMDO **Samad** 66.78 293 P **P** 01 28 48.0 -0.5
SNR=14
DQM **DQM** 67.00 290 P **P** 01 28 50.0 +0.2
SNR=18
TIXI **Tiksi** 67.30 1 P **P** 01 28 49.7 -0.9
comp=Z,233nm,1.0s,baz=159,slow=3.8,SNR=44
TIXI S **S** 01 37 18.5 -0.5
comp=Z,4.8nm,0.8s,baz=300,slow=18,SNR=5.9
TIXI **Tiksi** 67.30 1 *d i* P **P** 01 28 49.4 -1.3
TIXI **Tiksi** 67.30 1 P **P** 01 28 49.8 -0.9
TIXI IAmb IAmb 01 28 53.3
comp=Z,306nm,1.1s
KIWB **Kanaga Island** 67.40 35 P **P** 01 28 51.8 0.0
KIWB PcP **PcP** 01 29 16.7 +0.1
HOQ **Hoqain** 67.50 294 P **P** 01 28 52.5 -0.5
SNR=22
BSY **Bisya** 67.53 293 P **P** 01 28 52.8 -0.4
SNR=15
ADK **Adak** 67.68 35 P **P** 01 28 53.6 +0.2
ADK pmax pmax
comp=Z,239nm,1.0s
ADK **Adak** 67.68 35 P **P** 01 28 53.6 +0.2
ADK IAmb IAmb 01 28 55.1
comp=Z,239nm,1.0s
SOHO **SOHO** 68.26 294 *i* P **P** 01 28 56.6 -1.0
SNR=28
SOHO **SOHO** 68.26 294 P **P** 01 28 56.9 -0.7
MDH **Madha** 68.58 295 P **P** 01 28 58.1 -1.5
MDH **Madha** 68.58 295 P **P** 01 28 58.0 -1.5
UOSS **Minazif** 68.63 295 *i* P **P** 01 28 58.6 -1.3
SNR=12
UOSS **Minazif** 68.63 295 P **P** 01 28 58.5 -1.3
UOSS **Minazif** 68.63 295 P **P** 01 28 59.0 -0.9

BANOM **Banah** 68.64 296 *i* P **P** 01 28 59.7 -0.2
SNR=20
BANOM **Banah** 68.64 296 P **P** 01 29 01.0 +1.0
SNR=8.4
HATD **Hatta, Dubai** 68.69 295 *i* P **P** 01 28 59.8 -0.5
SNR=38
HATD **Hatta, Dubai** 68.69 295 P **P** 01 29 00.1 -0.2
SNR=20
SHAO **Shalim** 68.71 288 *i* P **P** 01 29 00.2 -0.3
SNR=5.9
SHAO **Shalim** 68.71 288 P **P** 01 29 00.6 +0.1
MSFE **Esma-Masafi** 68.71 295 *i* P **P** 01 28 59.9 -0.5
SNR=20
MASF **Masafi** 68.71 295 P **P** 01 29 00.2 -0.2
SNR=12
ASHO **Ashiyiah** 68.74 295 *i* P **P** 01 29 00.0 -0.6
SNR=33
ASHO **Ashiyiah** 68.74 295 P **P** 01 29 00.3 -0.3
SNR=17
SHME **Shamm** 68.79 296 *i* P **P** 01 29 00.5 -0.4
SNR=12
SHME **Shamm** 68.79 296 P **P** 01 29 01.6 +0.7
SNR=8.3
GEYT **Alibeck** 68.89 309 P **P** 01 29 01.9 +0.6
comp=Z,110nm,0.9s,baz=150,slow=6.3,SNR=141
GYA0 **ALIBECK ARRAY** 68.89 309 P **P** 01 29 01.4 +0.1
GYA0B **ALIBECK ARRAY** 68.89 309 IAmb IAmb 01 29 04.2
comp=Z,588nm,1.4s
ALNE **Al Ain** 68.96 294 *i* P **P** 01 29 01.8 -0.1
SNR=29
ALNE **Al Ain** 68.96 294 P **P** 01 29 02.2 +0.2
SNR=35
NAZ **Nazwa, Dubai** 69.12 295 *i* P **P** 01 29 02.1 -0.8
SNR=8.1
NAZ **Nazwa, Dubai** 69.12 295 P **P** 01 29 02.6 -0.3
SNR=9.6
FAQ **Al Faqa, Dubai** 69.17 295 *i* P **P** 01 29 02.4 -0.7
SNR=18
FAQ **Al Faqa, Dubai** 69.17 295 P **P** 01 29 02.6 -0.5
SNR=8.7
DMTO **DMTO** 69.34 287 P **P** 01 29 03.8 -0.6
NRIK **Noril'sk** 69.37 347 P **P** 01 29 03.1 -0.4
comp=Z,251nm,0.7s,baz=132,slow=6.4,SNR=221
NRIK S **S** 01 37 41.7 -1.7
comp=Z,12nm,0.9s,baz=27,slow=21,SNR=14
NRIK **Noril'sk** 69.37 347 *d i* P **P** 01 29 03.0 -0.4
NRIK pmax pmax
comp=Z,365nm,0.9s
NRIK **Noril'sk** 69.37 347 P **P** 01 29 03.1 -0.4
NRIK IAmb IAmb 01 29 06.1
comp=Z,314nm,0.8s
ASUD **Al Ashush, Dub** 69.39 295 *i* P **P** 01 29 04.6 0.0
SNR=33
ASUD **Al Ashush, Dub** 69.39 295 P **P** 01 29 05.0 +0.4
SNR=14
UMZA **Um Al Zommool** 69.40 293 P **P** 01 29 04.0 -0.6
BILL **Bilibino** 69.54 15 *c e* P **P** 01 29 04.5 -0.1
BILL *e* 01 31 45.8
BILL *i* S **S** 01 37 46.4 +1.0
BILL pmax pmax
comp=Z,331nm,1.7s
BILL **Bilibino** 69.54 15 P **P** 01 29 04.2 -0.4
BILL IAmb IAmb 01 29 06.0
comp=Z,247nm,1.2s
AJN **Ajban** 69.70 294 *i* P **P** 01 29 06.0 -0.4
SNR=8.8
AJN **Ajban** 69.70 294 P **P** 01 29 06.3 -0.1
SNR=18
RBK **Rabkut** 70.04 287 P **P** 01 29 07.9 -0.7
SNR=5.9
DOK **Doka** 70.15 288 P **P** 01 29 08.7 -0.5
SNR=10
SOCY **Socotra** 70.18 281 P **P** 01 29 07.8 -1.8
SOCY IAmb IAmb 01 29 09.1
comp=Z,198nm,0.8s
AB31 **Akbulak array** 70.37 321 *i* P **P** 01 29 09.6 -0.3
ABKAR **Akbulak array** 70.37 321 P **P** 01 29 09.5 -0.5
ABKAR PcP **PcP** 01 29 29.5 +0.2
WHFO **Wadi Hawf** 70.47 287 P **P** 01 29 10.3 -0.9
SNR=6.3
ABTO **Aybut** 70.90 287 P **P** 01 29 12.9 -0.9
CASY **Casey** 71.16 186 P **P** 01 29 14.9 +0.6
JRN **Qarnain Island** 71.67 295 P **P** 01 29 17.8 -0.3
SNR=15
AKTO **Aktyubinsk** 71.90 322 P **P** 01 29 18.6 -0.4
comp=Z,472nm,0.7s,baz=104,slow=9.4,SNR=467
AKTO S **S** 01 38 11.9 -1.2
comp=Z,4.9nm,0.9s,baz=337,slow=21,SNR=14
SVE **Sverdlovsk** 72.37 329 *c i* P **P** 01 29 21.0 -0.6
SVE *e*S **S** 01 38 15.4 -2.7
SVE pmax pmax
comp=Z,956nm,1.1s
NIKH **Nikolski High** 72.55 36 IAmb IAmb 01 29 24.1
comp=Z,205nm,0.7s
NIKH **Nikolski High** 72.55 36 P **P** 01 29 22.9 +0.1
baz=254,SNR=7.3
SLWR **Sila** 72.67 294 P **P** 01 29 24.1 +0.1
SPIA **Saint Paul Isl** 73.08 31 P **P** 01 29 27.1 +1.3
baz=251
TRNA **Turayna** 73.14 294 P **P** 01 29 26.5 -0.4
ARU **Arti** 73.32 328 P **P** 01 29 26.1 -1.2
comp=Z,143nm,0.6s,baz=117,slow=2.3,SNR=315
ARU S **SKiKP** 01 38 24.8 +0.6
comp=Z,3.1nm,0.8s,baz=197,slow=23,SNR=13
ARU **Arti** 73.32 328 *d i* P **P** 01 29 26.0 -1.2
ARU 01 29 37.9
ARU *PP **pP** 01 30 41.7 +3.1
ARU *SP **sP** 01 31 13.3 +1.0
ARU S **SKiKP** 01 38 25.1 +1.0
ARU 01 38 59.5
ARU pmax pmax
comp=Z,514nm,0.7s
ARU **Arti** 73.32 328 P **P** 01 29 26.2 -1.0
UNV **Unalaska Valle** 74.14 35 IAmb IAmb 01 29 33.5
comp=Z,264nm,0.9s
UNV **Unalaska Valle** 74.14 35 P **P** 01 29 32.4 +0.4
baz=255,SNR=12
GAMB **Gambell** 74.72 24 P **P** 01 29 35.5 +0.4
GAMB IAmb IAmb 01 29 37.3
comp=Z,208nm,1.0s
GAMB **Gambell** 74.72 24 P **P** 01 29 35.9 +0.8
baz=248,SNR=12
FALS **False Pass** 76.14 34 P **P** 01 29 43.5 +0.2
baz=258,SNR=5.2
LKRN **Lenkeran, Azer** 76.27 309 P **P** 01 29 43.9 -0.5
QRN **Al-Qurain** 76.28 298 *e* P **P** 01 29 43.5 -1.2
UMR **Umm Al-Rimmam** 76.49 299 *e* P **P** 01 29 44.8 -1.1
KBD **Kabd** 76.50 299 *e* P **P** 01 29 44.5 -1.3
RDF **Al-Radifah** 76.61 299 *e* P **P** 01 29 45.3 -1.2
MIB **Mutribah** 76.83 299 *e* P **P** 01 29 46.7 -1.0
TNA **Tin City** 76.88 23 P **P** 01 29 48.0 +0.8
baz=251
TNA S **S** 01 39 08.4 +1.0
baz=251
RST **Umm Al-Ruwaisa** 77.12 299 *e* P **P** 01 29 47.8 -1.5
ANM **Nome** 77.60 25 P **P** 01 29 52.5 +1.2
baz=254,SNR=7.3
MAK **Makhachkala** 77.64 313 *c i* P **P** 01 29 51.8 -0.1
MAK *e*PP **pP** 01 31 05.8 +1.6
MAK *e*SP **sP** 01 31 37.5 -0.1
MAK *e* 01 32 49.5
MAK *e*S **S** 01 39 16.7 +0.2
MAK *e*SS **SS** 01 44 23.2 -0.8
MAK pmax pmax
comp=Z,317nm,1.1s
SEKA **Sheki** 77.71 311 P **P** 01 29 52.3 -0.1
MNGR **Mingechevir, A** 77.75 311 P **P** 01 29 53.3 +0.7
SDPT **Sand Point** 77.89 34 P **P** 01 29 53.2 +0.2
baz=260,SNR=40
SDPT S **S** 01 39 19.0 +0.4
baz=260
CNBA **Chernabura Isl** 78.31 35 IAmb IAmb 01 30 00.4
comp=Z,278nm,1.3s
CHNA **Chernabura Isl** 78.31 35 P **P** 01 29 55.6 +0.4
baz=261,SNR=24
CHNA S **S** 01 39 24.6 +1.5
baz=261
GANJ **Ganja** 78.32 310 P **P** 01 29 55.3 -0.4
DDFL **Dedoflistskaro** 78.54 311 P **P** 01 29 58.8 +1.9
KIRV **Kirov** 78.63 329 P **P** 01 29 55.9 -1.0
comp=Z,303nm,0.5s,baz=95,slow=2.7,SNR=167
KIRV S **S** 01 39 20.8 -5.5
comp=Z,6.7nm,0.4s,baz=81,slow=23,SNR=15
KIRV **Kirov** 78.63 329 *d i* P **P** 01 29 55.8 -1.1
BELG **Belogornoye** 78.66 322 P **P** 01 29 56.0 -1.2
comp=Z,1μm,1.0s,baz=303,slow=0.3,SNR=182

BELG S **S** 01 39 22.4 -4.5
comp=Z,19nm,0.8s,baz=207,slow=23,SNR=22
BELG **Belogornoye** 78.66 322 *d i* P **P** 01 29 56.2 -1.0
BELG *i* *PP **pwP** 01 31 14.4 -1.7
BELG pmax pmax
comp=Z,184nm,1.0s
NAX **Nakhchivan** 78.86 309 P **P** 01 29 58.4 -0.3
GROC **Groznyy** 78.91 313 *e* P **P** 01 29 57.8 -1.0
GROC *e*PP **pwP** 01 31 14.6 -3.2
GROC *e* 01 33 02.1
GROC *e*S **S** 01 39 26.6 -3.4
GROC *e* 01 39 43.3
GROC pmax pmax
comp=Z,462nm,1.1s
CHGN **Chignik** 79.20 34 IAmb IAmb 01 30 01.2
comp=Z,359nm,1.2s
CHGN **Chignik** 79.20 34 P **P** 01 30 00.0 0.0
baz=262,SNR=50
GNI **Garni** 79.49 310 P **P** 01 30 02.5 +0.3
comp=Z,119nm,1.2s,baz=192,slow=2.1,SNR=61
GNI S **S** 01 39 39.5 +3.0
comp=Z,12nm,1.2s,baz=148,slow=17,SNR=5.8
GNI **Garni** 79.49 310 P **P** 01 30 02.8 +0.5
GNI **Garni** 79.49 310 *i* P **P** 01 30 02.5 +0.3
GNI pmax pmax
comp=Z,393nm,1.7s
GNI **Garni** 79.49 310 P **P** 01 30 02.3 +0.1
RDOG **Red Dog Mine** 79.50 21 IAmb IAmb 01 30 05.6
comp=Z,358nm,1.4s
RDOG **Red Dog Mine** 79.50 21 P **P** 01 30 04.3 +2.8
baz=255
RDOG S **S** 01 39 37.9 +2.6
baz=255
ABPO **Ambohimpanom** 79.53 250 P **P** 01 30 02.1 -0.7
ABPO pmax pmax
comp=Z,45nm,0.8s
ABPO **Ambohimpanom** 79.53 250 P **P** 01 30 02.1 -0.7
SEAG **Tbilisi Sea** 79.54 312 P **P** 01 30 03.5 +1.2
KZRT **Kazreti** 79.82 311 P **P** 01 30 04.1 +0.3
GUDG **Gudauri** 79.83 312 P **P** 01 30 02.4 -1.6
ZEI **Tsey** 80.27 313 *e* P **P** 01 30 04.8 -1.6
ZEI pmax pmax
comp=Z,146nm,1.5s
VOI **Vohitsoka** 80.36 247 P **P** 01 30 06.1 -1.0
VOI IAmb IAmb 01 30 08.3
comp=Z,90nm,0.8s
VOI **Vohitsoka** 80.36 247 P **P** 01 30 06.4 -0.7
SNR=7.7
VOI **Vohitsoka** 80.36 247 P **P** 01 30 06.3 -0.7
AKH **Akhalkalaki** 80.50 311 ⇓ P **P** 01 30 08.3 +0.7
AKH **Akhalkalaki** 80.50 311 P **P** 01 30 08.1 +0.5
NCK **Nalchik** 80.53 313 *d i* P **P** 01 30 06.9 -0.6
NCK pmax pmax
comp=Z,116nm,1.0s
ONI **Oni** 80.59 312 P **P** 01 30 08.4 +0.5
ONI **Oni** 80.59 312 IAmb IAmb 01 30 11.0
comp=Z,553nm,1.8s
CHIR **Chirikof Islan** 80.69 34 P **P** 01 30 09.3 +1.3
baz=264,SNR=8.9
CHIR S **S** 01 39 52.2 +4.2
baz=264
KARS **Kars** 80.78 310 P **P** 01 30 09.7 +0.6
PRGR **Permogore** 80.99 332 *e* P **P** 01 30 08.5 -0.9
PRGR *e*S **S** 01 39 47.8 -3.0
PRGR pmax pmax
comp=Z,245nm,0.8s
GOF **Gofitskoye** 81.01 315 ⇑ *e* P **P** 01 30 09.9 0.0
GOF pmax pmax
comp=Z,372nm,1.4s
KBZ **Khabaz** 81.05 313 P **P** 01 30 09.6 -0.5
comp=Z,102nm,1.0s,baz=86,slow=5.5,SNR=104
KBZ S **S** 01 39 51.9 -0.2
comp=Z,3.3nm,1.0s,baz=199,slow=24,SNR=9.0
KBZ PKKPbc **PKKPbc** 01 48 45.4 -1.0
comp=Z,1.5nm,0.8s,baz=90,slow=1.7,SNR=3.7
KBZ **Khabaz** 81.05 313 *d i* P **P** 01 30 09.7 -0.5
KBZ pmax pmax
comp=Z,247nm,1.4s
ATD **Arta Tunnel** 81.10 281 P **P** 01 30 11.9 +0.8
comp=Z,54nm,0.8s,baz=59,slow=2.0,SNR=61
ATD **Arta Tunnel** 81.10 281 P **P** 01 30 12.3 +1.2
SNR=22
KIV **Kislovodsk** 81.21 314 ⇑ P **P** 01 30 11.1 0.0
KIV **Kislovodsk** 81.21 314 *i* P **P** 01 30 10.7 -0.5
SNR=66
KIV **Kislovodsk** 81.21 314 *d i* P **P** 01 30 10.2 -1.0
KIV *i* S **S** 01 39 54.4 +0.4
KIV pmax pmax
comp=Z,255nm,1.7s
KIV **Kislovodsk** 81.21 314 P **P** 01 30 10.4 -0.7
KIV IAmb IAmb 01 30 14.1
comp=Z,146nm,1.1s
KIV **Kislovodsk** 81.21 314 P **P** 01 30 11.5 +0.3
TTA **Tatalina** 81.33 27 P **P** 01 30 12.8 +1.4
baz=262
O18K **Koktuh Hills** 81.35 30 P **P** 01 30 12.8 +1.4
baz=264
O18K S **S** 01 39 56.9 +2.3
baz=264
SII **Sitkinak Islan** 81.56 34 IAmb IAmb 01 30 16.2
comp=Z,284nm,1.1s
SII **Sitkinak Islan** 81.56 34 P **P** 01 30 14.0 +1.4
baz=265,SNR=9.5
CHVG **Ch'k'valeri** 81.60 312 ⇑ P **P** 01 30 12.6 -0.5
L19K **White Mountain** 81.78 28 P **P** 01 30 15.2 +1.5
baz=264,SNR=286
L19K S **S** 01 40 00.4 +1.4
baz=264
N19K **Bonanza Creek** 81.81 29 P **P** 01 30 15.4 +1.5
baz=264,SNR=231
N19K S **S** 01 40 01.9 +2.5
baz=264
O19K **Port Alsworth** 81.83 30 P **P** 01 30 14.7 +0.9
baz=264
O19K S **S** 01 40 01.2 +1.8
baz=264
BCA **Borcka** 81.91 311 ⇑ P **P** 01 30 14.8 0.0
M19K **Big River Lodg** 81.96 28 IAmb IAmb 01 30 17.5
comp=Z,354nm,1.1s
M19K **Big River Lodg** 81.96 28 P **P** 01 30 16.2 +1.6
baz=264,SNR=199
M19K S **S** 01 40 02.9 +2.1
baz=264
Q19K **Cape Douglas,** 82.05 31 P **P** 01 30 14.9 -0.2
baz=265,SNR=27
OHAK **Old Harbor** 82.10 33 P **P** 01 30 16.2 +0.9
OHAK **Old Harbor** 82.10 33 P **P** 01 30 16.4 +1.1
baz=266,SNR=33
VRH **Novokhopyorsk** 82.20 321 *e* P **P** 01 30 15.2 -0.8
VRH *e*S **S** 01 39 57.8 -5.7
VRH pmax pmax
comp=Z,630nm,0.7s
VRH pmax pmax
comp=Z,1μm,1.2s
VRH smax smax
comp=N,360nm,1.2s
K20K **Telida** 82.26 27 P **P** 01 30 17.7 +1.6
baz=264,SNR=298
K20K S **S** 01 40 06.2 +2.5
baz=264
J20K **Nowinta River** 82.31 26 P **P** 01 30 18.0 +1.7
baz=264,SNR=428
J20K S **S** 01 40 06.9 +2.7
baz=264
P19K **Oil Pt** 82.32 31 IAmb IAmb 01 30 17.8
comp=Z,572nm,1.8s
P19K **Oil Pt** 82.32 31 P **P** 01 30 16.4 0.0
baz=265,SNR=15
A21K **Barrow** 82.33 19 P **P** 01 30 17.7 +1.5
baz=261
MARD **Mardin** 82.50 307 IAmb IAmb 01 30 19.6
comp=Z,142nm,1.1s
KDAK **Kodiak Island** 82.52 32 P **P** 01 30 17.8 +0.3
KDAK pmax pmax
comp=Z,357nm,0.9s
KDAK **Kodiak Island** 82.52 32 P **P** 01 30 17.8 +0.3
KDAK **Kodiak Island** 82.52 32 P **P** 01 30 18.6 +1.1
baz=266
KDAK S **S** 01 40 07.9 +1.4
baz=266
M20K **Styx River** 82.55 28 P **P** 01 30 19.2 +1.5
baz=265
M20K S **S** 01 40 08.1 +1.2
baz=265
O20K **Slope Mountain** 82.66 30 P **P** 01 30 17.9 -0.3
baz=266,SNR=14

O20K S **S** **01 40 08.2 +0.2**
baz=266
KOPT **Kop Dagi** **82.74 310** IAmb IAmb 01 30 22.7
comp=Z,268nm,1.2s
SPCR **Spurr Chakacha** **82.94 29** P **P** **01 30 19.8 +0.1**
baz=266,SNR=37
PPLA **Purkeypile** **83.07 27** IAmb IAmb 01 30 22.4
comp=Z,520nm,1.6s
PPLA **Purkeypile** **83.07 27** P **P** **01 30 20.9 +0.5**
baz=266,SNR=66
PPLA S **S** **01 40 12.2 0.0**
baz=266
CHUM **Lake Minchumin** **83.09 26** P **P** **01 30 21.7 +1.4**
baz=266,SNR=178
CHUM S **S** **01 40 11.7 -0.3**
baz=266
HOM **Homer** **83.13 31** P **P** **01 30 20.4 -0.1**
baz=267,SNR=10
KTUT **Trabzon** **83.31 311** ⇑P **P** **01 30 22.0 +0.2**
SKT **Skwentna** **83.32 28** P **P** **01 30 21.0 -0.5**
SKT IAmb IAmb 01 30 22.4
comp=Z,213nm,1.4s
SKT **Skwentna** **83.32 28** P **P** **01 30 20.9 -0.5**
baz=267,SNR=75
SKT S **S** **01 40 15.6 +1.2**
baz=267
I21K **Tanana** **83.33 25** P **P** **01 30 22.8 +1.4**
baz=266,SNR=101
SOC **Sochi** **83.35 313** *i*P **P** **01 30 20.6 -1.4**
SOC *e* 01 33 32.3
SOC *e*PPP PPP 01 35 31.9
SOC *e*S **S** **01 40 08.9 -6.5**
SOC pmax pmax
comp=Z,169nm,1.0s
CAPN **Captain Cook N** **83.43 29** P **P** **01 30 22.9 +0.9**
baz=267
MAW **Mawson** **83.58 200** P **P** **01 30 23.1 +0.5**
baz=84,SNR=10
MAW **Mawson** **83.58 200** P **P** **01 30 22.9 +0.3**
comp=Z,28nm,0.8s,baz=65,slow=4.8,SNR=37
MAW pP **pwP** **01 31 39.3 -2.5**
comp=Z,18nm,1.1s,baz=48,slow=5.4,SNR=3.1
MAW PKKPbc **PKKPbc** **01 48 38.6 -3.5**
comp=Z,3.8nm,0.5s,baz=121,slow=2.0,SNR=7.5
BRSE **Bradley Lake S** **83.59 30** P **P** **01 30 23.1 +0.2**
baz=268,SNR=95
SUA **Susitna One** **83.66 29** IAmb IAmb 01 30 24.4
comp=Z,180nm,0.9s
SUA **Susitna One** **83.66 29** P **P** **01 30 23.1 -0.3**
baz=267,SNR=63
SUA S **S** **01 40 18.1 0.0**
baz=267
BPAW **Bear Paw Mtn.** **83.69 26** IAmb IAmb 01 30 25.4
comp=Z,160nm,0.9s
BPAW **Bear Paw Mtn.** **83.69 26** P **P** **01 30 23.8 +0.5**
baz=267,SNR=143
BPAW S **S** **01 40 18.9 +0.9**
baz=267
VORD **Divnogorie** **83.72 321** *e*P **P** **01 30 22.8 -0.9**
VORD *e*S **S** **01 40 14.9 -3.9**
VORD pmax pmax
comp=Z,650nm,0.8s
VORD smax smax
comp=N,110nm,0.9s
VORR **Voronezh** **83.79 321** *e*P **P** **01 30 22.0 -2.0**
VORR pmax pmax
comp=Z,2μm,1.0s
KLMR **Klimovskoe** **83.86 331** *d*/P **P** **01 30 23.1 -1.1**
KLMR *e**PP **pwP** **01 31 43.3 -1.0**
KLMR *e* 01 33 42.3
KLMR *e*S **SKSac** **01 40 13.3 -2.4**
KLMR pmax pmax
comp=Z,2μm,1.2s
KLMR pmax pmax
comp=Z,2μm,1.0s
KLMR **Klimovskoe** **83.86 331** ⇓*i*P **P** **01 30 23.1 -1.1**
KLMR ⇑*i*P **P** **01 30 23.1 -1.1**
KLMR *e*P **P** **01 30 23.1 -1.1**
KLMR AMP 01 30 25.7
comp=Z,2μm,1.0s
KLMR AMP 01 30 26.1
comp=Z,2μm,1.2s
KLMR *e*pP **pwP** **01 31 43.3 -1.0**
KLMR *e*PP **PP** **01 33 42.3 -0.2**
KLMR *e*S **S** **01 40 13.4 -6.4**
KLMR *e*S **S** **01 40 13.4 -6.4**
CUT **Chulitna** **83.93 28** IAmb IAmb 01 30 28.9
comp=Z,365nm,1.4s
CUT **Chulitna** **83.93 28** P **P** **01 30 24.1 -0.4**
baz=268,SNR=9.7
TRF **Thorofare Moun** **83.96 27** P **P** **01 30 24.9 0.0**
baz=268
TRF S **S** **01 40 21.2 +0.1**
baz=268
O22K **Cooper Landing** **84.12 30** IAmb IAmb 01 30 26.9
comp=Z,197nm,0.7s
O22K **Cooper Landing** **84.12 30** P **P** **01 30 25.5 0.0**
baz=268,SNR=5.8
RC01 **Rabbit Creek A** **84.14 29** IAmb IAmb 01 30 26.7
comp=Z,107nm,0.6s
RC01 **Rabbit Creek A** **84.14 29** P **P** **01 30 25.4 -0.2**
baz=268,SNR=42
RC01 S **S** **01 40 21.4 -1.1**
baz=268
COLD **Coldfoot** **84.17 23** P **P** **01 30 27.1 +1.4**
baz=267,SNR=283
COLD S **S** **01 40 25.0 +2.3**
baz=267
SEW **Seward** **84.25 30** IAmb IAmb 01 30 27.7
comp=Z,212nm,0.9s
SEW **Seward** **84.25 30** P **P** **01 30 26.3 +0.1**
baz=269,SNR=26
SEW S **S** **01 40 23.6 0.0**
baz=269
VNDA **Vanda** **84.28 172** P **P** **01 30 26.1 +0.1**
comp=Z,20nm,0.8s,baz=318,slow=6.2,SNR=138
VNDA pP **pP** **01 31 41.6 +1.9**
comp=Z,9.3nm,1.0s,baz=332,slow=5.6,SNR=1.8
VNDA S **S** **01 40 16.9 -6.4**
comp=Z,1.4nm,1.1s,baz=106,slow=2.1,SNR=7.9
VNDA PKKPbc **PKKPbc** **01 48 37.4 -3.5**
comp=Z,5.0nm,1.0s,baz=184,slow=1.6,SNR=15
BWN **Browne** **84.36 26** P **P** **01 30 27.1 +0.4**
BWN IAmb IAmb 01 30 30.0
comp=Z,239nm,1.0s
H23K **Yukon River** **84.38 24** IAmb IAmb 01 30 29.5
comp=Z,476nm,1.6s
H23K **Yukon River** **84.38 24** P **P** **01 30 27.9 +1.2**
baz=268,SNR=104
H23K S **S** **01 40 27.5 +2.7**
baz=268
I23K **Minto, Yukon-K** **84.43 25** P **P** **01 30 27.7 +0.8**
baz=268,SNR=152
I23K S **S** **01 40 27.5 +2.3**
baz=268
PMR **Palmer** **84.44 29** IAmb IAmb 01 30 28.2
comp=Z,149nm,1.2s
PMR **Palmer** **84.44 29** P **P** **01 30 26.6 -0.5**
baz=269,SNR=23
PMR S **S** **01 40 24.4 -1.0**
baz=269
TOLK **Toolik Lake Re** **84.47 22** P **P** **01 30 28.5 +1.2**
baz=268,SNR=176
TOLK S **S** **01 40 27.5 +1.8**
baz=268
NEA2 **Nenana** **84.54 26** IAmb IAmb 01 30 30.8
comp=Z,164nm,0.9s
NEA2 **Nenana** **84.54 26** P **P** **01 30 27.2 -0.4**
baz=269,SNR=92
NEA2 S **S** **01 40 27.6 +1.2**
baz=269
MCK **McKinley** **84.58 26** IAmb IAmb 01 30 29.9
comp=Z,182nm,1.0s
MCK **McKinley** **84.58 26** P **P** **01 30 27.4 -0.4**
baz=269,SNR=66
MCK S **S** **01 40 26.4 -0.5**
baz=269
RND **Reindeer** **84.61 27** IAmb IAmb 01 30 28.9
comp=Z,164nm,1.4s
WAT1 **Susitna Watana** **84.73 27** P **P** **01 30 28.2 -0.4**
baz=269
WAT1 S **S** **01 40 27.1 -1.4**
baz=269
KNK **Knik Glacier** **84.76 29** P **P** **01 30 29.0 +0.2**
baz=269,SNR=36
KNK S **S** **01 40 28.6 -0.1**
baz=269

MOS **Moscow** **84.77 325** *e*P **P** **01 30 24.3 -4.5**
MOS *e* 01 33 47.5
MOS *e*S **SKSac** **01 40 13.6 -8.0**
MOS *e*SSS SSS 01 49 38.2
MOS pmax pmax
comp=Z,1μm,1.0s
MOS pmax pmax
comp=E,350nm,1.0s
PWL **Port Wells** **84.81 29** P **P** **01 30 29.0 0.0**
PWL IAmb IAmb 01 30 30.6
comp=Z,211nm,1.0s
SML **Sawmill** **84.83 28** IAmb IAmb 01 30 30.7
comp=Z,92nm,0.7s
SML **Sawmill** **84.83 28** P **P** **01 30 29.2 +0.1**
baz=270,SNR=61
SML S **S** **01 40 30.0 +0.6**
baz=270
WRH **Wood River Hil** **84.96 26** IAmb IAmb 01 30 31.6
comp=Z,174nm,1.4s
ANN **Anapa** **84.99 314** *d*/P **P** **01 30 28.5 -1.7**
ANN *e**PP **pwP** **01 31 48.8 -1.3**
ANN *e* 01 33 54.0
ANN *e*S **SKSac** **01 40 19.5 -4.0**
ANN *e* 01 40 28.6
ANN pmax pmax
comp=Z,1μm,0.8s
ANN pmax pmax
comp=N,336nm,0.9s
ANN pmax pmax
comp=E,239nm,0.9s
ANN pmax pmax
comp=Z,2μm,1.1s
ANN pmax pmax
comp=N,422nm,1.0s
ANN pmax pmax
comp=E,287nm,1.0s
TCOL **CIGO, UAF Yank** **85.06 25** P **P** **01 30 29.4 -0.7**
baz=270
H24K **Noodor Dome** **85.06 24** IAmb IAmb 01 30 32.8
comp=Z,116nm,0.9s
H24K **Noodor Dome** **85.06 24** P **P** **01 30 31.1 +1.0**
baz=270,SNR=126
H24K S **S** **01 40 34.0 +2.4**
baz=270
COLA **College** **85.07 25** P **P** **01 30 29.3 -0.8**
COLA pmax pmax
comp=Z,49nm,1.1s
COLA **College** **85.07 25** P **P** **01 30 29.3 -0.8**
COLA **College** **85.07 25** P **P** **01 30 29.4 -0.7**
baz=270
WAT6 **Susitna Watana** **85.11 28** P **P** **01 30 30.6 -0.1**
baz=270,SNR=40
WAT6 S **S** **01 40 31.9 -0.4**
baz=270
SBA **Scott Base** **85.21 172** P **P** **01 30 31.4 +0.8**
SBA pmax pmax
comp=Z,84nm,1.7s
SBA **Scott Base** **85.21 172** P **P** **01 30 31.4 +0.8**
POKR **Poker Plat Res** **85.25 25** P **P** **01 30 30.2 -0.9**
baz=270,SNR=9.1
POKR S **S** **01 40 33.2 -0.1**
baz=270
FURI **Furi** **85.34 279** P **P** **01 30 34.9 +1.9**
FURI IAmb IAmb 01 30 37.5
comp=Z,285nm,1.5s
OBN **Obninsk** **85.37 325** ⇑P **P** **01 30 31.8 0.0**
OBN **Obninsk** **85.37 325** P **P** **01 30 30.7 -1.1**
comp=Z,176nm,0.8s,baz=43,slow=0.7,SNR=145
OBN S **SKSac** **01 40 21.7 -3.7**
comp=Z,1.7nm,0.5s,baz=308,slow=23,SNR=7.2
OBN **Obninsk** **85.37 325** *d*/P **P** **01 30 30.5 -1.3**
OBN *i**PP **pwP** **01 31 50.0 -2.1**
OBN *i* 01 33 56.0
OBN *i*S **SKSac** **01 40 21.9 -3.5**
OBN *i* 01 40 32.9
OBN pmax pmax
comp=Z,2μm,1.7s
OBN **Obninsk** **85.37 325** P **P** **01 30 30.7 -1.1**
GLI **Glacier Island** **85.42 29** IAmb IAmb 01 30 33.7
comp=Z,89nm,0.7s
GLI **Glacier Island** **85.42 29** P **P** **01 30 32.0 0.0**
baz=271,SNR=13
GLI S **S** **01 40 35.8 +0.6**
baz=271
HDA **Harding Lake** **85.46 26** P **P** **01 30 30.9 -1.1**
baz=270,SNR=70
HDA S **S** **01 40 34.5 -0.9**
baz=270
HDA S **S** **01 40 34.5 -0.9**
baz=270
ILAR **Eielson Array** **85.48 25** P **P** **01 30 30.5 -1.7**
comp=Z,19nm,0.6s,baz=246,slow=4.5,SNR=166
ILAR PP **PP** **01 33 56.7 +1.2**
comp=Z,4.0nm,1.1s,baz=284,slow=7.3,SNR=1.3
ILAR PKKPbc **PKKPbc** **01 48 33.9 -3.4**
comp=Z,1.9nm,0.9s,baz=60,slow=1.6,SNR=9.5
ILAR PKPPKP **P'P'df** **01 56 39.3 -6.9**
comp=Z,1.3nm,1.1s,baz=102,slow=2.2,SNR=5.0
ILAR **Eielson Array** **85.48 25** P **P** **01 30 30.7 -1.5**
ILAR **Eielson Array** **85.48 25** P **P** **01 30 30.7 -1.5**
ASF **Jabal al Asfar** **85.80 302** P **P** **01 30 35.0 +0.4**
comp=Z,123nm,0.8s,baz=281,slow=2.3,SNR=97
ASF PP **PP** **01 33 59.7 +0.6**
comp=Z,20nm,1.1s,baz=293,slow=2.9,SNR=4.5
M24K **Tolsona, Glenn** **85.84 28** IAmb IAmb 01 30 35.9
comp=Z,138nm,0.9s
M24K **Tolsona, Glenn** **85.84 28** P **P** **01 30 34.6 +0.5**
baz=271,SNR=26
M24K S **S** **01 40 42.0 +2.7**
baz=271
KLU **Klutina** **85.98 29** P **P** **01 30 35.0 +0.2**
baz=272,SNR=27
KLU S **S** **01 40 42.4 +1.7**
baz=272
LVZ **Lovozero** **86.02 338** *d*/P **P** **01 30 32.8 -2.0**
LVZ pmax pmax
comp=Z,294nm,1.3s
PRP **Porcupine Dome** **86.04 25** P **P** **01 30 34.0 -1.1**
baz=272,SNR=29
PRP S **S** **01 40 41.0 -0.2**
baz=272
DIV **Divide** **86.06 29** P **P** **01 30 35.5 +0.3**
EYAK **Cordova Ski Ar** **86.09 30** P **P** **01 30 35.7 +0.5**
baz=272
EYAK S **S** **01 40 42.8 +1.3**
baz=272
KVT **Kavak** **86.12 311** P **P** **01 30 35.8 -0.1**
FYU **Fort Yukon** **86.13 24** IAmb IAmb 01 30 37.5
comp=Z,128nm,1.0s
HARP **HAARP** **86.31 28** P **P** **01 30 36.5 +0.2**
baz=272,SNR=17
HARP S **S** **01 40 45.3 +1.7**
baz=272
RIDG **Independent Ri** **86.40 26** IAmb IAmb 01 30 37.7
comp=Z,117nm,1.0s
RIDG **Independent Ri** **86.40 26** P **P** **01 30 36.5 -0.3**
baz=272,SNR=77
RIDG S **S** **01 40 44.1 -0.5**
baz=272
APA **Apatity** **86.51 337** ⇓*i*P **P** **01 30 34.2 -2.9**
APA *i**PP **pP** **01 31 52.0 +1.0**
APA pmax pmax
comp=Z,157nm,0.9s
N25K **Chitina, Valde** **86.61 29** P **P** **01 30 38.2 +0.4**
baz=273,SNR=36
N25K S **S** **01 40 48.2 +1.5**
baz=273
BMRM **Bremner River** **86.63 29** P **P** **01 30 38.1 +0.1**
baz=273,SNR=24
BMRM S **S** **01 40 48.7 +1.7**
baz=273
DIKM **Dikmen** **86.68 311** ⇑P **P** **01 30 38.6 +0.1**
SNOP **Sinop** **86.70 312** IAmb IAmb 01 30 40.2
comp=Z,308nm,1.3s
DOT **Dot Lake** **86.75 27** P **P** **01 30 38.0 -0.4**
KIBK **Kibwezi** **86.76 267** IAmb IAmb 01 30 43.3
comp=Z,124nm,1.2s
SCRK **Sand Creek** **86.77 26** P **P** **01 30 38.5 -0.1**
baz=273,SNR=32
SCRK S **S** **01 40 48.3 +0.1**
baz=273
KAIM **Kayak Island** **86.78 30** IAmb IAmb 01 30 40.5
comp=Z,137nm,0.9s
KAIM **Kayak Island** **86.78 30** P **P** **01 30 39.0 +0.5**
baz=273,SNR=7.7
GLB **Gilahina Butte** **86.99 29** P **P** **01 30 40.0 +0.4**
GLB PKKPdf **PKKPdf** **01 48 26.9 +1.1**

MMAI **Mount Meron Ar** **87.02 303** P **P** **01 30 40.5 +0.1**
comp=Z,31nm,0.7s,baz=80,slow=6.1,SNR=76
SUCK **Suckling Hills** **87.09 30** IAmb IAmb 01 30 43.5
comp=Z,148nm,1.6s
L26K **Log Cabin Wild** **87.11 27** P **P** **01 30 40.3 +0.1**
L26K **Log Cabin Wild** **87.11 27** P **P** **01 30 40.4 +0.3**
baz=274,SNR=20
L26K S **S** **01 40 53.5 +2.2**
baz=274
BERG **Berg Lake** **87.11 30** IAmb IAmb 01 30 41.8
comp=Z,107nm,0.9s
PPT2 **Papeete2** **87.30 108** *e*S **S** **01 40 54.5 -0.4**
comp=Z,572nm,27.0s
M26K **Nabesna, AK** **87.31 28** IAmb IAmb 01 34 10.0
comp=Z,136nm,1.4s
M26K **Nabesna, AK** **87.31 28** P **P** **01 30 41.5 +0.3**
baz=274,SNR=32
M26K S **S** **01 40 55.9 +2.5**
baz=274
SIM **Simferopol'** **87.34 315** *c*e P **P** **01 30 39.7 -1.9**
SIM *e*S **S** **01 40 52.0 -2.1**
SIM pmax pmax
comp=Z,411nm,1.2s
CRQM **Cirque** **87.36 29** IAmb IAmb 01 30 43.1
comp=Z,93nm,1.0s
MCARA **McCarthy VSAT** **87.37 29** P **P** **01 30 41.8 +0.4**
baz=274,SNR=17
MCARA S **S** **01 40 55.8 +2.0**
baz=274
CRQE **Cirque** **87.39 29** P **P** **01 30 41.9 +0.3**
baz=274,SNR=16
KMBO **Kilima Mbogo** **87.46 269** P **P** **01 30 43.2 +0.2**
comp=Z,32nm,0.9s,baz=66,slow=5.4,SNR=50
KMBO **Kilima Mbogo** **87.46 269** *de*P **P** **01 30 43.1 0.0**
WAX **Waxell Ridge** **87.53 30** P **P** **01 30 42.5 +0.3**
WAX IAmb IAmb 01 30 44.0
comp=Z,80nm,0.8s
EIL **Elat** **87.60 299** P **P** **01 30 43.2 0.0**
comp=Z,62nm,0.8s,baz=118,slow=4.3,SNR=81
K27K **Chicken** **87.60 26** P **P** **01 30 43.6 +1.2**
baz=275
K27K S **S** **01 40 58.3 +2.5**
baz=275
BZK **Bozkurt** **87.60 312** ⇑P **P** **01 30 42.4 -0.5**
ISLE **Juniper Island** **87.77 30** IAmb IAmb 01 30 45.0
comp=Z,118nm,1.2s
L27K **Beaver Creek,** **87.80 27** IAmb IAmb 01 30 45.4
comp=Z,83nm,0.9s
L27K **Beaver Creek,** **87.80 27** P **P** **01 30 44.2 +0.9**
baz=275,SNR=70
L27K S **S** **01 40 59.0 +1.2**
baz=275
M27K **Edge Creek, AK** **87.84 28** P **P** **01 30 44.1 +0.4**
baz=275,SNR=27
M27K S **S** **01 41 00.5 +2.0**
baz=275
ILGA **Ilgaz** **87.88 311** IAmb IAmb 01 30 45.7
comp=Z,126nm,1.0s
EGAK **Eagle** **87.93 25** P **P** **01 30 43.9 0.0**
baz=276,SNR=35
EGAK S **S** **01 40 59.2 +0.3**
baz=276
TBI **Tubuai** **87.95 113** *e*S **S** **01 41 00.3 -0.4**
comp=Z,522nm,33.5s
MESA **MESA** **88.00 30** IAmb IAmb 01 30 46.5
comp=Z,77nm,0.9s
MESA **MESA** **88.00 30** P **P** **01 30 45.2 +0.7**
baz=275,SNR=7.3
MESA S **S** **01 41 03.6 +3.5**
baz=275
BR131 **Keskin Array S** **88.03 310** *d*/P **P** **01 30 43.6 -1.5**
BR131 **Keskin Array S** **88.03 310** IAmb IAmb 01 30 45.6
comp=Z,99nm,0.9s
BRTR **Keskin Array B** **88.03 310** P **P** **01 30 43.4 -1.7**
comp=Z,58nm,0.9s,baz=118,slow=4.5,SNR=96
BRTR pP **pP** **01 32 00.8 +1.5**
comp=Z,6.6nm,1.1s,baz=72,slow=6.2,SNR=1.1
BRTR PP **PP** **01 34 11.2 -5.5**
comp=Z,6.3nm,0.9s,baz=102,slow=6.6,SNR=3.2
BARN **Barnard Glacie** **88.06 29** P **P** **01 30 44.8 0.0**
BARN IAmb IAmb 01 30 46.8
comp=Z,152nm,0.7s
YAH **Yahtse** **88.08 30** IAmb IAmb 01 30 47.1
comp=Z,110nm,0.9s
CTG **Chitna Glacier** **88.22 29** P **P** **01 30 46.4 +0.9**
baz=276,SNR=52
CTG S **S** **01 41 05.1 +3.0**
baz=276
CTGM **Chitina Glacie** **88.23 29** IAmb IAmb 01 30 47.6
comp=Z,161nm,0.8s
BVCY **Beaver Creek** **88.30 28** P **P** **01 30 46.6 +0.8**
baz=276,SNR=17
TABL **Table Mountain** **88.37 30** IAmb IAmb 01 30 48.2
comp=Z,104nm,1.0s
PUL **Pulkovo** **88.47 330** *c*e P **P** **01 30 45.5 -1.0**
PUL pmax pmax
comp=Z,817nm,1.0s
YUK3 **Moose Creek** **88.56 28** P **P** **01 30 47.6 +0.4**
baz=276,SNR=19
CSS **Mathiatis** **88.61 305** IAmb IAmb 01 30 48.8
comp=Z,113nm,1.0s
KEV **Kevo** **88.62 340** P **P** **01 30 45.2 -1.8**
KEV pmax pmax
comp=Z,77nm,1.0s
KEV **Kevo** **88.62 340** P **P** **01 30 45.2 -1.8**
ANTO **Ankara** **88.67 310** P **P** **01 30 46.6 -1.4**
ANTO pmax pmax
comp=Z,61nm,1.0s
ANTO **Ankara** **88.67 310** P **P** **01 30 46.6 -1.4**
DAWY **Dawson** **88.77 26** P **P** **01 30 48.2 +0.3**
baz=277,SNR=35
DAWY S **S** **01 41 06.9 0.0**
baz=277
PCA **Pinnacle** **88.85 30** IAmb IAmb 01 30 50.2
comp=Z,83nm,0.9s
PINM **Pinnacle** **88.85 30** P **P** **01 30 49.1 +0.7**
baz=277,SNR=17
LEF **Lefka** **88.96 305** ⇑P **P** **01 30 48.4 -1.0**
ARA0 **ARCESS Array S** **89.17 340** *e*P **P** **01 30 48.4 -1.2**
ARCES **ARCESS Array B** **89.17 340** P **P** **01 30 48.3 -1.4**
comp=Z,109nm,0.8s,baz=77,slow=6.4,SNR=63
ARCES PKiKP **PKiKP** **01 35 45.8 -0.3**
comp=Z,8.8nm,1.1s,baz=84,slow=1.4,SNR=6.9
ARCES PKKP **PKKPdf** **01 48 23.7 +1.6**
comp=Z,4.2nm,0.9s,baz=315,slow=0.8,SNR=5.2
YUK4 **Talbot Arm** **89.47 29** P **P** **01 30 52.4 +0.9**
baz=278,SNR=5.8
SPB2 **Spitsbergen Ar** **89.50 349** IAmb IAmb 01 30 54.3
comp=Z,207nm,0.9s
SPA0 **Spitsbergen Ar** **89.50 349** *e*P **P** **01 30 50.4 -0.6**
EPYK **Eagle Plains** **89.55 23** P **P** **01 30 51.4 -0.1**
EPYK IAmb IAmb 01 30 52.8
comp=Z,137nm,0.8s
EPYK PKKPdf **PKKPdf** **01 48 23.4 +1.9**
EPYK **Eagle Plains** **89.55 23** P **P** **01 30 51.4 -0.1**
baz=280,SNR=68
HAMF **Hammerfest** **89.57 341** *e*P **P** **01 30 50.0 -1.5**
YUK6 **Outpost Mounta** **89.67 29** P **P** **01 30 53.1 +0.7**
baz=278,SNR=7.0
KBS **Kingsbay** **90.05 350** ⇑*e*P **P** **01 30 53.0 -0.6**
KBS pmax pmax
comp=Z,27nm,0.8s
HSPB **Hornsund (broa** **90.06 348** *e*P **P** **01 30 52.6 -1.0**
KTK1 **Kautokeino** **90.06 339** *e*P **P** **01 30 52.2 -1.6**
HYT **Haines Junctio** **90.10 29** P **P** **01 30 54.8 +0.5**
HYT IAmb IAmb 01 30 56.2
comp=Z,79nm,0.8s
HYT **Haines Junctio** **90.10 29** P **P** **01 30 55.1 +0.8**
baz=279,SNR=50
AKASG **Malin Array Be** **90.11 321** P **P** **01 30 52.5 -1.8**
comp=Z,106nm,0.7s,baz=68,slow=4.6,SNR=169
AKASG PP **PP** **01 34 33.1 +0.5**
comp=Z,34nm,1.0s,baz=67,slow=8.1,SNR=7.4
AKASG PKKP **PKKPdf** **01 48 18.4 -1.7**
comp=Z,0.2nm,0.3s,baz=94,slow=40,SNR=4.5
AKASG **Malin Array Be** **90.11 321** IAmb IAmb 01 30 54.8
comp=Z,128nm,0.8s
AKBB **Malin Array Si** **90.11 321** *d*/P **P** **01 30 52.4 -2.0**
AKBB **Malin Array Si** **90.11 321** IAmb IAmb 01 30 55.3
comp=Z,236nm,1.2s
FINES **FINESS Array B** **90.32 332** P **P** **01 30 53.6 -1.5**
comp=Z,172nm,0.8s,baz=95,slow=4.8,SNR=151
FINES PKiKP **PKiKP** **01 35 48.1 -0.1**
comp=Z,4.0nm,0.6s,baz=116,slow=4.4,SNR=4.3
MAYO **Mayo, Yukon** **90.38 26** P **P** **01 30 56.1 +0.7**
baz=280,SNR=12
INK **Inuvik** **90.39 21** P **P** **01 30 54.7 -0.5**

comp=Z,67nm,1.1s,baz=313,slow=2.7,SNR=22
INK PKiKP **PKiKP 01 35 48.8 +0.6**
comp=Z,4.5nm,0.6s,baz=313,slow=4.4,SNR=4.5
INK PKKP **PKKPdf 01 48 21.4 +1.5**
comp=Z,16nm,1.2s,baz=180,slow=3.6,SNR=4.6
INK Inuvik 90.39 21 P **P 01 30 54.8 -0.5**
INK IAmb IAmb 01 30 56.5
comp=Z,90nm,1.1s
INK Inuvik 90.39 21 P **P 01 30 54.9 -0.3**
baz=283,SNR=20
MNK Minsk 90.43 325 *i* P **P 01 30 55.2 -0.6**
MNK *i* *PP **pwP 01 32 15.0 -1.7**
MNK *i* 01 34 37.7
MNK *i* PPP PPP 01 36 38.5
MNK *i* S **SKSac 01 40 53.6 -2.1**
MNK *i* 01 41 10.5
MNK pmax pmax
comp=Z,698nm,1.1s
MNK pmax pmax
comp=E,62nm,1.3s
MNK pmax pmax
comp=N,95nm,1.1s
MNK Minsk 90.43 325 *i* P **P 01 30 55.2 -0.6**
comp=E,62nm,1.3s
MNK *i* P **P 01 30 55.2 -0.6**
comp=N,95nm,1.1s
MNK *i* P **P 01 30 55.2 -0.6**
comp=Z,698nm,1.1s,baz=82
MNK *i* pP **pwP 01 32 15.0 -1.7**
MNK *i* sP **sP 01 32 49.5 +6.3**
MNK *i* PP **PP 01 34 37.7 +2.6**
MNK *i* PPP PPP 01 36 38.5
MNK *i* S **SKSac 01 40 53.6 -2.1**
MNK *i* SSS SSS 01 51 20.9
MNK *i* LR LR 02 05 23.9
VSU Vasula 90.47 329 *e*P **P 01 30 55.6 -0.3**
VSU Vasula 90.47 329 *d* *i* P **P 01 30 54.0 -1.9**
VSU pmax pmax
comp=Z,509nm,0.8s
ISP Isparta 90.62 308 P **P 01 30 57.5 +0.3**
ISP Isparta 90.62 308 IAmb IAmb 01 30 57.6
comp=Z,158nm,1.4s
MILM Milestii Mici 90.84 317 ⇑P **P 01 30 56.4 -1.4**
JETT Jettan, Norway 90.92 340 *e*P **P 01 30 57.6 -0.2**
IDID Didziasalis 90.96 326 *e*P **P 01 30 58.1 -0.1**
SORM Soroca 91.00 318 ⇓P **P 01 30 57.1 -1.5**
NACGM Naroch 91.00 325 *i* P **P 01 30 57.1 -1.3**
TLCR 91.06 315 ⇑P **P 01 30 58.0 -0.9**
JURR Jurilovca 91.06 315 ⇑P **P 01 30 57.9 -1.0**
ELL Elmali 91.22 307 P **P 01 30 59.6 -0.4**
ELL Elmali 91.22 307 IAmb IAmb 01 34 41.1
comp=Z,171nm,1.0s
IIGN Ignalina 91.25 326 *e*P **P 01 30 59.3 -0.2**
ISAL Salakas 91.27 326 *e*P **P 01 30 59.4 -0.2**
TPGR Topolog 91.38 315 ⇑P **P 01 30 59.6 -0.9**
ISK Istanbul-Kandi 91.38 311 P **P 01 30 59.5 -1.0**
TRO Tromso 91.40 340 *e*P **P 01 30 58.0 -2.0**
WHY Whitehorse 91.40 29 IAmb IAmb 01 31 02.5
comp=Z,173nm,1.1s
WHY Whitehorse 91.40 29 P **P 01 31 01.2 +0.9**
baz=281,SNR=50
WHY S **S 01 41 31.2 +0.1**
baz=281
SKAG Skagway 91.41 30 IAmb IAmb 01 31 02.4
comp=Z,112nm,1.0s
SKAG Skagway 91.41 30 P **P 01 31 01.1 +1.0**
baz=281,SNR=21
TIRR Tirgusor 91.43 315 ⇓P **P 01 30 59.6 -1.1**
TIRR Tirgusor 91.43 315 P **P 01 31 00.0 -0.6**
MFTR Murfatlar 91.46 314 ⇑P **P 01 30 59.6 -1.2**
VLDR Vladesti 91.48 316 ⇑P **P 01 31 00.6 -0.3**
CFR Carcaliu 91.53 315 ⇑P **P 01 31 00.1 -1.0**
TATR Tatarca 91.54 316 ⇑P **P 01 31 00.4 -0.7**
KALB Balgarevo 91.57 314 ⇑P **P 01 30 59.8 -1.5**
SCTR Scanteiesti 91.57 316 ⇑P **P 01 31 00.9 -0.3**
VASR Vaslui 91.58 317 ⇑P **P 01 31 00.8 -0.4**
VARL Varlezi 91.64 316 ⇑P **P 01 31 01.9 +0.3**
IAS Iasi 91.65 317 ⇑P **P 01 31 00.6 -1.0**
TLBR Topalu 91.68 315 ⇑P **P 01 31 00.6 -1.2**
SCHL Schela 91.70 316 ⇑P **P 01 31 01.8 0.0**
SLCR Slobozia Conac 91.73 316 ⇑P **P 01 31 01.8 -0.2**
BIR Birlad 91.74 316 ⇑P **P 01 31 02.3 +0.3**
HARR Harsova 91.74 315 ⇑P **P 01 31 01.3 -0.8**
FARO Faro, Yukon 91.79 27 P **P 01 31 02.7 +0.7**
baz=283,SNR=116
BESE Bessie Mountai 91.82 31 IAmb IAmb 01 31 04.5
comp=Z,146nm,1.2s
SIT Sitka 91.86 33 IAmb IAmb 01 31 04.6
comp=Z,108nm,1.1s
SIT Sitka 91.86 33 P **P 01 31 03.0 +0.7**
baz=281,SNR=6.4
FETY Fethiye 91.89 307 P **P 01 31 02.1 -0.9**
ICOR Ion Corvin 91.91 314 ⇑P **P 01 31 02.2 -0.7**
GHRR 91.92 316 ⇑P **P 01 31 02.5 -0.4**
MTSE Matsula 91.94 329 *e*P **P 01 31 02.0 +0.2**
KULA Kula-Manisa 92.00 309 P **P 01 31 01.7 -1.8**
A36M Sachs Harbour 92.05 17 P **P 01 31 02.8 -0.1**
baz=290
A36M S **S 01 41 38.2 +2.1**
baz=290
MANT Manisa 92.08 309 P **P 01 31 02.3 -1.8**
JIS Juneau Island 92.12 31 IAmb IAmb 01 31 05.7
comp=Z,152nm,1.2s
ODBI Odobesti 92.20 316 ⇑P **P 01 31 04.6 +0.4**
SYO Syowa Base 92.21 201 ⇑ *e*P **P 01 31 03.0 -0.6**
SYO Syowa Base 92.21 201 ⇓ *e*PcP **PcP 01 31 04.0 -0.2**
SYO Syowa Base 92.21 201 ⇑ *e*pP pP 01 32 17.8 -0.5
GRER 92.32 316 ⇑P **P 01 31 05.0 +0.2**
NOR Nord 92.32 355 ⇓ *i*P **P 01 31 03.2 -0.8**
NOR IAmb IAmb 01 31 04.3
comp=Z,135nm,1.2s
NOR Nord 92.32 355 ⇓ *i*P **P 01 31 03.2 -0.8**
NOR pmax pmax
comp=Z,130nm,1.2s
PGOR Pogoanele 92.38 315 ⇑P **P 01 31 05.3 +0.3**
VRI Vrincioaia 92.42 316 ⇑P **P 01 31 04.9 -0.3**
VRI Vrincioaia 92.42 316 P **P 01 31 04.4 -0.8**
BALB Balikesir 92.46 310 IAmb IAmb 01 31 06.4
comp=Z,193nm,1.3s
YER Yerkesik 92.47 307 P **P 01 31 03.9 -1.8**
YER Yerkesik 92.47 307 P **P 01 31 06.0 +0.3**
PLOR Plostina 92.47 316 ⇑P **P 01 31 05.0 -0.5**
BISRR Bisoca 92.48 316 ⇑P **P 01 31 05.2 -0.4**
PABE Paberze 92.48 326 *e*P **P 01 31 04.7 -0.6**
PRAR RASCA 92.53 318 ⇑P **P 01 31 04.6 -1.1**
LEHL Lehliu 92.56 315 ⇑P **P 01 31 05.4 -0.5**
MMPY Sheldon Lake, 92.64 27 P **P 01 31 06.7 +0.8**
baz=285,SNR=65
ISR Istrita 92.66 315 ⇑P **P 01 31 06.3 -0.1**
BIZ Bicaz 92.68 317 ⇑P **P 01 31 05.9 -0.5**
COVR Voineasa-Covas 92.78 316 ⇑P **P 01 31 05.4 -1.5**
NEHR Nehoiu 92.78 316 ⇑P **P 01 31 06.7 -0.2**
RAZG Razgrad 92.92 314 ⇑P **P 01 31 06.4 -1.1**
SULR 92.93 315 ⇑P **P 01 31 07.1 -0.5**
N2IH Innhavet 92.94 339 *e*P **P 01 31 05.4 -1.7**
EDRB Edirne 93.00 312 P **P 01 31 06.4 -1.6**
SECR 93.00 315 ⇑P **P 01 31 07.4 -0.5**
MLR Muntele Rosu 93.02 316 ⇑P **P 01 31 07.5 -0.6**
MLR Muntele Rosu 93.02 316 P **P 01 31 06.9 -1.3**
comp=Z,104nm,0.9s,baz=56,slow=4.5
MLR Muntele Rosu 93.02 316 IAmb IAmb 01 31 09.7
comp=Z,168nm,1.0s
OZUR 93.03 316 ⇑P **P 01 31 07.3 -0.8**
DAT Datca 93.08 307 P **P 01 31 07.5 -1.1**
BURAR Bucovina Array 93.16 318 ⇓P **P 01 31 08.3 -0.4**
BURAR Bucovina Array 93.16 318 P **P 01 31 08.0 -0.7**
BURAR PKKPdf **PKKPdf 01 48 14.4 -0.5**
BUR08 Bucovina Ar. S 93.17 318 IAmb IAmb 01 31 10.7
comp=Z,190nm,0.9s
SGRR Singureni 93.20 315 ⇑P **P 01 31 08.6 -0.2**
STEI Steigen 93.20 339 *e*P **P 01 31 06.6 -1.7**
SUW Suwalki 93.23 325 *e*P **P 01 31 07.3 -1.4**
SUW Suwalki 93.23 325 *e*P **P 01 31 07.9 -0.8**
BODT Bodrum 93.25 307 P **P 01 31 08.3 -0.9**
N2NF Nordfold 93.26 339 *e*P **P 01 31 06.8 -1.7**
DOPR Dopca 93.32 316 ⇑P **P 01 31 08.7 -0.7**
FAUS Fauske 93.37 339 *e*P **P 01 31 07.3 -1.8**
CRAG Craig 93.39 34 IAmb IAmb 01 31 11.6
comp=Z,82nm,1.0s
CRAG Craig 93.39 34 P **P 01 31 10.4 +1.0**
baz=283,SNR=6.5
CRAG S **S 01 41 48.8 +0.3**
baz=283

NIS1 Nisyros Isl. 93.41 307 P **P 01 31 08.3 -1.7**
AAL Aland 93.50 331 *e*P **P 01 31 08.3 -1.5**
PBUR Paburge 93.50 327 *e*P **P 01 31 10.5 +0.6**
SMG Samos 93.53 308 P **P 01 31 08.8 -1.7**
LVV L'vov 93.54 320 *e*P **P 01 31 09.4 -0.8**
LVV *e* *PP **pwP 01 32 28.8 -2.7**
LVV *e* 01 34 58.2
LVV *e* 01 41 06.6
LVV *e* S **S 01 41 49.6 -0.5**
LVV pmax pmax
comp=Z,280nm,1.3s
KARP Karpathos 93.57 306 P **P 01 31 09.1 -1.7**
WRAK Wrangell Islan 93.60 33 IAmb IAmb 01 31 12.3
comp=Z,128nm,0.8s
WRAK Wrangell Islan 93.60 33 P **P 01 31 11.2 +0.9**
baz=283
NBB08 Skaug oppvekst 93.60 339 *e*P **P 01 31 08.3 -1.8**
ENEZ Enez 93.61 311 P **P 01 31 08.8 -2.0**
EZN Ezine 93.62 310 P **P 01 31 09.1 -1.7**
EZN Ezine 93.62 310 P **P 01 31 09.5 -1.3**
VOIR 93.65 316 ⇑P **P 01 31 09.7 -1.3**
ZIMR 93.72 314 ⇑P **P 01 31 09.6 -1.6**
LOF Lofoten 93.73 339 *e*P **P 01 31 09.3 -1.4**
PRK Paraskevi 93.74 310 P **P 01 31 10.1 -1.3**
COPA Copaceanca 93.75 315 ⇓P **P 01 31 09.7 -1.6**
STFAR Stefanesti-Arg 93.81 315 ⇑P **P 01 31 10.9 -0.8**
ARCR ARCALIA 93.83 318 ⇓P **P 01 31 11.6 -0.1**
HUMR Humele 93.85 315 ⇑P **P 01 31 10.6 -1.2**
GADA Gvkgeada 93.89 311 P **P 01 31 11.3 -0.7**
MBAR Mbarara 93.92 270 P **P 01 31 12.2 -0.8**
comp=Z,4.7nm,0.8s,baz=107,slow=9.2,SNR=7.1
MBAR Mbarara 93.92 270 *ce*P **P 01 31 13.2 +0.2**
MBAR Mbarara 93.92 270 P **P 01 31 12.1 -0.8**
MBAR Mbarara 93.92 270 P **P 01 31 12.2 -0.8**
ARR Arges 93.95 316 ⇓P **P 01 31 11.1 -1.3**
MDB Medias 93.98 317 ⇑P **P 01 31 11.8 -0.6**
RDO Rodhopi 94.01 312 P **P 01 31 10.3 -2.3**
CHOS Chios island 94.04 309 P **P 01 31 12.3 -0.6**
SIGR SIGRI 94.07 310 P **P 01 31 10.8 -2.1**
MOR8 Moi Rana 94.09 338 *e*P **P 01 31 09.7 -2.8**
QSPA South Pole Qui 94.22 180 P **P 01 31 12.9 -0.2**
QSPA PKKPdf **PKKPdf 01 48 11.8 -2.5**
DIB Dawson Inlet, 94.26 36 IAmb IAmb 01 31 14.8
comp=Z,78nm,1.0s
H02S1 DAWSON INLET T 94.26 36 P **P 01 31 14.0 +0.6**
SNR=5.0
BMR Baia Mare 94.30 318 ⇑P **P 01 31 13.6 -0.1**
BMR Baia Mare 94.30 318 P **P 01 31 13.2 -0.6**
TGTN Hyland Airport 94.30 27 P **P 01 31 14.4 +0.9**
baz=287
DLBC Dease Lake 94.32 31 IAmb IAmb 01 31 15.9
comp=Z,88nm,1.0s
NBB13 Alf Garage 94.35 338 *e*P **P 01 31 13.2 -0.3**
ZKR Zakros 94.39 306 P **P 01 31 12.9 -1.6**
CJR Cluj-Napoca 94.41 317 ⇑P **P 01 31 14.2 -0.2**
CBBR Cluj-Babes-Bol 94.43 317 ⇑P **P 01 31 14.6 +0.2**
WTLY Watson Lake, Y 94.46 29 P **P 01 31 15.2 +0.9**
baz=287
LIA Limnos Island 94.47 310 P **P 01 31 12.9 -1.8**
KONS Konsvik 94.48 338 *e*P **P 01 31 14.1 0.0**
STIA Sitia Lasithi 94.48 306 P **P 01 31 13.5 -1.4**
LOT Lotru 94.53 316 ⇑P **P 01 31 14.3 -0.7**
APE Apeiranthos 94.65 308 ⇑P **P 01 31 13.4 -2.3**
APE Apeiranthos 94.65 308 P **P 01 31 18.0 +2.3**
THAS Thassos island 94.71 311 P **P 01 31 13.8 -2.0**
UPP Uppsala 94.73 331 *e*P **P 01 31 15.0 -0.4**
MESR Meseneni 94.76 318 ⇑P **P 01 31 15.6 -0.3**
KLNR Kaliningrad 94.79 326 *de*P **P 01 31 15.3 -0.5**
KLNR pmax pmax
comp=Z,533nm,1.1s
KAVA Kavala 94.79 312 P **P 01 31 13.8 -2.4**
SANT Santorini 94.82 307 IAmb IAmb 01 31 16.4
comp=Z,88nm,1.3s
TRPA Tarpa 94.83 319 ⇑P **P 01 31 15.6 -0.6**
TRPA Tarpa 94.83 319 *e*P **P 01 31 14.8 -1.4**
KOLS Kolonicke sedl 94.84 320 *e*P **P 01 31 16.0 -0.2**
KOLS pmax pmax
comp=Z,207nm,1.1s
KOLS Kolonicke sedl 94.84 320 *e*P **P 01 31 16.0 -0.2**
NPS Neapolis 94.86 306 P **P 01 31 14.9 -1.8**
SNTS Nea Kammeni, S 94.86 307 P **P 01 31 14.2 -2.4**
UZH Uzhgorod 94.89 319 *e*P **P 01 31 13.8 -2.6**
DRGR 94.99 318 ⇑P **P 01 31 15.9 -1.2**
DRGR 94.99 318 P **P 01 31 16.0 -1.1**
DEV Deva 95.05 317 ⇑P **P 01 31 16.5 -0.7**
BAIL Bailesti 95.10 315 ⇑P **P 01 31 17.4 0.0**
BEL Belsk 95.12 323 *e*P **P 01 31 16.6 -0.7**
SKY Skiros Island 95.13 310 P **P 01 31 15.8 -2.0**
NVR Nevrokopi 95.22 312 P **P 01 31 15.7 -2.5**
GZR Gura Zlata 95.23 316 ⇑P **P 01 31 17.4 -0.8**
RUBB Prince Rupert 95.27 35 IAmb IAmb 01 31 20.4
comp=Z,59nm,1.1s
OUR Ouranopolis 95.31 311 P **P 01 31 17.2 -1.3**
CRVS Cervenica-Dubn 95.37 320 *e*P **P 01 31 18.4 -0.3**
CRVS pmax pmax
comp=Z,606nm,1.1s
CRVS Cervenica-Dubn 95.37 320 *e*P **P 01 31 18.4 -0.3**
STHS Stebnicka Huta 95.39 320 *e*P **P 01 31 18.9 +0.1**
STHS Stebnicka Huta 95.39 320 *e*P **P 01 31 18.9 +0.1**
LTVH Ltavrtes, Hu 95.41 318 ⇑P **P 01 31 18.9 +0.1**
LTVH Ltavrtes, Hu 95.41 318 *e*P **P 01 31 18.5 -0.3**
VTS Vitosha 95.44 313 ⇓P **P 01 31 18.2 -1.1**
VTS Vitosha 95.44 313 IAmb IAmb 01 31 19.9
comp=Z,59nm,1.0s
IDI Anoyia 95.44 306 P **P 01 31 17.6 -1.7**
comp=Z,27nm,1.0s,baz=9.9,slow=11,SNR=17
IDI PP **PP 01 35 15.0 +0.2**
comp=Z,10nm,0.8s,baz=80,slow=22,SNR=3.3
IDI Anoyia 95.44 306 P **P 01 31 17.9 -1.5**
SRS Serrai 95.46 312 P **P 01 31 15.0 -4.2**
KYMI Kymi, Euboea I 95.51 309 P **P 01 31 17.5 -2.0**
DJES Djerdap 95.55 315 ⇓P **P 01 31 19.2 -0.4**
HERR Herculane 95.58 316 ⇑P **P 01 31 18.9 -0.7**
MHLO Agia Marina, M 95.61 307 P **P 01 31 18.4 -1.6**
PAIG Paliouri 95.61 311 P **P 01 31 17.3 -2.6**
NSS Namsos 95.66 336 *e*P **P 01 31 17.5 -2.0**
SOH Sokhos 95.69 312 P **P 01 31 18.1 -2.2**
PLG Polygyros 95.70 311 P **P 01 31 17.8 -2.6**
DION Dionisos Attik 95.74 309 P **P 01 31 17.6 -3.0**
PTL Penteli 95.80 309 P **P 01 31 17.4 -3.5**
SIRR Siria 95.81 317 ⇓P **P 01 31 20.0 -0.7**
TAOE Nuku Hiva Isla 95.81 98 *e*S **S 01 42 10.2 -1.2**
comp=Z,242nm,29.0s
WRGLY Wrigley 95.85 25 P **P 01 31 21.0 +0.6**
baz=292
ATHU Athens Univers 95.87 309 P **P 01 31 18.0 -3.2**
VLY Voula,Athens 95.89 309 P **P 01 31 17.9 -3.3**
HORT Hortiatis 95.92 311 P **P 01 31 18.7 -2.7**
ATH Athens Observa 95.93 309 P **P 01 31 18.1 -3.3**
BZS Buzias 95.98 317 ⇓P **P 01 31 20.1 -1.3**
BZS Buzias 95.98 317 P **P 01 31 19.9 -1.6**
VAM Vamos 95.98 306 P **P 01 31 20.1 -1.6**
NIE Niedzica 96.00 320 *e*P **P 01 31 21.8 +0.3**
THE Thessaloniki 96.02 311 P **P 01 31 18.4 -3.3**
XOR Xorichti 96.08 310 P **P 01 31 18.8 -3.3**
MDVR Moldovita 96.09 316 ⇑P **P 01 31 21.2 -0.8**
KECS Kecovo 96.09 320 *e*P **P 01 31 21.6 -0.3**
KECS pmax pmax
comp=Z,88nm,1.0s
KECS Kecovo 96.09 320 *e*P **P 01 31 21.6 -0.3**
OJC Ojcow 96.12 321 *e*P **P 01 31 21.1 -0.9**
IMMV Iera Moni Meta 96.15 306 P **P 01 31 20.6 -1.9**
VAY Valandovo 96.18 312 *i* P **P 01 31 20.2 -2.2**
VILL Villia 96.21 309 P **P 01 31 20.3 -2.4**
TIM Timisoara 96.23 317 ⇑P **P 01 31 21.7 -0.8**
BOVS Bovan 96.34 315 ⇓P **P 01 31 21.3 -1.8**
LKR Lokris 96.36 309 P **P 01 31 20.9 -2.4**
BANR Banloc 96.36 316 ⇓P **P 01 31 22.8 -0.4**
GRG Griva 96.37 312 P **P 01 31 20.4 -3.0**
STIP Stip 96.39 313 *i* P **P 01 31 20.6 -2.8**
AMBH Ambrzfalva 96.43 317 ⇑P **P 01 31 23.4 0.0**
EPID Epidavros 96.46 308 P **P 01 31 21.0 -2.8**
KRND KRANIDI 96.47 308 P **P 01 31 20.1 -3.8**
LIT Litokhoron 96.47 311 P **P 01 31 21.1 -2.8**
LTK Loutraki 96.50 309 P **P 01 31 21.4 -2.6**
BSZH Besenyszg 96.51 318 ⇓P **P 01 31 23.3 -0.5**
BSZH Besenyszg 96.51 318 *e*P **P 01 31 23.7 -0.1**
HFS Hagfors 96.52 332 P **P 01 31 21.8 -1.8**
comp=Z,52nm,0.7s,baz=88,slow=3.6,SNR=72
HFS PP **PP 01 35 19.9 -2.2**
comp=Z,20nm,0.9s,baz=90,slow=4.4,SNR=3.8
HFS PKKPbc **PKKPdf 01 48 06.0 -2.9**

comp=Z,1.2nm,0.5s,baz=230,slow=3.4,SNR=5.7
LANS Liptovska Anna 96.59 320 *e*P **P 01 31 24.4 +0.2**
LANS pmax pmax
comp=Z,42nm,0.9s
LANS Liptovska Anna 96.59 320 *e*P **P 01 31 24.4 +0.2**
PSZ Piszkesteto 96.61 319 ⇑P **P 01 31 23.6 -0.8**
PSZ Piszkesteto 96.61 319 P **P 01 31 23.1 -1.3**
PSZ pmax pmax
comp=Z,128nm,1.1s
PSZ Piszkesteto 96.61 319 P **P 01 31 23.1 -1.3**
PSZ IAmb IAmb 01 31 26.1
comp=Z,128nm,1.1s
KTHA Kythira Island 96.75 307 P **P 01 31 22.7 -2.5**
VLI Veliai 96.76 308 P **P 01 31 21.4 -3.8**
AGG Agios Georgios 96.80 310 P P 01 31 20.5 -4.9
GKP Gorka Klasztor 96.84 325 *e*P **P 01 31 24.2 -0.9**
GKP Gorka Klasztor 96.84 325 *e*P **P 01 31 24.8 -0.4**
SKO Skopje 96.88 313 *i* P **P 01 31 24.8 -0.8**
THL Klokotos Trika 96.94 311 P **P 01 31 23.2 -2.7**
MAKR Makrakomi, Fth 96.96 310 P **P 01 31 23.3 -2.8**
VLX Vlachokerasia 97.08 308 P **P 01 31 26.7 0.0**
TRIZ Trizonia 97.13 309 P **P 01 31 24.0 -2.8**
KLV Kalavryta, Ach 97.13 309 P **P 01 31 23.9 -3.0**
SERG Sergoula 97.13 309 P **P 01 31 22.7 -4.2**
TRIP Tripoli 97.13 308 P P 01 31 21.6 -5.4
VYHS Vyhne 97.16 320 *e*P **P 01 31 26.1 -0.6**
VYHS pmax pmax
comp=Z,99nm,1.5s
VYHS Vyhne 97.16 320 *e*P **P 01 31 26.1 -0.6**
NC303 NORSAR Array S 97.18 333 IAmb IAmb 01 31 27.1
comp=Z,72nm,0.8s
ANX Ano Chora 97.20 310 P **P 01 31 24.9 -2.4**
EVR Evrytania 97.22 310 P **P 01 31 25.6 -1.8**
LAKA Lakka 97.22 309 P **P 01 31 23.1 -4.2**
EFP Efpalio 97.24 309 P **P 01 31 25.4 -1.9**
OKC Ostrava-Krasne 97.24 321 *e*P Pdif 01 31 28.2 +1.1
OKC *e* 01 35 31.7
OKC Ostrava-Krasne 97.24 321 *e*PDIFF Pdif 01 31 28.2 +1.1
OKC *e*PP **PP 01 35 31.7 +3.8**
NB201 NORSAR Array S 97.28 333 IAmb IAmb 01 31 27.4
comp=Z,94nm,1.0s
NB2 NORSAR Subarra 97.32 333 P **P 01 31 24.9 -2.3**
comp=Z,61nm,0.8s,baz=70,slow=4.4
NB2 NORSAR Subarra 97.32 333 P **P 01 31 24.9 -2.3**
baz=70,slow=4.4
NOA NORSAR Array B 97.32 333 P **P 01 31 24.9 -2.3**
comp=Z,43nm,0.8s,baz=69,slow=4.6,SNR=74
NOA pP **pP 01 32 44.3 +2.4**
comp=Z,2.0nm,0.9s,baz=78,slow=4.6,SNR=1.5
NOA PP **PP 01 35 26.0 -2.2**
comp=Z,6.0nm,0.8s,baz=70,slow=7.7,SNR=4.4
NOA PKKPbc **PKKPbc 01 48 05.2 -1.9**
comp=Z,1.1nm,0.9s,baz=69,slow=3.2,SNR=4.4
FRGS Fruska Gora 97.33 316 ⇑P **P 01 31 26.6 -0.9**
FRGS Fruska Gora 97.33 316 ⇓ *i*P **P 01 31 26.0 -1.6**
KPRO Kipourio 97.35 311 P **P 01 31 23.9 -4.0**
DIVS Divibare 97.44 315 ⇓ *i*P **P 01 31 26.8 -1.4**
DIVS Divibare 97.44 315 IAmb IAmb 01 31 29.6
comp=Z,66nm,1.1s
ITM Ithomi 97.47 308 P **P 01 31 25.7 -2.7**
ITM Ithomi 97.47 308 IAmb IAmb 01 31 28.7
comp=Z,179nm,1.7s
NEST Nestorio 97.49 312 P **P 01 31 26.3 -2.2**
OHR Ohrid 97.53 312 *i* P **P 01 31 26.3 -2.3**
NAO01 NORSAR Array S 97.55 333 IAmb IAmb 01 31 28.5
comp=Z,104nm,0.9s
AMT Artemida-Makis 97.57 309 P **P 01 31 27.5 -1.4**
BSD Bornholm Skovb 97.58 327 *e*P Pdif 01 31 29.1 +0.7
BSD Bornholm Skovb 97.58 327 *i* P **P 01 31 28.2 -0.3**
BSD Bornholm Skovb 97.58 327 *i* P **P 01 31 28.1 -0.3**
RES Resolute Bay 97.60 10 IAmb IAmb 01 31 29.4
comp=Z,58nm,0.8s
SRO2 Moca 97.63 319 *e*P **P 01 31 28.3 -0.5**
SRO2 pmax pmax
comp=Z,77nm,0.8s
SRO2 Moca 97.63 319 *e*P **P 01 31 28.3 -0.5**
MORC Moravsky Berou 97.64 321 ⇑P **P 01 31 28.8 -0.1**
MORC Moravsky Berou 97.64 321 IAmb IAmb 01 31 30.5
comp=Z,58nm,0.8s
MORC Moravsky Berou 97.64 321 *e*PDIFF **P 01 31 28.1 -0.8**
MORC *e*PP **PP 01 35 32.3 +1.3**
KBN Korca 97.64 312 P **P 01 31 27.3 -1.8**
KBN Korca 97.64 312 P **P 01 31 27.4 -1.8**
KBN pmax pmax
comp=Z,48nm,1.2s
KBN Korca 97.64 312 P **P 01 31 27.4 -1.8**
KBN IAmb IAmb 01 31 28.9
comp=Z,48nm,1.2s
RLS Riolos of Patr 97.66 309 P **P 01 31 27.3 -1.9**
TEKS Tekeris 97.66 316 ⇓ *i*P **P 01 31 26.8 -2.3**
PHP Peshkopia 97.67 313 P **P 01 31 26.2 -3.0**
SRO Srobarova 97.67 319 *e*P Pdif 01 31 29.2 +0.2
SRO pmax pmax
comp=Z,119nm,1.2s
SRO Srobarova 97.67 319 *e*P Pdif 01 31 29.2 +0.2
DEL Delary 97.69 328 *i* P **P 01 31 28.6 -0.3**
JAVC Velka Javorina 97.81 320 *e*PDIFF Pdif 01 31 30.2 +0.5
JAVC *e*PP **PP 01 35 34.3 +2.0**
BORU Boraas 97.85 330 *i* P **P 01 31 29.0 -0.6**
LSK Leskovik 97.88 311 P **P 01 31 29.1 -1.2**
BBLS Lazići 97.91 315 ⇓ *i*P **P 01 31 28.2 -2.1**
OSL Oslo 97.98 332 *e*Pdif Pdif 01 31 30.1 0.0
RUDO Rudo 98.00 315 *e*P **P 01 31 28.9 -1.7**
KRLC Kraliky 98.03 322 *e*P **P 01 31 30.3 -0.3**
KRLC *e* 01 35 37.6
KRLC Kraliky 98.03 322 *e*PDIFF **P 01 31 30.3 -0.3**
KRLC *e*PP **PP 01 35 37.6 +3.6**
SMOL Smolenice 98.05 320 *e*P Pdif 01 31 31.5 +0.8
SMOL Smolenice 98.05 320 *e*P Pdif 01 31 31.5 +0.8
KSP Ksiaz 98.10 323 *e*P **P 01 31 30.4 -0.5**
STRU Stroemstad 98.11 331 *e*P **P 01 31 28.8 -1.8**
NYDR Nydri-Lefkada 98.11 310 P **P 01 31 28.3 -2.9**
TSLK Tsoukalades, L 98.12 310 P **P 01 31 29.3 -1.9**
LKD2 Lefkada island 98.13 310 P **P 01 31 27.9 -3.4**
TIR Tirane 98.16 313 ⇑P **P 01 31 30.6 -0.8**
TIR Tirane 98.16 313 P **P 01 31 30.5 -0.8**
EVGI Lefkada island 98.16 310 P **P 01 31 30.1 -1.3**
TIH Tihany 98.19 318 *e*P **P 01 31 30.5 -0.8**
IGT Igoumenitsa 98.22 311 P **P 01 31 28.8 -2.9**
DPC Dobruska-Polom 98.23 322 *e*P **P 01 31 31.5 0.0**
DPC *e* 01 35 39.4
DPC Dobruska-Polom 98.23 322 *e*PDIFF **P 01 31 31.5 0.0**
DPC *e*PP **PP 01 35 39.4 +3.9**
OSTC Ostas 98.23 322 *e*PDIFF **P 01 31 31.5 0.0**
OSTC *e*PP **PP 01 35 38.9 +3.4**
KOVH Kovagotottos 98.26 318 *e*P **P 01 31 30.2 -1.5**
FSK Fiskardo 98.27 310 P **P 01 31 30.4 -1.5**
BJUU Bjuv 98.27 328 *i* P Pdif 01 31 31.5 0.0
MOL Molde 98.27 335 *e*Pdif Pdif 01 31 31.7 +0.4
NEEM North Greenlan 98.31 359 ⇓ *i*P **P 01 31 31.5 -0.1**
NEEM IAmb IAmb 01 31 32.5
comp=Z,127nm,0.9s
VLMS Volimes, Zakyn 98.31 309 P Pdif 01 31 29.2 -3.0
CHVC Chvalec 98.32 322 *e*PDIFF Pdif 01 31 31.7 -0.2
CHVC *e*PP **PP 01 35 39.7 +3.5**
MPLH Magyarpolny 98.35 319 *e*P Pdif 01 31 30.5 -1.5
ZST Bratislava 98.35 320 *e*P **P 01 31 32.9 +0.9**
ZST pmax pmax
comp=Z,85nm,0.9s
ZST Bratislava 98.35 320 *e*P **P 01 31 32.9 +0.9**
PDG Podgorica 98.36 314 ⇑P Pdif 01 31 30.4 -1.8
PDG Podgorica 98.36 314 *e*P Pdif 01 31 29.7 -2.5
PDG Podgorica 98.36 314 IAmb IAmb 01 31 32.4
comp=Z,48nm,1.1s
VRAC Vranov 98.36 321 ⇑P **P 01 31 32.3 +0.2**
VRAC Vranov 98.36 321 P Pdif 01 31 31.8 -0.3
comp=Z,58nm,0.8s,baz=79,slow=3.7,SNR=69
VRAC PP **PP 01 35 38.0 +1.5**
comp=Z,14nm,1.0s,baz=68,slow=8.9,SNR=4.4
VRAC Vranov 98.36 321 *e*PDIFF Pdif 01 31 31.8 -0.3
VRAC *e*PP **PP 01 35 37.7 +1.2**
ONAU Onsala 98.36 330 *i* P Pdif 01 31 30.2 -1.7
UPC Upice 98.37 322 *e*P Pdif 01 31 31.9 -0.2
UPC *e* 01 35 40.3
UPC Upice 98.37 322 *e*PDIFF Pdif 01 31 31.9 -0.2
UPC *e*PP **PP 01 35 40.3 +3.8**
KEF5 Kardakata, Kep 98.38 310 P Pdif 01 31 30.2 -2.2
EGYH Egyhazaskeszo 98.42 319 *e*P Pdif 01 31 27.9 -4.4
KEF4 Livadi, Kephal 98.42 310 P Pdif 01 31 31.3 -1.3
UPM Unac-Piva 98.42 315 *e*P Pdif 01 31 30.8 -1.9
DRME Dracevica, Mon 98.47 314 ⇓ *i*P Pdif 01 31 30.7 -2.0
KEF3 Kipouria, Keph 98.49 309 P Pdif 01 31 30.2 -2.7

KRUC **Moravsky** **98.56 321** *e*PDIFF **Pdif** 01 31 32.2 -0.8
KRUC *e*PP **PP** **01 35 39.4 +1.5**
KEK Kerkira **98.58 311** P **Pdif** 01 31 30.6 -2.7
KONO Kongsberg **98.61 332**⇑ *e*P **Pdif** 01 31 32.7 -0.2
KONO pmax pmax
comp=Z,47nm,0.8s
KONO Kongsberg **98.61 332** *e*Pdif **P** **01 31 33.1 +0.1**
KONO Kongsberg **98.61 332** P **Pdif** 01 31 32.5 -0.4
KONO IAmb IAmb 01 31 33.2
comp=Z,44nm,0.9s
DBG Daneborg **98.62 351** *i* P **Pdif** 01 31 31.6 -1.1
VLO Vlora **98.64 312** IAmb IAmb 01 31 34.5
comp=Z,96nm,1.1s
AKN Aaknes **98.68 335** *e*Pdif **Pdif** 01 31 32.4 -0.9
BRY Bratogost **98.76 314** *e*P **Pdif** 01 31 32.4 -1.8
SKAR Skarslia **98.77 333** *e*Pdif **Pdif** 01 31 32.8 -0.9
SOP Sopron **98.84 319** *e*P **Pdif** 01 31 33.7 -0.6
TULEG Thule **98.89 3** *i* P **Pdif** 01 31 33.0 -0.8
TULEG IAmb IAmb 01 31 34.1
comp=Z,34nm,0.9s
BEHE Becsehely **99.04 318** *e*P **Pdif** **01 31 34.9 -0.2**
BEHE Becsehely **99.04 318** ⇓ *i* P **Pdif** **01 31 34.5 -0.7**
TREC Trest **99.06 321** *e*P **Pdif** **01 31 35.2 0.0**
TREC *e* 01 35 45.5
TREC Trest **99.06 321** *e*PDIFF **Pdif** **01 31 35.2 0.0**
TREC *e*PP **PP** **01 35 45.5 +3.7**
RUE Ruedersdorf **99.08 325** *e*Pdiff **Pdif** **01 31 35.0 -0.1**
baz=70,slow=4.5
CONA Conrad Observa **99.22 320** *i* P **Pdif** **01 31 35.9 -0.2**
comp=Z,21nm,1.1s,SNR=22
CONA *e*P **PP** **01 35 43.2 +0.1**
comp=Z,32nm,1.6s
BLY Banja Luka **99.23 316** ⇓ *i* P **Pdif** **01 31 35.0 -1.1**
PVCC Panska Ves **99.24 323** *e*P **Pdif** **01 31 36.4 +0.4**
PVCC *e* 01 35 46.9
PVCC Panska Ves **99.24 323** *e*PDIFF **Pdif** **01 31 36.4 +0.4**
PVCC *e*PP **PP** **01 35 46.9 +3.8**
KALN Kalnik **99.35 318** *i* P **Pdif** **01 31 35.2 -1.3**
MRAK Mrakovica **99.36 317** ⇓ *i* P **Pdif** **01 31 35.4 -1.3**
STON Ston **99.36 315** ⇓ *i* P **Pdif** **01 31 34.1 -2.5**
MGRS Mrkonjic Grad **99.39 316** *e*P **Pdif** **01 31 36.0 -0.8**
KOGS Kog **99.40 318** *e*Pdiff **Pdif** **01 31 35.5 -1.2**
PRU Pruhonice **99.43 322** *e*P **Pdif** **01 31 36.6 -0.2**
PRU *e* 01 35 45.3
PRU Pruhonice **99.43 322** *e*PDIFF **Pdif** **01 31 36.6 -0.2**
PRU *e*PP **PP** **01 35 45.3 +0.8**
PRA Prague **99.47 322** *e*P **Pdif** **01 31 36.9 -0.1**
PRA *e* 01 35 48.7
PRA Prague **99.47 322** *e*PDIFF **Pdif** **01 31 36.9 -0.1**
PRA *e*PP **PP** **01 35 48.7 +3.9**
HYA Hoyanger **99.48 334** *e*P **Pdif** **01 31 36.2 -0.5**
PRIJ Prijedor **99.49 317** *e*P **Pdif** **01 31 36.6 -0.6**
BRG Berggiesshubel **99.51 323** *e*Pdiff **Pdif** **01 31 36.7 -0.4**
baz=70,slow=4.5
BRG Berggiesshubel **99.51 323** ⇓ *i* Pif 01 31 36.8
BRG Berggiesshubel **99.51 323** Amp 01 31 39.4
comp=Z,134nm,0.9s
RICI Ricice **99.60 315** *i* P **Pdif** **01 31 35.5 -2.2**
ARSA Arzberg **99.64 319** *i* P **Pdif** **01 31 37.3 -0.6**
comp=Z,21nm,0.9s,SNR=20
ARSA *e*P **PP** **01 35 44.5 -1.7**
comp=Z,7.3nm,1.0s
PTJ Puntijarka **99.74 318** P **Pdif** **01 31 37.3 -1.1**
ZAG Zagreb **99.75 318** P **Pdif** **01 31 37.8 -0.5**
YKA Yellowknife Ar **99.83 24** P **Pdif** **01 31 38.4 +0.1**
comp=Z,17nm,0.9s,baz=302,slow=3.7,SNR=36
YKA PP **PP** **01 35 44.2 -2.8**
comp=Z,6.4nm,1.1s,baz=280,slow=14,SNR=2.9
YKA PKKPbc **PKKPbc** **01 47 56.2 -3.9**
comp=Z,0.6nm,0.5s,baz=274,slow=2.5,SNR=4.9
YKA Yellowknife Ar **99.83 24** Pdif **Pdif** **01 31 38.4 +0.1**
YKA PKiKP **PKiKP** **01 36 04.8 +0.1**
FBE Freiberg **99.85 323** *e*Pdiff **Pdif** **01 31 38.3 -0.3**
baz=70,slow=4.5
PBCC Pribram **99.86 322** *e*PDIFF **Pdif** **01 31 38.5 -0.3**
CLL Collm **99.93 324** *e*Pdif **Pdif** **01 31 38.0 -1.0**
comp=Z,68nm,1.0s
CLL *i* 01 34 43.1
CLL *i* PP **PP** **01 35 51.4 +3.2**
comp=Z,80nm,1.4s
CLL *e*(SSSS) 01 57 48.0
CLL LmV 02 22 00.0
comp=Z,300nm,19.4s
CLL Collm **99.93 324** *e*P **Pdif** **01 31 38.0 -1.0**
CLL pmax pmax
comp=Z,68nm,1.0s
CLL Collm **99.93 324** *e*Pdiff **Pdif** **01 31 38.2 -0.8**
baz=70,slow=4.5
CKRC Cesky Krumlov **99.94 321** *e*PDIFF **Pdif** **01 31 39.0 -0.2**
CKRC *e*PP **PP** **01 35 52.6 +4.2**
KIJV Kijevo **99.97 316** *i* P **Pdif** **01 31 37.4 -2.0**
CRES Cresnjev **100.10 318** ⇓ *i* P **Pdif** **01 31 38.9 -1.0**
MUD Monsted U'grnd **100.12 329** *i* P **Pdif** **01 31 40.2 +0.6**
MUD Monsted U'grnd **100.12 329** *i* P **Pdif** **01 31 40.2 +0.6**
SOKA Soboth **100.13 319** *e*P **Pdif** **01 31 39.0 -1.2**
comp=Z,23nm,0.9s,SNR=33
SOKA *e*P **PP** **01 35 53.1 +3.1**
comp=Z,42nm,1.2s,SNR=4.7
BLS5 Blasjo **100.16 333** *e*P **Pdif** **01 31 39.2 -0.6**
OZLJ Ozalj **100.16 318** *i* P **Pdif** **01 31 39.4 -0.7**
UDBI Udbina **100.27 317** *i* P **Pdif** **01 31 38.8 -2.0**
BOSA Boshof **100.27 242** PKiKP **PKiKP** **01 36 07.2 +0.5**
comp=Z,7.3nm,1.0s,baz=186,slow=5.5,SNR=4.2
BOSA PKKPbc **PKKPbc** **01 47 58.6 +1.0**
comp=Z,4.6nm,1.1s,baz=280,slow=3.8,SNR=6.6
MOA Molln **100.27 320** *i* P **Pdif** **01 31 40.0 -0.7**
comp=Z,88nm,0.9s,SNR=44
SNART Snartemo **100.29 332** *e*P **Pdif** **01 31 40.3 -0.1**
KHC Kasperske Hory **100.30 321** *e*P **Pdif** **01 31 40.4 -0.4**
KHC *e* 01 35 51.5
KHC Kasperske Hory **100.30 321** *e*PDIFF **Pdif** **01 31 40.4 -0.4**
KHC x x 01 32 02.0
KHC x x 01 32 25.0
KHC *e*PP **PP** **01 35 51.5 +0.4**
KHC Kasperske Hory **100.30 321** Pdif **Pdif** **01 31 40.8 +0.1**
GEC2 GERESS Array S **100.31 321** *e*Pdiff **Pdif** **01 31 40.1 -0.8**
baz=70,slow=4.5
GERES GERESS Array B **100.31 321** P **Pdif** **01 31 39.7 -1.2**
comp=Z,41nm,0.9s,baz=68,slow=4.7,SNR=134
GERES PP **PP** **01 35 53.1 +1.8**
comp=Z,17nm,1.0s,baz=69,slow=7.3,SNR=11
GERES PKiKP **PKiKP** **01 36 06.5 +0.3**
comp=Z,4.2nm,0.7s,baz=82,slow=2.6,SNR=8.7
GERES PKKPbc **PKKPbc** **01 47 56.9 -1.5**
comp=Z,1.2nm,0.7s,baz=222,slow=1.8,SNR=8.1
GERES SKKPbc SKKPbc 01 51 06.3 -1.0
comp=Z,1.3nm,0.7s,baz=215,slow=1.6,SNR=8.4
BOJS Bojanci **100.33 318** ⇓ *i* P **Pdif** **01 31 40.0 -0.9**
BOJS Bojanci **100.33 318** *e*Pdiff **Pdif** **01 31 40.2 -0.8**
OBKA Obir **100.50 319** *i* P **Pdif** **01 31 41.1 -0.7**
comp=Z,24nm,1.0s,SNR=24
OBKA *e*P **PP** **01 35 55.1 +2.3**
comp=Z,36nm,1.2s,SNR=4.4
BSEG Bad Segeberg **100.51 327** *e*Pdiff **Pdif** **01 31 41.3 -0.2**
baz=70,slow=4.5
TANN Tannenbergstha **100.55 323** *e*Pdiff **Pdif** **01 31 41.3 -0.6**
baz=70,slow=4.5
FLTG Flechtingen **100.59 325** *e*Pdiff **Pdif** **01 31 41.0 -0.9**
baz=70,slow=4.5
ZIRJ Zirje **100.60 316** *i* P **Pdif** **01 31 39.4 -2.7**
NKC Novy Kostel **100.62 323** *e*P **Pdif** **01 31 42.4 +0.2**
NKC *e* 01 35 57.4
NKC Novy Kostel **100.62 323** *e*PDIFF **Pdif** **01 31 42.4 +0.2**
NKC *e*PP **PP** **01 35 57.4 +3.9**
WERD Werda **100.64 323** *e*Pdiff **Pdif** **01 31 41.5 -0.7**
baz=70,slow=4.5
GUNZ Gunzen **100.65 323** *e*Pdiff **Pdif** **01 31 41.9 -0.4**
baz=70,slow=4.5
WERN Wernitzgruen **100.65 323** *e*Pdiff **Pdif** **01 31 41.9 -0.3**
baz=70,slow=4.5
LJU Ljubljana **100.66 318** ⇓ *i* P **Pdif** **01 31 41.5 -0.8**
LJU Ljubljana **100.66 318** *e*Pdiff **Pdif** **01 31 41.6 -0.8**
NEUB Neuenburg **100.68 324** *e*Pdiff **Pdif** **01 31 42.0 -0.3**
baz=70,slow=4.5
PLN Plauen **100.71 323** *e*Pdiff **Pdif** **01 31 42.0 -0.5**
baz=70,slow=4.5
WET Wettzell **100.73 322** *e*Pdiff **Pdif** **01 31 42.2 -0.4**
baz=70,slow=4.5
CEY Cerknica **100.82 318** ⇓ *i* P **Pdif** **01 31 41.9 -1.2**
DUGI Dugi Otok **100.91 316** *i* P **Pdif** **01 31 41.0 -2.5**
MANZ Manzenberg **100.91 323** *e*Pdiff **Pdif** **01 31 42.3 -1.2**
baz=70,slow=4.5
ROTZ Rotzenmuhle **100.93 322** *e*Pdiff **Pdif** **01 31 43.1 -0.4**
baz=70,slow=4.5

MOX Moxa **100.98 323** *e*Pdiff **Pdif** **01 31 43.2 -0.6**
baz=70,slow=4.5
ASSE Asse, Remlinge **100.99 325** *e*Pdiff **Pdif** **01 31 43.4 -0.2**
baz=70,slow=4.5
TIP Timpagrande **100.99 311** ⇑ P **Pdif** **01 31 43.2 -0.9**
KBA Koelnbreinsper **101.11 320** *e*P **Pdif** **01 31 43.2 -1.4**
comp=Z,31nm,1.1s,SNR=11
CADS Cadrg **101.12 319** *i* Pdiff **Pdif** **01 31 42.9 -1.6**
SKDS Skadanscina **101.15 318** ⇓ *i* P **Pdif** **01 31 42.4 -2.2**
NRDL Niedersach Rie **101.17 325** *e*Pdiff **Pdif** **01 31 44.6 +0.2**
baz=70,slow=4.5
RJOB Jochberg **101.25 320** *e*Pdiff **Pdif** **01 31 44.0 -1.1**
baz=70,slow=4.5
CLZ Clausthal **101.27 325** *e*Pdiff **Pdif** **01 31 44.9 -0.1**
baz=70,slow=4.5
ZOU Zoufplan **101.52 319** Pdif **Pdif** **01 31 46.1 -0.3**
GRF Grafenberg Arr **101.56 323** *e*Pdiff **Pdif** **01 31 46.0 -0.3**
baz=70,slow=4.5
GRF *e*PP **PP** **01 35 55.2 -5.3**
baz=75,slow=7.2
GTTG Gottingen **101.62 325** *e*Pdiff **Pdif** **01 31 46.5 0.0**
baz=70,slow=4.5
ABTA Abfaltersbach **101.76 319** *i* P **Pdif** **01 31 45.6 -1.8**
comp=Z,45nm,1.0s,SNR=25
ABTA *e*P **PP** **01 36 04.2 +2.0**
comp=Z,23nm,1.3s
B05A Bryant **101.99 39** Pdiff **Pdif** **01 31 48.7 +0.5**
baz=291
FUR Furstenfeldbru **102.06 321** *e*Pdiff **Pdif** **01 31 47.9 -0.7**
baz=70,slow=4.5
WTTA Wattenberg **102.15 320** *e*P **Pdif** **01 31 47.9 -1.4**
comp=Z,89nm,1.1s,SNR=40
WTTA *e*P **PKiKP** **01 36 07.8 -1.8**
comp=Z,66nm,1.1s,SNR=4.3
WATA Walderalm **102.16 320** *e*P **Pdif** **01 31 47.8 -1.4**
comp=Z,54nm,1.0s,SNR=36
WATA *e*P **PKiKP** **01 36 07.6 -2.1**
comp=Z,54nm,1.3s,SNR=4.9
SQTA Sankt Quirin **102.44 320** *e*P **Pdif** **01 31 49.6 -0.9**
comp=Z,67nm,1.0s,SNR=40
SQTA *e*P **PKiKP** **01 36 10.2 0.0**
comp=Z,45nm,1.1s,SNR=5.0
MOTA Moosalm **102.46 320** *e*P **Pdif** **01 31 49.6 -0.9**
comp=Z,66nm,1.0s,SNR=39
MOTA *e*P **PKiKP** **01 36 10.7 +0.5**
comp=Z,65nm,1.0s,SNR=7.3
J01E Myrtle Point **102.47 44** Pdiff **Pdif** **01 31 51.1 +0.6**
baz=288
SUMG Summit **102.48 355** *i* P **Pdif** **01 31 50.0 -0.5**
SUMG IAmb IAmb 01 31 51.2
comp=Z,37nm,1.3s
SUMG Summit **102.48 355** *i* P **Pdif** **01 31 49.9 -0.5**
SUMG pmax pmax
comp=Z,37nm,1.3s
AQU L'Aquila **102.55 315** P **Pdif** **01 31 51.7 +0.7**
AQU L'Aquila **102.55 315** *e*P **Pdif** **01 31 51.0 0.0**
CTI Castel Tesino **102.55 319** P **Pdif** **01 31 50.8 -0.2**
CTI Castel Tesino **102.55 319** Pdif **Pdif** **01 31 50.8 -0.2**
RETA Reutte **102.63 321** *i* P **Pdif** **01 31 50.3 -0.9**
comp=Z,13nm,1.0s,SNR=7.2
RETA *e*P **PKiKP** **01 36 11.1 +0.7**
comp=Z,69nm,1.0s,SNR=6.3
KASTN Kahler Asten **102.64 325** *e*Pdiff **Pdif** **01 31 50.9 -0.2**
baz=70,slow=4.5
K02D Willamette Mer **102.80 45** Pdiff **Pdif** **01 31 52.3 +0.2**
baz=288
FETA Feichten **102.81 320** *i* P **Pdif** **01 31 51.0 -1.2**
comp=Z,67nm,1.0s,SNR=35
FETA *e*P **PKiKP** **01 36 13.1 +2.2**
comp=Z,27nm,1.3s
MURB Monte Urbino **102.88 316** Pdif **Pdif** **01 31 52.7 +0.3**
UBR Ueberruh **102.97 321** *e*Pdiff **Pdif** **01 31 51.8 -0.9**
baz=70,slow=4.5
L02E Cave Junction **103.01 45** Pdiff **Pdif** **01 31 53.9 +0.9**
baz=288
TNS Taunus Mts **103.02 324** *e*Pdiff **Pdif** **01 31 52.5 -0.4**
baz=70,slow=4.5
STU Stuttgart **103.13 322** P **Pdif** **01 31 54.3 +1.0**
STU Stuttgart **103.13 322** *e*Pdiff **Pdif** **01 31 52.8 -0.5**
baz=70,slow=4.5
VAE Valguarnera **103.22 310** Pdiff **Pdif** **01 31 55.2 +1.2**
comp=Z,7.7nm,1.0s,baz=231,slow=14,SNR=4.1
VAE PP **PP** **01 36 14.4 +1.0**
comp=Z,27nm,1.1s,baz=214,slow=21,SNR=3.2
DAVA Damuels **103.26 321** *e*P **Pdif** **01 31 53.5 -0.6**
comp=Z,27nm,0.9s,SNR=10
DAVA *e*P **PP** **01 36 15.4 +2.1**
comp=Z,49nm,1.2s
I04A Tendick Farm, **103.31 43** Pdiff **Pdif** **01 31 54.6 +0.3**
baz=290
DAVOX Davos/Dischmat **103.44 320** Pdiff **Pdif** **01 31 54.1 -0.9**
comp=Z,37nm,1.0s,baz=108,slow=2.4,SNR=42
DAVOX PP **PKiKP** **01 36 12.9 +0.9**
comp=Z,25nm,0.9s,baz=35,slow=9.5,SNR=5.9
B08A Colville Reser **103.67 38** Pdif **Pdif** **01 31 56.8 +1.0**
J04D Umpqua Nationa **103.70 44** Pdiff **Pdif** **01 31 56.9 +0.6**
baz=290
M02C Callahan **103.78 46** Pdiff **Pdif** **01 31 57.2 +0.7**
baz=289
BFO Black Forest **103.83 322** *e*Pdiff **Pdif** **01 31 55.0 -1.5**
baz=70,slow=4.5
L04D Klamath Falls **103.90 45** Pdiff **Pdif** **01 31 57.5 +0.4**
baz=289
O02D Mt. Diablo Mer **104.21 47** Pdiff **Pdif** **01 31 58.7 +0.2**
baz=288
BTNL Ternell **104.22 325** *d*Pdif **Pdif** **01 31 58.9 +0.8**
BTNL *d*PKiKP **PKiKP** **01 36 15.5 +2.3**
BTNL *d*PP **PP** **01 36 23.4 +3.3**
MEM Membach **104.28 325** *d*Pdif **Pdif** **01 31 59.2 +0.8**
MEM *d*PKiKP **PKiKP** **01 36 13.4 +0.2**
MEM *d*PP **PP** **01 36 20.2 -0.3**
J05D Fort Rock, OR **104.29 43** Pdiff **Pdif** **01 31 59.4 +0.6**
baz=290
M04C Macdoel **104.37 45** Pdiff **Pdif** **01 31 59.8 +0.6**
baz=289
BSTI Sart Tilman **104.54 325** *d*Pdif **Pdif** **01 32 00.6 +1.0**
BSTI *dx* x 01 36 17.8
WLF Walferdange **104.60 324** *d*Pdif **Pdif** **01 31 59.5 -0.3**
WLF *d*PP **PP** **01 36 25.3 +2.4**
WLF Walferdange **104.60 324** *e*Pdiff **Pdif** **01 31 59.8 0.0**
comp=Z,49nm,1.2s,baz=70,slow=4.5
K05A Summer Lake **104.72 44** Pdif **Pdif** **01 32 02.3 +1.5**
BCLA Clavier **104.77 325** *d*Pdif **Pdif** **01 32 01.7 +1.2**
BCLA *d*PKiKP **PKiKP** **01 36 13.9 -0.2**
BCLA *d*PP **PP** **01 36 21.9 -2.2**
O03E Paynes Creek **104.89 46** Pdiff **Pdif** **01 32 01.6 +0.1**
baz=289
BGES Gesves **104.91 325** *d*PKiKP **PKiKP** **01 36 14.5 +0.1**
BGES *d*PP **PP** **01 36 21.9 -3.2**
NEW Newport **105.06 38** Pdiff **Pdif** **01 32 02.4 +0.5**
baz=295
BMRD Maredsous **105.12 325** *d*Pdif **Pdif** **01 32 03.2 +1.1**
BMRD *d*PKiKP **PKiKP** **01 36 14.2 -0.5**
UCC Uccle **105.14 325** *d*Pdif **Pdif** **01 32 02.6 +0.5**
UCC *d*PP **PP** **01 36 30.2 +3.4**
UCC Uccle **105.14 325** P **Pdif** **01 32 04.0 +1.9**
UCC Uccle **105.14 325** Pdif **Pdif** **01 32 04.0 +1.9**
SNAA Sanae **105.24 195** PKKPbc PKKPbc 01 47 40.9 -3.9
SNAA Sanae **105.24 195** PKiKP **PKiKP** **01 36 15.9 +1.4**
SNAA Sanae **105.24 195** Pdiff **Pdif** **01 32 04.0 +1.8**
SNAA Sanae **105.24 195** P **Pdif** **01 32 03.2 +0.9**
SNAA Sanae **105.24 195** Pdif **Pdif** **01 32 03.1 +0.9**
SNAA PKKPbc **PKKPbc** **01 47 41.0 -3.7**
SNAA PKKPab **PKKPab** **01 47 58.5 -2.3**
SNF Seneffe **105.31 325** *d*Pdif **Pdif** **01 32 03.9 +0.9**
DOU Dourbes **105.32 325** *d*Pdif **Pdif** **01 32 04.2 +1.3**
DOU *d*PKiKP **PKiKP** **01 36 15.0 -0.1**
DOU *d*PP **PP** **01 36 25.0 -3.2**
BELA Belgrano 2 **105.68 184** Pdif **Pdif** **01 32 05.1 +1.1**
BNI Bardonecchia **106.17 319** P **Pdif** **01 32 07.3 +0.2**
BNI Bardonecchia **106.17 319** Pdif **Pdif** **01 32 07.3 +0.2**
EKA Eskdalemuir Ar **106.72 332** PKKPbc PKKPbc 01 47 37.6 -1.9
comp=Z,1.3nm,0.8s,baz=58,slow=27,SNR=3.8
EKA PKKPab **PKKPab** **01 47 54.7 -0.6**
comp=Z,1.7nm,0.7s,baz=8.9,slow=28,SNR=3.8
EKA SKKPbc SKKPbc 01 50 48.8 -1.5
comp=Z,0.3nm,0.5s,baz=346,slow=3.0,SNR=3.8
EKA Eskdalemuir Ar **106.72 332** P **Pdif** **01 32 09.3 +0.2**
EKA pmax pmax
comp=Z,1.0nm,0.9s
VNA2 Neumayer--Watz **106.86 195** PKKPab PKKPab 01 47 52.0 -1.5
VNA2 Neumayer--Watz **106.86 195** PKKPbc PKKPbc 01 47 36.2 -3.5
VNA2 Neumayer--Watz **106.86 195** PKiKP **PKiKP** **01 36 17.4 -0.1**
VNA2 Neumayer--Watz **106.86 195** Pdiff **Pdif** **01 32 10.9 +1.5**
VNA3 Neumayer Olymp **107.22 194** PKKPbc PKKPbc 01 47 34.8 -3.8

VNA3 Neumayer Olymp **107.22 194** PKiKP **PKiKP** **01 36 17.6 -0.5**
VNA3 x x 01 47 50.3
VNA1 Neumayer--Stat **107.26 195** PKKPab PKKPab 01 47 50.3 -1.3
VNA1 Neumayer--Stat **107.26 195** PKKPbc PKKPbc 01 47 35.3 -3.1
KEST Kesra **107.63 309** Pdiff **Pdif** **01 32 14.0 +0.2**
comp=Z,3.1nm,0.9s,baz=348,slow=6.9,SNR=4.9
KEST PKiKP **PKiKP** **01 36 20.4 +0.4**
comp=Z,4.1nm,0.6s,baz=7.4,slow=0.6,SNR=7.2
KEST PP **PP** **01 36 38.9 -6.8**
comp=Z,19nm,0.9s,baz=69,slow=3.0,SNR=9.1
NVAR Mina Array Bea **108.07 47** Pdiff **Pdif** **01 32 16.3 +0.5**
comp=Z,4.5nm,0.9s,baz=267,slow=5.3,SNR=20
NVAR PKiKP **PKiKP** **01 36 22.0 +1.1**
comp=Z,7.0nm,0.8s,baz=240,slow=2.6,SNR=22
NVAR PP **PP** **01 36 43.7 -5.3**
comp=Z,2.7nm,0.9s,baz=277,slow=5.4,SNR=5.2
NVAR PKKPbc **PKKPbc** **01 47 34.4 -0.5**
comp=Z,4.0nm,0.7s,baz=137,slow=4.2,SNR=26
NVAR PKKPab **PKKPdf** **01 47 48.0 +0.3**
comp=Z,3.4nm,0.7s,baz=127,slow=5.0,SNR=12
NVAR Mina Array Bea **108.07 47** Pdif **Pdif** **01 32 18.4 +2.6**
NVAR PKKPbc **PKKPbc** **01 47 34.5 -0.5**
NVAR PKKPab **PKKPdf** **01 47 48.5 +0.7**
PKM Mcpherson Peak **108.13 51** PKiKP **PKiKP** **01 36 22.7 +1.6**
baz=289
HLID Hailey **108.76 41** PKiKP **PKiKP** **01 36 23.1 +1.1**
baz=296
SFJD Kangerlussuaq **108.77 358** PKiKP **PKiKP** **01 36 20.9 -0.2**
comp=Z,10nm,0.8s,baz=266,slow=2.2,SNR=4.4
SFJD PP **PP** **01 36 50.7 -1.8**
comp=Z,16nm,0.9s,baz=5.2,slow=13,SNR=4.6
ISA Isabella, Lake **108.91 50** PKiKP **PKiKP** **01 36 22.9 +0.5**
baz=290
CWC Cottonwood Cre **108.94 49** PKiKP **PKiKP** **01 36 23.4 +0.9**
baz=291
DY2G Dye2 **109.07 356** *i* P **Pdif** **01 32 19.4 -0.2**
EGMT Eagleton **109.54 35** PKiKP **PKiKP** **01 36 23.7 +0.5**
baz=301
EDW2 Edwards Air Fo **109.54 51** PKiKP **PKiKP** **01 36 24.8 +1.2**
baz=290
FURC Furnace Creek, **109.85 49** PKiKP **PKiKP** **01 36 25.3 +1.4**
baz=292
R11A Troy Canyon, C **110.08 47** PKiKP **PKiKP** **01 36 25.8 +1.1**
baz=293
TPNV Topopah Spring **110.13 48** PKiKP **PKiKP** **01 36 25.7 +0.9**
baz=292
GSC Goldstone, Bar **110.31 50** PKiKP **PKiKP** **01 36 26.4 +1.3**
baz=291
SHOC Shoshone, Teco **110.50 49** PKiKP **PKiKP** **01 36 26.8 +1.5**
baz=292
MURC Murrieta **110.60 52** PKiKP **PKiKP** **01 36 26.7 +1.1**
baz=290
HVU Hansel Valley **110.62 42** SKPdf **SKiKP** **01 39 31.5 +1.5**
HEC Hector,Ludlow **110.84 50** PKiKP **PKiKP** **01 36 27.3 +1.2**
baz=291
H17A Grant Village **110.85 39** PKiKP **PKiKP** **01 36 27.6 +1.6**
baz=299
TUQ Turquoise Moun **110.93 50** PKiKP **PKiKP** **01 36 27.3 +1.0**
baz=292
SPUT South Promonto **111.05 43** SKPdf **SKiKP** **01 39 32.5 +1.7**
REDW Red Top Meadow **111.17 40** SKPdf **SKiKP** **01 39 32.9 +1.9**
PFO Pinyon Flats O **111.18 52** PKiKP **PKiKP** **01 36 27.9 +1.1**
baz=291
TPFO Pinon Flats **111.18 52** PKiKP **PKiKP** **01 36 28.0 +1.2**
baz=291
DUG Dugway, Tooele **111.29 44** SKPdf **SKiKP** **01 39 33.7 +2.4**
DUG Dugway, Tooele **111.29 44** PKiKP **PKiKP** **01 36 27.9 +1.0**
baz=296
RLMT Red Lodge **111.30 38** PKiKP **PKiKP** **01 36 27.3 +0.5**
baz=300
GMRC Granite Mounta **111.37 50** PKiKP **PKiKP** **01 36 28.5 +1.3**
baz=292
BELC Belle Mtn. Jos **111.40 51** PKiKP **PKiKP** **01 36 28.3 +1.1**
baz=291
MONP2 Monument Peak **111.46 52** PKiKP **PKiKP** **01 36 28.7 +1.3**
baz=290
IKP In-Ko-Pah, Jac **111.79 52** PKiKP **PKiKP** **01 36 29.0 +1.1**
baz=291
SWSC Sam W. Stewart **111.93 52** PKiKP **PKiKP** **01 36 29.4 +1.4**
baz=291
BC3 Big Chuckawall **111.94 51** PKiKP **PKiKP** **01 36 29.5 +1.3**
baz=291
IRM Iron Mountain **112.00 51** PKiKP **PKiKP** **01 36 29.6 +1.4**
baz=292
BW06 Boulder Array **112.28 40** PKiKP **PKiKP** **01 36 29.2 +0.4**
baz=299
PDAR Pinedale Array **112.28 40** PKiKP **PKiKP** **01 36 29.0 +0.2**
comp=Z,1.9nm,0.6s,baz=155,slow=0.7,SNR=12
PDAR PP **PP** **01 37 16.3 -2.5**
comp=Z,2.2nm,0.8s,baz=68,slow=3.1,SNR=2.6
PDAR SKP 01 39 33.5
comp=Z,2.3nm,0.8s,baz=90,slow=1.5,SNR=5.2
PDAR PKKPbc **PKKPbc** **01 47 18.5 -3.2**
comp=Z,2.1nm,0.8s,baz=108,slow=4.8,SNR=8.7
PDAR PKKPab **PKKPab** **01 47 28.4 -2.4**
comp=Z,4.4nm,0.7s,baz=120,slow=6.4,SNR=16
LAO LASA Array **112.29 35** PKiKP **PKiKP** **01 36 29.1 +0.7**
baz=303
DGMT Dagmar **112.41 33** PKiKP **PKiKP** **01 36 29.2 +0.6**
baz=306
GLA Glamis **112.65 52** PKiKP **PKiKP** **01 36 30.4 +0.9**
baz=292
PDMCI Parker Dam,Lak **112.72 50** PKiKP **PKiKP** **01 36 30.4 +0.9**
baz=293
TMUT Trail Mountain **112.80 44** SKPdf **SKiKP** **01 39 36.5 +2.0**
PKCU Pink Cliffs **112.82 46** SKPdf **SKiKP** **01 39 37.2 +2.6**
SRU San Rafael Swe **113.35 44** SKPdf **SKiKP** **01 39 37.1 +1.8**
K22A Casper **114.27 39** PKiKP PKPdf 01 36 32.3 -0.2
baz=302
WUAZ Wupatki **114.31 48** PKiKP **PKiKP** **01 36 33.9 +1.1**
baz=295
O20A White River Ci **114.43 42** SKPdf **SKiKP** **01 39 39.3 +1.8**
O20A White River Ci **114.43 42** PKiKP **PKiKP** **01 36 33.6 +0.7**
baz=299
214A Organ Pipe Nat **114.64 52** PKiKP PKPdf 01 36 34.4 +1.0
baz=293
PV20 West Nyswonger **114.79 44** SKPdf **SKiKP** **01 39 40.3 +2.1**
PV17 East Wray Mesa **114.82 44** SKPdf **SKiKP** **01 39 39.5 +1.2**
PV07 Paradox Valley **114.97 44** PKPdf 01 36 34.9 +0.8
RSSD Black Hills **115.00 37** *i* PKiKP **PKiKP** **01 36 33.4 -0.5**
RSSD Black Hills **115.00 37** **PKiKP** **01 36 33.4 -0.5**
RSSD Black Hills **115.00 37** PKiKP **PKiKP** **01 36 33.5 -0.4**
baz=304
PV01 Paradox Valley **115.16 44** **PKPdf** **01 36 35.5 +1.0**
PV01 **SKiKP** **01 39 39.8 +0.8**
PV01 PKKPbc **PKKPbc** **01 47 12.0 +0.1**
MDND Maddock **115.22 31** PKiKP **PKPdf** **01 36 34.8 +0.9**
baz=310
ULM Lac du Bonnet **115.44 27** PKP **PKiKP** **01 36 33.8 -0.5**
comp=Z,12nm,0.8s,baz=322,slow=3.4,SNR=18
ULM PP **PP** **01 37 37.8 -2.5**
comp=Z,6.9nm,0.9s,baz=329,slow=8.7,SNR=3.8
ULM SKP 01 39 39.1
comp=Z,3.3nm,0.7s,baz=333,slow=5.3,SNR=4.5
N23A Red Feather La **115.56 40** PKiKP **PKiKP** **01 36 35.3 +0.1**
baz=302
ESDC Sonseca Array **115.62 318** PKP **PKPdf** **01 36 34.8 -0.2**
comp=Z,3.8nm,0.9s,baz=20,slow=3.0,SNR=13
ESDC PP **PP** **01 37 35.7 -6.5**
comp=Z,7.3nm,1.1s,baz=56,slow=8.9,SNR=6.1
ESDC SKP 01 39 39.8
comp=Z,5.2nm,1.1s,baz=83,slow=1.3,SNR=4.4
ESDC SKKPbc SKKPbc 01 50 25.1 +1.2
comp=Z,1.5nm,1.0s,baz=271,slow=2.2,SNR=6.0
MVCO Mesa Verde **115.64 45** PKiKP **PKiKP** **01 36 36.4 +1.0**
baz=298
W18A Petrified Fore **115.69 48** PKiKP **PKiKP** **01 36 36.7 +1.2**
baz=296
SMCO Snowmass **115.75 43** **PKiKP** **01 36 36.7 +1.0**
SMCO PKKPbc **PKKPbc** **01 47 09.8 -0.3**
PAB San Pablo **115.94 318** PKiKP **PKiKP** **01 36 36.1 +0.4**
PAB San Pablo **115.94 318** **PKiKP** **01 36 36.1 +0.4**
TUC Tucson **116.08 51** PKiKP **PKiKP** **01 36 37.4 +1.2**
TUC Tucson **116.08 51** **PKiKP** **01 36 37.4 +1.2**
TUC Tucson **116.08 51** PKiKP **PKiKP** **01 36 37.4 +1.2**
baz=294
PBRG Braganca **116.30 321** *e*PKPdf **PKiKP** **01 36 36.4 +0.1**
PBRG Braganca **116.30 321** *e*PP PP 01 37 46.2 -0.5
ISCO Idaho Springs **116.34 41** PKiKP **PKiKP** **01 36 37.6 +0.8**
ISCO Idaho Springs **116.34 41** **PKiKP** **01 36 37.6 +0.8**
ISCO PKKPbc **PKKPbc** **01 47 06.9 -1.0**
ISCO Idaho Springs **116.34 41** PKiKP **PKiKP** **01 36 37.2 +0.5**
baz=301
S22A 4UR Ranch, Cre **116.56 44** PKiKP **PKiKP** **01 36 38.0 +0.8**
baz=300
MVO Moncorvo **116.83 321** *e*PKPdf **PKiKP** **01 36 37.7 +0.4**

MVO Moncorvo 116.83 321 *e*PP PP 01 37 53.7 +3.2
TAF Taforalt 116.85 313 P **PKiKP** **01 36 39.0 +1.4**
Q24A Divide 117.08 42 PKiKP **PKiKP** **01 36 38.4 +0.1**
baz=301
PCAB Cabril 117.15 322 *e*PKPdf **PKiKP** **01 36 38.2 +0.3**
PCAB Cabril 117.15 322 *e*PP PP 01 37 54.5 +1.9
FIGM Figuig 117.15 309 P **PKiKP** **01 36 39.0 +0.7**
PGAV Gavieira, Arco 117.15 322 *e*PKPdf **PKiKP** **01 36 38.5 +0.5**
PGAV Gavieira, Arco 117.15 322 *e*PP PP 01 37 54.3 +1.6
JBK JBK 117.18 312 P **PKiKP** **01 36 39.0 +0.6**
POLO Lamas de Olo 117.19 321 *e*PKPdf **PKPdf** **01 36 38.0 -0.1**
PVRL Vila Real 117.20 321 *e*PKPdf **PKiKP** **01 36 38.1 +0.1**
HSIG 117.24 54 PKKPbc PKKPbc 01 47 01.5 -2.5
TDRA Tendrara 117.35 311 P **PKiKP** **01 36 39.4 +0.7**
MTE Manteigas 117.58 320 *e*PKPdf **PKiKP** **01 36 39.4 +0.6**
MTE Manteigas 117.58 320 *e*PP PP 01 37 56.4 +0.8
MTE Manteigas 117.58 320 **PKiKP** **01 36 39.0 +0.2**
PVIS Viseu 117.62 321 *e*PKPdf **PKiKP** **01 36 39.1 +0.2**
PVIS Viseu 117.62 321 *e*PP PP 01 37 57.0 +1.1
SUSD Miller 117.73 34 PKiKP **PKPdf** **01 36 38.2 -0.7**
baz=309
PCBR Castelo Branco 117.84 320 *e*PKPdf **PKiKP** **01 36 39.9 +0.7**
PCBR Castelo Branco 117.84 320 *e*PP PP 01 38 00.6 +3.2
PMRV Marv??o 118.01 319 *e*PKPdf **PKPdf** **01 36 39.5 -0.1**
PMRV Marv??o 118.01 319 *e*PP PP 01 38 00.2 +1.6
OGNE Ogallala 118.01 39 PKiKP **PKiKP** **01 36 40.2 +0.5**
baz=305
LENM Lemitar 118.16 47 PKKPab 01 47 00.8 -4.0
ANMO Albuquerque 118.17 46 *d i*PKIKP **PKiKP** **01 36 41.0 +0.7**
ANMO pmax pmax
comp=Z,42nm,1.3s
ANMO Albuquerque 118.17 46 PKiKP **PKiKP** **01 36 41.2 +0.9**
baz=298
Y22D IRIS PASSCAL I 118.24 48 PKiKP **PKiKP** **01 36 41.2 +0.7**
baz=298
121A Cookes Peak, D 118.29 49 PKiKP **PKiKP** **01 36 41.7 +1.1**
baz=296
PCAS Casmilo, Conde 118.38 320 *e*PKPdf **PKiKP** **01 36 40.8 +0.5**
PCAS Casmilo, Conde 118.38 320 *e*PP PP 01 38 03.1 +2.0
PESTR Estremoz 118.44 319 *e*PKPdf **PKPdf** **01 36 40.3 -0.1**
PBAR Barrancos 118.45 318 *e*PKPdf **PKiKP** **01 36 40.5 0.0**
PBAR Barrancos 118.45 318 *e*PP PP 01 38 03.0 +1.4
T25A Trinidad 118.52 43 PKiKP **PKiKP** **01 36 41.8 +0.8**
baz=301
SMIR Smir Dam 118.58 315 P **PKiKP** **01 36 42.0 +1.2**
KSCO Kaye Shedlock' 118.72 41 PKiKP **PKiKP** **01 36 41.4 +0.2**
baz=304
PMTG Montargil 118.75 319 *e*PKPdf **PKiKP** **01 36 41.3 +0.3**
PMTG Montargil 118.75 319 *e*PP PP 01 38 06.5 +2.9
CHEFC Chefchaouen 118.83 314 P **PKiKP** **01 36 42.0 +0.5**
PSBE So Bento 118.87 320 *e*PKPdf **PKiKP** **01 36 42.1 +0.8**
PSBE So Bento 118.87 320 *e*PP PP 01 38 05.0 +0.5
EVO Evora 118.90 319 *e*PKPdf **PKiKP** **01 36 41.7 +0.3**
EVO Evora 118.90 319 *e*PP PP 01 38 08.4 +3.7
PBEJ Beja 119.08 318 *e*PKPdf **PKiKP** **01 36 42.1 +0.4**
PBEJ Beja 119.08 318 *e*PP PP 01 38 04.3 -1.7
EYMN Ely 119.09 27 **PKPdf** **01 36 41.0 -0.4**
EYMN Ely 119.09 27 PKiKP **PKPdf** **01 36 41.1 -0.4**
baz=318
LCRM LCR 119.17 313 P **PKiKP** **01 36 43.1 +0.9**
PVAQ Vaqueiros 119.31 318 *e*PKPdf **PKiKP** **01 36 42.9 +0.7**
PVAQ Vaqueiros 119.31 318 *e*PP PP 01 38 09.9 +2.3
PVAQ Vaqueiros 119.31 318 **PKiKP** **01 36 43.1 +0.9**
PVAQ **SKiKP** **01 39 48.1 +1.2**
PCVE Castro Verde 119.41 318 *e*PKPdf **PKiKP** **01 36 42.7 +0.3**
MESJ Messejana 119.42 318 *e*PKPdf **PKiKP** **01 36 42.7 +0.3**
MESJ Messejana 119.42 318 *e*PP PP 01 38 11.5 +3.3
PNCL Nicolau / Gran 119.47 319 *e*PKPdf **PKiKP** **01 36 43.2 +0.7**
PNCL Nicolau / Gran 119.47 319 *e*PP PP 01 38 10.6 +2.0
ECSD EROS Data Cent 119.48 33 **PKiKP** **01 36 42.5 +0.2**
ECSD PKKPbc **PKKPbc** **01 46 55.0 -1.6**
ECSD PKKPab **PKKPab** **01 46 57.6 -1.1**
ECSD EROS Data Cent 119.48 33 PKiKP **PKPdf** **01 36 42.0 -0.3**
baz=311
PMAFR Mafra 119.49 320 *e*PKPdf **PKiKP** **01 36 42.9 +0.4**
PBDV Barranco-do-Ve 119.54 317 *e*PKPdf **PKiKP** **01 36 42.8 +0.1**
PBDV Barranco-do-Ve 119.54 317 *e*PP PP 01 38 12.0 +2.8
CZD Col de Zad 119.61 312 P **PKiKP** **01 36 44.2 +0.9**
PTEO Sao Teotonio 119.91 318 *e*PKPdf **PKiKP** **01 36 44.2 +0.9**
MORF Marmelete 119.99 318 *e*PKPdf **PKiKP** **01 36 44.0 +0.4**
BGNE Belgrade 120.09 36 PKiKP **PKPdf** **01 36 42.6 -0.9**
baz=309
PFVI Vila Bisbo 120.20 318 *e*PKPdf **PKiKP** **01 36 44.7 +0.8**
SCHQ Schefferville 120.30 8 PKP **PKPdf** **01 36 43.5 0.0**
comp=Z,44nm,0.7s,baz=331,slow=1.8,SNR=50
SCHQ PP **PP** **01 38 08.7 -4.5**
comp=Z,11nm,0.8s,baz=308,slow=5.6,SNR=4.0
SCHQ SKP 01 39 48.6
comp=Z,11nm,0.7s,baz=4.0,slow=3.1,SNR=4.4
SPMN Marine on St. 120.45 30 PKiKP **PKPdf** **01 36 43.5 -0.6**
baz=316
MNTX Cornudas Mount 120.48 49 **PKiKP** **01 36 45.5 +0.8**
MNTX **PKKPbc** **01 46 50.8 -1.7**
MNTX Cornudas Mount 120.48 49 PKiKP **PKiKP** **01 36 45.4 +0.8**
baz=298
ZHG ZHG 120.59 313 P **PKiKP** **01 36 46.0 +1.1**
CBKS Cedar Bluff 120.69 39 PKiKP **PKPdf** **01 36 44.6 -0.2**
baz=306
TORD Torodi Ar. Bea 120.74 288 PKP **PKPdf** **01 36 44.7 -0.7**
comp=Z,45nm,0.8s,baz=7.2,slow=1.1,SNR=51
TORD pP **pPKPdf** **01 38 08.7 +4.7**
comp=Z,5.2nm,0.7s,baz=46,slow=3.0,SNR=2.9
TORD PP **PP** **01 38 20.4 +2.1**
comp=Z,10nm,0.9s,baz=68,slow=4.8,SNR=7.3
TORD SKP 01 39 50.2
comp=Z,12nm,0.7s,baz=36,slow=3.2,SNR=8.8
TORD PKKPab **PKKPab** **01 46 52.3 -0.8**
comp=Z,1.6nm,0.6s,baz=296,slow=3.2,SNR=10.0
TORD SKKPbc SKKPbc 01 50 09.2 +2.0
comp=Z,2.6nm,1.0s,baz=282,slow=2.0,SNR=4.7
TORD Torodi Ar. Bea 120.74 288 **PKPdf** **01 36 44.6 -0.9**
TORD SKPdf **SKPdf** **01 39 49.9 +0.1**
TORD PKKPab **PKKPab** **01 46 52.3 -0.8**
TZRR Tazzarine 121.05 310 P **PKiKP** **01 36 47.0 +1.1**
MSTX Muleshoe 121.30 46 **PKiKP** **01 36 47.1 +0.7**
MSTX PKKPab **PKKPab** **01 46 50.6 -0.3**
MSTX Muleshoe 121.30 46 PKiKP **PKiKP** **01 36 46.3 0.0**
baz=301
AMTX Amarillo 121.59 44 PKiKP **PKPdf** **01 36 46.7 0.0**
baz=302
KSU1 Kansas State U 122.45 37 **PKPdf** **01 36 48.2 +0.1**
KSU1 Kansas State U 122.45 37 PKiKP **PKPdf** **01 36 47.9 -0.3**
baz=309
SCIA State Center 122.56 33 PKiKP **PKPdf** **01 36 47.9 -0.3**
baz=314
OUK Oukaimeden 122.58 311 P **PKiKP** **01 36 50.0 +0.7**
TX31 Lajitas Ar. Si 122.88 51 **PKiKP** **01 36 49.5 -0.1**
TX31 **PKKPbc** **01 46 42.9 -0.6**
TX32 Lajitas Array 122.88 51 **PKiKP** **01 36 49.8 +0.2**
TX32 **PKKPbc** **01 46 43.5 0.0**
TXAR Lajitas Array 122.88 51 PKP **PKiKP** **01 36 49.6 0.0**
comp=Z,17nm,0.7s,baz=227,slow=0.9,SNR=134
TXAR SKP 01 39 54.3
comp=Z,4.7nm,1.0s,baz=236,slow=1.4,SNR=4.1
TXAR PKKPbc **PKKPbc** **01 46 42.3 -1.2**
comp=Z,1.7nm,0.6s,baz=120,slow=6.1,SNR=16
TXAR SKKP 01 50 22.5
comp=Z,0.5nm,0.8s,baz=167,slow=11,SNR=3.4
TXAR Lajitas Array 122.88 51 PKiKP **PKiKP** **01 36 49.8 +0.2**
TXAR Lajitas Array 122.88 51 **PKiKP** **01 36 49.8 +0.2**
TXAR **PKKPbc** **01 46 42.7 -0.8**
TTIG Tnine Tigouga, 123.34 311 P **PKiKP** **01 36 51.0 +0.5**
JFWS Jewell Farm 123.39 30 PKiKP **PKPdf** **01 36 49.0 -0.8**
baz=317
BLOK Blackwell 123.51 40 **PKPdf** **01 36 50.3 +0.1**
EAH EAH 123.64 313 P **PKiKP** **01 36 52.0 +1.1**
WMOK Wichita Mounta 123.66 43 PKKPab 01 46 39.3 -1.3
WMOK Wichita Mounta 123.66 43 PKiKP **PKPdf** **01 36 50.5 -0.1**
baz=305
ABTX Abilene, Hawle 124.23 45 PKiKP **PKPdf** **01 36 51.7 -0.1**
baz=303
GLMI Grayling 124.52 25 PKiKP **PKiKP** **01 36 52.2 0.0**
baz=324
TUL1 Leonard 124.94 40 PKiKP **PKPdf** **01 36 52.7 -0.3**
baz=308
L44A Lake County Fo 125.09 29 PKiKP **PKPdf** **01 36 52.5 -0.6**
baz=319
JCT Junction City 125.25 48 PKIKP **PKPdf** **01 36 53.8 0.0**
JCT Junction City 125.25 48 **PKPdf** **01 36 53.8 0.0**
JCT Junction City 125.25 48 PKiKP **PKPdf** **01 36 53.9 +0.1**
baz=302
HDIL Hopedale 125.60 32 PKiKP **PKPdf** **01 36 53.5 -0.6**
baz=317
KOWA Kowa 125.76 291 **PKPdf** **01 36 54.4 -0.7**
WHTX Lake Whitney, 126.12 45 PKiKP **PKPdf** **01 36 55.4 +0.1**
baz=304
CCM Cathedral Cave 126.30 35 PKIKP **PKPdf** **01 36 55.1 -0.4**
CCM Cathedral Cave 126.30 35 **PKPdf** **01 36 55.1 -0.4**
CCM Cathedral Cave 126.30 35 PKiKP **PKPdf** **01 36 55.3 -0.2**
baz=314
U40A Yellville 126.49 38 PKiKP **PKPdf** **01 36 55.6 -0.3**
baz=311
833A Chaparral WMA, 126.65 50 PKiKP **PKiKP** **01 36 57.6 +0.6**
baz=300
W39A Magazine 126.66 39 PKiKP **PKPdf** **01 36 56.1 -0.2**
baz=310
435B Jarrell 126.70 46 PKiKP **PKiKP** **01 36 56.9 -0.1**
baz=304
SFIN Lafayette 126.85 30 PKiKP **PKPdf** **01 36 56.1 -0.4**
baz=319
AAM Ann Arbor 126.97 26 PKIKP **PKPdf** **01 36 56.1 -0.5**
AAM Ann Arbor 126.97 26 **PKPdf** **01 36 56.1 -0.5**
AAM Ann Arbor 126.97 26 PKiKP **PKPdf** **01 36 56.1 -0.5**
baz=324
T42A Van Buren 127.09 36 PKPdf **PKPdf** **01 36 56.3 -0.7**
MIAR Mount Ida 127.21 40 PKiKP **PKPdf** **01 36 57.4 +0.1**
baz=310
D62A Allapoint, All 127.42 12 PKiKP **PKPdf** **01 36 57.2 -0.1**
baz=343
PMPST Porto Santo, M 127.56 318 *e*PKPdf **PKiKP** **01 36 59.0 +0.3**
PMPS Porto Santo 127.57 318 *e*PKPdf **PKiKP** **01 36 58.5 -0.2**
PMPS Porto Santo 127.57 318 *e*PP PP 01 39 03.9 +1.2
W41B Gary Mavity, V 127.64 38 PKiKP **PKPdf** **01 36 57.5 -0.6**
baz=311
X40A Basin Creek Fa 127.72 39 PKiKP **PKPdf** **01 36 58.0 -0.3**
baz=310
E62A Clayton Lake 127.76 12 PKiKP **PKPdf** **01 36 57.5 -0.5**
baz=342
BATG Bathurst New B 127.77 9 **PKPdf** **01 36 57.9 -0.1**
PMAR Madeira 128.16 318 *e*PKPdf **PKiKP** **01 36 59.9 -0.2**
PMAR Madeira 128.16 318 *e*PP PP 01 39 06.9 +0.1
E63A Oxbow 128.17 11 PKiKP **PKPdf** **01 36 58.6 -0.2**
baz=343
NATX Nacogdoches 128.19 43 **PKPdf** **01 36 59.5 +0.2**
NATX Nacogdoches 128.19 43 PKiKP **PKiKP** **01 36 59.8 -0.2**
baz=307
FUL Funchal 128.20 318 *e*PKPdf **PKiKP** **01 37 00.9 +1.0**
PMOZ Porto Moniz, M 128.29 318 *e*PKPdf **PKiKP** **01 37 00.8 +0.5**
LONY Lake Ozonia 128.33 17 PKiKP **PKPdf** **01 36 58.8 -0.4**
baz=335
KIC Kosan Boka 128.34 282 *e*PKIKP **PKiKP** **01 37 00.4 -0.3**
comp=Z,89nm,0.7s
F62A Pittston Farm, 128.35 13 PKiKP **PKPdf** **01 36 59.3 +0.1**
baz=341
DBIC Dimbokro 128.40 282 PKP **PKPdf** **01 37 00.1 -0.1**
comp=Z,32nm,0.7s,baz=73,slow=1.9,SNR=30
DBIC SKPbc SKPbc 01 39 49.2
comp=Z,24nm,0.7s,baz=93,slow=3.5,SNR=11
HKT Hockley 128.42 46 *c i*PKIKP **PKiKP** **01 37 01.1 +0.7**
Z41A Richland Creek 128.52 41 PKiKP **PKPdf** **01 37 00.1 +0.3**
baz=309
TIC Toumodi 128.56 282 *e*PKIKP **PKPdf** **01 37 00.6 +0.1**
LIC Lamto 128.65 281 *e*PKIKP **PKPdf** **01 37 00.0 -0.6**
comp=Z,246nm,1.1s
ERPA Erie 128.65 23 **PKPdf** **01 36 59.0 -0.9**
ERPA Erie 128.65 23 PKiKP **PKPdf** **01 36 59.4 -0.5**
baz=328
P49A Miami Univ. Ec 128.67 29 PKiKP **PKPdf** **01 36 59.4 -0.6**
baz=321
F63A Nahmakanta, Br 128.72 12 PKiKP **PKPdf** **01 36 59.9 0.0**
baz=342
F64A Sherman 128.72 12 PKiKP **PKPdf** **01 36 59.5 -0.4**
baz=343
G62A West of Eustis 128.86 14 PKiKP **PKPdf** **01 36 59.8 -0.4**
baz=340
WCI Wyandotte Cave 128.88 31 PKIKP **PKPdf** **01 37 00.3 -0.1**
WCI Wyandotte Cave 128.88 31 **PKPdf** **01 37 00.3 -0.1**
WCI Wyandotte Cave 128.88 31 PKiKP **PKPdf** **01 37 00.5 0.0**
baz=319
ACSO Alum Creek Sta 128.93 27 PKiKP **PKPdf** **01 37 00.3 -0.2**
baz=324
M53A WI Miller and 128.94 24 PKiKP **PKPdf** **01 36 60.0 -0.5**
baz=327
PKME Peaks-Kenny Pk 129.10 13 PKiKP **PKPdf** **01 37 00.7 +0.1**
baz=342
G64A Mayfield 129.22 12 PKiKP **PKPdf** **01 37 00.9 +0.1**
baz=343
M54A Oil Creek Stat 129.29 24 PKiKP **PKPdf** **01 37 00.9 -0.3**
baz=328
LMN Caledonia Moun 129.35 9 **PKPdf** **01 37 01.0 -0.1**
I60A Shoreham 129.41 17 PKiKP **PKPdf** **01 37 01.5 +0.3**
baz=337
LBNH Lisbon 129.43 15 PKiKP **PKPdf** **01 37 01.5 +0.1**
baz=338
G65A Princeton 129.51 11 PKiKP **PKPdf** **01 37 01.6 +0.2**
baz=344
WVT Waverly 129.59 34 PKIKP PKPdf 01 36 53.6 -8.2
WVT Waverly 129.59 34 PKPpre 01 36 53.6
WVT PKPdf **PKPdf** **01 37 02.1 +0.2**
WVT Waverly 129.59 34 PKiKP **PKPdf** **01 37 01.5 -0.4**
baz=316
N54A Moraine State 129.62 24 PKiKP **PKPdf** **01 37 01.6 -0.2**
baz=328
O53A New Philadelph 129.70 26 PKiKP **PKPdf** **01 37 01.9 -0.1**
baz=326
H64A Troy 129.71 13 PKiKP **PKPdf** **01 37 01.7 -0.1**
baz=342
P52A Corning 129.80 27 PKiKP **PKPdf** **01 37 01.9 -0.2**
baz=324
OXF Oxford 129.81 37 PKiKP **PKPdf** **01 37 01.7 -0.6**
baz=314
HNH Hanover 129.82 16 **PKPdf** **01 37 02.4 +0.3**
H65A Eastbrook 129.86 12 PKiKP **PKPdf** **01 37 01.9 -0.2**
baz=343
I62A Tamworth 129.92 15 **PKiKP** **01 37 03.0 -0.1**
I62A SKPbc SKPbc 01 39 55.3 +1.2
I62A Tamworth 129.92 15 PKiKP **PKPdf** **01 37 02.3 0.0**
baz=339
I63A Otisfield 129.95 14 PKiKP **PKPdf** **01 37 02.2 -0.1**
baz=340
H66A Whiting 129.96 11 PKiKP **PKPdf** **01 37 01.9 -0.4**
baz=344
EMMW East Machias 130.01 11 **PKPdf** **01 37 02.2 -0.1**
EMMW SKPbc **SKPab** **01 39 55.3 +0.9**
BINY Binghamton 130.05 20 **PKPdf** **01 37 03.0 +0.4**
BINY SKPbc **SKPab** **01 39 55.7 +0.9**
BINY Binghamton 130.05 20 PKiKP **PKPdf** **01 37 02.5 -0.1**
baz=333
J61A Chester 130.08 16 PKiKP **PKPdf** **01 37 02.4 -0.1**
baz=338
P53A Whipple 130.25 26 **PKPdf** **01 37 03.3 +0.3**
PLAL Pickwick Lake 130.27 36 PKPdf **PKPdf** **01 37 03.5 +0.3**
PLAL **SKPab** **01 39 55.9 +0.1**
I64A Boothbay 130.29 13 PKiKP **PKPdf** **01 37 03.1 +0.2**
baz=341
L59A Walton 130.38 19 **PKPdf** **01 37 03.4 +0.1**
L59A **SKPab** **01 39 56.7 +0.6**
J62A Henniker 130.40 16 PKiKP **PKiKP** **01 37 03.9 -0.2**
baz=338
M57A Sunshine Farm, 130.41 21 **SKPab** **01 39 56.7 +0.5**
V48A Smith Brothers 130.44 34 **PKiKP** **01 37 04.0 -0.4**
V48A **SKPab** **01 39 56.7 +0.1**
CLTN Cedars of Leba 130.45 33 **SKPab** **01 39 56.8 +0.3**
K61A Williamstown 130.50 17 PKiKP **PKiKP** **01 37 03.9 -0.4**
baz=336
J63A Strafford 130.54 15 PKiKP **PKPdf** **01 37 03.8 +0.3**
baz=339
S51A Beattyville 130.70 30 **PKPdf** **01 37 04.0 +0.1**
S51A SKPbc **SKPab** **01 39 57.4 -0.1**
SSPA Standing Stone 130.74 23 SKPbc **SKPab** **01 39 57.8 +0.2**
SSPA Standing Stone 130.74 23 PKiKP **PKPdf** **01 37 03.8 -0.1**
baz=330
MCWV Mont Chateau 130.78 25 PKiKP **PKPdf** **01 37 04.1 +0.1**
baz=327
O56A Blue Knob Stat 130.79 23 PKiKP **PKPdf** **01 37 04.2 +0.1**
baz=329
K62A Royalston 130.80 16 **PKiKP** **01 37 05.0 +0.1**
K62A SKPbc **SKPab** **01 39 58.4 +0.6**
K62A Royalston 130.80 16 PKiKP **PKPdf** **01 37 04.4 +0.4**
baz=338
L61B Northampton 130.87 17 PKiKP **PKPdf** **01 37 04.3 +0.2**
baz=337
K63A Dunstable 130.97 16 PKiKP **PKPdf** **01 37 04.7 +0.4**
baz=338
344A Westbrook Farm 131.01 41 SKPbc **SKPab** **01 40 00.8 +1.7**
HRV Adam Dziewonsk 131.13 16 PKIKP **PKiKP** **01 37 05.5 0.0**
HRV Adam Dziewonsk 131.13 16 **PKiKP** **01 37 05.5 0.0**
HRV Adam Dziewonsk 131.13 16 PKiKP **PKPdf** **01 37 04.9 +0.4**
baz=338
N59A State Game Lan 131.27 21 PKiKP **PKiKP** **01 37 05.6 -0.3**
N59A SKPbc **SKPab** **01 39 60.0 +0.1**
N59A State Game Lan 131.27 21 PKiKP **PKPdf** **01 37 05.1 +0.2**
baz=333
ODNJ Ogdensburg 131.51 19 **PKPdf** **01 37 05.3 0.0**
ODNJ **SKPbc** **01 40 00.3 +0.2**
Q56A Snyder Ridge, 131.57 25 **PKiKP** **01 37 07.0 +0.4**
Q56A **SKPab** **01 40 01.0 -0.3**
TZTN Tazewell 131.57 31 PKiKP **PKPdf** **01 37 05.7 +0.1**
baz=321
TRNY Table Rock, Ra 131.59 19 **PKPdf** **01 37 05.9 +0.4**
L63A North Scituate 131.72 16 PKiKP **PKPdf** **01 37 05.7 0.0**
baz=338
R55A Marlinton 131.81 26 SKPbc **SKPbc** **01 40 01.3 -0.1**
PAL Palisades 131.81 19 PKiKP **PKPdf** **01 37 06.2 +0.3**
baz=335
L64A Middleborough 131.86 15 PKiKP **PKPdf** **01 37 06.4 +0.4**
baz=339
FPAL Fort Paine 131.99 34 PKPpre PKPpre 01 36 50.2
FPAL **PKPdf** **01 37 06.9 +0.4**
M63A Gales Ferry 132.02 17 SKPbc **SKPbc** **01 40 02.2 +0.4**
V52A Sevierville 132.09 31 SKPbc **SKPab** **01 40 03.3 -0.3**
M64A Tiverton 132.12 16 PKiKP **PKPdf** **01 37 06.3 -0.1**
baz=339
M65A Busby, Falmout 132.26 15 PKiKP **PKPdf** **01 37 07.2 +0.5**
baz=339
LRAL Lakeview Retre 132.28 37 PKiKP **PKPdf** **01 37 07.0 0.0**
baz=315
P60A Greenville 132.29 21 PKiKP **PKPdf** **01 37 06.8 0.0**
baz=332
U54A Nelsons Funny 132.45 29 SKPbc **SKPbc** **01 40 03.4 -0.2**
BLA Blacksburg 132.55 27 PKiKP **PKPdf** **01 37 03.7 -0.1**
baz=325
V53A Saluda 132.63 31 SKPbc **SKPab** **01 40 05.1 -0.8**
CBN Corbin Frederi 133.03 24 PKPpre PKPpre 01 36 54.0
CBN **PKPdf** **01 37 08.2 0.0**
CBN SKPbc **SKPbc** **01 40 05.8 +0.4**
CBN Corbin Frederi 133.03 24 PKiKP **PKPdf** **01 37 08.4 +0.1**
baz=329
T57A Hurt 133.25 26 SKPbc **SKPbc** **01 40 05.8 -0.4**
BRAL Brewton 133.55 38 PKiKP **PKPdf** **01 37 09.8 +0.3**
baz=314
KMSC Kings Mountain 133.79 30 SKPbc **SKPbc** **01 40 08.5 +0.4**
KMSC Kings Mountain 133.79 30 PKiKP **PKPdf** **01 37 09.7 -0.1**
baz=323
GOGA Godfrey 134.02 33 SKPbc **SKPbc** **01 40 09.6 +0.7**
GOGA Godfrey 134.02 33 PKiKP **PKPdf** **01 37 10.5 +0.3**
baz=319
HODGE Hodges 134.03 31 PKPpre 01 36 56.9
HODGE **PKPdf** **01 37 10.6 +0.3**
JSC Jenkinsville 134.50 30 PKHKP PKPpre 01 37 00.0
JSC Jenkinsville 134.50 30 PKPpre 01 37 00.0
JSC SKPbc **SKPbc** **01 40 10.9 +0.5**
BIRD Birdtown, Kers 134.61 29 PKPpre 01 36 59.6
BIRD **SKPbc** **01 40 10.9 +0.2**
CNNC Cliffs of the 135.33 26 PKiKP **PKPdf** **01 37 12.9 +0.2**
baz=327
TIGA Tifton 135.42 35 PKiKP **PKiKP** **01 37 14.1 -0.5**
baz=318
V61A Roper 135.43 25 **SKPbc** **01 40 14.1 +0.9**
CMIG Matias Romero 135.56 60 SKPbc **SKPbc** **01 40 14.9 +0.8**
baz=264,slow=2.2
Y59A Loris 135.91 28 SKPbc **SKPbc** **01 40 15.1 +0.3**
NHSC New Hope 135.98 30 PKiKP **PKPdf** **01 37 14.6 +0.7**
baz=323
Y60A Bolivia 136.21 28 SKPbc **SKPbc** **01 40 16.3 +0.6**
DWPF Disney Wildern 139.14 36 PKiKP **PKPdf** **01 37 20.0 +0.1**
baz=318
LL01 San Ignacio de 139.17 161 **PKPdf** **01 37 19.3 -0.2**
LL01 SKPbc **SKPbc** **01 40 24.6 +0.7**
PLCA Paso Flores 141.26 161 PKhKP PKPpre 01 37 17.8
comp=Z,5.8nm,0.8s,baz=233,slow=2.7,SNR=7.9
PLCA SKPbc **SKiKP** **01 40 30.6 -0.8**
comp=Z,37nm,1.1s,baz=218,slow=3.1,SNR=10
PLCA Paso Flores 141.26 161 SKPbc **SKPbc** **01 40 30.3 +0.7**
SOR Soroa 141.86 44 PKHKP PKPpre 01 37 20.1
SOR 01 40 32.1
SOR Soroa 141.86 44 PKPpre PKPpre 01 37 20.1
SOR SKPbc **SKPbc** **01 40 32.1 +0.6**
BBSR BB Station 142.45 13 **PKPdf** **01 37 23.1 -2.6**
LC01 Cunco 142.46 159 PKPpre PKPpre 01 37 21.6
SACV Santiago Islan 143.15 302 PKPab PKPab 01 37 24.6 +0.7
TGUH Tegucigalpa,Un 143.47 59 *e*P PKPbc 01 37 26.3 -0.1
PAYG Puerto Ayora 144.95 85 *e*P **PKPab** **01 37 32.5 +1.6**
TRQA Tornquist 145.88 171 PKP2 **PKPbc** **01 37 32.5 -0.3**
TRQA Tornquist 145.88 171 **PKPbc** **01 37 32.5 -0.3**
TRQA SKPbc **SKiKP** **01 40 41.0 0.0**
ORTG Ortega, Santa 146.68 64 **PKPdf** **01 37 34.2 +0.6**
ORTG SKPbc **SKiKP** **01 40 44.4 +1.0**
JTS Las Juntas de 147.17 64 SKPbc **SKiKP** **01 40 44.7 +0.4**
comp=Z,24nm,1.1s,baz=291,slow=3.8,SNR=3.5
JTS Las Juntas de 147.17 64 PKIKP **PKPdf** **01 37 33.8 -0.6**
JTS **01 37 37.5**
JTS Las Juntas de 147.17 64 **PKPdf** **01 37 33.8 -0.6**
JTS PKPbc **PKPbc** **01 37 37.5 +0.4**
JTS Las Juntas de 147.17 64 *e*P **PKPbc** **01 37 37.1 +0.1**
MTDJ Mount Denham 148.71 44 *e*P **PKPbc** **01 37 41.2 +0.2**
PRVC Isla de Provid 148.78 55 **PKPdf** **01 37 37.7 +0.8**
SRBA San Rafael, Bu 149.03 64 **PKPdf** **01 37 38.5 +1.0**
SRBA PKPbc **PKiKP** **01 37 43.1 +0.1**
GTBY Guantanamo Bay 149.07 38 *e*P **PKiKP** **01 37 42.4 -0.4**
SDDR Presa de Saban 152.04 34 *e*P **PKPdf** **01 37 40.8 -1.1**
CACAO El Cacao, Vera 152.06 66 *e*P **PKPdf** **01 37 42.1 +0.1**
BCIP Isla Barro Col 152.18 61 *e*P **PKPdf** **01 37 41.8 -0.4**
AZU Azuero 152.40 64 *e*P **PKPdf** **01 37 42.6 +0.1**
AZU *e*P **PKPbc** **01 37 49.4 -0.3**
UPA Univ. de Panam 152.53 61 *e*P **PKPdf** **01 37 41.8 -0.9**
CAPC Capurgana 154.59 60 *e*P **PKPdf** **01 37 46.0 +0.4**
AOPR Arecibo Observ 154.84 26 PKPdf **PKPdf** **01 37 44.9 -1.1**
AOPR **PKPab** **01 38 09.8 -1.4**
GCPR Guaynabo City 155.16 25 **PKPab** **01 38 12.3 -0.3**
SJG San Juan 155.31 25 *e*P **PKPdf** **01 37 45.7 -0.8**
CUPR Culebra, Puert 155.49 23 **PKPab** **01 38 13.6 -0.4**
STVI Saint Thomas 155.58 22 **PKPdf** **01 37 45.9 -0.9**
STVI **PKPab** **01 38 13.9 -0.4**
SOLC Bahia Solano 155.64 65 *e*P **PKPdf** **01 37 48.5 +1.4**
SJCC San Jacinto, C 155.74 54 *e*P **PKPdf** **01 37 48.3 +1.0**
SMRC Santa Marta, M 155.75 50 *e*P **PKPdf** **01 37 46.9 -0.3**
PAC1 Pacto, Paraso 156.17 80 *e*P **PKPdf** **01 37 47.9 -0.1**
PIZC Pizarro, Choco 156.19 67 *e*P **PKPdf** **01 37 47.2 -0.6**
DBBC Dabeiba 156.36 62 *e*P **PKPdf** **01 37 48.7 +0.5**
OTAV Otavalo 156.51 79 PKIKP **PKPdf** **01 37 50.3 +1.5**
OTAV Otavalo 156.51 79 *e*P **PKPdf** **01 37 49.3 +0.5**
ARGC Ariguani, Magd 156.51 53 *e i*P **PKPdf** **01 37 49.5 +1.3**
URCC San Jos de Ur 156.59 59 *e*P **PKPdf** **01 37 48.1 -0.2**
CRJC Cerrejon, Guaj 156.86 49 *e*P **PKPdf** **01 37 49.3 +0.6**
ATAH Atahualpa 156.93 98 PKP **PKPdf** **01 37 51.3 +2.0**
comp=Z,28nm,0.9s,baz=284,slow=2.0,SNR=24
ATAH PKPab **PKPab** **01 38 24.1 +2.9**
comp=Z,12nm,0.9s,baz=307,slow=10,SNR=3.6
CBOC Ciudad Bolivar 157.05 64 *e*P **PKPdf** **01 37 49.0 -0.1**
URIC Uribia, Colomb 157.06 46 *e*P **PKPdf** **01 37 48.9 0.0**
SMLC San Martn de 157.26 55 *e*P **PKPdf** **01 37 49.2 0.0**
BBAC Balboa, Cauca 157.26 74 *e*P **PKPdf** **01 37 49.5 0.0**
ZARC Zaragoza, Cauc 157.30 59 *e*P **PKPdf** **01 37 49.5 +0.3**
HELC Santa Helena 157.34 63 *e*P **PKPdf** **01 37 50.0 +0.2**
GCUF Volcan Galeras 157.37 76 *e*P **PKPdf** **01 37 50.6 +0.6**
NNA Nana 157.44 111 PKP **PKPdf** **01 37 50.2 +0.8**
comp=Z,30nm,0.9s,baz=320,slow=3.3,SNR=14
YOTC Yotoco, Valle 157.49 69 *e*P **PKPdf** **01 37 49.7 0.0**
LVC Limon Verde 157.59 145 PKP **PKPdf** **01 37 51.1 +1.3**
comp=Z,9.1nm,0.8s,baz=200,slow=3.2,SNR=7.9
LVC PKPab **PKPab** **01 38 25.8 +2.3**
comp=Z,18nm,1.0s,baz=169,slow=3.8,SNR=7.9
LVC pPKPab **pPKPab** **01 39 39.9 +0.7**
comp=Z,3.6nm,0.6s,baz=155,slow=8.1,SNR=1.7
LVC Limon Verde 157.59 145 **PKPdf** **01 37 51.0 +1.2**
LVC **PKPab** **01 38 25.3 +1.8**
POPC Popayan, Colom 157.66 73 *e*P **PKPdf** **01 37 49.8 -0.2**
ANOC Antigua Open C 157.77 16 *e*P **PKPdf** **01 37 49.8 +0.2**
ANOC *e*S **PKPab** **01 38 28.2 +4.5**
SOTA Rioblanco 157.84 74 *e*P **PKPdf** **01 37 51.1 +0.5**
ANBD Bethesda, Anti 157.85 16 *e*P **PKPdf** **01 37 49.5 -0.2**
ANBD *e*S **PKPab** **01 38 24.4 +0.2**
GUY2C Guyana, Caldas 157.90 65 *e*P **PKPdf** **01 37 50.8 +0.2**
PCON Cinco Dias 157.99 73 *e*P **PKPdf** **01 37 51.8 +0.9**
CPUP Villa Florida 158.03 175 PKP **PKPdf** **01 37 50.1 +0.3**
comp=Z,8.4nm,1.0s,baz=28,slow=7.0,SNR=7.2
CPUP PKPab **PKPab** **01 38 25.4 +0.7**
comp=Z,14nm,0.8s,baz=172,slow=3.9,SNR=12
CPUP pPKPab **pPKPab** **01 39 39.5 -0.6**
comp=Z,10nm,1.0s,baz=141,slow=4.0,SNR=3.2
CPUP Villa Florida 158.03 175 **PKPdf** **01 37 49.8 0.0**
CPUP PKPab **PKPab** **01 38 25.0 +0.3**

PTBC	**PUERTO BERRIO,**	**158.11**	**61⇓**	eP	**PKPdf**	**01 37 49.6**	**-0.6**
OCAC	**Ocana**	**158.19**	**55⇓**	eP	**PKPdf**	**01 37 50.0**	**-0.5**
NORC	**Norcasia**	**158.20**	**63⇓**	eP	**PKPdf**	**01 37 50.2**	**-0.2**
TOLC	**Tolima**	**158.21**	**66⇓**	eP	**PKPdf**	**01 37 50.6**	**-0.2**
MARP	**Paez Belalcaza**	**158.24**	**71⇓**	eP	**PKPdf**	**01 37 51.0**	**+0.2**
BRRC	**Barranca, Sant**	**158.47**	**58⇓**	eP	**PKPdf**	**01 37 51.2**	**+0.5**
ABD	**La Joyeuse, An**	**158.48**	**16**	eP	**PKPdf**	**01 37 51.0**	**+0.4**
ABD				eS	**PKPab**	**01 38 30.5**	**+3.6**
ORTC	**Ortega, Tolima**	**158.53**	**68⇓**	eP	**PKPdf**	**01 37 49.7**	**-1.1**
DABV	**Dabajuro**	**158.56**	**45**	eP	**PKPdf**	**01 37 50.1**	**-0.6**
BETC	**Betania**	**158.78**	**71**	eP	**PKPdf**	**01 37 52.1**	**+1.0**
CBE	**Ff, Capester**	**158.83**	**17**	eP	**PKPdf**	**01 37 51.3**	**+0.3**
CBE				eS	**PKPab**	**01 38 28.0**	**-0.4**
SPBC	**San Pablo de B**	**158.87**	**62⇓**	eP	**PKPdf**	**01 37 51.1**	**-0.2**
GARC	**Garzon, Huila**	**158.89**	**73**	eP	**PKPdf**	**01 37 52.2**	**+0.7**
FLOC	**Florencia**	**158.91**	**74⇓**	eP	**PKPdf**	**01 37 51.8**	**+0.6**
PRAC	**Prado**	**158.94**	**68⇓**	eP	**PKPdf**	**01 37 51.0**	**-0.3**
ROSC	**El Rosal**	**159.01**	**65**	PKP	**PKPdf**	**01 37 52.6**	**+0.8**
	comp=Z,42nm,0.7s,baz=240,slow=0.9,SNR=24						
ROSC				PKPab	**PKPab**	**01 38 32.7**	**+2.6**
	comp=Z,21nm,0.7s,baz=145,slow=3.8,SNR=6.7						
ROSC	**El Rosal**	**159.01**	**65⇓**	eP	**PKPdf**	**01 37 52.5**	**+0.7**
MAGL	**Barre de l'ile**	**159.03**	**16**	eP	**PKPdf**	**01 37 51.4**	**+0.2**
MAGL				eS	**PKPab**	**01 38 33.1**	**+3.8**
BARC	**Barichara**	**159.18**	**59**	eP	**PKPdf**	**01 37 51.2**	**-0.6**
PAMC	**Pamplona, Colo**	**159.20**	**56**	eP	**PKPdf**	**01 37 51.6**	**-0.5**
DSLB	**Salisbury**	**159.48**	**17**	eP	**PKPdf**	**01 37 52.3**	**+0.5**
DSLB				eS	**PKPab**	**01 38 35.2**	**+3.9**
RUSC	**La Rusia**	**159.62**	**60⇓**	eP	**PKPdf**	**01 37 52.5**	**-0.1**
CHIC	**Chingaza**	**159.63**	**64⇓**	eP	**PKPdf**	**01 37 52.6**	**0.0**
VILC	**Villavicencio,**	**159.88**	**66**	eP	**PKPdf**	**01 37 52.4**	**-0.1**
SDV	**Santo Domingo**	**159.92**	**49**	PKP	**PKPdf**	**01 37 52.5**	**-0.1**
	baz=305,slow=2.1						
SDV				PKPab	**PKPab**	**01 38 34.1**	**+0.4**
	comp=Z,44nm,0.8s,baz=342,slow=2.5,SNR=4.7						
SDV	**Santo Domingo**	**159.92**	**49**		**PKPdf**	**01 37 51.8**	**-0.8**
SDV					**PKPab**	**01 38 33.6**	**-0.1**
SDV	**Santo Domingo**	**159.92**	**49⇓**	eP	**PKPdf**	**01 37 52.6**	**0.0**
PTLC	**Puerto Leguiza**	**160.09**	**78⇓**	eP	**PKPdf**	**01 37 51.7**	**-0.9**
FDF	**Fort de France**	**160.23**	**17**	PKIKP	**PKPdf**	**01 37 53.0**	**+0.3**
FDF						01 38 34.3	
FDF	**Fort de France**	**160.23**	**17**	eP	**PKPdf**	**01 37 53.0**	**+0.3**
FDF				eS	**PKPab**	**01 38 35.5**	**+0.9**
FDF	**Fort de France**	**160.23**	**17**	PKPdf	**PKPdf**	**01 37 53.0**	**+0.3**
FDF					**PKPab**	**01 38 34.3**	**-0.3**
TAMC	**Tame, Arauca**	**160.44**	**57⇓**	eP	**PKPdf**	**01 37 52.8**	**-0.2**
BIM	**Bigot**	**160.46**	**17**	eP	**PKPdf**	**01 37 53.3**	**+0.4**
BIM				eS	**PKPab**	**01 38 37.3**	**+1.7**
MACC	**Macarena, Meta**	**160.46**	**71⇓**	eP	**PKPdf**	**01 37 52.8**	**-0.1**
RCBR	**Riachuelo**	**160.54**	**265**	PKIKP	**PKPdf**	**01 37 53.5**	**+0.4**
RCBR						01 38 34.9	
RCBR	**Riachuelo**	**160.54**	**265**	PKPdf	**PKPdf**	**01 37 53.5**	**+0.4**
RCBR				PKPab	**PKPab**	**01 38 34.9**	**-1.5**
PTGC	**Puerto Gaitan,**	**161.25**	**63⇓**	eP	**PKPdf**	**01 37 52.8**	**-1.0**
GUVC	**San Jose del G**	**161.47**	**69**	eP	**PKPdf**	**01 37 53.5**	**-0.6**
ELOV	**Elorza**	**161.98**	**51⇓**	eP	**PKPdf**	**01 37 55.0**	**+0.5**
LPAZ	**La Paz**	**162.73**	**134**	PKP	**PKPdf**	**01 37 56.9**	**+1.0**
	comp=Z,17nm,1.0s,baz=331,slow=1.0,SNR=39						
LPAZ				PKPab	**PKPab**	**01 38 47.8**	**+1.3**
	comp=Z,4.7nm,0.7s,baz=177,slow=5.4,SNR=5.1						
LPAZ	**La Paz**	**162.73**	**134⇓**	eP	**PKPdf**	**01 37 56.7**	**+0.7**
TBTG	**Tabatinga, AM**	**165.51**	**90⇓**	eP	**PKPdf**	**01 37 57.6**	**-0.2**
BDFB	**Brasilia**	**166.62**	**212**	PKP	**PKPdf**	**01 37 58.5**	**-0.2**
	comp=Z,12nm,0.9s,baz=148,slow=2.4,SNR=13						
BDFB				PKPab	**PKPab**	**01 39 03.2**	**+0.4**
	comp=Z,16nm,0.8s,baz=142,slow=2.6,SNR=10						
SIV	**San Ignacio**	**167.12**	**155**	PKP	**PKPdf**	**01 37 59.1**	**+0.2**
	comp=Z,15nm,1.0s,baz=194,slow=0.9,SNR=44						
SIV				PKPab	**PKPab**	**01 39 05.3**	**+0.4**
	comp=Z,9.5nm,0.8s,baz=216,slow=2.3,SNR=8.7						
SIV				pPKPab	**pPKPab**	**01 40 17.4**	**-2.7**
	comp=Z,7.6nm,1.1s,baz=195,slow=5.4,SNR=2.5						
SIV				SKP		01 41 00.3	
	comp=Z,3.1nm,0.8s,baz=37,slow=4.7,SNR=3.8						
MDP	**Montagnes des**	**170.25**	**344**	PKP	**PKPdf**	**01 38 00.8**	**-0.3**
MDP				PKPab	**PKPab**	**01 39 18.3**	**-0.4**
	comp=Z,44nm,0.9s,baz=30,slow=5.2,SNR=18						
MDP				PP	**PP**	**01 43 07.9**	**+0.1**
	comp=Z,29nm,1.1s,baz=27,slow=5.5,SNR=9.9						
PTGA	**Pitinga**	**174.20**	**52**	PKP	**PKPdf**	**01 38 02.2**	**-0.5**
	comp=Z,10.0nm,0.8s,baz=297,slow=1.6,SNR=22						
PTGA				PKPab	**PKPab**	**01 39 35.7**	**-0.9**
	comp=Z,8.9nm,0.8s,baz=342,slow=7.4,SNR=8.4						
PTGA				PP	**PP**	**01 43 26.6**	**-2.1**
	comp=Z,2.0nm,0.6s,baz=355,slow=3.8,SNR=6.5						
PTGA	**Pitinga**	**174.20**	**52**		**PKPdf**	**01 38 01.9**	**-0.9**
PTGA					**PKPab**	**01 39 36.2**	**-0.3**

*IDC **02** 01:26:32.0±5.3, 18°.71S×169°.26E, h216km±63km, mb4.0/3, mb1 4.2/4, mb1mx3.6/38, mbtmp4.5/4 Error ellipse: s-maj=134.0km s-min=30.1km az=160.0*
*NEIC **02** 01:26:31.7±1.5, 18°.8S±0°.2×169°.4E±0°.1, h207km±10km, mb4.6/11, Error ellipse: s-maj=24.9km s-min=13.0km az=161.0*
ISC 02 01:26:30.1±1.0**, 18°.7S**±0°.2×**169°.5E**±0°.2**, h200**km**, n29, σ1s.04**/28**, mb4.5**/9**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**2.93**	**225**		**Pn**	**01 27 20.0**	**+1.1**
MARNC	**Mare, Loyalty**	**3.06**	**206**	Pn	**Pn**	**01 27 20.8**	**+0.3**
PINNC	**Pines Island,**	**4.31**	**206**	Pn	**Pn**	**01 27 35.9**	**+0.1**
DZM	**Mont Dzumac**	**4.38**	**220**	P	**Pn**	**01 27 37.5**	**+0.8**
	6.2nm,0.3s,baz=45,slow=18,SNR=14						
DZM	**Mont Dzumac**	**4.38**	**220**	Pn	**Pn**	**01 27 37.8**	**+1.0**
OUENC	**Ouen Island, N**	**4.43**	**213**	Pn	**Pn**	**01 27 37.5**	**+0.2**
ONTNC	**Ouen Toro**	**4.55**	**218**	Pn	**Pn**	**01 27 39.5**	**+0.7**
MSVF	**Nonsavu**	**8.22**	**85**	Pn	Pn	01 28 34.0	+7.6
EIDS	**Eidsvold**	**18.27**	**245**		**P**	**01 30 30.4**	**+1.4**
EIDS				IAmb	IAmb	01 30 49.8	
	comp=Z,43nm,1.1s						
CTAO	**Charters Tower**	**21.93**	**263**	P	**P**	**01 31 08.2**	**+0.3**
CTAO				IAmb	IAmb	01 31 09.8	
	comp=Z,15nm,1.1s						
WR0	**Warramunga Arr**	**32.94**	**262**	P	**P**	**01 32 45.1**	**-1.0**
WR0				IAmb	IAmb	01 32 49.6	
	comp=Z,22nm,1.1s						
WB0	**Warramunga Arr**	**33.09**	**262**	P	**P**	**01 32 46.2**	**-1.2**
WB0				IAmb	IAmb	01 32 47.7	
	comp=Z,9.8nm,0.9s						
WB2	**Warramunga Arr**	**33.12**	**262**	P	**P**	**01 32 46.5**	**-1.1**
WB2				IAmb	IAmb	01 33 10.3	
	comp=Z,13nm,1.1s						
WRAB	**Tennant Creek**	**33.12**	**262**	P	**P**	**01 32 46.2**	**-1.4**
WRAB				IAmb	IAmb	01 33 11.2	
	comp=Z,24nm,1.1s						
WRA	**Warramunga Arr**	**33.13**	**262**	P	**P**	**01 32 46.4**	**-1.4**
	comp=Z,1.2nm,0.3s,baz=88,slow=7.3,SNR=17						
WRA	**Warramunga Arr**	**33.13**	**262**	P	**P**	**01 32 46.1**	**-1.7**
AS31	**Alice Springs**	**33.46**	**255**	P	**P**	**01 32 49.5**	**-1.1**
ASAR	**Alice Springs**	**33.46**	**255**	P	**P**	**01 32 49.4**	**-1.2**
	comp=Z,20nm,0.4s,baz=81,slow=8.8,SNR=51						
ASAR	**Alice Springs**	**33.46**	**255**	P	**P**	**01 32 49.2**	**-1.3**
KNRA	**Kununurra**	**38.94**	**268**		**P**	**01 33 36.5**	**-0.5**
KNRA				IAmb	IAmb	01 33 38.5	
	comp=Z,20nm,1.0s						
PSA00	**Pilbara Seismi**	**46.51**	**258**	P	**P**	**01 34 37.1**	**-0.8**
ILAR	**Eielson Array**	**89.67**	**17**	P	**P**	**01 39 05.4**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=242,slow=5.0,SNR=4.5						
ILAR	**Eielson Array**	**89.67**	**17**	P	**P**	**01 39 05.8**	**+0.9**
SNOW	**Snow King Moun**	**95.52**	**46**	P	**P**	**01 39 32.5**	**-0.3**
ARCES	**ARCESS Array B**	**124.62**	**345**	PKP	**PKPdf**	**01 45 04.5**	**-0.5**
	comp=Z,3.6nm,1.0s,baz=64,slow=3.2,SNR=6.9						
DIVS	**Divibare**	**144.03**	**321**		**PKPab**	**01 45 41.4**	**+1.4**
GERES	**GERESS Array B**	**144.13**	**332**	PKP	**PKPab**	**01 45 41.0**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=34,slow=4.0,SNR=6.7						
GERES	**GERESS Array B**	**144.13**	**332**	PKPdf	**PKPab**	**01 45 41.1**	**+0.9**
SFS	**San Fernando**	**161.91**	**349**		**PKPdf**	**01 46 06.7**	**-1.0**

MEX 02 01:29:35.3±0.3**, 17°.72N×102°.09W, h31**km±250km**, MD3.7, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.61**	**100**	eP	Pb	01 29 45.6	-2.0
ZIIG				eS	Sb	01 29 53.2	-2.8
ARIG	**Puente Sto Nin**	**1.75**	**71**	eP	Pn	01 30 01.5	-2.1
ARIG				eS	Sn	01 30 22.3	-2.6
PLIG	**Platanillo**	**2.56**	**74**	eP	Pn	01 30 12.9	-1.8
PLIG				eS	Sn	01 30 43.1	-1.7

*TUL **02** 01:34:14±1.4, 36°.02N±0°.01×97°.32W±0°.02, h5km±7km, ML2.8, mb_Lg2.9/88(NEIC), Error ellipse: s-maj=2.3km s-min=1.8km az=82.0*
NEIC 02 01:34:14.2±1.0**, 36°.03N**±0°.01×**97°.33W**±0°.01**, h5**km±7km**, Error ellipse: s-maj=2.1km s-min=1.3km az=136.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.26**	**204**	Pg	Pg	01 34 19.2	0.0
OK029				Sg	Sg	01 34 22.9	+0.3
OK031	**S. Brethren Rd**	**0.40**	**101**	Pg	Pg	01 34 21.9	0.0
OK031				Sg	Sg	01 34 27.5	+0.3
OK025	**Westminster Rd**	**0.45**	**181**	Pg	Pg	01 34 22.8	0.0
OK025				Sg	Sg	01 34 29.2	+0.4
OK001	**Jones High Sch**	**0.47**	**176**	Pg	Pg	01 34 23.2	-0.1
QUOK	**Quay**	**0.52**	**74**	Pg	Pg	01 34 24.2	0.0
QUOK				Sg	Sg	01 34 31.3	+0.4
OKCFA	**Oklahoma City**	**0.63**	**189**	Pg	Pg	01 34 25.9	-0.3
OKCFA				Sg	Sg	01 34 34.4	+0.1
OKCSW	**OKLAHOMA CITY**	**0.63**	**188**	Pg	Pg	01 34 26.1	-0.2
CROK	**Carrier**	**0.71**	**312**	Pg	Pg	01 34 27.8	0.0
CROK				Sg	Sg	01 34 37.9	+0.9
BLOK	**Blackwell**	**0.73**	**7**		Pg	01 34 28.2	0.0
FNO	**Franklin**	**0.78**	**185**	Pg	Pg	01 34 28.6	-0.5
GC02	**Grant County #**	**0.92**	**332**	Pg	Pg	01 34 31.8	-0.1
KAN13	**South Haven SW**	**0.98**	**353**		Pg	01 34 33.0	-0.1
OK032	**Salt Plains WL**	**1.05**	**317**		Pg	01 34 34.1	-0.2
KAN14	**Manchester OK**	**1.05**	**331**	Pg	Pg	01 34 33.9	-0.5
KAN17	**Caldwell West**	**1.07**	**341**		Pg	01 34 34.5	-0.2
T35A	**Sooner Cattle**	**1.10**	**36**		Pg	01 34 34.8	-0.5
KAN05	**Bluff City Nor**	**1.16**	**338**		Pg	01 34 36.1	-0.3
KS20	**Mayfield South**	**1.21**	**351**	Pg	Pg	01 34 37.0	-0.4
KAN10	**Anthony SW Sta**	**1.25**	**331**		Pg	01 34 37.8	-0.4
KAN08	**Anthony NE Sta**	**1.30**	**337**		Pn	01 34 38.5	-0.5
KAN12	**Harper NE Stat**	**1.37**	**337**		Pn	01 34 39.6	-0.4
U32A	**Winter Ranch,**	**1.40**	**285**		Pn	01 34 39.7	-0.6
X34A	**Smith Ranch, M**	**1.49**	**196**		Pn	01 34 41.3	-0.3
WMOK	**Wichita Mounta**	**1.76**	**223**		Pn	01 34 45.5	+0.3
LOOK	**Love County**	**2.04**	**177**		Pn	01 34 49.0	-0.2
X37A	**Clayton**	**2.15**	**131**		Pn	01 34 50.2	-0.5
X37A				IAmb_Lg		01 35 27.1	
	comp=Z,35nm,0.7s						
U38A	**Gravette**	**2.41**	**79**		Pn	01 34 53.7	-0.6
R32A	**Long Quarter,**	**2.63**	**336**		Pn	01 34 58.2	+0.9
HHAR	**Hobbs**	**2.75**	**84**		Pn	01 34 59.2	+0.2
W39A	**Magazine**	**3.00**	**105**		Pn	01 35 02.6	+0.2
MIAR	**Mount Ida**	**3.41**	**115**	Pn	Pn	01 35 08.4	+0.4
S39A	**Bolivar**	**3.61**	**62**		Pn	01 35 11.3	+0.5
U40A	**Yellville**	**3.63**	**84**	Pn	Pn	01 35 10.5	-0.5
U40A				IAmb_Lg		01 36 16.6	
	comp=Z,20nm,0.8s						
X40A	**Basin Creek Fa**	**3.99**	**111**		Pn	01 35 17.2	+1.3
WHTX	**Lake Whitney,**	**4.03**	**182**	Pn	Pn	01 35 16.6	0.0
WHAR	**Wooly Hollow**	**4.17**	**99**	Pn	Pn	01 35 18.4	0.0
MGMO	**Mountain Grove**	**4.22**	**73**	Pn	Pn	01 35 19.8	+0.6
MGMO				IAmb_Lg		01 36 28.7	
	comp=Z,22nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.22**	**90**	Pn	Pn	01 35 17.8	-1.4
R40A	**Maddies Statio**	**4.62**	**59**	Pn	Pn	01 35 25.8	+1.1
P38A	**Dawn**	**4.68**	**39**	Pn	Pn	01 35 24.4	-1.0
P38A				IAmb_Lg		01 36 43.2	
	comp=Z,15nm,0.7s						
N33A	**J Bar K, Exete**	**4.70**	**359**	IAmb_Lg		01 36 45.6	
	comp=Z,26nm,0.7s						
MSTX	**Muleshoe**	**4.92**	**247**	IAmb_Lg		01 36 48.7	
	comp=Z,28nm,0.9s						
N35A	**Tabor**	**5.00**	**15**	Pn	Pn	01 35 29.8	0.0
N35A				IAmb_Lg		01 37 04.8	
	comp=Z,19nm,0.7s						
LCAR	**Lake Charles**	**5.00**	**88**	IAmb_Lg		01 37 04.6	
	comp=Z,18nm,1.3s						
CCAR	**Cane Creek**	**5.03**	**113**	IAmb_Lg		01 37 04.6	
	comp=Z,18nm,1.0s						
T42A	**Van Buren**	**5.12**	**77**	IAmb_Lg		01 36 59.7	
	comp=Z,19nm,0.9s						
KSCO	**Kaye Shedlock'**	**5.16**	**307**	IAmb_Lg		01 37 09.5	
	comp=Z,12nm,0.7s						
CCM	**Cathedral Cave**	**5.27**	**66**	IAmb_Lg		01 37 08.2	
	comp=Z,16nm,0.9s						
BGNE	**Belgrade**	**5.41**	**353**	IAmb_Lg		01 37 01.6	
	comp=Z,26nm,1.0s						
P40A	**Paris**	**5.45**	**49**	IAmb_Lg		01 37 08.9	
	comp=Z,11nm,0.8s						
PBMO	**Poplar Bluff**	**5.61**	**80**	IAmb_Lg		01 37 09.9	
	comp=Z,12nm,0.7s						
T25A	**Trinidad**	**5.81**	**283**	Pn	Pn	01 35 41.0	-0.2
JCT	**Junction City**	**5.92**	**201**	Pn	Pn	01 35 43.3	+0.8
JCT				IAmb_Lg		01 37 20.0	
	comp=Z,18nm,0.8s						
L34A	**Svendsen Farm,**	**5.97**	**7**	IAmb_Lg		01 37 38.2	
	comp=Z,19nm,0.8s						
OGNE	**Ogallala**	**6.14**	**324**	IAmb_Lg		01 37 46.6	
	comp=Z,14nm,0.8s						
PARMO	**Parma**	**6.14**	**82**	IAmb_Lg		01 37 38.4	
	comp=Z,22nm,0.8s						
OXF	**Oxford**	**6.65**	**101**	IAmb_Lg		01 37 49.7	
	comp=Z,10nm,0.9s						
SCIA	**State Center**	**6.68**	**27**	Pn	Pn	01 35 53.1	+0.1
SIUC	**Southern Illin**	**6.71**	**73**	IAmb_Lg		01 37 46.5	
	comp=Z,16nm,0.7s						
SDCO	**Great Sand Dun**	**6.77**	**287**	Pn	Pn	01 35 55.9	+1.5
T45A	**Paducah**	**7.06**	**79**	Pn	Pn	01 35 57.5	-0.6
P43A	**Skaggs, Pawnee**	**7.15**	**57**	IAmb_Lg		01 38 03.3	
	comp=Z,20nm,0.8s						
L40A	**Anamosa**	**7.67**	**36**	IAmb_Lg		01 38 25.8	
	comp=Z,9.3nm,0.8s						
WVT	**Waverly**	**7.69**	**87**	IAmb_Lg		01 38 35.5	
	comp=Z,8.4nm,1.1s						
ECSD	**EROS Data Cent**	**7.71**	**4**	Pn	Pn	01 36 06.1	-0.9
ECSD				IAmb_Lg		01 38 13.6	
	comp=Z,9.6nm,1.1s						
HDIL	**Hopedale**	**7.76**	**52**	IAmb_Lg		01 38 22.2	
	comp=Z,17nm,0.7s						
MNTX	**Cornudas Mount**	**7.97**	**239**	IAmb_Lg		01 38 44.9	
	comp=Z,7.0nm,1.2s						
O44A	**Mansfield**	**8.10**	**57**	IAmb_Lg		01 38 43.1	
	comp=Z,13nm,0.7s						
JFWS	**Jewell Farm**	**8.78**	**36**	IAmb_Lg		01 38 53.4	
	comp=Z,9.8nm,0.7s						
CLTN	**Cedars of Leba**	**8.90**	**86**	IAmb_Lg		01 39 00.4	
	comp=Z,9.4nm,1.1s						
M44A	**Midewin, Midew**	**9.01**	**51**	IAmb_Lg		01 39 01.6	
	comp=Z,15nm,1.0s						
LRAL	**Lakeview Retre**	**9.03**	**106**	IAmb_Lg		01 39 12.1	
	comp=Z,8.4nm,1.2s						
WCI	**Wyandotte Cave**	**9.08**	**73**	IAmb_Lg		01 39 17.9	
	comp=Z,9.8nm,0.8s						
BLO	**Bloomington**	**9.13**	**67**	IAmb_Lg		01 39 13.3	
	comp=Z,13nm,0.8s						
Y49A	**Blount Mountai**	**9.22**	**100**	IAmb_Lg		01 39 22.9	
	comp=Z,12nm,1.3s						
SWET	**Sewanee**	**9.31**	**92**	IAmb_Lg		01 39 11.2	
	comp=Z,8.9nm,1.2s						
PV12	**Saucer Basin,**	**9.44**	**287**	IAmb_Lg		01 39 07.9	
	comp=Z,6.4nm,0.9s						
PV03	**Paradox Valley**	**9.46**	**287**	IAmb_Lg		01 39 39.7	
	comp=Z,9.2nm,1.1s						
PV16	**Nyswonger Mesa**	**9.53**	**287**	IAmb_Lg		01 39 42.1	
	comp=Z,11nm,1.1s						
O20A	**White River Ci**	**9.53**	**299**	IAmb_Lg		01 39 10.3	
	comp=Z,8.4nm,1.2s						
PV04	**Paradox Valley**	**9.53**	**288**	IAmb_Lg		01 39 39.1	
	comp=Z,5.7nm,1.1s						
PV17	**East Wray Mesa**	**9.55**	**287**	IAmb_Lg		01 39 41.3	
	comp=Z,27nm,1.2s						
PV20	**West Nyswonger**	**9.57**	**287**	IAmb_Lg		01 39 41.2	
	comp=Z,33nm,1.2s						
FPAL	**Fort Paine**	**9.69**	**95**	IAmb_Lg		01 39 44.5	
	comp=Z,9.2nm,0.9s						
SPMN	**Marine on St.**	**9.80**	**19**	IAmb_Lg		01 39 51.0	
	comp=Z,7.7nm,0.9s						

*ANF **02** 01:46:32.8±0.3, 36°.51N×89°.57W, h0km±3km, ML3.5/19, Error ellipse: s-maj=2.0km s-min=1.9km az=33.0*
*IASPEI **02** 01:46:33.6±0.8, 36°.50N±0°.02×89°.56W±0°.02, h14km±4km, Error ellipse: s-maj=2.8km s-min=2.5km az=102.4, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009*
*SLM **02** 01:46:33.7±0.9, 36°.496N±0°.004×89°.56W±0°.01, h9km±2km, Error ellipse: s-maj=1.5km s-min=0.4km az=79.0*
*NEIC **02** 01:46:34.2±0.8, 36°.497N±0°.008×89°.553W±0°.009, h9km±2km, mb_Lg3.0/124, Md3.0/51(SLM), Error ellipse: s-maj=1.2km s-min=1.0km az=166.0*
ISC 02 01:46:33.6±0.8**, 36°.49N**±0°.02×**89°.56W**±0°.02**, h13**km±4km**, n148, σ0s.66**/138**, New Madrid region, Missouri**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PENMO	**Penman**	**0.07**	**230**		**Pg**	**01 46 36.0**	**-0.3**
PENMO				Sg	**Sg**	**01 46 38.0**	**-0.1**
PPLM	**Point Pleasant**	**0.09**	**190**		**Pg**	**01 46 36.3**	**-0.2**
PPLM					**Sg**	**01 46 38.6**	**+0.1**
MARMO	**Marston**	**0.09**	**294**		**Pg**	**01 46 36.5**	**-0.1**
MARMO					**Sg**	**01 46 38.8**	**+0.1**
NMMO	**New Madrid**	**0.10**	**6**		**Pg**	**01 46 36.5**	**-0.1**
NMMO					**Sg**	**01 46 38.9**	**+0.2**
POBM	**Portage Bay**	**0.12**	**223**		**Pg**	**01 46 36.7**	**-0.1**
POBM					**Sg**	**01 46 39.3**	**+0.2**
CATM	**Catron**	**0.14**	**331**		**Pg**	**01 46 37.1**	**0.0**
CATM					**Sg**	**01 46 39.9**	**+0.3**
PGVM	**Portageville**	**0.14**	**256**		**Pg**	**01 46 37.1**	**0.0**
SJMO	**Saint John's B**	**0.15**	**28**		**Pg**	**01 46 37.3**	**0.0**
SJMO					**Sg**	**01 46 40.2**	**+0.3**
WYBT	**Wynnburg**	**0.15**	**160**		**Pg**	**01 46 37.3**	**-0.1**
WYBT					**Sg**	**01 46 40.3**	**+0.4**
KEWM	**Kewanee**	**0.21**	**354**		**Pg**	**01 46 38.2**	**0.0**
KEWM					**Sg**	**01 46 41.7**	**+0.3**
FLPT	**Flippin**	**0.21**	**113**		**Pg**	**01 46 38.3**	**0.0**
FLPT					**Sg**	**01 46 41.9**	**+0.4**
WADM	**Wardell**	**0.23**	**236**		**Pg**	**01 46 38.6**	**+0.1**
WADM					**Sg**	**01 46 42.5**	**+0.7**
PARMO	**Parma**	**0.23**	**318**		**Pg**	**01 46 38.6**	**+0.1**
PARMO				Sg	**Sg**	**01 46 42.2**	**+0.3**
HENM	**Henderson Moun**	**0.23**	**18**		**Pg**	**01 46 38.7**	**0.0**
HENM				Sg	**Sg**	**01 46 42.3**	**+0.2**
COKM	**Charter Oak**	**0.25**	**329**		**Pg**	**01 46 39.1**	**+0.1**
COKM					**Sg**	**01 46 43.2**	**+0.5**
TOPM	**Tallapoosa**	**0.26**	**277**		**Pg**	**01 46 39.2**	**+0.1**
TOPM					**Sg**	**01 46 43.5**	**+0.6**
HICK	**Hickman**	**0.28**	**80**		**Pg**	**01 46 39.2**	**-0.2**
HICK				Sg	**Sg**	**01 46 43.1**	**-0.2**
EPRM	**East Prairie**	**0.28**	**36**		**Pg**	**01 46 39.4**	**-0.1**
EPRM					**Sg**	**01 46 43.7**	**+0.3**
MATM	**Matthews**	**0.28**	**353**		**Pg**	**01 46 39.5**	**0.0**
MATM					**Sg**	**01 46 43.9**	**+0.4**
DWDM	**Dogwood**	**0.31**	**11**		**Pg**	**01 46 40.0**	**+0.1**
DWDM					**Sg**	**01 46 44.7**	**+0.4**
GLAT	**Glass**	**0.32**	**135**		**Pg**	**01 46 40.2**	**+0.1**
GLAT				Sg	**Sg**	**01 46 44.3**	**-0.2**
GLST	**Glass**	**0.32**	**135**		**Pg**	**01 46 40.2**	**+0.1**
GLST					**Sg**	**01 46 45.1**	**+0.6**
LNXT	**Lenox**	**0.40**	**171**		**Pg**	**01 46 41.7**	**+0.2**
LNXT				Sg	**Sg**	**01 46 47.2**	**+0.4**
LNXT	**Lenox**	**0.40**	**171**	P	**Pg**	**01 46 41.7**	**+0.2**
	baz=352,SNR=105						
LNXT				S	**Sg**	**01 46 47.3**	**+0.5**
	baz=352						
PEBM	**Pemiscott Bayo**	**0.45**	**213**	Pg	**Pg**	**01 46 42.5**	**0.0**
UTMT	**University of**	**0.58**	**105**		**Pg**	**01 46 45.1**	**0.0**
UTMT				Sg	**Sb**	**01 46 53.2**	**-0.7**
HALT	**Halls**	**0.61**	**163**	Pg	**Pg**	**01 46 45.4**	**-0.1**
GNAR	**Gosnell**	**0.64**	**215**	Pg	**Pg**	**01 46 46.1**	**0.0**
PBMO	**Poplar Bluff**	**0.75**	**293**		**Pg**	**01 46 47.8**	**-0.4**
PBMO				Sg	**Sg**	**01 46 57.8**	**-0.4**
PBMO	**Poplar Bluff**	**0.75**	**293**	P	**Pg**	**01 46 47.8**	**-0.4**
	baz=112,SNR=28						
PBMO				S	**Sg**	**01 46 57.7**	**-0.4**
	baz=112						
T45B	**Paducah**	**0.90**	**54**	P	**Pb**	**01 46 50.2**	**-0.9**
	baz=235,SNR=29						
T45B				S	**Sb**	**01 47 02.3**	**-0.8**
	baz=235						
T45A	**Paducah**	**0.91**	**54**	Pg	**Pb**	**01 46 50.4**	**-0.8**
T45A				Sg	**Sb**	**01 47 02.2**	**-0.9**
LPAR	**Lepanto**	**1.07**	**214**	Pg	**Pn**	**01 46 54.0**	**-0.3**
LPAR				Sg	**Sn**	**01 47 08.7**	**-0.3**
S44A	**Carbondale**	**1.22**	**12**		**Pb**	**01 46 56.2**	**-0.4**
S44A				Sg	**Sn**	**01 47 12.3**	**-0.4**
S44A	**Carbondale**	**1.22**	**12**	P	**Pb**	**01 46 56.1**	**-0.4**
	baz=192,SNR=63						
SIUC	**Southern Illin**	**1.25**	**13**		**Pn**	**01 46 56.5**	**-0.2**
HBAR	**Harrisburg**	**1.29**	**224**		**Pn**	**01 46 57.3**	**+0.1**
HBAR				IAmb_Lg		01 47 15.7	
	comp=Z,94nm,0.7s						
HBAR	**Harrisburg**	**1.29**	**224**	P	**Pn**	**01 46 57.2**	**-0.1**
	baz=43,SNR=36						
HBAR				S	**Sg**	**01 47 15.5**	**+0.3**
	baz=43						
T42A	**Van Buren**	**1.34**	**294**		**Pn**	**01 46 57.6**	**-0.3**
T42A	**Van Buren**	**1.34**	**294**	P	**Pn**	**01 46 57.7**	**-0.3**
	baz=113,SNR=322						
T42A				S	**Sb**	**01 47 15.7**	**+0.1**
	baz=113						
LCAR	**Lake Charles**	**1.35**	**252**		**Pn**	**01 46 57.9**	**-0.2**
LCAR	**Lake Charles**	**1.35**	**252**	P	**Pn**	**01 46 58.0**	**-0.1**
	baz=71,SNR=148						
EBZ	**Ebenezer Churc**	**1.36**	**173**		**Pb**	**01 46 58.6**	**-0.3**
W45A	**Hickory Valley**	**1.37**	**167**		**Pn**	**01 46 58.3**	**0.0**
W45A	**Hickory Valley**	**1.37**	**167**	P	**Pn**	**01 46 58.1**	**-0.2**
	baz=347,SNR=76						
WVT	**Waverly**	**1.45**	**104**	Pg	**Pn**	**01 46 59.1**	**-0.3**
WVT	**Waverly**	**1.45**	**104**	P	**Pn**	**01 46 59.3**	**-0.2**
	baz=285,SNR=133						
PLAL	**Pickwick Lake**	**1.93**	**141**	Pn	**Pn**	**01 47 06.0**	**-0.1**
PWLA	**Pickwick Lake**	**1.94**	**141**		**Pn**	**01 47 06.0**	**-0.2**
OXF	**Oxford**	**1.98**	**176**	Pn	**Pn**	**01 47 07.4**	**+0.6**
OXF	**Oxford**	**1.98**	**176**	P	**Pn**	**01 47 07.3**	**+0.6**
	baz=356,SNR=41						
OXF				S	**Sb**	**01 47 35.2**	**+1.2**
	baz=356						
T47A	**Sharon Grove**	**2.04**	**75**		**Pn**	**01 47 08.2**	**+0.7**
T47A	**Sharon Grove**	**2.04**	**75**	P	**Pn**	**01 47 08.5**	**+0.9**
	baz=257,SNR=76						
CCM	**Cathedral Cave**	**2.06**	**320**		**Pn**	**01 47 09.1**	**+1.3**
CCM	**Cathedral Cave**	**2.06**	**320**	P	**Pn**	**01 47 09.2**	**+1.3**
	baz=139,SNR=201						
FCAR	**Ozark Folk Cen**	**2.16**	**255**		**Pn**	**01 47 10.2**	**+1.0**
MGMO	**Mountain Grove**	**2.27**	**288**		**Pb**	**01 47 12.6**	**-1.8**
MGMO				IAmb_Lg		01 47 50.1	
	comp=Z,44nm,0.8s						
V48A	**Smith Brothers**	**2.34**	**108**		**Pn**	**01 47 12.4**	**+0.6**
V48A	**Smith Brothers**	**2.34**	**108**	P	**Pn**	**01 47 12.7**	**+0.9**
	baz=290,SNR=28						
WHAR	**Wooly Hollow**	**2.52**	**242**	Pn	**Pn**	**01 47 15.0**	**+0.8**
W41B	**Gary Mavity, V**	**2.55**	**240**	P	**Pn**	**01 47 15.3**	**+0.8**
	baz=58,SNR=68						
Y45A	**Yeager Farm, C**	**2.62**	**180**	Pn	**Pn**	**01 47 16.4**	**+0.8**
CLTN	**Cedars of Leba**	**2.64**	**98**	Pn	**Pn**	**01 47 16.8**	**+0.9**
U40A	**Yellville**	**2.66**	**268**	Pn	**Pn**	**01 47 17.3**	**+1.2**
R40A	**Maddies Statio**	**2.80**	**311**		**Pn**	**01 47 19.3**	**+1.2**
R40A	**Maddies Statio**	**2.80**	**311**	P	**Pn**	**01 47 19.5**	**+1.4**
	baz=129,SNR=100						
X48A	**Hartselle**	**2.89**	**134**	Pn	**Pn**	**01 47 19.8**	**+0.4**
X48A	**Hartselle**	**2.89**	**134**	P	**Pn**	**01 47 19.8**	**+0.4**
	baz=316,SNR=16						
U49A	**Red Boiling Sp**	**3.05**	**89**	Pn	**Pn**	**01 47 22.2**	**+0.7**
U49A	**Red Boiling Sp**	**3.05**	**89**	P	**Pn**	**01 47 22.4**	**+1.0**
	baz=271,SNR=23						
WCI	**Wyandotte Cave**	**3.13**	**55**	Pn	**Pn**	**01 47 23.7**	**+1.1**
CCAR	**Cane Creek**	**3.14**	**216**	Pn	**Pn**	**01 47 24.0**	**+1.2**
CCAR				IAmb_Lg		01 48 19.4	
	comp=Z,39nm,0.8s						
P43A	**Skaggs, Pawnee**	**3.14**	**1**	IAmb_Lg		01 48 13.7	
	comp=Z,49nm,1.2s						
SWET	**Sewanee**	**3.21**	**112**	Pn	**Pn**	**01 47 25.0**	**+1.2**
SWET				IAmb_Lg		01 48 15.8	
	comp=Z,34nm,0.8s						
S39A	**Bolivar**	**3.23**	**293**	Pn	**Pn**	**01 47 25.2**	**+1.1**
S39A				IAmb_Lg		01 48 17.6	
	comp=Z,41nm,0.7s						
X40A	**Basin Creek Fa**	**3.33**	**234**	Pn	**Pn**	**01 47 25.9**	**+0.5**
X40A				IAmb_Lg		01 48 21.1	
	comp=Z,31nm,0.8s						
Z47A	**Carrollton**	**3.51**	**159**	Pn	**Pn**	**01 47 28.5**	**+0.7**
Z47A				IAmb_Lg		01 48 32.4	
	comp=Z,36nm,0.7s						
Z47A	**Carrollton**	**3.51**	**159**	P	**Pn**	**01 47 28.5**	**+0.7**
	baz=340,SNR=7.0						
HHAR	**Hobbs**	**3.54**	**268**	Pn	**Pn**	**01 47 29.6**	**+1.4**
BLO	**Bloomington**	**3.60**	**41**	IAmb_Lg		01 48 31.2	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,29nm,0.8s						
P40A	**Paris**	**3.61**	**328**	Pn	**Pn**	**01 47 30.6**	**+1.4**
P40A				IAmb_Lg		01 48 25.9	
	comp=Z,28nm,0.8s						
P40A	**Paris**	**3.61**	**328**	P	**Pn**	**01 47 30.3**	**+1.1**
	baz=146,SNR=8.5						
W39A	**Magazine**	**3.66**	**251**	Pn	**Pn**	**01 47 30.9**	**+1.0**
W39A				IAmb_Lg		01 48 35.0	
	comp=Z,42nm,1.1s						
Y49A	**Blount Mountai**	**3.69**	**135**	Pn	**Pn**	**01 47 30.4**	**+0.1**
Y49A				IAmb_Lg		01 48 32.9	
	comp=Z,30nm,0.8s						
Y49A	**Blount Mountai**	**3.69**	**135**	P	**Pn**	**01 47 30.5**	**+0.2**
	baz=317,SNR=10						
O44A	**Mansfield**	**3.75**	**13**	IAmb_Lg		01 48 41.2	
	comp=Z,30nm,0.7s						
DYTN	**Dayton**	**3.76**	**104**		**Pn**	**01 47 32.0**	**+0.7**
FPAL	**Fort Paine**	**3.77**	**120**	Pn	**Pn**	**01 47 31.7**	**+0.3**
FPAL				IAmb_Lg		01 48 38.5	
	comp=Z,30nm,0.7s						
MIAR	**Mount Ida**	**3.81**	**240**	IAmb_Lg		01 48 34.5	
	comp=Z,31nm,0.8s						
U38A	**Gravette**	**3.89**	**271**		**Pn**	**01 47 34.1**	**+1.1**
U38A				IAmb_Lg		01 48 36.6	
	comp=Z,42nm,1.1s						
WLAR	**White Oak Lake**	**4.04**	**227**	Pn	**Pn**	**01 47 35.3**	**+0.2**
LRAL	**Lakeview Retre**	**4.04**	**148**	Pn	**Pn**	**01 47 34.8**	**-0.4**
LRAL				IAmb_Lg		01 48 45.5	
	comp=Z,39nm,1.0s						
143A	**Socs Landing,**	**4.07**	**202**	IAmb_Lg		01 48 51.9	
	comp=Z,27nm,0.8s						
CMGA	**Chestnut Mount**	**4.13**	**115**		**Pn**	**01 47 37.4**	**+0.9**
CPCT	**Cooper Cave**	**4.22**	**103**	Pn	**Pn**	**01 47 38.4**	**+0.9**
X51A	**Calhoun**	**4.29**	**115**	IAmb_Lg		01 48 47.1	
	comp=Z,38nm,0.8s						
GMG	**Grassy Mountai**	**4.30**	**111**		**Pn**	**01 47 39.8**	**+1.0**
N41A	**Harden Midland**	**4.33**	**347**	IAmb_Lg		01 48 50.1	
	comp=Z,32nm,0.8s						
P38A	**Dawn**	**4.42**	**316**		**Pn**	**01 47 41.3**	**+0.9**
P38A				IAmb_Lg		01 48 55.9	
	comp=Z,32nm,0.8s						
P38A	**Dawn**	**4.42**	**316**	P	**Pn**	**01 47 41.3**	**+0.9**
	baz=134,SNR=36						
CPRT	**Copper Ridge**	**4.60**	**92**		**Pn**	**01 47 44.7**	**+1.7**
TKL	**Tuckaleechee C**	**4.76**	**98**	IAmb_Lg		01 49 07.1	
	comp=Z,31nm,1.0s						
W52A	**Murphy**	**4.79**	**105**	Pn	**Pn**	**01 47 45.9**	**+0.5**
TZTN	**Tazewell**	**4.84**	**88**	Pn	**Pn**	**01 47 47.6**	**+1.4**
TZTN				IAmb_Lg		01 49 14.1	
	comp=Z,32nm,0.9s						
V52A	**Sevierville**	**4.87**	**96**	Pn	**Pn**	**01 47 47.5**	**+1.0**
S51A	**Beattyville**	**4.91**	**75**	Pn	**Pn**	**01 47 47.9**	**+0.8**
S51A				IAmb_Lg		01 49 10.4	
	comp=Z,32nm,0.8s						
TUL1	**Leonard**	**5.07**	**265**	P	**Pn**	**01 47 49.7**	**+0.5**
	baz=82,SNR=6.8						
X37A	**Clayton**	**5.10**	**250**	IAmb_Lg		01 49 25.6	
	comp=Z,28nm,0.7s						
N38A	**Joes South For**	**5.17**	**327**	Pn	**Pn**	**01 47 51.5**	**+0.9**
N38A				IAmb_Lg		01 49 19.1	
	comp=Z,25nm,0.8s						
250A	**Grady**	**5.27**	**148**	IAmb_Lg		01 49 17.7	
	comp=Z,31nm,0.9s						
N47A	**Urbana**	**5.33**	**33**	IAmb_Lg		01 49 28.3	
	comp=Z,19nm,0.7s						
L42A	**Oliver, Polo**	**5.50**	**359**	IAmb_Lg		01 49 26.8	
	comp=Z,20nm,0.8s						
O49A	**Covington**	**5.52**	**47**	IAmb_Lg		01 49 33.2	
	comp=Z,17nm,0.9s						
152A	**Waverly Hall**	**5.53**	**132**	IAmb_Lg		01 49 34.1	
	comp=Z,25nm,1.1s						
V53A	**Saluda**	**5.53**	**97**	Pn	**Pn**	**01 47 55.5**	**-0.2**
V53A				IAmb_Lg		01 49 24.6	
	comp=Z,16nm,0.7s						
Q51A	**Peebles**	**5.54**	**61**	IAmb_Lg		01 49 35.2	
	comp=Z,19nm,0.7s						
BG3	**Lake Jocassee**	**5.60**	**104**	IAmb_Lg		01 49 36.1	
	comp=Z,24nm,0.9s						
T35A	**Sooner Cattle**	**5.60**	**276**	IAmb_Lg		01 49 34.4	
	comp=Z,29nm,0.9s						
L40A	**Anamosa**	**5.71**	**347**	IAmb_Lg		01 49 32.6	
	comp=Z,21nm,0.9s						
QUOK	**Quay**	**5.78**	**269**	IAmb_Lg		01 49 42.4	
	comp=Z,22nm,0.8s						
GOGA	**Godfrey**	**5.88**	**120**	IAmb_Lg		01 49 40.0	
	comp=Z,17nm,1.1s						
OK031	**S. Brethren Rd**	**5.91**	**267**	IAmb_Lg		01 49 51.7	
	comp=Z,27nm,0.9s						
P51A	**Williamsport**	**5.94**	**58**	IAmb_Lg		01 49 42.5	
	comp=Z,22nm,0.9s						
N49A	**Columbus Grove**	**6.10**	**42**	IAmb_Lg		01 49 47.5	
	comp=Z,16nm,1.0s						
KSU1	**Kansas State U**	**6.16**	**297**		**Pn**	**01 48 04.8**	**+0.6**
U54A	**Nelsons Funny**	**6.24**	**87**	Pn	**Pn**	**01 48 05.5**	**+0.1**
K43A	**Burlington**	**6.28**	**8**	IAmb_Lg		01 49 54.6	
	comp=Z,20nm,0.8s						
Q52A	**Bidwell**	**6.29**	**65**	IAmb_Lg		01 50 01.4	
	comp=Z,15nm,0.9s						
R53A	**Hurricane**	**6.33**	**71**	IAmb_Lg		01 49 58.6	
	comp=Z,22nm,1.0s						
ACSO	**Alum Creek Sta**	**6.38**	**52**	IAmb_Lg		01 50 02.0	
	comp=Z,14nm,0.8s						
N35A	**Tabor**	**6.45**	**314**		**Pn**	**01 48 08.8**	**+0.5**
N35A	**Tabor**	**6.45**	**314**	P	**Pn**	**01 48 08.8**	**+0.5**
	baz=131,SNR=13						
FNO	**Franklin**	**6.48**	**261**	IAmb_Lg		01 49 55.7	
	comp=Z,14nm,1.1s						
S54A	**Dingess, Beckl**	**6.72**	**76**	IAmb_Lg		01 50 08.7	
	comp=Z,17nm,0.8s						
L48A	**N Adams**	**6.74**	**35**	IAmb_Lg		01 50 19.0	
	comp=Z,18nm,0.8s						
CROK	**Carrier**	**6.78**	**273**	IAmb_Lg		01 50 23.0	
	comp=Z,22nm,0.9s						
KMSC	**Kings Mountain**	**6.82**	**99**	IAmb_Lg		01 50 12.0	
	comp=Z,18nm,0.9s						
P53A	**Whipple**	**7.11**	**63**	IAmb_Lg		01 50 16.1	
	comp=Z,17nm,1.0s						
JSC	**Jenkinsville**	**7.13**	**106**	IAmb_Lg		01 50 20.2	
	comp=Z,20nm,0.9s						
N51A	**Ashland**	**7.15**	**50**	IAmb_Lg		01 50 26.1	
	comp=Z,14nm,0.8s						
U56A	**King**	**7.40**	**88**	IAmb_Lg		01 50 36.6	
	comp=Z,12nm,0.9s						
U32A	**Winter Ranch,**	**7.61**	**272**	IAmb_Lg		01 50 50.1	
	comp=Z,16nm,0.8s						
Y57A	**Sumter**	**7.90**	**106**	IAmb_Lg		01 50 41.7	
	comp=Z,19nm,0.8s						
H43A	**Windswept, Lux**	**8.08**	**9**	IAmb_Lg		01 50 48.1	
	comp=Z,12nm,0.8s						
T57A	**Hurt**	**8.29**	**83**	IAmb_Lg		01 50 54.6	
	comp=Z,11nm,0.9s						
CBKS	**Cedar Bluff**	**8.39**	**289**	IAmb_Lg		01 51 01.8	
	comp=Z,15nm,1.1s						
V58A	**Windy Hill, Pi**	**8.48**	**92**	IAmb_Lg		01 50 56.7	
	comp=Z,11nm,1.1s						
AMTX	**Amarillo**	**9.99**	**264**	IAmb_Lg		01 51 55.0	
	comp=Z,7.5nm,0.9s						

DJA ***02*** *01:52:18.6±0.5, 2°N±5°×12°7E±°, h205km±3km, M4.4/10, mB6.0/4, mb4.3/6, MLv4.0/10, Mw(mB)5.6/4*
IDC ***02*** *01:52:23.9±2.2, 2°.31N×127°.21E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/33, mbtmp3.8/3, Error ellipse: s-maj=176.9km s-min=24.5km az=67.0*
NEIC ***02*** *01:52:25.8±1.3, 2°.3N±0°.1×127°.2E±0°.2, h10km±2km, mb4.2/8, Error ellipse: s-maj=33.1km s-min=15.6km az=68.0*
ISC 02 01:52:27.0±0.8**, 2°.07N**±0°.06×**126°.46E**±0°.04**, h10**km**, n26,** σ**2**^{s}**37**/27**, mb4.1**/7**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMI	**Galela, Maluku**	**1.34**	**100**	P	**Pn**	**01 52 50.1**	**-1.8**
GAMI				S	**Sg**	**01 53 13.4**	**+3.1**
TNTI	**Ternate**	**1.57**	**145**		**Pn**	**01 52 52.7**	**-2.3**
TNTI	**Ternate**	**1.57**	**145**	P	**Pb**	**01 52 54.6**	**-1.6**
TNTI				S	**Sg**	**01 53 21.2**	**+3.5**
MNI	**Manado**	**1.74**	**249**	P	**Pg**	**01 53 02.5**	**+2.1**
MNI				S	**Sg**	**01 53 27.4**	**+4.5**
SGSI	**Sangihe**	**1.86**	**330**	S	**Sb**	**01 53 26.2**	**+1.7**
KMSI	**Cibinong**	**2.89**	**239**	P	**Pb**	**01 53 16.0**	**-2.7**
GTOI	**Gorontalo**	**3.73**	**248**	P	**Pn**	**01 53 25.7**	**+0.9**
SANI	**Sanana**	**4.12**	**187**	P	**Pn**	**01 53 29.2**	**-0.8**
MRSI	**Marisa**	**4.79**	**251**	P	**Pn**	**01 53 39.4**	**+0.1**
	0.2nm21nm,0.5s						
SWI	**Sorong**	**5.61**	**121**	P	Pn	01 53 36.7	-14
	0.2nm1μm31nm,0.8s						
SIJI	**Sorong**	**5.62**	**121**	P	Pn	01 53 37.2	-14
	0.1nm9.3nm,0.5s						
APSI	**Ampana**	**5.65**	**238**	P	**Pn**	**01 53 49.4**	**-1.7**
	0.1nm32nm,0.7s						
MPSI	**Mapaga**	**6.78**	**255**	P	**Pn**	**01 54 03.0**	**-3.7**
	0.0nm12nm,0.8s						
SMKI	**Samarinda**	**9.58**	**255**	P	**Pn**	**01 54 41.0**	**-4.2**
KNRA	**Kununurra**	**17.77**	**173**		**P**	**01 56 34.9**	**-0.7**
WB0	**Warramunga Arr**	**23.05**	**161**	P	**P**	**01 57 30.9**	**-1.9**
WB0				IAmb	IAmb	01 57 40.7	
	comp=Z,4.1nm,0.7s						
WRAB	**Tennant Creek**	**23.19**	**161**	P	**P**	**01 57 32.2**	**-2.0**
WRAB				IAmb	IAmb	01 57 37.0	
	comp=Z,3.6nm,0.5s						
WRA	**Warramunga Arr**	**23.20**	**161**	P	**P**	**01 57 32.3**	**-1.9**
	comp=Z,2.4nm,0.5s,baz=342,slow=11,SNR=37						
WB2	**Warramunga Arr**	**23.20**	**161**	P	**P**	**01 57 32.2**	**-2.1**
WR0	**Warramunga Arr**	**23.28**	**160**	P	**P**	**01 57 32.9**	**-2.2**
WR0				IAmb	IAmb	01 58 01.4	
	comp=Z,8.6nm,1.4s						
PSA00	**Pilbara Seismi**	**24.37**	**195**	P	**P**	**01 57 48.2**	**+2.7**
ASAR	**Alice Springs**	**26.58**	**165**	P	**P**	**01 58 04.9**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=347,slow=13,SNR=10						
ENH	**Enshi**	**32.34**	**332**	P	**P**	**01 58 57.2**	**+0.4**
MK31	**Makanchi Array**	**58.77**	**326**	P	**P**	**02 02 24.2**	**-1.3**
MK31				IAmb	IAmb	02 02 27.5	
	comp=Z,3.0nm,1.3s						
MKAR	**Makanchi Array**	**58.77**	**326**	P	**P**	**02 02 25.3**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=119,slow=7.5,SNR=7.4						
MKAR	**Makanchi Array**	**58.77**	**326**	P	**P**	**02 02 24.8**	**-0.7**

IDC ***02*** *02:18:02.7±5.1, 6°.46S×125°.73E, h530km±69km, mb3.2/2, mb1 3.4/5, mb1mx2.9/40, mbtmp4.2/5, Error ellipse: s-maj=169.3km s-min=17.0km az=55.0*
NEIC ***02*** *02:18:03.6±1.7, 6°.82S±0°.09×125°.1E±0°.2, h535km±12km, mb4.3/12, Error ellipse: s-maj=24.7km s-min=6.5km az=64.0*
DJA ***02*** *02:18:04.3±0.5, 7°S±5°×12°5E±°, h517km±9km, M4.0/7, mB4.4/2, mb4.0/7, MLv4.0/7, Mw(mB)3.6/2*
ISC 02 02:18:03.4±0.6**, 6°.92S**±0°.07×**125°.02E**±0°.10**, h543**km**, n33,** σ**1**^{s}**38**/35**, mb4.1**/3**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.92**	**195**	P	**P**	**02 19 17.8**	**+0.3**
SOEI	**Soe**	**2.92**	**195**	P	**P**	**02 19 16.7**	**-0.8**
SOEI				S	**S**	**02 20 15.3**	**-2.4**
MMRI	**Maumere**	**3.24**	**238**	P	P	02 19 16.8	-2.6
BATI	**Baumata**	**3.53**	**202**	P	**P**	**02 19 22.0**	**+0.6**
BATI				S	**S**	**02 20 22.9**	**-2.0**
EDFI	**Ende, Flores**	**3.77**	**241**	P	**P**	**02 19 22.9**	**-0.3**
EDFI				S	**S**	**02 20 25.2**	**-3.0**
BKSI	**Bulukumba**	**5.12**	**288**	P	**P**	**02 19 35.2**	**+1.3**
	0.1nm624nm37nm,1.0s						
BNSI	**Bone**	**5.50**	**297**	P	**P**	**02 19 38.8**	**+1.7**
	0.1nm35nm,0.7s						
KAPI	**Kappang**	**5.57**	**290**	P	**P**	**02 19 40.4**	**+2.6**
	1.9nm,0.3s,baz=170,slow=8.4,SNR=11						
KAPI	**Kappang**	**5.57**	**290**	P	**P**	**02 19 40.1**	**+2.2**
GTOI	**Gorontalo**	**7.77**	**345**	P	**P**	**02 20 00.6**	**+1.9**
	0.0nm6.6nm,0.4s						
FAKI	**Fak Fak**	**8.22**	**61**	P	**P**	**02 20 02.2**	**-1.0**
FAKI	**Fak Fak**	**8.22**	**61**	P	**P**	**02 20 02.4**	**-0.8**
	1μm42nm,0.6s						
MTN	**Manton Dam**	**8.42**	**135**	P	**P**	**02 20 04.7**	**-0.4**
KNRA	**Kununurra**	**9.44**	**157**	P	**P**	**02 20 16.1**	**+0.6**
PSA00	**Pilbara Seismi**	**15.40**	**198**	P	**P**	**02 21 18.1**	**+0.9**
WB0	**Warramunga Arr**	**15.68**	**145**	P	**P**	**02 21 19.0**	**-1.0**
WB0				IAmb	IAmb	02 21 21.4	
	comp=Z,6.8nm,1.0s						
WRAB	**Tennant Creek**	**15.79**	**146**	P	**P**	**02 21 20.4**	**-0.7**
WRAB				IAmb	IAmb	02 21 22.2	
	comp=Z,4.7nm,0.7s						
WRA	**Warramunga Arr**	**15.79**	**146**	P	**P**	**02 21 20.2**	**-1.0**
	comp=Z,1.8nm,0.3s,baz=338,slow=9.5,SNR=98						
WB2	**Warramunga Arr**	**15.80**	**146**	P	**P**	**02 21 20.3**	**-0.9**
WB2				IAmb	IAmb	02 21 22.2	
	comp=Z,8.3nm,1.1s						
WR0	**Warramunga Arr**	**15.92**	**145**	P	**P**	**02 21 21.7**	**-0.7**
AS31	**Alice Springs**	**18.71**	**154**	P	**P**	**02 21 49.5**	**+1.3**
AS31				IAmb	IAmb	02 21 50.4	
	comp=Z,4.0nm,0.3s						
ASAR	**Alice Springs**	**18.71**	**154**	P	**P**	**02 21 49.1**	**+1.0**
	comp=Z,1.3nm,0.3s,baz=346,slow=15,SNR=60						
ASAR	**Alice Springs**	**18.71**	**154**	P	**P**	**02 21 49.4**	**+1.2**
COEN	**Coen**	**19.16**	**113**	P	**P**	**02 21 51.5**	**-0.8**
COEN				IAmb	IAmb	02 22 09.5	
	comp=Z,5.1nm,1.1s						
BBOO	**Buckleboo**	**27.73**	**160**	P	**P**	**02 23 09.2**	**+0.7**
BBOO				IAmb	IAmb	02 23 10.4	
	comp=Z,13nm,1.1s						
STKA	**Stephens Creek**	**29.25**	**150**	P	**P**	**02 23 22.9**	**+1.1**
	comp=Z,1.9nm,0.4s,baz=321,slow=11,SNR=6.5						
STKA	**Stephens Creek**	**29.25**	**150**	P	**P**	**02 23 22.7**	**+1.0**
TPUB	**Ta-pu**	**30.34**	**352**	P	**P**	**02 23 29.9**	**-1.3**
ARMA	**Armidale**	**34.20**	**137**	P	**P**	**02 24 06.0**	**+2.0**
ENH	**Enshi**	**39.87**	**339**	P	**P**	**02 24 49.6**	**-0.8**
USRK	**Ussuriysk Ar.**	**51.27**	**6**	P	**P**	**02 26 17.1**	**0.0**
MKAR	**Makanchi Array**	**65.54**	**329**	P	**P**	**02 27 54.1**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=134,slow=8.3,SNR=8.6						
MKAR	**Makanchi Array**	**65.54**	**329**	P	**P**	**02 27 53.5**	**+0.1**

ASIES ***02*** *02:18:12.9, 24°.87N×122°.00E, h20km, MW4.3*
NEIC ***02*** *02:18:13.7, 24°.88N×122°.03E, h9km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-3.11; $M_{\theta\theta}$2.00; $M_{\phi\phi}$1.10; $M_{r\theta}$0.32; $M_{\theta\phi}$3.35; $M_{\phi r}$3.05; Fault plane solution: $M_0$5.30000×10^{15} NP1:ϕ_s79.79000°, δ39.68000°, λ-37.73000°. NP2:ϕ_s200.56000°, δ67.00000°, λ-123.28000°. Principal axes: T 5.5614, Plg16.0000°, Azm314.0000°; N -0.5680, Plg30.0000°, Azm215.0000°; P -4.9934, Plg55.0000°, Azm68.0000°;*
TAP ***02*** *02:18:13.2, 24°.87N×122°.02E, h11km, ML4.6, B*
JMA ***02*** *02:18:13.3±0.1, 24°.86N×121°.97E, h41km, M4.5*
NEIC ***02*** *02:18:13.5±1.9, 24°.88N±0°.03×122°.03E±0°.02, h5km±4km, mb4.7/36, Mwr4.4/23, ML4.3(TAP), Error ellipse: s-maj=4.6km s-min=2.7km az=190.0*
NIED ***02*** *02:18:13.4, 24°.86N×121°.97E, h41km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-5.66; $M_{\theta\theta}$4.20; $M_{\phi\phi}$1.46; $M_{r\theta}$4.50; $M_{\theta\phi}$2.86; $M_{\phi r}$0.20; Fault plane solution: $M_0$7.37000×10^{15} NP1: ϕ_s255.00000°, δ64.00000°, λ-74.00000°. NP2:ϕ_s42.00000°, δ30.00000°, λ-120.00000°.*
BJI ***02*** *02:18:15.1±0.0, 24°.97N×121°.97E, h22km, mB4.6/31, mb4.3/45, ML4.5/12, Ms4.5/54, Ms7 4.4/48*
IDC ***02*** *02:18:19.6±5.5, 24°.90N×121°.99E, h54km±52km, mb4.0/18, mb1 4.1/18, mb1mx4.0/46, mbtmp4.3/18, MS3.9/16, Ms1 3.9/16, ms1mx3.6/41, Error ellipse: s-maj=20.5km s-min=12.6km az=75.0*
ISC 02 02:18:13.1±0.9**, 24°.85N**±0°.01×**122°.07E**±0°.02**, h5**km±6km**, n243,** σ**1**^{s}**34**/324**, mb4.6**/34**, MS4.0**/17**, 62C-10D, Fault plane solution: NP1:**ϕ_s230.50453°**,** δ43.84820°**,** λ-86.66614°. **NP2:**ϕ_s45.88653°**,** δ46.24487°**,** λ-93.19732°. **Principal axes:** T Plg1.1993°**,** Azm138.1473°**;** N Plg2.3089°**,** Azm48.0989°**;** P Plg87.3979°**,** Azm255.5769°**;**
Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.12**	**266**	⇓ *i*P	**Pg**	**02 18 16.0**	**+0.3**
	baz=244						
EGS				*i* S	**Sg**	**02 18 18.2**	**+0.8**
	baz=244						
TWB1	**Santiao Chiao**	**0.17**	**335**	⇑P	**Pg**	**02 18 16.5**	**-0.1**
	baz=353						
TWB1				*e*S	**Sg**	**02 18 18.9**	**+0.1**
	baz=353						
NTC	**Toucheng**	**0.22**	**270**	⇑ *i*P	**Pg**	**02 18 17.5**	**+0.1**
	baz=264						
NTC				*i* S	**Sg**	**02 18 20.6**	**+0.3**
	baz=264						
TIPB	**Shuangxi**	**0.25**	**298**	⇑ *i*P	**Pg**	**02 18 18.1**	**+0.1**
	baz=300						
TIPB				*i* S	**Sg**	**02 18 21.4**	**0.0**
	baz=300						
ILA	**Ilan**	**0.30**	**253**	⇑P	**Pg**	**02 18 19.3**	**+0.3**
	baz=245						
ILA				*e*S	**Sg**	**02 18 23.2**	**+0.2**
	baz=245						
TWC	**Suao**	**0.31**	**219**	⇑ *i*P	**Pg**	**02 18 19.6**	**+0.3**
	baz=208						
TWC				*i* S	**Sg**	**02 18 23.5**	**+0.1**
	baz=208						
NWF	**Wu-fen Shan**	**0.34**	**310**	⇑ *i*P	**Pg**	**02 18 19.9**	**+0.2**
	baz=313						
NWF				*i* S	**Sg**	**02 18 24.6**	**+0.3**
	baz=313						
WFSB	**Wu-fen Shan**	**0.34**	**310**	⇑ *i*P	**Pg**	**02 18 19.9**	**+0.2**
	baz=313						
WFSB				S	**Sg**	**02 18 24.6**	**+0.4**
	baz=313						
NDS	**Dongshan**	**0.39**	**236**	⇑ *i*P	**Pg**	**02 18 20.7**	**+0.1**
	baz=229						
NDS				*e*S	**Sg**	**02 18 25.5**	**-0.2**
	baz=229						
TWE	**Neicheng**	**0.39**	**250**	⇑ *i*P	**Pg**	**02 18 20.6**	**0.0**
	baz=243						
TWE				*i* S	**Sg**	**02 18 25.7**	**0.0**
	baz=243						
TNOU	**National Taiwa**	**0.40**	**318**	⇑ *e*P	**Pg**	**02 18 19.8**	**-1.1**
	baz=321						
TNOU				*e*S	**Sg**	**02 18 26.0**	**-0.1**
	baz=321						
TWA	**Mucha**	**0.46**	**286**	⇑ *i*P	**Pg**	**02 18 22.1**	**+0.1**
	baz=285						
TWA				*i* S	**Sg**	**02 18 27.9**	**0.0**
	baz=285						
EWUT	**Wuta**	**0.48**	**213**	⇑P	**Pg**	**02 18 22.6**	**+0.1**
	baz=207						
EWUT				*e*S	**Sg**	**02 18 28.9**	**+0.2**
	baz=207						
NHY	**Taipei**	**0.49**	**292**	⇑ *e*P	**Pg**	**02 18 23.2**	**+0.6**
	baz=292						
NHY				*e*S	**Sg**	**02 18 29.5**	**+0.5**
	baz=292						
NHDH	**Xindian Distri**	**0.51**	**283**	⇑P	**Pg**	**02 18 23.1**	**+0.2**
	baz=281						
NHDH				*e*S	**Sg**	**02 18 29.4**	**0.0**
	baz=281						
NWRT	**Kuosheng**	**0.51**	**313**	⇑P	**Pg**	**02 18 23.3**	**+0.4**
	baz=316						
NWRT				*e*S	**Sg**	**02 18 30.0**	**+0.4**
	baz=316						
ENA	**Nanau**	**0.52**	**215**	*e*P	**Pg**	**02 18 23.2**	**+0.1**
	baz=209						
ENA				*e*S	**Sg**	**02 18 29.6**	**-0.2**
	baz=209						
TAP1	**Taipei**	**0.53**	**291**	*e*P	**Pg**	**02 18 23.7**	**+0.4**
	baz=290						
TAP1				*e*S	**Sg**	**02 18 30.7**	**+0.5**
	baz=290						
YM01	**YM01**	**0.54**	**303**	⇑ *e*P	**Pg**	**02 18 24.0**	**+0.5**
	baz=304						
YM01				*e*S	**Sg**	**02 18 30.9**	**+0.3**
	baz=304						
TATO	**Taipei**	**0.54**	**283**	⇑ *e*P	**Pg**	**02 18 23.7**	**+0.1**
	baz=282						
TATO				*e*S	**Sg**	**02 18 30.4**	**-0.1**
	baz=282						
TATO	**Taipei**	**0.54**	**283**		**Pg**	**02 18 23.7**	**+0.1**
TATO				Sg	**Sg**	**02 18 30.1**	**-0.4**
TAP	**Taipei**	**0.54**	**290**	⇑ *e*P	**Pg**	**02 18 24.1**	**+0.5**
	baz=290						
TAP				*e*S	**Sg**	**02 18 30.7**	**+0.1**
	baz=290						
YM08	**YM08**	**0.55**	**308**	⇑ *e*P	**Pg**	**02 18 23.9**	**+0.2**
	baz=309						
YM08				*e*S	**Sg**	**02 18 30.7**	**-0.1**
	baz=309						
NDT	**Datong Townshi**	**0.56**	**244**	⇑ *e*P	**Pg**	**02 18 23.7**	**-0.2**
	baz=239						
NDT				*e*S	**Sg**	**02 18 31.0**	**-0.3**
	baz=239						
BACT	**New Taipei Cit**	**0.59**	**284**	*e*P	**Pb**	**02 18 25.1**	**-0.7**
	baz=283						
BACT				*e*S	**Sg**	**02 18 32.6**	**+0.5**
	baz=283						
ANP	**Anpu**	**0.60**	**304**	⇑ *i*P	**Pg**	**02 18 24.8**	**+0.1**
	baz=305						
ANP				*e*S	**Sg**	**02 18 31.8**	**-0.6**
	baz=305						
TWY	**Chenhua**	**0.60**	**315**	⇑ *e*P	**Pg**	**02 18 25.2**	**+0.5**
	baz=317						
TWY				*e*S	**Sg**	**02 18 32.9**	**+0.5**
	baz=317						
EHP	**Heping Village**	**0.62**	**209**	*e*P	**Pb**	**02 18 26.4**	**0.0**
	baz=203						
EHP				*e*S	**Sb**	**02 18 34.5**	**-0.9**
	baz=203						
TWS1	**Kuangyinshan**	**0.64**	**293**	⇑ *e*P	**Pg**	**02 18 25.4**	**0.0**
	baz=293						
TWS1				*e*S	**Sb**	**02 18 35.1**	**-0.9**
	baz=293						
NTST	**Danshui**	**0.64**	**299**	⇑ *i*P	**Pb**	**02 18 26.3**	**-0.5**
	baz=299						
NTST				*e*S	**Sg**	**02 18 34.1**	**+0.3**
	baz=299						
YHNB	**Yeheng**	**0.66**	**254**	⇑P	**Pg**	**02 18 25.3**	**-0.5**
	baz=251						
YHNB				*e*S	**Sg**	**02 18 32.7**	**-1.6**
	baz=251						
YHNB	**Yeheng**	**0.66**	**254**		**Pg**	**02 18 25.3**	**-0.5**
YHNB				Sg	**Sg**	**02 18 32.5**	**-1.7**
NSK	**Sanguang**	**0.67**	**255**	⇑P	**Pg**	**02 18 25.5**	**-0.5**
	baz=251						
NSK				*e*S	**Sg**	**02 18 33.1**	**-1.6**
	baz=251						
NTY	**Taoyuan**	**0.71**	**282**	*e*P	**Pb**	**02 18 27.9**	**-0.1**
	baz=281						
NNS	**Nan Shan**	**0.75**	**237**	*e*P	**Pg**	**02 18 27.1**	**-0.5**
	baz=233						
NNS				*e*S	**Sg**	**02 18 37.1**	**-0.3**
	baz=233						
PCYT	**Pengchaiyu**	**0.77**	**0**	⇑ *i*P	**Pg**	**02 18 28.6**	**+0.6**
	baz=4.0						
PCYT				*e*S	**Sg**	**02 18 39.0**	**+1.0**
	baz=4.0						
ETL	**Fush Village**	**0.80**	**210**	*e*P	**Pg**	**02 18 28.6**	**+0.1**
	baz=207						
ETL				*e*S	**Sg**	**02 18 39.4**	**+0.5**
	baz=207						
NACB	**Ninganchiao**	**0.80**	**213**	⇑ *i*P	**Pg**	**02 18 28.1**	**-0.4**
	baz=209						
NACB				S	**Sg**	**02 18 39.5**	**+0.6**
	baz=209						
NACB	**Ninganchiao**	**0.80**	**213**		**Pg**	**02 18 28.8**	**+0.2**
NACB				Sg	**Sg**	**02 18 39.3**	**+0.3**
NCU	**National Centr**	**0.81**	**278**	⇑ *e*P	**Pb**	**02 18 29.6**	**-0.1**
	baz=277						
NCU				*e*S	**Sb**	**02 18 40.9**	**+0.1**
	baz=277						
NCUH	**Zhongli**	**0.81**	**278**	⇑P	**Pb**	**02 18 29.7**	**0.0**
	baz=277						
NCUH				*e*S	**Sb**	**02 18 40.6**	**-0.3**
	baz=277						
ETLH	**Xiulin Townshi**	**0.84**	**220**	⇑ *e*P	**Pg**	**02 18 28.8**	**-0.4**
	baz=216						
ETLH				*e*S	**Sg**	**02 18 40.6**	**+0.6**
	baz=216						
TWD	**Chiawan**	**0.88**	**209**	*e*P	**Pg**	**02 18 29.8**	**-0.3**
	baz=205						
TWD				*e*S	**Sg**	**02 18 41.5**	**0.0**
	baz=205						
JYNG	**Yonagunijimaku**	**0.89**	**116**	P	**Pg**	**02 18 30.7**	**+0.4**
NJD	**Zhudong**	**0.90**	**263**	*e*P	**Pb**	**02 18 31.4**	**+0.2**
	baz=261						
YOJ	**Yonaguni jima**	**0.94**	**114**	P	**Pg**	**02 18 31.3**	**+0.1**
YOJ				*e*S	**Sg**	**02 18 44.1**	**+0.6**
YOJ	**Yonaguni jima**	**0.94**	**114**	⇑ *i*P	**Pg**	**02 18 31.4**	**+0.2**
	baz=114						
YOJ				S	**Sb**	**02 18 45.0**	**+0.3**
	baz=114						
YOJ	**Yonaguni jima**	**0.94**	**114**		**Pg**	**02 18 31.5**	**+0.2**
YOJ				Sg	**Sb**	**02 18 45.0**	**+0.3**
HSN1	**Hsinchu**	**0.96**	**266**	*e*P	**Pb**	**02 18 32.6**	**+0.4**
	baz=264						
HSN1				*e*S	**Sn**	**02 18 46.1**	**-1.1**
	baz=264						
FUSS	**Fushou**	**0.96**	**231**	⇑ *e*P	**Pg**	**02 18 31.0**	**-0.6**
	baz=228						
FUSS				*e*S	**Sb**	**02 18 45.4**	**-0.2**
	baz=228						
HWA	**Hwalien**	**0.97**	**206**	*e*P	**Pn**	**02 18 32.9**	**-0.5**
	baz=202						
LIOB	**Emei**	**0.98**	**258**	⇑ *e*P	**Pg**	**02 18 32.1**	**+0.1**

baz=256
LIOB eS Sb 02 18 45.8 0.0
baz=256
SBCB Hsinchu 0.98 267⇑ eP Pb 02 18 32.9 +0.2
baz=265
SBCB eS Sb 02 18 46.8 +0.8
baz=265
NSTT Nanjuang 0.99 257 eP Pg 02 18 32.2 0.0
baz=255
NSTT eS Sb 02 18 46.9 +0.7
baz=255
HSN Hsinchu 1.00 267⇑ eP Pg 02 18 32.4 +0.1
baz=267
HSN eS Sg 02 18 45.1 -0.2
baz=267
TWT Tachien 1.01 234 eP Pg 02 18 32.0 -0.5
baz=231
WHF Hehuan Shan 1.02 226 eP Pg 02 18 32.0 -0.6
baz=223
WHF eS Sb 02 18 46.5 -0.7
baz=223
TDCB Techi 1.02 234⇑ eP Pn 02 18 35.0 +0.7
baz=232
ETM Tongmen 1.03 211 eP Pg 02 18 32.6 -0.3
baz=208
ETM eS Sb 02 18 46.7 -0.4
baz=208
TEYL Yanliau Villag 1.07 204 eP Pb 02 18 34.1 0.0
baz=201
CHGB Renai 1.13 226 eP Pg 02 18 34.1 -0.8
baz=223
CHGB eS Sg 02 18 48.5 -1.1
baz=223
WHP Taichung City 1.17 241⇑ eP Pg 02 18 35.1 -0.5
baz=240
WHP eS Sb 02 18 51.2 -0.2
baz=240
ESL Shilin 1.19 209 eP Pg 02 18 35.2 -0.7
baz=206
ESL eS Sg 02 18 50.8 -0.5
baz=206
NMLH Miaoli 1.20 255⇑ eP Pg 02 18 36.2 -0.1
baz=253
NMLH eS Sn 02 18 53.7 +0.4
baz=253
OWD Renai 1.21 222 eP Pn 02 18 36.7 -0.1
baz=220
TEGC Jichi Village 1.24 203 eP Pn 02 18 37.8 +0.7
baz=200
NSY Sanyi 1.27 250 eP Pn 02 18 37.4 -0.1
baz=248
TWQ1 Liyutan 1.28 247 eP Pn 02 18 37.5 -0.2
baz=245
TWQ1 eS Sn 02 18 56.2 +0.9
baz=245
EGFH Guangfu 1.32 207⇑ eP Pn 02 18 37.2 -0.9
baz=204
EGFH eS Sb 02 18 55.5 +0.1
baz=204
WCS Beigang Elemen 1.32 233 eP Pn 02 18 38.0 -0.2
baz=231
DPDB Guoxing 1.32 232 eP Pn 02 18 37.7 -0.6
baz=230
WDJ Dajia District 1.39 249 eP Pb 02 18 39.4 -0.2
baz=247
SMLT Sun Moon Lake 1.44 228 eP Pn 02 18 39.8 -0.2
baz=226
TCU Taichung 1.45 241 eP Pg 02 18 43.4 +2.4
baz=239
TYC Yuchr 1.45 230 eP Pn 02 18 39.9 -0.1
baz=227
SSLB Suanglung 1.47 224⇑ eP Pn 02 18 39.8 -0.5
baz=222
SSLB Suanglung 1.47 224 Pn 02 18 40.0 -0.3
HGSD Ruisui 1.48 204⇑ eP Pb 02 18 41.0 0.0
baz=201
HGSD eS Sg 02 19 05.9 +5.3
baz=201
EHY Hungye 1.50 207 eP Pn 02 18 40.0 -0.7
baz=205
WCHH Zhanghua 1.58 241 eP Pg 02 18 43.7 +0.3
baz=239
WNT Mingjian 1.59 233 eP Pg 02 18 44.3 +0.6
baz=231
WJS Zhushan 1.60 230 eP Pg 02 18 44.0 +0.3
baz=228
WJS eS Sg 02 19 07.0 +2.6
baz=228
WHYT Xinyi Township 1.60 224 eP Pg 02 18 44.7 +0.9
baz=222
IRIF Iriomote-Funau 1.60 108 P Pn 02 18 40.8 -1.2
YULB Yu-li 1.61 206 eP Pn 02 18 41.9 -0.4
baz=204
YULB Yu-li 1.61 206 Pn 02 18 42.2 -0.1
EYUL Yuli 1.65 205 eP Pb 02 18 43.4 -0.6
baz=203
TWF1 Yuli 1.65 205 eP Pn 02 18 42.8 0.0
baz=203
ALS Alishan 1.77 221⇑ eP Pb 02 18 46.0 -0.1
baz=219
ALS eS Sg 02 19 09.2 -0.7
baz=219
HATJ Hateruma jima 1.77 116 P Pn 02 18 43.7 -0.7
HATJ eS Sn 02 19 03.4 -3.9
FULB Fuli 1.79 203 eP Pn 02 18 45.1 +0.4
baz=202
WGK Gukeng 1.80 230 eP Pg 02 18 47.6 0.0
baz=228
WRL Guolierlin Hig 1.81 239 eP Pn 02 18 45.3 +0.4
baz=237
WDLH Douliu 1.81 231 eP Pg 02 18 47.4 -0.5
baz=229
CHKT Chengkung 1.86 200 eP Pn 02 18 46.3 +0.7
baz=198
JKRS Kuro-shima 1.87 109 P Pn 02 18 44.9 -0.9
ELDTW Lidau 1.92 210 eP Pn 02 18 46.8 +0.3
baz=208
WTK Tuku 1.92 233 eP Pb 02 18 49.1 +0.4
baz=232
JIJ Ishigaki jima 1.95 104 P Pn 02 18 45.2 -1.7
JIJ eS Sn 02 19 10.3 -1.4
CHN2 Minshiung 1.96 228 eP Pg 02 18 50.2 -0.5
baz=226
EDH Donghe 2.00 201 eP Pn 02 18 47.2 -0.3
baz=199
CHY Chiayi 2.02 228 eP Pn 02 18 48.9 +1.1
baz=226
TPUB Ta-pu 2.03 221⇑ eP Pb 02 18 50.0 -0.5
baz=219
TPUB eS Sg 02 19 19.2 +0.9
baz=219
TPUB Ta-pu 2.03 221 Pn Pb 02 18 50.2 -0.3
STYH Taoyuan 2.05 215 eP Pb 02 18 49.7 -1.1
baz=214
STYH eS Sn 02 19 15.2 +1.0
baz=214
JISG Ishigakijimahi 2.06 97 P Pn 02 18 47.9 -0.4
JISG S Sn 02 19 11.7 -2.6
STYT Tauyuan 2.07 216 eP Pb 02 18 49.9 -1.3
baz=214
WTP Ta-pu 2.08 220 eP Pb 02 18 51.5 +0.1
baz=218
WTP eS Sg 02 19 20.2 +0.2
baz=218
LONT Longtian 2.12 204 eP Pn 02 18 49.0 -0.3
baz=202
TWK Hsinying 2.14 223 eP Pn 02 18 50.9 +1.3
baz=221
SNST Tainan City 2.17 222 eP Pb 02 18 52.0 -0.8
baz=220
CHN1 Nanshi 2.18 221 eP Pb 02 18 52.6 -0.5
baz=219
CHN1 eS Sg 02 19 21.9 -1.2
baz=219
ICHU Yijhu 2.21 228 eP Pb 02 18 52.5 -1.1
baz=226
TWG Pinlang 2.22 204 eP Pn 02 18 50.6 0.0
baz=203
TWG Pinlang 2.22 204 Pn 02 18 50.3 -0.2
TWGBT Beinan 2.22 204 eP Pn 02 18 50.6 +0.1
baz=203
SGST Jiashian 2.23 218 eP Pb 02 18 52.2 -1.6
baz=216
LDUT Ludao 2.24 194 eP Pn 02 18 49.5 -1.4
baz=193
SLGT Liugui 2.26 215⇑ eP Pb 02 18 53.4 -1.0
baz=214
SLGT eS Sg 02 19 24.8 -1.1

baz=214
MATB Ma-tsu 2.31 304⇑ eP Pn 02 18 49.6 -2.2
baz=304
MATB eS Sb 02 19 23.2 -1.0
baz=304
VWUC VWUC 2.38 274⇑ eP Pn 02 18 51.2 -1.6
baz=273
JTJ Tarama 2.40 94 P Pn 02 18 52.4 -0.7
JTJ S Sn 02 19 21.7 -1.2
SCST Cishan 2.43 217⇑ eP Pb 02 18 56.3 -1.1
baz=215
TSMG Majia 2.50 212 eP Pb 02 18 57.0 -1.6
baz=210
MASBT Mashibuluo 2.59 211 eP Pb 02 18 58.1 -2.0
baz=209
MASBT eS Sb 02 19 30.6 -1.6
baz=209
SNJT Kaohsiung City 2.62 218 eP Pb 02 18 59.1 -1.5
baz=216
PNG Penghu 2.63 241 eP Pn 02 18 56.5 +0.3
baz=240
PHUB P'eng-hu 2.64 240 eP Pn 02 18 55.4 -1.0
baz=239
XPSS Dashiqiu 2.67 321⇑ eP Pn 02 18 54.3 -2.5
baz=321
XPSS eS Sn 02 19 25.3 -4.3
baz=321
LYJJ Jianjiangzhen 2.68 310⇑ eP Pn 02 18 54.7 -2.2
baz=309
PTMZ Houxiangcun 2.68 275⇑ eP Pn 02 18 55.2 -1.8
baz=274
PTMZ eS Sn 02 19 31.7 +1.9
baz=274
EAST Anshuo 2.70 205 eP Pn 02 18 57.3 +0.1
baz=203
SCZT Fangliau 2.80 209 eP Pb 02 19 01.5 -2.2
baz=207
SCZT eS Sb 02 19 35.9 -2.5
baz=207
JIRB Irabujima 2.82 90 P Pn 02 19 01.4 +2.6
LAY Lan-yu 2.84 190 eP Pn 02 18 58.6 -0.5
baz=188
SLIU Shizi 2.87 204 eP Pn 02 19 00.9 +1.4
baz=203
SLIU eS Sb 02 19 39.5 -0.8
baz=203
VCHM Qimei 2.92 236 eP Pn 02 18 60.0 -0.2
baz=235
JMJ Miyako jima 2 2.93 90 eP Pn 02 19 00.4 0.0
baz=91
WLCH Liuqiu 2.93 212 eP Pb 02 19 03.5 -2.4
baz=211
MHZQ Yeshan 3.01 295 eP Pn 02 18 59.3 -2.2
baz=294
MHZQ eS Sb 02 19 41.6 -2.8
baz=294
HEN Hengchun 3.09 204 eP Pn 02 19 04.5 +2.0
baz=202
TWK1 Hengchun 3.12 202 eP Pn 02 19 03.5 +0.5
baz=201
TWKBT Hengchun 3.12 202 eP Pn 02 19 03.5 +0.6
baz=201
TSEB Hengchuen, Pin 3.13 200 eP Pn 02 19 04.4 +1.3
baz=200
QZH Quanzhou 3.16 272⇑ iPn Pn 02 19 01.8 -1.7
QZH Sn Sn 02 19 37.7 -3.8
QZH smax smax
comp=N,640nm,0.8s
QZH smax smax
comp=E,290nm,1.0s
QZH LR LR
comp=N,3μm,6.9s
QZH LR LR
comp=E,3μm,8.9s
QZH LR LR
comp=Z,4μm,10.4s
KNM Kinmen 3.34 263 eP Pn 02 19 06.1 +0.2
baz=262
KNMB Chin-men Tao 3.37 264⇑ eP Pn 02 19 04.8 -1.6
baz=263
KNMB Chin-men Tao 3.37 264 Pn Pn 02 19 04.3 -2.0
AXDP Jialang 3.72 272⇑ eP Pn 02 19 10.5 -0.8
baz=270
ZPLA Ao Xicun 4.04 258 eP Pn 02 19 14.5 -1.1
baz=256
BBP Basco 4.39 181⇑ eP Pn 02 19 20.6 +0.2
JOW Kunigami 5.93 69 Pn Pn 02 19 43.0 +1.3
SSE Sheshan 6.27 353 Pn Pn 02 19 47.3 +1.1
SSE Sn Sn 02 21 01.3 +3.1
SSE smax smax
comp=N,86nm,1.2s
SSE smax smax
comp=E,120nm,1.2s
SSE LR LR
comp=N,460nm,11.9s
SSE LR LR
comp=E,770nm,16.9s
NJ2 Nanjing 7.71 339 ePn Pn 02 20 04.0 -2.0
NJ2 Sn Sn 02 21 32.4 -1.3
NJ2 smax smax
comp=N,250nm,1.1s
NJ2 smax smax
comp=E,220nm,1.1s
NJ2 LR LR
comp=N,3μm,10.6s
NJ2 LR LR
comp=E,2μm,8.8s
NJ2 LR LR
comp=Z,3μm,10.6s
GZH Guangzhou 8.17 259 Pn Pn 02 20 07.6 -4.8
GZH Sn Sn 02 21 30.2 -15
GZH smax smax
comp=N,200nm,1.3s
GZH smax smax
comp=E,150nm,1.1s
WHN Wuhan 8.88 311 P Pn 02 20 24.8 +2.7
WHN S Sn 02 22 04.6 +2.0
WHN LR LR
comp=N,3μm,11.8s
WHN LR LR
comp=E,3μm,10.3s
QIZ Qiongzhong 12.73 245 P Pn 02 21 14.6 -0.4
QIZ S Sn 02 23 39.0 +1.8
QIZ LR LR
comp=N,610nm,14.2s
QIZ LR LR
comp=E,440nm,15.2s
QIZ LR LR
comp=Z,400nm,10.0s
KSRS Korea Array 13.52 20 LR LR 02 27 35.7
comp=Z,393nm,19.3s,baz=202,slow=41
GYA Guiyang 13.99 280 ⇑P Pn 02 21 31.6 -0.5
GYA S Sn 02 24 15.3 +7.4
GYA pmax pmax
comp=Z,9.0nm,0.8s
GYA LR LR
comp=N,650nm,6.9s
GYA LR LR
comp=E,960nm,11.8s
GYA LR LR
comp=Z,2μm,13.7s
XAN Xi'an 14.65 312 P P 02 21 48.3 +0.7
XAN S S 02 24 47.0 +3.8
XAN pmax pmax
comp=Z,20nm,0.7s
XAN pmax pmax
comp=Z,230nm,9.3s
XAN LR LR
comp=N,660nm,10.3s
XAN LR LR
comp=E,1μm,12.4s
XAN LR LR
comp=Z,1μm,12.4s
CD2 Chengdu 17.27 295⇑ iP P 02 22 18.1 +1.5
CD2 S Sn 02 25 29.3 +1.7
CD2 pmax pmax
comp=Z,60nm,1.0s
CD2 pmax pmax
comp=Z,170nm,5.2s
CD2 LR LR
comp=Z,1μm,13.7s
CD2 LR LR
comp=Z,1μm,11.7s
CD2 LR LR
comp=Z,2μm,12.8s
KMI Kunming 17.53 275 ⇑P P 02 22 21.8 +2.1
KMI sP sP 02 22 26.8 +5.1

KMI S Sn 02 25 35.2 +1.0
KMI sS sS 02 25 45.7 +1.0
KMI pmax pmax
comp=Z,14nm,1.1s
KMI LR LR
comp=Z,280nm,7.3s
KMI LR LR
comp=Z,1μm,14.2s
KMI LR LR
comp=Z,1μm,14.6s
MJAR Matsushiro Arr 18.09 46 LR LR 02 30 02.5
comp=Z,143nm,19.6s,baz=245,slow=39
HHC Hu-ho-hao-te 18.21 334 eP Pn 02 22 26.7 0.0
HHC pmax pmax
comp=Z,11nm,0.9s
HHC pmax pmax
comp=Z,190nm,4.4s
HHC LR LR
comp=Z,1μm,11.4s
HHC LR LR
comp=Z,620nm,12.5s
HHC LR LR
comp=Z,1μm,12.7s
JCJ Chichijima 18.23 79 Pn Pn 02 22 25.4 -1.6
JCJ IAmb IAmb 02 22 36.5
comp=Z,72nm,0.9s
CN2 Changchun 19.10 7 eP Pn 02 22 42.3 +4.8
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,1μm,11.0s
CN2 LR LR
comp=Z,700nm,11.0s
CN2 LR LR
comp=Z,600nm,11.0s
LZH Lanzhou 19.26 310 eP Pn 02 22 41.3 +1.7
LZH pP sP 02 22 43.0 +2.3
LZH sP pP 02 22 45.0 +5.0
LZH eS Sn 02 26 11.2 -4.6
LZH sS sS 02 26 23.8 +4.3
LZH SS SnSn 02 26 37.7 +7.7
LZH pmax pmax
comp=Z,25nm,1.1s
LZH pmax pmax
comp=Z,200nm,4.3s
LZH LR LR
comp=Z,570nm,13.0s
LZH LR LR
comp=Z,1μm,13.0s
LZH LR LR
comp=Z,1μm,15.3s
MDJ Mudanjiang 20.64 15 P Pn 02 22 55.2 -0.6
MDJ pmax pmax
comp=Z,16nm,1.0s
MDJ pmax pmax
comp=Z,100nm,4.7s
MDJ LR LR
comp=Z,680nm,16.4s
MDJ LR LR
comp=Z,1μm,11.4s
MDJ LR LR
comp=Z,1μm,10.7s
MDJ Mudanjiang 20.64 15 P Pn 02 22 55.0 -0.8
USA0B Ussuriysk Arra 20.93 20 P Pn 02 22 58.2 -0.9
USRK Ussuriysk Ar. 20.93 20 P P 02 22 57.6 +1.1
comp=Z,4.1nm,0.7s,baz=213,slow=9.8,SNR=13
USRK Ussuriysk Ar. 20.93 20 P P 02 22 57.5 +0.9
CHTO Chiang Mai 22.28 259 P P 02 23 11.3 0.0
CHTO Chiang Mai 22.28 259 P P 02 23 10.4 -0.9
comp=Z,3.1nm,1.2s
CMAR Chiang Mai Arr 22.40 258 P P 02 23 13.9 +1.2
comp=Z,1.5nm,0.3s,baz=59,slow=8.9,SNR=5.3
CMAR LR LR 02 32 14.4
comp=Z,137nm,19.5s,baz=50,slow=37
CMAR Chiang Mai Arr 22.40 258 P P 02 23 12.6 0.0
GTA Gaotai 23.70 313 ⇑P P 02 23 25.6 -0.4
GTA pP sP 02 23 29.4 +1.3
GTA sP pP 02 23 32.8 +5.3
GTA S S 02 27 38.4 -3.2
GTA sS sS 02 27 46.4 +2.3
GTA pmax pmax
comp=Z,13nm,1.2s
GTA pmax pmax
comp=Z,110nm,8.7s
GTA LR LR
comp=Z,370nm,12.7s
GTA LR LR
comp=Z,660nm,13.4s
GTA LR LR
comp=Z,620nm,14.2s
SBUM Sibu 24.21 205 P P 02 23 32.0 +1.1
GUMO Guam 24.23 113 LR LR 02 31 11.3
comp=Z,100nm,21.4s,baz=281,slow=32
HIA Hailar 24.44 356 P P 02 23 33.0 +0.3
HIA IAmb IAmb 02 23 46.2
comp=Z,24nm,1.3s
ASAJ Asahikawa 25.48 36 P P 02 23 43.3 +1.2
comp=Z,4.6nm,0.4s,baz=240,slow=22,SNR=5.4
JKA Kamikawa-asahi 25.48 36 P P 02 23 42.7 +0.6
JKA IAmb IAmb 02 23 50.5
comp=Z,11nm,0.8s
KLR Kul'dur 25.49 15 P P 02 23 42.5 +0.4
comp=Z,3.8nm,0.8s,baz=242,slow=7.8,SNR=7.5
KLR LR LR 02 34 15.1
comp=Z,154nm,19.4s,baz=196,slow=38
ULN Ulaanbaatar 25.86 336 P P 02 23 45.6 -0.2
ULN IAmb IAmb 02 23 46.8
comp=Z,15nm,1.2s
SONM Songino Array 26.08 336 P P 02 23 47.5 -0.2
comp=Z,21nm,1.0s,baz=154,slow=8.7,SNR=60
SONM LR LR 02 35 30.8
comp=Z,452nm,20.1s,baz=160,slow=40
SONM Songino Array 26.08 336 P P 02 23 47.2 -0.5
SONM IAmb IAmb 02 23 49.4
comp=Z,32nm,1.2s
SHL Shillong 27.29 278 P P 02 24 00.6 +1.6
SHL IAmb IAmb 02 24 14.2
comp=Z,32nm,1.2s
JAY Jayapura 32.67 144 LR LR 02 35 05.7
comp=Z,237nm,21.0s,baz=348,slow=31
WMQ Urumqi 33.78 313 eP P 02 24 58.7 +2.7
WMQ LR LR
comp=Z,170nm,11.7s
WMQ LR LR
comp=Z,540nm,11.7s
WMQ LR LR
comp=Z,190nm,14.1s
MK31 Makanchi Array 38.43 315 P P 02 25 35.5 -0.2
MKAR Makanchi Array 38.43 315 P P 02 25 34.8 -0.9
comp=Z,2.8nm,0.8s,baz=104,slow=10,SNR=19
MKAR LR LR 02 41 03.1
comp=Z,107nm,20.6s,baz=44,slow=36
MKAR Makanchi Array 38.43 315 P P 02 25 35.5 -0.2
MTN Manton Dam 38.50 166 P P 02 25 34.9 -1.5
MTN IAmb IAmb 02 25 36.9
comp=Z,12nm,1.1s
MAKZ Makanchi 38.63 315 P P 02 25 37.5 +0.1
ZAA0 Zalesovo Array 40.13 326 P P 02 25 48.3 -1.4
ZALV Zalesovo Beam 40.13 326 P P 02 25 48.6 -1.1
comp=Z,8.9nm,0.8s,baz=111,slow=8.3,SNR=22
ZALV LR LR 02 43 32.7
comp=Z,260nm,18.6s,baz=103,slow=38
ZALV Zalesovo Beam 40.13 326 P P 02 25 48.2 -1.5
COEN Coen 43.73 150 P P 02 26 20.6 +1.1
COEN IAmb IAmb 02 26 37.8
comp=Z,10nm,0.9s
KK31 Karatay Array 45.71 307 P P 02 26 34.6 -0.6
KKAR Karatay Array 45.71 307 P P 02 26 34.6 -0.6
WB0 Warramunga Arr 45.95 164 P P 02 26 35.7 -1.4
WRAB Tennant Creek 46.09 164 P P 02 26 37.9 -0.4
WRA Warramunga Arr 46.10 164 P P 02 26 38.1 -0.2
comp=Z,8.9nm,0.6s,baz=347,slow=8.8,SNR=47
WB2 Warramunga Arr 46.10 164 P P 02 26 37.7 -0.7
WR0 Warramunga Arr 46.17 164 P P 02 26 38.6 -0.3
KBL Kabul 46.61 295 P P 02 26 42.4 -0.3
KBL IAmb IAmb 02 26 52.7
comp=Z,4.5nm,0.9s
TIXI Tiksi 46.99 3 P P 02 26 43.6 -1.1
comp=Z,11nm,0.9s,baz=147,slow=5.7,SNR=4.3
TIXI Tiksi 46.99 3 P P 02 26 43.7 -1.1
BRVK Borovoye 47.74 320 P P 02 26 49.8 -1.1
BRVK IAmb IAmb 02 26 52.0
comp=Z,3.9nm,0.8s
NRIK Noril'sk 48.97 345 P P 02 26 59.0 -1.2
comp=Z,11nm,1.0s,baz=130,slow=7.7,SNR=8.1
NRIK LR LR 02 49 29.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,160nm,18.1s,baz=163,slow=38						
NRIK	**Noril'sk**	**48.97**	**345**	P	**P**	**02 26 58.5**	**-1.6**
ASAR	**Alice Springs**	**49.58**	**166**	P	**P**	**02 27 06.0**	**+0.6**
	comp=Z,2.8nm,0.7s,baz=342,slow=7.0,SNR=15						
ASAR				PcP	**PcP**	**02 28 26.6**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=359,slow=5.1,SNR=4.6						
ASAR	**Alice Springs**	**49.58**	**166**	P	**P**	**02 27 05.7**	**+0.3**
ABKAR	**Akbulak array**	**53.55**	**314**	P	**P**	**02 27 34.5**	**-0.3**
BBOO	**Buckleboo**	**58.87**	**166**	P	**P**	**02 28 13.1**	**+0.2**
STKA	**Stephens Creek**	**59.42**	**161**	P	**P**	**02 28 17.0**	**+0.2**
	comp=Z,4.6nm,0.7s,baz=337,slow=6.1,SNR=12						
STKA	**Stephens Creek**	**59.42**	**161**	P	**P**	**02 28 16.9**	**+0.2**
KLMR	**Klimovskoe**	**65.03**	**328**	*e*P	**P**	**02 28 51.6**	**-2.5**
KLMR				AMP		02 28 57.3	
	comp=Z,20nm,2.0s						
ONI	**Oni**	**65.53**	**307**	P	**P**	**02 28 58.1**	**+0.3**
ONI				IAmb	IAmb	02 28 59.1	
	comp=Z,6.7nm,1.1s						
KBZ	**Khabaz**	**65.69**	**309**	P	**P**	**02 28 58.8**	**+0.1**
	comp=Z,3.2nm,1.0s,baz=114,slow=2.1,SNR=5.2						
KBZ				LR	LR	03 01 02.2	
	comp=Z,74nm,18.6s,baz=38,slow=39						
KIV	**Kislovodsk**	**65.80**	**309**	P	**P**	**02 28 58.8**	**-0.6**
PPLA	**Purkeypile**	**66.27**	**30**	P	**P**	**02 29 04.0**	**+1.8**
NEA2	**Nenana**	**67.36**	**28**	P	**P**	**02 29 09.3**	**+0.3**
NEA2				IAmb	IAmb	02 29 12.8	
	comp=Z,4.5nm,1.1s						
MDM	**Murphy Dome**	**67.65**	**27**	P	**P**	**02 29 11.9**	**+1.1**
MDM				IAmb	IAmb	02 29 13.2	
	comp=Z,6.4nm,1.1s						
ILAR	**Eielson Array**	**68.25**	**27**	P	**P**	**02 29 14.6**	**0.0**
	comp=Z,0.4nm,0.8s,baz=279,slow=8.3,SNR=5.1						
BMAR	**Burnt Mountain**	**68.59**	**24**	P	**P**	**02 29 16.8**	**+0.1**
MARD	**Mardin**	**68.78**	**302**	P	**P**	**02 29 17.5**	**-1.1**
MARD				IAmb	IAmb	02 29 24.5	
	comp=Z,10nm,1.1s						
ARCES	**ARCESS Array B**	**69.22**	**338**	LR	LR	03 04 30.0	
	comp=Z,86nm,18.2s,baz=70,slow=40						
BCAR	**Beaver Creek A**	**70.86**	**29**	P	**P**	**02 29 32.0**	**+1.2**
FINES	**FINESS Array B**	**71.28**	**330**	P	**P**	**02 29 33.2**	**0.0**
	comp=Z,2.8nm,0.9s,baz=23,slow=10,SNR=4.3						
FINES				LR	LR	03 04 13.0	
	comp=Z,187nm,18.0s,baz=68,slow=39						
FINES	**FINESS Array B**	**71.28**	**330**	P	**P**	**02 29 34.0**	**+0.7**
GAZ	**Gaziantep**	**71.55**	**303**	P	**P**	**02 29 34.7**	**-0.8**
GAZ				IAmb	IAmb	02 29 35.9	
	comp=Z,5.4nm,0.7s						
EPYK	**Eagle Plains**	**71.86**	**25**	P	**P**	**02 29 37.5**	**+0.7**
BR131	**Keskin Array S**	**73.42**	**306**	P	**P**	**02 29 45.2**	**-1.5**
BR131				IAmb	IAmb	02 29 52.7	
	comp=Z,11nm,1.4s						
BRTR	**Keskin Array B**	**73.42**	**306**	P	**P**	**02 29 45.9**	**-0.9**
	comp=Z,2.3nm,0.9s,baz=180,slow=3.6,SNR=4.3						
BRTR	**Keskin Array B**	**73.42**	**306**	P	**P**	**02 29 45.7**	**-1.1**
BURAR	**Bucovina Array**	**76.44**	**316**	P	**P**	**02 30 04.9**	**+0.9**
NOA	**NORSAR Array B**	**78.01**	**332**	P	**P**	**02 30 11.6**	**-0.9**
	comp=Z,1.5nm,0.8s,baz=58,slow=6.0,SNR=3.4						
NOA				LR	LR	03 08 34.6	
	comp=Z,108nm,19.2s,baz=80,slow=39						
GERES	**GERESS Array B**	**82.84**	**321**	P	**P**	**02 30 37.7**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=71,slow=5.8,SNR=3.9						
NRCA	**Norcia**	**86.21**	**316**	P	**P**	**02 30 55.7**	**-0.2**
NRCA				IAmb	IAmb	02 30 57.5	
	comp=Z,5.6nm,1.1s						
AQU	**L'Aquila**	**86.27**	**315**	P	**P**	**02 30 54.7**	**-1.5**
AQU				IAmb	IAmb	02 30 58.2	
	comp=Z,7.5nm,1.0s						
NVAR	**Mina Array Bea**	**95.39**	**43**	LR	LR	03 12 38.5	
	comp=Z,64nm,19.8s,baz=242,slow=34						
PDAR	**Pinedale Array**	**97.62**	**36**	LR	LR	03 18 24.1	
	comp=Z,59nm,18.3s,baz=171,slow=37						

*TAP **02** 02:29:49.8, 24°.87N×122°.01E, h13km, ML3.4, B*
*JMA **02** 02:29:50.3±0.1, 24°.86N×121°.99E, h28km, M3.3*
ISC 02 02:29:49.5±0.8**, 24°.87N**±0°.02×**122°.03E**±0°.02**, h13**km±5km**,**
n91, σ0.67/134**, 23C-2D, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EGS		**0.10**	**253**	⇓*i*P	**Pg**	**02 29 52.5**	**0.0**
	baz=251						
EGS				*i* S	**Sg**	**02 29 54.7**	**+0.1**
	baz=251						
TWB1	**Santiao Chiao**	**0.14**	**343**	⇑*e*P	**Pg**	**02 29 53.2**	**+0.1**
	baz=346						
TWB1				*e*S	**Sg**	**02 29 55.5**	**-0.1**
	baz=346						
NTC	**Toucheng**	**0.19**	**264**	⇑*i*P	**Pb**	**02 29 54.2**	**-0.6**
	baz=273						
NTC				*i* S	**Sb**	**02 29 57.2**	**-1.1**
	baz=273						
TIPB	**Shuangxi**	**0.21**	**298**	⇑*i*P	**Pb**	**02 29 54.8**	**-0.6**
	baz=297						
TIPB				*i* S	**Sg**	**02 29 57.8**	**+0.3**
	baz=297						
ILA	**Ilan**	**0.28**	**248**	*e*P	**Pb**	**02 29 55.9**	**-0.5**
	baz=240						
ILA				*e*S	**Sb**	**02 30 00.2**	**-0.8**
	baz=240						
NWF	**Wu-fen Shan**	**0.30**	**311**	⇑*i*P	**Pb**	**02 29 56.6**	**-0.3**
	baz=309						
NWF				*i* S	**Sb**	**02 30 01.1**	**-0.7**
	baz=309						
WFSB	**Wu-fen Shan**	**0.30**	**311**	⇑*i*P	**Pb**	**02 29 56.6**	**-0.2**
	baz=309						
WFSB				S	**Sb**	**02 30 01.0**	**-0.7**
	baz=309						
TWC	**Suao**	**0.31**	**213**	⇑*i*P	**Pg**	**02 29 56.0**	**0.0**
	baz=211						
TWC				*e*S	**Sg**	**02 29 59.7**	**-0.5**
	baz=211						
TNOU	**National Taiwa**	**0.36**	**320**	⇑*e*P	**Pg**	**02 29 56.5**	**-0.4**
	baz=321						
TNOU				*e*S	**Sg**	**02 30 01.7**	**-0.1**
	baz=321						
TWE	**Neicheng**	**0.37**	**246**	⇑*i*P	**Pg**	**02 29 57.1**	**+0.2**
	baz=238						
TWE				S	**Sg**	**02 30 02.1**	**+0.2**
	baz=238						
NDS	**Dongshan**	**0.37**	**231**	P	**Pg**	**02 29 57.2**	**+0.2**
	baz=231						
TWA	**Mucha**	**0.42**	**285**	⇑*i*P	**Pb**	**02 29 58.6**	**-0.3**
	baz=276						
TWA				S	**Sb**	**02 30 04.3**	**-0.9**
	baz=276						
NHY	**Taipei**	**0.45**	**292**	*e*P	**Pb**	**02 29 59.6**	**+0.2**
	baz=293						
NHDH	**Xindian Distri**	**0.47**	**281**	*e*P	**Pb**	**02 29 59.5**	**-0.2**
	baz=276						
NHDH				*e*S	**Sb**	**02 30 05.9**	**-0.7**
	baz=276						
NWRT	**Kuosheng**	**0.47**	**314**	*e*P	**Pb**	**02 29 59.6**	**-0.1**
	baz=318						
NWRT				*e*S	**Sb**	**02 30 06.0**	**-0.5**
	baz=318						
EWUT	**Wuta**	**0.48**	**209**	⇑*e*P	**Pg**	**02 29 59.0**	**-0.1**
	baz=214						
EWUT				*e*S	**Sb**	**02 30 06.0**	**-0.9**
	baz=214						
TAP1	**Taipei**	**0.49**	**290**	*e*P	**Pb**	**02 30 00.1**	**+0.1**
	baz=291						
TAP1				*e*S	**Sb**	**02 30 07.2**	**0.0**
	baz=291						
YM01	**YM01**	**0.50**	**303**	⇑*i*P	**Pb**	**02 30 00.6**	**+0.4**
	baz=305						
YM01				*e*S	**Sb**	**02 30 07.1**	**-0.3**
	baz=305						
TATO	**Taipei**	**0.51**	**282**	⇑*e*P	**Pb**	**02 30 00.2**	**0.0**
	baz=274						
TATO				*e*S	**Sb**	**02 30 06.8**	**-0.7**
	baz=274						
TAP	**Taipei**	**0.51**	**289**	*e*P	**Pb**	**02 30 00.6**	**+0.3**
	baz=290						
YM08	**YM08**	**0.51**	**308**	⇑*i*P	**Pb**	**02 30 00.5**	**+0.1**
	baz=309						
YM08				*e*S	**Sb**	**02 30 07.2**	**-0.5**
	baz=309						
ENA	**Nanau**	**0.52**	**211**	*e*P	**Pb**	**02 30 00.0**	**-0.4**
	baz=216						
ENA				*e*S	**Sb**	**02 30 07.3**	**-0.5**
	baz=216						
NDT	**Datong Townshi**	**0.54**	**241**	⇓P	**Pb**	**02 30 00.6**	**-0.4**
	baz=242						
NDT				*e*S	**Sg**	**02 30 07.5**	**0.0**
	baz=242						
BACT	**New Taipei Cit**	**0.55**	**283**	*e*P	**Pg**	**02 29 59.3**	**-1.0**
	baz=276						
BACT				*e*S	**Sb**	**02 30 08.2**	**-0.7**
	baz=276						
ANP	**Anpu**	**0.56**	**304**	⇑P	**Pb**	**02 30 01.4**	**+0.1**
	baz=297						
TWY	**Chenhua**	**0.56**	**316**	⇑*i*P	**Pb**	**02 30 01.8**	**+0.6**
	baz=316						
TWY				*e*S	**Sb**	**02 30 09.8**	**+0.6**
	baz=316						
TWS1	**Kuangyinshan**	**0.60**	**292**	⇑P	**Pb**	**02 30 01.9**	**0.0**
	baz=304						
TWS1				*e*S	**Sb**	**02 30 10.4**	**0.0**
	baz=304						
NTST	**Danshui**	**0.60**	**299**	⇑*e*P	**Pb**	**02 30 02.9**	**+0.9**
	baz=310						
NTST				*e*S	**Sn**	**02 30 12.6**	**-0.9**
	baz=310						
YHNB	**Yeheng**	**0.63**	**251**	*e*S	**Sg**	**02 30 09.2**	**-1.0**
	baz=252						
NSK	**Sanguang**	**0.64**	**252**	⇑*i*P	**Pg**	**02 30 02.0**	**-0.2**
	baz=253						
NSK				S	**Sg**	**02 30 09.6**	**-1.0**
	baz=253						
NNS	**Nan Shan**	**0.74**	**235**	*e*P	**Pb**	**02 30 04.0**	**-0.3**
	baz=247						
PCYT	**Pengchaiyu**	**0.75**	**3**	⇑*i*P	**Pb**	**02 30 05.3**	**+0.7**
	baz=359						
PCYT				*e*S	**Sb**	**02 30 15.1**	**+0.3**
	baz=359						
NCU	**National Centr**	**0.78**	**277**	*e*P	**Pn**	**02 30 06.4**	**+0.2**
	baz=277						
NCU				*e*S	**Sn**	**02 30 17.1**	**-0.5**
	baz=277						
NCUH	**Zhongli**	**0.78**	**277**	⇑*e*P	**Pn**	**02 30 06.2**	**0.0**
	baz=277						
NCUH				*e*S	**Sn**	**02 30 17.2**	**-0.4**
	baz=277						
NACB	**Ninganchiao**	**0.80**	**210**	⇑P	**Pb**	**02 30 05.2**	**-0.2**
	baz=213						
NACB				*e*S	**Sb**	**02 30 15.9**	**-0.2**
	baz=213						
ETL	**Fush Village**	**0.80**	**208**	*e*P	**Pg**	**02 30 04.9**	**-0.2**
	baz=211						
ETL				*e*S	**Sb**	**02 30 16.2**	**+0.1**
	baz=211						
ETLH	**Xiulin Townshi**	**0.83**	**217**	*e*P	**Pb**	**02 30 05.7**	**-0.2**
	baz=220						
ETLH				*e*S	**Sb**	**02 30 17.1**	**+0.1**
	baz=220						
TWD	**Chiawan**	**0.88**	**207**	P	**Pg**	**02 30 06.5**	**-0.2**
	baz=210						
TWD				*e*S	**Sg**	**02 30 17.8**	**-0.4**
	baz=210						
JYNG	**Yonagunijimaku**	**0.93**	**117**	P	**Pg**	**02 30 07.8**	**+0.3**
JYNG				*e*S	**Sg**	**02 30 20.4**	**+0.7**
FUSS	**Fushou**	**0.95**	**229**	*e*P	**Pb**	**02 30 08.0**	**0.0**
	baz=227						
FUSS				*e*S	**Sb**	**02 30 20.7**	**+0.1**
	baz=227						
LIOB	**Emei**	**0.95**	**256**	*e*P	**Pn**	**02 30 08.6**	**0.0**
	baz=258						
LIOB				*e*S	**Sn**	**02 30 23.5**	**+1.5**
	baz=258						
SBCB	**Hsinchu**	**0.96**	**265**	⇑*e*P	**Pn**	**02 30 09.4**	**+0.8**
	baz=283						
SBCB				*e*S	**Sn**	**02 30 23.8**	**+1.6**
	baz=283						
HSN	**Hsinchu**	**0.97**	**266**	*e*P	**Pn**	**02 30 09.2**	**+0.3**
	baz=286						
NSTT	**Nanjuang**	**0.97**	**256**	*e*P	**Pn**	**02 30 08.5**	**-0.3**
	baz=250						
YOJ	**Yonaguni jima**	**0.98**	**115**	P	**Pb**	**02 30 08.0**	**-0.3**
YOJ				*e*S	**Sb**	**02 30 20.6**	**-0.5**
YOJ	**Yonaguni jima**	**0.98**	**115**	⇑*i*P	**Pb**	**02 30 08.0**	**-0.3**
	baz=115						
YOJ				*e*S	**Sb**	**02 30 20.7**	**-0.5**
	baz=115						
TWT	**Tachien**	**0.99**	**232**	*e*P	**Pn**	**02 30 09.8**	**+0.4**
	baz=234						
WHF	**Hehuan Shan**	**1.01**	**224**	*e*P	**Pg**	**02 30 08.9**	**-0.1**
	baz=227						
WHF				*e*S	**Sn**	**02 30 23.2**	**-0.8**
	baz=227						
TDCB	**Techi**	**1.01**	**232**	*e*P	**Pn**	**02 30 12.0**	**+2.5**
	baz=234						
ETM	**Tongmen**	**1.03**	**209**	*e*P	**Pb**	**02 30 09.2**	**0.0**
	baz=213						
ETM				*e*S	**Sg**	**02 30 23.0**	**+0.2**
	baz=213						
CHGB	**Renai**	**1.13**	**224**	*e*P	**Pb**	**02 30 10.7**	**-0.3**
	baz=221						
CHGB				*e*S	**Sn**	**02 30 26.5**	**-0.1**
	baz=221						
WHP	**Taichung City**	**1.15**	**239**	*e*P	**Pg**	**02 30 11.7**	**-0.1**
	baz=247						
NMLH	**Miaoli**	**1.18**	**254**	*e*P	**Pg**	**02 30 13.7**	**+1.5**
	baz=273						
ESL	**Shilin**	**1.19**	**208**	*e*P	**Pb**	**02 30 11.9**	**0.0**
	baz=210						
OWD	**Renai**	**1.20**	**221**	*e*P	**Pg**	**02 30 13.1**	**+0.3**
	baz=223						
TWQ1	**Liyutan**	**1.26**	**246**	*e*P	**Pg**	**02 30 14.9**	**+1.1**
	baz=265						
WCS	**Beigang Elemen**	**1.30**	**232**	*e*P	**Pg**	**02 30 15.1**	**+0.5**
	baz=240						
EGFH	**Guangfu**	**1.32**	**205**	*e*P	**Pg**	**02 30 15.1**	**+0.1**
	baz=212						
WDJ	**Dajia District**	**1.37**	**248**	*e*P	**Pg**	**02 30 16.9**	**+1.0**
	baz=265						
SMLT	**Sun Moon Lake**	**1.43**	**227**	*e*P	**Pg**	**02 30 17.0**	**0.0**
	baz=221						
TYC	**Yuchr**	**1.44**	**228**	*e*P	**Pg**	**02 30 17.9**	**+0.7**
	baz=222						
SSLB	**Suanglung**	**1.46**	**223**	*e*P	**Pg**	**02 30 17.4**	**-0.2**
	baz=228						
SSLB				*e*S	**Sg**	**02 30 38.0**	**+1.3**
	baz=228						
HGSD	**Ruisui**	**1.48**	**202**	*e*P	**Pg**	**02 30 18.9**	**+0.8**
	baz=194						
EHY	**Hungye**	**1.51**	**206**	*e*P	**Pg**	**02 30 17.9**	**-0.6**
	baz=209						
WHYT	**Xinyi Township**	**1.59**	**223**	*e*P	**Pg**	**02 30 21.6**	**+1.5**
	baz=226						
YULB	**Yu-li**	**1.62**	**205**	*e*P	**Pb**	**02 30 19.9**	**+0.5**
	baz=208						
IRIF	**Iriomote-Funau**	**1.64**	**109**	P	**Pn**	**02 30 18.1**	**+0.1**
TWF1	**Yuli**	**1.66**	**204**	*e*P	**Pn**	**02 30 19.0**	**+0.7**
	baz=220						
ALS	**Alishan**	**1.76**	**220**	*e*P	**Pg**	**02 30 23.0**	**-0.3**
	baz=208						
FULB	**Fuli**	**1.80**	**202**	*e*P	**Pb**	**02 30 22.5**	**+0.1**
	baz=218						
HATJ	**Hateruma jima**	**1.81**	**116**	P	**Pn**	**02 30 21.1**	**+0.7**
JKRS	**Kuro-shima**	**1.91**	**109**	P	**Pn**	**02 30 21.9**	**+0.2**
JIJ	**Ishigaki jima**	**1.99**	**104**	P	**Pn**	**02 30 23.1**	**+0.3**
JIJ				S	**Sn**	**02 30 47.7**	**+0.2**
EDH	**Donghe**	**2.01**	**200**	*e*P	**Pb**	**02 30 24.8**	**-1.1**
	baz=189						
TPUB	**Ta-pu**	**2.02**	**220**	*e*P	**Pg**	**02 30 27.3**	**-1.1**
	baz=223						
STYH	**Taoyuan**	**2.05**	**214**	*e*P	**Pb**	**02 30 27.6**	**+1.0**
	baz=206						
STYT	**Tauyuan**	**2.06**	**215**	*e*P	**Pg**	**02 30 28.3**	**-0.9**
	baz=206						
WTP	**Ta-pu**	**2.08**	**219**	*e*P	**Pb**	**02 30 28.0**	**+0.9**
	baz=223						
JISG	**Ishigakijimahi**	**2.09**	**97**	P	**Pb**	**02 30 26.5**	**-0.8**
TWK	**Hsinying**	**2.13**	**222**	*e*P	**Pb**	**02 30 29.1**	**+1.0**
	baz=225						
CHN1	**Nanshi**	**2.17**	**220**	*e*P	**Pb**	**02 30 29.6**	**+0.8**
	baz=224						
TWGBT	**Beinan**	**2.22**	**203**	*e*P	**Pb**	**02 30 28.5**	**-1.1**
	baz=193						
SLGT	**Liugui**	**2.26**	**214**	*e*P	**Pb**	**02 30 31.3**	**+1.1**
	baz=219						
MATB	**Ma-tsu**	**2.28**	**304**	*e*P	**Pn**	**02 30 27.2**	**+0.3**
	baz=302						
VWUC	**VWUC**	**2.35**	**273**	*e*P	**Pn**	**02 30 27.7**	**-0.1**
	baz=273						
TSMG	**Majia**	**2.50**	**211**	*e*P	**Pb**	**02 30 34.7**	**+0.4**
	baz=215						
MASBT	**Mashibuluo**	**2.59**	**210**	*e*P	**Pb**	**02 30 33.8**	**-2.0**
	baz=214						
XPSS	**Dashiqiu**	**2.64**	**321**	*e*P	**Pn**	**02 30 31.4**	**-0.3**
	baz=318						
LYJJ	**Jianjiangzhen**	**2.65**	**310**	*e*P	**Pn**	**02 30 31.4**	**-0.5**
	baz=307						
PTMZ	**Houxiangcun**	**2.65**	**274**	*e*P	**Pn**	**02 30 32.1**	**+0.1**
	baz=274						
AXDP	**Jialang**	**3.69**	**271**	*e*P	**Pn**	**02 30 47.0**	**+0.8**
	baz=273						

IDC 02 02:34:40.6±2.1**, 6°.84S**×**129°.32E, h0**km**, mb3.7**/1**,**
mb1 3.7/3**, mb1mx3.5**/28**, mbtmp3.6**/3**, ML3.7**/2**, Error ellipse: s-maj=132.4km s-min=31.4km az=68.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.91**	**160**	Pn	Pn	02 37 58.6	-0.6
	0.3nm,0.3s,baz=339,slow=13,SNR=23						
WRA				Sn	Sn	02 40 21.0	-14
	0.9nm,0.3s,baz=333,slow=22,SNR=10						
ASAR	**Alice Springs**	**17.31**	**166**	P	Pn	02 38 44.4	+0.5
	0.2nm,0.3s,baz=339,slow=8.5,SNR=9.6						
MKAR	**Makanchi Array**	**67.72**	**327**	P	P	02 45 40.0	0.0
	0.3nm,0.4s,baz=126,slow=7.7,SNR=6.9						

IDC 02 02:35:00.7±45.0**, 17°.24S**×**174°.00W, h0**km**, mb4.3**/3**,**
mb1 4.5/3**, mb1mx3.8**/24**, mbtmp4.3**/3**, Error ellipse: s-maj=855.1km s-min=171.7km az=80.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.64**	**242**	P	P	02 42 59.3	+0.1
	1.7nm,0.5s,baz=75,slow=12,SNR=5.2						
WRA	**Warramunga Arr**	**48.89**	**258**	P	P	02 43 48.5	-0.3
	0.6nm,0.3s,baz=97,slow=7.0,SNR=11						
ASAR	**Alice Springs**	**49.02**	**253**	P	P	02 43 49.6	-0.1
	7.7nm,0.6s,baz=88,slow=8.4,SNR=55						

ROM 02 02:38:35.0±0.0**, 42°.827N**±0°.002×**13°.168E**±0°.006**,**
h10km**, ML1.1**/5**, Error ellipse: s-maj=0.5km s-min=0.1km az=256.0, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.04**	**280**	P	Pg	02 38 37.4	+0.4
NRCA				S	Sg	02 38 38.5	+0.1
NRCA				AML	AML		
	comp=E,847μm,0.8s						
NRCA				AML	AML		
	comp=N,755μm,0.1s						
NRCA				AML	AML		
	comp=E,874μm,0.1s						
NRCA				AML	AML		
	comp=N,826μm,0.1s						
NRCA				AML	AML		
	comp=E,848μm,0.8s						
NRCA				AML	AML		
	comp=N,825μm,0.1s						
NRCA				AML	AML		
	comp=N,754μm,0.1s						
NRCA				AML	AML		
	comp=E,874μm,0.1s						
FDMO	**Fiordimonte**	**0.22**	**344**	P	Pg	02 38 40.2	+0.7
FDMO				S	Sg	02 38 43.8	+1.2
FDMO				AML	AML		
	comp=E,22μm,1.3s						
FDMO				AML	AML		
	comp=N,26μm,0.2s						
FDMO				AML	AML		
	comp=N,26μm,0.2s						
LNSS	**Leonessa**	**0.24**	**203**	P	Pg	02 38 40.8	+0.8
LNSS				S	Sg	02 38 44.9	+1.6
LNSS				AML	AML		
	comp=E,156μm,0.2s						
LNSS				AML	AML		
	comp=E,156μm,0.2s						
LNSS				AML	AML		
	comp=N,142μm,0.2s						
CESI	**CESI - Serrava**	**0.26**	**313**	P	Pg	02 38 41.1	+0.7
CESI				S	Sb	02 38 45.3	-1.3
CESI				AML	AML		
	comp=E,37μm,0.2s						
CESI				AML	AML		
	comp=E,37μm,0.2s						
CESI				AML	AML		
	comp=N,27μm,0.5s						
CSP1	**Cessapalombo**	**0.27**	**6**	P	Pb	02 38 41.3	-0.7
CSP1				S	Sb	02 38 45.7	-1.1
RM33	**Pellescritta (**	**0.32**	**174**	P	Pg	02 38 42.1	+0.7
RM33				S	Sb	02 38 47.3	-0.9
TERO	**Teramo**	**0.38**	**122**	P	Pg	02 38 43.0	+0.5
TERO				S	Sb	02 38 48.9	-1.0
TERO				AML	AML		
	comp=E,9μm,0.3s						
TERO				AML	AML		
	comp=N,9μm,0.3s						
SNTG	**Esanatoglia**	**0.46**	**339**	P	Pg	02 38 44.5	+0.5
SNTG				S	Sb	02 38 51.7	-0.5
ATCC	**AVT- Casa Cast**	**0.53**	**313**	P	Pg	02 38 45.7	+0.4

*PDG **02** 02:38:35.3±0.2, 42°.05N×20°.10E, h14km±1km, ML2.4/12,*
Error ellipse: s-maj=0.3km s-min=0.3km az=0.0
*TIR **02** 02:38:35.0, 42°.06N×20°.12E, h2km±1km, Md2.9, Ml2.3*
*BEO **02** 02:38:37.5±0.2, 42°.09N×20°.11E, h0km±2km, ML1.9/13*
ISC 02 02:38:36.1±1.1**, 42°.08N**±0°.02×**20°.10E**±0°.02**, h2**km±10km**,**
n43, σ1.01/73**, 9C-4D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.16**	**257**	P	**Pg**	**02 38 39.2**	**0.0**
	baz=266						
PUK				S	**Sg**	**02 38 42.1**	**+0.9**
	baz=266						
PUK				AMP			
	comp=N,20nm,0.1s,baz=266						
BCI	**Bajram Curri**	**0.29**	**356**	P	**Pg**	**02 38 42.1**	**+0.4**
	baz=354						
BCI				S	**Sb**	**02 38 47.6**	**-1.8**
	baz=354						
BCI				AMP			
	comp=E,3.7nm,0.2s,baz=354						
PHP	**Peshkopia**	**0.47**	**147**	P	**Pg**	**02 38 44.4**	**-0.7**
	baz=146						
PHP				S	**Sg**	**02 38 52.2**	**+0.9**
	baz=146						
PHP				AMP			
	comp=N,0.7nm,0.1s,baz=146						
PVY	**Plav**	**0.53**	**349**	⇑*i*Pg	**Pg**	**02 38 46.2**	**0.0**
PVY				*i* Sg	**Sb**	**02 38 55.0**	**-1.3**
ULC	**Ulcinj**	**0.65**	**260**	⇑*i*Pg	**Pg**	**02 38 47.6**	**-0.9**
ULC				*i* Sg	**Sg**	**02 38 57.4**	**+0.6**
DRME	**Dracevica, Mon**	**0.69**	**279**	⇑*i*Pg	**Pg**	**02 38 48.5**	**-0.8**
DRME				*i* Sg	**Sg**	**02 38 59.1**	**+0.9**
PDG	**Podgorica**	**0.72**	**300**	*e*Pg	**Pg**	**02 38 49.9**	**0.0**
PDG				*e*Sg	**Sg**	**02 39 00.3**	**+1.1**
TTG	**Podgorica**	**0.72**	**300**	⇑*i*Pg	**Pg**	**02 38 48.9**	**-1.0**
TTG				*i* Sg	**Sg**	**02 39 00.3**	**+1.1**
TIR	**Tirane**	**0.75**	**193**	*e*Pg	**Pg**	**02 38 50.3**	**-0.2**
TIR				*e*Sg	**Sg**	**02 39 00.9**	**+0.7**
TIR	**Tirane**	**0.75**	**193**	P	**Pg**	**02 38 50.0**	**-0.6**
	baz=195						
TIR				S	**Sb**	**02 39 01.5**	**-1.2**
	baz=195						
TIR				AMP			
	comp=E,0.3nm,0.1s,baz=195						
IVA	**Berane**	**0.81**	**349**	⇑*i*Pg	**Pg**	**02 38 50.7**	**-0.9**
IVA				*i* Sg	**Sb**	**02 39 03.8**	**-0.6**
KOME	**Kolasin**	**0.88**	**331**	⇑*i*Pg	**Pg**	**02 38 52.2**	**-0.9**
KOME				*i* Sg	**Sb**	**02 39 06.8**	**+0.2**
BUM	**Brajici-Budva**	**0.92**	**284**	⇓*i*Pg	**Pg**	**02 38 52.7**	**-1.1**
BUM				*i* Sg	**Sb**	**02 39 07.5**	**-0.1**
NKME	**Niksic**	**1.09**	**309**	⇑*i*Pg	**Pg**	**02 38 55.7**	**-1.3**
NKME				*i* Sg	**Sn**	**02 39 13.3**	**-1.0**
NKY	**Niksic**	**1.10**	**312**	⇑*i*Pg	**Pg**	**02 38 56.3**	**-0.9**
NKY				*i* Sg	**Sn**	**02 39 13.9**	**-0.6**
SJES	**Sjenica**	**1.19**	**356**	*e*Pg	**Pg**	**02 38 58.5**	**-0.4**
SJES				*e*Sg	**Sb**	**02 39 15.4**	**+0.1**
HCY	**Herceg Novi**	**1.25**	**288**	⇓*i*Pg	**Pg**	**02 38 58.6**	**-1.4**
HCY				*i* Sg	**Sn**	**02 39 18.2**	**+0.2**
PLE	**Pljevlja**	**1.35**	**338**	⇓*i*Pg	**Pn**	**02 39 01.0**	**-1.2**
PLE				*i* Sg	**Sn**	**02 39 21.9**	**+1.0**
SELS	**Selova**	**1.37**	**33**	*e*Pg	**Pn**	**02 39 02.1**	**-0.2**
BRY	**Bratogost**	**1.42**	**306**	⇓*i*Pg	**Pn**	**02 39 01.9**	**-1.2**
BRY				*i* Sg	**Sn**	**02 39 24.5**	**+2.1**
UPM	**Unac-Piva**	**1.43**	**322**	⇑*i*Pg	**Pn**	**02 39 02.2**	**-1.1**
UPM				*i* Sg	**Sn**	**02 39 24.8**	**+2.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BARS	**Barje**	**1.47**	**59**	*e*Pg	**Pb**	**02 39 03.9**	**-0.3**
BARS				*e*Sg	**Sb**	**02 39 22.7**	**-0.7**
IVAS	**Ivanjica**	**1.50**	**2**	*e*Pg	**Pg**	**02 39 05.1**	**+0.3**
IVAS				*e*Sg	**Sb**	**02 39 24.3**	**+0.1**
PRVS	**Prvonek**	**1.53**	**73**	*e*Pg	**Pn**	**02 39 04.4**	**-0.2**
PRVS				*e*Sg	**Sg**	**02 39 25.2**	**-0.1**
KBN	**Korca**	**1.54**	**160**	P	**Pb**	**02 39 04.9**	**-0.6**
	baz=160						
KBN				S	**Sg**	**02 39 27.8**	**+2.0**
	baz=160						
BOSS	**Bosilegrad**	**1.82**	**76**	*e*Pn	**Pn**	**02 39 08.3**	**-0.2**
BBLS	**Lazići**	**1.86**	**344**	*e*Pn	**Pb**	**02 39 10.7**	**-0.2**
BBLS				*e*Sn	**Sb**	**02 39 34.0**	**-0.6**
GRUS	**Gruza**	**1.86**	**14**	*e*Pn	**Pb**	**02 39 10.8**	**-0.2**
GRUS				*e*Sn	**Sb**	**02 39 34.0**	**-0.7**
STON	**Ston**	**1.94**	**295**	*e*Pn	**Pb**	**02 39 11.3**	**-0.9**
STON				*e*Sn	**Sb**	**02 39 37.3**	**+0.4**
STON	**Ston**	**1.94**	**295**	*e*Pn	**Pn**	**02 39 10.6**	**+0.5**
STON				Sn	**Sg**	**02 39 38.5**	**0.0**
LSK	**Leskovik**	**1.96**	**169**	P	**Pg**	**02 39 13.1**	**-0.7**
	baz=168						
LSK				S	**Sg**	**02 39 41.0**	**+1.8**
	baz=168						
DIVS	**Divibare**	**2.02**	**358**	*e*Pn	**Pb**	**02 39 13.5**	**-0.2**
DIVS				*e*Sn	**Sb**	**02 39 38.5**	**-0.8**
ZAPS	**Zavoj**	**2.22**	**57**	*e*Pn	**Pb**	**02 39 16.1**	**-0.9**
ZAGS	**Zajecar**	**2.34**	**41**	*e*Pn	**Pn**	**02 39 16.4**	**+0.8**
MAKA	**Makarska**	**2.57**	**299**	Sn	**Sb**	**02 39 53.3**	**-1.7**
MAKA	**Makarska**	**2.57**	**299**	*e*Pn	**Pn**	**02 39 20.1**	**+1.3**
RICI	**Ricice**	**2.60**	**304**	Sn	**Sb**	**02 39 55.3**	**-0.6**
RICI	**Ricice**	**2.60**	**304**	*e*Pn	**Pn**	**02 39 21.0**	**+1.8**
KIJV	**Kijevo**	**3.32**	**307**	*e*Pn	**Pn**	**02 39 31.0**	**+1.8**
ZIRJ	**Zirje**	**3.63**	**297**	*e*Pn	**Pn**	**02 39 32.8**	**-0.5**
MORI	**Morici**	**3.68**	**300**	*e*Pn	**Pn**	**02 39 35.3**	**+1.2**
UDBI	**Udbina**	**4.00**	**309**	*e*Pn	**Pn**	**02 39 40.7**	**+2.2**
DUGI	**Dugi Otok**	**4.16**	**299**	*e*Pn	**Pn**	**02 39 41.3**	**+0.6**

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*TUL **02** 02:45:00.2±1.3, 35.°67N±0.°01×97.°40W±0.°03, h5^{km}±4^{km}, ML2.4, mb_Lg2.3/30(NEIC), Error ellipse: s-maj=3.3km s-min=1.4km az=118.0*

NEIC 02 02:45:00.2±0.6**, 35.°70N**±0.°01×**97.°45W**±0.°03**, h5**^{km}±1^{km}**, Error ellipse: s-maj=3.9km s-min=2.9km az=115.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.10**	**360**	Pg	Pg	02 45 03.3	+1.0
OK029				Sg	Sg	02 45 05.5	+1.9
OK009	**Oakdale Elemen**	**0.12**	**168**	Pg	Pg	02 45 02.6	0.0
OK009				Sg	Sg	02 45 04.4	+0.1
OK025	**Westminster Rd**	**0.15**	**141**	Pg	Pg	02 45 02.8	-0.4
OK025				Sg	Sg	02 45 04.8	-0.4
OKCFA	**Oklahoma City**	**0.28**	**180**	Pg	Pg	02 45 05.6	-0.1
OKCFA				Sg	Sg	02 45 08.8	-0.7
OKCSW	**OKLAHOMA CITY**	**0.29**	**177**	Pg	Pg	02 45 05.7	-0.2
FNO	**Franklin**	**0.44**	**174**	Pg	Pg	02 45 08.5	-0.2
FNO				Sg	Sg	02 45 14.7	+0.2
OK031	**S. Brethren Rd**	**0.56**	**63**	Pg	Pg	02 45 10.7	-0.2
OK031				Sg	Sg	02 45 18.3	0.0
QUOK	**Quay**	**0.77**	**52**	Pg	Pg	02 45 14.4	-0.5
QUOK				Sg	Sg	02 45 25.0	+0.1
CROK	**Carrier**	**0.91**	**332**	Pg	Pg	02 45 17.8	+0.1
BLOK	**Blackwell**	**1.08**	**10**	Pg	Pg	02 45 20.6	-0.2
X34A	**Smith Ranch, M**	**1.14**	**196**	Pg	Pg	02 45 21.7	-0.3
GC02	**Grant County #**	**1.20**	**344**	Pg	Pg	02 45 22.9	-0.2
OK032	**Salt Plains WL**	**1.26**	**331**	Pn	Pg	02 45 24.3	-0.1
KAN13	**South Haven SW**	**1.31**	**359**	Pn	Pn	02 45 25.1	-0.1
KAN13				IAmb_Lg		02 45 43.3	
	comp=Z,26nm,0.8s						
KAN14	**Manchester OK**	**1.32**	**342**	Pn	Pn	02 45 25.3	0.0
KAN17	**Caldwell West**	**1.36**	**350**	Pn	Pn	02 45 26.0	+0.1
U32A	**Winter Ranch,**	**1.43**	**299**	Pn	Pn	02 45 26.9	+0.1
T35A	**Sooner Cattle**	**1.43**	**32**		Pn	02 45 26.2	-0.6
KAN05	**Bluff City Nor**	**1.45**	**347**	Pn	Pb	02 45 27.6	0.0
WMOK	**Wichita Mounta**	**1.45**	**229**	Pn	Pn	02 45 26.8	-0.3
KAN10	**Anthony SW Sta**	**1.51**	**340**	Pn	Pb	02 45 28.5	-0.2
KAN10				IAmb_Lg		02 45 48.3	
	comp=Z,12nm,1.0s						
KS20	**Mayfield South**	**1.53**	**357**	Pn	Pb	02 45 28.6	-0.4
KAN08	**Anthony NE Sta**	**1.58**	**345**	Pn	Pb	02 45 29.5	-0.4
LOOK	**Love County**	**1.72**	**172**	Pn	Pn	02 45 30.7	0.0
X37A	**Clayton**	**2.04**	**122**	Pn	Pn	02 45 34.9	-0.2
Z35A	**Perchaven, San**	**2.37**	**176**	IAmb_Lg		02 46 15.8	
	comp=Z,8.3nm,0.9s						
HHAR	**Hobbs**	**2.91**	**77**	IAmb_Lg		02 46 39.4	
	comp=Z,8.1nm,0.9s						
W39A	**Magazine**	**3.04**	**98**	Pn	Pn	02 45 48.1	-0.8
MIAR	**Mount Ida**	**3.38**	**109**	Pn	Pn	02 45 53.7	+0.1
AMTX	**Amarillo**	**3.55**	**258**	IAmb_Lg		02 46 59.7	
	comp=Z,5.6nm,0.8s						
ABTX	**Abilene, Hawle**	**3.56**	**211**	IAmb_Lg		02 46 50.9	
	comp=Z,5.4nm,0.9s						
U40A	**Yellville**	**3.79**	**79**	IAmb_Lg		02 47 09.5	
	comp=Z,5.1nm,0.9s						
S39A	**Bolivar**	**3.87**	**58**	Pn	Pn	02 45 59.4	-0.9
S39A				IAmb_Lg		02 47 05.5	
	comp=Z,7.5nm,0.7s						
WHAR	**Wooly Hollow**	**4.23**	**94**	Pn	Pn	02 46 05.2	-0.1
WHAR				IAmb_Lg		02 47 23.4	
	comp=Z,6.8nm,1.1s						
FCAR	**Ozark Folk Cen**	**4.34**	**86**	IAmb_Lg		02 47 16.7	
	comp=Z,6.1nm,0.9s						
MGMO	**Mountain Grove**	**4.43**	**69**	Pn	Pn	02 46 07.8	-0.2
MGMO				IAmb_Lg		02 47 19.3	
	comp=Z,6.0nm,0.7s						
R40A	**Maddies Statio**	**4.89**	**57**	IAmb_Lg		02 47 36.8	
	comp=Z,5.3nm,0.8s						
P38A	**Dawn**	**5.00**	**37**	IAmb_Lg		02 47 40.4	
	comp=Z,6.8nm,0.8s						
LCAR	**Lake Charles**	**5.13**	**84**	IAmb_Lg		02 47 50.4	
	comp=Z,5.3nm,0.8s						
CCM	**Cathedral Cave**	**5.50**	**63**	IAmb_Lg		02 48 03.5	
	comp=Z,4.2nm,0.7s						
S44A	**Carbondale**	**6.88**	**71**	IAmb_Lg		02 48 39.7	
	comp=Z,6.9nm,0.8s						

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*IDC **02** 02:48:37.4±1.8, 4.°75S×128.°74E, h0^{km}, mb3.5/1, mb1 3.9/4, mb1mx3.6/35, mbtmp3.7/4, ML3.8/3, Error ellipse: s-maj=57.4km s-min=28.0km az=83.0*

*DJA **02** 02:48:50.9±0.3, 4°S±4°×13°0E±°, h152^{km}±4^{km}, M3.6/6, mb3.5/3, MLv3.7/6*

ISC 02 02:48:49.3±1.1**, 4.°50S**±0.°06×**129.°98E**±0.°06**, h168**^{km}±9^{km}**, n11,** σ1s**46**/16**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.08**	**252**	P	**Pn**	**02 49 12.3**	**+0.7**
BNDI				S	**Sn**	**02 49 27.9**	**-0.7**
MSAI	**Masohi**	**1.55**	**317**	P	**Pn**	**02 49 21.4**	**+0.6**
MSAI				S	**Sn**	**02 49 43.4**	**-1.8**
KRAI	**Karang Ratu**	**1.97**	**306**	P	**Pn**	**02 49 27.4**	**+2.2**
KRAI				S	**Sn**	**02 49 52.9**	**-0.1**
FAKI	**Fak Fak**	**2.75**	**55**	P	**Pn**	**02 49 36.2**	**+1.8**
FAKI				S	**Sn**	**02 50 09.1**	**-0.4**
SAUI	**Saumlaki**	**3.70**	**159**	P	**Pn**	**02 49 47.4**	**+1.1**
SIJI	**Sorong**	**3.83**	**20**	Pn	**Pn**	**02 49 49.0**	**+1.2**
	3.9nm,0.3s,baz=188,slow=22,SNR=8.9						
SIJI				Sn	**Sn**	**02 50 31.2**	**-2.5**
	13nm,0.3s,baz=80,slow=23,SNR=12						
SIJI	**Sorong**	**3.83**	**20**	P	**Pn**	**02 49 49.1**	**+1.2**
SANI	**Sanana**	**4.67**	**301**	P	**Pn**	**02 49 59.7**	**+1.0**
WRA	**Warramunga Arr**	**15.93**	**165**	Pn	**Pn**	**02 52 24.1**	**-0.2**
	0.3nm,0.3s,baz=345,slow=14,SNR=22						
WRA				Sn	S	02 55 08.7	-13
	0.9nm,0.3s,baz=270,slow=8.2,SNR=9.6						
ASAR	**Alice Springs**	**19.43**	**169**	P	**Pn**	**02 53 06.0**	**0.0**
	0.4nm,0.3s,baz=350,slow=9.8,SNR=19						
ASAR				S	**S**	**02 56 32.1**	**-1.5**
	0.2nm,0.3s,baz=356,slow=24,SNR=5.6						
MKAR	**Makanchi Array**	**66.14**	**326**	P	P	02 59 23.4	+4.8
	0.3nm,0.5s,baz=114,slow=6.0,SNR=2.6						

IDC 02 02:49:04.1±2.2**, 1.°37N**×**126.°65E, h0**^{km}**, mb3.5**/3**, mb1 3.7**/3**, mb1mx3.4**/34**, mbtmp3.5**/3**, Error ellipse: s-maj=189.2km s-min=27.1km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.48**	**161**	P	P	02 54 04.4	-0.9
	0.8nm,0.4s,baz=339,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**25.87**	**165**	P	P	02 54 38.7	+1.0
	0.2nm,0.3s,baz=340,slow=8.1,SNR=1.3						
MKAR	**Makanchi Array**	**59.45**	**326**	P	P	02 59 08.7	-0.1
	0.2nm,0.4s,baz=116,slow=7.6,SNR=5.1						

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*IDC **02** 02:59:38.3±1.8, 24.°24N×141.°56E, h131^{km}±17^{km}, mb3.4/7, mb1 3.7/9, mb1mx3.4/46, mbtmp4.0/9, Error ellipse: s-maj=29.7km s-min=16.5km az=91.0*

*NEIC **02** 02:59:40.1±2.8, 24.°2N±0.°1×141.°6E±0.°2, h140^{km}±7^{km}, mb4.2/9, Error ellipse: s-maj=25.6km s-min=14.6km az=84.0*

*JMA **02** 02:59:42.2±0.1, 24.°63N×141.°00E, h138^{km}, M4.9*

ISC 02 02:59:40.3±0.7**, 24.°31N**±0.°07×**141.°6E**±0.°1**, h150**^{km}**, n35,** σ1s**39**/35**, mb4.0**/11**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**2.38**	**14**	P	**Pn**	**03 00 19.9**	**0.0**
JHH2				S	**Sn**	**03 00 49.1**	**-1.4**
CBIJ	**Chichi jima**	**2.83**	**12**	P	**Pn**	**03 00 25.6**	**+0.1**
CBIJ				*e*S	**Sn**	**03 00 58.4**	**-2.1**
JCJ	**Chichijima**	**2.83**	**12**	P	**Pn**	**03 00 25.6**	**+0.1**
	113nm,0.3s,baz=99,slow=23,SNR=513						
JCJ				S	**Sn**	**03 00 58.8**	**-1.8**
	121nm,0.3s,baz=259,slow=23,SNR=17						
JCJ	**Chichijima**	**2.83**	**12**		**Pn**	**03 00 25.4**	**0.0**
JHJ2	**Mitsune**	**8.90**	**351**	Pn	**Pn**	**03 01 44.7**	**-0.9**
JHJ	**Hachijo jima 2**	**8.91**	**350**	P	**Pn**	**03 01 44.7**	**-1.1**
	6.9nm,0.3s,baz=73,slow=22,SNR=6.3						
BSO3	**Boso 3**	**10.49**	**355**	P	**Pn**	**03 02 03.2**	**-3.3**
BSO4	**Boso 4**	**10.69**	**355**	P	**Pn**	**03 02 06.8**	**-2.5**
JTM	**Tenmabayashi**	**16.43**	**359**	Pn	**Pn**	**03 03 21.7**	**-0.5**
JTM				IAmb	IAmb	03 03 29.1	
	comp=Z,31nm,1.1s						
KSRS	**Korea Array**	**17.53**	**322**	P	**Pn**	**03 03 38.1**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=135,slow=12,SNR=5.6						
H11S3	**WAKE ISLAND Hy**	**24.09**	**99**	T	T	03 30 16.3	
	baz=287,slow=74,SNR=7.2						
H11S1	**WAKE ISLAND Hy**	**24.10**	**99**	T	T	03 30 14.5	
	baz=287,slow=74,SNR=4.2						
H11S2	**WAKE ISLAND Hy**	**24.11**	**99**	T	T	03 30 18.5	
	baz=287						
WB0	**Warramunga Arr**	**44.36**	**190**	P	**P**	**03 07 35.1**	**-0.7**
WR0	**Warramunga Arr**	**44.53**	**189**	P	**P**	**03 07 36.4**	**-0.7**
WR0				IAmb	IAmb	03 07 37.3	
	comp=Z,3.2nm,0.8s						
WB2	**Warramunga Arr**	**44.54**	**190**	P	**P**	**03 07 36.3**	**-0.9**
WB2				IAmb	IAmb	03 07 36.9	
	comp=Z,4.8nm,0.8s						
WRA	**Warramunga Arr**	**44.54**	**190**	P	**P**	**03 07 36.3**	**-0.9**
	comp=Z,3.2nm,0.7s,baz=8.5,slow=8.4,SNR=41						
ASAR	**Alice Springs**	**48.27**	**189**	P	**P**	**03 08 05.1**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=14,slow=13,SNR=6.7						
ASAR	**Alice Springs**	**48.27**	**189**	P	**P**	**03 08 05.5**	**-0.7**
MK31	**Makanchi Array**	**51.84**	**311**	P	**P**	**03 08 34.5**	**+1.5**
MKAR	**Makanchi Array**	**51.84**	**311**	P	**P**	**03 08 34.0**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=84,slow=9.5,SNR=9.5						
MKAR	**Makanchi Array**	**51.84**	**311**	P	**P**	**03 08 33.6**	**+0.6**
KURK	**Kurchatov**	**54.55**	**316**	P	**P**	**03 08 52.5**	**-0.1**
KURBB	**Kurchatov Arra**	**54.60**	**316**	P	**P**	**03 08 52.5**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=94,slow=7.8,SNR=4.5						
FORT	**Forrest**	**56.28**	**194**	P	**P**	**03 09 05.6**	**+0.4**
BOOM	**Boomskoye usch**	**56.34**	**306**	P	**P**	**03 09 08.1**	**+2.2**
BOOM				IAmb	IAmb	03 09 21.0	
	comp=Z,4.0nm,0.9s						
ILAR	**Eielson Array**	**60.43**	**28**	P	**P**	**03 09 33.6**	**0.0**
	comp=Z,0.4nm,0.8s,baz=252,slow=5.7,SNR=4.9						
BMAR	**Burnt Mountain**	**61.61**	**25**	P	**P**	**03 09 43.9**	**+2.3**
SCRK	**Sand Creek**	**61.63**	**29**	P	**P**	**03 09 42.7**	**+0.9**
SCRK				IAmb	IAmb	03 09 54.4	
	comp=Z,3.1nm,1.2s						
OUZ	**Omahuta**	**66.54**	**152**	P	**P**	**03 10 12.2**	**-1.8**
ABKAR	**Akbulak array**	**66.64**	**315**	P	**P**	**03 10 13.4**	**-1.2**
FINES	**FINESS Array B**	**80.18**	**334**	P	**P**	**03 11 34.2**	**+0.6**
	comp=Z,1.8nm,0.9s,baz=77,slow=7.3,SNR=3.6						
NVAR	**Mina Array Bea**	**82.69**	**51**	P	**P**	**03 11 48.6**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=313,slow=4.5,SNR=2.5						
PLCA	**Paso Flores**	**148.59**	**129**	PKPbc	**PKPbc**	**03 19 09.7**	**0.0**
	comp=Z,1.1nm,0.7s,baz=260,slow=6.1,SNR=3.1						
PLCA	**Paso Flores**	**148.59**	**129**		**PKPbc**	**03 19 09.5**	**-0.3**

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*JMA **02** 03:03:35.8±0.1, 24.°85N×121.°94E, h37^{km}, M4.3*

*TAP **02** 03:03:35.4, 24.°86N×121.°99E, h11^{km}, ML4.5, C*

*NEIC **02** 03:03:35.8±1.2, 24.°82N±0.°03×122.°02E±0.°02, h9^{km}±5^{km}, Error ellipse: s-maj=3.9km s-min=2.3km az=183.0*

*NIED **02** 03:03:35.9, 24.°85N×121.°94E, h37^{km}, MW4.4, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}-3.50; $M_{\theta\theta}$3.78; $M_{\phi\phi}$-0.28; $M_{r\theta}$0.83; $M_{\theta\phi}$1.36; $M_{\phi r}$1.81; Fault plane solution: $M_0$4.37000×10^{15} NP1: ϕ_s232.00000°, δ58.00000°, λ-115.00000°. NP2: ϕ_s94.00000°, δ40.00000°, λ-55.00000°.*

*BJI **02** 03:03:36.6±0.0, 24.°93N×122.°08E, h28^{km}, mB4.5/12, mb4.2/19, ML4.1/5, Ms4.2/18, Ms7 4.1/15*

*ASIES **02** 03:03:36.3, 24.°85N×122.°00E, h22^{km}, MW4.2*

*IDC **02** 03:03:49.8±5.9, 24.°87N×122.°03E, h140^{km}±60^{km}, mb3.8/10, mb1 3.9/11, mb1mx3.6/45, mbtmp4.2/11, MS3.6/13, Ms1 3.6/13, ms1mx3.4/44, Error ellipse: s-maj=23.5km s-min=13.7km az=68.0*

ISC 02 03:03:35.3±0.8**, 24.°85N**±0.°02×**122.°05E**±0.°02**, h8**^{km}±5^{km}**, n188,** σ1s**00**/250**, mb4.5**/19**, MS3.5**/12**, 20C-6D, Fault plane solution: NP1:**ϕ_s258.64554°**,** δ49.26658°**,** λ-81.52111°. **NP2:**ϕ_s65.77703°**,** δ41.45535°**,** λ-99.71589°. **Principal axes:** T Plg3.9302°**,** Azm342.6469°**;** N Plg6.4149°**,** Azm73.0895°**;** P Plg82.4683°**,** Azm221.3400°**; Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.10**	**269**	⇓*i*P	**Pg**	**03 03 37.8**	**+0.1**
	baz=250						
EGS				*i* S	**Sg**	**03 03 39.5**	**+0.1**
	baz=250						
TWB1	**Santiao Chiao**	**0.17**	**342**	*i* P	**Pg**	**03 03 39.0**	**+0.2**
	baz=1.0						
TWB1				*i* S	**Sg**	**03 03 41.4**	**+0.2**
	baz=1.0						
NTC	**Toucheng**	**0.20**	**272**	P	**Pg**	**03 03 39.5**	**+0.2**
	baz=277						
NTC				S	**Sg**	**03 03 42.0**	**+0.1**
	baz=277						
TIPB	**Shuangxi**	**0.23**	**302**	⇑*i*P	**Pg**	**03 03 40.2**	**+0.2**
	baz=306						
TIPB				*i* S	**Sg**	**03 03 43.3**	**0.0**
	baz=306						
ILA	**Ilan**	**0.28**	**253**	P	**Pg**	**03 03 41.0**	**+0.1**
	baz=247						
ILA				S	**Sg**	**03 03 45.1**	**+0.4**
	baz=247						
TWC	**Suao**	**0.30**	**217**	⇑*i*P	**Pg**	**03 03 41.2**	**+0.1**
	baz=207						
TWC				*i* S	**Sg**	**03 03 44.7**	**-0.4**
	baz=207						
NWF	**Wu-fen Shan**	**0.33**	**313**	⇑*i*P	**Pg**	**03 03 42.1**	**+0.3**
	baz=308						
NWF				*i* S	**Sg**	**03 03 46.4**	**+0.3**
	baz=308						
WFSB	**Wu-fen Shan**	**0.33**	**313**	⇑*i*P	**Pg**	**03 03 42.1**	**+0.4**
	baz=312						
WFSB				S	**Sg**	**03 03 46.3**	**+0.2**
	baz=312						
TWE	**Neicheng**	**0.37**	**250**	⇓*i*P	**Pg**	**03 03 42.4**	**0.0**
	baz=236						
TWE				S	**Sg**	**03 03 46.9**	**-0.4**
	baz=236						
NDS	**Dongshan**	**0.37**	**235**	P	**Pg**	**03 03 42.4**	**0.0**
	baz=230						
NDS				*e*S	**Sg**	**03 03 46.7**	**-0.6**
	baz=230						
TNOU	**National Taiwa**	**0.39**	**321**	P	**Pg**	**03 03 42.0**	**-0.9**
	baz=317						
TNOU				S	**Sg**	**03 03 46.7**	**-1.3**
	baz=317						
TWA	**Mucha**	**0.44**	**288**	⇑*i*P	**Pg**	**03 03 44.0**	**+0.1**
	baz=288						
TWA				*i* S	**Sg**	**03 03 49.5**	**-0.2**
	baz=288						
EWUT	**Wuta**	**0.47**	**211**	⇑*i*P	**Pg**	**03 03 44.2**	**-0.1**
	baz=214						
EWUT				S	**Sg**	**03 03 51.0**	**+0.5**
	baz=214						
NHY	**Taipei**	**0.47**	**294**	*e*P	**Pb**	**03 03 45.1**	**-0.7**
	baz=288						
NHY				*e*S	**Sg**	**03 03 51.1**	**+0.5**
	baz=288						
NHDH	**Xindian Distri**	**0.49**	**284**	P	**Pg**	**03 03 45.0**	**+0.3**
	baz=277						
NHDH				S	**Sg**	**03 03 50.5**	**-0.6**
	baz=277						
NWRT	**Kuosheng**	**0.50**	**316**	*e*P	**Pb**	**03 03 45.5**	**-0.7**
	baz=318						
TAP1	**Taipei**	**0.51**	**292**	*e*P	**Pb**	**03 03 46.1**	**-0.4**
	baz=291						
TAP1				*e*S	**Sg**	**03 03 52.5**	**+0.6**
	baz=291						
TATO	**Taipei**	**0.52**	**284**	*e*P	**Pg**	**03 03 45.5**	**+0.1**
	baz=278						
TATO				*e*S	**Sg**	**03 03 51.5**	**-0.7**
	baz=278						
TATO	**Taipei**	**0.52**	**284**		**Pg**	**03 03 45.4**	**+0.1**
TATO				Sg	**Sg**	**03 03 52.0**	**-0.2**
YM01	**YM01**	**0.52**	**305**	⇑*i*P	**Pb**	**03 03 46.1**	**-0.7**
	baz=306						
TAP	**Taipei**	**0.53**	**291**	P	**Pg**	**03 03 46.0**	**+0.5**
	baz=292						
TAP				S	**Sg**	**03 03 52.4**	**0.0**
	baz=292						
YM08	**YM08**	**0.54**	**310**	*e*P	**Pg**	**03 03 45.9**	**+0.3**
	baz=311						
ANP	**Anpu**	**0.58**	**305**	P	**Pg**	**03 03 46.9**	**+0.3**
	baz=299						
TWY	**Chenhua**	**0.59**	**317**	P	**Pb**	**03 03 47.4**	**-0.4**
	baz=319						
TWS1	**Kuangyinshan**	**0.62**	**294**	⇑*i*P	**Pg**	**03 03 47.4**	**+0.1**
	baz=294						
TWS1				S	**Sb**	**03 03 57.8**	**+0.5**
	baz=294						
NTST	**Danshui**	**0.63**	**300**	P	**Pb**	**03 03 48.4**	**-0.1**
	baz=301						
NTST				*e*S	**Sb**	**03 03 57.3**	**0.0**
	baz=301						
YHNB	**Yeheng**	**0.63**	**254**	Pg	**Pg**	**03 03 46.9**	**-0.6**
YHNB				Sg	**Sg**	**03 03 54.4**	**-1.4**
NNS	**Nan Shan**	**0.73**	**237**	⇓*i*P	**Pg**	**03 03 49.6**	**+0.2**
	baz=234						
NNS				*e*S	**Sb**	**03 04 00.1**	**-0.5**
	baz=234						
PCYT	**Pengchaiyu**	**0.78**	**2**	⇑*i*P	**Pb**	**03 03 51.2**	**+0.1**
	baz=9.0						
NACB	**Ninganchiao**	**0.79**	**212**	P	**Pg**	**03 03 50.2**	**-0.2**
	baz=211						
NACB				S	**Sg**	**03 04 00.5**	**-0.2**
	baz=211						
NACB	**Ninganchiao**	**0.79**	**212**		**Pg**	**03 03 49.8**	**-0.6**
NACB				Sg	**Sg**	**03 04 00.3**	**-0.3**
NCU	**National Centr**	**0.79**	**279**	P	**Pb**	**03 03 51.6**	**+0.4**
	baz=278						
NCU				S	**Sb**	**03 04 02.2**	**+0.1**
	baz=278						
NCUH	**Zhongli**	**0.79**	**279**	*e*P	**Pb**	**03 03 51.5**	**+0.3**
	baz=278						
NCUH				*e*S	**Sb**	**03 04 01.4**	**-0.7**
	baz=278						
ETLH	**Xiulin Townshi**	**0.82**	**219**	P	**Pg**	**03 03 51.0**	**-0.1**
	baz=218						
ETLH				*e*S	**Sg**	**03 04 01.9**	**+0.2**
	baz=218						
TWD	**Chiawan**	**0.87**	**208**	*i* P	**Pg**	**03 03 51.9**	**0.0**
	baz=208						
TWD				*i* S	**Sg**	**03 04 02.7**	**-0.5**
	baz=208						
JYNG	**Yonagunijimaku**	**0.91**	**116**	P	**Pb**	**03 03 53.4**	**+0.1**
JYNG				S	**Sb**	**03 04 06.2**	**+0.7**
FUSS	**Fushou**	**0.94**	**231**	P	**Pg**	**03 03 53.1**	**-0.3**
	baz=225						
FUSS				*e*S	**Sb**	**03 04 07.6**	**+0.9**
	baz=225						
HWA	**Hwalien**	**0.95**	**205**	*e*P	**Pg**	**03 03 53.6**	**0.0**
	baz=204						
LIOB	**Emei**	**0.96**	**258**	P	**Pn**	**03 03 54.6**	**-0.4**
	baz=248						
YOJ	**Yonaguni jima**	**0.96**	**113**	P	**Pb**	**03 03 54.3**	**+0.2**
YOJ				S	**Sb**	**03 04 07.7**	**+0.8**
YOJ	**Yonaguni jima**	**0.96**	**113**	⇑*i*P	**Pb**	**03 03 54.0**	**-0.1**
	baz=115						
YOJ				S	**Sb**	**03 04 07.3**	**+0.4**
	baz=115						
YOJ	**Yonaguni jima**	**0.96**	**113**		**Pg**	**03 03 53.9**	**+0.2**
YOJ				Sg	**Sb**	**03 04 07.2**	**+0.3**
SBCB	**Hsinchu**	**0.96**	**267**	P	**Pn**	**03 03 54.8**	**-0.3**
	baz=259						
SBCB				S	**Sn**	**03 04 08.9**	**-0.1**
	baz=259						
NSTT	**Nanjuang**	**0.97**	**257**	P	**Pn**	**03 03 54.9**	**-0.3**
	baz=247						
HSN	**Hsinchu**	**0.98**	**268**	*e*P	**Pb**	**03 03 54.6**	**+0.2**
	baz=267						
HSN				*e*S	**Sb**	**03 04 07.1**	**-0.4**
	baz=267						
TWT	**Tachien**	**0.99**	**233**	*e*P	**Pb**	**03 03 54.9**	**+0.2**
	baz=226						
WHF	**Hehuan Shan**	**1.00**	**226**	P	**Pg**	**03 03 53.9**	**-0.6**
	baz=217						
WHF				*e*S	**Sg**	**03 04 07.2**	**-0.2**
	baz=217						
ETM	**Tongmen**	**1.01**	**210**	P	**Pg**	**03 03 54.3**	**-0.4**
	baz=205						
TEYL	**Yanliau Villag**	**1.06**	**203**	*e*P	**Pb**	**03 03 55.9**	**+0.2**
	baz=211						
CHGB	**Renai**	**1.11**	**226**	P	**Pg**	**03 03 56.3**	**-0.4**
	baz=219						
CHGB				S	**Sg**	**03 04 10.3**	**-0.9**
	baz=219						
WHP	**Taichung City**	**1.15**	**241**	P	**Pb**	**03 03 57.4**	**0.0**
	baz=239						
ESL	**Shilin**	**1.17**	**209**	P	**Pb**	**03 03 56.9**	**-0.8**
	baz=210						
ESL				*e*S	**Sg**	**03 04 12.1**	**-0.9**
	baz=210						
NMLH	**Miaoli**	**1.18**	**255**	P	**Pn**	**03 03 58.7**	**+0.6**
	baz=253						
NMLH				S	**Sn**	**03 04 14.7**	**+0.4**
	baz=253						
OWD	**Renai**	**1.19**	**222**	P	**Pg**	**03 03 58.2**	**0.0**
	baz=223						
OWD				S	**Sg**	**03 04 12.9**	**-0.7**
	baz=223						
TEGC	**Jichi Village**	**1.22**	**202**	*e*P	**Pg**	**03 03 59.6**	**+0.8**
	baz=203						
NSY	**Sanyi**	**1.25**	**250**	P	**Pg**	**03 03 59.7**	**+0.5**
	baz=248						
NSY				*e*S	**Sn**	**03 04 16.6**	**+0.7**
	baz=248						
TWQ1	**Liyutan**	**1.26**	**247**	P	**Pg**	**03 04 00.4**	**+0.9**
	baz=234						
TWQ1				*e*S	**Sn**	**03 04 17.4**	**+1.1**
	baz=234						
WCS	**Beigang Elemen**	**1.30**	**233**	*e*P	**Pg**	**03 04 01.3**	**+1.1**
	baz=222						
EGFH	**Guangfu**	**1.30**	**206**	P	**Pn**	**03 03 59.4**	**-0.4**
	baz=214						
EGFH				S	**Sn**	**03 04 18.0**	**+0.8**
	baz=214						
WDJ	**Dajia District**	**1.37**	**249**	*e*P	**Pg**	**03 04 02.3**	**+0.7**
	baz=237						
WDJ				*e*S	**Sg**	**03 04 21.5**	**+2.1**
	baz=237						
SMLT	**Sun Moon Lake**	**1.42**	**228**	⇑*i*P	**Pb**	**03 04 02.0**	**-0.1**
	baz=219						
TCU	**Taichung**	**1.43**	**241**	*e*P	**Pg**	**03 04 04.5**	**+1.8**
	baz=257						
TYC	**Yuchr**	**1.43**	**229**	P	**Pb**	**03 04 02.2**	**0.0**
	baz=223						
TYC				*e*S	**Sg**	**03 04 22.6**	**+1.2**
	baz=223						
SSLB	**Suanglung**	**1.45**	**224**	⇑*i*P	**Pn**	**03 04 02.0**	**+0.2**
	baz=223						
SSLB	**Suanglung**	**1.45**	**224**		**Pn**	**03 04 01.4**	**-0.4**
SSLB				Sg	**Sn**	**03 04 19.1**	**-1.9**
HGSD	**Ruisui**	**1.46**	**203**	⇑*i*P	**Pb**	**03 04 02.9**	**+0.2**
	baz=193						
EHY	**Hungye**	**1.49**	**206**	P	**Pn**	**03 04 02.7**	**+0.4**
	baz=209						
WCHH	**Zhanghua**	**1.56**	**241**	*e*P	**Pg**	**03 04 05.9**	**+0.8**
	baz=240						
WCHH				*e*S	**Sg**	**03 04 27.2**	**+1.9**
	baz=240						
WNT	**Mingjian**	**1.57**	**232**	*e*P	**Pg**	**03 04 06.2**	**+0.8**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	baz=222						
WNT				eS	Sg	03 04 27.5	+1.7
	baz=222						
WJS	Zhushan	1.58	230	P	Pg	03 04 05.5	0.0
	baz=222						
WJS				S	Sg	03 04 27.7	+1.7
	baz=222						
YULB	Yu-li	1.60	205	eP	Pn	03 04 04.2	+0.3
	baz=208						
YULB	Yu-li	1.60	205		Pn	03 04 03.5	-0.4
YULB				Sn	Sn	03 04 23.7	-1.0
IRIF	Iriomote-Funau	1.62	108	P	Pn	03 04 03.2	-0.8
IRIF				S	Sn	03 04 24.4	-0.6
EYUL	Yuli	1.63	204	eP	Pb	03 04 05.0	-0.7
	baz=216						
EYUL				eS	Sb	03 04 26.9	+0.5
	baz=216						
ALS	Alishan	1.75	221	⇓iP	Pb	03 04 08.2	+0.4
	baz=209						
FULB	Fuli	1.78	203	eP	Pb	03 04 07.7	-0.4
	baz=217						
HATJ	Hateruma jima	1.79	116	P	Pn	03 04 06.4	0.0
HATJ				S	Sn	03 04 29.0	-0.2
WRL	Guolierlin Hig	1.79	239	eP	Pb	03 04 07.8	-0.4
	baz=253						
WDLH	Douliu	1.79	230	eP	Pg	03 04 09.2	-0.5
	baz=229						
CHKT	Chengkung	1.85	200	eP	Pn	03 04 07.8	+0.6
	baz=185						
JKRS	Kuro-shima	1.89	108	P	Pn	03 04 07.4	-0.4
JKRS				S	Sn	03 04 32.1	+0.3
ELDTW	Lidau	1.90	210	P	Pb	03 04 09.8	-0.4
	baz=213						
WTK	Tuku	1.90	233	eP	Pb	03 04 09.9	-0.3
	baz=250						
JIJ	Ishigaki jima	1.97	104	P	Pn	03 04 08.9	0.0
JIJ				S	Sn	03 04 33.4	-0.4
EDH	Donghe	1.98	200	eP	Pn	03 04 09.0	-0.1
	baz=219						
EDH				eS	Sb	03 04 36.0	-0.6
	baz=219						
CHY	Chiayi	2.00	228	P	Pb	03 04 12.0	+0.1
	baz=245						
CHY				eS	Sb	03 04 37.5	+0.6
	baz=245						
TPUB	Ta-pu	2.01	220	P	Pb	03 04 11.9	-0.2
	baz=211						
TPUB				S	Sb	03 04 38.4	+1.1
	baz=211						
TPUB	Ta-pu	2.01	220	Pn	Pn	03 04 09.8	+0.3
STYH	Taoyuan	2.03	215	P	Pb	03 04 11.4	-1.0
	baz=210						
STYH				eS	Sg	03 04 40.2	-0.4
	baz=210						
WSF	Szhu	2.05	234	eP	Pb	03 04 12.4	-0.3
	baz=247						
JISG	Ishigakijimahi	2.08	97	P	Pn	03 04 11.2	+0.8
JISG				S	Sn	03 04 37.2	+0.8
LONT	Longtian	2.11	204	eP	Pn	03 04 11.2	+0.4
	baz=207						
TWK	Hsinying	2.12	222	P	Pb	03 04 13.7	-0.2
	baz=226						
TWK				S	Sg	03 04 42.6	-0.9
	baz=226						
CHN1	Nanshi	2.16	220	⇓iP	Pb	03 04 14.4	-0.2
	baz=225						
CHN1				S	Sg	03 04 44.0	-0.7
	baz=225						
ICHU	Yijhu	2.19	228	eP	Pb	03 04 14.4	-0.7
	baz=242						
ICHU				eS	Sb	03 04 44.0	+1.6
	baz=242						
TWG	Pinlang	2.21	204	P	Pn	03 04 12.8	+0.7
	baz=208						
TWG	Pinlang	2.21	204		Pn	03 04 12.2	0.0
TWGBT	Beinan	2.21	204	eP	Pn	03 04 12.5	+0.3
	baz=208						
SGST	Jiashian	2.21	218	P	Pb	03 04 14.3	-1.2
	baz=212						
SGST				eS	Sg	03 04 45.5	-0.8
	baz=212						
LDUT	Ludao	2.23	194	eP	Pn	03 04 11.4	-1.1
	baz=189						
LDUT				eS	Sn	03 04 37.2	-3.0
	baz=189						
CHN8	Yiju	2.25	229	eP	Pb	03 04 15.5	-0.6
	baz=243						
CHN8				eS	Sb	03 04 45.2	+1.2
	baz=243						
MATB	Ma-tsu	2.30	305	eP	Pn	03 04 11.8	-1.6
	baz=303						
VWUC	VWUC	2.36	274	eP	Pn	03 04 13.2	-1.1
	baz=270						
SCLT	Jiali	2.37	226	eS	Sg	03 04 50.5	-1.1
	baz=229						
SCST	Cishan	2.41	216	P	Pb	03 04 18.2	-0.7
	baz=221						
JTJ	Tarama	2.42	94	P	Pn	03 04 16.2	+1.0
ECL	Taimali	2.45	204	eP	Pb	03 04 18.6	-1.0
	baz=196						
SSD	Sandimen	2.46	212	P	Pb	03 04 18.7	-1.1
	baz=217						
SSD				eS	Sb	03 04 50.5	+0.4
	baz=217						
TSMG	Majia	2.49	211	P	Pn	03 04 18.1	+2.0
	baz=219						
TSMG				eS	Sb	03 04 51.1	+0.1
	baz=219						
MASBT	Mashibuluo	2.57	210	P	Pb	03 04 19.6	-2.1
	baz=219						
MASBT				eS	Sb	03 04 52.6	-0.8
	baz=219						
PNG	Penghu	2.61	241	eP	Pn	03 04 18.9	+1.3
	baz=241						
SNJT	Kaohsiung City	2.61	217	eP	Pb	03 04 21.4	-0.8
	baz=222						
PHUB	P'eng-hu	2.62	240	eP	Pn	03 04 18.8	+0.9
	baz=250						
PTMZ	Houxiangcun	2.66	275	eP	Pn	03 04 17.2	-1.2
	baz=270						
XPSS	Dashiqiu	2.66	322	eP	Pn	03 04 17.0	-1.4
	baz=322						
LYJJ	Jianjiangzhen	2.67	310	eP	Pn	03 04 16.9	-1.6
	baz=309						
EAST	Anshuo	2.69	204	eP	Pn	03 04 20.2	+1.4
	baz=198						
TAW	Tawu	2.69	203	eP	Pb	03 04 22.3	-1.4
	baz=197						
SCZT	Fangliau	2.79	208	eP	Pb	03 04 24.4	-0.9
	baz=212						
JIRB	Irabujima	2.84	90	P	Pn	03 04 22.4	+1.5
SLIU	Shizi	2.86	204	P	Pb	03 04 24.3	-2.2
	baz=198						
JIKM	Ikemajima	2.91	88	P	Pb	03 04 24.6	-2.8
WLCH	Liuqiu	2.92	212	eP	Pb	03 04 27.0	-0.5
	baz=215						
JMJ2	Miyako jima3	2.99	91	P	Pn	03 04 24.7	+1.8
MHZQ	Yeshan	3.00	295	eP	Pn	03 04 21.2	-1.8
	baz=293						
JOGS	Gusukube	3.06	91	P	Pn	03 04 26.1	+2.2
HEN	Hengchun	3.07	203	eP	Pn	03 04 26.7	+2.6
	baz=199						
TWK1	Hengchun	3.11	202	eP	Pn	03 04 25.6	+1.0
	baz=195						
TWKBT	Hengchun	3.11	202	eP	Pn	03 04 26.1	+1.5
	baz=202						
TWKBT				eS	Sb	03 05 07.1	-1.7
	baz=202						
TSEB	Hengchuen, Pin	3.12	200	eP	Pb	03 04 28.7	-2.2
	baz=195						
QZH	Quanzhou	3.14	272	Pn	Pn	03 04 23.8	-1.2
QZH				Sn	Sn	03 04 59.6	-3.0
QZH				smax	smax		
	comp=N,440nm,1.2s						
QZH				smax	smax		
	comp=E,220nm,0.7s						
KNM	Kinmen	3.31	263	eP	Pn	03 04 28.3	+0.9
	baz=258						
KNMB	Chin-men Tao	3.35	264	eP	Pn	03 04 26.4	-1.4
	baz=259						
KNMB	Chin-men Tao	3.35	264	Pn	Pn	03 04 26.4	-1.4
AXDP	Jialang	3.70	272	eP	Pn	03 04 32.3	-0.5
	baz=266						
ZPLA	Ao Xicun	4.02	258	eP	Pn	03 04 36.5	-0.6
	baz=252						
BBP	Basco	4.39	181	⇓eP	Pn	03 04 41.7	-0.5
JOW	Kunigami	5.95	69	Pn	Pn	03 05 04.7	+1.1
QIZ	Qiongzhong	12.71	245	P	Pn	03 06 37.5	+1.1
QIZ				S	Sn	03 09 01.5	+3.3
QIZ				LR	LR		
	comp=N,470nm,12.8s						
QIZ				LR	LR		
	comp=E,270nm,12.3s						
QIZ				LR	LR		
	comp=Z,280nm,8.6s						
KSRS	Korea Array	13.53	20	P	P	03 06 54.7	-2.1
	0.3nm,0.3s,baz=210,slow=13,SNR=3.2						
KMI	Kunming	17.51	275	⇑P	P	03 07 44.0	+2.8
KMI				sP	sP	03 07 50.9	+6.5
KMI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KMI				LR	LR		
	comp=N,280nm,9.8s						
KMI				LR	LR		
	comp=E,490nm,12.5s						
KMI				LR	LR		
	comp=Z,470nm,14.1s						
MJAR	Matsushiro Arr	18.11	46	LR	LR	03 15 36.7	
	comp=Z,132nm,19.8s,baz=220,slow=39						
CN2	Changchun	19.11	8	eP	Pn	03 08 02.7	+3.4
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=N,600nm,12.0s						
CN2				LR	LR		
	comp=E,400nm,12.0s						
CN2				LR	LR		
	comp=Z,400nm,12.0s						
MDJ	Mudanjiang	20.66	15	P	P	03 08 15.2	-0.2
USRK	Ussuriysk Ar.	20.94	20	P	Pn	03 08 20.9	-0.1
	2.4nm,0.9s,baz=195,slow=10,SNR=5.0						
USRK				LR	LR	03 17 09.2	
	comp=Z,123nm,19.0s,baz=172,slow=38						
USRK	Ussuriysk Ar.	20.94	20	P	P	03 08 19.5	+1.1
CMMT	Chiang Mai	22.25	259	P	P	03 08 21.7	-11
CHTO	Chiang Mai	22.25	259	P	P	03 08 32.8	0.0
	3.2nm,0.6s						
CMAR	Chiang Mai Arr	22.38	258	P	P	03 08 37.3	+3.2
	1.5nm,0.4s,baz=66,slow=9.0,SNR=7.7						
CMAR				LR	LR	03 18 18.5	
	comp=Z,83nm,19.8s,baz=195,slow=39						
GTA	Gaotai	23.69	313	eP	P	03 08 47.7	+0.1
GTA				pP	sP	03 08 52.2	+1.3
GTA				sP	pP	03 08 55.3	+5.4
GTA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GUMO	Guam	24.25	113	LR	LR	03 16 22.0	
	comp=Z,53nm,20.9s,baz=73,slow=31						
KLR	Kul'dur	25.50	15	P	P	03 09 05.7	+1.8
	3.7nm,0.7s,baz=232,slow=10,SNR=11						
KLR				LR	LR	03 19 47.2	
	comp=Z,169nm,18.2s,baz=201,slow=38						
APSI	Ampana	25.61	181	P	P	03 09 06.1	+0.9
	22nm,0.8s						
ULN	Ulaanbaatar	25.86	336	P	P	03 09 08.3	+0.9
ULN				IAmb	IAmb	03 09 09.1	
	comp=Z,8.8nm,1.1s						
SONM	Songino Array	26.08	336	P	P	03 09 09.9	+0.5
	comp=Z,8.5nm,0.8s,baz=147,slow=9.1,SNR=39						
SONM	Songino Array	26.08	336	P	P	03 09 09.8	+0.4
SONM				IAmb	IAmb	03 09 11.1	
	comp=Z,13nm,1.0s						
SIJI	Sorong	27.08	159	LR	LR	03 20 31.5	
	comp=Z,67nm,19.6s,baz=294,slow=37						
SHL	Shillong	27.27	278	P	P	03 09 18.1	-2.3
SHL				IAmb	IAmb	03 09 29.5	
	comp=Z,14nm,0.9s						
KAPI	Kappang	29.77	185	LR	LR	03 21 20.1	
	comp=Z,66nm,20.4s,baz=20,slow=35						
WMQ	Urumqi	33.77	313	eP	P	03 10 17.4	-0.2
MDSI	Maura Dua	33.94	213	P	P	03 10 19.3	+0.1
	comp=Z,11nm,1.3s						
MANU	Manus Island	36.30	134	P	P	03 10 38.2	-1.4
MK31	Makanchi Array	38.42	315	P	P	03 10 57.3	0.0
MKAR	Makanchi Array	38.42	315	P	P	03 10 57.0	-0.2
	comp=Z,1.5nm,0.7s,baz=101,slow=11,SNR=10						
MKAR	Makanchi Array	38.42	315	P	P	03 10 56.8	-0.4
PETK	Petropavlovsk-	38.88	34	LR	LR	03 29 32.9	
	comp=Z,47nm,19.1s,baz=132,slow=40						
ZAA0	Zalesovo Array	40.12	326	P	P	03 11 11.0	-0.3
ZALV	Zalesovo Beam	40.12	326	P	P	03 11 11.0	-0.3
	comp=Z,4.4nm,0.7s,baz=116,slow=7.7,SNR=11						
ZALV	Zalesovo Beam	40.12	326	P	P	03 11 10.6	-0.7
KURBB	Kurchatov Arra	42.12	319	P	P	03 11 27.5	-0.3
	comp=Z,0.8nm,0.5s,baz=110,slow=7.9,SNR=7.4						
COEN	Coen	43.73	150	P	P	03 11 40.3	-1.0
WB0	Warramunga Arr	45.95	164	P	P	03 11 58.5	-0.3
WRA	Warramunga Arr	46.10	164	P	P	03 11 59.8	-0.2
	comp=Z,9.2nm,0.8s,baz=348,slow=8.5,SNR=28						
WR0	Warramunga Arr	46.17	164	P	P	03 12 00.3	-0.2
BRVK	Borovoye	47.73	320	P	P	03 12 12.4	-0.1
BRVK				IAmb	IAmb	03 12 15.1	
	comp=Z,3.4nm,0.8s						
ASAR	Alice Springs	49.58	166	P	P	03 12 27.0	0.0
	comp=Z,1.6nm,0.8s,baz=347,slow=8.3,SNR=10.0						
ASAR				PcP	PcP	03 13 46.1	-2.6
	comp=Z,0.5nm,0.8s,baz=348,slow=3.1,SNR=2.2						
ABKAR	Akbulak array	53.54	314	P	P	03 12 56.4	-0.1
ABKAR	Akbulak array	53.54	314	P	P	03 12 56.5	+0.1
STKA	Stephens Creek	59.42	161	P	P	03 13 37.5	-0.8
	comp=Z,3.2nm,0.8s,baz=0.0,slow=5.1,SNR=3.9						
STKA	Stephens Creek	59.42	161	P	P	03 13 37.4	-1.0
STKA				IAmb	IAmb	03 13 39.0	
	comp=Z,5.4nm,1.4s						
KBZ	Khabaz	65.68	309	LR	LR	03 44 51.6	
	comp=Z,52nm,18.1s,baz=60,slow=38						
H23K	Yukon River	66.97	27	P	P	03 14 29.4	+1.2
H23K				IAmb	IAmb	03 14 35.7	
	comp=Z,3.2nm,0.9s						
NEA2	Nenana	67.38	28	P	P	03 14 31.2	+0.4
NEA2				IAmb	IAmb	03 14 35.9	
	comp=Z,6.5nm,1.3s						
MDM	Murphy Dome	67.67	27	P	P	03 14 32.9	+0.3
MDM				IAmb	IAmb	03 14 39.8	
	comp=Z,3.7nm,1.0s						
FINES	FINESS Array B	71.27	330	LR	LR	03 48 32.4	
	comp=Z,98nm,19.4s,baz=67,slow=38						
MMAI	Mount Meron Ar	74.26	299	LR	LR	03 55 52.7	
	comp=Z,48nm,19.0s,baz=125,slow=42						
HFS	Hagfors	77.37	331	LR	LR	03 53 39.5	
	comp=Z,120nm,18.2s,baz=56,slow=39						
ESDC	Sonseca Array	98.42	321	LR	LR	04 03 18.5	
	comp=Z,42nm,18.5s,baz=285,slow=36						

IDC 02 03:04:10.8±2.3, 17.67°S×178.80°W, h643km±21km, mb2.8/5, mb1 3.1/6, mb1mx2.8/37, mbtmp3.8/6 Error ellipse: s-maj=123.2km s-min=21.1km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.00	268	P	P	03 05 33.6	-0.1
	5.3nm,0.3s,baz=120,slow=23,SNR=8.9						
STKA	Stephens Creek	38.42	241	P	P	03 10 40.2	+0.1
	1.7nm,0.7s,baz=103,slow=8.0,SNR=2.9						
WRA	Warramunga Arr	44.31	259	P	P	03 11 26.4	0.0
	0.7nm,0.4s,baz=95,slow=6.9,SNR=33						
ASAR	Alice Springs	44.49	254	P	P	03 11 27.9	0.0
	2.4nm,0.6s,baz=87,slow=8.5,SNR=29						
NVAR	Mina Array Bea	79.51	44	P	P	03 15 13.2	+0.1
	0.2nm,0.6s,baz=244,slow=7.8,SNR=2.7						
TXAR	Lajitas Array	86.19	58	P	P	03 15 46.5	+0.1
	0.4nm,0.7s,baz=207,slow=8.1,SNR=3.6						

TAP 02 03:11:39.6, 24.84°N×122.04°E, h8km, ML2.2, B, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGS		0.10	273	eP	Pg	03 11 42.5	+0.6
	baz=271						
EGS				eS	Sg	03 11 44.1	+0.5
	baz=271						
TWB1	Santiao Chiao	0.17	343	P	Pg	03 11 43.8	+0.6
	baz=345						
TWB1				S	Sg	03 11 46.4	+0.7
	baz=345						
NTC	Toucheng	0.19	274	eP	Pg	03 11 44.2	+0.6
	baz=274						
NTC				eS	Sg	03 11 47.9	+1.7
	baz=274						
TIPB	Shuangxi	0.24	304	P	Pg	03 11 45.0	+0.7
	baz=302						
TIPB				S	Sg	03 11 48.1	+0.6
	baz=302						
ILA	Ilan	0.28	255	eP	Pb	03 11 46.6	-0.2
	baz=255						
ILA				eS	Sb	03 11 50.8	-0.9
	baz=255						
TWC	Suao	0.29	218	eP	Pg	03 11 45.8	+0.5
	baz=216						
TWC				eS	Sg	03 11 49.5	+0.3
	baz=216						
NWF	Wu-fen Shan	0.33	314	P	Pb	03 11 47.1	-0.6
	baz=313						
NDS	Dongshan	0.36	235	P	Pg	03 11 47.1	+0.4
	baz=236						
NDS				eS	Sb	03 11 53.1	-1.0
	baz=236						
TWE	Neicheng	0.36	251	eP	Pg	03 11 47.1	+0.4
	baz=250						
TWE				eS	Sg	03 11 51.9	+0.4
	baz=250						
TWA	Mucha	0.44	289	eP	Pg	03 11 48.6	+0.4
	baz=288						
EWUT	Wuta	0.46	212	eP	Pb	03 11 49.4	-0.5
	baz=219						
EWUT				eS	Sb	03 11 55.9	-1.0
	baz=219						
ENA	Nanau	0.49	214	eP	Pg	03 11 49.6	+0.5
	baz=220						
ENA				eS	Sg	03 11 56.2	+0.6
	baz=220						
YM01	YM01	0.53	306	eP	Pb	03 11 51.1	0.0
	baz=304						
YM01				eS	Sb	03 11 59.3	+0.4
	baz=304						
NDT	Datong Townshi	0.54	244	eP	Pg	03 11 50.4	+0.4
	baz=245						
TWY	Chenhua	0.59	317	eP	Pb	03 11 52.5	+0.3
	baz=316						
TWY				eS	Sb	03 12 01.1	+0.4
	baz=316						
YHNB	Yeheng	0.63	255	eP	Pg	03 11 51.7	0.0
	baz=255						
YHNB				eS	Sg	03 12 00.3	+0.3
	baz=255						
NSK	Sanguang	0.64	255	eP	Pg	03 11 52.4	+0.4
	baz=255						
NSK				eS	Sg	03 12 01.0	+0.6
	baz=255						
NNS	Nan Shan	0.73	237	eP	Pg	03 11 54.0	+0.4
	baz=237						
NNS				eS	Sg	03 12 03.7	+0.6
	baz=237						
NACB	Ninganchiao	0.78	212	eP	Pg	03 11 54.6	+0.1
	baz=204						
NACB				eS	Sb	03 12 05.7	-0.4
	baz=204						
PCYT	Pengchaiyu	0.79	2	eP	Pb	03 11 56.2	+0.7
	baz=342						
PCYT				eS	Sb	03 12 07.5	+1.2
	baz=342						
ETLH	Xiulin Townshi	0.81	219	eP	Pn	03 11 56.8	-0.6
	baz=232						
ETLH				eS	Sb	03 12 08.3	+1.2
	baz=232						
FUSS	Fushou	0.94	231	eP	Pb	03 11 58.3	+0.1
	baz=232						
FUSS				eS	Sb	03 12 11.0	+0.1
	baz=232						
YOJ	Yonaguni jima	0.96	113	eP	Pb	03 11 58.3	-0.1
	baz=114						
YOJ				eS	Sb	03 12 11.4	+0.2
	baz=114						
WHF	Hehuan Shan	0.99	226	eP	Pb	03 11 59.0	-0.2
	baz=227						
WHF				eS	Sb	03 12 12.6	0.0
	baz=227						

TAP 02 03:11:46.3, 24.95°N×122.02°E, h15km, ML2.2, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.07	332	eP	Pg	03 11 49.7	+0.4
	baz=337						
TWB1				eS	Sg	03 11 52.1	+0.9
	baz=337						
EGS		0.13	219	eP	Pg	03 11 50.0	+0.1
	baz=214						
EGS				eS	Sb	03 11 53.5	+0.3
	baz=214						
TIPB	Shuangxi	0.18	277	eP	Pg	03 11 50.6	-0.1
	baz=277						
TIPB				eS	Sg	03 11 53.9	+0.3
	baz=277						
NTC	Toucheng	0.20	242	eP	Pb	03 11 51.9	+0.3
	baz=241						
NTC				eS	Sb	03 11 55.6	+0.5
	baz=241						
NWF	Wu-fen Shan	0.25	299	eP	Pb	03 11 52.5	-0.1
	baz=299						
NWF				eS	Sb	03 11 57.2	+0.5
	baz=299						
NWF	Wu-fen Shan	0.25	299	eS	Pb	03 11 52.4	-0.1
	baz=313						
TWE	Neicheng	0.40	235	eP	Pb	03 11 54.9	0.0
	baz=233						
TWA	Mucha	0.40	275	eP	Pb	03 11 54.9	-0.2
	baz=274						
TWA				eS	Sb	03 12 01.6	+0.7
	baz=274						
TWA	Mucha	0.40	275	eS	Pg	03 11 54.5	+0.2
	baz=288						
NDS	Dongshan	0.42	222	eP	Pb	03 11 55.4	0.0
	baz=221						
YM01	YM01	0.46	296	eP	Pb	03 11 56.1	+0.1
	baz=295						
YM01				eS	Sb	03 12 03.4	+0.8
	baz=295						
EWUT	Wuta	0.55	204	eP	Pg	03 11 57.3	+0.2
	baz=203						
EWUT				eS	Sb	03 12 05.6	+0.4
	baz=203						
NDT	Datong Townshi	0.58	233	eP	Pg	03 11 57.8	+0.2
	baz=233						
NDT	Datong Townshi	0.58	233	eS	Pg	03 11 57.7	0.0
	baz=245						
ENA	Nanau	0.58	206	eP	Pb	03 11 58.2	+0.1
	baz=205						
ENA				eS	Sb	03 12 05.9	-0.2
	baz=205						
YHNB	Yeheng	0.65	245	eP	Pb	03 11 59.5	+0.1
	baz=244						
YHNB				eS	Sb	03 12 08.8	+0.6
	baz=244						
NSK	Sanguang	0.66	246	eP	Pb	03 11 59.6	0.0
	baz=245						
NSK				eS	Sb	03 12 09.0	+0.5
	baz=245						
PCYT	Pengchaiyu	0.68	4	eP	Pg	03 11 59.2	-0.3
	baz=4.0						
PCYT				eS	Sb	03 12 09.8	+0.8
	baz=4.0						
NNS	Nan Shan	0.78	230	eP	Pb	03 12 01.6	0.0
	baz=228						
NNS				eS	Sb	03 12 12.7	+0.7
	baz=228						
NACB	Ninganchiao	0.86	207	eP	Pn	03 12 03.6	-0.2
	baz=206						
ETLH	Xiulin Townshi	0.89	214	eP	Pg	03 12 03.8	+0.2
	baz=213						
ETLH				eS	Sn	03 12 16.6	-0.3
	baz=213						
TDCB	Techi	1.05	229	eP	Pb	03 12 05.9	-0.3
	baz=228						
TDCB				eS	Sg	03 12 20.5	+0.2
	baz=228						
WHF	Hehuan Shan	1.06	221	eP	Pb	03 12 06.5	0.0
	baz=220						
WHF				eS	Sn	03 12 21.3	-0.3
	baz=220						

TAP 02 03:12:51.0, 24.95°N×121.90°E, h24km, ML2.1, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIPB	Shuangxi	0.07	286	eP	Pb	03 12 55.6	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=285						
TIPB				eS	Sb	03 12 59.1	+0.8
	baz=285						
TWB1	**Santiao Chiao**	**0.10**	**54**	P	Pb	03 12 55.9	+0.4
	baz=57						
EGS		**0.11**	**167**	eP	Pb	03 12 55.9	+0.3
	baz=161						
EGS				eS	Sb	03 12 59.5	+0.8
	baz=161						
NTC	**Toucheng**	**0.12**	**215**	P	Pb	03 12 55.8	+0.2
	baz=214						
NWF	**Wu-fen Shan**	**0.16**	**317**	eS	Sb	03 13 01.0	+1.3
	baz=317						
TWA	**Mucha**	**0.29**	**276**	eP	Pb	03 12 58.4	+0.6
	baz=275						
TWA				eS	Sb	03 13 03.5	+1.1
	baz=275						
TWC	**Suao**	**0.34**	**188**	eP	Pb	03 12 58.9	+0.3
	baz=186						
TWC				eS	Sb	03 13 05.0	+1.2
	baz=186						
NDS	**Dongshan**	**0.36**	**208**	eP	Pb	03 12 59.3	+0.4
	baz=208						
NDS				eS	Sn	03 13 06.0	-1.1
	baz=208						
YM01	**YM01**	**0.36**	**303**	eP	Pb	03 12 59.8	+0.9
	baz=302						
EWUT	**Wuta**	**0.52**	**193**	eP	Pb	03 13 01.6	+0.1
	baz=192						
EWUT				eS	Sn	03 13 10.0	-0.9
	baz=192						
NACB	**Ninganchiao**	**0.82**	**200**	eP	Pb	03 13 06.8	+0.2
	baz=199						
NACB				eS	Sn	03 13 18.7	+0.2
	baz=199						

TAP 02 03:12:55.4, 24°.87N×122°.00E, h11km, ML2.0, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGS		**0.07**	**249**	eP	Pg	03 12 58.1	+0.4
	baz=243						
EGS				eS	Sg	03 13 00.0	+0.7
	baz=243						
TWB1	**Santiao Chiao**	**0.14**	**356**	P	Pb	03 12 59.5	-0.5
	baz=358						
TWB1				S	Sg	03 13 01.9	+0.9
	baz=358						
TWB1	**Santiao Chiao**	**0.14**	**356**	S	Pb	03 12 59.5	-0.6
	baz=57						
NTC	**Toucheng**	**0.15**	**265**	eP	Pg	03 12 59.3	+0.4
	baz=264						
NTC				eS	Sg	03 13 03.0	+1.6
	baz=264						
NTC	**Toucheng**	**0.15**	**265**	S	Pg	03 12 59.6	+0.7
	baz=214						
TIPB	**Shuangxi**	**0.19**	**303**	eP	Pg	03 13 00.2	+0.7
	baz=302						
TIPB				eS	Sg	03 13 03.6	+1.3
	baz=302						
NWF	**Wu-fen Shan**	**0.28**	**315**	eP	Pb	03 13 02.3	-0.3
	baz=315						
NWF				eS	Sb	03 13 07.1	-0.2
	baz=315						
TWC	**Suao**	**0.29**	**208**	eP	Pb	03 13 02.1	-0.5
	baz=206						
TWC				eS	Sb	03 13 07.2	-0.3
	baz=206						
NDS	**Dongshan**	**0.35**	**228**	eP	Pb	03 13 03.5	-0.1
	baz=227						
NDS				eS	Sb	03 13 09.0	-0.2
	baz=227						
TWA	**Mucha**	**0.39**	**286**	eP	Pb	03 13 04.2	-0.2
	baz=286						
TWA				eS	Sb	03 13 10.4	0.0
	baz=286						
EWUT	**Wuta**	**0.47**	**206**	eP	Pb	03 13 05.7	+0.1
	baz=205						
EWUT				eS	Sb	03 13 12.2	-0.4
	baz=205						
YM01	**YM01**	**0.48**	**305**	eP	Pb	03 13 05.9	0.0
	baz=305						
YM01	**YM01**	**0.48**	**305**	eS	Pb	03 13 06.0	+0.1
	baz=302						
ENA	**Nanau**	**0.50**	**208**	eP	Pb	03 13 06.0	-0.2
	baz=207						
ENA				eS	Sb	03 13 13.7	+0.2
	baz=207						
YHNB	**Yeheng**	**0.60**	**251**	eP	Pg	03 13 07.3	+0.2
	baz=250						
YHNB				eS	Sb	03 13 17.3	+0.8
	baz=250						
NSK	**Sanguang**	**0.61**	**252**	eP	Pb	03 13 08.1	-0.1
	baz=251						
NSK				eS	Sb	03 13 17.0	+0.2
	baz=251						
NACB	**Ninganchiao**	**0.78**	**208**	eP	Pb	03 13 11.2	+0.2
	baz=208						
NACB				eS	Sb	03 13 21.4	-0.3
	baz=208						
ETLH	**Xiulin Townshi**	**0.81**	**216**	eP	Pb	03 13 11.4	-0.2
	baz=215						
ETLH				eS	Sb	03 13 23.4	+0.9
	baz=215						
TWD	**Chiawan**	**0.87**	**205**	eP	Pb	03 13 12.6	+0.2
	baz=204						
TWD				eS	Sn	03 13 25.6	-0.5
	baz=204						
FUSS	**Fushou**	**0.93**	**228**	eP	Pb	03 13 13.7	+0.1
	baz=228						
FUSS				eS	Sb	03 13 27.0	+1.0
	baz=228						
WHF	**Hehuan Shan**	**0.98**	**223**	eP	Pb	03 13 14.8	+0.1
	baz=222						
WHF				eS	Sb	03 13 28.0	+0.2
	baz=222						
YOJ	**Yonaguni jima**	**1.00**	**114**	eP	Pg	03 13 14.3	-0.4
	baz=113						
YOJ				eS	Sn	03 13 29.1	-0.5
	baz=113						

*JMA **02** 03:23:38.8±0.1, 24°.86N×121°.93E, h44km, M2.6*
*TAP **02** 03:23:39.0, 24°.84N×121°.99E, h6km, ML3.0, B*
ISC 02 03:23:37.5±0.8**, 24°.86N**±0°.02×**122°.00E**±0°.02**, h16km**±4km**,**
n79, σ0s.84/139**, 8C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGS		**0.06**	**260**	i P	**Pg**	**03 23 40.5**	**-0.1**
	baz=277						
EGS				i S	**Sg**	**03 23 41.8**	**-0.9**
	baz=277						
TWB1	**Santiao Chiao**	**0.15**	**355**	⇑P	**Pg**	**03 23 42.2**	**+0.6**
	baz=1.0						
TWB1				S	**Sg**	**03 23 44.6**	**+0.3**
	baz=1.0						
NTC	**Toucheng**	**0.16**	**269**	i P	**Pg**	**03 23 41.9**	**+0.3**
	baz=276						
NTC				i S	**Sg**	**03 23 44.4**	**0.0**
	baz=276						
TIPB	**Shuangxi**	**0.20**	**306**	⇑iP	**Pg**	**03 23 43.1**	**+0.9**
	baz=311						
TIPB				i S	**Sg**	**03 23 46.1**	**+0.6**
	baz=311						
ILA	**Ilan**	**0.25**	**249**	eP	**Pb**	**03 23 43.2**	**-0.3**
	baz=251						
ILA				S	**Sg**	**03 23 46.7**	**-0.1**
	baz=251						
TWC	**Suao**	**0.28**	**209**	⇑iP	**Pb**	**03 23 44.0**	**-0.2**
	baz=208						
TWC				S	**Sb**	**03 23 48.4**	**-0.2**
	baz=208						
NWF	**Wu-fen Shan**	**0.29**	**317**	⇑iP	**Pn**	**03 23 45.2**	**-1.9**
	baz=320						
NWF				i S	**Sb**	**03 23 49.1**	**0.0**
	baz=320						
WFSB	**Wu-fen Shan**	**0.29**	**317**	⇑P	**Pn**	**03 23 45.2**	**-1.9**
	baz=320						
WFSB				S	**Sb**	**03 23 49.3**	**+0.3**
	baz=320						
TWE	**Neicheng**	**0.33**	**246**	⇑iP	**Pb**	**03 23 45.1**	**+0.1**
	baz=247						
TWE				i S	**Sb**	**03 23 49.5**	**-0.5**
	baz=247						
NDS	**Dongshan**	**0.34**	**230**	P	**Pb**	**03 23 45.3**	**+0.1**
	baz=231						
NDS				eS	**Sb**	**03 23 50.1**	**-0.3**
	baz=231						
TNOU	**National Taiwa**	**0.36**	**325**	P	**Pb**	**03 23 45.2**	**-0.3**
	baz=326						
TNOU				S	**Sb**	**03 23 50.3**	**-0.5**
	baz=326						
TWA	**Mucha**	**0.40**	**288**	i P	**Pn**	**03 23 46.8**	**-1.7**
	baz=291						
TWA				i S	**Sb**	**03 23 51.8**	**-0.2**
	baz=291						
NHDH	**Xindian Distri**	**0.45**	**284**	P	**Pb**	**03 23 47.3**	**+0.4**
	baz=286						
NHDH				eS	**Sb**	**03 23 53.0**	**-0.3**
	baz=286						
EWUT	**Wuta**	**0.46**	**206**	P	**Pb**	**03 23 47.3**	**+0.2**
	baz=206						
EWUT				S	**Sg**	**03 23 52.6**	**-0.3**
	baz=206						
TAP	**Taipei**	**0.48**	**292**	eP	**Pb**	**03 23 48.0**	**+0.4**
	baz=294						
TAP				eS	**Sb**	**03 23 55.3**	**+0.8**
	baz=294						
YM01	**YM01**	**0.49**	**306**	⇑P	**Pn**	**03 23 49.0**	**-0.8**
	baz=308						
YM01				eS	**Sb**	**03 23 55.2**	**+0.7**
	baz=308						
ENA	**Nanau**	**0.49**	**209**	P	**Pb**	**03 23 48.1**	**+0.5**
	baz=208						
ENA				S	**Sg**	**03 23 53.8**	**0.0**
	baz=208						
NDT	**Datong Townshi**	**0.51**	**240**	P	**Pn**	**03 23 48.6**	**-1.5**
	baz=241						
NDT				S	**Sb**	**03 23 55.8**	**+0.5**
	baz=241						
ANP	**Anpu**	**0.55**	**307**	eS	**Sb**	**03 23 57.1**	**+0.7**
	baz=309						
TWY	**Chenhua**	**0.55**	**319**	P	**Pn**	**03 23 50.2**	**-0.4**
	baz=321						
TWY				S	**Sn**	**03 23 57.6**	**-2.0**
	baz=321						
TWS1	**Kuangyinshan**	**0.58**	**295**	P	**Pn**	**03 23 50.4**	**-0.6**
	baz=297						
TWS1				eS	**Sn**	**03 23 58.5**	**-1.8**
	baz=297						
NTST	**Danshui**	**0.59**	**302**	i P	**Pn**	**03 23 51.3**	**+0.2**
	baz=303						
NTST				S	**Sb**	**03 23 58.1**	**+0.7**
	baz=303						
YHNB	**Yeheng**	**0.60**	**252**	⇑P	**Pb**	**03 23 49.8**	**+0.2**
	baz=253						
NSK	**Sanguang**	**0.61**	**253**	P	**Pb**	**03 23 49.9**	**+0.1**
	baz=254						
NSK				S	**Sg**	**03 23 57.4**	**-0.4**
	baz=254						
NNS	**Nan Shan**	**0.71**	**234**	P	**Pn**	**03 23 52.2**	**-0.6**
	baz=234						
NNS				S	**Sn**	**03 24 02.4**	**-1.1**
	baz=234						
NCU	**National Centr**	**0.75**	**279**	P	**Pn**	**03 23 52.9**	**-0.4**
	baz=280						
NCU				S	**Sn**	**03 24 03.7**	**-0.7**
	baz=280						
NCUH	**Zhongli**	**0.75**	**279**	P	**Pn**	**03 23 53.2**	**-0.2**
	baz=280						
PCYT	**Pengchaiyu**	**0.77**	**5**	i P	**Pn**	**03 23 54.4**	**+0.8**
	baz=5.0						
PCYT				S	**Sn**	**03 24 06.1**	**+1.2**
	baz=5.0						
NACB	**Ninganchiao**	**0.77**	**209**	P	**Pn**	**03 23 53.4**	**-0.3**
	baz=208						
NACB				S	**Sg**	**03 24 02.6**	**-0.2**
	baz=208						
ETLH	**Xiulin Townshi**	**0.80**	**216**	P	**Pn**	**03 23 54.0**	**-0.2**
	baz=216						
ETLH				S	**Sg**	**03 24 04.3**	**+0.6**
	baz=216						
TWD	**Chiawan**	**0.86**	**206**	i P	**Pn**	**03 23 54.8**	**0.0**
	baz=205						
TWD				S	**Sn**	**03 24 06.2**	**-0.8**
	baz=205						
FUSS	**Fushou**	**0.92**	**229**	eP	**Pn**	**03 23 55.8**	**-0.1**
	baz=229						
FUSS				eS	**Sn**	**03 24 08.2**	**-0.7**
	baz=229						
LIOB	**Emei**	**0.92**	**257**	eP	**Pn**	**03 23 55.7**	**0.0**
	baz=257						
LIOB				eS	**Sn**	**03 24 07.7**	**-0.9**
	baz=257						
SBCB	**Hsinchu**	**0.93**	**266**	eP	**Pn**	**03 23 56.0**	**+0.3**
	baz=267						
NSTT	**Nanjuang**	**0.94**	**256**	eP	**Pn**	**03 23 56.7**	**+0.7**
	baz=257						
NSTT				eS	**Sn**	**03 24 09.7**	**+0.7**
	baz=257						
HSN	**Hsinchu**	**0.94**	**267**	eP	**Pn**	**03 23 55.7**	**-0.3**
	baz=269						
HSN				eS	**Sn**	**03 24 08.3**	**-0.8**
	baz=269						
HWA	**Hwalien**	**0.95**	**203**	eS	**Sn**	**03 24 10.0**	**+0.8**
	baz=201						
JYNG	**Yonagunijimaku**	**0.95**	**115**	P	**Pg**	**03 23 56.5**	**+0.6**
JYNG				eS	**Sn**	**03 24 09.6**	**+0.3**
TWT	**Tachien**	**0.96**	**232**	eP	**Pn**	**03 23 57.4**	**+0.9**
	baz=232						
TWT				eS	**Sn**	**03 24 11.0**	**+1.1**
	baz=232						
TDCB	**Techi**	**0.97**	**232**	eP	**Pg**	**03 23 58.3**	**+1.9**
	baz=232						
TDCB				eS	**Sn**	**03 24 10.9**	**+0.7**
	baz=232						
WHF	**Hehuan Shan**	**0.98**	**224**	P	**Pn**	**03 23 57.0**	**+0.1**
	baz=223						
WHF				eS	**Sg**	**03 24 09.3**	**-0.1**
	baz=223						
YOJ	**Yonaguni jima**	**1.00**	**113**	P	**Pg**	**03 23 57.3**	**+0.5**
YOJ				S	**Sn**	**03 24 10.9**	**+0.4**
YOJ	**Yonaguni jima**	**1.00**	**113**	eP	**Pg**	**03 23 57.6**	**+0.7**
	baz=111						
YOJ				eS	**Sn**	**03 24 11.2**	**+0.7**
	baz=111						
ETM	**Tongmen**	**1.00**	**208**	eP	**Pg**	**03 23 57.6**	**+0.7**
	baz=207						
ETM				eS	**Sn**	**03 24 11.1**	**+0.5**
	baz=207						
CHGB	**Renai**	**1.09**	**224**	P	**Pg**	**03 23 59.0**	**+0.3**
	baz=223						
CHGB				S	**Sg**	**03 24 15.1**	**+2.1**
	baz=223						
WHP	**Taichung City**	**1.12**	**239**	eP	**Pg**	**03 23 59.9**	**+0.7**
	baz=239						
WHP				S	**Sg**	**03 24 15.4**	**+1.5**
	baz=239						
NMLH	**Miaoli**	**1.15**	**254**	eP	**Pg**	**03 23 59.5**	**-0.1**
	baz=254						
NMLH				eS	**Sg**	**03 24 16.1**	**+1.5**
	baz=254						
ESL	**Shilin**	**1.16**	**207**	P	**Pg**	**03 24 00.2**	**+0.3**
	baz=206						
ESL				i S	**Sg**	**03 24 15.6**	**+0.5**
	baz=206						
OWD	**Renai**	**1.17**	**220**	eP	**Pg**	**03 24 00.0**	**-0.1**
	baz=220						
OWD				eS	**Sg**	**03 24 17.1**	**+1.6**
	baz=220						
NSY	**Sanyi**	**1.21**	**249**	eP	**Pg**	**03 24 00.5**	**-0.4**
	baz=249						
NSY				eS	**Sg**	**03 24 16.8**	**+0.1**
	baz=249						
TEGC	**Jichi Village**	**1.22**	**200**	eP	**Pg**	**03 24 01.8**	**+0.8**
	baz=199						
TWQ1	**Liyutan**	**1.23**	**246**	eP	**Pg**	**03 24 01.7**	**+0.5**
	baz=246						
TWQ1				S	**Sg**	**03 24 19.0**	**+1.8**
	baz=246						
WCS	**Beigang Elemen**	**1.27**	**232**	eP	**Pg**	**03 24 01.9**	**-0.1**
	baz=231						
WCS				eS	**Sg**	**03 24 20.5**	**+1.8**
	baz=231						
WDJ	**Dajia District**	**1.34**	**248**	eP	**Pg**	**03 24 02.9**	**-0.4**
	baz=248						
TYC	**Yuchr**	**1.41**	**228**	eS	**Sg**	**03 24 23.2**	**+0.1**
	baz=227						
HGSD	**Ruisui**	**1.46**	**201**	eP	**Pb**	**03 24 04.1**	**0.0**
	baz=201						
HGSD				eS	**Sg**	**03 24 24.9**	**+0.3**
	baz=201						
EHY	**Hungye**	**1.48**	**205**	eP	**Pg**	**03 24 05.8**	**-0.1**
	baz=204						
EHY				eS	**Sg**	**03 24 25.6**	**+0.3**
	baz=204						
WCHH	**Zhanghua**	**1.53**	**240**	eP	**Pg**	**03 24 06.3**	**-0.5**
	baz=240						
WCHH				eS	**Sg**	**03 24 25.9**	**-0.9**
	baz=240						
WJS	**Zhushan**	**1.55**	**229**	eS	**Sg**	**03 24 26.3**	**-1.2**
	baz=228						
YULB	**Yu-li**	**1.59**	**204**	eP	**Pg**	**03 24 07.3**	**-0.8**
	baz=203						
YULB				eS	**Sg**	**03 24 28.3**	**-0.6**
	baz=203						
EYUL	**Yuli**	**1.63**	**203**	eP	**Pb**	**03 24 07.3**	**+0.2**
	baz=202						
EYUL				eS	**Sg**	**03 24 28.5**	**-1.4**
	baz=202						
IRIF	**Iriomote-Funau**	**1.66**	**108**	P	**Pb**	**03 24 06.8**	**-0.8**
CHN5	**Tsauling**	**1.74**	**224**	eP	**Pb**	**03 24 08.7**	**-0.4**
	baz=224						
CHN5				eS	**Sb**	**03 24 31.5**	**+0.7**
	baz=224						
WDLH	**Douliu**	**1.77**	**229**	eP	**Pb**	**03 24 09.5**	**0.0**
	baz=229						
WDLH				eS	**Sb**	**03 24 31.5**	**0.0**
	baz=229						
FULB	**Fuli**	**1.77**	**202**	eP	**Pg**	**03 24 10.5**	**-1.1**
	baz=201						
FULB				eS	**Sb**	**03 24 32.4**	**+0.8**
	baz=201						
HATJ	**Hateruma jima**	**1.83**	**115**	P	**Pb**	**03 24 10.2**	**-0.3**
CHKT	**Chengkung**	**1.84**	**199**	eP	**Pb**	**03 24 09.8**	**-1.0**
	baz=198						
WTK	**Tuku**	**1.88**	**232**	eP	**Pb**	**03 24 10.7**	**-0.6**
	baz=231						
WTK				eS	**Sb**	**03 24 34.1**	**-0.4**
	baz=231						
CHN2	**Minshiung**	**1.92**	**227**	eS	**Sb**	**03 24 36.1**	**+0.3**
	baz=226						
JKRS	**Kuro-shima**	**1.93**	**108**	P	**Pb**	**03 24 11.0**	**-1.2**
JKRS				eS	**Sb**	**03 24 34.6**	**-1.5**
CHY	**Chiayi**	**1.98**	**227**	eP	**Pb**	**03 24 11.7**	**-1.3**
	baz=226						
CHY				eS	**Sb**	**03 24 36.3**	**-1.1**
	baz=226						
EDH	**Donghe**	**1.98**	**199**	eP	**Pb**	**03 24 13.7**	**+0.5**
	baz=198						
EDH				eS	**Sb**	**03 24 37.8**	**+0.2**
	baz=198						
TPUB	**Ta-pu**	**1.99**	**219**	eP	**Pb**	**03 24 11.9**	**-1.4**
	baz=219						
JIJ	**Ishigaki jima**	**2.01**	**104**	P	**Pb**	**03 24 12.4**	**-1.2**
JIJ				S	**Sn**	**03 24 36.3**	**+0.8**
WSF	**Szhu**	**2.03**	**234**	eP	**Pb**	**03 24 13.4**	**-0.5**
	baz=233						
LONT	**Longtian**	**2.10**	**203**	eP	**Pb**	**03 24 14.9**	**-0.3**
	baz=202						
MATB	**Ma-tsu**	**2.26**	**305**	eP	**Pb**	**03 24 16.6**	**-1.3**
	baz=304						
VWUC	**VWUC**	**2.32**	**274**	eP	**Pn**	**03 24 16.3**	**+1.4**
	baz=273						
XPSS	**Dashiqiu**	**2.63**	**322**	eP	**Pn**	**03 24 21.0**	**+1.7**
	baz=322						

TAP 02 03:28:36.1, 24°.86N×122°.00E, h8km, ML2.2, 3C, D,
Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGS		**0.06**	**258**	i P	Pg	03 28 38.6	+0.6
	baz=253						
EGS				i S	Sg	03 28 40.2	+0.8
	baz=253						
TWB1	**Santiao Chiao**	**0.15**	**356**	⇑iP	Pg	03 28 40.2	+0.9
	baz=358						
TWB1				i S	Sg	03 28 42.6	+1.1
	baz=358						
NTC	**Toucheng**	**0.16**	**269**	i P	Pg	03 28 40.5	+1.1
	baz=268						
NTC				S	Sg	03 28 42.8	+1.1
	baz=268						
TIPB	**Shuangxi**	**0.20**	**305**	⇑iP	Pg	03 28 41.2	+1.1
	baz=305						
TIPB				i S	Sg	03 28 44.3	+1.4
	baz=305						
ILA	**Ilan**	**0.25**	**248**	P	Pg	03 28 42.1	+1.0
	baz=247						
ILA				S	Sg	03 28 46.3	+1.9
	baz=247						
TWC	**Suao**	**0.28**	**209**	⇑iP	Pg	03 28 42.0	+0.2
	baz=207						
TWC				i S	Sb	03 28 47.7	-0.6
	baz=207						
NWF	**Wu-fen Shan**	**0.29**	**317**	i P	Pb	03 28 43.2	-0.4
	baz=316						
NWF				i S	Sb	03 28 48.0	-0.6
	baz=316						
WFSB	**Wu-fen Shan**	**0.29**	**317**	P	Pb	03 28 43.2	-0.4
	baz=316						
WFSB				S	Sb	03 28 48.1	-0.5
	baz=316						
TWE	**Neicheng**	**0.33**	**246**	P	Pg	03 28 43.3	+0.6
	baz=244						
TWE				eS	Sb	03 28 48.8	-0.9
	baz=244						
NDS	**Dongshan**	**0.34**	**229**	eP	Pb	03 28 44.2	-0.2
	baz=229						
NDS				eS	Sb	03 28 49.9	-0.1
	baz=229						
TNOU	**National Taiwa**	**0.36**	**325**	P	Pg	03 28 43.4	+0.2
	baz=323						
TNOU				S	Sg	03 28 48.3	+0.4
	baz=323						
TWA	**Mucha**	**0.40**	**288**	P	Pg	03 28 44.1	+0.2
	baz=287						
TWA				S	Sb	03 28 51.1	-0.5
	baz=287						
NHY	**Taipei**	**0.43**	**295**	eP	Pg	03 28 44.9	+0.4
	baz=294						
NHY				eS	Sb	03 28 51.9	-0.7
	baz=294						
NHDH	**Xindian Distri**	**0.45**	**284**	eP	Pb	03 28 45.9	-0.3
	baz=283						
NHDH				eS	Sb	03 28 52.5	-0.4
	baz=283						
EWUT	**Wuta**	**0.46**	**206**	eP	Pb	03 28 46.0	-0.4
	baz=206						
EWUT				eS	Sb	03 28 53.3	0.0
	baz=206						
TAP	**Taipei**	**0.48**	**292**	eP	Pb	03 28 46.4	-0.4
	baz=291						
TAP				eS	Sb	03 28 54.3	+0.2
	baz=291						
YM01	**YM01**	**0.48**	**306**	eP	Pb	03 28 46.8	-0.1
	baz=306						
YM01				eS	Sb	03 28 54.1	0.0
	baz=306						
ENA	**Nanau**	**0.49**	**209**	eP	Pb	03 28 46.8	-0.2
	baz=208						
ENA				S	Sb	03 28 54.0	-0.2
	baz=208						
NDT	**Datong Townshi**	**0.51**	**240**	P	Pb	03 28 47.0	-0.4
	baz=240						
NDT				S	Sb	03 28 55.0	+0.1
	baz=240						
ANP	**Anpu**	**0.55**	**307**	eP	Pb	03 28 48.2	+0.2
	baz=307						
ANP				eS	Sb	03 28 56.2	+0.2
	baz=307						
TWY	**Chenhua**	**0.55**	**319**	eS	Sb	03 28 56.6	+0.5
	baz=319						
YHNB	**Yeheng**	**0.60**	**252**	P	Pg	03 28 48.2	+0.5
	baz=251						
YHNB				eS	Sb	03 28 57.7	+0.2
	baz=251						
NSK	**Sanguang**	**0.61**	**253**	P	Pb	03 28 49.3	+0.2
	baz=252						
NSK				S	Sb	03 28 58.3	+0.5
	baz=252						
NNS	**Nan Shan**	**0.71**	**234**	eS	Sb	03 29 01.5	+0.8
	baz=233						
NCU	**National Centr**	**0.75**	**279**	eP	Pg	03 28 50.9	+0.4
	baz=278						
PCYT	**Pengchaiyu**	**0.77**	**5**	eP	Pb	03 28 51.7	-0.1
	baz=5.0						
PCYT				eS	Sb	03 29 03.5	+1.1
	baz=5.0						
ETLH	**Xiulin Townshi**	**0.80**	**216**	eP	Pb	03 28 52.0	-0.4
	baz=216						

TWD	**Chiawan** baz=205	**0.86**	**206**	P		Pb	03 28 53.3	+0.1
FUSS	**Fushou** baz=228	**0.92**	**229**	*e*P		Pb	03 28 54.5	+0.1
FUSS	baz=228			*e*S		Sb	03 29 07.6	+0.7
HWA	**Hwalien** baz=201	**0.95**	**202**	*e*P		Pb	03 28 55.0	+0.2
HWA	baz=201			*e*S		Sb	03 29 08.1	+0.6

TAP 02 03:29:00.0, 24°.14N × 121°.62E, h3 km, ML1.6, 1C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village** baz=17	**0.02**	**16**	P	Pg	03 29 00.8	+0.2
ETL	baz=17			S	Sg	03 29 01.6	+0.4
NACB	**Ninganchiao** baz=324	**0.04**	**325**	⇑P	Pg	03 29 01.3	+0.4
NACB	baz=324			S	Sg	03 29 02.2	+0.7
TWD	**Chiawan** baz=191	**0.07**	**198**	*i* P	Pg	03 29 02.1	+0.7
TWD	baz=191			*i* S	Sg	03 29 03.4	+1.1
ETLH	**Xiulin Townshi** baz=296	**0.14**	**297**	*e*P	Pg	03 29 03.6	+0.9
ETLH	baz=296			*e*S	Sg	03 29 06.6	+2.0
ETLH	**Xiulin Townshi** baz=216	**0.14**	**297**	*e*S	Pg	03 29 03.6	+0.8
HWA	**Hwalien** baz=181	**0.17**	**184**	*e*P	Pg	03 29 04.1	+0.9
HWA	baz=181			*e*S	Sg	03 29 07.4	+2.0
TEYL	**Yanliau Villag** baz=183	**0.27**	**184**	*e*P	Pg	03 29 06.2	+0.9
ENA	**Nanau** baz=22	**0.30**	**22**	*e*P	Pb	03 29 07.4	-0.7
ENA	baz=22			*e*S	Sb	03 29 12.6	-1.0
WHF	**Hehuan Shan** baz=269	**0.32**	**270**	P	Pg	03 29 07.5	+1.2
WHF	baz=269			*e*S	Sb	03 29 13.2	-1.3
NNS	**Nan Shan** baz=323	**0.37**	**323**	*e*S	Sb	03 29 14.7	-0.9

*IDC **02** 03:43:06.8±2.7, 3°.55N × 124°.25E, h375 km±29 km, mb3.4/11, mb1 3.5/12, mb1mx3.2/54, mbtmp4.1/12, Error ellipse: s-maj=26.5km s-min=11.1km az=65.0*
*DJA **02** 03:43:09.9±0.6, 3°N±5° × 12°.5E± °, h290 km±6 km, M4.5/9, mb4.6/8, mB4.9/3, MLv4.5/9, Mw(mB)4.2/3*
ISC 02 03:43:03.5±0.5, 3°.63N±0°.06 × 124°.41E±0°.09, h331 km, n31, σ1↟95°/37, mb3.8/11, 2D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.12**	**87**	P	**Pn**	**03 43 49.0**	**+1.3**
GTOI	**Gorontalo**	**3.29**	**205**	P	**Pn**	**03 44 05.4**	**+1.2**
KCP	**Kidapawan**	**3.43**	**11**	⇓*e*P	**Pn**	**03 44 09.0**	**+3.4**
KCP				*i* S	S	03 45 07.1	+12
GAMI	**Galela, Maluku**	**3.81**	**118**	P	**Pn**	**03 44 09.9**	**+0.4**
GAMI				S	S	03 44 53.0	-10
MRSI	**Marisa** 0.4nm1µm111nm,1.0s	**3.99**	**218**	P	**Pn**	**03 44 13.1**	**+1.8**
MRSI				S	S	**03 45 08.3**	**+2.5**
TNTI	**Ternate**	**4.10**	**134**	P	**Pn**	**03 44 14.3**	**+1.8**
BUKP	**Musuan**	**4.27**	**9**	⇓*i*P	**Pn**	**03 44 17.1**	**+2.7**
BUKP				*e*S	**S**	**03 45 15.2**	**+3.8**
APSI	**Ampana** 0.4nm1µm111nm,1.0s	**5.29**	**212**	P	**Pn**	**03 44 27.3**	**+1.7**
MPSI	**Mapaga** 0.1nm20nm,0.8s	**5.57**	**234**	P	**Pn**	**03 44 29.4**	**+0.6**
SANI	**Sanana** 1.3nm6µm276nm,0.8s	**5.86**	**164**	P	**Pn**	**03 44 30.8**	**-1.3**
SANI	1.3nm6µm276nm,0.8s			S	S	03 45 35.8	-7.9
KRAI	**Karang Ratu** 0.3nm89nm,0.7s	**7.97**	**150**	P	**Pn**	**03 44 58.7**	**+1.6**
TTSI	**Tana Toraja** 0.2nm1µm51nm,0.8s	**8.06**	**215**	P	**Pn**	**03 45 00.1**	**+1.9**
BNSI	**Bone** 55nm,1.1s	**9.06**	**208**	P	**Pn**	**03 45 12.5**	**+2.3**
KAPI	**Kappang** 1.8nm,0.3s,baz=68,slow=7.7,SNR=7.3	**9.77**	**208**	P	**Pn**	**03 45 20.7**	**+2.0**
KAPI	**Kappang** 26nm,1.1s	**9.77**	**208**	P	**Pn**	**03 45 21.3**	**+2.6**
SOEI	**Soe** 69nm,0.7s	**13.30**	**181**	P	**Pn**	**03 46 04.1**	**+2.9**
BATI	**Baumata** 8.6nm,0.3s,baz=273,slow=4.0,SNR=6.9	**13.76**	**183**	P	**Pn**	**03 46 08.8**	**+2.3**
BATI	**Baumata**	**13.76**	**183**	P	**P**	**03 46 08.0**	**+2.4**
WRA	**Warramunga Arr** 1.1nm,0.2s,baz=343,slow=9.7,SNR=62	**25.37**	**158**	P	**P**	**03 48 00.5**	**-1.3**
WRA	0.5nm,0.5s,baz=317,slow=2.5,SNR=5.7			PcP	**PcP**	**03 51 23.1**	**-1.4**
PSI	**Prapat** 3.1nm,0.7s,baz=151,slow=3.6,SNR=3.8	**25.46**	**269**	P	**P**	**03 48 02.0**	**-0.7**
ASAR	**Alice Springs** 0.3nm,0.4s,baz=343,slow=7.3,SNR=4.6	**28.66**	**162**	P	**P**	**03 48 30.1**	**-0.8**
MJAR	**Matsushiro Arr** 2.3nm,0.7s,baz=190,slow=9.5,SNR=4.7	**35.13**	**19**	P	**P**	**03 49 28.1**	**+1.4**
STKA	**Stephens Creek** 2.9nm,0.6s,baz=333,slow=8.2,SNR=8.8	**38.91**	**156**	P	**P**	**03 49 58.6**	**+0.3**
STKA	4.1nm,1.1s,baz=325,slow=12,SNR=2.9			PcP	**PcP**	**03 52 00.5**	**-1.1**
SONM	**Songino Array** 0.6nm,0.6s,baz=153,slow=8.1,SNR=2.0	**46.69**	**343**	P	**P**	**03 51 00.1**	**-0.1**
SONM	0.6nm,0.6s,baz=177,slow=2.5,SNR=2.8			PcP	**PcP**	**03 52 26.7**	**-1.1**
MKAR	**Makanchi Array** 2.5nm,0.7s,baz=123,slow=8.5,SNR=30	**56.34**	**326**	P	**P**	**03 52 10.1**	**-0.8**
MKAR	1.4nm,0.7s,baz=117,slow=4.4,SNR=7.8			PcP	**PcP**	**03 53 01.9**	**-2.0**
KURBB	**Kurchatov Arra** 1.8nm,0.5s,baz=127,slow=6.3,SNR=18	**60.59**	**328**	P	**P**	**03 52 38.7**	**-1.2**
AKTO	**Aktyubinsk** 1.3nm,0.5s,baz=103,slow=12,SNR=6.4	**72.31**	**322**	P	**P**	**03 53 52.1**	**-1.5**
VNDA	**Vanda** 0.8nm,0.9s,baz=304,slow=7.0,SNR=5.1	**83.63**	**172**	P	**P**	**03 54 54.1**	**-0.7**
FINES	**FINESS Array B** 1.3nm,0.6s,baz=28,slow=8.6,SNR=4.1	**90.82**	**332**	P	**P**	**03 55 26.8**	**-2.8**
TORD	**Torodi Ar. Bea** 0.6nm,0.6s,baz=78,slow=2.0,SNR=9.0	**120.75**	**288**	PKP	**PKPdf**	**04 01 15.1**	**-2.4**
TXAR	**Lajitas Array** 0.2nm,0.6s,baz=282,slow=0.9,SNR=4.9	**123.48**	**51**	PKP	**PKPdf**	**04 01 21.4**	**-1.1**

*NOU **02** 03:56:24.7, 36°.69S × 179°.43E, h128 km, ML4.5/7, Off E. Coast of N. Island, N.Z.*
WEL 02 03:56:35.6±0.7, 37°S±4° × 177°.8E± °, h82 km±10 km, M3.5/31, ML3.8/31, MLv3.5/31, Error ellipse: s-maj=0.0km s-min=0.0km az=64.1, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.72**	**178**	P	Pn	03 56 50.3	-1.4
WMGZ	**Waiomatatini S**	**0.98**	**173**	P	Pn	03 56 54.5	-0.1
WMGZ				S	Sn	03 57 11.5	+2.8
HAZ	**Te Kaha**	**0.99**	**203**	P	Pn	03 56 53.1	-1.6
HAZ				S	Sn	03 57 09.7	+0.7
PKGZ	**Pakihiroa**	**1.05**	**189**	P	Pn	03 56 55.6	+0.1
RUGZ	**Raukumara Rang**	**1.22**	**203**	P	Pn	03 56 57.1	-0.4
RUGZ				S	Sn	03 57 14.5	+0.4
PUZ	**Puketiti**	**1.23**	**181**	P	Pn	03 56 57.0	-0.6
PUZ				S	Sn	03 57 14.0	-0.1
TWGZ	**Tauwhareparae**	**1.35**	**190**	P	Pn	03 56 59.5	+0.3
TWGZ				S	Sn	03 57 19.4	+2.5
MWZ	**Matawai**	**1.60**	**202**	P	Pn	03 57 02.8	+0.4
MWZ				S	Sn	03 57 23.1	+0.5
TKGZ	**Te Karaka**	**1.63**	**192**	P	Pn	03 57 03.1	+0.4
TKGZ				S	Sn	03 57 23.2	0.0
CNGZ	**Carnagh Statio**	**1.64**	**182**	P	Pn	03 57 02.9	+0.1
MYRZ	**Mayor Island**	**1.68**	**254**	P	Pn	03 57 03.4	0.0
URZ	**Urewera**	**1.69**	**213**	P	Pn	03 57 03.1	-0.4
URZ				S	Sn	03 57 24.2	-0.4
OPRZ	**Ohinepanea**	**1.70**	**233**	P	Pn	03 57 03.6	0.0
OPRZ				S	Sn	03 57 24.5	-0.3
MARZ	**Manawahe**	**1.71**	**228**	P	Pn	03 57 03.7	-0.1
RAGZ	**Rawiri**	**1.79**	**202**	P	Pn	03 57 05.4	+0.6
RAGZ				S	Sn	03 57 28.4	+1.4
TGRZ	**Tauranga**	**1.83**	**241**	P	Pn	03 57 05.4	0.0
RIGZ	**Rimuhau**	**1.90**	**192**	P	Pn	03 57 06.1	-0.3
RIGZ				S	Sn	03 57 29.9	+0.2
KARZ	**Kaharoa**	**2.00**	**233**	P	Pn	03 57 07.9	+0.3
MUGZ	**Murupara**	**2.02**	**216**	P	Pn	03 57 08.0	+0.1
MUGZ				S	Sn	03 57 31.6	-0.8
RTZ	**Ruatahuna**	**2.04**	**210**	P	Pn	03 57 08.4	+0.2
RTZ				S	Sn	03 57 34.3	+1.2
KUZ	**Kuaotunu**	**2.05**	**272**	P	Pn	03 57 08.1	-0.2
HLRZ	**Highlands Stat**	**2.08**	**227**	P	Pn	03 57 09.8	+1.2
PRGZ	**Paritu Road**	**2.10**	**188**	P	Pn	03 57 08.4	-0.6
KMRZ	**Kaimai**	**2.11**	**241**	P	Pn	03 57 09.2	+0.1
KNZ	**Kokohu**	**2.23**	**192**	P	Pn	03 57 09.5	-1.1
KNZ				S	Sn	03 57 36.2	-1.1
RAHZ	**Arahi**	**2.27**	**204**	P	Pn	03 57 11.4	+0.1
RAHZ				S	Sn	03 57 39.4	+0.9
MTHZ	**Maungataniwha**	**2.31**	**209**	P	Pn	03 57 12.1	+0.4
MTHZ				S	Sn	03 57 40.9	+1.7
MHGZ	**Mahia Peninsul**	**2.32**	**187**	P	Pn	03 57 11.0	-0.9
GRZ	**Great Barrier**	**2.34**	**284**	P	Pn	03 57 12.3	+0.1
WHHZ	**Waihua**	**2.38**	**200**	P	Pn	03 57 12.5	-0.1
WHHZ				S	Sn	03 57 42.0	+1.0
TOZ	**Tahuroa Road**	**2.38**	**247**	P	Pn	03 57 13.0	+0.4
TOZ				S	Sn	03 57 40.3	-0.7
MRHZ	**Matea Rd**	**2.47**	**216**	P	Pn	03 57 14.0	+0.1
MKAZ	**Moumakai**	**2.51**	**263**	P	Pn	03 57 14.8	+0.5
MKAZ				S	Sn	03 57 43.8	-0.2
WIAZ	**Waiheke Island**	**2.52**	**270**	P	Pn	03 57 15.1	+0.5
NMHZ	**Naumai**	**2.53**	**207**	P	Pn	03 57 15.0	+0.2
ARHZ	**Aropaoanui**	**2.62**	**202**	P	Pn	03 57 15.6	-0.3
ARHZ				S	Sn	03 57 47.1	+0.4
ETAZ	**East Tamaki Re**	**2.69**	**267**	P	Pn	03 57 17.7	+0.9
MBAZ	**Motutapu North**	**2.71**	**271**	P	Pn	03 57 17.9	+0.9
BKZ	**Black Stump Fm**	**2.71**	**211**	P	Pn	03 57 17.1	0.0
MCHZ	**McNeill Hill**	**2.88**	**205**	P	Pn	03 57 18.8	-0.5
AWAZ	**Awhitu Peninsu**	**2.92**	**265**	P	Pn	03 57 20.1	+0.2
KWHZ	**Kaweka Forest**	**2.96**	**209**	P	Pn	03 57 19.6	-0.9
KWHZ				S	Sn	03 57 55.5	+0.4
TMVZ	**Te Maari**	**3.04**	**221**	P	Pn	03 57 23.2	+1.5
NTVZ	**North Tongarir**	**3.05**	**222**	P	Pn	03 57 23.4	+1.6
ETVZ	**East Tongariro**	**3.06**	**221**	P	Pn	03 57 22.9	+1.0
KRVZ	**Karewarewa**	**3.06**	**222**	P	Pn	03 57 23.4	+1.5
NNVZ	**North Ngauruho**	**3.10**	**222**	P	Pn	03 57 25.4	+2.8
WTVZ	**West Tongariro**	**3.11**	**222**	P	Pn	03 57 25.7	+3.2
KAHZ	**Kahuranaki**	**3.15**	**200**	P	Pn	03 57 21.7	-1.3
KAHZ				S	Sn	03 57 58.5	-1.0
TWVZ	**Taurewa**	**3.16**	**224**	P	Pn	03 57 25.2	+1.9
BHHZ	**Black Hill Sta**	**3.17**	**213**	P	Pn	03 57 22.7	-0.5
KRHZ	**Kereru**	**3.17**	**208**	P	Pn	03 57 22.0	-1.4
HIZ	**Hauiti**	**3.18**	**237**	P	Pn	03 57 25.5	+2.0
FWVZ	**Far West T-bar**	**3.23**	**221**	P	Pn	03 57 25.6	+1.3
WHVZ	**Whangaehu Hut**	**3.23**	**220**	P	Pn	03 57 26.6	+2.3
MOVZ	**Moawhango**	**3.24**	**217**	P	Pn	03 57 23.7	-0.6
WNVZ	**Wahianoa**	**3.26**	**220**	P	Pn	03 57 25.2	+0.6
WCZ	**Waipu Caves**	**3.30**	**285**	P	Pn	03 57 25.7	+0.7
PNHZ	**Pukenui**	**3.47**	**207**	P	Pn	03 57 25.9	-1.5
VRZ	**Vera Road**	**3.59**	**230**	P	Pn	03 57 31.3	+2.3
WAZ	**Wanganui**	**3.89**	**221**	P	Pn	03 57 35.1	+2.0
PKE	**Pukeiti**	**4.12**	**234**	P	Pn	03 57 40.4	+4.2
OUZ	**Omahuta**	**4.12**	**292**	P	Pn	03 57 37.7	+1.4
KHEZ	**Kahui Hut**	**4.16**	**233**	P	Pn	03 57 40.2	+3.4
CAW	**Cannon Point**	**4.94**	**209**	P	Pn	03 57 45.3	-2.0
THZ	**Tophouse**	**6.44**	**219**	P	Pn	03 58 06.6	-1.2
KHZ	**Kahutara**	**6.66**	**212**	P	Pn	03 58 08.9	-1.8
CTZ	**Chatham Island**	**7.91**	**152**	P	Pn	03 58 25.4	-2.4
MSZ	**Milford Sound**	**11.07**	**222**	P	Pn	03 59 09.7	-1.2

IDC 02 04:40:38.5±999.0, 46°.21N × 63°.80E, h0 km, Error ellipse: s-maj=787.3km s-min=84.8km az=146.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF** baz=135,slow=327,SNR=1.9	**5.69**	**320**	*i*		05 13 50.0	
I37NO	**I37NO** baz=112,slow=328,SNR=1.6	**32.08**	**331**	*i*		07 56 30.0	
I18DK	**QAANAAQ INFRAS** baz=33,slow=331,SNR=1.9	**53.22**	**349**	*i*		10 10 20.0	

*SOME **02** 04:51:08.4, 45°.43N × 77°.47E, h15 km*
*NNC **02** 04:51:08.3±0.4, 45°.43N × 77°.51E, h0 km, mb4.0, mpv3.8, Error ellipse: s-maj=3.4km s-min=2.4km az=152.0*
ISC 02 04:51:09.0±0.8, 45°.39N±0°.03 × 77°.49E±0°.02, h10 km, n65, σ1↟68/100, 12C-8D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDK	**Taldyqorghan** 364nm,0.1s	**0.76**	**121**	*e*P	**Pg**	**04 51 22.9**	**-0.6**
TDK	450nm,0.2s			*e*S	**Sg**	**04 51 33.0**	**-0.5**
TDK	**Taldyqorghan** 364nm,0.1s	**0.76**	**121**	P	**Pg**	**04 51 23.0**	**-0.6**
TDK	429nm,0.2s			S	**Sg**	**04 51 32.8**	**-0.7**
ARXS	**Arharly** 106nm,0.2s	**1.20**	**168**	⇑*e*P	**Pg**	**04 51 32.0**	**-0.1**
ARXS	240nm,0.2s			*e*S	**Sn**	**04 51 48.4**	**0.0**
ARXS	**Arharly** 106nm,0.2s	**1.20**	**168**	P	**Pg**	**04 51 31.9**	**-0.1**
ARXS	240nm,0.2s			S	**Sn**	**04 51 48.4**	**0.0**
KAPS	**Kapalarasan** 1.8nm,0.1s	**1.32**	**94**	*e*P	**Pn**	**04 51 32.8**	**-0.8**
KAPS	20nm,0.2s			*e*S	**Sb**	**04 51 49.9**	**-1.1**
KAPS	**Kapalarasan** 1.4nm,0.1s	**1.32**	**94**	P	**Pn**	**04 51 33.0**	**-0.5**
KAPS	20nm,0.2s			S	**Sb**	**04 51 49.9**	**-1.1**
CHKK	**Chushkaly** 44nm,0.2s	**1.58**	**193**	*e*P	**Pg**	**04 51 38.8**	**-0.5**
CHKK	836nm,0.2s			*e*S	**Sg**	**04 52 00.3**	**+0.6**
CHKK	**Chushkaly** 44nm,0.2s	**1.58**	**193**	P	**Pg**	**04 51 38.6**	**-0.6**
CHKK	736nm,0.2s			S	**Sg**	**04 52 00.0**	**+0.4**
KUU	**Kurty** 84nm,0.2s	**1.71**	**209**	*e*P	**Pb**	**04 51 41.0**	**+0.6**
KUU	530nm,0.2s			*e*S	**Sg**	**04 52 03.9**	**0.0**
KUU	**Kurty** 84nm,0.2s	**1.71**	**209**	P	**Pb**	**04 51 40.6**	**+0.1**
KUU	522nm,0.2s			S	**Sg**	**04 52 03.1**	**-0.7**
KTBS	**Karatobe** 34nm,0.2s	**1.77**	**199**	*e*P	**Pg**	**04 51 42.2**	**-0.8**
KTBS	444nm,0.1s			*e*S	**Sg**	**04 52 06.4**	**+0.4**
KTBS	**Karatobe** 32nm,0.3s	**1.77**	**199**	P	**Pb**	**04 51 41.8**	**+0.2**
KTBS	469nm,0.4s			S	**Sg**	**04 52 05.7**	**-0.3**
DJR	**Jarkent** 5.7nm,0.2s	**1.95**	**122**	*e*P	**Pb**	**04 51 44.5**	**-0.1**
DJR	13nm,0.3s			*e*S	**Sg**	**04 52 09.8**	**-1.8**
DJR	**Jarkent** 5.7nm,0.2s	**1.95**	**122**	P	**Pb**	**04 51 44.3**	**-0.4**
DJR	13nm,0.3s			S	**Sb**	**04 52 09.3**	**+0.2**
KPKS	**Kokpek** 71nm,0.1s	**2.11**	**156**	*e*P	**Pg**	**04 51 48.0**	**-1.3**
KPKS	179nm,0.3s			*e*S	**Sg**	**04 52 16.2**	**-0.5**
KRBS	**Karabastau** 39nm,0.2s	**2.13**	**218**	*e*P	**Pb**	**04 51 47.9**	**+0.1**
KRBS	119nm,0.2s			*e*S	**Sg**	**04 52 16.7**	**-0.8**
KRBS	**Karabastau** 39nm,0.2s	**2.13**	**218**	Pg	**Pb**	**04 51 47.6**	**-0.2**
KRBS	87nm,0.1s			Lg	Lg	04 52 16.3	
KOTS	**Kotyrbulak** 11nm,0.2s	**2.17**	**187**	*e*P	**Pg**	**04 51 49.6**	**-1.0**
KOTS	309nm,0.3s			*e*S	**Sg**	**04 52 18.5**	**-0.3**
KOTS	**Kotyrbulak**	**2.17**	**187**	Pg	**Pg**	**04 51 49.6**	**-1.0**
KOTS	11nm,0.2s			Lg	Lg	04 52 18.5	
KNDC	**Almaty** 61nm,0.5s	**2.21**	**190**	⇓Pg	**Pb**	**04 51 49.0**	**0.0**
KNDC	428nm,0.6s			⇑Lg	Lg	04 52 20.1	
AAA	**Alma-Ata** 69nm,0.3s	**2.22**	**191**	*e*P	**Pg**	**04 51 51.0**	**-0.5**
AAA	307nm,0.2s			*e*S	**Sg**	**04 52 20.6**	**+0.3**
AAA	**Alma-Ata** 69nm,0.3s	**2.22**	**191**	Pg	**Pg**	**04 51 51.0**	**-0.5**
AAA	307nm,0.2s			Lg	Lg	04 52 20.6	
MDOK	**Medeo** 19nm,0.3s	**2.25**	**188**	*e*P	**Pb**	**04 51 50.1**	**+0.3**
MDOK	165nm,0.4s			*e*S	**Sg**	**04 52 19.5**	**-1.8**
MDOK	**Medeo** 7.2nm,0.4s	**2.25**	**188**	⇓Pg	**Pb**	**04 51 49.9**	**+0.2**
MDOK	99nm,0.5s			⇑Lg	Lg	04 52 20.7	
MDOK	**Medeo** 19nm,0.3s	**2.25**	**188**	Pg	**Pb**	**04 51 50.1**	**+0.3**
MDOK	165nm,0.4s			Lg	Lg	04 52 19.5	
ZHN	**Zhinishke** 77nm,0.3s	**2.33**	**163**	*e*P	**Pg**	**04 51 51.9**	**-1.6**
ZHN	43nm,0.2s			*e*S	**Sg**	**04 52 22.4**	**-1.3**
ZHN	**Zhinishke** 77nm,0.3s	**2.33**	**163**	Pg	**Pg**	**04 51 51.9**	**-1.6**
ZHN	43nm,0.2s			Lg	Lg	04 52 22.4	
MTBS	**Maitube** 25nm,0.2s	**2.38**	**199**	*e*P	**Pb**	**04 51 52.0**	**-0.1**
MTBS	294nm,0.4s			*e*S	**Sb**	**04 52 22.7**	**+1.1**
MTBS	**Maitube** 25nm,0.2s	**2.38**	**199**	Pg	**Pb**	**04 51 52.0**	**-0.1**
MTBS	294nm,0.4s			Lg	Lg	04 52 22.7	
TNSS	**Tian-Shan** 14nm,0.2s	**2.39**	**190**	Pg	**Pb**	**04 51 53.1**	**+0.9**
TNSS	216nm,0.3s			Lg	Lg	04 52 24.8	
IZV	**Izvestkoviy** 12nm,0.2s	**2.44**	**195**	*e*P	**Pb**	**04 51 54.0**	**+1.1**
IZV	104nm,0.2s			*e*S	**Sg**	**04 52 26.0**	**-1.2**
IZV	**Izvestkoviy** 12nm,0.2s	**2.44**	**195**	Pg	**Pb**	**04 51 54.0**	**+1.1**
IZV	104nm,0.2s			Lg	Lg	04 52 26.0	
BTLS	**Baital** 11nm,0.1s	**2.46**	**263**	*e*P	**Pb**	**04 51 52.5**	**-0.7**
BTLS	46nm,0.1s			*e*S	**Sb**	**04 52 24.6**	**+1.1**
BTLS	**Baital** 17nm,0.4s	**2.46**	**263**	Pg	**Pb**	**04 51 52.2**	**-1.0**
BTLS	20nm,0.5s			Lg	Lg	04 52 23.7	
DGS	**Degeres** 41nm,0.2s	**2.48**	**210**	*e*P	**Pb**	**04 51 53.6**	**0.0**
DGS	313nm,0.4s			*e*S	**Sg**	**04 52 27.0**	**-1.5**
DGS	**Degeres** 41nm,0.2s	**2.48**	**210**	Pg	**Pb**	**04 51 53.6**	**0.0**
DGS	313nm,0.4s			Lg	Lg	04 52 27.0	
UZB	**Uzynbulak** 24nm,0.3s	**2.50**	**153**	*e*P	**Pb**	**04 51 54.4**	**+0.4**
UZB	92nm,0.4s			*e*S	**Sg**	**04 52 26.6**	**-2.7**
UZB	**Uzynbulak** 24nm,0.3s	**2.50**	**153**	Pg	**Pb**	**04 51 54.4**	**+0.4**
UZB	92nm,0.4s			Lg	Lg	04 52 26.6	
PDGK	**Podgornoye** 15nm,0.1s	**2.51**	**144**	Pg	**Pb**	**04 51 54.3**	**+0.1**
PDGK	32nm,0.2s			Lg	Lg	04 52 26.6	
PDGK	**Podgornoye** 14nm,0.4s	**2.51**	**144**	⇑Pn	**Pb**	**04 51 53.4**	**-0.9**
PDGK	22nm,0.3s			⇑Lg	Lg	04 52 27.7	
KST	**Kastek** 5.5nm,0.2s	**2.59**	**206**	*e*P	**Pb**	**04 51 55.7**	**+0.2**
KST	45nm,0.6s			*e*S	**Sg**	**04 52 30.6**	**-1.6**
KST	**Kastek** 5.5nm,0.2s	**2.59**	**206**	Pg	**Pb**	**04 51 55.7**	**+0.2**
KST	45nm,0.6s			Lg	Lg	04 52 30.6	
SHLS	**Shalkode** 35nm,0.2s	**2.65**	**147**	*e*P	**Pg**	**04 51 59.9**	**+0.2**
SHLS	76nm,0.3s			*e*S	**Sg**	**04 52 36.2**	**+2.2**
SHLS	**Shalkode** 35nm,0.2s	**2.65**	**147**	Pg	**Pg**	**04 51 59.9**	**+0.2**
SHLS	76nm,0.3s			Lg	Lg	04 52 36.2	
SGDS	**Sogindy** 52nm,0.3s	**2.82**	**228**	Pg	**Pb**	**04 51 59.0**	**-0.4**
SGDS	29nm,0.2s			Lg	Lg	04 52 34.6	
TKM2	**Tokmak 2** SNR=12	**2.82**	**209**	P	**Pn**	**04 51 56.3**	**+2.0**
KTMS	**Ketmen** 4.3nm,0.2s	**2.83**	**132**	*e*P	**Pb**	**04 51 59.9**	**+0.2**
KTMS	47nm,0.4s			*e*S	**Sg**	**04 52 36.2**	**-3.6**
KTMS	**Ketmen** 4.3nm,0.2s	**2.83**	**132**	Pg	**Pb**	**04 51 59.9**	**+0.2**
KTMS	47nm,0.4s			Lg	Lg	04 52 36.2	
USP	**Ospenovka** SNR=11	**3.02**	**226**	P	**Pn**	**04 51 58.4**	**+1.5**
ULHL	**Ulahol** SNR=18	**3.27**	**196**	P	**Pb**	**04 52 03.9**	**-3.4**
KBK	**Karagaybulak** SNR=9.2	**3.29**	**215**	P	**Pn**	**04 52 03.2**	**+2.4**
MAKZ	**Makanchi** 1.6nm,0.3s	**3.43**	**64**	⇑Pn	**Pn**	**04 52 02.4**	**-0.1**
MAKZ	5.1nm,0.4s			⇑Pg	**Pb**	**04 52 10.1**	**+0.3**
MAKZ	14nm,0.6s			⇑Lg	Lg	04 52 56.2	
AAK	**Ala-Archa** SNR=6.6	**3.50**	**219**	P	**Pb**	**04 52 11.0**	**0.0**
MK31	**Makanchi Array** 1.1nm,0.3s,baz=246,slow=2.7,SNR=75	**3.62**	**66**	⇑Pn	**Pn**	**04 52 05.4**	**+0.2**
MK31	1.7nm,0.2s,baz=246,slow=17,SNR=28			⇑Pg	**Pb**	**04 52 13.7**	**+0.6**
MK31	9.1nm,0.5s,baz=247,slow=28,SNR=5.8			⇓Lg	Lg	04 53 02.6	
KZA	**Kyzart** SNR=8.6	**3.69**	**207**	P	**Pn**	**04 52 10.1**	**+3.7**
EKS2	**Erkin-Say** SNR=7.3	**3.82**	**226**	P	**Pn**	**04 52 10.0**	**+2.0**
MRKS	**Merke** 8.0nm,0.4s	**4.05**	**231**	*e*P	**Pb**	**04 52 22.4**	**+1.9**
MRKS	16nm,0.4s			*e*S	**Sg**	**04 53 14.8**	**-4.3**
MRKS	**Merke** 8.0nm,0.4s	**4.05**	**231**	Pg	**Pb**	**04 52 22.4**	**+1.9**
MRKS	16nm,0.4s			Lg	Lg	04 53 14.8	
AML	**Almayashu** SNR=6.4	**4.26**	**221**	P	**Pb**	**04 52 26.1**	**+1.9**
OTUK	**Ortayu** 1.4nm,0.4s	**4.54**	**311**	⇑Pg	**Pb**	**04 52 31.0**	**+2.2**
OTUK	20nm,0.6s			⇓Lg	Lg	04 53 31.1	
KURBB	**Kurchatov Arra** 1.1nm,0.5s	**5.28**	**7**	⇓Pn	**Pn**	**04 52 27.2**	**-0.7**
KURBB	83nm,0.8s			⇑Lg	Lg	04 53 53.7	
ZSN	**Zaisan** 6.0nm,0.3s	**5.50**	**65**	*e*P	**Pb**	**04 52 47.2**	**+2.1**
ZSN	5.9nm,0.5s			*e*S	**Sb**	**04 53 56.4**	**+5.3**
KK31	**Karatay Array** 0.3nm,0.2s,baz=126,slow=6.5,SNR=3.9	**5.51**	**248**	⇓Pn	**Pn**	**04 52 31.7**	**+0.7**
KK31	4.7nm,0.6s			⇓Pg	**Pb**	**04 52 49.9**	**+4.7**
KK31	2.3nm,0.3s,baz=53,slow=29,SNR=6.2			⇓Lg	Lg	04 54 05.0	

BRZS	**Berezniki**	**5.62**	**326**	*e*P	**Pb**	**04 52 51.7**	**+4.6**
	1.1nm,0.1s						
BRZS				*e*S	**Sg**	**04 54 04.4**	**-5.0**
	11nm,0.5s						
IUG	**Iuzhnay**	**6.30**	**242**	*e*P	**Pg**	**04 53 05.0**	**-4.5**
	86nm,0.3s						
IUG				*e*S	**Sg**	**04 54 27.7**	**-3.3**
	23nm,0.7s						

*IDC **02** 04:51:12.8±0.7, 10°.30N×126°.03E, h0km, mb4.1/11, mb1 4.2/11, mb1mx3.9/45, mbtmp4.1/11, MS3.2/4, Ms1 3.3/4, ms1mx2.7/44, Error ellipse: s-maj=52.5km s-min=15.8km az=72.0*
*MAN **02** 04:51:17.3, 10°.40N×126°.21E, h6km, mb4.7, ML3.6, MS3.5*
*NEIC **02** 04:51:18.2±1.5, 10°.20N±0°.04×126°.0E±0°.2, h35km±2km, mb4.4/10, Error ellipse: s-maj=34.8km s-min=3.5km az=80.0*
ISC 02 04:51:18.3±0.6**, 10°.42N**±0°.06×**126°.40E**±0°.08**, h44**km**, n47, σ2ˢ.05**/43**, mb4.1**/17**, MS3.1**/3**, 5C-3D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**1.54**	**259**	⇑*e*P	**Pn**	**04 51 42.5**	**-0.8**
LLP	**Lapu-Lapu**	**2.40**	**268**	⇓*i*P	**Pn**	**04 51 55.4**	**+0.3**
LLP				*i* S	**Sn**	**04 52 24.8**	**+1.5**
BUKP	**Musuan**	**2.85**	**208**	⇑*e*P	**Pn**	**04 52 02.6**	**+1.2**
BUKP				*i* S	**Sn**	**04 52 40.1**	**+5.5**
DAV	**Davao City (W)**	**3.43**	**194**	Pn	Pn	04 52 02.8	-6.5
DAV				Sn	**Sn**	**04 52 41.5**	**-7.2**
DCPH	**Dipolog City**	**3.52**	**239**	⇑*e*P	**Pn**	**04 52 11.5**	**+1.0**
DCPH				*e*S	**Sn**	**04 52 52.0**	**+1.1**
KCP	**Kidapawan**	**3.63**	**201**	⇓*e*P	**Pn**	**04 52 15.9**	**+3.8**
KCP				*i* S	**Sn**	**04 52 56.2**	**+2.4**
CNOP	**Candoni, Negro**	**3.75**	**261**	⇑*i*P	**Pn**	**04 52 14.5**	**+0.9**
CNOP				*e*S	**Sn**	**04 52 57.5**	**+0.9**
RCP	**Roxas**	**3.76**	**288**	⇑*e*P	**Pn**	**04 52 14.7**	**+0.8**
PAGZ	**Pagadian**	**3.93**	**230**	⇓*e*P	**Pn**	**04 52 17.7**	**+1.6**
GUMO	**Guam**	**18.34**	**78**	LR	LR	05 02 27.0	
	comp=Z,55nm,18.6s,baz=130,slow=36						
JCJ	**Chichijima**	**22.28**	**40**	LR	LR	05 05 17.5	
	comp=Z,66nm,19.6s,baz=126,slow=37						
KSRS	**Korea Array**	**26.95**	**3**	P	**P**	**04 56 57.9**	**+2.3**
	1.4nm,0.8s,baz=187,slow=10,SNR=4.5						
CM31	**Chiang Mai Arr**	**27.73**	**290**	P	**P**	**04 56 59.2**	**-3.7**
CM31				IAmb	IAmb	04 57 00.1	
	comp=Z,16nm,0.3s						
CMAR	**Chiang Mai Arr**	**27.73**	**290**	LR	LR	05 07 35.2	
	comp=Z,30nm,19.3s,baz=170,slow=36						
WB0	**Warramunga Arr**	**31.02**	**165**	P	**P**	**04 57 30.4**	**-1.6**
WB0				IAmb	IAmb	04 57 36.8	
	comp=Z,4.8nm,1.2s						
WRA	**Warramunga Arr**	**31.17**	**165**	P	**P**	**04 57 32.8**	**-0.5**
	comp=Z,0.6nm,0.9s,baz=349,slow=10,SNR=5.9						
WB2	**Warramunga Arr**	**31.17**	**165**	P	**P**	**04 57 30.6**	**-2.7**
WB2				IAmb	IAmb	04 57 43.9	
	comp=Z,5.0nm,1.4s						
WR0	**Warramunga Arr**	**31.24**	**165**	P	**P**	**04 57 33.3**	**-0.6**
WR0				IAmb	IAmb	04 57 33.5	
	comp=Z,8.5nm,1.5s						
PSA00	**Pilbara Seismi**	**32.44**	**191**	P	**P**	**04 57 42.2**	**-2.2**
ASAR	**Alice Springs**	**34.66**	**168**	P	**P**	**04 58 03.4**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=356,slow=6.9,SNR=9.1						
H11S3	**WAKE ISLAND Hy**	**39.76**	**74**	T	T	05 41 53.5	
	baz=261,slow=73,SNR=24						
H11S1	**WAKE ISLAND Hy**	**39.77**	**74**	T	T	05 41 47.3	
	baz=261,slow=73,SNR=13						
H11S2	**WAKE ISLAND Hy**	**39.77**	**74**	T	T	05 41 48.0	
	baz=261,slow=73,SNR=14						
H11N1	**WAKE ISLAND Hy**	**40.09**	**72**	T	T	05 42 15.5	
	baz=264,slow=74,SNR=35						
H11N2	**WAKE ISLAND Hy**	**40.09**	**72**	T	T	05 42 14.4	
	baz=264,slow=74,SNR=26						
H11N3	**WAKE ISLAND Hy**	**40.10**	**72**	T	T	05 42 15.4	
	baz=264,slow=74,SNR=38						
MORW	**Morawa**	**40.51**	**194**	P	**P**	**04 58 51.5**	**-1.7**
MORW				IAmb	IAmb	04 59 11.0	
	comp=Z,15nm,1.2s						
SONM	**Songino Array**	**40.92**	**339**	P	**P**	**04 58 58.0**	**+1.5**
	comp=Z,1.1nm,0.6s,baz=154,slow=7.8,SNR=5.6						
SONM				PcP	**PcP**	**05 00 57.3**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=158,slow=4.1,SNR=3.6						
SONM	**Songino Array**	**40.92**	**339**	P	**P**	**04 58 57.5**	**+1.0**
BBOO	**Buckleboo**	**43.97**	**168**	P	**P**	**04 59 20.4**	**-0.9**
NWAO	**Narrogin (SRO)**	**43.98**	**191**	P	**P**	**04 59 20.9**	**-0.5**
STKA	**Stephens Creek**	**44.50**	**161**	P	**P**	**04 59 27.2**	**+1.7**
	comp=Z,2.7nm,0.8s,baz=338,slow=13,SNR=2.9						
MKAR	**Makanchi Array**	**51.98**	**323**	P	**P**	**05 00 22.9**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=123,slow=8.8,SNR=10						
MKAR	**Makanchi Array**	**51.98**	**323**	P	**P**	**05 00 21.6**	**-1.6**
KURK	**Kurchatov**	**56.02**	**325**	P	**P**	**05 00 52.6**	**+0.1**
KURBB	**Kurchatov Arra**	**56.02**	**325**	P	**P**	**05 00 52.6**	**+0.1**
	comp=Z,2.1nm,0.5s,baz=124,slow=6.8,SNR=22						
ABKAR	**Akbulak array**	**66.84**	**319**	P	**P**	**05 02 05.0**	**-0.7**
ABKAR	**Akbulak array**	**66.84**	**319**	P	**P**	**05 02 05.0**	**-0.7**
ABKAR				IAmb	IAmb	05 02 07.8	
	comp=Z,3.0nm,1.5s						
ARU	**Arti**	**69.17**	**327**	P	**P**	**05 02 19.4**	**-0.8**
	comp=Z,1.6nm,0.2s,baz=89,slow=6.7,SNR=3.8						
ILAR	**Eielson Array**	**79.25**	**26**	P	**P**	**05 03 20.2**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=244,slow=6.2,SNR=5.7						
ARCES	**ARCESS Array B**	**84.10**	**340**	P	**P**	**05 03 45.2**	**+1.0**
	comp=Z,4.0nm,1.0s,baz=91,slow=7.9,SNR=11						
FINES	**FINESS Array B**	**85.82**	**332**	P	**P**	**05 03 54.0**	**+1.0**
	comp=Z,8.5nm,1.2s,baz=90,slow=5.7,SNR=5.2						
FINES	**FINESS Array B**	**85.82**	**332**	P	**P**	**05 03 52.2**	**-0.7**
NOA	**NORSAR Array B**	**92.68**	**334**	LR	LR	05 48 52.9	
	comp=Z,14nm,18.6s,baz=330,slow=37						
TORD	**Torodi Ar. Bea**	**120.33**	**292**	PKP	**PKiKP**	**05 10 05.8**	**-0.1**
	comp=Z,0.8nm,1.0s,baz=52,slow=1.8,SNR=4.2						
PLCA	**Paso Flores**	**146.29**	**156**	PKPbc	**PKiKP**	**05 10 56.6**	**-1.2**
	comp=Z,1.6nm,0.7s,baz=223,slow=3.4,SNR=5.1						
PLCA	**Paso Flores**	**146.29**	**156**	PKPdf	**PKPdf**	**05 10 53.5**	**0.0**

MEX 02 04:56:10.8±0.6**, 16°.01N**×**95°.67W, h11**km±13km**, MD3.8, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.31**	**35**	*e*P	Pn	04 56 31.2	-3.9
CMIG				*e*S	Sb	04 56 47.5	-4.7
PEIG	**Puerto Escondi**	**1.43**	**270**	*e*P	Pn	04 56 33.0	-3.7
PEIG				*e*S	Sn	04 56 50.0	-5.5
VHO	**Vista Hermosa**	**1.47**	**316**	*e*P	Pn	04 56 33.7	-3.8
VHO				*e*S	Sn	04 56 51.8	-5.1
YOIG	**Yosondua**	**1.99**	**295**	*e*P	Pn	04 56 41.8	-3.0
YOIG				*e*S	Sn	04 57 00.5	-9.3
PCIG		**2.37**	**97**	*e*P	Pn	04 56 47.4	-2.3
PCIG				*e*S	Sn	04 57 18.2	-0.7
PNIG	**Pinotepa**	**2.40**	**279**	*e*P	Pn	04 56 45.0	-5.1
PNIG				*e*S	Sn	04 57 15.4	-4.1
TOIG	**Toxpalan**	**2.47**	**327**	*e*P	Pn	04 56 49.8	-1.4
TOIG				*e*S	Sn	04 57 20.4	-0.9
HLIG	**Huajuapan de L**	**2.73**	**312**	*e*P	Pb	04 56 59.1	-0.8
HLIG				*e*S	Sb	04 57 30.9	-2.5

*TUL **02** 05:05:04.5±1.3, 36°.71N±0°.02×98°.41W±0°.01, h2km±6km, ML2.8, mb_Lg2.7/45(NEIC), Error ellipse: s-maj=2.5km s-min=1.0km az=148.0*
NEIC 02 05:05:05.3±1.0**, 36°.70N**±0°.01×**98°.38W**±0°.02**, h6**km±6km**, Error ellipse: s-maj=2.8km s-min=1.5km az=113.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.17**	**54**		Pg	05 05 08.8	+0.1
CROK	**Carrier**	**0.38**	**122**		Pg	05 05 12.6	0.0
CROK				Sg	Sg	05 05 18.1	+0.5
KAN14	**Manchester OK**	**0.42**	**53**		Pg	05 05 13.3	-0.1
KAN14				Sg	Sg	05 05 19.1	+0.1
GC02	**Grant County #**	**0.45**	**71**		Pg	05 05 13.8	-0.1
GC02				Sg	Sg	05 05 20.3	+0.6
KAN10	**Anthony SW Sta**	**0.48**	**29**		Pg	05 05 14.3	-0.2
KAN10				Sg	Sg	05 05 21.0	+0.2
KAN05	**Bluff City Nor**	**0.58**	**45**	Pg	Pg	05 05 16.7	+0.3
KAN05					Sg	05 05 23.3	-0.5
U32A	**Winter Ranch,**	**0.59**	**237**	Pg	Pg	05 05 15.9	-0.8
U32A				Sg	Sg	05 05 23.7	-0.7
KAN17	**Caldwell West**	**0.60**	**55**		Pg	05 05 16.6	-0.2
KAN17				Sg	Sg	05 05 24.9	+0.2
KAN08	**Anthony NE Sta**	**0.62**	**32**		Pg	05 05 16.8	-0.3
KAN08				Sg	Sg	05 05 25.2	0.0
KAN12	**Harper NE Stat**	**0.67**	**27**		Pg	05 05 17.8	-0.3
KAN12				Sg	Sg	05 05 26.9	+0.1
KAN13	**South Haven SW**	**0.79**	**67**		Pg	05 05 20.1	-0.3
KS20	**Mayfield South**	**0.85**	**51**	Pg	Pg	05 05 20.9	-0.6
BLOK	**Blackwell**	**0.94**	**86**		Pg	05 05 22.7	-0.6
OK029	**Liberty Lake**	**1.18**	**140**		Pg	05 05 27.0	-0.9
OK025	**Westminster Rd**	**1.40**	**143**		Pn	05 05 30.8	-0.7
QUOK	**Quay**	**1.45**	**111**	Pn	Pn	05 05 31.8	-0.3
OK031	**S. Brethren Rd**	**1.46**	**121**		Pn	05 05 31.9	-0.2
OKCFA	**Oklahoma City**	**1.49**	**149**	Pn	Pn	05 05 31.9	-0.7
OKCFA					Sb	05 05 52.8	+0.2
OKCSW	**OKLAHOMA CITY**	**1.50**	**149**	Pn	Pn	05 05 32.0	-0.9
OKCSW					Sg	05 05 53.6	0.0
T35A	**Sooner Cattle**	**1.52**	**81**	Pn	Pn	05 05 32.9	-0.1
FNO	**Franklin**	**1.65**	**151**	Pn	Pn	05 05 34.6	-0.2
R32A	**Long Quarter,**	**1.73**	**351**	Pn	Pn	05 05 36.5	+0.5
WMOK	**Wichita Mounta**	**1.99**	**189**		Pn	05 05 39.8	+0.3
X34A	**Smith Ranch, M**	**2.15**	**168**	Pn	Pb	05 05 43.4	-1.2
X34A				IAmb_Lg		05 06 17.4	
	comp=Z,50nm,0.7s						
CBKS	**Cedar Bluff**	**2.36**	**333**	Pn	Pn	05 05 46.4	+1.7
KSU1	**Kansas State U**	**2.77**	**30**	IAmb_Lg		05 06 35.3	
	comp=Z,20nm,0.7s						
LOOK	**Love County**	**2.88**	**160**	Pn	Pn	05 05 51.1	-0.6
U38A	**Gravette**	**3.23**	**94**	Pn	Pn	05 05 57.3	+0.8
U38A				IAmb_Lg		05 06 54.3	
	comp=Z,24nm,1.0s						
X37A	**Clayton**	**3.24**	**130**	Pn	Pn	05 05 56.6	0.0
X37A				IAmb_Lg		05 06 56.0	
	comp=Z,18nm,0.8s						
AMTX	**Amarillo**	**3.24**	**237**	Pn	Pn	05 05 57.8	+1.0
AMTX				IAmb_Lg		05 06 55.7	
	comp=Z,21nm,0.9s						
HHAR	**Hobbs**	**3.61**	**95**	Pn	Pn	05 06 01.7	0.0
KSCO	**Kaye Shedlock'**	**4.07**	**306**	IAmb_Lg		05 07 20.1	
	comp=Z,15nm,0.8s						
S39A	**Bolivar**	**4.16**	**75**		Pn	05 06 09.5	+0.2
S39A				IAmb_Lg		05 07 21.2	
	comp=Z,13nm,0.9s						
ABTX	**Abilene, Hawle**	**4.20**	**195**	Pn	Pn	05 06 10.9	+1.0
Z38A	**Mt. Pleasant**	**4.43**	**140**	IAmb_Lg		05 07 29.6	
	comp=Z,12nm,0.8s						
U40A	**Yellville**	**4.47**	**93**		Pn	05 06 12.4	-1.1
U40A				IAmb_Lg		05 07 27.5	
	comp=Z,14nm,0.9s						
MIAR	**Mount Ida**	**4.47**	**117**	Pn	Pn	05 06 14.7	+1.1
BGNE	**Belgrade**	**4.70**	**2**	Pn	Pn	05 06 16.8	0.0
BGNE				IAmb_Lg		05 07 46.6	
	comp=Z,18nm,0.7s						
WHTX	**Lake Whitney,**	**4.76**	**170**	Pn	Pn	05 06 17.2	-0.4
P38A	**Dawn**	**4.81**	**51**	IAmb_Lg		05 07 43.5	
	comp=Z,11nm,0.9s						
T25A	**Trinidad**	**4.85**	**277**	IAmb_Lg		05 07 44.8	
	comp=Z,13nm,0.7s						
OGNE	**Ogallala**	**5.10**	**327**	IAmb_Lg		05 07 48.7	
	comp=Z,17nm,0.8s						
R40A	**Maddies Statio**	**5.11**	**70**	IAmb_Lg		05 07 52.8	
	comp=Z,12nm,0.7s						
WHAR	**Wooly Hollow**	**5.14**	**104**	IAmb_Lg		05 07 57.1	
	comp=Z,12nm,0.9s						
WLAR	**White Oak Lake**	**5.26**	**123**	IAmb_Lg		05 07 57.5	
	comp=Z,10nm,0.8s						
CCM	**Cathedral Cave**	**5.84**	**75**	IAmb_Lg		05 08 18.1	
	comp=Z,13nm,0.9s						
JCT	**Junction City**	**6.32**	**191**	IAmb_Lg		05 08 38.7	
	comp=Z,11nm,0.7s						
PBMO	**Poplar Bluff**	**6.39**	**87**	IAmb_Lg		05 08 31.8	
	comp=Z,7.7nm,0.7s						
SCIA	**State Center**	**6.56**	**36**	IAmb_Lg		05 08 35.0	
	comp=Z,14nm,0.8s						
PHWY	**Pilot Hill**	**7.17**	**312**	IAmb_Lg		05 08 59.0	
	comp=Z,7.1nm,1.1s						
L40A	**Anamosa**	**7.71**	**44**	IAmb_Lg		05 09 11.4	
	comp=Z,9.8nm,0.8s						
JFWS	**Jewell Farm**	**8.81**	**43**	IAmb_Lg		05 09 55.2	
	comp=Z,6.9nm,0.8s						

KMA 02 05:28:47.0±0.0**, 37°.21N**×**129°.07E, h0**km±1km**, Error ellipse: s-maj=1.0km s-min=0.9km az=36.0, South Korea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSTBA	**Taebaek**	**0.13**	**229**	P	Pg	05 28 49.5	0.0
	SNR=73						
KSTBA	**Taebaek**	**0.13**	**229**	P	Pg	05 28 49.5	0.0
	SNR=73						
IMWB	**Imwonan-gil**	**0.22**	**82**	P	Pg	05 28 51.2	0.0
	SNR=30						
IMWB	**Imwonan-gil**	**0.22**	**82**	P	Pg	05 28 51.2	0.0
	SNR=30						
KSULJ	**Uljin**	**0.57**	**152**	P	Pg	05 28 57.5	-0.4
	SNR=5.6						
KSULJ	**Uljin**	**0.57**	**152**	P	Pg	05 28 57.5	-0.4
	SNR=5.6						
SEHB	**SEOHWA**	**1.24**	**329**	P	Pg	05 29 10.8	0.0
	SNR=10						
SEHB	**SEOHWA**	**1.24**	**329**	P	Pg	05 29 10.8	0.0
	SNR=10						
PYTK	**Pyeongtaek**	**1.59**	**263**	P	Pn	05 29 16.4	+0.1
	SNR=6.2						
HAMB	**Hamyang**	**2.00**	**213**	P	Pn	05 29 23.0	+0.9
	SNR=15						

*NEIC **02** 05:34:07.9±1.2, 4°.2S±0°.1×103°.0E±0°.1, h73km±8km, mb4.3/7, Error ellipse: s-maj=27.7km s-min=10.8km az=223.0*
*DJA **02** 05:34:09.8±0.4, 4°S±4°×10°3E±°, h104km±5km, M4.4/13, mb4.8/3, MLv4.2/13*
*IDC **02** 05:34:11.1±11.0, 3°.92S×103°.19E, h111km±98km, mb3.8/6, mb1 4.0/6, mb1mx3.5/41, mbtmp4.2/6, Error ellipse: s-maj=63.3km s-min=22.0km az=57.0*
ISC 02 05:34:09.1±0.7**, 4°.31S**±0°.07×**102°.96E**±0°.08**, h100**km**, n43, σ1ˢ.80**/40**, mb4.3**/9**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHSI	**Lahat**	**0.74**	**49**	P	**Pn**	**05 34 27.5**	**+0.6**
LHSI				S	**Sn**	**05 34 40.8**	**+0.5**
UBSI	**University, Be**	**0.88**	**309**	P	**Pn**	**05 34 29.3**	**+1.0**
MDSI	**Maura Dua**	**1.23**	**98**	P	**Pn**	**05 34 33.4**	**+1.3**
EGSI	**Enggano, Bengk**	**1.24**	**213**	P	**Pn**	**05 34 34.7**	**+2.4**
LWLI	**Liwa**	**1.30**	**123**	P	**Pn**	**05 34 35.0**	**+1.9**
MASI	**Maura Aman, Be**	**1.37**	**328**	P	**Pn**	**05 34 34.9**	**+1.1**
MASI				S	**Sn**	**05 34 54.3**	**+1.8**
KASI	**Kota Agung**	**1.95**	**128**	P	**Pn**	**05 34 43.4**	**+2.4**
BLSI	**Bandar Lampung**	**2.51**	**115**	P	**Pn**	**05 34 50.8**	**+2.4**
KRJI	**Kerinci**	**2.67**	**326**	P	**Pn**	**05 34 49.0**	**-1.6**
SBJI	**Serang**	**3.63**	**120**	P	**Pn**	**05 35 04.5**	**+1.1**
RGRI	**Rengat**	**3.99**	**351**	P	Pn	05 35 14.4	+6.2
PDSI	**Padang**	**4.20**	**323**	P	**Pn**	**05 35 11.3**	**+0.2**
SISI	**Saibi**	**4.87**	**307**	P	**Pn**	**05 35 19.5**	**-0.6**
CISI	**Cisompet, Garu**	**5.81**	**124**		**Pn**	**05 35 33.0**	**+0.1**
CISI					**Sn**	**05 36 32.7**	**-5.5**
MNSI	**Mandailing Nat**	**6.09**	**326**	P	**Pn**	**05 35 35.5**	**-1.3**
	0.3nm24nm,0.7s						
XMIS	**Christmas Isla**	**6.69**	**157**	Pn	**Pn**	**05 35 40.9**	**-3.9**
GSI	**Gunungsitoli**	**7.75**	**316**		**Pn**	**05 35 56.7**	**-2.6**
GSI	**Gunungsitoli**	**7.75**	**316**	P	**Pn**	**05 35 57.6**	**-1.7**
	0.2nm47nm,0.6s						
RPSI	**Rantau Prapat**	**8.04**	**330**	Pn	**Pn**	**05 36 01.5**	**-1.8**
UGM	**Wanagama**	**8.33**	**116**	Pn	**Pn**	**05 36 08.6**	**+1.4**
PBKI	**Pangkalan Bun**	**8.84**	**80**	P	**Pn**	**05 36 15.0**	**+0.9**
JAGI	**Jajag, Banyuwa**	**11.86**	**111**	Pn	**Pn**	**05 36 54.7**	**-0.4**
H08S2	**Diego Garcia H**	**30.47**	**262**	T	T	06 10 31.1	
	baz=85						
H08S3	**Diego Garcia H**	**30.48**	**262**	T	T	06 10 42.2	
	baz=85,slow=74,SNR=8.4						
H08S1	**Diego Carcia H**	**30.49**	**262**	T	T	06 11 01.1	
	baz=85,slow=74,SNR=5.9						
H01W3	**Cape Leeuwin H**	**32.13**	**163**	T	T	06 14 06.7	
	baz=340,slow=76,SNR=3.8						
H01W2	**Cape Leeuwin H**	**32.15**	**163**	T	T	06 14 15.6	
	baz=340,slow=76,SNR=3.8						
H01W1	**Cape Leeuwin H**	**32.15**	**163**	T	T	06 14 09.4	
	baz=340,slow=76,SNR=4.2						
WB0	**Warramunga Arr**	**34.27**	**119**	P	**P**	**05 40 46.2**	**+0.3**
WB0				IAmb	IAmb	05 41 09.1	
	comp=Z,3.8nm,1.1s						
WRA	**Warramunga Arr**	**34.28**	**120**	P	**P**	**05 40 46.7**	**+0.6**
	comp=Z,2.1nm,0.3s,baz=318,slow=10,SNR=65						
WRA				PcP	**PcP**	**05 43 20.8**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=298,slow=2.0,SNR=7.5						
WB2	**Warramunga Arr**	**34.30**	**120**	P	**P**	**05 40 46.8**	**+0.6**
WB2				IAmb	IAmb	05 40 50.3	
	comp=Z,3.0nm,0.8s						
WR0	**Warramunga Arr**	**34.47**	**119**	P	**P**	**05 40 48.3**	**+0.7**
ASAR	**Alice Springs**	**35.51**	**126**	P	**P**	**05 40 57.7**	**+1.0**
	comp=Z,2.8nm,0.4s,baz=296,slow=7.7,SNR=40						
ASAR				PcP	**PcP**	**05 43 24.6**	**+0.6**
	comp=Z,1.0nm,0.4s,baz=306,slow=2.7,SNR=7.6						
AS31	**Alice Springs**	**35.51**	**126**	P	**P**	**05 40 57.8**	**+1.1**
AS31				IAmb	IAmb	05 40 59.1	
	comp=Z,2.5nm,0.4s						
CTA	**Charters Tower**	**44.95**	**114**	P	**P**	**05 42 15.5**	**+0.9**
	comp=Z,2.8nm,0.5s,baz=335,slow=7.4,SNR=3.5						
CTAO	**Charters Tower**	**44.95**	**114**	P	**P**	**05 42 15.5**	**+0.9**
CTAO				IAmb	IAmb	05 42 15.8	
	comp=Z,17nm,1.4s						
STKA	**Stephens Creek**	**45.42**	**132**	P	**P**	**05 42 19.7**	**+1.6**
	comp=Z,2.2nm,0.5s,baz=324,slow=12,SNR=4.6						
MKAR	**Makanchi Array**	**54.07**	**343**	P	**P**	**05 43 22.0**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=159,slow=8.5,SNR=7.9						
VNDA	**Vanda**	**79.34**	**169**	P	**P**	**05 46 05.9**	**+2.5**
	comp=Z,0.3nm,0.6s,baz=314,slow=7.5,SNR=5.1						
VNDA	**Vanda**	**79.34**	**169**	IAmb	IAmb	05 46 22.9	
	comp=Z,2.2nm,1.4s						
CPUP	**Villa Florida**	**144.05**	**211**	PKP	**PKPdf**	**05 53 33.7**	**-0.2**
	comp=Z,2.7nm,0.6s,baz=143,slow=1.8,SNR=9.1						
TXAR	**Lajitas Array**	**144.57**	**42**	PKP	**PKPdf**	**05 53 33.4**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=232,slow=0.9,SNR=12						
BDFB	**Brasilia**	**145.09**	**235**	PKPbc	**PKiKP**	**05 53 37.5**	**-2.5**
	comp=Z,1.2nm,0.4s,baz=166,slow=4.2,SNR=4.0						

*TUL **02** 05:44:11.7±1.1, 36°.45N±0°.01×97°.13W±0°.02, h5km±6km, ML2.5, mb_Lg2.6/43(NEIC), Error ellipse: s-maj=2.0km s-min=1.2km az=128.0*
NEIC 02 05:44:11.8±0.8**, 36°.441N**±0°.006×**97°.13W**±0°.02**, h1**km±7km**, Error ellipse: s-maj=2.1km s-min=0.9km az=77.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLOK	**Blackwell**	**0.33**	**347**		Pg	05 44 18.5	+0.4
QUOK	**Quay**	**0.43**	**128**	Pg	Pg	05 44 20.4	+0.3
OK031	**S. Brethren Rd**	**0.54**	**154**		Pg	05 44 22.3	+0.1
OK031				Sg	Sg	05 44 29.4	+0.2
KAN13	**South Haven SW**	**0.64**	**334**		Pg	05 44 24.1	0.0
T35A	**Sooner Cattle**	**0.68**	**46**	Pg	Pg	05 44 24.9	0.0
T35A				Sg	Sg	05 44 33.9	0.0
CROK	**Carrier**	**0.69**	**275**		Pg	05 44 25.2	+0.1
CROK				Sg	Sg	05 44 34.7	+0.5
OK029	**Liberty Lake**	**0.70**	**203**		Pg	05 44 25.2	+0.1
GC02	**Grant County #**	**0.72**	**305**		Pg	05 44 25.5	-0.1
GC02				Sg	Sg	05 44 35.4	+0.4
KAN17	**Caldwell West**	**0.79**	**320**		Pg	05 44 26.8	-0.2
KAN17				Sg	Sg	05 44 37.5	+0.2
KAN14	**Manchester OK**	**0.85**	**308**		Pg	05 44 27.9	-0.2
KS20	**Mayfield South**	**0.86**	**337**		Pg	05 44 28.0	-0.3
OK025	**Westminster Rd**	**0.88**	**191**		Pg	05 44 28.5	-0.1
KAN05	**Bluff City Nor**	**0.90**	**318**	Pg	Pg	05 44 28.9	-0.1
OK032	**Salt Plains WL**	**0.94**	**293**		Pg	05 44 29.7	-0.2
KAN10	**Anthony SW Sta**	**1.03**	**311**	Pg	Pg	05 44 31.0	-0.7
KAN08	**Anthony NE Sta**	**1.04**	**319**		Pg	05 44 31.6	-0.1
OKCFA	**Oklahoma City**	**1.06**	**195**		Pg	05 44 31.8	-0.4
OKCSW	**OKLAHOMA CITY**	**1.06**	**194**		Pg	05 44 32.1	-0.2
KAN12	**Harper NE Stat**	**1.10**	**321**		Sg	05 44 48.0	+0.7
FNO	**Franklin**	**1.20**	**191**	Pg	Pg	05 44 34.2	-0.7
U32A	**Winter Ranch,**	**1.51**	**268**		Pn	05 44 40.0	-0.1
X34A	**Smith Ranch, M**	**1.92**	**198**		Pn	05 44 46.7	+1.0
WMOK	**Wichita Mounta**	**2.17**	**219**		Pn	05 44 49.5	+0.4
WMOK				IAmb_Lg		05 45 21.5	
	comp=Z,23nm,1.1s						
U38A	**Gravette**	**2.21**	**89**		Pn	05 44 49.9	+0.2
X37A	**Clayton**	**2.34**	**142**		Pn	05 44 52.4	+1.0
X37A				IAmb_Lg		05 45 26.7	
	comp=Z,25nm,0.7s						
R32A	**Long Quarter,**	**2.35**	**328**	Pn	Pn	05 44 53.1	+1.5
HHAR	**Hobbs**	**2.58**	**93**		Pn	05 44 54.9	+0.2
KSU1	**Kansas State U**	**2.69**	**9**	IAmb_Lg		05 45 39.7	
	comp=Z,12nm,0.8s						
W39A	**Magazine**	**2.99**	**114**	IAmb_Lg		05 45 54.5	
	comp=Z,19nm,0.9s						
CBKS	**Cedar Bluff**	**3.15**	**320**	IAmb_Lg		05 45 52.8	
	comp=Z,14nm,0.9s						
U40A	**Yellville**	**3.45**	**90**		Pn	05 45 06.9	+0.2
MIAR	**Mount Ida**	**3.46**	**122**	Pn	Pn	05 45 07.1	+0.3
MIAR				IAmb_Lg		05 46 09.3	
	comp=Z,10nm,0.8s						
Z38A	**Mt. Pleasant**	**3.63**	**150**	IAmb_Lg		05 46 15.1	
	comp=Z,21nm,0.8s						
MGMO	**Mountain Grove**	**3.96**	**78**	Pn	Pn	05 45 13.6	-0.2
X40A	**Basin Creek Fa**	**4.01**	**118**	IAmb_Lg		05 46 23.2	
	comp=Z,15nm,0.8s						
WHAR	**Wooly Hollow**	**4.09**	**105**	IAmb_Lg		05 46 21.5	
	comp=Z,15nm,1.1s						
P38A	**Dawn**	**4.26**	**41**	IAmb_Lg		05 46 29.7	
	comp=Z,10nm,0.7s						
R40A	**Maddies Statio**	**4.29**	**63**	Pn	Pn	05 45 18.0	-0.2
ABTX	**Abilene, Hawle**	**4.34**	**209**	IAmb_Lg		05 46 27.2	
	comp=Z,8.3nm,1.1s						
LCAR	**Lake Charles**	**4.84**	**93**	IAmb_Lg		05 46 41.4	
	comp=Z,8.0nm,1.0s						
CCM	**Cathedral Cave**	**4.96**	**69**	IAmb_Lg		05 46 56.7	
	comp=Z,13nm,0.8s						
P40A	**Paris**	**5.06**	**51**	IAmb_Lg		05 46 50.0	
	comp=Z,12nm,0.7s						
N38A	**Joes South For**	**5.31**	**34**	IAmb_Lg		05 47 04.5	
	comp=Z,16nm,0.7s						
PBMO	**Poplar Bluff**	**5.40**	**84**	IAmb_Lg		05 47 10.6	
	comp=Z,7.1nm,0.7s						
L34A	**Svendsen Farm,**	**5.55**	**6**	IAmb_Lg		05 47 22.3	
	comp=Z,12nm,0.7s						
T25A	**Trinidad**	**5.89**	**279**	IAmb_Lg		05 47 23.4	
	comp=Z,11nm,0.9s						
JCT	**Junction City**	**6.35**	**201**	IAmb_Lg		05 47 36.0	
	comp=Z,7.9nm,1.0s						
S44A	**Carbondale**	**6.42**	**76**	IAmb_Lg		05 47 36.9	
	comp=Z,10nm,0.9s						
L40A	**Anamosa**	**7.24**	**37**	IAmb_Lg		05 48 00.8	
	comp=Z,7.9nm,0.8s						
PLAL	**Pickwick Lake**	**7.50**	**99**	IAmb_Lg		05 48 25.0	
	comp=Z,6.7nm,1.3s						
I37A	**Lemond, Waseca**	**8.08**	**19**	IAmb_Lg		05 48 30.1	
	comp=Z,6.7nm,1.0s						

*NEIC **02** 06:04:06.5±1.3, 37°.20N±0°.02×97°.97W±0°.02, h3km±5km, Error ellipse: s-maj=3.8km s-min=2.4km az=151.0*
*ANF **02** 06:04:06.2±0.3, 37°.19N×97°.98W, h3km, ML3.1/11, Error ellipse: s-maj=3.9km s-min=2.7km az=40.0*
ISC 02 06:04:06.3±0.9**, 37°.19N**±0°.02×**97°.99W**±0°.02**, h3**km±7km**, n59, σ0ˢ.58**/70**, Kansas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN08	**Anthony NE Sta**	**0.04**	**21**	Pg	**Pg**	**06 04 07.2**	**-0.1**
KAN08				Sg	**Sg**	**06 04 08.2**	**+0.2**
KAN12	**Harper NE Stat**	**0.10**	**355**	Pg	**Pg**	**06 04 08.5**	**0.0**
KAN12				Sg	**Sg**	**06 04 10.5**	**+0.6**
KAN10	**Anthony SW Sta**	**0.11**	**231**	Pg	**Pg**	**06 04 08.4**	**-0.2**
KAN10				Sg	**Sg**	**06 04 10.1**	**+0.1**
KAN06	**Argonia West S**	**0.12**	**62**		**Pg**	**06 04 08.7**	**0.0**
KAN05	**Bluff City Nor**	**0.12**	**133**	Pg	**Pg**	**06 04 08.8**	**0.0**
KAN05				Sg	**Sg**	**06 04 10.9**	**+0.4**
KAN17	**Caldwell West**	**0.23**	**130**	Pg	**Pg**	**06 04 10.8**	**0.0**
KAN17				Sg	**Sg**	**06 04 14.4**	**+0.5**
KAN14	**Manchester OK**	**0.24**	**175**	Pg	**Pg**	**06 04 10.8**	**-0.1**
KAN14				Sg	**Sg**	**06 04 14.4**	**+0.4**
KS21	**Milan North St**	**0.28**	**70**		**Pg**	**06 04 11.6**	**0.0**
KS21					**Sg**	**06 04 15.6**	**+0.3**
KS20	**Mayfield South**	**0.35**	**84**	Pg	**Pg**	**06 04 12.9**	**-0.1**
KS20				Sg	**Sg**	**06 04 17.9**	**+0.4**
GC02	**Grant County #**	**0.36**	**163**	Pg	**Pg**	**06 04 12.9**	**-0.3**
OK032	**Salt Plains WL**	**0.43**	**205**		**Pg**	**06 04 14.4**	**-0.1**
OK032					**Sg**	**06 04 20.4**	**+0.3**
KAN13	**South Haven SW**	**0.45**	**114**		**Pg**	**06 04 14.8**	**0.0**
KAN13					**Sg**	**06 04 21.0**	**+0.3**
CROK	**Carrier**	**0.69**	**180**	Pg	**Pg**	**06 04 19.1**	**-0.4**
CROK				Sg	**Sb**	**06 04 30.3**	**-0.5**
BLOK	**Blackwell**	**0.75**	**125**		**Pg**	**06 04 20.2**	**-0.5**
BLOK				Sg	**Sg**	**06 04 30.6**	**+0.1**
U32A	**Winter Ranch,**	**1.15**	**225**	Pg	**Pg**	**06 04 27.8**	**-0.5**

U32A	**Winter Ranch,**	**1.15**	**225**	P	**Pg**	**06 04 27.6**	**-0.8**
	baz=45,SNR=16						
T35A	**Sooner Cattle**	**1.21**	**103**		**Pg**	**06 04 28.6**	**-0.9**
T35B	**Sooner Cattle**	**1.21**	**103**	P	**Pg**	**06 04 28.6**	**-0.9**
	baz=284						
T35B				S	**Sg**	**06 04 44.5**	**-0.8**
	baz=284						
R32A	**Long Quarter,**	**1.35**	**335**		**Pn**	**06 04 31.2**	**-0.9**
R32A	**Long Quarter,**	**1.35**	**335**	P	**Pn**	**06 04 31.0**	**-1.1**
	baz=154,SNR=38						
QUOK	**Quay**	**1.45**	**134**		**Pn**	**06 04 32.9**	**-0.5**
OK029	**Liberty Lake**	**1.46**	**163**		**Pn**	**06 04 32.9**	**-0.6**
OK025	**Westminster Rd**	**1.69**	**162**	Pn	**Pn**	**06 04 36.9**	**+0.1**
OKCFA	**Oklahoma City**	**1.83**	**166**	Pn	**Pn**	**06 04 38.1**	**-0.5**
OKCFA				IAmb_Lg		06 05 07.6	
	comp=Z,22nm,0.8s						
OKCFA	**Oklahoma City**	**1.83**	**166**	S	**Sb**	**06 05 03.5**	**-0.1**
	baz=347						
OKCSW	**OKLAHOMA CITY**	**1.84**	**166**	Pn	**Pn**	**06 04 38.9**	**+0.1**
FNO	**Franklin**	**1.99**	**166**	Pn	**Pn**	**06 04 41.3**	**+0.5**
CBKS	**Cedar Bluff**	**2.13**	**320**		**Pb**	**06 04 44.6**	**-1.0**
CBKS	**Cedar Bluff**	**2.13**	**320**	IAmb_Lg		06 05 13.2	
	comp=Z,15nm,0.7s						
CBKS	**Cedar Bluff**	**2.13**	**320**	P	**Pn**	**06 04 43.0**	**+0.2**
	baz=139						
CBKS				S	**Sn**	**06 05 10.6**	**+0.9**
	baz=139						
TUL1	**Leonard**	**2.18**	**125**	P	**Pn**	**06 04 44.1**	**+0.6**
	baz=307,SNR=24						
TUL1				S	**Sn**	**06 05 11.8**	**+0.8**
	baz=307						
KSU1	**Kansas State U**	**2.19**	**29**		**Pn**	**06 04 44.8**	**+1.2**
KSU1	**Kansas State U**	**2.19**	**29**	P	**Pn**	**06 04 44.1**	**+0.5**
	baz=210,SNR=9.0						
KSU1				S	**Sn**	**06 05 12.5**	**+1.3**
	baz=210						
X34A	**Smith Ranch, M**	**2.59**	**177**	Pn	**Pn**	**06 04 49.6**	**+0.5**
U38A	**Gravette**	**2.99**	**104**		**Pn**	**06 04 55.0**	**+0.5**
U38A				IAmb_Lg		06 05 47.7	
	comp=Z,13nm,0.7s						
U38A	**Gravette**	**2.99**	**104**	P	**Pn**	**06 04 55.0**	**+0.5**
	baz=286,SNR=37						
X37A	**Clayton**	**3.36**	**140**		**Pn**	**06 05 00.1**	**+0.4**
X37A	**Clayton**	**3.36**	**140**	P	**Pn**	**06 05 00.0**	**+0.4**
	baz=322,SNR=25						
HHAR	**Hobbs**	**3.38**	**104**	Pn	**Pn**	**06 04 59.8**	**-0.1**
HHAR	**Hobbs**	**3.38**	**104**	P	**Pn**	**06 05 00.4**	**+0.5**
	baz=287						
S39A	**Bolivar**	**3.75**	**81**		**Pn**	**06 05 04.5**	**-0.5**
S39A				IAmb_Lg		06 06 07.7	
	comp=Z,7.4nm,0.8s						
S39A	**Bolivar**	**3.75**	**81**	P	**Pn**	**06 05 04.8**	**-0.2**
	baz=264,SNR=24						
AMTX	**Amarillo**	**3.78**	**234**	Pn	**Pn**	**06 05 06.9**	**+1.4**
KSCO	**Kaye Shedlock'**	**4.09**	**298**	IAmb_Lg		06 06 20.6	
	comp=Z,9.8nm,0.9s						
U40A	**Yellville**	**4.21**	**100**		**Pn**	**06 05 11.1**	**-0.2**
U40A				IAmb_Lg		06 06 18.1	
	comp=Z,13nm,0.8s						
U40A	**Yellville**	**4.21**	**100**	P	**Pn**	**06 05 11.4**	**+0.1**
	baz=283,SNR=14						
MIAR	**Mount Ida**	**4.45**	**125**	Pn	**Pn**	**06 05 15.3**	**+0.7**
MIAR				IAmb_Lg		06 06 33.6	
	comp=Z,6.9nm,0.8s						
MGMO	**Mountain Grove**	**4.57**	**89**		**Pn**	**06 05 16.5**	**+0.2**
MGMO				IAmb_Lg		06 06 35.4	
	comp=Z,11nm,0.8s						
R40A	**Maddies Statio**	**4.66**	**75**	Pn	**Pn**	**06 05 16.9**	**-0.7**
R40A				IAmb_Lg		06 06 39.3	
	comp=Z,8.4nm,1.1s						
R40A	**Maddies Statio**	**4.66**	**75**	P	**Pn**	**06 05 17.2**	**-0.3**
	baz=258,SNR=17						
OGNE	**Ogallala**	**4.89**	**321**	Pn	**Pn**	**06 05 21.6**	**+0.8**
FCAR	**Ozark Folk Cen**	**4.90**	**104**	Pn	**Pn**	**06 05 20.6**	**-0.2**
X40A	**Basin Creek Fa**	**4.98**	**121**	IAmb_Lg		06 06 50.8	
	comp=Z,8.2nm,0.9s						
WHAR	**Wooly Hollow**	**4.98**	**111**	Pn	**Pn**	**06 05 22.1**	**+0.2**
MSTX	**Muleshoe**	**5.05**	**232**	Pn	**Pn**	**06 05 24.4**	**+1.4**
N38A	**Joes South For**	**5.16**	**44**	Pn	**Pn**	**06 05 24.1**	**-0.3**
N38A				IAmb_Lg		06 07 03.0	
	comp=Z,10nm,0.8s						
K31A	**O'Neill**	**5.46**	**354**	IAmb_Lg		06 07 10.3	
	comp=Z,11nm,0.8s						
LCAR	**Lake Charles**	**5.61**	**99**	Pn	**Pn**	**06 05 30.7**	**+0.2**
PBMO	**Poplar Bluff**	**6.06**	**92**	IAmb_Lg		06 07 26.3	
	comp=Z,5.5nm,0.7s						

*TUL **02** 06:15:31.8±1.8, 35°.68N±0°.02×97°.39W±0°.03, h4km±6km, ML2.5, mb_Lg2.5/43(NEIC), Error ellipse: s-maj=3.9km s-min=2.4km az=90.0*

NEIC 02 06:15:31.6±1.3**, 35°.69N**±0°.02×**97°.46W**±0°.05**, h8**km±4km**, Error ellipse: s-maj=6.3km s-min=2.8km az=70.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.11**	**3**	Pg	Pg	06 15 34.6	+0.4
OK029				Sg	Sg	06 15 37.0	+1.1
OK009	**Oakdale Elemen**	**0.11**	**164**	Pg	Pg	06 15 34.1	-0.1
OK025	**Westminster Rd**	**0.15**	**137**	Pg	Pg	06 15 34.1	-0.6
OKCFA	**Oklahoma City**	**0.28**	**178**	Pg	Pg	06 15 37.1	0.0
OKCSW	**OKLAHOMA CITY**	**0.28**	**176**	Pg	Pg	06 15 37.2	0.0
FNO	**Franklin**	**0.43**	**173**		Pg	06 15 39.8	-0.2
OK031	**S. Brethren Rd**	**0.57**	**62**		Pg	06 15 42.0	-0.6
QUOK	**Quay**	**0.78**	**52**	Pg	Pg	06 15 46.0	-0.6
CROK	**Carrier**	**0.92**	**333**	Pg	Pb	06 15 49.6	-0.2
BLOK	**Blackwell**	**1.09**	**11**	Pg	Pg	06 15 52.1	-0.3
X34A	**Smith Ranch, M**	**1.13**	**196**	Pg	Pg	06 15 53.0	-0.2
GC02	**Grant County #**	**1.20**	**345**	Pg	Pb	06 15 54.5	-0.1
OK032	**Salt Plains WL**	**1.27**	**332**	Pg	Pb	06 15 55.7	0.0
KAN13	**South Haven SW**	**1.32**	**359**	Pn	Pb	06 15 56.5	-0.1
KAN14	**Manchester OK**	**1.33**	**342**		Pb	06 15 56.6	-0.1
KAN17	**Caldwell West**	**1.37**	**350**	Pn	Pb	06 15 57.6	0.0
U32A	**Winter Ranch,**	**1.43**	**299**	IAmb_Lg		06 16 21.0	
	comp=Z,16nm,0.7s						
WMOK	**Wichita Mounta**	**1.44**	**229**	Pn	Pn	06 15 58.0	0.0
T35A	**Sooner Cattle**	**1.44**	**32**	Pn	Pn	06 15 57.7	-0.4
KS20	**Mayfield South**	**1.54**	**357**	IAmb_Lg		06 16 22.7	
	comp=Z,30nm,0.9s						
KS21	**Milan North St**	**1.60**	**354**	IAmb_Lg		06 16 24.1	
	comp=Z,31nm,0.7s						
X37A	**Clayton**	**2.04**	**122**	Pn	Pn	06 16 06.7	+0.5
Z35A	**Perchaven, San**	**2.36**	**176**	IAmb_Lg		06 16 51.5	
	comp=Z,10nm,1.1s						
U38A	**Gravette**	**2.60**	**72**	Pn	Pn	06 16 15.5	+1.5
HHAR	**Hobbs**	**2.92**	**77**	Pn	Pn	06 16 19.4	+1.1
W39A	**Magazine**	**3.04**	**98**	Pn	Pn	06 16 19.7	-0.3
MIAR	**Mount Ida**	**3.38**	**109**	Pn	Pn	06 16 25.6	+0.9
MIAR				IAmb_Lg		06 17 25.9	
	comp=Z,8.8nm,0.9s						
KSU1	**Kansas State U**	**3.47**	**11**	IAmb_Lg		06 17 27.4	
	comp=Z,13nm,1.0s						
AMTX	**Amarillo**	**3.54**	**258**	IAmb_Lg		06 17 26.4	
	comp=Z,9.7nm,1.0s						
U40A	**Yellville**	**3.79**	**79**	IAmb_Lg		06 17 35.6	
	comp=Z,9.8nm,0.8s						
S39A	**Bolivar**	**3.88**	**58**	IAmb_Lg		06 17 34.6	
	comp=Z,8.8nm,0.9s						
237A	**Washetta, Mont**	**3.93**	**159**	Pn	Pn	06 16 32.9	+0.7
X40A	**Basin Creek Fa**	**3.98**	**106**	IAmb_Lg		06 17 42.0	
	comp=Z,17nm,1.0s						
WHAR	**Wooly Hollow**	**4.24**	**94**	Pn	Pn	06 16 38.5	+2.0
WHAR				IAmb_Lg		06 17 53.5	
	comp=Z,9.6nm,1.0s						
FCAR	**Ozark Folk Cen**	**4.34**	**86**	IAmb_Lg		06 17 50.7	
	comp=Z,7.0nm,0.8s						
MGMO	**Mountain Grove**	**4.43**	**69**	IAmb_Lg		06 17 50.7	
	comp=Z,7.2nm,0.8s						
R40A	**Maddies Statio**	**4.90**	**56**	IAmb_Lg		06 18 14.3	
	comp=Z,7.4nm,0.9s						
P38A	**Dawn**	**5.01**	**37**	IAmb_Lg		06 18 08.7	
	comp=Z,6.9nm,0.7s						
LCAR	**Lake Charles**	**5.14**	**84**	IAmb_Lg		06 18 20.9	
	comp=Z,8.1nm,1.2s						
PBMO	**Poplar Bluff**	**5.79**	**77**	IAmb_Lg		06 18 32.1	
	comp=Z,8.9nm,0.9s						
L34A	**Svendsen Farm,**	**6.32**	**7**	IAmb_Lg		06 19 04.2	
	comp=Z,12nm,0.8s						
SIUC	**Southern Illin**	**6.92**	**71**	IAmb_Lg		06 19 21.5	
	comp=Z,12nm,1.0s						
Q44A	**Meyer Farm, Va**	**7.46**	**62**	IAmb_Lg		06 19 38.7	
	comp=Z,10nm,1.0s						
K38A	**Parkersburg**	**7.84**	**26**	IAmb_Lg		06 20 00.3	
	comp=Z,9.5nm,1.1s						
JFWS	**Jewell Farm**	**9.12**	**36**	IAmb_Lg		06 20 39.4	
	comp=Z,5.4nm,0.8s						

*AEIC **02** 06:47:10±2.9, 52°.00N±0°.07×169°.23W±0°.08, h25km±8km, ML3.8/39, Error ellipse: s-maj=11.0km s-min=6.9km az=168.0*

*IDC **02** 06:47:12.4±0.8, 52°.12N×169°.24W, h36km±4km, mb3.9/22, mb1 4.1/23, mb1mx3.8/70, mbtmp4.1/23, ML3.5/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/55, Error ellipse: s-maj=21.4km s-min=13.5km az=179.0*

*NEIC **02** 06:47:12.5±2.8, 52°.08N±0°.07×169°.3W±0°.1, h46km±12km, Error ellipse: s-maj=10.8km s-min=7.8km az=140.0*

ISC 02 06:47:12.1±0.7**, 52°.09N**±0°.09×**169°.21W**±0°.06**, h35**km**, n99,** σ**1**s.**33**/103**, mb4.2**/21**, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.92**	**14**		**Pn**	**06 47 28.0**	**-0.5**
NIKH					**Sn**	**06 47 41.6**	**+1.2**
OKSP	**Okmok Steeple**	**1.30**	**25**		**Pn**	**06 47 33.6**	**-0.2**
OKSO	**Okmok South**	**1.43**	**26**		**Pn**	**06 47 35.7**	**+0.2**
OKSO					**Sn**	**06 47 54.6**	**+1.5**
OKTU	**Okmok Mt. Tuli**	**1.48**	**28**		**Pn**	**06 47 36.8**	**+0.5**
OKFG	**Magazine Ridge**	**1.55**	**30**		**Pn**	**06 47 37.5**	**+0.4**
OKFG					**Sn**	**06 47 58.5**	**+2.5**
MAPS	**Pakushin South**	**2.21**	**38**		**Pn**	**06 47 46.8**	**+0.6**
MAPS					**Sn**	**06 48 14.8**	**+2.6**
MREP	**Makushin Rep't**	**2.28**	**40**		**Pn**	**06 47 47.8**	**+0.5**
MSW	**Makushin Switc**	**2.35**	**38**		**Pn**	**06 47 49.0**	**+0.8**
MNAT	**Makushin Natee**	**2.36**	**39**		**Pn**	**06 47 49.3**	**+1.0**
UNV	**Unalaska Valle**	**2.41**	**42**		**Pn**	**06 47 49.6**	**+0.7**
MTBL	**Makushin Table**	**2.43**	**38**		**Pn**	**06 47 50.5**	**+1.1**
AKMO	**Akutan Morgan**	**2.79**	**43**		**Pn**	**06 47 55.2**	**+1.0**
ZRO	**Akutan Zero**	**2.80**	**43**		**Pn**	**06 47 55.2**	**+0.8**
AKBBA	**Akutan Broad B**	**2.83**	**43**		**Pn**	**06 47 55.4**	**+0.7**
AKUT	**Akutan**	**2.92**	**44**	Pn	**Pn**	**06 47 57.4**	**+1.4**
KOFP	**Korovin Flat P**	**3.01**	**276**		**Pn**	**06 47 57.6**	**+0.2**
ATKA	**Atka Island**	**3.07**	**274**		**Pn**	**06 47 57.4**	**-0.7**
WECS	**Westdahl Cape**	**3.62**	**46**		**Pn**	**06 48 07.2**	**+1.6**
GSIG	**Igitkin Island**	**4.15**	**271**		**Pn**	**06 48 12.7**	**-0.2**
GSTR	**Great Sitkin T**	**4.22**	**273**		**Pn**	**06 48 14.1**	**+0.2**
GSMY	**Great Sitkin M**	**4.22**	**272**		**Pn**	**06 48 13.8**	**-0.1**
GSTD	**Great Sitkin T**	**4.28**	**272**		**Pn**	**06 48 14.6**	**-0.1**
ADK	**Adak**	**4.62**	**270**		**Pn**	**06 48 18.3**	**-1.1**
KIWB	**Kanaga Island**	**4.91**	**270**		**Pn**	**06 48 22.6**	**-0.8**
KIKV	**Kanaga Island**	**4.92**	**271**		**Pn**	**06 48 23.9**	**+0.4**
KICM	**Kanaga Island**	**4.94**	**271**		**Pn**	**06 48 23.4**	**-0.3**
KIMD	**Kanaga Island**	**4.98**	**269**		**Pn**	**06 48 24.1**	**-0.2**
SPIA	**Saint Paul Isl**	**5.14**	**354**	Pn	**Pn**	**06 48 27.6**	**+1.2**
TAPA	**Tanaga Point A**	**5.33**	**270**		**Pn**	**06 48 29.2**	**+0.1**
TASE	**Tanaga Southea**	**5.46**	**271**		**Pn**	**06 48 31.6**	**+0.6**
GAEA	**Gareloi East**	**5.91**	**271**		**Pn**	**06 48 37.8**	**+0.8**
SDPT	**Sand Point**	**6.13**	**54**	Pn	**Pn**	**06 48 42.9**	**+2.9**
CNBA	**Chernabura Isl**	**6.37**	**61**		**Pn**	**06 48 43.4**	**+0.1**
AMKA	**Amchitka**	**7.17**	**269**	Pn	**Pn**	**06 48 54.4**	**+0.1**
LSPA	**Little Sitkin**	**7.54**	**274**		**Pn**	**06 49 00.9**	**+1.5**
CHGN	**Chignik**	**7.61**	**52**		**Pn**	**06 49 02.9**	**+2.6**
SII	**Sitkinak Islan**	**9.85**	**57**	Pn	**Pn**	**06 49 33.1**	**+2.1**
OHAK	**Old Harbor**	**10.55**	**55**	Pn	**Pn**	**06 49 40.3**	**-0.4**
O18K	**Koktuh Hills**	**11.03**	**40**		**Pn**	**06 49 50.7**	**+3.5**
KDAK	**Kodiak Island**	**11.12**	**53**	Pn	**Pn**	**06 49 47.3**	**-1.1**
	0.5nm,0.3s,baz=216,slow=4.1,SNR=33						
KDAK				Sn	**Sn**	**06 51 45.5**	**-5.9**
	0.1nm,0.3s,baz=310,slow=5.7,SNR=0.8						
KDAK	**Kodiak Island**	**11.12**	**53**	Pn	**Pn**	**06 49 47.8**	**-0.6**
Q19K	**Cape Douglas,**	**11.16**	**46**	Pn	**Pn**	**06 49 51.3**	**+2.4**
SVW2	**Sparrevohn**	**11.72**	**34**	Pn	**Pn**	**06 49 59.0**	**+2.3**
N19K	**Bonanza Creek**	**11.92**	**37**	Pn	**Pn**	**06 50 01.2**	**+1.7**
RSO	**Redoubt South**	**12.38**	**41**	Pn	**Pn**	**06 50 07.4**	**+1.6**
BRLK	**Bradley Lake**	**12.80**	**46**	Pn	**Pn**	**06 50 12.3**	**+1.0**
SEW	**Seward**	**13.60**	**46**	Pn	**Pn**	**06 50 22.1**	**-0.1**
RC01	**Rabbit Creek A**	**13.96**	**42**	Pn	**Pn**	**06 50 26.4**	**-0.7**
J20K	**Nowinta River**	**14.44**	**27**		**P**	**06 50 37.5**	**-2.5**
BPAW	**Bear Paw Mtn.**	**15.34**	**31**	Pn	**Pn**	**06 50 47.7**	**+2.0**
EYAK	**Cordova Ski Ar**	**15.46**	**48**	Pn	**Pn**	**06 50 45.8**	**-1.3**
I21K	**Tanana**	**15.81**	**27**	P	**P**	**06 50 57.2**	**+2.0**
N25K	**Chitina, Valde**	**16.39**	**45**	Pn	**Pn**	**06 50 58.0**	**-1.3**
CCB	**Clear Creek Bu**	**16.75**	**33**		**Pn**	**06 51 03.1**	**-0.5**
IL31		**17.13**	**34**	Pn	**Pn**	**06 51 07.1**	**-1.3**
ILAR	**Eielson Array**	**17.13**	**34**	Pn	**Pn**	**06 51 05.4**	**-3.1**
	0.2nm,0.3s,baz=234,slow=10,SNR=9.0						
H24K	**Noodor Dome**	**17.49**	**30**	P	**Pn**	**06 51 13.0**	**0.0**
DOT	**Dot Lake**	**17.55**	**39**		**Pn**	**06 51 13.1**	**-0.5**
TABL	**Table Mountain**	**17.57**	**51**		**P**	**06 51 15.4**	**+0.5**
CTGM	**Chitina Glacie**	**17.63**	**49**	P	**Pn**	**06 51 14.2**	**-0.6**
SCRK	**Sand Creek**	**17.74**	**38**	P	**Pn**	**06 51 15.6**	**-0.5**
PCA	**Pinnacle**	**17.91**	**52**	P	**P**	**06 51 19.3**	**+0.7**
PRP	**Porcupine Dome**	**18.05**	**33**	P	**Pn**	**06 51 18.4**	**-1.4**
L27K	**Beaver Creek,**	**18.18**	**42**	P	**Pn**	**06 51 20.4**	**-1.0**
K27K	**Chicken**	**18.50**	**39**	P	**P**	**06 51 23.8**	**-1.1**
EGAK	**Eagle**	**19.20**	**38**	P	**P**	**06 51 32.8**	**+0.2**
BMAR	**Burnt Mountain**	**19.53**	**29**	P	**Pn**	**06 51 37.7**	**0.0**
DAWY	**Dawson**	**19.58**	**41**	P	**P**	**06 51 36.6**	**-0.2**
PEA0B	**Petropavlovsk-**	**20.03**	**286**		**P**	**06 51 40.6**	**-1.2**
PETK	**Petropavlovsk-**	**20.03**	**286**	P	**P**	**06 51 40.7**	**-1.0**
	8.8nm,0.5s,baz=91,slow=13,SNR=18						
PETK				pP	**pwP**	**06 51 52.8**	**-1.5**
	7.5nm,0.5s,baz=86,slow=13,SNR=8.0						
PETK	**Petropavlovsk-**	**20.03**	**286**	P	**P**	**06 51 40.6**	**-1.2**
WHY	**Whitehorse**	**20.64**	**52**	P	Pn	06 51 50.7	-0.1
SEY	**Seymchan**	**22.93**	**313**	P	**P**	**06 52 11.8**	**-1.0**
	2.7nm,0.8s,baz=111,slow=9.8,SNR=5.2						
SEY				LR	LR	07 01 31.7	
	comp=Z,47nm,19.1s,baz=104,slow=38						
INK	**Inuvik**	**23.53**	**33**	P	**P**	**06 52 17.8**	**-0.8**
	4.6nm,0.8s,baz=218,slow=9.1,SNR=5.9						
KLR	**Kul'dur**	**36.64**	**290**	P	**P**	**06 54 13.3**	**-1.6**
	1.1nm,0.5s,baz=60,slow=9.0,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**37.29**	**219**	T	T	07 34 15.7	
	baz=29,slow=74						
H11N3	**WAKE ISLAND Hy**	**37.30**	**219**	T	T	07 34 15.0	
	baz=29,slow=74						
H11N1	**WAKE ISLAND Hy**	**37.31**	**219**	T	T	07 34 19.8	
	baz=29						
H11S1	**WAKE ISLAND Hy**	**38.48**	**218**	T	T	07 35 43.1	
	baz=23,slow=76,SNR=79						
H11S2	**WAKE ISLAND Hy**	**38.49**	**218**	T	T	07 35 57.4	
	baz=23,slow=76,SNR=51						
H11S3	**WAKE ISLAND Hy**	**38.49**	**219**	T	T	07 35 48.5	
	baz=23,slow=76,SNR=49						
PDAR	**Pinedale Array**	**40.36**	**79**	P	**P**	**06 54 47.0**	**+0.5**
	0.9nm,0.6s,baz=298,slow=3.2,SNR=7.2						
KSRS	**Korea Array**	**45.53**	**277**	P	**P**	**06 55 28.6**	**+0.5**
	3.0nm,0.8s,baz=53,slow=7.5,SNR=9.3						
SONM	**Songino Array**	**51.53**	**301**	P	**P**	**06 56 14.7**	**+0.4**
	1.7nm,0.8s,baz=54,slow=9.8,SNR=4.3						
TXAR	**Lajitas Array**	**52.66**	**89**	P	**P**	**06 56 24.1**	**+1.2**
	0.9nm,0.7s,baz=304,slow=6.7,SNR=4.2						
TXAR				pP	**pP**	**06 56 32.7**	**+0.5**
	1.3nm,0.8s,baz=289,slow=3.8,SNR=6.0						
ZALV	**Zalesovo Beam**	**57.70**	**318**	P	**P**	**06 56 58.6**	**0.0**
	1.1nm,0.4s,baz=69,slow=7.9,SNR=3.4						
ARCES	**ARCESS Array B**	**58.22**	**354**	P	**P**	**06 57 02.0**	**-0.1**
	2.3nm,0.9s,baz=15,slow=8.4,SNR=1.1						
KURBB	**Kurchatov Arra**	**62.76**	**318**	P	**P**	**06 57 33.5**	**+0.2**
	3.1nm,0.8s,baz=45,slow=7.4,SNR=15						
KURBB				pP	**pP**	**06 57 43.7**	**+0.6**
	1.5nm,0.6s,baz=47,slow=7.2,SNR=4.2						
BVAR	**Borovoye Array**	**63.99**	**325**	P	**P**	**06 57 41.3**	**-0.2**
	1.2nm,0.4s,baz=144,slow=2.8,SNR=7.2						
BVAR				pP	**pP**	**06 57 52.3**	**+1.0**
	3.4nm,0.5s,baz=132,slow=2.2,SNR=12						
MKAR	**Makanchi Array**	**64.07**	**314**	P	**P**	**06 57 41.6**	**-0.5**
	0.4nm,0.4s,baz=51,slow=6.8,SNR=6.9						
FINES	**FINESS Array B**	**66.17**	**352**	P	**P**	**06 57 55.2**	**-0.2**
	2.0nm,0.5s,baz=18,slow=6.8,SNR=11						
NOA	**NORSAR Array B**	**67.22**	**360**	P	**P**	**06 58 02.5**	**+0.3**
	1.5nm,0.7s,baz=0.1,slow=6.3,SNR=3.4						
AKTO	**Aktyubinsk**	**70.31**	**330**	P	**P**	**06 58 21.7**	**+0.2**
	3.2nm,0.7s,baz=57,slow=7.2,SNR=9.9						
AKTO				pP	**pP**	**06 58 32.9**	**+1.4**
	1.8nm,0.6s,baz=57,slow=9.4,SNR=4.6						
AAK	**Ala-Archa**	**70.77**	**316**	P	**P**	**06 58 25.4**	**+0.6**
	3.3nm,0.7s,baz=114,slow=6.2,SNR=8.0						
AKASG	**Malin Array Be**	**76.41**	**348**	P	**P**	**06 58 56.9**	**-0.6**
	1.4nm,0.5s,baz=14,slow=5.8,SNR=5.9						
KBZ	**Khabaz**	**80.61**	**337**	P	**P**	**06 59 22.1**	**+1.3**
	2.3nm,0.8s,baz=46,slow=4.9,SNR=4.4						
WRA	**Warramunga Arr**	**86.90**	**232**	P	**P**	**06 59 52.4**	**-0.7**
	1.2nm,0.8s,baz=33,slow=5.9,SNR=8.1						
ESDC	**Sonseca Array**	**87.72**	**11**	P	**P**	**06 59 58.0**	**+1.0**
	0.5nm,0.5s,baz=327,slow=3.7,SNR=3.0						
ESDC				pP	**sP**	**07 00 10.0**	**-0.8**
	0.7nm,0.5s,baz=351,slow=4.9,SNR=4.7						
ASAR	**Alice Springs**	**90.29**	**230**	P	**P**	**07 00 08.9**	**-0.1**
	1.9nm,0.9s,baz=35,slow=4.7,SNR=13						

*NNC **02** 06:47:34.7±3.2, 53°.67N×87°.99E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=24.8km s-min=12.5km az=61.0, Suspected Mining explosion.*

IDC 02 06:47:34.8±2.9**, 53°.67N**×**88°.10E, h0**km**, mb1 3.7**/2**, mb1mx3.3**/59**, mbtmp3.7**/2**, ML3.3**/2**, 6C-4D, Error ellipse: s-maj=26.2km s-min=16.4km az=60.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.97**	**280**	*i*		07 02 30.0	
	baz=99,slow=309,SNR=1.2						
ZAA0	**Zalesovo Array**	**1.97**	**280**	⇓Pg	Pn	06 48 08.8	-0.6
	8.1nm,0.7s						
ZAA0				⇑Lg	Lg	06 48 36.6	
	24nm,0.9s						
ZALV	**Zalesovo Beam**	**1.97**	**280**	Pn	Pn	06 48 08.7	-0.7
	9.1nm,0.3s,baz=100,slow=12,SNR=63						
ZALV				Lg	Lg	06 48 36.8	
	23nm,0.3s,baz=100,slow=24,SNR=26						
KURBB	**Kurchatov Arra**	**6.63**	**246**	Pn	Pn	06 49 13.9	+0.4
	0.7nm,0.3s,baz=61,slow=14,SNR=18						
KURBB				Lg	Lg	06 51 05.3	
	0.2nm,0.3s,baz=66,slow=34,SNR=8.2						
KURBB	**Kurchatov Arra**	**6.63**	**246**	⇑Pn	Pn	06 49 13.6	+0.1
	5.7nm,0.3s						
KURBB				⇑Sn	Sn	06 50 27.5	-2.3
	12nm,0.6s						
KURBB				⇑Lg	Lg	06 51 03.4	
	27nm,0.9s						
MK31	**Makanchi Array**	**7.82**	**211**	⇓Pn	Pn	06 49 30.9	+1.0
	0.1nm,0.2s,baz=29,slow=13,SNR=10						
MK31				⇑Sn	Sn	06 51 00.8	+1.7
	2.7nm,0.7s,baz=33,slow=28,SNR=4.9						
MK31				⇑Lg	Lg	06 51 40.9	
	4.1nm,0.7s,baz=27,slow=27,SNR=4.8						
MKAR	**Makanchi Array**	**7.82**	**211**	Pn	Pn	06 49 31.1	+1.2
	0.4nm,0.3s,baz=27,slow=13,SNR=12						
MKAR				Sn	Sn	06 50 59.8	+0.7
	0.4nm,0.3s,baz=28,slow=32,SNR=5.8						
MKAR				Lg	Lg	06 51 42.2	
	0.4nm,0.3s,baz=32,slow=31,SNR=3.1						
MAKZ	**Makanchi**	**7.91**	**212**	⇓Sn	Sn	06 51 00.2	-1.0
	5.5nm,1.1s						
MAKZ				⇓Lg	Lg	06 51 45.7	
	5.3nm,0.8s						

*TUL **02** 06:50:26.7±1.4, 35°.67N±0°.02×97°.40W±0°.06, h4km±7km, ML2.8, mb_Lg2.7/55(NEIC), Error ellipse: s-maj=6.4km s-min=2.5km az=88.0*

*ANF **02** 06:50:26.7±0.5, 35°.68N×97°.44W, h9km±3km, ML3.0/9, Error ellipse: s-maj=3.7km s-min=2.9km az=142.0*

*NEIC **02** 06:50:26.6±0.6, 35°.69N±0°.02×97°.44W±0°.05, h5km±5km, Error ellipse: s-maj=6.4km s-min=2.6km az=88.0*

ISC 02 06:50:26.6±0.9**, 35°.69N**±0°.02×**97°.43W**±0°.03**, h7**km±7km**, n63,** σ**0**s.**45**/49**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.11**	**349**		**Pg**	**06 50 29.6**	**+0.6**
OK009	**Oakdale Elemen**	**0.11**	**177**		**Pg**	**06 50 28.9**	**-0.2**
OK009				Sg	**Sg**	**06 50 30.7**	**0.0**
OK025	**Westminster Rd**	**0.13**	**146**	Pg	**Pg**	**06 50 29.2**	**-0.2**
OK025				Sg	**Sg**	**06 50 31.1**	**-0.3**
OKCFA	**Oklahoma City**	**0.28**	**184**		**Pg**	**06 50 32.0**	**0.0**
OKCFA				Sg	**Sg**	**06 50 35.1**	**-0.6**
OKCFA	**Oklahoma City**	**0.28**	**184**	P	**Pg**	**06 50 32.0**	**0.0**
	baz=1.4,SNR=50						
OKCFA				S	**Sg**	**06 50 35.8**	**0.0**
	baz=1.4						
OKCSW	**OKLAHOMA CITY**	**0.28**	**181**		**Pg**	**06 50 32.2**	**-0.1**
FNO	**Franklin**	**0.43**	**177**		**Pg**	**06 50 34.9**	**-0.2**
OK031	**S. Brethren Rd**	**0.55**	**61**		**Pg**	**06 50 37.1**	**-0.1**
QUOK	**Quay**	**0.76**	**50**		**Pg**	**06 50 40.8**	**-0.4**
CROK	**Carrier**	**0.93**	**331**	Pg	**Pg**	**06 50 44.6**	**+0.1**
BLOK	**Blackwell**	**1.08**	**9**		**Pg**	**06 50 47.1**	**-0.3**
X34A	**Smith Ranch, M**	**1.14**	**197**		**Pg**	**06 50 48.0**	**-0.5**
GC02	**Grant County #**	**1.21**	**343**	Pn	**Pg**	**06 50 49.5**	**-0.4**
OK032	**Salt Plains WL**	**1.28**	**331**		**Pg**	**06 50 50.7**	**-0.4**
KAN13	**South Haven SW**	**1.32**	**358**	Pn	**Pn**	**06 50 51.4**	**-0.1**
KAN14	**Manchester OK**	**1.33**	**341**		**Pn**	**06 50 51.7**	**0.0**
TUL1	**Leonard**	**1.35**	**80**	P	**Pn**	**06 50 50.4**	**-1.5**
	baz=261						
KAN17	**Caldwell West**	**1.38**	**349**		**Pb**	**06 50 52.6**	**-0.1**
T35A	**Sooner Cattle**	**1.43**	**31**	Pn	**Pn**	**06 50 52.5**	**-0.5**
T35B	**Sooner Cattle**	**1.43**	**31**	P	**Pn**	**06 50 52.8**	**-0.2**
	baz=212,SNR=17						
T35B				S	**Sb**	**06 51 12.2**	**+0.1**
	baz=212						
U32A	**Winter Ranch,**	**1.45**	**299**		**Pn**	**06 50 53.5**	**+0.3**
U32A	**Winter Ranch,**	**1.45**	**299**	P	**Pn**	**06 50 53.6**	**+0.3**
	baz=118,SNR=10						
WMOK	**Wichita Mounta**	**1.46**	**230**		**Pn**	**06 50 53.4**	**-0.1**
WMOK	**Wichita Mounta**	**1.46**	**230**	P	**Pn**	**06 50 53.4**	**-0.1**
	baz=48,SNR=37						
WMOK				S	**Sb**	**06 51 12.7**	**-0.2**
	baz=48						
KS20	**Mayfield South**	**1.54**	**356**	IAmb_Lg		06 51 17.2	
	comp=Z,54nm,0.9s						
KAN08	**Anthony NE Sta**	**1.59**	**344**	Pn	**Pb**	**06 50 56.3**	**-0.2**
KS21	**Milan North St**	**1.60**	**353**	IAmb_Lg		06 51 19.5	
	comp=Z,81nm,1.0s						
LOOK	**Love County**	**1.71**	**173**	Pn	**Pn**	**06 50 56.6**	**-0.1**
LOOK				IAmb_Lg		06 51 24.5	
	comp=Z,29nm,0.9s						
X37A	**Clayton**	**2.01**	**122**		**Pn**	**06 51 01.0**	**0.0**
X37A	**Clayton**	**2.01**	**122**	P	**Pn**	**06 51 01.3**	**+0.3**
	baz=304,SNR=79						
Z35A	**Perchaven, San**	**2.36**	**176**	Pn	**Pn**	**06 51 06.6**	**+0.8**
U38A	**Gravette**	**2.58**	**72**	Pn	**Pn**	**06 51 09.7**	**+0.9**
HHAR	**Hobbs**	**2.89**	**77**	Pn	**Pn**	**06 51 13.2**	**+0.1**
HHAR				IAmb_Lg		06 52 03.1	
	comp=Z,24nm,1.1s						
HHAR	**Hobbs**	**2.89**	**77**	P	**Pn**	**06 51 13.3**	**+0.2**
	baz=259						
W39A	**Magazine**	**3.02**	**98**		**Pn**	**06 51 15.0**	**+0.1**
W39A				IAmb_Lg		06 52 07.6	
	comp=Z,22nm,0.9s						
W39A	**Magazine**	**3.02**	**98**	P	**Pn**	**06 51 14.9**	**+0.1**
	baz=280,SNR=11						
W39A				S	**Sn**	**06 51 52.1**	**+0.9**
	baz=280						
Z38A	**Mt. Pleasant**	**3.15**	**140**	IAmb_Lg		06 52 14.3	
	comp=Z,18nm,0.8s						
MIAR	**Mount Ida**	**3.36**	**109**	Pn	**Pn**	**06 51 20.3**	**+0.8**
MIAR	**Mount Ida**	**3.36**	**109**	P	**Pn**	**06 51 20.1**	**+0.6**
	baz=291,SNR=15						
KSU1	**Kansas State U**	**3.47**	**11**	IAmb_Lg		06 52 21.6	
	comp=Z,22nm,0.9s						
AMTX	**Amarillo**	**3.57**	**258**	IAmb_Lg		06 52 26.2	
	comp=Z,14nm,0.8s						
CBKS	**Cedar Bluff**	**3.62**	**330**	IAmb_Lg		06 52 30.7	
	comp=Z,22nm,0.9s						
U40A	**Yellville**	**3.77**	**79**	Pn	**Pn**	**06 51 25.4**	**+0.2**
U40A				IAmb_Lg		06 52 32.1	
	comp=Z,16nm,0.7s						
S39A	**Bolivar**	**3.86**	**58**	Pn	**Pn**	**06 51 26.7**	**+0.4**
S39A				IAmb_Lg		06 52 29.6	
	comp=Z,17nm,0.9s						
237A	**Washetta, Mont**	**3.92**	**159**	S	**Sn**	**06 52 13.5**	**0.0**
	baz=340						
X40A	**Basin Creek Fa**	**3.95**	**106**	Pn	**Pn**	**06 51 28.5**	**+0.8**
X40A				IAmb_Lg		06 52 40.8	
	comp=Z,15nm,0.8s						
WLAR	**White Oak Lake**	**4.08**	**118**	IAmb_Lg		06 52 42.9	
	comp=Z,12nm,0.8s						
WHAR	**Wooly Hollow**	**4.21**	**94**	Pn	**Pn**	**06 51 31.8**	**+0.5**
WHAR				IAmb_Lg		06 52 49.8	
	comp=Z,14nm,1.0s						
W41B	**Gary Mavity, V**	**4.26**	**95**	P	**Pn**	**06 51 32.0**	**+0.1**
	baz=278,SNR=8.9						
FCAR	**Ozark Folk Cen**	**4.32**	**86**	IAmb_Lg		06 52 47.5	
	comp=Z,15nm,1.1s						
MGMO	**Mountain Grove**	**4.41**	**69**	IAmb_Lg		06 52 52.7	
	comp=Z,13nm,0.7s						
R40A	**Maddies Statio**	**4.88**	**56**	IAmb_Lg		06 53 10.7	
	comp=Z,10nm,0.7s						
P38A	**Dawn**	**5.00**	**37**	IAmb_Lg		06 53 03.7	

	comp=Z,9.6nm,0.7s						
LCAR	**Lake Charles**	**5.11**	**84**	IAmb_Lg		06 53 16.0	
	comp=Z,13nm,1.1s						
KSCO	**Kaye Shedlock'**	**5.30**	**310**	IAmb_Lg		06 53 20.8	
	comp=Z,12nm,0.8s						
CCM	**Cathedral Cave**	**5.49**	**63**	IAmb_Lg		06 53 21.8	
	comp=Z,21nm,1.0s						
JCT	**Junction City**	**5.56**	**202**	IAmb_Lg		06 53 31.4	
	comp=Z,20nm,1.1s						
PBMO	**Poplar Bluff**	**5.76**	**77**	IAmb_Lg		06 53 29.6	
	comp=Z,13nm,0.7s						
T25A	**Trinidad**	**5.81**	**286**	IAmb_Lg		06 53 35.8	
	comp=Z,8.1nm,0.7s						
SIUC	**Southern Illin**	**6.90**	**71**	IAmb_Lg		06 54 08.9	
	comp=Z,16nm,0.8s						
T47A	**Sharon Grove**	**8.43**	**78**	IAmb_Lg		06 55 11.7	
	comp=Z,9.6nm,1.1s						
JFWS	**Jewell Farm**	**9.11**	**35**	IAmb_Lg		06 55 26.9	
	comp=Z,8.7nm,0.7s						
BLO	**Bloomington**	**9.34**	**65**	IAmb_Lg		06 55 32.5	
	comp=Z,7.5nm,0.7s						

*BEO **02** 06:51:57.4±0.8, 40°.57N×21°.11E, h9km±2km, ML2.6/8*
*ATH **02** 06:51:58.7, 40°.75N×21°.23E, h13km±2km, ML2.7/12, Error ellipse: s-maj=3.4km s-min=1.7km az=182.0*
*TIR **02** 06:51:58.2, 40°.79N×21°.13E, h3km±2km, Md2.4, Ml2.8*
*THE **02** 06:51:59.1, 40°.74N×21°.23E, h0km±2km, ML2.7/12, Error ellipse: s-maj=2.8km s-min=0.7km az=11.0*
*PDG **02** 06:51:59.1±0.3, 40°.75N×21°.23E, h8km, ML2.9/10, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
*SKO **02** 06:51:59.6, 40°.73N×21°.18E, h10km*
ISC 02 06:51:58.8±1.0, **40°.76N**±0°.01×**21°.21E**±0°.02, **h4**km±9km, **n82**, σ**1^{s}14**/134, **5C-7D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.35**	**248**	P	**Pg**	**06 52 05.8**	**+0.3**
KBN				S	**Sg**	**06 52 11.5**	**+1.4**
	1μm,0.4s						
KBN	**Korca**	**0.35**	**248**	P	**Pg**	**06 52 05.5**	**-0.1**
	baz=238						
KBN				S	**Sg**	**06 52 09.6**	**-0.5**
	baz=238						
KBN				AMP			
	comp=E,2.8nm,0.2s,baz=238						
NEST	**Nestorio**	**0.36**	**200**	P	**Pg**	**06 52 05.5**	**-0.3**
NEST				S	**Sg**	**06 52 11.0**	**+0.5**
	comp=E,6μm,0.4s						
NEST	**Nestorio**	**0.36**	**200**	P	**Pg**	**06 52 05.6**	**-0.2**
NEST				S	**Sg**	**06 52 10.1**	**-0.4**
NEST				AML	AML	06 52 12.0	
	comp=N,13196μm,0.5s						
NEST				AML	AML	06 52 12.0	
	comp=E,17046μm,0.4s						
OHR	**Ohrid**	**0.47**	**319**	⇑iPg	**Pg**	**06 52 08.2**	**+0.4**
OHR				i Sg	**Sb**	**06 52 16.4**	**-0.7**
OHR				eLg	Lg	06 52 16.7	
	comp=N,240nm,0.3s						
OHR				eLg	Lg	06 52 17.2	
	comp=E,732nm,0.3s						
PENT	**Pentalofos**	**0.56**	**186**	P	**Pg**	**06 52 09.6**	**0.0**
PENT				S	**Sg**	**06 52 17.6**	**+0.7**
	comp=E,1μm,0.5s						
PENT	**Pentalofos**	**0.56**	**186**	P	**Pg**	**06 52 09.4**	**-0.2**
PENT				S	**Sg**	**06 52 18.0**	**+1.1**
PENT				AML	AML	06 52 21.1	
	comp=N,1775μm,0.4s						
PENT				AML	AML	06 52 22.4	
	comp=E,2421μm,0.6s						
KZN	**Kozani**	**0.62**	**136**	P	**Pg**	**06 52 10.4**	**-0.2**
KZN				S	**Sg**	**06 52 18.9**	**+0.2**
	comp=E,2μm,0.3s						
KZN	**Kozani**	**0.62**	**136**	P	**Pg**	**06 52 10.5**	**-0.2**
KZN				S	**Sg**	**06 52 18.9**	**+0.2**
KZN				AML	AML	06 52 21.1	
	comp=N,5888μm,0.4s						
KZN				AML	AML	06 52 22.7	
	comp=E,3148μm,0.3s						
LSK	**Leskovik**	**0.77**	**218**	P	**Pg**	**06 52 13.1**	**-0.3**
LSK				S	**Sg**	**06 52 24.3**	**+1.0**
	comp=E,558nm,0.5s						
LSK	**Leskovik**	**0.77**	**218**	P	**Pg**	**06 52 13.5**	**+0.1**
	baz=213						
LSK				S	**Sg**	**06 52 24.4**	**+1.1**
	baz=213						
LSK				AMP			
	comp=E,1.8nm,0.6s,baz=213						
KTI	**Kastanea**	**0.78**	**118**	P	**Pg**	**06 52 13.7**	**0.0**
KPRO	**Kipourio**	**0.81**	**172**	P	**Pg**	**06 52 13.5**	**-0.8**
KPRO				S	**Sb**	**06 52 26.1**	**-0.6**
	comp=E,750nm,0.4s						
KPRO	**Kipourio**	**0.81**	**172**	P	**Pg**	**06 52 13.4**	**-0.9**
KPRO				S	**Sb**	**06 52 25.9**	**-0.8**
KPRO				AML	AML	06 52 30.2	
	comp=N,1481μm,0.6s						
KPRO				AML	AML	06 52 30.3	
	comp=E,1528μm,0.3s						
GRG	**Griva**	**0.93**	**77**	P	**Pg**	**06 52 16.4**	**-0.1**
GRG	**Griva**	**0.93**	**77**	i Pg	**Pg**	**06 52 16.4**	**-0.1**
PHP	**Peshkopia**	**1.09**	**328**	P	**Pg**	**06 52 18.7**	**-1.0**
PHP	**Peshkopia**	**1.09**	**328**	P	**Pg**	**06 52 18.2**	**-1.5**
	baz=331						
PHP				S	**Sg**	**06 52 34.6**	**+0.7**
	baz=331						
VAY	**Valandovo**	**1.17**	**61**	ePg	**Pb**	**06 52 21.3**	**-0.3**
VAY				eSg	**Sn**	**06 52 40.6**	**+2.2**
VAY	**Valandovo**	**1.17**	**61**	i Pg	**Pg**	**06 52 21.5**	**+0.2**
LIT	**Litokhoron**	**1.18**	**123**	P	**Pb**	**06 52 21.1**	**-0.5**
LIT				S	**Sn**	**06 52 38.4**	**-0.1**
	comp=E,340nm,0.4s						
LIT	**Litokhoron**	**1.18**	**123**	P	**Pb**	**06 52 20.9**	**-0.7**
LIT				S	**Sg**	**06 52 34.7**	**-1.9**
LIT				AML	AML	06 52 43.7	
	comp=E,826μm,0.3s						
LIT				AML	AML	06 52 44.0	
	comp=N,525μm,0.5s						
LIT	**Litokhoron**	**1.18**	**123**	i Pg	**Pb**	**06 52 21.1**	**-0.5**
TIR	**Tirane**	**1.18**	**301**	ePg	**Pb**	**06 52 20.3**	**-1.4**
TIR				eSg	**Sb**	**06 52 36.9**	**-0.4**
TIR	**Tirane**	**1.18**	**301**	P	**Pb**	**06 52 20.1**	**-1.5**
	baz=301						
TIR				S	**Sb**	**06 52 36.9**	**-0.4**
	baz=301						
STIP	**Stip**	**1.19**	**38**	i Pn	**Pg**	**06 52 24.2**	**+2.6**
SKO	**Skopje**	**1.23**	**8**	i Pg	**Pn**	**06 52 22.0**	**-0.7**
SKO				i Sg	**Sn**	**06 52 39.7**	**0.0**
SRN	**Sarande**	**1.27**	**227**	P	**Pn**	**06 52 23.2**	**-0.1**
SRN				S	**Sn**	**06 52 42.0**	**+1.2**
	comp=N,318nm,0.7s						
SRN	**Sarande**	**1.27**	**227**	P	**Pb**	**06 52 23.3**	**0.0**
	baz=224						
SRN				S	**Sn**	**06 52 42.2**	**+1.4**
	baz=224						
SRN				AMP			
	comp=E,1.5nm,0.9s,baz=224						
THE	**Thessaloniki**	**1.34**	**95**	P	**Pg**	**06 52 25.5**	**+1.1**
	baz=95						
THE				S	**Sg**	**06 52 46.7**	**+4.9**
	baz=95						
THL	**Klokotos Trika**	**1.34**	**152**	P	**Pn**	**06 52 23.1**	**-1.2**
THL				S	**Sg**	**06 52 42.3**	**+0.5**
	comp=E,228nm,0.4s						
THL	**Klokotos Trika**	**1.34**	**152**	P	**Pn**	**06 52 23.0**	**-1.2**
THL				AML	AML	06 52 46.8	
	comp=N,575μm,0.4s						
THL				AML	AML	06 52 48.0	
	comp=E,328μm,0.4s						
IGT	**Igoumenitsa**	**1.40**	**209**	P	**Pb**	**06 52 25.4**	**0.0**
IGT				S	**Sg**	**06 52 46.0**	**+2.4**
	comp=E,210nm,0.6s						
IGT	**Igoumenitsa**	**1.40**	**209**	P	**Pn**	**06 52 24.6**	**-0.4**
IGT				AML	AML	06 52 49.8	
	comp=N,338μm,0.6s						
IGT				AML	AML	06 52 51.2	
	comp=E,502μm,0.7s						
IGT	**Igoumenitsa**	**1.40**	**209**	P	**Pg**	**06 52 25.8**	**+0.3**
	baz=207						
IGT				S	**Sg**	**06 52 46.4**	**+2.8**
	baz=207						
HORT	**Hortiatis**	**1.45**	**96**	P	**Pn**	**06 52 25.3**	**-0.4**
HORT				AML	AML	06 52 50.4	
	comp=N,203μm,0.6s						
HORT				AML	AML	06 52 51.2	
	comp=E,81μm,0.3s						
KEK	**Kerkira**	**1.50**	**226**	P	**Pg**	**06 52 27.7**	**+0.2**
KEK				S	**Sg**	**06 52 47.7**	**+0.7**
	comp=E,138nm,0.8s						
PUK	**Puka**	**1.62**	**323**	P	**Pn**	**06 52 28.7**	**+0.5**
	baz=324						
PUK				S	**Sg**	**06 52 51.5**	**+0.6**
	baz=324						
PUK				AMP			
	comp=N,0.5nm,0.5s,baz=324						
PLG	**Polygyros**	**1.75**	**102**	P	**Pn**	**06 52 30.1**	**+0.2**
BCI	**Bajram Curri**	**1.82**	**332**	P	**Pb**	**06 52 32.0**	**-0.7**
	baz=334						
BCI				S	**Sg**	**06 52 57.3**	**0.0**
	baz=334						
PRVS	**Prvonek**	**1.87**	**20**	ePn	**Pn**	**06 52 31.9**	**+0.4**
PRVS				eSn	**Sg**	**06 52 58.3**	**-0.4**
MAKR	**Makrakomi, Fth**	**1.88**	**158**	P	**Pn**	**06 52 31.9**	**+0.2**
MAKR				S	**Sb**	**06 52 56.2**	**-1.3**
	comp=N,368nm,0.7s						
MAKR	**Makrakomi, Fth**	**1.88**	**158**	P	**Pn**	**06 52 31.9**	**+0.2**
MAKR				S	**Sb**	**06 52 56.2**	**-1.3**
MAKR				AML	AML	06 53 04.8	
	comp=N,236μm,0.7s						
MAKR				AML	AML	06 53 09.3	
	comp=E,303μm,0.8s						
ULC	**Ulcinj**	**1.91**	**310**	⇓iPn	**Pb**	**06 52 33.4**	**-0.8**
ULC				i Sn	**Sg**	**06 52 59.8**	**-0.3**
AGG	**Agios Georgios**	**1.94**	**153**	P	**Pn**	**06 52 31.7**	**-0.8**
AGG	**Agios Georgios**	**1.94**	**153**	P	**Pn**	**06 52 31.7**	**-0.8**
AGG				AML	AML	06 53 04.7	
	comp=E,157μm,0.6s						
AGG				AML	AML	06 53 06.1	
	comp=N,220μm,0.4s						
BOSS	**Bosilegrad**	**1.98**	**28**	ePn	**Pn**	**06 52 33.9**	**+0.8**
BOSS				eSn	**Sg**	**06 53 01.5**	**-0.9**
LKD2	**Lefkada island**	**2.01**	**192**	P	**Pb**	**06 52 34.5**	**-1.4**
LKD2	**Lefkada island**	**2.01**	**192**	P	**Pb**	**06 52 35.0**	**-0.9**
LKD2				AML	AML	06 53 13.9	
	comp=N,131μm,0.5s						
LKD2				AML	AML	06 53 16.7	
	comp=E,196μm,0.7s						
LKD2	**Lefkada island**	**2.01**	**192**	P	**Pb**	**06 52 34.9**	**-1.0**
	baz=191						
LKD2				S	**Sg**	**06 53 05.2**	**+1.9**
	baz=191						
PAIG	**Paliouri**	**2.06**	**113**	P	**Pn**	**06 52 33.6**	**-0.5**
PVY	**Plav**	**2.06**	**333**	⇑iPn	**Pn**	**06 52 35.4**	**+1.1**
PVY				i Sn	**Sb**	**06 53 03.9**	**+1.0**
BARS	**Barje**	**2.11**	**12**	ePn	**Pn**	**06 52 34.3**	**-0.5**
BARS				eSn	**Sb**	**06 53 03.5**	**-0.5**
BARS	**Barje**	**2.11**	**12**	i Pn	**Pn**	**06 52 31.5**	**-3.3**
EVGI	**Lefkada island**	**2.18**	**192**	P	**Pb**	**06 52 37.0**	**-1.6**
TTG	**Podgorica**	**2.22**	**319**	⇓iPn	**Pn**	**06 52 38.0**	**+1.6**
TTG				i Sn	**Sb**	**06 53 07.4**	**0.0**
ANX	**Ano Chora**	**2.23**	**166**	P	**Pn**	**06 52 37.3**	**+0.7**
ANX	**Ano Chora**	**2.23**	**166**	P	**Pn**	**06 52 37.6**	**+1.1**
ANX				S	**Sb**	**06 53 06.8**	**-0.8**
ANX				AML	AML	06 53 17.0	
	comp=N,234μm,0.5s						
ANX				AML	AML	06 53 18.9	
	comp=E,182μm,0.4s						
BUM	**Brajici-Budva**	**2.33**	**312**	⇑iPn	**Pn**	**06 52 38.9**	**+1.0**
BUM				i Sn	**Sb**	**06 53 10.3**	**-0.1**
IVA	**Berane**	**2.33**	**335**	⇓iPn	**Pn**	**06 52 38.8**	**+0.8**
IVA				i Sn	**Sb**	**06 53 10.4**	**-0.2**
KOME	**Kolasin**	**2.45**	**329**	⇓iPn	**Pn**	**06 52 41.2**	**+1.6**
KOME				i Sn	**Sb**	**06 53 13.0**	**-0.9**
TRIZ	**Trizonia**	**2.48**	**164**	P	**Pn**	**06 52 41.1**	**+1.2**
NKME	**Niksic**	**2.62**	**321**	⇓iPn	**Pn**	**06 52 43.3**	**+1.3**
NKME				i Sn	**Sb**	**06 53 17.1**	**-1.9**
NKY	**Niksic**	**2.64**	**322**	⇑iPn	**Pn**	**06 52 43.6**	**+1.4**
NKY				i Sn	**Sb**	**06 53 17.8**	**-1.7**
HCY	**Herceg Novi**	**2.65**	**311**	⇓iPn	**Pn**	**06 52 43.2**	**+1.0**
HCY				i Sn	**Sb**	**06 53 18.0**	**-1.6**
SJES	**Sjenica**	**2.67**	**340**	ePn	**Pn**	**06 52 43.5**	**+0.9**
SJES				eSn	**Sn**	**06 53 15.9**	**+0.5**
ZAPS	**Zavoj**	**2.73**	**22**	ePn	**Pn**	**06 52 44.0**	**+0.6**
ZAPS				eSn	**Sb**	**06 53 20.0**	**-2.0**
KLV	**Kalavryta, Ach**	**2.81**	**165**	P	**Pn**	**06 52 45.2**	**+0.7**
BOVS	**Bovan**	**2.90**	**7**	ePn	**Pn**	**06 52 44.6**	**-1.1**
IVAS	**Ivanjica**	**2.92**	**345**	ePn	**Pn**	**06 52 45.6**	**-0.5**
BRY	**Bratogost**	**2.93**	**318**	⇓iPn	**Pn**	**06 52 47.4**	**+1.2**
BRY				i Sn	**Sn**	**06 53 24.4**	**+2.5**
UPM	**Unac-Piva**	**2.99**	**326**	⇑iPn	**Pn**	**06 52 48.7**	**+1.6**
UPM				i Sn	**Sn**	**06 53 26.2**	**+2.7**
GRUS	**Gruza**	**3.15**	**353**	ePn	**Pn**	**06 52 49.5**	**+0.4**
STON	**Ston**	**3.37**	**310**	ePn	**Pn**	**06 52 53.1**	**+1.0**
STON				Sn	**Sn**	**06 53 32.2**	**-0.4**
BBLS	**Lazići**	**3.38**	**337**	ePn	**Pn**	**06 52 52.9**	**+0.5**
DIVS	**Divibare**	**3.46**	**345**	ePn	**Pn**	**06 52 53.7**	**+0.2**
MAKA	**Makarska**	**4.02**	**310**	ePn	**Pn**	**06 53 00.4**	**-0.6**
MAKA				Sn	**Sn**	**06 53 48.4**	**-0.1**
RICI	**Ricice**	**4.08**	**313**	ePn	**Pn**	**06 53 02.4**	**+0.5**
KIJV	**Kijevo**	**4.82**	**314**	ePn	**Pn**	**06 53 12.9**	**+0.8**
ZIRJ	**Zirje**	**5.05**	**307**	ePn	**Pn**	**06 53 14.9**	**-0.3**
ZIRJ				Sn	**Sn**	**06 54 12.6**	**-1.3**
DUGI	**Dugi Otok**	**5.59**	**307**	ePn	**Pn**	**06 53 22.6**	**0.0**
NVLJ	**Novalja**	**6.03**	**311**	ePn	**Pn**	**06 53 28.4**	**-0.2**

*IDC **02** 06:57:26.5±0.9, 13°.05N×145°.68E, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.7/44, mbtmp3.7/6, MS4.1/1, Ms1 4.1/1, ms1mx3.0/45, Error ellipse: s-maj=25.1km s-min=17.9km az=60.0*
*NEIC **02** 06:57:28.2±1.8, 13°.01N±0°.09×145°.67E±0°.09, h7km±1km, mb4.5/5, Error ellipse: s-maj=16.5km s-min=7.3km az=46.0*
ISC 02 06:57:28.4±0.9, **12°.9N**±0°.1×**145°.7E**±0°.1, **h10**km, **n16**, σ**0^{s}64**/14, **mb3.8**/8, **South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.00**	**311**	Pn	**Pg**	**06 57 47.5**	**-0.1**
	339nm,0.3s,baz=128,slow=7.7,SNR=100						
GUMO				Sn	**Sg**	**06 58 01.6**	**+0.8**
	466nm,0.3s,baz=17,slow=21,SNR=13						
GUMO				LR	LR	06 58 19.6	
	comp=Z,938nm,19.4s,baz=100,slow=56						
GUMO	**Guam**	**1.00**	**311**		**Pg**	**06 57 47.1**	**-0.5**
PATS	**Pohnpei**	**13.87**	**115**	Pn	Pn	07 00 43.5	-1.6
MJAR	**Matsushiro Arr**	**24.44**	**345**	LR	LR	07 10 35.6	
	comp=Z,424nm,18.1s,baz=240,slow=32						
WB0	**Warramunga Arr**	**34.33**	**199**	P	**P**	**07 04 15.4**	**0.0**
WRAB	**Tennant Creek**	**34.50**	**199**	P	**P**	**07 04 16.3**	**-0.6**
WB2	**Warramunga Arr**	**34.51**	**199**	P	**P**	**07 04 17.0**	**0.0**
WRA	**Warramunga Arr**	**34.51**	**199**	P	**P**	**07 04 17.2**	**+0.2**
	0.9nm,0.7s,baz=22,slow=9.9,SNR=9.9						
ASAR	**Alice Springs**	**38.14**	**198**	P	**P**	**07 04 48.6**	**+0.6**
	0.5nm,0.5s,baz=24,slow=9.0,SNR=11						
MKAR	**Makanchi Array**	**62.49**	**316**	P	**P**	**07 07 52.7**	**+0.5**
	0.1nm,0.4s,baz=96,slow=9.4,SNR=1.9						
IL31		**68.84**	**25**	P	**P**	**07 08 32.4**	**-0.4**
IL31				IAmb	IAmb	07 08 54.3	
	comp=Z,5.5nm,1.5s						
ILAR	**Eielson Array**	**68.84**	**25**	P	P	07 08 30.9	-2.0
	comp=Z,0.5nm,0.6s,baz=243,slow=4.0,SNR=7.7						
BVAR	**Borovoye Array**	**70.91**	**322**	P	**P**	**07 08 44.6**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=167,slow=9.0,SNR=7.3						
NVAR	**Mina Array Bea**	**86.73**	**51**	P	**P**	**07 10 13.9**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=254,slow=5.5,SNR=4.6						
ELK	**Elko**	**88.44**	**49**	P	**P**	**07 10 22.3**	**+0.8**
ELK				IAmb	IAmb	07 10 24.2	
	comp=Z,2.3nm,1.1s						
DBIC	**Dimbokro**	**144.81**	**302**	PKP	**PKPab**	**07 17 05.4**	**-0.2**
	comp=Z,5.4nm,0.8s,baz=328,slow=2.1,SNR=4.7						

*BJI **02** 07:07:39.3±0.0, 32°.83N×135°.08E, h10km, mB4.7/28, mb4.5/40, Ms4.4/27, Ms7 4.2/25*
*MOS **02** 07:07:44.3±1.0, 33°.13N×134°.51E, h15km, mb4.8/26, Error ellipse: s-maj=9.2km s-min=5.8km az=111.9*
*NIED **02** 07:07:46.7, 33°.21N×134°.64E, h30km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-3.89; $M_{\theta\theta}$2.68; $M_{\phi\phi}$1.21; $M_{r\theta}$0.43; $M_{\theta\phi}$-2.53; $M_{\phi r}$1.71; Fault plane solution: $M_0$4.63000×10^{15} NP1: ϕ_s148.00000°, δ54.00000°, λ-62.00000°. NP2: ϕ_s286.00000°, δ45.00000°, λ-123.00000°.*
*JMA **02** 07:07:46.7, 33°.21N×134°.64E, h30km±1km, M4.5*
JMA Felt II J1.
*NEIC **02** 07:07:46.9±1.6, 33°.17N±0°.05×134°.55E±0°.06, h17km±4km, mb4.7/118, Error ellipse: s-maj=8.4km s-min=6.7km az=150.0*
*IDC **02** 07:07:48.1±0.5, 33°.19N×134°.64E, h28km±3km, mb4.3/27, mb1 4.4/32, mb1mx4.3/58, mbtmp4.4/32, ML3.8/5, MS3.6/10, Ms1 3.6/10, ms1mx3.3/53, Error ellipse: s-maj=11.2km s-min=10.2km az=14.0*
*BGR **02** 07:08:00.6±0.0, 34°.73N×133°.29E, h30km, mb4.8*
ISC 02 07:07:47.4±0.4, **33°.22N**±0°.05×**134°.62E**±0°.03, **h23**km±2km, **h23km:pP-P**, **n358**, σ**1^{s}05**/339, **mb4.7**/108, **MS3.9**/11, **15C-1D, Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRT2	**Murotomisaki 2**	**0.43**	**293**	⇑P	**Pb**	**07 07 56.1**	**-0.3**
MRT2				S	**Sb**	**07 08 02.6**	**0.0**
JAI	**Aioi**	**0.59**	**346**	⇑P	**Pb**	**07 07 58.5**	**-0.6**
JAI				eS	**Sb**	**07 08 06.5**	**-0.5**
JMN	**Monobe**	**0.80**	**309**	⇓P	**Pb**	**07 08 01.9**	**-0.8**
JMN	**Monobe**	**0.80**	**309**		**Pb**	**07 08 02.2**	**-0.5**
JWM	**Minabe**	**0.88**	**44**	P	**Pb**	**07 08 02.5**	**-1.4**
JWM				S	**Sb**	**07 08 13.9**	**-1.3**
JTNC	**Tanabenakahech**	**1.02**	**54**	P	**Pn**	**07 08 04.3**	**-2.0**
JTNC				eS	**Sb**	**07 08 17.3**	**-2.0**
JWY	**Kouya**	**1.28**	**39**	P	**Pn**	**07 08 08.4**	**-1.6**
JWY				eS	**Sn**	**07 08 24.3**	**-2.2**
JAWN	**Awajishima-nag**	**1.28**	**10**	P	**Pn**	**07 08 08.9**	**-1.1**
JAWN				eS	**Sn**	**07 08 25.2**	**-1.3**
JJS	**Sakaide**	**1.29**	**334**	P	**Pn**	**07 08 08.8**	**-1.2**
JKU	**Kubokawa**	**1.31**	**274**	⇑P	**Pn**	**07 08 08.6**	**-1.7**
JWT	**Wachi**	**2.16**	**17**		**Pn**	**07 08 21.1**	**-0.9**
JHS	**Saijyo**	**2.17**	**325**		**Pn**	**07 08 21.1**	**-1.1**
INU	**Inuyama**	**2.91**	**42**	Pn	**Pn**	**07 08 33.2**	**+1.0**
JNU	**Nakatsue**	**3.14**	**269**	Pn	**Pn**	**07 08 34.7**	**-0.8**
	16nm,0.3s,baz=65,slow=4.7,SNR=74						
JNU				Lg	Lg	07 09 30.1	
	26nm,0.3s,baz=185,slow=6.8,SNR=6.3						
JGF	**Kuroka**	**3.28**	**43**	Pn	**Pn**	**07 08 39.7**	**+2.3**
JSG	**Sagara**	**3.30**	**63**	Pn	**Pn**	**07 08 39.3**	**+1.6**
JSU	**Suzuyama**	**3.92**	**245**	Pn	**Pn**	**07 08 45.1**	**-1.1**
JHJ	**Hachijo jima 2**	**4.33**	**90**	Pn	**Pn**	**07 08 51.2**	**-0.6**
	68nm,0.3s,baz=94,slow=22,SNR=23						
JHJ				LR	LR	07 10 35.3	
	comp=Z,752nm,18.8s,baz=104,slow=38						
MAJO	**Matsushiro**	**4.43**	**41**	i P	**Pn**	**07 08 55.7**	**+2.4**
MAT	**Matsushiro**	**4.43**	**41**	P	**Pn**	**07 08 54.0**	**+0.7**
MAT				eS	**Sn**	**07 09 46.5**	**+2.3**
MJAR	**Matsushiro Arr**	**4.43**	**41**	Pn	**Pn**	**07 08 54.3**	**+1.0**
	1.2nm,0.3s,baz=227,slow=12,SNR=9.7						
MJAR				Lg	Lg	07 10 07.7	
	0.7nm,0.3s,baz=231,slow=25,SNR=2.4						
MJB9	**Matsu-Tunnel**	**4.43**	**41**		**Pn**	**07 08 56.2**	**+2.9**
JTU	**Tsushima**	**4.54**	**288**	Pn	**Pn**	**07 08 53.3**	**-1.4**
TJN	**Taejon**	**6.75**	**300**	i P	**Pn**	**07 09 27.6**	**+2.5**
KSRS	**Korea Array**	**6.92**	**310**	Pn	**Pn**	**07 09 27.5**	**+0.1**
	1.6nm,0.3s,baz=126,slow=14,SNR=14						
JOW	**Kunigami**	**8.41**	**222**	Pn	**Pn**	**07 09 46.6**	**-1.3**
JCJ	**Chichijima**	**8.95**	**131**	LR	LR	07 12 57.5	
	comp=Z,237nm,19.3s,baz=282,slow=35						
USRK	**Ussuriysk Ar.**	**11.15**	**350**	LR	LR	07 14 26.1	
	comp=Z,347nm,19.0s,baz=158,slow=36						
SSE	**Sheshan**	**11.58**	**263**	P	**Pn**	**07 10 30.5**	**-0.8**
SSE				S	**Sn**	**07 12 38.2**	**-1.8**
SSE				pmax	pmax		
	comp=Z,16nm,0.6s						
SSE				pmax	pmax		
	comp=Z,91nm,7.7s						
SSE				LR	LR		
	comp=N,240nm,12.4s						
SSE				LR	LR		
	comp=E,420nm,11.8s						
MDJ	**Mudanjiang**	**12.03**	**343**	P	**Pn**	**07 10 38.8**	**+1.4**
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,120nm,4.9s						
ASAJ	**Asahikawa**	**12.53**	**27**	LR	LR	07 15 50.5	
	comp=Z,344nm,19.2s,baz=238,slow=38						
NJ2	**Nanjing**	**13.34**	**269**	eP	**Pn**	**07 10 55.4**	**0.0**
NJ2				pmax	pmax		
	comp=Z,19nm,0.5s						
NJ2				LR	LR		
	comp=N,410nm,16.1s						
NJ2				LR	LR		
	comp=E,740nm,11.8s						
NJ2				LR	LR		
	comp=Z,810nm,12.8s						
YSS	**Yuzh-Sakhalins**	**15.05**	**22**	eP	**Pn**	**07 11 15.1**	**-3.4**
YSS				eS	**Sn**	**07 14 00.2**	**-4.2**
YSS				MLR	MLR		
	comp=N,200nm,14.0s						
YSS				MLR	MLR		
	comp=Z,300nm,14.0s						
KLR	**Kul'dur**	**16.14**	**353**	Pn	**P**	**07 11 34.5**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=143,slow=12,SNR=7.6						
KLR				LR	LR	07 17 42.5	
	comp=Z,268nm,18.4s,baz=157,slow=37						
KLR	**Kul'dur**	**16.14**	**353**	ceP	**Pn**	**07 11 33.8**	**+1.1**
KLR				pmax	pmax		
	comp=Z,11nm,1.2s						
BJT	**Baijiatuau**	**16.28**	**300**	P	**P**	**07 11 39.7**	**+2.3**
BJT				pmax	pmax		
	comp=Z,18nm,1.1s						
BJT	**Baijiatuau**	**16.28**	**300**	P	**P**	**07 11 39.7**	**+2.3**
BJI	**Beijing**	**16.29**	**300**	P	**P**	**07 11 37.8**	**+0.4**
BJI				pP	**pP**	**07 11 44.9**	**+1.6**
BJI				sP	**sP**	**07 11 47.1**	**+1.0**
BJI				S	**Sn**	**07 14 38.8**	**+4.3**
BJI				pmax	pmax		
	comp=Z,12nm,1.3s						
BJI				LR	LR		
	comp=Z,320nm,11.4s						
BJI				LR	LR		
	comp=Z,620nm,12.8s						
BJI				LR	LR		
	comp=Z,930nm,14.4s						
WHN	**Wuhan**	**17.42**	**267**	P	**Pn**	**07 11 46.2**	**-2.8**
ZEA	**Zeya**	**21.17**	**348**	eP	**P**	**07 12 30.3**	**-0.6**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,100nm,14.0s						
XAN	**Xi'an**	**21.40**	**279**	P	**P**	**07 12 38.5**	**+4.9**
XAN				pmax	pmax		
	comp=Z,11nm,0.8s						
ENH	**Enshi**	**21.56**	**269**	P	**P**	**07 12 35.9**	**+0.5**
ENH				IAmb	IAmb	07 12 48.8	
	comp=Z,35nm,1.1s						
ULN	**Ulaanbaatar**	**25.38**	**313**	ceP	**P**	**07 13 13.0**	**0.0**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.3s						
LZH	**Lanzhou**	**25.43**	**285**	eP	**P**	**07 13 12.6**	**-1.0**
LZH				sP	sP	07 13 23.1	+0.3
LZH				PP	**PnPn**	**07 13 49.4**	**+0.4**
LZH				eS	**S**	**07 17 38.4**	**-1.0**
LZH				sS	sS	07 17 53.5	+3.5
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
LZH				pmax	pmax		
	comp=Z,120nm,4.5s						
LZH				LR	LR		
	comp=Z,480nm,12.0s						
LZH				LR	LR		
	comp=Z,470nm,12.5s						
LZH				LR	LR		
	comp=Z,470nm,14.6s						
SONM	**Songino Array**	**25.77**	**313**	P	**P**	**07 13 16.7**	**+0.1**
	comp=Z,4.0nm,0.9s,baz=120,slow=8.8,SNR=16						
SONM				pP	**sP**	**07 13 25.6**	**0.0**
	comp=Z,2.7nm,0.8s,baz=123,slow=8.7,SNR=6.3						
SONM	**Songino Array**	**25.77**	**313**	P	**P**	**07 13 15.3**	**-1.2**
SONM				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM	**Songino Array**	**25.77**	**313**	P	**P**	**07 13 15.3**	**-1.2**
PEA0B	**Petropavlovsk-**	**25.85**	**33**	i P	**P**	**07 13 19.3**	**+2.3**
PETK	**Petropavlovsk-**	**25.85**	**33**	P	**P**	**07 13 17.3**	**+0.3**
	comp=Z,5.9nm,0.8s,baz=213,slow=7.9,SNR=5.6						
PETK				LR	LR	07 23 34.6	
	comp=Z,103nm,18.5s,baz=207,slow=37						
CD2	**Chengdu**	**26.21**	**273**	P	**P**	**07 13 19.8**	**-0.8**
CD2				LR	LR		
	comp=Z,740nm,16.3s						
CD2				LR	LR		
	comp=Z,780nm,13.9s						
CD2				LR	LR		

comp=Z,1µm,16.1s
MA2 Magadan 28.46 17 LR LR 07 25 25.0
comp=Z,45nm,18.3s,baz=144,slow=37
MA2 Magadan 28.46 17 *ce*P **P 07 13 41.0 +0.6**
MA2 pmax pmax
comp=Z,10.0nm,1.7s
GTA Gaotai 28.60 293 *e*P **P 07 13 41.0 -1.0**
GTA pP pP 07 13 45.0 -3.5
GTA sP sP 07 13 48.2 -3.1
GTA pmax pmax
comp=Z,3.0nm,0.8s
GTA pmax pmax
comp=Z,100nm,5.1s
GTA LR LR
comp=Z,210nm,12.7s
GTA LR LR
comp=Z,260nm,13.4s
GTA LR LR
comp=Z,280nm,14.5s
YAK Yakutsk 29.00 355 LR LR 07 25 29.4
comp=Z,182nm,18.5s,baz=234,slow=37
YAK Yakutsk 29.00 355 *i* P **P 07 13 47.1 +2.0**
YAK pmax pmax
comp=Z,14nm,0.9s
H11N2 WAKE ISLAND Hy 31.72 107 T T 07 47 16.0
baz=302,slow=75,SNR=130
H11N1 WAKE ISLAND Hy 31.72 107 T T 07 47 33.1
baz=302,slow=75,SNR=88
H11N3 WAKE ISLAND Hy 31.73 107 T T 07 47 01.2
baz=302,slow=75,SNR=93
SEY Seymchan 31.78 15 LR LR 07 27 50.7
comp=Z,88nm,18.7s,baz=206,slow=38
H11S3 WAKE ISLAND Hy 32.21 109 T T 07 48 05.2
baz=304,slow=75,SNR=122
H11S1 WAKE ISLAND Hy 32.22 109 T T 07 48 18.7
baz=304,slow=75,SNR=156
H11S2 WAKE ISLAND Hy 32.23 109 T T 07 48 06.4
baz=304,slow=75,SNR=66
WMQ Urumqi 37.76 300 *e*P **P 07 15 03.5 +1.8**
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ LR LR
comp=Z,890nm,28.9s
WMQ LR LR
comp=Z,750nm,29.1s
WMQ LR LR
comp=Z,300nm,22.3s
DGZ Jazzator, Alta 38.32 310 *i* P **P 07 15 07.5 +1.1**
DGZ pmax pmax
comp=Z,6.0nm,1.1s
TIXI Tiksi 38.61 357 P **P 07 15 07.9 -0.4**
comp=Z,6.2nm,0.7s,baz=226,slow=5.0,SNR=4.1
TIXI Tiksi 38.61 357 *ce*P **P 07 15 08.1 -0.3**
TIXI Tiksi 38.61 357 IAmb IAmb 07 15 08.7
comp=Z,8.2nm,0.9s
BILL Bilibino 39.32 18 *e*P **P 07 15 16.2 +1.9**
BILL *e* 07 16 43.4
BILL pmax pmax
comp=Z,11nm,1.2s
BILL MLR MLR
comp=Z,166nm,18.0s
ZSN Zaisan 39.83 306 *e*P **P 07 15 19.1 +0.2**
baz=306
ZSN Zaisan 39.83 306 *e*P **P 07 15 19.1 +0.2**
ZALV Zalesovo Beam 40.57 316 PcP **PcP 07 17 26.1 -0.6**
comp=Z,1.3nm,0.5s,baz=58,slow=3.7,SNR=5.6
MK31 Makanchi Array 41.57 305 P **P 07 15 33.6 +0.3**
MK31 pmax pmax
comp=Z,4.0nm,1.1s
MK31 Makanchi Array 41.57 305 P **P 07 15 33.5 +0.3**
MKAR Makanchi Array 41.57 305 P **P 07 15 33.7 +0.4**
comp=Z,4.3nm,1.0s,baz=93,slow=10,SNR=20
MKAR pP **sP 07 15 42.3 -0.2**
comp=Z,1.9nm,0.7s,baz=83,slow=11,SNR=8.6
MKAR PcP **PcP 07 17 29.6 -0.6**
comp=Z,1.1nm,0.8s,baz=77,slow=6.4,SNR=4.4
MKAR pPcP 07 17 38.8
comp=Z,0.8nm,0.8s,baz=76,slow=5.1,SNR=4.1
MAKZ Makanchi 41.79 305 P **P 07 15 35.8 +0.7**
MAKZ pmax pmax
comp=Z,5.0nm,1.1s
MAKZ Makanchi 41.79 305 P **P 07 15 35.8 +0.7**
KURK Kurchatov 44.04 311 P **P 07 15 53.7 +0.5**
KURK *PP **sP 07 16 02.8 +0.4**
KURBB Kurchatov Arra 44.09 311 P **P 07 15 53.7 0.0**
comp=Z,6.6nm,0.9s,baz=95,slow=8.9,SNR=53
KURBB pP **sP 07 16 02.8 0.0**
comp=Z,6.0nm,0.9s,baz=95,slow=9.3,SNR=13
UZB Uzynbulak 44.10 300 *e*P **P 07 15 52.8 -1.2**
baz=300
UZB Uzynbulak 44.10 300 *e*P **P 07 15 52.8 -1.2**
KPKS Kokpek 44.31 300 *e*P **P 07 15 53.7 -1.9**
baz=300
KPKS Kokpek 44.31 300 *e*P **P 07 15 53.7 -1.9**
MDOK Medeo 45.53 300 *e*P **P 07 16 04.2 -1.3**
baz=300
MDOK Medeo 45.53 300 *e*P **P 07 16 04.1 -1.3**
UNV Unalaska Valle 45.89 45 P **P 07 16 09.0 +1.1**
baz=268
KUU Kurty 45.95 301 *e*P **P 07 16 07.5 -1.0**
baz=301
KUU Kurty 45.95 301 *e*P **P 07 16 07.5 -1.0**
MTBS Maitube 45.98 300 *e*P **P 07 16 08.1 -0.8**
baz=300
TNA Tin City 46.88 29 P **P 07 16 15.7 +0.2**
baz=256
KSH Kashi 46.93 295 P P 07 16 21.2 +4.8
KSH sP sP 07 16 28.4 +2.6
SGDS Sogindy 47.24 301 *e*P **P 07 16 17.5 -1.2**
baz=301
BTLS Baital 47.43 303 *e*P **P 07 16 18.7 -1.5**
baz=303
BTLS Baital 47.43 303 *e*P **P 07 16 18.6 -1.5**
AAK Ala-Archa 47.46 300 *ce*P **P 07 16 22.0 +1.4**
AAK pmax pmax
comp=Z,11nm,1.7s
BRZS Berezniki 47.86 310 *e*P **P 07 16 21.9 -1.5**
baz=310
BRZS Berezniki 47.86 310 *e*P **P 07 16 21.8 -1.5**
KNRA Kununurra 48.94 187 P **P 07 16 31.2 -0.7**
BVAR Borovoye Array 49.11 314 P **P 07 16 33.2 +0.3**
comp=Z,2.2nm,0.5s,baz=159,slow=9.4,SNR=17
BVAR pP **sP 07 16 42.2 0.0**
comp=Z,4.6nm,0.9s,baz=153,slow=10.0,SNR=7.0
BVAR PcP **PcP 07 17 56.1 -0.1**
comp=Z,1.3nm,0.7s,baz=190,slow=7.5,SNR=3.8
BRVK Borovoye 49.17 314 *ce*P **P 07 16 33.9 +0.5**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BRVK Borovoye 49.17 314 P **P 07 16 33.2 -0.2**
BRVK IAmb IAmb 07 16 34.7
comp=Z,6.9nm,1.0s
KK31 Karatay Array 50.26 301 P **P 07 16 42.5 +0.6**
KK31 pmax pmax
comp=Z,6.0nm,1.0s
KK31 Karatay Array 50.26 301 P **P 07 16 42.5 +0.6**
KKAR Karatay Array 50.26 301 P **P 07 16 40.7 -1.2**
KKAR Karatay Array 50.26 301 P **P 07 16 40.7 -1.2**
IUG Iuzhnay 50.80 300 *e*P **P 07 16 45.0 -1.2**
baz=300
IUG Iuzhnay 50.80 300 *e*P **P 07 16 44.9 -1.2**
CHIR Chirikof Islan 52.13 42 P **P 07 16 55.5 -0.2**
baz=275
L19K White Mountain 52.22 34 P **P 07 16 55.9 -0.3**
baz=271
N19K Bonanza Creek 52.43 36 P **P 07 16 58.5 +0.6**
baz=272
M19K Big River Lodg 52.44 34 P **P 07 16 58.9 +1.0**
baz=271
J20K Nowinta River 52.53 31 P **P 07 16 59.8 +1.2**
J20K IAmb IAmb 07 17 00.8
comp=Z,6.9nm,0.9s
J20K Nowinta River 52.53 31 P **P 07 16 58.8 +0.3**
baz=270
O19K Port Alsworth 52.53 37 P **P 07 16 58.6 +0.1**
baz=273
K20K Telida 52.57 33 P **P 07 17 00.5 +1.7**
K20K IAmb IAmb 07 17 01.2
comp=Z,6.3nm,0.8s
K20K Telida 52.57 33 P **P 07 16 59.1 +0.2**
baz=270,SNR=5.8
WB0 Warramunga Arr 52.69 180 P **P 07 16 58.9 -1.3**
WB0 IAmb IAmb 07 17 00.2
comp=Z,12nm,1.1s
IMAR Indian Mountai 52.72 29 P **P 07 16 59.4 -0.5**
WRAB Tennant Creek 52.85 180 *ce*P **P 07 17 01.3 -0.1**
WRAB pmax pmax
comp=Z,18nm,2.5s
WRA Warramunga Arr 52.86 180 P **P 07 17 00.7 -0.7**
comp=Z,5.0nm,0.8s,baz=355,slow=7.8,SNR=29
WRA Warramunga Arr 52.86 180 P **P 07 16 59.3 -2.1**
WR0 Warramunga Arr 52.88 180 P **P 07 16 59.7 -1.9**
WR0 IAmb IAmb 07 17 01.9
comp=Z,13nm,0.9s
M20K Styx River 53.04 34 P **P 07 17 02.6 +0.1**
baz=272
OHAK Old Harbor 53.29 40 P **P 07 17 04.9 +0.8**
baz=276
CHUM Lake Minchumin 53.34 32 P **P 07 17 05.4 +1.0**
baz=272
PPLA Purkeypile 53.43 33 P **P 07 17 06.4 +1.0**
baz=273
I21K Tanana 53.46 30 P **P 07 17 05.8 +0.5**
I21K Tanana 53.46 30 P **P 07 17 04.8 -0.5**
baz=271,SNR=6.2
KDAK Kodiak Island 53.61 39 P **P 07 17 06.3 -0.2**
comp=Z,9.2nm,0.9s,baz=270,slow=5.1,SNR=6.7
KDAK Kodiak Island 53.61 39 P **P 07 17 06.4 -0.2**
baz=276
SKT Skwentna 53.79 34 P **P 07 17 07.1 -0.7**
baz=274
BPAW Bear Paw Mtn. 53.92 32 P **P 07 17 09.5 +0.8**
baz=273
COLD Coldfoot 54.14 28 P **P 07 17 09.4 -0.9**
baz=271
CTA Charters Tower 54.16 166 P **P 07 17 10.9 0.0**
comp=Z,3.6nm,0.9s,baz=23,slow=8.1,SNR=3.9
SUA Susitna One 54.20 35 P **P 07 17 11.2 +0.2**
baz=275
TRF Thorofare Moun 54.26 32 P **P 07 17 13.2 +1.7**
TRF IAmb IAmb 07 17 13.4
comp=Z,9.4nm,1.2s
TRF Thorofare Moun 54.26 32 P **P 07 17 12.4 +0.9**
baz=274
TOLK Toolik Lake Re 54.36 26 P **P 07 17 12.6 +0.6**
baz=271
H23K Yukon River 54.45 29 P **P 07 17 13.6 +1.0**
H23K IAmb IAmb 07 17 15.4
comp=Z,11nm,0.9s
H23K Yukon River 54.45 29 P **P 07 17 13.6 +1.0**
baz=273,SNR=12
I23K Minto, Yukon-K 54.56 30 P **P 07 17 14.5 +1.2**
I23K Minto, Yukon-K 54.56 30 P **P 07 17 14.6 +1.2**
baz=273
NEA2 Nenana 54.72 31 P **P 07 17 14.2 -0.4**
baz=274,SNR=9.5
MCK McKinley 54.85 32 P **P 07 17 15.1 -0.4**
baz=275
RND Reindeer 54.91 32 P **P 07 17 15.5 -0.5**
RND pmax pmax
comp=Z,9.0nm,0.7s
RND Reindeer 54.91 32 P **P 07 17 15.5 -0.5**
RND IAmb IAmb 07 17 17.1
comp=Z,8.5nm,0.7s
PMR Palmer 54.96 35 P **P 07 17 16.5 +0.3**
baz=276
SEW Seward 54.97 36 P **P 07 17 16.7 +0.4**
baz=277
WAT1 Susitna Watana 55.10 33 P **P 07 17 17.7 +0.3**
baz=276
H24K Noodor Dome 55.14 29 P **P 07 17 18.8 +1.2**
H24K Noodor Dome 55.14 29 P **P 07 17 17.4 -0.2**
baz=274,SNR=6.8
WRH Wood River Hil 55.16 31 IAmb IAmb 07 17 20.8
comp=Z,6.3nm,1.0s
KNK Knik Glacier 55.30 35 P **P 07 17 18.8 -0.1**
baz=277
SML Sawmill 55.31 34 IAmb IAmb 07 17 20.2
comp=Z,7.2nm,1.1s
SML Sawmill 55.31 34 P **P 07 17 18.6 -0.3**
baz=277
POKR Poker Plat Res 55.38 30 P **P 07 17 19.0 -0.4**
baz=275
ARU Arti 55.56 319 P **P 07 17 20.7 -0.1**
comp=Z,1.8nm,0.2s,baz=122,slow=9.8,SNR=6.1
ARU Arti 55.56 319 *c i* P **P 07 17 21.3 +0.6**
ARU 07 19 25.7
ARU S **S 07 25 06.9 +2.1**
ARU SS **SS 07 28 46.1 -3.3**
ARU pmax pmax
comp=Z,8.0nm,1.0s
IL31 55.64 31 P **P 07 17 20.6 -0.6**
ILAR Eielson Array 55.64 31 P **P 07 17 21.1 -0.1**
comp=Z,1.4nm,0.7s,baz=270,slow=5.6,SNR=22
ILAR pP **sP 07 17 29.9 -0.6**
comp=Z,1.1nm,0.8s,baz=261,slow=5.9,SNR=5.0
ILAR Eielson Array 55.64 31 P **P 07 17 21.4 +0.2**
ILAR Eielson Array 55.64 31 P **P 07 17 21.4 +0.2**
HDA Harding Lake 55.65 31 IAmb IAmb 07 17 22.1
comp=Z,9.9nm,1.0s
HDA Harding Lake 55.65 31 P **P 07 17 20.3 -1.1**
baz=276,SNR=8.0
GLI Glacier Island 56.02 35 P **P 07 17 24.0 0.0**
baz=278
PRP Porcupine Dome 56.14 30 P **P 07 17 25.4 +0.5**
PRP Porcupine Dome 56.14 30 P **P 07 17 24.7 -0.2**
baz=276,SNR=5.4
ABKAR Akbulak array 56.15 310 P **P 07 17 23.4 -1.7**
ABKAR Akbulak array 56.15 310 IAmb IAmb 07 17 26.1
comp=Z,6.8nm,0.8s
M24K Tolsona, Glenn 56.28 34 P **P 07 17 26.3 +0.3**
baz=278
ASAR Alice Springs 56.57 181 P **P 07 17 27.9 -0.4**
comp=Z,1.7nm,0.6s,baz=10,slow=12,SNR=21
ASAR pP **pP 07 17 35.8 +0.4**
comp=Z,2.0nm,1.0s,baz=10,slow=5.6,SNR=6.5
RIDG Independent Ri 56.65 32 P **P 07 17 28.9 +0.3**
baz=278
HARP HAARP 56.71 33 P **P 07 17 29.1 +0.2**
baz=279
EYAK Cordova Ski Ar 56.73 36 P **P 07 17 28.6 -0.3**
baz=280
SCRK Sand Creek 56.99 31 IAmb IAmb 07 17 32.1
comp=Z,7.7nm,0.9s
SCRK Sand Creek 56.99 31 P **P 07 17 31.0 0.0**
baz=279,SNR=9.1
DOT Dot Lake 57.01 32 P **P 07 17 31.1 0.0**
DOT IAmb IAmb 07 17 31.9
comp=Z,4.5nm,0.7s
AKTO Aktyubinsk 57.09 312 P **P 07 17 31.6 -0.1**
comp=Z,4.0nm,0.8s,baz=82,slow=9.0,SNR=11
N25K Chitina, Valde 57.10 34 P **P 07 17 32.2 +0.4**
baz=280
BMRM Bremner River 57.21 35 P **P 07 17 33.4 +0.9**
baz=280
MENT Mentasta 57.28 33 IAmb IAmb 07 17 35.0
comp=Z,7.8nm,0.8s
L26K Log Cabin Wild 57.43 32 IAmb IAmb 07 17 36.0
comp=Z,9.2nm,1.0s
L26K Log Cabin Wild 57.43 32 P **P 07 17 34.6 +0.6**
baz=280,SNR=6.5
KAIM Kayak Island 57.49 36 P **P 07 17 34.2 -0.3**
baz=281
M26K Nabesna, AK 57.70 33 IAmb IAmb 07 17 38.0
comp=Z,8.1nm,0.8s
M26K Nabesna, AK 57.70 33 P **P 07 17 35.6 -0.4**
baz=281,SNR=8.5
K27K Chicken 57.82 31 IAmb IAmb 07 17 38.6
comp=Z,7.1nm,1.0s
K27K Chicken 57.82 31 P **P 07 17 36.8 +0.2**
baz=280
MCARA McCarthy VSAT 57.88 34 P **P 07 17 37.2 0.0**
baz=281
CRQE Cirque 57.98 35 P **P 07 17 37.5 -0.5**
baz=282
EGAK Eagle 58.07 30 P **P 07 17 38.6 +0.2**
baz=281
L27K Beaver Creek, 58.11 32 P **P 07 17 40.0 +1.2**
L27K IAmb IAmb 07 17 41.0
comp=Z,7.4nm,1.1s
L27K Beaver Creek, 58.11 32 P **P 07 17 38.6 -0.1**
baz=281,SNR=6.7
BCAR Beaver Creek A 58.12 32 P **P 07 17 39.5 +0.6**
M27K Edge Creek, AK 58.22 33 P **P 07 17 39.5 -0.3**
baz=282,SNR=5.1
CTG Chitna Glacier 58.77 35 P **P 07 17 42.6 -0.9**
baz=283
DAWY Dawson 58.97 31 P **P 07 17 44.7 0.0**
baz=283
YUK3 Moose Creek 59.00 34 P **P 07 17 44.0 -1.3**
baz=283
EPYK Eagle Plains 59.54 28 P **P 07 17 49.0 +0.3**
baz=284,SNR=5.2
INK Inuvik 60.26 25 P **P 07 17 54.0 +0.5**
comp=Z,6.2nm,0.9s,baz=236,slow=4.7,SNR=5.0
INK Inuvik 60.26 25 P **P 07 17 54.0 +0.5**
INK Inuvik 60.26 25 P **P 07 17 54.0 +0.5**
baz=285
HYT Haines Junctio 60.62 34 P **P 07 17 58.5 +2.2**
HYT IAmb IAmb 07 17 59.8
comp=Z,10nm,1.3s
HYT Haines Junctio 60.62 34 P **P 07 17 56.6 +0.3**
baz=286
WHY Whitehorse 61.90 34 P **P 07 18 05.1 +0.2**
baz=288
FARO Faro, Yukon 62.10 32 P **P 07 18 05.8 -0.4**
baz=289
KLMR Klimovskoe 63.96 327 *e*P **P 07 18 16.8 -1.6**
KLMR pmax pmax
comp=Z,15nm,1.4s
KLMR Klimovskoe 63.96 327 *e*P **P 07 18 16.9 -1.5**
KLMR AMP 07 18 20.4
comp=Z,15nm,1.4s
STKA Stephens Creek 65.08 173 P **P 07 18 26.2 +0.2**
comp=Z,5.3nm,0.8s,baz=332,slow=5.1,SNR=5.8
ARCES ARCESS Array B 65.55 339 P **P 07 18 28.8 +0.1**
comp=Z,9.5nm,1.1s,baz=59,slow=7.9,SNR=7.4
OBN Obninsk 67.74 322 *e*P **P 07 18 42.6 -0.2**
OBN *i* 07 18 51.3
OBN *e* 07 21 12.9
OBN *e*S **S 07 27 40.0 +1.0**
OBN pmax pmax
comp=Z,14nm,0.5s
ZEI Tsey 68.82 308 *e*P **P 07 18 49.2 -1.0**
ZEI pmax pmax
comp=Z,3.0nm,1.0s
KBZ Khabaz 69.07 309 P **P 07 18 51.7 +0.4**
comp=Z,8.6nm,0.8s,baz=74,slow=1.0,SNR=17
KBZ Khabaz 69.07 309 *ce*P **P 07 18 51.4 0.0**
KBZ pmax pmax
comp=Z,12nm,0.9s
KIV Kislovodsk 69.10 309 *ce*P **P 07 18 52.6 +0.8**
KIV pmax pmax
comp=Z,13nm,1.0s
ONI Oni 69.20 308 IAmb IAmb 07 18 54.0
comp=Z,5.8nm,1.0s
FINES FINESS Array B 69.51 331 P **P 07 18 53.2 -0.6**
comp=Z,4.1nm,0.6s,baz=60,slow=4.5,SNR=12
YKA Yellowknife Ar 69.82 28 P **P 07 18 56.0 +0.3**
comp=Z,5.6nm,1.1s,baz=310,slow=4.7,SNR=4.2
YKA Yellowknife Ar 69.82 28 *i* P **P 07 18 56.7 +1.0**
YKA pmax pmax
comp=Z,6.0nm,1.1s
AKASG Malin Array Be 73.78 320 P **P 07 19 19.2 -0.5**
comp=Z,2.9nm,0.5s,baz=51,slow=6.4,SNR=20
AKASG Malin Array Be 73.78 320 P **P 07 19 20.1 +0.4**
AKASG pmax pmax
comp=Z,7.0nm,1.3s
AKASG Malin Array Be 73.78 320 P **P 07 19 20.1 +0.4**
AKBB Malin Array Si 73.78 320 *ce*P **P 07 19 19.7 0.0**
AKBB Malin Array Si 73.78 320 P **P 07 19 19.0 -0.7**
I02D Swisshome 75.08 47 P **P 07 19 27.8 +0.4**
baz=302
NB2 NORSAR Subarra 75.42 335 P **P 07 19 28.4 -0.7**
comp=Z,5.5nm,0.9s,baz=45,slow=5.9
NOA NORSAR Array B 75.42 335 P **P 07 19 28.5 -0.7**
comp=Z,5.0nm,0.9s,baz=46,slow=5.7,SNR=10
NOA pP **pP 07 19 37.4 +1.4**
comp=Z,1.6nm,0.9s,baz=48,slow=5.3,SNR=2.9
I03D Drain, OR 75.60 47 P **P 07 19 30.6 +0.2**
baz=302
K02D Willamette Mer 75.94 48 P **P 07 19 32.2 -0.3**
baz=302
G05D Wamic, OR 75.99 45 P **P 07 19 32.1 -0.6**
baz=303
I04A Tendick Farm, 76.12 47 P **P 07 19 33.5 +0.1**
baz=303
L02E Cave Junction 76.26 49 P **P 07 19 33.8 -0.4**
baz=302
I05D Terrebonne, OR 76.47 46 P **P 07 19 35.6 +0.2**
baz=303
NEW Newport 76.69 41 P **P 07 19 37.0 +0.4**
baz=305
PINE Pine Mountain 77.02 46 P **P 07 19 40.4 +1.7**
L04D Klamath Falls 77.04 48 P **P 07 19 39.2 +0.4**
baz=303
BRTR Keskin Array B 77.06 309 P **P 07 19 39.0 0.0**
comp=Z,3.7nm,0.8s,baz=91,slow=4.9,SNR=9.7
BRTR pP **sP 07 19 47.6 -1.1**
comp=Z,5.1nm,1.0s,baz=92,slow=7.4,SNR=4.7
BRTR Keskin Array B 77.06 309 *i* P **P 07 19 39.2 +0.2**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 77.06 309 P **P 07 19 39.1 +0.1**
J05D Fort Rock, OR 77.12 47 P **P 07 19 40.4 +1.1**
baz=304,SNR=5.1
M02C Callahan 77.15 49 P **P 07 19 40.5 +1.2**
baz=303
N02D Trinity Center 77.47 49 P **P 07 19 41.7 +0.5**
baz=303
M04C Macdoel 77.57 48 P **P 07 19 42.2 +0.4**
baz=304,SNR=6.2
K05A Summer Lake 77.64 47 IAmb IAmb 07 19 44.5
comp=Z,9.9nm,1.0s
BUR08 Bucovina Ar. S 77.69 319 IAmb IAmb 07 19 44.0
comp=Z,5.5nm,0.8s
BURAR Bucovina Array 77.70 319 P **P 07 19 42.8 +0.5**
BURAR pmax pmax
comp=Z,6.0nm,0.9s
BURAR Bucovina Array 77.70 319 P **P 07 19 42.8 +0.5**
BURAR IAmb IAmb 07 19 44.3
comp=Z,6.3nm,0.9s
O02D Mt. Diablo Mer 77.85 50 P **P 07 19 43.6 +0.3**
baz=303
VRI Vrincioaia 77.87 317 P **P 07 19 42.9 -0.3**
VRI pmax pmax
comp=Z,9.0nm,1.4s
O03E Paynes Creek 78.42 49 P **P 07 19 46.5 0.0**
baz=304
J08A Circle Bar Ran 78.74 45 IAmb IAmb 07 19 50.3
comp=Z,6.6nm,0.9s
NIE Niedzica 79.19 323 P **P 07 19 51.7 +1.2**
MSO Missoula 79.28 41 P **P 07 19 51.2 +0.1**
baz=308
BEKR Beckworth 79.57 49 IAmb IAmb 07 19 54.3
comp=Z,8.2nm,0.9s
MFID Camas Ranch 80.27 44 P **P 07 19 57.8 +1.2**
PAHR Pah Rah Range 80.28 49 IAmb IAmb 07 19 58.3
comp=Z,6.3nm,1.0s
EGMT Eagleton 80.75 38 P **P 07 19 59.9 +0.9**
baz=310
YERR Yerington 80.79 49 IAmb IAmb 07 20 01.2
comp=Z,8.8nm,1.0s
HLID Hailey 81.00 43 P **P 07 20 01.1 +0.6**
baz=308
BOZ Bozeman (W) 81.30 41 P **P 07 20 02.1 +0.1**
baz=309
RYN Ryan 81.45 49 P **P 07 20 03.6 +0.6**
CLL Collm 81.45 327 *e*P **P 07 20 02.0 -0.5**
comp=Z,7.0nm,0.8s
CLL *e*sP **pP 07 20 11.0 +1.5**
CLL Collm 81.45 327 *e*P **P 07 20 02.0 -0.5**
CLL *e* 07 20 11.0
CLL pmax pmax
comp=Z,7.0nm,0.8s
KVN Kaiserville 81.47 49 P **P 07 20 03.7 +0.6**
KVN pmax pmax
comp=Z,8.0nm,0.9s
KVN Kaiserville 81.47 49 P **P 07 20 03.7 +0.6**
KVN IAmb IAmb 07 20 04.9
comp=Z,7.7nm,0.9s
LHV Little Huntoon 81.68 50 IAmb IAmb 07 20 06.5
comp=Z,9.6nm,1.1s
NVAR Mina Array Bea 81.71 49 P **P 07 20 05.1 +0.6**
comp=Z,5.3nm,1.0s,baz=291,slow=5.1,SNR=24
NVAR pP **sP 07 20 13.9 -0.3**
comp=Z,2.4nm,1.0s,baz=264,slow=3.3,SNR=5.2
H17A Grant Village 82.64 41 IAmb IAmb 07 20 13.6
comp=Z,6.2nm,1.2s
H17A Grant Village 82.64 41 P **P 07 20 09.7 +0.5**
baz=310
VES Vestal, Richgr 82.72 52 P **P 07 20 08.9 -0.5**
baz=306
FLWY Flagg Ranch 82.77 41 IAmb IAmb 07 20 12.8
comp=Z,8.8nm,1.4s
PKM Mcpherson Peak 82.78 53 P **P 07 20 10.2 +0.1**
baz=306
GERES GERESS Array B 82.83 325 P **P 07 20 09.9 -0.1**
comp=Z,0.4nm,0.4s,baz=51,slow=5.3,SNR=8.6
GERES GERESS Array B 82.83 325 P **P 07 20 10.6 +0.7**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
TPAW	Teton Pass	83.01	42	P	P	07 20 11.2	0.0
TPAW				IAmb	IAmb	07 20 12.6	
	comp=Z,7.6nm,1.3s						
CWC	Cottonwood Cre	83.02	51	P	P	07 20 10.9	-0.3
	baz=306						
HVU	Hansel Valley	83.05	44	P	P	07 20 12.0	+0.7
HVU				pmax	pmax		
	comp=Z,4.0nm,0.9s						
HVU	Hansel Valley	83.05	44	P	P	07 20 11.9	+0.7
HVU				IAmb	IAmb	07 20 13.4	
	comp=Z,4.3nm,0.9s						
GRAC	Grapevine Rang	83.15	50	P	P	07 20 12.7	+1.0
	baz=307						
DGMT	Dagmar	83.21	35	P	P	07 20 12.1	+0.2
	baz=314						
ISA	Isabella, Lake	83.22	52	P	P	07 20 11.8	-0.4
	baz=306						
ARVC	Arvin	83.30	52	P	P	07 20 13.1	+0.6
	baz=306						
GRF	Grafenberg Arr	83.40	327	eP	P	07 20 13.7	+0.9
	comp=Z,8.0nm,1.0s,baz=52,slow=4.8						
GRF				epP	sP	07 20 22.3	-0.3
R11A	Troy Canyon, C	83.47	48	IAmb	IAmb	07 20 15.4	
	comp=Z,7.0nm,1.1s						
R11A	Troy Canyon, C	83.47	48	P	P	07 20 14.3	+0.7
	baz=308,SNR=9.4						
FURC	Furnace Creek,	83.79	50	P	P	07 20 15.7	+0.8
	baz=307,SNR=7.3						
SPR3	Spring Creek 3	83.85	47	IAmb	IAmb	07 20 18.0	
	comp=Z,5.5nm,1.1s						
LRMC	Laurel Mtn Rad	83.85	51	P	P	07 20 16.0	+0.5
	baz=307						
HWUT	Hardware Ranch	83.86	44	IAmb	IAmb	07 20 18.2	
	comp=Z,7.9nm,1.0s						
TPNV	Topopah Spring	83.90	50	P	P	07 20 16.1	+0.3
	baz=307,SNR=15						
EDW2	Edwards Air Fo	84.00	52	P	P	07 20 16.4	+0.2
	baz=307,SNR=5.4						
DUG	Dugway, Tooele	84.02	45	P	P	07 20 17.9	+1.6
DUG				pmax	pmax		
	comp=Z,8.0nm,1.4s						
DUG	Dugway, Tooele	84.02	45	IAmb	IAmb	07 20 18.4	
	comp=Z,8.0nm,1.1s						
DUG	Dugway, Tooele	84.02	45	P	P	07 20 17.2	+0.9
	baz=309,SNR=8.1						
PDG	Podgorica	84.22	318	P	P	07 20 17.3	+0.3
PD31	Pinedale Array	84.26	42	P	P	07 20 17.4	-0.2
PDAR	Pinedale Array	84.26	42	P	P	07 20 17.4	-0.2
	comp=Z,0.8nm,0.7s,baz=357,slow=3.0,SNR=6.7						
PRN	Pahroc Range	84.38	49	P	P	07 20 18.2	0.0
PRN				IAmb	IAmb	07 20 20.2	
	comp=Z,7.2nm,1.0s						
PSUT	Pine Spring	84.43	47	P	P	07 20 19.0	+0.5
PSUT				IAmb	IAmb	07 20 20.2	
	comp=Z,5.5nm,0.7s						
SHOC	Shoshone, Teco	84.51	50	P	P	07 20 19.4	+0.6
	baz=308						
GSC	Goldstone, Bar	84.53	51	P	P	07 20 19.3	+0.4
	baz=307,SNR=7.0						
NLU	North Lily Min	84.61	45	IAmb	IAmb	07 20 21.4	
	comp=Z,6.0nm,1.0s						
MPU	Maple Canyon	84.83	45	IAmb	IAmb	07 20 22.4	
	comp=Z,6.3nm,1.0s						
SHPR	Sheep Range	84.86	49	P	P	07 20 21.9	+1.3
SHPR				IAmb	IAmb	07 20 22.6	
	comp=Z,4.9nm,0.9s						
TUQ	Turquoise Moun	85.02	51	P	P	07 20 22.4	+0.9
	baz=308						
BBRC	Big Bear Solar	85.08	52	P	P	07 20 22.5	+0.6
	baz=307						
HEC	Hector,Ludlow	85.12	51	P	P	07 20 22.6	+0.7
	baz=308						
TCRU	Three Creeks R	85.24	46	IAmb	IAmb	07 20 24.9	
	comp=Z,5.1nm,0.8s						
MURC	Murrieta	85.29	53	P	P	07 20 23.4	+0.6
	baz=307						
CCUT	Cedar City	85.34	48	P	P	07 20 23.6	+0.4
MSU	Marysvale	85.46	46	P	P	07 20 24.5	+0.8
MSU	Marysvale	85.46	46	P	P	07 20 24.4	+0.8
GMRC	Granite Mounta	85.59	51	P	P	07 20 24.7	+0.4
	baz=308						
ULM	Lac du Bonnet	85.66	30	P	P	07 20 24.7	+0.6
	comp=Z,6.7nm,1.1s,baz=304,slow=9.1,SNR=3.8						
RDMU	Red Mountain	85.68	43	P	P	07 20 24.5	-0.3
RDMU				IAmb	IAmb	07 20 26.6	
	comp=Z,9.5nm,1.2s						
LCMT	Little Creek M	85.75	48	IAmb	IAmb	07 20 27.0	
	comp=Z,5.2nm,1.0s						
MTPU	Mount Pierson	85.76	47	P	P	07 20 26.6	+1.2
MTPU				IAmb	IAmb	07 20 27.8	
	comp=Z,6.2nm,0.9s						
PFO	Pinyon Flats O	85.78	52	LR	LR	07 54 48.1	
	comp=Z,50nm,20.9s,baz=226,slow=33						
PFO	Pinyon Flats O	85.78	52	P	P	07 20 25.2	-0.1
	baz=308						
TPFO	Pinon Flats	85.78	52	P	P	07 20 25.8	+0.5
	baz=308						
MDND	Maddock	85.82	33	P	P	07 20 25.8	+0.8
	baz=317						
BELC	Belle Mtn. Jos	85.85	52	P	P	07 20 26.0	+0.4
	baz=308						
K22A	Casper	86.00	40	P	P	07 20 26.8	+0.5
	baz=313						
KNB	Kanab	86.01	48	P	P	07 20 26.9	+0.5
KNB				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KNB	Kanab	86.01	48	P	P	07 20 26.9	+0.5
KNB				IAmb	IAmb	07 20 28.7	
	comp=Z,7.9nm,0.9s						
SRU	San Rafael Swe	86.07	45	IAmb	IAmb	07 20 28.3	
	comp=Z,7.7nm,1.0s						
MONP2	Monument Peak	86.24	53	P	P	07 20 27.9	+0.3
	baz=308						
IRM	Iron Mountain	86.31	51	P	P	07 20 28.5	+0.7
	baz=308						
RSSD	Black Hills	86.31	38	P	P	07 20 28.8	+1.0
	baz=314						
BC3	Big Chuckawall	86.42	52	P	P	07 20 28.7	+0.3
	baz=308						
W13A	Hualapai Mount	86.54	50	IAmb	IAmb	07 20 30.5	
	comp=Z,4.7nm,1.2s						
IKP	In-Ko-Pah, Jac	86.59	53	P	P	07 20 29.5	+0.2
	baz=308						
O20A	White River Ci	86.73	43	P	P	07 20 30.3	+0.4
	baz=312						
PDMCI	Parker Dam,Lak	86.87	51	P	P	07 20 31.1	+0.7
	baz=309						
PV21	Cone Mtn., Par	87.35	45	IAmb	IAmb	07 20 35.0	
	comp=Z,5.4nm,0.9s						
PV22	Blue Mesa, Par	87.47	45	IAmb	IAmb	07 20 35.5	
	comp=Z,7.0nm,1.0s						
PV20	West Nyswonger	87.50	45	P	P	07 20 34.7	+1.1
PV04	Paradox Valley	87.50	45	P	P	07 20 33.1	-0.6
PV19	Morning Glory	87.51	45	P	P	07 20 34.3	+0.6
N23A	Red Feather La	87.52	41	P	P	07 20 33.3	-0.5
	baz=313						
PV16	Nyswonger Mesa	87.55	45	IAmb	IAmb	07 20 35.9	
	comp=Z,6.8nm,1.2s						
PV03	Paradox Valley	87.62	45	IAmb	IAmb	07 20 36.8	
	comp=Z,7.5nm,1.1s						
PV15	Paradox Valley	87.78	45	IAmb	IAmb	07 20 37.0	
	comp=Z,7.8nm,1.2s						
PV01	Paradox Valley	87.87	45	IAmb	IAmb	07 20 37.9	
	comp=Z,6.7nm,1.1s						
WUAZ	Wupatki	87.87	48	P	P	07 20 36.1	+0.6
	baz=310						
SMCO	Snowmass	88.10	43	P	P	07 20 36.9	+0.1
SMCO				IAmb	IAmb	07 20 38.7	
	comp=Z,3.3nm,0.9s						
MVCO	Mesa Verde	88.52	45	P	P	07 20 38.2	-0.4
	baz=312						
EYMN	Ely	89.25	29	P	P	07 20 41.6	0.0
EYMN	Ely	89.25	29	P	P	07 20 41.5	-0.1
	baz=323						
SDCO	Great Sand Dun	89.92	43	P	P	07 20 45.5	+0.2
	baz=314						
ECSD	EROS Data Cent	90.28	34	P	P	07 20 46.7	+0.3
	baz=319						
E38A	The Farm, Brul	90.30	30	IAmb	IAmb	07 20 48.1	
	comp=Z,7.6nm,1.1s						
TUC	Tucson	90.31	50	P	P	07 20 47.5	+0.6
	baz=311						
ANMO	Albuquerque	91.27	46	ceP	P	07 20 53.4	+2.0
ANMO				pmax	pmax		
	comp=Z,7.0nm,2.5s						
ANMO	Albuquerque	91.27	46	P	P	07 20 52.0	+0.6
	baz=313						
G40A	Rib Lake	91.94	30	P	P	07 20 54.6	+0.5
MNTX	Cornudas Mount	94.13	48	P	P	07 21 05.3	+0.8
	baz=314						
TXAR	Lajitas Array	96.83	48	P	P	07 21 17.4	+0.5
	comp=Z,0.7nm,0.8s,baz=298,slow=2.6,SNR=7.6						
TXAR				pP	sP	07 21 26.1	-0.7
	comp=Z,1.7nm,1.2s,baz=302,slow=2.8,SNR=3.0						
LPAZ	La Paz	153.43	56	PKPbc	PKPbc	07 27 45.2	0.0
	comp=Z,1.5nm,0.8s,baz=336,slow=6.0,SNR=6.7						

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*IDC **02** 07:16:53.4±2.3, 36°.15N×139°.81E, h54km±22km, mb3.3/5, mb1 3.7/6, mb1mx3.4/60, mbtmp3.7/6, ML4.1/1, Error ellipse: s-maj=26.4km s-min=8.3km az=59.0*

*JMA **02** 07:16:53.5±0.1, 36°.20N×139°.98E, h52km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs231.00000°, δ13.00000°, λ100.00000°. NP2: φs41.00000°, δ77.00000°, λ88.00000°. Principal axes: T Plg58.0000°, Azm308.0000°; N Plg2.0000°, Azm42.0000°; P Plg32.0000°, Azm133.0000°;*

JMA Felt II J1.

ISC 02 07:16:53.4±0.9**, 36°.20N**±0°.04×**139°.97E**±0°.05**, h54**km±7km**, n23, σ0s.97**/27**, mb3.5**/5**, 1C-5D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
JYT	Yasato	0.18	83	⇑P	Pn	07 17 02.0	0.0
JYT				S	Sn	07 17 08.1	-0.2
JAG	Ashikaga	0.47	298	⇓P	Pn	07 17 04.7	+0.1
JAG				S	Sn	07 17 12.6	-0.1
JKT	Katashina	0.81	314	⇓P	Pn	07 17 08.7	-0.1
JKT				S	Sn	07 17 20.5	+0.5
JRY	Ryogami san	0.89	258	⇓P	Pn	07 17 09.9	+0.2
JRY				S	Sn	07 17 22.0	+0.3
JOD2	Odawara 2	1.18	218	P	Pn	07 17 14.3	+0.6
JOD2				S	Sn	07 17 29.0	+0.3
JFY	Yanaizu	1.22	350	⇓P	Pn	07 17 14.5	+0.3
JFY				eS	Sn	07 17 30.4	+0.7
JFT	Otama	1.34	13	⇓P	Pn	07 17 16.2	+0.3
JYN	Shimob	1.36	239	P	Pn	07 17 17.7	+1.6
JFK	Kawauchi	1.37	32	P	Pn	07 17 16.0	-0.2
JFK				S	Sn	07 17 32.8	-0.5
MJAR	Matsushiro Arr	1.46	284	P	Pn	07 17 16.8	-0.6
	3.7nm,0.3s,baz=95,slow=16,SNR=88						
MJAR				S	Sn	07 17 31.9	-3.6
	4.3nm,0.3s,baz=123,slow=14,SNR=15						
MAT	Matsushiro	1.46	284	P	Pn	07 17 17.7	+0.3
MAT				eS	Sn	07 17 35.7	+0.2
JHJ	Hachijo jima 2	3.08	183	P	Pn	07 17 39.2	-0.3
	64nm,0.3s,baz=94,slow=3.9,SNR=18						
JHJ				S	Sn	07 18 14.1	-1.1
	53nm,0.3s,baz=237,slow=23,SNR=6.5						
H11N2	WAKE ISLAND Hy	28.76	118	T	T	07 52 43.7	
	baz=314						
H11N1	WAKE ISLAND Hy	28.77	118	T	T	07 52 48.5	
	baz=314						
H11N3	WAKE ISLAND Hy	28.78	118	T	T	07 52 40.3	
	baz=314						
H11S1	WAKE ISLAND Hy	29.42	120	T	T	07 53 43.8	
	baz=315,slow=74,SNR=5.4						
H11S3	WAKE ISLAND Hy	29.42	120	T	T	07 53 45.6	
	baz=315,slow=74,SNR=5.2						
H11S2	WAKE ISLAND Hy	29.44	120	T	T	07 53 40.6	
	baz=315						
MKAR	Makanchi Array	43.58	303	P	P	07 24 51.7	-0.3
	1.3nm,0.7s,baz=84,slow=8.4,SNR=6.9						
ILAR	Eielson Array	50.81	32	P	P	07 25 48.1	+0.2
	0.4nm,0.8s,baz=267,slow=5.8,SNR=4.7						
WRA	Warramunga Arr	56.09	186	P	P	07 26 26.1	-1.1
	0.7nm,0.4s,baz=1.5,slow=7.5,SNR=28						
ASAR	Alice Springs	59.82	186	P	P	07 26 53.6	+0.5
	0.2nm,0.5s,baz=20,slow=12,SNR=4.8						
NVAR	Mina Array Bea	76.41	52	P	P	07 28 38.2	+0.8
	0.3nm,0.7s,baz=310,slow=5.6,SNR=2.5						

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*GCMT **02** 07:20:27.3±0.2, 14°.32N±0°.01×53°.31E±0°.01, h12km, MW5.2/124, Moment Tensor Solution. s72,c106; s124,c227; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.35±.10; $M_{\theta\theta}$5.34±.09; $M_{\phi\phi}$0.01±.11; $M_{r\theta}$2.78±.25; $M_{\theta\phi}$-2.46±.08; $M_{\phi r}$3.81±.32; Best double couple: $M_0$7.37300×10^{16} NP1:φs137.00000°, δ46.00000°, λ-45.00000°. NP2:φs261.00000°, δ60.00000°, λ-127.00000°. Principal axes: T 6.4630, Plg8.0000°, Azm17.0000°; N 1.8270, Plg31.0000°, Azm282.0000°; P -8.2840, Plg58.0000°, Azm119.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **02** 07:20:28.1±0.7, 14°.14N×53°.68E, h0km, mb4.4/33, mb1 4.4/34, mb1mx4.3/57, mbtmp4.4/34, ML3.7/1, MS4.4/37, Ms1 4.4/37, ms1mx4.3/50 Error ellipse: s-maj=16.6km s-min=13.1km az=10.0*

*OMAN **02** 07:20:28.9±2.2, 14°.15N×53°.85E, h10km, mb5.5/10, ml4.3/6, ms4.5/7, Error ellipse: s-maj=54.0km s-min=23.3km az=103.0*

*BJI **02** 07:20:29.0±0.0, 14°.20N×53°.80E, h10km, mB5.0/23, mb4.7/34, Ms4.6/23, Ms7 4.5/23*

*NEIC **02** 07:20:30.3±2.0, 14°.13N±0°.07×53°.79E±0°.10, h10km±1km, mb5.0/59, Error ellipse: s-maj=15.7km s-min=11.2km az=99.0*

*MOS **02** 07:20:31.4±1.0, 14°.18N×53°.78E, h29km, mb5.0/36, MS4.4/11, Error ellipse: s-maj=9.2km s-min=4.7km az=100.6*

ISC 02 07:20:32.7±0.4**, 14°.36N**±0°.05×**53°.80E**±0°.04**, h19**km**, n341, σ2s.04**/346**, mb4.8**/124**, MS4.4**/64**, 22C-10D, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SOCY	Socotra	2.16	175	Pn	Pn	07 20 58.0	-10
SOCY	Socotra	2.16	175	P	Pn	07 20 58.4	-9.4
	SNR=8.4						
ABTO	Aybut	3.02	351	P	Pn	07 21 16.3	-3.3
	SNR=37						
ABTO				P	Pn	07 21 16.3	-3.3
	SNR=37						
RBK	Rabkut	3.15	7	P	Pn	07 21 20.8	-0.6
	SNR=6.1						
RBK				P	Pn	07 21 20.8	-0.6
	SNR=6.1						
RBK				S	Sn	07 21 53.2	-5.3
RBK				S	Sn	07 21 53.2	-5.3
DMTO	DMTO	3.52	18	P	Pn	07 21 25.0	-1.4
	SNR=32						
WHFO	Wadi Hawf	3.54	359	P	Pn	07 21 25.1	-1.7
	SNR=83						
WHFO				P	Pn	07 21 25.1	-1.7
	SNR=83						
SHAO	Shalim	4.04	25	Pn	Pn	07 21 31.2	-2.4
SHAO	Shalim	4.04	25	P	Pn	07 21 32.3	-1.4
	SNR=16						
SHAO				P	Pn	07 21 32.3	-1.4
	SNR=16						
DOK	Doka	4.25	4	P	Pn	07 21 35.1	-1.3
	SNR=44						
DOK				P	Pn	07 21 35.1	-1.3
	SNR=44						
DOK				S	Sn	07 22 13.8	-12
DOK				S	Sn	07 22 13.8	-12
DQM	DQM	6.59	32	P	Pn	07 22 07.3	-1.3
MHTO	MHTO	7.70	30	P	Pn	07 22 21.1	-2.6
MHTO				P	Pn	07 22 21.1	-2.6
MHTO				P	Pn	07 22 21.1	-2.6
MHTO				S	Sb	07 24 13.8	-3.2
MHTO				S	Sb	07 24 13.8	-3.2
MHTO				S	Sb	07 24 13.8	-3.2
UMZA	Um Al Zommool	8.41	9	P	Pn	07 22 33.6	0.0
BSY	Bisya	8.94	21	P	Pn	07 22 39.1	-1.8
BSY				P	Pn	07 22 39.1	-1.8
BSY				P	Pn	07 22 39.1	-1.8
BSY				S	Sn	07 25 09.2	+48
BSY				S	Sn	07 25 09.2	+48
BSY				S	Sn	07 25 09.2	+48
JMDO	Jabal Madar	8.96	26	P	Pn	07 22 40.4	-0.7
JMDO				P	Pn	07 22 40.4	-0.7
JMDO				P	Pn	07 22 40.4	-0.7
JMDO				S	Sn	07 24 55.2	+34
JMDO				S	Sn	07 24 55.2	+34
JMDO				S	Sn	07 24 55.2	+34
JLN	Jalan Bani Buh	9.40	34	P	Pn	07 22 46.5	-0.8
SMDO	Samad	9.54	24	P	Pn	07 22 46.8	-2.4
SMDO				P	Pn	07 22 46.8	-2.4
WBK	Wadi Bani Khal	9.56	30	P	Pn	07 22 47.7	-1.7
WBK				S	Sn	07 25 09.3	+33
GHWR	Ruwais	9.60	355	P	Pn	07 22 50.6	+0.8
GHWR				S	Sn	07 25 27.4	+50
HOQ	Hoqain	9.76	19	P	Pn	07 22 50.5	-1.6
	SNR=5.9						
ALNE	Al Ain	9.82	10	Pn	Pn	07 22 50.4	-2.6
WSAR	Wadi Sarin	9.95	27	Pn	Pn	07 22 54.1	-0.6
	0.7nm,0.3s,baz=273,slow=12,SNR=5.9						
WSAR				Sn	Sn	07 24 39.5	-6.4
	0.5nm,0.3s,baz=234,slow=23,SNR=1.8						
WSAR				LR	LR	07 26 40.6	
	comp=Z,6µm,18.1s,baz=219,slow=37						
WSAR	Wadi Sarin	9.95	27	P	Pn	07 22 53.3	-1.4
WSAR				S	Sn	07 25 10.0	+24
SOHO	SOHO	10.06	14	Pn	Pn	07 22 54.3	-2.0
AJN	Ajban	10.22	6	Pn	Pn	07 22 46.9	-11
FAQ	Al Faqa, Dubai	10.47	9	Pn	Pn	07 22 56.3	-5.6
ASHO	Ashiyiah	10.49	11	Pn	Pn	07 22 57.8	-4.3
HATD	Hatta, Dubai	10.64	12	Pn	Pn	07 23 00.5	-3.8
NAZ	Nazwa, Dubai	10.72	9	Pn	Pn	07 23 01.2	-4.1
UOSS	Minazif	10.78	12	Pn	Pn	07 23 01.0	-5.1
ATD	Arta Tunnel	11.04	257	Pn	Pn	07 23 09.4	-0.4
	1.6nm,0.3s,baz=71,slow=7.8,SNR=16						
ATD				LR	LR	07 26 11.2	
	comp=Z,8µm,18.7s,baz=68,slow=32						
ATD	Arta Tunnel	11.04	257		Pn	07 23 09.1	-0.7
ATD	Arta Tunnel	11.04	257	P	Pn	07 23 10.0	+0.2
	SNR=13						
ATD				S	Sn	07 25 21.1	+8.2
MDH	Madha	11.14	12	Pn	Pn	07 23 05.0	-5.9
MSFE	Esma-Masafi	11.17	11	Pn	Pn	07 23 07.6	-3.8
HARA	HARA	11.47	245	eP	Pn	07 23 25.7	+10
BANOM	Banah	11.74	11	Pn	Pn	07 23 13.6	-5.8
SHME	Shamm	11.84	10	Pn	Pn	07 23 13.9	-6.7
TEND	Ethiopian Broa	12.73	260	eP	Pn	07 23 35.7	+2.9
DESE	Dese	14.19	259	eP	Pn	07 23 49.7	-3.4
ANKE	Ethiopia-Afar	14.55	253	eP	Pn	07 23 57.6	-0.5
AAE	Adis Abeba	15.64	252	eP	Pn	07 24 13.6	+1.0
FURI	Furi	15.77	252	eP	Pn	07 24 11.6	-2.7
KBD	Kabd	15.80	340	eP	Pn	07 24 09.8	-4.4
RST	Umm Al-Ruwaisa	16.33	338	eP	Pn	07 24 13.5	-7.5
MIB	Mutribah	16.49	340	eP	Pn	07 24 18.4	-4.7
DILA	Dilla	17.16	244	eP	Pn	07 24 31.5	-0.3
LODK	Lodwar	21.19	241		P	07 25 14.8	-2.5
LODK	Lodwar	21.19	241	P	P	07 25 16.9	-0.4
	SNR=8.2						
HRA	Herat	21.36	19	P	P	07 25 20.1	+0.9
HRA				IAmb	IAmb	07 25 24.5	
	comp=Z,64nm,1.3s						
KMBO	Kilima Mbogo	22.48	228	P	P	07 25 27.9	-3.4
	comp=Z,4.1nm,0.8s,baz=44,slow=12,SNR=9.8						
KMBO				LR	LR	07 33 58.4	
	comp=Z,2µm,20.1s,baz=52,slow=36						
KMBO	Kilima Mbogo	22.48	228	i P	P	07 25 27.4	-4.0
KIBK	Kibwezi	22.78	224	P	P	07 25 29.9	-4.5
EIL	Elat	23.14	314	P	P	07 25 37.6	-0.3
	comp=Z,20nm,1.2s,baz=120,slow=7.4,SNR=7.6						
EIL				LR	LR	07 34 22.3	
	comp=Z,803nm,19.1s,baz=129,slow=36						
ASF	Jabal al Asfar	23.52	322	P	P	07 25 41.7	0.0
	comp=Z,20nm,1.2s,baz=253,slow=3.0,SNR=12						
ASF				LR	LR	07 35 12.0	
	comp=Z,935nm,18.4s,baz=240,slow=37						
GHAJ	Ghor Haditha	23.75	318	P	P	07 25 44.4	+0.5
GEYT	Alibeck	23.79	8	P	P	07 25 43.5	-0.8
	comp=Z,7.7nm,1.0s,baz=212,slow=22,SNR=15						
GEYT				LR	LR	07 36 40.6	
	comp=Z,2µm,18.4s,baz=100,slow=40						
GYA0B	ALIBECK ARRAY	23.79	8	P	P	07 25 45.3	+1.0
GYA0B				IAmb	IAmb	07 26 21.3	
	comp=Z,74nm,1.5s						
HYB	Hyderabad	23.99	79	i P	P	07 25 48.0	+1.6
KBL	Kabul	24.36	32	P	P	07 25 54.4	+4.6
KBL				pmax	pmax		
	comp=Z,40nm,1.3s						
KBL	Kabul	24.36	32	P	P	07 25 54.4	+4.6
KBL				IAmb	IAmb	07 26 03.9	
	comp=Z,40nm,1.2s						
THW	Thamme Wali	24.57	39	P	P	07 25 54.5	+2.9
MMAI	Mount Meron Ar	25.01	321	P	P	07 25 55.7	+0.2
	comp=Z,3.0nm,0.6s,baz=126,slow=7.4,SNR=3.2						
MMAI				LR	LR	07 35 59.1	
	comp=Z,671nm,19.1s,baz=210,slow=37						
CEP	Cherat	25.39	37	P	P	07 26 02.5	+3.4
CEP				S	S	07 30 31.0	+5.9
NAX	Nakhchivan	25.79	345	P	P	07 26 04.3	+1.8
CHCP	Chirah Chowk	26.09	39	P	P	07 26 09.9	+4.6
GURO	Guroymak-BITLI	26.25	339	P	P	07 26 08.3	+1.4
GURO				IAmb	IAmb	07 26 20.8	
	comp=Z,42nm,1.6s						
GNI	Garni	26.90	345	P	P	07 26 13.1	+0.4
	comp=Z,8.6nm,0.7s,baz=226,slow=3.7,SNR=8.3						
GNI				LR	LR	07 38 23.2	
	comp=Z,808nm,19.9s,baz=154,slow=40						
GNI	Garni	26.90	345	ceP	P	07 26 12.9	+0.2
GNI				pmax	pmax		
	comp=Z,63nm,1.7s						
GNI	Garni	26.90	345	P	P	07 26 13.2	+0.5
MNGR	Mingechevir, A	26.97	349	P	P	07 26 14.6	+1.5
GANJ	Ganja	27.00	347	P	P	07 26 14.4	+1.0
MBAR	Mbarara	27.24	239	LR	LR	07 35 55.9	
	comp=Z,380nm,19.7s,baz=50,slow=34						
PALK	Pallekele	27.32	102	LR	LR	07 36 03.6	
	comp=Z,200nm,18.0s,baz=34,slow=34						
SEKA	Sheki	27.37	349	P	P	07 26 18.2	+1.4
CHGR	Chuyangaron	27.75	26	P	P	07 26 20.9	+0.7
CHGR				IAmb	IAmb	07 26 44.0	
	comp=Z,33nm,1.0s						
ZKTA	Zakatala	27.89	348	P	P	07 26 23.2	+1.8
KOPT	Kop Dagi	28.10	338	P	P	07 26 23.6	0.0
KOPT				IAmb	IAmb	07 26 46.1	
	comp=Z,50nm,1.4s						
GAR	Garm	28.54	28	P	P	07 26 30.6	+3.2
MAK	Makhachkala	29.02	350	eP	P	07 26 26.1	-5.3
MAK				eS	S	07 31 16.2	-5.5
MAK				pmax	pmax		
	comp=Z,191nm,1.6s						
MAK				MLR	MLR		
	comp=Z,455nm,17.0s						
GROC	Groznyy	29.56	348	eP	P	07 26 38.6	+2.4
GROC				e		07 27 34.9	
GROC				e		07 29 42.2	
GROC				eS	S	07 31 36.7	+6.5
GROC				eSS	ScP	07 33 10.9	-11
GROC				pmax	pmax		
	comp=Z,18nm,0.3s						
ZEI	Tsey	29.59	345	eP	P	07 26 35.7	-1.0
ZEI				pmax	pmax		
	comp=Z,7.0nm,1.4s						
AKAS	Kas	30.71	320	P	P	07 26 47.2	+0.6
AKAS				IAmb	IAmb	07 26 54.0	
	comp=Z,48nm,1.3s						
KBZ	Khabaz	30.73	344	P	P	07 26 47.1	+0.6
	comp=Z,1.2nm,0.3s,baz=160,slow=9.5,SNR=11						
KBZ				LR	LR	07 41 55.5	
	comp=Z,1µm,20.1s,baz=164,slow=42						
KBZ	Khabaz	30.73	344	ceP	P	07 26 46.8	+0.3
KBZ				pmax	pmax		
	comp=Z,19nm,1.6s						
SHA1	Shidzhatmaz	30.80	344	i P	P	07 26 48.3	+0.8
ELL	Elmali	30.85	321	P	P	07 26 46.7	-1.2
ELL				pmax	pmax		
	comp=Z,248nm,1.1s						
ELL	Elmali	30.85	321	P	P	07 26 46.7	-1.2
BR131	Keskin Array S	30.86	329	i P	P	07 26 48.4	+0.5
BRTR	Keskin Array B	30.86	329	P	P	07 26 48.4	+0.5
	comp=Z,1.2nm,0.8s,baz=165,slow=10,SNR=5.6						
BRTR				LR	LR	07 41 00.0	
	comp=Z,772nm,19.1s,baz=138,slow=40						
BRTR	Keskin Array B	30.86	329	ceP	P	07 26 49.2	+1.3
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	Keskin Array B	30.86	329	P	P	07 26 47.8	-0.1
KIV	Kislovodsk	31.00	344	ceP	P	07 26 50.4	+1.4
KIV				e		07 26 56.5	
KIV				eS	S	07 31 57.7	+4.8
KIV				eSS	SnSn	07 33 36.1	+2.2
KIV				pmax	pmax		
	comp=Z,30nm,1.5s						
KIV				MLR	MLR		

comp=Z,857nm,17.0s
IUG Iuzhnay 31.05 24 *e*P **P 07 26 49.5 0.0**
baz=24
IUG Iuzhnay 31.05 24 *e*P **P 07 26 49.5 0.0**
ANTO Ankara 31.39 328 P **P 07 26 56.7 +4.1**
SOC Sochi 31.53 340 *e*P **P 07 26 51.6 -2.0**
SOC *e*PPP PPP 07 28 03.7
SOC *e*S **S 07 32 00.7 -0.4**
SOC *e*SS **SnSn 07 33 50.2 +3.4**
SOC MLR MLR
comp=Z,477nm,18.0s
KSH Kashi 31.74 34 P **P 07 26 54.5 -1.2**
KSH pP pP 07 26 59.1 -1.7
KSH pmax pmax
comp=Z,5.0nm,0.9s
KSH LR LR
comp=Z,720nm,22.7s
KSH LR LR
comp=Z,540nm,20.8s
KSH LR LR
comp=Z,2µm,28.9s
ILGA Ilgaz 31.83 330 P **P 07 26 59.1 +2.5**
ILGA IAmb IAmb 07 27 13.0
comp=Z,37nm,1.4s
KARP Karpathos 31.89 316 P **P 07 26 56.5 -0.5**
KKAR Karatay Array 32.05 23 P **P 07 26 59.3 +1.1**
KKAR Karatay Array 32.05 23 P **P 07 26 59.3 +1.1**
IDI Anoyia 33.31 314 P **P 07 27 08.6 -0.8**
comp=Z,45nm,1.2s,baz=111,slow=6.9,SNR=11
AAK Ala-Archa 33.35 28 P **P 07 27 11.5 +1.7**
comp=Z,0.9nm,0.2s,baz=208,slow=9.2,SNR=5.6
AAK Ala-Archa 33.35 28*c**e*P **P 07 27 11.0 +1.2**
AAK pmax pmax
comp=Z,53nm,1.7s
AAK Ala-Archa 33.35 28 P **P 07 27 10.5 +0.7**
AAK IAmb IAmb 07 27 35.2
comp=Z,41nm,2.0s
ANN Anapa 33.38 339 *e*P **P 07 27 06.7 -3.1**
ANN *e*S **S 07 32 30.5 +0.6**
ANN pmax pmax
comp=Z,29nm,0.7s
ANN MLR MLR
comp=N,445nm,14.0s
ANN MLR MLR
comp=Z,493nm,15.0s
SANT Santorini 33.50 316 P **P 07 27 10.4 -0.7**
APE Apeiranthos 33.84 317 P **P 07 27 15.0 +1.0**
APE pmax pmax
comp=Z,52nm,1.3s
SGDS Sogindy 34.05 28 *e*P **P 07 27 15.1 -0.7**
baz=28
TARG Taragay, Kyrgy 34.30 33 IAmb IAmb 07 27 27.0
comp=Z,24nm,1.6s
MTBS Maitube 34.64 30 *e*P **P 07 27 20.9 0.0**
baz=30
MDOK Medeo 34.96 30 *e*P **P 07 27 23.2 -0.7**
baz=30
MDOK Medeo 34.96 30 *e*P **P 07 27 23.1 -0.7**
EZN Ezine 34.98 322 P **P 07 27 25.6 +1.8**
BTLS Baital 35.07 25 *e*P **P 07 27 25.1 +0.5**
baz=25
BTLS Baital 35.07 25 *e*P **P 07 27 25.0 +0.5**
ABKAR Akbulak array 35.17 7 P **P 07 27 23.3 -1.9**
KUU Kurty 35.18 29 *e*P **P 07 27 25.3 -0.1**
baz=29
KUU Kurty 35.18 29 *e*P **P 07 27 25.3 -0.1**
SATY Saty 35.56 32 *e*P **P 07 27 29.5 +0.6**
baz=32
SATY Saty 35.56 32 *e*P **P 07 27 29.5 +0.6**
UZB Uzynbulak 35.94 32 *e*P **P 07 27 32.3 0.0**
baz=32
UZB Uzynbulak 35.94 32 *e*P **P 07 27 32.2 0.0**
AKTO Aktyubinsk 36.15 5 P **P 07 27 33.4 -0.2**
comp=Z,3.3nm,0.8s,baz=189,slow=7.3,SNR=8.6
SHLS Shalkode 36.18 32 *e*P **P 07 27 36.6 +2.4**
baz=33
SHLS Shalkode 36.18 32 *e*P **P 07 27 36.5 +2.4**
ITM Ithomi 36.33 315 P **P 07 27 33.9 -1.5**
PAIG Paliouri 36.67 320 P **P 07 27 38.7 +0.5**
PAIG pmax pmax
comp=Z,40nm,1.8s
OUR Ouranopolis 36.72 321 P **P 07 27 40.7 +2.1**
AGG Agios Georgios 37.02 318 IAmb IAmb 07 27 47.1
comp=Z,18nm,1.0s
TPGR Topolog 37.26 330 ⇑P **P 07 27 43.9 +0.7**
VRH Novokhopyorsk 38.03 348 *e*P **P 07 27 48.6 -1.0**
VRH pmax pmax
comp=Z,20nm,0.8s
BELG Belogornoye 38.27 354 P **P 07 27 51.3 -0.3**
comp=Z,5.8nm,0.4s,baz=358,slow=8.6,SNR=5.4
BELG Belogornoye 38.27 354 *i* P **P 07 27 52.0 +0.5**
BELG pmax pmax
comp=Z,6.0nm,1.3s
VORD Divnogorie 38.36 345 *e*P **P 07 27 51.5 -0.9**
VORD pmax pmax
comp=Z,10.0nm,1.1s
VTS Vitosha 38.54 323 ⇑P **P 07 27 52.3 -1.9**
VTS Vitosha 38.54 323 P **P 07 27 53.3 -1.0**
VTS pmax pmax
comp=Z,17nm,1.1s
VTS Vitosha 38.54 323 P **P 07 27 53.3 -1.0**
BRZS Berezniki 38.72 20 *e*P **P 07 27 55.1 -0.5**
baz=20
BRZS Berezniki 38.72 20 *e*P **P 07 27 55.0 -0.5**
VRI Vrincioaia 38.81 330 ⇓P **P 07 27 56.3 0.0**
VRI Vrincioaia 38.81 330 ⇓P **P 07 27 56.3 0.0**
PLOR Plostina 38.84 329 ⇑P **P 07 27 54.4 -2.2**
PLOR Plostina 38.84 329 ⇑P **P 07 27 54.4 -2.2**
KBN Korca 38.89 319 P **P 07 27 56.2 -0.9**
KBN pmax pmax
comp=Z,106nm,1.3s
KBN Korca 38.89 319 P **P 07 27 56.2 -0.9**
MLR Muntele Rosu 38.94 328 ⇓P **P 07 27 58.2 +0.7**
MLR Muntele Rosu 38.94 328 ⇓P **P 07 27 58.2 +0.7**
MLR Muntele Rosu 38.94 328 P **P 07 27 57.9 +0.4**
VOIR 39.36 328 ⇑P **P 07 28 01.0 0.0**
VOIR 39.36 328 ⇑P **P 07 28 01.0 0.0**
ARR Arges 39.53 327 ⇓P **P 07 28 02.9 +0.5**
BIZ Bicaz 39.88 330 ⇑P **P 07 28 06.3 +1.1**
MAKZ Makanchi 40.01 30 P **P 07 28 10.1 +3.7**
MAKZ pmax pmax
comp=Z,19nm,1.5s
MAKZ Makanchi 40.01 30 P **P 07 28 10.1 +3.7**
MK31 Makanchi Array 40.16 31 ⇓Pg **PKiKP 07 37 26.7 +4.5**
comp=Z,0.1nm,0.2s,baz=91,slow=17,SNR=6.1
MK31 Lg Lg 07 38 06.5
comp=Z,0.8nm,0.5s,baz=89,slow=29,SNR=8.9
MK31 Makanchi Array 40.16 31 P **P 07 28 08.2 +0.6**
MK31 pmax pmax
comp=Z,28nm,2.0s
MK31 Makanchi Array 40.16 31 P **P 07 28 08.2 +0.6**
MKAR Makanchi Array 40.16 31 P **P 07 28 07.6 0.0**
comp=Z,1.1nm,0.7s,baz=208,slow=8.2,SNR=8.6
MKAR LR LR 07 46 48.9
comp=Z,685nm,21.5s,baz=226,slow=39
MKAR Makanchi Array 40.16 31*c**e*P P 07 28 13.6 +6.0
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 40.16 31 P **P 07 28 07.2 -0.4**
PUK Puka 40.23 320 IAmb IAmb 07 28 14.7
comp=Z,21nm,1.0s
MDVR Moldovita 40.74 325 ⇑P **P 07 28 10.6 -1.8**
BVAR Borovoye Array 40.76 15 P **P 07 28 12.5 +0.1**
comp=Z,3.3nm,0.8s,baz=207,slow=13,SNR=15
BRVK Borovoye 40.77 15*c**e*P **P 07 28 14.3 +1.9**
BRVK pmax pmax
comp=Z,22nm,1.9s
BRVK Borovoye 40.77 15 P **P 07 28 12.4 0.0**
BRVK IAmb IAmb 07 28 19.9
comp=Z,49nm,1.9s
BURAR Bucovina Array 40.78 330 ⇓P **P 07 28 11.3 -1.5**
BURAR Bucovina Array 40.78 330 ⇓P **P 07 28 11.3 -1.5**
BURAR Bucovina Array 40.78 330 P **P 07 28 12.1 -0.7**
BUR08 Bucovina Ar. S 40.81 330 P **P 07 28 12.0 -1.0**
TIP Timpagrande 40.86 314 P **P 07 28 11.8 -1.8**
TIP IAmb IAmb 07 28 21.5
comp=Z,45nm,1.5s
WMQ Urumqi 41.21 38 *e*P **P 07 28 18.1 +1.8**
WMQ pmax pmax
comp=Z,21nm,0.7s
WMQ pmax pmax
comp=Z,110nm,3.7s
WMQ LR LR
comp=Z,240nm,17.5s
WMQ LR LR
comp=Z,530nm,22.1s
WMQ LR LR
comp=Z,460nm,22.1s
BZS Buzias 41.31 326 P **P 07 28 19.3 +2.3**
DIVS Divibare 41.32 323 P **P 07 28 15.7 -1.6**
DIVS IAmb IAmb 07 28 23.3
comp=Z,51nm,2.0s
KURBB Kurchatov Arra 41.35 24 P **P 07 28 17.7 +0.4**
comp=Z,6.2nm,0.8s,baz=224,slow=8.1,SNR=22
AKASG Malin Array Be 41.36 336 P **P 07 28 17.0 -0.3**
comp=Z,3.6nm,0.9s,baz=139,slow=7.6,SNR=24
AKASG PP **PP 07 29 51.8 -1.2**
comp=Z,1.3nm,0.7s,baz=139,slow=11,SNR=12
AKASG LR LR 07 49 09.0
comp=Z,380nm,19.4s,baz=135,slow=42
AKASG Malin Array Be 41.36 336*c**e*P **P 07 28 17.2 -0.1**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKBB Malin Array Si 41.36 336*c**e*P **P 07 28 16.8 -0.6**
AKBB Malin Array Si 41.36 336 P **P 07 28 16.7 -0.6**
AKBB IAmb IAmb 07 28 24.4
comp=Z,26nm,1.3s
KURK Kurchatov 41.46 24 P **P 07 28 17.7 -0.5**
KURK Kurchatov 41.46 24 P **P 07 28 17.7 -0.5**
RAFF Raffo Rosso 41.77 310 P **P 07 28 20.0 -0.9**
RAFF IAmb IAmb 07 28 36.6
comp=Z,53nm,1.1s
ZSN Zaisan 41.89 32 *e*P **P 07 28 22.2 +0.4**
baz=32
ZSN Zaisan 41.89 32 *e*P **P 07 28 22.2 +0.4**
ARU Arti 42.15 4*d**i*P **P 07 28 25.1 +1.4**
ARU 07 30 01.8
ARU 07 30 15.4
ARU S **S 07 34 48.1 +5.6**
ARU SS **SS 07 37 46.5 -4.0**
ARU pmax pmax
comp=Z,5.0nm,1.0s
TRPA Tarpa 42.45 329 *e*P **P 07 28 27.2 +0.9**
OBN Obninsk 42.82 345 P **P 07 28 29.7 +0.6**
comp=Z,7.6nm,0.3s,baz=39,slow=19,SNR=4.8
OBN Obninsk 42.82 345*c**e*P **P 07 28 30.4 +1.2**
OBN *e* 07 30 09.8
OBN *i* S **S 07 34 56.9 +4.5**
OBN pmax pmax
comp=Z,25nm,1.8s
OBN MLR MLR
comp=Z,639nm,21.0s
LVV L'vov 42.90 332 *e*P **P 07 28 30.4 +0.5**
LVV *e*S **S 07 34 54.3 +0.6**
LVV pmax pmax
comp=Z,50nm,1.4s
LVV smax smax
comp=N,320nm,3.3s
LVV smax smax
comp=E,300nm,3.2s
UZH Uzhgorod 42.90 329⇑ *i*P **P 07 28 30.0 0.0**
UZH *e* 07 28 36.2
UZH *i* 07 28 47.3
KOLS Kolonicke sedl 43.12 330 *e*P **P 07 28 33.3 +1.6**
KOLS pmax pmax
comp=Z,27nm,1.4s
KOLS Kolonicke sedl 43.12 330 *e*P **P 07 28 33.3 +1.6**
MOS Moscow 43.15 347 *e*P **P 07 28 30.4 -1.4**
MOS *e* 07 30 15.5
MOS pmax pmax
comp=Z,46nm,1.0s
MOS MLR MLR
comp=Z,700nm,20.0s
CMAR Chiang Mai Arr 43.41 78 P **P 07 28 35.3 +0.7**
comp=Z,1.0nm,0.3s,baz=278,slow=8.7,SNR=10
CMAR LR LR 07 47 29.4
comp=Z,113nm,18.8s,baz=318,slow=37
CMAR Chiang Mai Arr 43.41 78 *i* P **P 07 28 35.5 +0.9**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CM05 Chiang Mai Arr 43.41 78 P P 07 28 44.4 +10
comp=Z,4.4nm,1.1s
CM04 Chiang Mai Arr 43.45 78 P **P 07 28 37.6 +2.8**
comp=Z,5.6nm,1.2s
KOVH Kovagotottos 43.56 324 *e*P **P 07 28 35.2 -0.2**
PSZ Piszkesteto 43.67 327 *e*P **P 07 28 35.0 -1.3**
INTR Introdacqua 44.08 317 P **P 07 28 38.4 -1.3**
INTR IAmb IAmb 07 28 55.3
comp=Z,32nm,1.2s
VYHS Vyhne 44.58 327 *e*P **P 07 28 44.9 +1.4**
VYHS Vyhne 44.58 327 *e*P **P 07 28 44.9 +1.4**
DGZ Jazzator, Alta 44.66 31 *i* P **P 07 28 45.0 +0.7**
DGZ pmax pmax
comp=Z,9.0nm,1.7s
LANS Liptovska Anna 44.66 328 *e*P **P 07 28 45.8 +1.6**
LANS Liptovska Anna 44.66 328 *e*P **P 07 28 45.8 +1.6**
MNK Minsk 44.88 339 *i* P **P 07 28 45.0 -0.8**
MNK *i* 07 30 25.8
MNK *i* 07 30 30.3
MNK *i* PPP PPP 07 31 08.2
MNK *i* S **S 07 35 26.5 +3.9**
MNK *i* SS **SS 07 38 43.8 -0.3**
MNK *i* SSS SSS 07 39 32.1
MNK pmax pmax
comp=N,5.0nm,0.9s
MNK pmax pmax
comp=Z,19nm,0.9s
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK MLR MLR
comp=E,44nm,19.0s
MNK MLR MLR
comp=N,254nm,19.0s
MNK MLR MLR
comp=Z,400nm,19.0s
MNK Minsk 44.88 339 *i* P **P 07 28 45.1 -0.7**
comp=E,1.0nm,0.9s
MNK *i* P **P 07 28 45.1 -0.7**
comp=N,5.0nm,0.9s
MNK *i* P **P 07 28 45.1 -0.7**
comp=Z,19nm,0.9s,baz=144
MNK *i* PcP **PcP 07 30 25.8 -1.4**
MNK *i* PP **PP 07 30 30.4 -0.4**
MNK *i* PPP PPP 07 31 08.3
MNK *i* S **S 07 35 26.5 +3.9**
MNK *i* SS **SS 07 38 43.9 -0.2**
MNK *i* SSS SSS 07 39 32.1
MNK *i* LQ LQ 07 44 03.7
MNK *i* LR LR 07 47 30.6
MNK *i* LRM MLR 07 50 33.7
comp=E,44nm,19.4s
MNK *i* LRM MLR 07 50 39.5
comp=N,254nm,19.4s
MNK *i* LRM MLR 07 50 42.2
comp=Z,400nm,19.4s
NRCA Norcia 44.97 317 P **P 07 28 45.5 -1.3**
NRCA IAmb IAmb 07 28 54.3
comp=Z,19nm,1.1s
KEST Kesra 45.08 306 P **P 07 28 47.7 -0.2**
comp=Z,14nm,1.1s,baz=48,slow=4.9,SNR=9.4
KEST LR LR 07 49 34.0
comp=Z,260nm,18.1s,baz=222,slow=39
KEST Kesra 45.08 306 P **P 07 28 46.5 -1.4**
JAVC Velka Javorina 45.42 327 *e*P **P 07 28 52.3 +2.1**
MURB Monte Urbino 45.55 318 P **P 07 28 51.0 -0.4**
NACGM Naroch 45.59 338 *i* P **P 07 28 51.0 -0.4**
SOKA Soboth 45.66 323 *e*P **P 07 28 51.2 -1.0**
comp=Z,8.3nm,1.6s
ARSA Arzberg 45.68 324 *e*P **P 07 28 51.9 -0.4**
comp=Z,3.4nm,0.6s
OKC Ostrava-Krasne 45.76 328 *e*S **S 07 35 36.2 +0.8**
OKC AMS AMS 07 51 20.0
comp=Z,300nm,13.4s
CONA Conrad Observa 45.86 325 *e*P **P 07 28 53.0 -0.8**
comp=Z,14nm,1.1s
MORC Moravsky Berou 46.04 328 P **P 07 28 55.4 +0.3**
MORC pmax pmax
comp=Z,67nm,2.0s
MORC Moravsky Berou 46.04 328 P **P 07 28 55.4 +0.3**
MORC Moravsky Berou 46.04 328 *e*P **P 07 28 54.9 -0.2**
KRUC Moravsky 46.22 326 *e*P **P 07 28 57.7 +1.2**
VRAC Vranov 46.25 327 P **P 07 28 56.8 +0.1**
comp=Z,1.2nm,0.3s,baz=113,slow=11,SNR=4.1
VRAC Vranov 46.25 327 *e*P **P 07 28 56.9 +0.1**
ZAA0 Zalesovo Array 46.39 25 P **P 07 28 57.9 +0.2**
ZAA0 IAmb IAmb 07 29 05.4
comp=Z,15nm,1.2s
ZALV Zalesovo Beam 46.39 25 P **P 07 28 58.2 +0.4**
comp=Z,6.2nm,0.9s,baz=229,slow=8.6,SNR=9.6
ZALV LR LR 07 50 25.0
comp=Z,517nm,20.4s,baz=244,slow=38
ZALV Zalesovo Beam 46.39 25 P **P 07 28 57.5 -0.3**
ZALV Zalesovo Beam 46.39 25 P **P 07 28 57.5 -0.3**
MYKA Terra Mystica 46.45 322 *e*P **P 07 28 58.0 -0.5**
comp=Z,4.1nm,0.7s
KRLC Kraliky 46.61 328 *e*S **S 07 35 50.1 +2.4**
KRLC AMS AMS 07 51 50.0
comp=Z,300nm,16.4s
MOA Molln 46.72 324 *e*P **P 07 28 58.6 -1.8**
comp=Z,11nm,1.4s
ZOU Zoufplan 46.81 322 P **P 07 29 00.5 -1.0**
STAL STALIGIAL 46.83 321 P **P 07 28 59.9 -1.5**
TREC Trest 46.84 326 AMS AMS 07 54 30.0
comp=Z,300nm,22.0s
KBA Koelnbreinsper 46.86 323 *e*P **P 07 29 00.2 -1.5**
comp=Z,5.1nm,1.3s
DPC Dobruska-Polom 47.01 328 *e*S **S 07 35 54.5 +1.1**
DPC AMS AMS 07 51 40.0
comp=Z,300nm,17.8s
KMI Kunming 47.07 69 ⇑P **P 07 29 03.8 0.0**
KMI pP pP 07 29 08.0 -0.9
KMI S **S 07 35 57.9 +2.6**
KMI sS sS 07 36 10.8 +6.6
KMI pmax pmax
comp=Z,6.0nm,1.2s
KMI LR LR
comp=Z,360nm,20.6s
KMI LR LR
comp=Z,480nm,19.3s
KMI LR LR
comp=Z,760nm,21.0s
ABTA Abfaltersbach 47.19 322 *e*P **P 07 29 03.1 -1.1**
comp=Z,9.0nm,1.5s
OSTC Ostas 47.19 328 AMS AMS 07 51 30.0
comp=Z,300nm,16.3s
CKRC Cesky Krumlov 47.22 325 *e*S **S 07 35 54.8 -1.6**
CKRC AMS AMS 07 52 50.0
comp=Z,200nm,16.2s
UPC Upice 47.26 328 AMS AMS 07 51 50.0
comp=Z,400nm,20.1s
CHVC Chvalec 47.29 328 AMS AMS 07 51 40.0
comp=Z,400nm,21.7s
GEC2 GERESS Array S 47.57 325 IAmb IAmb 07 29 27.3
comp=Z,26nm,1.6s
GEC2 GERESS Array S 47.57 325 *e*P **P 07 29 08.2 +1.0**
comp=Z,48nm,2.1s,baz=125,slow=8.0
GERES GERESS Array B 47.57 325 P **P 07 29 06.5 -0.7**
comp=Z,1.2nm,0.8s,baz=148,slow=7.8,SNR=9.4
GERES LR LR 07 53 28.3
comp=Z,152nm,18.4s,baz=127,slow=42
GERES GERESS Array B 47.57 325 P **P 07 29 07.6 +0.4**
GERES GERESS Array B 47.57 325 P **P 07 29 07.6 +0.4**
KLMR Klimovskoe 47.58 351 *e*P P 07 29 01.8 -5.1
KLMR pmax pmax
comp=Z,26nm,1.3s
KLMR Klimovskoe 47.58 351 *e*P P 07 29 01.8 -5.1
KLMR AMP 07 29 08.9
comp=Z,26nm,1.3s
PRU Pruhonice 47.74 326 *e*S **S 07 36 05.3 +1.6**
PRU AMS AMS 07 54 40.0
comp=Z,200nm,20.7s
KHC Kasperske Hory 47.79 325 *e*P **P 07 29 06.0 -2.8**
KHC *e*S **S 07 36 03.8 -0.8**
KHC MLR MLR
comp=Z,300nm,20.2s
KHC Kasperske Hory 47.79 325 *e*P **P 07 29 06.0 -2.8**
KHC *e*S **S 07 36 03.8 -0.8**
KHC AMS AMS 07 53 00.0
comp=Z,300nm,20.2s
LBTB Lobatse 47.83 215 P **P 07 29 07.7 -1.8**
LBTB pmax pmax
comp=Z,108nm,2.0s
LBTB Lobatse 47.83 215 P **P 07 29 07.7 -1.8**
WTTA Wattenberg 47.96 322 *e*P **P 07 29 09.1 -1.3**
comp=Z,16nm,1.0s
PVCC Panska Ves 48.03 327 AMS AMS 07 53 10.0
comp=Z,200nm,14.3s
WATA Walderalm 48.03 322 *e*P **P 07 29 09.1 -1.7**
comp=Z,3.3nm,0.5s
MOTA Moosalm 48.32 322 *e*P **P 07 29 10.7 -2.3**
comp=Z,9.7nm,1.3s
FETA Feichten 48.39 321 *e*P **P 07 29 10.5 -3.1**
comp=Z,10nm,1.2s
BRG Berggiesshubel 48.55 327 *e*P **P 07 29 10.9 -3.7**
BRG Amp 07 29 20.6
comp=Z,12nm,1.5s
BRG Amp 07 47 11.0
comp=E,0.2nm,20.4s
BRG Amp 07 47 17.0
comp=Z,0.3nm,22.8s
BRG Amp 07 47 22.0
comp=N,0.1nm,12.9s
CD2 Chengdu 48.56 61 P **P 07 29 16.3 +1.3**
CD2 S **S 07 36 17.7 +1.7**
CD2 pmax pmax
comp=N,20nm,0.5s
CD2 pmax pmax
comp=N,170nm,11.0s
CD2 LR LR
comp=N,550nm,15.9s
CD2 LR LR
comp=N,400nm,12.6s
CD2 LR LR
comp=N,450nm,19.8s
RETA Reutte 48.59 322 *e*P **P 07 29 13.1 -2.0**
comp=N,5.7nm,1.0s
DAVOX Davos/Dischmat 48.80 321 P **P 07 29 15.2 -1.7**
comp=N,3.7nm,0.7s,baz=121,slow=4.8,SNR=5.1
ROTZ Rotzenmuhle 48.89 325 *e*P **P 07 29 18.1 +0.8**
comp=N,62nm,2.3s,baz=125,slow=8.0
NKC Novy Kostel 49.00 326 AMS AMS 07 55 40.0
comp=N,200nm,14.7s
DAVA Damuels 49.03 321 *e*P **P 07 29 14.9 -3.6**
comp=N,8.9nm,0.9s
WERN Wernitzgruen 49.07 326 *e*P **P 07 29 20.3 +1.6**
comp=N,65nm,1.9s,baz=125,slow=8.0
GUNZ Gunzen 49.13 326 *e*P **P 07 29 20.7 +1.6**
comp=N,56nm,1.8s,baz=125,slow=8.0
CLL Collm 49.28 327 *e*P **P 07 29 21.0 +0.8**
CLL *e*PP **PP 07 31 15.0 +0.8**
CLL *e*PPP PPP 07 32 12.0
CLL *e*S **S 07 36 25.0 -0.5**
CLL *e*SS **SS 07 40 00.0 +3.0**
CLL *e*SSS SSS 07 41 18.0
CLL Collm 49.28 327 *e*P **P 07 29 21.0 +0.8**
CLL *e*S **S 07 36 25.0 -0.5**
PLN Plauen 49.29 326 *e*P **P 07 29 21.6 +1.3**
comp=N,43nm,1.8s,baz=125,slow=8.0
GRF Grafenberg Arr 49.40 325 *e*P **P 07 29 19.1 -2.0**
comp=N,28nm,1.4s,baz=125,slow=8.0
LZH Lanzhou 49.56 55 *e*P **P 07 29 25.2 +2.4**
LZH pP pP 07 29 28.6 +0.7
LZH sP pwP 07 29 31.4 -0.2
LZH *e*S **S 07 36 32.0 +1.9**
LZH pmax pmax
comp=N,21nm,1.3s
LZH pmax pmax
comp=N,130nm,6.2s
LZH LR LR
comp=N,360nm,14.4s
LZH LR LR
comp=N,460nm,14.5s
LZH LR LR
comp=N,490nm,17.4s
MOX Moxa 49.67 326 *e*P **P 07 29 22.3 -0.9**
comp=N,52nm,1.9s,baz=125,slow=8.0
NEUB Neuenburg 49.88 327 *e*P **P 07 29 26.3 +1.5**
comp=N,98nm,1.9s,baz=125,slow=8.0
SENIN Lac Senin/Sane 50.23 319 P **P 07 29 28.7 +0.9**
SENIN IAmb IAmb 07 29 34.0
comp=Z,9.5nm,0.8s
BFO Black Forest 50.43 322 P **P 07 29 28.1 -0.9**
BFO pmax pmax
comp=Z,54nm,1.7s
BFO Black Forest 50.43 322 P **P 07 29 28.1 -0.9**
BFO IAmb IAmb 07 29 35.6
comp=Z,54nm,1.7s
BFO Black Forest 50.43 322 *e*P **P 07 29 27.3 -1.7**
comp=Z,73nm,2.0s,baz=125,slow=8.0
TORD Torodi Ar. Bea 50.54 275 P **P 07 29 27.0 -3.3**
comp=Z,8.6nm,1.1s,baz=74,slow=6.0,SNR=20
TORD LR LR 07 50 12.1
comp=Z,485nm,19.3s,baz=95,slow=35
GYA Guiyang 50.67 67 ⇑P **P 07 29 33.7 +2.4**
GYA sP pwP 07 29 41.4 +1.2
GYA pmax pmax

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,14nm,0.9s						
BOSA	**Boshof**	**50.87**	**213**	LR	LR	07 50 49.1	
	comp=Z,348nm,20.1s,baz=23,slow=36						
CLZ	**Clausthal**	**50.96**	**327**	*e*P	**P**	**07 29 34.7**	**+1.7**
	comp=Z,80nm,2.1s,baz=125,slow=8.0						
FINES	**FINESS Array B**	**51.08**	**343**	P	**P**	**07 29 32.5**	**-1.1**
	comp=Z,3.7nm,0.6s,baz=140,slow=9.9,SNR=9.8						
FINES				LR	LR	07 56 27.2	
	comp=Z,287nm,18.1s,baz=162,slow=42						
FINES	**FINESS Array B**	**51.08**	**343**	*ce*P	**P**	**07 29 34.2**	**+0.6**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TNS	**Taunus Mts**	**51.22**	**324**	*e*P	**P**	**07 29 35.8**	**+0.8**
	comp=Z,15nm,0.3s,baz=125,slow=8.0						
NRDL	**Niedersach Rie**	**51.44**	**327**	*e*P	**P**	**07 29 38.5**	**+2.2**
	comp=Z,49nm,1.6s,baz=125,slow=8.0						
SSB	**Saint Sauveur**	**51.61**	**317**	P	**P**	**07 29 34.8**	**-3.2**
SSB				pmax	pmax		
	comp=Z,22nm,1.1s						
SSB	**Saint Sauveur**	**51.61**	**317**	P	**P**	**07 29 34.8**	**-3.2**
SSB				IAmb	IAmb	07 29 44.4	
	comp=Z,22nm,1.1s						
AHRW	**Bad Neuenahr-A**	**52.15**	**324**	*e*P	**P**	**07 29 43.7**	**+1.9**
	comp=Z,103nm,2.5s,baz=125,slow=8.0						
WLF	**Walferdange**	**52.30**	**323**	*e*P	**P**	**07 29 44.4**	**+1.4**
	comp=Z,53nm,1.9s,baz=125,slow=8.0						
MOY	**Mondy**	**52.92**	**35**	*e*P	**P**	**07 29 51.0**	**+3.3**
HFS	**Hagfors**	**54.25**	**337**	P	**P**	**07 29 55.7**	**-1.4**
	comp=Z,2.9nm,0.6s,baz=142,slow=7.5,SNR=7.1						
SONM	**Songino Array**	**54.64**	**41**	P	**P**	**07 30 01.7**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=251,slow=5.3,SNR=7.5						
SONM				LR	LR	07 56 25.6	
	comp=Z,439nm,21.3s,baz=260,slow=39						
SONM	**Songino Array**	**54.64**	**41**	P	**P**	**07 30 00.7**	**+0.3**
SONM				pmax	pmax		
	comp=Z,21nm,2.0s						
SONM	**Songino Array**	**54.64**	**41**	P	**P**	**07 30 00.7**	**+0.3**
SONM				IAmb	IAmb	07 30 18.1	
	comp=Z,21nm,2.0s						
APA	**Apatity**	**54.82**	**351**	⇓*i*P	**P**	**07 30 03.9**	**+2.7**
APA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
APA				MLR	MLR		
	comp=Z,600nm,13.0s						
ULN	**Ulaanbaatar**	**55.07**	**41**	*i* P	**P**	**07 30 03.8**	**+0.3**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
NB2	**NORSAR Subarra**	**55.77**	**337**	P	**P**	**07 30 06.1**	**-2.1**
	comp=Z,26nm,1.4s,baz=121,slow=7.9						
NOA	**NORSAR Array B**	**55.77**	**337**	P	**P**	**07 30 06.5**	**-1.7**
	comp=Z,1.5nm,0.9s,baz=120,slow=7.7,SNR=3.1						
ESBB	**Sonseca Array**	**56.25**	**308**	IAmb	IAmb	07 30 22.6	
	comp=Z,17nm,1.0s						
ESDC	**Sonseca Array**	**56.25**	**308**	P	**P**	**07 30 09.4**	**-2.6**
	comp=Z,5.7nm,1.0s,baz=86,slow=5.9,SNR=18						
ESDC				LR	LR	07 56 28.5	
	comp=Z,131nm,19.6s,baz=150,slow=38						
ESDC	**Sonseca Array**	**56.25**	**308**	IAmb	IAmb	07 30 22.5	
	comp=Z,19nm,1.2s						
HHC	**Hu-ho-hao-te**	**56.45**	**50**	*e*P	**P**	**07 30 14.2**	**+0.7**
HHC				S	**S**	**07 38 02.6**	**-1.2**
HHC				ScS	**ScS**	**07 39 59.4**	**-2.7**
HHC				pmax	pmax		
	comp=Z,9.0nm,1.2s						
HHC				pmax	pmax		
	comp=Z,84nm,5.3s						
HHC				LR	LR		
	comp=Z,300nm,15.8s						
HHC				LR	LR		
	comp=Z,490nm,18.7s						
HHC				LR	LR		
	comp=Z,750nm,16.5s						
PAB	**San Pablo**	**56.52**	**308**	P	**P**	**07 30 12.7**	**-1.3**
PAB				pmax	pmax		
	comp=Z,29nm,1.3s						
PAB	**San Pablo**	**56.52**	**308**	P	**P**	**07 30 12.7**	**-1.3**
PAB				IAmb	IAmb	07 30 24.6	
	comp=Z,29nm,1.3s						
ARCES	**ARCESS Array B**	**57.94**	**349**	P	**P**	**07 30 22.1**	**-1.3**
	comp=Z,2.1nm,0.7s,baz=140,slow=5.9,SNR=6.8						
ARCES				LR	LR	07 58 10.5	
	comp=Z,455nm,21.8s,baz=145,slow=39						
DBIC	**Dimbokro**	**58.05**	**269**	LR	LR	07 55 19.7	
	comp=Z,335nm,18.0s,baz=88,slow=36						
NRIK	**Noril'sk**	**58.91**	**13**	LR	LR	08 00 42.6	
	comp=Z,680nm,18.4s,baz=230,slow=41						
NRIK	**Noril'sk**	**58.91**	**13**	*i* P	**P**	**07 30 30.6**	**+0.4**
NRIK				pmax	pmax		
	comp=Z,26nm,3.1s						
BJI	**Beijing**	**59.81**	**52**	P	**P**	**07 30 39.1**	**+2.3**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NJ2	**Nanjing**	**61.49**	**61**	*e*P	**P**	**07 30 48.3**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
CN2	**Changchun**	**66.99**	**48**	*e*P	**P**	**07 31 24.8**	**+0.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KSRS	**Korea Array**	**68.89**	**55**	P	**P**	**07 31 35.5**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=270,slow=6.9,SNR=7.3						
KSRS				LR	LR	08 03 36.8	
	comp=Z,114nm,20.7s,baz=266,slow=38						
YAK	**Yakutsk**	**70.81**	**29**	LR	LR	08 05 22.3	
	comp=Z,498nm,21.5s,baz=266,slow=38						
YAK	**Yakutsk**	**70.81**	**29**	*i* P	**P**	**07 31 46.9**	**-0.8**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.4s						
KLR	**Kul'dur**	**71.41**	**43**	*i* P	**P**	**07 31 53.8**	**+2.1**
KLR				pmax	pmax		
	comp=Z,5.0nm,1.4s						
USRK	**Ussuriysk Ar.**	**71.71**	**48**	LR	LR	08 06 57.8	
	comp=Z,205nm,18.6s,baz=260,slow=39						
H01W3	**Cape Leeuwin H**	**75.28**	**132**	T	T	08 54 32.5	
	baz=300,slow=75,SNR=54						
H01W2	**Cape Leeuwin H**	**75.28**	**132**	T	T	08 54 31.3	
	baz=300,slow=75,SNR=35						
H01W1	**Cape Leeuwin H**	**75.30**	**132**	T	T	08 54 33.9	
	baz=300,slow=75,SNR=49						
SUMG	**Summit**	**77.09**	**342**	P	**P**	**07 32 25.0**	**+0.2**
SUMG				pmax	pmax		
	comp=Z,24nm,1.3s						
SUMG	**Summit**	**77.09**	**342**	P	**P**	**07 32 25.0**	**+0.2**
SUMG				IAmb	IAmb	07 32 32.0	
	comp=Z,24nm,1.3s						
YSS	**Yuzh-Sakhalins**	**78.95**	**44**	*e*P	P	07 32 27.0	-8.2
YSS				MLR	MLR		
	comp=Z,300nm,16.0s						
ASAJ	**Asahikawa**	**79.30**	**47**	LR	LR	08 09 24.1	
	comp=Z,226nm,21.0s,baz=280,slow=37						
SEY	**Seymchan**	**81.20**	**27**	LR	LR	08 12 45.5	
	comp=Z,398nm,20.0s,baz=276,slow=38						
MAW	**Mawson**	**82.00**	**177**	LR	LR	08 00 35.6	
	comp=Z,337nm,21.4s,baz=18,slow=29						
SFJD	**Kangerlussuaq**	**82.44**	**337**	LR	LR	08 12 32.5	
	comp=Z,156nm,21.9s,baz=102,slow=38						
BILL	**Bilibino**	**84.90**	**20**	*e*P	**P**	**07 33 05.3**	**-0.7**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,255nm,19.0s						
WRA	**Warramunga Arr**	**86.19**	**112**	P	**P**	**07 33 11.7**	**-1.7**
	comp=Z,2.0nm,0.8s,baz=298,slow=3.9,SNR=14						
WRA	**Warramunga Arr**	**86.19**	**112**	P	**P**	**07 33 11.9**	**-1.5**
WRA				pmax	pmax		
	comp=Z,4.0nm,2.0s						
WRA	**Warramunga Arr**	**86.19**	**112**	P	**P**	**07 33 11.9**	**-1.5**
PETK	**Petropavlovsk-**	**86.78**	**36**	LR	LR	08 16 34.0	
	comp=Z,169nm,18.9s,baz=268,slow=39						
ASAR	**Alice Springs**	**86.88**	**115**	P	**P**	**07 33 15.1**	**-1.7**
	comp=Z,3.7nm,1.0s,baz=286,slow=4.4,SNR=16						
GUMO	**Guam**	**87.71**	**77**	LR	LR	08 14 27.2	
	comp=Z,33nm,18.9s,baz=268,slow=37						
STKA	**Stephens Creek**	**95.61**	**121**	LR	LR	08 09 23.0	
	comp=Z,74nm,21.1s,baz=272,slow=31						
INK	**Inuvik**	**97.39**	**3**	LR	LR	08 26 31.0	
	comp=Z,205nm,18.2s,baz=358,slow=41						
ILAR	**Eielson Array**	**99.55**	**9**	PP	**PP**	**07 38 16.9**	**-0.4**
	comp=Z,0.3nm,0.9s,baz=354,slow=7.3,SNR=2.4						
NVAR	**Mina Array Bea**	**126.98**	**352**	PKP	**PKPdf**	**07 39 35.5**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=328,slow=0.7,SNR=6.1						
NVAR	**Mina Array Bea**	**126.98**	**352**		**PKPdf**	**07 39 29.6**	**-6.6**
MNTX	**Cornudas Mount**	**130.04**	**337**		**PKPdf**	**07 39 38.3**	**-3.6**
TXAR	**Lajitas Array**	**131.42**	**334**	PKP	**PKPdf**	**07 39 43.9**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=33,slow=2.2,SNR=2.2						

IDC 02 07:40:41.2±2.2**,7°.47S**×**127°.31E,h0**km**,mb3.4**/1**,**
mb1 4.0/3**,mb1mx3.6**/30**,mbtmp3.7**/3**,ML3.8**/2**,Error ellipse: s-maj=216.9km s-min=33.0km az=63.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.15**	**152**	Pn	Pn	07 44 02.0	-1.0
	0.3nm,0.3s,baz=325,slow=12,SNR=16						
WRA				Sn	Sn	07 46 23.1	-18
	0.9nm,0.3s,baz=333,slow=22,SNR=7.3						
ASAR	**Alice Springs**	**17.30**	**159**	P	Pn	07 44 45.1	+0.7
	0.9nm,0.3s,baz=342,slow=11,SNR=63						
ASAR				S	Sn	07 47 44.0	-14
	0.4nm,0.3s,baz=345,slow=26,SNR=6.6						
MKAR	**Makanchi Array**	**67.19**	**328**	P	P	07 51 37.2	0.0
	0.2nm,0.4s,baz=134,slow=7.8,SNR=3.0						

*IDC **02** 07:42:33.0±0.8, 57°.08N×122°.26W, h0km, mb1 3.7/7, mb1mx3.5/45, mbtmp3.5/7, ML3.6/6, Error ellipse: s-maj=12.8km s-min=8.9km az=128.0*
*PGC **02** 07:42:34.4±0.0, 57°.01N×122°.12W, h5km, ML3.5/10, 115km Wnw of Fort St. John, Bc British Columbia, Canada*
ISC 02 07:42:32.5±0.6**,57°.02N**±0°.02×**122°.13W**±0°.04**,h10**km**,n36,** σ**2s.85**/60**,British Columbia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NBC5	**NorthernBC 5**	**0.59**	**330**	P	**Pb**	**07 42 44.9**	**-0.1**
BMBC	**Bull Mountain**	**0.97**	**180**	P	**Pg**	**07 42 52.1**	**+0.9**
BMBC				S	**Sg**	**07 43 05.2**	**+1.3**
NBC6	**NorthernBC 6**	**1.63**	**15**	Pn	**Pg**	**07 43 03.6**	**-0.2**
NBC6				Sg	**Sg**	**07 43 25.2**	**+0.4**
FNBB	**Fort Nelson**	**1.94**	**346**	Pn	**Pb**	**07 43 06.5**	**-1.4**
FNBB				Sg	**Sg**	**07 43 34.6**	**-0.2**
FSB	**Fort Saint Jam**	**2.83**	**207**	Pn	**Pn**	**07 43 19.5**	**+1.7**
FSB				Pg	**Pb**	**07 43 25.0**	**+1.8**
FSB				Sg	**Sb**	**07 44 02.2**	**+4.3**
UBRB	**Upper Baezaeko**	**4.29**	**196**	Pn	**Pn**	**07 43 39.5**	**+1.7**
UBRB				Sg	**Sb**	**07 44 46.5**	**+6.8**
DLBC	**Dease Lake**	**4.47**	**292**	Pn	**Pn**	**07 43 41.6**	**+1.3**
	0.6nm,0.3s,baz=95,slow=12,SNR=13						
DLBC				Lg	Lg	07 44 50.6	
	1.8nm,0.3s,baz=344,slow=21,SNR=4.0						
DLBC	**Dease Lake**	**4.47**	**292**	Pn	**Pn**	**07 43 41.6**	**+1.3**
DLBC				Sg	**Sg**	**07 44 52.7**	**-3.2**
KITB	**Kitimat**	**4.72**	**234**	Pn	**Pn**	**07 43 44.7**	**+1.0**
KITB				Sn	**Sn**	**07 44 38.9**	**+0.4**
BLBC	**Blue River**	**5.26**	**160**	Sn	**Sn**	**07 44 50.1**	**-2.0**
BLBC				Sg	**Sg**	**07 45 16.5**	**-4.7**
HWKB	**Hawksbury Isla**	**5.28**	**232**	Pn	**Pn**	**07 43 53.0**	**+1.6**
HWKB				Sn	**Sn**	**07 44 51.6**	**-0.6**
MNB	**Mounoet Dainar**	**5.29**	**154**	Pn	**Pn**	**07 43 54.2**	**+2.4**
MNB				Sn	**Sn**	**07 44 52.0**	**-1.0**
RUBB	**Prince Rupert**	**5.33**	**243**	Pn	**Pn**	**07 43 53.0**	**+1.0**
RUBB				Sg	**Sg**	**07 45 18.3**	**-5.1**
BUTB	**Butedale**	**5.38**	**225**	Pn	**Pn**	**07 43 54.0**	**+1.2**
BUTB				Sn	**Sn**	**07 44 54.3**	**-0.5**
GRNB	**Grenville Isla**	**5.47**	**238**	Pn	**Pn**	**07 43 55.1**	**+1.0**
GRNB				Sg	**Sg**	**07 45 23.9**	**-4.2**
BNKB	**Banks Island**	**5.78**	**234**	Pn	**Pn**	**07 43 59.0**	**+0.6**
BNKB				Sg	**Sg**	**07 45 32.6**	**-5.4**
BBB	**Bella Bella**	**5.96**	**218**	Pn	**Pn**	**07 44 01.5**	**+0.8**
	0.8nm,0.3s,baz=46,slow=5.8,SNR=14						
BBB				Sn	**Sn**	**07 45 09.0**	**+0.1**
	1.5nm,0.3s,baz=77,slow=5.8,SNR=2.0						
BBB	**Bella Bella**	**5.96**	**218**	Pn	**Pn**	**07 44 01.4**	**+0.8**
BBB				Sn	**Sn**	**07 45 09.1**	**+0.1**
BNAB	**Bonilla**	**6.01**	**238**	Sg	**Sg**	**07 45 40.4**	**-4.9**
EDM	**Edmonton**	**6.31**	**123**	Pn	**Pn**	**07 44 07.3**	**+1.8**
EDM				Sn	**Sn**	**07 45 14.2**	**-3.4**
SLEB	**Sale Mountain**	**6.31**	**156**	Pn	**Pn**	**07 44 08.2**	**+2.4**
SLEB				Sg	**Sg**	**07 45 49.4**	**-5.6**
LLLB	**Lillooet**	**6.42**	**179**	Pn	**Pn**	**07 44 09.0**	**+1.9**
LLLB				Sn	**Sn**	**07 45 18.6**	**-1.8**
LLLB				Sg	**Sg**	**07 45 52.1**	**-6.4**
YKA	**Yellowknife Ar**	**6.68**	**32**	Pn	**Pn**	**07 44 10.2**	**-0.3**
	2.8nm,0.3s,baz=213,slow=12,SNR=52						
YKA				Sn	**Sn**	**07 45 24.6**	**-1.9**
	2.8nm,0.3s,baz=216,slow=19,SNR=6.4						
YKA				Lg	Lg	07 46 04.5	
	1.6nm,0.3s,baz=217,slow=26,SNR=4.0						
YKW3	**Yellowknife Ar**	**6.73**	**31**	Pn	**Pn**	**07 44 10.7**	**-0.5**
YKW3				Sn	**Sn**	**07 45 24.2**	**-3.6**
CBB	**Campbell River**	**7.26**	**197**	Pn	**Pn**	**07 44 20.9**	**+2.4**
MAYB	**Maynard**	**7.27**	**206**	Pn	**Pn**	**07 44 21.1**	**+2.3**
HOLB	**Holberg**	**7.31**	**212**	Pn	**Pn**	**07 44 20.9**	**+1.7**
WOSB	**Woss**	**7.36**	**203**	Pn	**Pn**	**07 44 22.2**	**+2.2**
WOSB				Sg	**Sg**	**07 46 23.4**	**-5.1**
PRDA	**Priddis**	**7.70**	**140**	Pn	**Pn**	**07 44 25.8**	**+1.1**
PRDA				Sn	**Sn**	**07 45 47.7**	**-4.2**
PNT	**Penticton**	**7.86**	**168**	Pn	**Pn**	**07 44 28.7**	**+1.9**
PNT				Sg	**Sg**	**07 46 38.7**	**-5.8**
NEW	**Newport**	**9.28**	**159**	Lg	Lg	07 47 21.8	
	0.5nm,0.3s,baz=60,slow=20,SNR=6.5						
INK	**Inuvik**	**12.45**	**340**	Pn	**Pn**	**07 45 29.3**	**-0.2**
	0.2nm,0.3s,baz=138,slow=14,SNR=1.0						
ILAR	**Eielson Array**	**14.25**	**313**	Lg	Lg	07 49 56.3	
	0.0nm,0.3s,baz=169,slow=13,SNR=4.2						
PDAR	**Pinedale Array**	**16.36**	**145**	Pn	**P**	**07 46 25.7**	**+0.4**
	0.1nm,0.3s,baz=342,slow=9.3,SNR=3.9						
ULM	**Lac du Bonnet**	**16.91**	**102**	Pn	**Pn**	**07 46 28.7**	**-0.3**
	0.1nm,0.3s,baz=298,slow=9.8,SNR=3.4						
ULM				Lg	Lg	07 51 23.9	
	baz=350,slow=16,SNR=2.2						
NVAR	**Mina Array Bea**	**18.77**	**171**	P	**Pn**	**07 46 55.9**	**+3.6**
	0.1nm,0.3s,baz=354,slow=9.7,SNR=4.5						

*NNC **02** 08:01:18.6±3.8, 53°.70N×88°.06E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=30.5km s-min=16.9km az=54.0, Suspected Mining explosion.*
IDC 02 08:01:24.3±3.1**,53°.54N**×**87°.77E,h0**km**,mb1 3.1**/2**,**
mb1mx3.0/50**,mbtmp3.1**/2**,ML2.9**/2**,7C-1D,Error ellipse: s-maj=32.6km s-min=19.9km az=82.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.80**	**284**	*i*		08 13 20.0	
	baz=100,slow=325,SNR=0.8						
ZAA0	**Zalesovo Array**	**1.80**	**284**	⇑Pg	Pn	08 01 53.3	-3.3
	0.6nm,0.3s						
ZAA0				⇑Lg	Lg	08 02 21.8	
	2.1nm,0.4s						
ZALV	**Zalesovo Beam**	**1.80**	**284**	Pn	Pn	08 01 56.1	-0.5
	2.4nm,0.3s,baz=101,slow=14,SNR=12						
ZALV				Sn	Sg	08 02 21.8	-0.3
	5.7nm,0.3s,baz=104,slow=25,SNR=13						
KURBB	**Kurchatov Arra**	**6.40**	**247**	Pn	Pn	08 03 00.5	+0.7
	0.2nm,0.3s,baz=62,slow=14,SNR=17						
KURBB				Lg	Lg	08 04 46.1	
	0.1nm,0.3s,baz=56,slow=28,SNR=5.9						
KURBB	**Kurchatov Arra**	**6.40**	**247**	⇑Pn	Pn	08 02 58.6	-1.1
	1.1nm,0.3s						
KURBB				⇑Sn	Sn	08 04 12.7	-0.7
	2.8nm,0.5s						
KURBB				⇑Lg	Lg	08 04 49.9	
	4.3nm,0.8s						
MK31	**Makanchi Array**	**7.61**	**210**	⇑Pn	Pn	08 03 15.7	-0.6
	0.4nm,0.5s,baz=27,slow=14,SNR=9.0						
MK31				⇑Sn	Sn	08 04 44.2	+1.0
	0.6nm,0.6s,baz=276,slow=36,SNR=4.4						
MK31				⇓Lg	Lg	08 05 25.8	
	1.3nm,0.7s,baz=27,slow=28,SNR=3.7						
MKAR	**Makanchi Array**	**7.61**	**210**	Pn	Pn	08 03 17.5	+1.1
	0.2nm,0.3s,baz=27,slow=14,SNR=8.5						
MKAR				Lg	Lg	08 05 24.8	
	0.2nm,0.3s,baz=24,slow=29,SNR=5.1						

*JMA **02** 08:07:01.4±0.1, 43°.13N×145°.88E, h45km±1km, M3.2*
JMA Felt I J1.
*SKHL **02** 08:07:02.3±0.2, 43°.20N×145°.90E, h32km±4km, mb4.3/2*
ISC 02 08:07:00.6±3.0**,43°.1N**±0°.1×**146°.0E**±0°.1**,h43**km±12km**,n14,** σ**0s.50**/22**,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.30**	**328**	P	**Pn**	**08 07 09.5**	**+0.4**
NEM2				*e*S	**Sn**	**08 07 15.3**	**+0.2**
NMR	**Nemuro--Hokkai**	**0.31**	**327**	*i* P	**Pn**	**08 07 09.5**	**+0.3**
NMR				*e*S	**Sn**	**08 07 14.5**	**-0.8**
JKHN	**Kushirohamanak**	**0.59**	**268**	P	**Pn**	**08 07 12.9**	**+0.3**
GLVR	**Golovnino**	**0.70**	**333**	*i* P	**Pn**	**08 07 14.4**	**+0.3**
GLVR				AMB	AMB	08 07 15.0	
	140nm,0.2s						
GLVR				*e*S	**Sn**	**08 07 23.6**	**-0.3**
GLVR				A	A	08 07 26.0	
	2μm,0.2s						
GLVR				A	A	08 07 26.0	
	2μm,0.2s						
AKK	**Akkeshi**	**0.82**	**264**	*e*P	**Pn**	**08 07 15.7**	**-0.1**
GRPR	**Tuman**	**0.89**	**351**	*e*P	**Pn**	**08 07 16.8**	**+0.1**
GRPR				*e*S	**Sn**	**08 07 27.7**	**-0.8**
GRPR				A	A	08 07 28.0	
	1μm,0.2s						
GRPR				A	A	08 07 28.0	
	989nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.93**	**356**	*i* P	**Pn**	**08 07 17.5**	**+0.4**
YUK				AMB	AMB	08 07 18.0	
	140nm,0.3s						
YUK				*i* S	**Sn**	**08 07 28.8**	**-0.5**
YUK				A	A	08 07 31.0	
	819nm,0.3s						
YUK				A	A	08 07 31.0	
	1μm,0.3s						
JAK	**Akkeshi**	**0.93**	**263**	P	**Pn**	**08 07 17.2**	**0.0**
JAK				*e*S	**Sn**	**08 07 28.9**	**-0.5**
JNSB	**Nemuroshibetsu**	**0.96**	**314**	P	**Pn**	**08 07 17.8**	**+0.2**
JNK	**Nakash**	**1.02**	**298**	P	**Pn**	**08 07 18.3**	**-0.2**
JNK				*e*S	**Sn**	**08 07 31.0**	**-0.6**
JRA	**Rausu**	**1.03**	**324**	P	**Pn**	**08 07 19.0**	**+0.5**
JOB	**Onbets**	**1.57**	**263**	P	**Pn**	**08 07 26.2**	**+0.2**
JAR	**Ashorobuto**	**1.61**	**277**	P	**Pn**	**08 07 27.0**	**+0.4**
JAR				*e*S	**Sn**	**08 07 46.4**	**+0.3**
JTKR	**Abashiri--Toko**	**1.72**	**301**	P	**Pn**	**08 07 29.1**	**+1.1**

*JMA **02** 08:08:39.8±0.3, 43°.65N×147°.64E, h0km, M4.2*
JMA Felt I J1.
*MOS **02** 08:08:40.6±1.2, 43°.78N×147°.88E, h45km, mb4.8/15, Error ellipse: s-maj=7.7km s-min=7.1km az=83.0*
*SKHL **02** 08:08:42.2±0.2, 43°.80N×147°.90E, h54km±2km, mb5.1/12*
*IDC **02** 08:08:43.6±2.3, 43°.92N×147°.76E, h54km±20km, mb3.8/16, mb1 4.0/23, mb1mx3.9/43, mbtmp4.1/23, ML3.8/5, MS3.3/2, Ms1 3.3/2, ms1mx2.7/61, Error ellipse: s-maj=19.7km s-min=13.9km az=150.0*
*NEIC **02** 08:08:43.8±1.6, 43°.8N±0°.1×147°.8E±0°.1, h57km±9km, mb4.4/60, Error ellipse: s-maj=16.5km s-min=12.6km az=142.0*
ISC 02 08:08:42.9±0.9**,43°.82N**±0°.06×**147°.83E**±0°.06**,h47**km±7km**,**
n207,σ**1s.37**/210**,mb4.4**/60**,5C-5D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.41**	**1**	*c i*PN	**Pn**	**08 09 04.4**	**-1.7**
KUR				*i* S	**Sn**	**08 09 25.6**	**+2.1**
KUR				pmax	pmax		
	comp=N,909nm,0.3s						
KUR				pmax	pmax		
	comp=E,1μm,0.3s						
KUR				pmax	pmax		
	comp=Z,5μm,0.3s						
KUR				smax	smax		
	comp=N,6μm,0.5s						
KUR				smax	smax		
	comp=E,5.0nm,0.7s						
KUR	**Kuril'sk**	**1.41**	**1**	*i* P	**Pn**	**08 09 04.8**	**-1.3**
KUR				AMB	AMB	08 09 05.0	
	comp=E,4μm,0.3s						
KUR				*i* S	**Sn**	**08 09 21.9**	**-1.6**
KUR				A	A	08 09 23.5	
	comp=E,2μm,0.4s						
KUR				A	A	08 09 23.5	
	comp=E,6μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.44**	**279**	*d i*PN	**Pn**	**08 09 05.0**	**-1.5**
YUK				*e*S	**Sn**	**08 09 22.9**	**-1.3**
YUK				pmax	pmax		
	comp=Z,3μm,0.2s						
YUK				pmax	pmax		
	comp=E,605nm,0.1s						
YUK				smax	smax		
	comp=N,10μm,0.5s						
YUK				smax	smax		
	comp=E,13μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.44**	**279**	*i* P	**Pn**	**08 09 05.4**	**-1.1**
YUK				AMB	AMB	08 09 07.0	
	comp=E,2μm,0.5s						
YUK				*e*S	**Sn**	**08 09 22.9**	**-1.3**
YUK				A	A	08 09 30.0	
	comp=E,9μm,0.5s						
YUK				A	A	08 09 30.0	
	comp=E,8μm,0.5s						
GRPR	**Tuman**	**1.50**	**277**	*e*PN	**Pn**	**08 09 06.0**	**-1.3**
GRPR				*e*S	**Sn**	**08 09 23.7**	**-1.9**
GRPR				pmax	pmax		
	comp=Z,2μm,0.4s						
GRPR				pmax	pmax		
	comp=N,450nm,0.3s						
GRPR				smax	smax		
	comp=N,10μm,0.4s						
GRPR				smax	smax		
	comp=E,3μm,0.4s						
GRPR	**Tuman**	**1.50**	**277**	*e*P	**Pn**	**08 09 06.0**	**-1.3**
GRPR				AMB	AMB	08 09 06.0	
	comp=E,2μm,0.4s						
GRPR				*e*S	**Sn**	**08 09 23.7**	**-1.9**
GRPR				A	A	08 09 28.0	
	comp=E,10μm,0.4s						
GRPR				A	A	08 09 28.0	
	comp=E,3μm,0.4s						
NEM2	**Nemuro 2**	**1.58**	**254**	P	**Pn**	**08 09 06.5**	**-2.0**
NEM2				*e*S	**Sn**	**08 09 25.7**	**-2.0**
NMR	**Nemuro--Hokkai**	**1.59**	**254**	*e*PN	**Pn**	**08 09 06.5**	**-2.1**
NMR				*e*S	**Sn**	**08 09 27.9**	**-0.1**
NMR	**Nemuro--Hokkai**	**1.59**	**254**	*e*P	**Pn**	**08 09 06.8**	**-1.8**
NMR				*e*S	**Sn**	**08 09 27.7**	**-0.3**
GLVR	**Golovnino**	**1.67**	**268**	*d i*PN	**Pn**	**08 09 08.7**	**-1.0**
GLVR				*e*S	**Sn**	**08 09 30.8**	**+0.8**
GLVR				pmax	pmax		
	comp=Z,4μm,0.5s						
GLVR				pmax	pmax		
	comp=N,346nm,0.3s						
GLVR				pmax	pmax		
	comp=E,514nm,0.4s						
GLVR				smax	smax		
	comp=N,18μm,0.4s						
GLVR				smax	smax		
	comp=E,10μm,0.4s						
GLVR	**Golovnino**	**1.67**	**268**	*i* P	**Pn**	**08 09 08.9**	**-0.8**
GLVR				AMB	AMB	08 09 10.0	
	comp=E,4μm,0.5s						
GLVR				*e*S	**Sn**	**08 09 30.0**	**0.0**
GLVR				A	A	08 09 33.0	
	comp=E,18μm,0.6s						
GLVR				A	A	08 09 33.0	
	comp=E,10μm,0.6s						
RUSJ	**Misakicho**	**1.88**	**279**	⇓*i*PN	**Pn**	**08 09 12.3**	**-0.3**
RUSJ				*e*S	**Sn**	**08 09 35.4**	**+0.2**
JRA	**Rausu**	**1.96**	**274**	P	**Pn**	**08 09 13.1**	**-0.5**
JRA				*e*S	**Sn**	**08 09 37.0**	**0.0**
JNSB	**Nemuroshibetsu**	**2.04**	**270**	P	**Pn**	**08 09 14.4**	**-0.4**
JKHN	**Kushirohamanak**	**2.08**	**250**	P	**Pn**	**08 09 14.1**	**-1.2**
JNK	**Nakash**	**2.27**	**265**	P	**Pn**	**08 09 16.8**	**-1.1**
AKK	**Akkeshi**	**2.32**	**251**	*e*P	**Pn**	**08 09 17.9**	**-0.7**
JAK	**Akkeshi**	**2.43**	**251**	P	**Pn**	**08 09 18.5**	**-1.6**
JTKR	**Abashiri--Toko**	**2.84**	**274**	P	**Pn**	**08 09 26.0**	**+0.3**
JAR	**Ashorobuto**	**3.00**	**261**	P	**Pn**	**08 09 27.6**	**-0.3**
JAR				*e*S	**Sn**	**08 10 03.1**	**+0.6**
JOB	**Onbets**	**3.05**	**254**	P	**Pn**	**08 09 28.1**	**-0.6**
JMP	**Maruseppu**	**3.23**	**275**	P	**Pn**	**08 09 31.7**	**+0.5**
JCH	**Churui**	**3.48**	**251**	P	**Pn**	**08 09 34.0**	**-0.5**
JKK2	**Kamakawa 2**	**3.67**	**273**	P	**Pn**	**08 09 39.0**	**+1.8**
JKA	**Kamikawa-asahi**	**3.79**	**276**		**Pn**	**08 09 40.6**	**+2.0**
JKA	**Kamikawa-asahi**	**3.79**	**276**	*e*P	**Pn**	**08 09 40.7**	**+2.0**
ASAJ	**Asahikawa**	**3.79**	**276**	P	**Pn**	**08 09 40.0**	**+1.2**
	comp=E,12nm,0.3s,baz=65,slow=14,SNR=19						
ASAJ	**Asahikawa**	**3.79**	**276**	P	**Pn**	**08 09 40.8**	**+2.0**
ASAJ	**Asahikawa**	**3.79**	**276**	PN	**Pn**	**08 09 40.7**	**+2.0**
JFR	**Furan**	**3.87**	**262**	P	**Pn**	**08 09 40.9**	**+1.1**
ERM	**Erimo**	**3.88**	**244**	*de*PN	**Pn**	**08 09 41.5**	**+1.5**
ERM				pmax	pmax		
	comp=Z,287nm,0.6s						
ERM	**Erimo**	**3.88**	**244**		**Pn**	**08 09 41.0**	**+1.1**
JEM	**Erimo**	**3.88**	**244**	P	**Pn**	**08 09 40.8**	**+0.9**

JEM	**Erimo**	**3.88**	**244**		**Pn**	**08 09 41.2**	**+1.3**
JSE	**Soyaes**	**3.93**	**289**	P	**Pn**	**08 09 41.5**	**+0.9**
JNBK	**Urakawa-nobuka**	**4.03**	**249**	P	**Pn**	**08 09 41.4**	**-0.6**
JHR	**Hokuryu**	**4.42**	**271**	P	**Pn**	**08 09 49.8**	**+2.4**
JWK2	**Keihoku**	**4.49**	**291**	P	**Pn**	**08 09 51.2**	**+2.8**
YSS	**Yuzh-Sakhalins**	**4.75**	**313**⇑	*e*PN	**Pn**	**08 09 52.4**	**+0.5**
YSS				pmax	pmax		
	comp=Z,40nm,0.3s						
YSS				MLR	MLR		
	comp=Z,300nm,14.0s						
YSS	**Yuzh-Sakhalins**	**4.75**	**313**		**Pn**	**08 09 52.6**	**+0.7**
YSS	**Yuzh-Sakhalins**	**4.75**	**313**	*e*P	**Pn**	**08 09 52.4**	**+0.5**
YSS				AMB	AMB	08 09 54.7	
	comp=Z,40nm,0.3s						
YSS				*e*S	**Sn**	**08 10 45.6**	**0.0**
JEW	**Eniwo**	**4.75**	**260**	Pn	**Pn**	**08 09 51.9**	**-0.2**
JTM	**Tenmabayashi**	**5.86**	**241**	Pn	**Pn**	**08 10 06.2**	**-0.9**
UGL	**Uglegorsk**	**6.59**	**325**	*e*P	**Pn**	**08 10 18.6**	**+1.5**
UGL				AMB	AMB	08 10 23.6	
	comp=Z,50nm,0.7s						
TYV	**Tymovskoe**	**7.87**	**335**	*e*PN	Pn	08 10 25.6	-9.0
TYV				pmax	pmax		
	comp=Z,11nm,1.5s						
TYV				pmax	pmax		
	comp=Z,100nm,3.0s						
TYV	**Tymovskoe**	**7.87**	**335**	*e*P	**Pn**	**08 10 35.5**	**+0.9**
TYV				AMB	AMB	08 10 44.5	
	comp=Z,41nm,0.6s						
TYV				*e*S	**Sn**	**08 12 02.4**	**+0.2**
JMM	**Marumori**	**7.99**	**224**	Pn	**Pn**	**08 10 34.2**	**-2.1**
TEY	**Ternei**	**8.13**	**282**⇓	*i*PN	Pn	08 10 44.0	+5.8
TEY				pmax	pmax		
	comp=N,60nm,0.8s						
TEY				pmax	pmax		
	comp=E,20nm,0.8s						
TEY				pmax	pmax		
	comp=Z,30nm,0.8s						
TEY	**Ternei**	**8.13**	**282**	*i* P	**Pn**	**08 10 40.0**	**+1.8**
TEY				AMB	AMB	08 10 44.8	
	comp=Z,35nm,0.4s						
SKR	**Severo-Kuril's**	**8.88**	**36**	*e*P	**Pn**	**08 10 49.1**	**+0.7**
SKR				AMB	AMB	08 10 50.6	
	comp=Z,37nm,0.5s						
SKR				*e*S	**Sn**	**08 12 22.0**	**-4.9**
JSD	**Sado**	**9.26**	**235**	Pn	**Pn**	**08 10 52.6**	**-1.2**
PAU	**Pauzhetka**	**9.75**	**35**	*e*P	**Pn**	**08 11 01.3**	**+0.9**
PAU				AMB	AMB	08 11 07.8	
	comp=Z,57nm,0.4s						
PAU				*e*S	**Sn**	**08 12 44.5**	**-3.9**
MJA0	**Matsu Arr-Jizo**	**10.32**	**228**	*e*PN	**Pn**	**08 11 08.7**	**+0.4**
MAJO	**Matsushiro**	**10.34**	**229**	PN	**Pn**	**08 11 07.8**	**-0.8**
MAJO	**Matsushiro**	**10.34**	**229**		**Pn**	**08 11 07.8**	**-0.8**
MAT	**Matsushiro**	**10.34**	**229**	P	**Pn**	**08 11 07.8**	**-0.8**
MAT				*e*S	**Sn**	**08 13 04.7**	**+1.6**
MJAR	**Matsushiro Arr**	**10.34**	**229**	P	**Pn**	**08 11 07.8**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=28,slow=14,SNR=12						
NKL	**Nikolayevsk**	**10.46**	**336**	*e*P	**Pn**	**08 11 09.7**	**-0.4**
NKL				AMB	AMB	08 11 12.8	
	comp=Z,21nm,0.6s						
PEA0B	**Petropavlovsk-**	**11.36**	**32**	*i* PN	**Pn**	**08 11 26.8**	**+4.4**
PEA0B	**Petropavlovsk-**	**11.36**	**32**		**Pn**	**08 11 21.0**	**-1.3**
PETK	**Petropavlovsk-**	**11.36**	**32**	P	**Pn**	**08 11 20.9**	**-1.5**
	comp=Z,1.0nm,0.3s,baz=220,slow=20,SNR=7.5						
PETK	**Petropavlovsk-**	**11.36**	**32**		**Pn**	**08 11 21.6**	**-0.8**
USA0B	**Ussuriysk Arra**	**11.42**	**277**	*i* PN	**Pn**	**08 11 23.4**	**+0.2**
USA0B	**Ussuriysk Arra**	**11.42**	**277**	Pn	**Pn**	**08 11 24.1**	**+0.9**
USRK	**Ussuriysk Ar.**	**11.42**	**277**	P	**Pn**	**08 11 24.5**	**+1.3**
	baz=88,slow=14,SNR=5.8						
USRK	**Ussuriysk Ar.**	**11.42**	**277**	PN	**Pn**	**08 11 25.6**	**+2.4**
USRK	**Ussuriysk Ar.**	**11.42**	**277**	Pn	**Pn**	**08 11 25.6**	**+2.4**
JGF	**Kuroka**	**11.50**	**228**	Pn	**Pn**	**08 11 23.7**	**-0.8**
PET	**Petropavlovsk**	**11.67**	**34***c*	*e*PN	Pn	08 11 34.1	+7.5
PET				pmax	pmax		
	comp=Z,40nm,1.0s						
JWT	**Wachi**	**12.82**	**232**		**Pn**	**08 11 41.1**	**-1.4**
EKMR	**Ekimchan**	**13.51**	**318**	*e*P	**Pn**	**08 11 50.5**	**-1.2**
EKMR				AMB	AMB	08 11 56.4	
	comp=Z,10.0nm,0.9s						
JHS	**Saijyo**	**14.37**	**237**	Pn	**Pn**	**08 12 03.1**	**-0.4**
MA2	**Magadan**	**15.88**	**5**	P	**Pn**	**08 12 22.3**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=172,slow=14,SNR=1.7						
MA2	**Magadan**	**15.88**	**5***c*	*e*P	**P**	**08 12 27.9**	**+2.0**
MA2				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KSRS	**Korea Array**	**16.38**	**254**	P	**Pn**	**08 12 29.8**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=63,slow=11,SNR=4.7						
KSRS				LR	LR	08 17 21.3	
	comp=Z,41nm,21.9s,baz=112,slow=32						
JNU	**Nakatsue**	**17.01**	**237**	P	**P**	**08 12 40.5**	**+1.8**
	comp=Z,0.7nm,0.3s,baz=15,slow=2.7,SNR=7.7						
KROS	**Kirovskiy**	**17.22**	**315**	*e*P	**Pn**	**08 12 40.5**	**+0.6**
SEY	**Seymchan**	**19.33**	**6**	P	**P**	**08 13 01.8**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=187,slow=7.3,SNR=9.3						
SEY	**Seymchan**	**19.33**	**6**	*i* P	**Pn**	**08 13 07.4**	**+2.1**
SEY	**Seymchan**	**19.33**	**6**	*e*P	**Pn**	**08 13 07.4**	**+2.1**
YAK	**Yakutsk**	**21.13**	**336**	*i* P	**P**	**08 13 25.5**	**+2.1**
YAK				pmax	pmax		
	comp=Z,28nm,1.1s						
YAK	**Yakutsk**	**21.13**	**336**	*e*P	**P**	**08 13 25.5**	**+2.1**
BILL	**Bilibino**	**26.15**	**16**	*e*P	**P**	**08 14 16.8**	**+4.4**
BILL				pmax	pmax		
	comp=Z,12nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**28.84**	**140**	T	T	08 45 24.0	
	baz=332,slow=76,SNR=1743						
H11N1	**WAKE ISLAND Hy**	**28.85**	**140**	T	T	08 45 23.4	
	baz=332,slow=76,SNR=111						
H11N3	**WAKE ISLAND Hy**	**28.86**	**140**	T	T	08 45 38.2	
	baz=332,slow=76,SNR=1715						
H11S1	**WAKE ISLAND Hy**	**29.82**	**142**	T	T	08 46 41.7	
	baz=332,slow=76,SNR=228						
H11S3	**WAKE ISLAND Hy**	**29.82**	**142**	T	T	08 46 45.6	
	baz=332,slow=76,SNR=168						
H11S2	**WAKE ISLAND Hy**	**29.84**	**142**	T	T	08 46 34.0	
	baz=332,slow=76,SNR=228						
RDOG	**Red Dog Mine**	**35.22**	**30**	P	**P**	**08 15 32.4**	**+0.2**
CHGN	**Chignik**	**35.77**	**50**	P	**P**	**08 15 37.3**	**+0.3**
N18K	**Kilae Creek**	**37.02**	**43**	P	**P**	**08 15 48.3**	**+0.5**
SVW2	**Sparrevohn**	**37.18**	**42**	P	**P**	**08 15 49.2**	**+0.1**
SVW2				IAmb	IAmb	08 16 01.5	
	comp=Z,4.3nm,0.9s						
M19K	**Big River Lodg**	**37.77**	**41**	P	**P**	**08 15 55.5**	**+1.5**
M19K				IAmb	IAmb	08 16 19.3	
	comp=Z,4.0nm,1.0s						
K20K	**Telida**	**37.97**	**38**	P	**P**	**08 15 55.3**	**-0.4**
K20K				IAmb	IAmb	08 16 21.7	
	comp=Z,5.6nm,1.3s						
J20K	**Nowinta River**	**37.98**	**37**	P	**P**	**08 15 56.2**	**+0.4**
J20K				IAmb	IAmb	08 16 00.0	
	comp=Z,6.4nm,1.1s						
IMAR	**Indian Mountai**	**38.31**	**34**	P	**P**	**08 15 58.5**	**0.0**
M20K	**Styx River**	**38.37**	**41**	P	**P**	**08 16 00.7**	**+1.5**
M20K				IAmb	IAmb	08 16 26.7	
	comp=Z,8.3nm,1.4s						
OHAK	**Old Harbor**	**38.51**	**48**	P	**P**	**08 16 01.1**	**+0.8**
PPLA	**Purkeypile**	**38.81**	**39**	P	**P**	**08 16 03.9**	**+0.9**
PPLA				IAmb	IAmb	08 16 04.8	
	comp=Z,11nm,1.2s						
KDAK	**Kodiak Island**	**38.84**	**47**	P	**P**	**08 16 02.5**	**-0.5**
	comp=Z,7.7nm,1.1s,baz=289,slow=9.3,SNR=15						
KDAK	**Kodiak Island**	**38.84**	**47**	P	**P**	**08 16 02.5**	**-0.5**
KDAK				pmax	pmax		
	comp=Z,30nm,1.5s						
KDAK	**Kodiak Island**	**38.84**	**47**	IAmb	IAmb	08 16 11.2	
	comp=Z,30nm,1.5s						
I21K	**Tanana**	**38.98**	**36**	P	**P**	**08 16 04.4**	**+0.3**
SKT	**Skwentna**	**39.12**	**41**	P	**P**	**08 16 05.4**	**0.0**
BPAW	**Bear Paw Mtn.**	**39.37**	**37**	P	**P**	**08 16 07.7**	**+0.2**
CNPM	**China Poot**	**39.39**	**45**	P	**P**	**08 16 08.8**	**+1.2**
CNPM				IAmb	IAmb	08 16 17.3	
	comp=Z,9.0nm,1.0s						
KTH	**Kantishna Hill**	**39.39**	**38**	P	**P**	**08 16 08.5**	**+0.9**
NRIK	**Noril'sk**	**39.42**	**331**	*i* P	**P**	**08 16 06.2**	**-1.6**
NRIK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SUA	**Susitna One**	**39.51**	**42**	P	**P**	**08 16 08.8**	**0.0**
BRLK	**Bradley Lake**	**39.55**	**44**	P	**P**	**08 16 08.6**	**-0.4**
BRLK				IAmb	IAmb	08 16 27.1	
	comp=Z,5.7nm,0.9s						
TRF	**Thorofare Moun**	**39.67**	**38**	P	**P**	**08 16 08.7**	**-1.4**
H23K	**Yukon River**	**40.02**	**35**	P	**P**	**08 16 12.9**	**+0.1**
H23K				IAmb	IAmb	08 16 14.3	
	comp=Z,5.8nm,0.8s						
I23K	**Minto, Yukon-K**	**40.08**	**36**	P	**P**	**08 16 14.0**	**+0.7**
TOLK	**Toolik Lake Re**	**40.17**	**30**	P	**P**	**08 16 14.5**	**+0.4**
TOLK				IAmb	IAmb	08 16 18.4	
	comp=Z,9.6nm,1.4s						
NEA2	**Nenana**	**40.20**	**37**	P	**P**	**08 16 14.8**	**+0.5**
MDM	**Murphy Dome**	**40.56**	**36**	P	**P**	**08 16 17.7**	**+0.4**
MDM				IAmb	IAmb	08 16 22.0	
	comp=Z,3.8nm,0.7s						
WRH	**Wood River Hil**	**40.63**	**37**	P	**P**	**08 16 18.0**	**+0.1**
SML	**Sawmill**	**40.64**	**41**	P	**P**	**08 16 18.1**	**0.0**
SML				IAmb	IAmb	08 16 19.5	
	comp=Z,7.7nm,0.9s						
H24K	**Noodor Dome**	**40.70**	**35**	IAmb	IAmb	08 16 23.2	
	comp=Z,6.8nm,1.2s						
TCOL	**CIGO, UAF Yank**	**40.72**	**36**	IAmb	IAmb	08 16 26.1	
	comp=Z,11nm,1.1s						
PWL	**Port Wells**	**40.72**	**42**	P	**P**	**08 16 18.5**	**-0.2**
COLA	**College**	**40.72**	**36**	P	**P**	**08 16 20.0**	**+1.4**
COLA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
COLA	**College**	**40.72**	**36**	P	**P**	**08 16 19.9**	**+1.4**
COLA				IAmb	IAmb	08 16 26.1	
	comp=Z,8.7nm,0.9s						
CCB	**Clear Creek Bu**	**40.75**	**36**	P	**P**	**08 16 19.1**	**+0.3**
DGZ	**Jazzator, Alta**	**40.80**	**300**	*i* P	**P**	**08 16 19.2**	**-0.5**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SCM	**Sheep Creek Mo**	**41.12**	**41**	P	**P**	**08 16 22.1**	**+0.1**
SCM				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SCM	**Sheep Creek Mo**	**41.12**	**41**	P	**P**	**08 16 22.1**	**+0.1**
SCM				IAmb	IAmb	08 16 44.9	
	comp=Z,4.9nm,0.9s						
HDA	**Harding Lake**	**41.12**	**37**	IAmb	IAmb	08 16 25.9	
	comp=Z,5.6nm,0.5s						
IL31		**41.14**	**36**	P	**P**	**08 16 21.9**	**-0.1**
IL31				IAmb	IAmb	08 16 24.2	
	comp=Z,10nm,1.4s						
ILAR	**Eielson Array**	**41.14**	**36**	P	**P**	**08 16 21.6**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=270,slow=8.7,SNR=26						
PRP	**Porcupine Dome**	**41.69**	**35**	IAmb	IAmb	08 16 31.2	
	comp=Z,3.7nm,0.6s						
FYU	**Fort Yukon**	**41.77**	**34**	P	**P**	**08 16 28.1**	**+1.0**
FYU				IAmb	IAmb	08 16 32.7	
	comp=Z,6.7nm,0.6s						
BMAR	**Burnt Mountain**	**42.01**	**32**	P	**P**	**08 16 30.4**	**+1.2**
RIDG	**Independent Ri**	**42.09**	**38**	P	**P**	**08 16 29.4**	**-0.5**
DOT	**Dot Lake**	**42.45**	**38**	P	**P**	**08 16 32.3**	**-0.5**
L26K	**Log Cabin Wild**	**42.83**	**39**	P	**P**	**08 16 37.4**	**+1.4**
M26K	**Nabesna, AK**	**43.08**	**40**	P	**P**	**08 16 38.8**	**+0.8**
M26K				IAmb	IAmb	08 16 46.8	
	comp=Z,5.9nm,0.9s						
K27K	**Chicken**	**43.28**	**37**	P	**P**	**08 16 40.0**	**+0.5**
K27K				IAmb	IAmb	08 16 48.7	
	comp=Z,7.4nm,1.2s						
L27K	**Beaver Creek,**	**43.52**	**39**	P	**P**	**08 16 42.8**	**+1.3**
L27K				IAmb	IAmb	08 16 45.5	
	comp=Z,5.1nm,0.7s						
EGAK	**Eagle**	**43.58**	**36**	P	**P**	**08 16 42.0**	**+0.1**
M27K	**Edge Creek, AK**	**43.60**	**40**	P	**P**	**08 16 43.5**	**+1.3**
M27K				IAmb	IAmb	08 17 09.3	
	comp=Z,8.3nm,1.3s						
CTGM	**Chitina Glacie**	**44.09**	**41**	P	**P**	**08 16 47.2**	**+1.0**
CTGM				IAmb	IAmb	08 17 03.6	
	comp=Z,4.4nm,0.8s						
DAWY	**Dawson**	**44.44**	**37**	P	**P**	**08 16 49.3**	**+0.4**
MK31	**Makanchi Array**	**44.98**	**298**	P	**P**	**08 16 53.0**	**-0.4**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MK31	**Makanchi Array**	**44.98**	**298**	P	**P**	**08 16 53.0**	**-0.4**
MKAR	**Makanchi Array**	**44.98**	**298**	P	**P**	**08 16 52.9**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=81,slow=8.0,SNR=12						
MKAR	**Makanchi Array**	**44.98**	**298**	*e*P	**P**	**08 16 53.4**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**44.98**	**298**	*e*P	**P**	**08 16 53.4**	**0.0**
HYT	**Haines Junctio**	**45.95**	**41**	P	**P**	**08 17 02.7**	**+1.7**
INK	**Inuvik**	**46.09**	**30**	P	**P**	**08 17 02.3**	**+0.5**
	comp=Z,3.3nm,0.4s,baz=309,slow=12,SNR=17						
INK	**Inuvik**	**46.09**	**30**	IAmb	IAmb	08 17 14.9	
	comp=Z,9.0nm,1.2s						
AAK	**Ala-Archa**	**51.77**	**296**	*i* P	**P**	**08 17 46.8**	**+1.0**
AAK				pmax	pmax		
	comp=Z,15nm,1.7s						
AAK	**Ala-Archa**	**51.77**	**296**	*e*P	**P**	**08 17 46.8**	**+1.0**
ARU	**Arti**	**54.63**	**317***c*	*i*P	**P**	**08 18 05.7**	**-0.7**
ARU				*PP	**pP**	**08 18 19.4**	**0.0**
ARU						08 19 03.0	
ARU				S	**S**	**08 25 42.7**	**+0.2**
ARU				SS	**SS**	**08 29 19.7**	**-5.4**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARU	**Arti**	**54.63**	**317**	*e*P	**P**	**08 18 05.7**	**-0.7**
ABKAR	**Akbulak array**	**57.40**	**309**	P	**P**	**08 18 25.9**	**-0.5**
ABKAR				IAmb	IAmb	08 18 26.7	
	comp=Z,3.5nm,1.0s						
ABKAR	**Akbulak array**	**57.40**	**309**	P	**P**	**08 18 25.8**	**-0.5**
ARCES	**ARCESS Array B**	**59.35**	**340**	P	**P**	**08 18 37.6**	**-2.0**
	comp=Z,0.4nm,0.4s,baz=50,slow=6.3,SNR=8.3						
SUMG	**Summit**	**63.82**	**2**	*i* P	**P**	**08 19 08.0**	**-2.2**
SUMG				IAmb	IAmb	08 19 10.4	
	comp=Z,4.9nm,0.8s						
SUMG	**Summit**	**63.82**	**2**	P	**P**	**08 19 08.6**	**-1.5**
SUMG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SUMG	**Summit**	**63.82**	**2**	P	**P**	**08 19 08.6**	**-1.5**
WRA	**Warramunga Arr**	**64.65**	**194**	P	**P**	**08 19 15.2**	**-0.5**
	comp=Z,0.5nm,1.0s,baz=11,slow=6.6,SNR=2.0						
MOS	**Moscow**	**64.68**	**324**	*e*P	**P**	**08 19 15.8**	**+0.3**
MOS	**Moscow**	**64.68**	**324**	*e*P	**P**	**08 19 15.8**	**+0.3**
FINES	**FINESS Array B**	**65.03**	**333**	P	**P**	**08 19 16.3**	**-1.4**
	comp=Z,3.4nm,0.5s,baz=36,slow=7.3,SNR=25						
FINES	**FINESS Array B**	**65.03**	**333**	P	**P**	**08 19 16.1**	**-1.7**
OBN	**Obninsk**	**65.54**	**324**	*e*P	**P**	**08 19 22.4**	**+1.3**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
OBN	**Obninsk**	**65.54**	**324**	*e*P	**P**	**08 19 22.4**	**+1.3**
BOZ	**Bozeman (W)**	**66.52**	**49**	P	**P**	**08 19 28.4**	**+0.5**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BOZ	**Bozeman (W)**	**66.52**	**49**	P	**P**	**08 19 28.4**	**+0.5**
BOZ				IAmb	IAmb	08 19 42.8	
	comp=Z,2.3nm,0.7s						
NVAR	**Mina Array Bea**	**67.12**	**58**	P	**P**	**08 19 32.1**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=292,slow=6.5,SNR=7.6						
ICESG	**Greenland Ices**	**67.27**	**3**	*i* P	**P**	**08 19 32.3**	**-0.1**
ICESG				IAmb	IAmb	08 19 32.5	
	comp=Z,14nm,1.0s						
ASAR	**Alice Springs**	**68.36**	**194**	P	**P**	**08 19 40.1**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=9.7,slow=6.2,SNR=2.5						
PALK	**Pallekele**	**68.54**	**259**	LR	LR	08 51 11.0	
	comp=Z,61nm,18.3s,baz=187,slow=37						
PDAR	**Pinedale Array**	**69.49**	**50**	P	**P**	**08 19 46.3**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=298,slow=1.9,SNR=2.4						
NB2	**NORSAR Subarra**	**69.71**	**339**	P	**P**	**08 19 46.3**	**-1.1**
	comp=Z,2.1nm,0.7s,baz=30,slow=6.2						
NOA	**NORSAR Array B**	**69.71**	**339**	P	**P**	**08 19 46.3**	**-1.1**
	comp=Z,1.3nm,0.5s,baz=32,slow=6.6,SNR=11						
KIV	**Kislovodsk**	**70.08**	**312**	*e*P	**P**	**08 19 51.2**	**+1.2**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KIV	**Kislovodsk**	**70.08**	**312**	*e*P	**P**	**08 19 51.2**	**+1.2**
KBZ	**Khabaz**	**70.12**	**312**	P	**P**	**08 19 50.3**	**+0.2**
	comp=Z,7.1nm,0.8s,baz=21,slow=3.2,SNR=17						
KBZ	**Khabaz**	**70.12**	**312**	*i* P	**P**	**08 19 50.9**	**+0.8**
KBZ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KBZ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KBZ	**Khabaz**	**70.12**	**312**	*e*P	**P**	**08 19 50.9**	**+0.8**
ZEI	**Tsey**	**70.20**	**311**	*e*P	**P**	**08 19 49.4**	**-1.5**
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZEI	**Tsey**	**70.20**	**311**	*e*P	**P**	**08 19 49.4**	**-1.5**
ONI	**Oni**	**70.58**	**311**	P	**P**	**08 19 55.1**	**+2.1**
ONI				pmax	pmax		
	comp=Z,18nm,0.2s						
ONI	**Oni**	**70.58**	**311**	P	**P**	**08 19 55.1**	**+2.1**
RDMU	**Red Mountain**	**70.93**	**52**	P	**P**	**08 19 56.7**	**+1.2**
RDMU				IAmb	IAmb	08 20 12.9	
	comp=Z,2.5nm,0.7s						
AKASG	**Malin Array Be**	**71.81**	**324**	P	**P**	**08 19 59.4**	**-0.9**
	comp=Z,4.2nm,0.5s,baz=38,slow=6.0,SNR=20						
AKBB	**Malin Array Si**	**71.81**	**324**	P	**P**	**08 19 59.4**	**-0.9**
AKBB				pmax	pmax		
	comp=Z,6.0nm,0.8s						
AKBB	**Malin Array Si**	**71.81**	**324**	P	**P**	**08 19 59.4**	**-0.9**
BURAR	**Bucovina Array**	**75.87**	**324**	P	**P**	**08 20 24.1**	**-0.1**
BURAR				IAmb	IAmb	08 20 25.6	
	comp=Z,3.2nm,0.8s						
LANS	**Liptovska Anna**	**76.97**	**328**	*e*P	**P**	**08 20 31.5**	**+1.2**
LANS	**Liptovska Anna**	**76.97**	**328**	*e*P	**P**	**08 20 31.5**	**+1.2**
SCHQ	**Schefferville**	**77.39**	**20**	P	**P**	**08 20 32.2**	**-0.3**
	comp=Z,3.5nm,1.0s,baz=354,slow=9.2,SNR=6.5						
CLL	**Collm**	**77.47**	**333**	*i* P	**P**	**08 20 32.4**	**-0.7**
	comp=Z,9.0nm,0.6s						
CLL	**Collm**	**77.47**	**333**	*i* P	**P**	**08 20 32.4**	**-0.7**
CLL				pmax	pmax		
	comp=Z,9.0nm,0.6s						
VYHS	**Vyhne**	**77.74**	**328**	*e*P	**P**	**08 20 34.7**	**0.0**
VYHS	**Vyhne**	**77.74**	**328**	*e*P	**P**	**08 20 34.7**	**0.0**
KHC	**Kasperske Hory**	**79.13**	**331**	*e*P	**P**	**08 20 41.5**	**-0.8**
KHC	**Kasperske Hory**	**79.13**	**331**	*e*P	**P**	**08 20 41.5**	**-0.8**
GERES	**GERESS Array B**	**79.33**	**331**	P	**P**	**08 20 42.6**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=52,slow=6.4,SNR=7.5						
GERES	**GERESS Array B**	**79.33**	**331**	*e*P	**P**	**08 20 47.9**	**+4.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	**82.20**	**57**	P	**P**	**08 20 59.2**	**0.0**
	comp=Z,1.2nm,0.9s,baz=294,slow=3.7,SNR=12						
H03N2	**Juan Fernandez**	**142.47**	**90**	T	T	11 07 04.5	
	baz=304,slow=77,SNR=32						
H03N3	**Juan Fernandez**	**142.49**	**90**	T	T	11 07 03.7	
	baz=304,slow=77,SNR=37						
H03N1	**Juan Fernandez**	**142.49**	**90**	T	T	11 07 04.9	
	baz=304,slow=77,SNR=35						

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*BJI **02** 08:23:37.8±0.0, 43°.62N×148°.29E, h45km, mB4.8/6, mb4.5/17*

*JMA **02** 08:23:38.2±0.4, 43°.66N×147°.74E, h0km, M4.2*

JMA Felt I J1.

*NIED **02** 08:23:38.2, 43°.66N×147°.74E, h0km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.97; $M_{\theta\theta}$-0.21; $M_{\phi\phi}$1.18; $M_{r\theta}$1.54; $M_{\theta\phi}$-1.06; $M_{\phi r}$-0.43; Fault plane solution: $M_0$2.21000×10^{15} NP1: ϕ_s298.00000°, δ74.00000°, λ-124.00000°. NP2: ϕ_s185.00000°, δ37.00000°, λ-27.00000°.*

*MOS **02** 08:23:39.1±1.1, 43°.79N×147°.97E, h42km, mb4.6/15 Error ellipse: s-maj=7.3km s-min=6.2km az=90.1*

*SKHL **02** 08:23:40.3±0.3, 43°.70N×148°.00E, h53km±2km, mb5.1/9*

*IDC **02** 08:23:42.3±2.3, 43°.90N×147°.78E, h50km±21km, mb3.9/21, mb1 4.1/27, mb1mx4.0/58, mbtmp4.2/27, ML3.9/4, MS3.4/10, Ms1 3.5/10, ms1mx3.1/57, Error ellipse: s-maj=17.6km s-min=12.5km az=154.0*

*NEIC **02** 08:23:42.3±1.7, 43°.75N±0°.08×147°.9E±0°.1, h49km±8km, mb4.5/59, Error ellipse: s-maj=14.7km s-min=10.2km az=129.0*

ISC 02 08:23:40.7±0.9**, 43°.73N**±0°.05×**147°.92E**±0°.06**, h41**km±8km**, n199,** σ1**s.49**/202**, mb4.5**/62**, MS3.5**/5**, 11C-3D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.50**	**359***c*	*i*PN	**Pn**	**08 24 03.9**	**-1.2**
KUR				*i* S	**Sn**	**08 24 20.9**	**-2.6**
KUR				pmax	pmax		
	comp=Z,4μm,0.3s						
KUR				smax	smax		
	comp=N,3μm,0.2s						
KUR				smax	smax		
	comp=E,6μm,0.2s						
KUR	**Kuril'sk**	**1.50**	**359**	*i* P	**Pn**	**08 24 03.7**	**-1.4**
KUR				AMB	AMB	08 24 05.0	
	comp=E,4μm,0.3s						
KUR				*i* S	**Sn**	**08 24 20.9**	**-2.6**
KUR				A	A	08 24 23.0	
	comp=E,3μm,0.2s						
KUR				A	A	08 24 23.0	
	comp=E,6μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.52**	**282***d*	*i*PN	**Pn**	**08 24 04.5**	**-0.8**
YUK				*e*S	**Sn**	**08 24 22.9**	**-0.9**
YUK				pmax	pmax		
	comp=Z,3μm,0.4s						
YUK				pmax	pmax		
	comp=N,628nm,0.2s						
YUK				pmax	pmax		
	comp=E,509nm,0.2s						
YUK				smax	smax		
	comp=E,6μm,0.4s						
YUK				smax	smax		
	comp=N,8μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**1.52**	**282**	*i* P	**Pn**	**08 24 04.5**	**-0.8**
YUK				AMB	AMB	08 24 06.0	
	comp=N,3μm,0.4s						
YUK				*e*S	**Sn**	**08 24 22.9**	**-0.9**
YUK				A	A	08 24 28.0	
	comp=N,8μm,0.6s						
YUK				A	A	08 24 28.0	
	comp=N,6μm,0.6s						
GRPR	**Tuman**	**1.57**	**280**	*e*PN	**Pn**	**08 24 05.2**	**-0.9**
GRPR				*e*S	**Sn**	**08 24 23.7**	**-1.5**
GRPR				pmax	pmax		
	comp=N,466nm,0.3s						
GRPR				pmax	pmax		
	comp=Z,2μm,0.3s						
GRPR				smax	smax		
	comp=N,5μm,0.3s						
GRPR				smax	smax		
	comp=E,6μm,0.3s						
GRPR	**Tuman**	**1.57**	**280**	*e*P	**Pn**	**08 24 05.2**	**-0.9**
GRPR				AMB	AMB	08 24 06.0	
	comp=E,2μm,0.3s						
GRPR				*e*S	**Sn**	**08 24 23.9**	**-1.3**
GRPR				A	A	08 24 28.0	
	comp=E,5μm,0.3s						
GRPR				A	A	08 24 28.0	
	comp=E,6μm,0.3s						
NEM2	**Nemuro 2**	**1.62**	**258**	P	**Pn**	**08 24 05.9**	**-0.8**
NEM2				*e*S	**Sn**	**08 24 26.1**	**-0.3**
NMR	**Nemuro--Hokkai**	**1.63**	**258**	*e*PN	**Pn**	**08 24 06.0**	**-0.9**
NMR				*e*S	**Sn**	**08 24 28.5**	**+1.9**
NMR	**Nemuro--Hokkai**	**1.63**	**258**	*e*P	**Pn**	**08 24 06.0**	**-0.9**
NMR				*e*S	**Sn**	**08 24 28.5**	**+1.9**
GLVR	**Golovnino**	**1.74**	**271**	PN	**Pn**	**08 24 08.0**	**-0.3**
GLVR				*e*S	**Sn**	**08 24 30.2**	**+1.0**
GLVR				pmax	pmax		
	comp=Z,4μm,0.5s						
GLVR				pmax	pmax		
	comp=N,1μm,0.1s						
GLVR				pmax	pmax		
	comp=E,826nm,0.3s						
GLVR				smax	smax		
	comp=E,7μm,0.5s						
GLVR				smax	smax		
	comp=N,4μm,0.2s						
GLVR	**Golovnino**	**1.74**	**271**	*e*P	**Pn**	**08 24 08.2**	**-0.1**
GLVR				AMB	AMB	08 24 09.0	
	comp=N,4μm,0.5s						
GLVR				*e*S	**Sn**	**08 24 29.2**	**0.0**
GLVR				A	A	08 24 33.0	
	comp=N,4μm,0.5s						
GLVR				A	A	08 24 33.0	
	comp=N,7μm,0.5s						
RUSJ	**Misakicho**	**1.96**	**282**⇓	*i*PN	**Pn**	**08 24 11.7**	**+0.3**
RUSJ				*e*S	**Sn**	**08 24 37.1**	**+2.3**
JRA	**Rausu**	**2.03**	**277**	P	**Pn**	**08 24 12.5**	**+0.1**
JRA				*e*S	**Sn**	**08 24 38.5**	**+2.0**
JKHN	**Kushirohamanak**	**2.11**	**253**	P	**Pn**	**08 24 13.5**	**+0.1**
JNSB	**Nemuroshibetsu**	**2.11**	**272**	P	**Pn**	**08 24 13.7**	**+0.3**
JNK	**Nakash**	**2.32**	**267**	P	**Pn**	**08 24 16.5**	**+0.1**
AKK	**Akkeshi**	**2.35**	**253**	*e*P	**Pn**	**08 24 17.5**	**+0.7**
JAK	**Akkeshi**	**2.46**	**254**	P	**Pn**	**08 24 18.0**	**-0.3**
JTKR	**Abashiri--Toko**	**2.91**	**276**	P	**Pn**	**08 24 25.3**	**+0.9**
JAR	**Ashorobuto**	**3.05**	**263**	P	**Pn**	**08 24 27.0**	**+0.7**
JOB	**Onbets**	**3.09**	**256**	P	**Pn**	**08 24 27.6**	**+0.7**
JMP	**Maruseppu**	**3.31**	**276**	P	**Pn**	**08 24 31.1**	**+1.2**
JCH	**Churui**	**3.51**	**253**	P	**Pn**	**08 24 33.5**	**+0.8**
JKK2	**Kamakawa 2**	**3.74**	**274**	P	**Pn**	**08 24 38.4**	**+2.5**
JKA	**Kamikawa-asahi**	**3.86**	**278**	Pn	**Pn**	**08 24 39.4**	**+1.9**
JKA	**Kamikawa-asahi**	**3.86**	**278**	*e*P	**Pn**	**08 24 39.5**	**+2.0**
ASAJ	**Asahikawa**	**3.86**	**278**	P	**Pn**	**08 24 39.5**	**+2.0**
	comp=N,20nm,0.3s,baz=69,slow=15,SNR=54						
ASAJ				LR	LR	08 25 45.4	
	comp=N,36nm,21.1s,baz=122,slow=33						
ERM	**Erimo**	**3.90**	**245***c*	*e*PN	**Pn**	**08 24 40.9**	**+2.9**
ERM				pmax	pmax		
	comp=Z,276nm,0.7s						
ERM	**Erimo**	**3.90**	**245**	Pn	**Pn**	**08 24 40.2**	**+2.3**

JEM Erimo 3.90 246 Pn 08 24 39.9 +2.0
JFR Furan 3.92 263 P Pn 08 24 40.2 +1.9
JSE Soyaes 4.02 290 P Pn 08 24 40.2 +0.6
JNBK Urakawa-nobuka 4.05 251 P Pn 08 24 41.0 +0.8
JHR Hokuryu 4.49 272 P Pn 08 24 49.3 +3.2
JWK2 Keihoku 4.59 292 P Pn 08 24 50.1 +2.7
JEW Eniwo 4.80 262 P Pn 08 24 53.5 +3.0
JEW Eniwo 4.80 262 Pn Pn 08 24 51.9 +1.4
YSS Yuzh-Sakhalins 4.86 313⇑*e*PN Pn 08 24 51.7 +0.5
YSS pmax pmax
comp=Z,40nm,0.3s
YSS Yuzh-Sakhalins 4.86 313 Pn Pn 08 24 51.7 +0.5
YSS Yuzh-Sakhalins 4.86 313 *e*P Pn 08 24 53.4 +2.2
YSS AMB AMB 08 24 53.7
comp=Z,40nm,0.3s
YSS *e*S Sn 08 25 45.7 -0.4
JTM Tenmabayashi 5.87 242 Pn Pn 08 25 06.0 +0.9
JMM Marumori 7.97 225 Pn Pn 08 25 33.5 -0.4
JMM Sn 08 26 56.0 -6.7
TYV Tymovskoe 7.98 335 *e*PN Pn 08 25 36.9 +2.9
TYV pmax pmax
comp=Z,200nm,3.5s
TYV pmax pmax
comp=Z,14nm,0.7s
TYV Tymovskoe 7.98 335 *e*P Pn 08 25 35.8 +1.8
TYV AMB AMB 08 25 41.0
comp=Z,14nm,0.7s
TYV *e*S Sn 08 27 01.1 -1.7
TEY Ternei 8.21 283⇓*i*PN Pn 08 25 43.7 +6.6
TEY pmax pmax
comp=N,10.0nm,0.8s
TEY pmax pmax
comp=E,50nm,0.8s
TEY pmax pmax
comp=Z,40nm,0.8s
TEY Ternei 8.21 283 *i* P Pn 08 25 40.0 +2.9
TEY AMB AMB 08 25 44.6
comp=Z,40nm,0.8s
SKR Severo-Kuril's 8.91 36 *e*P Pn 08 25 46.6 -0.1
SKR AMB AMB 08 25 48.4
comp=Z,50nm,0.6s
JSD Sado 9.26 235 Pn Pn 08 25 51.8 +0.2
JYT Yasato 9.55 221 Sn 08 27 34.2 -7.3
PAU Pauzhetka 9.79 35 *e*P Pn 08 25 57.9 -0.9
PAU AMB AMB 08 26 06.0
comp=Z,50nm,0.8s
MJA0 Matsu Arr-Jizo 10.31 229 *e*PN Pn 08 26 08.2 +2.2
MAJO Matsushiro 10.33 229 *i* PN Pn 08 26 07.9 +1.6
MAJO Matsushiro 10.33 229 Pn Pn 08 26 06.6 +0.3
MAT Matsushiro 10.33 229 P Pn 08 26 05.1 -1.1
MAT *e*S Sn 08 28 02.0 +1.3
MJAR Matsushiro Arr 10.33 229 P Pn 08 26 06.7 +0.4
comp=Z,0.2nm,0.3s,baz=27,slow=14,SNR=8.9
PEA0B Petropavlovsk- 11.40 31 PN Pn 08 26 20.3 -0.5
PEA0B Petropavlovsk- 11.40 31 Pn 08 26 20.3 -0.5
PETK Petropavlovsk- 11.40 31 P Pn 08 26 20.1 -0.7
comp=Z,1.5nm,0.3s,baz=189,slow=8.6,SNR=17
PETK LR LR 08 31 25.0
comp=Z,93nm,18.8s,baz=240,slow=41
PETK Petropavlovsk- 11.40 31 PN Pn 08 26 20.2 -0.6
JGF Kuroka 11.49 229 Pn Pn 08 26 23.6 +1.5
USA0B Ussuriysk Arra 11.49 278 *i* PN Pn 08 26 23.6 +1.5
USRK Ussuriysk Ar. 11.49 278 P Pn 08 26 21.6 -0.5
baz=88,slow=14,SNR=7.3
MSHR Mys Shultsa 12.30 270*ce*PN Pn 08 26 35.8 +2.7
MSHR pmax pmax
comp=Z,15nm,1.0s
KLR Kul'dur 12.42 302 P Pn 08 26 39.0 +4.3
comp=Z,0.2nm,0.3s,baz=117,slow=15,SNR=12
KLR LR LR 08 31 40.4
comp=Z,98nm,18.7s,baz=38,slow=39
KLR Kul'dur 12.42 302*ce*PN Pn 08 26 37.7 +3.0
KLR pmax pmax
comp=Z,8.0nm,1.3s
KLR Kul'dur 12.42 302 *e*P Pn 08 26 35.0 +0.3
JWT Wachi 12.82 233 Pn Pn 08 26 40.9 +0.7
EKMR Ekimchan 13.62 319 *e*P Pn 08 26 51.9 +0.8
EKMR AMB AMB 08 27 09.0
comp=Z,11nm,1.0s
MA2 Magadan 15.96 5 P Pn 08 27 21.5 -0.5
comp=Z,0.6nm,0.3s,baz=165,slow=5.8,SNR=9.5
MA2 LR LR 08 32 37.3
comp=Z,141nm,21.5s,baz=210,slow=34
MA2 Magadan 15.96 5*ce*P Pn 08 27 21.9 -0.2
MA2 pmax pmax
comp=Z,6.0nm,0.6s
MA2 Magadan 15.96 5 Pn Pn 08 27 21.7 -0.4
MA2 Magadan 15.96 5 *e*P Pn 08 27 21.9 -0.2
CN2 Changchun 16.23 278 *e*P Pn 08 27 26.4 +0.9
KSRS Korea Array 16.41 254 P Pn 08 27 26.5 -1.4
comp=Z,0.2nm,0.3s,baz=69,slow=12,SNR=2.7
KSRS LR LR 08 33 53.8
comp=Z,108nm,20.2s,baz=84,slow=37
KSRS Korea Array 16.41 254 *e*P P 08 27 32.1 +1.9
JNU Nakatsue 17.01 237 P P 08 27 39.9 +3.0
comp=Z,0.6nm,0.3s,baz=39,slow=5.9,SNR=8.0
SEY Seymchan 19.41 6 P P 08 28 01.2 -1.8
comp=Z,0.7nm,0.3s,baz=188,slow=7.6,SNR=14
SEY LR LR 08 35 41.3
comp=Z,144nm,19.4s,baz=190,slow=37
SEY Seymchan 19.41 6 *i* P P 08 28 01.7 -1.3
YAK Yakutsk 21.24 336 *i* P P 08 28 22.6 -0.2
YAK pmax pmax
comp=Z,11nm,0.8s
YAK Yakutsk 21.24 336 *e*P P 08 28 22.6 -0.2
BJT Baijiatuau 23.85 272 P P 08 28 49.6 -0.4
BJT pmax pmax
comp=Z,6.0nm,0.8s
BJT Baijiatuau 23.85 272 P P 08 28 49.6 -0.4
TIA Tai'an 24.66 263 ⇑P P 08 28 58.0 +0.5
TIA pmax pmax
comp=Z,10.0nm,0.7s
BILL Bilibino 26.23 16 *e*P P 08 29 10.6 -0.7
BILL pmax pmax
comp=Z,3.0nm,0.9s
BILL Bilibino 26.23 16 *e*P P 08 29 10.6 -0.7
H11N2 WAKE ISLAND Hy 28.73 140 T T 09 00 17.6
baz=332,slow=76,SNR=616
H11N1 WAKE ISLAND Hy 28.74 140 T T 09 00 27.7
baz=332,slow=76,SNR=681
H11N3 WAKE ISLAND Hy 28.75 140 T T 09 00 37.3
baz=332,slow=76,SNR=769
SONM Songino Array 28.99 293 P P 08 29 36.9 +0.5
comp=Z,0.7nm,0.5s,baz=88,slow=7.4,SNR=2.6
SONM LR LR 08 42 41.0
comp=Z,85nm,18.3s,baz=108,slow=40
H11S1 WAKE ISLAND Hy 29.71 142 T T 09 01 32.6
baz=332,slow=76,SNR=1631
H11S3 WAKE ISLAND Hy 29.71 142 T T 09 01 27.6
baz=332,slow=76,SNR=785
H11S2 WAKE ISLAND Hy 29.72 142 T T 09 01 34.0
baz=332,slow=76,SNR=1014
K20K Telida 38.00 38 P P 08 30 56.3 +2.0
J20K Nowinta River 38.02 37 P P 08 30 55.4 +1.0
J20K IAmb IAmb 08 31 24.9
comp=Z,9.0nm,0.9s
IMAR Indian Mountai 38.35 34 P P 08 30 57.8 +0.7
M20K Styx River 38.39 41 P P 08 30 59.5 +1.7
M20K IAmb IAmb 08 31 10.9
comp=Z,4.5nm,0.8s
KDAK Kodiak Island 38.85 47 P P 08 31 01.3 -0.1
comp=Z,5.2nm,0.6s,baz=288,slow=6.8,SNR=11
KDAK Kodiak Island 38.85 47 P P 08 31 01.3 -0.1
KDAK pmax pmax
comp=Z,27nm,1.4s
KDAK Kodiak Island 38.85 47 IAmb IAmb 08 31 06.4
comp=Z,27nm,1.4s
I21K Tanana 39.01 36 P P 08 31 03.9 +1.2
I21K IAmb IAmb 08 31 04.4
comp=Z,5.7nm,0.8s
SKT Skwentna 39.15 41 P P 08 31 05.1 +1.2
NRIK Noril'sk 39.53 331 *i* P P 08 31 07.5 +0.5
NRIK pmax pmax
comp=Z,2.0nm,1.3s
COLD Coldfoot 39.87 32 P P 08 31 10.5 +0.7
COLD IAmb IAmb 08 31 11.3
comp=Z,7.9nm,1.0s
RC01 Rabbit Creek A 40.05 42 P P 08 31 10.9 -0.5
RC01 IAmb IAmb 08 31 20.2
comp=Z,7.7nm,0.8s
H23K Yukon River 40.06 35 P P 08 31 12.0 +0.5
TOLK Toolik Lake Re 40.22 30 P P 08 31 14.0 +1.1
TOLK IAmb IAmb 08 31 15.0
comp=Z,5.1nm,0.9s
MDM Murphy Dome 40.60 36 P P 08 31 14.2 -1.7
MDM IAmb IAmb 08 31 20.2
comp=Z,7.3nm,0.7s
KNK Knik Glacier 40.64 41 P P 08 31 14.9 -1.4
KNK IAmb IAmb 08 31 25.7
comp=Z,5.5nm,0.6s
H24K Noodor Dome 40.74 35 P P 08 31 18.3 +1.1
H24K IAmb IAmb 08 31 19.4
comp=Z,14nm,1.2s
COLA College 40.76 36 P P 08 31 18.1 +0.9
COLA pmax pmax
comp=Z,15nm,1.0s
COLA College 40.76 36 P P 08 31 18.1 +0.9
POKR Poker Plat Res 40.93 36 P P 08 31 20.0 +1.3
IL31 41.17 36 IAmb IAmb 08 31 22.6
comp=Z,12nm,1.3s
ILAR Eielson Array 41.17 36 P P 08 31 20.6 0.0
comp=Z,3.2nm,0.5s,baz=272,slow=8.8,SNR=40
ILAR Eielson Array 41.17 36 P P 08 31 21.0 +0.4
M24K Tolsona, Glenn 41.66 40 P P 08 31 26.6 +1.8
M24K IAmb IAmb 08 31 42.4
comp=Z,8.6nm,0.6s
PRP Porcupine Dome 41.72 35 P P 08 31 25.5 +0.2
PRP IAmb IAmb 08 31 27.2
comp=Z,10nm,1.0s
KLU Klutina 41.84 41 P P 08 31 27.2 +0.9
KLU IAmb IAmb 08 31 42.9
comp=Z,9.6nm,1.2s
EYAK Cordova Ski Ar 42.04 43 P P 08 31 28.8 +1.1
EYAK IAmb IAmb 08 31 51.8
comp=Z,13nm,1.4s
BMAR Burnt Mountain 42.05 32 P P 08 31 29.3 +1.4
RIDG Independent Ri 42.12 38 P P 08 31 28.1 -0.4
DOT Dot Lake 42.48 38 IAmb IAmb 08 31 34.3
comp=Z,4.3nm,0.6s
BMRM Bremner River 42.54 42 P P 08 31 33.3 +1.4
BMRM IAmb IAmb 08 31 38.4
comp=Z,8.4nm,0.9s
MENT Mentasta 42.71 39 P P 08 31 34.5 +1.3
MENT IAmb IAmb 08 31 36.4
comp=Z,4.7nm,0.5s
GLB Gilahina Butte 42.86 41 P P 08 31 36.0 +1.5
M26K Nabesna, AK 43.11 40 IAmb IAmb 08 31 39.6
comp=Z,6.2nm,0.7s
K27K Chicken 43.31 37 P P 08 31 39.3 +1.2
L27K Beaver Creek, 43.55 38 P P 08 31 41.4 +1.4
L27K IAmb IAmb 08 31 43.0
comp=Z,9.7nm,0.7s
BCAR Beaver Creek A 43.57 38 P P 08 31 41.6 +1.4
EGAK Eagle 43.62 36 IAmb IAmb 08 31 41.6
comp=Z,13nm,1.3s
M27K Edge Creek, AK 43.63 39 P P 08 31 42.8 +2.0
M27K IAmb IAmb 08 31 44.3
comp=Z,7.5nm,1.1s
ISLE Juniper Island 43.70 42 P P 08 31 42.1 +0.7
ISLE IAmb IAmb 08 32 08.7
comp=Z,10nm,1.1s
MESA MESA 43.97 43 P P 08 31 44.1 +0.5
MESA IAmb IAmb 08 31 45.2
comp=Z,10nm,0.8s
YAH Yahtse 44.03 42 P P 08 31 44.8 +0.6
CTGM Chitina Glacie 44.12 41 P P 08 31 46.1 +1.4
CTGM IAmb IAmb 08 32 12.3
comp=Z,9.7nm,1.1s
MK31 Makanchi Array 45.08 298 P P 08 31 53.0 +0.5
MK31 pmax pmax
comp=Z,2.0nm,0.7s
MK31 Makanchi Array 45.08 298 P P 08 31 53.0 +0.5
MKAR Makanchi Array 45.08 298 P P 08 31 52.9 +0.5
comp=Z,1.7nm,0.7s,baz=82,slow=7.8,SNR=12
MKAR Makanchi Array 45.08 298 *i* P P 08 31 53.0 +0.5
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 45.08 298 P P 08 31 53.5 +1.0
MKAR Makanchi Array 45.08 298 *e*P P 08 31 53.0 +0.5
EPYK Eagle Plains 45.23 33 P P 08 31 54.5 +1.0
HYT Haines Junctio 45.98 41 P P 08 32 01.2 +1.7
KURK Kurchatov 46.00 304 P P 08 31 59.8 +0.2
KURK Kurchatov 46.00 304 P P 08 31 59.8 +0.2
KURK Kurchatov 46.00 304 *e*P P 08 31 59.8 +0.2
KURBB Kurchatov Arra 46.08 304 P P 08 31 59.8 -0.5
comp=Z,0.7nm,0.4s,baz=76,slow=8.3,SNR=8.7
INK Inuvik 46.14 30 P P 08 32 01.4 +1.0
comp=Z,5.4nm,0.6s,baz=304,slow=10.0,SNR=11
INK Inuvik 46.14 30 P P 08 32 01.0 +0.6
INK IAmb IAmb 08 32 02.0
comp=Z,6.3nm,0.8s
CMAR Chiang Mai Arr 48.05 254 LR LR 08 53 39.2
comp=Z,49nm,19.0s,baz=80,slow=37
DLBC Dease Lake 50.32 43 P P 08 32 34.9 +2.0
comp=Z,0.8nm,0.5s,baz=288,slow=0.4,SNR=4.1
ARU Arti 54.74 317*c* *i*P P 08 33 05.6 0.0
ARU *PP pP 08 33 17.2 -0.1
ARU S S 08 40 42.2 -0.6
ARU pmax pmax
comp=Z,5.0nm,1.1s
ARU Arti 54.74 317 *e*P P 08 33 05.7 +0.1
YKA Yellowknife Ar 55.51 34 P P 08 33 09.9 -1.1
comp=Z,1.5nm,0.7s,baz=299,slow=6.0,SNR=4.1
AKTO Aktyubinsk 57.97 311 P P 08 33 26.2 -2.5
comp=Z,1.2nm,0.6s,baz=98,slow=6.0,SNR=2.7
ARCES ARCESS Array B 59.46 340 P P 08 33 36.1 -2.6
comp=Z,1.8nm,0.7s,baz=29,slow=5.5,SNR=8.1
SUMG Summit 63.91 2 P P 08 34 08.8 -0.3
SUMG pmax pmax
comp=Z,5.0nm,0.6s
SUMG Summit 63.91 2 P P 08 34 08.8 -0.3
WRA Warramunga Arr 64.57 194 P P 08 34 14.2 +0.6
comp=Z,1.2nm,0.9s,baz=12,slow=5.8,SNR=5.8
WRA Warramunga Arr 64.57 194 *e*P P 08 34 15.6 +2.0
WRA pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 65.14 333 P P 08 34 15.6 -1.2
comp=Z,4.0nm,0.5s,baz=40,slow=8.2,SNR=25
FINES FINESS Array B 65.14 333 *e*P P 08 34 15.8 -1.0
FINES pmax pmax
comp=Z,4.0nm,0.5s
OBN Obninsk 65.66 324 *e*P P 08 34 20.0 -0.2
OBN pmax pmax
comp=Z,3.0nm,0.8s
OBN Obninsk 65.66 324 *e*P P 08 34 20.0 -0.2
KVN Kaiserville 66.86 58 P P 08 34 29.2 +0.7
KVN pmax pmax
comp=Z,4.0nm,1.1s
KVN Kaiserville 66.86 58 P P 08 34 29.2 +0.7
KVN IAmb IAmb 08 34 30.5
comp=Z,3.6nm,1.1s
NVAR Mina Array Bea 67.12 58 P P 08 34 31.5 +1.3
comp=Z,1.0nm,0.7s,baz=302,slow=7.5,SNR=12
NVAR Mina Array Bea 67.12 58 P P 08 34 30.1 -0.1
ASAR Alice Springs 68.29 194 P P 08 34 38.9 +1.6
comp=Z,0.4nm,0.7s,baz=11,slow=6.1,SNR=5.2
PDAR Pinedale Array 69.50 50 P P 08 34 45.4 +0.4
comp=Z,0.8nm,0.7s,baz=204,slow=6.5,SNR=5.7
NB2 NORSAR Subarra 69.82 339 P P 08 34 45.7 -0.8
comp=Z,1.0nm,0.5s,baz=30,slow=6.5
NOA NORSAR Array B 69.82 339 P P 08 34 45.3 -1.1
comp=Z,1.7nm,0.4s,baz=32,slow=6.6,SNR=11
NOA LR LR 09 09 02.3
comp=Z,25nm,20.3s,baz=20,slow=39
NOA NORSAR Array B 69.82 339 *e*P P 08 34 45.9 -0.6
NOA pmax pmax
comp=Z,2.0nm,0.4s
KIV Kislovodsk 70.19 312*ce*P P 08 34 49.2 +0.1
KIV pmax pmax
comp=Z,10.0nm,1.3s
KIV Kislovodsk 70.19 312 *e*P P 08 34 49.2 +0.1
KBZ Khabaz 70.22 312 P P 08 34 50.2 +1.0
comp=Z,5.8nm,0.8s,baz=106,slow=4.7,SNR=12
KBZ Khabaz 70.22 312 *i* P P 08 34 49.6 +0.5
KBZ pmax pmax
comp=Z,6.0nm,0.8s
KBZ Khabaz 70.22 312 *e*P P 08 34 49.6 +0.5
ZEI Tsey 70.31 311 *e*P P 08 34 46.1 -3.9
ZEI pmax pmax
comp=Z,2.0nm,0.8s
RDMU Red Mountain 70.94 52 P P 08 34 54.8 +0.9
RDMU IAmb IAmb 08 34 59.1
comp=Z,3.7nm,0.7s
AKASG Malin Array Be 71.92 324 P P 08 34 58.6 -0.7
comp=Z,4.9nm,0.5s,baz=38,slow=6.0,SNR=24
AKASG Malin Array Be 71.92 324*ce*P P 08 34 58.9 -0.4
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKBB Malin Array Si 71.92 324*ce*P P 08 34 59.0 -0.3
AKBB Malin Array Si 71.92 324 P P 08 34 58.7 -0.6
BUR08 Bucovina Ar. S 75.96 324 IAmb IAmb 08 35 24.6
comp=Z,3.4nm,0.8s
BURAR Bucovina Array 75.98 324 P P 08 35 22.7 -0.5
MORC Moravsky Berou 77.29 330 P P 08 35 31.5 +1.0
MORC pmax pmax
comp=Z,6.0nm,0.9s
MORC Moravsky Berou 77.29 330 P P 08 35 31.5 +1.0
MORC IAmb IAmb 08 35 31.8
comp=Z,5.6nm,0.9s
SCHQ Schefferville 77.45 20 P P 08 35 31.5 +0.2
comp=Z,1.9nm,0.5s,baz=342,slow=9.6,SNR=7.3
SCHQ LR LR 09 11 52.8
comp=Z,37nm,20.9s,baz=58,slow=37
CLL Collm 77.58 333 *i* P P 08 35 31.7 -0.3
comp=Z,11nm,0.7s
CLL Collm 77.58 333 *i* P P 08 35 31.7 -0.3
CLL pmax pmax
comp=Z,11nm,0.7s
CLL Collm 77.58 333 P P 08 35 31.8 -0.3
KHC Kasperske Hory 79.24 331 *e*P P 08 35 39.5 -1.8
KHC Kasperske Hory 79.24 331 *e*P P 08 35 39.5 -1.8
KHC Kasperske Hory 79.24 331 IAmb IAmb 08 35 44.9
comp=Z,3.0nm,0.6s
GERES GERESS Array B 79.44 331 P P 08 35 42.4 -0.1
comp=Z,0.7nm,0.4s,baz=44,slow=5.6,SNR=6.8
TX31 Lajitas Ar. Si 82.20 57 P P 08 35 58.1 +0.5
TX31 IAmb IAmb 08 36 07.7
comp=Z,6.9nm,1.1s
TXAR Lajitas Array 82.20 57 P P 08 35 58.5 +0.9
comp=Z,1.4nm,0.8s,baz=296,slow=3.8,SNR=16
ESDC Sonseca Array 93.17 339 LR LR 09 23 42.7
comp=Z,32nm,18.8s,baz=295,slow=39

IDC 02 08:27:06.0±5.7, 36.°31N×71.°40E, h141km±50km, mb3.4/6, mb1 3.4/12, mb1mx3.3/59, mbtmp3.8/12, Error ellipse: s-maj=42.7km s-min=22.4km az=30.0
SOME 02 08:27:08.0, 38.°00N×72.°03E, h10km
NNC 02 08:27:10.9±4.4, 37.°15N×71.°13E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=35.5km s-min=24.6km az=164.0
ISC 02 08:27:07.8±1.1, 36.°62N±0.°09×71.°45E±0.°08, h150km, n29, σ2.s36/38, mb3.6/6, 2C-5D, Afghanistan-Tajikistan border region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
IUG Iuzhnay 5.63 349 *e*P Pn 08 28 32.9 +3.3
319nm,0.3s
IUG *e*S Sn 08 29 33.3 -0.3
168nm,0.6s
AML Almayashu 5.78 17 P Pn 08 28 34.1 +2.3
SNR=33
CHM Chimkent 5.87 347 *e*P Pn 08 28 36.5 +3.8
187nm,0.1s
CHM *e*S Sn 08 29 39.2 0.0
194nm,0.3s
KZA Kyzart 6.20 27 P Pn 08 28 39.4 +1.9
SNR=10
DZA Taraz 6.27 359 *e*P Pn 08 28 41.4 +3.4
153nm,0.1s
DZA *e*S Sn 08 29 47.9 -0.8
248nm,0.2s
MRKS Merke 6.27 12 *e*P Pn 08 28 41.2 +3.1
12nm,0.1s
MRKS *e*S Sn 08 29 47.0 -1.8
89nm,0.4s
EKS2 Erkin-Say 6.30 16 P Pn 08 28 41.3 +2.8
SNR=22
AAK Ala-Archa 6.46 20 P Pn 08 28 43.0 +2.4
5.0nm,0.3s,baz=198,slow=7.2,SNR=24
AAK S Sn 08 29 53.0 -0.3
2.0nm,0.3s,baz=322,slow=23,SNR=21
AAK Ala-Archa 6.46 20 P Pn 08 28 43.0 +2.4
SNR=16
AAK Ala-Archa 6.46 20 ⇑P Pn 08 28 42.9 +2.3
6.3nm,0.3s
AAK ⇓S Sn 08 29 52.7 -0.7
24nm,0.6s
KK31 Karatay Array 6.52 354 ⇑P Pn 08 28 41.7 +0.4
2.9nm,0.3s,baz=178,slow=13,SNR=68
KK31 S Sn 08 29 51.8 -2.8
22nm,0.6s,baz=178,slow=22,SNR=22
BRLS Borolday 6.53 350 *e*P Pn 08 28 41.4 0.0
3.8nm,0.1s
BRLS *e*S Sn 08 29 47.5 -7.3
36nm,0.2s
ULHL Ulahol 6.74 32 P Pn 08 28 47.2 +2.8
SNR=16
CHMS Chumysh 6.86 21 P Pn 08 28 48.1 +2.2
SNR=12
TKM2 Tokmak 2 7.06 26 ⇓P Pn 08 28 50.8 +2.0
3.4nm,0.5s
TKM2 ⇓S Sn 08 30 07.1 -0.8
11nm,1.1s
MKAR Makanchi Array 12.99 35 P P 08 30 08.2 -3.3
0.1nm,0.3s,baz=224,slow=12,SNR=6.9
KURBB Kurchatov Arra 14.90 18 P P 08 30 34.2 +1.6
0.1nm,0.3s,baz=207,slow=11,SNR=4.4
AB31 Akbulak array 15.16 330 P P 08 30 36.4 +0.9
0.9nm,0.5s,baz=143,slow=11,SNR=24
AB31 ⇓S Sn 08 33 21.3 -1.0
1.3nm,0.5s,baz=66,slow=7.0,SNR=13
BVAR Borovoye Array 16.43 358 P Pn 08 30 51.1 +1.6
0.5nm,0.3s,baz=201,slow=16,SNR=4.3
AKTO Aktyubinsk 16.86 329 P Pn 08 30 56.4 +1.6
1.0nm,0.3s,baz=138,slow=9.2,SNR=17
AKTO Aktyubinsk 16.86 329 ⇓P Pn 08 30 57.9 +3.1
2.9nm,0.5s
ZALV Zalesovo Beam 19.66 24 P Pn 08 31 25.9 -1.9
0.6nm,0.3s,baz=216,slow=9.4,SNR=4.6
ZALV Zalesovo Beam 19.66 24 P Pn 08 31 25.9 -1.9
AKASG Malin Array Be 33.16 309 P P 08 33 30.6 +0.9
0.3nm,0.3s,baz=90,slow=10,SNR=4.0
FINES FINESS Array B 37.59 326 P P 08 34 08.5 +1.1
0.8nm,0.3s,baz=126,slow=8.2,SNR=8.4
ARCES ARCESS Array B 41.18 337 P P 08 34 38.2 +1.2
1.4nm,0.5s,baz=104,slow=7.6,SNR=8.4
NOA NORSAR Array B 44.51 323 P P 08 35 04.7 +0.7
2.1nm,0.8s,baz=96,slow=7.7,SNR=4.8
TORD Torodi Ar. Bea 66.08 269 P P 08 37 37.0 -1.9
0.2nm,0.4s,baz=60,slow=6.2,SNR=1.7
WRA Warramunga Arr 81.75 122 P P 08 39 08.8 -1.0
0.3nm,0.6s,baz=298,slow=5.4,SNR=6.5

IDC 02 08:32:48.0±1.4, 14.°18N×53.°70E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/45, mbtmp3.6/4, MS3.0/1, Ms1 3.0/1, ms1mx2.4/45, Error ellipse: s-maj=52.9km s-min=35.3km az=1.0, Owen Fracture Zone region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
ATD Arta Tunnel 10.90 257 LR LR 08 38 42.3
comp=Z,74nm,20.4s,baz=346,slow=32
MKAR Makanchi Array 40.36 31 P P 08 40 27.5 -0.1
0.3nm,0.8s,baz=218,slow=9.0,SNR=2.8
TORD Torodi Ar. Bea 50.45 275 P P 08 41 48.0 -0.1
1.0nm,0.8s,baz=96,slow=5.1,SNR=5.0
WRA Warramunga Arr 86.22 112 P P 08 45 32.1 -0.1
0.7nm,0.8s,baz=296,slow=3.9,SNR=4.9
ASAR Alice Springs 86.90 115 P P 08 45 35.4 0.0
0.3nm,0.6s,baz=281,slow=3.9,SNR=2.5

AEIC 02 08:33:06±2.4, 63.°287N±0.°009×151.°38W±0.°05, h15km±3km, ML4.2, mb4.1/3(NEIC), ML4.4/101(NEIC), Mwr4.1/134(NEIC), Error ellipse: s-maj=3.6km s-min=1.0km az=76.0
NEIC 02 08:33:06, 63.°29N×151.°37W, h19km, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr1.08; Mθθ-0.48; Mφφ-0.60; Mrθ0.98; Mθφ-0.68; Mφr0.55; Fault plane solution: Mo1.62000×10^15 NP1:φs207.88000°, δ25.02000°, λ64.32000°. NP2:φs55.83000°, δ67.59000°, λ101.44000°. Principal axes: T 1.5762, Plg66.0000°, Azm346.0000°; N 0.0764, Plg11.0000°, Azm231.0000°; P -1.6525, Plg22.0000°, Azm137.0000°;
NEIC 02 08:33:07.4±2.7, 63.°26N±0.°02×151.°30W±0.°04, h17km±3km Error ellipse: s-maj=2.8km s-min=2.6km az=167.0
IDC 02 08:33:07.8±0.6, 63.°38N×151.°37W, h17km±3km, mb4.1/20, mb1 4.2/24, mb1mx4.0/50, mbtmp4.1/24, ML3.9/4, MS3.5/11, Ms1 3.5/11, ms1mx3.2/44, Error ellipse: s-maj=11.4km s-min=9.2km az=21.0
ISC 02 08:33:07.1±0.5, 63.°27N±0.°02×151.°37W±0.°02, h16km±3km,

n277,σ0.94/302,mb4.3/23,MS3.5/7,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KTH	Kantishna Hill	0.35	35		Sg	08 33 19.2	-0.3
KTH	Kantishna Hill	0.35	35		Pg	08 33 13.8	-0.7
KTH	Kantishna Hill	0.35	35	IAML		08 33 21.3	
	comp=E,9μm,0.8s						
KTH				IAML		08 33 25.2	
	comp=N,12μm,0.7s						
TRF	Thorofare Moun	0.52	69		Pg	08 33 16.6	-0.9
TRF	Thorofare Moun	0.52	69		Sg	08 33 24.4	-0.2
TRF	Thorofare Moun	0.52	69	P	Pg	08 33 16.7	-0.9
	baz=252,SNR=1000						
TRF				S	Sg	08 33 24.1	-0.5
	baz=252						
PPLA	Purkeypile	0.53	226		Pg	08 33 16.5	-1.2
PPLA	Purkeypile	0.53	226	P	Pg	08 33 16.4	-1.2
	baz=43,SNR=1000						
PPLA				S	Sg	08 33 23.2	-1.5
	baz=43						
CHUM	Lake Minchumin	0.75	326		Pb	08 33 21.4	-0.4
CHUM					Sn	08 33 32.6	-1.4
CHUM	Lake Minchumin	0.75	326	P	Pb	08 33 21.2	-0.6
	baz=144,SNR=1000						
CHUM				S	Sg	08 33 31.6	-0.1
	baz=144						
HUR	Hurricane	0.84	109		Pb	08 33 22.0	-1.3
BPAW	Bear Paw Mtn.	0.85	11		Pb	08 33 22.7	-0.8
BPAW				IAML		08 33 37.1	
	comp=E,10μm,0.4s						
BPAW	Bear Paw Mtn.	0.85	11	P	Pb	08 33 22.8	-0.8
	baz=192,SNR=1000						
BPAW				S	Sb	08 33 34.1	-0.7
	baz=192						
CUT	Chulitna	1.00	149		Pb	08 33 25.4	-0.6
CUT					Sb	08 33 38.1	-0.8
CUT	Chulitna	1.00	149	P	Pb	08 33 25.4	-0.6
	baz=331,SNR=1000						
CUT				S	Sb	08 33 38.1	-0.8
	baz=331						
RND	Reindeer	1.14	82	Pn	Pn	08 33 27.4	-1.1
RND				Sn	Sb	08 33 42.1	-1.1
RND				IAML		08 33 46.2	
	comp=E,7μm,0.8s						
RND				IAML		08 33 47.3	
	comp=N,5μm,0.6s						
MCK	McKinley	1.19	66		Pn	08 33 28.2	-0.8
MCK	McKinley	1.19	66	P	Pn	08 33 28.5	-0.6
	baz=249,SNR=331						
K20K	Telida	1.22	276	Pn	Pn	08 33 28.7	-0.8
K20K				Sn	Sb	08 33 44.6	-0.8
K20K	Telida	1.22	276	P	Pn	08 33 28.6	-0.9
	baz=92,SNR=1000						
K20K				S	Sb	08 33 45.0	-0.3
	baz=92						
WAT7	Susitna Watana	1.23	110		Pn	08 33 28.6	-1.0
WAT7					Sb	08 33 44.5	-1.1
BWN	Browne	1.24	42		Pn	08 33 29.5	-0.3
BWN				IAML		08 33 51.4	
	comp=N,5μm,0.8s						
BWN				IAML		08 33 57.1	
	comp=E,5μm,0.7s						
SKT	Skwentna	1.29	183		Pn	08 33 30.1	-0.3
SKT				Sn	Sn	08 33 46.5	-0.9
SKT				IAML		08 33 48.2	
	comp=N,7μm,0.5s						
SKT	Skwentna	1.29	183	P	Pn	08 33 30.1	-0.3
	baz=3.4,SNR=1000						
SKT				S	Sn	08 33 46.5	-0.9
	baz=3.4						
WAT1	Susitna Watana	1.36	108		Pn	08 33 31.0	-0.4
WAT1					Sn	08 33 48.6	-0.5
WAT1	Susitna Watana	1.36	108	P	Pn	08 33 31.2	-0.2
	baz=291						
WAT1				S	Sn	08 33 48.6	-0.5
	baz=291						
J20K	Nowinta River	1.54	308		Sb	08 33 54.9	+0.6
J20K	Nowinta River	1.54	308	Pn	Pn	08 33 33.1	-0.7
J20K	Nowinta River	1.54	308	IAML		08 33 56.8	
	comp=E,11μm,0.7s						
J20K				IAML		08 33 56.9	
	comp=N,17μm,0.5s						
J20K	Nowinta River	1.54	308	P	Pn	08 33 33.3	-0.5
	baz=124,SNR=1000						
J20K				Sg	Sg	08 33 56.0	-0.6
	baz=124						
M20K	Styx River	1.61	211		Pn	08 33 34.5	-0.4
M20K	Styx River	1.61	211		Sb	08 33 56.5	-0.1
M20K	Styx River	1.61	211	IAML		08 33 57.8	
	comp=E,3μm,0.4s						
M20K				IAML		08 33 58.4	
	comp=N,3μm,0.6s						
M20K	Styx River	1.61	211	P	Pn	08 33 34.4	-0.4
	baz=29,SNR=1000						
M20K				S	Sn	08 33 55.8	+0.5
	baz=29						
NEA2	Nenana	1.68	36		Pn	08 33 34.2	-1.5
NEA2	Nenana	1.68	36	P	Pn	08 33 34.2	-1.5
	baz=219,SNR=591						
STLK	Strandline Lak	1.79	187		Pn	08 33 37.2	-0.1
WAT6	Susitna Watana	1.80	111		Pn	08 33 36.7	-0.8
WAT6	Susitna Watana	1.80	111	P	Pn	08 33 36.8	-0.7
	baz=295,SNR=584						
WAT6				S	Sn	08 33 60.0	-0.1
	baz=295						
SUA	Susitna One	1.83	171		Pn	08 33 37.5	-0.5
SUA				IAML		08 34 04.1	
	comp=E,5μm,0.7s						
SUA	Susitna One	1.83	171	P	Pn	08 33 37.6	-0.3
	baz=351,SNR=810						
SUA				S	Sb	08 34 02.4	-0.6
	baz=351						
GHO	Glory Hole Cre	1.88	142		Pn	08 33 38.2	-0.4
GHO					Sb	08 34 04.0	-0.2
GHO	Glory Hole Cre	1.88	142	IAML		08 34 05.6	
	comp=N,5μm,0.5s						
GHO				IAML		08 34 08.9	
	comp=E,5μm,0.6s						
WRH	Wood River Hil	1.89	49		Pn	08 33 37.3	-1.4
L19K	White Mountain	1.94	237		Sb	08 34 05.0	-0.9
L19K	White Mountain	1.94	237	Pn	Pn	08 33 37.6	-1.8
L19K	White Mountain	1.94	237	IAML		08 34 08.6	
	comp=N,3μm,0.8s						
L19K				IAML		08 34 16.4	
	comp=E,3μm,0.8s						
L19K	White Mountain	1.94	237	P	Pn	08 33 37.6	-1.8
	baz=54,SNR=280						
L19K				Sb	Sb	08 34 06.4	+0.5
	baz=54						
I21K	Tanana	1.94	352		Pn	08 33 39.0	-0.3
I21K				IAML		08 34 09.5	
	comp=E,2μm,0.6s						
I21K				IAML		08 34 16.1	
	comp=N,4μm,0.8s						
I21K	Tanana	1.94	352	P	Pn	08 33 39.1	-0.3
	baz=172,SNR=640						
I21K				Sb	Sb	08 34 07.2	+1.2
	baz=172						
M19K	Big River Lodg	1.96	227		Pn	08 33 38.1	-1.5
M19K	Big River Lodg	1.96	227		Sb	08 34 05.9	-0.5
M19K	Big River Lodg	1.96	227	IAML		08 34 12.8	
	comp=N,2μm,0.7s						
M19K				IAML		08 34 13.5	
	comp=E,3μm,0.6s						
M19K	Big River Lodg	1.96	227	P	Pn	08 33 38.3	-1.3
	baz=44						
M19K				Sb	Sb	08 34 07.8	+1.4
	baz=44						
PMR	Palmer	1.98	147		Pn	08 33 39.4	-0.4
PMR				IAML		08 34 08.1	
	comp=N,3μm,0.5s						
PMR				IAML		08 34 10.2	
	comp=E,4μm,0.5s						
PMR	Palmer	1.98	147	P	Pn	08 33 39.4	-0.4
	baz=330,SNR=918						
SPCG	Spurr Capps Gl	2.00	189		Pn	08 33 40.3	0.0
SPCG					Sb	08 34 08.2	+0.3
SML	Sawmill	2.03	135	Pn	Pn	08 33 40.2	-0.5
SML				IAML		08 34 10.6	
	comp=E,4μm,0.6s						
SML				IAML		08 34 13.2	
	comp=N,3μm,0.5s						
SML	Sawmill	2.03	135	P	Pn	08 33 40.1	-0.5
	baz=318,SNR=1000						
SPCP	Crater Peak Br	2.04	191		Pn	08 33 41.1	+0.2
SPBG	Spurr Blockage	2.07	194		Pn	08 33 41.9	+0.7
SPCN	Chakachatna No	2.08	191		Pn	08 33 42.2	+0.9
I23K	Minto, Yukon-K	2.08	24	Pn	Pn	08 33 40.6	-0.7
I23K				IAML		08 34 13.9	
	comp=N,2μm,0.6s						
I23K				IAML		08 34 17.6	
	comp=E,2μm,0.6s						
I23K	Minto, Yukon-K	2.08	24	P	Pn	08 33 40.6	-0.7
	baz=206,SNR=542						
I23K				Sb	Sb	08 34 11.5	+1.5
	baz=206						
CCB	Clear Creek Bu	2.10	47		Pn	08 33 40.2	-1.3
SPCR	Spurr Chakacha	2.11	191		Pn	08 33 42.4	+0.7
SPCR	Spurr Chakacha	2.11	191	P	Pn	08 33 41.8	+0.1
	baz=10,SNR=115						
TTA	Tatalina	2.14	263	Pn	Pn	08 33 40.6	-1.4
TTA				IAML		08 34 14.1	
	comp=N,3μm,0.9s						
TTA				IAML		08 34 21.8	
	comp=E,2μm,0.7s						
TTA	Tatalina	2.14	263	P	Pn	08 33 40.7	-1.4
	baz=78,SNR=13						
TTA				Sb	Sb	08 34 12.4	+0.7
	baz=78						
TT01	Tatalina	2.15	262		Pn	08 33 41.0	-1.2
MDM	Murphy Dome	2.19	38		Pn	08 33 41.5	-1.3
TCOL	CIGO, UAF Yank	2.23	42	Pn	Pn	08 33 42.2	-1.1
TCOL	CIGO, UAF Yank	2.23	42	P	Pn	08 33 42.2	-1.1
	baz=226,SNR=63						
I53US	FAIRBANKS INFR	2.23	42	*i*		08 46 40.0	
	baz=219,slow=331,SNR=5.3						
COLA	College	2.24	42		Pn	08 33 42.2	-1.2
COLA	College	2.24	42	P	Pn	08 33 42.2	-1.2
	baz=226						
HDA	Harding Lake	2.27	58		Pn	08 33 42.5	-1.3
HDA				IAML		08 34 30.9	
	comp=N,2μm,0.5s						
HDA	Harding Lake	2.27	58	P	Pn	08 33 42.6	-1.3
	baz=242,SNR=203						
KNK	Knik Glacier	2.30	143		Pn	08 33 44.5	+0.2
KNK				IAML		08 34 20.1	
	comp=N,3μm,0.7s						
KNK	Knik Glacier	2.30	143	P	Pn	08 33 44.6	+0.2
	baz=326,SNR=854						
RC01	Rabbit Creek A	2.31	160		Pn	08 33 44.1	-0.4
RC01				IAML		08 34 17.2	
	comp=N,2μm,0.5s						
RC01	Rabbit Creek A	2.31	160	P	Pn	08 33 44.7	+0.2
	baz=342,SNR=149						
SCM	Sheep Creek Mo	2.36	126		Pn	08 33 44.4	-0.8
SCM				IAML		08 34 34.5	
	comp=E,2μm,1.0s						
PS08	TAPS Pump Stn8	2.38	55		Pn	08 33 44.2	-1.3
PS07	TAPS Pump Stn7	2.46	32		Pn	08 33 45.3	-1.2
IL31		2.49	51	Pn	Pn	08 33 45.6	-1.2
ILAR	Eielson Array	2.49	51	Pn	Pn	08 33 45.5	-1.3
	comp=E,8.1nm,0.3s,baz=238,slow=14,SNR=158						
ILAR				Lg	Lg	08 34 22.8	
	comp=E,96nm,0.3s,baz=229,slow=29,SNR=8.7						
ILAR	Eielson Array	2.49	51	Pn	Pn	08 33 45.6	-1.3
ILAR	Eielson Array	2.49	51		LR	08 34 22.8	
CAPN	Captain Cook N	2.51	178	P	Pn	08 33 49.1	+2.0
	baz=358,SNR=15						
POKR	Poker Plat Res	2.53	41	Pn	Pn	08 33 46.4	-1.1
POKR	Poker Plat Res	2.53	41	P	Pn	08 33 46.4	-1.1
	baz=225,SNR=28						
M24K	Tolsona, Glenn	2.66	114	Pn	Pn	08 33 49.7	+0.3
M24K	Tolsona, Glenn	2.66	114	P	Pn	08 33 49.6	+0.2
	baz=299,SNR=277						
H23K	Yukon River	2.69	16	Pn	Pn	08 33 49.1	-0.6
H23K				IAML		08 34 32.0	
	comp=E,2μm,0.6s						
H23K				IAML		08 34 34.7	
	comp=N,1μm,0.7s						
H23K	Yukon River	2.69	16	P	Pn	08 33 49.2	-0.4
	baz=198,SNR=274						
PS06	TAPS Pump Stn6	2.69	14		Pn	08 33 49.5	-0.2
PAX	Paxson	2.70	94	Pn	Pn	08 33 50.2	+0.4
PAX	Paxson	2.70	94	P	Pn	08 33 50.2	+0.4
	baz=280,SNR=217						
DFR	Drift River	2.75	194		Pn	08 33 51.7	+1.1
RDJH	Redoubt Jeurge	2.77	195		Pn	08 33 52.2	+1.3
PWL	Port Wells	2.81	148	Pn	Pn	08 33 52.2	+1.0
NCT	North Crescent	2.81	196		Pn	08 33 52.3	+0.9
SLKM	Skilak Lake	2.82	168		Pn	08 33 52.0	+0.5
N19K	Bonanza Creek	2.87	212		Pn	08 33 51.4	-0.7
N19K				IAML		08 34 37.4	
	comp=E,937nm,0.8s						
N19K				IAML		08 34 40.1	
	comp=N,957nm,0.5s						
N19K	Bonanza Creek	2.87	212	P	Pn	08 33 51.6	-0.6
	baz=29,SNR=53						
RDWB	Redoubt West	2.87	195		Pn	08 33 53.7	+1.4
O22K	Cooper Landing	2.90	164	P	Pn	08 33 53.2	+0.7
	baz=345,SNR=112						
IM05	Indian Mountai	2.90	341		Pn	08 33 52.6	+0.1
IMAR	Indian Mountai	2.92	340		Pn	08 33 52.4	-0.4
SVW2	Sparrevohn	2.94	224		Pn	08 33 52.0	-1.1
SVW2				IAML		08 34 40.3	
	comp=N,1μm,0.6s						
SVW2				IAML		08 34 47.8	
	comp=E,1μm,0.7s						
RIDG	Independent Ri	2.96	78	P	Pn	08 33 53.0	-0.5
	baz=264,SNR=486						
PS11	TAPS Pump St11	2.97	111		Pn	08 33 54.8	+1.4
HARP	HAARP	2.98	104		Pn	08 33 54.9	+1.2
HARP	HAARP	2.98	104	P	Pn	08 33 54.7	+1.0
	baz=290,SNR=129						
H24K	Noodor Dome	2.99	29	P	Pn	08 33 52.6	-1.2
	baz=212,SNR=35						
KLU	Klutina	3.10	123	P	Pn	08 33 56.4	+1.1
	baz=308,SNR=150						
GLI	Glacier Island	3.13	138	P	Pn	08 33 56.7	+1.0
	baz=322,SNR=171						
VMT	TAPS Tl Valdez	3.21	131		Pn	08 33 57.7	+1.0
O20K	Slope Mountain	3.25	191		Pn	08 33 58.8	+1.4
O20K	Slope Mountain	3.25	191	P	Pn	08 33 58.3	+0.9
	baz=10.0,SNR=22						
SEW	Seward	3.30	163	Pn	Pn	08 33 58.7	+0.7
SEW	Seward	3.30	163	P	Pn	08 33 58.3	+0.3
	baz=345,SNR=71						
DOT	Dot Lake	3.30	80		Pn	08 33 57.7	-0.4
N18K	Kilae Creek	3.36	221	Pn	Pn	08 33 57.9	-1.0
N18K				IAML		08 34 54.1	
	comp=E,837nm,0.7s						
N18K				IAML		08 34 54.5	
	comp=N,921nm,0.7s						
N18K	Kilae Creek	3.36	221	P	Pn	08 33 57.8	-1.0
	baz=37,SNR=31						
SCRK	Sand Creek	3.37	74	Pn	Pn	08 33 58.4	-0.8
SCRK	Sand Creek	3.37	74	P	Pn	08 33 58.1	-1.0
	baz=262,SNR=64						
O19K	Port Alsworth	3.39	206	Pn	Pn	08 33 59.5	+0.3
O19K	Port Alsworth	3.39	206	P	Pn	08 33 59.2	0.0
	baz=23,SNR=36						
DIV	Divide	3.39	127	Pn	Pn	08 33 60.0	+0.7
PRP	Porcupine Dome	3.40	46	Pn	Pn	08 33 58.8	-0.7
PRP				IAML		08 34 58.3	
	comp=N,551nm,0.5s						
PRP	Porcupine Dome	3.40	46	P	Pn	08 33 58.8	-0.7
	baz=231,SNR=110						
PS12	TAPS Pump St12	3.41	119		Pn	08 34 00.7	+1.1
ILS	Iliamna Low So	3.42	194		Pn	08 34 01.4	+1.6
FID	Port Fidalgo	3.42	135	Pn	Pn	08 34 00.4	+0.7
FID				IAML		08 34 58.2	
	comp=E,1μm,1.0s						
BRSE	Bradley Lake S	3.55	175		Pn	08 34 03.1	+1.6
BRSE	Bradley Lake S	3.55	175	P	Pn	08 34 02.0	+0.6
	baz=356,SNR=44						
N25K	Chitina, Valde	3.56	115	P	Pn	08 34 03.2	+1.5
	baz=301,SNR=208						
PS05	TAPS Pump Stn5	3.57	5		Pn	08 34 02.5	+0.7
HOM	Homer	3.62	182	P	Pn	08 34 03.6	+1.2
	baz=2.1,SNR=12						
L26K	Log Cabin Wild	3.65	90	P	Pn	08 34 04.1	+1.3
	baz=278,SNR=275						
OPT	Oil Point	3.73	195		Pn	08 34 06.2	+2.2
P19K	Oil Pt	3.73	195	P	Pn	08 34 05.1	+1.0
	baz=13,SNR=22						
CNPM	China Poot	3.75	179		Pn	08 34 04.7	+0.4
CNPM				IAML		08 35 03.9	
	comp=E,608nm,0.7s						
CNPM				IAML		08 35 04.8	
	comp=N,562nm,0.7s						
EYAK	Cordova Ski Ar	3.81	133		Pn	08 34 06.1	+1.1
EYAK	Cordova Ski Ar	3.81	133	P	Pn	08 34 05.8	+0.8
	baz=319,SNR=52						
O18K	Koktuh Hills	3.88	210		Pn	08 34 06.1	0.0
O18K				IAML		08 35 09.9	
	comp=E,460nm,1.1s						
O18K				IAML		08 35 15.2	
	comp=N,570nm,0.8s						
O18K	Koktuh Hills	3.88	210	P	Pn	08 34 06.1	0.0
	baz=26						
BMRM	Bremner River	3.92	123	Pn	Pn	08 34 06.3	-0.4
BMRM				IAML		08 35 09.8	
	comp=N,703nm,0.8s						
BMRM				IAML		08 35 16.2	
	comp=E,447nm,0.8s						
BMRM	Bremner River	3.92	123	P	Pn	08 34 06.8	+0.2
	baz=309,SNR=36						
M26K	Nabesna, AK	3.94	99	Pn	Pn	08 34 08.1	+1.3
M26K				IAML		08 35 14.9	
	comp=N,757nm,0.8s						
M26K				IAML		08 35 15.1	
	comp=E,466nm,0.6s						
M26K	Nabesna, AK	3.94	99	P	Pn	08 34 08.0	+1.2
	baz=287,SNR=55						
GLB	Gilahina Butte	3.97	114	Pn	Pn	08 34 08.6	+1.4
GLB				IAML		08 35 17.0	
	comp=N,479nm,0.8s						
COLD	Coldfoot	4.01	7	Pn	Pn	08 34 07.8	0.0
COLD	Coldfoot	4.01	7	P	Pn	08 34 07.6	-0.2
	baz=188,SNR=152						
AUL	Augustine Lava	4.02	195		Pn	08 34 09.4	+1.5
AUW	Augustine West	4.04	195		Pn	08 34 09.6	+1.4
AUCH	Augustine Cone	4.04	195		Pn	08 34 09.8	+1.5
AGU	Augustine-Summ	4.04	195		Pn	08 34 09.9	+1.5
K27K	Chicken	4.21	75	Pn	Pn	08 34 09.7	-0.8
K27K				IAML		08 35 23.7	
	comp=N,322nm,0.8s						
K27K	Chicken	4.21	75	P	Pn	08 34 09.8	-0.7
	baz=264						
FYU	Fort Yukon	4.22	36	Pn	Pn	08 34 09.6	-1.0
FYU				IAML		08 35 27.8	
	comp=N,341nm,0.8s						
FYU				IAML		08 35 28.9	
	comp=E,440nm,1.1s						
MCARA	McCarthy VSAT	4.33	112		Pn	08 34 13.8	+1.7
MCARA	McCarthy VSAT	4.33	112	P	Pn	08 34 13.8	+1.7
	baz=300,SNR=48						
L27K	Beaver Creek,	4.33	88	Pn	Pn	08 34 12.4	+0.2
L27K	Beaver Creek,	4.33	88	P	Pn	08 34 12.2	0.0
	baz=277,SNR=123						
BC03		4.35	88		Pn	08 34 12.4	+0.1
BCAR	Beaver Creek A	4.35	88	Pn	Pn	08 34 12.6	+0.1
M27K	Edge Creek, AK	4.45	98	P	Pn	08 34 15.7	+1.8
	baz=286,SNR=57						
Q19K	Cape Douglas,	4.49	195	P	Pn	08 34 15.4	+1.0
	baz=13,SNR=18						
Q23K	Middleton Isla	4.54	146	P	Pn	08 34 16.5	+1.4
	baz=330						
CRQE	Cirque	4.64	119	P	Pn	08 34 16.1	-0.5
	baz=307,SNR=25						
NICHA	Nichawak Mount	4.65	127		Pn	08 34 17.0	+0.4
PTPK	Patty Peak	4.66	113		Pn	08 34 18.1	+1.3
KAIM	Kayak Island	4.71	132	P	Pn	08 34 17.5	0.0
	baz=319						
EGAK	Eagle	4.74	67		Pn	08 34 16.8	-1.0
EGAK				IAML		08 35 41.7	
	comp=E,412nm,1.4s						
EGAK	Eagle	4.74	67	P	Pn	08 34 17.4	-0.4
	baz=256,SNR=38						
KHIT	Khitrov Hills	4.78	123		Pn	08 34 18.6	+0.2
BALM	Baldy	4.79	114		Pn	08 34 19.2	+0.7
KIAG	Kiagna River	4.84	115		Pn	08 34 19.6	+0.3
GRIN	Grindle Hills	4.86	124		Pn	08 34 20.3	+0.9
BVCY	Beaver Creek	4.89	95		Pn	08 34 21.4	+1.4
BVCY	Beaver Creek	4.89	95	P	Pn	08 34 20.8	+0.9
	baz=285,SNR=14						
BGLC	Bering Glacier	4.98	126	P	Pn	08 34 22.1	+1.1
	baz=313						
BM03	Burnt Mountain	5.04	31		Pn	08 34 20.8	-1.1
BMAR	Burnt Mountain	5.05	31	Pn	Pn	08 34 20.9	-1.3
YUK2	White River	5.10	102		Pn	08 34 24.6	+1.8
KULT	Kultieth River	5.10	122		Pn	08 34 23.8	+1.0
SNH	Sunshine Point	5.10	124		Pn	08 34 23.6	+0.8
BAGL	Bagley Icefiel	5.20	118		Pn	08 34 25.0	+0.9
CTG	Chitna Glacier	5.24	112	P	Pn	08 34 26.1	+1.3
	baz=301,SNR=44						
KVTA	Katmai Vly 10	5.26	203		Pn	08 34 26.4	+1.4
YUK3	Moose Creek	5.27	102		Pn	08 34 27.1	+1.8
YUK3	Moose Creek	5.27	102	P	Pn	08 34 27.1	+1.8
	baz=292,SNR=123						
KAKN	Katmai Knife C	5.30	202		Pn	08 34 26.5	+0.9
KBM	Katmai Bkd Mtn	5.35	202		Pn	08 34 27.5	+1.3
KABU	Katmai Buttres	5.37	203		Pn	08 34 27.8	+1.3
KCE	Katmai Mt Cerb	5.37	202		Pn	08 34 28.3	+1.7
DAWY	Dawson	5.39	76	P	Pn	08 34 26.1	-0.7
	baz=267,SNR=16						
MESA	MESA	5.44	120	P	Pn	08 34 27.1	-0.6
	baz=309,SNR=29						
TOLK	Toolik Lake Re	5.45	7	P	Pn	08 34 28.8	+1.3
	baz=189,SNR=58						
KDAK	Kodiak Island	5.53	187	Pn	Pn	08 34 27.9	-0.8
	comp=E,1.1nm,0.3s,baz=64,slow=6.9,SNR=47						
KDAK				LR	LR	08 37 08.7	
	comp=E,404nm,18.5s,baz=24,slow=43						
KDAK	Kodiak Island	5.53	187	Pn	Pn	08 34 28.6	-0.1
RKAV	Rock Avalanche	5.61	118		Pn	08 34 30.5	+0.6
CHX	Chaix Hills	5.84	119		Pn	08 34 34.0	+1.0
OHAK	Old Harbor	6.14	190		Pn	08 34 37.4	+0.5
OHAK	Old Harbor	6.14	190	P	Pn	08 34 36.9	0.0
	baz=8.1						
PINM	Pinnacle	6.17	116	P	Pn	08 34 38.2	+0.7
	baz=306,SNR=18						
YUK4	Talbot Arm	6.24	102	P	Pn	08 34 40.0	+1.5
	baz=293						
ANM	Nome	6.31	288		Pn	08 34 40.0	+0.6
ANM	Nome	6.31	288	P	Pn	08 34 38.8	-0.5
	baz=95						
YUK6	Outpost Mounta	6.53	105	P	Pn	08 34 43.7	+1.1
	baz=297,SNR=7.0						
RDOG	Red Dog Mine	6.76	320	P	Pn	08 34 47.7	+2.2
	baz=130						
PNL	Peninsula	6.77	117		Pn	08 34 47.2	+1.5
HYT	Haines Junctio	6.96	104	P	Pn	08 34 48.6	+0.2
	baz=297,SNR=12						
EPYK	Eagle Plains	6.98	57	P	Pn	08 34 47.5	-1.1
	baz=250,SNR=14						
PS01	TAPS Pump Stn	7.11	8		Pn	08 34 50.7	+0.5
TNA	Tin City	7.52	295	P	Pn	08 34 56.3	+0.4
	baz=100						
WHY	Whitehorse	8.19	101	P	Pn	08 35 05.6	+0.4
	baz=296						
A21K	Barrow	8.34	348		Pn	08 35 06.1	-0.9
SKAG	Skagway	8.59	109	P	Pn	08 35 10.9	+0.4
	baz=303,SNR=11						
INK	Inuvik	8.88	48	Pn	Pn	08 35 14.3	-0.2
	comp=E,2.1nm,0.3s,baz=233,slow=15,SNR=20						
INK				LR	LR	08 38 08.5	
	comp=E,78nm,19.4s,baz=209,slow=34						
INK	Inuvik	8.88	48	P	Pn	08 35 13.9	-0.7
	baz=244,SNR=5.6						
SIT	Sitka	10.11	121	P	Pn	08 35 31.2	-0.1
	baz=315						
DLBC	Dease Lake	11.45	105	Pn	Pn	08 35 50.6	+0.9
	comp=E,0.6nm,0.3s,baz=337,slow=5.8,SNR=6.2						
DLBC				Lg	Lg	08 39 03.1	
	comp=E,0.1nm,0.3s,baz=123,slow=14,SNR=3.3						
DLBC				LR	LR	08 40 31.6	
	comp=E,358nm,20.1s,baz=309,slow=39						
DLBC	Dease Lake	11.45	105		Pn	08 35 49.1	-0.6
YKA	Yellowknife Ar	16.64	76	Pn	P	08 37 01.4	-0.1
	comp=E,0.3nm,0.3s,baz=292,slow=9.7,SNR=4.6						
YKA				LR	LR	08 43 58.8	
	comp=E,165nm,19.3s,baz=0.0,slow=39						
YKA	Yellowknife Ar	16.64	76	P	P	08 37 01.4	-0.1
NEW	Newport	24.03	113	P	P	08 38 22.1	+1.2
	comp=E,4.3nm,0.8s,baz=328,slow=15,SNR=2.6						
NEW				pP	pP	08 38 26.4	0.0
	comp=E,5.4nm,0.9s,baz=318,slow=6.7,SNR=8.9						
NEW	Newport	24.03	113	P	P	08 38 22.1	+1.2
NEW	Newport	24.03	113	IAmb	IAmb	08 38 28.0	
	comp=Z,7.7nm,1.0s						
NEW	Newport	24.03	113	P	P	08 38 21.5	+0.6
	baz=322,SNR=6.4						
SEY	Seymchan	24.76	295	P	P	08 38 28.1	+0.6
	comp=Z,8.4nm,0.8s,baz=92,slow=7.0,SNR=17						
SEY	Seymchan	24.76	295	P	P	08 38 28.1	+0.6
K02D	Willamette Mer	26.13	129	P	P	08 38 40.7	+0.5
	baz=332						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YBH	**Yreka Blue Hor**	**27.32**	**129**	P	**P**	**08 38 52.9**	**+2.1**
	comp=Z,1.4nm,0.8s,baz=185,slow=12,SNR=2.4						
YBH				pP	**pP**	**08 38 57.7**	**+1.4**
	comp=Z,3.4nm,0.9s,baz=280,slow=3.8,SNR=6.2						
YBH	**Yreka Blue Hor**	**27.32**	**129**	P	**P**	**08 38 52.9**	**+2.1**
YBH	**Yreka Blue Hor**	**27.32**	**129**	IAmb	IAmb	08 39 02.3	
	comp=Z,2.6nm,0.8s						
PETK	**Petropavlovsk-**	**27.94**	**273**	P	**P**	**08 38 56.2**	**0.0**
	comp=Z,1.9nm,0.6s,baz=63,slow=13,SNR=5.8						
PETK				LR	LR	08 51 06.4	
	comp=Z,83nm,18.4s,baz=76,slow=39						
NEEM	**North Greenlan**	**31.51**	**24**	*i* P	**P**	**08 39 28.0**	**+0.1**
NEEM				IAmb	IAmb	08 39 28.8	
	comp=Z,4.3nm,0.5s						
NEEM				*i*		08 39 33.9	
PDAR	**Pinedale Array**	**31.61**	**110**	P	**P**	**08 39 30.9**	**+1.8**
	comp=Z,1.9nm,0.6s,baz=328,slow=9.8,SNR=3.7						
PDAR				pP	**pP**	**08 39 35.3**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=311,slow=5.9,SNR=8.4						
NVAR	**Mina Array Bea**	**31.82**	**126**	P	**P**	**08 39 32.0**	**+1.1**
	comp=Z,2.0nm,0.8s,baz=321,slow=9.8,SNR=4.7						
NVAR				pP	**pP**	**08 39 37.1**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=314,slow=8.6,SNR=15						
NVAR				PcP	**PcP**	**08 42 21.5**	**0.0**
	comp=Z,0.6nm,0.7s,baz=261,slow=1.5,SNR=4.7						
NVAR	**Mina Array Bea**	**31.82**	**126**		**PcP**	**08 42 21.5**	**0.0**
ULM	**Lac du Bonnet**	**31.97**	**88**	P	**P**	**08 39 33.2**	**+1.3**
	comp=Z,4.3nm,0.8s,baz=318,slow=9.8,SNR=4.4						
ULM				pP	**pP**	**08 39 37.5**	**+0.3**
	comp=Z,3.5nm,0.7s,baz=317,slow=8.5,SNR=4.8						
EYMN	**Ely**	**35.62**	**87**	P	**P**	**08 40 03.7**	**0.0**
	baz=318,SNR=16						
SDCO	**Great Sand Dun**	**37.50**	**111**	P	**P**	**08 40 22.0**	**+1.8**
	baz=328,SNR=5.6						
SCHQ	**Schefferville**	**41.20**	**61**	P	**P**	**08 40 50.5**	**0.0**
	comp=Z,2.9nm,0.8s,baz=315,slow=13,SNR=2.2						
NRIK	**Noril'sk**	**41.33**	**333**	P	**P**	**08 40 52.0**	**+0.7**
	comp=Z,5.4nm,0.7s,baz=59,slow=4.2,SNR=7.3						
NRIK				pP	**pP**	**08 40 57.2**	**+0.6**
	comp=Z,6.9nm,0.4s,baz=73,slow=8.1,SNR=8.6						
NRIK				LR	LR	09 01 29.7	
	comp=Z,66nm,18.5s,baz=5.5,slow=41						
TXAR	**Lajitas Array**	**45.53**	**115**	P	**P**	**08 41 26.3**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=327,slow=6.5,SNR=7.1						
TXAR				pP	**pP**	**08 41 31.6**	**+0.1**
	comp=Z,4.1nm,1.0s,baz=336,slow=6.3,SNR=19						
TXAR				PcP	**PcP**	**08 43 04.1**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=267,slow=2.8,SNR=3.9						
TXAR				pPcP		08 43 09.3	
	comp=Z,1.0nm,0.8s,baz=258,slow=2.3,SNR=5.4						
TXAR				LR	LR	09 01 40.8	
	comp=Z,68nm,18.1s,baz=0.0,slow=38						
TXAR	**Lajitas Array**	**45.53**	**115**	P	P	08 41 31.7	+5.9
TXAR	**Lajitas Array**	**45.53**	**115**		**PcP**	**08 43 04.1**	**-0.1**
M53A	**WI Miller and**	**45.54**	**84**	P	**P**	**08 41 25.7**	**+0.1**
	baz=323,SNR=7.8						
USRK	**Ussuriysk Ar.**	**45.99**	**283**	LR	LR	09 00 40.4	
	comp=Z,51nm,19.6s,baz=340,slow=36						
ARCES	**ARCESS Array B**	**47.46**	**1**	P	**P**	**08 41 40.1**	**-0.2**
	comp=Z,5.1nm,0.9s,baz=1.9,slow=8.3,SNR=2.7						
ARCES				PcP	**PcP**	**08 43 09.4**	**-0.9**
	comp=Z,3.5nm,0.9s,baz=4.2,slow=5.0,SNR=5.0						
ARCES				LR	LR	09 02 15.9	
	comp=Z,38nm,19.9s,baz=100,slow=37						
ARCES	**ARCESS Array B**	**47.46**	**1**	P	**P**	**08 41 40.1**	**-0.2**
ARCES					**PcP**	**08 43 09.4**	**-0.9**
CN2	**Changchun**	**49.15**	**288**	*e*P	**P**	**08 41 54.0**	**+0.3**
CN2				pmax	pmax		
	comp=Z,20nm,0.7s						
CBN	**Corbin Frederi**	**49.64**	**84**	P	**P**	**08 41 57.5**	**+0.1**
	baz=325,SNR=9.3						
KSRS	**Korea Array**	**53.26**	**281**	P	**P**	**08 42 25.4**	**+0.9**
	comp=Z,4.2nm,0.8s,baz=29,slow=7.1,SNR=12						
KSRS	**Korea Array**	**53.26**	**281**	P	**P**	**08 42 25.4**	**+0.9**
SONM	**Songino Array**	**53.52**	**305**	P	**P**	**08 42 27.4**	**+0.8**
	comp=Z,6.4nm,0.9s,baz=34,slow=6.9,SNR=27						
ZALV	**Zalesovo Beam**	**55.21**	**323**	P	**P**	**08 42 37.6**	**-0.9**
	comp=Z,3.9nm,0.7s,baz=36,slow=6.4,SNR=8.7						
FINES	**FINESS Array B**	**55.59**	**1**	P	**P**	**08 42 41.1**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=20,slow=6.1,SNR=3.5						
HHC	**Hu-ho-hao-te**	**57.39**	**297**	*e*P	**P**	**08 42 54.3**	**-0.1**
HHC				pmax	pmax		
	comp=Z,14nm,1.1s						
HHC				pmax	pmax		
	comp=Z,70nm,5.6s						
KURK	**Kurchatov**	**59.76**	**326**	P	**P**	**08 43 10.1**	**-0.5**
KURBB	**Kurchatov Arra**	**59.87**	**326**	P	**P**	**08 43 10.1**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=23,slow=7.0,SNR=4.5						
KURBB				PcP	**PcP**	**08 43 57.1**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=26,slow=4.4,SNR=6.0						
MKAR	**Makanchi Array**	**62.36**	**321**	P	**P**	**08 43 26.9**	**-1.5**
	comp=Z,1.3nm,0.6s,baz=43,slow=7.0,SNR=4.8						
WMQ	**Urumqi**	**63.44**	**316**	*e*P	**P**	**08 43 37.0**	**+1.3**
AKASG	**Malin Array Be**	**66.38**	**360**	P	**P**	**08 43 53.7**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=3.6,slow=6.1,SNR=6.6						
GERES	**GERESS Array B**	**67.61**	**11**	LR	LR	09 14 15.0	
	comp=Z,32nm,19.6s,baz=355,slow=37						
ESDC	**Sonseca Array**	**74.16**	**26**	P	**P**	**08 44 41.6**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=344,slow=7.4,SNR=5.9						
ESDC				pP	**pP**	**08 44 47.6**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=325,slow=6.4,SNR=3.2						
ESDC	**Sonseca Array**	**74.16**	**26**	P	**P**	**08 44 41.6**	**-0.7**
ESDC	**Sonseca Array**	**74.16**	**26**	IAmb	IAmb	08 44 47.9	
	comp=Z,2.1nm,1.1s						
CMAR	**Chiang Mai Arr**	**82.18**	**296**	P	**P**	**08 45 26.6**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=20,slow=6.0,SNR=4.2						
CMAR				LR	LR	09 24 55.8	
	comp=Z,40nm,18.7s,baz=65,slow=38						
CMAR	**Chiang Mai Arr**	**82.18**	**296**	P	**P**	**08 45 26.6**	**-0.5**
BOSA	**Boshof**	**145.27**	**5**	PKPbc	**PKPbc**	**08 52 42.4**	**-0.8**
	comp=Z,5.8nm,0.9s,baz=344,slow=2.8,SNR=6.1						
BOSA	**Boshof**	**145.27**	**5**		**PKPbc**	**08 52 42.4**	**-0.8**

IDC 02 08:39:55.5±1.2**, 14.°20N×53.°72E, h0km, mb3.7**/6**, mb1 3.9**/6**, mb1mx3.6**/57**, mbtmp3.7**/6**, Error ellipse: s-maj=37.4km s-min=28.7km az=6.0, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.33**	**31**	P	P	08 47 34.9	+0.1
	0.5nm,0.7s,baz=226,slow=7.7,SNR=3.7						
KURBB	**Kurchatov Arra**	**41.53**	**24**	P	P	08 47 44.5	0.0
	0.8nm,1.0s,baz=223,slow=8.0,SNR=5.2						
TORD	**Torodi Ar. Bea**	**50.47**	**275**	P	P	08 48 55.9	+0.2
	0.5nm,0.8s,baz=87,slow=7.5,SNR=5.0						
ESDC	**Sonseca Array**	**56.28**	**308**	P	P	08 49 37.6	-0.5
	1.1nm,0.9s,baz=76,slow=5.4,SNR=4.1						
WRA	**Warramunga Arr**	**86.22**	**112**	P	P	08 52 39.4	-0.2
	0.8nm,0.9s,baz=308,slow=4.3,SNR=5.6						
ASAR	**Alice Springs**	**86.89**	**115**	P	P	08 52 42.8	-0.1
	1.0nm,1.0s,baz=287,slow=4.7,SNR=5.5						

IDC 02 08:52:15.8±6.1**, 31.°69S×177.°33W, h0km, mb3.7**/2**, mb1 4.0**/2**, mb1mx3.6**/21**, mbtmp3.7**/2**, Error ellipse: s-maj=249.3km s-min=62.5km az=157.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.62**	**268**	P	P	09 00 21.9	-0.3
	0.6nm,0.7s,baz=105,slow=7.5,SNR=7.3						
WRA	**Warramunga Arr**	**44.73**	**273**	P	P	09 00 31.1	+0.1
	1.0nm,0.6s,baz=115,slow=8.0,SNR=24						
FINES	**FINESS Array B**	**146.54**	**340**	PKPbc	PKPdf	09 11 57.3	+0.5
	3.6nm,1.0s,baz=96,slow=1.4,SNR=1.5						

*TAP **02** 09:07:20.8, 24.°88N×122.°53E, h34km±1km, ML2.6, D*
*JMA **02** 09:07:22.0±0.1, 24.°75N×122.°48E, h31km±5km, M1.9*
ISC 02 09:07:19.9±1.1**, 24.°87N**±0.°04×**122.°47E**±0.°02**, h16km**±9km**, n40, σ0.s67**/77**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.46**	**287**	P	**Pn**	**09 07 30.6**	**-1.2**
	baz=284						
TWB1				*e*S	**Sn**	**09 07 37.9**	**-1.8**
	baz=284						
NTC	**Toucheng**	**0.58**	**268**	*e*P	**Pn**	**09 07 33.3**	**-0.2**
	baz=276						
NTC				*e*S	**Sn**	**09 07 42.5**	**-0.2**
	baz=276						
TIPB	**Shuangxi**	**0.59**	**280**	P	**Pn**	**09 07 33.6**	**-0.1**
	baz=278						
TIPB				S	**Sn**	**09 07 41.6**	**-1.4**
	baz=278						
JYNG	**Yonagunijimaku**	**0.60**	**134**	P	**Pb**	**09 07 32.4**	**+0.3**
JYNG				S	**Sg**	**09 07 39.8**	**0.0**
TWC	**Suao**	**0.62**	**245**	P	**Pb**	**09 07 32.5**	**0.0**
	baz=246						
TWC				S	**Sn**	**09 07 42.6**	**-1.1**
	baz=246						
YOJ	**Yonaguni jima**	**0.64**	**130**	P	**Pb**	**09 07 33.0**	**+0.3**
YOJ				*e*S	**Sg**	**09 07 40.7**	**-0.3**
YOJ	**Yonaguni jima**	**0.64**	**130**	P	**Pb**	**09 07 33.0**	**+0.3**
	baz=129						
YOJ				S	**Sg**	**09 07 41.0**	**0.0**
	baz=129						
NWF	**Wu-fen Shan**	**0.66**	**288**	P	**Pn**	**09 07 34.6**	**0.0**
	baz=285						
NWF				S	**Sn**	**09 07 43.6**	**-1.1**
	baz=285						
NDS	**Dongshan**	**0.72**	**251**	*e*P	**Pn**	**09 07 34.7**	**-0.8**
	baz=252						
NDS				*e*S	**Sb**	**09 07 44.5**	**+0.6**
	baz=252						
TWE	**Neicheng**	**0.74**	**259**	*e*P	**Pn**	**09 07 35.5**	**-0.3**
	baz=258						
TWE				*e*S	**Sn**	**09 07 46.0**	**-0.7**
	baz=258						
EWUT	**Wuta**	**0.76**	**236**	*e*P	**Pb**	**09 07 35.1**	**+0.4**
	baz=238						
EWUT				*e*S	**Sb**	**09 07 45.6**	**+0.8**
	baz=238						
ENA	**Nanau**	**0.80**	**237**	*e*P	**Pn**	**09 07 35.8**	**-0.7**
	baz=238						
ENA				*e*S	**Sb**	**09 07 45.9**	**0.0**
	baz=238						
PCYT	**Pengchaiyu**	**0.84**	**335**	*e*P	**Pn**	**09 07 36.9**	**-0.1**
	baz=318						
PCYT				*e*S	**Sn**	**09 07 48.4**	**-0.7**
	baz=318						
YM01	**YM01**	**0.86**	**289**	P	**Pn**	**09 07 38.2**	**+0.8**
	baz=286						
YM01				S	**Sn**	**09 07 49.9**	**+0.2**
	baz=286						
NHDH	**Xindian Distri**	**0.86**	**276**	*e*P	**Pn**	**09 07 38.2**	**+0.8**
	baz=264						
NHDH				*e*S	**Sn**	**09 07 49.7**	**0.0**
	baz=264						
TWY	**Chenhua**	**0.89**	**297**	*e*P	**Pn**	**09 07 38.7**	**+1.0**
	baz=294						
TWY				*e*S	**Sn**	**09 07 51.2**	**+0.9**
	baz=294						
NDT	**Datong Townshi**	**0.91**	**253**	*e*P	**Pn**	**09 07 38.5**	**+0.4**
	baz=253						
NDT				*e*S	**Sn**	**09 07 51.1**	**+0.2**
	baz=253						
NTST	**Danshui**	**0.97**	**288**	*e*P	**Pn**	**09 07 39.9**	**+1.0**
	baz=295						
NTST				*e*S	**Sn**	**09 07 53.3**	**+1.0**
	baz=295						
YHNB	**Yeheng**	**1.01**	**259**	P	**Pg**	**09 07 40.2**	**+0.6**
	baz=249						
YHNB				*e*S	**Sn**	**09 07 53.8**	**+0.3**
	baz=249						
NSK	**Sanguang**	**1.03**	**259**	P	**Pg**	**09 07 40.4**	**+0.6**
	baz=250						
NSK				S	**Sn**	**09 07 53.5**	**-0.4**
	baz=250						
NACB	**Ninganchiao**	**1.06**	**229**	P	**Pn**	**09 07 39.9**	**-0.2**
	baz=237						
NACB				*e*S	**Sn**	**09 07 55.0**	**+0.5**
	baz=237						
NNS	**Nan Shan**	**1.09**	**247**	*e*P	**Pn**	**09 07 40.4**	**-0.2**
	baz=247						
NNS				*e*S	**Sg**	**09 07 54.9**	**-0.3**
	baz=247						
ETLH	**Xiulin Townshi**	**1.12**	**234**	*e*P	**Pg**	**09 07 41.5**	**0.0**
	baz=241						
ETLH				*e*S	**Sg**	**09 07 57.4**	**+1.2**
	baz=241						
TWD	**Chiawan**	**1.12**	**225**	*e*P	**Pg**	**09 07 41.5**	**-0.1**
	baz=227						
TWD				*e*S	**Sg**	**09 07 57.4**	**+1.2**
	baz=227						
IRIF	**Iriomote-Funau**	**1.27**	**115**	*e*S	**Sg**	**09 08 00.3**	**-0.6**
FUSS	**Fushou**	**1.28**	**241**	*e*P	**Pg**	**09 07 44.6**	**0.0**
	baz=248						
FUSS				*e*S	**Sn**	**09 08 00.7**	**+0.4**
	baz=248						
WHF	**Hehuan Shan**	**1.31**	**237**	*e*P	**Pg**	**09 07 45.1**	**-0.3**
	baz=237						
WHF				*e*S	**Sg**	**09 08 02.7**	**+0.1**
	baz=237						
LIOB	**Emei**	**1.34**	**261**	*e*P	**Pg**	**09 07 45.1**	**-0.7**
	baz=260						
LIOB				*e*S	**Sg**	**09 08 02.4**	**-0.8**
	baz=260						
TDCB	**Techi**	**1.34**	**243**	*e*P	**Pg**	**09 07 45.6**	**-0.2**
	baz=252						
TDCB				*e*S	**Sg**	**09 08 03.0**	**-0.4**
	baz=252						
NSTT	**Nanjuang**	**1.36**	**260**	*e*P	**Pg**	**09 07 45.2**	**-0.8**
	baz=259						
NSTT				*e*S	**Sg**	**09 08 02.8**	**-0.9**
	baz=259						
CHGB	**Renai**	**1.43**	**236**	*e*P	**Pg**	**09 07 47.3**	**-0.2**
	baz=222						
CHGB				*e*S	**Sb**	**09 08 04.9**	**+0.5**
	baz=222						
OWD	**Renai**	**1.49**	**233**	*e*P	**Pb**	**09 07 46.9**	**-0.4**
	baz=219						
OWD				*e*S	**Sb**	**09 08 06.0**	**0.0**
	baz=219						
WHP	**Taichung City**	**1.51**	**247**	*e*P	**Pg**	**09 07 48.6**	**-0.4**
	baz=254						
WHP				*e*S	**Sg**	**09 08 08.2**	**-0.5**
	baz=254						
EGFH	**Guangfu**	**1.53**	**219**	*e*P	**Pn**	**09 07 46.6**	**0.0**
	baz=208						
EGFH				*e*S	**Sn**	**09 08 05.8**	**-0.4**
	baz=208						
JKRS	**Kuro-shima**	**1.54**	**114**	P	**Pn**	**09 07 46.7**	**0.0**
WCS	**Beigang Elemen**	**1.64**	**241**	*e*P	**Pb**	**09 07 49.8**	**+0.1**
	baz=241						
WCS				*e*S	**Sb**	**09 08 11.2**	**+1.1**
	baz=241						
HGSD	**Ruisui**	**1.67**	**215**	*e*P	**Pn**	**09 07 48.4**	**-0.1**
	baz=207						
HGSD				*e*S	**Sn**	**09 08 09.3**	**-0.4**
	baz=207						
SSLB	**Suanglung**	**1.75**	**232**	*e*P	**Pn**	**09 07 50.5**	**+0.8**
	baz=221						
SSLB				*e*S	**Sn**	**09 08 12.3**	**+0.6**
	baz=221						
TYC	**Yuchr**	**1.76**	**237**	*e*S	**Sb**	**09 08 13.9**	**+0.3**
	baz=224						
YULB	**Yu-li**	**1.82**	**216**	*e*P	**Pn**	**09 07 50.0**	**-0.6**
	baz=218						
YULB				*e*S	**Sn**	**09 08 11.8**	**-1.6**
	baz=218						

*NOU **02** 09:09:22.3, 42.°10S×178.°19E, h0km, ML4.3/7, Off E. Coast of S. Island, N.Z.*
WEL 02 09:09:31.1, 42°S±17°×**17°8E**±1°6**, h33km, M3.5**/84**, ML3.4**/27**, MLv3.5**/84**, Error ellipse: s-maj=0.0km s-min=0.0km az=139.8, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TMWZ	**Te Maipa**	**1.52**	**299**	P	Pb	09 09 59.4	+0.6
TMWZ				S	Sb	09 10 17.6	0.0
TRWZ	**Traveller**	**1.54**	**287**	P	Pn	09 09 55.9	-0.3
TRWZ				S	Sb	09 10 17.7	-0.5
BFZ	**Birch Farm**	**1.58**	**318**	P	Pn	09 09 57.8	+0.9
ANWZ	**Angora Road**	**1.66**	**327**	P	Pn	09 09 58.6	+0.8
TIWZ	**Tintock**	**1.71**	**309**	P	Pb	09 10 00.7	-1.3
PAWZ	**Paruwai Farm**	**1.73**	**285**	P	Pn	09 09 58.6	-0.3
PAWZ				S	Sb	09 10 22.5	-1.2
MTW	**Mount Morrison**	**1.76**	**293**	P	Pn	09 09 59.2	0.0
MTW				S	Sb	09 10 22.4	-2.0
PLWZ	**Palliser**	**1.81**	**278**	P	Pn	09 09 59.6	-0.4
PLWZ				S	Sn	09 10 22.4	+0.5
PRWZ	**Pori Road**	**1.82**	**315**	P	Pn	09 10 01.5	+1.4
PRWZ				S	Sb	09 10 26.3	+0.2
MSWZ	**Moikau Station**	**1.85**	**283**	S	Sn	09 10 24.2	+1.4
HOWZ	**Holdsworth Sta**	**1.87**	**300**	P	Pn	09 10 00.9	+0.1
HOWZ				S	Sn	09 10 24.3	+1.0
DVHZ	**Dannevirke**	**1.92**	**324**	P	Pn	09 10 02.3	+0.7
DVHZ				S	Sb	09 10 28.0	-1.1
PXZ	**Pawanui**	**1.92**	**342**	P	Pn	09 10 01.8	+0.3
PXZ				S	Sn	09 10 24.1	-0.5
MRZ	**Mangatainoka R**	**1.97**	**307**	P	Pn	09 10 02.4	+0.3
MRZ				S	Sn	09 10 27.1	+1.5
WPHZ	**Waipukurau**	**2.01**	**333**	P	Pn	09 10 04.0	+1.2
POWZ	**Post Office Ro**	**2.04**	**315**	P	Pn	09 10 05.0	+1.9
POWZ				S	Sb	09 10 33.9	+1.3
CAW	**Cannon Point**	**2.08**	**290**	P	Pn	09 10 03.6	-0.1
BHW	**Baring Head**	**2.13**	**281**	S	Sn	09 10 29.4	-0.2
OGWZ	**Otaki Gorge**	**2.13**	**298**	P	Pn	09 10 05.0	+0.5
OGWZ				S	Sn	09 10 31.7	+1.9
KAHZ	**Kahuranaki**	**2.15**	**344**	P	Pn	09 10 04.3	-0.4
TSZ	**Takapari Road**	**2.21**	**324**	P	Pn	09 10 06.2	+0.7
PNHZ	**Pukenui**	**2.23**	**330**	P	Pn	09 10 06.5	+0.6
CKHZ	**Cape Kidnapper**	**2.24**	**349**	P	Pn	09 10 05.1	-0.8
CKHZ				S	Sn	09 10 31.0	-1.5
KIW	**Kapiti Island**	**2.29**	**295**	P	Pn	09 10 06.7	+0.1
KRHZ	**Kereru**	**2.42**	**336**	P	Pn	09 10 08.8	+0.4
KRHZ				S	Sn	09 10 39.2	+2.3
MCHZ	**McNeill Hill**	**2.52**	**343**	P	Pn	09 10 09.6	-0.1
CMWZ	**Cape Campbell**	**2.57**	**271**	S	Sn	09 10 43.1	+2.7
KWHZ	**Kaweka Forest**	**2.61**	**339**	P	Pn	09 10 11.0	0.0
KWHZ				S	Sn	09 10 44.0	+2.4
TCW	**Tory Channel**	**2.61**	**283**	P	Pn	09 10 11.2	+0.2
ARHZ	**Aropaoanui**	**2.64**	**349**	P	Pn	09 10 11.0	-0.4
BHHZ	**Black Hill Sta**	**2.66**	**333**	P	Pn	09 10 12.4	+0.7
MHGZ	**Mahia Peninsul**	**2.71**	**4**	P	Pn	09 10 09.4	-3.0
WHHZ	**Waihua**	**2.80**	**353**	P	Pn	09 10 12.3	-1.3
BSWZ	**Blackbirch Sta**	**2.82**	**272**	P	Pn	09 10 13.9	0.0
BSWZ				S	Sn	09 10 48.4	+1.7
BKZ	**Black Stump Fm**	**2.83**	**342**	P	Pn	09 10 13.8	-0.3
BKZ				S	Sn	09 10 45.6	-1.5
NMHZ	**Naumai**	**2.83**	**347**	P	Pn	09 10 13.9	-0.2
KNZ	**Kokohu**	**2.84**	**0**	P	Pn	09 10 10.9	-3.1
MOVZ	**Moawhango**	**2.84**	**329**	P	Pn	09 10 15.8	+1.6
WAZ	**Wanganui**	**2.92**	**315**	P	Pn	09 10 18.0	+2.8
RAHZ	**Arahi**	**2.97**	**352**	P	Pn	09 10 14.9	-1.1
WNVZ	**Wahianoa**	**2.97**	**328**	P	Pn	09 10 18.2	+2.1
TUVZ	**Tukino**	**3.00**	**329**	P	Pn	09 10 18.5	+2.0
WHVZ	**Whangaehu Hut**	**3.01**	**328**	P	Pn	09 10 18.6	+1.8
TRVZ	**Turoa**	**3.02**	**327**	P	Pn	09 10 18.8	+2.0
FWVZ	**Far West T-bar**	**3.05**	**328**	P	Pn	09 10 19.0	+1.7
MTHZ	**Maungataniwha**	**3.07**	**348**	P	Pn	09 10 16.3	-1.0
SNVZ	**South Ngauruho**	**3.08**	**330**	P	Pn	09 10 19.1	+1.6
SNGZ	**Shannon Statio**	**3.08**	**356**	P	Pn	09 10 15.8	-1.7
OTVZ	**Oturere**	**3.09**	**330**	P	Pn	09 10 19.5	+1.8
ETVZ	**East Tongariro**	**3.10**	**331**	P	Pn	09 10 19.3	+1.5
KHZ	**Kahutara**	**3.10**	**258**	P	Pn	09 10 16.4	-1.3
NGZ	**Ngauruhoe**	**3.10**	**329**	P	Pn	09 10 20.1	+2.2
TMVZ	**Te Maari**	**3.12**	**331**	P	Pn	09 10 19.5	+1.4
NNVZ	**North Ngauruho**	**3.13**	**330**	P	Pn	09 10 20.1	+1.7
NTVZ	**North Tongarir**	**3.14**	**331**	P	Pn	09 10 19.8	+1.4
RIGZ	**Rimuhau**	**3.15**	**2**	P	Pn	09 10 16.3	-2.2
KRVZ	**Karewarewa**	**3.16**	**330**	P	Pn	09 10 20.3	+1.6
WTVZ	**West Tongariro**	**3.16**	**330**	P	Pn	09 10 20.2	+1.5
MRHZ	**Matea Rd**	**3.17**	**342**	P	Pn	09 10 18.9	+0.2
RITZ	**Rihia Road**	**3.19**	**334**	P	Pn	09 10 20.2	+1.2
KATZ	**Kakaramea**	**3.25**	**332**	P	Pn	09 10 21.2	+1.4
NNZ	**Nelson**	**3.27**	**280**	P	Pn	09 10 20.8	+0.8
RATZ	**Rangitukua**	**3.32**	**334**	P	Pn	09 10 22.5	+1.8
RAGZ	**Rawiri**	**3.37**	**357**	P	Pn	09 10 19.7	-1.8
CNGZ	**Carnagh Statio**	**3.40**	**7**	P	Pn	09 10 19.4	-2.5
TKGZ	**Te Karaka**	**3.42**	**3**	P	Pn	09 10 19.7	-2.5
LREZ	**Lake Rotokare**	**3.44**	**313**	P	Pn	09 10 25.7	+3.3
ALRZ	**Allen Road**	**3.44**	**343**	P	Pn	09 10 22.4	0.0
MUGZ	**Murupara**	**3.45**	**349**	P	Pn	09 10 21.7	-0.8
VRZ	**Vera Road**	**3.51**	**320**	P	Pn	09 10 25.6	+2.2
MWZ	**Matawai**	**3.52**	**359**	P	Pn	09 10 21.1	-2.5
WPRZ	**Whakapapatarin**	**3.53**	**341**	P	Pn	09 10 23.5	-0.1
HRRZ	**Handcock Road**	**3.62**	**343**	P	Pn	09 10 25.0	0.0
URZ	**Urewera**	**3.62**	**353**	P	Pn	09 10 23.2	-1.7
RRRZ	**Republican Roa**	**3.62**	**346**	P	Pn	09 10 24.3	-0.6
TWGZ	**Tauwhareparae**	**3.69**	**4**	P	Pn	09 10 24.0	-1.9
HSRZ	**Hossack Road**	**3.71**	**343**	P	Pn	09 10 26.0	-0.1
HLRZ	**Highlands Stat**	**3.74**	**344**	P	Pn	09 10 27.0	+0.4
NEZ	**North Egmont**	**3.74**	**313**	P	Pn	09 10 30.0	+3.4
PUZ	**Puketiti**	**3.81**	**7**	P	Pn	09 10 24.2	-3.4
PKE	**Pukeiti**	**3.86**	**313**	P	Pn	09 10 31.3	+3.2
NBEZ	**Newall Road No**	**3.87**	**311**	P	Pn	09 10 31.7	+3.4
TLZ	**Tolley Road**	**3.88**	**335**	P	Pn	09 10 28.5	+0.1
RUGZ	**Raukumara Rang**	**3.89**	**0**	P	Pn	09 10 26.8	-1.9
HIZ	**Hauiti**	**3.97**	**327**	P	Pn	09 10 31.0	+1.4
PKGZ	**Pakihiroa**	**3.98**	**5**	P	Pn	09 10 26.7	-3.2
WMGZ	**Waiomatatini S**	**4.08**	**9**	P	Pn	09 10 27.9	-3.3
HAZ	**Te Kaha**	**4.10**	**2**	P	Pn	09 10 29.2	-2.3
TOZ	**Tahuroa Road**	**4.44**	**338**	P	Pn	09 10 35.7	-0.4
MKAZ	**Moumakai**	**5.12**	**337**	P	Pn	09 10 45.6	0.0
AWAZ	**Awhitu Peninsu**	**5.32**	**333**	P	Pn	09 10 48.1	-0.2

MEX 02 09:26:36.4±1.0**, 17.°10N×100.°99W, h17km**±15km**, MD3.7, Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.68**	**318**	*e*P	Pg	09 26 48.0	-1.8
ZIIG				*e*S	Sg	09 26 57.6	-1.1
UON	**La Union**	**1.17**	**318**	*e*P	Pn	09 26 56.1	-1.8
UON				*e*S	Sb	09 27 11.8	-1.2
DAIG	**Los Arroyos**	**1.28**	**93**	*e*P	Pn	09 26 56.4	-3.2
DAIG				*e*S	Sb	09 27 11.7	-4.6
MEIG	**Mezcala**	**1.54**	**58**	*e*P	Pn	09 26 59.9	-3.3
MEIG				*e*S	Sn	09 27 18.4	-4.5
PLIG	**Platanillo**	**1.91**	**48**	*e*P	Pn	09 27 05.4	-2.9
PLIG				*e*S	Sn	09 27 29.8	-2.2
MGIG	**Malinaltepec**	**2.25**	**86**	*e*P	Pn	09 27 10.6	-2.5
MGIG				*e*S	Sn	09 27 35.6	-5.0
TLIG	**Tlapa**	**2.36**	**78**	*e*P	Pn	09 27 11.9	-2.6
TLIG				*e*S	Sn	09 27 39.1	-4.0
MMIG	**Aquila**	**2.54**	**298**	*e*P	Pn	09 27 14.9	-1.9
MMIG				*e*S	Sn	09 27 44.9	-2.5

MEX 02 09:49:41.1±1.0**, 16.°88N×94.°56W, h122km**±7km**, MD3.9, Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.38**	**304**	*i* P	Pn	09 49 57.5	-1.1
CMIG				*i* S	Sn	09 50 09.8	-2.0
TGIG		**1.38**	**94**	*e*P	Pn	09 50 06.6	-0.8
TGIG				*i* S	Sn	09 50 24.9	-2.3
PCIG		**1.73**	**132**	*i* P	Pn	09 50 10.9	-0.5
PCIG				*e*S	Sn	09 50 32.4	-2.1
VHO	**Vista Hermosa**	**2.09**	**276**	*i* P	Pn	09 50 16.2	+0.2
VHO				*i* S	Sn	09 50 41.6	-1.1
CCIG	**Comitan**	**2.39**	**104**	*e*P	Pn	09 50 19.0	-0.8
CCIG				*e*S	Sn	09 50 47.5	-2.0
PEIG	**Puerto Escondi**	**2.64**	**251**	*e*P	Pn	09 50 19.6	-3.1
PEIG				*e*S	Sn	09 50 51.6	-3.2
TOIG	**Toxpalan**	**2.68**	**297**	*e*P	Pn	09 50 24.2	+0.8
TOIG				*e*S	Sn	09 50 53.6	-2.4
YOIG	**Yosondua**	**2.86**	**270**	*i* P	Pn	09 50 25.5	-0.4
YOIG				*i* S	Sn	09 50 53.1	-7.3
THIG		**2.95**	**131**	*e*P	Pn	09 50 23.8	-3.0
THIG				*i* S	Sn	09 50 58.8	-3.2
HLIG	**Huajuapan de L**	**3.24**	**287**	*e*P	Pn	09 50 30.2	-0.7
HLIG				*i* S	Sn	09 51 07.2	-2.1

*IDC **02** 09:56:04.6±0.6, 7.°26S×106.°62E, h0km, mb4.4/20, mb1 4.5/20, mb1mx4.4/43, mbtmp4.4/20, MS3.6/13, Ms1 3.6/13, ms1mx3.4/28, Error ellipse: s-maj=25.0km s-min=13.4km az=54.0*
*NEIC **02** 09:56:07.7±2.1, 7.°63S±0.°05×106.°24E±0.°05, h25km±5km, mb4.8/40, Error ellipse: s-maj=8.5km s-min=7.0km az=145.0*
*DJA **02** 09:56:10.5±0.3, 8°S±3°×10°6E±°, h49km±4km, M4.8/24, mb5.0/18, mB5.3/5, MLv4.8/24, Mw(mB)4.7/5, MwMwp6.1/1, Mwp6.1/1*
*KLM **02** 09:56:14, 7.°96S×106.°47E, h117km, mb4.8*
ISC 02 09:56:09.8±0.4**, 7.°69S**±0.°04×**106.°34E**±0.°04**, h50km, n132, σ1.s40**/110**, mb4.7**/44**, MS3.6**/13**, Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.71**	**18**	P	**Pn**	**09 56 24.1**	**+0.3**
CNJI	**Cibinong**	**0.87**	**64**	P	**Pn**	**09 56 25.4**	**-0.5**
CNJI				S	**Sn**	**09 56 35.6**	**-2.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DBJI	Dramaga	1.20	20	P	Pn	09 56 31.6	+1.3
CISI	Cisompet, Garu	1.47	85	Pn	Pn	09 56 33.3	-0.7
CISI				Sn	Sn	09 56 50.5	-1.8
CISI	Cisompet, Garu	1.47	85	P	Pn	09 56 33.3	-0.7
TNG	Tangerang	1.54	12	P	Pn	09 56 38.1	+3.2
TNG				P	Pn	09 56 36.8	+1.9
SBJI	Serang	1.57	353	P	Pn	09 56 37.4	+2.0
CMJI	Cimerak	2.10	93	P	Pn	09 56 41.9	-0.6
CMJI				S	Sn	09 57 03.8	-3.6
JCJI	Jatiwangi	2.26	58	P	Pn	09 56 44.2	-0.5
BLSI	Bandar Lampung	2.55	335	P	Pn	09 56 51.3	+2.6
KPJI	Karang Pucung	2.60	82	P	Pn	09 56 50.2	+0.8
XMI	Christmas Isla	2.82	193	P	Pn	09 56 52.3	-0.1
KASI	Kota Agung	2.82	320	P	Pn	09 56 55.3	+2.8
XMIS	Christmas Isla	2.85	194	Pn	Pn	09 56 52.4	-0.6
XMIS				Sn	Sn	09 57 22.6	-3.5
XMIS	Christmas Isla	2.85	194	P	Pn	09 56 52.6	-0.4
CTJI	Waduk Cacaban	2.91	77	P	Pn	09 56 54.8	+1.2
LWLI	Liwa	3.49	319	P	Pn	09 57 05.1	+3.4
MDSI	Maura Dua	3.84	326	P	Pn	09 57 09.6	+3.2
SMRI	Semarang	4.12	81	Pn	Pn	09 57 13.3	+3.0
UGM	Wanagama	4.16	93		Pn	09 57 11.2	+0.4
UGM	Wanagama	4.16	93	P	Pn	09 57 11.3	+0.5
EGSI	Enggano, Bengk	4.65	300	P	Pn	09 57 20.5	+2.9
LHSI	Lahat	4.75	324	P	Pn	09 57 22.6	+3.7
PCJI	Pacitan	4.82	96	P	Pn	09 57 20.0	+0.1
PMBI	Palembang	4.98	342	P	Pn	09 57 26.2	+4.1
	3.1nm689nm,0.8s						
TPI	Tanjungpandan	5.07	15	P	Pn	09 57 25.7	+2.3
	0.5nm878nm74nm,0.6s						
SJI	Sawahan	5.38	91	P	Pn	09 57 29.1	+1.4
	1.2nm134nm,0.5s						
PWJI	Pagerwojo	5.43	94	P	Pn	09 57 27.3	-0.9
	1.7nm3μm158nm,0.6s						
KSI	Kapahiang	5.47	317	P	Pn	09 57 31.6	+2.7
	156nm,0.6s						
PPBI	Pangkal Pinang	5.49	358	P	Pn	09 57 31.4	+2.2
	1.0nm21μm92nm,0.9s						
KRKI	Karangkates	6.08	95	P	Pn	09 57 37.5	+0.3
	2.4nm219nm,0.4s						
MASI	Maura Aman, Be	6.08	318	P	Pn	09 57 39.3	+2.0
	1.0nm286nm,0.8s						
JAGI	Jajag, Banyuwa	7.78	96	Pn	Pn	09 58 01.6	+1.1
JAGI	Jajag, Banyuwa	7.78	96	P	Pn	09 58 02.4	+1.9
	0.4nm2μm83nm,0.5s						
MNSI	Mandailing Nat	10.79	321	P	Pn	09 58 41.9	+0.1
	81μm22nm,0.5s						
PBSI	Pulau Batu	11.05	313	P	Pn	09 58 44.3	-1.0
	122nm,1.1s						
SBUM	Sibu	11.66	30	P	Pn	09 59 00.0	+6.4
GSI	Gunungsitoli	12.50	315	Pn	Pn	09 59 02.1	-2.9
GSI	Gunungsitoli	12.50	315	P	Pn	09 59 02.6	-2.5
	114nm,0.6s						
KAPI	Kappang	13.60	80	LR	LR	10 04 56.9	
	comp=Z,154nm,20.7s,baz=297,slow=40						
KAPI	Kappang	13.60	80	Pn	Pn	09 59 21.5	+1.4
MPSI	Mapaga	15.70	60	P	P	09 59 49.5	-1.6
	15nm,1.0s						
GIRL	Giralia	16.70	154	Pn	Pn	09 59 59.1	-1.4
GIRL				IAmb	IAmb	10 00 24.9	
	comp=Z,178nm,1.2s						
SOEI	Soe	17.84	98	P	Pn	10 00 13.1	-1.7
SOEI				IAmb	IAmb	10 00 42.0	
	comp=Z,41nm,0.7s						
SOEI	Soe	17.84	98	P	P	10 00 14.3	-0.7
	comp=Z,63nm,0.8s						
PSA00	Pilbara Seismi	18.99	138	P	Pn	10 00 28.7	+0.2
KNRA	Kununurra	23.34	112	P	P	10 01 14.5	+0.6
GAMI	Galela, Maluku	23.40	67	P	P	10 01 13.7	-0.9
	comp=Z,59nm,0.9s						
MTN	Manton Dam	24.92	104	P	P	10 01 28.6	+0.1
MTN				IAmb	IAmb	10 01 58.6	
	comp=Z,31nm,1.4s						
FAKI	Fak Fak	26.23	81	P	P	10 01 41.1	+0.7
FAKI				IAmb	IAmb	10 02 03.9	
	comp=Z,19nm,0.9s						
CMAR	Chiang Mai Arr	26.98	344	P	P	10 01 45.4	-1.8
	comp=Z,3.7nm,0.5s,baz=179,slow=8.4,SNR=14						
CMAR				LR	LR	10 13 13.2	
	comp=Z,81nm,18.5s,baz=228,slow=39						
NWAO	Narrogin (SRO)	27.07	160	LR	LR	10 12 20.8	
	comp=Z,149nm,18.3s,baz=299,slow=36						
CMMT	Chiang Mai	27.32	345	P	P	10 01 49.4	-0.8
	comp=Z,391nmcomp=Z,9.9nm,1.0s						
CHTO	Chiang Mai	27.32	345	P	P	10 01 49.5	-0.7
	comp=Z,5.8nm,1.0s						
H01W3	Cape Leeuwin H	28.00	166	T	T	10 31 43.9	
	baz=344,slow=76,SNR=67						
H01W1	Cape Leeuwin H	28.01	166	T	T	10 31 45.2	
	baz=344,slow=76,SNR=82						
H01W2	Cape Leeuwin H	28.01	166	T	T	10 31 45.0	
	baz=344,slow=76,SNR=134						
PALK	Pallekele	29.57	300	LR	LR	10 12 15.3	
	comp=Z,64nm,21.7s,baz=207,slow=33						
WRA	Warramunga Arr	29.74	117	P	P	10 02 12.6	+0.8
	comp=Z,0.9nm,0.5s,baz=301,slow=11,SNR=25						
WRA				PcP	PcP	10 05 16.5	+1.6
	comp=Z,0.8nm,0.6s,baz=278,slow=2.0,SNR=5.9						
WRAB	Tennant Creek	29.74	117	P	P	10 02 13.2	+1.4
WRAB				IAmb	IAmb	10 02 30.9	
	comp=Z,23nm,1.6s						
WB2	Warramunga Arr	29.75	117	P	P	10 02 13.2	+1.3
WR0	Warramunga Arr	29.92	117	P	P	10 02 14.7	+1.3
WR0				IAmb	IAmb	10 03 09.1	
	comp=Z,25nm,1.8s						
ASAR	Alice Springs	30.84	124	P	P	10 02 22.8	+1.4
	comp=Z,0.8nm,0.5s,baz=301,slow=8.2,SNR=12						
ASAR				PcP	PcP	10 05 19.6	+1.9
	comp=Z,1.1nm,0.9s,baz=322,slow=2.3,SNR=6.3						
H08S2	Diego Garcia H	33.53	268	T	T	10 38 13.1	
	baz=92,slow=75,SNR=608						
H08S3	Diego Garcia H	33.55	268	T	T	10 38 12.1	
	baz=92,slow=75,SNR=769						
H08S1	Diego Carcia H	33.55	268	T	T	10 38 12.8	
	baz=92,slow=75,SNR=542						
SHL	Shillong	35.92	337	P	P	10 03 04.4	-1.4
COEN	Coen	36.68	103	P	P	10 03 10.4	-1.9
CD2	Chengdu	38.46	356	P	P	10 03 28.6	+1.5
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CTAO	Charters Tower	40.55	112	P	P	10 03 46.8	+2.1
STKA	Stephens Creek	40.68	131	P	P	10 03 47.8	+2.3
	comp=Z,9.1nm,0.7s,baz=300,slow=9.2,SNR=27						
STKA				LR	LR	10 22 08.9	
	comp=Z,46nm,18.2s,baz=218,slow=38						
STKA	Stephens Creek	40.68	131	P	P	10 03 47.6	+2.0
NJ2	Nanjing	41.28	16	eP	P	10 03 52.8	+2.4
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
LZH	Lanzhou	43.60	357	eP	P	10 04 09.5	0.0
LZH				pP	pP	10 04 20.9	-1.8
LZH				sP	sP	10 04 32.0	+3.6
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
LZH				pmax	pmax		
	comp=Z,76nm,6.0s						
LZH				LR	LR		
	comp=N,190nm,14.6s						
LZH				LR	LR		
	comp=E,240nm,14.4s						
LZH				LR	LR		
	comp=Z,220nm,17.5s						
GTA	Gaotai	47.25	353	eP	P	10 04 37.9	-0.3
GTA				pP	pP	10 04 47.1	-4.5
GTA				sP	sP	10 04 50.9	-6.4
GTA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HHC	Hu-ho-hao-te	48.54	5	eP	P	10 04 52.2	+4.1
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,5.0s						
KSRS	Korea Array	49.24	23	P	P	10 04 52.3	-1.1
	comp=Z,2.5nm,0.8s,baz=210,slow=7.4,SNR=7.4						
JHS	Saijyo	49.42	29	P	P	10 04 53.6	-1.3
JHS				IAmb	IAmb	10 04 54.9	
	comp=Z,18nm,0.9s						
JWT	Wachi	50.78	31	P	P	10 05 03.8	-1.3
JWT				IAmb	IAmb	10 06 39.6	
	comp=Z,27nm,1.4s						
NIL	Nilore	51.73	325	P	P	10 05 11.9	-0.5
NIL				IAmb	IAmb	10 05 13.2	
	comp=Z,18nm,1.0s						
MJAR	Matsushiro Arr	53.20	32	P	P	10 05 20.6	-2.6
	comp=Z,1.2nm,0.4s,baz=197,slow=7.6,SNR=4.2						
MJAR	Matsushiro Arr	53.20	32	IAmb	IAmb	10 06 50.5	
	comp=Z,18nm,1.8s						
WMQ	Urumqi	53.98	343	eP	P	10 05 31.0	+2.2
WMQ				pP	pP	10 05 41.2	-1.2
WMQ				pmax	pmax		
	comp=Z,25nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,20nm,3.6s						
KSH	Kashi	54.74	331	P	P	10 05 33.7	-0.8
KSH				pmax	pmax		
	comp=Z,7.0nm,0.3s						
KBL	Kabul	54.84	322	P	P	10 05 34.9	-0.5
KBL				IAmb	IAmb	10 05 36.5	
	comp=Z,10nm,0.7s						
SONM	Songino Array	55.28	0	P	P	10 05 37.6	-0.7
	comp=Z,1.3nm,0.4s,baz=174,slow=7.2,SNR=6.6						
SONM				PcP	PcP	10 06 38.9	+0.4
	comp=Z,1.2nm,0.4s,baz=180,slow=5.3,SNR=4.8						
SONM				LR	LR	10 30 26.3	
	comp=Z,91nm,19.6s,baz=159,slow=38						
SONM	Songino Array	55.28	0	P	P	10 05 37.5	-0.8
WSAR	Wadi Sarin	55.85	305	P	P	10 05 45.7	+3.1
	comp=Z,6.9nm,0.6s,baz=145,slow=6.9,SNR=8.1						
KDJ	Kajisay	56.29	334	P	P	10 05 45.1	-0.5
KDJ				IAmb	IAmb	10 05 47.1	
	comp=Z,7.7nm,0.7s						
USA0B	Ussuriysk Arra	56.62	22	P	P	10 05 46.3	-1.4
USA0B				IAmb	IAmb	10 05 46.7	
	comp=Z,15nm,1.4s						
USRK	Ussuriysk Ar.	56.62	22	P	P	10 05 45.4	-2.3
	comp=Z,2.9nm,0.5s,baz=201,slow=6.6,SNR=21						
USRK	Ussuriysk Ar.	56.62	22	P	P	10 05 46.5	-1.2
GAR	Garm	57.23	327	P	P	10 05 52.0	-0.3
CHGR	Chuyangaron	57.62	326	P	P	10 05 54.2	-0.8
AAK	Ala-Archa	57.89	333	P	P	10 05 57.1	+0.2
MK31	Makanchi Array	58.31	341	P	P	10 05 58.9	-0.7
MKAR	Makanchi Array	58.31	341	P	P	10 05 58.1	-1.5
	comp=Z,2.2nm,0.6s,baz=153,slow=7.9,SNR=22						
MKAR	Makanchi Array	58.31	341	P	P	10 05 58.6	-1.0
KKAR	Karatay Array	60.13	330	P	P	10 06 11.9	-0.3
GEYT	Alibeck	63.84	319	P	P	10 06 37.5	+0.2
	comp=Z,15nm,0.7s,baz=194,slow=11,SNR=4.4						
GEYT				LR	LR	10 36 03.4	
	comp=Z,43nm,18.1s,baz=190,slow=38						
ZAA0	Zalesovo Array	64.03	346	P	P	10 06 36.5	-1.6
ZAA0				IAmb	IAmb	10 06 43.3	
	comp=Z,2.8nm,0.5s						
ZALV	Zalesovo Beam	64.03	346	P	P	10 06 36.5	-1.7
	comp=Z,1.7nm,0.4s,baz=165,slow=6.1,SNR=7.4						
ZALV				LR	LR	10 37 45.7	
	comp=Z,31nm,18.4s,baz=134,slow=39						
ZALV	Zalesovo Beam	64.03	346	P	P	10 06 36.7	-1.5
BRVK	Borovoye	67.81	337	P	P	10 07 02.8	+0.3
KMBO	Kilima Mbogo	69.12	272	LR	LR	10 32 20.5	
	comp=Z,57nm,21.5s,baz=98,slow=31						
ABKAR	Akbulak array	69.67	330	P	P	10 07 14.5	+0.4
ABKAR	Akbulak array	69.67	330	P	P	10 07 14.6	+0.4
ABKAR				IAmb	IAmb	10 07 15.7	
	comp=Z,32nm,0.8s						
PEA0B	Petropavlovsk-	74.51	29	P	P	10 07 43.0	0.0
PETK	Petropavlovsk-	74.51	29	P	P	10 07 41.7	-1.4
	comp=Z,1.0nm,0.6s,baz=357,slow=3.0,SNR=4.1						
PETK	Petropavlovsk-	74.51	29	P	P	10 07 42.3	-0.7
ARU	Arti	74.96	335	P	P	10 07 46.6	+1.1
VNDA	Vanda	75.42	169	P	P	10 07 51.0	+3.0
	comp=Z,0.8nm,0.9s,baz=268,slow=5.2,SNR=4.8						
VNDA				LR	LR	10 37 34.4	
	comp=Z,27nm,19.3s,baz=39,slow=33						
KBZ	Khabaz	76.72	318	P	P	10 07 57.8	+2.0
	comp=Z,3.9nm,0.9s,baz=200,slow=5.9,SNR=7.5						
NRIK	Noril'sk	77.95	353	P	P	10 08 02.4	+0.2
	comp=Z,6.1nm,0.3s,baz=124,slow=2.4,SNR=5.7						
NRIK				LR	LR	10 45 17.4	
	comp=Z,56nm,18.0s,baz=159,slow=38						
NRIK	Noril'sk	77.95	353	P	P	10 08 02.5	+0.3
NRIK				IAmb	IAmb	10 08 03.4	
	comp=Z,7.5nm,0.8s						
BRTR	Keskin Array B	81.79	312	P	P	10 08 25.0	+1.2
	comp=Z,3.0nm,0.7s,baz=123,slow=9.3,SNR=3.3						
QSPA	South Pole Qui	82.31	180	P	P	10 08 28.5	+2.4
QSPA				IAmb	IAmb	10 08 59.9	
	comp=Z,14nm,1.5s						
OBN	Obninsk	84.94	327	P	P	10 08 39.2	-0.3
KLMR	Klimovskoe	85.69	333	eP	P	10 08 41.9	-1.2
KLMR				AMP		10 08 46.6	
	comp=Z,6.0nm,0.9s						
KARP	Karpathos	85.71	307	P	P	10 08 44.3	+0.5
KIWB	Kanaga Island	87.76	37	P	P	10 08 53.2	-0.2
AKASG	Malin Array Be	87.82	322	P	P	10 08 54.4	+0.7
	comp=Z,2.8nm,0.5s,baz=88,slow=4.6,SNR=11						
SNAA	Sanae	88.68	197	P	P	10 08 58.9	+1.4
SNAA				IAmb	IAmb	10 09 35.7	
	comp=Z,13nm,1.7s						
MLR	Muntele Rosu	88.75	316	P	P	10 09 01.5	+3.1
	comp=Z,2.6nm,0.4s,baz=39,slow=6.0,SNR=4.3						
BUR08	Bucovina Ar. S	89.69	318	P	P	10 09 02.8	+0.1
BUR08				IAmb	IAmb	10 11 26.4	
	comp=Z,19nm,2.0s						
ARCES	ARCESS Array B	93.95	340	P	P	10 09 21.9	+0.1
	comp=Z,2.1nm,0.8s,baz=91,slow=5.3,SNR=7.8						
ARCES				LR	LR	10 59 47.5	
	comp=Z,19nm,19.2s,baz=125,slow=41						
NOA	NORSAR Array B	99.16	331	LR	LR	10 59 03.1	
	comp=Z,24nm,18.9s,baz=290,slow=38						
NVAR	Mina Array Bea	129.51	46	PKP	PKiKP	10 15 16.0	+1.4
	comp=Z,0.4nm,0.7s,baz=241,slow=3.0,SNR=4.2						
PDAR	Pinedale Array	132.94	36	PKP	PKiKP	10 15 22.0	+0.6
	comp=Z,0.3nm,0.6s,baz=219,slow=1.9,SNR=4.3						
ULM	Lac du Bonnet	133.71	20	PKP	PKiKP	10 15 23.2	+0.8
	comp=Z,1.1nm,0.4s,baz=256,slow=6.4,SNR=3.5						
TXAR	Lajitas Array	144.51	49	PKP	PKiKP	10 15 42.0	-3.3
	comp=Z,1.4nm,0.8s,baz=277,slow=1.0,SNR=21						
BDFB	Brasilia	145.61	228	PKPbc	PKiKP	10 15 47.1	-0.7
	comp=Z,1.3nm,0.3s,baz=37,slow=3.8,SNR=3.3						

MEX 02 10:00:21.1±0.9**, 15°.37N×93°.14W, h93km**±8km**, MD3.8, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		0.34	346	iP	Pn	10 00 33.9	-1.2
PCIG				iS	Sn	10 00 43.9	-1.7
THIG		0.96	119	eP	Pn	10 00 38.8	-1.8
THIG				eS	Sn	10 00 53.0	-2.2
TGIG		1.40	1	eP	Pn	10 00 44.1	-1.7
TGIG				iS	Sn	10 01 01.9	-2.6
CMIG	Matias Romero	2.40	316	eP	Pn	10 00 57.2	-1.5
CMIG				iS	Sn	10 01 25.1	-2.4

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*IDC **02** 10:08:38.6±0.8, 31°.73N×140°.12E, h150km±8km, mb3.6/7, mb1 3.7/10, mb1mx3.3/58, mbtmp4.0/10, MS3.6/1, Ms1 3.6/1, ms1mx2.5/30, Error ellipse: s-maj=45.3km s-min=10.2km az=71.0*

*JMA **02** 10:08:38.7±0.1, 31°.83N×140°.12E, h166km, M3.3*

ISC 02 10:08:38.6±0.8**, 31°.76N**±0°.07×**140°.13E**±0°.10**, h150km, n26,** σ**1s.06**/27**, mb3.7**/7**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHCJ	Hachijojimakas	1.34	348	P	Pn	10 09 07.5	+1.0
JHJ	Hachijo jima 2	1.39	348	P	Pn	10 09 08.0	+1.1
	32nm,0.3s,baz=255,slow=23,SNR=16						
JHJ				S	Sn	10 09 29.0	+0.2
	61nm,0.3s,baz=244,slow=24,SNR=11						
BSO1	Boso 1	2.97	14	P	Pn	10 09 25.8	+0.8
BSO3	Boso 3	3.05	6	P	Pn	10 09 26.9	+0.6
JIE	Ise	3.89	313	P	Pn	10 09 37.6	+0.2
JKN2	Miekihoku	4.08	308	P	Pn	10 09 39.8	+0.1
JHU	Hanno	4.14	350	S	Sn	10 10 26.3	-2.7
JAO	Obara	4.24	326	P	Pn	10 09 42.6	+0.6
JTNC	Tanabenakahech	4.32	300	S	Sn	10 10 31.8	-1.4
JRY	Ryogami san	4.37	347	P	Pn	10 09 44.5	+0.9
JYT	Yasato	4.46	1	P	Pn	10 09 44.9	+0.1
JAG	Ashikaga	4.69	353	P	Pn	10 09 46.5	-1.3
JHO	Hitachi	4.86	4	P	Pn	10 09 49.1	-0.9
CBIJ	Chichi jima	4.98	158	P	Pn	10 09 51.9	+0.1
JCJ	Chichijima	4.98	158	P	Pn	10 09 52.0	+0.2
	10nm,0.3s,baz=3.5,slow=20,SNR=41						
JCJ				S	Sn	10 10 46.9	-1.9
	11nm,0.3s,baz=275,slow=23,SNR=2.8						
JNU	Nakatsue	7.94	282	LR	LR	10 12 58.9	
	comp=Z,400nm,18.6s,baz=292,slow=33						
KSRS	Korea Array	11.55	303	P	Pn	10 11 20.5	+1.7
	0.2nm,0.3s,baz=118,slow=14,SNR=8.7						
KLR	Kul'dur	18.56	343	P	P	10 12 42.9	-0.8
	0.3nm,0.3s,baz=139,slow=10.0,SNR=8.2						
MKAR	Makanchi Array	46.20	306	P	P	10 16 47.2	-1.1
	1.0nm,0.4s,baz=85,slow=10,SNR=16						
WRA	Warramunga Arr	51.70	187	P	P	10 17 31.1	+0.7
	0.4nm,0.9s,baz=7.0,slow=8.6,SNR=5.4						
ARCES	ARCESS Array B	68.56	340	P	P	10 19 25.4	+0.8
	1.7nm,0.6s,baz=68,slow=6.7,SNR=7.0						
FINES	FINESS Array B	72.99	333	P	P	10 19 51.4	0.0
	1.6nm,0.4s,baz=24,slow=4.5,SNR=7.7						
KBZ	Khabaz	73.56	311	P	P	10 19 55.9	+0.8
	0.8nm,0.6s,baz=91,slow=8.4,SNR=4.1						
AKASG	Malin Array Be	77.82	323	P	P	10 20 18.9	-0.3
	0.5nm,0.4s,baz=52,slow=5.7,SNR=5.6						
NB2	NORSAR Subarra	78.63	337	P	P	10 20 23.6	+0.1
	comp=Z,0.7nm,0.5s,baz=43,slow=5.3						
NOA	NORSAR Array B	78.63	337	P	P	10 20 24.0	+0.5
	comp=Z,1.3nm,0.7s,baz=46,slow=6.0,SNR=4.3						

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*IDC **02** 10:40:55.7±0.6, 21°.24N×146°.23E, h0km, mb4.3/23, mb1 4.5/26, mb1mx4.4/41, mbtmp4.4/26, ML4.0/3, MS3.7/10, Ms1 3.7/10, ms1mx3.4/40, Error ellipse: s-maj=18.5km s-min=13.9km az=82.0*

*BJI **02** 10:40:59.7±0.0, 21°.25N×146°.04E, h34km, mB4.9/31, mb4.7/52, Ms4.4/25, Ms7 4.0/22*

*NEIC **02** 10:41:02.3±1.1, 21°.37N±0°.06×146°.1E±0°.1, h38km±6km, mb4.8/148, Error ellipse: s-maj=14.7km s-min=7.9km az=77.0*

ISC 02 10:41:00.6±0.4**, 21°.34N**±0°.05×**146°.12E**±0°.07**, h29km, n213,** σ**0s.97**/216**, mb4.8**/100**, MS3.8**/14**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANA2	Anatahan	4.99	185	Pn	Pn	10 42 14.7	+1.1
JCJ	Chichijima	6.76	329	Pn	Pn	10 42 37.4	-0.5
	17nm,0.3s,baz=284,slow=22,SNR=16						
JCJ				Sn	Sn	10 43 51.1	-2.8
	26nm,0.3s,baz=281,slow=23,SNR=12						
GUMO	Guam	7.80	189	Pn	Pn	10 42 53.6	+1.4
INU	Inuyama	16.08	332		Pn	10 44 43.9	-0.7
JMN	Monobe	16.42	321	P	P	10 44 50.4	-1.1
JMN				IAmb	IAmb	10 44 52.1	
	comp=Z,123nm,1.7s						
MJAR	Matsushiro Arr	16.64	337	Pn	P	10 44 53.3	-0.7
	comp=Z,0.1nm,0.3s,baz=166,slow=11,SNR=8.4						
MAT	Matsushiro	16.64	337	P	P	10 44 55.1	+1.1
MAT				eS	Sn	10 47 53.6	-2.2
JOW	Kunigami	17.18	292		Pn	10 44 57.6	-1.0
JSU	Suzuyama	17.28	309	P	Pn	10 44 59.8	0.0
JNU	Nakatsue	17.90	314	P	P	10 45 09.8	+1.8
	comp=Z,0.4nm,0.3s,baz=75,slow=7.4,SNR=7.2						
JNU	Nakatsue	17.90	314	P	P	10 45 08.2	+0.2
JNU				IAmb	IAmb	10 45 15.0	
	comp=Z,62nm,1.1s						
PATS	Pohnpei	18.63	139	P	P	10 45 15.0	-1.0
H11N1	WAKE ISLAND Hy	19.52	91	T	T	11 05 22.3	
	baz=271						
H11N2	WAKE ISLAND Hy	19.52	91	T	T	11 05 12.5	
	baz=271						
H11N3	WAKE ISLAND Hy	19.54	91	T	T	11 05 26.0	
	baz=271						
KSRS	Korea Array	22.50	319	P	P	10 45 59.2	+1.4
	comp=Z,11nm,1.0s,baz=148,slow=9.2,SNR=23						
KSRS				LR	LR	10 55 11.9	
	comp=Z,298nm,18.6s,baz=126,slow=38						
KSAR	Wonju Array Be	22.52	319	P	P	10 45 59.0	+1.0
ASAJ	Asahikawa	22.90	353	P	P	10 46 04.0	+2.1
	comp=Z,5.4nm,0.6s,baz=241,slow=17,SNR=7.1						
ASAJ				LR	LR	10 54 52.4	
	comp=Z,117nm,20.2s,baz=183,slow=36						
SSE	Sheshan	24.34	299	P	P	10 46 15.4	-0.6
SSE				S	S	10 50 34.2	+0.6
SSE				pmax	pmax		
	comp=Z,20nm,0.7s						
SSE				LR	LR		
	comp=Z,100nm,12.1s						
SSE				LR	LR		
	comp=Z,69nm,17.2s						
USRK	Ussuriysk Ar.	25.63	336	P	P	10 46 28.9	+1.3
	comp=Z,16nm,1.0s,baz=143,slow=8.2,SNR=24						
NJ2	Nanjing	26.52	299	eP	P	10 46 36.7	+0.9
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
MDJ	Mudanjiang	26.93	333	P	P	10 46 43.7	+4.4
MDJ				pmax	pmax		
	comp=Z,12nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,91nm,5.3s						
WHN	Wuhan	29.92	294	P	P	10 47 08.2	+2.1
KLR	Kul'dur	30.09	341	P	P	10 47 08.5	+1.0
	comp=Z,6.3nm,0.9s,baz=143,slow=7.7,SNR=15						
PETK	Petropavlovsk-	32.94	13	LR	LR	10 59 09.4	
	comp=Z,107nm,20.6s,baz=193,slow=33						
HHC	Hu-ho-hao-te	35.10	312	eP	P	10 47 52.9	+1.4
HHC				S	S	10 53 27.5	+5.0
HHC				pmax	pmax		
	comp=Z,13nm,0.9s						
HHC				pmax	pmax		
	comp=Z,55nm,4.8s						
HHC				LR	LR		
	comp=Z,300nm,15.4s						
HHC				LR	LR		
	comp=Z,200nm,15.1s						
HHC				LR	LR		
	comp=Z,210nm,15.5s						
MTN	Manton Dam	37.03	205	P	P	10 48 07.6	-0.4
MTN				IAmb	IAmb	10 48 08.1	
	comp=Z,13nm,0.8s						
CD2	Chengdu	39.02	293	P	P	10 48 24.2	-0.6
CD2				pmax	pmax		
	comp=Z,30nm,1.0s						
CD2				pmax	pmax		
	comp=Z,210nm,5.3s						
CD2				LR	LR		
	comp=Z,390nm,15.8s						
CD2				LR	LR		
	comp=Z,200nm,15.0s						
CD2				LR	LR		
	comp=Z,240nm,14.7s						
KNRA	Kununurra	40.54	206	P	P	10 48 37.6	+0.1
KNRA				IAmb	IAmb	10 48 38.2	
	comp=Z,10nm,0.7s						
SONM	Songino Array	41.37	319	P	P	10 48 44.7	+0.5
	comp=Z,1.8nm,0.4s,baz=126,slow=9.2,SNR=10						
SONM				LR	LR	11 07 23.0	
	comp=Z,135nm,18.3s,baz=122,slow=38						
SONM	Songino Array	41.37	319	P	P	10 48 44.6	+0.5
SEY	Seymchan	41.78	4	P	P	10 48 48.5	+1.3
	comp=Z,1.8nm,0.8s,baz=166,slow=6.4,SNR=4.6						
WR0	Warramunga Arr	42.58	196	P	P	10 48 53.6	-0.6
WRAB	Tennant Creek	42.61	196	P	P	10 48 53.6	-0.8
WB2	Warramunga Arr	42.62	196	P	P	10 48 53.4	-1.0
WRA	Warramunga Arr	42.62	196	P	P	10 48 53.0	-1.5
	comp=Z,4.2nm,0.6s,baz=16,slow=9.0,SNR=42						
WRA				PcP	PcP	10 50 46.3	-0.1
	comp=Z,2.3nm,0.9s,baz=358,slow=2.7,SNR=5.1						
WRA	Warramunga Arr	42.62	196	P	P	10 48 54.1	-0.4
ATKA	Atka Island	43.39	35	P	P	10 49 01.7	+1.3
CMAR	Chiang Mai Arr	44.33	275	P	P	10 49 08.9	+0.4
	comp=Z,0.9nm,0.7s,baz=85,slow=5.1,SNR=5.3						
AS31	Alice Springs	46.29	196	P	P	10 49 23.5	-0.4
ASAR	Alice Springs	46.29	196	P	P	10 49 22.6	-1.3
	comp=Z,1.4nm,0.6s,baz=18,slow=9.4,SNR=32						
ASAR				PcP	PcP	10 50 59.2	+0.2
	comp=Z,1.1nm,0.6s,baz=22,slow=3.0,SNR=6.9						
ASAR	Alice Springs	46.29	196	P	P	10 49 22.9	-0.9
DZM	Mont Dzumac	47.49	154	P	P	10 49 33.6	+0.3
RPSI	Rantau Prapat	49.49	255	P	P	10 49 46.6	-2.2
RPSI				IAmb	IAmb	10 49 50.2	
	comp=Z,13nm,1.0s						
MBWA	Marble Bar	49.49	213	P	P	10 49 48.9	+0.3
SHL	Shillong	49.66	286	P	P	10 49 48.6	-1.6
SHL				IAmb	IAmb	10 49 53.5	
	comp=Z,7.3nm,0.6s						
PSA00	Pilbara Seismi	49.77	213	P	P	10 49 50.4	-0.4
PSA00				IAmb	IAmb	10 50 26.0	
	comp=Z,25nm,1.9s						
MSVF	Nonsavu	49.87	139	P	P	10 49 50.5	-1.1
LSA	Lhasa	49.91	291	P	P	10 49 52.2	-0.3
LSA				IAmb	IAmb	10 50 08.1	
	comp=Z,6.2nm,0.5s						
FALS	False Pass	50.33	35	P	P	10 49 54.6	0.0
TIXI	Tiksi	51.30	353	P	P	10 50 00.7	-0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GSI	Gunungsitoli	51.30	254	P	P	10 50 01.9	-0.7
WMQ	Urumqi	52.92	309	*e*P	P	10 50 15.7	+1.4
WMQ				pmax	pmax		
	comp=Z,25nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,17nm,3.8s						
WMQ				LR	LR		
	comp=Z,310nm,29.2s						
WMQ				LR	LR		
	comp=Z,500nm,29.1s						
WMQ				LR	LR		
	comp=Z,51nm,29.3s						
ANM	Nome	53.62	24	P	P	10 50 19.6	+0.6
FORT	Forrest	54.65	199	P	P	10 50 26.3	-0.5
ZSN	Zaisan	55.25	314	*e*P	P	10 50 29.6	-1.6
	baz=314						
N18K	Kilae Creek	56.07	30	P	P	10 50 37.5	+0.6
N18K				IAmb	IAmb	10 50 41.8	
	comp=Z,8.4nm,0.9s						
O18K	Koktuh Hills	56.15	31	P	P	10 50 38.0	+0.7
O18K				IAmb	IAmb	10 50 42.1	
	comp=Z,10nm,0.9s						
ZAA0	Zalesovo Array	56.19	321	P	P	10 50 37.5	-0.3
ZAA0				IAmb	IAmb	10 50 38.6	
	comp=Z,7.7nm,0.8s						
ZALV	Zalesovo Beam	56.19	321	P	P	10 50 37.6	-0.1
	comp=Z,6.5nm,0.6s,baz=103,slow=7.4,SNR=16						
ZALV	Zalesovo Beam	56.19	321	P	P	10 50 37.3	-0.4
CAN	Canberra	56.42	177	P	P	10 50 40.3	+0.7
N19K	Bonanza Creek	56.77	30	P	P	10 50 42.4	+0.5
N19K				IAmb	IAmb	10 50 50.5	
	comp=Z,9.9nm,1.2s						
KDAK	Kodiak Island	56.95	34	P	P	10 50 43.1	0.0
	comp=Z,3.5nm,0.9s,baz=283,slow=8.0,SNR=5.2						
MK31	Makanchi Array	56.95	313	P	P	10 50 42.0	-1.3
MKAR	Makanchi Array	56.95	313	P	P	10 50 43.5	+0.1
	comp=Z,2.2nm,0.7s,baz=90,slow=9.3,SNR=18						
MKAR				PcP	PcP	10 51 38.4	0.0
	comp=Z,1.4nm,0.6s,baz=109,slow=2.0,SNR=4.8						
MKAR	Makanchi Array	56.95	313	P	P	10 50 42.7	-0.6
MAKZ	Makanchi	57.16	313	P	P	10 50 44.8	-0.1
K20K	Telida	57.70	27	P	P	10 50 48.8	+0.5
K20K				IAmb	IAmb	10 51 00.0	
	comp=Z,12nm,1.1s						
J20K	Nowinta River	57.92	27	P	P	10 50 50.9	+1.0
IMAR	Indian Mountai	58.66	25	P	P	10 50 55.7	+0.8
SHLS	Shalkode	58.88	308	*e*P	P	10 50 54.4	-2.6
	baz=308						
O22K	Cooper Landing	58.96	31	P	P	10 50 56.2	-0.9
SEW	Seward	59.02	32	P	P	10 50 57.1	-0.5
RC01	Rabbit Creek A	59.08	31	P	P	10 50 57.8	-0.2
I21K	Tanana	59.11	26	P	P	10 50 58.9	+0.8
I21K				IAmb	IAmb	10 51 03.3	
	comp=Z,10nm,0.9s						
KTH	Kantishna Hill	59.11	28	P	P	10 50 58.0	-0.2
KTH				IAmb	IAmb	10 51 09.0	
	comp=Z,12nm,1.2s						
UZB	Uzynbulak	59.20	308	*e*P	P	10 50 58.7	-0.6
	baz=308						
BPAW	Bear Paw Mtn.	59.23	27	P	P	10 50 58.9	0.0
BPAW				IAmb	IAmb	10 51 03.6	
	comp=Z,7.2nm,0.8s						
NRIK	Noril'sk	59.28	339	P	P	10 50 59.8	+0.6
	comp=Z,8.2nm,1.0s,baz=110,slow=8.6,SNR=5.2						
NRIK				LR	LR	11 17 50.5	
	comp=Z,76nm,20.3s,baz=102,slow=37						
NRIK	Noril'sk	59.28	339	P	P	10 50 59.0	-0.2
TRF	Thorofare Moun	59.36	28	P	P	10 50 59.8	-0.3
TRF				IAmb	IAmb	10 51 03.9	
	comp=Z,10nm,1.0s						
SATY	Saty	59.65	308	*e*P	P	10 51 00.7	-1.8
	baz=308						
KNK	Knik Glacier	59.75	30	P	P	10 51 02.4	-0.2
SML	Sawmill	59.89	30	P	P	10 51 03.5	-0.1
SML				IAmb	IAmb	10 51 13.9	
	comp=Z,11nm,1.0s						
NEA2	Nenana	60.16	27	P	P	10 51 05.6	+0.2
NEA2				IAmb	IAmb	10 51 10.3	
	comp=Z,5.5nm,0.8s						
I23K	Minto, Yukon-K	60.17	26	P	P	10 51 05.9	+0.5
I23K				IAmb	IAmb	10 51 16.2	
	comp=Z,16nm,1.4s						
H23K	Yukon River	60.26	25	P	P	10 51 06.5	+0.5
H23K				IAmb	IAmb	10 51 17.0	
	comp=Z,13nm,1.6s						
SCM	Sheep Creek Mo	60.36	30	P	P	10 51 07.1	+0.2
COLD	Coldfoot	60.38	24	P	P	10 51 07.3	+0.5
COLD				IAmb	IAmb	10 51 12.0	
	comp=Z,7.7nm,0.9s						
WRH	Wood River Hil	60.54	27	P	P	10 51 07.9	-0.1
WRH				IAmb	IAmb	10 51 17.9	
	comp=Z,6.0nm,1.1s						
KDJ	Kajisay	60.59	307	P	P	10 51 08.6	-0.3
KDJ				IAmb	IAmb	10 51 11.3	
	comp=Z,6.8nm,1.2s						
MDOK	Medeo	60.64	308	*e*P	P	10 51 08.7	-0.6
	baz=308						
CHKK	Chushkaly	60.66	309	*e*P	P	10 51 07.8	-1.3
	baz=309						
H24K	Noodor Dome	60.93	25	P	P	10 51 11.2	+0.6
KLU	Klutina	60.97	31	P	P	10 51 11.5	+0.5
KLU				IAmb	IAmb	10 51 15.5	
	comp=Z,7.9nm,1.1s						
TOLK	Toolik Lake Re	61.00	22	P	P	10 51 11.4	+0.3
HDA	Harding Lake	61.02	27	P	P	10 51 10.6	-0.6
HDA				IAmb	IAmb	10 51 17.3	
	comp=Z,4.8nm,0.8s						
MTBS	Maitube	61.10	308	*e*P	P	10 51 12.6	+0.4
	baz=308						
IL31		61.11	27	P	P	10 51 10.4	-1.4
ILAR	Eielson Array	61.11	27	P	P	10 51 10.5	-1.3
	comp=Z,3.5nm,0.9s,baz=257,slow=5.6,SNR=29						
ILAR				LR	LR	11 15 52.1	
	comp=Z,59nm,20.7s,baz=245,slow=34						
ILAR	Eielson Array	61.11	27	P	P	10 51 10.7	-1.1
KUU	Kurty	61.12	309	*e*P	P	10 51 10.6	-1.8
	baz=309						
KSH	Kashi	61.69	304	P	P	10 51 20.6	+4.2
KSH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
RIDG	Independent Ri	61.81	28	P	P	10 51 16.2	-0.4
RIDG				IAmb	IAmb	10 51 20.6	
	comp=Z,11nm,1.0s						
GLB	Gilahina Butte	61.96	31	P	P	10 51 17.3	-0.4
FYU	Fort Yukon	62.13	25	P	P	10 51 19.4	+0.7
FYU				IAmb	IAmb	10 51 24.6	
	comp=Z,9.9nm,0.9s						
DOT	Dot Lake	62.14	28	P	P	10 51 18.1	-0.7
SCRK	Sand Creek	62.22	28	P	P	10 51 19.0	-0.5
SCRK				IAmb	IAmb	10 51 23.4	
	comp=Z,7.9nm,0.8s						
SGDS	Sogindy	62.39	309	*e*P	P	10 51 19.5	-1.5
	baz=309						
AAK	Ala-Archa	62.55	308	P	P	10 51 21.7	-0.4
BMAR	Burnt Mountain	62.55	24	P	P	10 51 22.4	+0.9
BTLS	Baital	62.70	311	*e*P	P	10 51 21.8	-1.1
	baz=311						
L27K	Beaver Creek,	63.06	29	P	P	10 51 25.7	+0.7
BCAR	Beaver Creek A	63.09	29	P	P	10 51 25.4	+0.3
BRZS	Berezniki	63.40	316	*e*P	P	10 51 26.5	-0.9
	baz=316						
EGAK	Eagle	63.54	27	P	P	10 51 28.0	0.0
EGAK				IAmb	IAmb	10 51 31.8	
	comp=Z,20nm,1.8s						
DAWY	Dawson	64.24	28	P	P	10 51 32.8	0.0
NIL	Nilore	64.62	298	P	P	10 51 36.0	+0.2
BRVK	Borovoye	64.78	320	P	P	10 51 36.7	+0.3
HYT	Haines Junctio	64.97	32	P	P	10 51 38.3	+0.6
HYT				IAmb	IAmb	10 51 49.4	
	comp=Z,15nm,1.2s						
KK31	Karatay Array	65.42	309	P	P	10 51 41.0	+0.3
KK31				IAmb	IAmb	10 51 42.3	
	comp=Z,11nm,1.1s						
KKAR	Karatay Array	65.42	309	P	P	10 51 41.1	+0.3
KKAR	Karatay Array	65.42	309	P	P	10 51 41.0	+0.3
KKAR				IAmb	IAmb	10 51 42.3	
	comp=Z,11nm,1.1s						
EPYK	Eagle Plains	65.50	26	P	P	10 51 40.9	0.0
IUG	Iuzhnay	65.89	308	*e*P	P	10 51 43.8	-0.2
	baz=308						
GAR	Garm	66.11	304	P	P	10 51 45.5	+0.1
GAR				IAmb	IAmb	10 51 47.1	
	comp=Z,10nm,1.0s						
CHGR	Chuyangaron	67.06	304	P	P	10 51 51.5	0.0
KBL	Kabul	67.89	300	P	P	10 51 56.9	-0.1
KBL				IAmb	IAmb	10 51 58.3	
	comp=Z,11nm,0.8s						
ARU	Arti	71.16	324	P	P	10 52 16.6	+0.1
ARU				IAmb	IAmb	10 52 17.6	
	comp=Z,12nm,1.0s						
ABKAR	Akbulak array	71.70	316	P	P	10 52 19.8	-0.1
YKA	Yellowknife Ar	75.48	28	P	P	10 52 41.4	-0.4
	comp=Z,1.9nm,0.6s,baz=290,slow=4.4,SNR=4.2						
YKA				LR	LR	11 24 27.6	
	comp=Z,31nm,21.4s,baz=0.0,slow=35						
B08A	Colville Reser	77.27	43	P	P	10 52 52.6	+0.2
B08A				IAmb	IAmb	10 52 56.5	
	comp=Z,6.0nm,0.9s						
E07A	Sunnyside	77.48	45	P	P	10 52 53.0	-0.5
E07A				IAmb	IAmb	10 53 01.1	
	comp=Z,8.4nm,0.9s						
PINE	Pine Mountain	77.59	48	P	P	10 52 54.8	+0.4
PINE				IAmb	IAmb	10 52 59.7	
	comp=Z,15nm,1.1s						
DGAR	Diego Garcia	77.67	257	P	P	10 52 54.6	-0.4
K05A	Summer Lake	77.95	49	P	P	10 52 56.6	+0.2
K05A				IAmb	IAmb	10 53 01.1	
	comp=Z,13nm,1.0s						
G08A	Pilot Rock	78.47	46	P	P	10 52 59.3	+0.2
G08A				IAmb	IAmb	10 53 06.6	
	comp=Z,9.5nm,1.4s						
ORV	Oroville	78.49	52	P	P	10 52 58.9	-0.3
ORV				IAmb	IAmb	10 53 06.1	
	comp=Z,12nm,1.3s						
MOD	Modoc Plateau	78.62	49	P	P	10 52 59.5	-0.5
NEW	Newport	78.70	43	P	P	10 53 00.3	0.0
AFDM	Forest Hills D	79.07	52	P	P	10 53 01.9	-0.5
BEKR	Beckworth	79.22	51	P	P	10 53 03.4	-0.1
EDM	Edmonton	79.24	37	P	P	10 53 03.5	+0.4
EDM				IAmb	IAmb	10 53 08.0	
	comp=Z,25nm,1.6s						
KLMR	Klimovskoe	79.33	331	*e*P	P	10 53 01.3	-2.1
KLMR				AMP		10 53 05.1	
	comp=Z,13nm,1.5s						
F10A	Beach Ranch, E	79.40	45	P	P	10 53 04.1	-0.1
J08A	Circle Bar Ran	79.43	48	P	P	10 53 04.5	+0.1
J08A				IAmb	IAmb	10 53 10.0	
	comp=Z,12nm,1.3s						
WVOR	Wild Horse Val	79.62	49	P	P	10 53 05.7	+0.2
WVOR				IAmb	IAmb	10 53 13.6	
	comp=Z,10nm,1.4s						
BMO	Blue Mountains	79.72	46	P	P	10 53 05.8	-0.2
CMB	Columbia Colle	79.80	53	P	P	10 53 06.2	-0.2
CMB				IAmb	IAmb	10 53 11.2	
	comp=Z,16nm,1.5s						
PAHR	Pah Rah Range	79.99	51	P	P	10 53 07.6	0.0
ARCES	ARCESS Array B	80.11	342	P	P	10 53 07.5	0.0
	comp=Z,3.8nm,0.8s,baz=47,slow=5.3,SNR=7.4						
YERR	Yerington	80.33	52	P	P	10 53 08.1	-1.4
YERR				IAmb	IAmb	10 53 14.4	
	comp=Z,13nm,1.3s						
JTMT	Jette	80.67	42	P	P	10 53 11.4	+0.3
JTMT				IAmb	IAmb	10 53 16.2	
	comp=Z,16nm,1.5s						
RYN	Ryan	80.98	52	P	P	10 53 13.0	0.0
LHV	Little Huntoon	81.12	53	P	P	10 53 12.8	-0.6
LHV				IAmb	IAmb	10 53 18.4	
	comp=Z,9.1nm,1.1s						
KVN	Kaiserville	81.14	52	P	P	10 53 13.4	-0.5
NVAR	Mina Array Bea	81.21	52	P	P	10 53 14.0	-0.3
	comp=Z,6.0nm,0.9s,baz=261,slow=6.3,SNR=33						
NVAR				LR	LR	11 21 17.4	
	comp=Z,89nm,20.3s,baz=272,slow=30						
NVAR	Mina Array Bea	81.21	52	P	P	10 53 14.4	+0.1
MFID	Camas Ranch	81.22	47	P	P	10 53 14.3	+0.2
MFID				IAmb	IAmb	10 53 21.4	
	comp=Z,9.1nm,1.2s						
NV11	Mina Array Sit	81.32	52	P	P	10 53 14.9	+0.2
HLID	Hailey	82.12	46	P	P	10 53 19.3	+0.4
TPH	Tonopah	82.13	52	P	P	10 53 19.5	+0.4
BCYI	Bear Canyon	82.52	45	P	P	10 53 21.4	+0.3
ELK	Elko	82.60	49	P	P	10 53 21.3	-0.3
HRY	Holter Researc	82.61	43	P	P	10 53 21.1	-0.2
BOZ	Bozeman (W)	83.18	44	P	P	10 53 24.7	+0.3
TPNV	Topopah Spring	83.26	53	P	P	10 53 24.4	-0.5
TPNV				IAmb	IAmb	10 53 32.6	
	comp=Z,16nm,1.4s						
GSC	Goldstone, Bar	83.44	55	P	P	10 53 25.2	-0.6
GSC				IAmb	IAmb	10 53 29.8	
	comp=Z,7.4nm,1.2s						
QLMT	Earthquake Lak	83.61	44	P	P	10 53 25.5	-1.2
PRN	Pahroc Range	83.98	52	P	P	10 53 28.4	-0.2
YMR	Madison River	83.98	44	P	P	10 53 27.7	-0.9
SHPR	Sheep Range	84.23	53	P	P	10 53 29.9	-0.1
SHPR				IAmb	IAmb	10 53 38.1	
	comp=Z,6.2nm,1.1s						
FLWY	Flagg Ranch	84.39	45	P	P	10 53 30.9	+0.2
FLWY				IAmb	IAmb	10 53 39.7	
	comp=Z,15nm,1.4s						
PSUT	Pine Spring	84.42	51	P	P	10 53 30.6	-0.3
PSUT				IAmb	IAmb	10 53 37.8	
	comp=Z,12nm,1.5s						
DUG	Dugway, Tooele	84.52	49	P	P	10 53 31.4	+0.1
DUG				IAmb	IAmb	10 53 37.5	
	comp=Z,16nm,1.6s						
KBZ	Khabaz	84.57	315	P	P	10 53 32.2	+1.0
	comp=Z,2.2nm,0.9s,baz=212,slow=4.1,SNR=3.6						
REDW	Red Top Meadow	84.59	46	P	P	10 53 31.5	-0.3
CBX	Cerro Bola	84.64	58	P	P	10 53 32.5	+0.4
FINES	FINESS Array B	84.66	335	P	P	10 53 30.7	-0.7
	comp=Z,5.7nm,0.5s,baz=64,slow=6.2,SNR=20						
HWUT	Hardware Ranch	84.82	47	P	P	10 53 32.2	-0.6
HWUT				IAmb	IAmb	10 53 40.9	
	comp=Z,11nm,1.4s						
RLMT	Red Lodge	84.89	43	P	P	10 53 33.0	-0.2
RLMT				IAmb	IAmb	10 53 38.9	
	comp=Z,11nm,1.2s						
CTU	Camp Tracy	85.06	48	P	P	10 53 33.4	-0.6
CTU				IAmb	IAmb	10 53 44.4	
	comp=Z,16nm,1.6s						
JLU	Jordanelle	85.31	48	P	P	10 53 35.4	0.0
JLU				IAmb	IAmb	10 53 39.6	
	comp=Z,7.0nm,1.1s						
MPU	Maple Canyon	85.42	49	P	P	10 53 35.6	-0.3
MPU				IAmb	IAmb	10 53 43.7	
	comp=Z,15nm,1.6s						
PDAR	Pinedale Array	85.70	46	P	P	10 53 36.5	-0.8
	comp=Z,0.4nm,0.4s,baz=211,slow=2.0,SNR=6.4						
PDAR				LR	LR	11 24 54.3	
	comp=Z,45nm,20.6s,baz=284,slow=31						
KNB	Kanab	85.77	52	P	P	10 53 38.5	+0.8
LAO	LASA Array	86.11	41	P	P	10 53 38.6	-0.4
Q16A	Castle Valley	86.19	50	P	P	10 53 39.5	-0.3
Q16A				IAmb	IAmb	10 53 47.9	
	comp=Z,11nm,1.3s						
SUMG	Summit	86.27	1	P	P	10 53 39.5	-0.2
SUMG				IAmb	IAmb	10 53 51.3	
	comp=Z,10nm,1.1s						
SRU	San Rafael Swe	86.57	49	P	P	10 53 41.3	-0.3
SRU				IAmb	IAmb	10 53 46.5	
	comp=Z,7.7nm,1.2s						
RDMU	Red Mountain	86.62	48	P	P	10 53 41.9	0.0
RDMU				IAmb	IAmb	10 53 49.6	
	comp=Z,13nm,1.4s						
Y14A	Wickenburg	86.85	55	P	P	10 53 42.6	-0.3
Y14A				IAmb	IAmb	10 53 47.1	
	comp=Z,6.1nm,1.0s						
WUAZ	Wupatki	87.44	53	P	P	10 53 43.6	-2.3
PV21	Cone Mtn., Par	87.90	49	P	P	10 53 47.9	-0.2
PV21				IAmb	IAmb	10 53 52.7	
	comp=Z,11nm,1.2s						
PV23	Carpenter Ridg	87.92	49	P	P	10 53 48.1	-0.1
PV14	Lion Creek, Pa	87.95	49	P	P	10 53 48.1	-0.2
PV05	Paradox Valley	88.02	50	P	P	10 53 48.6	-0.1
PV17	East Wray Mesa	88.03	50	P	P	10 53 48.5	-0.2
PV16	Nyswonger Mesa	88.05	50	P	P	10 53 48.8	-0.1
PV16				IAmb	IAmb	10 53 58.5	
	comp=Z,5.8nm,1.0s						
PV11	David Mesa, Pa	88.08	50	P	P	10 53 48.7	-0.3
PV03	Paradox Valley	88.12	50	P	P	10 53 48.8	-0.3
PV03				IAmb	IAmb	10 53 53.8	
	comp=Z,10nm,1.3s						
PV12	Saucer Basin,	88.13	49	P	P	10 53 49.0	-0.2
PV13	Radium Mtn., P	88.18	50	P	P	10 53 49.0	-0.5
PV13				IAmb	IAmb	10 53 53.8	
	comp=Z,7.8nm,1.2s						
PV01	Paradox Valley	88.37	50	P	P	10 53 50.3	-0.1
PV01				IAmb	IAmb	10 53 57.8	
	comp=Z,9.8nm,1.4s						
SMCO	Snowmass	89.03	48	P	P	10 53 53.7	0.0
SMCO				IAmb	IAmb	10 54 01.7	
	comp=Z,8.5nm,1.4s						
AKASG	Malin Array Be	89.37	325	P	P	10 53 53.4	-1.0
	comp=Z,0.5nm,0.3s,baz=47,slow=4.5,SNR=7.8						
AKASG	Malin Array Be	89.37	325	P	P	10 53 53.6	-0.9
NOA	NORSAR Array B	90.24	340	P	P	10 53 57.6	-0.8
	comp=Z,1.2nm,0.8s,baz=47,slow=4.5,SNR=3.5						
TXAR	Lajitas Array	96.02	55	P	P	10 54 27.2	+1.4
	comp=Z,0.3nm,0.8s,baz=313,slow=8.0,SNR=2.9						
TXAR				LR	LR	11 31 11.7	
	comp=Z,29nm,21.3s,baz=0.0,slow=31						
CLL	Collm	96.79	333	*e*P	P	10 54 28.0	-0.6
TORD	Torodi Ar. Bea	131.06	311	PKP	PKiKP	11 00 10.9	-0.5
	comp=Z,0.3nm,0.5s,baz=44,slow=2.4,SNR=2.2						
LPAZ	La Paz	147.23	87	PKPbc	PKPbc	11 00 43.0	+0.2
	comp=Z,1.4nm,0.6s,baz=306,slow=0.7,SNR=5.0						

KMA 02 10:50:11.0±0.1, 38°.02N×128°.82E, h6km, Error ellipse: s-maj=1.5km s-min=0.7km az=240.0, North Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSJMJ	Jumunjin	0.15	200	P	Pg	10 50 14.1	0.0
	SNR=205						
KSJMJ	Jumunjin	0.15	200	P	Pg	10 50 14.1	0.0
	SNR=205						
KSJMJ	Jumunjin	0.15	200	P	Pg	10 50 14.1	0.0
	SNR=205						
KSDGY	Daegwallycong	0.35	199	P	Pg	10 50 18.0	+0.1
	SNR=17						
KSDGY	Daegwallycong	0.35	199	P	Pg	10 50 18.0	+0.1
	SNR=17						
KSDGY	Daegwallycong	0.35	199	P	Pg	10 50 18.0	+0.1
	SNR=17						
KSDGY	Daegwallycong	0.35	199	P	Pg	10 50 18.0	+0.1
	SNR=17						
KSSKC	Sokcho	0.35	318	P	Pg	10 50 17.9	0.0
	SNR=34						
KSSKC	Sokcho	0.35	318	P	Pg	10 50 17.9	0.0
	SNR=34						
KSSKC	Sokcho	0.35	318	P	Pg	10 50 17.9	0.0
	SNR=34						
KSSKC	Sokcho	0.35	318	P	Pg	10 50 17.9	0.0
	SNR=34						
SEHB	SEOHWA	0.51	299	P	Pg	10 50 20.7	-0.1
	SNR=48						
SEHB	SEOHWA	0.51	299	P	Pg	10 50 20.7	-0.1
	SNR=48						
SEHB	SEOHWA	0.51	299	P	Pg	10 50 20.7	-0.1
	SNR=48						
SEHB	SEOHWA	0.51	299	P	Pg	10 50 20.7	-0.1
	SNR=48						
KSCHC	Chuncheon	0.83	253	P	Pg	10 50 27.0	0.0
	SNR=44						
KSCHC	Chuncheon	0.83	253	P	Pg	10 50 27.0	0.0
	SNR=44						
KSCHC	Chuncheon	0.83	253	P	Pg	10 50 27.0	0.0
	SNR=44						
KSCHC	Chuncheon	0.83	253	P	Pg	10 50 27.0	0.0
	SNR=44						
KSWJU	Wonju	0.87	225	P	Pg	10 50 27.5	-0.1
	SNR=17						
KSWJU	Wonju	0.87	225	P	Pg	10 50 27.5	-0.1
	SNR=17						
KSWJU	Wonju	0.87	225	P	Pg	10 50 27.5	-0.1
	SNR=17						
KSWJU	Wonju	0.87	225	P	Pg	10 50 27.5	-0.1
	SNR=17						
IMWB	Imwonan-gil	0.89	152	P	Pg	10 50 28.0	0.0
	SNR=27						
IMWB	Imwonan-gil	0.89	152	P	Pg	10 50 28.0	0.0
	SNR=27						
IMWB	Imwonan-gil	0.89	152	P	Pg	10 50 28.0	0.0
	SNR=27						
KSCWO	Cheorwon	1.03	274	P	Pb	10 50 31.2	-0.1
	SNR=17						
KSCWO	Cheorwon	1.03	274	P	Pb	10 50 31.2	-0.1
	SNR=17						
KSCWO	Cheorwon	1.03	274	P	Pb	10 50 31.2	-0.1
	SNR=17						
KSCHJ	Chungju	1.33	211	P	Pg	10 50 37.0	+0.5
	SNR=9.5						
KSCHJ	Chungju	1.33	211	P	Pg	10 50 37.0	+0.5
	SNR=9.5						
KSCHJ	Chungju	1.33	211	P	Pg	10 50 37.0	+0.5
	SNR=9.5						
KSULJ	Uljin	1.40	160	P	Pn	10 50 37.0	0.0
	SNR=12						
KSULJ	Uljin	1.40	160	P	Pn	10 50 37.0	0.0
	SNR=12						
KSULJ	Uljin	1.40	160	P	Pn	10 50 37.0	0.0
	SNR=12						
KSMGY	Mungyeong	1.50	204	P	Pn	10 50 38.4	+0.2
	SNR=9.1						
KSMGY	Mungyeong	1.50	204	P	Pn	10 50 38.4	+0.2
	SNR=9.1						

*IDC **02** 10:52:02.1±1.1, 8°.68N×92°.47E, h25km±4km, mb3.8/9, mb1 3.9/9, mb1mx3.6/38, mbtmp3.9/9, MS3.4/5, Ms1 3.4/5, ms1mx3.0/46, Error ellipse: s-maj=40.5km s-min=15.4km az=57.0*

*NEIC **02** 10:52:03.5±1.0, 8°.72N±0°.10×92°.4E±0°.1, h31km±5km, mb4.4/23, Error ellipse: s-maj=16.0km s-min=12.1km az=47.0*

ISC 02 10:52:02.7±0.6, 8°.63N±0°.09×92°.43E±0°.09, h33km, n50, σ1s.13/44, mb4.2/19, MS3.6/4, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBA	Port Blair	3.02	6	*e*P	Pb	10 53 03.3	+7.5
PBA				*e*S	Sn	10 53 21.0	-2.3
PBA				IAML		10 53 49.3	
	comp=N,522nm,0.4s						
PBA				IAML		10 53 51.8	
	comp=E,612nm,0.6s						
DGPR	DIGLIPUR	4.55	6	*e*P	Pn	10 53 11.6	+2.4
DGPR				IAML		10 53 51.0	
	comp=N,74nm,1.1s						
DGPR				IAML		10 53 51.7	
	comp=E,74nm,1.1s						
GSI	Gunungsitoli	8.90	145	Pn	Pn	10 54 09.0	0.0
CMAR	Chiang Mai Arr	11.64	32	Pn	Pn	10 54 49.6	+3.1
	comp=E,0.3nm,0.3s,baz=230,slow=15,SNR=9.0						
CMAR	Chiang Mai Arr	11.64	32	Pn	Pn	10 54 44.6	-2.0
PALK	Pallekele	11.70	264	LR	LR	10 58 25.2	
	comp=E,111nm,21.1s,baz=176,slow=33						
PALK	Pallekele	11.70	264	Pn	Pn	10 54 47.7	+0.3
QIZ	Qiongzhong	19.80	57	P	P	10 56 29.9	-0.5
QIZ				IAmb	IAmb	10 56 36.9	
	comp=Z,34nm,1.3s						
LSA	Lhasa	21.00	357	P	Pn	10 56 43.6	-3.0
LSA				IAmb	IAmb	10 57 08.7	
	comp=Z,8.1nm,0.7s						
H08S3	Diego Garcia H	25.61	231	T	T	11 23 48.8	
	baz=50,slow=75,SNR=1866						
H08S2	Diego Garcia H	25.62	231	T	T	11 24 00.6	
	baz=50,slow=75,SNR=702						
H08S1	Diego Carcia H	25.63	231	T	T	11 23 58.1	
	baz=50,slow=75,SNR=874						
PRZ	Przheval'sk	35.91	342	P	P	10 58 59.5	-0.6
KDJ	Kajisay	35.98	341	P	P	10 59 00.4	-0.3
KDJ				IAmb	IAmb	10 59 10.0	
	comp=Z,2.3nm,0.8s						
CHGR	Chuyangaron	36.49	329	P	P	10 59 03.9	-1.2
CHGR				IAmb	IAmb	10 59 19.6	
	comp=Z,9.8nm,1.2s						
SOEI	Soe	36.58	119	P	P	10 59 06.8	+0.7
AAK	Ala-Archa	37.36	338	P	P	10 59 10.2	-2.3
AAK				IAmb	IAmb	10 59 14.4	
	comp=Z,3.4nm,1.1s						
UOSS	Minazif	38.13	300	P	P	10 59 18.9	-0.1
UOSS				IAmb	IAmb	10 59 30.0	
	comp=Z,9.4nm,1.1s						
MK31	Makanchi Array	39.01	349	P	P	10 59 25.8	-0.2
MKAR	Makanchi Array	39.01	349	P	P	10 59 25.8	-0.3
	comp=Z,1.2nm,0.5s,baz=169,slow=8.6,SNR=16						
MKAR				pP	pP	10 59 33.6	-1.7
	comp=Z,3.6nm,0.8s,baz=163,slow=7.3,SNR=18						
MKAR	Makanchi Array	39.01	349	P	P	10 59 25.5	-0.5
MAKZ	Makanchi	39.08	349	P	P	10 59 26.3	-0.4
MAKZ				IAmb	IAmb	10 59 35.8	
	comp=Z,3.4nm,0.8s						
KK31	Karatay Array	39.34	334	P	P	10 59 29.0	0.0

KKAR	Karatay Array	39.34	334	P	P	10 59 28.7	-0.2
KKAR	Karatay Array	39.34	334	P	P	10 59 28.4	-0.6
KKAR				IAmb	IAmb	10 59 30.8	
	comp=Z,2.5nm,0.8s						
SONM	Songino Array	40.83	14	P	P	10 59 41.2	-0.1
	comp=Z,0.9nm,0.5s,baz=185,slow=12,SNR=5.9						
SONM				pP	pP	10 59 49.9	-0.7
	comp=Z,2.0nm,0.8s,baz=197,slow=9.3,SNR=4.7						
SONM	Songino Array	40.83	14	IAmb	IAmb	10 59 50.4	
	comp=Z,2.4nm,1.0s						
GEYT	Alibeck	42.52	319	P	P	10 59 56.4	+1.2
	comp=Z,36nm,0.6s,baz=95,slow=7.9,SNR=3.7						
KURBB	Kurchatov Arra	43.42	347	P	P	11 00 02.2	0.0
	comp=Z,2.1nm,0.8s,baz=166,slow=7.2,SNR=13						
KURBB				pP	pP	11 00 10.0	-1.6
	comp=Z,4.2nm,0.9s,baz=162,slow=6.9,SNR=12						
ZALV	Zalesovo Beam	45.61	354	P	P	11 00 19.3	-0.3
	comp=Z,0.6nm,0.4s,baz=183,slow=14,SNR=1.9						
ZALV				pP	pP	11 00 26.8	-2.4
	comp=Z,1.8nm,0.6s,baz=193,slow=6.1,SNR=5.2						
ZALV	Zalesovo Beam	45.61	354	P	P	11 00 19.8	+0.2
BRVK	Borovoye	47.81	342	P	P	11 00 36.0	-0.9
BRVK				IAmb	IAmb	11 00 45.1	
	comp=Z,2.3nm,0.9s						
ABKAR	Akbulak array	48.77	332	P	P	11 00 44.5	+0.2
WRA	Warramunga Arr	50.07	125	P	P	11 00 55.4	+0.6
	comp=Z,0.7nm,0.6s,baz=297,slow=9.6,SNR=11						
WRAB	Tennant Creek	50.08	125	P	P	11 00 55.7	+0.9
WRAB				IAmb	IAmb	11 01 18.0	
	comp=Z,10nm,1.4s						
WB2	Warramunga Arr	50.08	125	P	P	11 00 55.4	+0.6
WB2				IAmb	IAmb	11 01 04.3	
	comp=Z,3.5nm,0.8s						
WR0	Warramunga Arr	50.25	125	P	P	11 00 57.2	+1.1
WR0				IAmb	IAmb	11 01 10.5	
	comp=Z,8.9nm,1.5s						
ASAR	Alice Springs	51.70	129	P	P	11 01 07.5	+0.5
	comp=Z,0.5nm,0.8s,baz=305,slow=7.4,SNR=5.1						
ASAR				pP	pP	11 01 14.4	-2.2
	comp=Z,1.2nm,1.0s,baz=303,slow=7.7,SNR=4.9						
YAK	Yakutsk	59.83	19	LR	LR	11 31 22.5	
	comp=Z,50nm,18.5s,baz=267,slow=40						
ELL	Elmali	62.92	307	P	P	11 02 25.7	-0.5
OBN	Obninsk	63.84	328	LR	LR	11 35 48.1	
	comp=Z,18nm,18.7s,baz=316,slow=41						
TIXI	Tiksi	66.83	12	P	P	11 02 51.7	+0.9
SEY	Seymchan	68.96	25	LR	LR	11 35 12.9	
	comp=Z,40nm,18.3s,baz=141,slow=38						
ARCES	ARCESS Array B	73.99	340	P	P	11 03 34.8	+0.2
	comp=Z,3.4nm,1.1s,baz=84,slow=3.8,SNR=4.1						
GERES	GERESS Array B	76.14	318	P	P	11 03 47.5	0.0
	comp=Z,1.2nm,0.8s,baz=92,slow=4.4,SNR=5.9						
TORD	Torodi Ar. Bea	88.78	283	P	P	11 04 55.2	+1.2
	comp=Z,0.7nm,0.8s,baz=85,slow=4.8,SNR=4.1						
TORD	Torodi Ar. Bea	88.78	283	P	P	11 04 53.5	-0.5
TORD				IAmb	IAmb	11 05 12.3	
	comp=Z,3.3nm,1.4s						
ESDC	Sonseca Array	89.44	310	LR	LR	11 48 17.9	
	comp=Z,18nm,20.3s,baz=145,slow=38						
PDAR	Pinedale Array	125.05	20	PKP	PKiKP	11 11 01.0	+0.4
	comp=Z,0.3nm,0.7s,baz=120,slow=5.8,SNR=3.5						
PDAR	Pinedale Array	125.05	20		PKiKP	11 11 00.8	+0.2

OTT 02 10:53:04.0±0.3, 77.°95N×108.°63W, h18km, ML3.6/1, 149km southwest from Isachsen, Nu Gustaf-Lougheed Arch Seismic Zone., Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RES	Resolute Bay	4.61	128	PN	Pn	10 54 12.4	-0.2
RES				SN	Sn	10 55 03.5	-2.0
RES				Trac		10 55 25.1	
	comp=Z,92nm,1.6s						
EUNU	Eureka	4.72	53	PN	Pn	10 54 13.7	-0.5
EUNU				SN	Sn	10 55 05.5	-2.9
EUNU				Trac		10 55 09.7	
	comp=Z,123nm,2.2s						
TULEG	Thule	8.78	79	PN	Pn	10 55 07.6	-2.2
KUKN	Kugluktuk,NWT	10.34	194	SN	Sn	10 57 17.1	-9.3
INK	Inuvik	11.91	229	PN	Pn	10 55 50.3	-2.3
INK				SN	Sn	10 57 55.3	-9.5
INK				Trac		10 58 01.3	
	comp=Z,265nm,4.5s						

NEIC 02 11:03:40.9±1.2, 56.°2S±0.°1×27.°1W±0.°3, h88km±7km, mb4.7/25, Error ellipse: s-maj=25.6km s-min=14.0km az=46.0
IDC 02 11:03:41.8±0.7, 56.°19S×27.°22W, h96km±5km, mb4.2/8, mb1 4.4/10, mb1mx4.1/22, mbtmp4.6/10, MS3.2/1, Ms1 3.2/1, ms1mx2.8/18, Error ellipse: s-maj=22.6km s-min=14.5km az=72.0
ISC 02 11:03:38.0±0.5, 56.°20S±0.°09×27.°1W±0.°1, h63km, n47, σ1.°69/49, mb4.6/15, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	Hope Point	5.70	286		Pn	11 05 02.8	+2.8
VNA1	Neumayer--Stat	16.64	158	P	P	11 07 29.3	+1.1
VNA3	Neumayer Olymp	16.84	160	P	Pn	11 07 30.3	+1.1
VNA2	Neumayer--Watz	17.04	158	P	P	11 07 33.3	+0.7
	baz=313,slow=13						
SNAA	Sanae	18.59	156	P	P	11 07 50.5	+0.8
SNAA	Sanae	18.59	156	P	P	11 07 50.5	+0.8
	7.8nm,0.3s,baz=306,slow=8.9,SNR=644						
SNAA				ScP	ScP	11 15 40.8	-4.9
	0.1nm,0.3s,baz=277,slow=3.5,SNR=13						
SNAA	Sanae	18.59	156	P	P	11 07 50.6	+0.9
EFI	East Falkland	18.68	271	P	Pn	11 07 51.2	-0.6
PMSA	Palmer Station	19.84	229	P	Pn	11 08 05.7	+0.4
	1.9nm,0.3s,baz=63,slow=5.8,SNR=11						
PMSA	Palmer Station	19.84	229	P	Pn	11 08 05.5	+0.3
PMSA				IAmb	IAmb	11 08 06.7	
	comp=Z,51nm,1.4s						
BELA	Belgrano 2	21.93	184	P	P	11 08 25.6	-0.1
BELA				IAmb	IAmb	11 08 28.1	
	comp=Z,37nm,0.7s						
TRQA	Tornquist	29.42	293	P	P	11 09 34.3	-1.0
PLTB	Pedras Altas	30.63	312	P	P	11 09 46.4	+0.3
PLTB				IAmb	IAmb	11 09 49.4	
	comp=Z,17nm,1.4s						
QSPA	South Pole Qui	34.05	180	P	P	11 10 16.6	+0.8
	comp=Z,6.4nm,0.5s,baz=21,slow=1.9,SNR=95						
QSPA				PcP	PcP	11 12 51.5	-0.4
	comp=Z,1.5nm,0.5s,baz=208,slow=2.3,SNR=1.9						
QSPA				ScP	ScP	11 16 25.1	-5.9
	comp=Z,1.4nm,0.6s,baz=195,slow=1.4,SNR=8.5						
QSPA	South Pole Qui	34.05	180	P	P	11 10 16.8	+0.9
QSPA				IAmb	IAmb	11 10 18.5	
	comp=Z,24nm,1.4s						
CPUP	Villa Florida	36.94	311	P	P	11 10 40.5	-0.2
	comp=Z,0.9nm,0.4s,baz=142,slow=9.0,SNR=3.8						
CPUP				LR	LR	11 24 51.0	
	comp=Z,38nm,21.6s,baz=214,slow=34						
CPUP	Villa Florida	36.94	311	P	P	11 10 40.6	-0.2
CPUP				IAmb	IAmb	11 11 04.4	
	comp=Z,9.5nm,1.5s						
GO05	Huala	36.96	286	P	P	11 10 38.2	-2.7
MT09	Talagante	37.40	288	P	P	11 10 42.6	-2.1
MT09				IAmb	IAmb	11 11 07.2	
	comp=Z,14nm,1.0s						
VA03	San Esteban	37.95	290	P	P	11 10 48.7	-0.7
VA03				IAmb	IAmb	11 11 12.9	
	comp=Z,21nm,1.2s						
CO02	Combarbal	39.41	291	P	P	11 11 00.5	-1.1
CO03	El Pedregal	39.53	291	P	P	11 11 02.4	-0.3
CO03				IAmb	IAmb	11 11 27.4	
	comp=Z,22nm,1.4s						
MAW	Mawson	40.00	143	P	P	11 11 06.9	+1.0
	comp=Z,5.7nm,0.3s,baz=217,slow=5.9,SNR=20						
MAW	Mawson	40.00	143	P	P	11 11 07.0	+1.0
AC04	Llanos de Chal	41.85	293	P	P	11 11 20.9	-0.7
AC04				IAmb	IAmb	11 11 29.4	
	comp=Z,11nm,0.9s						
AC02	Maricunga	41.98	297	P	P	11 11 23.2	-0.1
LVC	Limon Verde	45.41	300	P	P	11 11 51.1	+0.4
VNDA	Vanda	46.43	183	P	P	11 11 58.5	+0.8
	comp=Z,2.6nm,0.5s,baz=181,slow=8.1,SNR=25						
VNDA	Vanda	46.43	183	P	P	11 11 58.6	+1.0
H10S2	ASCENSION HYDR	48.13	17	T	T	12 05 00.5	
	baz=189,slow=74,SNR=18						
H10S3	ASCENSION HYDR	48.13	17	T	T	12 05 00.9	
	baz=31,slow=74,SNR=44						
H10N1	ASCENSION HYDR	49.25	17	T	T	12 06 25.5	
	baz=188,slow=75,SNR=14						
H10N3	ASCENSION HYDR	49.25	17	T	T	12 06 24.8	
	baz=188,slow=75,SNR=37						
H10N2	ASCENSION HYDR	49.27	17	T	T	12 06 25.9	
	baz=188,slow=75,SNR=30						
LPAZ	La Paz	50.50	305	P	P	11 12 30.6	+0.3
	comp=Z,9.8nm,0.5s,baz=193,slow=6.1,SNR=20						
CASY	Casey	53.75	160	P	P	11 12 53.9	+0.8
CASY				IAmb	IAmb	11 12 54.7	
	comp=Z,5.8nm,0.8s						
SAML	Samuel	54.94	315	P	P	11 13 01.9	-0.4
TORD	Torodi Ar. Bea	73.16	29	P	P	11 15 02.8	+1.1
	comp=Z,1.0nm,0.6s,baz=201,slow=5.9,SNR=10						
TORD				pP	sP	11 15 26.9	+2.1
	comp=Z,3.1nm,0.6s,baz=200,slow=6.5,SNR=8.1						
TAU	Tasmania Unive	81.15	176	P	P	11 15 46.0	-0.3
STKA	Stephens Creek	91.75	170	P	P	11 16 38.8	+0.2
	comp=Z,0.7nm,0.3s,baz=158,slow=5.4,SNR=2.8						
STKA	Stephens Creek	91.75	170	P	P	11 16 39.4	+0.8
ASAR	Alice Springs	98.83	162	P	P	11 17 10.2	-0.8
	comp=Z,0.7nm,0.6s,baz=184,slow=3.7,SNR=12						
ASAR				PP	PP	11 21 07.4	-4.7
	comp=Z,0.7nm,0.8s,baz=191,slow=6.4,SNR=6.0						
FINES	FINESS Array B	124.49	28	PKP	PKPdf	11 22 27.9	-0.6
	comp=Z,1.9nm,0.7s,baz=177,slow=9.5,SNR=5.4						
FINES	FINESS Array B	124.49	28		PKPdf	11 22 27.0	-1.4
ILAR	Eielson Array	150.25	311	PKPbc	PKPbc	11 23 19.4	-0.8
	comp=Z,3.9nm,0.8s,baz=131,slow=1.4,SNR=43						
ILAR				pPKPbc	pPKPab	11 23 44.3	0.0
	comp=Z,2.9nm,0.8s,baz=139,slow=1.8,SNR=6.8						
ILAR	Eielson Array	150.25	311		PKPbc	11 23 19.9	-0.4
SONM	Songino Array	150.69	87	PKPbc	PKPbc	11 23 21.6	-0.5
	comp=Z,1.0nm,0.6s,baz=198,slow=3.7,SNR=3.8						
SONM				pPKPbc	pPKPab	11 23 48.9	+2.4
	comp=Z,0.9nm,0.7s,baz=241,slow=3.0,SNR=2.1						

KMA 02 11:15:25.7±0.6, 38.°39N×128.°62E, h0km±7km, Error ellipse: s-maj=10.6km s-min=0.9km az=31.0, North Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSSKC	Sokcho	0.12	219	P	Pg	11 15 28.1	0.0
	SNR=96						
KSSKC	Sokcho	0.12	219	P	Pg	11 15 28.1	0.0
	SNR=96						
SEHB	SEOHWA	0.31	248	P	Pg	11 15 31.5	-0.2
	SNR=62						
SEHB	SEOHWA	0.31	248	P	Pg	11 15 31.5	-0.2
	SNR=62						
KSJMJ	Jumunjin	0.51	168	P	Pg	11 15 35.8	+0.2
	SNR=20						
KSJMJ	Jumunjin	0.51	168	P	Pg	11 15 35.8	+0.2
	SNR=20						
KSDGY	Daegwallycong	0.69	177	P	Pg	11 15 39.0	0.0
	SNR=31						
KSDGY	Daegwallycong	0.69	177	P	Pg	11 15 39.0	0.0
	SNR=31						
KSCHC	Chuncheon	0.88	227	P	Pg	11 15 42.1	-0.4
	SNR=29						
KSCHC	Chuncheon	0.88	227	P	Pg	11 15 42.1	-0.4
	SNR=29						
KSCWO	Cheorwon	0.92	251	P	Pg	11 15 43.2	-0.1
	SNR=11						
KSCWO	Cheorwon	0.92	251	P	Pg	11 15 43.2	-0.1
	SNR=11						
KSWJU	Wonju	1.08	205	P	Pb	11 15 47.0	-0.3
	SNR=23						
KSWJU	Wonju	1.08	205	P	Pb	11 15 47.0	-0.3
	SNR=23						
KSTBA	Taebaek	1.29	168	P	Pg	11 15 50.3	0.0
	SNR=12						
YNCB	YEONCHEON	1.38	256	P	Pg	11 15 52.1	0.0
	SNR=14						

IDC 02 11:22:51.1±4.0, 15.°67S×179.°61W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/23, mbtmp3.5/4, ML5.1/1, Error ellipse: s-maj=169.5km s-min=31.5km az=134.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.04	227	Pn	Pn	11 23 40.6	+0.1
	11nm,0.3s,baz=73,slow=15,SNR=55						
WRA	Warramunga Arr	43.95	257	P	P	11 31 00.0	-0.2
	0.5nm,1.0s,baz=87,slow=6.1,SNR=2.6						
ASAR	Alice Springs	44.33	252	P	P	11 31 03.2	-0.1
	0.7nm,0.9s,baz=85,slow=8.5,SNR=3.9						
ILAR	Eielson Array	83.99	13	P	P	11 35 22.9	0.0
	0.6nm,1.0s,baz=230,slow=6.9,SNR=5.6						

NEIC 02 11:42:22.3±1.2, 21.°96S±0.°08×176.°14W±0.°06, h154km±10km, mb4.3/20, Error ellipse: s-maj=12.5km s-min=7.0km az=206.0
IDC 02 11:42:37.2±10.0, 22.°47S×175.°88W, h337km±149km, mb3.4/4, mb1 3.6/5, mb1mx3.2/23, mbtmp4.2/5, Error ellipse: s-maj=226.7km s-min=39.7km az=80.0
ISC 02 11:42:21.5±0.6, 21.°95S±0.°08×176.°17W±0.°08, h150km, n30, σ1.°22/31, mb4.0/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	Niue	6.51	65	Pn	Pn	11 43 55.5	+0.4
NIUE				Sn	Sn	11 45 08.2	-0.2
MSVF	Nonsavu	6.87	307	Pn	Pn	11 44 01.5	+1.6
RAO	Raoul Island	7.44	192	Pn	Pn	11 44 07.9	+0.5
FUNA	Funafuti	14.07	341	Pn	Pn	11 45 34.2	-0.2
PINNC	Pines Island,	15.18	264	Pn	Pn	11 45 47.1	-1.1
URZ	Urewera	17.25	198	P	P	11 46 11.6	-0.9
	1.0nm,0.3s,baz=270,slow=5.1,SNR=7.1						
URZ				S	S	11 49 08.8	-16
	0.3nm,0.3s,baz=91,slow=3.1,SNR=2.2						
URZ	Urewera	17.25	198	P	P	11 46 11.8	-0.7
URZ				IAmb	IAmb	11 46 22.4	
	comp=Z,37nm,1.3s						
BFZ	Birch Farm	19.75	197	P	P	11 46 39.0	-0.7
CTA	Charters Tower	35.07	266	P	P	11 49 01.5	+1.0
	comp=Z,2.2nm,0.3s,baz=99,slow=8.8,SNR=9.2						
CTAO	Charters Tower	35.07	266	P	P	11 49 00.5	+0.1
CTAO				IAmb	IAmb	11 49 23.5	
	comp=Z,14nm,1.4s						
STKA	Stephens Creek	38.73	246	P	P	11 49 31.4	+0.2
	comp=Z,1.6nm,0.5s,baz=93,slow=9.7,SNR=6.8						
STKA	Stephens Creek	38.73	246	P	P	11 49 31.5	+0.2
STKA				IAmb	IAmb	11 49 53.0	
	comp=Z,5.0nm,1.5s						
COEN	Coen	39.39	275	P	P	11 49 36.2	-0.6
COEN				IAmb	IAmb	11 49 53.9	
	comp=Z,12nm,1.5s						
BBOO	Buckleboo	43.46	245	P	P	11 50 09.3	-0.6
WAKE	Wake Island	44.29	336	P	P	11 50 15.8	-0.6
AS31	Alice Springs	45.87	258	P	P	11 50 28.8	-0.3
ASAR	Alice Springs	45.87	258	P	P	11 50 28.8	-0.4
	comp=Z,1.8nm,0.7s,baz=92,slow=8.1,SNR=19						
SDHHI	Sand Hill	45.88	28	P	P	11 50 27.9	-1.3
OBL	Observatory Le	45.91	28	P	P	11 50 28.8	-0.6
WR0	Warramunga Arr	45.92	263	P	P	11 50 28.9	-0.6
WR0				IAmb	IAmb	11 50 37.6	
	comp=Z,6.5nm,1.3s						
WB2	Warramunga Arr	46.09	263	P	P	11 50 30.1	-0.8
WB2				IAmb	IAmb	11 50 47.5	
	comp=Z,12nm,1.4s						
WRAB	Tennant Creek	46.10	263	P	P	11 50 30.0	-0.9
WRAB				IAmb	IAmb	11 50 53.7	
	comp=Z,4.3nm,1.1s						
WRA	Warramunga Arr	46.11	263	P	P	11 50 29.6	-1.4
	comp=Z,1.1nm,0.6s,baz=93,slow=8.5,SNR=27						
WRA	Warramunga Arr	46.11	263	P	P	11 50 28.2	-2.8
FORT	Forrest	50.31	248	P	P	11 51 02.8	-0.3
MTN	Manton Dam	50.89	271	P	P	11 51 07.3	-0.3
KNRA	Kununurra	52.28	267	P	P	11 51 17.6	-0.3
VNDA	Vanda	56.63	186	P	P	11 51 46.0	-2.4
QSPA	South Pole Qui	68.12	180	P	P	11 53 08.7	+3.6
JNU	Nakatsue	74.50	316	P	P	11 53 44.7	+0.9

NOU 02 11:58:44.3, 36.°55S×178.°42E, h260km, ML4.0/5, Off E. Coast of N. Island, N.Z.
WEL 02 11:59:05.2±0.8, 37.°S±4.°×17.°7E±.°, h143km±7km, M2.9/39, ML3.0/8, MLv2.9/39, Error ellipse: s-maj=0.0km s-min=0.0km az=59.6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HAZ	Te Kaha	0.53	121	P	Pn	11 59 25.8	-0.1
RUGZ	Raukumara Rang	0.61	143	P	Pn	11 59 26.0	-0.5
OPRZ	Ohinepanea	0.63	235	P	Pn	11 59 26.8	+0.2
URZ	Urewera	0.78	186	P	Pn	11 59 27.6	0.0
URZ				S	Sn	11 59 44.9	+0.3
PKGZ	Pakihiroa	0.80	121	P	Pn	11 59 28.1	+0.3
MXZ	Matakaoa Point	0.88	96	P	Pn	11 59 28.3	+0.1
MXZ				S	Sn	11 59 46.6	+0.8
MWZ	Matawai	0.89	164	P	Pn	11 59 28.6	+0.2
MWZ				S	Sn	11 59 46.9	+0.7
TWGZ	Tauwhareparae	0.92	139	P	Pn	11 59 29.5	+0.7
KARZ	Kaharoa	0.94	235	P	Pn	11 59 29.2	+0.4
WMGZ	Waiomatatini S	1.01	110	P	Pn	11 59 29.8	+0.3
WMGZ				S	Sn	11 59 48.9	+1.0
PUZ	Puketiti	1.02	126	P	Pn	11 59 29.7	+0.2
PUZ				S	Sn	11 59 47.9	-0.1
RAGZ	Rawiri	1.02	171	P	Pn	11 59 30.4	+0.8
MUGZ	Murupara	1.05	199	P	Pn	11 59 30.0	+0.2
MUGZ				S	Sn	11 59 48.9	+0.3
TKGZ	Te Karaka	1.08	152	P	Pn	11 59 30.3	+0.3
RTZ	Ruatahuna	1.15	189	P	Pn	11 59 30.7	-0.1
CNGZ	Carnagh Statio	1.27	142	P	Pn	11 59 32.8	+0.9
RIGZ	Rimuhau	1.30	161	P	Pn	11 59 32.7	+0.5
RIGZ				S	Sn	11 59 54.6	+1.8
SNGZ	Shannon Statio	1.30	176	P	Pn	11 59 32.6	+0.4
SNGZ				S	Sn	11 59 53.2	+0.3
TOZ	Tahuroa Road	1.38	259	P	Pn	11 59 33.7	+0.7
KUZ	Kuaotunu	1.40	301	P	Pn	11 59 32.8	-0.3
MTHZ	Maungataniwha	1.40	192	P	Pn	11 59 34.5	+1.2
RAHZ	Arahi	1.44	184	P	Pn	11 59 34.1	+0.5
MRHZ	Matea Rd	1.49	205	P	Pn	11 59 34.2	0.0
PRGZ	Paritu Road	1.53	160	P	Pn	11 59 35.0	+0.4
KNZ	Kokohu	1.58	167	P	Pn	11 59 35.2	+0.2
WHHZ	Waihua	1.59	179	P	Pn	11 59 35.7	+0.5
WHHZ				S	Sn	11 59 59.1	+0.8
NMHZ	Naumai	1.64	191	P	Pn	11 59 36.8	+0.9
MKAZ	Moumakai	1.68	282	P	Pn	11 59 36.6	+0.5
MHGZ	Mahia Peninsul	1.76	162	P	Pn	11 59 37.4	+0.4
BKZ	Black Stump Fm	1.77	198	P	Pn	11 59 37.0	-0.4
ARHZ	Aropaoanui	1.79	185	P	Pn	11 59 37.8	+0.4
ETAZ	East Tamaki Re	1.90	285	P	Pn	11 59 39.4	+0.7
MBAZ	Motutapu North	1.98	290	P	Pn	11 59 40.2	+0.5
MCHZ	McNeill Hill	2.00	191	P	Pn	11 59 40.4	+0.5
NTVZ	North Tongarir	2.02	216	P	Pn	11 59 40.6	+0.4
KWHZ	Kaweka Forest	2.04	197	P	Pn	11 59 40.2	-0.2
OTVZ	Oturere	2.07	215	P	Pn	11 59 41.0	0.0
AWAZ	Awhitu Peninsu	2.09	281	P	Pn	11 59 41.6	+0.6
SNVZ	South Ngauruho	2.10	215	P	Pn	11 59 41.3	0.0
HIZ	Hauiti	2.13	240	P	Pn	11 59 42.1	+0.7
BHHZ	Black Hill Sta	2.20	204	P	Pn	11 59 41.7	-0.7
FWVZ	Far West T-bar	2.20	216	P	Pn	11 59 42.3	-0.2
WNVZ	Wahianoa	2.23	214	P	Pn	11 59 42.5	-0.4
KRHZ	Kereru	2.26	197	P	Pn	11 59 42.4	-0.7
KAHZ	Kahuranaki	2.32	186	P	Pn	11 59 43.5	-0.3
PNHZ	Pukenui	2.55	198	P	Pn	11 59 45.5	-1.1
PXZ	Pawanui	2.56	186	P	Pn	11 59 45.8	-0.8
WPHZ	Waipukurau	2.65	193	P	Pn	11 59 47.7	-0.1
TSZ	Takapari Road	2.75	200	P	Pn	11 59 47.8	-1.3
WCZ	Waipu Caves	2.77	303	P	Pn	11 59 49.3	-0.1
DVHZ	Dannevirke	2.93	196	P	Pn	11 59 50.0	-1.4
BFZ	Birch Farm	3.28	193	P	Pn	11 59 53.9	-2.0
MRZ	Mangatainoka R	3.42	201	P	Pn	11 59 55.5	-2.2
TIWZ	Tintock	3.45	197	P	Pn	11 59 56.0	-2.0
HOWZ	Holdsworth Sta	3.66	201	P	Pn	11 59 58.0	-2.8
OGWZ	Otaki Gorge	3.69	205	P	Pn	11 59 58.6	-2.5
TMWZ	Te Maipa	3.76	195	P	Pn	11 59 59.6	-2.5
KIW	Kapiti Island	3.82	207	P	Pn	11 59 60.0	-2.9
MTW	Mount Morrison	3.90	199	P	Pn	12 00 00.8	-3.2
CAW	Cannon Point	3.98	204	P	Pn	12 00 01.8	-3.2
DUWZ	D'Urville Isla	4.19	217	P	Pn	12 00 05.3	-2.4
PLWZ	Palliser	4.35	200	P	Pn	12 00 06.2	-3.7
TCW	Tory Channel	4.36	211	P	Pn	12 00 06.4	-3.6
NNZ	Nelson	4.77	217	P	Pn	12 00 12.1	-3.2
THZ	Tophouse	5.41	217	P	Pn	12 00 20.7	-3.3
KHZ	Kahutara	5.68	209	P	Pn	12 00 23.1	-4.4
TMZ	Timaru	8.34	212	P	Pn	12 00 58.2	-4.9

NAO 02 12:00:00.3±2.2, 60.°08N×21.°44E, ML2.0
DNK 02 12:00:00.6±1.2, 60.°10N×21.°46E, h0km, ML1.7, Suspected explosion
HEL 02 12:00:01.3±0.1, 60.°11N×21.°42E, h0km, ML2.3, ML2.8(UPP), Explosion
UPP 02 12:00:01.1±0.6, 60.°00N×21.°33E, h0km, ML2.8, Suspected explosion
IDC 02 12:00:01.4±1.8, 60.°10N×21.°54E, h0km, mb1 3.1/4, mb1mx3.0/35, mbtmp3.0/4, ML2.2/4, Error ellipse: s-maj=31.9km s-min=8.4km az=161.0
BER 02 12:00:04.3±4.6, 60.°42N×21.°33E, h0km, ML2.0(NAO), Suspected explosion
ISC 02 11:59:59.7±0.7, 60.°12N±0.°03×21.°45E±0.°02, h0km, n74, σ1.°41/99, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAL	Aland	0.73	275	eP	Pg	12 00 13.9	+0.3
AAL	Aland	0.73	275	P	Pg	12 00 14.2	+0.6
AAL				S	Sg	12 00 23.8	+0.7
AAL	Aland	0.73	275	eP	Pg	12 00 14.2	+0.6
AAL				eS	Sg	12 00 23.5	+0.4
RAF	Rauma	0.92	10	ePB	Pb	12 00 18.6	+0.2
RAF				eSB	Sb	12 00 31.7	+0.6
RAF				MSG		12 00 35.6	
	comp=Z,19nm,0.1s						
GRAU	Graesoe	1.47	280	P	Pn	12 00 26.6	-0.8
GRAU				S	Sg	12 00 46.8	0.0
GRAU	Graesoe	1.47	280	P	Pn	12 00 26.6	-0.8
GRAU				S	Sg	12 00 46.8	0.0
GRAU	Graesoe	1.47	280	eP	Pn	12 00 26.6	-0.8
GRAU				eS	Sg	12 00 46.8	0.0
MEF	Metsahovi	1.48	85	eP	Pn	12 00 27.8	+0.3
MEF				eSB	Sg	12 00 47.6	+0.6
MEF				MSG		12 00 53.6	
	comp=Z,32nm,0.2s						
NRTU	Norrtaelje	1.49	254	P	Pn	12 00 27.1	-0.6
NRTU				S	Sg	12 00 46.8	-0.6
NRTU	Norrtaelje	1.49	254	P	Pn	12 00 27.1	-0.6
NRTU				S	Sg	12 00 46.8	-0.6
NRTU	Norrtaelje	1.49	254	eP	Pn	12 00 27.1	-0.6
NRTU				eS	Sg	12 00 46.8	-0.6
NUR	Nurmijrvi	1.64	75	ePG	Pb	12 00 31.0	+0.3
NUR				eSG	Sg	12 00 52.9	+0.6
FORU	Forsmark	1.65	281	P	Pn	12 00 29.9	+0.1
FORU	Forsmark	1.65	281	P	Pn	12 00 29.9	+0.1
FORU	Forsmark	1.65	281	eP	Pn	12 00 29.9	+0.1
FLYU	Flymyra	1.78	272	P	Pn	12 00 32.0	+0.3
FLYU	Flymyra	1.78	272	P	Pn	12 00 32.0	+0.3
FLYU	Flymyra	1.78	272	eP	Pn	12 00 32.0	+0.3
MTSE	Matsula	1.86	138	eP	Pn	12 00 33.9	+1.1
MTSE				eS	Sb	12 00 58.6	+0.3
MTSE	Matsula	1.86	138	eP	Pn	12 00 33.8	+1.1
MTSE				eSG	Sn	12 00 58.5	+1.6
UPP	Uppsala	1.94	264	eP	Pb	12 00 35.4	-0.5
UPP	Uppsala	1.94	264	P	Pn	12 00 34.8	+1.0
UPP	Uppsala	1.94	264	eP	Pn	12 00 34.8	+1.0
FIBU	Brunna	2.07	266	P	Pn	12 00 36.8	+1.2
FIBU	Brunna	2.07	266	P	Pn	12 00 36.8	+1.2
OSTU	Oestervaala	2.16	275	P	Pn	12 00 38.2	+1.3
OSTU	Oestervaala	2.16	275	P	Pn	12 00 38.2	+1.3
OSTU	Oestervaala	2.16	275	eP	Pn	12 00 38.2	+1.3
IGGU	Iggoen	2.18	292	P	Pb	12 00 39.3	-0.6
IGGU	Iggoen	2.18	292	P	Pb	12 00 39.3	-0.6
IGGU	Iggoen	2.18	292	eP	Pb	12 00 39.3	-0.6
PVF	Pernaja	2.24	77	ePB	Pb	12 00 40.7	-0.2
PVF				eSG	Sb	12 01 10.0	+0.9
ARBE	Arbavere	2.40	105	eP	Pn	12 00 42.3	+2.2
ARBE				eSB	Sb	12 01 14.0	+0.3
SLIT	Slitere, Latvi	2.54	170	eP	Pn	12 00 43.2	+1.1
SLIT				eS	Sb	12 01 18.0	+0.1
SLIT	Slitere, Latvi	2.54	170	eP	Pn	12 00 42.9	+0.8
SLIT				eS	Sn	12 01 14.4	+0.7
FIA0	FINESS Array S	2.63	58	Pn	Pb	12 00 47.2	-0.4
	baz=234,slow=14						
FIA0				Lg	Lg	12 01 21.2	
	baz=245,slow=28						
FIA0				Rg	Rg	12 01 37.0	
	baz=232,slow=28						

FIA0	FINESS Array S	2.63	58	Pn	Pb	12 00 47.2	-0.4
	baz=234,slow=14						
FIA0				Sg	Sb	12 01 21.2	+0.8
	baz=245,slow=28						
FIA0	FINESS Array S	2.63	58	*e*PB	Pb	12 00 46.8	-0.8
FIA0				*e*SB	Sb	12 01 20.9	+0.5
FIA0				MSG		12 01 23.6	
	comp=Z,18nm,0.2s						
FINES	FINESS Array B	2.63	58	Pn	Pb	12 00 46.8	-0.8
	comp=Z,1.8nm,0.3s,baz=239,slow=14,SNR=113						
FINES				Lg	Lg	12 01 21.6	
	comp=Z,4.9nm,0.3s,baz=245,slow=22,SNR=13						
KEF	Keuruu	2.64	38	*e*PB	Pb	12 00 47.0	-0.8
KEF				*e*SG	Sg	12 01 23.0	-1.4
VAF	Ylistaro	2.99	11	*e*PB	Pb	12 00 52.3	-1.4
VAF				*e*SG	Sb	12 01 32.8	+2.1
VJF	Virojoki	3.07	80	*e*P	Pn	12 00 51.8	+2.5
KAF	Kangasniemi	3.09	48	*e*PB	Pb	12 00 53.5	-2.0
KAF				*e*SB	Sb	12 01 33.5	-0.2
VSU	Vasula	3.18	119	*e*P	Pn	12 00 51.5	+0.6
HUSU	Husum	3.40	343	*e*P	Pn	12 00 56.9	+3.0
HUSU				*e*S	Sn	12 01 35.7	+0.8
SUF	Sumiainen	3.45	39	*e*P	Pn	12 00 57.5	+2.9
HFS	Hagfors	3.88	273	Pn	Pn	12 01 01.5	+1.0
	comp=Z,0.2nm,0.3s,baz=90,slow=16,SNR=8.3						
HFS				Lg	Lg	12 01 59.2	
	comp=Z,2.1nm,0.3s,baz=91,slow=30,SNR=9.6						
PBUR	Paburge	4.12	176	*e*P	Pn	12 00 51.4	-12
OUF	Merijarvi	4.53	18	*e*P	Pn	12 01 12.2	+2.8
OUF				*e*SG	Sg	12 02 22.5	-2.5
PABE	Paberze	4.82	163	*e*P	Pn	12 01 04.4	-9.0
NRA0	NORESS Array S	4.95	281	Pn	Pn	12 01 15.8	+0.6
	baz=73,slow=12						
NRA0				Sn	Sn	12 02 13.1	+0.1
	baz=102,slow=28						
NRA0				Lg	Lg	12 02 32.0	
	baz=84,slow=37						
NRA0	NORESS Array S	4.95	281	Pn	Pn	12 01 15.8	+0.6
	baz=73,slow=12						
NRA0				Sn	Sn	12 02 13.1	+0.1
	baz=102,slow=28						
NRA0				Sg	Sb	12 02 32.0	+5.0
	baz=84,slow=37						
NB2	NORSAR Subarra	5.13	285	Pn	Pn	12 01 18.4	+0.7
	baz=100,slow=14						
NB2				Lg	Lg	12 02 35.5	
NB2	NORSAR Subarra	5.13	285	Pn	Pn	12 01 18.4	+0.7
	baz=100,slow=14						
NOA	NORSAR Array B	5.13	285	Pn	Pn	12 01 17.7	0.0
	comp=Z,0.0nm,0.3s,baz=90,slow=11,SNR=4.8						
NOA				Lg	Lg	12 02 34.2	
	comp=Z,0.1nm,0.3s,baz=299,slow=19,SNR=2.2						
BORU	Boraas	5.15	245	*i* P	Pn	12 01 19.5	+1.6
BORU				*i* S	Sn	12 02 17.9	-0.1
ISAL	Salakas	5.20	149	IAML		12 02 14.3	
	comp=Z,3.1nm,0.2s						
LILU	Lilltraesk	5.23	353	P	Pn	12 01 21.3	+2.2
LILU	Lilltraesk	5.23	353	P	Pn	12 01 21.3	+2.2
LILU	Lilltraesk	5.23	353	*e*P	Pn	12 01 21.3	+2.2
STRU	Stroemstad	5.33	263	*i* P	Pn	12 01 21.3	+0.9
DEL	Delary	5.42	231	*i* P	Pn	12 01 22.2	+0.6
DEL				*i*		12 02 22.5	
DEL				IAML		12 02 46.6	
	comp=Z,0.4nm,0.3s						
IIGN	Ignalina	5.43	150	*e*P	Pn	12 01 25.8	+4.1
IIGN				IAML		12 02 17.1	
	comp=Z,2.5nm,0.3s						
IDID	Didziasalis	5.59	147	IAML		12 02 14.2	
	comp=Z,6.4nm,0.3s						
ONAU	Onsala	5.66	245	*i* P	Pn	12 01 26.0	+1.1
BJUU	Bjuv	6.03	231	*i* P	Pn	12 01 30.0	-0.1
BJUU				*i* S	Sn	12 02 36.9	-2.9
HOMB	Homborsund	6.90	260	*i* P	Pn	12 01 41.7	-0.3
SNART	Snartemo	7.52	262	*i* P	Pn	12 01 50.8	+0.3
APA0	Apatity Array	9.06	29	Pn	Pn	12 02 12.1	+0.6
APA0	Apatity Array	9.06	29	Pn	Pn	12 02 12.1	+0.6
ARA0	ARCESS Array S	9.60	9	Pn	Pn	12 02 18.6	-0.3
	baz=196,slow=16						
ARA0	ARCESS Array S	9.60	9	Pn	Pn	12 02 18.6	-0.3
	baz=196,slow=16						
ARCES	ARCESS Array B	9.60	9	Pn	Pn	12 02 18.8	-0.2
	baz=189,slow=14,SNR=20						
AKASG	Malin Array Be	10.42	152	Sn	Sn	12 04 21.6	-5.9
	comp=Z,1.7nm,0.3s,baz=335,slow=30,SNR=6.0						

*TUL **02** 12:01:41.7±1.2, 36°.85N±0°.01×97°.700W±0°.008, h4km±6km, ML2.7, mb_Lg2.4/15(NEIC), Error ellipse: s-maj=1.8km s-min=0.8km az=169.0*

NEIC 02 12:01:42.0±0.5**, 36°.83N**±0°.01×**97°.69W**±0°.01**, h5**km±6km**, Error ellipse: s-maj=1.8km s-min=1.6km az=128.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GC02	Grant County #	0.14	279		Pg	12 01 44.9	0.0
GC02				Sg	Sg	12 01 47.0	+0.3
KAN17	Caldwell West	0.22	345		Pg	12 01 46.3	-0.1
KAN17				Sg	Sg	12 01 49.5	+0.1
KAN13	South Haven SW	0.25	43		Pg	12 01 47.0	+0.1
KAN13				Sg	Sg	12 01 50.6	+0.4
KAN14	Manchester OK	0.25	300		Pg	12 01 46.9	0.0
KAN14				Sg	Sg	12 01 50.3	0.0
KAN05	Bluff City Nor	0.31	333		Pg	12 01 48.0	-0.1
KAN05				Sg	Sg	12 01 52.2	-0.1
BLOK	Blackwell	0.39	100		Pg	12 01 49.8	+0.2
BLOK				Sg	Sg	12 01 55.4	+0.7
CROK	Carrier	0.40	216		Pg	12 01 50.0	+0.2
CROK				Sg	Sg	12 01 55.8	+0.7
KS20	Mayfield South	0.41	15		Pg	12 01 50.0	-0.1
KS20				Sg	Sg	12 01 55.6	+0.1
OK032	Salt Plains WL	0.42	266		Pg	12 01 50.0	-0.2
KAN10	Anthony SW Sta	0.44	312	Pg	Pg	12 01 50.3	-0.2
KAN10				Sg	Sg	12 01 56.3	+0.1
KAN08	Anthony NE Sta	0.45	331		Pg	12 01 50.7	-0.1
KAN08				Sg	Sg	12 01 57.0	+0.2
KAN12	Harper NE Stat	0.53	332	Pg	Pg	12 01 51.9	-0.3
KAN12				Sg	Sg	12 01 59.2	+0.1
T35A	Sooner Cattle	0.95	85		Pg	12 01 59.9	-0.4
QUOK	Quay	1.03	129	Pg	Pg	12 02 01.4	-0.4
QUOK				Sg	Sg	12 02 15.1	0.0
OK029	Liberty Lake	1.05	169		Pg	12 02 01.8	-0.4
OK031	S. Brethren Rd	1.11	142		Pg	12 02 03.0	-0.4
U32A	Winter Ranch,	1.15	247		Pg	12 02 03.1	-0.9
OK025	Westminster Rd	1.28	167		Pn	12 02 06.0	-0.5
OKCFA	Oklahoma City	1.43	172	Pn	Pn	12 02 08.5	-0.1
OKCSW	OKLAHOMA CITY	1.44	172	Pn	Pn	12 02 08.8	+0.1
FNO	Franklin	1.59	171	Pn	Pn	12 02 10.7	-0.1
R32A	Long Quarter,	1.78	333	Pn	Pn	12 02 14.1	+0.6
WMOK	Wichita Mounta	2.27	203		Pn	12 02 20.0	-0.1
W39A	Magazine	3.56	116	IAmb_Lg		12 03 42.8	
	comp=Z,12nm,1.1s						
AMTX	Amarillo	3.78	240	IAmb_Lg		12 03 45.8	
	comp=Z,10.0nm,1.0s						
MIAR	Mount Ida	4.05	123	IAmb_Lg		12 03 53.5	
	comp=Z,9.3nm,0.7s						
KSCO	Kaye Shedlock'	4.47	301	IAmb_Lg		12 04 12.8	
	comp=Z,5.7nm,0.8s						
R40A	Maddies Statio	4.55	70	IAmb_Lg		12 04 11.6	
	comp=Z,4.6nm,0.9s						
L34A	Svendsen Farm,	5.23	11	IAmb_Lg		12 04 37.7	
	comp=Z,11nm,0.7s						
N38A	Joes South For	5.27	40	IAmb_Lg		12 04 30.3	
	comp=Z,12nm,0.9s						
CCM	Cathedral Cave	5.27	75	IAmb_Lg		12 04 36.7	
	comp=Z,9.9nm,1.2s						
T25A	Trinidad	5.39	275	IAmb_Lg		12 04 47.1	
	comp=Z,3.5nm,1.0s						

*JMA **02** 12:17:07.3±0.2, 24°.84N×121°.80E, h96km±2km, M2.7*
*TAP **02** 12:17:07.5, 24°.90N×121°.82E, h95km, ML3.8, B*

ISC 02 12:17:07.4±1.4**, 24°.95N**±0°.04×**121°.82E**±0°.03**, h99**km±6km**, n83, σ0s.66**/150**, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIPB	Shuangxi	0.02	20	P	Pn	12 17 21.1	-0.1
	baz=345						
TIPB				*e*S	Sn	12 17 30.4	-1.0
	baz=345						
NTC	Toucheng	0.10	174	*e*P	Pn	12 17 21.9	+0.7
	baz=185						
NTC				*e*S	Sn	12 17 31.2	-0.2
	baz=185						
NWF	Wu-fen Shan	0.12	344	P	Pn	12 17 21.2	-0.1
	baz=345						
NWF				*e*S	Sn	12 17 31.6	-0.1
	baz=345						
EGS		0.15	136	*e*P	Pn	12 17 21.5	+0.2
	baz=110						
EGS				*e*S	Sn	12 17 33.8	+2.1
	baz=110						
TWB1	Santiao Chiao	0.16	70	*e*P	Pn	12 17 21.2	-0.1
	baz=56						
TWB1				*e*S	Sn	12 17 30.8	-0.9
	baz=56						
ILA	Ilan	0.20	199	P	Pn	12 17 21.6	+0.2
	baz=209						
ILA				S	Sn	12 17 32.8	+0.9
	baz=209						
TWA	Mucha	0.21	277	*e*P	Pn	12 17 21.4	-0.1
	baz=290						
TWA				*e*S	Sn	12 17 31.9	-0.1
	baz=290						
NHDH	Xindian Distri	0.27	272	P	Pn	12 17 21.9	+0.2
	baz=272						
NHDH				*e*S	Sn	12 17 32.1	-0.3
	baz=272						
TWE	Neicheng	0.27	211	*i* P	Pn	12 17 21.8	+0.1
	baz=216						
TWE				*i* S	Sn	12 17 32.4	0.0
	baz=216						
TAP	Taipei	0.30	287	P	Pn	12 17 21.9	+0.1
	baz=295						
TAP				*e*S	Sn	12 17 32.4	-0.2
	baz=295						
YM01	YM01	0.30	311	P	Pn	12 17 21.9	0.0
	baz=316						
YM01				*e*S	Sn	12 17 32.5	-0.2
	baz=316						
NDS	Dongshan	0.33	196	*i* P	Pn	12 17 22.5	+0.5
	baz=202						
NDS				S	Sn	12 17 33.4	+0.4
	baz=202						
TWC	Suao	0.34	175	*i* P	Pn	12 17 21.9	-0.1
	baz=171						
TWC				S	Sn	12 17 33.5	+0.5
	baz=171						
ANP	Anpu	0.36	311	P	Pn	12 17 22.3	0.0
	baz=322						
ANP				*e*S	Sn	12 17 32.7	-0.6
	baz=322						
TWY	Chenhua	0.38	328	P	Pn	12 17 22.4	+0.2
	baz=331						
TWY				*e*S	Sn	12 17 33.6	+0.2
	baz=331						
TWS1	Kuangyinshan	0.39	292	P	Pn	12 17 21.9	-0.4
	baz=287						
TWS1				*e*S	Sn	12 17 33.0	-0.5
	baz=287						
NTST	Danshui	0.40	302	P	Pn	12 17 22.8	+0.5
	baz=307						
NTST				*e*S	Sn	12 17 34.2	+0.6
	baz=307						
NDT	Datong Townshi	0.45	219	*e*P	Pn	12 17 22.4	-0.3
	baz=234						
NDT				*e*S	Sn	12 17 34.2	+0.1
	baz=234						
YHNB	Yeheng	0.49	235	P	Pn	12 17 22.4	-0.7
	baz=233						
YHNB				*e*S	Sn	12 17 33.0	-1.8
	baz=233						
NSK	Sanguang	0.50	237	P	Pn	12 17 22.6	-0.6
	baz=234						
NSK				*e*S	Sn	12 17 33.1	-1.8
	baz=234						
EWUT	Wuta	0.51	184	P	Pn	12 17 24.1	+1.0
	baz=187						
EWUT				S	Sn	12 17 36.1	+1.3
	baz=187						
ENA	Nanau	0.53	188	P	Pn	12 17 24.0	+0.7
	baz=190						
ENA				S	Sn	12 17 36.8	+1.7
	baz=190						
NCU	National Centr	0.57	272	*e*P	Pn	12 17 23.9	+0.2
	baz=276						
NCU				*e*S	Sn	12 17 35.9	+0.1
	baz=276						
NCUH	Zhongli	0.57	272	*e*P	Pn	12 17 23.9	+0.3
	baz=276						
NCUH				*e*S	Sn	12 17 36.0	+0.2
	baz=276						
NNS	Nan Shan	0.65	218	P	Pn	12 17 24.1	-0.3
	baz=227						
NNS				*e*S	Sn	12 17 36.8	-0.3
	baz=227						
PCYT	Pengchaiyu	0.71	19	*e*P	Pn	12 17 25.6	+0.7
	baz=11						
PCYT				*e*S	Sn	12 17 39.1	+1.2
	baz=11						
SBCB	Hsinchu	0.77	258	*e*P	Pn	12 17 25.5	+0.2
	baz=262						
SBCB				*e*S	Sn	12 17 38.5	-0.4
	baz=262						
HSN	Hsinchu	0.79	259	*e*P	Pn	12 17 25.2	-0.3
	baz=265						
HSN				*e*S	Sn	12 17 38.1	-1.0
	baz=265						
LIOB	Emei	0.79	247	*e*P	Pn	12 17 25.5	-0.1
	baz=245						
LIOB				*e*S	Sn	12 17 38.5	-0.8
	baz=245						
NACB	Ninganchiao	0.80	195	P	Pn	12 17 24.8	-0.9
	baz=207						
NACB				*e*S	Sn	12 17 38.7	-0.7
	baz=207						
ETLH	Xiulin Townshi	0.80	202	*e*P	Pn	12 17 24.9	-1.0
	baz=214						
ETLH				*e*S	Sn	12 17 38.8	-0.8
	baz=214						
NSTT	Nanjuang	0.81	247	*e*P	Pn	12 17 25.6	-0.1
	baz=244						
NSTT				*e*S	Sn	12 17 38.5	-1.0
	baz=244						
FUSS	Fushou	0.88	217	P	Pn	12 17 26.9	+0.2
	baz=213						
FUSS				*e*S	Sn	12 17 41.2	0.0
	baz=213						
TWD	Chiawan	0.89	193	*e*P	Pn	12 17 25.5	-1.1
	baz=202						
TWT	Tachien	0.91	220	*e*P	Pn	12 17 27.3	+0.3
	baz=232						
TWT				*e*S	Sn	12 17 41.9	+0.2
	baz=232						
TDCB	Techi	0.92	221	*e*P	Pn	12 17 27.3	+0.2
	baz=233						
TDCB				*e*S	Sn	12 17 41.1	-0.7
	baz=233						
WHF	Hehuan Shan	0.95	212	P	Pn	12 17 27.4	-0.2
	baz=210						
WHF				*e*S	Sn	12 17 43.1	+0.3
	baz=210						
HWA	Hwalien	0.99	191	*e*P	Pn	12 17 28.6	+1.0
	baz=201						
NMLH	Miaoli	1.02	246	*e*P	Pn	12 17 27.9	-0.1
	baz=250						
NMLH				*e*S	Sn	12 17 42.5	-1.0
	baz=250						
WHP	Taichung City	1.04	230	*e*P	Pn	12 17 28.4	+0.1
	baz=239						
WHP				*e*S	Sn	12 17 43.6	-0.4
	baz=239						
CHGB	Renai	1.06	214	*e*P	Pn	12 17 28.9	+0.2
	baz=217						
CHGB				*e*S	Sn	12 17 44.3	-0.4
	baz=217						
TEYL	Yanliau Villag	1.10	191	*e*S	Sn	12 17 45.5	+0.5
	baz=202						
NSY	Sanyi	1.10	241	*e*P	Pn	12 17 29.1	+0.2
	baz=244						
NSY				*e*S	Sn	12 17 44.8	-0.2
	baz=244						
TWQ1	Liyutan	1.13	238	*e*P	Pn	12 17 29.2	+0.1
	baz=248						
TWQ1				*e*S	Sn	12 17 45.1	-0.5
	baz=248						
JYNG	Yonagunijimaku	1.14	116	P	Pn	12 17 29.0	-0.3
JYNG				*e*S	Sn	12 17 44.6	-1.2
YOJ	Yonaguni jima	1.19	114	P	Pn	12 17 29.6	-0.3
YOJ				*e*S	Sn	12 17 45.9	-0.9
YOJ	Yonaguni jima	1.19	114	*e*P	Pn	12 17 29.5	-0.3
	baz=116						
YOJ				*e*S	Sn	12 17 46.1	-0.7
	baz=116						
WCS	Beigang Elemen	1.22	223	*e*P	Pn	12 17 30.4	+0.2
	baz=233						
WCS				*e*S	Sn	12 17 46.9	-0.5
	baz=233						
WDJ	Dajia District	1.23	241	*e*P	Pn	12 17 30.5	+0.2
	baz=244						
WDJ				*e*S	Sn	12 17 47.3	-0.4
	baz=244						
TEGC	Jichi Village	1.26	192	*e*P	Pn	12 17 31.4	+0.7
	baz=202						
TEGC				*e*S	Sn	12 17 49.0	+0.6
	baz=202						
SMLT	Sun Moon Lake	1.35	218	*e*P	Pn	12 17 32.1	+0.1
	baz=221						
SMLT				*e*S	Sn	12 17 51.4	+0.9
	baz=221						
TYC	Yuchr	1.36	220	*e*P	Pn	12 17 32.0	+0.1
	baz=223						
TYC				*e*S	Sn	12 17 49.5	-1.0
	baz=223						
SSLB	Suanglung	1.40	214	*e*P	Pn	12 17 32.5	0.0
	baz=227						
SSLB				*e*S	Sn	12 17 50.9	-0.5
	baz=227						
WCHH	Zhanghua	1.44	233	*e*P	Pn	12 17 33.0	+0.2
	baz=235						
WNT	Mingjian	1.49	224	*e*P	Pn	12 17 33.6	+0.1
	baz=226						
HGSD	Ruisui	1.50	194	*e*P	Pn	12 17 33.3	-0.3
	baz=204						
HGSD				*e*S	Sn	12 17 54.0	+0.6
	baz=204						
WJS	Zhushan	1.50	222	*e*P	Pn	12 17 33.9	+0.2
	baz=225						
WJS				*e*S	Sn	12 17 53.2	-0.3
	baz=225						
WHYT	Xinyi Township	1.53	215	*e*P	Pn	12 17 34.5	+0.5
	baz=225						
YUS	Yu-Shan	1.66	209	*e*P	Pn	12 17 37.1	+1.0
	baz=222						
YUS				*e*S	Sn	12 17 58.9	+1.2
	baz=222						
WRL	Guolierlin Hig	1.68	232	*e*P	Pn	12 17 35.4	-0.4
	baz=235						
WRL				*e*S	Sn	12 17 56.2	-1.2
	baz=235						
CHN5	Tsauling	1.71	218	*e*P	Pn	12 17 36.1	-0.2
	baz=221						
CHN5				*e*S	Sn	12 17 58.9	+0.7
	baz=221						
ALS	Alishan	1.71	213	*e*P	Pn	12 17 36.9	+0.4
	baz=224						
WDLH	Douliu	1.72	223	*e*P	Pn	12 17 36.8	+0.5
	baz=226						
WDLH				*e*S	Sn	12 17 59.0	+0.7
	baz=226						
FULB	Fuli	1.81	195	*e*P	Pn	12 17 38.5	+1.0
	baz=199						
FULB				*e*S	Sn	12 18 00.2	-0.3
	baz=199						
IRIF	Iriomote-Funau	1.84	109	P	Pn	12 17 37.5	-0.4
IRIF				S	Sn	12 18 00.5	-0.7
ELDTW	Lidau	1.90	203	*e*P	Pn	12 17 38.9	+0.1
	baz=206						
ELDTW				*e*S	Sn	12 18 03.7	+1.0
	baz=206						
CHY	Chiayi	1.93	222	*e*P	Pn	12 17 39.1	+0.1
	baz=232						
CHY				*e*S	Sn	12 18 04.5	+1.4
	baz=232						
STYH	Taoyuan	2.01	208	*e*P	Pn	12 17 41.0	+0.9
	baz=220						
STYH				*e*S	Sn	12 18 04.2	-0.8
	baz=220						
HATJ	Hateruma jima	2.02	116	P	Pn	12 17 40.1	0.0
HATJ				*e*S	Sn	12 18 04.6	-0.6
WTP	Ta-pu	2.02	213	*e*P	Pn	12 17 40.5	+0.2
	baz=214						
WTP				*e*S	Sn	12 18 05.8	+0.4
	baz=214						
EDH	Donghe	2.03	194	*e*S	Sn	12 18 04.6	-0.8
	baz=182						
TWK	Hsinying	2.07	216	*e*P	Pn	12 17 40.9	-0.1
	baz=218						
SNST	Tainan City	2.11	215	*e*P	Pn	12 17 41.6	+0.2
	baz=218						
JKRS	Kuro-shima	2.12	109	P	Pn	12 17 41.1	-0.3
JKRS				S	Sn	12 18 06.9	-0.6
CHN1	Nanshi	2.12	214	*e*P	Pn	12 17 41.5	-0.1
	baz=225						
LONT	Longtian	2.13	197	*e*P	Pn	12 17 42.5	+0.8
	baz=190						
JIJ	Ishigaki jima	2.19	105	P	Pn	12 17 42.4	-0.1
JIJ				S	Sn	12 18 07.9	-1.4
TWG	Pinlang	2.23	198	*e*P	Pn	12 17 43.1	+0.1
	baz=190						
TWGBT	Beinan	2.23	198	*e*P	Pn	12 17 42.2	-0.8
	baz=190						
JISG	Ishigakijimahi	2.29	99	P	Pn	12 17 44.2	+0.4
JISG				S	Sn	12 18 11.6	0.0
JTJ	Tarama	2.64	96	P	Pn	12 17 49.0	+0.7
JTJ				S	Sn	12 18 20.9	+1.2
JIRB	Irabujima	3.05	92	*e*S	Sn	12 18 29.4	-0.1
JMJ2	Miyako jima3	3.19	93	*e*S	Sn	12 18 32.7	-0.3

*RSNC **02** 12:20:08.8±0.9, 3°.82N×71°.36W, h5km±2km, ML4.0, Mw4.1*
*IDC **02** 12:20:10.2±2.5, 4°.00N×71°.26W, h35km±23km, mb3.1/3, mb1 3.6/6, mb1mx3.4/34, mbtmp3.6/6, ML3.0/3, MS3.3/12, Ms1 3.3/12, ms1mx3.3/13, Error ellipse: s-maj=19.7km s-min=18.2km az=51.0*

ISC 02 12:20:05.4±1.4**, 3°.78N**±0°.03×**71°.25W**±0°.04**, h1**km±10km**, n56, σ2s.23**/119**, MS3.3**/6**, 1D, Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTGC	Puerto Gaitan,	0.97	295⇓	*e*P	Pg	12 20 22.6	-1.5
PTGC				*e*S	Sg	12 20 35.2	-1.5
PTGC				*i*		12 20 44.9	
	comp=Z,2μm,0.2s						
GUVC	San Jose del G	1.84	228	*e*P	Pn	12 20 38.8	+0.6
GUVC				*e*S	Sn	12 21 02.2	+0.1
GUVC				*i*		12 21 08.4	
	comp=Z,2μm,0.2s						
VILC	Villavicencio,	2.46	278	*e*P	Pn	12 20 47.4	+0.6
VILC				*e*S	Sn	12 21 17.0	-0.5
VILC				*i*		12 21 27.6	
	comp=Z,2μm,0.4s						
CHIC	Chingaza	2.62	289	*e*P	Pn	12 20 49.2	+0.1
CHIC				*e*Pg	Pb	12 20 53.0	-0.4
CHIC				*e*S	Sn	12 21 20.8	-1.0
CHIC				*e*Sg	Sg	12 21 32.1	+2.6
CHIC				*i*		12 21 41.2	
	comp=Z,1μm,0.4s						
TAMC	Tame, Arauca	2.69	348	*e*P	Pn	12 20 50.9	+1.0
TAMC				*e*S	Sn	12 21 24.1	+1.0
TAMC				*i*		12 21 42.5	
	comp=Z,538nm,0.5s						
RUSC	La Rusia	2.78	319	*e*P	Pn	12 20 51.9	+0.4
RUSC				*e*S	Sn	12 21 24.8	-1.2
RUSC				*i*		12 21 40.8	
	comp=Z,574nm,0.4s						
MACC	Macarena, Meta	3.06	238	*e*P	Pn	12 20 58.0	+3.1
MACC				*e*S	Sb	12 21 37.0	-1.6
MACC				*i*		12 21 51.7	
	comp=Z,680nm,0.4s						
ROSC	El Rosal	3.24	289	Pn	Pn	12 20 59.5	+1.8
	comp=Z,18nm,0.3s,baz=270,slow=15,SNR=12						
ROSC				Pg	Pg	12 21 08.2	+0.7
	comp=Z,78nm,0.3s,baz=9.7,slow=23,SNR=32						
ROSC				Sn	Sn	12 21 39.2	+2.1
	comp=Z,30nm,0.3s,baz=73,slow=21,SNR=3.9						
ROSC				Lg	Lg	12 21 51.0	
	comp=Z,97nm,0.3s,baz=353,slow=22,SNR=3.2						
ROSC	El Rosal	3.24	289	*e*P	Pn	12 20 59.9	+2.1
ROSC				*e*Pg	Pg	12 21 06.9	-0.6
ROSC				*e*S	Sn	12 21 38.5	+1.4
ROSC				*e*Sg	Sg	12 21 50.5	+1.0
ROSC				*i*		12 22 02.5	
	comp=Z,380nm,0.6s						
SPBC	San Pablo de B	3.37	304	*e*P	Pn	12 20 58.9	-0.4
SPBC				*e*Pg	Pb	12 21 06.5	+0.5
SPBC				*e*S	Sn	12 21 37.9	-2.1

SPBC				eSg	Sb	12 21 48.5	+0.9
BARC	Barichara	3.39	325	eP	Pn	12 20 59.5	-0.2
BARC				ePg	Pb	12 21 05.6	-0.9
BARC				eS	Sn	12 21 39.7	-1.0
BARC				eSg	Sb	12 21 48.9	+0.6
BARC				i		12 22 04.6	
	comp=Z,422nm,0.5s						
PRAC	Prado	3.63	269	eP	Pn	12 21 03.7	+0.9
PRAC				ePg	Pb	12 21 10.6	+0.2
PRAC				eS	Sn	12 21 44.6	-1.8
PRAC				eSg	Sb	12 21 55.9	+0.9
PRAC				i		12 22 08.8	
	comp=Z,269nm,0.5s						
ELOV	Elorza	3.65	29	eP	Pn	12 21 03.1	0.0
ELOV				ePg	Pb	12 21 10.6	-0.1
ELOV				eS	Sn	12 21 46.7	0.0
ORTC	Ortega, Tolima	3.99	272	eP	Pn	12 21 08.1	+0.3
ORTC				ePg	Pb	12 21 15.7	-0.9
ORTC				eS	Sn	12 21 54.4	-0.8
ORTC				eSg	Sb	12 22 07.0	+1.7
ORTC				i		12 22 18.9	
	comp=Z,561nm,0.6s						
NORC	Norcasia	4.02	296	eP	Pn	12 21 07.8	-0.3
NORC				eS	Sn	12 21 54.4	-1.5
NORC				eSg	Sb	12 22 07.8	+1.6
BRRC	Barranca, Sant	4.11	324	eP	Pn	12 21 10.3	+0.9
BRRC				ePg	Pb	12 21 20.0	+1.4
BRRC				eS	Sn	12 21 56.5	-1.7
BRRC				eSg	Sb	12 22 09.9	+1.0
BRRC				i		12 22 23.5	
	comp=Z,215nm,0.5s						
TOLC	Tolima	4.14	281	eP	Pn	12 21 10.5	+0.5
TOLC				ePg	Pb	12 21 22.0	+2.7
TOLC				eS	Sn	12 21 57.0	-2.2
TOLC				eSg	Sb	12 22 11.7	+1.8
TOLC				i		12 22 25.6	
	comp=Z,241nm,0.5s						
PTBC	PUERTO BERRIO,	4.21	311	eP	Pn	12 21 10.5	-0.2
PTBC				ePg	Pb	12 21 22.2	+1.9
PTBC				eS	Sn	12 21 58.2	-2.3
PTBC				eSg	Sb	12 22 12.8	+1.2
PTBC				i		12 22 22.8	
	comp=Z,199nm,0.5s						
BETC	Betania	4.33	255	eP	Pn	12 21 12.5	+0.1
BETC				eS	Sn	12 22 00.6	-2.9
BETC				eSg	Sb	12 22 15.9	+0.8
BETC				i		12 22 25.4	
	comp=Z,186nm,0.6s						
GUY2C	Guyana, Caldas	4.35	289	eP	Pn	12 21 13.6	+0.5
GUY2C				eS	Sn	12 22 02.6	-2.0
GUY2C				i		12 22 04.8	
	comp=Z,149nm,0.6s						
GUY2C				eSg	Sb	12 22 17.6	+1.5
GARC	Garzon, Huila	4.52	250	eP	Pn	12 21 15.3	+0.1
GARC				ePg	Pb	12 21 23.6	-2.2
GARC				eS	Sn	12 22 08.0	-0.7
GARC				eSg	Sb	12 22 22.7	+1.8
GARC				i		12 22 27.0	
	comp=Z,613nm,0.3s						
MARP	Paez Belalcaza	4.79	259	eP	Pn	12 21 19.1	+0.1
MARP				ePg	Pb	12 21 28.2	-2.1
MARP				eS	Sn	12 22 14.9	-0.4
MARP				eSg	Sb	12 22 30.6	+2.0
MARP				i		12 22 39.1	
	comp=Z,52nm,0.4s						
OCAC	Ocana	4.88	335	eS	Sn	12 22 16.7	-0.7
OCAC				eSg	Sb	12 22 35.0	+3.8
OCAC				i		12 22 39.8	
	comp=Z,505nm,0.5s						
HELC	Santa Helena	4.89	299	eP	Pn	12 21 20.7	+0.3
HELC				eS	Sn	12 22 15.9	-1.9
HELC				eSg	Sb	12 22 33.5	+2.0
FLOC	Florencia	4.91	244	eP	Pn	12 21 22.1	+1.7
FLOC				ePg	Pb	12 21 30.8	-1.5
FLOC				eS	Sb	12 22 28.2	-3.7
FLOC				i		12 22 47.6	
	comp=Z,393nm,0.5s						
PTLC	Puerto Leguiza	5.04	225	eP	Pg	12 21 40.8	-1.3
PTLC				eS	Sg	12 22 45.1	-2.4
PTLC				i		12 22 59.3	
	comp=Z,208nm,0.5s						
YOTC	Yotoco, Valle	5.09	272	eP	Pn	12 21 22.1	-0.9
YOTC				ePg	Pb	12 21 33.6	-1.8
YOTC				eS	Sn	12 22 18.1	-4.3
YOTC				eSg	Sb	12 22 38.9	+1.8
YOTC				i		12 22 55.4	
	comp=Z,47nm,0.5s						
SDV	Santo Domingo	5.11	7	Pn	Pn	12 21 22.6	-0.7
	comp=Z,3.9nm,0.3s,baz=188,slow=5.8,SNR=3.4						
SDV				Pg	Pb	12 21 39.9	+4.1
	comp=Z,34nm,0.3s,baz=172,slow=22,SNR=18						
SDV				Sn	Sn	12 22 20.2	-2.8
	comp=Z,20nm,0.3s,baz=338,slow=16,SNR=4.4						
SDV				Lg	Lg	12 22 44.3	
	comp=Z,67nm,0.3s,baz=331,slow=20,SNR=6.0						
SDV	Santo Domingo	5.11	7	eP	Pb	12 21 30.8	-4.9
SDV				eS	Sb	12 22 39.3	+1.6
SDV				i		12 22 51.1	
	comp=Z,193nm,0.5s						
ZARC	Zaragoza, Cauc	5.15	316	eP	Pn	12 21 23.2	-0.4
ZARC				eS	Sn	12 22 17.8	-5.9
ZARC				i		12 22 26.1	
	comp=Z,125nm,0.5s						
CBOC	Ciudad Bolivar	5.18	294	eP	Pn	12 21 24.7	+0.5
CBOC				eS	Sn	12 22 22.8	-1.9
PCON	Cinco Dias	5.34	254	eP	Pn	12 21 29.1	+2.3
PCON				eS	Sn	12 22 34.0	+4.7
PCON				i		12 22 58.6	
	comp=Z,172nm,0.4s						
POPC	Popayan, Colom	5.56	257	eP	Pn	12 21 30.7	+1.2
POPC				ePg	Pb	12 21 41.1	-2.3
POPC				eS	Sn	12 22 32.6	-1.6
POPC				eSg	Sb	12 22 53.3	+2.6
POPC				i		12 23 04.8	
	comp=Z,43nm,0.6s						
SOTA	Rioblanco	5.60	253	eP	Pb	12 21 40.8	-3.5
SOTA				eS	Sb	12 22 55.3	+3.3
SOTA				i		12 23 09.7	
	comp=Z,108nm,0.6s						
SMLC	San Martn de	5.72	331	eP	Pn	12 21 29.7	-1.8
SMLC				eS	Sn	12 22 32.3	-5.6
UREC	San Jos de Ur	5.81	313	eP	Pn	12 21 31.5	-1.2
UREC				eS	Sn	12 22 35.3	-4.7
UREC				i		12 23 04.9	
	comp=Z,30nm,0.7s						
DBBC	Dabeiba	5.89	303	eP	Pn	12 21 35.0	+1.0
DBBC				eS	Sn	12 22 41.2	-1.0
BBAC	Balboa, Cauca	6.24	254	eP	Pn	12 21 44.0	+5.2
BBAC				eS	Sn	12 22 59.9	+8.9
GCUF	Volcan Galeras	6.60	248	eP	Pb	12 22 04.4	+3.1
GCUF				eS	Sb	12 23 20.9	0.0
GCUF				i		12 23 41.5	
	comp=Z,42nm,0.5s						
SJCC	San Jacinto, C	7.22	327	eP	Pn	12 21 50.5	-1.7
SJCC				eS	Sn	12 23 07.1	-7.8
SJCC				i		12 23 18.0	
	comp=Z,24nm,0.6s						
CRJC	Cerrejon, Guaj	7.37	347	eP	Pn	12 21 51.8	-2.5
CRJC				eS	Sn	12 23 11.2	-7.5
CRJC				i		12 23 19.8	
	comp=Z,46nm,0.4s						
OTAV	Otavalo	8.01	244	eP	Pb	12 22 30.9	+5.5
OTAV				eS	Sb	12 23 57.4	-4.1
PTGA	Pitinga	12.13	111	Pn	Pn	12 23 01.6	+2.1
	comp=Z,0.3nm,0.3s,baz=328,slow=19,SNR=2.6						
PTGA				Lg	Lg	12 26 29.4	
	comp=Z,0.9nm,0.3s,baz=211,slow=23,SNR=15						
PTGA				LR	LR	12 28 04.6	
	comp=Z,98nm,19.9s,baz=272,slow=39						
ATAH	Atahualpa	12.98	213	LR	LR	12 28 38.0	
	comp=Z,124nm,21.1s,baz=35,slow=39						
JTS	Las Juntas de	15.05	296	LR	LR	12 29 52.1	
	comp=Z,99nm,21.7s,baz=202,slow=39						
SJG	San Juan	15.09	19	LR	LR	12 30 21.8	
	comp=Z,55nm,18.5s,baz=240,slow=41						
NNA	Nana	16.62	199	LR	LR	12 30 47.4	
	comp=Z,87nm,19.8s,baz=341,slow=38						
MDP	Montagnes des	18.60	85	LR	LR	12 31 00.8	
	comp=Z,80nm,20.0s,baz=268,slow=35						
LPAZ	La Paz	20.18	171	P	Pn	12 24 45.3	+1.4
	comp=Z,2.8nm,0.7s,baz=343,slow=14,SNR=11						
LPAZ				LR	LR	12 33 00.5	
	comp=Z,170nm,18.2s,baz=6.0,slow=38						
SIV	San Ignacio	22.08	153	P	P	12 25 05.4	+3.3
	comp=Z,0.5nm,0.6s,baz=360,slow=7.0,SNR=3.7						
SIV				LR	LR	12 34 58.6	
	comp=Z,77nm,19.9s,baz=110,slow=40						
LVC	Limon Verde	26.33	175	LR	LR	12 36 48.4	
	comp=Z,102nm,21.4s,baz=290,slow=38						
CMIG	Matias Romero	26.69	301	LR	LR	12 36 54.8	
	comp=Z,28nm,21.2s,baz=94,slow=38						
CPUP	Villa Florida	32.83	157	LR	LR	12 39 16.7	
	comp=Z,134nm,20.9s,baz=192,slow=35						
TXAR	Lajitas Array	39.87	313	P	P	12 27 40.0	-1.0
	comp=Z,0.1nm,0.5s,baz=124,slow=7.7,SNR=2.0						
TXAR				LR	LR	12 46 53.0	
	comp=Z,38nm,18.6s,baz=0.0,slow=40						
ASAR	Alice Springs	148.68	229	PKPbc	PKPdf	12 39 53.2	+1.6
	comp=Z,0.2nm,0.6s,baz=132,slow=3.2,SNR=6.2						
WRA	Warramunga Arr	150.33	235	PKPbc	PKPbc	12 39 58.4	-1.1
	comp=Z,0.4nm,0.7s,baz=114,slow=2.3,SNR=5.9						

*IDC **02** 12:30:25.9±4.5, 13°.38N×144°.08E, h37km±38km, mb3.5/5, mb1 3.8/5, mb1mx3.4/47, mbtmp3.7/5, MS3.3/10, Ms1 3.4/10, ms1mx3.1/32, Error ellipse: s-maj=38.5km s-min=19.1km az=121.0*

*NEIC **02** 12:30:28.9±0.8, 13°.01N±0°.08×144°.7E±0°.2, h54km±8km, mb4.5/16, Error ellipse: s-maj=26.4km s-min=11.1km az=100.0*

ISC 02 12:30:28.2±0.9**, 13°.1N**±0°.1×**144°.4E**±0°.2**, h54**km**, n43, σ0s.92**/27**, mb4.4**/13**, MS3.3**/9**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	0.65	44	Pn	Pn	12 30 41.1	-0.4
	baz=169,slow=13						
GUMO				Sn	Sn	12 30 50.8	-0.4
	1µm,0.3s,baz=308,slow=24,SNR=18						
ANA2	Anatahan	3.44	21	Pn	Pn	12 31 19.9	+0.5
PATS	Pohnpei	15.05	113	Pn	Pn	12 33 49.5	-8.2
JAY	Jayapura	15.97	194	LR	LR	12 38 35.0	
	comp=Z,94nm,21.9s,baz=318,slow=30						
H11S3	WAKE ISLAND Hy	22.09	73	T	T	12 57 51.8	
	baz=259,slow=75,SNR=10						
H11S1	WAKE ISLAND Hy	22.10	73	T	T	12 57 55.7	
	baz=259,slow=75,SNR=13						
H11S2	WAKE ISLAND Hy	22.10	73	T	T	12 57 53.5	
	baz=259,slow=75,SNR=11						
H11N1	WAKE ISLAND Hy	22.53	70	T	T	12 58 26.1	
	baz=256,slow=75,SNR=20						
H11N2	WAKE ISLAND Hy	22.54	70	T	T	12 58 30.3	
	baz=256						
H11N3	WAKE ISLAND Hy	22.55	70	T	T	12 58 19.7	
	baz=256,slow=75,SNR=17						
MJAR	Matsushiro Arr	23.97	348	LR	LR	12 44 08.8	
	comp=Z,47nm,18.5s,baz=170,slow=35						
HNR	Honiara	27.21	145	LR	LR	12 47 07.1	
	comp=Z,77nm,18.5s,baz=156,slow=36						
KSRS	Korea Array	28.35	332	LR	LR	12 47 12.2	
	comp=Z,37nm,18.5s,baz=230,slow=36						
ASAJ	Asahikawa	30.92	357	LR	LR	12 48 16.9	
	comp=Z,45nm,21.2s,baz=192,slow=35						
CTA	Charters Tower	33.05	177	LR	LR	12 51 13.8	
	comp=Z,130nm,20.1s,baz=236,slow=37						
WRAB	Tennant Creek	34.31	197	P	P	12 37 09.2	-0.6
WRAB				IAmb	IAmb	12 37 13.9	
	comp=Z,5.3nm,1.1s						
WB2	Warramunga Arr	34.32	197	P	P	12 37 09.5	-0.3
WB2				IAmb	IAmb	12 37 25.2	
	comp=Z,8.1nm,1.3s						
WRA	Warramunga Arr	34.32	197	P	P	12 37 10.2	+0.4
	comp=Z,2.2nm,0.9s,baz=21,slow=9.8,SNR=10						
KLR	Kul'dur	37.48	346	LR	LR	12 51 07.1	
	comp=Z,52nm,20.8s,baz=154,slow=33						
AS31	Alice Springs	37.98	196	P	P	12 37 41.8	+0.7
ASAR	Alice Springs	37.98	196	P	P	12 37 41.2	+0.1
	comp=Z,0.5nm,0.7s,baz=19,slow=11,SNR=7.4						
CMAR	Chiang Mai Arr	43.98	283	LR	LR	12 56 10.0	
	comp=Z,31nm,18.8s,baz=290,slow=35						
MKAR	Makanchi Array	61.51	316	P	P	12 40 36.8	-2.8
	comp=Z,0.3nm,0.8s,baz=90,slow=5.8,SNR=2.0						
MKAR	Makanchi Array	61.51	316	P	P	12 40 41.3	+1.6
SVW2	Sparrevohn	64.29	28	P	P	12 40 57.8	-0.1
SVW2				IAmb	IAmb	12 41 04.6	
	comp=Z,5.1nm,1.1s						
N19K	Bonanza Creek	64.70	28	P	P	12 41 00.7	+0.1
L19K	White Mountain	65.00	27	P	P	12 41 02.5	+0.1
L19K				IAmb	IAmb	12 41 20.6	
	comp=Z,8.2nm,1.4s						
K20K	Telida	65.75	26	P	P	12 41 07.5	+0.3
K20K				IAmb	IAmb	12 41 09.2	
	comp=Z,4.1nm,0.9s						
CNPM	China Poot	65.86	30	P	P	12 41 07.5	-0.5
J20K	Nowinta River	66.00	25	P	P	12 41 09.8	+1.0
J20K				IAmb	IAmb	12 41 32.0	
	comp=Z,6.2nm,1.5s						
PPLA	Purkeypile	66.40	27	P	P	12 41 12.5	+0.9
PWL	Port Wells	67.60	29	P	P	12 41 19.2	+0.1
SML	Sawmill	67.83	28	P	P	12 41 19.9	-0.7
SML				IAmb	IAmb	12 41 21.2	
	comp=Z,4.0nm,0.7s						
ILAR	Eielson Array	69.18	25	P	P	12 41 27.1	-1.7
	comp=Z,1.2nm,0.7s,baz=247,slow=6.0,SNR=12						
L26K	Log Cabin Wild	70.35	27	P	P	12 41 36.6	+0.4
CTGM	Chitina Glacie	70.98	30	P	P	12 41 40.9	+0.7
CTGM				IAmb	IAmb	12 41 41.7	
	comp=Z,5.8nm,0.8s						
TABL	Table Mountain	71.01	30	P	P	12 41 41.5	+1.0
BCAR	Beaver Creek A	71.06	28	P	P	12 41 41.0	+0.5
HYT	Haines Junctio	72.83	30	P	P	12 41 51.7	+0.5
ARCES	ARCESS Array B	87.38	342	LR	LR	13 24 52.7	
	comp=Z,28nm,18.6s,baz=105,slow=38						
NVAR	Mina Array Bea	87.56	51	P	P	12 43 11.6	+0.5
	comp=Z,0.4nm,0.8s,baz=260,slow=5.1,SNR=3.6						
NOA	NORSAR Array B	97.32	339	LR	LR	13 28 26.8	
	comp=Z,13nm,20.9s,baz=55,slow=36						
LPAZ	La Paz	148.39	100	PKPbc	PKiKP	12 50 11.8	-0.3
	comp=Z,1.1nm,0.7s,baz=278,slow=5.1,SNR=4.9						

*JMA **02** 12:32:11.7±0.1, 24°.89N×121°.96E, h32km, M2.2*

*TAP **02** 12:32:11.5, 24°.89N×122°.00E, h8km, ML2.6, B*

ISC 02 12:32:11.4±0.9**, 24°.90N**±0°.03×**122°.00E**±0°.03**, h14**km±6km**, n36, σ0s.87**/47**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGS		0.09	228	iP	Pg	12 32 13.9	-0.5
	baz=228						
EGS				S	Sg	12 32 16.2	-0.2
	baz=228						
TWB1	Santiao Chiao	0.11	354	iP	Pb	12 32 14.8	-0.6
	baz=358						
TWB1				iS	Sb	12 32 16.9	-0.9
	baz=358						
NTC	Toucheng	0.16	253	P	Pg	12 32 15.7	+0.3
	baz=257						
NTC				S	Sg	12 32 18.8	+0.7
	baz=257						
TIPB	Shuangxi	0.17	294	iP	Pg	12 32 16.1	+0.5
	baz=297						
TIPB				iS	Sg	12 32 19.2	+0.8
	baz=297						
NWF	Wu-fen Shan	0.26	310	iP	Pg	12 32 18.1	+1.0
	baz=312						
NWF				S	Sg	12 32 22.7	+1.8
	baz=312						
TWC	Suao	0.32	205	eP	Pb	12 32 18.6	-0.4
	baz=204						
TWC				eS	Sg	12 32 23.4	+0.9
	baz=204						
TWE	Neicheng	0.35	239	P	Pg	12 32 18.4	-0.2
	baz=239						
TWE				eS	Sg	12 32 23.3	-0.2
	baz=239						
NDS	Dongshan	0.37	224	P	Pb	12 32 19.8	-0.1
	baz=225						
NDS				eS	Sb	12 32 25.7	+0.2
	baz=225						
TWA	Mucha	0.39	282	P	Pb	12 32 20.0	-0.1
	baz=283						
TWA				eS	Sb	12 32 25.1	-0.8
	baz=283						
YM01	YM01	0.46	302	P	Pn	12 32 22.0	-1.7
	baz=303						
EWUT	Wuta	0.50	204	eP	Pg	12 32 22.3	+1.0
	baz=204						
TWY	Chenhua	0.52	316	P	Pn	12 32 23.3	-1.2
	baz=316						
ENA	Nanau	0.53	207	eP	Pg	12 32 22.6	+0.7
	baz=206						
NDT	Datong Townshi	0.54	236	eP	Pb	12 32 21.9	-0.7
	baz=237						
NTST	Danshui	0.56	298	eP	Pn	12 32 24.4	-0.7
	baz=298						
TWS1	Kuangyinshan	0.56	291	eP	Pg	12 32 23.5	+0.9
	baz=291						
YHNB	Yeheng	0.61	248	P	Pb	12 32 23.3	-0.8
	baz=248						
NSK	Sanguang	0.63	249	eP	Pb	12 32 23.4	-0.9
	baz=249						
PCYT	Pengchaiyu	0.73	5	eP	Pn	12 32 26.9	-0.4
	baz=5.0						
NCU	National Centr	0.74	275	eP	Pn	12 32 27.8	+0.3
	baz=276						
NCUH	Zhongli	0.74	275	eP	Pn	12 32 27.8	+0.3
	baz=276						
NACB	Ninganchiao	0.81	207	eP	Pg	12 32 27.1	-0.1
	baz=207						
ETLH	Xiulin Townshi	0.84	214	eP	Pn	12 32 28.1	-0.8
	baz=214						
TWD	Chiawan	0.90	204	eP	Pn	12 32 29.1	-0.6
	baz=204						
LIOB	Emei	0.93	254	eP	Pg	12 32 30.9	+1.4
	baz=254						
NSTT	Nanjuang	0.95	254	eP	Pg	12 32 30.6	+0.8
	baz=254						
JYNG	Yonagunijimaku	0.97	117	P	Pb	12 32 29.2	-0.8
JYNG				eS	Sb	12 32 42.0	-0.7
WHF	Hehuan Shan	1.01	222	eP	Pg	12 32 31.5	+0.5
	baz=221						
YOJ	Yonaguni jima	1.02	115	P	Pb	12 32 30.7	-0.2
YOJ				eS	Sb	12 32 42.8	-1.3
YOJ	Yonaguni jima	1.02	115	eP	Pb	12 32 30.5	-0.4
	baz=114						
WHP	Taichung City	1.14	237	eP	Pg	12 32 35.5	+2.0
	baz=237						
OWD	Renai	1.21	219	eP	Pg	12 32 36.0	+1.2
	baz=218						
HATJ	Hateruma jima	1.85	117	P	Pn	12 32 43.0	+0.3
JKRS	Kuro-shima	1.94	109	P	Pn	12 32 44.4	+0.3
JIJ	Ishigaki jima	2.02	105	P	Pn	12 32 45.0	-0.1
JISG	Ishigakijimahi	2.12	98	P	Pn	12 32 47.7	+1.2

MEX 02 12:36:10.8±0.9**, 16°.63N×98°.46W, h6**km**, MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.40	127	iP	Pg	12 36 17.9	-0.7
PNIG				eS	Sg	12 36 23.7	-0.2
MGIG	Malinaltepec	0.62	345	eP	Pg	12 36 21.7	-1.0
MGIG				eS	Sg	12 36 30.5	-0.4
YOIG	Yosondua	0.91	76	eP	Pg	12 36 26.9	-1.4
YOIG				eS	Sg	12 36 38.6	-1.4
TLIG	Tlapa	0.93	354	eP	Pg	12 36 26.9	-1.8
TLIG				eS	Sg	12 36 39.4	-1.4
DAIG	Los Arroyos	1.20	289	eP	Pg	12 36 30.6	-3.2
DAIG				eS	Sg	12 36 45.8	-3.6
HLIG	Huajuapan de L	1.35	28	eP	Pn	12 36 34.2	-2.2
HLIG				eS	Sg	12 36 51.7	-2.4
PEIG	Puerto Escondi	1.41	116	eP	Pn	12 36 32.7	-4.5
PEIG				eS	Sb	12 36 52.5	-3.4

*NAO **02** 12:36:40.6±1.3, 75°.01N×7°.70E, ML3.8*

*IDC **02** 12:36:43.7±0.9, 75°.00N×8°.54E, h0km, mb3.9/8, mb1 4.0/11, mb1mx3.8/53, mbtmp3.9/11, ML3.0/2, MS3.5/29, Ms1 3.5/29, ms1mx3.3/59, Error ellipse: s-maj=21.5km s-min=12.0km az=86.0*

*BER **02** 12:36:43.3±3.4, 74°.98N×8°.36E, h10km, ML2.5, ML3.8(NAO), Confirmed Earthquake*

*NEIC **02** 12:36:45.7±1.8, 75°.11N±0°.07×8°.7E±0°.3, h10km±1km, mb4.5/49, Error ellipse: s-maj=15.0km s-min=11.6km az=246.0*

ISC 02 12:36:44.1±0.4**, 75°.02N**±0°.05×**8°.63E**±0°.05**, h10**km**, n132, σ2s.33**/113**, mb4.3**/33**, MS3.4**/23**, Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HSPB	Hornsund (broa	2.60	37	Pn	Pn	12 37 24.6	-1.5
HSPB	Hornsund (broa	2.60	37	eP	Pn	12 37 24.8	-1.4
HSPB				eS	Sn	12 37 52.4	-5.4
HSPB				IAML		12 37 54.3	
	comp=Z,20nm,0.3s						
BJO1	Bjornoya	2.79	96	Pn	Pn	12 37 29.4	+0.7
BJO1				Sn	Sn	12 37 58.1	-4.2
BJO1	Bjornoya	2.79	96	eP	Pn	12 37 29.9	+1.2
BJO1				eS	Sn	12 37 58.1	-4.2
BJO1				IAML		12 38 02.4	
	comp=Z,53nm,0.4s						
BRBA	Barentsburg A	3.32	20	Pn	Pn	12 37 34.6	-1.4
BRBA	Barentsburg A	3.32	20	Pn	Pn	12 37 34.6	-1.4
SPB2	Spitsbergen Ar	3.65	26		Pn	12 37 40.0	-0.5
SPA0	Spitsbergen Ar	3.65	26	Pn	Pn	12 37 40.1	-0.5
	baz=208,slow=16						
SPA0				Sn	Sn	12 38 22.2	-1.3
	baz=204,slow=18						
SPA0	Spitsbergen Ar	3.65	26	Pn	Pn	12 37 40.1	-0.5
	baz=208,slow=16						
SPA0				Sn	Sn	12 38 22.2	-1.3
	baz=204,slow=18						
SPITS	Spitsbergen Ar	3.65	26	Pn	Pn	12 37 39.9	-0.7
	baz=208,slow=16,SNR=879						
SPITS				Sn	Sn	12 38 22.1	-1.4
	baz=200,slow=16,SNR=0.7						
KBS	Kingsbay	4.00	9	Pn	Pn	12 37 43.0	-2.3
KBS	Kingsbay	4.00	9	eP	Pn	12 37 43.1	-2.3
KBS				eS	Sn	12 38 27.8	-4.4
KBS				IAML		12 38 32.7	
	comp=Z,18nm,0.2s						
KBS	Kingsbay	4.00	9		Pn	12 37 44.1	-1.3
HOPEN	Hopen	4.30	62	Pn	Pn	12 37 49.4	-0.1
HOPEN	Hopen	4.30	62	eP	Pn	12 37 49.5	-0.1
HOPEN				IAML		12 38 38.5	
	comp=Z,45nm,0.5s						
JNW	Jan Mayen West	6.38	240	eP	Pn	12 38 14.0	-4.0
JMIC	Jan Mayen	6.43	240	Pn	Pn	12 38 14.8	-3.9
	baz=50,slow=18,SNR=6.1						
JMIC				LR	LR	12 40 04.1	
	comp=Z,410nm,18.7s,baz=56,slow=31						
JMIC	Jan Mayen	6.43	240	Pn	Pn	12 38 14.6	-4.1
JMIC	Jan Mayen	6.43	240	eP	Pn	12 38 14.9	-3.7
JMI	Jan Mayen	6.52	240	eP	Pn	12 38 16.0	-3.9
ARA0	ARCESS Array S	7.50	129	Pn	Pn	12 38 32.4	-1.1
	baz=326,slow=12						
ARA0				Sn	Sn	12 39 50.2	-8.2
	baz=332,slow=18						
ARA0	ARCESS Array S	7.50	129	Pn	Pn	12 38 32.4	-1.1
	baz=326,slow=12						
ARA0				Sn	Sn	12 39 50.2	-8.2
	baz=332,slow=18						
ARCES	ARCESS Array B	7.50	129	Pn	Pn	12 38 32.1	-1.3
	baz=332,slow=12,SNR=38						
ARCES				Sn	Sn	12 39 51.8	-6.7
	baz=328,slow=20,SNR=4.5						
ARCES				LR	LR	12 41 50.4	
	comp=Z,203nm,19.6s,baz=325,slow=41						
ARCES	ARCESS Array B	7.50	129	Pn	Pn	12 38 34.7	+1.3
DBG	Daneborg	7.63	279	Pn	Pn	12 38 27.6	-7.6
DBG				Sn	Sn	12 39 44.2	-17
DBG	Daneborg	7.63	279	eP	Pn	12 38 27.9	-7.3
KEV	Kevo	7.64	124	Pn	Pn	12 38 36.2	+0.9
NOR	Nord	8.25	334	Pn	Pn	12 38 39.3	-4.3
NOR	Nord	8.25	334	eP	Pn	12 38 38.4	-5.1
SUMG	Summit	13.07	283	iP	Pn	12 39 44.4	-5.6
SUMG				IAmb	IAmb	12 39 48.1	
	comp=Z,3.4nm,0.8s						
SUMG	Summit	13.07	283	Pn	Pn	12 39 45.8	-4.2
NEEM	North Greenlan	13.86	308	iP	Pn	12 39 55.0	-5.4
NEEM				IAmb	IAmb	12 39 56.8	
	comp=Z,8.0nm,0.5s						
NOA	NORSAR Array B	14.08	175	LR	LR	12 44 57.8	
	comp=Z,54nm,21.2s,baz=350,slow=35						
BORG	Borgarnes	14.33	240	LR	LR	12 43 58.7	
	comp=Z,225nm,21.9s,baz=24,slow=30						
FINES	FINESS Array B	14.97	146	Pn	Pn	12 40 15.5	0.0
	comp=Z,0.1nm,0.3s,baz=339,slow=15,SNR=2.9						
HFS	Hagfors	15.07	170	LR	LR	12 45 39.8	
	comp=Z,72nm,18.7s,baz=352,slow=36						
LSH	Leshukonskoye	15.90	110	P	P	12 40 30.7	-0.5

comp=Z,53nm,1.6s
KLMR Klimovskoe 17.96 125 *e*P **P 12 40 54.0 0.0**
comp=Z,22nm,1.4s
PRGR Permogore 18.64 116 *e*P **P 12 40 58.9 -2.5**
comp=Z,101nm,1.8s
DY2G Dye2 19.19 273 *i* P **Pn 12 41 12.4 +3.7**
DY2G IAmb IAmb 12 41 14.9
comp=Z,8.4nm,0.9s
SFJD Kangerlussuaq 19.92 278 LR LR 12 47 57.4
comp=Z,201nm,19.4s,baz=32,slow=34
KIRV Kirov 22.23 115 LR LR 12 50 25.8
comp=Z,164nm,20.8s,baz=342,slow=37
OBN Obninsk 22.73 136 LR LR 12 51 02.8
comp=Z,28nm,18.2s,baz=22,slow=38
NRIK Noril'sk 23.01 63 P **P 12 41 48.5 -0.1**
NRIK IAmb IAmb 12 42 07.3
comp=Z,12nm,1.1s
RES Resolute Bay 23.84 320 LR LR 12 50 37.8
comp=Z,40nm,20.3s,baz=74,slow=35
RES Resolute Bay 23.84 320 P **P 12 41 58.7 +1.9**
RES IAmb IAmb 12 42 26.0
comp=Z,31nm,1.5s
CLL Collm 23.87 173 P **P 12 41 59.0 +1.7**
OJC Ojcow 25.32 163 P **P 12 42 11.9 +1.4**
OJC IAmb IAmb 12 42 20.6
comp=Z,13nm,1.2s
MORC Moravsky Berou 25.61 167 P **P 12 42 15.4 +2.2**
AKASG Malin Array Be 25.84 149 P **P 12 42 15.8 +0.6**
comp=Z,4.0nm,0.6s,baz=346,slow=9.5,SNR=8.9
AKASG LR LR 12 53 18.7
comp=Z,70nm,18.0s,baz=355,slow=38
AKASG Malin Array Be 25.84 149 P **P 12 42 16.4 +1.2**
AKBB Malin Array Si 25.84 149 P **P 12 42 15.5 +0.4**
AKBB IAmb IAmb 12 42 23.8
comp=Z,6.6nm,0.9s
VRAC Vranov 26.02 168 LR LR 12 52 57.9
comp=Z,47nm,19.1s,baz=354,slow=38
STU Stuttgart 26.34 179 P **P 12 42 20.9 +1.1**
GERES GERESS Array B 26.36 172 P **P 12 42 21.8 +1.8**
comp=Z,0.3nm,0.2s,baz=21,slow=7.9,SNR=5.6
GERES LR LR 12 52 35.2
comp=Z,72nm,19.5s,baz=16,slow=36
GERES GERESS Array B 26.36 172 **P 12 42 21.5 +1.5**
ARU Arti 26.38 107 LR LR 12 53 28.8
comp=Z,94nm,19.4s,baz=294,slow=38
ARU Arti 26.38 107 P **P 12 42 21.6 +1.5**
ARU IAmb IAmb 12 42 42.2
comp=Z,15nm,1.0s
FRB Frobisher Bay 27.06 288 LR LR 12 52 39.4
comp=Z,76nm,18.1s,baz=24,slow=35
BELG Belogornoye 27.51 123 LR LR 12 53 38.4
comp=Z,98nm,21.4s,baz=334,slow=37
PSZ Piszkesteto 27.61 164 P **P 12 42 34.0 +2.6**
PSZ IAmb IAmb 12 42 43.6
comp=Z,8.0nm,1.3s
DAVOX Davos/Dischmat 28.34 178 LR LR 12 52 29.2
comp=Z,35nm,21.5s,baz=285,slow=33
BUR08 Bucovina Ar. S 28.36 156 P **P 12 42 39.6 +1.6**
BURAR Bucovina Array 28.39 156 P **P 12 42 39.5 +1.2**
ZOU Zoufplan 28.62 174 P **P 12 42 40.0 -0.4**
ZOU IAmb IAmb 12 43 05.3
comp=Z,5.2nm,1.0s
TIXI Tiksi 29.03 34 LR LR 12 54 23.9
comp=Z,30nm,19.2s,baz=331,slow=36
MLR Muntele Rosu 30.57 156 LR LR 12 56 32.0
comp=Z,98nm,18.4s,baz=359,slow=39
AKTO Aktyubinsk 31.72 113 P **P 12 43 09.7 +2.1**
comp=Z,2.0nm,0.8s,baz=321,slow=7.5,SNR=5.0
TIRR Tirgusor 31.87 153 P **P 12 43 11.3 +2.4**
MURB Monte Urbino 31.90 175 P **P 12 43 11.4 +2.1**
MURB IAmb IAmb 12 43 19.6
comp=Z,13nm,1.1s
BRVK Borovoye 32.39 97 P **P 12 43 14.2 +0.8**
BVAR Borovoye Array 32.45 97 P **P 12 43 16.2 +2.3**
comp=Z,0.8nm,0.6s,baz=296,slow=11,SNR=4.5
ABKAR Akbulak array 33.28 111 P **P 12 43 23.0 +1.7**
PUK Puka 33.46 165 P **P 12 43 25.0 +2.0**
SCHQ Schefferville 34.38 277 LR LR 12 56 29.6
comp=Z,146nm,18.6s,baz=84,slow=34
FNA Florina 34.82 163 P **P 12 43 34.6 -0.1**
FNA IAmb IAmb 12 43 38.2
comp=Z,5.6nm,0.7s
KBZ Khabaz 34.82 134 LR LR 12 58 25.5
comp=Z,77nm,20.8s,baz=359,slow=37
INK Inuvik 34.92 337 P **P 12 43 36.9 +1.7**
INK IAmb IAmb 12 43 41.8
comp=Z,10nm,1.2s
ZALV Zalesovo Beam 35.36 83 LR LR 13 01 24.3
comp=Z,115nm,18.8s,baz=340,slow=42
BALB Balikesir 36.56 155 P **P 12 43 52.1 +2.5**
BMAR Burnt Mountain 36.77 343 P **P 12 43 52.8 +1.6**
COLD Coldfoot 37.35 347 P **P 12 43 57.5 +1.4**
COLD IAmb IAmb 12 44 04.4
comp=Z,5.7nm,0.9s
H23K Yukon River 38.70 346 P **P 12 44 09.5 +2.0**
H23K IAmb IAmb 12 44 17.0
comp=Z,11nm,1.2s
PRP Porcupine Dome 38.72 343 P **P 12 44 09.1 +1.2**
IMAR Indian Mountai 38.78 349 P **P 12 44 07.9 -0.2**
MDM Murphy Dome 39.47 345 P **P 12 44 15.1 +1.2**
MDM IAmb IAmb 12 44 23.1
comp=Z,8.2nm,1.1s
IL31 39.56 344 P **P 12 44 16.5 +1.9**
IL31 IAmb IAmb 12 44 23.5
comp=Z,7.8nm,1.1s
ILAR Eielson Array 39.56 344 P **P 12 44 15.9 +1.3**
comp=Z,2.1nm,0.8s,baz=3.2,slow=6.5,SNR=17
ILAR Eielson Array 39.56 344 P **P 12 44 16.7 +2.1**
CCB Clear Creek Bu 39.75 344 P **P 12 44 18.0 +1.8**
K27K Chicken 39.91 340 P **P 12 44 19.3 +1.7**
K27K IAmb IAmb 12 44 27.1
comp=Z,13nm,1.4s
HDA Harding Lake 39.92 344 P **P 12 44 18.8 +1.1**
WRH Wood River Hil 39.95 345 P **P 12 44 19.3 +1.5**
WRH IAmb IAmb 12 44 27.1
comp=Z,11nm,1.2s
DOT Dot Lake 40.45 342 P **P 12 44 24.2 +2.1**
DOT IAmb IAmb 12 44 31.5
comp=Z,15nm,1.4s
BPAW Bear Paw Mtn. 40.50 346 P **P 12 44 24.5 +2.0**
BCAR Beaver Creek A 40.83 340 P **P 12 44 26.4 +1.1**
L27K Beaver Creek, 40.84 340 P **P 12 44 27.3 +2.0**
L27K IAmb IAmb 12 44 34.4
comp=Z,9.0nm,1.2s
L26K Log Cabin Wild 41.01 341 P **P 12 44 28.2 +1.5**
L26K IAmb IAmb 12 44 36.5
comp=Z,7.1nm,1.2s
KTH Kantishna Hill 41.04 346 P **P 12 44 28.1 +1.1**
KTH IAmb IAmb 12 44 36.1
comp=Z,14nm,1.1s
MKAR Makanchi Array 41.25 90 P **P 12 44 31.4 +2.5**
comp=Z,1.2nm,1.1s,baz=337,slow=6.3,SNR=4.4
MKAR LR LR 13 04 58.0
comp=Z,84nm,19.2s,baz=330,slow=41
MKAR Makanchi Array 41.25 90 P **P 12 44 28.5 -0.4**
KKAR Karatay Array 41.65 104 P **P 12 44 33.4 +1.3**
SCM Sheep Creek Mo 42.51 343 P **P 12 44 40.5 +1.5**
SCM IAmb IAmb 12 44 47.6
comp=Z,15nm,1.0s
L19K White Mountain 42.63 349 P **P 12 44 41.2 +1.2**
SKT Skwentna 42.65 346 P **P 12 44 40.7 +0.6**
GHO Glory Hole Cre 42.68 344 P **P 12 44 41.3 +0.9**
GHO IAmb IAmb 12 44 48.5
comp=Z,15nm,1.0s
SUA Susitna One 43.11 346 P **P 12 44 45.0 +1.1**
GEYT Alibeck 43.56 119 LR LR 13 05 07.4
comp=Z,72nm,19.7s,baz=315,slow=39
ULM Lac du Bonnet 45.69 300 LR LR 13 04 39.8
comp=Z,97nm,18.4s,baz=320,slow=37
SONM Songino Array 46.38 67 P **P 12 45 12.8 +2.6**
comp=Z,0.4nm,0.4s,baz=341,slow=3.1,SNR=1.9
EDM Edmonton 46.48 315 P **P 12 45 11.7 +1.0**
PETK Petropavlovsk- 50.52 24 LR LR 13 10 17.6
comp=Z,40nm,18.2s,baz=124,slow=40
WALA Waterton Lakes 50.56 314 P **P 12 45 44.3 +1.9**
WALA IAmb IAmb 12 45 48.8
comp=Z,12nm,1.1s
C09A Chrisman Ranch 52.57 317 P **P 12 45 58.6 +1.4**
PGC Sidney 52.62 322 P **P 12 45 59.0 +1.5**
MSO Missoula 52.71 313 P **P 12 45 59.9 +1.5**
P51A Williamsport 52.73 284 P **P 12 45 60.0 +1.4**
GCMT Greycliff 52.87 309 P **P 12 46 00.8 +1.1**
RLMT Red Lodge 53.43 309 P **P 12 46 03.6 -0.3**
RLMT IAmb IAmb 12 46 11.2
comp=Z,4.8nm,1.1s

PDAR Pinedale Array 55.75 308 LR LR 13 10 51.3
comp=Z,92nm,18.1s,baz=11,slow=37
SIUC Southern Illin 55.94 289 P **P 12 46 23.0 +1.1**
HLID Hailey 55.95 313 P **P 12 46 22.1 0.0**
S44A Carbondale 55.97 289 P **P 12 46 24.1 +2.1**
T47A Sharon Grove 56.11 286 P **P 12 46 23.8 +0.7**
T47A IAmb IAmb 12 46 28.4
comp=Z,8.3nm,0.9s
KSRS Korea Array 61.09 52 LR LR 13 16 38.7
comp=Z,36nm,18.4s,baz=359,slow=39
NVAR Mina Array Bea 61.65 314 LR LR 13 13 16.8
comp=Z,96nm,18.7s,baz=308,slow=36
TORD Torodi Ar. Bea 61.98 188 P **P 12 47 04.2 +0.2**
comp=Z,1.6nm,1.1s,baz=6.5,slow=7.4,SNR=3.8
TXAR Lajitas Array 67.39 299 LR LR 13 17 32.7
comp=Z,101nm,18.8s,baz=0.0,slow=36
ASAR Alice Springs 121.54 61 PKP **PKPdf 12 55 36.5 -0.7**
comp=Z,0.4nm,0.8s,baz=357,slow=1.8,SNR=7.2
MAW Mawson 146.47 146 PKPbc **PKiKP 12 56 25.0 -1.2**
comp=Z,1.5nm,0.5s,baz=324,slow=9.4,SNR=3.6
SNAA Sanae 146.65 187 PKPbc **PKPab 12 56 24.5 -0.6**
comp=Z,1.1nm,0.7s,baz=345,slow=3.4,SNR=4.1
SNAA Sanae 146.65 187 **PKPab 12 56 24.3 -0.8**

*ECX **02** 13:10:52.0±0.6, 32°.39N×115°.25W, h7km±1km, MD2.6, ML2.9*
*SCEDC **02** 13:10:52.6, 32°.34N×115°.24W, h5km*
*ANF **02** 13:10:52.8±0.6, 32°.40N×115°.25W, h29km±2km, ML2.4/8, Error ellipse: s-maj=4.5km s-min=2.3km az=169.0*
*MEX **02** 13:10:53.4±1.0, 32°.32N×115°.15W, h3km±262km, MD3.9*
ISC 02 13:10:52.4±0.9, 32°.39N±0°.03×115°.25W±0°.02, h14km±5km, n37, σ0.77/59, 14C-8D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.04**	**67**	*e*P		**Pg**	**13 10 54.8**	**-0.2**
MBIG				*e*P			13 10 54.9	
MBIG				*e*S		**Sg**	**13 10 56.9**	**+0.1**
MBIG				*e*S			13 10 57.0	
CPBX	**Cerro Prieto**	**0.06**	**301**	↑*e*P		**Pg**	**13 10 55.0**	**-0.1**
CPBX				*e*S		**Sg**	**13 10 57.0**	**0.0**
CPBX				IAML			13 11 00.7	
	comp=N,36μm,0.4s							
CPBX				↓*e*			13 11 00.7	
CTLX	**Tlaxcala, TLX**	**0.12**	**46**	↑*e*P		**Pb**	**13 10 56.9**	**+0.4**
GUVIX	**Guadalupe Vict**	**0.17**	**121**	↑*e*P		**Pb**	**13 10 57.6**	**+0.3**
GUVIX				*e*S		**Sb**	**13 11 01.6**	**+1.1**
ZC06	**Zona comercial**	**0.24**	**329**	*e*S		**Sb**	**13 11 04.3**	**+1.6**
UABX	**UABC, Campus M**	**0.29**	**326**	*e*P		**Pb**	**13 11 00.1**	**+0.7**
UABX				*e*S		**Sb**	**13 11 05.7**	**+1.6**
POTX	**Potabilizadora**	**0.29**	**316**	*e*S		**Sb**	**13 11 05.6**	**+1.5**
EMSC	**East Mesa**	**0.41**	**32**	*e*P		**Pb**	**13 11 02.2**	**+0.8**
EMSC				*e*S		**Sb**	**13 11 09.5**	**+1.9**
DREC	**Desert Rsrch C**	**0.45**	**338**	↓*e*P		**Pb**	**13 11 02.9**	**+0.9**
DREC				*e*S		**Sn**	**13 11 11.5**	**-0.7**
SGL	**Mount Signal**	**0.48**	**303**	↑*i*P		**Pb**	**13 11 02.7**	**+0.1**
COA	**Coachella**	**0.48**	**12**	↓*i*P		**Pb**	**13 11 03.3**	**+0.7**
WESC	**Westside Schoo**	**0.55**	**312**	↓*e*P		**Pb**	**13 11 04.6**	**+0.8**
COK2	**Cook Ranch 2**	**0.61**	**319**	*e*P		**Pb**	**13 11 05.0**	**+0.2**
YUH2	**Yuha Desert**	**0.63**	**294**	↓*e*P		**Pg**	**13 11 05.0**	**+0.4**
YUH2				*e*S		**Sb**	**13 11 14.2**	**+0.4**
SWSC	**Sam W. Stewart**	**0.72**	**320**	↑*e*P		**Pg**	**13 11 06.5**	**0.0**
SWSC				*e*S		**Sb**	**13 11 17.4**	**+0.8**
SWSC	**Sam W. Stewart**	**0.72**	**320**	P		**Pg**	**13 11 06.3**	**-0.2**
	baz=142,SNR=10							
SWSC				S		**Sb**	**13 11 16.9**	**+0.4**
	baz=142							
RMX	**La Rumorosa**	**0.73**	**287**	↑*e*P		**Pg**	**13 11 06.0**	**-0.7**
RMX				*e*S		**Sg**	**13 11 15.5**	**-0.9**
GLA	**Glamis**	**0.75**	**28**	↓*e*P		**Pg**	**13 11 07.0**	**+0.1**
GLA				*e*S		**Sb**	**13 11 17.9**	**+0.6**
GLA	**Glamis**	**0.75**	**28**	P		**Pg**	**13 11 07.1**	**+0.1**
	baz=206,SNR=52							
GLA				S		**Sb**	**13 11 18.0**	**+0.6**
	baz=206							
IKP	**In-Ko-Pah, Jac**	**0.77**	**290**	↑*e*P		**Pg**	**13 11 07.7**	**+0.3**
IKP	**In-Ko-Pah, Jac**	**0.77**	**290**	P		**Pg**	**13 11 07.7**	**+0.3**
	baz=113,SNR=32							
IKP				S		**Sb**	**13 11 18.2**	**+0.2**
	baz=113							
CRR	**Carrizo Plain**	**0.79**	**309**	↓*i*P		**Pg**	**13 11 07.7**	**0.0**
MONP2	**Monument Peak**	**1.11**	**297**	P		**Pb**	**13 11 12.8**	**-0.7**
	baz=119,SNR=48							
MONP2				Sb		**Sg**	**13 11 28.4**	**0.0**
	baz=119							
SLH	**Sleepy Hollow**	**1.17**	**314**	↑*e*P		**Pn**	**13 11 13.1**	**-1.1**
CBX	**Cerro Bola**	**1.20**	**267**	*e*P		**Pn**	**13 11 14.9**	**+0.1**
CBX				*e*S		**Sb**	**13 11 30.4**	**0.0**
CBX	**Cerro Bola**	**1.20**	**267**	↑*e*P		**Pn**	**13 11 15.1**	**+0.3**
TJIG	**Tijuana**	**1.21**	**272**	*e*P		**Pn**	**13 11 15.2**	**+0.3**
TJIG				*e*S		**Sb**	**13 11 30.9**	**+0.4**
TJIG	**Tijuana**	**1.21**	**272**	↑*e*P		**Pn**	**13 11 15.3**	**+0.4**
TJIG				*e*S		**Sb**	**13 11 30.9**	**+0.4**
BAR	**Barrett**	**1.24**	**284**	↓*e*P		**Pb**	**13 11 15.9**	**+0.3**
BAR				*e*S		**Sn**	**13 11 32.3**	**+0.5**
BC3	**Big Chuckawall**	**1.27**	**352**	P		**Pn**	**13 11 14.9**	**-1.0**
	baz=172,SNR=12							
BC3				S		**Sb**	**13 11 31.4**	**-1.1**
	baz=172							
MATG	**Mataguay Scout**	**1.43**	**305**	↑*e*P		**Pn**	**13 11 17.4**	**-0.6**
EML	**El Monte Cty P**	**1.44**	**291**	↑*e*P		**Pb**	**13 11 19.5**	**+0.6**
EML				*e*S		**Sb**	**13 11 38.1**	**+1.0**
OLP	**Otay Lakes Par**	**1.44**	**279**	*e*S		**Sb**	**13 11 38.1**	**+0.9**
SDRC	**San Diego Road**	**1.47**	**284**	↓*e*P		**Pb**	**13 11 20.0**	**+0.4**
SDRC				↑*e*			13 11 39.6	
SDRC				IAML			13 11 39.6	
	comp=N,78nm,0.4s							
PFO	**Pinyon Flats O**	**1.59**	**320**	P		**Pn**	**13 11 19.0**	**-1.2**
	baz=141							
PFO				S		**Sn**	**13 11 39.2**	**-1.4**
	baz=141							
109C	**Camp Elliot, M**	**1.65**	**288**	Pb		**Pb**	**13 11 22.6**	**+0.2**
	baz=109							
109C				Sb		**Sb**	**13 11 43.9**	**+0.8**
	baz=109							
214A	**Organ Pipe Nat**	**2.11**	**101**	P		**Pn**	**13 11 26.0**	**-1.3**
	baz=281,SNR=9.1							

*JMA **02** 13:25:03.2, 24°.38N×121°.97E, h29km, M2.4*
*TAP **02** 13:25:03.2, 24°.44N×121°.98E, h12km, ML2.8, C*
ISC 02 13:25:02.7±1.0, 24°.41N±0°.01×122°.03E±0°.02, h9km±8km, n88, σ0.94/165, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.23**	**278**	P		**Pg**	**13 25 07.7**	**+0.3**
	baz=279							
EWUT				S		**Sg**	**13 25 10.4**	**-0.2**
	baz=279							
TWC	**Suao**	**0.26**	**320**	↑*i*P		**Pg**	**13 25 07.9**	**0.0**
	baz=326							
TWC				*i* S		**Sg**	**13 25 10.7**	**-0.7**
	baz=326							
ENA	**Nanau**	**0.27**	**274**	*i* P		**Pg**	**13 25 08.2**	**+0.2**
	baz=273							
ENA				S		**Sg**	**13 25 11.5**	**-0.1**
	baz=273							
NDS	**Dongshan**	**0.36**	**308**	P		**Pg**	**13 25 10.1**	**+0.3**
	baz=308							
NDS				S		**Sg**	**13 25 14.1**	**-0.6**
	baz=308							
ILA	**Ilan**	**0.44**	**324**	P		**Pg**	**13 25 11.7**	**+0.5**
	baz=326							
ILA				*e*S		**Sb**	**13 25 18.3**	**-1.0**
	baz=326							
EGS		**0.44**	**348**	P		**Pg**	**13 25 11.7**	**+0.4**
	baz=346							
EGS				*e*S		**Sg**	**13 25 18.4**	**+1.2**
	baz=346							
ETL	**Fush Village**	**0.45**	**236**	P		**Pb**	**13 25 11.9**	**-0.9**
	baz=231							
ETL				S		**Sg**	**13 25 17.9**	**+0.5**
	baz=231							
TWE	**Neicheng**	**0.45**	**313**	*i* P		**Pg**	**13 25 11.7**	**+0.1**
	baz=318							
TWE				S		**Sg**	**13 25 17.1**	**-0.4**
	baz=318							
NACB	**Ninganchiao**	**0.46**	**239**	P		**Pg**	**13 25 11.9**	**+0.2**
	baz=234							
NACB				S		**Sg**	**13 25 18.3**	**+0.5**
	baz=234							

NTC Toucheng 0.48 337 P **Pg 13 25 12.3 +0.3**
baz=340
NTC eS **Sg 13 25 19.4 +1.1**
baz=340
NDT Datong Townshi 0.51 292 P **Pg 13 25 12.9 +0.4**
baz=290
NDT S **Sg 13 25 19.0 -0.3**
baz=290
TWD Chiawan 0.52 230 *i* P **Pb 13 25 13.1 -0.8**
baz=231
TWD *i* S **Sb 13 25 20.2 -1.3**
baz=231
ETLH Xiulin Townshi 0.54 248 P **Pg 13 25 13.4 +0.2**
baz=244
ETLH S **Sg 13 25 20.6 +0.3**
baz=244
TIPB Shuangxi 0.59 341 P **Pg 13 25 14.3 +0.2**
baz=343
TIPB S **Sg 13 25 22.7 +0.8**
baz=343
TWB1 Santiao Chiao 0.59 356 P **Pb 13 25 15.0 -0.3**
baz=352
TWB1 eS **Sg 13 25 22.1 +0.1**
baz=352
NNS Nan Shan 0.60 273 P **Pg 13 25 14.4 +0.1**
baz=270
NNS S **Sg 13 25 21.7 -0.5**
baz=270
YHNB Yeheng 0.65 293 P **Pg 13 25 15.6 +0.3**
baz=292
YHNB S **Sg 13 25 23.0 -0.8**
baz=292
ETM Tongmen 0.66 228 P **Pg 13 25 15.7 +0.2**
baz=224
ETM eS **Sg 13 25 24.4 +0.3**
baz=224
NSK Sanguang 0.67 293 *e*P **Pg 13 25 15.8 +0.3**
baz=292
NSK eS **Sg 13 25 23.1 -1.3**
baz=292
NWF Wu-fen Shan 0.69 341 P **Pg 13 25 16.6 +0.5**
baz=331
NWF eS **Sg 13 25 25.9 +0.6**
baz=331
WFSB Wu-fen Shan 0.69 341 P **Pg 13 25 16.6 +0.5**
baz=331
WFSB eS **Sg 13 25 26.0 +0.8**
baz=331
TWA Mucha 0.70 324 P **Pb 13 25 16.8 -0.2**
baz=325
TWA eS **Sg 13 25 24.9 -0.4**
baz=325
NHDH Xindian Distri 0.72 320 P **Pb 13 25 17.4 +0.1**
baz=309
NHDH eS **Sg 13 25 25.7 -0.1**
baz=309
FUSS Fushou 0.74 257 P **Pb 13 25 17.2 -0.6**
baz=254
FUSS S **Sg 13 25 26.8 +0.2**
baz=254
TATO Taipei 0.75 319 P **Pb 13 25 17.6 -0.3**
baz=308
TATO eS **Sg 13 25 26.4 -0.5**
baz=308
WHF Hehuan Shan 0.75 249 P **Pg 13 25 17.3 +0.1**
baz=256
WHF S **Sg 13 25 27.1 +0.1**
baz=256
TNOU National Taiwa 0.77 342 P **Pg 13 25 17.2 -0.4**
baz=333
TNOU S **Sg 13 25 27.4 -0.2**
baz=333
TWT Tachien 0.80 259 *e*P **Pn 13 25 19.9 -0.3**
baz=256
TWT eS **Sb 13 25 29.1 -0.6**
baz=256
ESL Shilin 0.81 223 P **Pb 13 25 18.5 -0.4**
baz=225
ESL eS **Sb 13 25 30.1 +0.2**
baz=225
TDCB Techi 0.81 259 *e*P **Pb 13 25 19.0 0.0**
baz=256
TDCB eS **Sg 13 25 28.7 -0.3**
baz=256
JYNG Yonagunijimaku 0.83 87 P **Pb 13 25 19.5 +0.2**
JYNG eS **Sb 13 25 30.4 -0.2**
YM01 YM01 0.84 330 P **Pb 13 25 19.8 +0.2**
baz=330
YM01 eS **Sb 13 25 31.5 +0.5**
baz=330
CHGB Renai 0.86 246 *e*P **Pb 13 25 19.4 -0.5**
baz=254
CHGB eS **Sb 13 25 31.2 -0.4**
baz=254
YM08 YM08 0.87 333 P **Pb 13 25 20.1 +0.1**
baz=333
YM08 eS **Sb 13 25 32.4 +0.6**
baz=333
TWS1 Kuangyinshan 0.88 321 *e*P **Pb 13 25 20.2 0.0**
baz=314
TWS1 eS **Sb 13 25 32.7 +0.6**
baz=314
YOJ Yonaguni jima 0.89 87 P **Pb 13 25 20.5 +0.1**
YOJ eS **Sb 13 25 32.7 +0.3**
YOJ Yonaguni jima 0.89 87 P **Pb 13 25 20.5 +0.1**
baz=75
YOJ eS **Sb 13 25 33.3 +0.9**
baz=75
ANP Anpu 0.90 329 *e*P **Pb 13 25 20.9 +0.3**
baz=316
ANP eS **Sb 13 25 33.5 +0.8**
baz=316
OWD Renai 0.90 240 P **Pb 13 25 20.3 -0.3**
baz=238
OWD eS **Sb 13 25 32.7 -0.1**
baz=238
NJD Zhudong 0.92 291 *e*P **Pg 13 25 19.4 -1.0**
baz=282
NJD eS **Sn 13 25 34.2 -0.8**
baz=282
NTST Danshui 0.92 325 *e*P **Pn 13 25 22.2 +0.4**
baz=324
NTST eS **Sn 13 25 35.3 +0.2**
baz=324
EGFH Guangfu 0.92 217 *e*P **Pb 13 25 20.8 -0.1**
baz=231
EGFH eS **Sn 13 25 33.9 -1.3**
baz=231
TWY Chenhua 0.95 336 *e*P **Pn 13 25 22.0 -0.2**
baz=336
TWY eS **Sb 13 25 34.8 +0.9**
baz=336
NCU National Centr 0.95 306 *e*S **Sb 13 25 34.5 +0.6**
baz=305
NCUH Zhongli 0.95 306 *e*S **Sn 13 25 35.3 -0.5**
baz=305
LIOB Emei 0.95 284 *e*P **Pn 13 25 21.8 -0.4**
baz=283
LIOB eS **Sg 13 25 33.6 +0.1**
baz=283
NSTT Nanjuang 0.96 283 *e*P **Pn 13 25 21.9 -0.5**
baz=282
NSTT eS **Sg 13 25 33.4 -0.4**
baz=282
WHP Taichung City 1.00 263 P **Pn 13 25 22.6 -0.3**
baz=260
WHP S **Sg 13 25 34.8 -0.1**
baz=260
SBCB Hsinchu 1.02 292 *e*S **Sn 13 25 37.6 -0.1**
baz=284
WPL Puli Township 1.06 248 *e*P **Pn 13 25 23.5 -0.2**
baz=245
HGSD Ruisui 1.07 211 P **Pn 13 25 24.4 +0.6**
baz=210
HGSD eS **Sn 13 25 43.4 +4.6**
baz=210
WCS Beigang Elemen 1.08 251 *e*P **Pn 13 25 24.0 0.0**
baz=249
WCS eS **Sn 13 25 38.5 -0.6**
baz=249
EHY Hungye 1.11 216 *e*P **Pn 13 25 24.4 0.0**
baz=212
TWQ1 Liyutan 1.15 267 *e*P **Pn 13 25 25.9 +1.0**
baz=265
TWQ1 eS **Sn 13 25 41.8 +1.0**
baz=265
SMLT Sun Moon Lake 1.16 243 *e*P **Pn 13 25 25.4 +0.2**
baz=249

SMLT				eS	Sn	13 25 40.5	-0.7
	baz=249						
SSLB	Suanglung	1.16	238	P	Pn	13 25 25.2	0.0
	baz=244						
SSLB				S	Sb	13 25 40.2	0.0
	baz=244						
TYC	Yuchr	1.19	245	P	Pn	13 25 25.5	+0.1
	baz=250						
TYC				S	Sb	13 25 39.9	-0.8
	baz=250						
ECBN	Changbin	1.21	206	eS	Sn	13 25 42.6	+0.3
	baz=190						
PCYT	Pengchaiyu	1.21	2	iP	Pn	13 25 25.5	-0.3
	baz=2.0						
PCYT				S	Sb	13 25 41.9	+0.3
	baz=2.0						
YULB	Yu-li	1.22	214	P	Pg	13 25 26.0	-0.1
	baz=213						
YULB				eS	Sn	13 25 43.2	+0.7
	baz=213						
TWF1	Yuli	1.25	213	eP	Pb	13 25 26.2	-0.3
	baz=230						
TWF1				eS	Sn	13 25 45.5	+2.2
	baz=230						
WHYT	Xinyi Township	1.29	237	eP	Pg	13 25 27.8	+0.3
	baz=241						
WHYT				eS	Sg	13 25 43.8	-0.4
	baz=241						
YUS	Yu-Shan	1.35	227	P	Pg	13 25 29.0	+0.4
	baz=227						
YUS				S	Sb	13 25 45.5	-0.5
	baz=227						
FULB	Fuli	1.38	209	P	Pb	13 25 28.2	-0.5
	baz=227						
FULB				eS	Sn	13 25 46.2	-0.5
	baz=227						
ALS	Alishan	1.44	232	eP	Pg	13 25 31.0	+0.7
	baz=232						
ALS				eS	Sg	13 25 52.4	+3.4
	baz=232						
CHN5	Tsauling	1.48	237	P	Pg	13 25 32.3	+1.2
	baz=238						
CHN5				S	Sg	13 25 54.3	+4.0
	baz=238						
WGK	Gukeng	1.52	242	eS	Sg	13 25 51.9	+0.1
	baz=243						
ELDTW	Lidau	1.53	218	eP	Pb	13 25 31.0	-0.3
	baz=208						
ELDTW				eS	Sg	13 25 53.6	+1.7
	baz=208						
IRIF	Iriomote-Funau	1.55	92	P	Pn	13 25 29.9	-0.6
IRIF				S	Sn	13 25 49.7	-1.0
EDH	Donghe	1.58	205	P	Pb	13 25 31.6	-0.5
	baz=193						
EDH				eS	Sb	13 25 51.6	-0.5
	baz=193						
WRL	Guolierlin Hig	1.59	252	eP	Pg	13 25 33.5	+0.2
	baz=264						
WRL				eS	Sg	13 25 55.8	+1.9
	baz=264						
WTK	Tuku	1.67	245	eP	Pg	13 25 34.7	+0.1
	baz=246						
WTK				eS	Sg	13 25 58.9	+2.7
	baz=246						
STYH	Taoyuan	1.69	223	eP	Pb	13 25 33.0	-0.9
	baz=221						
TPUB	Ta-pu	1.69	230	eP	Pb	13 25 34.0	-0.1
	baz=230						
TPUB				eS	Sg	13 25 59.9	+2.7
	baz=230						
WTP	Ta-pu	1.74	228	eP	Pg	13 25 35.7	-0.4
	baz=229						
WTP				eS	Sg	13 26 00.4	+1.7
	baz=229						
LDUT	Ludao	1.81	197	eS	Sb	13 25 58.1	-0.5
	baz=198						
JKRS	Kuro-shima	1.81	95	P	Pn	13 25 34.1	0.0
JKRS				S	Sn	13 25 56.7	-0.5
TWK	Hsinying	1.82	231	eP	Pg	13 25 36.7	-0.8
	baz=233						
TWK				eS	Sg	13 26 00.6	-0.5
	baz=233						
CHN1	Nanshi	1.84	229	eP	Pb	13 25 36.9	+0.3
	baz=231						
CHN1				eS	Sg	13 26 03.2	+1.3
	baz=231						
SLGT	Liugui	1.90	222	eP	Pb	13 25 37.9	+0.4
	baz=224						
SLGT				eS	Sg	13 26 04.5	+0.7
	baz=224						
JIJ	Ishigaki jima	1.93	91	P	Pn	13 25 34.9	-0.7
JIJ				S	Sn	13 25 58.3	-1.7
JISG	Ishigakijimahi	2.08	85	P	Pn	13 25 37.2	-0.6
JISG				S	Sn	13 26 02.8	-1.1
TSMG	Majia	2.12	217	eP	Pb	13 25 40.5	-0.8
	baz=220						
TSMG				eS	Sg	13 26 09.2	-1.7
	baz=220						
MASBT	Mashibuluo	2.20	216	eP	Pb	13 25 42.6	-0.1
	baz=219						
MASBT				eS	Sg	13 26 12.4	-1.2
	baz=219						
PHUB	P'eng-hu	2.42	249	eS	Sb	13 26 14.7	-1.7
	baz=252						
JTJ	Tarama	2.44	84	P	Pn	13 25 43.1	+0.4
JTJ				eS	Sn	13 26 11.7	-1.0
MATB	Ma-tsu	2.56	313	eP	Pn	13 25 46.1	+1.7
	baz=310						
MATB				eS	Sb	13 26 18.9	-1.6
	baz=310						
TWKBT	Hengchun	2.70	205	eS	Sb	13 26 22.4	-2.1
	baz=192						

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*IDC **02** 13:50:01.9±0.9, 36°.51N×98°.46W, h0km, mb1 4.0/6, mb1mx3.6/52, mbtmp3.7/6, ML3.5/6, Error ellipse: s-maj=14.1km s-min=10.9km az=133.0*

*NEIC **02** 13:50:02.4, 36°.48N×98°.50W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.12; $M_{\theta\theta}$2.10; $M_{\phi\phi}$-2.22; $M_{r\theta}$0.06; $M_{\theta\phi}$-0.62; $M_{\phi r}$-0.13; Fault plane solution: $M_0$2.26000×10^{14} NP1:ϕ_s323.01000°, δ89.63000°, λ-3.56000°. NP2:ϕ_s53.03000°, δ86.44000°, λ-179.63000°. Principal axes: T 2.1946, Plg2.0000°, Azm8.0000°; N 0.1200, Plg86.0000°, Azm137.0000°; P -2.3146, Plg3.0000°, Azm278.0000°;*

*ANF **02** 13:50:03.0±0.4, 36°.46N×98°.50W, h7km±3km, ML4.6/17 Error ellipse: s-maj=2.6km s-min=1.9km az=68.0*

*TUL **02** 13:50:02.5±1.0, 36°.49N±0°.03×98°.51W±0°.05, h4km±6km, ML3.8, mb_Lg3.9/99(NEIC), Mwr3.5/51(NEIC), Error ellipse: s-maj=6.4km s-min=4.4km az=116.0*

*NEIC **02** 13:50:02.6±1.1, 36°.47N±0°.03×98°.47W±0°.04, h4km±7km, Error ellipse: s-maj=5.3km s-min=3.8km az=72.0*

ISC 02 13:50:02.5±1.0**, 36°.48N**±0°.02×**98°.43W**±0°.02**, h13**km±8km**, n185, σ1s.32**/197**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CROK	Carrier	0.36	86		Pb	13 50 11.0	+0.1
OK032	Salt Plains WL	0.37	29	Pg	Pg	13 50 10.4	+0.4
U32A	Winter Ranch,	0.47	258		Pg	13 50 10.8	-1.1
U32A	Winter Ranch,	0.47	258	P	Pg	13 50 10.9	-0.9
	baz=74,SNR=464						
U32A				S	Sg	13 50 17.0	-1.1
	baz=74						
GC02	Grant County #	0.59	51		Pg	13 50 14.8	+0.7
KAN14	Manchester OK	0.61	38		Pg	13 50 15.0	+0.6
KAN10	Anthony SW Sta	0.70	23		Pg	13 50 16.4	+0.2
KAN05	Bluff City Nor	0.77	35		Pg	13 50 17.9	+0.4
KAN17	Caldwell West	0.78	43		Pg	13 50 18.1	+0.5
KAN17				Sg	Sg	13 50 28.6	+0.8
KAN08	Anthony NE Sta	0.83	26		Pg	13 50 18.9	+0.2
KAN12	Harper NE Stat	0.89	23		Pg	13 50 19.8	0.0
KAN12				Sg	Sg	13 50 30.6	-0.8
KAN13	South Haven SW	0.93	55		Pg	13 50 21.1	+0.5
BLOK	Blackwell	1.02	74		Pb	13 50 22.7	+0.6
KS20	Mayfield South	1.03	43		Pg	13 50 22.6	+0.2
OK029	Liberty Lake	1.04	130		Pg	13 50 22.9	+0.3
OK009	Oakdale Elemen	1.21	137	Pn	Pg	13 50 26.2	+0.3
OK025	Westminster Rd	1.26	135		Pb	13 50 26.7	+0.5
OKCFA	Oklahoma City	1.33	143		Pn	13 50 27.6	+0.7
OKCFA	Oklahoma City	1.33	143	P	Pb	13 50 27.7	+0.4
	baz=322,SNR=17						
OKCFA				S	Sg	13 50 46.3	+1.0
	baz=322						
OKCSW	OKLAHOMA CITY	1.34	143		Pn	13 50 27.8	+0.8
OK031	S. Brethren Rd	1.39	112		Pb	13 50 28.9	+0.4
QUOK	Quay	1.43	102	Pn	Pb	13 50 29.6	+0.6
FNO	Franklin	1.48	145	Pn	Pb	13 50 30.1	+0.2
T35A	Sooner Cattle	1.60	74		Pb	13 50 32.5	+0.5
T35B	Sooner Cattle	1.60	74	P	Pb	13 50 32.8	+0.8
	baz=256,SNR=385						
T35B				S	Sg	13 50 55.3	+1.1
	baz=256						
WMOK	Wichita Mounta	1.76	189		Pn	13 50 33.6	+0.8
WMOK	Wichita Mounta	1.76	189	P	Pn	13 50 33.6	+0.8
	baz=7.1,SNR=875						
WMOK				S	Sb	13 50 57.2	+0.5
	baz=7.1						
WMOK	Wichita Mounta	1.76	189	P	Pn	13 50 33.6	+0.8
	baz=7.1,SNR=254						
WMOK				S	Sb	13 50 56.8	0.0
	baz=7.1						
X34A	Smith Ranch, M	1.94	165	Pn	Pb	13 50 37.4	-0.3
X34A				IAmb_Lg		13 51 07.9	
	comp=Z,740nm,0.7s						
R32A	Long Quarter,	1.95	354		Pb	13 50 37.2	-0.8
R32A				IAmb_Lg		13 51 08.3	
	comp=Z,579nm,0.8s						
R32A	Long Quarter,	1.95	354	P	Pb	13 50 37.4	-0.7
	baz=175,SNR=165						
R32A				S	Sb	13 51 03.6	+1.2
	baz=175						
TUL1	Leonard	2.21	104	P	Pn	13 50 41.1	+2.1
	baz=286,SNR=75						
TUL1	Leonard	2.21	104	P	Pn	13 50 41.0	+2.0
	baz=286,SNR=79						
CBKS	Cedar Bluff	2.55	336	S	Sn	13 51 16.6	+1.9
	baz=157						
CBKS	Cedar Bluff	2.55	336	P	Pn	13 50 45.2	+1.4
	baz=157,SNR=49						
LOOK	Love County	2.68	157		Pn	13 50 47.2	+1.7
LOOK				IAmb_Lg		13 51 34.3	
	comp=Z,492nm,0.8s						
KSU1	Kansas State U	2.99	28		Pn	13 50 51.0	+1.3
KSU1	Kansas State U	2.99	28	P	Pn	13 50 52.1	+2.4
	baz=210						
KSU1	Kansas State U	2.99	28	P	Pn	13 50 51.9	+2.2
	baz=210,SNR=36						
KSU1				Sb	Sg	13 51 37.2	-1.4
	baz=210						
AMTX	Amarillo	3.09	240	P	Pn	13 50 53.3	+2.1
	baz=57						
X37A	Clayton	3.13	126		Pn	13 50 53.5	+1.9
X37A				IAmb_Lg		13 51 45.3	
	comp=Z,208nm,0.7s						
X37A	Clayton	3.13	126	P	Pn	13 50 53.6	+2.0
	baz=308,SNR=38						
U38A	Gravette	3.26	89		Pn	13 50 55.4	+1.9
U38A				IAmb_Lg		13 51 51.8	
	comp=Z,436nm,1.1s						
Z35A	Perchaven, San	3.29	163	Pn	Pn	13 50 55.2	+1.4
HHAR	Hobbs	3.63	92	Pn	Pn	13 51 00.2	+1.7
HHAR				IAmb_Lg		13 52 00.7	
	comp=Z,274nm,1.1s						
ABTX	Abilene, Hawle	3.97	195	Pn	Pn	13 51 04.0	+0.7
ABTX	Abilene, Hawle	3.97	195	P	Pn	13 51 04.2	+0.9
	baz=13						
ABTX	Abilene, Hawle	3.97	195	P	Pn	13 51 04.3	+1.0
	baz=13						
W39A	Magazine	3.99	107		Pn	13 51 05.1	+1.7
W39A				IAmb_Lg		13 52 17.1	
	comp=Z,229nm,0.7s						
W39A	Magazine	3.99	107	P	Pn	13 51 05.6	+2.2
	baz=290,SNR=9.4						
W39A	Magazine	3.99	107	P	Pn	13 51 05.1	+1.7
	baz=290,SNR=12						
W39A				Sb	Sg	13 52 08.1	-2.5
	baz=290						
KSCO	Kaye Shedlock'	4.18	309	IAmb_Lg		13 52 11.9	
	comp=Z,205nm,0.9s						
KSCO	Kaye Shedlock'	4.18	309	P	Pn	13 51 06.9	+0.8
	baz=126,SNR=18						
KSCO				Sb	Sb	13 52 11.3	+4.8
	baz=126						
S39A	Bolivar	4.26	72		Pn	13 51 08.6	+1.4
S39A				IAmb_Lg		13 52 20.5	
	comp=Z,243nm,0.7s						
Z38A	Mt. Pleasant	4.28	138	Pn	Pn	13 51 08.7	+1.2
Z38A				IAmb_Lg		13 52 28.9	
	comp=Z,194nm,0.7s						
N33B	J Bar K, Exete	4.32	10	P	Pn	13 51 08.7	+0.7
	baz=191						
N33A	J Bar K, Exete	4.32	10		Pn	13 51 08.4	+0.4
N33A				IAmb_Lg		13 52 29.7	
	comp=Z,297nm,1.0s						
MSTX	Muleshoe	4.35	236	Pn	Pn	13 51 08.8	+0.3
MSTX				IAmb_Lg		13 52 29.2	
	comp=Z,260nm,0.7s						
MSTX	Muleshoe	4.35	236	P	Pn	13 51 09.3	+0.9
	baz=53						
MSTX				Sb	Sb	13 52 15.6	+4.3
	baz=53						
MIAR	Mount Ida	4.41	115	Pn	Pn	13 51 10.8	+1.7
MIAR				IAmb_Lg		13 52 35.1	
	comp=Z,239nm,1.1s						
MIAR	Mount Ida	4.41	115	P	Pn	13 51 10.9	+1.7
	baz=297,SNR=27						
MIAR	Mount Ida	4.41	115	P	Pn	13 51 11.0	+1.8
	baz=297,SNR=12						
MIAR				S	Sn	13 52 02.6	+2.2
	baz=297						
U40A	Yellville	4.50	90		Pn	13 51 11.9	+1.4
U40A				IAmb_Lg		13 52 26.5	
	comp=Z,262nm,1.0s						
U40A	Yellville	4.50	90	P	Pn	13 51 11.8	+1.4
	baz=273,SNR=33						
U40A	Yellville	4.50	90	P	Pn	13 51 11.9	+1.4
	baz=273,SNR=46						
WHTX	Lake Whitney,	4.55	169		Pn	13 51 12.3	+1.1
WHTX	Lake Whitney,	4.55	169	P	Pn	13 51 12.6	+1.5
	baz=349,SNR=10.0						
WHTX	Lake Whitney,	4.55	169	P	Pn	13 51 12.2	+1.1
	baz=349,SNR=12						
T25A	Trinidad	4.84	280	IAmb_Lg		13 52 37.0	
	comp=Z,329nm,0.8s						
T25A	Trinidad	4.84	280	P	Pn	13 51 15.7	+0.3
	baz=96,SNR=15						
N35A	Tabor	4.89	26	Pn	Pn	13 51 16.9	+1.1
BGNE	Belgrade	4.93	2	Pn	Pn	13 51 16.9	+0.6
BGNE				IAmb_Lg		13 52 49.4	
	comp=Z,228nm,0.9s						
BGNE	Belgrade	4.93	2	P	Pn	13 51 17.4	+1.0
	baz=183,SNR=23						
BGNE	Belgrade	4.93	2	P	Pn	13 51 17.1	+0.7
	baz=183,SNR=10.0						
BGNE				S	Sn	13 52 14.0	+0.7
	baz=183						
237A	Washetta, Mont	4.97	153	Pn	Pn	13 51 17.9	+1.0
237A				IAmb_Lg		13 52 53.1	
	comp=Z,163nm,0.9s						
P38A	Dawn	4.98	49	Pn	Pn	13 51 18.5	+1.4
P38A				IAmb_Lg		13 52 42.3	
	comp=Z,140nm,0.7s						
X40A	Basin Creek Fa	4.98	112		Pn	13 51 19.1	+2.0
X40A				IAmb_Lg		13 52 50.5	
	comp=Z,128nm,0.7s						
X40A	Basin Creek Fa	4.98	112	P	Pn	13 51 19.2	+2.1
	baz=295,SNR=9.5						
X40A				S	Sn	13 52 16.4	+1.9
	baz=295						
MGMO	Mountain Grove	4.99	80	Pn	Pn	13 51 18.6	+1.4
MGMO				IAmb_Lg		13 52 49.6	
	comp=Z,170nm,0.7s						
WHAR	Wooly Hollow	5.13	102	Pn	Pn	13 51 20.3	+1.2
WHAR				IAmb_Lg		13 53 00.7	
	comp=Z,133nm,0.8s						
FCAR	Ozark Folk Cen	5.14	95		Pn	13 51 20.6	+1.4
FCAR				IAmb_Lg		13 52 49.3	
	comp=Z,136nm,0.8s						
WLAR	White Oak Lake	5.17	121	Pn	Pn	13 51 21.4	+1.7
WLAR				IAmb_Lg		13 52 52.7	
	comp=Z,125nm,0.7s						
W41B	Gary Mavity, V	5.19	103	P	Pn	13 51 21.6	+1.7
	baz=286,SNR=26						
W41B	Gary Mavity, V	5.19	103	P	Pn	13 51 21.3	+1.4
	baz=286,SNR=15						
W41B				S	Sn	13 52 20.9	+1.2
	baz=286						
R40A	Maddies Statio	5.23	68		Pn	13 51 22.0	+1.5
R40A				IAmb_Lg		13 52 50.5	
	comp=Z,157nm,1.0s						
R40A	Maddies Statio	5.23	68	P	Pn	13 51 21.9	+1.5
	baz=252,SNR=19						
OGNE	Ogallala	5.27	329	P	Pn	13 51 22.5	+1.3
	baz=147						
OGNE				S	Sn	13 52 22.0	+0.2
	baz=147						
Z41A	Richland Creek	5.63	123	S	Sn	13 52 31.3	+0.7
	baz=306						
NATX	Nacogdoches	5.65	145	IAmb_Lg		13 53 16.6	
	comp=Z,100nm,0.8s						
NATX	Nacogdoches	5.65	145	S	Sn	13 52 32.7	+1.6
	baz=327						
L34A	Svendsen Farm,	5.71	16		Pn	13 51 26.9	-0.1
435B	Jarrell	5.72	173	Pn	Pn	13 51 27.9	+0.6
435B				IAmb_Lg		13 53 14.0	
	comp=Z,194nm,0.8s						
SDCO	Great Sand Dun	5.79	285	P	Pn	13 51 29.1	+0.6
	baz=101,SNR=20						
Q24A	Divide	5.87	297	P	Pn	13 51 29.7	0.0
	baz=113						
P40A	Paris	5.89	57	Pn	Pn	13 51 30.9	+1.4
LCAR	Lake Charles	5.89	92		Pn	13 51 30.9	+1.3
T42A	Van Buren	5.92	82		Pn	13 51 31.5	+1.6
T42A				IAmb_Lg		13 53 20.9	
	comp=Z,111nm,0.8s						
N38A	Joes South For	5.92	42	Pn	Pn	13 51 31.1	+1.1
CCM	Cathedral Cave	5.94	73	Pn	Pn	13 51 32.1	+1.8
CCM				IAmb_Lg		13 53 14.5	
	comp=Z,216nm,1.0s						
CCM	Cathedral Cave	5.94	73	P	Pn	13 51 32.0	+1.8
	baz=257						
CCM				S	Sn	13 52 39.3	+1.0
	baz=257						
CCAR	Cane Creek	6.02	113	Pn	Pn	13 51 33.0	+1.7
JCT	Junction City	6.09	191	Pn	Pn	13 51 32.9	+0.5
JCT				IAmb_Lg		13 53 21.5	
	comp=Z,208nm,1.0s						
JCT	Junction City	6.09	191	P	Pn	13 51 33.2	+0.8
	baz=9.8						
JCT				S	Sn	13 52 41.9	-0.1
	baz=9.8						
K31A	O'Neill	6.14	358	Pn	Pn	13 51 33.3	+0.2
K31A				IAmb_Lg		13 53 34.7	
	comp=Z,145nm,0.7s						
ISCO	Idaho Springs	6.56	303	Pn	Pn	13 51 38.5	-0.5
ISCO				IAmb_Lg		13 53 31.7	
	comp=Z,145nm,1.0s						
ISCO	Idaho Springs	6.56	303	P	Pn	13 51 39.4	+0.3
	baz=118,SNR=5.5						
LPAR	Lepanto	6.65	95	Pn	Pn	13 51 41.8	+1.9
LPAR				IAmb_Lg		13 53 44.8	
	comp=Z,224nm,0.8s						
ANMO	Albuquerque	6.71	259	Pn	Pn	13 51 42.4	+1.4
	comp=Z,0.6nm,0.3s,baz=69,slow=9.0,SNR=8.8						
ANMO				Pg	Pb	13 52 03.8	+4.7
	comp=Z,1.6nm,0.3s,baz=275,slow=21,SNR=15						
ANMO				Lg	Lg	13 53 29.2	
	comp=Z,7.3nm,0.3s,baz=340,slow=18,SNR=4.3						
ANMO	Albuquerque	6.71	259	P	Pn	13 51 41.5	+0.6
	baz=74						
SCIA	State Center	6.77	35	Pn	Pn	13 51 42.5	+0.9
SCIA				IAmb_Lg		13 53 44.0	
	comp=Z,171nm,0.8s						
SLM	Saint Louis	6.86	69	IAmb_Lg		13 53 43.0	
	comp=Z,210nm,0.8s						
143A	Socs Landing,	6.91	121	IAmb_Lg		13 53 57.4	
	comp=Z,94nm,0.8s						
PENMO	Penman	7.09	88	IAmb_Lg		13 54 01.5	
	comp=Z,207nm,0.8s						
LNXT	Lenox	7.23	90	Pn	Pn	13 51 49.8	+1.8
N41A	Harden Midland	7.28	52	Pn	Pn	13 51 50.0	+1.3
PHWY	Pilot Hill	7.29	313	IAmb_Lg		13 54 10.3	
	comp=Z,134nm,0.9s						
N23A	Red Feather La	7.34	309	P	Pn	13 51 49.9	+0.1
	baz=125						
HALT	Halls	7.37	92	Pn	Pn	13 51 51.8	+1.9
HALT				IAmb_Lg		13 54 12.8	
	comp=Z,131nm,0.8s						
ECSD	EROS Data Cent	7.38	10	Pn	Pn	13 51 49.7	-0.3
ECSD	EROS Data Cent	7.38	10	P	Pn	13 51 49.5	-0.5
	baz=192,SNR=15						
ECSD				S	Sn	13 53 11.8	-1.8
	baz=192						
GLAT	Glass	7.38	89	IAmb_Lg		13 54 10.3	
	comp=Z,152nm,0.8s						
HICK	Hickman	7.41	87	Pn	Pn	13 51 52.3	+1.8
S44A	Carbondale	7.43	78	Pn	Pn	13 51 52.5	+1.7
SIUC	Southern Illin	7.47	78	Pn	Pn	13 51 52.2	+1.0
SIUC				IAmb_Lg		13 54 01.3	
	comp=Z,172nm,0.8s						
MNTX	Cornudas Mount	7.48	232	Pn	Pn	13 51 52.0	+0.6
MNTX				IAmb_Lg		13 54 09.2	
	comp=Z,82nm,0.8s						
MNTX	Cornudas Mount	7.48	232	P	Pn	13 51 51.8	+0.4
	baz=48						
OXF	Oxford	7.62	102		Pn	13 51 53.5	+0.2
OXF				IAmb_Lg		13 54 13.6	
	comp=Z,117nm,1.2s						
OXF	Oxford	7.62	102	P	Pn	13 51 53.5	+0.2
	baz=288						
W45A	Hickory Valley	7.63	97	Pn	Pn	13 51 55.2	+1.8
W45A				IAmb_Lg		13 54 10.3	
	comp=Z,114nm,0.8s						
P43A	Skaggs, Pawnee	7.71	63	Pn	Pn	13 51 56.0	+1.5
Y45A	Yeager Farm, C	7.73	107	IAmb_Lg		13 54 24.7	
	comp=Z,72nm,0.8s						
Q44A	Meyer Farm, Va	7.85	69	Pn	Pn	13 51 57.9	+1.5
L40A	Anamosa	7.89	43	Pn	Pn	13 51 58.3	+1.2
L40A				IAmb_Lg		13 54 18.2	
	comp=Z,98nm,0.8s						
SUSD	Miller	7.96	357		Pn	13 51 58.5	+0.4
SUSD				IAmb_Lg		13 54 17.4	
	comp=Z,94nm,0.8s						
SUSD	Miller	7.96	357	P	Pn	13 51 58.1	+0.1
	baz=177						
SUSD				S	Sn	13 53 26.5	-1.5
	baz=177						
HDIL	Hopedale	8.24	58	Pn	Pn	13 52 03.2	+1.4
HDIL	Hopedale	8.24	58	P	Pn	13 52 02.5	+0.7
	baz=244						
HDIL				S	Sn	13 53 33.8	-0.9
	baz=244						
TX31	Lajitas Ar. Si	8.37	213		Pn	13 52 03.8	0.0
TX32	Lajitas Array	8.37	213		Pn	13 52 03.6	-0.2
TXAR	Lajitas Array	8.37	213	Pn	Pn	13 52 03.2	-0.6
	comp=Z,1.1nm,0.3s,baz=37,slow=11,SNR=66						
TXAR				Lg	Lg	13 54 24.1	
	comp=Z,6.4nm,0.3s,baz=28,slow=24,SNR=12						
TXAR	Lajitas Array	8.37	213	Pn	Pn	13 52 03.8	0.0
I37A	Lemond, Waseca	8.45	26	IAmb_Lg		13 54 36.2	
	comp=Z,168nm,1.1s						
WVT	Waverly	8.57	89	Pn	Pn	13 52 07.4	+1.1
WVT	Waverly	8.57	89	P	Pn	13 52 07.4	+1.1
	baz=276						
RWWY	Rawlins	8.58	310	Pn	Pn	13 52 06.9	+0.2
RWWY				IAmb_Lg		13 54 49.4	
	comp=Z,96nm,1.1s						
RSSD	Black Hills	8.75	332	IAmb_Lg		13 54 43.9	
	comp=Z,105nm,1.0s						
L42A	Oliver, Polo	8.75	48	Pn	Pn	13 52 10.0	+1.2
L42A				IAmb_Lg		13 54 41.9	
	comp=Z,155nm,0.8s						
JFWS	Jewell Farm	9.00	42	Pn	Pn	13 52 13.2	+0.9
JFWS				IAmb_Lg		13 54 53.9	
	comp=Z,132nm,0.7s						
T47A	Sharon Grove	9.11	83		Pn	13 52 14.6	+0.9
F33A	5 Mile Ranch,	9.49	9		Pn	13 52 18.9	-0.1
SFIN	Lafayette	9.71	63	Pn	Pn	13 52 22.2	+0.3
SPMN	Marine on St.	9.72	24	Pn	Pn	13 52 21.9	-0.1
CLTN	Cedars of Leba	9.78	89	Pn	Pn	13 52 24.3	+1.4
F36A	Milaca	10.07	20		Pn	13 52 27.1	+0.2
Y49A	Blount Mountai	10.18	101	Pn	Pn	13 52 30.1	+1.6
U49A	Red Boiling Sp	10.19	86	Pn	Pn	13 52 29.6	+1.1
PD31	Pinedale Array	10.63	310	Pn	Pn	13 52 34.1	-0.7
PDAR	Pinedale Array	10.63	310	Pn	Pn	13 52 34.7	-0.1
	comp=Z,0.1nm,0.3s,baz=134,slow=12,SNR=2.6						
PDAR				Pg		13 53 18.4	
	comp=Z,0.6nm,0.3s,baz=119,slow=15,SNR=7.5						
PDAR				Lg	Lg	13 55 36.2	
	comp=Z,2.7nm,0.3s,baz=110,slow=31,SNR=9.2						
FPAL	Fort Paine	10.63	97	Pn	Pn	13 52 36.0	+1.4
W50A	Signal Mountai	10.73	93	Pn	Pn	13 52 37.2	+1.3
G40A	Rib Lake	10.76	33	Pn	Pn	13 52 36.2	-0.1
CPCT	Cooper Cave	11.32	91	Pn	Pn	13 52 45.1	+1.0
R50A	Paris	11.37	77	Pn	Pn	13 52 45.5	+0.8
V51A	Loudon	11.41	89	Pn	Pn	13 52 46.3	+1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TKL	Tuckaleechee C	11.89	90	Pn	Pn	13 52 51.6	-0.3
	comp=Z,1.2nm,0.3s,baz=248,slow=7.2,SNR=11						
TKL				Lg	Lg	13 56 11.7	
	comp=Z,0.6nm,0.3s,baz=174,slow=20,SNR=4.8						
TKL	Tuckaleechee C	11.89	90	Pn	Pn	13 52 52.8	+1.0
S51A	Beattyville	11.91	80	Pn	Pn	13 52 52.2	0.0
TZTN	Tazewell	11.98	85	Pn	Pn	13 52 54.1	+1.1
N49A	Columbus Grove	11.98	64	Pn	Pn	13 52 52.5	-0.6
V52A	Sevierville	12.01	89	Pn	Pn	13 52 54.2	+0.8
EYMN	Ely	12.55	22	Pn	Pn	13 52 58.5	-2.3
DGMT	Dagmar	12.71	342	Pn	Pn	13 53 02.6	-0.4
214A	Organ Pipe Nat	12.72	253	Pn	Pn	13 53 01.9	-1.4
Q52A	Bidwell	13.04	74	Pn	Pn	13 53 07.7	+0.2
113A	Mohawk Valley,	13.16	258	Pn	Pn	13 53 07.4	-1.8
R53A	Hurricane	13.24	77	Pn	Pn	13 53 10.2	0.0
ULM	Lac du Bonnet	13.89	7	Pn	Pn	13 53 15.5	-3.6
	comp=Z,0.7nm,0.3s,baz=181,slow=9.3,SNR=4.1						
ULM				Sn	Sn	13 55 42.9	-10
	comp=Z,0.5nm,0.3s,baz=265,slow=19,SNR=1.9						
ULM				Lg	Lg	13 57 10.7	
	comp=Z,0.4nm,0.3s,baz=250,slow=9.4,SNR=3.5						
V55A	Taylorsville	13.93	87	Pn	Pn	13 53 19.6	-0.1
KMSC	Kings Mountain	13.94	90	Pn	Pn	13 53 19.6	-0.2
O53A	New Philadelph	14.02	69	Pn	Pn	13 53 19.7	-1.3
EGMT	Eagleton	14.24	328	Pn	Pn	13 53 23.2	-0.8
N53A	Lisbon	14.41	67	Pn	Pn	13 53 24.3	-2.0
R55A	Marlinton	14.67	77	Pn	Pn	13 53 29.0	-0.9
T57A	Hurt	15.39	82	Pn	Pn	13 53 39.3	-0.1
NVAR	Mina Array Bea	15.90	283	Pn	P	13 53 48.8	-1.2
	comp=Z,0.0nm,0.3s,baz=92,slow=12,SNR=2.2						

IDC **02** *13:56:20.9±1.2, 34.°74N×138.°91E, h0^{km}, mb3.5/3, mb1 3.9/3, mb1mx3.4/49, mbtmp3.5/3, MS2.9/3, Ms1 2.9/3, ms1mx2.5/66, Error ellipse: s-maj=53.2km s-min=17.0km az=77.0*

JMA **02** *13:56:22.6±0.1, 34.°85N×139.°28E, h13^{km}±1^{km}, M3.5 Broadband fault plane solution: P waves. NP1: ϕ_s272.00000°, δ78.00000°, λ-169.00000°. NP2: ϕ_s180.00000°, δ79.00000°, λ-12.00000°. Principal axes: T Plg1.0000°, Azm226.0000°; N Plg74.0000°, Azm319.0000°; P Plg16.0000°, Azm136.0000°;*

JMA Felt II J1.

NIED **02** *13:56:22.7, 34.°85N×139.°28E, h13^{km}, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.17; $M_{\theta\theta}$-0.07; $M_{\phi\phi}$0.24; $M_{r\theta}$-0.34; $M_{\theta\phi}$-4.32; $M_{\phi r}$-0.35; Fault plane solution: $M_0$4.35000×10^{14} NP1: ϕ_s1.00000°, δ85.00000°, λ-5.00000°. NP2: ϕ_s91.00000°, δ85.00000°, λ-175.00000°.*

ISC 02 13:56:23.0±0.9, **34.°84N**±0.°04×**139.°24E**±0.°06, **h14**^{km}±6^{km}, **n23**, σ**0.s75**/22, **mb3.7**/3, **1C-5D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KTJ3	Kamata3	0.17	305	⇓P	Pb	13 56 26.8	-1.1
KTJ3				S	Sg	13 56 30.1	+0.3
JIM2	Oshima 3	0.20	127	⇓P	Pg	13 56 27.1	-0.5
AJI	Ajiro2	0.24	330	⇓P	Pg	13 56 28.1	-0.1
JTHY	Toshimahigashi	0.32	172	P	Pb	13 56 30.0	-0.5
JTHY				S	Sb	13 56 35.2	-0.3
JIZS	Izushimoda	0.32	248	⇑P	Pb	13 56 29.9	-0.6
JIZS				eS	Sg	13 56 35.0	+1.0
JOD2	Odawara 2	0.44	344	⇓P	Pg	13 56 31.7	-0.1
JOD2				eS	Sg	13 56 38.2	+0.4
JFNN	Fujinakano	0.57	308	⇓P	Pb	13 56 34.4	-0.5
JFNN				S	Sb	13 56 43.0	+0.1
JKO	Kozu shima	0.66	187	P	Pb	13 56 36.0	-0.3
JHJ	Hachijo jima 2	1.77	165	Pn	Pn	13 56 53.8	+0.5
	143nm,0.3s,baz=9.9,slow=2.6,SNR=62						
JHJ				Sn	Sb	13 57 17.9	+0.4
	105nm,0.3s,baz=21,slow=20,SNR=10						
MJAR	Matsushiro Arr	1.89	334	Pn	Pn	13 56 54.9	0.0
	3.1nm,0.3s,baz=172,slow=13,SNR=119						
MJAR				Sn	Sn	13 57 19.0	+0.3
	8.3nm,0.3s,baz=258,slow=4.2,SNR=8.3						
MJAR				LR	LR	13 57 55.3	
	comp=Z,109nm,20.1s,baz=195,slow=51						
MAT	Matsushiro	1.90	334	P	Pn	13 56 56.1	+1.1
MAT				S	Sb	13 57 20.3	-0.7
JCJ	Chichijima	8.12	161	LR	LR	14 01 40.5	
	comp=Z,33nm,20.8s,baz=104,slow=39						
PETK	Petropavlovsk-	22.47	30	LR	LR	14 10 31.7	
	comp=Z,41nm,19.1s,baz=128,slow=38						
MA2	Magadan	25.88	13	LR	LR	14 13 07.0	
	comp=Z,46nm,18.5s,baz=156,slow=39						
H11N2	WAKE ISLAND Hy	28.70	114	T	T	14 32 12.7	
	baz=308,slow=75,SNR=286						
H11N1	WAKE ISLAND Hy	28.71	114	T	T	14 32 13.6	
	baz=308,slow=75,SNR=220						
H11N3	WAKE ISLAND Hy	28.72	114	T	T	14 32 14.1	
	baz=308,slow=75,SNR=142						
H11S3	WAKE ISLAND Hy	29.31	117	T	T	14 32 59.7	
	baz=310,slow=76,SNR=18						
H11S1	WAKE ISLAND Hy	29.31	117	T	T	14 32 56.7	
	baz=310,slow=76,SNR=31						
H11S2	WAKE ISLAND Hy	29.32	117	T	T	14 32 59.4	
	baz=310,slow=76,SNR=23						
WRA	Warramunga Arr	54.68	186	P	P	14 05 50.5	-1.2
	0.5nm,0.7s,baz=2.8,slow=7.6,SNR=3.2						
ASAR	Alice Springs	58.41	186	P	P	14 06 17.1	-1.1
	0.3nm,0.8s,baz=10,slow=11,SNR=3.5						
NVAR	Mina Array Bea	77.72	52	P	P	14 08 21.1	+1.3
	0.4nm,0.6s,baz=272,slow=6.7,SNR=4.4						

KMA 02 14:00:18.7±2.9, **38.°30N**×**129.°75E**, **h0**^{km}±9^{km}, **Error ellipse: s-maj=25.3km s-min=5.1km az=52.0, Sea of Japan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSJMJ	Jumunjin	0.89	242	P	Pg	14 00 36.1	+0.4
	SNR=83						
KSJMJ	Jumunjin	0.89	242	P	Pg	14 00 36.1	+0.4
	SNR=83						
KSSKC	Sokcho	0.96	270	P	Pg	14 00 37.6	+0.4
	SNR=9.9						
KSSKC	Sokcho	0.96	270	P	Pg	14 00 37.6	+0.4
	SNR=9.9						
KSDGY	Daegwallycong	1.04	235	P	Pg	14 00 39.0	+0.3
	SNR=22						
KSDGY	Daegwallycong	1.04	235	P	Pg	14 00 39.0	+0.3
	SNR=22						
IMWB	Imwonan-gil	1.10	197	P	Pg	14 00 39.5	-0.4
	SNR=8.6						
IMWB	Imwonan-gil	1.10	197	P	Pg	14 00 39.5	-0.4
	SNR=8.6						
SEHB	SEOHWA	1.18	269	P	Pg	14 00 40.8	-0.5
	SNR=46						
SEHB	SEOHWA	1.18	269	P	Pg	14 00 40.8	-0.5
	SNR=46						
KSTBA	Taebaek	1.33	209	P	Pg	14 00 44.1	-0.1
	SNR=9.0						
KSTBA	Taebaek	1.33	209	P	Pg	14 00 44.1	-0.1
	SNR=9.0						
KSCHC	Chuncheon	1.61	252	P	Pn	14 00 47.9	-0.5
	SNR=11						
KSCHC	Chuncheon	1.61	252	P	Pn	14 00 47.9	-0.5
	SNR=11						
KSULJ	Uljin	1.61	190	P	Pb	14 00 49.0	-0.3
	SNR=13						

NEIC **02** *14:01:26.2±0.7, 35.°976N±0.°006×96.°80W±0.°03, h2^{km}±8^{km}, Error ellipse: s-maj=3.8km s-min=0.9km az=96.0*

ANF **02** *14:01:26.5±0.2, 35.°98N×96.°80W, h4^{km}, ML3.9/15, Error ellipse: s-maj=2.4km s-min=1.8km az=158.0*

TUL **02** *14:01:26.2±1.0, 35.°95N±0.°02×96.°78W±0.°03, h4^{km}±6^{km}, ML3.6, mb_Lg3.5/131(NEIC), Mwr3.3/9(SLM), Error ellipse: s-maj=3.8km s-min=1.9km az=108.0*

NEIC **02** *14:01:26.2, 35.°97N×96.°80W, h3^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.00; $M_{\theta\theta}$0.87; $M_{\phi\phi}$-0.87; $M_{r\theta}$0.04; $M_{\theta\phi}$-0.50; $M_{\phi r}$-0.08; Fault plane solution: $M_0$1.01000×10^{14} NP1: ϕ_s60.00000°, δ85.00000°, λ-180.00000°. NP2: ϕ_s330.00000°, δ90.00000°, λ-5.00000°. Principal axes: T 1.0119, Plg4.0000°, Azm15.0000°; N 0.0000, Plg85.0000°, Azm150.0000°; P -1.0119, Plg4.0000°, Azm285.0000°;*

ISC 02 14:01:26.5±0.9, **35.°98N**±0.°02×**96.°79W**±0.°02, **h5**^{km}±7^{km}, **n138**, σ**0.s65**/124, **Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OK031	S. Brethren Rd	0.05	239		Pg	14 01 27.7	0.0
OK031				Sg	Sg	14 01 28.7	+0.1
QUOK	Quay	0.20	19	Pg	Pg	14 01 30.9	+0.4
OK005	Luther M Schoo	0.46	226		Pg	14 01 35.2	-0.1
OK005				Sg	Sg	14 01 41.0	-0.3
OK011	Prague	0.50	170		Pg	14 01 35.9	-0.2
OK011				Sg	Sg	14 01 42.3	-0.2
OK029	Liberty Lake	0.57	252		Pg	14 01 37.4	-0.1
OK001	Jones High Sch	0.58	225	Pg	Pg	14 01 37.4	-0.3
OK025	Westminster Rd	0.60	229		Pg	14 01 37.5	-0.4
OK025				Sg	Sg	14 01 45.5	-0.2
OK009	Oakdale Elemen	0.65	233	Pg	Pg	14 01 38.8	-0.2
OKCSW	OKLAHOMA CITY	0.78	223		Pg	14 01 41.1	-0.4
OKCSW				Sg	Sg	14 01 51.0	-0.6
OKCFA	Oklahoma City	0.78	224		Pg	14 01 40.6	-0.8
OKCFA				IAmb_Lg		14 01 51.2	
	comp=Z,350nm,0.9s						
OKCFA	Oklahoma City	0.78	224	P	Pg	14 01 40.9	-0.6
	baz=45,SNR=12						
OKCFA				S	Sg	14 01 51.6	+0.1
	baz=45						
TUL1	Leonard	0.81	94	P	Pg	14 01 41.4	-0.7
	baz=273,SNR=148						
TUL1				S	Sg	14 01 52.3	-0.3
	baz=273						
TUL1	Leonard	0.81	94	P	Pg	14 01 41.5	-0.6
	baz=273						
TUL1				S	Sg	14 01 52.3	-0.3
	baz=273						
BLOK	Blackwell	0.85	336		Pg	14 01 42.9	0.0
BLOK				Sg	Sg	14 01 54.1	+0.1
FNO	Franklin	0.88	215	Pg	Pg	14 01 42.2	-1.1
T35A	Sooner Cattle	0.96	13	Pg	Pg	14 01 44.8	-0.1
T35A				Sg	Sg	14 01 57.5	+0.1
T35B	Sooner Cattle	0.96	13	P	Pg	14 01 44.9	-0.1
	baz=193						
T35B				S	Sb	14 01 58.1	-0.7
	baz=193						
CROK	Carrier	1.10	299		Pg	14 01 47.2	-0.4
CROK				Sg	Sg	14 02 01.4	-0.5
KAN13	South Haven SW	1.17	332		Pg	14 01 48.8	-0.2
GC02	Grant County #	1.23	316		Pg	14 01 49.5	-0.5
KAN17	Caldwell West	1.32	324		Pn	14 01 51.2	-0.6
KAN14	Manchester OK	1.36	316		Pn	14 01 51.8	-0.5
KS20	Mayfield South	1.39	334		Pn	14 01 52.4	-0.3
KS20				IAmb_Lg		14 02 14.0	
	comp=Z,370nm,0.7s						
OK032	Salt Plains WL	1.41	306		Pn	14 01 52.5	-0.5
KAN05	Bluff City Nor	1.43	323		Pn	14 01 52.5	-0.6
KAN10	Anthony SW Sta	1.55	318		Pn	14 01 54.9	0.0
KAN08	Anthony NE Sta	1.57	323		Pn	14 01 55.3	+0.2
X34A	Smith Ranch, M	1.62	212		Pn	14 01 55.6	-0.1
X34A				IAmb_Lg		14 02 18.3	
	comp=Z,162nm,0.7s						
KAN12	Harper NE Stat	1.64	324		Pn	14 01 56.4	+0.3
X37A	Clayton	1.81	140		Pn	14 01 58.3	0.0
X37A				IAmb_Lg		14 02 25.5	
	comp=Z,310nm,0.7s						
X37A	Clayton	1.81	140	P	Pn	14 01 58.5	+0.1
	baz=320,SNR=66						
X37A				S	Sb	14 02 23.0	0.0
	baz=320						
U32A	Winter Ranch,	1.83	283		Pn	14 01 58.7	-0.1
U32A				IAmb_Lg		14 02 28.9	
	comp=Z,206nm,0.7s						
U32A	Winter Ranch,	1.83	283	P	Pn	14 01 59.0	+0.3
	baz=103,SNR=23						
U32A				Sb	Sg	14 02 24.9	-0.6
	baz=103						
U38A	Gravette	2.00	76		Pn	14 02 01.0	0.0
U38A	Gravette	2.00	76	S	Sb	14 02 29.3	+0.8
	baz=256						
LOOK	Love County	2.01	189		Pn	14 02 00.9	-0.2
LOOK				IAmb_Lg		14 02 29.1	
	comp=Z,148nm,0.8s						
WMOK	Wichita Mounta	2.04	233		Pn	14 02 01.8	+0.2
WMOK				IAmb_Lg		14 02 33.7	
	comp=Z,215nm,0.9s						
WMOK	Wichita Mounta	2.04	233	P	Pn	14 02 02.1	+0.5
	baz=53,SNR=82						
WMOK				S	Sb	14 02 29.4	-0.5
	baz=53						
WMOK	Wichita Mounta	2.04	233	P	Pn	14 02 02.1	+0.5
	baz=53						
WMOK				S	Sb	14 02 29.5	-0.4
	baz=53						
HHAR	Hobbs	2.33	82		Pn	14 02 05.3	-0.2
HHAR				IAmb_Lg		14 02 45.2	
	comp=Z,141nm,0.9s						
W39A	Magazine	2.57	107		Pn	14 02 08.8	+0.1
W39A				IAmb_Lg		14 02 52.5	
	comp=Z,120nm,1.0s						
W39A	Magazine	2.57	107	P	Pn	14 02 08.9	+0.1
	baz=288,SNR=12						
W39A	Magazine	2.57	107	P	Pn	14 02 09.4	+0.6
	baz=288						
Z35A	Perchaven, San	2.67	188		Pn	14 02 09.8	-0.4
Z35A	Perchaven, San	2.67	188	P	Pn	14 02 10.1	-0.1
	baz=8.3,SNR=11						
R32A	Long Quarter,	2.88	328	Pn	Pn	14 02 13.1	-0.1
MIAR	Mount Ida	2.99	118		Pn	14 02 15.0	+0.3
MIAR				IAmb_Lg		14 03 07.3	
	comp=Z,107nm,0.9s						
MIAR	Mount Ida	2.99	118	P	Pn	14 02 15.1	+0.5
	baz=299,SNR=13						
MIAR	Mount Ida	2.99	118	P	Pn	14 02 15.2	+0.5
	baz=299						
Z38A	Mt. Pleasant	3.09	151	Pn	Pn	14 02 15.4	-0.6
Z38A				IAmb_Lg		14 03 09.3	
	comp=Z,159nm,0.7s						
Z38A	Mt. Pleasant	3.09	151	S	Sn	14 02 54.1	+0.7
	baz=332						
KSU1	Kansas State U	3.12	3	Pn	Pn	14 02 16.6	+0.1
KSU1				IAmb_Lg		14 03 12.4	
	comp=Z,80nm,0.8s						
KSU1	Kansas State U	3.12	3	P	Pn	14 02 16.5	+0.1
	baz=182,SNR=6.4						
KSU1	Kansas State U	3.12	3	Pb	Pb	14 02 23.7	+1.1
	baz=182						
KSU1				Sb	Sg	14 03 05.0	-1.8
	baz=182						
U40A	Yellville	3.21	82		Pn	14 02 17.5	-0.1
U40A	Yellville	3.21	82	P	Pn	14 02 18.0	+0.4
	baz=264,SNR=13						
U40A				S	Sn	14 02 56.8	+0.5
	baz=264						
U40A				S	Sn	14 02 56.8	+0.5
	baz=264						
U40A	Yellville	3.21	82	S	Sn	14 02 56.8	+0.5
	baz=264						
S39A	Bolivar	3.26	57	Pn	Pn	14 02 18.7	+0.3
S39A				IAmb_Lg		14 03 16.7	
	comp=Z,83nm,0.7s						
S39A	Bolivar	3.26	57	P	Pn	14 02 19.0	+0.7
	baz=239,SNR=11						
X40A	Basin Creek Fa	3.56	114		Pn	14 02 22.7	+0.3
X40A	Basin Creek Fa	3.56	114	P	Pn	14 02 22.9	+0.5
	baz=296,SNR=25						
X40A	Basin Creek Fa	3.56	114	P	Pn	14 02 23.1	+0.6
	baz=296						
CBKS	Cedar Bluff	3.68	321	Pn	Pn	14 02 24.1	0.0
CBKS	Cedar Bluff	3.68	321	Sb	Sg	14 03 22.1	-2.5
	baz=140						
WHAR	Wooly Hollow	3.73	99		Pn	14 02 24.4	-0.3
WHAR				IAmb_Lg		14 03 29.4	
	comp=Z,83nm,0.8s						
FCAR	Ozark Folk Cen	3.79	90		Pn	14 02 25.2	-0.4
W41B	Gary Mavity, V	3.79	101	P	Pn	14 02 25.5	0.0
	baz=283,SNR=24						
W41B	Gary Mavity, V	3.79	101	P	Pn	14 02 25.7	+0.2
	baz=283						
W41B				S	Sn	14 03 10.9	+0.4
	baz=283						
MGMO	Mountain Grove	3.82	71		Pn	14 02 25.7	-0.4
WHTX	Lake Whitney,	4.01	188	Pn	Pn	14 02 28.3	-0.4
237A	Washetta, Mont	4.05	168	Pn	Pn	14 02 28.7	-0.4
237A				IAmb_Lg		14 03 38.5	
	comp=Z,87nm,1.3s						
ABTX	Abilene, Hawle	4.10	216	Pn	Pn	14 02 29.6	-0.3
AMTX	Amarillo	4.14	256	IAmb_Lg		14 03 45.1	
	comp=Z,153nm,0.9s						
AMTX	Amarillo	4.14	256	Sb	Sb	14 03 33.9	+3.6
	baz=74						
R40A	Maddies Statio	4.29	56		Pn	14 02 32.3	-0.1
R40A				IAmb_Lg		14 03 41.5	
	comp=Z,130nm,0.9s						
P38A	Dawn	4.46	34	Pn	Pn	14 02 34.8	0.0
LCAR	Lake Charles	4.57	87	Pn	Pn	14 02 36.0	-0.3
LCAR				IAmb_Lg		14 03 54.0	
	comp=Z,95nm,0.8s						
T42A	Van Buren	4.71	75	Pn	Pn	14 02 38.0	-0.2
T42A				IAmb_Lg		14 04 02.9	
	comp=Z,106nm,0.9s						
N33A	J Bar K, Exete	4.78	354	Pn	Pn	14 02 38.9	-0.3
N33A				IAmb_Lg		14 04 11.7	
	comp=Z,125nm,0.9s						
CCM	Cathedral Cave	4.90	63	Pn	Pn	14 02 40.9	0.0
CCM				IAmb_Lg		14 04 09.9	
	comp=Z,110nm,0.8s						
N35A	Tabor	4.96	10	Pn	Pn	14 02 41.5	-0.1
N35A				IAmb_Lg		14 04 13.1	
	comp=Z,115nm,0.8s						
HBAR	Harrisburg	5.00	93	IAmb_Lg		14 04 16.9	
	comp=Z,119nm,0.8s						
P40A	Paris	5.17	45	Pn	Pn	14 02 44.7	+0.2
P40A				IAmb_Lg		14 04 17.7	
	comp=Z,134nm,1.1s						
PBMO	Poplar Bluff	5.19	79	IAmb_Lg		14 04 20.8	
	comp=Z,109nm,0.7s						
435B	Jarrell	5.22	188	IAmb_Lg		14 04 22.2	
	comp=Z,54nm,0.9s						
LPAR	Lepanto	5.29	92	IAmb_Lg		14 04 20.2	
	comp=Z,134nm,0.8s						
MSTX	Muleshoe	5.31	250	Pn	Pn	14 02 46.1	-0.5
BGNE	Belgrade	5.53	349	Pn	Pn	14 02 49.1	-0.4
KSCO	Kaye Shedlock'	5.54	305	IAmb_Lg		14 04 34.0	
	comp=Z,57nm,0.8s						
KSCO	Kaye Shedlock'	5.54	305	P	Pn	14 02 51.2	+1.4
	baz=122						
N38A	Joes South For	5.56	29		Pn	14 02 49.9	-0.1
N38A				IAmb_Lg		14 04 33.3	
	comp=Z,92nm,0.8s						
N38A	Joes South For	5.56	29	P	Pn	14 02 50.0	+0.1
	baz=211,SNR=9.0						
PENMO	Penman	5.81	83	IAmb_Lg		14 04 37.0	
	comp=Z,122nm,0.7s						
L34A	Svendsen Farm,	5.99	3	Pn	Pn	14 02 55.6	-0.3
JCT	Junction City	6.04	206	IAmb_Lg		14 04 47.8	
	comp=Z,51nm,0.7s						
OXF	Oxford	6.21	101	Pn	Pn	14 02 58.1	-0.8
OXF				IAmb_Lg		14 04 55.3	
	comp=Z,42nm,0.7s						
T25A	Trinidad	6.24	283	Pn	Pn	14 02 58.8	-0.8
T25A				IAmb_Lg		14 04 56.6	
	comp=Z,44nm,0.8s						
W45A	Hickory Valley	6.25	95	IAmb_Lg		14 05 02.4	
	comp=Z,73nm,0.7s						
S44A	Carbondale	6.28	72	Pn	Pn	14 02 59.9	0.0
Y45A	Yeager Farm, C	6.31	107	IAmb_Lg		14 04 53.6	
	comp=Z,37nm,0.7s						
OGNE	Ogallala	6.44	322	IAmb_Lg		14 05 00.7	
	comp=Z,83nm,0.7s						
SCIA	State Center	6.54	24	Pn	Pn	14 03 03.9	+0.5
SCIA				IAmb_Lg		14 05 00.1	
	comp=Z,50nm,0.8s						
N41A	Harden Midland	6.63	43	Pn	Pn	14 03 04.2	-0.5
K31A	O'Neill	6.81	348	Pn	Pn	14 03 07.1	-0.1
P43A	Skaggs, Pawnee	6.82	55	Pn	Pn	14 03 06.6	-0.5
P43A				IAmb_Lg		14 05 08.5	
	comp=Z,95nm,0.8s						
PLAL	Pickwick Lake	7.18	95	IAmb_Lg		14 05 17.4	
	comp=Z,32nm,0.9s						
WVT	Waverly	7.26	86	IAmb_Lg		14 05 17.7	
	comp=Z,30nm,0.8s						
K38A	Parkersburg	7.35	24	Pn	Pn	14 03 13.9	-0.7
K38A				IAmb_Lg		14 05 30.7	
	comp=Z,48nm,0.9s						
HDIL	Hopedale	7.46	50	Pn	Pn	14 03 15.9	-0.1
L40A	Anamosa	7.46	34	Pn	Pn	14 03 15.6	-0.4
L40A				IAmb_Lg		14 05 28.4	
	comp=Z,52nm,0.9s						
Z47A	Carrollton	7.71	109	IAmb_Lg		14 05 47.4	
	comp=Z,56nm,0.7s						
ECSD	EROS Data Cent	7.75	1	Pn	Pn	14 03 19.0	-1.0
ECSD				IAmb_Lg		14 05 36.5	
	comp=Z,27nm,0.9s						
O44A	Mansfield	7.77	55	IAmb_Lg		14 05 36.2	
	comp=Z,60nm,0.8s						
ISCO	Idaho Springs	7.95	301	Pn	Pn	14 03 22.8	-0.3
V48A	Smith Brothers	8.10	89	IAmb_Lg		14 05 48.9	
	comp=Z,49nm,1.2s						
L42A	Oliver, Polo	8.18	40	Pn	Pn	14 03 25.5	-0.4
L42A				IAmb_Lg		14 05 52.5	
	comp=Z,73nm,0.9s						
I37A	Lemond, Waseca	8.44	17	IAmb_Lg		14 06 05.5	
	comp=Z,68nm,0.8s						
CLTN	Cedars of Leba	8.47	86	IAmb_Lg		14 05 57.8	
	comp=Z,28nm,0.8s						
JFWS	Jewell Farm	8.57	34	IAmb_Lg		14 06 08.6	
	comp=Z,37nm,0.7s						
SUSD	Miller	8.62	350	IAmb_Lg		14 06 01.5	
	comp=Z,67nm,1.1s						
WCI	Wyandotte Cave	8.68	72	IAmb_Lg		14 05 58.0	
	comp=Z,65nm,0.9s						
M44A	Midewin, Midew	8.71	49	IAmb_Lg		14 06 00.5	
	comp=Z,68nm,1.0s						
SWET	Sewanee	8.88	92	IAmb_Lg		14 06 07.4	
	comp=Z,66nm,1.2s						
U49A	Red Boiling Sp	8.91	83	IAmb_Lg		14 06 11.7	
	comp=Z,26nm,0.9s						
I40A	Norwalk	9.21	29	Pn	Pn	14 03 39.1	-0.9
FPAL	Fort Paine	9.25	96	IAmb_Lg		14 06 24.5	
	comp=Z,37nm,0.9s						
K43A	Burlington	9.38	42	IAmb_Lg		14 06 24.4	
	comp=Z,44nm,0.8s						
W50A	Signal Mountai	9.38	91	IAmb_Lg		14 06 23.4	
	comp=Z,44nm,0.8s						
R49A	Shelbyville	9.56	73	IAmb_Lg		14 06 33.4	
	comp=Z,27nm,0.9s						
P48A	Milroy	9.65	65	IAmb_Lg		14 06 28.2	
	comp=Z,46nm,0.7s						
RSSD	Black Hills	9.85	328	IAmb_Lg		14 06 54.1	
	comp=Z,27nm,0.9s						
X51A	Calhoun	9.86	95	IAmb_Lg		14 06 46.7	
	comp=Z,45nm,1.0s						
F33A	5 Mile Ranch,	9.86	2	IAmb_Lg		14 06 44.2	
	comp=Z,23nm,0.9s						
RWWY	Rawlins	9.93	308	IAmb_Lg		14 06 52.7	
	comp=Z,25nm,1.1s						
Z51A	Franklin	9.93	102	Pn	Pn	14 03 48.7	-1.2
I42A	Draeger Farm,	9.95	35	Pn	Pn	14 03 48.9	-1.2
I42A				IAmb_Lg		14 06 53.8	
	comp=Z,33nm,1.0s						
CPCT	Cooper Cave	9.99	89	IAmb_Lg		14 06 44.6	
	comp=Z,24nm,0.8s						
F36A	Milaca	10.18	13	Pn	Pn	14 03 51.6	-1.6

BJI **02** *14:01:24.4±0.0, 11.°99S×166.°95E, h47^{km}, mB5.0/28, mb5.0/48, Ms4.5/5, Ms7 4.2/4*

IDC **02** *14:01:27.6±0.9, 12.°38S×166.°59E, h61^{km}±6^{km}, mb4.2/20, mb1 4.3/22, mb1mx4.1/48, mbtmp4.5/22, MS3.6/18, Ms1 3.6/18, ms1mx3.4/38, Error ellipse: s-maj=20.4km s-min=13.6km az=102.0*

NOU **02** *14:01:28.7, 12.°29S×166.°63E, h68^{km}, MLv5.3/16, Santa Cruz Islands*

NEIC **02** *14:01:28.0±1.6, 12.°36S±0.°07×166.°63E±0.°08, h65^{km}±6^{km}, mb4.9/59, Error ellipse: s-maj=12.1km s-min=9.8km az=95.0*

ISC 02 14:01:27.7±0.6, **12.°35S**±0.°05×**166.°58E**±0.°06, **h66**^{km}±5^{km}, **h66**^{km}**:pP-P, n162**, σ**1.s22**/155, **mb4.8**/67, **2C-1D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	3.13	169		Pn	14 02 14.4	-0.3
SANVU	Saraoutou	3.13	169	P	Pn	14 02 16.5	+1.8
DVP	Devils Point	5.56	164	P	Pn	14 02 50.7	+2.8
HNR	Honiara	7.13	293	P	Pn	14 03 10.7	+1.3
	38nm,0.3s,baz=88,slow=1.2,SNR=16						
HNR				S	Sn	14 04 25.2	-3.9
	40nm,0.3s,baz=37,slow=21,SNR=7.1						
HNR				LR	LR	14 06 04.0	
	comp=Z,187nm,21.8s,baz=116,slow=39						
HNR	Honiara	7.13	293		Pn	14 03 09.8	+0.4
HNR	Honiara	7.13	293	P	Pn	14 03 10.7	+1.3
LIFNC	LIFOU	8.40	176	Pn	Pn	14 03 26.2	-0.6

LIFNC LIFOU 8.40 176 P Pn 14 03 27.6 +0.9
KOUNC Koumac, New Ca 8.44 195 P Pn 14 03 29.5 +2.2
MARNC Mare, Loyalty 9.18 172 Pn Pn 14 03 38.7 +1.3
MARNC Mare, Loyalty 9.18 172 P Pn 14 03 39.5 +2.1
YATNC Mamie plateau, 9.66 178 P Pn 14 03 44.9 +1.0
DZM Mont Dzumac 9.67 181 P Pn 14 03 45.4 +1.3
5.3nm,0.3s,baz=29,slow=2.4,SNR=192
DZM S Sn 14 05 29.6 -1.6
1.5nm,0.3s,baz=298,slow=23,SNR=3.9
DZM Mont Dzumac 9.67 181 Pn 14 03 45.3 +1.2
DZM Mont Dzumac 9.67 181 P Pn 14 03 45.5 +1.3
NOUC Port Laguerre 9.70 182 P Pn 14 03 46.4 +1.9
ONTNC Ouen Toro 9.90 181 Pn 14 03 48.5 +1.2
ONTNC Ouen Toro 9.90 181 P Pn 14 03 49.2 +2.0
OUENC Ouen Island, N 10.01 179 Pn 14 03 50.4 +1.6
OUENC Ouen Island, N 10.01 179 P Pn 14 03 50.9 +2.1
PINNC Pines Island, 10.24 176 Pn 14 03 53.0 +1.1
PINNC Pines Island, 10.24 176 P Pn 14 03 54.9 +3.1
FUNA Funafuti 12.97 74 Pn Pn 14 04 28.3 -1.0
TARA Tarawa 15.00 25 P P 14 05 01.3 +1.3
EIDS Eidsvold 19.54 226 Pn Pn 14 05 51.7 -0.2
PATS Pohnpei 20.76 336 P P 14 06 02.2 -1.1
PATS IAmb IAmb 14 06 05.6
comp=Z,140nm,1.2s
CTA Charters Tower 20.96 246 P P 14 06 06.1 +0.5
comp=Z,3.5nm,0.6s,baz=76,slow=17,SNR=4.1
CTAO Charters Tower 20.96 246 P P 14 06 06.1 +0.5
ARMA Armidale 22.69 215 P P 14 06 24.5 +0.4
ARMA IAmb IAmb 14 06 26.1
comp=Z,26nm,1.3s
COEN Coen 22.85 263 P P 14 06 24.9 -0.8
JAY Jayapura 27.43 289 LR LR 14 18 39.5
comp=Z,67nm,19.9s,baz=146,slow=38
BKZ Black Stump Fm 28.12 164 P P 14 07 13.1 -0.4
BKZ IAmb IAmb 14 07 15.2
comp=Z,35nm,1.4s
BFZ Birch Farm 29.47 165 P P 14 07 23.7 -1.7
BFZ IAmb IAmb 14 07 42.0
comp=Z,29nm,1.4s
MSWZ Moikau Station 29.93 167 P P 14 07 28.0 -1.5
PLWZ Palliser 30.08 167 P P 14 07 30.5 -0.4
STKA Stephens Creek 30.09 226 P P 14 07 32.2 +1.1
comp=Z,3.7nm,0.8s,baz=38,slow=11,SNR=4.6
STKA LR LR 14 18 04.3
comp=Z,177nm,20.3s,baz=29,slow=33
STKA Stephens Creek 30.09 226 P P 14 07 30.9 -0.1
H11S2 WAKE ISLAND Hy 30.65 0 T T 14 42 10.6
baz=184,slow=76,SNR=8.2
H11S3 WAKE ISLAND Hy 30.65 0 T T 14 42 13.3
baz=184,slow=76,SNR=6.1
H11S1 WAKE ISLAND Hy 30.67 0 T T 14 42 12.3
baz=184,slow=76,SNR=6.9
TOO Toolangi 31.41 213 P P 14 07 43.4 +0.8
RPZ Rata Peaks 31.49 174 P P 14 07 43.8 +0.6
RPZ IAmb IAmb 14 08 02.5
comp=Z,17nm,0.9s
WR0 Warramunga Arr 31.65 252 P P 14 07 44.7 -0.2
MQZ McQueen's Vall 31.68 172 P P 14 07 45.3 +0.4
WB2 Warramunga Arr 31.82 252 P P 14 07 45.4 -1.0
WB2 IAmb IAmb 14 07 45.6
comp=Z,12nm,1.4s
WRA Warramunga Arr 31.83 252 P P 14 07 45.5 -1.1
comp=Z,1.5nm,0.6s,baz=77,slow=9.5,SNR=5.4
WRA LR LR 14 21 06.1
comp=Z,63nm,18.1s,baz=200,slow=37
H11N1 WAKE ISLAND Hy 31.87 1 T T 14 43 45.1
baz=184,slow=76,SNR=8.9
H11N3 WAKE ISLAND Hy 31.87 1 T T 14 43 49.6
baz=184,slow=76,SNR=7.7
H11N2 WAKE ISLAND Hy 31.88 1 T T 14 43 45.8
baz=184,slow=76,SNR=10
LBZ Lake Benmore 32.07 175 P P 14 07 48.4 +0.1
LBZ IAmb IAmb 14 07 52.8
comp=Z,55nm,1.5s
ASAR Alice Springs 32.97 245 P P 14 07 55.3 -1.2
comp=Z,3.4nm,0.7s,baz=72,slow=9.7,SNR=26
ASAR LR LR 14 20 07.7
comp=Z,124nm,21.9s,baz=83,slow=34
GUMO Guam 33.58 319 LR LR 14 20 07.2
comp=Z,101nm,20.9s,baz=183,slow=33
BBOO Buckleboo 34.56 229 P P 14 08 10.2 0.0
MTN Manton Dam 34.58 265 P P 14 08 10.5 0.0
MTN IAmb IAmb 14 08 28.3
comp=Z,15nm,1.2s
TAU Tasmania Unive 34.72 205 P P 14 08 11.8 +0.4
TAU IAmb IAmb 14 08 37.6
comp=Z,30nm,1.2s
KNRA Kununurra 36.81 260 P P 14 08 28.8 -0.9
KNRA IAmb IAmb 14 08 48.9
comp=Z,14nm,0.9s
FORT Forrest 39.99 237 P P 14 08 55.2 -1.0
BATI Baumata 42.11 268 LR LR 14 25 24.3
comp=Z,124nm,20.0s,baz=159,slow=34
PPT Papeete 42.60 103 LR LR 14 24 42.1
comp=Z,281nm,19.5s,baz=188,slow=33
KAPI Kappang 46.81 275 LR LR 14 29 07.5
comp=Z,30nm,20.4s,baz=117,slow=36
TOLI2 Tolitoli 47.39 283 P P 14 09 55.5 -0.4
DHH Diamond Head 48.37 47 P P 14 10 01.5 -1.7
NWAO Narrogin (SRO) 49.43 237 LR LR 14 30 51.4
comp=Z,104nm,19.3s,baz=84,slow=36
NWAO Narrogin (SRO) 49.43 237 P P 14 10 11.1 -0.2
NWAO IAmb IAmb 14 10 33.5
comp=Z,31nm,1.4s
MORW Morawa 49.73 242 P P 14 10 13.6 -0.1
MORW IAmb IAmb 14 10 35.6
comp=Z,16nm,1.2s
JAGI Jajag, Banyuwa 51.65 269 P P 14 10 27.3 -1.0
JOW Kunigami 53.86 317 P P 14 10 45.7 +1.3
comp=Z,9.7nm,0.7s,baz=163,slow=3.6,SNR=5.3
JOW Kunigami 53.86 317 P P 14 10 45.9 +1.5
JOW IAmb IAmb 14 10 46.3
comp=Z,14nm,0.8s
JMN Monobe 55.40 327 P P 14 10 55.8 +0.4
MJAR Matsushiro Arr 55.50 332 P P 14 10 55.6 -0.5
comp=Z,3.5nm,0.9s,baz=162,slow=8.0,SNR=7.6
MJAR Matsushiro Arr 55.50 332 P P 14 10 56.1 +0.1
MAJO Matsushiro 55.50 332 P P 14 10 56.3 +0.2
MAJO IAmb IAmb 14 11 02.0
comp=Z,5.5nm,0.9s
MAT Matsushiro 55.50 332 P P 14 10 55.7 -0.4
MJB9 Matsu-Tunnel 55.51 332 P P 14 10 56.5 +0.4
JSU Suzuyama 55.70 322 P P 14 10 58.2 +0.7
JNU Nakatsue 56.61 324 P P 14 11 04.7 +0.6
comp=Z,22nm,0.8s,baz=95,slow=3.8,SNR=8.7
JNU Nakatsue 56.61 324 P P 14 11 04.0 -0.1
JHS Saijyo 56.78 327 P P 14 11 05.8 +0.6
JHS IAmb IAmb 14 11 07.0
comp=Z,17nm,0.9s
YULB Yu-li 56.79 309 P P 14 11 04.9 -0.6
YULB IAmb IAmb 14 11 07.1
comp=Z,8.3nm,1.0s
TPUB Ta-pu 57.25 308 P P 14 11 08.7 0.0
JTM Tenmabayashi 57.91 337 P P 14 11 13.9 +0.9
JTU Tsushima 58.48 324 P P 14 11 16.5 -0.6
ASAJ Asahikawa 60.29 340 P P 14 11 30.7 +1.3
comp=Z,4.1nm,0.5s,baz=236,slow=4.7,SNR=10
KSRS Korea Array 61.41 326 P P 14 11 38.1 +1.0
comp=Z,4.4nm,0.8s,baz=144,slow=7.4,SNR=15
KSRS LR LR 14 36 16.0
comp=Z,26nm,19.4s,baz=139,slow=34
KSAR Wonju Array Be 61.42 325 P P 14 11 36.3 -0.9
KS19 Wonju Array Si 61.48 326 P P 14 11 36.1 -1.6
NJ2 Nanjing 63.52 315 *e*P P 14 11 52.7 +1.4
NJ2 pmax pmax
comp=Z,17nm,0.5s
USA0B Ussuriysk Arra 64.48 333 P P 14 11 57.8 +0.5
USA0B IAmb IAmb 14 11 59.8
comp=Z,9.9nm,0.9s
USRK Ussuriysk Ar. 64.48 333 P P 14 11 58.4 +1.1
comp=Z,6.4nm,0.8s,baz=147,slow=6.7,SNR=13
USRK pP pP 14 12 14.7 +0.5
comp=Z,3.1nm,0.8s,baz=150,slow=5.9,SNR=4.1
USRK Ussuriysk Ar. 64.48 333 P P 14 11 57.4 +0.1
VNDA Vanda 65.21 181 P P 14 12 02.5 +0.8
comp=Z,3.1nm,0.8s,baz=347,slow=7.0,SNR=6.5
VNDA Vanda 65.21 181 P P 14 12 02.0 +0.3
PET Petropavlovsk 65.47 355 P P 14 12 03.6 0.0
PET IAmb IAmb 14 12 14.5
comp=Z,21nm,1.0s
CASY Casey 65.47 202 P P 14 12 02.9 -0.7
SBA Scott Base 65.50 180 P P 14 12 04.4 +0.8
SBA IAmb IAmb 14 12 06.0
comp=Z,13nm,0.9s
PEA0B Petropavlovsk- 65.64 354 P P 14 12 04.3 -0.5
PEA0B IAmb IAmb 14 12 30.6
comp=Z,20nm,1.2s
PETK Petropavlovsk- 65.64 354 LR LR 14 35 30.8
comp=Z,37nm,20.2s,baz=136,slow=31
PETK Petropavlovsk- 65.64 354 P P 14 12 03.8 -1.0
GSTR Great Sitkin T 65.92 12 P P 14 12 05.9 -0.6
CN2 Changchun 67.28 329 *e*P P 14 12 16.4 +1.0
CN2 pmax pmax
comp=Z,20nm,0.7s
SKNT Sakolnakorn 68.37 294 P P 14 12 24.0 +1.2
comp=Z,17nm,0.9s
KLR Kul'dur 68.58 336 P P 14 12 25.0 +1.6
comp=Z,4.9nm,0.7s,baz=135,slow=3.0,SNR=14
RPSI Rantau Prapat 68.83 278 P P 14 12 25.4 -0.4
RPSI IAmb IAmb 14 12 26.2
comp=Z,6.7nm,1.0s
RPSI Rantau Prapat 68.83 278 P P 14 12 25.7 -0.1
PSI Prapat 68.86 278 P P 14 12 25.7 -0.4
comp=Z,3.2nm,0.4s,baz=179,slow=17,SNR=4.3
ENH Enshi 69.35 309 P P 14 12 28.2 -0.5
ENH IAmb IAmb 14 12 29.9
comp=Z,21nm,0.7s
NONG Nongkai 69.50 295 P P 14 12 30.6 +0.8
comp=Z,10µmcomp=Z,18nm,0.9s
BJT Baijiatuau 70.00 321 P P 14 12 33.0 +0.6
BJT IAmb IAmb 14 12 34.4
comp=Z,8.0nm,0.8s
BJI Beijing 70.01 321 P P 14 12 33.5 +1.0
BJI pmax pmax
comp=Z,13nm,0.8s
SLVN Son La 70.05 298 P P 14 12 32.5 -0.7
XAN Xi'an 71.60 312 P P 14 12 43.4 +1.0
XAN pmax pmax
comp=Z,23nm,0.9s
KMI Kunming 72.50 301 ⇑P P 14 12 50.0 +1.9
KMI pP pwP 14 13 07.5 -0.8
KMI pmax pmax
comp=Z,21nm,1.1s
CM04 Chiang Mai Arr 73.33 294 P P 14 12 55.2 +2.3
comp=Z,62nmcomp=Z,6.9nm,1.0s
CM09 Chiang Mai Arr 73.34 294 P P 14 12 55.0 +2.0
comp=Z,75nmcomp=Z,9.7nm,0.9s
HHC Hu-ho-hao-te 73.35 320 *e*P P 14 12 54.2 +1.5
HHC pmax pmax
comp=Z,21nm,1.2s
HHC pmax pmax
comp=Z,130nm,6.2s
HHC LR LR
comp=Z,110nm,16.4s
HHC LR LR
comp=Z,130nm,17.1s
CM01 Chiang Mai Arr 73.36 294 P P 14 12 55.4 +2.3
comp=Z,71nmcomp=Z,9.0nm,0.9s
CM05 Chiang Mai Arr 73.36 294 P P 14 12 55.0 +1.9
comp=Z,50nmcomp=Z,6.1nm,0.9s
CM02 Chiang Mai Arr 73.37 294 P P 14 12 55.3 +2.1
comp=Z,8.0nm,0.9s
CM31 Chiang Mai Arr 73.38 294 P P 14 12 54.3 +1.1
CM31 IAmb IAmb 14 12 55.6
comp=Z,9.6nm,0.9s
CMAR Chiang Mai Arr 73.38 294 P P 14 12 54.2 +1.0
comp=Z,4.9nm,0.8s,baz=122,slow=4.6,SNR=26
CMAR LR LR 14 44 37.9
comp=Z,23nm,20.1s,baz=250,slow=35
CMAR Chiang Mai Arr 73.38 294 P P 14 12 53.4 +0.2
CM15 Chiang Mai Arr 73.40 294 P P 14 12 55.2 +1.9
comp=Z,83nmcomp=Z,8.5nm,1.0s
CM13 Chiang Mai Arr 73.40 294 P P 14 12 55.2 +1.8
comp=Z,58nmcomp=Z,7.3nm,0.9s
CMMT Chiang Mai 73.50 294 P P 14 12 55.6 +1.7
comp=Z,5.9nm,1.2s
CHTO Chiang Mai 73.50 294 P P 14 12 55.7 +1.8
comp=Z,6.0nm,1.2s
CHTO Chiang Mai 73.50 294 P P 14 12 53.8 -0.1
CHTO IAmb IAmb 14 12 55.9
comp=Z,9.8nm,1.4s
HIA Hailar 73.91 330 P P 14 12 56.1 +0.4
HIA IAmb IAmb 14 12 57.4
comp=Z,8.2nm,0.8s
CD2 Chengdu 74.04 307 P P 14 12 57.9 +1.0
CD2 pmax pmax
comp=Z,20nm,0.8s
SEY Seymchan 75.86 353 P P 14 13 06.7 +0.1
comp=Z,1.2nm,0.7s,baz=180,slow=11,SNR=5.3
LZH Lanzhou 76.24 312 ⇓P P 14 13 12.0 +2.4
LZH pmax pmax
comp=Z,34nm,1.3s
LZH pmax pmax
comp=Z,120nm,7.2s
ULN Ulaanbaatar 79.83 324 P P 14 13 29.8 +0.6
ULN IAmb IAmb 14 13 31.2
comp=Z,16nm,0.8s
SONM Songino Array 80.20 324 P P 14 13 31.7 +0.5
comp=Z,4.6nm,0.7s,baz=133,slow=6.0,SNR=17
SONM Songino Array 80.20 324 P P 14 13 31.5 +0.3
SONM IAmb IAmb 14 13 35.0
comp=Z,4.7nm,0.8s
GTA Gaotai 80.55 314 ⇑P P 14 13 34.6 +1.3
GTA pmax pmax
comp=Z,11nm,1.2s
MAW Mawson 83.82 202 P P 14 13 50.2 +0.5
comp=Z,6.0nm,0.8s,baz=109,slow=4.8,SNR=5.6
MAW Mawson 83.82 202 IAmb IAmb 14 13 50.5
comp=Z,2.1nm,0.9s
IL31 84.49 18 P P 14 13 52.0 -1.0
ILAR Eielson Array 84.49 18 P P 14 13 52.0 -1.0
comp=Z,1.4nm,0.6s,baz=240,slow=5.2,SNR=17
ILAR LR LR 14 44 32.5
comp=Z,30nm,21.2s,baz=196,slow=31
NVAR Mina Array Bea 86.24 50 P P 14 14 03.2 +0.6
comp=Z,0.4nm,0.7s,baz=264,slow=8.6,SNR=4.0
NVAR LR LR 14 49 35.9
comp=Z,31nm,18.1s,baz=252,slow=33
WMQ Urumqi 90.59 315 *e*P P 14 14 23.9 +0.9
WMQ pmax pmax
comp=Z,18nm,0.7s
WMQ pmax pmax
comp=Z,39nm,3.6s
INK Inuvik 90.86 19 LR LR 14 52 46.9
comp=Z,39nm,18.2s,baz=74,slow=34
PDAR Pinedale Array 93.83 47 LR LR 14 52 24.0
comp=Z,18nm,18.2s,baz=256,slow=33
MK31 Makanchi Array 95.03 317 P P 14 14 43.3 -0.1
MKAR Makanchi Array 95.03 317 P P 14 14 43.7 +0.3
comp=Z,9.4nm,0.6s,baz=93,slow=6.5,SNR=76
MKAR pP pP 14 14 59.7 -1.3
comp=Z,1.8nm,0.8s,baz=82,slow=9.1,SNR=3.5
MKAR PKKP PKKPbc 14 31 36.6 -3.3
comp=Z,0.7nm,0.6s,baz=283,slow=3.4,SNR=6.2
MKAR Makanchi Array 95.03 317 P P 14 14 43.3 0.0
ZAA0 Zalesovo Array 95.09 324 P P 14 14 41.3 -2.1
ZAA0 IAmb IAmb 14 14 43.5
comp=Z,3.8nm,0.8s
ZALV Zalesovo Beam 95.09 324 P P 14 14 42.1 -1.3
comp=Z,3.3nm,0.7s,baz=106,slow=4.8,SNR=8.7
ZALV LR LR 14 56 01.8
comp=Z,25nm,20.4s,baz=84,slow=34
ZALV Zalesovo Beam 95.09 324 P P 14 14 41.6 -1.8
MAKZ Makanchi 95.24 317 P P 14 14 43.8 -0.5
SNAA Sanae 95.87 183 P P 14 14 45.7 -1.1
SNAA Sanae 95.87 183 P P 14 14 45.1 -1.7
SNAA IAmb IAmb 14 14 46.7
comp=Z,5.4nm,1.1s
VNA3 Neumayer Olymp 96.56 181 P P 14 14 48.4 -1.5
VNA2 Neumayer--Watz 96.82 182 P P 14 14 49.9 -1.1
baz=176,slow=4.3
VNA1 Neumayer--Stat 97.12 182 P P 14 14 51.5 -0.8
ARCES ARCESS Array B 117.80 346 PKP PKPdf 14 20 05.6 -0.5
comp=Z,1.7nm,0.6s,baz=69,slow=2.1,SNR=15
KBZ Khabaz 122.64 314 PKP PKiKP 14 20 16.8 +0.5
comp=Z,1.5nm,0.6s,baz=91,slow=3.3,SNR=4.4
FINES FINESS Array B 123.28 339 PKP PKPdf 14 20 16.4 -0.3
comp=Z,3.3nm,0.9s,baz=129,slow=2.7,SNR=4.8
CLL Collm 135.62 336 *e*PKiKP PKiKP 14 20 44.0 +1.9
CLL *i* pPKiKP pPKiKP 14 21 02.0 +1.5
KEST Kesra 148.95 322 PKPbc PKPbc 14 21 09.3 +0.6
comp=Z,5.8nm,0.6s,baz=321,slow=6.4,SNR=8.8
ESDC Sonseca Array 151.53 345 PKPbc PKiKP 14 21 15.1 -0.1
comp=Z,0.1nm,0.3s,baz=345,slow=2.9,SNR=5.6
ESDC PKPab PKPab 14 21 24.3 +1.1
comp=Z,0.8nm,0.5s,baz=12,slow=4.2,SNR=7.7
ESDC pPKPbc pPKPbc 14 21 33.0 -0.2
comp=Z,1.7nm,0.9s,baz=340,slow=2.4,SNR=5.0
TORD Torodi Ar. Bea 165.24 275 PKPab PKPab 14 22 23.4 +0.1
comp=Z,3.5nm,1.0s,baz=94,slow=4.8,SNR=10.0
TORD pPKPab pPKPab 14 22 40.3 -0.3
comp=Z,1.3nm,0.9s,baz=33,slow=2.7,SNR=3.5
TORD Torodi Ar. Bea 165.24 275 PKPab 14 22 23.2 -0.1

DJA ***02*** *14:02:14.8±0.6, 2°N±7°×12°8E±°, h172km±6km, M4.5/8, mb4.7/6, mB5.0/5, MLv4.6/8, Mw(mB)4.3/5*
NEIC ***02*** *14:02:17.4±1.6, 1°.77N±0°.05×127°.56E±0°.09, h175km±7km, mb4.5/20, Error ellipse: s-maj=15.0km s-min=4.0km az=117.0*
IDC ***02*** *14:02:24.9±5.5, 1°.64N×127°.33E, h256km±55km, mb3.7/6, mb1 3.9/7, mb1mx3.3/53, mbtmp4.3/7, MS3.3/1, Ms1 3.3/1, ms1mx2.4/52, Error ellipse: s-maj=51.0km s-min=14.4km az=62.0*
ISC 02 14:02:16.1±0.9, **1°.80N**±0°.08×**127°.49E**±0°.08, **h172**km±7km, **n48**, σ**1s.26**/50, **mb4.5**/13, **Halmahera**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
GAMI Galela, Maluku 0.30 82 P Pn 14 02 38.8 -0.6
TNTI Ternate 1.02 187 Pn 14 02 44.6 +1.3
TNTI Sn Sn 14 03 05.0 +0.7
TNTI Ternate 1.02 187 P Pn 14 02 43.5 +0.2
MNI Manado 2.67 263 P Pn 14 03 01.0 +0.6
MNI S Sn 14 03 35.3 +0.5
SGSI Sangihe 2.71 314 P Pn 14 02 57.3 -3.7
SANI Sanana 4.10 201 P Pn 14 03 18.6 +0.3
GTOI Gorontalo 4.62 256 P Pn 14 03 27.9 +2.9
MRSI Marisa 5.70 257 P Pn 14 03 41.3 +2.2
1.0nm3µm225nm,0.6s
APSI Ampana 6.43 245 P Pn 14 03 49.6 +0.9
0.5nm2µm94nm,0.5s
TOLI2 Tolitoli 6.74 264 Pn Pn 14 03 54.2 +1.3
MPSI Mapaga 7.72 259 P Pn 14 04 05.2 -0.7
0.1nm28nm,1.0s
TTSI Tana Toraja 9.05 238 P Pn 14 04 24.3 +0.9
963nm76nm,0.7s
BNSI Bone 9.61 230 P Pn 14 04 29.0 -1.7
24nm,0.7s
KAPI Kappang 10.27 229 P P 14 04 45.1 -3.1
2.4nm,0.3s,baz=11,slow=5.2,SNR=4.5
KAPI Kappang 10.27 229 Pn 14 04 42.4 +3.0
SOEI Soe 11.91 196 Pn 14 05 00.9 0.0
SOEI Soe 11.91 196 P Pn 14 04 59.5 -1.4
2µm105nm,0.4s
MTN Manton Dam 14.99 166 Pn Pn 14 05 38.6 -0.8
JAGI Jajag, Banyuwa 16.75 232 P Pn 14 06 03.0 +2.0
JAGI IAmb IAmb 14 06 04.2
comp=Z,43nm,1.1s
KNRA Kununurra 17.41 176 P P 14 06 08.4 +1.0
KNRA IAmb IAmb 14 06 09.3
comp=Z,17nm,0.5s
LEM Lembang 21.60 246 LR LR 14 15 31.9
comp=Z,91nm,20.9s,baz=344,slow=37
WB0 Warramunga Arr 22.47 163 P P 14 07 01.0 -0.2
WB0 IAmb IAmb 14 07 01.7
comp=Z,11nm,0.8s
WRAB Tennant Creek 22.62 163 P P 14 07 02.7 +0.2
WRAB IAmb IAmb 14 07 03.2
comp=Z,7.9nm,0.6s
WRA Warramunga Arr 22.62 163 P P 14 07 02.7 +0.1
comp=Z,4.3nm,0.4s,baz=338,slow=11,SNR=60
WRA Warramunga Arr 22.62 163 P P 14 07 02.0 -0.6
WB2 Warramunga Arr 22.63 163 P P 14 07 02.3 -0.3
WB2 IAmb IAmb 14 07 03.3
comp=Z,7.3nm,0.6s
WR0 Warramunga Arr 22.70 163 P P 14 07 02.9 -0.4
ANA2 Anatahan 23.04 50 P P 14 07 07.7 +1.2
PSA00 Pilbara Seismi 24.40 197 P P 14 07 17.7 -0.9
PSA00 IAmb IAmb 14 07 19.6
comp=Z,26nm,1.4s
AS31 Alice Springs 26.07 167 P P 14 07 34.0 +0.2
ASAR Alice Springs 26.07 167 P P 14 07 34.0 +0.2
comp=Z,0.9nm,0.3s,baz=341,slow=7.0,SNR=42
ASAR PcP PcP 14 10 57.0 -0.1
comp=Z,0.5nm,0.4s,baz=358,slow=2.3,SNR=5.4
ASAR Alice Springs 26.07 167 P P 14 07 34.1 +0.3
MNSI Mandailing Nat 27.92 268 P P 14 07 29.2 -21
FORT Forrest 32.40 179 P P 14 08 29.6 0.0
MORW Morawa 32.59 199 P P 14 08 31.6 +0.2
MORW IAmb IAmb 14 08 54.1
comp=Z,18nm,1.3s
BBOO Buckleboo 35.36 167 P P 14 08 55.5 +0.3
NWAO Narrogin (SRO) 35.87 195 P P 14 09 00.1 +0.5
NWAO IAmb IAmb 14 09 01.8
comp=Z,22nm,1.4s
STKA Stephens Creek 36.06 159 P P 14 09 01.8 +0.6
comp=Z,2.8nm,0.3s,baz=331,slow=9.6,SNR=14
STKA Stephens Creek 36.06 159 P P 14 09 01.8 +0.6
ARMA Armidale 39.45 146 P P 14 09 30.4 +0.6
ARMA IAmb IAmb 14 09 42.7
comp=Z,16nm,1.2s
MK31 Makanchi Array 59.57 326 P P 14 12 02.1 +0.5
MKAR Makanchi Array 59.57 326 P P 14 12 02.2 +0.6
comp=Z,2.0nm,0.3s,baz=113,slow=8.0,SNR=42
MKAR PcP PcP 14 12 45.9 -1.2
comp=Z,0.5nm,0.5s,baz=125,slow=7.3,SNR=4.8
MKAR Makanchi Array 59.57 326 P P 14 12 01.9 +0.3
LBZ Lake Benmore 59.67 146 P P 14 12 02.3 0.0
RPZ Rata Peaks 59.75 145 P P 14 12 03.8 +0.9
SEY Seymchan 63.74 12 P P 14 12 30.3 +1.2
comp=Z,0.5nm,0.3s,baz=224,slow=3.6,SNR=4.1
ABKAR Akbulak array 74.12 321 P P 14 13 33.1 -0.4
ARCES ARCESS Array B 92.51 340 P P 14 15 06.3 -1.1
comp=Z,4.4nm,1.1s,baz=77,slow=5.2,SNR=5.4

IDC 02 14:10:17.0±5.4, **6°.68S**×**129°.76E**, **h130**km±70km, **mb3.0**/1, **mb1 3.1**/4, **mb1mx2.9**/47, **mbtmp3.4**/4, **Error ellipse: s-maj=129.9km s-min=25.0km az=80.0, Banda Sea**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
SIJI Sorong 5.97 15 P Pn 14 11 43.4 +0.3
1.2nm,0.3s,baz=181,slow=23,SNR=24
SIJI S Sn 14 12 47.1 -3.3
2.5nm,0.3s,baz=237,slow=23,SNR=9.4
WRA Warramunga Arr 13.91 162 P Pn 14 13 27.0 -1.7
0.1nm,0.3s,baz=343,slow=13,SNR=2.2
ASAR Alice Springs 17.35 167 P Pn 14 14 12.2 +0.9
0.2nm,0.3s,baz=345,slow=10.0,SNR=16
MKAR Makanchi Array 67.83 327 P P 14 21 00.9 -0.3
0.2nm,0.5s,baz=111,slow=6.9,SNR=2.1

SNET ***02*** *14:13:33.3±1.6, 14°.00N×89°.91W, h6km±6km, ML3.3*
GCG ***02*** *14:13:35.6±0.4, 14°.03N×90°.03W, h36km±32km, MD3.3*
ISC 02 14:13:34.0±1.1, **14°.00N**±0°.05×**89°.91W**±0°.04, **h13**km±8km, **n16**, σ**0s.70**/23, **2C-2D, El Salvador**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
SLOZ Alcaldia de Sa 0.12 75 ⇑*i*P Pg 14 13 37.0 -0.4
SLOZ *e*S Sg 14 13 40.0 +0.3
SLOZ IAML 14 13 42.2
comp=Z,13µm,0.6s
SBLS San Blas 0.32 119 *i* P Pg 14 13 40.3 -0.3
SNJE San Jose 0.32 113 ⇓*i*P Pg 14 13 40.4 -0.2
CEVE Cerro Verde 0.32 121 *i* P Pg 14 13 40.5 -0.3
CEVE *e*S Sg 14 13 46.4 +1.2
CEVE IAML 14 13 50.0
comp=Z,4µm,0.3s
BOQS Boqueron 0.66 113 *e*P Pg 14 13 46.8 -0.2
MTO3 Montecristo 0.66 53 ⇑*i*P Pg 14 13 46.5 -0.6
MTO3 *e*S Sg 14 13 56.2 +0.4
NBG Las Nubes 0.73 324 *e*P Pg 14 13 47.7 -0.6
NBG *e*S Sb 14 13 59.3 +0.5
PCG Pacaya 0.79 300 *e*P Pb 14 13 49.4 -0.4
LBRS Las Brisas 0.88 107 *e*P Pb 14 13 50.2 -0.9
LFRS El Faro 0.90 114 *e*P Pb 14 13 50.6 -1.0
SJTE Alcalda de S 0.95 113 *e*P Pb 14 13 51.5 -0.9
SJTE *e*S Sb 14 14 05.6 +0.6
PAVA Las Pavas 0.98 106 *e*P Pb 14 13 52.5 -0.4
PAVA *e*S Sb 14 14 06.7 +0.8
FUG Fuego 3 1.01 296 *e*P Pb 14 13 53.3 -0.3
COEG Centro de Oper 1.06 110 *e*P Pb 14 13 53.8 -0.5
COEG IAML 14 14 02.1
comp=Z,353nm,0.3s
MRL Marmol 1.10 11 ⇓*i*P Pb 14 13 54.2 -0.9
MRL Marmol 1.10 11 *e*P Pb 14 13 55.1 0.0
MRL *e*S Sb 14 14 10.5 +1.1

NEIC ***02*** *14:25:30.3±0.7, 25°.1S±0°.1×179°.9E±0°.1, h489km±10km,*

mb4.2/21, Error ellipse: s-maj=18.9km s-min=17.3km az=155.0

*IDC **02** 14:25:30.2±5.0, 25°.05S×179°.90E, h492km±46km, mb3.4/6, mb1 3.6/7, mb1mx3.2/36, mbtmp4.2/7, Error ellipse: s-maj=77.0km s-min=22.7km az=149.0*

ISC 02 14:25:30.8±0.7**, 25°.1S**±0°.1×**179°.89E**±0°.10**, h501km, n35, σ0.90**/34**, mb4.1**/16**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.61**	**155**	P	**P**	**14 26 53.0**	**-1.3**
MSVF	**Nonsavu**	**7.49**	**346**	P	**P**	**14 27 21.0**	**-1.3**
	0.6nm,0.3s,baz=111,slow=19,SNR=7.3						
MSVF	**Nonsavu**	**7.49**	**346**	P	**P**	**14 27 20.7**	**-1.6**
MARNC	**Mare, Loyalty**	**11.47**	**286**	P	**P**	**14 28 04.6**	**+0.8**
TUWZ	**Tuamarina**	**17.06**	**195**	P	**P**	**14 29 01.9**	**-0.2**
PPTF	**Pamatai, Papee**	**29.36**	**81**	P	**P**	**14 30 52.5**	**-0.3**
CTA	**Charters Tower**	**31.40**	**272**	P	**P**	**14 31 11.0**	**+0.6**
	8.3nm,0.4s,baz=97,slow=11,SNR=24						
CTAO	**Charters Tower**	**31.40**	**272**	P	**P**	**14 31 10.9**	**+0.6**
CTAO				IAmb	IAmb	14 31 11.7	
	comp=Z,11nm,0.8s						
TOO	**Toolangi**	**31.75**	**239**	P	**P**	**14 31 13.8**	**+0.6**
RABL	**Rabaul**	**33.77**	**303**	P	**P**	**14 31 29.8**	**-0.8**
STKA	**Stephens Creek**	**34.21**	**250**	P	**P**	**14 31 33.5**	**-0.6**
	comp=Z,1.3nm,0.4s,baz=99,slow=12,SNR=6.1						
COEN	**Coen**	**36.22**	**281**	P	**P**	**14 31 51.5**	**+0.4**
COEN				IAmb	IAmb	14 31 52.0	
	comp=Z,5.1nm,0.9s						
BBOO	**Buckleboo**	**38.91**	**248**	P	**P**	**14 32 13.0**	**+0.1**
AS31	**Alice Springs**	**41.76**	**262**	P	**P**	**14 32 35.4**	**-0.5**
ASAR	**Alice Springs**	**41.76**	**262**	P	**P**	**14 32 36.0**	**0.0**
	comp=Z,1.1nm,0.4s,baz=95,slow=7.3,SNR=51						
ASAR	**Alice Springs**	**41.76**	**262**	P	**P**	**14 32 35.4**	**-0.6**
WR0	**Warramunga Arr**	**42.05**	**267**	P	**P**	**14 32 37.5**	**-0.8**
WR0				IAmb	IAmb	14 32 38.5	
	comp=Z,5.5nm,1.1s						
WB2	**Warramunga Arr**	**42.23**	**267**	P	**P**	**14 32 39.1**	**-0.6**
WB2				IAmb	IAmb	14 32 39.8	
	comp=Z,5.9nm,0.9s						
WRAB	**Tennant Creek**	**42.23**	**267**	P	**P**	**14 32 38.9**	**-0.8**
WRAB				IAmb	IAmb	14 32 39.4	
	comp=Z,5.3nm,0.5s						
WB0	**Warramunga Arr**	**42.24**	**268**	P	**P**	**14 32 39.0**	**-0.7**
WB0				IAmb	IAmb	14 32 39.8	
	comp=Z,6.5nm,0.8s						
WRA	**Warramunga Arr**	**42.24**	**267**	P	**P**	**14 32 39.1**	**-0.6**
	comp=Z,3.6nm,0.4s,baz=102,slow=7.6,SNR=117						
WRA	**Warramunga Arr**	**42.24**	**267**	P	**P**	**14 32 39.0**	**-0.7**
FORT	**Forrest**	**45.82**	**251**	P	**P**	**14 33 07.0**	**-0.4**
MTN	**Manton Dam**	**47.45**	**275**	P	**P**	**14 33 19.1**	**-0.9**
MTN				IAmb	IAmb	14 33 19.6	
	comp=Z,13nm,1.1s						
KNRA	**Kununurra**	**48.59**	**271**	P	**P**	**14 33 28.2**	**-0.3**
KNRA				IAmb	IAmb	14 33 29.0	
	comp=Z,14nm,1.0s						
PSA00	**Pilbara Seismi**	**54.87**	**260**	P	**P**	**14 34 12.9**	**-0.9**
PSA00				IAmb	IAmb	14 34 19.2	
	comp=Z,17nm,1.1s						
MORW	**Morawa**	**56.39**	**251**	P	**P**	**14 34 24.0**	**-0.3**
MORW				IAmb	IAmb	14 34 45.9	
	comp=Z,15nm,1.3s						
CASY	**Casey**	**59.03**	**206**	P	**P**	**14 34 42.8**	**+1.2**
TOLI2	**Tolitoli**	**62.78**	**285**	P	**P**	**14 35 06.9**	**-0.3**
TOLI2				IAmb	IAmb	14 35 07.7	
	comp=Z,5.0nm,0.9s						
ADK	**Adak**	**76.67**	**2**	P	**P**	**14 36 31.7**	**+2.3**
CMAR	**Chiang Mai Arr**	**89.83**	**290**	P	**P**	**14 37 37.8**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=144,slow=4.4,SNR=4.0						
CMAR	**Chiang Mai Arr**	**89.83**	**290**	P	**P**	**14 37 36.2**	**0.0**
TXAR	**Lajitas Array**	**91.13**	**58**	P	**P**	**14 37 43.1**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=207,slow=5.3,SNR=4.0						
TXAR	**Lajitas Array**	**91.13**	**58**	P	**P**	**14 37 41.9**	**-0.2**
HFS	**Hagfors**	**143.66**	**348**	PKP	PKPab	14 44 05.1	-1.3
	comp=Z,1.4nm,0.8s,baz=42,slow=2.3,SNR=6.6						

KMA 02 14:26:55.8±1.0**, 33°.27N×127°.04E, h20km**±3km**, Error ellipse: s-maj=11.3km s-min=4.4km az=148.0, South Korea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSSSP	**Seongsanpo**	**0.18**	**311**	P	Pg	14 27 00.6	-0.1
	SNR=14						
KSSSP	**Seongsanpo**	**0.18**	**311**	P	Pg	14 27 00.6	-0.1
	SNR=14						
KSJJU	**Jeju**	**0.45**	**291**	P	Pb	14 27 05.1	+0.1
	SNR=30						
KSJJU	**Jeju**	**0.45**	**291**	P	Pb	14 27 05.1	+0.1
	SNR=30						
KSSGP	**Seogwipo**	**0.46**	**269**	P	Pb	14 27 05.1	0.0
HALB	**Hallimjungang-**	**0.66**	**282**	P	Pb	14 27 08.5	-0.1
	SNR=18						
HALB	**Hallimjungang-**	**0.66**	**282**	P	Pb	14 27 08.5	-0.1
	SNR=18						
KSWAN	**Wando**	**1.15**	**346**	P	Pn	14 27 16.8	0.0
KOHB	**KOHEUNG**	**1.36**	**8**	P	Pn	14 27 19.7	0.0
	SNR=28						
KOHB	**KOHEUNG**	**1.36**	**8**	P	Pn	14 27 19.7	0.0
	SNR=28						

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*ARE **02** 14:30:33±1.2, 5°.65S±0°.09×76°.8W±0°.1, h28km±6km, ML4.2, mb4.6/9(NEIC), Error ellipse: s-maj=19.9km s-min=10.7km az=65.0*

NEIC 02 14:30:33.6±1.1**, 5°.61S**±0°.09×**76°.7W**±0°.1**, h40km**±12km**, Error ellipse: s-maj=21.7km s-min=8.5km az=63.0, Northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNA	**Nana**	**6.34**	**181**	Pn	Pn	14 32 05.0	+0.4
TUMC	**Tumaco**	**7.65**	**345**	Pn	Pn	14 32 21.1	-1.6
PSGCX	**Pisagua**	**15.31**	**156**	P	P	14 34 09.4	-1.9
BDFB	**Brasilia**	**29.87**	**112**	P	P	14 36 36.8	-1.0
BDFB				IAmb	IAmb	14 36 46.2	
	comp=Z,25nm,1.6s						
PLCA	**Paso Flores**	**35.40**	**172**	P	P	14 37 23.9	-1.9
PLCA				IAmb	IAmb	14 38 41.0	
	comp=Z,7.8nm,1.4s						
250A	**Grady**	**38.47**	**347**	P	P	14 37 51.1	-0.8
WHTX	**Lake Whitney,**	**42.30**	**333**	P	P	14 38 23.1	-0.5
WHTX				IAmb	IAmb	14 39 27.4	
	comp=Z,19nm,1.6s						
U49A	**Red Boiling Sp**	**42.75**	**349**	P	P	14 38 27.1	-0.1
U49A				IAmb	IAmb	14 39 28.9	
	comp=Z,23nm,2.0s						
WVT	**Waverly**	**42.81**	**347**	P	P	14 38 27.2	-0.4
PV15	**Paradox Valley**	**52.74**	**329**	P	P	14 39 44.2	-0.8
PV15				IAmb	IAmb	14 41 02.4	
	comp=Z,4.0nm,0.6s						
TCUT	**Toone Canyon**	**56.31**	**329**	P	P	14 40 10.1	-0.7

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*SOME **02** 14:40:06.1, 37°.70N×71°.80E, h20km*

*BJI **02** 14:40:09.3±0.0, 36°.63N×70°.96E, h122km, mB4.7/4, mb4.4/6*

*NEIC **02** 14:40:11.4±2.0, 36°.46N±0°.07×71°.05E±0°.06, h115km±9km, mb4.1/2, Error ellipse: s-maj=10.2km s-min=6.8km az=182.0*

*NNC **02** 14:40:14.9±2.1, 37°.12N×71°.05E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=16.7km s-min=15.8km az=140.0*

*IDC **02** 14:40:16.6±9.1, 36°.84N×71°.26E, h163km±62km, mb3.6/1, mb1 3.1/6, mb1mx2.8/81, mbtmp3.7/6, Error ellipse: s-maj=82.1km s-min=53.5km az=173.0*

ISC 02 14:40:09.4±0.9**, 36°.48N**±0°.06×**71°.12E**±0°.08**, h100km, n34, σ1.91**/42**, mb4.5**/3**, 4C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.57**	**222**	Pn	**Pn**	**14 40 51.7**	**+2.1**
GAR	**Garm**	**2.60**	**346**		**Pn**	**14 40 52.2**	**+2.3**
CHGR	**Chuyangaron**	**2.68**	**325**	Pn	**Pn**	**14 40 52.5**	**+1.5**
DRK	**Karamyk**	**3.05**	**10**		**Pn**	**14 40 58.2**	**+2.2**
NIL	**Nilore**	**3.32**	**148**	Pn	**Pn**	**14 41 01.2**	**+1.8**
KSH	**Kashi**	**4.89**	**50**	P	Pn	14 41 16.6	-4.1
KSH				S	Sn	14 42 05.4	-11
KSH				pmax	pmax		
	comp=Z,12nm,0.4s						
IUG	**Iuzhnay**	**5.73**	**352**	*e*P	**Pn**	**14 41 34.2**	**+2.2**
	304nm,0.4s						
IUG				*e*S	**Sn**	**14 42 34.3**	**-2.1**
	33nm,0.5s						
DHRM	**DHARAMSHALA**	**6.01**	**133**	*e*P	**Pn**	**14 41 36.1**	**+0.1**
DHRM				*e*S	**Sn**	**14 42 42.0**	**-1.6**
DHRM				IAML		14 42 45.2	
	comp=E,57nm,0.3s						
DHRM				IAML		14 42 45.5	
	comp=N,45nm,0.4s						
MRKS	**Merke**	**6.47**	**14**	*e*P	**Pn**	**14 41 44.9**	**+2.8**
	comp=N,3.2nm,0.5s						
MRKS				*e*S	**Sn**	**14 42 52.6**	**-1.9**
	comp=N,18nm,0.8s						
BRLS	**Borolday**	**6.62**	**352**	*e*P	**Pn**	**14 41 43.2**	**-0.9**
	comp=N,1.7nm,0.1s						
BRLS				*e*S	Sn	14 42 49.8	-8.2
	comp=N,13nm,0.2s						
KK31	**Karatay Array**	**6.64**	**356**	⇑Pn	**Pn**	**14 41 44.6**	**+0.3**
	comp=N,8.8nm,0.5s,baz=185,slow=14,SNR=76						
KK31				⇑Sn	**Sn**	**14 42 55.4**	**-3.0**
	comp=N,2.0nm,0.3s,baz=177,slow=22,SNR=9.8						
KK31	**Karatay Array**	**6.64**	**356**	Pn	**Pn**	**14 41 44.5**	**+0.2**
KKAR	**Karatay Array**	**6.64**	**356**	Pn	**Pn**	**14 41 44.4**	**+0.1**
KKAR	**Karatay Array**	**6.64**	**356**		**Pn**	**14 41 44.4**	**+0.1**
AAK	**Ala-Archa**	**6.68**	**22**	P	**Pn**	**14 41 47.3**	**+2.3**
	comp=N,2.2nm,0.3s,baz=183,slow=5.5,SNR=12						
AAK				S	**Sn**	**14 42 59.3**	**-0.4**
	comp=N,1.1nm,0.3s,baz=330,slow=23,SNR=9.7						
AAK	**Ala-Archa**	**6.68**	**22**	⇓Pn	**Pn**	**14 41 47.0**	**+2.0**
	comp=N,2.5nm,0.4s						
AAK				⇑Sn	**Sn**	**14 42 59.1**	**-0.7**
	comp=N,12nm,0.8s						
AAK	**Ala-Archa**	**6.68**	**22**	Pn	**Pn**	**14 41 46.5**	**+1.5**
BOOM	**Boomskoye usch**	**7.07**	**30**	Pn	**Pn**	**14 41 50.6**	**+0.3**
TKM2	**Tokmak 2**	**7.30**	**27**	⇓Pn	**Pn**	**14 41 55.4**	**+1.9**
	comp=N,4.3nm,0.6s						
TKM2				⇑Sn	**Sn**	**14 43 13.9**	**-1.0**
	comp=N,7.0nm,1.3s						
SMLA	**Simla**	**7.33**	**135**	*e*P	**Pn**	**14 41 53.1**	**-0.7**
SMLA				*e*S	**Sn**	**14 43 12.3**	**-3.1**
SMLA				IAML		14 43 13.8	
	comp=E,20nm,0.4s						
SMLA				IAML		14 43 15.2	
	comp=N,21nm,0.4s						
KDJ	**Kajisay**	**7.34**	**38**	Pn	**Pn**	**14 41 55.5**	**+1.4**
KST	**Kastek**	**7.54**	**28**	*e*P	**Pn**	**14 42 01.1**	**+4.3**
	comp=N,1.4nm,0.4s						
KST				*e*S	**Sn**	**14 43 20.0**	**-0.7**
	comp=N,5.2nm,0.8s						
MAKZ	**Makanchi**	**13.12**	**35**	Pn	**Pn**	**14 43 14.2**	**+2.4**
MKAR	**Makanchi Array**	**13.25**	**35**	P	**Pn**	**14 43 14.6**	**+1.1**
	comp=N,0.2nm,0.3s,baz=210,slow=11,SNR=5.3						
MKAR	**Makanchi Array**	**13.25**	**35**	Pn	**Pn**	**14 43 16.2**	**+2.7**
WMQ	**Urumqi**	**14.63**	**55**	*e*P	**Pn**	**14 43 34.2**	**+2.8**
KURBB	**Kurchatov Arra**	**15.12**	**18**	P	**Pn**	**14 43 38.1**	**+0.8**
	comp=N,0.0nm,0.3s,baz=207,slow=10,SNR=4.3						
ABKAR	**Akbulak array**	**15.15**	**331**	Pn	**Pn**	**14 43 36.5**	**-1.3**
ABKAR				IAmb	IAmb	14 43 40.7	
	comp=Z,3.3nm,1.1s						
AKTO	**Aktyubinsk**	**16.85**	**330**	P	**Pn**	**14 43 58.1**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=128,slow=9.4,SNR=3.8						
ZALV	**Zalesovo Beam**	**19.90**	**24**	P	**P**	**14 44 30.3**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=232,slow=12,SNR=6.2						
HHC	**Hu-ho-hao-te**	**31.68**	**70**	*e*P	**P**	**14 46 25.6**	**+2.2**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,47nm,4.1s						
FIA1	**FINESS Array S**	**37.56**	**326**	P	**P**	**14 47 13.9**	**+0.3**
FIA1				IAmb	IAmb	14 47 33.1	
	comp=Z,14nm,1.2s						
FINES	**FINESS Array B**	**37.56**	**326**	P	**P**	**14 47 15.5**	**+1.9**
ARCES	**ARCESS Array B**	**41.20**	**338**	P	**P**	**14 47 42.7**	**-1.1**
	comp=Z,6.0nm,1.1s,baz=113,slow=9.2,SNR=4.4						

IDC 02 14:49:53.7±6.1**, 6°.41S×11°.21W, h0km, mb3.7**/4**, mb1 3.8**/4**, mb1mx3.5**/47**, mbtmp3.7**/4**, MS3.4**/4**, Ms1 3.3**/4**, ms1mx3.0**/23**, Error ellipse: s-maj=207.8km s-min=104.7km az=123.0, Ascension Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H10N1	**ASCENSION HYDR**	**3.54**	**246**	T	T	14 54 24.8	
	baz=63,slow=75,SNR=354						
H10N2	**ASCENSION HYDR**	**3.54**	**246**	T	T	14 54 24.6	
	baz=63,slow=75,SNR=271						
H10N3	**ASCENSION HYDR**	**3.56**	**246**	T	T	14 54 50.3	
	baz=63,slow=75,SNR=138						
H10S2	**ASCENSION HYDR**	**4.24**	**233**	T	T	14 55 38.4	
	baz=169,slow=74,SNR=33						
H10S3	**ASCENSION HYDR**	**4.25**	**233**	T	T	14 55 45.9	
	baz=51,slow=74,SNR=50						
DBIC	**Dimbokro**	**14.46**	**26**	LR	LR	14 57 19.5	
	comp=Z,76nm,21.9s,baz=188,slow=31						
KOWA	**Kowa**	**21.96**	**19**	P	P	14 54 49.0	-0.3
	2.5nm,0.6s,baz=196,slow=10.0,SNR=4.7						
KOWA				LR	LR	15 02 21.5	
	comp=Z,104nm,19.4s,baz=212,slow=34						
TORD	**Torodi Ar. Bea**	**23.28**	**33**	P	P	14 55 03.5	+0.2
	1.2nm,0.7s,baz=226,slow=8.8,SNR=5.1						
CPUP	**Villa Florida**	**48.15**	**240**	LR	LR	15 15 37.6	
	comp=Z,43nm,19.6s,baz=180,slow=32						
KMBO	**Kilima Mbogo**	**48.62**	**86**	LR	LR	15 16 49.4	
	comp=Z,48nm,19.4s,baz=95,slow=33						
GERES	**GERESS Array B**	**59.19**	**19**	P	P	14 59 57.0	+0.3
	0.8nm,0.7s,baz=197,slow=6.1,SNR=7.2						
AKASG	**Malin Array Be**	**66.71**	**27**	P	P	15 00 46.0	-0.5
	0.2nm,0.3s,baz=226,slow=7.6,SNR=1.0						

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*BJI **02** 14:59:12.9±0.0, 5°.44S×152°.99E, h11km, mB4.7/5, mb4.5/17, Ms4.5/2, Ms7 4.2/3*

*IDC **02** 14:59:13.3±1.2, 5°.73S×152°.31E, h0km, mb4.3/11, mb1 4.5/11, mb1mx4.2/34, mbtmp4.3/11, MS3.3/6, Ms1 3.3/6, ms1mx3.0/28, Error ellipse: s-maj=41.9km s-min=19.4km az=127.0*

*NEIC **02** 14:59:15.9±1.7, 5°.76S±0°.06×152°.47E±0°.07, h10km±1km, mb4.9/62, Error ellipse: s-maj=11.9km s-min=10.0km az=58.0*

ISC 02 14:59:14.9±0.6**, 5°.82S**±0°.07×**152°.43E**±0°.08**, h10km, n96, σ1.16**/94**, mb4.9**/47**, MS3.3**/7**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.64**	**351**	Pn	**Pn**	**14 59 43.6**	**-0.3**
RABL				Sn	**Sn**	**15 00 03.5**	**-1.6**
MANU	**Manus Island**	**6.29**	**306**	Pn	**Pn**	**15 00 48.0**	**+0.1**
HNR	**Honiara**	**8.27**	**116**	Pn	**Pn**	**15 01 14.0**	**-1.0**
COEN	**Coen**	**12.18**	**228**	Pn	**Pn**	**15 02 09.8**	**+1.1**
GUMO	**Guam**	**20.69**	**339**	LR	LR	15 12 19.5	
	comp=Z,26nm,18.4s,baz=169,slow=38						
DZM	**Mont Dzumac**	**21.09**	**141**	LR	LR	15 10 21.3	
	comp=Z,164nm,20.6s,baz=300,slow=32						
MTN	**Manton Dam**	**22.13**	**250**	P	**P**	**15 04 12.1**	**+1.1**
WR0	**Warramunga Arr**	**22.36**	**229**	P	**P**	**15 04 13.1**	**-0.2**
WRAB	**Tennant Creek**	**22.49**	**230**	P	**P**	**15 04 14.9**	**+0.1**
WB2	**Warramunga Arr**	**22.49**	**230**	P	**P**	**15 04 14.0**	**-0.9**
WRA	**Warramunga Arr**	**22.50**	**230**	P	**P**	**15 04 14.0**	**-0.9**
	6.3nm,0.9s,baz=56,slow=10.0,SNR=36						
WRA				LR	LR	15 13 45.3	
	comp=Z,112nm,18.9s,baz=60,slow=39						
WRA	**Warramunga Arr**	**22.50**	**230**	P	**P**	**15 04 13.5**	**-1.4**
AS31	**Alice Springs**	**25.15**	**223**	P	**P**	**15 04 39.8**	**-0.8**
ASAR	**Alice Springs**	**25.16**	**223**	P	**P**	**15 04 40.0**	**-0.6**
	16nm,1.0s,baz=56,slow=9.1,SNR=71						
KNRA	**Kununurra**	**25.20**	**245**	P	**P**	**15 04 41.9**	**+0.9**
KNRA				IAmb	IAmb	15 04 56.0	
	comp=Z,36nm,1.1s						
STKA	**Stephens Creek**	**27.83**	**200**	LR	LR	15 17 33.5	
	comp=Z,35nm,18.7s,baz=26,slow=40						
SOEI	**Soe**	**28.17**	**260**	P	**P**	**15 05 06.4**	**-1.6**
SOEI				IAmb	IAmb	15 05 30.1	
	comp=Z,14nm,0.7s						
BATI	**Baumata**	**28.81**	**259**	P	**P**	**15 05 13.7**	**+0.1**
	comp=Z,15nm,0.6s,baz=276,slow=23,SNR=1.9						
BATI				LR	LR	15 17 51.2	
	comp=Z,145nm,19.9s,baz=136,slow=39						
PSA00	**Pilbara Seismi**	**35.20**	**240**	P	**P**	**15 06 10.1**	**+0.5**
JAGI	**Jajag, Banyuwa**	**38.06**	**264**	P	**P**	**15 06 32.0**	**-2.1**
MJAR	**Matsushiro Arr**	**44.20**	**344**	LR	LR	15 26 32.8	
	comp=Z,17nm,18.0s,baz=230,slow=37						
NJ2	**Nanjing**	**49.41**	**322**	*e*P	**P**	**15 08 07.6**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**53.09**	**342**	P	**P**	**15 08 34.4**	**+1.8**
USA0B	**Ussuriysk Arra**	**53.09**	**342**	P	**P**	**15 08 34.0**	**+1.4**
BJI	**Beijing**	**56.54**	**327**	P	**P**	**15 08 55.1**	**-2.5**
CMAR	**Chiang Mai Arr**	**57.98**	**296**	P	**P**	**15 09 07.2**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=124,slow=6.0,SNR=7.8						
PEA0B	**Petropavlovsk-**	**58.88**	**4**	P	**P**	**15 09 13.2**	**-0.7**
PETK	**Petropavlovsk-**	**58.88**	**4**	P	**P**	**15 09 12.7**	**-1.1**
	comp=Z,1.2nm,0.4s,baz=166,slow=7.9,SNR=13						
PETK	**Petropavlovsk-**	**58.88**	**4**	P	**P**	**15 09 12.4**	**-1.4**
HHC	**Hu-ho-hao-te**	**59.66**	**325**	*e*P	**P**	**15 09 21.2**	**+1.5**
HHC				pmax	pmax		
	comp=Z,7.0nm,1.2s						
HHC				pmax	pmax		
	comp=Z,110nm,6.4s						
LZH	**Lanzhou**	**61.71**	**316**	*e*P	**P**	**15 09 37.0**	**+3.2**
LZH				sP	pwP	15 09 42.9	-1.2
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
LZH				LR	LR		
	comp=Z,190nm,15.0s						
LZH				LR	LR		
	comp=Z,170nm,14.8s						
LZH				LR	LR		
	comp=Z,110nm,17.4s						
KIWB	**Kanaga Island**	**63.06**	**21**	P	**P**	**15 09 43.5**	**+1.2**
ADK	**Adak**	**63.25**	**21**	P	**P**	**15 09 44.0**	**+0.5**
GSTR	**Great Sitkin T**	**63.64**	**21**	P	**P**	**15 09 46.8**	**+0.6**
GTA	**Gaotai**	**66.16**	**318**	*e*P	**P**	**15 10 01.9**	**-1.1**
GTA				pP	sP	15 10 05.8	+1.5
GTA				sP	pwP	15 10 09.6	-3.7
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM	**Songino Array**	**66.99**	**328**	P	**P**	**15 10 07.3**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=140,slow=4.6,SNR=8.1						
SONM	**Songino Array**	**66.99**	**328**	P	**P**	**15 10 07.3**	**-0.9**
UNV	**Unalaska Valle**	**68.69**	**25**	P	**P**	**15 10 18.6**	**+0.1**
CHGN	**Chignik**	**73.80**	**26**	P	**P**	**15 10 48.8**	**-0.6**
WMQ	**Urumqi**	**76.24**	**318**	*e*P	**P**	**15 11 06.8**	**+2.9**
N18K	**Kilae Creek**	**77.53**	**23**	P	**P**	**15 11 13.1**	**+2.3**
N18K				IAmb	IAmb	15 11 23.3	
	comp=Z,10nm,0.9s						
SVW2	**Sparrevohn**	**77.90**	**23**	P	**P**	**15 11 14.9**	**+2.1**
SVW2				IAmb	IAmb	15 11 25.2	
	comp=Z,9.7nm,0.9s						
P19K	**Oil Pt**	**78.01**	**25**	P	**P**	**15 11 13.6**	**+0.1**
N19K	**Bonanza Creek**	**78.17**	**24**	P	**P**	**15 11 14.5**	**+0.1**
N19K				IAmb	IAmb	15 11 19.9	
	comp=Z,10nm,1.2s						
CNPM	**China Poot**	**78.79**	**26**	P	**P**	**15 11 18.2**	**+0.5**
L19K	**White Mountain**	**78.83**	**22**	P	**P**	**15 11 19.0**	**+1.1**
M19K	**Big River Lodg**	**78.84**	**23**	P	**P**	**15 11 19.2**	**+1.2**
M19K				IAmb	IAmb	15 11 30.5	
	comp=Z,8.5nm,0.7s						
BRLK	**Bradley Lake**	**79.07**	**26**	P	**P**	**15 11 19.8**	**+0.5**
BRLK				IAmb	IAmb	15 11 30.7	
	comp=Z,9.4nm,0.7s						
M20K	**Styx River**	**79.32**	**23**	P	**P**	**15 11 21.6**	**+0.9**
RDOG	**Red Dog Mine**	**80.06**	**16**	P	**P**	**15 11 26.6**	**+2.1**
RDOG				IAmb	IAmb	15 11 28.3	
	comp=Z,14nm,0.8s						
RC01	**Rabbit Creek A**	**80.25**	**25**	P	**P**	**15 11 26.5**	**+0.9**
RC01				IAmb	IAmb	15 11 37.0	
	comp=Z,15nm,0.7s						
J20K	**Nowinta River**	**80.27**	**21**	P	**P**	**15 11 26.8**	**+1.1**
J20K				IAmb	IAmb	15 11 38.0	
	comp=Z,15nm,0.8s						
PWL	**Port Wells**	**80.72**	**25**	P	**P**	**15 11 28.8**	**+0.6**
PMR	**Palmer**	**80.76**	**24**	P	**P**	**15 11 28.0**	**-0.4**
PMR				IAmb	IAmb	15 11 39.5	
	comp=Z,12nm,1.2s						
MKAR	**Makanchi Array**	**80.85**	**319**	P	**P**	**15 11 28.3**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=101,slow=6.3,SNR=6.6						
KTH	**Kantishna Hill**	**81.09**	**22**	P	**P**	**15 11 29.6**	**-0.6**
KTH				IAmb	IAmb	15 11 40.8	
	comp=Z,8.8nm,0.7s						
SML	**Sawmill**	**81.20**	**24**	P	**P**	**15 11 31.4**	**+0.6**
TRF	**Thorofare Moun**	**81.28**	**22**	P	**P**	**15 11 31.2**	**-0.1**
TRF				IAmb	IAmb	15 11 38.8	
	comp=Z,11nm,1.1s						
BPAW	**Bear Paw Mtn.**	**81.37**	**22**	P	**P**	**15 11 31.3**	**-0.3**
IMAR	**Indian Mountai**	**81.46**	**20**	P	**P**	**15 11 32.7**	**+0.7**
I21K	**Tanana**	**81.61**	**21**	P	**P**	**15 11 33.2**	**+0.4**
I21K				IAmb	IAmb	15 11 35.8	
	comp=Z,12nm,1.0s						
ZALV	**Zalesovo Beam**	**81.80**	**326**	P	**P**	**15 11 33.6**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=104,slow=6.3,SNR=5.4						
RND	**Reindeer**	**81.81**	**23**	P	**P**	**15 11 34.4**	**+0.4**
RND				IAmb	IAmb	15 11 44.8	
	comp=Z,11nm,0.7s						
MCK	**McKinley**	**81.94**	**23**	P	**P**	**15 11 34.8**	**+0.1**
KLU	**Klutina**	**82.05**	**25**	P	**P**	**15 11 35.9**	**+0.5**
KLU				IAmb	IAmb	15 11 48.0	
	comp=Z,9.4nm,0.8s						
M24K	**Tolsona, Glenn**	**82.24**	**25**	P	**P**	**15 11 37.0**	**+0.8**
NEA2	**Nenana**	**82.34**	**22**	P	**P**	**15 11 36.1**	**-0.6**
NEA2				IAmb	IAmb	15 11 47.3	
	comp=Z,8.7nm,0.7s						
I23K	**Minto, Yukon-K**	**82.52**	**21**	P	**P**	**15 11 38.0**	**+0.5**
H23K	**Yukon River**	**82.81**	**21**	P	**P**	**15 11 40.0**	**+0.8**
H23K				IAmb	IAmb	15 11 51.5	
	comp=Z,9.4nm,1.3s						
CCB	**Clear Creek Bu**	**82.83**	**22**	P	**P**	**15 11 39.2**	**0.0**
CCB				IAmb	IAmb	15 11 49.7	
	comp=Z,7.8nm,0.8s						
MDM	**Murphy Dome**	**82.83**	**22**	P	**P**	**15 11 38.6**	**-0.7**
TCOL	**CIGO, UAF Yank**	**82.93**	**22**	P	**P**	**15 11 39.7**	**0.0**
COLA	**College**	**82.93**	**22**	P	**P**	**15 11 39.7**	**0.0**
CRQM	**Cirque**	**82.93**	**27**	P	**P**	**15 11 40.7**	**+0.6**
CRQM				IAmb	IAmb	15 11 53.4	
	comp=Z,11nm,1.0s						
GLB	**Gilahina Butte**	**82.93**	**26**	P	**P**	**15 11 40.7**	**+0.8**
GLB				IAmb	IAmb	15 11 51.9	
	comp=Z,9.8nm,1.0s						
HDA	**Harding Lake**	**83.04**	**22**	P	**P**	**15 11 40.5**	**+0.1**
IL31		**83.24**	**22**	P	**P**	**15 11 41.0**	**-0.3**
IL31				IAmb	IAmb	15 11 51.6	
	comp=Z,6.9nm,0.7s						
ILAR	**Eielson Array**	**83.24**	**22**	P	**P**	**15 11 40.4**	**-0.9**
	comp=Z,5.8nm,0.8s,baz=251,slow=5.3,SNR=62						
ILAR				pP	**pwP**	**15 11 50.4**	**-1.8**
	comp=Z,7.0nm,0.7s,baz=249,slow=5.2,SNR=20						
COLD	**Coldfoot**	**83.34**	**19**	P	**P**	**15 11 42.6**	**+0.8**
COLD				IAmb	IAmb	15 11 44.9	
	comp=Z,6.7nm,1.1s						
H24K	**Noodor Dome**	**83.41**	**21**	P	**P**	**15 11 43.2**	**+0.9**
H24K				IAmb	IAmb	15 11 53.9	
	comp=Z,4.4nm,0.7s						
BARN	**Barnard Glacie**	**83.71**	**27**	P	**P**	**15 11 44.7**	**+0.5**
BARN				IAmb	IAmb	15 11 56.3	
	comp=Z,7.4nm,0.6s						
DOT	**Dot Lake**	**83.81**	**24**	P	**P**	**15 11 44.7**	**+0.4**
DOT				IAmb	IAmb	15 11 56.0	
	comp=Z,8.2nm,0.8s						
SCRK	**Sand Creek**	**83.98**	**23**	P	**P**	**15 11 46.0**	**+0.6**
SCRK				IAmb	IAmb	15 11 59.0	
	comp=Z,8.0nm,1.3s						
M27K	**Edge Creek, AK**	**84.15**	**25**	P	**P**	**15 11 47.6**	**+1.3**
M27K				IAmb	IAmb	15 11 58.7	
	comp=Z,9.0nm,0.8s						
TOLK	**Toolik Lake Re**	**84.30**	**18**	P	**P**	**15 11 47.6**	**+0.8**
TOLK				IAmb	IAmb	15 11 49.0	
	comp=Z,6.2nm,0.8s						
L27K	**Beaver Creek,**	**84.46**	**25**	P	**P**	**15 11 49.5**	**+1.8**
L27K				IAmb	IAmb	15 12 00.0	
	comp=Z,8.5nm,1.2s						
BCAR	**Beaver Creek A**	**84.48**	**25**	P	**P**	**15 11 49.3**	**+1.5**
BMAR	**Burnt Mountain**	**85.33**	**20**	P	**P**	**15 11 53.3**	**+1.3**
EGAK	**Eagle**	**85.44**	**23**	P	**P**	**15 11 53.8**	**+1.3**
EGAK				IAmb	IAmb	15 12 04.5	
	comp=Z,8.4nm,0.9s						
HYT	**Haines Junctio**	**85.50**	**28**	P	**P**	**15 11 53.9**	**+0.8**
HYT				IAmb	IAmb	15 12 06.4	
	comp=Z,12nm,1.3s						
NRIK	**Noril'sk**	**86.81**	**341**	P	**P**	**15 11 58.9**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=244,slow=3.4,SNR=3.5						
NRIK	**Noril'sk**	**86.81**	**341**	IAmb	IAmb	15 12 00.1	
	comp=Z,4.2nm,1.0s						
EPYK	**Eagle Plains**	**87.75**	**22**	P	**P**	**15 12 05.5**	**+1.6**
NVAR	**Mina Array Bea**	**93.00**	**52**	P	**P**	**15 12 31.1**	**+1.8**
	comp=Z,0.9nm,0.8s,baz=254,slow=7.3,SNR=6.3						
NVAR				pP	**pwP**	**15 12 41.2**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=254,slow=6.5,SNR=4.8						
TORD	**Torodi Ar. Bea**	**150.26**	**286**	PKPbc	**PKPbc**	**15 19 06.3**	**-1.1**
	comp=Z,1.5nm,0.8s,baz=60,slow=3.3,SNR=7.7						
TORD	**Torodi Ar. Bea**	**150.26**	**286**		**PKPbc**	**15 19 06.2**	**-1.3**

IDC 02 15:06:28.7±2.4, 6°.16S×152°.90E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/29, mbtmp3.5/3, Error ellipse: s-maj=159.9km s-min=30.6km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.65**	**231**	P	P	15 11 32.4	+0.7
	0.4nm,0.6s,baz=55,slow=10,SNR=6.0						
ASAR	**Alice Springs**	**25.24**	**224**	P	P	15 11 56.0	-0.7
	1.8nm,1.1s,baz=61,slow=9.2,SNR=8.8						
ILAR	**Eielson Array**	**83.38**	**22**	P	P	15 18 57.7	+0.2
	0.5nm,0.7s,baz=255,slow=4.8,SNR=4.4						

NNC 02 15:34:22.6±3.2, 53°.52N×87°.64E, h0km, mb3.6, mpv3.3, 3C-6D, Error ellipse: s-maj=26.6km s-min=12.1km az=59.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.73**	**285**	⇑Pg	Pn	15 34 53.4	-0.5
	2.1nm,0.6s						
ZAA0				⇓Lg	Lg	15 35 19.6	
	4.0nm,0.5s						
KURBB	**Kurchatov Arra**	**6.32**	**246**	⇑Pn	Pn	15 35 57.8	+0.8
	7.3nm,0.5s						
KURBB				⇓Sn	Sn	15 37 09.3	-0.6
	5.8nm,0.6s						
KURBB				⇑Lg	Lg	15 37 44.1	
	14nm,0.7s						
MK31	**Makanchi Array**	**7.56**	**209**	⇓Pn	Pn	15 36 15.3	+1.2
	1.3nm,0.6s,baz=28,slow=12,SNR=12						
MK31				Lg	Lg	15 38 24.1	
	4.8nm,0.8s,baz=28,slow=29,SNR=7.1						
MAKZ	**Makanchi**	**7.64**	**211**	⇓Pn	Pn	15 36 16.6	+1.4
	1.9nm,0.7s						
MAKZ				⇓Sn	Sn	15 37 43.3	+0.9
	2.6nm,1.1s						
MAKZ				⇓Lg	Lg	15 38 23.9	
	5.5nm,0.9s						

*IDC **02** 15:47:25.6±0.7, 2°.73N×99°.11E, h162km±15km, mb3.2/5, mb1 3.4/6, mb1mx3.1/49, mbtmp3.7/6, Error ellipse: s-maj=72.9km s-min=17.2km az=65.0*

*DJA **02** 15:47:26.0±0.7, 3°N±4°×9°9E±°, h161km±5km, M3.3/7, MLv3.3/7*

ISC 02 15:47:25.7±0.8**, 2°.77N**±0°.05×**98°.99E**±0°.07**, h168**km±6km**, n24, σ0s.84**/34**, mb3.3**/5**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.08**	**297**	P	**Pn**	**15 47 48.6**	**+0.5**
	160nm,0.3s,baz=179,slow=1.6,SNR=301						
PSI				S	**Sn**	**15 48 05.1**	**-0.2**
	45nm,0.3s,baz=180,slow=19,SNR=53						
PSI	**Prapat**	**0.08**	**297**	P	**Pn**	**15 47 48.4**	**+0.2**
PSI				S	**Sn**	**15 48 04.7**	**-0.6**
PSI				S	**Sn**	**15 48 04.8**	**-0.6**
PSI	**Prapat**	**0.08**	**297**	P	**Pn**	**15 47 48.3**	**+0.1**
PSI				P	**Pn**	**15 47 48.1**	**-0.1**
PSI				S	**Sn**	**15 48 04.2**	**-1.1**
PSI				S	**Sn**	**15 48 05.4**	**+0.1**
TRSI	**Tarutung**	**0.74**	**183**	P	**Pn**	**15 47 50.7**	**+0.1**
TRSI				S	**Sn**	**15 48 09.8**	**+0.1**
TRSI	**Tarutung**	**0.74**	**183**	P	**Pn**	**15 47 50.9**	**+0.3**
TSI	**Tuntungan**	**0.84**	**330**	P	**Pn**	**15 47 51.9**	**+0.8**
TSI	**Tuntungan**	**0.84**	**330**	P	**Pn**	**15 47 52.0**	**+0.8**
TSI				S	**Sn**	**15 48 10.5**	**-0.2**
TPTI		**1.87**	**285**	P	**Pn**	**15 48 01.1**	**+0.5**
TPTI				S	**Sn**	**15 48 26.6**	**-0.9**
TPTI		**1.87**	**285**	P	**Pn**	**15 48 01.2**	**+0.6**
TPTI				S	**Sn**	**15 48 27.1**	**-0.4**
LASI	**Langsa, Aceh**	**1.96**	**329**	P	**Pn**	**15 48 02.6**	**+1.0**
LASI	**Langsa, Aceh**	**1.96**	**329**	P	**Pn**	**15 47 58.8**	**-2.8**
GSI	**Gunungsitoli**	**2.03**	**224**	P	**Pn**	**15 48 02.9**	**+0.6**
GSI				S	**Sn**	**15 48 29.8**	**-0.8**
GSI	**Gunungsitoli**	**2.03**	**224**	P	**Pn**	**15 48 02.6**	**+0.3**
GSI				S	**Sn**	**15 48 29.9**	**-0.7**
MNSI	**Mandailing Nat**	**2.04**	**163**	P	**Pn**	**15 48 02.8**	**+0.3**
MNSI	**Mandailing Nat**	**2.04**	**163**	P	**Pn**	**15 48 02.8**	**+0.3**
MNSI				S	**Sn**	**15 48 30.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**15.59**	**360**	P	**P**	**15 50 59.1**	**+1.7**
	0.1nm,0.3s,baz=189,slow=12,SNR=5.3						
H08S2	**Diego Garcia H**	**28.39**	**248**	T	T	16 20 57.0	
	baz=70						
H08S3	**Diego Garcia H**	**28.39**	**249**	T	T	16 21 27.1	
	baz=70,slow=74,SNR=3.9						
H08S1	**Diego Carcia H**	**28.41**	**248**	T	T	16 21 06.5	
	baz=70,slow=74,SNR=5.6						
WRA	**Warramunga Arr**	**41.39**	**125**	P	**P**	**15 54 55.2**	**-0.6**
	1.1nm,0.5s,baz=304,slow=9.1,SNR=39						
ASAR	**Alice Springs**	**42.96**	**130**	P	**P**	**15 55 07.7**	**-0.8**
	1.0nm,0.4s,baz=302,slow=7.5,SNR=45						
KSRS	**Korea Array**	**43.55**	**34**	P	**P**	**15 55 12.3**	**-0.7**
	0.6nm,0.7s,baz=224,slow=8.4,SNR=2.7						
SONM	**Songino Array**	**45.35**	**7**	P	**P**	**15 55 27.7**	**+0.5**
	0.3nm,0.6s,baz=167,slow=7.1,SNR=1.6						
MKAR	**Makanchi Array**	**46.20**	**344**	P	**P**	**15 55 34.1**	**+0.3**
	0.3nm,0.5s,baz=161,slow=7.9,SNR=4.4						

*IDC **02** 15:53:32.6±1.0, 13°.04N×143°.79E, h138km±11km, mb3.5/8, mb1 3.8/8, mb1mx3.4/37, mbtmp3.9/8, Error ellipse: s-maj=22.0km s-min=16.1km az=79.0*

*NEIC **02** 15:53:33.0±1.4, 13°.04N±0°.04×143°.8E±0°.1, h134km±8km, mb4.4/23, Error ellipse: s-maj=17.7km s-min=4.5km az=80.0*

ISC 02 15:53:32.9±0.6**, 13°.05N**±0°.09×**143°.79E**±0°.09**, h138**km**, n43, σ0s.94**/39**, mb4.3**/19**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.18**	**63**	P	**Pn**	**15 53 58.1**	**-0.1**
	144nm,0.3s,baz=87,slow=4.6,SNR=527						
GUMO				S	**Sn**	**15 54 17.4**	**-0.2**
	243nm,0.3s,baz=27,slow=22,SNR=34						
GUMO				LR	LR	15 54 21.4	
	comp=Z,86nm,20.8s,baz=200,slow=41						
GUMO	**Guam**	**1.18**	**63**		**Pn**	**15 53 58.1**	**-0.1**
GUMO					**Sn**	**15 54 18.3**	**+0.7**
FAKI	**Fak Fak**	**19.57**	**217**	P	**Pn**	**15 57 54.3**	**+1.3**
FAKI				IAmb	IAmb	15 57 54.9	
	comp=Z,21nm,1.0s						
H11S3	**WAKE ISLAND Hy**	**22.68**	**73**	T	T	16 21 40.7	
	baz=263						
H11S1	**WAKE ISLAND Hy**	**22.70**	**73**	T	T	16 21 58.6	
	baz=263,slow=74,SNR=5.2						
H11S2	**WAKE ISLAND Hy**	**22.70**	**73**	T	T	16 21 40.6	
	baz=263,slow=74,SNR=3.8						
H11N1	**WAKE ISLAND Hy**	**23.12**	**70**	T	T	16 22 18.4	
	baz=255,slow=75,SNR=9.0						
H11N2	**WAKE ISLAND Hy**	**23.13**	**70**	T	T	16 22 17.7	
	baz=255,slow=75,SNR=42						
H11N3	**WAKE ISLAND Hy**	**23.14**	**70**	T	T	16 22 17.5	
	baz=255,slow=75,SNR=42						
YULB	**Yu-li**	**23.67**	**299**	P	**P**	**15 58 32.3**	**+0.3**
YULB				IAmb	IAmb	15 58 33.9	
	comp=Z,11nm,0.7s						
SSLB	**Suanglung**	**24.11**	**300**	P	**P**	**15 58 37.4**	**+1.4**
JMM	**Marumori**	**24.85**	**354**	P	**P**	**15 58 45.4**	**+2.8**
JMM				IAmb	IAmb	15 59 08.4	
	comp=Z,26nm,1.4s						
WB0	**Warramunga Arr**	**33.90**	**196**	P	**P**	**16 00 02.3**	**-0.5**
WB0				IAmb	IAmb	16 00 10.2	
	comp=Z,8.6nm,1.5s						
WR0	**Warramunga Arr**	**34.05**	**196**	P	**P**	**16 00 02.5**	**-1.5**
WR0				IAmb	IAmb	16 00 26.2	
	comp=Z,4.9nm,1.2s						
WB2	**Warramunga Arr**	**34.08**	**196**	P	**P**	**16 00 03.9**	**-0.4**
WB2				IAmb	IAmb	16 00 27.4	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**34.08**	**196**	P	**P**	**16 00 02.8**	**-1.5**
	comp=Z,1.3nm,0.8s,baz=15,slow=9.6,SNR=9.4						
WRA	**Warramunga Arr**	**34.08**	**196**	P	**P**	**16 00 02.6**	**-1.8**
ENH	**Enshi**	**36.00**	**304**	P	**P**	**16 00 20.1**	**-0.7**
ENH				IAmb	IAmb	16 00 22.1	
	comp=Z,7.7nm,0.9s						
ASAR	**Alice Springs**	**37.75**	**195**	P	**P**	**16 00 35.0**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=20,slow=13,SNR=7.0						
ASAR	**Alice Springs**	**37.75**	**195**	P	**P**	**16 00 34.7**	**-1.0**
DZM	**Mont Dzumac**	**41.38**	**147**	P	**P**	**16 01 06.1**	**+0.2**
	comp=Z,6.1nm,0.7s,baz=316,slow=14,SNR=8.2						
DZM	**Mont Dzumac**	**41.38**	**147**	P	**P**	**16 01 06.5**	**+0.7**
DZM				IAmb	IAmb	16 01 07.2	
	comp=Z,11nm,1.0s						
CMAR	**Chiang Mai Arr**	**43.41**	**283**	P	**P**	**16 01 22.6**	**+0.3**
	comp=Z,2.2nm,0.6s,baz=82,slow=6.7,SNR=15						
CMAR	**Chiang Mai Arr**	**43.41**	**283**	P	**P**	**16 01 23.0**	**+0.8**
SONM	**Songino Array**	**46.57**	**326**	P	**P**	**16 01 46.3**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=140,slow=9.1,SNR=2.3						
SONM	**Songino Array**	**46.57**	**326**	P	**P**	**16 01 46.2**	**-0.7**
TOO	**Toolangi**	**50.38**	**178**	P	**P**	**16 02 16.6**	**+0.6**
MK31	**Makanchi Array**	**61.14**	**316**	P	**P**	**16 03 33.2**	**+0.4**
MKAR	**Makanchi Array**	**61.14**	**316**	P	**P**	**16 03 32.7**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=93,slow=9.0,SNR=8.3						
MKAR	**Makanchi Array**	**61.14**	**316**	P	**P**	**16 03 32.5**	**-0.3**
KDJ	**Kajisay**	**64.03**	**311**	P	**P**	**16 03 52.5**	**+0.2**
KDJ				IAmb	IAmb	16 03 53.4	
	comp=Z,3.6nm,0.9s						
NIL	**Nilore**	**66.75**	**301**	P	**P**	**16 04 09.1**	**-0.6**
KK31	**Karatay Array**	**69.01**	**311**	P	**P**	**16 04 23.2**	**-0.4**
KKAR	**Karatay Array**	**69.01**	**311**	P	**P**	**16 04 23.1**	**-0.5**
GAR	**Garm**	**69.10**	**307**	P	**P**	**16 04 23.8**	**-0.6**
GAR				IAmb	IAmb	16 04 25.0	
	comp=Z,7.7nm,1.0s						
ILAR	**Eielson Array**	**69.50**	**25**	P	**P**	**16 04 24.5**	**-1.7**
	comp=Z,0.3nm,0.2s,baz=252,slow=5.4,SNR=2.2						
BRVK	**Borovoye**	**69.76**	**322**	P	**P**	**16 04 28.3**	**+0.2**
CHGR	**Chuyangaron**	**70.01**	**307**	P	**P**	**16 04 29.6**	**-0.3**
KBL	**Kabul**	**70.22**	**302**	P	**P**	**16 04 30.9**	**-0.6**
KBL				IAmb	IAmb	16 04 33.3	
	comp=Z,5.1nm,1.0s						
ABKAR	**Akbulak array**	**76.23**	**318**	P	**P**	**16 05 05.0**	**-1.1**
GYA0B	**ALIBECK ARRAY**	**78.72**	**306**	P	**P**	**16 05 20.9**	**+0.6**
GYA0B				IAmb	IAmb	16 05 30.6	
	comp=Z,4.4nm,0.7s						
BMO	**Blue Mountains**	**87.11**	**45**	P	**P**	**16 06 03.6**	**+0.1**
BMO				IAmb	IAmb	16 06 04.4	
	comp=Z,2.5nm,0.9s						
NVAR	**Mina Array Bea**	**88.08**	**51**	P	**P**	**16 06 08.9**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=266,slow=6.5,SNR=11						

IDC 02 16:28:02.0±5.8**, 14°.01N×93°.82E, h0**km**, mb3.3**/2**, mb1 3.5**/3**, mb1mx3.1**/68**, mbtmp3.2**/3**, ML3.5**/1**, MS3.6**/2**, Ms1 3.6**/2**, ms1mx2.7**/40**, Error ellipse: s-maj=122.5km s-min=46.0km az=102.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.61**	**47**	Pn	Pn	16 29 40.7	+0.1
	0.2nm,0.3s,baz=238,slow=15,SNR=4.9						
LEM	**Lembang**	**24.82**	**146**	LR	LR	16 43 51.3	
	comp=Z,63nm,18.3s,baz=180,slow=38						
WRA	**Warramunga Arr**	**52.22**	**129**	P	P	16 37 15.2	-0.1
	0.2nm,0.5s,baz=315,slow=8.3,SNR=7.2						
ASAR	**Alice Springs**	**54.20**	**133**	P	P	16 37 29.6	-0.2
	0.2nm,0.6s,baz=312,slow=7.3,SNR=5.7						
YAK	**Yakutsk**	**54.34**	**20**	LR	LR	17 00 41.3	
	comp=Z,110nm,21.6s,baz=76,slow=36						

*IDC **02** 16:30:58.9±6.3, 32°.11N×139°.77E, h33km±63km, mb3.1/3, mb1 3.3/5, mb1mx3.1/66, mbtmp3.4/5, ML3.0/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/19, Error ellipse: s-maj=79.4km s-min=18.4km az=77.0*

*JMA **02** 16:30:59.0±0.1, 32°.60N×140°.75E, h58km, M3.3*

ISC 02 16:30:56.6±1.5**, 32°.45N**±0°.05×**140°.90E**±0°.10**, h48**km±18km**, n17, σ1s.39**/21**, mb3.5**/3**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**0.96**	**271**	P	**Pn**	**16 31 15.1**	**+1.3**
JAOM				S	**Sn**	**16 31 26.7**	**+0.4**
JHCJ	**Hachijojimakas**	**1.11**	**304**	P	**Pn**	**16 31 16.0**	**+0.2**
JHCJ				S	**Sn**	**16 31 28.3**	**-1.8**
JHJ2	**Mitsune**	**1.12**	**306**	P	**Pn**	**16 31 16.4**	**+0.5**
JHJ2				*e*S	**Sn**	**16 31 29.3**	**-1.0**
JHJ	**Hachijo jima 2**	**1.15**	**306**	Pn	**Pn**	**16 31 16.5**	**+0.1**
	78nm,0.3s,baz=260,slow=12,SNR=70						
JHJ				Sn	**Sn**	**16 31 29.2**	**-1.7**
	282nm,0.3s,baz=198,slow=23,SNR=25						
JMKN	**Mikurajimanish**	**1.81**	**323**	P	**Pn**	**16 31 25.4**	**+0.1**
JMKN				*e*S	**Sn**	**16 31 45.2**	**-1.8**
JKO	**Kozu shima**	**2.27**	**320**	P	**Pn**	**16 31 32.6**	**+0.9**
JKO				*e*S	**Sn**	**16 31 57.3**	**-1.1**
BSO3	**Boso 3**	**2.36**	**352**	P	**Pn**	**16 31 33.3**	**+0.6**
BSO3				*e*S	**Sn**	**16 32 00.3**	**0.0**
JIZS	**Izushimoda**	**2.82**	**324**	P	**Pn**	**16 31 40.4**	**+1.2**
MJAR	**Matsushiro Arr**	**4.64**	**332**	Pn	**Pn**	**16 32 06.8**	**+2.6**
	0.2nm,0.3s,baz=176,slow=15,SNR=7.8						
JCJ	**Chichijima**	**5.46**	**168**	Pn	**Pn**	**16 32 17.0**	**+1.6**
	2.1nm,0.3s,baz=284,slow=21,SNR=6.6						
JCJ				Sn	**Sn**	**16 33 14.9**	**-2.0**
	4.4nm,0.3s,baz=301,slow=23,SNR=5.4						
H11N2	**WAKE ISLAND Hy**	**26.49**	**112**	T	T	17 05 36.9	
	baz=304,slow=76						
H11N1	**WAKE ISLAND Hy**	**26.49**	**112**	T	T	17 05 31.6	
	baz=304,slow=76,SNR=2.8						
H11N3	**WAKE ISLAND Hy**	**26.50**	**112**	T	T	17 05 37.4	
	baz=304						
SONM	**Songino Array**	**30.22**	**311**	LR	LR	16 49 28.1	
	comp=Z,35nm,19.2s,baz=58,slow=37						
MKAR	**Makanchi Array**	**46.32**	**306**	P	**P**	**16 39 16.9**	**-0.8**
	0.3nm,0.5s,baz=82,slow=9.8,SNR=4.3						
WRA	**Warramunga Arr**	**52.48**	**188**	P	**P**	**16 40 04.4**	**-0.3**
	0.2nm,0.4s,baz=1.7,slow=7.5,SNR=9.4						
ASAR	**Alice Springs**	**56.20**	**188**	P	**P**	**16 40 33.2**	**+1.4**
	0.1nm,0.5s,baz=358,slow=5.5,SNR=5.2						

*IDC **02** 16:35:07.7±0.8, 37°.90N×143°.99E, h0km, mb3.8/7, mb1 3.9/11, mb1mx3.7/63, mbtmp3.9/11, ML3.8/3, MS3.1/6, Ms1 3.1/6, ms1mx2.7/59, Error ellipse: s-maj=22.6km s-min=16.0km az=116.0*

*JMA **02** 16:35:10.9±0.2, 38°.09N×143°.80E, h39km, M4.2*

*NIED **02** 16:35:11.0, 38°.09N×143°.80E, h39km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-2.65; $M_{\theta\theta}$-2.45; $M_{\phi\phi}$5.10; $M_{r\theta}$3.74; $M_{\theta\phi}$3.88; $M_{\phi r}$1.06; Fault plane solution: $M_0$7.03000×10^{14} NP1: ϕ_s240.00000°, δ74.00000°, λ-41.00000°. NP2: ϕ_s344.00000°, δ51.00000°, λ-159.00000°.*

*NEIC **02** 16:35:12.3±2.0, 37°.95N±0°.02×143°.9E±0°.1, h29km±7km, mb4.5/11 Error ellipse: s-maj=15.7km s-min=1.3km az=97.0*

ISC 02 16:35:09.7±4.5**, 38°.02N**±0°.04×**143°.90E**±0°.07**, h17**km±29km**, n71, σ2s.09**/82**, mb4.1**/14**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.94**	**279**	P	**Pn**	**16 35 41.2**	**-0.8**
JIKH				S	**Sn**	**16 36 02.7**	**-3.3**
OFUJ	**Ofunato**	**2.05**	**302**	P	**Pn**	**16 35 42.5**	**-0.9**
OFUJ				S	**Sn**	**16 36 06.1**	**-2.5**
JIO	**Ouri**	**2.06**	**283**	P	**Pn**	**16 35 42.9**	**-0.7**
JIO				S	**Sn**	**16 36 05.9**	**-2.9**
JKMT	**Kesennumamotoy**	**2.07**	**293**	P	**Pn**	**16 35 42.8**	**-0.9**
JKMT				S	**Sn**	**16 36 06.6**	**-2.5**
JMK	**Ichinoseki**	**2.30**	**295**	P	**Pn**	**16 35 46.6**	**-0.3**
JMK				S	**Sn**	**16 36 13.1**	**-1.8**
JMM	**Marumori**	**2.46**	**267**		**Pn**	**16 35 48.8**	**-0.3**
JOM	**Ohasama**	**2.51**	**306**	P	**Pn**	**16 35 49.4**	**-0.4**
JOM				*e*S	**Sn**	**16 36 17.9**	**-2.0**
JFT	**Otama**	**2.87**	**261**	P	**Pn**	**16 35 55.1**	**+0.3**
JFT				S	**Sn**	**16 36 27.6**	**-1.3**
JYK	**Kaneyama**	**2.92**	**289**	P	**Pn**	**16 35 55.6**	**+0.1**
JYK				S	**Sn**	**16 36 29.5**	**-0.7**
JANG	**Nango**	**3.00**	**323**	P	**Pn**	**16 35 56.3**	**-0.2**
JANG				*e*S	**Sn**	**16 36 28.3**	**-3.8**
JYT	**Yasato**	**3.46**	**240**	Pn	**Pn**	**16 36 02.6**	**-0.2**
JTM	**Tenmabayashi**	**3.53**	**322**	Pn	**Pn**	**16 36 04.5**	**+0.7**
JNS	**Sasagawa**	**3.63**	**268**	P	**Pn**	**16 36 06.4**	**+1.2**
JAW	**Awa shima**	**3.69**	**278**	P	**Pn**	**16 36 06.8**	**+0.8**
JAG	**Ashikaga**	**3.89**	**247**	P	**Pn**	**16 36 08.4**	**-0.4**
JAG				*e*S	**Sn**	**16 36 52.5**	**-1.6**
JOT	**Ohata**	**4.02**	**328**	P	**Pn**	**16 36 10.9**	**+0.4**
JOT				*e*S	**Sn**	**16 36 52.6**	**-4.6**
ERM	**Erimo**	**4.04**	**352**	Pn	**Pn**	**16 36 09.7**	**-1.0**
BSO1	**Boso 1**	**4.10**	**216**	P	**Pn**	**16 36 10.2**	**-1.0**
JKB	**Kayabe**	**4.45**	**331**	*e*S	**Sn**	**16 37 02.8**	**-5.1**
JSD	**Sado**	**4.46**	**272**	Pn	**Pn**	**16 36 16.7**	**+0.1**
JRY	**Ryogami san**	**4.47**	**245**	P	**Pn**	**16 36 16.7**	**-0.1**
JRY				S	**Sn**	**16 37 04.9**	**-3.6**
JCH	**Churui**	**4.61**	**355**	P	**Pn**	**16 36 17.3**	**-1.4**
JCH				*e*S	**Sn**	**16 37 06.9**	**-4.9**
JOD2	**Odawara 2**	**4.75**	**236**	P	**Pn**	**16 36 20.2**	**-0.4**
JOD2				S	**Sn**	**16 37 10.8**	**-4.4**
MJAR	**Matsushiro Arr**	**4.77**	**254**	Pn	**Pn**	**16 36 21.7**	**+0.8**
	0.8nm,0.3s,baz=66,slow=9.8,SNR=25						
MJAR				Sn	**Sn**	**16 37 16.9**	**+1.0**
	0.7nm,0.3s,baz=74,slow=36,SNR=6.0						
MJAR				LR	LR	16 38 20.9	
	comp=Z,83nm,19.0s,baz=85,slow=40						
MJAR	**Matsushiro Arr**	**4.77**	**254**	Pn	**Pn**	**16 36 21.2**	**+0.3**
MAJO	**Matsushiro**	**4.78**	**254**	Pn	**Pn**	**16 36 22.8**	**+1.9**
MAT	**Matsushiro**	**4.78**	**254**	P	**Pn**	**16 36 22.2**	**+1.3**
MAT				S	**Sn**	**16 37 15.9**	**0.0**
JEW	**Eniwo**	**5.17**	**340**	Pn	**Pn**	**16 36 27.4**	**+1.1**
JGF	**Kuroka**	**5.78**	**247**		**Pn**	**16 36 36.5**	**+1.8**
JHJ2	**Mitsune**	**5.92**	**215**	Pn	**Pn**	**16 36 35.0**	**-1.6**
JHJ	**Hachijo jima 2**	**5.93**	**216**	Pn	**Pn**	**16 36 34.9**	**-1.9**
	26nm,0.3s,baz=347,slow=19,SNR=13						
JHJ				Sn	**Sn**	**16 37 37.6**	**-6.7**
	12nm,0.3s,baz=84,slow=23,SNR=1.6						
INU	**Inuyama**	**6.14**	**246**		**Pn**	**16 36 41.2**	**+1.5**
ASAJ	**Asahikawa**	**6.17**	**351**	Pn	**Pn**	**16 36 39.9**	**-0.2**
	2.2nm,0.3s,baz=194,slow=16,SNR=41						
ASAJ				Sn	**Sn**	**16 37 46.0**	**-4.3**
	1.6nm,0.3s,baz=159,slow=8.0,SNR=3.6						
JKA	**Kamikawa-asahi**	**6.17**	**351**		**Pn**	**16 36 40.1**	**0.0**
JWT	**Wachi**	**7.36**	**251**		**Pn**	**16 36 57.9**	**+1.5**
JHS	**Saijyo**	**9.19**	**254**	Pn	**Pn**	**16 37 23.5**	**+1.9**
USA0B	**Ussuriysk Arra**	**10.90**	**308**	Pn	**Pn**	**16 37 47.1**	**+2.2**
USRK	**Ussuriysk Ar.**	**10.90**	**308**	Pn	**Pn**	**16 37 46.8**	**+1.9**
	baz=112,slow=13,SNR=8.3						
USRK				LR	LR	16 42 32.0	
	comp=Z,75nm,18.9s,baz=180,slow=40						
USRK	**Ussuriysk Ar.**	**10.90**	**308**	Pn	**Pn**	**16 37 47.6**	**+2.7**
JCJ	**Chichijima**	**10.98**	**188**	Pn	**Pn**	**16 37 41.7**	**-4.4**
	4.3nm,0.3s,baz=303,slow=22,SNR=20						
JCJ				Sn	Sn	16 39 36.3	-12
	8.7nm,0.3s,baz=270,slow=23,SNR=7.5						
JCJ	**Chichijima**	**10.98**	**188**	Pn	**Pn**	**16 37 42.2**	**-4.0**
KSRS	**Korea Array**	**12.67**	**272**	LR	LR	16 42 48.5	
	comp=Z,30nm,20.0s,baz=60,slow=36						
KSAR	**Wonju Array Be**	**12.70**	**272**	Pn	**Pn**	**16 38 07.5**	**-2.0**
KLR	**Kul'dur**	**14.23**	**326**	LR	LR	16 43 18.1	
	comp=Z,45nm,18.9s,baz=141,slow=34						
YULB	**Yu-li**	**24.21**	**239**	P	**P**	**16 40 25.8**	**+0.2**
YULB				IAmb	IAmb	16 40 39.1	
	comp=Z,3.3nm,0.7s						
SEY	**Seymchan**	**25.48**	**9**	P	**P**	**16 40 38.4**	**+1.7**
	comp=Z,0.9nm,0.6s,baz=190,slow=9.6,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**27.03**	**126**	T	T	17 09 10.5	
	baz=318,slow=74,SNR=4.9						
H11N1	**WAKE ISLAND Hy**	**27.04**	**126**	T	T	17 09 11.1	
	baz=318,slow=74,SNR=5.7						
H11N3	**WAKE ISLAND Hy**	**27.05**	**126**	T	T	17 09 14.3	
	baz=318,slow=74,SNR=5.3						
SONM	**Songino Array**	**28.91**	**302**	P	**P**	**16 41 10.5**	**+2.6**
	comp=Z,0.5nm,0.6s,baz=99,slow=9.2,SNR=2.9						
KDAK	**Kodiak Island**	**45.04**	**43**	P	**P**	**16 43 24.6**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=298,slow=11,SNR=5.5						
KDAK	**Kodiak Island**	**45.04**	**43**	P	**P**	**16 43 24.5**	**+0.3**
KDAK				IAmb	IAmb	16 43 35.8	
	comp=Z,8.6nm,1.2s						
MK31	**Makanchi Array**	**45.28**	**302**	P	**P**	**16 43 27.5**	**+1.1**
MKAR	**Makanchi Array**	**45.28**	**302**	P	**P**	**16 43 27.6**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=95,slow=7.4,SNR=3.6						
MKAR	**Makanchi Array**	**45.28**	**302**	P	**P**	**16 43 26.9**	**+0.5**
SCM	**Sheep Creek Mo**	**47.50**	**37**	P	**P**	**16 43 45.3**	**+1.6**
SCM				IAmb	IAmb	16 43 59.8	
	comp=Z,8.6nm,1.3s						
ILAR	**Eielson Array**	**47.60**	**33**	P	**P**	**16 43 45.3**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=260,slow=6.9,SNR=5.8						
VRDI	**Verde Repeater**	**49.40**	**37**	P	**P**	**16 43 60.0**	**+1.5**
VRDI				IAmb	IAmb	16 44 00.6	
	comp=Z,3.2nm,1.1s						
AAK	**Ala-Archa**	**51.76**	**298**	LR	LR	17 09 47.4	
	comp=Z,44nm,18.7s,baz=108,slow=40						
WB0	**Warramunga Arr**	**58.17**	**191**	P	**P**	**16 45 02.4**	**-0.3**
WR0	**Warramunga Arr**	**58.33**	**190**	P	**P**	**16 45 03.7**	**-0.2**
WRAB	**Tennant Creek**	**58.34**	**191**	P	**P**	**16 45 03.7**	**-0.3**
WRAB				IAmb	IAmb	16 45 04.8	
	comp=Z,8.5nm,0.8s						
WB2	**Warramunga Arr**	**58.34**	**191**	P	**P**	**16 45 03.8**	**-0.2**
WB2				IAmb	IAmb	16 45 04.8	
	comp=Z,9.3nm,0.8s						
WRA	**Warramunga Arr**	**58.35**	**191**	P	**P**	**16 45 03.7**	**-0.3**
	comp=Z,7.8nm,0.6s,baz=12,slow=7.3,SNR=74						
WRA	**Warramunga Arr**	**58.35**	**191**	P	**P**	**16 45 03.3**	**-0.8**
ABKAR	**Akbulak array**	**58.82**	**310**	P	**P**	**16 45 08.3**	**+1.3**
AS31	**Alice Springs**	**62.07**	**190**	P	**P**	**16 45 29.4**	**0.0**
AS31				IAmb	IAmb	16 45 53.4	
	comp=Z,1.1nm,1.1s						
ASAR	**Alice Springs**	**62.07**	**190**	P	**P**	**16 45 29.5**	**0.0**
	comp=Z,3.5nm,1.0s,baz=4.8,slow=6.9,SNR=24						
ASAR	**Alice Springs**	**62.07**	**190**	P	**P**	**16 45 29.6**	**+0.1**
FINES	**FINESS Array B**	**68.86**	**333**	LR	LR	17 19 38.7	
	comp=Z,50nm,18.4s,baz=30,slow=39						
NVAR	**Mina Array Bea**	**72.81**	**55**	P	**P**	**16 46 39.1**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=287,slow=7.4,SNR=2.5						

JMA 02 17:04:43.3±0.1**, 24°.25N×123°.74E, h17**km±1km**, M0.3, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.09**	**354**	P	Pg	17 04 46.8	+0.1
IRIF				S	Sg	17 04 49.3	+0.3
HATJ	**Hateruma jima**	**0.20**	**163**	P	Pg	17 04 48.1	0.0
HATJ				*e*S	Sg	17 04 51.5	+0.1
JKRS	**Kuro-shima**	**0.25**	**93**	P	Pg	17 04 48.7	-0.2
JKRS				S	Sb	17 04 53.2	-0.1
JIJ	**Ishigaki jima**	**0.39**	**73**	P	Pg	17 04 51.2	0.0
JIJ				S	Sg	17 04 56.2	-0.4
JISG	**Ishigakijimahi**	**0.62**	**57**	P	Pg	17 04 55.4	-0.1
JISG				*e*S	Sb	17 05 04.0	-0.1

TAP 02 17:05:19.3, 24°.15N×121°.69E, h9km, ML2.3, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.07**	**279**	*e*P	Pg	17 05 22.0	+0.7
	baz=277						
ETL				*e*S	Sg	17 05 23.8	+1.0
	baz=277						
NACB	**Ninganchiao**	**0.09**	**285**	P	Pg	17 05 22.3	+0.7
	baz=285						
NACB				S	Sg	17 05 24.4	+1.0
	baz=285						
TWD	**Chiawan**	**0.11**	**232**	*e*P	Pg	17 05 22.3	+0.4
	baz=229						
TWD				*e*S	Sg	17 05 24.4	+0.6
	baz=229						
ETLH	**Xiulin Townshi**	**0.20**	**287**	P	Pg	17 05 24.3	+0.9
	baz=286						
ETLH				S	Sg	17 05 27.9	+1.5
	baz=286						
ETM	**Tongmen**	**0.26**	**225**	*e*P	Pg	17 05 24.7	+0.2
	baz=224						
ETM				*e*S	Sb	17 05 29.6	-1.2
	baz=224						
ENA	**Nanau**	**0.28**	**9**	*e*P	Pg	17 05 25.7	+0.8
	baz=10.0						
ENA				*e*S	Sb	17 05 30.2	-1.3
	baz=10.0						
TEYL	**Yanliau Villag**	**0.29**	**197**	*e*P	Pb	17 05 26.2	-0.5
	baz=198						
TEYL				*e*S	Sb	17 05 32.1	+0.4
	baz=198						
EWUT	**Wuta**	**0.30**	**15**	*e*P	Pg	17 05 26.1	+0.7
	baz=14						
EWUT				*e*S	Sb	17 05 30.9	-1.2
	baz=14						
WHF	**Hehuan Shan**	**0.39**	**270**	P	Pg	17 05 27.8	+0.7
	baz=269						
WHF				*e*S	Sb	17 05 33.7	-1.3
	baz=269						
ESL	**Shilin**	**0.41**	**216**	*e*P	Pg	17 05 27.5	+0.2
	baz=214						
ESL				S	Sb	17 05 34.7	-0.4
	baz=214						
NNS	**Nan Shan**	**0.41**	**315**	*e*P	Pb	17 05 28.5	-0.4
	baz=315						
NNS				*e*S	Sb	17 05 34.9	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=315						
FUSS	**Fushou**	**0.42**	**284**	*e*P	Pb	17 05 28.6	-0.5
	baz=283						
FUSS				S	Sb	17 05 35.2	-0.5
	baz=283						
TEGC	**Jichi Village**	**0.46**	**198**	*e*S	Sb	17 05 39.2	+2.6
	baz=196						
NDT	**Datong Townshi**	**0.48**	**340**	*e*P	Pb	17 05 29.8	-0.2
	baz=339						
NDT				*e*S	Sb	17 05 37.2	0.0
	baz=339						
TWC	**Suao**	**0.48**	**17**	*e*P	Pb	17 05 29.8	-0.1
	baz=18						
TWC				*e*S	Sb	17 05 37.0	-0.1
	baz=18						
CHGB	**Renai**	**0.48**	**260**	*e*P	Pb	17 05 29.8	-0.4
	baz=259						
CHGB				*e*S	Sb	17 05 37.0	-0.4
	baz=259						
NDS	**Dongshan**	**0.48**	**2**	P	Pb	17 05 29.6	-0.4
	baz=2.0						
NDS				*e*S	Sb	17 05 37.0	-0.2
	baz=2.0						
TDCB	**Techi**	**0.50**	**282**	*e*P	Pb	17 05 30.2	-0.2
	baz=281						
TDCB				*e*S	Sb	17 05 37.4	-0.4
	baz=281						
OWD	**Renai**	**0.51**	**248**	*e*P	Pb	17 05 29.9	-0.6
	baz=247						
OWD				*e*S	Sb	17 05 39.4	+1.2
	baz=247						
EGFH	**Guangfu**	**0.54**	**207**	*e*P	Pb	17 05 30.4	-0.5
	baz=206						
EGFH				*e*S	Sb	17 05 39.3	+0.6
	baz=206						
TWE	**Neicheng**	**0.57**	**358**	P	Pb	17 05 31.2	-0.3
	baz=359						
TWE				*e*S	Sb	17 05 40.1	+0.4
	baz=359						
YHNB	**Yeheng**	**0.59**	**331**	*e*P	Pb	17 05 32.2	+0.2
	baz=330						
YHNB				*e*S	Sb	17 05 40.9	+0.4
	baz=330						
NSK	**Sanguang**	**0.61**	**330**	*e*P	Pb	17 05 32.5	+0.3
	baz=330						
NSK				*e*S	Sb	17 05 41.0	+0.1
	baz=330						
WPL	**Puli Township**	**0.69**	**259**	*e*P	Pn	17 05 34.5	-0.7
	baz=258						
WPL				*e*S	Sb	17 05 43.8	+0.7
	baz=258						
WHP	**Taichung City**	**0.69**	**281**	*e*P	Pb	17 05 33.8	+0.1
	baz=280						
WHP				*e*S	Sb	17 05 44.5	+1.1
	baz=280						
HGSD	**Ruisui**	**0.70**	**201**	*e*P	Pb	17 05 33.8	+0.1
	baz=200						
HGSD				*e*S	Sn	17 05 46.4	0.0
	baz=200						
DPDB	**Guoxing**	**0.71**	**261**	*e*P	Pb	17 05 34.2	+0.3
	baz=260						
DPDB				*e*S	Sb	17 05 44.3	+0.5
	baz=260						
WCS	**Beigang Elemen**	**0.72**	**263**	*e*P	Pb	17 05 33.9	-0.1
	baz=262						
WCS				*e*S	Sb	17 05 44.6	+0.5
	baz=262						
SSLB	**Suanglung**	**0.77**	**242**	*e*P	Pb	17 05 34.7	-0.2
	baz=241						
SSLB				*e*S	Sb	17 05 46.1	+0.7
	baz=241						
SMLT	**Sun Moon Lake**	**0.77**	**250**	*e*P	Pb	17 05 35.0	0.0
	baz=249						
SMLT				*e*S	Sb	17 05 46.5	+0.9
	baz=249						
LIOB	**Emei**	**0.79**	**309**	*e*P	Pn	17 05 36.5	-0.2
	baz=308						
LIOB				*e*S	Sn	17 05 47.9	-0.8
	baz=308						
NSTT	**Nanjuang**	**0.79**	**307**	*e*P	Pg	17 05 34.6	+0.1
	baz=307						
NSTT				*e*S	Sb	17 05 47.4	+1.2
	baz=307						
TYC	**Yuchr**	**0.80**	**252**	*e*P	Pb	17 05 35.7	+0.2
	baz=252						
TYC				*e*S	Sb	17 05 47.6	+1.2
	baz=252						
TIPB	**Shuangxi**	**0.83**	**8**	*e*P	Pb	17 05 36.3	+0.3
	baz=8.0						
TIPB				*e*S	Sb	17 05 47.9	+0.6
	baz=8.0						
YULB	**Yu-li**	**0.84**	**206**	*e*P	Pb	17 05 36.2	+0.2
	baz=205						
YULB				*e*S	Sn	17 05 49.0	-0.8
	baz=205						
TATO	**Taipei**	**0.84**	**347**	*e*S	Sn	17 05 49.2	-0.7
	baz=347						
EYUL	**Yuli**	**0.87**	**203**	*e*P	Pn	17 05 37.5	-0.2
	baz=203						
EYUL				*e*S	Sn	17 05 50.7	+0.1
	baz=203						
TWF1	**Yuli**	**0.87**	**205**	*e*P	Pb	17 05 36.8	+0.2
	baz=204						
TWF1				*e*S	Sn	17 05 50.1	-0.5
	baz=204						
WHYT	**Xinyi Township**	**0.89**	**240**	*e*P	Pb	17 05 37.5	+0.5
	baz=239						
WHYT				*e*S	Sn	17 05 51.8	+0.6
	baz=239						
NWF	**Wu-fen Shan**	**0.92**	**5**	*e*P	Pn	17 05 38.2	-0.3
	baz=5.0						
NWF				*e*S	Sn	17 05 51.9	-0.1
	baz=5.0						
WFSB	**Wu-fen Shan**	**0.92**	**5**	*e*P	Pn	17 05 38.2	-0.2
	baz=4.0						
WFSB				*e*S	Sn	17 05 51.2	-0.7
	baz=4.0						
YUS	**Yu-Shan**	**0.94**	**226**	*e*P	Pn	17 05 38.7	-0.5
	baz=225						
YUS				*e*S	Sb	17 05 52.0	+1.0
	baz=225						
YM01	**YM01**	**1.00**	**354**	*e*P	Pn	17 05 40.2	+0.6
	baz=353						
YM01				*e*S	Sn	17 05 55.1	+1.3
	baz=353						
ALS	**Alishan**	**1.03**	**232**	*e*P	Pb	17 05 39.8	+0.3
	baz=231						
CHN5	**Tsauling**	**1.08**	**240**	*e*P	Pn	17 05 41.4	+0.6
	baz=239						
CHN5				*e*S	Sn	17 05 57.8	+1.9
	baz=239						
ELDTW	**Lidau**	**1.14**	**213**	*e*P	Pn	17 05 42.4	+0.8
	baz=212						
ELDTW				*e*S	Sn	17 05 58.1	+0.7
	baz=212						
LONT	**Longtian**	**1.34**	**203**	*e*P	Pg	17 05 45.1	+0.1
	baz=202						
TWG	**Pinlang**	**1.44**	**203**	*e*P	Pn	17 05 44.5	-1.1
	baz=203						
TWGBT	**Beinan**	**1.44**	**203**	*e*P	Pn	17 05 44.6	-1.0
	baz=202						

NOU 02 17:12:04.7, 21°.90S×170°.69E, h0km, ML4.0/13, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**2.51**	**279**	P	Pn	17 12 46.5	-0.3
PINNC	**Pines Island,**	**3.09**	**256**	P	Pn	17 12 55.0	+0.3
LIFNC	**LIFOU**	**3.41**	**289**	P	Pn	17 12 57.9	-1.2
YATNC	**Mamie plateau,**	**3.53**	**267**	P	Pn	17 12 59.6	-1.2
OUENC	**Ouen Island, N**	**3.60**	**261**	P	Pn	17 13 01.9	+0.1
DZM	**Mont Dzumac**	**3.94**	**267**	P	Pn	17 13 06.5	-0.1
ONTNC	**Ouen Toro**	**3.95**	**263**	P	Pn	17 13 06.4	-0.2
NOUC	**Port Laguerre**	**4.08**	**266**	P	Pn	17 13 07.9	-0.4
RTV	**Rentapao**	**4.61**	**332**	P	Pn	17 13 15.5	-0.2
DVP	**Devils Point**	**4.78**	**330**	P	Pn	17 13 17.8	-0.1
KOUNC	**Koumac, New Ca**	**6.12**	**281**	P	Pn	17 13 38.3	+1.8

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*IDC **02** 17:32:21.5±0.8, 5°.69S×151°.52E, h45km±6km, mb4.0/13, mb1 4.2/13, mb1mx3.9/49, mbtmp4.3/13, MS3.5/10, Ms1 3.5/10, ms1mx3.3/29, Error ellipse: s-maj=20.3km s-min=15.7km az=82.0*

*DJA **02** 17:32:22.9±1.1, 6°S±4°×15°2E±°, h30km±11km, M4.9/16, mB5.3/5, mb4.8/16, MLv5.0/2, Mw(mB)4.7/5*

*NEIC **02** 17:32:24.0±1.1, 5°.75S±0°.08×151°.48E±0°.10, h66km±7km, mb4.9/39, Error ellipse: s-maj=13.7km s-min=11.1km az=93.0*

ISC 02 17:32:22.4±0.4, **5°.77S**±0°.06×**151°.45E**±0°.07, **h50km, n90, σ1.40/83, mb4.7/37, MS3.5/9, 1C, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.73**	**25**	Pn	**Pn**	**17 32 51.4**	**+1.3**
RABL	**Rabaul**	**1.73**	**25**	P	**Pn**	**17 32 51.7**	**+1.6**
MANU	**Manus Island**	**5.50**	**312**		Pn	17 33 48.0	+6.1
HNR	**Honiara**	**9.18**	**114**	LR	LR	17 38 04.1	
	comp=Z,234nm,20.4s,baz=276,slow=38						
HNR	**Honiara**	**9.18**	**114**		**Pn**	**17 34 33.4**	**+1.1**
JAY	**Jayapura**	**11.19**	**286**	LR	LR	17 38 51.4	
	comp=Z,458nm,19.7s,baz=92,slow=35						
COEN	**Coen**	**11.51**	**224**	Pn	**Pn**	**17 35 05.5**	**+1.3**
SANVU	**Saraoutou**	**18.21**	**123**		**P**	**17 36 32.2**	**+0.7**
SANVU				IAmb	IAmb	17 36 34.4	
	comp=Z,68nm,0.9s						
FAKI	**Fak Fak**	**19.35**	**278**	P	**P**	**17 36 45.0**	**+1.0**
EIDS	**Eidsvold**	**19.49**	**181**	P	**P**	**17 36 44.6**	**-0.8**
SAUI	**Saumlaki**	**20.12**	**263**	P	**P**	**17 36 53.8**	**+1.4**
SAUI	**Saumlaki**	**20.12**	**263**	P	**P**	**17 36 54.7**	**+2.3**
	comp=Z,6μmcomp=Z,269nm,0.8s						
GUMO	**Guam**	**20.32**	**341**	LR	LR	17 45 16.9	
	comp=Z,48nm,18.1s,baz=156,slow=38						
SIJI	**Sorong**	**20.72**	**283**	P	**P**	**17 36 58.7**	**-0.2**
	comp=Z,20nm,0.9s,baz=91,slow=7.6,SNR=8.9						
SIJI	**Sorong**	**20.72**	**283**	P	Pn	17 37 03.8	+2.1
	comp=Z,16nm,1.0s						
SWI	**Sorong**	**20.73**	**283**	P	Pn	17 37 05.0	+3.2
	comp=Z,37nm,0.9s						
MTN	**Manton Dam**	**21.23**	**249**	P	**P**	**17 37 04.7**	**+0.4**
MTN				IAmb	IAmb	17 37 08.3	
	comp=Z,50nm,0.5s						
BNDI	**Bandanaira**	**21.49**	**272**	P	P	17 37 15.5	+8.4
WB0	**Warramunga Arr**	**21.65**	**228**	P	**P**	**17 37 08.5**	**-0.3**
WB0				IAmb	IAmb	17 37 12.1	
	comp=Z,20nm,0.8s						
WR0	**Warramunga Arr**	**21.66**	**228**	P	**P**	**17 37 08.6**	**-0.3**
WR0				IAmb	IAmb	17 37 12.1	
	comp=Z,19nm,0.9s						
DZM	**Mont Dzumac**	**21.75**	**140**	*e*P	**P**	**17 37 09.7**	**-0.2**
	comp=Z,49nm,1.2s						
DZM				*e*LR	LR	17 42 24.4	
	comp=Z,774nm,24.4s						
DZM	**Mont Dzumac**	**21.75**	**140**	P	**P**	**17 37 09.4**	**-0.6**
	comp=Z,11nm,0.8s,baz=235,slow=14,SNR=11						
DZM				LR	LR	17 44 21.0	
	comp=Z,418nm,21.9s,baz=290,slow=33						
DZM	**Mont Dzumac**	**21.75**	**140**	P	**P**	**17 37 09.3**	**-0.6**
WRAB	**Tennant Creek**	**21.78**	**228**	P	**P**	**17 37 10.3**	**0.0**
WRAB				IAmb	IAmb	17 37 13.2	
	comp=Z,26nm,0.7s						
WB2	**Warramunga Arr**	**21.79**	**228**	P	**P**	**17 37 09.8**	**-0.5**
WB2				IAmb	IAmb	17 37 13.4	
	comp=Z,24nm,0.7s						
WRA	**Warramunga Arr**	**21.79**	**228**	P	**P**	**17 37 10.2**	**-0.2**
	comp=Z,22nm,0.7s,baz=53,slow=10.0,SNR=52						
WRA	**Warramunga Arr**	**21.79**	**228**	IAmb	IAmb	17 37 13.4	
	comp=Z,0.8nm,0.9s						
KNRA	**Kununurra**	**24.34**	**244**	P	**P**	**17 37 35.8**	**0.0**
KNRA				IAmb	IAmb	17 37 40.8	
	comp=Z,54nm,0.6s						
AS31	**Alice Springs**	**24.53**	**222**	P	**P**	**17 37 37.6**	**+0.1**
ASAR	**Alice Springs**	**24.53**	**222**	P	**P**	**17 37 37.7**	**+0.2**
	comp=Z,9.2nm,0.8s,baz=57,slow=8.6,SNR=120						
ASAR	**Alice Springs**	**24.53**	**222**	P	**P**	**17 37 37.0**	**-0.5**
SOEI	**Soe**	**27.21**	**260**	P	**P**	**17 38 02.4**	**+0.4**
SOEI				IAmb	IAmb	17 38 27.8	
	comp=Z,43nm,0.8s						
SOEI	**Soe**	**27.21**	**260**	P	**P**	**17 38 07.4**	**+5.4**
	comp=Z,61nm,0.9s						
STKA	**Stephens Creek**	**27.56**	**198**	LR	LR	17 49 05.3	
	comp=Z,53nm,19.7s,baz=30,slow=36						
BATI	**Baumata**	**27.85**	**259**	LR	LR	17 49 46.0	
	comp=Z,328nm,18.1s,baz=96,slow=37						
BATI	**Baumata**	**27.85**	**259**	P	**P**	**17 38 13.1**	**+5.5**
	comp=Z,31nm,0.9s						
MMRI	**Maumere**	**29.11**	**263**	P	**P**	**17 38 17.9**	**-0.9**
EDFI	**Ende, Flores**	**29.66**	**262**	P	**P**	**17 38 22.2**	**-1.6**
FORT	**Forrest**	**33.19**	**219**	P	**P**	**17 38 54.0**	**-0.5**
PSA00	**Pilbara Seismi**	**34.38**	**240**	P	**P**	**17 39 04.1**	**-0.9**
PSA00				IAmb	IAmb	17 39 09.8	
	comp=Z,31nm,0.9s						
PSA00	**Pilbara Seismi**	**34.38**	**240**	P	**P**	**17 39 04.3**	**-0.6**
PSA00				IAmb	IAmb	17 39 09.8	
	comp=Z,16nm,1.0s						
JAGI	**Jajag, Banyuwa**	**37.09**	**264**	P	**P**	**17 39 26.4**	**-1.9**
PWJI	**Pagerwojo**	**39.41**	**264**	P	**P**	**17 39 48.2**	**+0.4**
	comp=Z,43nm,1.6s						
GIRL	**Giralia**	**39.62**	**241**	P	**P**	**17 39 49.9**	**+0.4**
URZ	**Urewera**	**39.86**	**148**	P	**P**	**17 39 50.9**	**-0.3**
URZ				IAmb	IAmb	17 39 58.7	
	comp=Z,33nm,1.2s						
UGM	**Wanagama**	**40.67**	**265**	P	**P**	**17 39 57.5**	**-0.9**
MORW	**Morawa**	**40.69**	**231**	P	**P**	**17 39 57.3**	**-1.0**
MORW				IAmb	IAmb	17 40 01.4	
	comp=Z,28nm,1.3s						
TUWZ	**Tuamarina**	**40.79**	**154**	P	**P**	**17 39 58.4**	**-0.4**
YOJ	**Yonaguni jima**	**40.87**	**318**	P	**P**	**17 39 59.6**	**-0.1**
SSLB	**Suanglung**	**41.81**	**316**	P	**P**	**17 40 07.5**	**-0.1**
SSLB				IAmb	IAmb	17 40 22.9	
	comp=Z,15nm,1.3s						
MLZ	**Mavora Lakes**	**42.03**	**162**	P	**P**	**17 40 08.4**	**-0.7**
MLZ				IAmb	IAmb	17 40 09.7	
	comp=Z,19nm,1.0s						
CISI	**Cisompet, Garu**	**43.36**	**265**	P	**P**	**17 40 19.2**	**-1.1**
CISI	**Cisompet, Garu**	**43.36**	**265**	P	**P**	**17 40 20.4**	**+0.1**
	comp=Z,739nmcomp=Z,58nm,1.2s						
KSRS	**Korea Array**	**48.28**	**335**	LR	LR	18 00 24.9	
	comp=Z,27nm,19.4s,baz=160,slow=35						
NJ2	**Nanjing**	**48.77**	**323**	*e*P	**P**	**17 41 04.6**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
GSI	**Gunungsitoli**	**54.25**	**276**	P	**P**	**17 41 42.1**	**-1.8**
GSI				IAmb	IAmb	17 41 58.1	
	comp=Z,28nm,1.4s						
KMI	**Kunming**	**56.42**	**305**	⇑P	**P**	**17 42 00.3**	**+0.7**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**57.08**	**296**	P	**P**	**17 42 04.5**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=122,slow=5.3,SNR=9.0						
CMAR				LR	LR	18 06 06.9	
	comp=Z,30nm,18.9s,baz=196,slow=36						
CMAR	**Chiang Mai Arr**	**57.08**	**296**	P	**P**	**17 42 03.2**	**-0.9**
CHTO	**Chiang Mai**	**57.20**	**297**	P	**P**	**17 42 04.2**	**-0.7**
KLR	**Kul'dur**	**57.41**	**345**	P	**P**	**17 42 05.4**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=189,slow=6.8,SNR=4.6						
HHC	**Hu-ho-hao-te**	**59.06**	**325**	*e*P	**P**	**17 42 19.2**	**+1.5**
HHC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SONM	**Songino Array**	**66.44**	**329**	P	**P**	**17 43 06.9**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=133,slow=5.9,SNR=8.2						
SONM				pP	**pP**	**17 43 20.7**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=134,slow=6.2,SNR=3.8						
SONM				LR	LR	18 11 21.1	
	comp=Z,34nm,20.4s,baz=112,slow=35						
SONM	**Songino Array**	**66.44**	**329**	P	**P**	**17 43 07.0**	**+0.3**
SEY	**Seymchan**	**68.52**	**0**	P	**P**	**17 43 17.9**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=188,slow=7.1,SNR=4.5						
VNDA	**Vanda**	**71.92**	**178**	P	**P**	**17 43 40.2**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=321,slow=6.6,SNR=14						
VNDA	**Vanda**	**71.92**	**178**	P	**P**	**17 43 40.3**	**+0.3**
WMQ	**Urumqi**	**75.55**	**318**	*e*P	**P**	**17 44 03.4**	**+1.5**
WMQ				LR	LR		
	comp=N,380nm,29.0s						
WMQ				LR	LR		
	comp=E,650nm,29.2s						
WMQ				LR	LR		
	comp=Z,3μm,28.9s						
KDAK	**Kodiak Island**	**77.65**	**27**	P	**P**	**17 44 12.6**	**-0.8**
KDAK				IAmb	IAmb	17 44 23.6	
	comp=Z,20nm,1.5s						
Q19K	**Cape Douglas,**	**77.81**	**26**	P	**P**	**17 44 13.1**	**-1.2**
Q19K				IAmb	IAmb	17 44 15.1	
	comp=Z,13nm,0.6s						
SVW2	**Sparrevohn**	**78.24**	**23**	P	**P**	**17 44 16.0**	**-0.6**
SVW2				IAmb	IAmb	17 44 32.5	
	comp=Z,5.4nm,1.0s						
P19K	**Oil Pt**	**78.38**	**25**	P	**P**	**17 44 16.5**	**-0.9**
MKAR	**Makanchi Array**	**80.17**	**319**	P	**P**	**17 44 26.6**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=93,slow=7.3,SNR=6.1						
PWL	**Port Wells**	**81.10**	**25**	P	**P**	**17 44 31.6**	**-0.5**
PWL				IAmb	IAmb	17 44 47.0	
	comp=Z,11nm,0.9s						
ZALV	**Zalesovo Beam**	**81.22**	**327**	P	**P**	**17 44 31.2**	**-1.6**
	comp=Z,1.2nm,0.4s,baz=122,slow=6.3,SNR=6.5						
ZALV				LR	LR	18 21 36.3	
	comp=Z,32nm,19.6s,baz=131,slow=36						
MLY	**Manley**	**82.27**	**21**	P	**P**	**17 44 37.3**	**-1.0**
ILAR	**Eielson Array**	**83.56**	**22**	P	**P**	**17 44 43.1**	**-1.8**
	comp=Z,2.4nm,0.6s,baz=248,slow=5.4,SNR=16						
ILAR				pP	**pP**	**17 44 57.0**	**-2.4**
	comp=Z,2.5nm,0.8s,baz=255,slow=5.2,SNR=7.1						
ILAR	**Eielson Array**	**83.56**	**22**	P	**P**	**17 44 43.3**	**-1.6**
M27K	**Edge Creek, AK**	**84.53**	**25**	P	**P**	**17 44 49.9**	**-0.2**
M27K				IAmb	IAmb	17 45 05.2	
	comp=Z,5.1nm,0.8s						
DAWY	**Dawson**	**86.22**	**24**	P	**P**	**17 44 59.3**	**+0.9**
DAWY				IAmb	IAmb	17 45 00.2	
	comp=Z,8.5nm,1.3s						
BVAR	**Borovoye Array**	**89.21**	**323**	P	**P**	**17 45 10.9**	**-1.9**
	comp=Z,0.7nm,0.5s,baz=165,slow=6.2,SNR=5.9						
CLL	**Collm**	**123.03**	**330**	*e*PKPdf	**PKPdf**	**17 51 13.0**	**-0.4**
KHC	**Kasperske Hory**	**124.06**	**328**	*e*PKPDF	**PKPdf**	**17 51 15.0**	**-0.5**
GERES	**GERESS Array B**	**124.16**	**328**	PKP	**PKPdf**	**17 51 15.5**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=96,slow=1.3,SNR=11						
GERES	**GERESS Array B**	**124.16**	**328**		**PKPdf**	**17 51 14.8**	**-0.9**
PTGA	**Pitinga**	**147.98**	**101**	PKPbc	**PKPbc**	**17 52 03.6**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=276,slow=6.7,SNR=8.4						
TORD	**Torodi Ar. Bea**	**149.30**	**286**	PKPbc	**PKPbc**	**17 52 06.7**	**-0.1**
	comp=Z,12nm,0.8s,baz=66,slow=2.7,SNR=36						
TORD				PKPab	**PKiKP**	**17 52 11.2**	**+3.3**
	comp=Z,3.3nm,0.3s,baz=64,slow=3.6,SNR=13						
TORD				pPKPbc	**pPKPdf**	**17 52 19.6**	**+2.1**
	comp=Z,2.6nm,0.7s,baz=59,slow=3.0,SNR=4.4						
TORD	**Torodi Ar. Bea**	**149.30**	**286**		**PKPdf**	**17 52 05.6**	**+3.2**
BDFB	**Brasilia**	**151.29**	**138**	PKPbc	**PKPbc**	**17 52 11.2**	**-0.4**
	comp=Z,1.8nm,0.4s,baz=203,slow=7.7,SNR=3.0						
DBIC	**Dimbokro**	**156.43**	**273**	PKPab	**PKPab**	**17 52 41.4**	**-0.1**
	comp=Z,5.8nm,0.8s,baz=69,slow=5.7,SNR=3.0						

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*IDC **02** 17:39:16.9±1.5, 22°.76S×67°.13W, h0km, mb3.7/4, mb1 4.1/8, mb1mx3.9/30, mbtmp3.9/8, ML3.9/4, MS3.9/13, Ms1 3.9/13, ms1mx3.7/21, Error ellipse: s-maj=35.8km s-min=20.9km az=2.0*

*VAO **02** 17:39:21.2±0.3, 22°.31S×67°.30W, h10km, mb4.2*

*NEIC **02** 17:39:21.9±2.3, 22°.54S±0°.06×67°.30W±0°.05, h47km±7km, mb4.6/45, Error ellipse: s-maj=9.8km s-min=6.0km az=160.0*

*GUC **02** 17:39:26.8±2.8, 22°.37S×67°.81W, h0km±43km, ML3.3*

ISC 02 17:39:22.8±0.5, **22°.48S**±0°.05×**67°.30W**±0°.06, **h50km, n139, σ1.72/124, mb4.6/23, MS3.9/9, 6C-1D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
				Op	ISC	h m s	ISC
AF01	**San Pedro de A**	**0.94**	**240**	⇑*i*P	**Pn**	**17 39 38.5**	**-1.6**
AF01	**San Pedro de A**	**0.94**	**240**		**Pn**	**17 39 38.4**	**-1.6**
LVC	**Limon Verde**	**1.49**	**265**	Pn	**Pn**	**17 39 47.1**	**-0.5**
	19nm,0.3s,baz=69,slow=15,SNR=199						
LVC	**Limon Verde**	**1.49**	**265**	*e*P	**Pn**	**17 39 47.1**	**-0.5**
LVC	**Limon Verde**	**1.49**	**265**	Pn	**Pn**	**17 39 47.0**	**-0.7**
LVC	**Limon Verde**	**1.49**	**265**	*e*P	**Pn**	**17 39 47.2**	**-0.5**
PB09	**IPOC Station P**	**1.92**	**290**	*e*P	**Pn**	**17 39 54.4**	**+1.0**
PB09				IAML		17 40 03.4	
	comp=E,1μm,0.9s						
PB09	**IPOC Station P**	**1.92**	**290**		**Pn**	**17 39 53.8**	**+0.4**
PB06	**IPOC Station P**	**2.11**	**263**	⇑*i*P	**Pn**	**17 39 59.1**	**+3.2**
PB06	**IPOC Station P**	**2.11**	**263**		**Pn**	**17 39 56.3**	**+0.4**
PB15	**IPOC Station P**	**2.13**	**250**	⇑*i*P	**Pn**	**17 39 58.9**	**+2.7**
PB15	**IPOC Station P**	**2.13**	**250**		**Pn**	**17 39 57.5**	**+1.3**
PB01	**IPOC Station P**	**2.48**	**305**		**Pn**	**17 40 02.9**	**+1.9**
PB07	**IPOC Station P**	**2.51**	**287**	⇑*i*P	**Pn**	**17 40 03.7**	**+2.3**
PB07	**IPOC Station P**	**2.51**	**287**		**Pn**	**17 40 03.5**	**+2.1**
PB04	**IPOC Station P**	**2.64**	**273**	*e*P	**Pn**	**17 40 05.4**	**+2.2**
PB04	**IPOC Station P**	**2.64**	**273**		**Pn**	**17 40 04.5**	**+1.4**
PB05	**IPOC Station P**	**2.71**	**262**	⇑*i*P	**Pn**	**17 40 06.2**	**+2.2**
PB08	**IPOC Station P**	**2.90**	**323**	*i* P	**Pn**	**17 40 10.2**	**+3.3**
PB08	**IPOC Station P**	**2.90**	**323**		**Pn**	**17 40 08.1**	**+1.2**
PB10	**IPOC Station P**	**3.17**	**250**	⇑*i*P	Pn	17 40 15.4	+5.1
PB10				IAML		17 40 23.6	
	comp=E,80nm,0.4s						
PB10	**IPOC Station P**	**3.17**	**250**	Pn	**Pn**	**17 40 11.7**	**+1.5**
TA01	**Diego Aracena**	**3.29**	**305**	*e*P	**Pn**	**17 40 13.7**	**+1.8**
TA01	**Diego Aracena**	**3.29**	**305**	Pn	**Pn**	**17 40 13.8**	**+1.8**
PB14	**IPOC Station P**	**3.56**	**233**	*e*P	Pn	17 40 19.9	+4.0
PB14	**IPOC Station P**	**3.56**	**233**	Pn	**Pn**	**17 40 17.4**	**+1.5**
PSGC	**Pisagua**	**3.90**	**317**	⇓*i*P	**Pn**	**17 40 20.9**	**+0.6**
PSGCX	**Pisagua**	**3.90**	**317**	Pn	**Pn**	**17 40 21.5**	**+1.2**
AC02	**Maricunga**	**4.64**	**201**	Pn	Pn	17 40 34.7	+3.7
GO03	**Copiap**	**5.74**	**207**	Pn	**Pn**	**17 40 47.2**	**+1.6**
LPAZ	**La Paz**	**6.21**	**353**	Pn	**Pn**	**17 40 55.1**	**+2.5**
	comp=E,0.5nm,0.3s,baz=171,slow=9.8,SNR=20						
LPAZ				LR	LR	17 43 35.4	
	comp=E,603nm,18.6s,baz=162,slow=40						
LPAZ	**La Paz**	**6.21**	**353**	Pn	**Pn**	**17 40 53.1**	**+0.6**
LPAZ	**La Paz**	**6.21**	**353**	*e*P	**Pn**	**17 40 52.2**	**-0.4**
AC04	**Llanos de Chal**	**6.64**	**210**	Pn	**Pn**	**17 40 57.8**	**-0.1**
GO04	**Tololo Observa**	**8.28**	**202**	Pn	**Pn**	**17 41 20.3**	**-0.2**
SIV	**San Ignacio**	**8.73**	**43**	Pn	**Pn**	**17 41 24.7**	**-1.9**
	comp=E,3.1nm,0.3s,baz=245,slow=11,SNR=52						
CPUP	**Villa Florida**	**9.86**	**115**	Pn	**Pn**	**17 41 38.4**	**-3.6**
	comp=E,0.2nm,0.3s,baz=291,slow=12,SNR=6.1						
CPUP				LR	LR	17 46 03.7	
	comp=E,594nm,20.3s,baz=296,slow=42						
CPUP	**Villa Florida**	**9.86**	**115**	Pn	**Pn**	**17 41 40.2**	**-1.8**
CPUP	**Villa Florida**	**9.86**	**115**	*e*P	**Pn**	**17 41 42.4**	**+0.4**
PTLB	**Pontes e Lacer**	**10.42**	**49**	*e*P	**Pn**	**17 41 48.4**	**-1.2**
VILB	**Vilhena**	**11.64**	**37**	*e*P	**Pn**	**17 42 05.4**	**-1.0**
ITQB	**Itaqui**	**11.97**	**129**	*e*P	**Pn**	**17 42 13.7**	**+2.9**
ETMB	**Extrema**	**12.63**	**5**	*e*P	**Pn**	**17 42 19.4**	**-0.5**
PP1B	**Ponte de Pedra**	**12.64**	**70**	*e*P	**Pn**	**17 42 19.9**	**-0.2**
SALV	**Santo Antonio**	**12.77**	**61**	*e*P	**Pn**	**17 42 22.1**	**+0.3**
ML02	**Panimavida**	**13.71**	**194**	Pn	**Pn**	**17 42 34.9**	**+0.3**
NNA	**Nana**	**13.85**	**317**	LR	LR	17 48 13.3	
	comp=E,175nm,19.2s,baz=152,slow=38						
SAML	**Samuel**	**14.02**	**17**	Pn	**Pn**	**17 42 36.0**	**-2.9**
SAML	**Samuel**	**14.02**	**17**	*e*P	**Pn**	**17 42 37.8**	**-1.1**
PTGB	**Pitanga**	**14.14**	**102**	*e*P	**P**	**17 42 43.5**	**-3.3**
ITAB	**Concordia**	**14.56**	**112**	*e*P	**P**	**17 42 49.4**	**-1.9**
CPSB	**Cacapava Do Su**	**14.70**	**125**	*e*P	**P**	**17 42 50.5**	**-2.4**
PCMB	**Pacaembu**	**14.90**	**90**	*e*P	**P**	**17 42 52.5**	**-2.7**
PLTB	**Pedras Altas**	**15.29**	**130**	*e*P	**P**	**17 42 58.7**	**-0.7**
CZSB	**Cruzeiro do Su**	**15.56**	**340**	*e*P	**Pn**	**17 42 58.9**	**-0.1**
CLDB	**Colider**	**15.95**	**45**	*e*P	**Pn**	**17 43 03.4**	**-0.6**
ITRB	**Iturama**	**16.05**	**83**	*e*P	**P**	**17 43 07.1**	**-0.9**
ARAG	**Araguaiana, MT**	**16.11**	**68**	*e*P	**P**	**17 43 07.0**	**-1.6**
TRQA	**Tornquist**	**16.18**	**165**	*e*P	**P**	**17 43 11.8**	**+2.4**
CNLB	**Canela**	**16.28**	**118**	*e*P	**P**	**17 43 11.0**	**+0.4**
FRTB	**Fartura**	**16.37**	**96**	*e*P	**P**	**17 43 10.7**	**-0.8**
LC01	**Cunco**	**16.83**	**192**		**P**	**17 43 14.3**	**-2.2**
SPB	**Sao Paulo**	**18.32**	**97**	*e*P	**Pn**	**17 43 35.3**	**+1.9**
TBTG	**Tabatinga, AM**	**18.36**	**352**	*e*P	**Pn**	**17 43 35.0**	**+1.0**
PLCA	**Paso Flores**	**18.40**	**188**	P	**Pn**	**17 43 35.2**	**+0.8**
PLCA	**Paso Flores**	**18.40**	**188**	*e*P	**Pn**	**17 43 38.5**	**+4.1**
IPMB	**Ipameri, GO**	**18.46**	**79**	*e*P	**Pn**	**17 43 36.8**	**+1.5**
SNDB	**Serra Nova Dou**	**18.50**	**58**	*e*P	**Pn**	**17 43 37.0**	**+1.4**
VAO	**Valinhos**	**18.77**	**96**	*e*P	**Pn**	**17 43 40.3**	**+1.4**
LL04	**Puerto Octay**	**18.87**	**192**	P	**Pn**	**17 43 39.1**	**-0.9**
NPGB	**Novo Progresso**	**19.18**	**39**	*e*P	**Pn**	**17 43 43.1**	**-0.7**
BDFB	**Brasilia**	**19.45**	**73**	P	**Pn**	**17 43 46.2**	**-0.9**
	comp=E,0.2nm,0.3s,baz=263,slow=9.1,SNR=6.9						
BDFB				LR	LR	17 51 48.4	
	comp=E,220nm,21.2s,baz=291,slow=39						
BDFB	**Brasilia**	**19.45**	**73**	P	**P**	**17 43 43.8**	**-1.8**
BDFB				IAmb	IAmb	17 43 50.8	
	comp=Z,24nm,1.3s						
PARB	**Paraibuna**	**19.99**	**97**	*e*P	**Pn**	**17 43 55.0**	**+1.6**
PEXB	**Peixe**	**20.84**	**63**	*e*P	Pn	17 44 02.3	-1.3
BSCB	**Bom Sucesso**	**20.98**	**90**	*e*P	Pn	17 44 05.0	-0.2
ITTB	**Itaituba**	**21.20**	**34**	*e*P	**P**	**17 44 05.0**	**+0.5**
VAS01	**Vassouras-RJ**	**22.06**	**94**	*e*P	**P**	**17 44 15.6**	**+1.9**
DIAM	**Diamantina, MG**	**22.53**	**84**	*e*P	**P**	**17 44 21.4**	**+2.6**
PTGA	**Pitinga**	**22.77**	**19**	P	**P**	**17 44 23.4**	**+2.3**
	comp=Z,1.1nm,0.3s,baz=194,slow=11,SNR=4.9						
PTGA				LR	LR	17 53 23.1	
	comp=Z,267nm,20.1s,baz=182,slow=37						
JANB	**Januaria**	**22.96**	**75**	*e*P	**P**	**17 44 26.1**	**+2.8**
DUB01	**Friburgo-RJ**	**23.07**	**94**	*e*P	**P**	**17 44 27.6**	**+3.3**
SMTB	**Santa Maria do**	**23.27**	**58**	*e*P	**P**	**17 44 27.8**	**+1.5**
BSFB	**Barra de Sao F**	**25.01**	**87**	*e*P	**P**	**17 44 44.0**	**+1.8**
OTAV	**Otavalo**	**25.06**	**333**	*e*P	**P**	**17 44 44.5**	**+1.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FLOC	**Florencia**	**25.27**	**340**	P	**P**	**17 44 43.0**	**-1.6**
FLOC				IAmb	IAmb	17 44 48.0	
	comp=Z,27nm,1.3s						
ROSC	**El Rosal**	**28.01**	**345**	LR	LR	17 57 13.8	
	comp=Z,248nm,19.4s,baz=234,slow=38						
RUSC	**La Rusia**	**28.76**	**348**	P	**P**	**17 45 13.7**	**-2.8**
RUSC				IAmb	IAmb	17 45 28.5	
	comp=Z,8.6nm,1.0s						
NBPS	**Pedro II - PI**	**30.81**	**58**	*e*P	**P**	**17 45 36.4**	**+2.1**
NBMA	**Muriti-CE**	**31.31**	**66**	*e*P	P	17 45 42.9	+4.3
SDV	**Santo Domingo**	**31.34**	**354**	*e*P	**P**	**17 45 38.8**	**-0.2**
PDPR	**Patillas Dam,**	**40.27**	**2**	P	**P**	**17 46 53.3**	**-1.8**
X48A	**Hartselle**	**59.65**	**341**	P	**P**	**17 49 21.1**	**-0.8**
X48A				IAmb	IAmb	17 49 29.8	
	comp=Z,5.2nm,0.9s						
V52A	**Sevierville**	**60.02**	**345**	P	**P**	**17 49 24.1**	**-0.4**
V52A				IAmb	IAmb	17 49 28.6	
	comp=Z,8.9nm,1.3s						
U54A	**Nelsons Funny**	**60.27**	**347**	P	**P**	**17 49 26.0**	**-0.2**
OXF	**Oxford**	**60.45**	**339**	P	**P**	**17 49 25.8**	**-1.5**
PLAL	**Pickwick Lake**	**60.45**	**340**	P	**P**	**17 49 25.4**	**-2.0**
PLAL				IAmb	IAmb	17 49 34.8	
	comp=Z,7.5nm,1.3s						
BLA	**Blacksburg**	**60.65**	**348**	P	**P**	**17 49 28.3**	**-0.5**
V48A	**Smith Brothers**	**60.78**	**342**	P	**P**	**17 49 29.0**	**-0.6**
V48A				IAmb	IAmb	17 49 37.6	
	comp=Z,7.5nm,1.1s						
CLTN	**Cedars of Leba**	**60.97**	**342**	P	**P**	**17 49 30.0**	**-0.9**
CLTN				IAmb	IAmb	17 49 39.2	
	comp=Z,6.6nm,1.0s						
WVT	**Waverly**	**61.44**	**341**	P	**P**	**17 49 33.5**	**-0.6**
WVT				IAmb	IAmb	17 49 42.1	
	comp=Z,6.5nm,0.9s						
T47A	**Sharon Grove**	**62.03**	**342**	P	**P**	**17 49 37.3**	**-0.7**
R50A	**Paris**	**62.52**	**345**	P	**P**	**17 49 40.4**	**-0.9**
R50A				IAmb	IAmb	17 50 07.5	
	comp=Z,6.1nm,1.2s						
SIUC	**Southern Illin**	**63.33**	**341**	P	**P**	**17 49 46.2**	**-0.4**
MGMO	**Mountain Grove**	**63.81**	**338**	P	**P**	**17 49 49.8**	**-0.2**
MGMO				IAmb	IAmb	17 49 59.2	
	comp=Z,9.5nm,1.3s						
N53A	**Lisbon**	**64.21**	**349**	P	**P**	**17 49 51.7**	**-0.8**
CCM	**Cathedral Cave**	**64.28**	**339**	P	**P**	**17 49 54.8**	**+1.8**
CCM				IAmb	IAmb	17 49 56.4	
	comp=Z,10.0nm,1.4s						
N47A	**Urbana**	**65.31**	**345**	P	**P**	**17 50 00.8**	**+1.2**
DBIC	**Dimbokro**	**67.59**	**72**	LR	LR	18 19 06.6	
	comp=Z,102nm,19.0s,baz=216,slow=35						
BGNE	**Belgrade**	**69.71**	**336**	P	**P**	**17 50 28.4**	**+1.0**
E43A	**Lone Tree Farm**	**70.82**	**346**	P	**P**	**17 50 31.5**	**-2.5**
KNB	**Kanab**	**73.09**	**323**	P	**P**	**17 50 46.3**	**-1.9**
KNB				IAmb	IAmb	17 51 03.3	
	comp=Z,8.5nm,1.2s						
LCMT	**Little Creek M**	**73.33**	**323**	P	**P**	**17 50 48.2**	**-1.3**
SRU	**San Rafael Swe**	**73.41**	**326**	P	**P**	**17 50 49.2**	**-0.8**
CCUT	**Cedar City**	**73.78**	**323**	P	**P**	**17 50 50.7**	**-1.5**
MVU	**Marysvale**	**73.85**	**325**	P	**P**	**17 50 52.9**	**+0.3**
MVU				IAmb	IAmb	17 51 07.4	
	comp=Z,11nm,1.0s						
SPR3	**Spring Creek 3**	**75.35**	**324**	P	**P**	**17 50 59.8**	**-1.6**
PDAR	**Pinedale Array**	**75.71**	**329**	P	**P**	**17 51 07.1**	**+3.8**
	comp=Z,0.3nm,0.3s,baz=134,slow=3.9,SNR=1.8						
PDAR				LR	LR	18 29 12.6	
	comp=Z,51nm,19.1s,baz=258,slow=39						
PDAR	**Pinedale Array**	**75.71**	**329**	P	**P**	**17 51 04.1**	**+0.9**
HWUT	**Hardware Ranch**	**75.81**	**327**	P	**P**	**17 51 03.4**	**-0.4**
TORD	**Torodi Ar. Bea**	**76.29**	**69**	P	**P**	**17 51 05.9**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=261,slow=8.4,SNR=3.2						
TORD	**Torodi Ar. Bea**	**76.29**	**69**	IAmb	IAmb	17 51 20.8	
	comp=Z,5.3nm,1.4s						
PPT	**Papeete**	**76.55**	**256**	LR	LR	18 17 04.6	
	comp=Z,125nm,20.9s,baz=110,slow=30						
TPAW	**Teton Pass**	**76.92**	**329**	P	**P**	**17 51 09.9**	**-0.2**
TPAW				IAmb	IAmb	17 51 24.7	
	comp=Z,10nm,1.4s						
NVAR	**Mina Array Bea**	**77.19**	**321**	P	**P**	**17 51 14.9**	**+3.2**
	comp=Z,0.1nm,0.3s,baz=116,slow=2.1,SNR=1.5						
KVN	**Kaiserville**	**77.49**	**322**	P	**P**	**17 51 13.4**	**+0.1**
KVN				IAmb	IAmb	17 51 23.2	
	comp=Z,5.2nm,1.2s						
YHH	**Holmes Hill**	**77.85**	**330**	P	**P**	**17 51 13.4**	**-2.0**
YHH				IAmb	IAmb	17 51 30.4	
	comp=Z,11nm,1.4s						
PAHR	**Pah Rah Range**	**78.67**	**322**	P	**P**	**17 51 17.9**	**-1.9**
PAHR				IAmb	IAmb	17 51 30.3	
	comp=Z,5.3nm,0.9s						
HLID	**Hailey**	**78.67**	**327**	P	**P**	**17 51 18.0**	**-1.7**
HLID				IAmb	IAmb	17 51 29.7	
	comp=Z,10nm,1.4s						
BEKR	**Beckworth**	**79.33**	**321**		**P**	**17 51 22.1**	**-1.4**
ORV	**Oroville**	**79.80**	**320**	P	**P**	**17 51 24.8**	**-1.0**
ORV				IAmb	IAmb	17 51 36.3	
	comp=Z,11nm,1.3s						
BMO	**Blue Mountains**	**81.05**	**327**	P	**P**	**17 51 30.7**	**-1.8**
BOSA	**Boshof**	**81.67**	**117**	LR	LR	18 25 03.1	
	comp=Z,76nm,18.4s,baz=178,slow=34						
E09A	**Wood Farm, Sta**	**82.62**	**327**	P	**P**	**17 51 39.0**	**-1.6**
ESDC	**Sonseca Array**	**85.49**	**44**	LR	LR	18 29 35.7	
	comp=Z,39nm,18.1s,baz=245,slow=35						
YKA	**Yellowknife Ar**	**92.61**	**340**	LR	LR	18 38 32.0	
	comp=Z,42nm,18.2s,baz=0.0,slow=38						
KEST	**Kesra**	**92.71**	**52**	LR	LR	18 36 10.3	
	comp=Z,147nm,18.7s,baz=218,slow=37						
MKAR	**Makanchi Array**	**145.52**	**38**	PKPbc	**PKPab**	**17 58 56.4**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=298,slow=3.1,SNR=3.2						
MKAR	**Makanchi Array**	**145.52**	**38**		**PKPdf**	**17 58 52.4**	**-3.1**

IDC 02 18:04:23.1±9.5**, 17°.80S**×**177°.32W, h404**km±26km**, mb3.2**/3**, mb1 3.4**/4**, mb1mx3.0**/27**, mbtmp3.9**/4**, Error ellipse: s-maj=213.1km s-min=34.0km az=36.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.41**	**270**	P	P	18 05 39.4	+0.2
	0.6nm,0.3s,baz=109,slow=13,SNR=13						
WRA	**Warramunga Arr**	**45.67**	**259**	P	P	18 12 05.2	-0.7
	0.4nm,0.3s,baz=90,slow=7.8,SNR=27						
ASAR	**Alice Springs**	**45.81**	**254**	P	P	18 12 07.5	+0.5
	2.5nm,0.5s,baz=87,slow=8.0,SNR=79						
VNDA	**Vanda**	**60.65**	**185**	P	P	18 13 52.6	-0.1
	1.0nm,0.9s,baz=7.6,slow=7.5,SNR=5.9						

MEX 02 18:16:06.9±0.7**, 15°.49N**×**92°.33W, h192**km±6km**, MD3.9, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THIG		**0.58**	**174**	*e*P	Pn	18 16 31.9	-1.6
THIG				*e*S	Sn	18 16 52.8	-1.3
CCIG	**Comitan**	**0.81**	**13**	*e*P	Pn	18 16 33.8	-1.1
CCIG				*e*S	Sn	18 16 53.6	-3.1
PCIG		**0.88**	**284**	*e*P	Pn	18 16 33.8	-1.3
PCIG				*e*S	Sn	18 16 54.5	-2.4
CMIG	**Matias Romero**	**2.92**	**303**	*e*P	Pn	18 16 54.2	-1.0
CMIG				*e*S	Sn	18 17 29.5	-3.5

*TAP **02** 18:31:00.7, 24°.85N×122°.00E, h10km, ML3.0, C*
*JMA **02** 18:31:01.5±0.1, 24°.86N×121°.96E, h31km, M2.4*
ISC 02 18:31:01.1±0.8**, 24°.85N**±0°.02×**122°.02E**±0°.02**, h10**km±5km**, n83, σ0.60**/120**, 3C, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EGS		**0.08**	**267**	*i* P	**Pg**	**18 31 03.3**	**0.0**
	baz=263						
EGS				*i* S	**Sg**	**18 31 04.7**	**-0.2**
	baz=263						
TWB1	**Santiao Chiao**	**0.16**	**351**⇑	*i*P	**Pg**	**18 31 04.6**	**0.0**
	baz=357						
TWB1				*i* S	**Sg**	**18 31 06.9**	**-0.1**
	baz=357						
NTC	**Toucheng**	**0.17**	**272**	P	**Pg**	**18 31 04.8**	**+0.1**
	baz=272						
NTC				S	**Sg**	**18 31 07.3**	**+0.1**
	baz=272						
TIPB	**Shuangxi**	**0.21**	**305**⇑	*i*P	**Pg**	**18 31 05.6**	**+0.1**
	baz=306						
TIPB				*i* S	**Sg**	**18 31 08.7**	**+0.2**
	baz=306						
ILA	**Ilan**	**0.26**	**251**	*e*P	**Pg**	**18 31 06.3**	**0.0**
	baz=250						
ILA				S	**Sg**	**18 31 10.4**	**+0.6**
	baz=250						
TWC	**Suao**	**0.28**	**212**	*i* P	**Pg**	**18 31 06.6**	**-0.1**
	baz=211						
TWC				S	**Sg**	**18 31 10.0**	**-0.6**
	baz=211						
NWF	**Wu-fen Shan**	**0.31**	**316**⇑	*i*P	**Pg**	**18 31 07.6**	**+0.4**
	baz=308						
NWF				*e*S	**Sg**	**18 31 12.3**	**+0.9**
	baz=308						
TWE	**Neicheng**	**0.34**	**248**	*i* P	**Pg**	**18 31 07.7**	**-0.2**
	baz=247						
TWE				*e*S	**Sg**	**18 31 12.6**	**+0.2**
	baz=247						
NDS	**Dongshan**	**0.35**	**232**	*i* P	**Pg**	**18 31 07.8**	**-0.1**
	baz=232						
NDS				*e*S	**Sg**	**18 31 12.4**	**-0.2**
	baz=232						
TWA	**Mucha**	**0.41**	**288**	P	**Pg**	**18 31 09.4**	**+0.2**
	baz=279						
TWA				*e*S	**Sg**	**18 31 14.9**	**+0.2**
	baz=279						
EWUT	**Wuta**	**0.46**	**208**	P	**Pg**	**18 31 09.9**	**-0.1**
	baz=215						
EWUT				*e*S	**Sg**	**18 31 15.6**	**-0.5**
	baz=215						
NHDH	**Xindian Distri**	**0.46**	**284**	*e*P	**Pg**	**18 31 10.6**	**+0.5**
	baz=275						
NHDH				S	**Sg**	**18 31 16.6**	**+0.5**
	baz=275						
ENA	**Nanau**	**0.49**	**211**	P	**Pg**	**18 31 10.5**	**-0.1**
	baz=217						
ENA				*e*S	**Sg**	**18 31 16.6**	**-0.5**
	baz=217						
TAP	**Taipei**	**0.50**	**292**	P	**Pb**	**18 31 11.6**	**-0.4**
	baz=292						
TAP				*e*S	**Sg**	**18 31 17.9**	**+0.5**
	baz=292						
YM01	**YM01**	**0.50**	**306**	*i* P	**Pb**	**18 31 11.4**	**-0.6**
	baz=305						
YM01				*e*S	**Sg**	**18 31 18.1**	**+0.7**
	baz=305						
NDT	**Datong Townshi**	**0.52**	**242**	P	**Pg**	**18 31 11.0**	**-0.1**
	baz=243						
NDT				*e*S	**Sg**	**18 31 17.9**	**-0.1**
	baz=243						
ANP	**Anpu**	**0.56**	**307**	P	**Pg**	**18 31 11.8**	**-0.2**
	baz=296						
ANP				*e*S	**Sg**	**18 31 19.7**	**+0.3**
	baz=296						
TWY	**Chenhua**	**0.57**	**318**	P	**Pb**	**18 31 12.8**	**-0.4**
	baz=311						
TWS1	**Kuangyinshan**	**0.60**	**295**	*e*P	**Pg**	**18 31 12.6**	**-0.1**
	baz=295						
TWS1				*e*S	**Sg**	**18 31 20.6**	**0.0**
	baz=295						
NTST	**Danshui**	**0.60**	**302**	P	**Pb**	**18 31 13.6**	**-0.1**
	baz=301						
YHNB	**Yeheng**	**0.61**	**253**	P	**Pg**	**18 31 12.3**	**-0.6**
	baz=263						
NSK	**Sanguang**	**0.62**	**254**	P	**Pg**	**18 31 12.6**	**-0.6**
	baz=254						
NSK				*e*S	**Sg**	**18 31 20.0**	**-1.4**
	baz=254						
NNS	**Nan Shan**	**0.71**	**235**	P	**Pg**	**18 31 14.9**	**0.0**
	baz=235						
NCU	**National Centr**	**0.76**	**279**	*e*P	**Pg**	**18 31 15.8**	**0.0**
	baz=279						
NCU				*e*S	**Sn**	**18 31 28.3**	**-1.2**
	baz=279						
NCUH	**Zhongli**	**0.76**	**279**	*e*P	**Pb**	**18 31 17.0**	**+0.5**
	baz=279						
NCUH				*e*S	**Sn**	**18 31 29.0**	**-0.6**
	baz=279						
NACB	**Ninganchiao**	**0.77**	**210**	P	**Pg**	**18 31 16.1**	**+0.1**
	baz=212						
NACB				S	**Sg**	**18 31 26.4**	**+0.3**
	baz=212						
PCYT	**Pengchaiyu**	**0.78**	**4**	*e*P	**Pb**	**18 31 16.8**	**+0.1**
	baz=3.0						
ETLH	**Xiulin Townshi**	**0.80**	**217**	P	**Pg**	**18 31 16.2**	**-0.4**
	baz=219						
ETLH				*e*S	**Sb**	**18 31 27.6**	**-0.6**
	baz=219						
TWD	**Chiawan**	**0.86**	**207**	*e*P	**Pg**	**18 31 17.6**	**0.0**
	baz=200						
FUSS	**Fushou**	**0.92**	**230**	P	**Pg**	**18 31 18.7**	**-0.2**
	baz=231						
FUSS				*e*S	**Sg**	**18 31 30.9**	**0.0**
	baz=231						
LIOB	**Emei**	**0.93**	**258**	*e*P	**Pn**	**18 31 20.2**	**-0.1**
	baz=252						
LIOB				*e*S	**Sn**	**18 31 33.5**	**-0.3**
	baz=252						
JYNG	**Yonagunijimaku**	**0.93**	**115**	P	**Pg**	**18 31 19.1**	**0.0**
JYNG				*e*S	**Sg**	**18 31 31.9**	**+0.7**
SBCB	**Hsinchu**	**0.94**	**267**	*e*P	**Pn**	**18 31 21.0**	**+0.6**
	baz=284						
NSTT	**Nanjuang**	**0.95**	**257**	P	**Pb**	**18 31 19.6**	**0.0**
	baz=251						
NSTT				*e*S	**Sb**	**18 31 33.1**	**+0.8**
	baz=251						
TWT	**Tachien**	**0.97**	**232**	*e*P	**Pg**	**18 31 19.7**	**0.0**
	baz=226						
WHF	**Hehuan Shan**	**0.98**	**224**	P	**Pg**	**18 31 19.6**	**-0.4**
	baz=226						
WHF				*e*S	**Sg**	**18 31 32.3**	**-0.4**
	baz=226						
TDCB	**Techi**	**0.98**	**233**	*e*P	**Pb**	**18 31 20.6**	**+0.3**
	baz=228						
YOJ	**Yonaguni jima**	**0.98**	**113**	P	**Pg**	**18 31 19.7**	**-0.3**
YOJ				*e*S	**Sg**	**18 31 33.3**	**+0.5**
YOJ	**Yonaguni jima**	**0.98**	**113**	P	**Pg**	**18 31 19.5**	**-0.5**
	baz=114						
YOJ				*e*S	**Sg**	**18 31 33.4**	**+0.5**
	baz=114						
ETM	**Tongmen**	**1.00**	**209**	*e*P	**Pg**	**18 31 20.1**	**-0.3**
	baz=205						
TEYL	**Yanliau Villag**	**1.05**	**201**	*e*P	**Pn**	**18 31 22.3**	**+0.5**
	baz=211						
CHGB	**Renai**	**1.10**	**224**	*e*P	**Pg**	**18 31 21.7**	**-0.5**
	baz=214						
WHP	**Taichung City**	**1.13**	**240**	*e*P	**Pg**	**18 31 22.1**	**-0.6**
	baz=241						
NMLH	**Miaoli**	**1.16**	**255**	*e*P	**Pn**	**18 31 25.1**	**+1.7**
	baz=255						
ESL	**Shilin**	**1.16**	**207**	*e*P	**Pb**	**18 31 22.5**	**-0.8**
	baz=209						
OWD	**Renai**	**1.18**	**221**	*e*P	**Pg**	**18 31 23.2**	**-0.4**
	baz=228						
NSY	**Sanyi**	**1.22**	**250**	*e*P	**Pb**	**18 31 24.0**	**-0.3**
	baz=250						
NSY				*e*S	**Sn**	**18 31 43.2**	**+2.3**
	baz=250						
TWQ1	**Liyutan**	**1.24**	**246**	*e*P	**Pn**	**18 31 23.6**	**-0.9**
	baz=247						
TWQ1				*e*S	**Sn**	**18 31 41.7**	**+0.5**
	baz=247						
WCS	**Beigang Elemen**	**1.28**	**232**	*e*P	**Pg**	**18 31 25.5**	**-0.1**
	baz=241						
WCS				*e*S	**Sb**	**18 31 41.1**	**-0.6**
	baz=241						
EGFH	**Guangfu**	**1.29**	**205**	P	**Pn**	**18 31 25.2**	**0.0**
	baz=215						
EGFH				*e*S	**Sn**	**18 31 43.5**	**+0.9**
	baz=215						
WDJ	**Dajia District**	**1.35**	**249**	*e*P	**Pg**	**18 31 26.8**	**-0.2**
	baz=265						
SMLT	**Sun Moon Lake**	**1.40**	**227**	P	**Pb**	**18 31 27.3**	**-0.2**
	baz=219						
TYC	**Yuchr**	**1.42**	**229**	*e*P	**Pb**	**18 31 27.4**	**-0.2**
	baz=221						
SSLB	**Suanglung**	**1.43**	**223**	P	**Pb**	**18 31 28.2**	**+0.3**
	baz=225						
HGSD	**Ruisui**	**1.46**	**202**	*e*P	**Pg**	**18 31 29.1**	**+0.1**
	baz=193						
EHY	**Hungye**	**1.48**	**205**	*e*P	**Pb**	**18 31 28.9**	**+0.2**
	baz=209						
WNT	**Mingjian**	**1.55**	**232**	*e*P	**Pb**	**18 31 29.7**	**-0.3**
	baz=225						
WHYT	**Xinyi Township**	**1.56**	**223**	*e*P	**Pg**	**18 31 31.0**	**-0.1**
	baz=225						
YULB	**Yu-li**	**1.59**	**204**	*e*P	**Pb**	**18 31 30.4**	**-0.3**
	baz=218						
IRIF	**Iriomote-Funau**	**1.64**	**108**	P	**Pn**	**18 31 29.0**	**-1.0**
YUS	**Yu-Shan**	**1.67**	**216**	P	**Pg**	**18 31 33.1**	**0.0**
	baz=227						
ALS	**Alishan**	**1.73**	**220**	*e*P	**Pg**	**18 31 34.9**	**+0.6**
	baz=223						
ALS				*e*S	**Sg**	**18 31 57.7**	**+0.9**
	baz=223						
CHN5	**Tsauling**	**1.75**	**225**	P	**Pg**	**18 31 34.3**	**-0.3**
	baz=228						
FULB	**Fuli**	**1.77**	**202**	*e*P	**Pn**	**18 31 32.6**	**+0.7**
	baz=218						
WDLH	**Douliu**	**1.78**	**230**	*e*P	**Pg**	**18 31 35.6**	**+0.5**
	baz=249						
HATJ	**Hateruma jima**	**1.81**	**115**	P	**Pn**	**18 31 32.3**	**-0.1**
WTK	**Tuku**	**1.88**	**232**	*e*P	**Pn**	**18 31 32.7**	**-0.6**
	baz=252						
ELDTW	**Lidau**	**1.89**	**209**	*e*P	**Pb**	**18 31 35.5**	**-0.3**
	baz=213						
JKRS	**Kuro-shima**	**1.92**	**108**	P	**Pn**	**18 31 33.3**	**-0.5**
EDH	**Donghe**	**1.98**	**199**	*e*P	**Pb**	**18 31 36.4**	**-0.8**
	baz=191						
JIJ	**Ishigaki jima**	**2.00**	**104**	P	**Pn**	**18 31 34.7**	**-0.2**
JIJ				*e*S	**Sn**	**18 32 00.3**	**+0.3**
TPUB	**Ta-pu**	**2.00**	**220**	*e*P	**Pb**	**18 31 38.0**	**+0.5**
	baz=224						
WTP	**Ta-pu**	**2.05**	**219**	*e*P	**Pg**	**18 31 39.8**	**-0.6**
	baz=223						
JISG	**Ishigakijimahi**	**2.10**	**97**	P	**Pn**	**18 31 37.4**	**+1.0**
TWK	**Hsinying**	**2.10**	**222**	*e*P	**Pb**	**18 31 40.0**	**+0.6**
	baz=229						
TWK				*e*S	**Sg**	**18 32 07.7**	**-1.1**
	baz=229						
CHN1	**Nanshi**	**2.14**	**220**	*e*P	**Pb**	**18 31 40.2**	**+0.2**
	baz=224						
VWUC	**VWUC**	**2.33**	**274**	*e*P	**Pn**	**18 31 38.7**	**-0.8**
	baz=271						
SSD	**Sandimen**	**2.45**	**211**	*e*P	**Pb**	**18 31 45.0**	**-0.2**
	baz=216						
TSMG	**Majia**	**2.48**	**211**	*e*P	**Pn**	**18 31 43.2**	**+1.6**
	baz=216						
MASBT	**Mashibuluo**	**2.56**	**210**	*e*P	**Pb**	**18 31 46.3**	**-0.9**
	baz=215						
XPSS	**Dashiqiu**	**2.65**	**322**	*e*P	**Pn**	**18 31 42.8**	**-1.1**
	baz=319						
LYJJ	**Jianjiangzhen**	**2.65**	**310**	*e*P	**Pn**	**18 31 43.2**	**-0.7**
	baz=307						
EAST	**Anshuo**	**2.68**	**204**	*e*P	**Pn**	**18 31 46.1**	**+1.8**
	baz=199						

*TAP **02** 18:38:53.0, 24°.83N×122°.03E, h7km, ML3.0, B*
*JMA **02** 18:38:53.2, 24°.86N×121°.98E, h27km, M2.3*
ISC 02 18:38:52.6±0.8**, 24°.83N**±0°.02×**122°.02E**±0°.02**, h12**km±5km**, n36, σ0.55**/71**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EGS		**0.08**	**279**	*i* P	**Pg**	**18 38 54.8**	**-0.3**
	baz=281						
EGS				S	**Sg**	**18 38 56.5**	**-0.4**
	baz=281						
NTC	**Toucheng**	**0.17**	**277**	*i* P	**Pg**	**18 38 56.8**	**+0.4**
	baz=278						
NTC				S	**Sg**	**18 38 59.4**	**+0.3**
	baz=278						
TWB1	**Santiao Chiao**	**0.18**	**352**	*i* P	**Pg**	**18 38 56.7**	**+0.1**
	baz=350						
TWB1				S	**Sg**	**18 38 59.2**	**-0.1**
	baz=350						
TIPB	**Shuangxi**	**0.22**	**309**	*i* P	**Pg**	**18 38 57.7**	**+0.3**
	baz=307						
TIPB				S	**Sg**	**18 39 01.1**	**+0.6**
	baz=307						
ILA	**Ilan**	**0.25**	**255**	*e*P	**Pg**	**18 38 57.9**	**+0.1**
	baz=255						
ILA				*e*S	**Sg**	**18 39 02.5**	**+1.1**
	baz=255						
TWC	**Suao**	**0.27**	**214**	P	**Pg**	**18 38 58.4**	**+0.2**
	baz=215						
TWC				*e*S	**Sg**	**18 39 02.2**	**+0.4**
	baz=215						
NWF	**Wu-fen Shan**	**0.32**	**318**	P	**Pg**	**18 38 59.6**	**+0.5**
	baz=316						
NWF				*e*S	**Sg**	**18 39 04.1**	**+0.7**
	baz=316						
WFSB	**Wu-fen Shan**	**0.32**	**318**	*i* P	**Pg**	**18 38 59.6**	**+0.5**
	baz=316						
WFSB				*e*S	**Sg**	**18 39 04.2**	**+0.8**
	baz=316						
TWE	**Neicheng**	**0.34**	**251**	P	**Pg**	**18 38 59.6**	**+0.3**
	baz=251						
TWE				*e*S	**Sg**	**18 39 04.3**	**+0.5**
	baz=251						
NDS	**Dongshan**	**0.34**	**234**	P	**Pg**	**18 38 59.8**	**+0.4**
	baz=236						
NDS				*e*S	**Sg**	**18 39 04.2**	**+0.2**
	baz=236						
TWA	**Mucha**	**0.42**	**291**	P	**Pg**	**18 39 01.2**	**+0.3**
	baz=290						
TWA				*e*S	**Sg**	**18 39 07.2**	**+0.7**
	baz=290						
EWUT	**Wuta**	**0.44**	**209**	*e*P	**Pg**	**18 39 01.6**	**+0.3**
	baz=211						
EWUT				*e*S	**Sg**	**18 39 07.8**	**+0.6**
	baz=211						
NHDH	**Xindian Distri**	**0.46**	**286**	*e*P	**Pb**	**18 39 02.5**	**-0.2**
	baz=286						
NHDH				*e*S	**Sb**	**18 39 08.8**	**-0.7**
	baz=286						
ENA	**Nanau**	**0.47**	**212**	*e*P	**Pg**	**18 39 02.1**	**+0.2**
	baz=212						
ENA				*e*S	**Sg**	**18 39 08.8**	**+0.6**
	baz=212						
TATO	**Taipei**	**0.50**	**287**	*e*P	**Pb**	**18 39 03.1**	**-0.2**
	baz=286						
TATO				*e*S	**Sg**	**18 39 09.7**	**+0.7**
	baz=286						
TAP	**Taipei**	**0.51**	**294**	*e*P	**Pb**	**18 39 03.2**	**-0.2**
	baz=294						
TAP				*e*S	**Sb**	**18 39 10.4**	**-0.4**
	baz=294						
NDT	**Datong Townshi**	**0.51**	**243**	*e*P	**Pg**	**18 39 03.0**	**+0.4**
	baz=244						
NDT				*e*S	**Sg**	**18 39 10.2**	**+0.8**
	baz=244						
YM01	**YM01**	**0.51**	**308**	*i* P	**Pb**	**18 39 03.4**	**-0.2**
	baz=307						
YM01				*e*S	**Sg**	**18 39 10.1**	**+0.7**
	baz=307						
YM08	**YM08**	**0.52**	**313**	*e*P	**Pg**	**18 39 03.5**	**+0.6**
	baz=311						
YM08				*e*S	**Sg**	**18 39 10.1**	**+0.3**
	baz=311						
ANP	**Anpu**	**0.57**	**308**	*e*P	**Pg**	**18 39 03.8**	**0.0**
	baz=307						
ANP				*e*S	**Sg**	**18 39 12.0**	**+0.6**
	baz=307						
TWY	**Chenhua**	**0.58**	**320**	*e*P	**Pg**	**18 39 04.3**	**+0.4**
	baz=319						
TWY				*e*S	**Sg**	**18 39 11.8**	**+0.2**
	baz=319						
YHNB	**Yeheng**	**0.60**	**255**	*e*P	**Pg**	**18 39 04.5**	**+0.1**
	baz=255						
YHNB				*e*S	**Sg**	**18 39 12.8**	**+0.5**
	baz=255						
TWS1	**Kuangyinshan**	**0.60**	**296**	*e*P	**Pb**	**18 39 05.0**	**-0.2**
	baz=296						
TWS1				*e*S	**Sb**	**18 39 13.5**	**-0.2**
	baz=296						
NSK	**Sanguang**	**0.62**	**256**	*e*P	**Pg**	**18 39 04.6**	**-0.1**
	baz=255						
NSK				*e*S	**Sg**	**18 39 13.2**	**+0.4**
	baz=255						
NACB	**Ninganchiao**	**0.76**	**210**	*e*P	**Pb**	**18 39 07.3**	**-0.5**
	baz=211						
NACB				*e*S	**Sb**	**18 39 18.1**	**0.0**
	baz=211						
ETLH	**Xiulin Townshi**	**0.79**	**218**	*e*P	**Pb**	**18 39 07.9**	**-0.5**
	baz=219						
ETLH				*e*S	**Sb**	**18 39 19.1**	**0.0**
	baz=219						
JYNG	**Yonagunijimaku**	**0.93**	**114**	P	**Pb**	**18 39 10.8**	**+0.2**
JYNG				S	**Sg**	**18 39 23.6**	**+1.0**
LIOB	**Emei**	**0.93**	**259**	*e*P	**Pg**	**18 39 11.1**	**+0.6**
	baz=259						
LIOB				*e*S	**Sg**	**18 39 23.6**	**+0.9**
	baz=259						
NSTT	**Nanjuang**	**0.94**	**258**	*e*P	**Pb**	**18 39 10.7**	**-0.3**
	baz=258						
NSTT				*e*S	**Sn**	**18 39 24.4**	**-0.7**
	baz=258						
YOJ	**Yonaguni jima**	**0.98**	**112**	P	**Pb**	**18 39 11.7**	**+0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ				eS	Sb	18 39 24.8	+0.4
YOJ	Yonaguni jima	0.98	112	eP	Pb	18 39 11.2	-0.3
	baz=111						
YOJ				eS	Sb	18 39 23.6	-0.8
	baz=111						
IRIF	Iriomote-Funau	1.64	107	P	Pn	18 39 20.8	-0.5
IRIF				S	Sn	18 39 41.3	-1.0
HATJ	Hateruma jima	1.81	115	P	Pn	18 39 24.1	+0.5
HATJ				S	Sn	18 39 46.7	+0.3
JKRS	Kuro-shima	1.91	108	P	Pn	18 39 25.2	+0.2
JKRS				eS	Sn	18 39 47.9	-1.1
JIJ	Ishigaki jima	1.99	103	P	Pn	18 39 25.9	-0.2
JIJ				eS	Sn	18 39 49.7	-1.4
JISG	Ishigakijimahi	2.10	96	P	Pn	18 39 28.5	+0.8

*KNET **02** 18:45:08.8±1.0, 41°.65N×74°.69E, h0km, ml3.0, Error ellipse: s-maj=7.0km s-min=3.6km az=6.0*
*KRNET **02** 18:45:08.4±0.1, 41°.58N×74°.65E, h20km, mb3.8*
*SOME **02** 18:45:09.3, 41°.63N×74°.68E, h10km*
*NNC **02** 18:45:10.7±0.8, 41°.70N×74°.64E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=5.0km s-min=3.3km az=24.0*
ISC 02 18:45:09.2±1.1, **41°.61N**±0°.02×**74°.60E**±0°.02, **h5**km±10km, **n86**, σ**1s32**/144, **50C-24D**, **Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	Aral	0.33	320	⇓iP	Pg	18 45 15.9	+0.2
	baz=19						
ARLS				⇓iS	Sg	18 45 20.9	+0.9
	baz=19						
KZA	Kyzart	0.67	46	⇑iP	Pg	18 45 21.4	-0.8
	baz=41						
KZA				⇑iS	Sg	18 45 30.7	-0.3
	baz=41						
KZA	Kyzart	0.67	46	⇑P	Pg	18 45 21.4	-0.8
	114nm,0.1s,SNR=244						
KZA				⇓S	Sg	18 45 30.6	-0.3
	505nm,0.2s						
AML	Almayashu	0.86	308	⇑iP	Pg	18 45 25.6	-0.1
	baz=8.0						
AML				⇑iS	Sg	18 45 37.6	+0.8
	baz=8.0						
AML	Almayashu	0.86	308	⇓P	Pg	18 45 25.5	-0.1
	212nm,0.2s,SNR=246						
AML				⇓S	Sg	18 45 37.6	+0.8
	211nm,0.2s						
AAK	Ala-Archa	1.03	355	⇓iP	Pg	18 45 28.5	-0.5
	baz=54						
AAK				⇓iS	Sg	18 45 42.7	+0.3
	baz=54						
AAK	Ala-Archa	1.03	355	⇓P	Pg	18 45 28.6	-0.4
	135nm,0.1s,SNR=177						
AAK				⇑S	Sg	18 45 42.7	+0.3
	107nm,0.2s						
AAK	Ala-Archa	1.03	355	⇓P	Pg	18 45 28.5	-0.5
	62nm,0.5s						
AAK				⇓S	Sg	18 45 42.3	0.0
	68nm,0.4s						
KBK	Karagaybulak	1.08	14	⇑iP	Pg	18 45 29.1	-0.8
	baz=11						
KBK				⇑iS	Sg	18 45 44.0	+0.2
	baz=11						
KBK	Karagaybulak	1.08	14	P	Pg	18 45 29.4	-0.5
	275nm,0.1s,SNR=466						
KBK				⇑S	Sg	18 45 44.1	+0.2
	1µm,0.2s						
FRU1	Bishkek	1.20	1	⇑iP	Pn	18 45 31.8	-1.0
	baz=59						
FRU1				⇑iS	Sn	18 45 48.6	-1.0
	baz=59						
EKS2	Erkin-Say	1.22	330	⇓iP	Pn	18 45 32.1	-1.0
	baz=29						
EKS2				⇓iS	Sg	18 45 48.9	+0.5
	baz=29						
EKS2	Erkin-Say	1.22	330	P	Pn	18 45 32.3	-0.8
	24nm,0.2s,SNR=95						
BOOM	Boomskoye usch	1.33	48	⇓iP	Pn	18 45 32.9	-1.8
	baz=46						
BOOM				⇓iS	Sb	18 45 50.6	-1.6
	baz=46						
ULHL	Ulahol	1.38	62	⇑iP	Pn	18 45 33.3	-2.1
	baz=60						
ULHL				⇑iS	Sb	18 45 51.4	-2.2
	baz=60						
ULHL	Ulahol	1.38	62	⇑P	Pn	18 45 33.3	-2.1
	88nm,0.1s,SNR=246						
ULHL				⇓S	Sb	18 45 51.5	-2.2
	112nm,0.1s						
CHMS	Chumysh	1.39	4	⇑iP	Pn	18 45 34.8	-0.6
	baz=3.0						
CHMS				⇑iS	Sb	18 45 53.8	-0.1
	baz=3.0						
CHMS	Chumysh	1.39	4	⇓P	Pn	18 45 35.1	-0.3
	58nm,0.1s,SNR=166						
CHMS				⇑S	Sb	18 45 53.9	-0.1
	143nm,0.2s						
TKM2	Tokmak 2	1.50	29	⇑iP	Pn	18 45 36.3	-0.8
	baz=27						
TKM2				⇑iS	Sb	18 45 56.5	-0.8
	baz=27						
TKM2	Tokmak 2	1.50	29	⇓P	Pn	18 45 36.5	-0.6
	62nm,0.1s,SNR=58						
TKM2	Tokmak 2	1.50	29	⇓P	Pn	18 45 36.4	-0.8
	12nm,0.2s						
TKM2				⇑S	Sn	18 45 56.1	-1.2
	242nm,0.8s						
MRKS	Merke	1.53	318	⇓eP	Pb	18 45 37.7	-0.5
	77nm,0.1s						
MRKS				eS	Sg	18 45 58.4	+0.1
	200nm,0.3s						
MRKS	Merke	1.53	318	P	Pb	18 45 37.7	-0.5
	79nm,0.2s						
MRKS				S	Sg	18 45 58.4	+0.1
	200nm,0.3s						
USP	Ospenovka	1.66	357	⇑iP	Pb	18 45 39.5	-0.8
	baz=56						
USP				⇑iS	Sb	18 46 02.0	+0.4
	baz=56						
USP	Ospenovka	1.66	357	⇓P	Pb	18 45 39.9	-0.4
	66nm,0.1s,SNR=133						
KST	Kastek	1.75	35	eP	Pb	18 45 42.0	0.0
	12nm,0.1s						
KST				eS	Sg	18 46 05.7	+0.2
	84nm,0.4s						
KST	Kastek	1.75	35	P	Pb	18 45 42.0	0.0
	25nm,0.2s						
KST				S	Sg	18 46 05.7	+0.2
	84nm,0.4s						
OHH	Osh	1.75	232	⇑iP	Pb	18 45 40.7	-1.2
	baz=34						
OHH				⇑iS	Sb	18 46 03.5	-0.8
	baz=34						
MNAS	Manas	1.79	300	⇓iP	Pb	18 45 41.8	-0.9
	baz=0.0						
MNAS				⇓iS	Sg	18 46 06.2	-0.7
	baz=0.0						
SFK	Sufi-Kurgan	1.80	208	⇑iP	Pn	18 45 41.0	-0.2
	baz=10.0						
SFK				⇑iS	Sb	18 46 04.8	-1.1
	baz=10.0						
DGS	Degeres	1.85	28	eP	Pg	18 45 45.0	+0.4
	100nm,0.3s						
DGS				eS	Sg	18 46 10.9	+2.3
	906nm,0.3s						
KDJ	Kajisay	1.99	74	⇑iP	Pn	18 45 43.6	-0.2
	baz=73						
KDJ				⇑iS	Sn	18 46 09.1	-0.2
	baz=73						
MTBS	Maitube	2.03	41	eP	Pb	18 45 47.1	+0.4
	101nm,0.2s						
MTBS				eS	Sg	18 46 14.0	-0.6
	174nm,0.3s						
MTBS	Maitube	2.03	41	Pg	Pb	18 45 47.2	+0.4
	101nm,0.2s						
MTBS				Lg	Lg	18 46 14.0	
	174nm,0.3s						
IZV	Izvestkoviy	2.06	46	eP	Pg	18 45 48.0	-0.7
	48nm,0.2s						
IZV				eS	Sg	18 46 15.6	+0.1
	220nm,0.2s						
IZV	Izvestkoviy	2.06	46	Pg	Pg	18 45 48.0	-0.7
	48nm,0.2s						
IZV				Lg	Lg	18 46 15.6	
	220nm,0.2s						
KRBS	Karabastau	2.23	20	eP	Pb	18 45 50.2	+0.1
	71nm,0.2s						
KRBS				eS	Sg	18 46 19.7	-1.2
	336nm,0.4s						
KRBS	Karabastau	2.23	20	Pg	Pb	18 45 50.2	+0.1
	71nm,0.2s						
KRBS				Lg	Lg	18 46 19.7	
	336nm,0.4s						
TNSS	Tian-Shan	2.25	50	Pg	Pb	18 45 50.2	-0.4
	46nm,0.5s						
TNSS				Lg	Lg	18 46 20.3	
	143nm,0.2s						
KSH	Kashi	2.34	153	Pn	Pg	18 45 53.9	-0.1
KSH				Sn	Sg	18 46 28.2	+3.9
KSH				pmax	pmax		
	comp=Z,140nm,0.5s						
KSH				smax	smax		
	comp=N,150nm,0.5s						
KSH				smax	smax		
	comp=E,180nm,0.6s						
AAA	Alma-Ata	2.34	46	eP	Pb	18 45 52.1	+0.1
	comp=E,138nm,0.3s						
AAA				eS	Sg	18 46 22.7	-1.8
	comp=E,966nm,0.4s						
AAA	Alma-Ata	2.34	46	Pg	Pb	18 45 52.1	+0.1
	comp=E,138nm,0.3s						
AAA				Lg	Lg	18 46 22.7	
	comp=E,966nm,0.4s						
KNDC	Almaty	2.37	47	⇑Pn	Pb	18 45 52.6	0.0
	comp=E,63nm,0.2s						
KNDC				⇑Lg	Lg	18 46 24.7	
	comp=E,284nm,0.6s						
MDOK	Medeo	2.38	49	eP	Pb	18 45 52.4	-0.4
	comp=E,59nm,0.3s						
MDOK				eS	Sb	18 46 23.0	+0.4
	comp=E,288nm,0.6s						
MDOK	Medeo	2.38	49	⇓Pn	Pb	18 45 51.9	-0.9
	comp=E,22nm,0.3s						
MDOK				⇑Lg	Lg	18 46 24.2	
	comp=E,197nm,0.5s						
MDOK	Medeo	2.38	49	Pg	Pb	18 45 52.4	-0.4
	comp=E,59nm,0.3s						
MDOK				Lg	Lg	18 46 23.0	
	comp=E,288nm,0.6s						
KOTS	Kotyrbulak	2.47	48	eP	Pb	18 45 54.6	+0.5
	comp=E,59nm,0.1s						
KOTS				eS	Sg	18 46 27.2	-1.2
	comp=E,364nm,0.5s						
KOTS	Kotyrbulak	2.47	48	Pg	Pb	18 45 54.2	0.0
	comp=E,65nm,0.3s						
KOTS				Lg	Lg	18 46 27.2	
	comp=E,364nm,0.5s						
ANVS	Anan'yevo	2.56	62	⇑iP	Pn	18 45 51.5	-0.1
	baz=61						
ANVS				⇑iS	Sn	18 46 23.1	-0.2
	baz=61						
KTBS	Karatobe	2.60	35	eP	Pb	18 45 56.3	-0.1
	comp=E,38nm,0.2s						
KTBS				eS	Sb	18 46 29.7	+1.0
	comp=E,296nm,0.6s						
KTBS	Karatobe	2.60	35	Pg	Pb	18 45 56.3	-0.1
	comp=E,38nm,0.2s						
KTBS				Lg	Lg	18 46 29.7	
	comp=E,296nm,0.6s						
TRKS	Terek-Say	2.60	269	⇑iP	Pn	18 45 52.5	+0.3
	baz=69						
TRKS				⇑iS	Sn	18 46 24.6	+0.4
	baz=69						
KUU	Kurty	2.62	29	eP	Pb	18 45 56.5	-0.1
	comp=E,50nm,0.2s						
KUU				eS	Sb	18 46 30.1	+1.0
	comp=E,253nm,0.3s						
KUU	Kurty	2.62	29	Pg	Pb	18 45 56.5	-0.1
	comp=E,50nm,0.2s						
KUU				Lg	Lg	18 46 30.1	
	comp=E,253nm,0.3s						
DZA	Taraz	2.75	299	eP	Pg	18 46 00.4	-1.5
	comp=E,58nm,0.2s						
DZA				eS	Sg	18 46 37.4	-0.1
	comp=E,228nm,0.3s						
CHKK	Chushkaly	2.85	37	eP	Pb	18 46 00.7	+0.1
	comp=E,16nm,0.4s						
CHKK				eS	Sb	18 46 37.4	+1.6
	comp=E,229nm,0.3s						
CHKK	Chushkaly	2.85	37	Pg	Pb	18 46 00.7	+0.1
	comp=E,16nm,0.4s						
CHKK				Lg	Lg	18 46 37.4	
	comp=E,229nm,0.3s						
PRZ	Przheval'sk	2.96	72	⇑iP	Pn	18 45 56.9	-0.2
	baz=70						
PRZ				⇑iS	Sn	18 46 32.3	-0.8
	baz=70						
DRK	Karamyk	3.02	226	⇑iP	Pn	18 45 58.2	+0.2
	baz=27						
DRK				⇑iS	Sn	18 46 34.5	-0.2
	baz=27						
SATY	Saty	3.17	62	eP	Pb	18 46 06.0	-0.1
	comp=E,23nm,0.3s						
SATY				eS	Sb	18 46 46.4	+1.2
	comp=E,97nm,0.3s						
SATY	Saty	3.17	62	Pg	Pb	18 46 06.0	-0.1
	comp=E,23nm,0.3s						
SATY				Lg	Lg	18 46 46.4	
	comp=E,97nm,0.3s						
KURS	Kuram	3.23	53	eP	Pb	18 46 07.3	+0.1
	comp=E,7.5nm,0.5s						
KURS				eS	Sb	18 46 48.7	+1.7
	comp=E,73nm,0.6s						
KURS	Kuram	3.23	53	Pg	Pb	18 46 07.3	+0.1
	comp=E,7.5nm,0.5s						
KURS				Lg	Lg	18 46 48.7	
	comp=E,73nm,0.6s						
KK31	Karatay Array	3.38	298	⇑Pg	Pb	18 46 11.6	+1.9
	comp=E,3.6nm,0.3s,baz=115,slow=16,SNR=46						
KK31				⇑Lg	Lg	18 46 54.9	
	comp=E,17nm,0.4s,baz=117,slow=27,SNR=7.9						
BTLS	Baital	3.45	353	eP	Pb	18 46 11.3	+0.4
	comp=E,6.6nm,0.2s						
BTLS				eS	Sb	18 46 55.7	+2.5
	comp=E,13nm,0.6s						
IUG	Iuzhnay	3.46	280	eP	Pg	18 46 14.0	-1.4
	comp=E,782nm,0.8s						
IUG				eS	Sg	18 47 00.6	+0.3
	comp=E,86nm,0.5s						
ARXS	Arharly	3.52	41	eP	Pb	18 46 12.4	+0.3
	comp=E,23nm,0.4s						
ARXS				eS	Sb	18 46 57.5	+2.4
	comp=E,199nm,0.3s						
ARXS	Arharly	3.52	41	Pg	Pb	18 46 12.4	+0.3
	comp=E,23nm,0.4s						
ARXS				Lg	Lg	18 46 57.5	
	comp=E,199nm,0.3s						
KPKS	Kokpek	3.54	57	eP	Pb	18 46 12.4	0.0
	comp=E,12nm,0.2s						
KPKS				eS	Sb	18 46 57.5	+1.7
	comp=E,78nm,0.6s						
UZB	Uzynbulak	3.62	63	eP	Pb	18 46 13.6	-0.2
	comp=E,7.6nm,0.4s						
UZB				eS	Sb	18 46 59.2	+1.3
	comp=E,30nm,0.5s						
UZB	Uzynbulak	3.62	63	Pg	Pb	18 46 13.6	-0.2
	comp=E,7.6nm,0.4s						
UZB				Lg	Lg	18 46 59.2	
	comp=E,30nm,0.5s						
CHM	Chimkent	3.80	282	eP	Pg	18 46 21.0	-1.0
	comp=E,4.4nm,0.3s						
CHM				eS	Sg	18 47 12.2	+1.0
	comp=E,91nm,0.4s						
BRLS	Borolday	3.81	293	eP	Pg	18 46 20.4	-1.8
	comp=E,15nm,0.6s						
BRLS				eS	Sg	18 47 11.3	-0.3
	comp=E,37nm,0.6s						
SHLS	Shalkode	3.92	65	eP	Pg	18 46 25.2	+1.0
	comp=E,29nm,0.5s						
SHLS				eS	Sg	18 47 19.3	+4.3
	comp=E,56nm,0.4s						
SHLS	Shalkode	3.92	65	Pg	Pg	18 46 25.2	+1.0
	comp=E,29nm,0.5s						
SHLS				Lg	Lg	18 47 19.3	
	comp=E,56nm,0.4s						
PDGK	Podgornoye	4.00	63	⇑Pn	Pn	18 46 12.0	+0.6
	comp=E,3.6nm,0.6s						
PDGK				⇑Pg	Pg	18 46 23.1	-2.8
	comp=E,12nm,0.6s						
PDGK				⇑Lg	Lg	18 47 16.7	
	comp=E,27nm,0.5s						
TDK	Taldyqorghan	4.38	38	eP	Pb	18 46 28.4	+1.6
	comp=E,62nm,0.3s						
TDK				eS	Sg	18 47 24.7	-5.2
	comp=E,70nm,0.6s						
TDK	Taldyqorghan	4.38	38	Pg	Pb	18 46 28.4	+1.6
	comp=E,62nm,0.3s						
TDK				Lg	Lg	18 47 24.7	
	comp=E,70nm,0.6s						
KTMS	Ketmen	4.63	65	eP	Pb	18 46 33.0	+2.0
	comp=E,0.2nm,0.0s						
KTMS				eS	Sg	18 47 32.7	-5.1
	comp=E,21nm,0.4s						
DJR	Jarkent	4.68	53	eP	Pb	18 46 32.5	+0.7
	comp=E,1.6nm,0.3s						
DJR				eS	Sb	18 47 31.8	+3.3
	comp=E,4.2nm,0.5s						
DJR	Jarkent	4.68	53	Pg	Pb	18 46 32.5	+0.7
	comp=E,1.6nm,0.3s						
DJR				Lg	Lg	18 47 31.8	
	comp=E,4.2nm,0.5s						
KAPS	Kapalarasan	5.05	42	eP	Pb	18 46 39.0	+0.9
	comp=E,0.8nm,0.3s						
KAPS				eS	Sb	18 47 43.0	+3.9
	comp=E,4.6nm,0.5s						
OTUK	Ortayu	6.83	347	⇑Pn	Pn	18 46 51.8	+1.8
	comp=E,0.9nm,0.4s						
OTUK				⇑Lg	Lg	18 48 47.7	
	comp=E,7.6nm,0.7s						
MAKZ	Makanchi	7.42	43	⇑Pn	Pn	18 46 59.1	+0.9
	comp=E,5.5nm,1.4s						
MAKZ				⇑Lg	Lg	18 49 05.9	
	comp=E,11nm,1.1s						
MK31	Makanchi Array	7.57	44	⇑Pn	Pn	18 47 02.8	+2.5
	comp=E,0.8nm,0.6s,baz=225,slow=14,SNR=9.6						
MK31				⇓Lg	Lg	18 49 08.6	
	comp=E,8.4nm,1.1s,baz=227,slow=28,SNR=4.2						
KURBB	Kurchatov Arra	9.42	15	⇑Lg	Lg	18 50 07.6	
	comp=E,22nm,0.8s						

*NEIC **02** 18:50:10.5±2.1, 21°.1S±0°.1×177°.3W±0°.1, h542km±9km, mb4.4/18, Error ellipse: s-maj=21.7km s-min=14.9km az=203.0*
*IDC **02** 18:50:16.1±4.5, 20°.57S×177°.88W, h568km±31km, mb3.5/6, mb1 3.7/7, mb1mx3.2/34, mbtmp4.3/7, Error ellipse: s-maj=86.6km s-min=23.1km az=137.0*
ISC 02 18:50:12.0±0.7, **20°.9S**±0°.1×**177°.6W**±0°.1, **h550**km, **n40**, σ**1s42**/40, **mb4.3**/16, **1C-1D**, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.22	306	P	P	18 51 45.8	+1.9
	19nm,0.3s,baz=149,slow=17,SNR=132						
MSVF	Nonsavu	5.22	306	P	P	18 51 45.6	+1.7
MSVF				S	S	18 52 54.6	-4.2
MARNC	Mare, Loyalty	13.46	265	P	P	18 53 05.3	-0.4
PINNC	Pines Island,	14.04	260	P	P	18 53 12.9	+1.2
OUENC	Ouen Island, N	14.59	261	P	P	18 53 15.9	-1.4
SANVU	Saraoutou	15.47	288	P	P	18 53 24.9	-1.5
OUZ	Omahuta	16.25	207	P	P	18 53 31.0	-2.8
CTAO	Charters Tower	33.87	265	P	P	18 56 10.4	+0.8
CTAO				IAmb	IAmb	18 56 13.7	
	comp=Z,16nm,1.4s						
COEN	Coen	38.03	274	P	P	18 56 43.5	-0.6
BBOO	Buckleboo	42.75	244	P	P	18 57 22.6	+1.2
WR0	Warramunga Arr	44.77	262	P	P	18 57 37.0	-0.3
WR0				IAmb	IAmb	18 57 46.8	
	comp=Z,11nm,1.4s						
AS31	Alice Springs	44.84	257	P	P	18 57 38.7	+0.9
ASAR	Alice Springs	44.84	257	P	P	18 57 38.9	+1.1
	comp=Z,5.2nm,0.7s,baz=87,slow=8.1,SNR=149						
ASAR				PcP	PcP	18 59 10.3	+2.5
	comp=Z,0.6nm,0.5s,baz=101,slow=3.7,SNR=6.3						
ASAR	Alice Springs	44.84	257	P	P	18 57 38.4	+0.6
WB0	Warramunga Arr	44.94	263	P	P	18 57 38.3	-0.3
WB0				IAmb	IAmb	18 57 39.2	
	comp=Z,7.9nm,0.5s						
WB2	Warramunga Arr	44.95	262	P	P	18 57 38.5	-0.1
WB2				IAmb	IAmb	18 57 39.3	
	comp=Z,7.7nm,1.1s						
WRA	Warramunga Arr	44.96	262	P	P	18 57 38.7	0.0
	comp=Z,3.6nm,0.3s,baz=97,slow=7.6,SNR=232						
WRA	Warramunga Arr	44.96	262	P	P	18 57 38.5	-0.3
MTN	Manton Dam	49.59	271	P	P	18 58 12.6	-0.9
MTN				IAmb	IAmb	18 58 36.2	
	comp=Z,24nm,1.4s						
KNRA	Kununurra	51.05	266	P	P	18 58 24.3	+0.1
KNRA				IAmb	IAmb	18 58 44.7	
	comp=Z,31nm,1.4s						
FAKI	Fak Fak	52.00	283	P	P	18 58 29.6	-1.4
FITZ	Fitzroy Crossi	53.39	263	P	P	18 58 41.6	+0.7
SOEI	Soe	56.94	272	P	P	18 59 06.5	+0.7
SOEI				IAmb	IAmb	18 59 17.0	
	comp=Z,12nm,0.8s						
KIWB	Kanaga Island	72.45	0	P	P	19 00 42.5	-0.1
ADK	Adak	72.48	1	P	P	19 00 42.5	-0.3
ADK				IAmb	IAmb	19 01 11.6	
	comp=Z,24nm,1.1s						
BELA	Belgrano 2	79.10	173	P	P	19 01 17.6	-1.6
USRK	Ussuriysk Ar.	79.54	326	P	P	19 01 22.1	+0.2
	comp=Z,1.3nm,0.7s,baz=76,slow=8.0,SNR=4.4						
TLIG	Tlapa	86.33	70	P	P	19 01 55.2	-1.4
TLIG				IAmb	IAmb	19 01 56.6	
	comp=Z,7.1nm,0.7s						
SEY	Seymchan	86.87	347	P	P	19 01 58.1	+0.2
	comp=Z,1.9nm,0.6s,baz=151,slow=8.5,SNR=9.3						
HDA	Harding Lake	88.28	13	P	P	19 02 05.2	+0.6
HDA				IAmb	IAmb	19 02 06.4	
	comp=Z,2.9nm,0.6s						
ILAR	Eielson Array	88.62	13	P	P	19 02 07.0	+0.8
	comp=Z,0.9nm,0.6s,baz=227,slow=6.2,SNR=5.1						
CMAR	Chiang Mai Arr	90.65	289	P	P	19 02 18.7	+2.0
	comp=Z,0.5nm,0.5s,baz=127,slow=3.0,SNR=5.2						
ARCES	ARCESS Array B	129.40	350	PKP	PKiKP	19 08 19.9	+1.5
	comp=Z,0.6nm,0.5s,baz=282,slow=0.0,SNR=7.2						
HFS	Hagfors	140.00	351	PKhKP	PKPpre	19 08 33.5	
	comp=Z,1.1nm,0.4s,baz=79,slow=3.2,SNR=8.6						
AKASG	Malin Array Be	143.57	331	PKP	PKPab	19 08 42.7	-0.2
	comp=Z,0.7nm,0.5s,baz=42,slow=4.4,SNR=14						
AKASG	Malin Array Be	143.57	331	PKPdf	PKPdf	19 08 42.9	-1.3
BUR08	Bucovina Ar. S	147.61	331		PKPab	19 08 57.0	-2.1
CLL	Collm	148.55	347	⇓iPKPbc	PKiKP	19 08 58.8	+0.7
	comp=Z,6.0nm,0.6s						
KHC	Kasperske Hory	150.47	345	⇑ePKP	PKiKP	19 09 03.0	+0.8
GERES	GERESS Array B	150.70	345	PKPbc	PKiKP	19 09 04.1	+1.3
	comp=Z,1.0nm,0.7s,baz=31,slow=3.1,SNR=8.4						

*IDC **02** 18:55:03.7±0.8, 51°.33N×179°.37E, h39km±6km, mb3.7/14, mb1 3.9/15, mb1mx3.6/68, mbtmp4.0/15, ML2.6/1, MS3.1/2, Ms1 3.1/2, ms1mx2.6/50, Error ellipse: s-maj=22.7km s-min=13.4km az=179.0*
*AEIC **02** 18:55:04±3.3, 51°.23N±0°.08×179°.42E±0°.06, h38km±5km, ML3.7, mb4.2/62(NEIC), Error ellipse: s-maj=11.4km s-min=5.2km az=191.0*
*NEIC **02** 18:55:05.5±2.0, 51°.32N±0°.09×179°.39E±0°.07, h56km±6km, Error ellipse: s-maj=13.0km s-min=5.7km az=191.0*
ISC 02 18:55:03.7±0.7, **51°.22N**±0°.09×**179°.36E**±0°.04, **h45**km±5km, **n123**, σ**1s33**/119, **mb4.1**/29, **Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.16	348		Pn	18 55 11.4	+0.1
AMKA					Sn	18 55 16.7	+0.2
CERAA	Semis' Rag'd T	0.72	16		Pn	18 55 18.2	+0.8
CERB	Semis' Cerberu	0.73	13		Pn	18 55 18.6	+0.9
LSSE	Little Sitkin	0.87	326		Pn	18 55 20.7	+1.2
LSPA	Little Sitkin	0.89	327		Pn	18 55 21.1	+1.3
LSPA					Sn	18 55 33.6	+2.1
LSSA	Little Sitkin	0.90	325		Pn	18 55 21.1	+1.2
LSNW	Little Sitkin	0.92	326		Pn	18 55 21.1	+0.9
GALAA	Gareloi Lava P	1.29	64		Pn	18 55 26.6	+1.4
GAEA	Gareloi East	1.31	64		Pn	18 55 26.8	+1.3
TASE	Tanaga Southea	1.74	68		Pn	18 55 32.8	+1.4
TAFP	Tanaga Falls P	1.80	67		Pn	18 55 33.1	+1.0
TAFP					Sn	18 55 55.2	+1.4
KIMD	Kanaga Island	2.20	74		Pn	18 55 39.1	+1.5
KICM	Kanaga Island	2.26	71		Pn	18 55 40.0	+1.5
KIKV	Kanaga Island	2.27	72		Pn	18 55 40.1	+1.5
KIWB	Kanaga Island	2.27	72	Pn	Pn	18 55 39.9	+1.2
ADK	Adak	2.56	73		Pn	18 55 43.6	+1.0
GSTD	Great Sitkin T	2.93	72		Pn	18 55 48.7	+1.0
GSMY	Great Sitkin M	2.98	72		Pn	18 55 49.3	+1.0
GSTR	Great Sitkin T	2.99	71		Pn	18 55 49.6	+1.1
GSIG	Igitkin Island	3.04	74		Pn	18 55 50.5	+1.2
SMY	Shemya	3.58	297		Pn	18 55 58.4	+1.7
SMY					Sn	18 56 42.3	+4.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ATKA	Atka Island	4.13	74		Pn	18 56 05.4	+1.3
ATKA					Sn	18 56 53.0	+1.8
KOFP	Korovin Flat P	4.20	73		Pn	18 56 07.4	+2.2
NIKH	Nikolski High	7.47	72		Pn	18 56 52.1	+2.2
SPIA	Saint Paul Isl	8.52	42		Pn	18 57 06.7	+2.4
MAPS	Pakushin South	8.75	67		Pn	18 57 10.1	+2.6
MREP	Makushin Rep't	8.87	68		Pn	18 57 11.0	+1.9
MNAT	Makushin Natee	8.92	67		Pn	18 57 12.2	+2.4
UNV	Unalaska Valle	9.01	68		Pn	18 57 13.7	+2.7
AKLV	Akutan Long Va	9.39	66		Pn	18 57 19.1	+2.8
PETK	Petropavlovsk-	13.42	287	Pn	Pn	18 58 11.8	+0.5
	0.1nm,0.3s,baz=73,slow=13,SNR=2.2						
PETK				LR	LR	19 04 09.8	
	comp=Z,35nm,18.2s,baz=94,slow=41						
SII	Sitkinak Islan	16.43	61	Pn	Pn	18 58 51.2	+0.4
SII				IAmb	IAmb	18 59 08.3	
	comp=Z,25nm,1.0s						
O18K	Koktuh Hills	16.70	49		Pn	18 58 53.0	-1.2
O18K				IAmb	IAmb	18 58 58.5	
	comp=Z,14nm,0.7s						
SVW2	Sparrevohn	17.00	45	P	P	18 58 59.8	+0.6
OHAK	Old Harbor	17.01	59	Pn	Pn	18 58 56.9	-1.2
Q19K	Cape Douglas,	17.18	53	Pn	Pn	18 58 58.4	-1.7
O19K	Port Alsworth	17.23	48		P	18 59 01.4	-0.4
N19K	Bonanza Creek	17.38	46	P	P	18 59 04.4	+0.9
N19K				IAmb	IAmb	18 59 44.9	
	comp=Z,38nm,1.9s						
KDAK	Kodiak Island	17.48	57	Pn	Pn	18 58 58.4	-5.4
	comp=Z,2.0nm,0.3s,baz=282,slow=7.8,SNR=26						
KDAK	Kodiak Island	17.48	57	IAmb	IAmb	18 59 02.3	
	comp=Z,25nm,1.6s						
P19K	Oil Pt	17.58	51	P	P	18 59 06.1	+0.4
P19K				IAmb	IAmb	18 59 18.2	
	comp=Z,18nm,1.3s						
RSO	Redoubt South	18.06	48		Pn	18 59 11.8	+0.7
M20K	Styx River	18.39	44	P	Pn	18 59 15.6	+0.7
M20K				IAmb	IAmb	18 59 19.9	
	comp=Z,32nm,2.0s						
CNPM	China Poot	18.53	52	P	P	18 59 14.1	-2.0
CNPM				IAmb	IAmb	19 00 09.6	
	comp=Z,29nm,1.6s						
K20K	Telida	18.64	39	P	P	18 59 16.4	-0.9
K20K				IAmb	IAmb	18 59 49.9	
	comp=Z,24nm,1.8s						
BRLK	Bradley Lake	18.76	51	P	P	18 59 17.7	-1.0
BRLK				IAmb	IAmb	18 59 32.3	
	comp=Z,21nm,1.8s						
J20K	Nowinta River	19.01	37	P	Pn	18 59 21.8	-0.6
J20K				IAmb	IAmb	19 00 08.2	
	comp=Z,37nm,2.0s						
SKT	Skwentna	19.13	45	P	Pn	18 59 23.6	-0.2
SUA	Susitna One	19.30	46	P	P	18 59 24.6	0.0
SUA				IAmb	IAmb	18 59 32.1	
	comp=Z,17nm,1.6s						
KTH	Kantishna Hill	19.99	40	P	P	18 59 32.9	+0.8
IMAR	Indian Mountai	20.13	33	P	P	18 59 33.6	+0.2
BPAW	Bear Paw Mtn.	20.20	39	P	P	18 59 34.9	+0.7
TRF	Thorofare Moun	20.21	41	P	P	18 59 35.1	+0.5
TRF				IAmb	IAmb	18 59 41.8	
	comp=Z,30nm,1.7s						
I21K	Tanana	20.32	36	P	Pn	18 59 36.6	-1.3
KNK	Knik Glacier	20.34	47	P	P	18 59 35.5	-0.3
KNK				IAmb	IAmb	18 59 40.1	
	comp=Z,5.0nm,0.6s						
SML	Sawmill	20.51	46	P	P	18 59 36.5	-1.2
MLY	Manley	20.71	37	P	P	18 59 41.0	+1.1
RND	Reindeer	20.79	42	P	Pn	18 59 42.2	-1.4
RND				IAmb	IAmb	18 59 43.6	
	comp=Z,5.3nm,0.7s						
GLI	Glacier Island	20.85	49	P	P	18 59 40.0	-1.3
GLI				IAmb	IAmb	18 59 50.6	
	comp=Z,12nm,1.2s						
SCM	Sheep Creek Mo	20.97	47	P	P	18 59 41.4	-1.3
SCM				IAmb	IAmb	18 59 43.3	
	comp=Z,18nm,1.2s						
FID	Port Fidalgo	21.12	50	P	P	18 59 42.0	-2.3
FID				IAmb	IAmb	19 00 20.8	
	comp=Z,17nm,1.2s						
NEA2	Nenana	21.16	39	P	P	18 59 44.4	-0.3
NEA2				IAmb	IAmb	18 59 46.1	
	comp=Z,9.1nm,0.7s						
KLU	Klutina	21.54	48	P	P	18 59 48.6	-0.2
KLU				IAmb	IAmb	18 59 54.7	
	comp=Z,9.3nm,1.2s						
M24K	Tolsona, Glenn	21.57	46	P	P	18 59 48.8	-0.3
MDM	Murphy Dome	21.64	38	P	P	18 59 49.5	-0.3
CCB	Clear Creek Bu	21.68	39	P	P	18 59 49.6	-0.6
ILAR	Eielson Array	22.10	39	P	P	18 59 52.7	-1.9
	comp=Z,0.5nm,0.4s,baz=256,slow=12,SNR=7.7						
H24K	Noodor Dome	22.14	36	P	P	18 59 55.5	+0.3
H24K				IAmb	IAmb	18 59 58.0	
	comp=Z,5.7nm,0.8s						
N25K	Chitina, Valde	22.18	48	P	P	18 59 55.1	-0.6
N25K				IAmb	IAmb	18 59 57.0	
	comp=Z,3.9nm,0.5s						
BERG	Berg Lake	22.41	52	P	P	18 59 57.2	-0.9
GLB	Gilahina Butte	22.52	49	P	P	18 59 58.0	-1.3
RIDG	Independent Ri	22.60	43	P	P	18 59 58.4	-1.7
RIDG				IAmb	IAmb	19 00 10.0	
	comp=Z,22nm,2.0s						
SCRK	Sand Creek	23.03	42	P	P	19 00 03.5	-1.2
L26K	Log Cabin Wild	23.06	45	P	P	19 00 04.7	-0.1
M26K	Nabesna, AK	23.09	47	P	P	19 00 03.6	-1.5
M27K	Edge Creek, AK	23.59	47	P	P	19 00 09.1	-1.0
M27K				IAmb	IAmb	19 00 10.8	
	comp=Z,7.5nm,1.0s						
L27K	Beaver Creek,	23.75	45	P	P	19 00 10.4	-1.0
BCAR	Beaver Creek A	23.77	45	P	P	19 00 10.4	-1.2
K27K	Chicken	23.86	43	P	P	19 00 12.3	-0.1
K27K				IAmb	IAmb	19 00 24.8	
	comp=Z,2.6nm,0.5s						
BMAR	Burnt Mountain	24.01	34	P	P	19 00 13.6	-0.2
EGAK	Eagle	24.43	41	P	P	19 00 17.1	-0.5
EGAK				IAmb	IAmb	19 00 19.1	
	comp=Z,11nm,1.1s						
DAWY	Dawson	25.02	43	P	P	19 00 23.6	+0.6
DAWY				IAmb	IAmb	19 00 29.8	
	comp=Z,8.0nm,1.4s						
H11N2	WAKE ISLAND Hy	32.92	202	T	T	19 36 35.0	
	baz=19,slow=76,SNR=32						
H11N3	WAKE ISLAND Hy	32.93	202	T	T	19 36 41.9	
	baz=19,slow=76,SNR=32						
H11N1	WAKE ISLAND Hy	32.94	202	T	T	19 36 41.5	
	baz=19,slow=76,SNR=28						
H11S1	WAKE ISLAND Hy	34.15	202	T	T	19 38 09.5	
	baz=19,slow=76,SNR=39						
H11S2	WAKE ISLAND Hy	34.16	202	T	T	19 38 14.5	
	baz=19,slow=76,SNR=24						
H11S3	WAKE ISLAND Hy	34.16	202	T	T	19 38 19.2	
	baz=19,slow=76,SNR=18						
YKA	Yellowknife Ar	36.18	46	P	P	19 02 00.5	-0.8
	comp=Z,0.9nm,0.5s,baz=282,slow=6.9,SNR=5.7						
BMN	Battle Mountai	44.19	78	P	P	19 03 06.8	-1.3
BMN				IAmb	IAmb	19 03 09.5	
	comp=Z,2.6nm,0.7s						
BJT	Baijiatuau	44.29	281	P	P	19 03 08.7	0.0
BJT				IAmb	IAmb	19 03 11.2	
	comp=Z,2.6nm,0.8s						
NVAR	Mina Array Bea	44.72	81	P	P	19 03 13.6	+1.1
	comp=Z,1.0nm,0.8s,baz=311,slow=4.8,SNR=6.2						
ULN	Ulaanbaatar	45.29	295	P	P	19 03 17.6	+0.8
SONM	Songino Array	45.68	296	P	P	19 03 20.6	+0.8
	comp=Z,1.3nm,0.5s,baz=65,slow=7.8,SNR=9.2						
SONM				LR	LR	19 25 40.4	
	comp=Z,44nm,19.1s,baz=126,slow=40						
SONM	Songino Array	45.68	296	IAmb	IAmb	19 03 21.2	
	comp=Z,1.3nm,0.7s						
PRN	Pahroc Range	47.37	80	P	P	19 03 34.0	+0.8
PSUT	Pine Spring	47.41	78	P	P	19 03 32.9	-0.7
PSUT				IAmb	IAmb	19 03 34.9	
	comp=Z,2.2nm,0.7s						
BW06	Boulder Array	47.46	71	P	P	19 03 33.8	-0.2
BW06				IAmb	IAmb	19 03 34.9	
	comp=Z,2.3nm,0.8s						
PD31	Pinedale Array	47.46	71	P	P	19 03 34.1	+0.1
PD31				IAmb	IAmb	19 03 34.9	
	comp=Z,2.0nm,0.8s						
PDAR	Pinedale Array	47.46	71	P	P	19 03 34.4	+0.4
	comp=Z,1.9nm,0.7s,baz=297,slow=5.2,SNR=15						
PDAR				pP	pP	19 03 45.7	-0.2
	comp=Z,1.5nm,0.7s,baz=306,slow=5.3,SNR=7.2						
RDMU	Red Mountain	48.77	73	P	P	19 03 42.3	-1.8
U15A	North Rim	49.70	79	P	P	19 03 51.9	+0.6
U15A				IAmb	IAmb	19 03 53.0	
	comp=Z,2.5nm,0.6s						
SPITS	Spitsbergen Ar	50.45	356	P	P	19 03 55.2	-0.9
	comp=Z,1.5nm,0.4s,baz=100,slow=4.4,SNR=4.8						
PV18	Skein Mesa, Pa	50.62	75	P	P	19 03 57.8	-0.4
PV03	Paradox Valley	50.65	75	P	P	19 03 58.9	+0.5
PV13	Radium Mtn., P	50.73	75	P	P	19 03 59.2	+0.2
PV02	Paradox Valley	50.75	75	P	P	19 03 59.1	-0.1
SDCO	Great Sand Dun	53.00	74	P	P	19 04 16.4	+0.3
KURBB	Kurchatov Arra	58.39	313	P	P	19 04 53.9	-0.2
	comp=Z,2.7nm,0.6s,baz=42,slow=6.7,SNR=15						
MKAR	Makanchi Array	59.22	307	P	P	19 04 59.6	-0.4
	comp=Z,1.3nm,0.4s,baz=56,slow=6.9,SNR=11						
TXAR	Lajitas Array	59.82	80	P	P	19 05 04.8	+0.3
	comp=Z,0.3nm,0.5s,baz=302,slow=5.0,SNR=6.2						
BVAR	Borovoye Array	60.26	319	P	P	19 05 07.3	+0.4
	comp=Z,3.0nm,0.5s,baz=132,slow=2.2,SNR=16						
BVAR				pP	pP	19 05 18.7	-1.0
	comp=Z,1.3nm,0.6s,baz=114,slow=1.8,SNR=3.6						
FCAR	Ozark Folk Cen	62.16	67	P	P	19 05 18.5	-1.6
AKTO	Aktyubinsk	67.14	324	P	P	19 05 53.0	+0.8
	comp=Z,3.0nm,0.7s,baz=63,slow=6.3,SNR=12						
AKTO				pP	pP	19 06 04.2	-1.1
	comp=Z,1.2nm,0.6s,baz=59,slow=4.4,SNR=3.6						
ABKAR	Akbulak array	67.36	322	P	P	19 05 53.7	0.0
N59A	State Game Lan	67.36	53	P	P	19 05 53.2	-0.7
KKAR	Karatay Array	67.63	311	P	P	19 05 54.3	-1.2
CMAR	Chiang Mai Arr	69.87	275	P	P	19 06 10.1	+0.3
	comp=Z,0.6nm,0.3s,baz=22,slow=6.2,SNR=4.9						
WRA	Warramunga Arr	81.11	222	P	P	19 07 14.2	+0.2
	comp=Z,0.5nm,0.7s,baz=32,slow=5.9,SNR=3.1						
WRA				pP	pP	19 07 26.7	0.0
	comp=Z,0.2nm,0.4s,baz=29,slow=6.0,SNR=1.5						
ASAR	Alice Springs	84.60	221	P	P	19 07 33.3	+1.3
	comp=Z,0.5nm,0.8s,baz=14,slow=5.8,SNR=5.2						
H03N2	Juan Fernandez	122.22	105	T	T	21 28 14.6	
	baz=317,slow=77,SNR=11						
H03N1	Juan Fernandez	122.23	105	T	T	21 28 16.0	
	baz=317,slow=77,SNR=14						
H03N3	Juan Fernandez	122.24	105	T	T	21 28 15.7	
	baz=317,slow=77,SNR=10						

*ISK **02** 19:00:28.9, 35.°30N×23.°26E, h45km±1km, ML3.4/5*
*IDC **02** 19:00:29.5±4.4, 35.°34N×23.°16E, h69km±25km, mb3.6/6, mb1 3.5/7, mb1mx3.1/58, mbtmp3.8/7, Error ellipse: s-maj=57.6km s-min=27.2km az=30.0*
*ATH **02** 19:00:29.1, 35.°38N×23.°29E, h44km±5km, ML3.5/5, Error ellipse: s-maj=5.5km s-min=1.0km az=62.0*
*THE **02** 19:00:30.5, 35.°39N×23.°24E, h24km±1km, ML3.5/4, Error ellipse: s-maj=2.2km s-min=0.9km az=212.0*
ISC 02 19:00:28.9±1.1**, 35.°33N**±0.°06×**23.°27E**±0.°06**, h44**km±9km**, n47,** σ1^s**72**/61**, mb3.7**/6**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNDR	Palaiochora Ch	0.36	105	P	Pn	19 00 37.8	-0.2
KNDR				S	Sn	19 00 44.7	+0.2
	5µm,0.5s						
KNDR	Palaiochora Ch	0.36	105	PG	Pn	19 00 37.9	-0.1
KNDR				SG	Sn	19 00 45.0	+0.5
IMMV	Iera Moni Meta	0.60	77	P	Pn	19 00 41.7	+0.6
IMMV				S	Sn	19 00 50.9	+1.1
	11µm,0.4s						
IMMV	Iera Moni Meta	0.60	77	P	Pn	19 00 41.7	+0.6
IMMV				S	Sn	19 00 50.3	+0.5
IMMV				AML	AML	19 00 53.1	
	comp=N,20474µm,0.4s						
IMMV				AML	AML	19 00 54.2	
	comp=E,22003µm,0.4s						
IMMV	Iera Moni Meta	0.60	77	PG	Pn	19 00 41.8	+0.6
IMMV				SG	Sn	19 00 51.3	+1.5
VAM	Vamos	0.77	84	P	Pn	19 00 44.5	+1.2
VAM				S	Sn	19 00 56.0	+2.2
	comp=E,6µm,0.6s						
VAM	Vamos	0.77	84	P	Pn	19 00 44.4	+1.0
VAM				S	Sn	19 00 54.6	+0.8
VAM				AML	AML	19 00 57.8	
	comp=E,14095µm,0.7s						
VAM				AML	AML	19 00 58.8	
	comp=N,10051µm,0.6s						
GVD	Gavdhos	0.83	126	P	Pn	19 00 45.6	+1.4
GVD	Gavdhos	0.83	126	P	Pn	19 00 45.8	+1.5
GVD				S	Sn	19 00 57.1	+1.7
GVD				AML	AML	19 01 05.4	
	comp=N,5635µm,0.3s						
GVD				AML	AML	19 01 05.6	
	comp=E,3603µm,0.3s						
GVD	Gavdhos	0.83	126	PG	Pn	19 00 44.9	+0.7
KTHA	Kythira Island	0.94	350	P	Pn	19 00 46.9	+1.2
KTHA				S	Sn	19 00 58.3	+0.3
	comp=E,2µm,0.5s						
KTHA	Kythira Island	0.94	350	P	Pn	19 00 46.7	+1.0
KTHA				S	Sn	19 00 58.4	+0.4
KTHA				AML	AML	19 01 03.4	
	comp=E,5946µm,0.5s						
KTHA				AML	AML	19 01 03.5	
	comp=N,1687µm,0.3s						
KTHA	Kythira Island	0.94	350	PG	Pn	19 00 46.9	+1.2
KTHA				SG	Sn	19 01 00.0	+2.0
PRNS	Prines Rethymn	1.01	88	P	Pn	19 00 47.4	+0.8
PRNS				S	Sn	19 01 01.8	+2.1
SIVA	Sivas	1.30	103	P	Pn	19 00 53.2	+2.6
IDI	Anoyia	1.33	91	P	Pn	19 00 52.8	+1.8
	comp=N,17nm,0.3s,baz=272,slow=13,SNR=71						
IDI				S	Sn	19 01 11.3	+3.7
	comp=N,29nm,0.3s,baz=11,slow=21,SNR=6.6						
IDI				LR	LR	19 01 32.4	
	comp=N,70nm,18.5s,baz=272,slow=44						
IDI	Anoyia	1.33	91	P	Pn	19 00 52.8	+1.8
IDI	Anoyia	1.33	91	P	Pn	19 00 52.9	+1.8
IDI				S	Sn	19 01 10.6	+3.0
IDI				AML	AML	19 01 14.6	
	comp=N,1186µm,0.6s						
IDI				AML	AML	19 01 21.4	
	comp=E,777µm,0.4s						
VLI	Veliai	1.41	349	P	Pn	19 00 53.4	+1.3
VLI	Veliai	1.41	349	P	Pn	19 00 53.5	+1.4
VLI				S	Sn	19 01 11.6	+2.1
MHLO	Agia Marina, M	1.64	34	P	Pn	19 00 57.0	+1.8
NPS	Neapolis	1.92	91	P	Pn	19 01 01.2	+2.1
NPS	Neapolis	1.92	91	P	Pn	19 01 01.3	+2.1
SNT5	Nea Kammeni, S	2.04	58	P	Pn	19 01 01.3	+0.6
KRND	KRANIDI	2.05	357	P	Pn	19 01 02.8	+1.9
KRND	KRANIDI	2.05	357	P	Pn	19 01 03.6	+2.7
SANT	Santorini	2.06	59	PN	Pn	19 01 01.7	+0.6
ITM	Ithomi	2.14	330	P	Pn	19 01 05.8	+3.6
ITM	Ithomi	2.14	330	PN	Pn	19 01 03.4	+1.2
VLX	Vlachokerasia	2.16	341	P	Pn	19 01 06.7	+4.2
EPID	Epidavros	2.28	357	P	Pn	19 01 04.8	+0.7
ZKR	Zakros	2.43	94	P	Pn	19 01 07.8	+1.7
ZKR	Zakros	2.43	94	P	Pn	19 01 08.4	+2.3
ZKR	Zakros	2.43	94	PN	Pn	19 01 07.9	+1.8
APE	Apeiranthos	2.52	46	PN	Pn	19 01 09.3	+1.9
VLY	Voula,Athens	2.55	9	P	Pn	19 01 08.2	+0.4
DION	Dionisos Attik	2.79	11	P	Pn	19 01 11.4	+0.2
VILL	Villia	2.83	1	P	Pn	19 01 11.8	+0.1
KLV	Kalavryta, Ach	2.85	342	P	Pn	19 01 13.0	+1.0
ANX	Ano Chora	3.43	342	P	Pn	19 01 21.8	+1.8
AKASG	Malin Array Be	15.96	14	P	Pn	19 04 10.1	-0.1
	comp=E,0.6nm,0.3s,baz=205,slow=9.6,SNR=1.7						
HFS	Hagfors	25.59	349	P	P	19 05 52.7	-1.0
	comp=E,1.9nm,0.8s,baz=154,slow=11,SNR=4.3						
ARCES	ARCESS Array B	34.28	1	P	P	19 07 07.6	-2.9
	comp=E,0.5nm,0.5s,baz=175,slow=7.3,SNR=6.7						
KURBB	Kurchatov Arra	42.22	51	P	P	19 08 16.5	-1.0
	comp=E,0.9nm,0.6s,baz=275,slow=8.7,SNR=6.7						
MKAR	Makanchi Array	44.97	56	P	P	19 08 38.2	-1.6
	comp=E,0.3nm,0.3s,baz=272,slow=7.6,SNR=8.2						
ZALV	Zalesovo Beam	46.01	46	P	P	19 08 45.6	-2.1
	comp=E,1.2nm,0.4s,baz=274,slow=8.3,SNR=9.8						
USRK	Ussuriysk Ar.	77.81	44	P	P	19 12 19.8	-1.8
	comp=E,0.7nm,0.5s,baz=295,slow=5.0,SNR=5.1						

*IDC **02** 19:02:09.0±1.2, 35.°79N×83.°15E, h0km, mb3.5/4, mb1 3.8/7, mb1mx3.4/61, mbtmp3.6/7, ML3.4/3, Error ellipse: s-maj=55.0km s-min=21.3km az=56.0*
ISC 02 19:02:10.7±1.3**, 35.°8N**±0.°2×**82.°9E**±0.°2**, h10**km**, n9,** σ1^s**16**/8**, mb3.6**/5**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAK	Ala-Archa	9.48	319	Pg	Pg	19 04 57.2	
	0.9nm,0.3s,baz=134,slow=13,SNR=4.3						
AAK				Lg	Lg	19 07 09.7	
	0.4nm,0.3s,baz=47,slow=22,SNR=1.6						
MKAR	Makanchi Array	11.04	358	Pn	Pn	19 04 47.9	-0.8
	0.5nm,0.3s,baz=181,slow=12,SNR=13						
ZALV	Zalesovo Beam	18.24	4	P	P	19 06 23.5	-0.6
	0.1nm,0.3s,baz=186,slow=12,SNR=4.4						
BVAR	Borovoye Array	19.40	337	P	Pn	19 06 37.2	-0.7
	0.3nm,0.3s,baz=171,slow=12,SNR=5.4						
SONM	Songino Array	21.17	48	P	P	19 06 58.0	+1.8
	1.6nm,1.1s,baz=227,slow=10.0,SNR=6.3						
AKTO	Aktyubinsk	23.21	317	P	P	19 07 18.7	+0.9
	1.2nm,0.6s,baz=129,slow=9.9,SNR=4.0						
GERES	GERESS Array B	51.14	308	P	P	19 11 14.5	+0.7
	0.5nm,0.7s,baz=79,slow=5.1,SNR=4.6						
WRA	Warramunga Arr	73.75	130	P	P	19 13 44.6	-0.6
	0.6nm,0.8s,baz=326,slow=6.3,SNR=3.0						
ASAR	Alice Springs	76.28	133	P	P	19 13 59.1	-0.7
	0.2nm,0.6s,baz=319,slow=5.9,SNR=5.4						

*IDC **02** 19:07:02.9±0.9, 84.°40N×78.°55E, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.5/52, mbtmp3.8/8, ML3.7/2, MS2.9/4, Ms1 2.9/4, ms1mx2.5/48, Error ellipse: s-maj=25.3km s-min=22.0km az=141.0*
ISC 02 19:07:05.0±0.8**, 84.°2N**±0.°1×**78.°3E**±0.°1**, h10**km**, n16,** σ2^s**48**/12**, mb3.6**/7**, MS2.8**/3**, North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBS	Kingsbay	10.28	277	*e*P	Pn	19 09 25.1	-7.1
KBS				*e*S	Sn	19 11 12.1	-15
KBS				IAML		19 11 15.9	
	comp=Z,4.9nm,0.5s						
SPA0	Spitsbergen Ar	10.48	271	*e*P	Pn	19 09 31.8	-3.2
SPA0				*e*S	Sn	19 11 22.1	-10
SPITS	Spitsbergen Ar	10.48	271	Pn	Pn	19 09 31.6	-3.4
	baz=45,slow=13,SNR=24						
NOR	Nord	10.67	308	*e*P	Pn	19 09 39.9	+2.3
HSPB	Hornsund (broa	11.61	269	*e*P	Pn	19 09 47.7	-2.6
ARCES	ARCESS Array B	17.65	247	P	Pn	19 11 09.3	-1.2
	baz=19,slow=11,SNR=14						
ARCES				LR	LR	19 18 37.1	
	comp=Z,40nm,18.9s,baz=330,slow=39						
NOA	NORSAR Array B	27.33	257	LR	LR	19 24 20.4	
	comp=Z,12nm,20.0s,baz=10.0,slow=38						
HFS	Hagfors	27.98	254	LR	LR	19 23 54.8	
	comp=Z,26nm,21.2s,baz=332,slow=36						
MA2	Magadan	29.32	98	LR	LR	19 23 59.7	
	comp=Z,26nm,19.8s,baz=51,slow=35						
ILAR	Eielson Array	29.77	38	P	P	19 13 08.7	-2.4
	comp=Z,0.9nm,0.9s,baz=352,slow=8.4,SNR=7.3						
AKASG	Malin Array Be	35.88	235	P	P	19 14 06.3	+1.8
	comp=Z,0.3nm,0.4s,baz=8.7,slow=8.6,SNR=2.3						
SONM	Songino Array	37.29	148	P	P	19 14 17.7	+1.0
	comp=Z,1.2nm,0.9s,baz=357,slow=8.4,SNR=6.5						
GERES	GERESS Array B	39.13	251	P	P	19 14 34.7	+2.6
	comp=Z,0.4nm,0.6s,baz=2.1,slow=8.0,SNR=2.8						
CMAR	Chiang Mai Arr	66.20	159	P	P	19 17 52.4	-0.1
	comp=Z,0.7nm,0.5s,baz=359,slow=7.2,SNR=6.0						
TXAR	Lajitas Array	66.67	2	P	P	19 17 54.0	-1.6
	comp=Z,0.4nm,0.6s,baz=12,slow=2.6,SNR=5.9						
TORD	Torodi Ar. Bea	75.65	258	P	P	19 18 50.7	+0.8
	comp=Z,1.6nm,0.9s,baz=0.1,slow=5.8,SNR=6.8						

*NEIC **02** 19:25:59.4±1.2, 18.°0S±0.°1×178.°5W±0.°2, h606km±11km, mb4.4/19, Error ellipse: s-maj=23.4km s-min=17.8km az=121.0*
*IDC **02** 19:26:00.3±2.1, 17.°96S×178.°58W, h618km±19km, mb3.3/8, mb1 3.5/9, mb1mx3.1/34, mbtmp4.3/9, Error ellipse: s-maj=49.9km s-min=23.3km az=155.0*
ISC 02 19:25:58.3±0.9**, 17.°9S**±0.°1×**178.°4W**±0.°1**, h600**km**, n32,** σ1^s**03**/32**, mb4.2**/18**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.35	273	P	P	19 27 22.1	+2.5
	3.5nm,0.3s,baz=129,slow=2.8,SNR=38						
MSVF	Nonsavu	3.35	273	P	P	19 27 21.9	+2.2
PINNC	Pines Island,	14.03	248	P	P	19 28 57.6	+0.1
KNTN	Kanton	16.45	24	P	P	19 29 18.4	-1.4
HIZ	Hauiti	21.32	195	P	P	19 30 03.0	-0.7
CMWZ	Cape Campbell	24.55	193	P	P	19 30 30.9	-1.4
THZ	Tophouse	24.87	196	P	P	19 30 34.9	-0.4
RABL	Rabaul	31.85	292	P	P	19 31 34.2	-1.9
RABL				IAmb	IAmb	19 31 39.3	
	comp=Z,25nm,0.6s						
CTA	Charters Tower	33.41	261	P	P	19 31 49.3	+0.1
	comp=Z,2.6nm,0.6s,baz=100,slow=8.6,SNR=5.0						
CTAO	Charters Tower	33.41	261	P	P	19 31 49.1	-0.1
CTAO				IAmb	IAmb	19 31 53.7	
	comp=Z,18nm,1.5s						
COEN	Coen	37.08	270	P	P	19 32 20.2	+0.8
COEN				IAmb	IAmb	19 32 20.6	
	comp=Z,8.1nm,0.6s						
STKA	Stephens Creek	38.59	241	P	P	19 32 32.3	+0.9
	comp=Z,1.5nm,0.8s,baz=86,slow=8.8,SNR=4.1						
JAY	Jayapura	42.89	286	P	P	19 33 06.5	+0.7
	comp=Z,14nm,0.8s,baz=168,slow=4.7,SNR=4.5						
BBOO	Buckleboo	43.36	241	P	P	19 33 09.1	-0.1
BBOO				IAmb	IAmb	19 33 11.1	
	comp=Z,55nm,1.4s						
WR0	Warramunga Arr	44.41	260	P	P	19 33 16.6	-0.8
WR0				IAmb	IAmb	19 33 45.5	
	comp=Z,10.0nm,1.4s						
WB0	Warramunga Arr	44.56	260	P	P	19 33 17.7	-0.9
WB0				IAmb	IAmb	19 33 30.8	
	comp=Z,8.1nm,1.4s						
WB2	Warramunga Arr	44.59	260	P	P	19 33 17.8	-0.9
WRA	Warramunga Arr	44.60	260	P	P	19 33 17.9	-1.0
	comp=Z,1.5nm,0.3s,baz=95,slow=7.5,SNR=54						
WRA	Warramunga Arr	44.60	260	IAmb	IAmb	19 33 18.8	
	comp=Z,0.2nm,0.6s						
AS31	Alice Springs	44.75	254	P	P	19 33 19.4	-0.6
ASAR	Alice Springs	44.75	254	P	P	19 33 19.9	-0.2
	comp=Z,8.0nm,0.5s,baz=86,slow=8.6,SNR=182						
ASAR				PcP	PcP	19 34 48.3	-0.7
	comp=Z,0.6nm,0.4s,baz=105,slow=4.0,SNR=7.0						
ASAR	Alice Springs	44.75	254	P	P	19 33 19.3	-0.8
MTN	Manton Dam	48.77	268	P	P	19 33 49.6	-0.6
MTN				IAmb	IAmb	19 33 51.5	
	comp=Z,20nm,1.4s						
FORT	Forrest	49.97	245	P	P	19 33 58.3	-0.5
FORT				IAmb	IAmb	19 33 58.8	
	comp=Z,47nm,1.4s						
KNRA	Kununurra	50.46	264	P	P	19 34 02.1	-0.4
KNRA				IAmb	IAmb	19 34 13.6	
	comp=Z,11nm,1.2s						
SIJI	Sorong	52.22	283	P	P	19 34 14.6	-0.7
	comp=Z,9.6nm,0.6s,baz=114,slow=21,SNR=4.7						
FITZ	Fitzroy Crossi	52.99	261	P	P	19 34 20.5	-0.2
FITZ				IAmb	IAmb	19 34 31.9	
	comp=Z,12nm,1.5s						
MAJO	Matsushiro	67.92	323	P	P	19 35 58.5	+0.1
MAJO				IAmb	IAmb	19 36 22.2	
	comp=Z,7.9nm,1.3s						
UGM	Wanagama	69.62	268	P	P	19 36 08.5	-0.6
TXAR	Lajitas Array	86.04	58	P	P	19 37 38.1	+1.3
	comp=Z,0.5nm,0.8s,baz=198,slow=3.7,SNR=4.7						
CMAR	Chiang Mai Arr	88.87	290	P	P	19 37 51.3	+1.1
	comp=Z,0.4nm,0.3s,baz=124,slow=4.5,SNR=1.8						
GERES	GERESS Array B	147.64	345	PKPbc	PKPbc	19 44 35.8	-0.5
	comp=Z,0.7nm,0.7s,baz=20,slow=4.3,SNR=4.3						

*TUL **02** 19:46:36.5±1.5, 36.°00N±0.°01×97.°22W±0.°03, h6km±6km, ML2.9, mb_Lg2.7/50(NEIC), Error ellipse: s-maj=3.1km s-min=1.2km az=115.0*
NEIC 02 19:46:36.4±1.1**, 36.°01N**±0.°01×**97.°25W**±0.°02**, h7**km±6km**, Error ellipse: s-maj=2.8km s-min=1.4km az=129.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.27	218		Pg	19 46 42.1	+0.4
OK031	S. Brethren Rd	0.34	99		Pg	19 46 43.0	0.0
OK031				Sg	Sg	19 46 47.6	+0.2
OK025	Westminster Rd	0.43	190		Pg	19 46 45.0	+0.2
QUOK	Quay	0.47	69		Pg	19 46 45.5	0.0
QUOK				Sg	Sg	19 46 52.0	+0.3
OKCFA	Oklahoma City	0.61	196		Pg	19 46 47.9	-0.3
OKCSW	OKLAHOMA CITY	0.62	194	Pg	Pg	19 46 48.2	-0.2
BLOK	Blackwell	0.75	2		Pg	19 46 51.1	+0.2
FNO	Franklin	0.76	189		Pg	19 46 50.3	-0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CROK	Carrier	0.77	310		Pg	19 46 51.6	+0.4
KAN13	South Haven SW	1.02	350	Pg	Pg	19 46 56.0	0.0
T35A	Sooner Cattle	1.08	33		Pg	19 46 56.8	-0.4
KAN14	Manchester OK	1.11	329	Pg	Pg	19 46 57.4	-0.3
OK032	Salt Plains WL	1.11	316		Pg	19 46 57.6	-0.1
KAN17	Caldwell West	1.11	338	Pg	Pb	19 46 58.0	0.0
KAN05	Bluff City Nor	1.21	336	Pg	Pg	19 46 58.8	-0.8
KS20	Mayfield South	1.24	349	Pn	Pb	19 46 59.8	-0.5
KAN10	Anthony SW Sta	1.30	329	Pn	Pn	19 47 00.7	-0.5
U32A	Winter Ranch,	1.47	285		Pn	19 47 03.3	0.0
U32A					Sg	19 47 23.8	+0.3
U32A				IAmb_Lg		19 47 26.4	
	comp=Z,51nm,0.8s						
X34A	Smith Ranch, M	1.48	199	Pn	Pn	19 47 03.9	+0.3
WMOK	Wichita Mounta	1.78	225		Pn	19 47 08.5	+0.8
LOOK	Love County	2.01	178		Pn	19 47 09.8	-1.0
X37A	Clayton	2.09	132		Pn	19 47 12.2	+0.3
X37A				IAmb_Lg		19 47 44.0	
	comp=Z,32nm,1.0s						
U38A	Gravette	2.35	79		Pn	19 47 16.0	+0.4
R32A	Long Quarter,	2.68	335	Pn	Pn	19 47 19.3	-0.7
R32A				IAmb_Lg		19 48 05.3	
	comp=Z,23nm,0.9s						
HHAR	Hobbs	2.69	83		Pn	19 47 20.2	0.0
W39A	Magazine	2.94	105		Pn	19 47 23.0	-0.5
W39A				IAmb_Lg		19 48 13.3	
	comp=Z,16nm,0.9s						
KSU1	Kansas State U	3.13	9		Pn	19 47 26.1	-0.1
Z38A	Mt. Pleasant	3.32	145	IAmb_Lg		19 48 26.5	
	comp=Z,18nm,0.9s						
MIAR	Mount Ida	3.34	115		Pn	19 47 27.9	-1.2
U40A	Yellville	3.57	83		Pn	19 47 31.5	-0.8
AMTX	Amarillo	3.79	254	IAmb_Lg		19 48 37.5	
	comp=Z,15nm,0.8s						
X40A	Basin Creek Fa	3.92	111		Pn	19 47 36.7	-0.3
WHAR	Wooly Hollow	4.10	99		Pn	19 47 38.8	-0.8
WHAR				IAmb_Lg		19 48 46.9	
	comp=Z,11nm,0.7s						
FCAR	Ozark Folk Cen	4.16	90	IAmb_Lg		19 48 45.9	
	comp=Z,15nm,0.9s						
MGMO	Mountain Grove	4.17	73	IAmb_Lg		19 48 59.5	
	comp=Z,13nm,0.7s						
P38A	Dawn	4.66	38		Pn	19 47 46.4	-0.8
P38A				IAmb_Lg		19 49 09.8	
	comp=Z,10nm,0.8s						
N33A	J Bar K, Exete	4.72	358	IAmb_Lg		19 49 09.3	
	comp=Z,15nm,1.0s						
N35A	Tabor	5.01	14	IAmb_Lg		19 49 26.9	
	comp=Z,19nm,0.7s						
T42A	Van Buren	5.06	77	IAmb_Lg		19 49 21.7	
	comp=Z,11nm,0.9s						
CCM	Cathedral Cave	5.22	65	IAmb_Lg		19 49 26.9	
	comp=Z,15nm,0.8s						
KSCO	Kaye Shedlock'	5.22	307	IAmb_Lg		19 49 22.6	
	comp=Z,8.1nm,0.7s						
P40A	Paris	5.42	48	IAmb_Lg		19 49 31.0	
	comp=Z,12nm,0.7s						
PBMO	Poplar Bluff	5.55	80	IAmb_Lg		19 49 34.9	
	comp=Z,21nm,0.7s						
N38A	Joes South For	5.72	32	IAmb_Lg		19 49 48.8	
	comp=Z,13nm,0.7s						
T25A	Trinidad	5.87	283	IAmb_Lg		19 49 46.5	
	comp=Z,7.3nm,0.8s						
JCT	Junction City	5.91	202	IAmb_Lg		19 49 53.5	
	comp=Z,7.0nm,0.9s						
L34A	Svendsen Farm,	5.99	6	IAmb_Lg		19 49 58.1	
	comp=Z,15nm,0.7s						
N41A	Harden Midland	6.87	45	IAmb_Lg		19 50 18.2	
	comp=Z,16nm,0.8s						
PLAL	Pickwick Lake	7.55	95	IAmb_Lg		19 50 51.2	
	comp=Z,5.5nm,1.0s						
CLTN	Cedars of Leba	8.84	86	IAmb_Lg		19 51 35.7	
	comp=Z,5.9nm,0.8s						
U49A	Red Boiling Sp	9.28	84	IAmb_Lg		19 51 26.0	
	comp=Z,4.8nm,0.8s						
W50A	Signal Mountai	9.76	91	IAmb_Lg		19 51 43.5	
	comp=Z,6.1nm,0.8s						

*BJI **02** 19:46:48.6±0.0, 56°.88N×116°.04E, h11km, mB4.9/53, mb4.7/69, Ms5.3/68, Ms7 4.8/68*

*IDC **02** 19:46:50.5±0.4, 56°.72N×115°.68E, h0km, mb4.5/25, mb1 4.7/32, mb1mx4.6/49, mbtmp4.6/32, ML4.7/6, MS4.3/46, Ms1 4.3/46, ms1mx4.3/56, Error ellipse: s-maj=11.4km s-min=8.3km az=162.0*

*MOS **02** 19:46:50.5±0.9, 56°.72N×115°.66E, h10km, mb5.1/28, MS4.7/34, Error ellipse: s-maj=5.1km s-min=4.2km az=90.6*

MOS Felt (V) at Nelyaty; (IV) at Bodaibo, Mamakan; (III) at Chara; (II) at Chita.

*BYKL **02** 19:46:51.8±0.2, 56°.75N×115°.69E, h11km±3km, Mw5.1/16(IEC), #STATIONS ADK GUMO INCN TATO QIZ PALK AAK GNI KIV OBN GRFO LVZ KEV KBS SFJD ALE FELT I=IV-V MSK at Nelyaty, Muya, Ust-Muya, Taksimo, Bodaibo, Mamakan,Kropotkin, Mama; IV at Novaya Chara, Balachninskiy, Artemovskiy, Lugovskiy, Sogdiondon, Gorno-Chuiskiy; III-IV at Kuanda; II at Chita*

*GCMT **02** 19:46:52.3±0.2, 56°.84N±0°.01×115°.70E±0°.02, h21km, MW5.0/122, Moment Tensor Solution. s61,c87; s122,c208; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.91±.15; $M_{\theta\theta}$3.27±.12; $M_{\phi\phi}$-1.37±.11; $M_{r\theta}$-0.12±.18; $M_{\theta\phi}$3.93±.09; $M_{\phi r}$-0.75±.20; Best double couple: $M_0$4.67200×10^{16} NP1:ϕ_s284.00000°, δ75.00000°, λ-10.00000°. NP2:ϕ_s17.00000°, δ80.00000°, λ-165.00000°. Principal axes: T 5.5440, Plg4.0000°, Azm150.0000°; N -1.7550, Plg72.0000°, Azm49.0000°; P -3.7990, Plg17.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **02** 19:46:52.4±1.4, 56°.74N±0°.08×115°.7E±0°.2, h10km±1km, mb4.9/255 Error ellipse: s-maj=14.8km s-min=13.0km az=115.0*

ISC 02 19:46:51.9±0.5**, 56°.82N**±0°.02×**115°.73E**±0°.02**, h7**km±2km**, h7**km**:pP-P, n832,** σ**2.s13**/923**, mb4.8**/234**, MS4.6**/79**, 66C-76D, Fault plane solution: NP1:**ϕ_s278.22284°**,** δ55.20455°**,** λ-12.67026°. **NP2:**ϕ_s15.53337°**,** δ79.62322°**,** λ-144.53984°. **Principal axes:** T Plg16.0303°**,** Azm142.3498°**;** N Plg53.2446°, Azm29.7254°**;** P Plg32.0645°**,** Azm242.7187°**; East of Lake Baykal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLYR	Nelyaty	0.33	183	⇑iPg	Pg	19 46 57.0	-1.3
NLYR				eSg	Sg	19 47 00.7	-1.9
NLYR	Nelyaty	0.33	183	⇑iPG	Pg	19 46 56.8	-1.5
NLYR				eS	Sg	19 46 59.6	-3.0
BOD	Bodaibo	1.37	318	⇑iPg	Pn	19 47 17.3	-0.1
BOD				Pmax		19 47 18.2	
	19µm,1.1s						
BOD				eSg	Sb	19 47 35.6	0.0
BOD				Smax		19 47 38.0	
	65µm,0.8s						
BOD	Bodaibo	1.37	318	⇑iPG	Pn	19 47 17.3	-0.1
BOD				e		19 47 36.1	
BOD				pmax	pmax		
	comp=Z,17µm,0.7s						
BOD				smax	smax		
	comp=N,65µm,0.7s						
SVKR	Severomuysk	1.39	241	⇓iPg	Pn	19 47 15.6	-2.2
SVKR				ePb	Pb	19 47 17.5	-0.8
SVKR				max		19 47 17.7	
	comp=N,36µm,0.4s						
SVKR				eSg	Sb	19 47 33.3	-2.9
SVKR				e		19 47 37.0	
SVKR				max		19 47 40.2	
	comp=N,102µm,0.8s						
SVKR	Severomuysk	1.39	241	⇓iPG	Pn	19 47 15.6	-2.2
SVKR				e		19 47 33.2	
SVKR				pmax	pmax		
	comp=Z,40µm,1.2s						
SVKR				smax	smax		
	comp=N,102µm,0.9s						
CRS	Chara	1.40	86	⇓iPg	Pg	19 47 18.5	-0.2
CRS				Pmax		19 47 22.6	
	comp=N,16µm,1.0s						
CRS				eSg	Sg	19 47 37.0	+0.2
CRS				Smax		19 47 40.6	
	comp=N,169µm,1.5s						
CRS	Chara	1.40	86	⇓iPG	Pg	19 47 18.5	-0.2
CRS				e		19 47 36.6	
CRS				pmax	pmax		
	comp=Z,14µm,0.9s						
CRS				smax	smax		
	comp=N,169µm,1.5s						
UKT	Uakit	1.78	222	⇓iPg	Pn	19 47 22.2	-0.9
UKT				eSg	Sn	19 47 44.4	-1.5
UKT	Uakit	1.78	222	⇓iPN	Pn	19 47 22.2	-0.9
UKT				e		19 47 45.5	
UKT				pmax	pmax		
	comp=Z,8µm,0.4s						
UKT				smax	smax		
	comp=N,33µm,0.7s						
YOA	Uoyan	2.33	255	⇓iPn	Pn	19 47 30.7	+0.2
YOA				ePg	Pb	19 47 32.9	-1.2
YOA				e		19 47 39.1	
YOA				max		19 47 40.5	
	comp=N,64µm,1.6s						
YOA				eSn	Sn	19 47 59.0	-0.3
YOA				eSg	Sb	19 48 04.3	+1.3
YOA				Smax		19 48 20.5	
	comp=N,235µm,1.2s						
YOA	Uoyan	2.33	255	⇓iPN	Pn	19 47 30.7	+0.2
YOA				e		19 47 33.1	
YOA				e		19 48 04.5	
YOA				pmax	pmax		
	comp=Z,18µm,0.5s						
YOA				smax	smax		
	comp=N,234µm,0.9s						
KMO	Kumora	2.69	252	⇓iPn	Pn	19 47 35.5	0.0
KMO				ePg	Pb	19 47 39.1	-1.2
KMO				Pmax		19 47 42.2	
	comp=N,6µm,0.9s						
KMO				e		19 47 43.9	
KMO				eSn	Sn	19 48 06.7	-1.6
KMO				eSg	Sb	19 48 14.1	+0.7
KMO				Smax		19 48 16.9	
	comp=N,53µm,1.4s						
KMO	Kumora	2.69	252	⇓iPN	Pn	19 47 35.5	0.0
KMO				e		19 47 39.0	
KMO				eS	Sn	19 48 03.3	-5.0
KMO				e		19 48 13.0	
KMO				pmax	pmax		
	comp=Z,5µm,0.4s						
KMO				smax	smax		
	comp=N,52µm,1.2s						
VTMR	Vitim	3.12	329	⇑iPn	Pn	19 47 42.2	+0.7
VTMR				ePg	Pb	19 47 48.9	+1.2
VTMR				eSn	Sn	19 48 19.6	+0.6
VTMR				eSg	Sb	19 48 29.0	+3.1
YLYR	Ulyunkhan	3.23	235	⇑iPn	Pn	19 47 42.6	-0.3
	comp=N,756nm,0.7s						
YLYR				⇑iPn	Pn	19 47 42.6	-0.3
	comp=N,927nm,0.7s						
YLYR				⇓iPn	Pn	19 47 42.6	-0.3
	comp=N,1µm,0.7s						
YLYR				ePg	Pb	19 47 48.2	-1.3
YLYR				Pmax		19 47 51.4	
	comp=N,2µm,0.9s						
YLYR				e		19 47 53.8	
YLYR				eSn	Sn	19 48 19.2	-2.4
YLYR				eSg	Sb	19 48 29.7	+0.8
YLYR				Smax		19 48 43.0	
	comp=N,21µm,1.5s						
YLYR	Ulyunkhan	3.23	235	⇓iPN	Pn	19 47 42.6	-0.3
YLYR				e		19 47 49.0	
YLYR				eS	Sn	19 48 19.8	-1.8
YLYR				e		19 48 29.0	
YLYR				pmax	pmax		
	comp=Z,2µm,0.9s						
YLYR				smax	smax		
	comp=N,21µm,1.0s						
YKLR	Yuktali	3.27	91	⇑iPn	Pn	19 47 45.0	+1.4
YKLR				ePg	Pb	19 47 51.0	+0.7
YKLR				eSg	Sb	19 48 32.8	+2.5
TUP	Tupik	3.39	133	⇓iPn	Pn	19 47 44.6	-0.6
	comp=N,991nm,1.1s						
TUP				⇑iPn	Pn	19 47 44.6	-0.6
	comp=N,1µm,1.1s						
TUP				⇑iPn	Pn	19 47 44.6	-0.6
	comp=N,2µm,1.1s						
TUP				e		19 47 49.4	
TUP				ePg	Pb	19 47 51.7	-0.5
TUP				Pmax		19 47 55.7	
	comp=N,6µm,1.2s						
TUP				e		19 47 59.2	
TUP				eSn	Sn	19 48 23.4	-2.2
TUP				eSg	Sb	19 48 35.5	+1.9
TUP				eSgSg	Sg	19 48 41.8	+1.2
TUP				max		19 48 43.9	
	comp=N,20µm,1.1s						
TUP	Tupik	3.39	133	⇑iPN	Pn	19 47 44.6	-0.6
TUP				e		19 47 51.8	
TUP				eS	Sn	19 48 23.7	-1.9
TUP				e		19 48 34.7	
TUP				pmax	pmax		
	comp=Z,5µm,0.7s						
TUP				smax	smax		
	comp=N,25µm,0.8s						
NIZ	Nizh Angarsk	3.60	256	⇓iPn	Pn	19 47 48.1	0.0
NIZ				ePg	Pb	19 47 54.8	-1.1
NIZ				Pmax		19 47 59.2	
	comp=N,5µm,1.8s						
NIZ				eSn	Sn	19 48 29.0	-1.8
NIZ				eSg	Sb	19 48 42.2	+2.5
NIZ				Smax		19 48 46.5	
	comp=N,37µm,1.2s						
NIZ	Nizh Angarsk	3.60	256	⇓iPN	Pn	19 47 48.1	0.0
NIZ				e		19 47 55.4	
NIZ				eS	Sn	19 48 29.6	-1.2
NIZ				e		19 48 42.5	
NIZ				pmax	pmax		
	comp=Z,4µm,1.6s						
NIZ				smax	smax		
	comp=N,28µm,1.2s						
SYVR	Suvo	4.56	228	⇓iPn	Pn	19 48 00.3	-0.9
SYVR				ePg	Pb	19 48 12.7	+0.6
SYVR				Pmax		19 48 13.5	
	comp=N,3µm,0.8s						
SYVR				eSn	Sn	19 48 50.2	-4.2
SYVR				eSg	Sb	19 49 11.3	+4.1
SYVR				Smax		19 49 28.3	
	comp=N,18µm,1.8s						
SYVR	Suvo	4.56	228	⇓iPN	Pn	19 48 00.2	-0.9
SYVR				e		19 48 12.7	
SYVR				e		19 49 10.8	
SYVR				pmax	pmax		
	comp=Z,3µm,0.8s						
SYVR				smax	smax		
	comp=N,19µm,1.7s						
CIT	Chita	4.97	196	ePn	Pn	19 48 04.9	-2.0
CIT				ePg	Pb	19 48 20.1	+0.9
CIT				Pmax		19 48 20.9	
	comp=N,1µm,0.7s						
CIT				eSn	Sn	19 48 59.8	-4.8
CIT				eSg	Sb	19 49 22.7	+3.6
CIT				Smax		19 49 26.1	
	comp=N,41µm,0.8s						
CIT	Chita	4.97	196	ePN	Pn	19 48 04.5	-2.4
CIT				e		19 48 20.5	
CIT				eS	Sn	19 49 00.3	-4.3
CIT				e		19 49 22.6	
CIT				pmax	pmax		
	comp=Z,1µm,1.0s						
CIT				smax	smax		
	comp=N,41µm,1.6s						
CLNS	Chul'man	5.03	86	ePn	Pn	19 48 09.6	+1.8
CLNS				ePg	Pb	19 48 22.8	+2.6
CLNS				eSg	Sg	19 49 28.0	-5.4
CLNS				e		19 49 38.6	
MXMB	Maximikha	5.37	231	⇓iPn	Pn	19 48 11.5	-0.8
MXMB				ePg	Pb	19 48 27.6	+1.7
MXMB				eSg	Sb	19 49 36.7	+6.3
OGRR	Ongureny	5.64	239	⇓iPn	Pn	19 48 17.3	+1.3
OGRR				e		19 48 27.4	
OGRR				ePg	Pb	19 48 33.5	+3.0
OGRR				e		19 48 37.1	
OGRR				max		19 48 38.2	
	comp=N,2µm,1.1s						
OGRR				eSn	Sn	19 49 18.4	-2.5
OGRR				eSg	Sg	19 49 45.6	-7.1
OGRR				Smax		19 49 57.2	
	comp=N,5µm,1.3s						
OGRR	Ongureny	5.64	239	⇓iPN	Pn	19 48 17.3	+1.3
OGRR				e		19 48 33.2	
OGRR				e		19 49 42.9	
OGRR				pmax	pmax		
	comp=Z,2µm,2.3s						
OGRR				smax	smax		
	comp=E,6µm,1.7s						
KELR	Kotokel	6.01	231	ePn	Pn	19 48 20.0	-1.1
KELR				ePg	Pb	19 48 38.9	+2.1
KELR				eSn	Sn	19 49 25.2	-4.8
KELR				eSg	Sb	19 49 56.4	+7.6
ZRHB	Zarechye	6.55	233	ePn	Pn	19 48 28.5	-0.1
ZRHB				ePg	Pb	19 48 49.9	+3.8
ZRHB				Pmax		19 48 56.5	
	comp=E,2µm,0.9s						
ZRHB				eSg	Sg	19 50 14.1	-8.0
ZRHB				Smax		19 50 50.4	
	comp=E,21µm,1.5s						
TRG	Tyrgan	6.78	237	⇓iPn	Pn	19 48 30.6	-1.1
TRG				e		19 48 43.6	
TRG				ePg	Pb	19 48 51.7	+1.8
TRG				Pmax		19 49 23.7	
	comp=E,450nm,1.5s						
TRG				eSg	Sb	19 50 18.6	+7.6
TRG				Smax		19 50 55.9	
	comp=E,4µm,1.5s						
TRG	Tyrgan	6.78	237	⇓iPN	Pn	19 48 30.6	-1.1
TRG				e		19 48 51.4	
TRG				eS	Sn	19 49 45.1	-3.9
TRG				e		19 50 20.6	
TRG				pmax	pmax		
	comp=Z,452nm,1.5s						
TRG				smax	smax		
	comp=N,4µm,1.5s						
UUDB	Ulan-Yde	6.84	227	⇓iPn	Pn	19 48 31.6	-1.0
UUDB				e		19 48 43.6	
UUDB				ePg	Pb	19 48 53.5	+2.5
UUDB				Pmax		19 49 23.7	
	comp=N,1µm,1.3s						
UUDB				eSg	Sb	19 50 21.9	+9.1
UUDB				Smax		19 50 55.9	
	comp=N,11µm,1.4s						
KAB	Kabansk	7.13	232	ePn	Pn	19 48 36.4	-0.1
KAB				ePg	Pb	19 48 59.6	+3.7
KAB				Pmax		19 49 19.0	
	comp=N,2µm,1.2s						
KAB				eSg	Sg	19 50 31.9	-8.6
KAB				Smax		19 51 02.0	
	comp=N,35µm,1.3s						
STDB	Stepnoy Dvoret	7.17	233	ePn	Pn	19 48 36.9	-0.1
STDB				ePg	Pb	19 49 00.9	+4.3
STDB				eSg	Sg	19 50 33.9	-7.9
ZEA	Zeya	7.27	110	ePN	Pn	19 48 38.8	+0.5
ZEA				e		19 49 05.0	
ZEA				eS	Sn	19 49 59.6	-1.4
ZEA				e		19 50 40.1	
ZEA				pmax	pmax		
	comp=E,80nm,0.8s						
ZEA				pmax	pmax		
	comp=N,30nm,0.7s						
ZEA				pmax	pmax		
	comp=Z,140nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,8µm,9.0s						
HRMR	Khuramsha	7.31	228	⇓iPn	Pn	19 48 38.1	-0.9
HRMR				e		19 48 47.1	
HRMR				ePg	Pb	19 49 02.2	+3.2
HRMR				Pmax		19 49 08.5	
	comp=Z,768nm,0.8s						
HRMR				eSg	Sb	19 50 35.1	+8.8
HRMR				Smax		19 50 44.5	
	comp=Z,18µm,1.1s						
BGT	Bolshoye Golou	7.68	236	ePn	Pn	19 48 42.9	-1.2
BGT				ePg	Pb	19 49 09.5	+4.2
BGT				Pmax		19 49 14.9	
	comp=Z,425nm,1.0s						
BGT				eSg	Sg	19 50 49.1	-9.2
BGT				Smax		19 51 01.3	
	comp=Z,4µm,1.6s						
HIA	Hailar	7.94	161	PN	Pn	19 48 43.3	-4.3
HIA	Hailar	7.94	161	Pn	Pn	19 48 43.3	-4.3
LSTR	Listvyanka	8.07	237	ePn	Pn	19 48 48.6	-0.7
LSTR				ePg	Pb	19 49 15.9	+4.1
LSTR				Pmax		19 49 20.6	
	comp=Z,264nm,1.5s						
LSTR				eSg	Sg	19 50 59.9	-11
LSTR				Smax		19 51 31.5	
	comp=Z,3µm,1.5s						
IRK	Irkutsk	8.08	240	ePn	Pn	19 48 48.9	-0.7
IRK				ePg	Pb	19 49 15.4	+3.3
IRK				Pmax		19 49 20.5	
	comp=Z,392nm,0.8s						
IRK				eSg	Sg	19 51 00.1	-11
IRK				Smax		19 51 29.8	
	comp=Z,5µm,1.4s						
IRK	Irkutsk	8.08	240	ePN	Pn	19 48 47.7	-1.9
IRK				e		19 49 15.9	
IRK				pmax	pmax		
	comp=Z,392nm,0.8s						
IVK	Ivanovka	8.30	238	ePn	Pn	19 48 51.9	-0.7
IVK				ePg	Pb	19 49 19.6	+3.7
IVK				Pmax		19 49 30.5	
	comp=Z,144nm,1.1s						
IVK				eSn	Sn	19 50 21.7	-4.8
IVK				eSg	Sg	19 51 07.3	-11
IVK				Smax		19 51 28.7	
	comp=Z,4µm,1.4s						
TLY	Talaya	8.74	239	ePn	Pn	19 48 57.1	-1.5
TLY				ePg	Pg	19 49 28.7	-10
TLY				Pmax		19 49 40.4	
	comp=Z,148nm,1.1s						
TLY				eSg	Sg	19 51 21.2	-11
TLY				Smax		19 51 48.9	
	comp=Z,2µm,1.6s						
TLY	Talaya	8.74	239	ePG	Pg	19 49 29.0	-10
TLY				e		19 51 18.4	
TLY				pmax	pmax		
	comp=Z,148nm,1.1s						
TLY				smax	smax		
	comp=E,2µm,1.9s						
YAK	Yakutsk	8.81	48	Pn	Pn	19 48 57.1	-2.4
	comp=E,0.7nm,0.3s,baz=49,slow=1.8,SNR=91						
YAK				Sn	Sn	19 50 35.3	-3.7
	comp=E,1.9nm,0.3s,baz=272,slow=22,SNR=8.7						
YAK				Lg	Lg	19 51 22.8	
	comp=E,3.5nm,0.3s,baz=142,slow=20,SNR=10						
YAK				LR	LR	19 52 41.7	
	comp=E,395nm,20.5s,baz=244,slow=40						
YAK	Yakutsk	8.81	48	ePN	Pn	19 48 57.7	-1.9
YAK				pmax	pmax		
	comp=Z,87nm,0.8s						
YAK	Yakutsk	8.81	48		Pn	19 48 57.6	-1.9
ZAK	Zakamensk	9.80	234	⇓iPn	Pn	19 49 14.7	+1.5
ZAK				max		19 49 15.8	
	comp=Z,189nm,1.8s						
ZAK				ePg		19 49 48.5	
ZAK				eSg	Sn	19 51 53.2	+50
ZAK				Smax		19 52 14.1	
	comp=Z,5µm,1.7s						
ZAK	Zakamensk	9.80	234	eP	Pn	19 49 13.1	-0.1
ZAK				pmax	pmax		
	comp=Z,76nm,1.0s						
MOY	Mondy	10.04	245	ePn	Pn	19 49 15.1	-1.4
MOY				max		19 49 39.7	
	comp=Z,399nm,1.5s						
MOY				e		19 51 33.2	
MOY				eSg	Sn	19 52 00.8	+51
MOY				Smax		19 52 31.0	
	comp=Z,5µm,1.4s						
MOY	Mondy	10.04	245	eP	Pn	19 49 15.4	-1.1
MOY				pmax	pmax		
	comp=Z,423nm,1.2s						
ORL	Orlik	10.16	252	⇑iPn	Pn	19 49 17.2	-0.9
ORL				e		19 49 37.8	
ORL				max		19 50 10.0	
	comp=Z,318nm,1.2s						
ORL				eSn	Sn	19 51 04.5	-7.7
ORL				eSg		19 52 03.6	
ORL				Smax		19 52 18.0	
	comp=Z,5µm,1.4s						
ORL	Orlik	10.16	252	eP	Pn	19 49 17.5	-0.6
ORL				pmax	pmax		
	comp=Z,406nm,1.0s						
ULN	Ulaanbaatar	10.41	214	ceP	Pn	19 49 20.5	-1.1
ULN				pmax	pmax		

comp=Z,73nm,1.2s
ULN Ulaanbaatar 10.41 214 Pn **Pn 19 49 20.3 -1.3**
ULN Ulaanbaatar 10.41 214 P **Pn 19 49 19.1 -2.5**
comp=Z,2µmcomp=Z,159nm,0.9s
SONM Songino Array 10.64 216 Pn **Pn 19 49 23.6 -1.2**
comp=Z,6.0nm,0.3s,baz=27,slow=13,SNR=93
SONM Lg Lg 19 52 23.0
comp=Z,47nm,0.3s,baz=27,slow=27,SNR=13
SONM LR LR 19 53 49.4
comp=Z,1µm,21.5s,baz=28,slow=40
SONM Songino Array 10.64 216 Pn 19 49 23.4 -1.3
KLR Kul'dur 12.25 122 Pn **Pn 19 49 45.2 -1.5**
comp=Z,5.5nm,0.3s,baz=314,slow=13,SNR=107
KLR Lg Lg 19 53 16.8
comp=Z,2.7nm,0.3s,baz=34,slow=5.4,SNR=4.0
KLR LR LR 19 54 58.6
comp=Z,2µm,19.3s,baz=312,slow=40
KLR Kul'dur 12.25 122 *i* P **Pn 19 49 46.6 0.0**
KLR pmax pmax
comp=Z,50nm,0.7s
KLR MLR MLR
comp=Z,3µm,12.0s
KNGR Kungurtug, Tuv 12.43 248 *e*Pn **Pn 19 49 49.7 +0.5**
KNGR *e*Sg 19 53 14.0
CN2 Changchun 14.41 151 *e*P **Pn 19 50 12.5 -3.6**
CN2 *e*S **Sn 19 52 53.7 -2.3**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=Z,5µm,8.0s
CN2 LR LR
comp=Z,2µm,8.0s
CN2 LR LR
comp=Z,6µm,8.0s
MDJ Mudanjiang 15.00 139 P **Pn 19 50 23.4 -0.7**
MDJ pmax pmax
comp=Z,12nm,1.2s
MDJ pmax pmax
comp=Z,320nm,5.1s
MDJ Mudanjiang 15.00 139 Pn 19 50 20.6 -3.6
OKH Okha 15.83 90*c i*P **Pn 19 50 34.7 -0.2**
OKH *e*S **Sn 19 53 29.1 -1.3**
OKH pmax pmax
comp=Z,100nm,11.9s
OKH smax smax
comp=E,100nm,14.0s
OKH smax smax
comp=N,100nm,9.5s
OKH MLR MLR
comp=E,4µm,11.0s
OKH MLR MLR
comp=N,4µm,9.0s
TIXI Tiksi 15.88 15 Pn **Pn 19 50 31.0 -4.4**
comp=N,11nm,0.3s,baz=193,slow=11,SNR=89
TIXI Sn Sn 19 53 17.5 -14
comp=N,18nm,0.3s,baz=282,slow=9.2,SNR=8.5
TIXI Lg Lg 19 55 14.9
baz=316,slow=17,SNR=3.6
TIXI LR LR 19 56 49.8
comp=N,1µm,20.8s,baz=236,slow=38
TIXI Tiksi 15.88 15*d i*P **Pn 19 50 30.9 -4.5**
TIXI Tiksi 15.88 15 Pn 19 50 30.7 -4.8
TIXI IAmb IAmb 19 50 45.3
comp=Z,85nm,0.8s
HHC Hu-ho-hao-te 16.21 191 *e*P **Pn 19 50 39.2 -0.8**
HHC PP **PnPn 19 50 52.2 +3.5**
HHC pmax pmax
comp=Z,12nm,0.9s
HHC pmax pmax
comp=Z,110nm,3.9s
HHC LR LR
comp=Z,4µm,11.9s
HHC LR LR
comp=Z,15µm,10.8s
HHC LR LR
comp=Z,2µm,10.3s
USA0B Ussuriysk Arra 16.27 134 *i* P **Pn 19 50 40.7 +0.1**
USA0B Ussuriysk Arra 16.27 134 Pn **Pn 19 50 39.1 -1.4**
USA0B IAmb IAmb 19 50 46.3
comp=Z,108nm,1.1s
USRK Ussuriysk Ar. 16.27 134 Pn **Pn 19 50 38.0 -2.6**
baz=339,slow=13,SNR=37
USRK Lg Lg 19 55 22.3
baz=327,slow=20,SNR=6.3
USRK LR LR 19 57 33.3
comp=Z,802nm,21.1s,baz=322,slow=40
USRK Ussuriysk Ar. 16.27 134 P **Pn 19 50 40.1 -0.5**
USRK Ussuriysk Ar. 16.27 134 Pn 19 50 40.1 -0.5
BTO Baotou 16.64 195 *e*P **P 19 50 46.8 -1.2**
BJI Beijing 16.79 179 P **Pn 19 50 45.8 -1.5**
BJI pP **pP 19 50 50.6 -1.2**
BJI S **Sn 19 53 57.6 +3.7**
BJI pmax pmax
comp=Z,6.0nm,0.8s
BJI LR LR
comp=Z,4µm,9.3s
BJI LR LR
comp=Z,2µm,10.5s
BJI LR LR
comp=Z,5µm,7.9s
BJT Baijiatuau 16.81 179 P **Pn 19 50 45.3 -2.3**
BJT pmax pmax
comp=Z,28nm,1.0s
BJT Baijiatuau 16.81 179 Pn 19 50 45.3 -2.3
VLA Vladivostok 17.14 136 *i* P **Pn 19 50 51.8 +0.2**
VLA pmax pmax
comp=Z,66nm,1.2s
VLA MLR MLR
comp=Z,2µm,12.0s
UGL Uglegorsk 17.57 105 P **Pn 19 50 53.5 -3.5**
UGL MLR MLR
comp=Z,4µm,9.0s
UGL MLR MLR
comp=N,7µm,8.0s
UGL MLR MLR
comp=E,2µm,5.0s
TEY Ternei 17.58 123 *e*P **Pn 19 50 56.5 -0.6**
TEY *e* 19 54 18.0
TEY MLR MLR
comp=N,200nm,9.0s
TEY MLR MLR
comp=E,200nm,9.0s
TEY MLR MLR
comp=Z,500nm,8.0s
NRIK Noril'sk 17.66 326 P **Pn 19 50 53.2 -4.7**
comp=Z,9.0nm,0.3s,baz=124,slow=11,SNR=47
NRIK S Sn 19 53 58.7 -16
comp=Z,3.5nm,0.3s,baz=172,slow=21,SNR=6.4
NRIK Lg Lg 19 55 59.9
comp=Z,3.3nm,0.3s,baz=43,slow=12,SNR=1.5
NRIK LR LR 19 58 41.4
comp=Z,889nm,21.2s,baz=130,slow=40
NRIK Noril'sk 17.66 326*d i*P **Pn 19 50 53.5 -4.4**
NRIK pmax pmax
comp=Z,174nm,1.6s
NRIK MLR MLR
comp=Z,4µm,12.0s
NRIK Noril'sk 17.66 326 Pn **Pn 19 50 51.9 -6.0**
ZAA0 Zalesovo Array 17.72 274 P **Pn 19 50 56.9 -1.9**
ZAA0 IAmb IAmb 19 51 00.6
comp=Z,103nm,1.0s
ZALV Zalesovo Beam 17.72 274 P **Pn 19 50 56.9 -1.9**
comp=Z,1.5nm,0.3s,baz=69,slow=9.3,SNR=79
ZALV Lg Lg 19 56 09.2
comp=Z,0.7nm,0.3s,baz=65,slow=25,SNR=7.0
ZALV LR LR 19 58 00.2
comp=Z,2µm,18.3s,baz=64,slow=38
ZALV Zalesovo Beam 17.72 274 *i* P **Pn 19 50 57.5 -1.3**
ZALV pmax pmax
comp=Z,62nm,0.9s
ZALV Zalesovo Beam 17.72 274 P **Pn 19 50 56.5 -2.3**
DGZ Jazzator, Alta 18.27 259 *i* P **P 19 51 05.9 -0.1**
DGZ pmax pmax
comp=Z,60nm,1.0s
DGZ MLR MLR
comp=Z,1µm,10.0s
DL2 Dalian 18.34 165 P **Pn 19 51 06.2 -0.3**
DL2 S **Sn 19 54 33.4 +2.0**
DL2 pmax pmax
comp=Z,56nm,1.0s
DL2 pmax pmax
comp=Z,290nm,4.1s
DL2 LR LR
comp=Z,2µm,11.7s
DL2 LR LR
comp=Z,5µm,10.2s
DL2 LR LR
comp=Z,3µm,10.3s
MA2 Magadan 18.54 67 P **P 19 51 08.3 -0.4**
comp=Z,0.4nm,0.3s,baz=269,slow=12,SNR=9.9
MA2 Lg Lg 19 56 24.0
comp=Z,0.1nm,0.3s,baz=10,slow=17,SNR=3.8
MA2 LR LR 19 58 20.9
comp=Z,518nm,18.8s,baz=292,slow=37
MA2 Magadan 18.54 67*ce*P **P 19 51 08.2 -0.4**
MA2 pmax pmax
comp=Z,34nm,1.0s
MA2 MLR MLR
comp=Z,849nm,10.0s
MA2 Magadan 18.54 67 P 19 51 05.9 -2.8
SEY Seymchan 19.17 56 P **P 19 51 15.8 +0.2**
comp=Z,0.9nm,0.3s,baz=258,slow=8.1,SNR=37
SEY Lg Lg 19 56 50.0
comp=Z,0.6nm,0.3s,baz=7.8,slow=20,SNR=6.4
SEY LR LR 19 58 50.3
comp=Z,871nm,18.3s,baz=272,slow=37
TIY Taiyuan 19.24 188 *e*P **Pn 19 51 20.4 +2.9**
TIY S **S 19 54 58.1 +3.5**
TIY SS **SnSn 19 55 15.9 +8.8**
TIY pmax pmax
comp=Z,15nm,0.6s
TIY LR LR
comp=Z,2µm,5.1s
TIY LR LR
comp=Z,8µm,8.1s
TIY LR LR
comp=Z,2µm,8.7s
YSS Yuzh-Sakhalins 19.26 109*ce*P **Pn 19 51 18.0 +0.4**
YSS *e*S **Sn 19 54 49.8 -3.6**
YSS pmax pmax
comp=Z,300nm,4.3s
YSS pmax pmax
comp=Z,30nm,1.2s
YSS smax smax
comp=E,500nm,12.4s
YSS MLR MLR
comp=Z,3µm,11.0s
YSS Yuzh-Sakhalins 19.26 109 P 19 51 16.6 0.0
YSS IAmb IAmb 19 51 28.2
comp=Z,76nm,1.4s
GTA Gaotai 20.31 218 ⇓P **P 19 51 27.7 -0.7**
GTA pP sP 19 51 31.8 0.0
GTA sP pP 19 51 35.5 +4.7
GTA S **S 19 55 12.5 -3.7**
GTA SS **SnSn 19 55 43.4 +10**
GTA pmax pmax
comp=Z,26nm,1.2s
GTA pmax pmax
comp=Z,170nm,6.5s
GTA LR LR
comp=Z,3µm,8.7s
GTA LR LR
comp=Z,7µm,9.8s
GTA LR LR
comp=Z,2µm,8.4s
TIA Tai'an 20.63 177 ⇓P **P 19 51 32.2 +0.5**
TIA S **S 19 55 21.6 -0.8**
TIA pmax pmax
comp=Z,28nm,0.8s
TIA pmax pmax
comp=Z,280nm,3.5s
TIA LR LR
comp=Z,2µm,10.8s
TIA LR LR
comp=Z,6µm,15.5s
TIA LR LR
comp=Z,3µm,10.8s
INCN Inchon 20.67 155 P **P 19 51 31.8 -0.3**
INCN pmax pmax
comp=Z,30nm,0.8s
INCN Inchon 20.67 155 P **P 19 51 31.8 -0.3**
INCN IAmb IAmb 19 51 33.9
comp=Z,30nm,0.8s
KS19 Wonju Array Si 20.95 152 P **P 19 51 35.6 +0.4**
ZSN Zaisan 20.97 257 ⇓*i*P **P 19 51 35.8 +0.5**
comp=Z,439nm,7.8s,baz=257
ZSN Zaisan 20.97 257*d i*P **P 19 51 35.8 +0.5**
KSRS Korea Array 21.01 152 P **P 19 51 35.7 -0.1**
comp=Z,9.9nm,0.8s,baz=343,slow=10,SNR=40
KSRS Lg Lg 19 57 52.8
comp=Z,7.1nm,1.0s,baz=340,slow=25,SNR=5.0
KSRS LR LR 20 00 34.1
comp=Z,938nm,18.2s,baz=336,slow=39
KSAR Wonju Array Be 21.01 152 P **P 19 51 35.1 -0.7**
KSAR Wonju Array Be 21.01 152 P **P 19 51 35.1 -0.7**
ASAJ Asahikawa 21.14 115 P **P 19 51 37.8 +0.8**
comp=Z,34nm,1.0s,baz=314,slow=12,SNR=10
JKA Kamikawa-asahi 21.14 115 P **P 19 51 37.5 +0.4**
JKA IAmb IAmb 19 51 44.9
comp=Z,42nm,0.9s
TJN Taejon 21.89 154*ce*P **P 19 51 46.7 +1.5**
WMQ Urumqi 21.93 246 *e*P **P 19 51 46.6 +0.9**
WMQ S **S 19 55 49.8 +1.8**
WMQ pmax pmax
comp=Z,75nm,1.1s
WMQ pmax pmax
comp=Z,580nm,4.1s
WMQ LR LR
comp=Z,1µm,8.1s
WMQ LR LR
comp=Z,2µm,8.5s
WMQ LR LR
comp=Z,800nm,13.9s
LZH Lanzhou 22.23 206 ⇑P **P 19 51 49.2 +0.1**
LZH pP sP 19 51 54.0 +1.4
LZH sP pP 19 51 56.5 +5.0
LZH S **S 19 55 48.3 -5.7**
LZH sS pS 19 55 59.2 +0.5
LZH SS **SnSn 19 56 32.2 +12**
LZH pmax pmax
comp=Z,37nm,1.0s
LZH pmax pmax
comp=Z,140nm,4.3s
LZH LR LR
comp=Z,2µm,13.0s
KURK Kurchatov 22.55 270 P **P 19 51 52.2 0.0**
KURK Kurchatov 22.55 270 P **P 19 51 52.2 0.0**
KURBB Kurchatov Arra 22.65 270 P **P 19 51 52.2 -1.0**
comp=Z,34nm,1.0s,baz=65,slow=8.8,SNR=76
KURBB Lg Lg 19 58 34.9
comp=Z,18nm,1.1s,baz=68,slow=29,SNR=4.6
MK31 Makanchi Array 22.76 258 *i* P **P 19 51 54.0 -0.5**
MK31 Makanchi Array 22.76 258 P **P 19 51 53.5 -1.0**
MK31 IAmb IAmb 19 52 12.6
comp=Z,32nm,0.8s
MKAR Makanchi Array 22.76 258 P **P 19 51 53.8 -0.7**
comp=Z,26nm,0.8s,baz=56,slow=9.0,SNR=114
MKAR Lg Lg 19 58 42.0
comp=Z,10nm,1.0s,baz=59,slow=26,SNR=5.6
MKAR LR LR 20 01 05.3
comp=Z,2µm,20.1s,baz=40,slow=38
MKAR Makanchi Array 22.76 258*ce*P **P 19 51 53.7 -0.8**
MKAR pmax pmax
comp=Z,26nm,0.8s
MKAR Makanchi Array 22.76 258 P P 19 51 53.4 -1.1
YUK Yuzh-Kuril'sk 22.84 111 *e*P **P 19 51 55.1 -0.2**
YUK *e* 19 52 26.9
YUK *e*S **S 19 56 02.0 -2.8**
MAKZ Makanchi 22.92 259 P **P 19 51 55.0 -1.1**
MAKZ Makanchi 22.92 259 P **P 19 51 54.8 -1.4**
MAKZ IAmb IAmb 19 52 16.9
comp=Z,39nm,0.9s
JTM Tenmabayashi 22.95 124 P **P 19 51 55.1 -1.3**
ERM Erimo 22.97 118 *e*P **P 19 51 56.4 -0.3**
ERM pmax pmax
comp=Z,174nm,2.0s
XAN Xi'an 23.25 194 P **P 19 52 00.7 +1.0**
XAN pP sP 19 52 07.7 +4.5
XAN sP pP 19 52 10.8 +8.7
XAN pmax pmax
comp=Z,7.0nm,0.7s
XAN pmax pmax
comp=Z,130nm,4.0s
XAN LR LR
comp=Z,4µm,9.6s
XAN LR LR
comp=Z,7µm,13.1s
XAN LR LR
comp=Z,3µm,8.9s
PEA0B Petropavlovsk- 24.10 81*ce*P **P 19 52 08.2 +0.5**
PEA0B Petropavlovsk- 24.10 81 P **P 19 52 08.5 +0.7**
PETK Petropavlovsk- 24.10 81 P **P 19 52 08.1 +0.4**
comp=Z,37nm,1.1s,baz=348,slow=6.4,SNR=17
PETK LR LR 20 01 39.3
comp=Z,602nm,19.4s,baz=290,slow=37
PETK Petropavlovsk- 24.10 81 P **P 19 52 07.9 +0.2**
SKR Severo-Kuril's 24.37 87 *e*P **P 19 52 14.0 +3.8**
SKR pmax pmax
comp=Z,100nm,3.6s
SKR pmax pmax
comp=Z,300nm,2.4s
PET Petropavlovsk 24.65 81 *e*P **P 19 52 14.1 +1.4**
PET *e*S **S 19 56 29.7 -4.4**
PET pmax pmax
comp=Z,100nm,1.8s
PET pmax pmax
comp=Z,105nm,1.2s
PET Petropavlovsk 24.65 81 P **P 19 52 13.8 +1.0**
JHS Saijyo 24.81 144 P **P 19 52 12.5 -1.9**
NJ2 Nanjing 24.86 174 *e*P **P 19 52 14.5 -0.2**
NJ2 pP **sP 19 52 19.3 +0.9**
NJ2 sP **pP 19 52 21.4 +4.1**
NJ2 S **S 19 56 39.7 +2.0**
NJ2 sS **sS 19 56 47.1 +5.2**
NJ2 SS **SnSn 19 57 32.5 +7.8**
NJ2 pmax pmax
comp=Z,24nm,0.7s
NJ2 pmax pmax
comp=Z,190nm,5.0s
NJ2 LR LR
comp=Z,1µm,10.6s
NJ2 LR LR
comp=Z,2µm,11.8s
NJ2 LR LR
comp=Z,860nm,15.9s
BILL Bilibino 25.13 43⇓*e*P **P 19 52 18.6 +1.6**
BILL *e*S **S 19 56 46.9 +5.3**
BILL pmax pmax
comp=Z,30nm,1.1s
BILL MLR MLR
comp=Z,848nm,11.0s
BILL Bilibino 25.13 43 P P 19 52 17.3 +0.3
BILL IAmb IAmb 19 52 35.7
comp=Z,38nm,1.1s
JMM Marumori 25.21 128 P **P 19 52 17.1 -0.8**
JMM IAmb IAmb 19 52 20.5
comp=Z,32nm,0.9s
MAJO Matsushiro 25.26 134 P **P 19 52 16.7 -1.8**
MAJO pmax pmax
comp=Z,10.0nm,0.7s
MAJO Matsushiro 25.26 134 P **P 19 52 16.7 -1.8**
MAT Matsushiro 25.26 134 P **P 19 52 16.7 -1.7**
MAT S **S 19 56 44.6 +0.4**
MJAR Matsushiro Arr 25.27 134 P **P 19 52 16.4 -2.1**
comp=Z,4.6nm,0.6s,baz=345,slow=8.7,SNR=12
MJAR LR LR 20 02 37.5
comp=Z,852nm,19.5s,baz=320,slow=38
MJAR Matsushiro Arr 25.27 134 P **P 19 52 17.1 -1.3**
MJAR pmax pmax
comp=Z,4.0nm,1.0s
MJAR Matsushiro Arr 25.27 134 P **P 19 52 17.1 -1.3**
JWT Wachi 25.32 140 P **P 19 52 17.8 -1.2**
JWT IAmb IAmb 19 52 24.8
comp=Z,44nm,1.3s
JNU Nakatsue 25.89 150 LR LR 20 02 12.5
comp=Z,418nm,19.6s,baz=271,slow=36
BVAR Borovoye Array 25.96 281 P **P 19 52 23.9 -0.8**
comp=Z,12nm,0.6s,baz=116,slow=3.4,SNR=77
TDK Taldyqorghan 25.99 259⇑*i*P **P 19 52 24.6 -0.4**
comp=Z,84nm,0.9s,baz=259
TDK *e*LR LR 20 02 36.3
comp=Z,1µm,14.8s,baz=259
TDK Taldyqorghan 25.99 259*c i*P **P 19 52 24.6 -0.4**
TDK pmax pmax
comp=Z,84nm,0.9s
TDK MLR MLR
comp=Z,1µm,15.0s
SSE Sheshan 26.00 169 P **P 19 52 24.7 -0.4**
SSE S **S 19 56 55.7 -0.1**
SSE pmax pmax
comp=Z,12nm,0.7s
SSE pmax pmax
comp=Z,48nm,4.6s
SSE LR LR
comp=Z,440nm,17.2s
SSE LR LR
comp=Z,970nm,15.9s
BRVK Borovoye 26.00 281*ce*P **P 19 52 25.4 +0.4**
BRVK pmax pmax
comp=Z,47nm,1.0s
BRVK Borovoye 26.00 281 P P 19 52 25.2 +0.2
BRZS Berezniki 26.20 273⇓*i*P **P 19 52 25.9 -0.9**
comp=Z,29nm,1.0s,baz=273
BRZS *e*S **S 19 57 06.5 +7.7**
comp=Z,96nm,4.1s,baz=273
BRZS Berezniki 26.20 273*d i*P **P 19 52 25.9 -0.9**
BRZS pmax pmax
comp=Z,29nm,1.0s
JMN Monobe 26.22 144 P **P 19 52 25.4 -1.8**
JMN IAmb IAmb 19 52 51.6
comp=Z,36nm,1.1s
WHN Wuhan 26.28 183 ⇑P **P 19 52 28.7 +1.0**
WHN LR LR
comp=Z,3µm,13.6s
WHN LR LR
comp=Z,4µm,12.8s
WHN LR LR
comp=Z,3µm,11.4s
JYT Yasato 26.34 131 P **P 19 52 26.3 -1.9**
PDGK Podgornoye 26.53 255 P **P 19 52 28.8 -1.2**
SHLS Shalkode 26.66 255⇓*i*P **P 19 52 29.0 -2.3**
comp=Z,47nm,1.7s,baz=254
SHLS Shalkode 26.66 255*d i*P **P 19 52 28.9 -2.3**
SHLS pmax pmax
comp=Z,47nm,1.7s
ARXS Arharly 26.82 258 *e*P **P 19 52 32.1 -0.5**
KPKS Kokpek 26.86 256 *e*P **P 19 52 32.1 -0.9**
baz=256
KPKS Kokpek 26.86 256 *e*P **P 19 52 32.1 -0.9**
ENH Enshi 26.89 192 P **P 19 52 32.3 -1.0**
ENH IAmb IAmb 19 52 56.5
comp=Z,17nm,0.8s
UZB Uzynbulak 26.90 255 *e*P **P 19 52 32.7 -0.8**
comp=Z,21nm,1.3s,baz=255
UZB Uzynbulak 26.90 255 *e*P **P 19 52 32.6 -0.8**
UZB pmax pmax
comp=Z,21nm,1.3s
CD2 Chengdu 27.22 203 P **P 19 52 36.1 -0.1**
CD2 S **S 19 57 14.6 -0.6**
CD2 sS sS 19 57 22.9 +3.4
CD2 pmax pmax
comp=Z,10.0nm,1.0s
CD2 pmax pmax
comp=Z,100nm,6.3s
CD2 LR LR
comp=Z,4µm,16.2s
CD2 LR LR
comp=Z,8µm,15.8s
CD2 LR LR
comp=Z,2µm,12.9s
SATY Saty 27.29 256 *e*P **P 19 52 35.3 -1.6**
baz=256
SATY Saty 27.29 256 *e*P **P 19 52 35.3 -1.6**
OTUK Ortayu 27.34 270 P **P 19 52 35.8 -1.3**
CHKK Chushkaly 27.51 259 *e*P **P 19 52 37.3 -1.4**
baz=258
KUU Kurty 27.84 259 *e*P **P 19 52 39.7 -1.9**
baz=259
KUU Kurty 27.84 259 *e*P **P 19 52 39.7 -1.9**
MDOK Medeo 27.94 257 *e*P **P 19 52 40.9 -1.9**
baz=257
MDOK *e*LR LR 20 03 28.0
comp=Z,2µm,16.1s,baz=257
MDOK Medeo 27.94 257 P **P 19 52 42.4 -0.4**
AAA Alma-Ata 27.98 258 *e*P **P 19 52 41.7 -1.4**
baz=258
AAA *e*LR LR 20 03 09.0
comp=Z,2µm,14.7s,baz=258
AAA Alma-Ata 27.98 258 *e*P **P 19 52 41.6 -1.4**
AAA MLR MLR
comp=Z,2µm,15.0s
MTBS Maitube 28.30 258 *e*P **P 19 52 44.7 -1.1**
baz=258
BTLS Baital 28.33 263 *e*P **P 19 52 44.6 -1.5**
baz=263
BTLS Baital 28.33 263 *e*P **P 19 52 44.5 -1.5**

TARG Taragay, Kyrgy 28.53 254 P P 19 52 47.9 -0.4
JHJ Hachijo jima 2 28.88 135 LR LR 20 05 00.5
comp=Z,662nm,18.1s,baz=72,slow=38
TKM2 Tokmak 2 28.89 259 P P 19 52 51.5 +0.2
SNR=8.9
TKM2 Tokmak 2 28.89 259 P P 19 52 50.5 -0.7
BOOM Boomskoye usch 29.00 258 P P 19 52 52.5 +0.3
BOOM pmax pmax
comp=Z,17nm,0.8s
BOOM Boomskoye usch 29.00 258 P P 19 52 52.5 +0.3
BOOM IAmb IAmb 19 52 53.7
comp=Z,17nm,0.8s
SGDS Sogindy 29.05 260 *e*P P 19 52 51.8 -0.7
baz=260
USP Ospenovka 29.25 260 P P 19 52 54.5 +0.3
SNR=9.4
CHMS Chumysh 29.29 260 P P 19 52 55.2 +0.6
SNR=16
KBK Karagaybulak 29.42 259 P P 19 52 56.3 +0.4
SNR=12
SVE Sverdlovsk 29.46 294 *e*P P 19 52 56.4 +0.5
SVE *e*S S 19 57 53.1 +3.0
SVE pmax pmax
comp=Z,24nm,1.1s
SVE MLR MLR
comp=Z,1μm,13.0s
FRU1 Bishkek 29.48 259 P P 19 52 56.9 +0.5
FRU1 pmax pmax
comp=Z,20nm,0.9s
FRU1 Bishkek 29.48 259 P P 19 52 56.9 +0.5
FRU1 IAmb IAmb 19 52 57.9
comp=Z,20nm,0.8s
KZA Kyzart 29.65 258 P P 19 52 59.1 +0.9
SNR=11
AAK Ala-Archa 29.68 259 P P 19 52 58.5 +0.4
comp=Z,15nm,0.7s,baz=102,slow=5.2,SNR=39
AAK Lg Lg 20 02 26.5
comp=Z,7.0nm,1.0s,baz=337,slow=23,SNR=5.5
AAK Ala-Archa 29.68 259 P P 19 52 58.6 +0.4
SNR=11
AAK Ala-Archa 29.68 259 *ce*P P 19 52 58.2 0.0
AAK pmax pmax
comp=Z,49nm,0.8s
AAK Ala-Archa 29.68 259 P P 19 52 57.8 -0.3
AAK IAmb IAmb 19 52 59.4
comp=Z,16nm,0.8s
EKS2 Erkin-Say 30.05 260 P P 19 53 01.8 +0.4
SNR=17
ARU Arti 30.67 294 *c i*P P 19 53 06.5 -0.1
ARU PPP PPP 19 54 13.4
ARU S S 19 58 10.5 +1.5
ARU SS ScP 19 59 47.6 +0.7
ARU pmax pmax
comp=Z,17nm,1.2s
ARU MLR MLR
comp=Z,1μm,14.0s
ARU Arti 30.67 294 P P 19 53 06.7 +0.1
ARU IAmb IAmb 19 53 08.0
comp=Z,18nm,1.2s
GYA Guiyang 31.03 196 ⇓P P 19 53 10.7 +0.6
GYA S S 19 58 16.8 +1.5
GYA pmax pmax
comp=Z,9.0nm,1.8s
GYA LR LR
comp=Z,670nm,7.7s
GYA LR LR
comp=Z,1μm,6.5s
GYA LR LR
comp=Z,770nm,12.1s
KSH Kashi 31.09 253 P P 19 53 15.4 +4.7
KSH sP sP 19 53 22.6 +8.3
KSH pmax pmax
comp=Z,12nm,1.0s
KSH LR LR
comp=Z,3μm,12.3s
KSH LR LR
comp=Z,6μm,12.8s
KSH LR LR
comp=Z,2μm,11.6s
KK31 Karatay Array 31.53 264 *i* P P 19 53 13.9 -0.4
KK31 Karatay Array 31.53 264 P P 19 53 13.4 -1.0
KKAR Karatay Array 31.53 264 P P 19 53 13.4 -1.0
KKAR 19 53 13.6
KKAR Karatay Array 31.53 264 P P 19 53 13.6 -0.7
KKAR Karatay Array 31.53 264 P P 19 53 13.4 -1.0
LSA Lhasa 32.13 223 P P 19 53 19.2 -1.0
LSA pmax pmax
comp=Z,4.0nm,1.0s
LSA Lhasa 32.13 223 P P 19 53 19.2 -1.0
IUG Iuzhnay 32.43 263 *e*P P 19 53 22.3 -0.1
baz=263
IUG Iuzhnay 32.43 263 *e*P P 19 53 22.3 -0.1
KMI Kunming 33.03 202 ⇑P P 19 53 25.3 -2.6
KMI pP sP 19 53 35.0 +3.5
KMI S S 19 58 45.5 -1.3
KMI SS SnSn 20 00 48.7 +4.3
KMI pmax pmax
comp=Z,8.0nm,1.2s
KMI LR LR
comp=Z,1μm,16.3s
KMI LR LR
comp=Z,3μm,15.4s
KMI LR LR
comp=Z,1μm,10.4s
SSLB Suanglung 33.21 171 P P 19 53 27.9 -1.4
SSLB IAmb IAmb 19 53 30.2
comp=Z,10.0nm,1.0s
DRK Karamyk 33.34 258 P P 19 53 30.7 +0.1
BTK Batken 33.46 259 P P 19 53 31.5 +0.2
BTK Batken 33.46 259 P P 19 53 31.5 +0.2
AB31 Akbulak array 33.53 281 *i* P P 19 53 31.6 -0.2
ABKAR Akbulak array 33.53 281 P P 19 53 30.9 -0.9
ABKAR Akbulak array 33.53 281 P P 19 53 31.6 -0.2
ABKAR IAmb IAmb 19 53 32.7
comp=Z,17nm,0.8s
KIRV Kirov 34.19 301 *ce*P P 19 53 37.0 -0.3
GAR Garm 34.48 259 P P 19 53 39.9 -0.5
PRGR Permogore 34.59 308 *e*P P 19 53 40.1 -0.7
PRGR *e* 19 54 52.3
PRGR pmax pmax
comp=Z,3.0nm,0.6s
CHGR Chuyangaron 35.36 259 P P 19 53 47.0 -0.8
TNA Tin City 35.56 44 P P 19 53 49.2 +0.1
baz=293
SHL Shillong 35.63 219 P P 19 53 49.3 -1.1
SHL pmax pmax
comp=Z,49nm,1.5s
SHL Shillong 35.63 219 P P 19 53 49.3 -1.1
HOPEN Hopen 35.88 336 *e*P P 19 53 53.8 +2.1
JIRN Jiri 35.90 228 *e*P P 19 53 52.7 -0.2
comp=Z,70nm,0.9s
KKN Kakani 36.16 230 *e*P P 19 53 55.2 +0.3
comp=Z,104nm,1.0s
GKN Gorkha 36.25 231 *e*P P 19 53 55.9 +0.3
comp=Z,164nm,1.1s
PKI Pulchoki 36.30 229 *e*P P 19 53 56.1 -0.2
comp=Z,114nm,1.4s
PKIN Phulchoki 36.30 229 *e*P P 19 53 56.0 -0.2
DANN Dangsing 36.32 232 *e*P P 19 53 56.6 +0.2
comp=Z,74nm,0.9s
DMN Daman 36.39 230 *e*P P 19 53 57.1 +0.1
comp=Z,56nm,0.8s
SLVN Son La 36.50 199 P P 19 53 56.9 -0.8
PYUN Piuthan 36.87 233 *e*P P 19 54 01.1 +0.1
comp=Z,174nm,1.0s
KOLN Koldanda 36.89 232 *e*P P 19 54 01.4 +0.2
comp=Z,102nm,1.1s
NIL Nilore 36.97 250 P P 19 54 00.8 -0.8
NIL pmax pmax
comp=Z,16nm,1.2s
NIL Nilore 36.97 250 P P 19 54 00.8 -0.8
NIL IAmb IAmb 19 54 03.5
comp=Z,16nm,1.1s
SPB2 Spitsbergen Ar 36.98 340 P P 19 54 00.6 -0.6
SPITS Spitsbergen Ar 36.98 340 P P 19 54 00.6 -0.6
SPITS pmax pmax
comp=Z,48nm,1.2s
KLMR Klimovskoe 37.58 309 *e*P P 19 54 05.9 -0.5
KLMR pmax pmax
comp=Z,51nm,1.6s
KLMR MLR MLR
comp=Z,694nm,13.0s
KLMR Klimovskoe 37.58 309 *e*P P 19 54 05.9 -0.5
KLMR AMP 19 54 13.2
comp=Z,51nm,1.6s

KLMR LQ LQ 20 06 45.7
KLMR LQ LQ 20 06 45.7
KLMR LR LR 20 07 21.7
KLMR AMP 20 11 05.1
comp=Z,694nm,12.5s
QIZ Qiongzhong 37.98 189 P P 19 54 10.3 +0.1
QIZ S S 20 00 04.8 +2.4
QIZ LR LR
comp=Z,720nm,15.9s
QIZ LR LR
comp=Z,3μm,15.4s
QIZ LR LR
comp=Z,710nm,11.4s
BELG Belogornoye 38.22 293 *i* P P 19 54 11.5 -0.3
BELG pmax pmax
comp=Z,6.0nm,0.9s
BELG MLR MLR
comp=Z,99nm,12.0s
SPIA Saint Paul Isl 38.47 57 P P 19 54 13.8 -0.1
baz=302
KBL Kabul 38.48 255 P P 19 54 13.2 -1.4
KBL pmax pmax
comp=Z,14nm,1.0s
KBL Kabul 38.48 255 P P 19 54 13.2 -1.4
ARCES ARCESS Array B 38.64 326 P P 19 54 14.8 -0.4
comp=Z,13nm,1.1s,baz=70,slow=11,SNR=3.7
ARCES LR LR 20 14 08.1
comp=Z,626nm,18.1s,baz=60,slow=42
ARCES ARCESS Array B 38.64 326 P P 19 54 14.8 -0.4
ARCES pmax pmax
comp=Z,33nm,1.5s
ARCES ARCESS Array B 38.64 326 P P 19 54 14.8 -0.4
ARCES IAmb IAmb 19 54 16.2
comp=Z,32nm,1.4s
NOR Nord 39.50 350 *i* P P 19 54 23.0 +0.7
NOR IAmb IAmb 19 54 23.8
comp=Z,3.0nm,0.8s
NOR Nord 39.50 350 *i* P P 19 54 23.0 +0.7
NOR pmax pmax
comp=Z,3.0nm,0.8s
KTK1 Kautokeino 39.60 326 *e*P P 19 54 23.5 +0.2
NONG Nongkai 39.83 199 P P 19 54 26.9 +1.3
comp=Z,9μmcomp=Z,19nm,1.0s
CHTO Chiang Mai 39.97 205 P P 19 54 25.7 -1.1
CHTO pmax pmax
comp=Z,3.0nm,0.9s
CHTO Chiang Mai 39.97 205 P P 19 54 25.7 -1.1
JETT Jettan, Norway 40.18 327 *e*P P 19 54 29.5 +1.3
CMAR Chiang Mai Arr 40.31 205 P P 19 54 28.6 -1.1
comp=Z,0.7nm,0.7s,baz=6.2,slow=7.9,SNR=8.6
CMAR PcP PcP 19 56 32.9 -0.2
comp=Z,1.1nm,0.6s,baz=350,slow=3.0,SNR=4.4
CMAR Chiang Mai Arr 40.31 205 P P 19 54 27.8 -1.8
TOLK Toolik Lake Re 40.48 34 P P 19 54 30.7 +0.1
TOLK Toolik Lake Re 40.48 34 P P 19 54 30.1 -0.5
baz=302,SNR=11
IMAR Indian Mountai 40.53 39 P P 19 54 31.7 +0.7
TRO Tromso 40.57 328 *e*P P 19 54 34.2 +2.9
COLD Coldfoot 41.05 36 P P 19 54 35.0 -0.3
baz=303
MOS Moscow 41.16 303 *e*P P 19 54 38.0 +1.7
MOS *e* 19 56 16.8
MOS *e*S S 20 00 56.8 +7.5
MOS *e*SS SS 20 03 44.4 -7.1
MOS pmax pmax
comp=Z,34nm,0.6s
MOS MLR MLR
comp=Z,1μm,14.0s
J20K Nowinta River 41.38 41 P P 19 54 38.2 +0.2
J20K Nowinta River 41.38 41 P P 19 54 38.6 +0.6
baz=304,SNR=12
NIKH Nikolski High 41.50 62 P P 19 54 38.7 -0.5
baz=307
I21K Tanana 41.59 39 P P 19 54 40.8 +1.0
I21K Tanana 41.59 39 P P 19 54 39.8 0.0
baz=304
K20K Telida 41.87 42 P P 19 54 43.5 +1.4
K20K Telida 41.87 42 P P 19 54 42.3 +0.2
baz=305
VRH Novokhopyorsk 41.88 295 *e*P P 19 54 41.4 -0.9
VRH pmax pmax
comp=Z,20nm,0.8s
VRH MLR MLR
comp=Z,850nm,12.0s
GEYT Alibeck 41.91 269 P P 19 54 43.5 +0.7
comp=Z,9.8nm,0.8s,baz=357,slow=3.0,SNR=17
GEYT LR LR 20 12 27.9
comp=Z,750nm,18.8s,baz=350,slow=37
GYA0B ALIBECK ARRAY 41.91 269 P P 19 54 43.6 +0.8
GYA0B IAmb IAmb 19 54 50.6
comp=Z,27nm,0.9s
OBN Obninsk 42.01 303 LR LR 20 11 50.1
comp=Z,88nm,18.8s,baz=53,slow=36
OBN Obninsk 42.01 303⇑*e*P P 19 54 43.5 +0.2
OBN *e* 19 56 20.4
OBN *e*S S 20 01 09.0 +7.0
OBN *i* SS SS 20 04 11.2 +2.8
OBN pmax pmax
comp=Z,22nm,1.1s
OBN MLR MLR
comp=Z,1μm,13.0s
H23K Yukon River 42.06 38 P P 19 54 45.0 +1.4
H23K Yukon River 42.06 38 P P 19 54 44.1 +0.5
baz=305,SNR=8.7
MLY Manley 42.11 39 P P 19 54 44.7 +0.7
MLY Manley 42.11 39 P P 19 54 44.3 +0.2
baz=305,SNR=14
CHAI Chaiyaphum 42.15 200 P P 19 54 50.1 +5.3
comp=Z,204nmcomp=Z,15nm,1.1s
CHUM Lake Minchumin 42.21 41 P P 19 54 45.3 +0.4
baz=305
L19K White Mountain 42.25 44 P P 19 54 46.1 +0.9
L19K White Mountain 42.25 44 P P 19 54 45.6 +0.4
baz=305
HRA Herat 42.26 261 P P 19 54 45.5 -0.3
L20K Farewell, AK 42.45 43 P P 19 54 47.2 +0.4
baz=306
I23K Minto, Yukon-K 42.52 39 P P 19 54 48.6 +1.3
I23K Minto, Yukon-K 42.52 39 P P 19 54 46.9 -0.3
baz=306,SNR=13
BPAW Bear Paw Mtn. 42.56 40 P P 19 54 48.8 +1.0
BPAW Bear Paw Mtn. 42.56 40 P P 19 54 47.7 -0.1
baz=306
M19K Big River Lodg 42.59 44 P P 19 54 47.9 -0.1
baz=306
H24K Noodor Dome 42.61 37 P P 19 54 49.3 +1.2
H24K IAmb IAmb 19 54 56.0
comp=Z,14nm,0.8s
H24K Noodor Dome 42.61 37 P P 19 54 48.5 +0.3
baz=306,SNR=18
STEI Steigen 42.65 327 *e*P P 19 54 48.1 -0.3
BMAR Burnt Mountain 42.71 34 P P 19 54 50.2 +1.3
FIA1 FINESS Array S 42.77 315 P P 19 54 50.3 +0.9
FIA1 IAmb IAmb 19 55 10.0
comp=Z,22nm,0.8s
FINES FINESS Array B 42.77 315 P P 19 54 49.4 0.0
comp=Z,6.1nm,0.6s,baz=81,slow=8.0,SNR=22
FINES LR LR 20 14 05.5
comp=Z,449nm,18.2s,baz=62,slow=38
FINES FINESS Array B 42.77 315 P P 19 54 49.7 +0.3
FINES FINESS Array B 42.77 315 P P 19 54 49.7 +0.3
KTH Kantishna Hill 42.91 41 P P 19 54 52.1 +1.5
NEA2 Nenana 42.95 39 P P 19 54 51.2 +0.4
NEA2 Nenana 42.95 39 P P 19 54 51.1 +0.3
baz=306
FAUS Fauske 42.97 326 *e*P P 19 54 51.2 +0.2
UTHA Uthaitani 43.00 203 P P 19 54 58.7 +7.0
MDM Murphy Dome 43.01 38 P P 19 54 52.7 +1.3
FYU Fort Yukon 43.03 35 P P 19 54 52.9 +1.4
FYU IAmb IAmb 19 54 55.0
comp=Z,26nm,1.0s
BWN Browne 43.06 40 P P 19 54 53.5 +1.7
M20K Styx River 43.08 44 P P 19 54 52.1 +0.1
baz=306
POKR Poker Plat Res 43.19 38 P P 19 54 52.9 +0.1
baz=307
N19K Bonanza Creek 43.20 46 P P 19 54 52.7 -0.3
baz=307
TRF Thorofare Moun 43.20 41 P P 19 54 54.1 +1.1
TRF IAmb IAmb 19 55 00.7
comp=Z,20nm,1.0s
TRF Thorofare Moun 43.20 41 P P 19 54 52.6 -0.5
baz=307,SNR=12
CCB Clear Creek Bu 43.35 39 P P 19 54 55.1 +1.1
WRH Wood River Hil 43.36 39 P P 19 54 55.1 +1.0

O18K Koktuh Hills 43.48 47 P P 19 54 56.6 +1.4
O18K IAmb IAmb 19 55 04.0
comp=Z,16nm,1.1s
O18K Koktuh Hills 43.48 47 P P 19 54 55.5 +0.3
baz=307
MCK McKinley 43.51 40 P P 19 54 55.5 +0.1
baz=307
PRP Porcupine Dome 43.58 37 P P 19 54 58.1 +2.0
PRP IAmb IAmb 19 55 03.9
comp=Z,12nm,0.9s
PRP Porcupine Dome 43.58 37 P P 19 54 56.7 +0.6
baz=308
IL31 43.59 38 P P 19 54 56.8 +0.9
IL31 IAmb IAmb 19 55 03.5
comp=Z,13nm,0.8s
ILAR Eielson Array 43.59 38 P P 19 54 57.2 +1.2
comp=Z,11nm,0.9s,baz=296,slow=6.8,SNR=43
ILAR LR LR 20 15 35.1
comp=Z,512nm,18.0s,baz=322,slow=40
ILAR Eielson Array 43.59 38 P P 19 54 56.3 +0.4
SKT Skwentna 43.63 43 P P 19 54 56.7 +0.4
baz=307
RND Reindeer 43.74 40 P P 19 54 58.4 +1.1
RND pmax pmax
comp=Z,9.0nm,1.0s
RND Reindeer 43.74 40 P P 19 54 58.4 +1.1
HDA Harding Lake 43.79 38 P P 19 54 58.0 +0.4
HDA Harding Lake 43.79 38 P P 19 54 57.3 -0.3
baz=308
SPCR Spurr Chakacha 43.85 44 P P 19 54 58.5 +0.3
baz=308
RSO Redoubt South 44.09 45 P P 19 55 02.0 +1.7
J25K Salcha River, 44.20 38 P P 19 55 00.8 -0.2
baz=309
WAT1 Susitna Watana 44.20 41 P P 19 55 00.9 -0.1
baz=308
SUA Susitna One 44.24 43 P P 19 55 02.5 +1.0
SUA IAmb IAmb 19 55 07.8
comp=Z,14nm,0.8s
SUA Susitna One 44.24 43 P P 19 55 01.2 -0.2
baz=308
VSU Vasula 44.31 311 *e*P P 19 55 02.5 +0.7
VSU Vasula 44.31 311 *i* P P 19 55 02.1 +0.3
VSU pmax pmax
comp=Z,41nm,1.0s
VSU MLR MLR
comp=Z,894nm,12.0s
O20K Slope Mountain 44.37 46 P P 19 55 02.8 +0.4
baz=308
P19K Oil Pt 44.40 47 P P 19 55 03.4 +0.8
baz=308
WAT6 Susitna Watana 44.65 41 P P 19 55 04.9 +0.2
baz=309
Q19K Cape Douglas, 44.68 48 P P 19 55 04.2 -0.7
Q19K IAmb IAmb 19 55 10.9
comp=Z,11nm,0.7s
Q19K Cape Douglas, 44.68 48 P P 19 55 05.0 +0.1
baz=309
GHO Glory Hole Cre 44.73 42 P P 19 55 06.0 +0.8
J26K Charley River, 44.75 37 P P 19 55 05.5 +0.1
baz=310
PMR Palmer 44.77 43 P P 19 55 06.2 +0.8
PMR pmax pmax
comp=Z,12nm,0.9s
PMR Palmer 44.77 43 P P 19 55 06.2 +0.8
PMR IAmb IAmb 19 55 11.4
comp=Z,12nm,0.9s
PMR Palmer 44.77 43 P P 19 55 05.8 +0.4
baz=309
RC01 Rabbit Creek A 44.86 43 P P 19 55 07.0 +0.8
RC01 IAmb IAmb 19 55 12.6
comp=Z,11nm,0.9s
RC01 Rabbit Creek A 44.86 43 P P 19 55 06.2 0.0
baz=309
SML Sawmill 44.93 42 P P 19 55 07.6 +0.8
SML IAmb IAmb 19 55 14.8
comp=Z,14nm,0.9s
SML Sawmill 44.93 42 P P 19 55 07.0 +0.2
baz=309
RIDG Independent Ri 44.93 38 P P 19 55 06.6 -0.2
RIDG IAmb IAmb 19 55 35.3
comp=Z,7.1nm,0.7s
RIDG Independent Ri 44.93 38 P P 19 55 06.7 -0.1
baz=310
GROC Groznyy 44.95 284 *e*P P 19 55 08.5 +1.3
GROC *e* 19 56 48.8
GROC *e* 19 56 52.7
GROC pmax pmax
comp=Z,18nm,1.0s
SCRK Sand Creek 45.07 38 P P 19 55 09.0 +1.0
SCRK Sand Creek 45.07 38 P P 19 55 07.7 -0.3
baz=310
KNK Knik Glacier 45.13 42 P P 19 55 08.7 +0.3
KNK Knik Glacier 45.13 42 P P 19 55 08.4 0.0
baz=310
GOF Gofitskoye 45.15 287⇑*e*P P 19 55 08.8 0.0
O22K Cooper Landing 45.25 44 P P 19 55 11.1 +1.8
BRLK Bradley Lake 45.26 45 P P 19 55 10.0 +0.6
BRLK IAmb IAmb 19 55 15.7
comp=Z,14nm,0.9s
CNPM China Poot 45.27 46 P P 19 55 09.9 +0.3
CNPM IAmb IAmb 19 55 23.0
comp=Z,17nm,1.3s
SCM Sheep Creek Mo 45.28 42 P P 19 55 09.7 +0.1
SCM pmax pmax
comp=Z,10.0nm,0.9s
SCM Sheep Creek Mo 45.28 42 P P 19 55 09.7 +0.1
SCM IAmb IAmb 19 55 18.1
comp=Z,9.7nm,0.9s
BRSE Bradley Lake S 45.33 45 P P 19 55 09.7 -0.2
baz=310
INK Inuvik 45.34 29 LR LR 20 16 59.9
comp=Z,252nm,18.7s,baz=311,slow=40
INK Inuvik 45.34 29 P P 19 55 10.0 +0.1
INK pmax pmax
comp=Z,18nm,1.0s
INK Inuvik 45.34 29 P P 19 55 10.0 +0.1
INK IAmb IAmb 19 55 16.9
comp=Z,18nm,1.0s
INK Inuvik 45.34 29 P P 19 55 09.8 -0.1
baz=314
EGAK Eagle 45.48 36 P P 19 55 11.2 +0.1
EGAK IAmb IAmb 19 55 31.4
comp=Z,8.7nm,0.8s
EGAK Eagle 45.48 36 P P 19 55 10.5 -0.6
baz=311,SNR=7.8
M24K Tolsona, Glenn 45.52 41 P P 19 55 11.8 +0.2
M24K Tolsona, Glenn 45.52 41 P P 19 55 11.3 -0.2
baz=310
PWL Port Wells 45.53 43 P P 19 55 11.8 +0.3
PWL IAmb IAmb 19 55 17.9
comp=Z,11nm,0.9s
SEW Seward 45.59 44 P P 19 55 12.1 +0.1
baz=310
K27K Chicken 45.67 37 P P 19 55 13.6 +0.9
K27K IAmb IAmb 19 55 19.1
comp=Z,9.3nm,1.1s
HARP HAARP 45.69 40 P P 19 55 13.2 +0.4
baz=311
NEEM North Greenlan 45.74 356 *i* P P 19 55 12.0 -1.4
EPYK Eagle Plains 45.77 32 P P 19 55 14.0 +0.5
EPYK IAmb IAmb 19 55 35.0
comp=Z,15nm,0.9s
EPYK Eagle Plains 45.77 32 P P 19 55 13.1 -0.3
baz=313
MENT Mentasta 45.84 39 P P 19 55 15.0 +1.0
MENT IAmb IAmb 19 55 21.1
comp=Z,11nm,0.8s
KDAK Kodiak Island 45.84 48 P P 19 55 14.5 +0.5
baz=310
DBG Daneborg 45.88 345 *i* P P 19 55 11.6 -2.6
DBG IAmb IAmb 19 55 12.8
comp=Z,3.3nm,0.9s
L26K Log Cabin Wild 45.91 39 P P 19 55 14.4 -0.2
baz=311
OHAK Old Harbor 45.91 49 P P 19 55 14.4 -0.2
baz=310
NCK Nalchik 45.92 285 *i* P P 19 55 14.7 -0.2
NCK pmax pmax
comp=Z,7.0nm,0.3s
NCK MLR MLR
comp=Z,691nm,15.0s
DDFL Dedoflistskaro 45.99 282 P P 19 55 17.7 +2.2
KLU Klutina 46.01 41 P P 19 55 16.3 +0.9
KLU Klutina 46.01 41 P P 19 55 14.3 -1.1
baz=311,SNR=15

KIV **Kislovodsk** 46.09 286 ⇓*i*P P 19 55 17.2 +0.9
KIV *i* 19 55 22.5
KIV *e* 19 57 04.1
KIV *e*S S 20 02 12.3 +10
KIV pmax pmax
comp=Z,46nm,1.0s
KIV MLR MLR
comp=Z,868nm,17.0s
KIV Kislovodsk 46.09 286 P P 19 55 16.5 +0.2
KBZ Khabaz 46.13 286 P P 19 55 17.2 +0.7
comp=Z,3.5nm,0.9s,baz=278,slow=9.9,SNR=6.1
KBZ LR LR 20 15 49.7
comp=Z,1µm,20.2s,baz=30,slow=38
KBZ Khabaz 46.13 286 ⇑*e*P **P 19 55 17.3 +0.8**
KBZ pmax pmax
comp=Z,4.0nm,1.1s
KBZ MLR MLR
comp=Z,1µm,16.8s
GUDG Gudauri 46.16 284 P **P 19 55 17.1 +0.1**
ZEI Tsey 46.25 284 *e*P **P 19 55 16.9 -0.8**
ZEI pmax pmax
comp=Z,4.0nm,1.0s
SHA1 Shidzhatmaz 46.25 286*d* *i*P **P 19 55 18.6 +0.8**
IDID Didziasalis 46.30 308 *e*P **P 19 55 18.8 +1.1**
MNK Minsk 46.33 306 *i*P **P 19 55 14.3 -3.6**
MNK *i* 19 57 03.1
MNK *i*S **S 20 02 00.3 -4.6**
MNK *i*SS **SS 20 05 29.3 -0.6**
MNK *i*SSS SSS 20 06 22.5
MNK pmax pmax
comp=Z,15nm,0.9s
MNK MLR MLR
comp=N,444nm,17.0s
MNK MLR MLR
comp=E,106nm,17.0s
MNK MLR MLR
comp=Z,898nm,16.0s
MNK Minsk 46.33 306 *i*P **P 19 55 14.3 -3.6**
comp=E,100nm,16.1s
MNK *i*P **P 19 55 14.3 -3.6**
comp=N,417nm,16.1s
MNK *i*P **P 19 55 14.3 -3.6**
comp=Z,15nm,0.9s,baz=49
MNK *i*PP **PP 19 57 03.1 -3.2**
MNK *i*PPP PPP 19 57 34.5
MNK *i*S **S 20 02 00.4 -4.5**
MNK *i*SS **SS 20 05 29.4 -0.5**
MNK *i*SSS SSS 20 06 22.5
MNK *i*LQ LQ 20 10 44.1
MNK *i*LR LR 20 12 12.3
MNK *i*LRM MLR 20 16 27.1
comp=N,444nm,17.1s
MNK *i*LRM MLR 20 16 27.9
comp=E,106nm,17.1s
MNK *i*LRM MLR 20 16 31.9
comp=Z,898nm,16.1s
L27K Beaver Creek, 46.40 38 P **P 19 55 19.8 +1.4**
L27K IAmb IAmb 19 55 25.5
comp=Z,12nm,0.9s
L27K Beaver Creek, 46.40 38 P **P 19 55 17.3 -1.1**
baz=312,SNR=19
ISAL Salakas 46.40 308 *e*P **P 19 55 19.4 +0.9**
BCAR Beaver Creek A 46.41 38 P **P 19 55 19.1 +0.6**
BCAR **S 20 02 03.7 -2.4**
N25K Chitina, Valde 46.41 41 P **P 19 55 19.6 +1.0**
N25K Chitina, Valde 46.41 41 P **P 19 55 17.8 -0.8**
baz=312,SNR=13
M26K Nabesna, AK 46.44 39 P **P 19 55 19.8 +0.9**
M26K IAmb IAmb 19 55 33.2
comp=Z,7.2nm,0.8s
M26K Nabesna, AK 46.44 39 P **P 19 55 18.7 -0.1**
baz=312
IIGN Ignalina 46.50 308 *e*P **P 19 55 20.0 +0.7**
HIN Hinchinbrook I 46.52 43 P **P 19 55 21.0 +1.6**
DAWY Dawson 46.52 36 P **P 19 55 20.1 +0.7**
DAWY IAmb IAmb 19 55 27.5
comp=Z,11nm,1.3s
NACGM Naroch 46.55 307 *i*P **P 19 55 19.5 -0.2**
ONI Oni 46.62 285 P **P 19 55 21.6 +1.1**
ONI pmax pmax
comp=Z,10.0nm,1.2s
ONI Oni 46.62 285 P **P 19 55 21.6 +1.1**
ONI IAmb IAmb 19 55 36.5
comp=Z,9.9nm,1.2s
EYAK Cordova Ski Ar 46.70 42 P **P 19 55 21.2 +0.5**
baz=312
GLB Gilahina Butte 46.80 40 P **P 19 55 23.1 +1.5**
BMRM Bremner River 46.84 41 P **P 19 55 22.2 +0.4**
BMRM Bremner River 46.84 41 P **P 19 55 22.2 +0.4**
baz=312
M27K Edge Creek, AK 46.86 39 P **P 19 55 23.1 +1.0**
M27K IAmb IAmb 19 55 29.7
comp=Z,8.6nm,0.9s
M27K Edge Creek, AK 46.86 39 P **P 19 55 23.1 +0.9**
baz=313,SNR=12
KZRT Kazreti 46.96 283 P **P 19 55 24.5 +1.4**
MCARA McCarthy VSAT 47.12 40 P **P 19 55 23.8 -0.2**
MCARA IAmb IAmb 19 55 50.7
comp=Z,15nm,1.2s
RES Resolute Bay 47.20 11 LR LR 20 15 40.9
comp=Z,361nm,19.6s,baz=276,slow=37
RAGM Ragged Mountai 47.20 42 P **P 19 55 26.3 +1.6**
AKH Akhalkalaki 47.42 283 P **P 19 55 28.6 +1.7**
CRQM Cirque 47.51 41 P **P 19 55 28.3 +1.0**
CRQE Cirque 47.53 41 P **P 19 55 27.9 +0.5**
baz=313
BERG Berg Lake 47.55 41 P **P 19 55 28.7 +1.2**
TGL Tana Glacier 47.62 41 P **P 19 55 29.3 +1.3**
GNI Garni 47.64 281 *i*P **P 19 55 28.0 -0.6**
GNI pmax pmax
comp=Z,31nm,1.1s
GNI MLR MLR
comp=Z,366nm,18.0s
GNI Garni 47.64 281 P **P 19 55 28.3 -0.3**
BARN Barnard Glacie 47.83 40 P **P 19 55 31.2 +1.4**
BARN IAmb IAmb 19 55 38.1
comp=Z,13nm,0.9s
SOC Sochi 47.91 288 *e*P **P 19 55 27.2 -3.1**
SOC *e* 19 57 19.6
SOC *e*PPP PPP 19 58 09.9
SOC *e*S **S 20 02 24.5 -3.2**
SOC *e*SS **SS 20 05 55.2 -0.5**
SOC pmax pmax
comp=Z,23nm,0.8s
SOC MLR MLR
comp=Z,1µm,15.0s
CTG Chitna Glacier 48.00 40 P **P 19 55 31.7 +0.6**
baz=314
CTGM Chitina Glacie 48.01 40 P **P 19 55 33.1 +2.0**
HYB Hyderabad 48.18 231 *i*P **P 19 55 31.0 -1.8**
KARS Kars 48.20 283 P **P 19 55 31.5 -1.3**
KARS pmax pmax
comp=Z,73nm,1.2s
KARS Kars 48.20 283 P **P 19 55 31.5 -1.3**
ANN Anapa 48.24 291 *e*P **P 19 55 35.8 +2.9**
ANN *e**PP **sP 19 55 40.7 +4.1**
ANN *e*S **S 20 02 37.5 +5.1**
ANN pmax pmax
comp=Z,27nm,1.3s
ANN MLR MLR
comp=N,330nm,14.0s
ANN MLR MLR
comp=Z,1µm,12.0s
ANN MLR MLR
comp=E,794nm,14.0s
AKASG Malin Array Be 48.25 302 P **P 19 55 32.0 -0.9**
comp=E,3.9nm,0.6s,baz=42,slow=8.9,SNR=33
AKASG LR LR 20 18 09.4
comp=E,282nm,18.1s,baz=45,slow=39
AKASG Malin Array Be 48.25 302 P **P 19 55 32.0 -0.9**
AKASG Malin Array Be 48.25 302 P **P 19 55 31.8 -1.1**
AKBB Malin Array Si 48.25 302*ce*P **P 19 55 32.4 -0.5**
AKBB Malin Array Si 48.25 302 P **P 19 55 31.2 -1.7**
AKBB IAmb IAmb 19 55 37.9
comp=Z,11nm,1.1s
HFS Hagfors 48.26 319 LR LR 20 16 56.5
comp=Z,416nm,19.7s,baz=44,slow=37
NC405 NORSAR Array S 48.28 321 P **P 19 55 33.0 0.0**
NB2 NORSAR Subarra 48.51 321 P **P 19 55 34.3 -0.5**
comp=Z,8.0nm,0.9s,baz=49,slow=7.9
NB2 NORSAR Subarra 48.51 321 P **P 19 55 34.3 -0.5**
baz=49,slow=7.9
NOA NORSAR Array B 48.51 321 P **P 19 55 34.0 -0.8**
comp=Z,2.0nm,0.6s,baz=51,slow=7.8,SNR=9.9
NOA LR LR 20 17 17.9
comp=Z,327nm,21.1s,baz=30,slow=38
NC602 NORSAR Array S 48.61 321 *e*P **P 19 55 34.8 -0.7**
NC602 NORSAR Array S 48.61 321 P **P 19 55 36.6 +1.1**
NORES NORESS Array B 48.61 321 P **P 19 55 35.2 -0.3**
NORES pmax pmax
comp=Z,1.0nm,0.4s
NBO00 NORSAR Array S 48.66 321 P **P 19 55 36.7 +0.7**
SUW Suwalki 48.71 308 *e*P **P 19 55 36.5 0.0**
HYT Haines Junctio 49.43 38 P **P 19 55 42.7 +0.7**
baz=316
SUMG Summit 49.66 350 *i*P **P 19 55 43.0 -0.9**
SUMG IAmb IAmb 19 55 52.4
comp=Z,8.9nm,0.9s
SUMG Summit 49.66 350 *i*P **P 19 55 43.0 -0.9**
SUMG pmax pmax
comp=Z,9.0nm,0.9s
FARO Faro, Yukon 49.76 35 P **P 19 55 45.0 +0.5**
baz=318
KOPT Kop Dagi 50.01 284 P **P 19 55 48.7 +1.8**
MMPY Sheldon Lake, 50.12 34 P **P 19 55 47.1 -0.1**
baz=319,SNR=14
GURO Guroymak-BITLI 50.25 282 P **P 19 55 49.3 +0.7**
GURO IAmb IAmb 19 55 51.2
comp=Z,10nm,0.9s
WHY Whitehorse 50.43 37 P **P 19 55 49.8 +0.2**
baz=318
SKAG Skagway 51.17 38 P **P 19 55 56.0 +1.0**
baz=318
LVV L'vov 51.26 304 *e*P **P 19 55 51.6 -4.3**
LVV MLR MLR
comp=N,1µm,14.0s
LVV MLR MLR
comp=E,2µm,14.0s
LVV MLR MLR
comp=Z,2µm,14.0s
MARD Mardin 51.83 282 P **P 19 56 01.6 +1.1**
BUR08 Bucovina Ar. S 52.27 301 P **P 19 56 03.5 -0.1**
BUR08 IAmb IAmb 19 56 24.4
comp=Z,10nm,0.9s
BURAR Bucovina Array 52.29 301 ⇓P **P 19 56 03.3 -0.4**
BURAR Bucovina Array 52.29 301 ⇓P **P 19 56 03.3 -0.4**
BURAR Bucovina Array 52.29 301 P **P 19 56 02.7 -0.9**
BURAR IAmb IAmb 19 56 16.2
comp=Z,10nm,0.8s
CFR Carcaliu 52.64 297 ⇑P **P 19 56 09.3 +3.1**
CFR Carcaliu 52.64 297 ⇑P **P 19 56 09.3 +3.1**
KOLS Kolonicke sedl 52.70 304 *e*P P 19 56 11.9 +5.3
KOLS Kolonicke sedl 52.70 304 *e*P P 19 56 11.9 +5.3
STHS Stebnicka Huta 52.81 305 *e*P P 19 56 12.5 +5.1
STHS Stebnicka Huta 52.81 305 *e*P P 19 56 12.5 +5.1
ILGA Ilgaz 52.83 290 P **P 19 56 08.8 +0.9**
ILGA IAmb IAmb 19 56 13.7
comp=Z,12nm,1.0s
VRI Vrincioaia 52.83 299 ⇑P **P 19 56 07.6 0.0**
VRI Vrincioaia 52.83 299 ⇑P **P 19 56 07.6 0.0**
OJC Ojcow 52.87 307 P **P 19 56 07.0 -0.8**
OJC pmax pmax
comp=Z,5.0nm,0.7s
OJC Ojcow 52.87 307 P **P 19 56 07.0 -0.8**
PLOR Plostina 52.88 299 ⇓P **P 19 56 09.5 +1.5**
PLOR Plostina 52.88 299 ⇓P **P 19 56 09.5 +1.5**
UZH Uzhgorod 52.91 304 *e*P **P 19 56 12.0 +3.9**
UZH *e* 19 56 18.8
WSAR Wadi Sarin 52.95 255 LR LR 20 19 30.3
comp=Z,358nm,19.7s,baz=75,slow=37
SIT Sitka 52.99 40 P **P 19 56 08.6 +0.1**
baz=319
BISRR Bisoca 53.07 298 ⇓P **P 19 56 11.0 +1.6**
ICESG Greenland Ices 53.12 349 *i*P **P 19 56 08.8 -1.0**
ICESG IAmb IAmb 19 56 18.6
comp=Z,18nm,0.8s
TRPA Tarpa 53.16 303 ⇑P **P 19 56 08.8 -1.1**
TRPA Tarpa 53.16 303 *e*P **P 19 56 13.8 +3.9**
NIE Niedzica 53.23 306 *e*P **P 19 56 12.2 +1.7**
NIE Niedzica 53.23 306 P **P 19 56 14.2 +3.6**
BNN Bunyan 53.33 287 P **P 19 56 11.6 +0.1**
DOPR Dopca 53.40 300 ⇑P **P 19 56 12.7 +0.9**
MLR Muntele Rosu 53.48 299 ⇑P **P 19 56 13.8 +1.2**
MLR Muntele Rosu 53.48 299 LR LR 20 19 57.8
comp=Z,678nm,18.9s,baz=44,slow=37
MLR Muntele Rosu 53.48 299 ⇑P **P 19 56 13.8 +1.2**
MLR Muntele Rosu 53.48 299 P **P 19 56 12.9 +0.3**
DLBC Dease Lake 53.73 37 LR LR 20 20 16.7
comp=Z,312nm,19.4s,baz=314,slow=37
LANS Liptovska Anna 53.80 306 *e*P **P 19 56 18.1 +3.4**
LANS Liptovska Anna 53.80 306 *e*P **P 19 56 18.1 +3.4**
BR131 Keskin Array S 53.84 289 P **P 19 56 15.5 +0.2**
BR131 pmax pmax
comp=Z,10.0nm,0.9s
BR131 Keskin Array S 53.84 289 P **P 19 56 15.5 +0.2**
BR131 IAmb IAmb 19 56 28.2
comp=Z,9.9nm,0.8s
BRTR Keskin Array B 53.84 289 P **P 19 56 15.8 +0.5**
comp=Z,3.2nm,0.6s,baz=58,slow=4.7,SNR=8.8
BRTR LR LR 20 21 08.1
comp=Z,442nm,18.3s,baz=60,slow=38
BRTR Keskin Array B 53.84 289*ce*P **P 19 56 16.2 +0.9**
BRTR pmax pmax
comp=Z,4.0nm,0.6s
BRTR Keskin Array B 53.84 289 P **P 19 56 15.3 0.0**
GAZ Gaziantep 53.85 284 P **P 19 56 15.2 0.0**
GAZ IAmb IAmb 19 56 16.7
comp=Z,17nm,1.0s
OKC Ostrava-Krasne 53.88 307 AMS AMS 20 20 50.0
comp=Z,800nm,14.0s
MIB Mutribah 53.91 270 *e*P **P 19 56 15.0 -0.7**
KSP Ksiaz 53.93 309 *e*P **P 19 56 20.0 +4.4**
KSP Ksiaz 53.93 309 P **P 19 56 17.1 +1.5**
KSP pmax pmax
comp=Z,13nm,1.1s
VOIR 53.95 299 ⇑P **P 19 56 16.1 +0.2**
VOIR 53.95 299 ⇑P **P 19 56 16.1 +0.2**
DRGR 54.06 302 ⇑P **P 19 56 17.0 +0.3**
DRGR 54.06 302 ⇑P **P 19 56 17.0 +0.3**
OSTC Ostas 54.18 309 AMS AMS 20 21 10.0
comp=Z,700nm,14.5s
MORC Moravsky Berou 54.19 308 ⇓P **P 19 56 14.7 -2.8**
MORC Moravsky Berou 54.19 308 P **P 19 56 17.9 +0.3**
MORC pmax pmax
comp=Z,5.0nm,0.9s
MORC Moravsky Berou 54.19 308 P **P 19 56 17.9 +0.3**
MORC Moravsky Berou 54.19 308 *e*P **P 19 56 18.3 +0.8**
CHVC Chvalec 54.22 309 *e*P **P 19 56 19.3 +1.5**
CHVC AMS AMS 20 21 10.0
comp=Z,600nm,16.8s
DPC Dobruska-Polom 54.28 309 *e*P **P 19 56 18.6 +0.3**
DPC *e*S **S 20 04 02.3 +6.5**
DPC *e*SS **SS 20 07 42.5 +5.5**
DPC MLR MLR
comp=Z,800nm,11.6s
DPC Dobruska-Polom 54.28 309 *e*P **P 19 56 18.6 +0.3**
DPC *e*S **S 20 04 02.3 +6.5**
DPC *e*SS **SS 20 07 42.5 +5.5**
DPC AMS AMS 20 22 00.0
comp=Z,800nm,11.6s
KRLC Kraliky 54.29 308 *e*P **P 19 56 18.7 +0.4**
KRLC MLR MLR
comp=Z,700nm,11.3s
KRLC Kraliky 54.29 308 *e*P **P 19 56 18.7 +0.4**
KRLC AMS AMS 20 23 00.0
comp=Z,700nm,11.3s
UPC Upice 54.30 309 *e*P **P 19 56 19.9 +1.6**
UPC MLR MLR
comp=Z,700nm,14.2s
UPC Upice 54.30 309 *e*P **P 19 56 19.9 +1.6**
UPC AMS AMS 20 21 20.0
comp=Z,700nm,14.2s
RST Umm Al-Ruwaisa 54.33 270 *e*P **P 19 56 17.7 -1.1**
QRN Al-Qurain 54.41 269 *e*P **P 19 56 18.9 -0.4**
BORG Borgarnes 54.42 339 LR LR 20 19 43.7
comp=Z,150nm,18.4s,baz=25,slow=36
RDF Al-Radifah 54.47 269 *e*P **P 19 56 19.1 -0.7**
PSZ Piszkesteto 54.52 305 *e*P P 19 56 26.3 +6.3
PSZ Piszkesteto 54.52 305 P **P 19 56 19.6 -0.4**
PSZ pmax pmax
comp=Z,13nm,1.1s
PSZ Piszkesteto 54.52 305 P **P 19 56 19.6 -0.4**
PSZ IAmb IAmb 19 56 36.9
comp=Z,13nm,1.1s
WRAK Wrangell Islan 54.53 39 P **P 19 56 19.4 -0.4**
baz=321
MDUB Mudurnu 54.55 291 P **P 19 56 20.2 -0.2**
VYHS Vyhne 54.57 306 *e*P **P 19 56 24.0 +3.7**
VYHS Vyhne 54.57 306 *e*P **P 19 56 24.0 +3.7**
YKA Yellowknife Ar 54.77 26 P **P 19 56 21.5 0.0**
comp=Z,7.4nm,0.8s,baz=336,slow=6.5,SNR=5.5
YKA LR LR 20 21 55.7
comp=Z,206nm,19.9s,baz=0.0,slow=38
JAVC Velka Javorina 54.81 307 *e*P **P 19 56 24.2 +2.1**
PVCC Panska Ves 54.90 310 AMS AMS 20 22 10.0
comp=Z,800nm,13.1s
BRG Berggiesshubel 54.90 311 *e*P **P 19 56 24.3 +1.7**
BRG Amp 19 56 29.1
comp=Z,5.4nm,1.0s
BRG Berggiesshubel 54.90 311 Amp 19 56 41.1
comp=Z,12nm,1.1s
BRG Amp 20 22 08.0
comp=Z,0.9nm,11.7s
BRG Amp 20 22 16.0
comp=E,0.6nm,14.4s
BRG Amp 20 22 19.0
comp=N,0.3nm,14.0s
VRAC Vranov 54.95 308 LR LR 20 21 31.3
comp=N,416nm,19.5s,baz=39,slow=38
VRAC Vranov 54.95 308 *e*P **P 19 56 25.0 +2.0**
CLL Collm 54.96 312 *e*P **P 19 56 22.0 -1.1**
comp=Z,5.0nm,1.0s
CLL *e* 19 56 36.0
comp=Z,10.0nm,0.9s
CLL *e* 19 57 07.0
CLL *e*PPP PPP 19 59 33.0
CLL *e*S **S 20 04 00.0 -4.8**
CLL *e*SS **SS 20 07 48.0 +0.5**
CLL LmH 20 17 00.0
comp=N,600nm,18.7s
CLL LmH 20 17 00.0
comp=E,700nm,20.2s
CLL Lmax 20 24 00.0
CLL Collm 54.96 312 *e*P **P 19 56 22.0 -1.1**
CLL pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 54.96 312 P **P 19 56 22.4 -0.6**
CLL IAmb IAmb 19 56 37.9
comp=Z,9.1nm,0.8s
CRAG Craig 55.00 40 P **P 19 56 23.0 -0.2**
baz=321
GZR Gura Zlata 55.06 301 ⇑P **P 19 56 23.5 -0.5**
GZR Gura Zlata 55.06 301 ⇑P **P 19 56 23.5 -0.5**
KRUC Moravsky 55.22 308 *e*P **P 19 56 25.5 +0.5**
PRA Prague 55.30 310 AMS AMS 20 22 30.0
comp=Z,800nm,12.1s
SRO2 Moca 55.31 306 *e*P **P 19 56 29.2 +3.6**
SRO2 Moca 55.31 306 *e*P **P 19 56 29.2 +3.6**
PRU Pruhonice 55.31 310 *e*P P 19 56 32.2 +6.5
PRU *e*S **S 20 04 17.6 +8.0**
PRU MLR MLR
comp=Z,700nm,14.1s
PRU Pruhonice 55.31 310 *e*P P 19 56 32.2 +6.5
PRU *e*S **S 20 04 17.6 +8.0**
PRU *e*SS **SS 20 08 03.3 +10**
PRU AMS AMS 20 21 50.0
comp=Z,700nm,14.1s
TREC Trest 55.44 309 *e*P **P 19 56 28.1 +1.5**
TREC MLR MLR
comp=Z,700nm,11.0s
TREC Trest 55.44 309 *e*P **P 19 56 28.1 +1.5**
TREC AMS AMS 20 24 00.0
comp=Z,700nm,11.0s
BZS Buzias 55.44 302 P **P 19 56 29.5 +2.9**
PSI Prapat 55.51 201 P **P 19 56 25.8 -1.7**
PSI pmax pmax
comp=Z,9.0nm,0.9s
PSI Prapat 55.51 201 P **P 19 56 27.6 +0.1**
comp=Z,5.9nm,1.2s,comp=Z,12nm,1.1s
PSI P **P 19 56 27.6 +0.1**
comp=Z,5.9nm,1.2s,comp=Z,12nm,1.1s
RPSI Rantau Prapat 55.61 200 P **P 19 56 25.8 -2.3**
RPSI IAmb IAmb 19 56 31.9
comp=Z,8.6nm,0.9s
TOLI2 Tolitoli 55.69 174 P **P 19 56 26.9 -1.7**
TOLI2 IAmb IAmb 19 56 30.1
comp=Z,16nm,1.0s
NKC Novy Kostel 56.01 311 *e*P **P 19 56 34.6 +3.9**
NKC MLR MLR
comp=Z,1µm,12.6s
NKC Novy Kostel 56.01 311 *e*P **P 19 56 34.6 +3.9**
NKC AMS AMS 20 23 00.0
comp=Z,1µm,12.6s
SFJD Kangerlussuaq 56.08 354 LR LR 20 20 01.8
comp=Z,228nm,19.9s,baz=5.0,slow=35
MPLH Magyarpolny 56.14 306 *e*P P 19 56 37.5 +5.9
DY2G Dye2 56.28 351 *i*P **P 19 56 30.8 -1.9**
DY2G IAmb IAmb 19 56 37.0
comp=Z,26nm,1.1s
CKRC Cesky Krumlov 56.30 309 *e*P **P 19 56 35.4 +2.6**
CKRC AMS AMS 20 23 20.0
comp=Z,700nm,13.0s
CONA Conrad Observa 56.31 307 *e*P **P 19 56 32.1 -0.8**
comp=Z,3.6nm,1.0s
KHC Kasperske Hory 56.38 310 *e*P **P 19 56 34.3 +1.0**
KHC *e*S **S 20 04 32.7 +8.9**
KHC MLR MLR
comp=Z,600nm,14.9s
KHC Kasperske Hory 56.38 310 *e*P **P 19 56 34.3 +1.0**
KHC x x 19 56 45.5
KHC *e*S **S 20 04 32.7 +8.9**
KHC *e*SS **SS 20 08 20.1 +10**
KHC AMS AMS 20 22 30.0
comp=Z,600nm,14.9s
KHC Kasperske Hory 56.38 310 P **P 19 56 33.2 -0.1**
KHC IAmb IAmb 19 56 51.0
comp=Z,10nm,1.1s
MRSI Marisa 56.39 173 P **P 19 56 31.5 -2.2**
comp=Z,34nm,1.0s
MPSI Mapaga 56.41 175 P P 19 56 38.7 +4.9
GERES GERESS Array B 56.54 309 P **P 19 56 34.2 -0.3**
comp=Z,1.1nm,0.8s,baz=46,slow=7.6,SNR=11
GERES LR LR 20 22 18.8
comp=Z,450nm,19.8s,baz=36,slow=38
GERES GERESS Array B 56.54 309 P **P 19 56 34.4 -0.2**
GERES GERESS Array B 56.54 309 P P 19 56 34.4 -0.2
STKI Sintang 56.68 185 P P 19 56 42.9 +7.2
KOVH Kovagotottos 56.70 304 *e*P P 19 56 43.2 +7.5
BALB Balikesir 56.86 293 P **P 19 56 36.2 -0.6**
BALB IAmb IAmb 19 56 48.4
comp=Z,11nm,0.8s
VTS Vitosha 56.92 298 ⇑P **P 19 56 37.8 +0.4**
VTS Vitosha 56.92 298 ⇑P **P 19 56 37.8 +0.4**
VTS Vitosha 56.92 298 P **P 19 56 36.5 -1.0**
VTS IAmb IAmb 19 56 54.0
comp=Z,8.3nm,0.9s
GRF Grafenberg Arr 56.93 311 *e*P P 19 56 42.7 +5.4
comp=Z,9.9nm,1.0s,baz=39,slow=6.2
ARSA Arzberg 56.97 307 *e*P **P 19 56 40.3 +2.8**
comp=Z,5.2nm,1.1s
MOA Molln 57.06 308 *e*P **P 19 56 39.8 +1.6**
comp=Z,2.7nm,0.9s
DIVS Divibare 57.34 302 P **P 19 56 39.1 -1.3**
MANT Manisa 57.38 291 P **P 19 56 39.9 -0.9**
EZN Ezine 57.51 294 P **P 19 56 43.5 +2.1**
BKNI Bangkinang 57.55 197 P **P 19 56 41.7 -0.1**
CSS Mathiatis 57.58 285 P **P 19 56 41.5 -0.5**
SOKA Soboth 57.63 307 *e*P **P 19 56 44.7 +2.5**
comp=Z,11nm,1.8s
OBKA Obir 57.97 307 *e*P **P 19 56 45.4 +0.7**
comp=Z,6.2nm,0.8s
ELL Elmali 58.01 289 P **P 19 56 44.9 -0.3**
ELL pmax pmax
comp=Z,91nm,1.3s
ELL Elmali 58.01 289 P **P 19 56 44.9 -0.3**
KBA Koelnbreinsper 58.05 308 *e*P **P 19 56 47.6 +2.2**
comp=Z,15nm,1.6s
MYKA Terra Mystica 58.27 308 *e*P **P 19 56 48.4 +1.6**
comp=Z,5.1nm,1.0s
WATA Walderalm 58.61 309 *e*P **P 19 56 51.7 +2.5**
comp=Z,5.9nm,1.1s
WTTA Wattenberg 58.64 309 *e*P **P 19 56 52.5 +3.0**
comp=Z,3.6nm,0.8s
ABTA Abfaltersbach 58.67 308 *e*P P 19 56 54.8 +5.2
comp=Z,6.8nm,1.9s
MOTA Moosalm 58.81 310 *e*P **P 19 56 52.4 +1.8**
comp=Z,4.7nm,0.9s
RETA Reutte 58.84 310 *e*P **P 19 56 54.1 +3.4**
comp=Z,2.1nm,0.7s
SQTA Sankt Quirin 58.86 310 *e*P **P 19 56 53.7 +2.8**
comp=Z,3.9nm,1.1s
PDG Podgorica 58.97 301 P **P 19 56 51.0 -0.6**
GHAJ Ghor Haditha 59.19 281 P **P 19 56 52.0 -1.3**
FETA Feichten 59.22 310 *e*P **P 19 56 56.1 +2.6**

comp=Z,2.9nm,0.9s
BBB Bella Bella 59.41 40 LR LR 20 23 44.1
comp=Z,228nm,18.0s,baz=344,slow=37
TIR Tirane 59.51 300 P **P**
TIR pmax pmax
comp=Z,21nm,1.0s
TIR Tirane 59.51 300 P **P** **19 56 54.9 -0.5**
CTI Castel Tesino 59.59 308 P **P** **19 56 55.2 -0.8**
CTI pmax pmax
comp=Z,9.0nm,0.8s
CTI Castel Tesino 59.59 308 P **P** **19 56 55.2 -0.8**
CTI IAmb IAmb 19 57 13.5
comp=Z,8.9nm,0.8s
FRB Frobisher Bay 59.72 2 LR LR 20 20 44.6
comp=Z,198nm,21.0s,baz=352,slow=34
DAVOX Davos/Dischmat 59.77 310 LR LR 20 26 51.6
comp=Z,234nm,19.3s,baz=74,slow=40
MURB Monte Urbino 61.41 306 P **P** **19 57 09.1 +0.7**
NRCA Norcia 61.48 305 P **P** **19 57 08.9 0.0**
NRCA IAmb IAmb 19 57 25.6
comp=Z,13nm,1.1s
AQU L'Aquila 61.73 305 P **P** **19 57 10.6 0.0**
AQU pmax pmax
comp=Z,20nm,1.0s
AQU L'Aquila 61.73 305 P **P** **19 57 10.6 0.0**
BNI Bardonecchia 62.49 311 P **P** **19 57 15.6 -0.1**
BNI pmax pmax
comp=Z,7.0nm,0.8s
BNI Bardonecchia 62.49 311 P **P** **19 57 15.6 -0.1**
BNI IAmb IAmb 19 57 34.0
comp=Z,7.3nm,0.8s
TIP Timpagrande 62.69 300 P **P** **19 57 17.6 +0.6**
TIP IAmb IAmb 19 57 32.7
comp=Z,6.5nm,0.9s
LLLB Lillooet 62.87 37 P **P** **19 57 17.0 -1.0**
LLLB IAmb IAmb 19 57 29.7
comp=Z,9.0nm,1.1s
EDM Edmonton 63.20 31 P **P** **19 57 20.4 +0.2**
EDM pmax pmax
comp=Z,14nm,1.0s
EDM Edmonton 63.20 31 P **P** **19 57 20.4 +0.2**
SJI Sawahan 64.41 184 P **P** **19 57 32.9 +4.3**
B05A Bryant 64.80 39 P **P** **19 57 30.4 -0.4**
baz=329
B08A Colville Reser 65.65 37 P **P** **19 57 36.6 +0.3**
B08A IAmb IAmb 19 57 44.0
comp=Z,6.5nm,0.9s
WALA Waterton Lakes 66.74 33 P **P** **19 57 43.6 +0.2**
WALA IAmb IAmb 19 58 06.4
comp=Z,7.1nm,0.8s
D08A Wollman Farm, 66.92 37 P **P** **19 57 46.5 +2.1**
D08A IAmb IAmb 19 57 51.4
comp=Z,5.7nm,0.9s
G03D McMinnville, O 67.01 41 P **P** **19 57 44.5 -0.5**
baz=329
E07A Sunnyside 67.04 38 P **P** **19 57 47.3 +2.0**
E07A IAmb IAmb 19 57 52.2
comp=Z,9.8nm,0.9s
I03D Drain, OR 68.28 42 P P 19 57 58.3 +5.3
baz=330
F10A Beach Ranch, E 68.43 37 P **P** **19 57 54.7 +0.6**
G08A Pilot Rock 68.45 38 P **P** **19 57 55.0 +0.7**
G08A IAmb IAmb 19 58 05.2
comp=Z,5.4nm,1.0s
J01E Myrtle Point 68.53 43 P **P** **19 57 59.1 +4.5**
baz=329
I04A Tendick Farm, 68.54 41 P **P** **19 57 58.4 +3.7**
baz=330
SCHQ Schefferville 68.69 2 LR LR 20 29 07.3
comp=Z,181nm,19.0s,baz=320,slow=37
MSO Missoula 68.72 34 P **P** **19 57 56.8 +0.9**
MSO IAmb IAmb 19 58 03.7
comp=Z,11nm,1.4s
MSO Missoula 68.72 34 P **P** **19 57 59.5 +3.5**
baz=333
KEST Kesra 68.94 303 LR LR 20 31 44.5
comp=Z,477nm,18.3s,baz=254,slow=39
K02D Willamette Mer 69.03 43 P **P** **19 58 01.5 +3.6**
baz=330
PINE Pine Mountain 69.07 40 P **P** **19 57 59.9 +1.6**
PINE IAmb IAmb 19 58 07.7
comp=Z,9.6nm,0.9s
J04D Umpqua Nationa 69.13 41 P **P** **19 58 02.1 +3.5**
baz=330
I07A Izee 69.33 39 P **P** **19 58 01.0 +1.3**
I07A IAmb IAmb 19 58 05.5
comp=Z,4.6nm,0.8s
BMO Blue Mountains 69.40 37 P **P** **19 58 00.5 +0.4**
BMO pmax pmax
comp=Z,11nm,0.8s
BMO Blue Mountains 69.40 37 P **P** **19 58 00.5 +0.4**
J05D Fort Rock, OR 69.41 41 P **P** **19 58 02.7 +2.4**
baz=331
PLID Pearl Lake 69.62 36 P **P** **19 58 01.2 -0.4**
PLID IAmb IAmb 19 58 09.4
comp=Z,9.9nm,0.9s
L04D Klamath Falls 69.94 42 P **P** **19 58 06.8 +3.2**
baz=330
DGMT Dagmar 69.95 27 P **P** **19 58 06.3 +2.9**
baz=338
ULM Lac du Bonnet 70.14 21 LR LR 20 31 25.5
comp=Z,205nm,18.1s,baz=356,slow=38
J08A Circle Bar Ran 70.32 39 P **P** **19 58 07.0 +1.2**
J08A IAmb IAmb 19 58 14.4
comp=Z,8.7nm,1.1s
DLMT Dillon 70.45 34 P **P** **19 58 06.1 -0.6**
DLMT IAmb IAmb 19 58 18.0
comp=Z,8.3nm,1.0s
M02C Callahan 70.46 43 P **P** **19 58 09.6 +2.9**
baz=330
M04C Macdoel 70.50 42 P **P** **19 58 08.7 +1.7**
baz=331
BOZ Bozeman (W) 70.53 33 P **P** **19 58 06.7 -0.5**
BOZ pmax pmax
comp=Z,5.0nm,0.8s
BOZ Bozeman (W) 70.53 33 P **P** **19 58 06.7 -0.5**
BOZ IAmb IAmb 19 58 22.0
comp=Z,4.9nm,0.8s
MCMT McKenzie Canyo 70.86 34 P **P** **19 58 09.2 0.0**
N02D Trinity Center 70.88 43 P **P** **19 58 12.9 +3.7**
baz=330
PGAV Gavieira, Arco 70.91 319 *e*LR LR 20 27 10.0
comp=Z,226nm,18.0s
MVO Moncorvo 71.15 318 *e*LR LR 20 25 45.1
comp=Z,274nm,16.0s
MFID Camas Ranch 71.16 37 P **P** **19 58 10.5 -0.5**
MFID IAmb IAmb 19 58 18.4
comp=Z,8.1nm,0.8s
ESBB Sonseca Array 71.28 315 P **P** **19 58 12.9 +1.2**
ESBB IAmb IAmb 19 58 24.7
comp=Z,12nm,1.1s
ESDC Sonseca Array 71.28 315 P **P** **19 58 11.1 -0.6**
comp=Z,3.5nm,0.7s,baz=24,slow=6.3,SNR=16
ESDC LR LR 20 31 05.0
comp=Z,210nm,20.2s,baz=5.0,slow=37
ESDC Sonseca Array 71.28 315 P **P** **19 58 11.4 -0.3**
HLID Hailey 71.50 36 P **P** **19 58 13.6 +0.6**
HLID Hailey 71.50 36 P **P** **19 58 15.4 +2.4**
baz=334
O02D Mt. Diablo Mer 71.54 44 P **P** **19 58 14.3 +1.1**
baz=330
YMP Mirror Lake Pl 71.75 33 P **P** **19 58 14.2 -0.5**
AGMN Agassiz Nation 72.00 22 P **P** **19 58 13.9 -1.9**
AGMN IAmb IAmb 19 58 25.5
comp=Z,18nm,1.4s
MTE Manteigas 72.01 318 *e*LR LR 20 26 39.2
comp=Z,216nm,16.0s
B35A Bob, Littlefor 72.36 20 P **P** **19 58 16.6 -1.4**
B35A IAmb IAmb 19 58 28.0
comp=Z,18nm,1.5s
FXWY Fox Creek 72.49 34 P **P** **19 58 20.3 +1.2**
FXWY IAmb IAmb 19 58 26.8
comp=Z,6.8nm,0.9s
TPAW Teton Pass 72.65 34 P **P** **19 58 20.3 +0.2**
TPAW IAmb IAmb 19 58 26.8
comp=Z,9.2nm,0.9s
BEKR Beckworth 72.71 42 P **P** **19 58 21.0 +0.6**
BEKR IAmb IAmb 19 58 28.1
comp=Z,6.6nm,0.9s
PMRV Marv??o 72.81 317 *e*LR LR 20 27 31.3
comp=Z,250nm,18.0s
PAHR Pah Rah Range 73.21 41 P **P** **19 58 23.2 -0.1**
PAHR IAmb IAmb 19 58 31.5
comp=Z,6.5nm,0.9s
BMN Battle Mountai 73.34 39 P **P** **19 58 24.6 +0.5**
BMN pmax pmax
comp=Z,7.0nm,1.3s
BMN Battle Mountai 73.34 39 P **P** **19 58 24.6 +0.5**
HVU Hansel Valley 73.63 36 P **P** **19 58 25.2 -0.6**
HVU pmax pmax
comp=Z,6.0nm,0.9s
HVU Hansel Valley 73.63 36 P **P** **19 58 25.2 -0.6**
ELK Elko 73.74 38 P **P** **19 58 27.0 +0.4**
ELK pmax pmax
comp=Z,4.0nm,0.9s
ELK Elko 73.74 38 P **P** **19 58 27.0 +0.4**
YERR Yerington 73.90 42 P **P** **19 58 27.3 -0.1**
YERR IAmb IAmb 19 58 45.0
comp=Z,13nm,1.3s
HWUT Hardware Ranch 74.17 35 P **P** **19 58 29.8 +0.8**
HWUT IAmb IAmb 19 58 36.5
comp=Z,12nm,0.8s
KVN Kaiserville 74.25 41 P **P** **19 58 30.2 +0.7**
KVN pmax pmax
comp=Z,8.0nm,1.0s
KVN Kaiserville 74.25 41 P **P** **19 58 30.2 +0.7**
KVN IAmb IAmb 19 58 58.8
comp=Z,8.2nm,1.0s
BGU Big Grassy Mou 74.31 36 P **P** **19 58 30.5 +0.7**
RYN Ryan 74.48 41 P **P** **19 58 31.2 +0.4**
PVAQ Vaqueiros 74.70 316 *e*LR LR 20 28 23.4
comp=Z,304nm,20.0s
NVAR Mina Array Bea 74.73 41 P **P** **19 58 33.5 +1.2**
comp=Z,2.4nm,0.7s,baz=321,slow=5.5,SNR=15
NVAR LR LR 20 34 47.5
comp=Z,246nm,18.1s,baz=312,slow=38
NVAR Mina Array Bea 74.73 41 P **P** **19 58 33.0 +0.6**
NV11 Mina Array Sit 74.78 41 P **P** **19 58 33.3 +0.7**
F36A Milaca 74.80 21 P **P** **19 58 31.5 -0.9**
F36A IAmb IAmb 19 58 56.8
comp=Z,9.5nm,1.1s
LHV Little Huntoon 74.82 41 P **P** **19 58 32.8 +0.3**
LHV IAmb IAmb 19 58 50.7
comp=Z,8.0nm,1.0s
SUSD Miller 74.99 25 P **P** **19 58 33.2 -0.3**
SUSD Miller 74.99 25 P **P** **19 58 35.3 +1.8**
baz=341
DUG Dugway, Tooele 75.04 36 P **P** **19 58 34.2 +0.1**
DUG pmax pmax
comp=Z,7.0nm,1.1s
DUG Dugway, Tooele 75.04 36 P **P** **19 58 34.1 +0.1**
DUG Dugway, Tooele 75.04 36 P **P** **19 58 36.5 +2.5**
baz=335
FITZ Fitzroy Crossi 75.09 170 P **P** **19 58 33.1 -1.0**
FITZ IAmb IAmb 19 58 41.6
comp=Z,9.3nm,1.1s
JLU Jordanelle 75.11 35 P **P** **19 58 35.5 +1.0**
JLU IAmb IAmb 19 58 48.9
comp=Z,7.2nm,1.0s
TPH Tonopah 75.44 41 P **P** **19 58 37.1 +0.7**
TPH pmax pmax
comp=Z,31nm,1.0s
TPH Tonopah 75.44 41 P **P** **19 58 37.1 +0.7**
NLU North Lily Min 75.50 36 P **P** **19 58 36.8 0.0**
SPMN Marine on St. 75.55 20 P **P** **19 58 36.1 -0.6**
SPMN IAmb IAmb 19 58 47.2
comp=Z,18nm,1.3s
SPR3 Spring Creek 3 75.62 38 P **P** **19 58 38.4 +0.8**
SPR3 IAmb IAmb 19 58 56.0
comp=Z,12nm,1.2s
RDMU Red Mountain 75.73 34 P **P** **19 58 38.8 +0.7**
RDMU IAmb IAmb 19 58 43.3
comp=Z,12nm,0.9s
R11A Troy Canyon, C 75.77 39 P **P** **19 58 39.2 +1.0**
R11A Troy Canyon, C 75.77 39 P **P** **19 58 39.6 +1.3**
baz=334
ECSD EROS Data Cent 76.19 24 P **P** **19 58 40.1 -0.3**
ECSD IAmb IAmb 19 59 09.4
comp=Z,6.4nm,0.9s
ECSD EROS Data Cent 76.19 24 P **P** **19 58 41.5 +1.1**
baz=342
PSUT Pine Spring 76.20 38 P **P** **19 58 41.3 +0.5**
PSUT IAmb IAmb 19 59 01.0
comp=Z,6.4nm,0.9s
P17A Butcher Ranch, 76.37 35 P **P** **19 58 41.2 -0.5**
P17A IAmb IAmb 19 58 46.9
comp=Z,11nm,1.3s
TMUT Trail Mountain 76.38 36 P **P** **19 58 41.2 -0.7**
D62A Allapoint, All 76.39 3 P **P** **19 58 42.1 +0.7**
baz=357
O20A White River Ci 76.53 33 P **P** **19 58 41.9 -0.8**
O20A IAmb IAmb 19 58 54.3
comp=Z,16nm,1.1s
O20A White River Ci 76.53 33 P **P** **19 58 42.4 -0.2**
baz=337
TCRU Three Creeks R 76.60 37 P **P** **19 58 44.5 +1.4**
TCRU IAmb IAmb 19 58 48.7
comp=Z,10nm,1.2s
SRU San Rafael Swe 76.77 35 P **P** **19 58 44.3 +0.3**
SRU pmax pmax
comp=Z,8.0nm,1.3s
SRU San Rafael Swe 76.77 35 P **P** **19 58 44.2 +0.3**
MVU Marysvale 76.77 37 P **P** **19 58 43.0 -1.0**
PRN Pahroc Range 76.80 39 P **P** **19 58 44.7 +0.6**
E62A Clayton Lake 76.84 4 P **P** **19 58 47.2 +3.3**
baz=357
E63A Oxbow 77.07 3 P **P** **19 58 47.8 +2.5**
baz=358
ISA Isabella, Lake 77.12 43 P **P** **19 58 47.0 +1.2**
baz=333
MTPU Mount Pierson 77.20 37 P **P** **19 58 47.5 +0.9**
PKM Mcpherson Peak 77.30 44 P **P** **19 58 48.4 +1.4**
baz=332
SHPR Sheep Range 77.57 40 P **P** **19 58 48.2 -0.3**
LCMT Little Creek M 77.78 38 P **P** **19 58 50.0 +0.4**
SMCO Snowmass 77.80 33 P **P** **19 58 49.5 -0.5**
SMCO IAmb IAmb 19 58 55.3
comp=Z,10nm,1.0s
PV22 Blue Mesa, Par 77.84 34 P **P** **19 58 50.4 +0.4**
PV22 IAmb IAmb 19 59 08.9
comp=Z,7.3nm,0.9s
PV23 Carpenter Ridg 77.84 34 P **P** **19 58 50.8 +0.7**
PV23 IAmb IAmb 19 59 10.0
comp=Z,13nm,1.1s
WB0 Warramunga Arr 77.89 162 P **P** **19 58 49.0 -1.0**
WB0 IAmb IAmb 19 58 49.9
comp=Z,9.8nm,0.9s
KNB Kanab 77.92 38 P **P** **19 58 51.6 +1.2**
KNB pmax pmax
comp=Z,18nm,1.0s
KNB Kanab 77.92 38 P **P** **19 58 51.6 +1.2**
PLVO Plevna 77.94 9 P **P** **19 58 50.8 +0.7**
PLVO IAmb IAmb 19 59 02.8
comp=Z,12nm,1.0s
PV19 Morning Glory 77.98 34 P **P** **19 58 50.6 -0.2**
PV19 IAmb IAmb 19 59 12.9
comp=Z,6.2nm,0.7s
EDW2 Edwards Air Fo 78.00 43 P **P** **19 58 51.5 +0.8**
baz=333
K38A Parkersburg 78.04 21 P **P** **19 58 50.6 -0.1**
K38A IAmb IAmb 19 58 52.2
comp=Z,15nm,1.2s
WRAB Tennant Creek 78.04 162 *ce*P **P** **19 58 49.6 -1.2**
WRAB pmax pmax
comp=Z,8.0nm,1.0s
WRAB Tennant Creek 78.04 162 P **P** **19 58 49.4 -1.4**
WRAB IAmb IAmb 19 58 50.9
comp=Z,8.8nm,0.8s
WRA Warramunga Arr 78.05 162 P **P** **19 58 49.7 -1.2**
comp=Z,9.1nm,0.9s,baz=343,slow=5.2,SNR=40
WRA Warramunga Arr 78.05 162 P **P** **19 58 50.2 -0.7**
WRA Warramunga Arr 78.05 162 P **P** **19 58 50.1 -0.7**
WB2 Warramunga Arr 78.05 162 P **P** **19 58 49.2 -1.7**
WB2 IAmb IAmb 19 58 50.9
comp=Z,10nm,0.8s
PV03 Paradox Valley 78.08 34 P **P** **19 58 50.8 -0.6**
WR0 Warramunga Arr 78.10 162 P **P** **19 58 49.9 -1.3**
PV15 Paradox Valley 78.11 34 P **P** **19 58 51.5 0.0**
PV15 IAmb IAmb 19 59 15.0
comp=Z,6.4nm,0.8s
PSA00 Pilbara Seismi 78.16 176 P **P** **19 58 51.2 -0.3**
PSA00 IAmb IAmb 19 58 52.2
comp=Z,13nm,1.2s
PV13 Radium Mtn., P 78.17 34 P **P** **19 58 52.1 +0.2**
G62A West of Eustis 78.20 5 P **P** **19 58 53.0 +1.4**
baz=356
PKME Peaks-Kenny Pk 78.20 4 P **P** **19 58 53.8 +2.2**
baz=357
HEC Hector,Ludlow 78.65 41 P **P** **19 58 55.5 +1.2**
baz=334
BFSC Mount Baldy Ra 78.69 43 P **P** **19 58 55.8 +1.1**
baz=333
H64A Troy 78.83 4 P **P** **19 58 54.6 -0.4**
baz=357
L40A Anamosa 78.90 20 P **P** **19 58 54.6 -1.0**
L40A IAmb IAmb 19 59 08.3
comp=Z,8.8nm,0.8s
GMRC Granite Mounta 78.94 41 P **P** **19 58 57.1 +1.1**
baz=334
MVCO Mesa Verde 79.14 35 P **P** **19 58 56.2 -1.0**
MVCO Mesa Verde 79.14 35 P **P** **19 58 58.5 +1.3**
baz=337
N35A Tabor 79.15 24 P **P** **19 58 56.3 -0.6**
CIS Catalina Islan 79.15 44 P **P** **19 58 58.3 +1.3**
baz=333
S22A 4UR Ranch, Cre 79.16 33 P **P** **19 58 58.6 +1.2**
baz=338
I63A Otisfield 79.36 5 P **P** **19 58 59.8 +1.8**
baz=356
I60A Shoreham 79.42 7 P **P** **19 59 00.5 +2.2**
baz=355
I62A Tamworth 79.50 5 P **P** **19 59 00.6 +1.8**
baz=356
SDCO Great Sand Dun 79.55 32 P **P** **19 58 59.7 +0.2**
SDCO Great Sand Dun 79.55 32 P **P** **19 59 01.1 +1.5**
baz=338
IRM Iron Mountain 79.69 41 P **P** **19 59 02.0 +2.0**
baz=334
PFO Pinyon Flats O 79.70 42 P **P** **19 59 02.0 +1.9**
baz=334
TPFO Pinon Flats 79.70 42 P **P** **19 59 01.3 +1.1**
baz=334
IKP In-Ko-Pah, Jac 80.69 42 P **P** **19 59 06.3 +0.8**
baz=334
P38A Dawn 80.79 22 P **P** **19 59 05.5 -0.3**
P38A IAmb IAmb 19 59 18.6
comp=Z,9.1nm,0.8s
P40A Paris 81.19 21 P **P** **19 59 08.4 +0.5**
P40A IAmb IAmb 19 59 20.8
comp=Z,10.0nm,0.8s
AS31 Alice Springs 81.62 163 P **P** **19 59 09.7 -0.5**
ASAR Alice Springs 81.62 163 P **P** **19 59 09.3 -0.9**
comp=Z,3.8nm,0.7s,baz=355,slow=5.1,SNR=41
ASAR Alice Springs 81.62 163 P **P** **19 59 09.0 -1.2**
ANMO Albuquerque 81.86 34 *ce*P **P** **19 59 12.1 +0.2**
ANMO pmax pmax
comp=Z,5.0nm,1.2s
ANMO Albuquerque 81.86 34 P **P** **19 59 12.3 +0.5**
ANMO Albuquerque 81.86 34 P **P** **19 59 12.0 +0.2**
baz=338
N59A State Game Lan 82.15 9 P **P** **19 59 13.7 +0.7**
baz=354
S39A Bolivar 82.69 23 P **P** **19 59 15.4 -0.5**
S39A IAmb IAmb 19 59 35.2
comp=Z,10nm,1.1s
CCM Cathedral Cave 82.77 21 P **P** **19 59 17.0 +0.8**
baz=346
AMTX Amarillo 83.31 30 P **P** **19 59 21.1 +1.8**
baz=340
WCI Wyandotte Cave 83.50 17 P **P** **19 59 20.3 +0.3**
WCI pmax pmax
comp=Z,14nm,0.8s
WCI Wyandotte Cave 83.50 17 P **P** **19 59 20.3 +0.3**
Q54A Coxs Mills 83.54 13 P **P** **19 59 20.7 +0.5**
121A Cookes Peak, D 83.67 36 P **P** **19 59 23.4 +2.1**
baz=338
T42A Van Buren 83.79 21 P **P** **19 59 22.1 +0.5**
T42A IAmb IAmb 19 59 34.8
comp=Z,6.8nm,0.9s
HHAR Hobbs 83.91 24 P **P** **19 59 22.4 +0.2**
HHAR IAmb IAmb 19 59 23.2
comp=Z,7.7nm,1.1s
U40A Yellville 84.08 23 P **P** **19 59 22.4 -0.6**
U40A IAmb IAmb 19 59 35.5
comp=Z,11nm,1.2s
U40A Yellville 84.08 23 P **P** **19 59 23.8 +0.8**
baz=345
WMOK Wichita Mounta 84.23 28 P **P** **19 59 23.7 -0.1**
WMOK pmax pmax
comp=Z,21nm,1.5s
WMOK Wichita Mounta 84.23 28 P **P** **19 59 23.7 -0.1**
WMOK Wichita Mounta 84.23 28 P **P** **19 59 25.0 +1.1**
baz=342
KMBO Kilima Mbogo 84.64 260 P **P** **19 59 26.7 +0.3**
comp=Z,2.5nm,0.9s,baz=28,slow=11,SNR=6.4
KMBO LR LR 20 39 08.1
comp=Z,236nm,19.7s,baz=82,slow=37
KMBO Kilima Mbogo 84.64 260 *i* P **P** **19 59 26.8 +0.4**
KMBO pmax pmax
comp=Z,3.0nm,0.9s
FCAR Ozark Folk Cen 84.68 22 P **P** **19 59 26.5 +0.4**
FCAR IAmb IAmb 19 59 28.4
comp=Z,7.0nm,1.1s
LCAR Lake Charles 84.71 22 P **P** **19 59 26.0 -0.2**
LCAR IAmb IAmb 19 59 46.4
comp=Z,11nm,1.1s
S57A Dark Hollow, R 84.97 12 P **P** **19 59 28.3 +0.8**
S57A IAmb IAmb 19 59 33.9
comp=Z,12nm,1.2s
W39A Magazine 84.99 24 P **P** **19 59 28.3 +0.6**
W39A IAmb IAmb 19 59 31.2
comp=Z,6.7nm,1.1s
W39A Magazine 84.99 24 P **P** **19 59 28.5 +0.8**
baz=344
MNTX Cornudas Mount 85.20 34 P **P** **19 59 28.6 -0.2**
MNTX Cornudas Mount 85.20 34 P **P** **19 59 29.7 +0.9**
baz=339
WHAR Wooly Hollow 85.22 23 P **P** **19 59 28.9 +0.1**
WVT Waverly 85.28 19 P **P** **19 59 28.9 -0.2**
WVT pmax pmax
comp=Z,7.0nm,0.8s
WVT Waverly 85.28 19 P **P** **19 59 28.9 -0.2**
WVT IAmb IAmb 19 59 41.9
comp=Z,7.4nm,0.8s
W41B Gary Mavity, V 85.35 23 P **P** **19 59 29.9 +0.4**
baz=345
X40A Basin Creek Fa 85.88 23 P **P** **19 59 32.5 +0.4**
baz=345
WHTX Lake Whitney, 87.17 28 P **P** **19 59 39.3 +0.9**
baz=342
TXAR Lajitas Array 87.93 34 P **P** **19 59 43.5 +1.1**
comp=Z,0.8nm,0.9s,baz=259,slow=1.8,SNR=7.3
TXAR Lajitas Array 87.93 34 P **P** **19 59 42.6 +0.3**
MSVF Nonsavu 90.54 122 LR LR 20 37 42.2
comp=Z,149nm,18.6s,baz=316,slow=34
TORD Torodi Ar. Bea 91.69 297 P **P** **19 59 59.0 -0.9**
comp=Z,4.0nm,0.9s,baz=32,slow=5.0,SNR=16
TORD LR LR 20 47 09.8
comp=Z,141nm,18.1s,baz=330,slow=40
TORD Torodi Ar. Bea 91.69 297 P **P** **19 59 59.1 -0.8**
TORD IAmb IAmb 20 00 00.1
comp=Z,8.2nm,1.1s
VNDA Vanda 137.08 167 PKP **PKPdf** **20 06 13.8 +0.2**
comp=Z,1.3nm,0.7s,baz=332,slow=4.6,SNR=14
VNDA Vanda 137.08 167 **PKPdf** **20 06 13.7 0.0**
QSPA South Pole Qui 146.58 180 PKPbc **PKPdf** **20 06 30.9 0.0**
comp=Z,15nm,0.8s,baz=283,slow=1.1,SNR=85
QSPA South Pole Qui 146.58 180 **PKPdf** **20 06 31.3 +0.4**
CPUP Villa Florida 149.13 348 PKPbc **PKPbc** **20 06 39.6 -0.9**
comp=Z,5.9nm,0.8s,baz=5.1,slow=3.2,SNR=11
CPUP Villa Florida 149.13 348 PKIKP **PKPdf** **20 06 37.3 +1.0**
CPUP Villa Florida 149.13 348 **PKPdf** **20 06 37.3 +1.0**
SNAA Sanae 151.11 215 PKPdf **PKPbc** **20 06 43.1 -0.9**
VNA2 Neumayer--Watz 152.57 217 PKPdf **PKPbc** **20 06 46.7 -0.6**
VNA2 Neumayer--Watz 152.57 217 SKPdf **SKPdf** **20 10 08.4 -5.1**
VNA1 Neumayer--Stat 152.87 217 PKPdf **PKPbc** **20 06 47.3 -0.5**
VNA1 Neumayer--Stat 152.87 217 SKPdf **SKPdf** **20 10 06.6 -7.2**
VNA3 Neumayer Olymp 153.30 216 PKPdf **PKPbc** **20 06 47.8 -1.0**

JMA ***02*** *19:53:35.3±0.3, 33°.22N×126°.86E, h5km, M3.3*
KMA ***02*** *19:53:39.2±1.0, 33°.26N×127°.09E, h15km±4km, Error ellipse: s-maj=10.2km s-min=5.2km az=144.0*
ISC 02 19:53:39.6±1.3, 33°.25N±0°.07×127°.07E±0°.06, h18km±4km, n12, σ0°.44/18, South Korea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSSSP	**Seongsanpo** SNR=20	**0.21**	**310**	P		**Pb**	**19 53 44.3**	**-0.1**
KSSSP				S		**Sg**	**19 53 48.4**	**+0.3**
KSJJU	**Jeju** SNR=253	**0.47**	**292**	P		**Pg**	**19 53 48.8**	**-0.4**
KSJJU				S		**Sg**	**19 53 56.4**	**+0.7**
KSSGP	**Seogwipo** SNR=110	**0.48**	**271**	P		**Pg**	**19 53 48.9**	**-0.4**
HALB	**Hallimjungang-**	**0.68**	**283**	P		**Pb**	**19 53 52.4**	**-0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	SNR=230						
HALB				S	Sg	19 54 02.7	+0.5
GOS1	Gosan-ri	0.72	274	P	Pb	19 53 53.9	+0.3
	SNR=31						
KSWAN	Wando	1.17	345	P	Pn	19 54 00.8	-0.3
	SNR=60						
KSJDO	Jindo	1.36	333	P	Pn	19 54 04.2	+0.4
	SNR=12						
KOHB	KOHEUNG	1.37	7	P	Pn	19 54 03.6	-0.3
	SNR=130						
KOHB				S	Sb	19 54 22.2	+0.3
BOSB	Boseong-gun	1.51	4	P	Pn	19 54 05.9	+0.2
	SNR=94						
JFU	Fukue jima 2	1.53	112	P	Pn	19 54 05.7	-0.4
JFU				S	Sb	19 54 27.2	+0.6
JTSM	Tsushimamitsus	2.21	60	P	Pn	19 54 15.8	+0.4
JTSM				eS	Sb	19 54 45.7	-0.4
JII	Iki	2.29	76	P	Pn	19 54 16.7	+0.2

MEX 02 20:10:17.0±0.5, 17°.36N×94°.90W, h125km±4km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.27	178	i P	Pn	20 10 33.1	-1.4
CMIG				eS	Sn	20 10 45.6	-2.1
VHO	Vista Hermosa	1.78	261	eP	Pn	20 10 47.4	-0.8
VHO				eS	Sn	20 11 10.3	-1.8
TGIG		1.79	108	eP	Pn	20 10 46.8	-1.5
TGIG				eS	Sn	20 11 09.8	-2.3
TOIG	Toxpalan	2.19	290	eP	Pn	20 10 52.8	-0.4
TOIG				eS	Sn	20 11 20.1	-1.0
PEIG	Puerto Escondi	2.55	238	eP	Pn	20 10 53.8	-3.9
PEIG				eS	Sn	20 11 26.9	-2.0
YOIG	Yosondua	2.58	259	eP	Pn	20 10 56.7	-1.6
YOIG				eS	Sn	20 11 28.2	-1.8
PNIG	Pinotepa	3.24	253	eP	Pn	20 11 03.1	-3.5
PNIG				eS	Sn	20 11 41.0	-3.9

IDC 02 20:10:58.1±501.0, 37°.93N×41°.25E, h0km, Error ellipse: s-maj=297.8km s-min=143.8km az=164.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	17.28	38	i		21 53 50.0	
	baz=232,slow=326,SNR=4.9						
I43RU	DUBNA INFRASON	18.99	353	i		22 21 00.0	
	baz=170,slow=304,SNR=4.1						
I48TN	KESRA INFRASON	25.57	275	i		22 46 00.0	
	baz=73,slow=327,SNR=0.7						
I46RU	ZALESOVO INFRA	33.65	47	i		23 36 10.0	
	baz=257,slow=319,SNR=0.9						

*MEX **02** 20:25:35.6±1.5, 18°.59N×104°.09W, h14km±19km, MD4.6*
*NEIC **02** 20:25:36.4±1.5, 18°.76N±0°.09×103°.80W±0°.08, h24km, mb4.7/261, Md4.6/113(MEX), Error ellipse: s-maj=16.0km s-min=7.0km az=216.0*
*IDC **02** 20:25:41.5±2.8, 18°.82N×103°.85W, h69km±22km, mb4.2/18, mb1 4.4/22, mb1mx4.3/37, mbtmp4.5/22, MS4.0/14, Ms1 4.0/14, ms1mx3.8/30, Error ellipse: s-maj=24.0km s-min=15.2km az=38.0*
ISC 02 20:25:32.3±1.4, 18°.56N±0°.03×104°.08W±0°.03, h9km±8km, n612, σ1§69/629, mb4.8/136, MS4.1/11, 1C, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R15V		0.62	9	eP	Pg	20 25 44.6	+0.3
R15V				eP	Pb	20 25 44.9	-0.4
R15V				eS	Sg	20 25 52.5	+0.1
R15V				eS	Sb	20 25 52.8	-1.3
R15V		0.62	9		Pb	20 25 44.9	-0.4
COIG	Colima	0.72	31	eP	Pg	20 25 46.5	+0.2
COIG				eP	Pb	20 25 46.9	-0.2
COIG				eS	Sb	20 25 56.1	-1.1
COIG				eS	Sg	20 25 56.2	+0.5
MMIG	Aquila	0.75	111	i P	Pb	20 25 47.8	+0.3
MMIG				i S	Sb	20 25 57.8	0.0
MMIG	Aquila	0.75	111		Pb	20 25 47.8	+0.3
MMIG					Sb	20 25 57.8	0.0
EZ5V		1.02	26	eP	Pb	20 25 52.4	+0.1
EZ5V				eP	Pb	20 25 52.5	+0.1
EZ5V				eS	Sg	20 26 05.0	-0.4
EZ5V				eS	Sb	20 26 06.2	+0.1
EZ5V		1.02	26		Pb	20 25 52.4	+0.1
CJM	Chamela	1.31	316	i P	Pn	20 25 55.5	-1.2
CJM				i S	Sb	20 26 11.0	-3.0
URUA	Uruapan	2.08	65	eP	Pb	20 26 09.9	-0.5
URUA				eS	Sn	20 26 33.7	-0.1
URUA	Uruapan	2.08	65		Pb	20 26 09.9	-0.5
URUA					Sn	20 26 33.7	-0.1
UON	La Union	2.23	105	eP	Pb	20 26 11.9	-0.8
UON				eS	Sb	20 26 40.9	+0.4
PUVA	Puert Vallarta	2.32	333	eP	Pb	20 26 13.7	-0.7
PUVA				eS	Sb	20 26 42.8	-0.4
PUVA	Puert Vallarta	2.32	333		Pb	20 26 13.7	-0.7
PUVA					Sb	20 26 42.8	-0.4
ZIIG	Zihuatanejo	2.66	110	eP	Pn	20 26 15.0	-0.4
ZIIG				eS	Sn	20 26 46.5	-1.2
ZIIG	Zihuatanejo	2.66	110		Pn	20 26 15.0	-0.4
ZIIG					Sn	20 26 46.5	-1.2
IGIG	Irapuato, Guan	3.39	49	eP	Pb	20 26 32.4	-0.4
IGIG				eS	Sb	20 27 16.2	+2.0
IGIG	Irapuato, Guan	3.39	49		Pb	20 26 32.4	-0.4
IGIG					Lg	20 27 16.2	
ARIG	Puente Sto Nin	3.56	94	eP	Pn	20 26 28.2	+0.5
ARIG				eS	Sn	20 27 09.2	-0.7
ARIG	Puente Sto Nin	3.56	94		Pn	20 26 28.2	+0.5
ARIG					Sn	20 27 09.2	-0.7
AAIG	Aguscalientes	3.75	25	eP	Pn	20 26 33.3	+2.8
AAIG				eS	Sb	20 27 23.2	-1.4
JRQG	Juriquilla Cam	4.04	57	eP	Pb	20 26 40.8	-2.9
JRQG				eS	Sb	20 27 36.6	+3.9
JRQG	Juriquilla Cam	4.04	57		Pb	20 26 40.8	-2.9
JRQG					Lg	20 27 36.6	
ACIG	Acambay	4.21	70	eP	Pn	20 26 39.9	+3.0
TOVM	TOLUCA	4.23	79	eP	Pn	20 26 40.9	+3.7
TOVM	TOLUCA	4.23	79		Pn	20 26 40.9	+3.7
MEIG	Mezcala	4.29	98	eP	Pn	20 26 37.1	-0.7
MEIG				eS	Sn	20 27 22.4	-5.6
MEIG	Mezcala	4.29	98		Pn	20 26 37.1	-0.7
MEIG					Sn	20 27 22.4	-5.6
PLIG	Platanillo	4.35	91	eP	Pn	20 26 43.7	+5.1
PLIG				eS	Sb	20 27 39.7	-1.9
PLIG	Platanillo	4.35	91		Pn	20 26 43.7	+5.1
PLIG					Sb	20 27 39.7	-1.9
MAVM	Malinalco, Edo	4.36	84	eP	Pb	20 26 44.3	-5.1
MAVM				eP	Pn	20 26 44.4	+5.4
MAVM				eS	Sb	20 27 39.0	-3.2
MAVM				eS	Sn	20 27 39.6	+10
MAVM	Malinalco, Edo	4.36	84		Pb	20 26 44.4	-4.9
MAVM					Sb	20 27 39.6	-2.5
ZAIG	Zacatecas	4.42	18	eP	Pn	20 26 42.5	+2.6
ZAIG				eS	Sb	20 27 38.0	-6.0
ZAIG	Zacatecas	4.42	18		Pn	20 26 40.3	+0.4
ZAIG	Zacatecas	4.42	18		Sb	20 27 38.0	-6.0
DAIG	Los Arroyos	4.49	109	eP	Pn	20 26 40.5	0.0
DAIG				eS	Sn	20 27 34.1	+1.3
DAIG	Los Arroyos	4.49	109		Pn	20 26 40.5	0.0
DAIG					Sn	20 27 34.1	+1.3
UNM	Universidad Na	4.70	80	eP	Pb	20 26 55.0	-0.1
UNM				eS	Sb	20 27 51.5	-0.5
UNM	Universidad Na	4.70	80		Pn	20 26 38.0	-5.7
DEIG	Demacu	5.07	69	eP	Pn	20 26 51.6	+2.9
DEIG				eS	Sb	20 27 57.9	-4.6
MAIG	Mazatlaan	5.10	335	eP	Pn	20 26 52.6	+3.7
MAIG				eS	Sn	20 27 51.9	+3.9
MAIG	Mazatlaan	5.10	335		Pn	20 26 52.6	+3.7
MAIG					Sn	20 27 51.9	+3.9
TLIG	Tlapa	5.34	100	eP	Pn	20 26 52.2	-0.1
TLIG				eS	Sn	20 27 55.0	+1.0
TLIG	Tlapa	5.34	100		Pn	20 26 51.5	-0.9
TLIG	Tlapa	5.34	100		Sn	20 27 55.0	+1.0
MGIG	Malinaltepec	5.35	103	eP	Pn	20 26 55.6	+3.1
MGIG				eS	Sb	20 28 08.9	-1.6
HLIG	Huajuapan de L	6.01	96	eP	Pn	20 27 06.3	+4.6
HLIG				eS	Sn	20 28 11.5	+0.8
PNIG	Pinotepa	6.08	110	eP	Pn	20 27 03.7	+1.4
PNIG				eS	Sn	20 28 13.0	+0.9
PNIG	Pinotepa	6.08	110		Pn	20 27 03.7	+1.4
PNIG					Sn	20 28 13.0	+0.9
TPIG	Tehuac#an	6.38	90	eP	Pb	20 27 22.8	-0.8
TPIG				eS	Sb	20 28 39.4	-0.7
TPIG	Tehuac#an	6.38	90		Pb	20 27 22.8	-0.8
TPIG					Sb	20 28 39.4	-0.7
YOIG	Yosondua	6.45	104	eP	Pn	20 27 14.2	+6.4
YOIG				eS	Sn	20 28 31.1	+9.4
H06E1	SOCORRO T-PHAS	6.49	273	T	T	20 33 47.8	
	SNR=9.1						
H06S1	SOCORRO T	6.52	273	T	T	20 33 50.8	
	SNR=19						
PDIG	Papasquiaro	6.57	350	eP	Pg	20 27 35.7	-2.5
PDIG				eS	Sn	20 28 29.1	+4.7
SSIG	Sanalona	6.85	336	eP	Pn	20 27 17.1	+4.2
SSIG				eS	Sb	20 28 53.0	-0.5
PEIG	Puerto Escondi	7.09	110	eP	Pn	20 27 18.9	+2.5
PEIG				eS	Sn	20 28 37.6	+0.4
VHO	Vista Hermosa	7.15	101	eP	Pn	20 27 17.9	+0.6
VHO				eS	Sn	20 28 31.1	-7.8
LVIG	Laguna Verde	7.34	80	eS	Sb	20 29 12.3	+4.8
LVIG	Laguna Verde	7.34	80		LR	20 29 12.3	
SLBS	Sierra La Lagu	7.48	314		Pn	20 27 25.3	+3.6
MNIG	Monterrey	7.85	26	eP	Pn	20 27 29.4	+2.7
MNIG				eS	Sb	20 29 30.1	+7.8
LPIG	La Paz	8.01	315	P	Pn	20 27 33.8	+5.0
	4.8nm,0.3s,baz=26,slow=5.7,SNR=1.6						
LPIG				LR	LR	20 30 09.0	
	comp=Z,1μm,18.4s,baz=111,slow=34						
HPIG		8.47	350	eP	Pn	20 27 38.5	+3.1
HPIG				eS	Sb	20 29 31.7	-8.5
HPIG		8.47	350	Pn	Pn	20 27 39.0	+3.7
CMIG	Matias Romero	8.88	98	P	Pn	20 27 45.1	+4.2
	2.0nm,0.3s,baz=291,slow=11,SNR=17						
CMIG				LR	LR	20 31 23.9	
	comp=Z,970nm,18.4s,baz=273,slow=39						
CMIG	Matias Romero	8.88	98	eP	Pn	20 27 41.5	+0.7
CMIG				eS	Sn	20 29 31.7	+11
CMIG	Matias Romero	8.88	98		Pn	20 27 41.5	+0.7
833A	Chaparral WMA,	10.63	23	P	Pn	20 28 05.6	+0.8
	baz=204						
TXAR	Lajitas Array	10.74	2	P	Pn	20 28 10.8	+4.4
	0.7nm,0.3s,baz=183,slow=13,SNR=104						
TXAR				LR	LR	20 32 56.7	
	comp=Z,967nm,19.4s,baz=0.0,slow=42						
TXAR	Lajitas Array	10.74	2	Pn	Pn	20 28 09.5	+3.1
TX31	Lajitas Ar. Si	10.74	2	Pn	Pn	20 28 08.5	+2.1
TX32	Lajitas Array	10.74	2	Pn	Pn	20 28 08.6	+2.2
PCIG		10.76	104	eP	Pn	20 28 08.6	+1.9
PCIG				eS	Sn	20 30 27.0	+20
PCIG		10.76	104		Pn	20 28 08.6	+1.9
JCT	Junction City	12.49	17	Pn	Pn	20 28 33.1	+2.8
JCT	Junction City	12.49	17	P	Pn	20 28 31.1	+0.7
	baz=198						
MNTX	Cornudas Mount	13.14	355	Pn	Pn	20 28 41.8	+2.6
MNTX	Cornudas Mount	13.14	355	P	Pn	20 28 41.7	+2.6
	baz=173,SNR=16						
319A	Douglas	13.60	341	Pn	Pn	20 28 46.6	+1.0
121A	Cookes Peak, D	14.31	347	Pn	Pn	20 28 57.4	+2.1
121A	Cookes Peak, D	14.31	347	P	Pn	20 28 57.8	+2.4
	baz=164,SNR=11						
ABTX	Abilene, Hawle	14.57	15	Pn	Pn	20 29 00.2	+1.6
ABTX	Abilene, Hawle	14.57	15	P	Pn	20 29 00.1	+1.4
	baz=196,SNR=8.3						
WHTX	Lake Whitney,	14.65	23	Pn	Pn	20 28 59.9	0.0
WHTX	Lake Whitney,	14.65	23	P	Pn	20 29 00.9	+1.1
	baz=205,SNR=8.1						
MTO3	Montecristo	14.71	104	P	P	20 29 07.4	+0.3
TUC	Tucson	14.97	337	Pn	P	20 29 07.6	-2.2
TUC	Tucson	14.97	337	P	Pn	20 29 06.7	+2.5
	baz=153						
237A	Washetta, Mont	15.33	28	P	P	20 29 12.2	-1.5
237A				IAmb	IAmb	20 29 30.5	
	comp=Z,26nm,0.7s						
MSTX	Muleshoe	15.40	4	Pn	Pn	20 29 09.8	-0.1
MSTX	Muleshoe	15.40	4	P	Pn	20 29 10.3	+0.5
	baz=184,SNR=26						
214A	Organ Pipe Nat	15.49	331	P	P	20 29 15.4	-0.1
214A	Organ Pipe Nat	15.49	331	P	P	20 29 14.3	-1.3
	baz=146,SNR=8.7						
NATX	Nacogdoches	15.66	31	P	P	20 29 16.8	-0.5
NATX				IAmb	IAmb	20 29 30.4	
	comp=Z,51nm,1.1s						
BNM	Barren Site	15.70	352	P	P	20 29 17.7	-0.3
LENM	Lemitar	15.76	351		Pn	20 29 15.4	+0.8
Z35A	Perchaven, San	15.94	21	Pn	Pn	20 29 16.1	-0.6
Z35A				IAmb	IAmb	20 29 38.7	
	comp=Z,76nm,1.2s						
AMTX	Amarillo	16.40	7	P	Pn	20 29 22.4	-0.5
AMTX				IAmb	IAmb	20 29 26.9	
	comp=Z,34nm,0.8s						
AMTX	Amarillo	16.40	7	P	Pn	20 29 23.3	+0.4
	baz=187						
ANMO	Albuquerque	16.46	353	Pn	Pn	20 29 22.9	-0.8
ANMO	Albuquerque	16.46	353	P	P	20 29 25.1	-1.4
	baz=171						
LOOK	Love County	16.56	20	P	Pn	20 29 25.5	+0.7
LOOK				IAmb	IAmb	20 29 45.4	
	comp=Z,47nm,1.1s						
342A	Flagon Creek P	16.61	38	P	Pn	20 29 25.8	+0.4
113A	Mohawk Valley,	16.61	330		P	20 29 26.9	-1.0
WMOK	Wichita Mounta	16.79	15		Pn	20 29 26.1	-1.7
WMOK	Wichita Mounta	16.79	15	P	Pn	20 29 27.7	-0.1
	baz=197,SNR=14						
X34A	Smith Ranch, M	16.92	18	P	Pn	20 29 29.9	+0.5
X34A				IAmb	IAmb	20 29 38.7	
	comp=Z,54nm,1.0s						
W18A	Petrified Fore	17.24	344	P	P	20 29 35.5	+0.3
	baz=160						
Y14A	Wickenburg	17.27	334	P	P	20 29 35.6	+0.3
GLA	Glamis	17.36	328	P	P	20 29 38.0	+1.8
GLA	Glamis	17.36	328	P	P	20 29 37.6	+1.3
	baz=142						
344A	Westbrook Farm	17.62	41		Pn	20 29 36.9	-1.2
344A				IAmb	IAmb	20 30 04.0	
	comp=Z,64nm,1.3s						
RMX	La Rumorosa	17.66	325	P	P	20 29 40.0	+0.2
IKP	In-Ko-Pah, Jac	17.72	325	P	P	20 29 41.8	+1.5
	baz=138,SNR=6.2						
X37A	Clayton	17.75	24	P	Pn	20 29 39.1	-0.6
SWSC	Sam W. Stewart	17.77	326	P	P	20 29 42.7	+2.0
	baz=140						
CBX	Cerro Bola	17.78	323	P	P	20 29 42.3	+1.4
TKX	Tecate	17.93	324	P	Pn	20 29 42.2	+0.2
OK025	Westminster Rd	17.98	18		Pn	20 29 40.3	-2.2
OK025				IAmb	IAmb	20 30 01.5	
	comp=Z,20nm,0.6s						
WLAR	White Oak Lake	17.98	31		Pn	20 29 41.1	-1.4
WLAR				IAmb	IAmb	20 29 59.5	
	comp=Z,32nm,1.0s						
BAR	Barrett	18.05	324	P	P	20 29 46.1	+2.2
PDMCI	Parker Dam,Lak	18.07	332	P	P	20 29 45.9	+1.9
	baz=146						
MONP2	Monument Peak	18.07	325	P	P	20 29 46.1	+1.8
	baz=138,SNR=9.9						
OK029	Liberty Lake	18.15	18	P	Pn	20 29 42.9	-1.7
BC3	Big Chuckawall	18.16	328	P	P	20 29 47.2	+2.1
	baz=142,SNR=9.3						
U32A	Winter Ranch,	18.31	13	P	Pn	20 29 44.0	-2.6
IRM	Iron Mountain	18.41	330	P	Pn	20 29 49.3	+1.4
	baz=144,SNR=9.0						
109C	Camp Elliot, M	18.45	323	P	P	20 29 47.1	-1.1
109C	Camp Elliot, M	18.45	323	P	Pn	20 29 50.7	+2.4
	baz=136						
MIAR	Mount Ida	18.47	28	P	P	20 29 45.6	-2.8
MIAR	Mount Ida	18.47	28	P	P	20 29 46.9	-1.6
	baz=213						
T25A	Trinidad	18.52	359	P	Pn	20 29 50.2	+0.9
	baz=178						
TPFO	Pinon Flats	18.63	326	P	Pn	20 29 53.0	+2.3
	baz=139,SNR=11						
W13A	Hualapai Mount	18.64	334	P	Pn	20 29 51.1	+0.3
PFO	Pinyon Flats O	18.64	326	P	Pn	20 29 53.9	+3.2
	comp=Z,0.3nm,0.3s,baz=140,slow=10,SNR=24						
PFO	Pinyon Flats O	18.64	326	P	Pn	20 29 52.5	+1.7
PFO	Pinyon Flats O	18.64	326	P	Pn	20 29 53.2	+2.5
	baz=139,SNR=13						
CROK	Carrier	18.67	16	P	P	20 29 47.7	-3.0
CROK				IAmb	IAmb	20 30 13.2	
	comp=Z,25nm,0.7s						
BELC	Belle Mtn. Jos	18.70	328	P	Pn	20 29 53.8	+2.3
	baz=141						
QUOK	Quay	18.72	19	P	P	20 29 50.1	-1.1
QUOK				IAmb	IAmb	20 30 10.9	
	comp=Z,45nm,1.3s						
X40A	Basin Creek Fa	18.77	30	P	P	20 29 50.1	-1.6
X40A	Basin Creek Fa	18.77	30	P	Pn	20 29 52.3	+0.2
	baz=215						
TUL1	Leonard	18.78	21	P	Pn	20 29 52.0	-0.3
	baz=205						
OK032	Salt Plains WL	18.90	15	P	P	20 29 51.0	-2.2
OK032				IAmb	IAmb	20 30 01.9	
	comp=Z,55nm,1.2s						
W39A	Magazine	18.93	27	P	P	20 29 52.8	-0.6
W39A				IAmb	IAmb	20 30 13.3	
	comp=Z,44nm,1.2s						
W39A	Magazine	18.93	27	P	Pn	20 29 53.7	-0.4
	baz=211						
MURC	Murrieta	19.03	324	P	Pn	20 29 56.7	+1.3
	baz=138						
KAN14	Manchester OK	19.11	15	P	P	20 29 55.3	-0.1
KAN14				IAmb	IAmb	20 30 04.3	
	comp=Z,33nm,0.8s						
BLOK	Blackwell	19.12	17	P	P	20 29 55.5	0.0
BLOK				IAmb	IAmb	20 29 57.4	
	comp=Z,57nm,1.3s						
SDCO	Great Sand Dun	19.16	357	P	Pn	20 29 56.9	-0.3
SDCO	Great Sand Dun	19.16	357	P	Pn	20 29 57.2	0.0
	baz=175,SNR=5.3						
GMRC	Granite Mounta	19.16	330	P	Pn	20 29 58.5	+1.4
	baz=143,SNR=8.7						
SCI2	San Clemente I	19.36	321	P	Pn	20 30 01.0	+1.7
	baz=133						
T35A	Sooner Cattle	19.46	18	P	P	20 29 58.4	-1.0
T35A				IAmb	IAmb	20 30 11.8	
	comp=Z,33nm,0.9s						
HEC	Hector,Ludlow	19.53	329	P	Pn	20 30 02.9	+1.5
	baz=142,SNR=19						
CIS	Catalina Islan	19.58	322	P	Pn	20 30 03.5	+1.5
	baz=134						
W41B	Gary Mavity, V	19.60	30	P	Pn	20 30 01.4	-0.8
	baz=215,SNR=7.5						
WHAR	Wooly Hollow	19.68	30	P	Pn	20 30 02.3	-0.8
U38A	Gravette	19.76	24	P	P	20 30 00.8	-1.8
BFSC	Mount Baldy Ra	19.76	325	P	Pn	20 30 05.3	+1.1
	baz=138,SNR=6.8						
HHAR	Hobbs	19.80	25	P	P	20 30 02.9	-0.1
TUQ	Turquoise Moun	19.82	330	P	Pn	20 30 06.7	+1.7
	baz=144						
BRAL	Brewton	19.88	48	P	P	20 30 03.7	-0.2
BRAL				IAmb	IAmb	20 30 04.9	
	comp=Z,45nm,0.7s						
BRAL	Brewton	19.88	48	P	P	20 30 03.9	0.0
	baz=235						
MWC	Mount Wilson	19.97	324	P	Pn	20 30 07.4	+0.6
MWC				IAmb	IAmb	20 30 14.8	
	comp=Z,41nm,1.1s						
PASC	Pasadena Art C	20.00	324	P	Pn	20 30 07.2	+0.2
PASC				IAmb	IAmb	20 30 09.6	
	comp=Z,49nm,1.4s						
Y45A	Yeager Farm, C	20.03	38	P	P	20 30 04.9	-0.7
Y45A				IAmb	IAmb	20 30 05.7	
	comp=Z,33nm,0.7s						
SNCC	San Nicolas Is	20.14	320	P	Pn	20 30 09.7	+1.1
SNCC	San Nicolas Is	20.14	320	P	Pn	20 30 09.7	+1.1
	baz=132						
GSC	Goldstone, Bar	20.14	328	P	Pn	20 30 09.7	+1.0
GSC				IAmb	IAmb	20 30 11.0	
	comp=Z,23nm,0.9s						
GSC	Goldstone, Bar	20.14	328	P	Pn	20 30 09.5	+0.8
	baz=142,SNR=16						
DECC	Green Verdugo	20.15	324	P	Pn	20 30 09.9	+1.2
	baz=136						
FCAR	Ozark Folk Cen	20.25	29	P	P	20 30 06.7	-1.2
U40A	Yellville	20.31	27	P	P	20 30 07.0	-1.6
U40A	Yellville	20.31	27	P	P	20 30 06.8	-1.8
	baz=212,SNR=5.6						
R32A	Long Quarter,	20.34	12		Pn	20 30 10.8	-0.2
R32A				IAmb	IAmb	20 30 12.9	
	comp=Z,74nm,1.1s						
SHOC	Shoshone, Teco	20.36	330	P	Pn	20 30 11.7	+0.4
	baz=144						
SHPR	Sheep Range	20.37	334		Pn	20 30 10.7	-0.8
SHPR				IAmb	IAmb	20 30 19.0	
	comp=Z,24nm,1.0s						
KSCO	Kaye Shedlock'	20.42	3		P	20 30 10.2	+0.2
KSCO				IAmb	IAmb	20 30 15.3	
	comp=Z,28nm,0.8s						
KSCO	Kaye Shedlock'	20.42	3	P	P	20 30 10.8	+0.9
	baz=183						
EDW2	Edwards Air Fo	20.43	326	P	Pn	20 30 12.0	-0.1
	baz=138,SNR=13						
CBKS	Cedar Bluff	20.54	10	P	P	20 30 09.9	-1.2
CBKS				IAmb	IAmb	20 30 11.4	
	comp=Z,33nm,0.8s						
CBKS	Cedar Bluff	20.54	10	P	P	20 30 10.4	-0.6
	baz=191						
OXF	Oxford	20.57	37	P	P	20 30 09.5	-1.9
OXF				IAmb	IAmb	20 30 11.7	
	comp=Z,42nm,1.1s						
OXF	Oxford	20.57	37	P	P	20 30 10.1	-1.3
	baz=223						
OSI	Osito Audit: C	20.63	324	P	Pn	20 30 15.0	+0.6
OSI				IAmb	IAmb	20 30 20.1	
	comp=Z,46nm,1.1s						
OSI	Osito Audit: C	20.63	324	P	Pn	20 30 14.8	+0.4
	baz=136						
MTPU	Mount Pierson	20.66	342	P	Pn	20 30 14.1	-1.0
MTPU				IAmb	IAmb	20 30 23.3	
	comp=Z,36nm,1.0s						
SMCO	Snowmass	20.70	354	P	P	20 30 13.3	+0.1
SMCO				IAmb	IAmb	20 30 19.0	
	comp=Z,32nm,1.1s						
LRMC	Laurel Mtn Rad	20.72	327	P	Pn	20 30 15.5	-0.1
	baz=140,SNR=7.4						
LCAR	Lake Charles	20.85	31	P	P	20 30 13.1	-1.3
250A	Grady	20.89	47	P	P	20 30 12.2	-2.7
250A				IAmb	IAmb	20 30 31.9	
	comp=Z,25nm,0.8s						
LRAL	Lakeview Retre	21.04	43	P	P	20 30 14.5	-2.0
LRAL				IAmb	IAmb	20 30 34.4	
	comp=Z,23nm,1.2s						
LRAL	Lakeview Retre	21.04	43	P	P	20 30 15.4	-1.1
	baz=231						
ARVC	Arvin	21.07	325	P	P	20 30 19.3	+2.5
	baz=137,SNR=7.2						
MSU	Marysvale	21.10	342	P	P	20 30 18.3	+1.0
PRN	Pahroc Range	21.10	335		P	20 30 18.6	+1.3
PRN				IAmb	IAmb	20 30 25.8	
	comp=Z,19nm,0.9s						
FURC	Furnace Creek,	21.10	330	P	P	20 30 18.9	+1.8
	baz=143						
MVU	Marysvale	21.10	342	P	P	20 30 18.8	+1.3
TPNV	Topopah Spring	21.22	332	P	P	20 30 21.1	+2.5
	baz=145,SNR=26						
MGMO	Mountain Grove	21.23	27	P	P	20 30 17.4	-1.2
MGMO				IAmb	IAmb	20 30 40.4	
	comp=Z,40nm,1.5s						
S39A	Bolivar	21.26	24	P	P	20 30 17.3	-1.6
ISA	Isabella, Lake	21.27	326	P	P	20 30 20.9	+1.8
ISA				IAmb	IAmb	20 30 25.5	
	comp=Z,42nm,0.8s						
ISA	Isabella, Lake	21.27	326	P	P	20 30 21.4	+2.3
	baz=138,SNR=43						
PKM	Mcpherson Peak	21.45	322	P	P	20 30 23.4	+2.2
	baz=134,SNR=8.0						
KSU1	Kansas State U	21.48	16	P	P	20 30 18.7	-2.5
KSU1				IAmb	IAmb	20 30 47.4	
	comp=Z,28nm,0.9s						
KSU1	Kansas State U	21.48	16	P	P	20 30 21.0	-0.2
	baz=199						
352A	Blakely	21.56	50	P	P	20 30 19.5	-2.6
352A				IAmb	IAmb	20 30 25.2	
	comp=Z,17nm,0.6s						
T42A	Van Buren	21.66	29	P	P	20 30 21.4	-1.6
CWC	Cottonwood Cre	21.67	328	P	P	20 30 25.7	+2.2
	baz=140						
PLAL	Pickwick Lake	21.67	38	P	P	20 30 21.0	-2.3
VES	Vestal, Richgr	21.73	325	P	P	20 30 26.6	+2.7
	baz=137,SNR=10						
GRAC	Grapevine Rang	21.77	330	P	P	20 30 26.7	+2.3
	baz=143						
SMMC	Simmler	21.86	323	P	P	20 30 27.7	+2.4
	baz=135,SNR=8.5						
X48A	Hartselle	21.93	40	P	P	20 30 23.0	-3.0
Y49A	Blount Mountai	21.94	43	P	P	20 30 24.8	-1.4
R11A	Troy Canyon, C	22.13	335	P	P	20 30 29.4	+1.1
R11A	Troy Canyon, C	22.13	335	P	P	20 30 30.0	+1.7
	baz=149,SNR=6.6						

R40A	Maddies Statio	22.20	25	P	P	20 30 26.7	-2.2
TIN	Tinemaha, Big	22.23	329	P	P	20 30 31.7	+2.3
	baz=141,SNR=9.8						
PAGB	Antelope Grade	22.30	323	P	P	20 30 32.0	+1.9
PAGB				IAmb	IAmb	20 30 40.9	
	comp=Z,43nm,1.1s						
152A	Waverly Hall	22.36	47	P	P	20 30 28.8	-1.9
152A				IAmb	IAmb	20 30 49.1	
	comp=Z,29nm,1.1s						
OGNE	Ogallala	22.38	4	P	P	20 30 31.1	+0.1
	baz=184						
Z51A	Franklin	22.42	45	P	P	20 30 26.8	-4.6
Z51A				IAmb	IAmb	20 30 50.2	
	comp=Z,12nm,0.7s						
CCM	Cathedral Cave	22.43	27	P	P	20 30 30.1	-1.4
	baz=213						
TIGA	Tifton	22.52	51	P	P	20 30 30.2	-2.2
	baz=240						
TPH	Tonopah	22.58	332	P	P	20 30 33.2	-0.1
WVT	Waverly	22.63	36	P	P	20 30 30.1	-3.5
WVT	Waverly	22.63	36	P	P	20 30 30.6	-3.0
	baz=224						
DUG	Dugway, Tooele	22.84	343	P	P	20 30 36.6	+0.7
	baz=157						
FPAL	Fort Paine	22.88	42	P	P	20 30 33.3	-3.0
P38A	Dawn	22.89	21	P	P	20 30 34.5	-1.8
P38A				IAmb	IAmb	20 30 60.0	
	comp=Z,21nm,1.4s						
V48A	Smith Brothers	22.93	38	P	P	20 30 33.8	-3.0
V48A				IAmb	IAmb	20 31 01.4	
	comp=Z,21nm,1.3s						
PMPB	Monarch Peak	22.96	323	P	P	20 30 35.6	-1.5
MDPB	Devils Postpil	23.10	328	P	P	20 30 39.6	+0.9
MDPB				IAmb	IAmb	20 30 42.6	
	comp=Z,31nm,0.9s						
SWET	Sewanee	23.12	41	P	P	20 30 36.0	-2.7
NV11	Mina Array Sit	23.29	331	P	P	20 30 42.2	+1.6
NV11				IAmb	IAmb	20 30 45.0	
	comp=Z,38nm,1.0s						
LHV	Little Huntoon	23.31	330	P	P	20 30 43.3	+2.8
LHV				IAmb	IAmb	20 30 54.0	
	comp=Z,16nm,1.0s						
BGNE	Belgrade	23.34	11	P	P	20 30 40.7	-0.2
	baz=194						
P40A	Paris	23.35	24	P	P	20 30 39.2	-1.8
P40A				IAmb	IAmb	20 30 41.7	
	comp=Z,13nm,0.8s						
NVAR	Mina Array Bea	23.36	331	P	P	20 30 43.5	+2.2
	comp=Z,10nm,0.7s,baz=158,slow=11,SNR=65						
NVAR				PcP	PcP	20 34 29.8	+1.6
	comp=Z,0.7nm,0.7s,baz=117,slow=3.2,SNR=3.8						
NVAR	Mina Array Bea	23.36	331	P	P	20 30 42.8	+1.4
N35A	Tabor	23.38	16	P	P	20 30 39.0	-2.3
N35A				IAmb	IAmb	20 30 42.8	
	comp=Z,20nm,0.6s						
X51A	Calhoun	23.38	43	P	P	20 30 38.2	-3.2
X51A				IAmb	IAmb	20 31 00.7	
	comp=Z,13nm,0.9s						
CLTN	Cedars of Leba	23.46	38	P	P	20 30 39.3	-2.9
CLTN				IAmb	IAmb	20 30 42.7	
	comp=Z,12nm,0.7s						
W50A	Signal Mountai	23.49	41	P	P	20 30 39.3	-3.2
W50A				IAmb	IAmb	20 31 08.1	
	comp=Z,15nm,1.1s						
Y52A	Lilburn	23.49	46	P	P	20 30 39.9	-2.6
Y52A				IAmb	IAmb	20 30 41.8	
	comp=Z,11nm,0.8s						
BGU	Big Grassy Mou	23.58	343	P	P	20 30 44.1	+0.6
255A	Hazlehurst	23.59	51	P	P	20 30 40.8	-2.6
255A				IAmb	IAmb	20 30 42.8	
	comp=Z,17nm,0.8s						
RYN	Ryan	23.62	331	P	P	20 30 45.9	+2.0
RYN				IAmb	IAmb	20 30 47.3	
	comp=Z,21nm,0.9s						
GOGA	Godfrey	23.65	47	P	P	20 30 40.8	-3.2
GOGA				IAmb	IAmb	20 30 42.6	
	comp=Z,13nm,0.6s						
GOGA	Godfrey	23.65	47	P	P	20 30 41.0	-3.0
	baz=236,SNR=11						
T47A	Sharon Grove	23.65	36	P	P	20 30 41.3	-2.7
T47A				IAmb	IAmb	20 30 42.4	
	comp=Z,16nm,0.7s						
SAO	San Andreas Ge	23.71	323	P	P	20 30 46.9	+2.3
SAO				IAmb	IAmb	20 30 47.8	
	comp=Z,18nm,1.1s						
KVN	Kaiserville	23.77	332	P	P	20 30 46.7	+1.3
KVN				IAmb	IAmb	20 30 49.6	
	comp=Z,16nm,0.8s						
HWUT	Hardware Ranch	23.85	346	P	P	20 30 45.9	-0.2
HWUT				IAmb	IAmb	20 30 54.1	
	comp=Z,11nm,0.8s						
CMB	Columbia Colle	24.07	327	P	P	20 30 49.1	+1.1
U49A	Red Boiling Sp	24.08	38	P	P	20 30 45.6	-2.5
ELK	Elko	24.10	339	P	P	20 30 50.0	+1.4
	comp=Z,3.1nm,0.7s,baz=159,slow=10.0,SNR=9.8						
ELK	Elko	24.10	339	P	P	20 30 49.4	+0.9
Q44A	Meyer Farm, Va	24.13	30	P	P	20 30 47.8	-0.8
Q44A				IAmb	IAmb	20 31 16.8	
	comp=Z,26nm,0.8s						
CPCT	Cooper Cave	24.15	42	P	P	20 30 45.9	-2.9
L34A	Svendsen Farm,	24.24	14	P	P	20 30 48.3	-1.3
L34A				IAmb	IAmb	20 30 50.0	
	comp=Z,36nm,0.9s						
YERR	Yerington	24.24	330	P	P	20 30 51.6	+1.7
YERR				IAmb	IAmb	20 30 53.0	
	comp=Z,18nm,0.7s						
HVU	Hansel Valley	24.31	344	P	P	20 30 50.9	+0.5
W52A	Murphy	24.31	43	P	P	20 30 46.8	-3.5
V51A	Loudon	24.48	41	P	P	20 30 49.4	-2.4
PNTR	Pine Nut	24.50	330	P	P	20 30 53.1	+0.9
PNTR				IAmb	IAmb	20 30 55.7	
	comp=Z,36nm,0.9s						
P43A	Skaggs, Pawnee	24.50	28	P	P	20 30 49.8	-2.1
P43A				IAmb	IAmb	20 31 07.7	
	comp=Z,14nm,0.8s						
BMN	Battle Mountai	24.56	335	P	P	20 30 53.6	+0.9
PDAR	Pinedale Array	24.58	350	P	P	20 30 53.8	+0.9
	comp=Z,2.9nm,0.6s,baz=164,slow=10,SNR=7.0						
PDAR				LR	LR	20 41 50.3	
	comp=Z,397nm,20.5s,baz=180,slow=40						
VCNR	Virginia City	24.68	330	P	P	20 30 55.6	+1.8
TKL	Tuckaleechee C	24.75	42	P	P	20 30 52.2	-2.1
	comp=Z,3.4nm,0.6s,baz=199,slow=12,SNR=7.2						
TKL	Tuckaleechee C	24.75	42	P	P	20 30 52.1	-2.2
N41A	Harden Midland	24.83	24	P	P	20 30 51.6	-3.3
N41A				IAmb	IAmb	20 31 20.1	
	comp=Z,12nm,0.6s						
PAHR	Pah Rah Range	24.89	331	P	P	20 30 57.6	+2.0
PAHR				IAmb	IAmb	20 31 00.1	
	comp=Z,19nm,0.8s						
BG3	Lake Jocassee	24.91	45	P	P	20 30 54.0	-1.7
BG3				IAmb	IAmb	20 30 55.6	
	comp=Z,11nm,0.6s						
HODGE	Hodges	24.94	47	P	P	20 30 53.9	-2.0
V52A	Sevierville	24.98	42	P	P	20 30 53.7	-2.6
WCI	Wyandotte Cave	25.00	35	P	P	20 30 54.3	-2.1
WCI				IAmb	IAmb	20 31 22.8	
	comp=Z,30nm,0.8s						
WCI	Wyandotte Cave	25.00	35	P	P	20 30 54.7	-1.7
	baz=223						
V53A	Saluda	25.38	44	P	P	20 30 58.8	-1.3
BEKR	Beckworth	25.47	330	P	P	20 31 02.7	+1.8
RSSD	Black Hills	25.49	0	P	P	20 31 01.5	+0.4
	baz=180						
TPAW	Teton Pass	25.52	348	P	P	20 31 01.6	+0.1
TPAW				IAmb	IAmb	20 31 09.8	
	comp=Z,14nm,0.9s						
PAULI	Pauline	25.57	46	P	P	20 31 00.7	-0.9
PAULI				IAmb	IAmb	20 31 25.0	
	comp=Z,10nm,0.8s						
LOHW	Long Hollow	25.58	349	P	P	20 31 02.0	+0.1
LOHW				IAmb	IAmb	20 31 05.2	
	comp=Z,8.0nm,0.7s						
FXWY	Fox Creek	25.68	348	P	P	20 31 02.6	-0.3
MOOW	Moose Ponds	25.74	349	P	P	20 31 03.7	+0.3
ORV	Oroville	25.79	328	P	P	20 31 05.0	+1.4
ORV				IAmb	IAmb	20 31 07.2	
	comp=Z,18nm,1.1s						
L40A	Anamosa	25.87	22	P	P	20 31 03.4	-0.9
ECSD	EROS Data Cent	25.88	12	P	P	20 31 02.1	-2.3
ECSD	EROS Data Cent	25.88	12	P	P	20 31 03.8	-0.6
	baz=196						
SFIN	Lafayette	26.21	30	P	P	20 31 05.2	-2.2
SFIN				IAmb	IAmb	20 31 28.2	
	comp=Z,9.3nm,0.8s						
SFIN	Lafayette	26.21	30	P	P	20 31 05.4	-1.9
	baz=219						
HLID	Hailey	26.41	343	P	P	20 31 08.6	-0.8
HLID	Hailey	26.41	343	P	P	20 31 10.6	+1.2
	baz=157,SNR=7.6						
O03E	Paynes Creek	26.50	329	P	P	20 31 11.4	+1.3
	baz=139,SNR=11						
MFID	Camas Ranch	26.69	341	P	P	20 31 12.4	+0.5
MFID				IAmb	IAmb	20 31 14.6	
	comp=Z,14nm,1.4s						
P49A	Miami Univ. Ec	26.79	35	P	P	20 31 10.2	-2.4
	baz=224						
WVOR	Wild Horse Val	26.82	336	P	P	20 31 13.5	+0.4
O02D	Mt. Diablo Mer	26.91	327	P	P	20 31 15.0	+1.1
	baz=137						
WDC	Whiskeytown Da	27.09	328	P	P	20 31 15.1	-0.3
WDC				IAmb	IAmb	20 31 16.4	
	comp=Z,9.1nm,0.9s						
Q51A	Peebles	27.20	37	P	P	20 31 14.1	-2.2
Q51A				IAmb	IAmb	20 31 15.4	
	comp=Z,9.4nm,0.7s						
MCMT	McKenzie Canyo	27.20	346	P	P	20 31 17.4	+0.7
J08A	Circle Bar Ran	27.55	337	P	P	20 31 20.4	+0.8
J08A				IAmb	IAmb	20 31 21.9	
	comp=Z,9.2nm,0.9s						
M04C	Macdoel	27.67	331	P	P	20 31 21.9	+1.2
	baz=141						
BOZ	Bozeman (W)	27.68	349	P	P	20 31 20.6	-0.2
	baz=164						
M02C	Callahan	27.85	329	P	P	20 31 23.1	+0.8
	baz=138						
KHMM	Horse Mountain	27.91	327	P	P	20 31 24.8	+1.9
YBH	Yreka Blue Hor	28.04	329	P	P	20 31 24.2	+0.2
	comp=Z,1.4nm,0.5s,baz=121,slow=6.1,SNR=4.9						
YBH	Yreka Blue Hor	28.04	329	P	P	20 31 23.9	0.0
LRM	Limekiln Ridge	28.06	348	P	P	20 31 24.2	-0.1
L04D	Klamath Falls	28.22	331	P	P	20 31 26.9	+1.2
	baz=140						
PLID	Pearl Lake	28.26	342	P	P	20 31 26.6	+0.5
P52A	Corning	28.30	38	P	P	20 31 24.1	-2.1
	baz=228						
BMO	Blue Mountains	28.45	340	P	P	20 31 27.6	0.0
KRMB	Red Mountain	28.48	328	P	P	20 31 30.4	+2.5
KRMB				IAmb	IAmb	20 31 30.9	
	comp=Z,30nm,1.0s						
J05D	Fort Rock, OR	28.59	333	P	P	20 31 30.3	+1.3
	baz=144,SNR=5.3						
L02E	Cave Junction	28.80	329	P	P	20 31 32.2	+1.6
	baz=138						
J04D	Umpqua Nationa	28.94	332	P	P	20 31 34.0	+1.9
	baz=142						
K02D	Willamette Mer	29.23	330	P	P	20 31 36.3	+1.7
	baz=139						
MSO	Missoula	29.34	346	P	P	20 31 36.5	+0.9
	baz=160						
AAM	Ann Arbor	29.35	32	P	P	20 31 34.6	-0.9
	baz=222						
G08A	Pilot Rock	29.40	338	P	P	20 31 37.2	+1.1
F10A	Beach Ranch, E	29.43	341	P	P	20 31 36.8	+0.5
F10A				IAmb	IAmb	20 31 45.5	
	comp=Z,12nm,0.9s						
I05D	Terrebonne, OR	29.50	334	P	P	20 31 38.4	+1.6
	baz=144						
I04A	Tendick Farm,	29.51	332	P	P	20 31 38.0	+1.0
	baz=142						
O54A	Avella	29.68	38	P	P	20 31 36.3	-2.2
O54A				IAmb	IAmb	20 31 38.0	
	comp=Z,6.3nm,0.7s						
J01E	Myrtle Point	29.71	330	P	P	20 31 40.6	+1.9
	baz=139,SNR=5.6						
I03D	Drain, OR	29.86	331	P	P	20 31 41.1	+1.1
	baz=140						
G05D	Wamic, OR	30.23	335	P	P	20 31 43.9	+0.5
	baz=145						
H04D	Lebanon	30.23	333	P	P	20 31 44.0	+0.7
	baz=142						
I02D	Swisshome	30.40	331	P	P	20 31 45.6	+0.9
	baz=140						
AGMN	Agassiz Nation	30.41	11	P	P	20 31 43.6	-1.2
AGMN				IAmb	IAmb	20 31 45.0	
	comp=Z,11nm,0.8s						
AGMN	Agassiz Nation	30.41	11	P	P	20 31 43.8	-1.0
	baz=195						
F05D	White Salmon	30.82	336	P	P	20 31 50.2	+1.6
	baz=146,SNR=6.9						
O56A	Blue Knob Stat	30.82	40	P	P	20 31 46.5	-2.2
	baz=233						
B35A	Bob, Littlefor	30.90	14	P	P	20 31 47.2	-1.9
B35A				IAmb	IAmb	20 31 49.0	
	comp=Z,11nm,0.8s						
M54A	Oil Creek Stat	30.95	37	P	P	20 31 47.2	-2.5
M54A				IAmb	IAmb	20 31 49.4	
	comp=Z,9.7nm,0.8s						
M54A	Oil Creek Stat	30.95	37	P	P	20 31 47.5	-2.2
	baz=230,SNR=5.4						
EYMN	Ely	31.06	16	P	P	20 31 48.2	-2.4
EYMN				IAmb	IAmb	20 31 49.2	
	comp=Z,6.9nm,0.9s						
EYMN	Ely	31.06	16	P	P	20 31 48.7	-1.9
	baz=203						
OTAV	Otavalo	31.06	123	P	P	20 31 52.9	+1.5
C09A	Chrisman Ranch	31.39	341	P	P	20 31 53.4	-0.1
SSPA	Standing Stone	31.46	40	P	P	20 31 51.4	-2.8
SSPA	Standing Stone	31.46	40	P	P	20 31 51.8	-2.4
	baz=233						
NEW	Newport	31.48	343	P	P	20 31 54.3	0.0
NEW	Newport	31.48	343	P	P	20 31 54.9	+0.6
	baz=155						
LTY	Liberty	31.69	338	P	P	20 31 57.1	+0.9
LTY				IAmb	IAmb	20 31 58.6	
	comp=Z,10nm,0.9s						
E04D	Cinebar	31.81	335	P	P	20 31 58.2	+1.0
	baz=144						
B08A	Colville Reser	32.21	341	P	P	20 32 00.8	+0.1
B08A				IAmb	IAmb	20 32 03.3	
	comp=Z,24nm,1.4s						
ULM	Lac du Bonnet	32.30	10	P	P	20 31 59.7	-1.7
	comp=Z,4.2nm,0.8s,baz=185,slow=7.8,SNR=5.5						
ULM				LR	LR	20 45 19.5	
	comp=Z,196nm,19.0s,baz=192,slow=37						
ULM	Lac du Bonnet	32.30	10	P	P	20 31 59.3	-2.1
ULM				IAmb	IAmb	20 32 00.3	
	comp=Z,8.2nm,1.0s						
D04E	Lakebay	32.40	336	P	P	20 32 03.3	+0.9
	baz=145						
B05A	Bryant	33.06	338	P	P	20 32 08.8	+0.8
	baz=147						
B06A	Marblemount	33.06	339	P	P	20 32 08.1	+0.1
B06A				IAmb	IAmb	20 32 09.5	
	comp=Z,11nm,0.9s						
BINY	Binghamton	33.54	39	P	P	20 32 10.6	-1.9
BINY				IAmb	IAmb	20 32 12.3	
	comp=Z,6.2nm,0.8s						
BINY	Binghamton	33.54	39	P	P	20 32 10.2	-2.2
	baz=234						
PECO	Prince Edward	34.01	36	P	P	20 32 13.9	-2.6
PECO				IAmb	IAmb	20 32 14.7	
	comp=Z,8.6nm,0.7s						
L61B	Northampton	35.71	41	P	P	20 32 28.5	-2.6
	baz=238						
LONY	Lake Ozonia	35.80	37	P	P	20 32 29.6	-2.3
	baz=233						
SJG	San Juan	35.97	85	P	P	20 32 34.0	+0.4
	comp=Z,16nm,0.6s,baz=278,slow=4.2,SNR=11						
SJG	San Juan	35.97	85	P	P	20 32 33.0	-0.6
L63A	North Scituate	36.09	43	P	P	20 32 31.7	-2.6
	baz=240						
PDPR	Patillas Dam,	36.10	85	P	P	20 32 33.5	-1.3
PDPR				IAmb	IAmb	20 32 35.3	
	comp=Z,14nm,0.9s						
FFC	Flin Flon	36.14	2	P	P	20 32 32.3	-2.3
FFC				IAmb	IAmb	20 32 34.1	
	comp=Z,6.0nm,0.7s						
MTP	Monte Pirata	36.53	84	P	P	20 32 38.3	-0.2
G65A	Princeton	40.30	41	P	P	20 33 08.8	-1.0
	baz=241						
D62A	Allapoint, All	40.38	37	P	P	20 33 09.0	-1.5
	baz=237						
E63A	Oxbow	40.39	38	P	P	20 33 09.7	-0.9
	baz=238						
WRAK	Wrangell Islan	43.34	337	P	P	20 33 36.1	+1.6
	baz=139						
DLBC	Dease Lake	44.13	341	P	P	20 33 42.3	+1.3
YKA	Yellowknife Ar	44.50	353	P	P	20 33 43.2	-0.6
	comp=Z,0.6nm,0.4s,baz=134,slow=6.9,SNR=7.5						
YKA				LR	LR	20 52 48.1	
	comp=Z,297nm,21.5s,baz=0.0,slow=37						
SIT	Sitka	44.92	336	P	P	20 33 48.8	+1.6
	baz=135						
SCHQ	Schefferville	45.98	29	P	P	20 33 54.6	-1.1
	comp=Z,5.7nm,0.6s,baz=243,slow=9.6,SNR=9.2						
SCHQ				LR	LR	20 54 32.2	
	comp=Z,192nm,18.9s,baz=334,slow=38						
TGTN	Hyland Airport	46.19	344	P	P	20 33 58.7	+1.5
	baz=147,SNR=5.1						
SKAG	Skagway	46.68	339	P	P	20 34 02.3	+1.2
SKAG				IAmb	IAmb	20 34 03.2	
	comp=Z,8.8nm,1.0s						
SKAG	Skagway	46.68	339	P	P	20 34 02.4	+1.4
	baz=137						
WHY	Whitehorse	47.42	340	P	P	20 34 08.1	+1.0
	baz=138						
MMPY	Sheldon Lake,	47.88	343	P	P	20 34 12.1	+1.6
	baz=144,SNR=27						
FARO	Faro, Yukon	48.16	342	P	P	20 34 13.9	+1.3
	baz=141,SNR=6.2						
HYT	Haines Junctio	48.42	339	P	P	20 34 16.5	+1.7
HYT				IAmb	IAmb	20 34 18.6	
	comp=Z,11nm,1.1s						
HYT	Haines Junctio	48.42	339	P	P	20 34 16.4	+1.7
	baz=135,SNR=6.6						
SAML	Samuel	48.73	121	P	P	20 34 17.4	-0.3
SAML				IAmb	IAmb	20 34 24.6	
	comp=Z,4.7nm,0.9s						
YUK6	Outpost Mounta	48.80	339	P	P	20 34 18.7	+0.9
	baz=134						
PINM	Pinnacle	48.89	337	P	P	20 34 19.7	+1.3
	baz=132						
YUK4	Talbot Arm	49.18	339	P	P	20 34 22.7	+2.0
	baz=134,SNR=6.3						
TABL	Table Mountain	49.45	337	P	P	20 34 23.1	+0.3
TABL				IAmb	IAmb	20 34 25.2	
	comp=Z,16nm,1.2s						
LOGN	Logan Glacier	49.66	337	P	P	20 34 25.9	+1.6
LOGN				IAmb	IAmb	20 34 31.0	
	comp=Z,9.0nm,1.0s						
CTGM	Chitina Glacie	49.87	337	P	P	20 34 26.9	+0.9
CTGM				IAmb	IAmb	20 34 29.1	
	comp=Z,20nm,1.4s						
CTG	Chitna Glacier	49.88	337	P	P	20 34 27.6	+1.7
	baz=131,SNR=5.9						
ISLE	Juniper Island	50.01	337	P	P	20 34 29.0	+2.1
BARN	Barnard Glacie	50.05	337	P	P	20 34 28.8	+1.4
BARN				IAmb	IAmb	20 34 32.5	
	comp=Z,9.0nm,1.0s						
YUK3	Moose Creek	50.10	338	P	P	20 34 28.9	+1.1
	baz=132,SNR=8.0						
WAX	Waxell Ridge	50.11	336	P	P	20 34 29.4	+1.7
WAX				IAmb	IAmb	20 34 30.2	
	comp=Z,14nm,0.9s						
TGL	Tana Glacier	50.29	336	P	P	20 34 30.4	+1.3
CRQE	Cirque	50.39	336	P	P	20 34 31.4	+1.5
	baz=129						
KAIM	Kayak Island	50.40	335	P	P	20 34 31.0	+1.3
	baz=127						
BERG	Berg Lake	50.40	336	P	P	20 34 32.4	+2.7
CRQM	Cirque	50.41	336	P	P	20 34 31.0	+0.9
BVCY	Beaver Creek	50.68	339	P	P	20 34 33.4	+1.5
	baz=132						
MCARA	McCarthy VSAT	50.77	337	P	P	20 34 33.7	+1.2
MCARA	McCarthy VSAT	50.77	337	P	P	20 34 34.4	+1.9
	baz=129,SNR=6.4						
VRDI	Verde Repeater	50.83	337	P	P	20 34 34.0	+0.8
VRDI				IAmb	IAmb	20 34 41.6	
	comp=Z,11nm,1.0s						
Q23K	Middleton Isla	50.90	334	P	P	20 34 34.9	+1.4
	baz=124						
M27K	Edge Creek, AK	50.99	338	P	P	20 34 35.0	+0.7
M27K				IAmb	IAmb	20 34 37.0	
	comp=Z,11nm,1.0s						
M27K	Edge Creek, AK	50.99	338	P	P	20 34 35.9	+1.5
	baz=131,SNR=12						
GLB	Gilahina Butte	51.10	337	P	P	20 34 36.3	+1.3
GLB				IAmb	IAmb	20 34 38.0	
	comp=Z,16nm,1.1s						
BMRM	Bremner River	51.11	336	P	P	20 34 36.7	+1.5
BMRM				IAmb	IAmb	20 34 38.1	
	comp=Z,17nm,1.1s						
BMRM	Bremner River	51.11	336	P	P	20 34 36.6	+1.5
	baz=127,SNR=5.5						
EYAK	Cordova Ski Ar	51.30	335	P	P	20 34 38.3	+1.8
EYAK				IAmb	IAmb	20 34 39.6	
	comp=Z,13nm,0.9s						
EYAK	Cordova Ski Ar	51.30	335	P	P	20 34 38.3	+1.8
	baz=126						
DAWY	Dawson	51.35	341	P	P	20 34 37.3	+0.3
DAWY				IAmb	IAmb	20 34 38.8	
	comp=Z,6.7nm,0.8s						
DAWY	Dawson	51.35	341	P	P	20 34 37.8	+0.8
	baz=135						
M26K	Nabesna, AK	51.41	338	P	P	20 34 38.5	+1.1
M26K				IAmb	IAmb	20 34 40.0	
	comp=Z,11nm,1.0s						
M26K	Nabesna, AK	51.41	338	P	P	20 34 38.7	+1.2
	baz=130,SNR=10						
BCAR	Beaver Creek A	51.44	339	P	P	20 34 38.3	+0.8
L27K	Beaver Creek,	51.45	339	P	P	20 34 39.1	+1.5
L27K				IAmb	IAmb	20 34 40.1	
	comp=Z,6.6nm,0.9s						
L27K	Beaver Creek,	51.45	339	P	P	20 34 38.9	+1.2
	baz=132,SNR=10						
N25K	Chitina, Valde	51.50	337	P	P	20 34 40.0	+1.9
N25K	Chitina, Valde	51.50	337	P	P	20 34 39.9	+1.8
	baz=128,SNR=9.7						
HIN	Hinchinbrook I	51.52	335	P	P	20 34 39.8	+1.6
FID	Port Fidalgo	51.71	335	P	P	20 34 40.8	+1.2
KLU	Klutina	51.93	336	P	P	20 34 42.7	+1.4
KLU				IAmb	IAmb	20 34 44.8	
	comp=Z,14nm,0.9s						
KLU	Klutina	51.93	336	P	P	20 34 42.4	+1.1
	baz=126,SNR=10						
L26K	Log Cabin Wild	51.94	338	P	P	20 34 41.9	+0.5
L26K				IAmb	IAmb	20 34 43.7	
	comp=Z,10nm,1.1s						
L26K	Log Cabin Wild	51.94	338	P	P	20 34 42.7	+1.3
	baz=130						
GLI	Glacier Island	52.03	335	P	P	20 34 43.4	+1.4
GLI	Glacier Island	52.03	335	P	P	20 34 43.2	+1.1
	baz=124,SNR=5.8						
K27K	Chicken	52.18	340	P	P	20 34 44.6	+1.5
K27K	Chicken	52.18	340	P	P	20 34 44.7	+1.7
	baz=132						
HARP	HAARP	52.19	337	P	P	20 34 44.4	+1.2
	baz=128						
EPYK	Eagle Plains	52.30	344	P	P	20 34 44.2	+0.2
EPYK	Eagle Plains	52.30	344	P	P	20 34 44.8	+0.8
	baz=139,SNR=18						
M24K	Tolsona, Glenn	52.40	337	P	P	20 34 46.4	+1.7
M24K	Tolsona, Glenn	52.40	337	P	P	20 34 46.5	+1.7
	baz=126,SNR=7.7						
EGAK	Eagle	52.40	341	P	P	20 34 45.2	+0.5
EGAK				IAmb	IAmb	20 34 46.4	
	comp=Z,10nm,0.7s						
EGAK	Eagle	52.40	341	P	P	20 34 45.1	+0.5
	baz=133,SNR=14						
PWL	Port Wells	52.53	335	P	P	20 34 46.4	+0.7
PWL				IAmb	IAmb	20 34 47.8	
	comp=Z,11nm,0.9s						
SEW	Seward	52.58	333	P	P	20 34 47.1	+1.0
	baz=121						
DOT	Dot Lake	52.59	339	P	P	20 34 47.1	+1.0
DOT				IAmb	IAmb	20 34 47.9	
	comp=Z,8.7nm,0.8s						
PAX	Paxson	52.66	338	P	P	20 34 47.6	+0.9
PAX				IAmb	IAmb	20 34 48.7	
	comp=Z,14nm,0.8s						
PAX	Paxson	52.66	338	P	P	20 34 47.8	+1.0
	baz=128						
SCM	Sheep Creek Mo	52.68	336	P	P	20 34 48.4	+1.5
SCM				IAmb	IAmb	20 34 50.6	
	comp=Z,17nm,1.2s						
SCRK	Sand Creek	52.78	339	P	P	20 34 48.5	+0.8
SCRK				IAmb	IAmb	20 34 50.1	
	comp=Z,9.4nm,1.0s						
SCRK	Sand Creek	52.78	339	P	P	20 34 48.6	+1.0
	baz=130,SNR=13						
KDAK	Kodiak Island	52.86	330	P	P	20 34 49.5	+1.4
	baz=116						
KNK	Knik Glacier	52.88	335	P	P	20 34 49.7	+1.3
KNK				IAmb	IAmb	20 34 51.2	
	comp=Z,16nm,0.9s						
KNK	Knik Glacier	52.88	335	P	P	20 34 49.4	+1.1

baz=123,SNR=7.8
O22K Cooper Landing 52.90 334 P P 20 34 49.1 +0.8
baz=121
RIDG Independent Ri 52.92 339 P P 20 34 49.8 +1.2
RIDG Independent Ri 52.92 339 P P 20 34 49.9 +1.2
baz=129,SNR=27
OHAK Old Harbor 52.95 329 P P 20 34 50.2 +1.5
OHAK IAmb IAmb 20 34 56.9
comp=Z,13nm,0.8s
OHAK Old Harbor 52.95 329 P P 20 34 50.3 +1.5
baz=115,SNR=5.1
BRSE Bradley Lake S 52.95 333 P P 20 34 50.2 +1.3
baz=120,SNR=5.5
BRLK Bradley Lake 53.03 332 P P 20 34 50.3 +0.9
BRLK IAmb IAmb 20 34 51.8
comp=Z,14nm,0.8s
SML Sawmill 53.05 336 P P 20 34 50.2 +0.6
SML Sawmill 53.05 336 P P 20 34 50.5 +0.9
baz=124,SNR=14
INK Inuvik 53.07 347 P P 20 34 49.4 -0.2
INK Inuvik 53.07 347 P P 20 34 49.9 +0.4
baz=144,SNR=9.9
J26K Charley River, 53.10 340 P P 20 34 51.3 +1.3
baz=130,SNR=24
RC01 Rabbit Creek A 53.23 334 P P 20 34 51.5 +0.7
RC01 IAmb IAmb 20 34 52.8
comp=Z,12nm,0.8s
RC01 Rabbit Creek A 53.23 334 P P 20 34 52.3 +1.5
baz=122
PMR Palmer 53.25 335 P P 20 34 52.0 +1.0
PMR Palmer 53.25 335 P P 20 34 52.5 +1.5
baz=123
WAT6 Susitna Watana 53.27 336 P P 20 34 51.8 +0.5
baz=125,SNR=14
J25K Salcha River, 53.65 339 P P 20 34 54.8 +0.8
baz=129,SNR=14
WAT1 Susitna Watana 53.72 336 P P 20 34 55.4 +0.9
baz=124
SUA Susitna One 53.84 334 P P 20 34 56.4 +1.0
SUA Susitna One 53.84 334 P P 20 34 56.7 +1.2
baz=121,SNR=20
Q19K Cape Douglas, 53.87 331 P P 20 34 57.3 +1.7
baz=116
O20K Slope Mountain 53.95 332 P P 20 34 57.8 +1.6
baz=118
P19K Oil Pt 54.02 332 P P 20 34 57.7 +1.0
P19K Oil Pt 54.02 332 P P 20 34 58.1 +1.4
baz=117
HDA Harding Lake 54.06 339 P P 20 34 57.0 0.0
HDA IAmb IAmb 20 34 58.5
comp=Z,12nm,1.0s
HDA Harding Lake 54.06 339 P P 20 34 57.3 +0.3
baz=127,SNR=9.3
CUT Chulitna 54.14 336 P P 20 34 58.6 +1.1
CUT Chulitna 54.14 336 P P 20 34 58.7 +1.1
baz=122,SNR=8.3
RND Reindeer 54.16 337 P P 20 34 58.6 +0.8
RSO Redoubt South 54.19 333 P P 20 34 58.8 +0.6
IL31 54.26 339 P P 20 34 59.2 +0.9
ILAR Eielson Array 54.26 339 P P 20 34 58.6 +0.3
comp=Z,11nm,0.9s,baz=149,slow=6.0,SNR=63
ILAR Eielson Array 54.26 339 P P 20 34 59.1 +0.7
PRP Porcupine Dome 54.28 340 P P 20 34 59.8 +1.1
PRP Porcupine Dome 54.28 340 P P 20 34 59.7 +1.1
baz=129
SPCR Spurr Chakacha 54.31 334 P P 20 34 59.9 +1.0
baz=119
MCK McKinley 54.37 337 P P 20 34 59.9 +0.7
MCK McKinley 54.37 337 P P 20 34 60.0 +0.7
baz=124,SNR=5.2
SKT Skwentna 54.42 335 P P 20 35 00.6 +1.0
SKT Skwentna 54.42 335 P P 20 35 00.4 +0.8
baz=120,SNR=21
WRH Wood River Hil 54.50 338 P P 20 35 00.2 +0.1
WRH IAmb IAmb 20 35 01.5
comp=Z,8.4nm,0.9s
CCB Clear Creek Bu 54.50 339 P P 20 34 60.0 -0.1
CCB IAmb IAmb 20 35 01.1
comp=Z,7.5nm,0.9s
COLA College 54.65 339 P P 20 35 01.5 +0.3
COLA IAmb IAmb 20 35 05.0
comp=Z,9.0nm,0.8s
COLA College 54.65 339 P P 20 35 01.8 +0.6
baz=126
TCOL CIGO, UAF Yank 54.66 339 P 20 35 01.2 0.0
TCOL CIGO, UAF Yank 54.66 339 P P 20 35 01.6 +0.4
baz=126
POKR Poker Plat Res 54.66 339 P P 20 35 00.7 -0.6
POKR Poker Plat Res 54.66 339 P P 20 35 02.0 +0.8
baz=127
TRF Thorofare Moun 54.72 337 P P 20 35 02.7 +0.8
TRF Thorofare Moun 54.72 337 P P 20 35 02.7 +0.8
baz=122,SNR=35
O19K Port Alsworth 54.75 332 P P 20 35 01.7 -0.2
MDM Murphy Dome 54.84 339 P P 20 35 02.2 -0.3
MDM IAmb IAmb 20 35 03.8
comp=Z,6.1nm,0.9s
FYU Fort Yukon 54.86 341 P P 20 35 03.5 +0.9
NEA2 Nenana 54.91 338 P P 20 35 03.2 +0.1
NEA2 Nenana 54.91 338 P P 20 35 03.4 +0.3
baz=124,SNR=8.4
O18K Koktuh Hills 55.00 331 P P 20 35 03.8 0.0
O18K Koktuh Hills 55.00 331 P P 20 35 04.5 +0.7
baz=115
KTH Kantishna Hill 55.01 337 P P 20 35 04.0 +0.1
M20K Styx River 55.03 334 P P 20 35 04.5 +0.4
M20K Styx River 55.03 334 P P 20 35 04.9 +0.8
baz=119,SNR=20
N19K Bonanza Creek 55.10 333 P P 20 35 05.1 +0.4
N19K Bonanza Creek 55.10 333 P P 20 35 05.2 +0.5
baz=116,SNR=12
PPLA Purkeypile 55.16 335 P P 20 35 05.7 +0.6
PPLA Purkeypile 55.16 335 P P 20 35 05.6 +0.6
baz=120,SNR=9.0
BMAR Burnt Mountain 55.23 342 P P 20 35 05.9 +0.5
H24K Noodor Dome 55.24 340 P P 20 35 06.4 +0.8
H24K Noodor Dome 55.24 340 P P 20 35 06.5 +1.0
baz=126,SNR=18
BPAW Bear Paw Mtn. 55.33 337 P P 20 35 06.2 0.0
BPAW IAmb IAmb 20 35 07.6
comp=Z,18nm,1.2s
BPAW Bear Paw Mtn. 55.33 337 P P 20 35 06.2 0.0
baz=122,SNR=7.0
CHNA Chernabura Isl 55.33 325 P P 20 35 07.3 +1.0
baz=108
I23K Minto, Yukon-K 55.34 339 P P 20 35 06.8 +0.7
I23K Minto, Yukon-K 55.34 339 P P 20 35 06.9 +0.7
baz=124,SNR=16
M19K Big River Lodg 55.57 334 P P 20 35 09.1 +1.2
M19K Big River Lodg 55.57 334 P P 20 35 08.7 +0.8
baz=117,SNR=7.8
L20K Farewell, AK 55.63 335 P P 20 35 08.7 +0.3
baz=118,SNR=16
SVW2 Sparrevohn 55.71 333 P P 20 35 08.6 -0.3
MLY Manley 55.75 338 P P 20 35 09.6 +0.3
MLY Manley 55.75 338 P P 20 35 09.3 +0.1
baz=123,SNR=18
H23K Yukon River 55.79 339 P P 20 35 09.8 +0.3
H23K IAmb IAmb 20 35 11.2
comp=Z,9.6nm,0.9s
H23K Yukon River 55.79 339 P P 20 35 10.1 +0.7
baz=125,SNR=11
L19K White Mountain 55.89 334 P P 20 35 11.1 +0.8
L19K White Mountain 55.89 334 P P 20 35 10.4 +0.2
baz=117,SNR=14
K20K Telida 56.13 335 P P 20 35 11.9 0.0
K20K Telida 56.13 335 P P 20 35 12.2 +0.3
baz=118,SNR=14
I21K Tanana 56.28 338 P P 20 35 13.6 +0.7
I21K Tanana 56.28 338 P P 20 35 13.1 +0.2
baz=122,SNR=19
J20K Nowinta River 56.56 336 P P 20 35 14.7 -0.2
J20K Nowinta River 56.56 336 P P 20 35 15.3 +0.3
baz=119,SNR=17
COLD Coldfoot 56.81 340 P P 20 35 17.5 +0.8
COLD Coldfoot 56.81 340 P P 20 35 17.7 +1.0
baz=125,SNR=24
H03N2 Juan Fernandez 57.01 155 T T 21 36 59.4
baz=333,slow=77,SNR=197
H03N1 Juan Fernandez 57.02 155 T T 21 37 04.3
baz=333,slow=77,SNR=346
H03N3 Juan Fernandez 57.02 155 T T 21 37 03.3
baz=333,slow=77,SNR=198
IMAR Indian Mountai 57.32 338 P P 20 35 20.0 -0.3
TOLK Toolik Lake Re 57.46 342 P P 20 35 21.9 +0.7
TOLK Toolik Lake Re 57.46 342 P P 20 35 22.0 +0.8
baz=126,SNR=21
DY2G Dye2 60.49 23 *i* P P 20 35 42.1 -0.4
DY2G IAmb IAmb 20 35 43.1
comp=Z,10nm,0.7s
RDOG Red Dog Mine 61.47 339 P P 20 35 50.6 +1.7
RDOG Red Dog Mine 61.47 339 P P 20 35 49.4 +0.5
baz=112,SNR=13
TNA Tin City 62.51 335 P P 20 35 56.6 +0.7
baz=106
ICESG Greenland Ices 63.76 21 *i* P P 20 36 03.4 -1.2
ICESG IAmb IAmb 20 36 06.0
comp=Z,5.2nm,0.5s
NEEM North Greenlan 64.31 11 *i* P P 20 36 07.0 -1.1
NEEM IAmb IAmb 20 36 09.6
comp=Z,18nm,0.7s
SUMG Summit 65.19 18 *i* P P 20 36 14.1 +0.1
SUMG IAmb IAmb 20 36 15.2
comp=Z,11nm,0.8s
PLCA Paso Flores 66.71 153 P P 20 36 25.8 +2.0
comp=Z,1.9nm,0.9s,baz=8,1,slow=7.1,SNR=3.3
NOR Nord 71.39 9 *i* P P 20 36 52.2 0.0
NOR IAmb IAmb 20 36 53.2
comp=Z,17nm,0.8s
PMAFR Mafra 82.17 52 *eP* P 20 37 54.9 +1.0
comp=Z,108nm,1.2s
PCAB Cabril 82.25 49 *eP* P 20 37 56.6 +2.3
PSBE So Bento 82.36 51 *eP* P 20 37 56.0 +1.1
comp=Z,49nm,1.9s
PCAS Casmilo, Conde 82.42 50 *eP* P 20 37 56.2 +1.0
PMTG Montargil 82.92 51 *eP* P 20 37 58.4 +0.6
comp=Z,32nm,1.4s
MTE Manteigas 83.01 50 *eP* P 20 37 58.8 +0.5
comp=Z,20nm,1.1s
PTEO Sao Teotonio 83.02 53 *eP* P 20 37 59.7 +1.4
H11N3 WAKE ISLAND Hy 83.02 288 T T 22 09 53.7
baz=62,slow=75
H11N2 WAKE ISLAND Hy 83.03 288 T T 22 09 53.3
baz=62,slow=75
H11N1 WAKE ISLAND Hy 83.04 288 T T 22 10 19.7
baz=62,slow=75
PFVI Vila Bisbo 83.07 53 *eP* P 20 38 00.8 +2.2
comp=Z,104nm,1.8s
MVO Moncorvo 83.14 49 *eP* P 20 37 59.8 +0.8
comp=Z,24nm,1.3s
PBRG Braganca 83.14 48 *eP* P 20 37 56.5 -2.4
comp=Z,18nm,1.5s
TIXI Tiksi 83.17 345 P P 20 37 58.6 +0.3
PCBR Castelo Branco 83.23 50 *eP* P 20 38 00.0 +0.6
comp=Z,24nm,1.0s
EVO Evora 83.25 52 *eP* P 20 38 00.3 +0.8
comp=Z,18nm,1.1s
MESJ Messejana 83.31 52 *eP* P 20 38 00.4 +0.6
MESJ IAmb IAmb 20 38 01.6
comp=Z,20nm,1.0s
MESJ Messejana 83.31 52 *eP* P 20 38 00.9 +1.1
comp=Z,31nm,1.2s
PMRV Marv??o 83.42 51 *eP* P 20 38 01.0 +0.6
comp=Z,30nm,0.9s
PESTR Estremoz 83.46 51 *eP* P 20 38 01.2 +0.6
PCVE Castro Verde 83.51 53 *eP* P 20 38 02.1 +1.3
comp=Z,26nm,1.5s
PBEJ Beja 83.52 52 *eP* P 20 38 01.8 +0.9
H11S1 WAKE ISLAND Hy 83.56 287 T T 22 10 45.2
baz=62,slow=74
H11S2 WAKE ISLAND Hy 83.57 287 T T 22 10 24.2
baz=62,slow=74
H11S3 WAKE ISLAND Hy 83.58 287 T T 22 10 26.5
baz=62,slow=74
PBDV Barranco-do-Ve 83.71 53 *eP* P 20 38 03.5 +1.6
comp=Z,30nm,1.0s
PBAR Barrancos 84.09 52 *eP* P 20 38 04.8 +1.0
comp=Z,20nm,1.5s
ARCES ARCESS Array B 85.21 16 P P 20 38 08.9 0.0
comp=Z,11nm,0.8s,baz=302,slow=3.2,SNR=22
ARCES LR LR 21 16 18.6
comp=Z,112nm,20.6s,baz=305,slow=36
ARCES ARCESS Array B 85.21 16 P P 20 38 08.6 -0.2
NB2 NORSAR Subarra 85.47 26 P P 20 38 10.4 +0.1
comp=Z,1.5nm,0.7s,baz=302,slow=4.6
NOA NORSAR Array B 85.47 26 P P 20 38 10.3 -0.1
comp=Z,5.2nm,0.9s,baz=301,slow=4.9,SNR=8.0
NOA LR LR 21 16 42.0
comp=Z,66nm,19.6s,baz=315,slow=36
PAB San Pablo 85.61 50 P P 20 38 11.1 -0.4
ESDC Sonseca Array 85.84 50 P P 20 38 13.0 +0.4
comp=Z,5.7nm,0.8s,baz=302,slow=5.2,SNR=29
ESDC LR LR 21 17 49.6
comp=Z,70nm,18.6s,baz=150,slow=37
ESDC Sonseca Array 85.84 50 P P 20 38 12.2 -0.5
ESDC IAmb IAmb 20 38 14.2
comp=Z,7.2nm,1.0s
ESBB Sonseca Array 85.84 50 P P 20 38 12.0 -0.6
ESBB IAmb IAmb 20 38 14.1
comp=Z,7.9nm,0.8s
YAK Yakutsk 89.17 338 P P 20 38 28.6 +0.5
FINES FINESS Array B 90.95 22 P P 20 38 35.8 -0.7
comp=Z,3.0nm,0.8s,baz=35,slow=3.4,SNR=2.5
FINES LR LR 21 19 23.4
comp=Z,90nm,19.3s,baz=316,slow=36
GRF Grafenberg Arr 91.31 36 *eP* P 20 38 39.1 +0.7
comp=Z,6.3nm,1.0s,baz=296,slow=4.5
CLL Collm 91.42 34 *eP* P 20 38 39.0 +0.1
NRIK Noril'sk 91.95 356 P P 20 38 41.9 +1.0
comp=Z,3.8nm,0.7s,baz=70,slow=3.0,SNR=4.4
NRIK LR LR 21 21 49.2
comp=Z,123nm,20.6s,baz=12,slow=37
BRG Berggiesshubel 92.16 34 *eP* P 20 38 42.5 +0.2
BRG Amp 20 38 44.8
comp=Z,5.0nm,1.0s
WATA Walderalm 92.72 38 P P 20 38 46.2 +1.0
comp=Z,2.9nm,0.7s
GEC2 GERESS Array S 93.13 36 P P 20 38 47.1 +0.1
GEC2 IAmb IAmb 20 38 48.0
comp=Z,3.4nm,1.0s
GERES GERESS Array B 93.13 36 P P 20 38 46.7 -0.3
comp=Z,1.8nm,0.8s,baz=329,slow=4.7,SNR=14
GERES LR LR 21 21 27.2
comp=Z,33nm,18.2s,baz=292,slow=36
MOA Molln 93.99 36 *eP* P 20 38 51.5 +0.7
comp=Z,8.1nm,1.2s
CONA Conrad Observa 94.84 36 *i* P P 20 38 55.6 +0.8
comp=Z,5.7nm,0.8s
SOKA Soboth 95.07 37 *eP* P 20 38 56.3 +0.4
comp=Z,4.5nm,0.9s
PSZ Piszkesteto 97.04 34 P P 20 39 04.6 -0.2
MJAR Matsushiro Arr 99.66 314 LR LR 21 18 31.3
comp=Z,18nm,20.1s,baz=315,slow=32
AKASG Malin Array Be 99.77 28 P Pdif 20 39 15.8 -1.1
comp=Z,0.3nm,0.4s,baz=309,slow=3.1,SNR=5.3
LZH Lanzhou 119.57 334 *e*PKP PKPdf 20 44 21.5 -1.7
WRA Warramunga Arr 125.07 258 PKP PKiKP 20 44 34.5 +0.2
comp=Z,1.5nm,0.5s,baz=97,slow=2.6,SNR=38
WRA Warramunga Arr 125.07 258 PKPdf 20 44 34.0 +0.1
ASAR Alice Springs 125.97 254 PKP PKiKP 20 44 36.0 0.0
comp=Z,1.1nm,0.6s,baz=81,slow=2.2,SNR=18
CMAR Chiang Mai Arr 136.82 327 PKP PKiKP 20 44 58.0 0.0
comp=Z,1.1nm,0.6s,baz=354,slow=2.3,SNR=8.7
CMAR Chiang Mai Arr 136.82 327 PKPdf 20 44 54.9 -1.3

*ISK **02** 20:30:27.6,39.14N×29.15E,h15km±1km,ML3.1/6*
*DDA **02** 20:30:27.3,39.12N×29.12E,h7km±2km,ML2.9*
ISC 02 20:30:27.4±0.9,**39.14N**±0.04×**29.17E**±0.03,**h15**km±8km,
n11,σ**0**s**94**/**20**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMAA	**Simav-Kutahya**	**0.15**	**256**	PG	**Pb**	**20 30 31.6**	**-0.3**
SMAA				SG	**Sg**	**20 30 34.6**	**+0.6**
SIMA	**Simav-Kutahya**	**0.15**	**249**	PG	**Pb**	**20 30 31.7**	**-0.3**
SIMA				SG	**Sg**	**20 30 34.5**	**+0.4**
GEDZ	**Gediz**	**0.21**	**116**	PG	**Pg**	**20 30 32.9**	**+0.6**
GEDZ				SG	**Sg**	**20 30 36.9**	**+1.3**
GDZ	**Gediz**	**0.25**	**101** *i*	P	**Pg**	**20 30 30.0**	**-2.9**
GDZ				*i* S	**Sg**	**20 30 37.3**	**+0.6**
DEMI	**Demirci**	**0.36**	**255** *i*	P	**Pg**	**20 30 34.1**	**-0.7**
DEMI				*i* S	**Sg**	**20 30 39.1**	**-0.8**
DEMI				IAML		20 30 40.0	
	comp=E,1μm,0.4s						
TVSB	**Tavsanli**	**0.39**	**36**	PG	**Pg**	**20 30 35.2**	**-0.1**
TVSB				SG	**Sb**	**20 30 42.1**	**+0.2**
USAK	**Uak-Merkez**	**0.44**	**195** *i*	P	**Pg**	**20 30 35.7**	**-0.5**
USAK				*i* S	**Sg**	**20 30 42.5**	**+0.3**
USAK				IAML		20 30 43.0	
	comp=N,2μm,0.2s						
USAK				IAML		20 30 44.0	
	comp=E,1μm,0.2s						
DST	**Dursunbey**	**0.63**	**318**	PG	**Pb**	**20 30 40.2**	**+0.1**
DURS	**Dursunbey**	**0.71**	**311** *i*	P	**Pg**	**20 30 41.1**	**-0.1**
DURS				*i* S	**Sb**	**20 30 51.5**	**+0.4**
DURS				IAML		20 30 56.0	
	comp=N,512nm,0.4s						
DURS				IAML		20 30 56.0	
	comp=E,649nm,0.3s						
KULA	**Kula-Manisa**	**0.74**	**213**	PG	**Pb**	**20 30 42.2**	**+0.3**
ULDT	**Uludag**	**1.00**	**359** *i*	P	**Pn**	**20 30 47.5**	**+0.4**
ULDT				*i* S	**Sg**	**20 30 59.5**	**-0.6**
ULDT				IAML		20 31 04.0	
	comp=N,282nm,0.3s						
ULDT				IAML		20 31 04.0	
	comp=E,297nm,0.6s						

*ISK **02** 20:39:14.8,39.10N×29.17E,h6km,ML3.6/8*
*DDA **02** 20:39:15.9,39.13N×29.14E,h8km±2km,MW3.7*
*THE **02** 20:39:16.3,39.08N×29.13E,h2km±10km,Error ellipse:*
s-maj=10.9km s-min=1.9km az=100.0
ISC 02 20:39:15.9±0.9,**39.12N**±0.02×**29.13E**±0.02,**h13**km±8km,
n72,σ**1**s**10**/**98**,**15C-7D**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.28**	**96** *i*	P	**Pg**	**20 39 21.9**	**+0.1**
GDZ				*i* S	**Sg**	**20 39 25.4**	**-0.3**
GDZ				IAML		20 39 26.0	
	comp=N,3μm,0.3s						
USAK	**Uak-Merkez**	**0.41**	**192** *i*	P	**Pb**	**20 39 24.5**	**-0.6**
USAK				*i* S	**Sg**	**20 39 29.6**	**-0.1**
USAK				IAML		20 39 31.0	
	comp=N,2μm,0.2s						
USAK				IAML		20 39 32.0	
	comp=E,3μm,0.4s						
DST	**Dursunbey**	**0.62**	**321**	PG	**Pg**	**20 39 28.2**	**0.0**
DST				SG	**Sg**	**20 39 36.2**	**-0.2**
DURS	**Dursunbey**	**0.70**	**314** *i*	P	**Pg**	**20 39 29.4**	**-0.1**
KULA	**Kula-Manisa**	**0.71**	**211**	P	**Pg**	**20 39 29.7**	**+0.1**
KULA				S	**Sg**	**20 39 38.6**	**-0.3**
KULA	**Kula-Manisa**	**0.71**	**211**	PG	**Pg**	**20 39 29.1**	**-0.5**
ANDZ	**Kutahya, Merke**	**0.71**	**57** *i*	P	**Pg**	**20 39 29.5**	**-0.3**
ANDZ				*i* S	**Sg**	**20 39 39.3**	**+0.1**
ANDZ				IAML		20 39 44.0	
	comp=N,2μm,0.2s						
ANDZ				IAML		20 39 44.0	
	comp=E,2μm,0.2s						
MANT	**Manisa**	**0.77**	**216** *i*	P	**Pg**	**20 39 30.9**	**0.0**
MANT				*i* S	**Sg**	**20 39 39.9**	**-1.1**
PASA	**Karahalli, USA**	**0.82**	**160** *i*	P	**Pb**	**20 39 32.1**	**0.0**
PASA				*i* S	**Sg**	**20 39 42.3**	**-0.2**
PASA				IAML		20 39 47.0	
	comp=N,840nm,0.4s						
PASA				IAML		20 39 47.0	
	comp=E,1μm,0.4s						
KHL	**Karahalli**	**0.85**	**159**	PG	**Pg**	**20 39 30.9**	**-1.5**
KHL				SG	**Sg**	**20 39 42.8**	**-0.8**
AFYO	**Afyonkarahisar**	**0.97**	**110** *i*	P	**Pn**	**20 39 35.9**	**+0.6**
AFYO				*i* S	**Sg**	**20 39 47.0**	**-0.3**
AFYO				IAML		20 39 52.0	
	comp=N,1μm,0.5s						
AFYO				IAML		20 39 52.0	
	comp=E,1μm,0.4s						
ULDT	**Uludag**	**1.02**	**0** *i*	P	**Pg**	**20 39 35.2**	**-0.4**
ULDT				*i* S	**Sg**	**20 39 47.2**	**-1.9**
ULDT				IAML		20 39 52.0	
	comp=N,846nm,0.2s						
ULDT				IAML		20 39 52.0	
	comp=E,1μm,0.8s						
GOMA	**Golmarmara-Man**	**1.03**	**247**	PG	**Pg**	**20 39 35.5**	**-0.3**
GOMA				SG	**Sb**	**20 39 49.9**	**+0.9**
AKS	**Akhisar**	**1.05**	**257**	PG	**Pg**	**20 39 36.2**	**0.0**
AUBOZ	**BOZOYUK**	**1.06**	**41**	PG	**Pg**	**20 39 35.9**	**-0.4**
AUBOZ				SG	**Sg**	**20 39 50.1**	**0.0**
STEP	**BALIKESIR_Sava**	**1.12**	**284** *i*	P	**Pb**	**20 39 38.0**	**+0.8**
STEP				*i* S	**Sg**	**20 39 51.0**	**-1.3**
STEP				IAML		20 39 56.0	
	comp=N,1μm,0.6s						
STEP				IAML		20 39 58.0	
	comp=E,701nm,0.6s						
IGD	**Bursa**	**1.15**	**3** *i*	P	**Pg**	**20 39 37.4**	**-0.6**
IGD				*i* S	**Sg**	**20 39 51.6**	**-1.4**
IGD				IAML		20 39 55.0	
	comp=E,529nm,0.4s						
IGD				IAML		20 39 58.0	
	comp=N,654nm,0.4s						
KZIL	**AFYON_Kizioren**	**1.17**	**137** *i*	P	**Pn**	**20 39 38.6**	**+0.6**
KZIL				*i* S	**Sn**	**20 39 54.3**	**+0.4**
KZIL				IAML		20 39 57.0	
	comp=N,476nm,0.5s						
BILE	**Bilecik/Merkez**	**1.19**	**29** *i*	P	**Pg**	**20 39 38.5**	**-0.3**
BILE				*i* S	**Sg**	**20 39 53.3**	**-1.1**
BILE				IAML		20 39 57.0	
	comp=E,706nm,0.5s						
BILE				IAML		20 40 01.0	
	comp=N,967nm,0.4s						
CAVI	**Cavuskoy**	**1.21**	**27**	PN	**Pg**	**20 39 38.4**	**-0.9**
BORA	**Eskisehir**	**1.28**	**53**	PN	**Pn**	**20 39 38.9**	**-0.6**
KCTX	**Karacabey (Bur**	**1.29**	**333**	PN	**Pn**	**20 39 39.9**	**+0.3**
SGAZ	**Eskisehir, Sey**	**1.39**	**72** *i*	P	**Pn**	**20 39 41.7**	**+0.7**
SGAZ				*i* S	**Sb**	**20 40 00.1**	**+0.7**
ESKT	**Eskisehir**	**1.39**	**73**	PN	**Pn**	**20 39 41.1**	**-0.1**
BASM	**Basmaki-Afyon**	**1.40**	**149**	PN	**Pn**	**20 39 41.2**	**0.0**
GONE	**Gonen-Balikesi**	**1.45**	**310**	PN	**Pn**	**20 39 42.6**	**+0.8**
ARMT	**Armutlu**	**1.46**	**352**	PN	**Pn**	**20 39 42.6**	**+0.6**
GPA	**Golpazari**	**1.48**	**38**	PN	**Pn**	**20 39 42.5**	**+0.2**
TRML	**Termal-Yalova**	**1.49**	**1**	PN	**Pn**	**20 39 42.3**	**0.0**
BRDR	**BURDUR-Merkez**	**1.60**	**152** *i*	P	**Pn**	**20 39 44.3**	**+0.4**
BRDR				*i* S	**Sg**	**20 40 09.4**	**+2.1**
BRDR				IAML		20 40 13.0	
	comp=E,392nm,0.6s						
BRDR				IAML		20 40 16.0	
	comp=N,488nm,0.5s						
ZEDA	**zmir-Bergama**	**1.60**	**265** *i*	P	**Pg**	**20 39 46.4**	**-0.4**
ZEDA				*i* S	**Sn**	**20 40 05.0**	**+0.5**
GEYV	**SAKARYA_Geyve**	**1.63**	**33** *i*	P	**Pb**	**20 39 46.9**	**+1.0**
GEYV				*i* S	**Sn**	**20 40 06.9**	**+1.7**
GEYV				IAML		20 40 17.0	
	comp=N,664nm,0.4s						
BUHA	**Balikesir, Bur**	**1.64**	**284** *i*	P	**Pn**	**20 39 45.3**	**+0.9**
BUHA				*i* S	**Sn**	**20 40 05.8**	**+0.6**
BUHA				IAML		20 40 14.0	
	comp=E,311nm,0.9s						
TAVA	**DENIZLI_Tavas**	**1.66**	**186** *i*	P	**Pb**	**20 39 46.9**	**+0.6**
TAVA				*i* S	**Sg**	**20 40 08.4**	**-0.9**
KNL	**Balıkesir**	**1.69**	**313** *i*	P	**Pn**	**20 39 45.6**	**+0.5**
KNL				*i* S	**Sn**	**20 40 07.2**	**+0.6**
KNL				IAML		20 40 11.0	
	comp=N,880nm,0.5s						
KNL				IAML		20 40 12.0	
	comp=E,691nm,0.5s						
ISP	**Isparta**	**1.69**	**139**	PN	**Pn**	**20 39 45.1**	**-0.2**
YVAC	**Isparta, Yalva**	**1.86**	**116** *i*	P	**Pn**	**20 39 48.4**	**+0.9**
YVAC				*i* S	**Sb**	**20 40 13.2**	**+0.3**
ISK	**Istanbul-Kandi**	**1.94**	**358**	P	**Pn**	**20 39 48.4**	**-0.2**
SAHE	**Sakarya_HENDEK**	**2.18**	**37** *i*	P	**Pb**	**20 39 56.8**	**+1.5**
SAHE				*i* S	**Sn**	**20 40 21.8**	**+3.1**
SAHE				IAML		20 40 29.0	
	comp=E,208nm,0.6s						
SAHE				IAML		20 40 32.0	
	comp=N,205nm,0.6s						
PRK	**Paraskevi**	**2.22**	**274**	P	**Pn**	**20 39 54.3**	**+1.9**
DOGA	**KONYA_Doganhis**	**2.23**	**116** *i*	P	**Pn**	**20 39 53.7**	**+1.0**
DOGA				*i* S	**Sn**	**20 40 18.7**	**-1.5**
SMG	**Samos**	**2.29**	**233**	P	**Pn**	**20 39 53.0**	**-0.3**
FETY	**Fethiye**	**2.48**	**181**	P	**Pn**	**20 39 56.7**	**+0.7**
CHOS	**Chios island**	**2.51**	**254**	P	**Pn**	**20 39 56.9**	**+0.4**
GADA	**Gukgeada**	**2.71**	**294**	P	**Pn**	**20 40 00.3**	**+1.1**
ENEZ	**Enez**	**2.80**	**306**	P	**Pn**	**20 40 00.9**	**+0.5**
SMTH	**Samothraki Isl**	**3.08**	**297**	P	**Pn**	**20 40 05.1**	**+0.8**
LIA	**Limnos Island**	**3.15**	**286**	P	**Pn**	**20 40 06.1**	**+1.0**
EDRB	**Edirne**	**3.28**	**327**	P	**Pn**	**20 40 07.5**	**+0.6**
RDO	**Rodhopi**	**3.42**	**307**	P	**Pn**	**20 40 09.8**	**+1.0**
APE	**Apeiranthos**	**3.50**	**235** ⇑P		**Pg**	**20 40 23.0**	**0.0**
KALB	**Balgarevo**	**4.32**	**353** ⇑P		**Pn**	**20 40 22.0**	**+0.8**
KALB	**Balgarevo**	**4.32**	**353** ⇓S		**Sn**	**20 41 07.9**	**-3.5**
TIRR	**Tirgusor**	**5.36**	**355** ⇑P		**Pn**	**20 40 36.2**	**+0.6**
VTS	**Vitosha**	**5.67**	**310** ⇑P		**Pn**	**20 40 41.3**	**+1.3**
TPGR	**Topolog**	**5.76**	**355** ⇑P		**Pn**	**20 40 41.5**	**+0.4**
TLCR		**6.07**	**358** ⇑P		**Pn**	**20 40 45.8**	**+0.6**
CFR	**Carcaliu**	**6.10**	**353** ⇓P		**Pn**	**20 40 45.8**	**+0.1**
MLR	**Muntele Rosu**	**6.79**	**341** ⇑P		**Pn**	**20 40 56.9**	**+1.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PLOR	Plostina	6.97	346	⇑P	Pn	20 40 59.8	+2.1
VRI	Vrincioaia	6.97	346	⇑P	Pn	20 40 59.2	+1.5
VOIR		7.00	336	⇓P	Pn	20 40 59.4	+1.2
COVR	Voineasa-Covas	7.06	343	⇓P	Pn	20 41 01.0	+2.1
ARR	Arges	7.08	333	⇑P	Pn	20 41 00.3	+1.1
DOPR	Dopca	7.38	339	⇑P	Pn	20 41 04.8	+1.5
HERR	Herculane	7.62	321	⇑P	Pn	20 41 06.3	-0.3
HERR	Herculane	7.62	321	⇓S	Sn	20 42 29.4	-3.4
GZR	Gura Zlata	7.84	325	⇓P	Pn	20 41 09.6	0.0
GZR	Gura Zlata	7.84	325	⇑S	Sn	20 42 35.1	-3.1
MDVR	Moldovita	7.91	318	⇑P	Pn	20 41 10.9	+0.4
BIZ	Bicaz	8.12	345	⇓P	Pn	20 41 13.9	+0.4
BURAR	Bucovina Array	8.96	343	⇑P	Pn	20 41 26.6	+1.7

MEX 02 20:41:40.4±0.5**, 18.°21N×103.°73W, h10**km**, MD3.8, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.38	77	*i* P	Pg	20 41 47.3	-0.5
MMIG				*i* S	Sg	20 41 53.0	+0.1
COIG	Colima	0.97	2	*i* P	Pg	20 41 56.3	-2.8
COIG				*i* S	Sg	20 42 08.4	-3.4
R15V		0.99	346	*e*P	Pg	20 41 56.5	-3.0
R15V				*e*S	Sg	20 42 08.9	-3.4
EZ5V		1.27	6	*e*P	Pn	20 42 00.9	-3.6
EZ5V				*e*S	Sb	20 42 17.4	-3.9
CJM	Chamela	1.79	316	*e*P	Pn	20 42 07.4	-3.9
CJM				*e*S	Sn	20 42 27.9	-6.3

*SOME **02** 21:09:44.3, 37.°13N×68.°48E, h5km, MS3.9*
*IDC **02** 21:09:47.6±0.8, 37.°14N×68.°43E, h0km, mb3.9/14, mb1 4.0/19, mb1mx3.8/60, mbtmp3.9/19, ML3.6/6, MS3.2/4, Ms1 3.2/4, ms1mx2.7/51, Error ellipse: s-maj=16.0km s-min=13.1km az=2.0*
*MOS **02** 21:09:49.9±1.4, 37.°43N×68.°39E, h17km, mb4.1/9, Error ellipse: s-maj=7.1km s-min=5.3km az=79.2*
*BJI **02** 21:09:49.3±0.0, 37.°44N×68.°08E, h29km, mB4.6/11, mb4.0/16, ML4.1/1, Ms3.9/8, Ms7 3.6/7*
*NEIC **02** 21:09:50.5±2.5, 37.°43N±0.°04×68.°38E±0.°05, h10km±1km, mb4.2/21, Error ellipse: s-maj=7.3km s-min=6.4km az=206.0*
*NNC **02** 21:09:51.1±1.3, 37.°61N×68.°06E, h0km, mb4.5, mpv4.3, Error ellipse: s-maj=15.4km s-min=6.5km az=156.0*
ISC 02 21:09:49.7±0.4**, 37.°34N**±0.°04×**68.°36E**±0.°04**, h10**km**, n147, σ2.s16**/160**, mb4.1**/24**, 18C-9D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGR	Chuyangaron	1.46	25		Pb	21 10 16.5	-0.4
CHGR					Sg	21 10 35.5	-1.1
GAR	Garm	2.26	42		Pn	21 10 28.6	+1.3
KBL	Kabul	2.85	169	PN	Pn	21 10 38.7	+3.3
KBL	Kabul	2.85	169		Pn	21 10 38.6	+3.3
DRK	Karamyk	3.44	51		Pn	21 10 44.4	+0.7
TAS	Tashkent	4.04	10	PN	Pn	21 10 51.4	-0.3
TAS	Tashkent	4.04	10	Pn	Pn	21 10 51.4	-0.3
CEP	Cherat	4.54	139	P	Pn	21 11 03.9	+5.2
CEP				S	Sb	21 12 01.0	-3.5
IUG	Iuzhnay	4.97	14	*e*P	Pg	21 11 21.3	-3.5
	348nm,0.4s						
IUG				*e*S	Sg	21 12 32.6	+3.4
	222nm,1.0s						
CHM	Chimkent	5.06	10	*e*P	Pg	21 11 23.1	-3.6
	31nm,0.3s						
CHM				*e*S	Sg	21 12 35.2	+3.0
	232nm,0.8s						
THW	Thamme Wali	5.32	148	P	Pn	21 11 11.3	+2.2
NIL	Nilore	5.43	131	PN	Pn	21 11 13.8	+3.1
NIL	Nilore	5.43	131	Pn	Pn	21 11 13.8	+3.1
CHCP	Chirah Chowk	5.43	131	P	Pn	21 11 14.1	+3.4
HRA	Herat	5.78	241		Pn	21 11 18.2	+2.6
BRLS	Borolday	5.79	11	*e*P	Pb	21 11 32.1	+1.3
	2.0nm,0.1s						
BRLS				*e*S	Sg	21 12 50.4	-5.2
	39nm,0.4s						
KK31	Karatay Array	5.99	15	⇑Pn	Pn	21 11 19.6	+1.2
	1.4nm,0.3s,baz=176,slow=8.6,SNR=38						
KK31				⇑Pg	Pb	21 11 37.7	+3.6
	9.7nm,0.6s,baz=191,slow=17,SNR=6.7						
KK31				⇑Sn	Sn	21 12 25.8	-1.1
	8.4nm,0.5s,baz=220,slow=25,SNR=2.7						
KK31				⇓Lg	Lg	21 12 55.4	
	89nm,1.1s,baz=201,slow=27,SNR=5.3						
KK31	Karatay Array	5.99	15	PN	Pn	21 11 19.2	+0.8
KK31	Karatay Array	5.99	15	Pn	Pn	21 11 19.2	+0.8
KKAR	Karatay Array	5.99	15	PN	Pn	21 11 18.7	+0.3
KKAR	Karatay Array	5.99	15	Pn	Pn	21 11 19.2	+0.8
KKAR	Karatay Array	5.99	15		Pn	21 11 18.7	+0.3
DZA	Taraz	5.99	21	*e*P	Pg	21 11 40.5	-3.9
	29nm,0.4s						
DZA				*e*S	Sg	21 13 05.3	+3.3
	119nm,0.9s						
KSH	Kashi	6.36	68	Pn	Pn	21 11 21.8	-1.7
KSH				Sn	Sn	21 12 30.4	-5.9
KSH				smax	smax		
	comp=N,140nm,1.0s						
KSH				smax	smax		
	comp=E,100nm,0.8s						
KSH				LR	LR		
	comp=N,450nm,4.0s						
KSH				LR	LR		
	comp=E,610nm,3.8s						
MRKS	Merke	6.56	33	*e*P	Pg	21 11 49.0	-6.3
	7.2nm,0.4s						
MRKS				*e*S	Sg	21 13 19.7	-0.6
	36nm,0.6s						
EKS2	Erkin-Say	6.75	36	P	Pn	21 11 31.7	+2.9
	SNR=13						
AAK	Ala-Archa	7.08	40	Pn	Pn	21 11 35.3	+1.8
	3.4nm,0.3s,baz=214,slow=6.6,SNR=20						
AAK				Sn	Sn	21 13 01.7	+7.6
	0.4nm,0.3s,baz=338,slow=21,SNR=2.2						
AAK				LR	LR	21 14 55.1	
	comp=Z,114nm,19.1s,baz=233,slow=43						
AAK	Ala-Archa	7.08	40	P	Pn	21 11 36.4	+2.9
	SNR=26						
AAK	Ala-Archa	7.08	40	⇑Pn	Pn	21 11 36.0	+2.6
	21nm,0.7s						
AAK				⇓Pg	Pg	21 11 59.2	-6.0
	18nm,0.8s						
AAK				⇑Sn	Sn	21 12 60.0	+5.9
	28nm,1.1s						
AAK				⇑Lg	Lg	21 13 33.6	
	36nm,1.1s						
AAK	Ala-Archa	7.08	40	*ce*PN	Pn	21 11 36.1	+2.6
AAK				pmax	pmax		
	comp=Z,76nm,0.8s						
AAK	Ala-Archa	7.08	40	Pn	Pn	21 11 34.4	+0.9
KZA	Kyzart	7.11	46	P	Pn	21 11 36.3	+2.2
	SNR=35						
FRU1	Bishkek	7.28	39	P	Pn	21 11 35.9	-0.2
FRU1	Bishkek	7.28	39		Pn	21 11 35.9	-0.2
KBK	Karagaybulak	7.33	42	P	Pn	21 11 40.5	+3.6
	SNR=26						
CHMS	Chumysh	7.47	39	P	Pn	21 11 40.6	+1.8
	SNR=17						
USP	Ospenovka	7.55	36	P	Pn	21 11 41.9	+2.1
	SNR=9.5						
BOOM	Boomskoye usch	7.77	46	P	Pn	21 11 43.1	+0.2
BOOM	Boomskoye usch	7.77	46	Pn	Pn	21 11 43.1	+0.2
ULHL	Ulahol	7.80	49	P	Pn	21 11 44.9	+1.6
	SNR=10						
TKM2	Tokmak 2	7.86	43	P	Pn	21 11 45.9	+1.7
	SNR=54						
TKM2	Tokmak 2	7.86	43	⇓Pn	Pn	21 11 45.5	+1.3
	comp=Z,23nm,0.5s						
TKM2				⇓Sn	Sn	21 13 16.2	+2.9
	comp=Z,11nm,0.6s						
TKM2				⇑Lg	Lg	21 13 58.1	
	comp=Z,25nm,0.9s						
TKM2	Tokmak 2	7.86	43	P	Pn	21 11 45.5	+1.3
TKM2				S	Sn	21 13 16.2	+2.9
GEYT	Alibeck	8.15	277	Pn	Pn	21 11 46.6	-1.5
	comp=Z,1.2nm,0.3s,baz=145,slow=9.9,SNR=13						
GEYT				Sn	Sn	21 13 20.7	+0.4
	comp=Z,1.4nm,0.3s,baz=80,slow=25,SNR=6.8						
GEYT				LR	LR	21 15 59.2	
	comp=Z,66nm,20.3s,baz=60,slow=45						
GYA0	ALIBECK ARRAY	8.15	277	P	Pn	21 11 47.2	-0.9
GYA0				S	Sn	21 13 18.3	-2.0
GYA0B	ALIBECK ARRAY	8.15	277	⇓Pn	Pn	21 11 47.2	-0.9
GYA0B				⇓Sn	Sn	21 13 18.3	-2.0
GYA0B	ALIBECK ARRAY	8.15	277	Pn	Pn	21 11 48.2	+0.1
DHRM	DHARAMSHALA	8.27	126	*e*P	Pn	21 11 50.5	+0.7
DHRM				*e*S	Sn	21 13 24.7	+1.3
DHRM				IAML		21 13 37.1	
	comp=E,60nm,0.9s						
DHRM				IAML		21 13 50.6	
	comp=N,75nm,1.3s						
MDOK	Medeo	8.82	46	⇓Pn	Pn	21 11 59.8	+2.4
	comp=N,41nm,1.0s						
MDOK				⇑Lg	Lg	21 14 32.1	
	comp=N,32nm,1.1s						
MDOK	Medeo	8.82	46	P	Pn	21 11 59.8	+2.4
SMLA	Simla	9.56	128	*e*P	Pn	21 12 08.3	+0.9
SMLA				*e*S	Sn	21 13 53.4	-1.5
SMLA				IAML		21 14 00.3	
	comp=E,26nm,0.6s						
SMLA				IAML		21 14 05.8	
	comp=N,16nm,1.6s						
PDGK	Podgornoye	10.38	51	⇓Pn	Pn	21 12 19.8	+1.0
	comp=N,5.1nm,0.9s						
PDGK				⇑Lg	Lg	21 15 19.5	
	comp=N,9.7nm,1.0s						
PDGK	Podgornoye	10.38	51	P	Pn	21 12 19.8	+1.0
AB31	Akbulak array	13.38	336	Pn	Pn	21 12 57.2	-2.4
	comp=N,1.9nm,0.5s,baz=151,slow=12,SNR=40						
AB31				⇓Sn	Sn	21 15 23.8	-4.5
	comp=N,5.1nm,0.8s						
AB31	Akbulak array	13.38	336	P	Pn	21 12 57.2	-2.4
AB31				S	Sn	21 15 23.8	-4.5
ABKAR	Akbulak array	13.38	336	Pn	Pn	21 12 57.3	-2.2
ABKAR	Akbulak array	13.38	336		Pn	21 12 57.4	-2.2
MK31	Makanchi Array	13.99	43	P	Pn	21 13 06.7	-1.2
MK31	Makanchi Array	13.99	43	Pn	Pn	21 13 06.7	-1.2
MKAR	Makanchi Array	13.99	43	Pn	Pn	21 13 05.5	-2.5
	comp=N,0.1nm,0.3s,baz=229,slow=13,SNR=13						
MKAR	Makanchi Array	13.99	43	*i* P	Pn	21 13 09.0	+1.1
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AKTO	Aktyubinsk	15.04	334	Pn	Pn	21 13 21.3	-1.0
	comp=Z,0.2nm,0.3s,baz=129,slow=14,SNR=5.8						
KURBB	Kurchatov Arra	15.14	26	Pn	Pn	21 13 21.5	-2.0
	comp=Z,0.1nm,0.3s,baz=214,slow=12,SNR=6.7						
KURK	Kurchatov	15.25	25	P	Pn	21 13 21.5	-3.4
PYUN	Piuthan	15.36	123	*e*P	Pn	21 13 25.3	-1.4
DANN	Dangsing	15.73	120	*e*P	Pn	21 13 29.9	-1.7
BVAR	Borovoye Array	15.75	5	Pn	Pn	21 13 29.3	-2.1
	comp=Z,0.4nm,0.3s,baz=193,slow=17,SNR=18						
BRVK	Borovoye	15.78	4	*i* P	Pn	21 13 31.5	-0.3
BRVK				pmax	pmax		
	comp=Z,17nm,0.7s						
BRVK	Borovoye	15.78	4	Pn	Pn	21 13 29.8	-2.0
BRVK				IAmb	IAmb	21 13 39.3	
	comp=Z,16nm,0.7s						
KOLN	Koldanda	15.98	122	*e*P	Pn	21 13 34.0	-0.8
WMQ	Urumqi	16.04	60	*e*P	P	21 13 39.6	+0.9
WMQ				pP	sP	21 13 45.3	+2.3
WMQ				pmax	pmax		
	comp=Z,25nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,140nm,5.3s						
WMQ				LR	LR		
	comp=Z,200nm,5.3s						
WMQ				LR	LR		
	comp=Z,220nm,6.5s						
WMQ				LR	LR		
	comp=Z,52nm,11.7s						
BHPL	Bhopal	16.07	148	*e*P	P	21 13 40.0	+0.8
GKN	Gorkha	16.55	120	*e*P	Pn	21 13 40.4	-1.6
	comp=Z,28nm,0.5s						
DMN	Daman	17.12	120	*e*P	Pn	21 13 47.5	-1.8
KKN	Kakani	17.13	119	*e*P	Pn	21 13 47.8	-1.6
	comp=Z,45nm,0.6s						
PKIN	Phulchoki	17.34	119	*e*P	Pn	21 13 49.8	-2.3
PKI	Pulchoki	17.35	119	*e*P	Pn	21 13 50.6	-1.7
	comp=Z,61nm,0.8s						
JIRN	Jiri	17.84	118	*e*P	Pn	21 13 56.1	-2.3
GROC	Groznyy	18.16	296	*e*P	P	21 14 03.1	+0.9
GROC				*e*S	S	21 17 30.0	-0.1
GROC				pmax	pmax		
	comp=Z,13nm,0.7s						
DGZ	Jazzator, Alta	18.48	42	*i* P	Pn	21 14 04.7	-1.2
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
RAMN	Ramite	18.57	119	*e*P	P	21 14 05.6	-1.4
	comp=Z,31nm,0.6s						
GNI	Garni	18.63	286	*ce*P	Pn	21 14 09.3	+1.5
GNI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GNI	Garni	18.63	286	P	P	21 14 07.0	-0.5
ONI	Oni	19.77	293	P	P	21 14 19.6	-0.3
ONI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ONI	Oni	19.77	293	P	P	21 14 19.6	-0.3
ZAA0	Zalesovo Array	20.12	29	P	P	21 14 22.1	-1.4
ZALV	Zalesovo Beam	20.12	29	P	P	21 14 22.8	-0.7
	comp=Z,1.9nm,0.4s,baz=227,slow=11,SNR=8.3						
ZALV	Zalesovo Beam	20.12	29	*i* P	P	21 14 23.2	-0.3
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZALV	Zalesovo Beam	20.12	29	P	P	21 14 22.7	-0.9
SVE	Sverdlovsk	20.17	348	*e*P	Pn	21 14 25.1	-0.8
ARU	Arti	20.20	344	P	Pn	21 14 25.8	-0.4
	comp=Z,0.6nm,0.4s,baz=168,slow=17,SNR=5.1						
ARU	Arti	20.20	344*c*	*i*P	P	21 14 24.6	+0.2
ARU						21 14 39.1	
ARU				S	S	21 18 09.8	-1.0
ARU				pmax	pmax		
	comp=Z,9.0nm,1.4s						
ARU	Arti	20.20	344		P	21 14 24.1	-0.3
ARU				IAmb	IAmb	21 14 32.1	
	comp=Z,6.0nm,0.9s						
PYA1	Pyatigorsk	20.25	297	*i* P	Pn	21 14 28.3	+1.2
KBZ	Khabaz	20.34	296	P	Pn	21 14 28.4	+0.5
	comp=Z,1.5nm,0.6s,baz=198,slow=4.7,SNR=5.3						
KBZ	Khabaz	20.34	296	*i* P	Pn	21 14 29.0	+1.0
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
LSA	Lhasa	20.44	105	P	P	21 14 26.7	-1.0
LSA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LSA	Lhasa	20.44	105	P	P	21 14 26.7	-1.0
SHA1	Shidzhatmaz	20.51	296	*i* P	Pn	21 14 29.9	-0.4
KIV	Kislovodsk	20.52	297	*ce*P	Pn	21 14 29.9	-0.4
KIV				*i*		21 14 47.0	
KIV				*e*S	S	21 18 19.6	+1.9
KIV				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KIV	Kislovodsk	20.52	297		P	21 14 27.3	-0.8
KIV				IAmb	IAmb	21 14 33.4	
	comp=Z,5.8nm,0.7s						
BELG	Belogornoye	20.93	323	P	P	21 14 33.3	+1.1
	comp=Z,46nm,1.1s,baz=67,slow=3.2,SNR=7.1						
BELG	Belogornoye	20.93	323	*i* P	Pn	21 14 35.2	+0.4
KOPT	Kop Dagi	21.88	286	P	P	21 14 43.4	+0.4
KOPT				IAmb	IAmb	21 15 07.6	
	comp=Z,7.2nm,1.0s						
MARD	Mardin	21.91	278	P	P	21 14 42.0	-1.2
MARD				IAmb	IAmb	21 14 48.7	
	comp=Z,10nm,1.4s						
SHL	Shillong	23.18	114	P	P	21 14 55.4	-1.3
SHL				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SHL	Shillong	23.18	114	P	P	21 14 55.4	-1.3
SHL				IAmb	IAmb	21 15 19.7	
	comp=Z,9.6nm,0.9s						
VRH	Novokhopyorsk	23.41	315	*e*P	P	21 15 04.1	+5.5
VRH				pmax	pmax		
	comp=Z,20nm,0.8s						
ANN	Anapa	24.38	298	*e*P	P	21 15 09.7	+1.9
ANN				*e*S	S	21 19 32.6	+5.4
ANN				pmax	pmax		
	comp=Z,32nm,0.9s						
KIRV	Kirov	24.59	336	*ce*P	P	21 15 12.9	+3.3
GTA	Gaotai	24.68	75	*e*P	P	21 15 11.8	+0.9
GTA				pP	sP	21 15 16.5	+1.1
GTA				sP	pP	21 15 19.3	+5.3
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GAZ	Gaziantep	24.74	279	P	P	21 15 11.4	0.0
GAZ				IAmb	IAmb	21 15 15.1	
	comp=Z,9.0nm,1.1s						
BRDH	Bariadhala	24.81	120	LR	LR	21 26 50.1	
	comp=Z,191nm,19.1s,baz=255,slow=42						
OBN	Obninsk	27.93	320	*e*P	P	21 15 43.2	+3.4
OBN				pmax	pmax		
	comp=Z,7.0nm,1.4s						
ZAK	Zakamensk	28.07	51	*e*P	P	21 15 42.4	+1.1
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.6s						
SONM	Songino Array	29.63	57	P	P	21 15 55.5	+0.4
	comp=Z,0.7nm,0.9s,baz=254,slow=9.9,SNR=5.1						
SONM	Songino Array	29.63	57	P	P	21 15 55.6	+0.4
SONM				pmax	pmax		
	comp=Z,2.0nm,1.2s						
SONM	Songino Array	29.63	57	IAmb	IAmb	21 16 03.6	
	comp=Z,2.0nm,1.2s						
ULN	Ulaanbaatar	30.07	57	*ce*P	P	21 16 02.3	+3.1
ULN				pmax	pmax		
	comp=Z,7.0nm,2.5s						
ULN	Ulaanbaatar	30.07	57	P	P	21 15 59.9	+0.7
ULN				IAmb	IAmb	21 16 06.9	
	comp=Z,3.7nm,1.2s						
AKASG	Malin Array Be	30.77	308	P	P	21 16 06.0	+0.9
	comp=Z,0.2nm,0.3s,baz=88,slow=8.0,SNR=4.6						
CHTO	Chiang Mai	32.48	116	P	P	21 16 21.2	+0.7
CHTO				pmax	pmax		
	comp=Z,3.0nm,1.2s						
CHTO	Chiang Mai	32.48	116	P	P	21 16 21.2	+0.7
CHTO				IAmb	IAmb	21 16 35.6	
	comp=Z,3.2nm,1.1s						
CM31	Chiang Mai Arr	32.72	117	P	P	21 16 22.2	-0.3
CMAR	Chiang Mai Arr	32.72	117	P	P	21 16 22.6	+0.1
	comp=Z,1.9nm,0.8s,baz=298,slow=8.3,SNR=11						
CMAR	Chiang Mai Arr	32.72	117	*ce*P	P	21 16 23.2	+0.7
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR	Chiang Mai Arr	32.72	117	P	P	21 16 22.1	-0.4
HHC	Hu-ho-hao-te	33.46	70	*e*P	P	21 16 28.9	-0.1
HHC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,42nm,4.1s						
DIVS	Divibare	36.84	296	P	P	21 16 57.7	-0.4
DIVS				IAmb	IAmb	21 17 01.2	
	comp=Z,5.5nm,1.4s						
ARCES	ARCESS Array B	39.57	338	P	P	21 17 21.5	+0.9
	comp=Z,4.9nm,1.0s,baz=123,slow=6.0,SNR=5.1						
ARCES	ARCESS Array B	39.57	338	P	P	21 17 20.5	-0.1
NOA	NORSAR Array B	42.44	323	P	P	21 17 46.4	+2.0
	comp=Z,0.7nm,0.7s,baz=97,slow=8.0,SNR=3.3						
YAK	Yakutsk	44.52	36	P	P	21 18 00.6	-0.4
KLR	Kul'dur	46.36	54	*ce*P	P	21 18 19.1	+3.3
KSRS	Korea Array	46.60	71	P	P	21 18 18.9	+1.0
	comp=Z,1.1nm,0.5s,baz=265,slow=7.0,SNR=5.5						
KSRS				LR	LR	21 39 11.4	
	comp=Z,41nm,19.3s,baz=339,slow=38						
TORD	Torodi Ar. Bea	63.64	267	P	P	21 20 21.3	0.0
	comp=Z,1.3nm,0.7s,baz=42,slow=5.7,SNR=7.8						
IMAR	Indian Mountai	72.00	17	P	P	21 21 12.8	-0.3
BMAR	Burnt Mountain	72.61	13	P	P	21 21 16.4	-0.5
K20K	Telida	74.11	18	P	P	21 21 25.8	+0.1
ILAR	Eielson Array	74.53	15	P	P	21 21 28.6	+0.5
	comp=Z,0.3nm,0.3s,baz=315,slow=3.6,SNR=6.8						
ILAR	Eielson Array	74.53	15	P	P	21 21 27.4	-0.7
SCM	Sheep Creek Mo	77.03	17	P	P	21 21 43.5	+0.9
SCM				pmax	pmax		
	comp=Z,7.0nm,1.2s						
SCM	Sheep Creek Mo	77.03	17	P	P	21 21 43.5	+0.9
BCAR	Beaver Creek A	77.06	14	P	P	21 21 43.4	+0.7
WRA	Warramunga Arr	84.23	120	P	P	21 22 19.1	-2.5
	comp=Z,0.7nm,0.8s,baz=311,slow=4.2,SNR=5.8						
WRA	Warramunga Arr	84.23	120	*ce*P	P	21 22 24.2	+2.6
ASAR	Alice Springs	86.47	123	P	P	21 22 30.5	-2.3
	comp=Z,1.2nm,1.0s,baz=318,slow=5.1,SNR=6.6						

IDC 02 21:30:01.7±9.1**, 2.°92N×127.°82E, h0**km**, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.5**/38**, mbtmp3.8**/3**, MS2.8**/1**, Ms1 2.8**/1**, ms1mx2.3**/46**, Error ellipse: s-maj=201.3km s-min=142.4km az=80.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.60	165	P	P	21 35 15.1	+0.6
	0.6nm,0.3s,baz=342,slow=10,SNR=19						
JOW	Kunigami	23.78	1	LR	LR	21 45 20.4	
	comp=Z,22nm,20.5s,baz=274,slow=39						
ASAR	Alice Springs	27.08	168	P	P	21 35 46.5	+0.1
	0.6nm,0.4s,baz=355,slow=8.0,SNR=18						
STKA	Stephens Creek	37.00	160	P	P	21 37 12.4	-0.8
	2.3nm,0.8s,baz=350,slow=6.1,SNR=5.7						

*JMA **02** 21:30:51.1±0.2, 24.°60N×122.°26E, h98km±3km, M3.1*
*TAP **02** 21:30:51.6, 24.°67N×122.°30E, h97km, ML3.6, B*
ISC 02 21:30:51.4±1.2**, 24.°67N**±0.°03×**122.°30E**±0.°02**, h98**km±6km**, n132, σ1.s07**/263**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		0.38	297	*e*P	Pn	21 31 06.6	+0.4
	baz=291						
EGS				*e*S	Sn	21 31 17.8	+0.5
	baz=291						
TWC	Suao	0.42	262	*i* P	Pn	21 31 06.5	0.0
	baz=261						
TWC				S	Sn	21 31 16.9	-0.8
	baz=261						
TWB1	Santiao Chiao	0.44	320	*i* P	Pn	21 31 06.7	+0.1
	baz=318						
TWB1				S	Sn	21 31 17.5	-0.5
	baz=318						
NTC	Toucheng	0.47	293	*e*P	Pn	21 31 06.8	0.0
	baz=293						
NTC				*e*S	Sn	21 31 17.9	-0.4
	baz=293						
ILA	Ilan	0.51	281	*e*P	Pn	21 31 07.6	+0.5
	baz=286						
ILA				*e*S	Sn	21 31 19.3	+0.5
	baz=286						
TIPB	Shuangxi	0.53	305	*i* P	Pn	21 31 07.5	+0.2
	baz=302						
TIPB				S	Sn	21 31 18.4	-0.8
	baz=302						
EWUT	Wuta	0.53	245	P	Pn	21 31 07.8	+0.6
	baz=245						
EWUT				*e*S	Sn	21 31 19.0	0.0
	baz=245						
NDS	Dongshan	0.53	266	*i* P	Pn	21 31 07.7	+0.4
	baz=266						
NDS				S	Sn	21 31 18.9	-0.3
	baz=266						
ENA	Nanau	0.56	245	P	Pn	21 31 08.0	+0.4
	baz=244						
ENA				*e*S	Sn	21 31 19.7	+0.1
	baz=244						
TWE	Neicheng	0.58	275	*i* P	Pn	21 31 08.1	+0.4
	baz=277						
TWE				S	Sn	21 31 19.8	0.0
	baz=277						
NWF	Wu-fen Shan	0.62	310	P	Pn	21 31 08.2	+0.2
	baz=303						
NWF				S	Sn	21 31 20.3	-0.2
	baz=303						
WFSB	Wu-fen Shan	0.62	310	P	Pn	21 31 08.2	+0.2
	baz=303						
WFSB				S	Sn	21 31 20.2	-0.2
	baz=303						
JYNG	Yonagunijimaku	0.63	110	P	Pn	21 31 08.2	+0.2
JYNG				S	Sn	21 31 20.2	-0.2
TNOU	National Taiwa	0.68	315	*e*P	Pn	21 31 07.4	-1.1
	baz=306						
TNOU				*e*S	Sn	21 31 19.6	-1.7
	baz=306						
YOJ	Yonaguni jima	0.68	108	P	Pn	21 31 08.7	+0.2
YOJ				S	Sn	21 31 20.9	-0.4
YOJ	Yonaguni jima	0.68	108	*i* P	Pn	21 31 08.7	+0.2
	baz=113						
YOJ				S	Sn	21 31 20.9	-0.4
	baz=113						
NDT	Datong Townshi	0.72	265	P	Pn	21 31 09.8	+0.9
	baz=264						
NDT				*e*S	Sn	21 31 22.8	+0.8
	baz=264						
TWA	Mucha	0.72	295	*i* P	Pn	21 31 08.9	0.0
	baz=290						
TWA				S	Sn	21 31 21.2	-0.8
	baz=290						
NHY	Taipei	0.76	299	*e*P	Pn	21 31 08.7	-0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=299						
NHY				eS	Sn	21 31 22.3	-0.3
	baz=299						
NHDH	Xindian Distri	0.76	293	P	Pn	21 31 09.5	+0.2
	baz=287						
NHDH				eS	Sn	21 31 21.7	-0.9
	baz=287						
TATO	Taipei	0.80	292	eP	Pn	21 31 09.3	-0.3
	baz=292						
TATO				S	Sn	21 31 22.0	-1.3
	baz=292						
ETL	Fush Village	0.80	231	P	Pn	21 31 09.6	-0.1
	baz=225						
ETL				eS	Sn	21 31 22.7	-0.7
	baz=225						
TAP	Taipei	0.81	297	P	Pn	21 31 09.8	+0.1
	baz=297						
TAP				eS	Sn	21 31 22.6	-0.8
	baz=297						
NACB	Ninganchiao	0.81	233	P	Pn	21 31 09.4	-0.4
	baz=227						
NACB				S	Sn	21 31 22.7	-0.9
	baz=227						
YM01	YM01	0.82	306	iP	Pn	21 31 09.9	+0.1
	baz=299						
YM01				S	Sn	21 31 23.1	-0.5
	baz=299						
YM08	YM08	0.83	309	iP	Pn	21 31 09.8	-0.1
	baz=301						
YM08				S	Sn	21 31 22.6	-1.2
	baz=301						
YHNB	Yeheng	0.84	270	iP	Pn	21 31 10.7	+0.5
	baz=277						
YHNB				S	Sn	21 31 24.4	+0.2
	baz=277						
BACT	New Taipei Cit	0.85	293	eP	Pn	21 31 10.3	+0.3
	baz=289						
NSK	Sanguang	0.86	271	P	Pn	21 31 10.8	+0.5
	baz=277						
NSK				S	Sn	21 31 24.6	+0.1
	baz=277						
TWD	Chiawan	0.87	228	P	Pn	21 31 10.1	-0.3
	baz=227						
TWD				S	Sn	21 31 24.0	-0.5
	baz=227						
ANP	Anpu	0.88	306	eP	Pn	21 31 10.6	+0.1
	baz=300						
ANP				eS	Sn	21 31 25.9	+1.1
	baz=300						
NNS	Nan Shan	0.88	255	P	Pn	21 31 11.1	+0.5
	baz=250						
NNS				S	Sn	21 31 25.1	+0.2
	baz=250						
TWY	Chenhua	0.88	314	eP	Pn	21 31 10.7	+0.3
	baz=306						
TWY				eS	Sn	21 31 24.6	0.0
	baz=306						
ETLH	Xiulin Townshi	0.88	238	P	Pn	21 31 10.7	+0.2
	baz=232						
ETLH				S	Sn	21 31 24.7	-0.2
	baz=232						
TWS1	Kuangyinshan	0.91	298	P	Pn	21 31 10.2	-0.5
	baz=304						
TWS1				eS	Sn	21 31 24.2	-1.0
	baz=304						
NTST	Danshui	0.92	303	eP	Pn	21 31 11.1	+0.3
	baz=302						
NTST				eS	Sn	21 31 25.2	-0.2
	baz=302						
HWA	Hwalien	0.94	223	eP	Pn	21 31 11.4	+0.3
	baz=222						
HWA				eS	Sn	21 31 26.6	+0.8
	baz=222						
NTY	Taoyuan	0.97	290	eP	Pn	21 31 11.7	+0.3
	baz=290						
NTY				eS	Sn	21 31 26.9	+0.5
	baz=290						
PCYT	Pengchaiyu	0.98	348	P	Pn	21 31 12.1	+0.6
	baz=341						
PCYT				eS	Sn	21 31 28.1	+1.5
	baz=341						
ETM	Tongmen	1.02	227	P	Pn	21 31 11.8	-0.1
	baz=236						
ETM				eS	Sn	21 31 26.4	-0.9
	baz=236						
TEYL	Yanliau Villag	1.02	219	P	Pn	21 31 12.0	0.0
	baz=211						
TEYL				eS	Sn	21 31 27.0	-0.4
	baz=211						
FUSS	Fushou	1.05	247	eP	Pn	21 31 13.3	+0.8
	baz=241						
FUSS				eS	Sn	21 31 28.4	0.0
	baz=241						
NCU	National Centr	1.06	287	eP	Pn	21 31 13.1	+0.8
	baz=278						
NCU				eS	Sn	21 31 29.0	+0.9
	baz=278						
NCUH	Zhongli	1.06	286	eP	Pn	21 31 13.0	+0.7
	baz=278						
NCUH				eS	Sn	21 31 28.9	+0.8
	baz=278						
WHF	Hehuan Shan	1.08	241	P	Pn	21 31 13.4	+0.4
	baz=235						
WHF				S	Sn	21 31 28.9	-0.4
	baz=235						
NJD	Zhudong	1.10	274	eP	Pn	21 31 12.6	-0.3
	baz=273						
NJD				eS	Sn	21 31 28.3	-0.7
	baz=273						
TWT	Tachien	1.11	248	eP	Pn	21 31 14.3	+1.2
	baz=242						
TWT				eS	Sn	21 31 29.9	+0.5
	baz=242						
TDCB	Techi	1.12	248	eP	Pn	21 31 14.2	+1.0
	baz=242						
TDCB				eS	Sn	21 31 29.8	+0.1
	baz=242						
ESL	Shilin	1.17	223	eP	Pn	21 31 13.1	-0.5
	baz=230						
ESL				eS	Sn	21 31 28.8	-1.5
	baz=230						
LIOB	Emei	1.17	269	eP	Pn	21 31 14.3	+0.6
	baz=269						
LIOB				eS	Sn	21 31 30.6	+0.2
	baz=269						
HSN1	Hsinchu	1.17	275	eP	Pn	21 31 14.5	+0.9
	baz=275						
HSN1				eS	Sn	21 31 31.3	+0.9
	baz=275						
NSTT	Nanjuang	1.18	268	P	Pn	21 31 14.2	+0.4
	baz=268						
NSTT				S	Sn	21 31 30.9	+0.3
	baz=268						
TEGC	Jichi Village	1.18	216	eP	Pn	21 31 14.1	+0.2
	baz=207						
TEGC				eS	Sn	21 31 30.6	0.0
	baz=207						
NHW	Xinwu Township	1.19	287	eP	Pn	21 31 14.6	+0.8
	baz=282						
NHW				S	Sn	21 31 31.8	+1.1
	baz=282						
CHGB	Renai	1.20	240	P	Pn	21 31 14.9	+0.7
	baz=233						
CHGB				S	Sn	21 31 31.2	-0.1
	baz=233						
SBCB	Hsinchu	1.20	276	eP	Pn	21 31 14.7	+0.7
	baz=276						
SBCB				eS	Sn	21 31 31.2	+0.2
	baz=276						
OWD	Renai	1.25	235	eP	Pn	21 31 15.2	+0.5
	baz=230						
OWD				eS	Sn	21 31 32.2	-0.1
	baz=230						
EGFH	Guangfu	1.28	219	eP	Pn	21 31 14.6	-0.4
	baz=227						
EGFH				eS	Sn	21 31 31.5	-1.2
	baz=227						
WHP	Taichung City	1.30	253	eP	Pn	21 31 16.5	+1.3
	baz=253						
WHP				eS	Sn	21 31 34.2	+1.1
	baz=253						
NJN	Zhunan	1.30	271	eP	Pn	21 31 16.5	+1.4
	baz=271						
NJN				eS	Sn	21 31 33.6	+0.4
	baz=271						
IRIF	Iriomote-Funau	1.34	104	P	Pn	21 31 15.6	-0.1
IRIF				S	Sn	21 31 34.1	+0.1
NMLH	Miaoli	1.38	265	eP	Pn	21 31 16.9	+0.7
	baz=265						
NMLH				eS	Sn	21 31 35.0	+0.1
	baz=265						
WPL	Puli Township	1.39	242	eP	Pn	21 31 17.4	+1.1
	baz=239						
WPL				eS	Sn	21 31 36.2	+1.1
	baz=239						
DPDB	Guoxing	1.41	243	eP	Pn	21 31 15.8	-0.7
	baz=239						
DPDB				eS	Sn	21 31 36.9	+1.4
	baz=239						
WCS	Beigang Elemen	1.41	245	eP	Pn	21 31 17.8	+1.3
	baz=239						
WCS				eS	Sn	21 31 36.6	+1.2
	baz=239						
HGSD	Ruisui	1.42	215	eP	Pn	21 31 16.6	-0.1
	baz=208						
HGSD				eS	Sn	21 31 35.5	-0.2
	baz=208						
NSY	Sanyi	1.43	260	eP	Pn	21 31 17.8	+1.1
	baz=260						
NSY				S	Sn	21 31 36.8	+0.9
	baz=260						
TWQ1	Liyutan	1.43	257	eP	Pn	21 31 17.4	+0.7
	baz=257						
TWQ1				eS	Sn	21 31 36.7	+0.8
	baz=257						
EHY	Hungye	1.47	218	eP	Pn	21 31 16.2	-1.0
	baz=225						
EHY				eS	Sn	21 31 34.6	-2.1
	baz=225						
SMLT	Sun Moon Lake	1.50	239	eP	Pn	21 31 19.1	+1.3
	baz=233						
SMLT				eS	Sn	21 31 39.7	+2.1
	baz=233						
HATJ	Hateruma jima	1.50	114	P	Pn	21 31 18.2	+0.6
HATJ				S	Sn	21 31 37.9	+0.5
SSLB	Suanglung	1.51	235	P	Pn	21 31 18.5	+0.7
	baz=231						
SSLB				S	Sn	21 31 39.4	+1.6
	baz=231						
TYC	Yuchr	1.52	240	eP	Pn	21 31 19.0	+1.1
	baz=240						
TYC				S	Sn	21 31 39.5	+1.6
	baz=240						
WDJ	Dajia District	1.55	258	eP	Pn	21 31 19.2	+1.1
	baz=258						
WDJ				eS	Sn	21 31 38.8	+0.3
	baz=258						
ECBN	Changbin	1.56	210	eP	Pn	21 31 17.8	-0.6
	baz=203						
ECBN				eS	Sn	21 31 37.6	-1.1
	baz=203						
YULB	Yu-li	1.57	216	eP	Pn	21 31 17.6	-0.9
	baz=223						
YULB				eS	Sn	21 31 37.2	-1.8
	baz=223						
WWF	Wufeng	1.59	247	eP	Pn	21 31 19.8	+1.0
	baz=256						
WWF				eS	Sn	21 31 40.4	+1.0
	baz=256						
EYUL	Yuli	1.59	214	eP	Pn	21 31 18.6	-0.2
	baz=222						
EYUL				eS	Sn	21 31 40.5	+0.9
	baz=222						
TWF1	Yuli	1.60	215	eP	Pn	21 31 18.4	-0.5
	baz=222						
TWF1				eS	Sn	21 31 40.2	+0.4
	baz=222						
JKRS	Kuro-shima	1.61	105	P	Pn	21 31 19.5	+0.5
JKRS				S	Sn	21 31 39.9	-0.1
WHYT	Xinyi Township	1.64	234	eP	Pn	21 31 21.2	+1.8
	baz=233						
WHYT				eS	Sn	21 31 43.0	+2.3
	baz=233						
WNT1	Nantou City	1.66	243	eP	Pn	21 31 18.6	-1.1
	baz=243						
WNT1				eS	Sn	21 31 42.2	+1.1
	baz=243						
WJS	Zhushan	1.67	240	eP	Pn	21 31 21.7	+2.0
	baz=250						
WJS				eS	Sn	21 31 43.7	+2.5
	baz=250						
WNT	Mingjian	1.67	242	eP	Pn	21 31 21.1	+1.3
	baz=242						
WNT				eS	Sn	21 31 42.7	+1.4
	baz=242						
WCHH	Zhanghua	1.69	250	eP	Pn	21 31 20.8	+0.8
	baz=250						
WCHH				eS	Sn	21 31 42.3	+0.5
	baz=250						
YUS	Yu-Shan	1.70	227	eP	Pn	21 31 21.6	+1.0
	baz=219						
YUS				eS	Sn	21 31 43.2	+0.4
	baz=219						
JIJ	Ishigaki jima	1.71	100	P	Pn	21 31 20.1	-0.1
JIJ				S	Sn	21 31 41.0	-1.0
FULB	Fuli	1.73	212	eP	Pn	21 31 20.6	+0.1
	baz=221						
FULB				eS	Sn	21 31 42.8	+0.1
	baz=221						
CHKT	Chengkung	1.78	209	eP	Pn	21 31 20.6	-0.6
	baz=201						
CHKT				eS	Sn	21 31 41.6	-2.2
	baz=201						
ALS	Alishan	1.79	230	P	Pn	21 31 22.8	+1.2
	baz=223						
ALS				S	Sn	21 31 45.6	+1.2
	baz=223						
CHN5	Tsauling	1.83	235	eP	Pn	21 31 23.2	+1.3
	baz=244						
CHN5				eS	Sn	21 31 46.9	+1.9
	baz=244						
JISG	Ishigakijimahi	1.83	92	P	Pn	21 31 21.9	+0.2
JISG				S	Sn	21 31 44.5	-0.3
WGK	Gukeng	1.87	239	eP	Pn	21 31 24.0	+1.8
	baz=248						
WGK				eS	Sn	21 31 47.5	+1.8
	baz=248						
WDLH	Douliu	1.88	239	eP	Pn	21 31 23.5	+1.1
	baz=249						
WDLH				eS	Sn	21 31 47.9	+1.8
	baz=249						
ELDTW	Lidau	1.89	219	eP	Pn	21 31 22.4	-0.2
	baz=212						
ELDTW				eS	Sn	21 31 45.2	-1.1
	baz=212						
WRL	Guolierlin Hig	1.92	247	eP	Pn	21 31 23.3	+0.5
	baz=255						
WRL				eS	Sn	21 31 46.3	-0.5
	baz=255						
EDH	Donghe	1.92	209	eP	Pn	21 31 22.7	-0.3
	baz=217						
EDH				eS	Sn	21 31 45.6	-1.3
	baz=217						
WTK	Tuku	2.00	241	eP	Pn	21 31 24.8	+0.8
	baz=241						
WTK				eS	Sn	21 31 49.5	+0.7
	baz=241						
CHN2	Minshiung	2.02	236	eP	Pn	21 31 26.7	+2.5
	baz=246						
CHN2				eS	Sn	21 31 51.2	+2.0
	baz=246						
STYH	Taoyuan	2.04	223	eP	Pn	21 31 25.9	+1.4
	baz=215						
STYH				eS	Sn	21 31 51.2	+1.5
	baz=215						
TPUB	Ta-pu	2.05	229	eP	Pn	21 31 26.4	+1.8
	baz=228						
TPUB				eS	Sn	21 31 51.4	+1.4
	baz=228						
LONT	Longtian	2.06	212	eP	Pn	21 31 24.3	-0.4
	baz=211						
LONT				eS	Sn	21 31 49.1	-1.1
	baz=211						
STYT	Tauyuan	2.06	224	eP	Pn	21 31 26.5	+1.7
	baz=223						
STYT				eS	Sn	21 31 52.4	+2.1
	baz=223						
CHY	Chiayi	2.08	236	eP	Pn	21 31 26.0	+1.1
	baz=246						
CHY				eS	Sn	21 31 51.2	+0.7
	baz=246						
WTP	Ta-pu	2.10	228	eP	Pn	21 31 26.7	+1.4
	baz=227						
WTP				eS	Sn	21 31 53.9	+2.8
	baz=227						
LDUT	Ludao	2.13	201	eP	Pn	21 31 25.1	-0.6
	baz=200						
LDUT				eS	Sn	21 31 49.6	-2.2
	baz=200						
TWG	Pinlang	2.16	212	eP	Pn	21 31 25.6	-0.5
	baz=210						
TWG				eS	Sn	21 31 50.7	-1.8
	baz=210						
WSF	Szhu	2.16	242	eP	Pn	21 31 26.8	+0.8
	baz=242						
WSF				eS	Sn	21 31 53.0	+0.5
	baz=242						
TWK	Hsinying	2.17	230	eP	Pn	21 31 27.6	+1.3
	baz=230						
TWK				eS	Sn	21 31 53.5	+0.7
	baz=230						
JTJ	Tarama	2.18	90	P	Pn	21 31 27.0	+0.7
JTJ				S	Sn	21 31 52.7	-0.3
SNST	Tainan City	2.19	229	eP	Pn	21 31 28.0	+1.5
	baz=229						
SNST				eS	Sn	21 31 54.7	+1.4
	baz=229						
CHN1	Nanshi	2.20	228	eP	Pn	21 31 27.8	+1.3
	baz=227						
CHN1				eS	Sn	21 31 54.2	+0.8
	baz=227						
SGST	Jiashian	2.23	225	eP	Pn	21 31 27.9	+0.9
	baz=224						
SGST				eS	Sn	21 31 55.3	+1.1
	baz=224						
SLGT	Liugui	2.25	223	eP	Pn	21 31 29.0	+1.7
	baz=231						
SLGT				eS	Sn	21 31 56.9	+2.2
	baz=231						
SSD	Sandimen	2.45	219	eP	Pn	21 31 30.3	+0.4
	baz=229						
SSD				eS	Sn	21 32 01.3	+1.9
	baz=229						
TSMG	Majia	2.48	218	eP	Pn	21 31 32.7	+2.5
	baz=230						
TSMG				eS	Sn	21 32 00.2	+0.3
	baz=230						
MASBT	Mashibuluo	2.56	217	eP	Pn	21 31 32.6	+1.4
	baz=216						
MASBT				eS	Sn	21 32 03.0	+1.2
	baz=216						
VWUC	VWUC	2.61	278	eP	Pn	21 31 31.8	-0.2
	baz=277						
VWUC				eS	Sn	21 32 00.4	-2.7
	baz=277						
JIRB	Irabujima	2.62	86	P	Pn	21 31 32.8	+0.8
JIRB				S	Sn	21 32 02.1	-1.1
EAST	Anshuo	2.64	211	eP	Pn	21 31 33.3	+0.9
	baz=204						
EAST				eS	Sn	21 32 02.1	-1.7
	baz=204						
JIKM	Ikemajima	2.69	84	P	Pn	21 31 34.1	+1.1
JIKM				S	Sn	21 32 05.7	+0.8
LAY	Lan-yu	2.71	195	eP	Pn	21 31 33.2	-0.1
	baz=193						
LAY				eS	Sn	21 32 02.7	-2.8
	baz=193						
JMJ	Miyako jima 2	2.72	86	eP	Pn	21 31 35.0	+1.5
	baz=94						
JMJ				eS	Sn	21 32 06.3	+0.5
	baz=94						
PNG	Penghu	2.74	247	eP	Pn	21 31 33.3	-0.4
	baz=247						
PNG				eS	Sn	21 32 03.4	-2.8
	baz=247						
PHUB	P'eng-hu	2.75	246	eP	Pn	21 31 33.3	-0.5
	baz=246						
PHUB				eS	Sn	21 32 04.1	-2.2
	baz=246						
JMJ2	Miyako jima3	2.75	88	P	Pn	21 31 34.5	+0.7
JMJ2				S	Sn	21 32 06.4	-0.1
JOGS	Gusukube	2.83	88	P	Pn	21 31 35.8	+1.0
JOGS				S	Sn	21 32 08.1	-0.1
PTMZ	Houxiangcun	2.91	278	eP	Pn	21 31 35.7	-0.2
	baz=278						
PTMZ				eS	Sn	21 32 07.5	-2.8
	baz=278						
VCHM	Qimei	3.00	242	eP	Pn	21 31 36.9	-0.3
	baz=233						
VCHM				eS	Sn	21 32 10.6	-1.9
	baz=233						
KNMB	Chin-men Tao	3.57	267	eP	Pn	21 31 44.6	-0.2
	baz=268						
KNMB				eS	Sn	21 32 23.8	-2.3
	baz=268						
AXDP	Jialang	3.94	274	eP	Pn	21 31 50.6	+0.8
	baz=274						
AXDP				eS	Sn	21 32 32.5	-2.5
	baz=274						
ZPLA	Ao Xicun	4.22	261	eP	Pn	21 31 53.5	-0.1
	baz=262						
ZPLA				eS	Sn	21 32 38.8	-2.9
	baz=262						

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*DJA **02** 21:45:01.7±1.0, 2°N±3°×12°7E±°, h21km±13km, M4.2/6, mb4.5/3, mB4.6/2, MLv4.1/6, Mw(mB)3.9/2*

*IDC **02** 21:45:01.2±10.0, 1°.62N×126°.98E, h57km±102km, mb3.5/6, mb1 3.7/6, mb1mx3.3/49, mbtmp3.8/6, Error ellipse: s-maj=204.5km s-min=21.0km az=69.0*

ISC 02 21:45:01.7±0.8, **1°.86N**±0°.05×**127°.17E**±0°.05, **h63km, n14,** σ1s50/19, **mb3.7**/6, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GAMI	Galela, Maluku	0.61	92	P	Pn	21 45 16.1	+0.9
GAMI				S	Sn	21 45 25.4	+0.4
TNTI	Ternate	1.10	170	P	Pn	21 45 22.9	+1.7
TNTI				S	Sn	21 45 37.7	+2.1
MNI	Manado	2.37	260	P	Pn	21 45 39.0	+0.7
MNI				S	Sn	21 46 07.0	+0.7
SGSI	Sangihe	2.45	318	P	Pn	21 45 39.5	+0.1
SGSI				S	Sn	21 46 09.0	+0.8
SANI	Sanana	4.06	197	P	Pn	21 46 02.5	+1.1
SANI				S	Sn	21 46 46.6	-1.1
GTOI	Gorontalo	4.34	254	P	Pn	21 46 07.9	+2.7
MRSI	Marisa	5.41	255	P	Pn	21 46 18.0	-1.9
	0.3nm783nm65nm,0.6s						
MPSI	Mapaga	7.43	258	P	Pn	21 46 48.8	+1.3
WRA	Warramunga Arr	22.78	162	P	P	21 49 57.2	-2.0
	1.9nm,0.5s,baz=342,slow=10,SNR=23						
ASAR	Alice Springs	26.20	166	P	P	21 50 29.2	-1.6
	0.7nm,0.4s,baz=350,slow=7.2,SNR=14						
STKA	Stephens Creek	36.23	159	P	P	21 51 57.6	-1.2
	2.8nm,0.9s,baz=330,slow=11,SNR=5.1						
SONM	Songino Array	49.20	342	P	P	21 53 44.9	+1.1
	0.3nm,0.6s,baz=162,slow=6.1,SNR=2.4						
MKAR	Makanchi Array	59.34	326	P	P	21 54 58.1	+0.7
	0.7nm,0.4s,baz=116,slow=7.7,SNR=18						
VNDA	Vanda	81.53	173	P	P	21 57 10.8	-1.1
	0.3nm,0.6s,baz=321,slow=6.3,SNR=5.1						

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*NOU **02** 21:51:10.6, 37°.54S×177°.05E, h227km, ML3.9/9, Off E. Coast of N. Island, N.Z.*

WEL 02 21:51:23.8, 38°S±6°×**17°7E**±°, **h121**km±10km, **M3.0**/48, **ML3.2**/8, **MLv3.0**/48, **Error ellipse: s-maj=0.0km s-min=0.0km az=133.7, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OPRZ	Ohinepanea	0.08	354	P	Pn	21 51 40.8	+0.5
TGRZ	Tauranga	0.31	309	P	Pn	21 51 41.7	+0.8
URZ	Urewera	0.55	128	P	Pn	21 51 42.1	0.0
URZ				S	Sn	21 51 57.8	+1.9
MUGZ	Murupara	0.58	164	P	Pn	21 51 42.9	+0.6
MUGZ				S	Sn	21 51 56.9	+0.5
RTZ	Ruatahuna	0.77	155	P	Pn	21 51 44.2	+0.3
RTZ				S	Sn	21 52 01.4	+2.4
MWZ	Matawai	0.86	119	P	Pn	21 51 44.2	-0.5
MWZ				S	Sn	21 52 02.1	+1.6
TOZ	Tahuroa Road	0.86	282	P	Pn	21 51 45.3	+0.7
TOZ				S	Sn	21 52 03.8	+3.5
RUGZ	Raukumara Rang	0.88	93	P	Pn	21 51 43.5	-1.4
RAGZ	Rawiri	0.88	131	P	Pn	21 51 45.1	+0.3
RAGZ				S	Sn	21 52 02.5	+1.7
TLZ	Tolley Road	0.91	243	P	Pn	21 51 46.1	+1.1
MRHZ	Matea Rd	0.92	187	P	Pn	21 51 45.9	+0.7
MRHZ				S	Sn	21 52 03.6	+2.2
MTHZ	Maungataniwha	0.95	167	P	Pn	21 51 45.9	+0.4
MTHZ				S	Sn	21 52 04.4	+2.4

HAZ	Te Kaha	0.98	81	P	Pn	21 51 44.2	-1.4
HAZ				S	Sn	21 52 02.0	-0.2
SNGZ	Shannon Statio	1.05	145	P	Pn	21 51 46.6	+0.2
SNGZ				S	Sn	21 52 05.2	+1.6
RAHZ	Arahi	1.07	158	P	Pn	21 51 47.4	+0.8
RAHZ				S	Sn	21 52 06.4	+2.4
RATZ	Rangitukua	1.13	213	P	Pn	21 51 48.0	+0.8
TKGZ	Te Karaka	1.14	117	P	Pn	21 51 47.0	-0.2
TKGZ				S	Sn	21 52 05.9	+0.9
TWGZ	Tauwhareparae	1.15	103	P	Pn	21 51 47.1	-0.3
TWGZ				S	Sn	21 52 06.6	+1.3
NMHZ	Naumai	1.19	171	P	Pn	21 51 48.8	+0.9
RITZ	Rihia Road	1.19	208	P	Pn	21 51 48.8	+0.9
PKGZ	Pakihiroa	1.20	89	P	Pn	21 51 47.5	-0.5
PKGZ				S	Sn	21 52 06.4	+0.1
RIGZ	Rimuhau	1.22	130	P	Pn	21 51 48.2	0.0
RIGZ				S	Sn	21 52 07.9	+1.1
BKZ	Black Stump Fm	1.24	183	P	Pn	21 51 48.3	-0.1
BKZ				S	Sn	21 52 08.7	+1.5
WHHZ	Waihua	1.27	156	P	Pn	21 51 48.9	+0.3
WHHZ				S	Sn	21 52 09.4	+1.8
PUZ	Puketiti	1.34	97	P	Pn	21 51 48.2	-1.4
KUZ	Kuaotunu	1.35	330	P	Pn	21 51 48.8	-0.8
NTVZ	North Tongarir	1.37	210	P	Pn	21 51 50.6	+0.7
TMVZ	Te Maari	1.37	209	P	Pn	21 51 50.3	+0.4
KRVZ	Karewarewa	1.38	211	P	Pn	21 51 50.4	+0.4
ARHZ	Aropaoanui	1.38	166	P	Pn	21 51 50.3	+0.4
MKAZ	Moumakai	1.38	306	P	Pn	21 51 49.7	-0.2
ETVZ	East Tongariro	1.39	209	P	Pn	21 51 50.4	+0.3
KNZ	Kokohu	1.40	142	P	Pn	21 51 49.7	-0.4
CNGZ	Carnagh Statio	1.41	114	P	Pn	21 51 50.1	-0.1
WTVZ	West Tongariro	1.42	212	P	Pn	21 51 50.7	+0.2
NNVZ	North Ngauruho	1.42	211	P	Pn	21 51 51.0	+0.5
MXZ	Matakaoa Point	1.43	76	P	Pn	21 51 49.5	-0.9
OTVZ	Oturere	1.43	209	P	Pn	21 51 51.2	+0.6
PRGZ	Paritu Road	1.44	134	P	Pn	21 51 50.3	-0.3
TWVZ	Taurewa	1.45	217	P	Pn	21 51 51.2	+0.4
SNVZ	South Ngauruho	1.46	210	P	Pn	21 51 51.1	+0.2
NGZ	Ngauruhoe	1.46	211	P	Pn	21 51 51.3	+0.3
WMGZ	Waiomatatini S	1.47	87	P	Pn	21 51 49.6	-1.2
HIZ	Hauiti	1.47	246	P	Pn	21 51 51.6	+0.7
KWHZ	Kaweka Forest	1.50	184	P	Pn	21 51 51.6	+0.2
TUVZ	Tukino	1.52	208	P	Pn	21 51 51.8	+0.2
MCHZ	McNeill Hill	1.52	176	P	Pn	21 51 52.0	+0.4
FWVZ	Far West T-bar	1.55	210	P	Pn	21 51 52.1	0.0
WHVZ	Whangaehu Hut	1.56	209	P	Pn	21 51 52.2	0.0
TRVZ	Turoa	1.59	210	P	Pn	21 51 52.6	+0.1
WNVZ	Wahianoa	1.59	208	P	Pn	21 51 52.5	-0.1
MOVZ	Moawhango	1.61	203	P	Pn	21 51 52.1	-0.6
BHHZ	Black Hill Sta	1.61	194	P	Pn	21 51 52.1	-0.6
MHGZ	Mahia Peninsul	1.62	140	P	Pn	21 51 52.3	-0.3
ETAZ	East Tamaki Re	1.62	306	P	Pn	21 51 52.6	-0.1
PKVZ	Pokaka	1.67	215	P	Pn	21 51 53.3	+0.1
MTVZ	Mangateitei	1.69	210	P	Pn	21 51 53.6	0.0
KRHZ	Kereru	1.73	185	P	Pn	21 51 53.7	-0.3
AWAZ	Awhitu Peninsu	1.75	299	P	Pn	21 51 53.8	-0.5
CKHZ	Cape Kidnapper	1.78	167	P	Pn	21 51 54.0	-0.5
VRZ	Vera Road	1.86	229	P	Pn	21 51 55.8	+0.3
WTAZ	Waiatarua	1.87	301	P	Pn	21 51 55.2	-0.5
KAHZ	Kahuranaki	1.89	173	P	Pn	21 51 55.4	-0.5
PNHZ	Pukenui	2.01	188	P	Pn	21 51 56.3	-1.1
PXZ	Pawanui	2.12	174	P	Pn	21 51 57.9	-0.8
WPHZ	Waipukurau	2.14	183	P	Pn	21 51 57.8	-1.2
TSZ	Takapari Road	2.19	192	P	Pn	21 51 58.1	-1.6
DVHZ	Dannevirke	2.39	187	P	Pn	21 52 00.2	-2.1
ANWZ	Angora Road	2.54	182	P	Pn	21 52 02.3	-1.7
POWZ	Post Office Ro	2.54	194	P	Pn	21 52 02.0	-2.1
WCZ	Waipu Caves	2.66	317	P	Pn	21 52 04.4	-1.3
PRWZ	Pori Road	2.67	190	P	Pn	21 52 03.9	-1.9
BFZ	Birch Farm	2.77	185	P	Pn	21 52 04.6	-2.5
MRZ	Mangatainoka R	2.84	195	P	Pn	21 52 05.2	-2.8
TIWZ	Tintock	2.90	190	P	Pn	21 52 06.3	-2.5
CPWZ	Castlepoint	3.00	185	P	Pn	21 52 08.0	-2.0
HOWZ	Holdsworth Sta	3.08	195	P	Pn	21 52 08.0	-3.2
OGWZ	Otaki Gorge	3.09	200	P	Pn	21 52 08.2	-3.0
KIW	Kapiti Island	3.20	203	P	Pn	21 52 09.3	-3.5
TMWZ	Te Maipa	3.22	189	P	Pn	21 52 09.9	-3.2
MTW	Mount Morrison	3.33	194	P	Pn	21 52 10.8	-3.7
CAW	Cannon Point	3.39	200	P	Pn	21 52 11.5	-3.7
DUWZ	D'Urville Isla	3.53	215	P	Pn	21 52 13.4	-3.7
TRWZ	Traveller	3.54	191	P	Pn	21 52 13.6	-3.6
PAWZ	Paruwai Farm	3.56	194	P	Pn	21 52 13.6	-4.0
OUZ	Omahuta	3.60	318	P	Pn	21 52 16.6	-1.5
MSWZ	Moikau Station	3.63	196	P	Pn	21 52 14.3	-4.1
TCW	Tory Channel	3.73	208	P	Pn	21 52 15.5	-4.2
PLWZ	Palliser	3.78	195	P	Pn	21 52 16.0	-4.4
TUWZ	Tuamarina	4.04	209	P	Pn	21 52 19.4	-4.5
NNZ	Nelson	4.11	216	P	Pn	21 52 20.5	-4.3
QRZ	Quartz Range	4.26	226	P	Pn	21 52 22.5	-4.4
BSWZ	Blackbirch Sta	4.32	208	P	Pn	21 52 23.1	-4.5
THZ	Tophouse	4.76	215	P	Pn	21 52 28.8	-4.8
KHZ	Kahutara	5.05	206	P	Pn	21 52 32.2	-5.2
DSZ	Denniston Nort	5.29	222	P	Pn	21 52 35.8	-4.8
GVZ	Greta Valley S	5.71	207	P	Pn	21 52 40.5	-5.8
LTZ	Lake Taylor	5.86	213	P	Pn	21 52 42.3	-6.0
INZ	Inchbonnie	6.19	218	P	Pn	21 52 46.4	-6.3
OKCZ	Okains Bay	6.38	204	P	Pn	21 52 49.1	-6.1
OXZ	Oxford	6.40	211	P	Pn	21 52 49.1	-6.4
MQZ	McQueen's Vall	6.50	206	P	Pn	21 52 49.7	-7.1
MHCZ	Mount Hutt	6.77	213	P	Pn	21 52 54.1	-6.4
ARCZ	Arundel	7.27	212	P	Pn	21 52 58.8	-8.5
TMZ	Timaru	7.70	211	P	Pn	21 53 06.8	-6.3
ODZ	Otahua Downs	8.39	210	P	Pn	21 53 15.5	-6.9

*IDC **02** 22:05:42.2±1.7, 35.38°N×23.56°E, h0km, mb3.8/3, mb1 3.8/3, mb1mx3.4/30, mbtmp3.8/3, MS3.4/1, Ms1 3.4/1, ms1mx2.3/45, Error ellipse: s-maj=359.3km s-min=25.4km az=139.0*
*THE **02** 22:05:45.1, 34.68°N×24.14°E, h19km±1km, ML2.7/4, Error ellipse: s-maj=2.3km s-min=1.1km az=198.0*
*ATH **02** 22:05:46.3, 34.75°N×24.15°E, h19km±3km, ML2.9/4, Error ellipse: s-maj=5.2km s-min=2.2km az=220.0*
ISC 02 22:05:44.8±2.1, **34.71°N**±0.08°×**24.16°E**±0.04°, **h14**km±11km, **n16**, σ**0.73s**/24, **mb3.8**/3, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GVD	Gavdhos	0.14	334	P	Pb	22 05 50.0	+0.7
GVD				S	Sb	22 05 53.1	+0.8
	31μm,0.3s						
GVD	Gavdhos	0.14	334	P	Pb	22 05 50.0	+0.7
GVD				S	Sb	22 05 52.8	+0.5
GVD				AML	AML	22 05 53.7	
	comp=N,84819μm,0.3s						
GVD				AML	AML	22 05 54.0	
	comp=E,39321μm,0.3s						
TMBK	Timbaki Herakl	0.61	54	P	Pb	22 05 57.7	+0.4
TMBK				S	Sb	22 06 07.5	+1.7
	comp=E,515nm,0.5s						
SIVA	Sivas	0.61	60	P	Pb	22 05 57.7	+0.4
KNDR	Palaiochora Ch	0.65	323	P	Pb	22 05 58.5	+0.5
KNDR				S	Sn	22 06 09.1	-0.7
	comp=E,260nm,0.4s						
VAM	Vamos	0.70	2	P	Pg	22 05 58.2	-0.1
VAM	Vamos	0.70	2	P	Pg	22 05 58.3	-0.1
VAM				S	Sb	22 06 07.9	-0.4
VAM				AML	AML	22 06 13.7	
	comp=N,2286μm,0.5s						
VAM				AML	AML	22 06 13.9	
	comp=E,2553μm,0.4s						
PRNS	Prines Rethymn	0.71	23	P	Pg	22 05 57.8	-0.8
PRNS				S	Sb	22 06 08.7	+0.1
IMMV	Iera Moni Meta	0.76	349	P	Pg	22 05 59.1	-0.6
IMMV				S	Sb	22 06 11.2	+1.0
	comp=E,1μm,0.4s						
IMMV	Iera Moni Meta	0.76	349	P	Pg	22 05 59.4	-0.3
IMMV				S	Sg	22 06 09.8	+0.1
IMMV				AML	AML	22 06 16.7	
	comp=N,1802μm,0.3s						
IMMV				AML	AML	22 06 20.2	
	comp=E,2347μm,0.4s						
NPS	Neapolis	1.31	65	P	Pb	22 06 09.9	+0.7
NPS				S	Sb	22 06 26.4	+0.4
NPS				AML	AML	22 06 40.6	
	comp=N,284μm,0.7s						
NPS				AML	AML	22 06 43.1	
	comp=E,431μm,0.7s						
KTHA	Kythira Island	1.79	330	P	Pb	22 06 17.8	+0.4
TORD	Torodi Ar. Bea	29.57	229	P	P	22 11 49.6	+0.3
	comp=E,0.7nm,0.4s,baz=35,slow=9.1,SNR=15						
KOWA	Kowa	32.40	239	LR	LR	22 25 56.6	
	comp=E,60nm,18.7s,baz=167,slow=38						
MKAR	Makanchi Array	44.70	56	P	P	22 13 57.3	-0.1
	comp=E,0.3nm,0.3s,baz=265,slow=8.1,SNR=5.6						
ZALV	Zalesovo Beam	45.91	46	P	P	22 14 05.4	-1.4
	comp=E,0.8nm,0.5s,baz=271,slow=9.2,SNR=3.8						

*IDC **02** 22:16:22.1±1.5, 35.27°N×23.71°E, h0km, mb3.6/3, mb1 3.6/3, mb1mx3.3/55, mbtmp3.6/3, Error ellipse: s-maj=43.0km s-min=13.0km az=172.0*
*THE **02** 22:16:25.6, 34.73°N×24.19°E, h20km±1km, ML2.9/3, Error ellipse: s-maj=3.0km s-min=1.2km az=203.0*
*ATH **02** 22:16:26.1, 34.75°N×24.11°E, h22km±2km, ML3.0/3, Error ellipse: s-maj=5.1km s-min=2.4km az=229.0*
ISC 02 22:16:25.9±1.0, **34.80°N**±0.07°×**24.16°E**±0.05°, **h22**km±6km, **n16**, σ**0.65s**/22, **mb3.5**/3, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GVD	Gavdhos	0.07	308	P	Pb	22 16 29.9	-0.1
GVD				S	Sb	22 16 33.2	+0.4
	36μm,0.2s						
GVD	Gavdhos	0.07	308	P	Pb	22 16 29.9	-0.1
GVD				S	Sb	22 16 33.2	+0.4
GVD				AML	AML	22 16 33.4	
	comp=N,96834μm,0.3s						
GVD				AML	AML	22 16 34.2	
	comp=E,47534μm,0.2s						
SIVA	Sivas	0.58	67	P	Pb	22 16 37.4	-0.1
KNDR	Palaiochora Ch	0.58	319	P	Pn	22 16 38.5	-0.4
KNDR				S	Sn	22 16 49.1	+1.3
	comp=E,230nm,0.3s						
VAM	Vamos	0.61	3	P	Pb	22 16 38.1	+0.1
VAM	Vamos	0.61	3	P	Pb	22 16 38.2	+0.1
VAM				S	Sn	22 16 47.9	-0.6
VAM				AML	AML	22 16 53.7	
	comp=N,2031μm,0.4s						
VAM				AML	AML	22 16 53.8	
	comp=E,1946μm,0.4s						
PRNS	Prines Rethymn	0.64	26	P	Pb	22 16 37.8	-0.6
IMMV	Iera Moni Meta	0.68	348	P	Pb	22 16 39.0	-0.2
IMMV				S	Sn	22 16 50.4	+0.2
	comp=E,765nm,0.4s						
IMMV	Iera Moni Meta	0.68	348	P	Pb	22 16 39.2	+0.1
IMMV				S	Sb	22 16 49.2	+1.1
IMMV				AML	AML	22 16 57.6	
	comp=N,1307μm,0.4s						
IMMV				AML	AML	22 16 57.6	
	comp=E,1201μm,0.5s						
IDI	Anoyia	0.78	51	Pg	Pb	22 16 40.8	0.0
	comp=E,12nm,0.3s,baz=279,slow=13,SNR=28						
IDI				Lg	Lg	22 16 54.1	
	comp=E,23nm,0.3s,baz=316,slow=19,SNR=8.1						
NPS	Neapolis	1.28	68	P	Pb	22 16 50.0	+0.6
KTHA	Kythira Island	1.71	329	P	Pb	22 16 57.4	+0.7
ZKR	Zakros	1.72	79	P	Pb	22 16 58.0	+1.1
TORD	Torodi Ar. Bea	29.63	229	P	P	22 22 29.6	-0.1
	comp=E,0.4nm,0.4s,baz=32,slow=8.7,SNR=11						
MKAR	Makanchi Array	44.66	56	P	P	22 24 36.9	-0.1
	comp=E,0.2nm,0.3s,baz=267,slow=7.7,SNR=5.4						
ZALV	Zalesovo Beam	45.85	46	P	P	22 24 45.1	-1.1
	comp=E,0.7nm,0.5s,baz=270,slow=9.0,SNR=3.8						

*IDC **02** 22:18:41.6±1.5, 31.10°N×141.98°E, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.4/58, mbtmp3.4/6, ML2.4/1, Error ellipse: s-maj=56.3km s-min=22.5km az=78.0*
ISC 02 22:18:45.3±1.2, **31.2°N**±0.1°×**142.0°E**±0.3°, **h24**km, **n6**, σ**0.76s**/7, **mb3.4**/4, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	Chichijima	4.04	177	Pn	Pn	22 19 46.3	+0.5
	baz=15,slow=19						
JCJ				Sn	Sn	22 20 32.8	+0.5
	4.0nm,0.3s,baz=278,slow=18,SNR=1.5						
MJAR	Matsushiro Arr	6.22	331	Pn	Pn	22 20 16.0	+0.3
	0.1nm,0.3s,baz=151,slow=12,SNR=4.1						
MKAR	Makanchi Array	47.82	307	P	P	22 27 21.1	+0.1
	0.3nm,0.7s,baz=90,slow=5.8,SNR=1.6						
WRA	Warramunga Arr	51.32	189	P	P	22 27 46.7	-1.1
	0.3nm,0.6s,baz=7.3,slow=7.9,SNR=4.7						
ASAR	Alice Springs	55.05	189	P	P	22 28 14.5	-0.7
	0.2nm,0.5s,baz=356,slow=5.0,SNR=2.0						
TXAR	Lajitas Array	93.33	53	P	P	22 31 58.8	+0.1
	0.4nm,1.1s,baz=298,slow=2.7,SNR=3.5						

*IDC **02** 22:52:37.3±6.2, 7.36°S×128.08°E, h105km±58km, mb3.3/4, mb1 3.8/6, mb1mx3.5/21, mbtmp4.0/6, Error ellipse: s-maj=157.9km s-min=23.5km az=69.0*
ISC 02 22:52:36.8±1.0, **7.5°S**±0.3°×**128.3°E**±0.8°, **h100**km, **n7**, σ**2.94s**/9, **mb3.7**/4, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.70	155	P	Pn	22 55 49.0	+2.1
	2.6nm,0.3s,baz=322,slow=14,SNR=120						
WRA				S	Sn	22 58 14.4	-3.4
	1.8nm,0.3s,baz=327,slow=23,SNR=8.7						
ASAR	Alice Springs	16.96	162	P	P	22 56 30.9	+2.6
	1.7nm,0.3s,baz=338,slow=11,SNR=57						
ASAR				S	Sn	22 59 32.0	-4.6
	0.6nm,0.3s,baz=351,slow=26,SNR=5.4						
SONM	Songino Array	58.39	343	P	P	23 02 21.7	-0.2
	0.5nm,0.6s,baz=146,slow=8.2,SNR=3.6						
MKAR	Makanchi Array	67.71	328	P	P	23 03 21.6	-1.8
	0.5nm,0.6s,baz=120,slow=6.9,SNR=7.8						
ZALV	Zalesovo Beam	71.28	335	P	P	23 03 43.7	-1.5
	0.4nm,0.3s,baz=142,slow=5.1,SNR=2.8						
VNDA	Vanda	72.17	173	P	P	23 03 52.0	+1.8
	0.4nm,0.9s,baz=314,slow=5.0,SNR=2.5						
LPAZ	La Paz	151.33	146	PKPbc	PKPbc	23 12 20.3	-0.3
	0.7nm,0.4s,baz=217,slow=5.1,SNR=5.4						

*IDC **02** 23:25:17.0±3.1, 27.43°N×85.64°E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/35, mbtmp3.5/5, ML3.5/1, MS3.0/1, Ms1 3.1/1, ms1mx2.5/31, Error ellipse: s-maj=104.9km s-min=32.4km az=73.0*
ISC 02 23:25:18.6±1.9, **27.4°N**±0.2°×**85.6°E**±0.2°, **h10**km, **n7**, σ**0.72s**/7, **mb3.5**/4, **Nepal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHL	Shillong	5.97	107	*e*P	Pn	23 26 48.0	+0.8
SHL				*e*S	Sb	23 28 14.0	-0.5
MKAR	Makanchi Array	19.48	353	P	P	23 29 46.3	+0.6
	0.1nm,0.3s,baz=178,slow=11,SNR=2.7						
SONM	Songino Array	26.05	33	P	P	23 30 52.0	-0.2
	0.5nm,0.5s,baz=222,slow=11,SNR=4.1						
ZALV	Zalesovo Beam	26.48	359	P	P	23 30 56.2	+0.4
	0.4nm,0.3s,baz=183,slow=10,SNR=2.5						
NOA	NORSAR Array B	58.85	327	LR	LR	00 02 13.6	
	comp=Z,12nm,18.1s,baz=65,slow=38						
ASAR	Alice Springs	68.99	133	P	P	23 36 24.3	-0.2
	0.1nm,0.4s,baz=316,slow=6.5,SNR=1.7						
ILAR	Eielson Array	79.51	20	P	P	23 37 24.4	-0.8
	0.4nm,0.5s,baz=316,slow=5.0,SNR=1.4						

NOU 02 23:47:40.7, 14.70°S×167.32°E, h114km, ML4.1/9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SANVU	Saraoutou	0.75	189	P	Pn	23 48 00.0	+0.1
DVP	Devils Point	3.12	165	P	Pn	23 48 27.6	-0.8
YATNC	Mamie plateau,	7.33	183	P	Pn	23 49 23.6	-1.5
DZM	Mont Dzumac	7.38	186	P	Pn	23 49 25.8	-0.1
NOUC	Port Laguerre	7.42	187	P	Pn	23 49 27.7	+1.3
OUENC	Ouen Island, N	7.69	183	P	Pn	23 49 30.7	+0.7

*TUL **02** 23:52:24±0.9, 36.94°N±0.02°×98.02°W±0.03°, h6km±7km, ML3.4, mb_Lg3.0/94(NEIC), Error ellipse: s-maj=3.8km s-min=2.4km az=138.0*
*NEIC **02** 23:52:24.3±1.0, 36.91°N±0.03°×98.02°W±0.03°, h6km±6km, Error ellipse: s-maj=4.3km s-min=2.4km az=148.0*
*ANF **02** 23:52:24.3±0.4, 36.93°N×98.04°W, h6km, ML3.9/16, Error ellipse: s-maj=4.6km s-min=3.5km az=25.0*
ISC 02 23:52:24.2±0.9, **36.92°N**±0.02°×**98.01°W**±0.02°, **h7**km±6km, **n113**, σ**0.63s**/105, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAN14	Manchester OK	0.05	50		Pg	23 52 25.7	-0.1
KAN14				Sg	Sg	23 52 26.8	-0.2
GC02	Grant County #	0.14	121		Pg	23 52 27.4	+0.2
GC02				Sg	Sg	23 52 29.8	+0.6
OK032	Salt Plains WL	0.20	233		Pg	23 52 28.3	+0.1
OK032				Sg	Sg	23 52 31.4	+0.5
KAN10	Anthony SW Sta	0.21	341		Pg	23 52 28.4	-0.1
KAN05	Bluff City Nor	0.22	31		Pg	23 52 28.6	0.0
KAN05				Sg	Sg	23 52 31.8	+0.3
KAN17	Caldwell West	0.23	59		Pg	23 52 28.8	0.0
KAN17				Sg	Sg	23 52 32.3	+0.3
KAN08	Anthony NE Sta	0.30	6		Pg	23 52 30.2	0.0
KAN08				Sg	Sg	23 52 34.5	+0.2
KAN12	Harper NE Stat	0.37	2		Pg	23 52 31.5	-0.1
KAN12				Sg	Sg	23 52 36.6	+0.2
CROK	Carrier	0.42	177		Pg	23 52 32.6	+0.2
KAN13	South Haven SW	0.44	78		Pg	23 52 32.8	0.0
KAN13				Sg	Sg	23 52 38.9	+0.5
KS20	Mayfield South	0.48	50		Pg	23 52 33.3	-0.1
KS20				Sg	Sg	23 52 39.8	+0.1
BLOK	Blackwell	0.66	104		Pg	23 52 36.8	-0.1
BLOK				Sg	Sg	23 52 46.2	+0.6
U32A	Winter Ranch,	0.96	236	Pg	Pg	23 52 42.2	-0.5
U32A				Sg	Sg	23 52 55.3	+0.1
U32A	Winter Ranch,	0.96	236	P	Pg	23 52 42.3	-0.5
	baz=54						
T35A	Sooner Cattle	1.20	90		Pg	23 52 46.6	-0.7
T35A					Sg	23 53 02.7	-0.2
T35B	Sooner Cattle	1.20	90	P	Pg	23 52 46.6	-0.7
	baz=272,SNR=141						
T35B				S	Sg	23 53 02.7	-0.2
	baz=272						
OK029	Liberty Lake	1.21	158		Pb	23 52 46.6	-0.9
OK029				Sg	Sb	23 53 03.4	+0.1
QUOK	Quay	1.29	125		Pn	23 52 48.1	-0.6
OK031	S. Brethren Rd	1.35	135		Pn	23 52 49.1	-0.5
OK025	Westminster Rd	1.45	158		Pn	23 52 50.8	-0.1
OKCFA	Oklahoma City	1.57	163		Pn	23 52 53.1	+0.5
OKCSW	OKLAHOMA CITY	1.58	163		Pn	23 52 53.2	+0.5
R32A	Long Quarter,	1.60	340		Pn	23 52 53.3	+0.4
R32A				IAmb_Lg		23 53 16.4	
	comp=Z,122nm,0.8s						
R32A	Long Quarter,	1.60	340	P	Pn	23 52 53.3	+0.4
	baz=160,SNR=83						
R32A				S	Sn	23 53 13.8	-0.1
	baz=160						
FNO	Franklin	1.73	163	Pn	Pn	23 52 55.2	+0.4
TUL1	Leonard	2.06	119	P	Pn	23 53 00.6	+1.3
	baz=300,SNR=37						
TUL1				S	Sb	23 53 28.7	+1.0
	baz=300						
TUL1	Leonard	2.06	119	P	Pn	23 53 00.6	+1.3
	baz=300						
TUL1				S	Sb	23 53 28.4	+0.8
	baz=300						
WMOK	Wichita Mounta	2.27	196		Pn	23 53 02.5	+0.4
WMOK				IAmb_Lg		23 53 37.1	
	comp=Z,63nm,0.7s						
WMOK	Wichita Mounta	2.27	196	P	Pn	23 53 02.7	+0.6
	baz=16						
WMOK	Wichita Mounta	2.27	196	P	Pn	23 53 02.8	+0.6
	baz=16						
WMOK				S	Sb	23 53 32.6	-1.2
	baz=16						
X34A	Smith Ranch, M	2.32	176	Pn	Pn	23 53 04.1	+1.2
X34A				IAmb_Lg		23 53 44.5	
	comp=Z,81nm,0.8s						
CBKS	Cedar Bluff	2.33	325	Pn	Pn	23 53 03.6	+0.5
CBKS	Cedar Bluff	2.33	325	P	Pn	23 53 03.5	+0.5
	baz=144,SNR=13						
CBKS				S	Sn	23 53 33.3	+1.3
	baz=144						
CBKS	Cedar Bluff	2.33	325	P	Pn	23 53 03.6	+0.5
	baz=144						
CBKS				S	Sn	23 53 33.3	+1.3
	baz=144						
KSU1	Kansas State U	2.44	27	Pn	Pn	23 53 04.9	+0.4
KSU1	Kansas State U	2.44	27	P	Pn	23 53 05.1	+0.6
	baz=208,SNR=16						
KSU1				S	Sb	23 53 38.4	-0.3
	baz=208						
KSU1	Kansas State U	2.44	27	P	Pn	23 53 05.1	+0.6
	baz=208						
KSU1				S	Sb	23 53 38.4	-0.3
	baz=208						
U38A	Gravette	2.95	98		Pn	23 53 11.9	+0.3
U38A	Gravette	2.95	98	P	Pn	23 53 12.7	+1.1
	baz=281,SNR=36						
LOOK	Love County	3.00	167		Pn	23 53 13.2	+1.0
X37A	Clayton	3.17	137		Pn	23 53 15.0	+0.4
X37A				IAmb_Lg		23 54 10.9	
	comp=Z,56nm,0.8s						
X37A	Clayton	3.17	137	P	Pn	23 53 15.1	+0.6
	baz=318						
HHAR	Hobbs	3.34	100	Pn	Pn	23 53 17.2	+0.3
HHAR				IAmb_Lg		23 54 15.2	
	comp=Z,42nm,0.7s						
AMTX	Amarillo	3.61	237	Pn	Pn	23 53 22.5	+1.8
Z35A	Perchaven, San	3.64	170	IAmb_Lg		23 54 27.8	
	comp=Z,32nm,1.1s						
S39A	Bolivar	3.82	77		Pn	23 53 23.9	+0.4
S39A	Bolivar	3.82	77	P	Pn	23 53 23.9	+0.4
	baz=260,SNR=10						
S39A				S	Sn	23 54 08.6	+0.1
	baz=260						
W39A	Magazine	3.83	115		Pn	23 53 24.6	+0.9
W39A	Magazine	3.83	115	S	Sn	23 54 10.0	+1.0
	baz=298						
U40A	Yellville	4.19	96		Pn	23 53 28.6	+0.1
U40A				IAmb_Lg		23 54 34.7	
	comp=Z,33nm,0.8s						
U40A	Yellville	4.19	96	P	Pn	23 53 28.7	+0.1
	baz=280,SNR=13						
KSCO	Kaye Shedlock'	4.20	301		Pn	23 53 28.9	+0.1
KSCO				IAmb_Lg		23 54 46.6	
	comp=Z,37nm,0.7s						
KSCO	Kaye Shedlock'	4.20	301	S	Sn	23 54 17.8	-0.4
	baz=118						
MIAR	Mount Ida	4.32	122		Pn	23 53 31.1	+0.8
Z38A	Mt. Pleasant	4.42	145	IAmb_Lg		23 54 52.3	
	comp=Z,32nm,0.7s						
P38A	Dawn	4.44	51		Pn	23 53 31.8	-0.2
P38A				IAmb_Lg		23 54 50.3	
	comp=Z,31nm,0.8s						
P38A	Dawn	4.44	51	P	Pn	23 53 32.3	+0.3
	baz=234,SNR=21						
BGNE	Belgrade	4.48	359		Pn	23 53 32.6	0.0
ABTX	Abilene, Hawle	4.50	198		Pn	23 53 33.3	+0.5
ABTX				IAmb_Lg		23 54 52.0	
	comp=Z,21nm,0.9s						
MGMO	Mountain Grove	4.60	85	Pn	Pn	23 53 35.0	+0.7
R40A	Maddies Statio	4.76	72		Pn	23 53 36.2	-0.2
R40A				IAmb_Lg		23 55 01.0	
	comp=Z,23nm,0.8s						
FCAR	Ozark Folk Cen	4.86	101		Pn	23 53 37.9	+0.1
FCAR				IAmb_Lg		23 54 57.9	
	comp=Z,33nm,0.8s						
X40A	Basin Creek Fa	4.86	118		Pn	23 53 38.7	+0.9
X40A				IAmb_Lg		23 55 07.5	
	comp=Z,25nm,0.7s						
MSTX	Muleshoe	4.88	234	Pn	Pn	23 53 37.1	-1.0
WHAR	Wooly Hollow	4.91	108		Pn	23 53 39.3	+0.8
WHAR				IAmb_Lg		23 55 08.0	
	comp=Z,24nm,0.7s						
WHTX	Lake Whitney,	4.94	175	P	Pn	23 53 38.5	-0.4
	baz=355,SNR=6.0						
WHTX	Lake Whitney,	4.94	175	P	Pn	23 53 39.2	+0.3
	baz=355						
OGNE	Ogallala	5.09	323		Pn	23 53 42.2	+1.1
OGNE				IAmb_Lg		23 55 20.1	
	comp=Z,31nm,0.8s						
OGNE	Ogallala	5.09	323	P	Pn	23 53 42.7	+1.6
	baz=141						
T25A	Trinidad	5.12	274	IAmb_Lg		23 55 14.8	
	comp=Z,18nm,0.9s						
WLAR	White Oak Lake	5.14	127	IAmb_Lg		23 55 19.3	
	comp=Z,27nm,0.9s						
L34A	Svendsen Farm,	5.19	14		Pn	23 53 41.4	-0.9
237A	Washetta, Mont	5.24	159	Pn	Pn	23 53 43.0	0.0
P40A	Paris	5.37	59		Pn	23 53 44.9	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
P40A				IAmb_Lg		23 55 17.4	
	comp=Z,31nm,0.7s						
P40A	Paris	5.37	59	P	Pn	23 53 44.7	0.0
	baz=243,SNR=10						
N38A	Joes South For	5.37	43		Pn	23 53 44.3	-0.5
N38A	Joes South For	5.37	43	P	Pn	23 53 44.5	-0.2
	baz=226,SNR=7.9						
CCM	Cathedral Cave	5.50	76		Pn	23 53 46.6	+0.1
T42A	Van Buren	5.54	87		Pn	23 53 47.6	+0.5
NATX	Nacogdoches	5.85	151	IAmb_Lg		23 55 46.9	
	comp=Z,16nm,0.8s						
CCAR	Cane Creek	5.91	119	IAmb_Lg		23 55 37.4	
	comp=Z,29nm,0.8s						
PBMO	Poplar Bluff	6.08	89	IAmb_Lg		23 55 36.0	
	comp=Z,22nm,0.9s						
435B	Jarrell	6.14	177	IAmb_Lg		23 55 53.1	
	comp=Z,21nm,0.8s						
SCIA	State Center	6.21	35	Pn	Pn	23 53 56.7	+0.4
N41A	Harden Midland	6.74	54	Pn	Pn	23 54 03.8	+0.1
ECSD	EROS Data Cent	6.88	8	Pn	Pn	23 54 04.1	-1.5
S44A	Carbondale	7.02	81	Pn	Pn	23 54 06.9	-0.6
S44A				IAmb_Lg		23 56 05.0	
	comp=Z,18nm,0.7s						
SIUC	Southern Illin	7.05	81	IAmb_Lg		23 56 04.7	
	comp=Z,19nm,0.8s						
PHWY	Pilot Hill	7.25	309	Pn	Pn	23 54 10.7	-0.3
L40A	Anamosa	7.34	44	IAmb_Lg		23 56 16.0	
	comp=Z,22nm,0.8s						
W45A	Hickory Valley	7.36	101	IAmb_Lg		23 56 15.7	
	comp=Z,21nm,0.9s						
Q44A	Meyer Farm, Va	7.38	72	IAmb_Lg		23 56 31.4	
	comp=Z,23nm,0.9s						
OXF	Oxford	7.40	106	IAmb_Lg		23 56 21.5	
	comp=Z,14nm,0.7s						
Y45A	Yeager Farm, C	7.56	111	IAmb_Lg		23 56 37.8	
	comp=Z,16nm,0.8s						
HDIL	Hopedale	7.72	59		Pn	23 54 16.3	-0.7
HDIL	Hopedale	7.72	59	P	Pn	23 54 17.4	+0.4
	baz=245						
I37A	Lemond, Waseca	7.91	25	IAmb_Lg		23 56 38.1	
	comp=Z,13nm,0.7s						
OLIL	Olney	8.05	74	IAmb_Lg		23 56 41.0	
	comp=Z,12nm,0.8s						
O44A	Mansfield	8.14	64	IAmb_Lg		23 56 45.4	
	comp=Z,16nm,0.7s						
JFWS	Jewell Farm	8.45	43	IAmb_Lg		23 57 13.3	
	comp=Z,16nm,0.7s						
RSSD	Black Hills	8.53	329	IAmb_Lg		23 57 04.0	
	comp=Z,16nm,1.2s						
K22A	Casper	8.70	314	IAmb_Lg		23 57 21.5	
	comp=Z,11nm,0.7s						
T47A	Sharon Grove	8.73	86	IAmb_Lg		23 57 06.6	
	comp=Z,13nm,0.7s						
P46A	Rosedale	8.91	69	IAmb_Lg		23 57 12.0	
	comp=Z,17nm,0.8s						
M44A	Midewin, Midew	8.93	57	IAmb_Lg		23 57 07.4	
	comp=Z,15nm,0.9s						
I40A	Norwalk	8.95	37	IAmb_Lg		23 57 19.7	
	comp=Z,8.4nm,0.8s						
F33A	5 Mile Ranch,	9.00	8	IAmb_Lg		23 57 12.1	
	comp=Z,8.7nm,0.8s						
SPMN	Marine on St.	9.18	24	IAmb_Lg		23 57 21.9	
	comp=Z,9.2nm,0.7s						
SFIN	Lafayette	9.21	65	IAmb_Lg		23 57 24.5	
	comp=Z,11nm,0.8s						
WCI	Wyandotte Cave	9.39	78	IAmb_Lg		23 57 31.1	
	comp=Z,8.3nm,0.7s						
K43A	Burlington	9.42	49	IAmb_Lg		23 57 26.7	
	comp=Z,16nm,0.7s						
F36A	Milaca	9.54	19	IAmb_Lg		23 57 38.8	
	comp=Z,12nm,1.2s						
I42A	Draeger Farm,	9.82	42	IAmb_Lg		23 57 41.1	
	comp=Z,8.9nm,0.8s						

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*TUL **03** 00:30:19.7±0.8, 36°.51N±0°.03×98°.56W±0°.03, h5km±7km, ML2.6, mb_Lg2.3/24(NEIC), Error ellipse: s-maj=4.8km s-min=1.4km az=141.0*

NEIC 03 00:30:20.1±0.7, 36°.48N±0°.03×98°.54W±0°.02, h4km±7km, Error ellipse: s-maj=4.8km s-min=1.1km az=155.0, Oklahoma

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.39	255	Pg	Pg	00 30 27.5	-0.1
U32A				Sg	Sg	00 30 32.9	+0.2
OK032	Salt Plains WL	0.41	39		Pg	00 30 27.9	-0.1
OK032				Sg	Sg	00 30 33.7	+0.3
CROK	Carrier	0.45	87		Pg	00 30 29.1	+0.4
GC02	Grant County #	0.66	56		Pg	00 30 32.5	-0.1
GC02				Sg	Sg	00 30 41.7	+0.5
KAN14	Manchester OK	0.66	44	Pg	Pg	00 30 32.5	-0.2
KAN14				Sg	Sg	00 30 41.4	+0.1
KAN10	Anthony SW Sta	0.73	29	Pg	Pg	00 30 33.7	-0.4
KAN10				Sg	Sg	00 30 43.5	-0.1
KAN17	Caldwell West	0.83	48	Pg	Pg	00 30 35.6	-0.5
KAN17				Sg	Sg	00 30 46.8	-0.1
BLOK	Blackwell	1.10	75		Pg	00 30 40.5	-0.6
OK025	Westminster Rd	1.32	132	Pn	Pn	00 30 45.1	-0.2
OKCFA	Oklahoma City	1.38	140	Pn	Pn	00 30 46.0	-0.1
OK031	S. Brethren Rd	1.47	111		Pn	00 30 47.5	+0.2
QUOK	Quay	1.51	101		Pn	00 30 47.8	-0.1
FNO	Franklin	1.53	143		Pn	00 30 48.4	+0.2
T35A	Sooner Cattle	1.68	75		Pn	00 30 50.5	+0.2
WMOK	Wichita Mounta	1.75	187		Pn	00 30 51.1	-0.1
R32A	Long Quarter,	1.94	356		Pn	00 30 54.4	+0.5
X34A	Smith Ranch, M	1.96	163		Pb	00 30 55.9	-0.5
X34A				IAmb_Lg		00 31 26.6	
	comp=Z,14nm,1.0s						
CBKS	Cedar Bluff	2.52	338	Pn	Pn	00 31 02.6	+0.8
X37A	Clayton	3.20	125	Pn	Pn	00 31 11.5	+0.4
X37A				IAmb_Lg		00 32 07.7	
	comp=Z,7.5nm,0.8s						
U38A	Gravette	3.34	90		Pn	00 31 12.5	-0.6
U38A				IAmb_Lg		00 32 14.6	
	comp=Z,6.1nm,0.9s						
W39A	Magazine	4.07	107	IAmb_Lg		00 32 32.4	
	comp=Z,12nm,1.2s						
KSCO	Kaye Shedlock'	4.11	309	IAmb_Lg		00 32 40.7	
	comp=Z,7.7nm,1.1s						
S39A	Bolivar	4.34	72	IAmb_Lg		00 32 44.4	
	comp=Z,5.7nm,0.8s						
U40A	Yellville	4.58	90		Pn	00 31 29.8	-0.4
U40A				IAmb_Lg		00 32 47.9	
	comp=Z,5.5nm,0.7s						
X40A	Basin Creek Fa	5.06	112	IAmb_Lg		00 33 10.7	
	comp=Z,4.8nm,0.9s						
MGMO	Mountain Grove	5.07	81	IAmb_Lg		00 33 10.7	
	comp=Z,9.2nm,1.3s						
N38A	Joes South For	5.98	42	IAmb_Lg		00 33 30.8	
	comp=Z,6.7nm,0.7s						
JCT	Junction City	6.08	190	IAmb_Lg		00 33 45.1	
	comp=Z,4.8nm,0.8s						
SIUC	Southern Illin	7.55	78	IAmb_Lg		00 34 30.1	
	comp=Z,4.7nm,0.8s						

IDC 03 00:35:04.6±4.1, 21°.38N×145°.51E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.4/62, mbtmp3.8/4, MS2.3/1, Ms1 2.3/1, ms1mx2.0/36, Error ellipse: s-maj=202.8km s-min=28.0km az=84.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	7.77	185	LR	LR	00 39 08.0	
	comp=Z,21nm,20.9s,baz=264,slow=31						
WRA	Warramunga Arr	42.49	196	P	P	00 43 01.5	-0.3
	0.6nm,0.6s,baz=14,slow=8.7,SNR=7.5						
ASAR	Alice Springs	46.17	195	P	P	00 43 31.3	0.0
	0.3nm,0.5s,baz=12,slow=13,SNR=5.8						
ZALV	Zalesovo Beam	55.81	321	P	P	00 44 44.9	+1.5
	0.6nm,0.5s,baz=88,slow=8.8,SNR=2.3						
FINES	FINESS Array B	84.39	335	P	P	00 47 37.2	-1.4
	2.4nm,0.9s,baz=97,slow=7.1,SNR=4.1						

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*IDC **03** 00:40:49.6±1.4, 22°.38S×66°.79W, h182km±21km, mb3.5/1, mb1 3.3/5, mb1mx3.1/31, mbtmp3.8/5, Error ellipse: s-maj=38.2km s-min=18.6km az=130.0*
*NEIC **03** 00:40:50.8±1.1, 22°.33S±0°.08×67°.0W±0°.1, h205km±10km, Error ellipse: s-maj=17.9km s-min=11.2km az=95.0*
*GUC **03** 00:40:51.3±0.7, 22°.43S×67°.20W, h230km±11km, ML4.0*
*SCB **03** 00:40:53.5±1.5, 22°.36S×66°.96W, h180km±10km, ML3.7/5, Error ellipse: s-maj=5.7km s-min=4.3km az=0.0*

ISC 03 00:40:49.9±0.7, 22°.38S±0°.05×66°.93W±0°.04, h201km±7km, n65, σ1s.02/86, 1C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AF01	San Pedro de A	1.29	243	Pn	Pn	00 41 23.8	+1.4
YJA	Yavi	1.32	82	P	Pn	00 41 23.4	+0.6
YJA				S	S	00 41 46.0	-1.8
MOCB	Mochara	1.64	47	P	Pn	00 41 26.1	+0.5
MOCB				S	S	00 41 51.2	-1.5
MOCB				IAML		00 41 53.7	
	160nm,0.3s						
LVC	Limon Verde	1.85	262	P	Pn	00 41 28.2	+0.8
	18nm,0.3s,baz=92,slow=7.9,SNR=425						
LVC				S	S	00 41 55.6	-0.4
	7.9nm,0.3s,baz=269,slow=21,SNR=25						
LVC	Limon Verde	1.85	262	eP	Pn	00 41 28.1	+0.8
LVC				eP	S	00 41 55.8	-0.2
LVC	Limon Verde	1.85	262		Pn	00 41 27.7	+0.3
LVC	Limon Verde	1.85	262	P	Pn	00 41 28.2	+0.8
PB09	IPOC Station P	2.22	285	iP	Pn	00 41 32.2	+1.2
PB09				iS	S	00 42 03.6	+1.2
PB09	IPOC Station P	2.22	285	Pn	Pn	00 41 31.8	+0.7
PB09	IPOC Station P	2.22	285	P	Pn	00 41 32.5	+1.4
PB06	IPOC Station P	2.47	262	eP	Pn	00 41 34.1	+0.4
PB06				eS	S	00 42 06.4	-0.7
PB06				IAML		00 42 09.6	
	comp=N,231nm,0.1s						
PB06	IPOC Station P	2.47	262		Pn	00 41 34.1	+0.4
PB06	IPOC Station P	2.47	262	P	Pn	00 41 34.3	+0.6
PB15	IPOC Station P	2.49	250	eP	Pn	00 41 34.4	+0.4
PB15				eS	S	00 42 07.4	-0.3
PB15	IPOC Station P	2.49	250		Pn	00 41 34.2	+0.3
PB15	IPOC Station P	2.49	250	P	Pn	00 41 34.8	+0.8
PB15				S	S	00 42 07.2	-0.5
PB15				IAML		00 42 10.3	
	comp=N,1μm,0.2s						
PB03	IPOC Station P	2.64	277⇑	eP	Pn	00 41 35.8	+0.2
PB03				eS	S	00 42 09.6	-1.0
PB03				IAML		00 42 11.5	
	comp=N,415nm,0.1s						
PB03	IPOC Station P	2.64	277	P	Pn	00 41 35.9	+0.2
PB01	IPOC Station P	2.73	299	eP	Pn	00 41 37.0	+0.4
PB01				eS	S	00 42 12.0	-0.3
PB01				IAML		00 42 14.5	
	comp=E,350nm,0.2s						
PB01	IPOC Station P	2.73	299		Pn	00 41 36.8	+0.2
PB01	IPOC Station P	2.73	299	P	Pn	00 41 37.2	+0.6
PB07	IPOC Station P	2.82	283	eP	Pn	00 41 38.0	+0.3
PB07				eS	S	00 42 12.8	-1.6
PB07				IAML		00 42 15.0	
	comp=E,408nm,0.3s						
PB07	IPOC Station P	2.82	283		Pn	00 41 38.2	+0.5
PB07	IPOC Station P	2.82	283	P	Pn	00 41 38.2	+0.5
PB07				S	S	00 42 12.5	-1.8
PB07				IAML		00 42 13.8	
	comp=E,239nm,0.4s						
PB02	IPOC Station P	2.95	290	eP	Pn	00 41 39.5	+0.3
PB02				eS	S	00 42 15.2	-1.7
PB02				IAML		00 42 19.9	
	comp=E,456nm,0.4s						
PB02	IPOC Station P	2.95	290	P	Pn	00 41 39.7	+0.5
PB02				S	S	00 42 14.8	-2.2
PB02				IAML		00 42 17.6	
	comp=E,246nm,0.3s						
PB04	IPOC Station P	2.98	270	eP	Pn	00 41 39.6	0.0
PB04				eS	S	00 42 16.1	-1.6
PB04				IAML		00 42 19.3	
	comp=N,257nm,0.1s						
PB04	IPOC Station P	2.98	270		Pn	00 41 39.9	+0.3
PB04	IPOC Station P	2.98	270	P	Pn	00 41 40.2	+0.6
PB08	IPOC Station P	3.04	317	eP	Pn	00 41 42.2	+1.6
PB08				eS	S	00 42 20.8	+1.3
PB08				IAML		00 42 24.5	
	comp=N,89nm,0.3s						
PB08	IPOC Station P	3.04	317	Pn	Pn	00 41 42.0	+1.4
PB08	IPOC Station P	3.04	317	P	Pn	00 41 42.2	+1.6
PB08				S	S	00 42 18.7	-0.7
PB08				IAML		00 42 22.3	
	comp=N,65nm,0.3s						
PB05	IPOC Station P	3.06	261	eP	Pn	00 41 40.6	+0.2
PB05				eS	S	00 42 17.2	-2.1
PB05				IAML		00 42 18.1	
	comp=N,168nm,0.3s						
PB05	IPOC Station P	3.06	261	P	Pn	00 41 40.7	+0.2
HMBC	Humberstone	3.46	307	eP	Pn	00 41 45.1	-0.2
HMBC				eS	S	00 42 26.5	-1.5
HMBC	Humberstone	3.46	307	P	Pn	00 41 45.1	-0.2
TA01	Diego Aracena	3.53	300	eP	Pn	00 41 45.5	-0.3
TA01	Diego Aracena	3.53	300		Pn	00 41 45.6	-0.3
PB11	IPOC Station P	3.64	315⇓	iP	Pn	00 41 47.8	+0.2
PB11				iS	S	00 42 31.2	-0.9
PB11	IPOC Station P	3.64	315	Pn	Pn	00 41 47.7	+0.1
PB11	IPOC Station P	3.64	315	P	Pn	00 41 47.8	+0.2
TA02	Huaiquique	3.65	304	Pn	Pn	00 41 46.9	-0.6
PB14	IPOC Station P	3.90	234		Pn	00 41 50.9	+0.1
PB14	IPOC Station P	3.90	234	P	Pn	00 41 50.9	+0.1
PSGC	Pisagua	4.07	312	eP	Pn	00 41 51.8	-1.0
PSGC				eS	S	00 42 38.8	-2.8
PSGC	Pisagua	4.07	312	P	Pn	00 41 52.9	+0.1
PSGCX	Pisagua	4.07	312		Pn	00 41 52.3	-0.5
AC02	Maricunga	4.87	204		Pn	00 42 03.6	+0.5
BBOE	La Paz, Chanca	5.62	350	P	Pn	00 42 14.2	+1.2
GO03	Copiap	6.00	209	Pn	Pn	00 42 16.1	-1.1
LPAZ	La Paz	6.16	349	P	Pn	00 42 21.1	+1.1
	comp=N,0.3nm,0.3s,baz=167,slow=8.2,SNR=11						
LPAZ	La Paz	6.16	349		Pn	00 42 21.4	+1.4
AC04	Llanos de Chal	6.91	212	Pn	Pn	00 42 26.7	-2.2
SIV	San Ignacio	8.42	42	P	Pn	00 42 47.1	-1.7
	comp=N,2.3nm,0.3s,baz=239,slow=12,SNR=27						
SIV				S	S	00 44 12.6	-11
	comp=N,0.5nm,0.3s,baz=213,slow=18,SNR=2.3						
CO03	El Pedregal	9.07	201	Pn	Pn	00 42 55.3	-1.9
MT01	Popeta	12.06	197	P	P	00 43 40.4	+0.4
ITAB	Concordia	14.28	113	P	P	00 44 04.9	+0.2
LC01	Cunco	17.00	193	P	Pn	00 44 35.6	-0.5
LC01				IAmb	IAmb	00 44 47.5	
	comp=Z,5.0nm,0.9s						
PLCA	Paso Flores	18.55	189	P	Pn	00 44 54.0	-0.3
	comp=Z,0.1nm,0.3s,baz=24,slow=12,SNR=3.1						
LL04	Puerto Octay	19.05	193	P	P	00 44 57.4	+0.6
LL04				IAmb	IAmb	00 45 17.0	
	comp=Z,6.7nm,1.0s						
BDFB	Brasilia	19.09	73	P	P	00 44 57.8	+0.2
	comp=Z,0.5nm,0.3s,baz=229,slow=11,SNR=3.7						
BDFB	Brasilia	19.09	73	P	P	00 44 57.9	+0.2
BDFB				IAmb	IAmb	00 44 59.7	
	comp=Z,6.0nm,1.2s						
TORD	Torodi Ar. Bea	75.93	69	P	P	00 52 15.4	+0.5
	comp=Z,0.7nm,0.5s,baz=258,slow=5.3,SNR=20						
TORD	Torodi Ar. Bea	75.93	69	P	P	00 52 15.4	+0.5
MKAR	Makanchi Array	145.22	38	PKPbc	PKPab	01 00 05.4	+1.5
	comp=Z,0.5nm,0.7s,baz=298,slow=3.1,SNR=2.7						

MEX 03 00:45:44.2±0.8, 19°.12N×104°.02W, h27km±5km, MD3.7, 1D, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
R15V		0.06	33	eP	Pb	00 45 47.4	-1.7
R15V				eS	Sb	00 45 50.8	-1.5
COIG	Colima	0.32	79	eP	Pb	00 45 50.3	-1.4
COIG				eS	Sb	00 45 55.7	-1.2
EZ5V		0.53	48	eP	Pb	00 45 53.4	-1.8
EZ5V			⇓	eS	Sb	00 46 00.7	-2.0
CJM	Chamela	1.04	291	eP	Pn	00 46 01.1	-1.9
CJM				eS	Sn	00 46 14.7	-2.0
MMIG	Aquila	1.04	142	eP	Pn	00 45 58.8	-4.3
MMIG				eS	Sb	00 46 17.8	+0.8

IDC 03 00:47:24.0±30.0, 19°.35S×174°.40W, h0km, mb4.3/4, mb1 4.5/4, mb1mx3.8/34, mbtmp4.3/4, Error ellipse: s-maj=564.4km s-min=172.9km az=75.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	36.98	262	P	P	00 54 36.1	+0.7
	2.1nm,0.4s,baz=86,slow=15,SNR=2.1						
STKA	Stephens Creek	41.33	244	P	P	00 55 12.0	+0.3
	3.5nm,0.8s,baz=90,slow=13,SNR=3.6						
ASAR	Alice Springs	48.08	255	P	P	00 56 05.2	-0.5
	4.4nm,0.5s,baz=97,slow=7.8,SNR=49						
WRA	Warramunga Arr	48.12	260	P	P	00 56 05.6	-0.5
	1.6nm,0.6s,baz=95,slow=8.6,SNR=8.1						

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*IDC **03** 00:53:59.9±1.2, 4°.81S×153°.33E, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.8/31, mbtmp4.0/5, MS2.6/1, Ms1 2.6/1, ms1mx2.3/34, Error ellipse: s-maj=34.0km s-min=29.7km az=74.0*
*NEIC **03** 00:54:07.8±2.0, 4°.85S±0°.06×153°.67E±0°.09, h62km±12km, mb4.3/15, Error ellipse: s-maj=14.3km s-min=5.9km az=123.0*

ISC 03 00:54:07.0±0.7, 4°.89S±0°.09×153°.70E±0°.09, h56km, n29, σ1s.05/28, mb4.2/12, New Ireland region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.69	294	Pn	Pn	00 54 34.3	+0.2
RABL				Sn	Sn	00 54 56.6	+2.0
PATS	Pohnpei	12.53	22	Pn	Pn	00 57 02.5	-0.1
JAY	Jayapura	13.19	280	LR	LR	01 00 49.6	
	comp=Z,24nm,19.2s,baz=20,slow=32						
COEN	Coen	13.74	228	Pn	Pn	00 57 19.4	+0.3
DZM	Mont Dzumac	21.07	145	P	P	00 58 48.4	+1.6
	5.3nm,0.7s,baz=323,slow=15,SNR=7.5						
DZM	Mont Dzumac	21.07	145	P	P	00 58 47.7	+1.0
DZM				IAmb	IAmb	00 58 52.1	
	comp=Z,17nm,1.3s						
MARNC	Mare, Loyalty	21.57	141	P	P	00 58 50.6	-1.3
WB0	Warramunga Arr	23.92	230	P	P	00 59 14.4	-1.5
WR0	Warramunga Arr	23.92	230	P	P	00 59 14.7	-1.3
WR0				IAmb	IAmb	00 59 17.6	
	comp=Z,5.4nm,0.9s						
WRA	Warramunga Arr	24.07	230	P	P	00 59 16.7	-0.6
	comp=Z,2.1nm,0.5s,baz=53,slow=10,SNR=22						
WRA				PcP	PcP	01 02 57.7	-0.2
	comp=Z,0.7nm,0.8s,baz=59,slow=2.9,SNR=2.8						
WRA	Warramunga Arr	24.07	230	P	P	00 59 16.1	-1.2
ARMA	Armidale	25.47	184	P	P	00 59 30.8	+0.8
ARMA				IAmb	IAmb	00 59 41.7	
	comp=Z,13nm,1.3s						
H11S3	WAKE ISLAND Hy	26.53	29	T	T	01 28 26.9	
	baz=208,slow=76,SNR=4.6						
H11S2	WAKE ISLAND Hy	26.54	29	T	T	01 28 23.5	
	baz=208,slow=76,SNR=8.2						
H11S1	WAKE ISLAND Hy	26.55	29	T	T	01 28 21.7	
	baz=208,slow=76,SNR=4.2						
AS31	Alice Springs	26.70	224	P	P	00 59 41.0	-0.1
ASAR	Alice Springs	26.70	224	P	P	00 59 40.2	-0.9
	comp=Z,0.9nm,0.4s,baz=56,slow=9.2,SNR=11						
ASAR				PcP	PcP	01 03 03.9	+0.2
	comp=Z,0.4nm,0.6s,baz=46,slow=4.0,SNR=3.0						
KNRA	Kununurra	26.74	245	P	P	00 59 42.7	+1.1
KNRA				IAmb	IAmb	00 59 46.9	
	comp=Z,16nm,0.7s						
FITZ	Fitzroy Crossi	30.41	242	P	P	01 00 12.4	-1.8
FITZ				IAmb	IAmb	01 00 13.3	
	comp=Z,3.1nm,0.6s						
FORT	Forrest	35.29	220	P	P	01 00 55.9	-0.8
LTZ	Lake Taylor	41.17	159	P	P	01 01 47.1	+1.1
LTZ				IAmb	IAmb	01 02 02.2	
	comp=Z,35nm,1.5s						
RPZ	Rata Peaks	41.59	161	P	P	01 01 50.5	+1.1
LBZ	Lake Benmore	41.92	162	P	P	01 01 52.1	0.0
MORW	Morawa	42.99	232	P	P	01 01 59.9	-1.1
MORW				IAmb	IAmb	01 02 17.8	
	comp=Z,14nm,1.2s						
VNDA	Vanda	72.71	178	P	P	01 05 29.4	+0.8
	comp=Z,1.4nm,0.7s,baz=345,slow=7.7,SNR=11						
VNDA	Vanda	72.71	178	P	P	01 05 29.3	+0.8
VNDA				IAmb	IAmb	01 05 30.2	
	comp=Z,1.7nm,0.8s						
MKAR	Makanchi Array	80.99	319	P	P	01 06 15.1	-0.7
	comp=Z,0.3nm,0.5s,baz=98,slow=8.1,SNR=3.0						
QSPA	South Pole Qui	85.07	180	P	P	01 06 36.5	-0.1
QSPA				IAmb	IAmb	01 06 40.0	
	comp=Z,2.6nm,0.9s						
TORD	Torodi Ar. Bea	151.19	288	PKPbc	PKPbc	01 13 54.3	-0.9
	comp=Z,1.0nm,0.5s,baz=62,slow=2.1,SNR=19						

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*MOS **03** 01:25:44.6±1.2, 44°.15N×147°.27E, h58km, mb4.0/2, Error ellipse: s-maj=16.0km s-min=13.4km az=45.5*
*JMA **03** 01:25:44.5±0.3, 43°.87N×147°.31E, h18km, M3.7*
*SKHL **03** 01:25:45.1±0.4, 44°.10N×147°.40E, h68km±8km, mb4.6/5*

ISC 03 01:25:45.0±1.1, 44°.02N±0°.07×147°.42E±0°.07, h51km±10km, n33, σ1s.03/51, 5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YUK	Yuzh-Kuril'sk	1.12	271 d	iPN	Pn	01 26 04.0	-0.4
YUK				iS	Sn	01 26 18.0	-0.8
YUK				pmax	pmax		
	comp=N,77nm,0.1s						
YUK				pmax	pmax		
	comp=E,92nm,0.1s						
YUK				pmax	pmax		
	comp=Z,2μm,0.1s						
YUK				smax	smax		
	comp=N,1μm,0.2s						
YUK				smax	smax		
	comp=E,357nm,0.2s						
YUK	Yuzh-Kuril'sk	1.12	271	iP	Pn	01 26 04.0	-0.4
YUK				AMB	AMB	01 26 05.0	
	comp=E,420nm,0.3s						
YUK				iS	Sn	01 26 18.0	-0.8
YUK				A	A	01 26 18.7	
	comp=E,670nm,0.4s						
YUK				A	A	01 26 18.7	
	comp=E,960nm,0.4s						
GRPR	Tuman	1.19	269⇓	iPN	Pn	01 26 04.8	-0.5
GRPR				iS	Sn	01 26 19.2	-1.2
GRPR				pmax	pmax		
	comp=E,70nm,0.3s						
GRPR				pmax	pmax		
	comp=Z,215nm,0.3s						
GRPR				pmax	pmax		
	comp=N,97nm,0.1s						
GRPR				smax	smax		
	comp=N,1μm,0.3s						
GRPR				smax	smax		
	comp=E,604nm,0.3s						
GRPR	Tuman	1.19	269	iP	Pn	01 26 04.8	-0.5
GRPR				AMB	AMB	01 26 05.0	
	comp=E,215nm,0.3s						
GRPR				iS	Sn	01 26 19.2	-1.2
GRPR				A	A	01 26 23.0	
	comp=E,1μm,0.3s						
GRPR				A	A	01 26 23.0	
	comp=E,604nm,0.3s						
KUR	Kuril'sk	1.26	15	ePN	Pn	01 26 06.0	-0.2
KUR				iS	Sn	01 26 20.9	-1.1
KUR				pmax	pmax		
	comp=Z,55nm,0.1s						
KUR				smax	smax		
	comp=N,820nm,0.2s						
KUR				smax	smax		
	comp=E,546nm,0.3s						
KUR	Kuril'sk	1.26	15	eP	Pn	01 26 05.6	-0.6
KUR				AMB	AMB	01 26 08.3	
	comp=E,70nm,0.3s						
KUR				iS	Sn	01 26 20.9	-1.1
KUR				A	A	01 26 21.9	
	comp=E,550nm,0.3s						
KUR				A	A	01 26 21.9	
	comp=E,590nm,0.3s						
NEM2	Nemuro 2	1.38	242	P	Pn	01 26 07.1	-0.8
NEM2				eS	Sn	01 26 23.4	-1.6
NMR	Nemuro--Hokkai	1.39	243	ePN	Pn	01 26 07.0	-1.0
NMR				eS	Sn	01 26 23.4	-1.8
NMR	Nemuro--Hokkai	1.39	243	eP	Pn	01 26 07.0	-1.0
NMR				eS	Sn	01 26 24.0	-1.2
GLVR	Golovnino	1.40	259⇓	iPN	Pn	01 26 07.9	-0.3
GLVR				iS	Sn	01 26 25.1	-0.4
GLVR				pmax	pmax		
	comp=E,36nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,329nm,0.1s						
GLVR				pmax	pmax		
	comp=N,33nm,0.2s						
GLVR				smax	smax		
	comp=N,452nm,0.3s						
GLVR				smax	smax		
	comp=E,1μm,0.2s						
GLVR	Golovnino	1.40	259	iP	Pn	01 26 07.9	-0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLVR				AMB	AMB	01 26 08.0	
	comp=E,329nm,0.3s						
GLVR				i S	Sn	01 26 25.1	-0.4
GLVR				A	A	01 26 28.0	
	comp=E,452nm,0.3s						
GLVR				A	A	01 26 28.0	
	comp=E,1µm,0.3s						
RUSJ	Misakicho	1.57	274	⇓ i PN	Pn	01 26 11.2	+0.8
RUSJ				i S	Sn	01 26 31.0	+1.4
JRA	Rausu	1.66	268	P	Pn	01 26 12.0	+0.3
JRA				eS	Sn	01 26 32.6	+0.8
JNSB	Nemuroshibetsu	1.76	263	P	Pn	01 26 13.5	+0.4
JKHN	Kushirohamanak	1.89	241	P	Pn	01 26 14.5	-0.3
JNK	Nakash	2.00	258	P	Pn	01 26 16.6	+0.2
JNK				eS	Sn	01 26 40.1	-0.1
AKK	Akkeshi	2.12	243	eP	Pn	01 26 17.8	-0.2
JAK	Akkeshi	2.23	244	P	Pn	01 26 18.9	-0.6
JAK				eS	Sn	01 26 45.3	-0.5
JTKR	Abashiri--Toko	2.53	270	P	Pn	01 26 24.5	+0.9
JAR	Ashorobuto	2.74	256	P	Pn	01 26 27.6	+1.1
JAR				eS	Sn	01 26 59.8	+1.3
JOB	Onbets	2.84	248	P	Pn	01 26 28.1	+0.3
JOB				eS	Sn	01 27 00.6	-0.1
JCH	Churui	3.27	246	P	Pn	01 26 34.5	+0.7
JKK2	Kamakawa 2	3.38	269	P	Pn	01 26 36.7	+1.5
JEM	Erimo	3.71	239	P	Pn	01 26 42.6	+2.8
JNBK	Urakawa-nobuka	3.83	245	P	Pn	01 26 42.8	+1.4
YSS	Yuzh-Sakhalins	4.40	313	i PN	Pn	01 26 48.1	-1.1
YSS	Yuzh-Sakhalins	4.40	313	eP	Pn	01 26 49.6	+0.4
YSS				AMB	AMB	01 26 51.7	
	comp=E,30nm,0.3s						
SKR	Severo-Kuril's	8.90	38	i PN	Pn	01 27 51.4	+0.5
SKR	Severo-Kuril's	8.90	38	eP	Pn	01 27 51.4	+0.5
KLR	Kul'dur	11.96	301	i PN	Pn	01 28 30.3	-2.4
BILL	Bilibino	26.05	16	deP	P	01 31 13.8	+0.7
BILL				*SP	sP	01 31 34.0	+1.8
BILL						01 31 54.0	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,130nm,16.0s						
BILL	Bilibino	26.05	16	eP	P	01 31 13.8	+0.7
NRIK	Noril'sk	39.11	331	i P	P	01 33 06.8	-0.1
NRIK				pmax	pmax		
	comp=Z,2.0nm,1.1s						

IDC 03 01:28:23.4±2.6**, 11°08N×43°59E, h0km, mb3.8**/5**, mb1 3.9**/5**, mb1mx3.6**/50**, mbtmp3.8**/5**, Error ellipse: s-maj=69.8km s-min=38.0km az=44.0, Ethiopia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKASG	Malin Array Be	41.23	346	P	P	01 36 09.1	-0.9
	0.8nm,0.5s,baz=165,slow=7.4,SNR=3.5						
GERES	GERESS Array B	45.13	332	P	P	01 36 42.3	+0.6
	0.6nm,0.6s,baz=127,slow=7.5,SNR=6.3						
MKAR	Makanchi Array	48.31	35	P	P	01 37 06.8	+0.1
	0.9nm,0.7s,baz=230,slow=6.2,SNR=4.2						
ZALV	Zalesovo Beam	53.82	29	P	P	01 37 47.9	0.0
	0.4nm,0.3s,baz=263,slow=6.7,SNR=3.8						
ASAR	Alice Springs	94.65	113	P	P	01 41 46.9	-0.2
	0.5nm,0.5s,baz=290,slow=3.8,SNR=4.8						

*IDC **03** 01:28:48.2±1.4, 2°95S×102°34E, h0km, mb3.9/9, mb1 4.1/9, mb1mx3.7/54, mbtmp3.9/9, MS3.5/1, Ms1 3.5/1, ms1mx2.6/33, Error ellipse: s-maj=66.8km s-min=16.9km az=52.0*

*NEIC **03** 01:29:07.1±1.0, 2°9S±0°1×102°5E±0°2, h155km±9km, mb4.2/11, Error ellipse: s-maj=30.5km s-min=11.1km az=53.0*

*DJA **03** 01:29:08.9±0.5, 3°S±4°×10°2E±°, h165km±4km, M3.9/9, MLv3.9/9*

ISC 03 01:29:08.3±0.7**, 2°98S**±0°09×**102°4E**±0°1**, h179**km±6km**, n40,** σ0s94/41**, mb3.9**/16**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MASI	Maura Aman, Be	0.23	226	P	Pn	01 29 33.0	+0.8
MASI				S	Sn	01 29 51.6	+1.0
KSI	Kapahiang	0.69	164	P	Pn	01 29 34.2	+0.2
KSI				S	Sn	01 29 53.3	-0.6
UBSI	University, Be	0.79	190	P	Pn	01 29 35.2	+0.7
UBSI				S	Sn	01 29 55.1	+0.3
LHSI	Lahat	1.40	127	P	Pn	01 29 39.3	+0.1
EGSI	Enggano, Bengk	2.36	183	P	Pn	01 29 49.9	+0.6
EGSI				S	Sn	01 30 19.3	-2.0
PDSI	Padang	2.83	317	P	Pn	01 29 54.9	0.0
PDSI				S	Sn	01 30 29.4	-1.8
KASI	Kota Agung	3.27	141	P	Pn	01 29 59.1	-1.2
SISI	Saibi	3.70	296	P	Pn	01 30 09.5	+3.9
MNSI	Mandailing Nat	4.70	323	P	Pn	01 30 18.1	-0.2
GSI	Gunungsitoli	6.44	311		Pn	01 30 40.9	-0.2
GSI				Sn	Sn	01 31 51.6	-2.7
CISI	Cisompet, Garu	7.05	130	Pn	Pn	01 30 46.9	-2.3
FITZ	Fitzroy Crossi	27.28	125	P	P	01 34 36.2	-0.1
KNRA	Kununurra	28.85	118	P	P	01 34 50.1	-0.2
MORW	Morawa	29.00	155	P	P	01 34 51.9	+0.5
H08S2	Diego Garcia H	30.13	260	T	T	02 04 57.3	
	baz=83,slow=74,SNR=7.7						
H08S3	Diego Garcia H	30.14	260	T	T	02 04 59.2	
	baz=83,slow=74,SNR=17						
H08S1	Diego Carcia H	30.15	260	T	T	02 04 55.1	
	baz=83,slow=74,SNR=4.2						
WB0	Warramunga Arr	35.40	121	P	P	01 35 47.0	-0.4
WB0				IAmb	IAmb	01 35 51.3	
	comp=Z,3.7nm,1.1s						
WRA	Warramunga Arr	35.43	121	P	P	01 35 46.2	-1.4
	comp=Z,0.5nm,0.3s,baz=308,slow=8.7,SNR=13						
WRA	Warramunga Arr	35.43	121	P	P	01 35 47.7	+0.1
WB2	Warramunga Arr	35.44	121	P	P	01 35 46.9	-0.7
WB2				IAmb	IAmb	01 35 49.4	
	comp=Z,6.4nm,1.2s						
WR0	Warramunga Arr	35.61	121	P	P	01 35 47.9	-1.2
WR0				IAmb	IAmb	01 35 50.4	
	comp=Z,3.1nm,0.8s						
AS31	Alice Springs	36.74	127	P	P	01 35 58.6	-0.1
AS31				IAmb	IAmb	01 36 01.1	
	comp=Z,1.6nm,0.3s						
ASAR	Alice Springs	36.74	127	P	P	01 35 58.5	-0.3
	comp=Z,1.0nm,0.3s,baz=300,slow=7.8,SNR=18						
ASAR	Alice Springs	36.74	127	P	P	01 35 58.6	-0.1
BBOO	Buckleboo	43.29	137	P	P	01 36 53.1	+0.7
BBOO				IAmb	IAmb	01 36 54.3	
	comp=Z,15nm,1.2s						
STKA	Stephens Creek	46.71	132	P	P	01 37 20.0	+0.6
	comp=Z,1.1nm,0.4s,baz=302,slow=5.3,SNR=4.7						
MK31	Makanchi Array	52.64	343	P	P	01 38 04.2	+0.3
MK31				IAmb	IAmb	01 38 14.7	
	comp=Z,8.8nm,1.5s						
MKAR	Makanchi Array	52.64	343	P	P	01 38 03.4	-0.6
	comp=Z,0.4nm,0.4s,baz=157,slow=8.9,SNR=11						
MKAR	Makanchi Array	52.64	343	P	P	01 38 03.9	-0.1
USRK	Ussuriysk Ar.	53.93	26	P	P	01 38 13.9	+0.6
	comp=Z,1.1nm,0.7s,baz=207,slow=3.9,SNR=4.2						
USRK	Ussuriysk Ar.	53.93	26	P	P	01 38 13.2	-0.2
KURBB	Kurchatov Arra	57.19	342	P	P	01 38 36.4	-0.1
	comp=Z,0.2nm,0.3s,baz=151,slow=7.0,SNR=1.7						
KURK	Kurchatov	57.24	342	P	P	01 38 36.4	-0.4
GEYT	Alibeck	57.75	319	LR	LR	02 06 45.6	
	comp=Z,39nm,18.9s,baz=120,slow=40						
ZALV	Zalesovo Beam	58.60	348	P	P	01 38 46.1	-0.1
	comp=Z,0.6nm,0.4s,baz=152,slow=7.7,SNR=2.3						
BVAR	Borovoye Array	61.95	339	P	P	01 39 09.8	+0.9
	comp=Z,0.4nm,0.4s,baz=178,slow=16,SNR=3.8						
ABKAR	Akbulak array	63.66	330	P	P	01 39 20.3	0.0
ABKAR				IAmb	IAmb	01 39 20.9	
	comp=Z,1.6nm,0.6s						
ABKAR	Akbulak array	63.66	330	P	P	01 39 20.1	-0.3
KBZ	Khabaz	70.62	319	P	P	01 40 05.4	+1.1
	comp=Z,1.8nm,0.8s,baz=118,slow=7.3,SNR=5.1						

*KRSC **03** 01:35:16.8±1.2, 53°44N×161°16E, h41km±18km, ML4.2*

*IDC **03** 01:35:26.9±4.6, 53°68N×159°97E, h86km±30km, mb3.6/9, mb1 3.8/9, mb1mx3.3/66, mbtmp3.9/9, MS2.6/1, Ms1 2.6/1, ms1mx2.2/41, Error ellipse: s-maj=61.1km s-min=21.7km az=93.0*

ISC 03 01:35:19.1±1.3**, 53°44N**±0°04×**161°12E**±0°05**, h40**km±13km**, n53,** σ1s40/78**, mb3.9**/9**, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.74	243	eP	Pn	01 35 32.5	-0.5
SPN				eS	Sn	01 35 42.3	-0.8
NLC	Nalytchevo	1.10	256	eP	Pn	01 35 37.5	-0.4
NLC				eS	Sn	01 35 51.4	-0.4
KII	Karymskiy	1.15	302	eP	Pn	01 35 37.6	-1.2
KII				eS	Sn	01 35 51.7	-1.7
MKZ	Mys Kozlova	1.17	18	eP	Pn	01 35 37.8	-1.1
MKZ				eS	Sn	01 35 51.3	-2.4
SDLR	Sedlovina	1.35	264	eP	Pn	01 35 41.6	+0.1
SDLR				eS	Sn	01 35 57.8	-0.4
UGLR	Uglovaya	1.39	261	eP	Pn	01 35 42.4	+0.3
UGLR				eS	Sn	01 35 59.3	0.0
SMAR	Somma	1.40	263	eP	Pn	01 35 42.3	0.0
SMAR				eS	Sn	01 35 59.0	-0.6
KRER	Koryakskii	1.43	265	eP	Pn	01 35 42.9	+0.3
KRER				eS	Sn	01 36 00.0	-0.2
AVH	Avacha	1.44	264	eP	Pn	01 35 43.0	+0.4
AVH				eS	Sn	01 36 00.8	+0.5
DALK	Dalny	1.48	255	eP	Pn	01 35 42.3	-0.8
DALK				eS	Sn	01 36 01.1	-0.1
KRX	Arik	1.48	268	eP	Pn	01 35 43.3	0.0
KRX				eS	Sn	01 36 00.7	-0.8
KOK	Koryaka	1.49	265	eP	Pn	01 35 43.6	+0.2
KOK				eS	Sn	01 36 01.5	-0.3
PET	Petropavlovsk	1.54	255	eP	Pn	01 35 43.9	-0.1
PET				eS	Sn	01 36 01.1	-1.6
KZV	Kizimen	1.74	344	eP	Pn	01 35 47.0	+0.1
KZV				eS	Sn	01 36 07.0	-0.9
RUS	Russkaya	1.87	238	eP	Pn	01 35 48.5	0.0
RUS				eS	Sn	01 36 10.5	-0.4
GNL	Ganaly	1.91	279	eP	Pn	01 35 49.7	+0.5
GNL				eS	Sn	01 36 12.5	+0.5
TUMR	Tumrok	1.93	343	eP	Pn	01 35 50.0	+0.6
TUMR				eS	Sn	01 36 12.3	-0.2
MTVR	Mutnovka	2.02	243	eP	Pn	01 35 51.2	+0.5
MTVR				eS	Sn	01 36 15.6	+0.9
GRL	Gorelyy	2.04	245	eP	Pn	01 35 51.9	+0.9
GRL				eS	Sn	01 36 15.5	+0.1
PETK	Petropavlovsk-	2.08	262	P	Pn	01 35 51.9	+0.4
	27nm,0.3s,baz=273,slow=12,SNR=203						
PETK				S	Sn	01 36 18.3	+2.2
	28nm,0.3s,baz=227,slow=47,SNR=13						
PETK				LR	LR	01 36 49.7	
	comp=Z,143nm,19.9s,baz=76,slow=56						
ASAK	Asacha	2.22	243	eP	Pn	01 35 54.5	+1.1
ASAK				eS	Sn	01 36 21.0	+1.4
KMNR	Kamenistaya	2.37	348	eP	Pn	01 35 57.0	+1.5
KMNR				eS	Sn	01 36 26.2	+2.8
KDTR	Khodutka, Kamc	2.47	230	eP	Pn	01 35 57.2	+0.4
KDTR				eS	Sn	01 36 26.9	+1.2
BZMR	Bezymyannaya	2.52	352	eP	Pn	01 35 59.0	+1.4
BZMR				eS	Sn	01 36 29.7	+2.5
BZWR	Bezymyannyi-We	2.55	352	eP	Pn	01 35 59.3	+1.3
BZWR				eS	Sn	01 36 29.4	+1.5
KIRR	Kirishev	2.55	350	eP	Pn	01 35 59.3	+1.2
KIRR				eS	Sn	01 36 29.3	+1.3
KPT	Kopyto	2.58	349	eP	Pn	01 35 59.0	+0.6
KPT				eS	Sn	01 36 29.8	+1.3
ZLN	Zelenaya	2.58	356	eP	Pn	01 36 00.0	+1.6
ZLN				eS	Sn	01 36 30.2	+1.5
LGNR	Loginova	2.66	355	eP	Pn	01 36 01.0	+1.4
LGNR				eS	Sn	01 36 30.8	+0.1
CIRR	Tsirk	2.69	356	eP	Pn	01 36 02.5	+2.6
CIRR				eS	Sn	01 36 33.1	+1.9
KRSR	Krestovskiy	2.80	354	eP	Pn	01 36 02.4	+1.0
KLY	Klyuchi	2.89	355	eS	Sn	01 36 35.3	-0.6
MIPR	Malaya Ipel'ka	2.89	248	eP	Pn	01 36 04.6	+2.1
MIPR				eS	Sn	01 36 39.0	+3.0
KBTR	Krutoberegovo	2.94	19	eP	Pn	01 36 04.3	+1.1
KBG	Krutoberegovo	2.96	17	eP	Pn	01 36 06.7	+3.2
PAU	Pauzhetka	3.29	235	eP	Pn	01 36 09.8	+1.7
BKI	Bering	3.35	56	eP	Pn	01 36 09.4	+0.6
BKI				eS	Sn	01 36 44.7	-2.5
MA2	Magadan	8.39	321	LR	LR	01 41 09.7	
	comp=Z,42nm,18.4s,baz=93,slow=44						
MJAR	Matsushiro Arr	23.25	233	P	P	01 40 24.0	+1.3
	1.5nm,0.6s,baz=27,slow=11,SNR=4.3						
H11N2	WAKE ISLAND Hy	33.95	170	T	T	02 18 18.1	
	baz=354,slow=76,SNR=73						
H11N3	WAKE ISLAND Hy	33.96	170	T	T	02 18 19.9	
	baz=354,slow=76,SNR=66						
H11N1	WAKE ISLAND Hy	33.96	170	T	T	02 18 18.4	
	baz=354,slow=76,SNR=64						
H11S1	WAKE ISLAND Hy	35.14	171	T	T	02 19 53.7	
	baz=352						
H11S3	WAKE ISLAND Hy	35.15	171	T	T	02 19 52.4	
	baz=352,SNR=16						
H11S2	WAKE ISLAND Hy	35.15	171	T	T	02 19 54.1	
	baz=352						
KURBB	Kurchatov Arra	48.17	302	P	P	01 43 52.4	-2.6
	1.1nm,0.5s,baz=58,slow=7.6,SNR=6.3						
MKAR	Makanchi Array	48.55	296	P	P	01 43 54.2	-3.8
	0.5nm,0.7s,baz=59,slow=7.6,SNR=4.1						
ARCES	ARCESS Array B	53.14	342	P	P	01 44 31.0	-1.2
	6.3nm,1.1s,baz=40,slow=7.9,SNR=6.7						
FINES	FINESS Array B	60.04	337	P	P	01 45 20.8	-0.4
	1.8nm,0.4s,baz=38,slow=8.4,SNR=16						
AKASG	Malin Array Be	68.63	329	P	P	01 46 16.6	-0.9
	0.7nm,0.4s,baz=26,slow=6.7,SNR=2.6						
MLR	Muntele Rosu	74.27	329	P	P	01 46 53.0	+1.2
	0.7nm,0.5s,baz=0.0,slow=6.1,SNR=4.6						
WRA	Warramunga Arr	76.66	206	P	P	01 47 06.7	+1.2
	0.3nm,0.7s,baz=16,slow=5.7,SNR=1.9						
ASAR	Alice Springs	80.33	205	P	P	01 47 28.1	+2.3
	0.3nm,0.4s,baz=12,slow=4.7,SNR=2.6						

*IDC **03** 01:40:33.8±0.9, 31°15N×141°93E, h0km, mb3.8/8, mb1 4.0/11, mb1mx3.7/55, mbtmp3.8/11, ML3.4/3, Error ellipse: s-maj=32.8km s-min=16.8km az=68.0*

*NIED **03** 01:40:35.5, 31°24N×142°11E, h30km, MW3.8, Moment Tensor Solution. s2 Moment tensor: Scale 10^14 Nm; Mrr4.71; Mθθ-0.45; Mφφ-4.27; Mrθ-0.01; Mθφ1.66; Mφr4.00; Fault plane solution: M0 6.25000×10^14 NP1: φs352.00000°, δ65.00000°, λ101.00000°. NP2: φs147.00000°, δ27.00000°, λ67.00000°.*

*JMA **03** 01:40:35.4±0.2, 31°24N×142°11E, h30km, M4.0*

*NEIC **03** 01:40:37.4±1.5, 31°27N±0°06×142°0E±0°2, h23km±4km, mb4.3/5, Error ellipse: s-maj=20.5km s-min=8.1km az=78.0*

ISC 03 01:40:38.2±0.7**, 31°23N**±0°06×**142°0E**±0°1**, h35**km**, n36,** σ1s61/44**, mb3.9**/11**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.64	316	P	Pn	01 41 18.1	-0.2
JHJ	Hachijo jima 2	2.67	316	Pn	Pn	01 41 16.8	-1.9
	8.6nm,0.3s,baz=72,slow=20,SNR=1.5						
JHJ				Sn	Sn	01 41 46.3	-3.5
	21nm,0.3s,baz=68,slow=24,SNR=2.3						
BSO1	Boso 1	3.53	346	P	Pn	01 41 29.9	-0.1
BSO4	Boso 4	4.01	340	P	Pn	01 41 37.7	+0.7
CBIJ	Chichi jima	4.12	178	P	Pn	01 41 38.5	-0.2
CBIJ				eS	Sn	01 42 22.9	-2.7
JCJ	Chichijima	4.12	178	Pn	Pn	01 41 38.6	-0.1
	13nm,0.3s,baz=96,slow=24,SNR=8.8						
JCJ				Sn	Sn	01 42 20.7	-4.9
	7.3nm,0.3s,baz=285,slow=20,SNR=1.9						
JCJ	Chichijima	4.12	178		Pn	01 41 38.8	+0.1
JCJ				Sn	Sn	01 42 25.5	-0.1
JHU	Hanno	5.14	335	P	Pn	01 41 53.3	+0.6
JRY	Ryogami san	5.43	332	P	Pn	01 41 57.9	+1.1
JRY				eS	Sn	01 42 58.1	0.0
JHO	Hitachi	5.50	348	eS	Sn	01 42 55.9	-3.8
JAG	Ashikaga	5.60	338	P	Pn	01 41 59.4	+0.3
JAG				eS	Sn	01 43 01.3	-0.9
MJAR	Matsushiro Arr	6.17	330	Pn	Pn	01 42 07.6	+0.8
	0.3nm,0.3s,baz=157,slow=11,SNR=6.9						
MJAR	Matsushiro Arr	6.17	330		Pn	01 42 07.0	+0.1
MAJO	Matsushiro	6.17	330	Pn	Pn	01 42 07.5	+0.7
MAT	Matsushiro	6.17	330	P	Pn	01 42 08.2	+1.3
MAT				eS	Sn	01 43 15.0	-1.2
JMM	Marumori	6.70	352		Pn	01 42 12.8	-1.3
JMM					Sn	01 43 24.1	-5.1
JSD	Sado	7.46	337	Pn	Pn	01 42 24.2	-0.3
SONM	Songino Array	31.74	312	P	P	01 47 00.4	+1.4
	1.2nm,0.8s,baz=114,slow=8.4,SNR=6.9						
SONM	Songino Array	31.74	312	P	P	01 46 59.1	+0.2
ZALV	Zalesovo Beam	46.33	317	P	P	01 49 01.2	+0.7
	0.8nm,0.5s,baz=78,slow=3.6,SNR=4.0						
ZALV	Zalesovo Beam	46.33	317	P	P	01 49 00.6	+0.1
MK31	Makanchi Array	47.80	307	P	P	01 49 13.1	+0.9
MKAR	Makanchi Array	47.80	307	P	P	01 49 12.5	+0.3
	0.4nm,0.4s,baz=84,slow=8.9,SNR=6.8						
MKAR	Makanchi Array	47.80	307	P	P	01 49 12.3	+0.1
KURBB	Kurchatov Arra	50.10	312	P	P	01 49 30.3	+0.6
	0.4nm,0.4s,baz=90,slow=6.7,SNR=9.7						
WB0	Warramunga Arr	51.22	189	P	P	01 49 38.6	+0.2
WB0				IAmb	IAmb	01 49 46.0	
	comp=Z,5.4nm,1.4s						
WR0	Warramunga Arr	51.39	189	P	P	01 49 39.7	+0.1
WR0				IAmb	IAmb	01 49 50.6	
	comp=Z,5.6nm,1.2s						
WB2	Warramunga Arr	51.40	189	P	P	01 49 40.2	+0.4
WB2				IAmb	IAmb	01 49 58.9	
	comp=Z,4.4nm,1.1s						
WRA	Warramunga Arr	51.40	189	P	P	01 49 40.0	+0.2
	comp=Z,0.7nm,0.3s,baz=6.7,slow=7.6,SNR=17						
WRA	Warramunga Arr	51.40	189	P	P	01 49 40.1	+0.4
ASAR	Alice Springs	55.13	189	P	P	01 50 06.7	-0.5
	comp=Z,0.5nm,0.5s,baz=0.3,slow=5.7,SNR=9.4						
ASAR	Alice Springs	55.13	189	P	P	01 50 07.0	-0.1
KKAR	Karatay Array	56.60	304	P	P	01 50 18.6	+1.0
NVAR	Mina Array Bea	78.11	52	P	P	01 52 35.8	+1.7
	comp=Z,0.4nm,0.7s,baz=310,slow=7.0,SNR=4.2						
NVAR	Mina Array Bea	78.11	52	P	P	01 52 34.3	+0.2
TXAR	Lajitas Array	93.25	53	P	P	01 53 50.9	+1.2
	comp=Z,0.3nm,0.5s,baz=308,slow=2.1,SNR=4.6						

*BGR **03** 01:44:36.5±0.0, 30°67N×29°37E, h10km, mb4.6*

*MOS **03** 01:44:38.7±1.0, 30°68N×28°53E, h10km, mb4.6/59, Error ellipse: s-maj=5.7km s-min=2.6km az=98.5*

*IDC **03** 01:44:38.7±0.8, 30°66N×28°53E, h0km, mb4.2/24, mb1 4.4/33, mb1mx4.2/51, mbtmp4.3/33, ML4.3/7, MS3.5/13, Ms1 3.5/13, ms1mx3.2/40, Error ellipse: s-maj=15.8km s-min=11.2km az=179.0*

*MED_RC **03** 01:44:39.0±0.4, 30°45N×28°42E, h10km, MW4.5/26, Moment Tensor Solution.Mantle waves: s26,c40; Duration: 1s0 Moment tensor: Scale 10^15 Nm; Mrr-0.63±.29; Mθθ0.83±.21; Mφφ-0.20±.33; Mrθ-0.56±.81; Mθφ-5.57±.18; Mφr-1.84±.71; Best double couple: M0 5.94000×10^15 NP1: φs89.00000°, δ72.00000°, λ-172.00000°. NP2: φs356.00000°, δ82.00000°, λ-19.00000°. Principal axes: T 6.0200, Plg7.0000°, Azm44.0000°; N -0.1600, Plg70.0000°, Azm154.0000°; P -5.8600, Plg19.0000°, Azm311.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*NEIC **03** 01:44:40.6±1.1, 30°63N±0°06×28°52E±0°05, h14km±4km, mb4.5/50, ML4.3(HLW) Error ellipse: s-maj=9.5km s-min=6.2km az=199.0*

*SGS **03** 01:44:43.0, 30°05N×28°37E, h10km, Ml4.7*

ISC 03 01:44:40.5±0.6**, 30°62N**±0°05×**28°46E**±0°04**, h16**km±3km**, h16**km**:pP-P, n530,** σ1s76/548**, mb4.5**/108**, MS3.6**/13**, 45C-18D, Egypt**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATC	Matruh	1.28	305		Pb	01 45 04.8	+0.5
HNAT	Natroun	2.11	117		Pn	01 45 15.0	-0.3
HNAT					Sn	01 45 38.1	-3.2
SWA1		2.74	241		Pn	01 45 25.9	+2.0
HSAF	As Saff	2.86	110		Pn	01 45 25.3	-0.3
SLUM	Salum	2.92	288		Pn	01 45 26.1	-0.2
KOT	Kottamia	3.00	102		Pn	01 45 27.5	0.0
ZKR	Zakros	4.87	338	P	Pn	01 45 53.6	+0.5
STIA	Sitia Lasithi	4.99	337	P	Pn	01 45 55.5	+0.7
KARP	Karpathos	5.04	348	P	Pn	01 45 56.3	+0.8
KARP	Karpathos	5.04	348	Pn	Pn	01 45 55.7	+0.2
KARP				Sn	Sn	01 46 53.1	-0.3
NPS	Neapolis	5.21	333	P	Pn	01 45 59.0	+1.1
HRKL	Herakleio	5.47	330	P	Pn	01 46 02.2	+0.8
KSTL	Kastelli Herak	5.47	330	P	Pn	01 46 00.6	-0.9
IDI	Anoyia	5.54	328	Pn	Pn	01 46 02.6	+0.2
	14nm,0.3s,baz=152,slow=3.8,SNR=71						
IDI				Sn	Sn	01 47 03.2	-2.7
	45nm,0.3s,baz=334,slow=13,SNR=5.5						
ARG	Arkhangelos	5.59	357	P	Pn	01 46 04.7	+1.6
GVD	Gavdhos	5.59	320	P	Pn	01 46 03.1	0.0
KSL	Kastellorizon	5.60	9	P	Pn	01 46 03.2	0.0
EIL	Elat	5.70	98	Pn	Pn	01 46 04.2	-0.5
	6.1nm,0.3s,baz=341,slow=2.3,SNR=64						
EIL				Sn	Sn	01 47 08.7	-1.1
	23nm,0.3s,baz=227,slow=23,SNR=5.9						
EIL				Lg	Lg	01 47 38.4	
	44nm,0.3s,baz=89,slow=18,SNR=4.5						
EIL				LR	LR	01 48 16.6	
	comp=Z,708nm,20.4s,baz=170,slow=39						
HAQS	Haql	5.83	104	P	Pn	01 46 07.4	+1.1
CSS	Mathiatis	5.97	42	Pn	Pn	01 46 08.3	+0.1
CSS				Sn	Sn	01 47 14.9	-1.4
VAM	Vamos	5.97	324	P	Pn	01 46 08.3	0.0
RSHS		5.99	111	P	Pn	01 46 09.1	+0.5
FETY	Fethiye	6.03	5	P	Pn	01 46 08.6	-0.5
NIS1	Nisyros Isl.	6.07	350	P	Pn	01 46 09.7	+0.1
IMMV	Iera Moni Meta	6.12	323	P	Pn	01 46 10.2	-0.2
DAT	Datca	6.14	353	P	Pn	01 46 10.8	+0.1
GHAJ	Ghor Haditha	6.14	82		Pn	01 46 10.3	-0.3
GHAJ				Sn	Sn	01 47 20.6	-0.1
BDAS	Al Bad`	6.18	109	P	Pn	01 46 10.9	-0.4
ELL	Elmali	6.23	11	P	Pn	01 46 12.7	+0.6
ELL	Elmali	6.23	11	Pn	Pn	01 46 12.7	+0.6
SANT	Santorini	6.26	337	P	Pn	01 46 11.5	-0.8
SANT	Santorini	6.26	337	Pn	Pn	01 46 11.2	-1.1
THR8	Santorini-Mono	6.29	337	P	Pn	01 46 12.0	-0.6
SNT5	Nea Kammeni, S	6.31	337	P	Pn	01 46 12.3	-0.7
THR3	Thira Island,	6.32	337	P	Pn	01 46 12.2	-0.8
THR5	Thira Island,	6.34	337	P	Pn	01 46 12.9	-0.5
CMBO	Columbo, Santo	6.37	337	P	Pn	01 46 13.0	-0.8
MMAI	Mount Meron Ar	6.38	66	Pn	Pn	01 46 13.4	-0.6
	95nm,0.3s,baz=259,slow=12,SNR=364						
MMAI				Sn	Sn	01 47 25.2	-1.3
	68nm,0.3s,baz=233,slow=28,SNR=6.8						
MMAI				LR	LR	01 49 38.2	
	comp=Z,295nm,19.1s,baz=145,slow=48						
JLOS		6.40	105	P	Pn	01 46 14.2	-0.2
KRABS	KRABS	6.44	111	P	Pn	01 46 13.8	-1.0
BODT	Bodrum	6.50	352	P	Pn	01 46 15.6	0.0
YER	Yerkesik	6.50	359	P	Pn	01 46 17.4	+1.7
YER	Yerkesik	6.50	359	P	Pn	01 46 19.6	+3.9
DQRL	Deir Qamar	6.77	61	eP	Pn	01 46 19.1	-0.3
QRWL	Qaraoun	6.79	63	eP	Pn	01 46 19.4	-0.3
MWLHS	Almuwaylih	6.80	113	P	Pn	01 46 18.3	-1.4
APE	Apeiranthos	6.88	340	P	Pn	01 46 20.9	0.0
APE	Apeiranthos	6.88	340	P	Pn	01 46 25.8	+4.9
RCY	Rachaya	6.89	63	eP	Pn	01 46 21.1	0.0
BHL	Bhannes	6.92	60	eP	Pn	01 46 21.0	-0.4
MHLO	Agia Marina, M	6.94	332	P	Pn	01 46 21.0	-0.6
WTBKS	WTBKS	6.98	109	P	Pn	01 46 21.9	-0.4
SMG	Samos	7.20	350	P	Pn	01 46 25.2	0.0
KTHA	Kythira Island	7.21	323	P	Pn	01 46 25.2	-0.1
HWQ	Hawqa	7.30	58	eP	Pn	01 46 25.8	-1.0
ASF	Jabal al Asfar	7.38	76	Pn	Pn	01 46 27.5	-0.2
	3.1nm,0.3s,baz=114,slow=6.6,SNR=45						
ASF				Sn	Sn	01 47 46.8	-4.4
	5.5nm,0.3s,baz=206,slow=23,SNR=6.3						
ISP	Isparta	7.39	13	P	Pn	01 46 28.3	+0.4
ISP	Isparta	7.39	13	Pn	Pn	01 46 28.3	+0.4
VLI	Veliai	7.63	324	P	Pn	01 46 29.9	-1.2
KULA	Kula-Manisa	7.88	1	P	Pn	01 46 35.3	+0.7
WJHS		7.97	117	P	Pn	01 46 34.4	-1.4
CHOS	Chios island	8.00	346	P	Pn	01 46 35.6	-0.6
KRND	KRANIDI	8.06	328	P	Pn	01 46 35.9	-1.1
KARY	Karystos	8.11	337	P	Pn	01 46 37.5	-0.2
VLY	Voula,Athens	8.19	333	P	Pn	01 46 38.0	-0.7
EPID	Epidavros	8.26	329	P	Pn	01 46 39.0	-0.8
ATHU	Athens Univers	8.29	333	P	Pn	01 46 39.4	-0.7
ATH	Athens Observa	8.32	333	P	Pn	01 46 39.9	-0.6
DION	Dionisos Attik	8.33	335	P	Pn	01 46 40.3	-0.4
VLX	Vlachokerasia	8.42	325	P	Pn	01 46 40.6	-1.4
ITM	Ithomi	8.50	322	P	Pn	01 46 41.8	-1.3
ITM	Ithomi	8.50	322	Pn	Pn	01 46 41.9	-1.1
TRIP	Tripoli	8.59	325	P	Pn	01 46 40.3	-4.1
VILL	Villia	8.64	332	P	Pn	01 46 44.5	-0.6
LTK	Loutraki	8.67	330	P	Pn	01 46 44.5	-0.9
KYMI	Kymi, Euboea I	8.77	337	P	Pn	01 46 46.1	-0.6
PRK	Paraskevi	8.79	349	P	Pn	01 46 48.0	+1.0
SIGR	SIGRI	8.84	347	P	Pn	01 46 47.2	-0.4

AMT Artemida-Makis 8.88 323 P Pn 01 46 47.4 -0.9
BALB Balikesir 9.02 357 Pn Pn 01 46 49.8 -0.2
KLV Kalavryta, Ach 9.06 327 P Pn 01 46 49.1 -1.6
LKR Lokris 9.19 332 P Pn 01 46 51.5 -1.0
NUMJS Khuff 9.23 120 P Pn 01 46 52.0 -1.1
LAKA Lakka 9.30 327 P Pn 01 46 52.4 -1.6
EZN Ezine 9.35 350 P Pn 01 46 54.9 +0.2
SERG Sergoula 9.40 328 P Pn 01 46 54.3 -1.1
RLS Riolos of Patr 9.40 324 P Pn 01 46 55.2 -0.2
EFP Efpalio 9.48 327 P Pn 01 46 55.3 -1.1
LTHK Lithakia 9.48 320 P Pn 01 46 53.7 -2.7
ANX Ano Chora 9.61 328 P Pn 01 46 57.1 -1.2
NEO Neokhori 9.67 335 P Pn 01 46 58.7 -0.4
XOR Xorichti 9.74 335 P Pn 01 46 59.1 -0.9
GAZ Gaziantep 9.78 46 Pn Pn 01 47 00.3 -0.3
AGG Agios Georgios 9.78 331 P Pn 01 46 58.7 -1.9
AGG Agios Georgios 9.78 331 P Pn 01 46 58.6 -2.0
AGG Agios Georgios 9.78 331 Pn Pn 01 46 58.6 -2.0
BR231 Keskin MP Arra 9.86 20 Pn 01 47 01.6 -0.2
MAKR Makrakomi, Fth 9.86 330 P Pn 01 47 00.9 -0.8
ANTO Ankara 9.89 20 P Pn 01 47 02.0 -0.1
ANTO Ankara 9.89 20 Pn 01 47 02.0 -0.1
PSDA Pessada-Kefalo 9.91 321 P Pn 01 47 00.2 -2.1
EVR Evrytania 9.92 328 P Pn 01 47 02.0 -0.6
VLS Valsamata 9.95 321 P Pn 01 47 00.8 -2.2
BR131 Keskin Array S 10.03 24 *c i* P Pn 01 47 04.7 +0.6
BR131 Keskin Array S 10.03 24 Pn 01 47 04.0 0.0
BRTR Keskin Array B 10.03 24 Pn Pn 01 47 03.6 -0.4
4.3nm,0.3s,baz=186,slow=16,SNR=73
BRTR Sn Sn 01 48 51.0 -5.3
0.8nm,0.3s,baz=204,slow=17,SNR=2.7
BRTR Keskin Array B 10.03 24 *e*P Pn 01 47 05.2 +1.1
BRTR pmax pmax
comp=Z,4.0nm,0.3s
BRTR Keskin Array B 10.03 24 Pn Pn 01 47 04.5 +0.4
PAIG Paliouri 10.07 339 P Pn 01 47 04.4 -0.2
PAIG pmax pmax
comp=Z,44nm,0.9s
MDUB Mudurnu 10.08 12 Pn Pn 01 47 06.0 +1.2
KEF5 Kardakata, Kep 10.09 321 P Pn 01 47 03.0 -1.9
KEF3 Kipouria, Keph 10.10 321 P Pn 01 47 01.8 -3.2
DMLN Damoulianata-K 10.11 321 P Pn 01 47 03.0 -2.2
BNN Bunyan 10.21 34 Pn Pn 01 47 06.7 0.0
EVGI Lefkada island 10.25 323 P Pn 01 47 05.5 -1.5
NYDR Nydri-Lefkada 10.29 324 P Pn 01 47 05.9 -1.7
OUR Ouranopolis 10.36 341 P Pn 01 47 08.0 -0.5
OUR Ouranopolis 10.36 341 P Pn 01 47 08.8 +0.3
THL Klokotos Trika 10.37 331 P Pn 01 47 06.2 -2.4
LKD2 Lefkada island 10.37 324 P Pn 01 47 06.8 -1.9
TSLK Tsoukalades, L 10.40 324 P Pn 01 47 07.5 -1.6
PLG Polygyros 10.56 339 P Pn 01 47 10.0 -1.2
LIT Litokhoron 10.64 334 P Pn 01 47 10.6 -1.8
LIT Litokhoron 10.64 334 P Pn 01 47 11.1 -1.3
LIT Litokhoron 10.64 334 Pn 01 47 11.1 -1.3
RDO Rodhopi 10.77 348 P Pn 01 47 13.8 -0.3
THE Thessaloniki 10.94 337 P Pn 01 47 16.2 -0.3
THE pmax pmax
comp=Z,13nm,0.9s
KPRO Kipourio 10.97 330 P Pn 01 47 15.1 -1.8
SOH Sokhos 10.99 339 P Pn 01 47 17.3 +0.1
SOH Sokhos 10.99 339 P Pn 01 47 17.4 +0.2
SOH pmax pmax
comp=Z,22nm,0.7s
IGT Igoumenitsa 11.11 325 P Pn 01 47 15.9 -2.8
IGT Igoumenitsa 11.11 325 P Pn 01 47 15.9 -2.8
IGT pmax pmax
comp=Z,58nm,1.0s
SRS Serrai 11.19 341 P Pn 01 47 21.1 +1.2
SRS pmax pmax
comp=Z,29nm,0.7s
NVR Nevrokopi 11.34 342 P Pn 01 47 22.0 +0.1
GRG Griva 11.43 336 P Pn 01 47 21.7 -1.4
LSK Leskovik 11.47 328 P Pn 01 47 21.4 -2.3
NEST Nestorio 11.48 330 P Pn 01 47 22.6 -1.4
KEK Kerkira 11.51 324 P Pn 01 47 20.9 -3.3
SRN Sarande 11.54 326 P Pn 01 47 21.4 -3.2
FNA Florina 11.66 332 P Pn 01 47 23.4 -3.0
FNA Florina 11.66 332 Pn Pn 01 47 23.4 -3.0
KBN Korca 11.77 330 P Pn 01 47 26.9 -1.0
KBN Korca 11.77 330 Pn 01 47 26.9 -1.0
PLD Plovdiv 11.86 346 P Pn 01 47 29.9 +0.9
PLD pmax pmax
comp=Z,1.0nm,1.0s
KVT Kavak 12.11 28 P Pn 01 47 36.6 +4.0
STIP Stip 12.16 337 *i* Pn Pn 01 47 32.4 -0.7
OHR Ohrid 12.17 331 *i* Pn Pn 01 47 32.3 -1.0
VLO Vlora 12.23 326 P Pn 01 47 30.7 -3.4
VLO Vlora 12.23 326 Pn 01 47 30.7 -3.4
SCTE Santa Cesarea 12.46 322 Pn Pn 01 47 33.8 -3.4
VTS Vitosha 12.69 342 ⇑P Pn 01 47 40.8 +0.3
VTS Vitosha 12.69 342 ⇑P Pn 01 47 40.8 +0.3
VTS Vitosha 12.69 342 Pn Pn 01 47 40.0 -0.5
TIR Tirane 12.76 329 ⇓P Pn 01 47 40.6 -0.8
TIR Tirane 12.76 329 ⇓P Pn 01 47 40.6 -0.8
TIR Tirane 12.76 329 Pn 01 47 39.3 -2.1
TIP Timpagrande 12.84 315 ⇑P Pn 01 47 39.4 -3.1
TIP Timpagrande 12.84 315 Pn Pn 01 47 39.2 -3.3
CEL Celeste 12.86 310 Pn 01 47 39.4 -3.5
PUK Puka 13.32 331 Pn 01 47 45.2 -3.9
RAFF Raffo Rosso 13.43 303 Pn Pn 01 47 49.2 -1.3
VAE Valguarnera 13.50 304 Pn Pn 01 47 51.2 -0.3
comp=Z,2.1nm,0.3s,baz=34,slow=12,SNR=10
VAE Sn Sn 01 50 20.4 -0.9
comp=Z,3.8nm,0.3s,baz=26,slow=6.3,SNR=3.7
GURO Guroymak-BITLI 13.69 51 Pn 01 47 53.6 -0.6
PDG Podgorica 13.91 330 ⇑P Pn 01 47 51.5 -5.5
PDG Podgorica 13.91 330 *e*Pn Pn 01 47 51.3 -5.7
PDG Podgorica 13.91 330 Pn Pn 01 47 52.0 -5.0
TLBR Topalu 13.91 359 ⇑P P 01 48 02.0 -3.1
HARR Harsova 14.06 358 ⇑P P 01 48 13.7 +7.0
HARR Harsova 14.06 358 ⇑P P 01 48 13.7 +7.0
BOVS Bovan 14.06 339 ⇓P Pn 01 47 57.4 -1.7
HCY Herceg Novi 14.25 329 *e*Pn Pn 01 47 56.8 -4.9
CLTB Caltabellotta 14.40 303 Pn Pn 01 48 03.8 -0.1
CFR Carcaliu 14.54 359 ⇑P P 01 48 14.8 +2.7
CFR Carcaliu 14.54 359 ⇑P P 01 48 14.8 +2.7
TLCR 14.55 1 ⇑P P 01 48 15.2 +3.0
TLCR 14.55 1 ⇑P P 01 48 15.2 +3.0
BRY Bratogost 14.60 330 *e*Pn Pn 01 48 01.0 -5.6
UPM Unac-Piva 14.69 331 *e*Pn Pn 01 48 03.4 -4.5
RUDO Rudo 14.85 333 *e*Pn Pn 01 48 04.5 -5.4
STON Ston 14.95 328 *e*Pn Pn 01 48 05.3 -5.9
STON Ston 14.95 328 *e*Pn Pn 01 48 05.5 -5.7
STON Sn Sn 01 50 41.2 -15
BISRR Bisoca 14.97 355 ⇓P P 01 48 19.5 +2.4
MLR Muntele Rosu 14.98 353 ⇑P Pn 01 48 12.7 +0.9
MLR Muntele Rosu 14.98 353 Pn Pn 01 48 12.0 +0.3
baz=218,slow=9.1
MLR Muntele Rosu 14.98 353 Pn 01 48 11.2 -0.6
ARR Arges 15.03 350 ⇑P Pn 01 48 10.7 -1.6
DIVS Divibare 15.03 336 *e*Pn Pn 01 48 08.4 -4.0
DIVS Divibare 15.03 336 Pn Pn 01 48 08.5 -4.0
VOIR 15.04 351 ⇑P Pn 01 48 11.2 -1.2
VOIR 15.04 351 ⇑P Pn 01 48 11.2 -1.2
BBLS Lazići 15.05 334 *e*Pn Pn 01 48 07.6 -5.0
MDVR Moldovita 15.11 341 ⇑P Pn 01 48 11.9 -1.5
SGRT San Giovanni R 15.11 321 Pn Pn 01 48 09.3 -4.2
BCA Borcka 15.15 41 ⇑P P 01 48 19.0 0.0
PLOR Plostina 15.28 355 ⇑P P 01 48 22.6 +2.2
PLOR Plostina 15.28 355 ⇑P P 01 48 22.6 +2.2
VRI Vrincioaia 15.29 355 ⇑P P 01 48 26.3 +5.9
VRI Vrincioaia 15.29 355 ⇑P P 01 48 26.3 +5.9
COVR Voineasa-Covas 15.31 354 ⇓P Pn 01 48 16.3 +0.3
PAOL Paolisi 15.31 317 Pn 01 48 12.4 -3.6
PAOL IAmb IAmb 01 48 27.4
comp=Z,14nm,0.7s
GZR Gura Zlata 15.41 345 ⇑P Pn 01 48 15.2 -2.2
GZR Gura Zlata 15.41 345 ⇑P Pn 01 48 15.2 -2.2
KARS Kars 15.51 46 P Pn 01 48 17.8 -1.0
KARS pmax pmax
comp=Z,108nm,1.0s
KARS Kars 15.51 46 Pn Pn 01 48 17.8 -1.0
DOPR Dopca 15.51 352 ⇓P Pn 01 48 17.6 -1.1
MAKA Makarska 15.59 327 *e*Pn Pn 01 48 14.2 -5.4
MAKA Sn Sn 01 50 55.6 -16
OZUR 15.60 353 ⇑P P 01 48 23.2 -0.7
BZS Buzias 15.90 342 ⇑P Pn 01 48 21.9 -1.8
BZS Buzias 15.90 342 ⇑P Pn 01 48 21.9 -1.8
TESR Tescani 15.93 355 ⇓P P 01 48 28.3 +0.7
FRGS Fruska Gora 16.03 337 *e*Pn Pn 01 48 21.1 -4.2
AKH Akhalkalaki 16.22 44 ⇑P P 01 48 29.6 -1.5

AKH Akhalkalaki 16.22 44 P P 01 48 32.0 +0.9
CHVG Ch'k'valeri 16.26 38 ⇑P Pn 01 48 24.1 -4.2
CHVG Ch'k'valeri 16.26 38 ⇑P Pn 01 48 24.1 -4.2
INTR Introdacqua 16.31 318 Pn Pn 01 48 29.2 +0.2
INTR IAmb IAmb 01 48 46.1
comp=Z,46nm,1.0s
GNI Garni 16.31 50 Pn Pn 01 48 30.0 +0.9
comp=Z,1.0nm,0.3s,baz=252,slow=5.4,SNR=10
GNI LR LR 01 56 25.1
comp=Z,71nm,19.3s,baz=236,slow=44
GNI Garni 16.31 50 *c e*P Pn 01 48 29.6 +0.5
GNI pmax pmax
comp=Z,13nm,0.9s
GNI Garni 16.31 50 Pn Pn 01 48 28.2 -1.0
BIZ Bicaz 16.40 354 ⇑P P 01 48 32.6 -0.2
KIJV Kijevo 16.42 328 *i* Pn Pn 01 48 25.6 -4.7
MGRS Mrkonjic Grad 16.44 330 *e*Pn Pn 01 48 26.0 -4.6
SIRR Siria 16.50 343 ⇑P Pn 01 48 30.2 -1.1
ZIRJ Zirje 16.52 326 *e*Pn Pn 01 48 26.9 -4.7
MORI Morici 16.64 326 *e*Pn Pn 01 48 28.9 -4.3
BLY Banja Luka 16.67 331 *e*Pn Pn 01 48 29.0 -4.4
DRGR 16.75 346 ⇓P Pn 01 48 34.1 -0.5
DRGR 16.75 346 ⇓P Pn 01 48 34.1 -0.5
KZRT Kazreti 16.76 46 P P 01 48 38.2 +1.3
KEST Kesra 16.79 293 Pn Pn 01 48 36.0 +0.9
comp=Z,2.7nm,0.3s,baz=65,slow=7.2,SNR=64
KEST LR LR 01 57 12.9
comp=Z,149nm,19.4s,baz=190,slow=45
KEST Kesra 16.79 293 Pn Pn 01 48 35.8 +0.7
AQU L'Aquila 16.82 318 P Pn 01 48 35.5 +0.1
AQU pmax pmax
comp=Z,59nm,1.3s
AQU L'Aquila 16.82 318 *e*Pn Pn 01 48 35.5 +0.1
AQU L'Aquila 16.82 318 Pn Pn 01 48 35.5 +0.1
AQU IAmb IAmb 01 48 46.1
comp=Z,59nm,1.3s
ONI Oni 16.93 41 P Pn 01 48 36.0 -0.9
ONI pmax pmax
comp=Z,21nm,1.3s
ONI Oni 16.93 41 Pn Pn 01 48 36.0 -0.9
MRAK Mrakovica 17.00 331 *e*Pn Pn 01 48 33.9 -3.8
DUGI Dugi Otok 17.05 325 *e*Pn Pn 01 48 33.9 -4.4
UDBI Udbina 17.12 328 *e*Pn Pn 01 48 35.9 -3.3
BURAR Bucovina Array 17.16 353 ⇓P P 01 48 42.3 +1.0
BURAR Bucovina Array 17.16 353 ⇓P P 01 48 42.3 +1.0
BURAR Bucovina Array 17.16 353 Pn Pn 01 48 39.0 -0.7
BUR08 Bucovina Ar. S 17.19 353 Pn Pn 01 48 39.1 -1.0
SHA1 Shidzhatmaz 17.27 37 *i* P Pn 01 48 41.8 +0.5
NRCA Norcia 17.29 319 Pn Pn 01 48 41.3 0.0
ZEI Tsey 17.31 41 *e*P Pn 01 48 41.7 -0.1
ZEI pmax pmax
comp=Z,6.0nm,1.2s
KBZ Khabaz 17.39 37 P P 01 48 43.6 -0.1
comp=Z,1.6nm,0.3s,baz=215,slow=8.4,SNR=72
KBZ LR LR 01 57 12.5
comp=Z,111nm,21.2s,baz=227,slow=44
KOVH Kovagotottos 17.43 335 *e*P Pn 01 48 40.5 -2.5
KIV Kislovodsk 17.44 36 *c i*P Pn 01 48 43.4 +0.1
KIV S S 01 52 04.0 -1.3
KIV pmax pmax
comp=Z,30nm,1.0s
KIV Kislovodsk 17.44 36 Pn 01 48 43.0 -0.3
KIV IAmb IAmb 01 48 47.0
comp=Z,19nm,0.7s
SORM Soroca 17.50 360 ⇑P P 01 48 45.2 +0.4
SORM Soroca 17.50 360 ⇑P P 01 48 45.2 +0.4
NVLJ Novalja 17.57 326 *e*Pn Pn 01 48 40.7 -3.9
PYA1 Pyatigorsk 17.73 37 *i* P P 01 48 47.3 -0.2
PYA1 pmax pmax
comp=Z,1.0nm,1.0s
MURB Monte Urbino 17.89 319 P 01 48 49.3 -0.1
VSL Villasalto 17.93 305 P 01 48 49.8 0.0
TRPA Tarpa 18.07 347 *e*P Pn 01 48 50.7 -0.2
OZLJ Ozalj 18.09 329 *e*Pn Pn 01 48 47.9 -3.3
BOJS Bojanci 18.10 329 *e*Pn Pn 01 48 47.4 -3.9
BOJS Bojanci 18.10 329 *i* P Pn 01 48 48.2 -3.1
BOJS *i* 01 48 50.5
PTJ Puntijarka 18.11 331 *e*Pn Pn 01 48 48.9 -2.5
BEHE Becsehely 18.24 333 *e*Pn P 01 48 55.0 +1.8
CRES Cresnjev 18.26 330 *e*Pn Pn 01 48 49.2 -4.1
BRJN Brijuni 18.36 325 *e*Pn P 01 48 51.7 -2.8
GOF Gofitskoye 18.41 34 ⇑*e*P P 01 48 53.4 -1.6
GOF pmax pmax
comp=Z,13nm,0.6s
PSZ Piszkesteto 18.49 342 ⇑P P 01 48 54.8 -1.1
PSZ Piszkesteto 18.49 342 *e*P Pn 01 48 57.1 +1.1
PSZ Piszkesteto 18.49 342 ⇑P P 01 48 54.8 -1.1
PSZ Piszkesteto 18.49 342 P P 01 48 54.7 -1.1
KNDS Knezji Dol 18.52 327 *i* P P 01 48 55.2 -1.1
MPLH Magyarpolny 18.55 336 *e*P P 01 48 55.9 -0.7
UZH Uzhgorod 18.60 347 *e*P Pn 01 48 57.3 0.0
CEY Cerknica 18.66 328 *e*Pn P 01 48 54.2 -3.5
GROC Groznyy 18.66 43 *e*P Pn 01 48 58.5 +0.3
GROC pmax pmax
comp=Z,50nm,0.8s
SKDS Skadanscina 18.70 327 *e*Pn P 01 48 55.7 -2.5
OSSC Osservatorio P 18.78 318 P P 01 48 59.4 +0.2
SRO2 Moca 18.79 339 *e*P P 01 48 59.1 0.0
SRO2 Moca 18.79 339 *e*PN P 01 48 59.1 0.0
LJU Ljubljana 18.84 329 *e*Pn P 01 48 54.4 -5.4
SRO Srobarova 18.86 338 *e*P P 01 48 59.6 -0.3
SRO Srobarova 18.86 338 *e*PN P 01 48 59.6 -0.3
KOLS Kolonicke sedl 18.89 347 *e*P Pn 01 49 03.7 +2.8
KOLS Kolonicke sedl 18.89 347 *e*P Pn 01 49 03.7 +2.8
PERS Pernice 19.05 331 *i* P P 01 49 00.8 -1.3
SOKA Soboth 19.12 331 *e*Pn P 01 49 01.2 -1.7
comp=Z,5.0nm,0.6s,SNR=8.2
OBKA Obir 19.19 330 *e*Pn P 01 49 03.1 -0.6
comp=Z,5.8nm,0.6s,SNR=6.3
VYHS Vyhne 19.31 340 *e*P Pn 01 49 06.0 +0.1
VYHS Vyhne 19.31 340 *e*P Pn 01 49 06.0 +0.1
SOP Sopron 19.34 335 *e*P P 01 49 05.6 +0.4
SOP Sopron 19.34 335 P Pn 01 49 06.7 +0.4
SOP pmax pmax
comp=Z,20nm,0.8s
ARSA Arzberg 19.38 333 *e*Pn P 01 49 05.7 +0.1
comp=Z,3.1nm,0.5s,SNR=7.5
LVV L'vov 19.47 351 *e*P Pn 01 49 09.6 +1.8
MAK Makhachkala 19.55 46 *e*P P 01 49 08.1 +0.6
MAK *e*S Sn 01 52 50.7 +2.7
MAK pmax pmax
comp=Z,174nm,0.8s
MAK MLR MLR
comp=Z,50nm,13.0s
STHS Stebnicka Huta 19.56 346 *e*P Pn 01 49 09.4 +0.5
STHS Stebnicka Huta 19.56 346 *e*P Pn 01 49 09.4 +0.5
ZST Bratislava 19.59 337 *e*P Pn 01 49 10.1 +0.8
ZST Bratislava 19.59 337 *e*P Pn 01 49 10.0 +0.8
LANS Liptovska Anna 19.73 342 *e*P Pn 01 49 12.8 +1.8
LANS Liptovska Anna 19.73 342 *e*P Pn 01 49 12.8 +1.8
TEOL Teolo 19.73 323 P P 01 49 09.9 +0.4
NIE Niedzica 19.77 344 *e*P P 01 49 10.5 +0.6
NIE Niedzica 19.77 344 P Pn 01 49 12.5 +1.1
NIE pmax pmax
comp=Z,7.0nm,1.2s
CONA Conrad Observa 19.80 334 *e*Pn Pn 01 49 11.2 -0.7
comp=Z,0.9nm,0.3s
STAL STALIGIAL 19.84 326 P P 01 49 10.8 +0.1
STAL IAmb IAmb 01 49 28.9
comp=Z,14nm,0.8s
ZOU Zoufplan 19.94 327 P P 01 49 11.8 -0.1
ZOU IAmb IAmb 01 49 27.1
comp=Z,17nm,0.7s
JAVC Velka Javorina 19.98 339 *e*P P 01 49 11.7 -0.6
AKASG Malin Array Be 20.07 1 P P 01 49 13.2 0.0
comp=Z,2.4nm,0.3s,baz=188,slow=8.4,SNR=52
AKASG Malin Array Be 20.07 1 *e*P P 01 49 13.7 +0.5
AKASG pmax pmax
comp=Z,9.0nm,0.3s
AKASG Malin Array Be 20.07 1 P P 01 49 13.7 +0.5
AKASG IAmb IAmb 01 49 14.8
comp=Z,12nm,0.8s
AKBB Malin Array Si 20.07 1 *c e*P P 01 49 13.8 +0.7
AKBB Malin Array Si 20.07 1 P P 01 49 13.3 +0.2
AKBB IAmb IAmb 01 49 24.6
comp=Z,15nm,0.5s
KBA Koelnbreinsper 20.16 329 *e*Pn Pn 01 49 16.1 -0.2
comp=Z,6.4nm,0.7s
KBA Koelnbreinsper 20.16 329 P Pn 01 49 17.3 +1.1
KBA pmax pmax
comp=Z,22nm,0.7s
CTI Castel Tesino 20.21 324 P P 01 49 14.9 0.0
CTI pmax pmax
comp=Z,13nm,0.8s
CTI Castel Tesino 20.21 324 P 01 49 14.8 0.0
CTI IAmb IAmb 01 49 18.8
comp=Z,13nm,0.8s
ABTA Abfaltersbach 20.29 327 *e*Pn Pn 01 49 16.9 -0.8
comp=Z,9.1nm,0.6s,SNR=7.8
MOA Molln 20.36 332 *e*Pn P 01 49 17.1 +0.7
comp=Z,1.9nm,0.4s
SALO Salr 20.51 322 P 01 49 18.4 +0.4
SALO IAmb IAmb 01 49 21.5
comp=Z,27nm,0.8s
KRUC Moravsky 20.57 337 P P 01 49 18.9 +0.3
KRUC pmax pmax
comp=Z,12nm,1.2s
KRUC Moravsky 20.57 337 *e*P P 01 49 18.3 -0.3
OJC Ojcow 20.63 344 *e*P P 01 49 19.4 +0.2
OJC Ojcow 20.63 344 P P 01 49 19.5 +0.2
OJC pmax pmax
comp=Z,10.0nm,0.7s
OJC Ojcow 20.63 344 P P 01 49 19.5 +0.3
OJC IAmb IAmb 01 49 30.7
comp=Z,9.7nm,0.7s
VRAC Vranov 20.72 338 P P 01 49 20.5 +0.3
comp=Z,5.6nm,0.6s,baz=161,slow=8.4,SNR=3.6
VRAC Vranov 20.72 338 *e*P P 01 49 19.7 -0.5
MORC Moravsky Berou 20.83 340 P P 01 49 21.4 -0.1
MORC pmax pmax
comp=Z,5.0nm,0.8s
MORC Moravsky Berou 20.83 340 P P 01 49 21.4 -0.1
MORC Moravsky Berou 20.83 340 *e*P P 01 49 21.1 -0.4
WTTA Wattenberg 21.08 327 *e*Pn P 01 49 26.6 +2.3
comp=Z,3.5nm,0.5s
WTTA *e*Sn S 01 53 12.2 -6.3
comp=Z,4.8nm,0.6s
WTTA Wattenberg 21.08 327 P P 01 49 26.3 +2.0
WTTA pmax pmax
comp=Z,19nm,0.8s
TREC Trest 21.09 336 *e*P P 01 49 24.6 +0.4
TREC Trest 21.09 336 *e*P P 01 49 24.6 +0.4
TREC *e*pP sP 01 49 34.7 +4.0
CKRC Cesky Krumlov 21.13 333 *e*P P 01 49 25.9 +1.3
WATA Walderalm 21.16 327 *e*Pn P 01 49 25.1 -0.1
comp=Z,3.6nm,0.5s
WATA *e*Sn S 01 53 13.0 -7.0
comp=Z,9.7nm,0.9s
SQTA Sankt Quirin 21.25 326 *e*Pn P 01 49 27.7 +1.5
comp=Z,11nm,0.6s,SNR=9.1
KRLC Kraliky 21.33 339 *e*P P 01 49 26.6 -0.2
KRLC Kraliky 21.33 339 *e*P P 01 49 26.6 -0.2
FETA Feichten 21.35 325 *i* Pn P 01 49 29.2 +2.0
comp=Z,6.4nm,0.7s,SNR=7.5
GEC2 GERESS Array S 21.39 333 P P 01 49 27.5 0.0
GEC2 IAmb IAmb 01 49 47.9
comp=Z,17nm,0.7s
GEC2 GERESS Array S 21.39 333 *e*P P 01 49 28.9 +1.4
comp=Z,16nm,0.7s,baz=138,slow=9.9
GERES GERESS Array B 21.39 333 P P 01 49 29.1 +1.6
comp=Z,9.5nm,0.6s,baz=136,slow=10,SNR=104
GERES LR LR 01 59 28.2
comp=Z,68nm,18.3s,baz=140,slow=42
GERES GERESS Array B 21.39 333 P P 01 49 27.4 -0.1
GERES GERESS Array B 21.39 333 P P 01 49 27.4 -0.1
MOTA Moosalm 21.39 326 *e*Pn P 01 49 28.9 +1.3
comp=Z,6.9nm,0.5s
MOTA Sn S 01 53 19.4 -5.3
comp=Z,5.9nm,0.6s
LMR La Mourre 21.57 312 *e*P P 01 49 29.4 0.0
LMR pmax pmax
comp=Z,10.0nm,0.9s
DAVOX Davos/Dischmat 21.61 324 P P 01 49 32.0 +1.9
comp=Z,7.2nm,0.6s,baz=225,slow=1.9,SNR=15
DAVOX Davos/Dischmat 21.61 324 P P 01 49 32.0 +1.9
RETA Reutte 21.66 326 *e*Pn P 01 49 31.4 +1.0
comp=Z,4.4nm,0.5s
KHC Kasperske Hory 21.66 333 *e*P P 01 49 31.5 +1.1
KHC Kasperske Hory 21.66 333 *e*P P 01 49 31.5 +1.1
KHC *ex* x 01 49 45.0
KHC *ex* x 01 50 13.0
DPC Dobruska-Polom 21.71 339 *e*P P 01 49 30.4 -0.5
DPC *e* 01 49 34.1
DPC Dobruska-Polom 21.71 339 *e*P P 01 49 30.4 -0.5
DPC *e*pP pP 01 49 34.1 -1.3
VORD Divnogorie 21.88 19 *e*P P 01 49 31.8 -0.8
VORD pmax pmax
comp=Z,6.0nm,0.4s
FUR Furstenfeldbru 21.90 328 P P 01 49 34.3 +1.3
FUR pmax pmax
comp=Z,41nm,0.9s
OSTC Ostas 21.93 339 *e*P P 01 49 32.8 -0.4
UPC Upice 21.95 338 *e*P P 01 49 33.7 +0.3
UPC Upice 21.95 338 *e*P P 01 49 33.7 +0.3
DAVA Damuels 21.95 325 *e*Pn P 01 49 34.1 +0.4
comp=Z,5.9nm,0.7s
PBCC Pribram 21.95 334 *e*P P 01 49 32.5 -1.0
WET Wettzell 21.95 332 P P 01 49 34.5 +1.0
WET pmax pmax
comp=Z,28nm,1.0s
WET Wettzell 21.95 332 *e*P P 01 49 34.5 +1.0
comp=Z,16nm,0.8s,baz=138,slow=9.9
PRU Pruhonice 22.00 336 *e*P P 01 49 33.9 -0.1
PRU Pruhonice 22.00 336 *e*P P 01 49 33.9 -0.1
PRU *e*pP sP 01 49 44.2 +3.7
CHVC Chvalec 22.00 339 *e*P P 01 49 33.1 -0.9
PRA Prague 22.11 335 *e*P P 01 49 34.9 -0.2
PRA Prague 22.11 335 *e*P P 01 49 34.9 -0.2
PRA *ex* x 01 49 46.6
UBR Ueberruh 22.11 326 *e*P P 01 49 35.8 +0.6
comp=Z,15nm,0.6s,baz=138,slow=9.9
MBDF Montbardon 22.11 316 *e*P P 01 49 35.5 +0.1
MBDF pmax pmax
comp=Z,14nm,0.9s
KSP Ksiaz 22.15 339 *e*P P 01 49 35.6 0.0
KSP Ksiaz 22.15 339 P P 01 49 36.1 +0.5
KSP pmax pmax
comp=Z,7.0nm,0.9s
PVCC Panska Ves 22.44 336 *e*P P 01 49 38.2 -0.5
PVCC Panska Ves 22.44 336 *e*P P 01 49 38.2 -0.5
LPG La Plagne 22.55 317 *e*P P 01 49 40.4 +0.2
LPG pmax pmax
comp=Z,6.0nm,0.7s
LPL La Plagne 22.57 317 *e*P P 01 49 40.4 0.0
LPL pmax pmax
comp=Z,5.0nm,0.6s
GRB1 Grafenberg Arr 22.65 331 P P 01 49 41.8 +0.8
GRB1 pmax pmax
comp=Z,59nm,0.8s
ROTZ Rotzenmuhle 22.71 332 *e*P P 01 49 41.9 +0.3
comp=Z,9.5nm,1.1s,baz=138,slow=9.9
SENIN Lac Senin/Sane 22.73 320 P P 01 49 42.0 0.0
SENIN IAmb IAmb 01 49 48.9
comp=Z,12nm,0.8s
ORIF Oris-en-Rattie 22.75 315 P P 01 49 42.0 -0.2
ORIF pmax pmax
comp=Z,14nm,0.8s
VRH Novokhopyorsk 22.81 22 *e*P P 01 49 42.4 -0.2
VRH pmax pmax
comp=Z,10.0nm,0.5s
BRG Berggiesshubel 22.95 336 *e*P P 01 49 46.7 +2.6
BRG Amp 01 49 49.8
comp=Z,9.9nm,1.0s
NKC Novy Kostel 22.98 333 *e*P P 01 49 44.9 +0.4
NKC Novy Kostel 22.98 333 *e*P P 01 49 44.9 +0.4
WERN Wernitzgruen 23.06 333 *e*P P 01 49 45.6 +0.4
comp=Z,14nm,0.9s,baz=138,slow=9.9
GRA1 Grafenberg Arr 23.06 331 P P 01 49 44.3 -1.0
GRA1 IAmb IAmb 01 50 00.1
comp=Z,19nm,0.8s
GRF Grafenberg Arr 23.06 331 P P 01 49 44.3 -1.0
GRF pmax pmax
comp=Z,19nm,0.8s
GRF Grafenberg Arr 23.06 331 *e*P P 01 49 45.8 +0.5
comp=Z,15nm,1.0s,baz=138,slow=9.9
GRFO Grafenberg 23.06 331 P P 01 49 44.6 -0.7
GRFO pmax pmax
comp=Z,17nm,0.8s
GRFO Grafenberg 23.06 331 P P 01 49 44.6 -0.7
GRFO IAmb IAmb 01 50 00.1
comp=Z,17nm,0.8s
TANN Tannenbergstha 23.12 333 *e*P P 01 49 46.7 +0.7
comp=Z,18nm,0.9s,baz=138,slow=9.9
GUNZ Gunzen 23.13 333 *e*P P 01 49 46.8 +0.8
comp=Z,14nm,1.1s,baz=138,slow=9.9
FBE Freiberg 23.20 335 *e*P P 01 49 47.9 +1.3
comp=Z,12nm,0.7s,baz=138,slow=9.9
LPSR Galich'ya Gora 23.27 16 *e*P P 01 49 45.2 -2.1

LPSR pmax pmax
comp=Z,10.0nm,0.5s
PLN Plauen 23.30 333 *e*P **P 01 49 50.2 +2.6**
comp=Z,29nm,1.6s,baz=138,slow=9.9
STU Stuttgart 23.31 327 P **P 01 49 47.8 +0.1**
STU pmax pmax
comp=Z,27nm,0.9s
STU Stuttgart 23.31 327 P **P 01 49 47.8 +0.1**
STU Stuttgart 23.31 327 *e*P **P 01 49 49.9 +2.2**
comp=Z,30nm,1.0s,baz=138,slow=9.9
BFO Black Forest 23.43 325 P **P 01 49 49.4 +0.4**
BFO pmax pmax
comp=Z,15nm,0.9s
BFO Black Forest 23.43 325 P **P 01 49 49.4 +0.4**
BFO IAmb IAmb 01 50 05.0
comp=Z,15nm,0.9s
BFO Black Forest 23.43 325 *e*P **P 01 49 50.8 +1.9**
comp=Z,15nm,1.1s,baz=138,slow=9.9
VIVF Saint-Julien-l 23.47 314 *e*P **P 01 49 49.6 +0.2**
VIVF pmax pmax
comp=Z,17nm,1.5s
CABF La Chapelle 23.56 319 *e*P **P 01 49 49.9 -0.4**
CABF pmax pmax
comp=Z,9.0nm,0.8s
MOX Moxa 23.64 333 P **P 01 49 52.6 +1.6**
MOX pmax pmax
comp=Z,9.0nm,0.9s
MOX Moxa 23.64 333 *e*P **P 01 49 52.5 +1.6**
comp=Z,12nm,1.1s,baz=138,slow=9.9
CLL Collm 23.64 335 *i* P **P 01 49 51.5 +0.5**
comp=Z,10.0nm,0.9s
CLL *i* pP **pP 01 49 55.5 -0.2**
CLL *i* sP **sP 01 49 57.1 -0.6**
CLL *e* 01 50 03.0
CLL *i* 01 50 11.3
CLL *e*PP **PnPn 01 50 19.0 +0.7**
CLL *e*S **S 01 54 06.0 +1.0**
CLL Collm 23.64 335 *i* P **P 01 49 51.5 +0.5**
CLL *i* 01 49 55.5
CLL pmax pmax
comp=Z,10.0nm,0.9s
CLL Collm 23.64 335 P **P 01 49 51.6 +0.6**
CLL IAmb IAmb 01 49 58.3
comp=Z,9.9nm,0.8s
CLL Collm 23.64 335 *e*P **P 01 49 51.8 +0.8**
comp=Z,10.0nm,0.9s,baz=138,slow=9.9
SUW Suwalki 23.69 352 *e*P **P 01 49 53.5 +2.0**
SUW Suwalki 23.69 352 *e*P **P 01 49 52.6 +1.2**
SUW Suwalki 23.69 352 P **P 01 49 51.0 -0.4**
SUW pmax pmax
comp=Z,24nm,0.6s
SUW Suwalki 23.69 352 P **P 01 49 51.0 -0.4**
SSB Saint Sauveur 23.75 315 P **P 01 49 52.0 -0.2**
SSB pmax pmax
comp=Z,18nm,1.4s
SSB Saint Sauveur 23.75 315 P **P 01 49 52.0 -0.2**
SSB IAmb IAmb 01 50 11.7
comp=Z,18nm,1.4s
HINF Hinteralfeld 23.86 322 *e*P **P 01 49 52.8 -0.3**
HINF pmax pmax
comp=Z,4.0nm,0.6s
MNK Minsk 23.88 359 *i* P **P 01 49 52.2 -1.0**
MNK *i* PPP PPP 01 50 28.2
MNK *i* 01 53 34.5
MNK *i* S **S 01 54 09.6 +1.0**
MNK *i* SS **SnSn 01 54 48.9 +0.9**
MNK pmax pmax
comp=E,1.0nm,0.6s
MNK pmax pmax
comp=N,10.0nm,1.1s
MNK pmax pmax
comp=Z,12nm,0.8s
MNK MLR MLR
comp=N,239nm,24.0s
MNK MLR MLR
comp=E,78nm,24.0s
MNK Minsk 23.88 359 *i* P **P 01 49 52.2 -1.0**
comp=E,1.0nm,0.6s
MNK *i* P **P 01 49 52.2 -1.0**
comp=N,10.0nm,1.1s
MNK *i* P **P 01 49 52.2 -1.0**
comp=Z,12nm,0.8s,baz=179
MNK *i* PP **PnPn 01 50 20.3 -1.1**
MNK *i* PPP PPP 01 50 28.2
MNK *i* PcP **PcP 01 53 34.5 -1.2**
MNK *i* S **S 01 54 09.6 +1.1**
MNK *i* SS **SnSn 01 54 48.9 +0.9**
MNK *i* SSS SSS 01 55 01.1
MNK *i* LQ 01 56 57.8
MNK *i* LR LR 01 58 54.2
MNK *i* LRM MLR 02 01 50.0
comp=N,239nm,23.6s
MNK *i* LRM MLR 02 01 55.2
comp=E,78nm,23.6s
MNK *i* LRM MLR 02 02 54.2
comp=Z,218nm,19.7s
MILB Miltenberg 24.01 328 *e*P **P 01 49 57.0 +2.4**
comp=Z,23nm,1.1s,baz=138,slow=9.9
CDF Champ du Feu 24.01 324 *e*P **P 01 49 55.3 +0.6**
CDF pmax pmax
comp=Z,10.0nm,0.9s
NEUB Neuenburg 24.02 334 *e*P **P 01 49 55.3 +0.7**
comp=Z,25nm,0.9s,baz=138,slow=9.9
GKP Gorka Klasztor 24.07 343 *e*P **P 01 49 51.2 -3.8**
GKP Gorka Klasztor 24.07 343 *e*P **P 01 49 55.4 +0.4**
GKP Gorka Klasztor 24.07 343 P **P 01 49 55.6 +0.6**
GKP pmax pmax
comp=Z,30nm,0.7s
HAU Haudompre 24.24 322 *e*P **P 01 49 57.3 +0.6**
HAU pmax pmax
comp=Z,10.0nm,0.8s
NACGM Naroch 24.30 358 *i* P **P 01 49 57.8 +0.7**
TNS Taunus Mts 24.67 328 P **P 01 50 00.1 -0.6**
TNS pmax pmax
comp=Z,20nm,0.7s
IDID Didziasalis 24.72 358 *e*P **P 01 50 02.1 +1.2**
IIGN Ignalina 24.77 357 *e*P **P 01 50 02.6 +1.1**
SMF Signal de Mont 24.87 317 *e*P **P 01 50 03.6 +1.1**
SMF pmax pmax
comp=Z,26nm,1.5s
ISAL Salakas 25.00 357 *e*P **P 01 50 04.6 +1.2**
CLZ Clausthal 25.06 333 *e*P **P 01 50 05.3 +1.2**
comp=Z,18nm,1.2s,baz=138,slow=9.9
PABE Paberze 25.08 354 *e*P **P 01 50 05.2 +1.0**
PABE Paberze 25.08 354 P **P 01 50 04.4 +0.2**
FLTG Flechtingen 25.12 335 *e*P **P 01 50 05.3 +0.8**
comp=Z,30nm,1.1s,baz=138,slow=9.9
CAF Calviac 25.14 312 *e*P **P 01 50 05.9 +0.9**
CAF pmax pmax
comp=Z,4.0nm,1.0s
UOSS Minazif 25.16 96 P **P 01 50 04.2 -1.0**
OBN Obninsk 25.16 11 P **P 01 50 04.8 -0.1**
comp=Z,7.3nm,0.7s,baz=238,slow=3.1,SNR=6.5
OBN Obninsk 25.16 11*c* *i*P **P 01 50 04.6 -0.3**
OBN *e**PP **pP 01 50 07.1 -2.6**
OBN *e**SP **sP 01 50 10.3 -1.3**
OBN pmax pmax
comp=Z,20nm,0.6s
ASSE Asse, Remlinge 25.17 334 *e*P **P 01 50 06.4 +1.4**
comp=Z,21nm,1.2s,baz=138,slow=9.9
LOR Lormes 25.19 318 *e*P **P 01 50 06.6 +1.3**
LOR pmax pmax
comp=Z,3.0nm,0.6s
AVF Avril sur Loir 25.23 317 *e*P **P 01 50 08.0 +2.3**
AVF pmax pmax
comp=Z,16nm,1.5s
WLF Walferdange 25.39 325 *d*P **P 01 50 09.2 +2.2**
WLF Walferdange 25.39 325 *e*P **P 01 50 09.9 +2.9**
comp=Z,17nm,0.9s,baz=138,slow=9.9
KASTN Kahler Asten 25.39 330 *e*P **P 01 50 09.4 +2.3**
comp=Z,12nm,0.9s,baz=138,slow=9.9
GEYT Alibeck 25.50 65 P **P 01 50 09.1 +0.8**
comp=Z,7.0nm,0.9s,baz=271,slow=13,SNR=8.4
AHRW Bad Neuenahr-A 25.52 327 *e*P **P 01 50 09.5 +1.3**
comp=Z,26nm,1.0s,baz=138,slow=9.9
RJF Les Rejaudoux 25.66 312 *e*P **P 01 50 13.6 +4.0**
RJF pmax pmax
comp=Z,12nm,1.2s
BELG Belogornoye 25.91 27 P **P 01 50 11.8 0.0**
comp=Z,25nm,0.7s,baz=266,slow=4.7,SNR=6.7
BELG Belogornoye 25.91 27 *i* P **P 01 50 11.3 -0.4**
BELG pmax pmax
comp=Z,7.0nm,0.8s
MOS Moscow 25.94 12 *e*P **P 01 50 10.8 -1.2**
MOS *e* 01 50 54.6
MOS pmax pmax
comp=Z,27nm,0.8s
BTNL Ternell 26.00 326 *d*P **P 01 50 13.4 +0.7**
MEM Membach 26.07 326 *d*P **P 01 50 17.1 +3.8**
MEM *d*PP **PnPn 01 50 51.0 -0.5**
ETSF Etsaut 26.15 306 *e*P **P 01 50 15.8 +1.7**
ETSF pmax pmax
comp=Z,27nm,1.7s
BSD Bornholm Skovb 26.32 342 *i* P **P 01 50 15.9 +0.5**
BSD IAmb IAmb 01 50 18.3
comp=Z,8.7nm,1.0s
BSD Bornholm Skovb 26.32 342 *i* P **P 01 50 15.9 +0.5**
BSD pmax pmax
comp=Z,9.0nm,1.0s
GIVF Givet 26.33 324 *e*P **P 01 50 19.1 +3.5**
GIVF pmax pmax
comp=Z,7.0nm,0.5s
DOU Dourbes 26.44 324 *d*PP **PnPn 01 50 54.9 -1.5**
DOU Dourbes 26.44 324 P **P 01 50 20.6 +4.0**
DOU pmax pmax
comp=Z,9.0nm,1.1s
BMRD Maredsous 26.48 325 *d*PP **PnPn 01 50 57.2 +0.2**
BAIF Baives 26.61 324 *e*P **P 01 50 18.0 -0.1**
BAIF pmax pmax
comp=Z,8.0nm,1.0s
SJPF Ste Jean 26.68 306 *e*P **P 01 50 21.8 +3.0**
SJPF pmax pmax
comp=Z,9.0nm,1.0s
BLEU Blekinge 27.18 345 *i* P **P 01 50 22.9 -0.2**
MFF Saint Martin d 27.27 314 *e*P **P 01 50 28.6 +4.5**
MFF pmax pmax
comp=Z,11nm,1.2s
DEL Delary 27.80 343 *i* P **P 01 50 30.6 +1.9**
DEL IAmb IAmb 01 50 32.1
comp=Z,23nm,1.5s
ESDC Sonseca Array 27.89 298 P **P 01 50 30.1 +0.3**
comp=Z,2.2nm,1.0s,baz=82,slow=11,SNR=7.6
ESDC LR LR 02 04 08.4
comp=Z,80nm,18.4s,baz=160,slow=42
ESDC Sonseca Array 27.89 298 P **P 01 50 29.8 0.0**
MDT Midelt 28.15 283 LR LR 02 03 53.9
comp=Z,121nm,18.8s,baz=14,slow=41
PUL Pulkovo 29.18 2 *i* P **P 01 50 42.1 +1.1**
PUL pmax pmax
comp=Z,20nm,0.3s
AKTO Aktyubinsk 29.64 40 P **P 01 50 43.7 -1.5**
comp=Z,0.7nm,0.4s,baz=250,slow=13,SNR=3.0
TORD Torodi Ar. Bea 30.19 241 P **P 01 50 49.8 -0.6**
comp=Z,3.6nm,1.0s,baz=21,slow=7.8,SNR=4.3
TORD LR LR 02 04 03.4
comp=Z,91nm,21.1s,baz=205,slow=38
FINES FINESS Array B 30.87 358 P **P 01 50 55.6 -0.3**
comp=Z,1.5nm,0.7s,baz=152,slow=12,SNR=7.5
KLMR Klimovskoe 31.12 10 *e*P **P 01 50 56.5 -1.6**
KLMR pmax pmax
comp=Z,10.0nm,0.7s
KLMR Klimovskoe 31.12 10 *e*P **P 01 50 56.6 -1.6**
KLMR AMP 01 50 58.3
comp=Z,10.0nm,0.7s
KIRV Kirov 31.42 21 P **P 01 50 59.3 -1.5**
comp=Z,9.1nm,0.5s,baz=323,slow=1.4,SNR=4.9
KIRV Kirov 31.42 21*c* *e*P **P 01 50 59.8 -1.0**
NORES NORESS Array B 32.15 344 P **P 01 51 09.0 +1.8**
NB2 NORSAR Subarra 32.50 344 P **P 01 51 10.2 -0.1**
comp=Z,2.8nm,0.9s,baz=149,slow=8.6
NOA NORSAR Array B 32.50 344 P **P 01 51 10.5 +0.2**
comp=Z,0.6nm,0.5s,baz=148,slow=8.5,SNR=6.0
ARU Arti 33.31 30*d* *i*P **P 01 51 18.5 +1.1**
ARU 01 52 26.2
ARU S **S 01 56 41.4 +4.2**
ARU SS **SnSn 01 58 44.1 +6.2**
ARU pmax pmax
comp=Z,5.0nm,0.9s
KOWA Kowa 33.85 249 P **P 01 51 22.7 +0.1**
CHGR Chuyangaron 34.21 65 P **P 01 51 25.2 -0.4**
GAR Garm 35.12 65 P **P 01 51 32.9 -0.6**
KK31 Karatay Array 35.52 58 P **P 01 51 36.5 -0.3**
KK31 pmax pmax
comp=Z,5.0nm,0.6s
KK31 Karatay Array 35.52 58 P **P 01 51 36.5 -0.3**
KK31 IAmb IAmb 01 51 37.6
comp=Z,5.0nm,0.6s
KKAR Karatay Array 35.52 58 P **P 01 51 36.2 -0.6**
KKAR 01 51 36.7
KKAR Karatay Array 35.52 58 P **P 01 51 36.7 0.0**
KKAR Karatay Array 35.52 58 P **P 01 51 36.2 -0.6**
KKAR IAmb IAmb 01 51 37.6
comp=Z,5.0nm,0.6s
BRVK Borovoye 37.65 41*c* *e*P **P 01 51 55.9 +1.2**
BRVK pmax pmax
comp=Z,4.0nm,1.3s
BVAR Borovoye Array 37.70 41 P **P 01 51 54.6 -0.5**
comp=Z,0.6nm,0.4s,baz=246,slow=11,SNR=3.7
AAK Ala-Archa 38.41 59*c* *e*P **P 01 52 02.6 +1.1**
AAK pmax pmax
comp=Z,16nm,1.3s
ARCES ARCESS Array B 39.00 358 P **P 01 52 06.2 +0.3**
comp=Z,1.2nm,0.5s,baz=177,slow=8.6,SNR=18
ARCES ARCESS Array B 39.00 358 *e*P **P 01 52 06.4 +0.5**
ARCES pmax pmax
comp=Z,1.0nm,0.5s
ARCES ARCESS Array B 39.00 358 P **P 01 52 06.0 +0.2**
ARCES IAmb IAmb 01 52 25.9
comp=Z,8.8nm,1.1s
DBIC Dimbokro 39.28 240 P **P 01 52 10.1 +1.3**
comp=Z,2.9nm,0.5s,baz=48,slow=9.5,SNR=4.5
DBIC LR LR 02 09 08.4
comp=Z,97nm,18.4s,baz=70,slow=37
DBIC Dimbokro 39.28 240 P **P 01 52 08.9 +0.1**
DBIC pmax pmax
comp=Z,6.0nm,0.9s
DBIC Dimbokro 39.28 240 P **P 01 52 08.9 +0.1**
KIC Kosan Boka 39.40 239 *e*P **P 01 52 09.6 -0.3**
comp=Z,12nm,0.6s
TIC Toumodi 39.42 240 *e*P **P 01 52 09.7 -0.3**
KSH Kashi 39.51 64 P **P 01 52 06.3 -4.4**
LIC Lamto 39.70 239 *e*P **P 01 52 07.9 -4.5**
comp=Z,44nm,1.2s
KURBB Kurchatov Array 42.00 47 P **P 01 52 31.2 +0.2**
comp=Z,3.0nm,0.6s,baz=265,slow=8.4,SNR=29
KURK Kurchatov 42.08 47 P **P 01 52 31.2 -0.3**
KURK Kurchatov 42.08 47 P **P 01 52 31.2 -0.3**
MK31 Makanchi Array 44.13 53 P **P 01 52 47.8 -0.5**
MK31 pmax pmax
comp=Z,4.0nm,0.7s
MK31 Makanchi Array 44.13 53 P **P 01 52 47.8 -0.5**
MK31 IAmb IAmb 01 52 49.0
comp=Z,3.7nm,0.7s
MKAR Makanchi Array 44.13 53 P **P 01 52 48.3 0.0**
comp=Z,3.7nm,0.7s,baz=255,slow=7.6,SNR=32
MKAR Makanchi Array 44.13 53 P **P 01 52 47.7 -0.6**
MKAR Makanchi Array 44.13 53 P **P 01 52 47.7 -0.6**
ZAA0 Zalesovo Array 46.29 43 P **P 01 53 04.6 -0.7**
ZAA0 IAmb IAmb 01 53 05.3
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 46.29 43 P **P 01 53 04.4 -0.8**
comp=Z,1.6nm,0.4s,baz=253,slow=8.2,SNR=8.8
DGZ Jazzator, Alta 47.63 49 *i* P **P 01 53 15.9 -0.1**
DGZ pmax pmax
comp=Z,2.0nm,1.0s
GTA Gaotai 57.73 60 *e*P **P 01 54 31.0 +0.1**
GTA pP pP 01 54 35.1 -0.8
GTA sP sP 01 54 38.3 +0.4
GTA pmax pmax
comp=Z,6.0nm,0.8s
GTA pmax pmax
comp=Z,40nm,6.5s
GTA LR LR
comp=N,78nm,17.4s
GTA LR LR
comp=E,110nm,15.6s
GTA LR LR
comp=Z,110nm,13.5s
ZAK Zakamensk 57.74 47 *e*P **P 01 54 30.5 -0.2**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
BOSA Boshof 58.98 183 P **P 01 54 41.4 +1.8**
comp=Z,2.9nm,1.0s,baz=354,slow=10,SNR=1.5
BOSA LR LR 02 19 08.4
comp=Z,82nm,20.1s,baz=340,slow=35
SONM Songino Array 60.27 49 P **P 01 54 48.9 +0.5**
comp=Z,4.0nm,0.8s,baz=283,slow=8.6,SNR=20
SONM Songino Array 60.27 49 P **P 01 54 48.1 -0.3**
SONM pmax pmax
comp=Z,4.0nm,0.9s
SONM Songino Array 60.27 49 P **P 01 54 48.1 -0.3**
SONM IAmb IAmb 01 54 49.8
comp=Z,4.4nm,0.9s
ULN Ulaanbaatar 60.70 49*ce* P **P 01 54 52.3 +1.0**
ULN pmax pmax
comp=Z,3.0nm,0.8s
CD2 Chengdu 63.44 68 P **P 01 55 09.7 -0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.9s
CD2 LR LR
comp=N,190nm,17.7s
CD2 LR LR
comp=E,250nm,14.7s
CD2 LR LR
comp=Z,330nm,9.8s
CMAR Chiang Mai Arr 64.35 83 P P 01 55 21.3 +5.3
comp=Z,1.3nm,0.4s,baz=293,slow=8.3,SNR=6.5
CMAR LR LR 02 30 12.3
comp=Z,17nm,19.0s,baz=280,slow=42
NANT Nan 65.71 82 P **P 01 55 27.2 +2.4**
HHC Hu-ho-hao-te 65.88 56 *e*P **P 01 55 26.4 +0.7**
HHC pmax pmax
comp=Z,12nm,1.0s
HHC pmax pmax
comp=Z,93nm,5.4s
HHC LR LR
comp=N,100nm,14.3s
HHC LR LR
comp=E,130nm,15.2s
HHC LR LR
comp=Z,120nm,15.2s
SCHQ Schefferville 68.45 322 P **P 01 55 42.5 +0.9**
comp=Z,4.1nm,0.8s,baz=105,slow=2.1,SNR=3.7
SCHQ Schefferville 68.45 322 P **P 01 55 41.8 +0.1**
SCHQ IAmb IAmb 01 55 57.1
comp=Z,3.1nm,0.8s
NJ2 Nanjing 74.78 62 *e*P **P 01 56 20.0 -0.2**
NJ2 pmax pmax
comp=Z,12nm,0.7s
USRK Ussuriysk Ar. 78.05 46 P **P 01 56 37.7 -0.8**
comp=Z,1.7nm,0.7s,baz=306,slow=4.3,SNR=7.7
USRK Ussuriysk Ar. 78.05 46 P **P 01 56 38.0 -0.5**
USRK Ussuriysk Ar. 78.05 46 P **P 01 56 38.0 -0.5**
KSRS Korea Array 78.81 53 P **P 01 56 44.0 +1.2**
comp=Z,0.7nm,0.4s,baz=306,slow=5.6,SNR=1.8
ILAR Eielson Array 84.86 358 P **P 01 57 15.3 +1.0**
comp=Z,0.2nm,0.6s,baz=354,slow=3.6,SNR=1.9
MJAR Matsushiro Arr 86.23 49 LR LR 02 40 06.4
comp=Z,20nm,18.0s,baz=120,slow=39

JMA ***03*** *01:44:57.9±0.8, 45.76N×152.28E, h30km, M4.8*
IDC ***03*** *01:44:57.8±0.6, 45.50N×152.02E, h0km, mb4.4/29, mb1 4.5/35, mb1mx4.4/51, mbtmp4.3/35, ML4.2/4, MS4.0/14, Ms1 4.0/14, ms1mx3.7/27, Error ellipse: s-maj=16.2km s-min=12.4km az=156.0*
SKHL ***03*** *01:45:00.2±0.8, 45.30N×152.40E, h38km±7km, mb5.0/10, ms4.3/6*
MOS ***03*** *01:45:02.9±1.1, 45.64N×151.94E, h38km, mb4.9/50, MS3.8/7, Error ellipse: s-maj=6.5km s-min=5.4km az=88.0*
BJI ***03*** *01:45:02.4±0.0, 45.72N×152.03E, h39km, mB4.8/32, mb4.7/50, Ms4.3/30, Ms7 4.2/29*
NEIC ***03*** *01:45:05.0±0.8, 45.7N±0.1×151.9E±0.1, h37km±8km, mb4.6/81, Error ellipse: s-maj=16.3km s-min=10.1km az=152.0*

ISC 03 01:45:04.0±0.6, 45.51N±0.06×152.03E±0.05, h42km±4km, h41km:pP-P, n345, σ1$44/350, mb4.6/119, MS4.2/21, 9C-4D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.94**	**266**	*e*PN	**Pn**	**01 45 48.3**	**+0.1**
KUR				*e*S	**Sn**	**01 46 24.2**	**+1.9**
KUR				pmax	pmax		
	comp=Z,251nm,0.3s						
KUR				pmax	pmax		
	comp=E,122nm,0.1s						
KUR				pmax	pmax		
	comp=N,114nm,0.2s						
KUR				smax	smax		
	comp=N,1μm,0.6s						
KUR				smax	smax		
	comp=E,128nm,0.3s						
KUR	**Kuril'sk**	**2.94**	**266**	*e*P	**Pn**	**01 45 47.9**	**-0.3**
KUR				AMB	AMB	01 45 53.0	
	comp=E,270nm,0.3s						
KUR				*e*S	**Sn**	**01 46 23.0**	**+0.7**
KUR				A	A	01 46 36.1	
	comp=E,620nm,0.6s						
KUR				A	A	01 46 36.1	
	comp=E,980nm,0.6s						
KUR				AMS	AMS	01 47 42.0	
	comp=E,4μm,10.0s						
KUR				AMS	AMS	01 47 42.0	
	comp=E,5μm,10.0s						
KUR				AMS	AMS	01 47 42.0	
	comp=E,3μm,10.0s						
YUK	**Yuzh-Kuril'sk**	**4.63**	**254**	*c* *i*PN	**Pn**	**01 46 11.7**	**+0.3**
YUK				*e*S	**Sn**	**01 47 06.1**	**+2.3**
YUK				pmax	pmax		
	comp=E,71nm,0.2s						
YUK				pmax	pmax		
	comp=Z,192nm,0.2s						
YUK				pmax	pmax		
	comp=N,34nm,0.1s						
YUK				smax	smax		
	comp=N,478nm,0.6s						
YUK				smax	smax		
	comp=E,183nm,0.6s						
YUK				MLR	MLR		
	comp=N,943nm,10.0s						
YUK				MLR	MLR		
	comp=E,1μm,10.0s						
YUK				MLR	MLR		
	comp=Z,649nm,10.0s						
YUK	**Yuzh-Kuril'sk**	**4.63**	**254**	*i* P	**Pn**	**01 46 11.6**	**+0.2**
YUK				AMB	AMB	01 46 13.0	
	comp=Z,160nm,0.2s						
YUK				*e*S	**Sn**	**01 47 04.5**	**+0.7**
YUK				A	A	01 47 13.5	
	comp=Z,700nm,0.5s						
YUK				A	A	01 47 13.5	
	comp=Z,560nm,0.5s						
YUK				AMS	AMS	01 47 15.7	
	comp=Z,1μm,10.0s						
YUK				AMS	AMS	01 47 15.7	
	comp=Z,1μm,10.0s						
YUK				AMS	AMS	01 47 15.7	
	comp=Z,860nm,10.0s						
GRPR	**Tuman**	**4.70**	**253**	*e*PN	**Pn**	**01 46 12.1**	**-0.3**
GRPR				*e*S	**Sn**	**01 47 06.8**	**+1.1**
GRPR				pmax	pmax		
	comp=Z,144nm,0.3s						
GRPR				pmax	pmax		
	comp=N,78nm,0.2s						
GRPR				smax	smax		
	comp=N,130nm,0.4s						
GRPR				smax	smax		
	comp=E,412nm,0.4s						
GRPR	**Tuman**	**4.70**	**253**	*e*P	**Pn**	**01 46 12.1**	**-0.3**
GRPR				AMB	AMB	01 46 14.0	
	comp=E,144nm,0.3s						
GRPR				*e*S	**Sn**	**01 47 06.2**	**+0.5**
GRPR				A	A	01 47 13.0	
	comp=E,130nm,0.4s						
GRPR				A	A	01 47 13.0	
	comp=E,412nm,0.4s						
GLVR	**Golovnino**	**4.97**	**251**	*e*PN	**Pn**	**01 46 14.7**	**-1.3**
GLVR				pmax	pmax		
	comp=Z,258nm,0.3s						
GLVR	**Golovnino**	**4.97**	**251**	*e*P	**Pn**	**01 46 15.4**	**-0.6**
GLVR				AMB	AMB	01 46 16.0	
	comp=Z,258nm,0.3s						
GLVR				*e*S	**Sn**	**01 47 12.0**	**-0.2**
NEM2	**Nemuro 2**	**4.98**	**247**	P	**Pn**	**01 46 13.3**	**-2.9**
NEM2				*e*S	**Sn**	**01 47 09.4**	**-3.1**
NMR	**Nemuro--Hokkai**	**4.99**	**247**	‖ *i*PN	**Pn**	**01 46 13.3**	**-3.0**
NMR	**Nemuro--Hokkai**	**4.99**	**247**	*i* P	**Pn**	**01 46 13.8**	**-2.5**
NMR				*e*S	**Sn**	**01 47 09.8**	**-2.9**
RUSJ	**Misakicho**	**5.02**	**256**	*e*PN	**Pn**	**01 46 18.3**	**+1.5**
RUSJ				*e*S	**Sn**	**01 47 16.8**	**+3.3**
JRA	**Rausu**	**5.16**	**255**	P	**Pn**	**01 46 18.3**	**-0.4**
JNK	**Nakash**	**5.56**	**252**	P	**Pn**	**01 46 23.0**	**-1.2**
SKR	**Severo-Kuril's**	**5.86**	**26**	*e*PN	**Pn**	**01 46 26.4**	**-1.8**

SKR pmax pmax
comp=Z,181nm,0.7s
SKR MLR MLR
comp=Z,2µm,14.0s
SKR MLR MLR
comp=Z,2µm,16.0s
SKR Severo-Kuril's 5.86 26 *e*P **Pn 01 46 27.3 -0.9**
SKR AMB AMB 01 46 29.0
comp=Z,180nm,0.6s
SKR *e*S **Sn 01 47 30.9 -3.1**
SKR A A 01 47 32.0
comp=Z,490nm,0.6s
SKR A A 01 47 32.0
comp=Z,320nm,0.6s
SKR AMS AMS 01 49 13.5
comp=Z,1µm,13.0s
SKR AMS AMS 01 49 13.5
comp=Z,2µm,13.0s
SKR AMS AMS 01 49 13.5
comp=Z,2µm,13.0s
JTKR Abashiri--Toko 5.98 258 P **Pn 01 46 29.7 -0.2**
JAR Ashorobuto 6.31 252 P **Pn 01 46 33.8 -0.7**
JOB Onbets 6.44 249 P **Pn 01 46 34.4 -1.8**
YSS Yuzh-Sakhalins 6.59 286 *e*PN **Pn 01 46 40.2 +1.9**
YSS pmax pmax
comp=Z,50nm,0.7s
YSS MLR MLR
comp=Z,1µm,15.0s
YSS MLR MLR
comp=E,700nm,16.0s
YSS Yuzh-Sakhalins 6.59 286 Pn **Pn 01 46 38.6 +0.3**
YSS Sn **Sn 01 47 49.6 -2.5**
YSS Yuzh-Sakhalins 6.59 286 *e*P **Pn 01 46 40.7 +2.4**
YSS AMB AMB 01 46 46.0
comp=E,50nm,0.7s
YSS *e*S **Sn 01 47 54.0 +1.9**
YSS AMS AMS 01 49 14.0
comp=E,1µm,15.0s
PAU Pauzhetka 6.76 26 *e*P **Pn 01 46 38.5 -2.0**
PAU AMB AMB 01 46 41.2
comp=E,30nm,0.3s
PAU *e*S **Sn 01 47 52.6 -3.5**
PAU A A 01 47 54.7
comp=E,70nm,0.5s
PAU A A 01 47 54.7
comp=E,120nm,0.5s
JKK2 Kamakawa 2 6.81 259 P **Pn 01 46 41.7 +0.4**
JKA Kamikawa-asahi 6.85 262 Pn **Pn 01 46 42.5 +0.7**
JKA Kamikawa-asahi 6.85 262 *e*P **Pn 01 46 42.5 +0.7**
ASAJ Asahikawa 6.85 262 Pn **Pn 01 46 42.5 +0.6**
comp=E,6.2nm,0.3s,baz=64,slow=17,SNR=19
JCH Churui 6.88 248 P **Pn 01 46 40.1 -2.1**
JCH *e*S **Sn 01 47 55.6 -3.5**
JWK2 Keihoku 7.13 272 P **Pn 01 46 50.1 +4.4**
JAB Ashibetsu 7.29 258 P **Pn 01 46 50.1 +2.2**
JEM Erimo 7.30 245 Pn Pn 01 46 43.5 -4.6
ERM Erimo 7.31 245 *i* PN **Pn 01 46 50.1 +2.0**
ERM Erimo 7.31 245 **Pn 01 46 49.6 +1.5**
JNBK Urakawa-nobuka 7.43 248 P **Pn 01 46 48.0 -1.8**
JBT2 Biratori 2 7.46 252 P **Pn 01 46 48.4 -1.9**
TYV Tymovskoe 8.24 314 *e*PN Pn 01 47 16.7 +16
TYV pmax pmax
comp=Z,22nm,0.6s
TYV pmax pmax
comp=Z,200nm,2.8s
TYV Tymovskoe 8.24 314 *e*P **Pn 01 47 03.5 +2.7**
TYV AMB AMB 01 47 07.1
comp=Z,21nm,0.6s
TYV *e*S **Sn 01 48 35.6 +3.1**
TYV AMS AMS 01 50 30.0
comp=Z,2µm,16.0s
TYV AMS AMS 01 50 30.0
comp=Z,1µm,16.0s
TYV AMS AMS 01 50 30.0
comp=Z,950nm,16.0s
PEA0B Petropavlovsk- 8.46 24 *i* PN **Pn 01 47 03.3 -0.6**
PEA0B Petropavlovsk- 8.46 24 Pn **Pn 01 47 02.9 -1.0**
PETK Petropavlovsk- 8.46 24 Pn **Pn 01 47 03.0 -0.9**
baz=160,slow=12,SNR=5.1
PETK Petropavlovsk- 8.46 24 **Pn 01 47 02.8 -1.1**
PET Petropavlovsk 8.68 28 *e*PN **Pn 01 47 05.7 -1.1**
PET Petropavlovsk 8.68 28 *e*P **Pn 01 47 07.2 +0.4**
PET AMS AMS 01 54 34.9
comp=Z,570nm,17.0s
JKB Kayabe 8.74 249 P **Pn 01 47 05.2 -2.6**
JKB *e*S **Sn 01 48 39.7 -5.3**
JYM2 Yakumo 2 9.08 252 P **Pn 01 47 11.6 -0.8**
JSH Shimam 9.09 256 P **Pn 01 47 13.5 +1.0**
JANG Nango 9.26 240 P Pn 01 47 10.5 -4.3
JANG *e*S Sn 01 48 48.6 -9.0
JTM Tenmabayashi 9.29 243 P **Pn 01 47 12.3 -3.0**
JOSM Okushiri--Mats 9.70 254 P **Pn 01 47 20.0 -0.9**
OKH Okha 9.98 327 *e*P **Pn 01 47 27.4 +2.8**
OKH *e*S **Sn 01 49 20.5 +5.3**
OKH AMS AMS 01 52 50.5
comp=Z,800nm,17.0s
OKH AMS AMS 01 52 50.5
comp=Z,600nm,17.0s
OKH AMS AMS 01 52 50.5
comp=Z,400nm,17.0s
JRG Rokugo 10.39 238 P Pn 01 47 26.3 -4.1
JRG *e*S Sn 01 49 17.1 -8.4
JIO Ouri 10.62 232 P Pn 01 47 28.7 -4.7
NKL Nikolayevsk 10.63 320 *e*P **Pn 01 47 36.9 +3.3**
NKL AMB AMB 01 47 44.8
comp=Z,16nm,0.6s
JMM Marumori 11.34 232 Pn **Pn 01 47 44.8 +1.5**
GRNR Gornyy 11.67 302 AMS AMS 01 52 34.2
comp=Z,420nm,17.0s
GRNR AMS AMS 01 52 34.2
comp=Z,480nm,17.0s
GRNR AMS AMS 01 52 34.2
comp=Z,470nm,17.0s
MAJO Matsushiro 13.73 234 *i* P **Pn 01 48 18.2 +2.2**
MAJO Matsushiro 13.73 234 Pn **Pn 01 48 16.7 +0.6**
MJAR Matsushiro Arr 13.73 234 Pn **Pn 01 48 13.0 -3.0**
comp=Z,0.2nm,0.3s,baz=34,slow=10,SNR=4.0
MJAR LR LR 01 55 16.5
comp=Z,233nm,19.4s,baz=60,slow=45
MA2 Magadan 14.11 357 Pn **Pn 01 48 21.9 +0.9**
comp=Z,0.7nm,0.3s,baz=144,slow=9.9,SNR=1.6
MA2 LR LR 01 54 09.8
comp=Z,359nm,18.3s,baz=186,slow=39
MA2 Magadan 14.11 357 Pn **Pn 01 48 20.0 -1.1**
KLR Kul'dur 14.23 292 Pn **Pn 01 48 23.4 +0.8**
comp=Z,0.2nm,0.3s,baz=95,slow=13,SNR=5.1
KLR LR LR 01 54 27.4
comp=Z,687nm,18.2s,baz=121,slow=40
KLR Kul'dur 14.23 292 *i* P **Pn 01 48 22.8 +0.1**
KLR pmax pmax
comp=Z,5.0nm,0.9s
KLR Kul'dur 14.23 292 *e*P **Pn 01 48 22.8 +0.1**
USA0B Ussuriysk Arra 14.27 272 *i* P **Pn 01 48 23.6 +0.3**
USA0B Ussuriysk Arra 14.27 272 Pn **Pn 01 48 22.6 -0.8**
USRK Ussuriysk Ar. 14.27 272 Pn **Pn 01 48 21.9 -1.4**
baz=82,slow=13,SNR=17
USRK LR LR 01 54 13.6
comp=Z,454nm,18.6s,baz=63,slow=39
USRK Ussuriysk Ar. 14.27 272 P **Pn 01 48 22.0 -1.4**
EKMR Ekimchan 14.54 308 *e*P **P 01 48 30.0 -2.6**
EKMR AMB AMB 01 48 41.0
comp=Z,8.0nm,0.7s
INU Inuyama 15.26 234 Pn **Pn 01 48 37.5 +1.0**
MDJ Mudanjiang 15.87 275 P **Pn 01 48 44.6 +0.3**
MDJ pmax pmax
comp=Z,39nm,1.2s
MDJ pmax pmax
comp=Z,100nm,8.3s
MDJ LR LR
comp=Z,300nm,15.0s
MDJ LR LR
comp=Z,500nm,16.4s
MDJ LR LR
comp=Z,840nm,16.4s
MDJ Mudanjiang 15.87 275 P **Pn 01 48 43.8 -0.6**
MDJ IAmb IAmb 01 48 47.9
comp=Z,35nm,1.0s
JWT Wachi 16.24 237 P **Pn 01 48 50.7 +1.7**
SEY Seymchan 17.46 1 P **Pn 01 49 01.2 -2.9**
comp=Z,0.3nm,0.3s,baz=170,slow=9.4,SNR=11
ZEA Zeya 17.97 306 *e*P **Pn 01 49 10.5 +0.1**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA MLR MLR
comp=Z,300nm,16.0s
ZEA Zeya 17.97 306 *e*P **Pn 01 49 10.5 +0.1**
ZEA AMB AMB 01 49 21.0
comp=Z,10.0nm,1.0s
ZEA AMS AMS 01 56 15.0
comp=Z,300nm,17.0s
ZEA AMS AMS 01 56 15.0
comp=Z,300nm,17.0s
KROS Kirovskiy 18.34 308 *e*P **Pn 01 49 16.0 +1.0**
KROS AMB AMB 01 49 18.1
comp=Z,10.0nm,0.5s
CN2 Changchun 18.96 274 *e*P **P 01 49 20.5 -1.0**
CN2 S **Sn 01 52 45.5 -8.2**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,200nm,5.5s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,500nm,16.0s
CN2 LR LR
comp=Z,500nm,16.0s
KSRS Korea Array 19.72 254 P **P 01 49 30.6 +0.8**
comp=Z,0.3nm,0.3s,baz=63,slow=11,SNR=8.2
KSRS Korea Array 19.72 254 *e*P **Pn 01 49 32.1 +0.5**
KSRS Korea Array 19.72 254 *e*P **Pn 01 49 32.1 +0.5**
TJN Taejon 20.68 252 *i* P Pn 01 49 42.4 -0.4
BILL Bilibino 23.77 13⇓ *e*P **P 01 50 11.4 -0.9**
BILL *PP **sP 01 50 25.0 -1.5**
BILL 01 50 44.0
BILL pmax pmax
comp=Z,6.0nm,0.4s
BILL MLR MLR
comp=Z,196nm,16.0s
BILL Bilibino 23.77 13 *e*P **P 01 50 11.7 -0.6**
BJI Beijing 26.72 271 P **P 01 50 42.0 +2.7**
BJI S **S 01 55 16.7 +4.7**
BJI pmax pmax
comp=Z,13nm,0.7s
BJI LR LR
comp=Z,110nm,13.9s
BJI LR LR
comp=Z,400nm,14.9s
BJI LR LR
comp=Z,450nm,17.5s
BJT Baijiatuan 26.74 271 P **P 01 50 39.7 +0.2**
BJT pmax pmax
comp=Z,10.0nm,0.8s
BJT Baijiatuan 26.74 271 P **P 01 50 39.7 +0.2**
BJT IAmb IAmb 01 50 55.7
comp=Z,10.0nm,0.8s
TIXI Tiksi 28.46 345 P **P 01 50 52.4 -2.1**
comp=Z,3.1nm,0.4s,baz=144,slow=9.3,SNR=5.7
TIXI Tiksi 28.46 345 P **P 01 50 53.1 -1.4**
TIXI pmax pmax
comp=Z,14nm,1.4s
TIXI Tiksi 28.46 345 P **P 01 50 53.1 -1.4**
TIXI IAmb IAmb 01 50 54.4
comp=Z,14nm,1.4s
H11N2 WAKE ISLAND Hy 28.50 150 T T 02 21 41.6
baz=339,slow=75,SNR=36
H11N1 WAKE ISLAND Hy 28.51 150 T T 02 21 37.8
baz=339,slow=75,SNR=27
H11N3 WAKE ISLAND Hy 28.51 150 T T 02 21 40.5
baz=339,slow=75,SNR=23
NJ2 Nanjing 28.92 254 *e*P **P 01 51 00.8 +1.8**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
H11S1 WAKE ISLAND Hy 29.56 151 T T 02 22 53.1
baz=339,slow=76,SNR=34
H11S3 WAKE ISLAND Hy 29.57 151 T T 02 22 52.5
baz=339,slow=76,SNR=28
H11S2 WAKE ISLAND Hy 29.58 151 T T 02 22 54.2
baz=339,slow=76,SNR=28
HHC Hu-ho-hao-te 29.64 276 *e*P **P 01 51 06.4 +0.9**
HHC sS sS 01 56 13.7 -0.8
HHC pmax pmax
comp=Z,24nm,1.0s
HHC pmax pmax
comp=Z,120nm,4.2s
HHC LR LR
comp=Z,240nm,13.6s
HHC LR LR
comp=Z,410nm,13.5s
HHC LR LR
comp=Z,470nm,14.3s
ULN Ulaanbaatar 30.61 291 *i* P **P 01 51 14.4 +0.3**
ULN pmax pmax
comp=Z,5.0nm,0.8s
ULN Ulaanbaatar 30.61 291 *e*P **P 01 51 14.4 +0.3**
SONM Songino Array 31.05 291 P **P 01 51 16.6 -1.3**
comp=Z,2.8nm,0.7s,baz=76,slow=7.8,SNR=14
SONM LR LR 02 05 02.1
comp=Z,338nm,18.3s,baz=66,slow=39
SONM Songino Array 31.05 291 *e*P **P 01 51 17.5 -0.4**
SONM pmax pmax
comp=Z,3.0nm,0.7s
ZAK Zakamensk 32.54 297 *e*P **P 01 51 29.3 -1.6**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
WHN Wuhan 32.89 256⇓ P P 01 51 23.5 -11
KDAK Kodiak Island 35.48 49 P **P 01 51 55.6 -0.6**
comp=Z,6.0nm,0.8s,baz=280,slow=7.7,SNR=6.8
KDAK Kodiak Island 35.48 49 P **P 01 51 55.8 -0.4**
KDAK pmax pmax
comp=Z,24nm,1.5s
KDAK Kodiak Island 35.48 49 P **P 01 51 55.8 -0.4**
LZH Lanzhou 37.18 273 *e*P **P 01 52 11.5 +0.3**
LZH pP pP 01 52 18.6 -3.0
LZH sP sP 01 52 27.2 +1.1
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,78nm,5.2s
LZH LR LR
comp=Z,240nm,13.2s
LZH LR LR
comp=Z,220nm,14.0s
LZH LR LR
comp=Z,190nm,16.8s
SML Sawmill 37.40 42 P **P 01 52 13.4 +0.8**
SML pmax pmax
comp=Z,7.0nm,1.0s
SML Sawmill 37.40 42 P **P 01 52 13.4 +0.8**
SML IAmb IAmb 01 52 15.3
comp=Z,8.7nm,1.0s
COLA College 37.58 37 *ce*P **P 01 52 16.6 +2.6**
COLA pmax pmax
comp=Z,7.0nm,1.3s
ILAR Eielson Array 37.99 38 P **P 01 52 16.1 -1.5**
comp=Z,3.2nm,1.1s,baz=257,slow=7.1,SNR=17
ILAR Eielson Array 37.99 38 *e*P **P 01 52 18.6 +1.1**
ILAR pmax pmax
comp=Z,4.0nm,1.2s
ILAR Eielson Array 37.99 38 P **P 01 52 17.1 -0.4**
GTA Gaotai 38.43 280⇑ P **P 01 52 22.2 +0.6**
GTA pP pP 01 52 31.3 -0.7
GTA sP pwP 01 52 35.2 -1.5
GTA pmax pmax
comp=Z,13nm,0.9s
GTA pmax pmax
comp=Z,110nm,7.3s
GTA LR LR
comp=Z,130nm,14.5s
GTA LR LR
comp=Z,220nm,13.5s
GTA LR LR
comp=Z,300nm,13.8s
RIDG Independent Ri 38.91 39 P **P 01 52 26.4 +1.1**
RIDG IAmb IAmb 01 52 42.8
comp=Z,11nm,1.4s
CD2 Chengdu 40.03 266 P **P 01 52 35.0 +0.1**
CD2 pmax pmax
comp=Z,30nm,0.7s
K27K Chicken 40.11 39 P **P 01 52 35.7 +0.5**
K27K IAmb IAmb 01 52 38.8
comp=Z,8.2nm,1.1s
L27K Beaver Creek, 40.32 40 P **P 01 52 38.1 +1.1**
BCAR Beaver Creek A 40.34 40 P **P 01 52 37.8 +0.6**
EGAK Eagle 40.45 37 P **P 01 52 39.1 +1.2**
DGZ Jazzator, Alta 42.56 300 *i* P **P 01 52 55.3 -0.3**
DGZ pmax pmax
comp=Z,1.0nm,0.7s
ZALV Zalesovo Beam 42.73 307 P **P 01 52 57.5 +0.7**
comp=Z,0.6nm,0.3s,baz=72,slow=8.0,SNR=3.2
ZALV LR LR 02 11 54.0
comp=Z,387nm,18.1s,baz=58,slow=38
ZALV Zalesovo Beam 42.73 307 P **P 01 52 56.0 -0.8**
INK Inuvik 43.10 32 P **P 01 53 01.6 +2.0**
comp=Z,2.3nm,0.9s,baz=292,slow=4.3,SNR=2.4
WMQ Urumqi 44.68 292 *e*P **P 01 53 15.1 +2.4**
WMQ pP pP 01 53 21.7 -1.2
WMQ sP pwP 01 53 26.3 -2.7
WMQ pmax pmax
comp=Z,20nm,0.7s
WMQ pmax pmax
comp=Z,170nm,4.3s
WMQ LR LR
comp=Z,230nm,17.3s
WMQ LR LR
comp=Z,180nm,18.5s
MKAR Makanchi Array 46.85 298 P **P 01 53 29.4 -0.3**
comp=Z,1.9nm,0.5s,baz=62,slow=6.0,SNR=9.9
MKAR Makanchi Array 46.85 298 *e*P **P 01 53 29.9 +0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 46.85 298 P **P 01 53 29.9 +0.2**
MKAR Makanchi Array 46.85 298 *e*P **P 01 53 29.9 +0.2**
KURK Kurchatov 47.43 304 P **P 01 53 32.9 -1.2**
KURK Kurchatov 47.43 304 P **P 01 53 32.9 -1.2**
KURK Kurchatov 47.43 304 *e*P **P 01 53 32.9 -1.2**
KURBB Kurchatov Arra 47.52 304 P **P 01 53 32.9 -1.9**
comp=Z,2.7nm,0.6s,baz=73,slow=8.4,SNR=11
BVAR Borovoye Array 51.07 310 P **P 01 54 00.8 -1.1**
comp=Z,1.3nm,0.5s,baz=160,slow=1.8,SNR=6.0
CMAR Chiang Mai Arr 51.34 256 P **P 01 54 05.2 +0.9**
comp=Z,0.9nm,0.3s,baz=42,slow=8.1,SNR=6.2
CMAR Chiang Mai Arr 51.34 256 *e*P **P 01 54 05.6 +1.3**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
SHL Shillong 51.58 269 P **P 01 54 06.1 -0.2**
SHL pmax pmax
comp=Z,15nm,0.8s
SHL Shillong 51.58 269 P **P 01 54 06.1 -0.2**
TARG Taragay, Kyrgy 52.08 294 P **P 01 54 09.8 -0.3**
TARG IAmb IAmb 01 54 13.0
comp=Z,8.5nm,0.9s
YKA Yellowknife Ar 52.37 36 P **P 01 54 12.6 +1.1**
comp=Z,2.5nm,0.9s,baz=302,slow=6.8,SNR=6.4
YKA Yellowknife Ar 52.37 36 *e*P **P 01 54 12.7 +1.3**
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 52.37 36 P **P 01 54 12.3 +0.9**
BOOM Boomskoye usch 52.87 296 P **P 01 54 16.2 +0.5**
BOOM pmax pmax
comp=Z,17nm,0.6s
BOOM Boomskoye usch 52.87 296 P **P 01 54 16.2 +0.5**
AAK Ala-Archa 53.71 297 *ce*P **P 01 54 22.7 +0.9**
AAK pmax pmax
comp=Z,22nm,0.7s
AAK Ala-Archa 53.71 297 P **P 01 54 22.4 +0.6**
AAK IAmb IAmb 01 54 24.0
comp=Z,7.1nm,0.7s
AAK Ala-Archa 53.71 297 *e*P **P 01 54 22.7 +0.9**
KSH Kashi 54.43 293 P P 01 54 32.5 +5.5
KSH pmax pmax
comp=Z,11nm,0.7s
KSH LR LR
comp=Z,150nm,7.6s
KSH LR LR
comp=Z,190nm,11.4s
KSH LR LR
comp=Z,330nm,17.5s
ARU Arti 55.42 318 P **P 01 54 32.9 -0.8**
comp=Z,1.7nm,0.4s,baz=72,slow=5.7,SNR=6.5
ARU Arti 55.42 318 *c i*P **P 01 54 32.8 -1.0**
ARU 01 55 30.8
ARU S **S 02 02 15.5 +0.3**
ARU SS **SS 02 05 55.3 -4.2**
ARU pmax pmax
comp=Z,15nm,1.4s
ARU MLR MLR
comp=Z,181nm,17.0s
ARU Arti 55.42 318 P **P 01 54 32.3 -1.4**
ARU IAmb IAmb 01 54 34.0
comp=Z,11nm,1.1s
ARU Arti 55.42 318 *e*P **P 01 54 32.8 -1.0**
KK31 Karatay Array 55.94 299 P **P 01 54 38.0 +0.3**
KK31 pmax pmax
comp=Z,5.0nm,0.9s
KK31 Karatay Array 55.94 299 P **P 01 54 38.0 +0.3**
KK31 IAmb IAmb 01 54 51.4
comp=Z,5.2nm,0.8s
KKAR Karatay Array 55.94 299 P **P 01 54 38.0 +0.2**
KKAR pmax pmax
comp=Z,5.0nm,0.9s
KKAR Karatay Array 55.94 299 P **P 01 54 37.9 +0.2**
KKAR Karatay Array 55.94 299 P **P 01 54 38.0 +0.2**
KKAR IAmb IAmb 01 54 51.4
comp=Z,5.2nm,0.8s
NEEM North Greenlan 56.48 6 *i* P **P 01 54 42.0 +0.6**
NEEM IAmb IAmb 01 54 43.2
comp=Z,7.5nm,0.8s
GAR Garm 58.36 295 P **P 01 54 55.7 +0.7**
ABKAR Akbulak array 58.64 310 P **P 01 54 55.8 -0.8**
ABKAR IAmb IAmb 01 55 11.7
comp=Z,3.9nm,0.5s
ABKAR Akbulak array 58.64 310 P **P 01 54 56.1 -0.6**
ARCES ARCESS Array B 58.78 341 P **P 01 54 58.1 +0.8**
comp=Z,27nm,1.3s,baz=53,slow=7.3,SNR=13
ARCES LR LR 02 23 32.7
comp=Z,73nm,18.5s,baz=45,slow=39
ARCES ARCESS Array B 58.78 341 *e*P **P 01 54 58.3 +1.0**
ARCES pmax pmax
comp=Z,28nm,1.3s
AKTO Aktyubinsk 58.99 312 P **P 01 54 58.5 -0.6**
comp=Z,1.2nm,0.5s,baz=99,slow=9.3,SNR=2.8
CHGR Chuyangaron 59.29 295 P **P 01 55 01.3 -0.1**
NIL Nilore 59.58 288 P **P 01 55 03.4 -0.1**
NIL pmax pmax
comp=Z,14nm,0.8s
NIL Nilore 59.58 288 P **P 01 55 03.4 -0.1**
KLMR Klimovskoe 60.78 329 *e*P P 01 55 16.3 +5.2
KLMR pmax pmax
comp=Z,18nm,1.5s
KLMR Klimovskoe 60.78 329 *e*P P 01 55 16.3 +5.2
KLMR AMP 01 55 25.2
comp=Z,18nm,1.5s
MSO Missoula 61.12 51 P **P 01 55 15.0 +1.1**
MSO IAmb IAmb 01 55 16.7
comp=Z,4.3nm,1.0s
BEKR Beckworth 61.55 61 P **P 01 55 17.7 +0.8**
KBL Kabul 61.82 292 P **P 01 55 18.8 -0.1**
KBL pmax pmax
comp=Z,8.0nm,0.9s
KBL Kabul 61.82 292 P **P 01 55 18.8 -0.1**
KBL IAmb IAmb 01 55 20.3
comp=Z,7.7nm,0.8s
SUMG Summit 61.99 4 *i* P **P 01 55 20.0 +0.3**
SUMG IAmb IAmb 01 55 22.6
comp=Z,19nm,0.9s
SUMG Summit 61.99 4 *i* P **P 01 55 20.0 +0.3**
SUMG pmax pmax
comp=Z,19nm,0.9s
SUMG Summit 61.99 4 P **P 01 55 20.3 +0.7**
LRM Limekiln Ridge 62.55 52 P **P 01 55 24.0 +0.3**
HLID Hailey 62.84 55 P **P 01 55 26.6 +1.1**
BELG Belogornoye 62.96 318 P **P 01 55 25.0 -0.9**
comp=Z,13nm,0.7s,baz=90,slow=2.0,SNR=3.1
BELG Belogornoye 62.96 318 *i* P **P 01 55 24.5 -1.4**
BELG pmax pmax
comp=Z,4.0nm,1.2s
BOZ Bozeman (W) 63.15 51 P **P 01 55 28.8 +1.3**
BOZ pmax pmax
comp=Z,4.0nm,0.8s
BOZ Bozeman (W) 63.15 51 P **P 01 55 28.8 +1.3**
BOZ IAmb IAmb 01 55 43.2
comp=Z,4.3nm,0.8s
KVN Kaiserville 63.43 61 P **P 01 55 30.5 +0.9**
KVN pmax pmax
comp=Z,6.0nm,1.1s
KVN Kaiserville 63.43 61 P **P 01 55 30.5 +0.9**
KVN IAmb IAmb 01 55 31.9
comp=Z,6.1nm,1.1s
LHV Little Huntoon 63.67 61 P **P 01 55 31.9 +1.0**
LHV IAmb IAmb 01 55 33.3
comp=Z,4.1nm,0.9s
NVAR Mina Array Bea 63.69 61 P **P 01 55 31.8 +0.5**
comp=Z,1.6nm,0.6s,baz=296,slow=7.2,SNR=12
YHH Holmes Hill 64.08 52 P **P 01 55 34.8 +0.9**
H17A Grant Village 64.48 52 P **P 01 55 37.5 +1.1**

H17A IAmb IAmb 01 55 41.0
comp=Z,5.1nm,1.1s
FXWY Fox Creek 64.71 53 P **P** **01 55 38.9 +0.9**
MOOW Moose Ponds 64.80 53 P **P** **01 55 39.5 +0.9**
FINES FINESS Array B 64.84 335 P **P** **01 55 37.2 -0.9**
comp=Z,8.3nm,0.5s,baz=36,slow=6.4,SNR=26
FINES FINESS Array B 64.84 335 *eP* **P** **01 55 37.0 -1.1**
FINES pmax pmax
comp=Z,8.0nm,0.5s
FINES FINESS Array B 64.84 335 P **P** **01 55 38.7 +0.6**
TPAW Teton Pass 64.85 53 P **P** **01 55 39.8 +0.9**
TPAW IAmb IAmb 01 55 45.3
comp=Z,6.6nm,1.1s
LOHW Long Hollow 64.97 53 P **P** **01 55 40.4 +0.8**
REDW Red Top Meadow 64.99 53 P **P** **01 55 40.7 +0.9**
REDW IAmb IAmb 01 55 43.3
comp=Z,6.9nm,1.1s
ICESG Greenland Ices 65.39 5 *i* P **P** **01 55 42.8 +0.7**
ICESG IAmb IAmb 01 55 45.7
comp=Z,11nm,0.6s
R11A Troy Canyon, C 65.40 60 P **P** **01 55 43.4 +1.0**
DUG Dugway, Tooele 65.88 57 P **P** **01 55 46.2 +0.7**
DUG pmax pmax
comp=Z,5.0nm,1.1s
DUG Dugway, Tooele 65.88 57 P **P** **01 55 46.2 +0.7**
DUG IAmb IAmb 01 55 48.4
comp=Z,4.9nm,1.1s
PD31 Pinedale Array 66.10 53 P **P** **01 55 47.5 +0.6**
PDAR Pinedale Array 66.10 53 P **P** **01 55 47.4 +0.5**
comp=Z,1.4nm,0.9s,baz=302,slow=2.8,SNR=9.4
GEYT Alibeck 66.59 301 P **P** **01 55 50.7 +0.8**
comp=Z,26nm,0.5s,baz=238,slow=2.8,SNR=8.0
GEYT LR LR 02 27 31.5
comp=Z,100nm,19.0s,baz=80,slow=38
GYA0B ALIBECK ARRAY 66.59 301 P **P** **01 55 50.5 +0.5**
SHPR Sheep Range 66.84 61 P **P** **01 55 52.6 +0.9**
WRA Warramunga Arr 67.09 198 P **P** **01 55 51.3 -1.8**
comp=Z,1.5nm,1.0s,baz=15,slow=6.3,SNR=5.8
CCUT Cedar City 67.26 59 P **P** **01 55 55.6 +1.2**
RDMU Red Mountain 67.52 55 P **P** **01 55 56.7 +0.7**
SRU San Rafael Swe 67.93 56 P **P** **01 55 58.9 +0.3**
SRU pmax pmax
comp=Z,6.0nm,1.1s
SRU San Rafael Swe 67.93 56 P **P** **01 55 58.9 +0.3**
SRU IAmb IAmb 01 56 00.6
comp=Z,6.2nm,1.1s
KNB Kanab 67.94 59 P **P** **01 55 59.2 +0.6**
KNB pmax pmax
comp=Z,5.0nm,1.1s
KNB Kanab 67.94 59 P **P** **01 55 59.2 +0.6**
KNB IAmb IAmb 01 56 13.5
comp=Z,4.6nm,1.1s
U15A North Rim 68.64 60 P **P** **01 56 04.1 +1.0**
NB2 NORSAR Subarra 69.16 341 P **P** **01 56 05.4 -0.2**
comp=Z,2.5nm,0.6s,baz=29,slow=6.5
NOA NORSAR Array B 69.16 341 P **P** **01 56 06.2 +0.6**
comp=Z,1.2nm,0.4s,baz=30,slow=6.7,SNR=6.7
NOA LR LR 02 30 40.5
comp=Z,73nm,18.8s,baz=45,slow=40
PV14 Lion Creek, Pa 69.30 56 P **P** **01 56 08.2 +1.1**
PV14 IAmb IAmb 01 56 10.2
comp=Z,10.0nm,1.2s
NORES NORESS Array B 69.35 340 P **P** **01 56 08.5 +1.7**
PV17 East Wray Mesa 69.40 56 P **P** **01 56 08.8 +1.0**
PV17 IAmb IAmb 01 56 10.3
comp=Z,6.6nm,0.9s
PV16 Nyswonger Mesa 69.40 56 P **P** **01 56 08.5 +0.7**
PV16 IAmb IAmb 01 56 10.3
comp=Z,6.2nm,1.1s
PV13 Radium Mtn., P 69.56 56 P **P** **01 56 09.8 +1.0**
PV13 IAmb IAmb 01 56 10.8
comp=Z,11nm,1.3s
MNK Minsk 69.68 329 *i* P **P** **01 56 08.2 -0.7**
MNK *i* 01 56 22.2
MNK *i* PPP PPP 02 00 29.2
MNK *i* S **S** **02 05 13.5 -0.6**
MNK pmax pmax
comp=Z,5.0nm,0.7s
MNK pmax pmax
comp=N,6.0nm,0.6s
MNK pmax pmax
comp=E,4.0nm,1.5s
MNK MLR MLR
comp=E,56nm,18.0s
MNK MLR MLR
comp=N,149nm,18.0s
MNK MLR MLR
comp=Z,125nm,16.0s
MNK Minsk 69.68 329 *i* P **P** **01 56 08.3 -0.6**
comp=E,4.0nm,1.6s
MNK *i* P **P** **01 56 08.3 -0.6**
comp=N,6.0nm,0.7s
MNK *i* P **P** **01 56 08.3 -0.6**
comp=Z,5.0nm,0.7s,baz=218
MNK *i* PcP **pP** **01 56 22.3 +2.5**
MNK *i* PP PP 01 58 34.2 -8.5
MNK *i* PPP PPP 02 00 29.3
MNK *i* S **S** **02 05 13.5 -0.6**
MNK *i* SS SS 02 10 15.1 +33
MNK *i* SSS SSS 02 13 06.1
MNK *i* LQ LQ 02 19 32.3
MNK *i* LR LR 02 25 39.6
MNK *i* LRM MLR 02 30 01.9
comp=E,56nm,18.4s
MNK *i* LRM MLR 02 30 03.2
comp=N,149nm,17.7s
MNK *i* LRM MLR 02 30 19.0
comp=Z,125nm,16.4s
NACGM Naroch 69.75 330 *i* P **P** **01 56 09.4 +0.1**
ISCO Idaho Springs 70.29 53 P **P** **01 56 14.2 +0.9**
ISCO pmax pmax
comp=Z,3.0nm,1.1s
ISCO Idaho Springs 70.29 53 P **P** **01 56 14.2 +0.9**
X16A Lo Mia Camp, P 70.50 61 P **P** **01 56 15.6 +1.0**
ASAR Alice Springs 70.79 198 P **P** **01 56 15.9 0.0**
comp=Z,1.5nm,0.8s,baz=23,slow=5.5,SNR=11
ASAR Alice Springs 70.79 198 P **P** **01 56 16.0 0.0**
NCK Nalchik 70.98 313 *ceP* **P** **01 56 18.8 +1.7**
KIV Kislovodsk 71.12 314 *deP* **P** **01 56 19.3 +1.3**
KIV *e**PP **pP** **01 56 29.8 +0.5**
KIV *e**SP **sP** **01 56 34.5 +0.9**
KIV *e* 01 56 38.0
KIV 01 58 54.0
KIV S **S** **02 05 31.0 -0.6**
KIV pmax pmax
comp=Z,15nm,0.9s
KIV MLR MLR
comp=Z,114nm,18.0s
KIV Kislovodsk 71.12 314 P **P** **01 56 18.4 +0.4**
KIV Kislovodsk 71.12 314 *eP* **P** **01 56 19.3 +1.3**
KBZ Khabaz 71.17 314 P **P** **01 56 18.8 +0.6**
comp=Z,15nm,1.0s,baz=59,slow=4.4,SNR=17
KBZ LR LR 02 32 02.9
comp=Z,205nm,18.6s,baz=32,slow=40
KBZ Khabaz 71.17 314 *i* P **P** **01 56 18.4 +0.2**
KBZ pmax pmax
comp=Z,20nm,1.1s
KBZ Khabaz 71.17 314 *eP* **P** **01 56 18.4 +0.2**
SHA1 Shidzhatmaz 71.29 314 *i* P **P** **01 56 19.0 -0.2**
ZEI Tsey 71.33 312 *eP* **P** **01 56 19.2 -0.2**
ZEI pmax pmax
comp=Z,3.0nm,1.0s
ONI Oni 71.70 312 P **P** **01 56 22.2 +0.7**
ONI pmax pmax
comp=Z,11nm,1.0s
ONI Oni 71.70 312 P **P** **01 56 22.2 +0.7**
ONI IAmb IAmb 01 56 24.8
comp=Z,11nm,1.0s
AKASG Malin Array Be 72.15 326 P **P** **01 56 23.5 -0.5**
comp=Z,3.7nm,0.4s,baz=38,slow=6.4,SNR=18
AKASG Malin Array Be 72.15 326 P **P** **01 56 24.3 +0.3**
AKASG pmax pmax
comp=Z,8.0nm,1.4s
AKASG Malin Array Be 72.15 326 P **P** **01 56 24.3 +0.3**
AKASG IAmb IAmb 01 56 38.3
comp=Z,7.5nm,1.4s
AKBB Malin Array Si 72.15 326 *i* P **P** **01 56 23.4 -0.6**
AKBB Malin Array Si 72.15 326 P **P** **01 56 23.4 -0.6**
ECSD EROS Data Cent 72.30 45 P **P** **01 56 26.0 +1.0**
GNI Garni 72.75 310 P **P** **01 56 28.2 +0.2**
comp=Z,2.2nm,0.4s,baz=180,slow=6.2,SNR=6.7
GNI Garni 72.75 310 *i* P **P** **01 56 27.6 -0.4**
GNI pmax pmax
comp=Z,12nm,1.2s
GNI Garni 72.75 310 P **P** **01 56 28.4 +0.5**

ANMO Albuquerque 73.14 57 *ceP* **P** **01 56 31.9 +1.5**
ANMO pmax pmax
comp=Z,2.0nm,1.3s
319A Douglas 73.89 62 P **P** **01 56 35.7 +0.9**
319A IAmb IAmb 01 56 37.5
comp=Z,11nm,1.0s
SCHQ Schefferville 74.75 22 LR LR 02 36 13.4
comp=Z,44nm,18.1s,baz=106,slow=41
LVV L'vov 74.85 328 *eP* **P** **01 56 40.5 +0.6**
GURO Guroymak-BITLI 75.36 310 P **P** **01 56 43.6 +0.4**
GURO IAmb IAmb 01 56 59.4
comp=Z,11nm,1.1s
OJC Ojcow 76.04 331 *eP* **P** **01 56 47.0 +0.3**
OJC Ojcow 76.04 331 P **P** **01 56 46.2 -0.5**
OJC pmax pmax
comp=Z,17nm,1.1s
OJC Ojcow 76.04 331 P **P** **01 56 46.2 -0.5**
MNTX Cornudas Mount 76.05 59 P **P** **01 56 46.8 -0.3**
BUR08 Bucovina Ar. S 76.19 326 P **P** **01 56 48.1 +0.4**
BUR08 IAmb IAmb 01 56 50.0
comp=Z,11nm,1.1s
BURAR Bucovina Array 76.20 326 P **P** **01 56 47.6 -0.2**
BURAR pmax pmax
comp=Z,6.0nm,0.8s
BURAR Bucovina Array 76.20 326 P **P** **01 56 47.9 +0.1**
BURAR IAmb IAmb 01 57 01.7
comp=Z,5.9nm,0.8s
KOLS Kolonicke sedl 76.23 329 *eP* **P** **01 56 48.7 +0.9**
KOLS pmax pmax
comp=Z,16nm,1.0s
KOLS Kolonicke sedl 76.23 329 *eP* **P** **01 56 48.7 +0.9**
UZH Uzhgorod 76.48 328 *eP* **P** **01 56 50.3 +1.1**
UZH *e* 01 57 08.9
NIE Niedzica 76.54 330 *eP* P 01 56 42.5 -7.1
KSP Ksiaz 76.67 333 *eP* **P** **01 56 51.0 +0.8**
FLTG Flechtingen 76.88 337 *epP* pP 01 57 04.5 +2.0
baz=27,slow=5.9
OSTC Ostas 76.94 333 *eP* **P** **01 56 53.7 +1.9**
OSTC *ex* x 01 57 03.8
LANS Liptovska Anna 77.06 330 *eP* **P** **01 56 54.0 +1.5**
LANS pmax pmax
comp=Z,7.0nm,0.9s
LANS Liptovska Anna 77.06 330 *eP* **P** **01 56 54.0 +1.5**
DPC Dobruska-Polom 77.09 333 *eP* **P** **01 56 53.8 +1.1**
DPC *e* 01 57 06.2
DPC Dobruska-Polom 77.09 333 *eP* **P** **01 56 53.8 +1.1**
DPC *epP* **pP** **01 57 06.2 +2.5**
KRLC Kraliky 77.17 332 *eP* **P** **01 56 53.7 +0.5**
KRLC *e* 01 57 06.5
KRLC Kraliky 77.17 332 *eP* **P** **01 56 53.7 +0.5**
KRLC *epP* **pP** **01 57 06.5 +2.3**
MORC Moravsky Berou 77.18 332 P **P** **01 56 53.6 +0.4**
MORC pmax pmax
comp=Z,16nm,1.2s
MORC Moravsky Berou 77.18 332 P **P** **01 56 53.6 +0.4**
MORC Moravsky Berou 77.18 332 *eP* **P** **01 56 54.2 +1.0**
MORC *e* 01 57 06.9
CLL Collm 77.28 335⇑ *iP* **P** **01 56 54.2 +0.6**
comp=Z,13nm,1.3s
CLL *i* pP **pP** **01 57 06.3 +1.6**
comp=Z,14nm,1.2s
CLL LmV 02 34 00.0
comp=Z,100nm,20.7s
CLL Collm 77.28 335⇑ *iP* **P** **01 56 54.2 +0.6**
CLL *i* 01 57 06.3
CLL pmax pmax
comp=Z,13nm,1.3s
CLL Collm 77.28 335 *eP* **P** **01 56 54.3 +0.7**
comp=Z,13nm,1.3s,baz=27,slow=5.9
CLL *epP* **pP** **01 57 06.8 +2.1**
baz=27,slow=5.9
BRG Berggiesshubel 77.38 334 *eP* **P** **01 56 55.0 +0.8**
comp=Z,6.7nm,1.6s,baz=27,slow=5.9
BRG *epP* **pP** **01 57 07.7 +2.4**
baz=27,slow=5.9
CLZ Clausthal 77.56 337 *epP* pP 01 57 09.2 +2.8
baz=27,slow=5.9
MLR Muntele Rosu 77.64 324 P **P** **01 56 56.7 +0.8**
comp=Z,3.2nm,0.6s,baz=125,slow=0.4,SNR=13
MLR Muntele Rosu 77.64 324 P **P** **01 56 56.6 +0.6**
MLR IAmb IAmb 01 57 11.9
comp=Z,7.3nm,0.8s
NEUB Neuenburg 77.73 336 *epP* pP 01 57 09.7 +2.4
baz=27,slow=5.9
VYHS Vyhne 77.83 330 *eP* **P** **01 57 00.0 +3.2**
VYHS Vyhne 77.83 330 *eP* **P** **01 57 00.0 +3.2**
VRAC Vranov 77.90 332 P **P** **01 56 58.1 +1.0**
comp=Z,2.6nm,0.6s,baz=34,slow=5.2,SNR=6.6
VRAC Vranov 77.90 332 *eP* **P** **01 56 58.6 +1.4**
VRAC *e* 01 57 11.2
JAVC Velka Javorina 77.92 331 *eP* **P** **01 56 59.6 +2.2**
JAVC *e* 01 57 12.2
PRU Pruhonice 77.97 334 *eP* P 01 57 10.9 +13
PRU Pruhonice 77.97 334 *epP* pP 01 57 10.9 +2.3
KRUC Moravsky 78.18 332 *eP* **P** **01 56 59.9 +1.2**
KRUC *e* 01 57 12.5
MOX Moxa 78.27 336 *epP* pP 01 57 12.9 +2.5
baz=27,slow=5.9
BNN Bunyan 78.35 314 P **P** **01 57 00.5 +0.5**
WERN Wernitzgruen 78.37 335 *epP* pP 01 57 13.5 +2.6
baz=27,slow=5.9
MANZ Manzenberg 78.71 335 *epP* pP 01 57 15.6 +2.8
baz=27,slow=5.9
BUG Bochum-Univer 78.75 338 *epP* pP 01 57 15.2 +2.3
baz=27,slow=5.9
TX31 Lajitas Ar. Si 78.77 60 P **P** **01 57 02.4 -0.1**
TX32 Lajitas Array 78.77 60 P **P** **01 57 02.2 -0.2**
TX32 IAmb IAmb 01 57 08.1
comp=Z,6.1nm,1.2s
TXAR Lajitas Array 78.77 60 P **P** **01 57 02.1 -0.4**
comp=Z,2.6nm,0.8s,baz=303,slow=3.9,SNR=24
TXAR Lajitas Array 78.77 60 P **P** **01 57 01.9 -0.5**
BRTR Keskin Array B 78.77 316 P **P** **01 57 03.1 +0.8**
comp=Z,1.4nm,0.7s,baz=124,slow=2.2,SNR=5.0
BRTR LR LR 02 37 07.9
comp=Z,81nm,18.5s,baz=60,slow=40
BRTR Keskin Array B 78.77 316 *eP* **P** **01 57 03.7 +1.4**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 78.77 316 P **P** **01 57 02.3 0.0**
ROTZ Rotzenmuhle 78.88 335 *epP* pP 01 57 16.6 +2.9
baz=27,slow=5.9
KHC Kasperske Hory 79.02 334 *eP* **P** **01 57 03.7 +0.3**
KHC *e* 01 57 11.0
KHC Kasperske Hory 79.02 334 *eP* **P** **01 57 03.7 +0.3**
KHC *ex* x 01 57 11.0
CKRC Cesky Krumlov 79.06 333 *eP* **P** **01 57 04.7 +1.1**
GERES GERESS Array B 79.23 333 P **P** **01 57 03.7 -0.9**
comp=Z,1.2nm,0.6s,baz=44,slow=5.1,SNR=9.8
GERES GERESS Array B 79.23 333 *eP* **P** **01 57 04.5 -0.2**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GRF Grafenberg Arr 79.24 335 *eP* **P** **01 57 05.8 +1.2**
comp=Z,22nm,1.5s,baz=27,slow=5.9
GRF *epP* **pwP** **01 57 18.7 -2.3**
baz=27,slow=5.9
CONA Conrad Observa 79.34 332 *eP* **P** **01 57 05.3 +0.1**
comp=Z,2.4nm,0.7s
U40A Yellville 79.71 48 P **P** **01 57 07.6 +0.2**
U40A IAmb IAmb 01 57 08.8
comp=Z,5.1nm,0.9s
MOA Molln 79.93 333 *eP* **P** **01 57 08.8 +0.5**
comp=Z,1.5nm,0.7s
MIAR Mount Ida 80.70 50 P **P** **01 57 13.4 +0.7**
MIAR pmax pmax
comp=Z,4.0nm,1.1s
MIAR Mount Ida 80.70 50 P **P** **01 57 13.4 +0.7**
SOKA Soboth 80.70 332 *eP* **P** **01 57 12.5 -0.1**
comp=Z,4.9nm,1.1s
KBA Koelnbreinsper 80.91 333 *eP* **P** **01 57 14.8 +1.0**
comp=Z,7.2nm,0.7s
VTS Vitosha 81.11 324 P **P** **01 57 15.3 +0.3**
VTS pmax pmax
comp=Z,7.0nm,0.9s
VTS Vitosha 81.11 324 P **P** **01 57 15.3 +0.3**
VTS IAmb IAmb 01 57 17.4
comp=Z,7.1nm,0.9s
DIVS Divbare 81.15 327 P **P** **01 57 15.4 +0.3**
DIVS IAmb IAmb 01 57 29.9
comp=Z,5.5nm,1.0s
WATA Walderalm 81.23 334 *eP* **P** **01 57 16.5 +1.0**
comp=Z,6.5nm,0.9s
WTTA Wattenberg 81.28 334 *eP* **P** **01 57 17.0 +1.2**
comp=Z,3.1nm,0.6s
RETA Reutte 81.35 335 *eP* **P** **01 57 16.2 +0.2**
comp=Z,5.0nm,1.2s
MOTA Moosalm 81.37 334 *eP* **P** **01 57 17.3 +1.1**
comp=Z,7.7nm,0.9s
SQTA Sankt Quirin 81.45 334 *eP* **P** **01 57 17.6 +1.0**
comp=Z,6.8nm,1.0s
ABTA Abfaltersbach 81.47 333 *eP* **P** **01 57 18.0 +1.3**
comp=Z,4.0nm,0.9s
CDF Champ du Feu 81.51 337 *eP* **P** **01 57 17.6 +0.7**
CDF pmax pmax
comp=Z,8.0nm,1.1s
PPT Papeete 82.06 125 LR LR 02 30 09.4
comp=Z,146nm,18.2s,baz=328,slow=33
DAVOX Davos/Dischmat 82.25 335 P **P** **01 57 21.4 +0.5**
comp=Z,2.2nm,0.8s,baz=135,slow=8.6,SNR=2.7
PDG Podgorica 82.85 327 P **P** **01 57 23.9 +0.1**
PDG IAmb IAmb 01 57 25.8
comp=Z,6.9nm,0.7s
PUK Puka 82.94 326 P **P** **01 57 24.9 +0.4**
PUK IAmb IAmb 01 57 30.5
comp=Z,3.4nm,0.7s
AVF Avril sur Loir 84.04 339 *eP* **P** **01 57 30.7 +0.8**
AVF pmax pmax
comp=Z,10.0nm,1.2s
SMF Signal de Mont 84.05 339 *eP* **P** **01 57 30.9 +0.9**
SMF pmax pmax
comp=Z,23nm,1.3s
LPL La Plagne 84.31 336 *eP* **P** **01 57 32.9 +1.3**
LPL pmax pmax
comp=Z,12nm,1.3s
LPG La Plagne 84.32 336 *eP* **P** **01 57 33.1 +1.3**
LPG pmax pmax
comp=Z,14nm,1.3s
NRCA Norcia 84.73 331 P **P** **01 57 34.1 +0.5**
AQU L'Aquila 85.06 331 P **P** **01 57 36.1 +0.9**
AQU pmax pmax
comp=Z,11nm,1.0s
AQU L'Aquila 85.06 331 P **P** **01 57 36.1 +0.9**
VIVF Saint-Julien-l 85.49 337 *eP* **P** **01 57 38.6 +1.3**
VIVF pmax pmax
comp=Z,7.0nm,1.0s
CAF Calviac 86.10 339 *eP* **P** **01 57 41.8 +1.5**
CAF pmax pmax
comp=Z,9.0nm,1.2s
LMR La Mourre 86.38 336 *eP* **P** **01 57 45.8 +4.2**
LMR pmax pmax
comp=Z,49nm,1.6s
ETSF Etsaut 88.65 340 *eP* P 01 57 59.1 +6.4
ETSF pmax pmax
comp=Z,17nm,1.6s
ESDC Sonseca Array 92.50 342 LR LR 02 46 43.7
comp=Z,27nm,18.6s,baz=320,slow=40
TORD Torodi Ar. Bea 115.75 328 PKP **PKiKP** **02 03 41.6 -0.5**
comp=Z,0.5nm,0.9s,baz=51,slow=2.6,SNR=2.2

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*OSPL **03** 02:13:36.9±0.4, 17.°36N×67.°55W, h15km±7km, ML2.6*
*NEIC **03** 02:13:39.4±1.3, 17.°50N±0.°07×67.°46W×0.°05, h38km±47km,*
Error ellipse: s-maj=11.6km s-min=4.8km az=207.0
*RSPR **03** 02:13:39.3, 17.°44N×67.°50W, h22km±15km, MD2.8/13*
ISC 03 02:13:37.0±1.8, 17.°43N±0.°08×67.°51W±0.°04, h26km±13km**,**
n53,σ0°80/61, 6C-7D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**0.69**	**33**		Op *eP*	**Pb**	**02 13 50.5**	**+0.1**
CRPR	**Cabo Rojo, PR**	**0.69**	**33**		*eS*	**Sb**	**02 14 00.3**	**+0.7**
CRPR	**Cabo Rojo, PR**	**0.69**	**33**			**Pb**	**02 13 50.5**	**+0.1**
CRPR	**Cabo Rojo, PR**	**0.69**	**33**			**Sb**	**02 14 00.3**	**+0.7**
CRPR	**Cabo Rojo, PR**	**0.69**	**33**	IAML			02 14 00.2	
CRPR	comp=N,211nm,0.6s			IAML			02 14 00.3	
CRPR	comp=E,208nm,0.5s **Cabo Rojo, PR**	**0.69**	**33**	*i* P		**Pb**	**02 13 50.6**	**+0.2**
CRPR	comp=Z,225nm,0.2s			IAML			02 14 00.3	
MLPR	**Magueyes Islan**	**0.70**	**39**⇑	*eP*		**Pb**	**02 13 50.6**	**+0.1**
MLPR	**Magueyes Islan**	**0.70**	**39**	*eS*		**Sb**	**02 14 00.3**	**+0.5**
MLPR	**Magueyes Islan**	**0.70**	**39**			**Pb**	**02 13 50.6**	**+0.1**
MLPR						**Sb**	**02 14 00.3**	**+0.5**
GBPR	**Guanica, Bosqu**	**0.81**	**48**⇑	*eP*		**Pb**	**02 13 52.5**	**+0.1**
GBPR				*eS*		**Sb**	**02 14 02.8**	**-0.2**
LSP	**Las Mesas**	**0.85**	**28**‖	*eP*		**Pb**	**02 13 53.1**	**0.0**
LSP	**Las Mesas**	**0.85**	**28**	*eS*		**Sb**	**02 14 04.3**	**+0.2**
IDE	**Isla Desecheo**	**0.95**	**2**‖	*eP*		**Pb**	**02 13 54.5**	**-0.3**
IDE	**Isla Desecheo**	**0.95**	**2**	*eS*		**Sb**	**02 14 06.8**	**-0.3**
ICMP	**Isla Caja de M**	**1.04**	**64**‖	*eP*		**Pn**	**02 13 56.0**	**+0.1**
ICMP	**Isla Caja de M**	**1.04**	**64**	*eS*		**Sb**	**02 14 09.1**	**-0.5**
ICMP	**Isla Caja de M**	**1.04**	**64**			**Pn**	**02 13 56.0**	**+0.1**
ICMP						**Sb**	**02 14 09.1**	**-0.5**
OBIP	**Obispado Ponce**	**1.06**	**54**‖	*eP*		**Pn**	**02 13 55.4**	**-0.6**
OBIP	**Obispado Ponce**	**1.06**	**54**	*eS*		**Sb**	**02 14 08.9**	**-1.1**
OBIP	**Obispado Ponce**	**1.06**	**54**			**Pn**	**02 13 55.4**	**-0.6**
OBIP						**Sb**	**02 14 08.9**	**-1.1**
CELP	**Cerrillos**	**1.09**	**54**‖	*eP*		**Pn**	**02 13 56.6**	**0.0**
CELP	**Cerrillos**	**1.09**	**54**	*eS*		**Sb**	**02 14 09.9**	**-1.2**
CELP	**Cerrillos**	**1.09**	**54**			**Pn**	**02 13 56.6**	**0.0**
CELP						**Sb**	**02 14 09.9**	**-1.2**
AGPR	**Aguadilla, PR**	**1.10**	**20**	*i* P		**Pn**	**02 13 57.1**	**+0.4**
AGPR				IAML			02 14 18.1	
AOPR	comp=Z,82nm,1.4s **Arecibo Observ**	**1.16**	**38**⇑	*eP*		**Pn**	**02 13 57.6**	**+0.1**
AOPR	**Arecibo Observ**	**1.16**	**38**	*eS*		**Sb**	**02 14 11.7**	**-1.4**
AOPR	**Arecibo Observ**	**1.16**	**38**			**Pn**	**02 13 57.6**	**+0.1**
AOPR						**Sb**	**02 14 11.7**	**-1.4**
AOPR	**Arecibo Observ**	**1.16**	**38**	IAML			02 14 13.4	
PCDR	comp=N,463nm,0.3s **Punta Cana, DR**	**1.36**	**323**	Pn		**Pn**	**02 14 02.7**	**+2.5**
PCDR						**Sn**	**02 14 18.5**	**+1.0**
PCDR				IAML			02 14 19.6	
PCDR	comp=N,206nm,0.7s			IAML			02 14 22.9	
PCDR	comp=E,104nm,0.7s **Punta Cana, DR**	**1.36**	**323**	*i* P		**Pn**	**02 13 59.9**	**-0.4**
PCDR				*eS*		**Sn**	**02 14 17.3**	**-0.1**
PCDR				IAML			02 14 21.4	
EMPR	comp=Z,98nm,1.0s **Esperanza - Ma**	**1.40**	**42**⇑	*eP*		**Pn**	**02 14 01.1**	**+0.3**
EMPR	**Esperanza - Ma**	**1.40**	**42**	*eS*		**Sn**	**02 14 18.1**	**-0.3**
EMPR	**Esperanza - Ma**	**1.40**	**42**			**Pn**	**02 14 01.1**	**+0.3**
EMPR						**Sn**	**02 14 18.1**	**-0.3**
EMPR	**Esperanza - Ma**	**1.40**	**42**	IAML			02 14 20.1	
EMPR	comp=N,194nm,0.5s			IAML			02 14 20.4	
IGPR	comp=E,170nm,0.6s **InterUniversit**	**1.44**	**68**‖	*eP*		**Pn**	**02 14 01.4**	**0.0**
IGPR	**InterUniversit**	**1.44**	**68**	*eS*		**Sn**	**02 14 18.9**	**-0.5**
IGPR	**InterUniversit**	**1.44**	**68**	Pn		**Pn**	**02 14 01.5**	**+0.2**
IGPR						**Sn**	**02 14 19.8**	**+0.4**
SJG	**San Juan**	**1.46**	**62**			**Pn**	**02 14 02.0**	**+0.3**
SJG				IAML			02 14 21.3	
SJG	comp=E,123nm,0.3s			IAML			02 14 21.7	
CBYP	comp=E,136nm,0.2s **Canovanas**	**1.78**	**62**‖	*eP*		**Pn**	**02 14 06.6**	**+0.5**
CBYP	**Canovanas**	**1.78**	**62**	*eS*		**Sn**	**02 14 27.7**	**-0.3**
CBYP	**Canovanas**	**1.78**	**62**			**Pn**	**02 14 06.6**	**+0.5**
MTP	**Monte Pirata**	**1.98**	**70**	Pn		**Pn**	**02 14 09.1**	**+0.3**
MTP						**Sn**	**02 14 32.5**	**-0.2**
MTP	comp=E,73nm,0.2s			IAML			02 14 33.7	
MTP	comp=N,56nm,0.5s			IAML			02 14 33.7	
DR12	**Loma Pena Alta**	**2.23**	**308**			**Pn**	**02 14 13.1**	**+0.8**
CUPR	**Culebra, Puert**	**2.29**	**67**⇑	*eP*		**Pn**	**02 14 13.7**	**+0.6**
CUPR	**Culebra, Puert**	**2.29**	**67**	*eS*		**Sn**	**02 14 40.2**	**-0.3**
CUPR	**Culebra, Puert**	**2.29**	**67**			**Pn**	**02 14 13.7**	**+0.6**
CUPR						**Sn**	**02 14 40.2**	**-0.3**
CUPR	**Culebra, Puert**	**2.29**	**67**	IAML			02 14 42.5	
CUPR	comp=E,32nm,0.4s			IAML			02 14 43.6	
STVI	comp=N,38nm,0.6s **Saint Thomas**	**2.60**	**69**	*eS*		**Sn**	**02 14 47.8**	**-0.3**
STVI	**Saint Thomas**	**2.60**	**69**			**Sn**	**02 14 47.8**	**-0.3**
STVI	**Saint Thomas**	**2.60**	**69**	Pn		**Pn**	**02 14 19.3**	**+2.0**
STVI				IAML			02 14 50.1	
STVI	comp=N,63nm,0.3s			IAML			02 14 50.5	
CDVI	comp=E,43nm,0.3s **St. Croix**	**2.64**	**83**	Pn		**Pn**	**02 14 20.7**	**+2.9**
LOBA2	**Hotel Casa Bon**	**3.48**	**281**	*e*			02 11 07.2	
LOBA2				*i* P		**Pn**	**02 14 28.5**	**-0.9**
LOBA2				IAML			02 15 10.5	
LONE2	comp=Z,18nm,9.6s **Loma La Sidra**	**3.94**	**287**	*i* P		**Pn**	**02 14 35.1**	**-0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LONE2				IAML		02 15 25.3	
	comp=Z,17nm,1.7s						

MEX 03 02:15:31.2±0.3, 18.10N×103.15W, h7km±9km, MD3.6, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.26**	**315**	*i* P	Pg	02 15 36.1	-0.3
MMIG				*i* S	Sg	02 15 40.0	0.0
COIG	**Colima**	**1.19**	**335**	*e*P	Pg	02 15 49.9	-4.2
COIG				*e*S	Sg	02 16 05.4	-4.1
R15V		**1.32**	**323**	*i* P	Pn	02 15 52.6	-3.6
R15V				*i* S	Sb	02 16 09.2	-4.4
EZ5V		**1.44**	**343**	*e*P	Pn	02 15 54.6	-3.3
EZ5V				*e*S	Sb	02 16 12.4	-4.7

*DJA **03** 02:45:52.4±1.5, 3°S±8°×13°9E±°, h10km, M3.3/3, MLv3.3/3*
*IDC **03** 02:45:55.8±6.4, 2.71S×139.05E, h77km±61km, mb3.2/2, mb1 3.6/3, mb1mx3.2/21, mbtmp3.6/3, ML4.0/1, Error ellipse: s-maj=77.3km s-min=22.9km az=127.0*
ISC 03 02:45:52.5±1.6, 2.3S±0.1×138.8E±0.1, h50km, n7, σ1.81/10, Irian Jaya

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.36**	**102**	P	**Pn**	**02 46 15.7**	**+0.7**
GENI				S	**Sn**	**02 46 31.9**	**0.0**
WAMI	**Wamena**	**1.57**	**185**	P	**Pn**	**02 46 18.7**	**+0.7**
WAMI				S	**Sn**	**02 46 39.9**	**+2.7**
JAY	**Jayapura**	**1.87**	**96**	P	**Pn**	**02 46 23.2**	**+1.1**
	5.8nm,0.3s,baz=226,slow=11,SNR=6.5						
JAY				S	**Sn**	**02 46 44.0**	**-0.6**
	8.6nm,0.3s,baz=113,slow=21,SNR=8.6						
JAY	**Jayapura**	**1.87**	**96**	P	**Pn**	**02 46 23.2**	**+1.1**
WRA	**Warramunga Arr**	**18.07**	**194**	P	**Pn**	**02 49 57.9**	**-2.2**
	0.5nm,0.3s,baz=18,slow=12,SNR=21						
ASAR	**Alice Springs**	**21.77**	**192**	P	**P**	**02 50 37.6**	**-2.5**
	0.7nm,0.4s,baz=20,slow=11,SNR=12						
ILAR	**Eielson Array**	**85.41**	**24**	P	**P**	**02 58 25.6**	**+1.2**
	0.4nm,0.9s,baz=242,slow=3.8,SNR=2.7						

*FUNV **03** 02:53:42.2, 6.53N×65.06W, h5km, MW3.8*
ISC 03 02:53:41.8±1.4, 6.58N±0.08×65.13W±0.05, h10km, n27, σ2.11/38, Venezuela

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CACV	**CAICARA DEL OR**	**1.71**	**305**	*e*P	Pn	02 54 06.2	-5.5
CACV				*e*S	Sn	02 54 24.7	-8.9
PRGV	**PARIAGUAN**	**2.22**	**12**	*e*P	**Pn**	**02 54 18.7**	**0.0**
PRGV				*e*S	**Sn**	**02 54 47.3**	**+1.1**
MERV	**Las Mercedes**	**2.90**	**337**	*e*P	**Pn**	**02 54 29.2**	**+1.1**
MERV				*e*S	**Sn**	**02 55 03.4**	**+0.5**
RIOV	**Rio Grande**	**3.61**	**66**	*e*P	**Pn**	**02 54 35.3**	**-2.5**
RIOV				*e*S	**Sn**	**02 55 19.9**	**-0.6**
PCRV	**Puerto La Cruz**	**3.61**	**8**	*e*P	**Pn**	**02 54 36.8**	**-1.0**
PCRV				*e*S	**Sn**	**02 55 19.9**	**-0.7**
BAUV	**El Baul**	**3.72**	**309**	*e*P	**Pn**	**02 54 40.6**	**+1.2**
BAUV				*e*S	**Sn**	**02 55 24.2**	**+0.9**
TACV	**Tcata**	**4.00**	**332**	*e*P	**Pn**	**02 54 43.4**	**0.0**
TACV				*e*S	**Sn**	**02 55 29.0**	**-1.4**
BIRV	**Birongo**	**4.03**	**344**	*e*P	**Pn**	**02 54 43.7**	**+0.1**
BIRV				*e*S	**Sn**	**02 55 30.0**	**-1.0**
BENV	**Beln**	**4.16**	**324**	*e*P	**Pn**	**02 54 46.1**	**+0.6**
BENV				*e*S	**Sn**	**02 55 34.0**	**-0.2**
ELOV	**Elorza**	**4.34**	**276**	*e*P	**Pn**	**02 54 49.0**	**+1.0**
ELOV				*e*S	**Sn**	**02 55 35.8**	**-2.9**
CRUV	**Carupano**	**4.48**	**25**	*e*P	**Pn**	**02 54 48.6**	**-1.2**
MAPV	**Macapo**	**4.62**	**315**	*e*P	**Pn**	**02 54 52.9**	**+1.2**
MAPV				*e*S	**Sn**	**02 55 44.7**	**-0.7**
TURV	**Turiamo**	**4.69**	**325**	*e*P	**Pn**	**02 54 52.5**	**-0.1**
TURV				*e*S	**Sn**	**02 55 45.8**	**-1.4**
SOCV	**Socops**	**5.93**	**287**	*e*P	**Pn**	**02 55 10.8**	**+1.1**
SOCV				*e*S	**Sn**	**02 56 15.9**	**-1.9**
MONV	**Montecano**	**7.17**	**319**	*e*P	**Pn**	**02 55 26.7**	**0.0**
MONV				*e*S	**Sn**	**02 56 43.1**	**-5.3**
RUSC	**La Rusia**	**7.94**	**266**	*e*P	**Pn**	**02 55 42.2**	**+4.5**
CHIC	**Chingaza**	**8.78**	**258**	*e*P	Pn	02 55 55.6	+6.3
SPBC	**San Pablo de B**	**8.94**	**265**	*e*P	**Pn**	**02 55 52.8**	**+1.6**
SMLC	**San Martn de**	**9.13**	**285**	*e*P	**Pn**	**02 55 54.8**	**+1.0**
ZARC	**Zaragoza, Cauc**	**9.70**	**276**	*e*P	**Pn**	**02 56 01.3**	**-0.3**
MACC	**Macarena, Meta**	**9.74**	**244**	*e*P	**Pn**	**02 56 05.7**	**+3.6**
PRAC	**Prado**	**10.13**	**254**	*e*P	**Pn**	**02 56 10.9**	**+3.5**
GUY2C	**Guyana, Caldas**	**10.27**	**263**	*e*P	**Pn**	**02 56 12.0**	**+2.2**
TOLC	**Tolima**	**10.34**	**259**	*e*P	**Pn**	**02 56 14.9**	**+4.3**
ORTC	**Ortega, Tolima**	**10.42**	**256**	*e*P	**Pn**	**02 56 14.9**	**+3.5**
CBOC	**Ciudad Bolivar**	**10.84**	**267**	*e*P	**Pn**	**02 56 19.9**	**+2.6**
FLOC	**Florencia**	**11.61**	**245**	*e*P	**Pn**	**02 56 26.5**	**-1.2**

MEX 03 03:09:04.2±0.9, 15.44N×93.40W, h90km±8km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCIG		**0.32**	**33**	*e*P	Pn	03 09 16.1	-1.6
PCIG				*i* S	Sn	03 09 26.2	-1.6
TGIG		**1.36**	**11**	*e*P	Pn	03 09 27.3	-1.0
TGIG				*i* S	Sn	03 09 43.9	-2.5
CMIG	**Matias Romero**	**2.17**	**319**	*e*P	Pn	03 09 36.8	-2.0
CMIG				*e*S	Sn	03 10 02.8	-2.4

*NOU **03** 03:09:22.1, 43.06S×171.60E, h20km, MLv3.5/5, South Island, New Zealand*
WEL 03 03:09:20.8±0.4, 43°S±2°×17°2E±°, h4km±2km, M3.5/17, ML3.6/17, MLv3.5/17, Error ellipse: s-maj=0.0km s-min=0.0km az=17.3, South Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
INZ	**Inchbonnie**	**0.35**	**328**	P	Pg	03 09 27.9	+0.5
INZ				S	Sg	03 09 32.6	+0.6
OXZ	**Oxford**	**0.40**	**141**	P	Pg	03 09 28.8	+0.3
OXZ				S	Sg	03 09 34.7	+1.0
LTZ	**Lake Taylor**	**0.49**	**61**	P	Pg	03 09 30.4	+0.3
LTZ				S	Sg	03 09 37.3	+0.8
MHCZ	**Mount Hutt**	**0.52**	**190**	P	Pg	03 09 31.3	+0.5
WVZ	**Waitaha Valley**	**0.70**	**265**	P	Pg	03 09 34.6	+0.4
WVZ				S	Sg	03 09 44.0	+0.6
AMCZ	**Amberley**	**0.72**	**103**	P	Pb	03 09 35.4	-0.4
RACZ	**Rakaia**	**0.78**	**155**	P	Pg	03 09 36.1	+0.4
RPZ	**Rata Peaks**	**0.84**	**214**	P	Pg	03 09 37.3	+0.5
WACZ	**Wakanui South**	**0.93**	**173**	P	Pg	03 09 39.0	+0.4
WACZ				S	Sb	03 09 52.3	+0.2
MQZ	**McQueen's Vall**	**0.98**	**135**	P	Pg	03 09 39.3	-0.4
MQZ				S	Sg	03 09 52.1	-0.2
GVZ	**Greta Valley S**	**0.99**	**87**	P	Pb	03 09 40.1	-0.3
GVZ				S	Sb	03 09 54.6	+0.8
ARCZ	**Arundel**	**1.00**	**202**	P	Pg	03 09 40.1	+0.1
ARCZ				S	Sb	03 09 53.9	-0.4
GCSZ	**Gaunt Creek Bo**	**1.04**	**253**	P	Pg	03 09 40.7	0.0
OKCZ	**Okains Bay**	**1.22**	**126**	P	Pg	03 09 43.1	-1.1
AKCZ	**Akaroa Harbour**	**1.23**	**134**	P	Pg	03 09 43.0	-1.3
AKCZ				S	Sg	03 09 59.6	-0.7
DSZ	**Denniston Nort**	**1.28**	**4**	P	Pg	03 09 44.4	-0.8
TMZ	**Timaru**	**1.45**	**200**	P	Pn	03 09 46.4	-1.4
FOZ	**Fox Glacier**	**1.46**	**249**	P	Pn	03 09 48.0	+0.1
KHZ	**Kahutara**	**1.49**	**67**	P	Pn	03 09 47.4	-0.8
THZ	**Tophouse**	**1.54**	**36**	P	Pn	03 09 48.4	-0.7
LBZ	**Lake Benmore**	**1.75**	**218**	P	Pn	03 09 51.2	-0.7
BSWZ	**Blackbirch Sta**	**2.08**	**52**	P	Pb	03 09 58.7	-0.3
ODZ	**Otahua Downs**	**2.16**	**200**	P	Pn	03 09 55.9	-1.6
NNZ	**Nelson**	**2.19**	**35**	P	Pn	03 09 58.6	+0.6
QRZ	**Quartz Range**	**2.28**	**16**	P	Pn	03 09 58.8	-0.3
TUWZ	**Tuamarina**	**2.31**	**47**	P	Pn	03 10 01.1	+1.6
JCZ	**Jackson Bay**	**2.36**	**242**	P	Pn	03 10 00.6	+0.2
TCW	**Tory Channel**	**2.64**	**48**	P	Pn	03 10 05.5	+1.4
DUWZ	**D'Urville Isla**	**2.77**	**38**	P	Pn	03 10 07.1	+1.2
EAZ	**Earnscleugh**	**2.80**	**217**	P	Pn	03 10 05.3	-1.0
HHSZ	**Highcliff Hill**	**2.97**	**195**	P	Pn	03 10 07.0	-1.7
CAW	**Cannon Point**	**3.16**	**54**	P	Pn	03 10 11.2	0.0
KIW	**Kapiti Island**	**3.23**	**49**	P	Pn	03 10 12.6	+0.4
TUZ	**Tuapeka**	**3.28**	**206**	P	Pn	03 10 11.7	-1.3
OGWZ	**Otaki Gorge**	**3.40**	**51**	P	Pn	03 10 14.7	+0.1
MRZ	**Mangatainoka R**	**3.74**	**52**	P	Pn	03 10 18.5	-0.7
SYZ	**Scrubby Hill**	**3.96**	**206**	P	Pn	03 10 20.9	-1.3
PKE	**Pukeiti**	**4.20**	**25**	P	Pn	03 10 27.2	+1.7
VRZ	**Vera Road**	**4.53**	**32**	P	Pn	03 10 31.7	+1.7
APZ	**The Paps**	**4.63**	**213**	P	Pn	03 10 29.6	-1.9
WNVZ	**Wahianoa**	**4.72**	**40**	P	Pn	03 10 34.9	+2.0

*GII **03** 03:16:20.6±0.2, 28.64N×34.82E, h11km, mb4.2/8, MD4.0/8, Mm3.6/3*
*SGS **03** 03:16:23.3, 28.75N×34.72E, h8km, Ml3.7*
ISC 03 03:16:22.0±1.6, 28.74N±0.03×34.73E±0.07, h5km±12km, n71, σ0.79/82, Egypt

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HAQS	**Haql**	**0.35**	**28**	P	**Pg**	**03 16 30.1**	**+1.3**
HAQS				S	**Sb**	**03 16 35.6**	**-1.0**
RSHS		**0.44**	**172**	P	**Pg**	**03 16 32.3**	**+1.7**
BDAS	**Al Bad`**	**0.45**	**133**	P	**Pb**	**03 16 31.9**	**-0.5**
BDAS				S	**Sb**	**03 16 38.7**	**-0.8**
HQLS		**0.63**	**27**	P	**Pg**	**03 16 35.0**	**+0.8**
JLOS		**0.67**	**90**	P	**Pb**	**03 16 35.6**	**-0.7**
KRABS	**KRABS**	**0.79**	**144**	P	**Pb**	**03 16 37.9**	**-0.2**
EIL	**Elat**	**0.95**	**12**	Pg	**Pg**	**03 16 39.8**	**-0.4**
EIL				Sg	**Sb**	**03 16 55.1**	**+1.3**
MBRI	**Mt Berech**	**1.06**	**9**	Pg	**Pg**	**03 16 41.8**	**-0.6**
MBRI				Sg	**Sb**	**03 16 58.1**	**+0.9**
MWLHS	**Almuwaylih**	**1.21**	**145**	P	**Pg**	**03 16 44.2**	**-1.0**
WTBKS	**WTBKS**	**1.23**	**122**	P	**Pn**	**03 16 45.2**	**-0.7**
HRFI	**Mount Harif**	**1.32**	**12**	Pn	**Pn**	**03 16 45.6**	**-1.5**
HRFI				Sn	**Sb**	**03 17 04.2**	**-0.3**
KRMI	**Paran Flat**	**1.37**	**360**	Pn	**Pn**	**03 16 46.8**	**-1.1**
KRMI				Sn	**Sb**	**03 17 06.4**	**+0.3**
NDEBA	**Dheba**	**1.51**	**147**	P	**Pn**	**03 16 48.4**	**-1.3**
SHQRE	**Shigry**	**1.52**	**123**	P	**Pb**	**03 16 49.6**	**-1.2**
PRNI	**Paran**	**1.62**	**8**	Pn	**Pn**	**03 16 50.4**	**-0.9**
TBKS	**Tabuk**	**1.68**	**108**	P	**Pb**	**03 16 51.8**	**-1.5**
DESA	**DESA**	**1.77**	**134**	P	**Pn**	**03 16 52.6**	**-0.7**
ZFRI	**Zfri**	**1.85**	**12**	Pn	**Pn**	**03 16 53.6**	**-0.8**
ZFRI				Sn	**Sn**	**03 17 18.8**	**+0.7**
URD10	**Hayder**	**2.16**	**105**	P	**Pn**	**03 16 58.4**	**-0.3**
KZIT	**Kziot**	**2.18**	**352**	Pn	**Pn**	**03 16 58.3**	**-0.6**
KZIT				Sn	**Sn**	**03 17 27.5**	**+1.2**
URD06	**Shuwaq**	**2.21**	**125**	P	**Pn**	**03 16 59.4**	**-0.1**
URD12	**Shuwaq**	**2.27**	**115**	P	**Pn**	**03 17 00.3**	**0.0**
WJHS		**2.49**	**143**	P	**Pn**	**03 17 02.4**	**-0.7**
MDBI	**Mazsada**	**2.62**	**12**	Pn	**Pn**	**03 17 04.0**	**-0.9**
YTIR	**Yattir**	**2.63**	**7**	Pn	**Pn**	**03 17 04.5**	**-0.8**
YTIR				Sn	**Sn**	**03 17 38.8**	**+1.1**
GHAJ	**Ghor Haditha**	**2.66**	**16**	Pn	**Pn**	**03 17 04.5**	**-0.9**
URD13	**Abu Rakah**	**2.71**	**116**	P	**Pn**	**03 17 06.2**	**0.0**
BIDS	**Bi'r al Bayda'**	**2.72**	**133**	P	**Pn**	**03 17 06.1**	**-0.2**
URD04	**Abu Rakah**	**2.78**	**126**	P	**Pn**	**03 17 07.6**	**+0.2**
AMAZ	**Amatzia**	**2.79**	**3**	Pn	**Pn**	**03 17 06.7**	**-0.6**
AMAZ				Sn	**Sn**	**03 17 42.7**	**+1.4**
URD15	**Abu Rakah**	**2.83**	**121**	P	**Pn**	**03 17 08.5**	**+0.5**
DSI	**Dead Sea**	**2.88**	**11**	Pn	**Pn**	**03 17 07.2**	**-1.3**
DSI				Sn	**Sn**	**03 17 44.9**	**+1.4**
QLABS	**Al Qalibar**	**2.95**	**107**	P	**Pn**	**03 17 09.7**	**0.0**
URD14	**Abu Rakah**	**2.96**	**115**	P	**Pn**	**03 17 09.9**	**+0.2**
EWJHS	**Al Wajh**	**3.09**	**146**	P	**Pn**	**03 17 10.5**	**-0.9**
URD03	**Al Ula**	**3.17**	**130**	P	**Pn**	**03 17 12.8**	**+0.2**
URD02	**Al Ula**	**3.49**	**127**	P	**Pn**	**03 17 17.5**	**+0.4**
SLTI	**Sal'it**	**3.50**	**4**	Pn	**Pn**	**03 17 17.0**	**-0.1**
HMDT	**Nahal Hemdat**	**3.57**	**11**	Pn	**Pn**	**03 17 17.3**	**-0.7**
OLAS	**OLAS**	**3.58**	**133**	P	**Pn**	**03 17 18.4**	**+0.1**
QREAT	**Al Qurrayyat**	**3.69**	**41**	P	**Pn**	**03 17 19.3**	**-0.4**
MMLI	**Mount Malkishu**	**3.73**	**9**	Pn	**Pn**	**03 17 20.0**	**-0.3**
NUMJS	**Khuff**	**3.84**	**143**	P	**Pn**	**03 17 20.9**	**-0.9**
OFRI	**`Ofer**	**3.87**	**3**	Pn	**Pn**	**03 17 21.8**	**-0.5**
UMJS	**Umm Lajj**	**4.18**	**146**	P	**Pn**	**03 17 25.3**	**-1.2**
LNY09	**LNY09**	**4.23**	**141**	P	**Pn**	**03 17 26.6**	**-0.6**
LNY16	**LNY16**	**4.24**	**142**	P	**Pn**	**03 17 27.0**	**-0.3**
LNY04	**LNY04**	**4.32**	**142**	P	**Pn**	**03 17 27.9**	**-0.6**
LNY03	**LNY03**	**4.36**	**140**	P	**Pn**	**03 17 28.6**	**-0.3**
LNY11	**LNY11**	**4.36**	**141**	P	**Pn**	**03 17 28.2**	**-0.8**
LNY12	**LNY12**	**4.39**	**141**	P	**Pn**	**03 17 28.7**	**-0.7**
LNY13	**LNY13**	**4.40**	**143**	P	**Pn**	**03 17 28.8**	**-0.6**
LNY14	**LNY14**	**4.40**	**141**	P	**Pn**	**03 17 28.9**	**-0.7**
LNY15	**LNY15**	**4.42**	**141**	P	**Pn**	**03 17 29.4**	**-0.4**
LNY17	**LNY17**	**4.43**	**141**	P	**Pn**	**03 17 29.5**	**-0.5**
LNY10	**LNY10**	**4.45**	**140**	P	**Pn**	**03 17 29.7**	**-0.5**
LNY06	**LNY06**	**4.45**	**142**	P	**Pn**	**03 17 31.1**	**+0.9**
GEM	**Giv'at Ha'Em**	**4.53**	**10**	Pn	**Pn**	**03 17 31.7**	**+0.5**
LNY05	**LNY05**	**4.53**	**144**	P	**Pn**	**03 17 31.5**	**+0.2**
LNY01	**LNY01**	**4.54**	**140**	P	**Pn**	**03 17 31.0**	**-0.4**
MURBA	**Al Muraba'a**	**4.57**	**136**	P	**Pn**	**03 17 32.1**	**+0.3**
LNY08	**LNY08**	**4.63**	**142**	P	**Pn**	**03 17 32.3**	**-0.4**
LNYS	**LNYS**	**4.64**	**141**	P	**Pn**	**03 17 32.3**	**-0.5**
KBR13	**Birmah**	**4.71**	**128**	P	**Pn**	**03 17 34.2**	**+0.4**
TRAF	**Turaif**	**4.73**	**57**	P	**Pn**	**03 17 33.5**	**-0.6**
TRAS	**Al Qrash**	**5.02**	**136**	P	**Pn**	**03 17 38.5**	**+0.5**
YNBS	**Yanbu` al Bahr**	**5.27**	**146**	P	**Pn**	**03 17 41.9**	**+0.5**
KBR07	**Khaybar**	**5.46**	**128**	P	**Pn**	**03 17 45.2**	**+1.0**
HIL03	**Ash Shuqayq**	**5.56**	**104**	P	**Pn**	**03 17 45.9**	**+0.3**
RHT07	**RHT07**	**5.60**	**135**	P	**Pn**	**03 17 46.6**	**+0.6**
YOBS		**5.65**	**140**	P	**Pn**	**03 17 47.6**	**+0.8**

NEIC 03 03:51:21.9±1.9, 43.41N±0.04×108.27W±0.04, h20km±6km, ML2.8/71, Error ellipse: s-maj=5.2km s-min=4.0km az=185.0, Wyoming

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BW06	**Boulder Array**	**1.14**	**236**	Pn	Pn	03 51 40.5	-2.5
BW06				Sn	Sb	03 51 55.5	-2.2
BW06				IAML		03 51 56.0	
	100nm,0.5s						
BW06				IAML		03 51 56.1	
	102nm,0.4s						
PD31	**Pinedale Array**	**1.14**	**236**		Pn	03 51 39.4	-3.7
PD31				Sn	Sb	03 51 55.3	-2.4
PDAR	**Pinedale Array**	**1.14**	**236**	Pn	Pn	03 51 40.7	-2.4
K22A	**Casper**	**1.49**	**120**	Pn	Pn	03 51 47.4	-0.3
K22A				Sn	Sb	03 52 07.8	+0.2
K22A				IAML		03 52 12.4	
	comp=N,106nm,0.3s						
K22A				IAML		03 52 17.2	
	comp=E,91nm,0.3s						
LOHW	**Long Hollow**	**1.71**	**277**		Pn	03 51 50.4	-0.4
LOHW				Sn	Sn	03 52 11.8	-0.4
LOHW				IAML		03 52 13.3	
	comp=E,55nm,0.5s						
LOHW				IAML		03 52 13.3	
	comp=E,53nm,0.4s						
YTP	**The Promontory**	**1.75**	**305**		Pn	03 51 50.7	-0.7
SNOW	**Snow King Moun**	**1.81**	**272**	Sn	Sn	03 52 14.9	+0.2
MOOW	**Moose Ponds**	**1.83**	**281**		Pn	03 51 52.4	-0.1
MOOW				Sn	Sn	03 52 15.0	-0.1
RLMT	**Red Lodge**	**1.85**	**338**		Pn	03 51 52.3	-0.4
RLMT				Sn	Sn	03 52 15.9	+0.2
RLMT				IAML		03 52 18.7	
	comp=E,111nm,0.4s						
FLWY	**Flagg Ranch**	**1.88**	**292**		Pn	03 51 53.3	+0.1
REDW	**Red Top Meadow**	**1.88**	**269**		Pn	03 51 52.8	-0.4
REDW				IAML		03 52 21.7	
	comp=E,85nm,0.7s						
REDW				IAML		03 52 22.1	
	comp=E,126nm,0.8s						
RWWY	**Rawlins**	**1.89**	**155**		Pn	03 51 53.2	-0.2
RWWY				IAML		03 52 19.4	
	comp=E,89nm,0.3s						
RWWY				IAML		03 52 21.0	
	comp=E,59nm,0.5s						
YMP	**Mirror Lake Pl**	**1.90**	**315**		Pn	03 51 52.8	-0.7
YMP				IAML		03 52 20.6	
	comp=E,79nm,0.3s						
YMP				IAML		03 52 21.3	
	comp=N,61nm,0.3s						
LKWY	**Lake**	**1.92**	**308**		Pn	03 51 53.4	-0.3
LKWY				IAML		03 52 22.5	
	comp=N,37nm,0.8s						
TPAW	**Teton Pass**	**1.95**	**273**		Pn	03 51 54.2	0.0
TPAW				IAML		03 52 23.4	
	comp=N,46nm,0.6s						
IMW	**Indian Meadow**	**2.00**	**285**		Pn	03 51 54.7	-0.1
IMW				IAML		03 52 23.2	
	comp=N,73nm,0.5s						
IMW				IAML		03 52 24.5	
	comp=N,41nm,0.5s						
YPSB	**Soda Butte**	**2.00**	**318**		Pn	03 51 54.2	-0.6
FXWY	**Fox Creek**	**2.02**	**277**		Pn	03 51 55.0	-0.1
YNE	**Yellowstone No**	**2.02**	**322**		Pn	03 51 54.5	-0.7
YNE				IAML		03 52 23.6	
	comp=N,67nm,0.3s						
YNE				IAML		03 52 23.9	
	comp=E,87nm,0.3s						
AHID	**Auburn Hatcher**	**2.17**	**254**		Pn	03 51 57.7	+0.6
AHID				IAML		03 52 30.4	
	comp=E,68nm,0.5s						
MCID	**Moose Creek**	**2.25**	**291**		Pn	03 51 58.7	+0.5
YHH	**Holmes Hill**	**2.31**	**307**		Pn	03 51 60.0	+0.8
YMR	**Madison River**	**2.31**	**304**		Pn	03 52 00.3	+1.2
GCMT	**Greycliff**	**2.58**	**338**		Pn	03 52 02.3	-0.4
RDMU	**Red Mountain**	**3.00**	**199**	Pn	Pn	03 52 09.2	+0.6
RDMU				IAML		03 53 04.4	
	comp=E,23nm,1.4s						
HWUT	**Hardware Ranch**	**3.03**	**235**	Pn	Pn	03 52 08.3	-0.7
HWUT				IAML		03 53 11.8	
	comp=E,14nm,0.7s						
RSSD	**Black Hills**	**3.15**	**76**		Pn	03 52 12.4	+1.9
RSSD	**Black Hills**	**3.15**	**76**	Pn	Pn	03 52 09.6	-1.0
RSSD					Sn	03 52 47.8	+0.1
RSSD				IAML		03 52 59.0	
	comp=E,20nm,0.5s						
RSSD				IAML		03 53 02.0	
	comp=E,22nm,0.4s						
BOZ	**Bozeman (W)**	**3.25**	**313**	Pn	Pn	03 52 12.4	+0.6
TCUT	**Toone Canyon**	**3.27**	**226**		Pn	03 52 10.9	-1.4
O20A	**White River Ci**	**3.28**	**180**	Pn	Pn	03 52 12.3	0.0
O20A				IAML		03 53 03.3	
	comp=N,46nm,0.7s						
LAO	**LASA Array**	**3.58**	**23**		Pn	03 52 16.5	+0.1
LAO				IAML		03 53 16.4	
	comp=N,39nm,0.8s						
DLMT	**Dillon**	**3.66**	**304**	Pn	Pn	03 52 18.7	+1.1
DLMT				IAML		03 52 50.6	
	comp=N,12nm,4.5s						
DLMT				IAML		03 53 18.8	
	comp=N,11nm,4.5s						
JLU	**Jordanelle**	**3.67**	**221**		Pn	03 52 18.5	+0.7
JLU				IAML		03 53 00.1	
	comp=N,7.8nm,4.1s						
SRU	**San Rafael Swe**	**4.62**	**202**	Pn	Pn	03 52 30.8	0.0
SRU				IAML		03 53 54.8	
	comp=N,12nm,0.7s						
SRU				IAML		03 54 06.6	
	comp=E,16nm,0.9s						
TMUT	**Trail Mountain**	**4.67**	**209**	Pn	Pn	03 52 32.3	+0.7
TMUT				IAML		03 54 03.5	
	comp=N,17nm,1.1s						
PV21	**Cone Mtn., Par**	**4.88**	**187**	Pn	Pn	03 52 36.0	+1.6
PV21				IAML		03 53 59.6	
	comp=E,15nm,0.7s						
PV22	**Blue Mesa, Par**	**4.89**	**185**	Pn	Pn	03 52 35.8	+1.3
PV22				IAML		03 54 00.2	
	comp=N,9.4nm,0.9s						
PV22				IAML		03 54 03.5	
	comp=E,13nm,0.7s						
PV23	**Carpenter Ridg**	**4.99**	**187**	Pn	Pn	03 52 36.8	+0.9
PV04	**Paradox Valley**	**5.04**	**186**	Pn	Pn	03 52 35.8	-0.7
PV20	**West Nyswonger**	**5.09**	**186**	Pn	Pn	03 52 37.9	+0.5
PV16	**Nyswonger Mesa**	**5.12**	**186**	Pn	Pn	03 52 38.8	+1.1
PV11	**David Mesa, Pa**	**5.13**	**185**	Pn	Pn	03 52 38.6	+0.8
PV03	**Paradox Valley**	**5.17**	**185**	Pn	Pn	03 52 38.9	+0.5
PV03				IAML		03 53 50.6	
	comp=N,9.5nm,4.1s						
PV03				IAML		03 54 04.8	
	comp=E,8.4nm,1.7s						
PV02	**Paradox Valley**	**5.21**	**184**	Pn	Pn	03 52 38.1	-0.9

RSNC 03 03:53:19.3±1.0, 1.87N×76.02W, h7km±3km, ML3.2, Mw3.6, 6C-4D, Fault plane solution: NP1:φs66.00000°, δ48.00000°, λ-171.00000°., Colombia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FLOC	**Florencia**	**0.46**	**128**	⇓*i*P	Pg	03 53 27.8	-0.5
FLOC				*e*S	Sg	03 53 35.1	+0.7
FLOC				*i*		03 53 35.5	
	comp=Z,5µm,0.3s						
PCON	**Cinco Dias**	**0.59**	**320**	*e*P	Pg	03 53 30.6	-0.2
PCON				*e*S	Sg	03 53 39.3	+0.6
PCON				*i*		03 53 42.2	
	comp=Z,1µm,0.2s						
GARC	**Garzon, Huila**	**0.61**	**59**	*e*P	Pg	03 53 30.2	-0.9
GARC				*e*S	Sg	03 53 39.6	+0.5
GARC				*i*		03 53 39.9	
	comp=Z,27µm,0.2s						
SOTA	**Rioblanco**	**0.65**	**294**	⇓*i*P	Pg	03 53 31.3	-0.6
SOTA				*e*S	Sg	03 53 40.5	+0.1
SOTA				*i*		03 53 43.6	
	comp=Z,833nm,0.7s						
POPC	**Popayan, Colom**	**0.94**	**315**	⇓*i*P	Pg	03 53 36.0	-1.3
POPC				*e*S	Sg	03 53 49.3	-0.2
POPC				*i*		03 53 50.9	
	comp=Z,348nm,0.5s						
MARP	**Paez Belalcaza**	**0.97**	**4**	⇑*i*P	Pg	03 53 36.1	-1.8
MARP				*i*		03 53 36.5	
	comp=Z,490nm,0.4s						
MARP				*e*S	Sg	03 53 49.6	-0.9
CRUC	**La Cruz**	**0.98**	**252**	*e*P	Pg	03 53 36.6	-1.6
CRUC				*e*S	Sg	03 53 50.4	-0.7
CRUC				*i*		03 53 54.1	
	comp=Z,1µm,0.5s						
BETC	**Betania**	**0.99**	**36**	⇑*e*P	Pg	03 53 37.3	-1.0
BETC				*i*		03 53 37.9	
	comp=Z,887nm,0.3s						
BETC				*e*S	Sg	03 53 51.6	+0.4
BBAC	**Balboa, Cauca**	**1.24**	**277**	⇓*i*P	Pg	03 53 40.8	-2.3
BBAC				*e*S	Sg	03 53 57.8	-1.4
BBAC				*i*		03 53 58.6	
	comp=Z,653nm,0.3s						
CPAS2	**Pasto**	**1.39**	**242**	*e*P	Pn	03 53 44.8	-0.7
CPAS2	**Pasto**	**1.39**	**242**	*e*S	Sb	03 54 03.3	-0.7
CPAS1	**Pasto**	**1.47**	**243**	*e*P	Pn	03 53 46.0	-0.6
CPAS1	**Pasto**	**1.47**	**243**	*e*S	Sb	03 54 05.5	-0.8
PTLC	**Puerto Leguiza**	**2.08**	**144**	⇑*e*P	Pn	03 53 55.9	+1.2
PTLC				*e*S	Sb	03 54 23.1	-0.4
PTLC				*i*		03 54 41.2	
	comp=Z,405nm,0.5s						
TULM	**Tulcn-Chalpat**	**2.11**	**237**	*e*P	Pn	03 53 55.6	+0.2
TULM				*e*S	Sb	03 54 23.7	-1.1
TULM				*i*		03 54 26.1	
	comp=Z,146nm,0.6s						
YOTC	**Yotoco, Valle**	**2.12**	**351**	⇑*i*P	Pn	03 53 54.7	-0.6
YOTC				*e*S	Sn	03 54 20.8	-1.2
YOTC				*i*		03 54 25.3	
	comp=Z,58nm,0.5s						
PRAC	**Prado**	**2.15**	**32**	⇑*e*P	Pn	03 53 53.1	-2.5
PRAC				*e*S	Sn	03 54 22.0	-0.5
PRAC				*i*		03 54 36.8	
	comp=Z,99nm,0.3s						
ORTC	**Ortega, Tolima**	**2.17**	**21**	⇑*e*P	Pn	03 53 53.6	-2.2
ORTC				*e*S	Sn	03 54 22.7	-0.2
ORTC				*i*		03 54 30.8	
	comp=Z,178nm,0.5s						
MACC	**Macarena, Meta**	**2.18**	**83**	*e*P	Pn	03 53 54.2	-1.8
MACC				*e*S	Sn	03 54 21.8	-1.5
TOLC	**Tolima**	**2.78**	**14**	*e*P	Pn	03 54 03.4	-1.2
TOLC				*e*S	Sn	03 54 37.8	-0.8
TOLC				*i*		03 55 06.2	
	comp=Z,75nm,0.5s						
OTAV	**Otavalo**	**2.93**	**236**	*e*P	Pn	03 54 08.7	+2.1
OTAV				*e*S	Sb	03 54 46.1	-2.2
VILC	**Villavicencio,**	**3.21**	**46**	*e*P	Pn	03 54 09.5	-0.8
GUY2C	**Guyana, Caldas**	**3.39**	**11**	*e*P	Pn	03 54 12.3	-0.7
ROSC	**El Rosal**	**3.40**	**30**	*e*P	Pn	03 54 12.5	-0.6
ROSC				*i*		03 55 15.6	
	comp=Z,44nm,0.5s						
GUVC	**San Jose del G**	**3.45**	**79**	*e*P	Pb	03 54 17.9	-2.9
GUVC				*e*S	Sn	03 54 57.1	+2.5
CHIC	**Chingaza**	**3.56**	**40**	*e*P	Pn	03 54 14.3	-1.1
CHIC				*i*		03 55 22.4	
	comp=Z,34nm,0.5s						
CBOC	**Ciudad Bolivar**	**3.97**	**0**	*e*P	Pn	03 54 19.7	-1.0
CBOC				*i*		03 54 32.8	
	comp=Z,12nm,0.5s						
PTGC	**Puerto Gaitan,**	**4.51**	**59**	*i*		03 55 49.0	
	comp=Z,73nm,0.5s						
PTBC	**PUERTO BERRIO,**	**4.89**	**18**	*e*P	Pn	03 54 29.5	-3.8
PTBC				*i*		03 56 06.7	
	comp=Z,7.8nm,0.7s						
RUSC	**La Rusia**	**4.95**	**36**	*e*P	Pn	03 54 32.8	-1.7
RUSC				*i*		03 54 35.4	
	comp=Z,14nm,0.4s						

*MEX **03** 03:55:16.4±1.0, 13°.65N×92°.55W, h91km±45km, MD4.9*
*IDC **03** 03:55:18.3±0.6, 14°.31N×92°.07W, h0km, mb4.4/27, mb1 4.6/30, mb1mx4.5/44, mbtmp4.5/30, ML3.7/3, MS4.0/26, Ms1 4.0/26, ms1mx3.9/42, Error ellipse: s-maj=24.2km s-min=10.1km az=56.0*
*GCG **03** 03:55:18.6±0.4, 13°.06N×92°.38W, h29km, MD4.5*
*GCMT **03** 03:55:21.6±0.5, 14°.00N±0°.02×93°.05W±0°.04, h20km±1km, MW4.8/67, Moment Tensor Solution. s30,c36; s67,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.86±.13; $M_{\theta\theta}$-1.24±.08; $M_{\phi\phi}$-0.62±.09; $M_{r\theta}$0.58±.13; $M_{\theta\phi}$0.71±.04; $M_{\phi r}$-1.55±.18; Best double couple: $M_0$2.41100×10^{16} NP1:ϕ_s290.00000°, δ28.00000°, λ58.00000°. NP2: ϕ_s145.00000°, δ67.00000°, λ106.00000°. Principal axes: T 2.6180, Plg65.0000°, Azm82.0000°; N -0.4160, Plg14.0000°, Azm319.0000°; P -2.2040, Plg20.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*UCR **03** 03:55:23.1±0.9, 13°.94N×92°.33W, h15km±391km, ML3.8, mb4.6(NEIC)*
*SNET **03** 03:55:23.0±0.8, 13°.95N×92°.42W, h66km±135km, ML4.0*
*NEIC **03** 03:55:25.6±1.3, 14°.15N±0°.08×92°.37W±0°.08, h57km±6km, mb4.6/353, Md4.9/22(MEX), Error ellipse: s-maj=13.9km s-min=8.1km az=47.0*
ISC 03 03:55:24.0±1.0**, 14°.06N**±0°.06×**92°.53W**±0°.05**, h55**km±9km**, n424,** σ1.32/340**, mb4.6**/180**, MS4.0**/24**, 2C, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.88**	**17**	*e*P	**Pn**	**03 55 38.3**	**-2.0**
THIG				*i* S	**Sn**	**03 55 54.8**	**+2.6**
FUG	**Fuego 3**	**1.68**	**77**	*e*P	**Pn**	**03 55 49.8**	**-1.4**
PCIG		**1.77**	**338**	*e*P	**Pn**	**03 55 49.1**	**-3.1**
PCIG				*i* S	**Sn**	**03 56 15.2**	**+1.6**
PCG	**Pacaya**	**1.89**	**80**	*e*P	**Pn**	**03 55 53.7**	**-0.4**
NBG	**Las Nubes**	**2.18**	**76**	*e*P	**Pn**	**03 55 58.5**	**+0.4**
NBG				*e*S	**Sn**	**03 56 29.0**	**+4.9**
CCIG	**Comitan**	**2.24**	**10**⇑	*e*P	**Pn**	**03 55 59.9**	**+1.1**
CCIG				*i* S	Sn	03 56 35.3	+10
CCIG	**Comitan**	**2.24**	**10**		**Pn**	**03 55 59.9**	**+1.1**
CCIG					Sn	03 56 35.3	+10
SLOZ	**Alcaldia de Sa**	**2.66**	**90**	*e*P	**Pn**	**03 56 03.1**	**-1.4**
SLOZ				IAML		03 56 58.0	
	comp=Z,812nm,0.6s						
LOAL	**Lomas de Alarc**	**2.67**	**91**	*e*P	**Pn**	**03 56 03.9**	**-0.6**
TGIG		**2.76**	**348**⇑	*e*P	**Pn**	**03 56 05.4**	**-0.5**
TGIG				*e*S	**Sn**	**03 56 40.8**	**+2.7**
TGIG		**2.76**	**348**		**Pn**	**03 56 05.4**	**-0.5**
TGIG					**Sn**	**03 56 40.8**	**+2.7**
RTR	**El Retiro**	**2.80**	**93**	*e*P	**Pn**	**03 56 05.2**	**-1.3**
RTR	**El Retiro**	**2.80**	**93**	*e*P	**Pn**	**03 56 05.2**	**-1.3**
SBLS	**San Blas**	**2.83**	**94**	*e*P	**Pn**	**03 56 05.6**	**-1.4**
SBLS	**San Blas**	**2.83**	**94**	*e*P	**Pn**	**03 56 05.6**	**-1.4**
MRL	**Marmol**	**2.93**	**69**	*e*P	**Pn**	**03 56 07.3**	**-1.0**
MRL	**Marmol**	**2.93**	**69**	*e*P	**Pn**	**03 56 07.3**	**-1.0**
MRL	**Marmol**	**2.93**	**69**	*e*P	**Pn**	**03 56 09.1**	**+0.7**
MRL				*e*S	**Sn**	**03 56 49.0**	**+6.4**
MTO3	**Montecristo**	**3.09**	**83**	*e*P	**Pn**	**03 56 09.0**	**-1.5**
MTO3	**Montecristo**	**3.09**	**83**	*e*P	**Pn**	**03 56 09.0**	**-1.5**
MTO3	**Montecristo**	**3.09**	**83**	Pn	**Pn**	**03 56 08.5**	**-2.0**
BOQS	**Boqueron**	**3.17**	**95**	*e*P	**Pn**	**03 56 10.3**	**-1.3**
BOQS	**Boqueron**	**3.17**	**95**	*e*P	**Pn**	**03 56 10.3**	**-1.3**
SNET	**Serv Nac Est T**	**3.22**	**96**	Pn	**Pn**	**03 56 11.3**	**-0.9**
CMIG	**Matias Romero**	**3.77**	**323**	Pn	**Pn**	**03 56 17.2**	**-2.5**
	comp=Z,4.7nm,0.3s,baz=144,slow=10,SNR=57						
CMIG				Sn	**Sn**	**03 57 02.1**	**-0.8**
	comp=Z,25nm,0.3s,baz=104,slow=13,SNR=5.3						
CMIG	**Matias Romero**	**3.77**	**323**	*e*P	**Pn**	**03 56 17.2**	**-2.5**
CMIG				*e*S	**Sn**	**03 57 08.7**	**+5.8**
COEB	**Comit de Eme**	**3.92**	**98**	*e*P	**Pn**	**03 56 19.9**	**-1.9**
COEB	**Comit de Eme**	**3.92**	**98**	*e*P	**Pn**	**03 56 19.9**	**-1.9**
TGUH	**Tegucigalpa,Un**	**5.10**	**89**	Pn	**Pn**	**03 56 36.0**	**-1.9**
CRIN	**San Cristobal**	**5.50**	**104**		**Pn**	**03 56 41.7**	**-1.7**
CNGN	**Cerro Negro**	**5.88**	**105**		**Pn**	**03 56 47.2**	**-1.4**
TLIG	**Tlapa**	**6.78**	**302**	Pn	**Pn**	**03 57 00.7**	**-0.3**
ACON	**Acoyapa**	**7.46**	**105**	Pn	**Pn**	**03 57 09.4**	**-0.8**
HZTE	**Horizontes, Gu**	**7.54**	**115**	Pn	**Pn**	**03 57 10.9**	**-0.5**
ORTG	**Ortega, Santa**	**7.83**	**117**	Pn	**Pn**	**03 57 13.8**	**-1.6**
JTS	**Las Juntas de**	**8.30**	**116**	Pn	**Pn**	**03 57 20.7**	**-1.1**
	comp=Z,1.9nm,0.3s,baz=21,slow=19,SNR=7.1						
JTS	**Las Juntas de**	**8.30**	**116**	Pn	**Pn**	**03 57 20.4**	**-1.4**
CAO2	**Cobano, Puntar**	**8.46**	**120**		**Pn**	**03 57 23.4**	**-0.6**
RIMA	**Rio Macho**	**9.49**	**116**		**Pn**	**03 57 38.0**	**-0.2**
SRBA	**San Rafael, Bu**	**10.18**	**117**		**Pn**	**03 57 47.2**	**-0.4**
SOR	**Soroa**	**12.52**	**45**		**Pn**	**03 58 20.0**	**+0.5**
ZAIG	**Zacatecas**	**12.87**	**314**	Pn	**Pn**	**03 58 24.4**	**-0.1**
MTDJ	**Mount Denham**	**14.98**	**72**	*e*P	**P**	**03 58 56.5**	**-0.6**
061Z	**Ochoppi**	**16.02**	**41**		**P**	**03 59 06.9**	**-1.5**
HKT	**Hockley**	**16.11**	**350**	Pn	**Pn**	**03 59 06.7**	**-0.1**
435B	**Jarrell**	**17.28**	**345**		**P**	**03 59 22.5**	**+0.2**
DWPF	**Disney Wildern**	**17.38**	**35**		**Pn**	**03 59 22.6**	**-0.1**
DWPF				IAmb	IAmb	03 59 38.7	
	comp=Z,33nm,0.9s						
344A	**Westbrook Farm**	**17.39**	**5**		**Pn**	**03 59 22.5**	**-0.4**
344A				IAmb	IAmb	03 59 39.5	
	comp=Z,56nm,1.3s						
DBBC	**Dabeiba**	**17.49**	**112**	*e*P	**Pn**	**03 59 22.9**	**-1.5**
JCT	**Junction City**	**17.66**	**339**		**Pn**	**03 59 25.9**	**-0.4**
553A	**Crawfordville**	**17.70**	**24**		**P**	**03 59 27.0**	**0.0**
553A				IAmb	IAmb	03 59 40.8	
	comp=Z,54nm,0.9s						
BRAL	**Brewton**	**17.76**	**16**	IAmb	IAmb	03 59 40.5	
	comp=Z,57nm,0.9s						
UREC	**San Jos de Ur**	**17.82**	**109**	*e*P	**Pn**	**03 59 25.9**	**-2.3**
656A	**Willston**	**17.82**	**30**	IAmb	IAmb	03 59 32.1	
	comp=Z,49nm,0.8s						
GR1C	**Gorgona, Isla**	**17.94**	**126**	*e*P	**P**	**03 59 25.3**	**-4.3**
CBOC	**Ciudad Bolivar**	**18.18**	**115**	*e*P	**Pn**	**03 59 33.6**	**+0.8**
TX32	**Lajitas Array**	**18.37**	**328**		**Pn**	**03 59 36.4**	**+1.4**
TXAR	**Lajitas Array**	**18.37**	**328**	P	**Pn**	**03 59 36.6**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=148,slow=12,SNR=34						
TXAR				LR	LR	04 07 37.8	
	comp=Z,182nm,19.9s,baz=0.0,slow=40						
TXAR	**Lajitas Array**	**18.37**	**328**		**Pn**	**03 59 36.3**	**+1.4**
TX31	**Lajitas Ar. Si**	**18.37**	**328**		**Pn**	**03 59 36.4**	**+1.5**
TX31				IAmb	IAmb	03 59 44.3	
	comp=Z,46nm,1.1s						
HELC	**Santa Helena**	**18.46**	**113**	*e*P	**P**	**03 59 35.6**	**-0.2**
ZARC	**Zaragoza, Cauc**	**18.54**	**109**	*e*P	**P**	**03 59 35.5**	**-0.7**
143A	**Socs Landing,**	**18.59**	**3**	IAmb	IAmb	03 59 40.2	
	comp=Z,32nm,0.8s						
352A	**Blakely**	**18.69**	**21**	IAmb	IAmb	03 59 45.5	
	comp=Z,40nm,1.1s						
250A	**Grady**	**18.73**	**17**	IAmb	IAmb	03 59 55.5	
	comp=Z,29nm,0.9s						
GUY2C	**Guyana, Caldas**	**19.05**	**116**	*e*P	**Pn**	**03 59 43.1**	**-0.5**
TIGA	**Tifton**	**19.14**	**24**	IAmb	IAmb	03 59 52.0	
	comp=Z,34nm,1.0s						
BBAC	**Balboa, Cauca**	**19.27**	**127**	*e*P	**P**	**03 59 44.7**	**+0.2**
PTBC	**PUERTO BERRIO,**	**19.27**	**111**	*e*P	**P**	**03 59 43.1**	**-1.3**
NORC	**Norcasia**	**19.33**	**114**	*e*P	**Pn**	**03 59 47.6**	**+1.1**
POPC	**Popayan, Colom**	**19.40**	**125**	*e*P	**Pn**	**03 59 47.2**	**-0.3**
TOLC	**Tolima**	**19.40**	**117**	*e*P	**P**	**03 59 46.4**	**+0.3**
Z47A	**Carrollton**	**19.48**	**11**	IAmb	IAmb	03 59 49.9	
	comp=Z,23nm,0.8s						
LPIG	**La Paz**	**19.53**	**303**	LR	LR	04 07 16.8	
	comp=Z,315nm,18.5s,baz=120,slow=36						
LRAL	**Lakeview Retre**	**19.55**	**14**	P	**Pn**	**03 59 48.3**	**-0.6**
ABTX	**Abilene, Hawle**	**19.59**	**342**	IAmb	IAmb	03 59 50.6	
	comp=Z,26nm,0.9s						
OCAC	**Ocana**	**19.71**	**105**	*e*P	**P**	**03 59 46.0**	**-3.3**
CCAR	**Cane Creek**	**19.78**	**2**	IAmb	IAmb	04 00 04.4	
	comp=Z,33nm,1.1s						
MARP	**Paez Belalcaza**	**19.80**	**123**	*e*P	**Pn**	**03 59 53.4**	**+1.0**
ORTC	**Ortega, Tolima**	**19.81**	**119**	*e*P	**Pn**	**03 59 51.7**	**-0.4**
152A	**Waverly Hall**	**19.85**	**20**	IAmb	IAmb	03 59 56.6	
	comp=Z,19nm,0.8s						
Y45A	**Yeager Farm, C**	**19.90**	**7**	IAmb	IAmb	04 00 09.1	
	comp=Z,27nm,0.8s						
SPBC	**San Pablo de B**	**20.00**	**113**	*e*P	**P**	**03 59 52.2**	**-0.1**
255A	**Hazlehurst**	**20.02**	**26**	IAmb	IAmb	03 59 58.3	
	comp=Z,22nm,0.9s						
ROSC	**El Rosal**	**20.14**	**115**	P	**P**	**03 59 53.1**	**-1.1**
	comp=Z,1.5nm,0.3s,baz=209,slow=19,SNR=2.1						
ROSC	**El Rosal**	**20.14**	**115**	P	**P**	**03 59 54.1**	**-0.1**
ROSC	**El Rosal**	**20.14**	**115**	*e*P	Pn	03 59 57.1	+0.6
PRAC	**Prado**	**20.21**	**119**	*e*P	**P**	**03 59 54.2**	**-0.5**
LOOK	**Love County**	**20.29**	**349**	P	**P**	**03 59 56.1**	**+0.8**
LOOK				IAmb	IAmb	04 00 01.2	
	comp=Z,22nm,0.9s						
BARC	**Barichara**	**20.41**	**109**	*e*P	Pn	03 59 58.7	-0.8
MIAR	**Mount Ida**	**20.42**	**358**		**P**	**03 59 57.3**	**+0.7**
MIAR				IAmb	IAmb	04 00 12.9	
	comp=Z,35nm,0.9s						
GARC	**Garzon, Huila**	**20.55**	**124**	*e*P	**P**	**03 59 59.1**	**+0.6**
CHIC	**Chingaza**	**20.76**	**115**	*e*P	Pn	04 00 02.9	-1.0
RUSC	**La Rusia**	**20.78**	**111**	P	**P**	**04 00 01.5**	**+0.2**
RUSC				IAmb	IAmb	04 00 06.5	
	comp=Z,30nm,0.8s						
RUSC	**La Rusia**	**20.78**	**111**	*e*P	**P**	**04 00 00.8**	**-0.5**
FLOC	**Florencia**	**20.79**	**125**	P	**P**	**04 00 01.6**	**+0.8**
FLOC				IAmb	IAmb	04 00 15.6	
	comp=Z,56nm,1.2s						
FLOC	**Florencia**	**20.79**	**125**	*e*P	**P**	**04 00 00.4**	**-0.4**
X34A	**Smith Ranch, M**	**21.01**	**348**	IAmb	IAmb	04 00 07.7	
	comp=Z,31nm,0.7s						
VILC	**Villavicencio,**	**21.04**	**116**	*e*P	**P**	**04 00 03.5**	**-0.2**
W39A	**Magazine**	**21.07**	**357**	IAmb	IAmb	04 00 08.7	
	comp=Z,22nm,0.7s						
WHAR	**Wooly Hollow**	**21.14**	**1**		**P**	**04 00 05.4**	**+1.0**
MNTX	**Cornudas Mount**	**21.14**	**328**	P	**P**	**04 00 05.1**	**+0.6**
Y52A	**Lilburn**	**21.16**	**20**	IAmb	IAmb	04 00 16.1	
	comp=Z,23nm,0.9s						
PLAL	**Pickwick Lake**	**21.21**	**10**	P	**P**	**04 00 04.6**	**-0.6**
FPAL	**Fort Paine**	**21.33**	**16**		**P**	**04 00 06.8**	**+0.3**
FPAL				IAmb	IAmb	04 00 21.3	
	comp=Z,23nm,1.0s						
X51A	**Calhoun**	**21.56**	**17**	IAmb	IAmb	04 00 23.6	
	comp=Z,30nm,1.2s						
SWET	**Sewanee**	**21.89**	**15**	IAmb	IAmb	04 00 14.2	
	comp=Z,18nm,0.8s						
MSTX	**Muleshoe**	**21.89**	**337**	IAmb	IAmb	04 00 22.2	
	comp=Z,28nm,0.9s						
MACC	**Macarena, Meta**	**21.93**	**121**	*e*P	**P**	**04 00 16.1**	**+3.0**
LCAR	**Lake Charles**	**21.95**	**3**	IAmb	IAmb	04 00 30.7	
	comp=Z,20nm,1.0s						
SDV	**Santo Domingo**	**22.06**	**101**	P	**P**	**04 00 12.3**	**-2.3**
	comp=Z,7.9nm,0.5s,baz=321,slow=12,SNR=1.3						
HODGE	**Hodges**	**22.13**	**23**	IAmb	IAmb	04 00 29.8	
	comp=Z,22nm,1.1s						
U40A	**Yellville**	**22.20**	**359**	IAmb	IAmb	04 00 17.8	
	comp=Z,16nm,0.8s						
PTLC	**Puerto Leguiza**	**22.32**	**127**	*e*P	**P**	**04 00 19.4**	**+2.0**
U38A	**Gravette**	**22.35**	**356**	IAmb	IAmb	04 00 19.9	
	comp=Z,17nm,0.8s						
WVT	**Waverly**	**22.38**	**10**	P	**P**	**04 00 17.5**	**-0.2**
CPCT	**Cooper Cave**	**22.48**	**17**	IAmb	IAmb	04 00 37.2	
	comp=Z,30nm,1.3s						
CLTN	**Cedars of Leba**	**22.63**	**13**	IAmb	IAmb	04 00 21.6	
	comp=Z,23nm,0.8s						
PBMO	**Poplar Bluff**	**22.70**	**4**	P	**P**	**04 00 20.1**	**-1.0**
PBMO				IAmb	IAmb	04 00 21.7	
	comp=Z,19nm,0.8s						
Y57A	**Sumter**	**22.71**	**27**	IAmb	IAmb	04 00 37.0	
	comp=Z,36nm,1.2s						
GUVC	**San Jose del G**	**22.74**	**118**	*e*P	**P**	**04 00 22.2**	**+0.4**
PAULI	**Pauline**	**22.82**	**23**	IAmb	IAmb	04 00 41.4	
	comp=Z,32nm,1.3s						
TKL	**Tuckaleechee C**	**22.90**	**19**	P	**P**	**04 00 21.8**	**-1.4**
	comp=Z,18nm,1.1s,baz=197,slow=9.3,SNR=28						
TKL				LR	LR	04 11 03.5	
	comp=Z,731nm,18.4s,baz=213,slow=42						
TKL	**Tuckaleechee C**	**22.90**	**19**	IAmb	IAmb	04 00 41.2	
	comp=Z,33nm,1.1s						
T42A	**Van Buren**	**22.91**	**3**	P	**P**	**04 00 21.9**	**-1.4**
U32A	**Winter Ranch,**	**22.97**	**347**	IAmb	IAmb	04 00 25.9	
	comp=Z,20nm,0.9s						
BLOK	**Blackwell**	**22.99**	**350**	IAmb	IAmb	04 00 24.5	
	comp=Z,32nm,0.8s						
MGMO	**Mountain Grove**	**23.00**	**1**	P	**P**	**04 00 23.6**	**-0.6**
T35A	**Sooner Cattle**	**23.04**	**352**	P	**P**	**04 00 24.0**	**-0.6**
T35A				IAmb	IAmb	04 00 25.0	
	comp=Z,26nm,0.7s						
121A	**Cookes Peak, D**	**23.07**	**325**	P	**P**	**04 00 26.5**	**+1.4**
121A				IAmb	IAmb	04 00 32.1	
	comp=Z,17nm,0.8s						
V52A	**Sevierville**	**23.13**	**19**	IAmb	IAmb	04 00 26.7	
	comp=Z,26nm,1.1s						
U49A	**Red Boiling Sp**	**23.16**	**14**	P	**P**	**04 00 24.8**	**-1.0**
OK032	**Salt Plains WL**	**23.21**	**348**	P	**P**	**04 00 25.9**	**-0.4**
BIRD	**Birdtown, Kers**	**23.21**	**26**	P	**P**	**04 00 25.8**	**-0.5**
V53A	**Saluda**	**23.22**	**20**	P	**P**	**04 00 26.0**	**-0.5**
KMSC	**Kings Mountain**	**23.29**	**24**	IAmb	IAmb	04 00 27.7	
	comp=Z,40nm,1.4s						
KAN14	**Manchester OK**	**23.31**	**349**	P	**P**	**04 00 27.7**	**+0.5**
KAN14				IAmb	IAmb	04 00 28.0	
	comp=Z,16nm,0.7s						
T47A	**Sharon Grove**	**23.34**	**11**	P	**P**	**04 00 27.1**	**-0.4**
T47A				IAmb	IAmb	04 00 28.1	
	comp=Z,25nm,0.7s						
S39A	**Bolivar**	**23.55**	**358**	IAmb	IAmb	04 00 30.6	
	comp=Z,32nm,0.8s						
S44A	**Carbondale**	**23.72**	**6**	P	**P**	**04 00 29.8**	**-1.2**
SIUC	**Southern Illin**	**23.74**	**7**	P	**P**	**04 00 31.2**	**-0.1**
TZTN	**Tazewell**	**23.79**	**18**	P	**P**	**04 00 31.6**	**-0.1**
TZTN				IAmb	IAmb	04 00 33.2	
	comp=Z,24nm,1.0s						
W57A	**Gilead**	**23.85**	**26**	P	**P**	**04 00 31.3**	**-0.9**
LENM	**Lemitar**	**23.91**	**329**	P	**P**	**04 00 34.0**	**+0.9**
CCM	**Cathedral Cave**	**23.93**	**2**	P	**P**	**04 00 31.1**	**-1.8**
CCM				IAmb	IAmb	04 00 34.1	
	comp=Z,13nm,0.8s						
V55A	**Taylorsville**	**23.96**	**23**	P	**P**	**04 00 32.6**	**-0.6**
V55A				IAmb	IAmb	04 00 34.2	
	comp=Z,20nm,0.9s						
R40A	**Maddies Statio**	**24.13**	**0**	P	**P**	**04 00 34.4**	**-0.5**
ANMO	**Albuquerque**	**24.30**	**331**	P	**P**	**04 00 38.2**	**+1.6**
	comp=Z,6.2nm,0.7s,baz=143,slow=12,SNR=20						
ANMO	**Albuquerque**	**24.30**	**331**	P	**P**	**04 00 38.0**	**+1.4**
U54A	**Nelsons Funny**	**24.33**	**21**	P	**P**	**04 00 35.8**	**-0.9**
U54A				IAmb	IAmb	04 00 37.5	
	comp=Z,25nm,0.8s						
TUC	**Tucson**	**24.66**	**321**	P	**P**	**04 00 40.6**	**+0.8**
WCI	**Wyandotte Cave**	**24.70**	**12**	P	**P**	**04 00 39.0**	**-0.9**
U56A	**King**	**24.72**	**24**	IAmb	IAmb	04 00 41.2	
	comp=Z,24nm,0.9s						
V58A	**Windy Hill, Pi**	**24.77**	**27**	P	**P**	**04 00 39.9**	**-0.7**
S51A	**Beattyville**	**24.79**	**17**	P	**P**	**04 00 40.6**	**-0.2**
S51A				IAmb	IAmb	04 00 41.7	
	comp=Z,16nm,0.8s						
R32A	**Long Quarter,**	**24.88**	**348**	P	**P**	**04 00 42.1**	**+0.5**
Q44A	**Meyer Farm, Va**	**24.94**	**7**	IAmb	IAmb	04 00 44.0	
	comp=Z,22nm,0.8s						
R49A	**Shelbyville**	**25.00**	**14**	IAmb	IAmb	04 00 43.1	
	comp=Z,13nm,0.7s						
R50A	**Paris**	**25.20**	**15**	IAmb	IAmb	04 00 45.8	
	comp=Z,14nm,0.8s						
KSU1	**Kansas State U**	**25.20**	**353**	P	**P**	**04 00 44.2**	**-0.4**
KSU1				IAmb	IAmb	04 00 46.1	
	comp=Z,25nm,0.7s						
ATAH	**Atahualpa**	**25.30**	**145**	P	**P**	**04 00 48.1**	**+2.0**
	comp=Z,9.4nm,1.1s,baz=332,slow=6.8,SNR=4.7						
ATAH				LR	LR	04 08 46.4	
	comp=Z,151nm,20.4s,baz=311,slow=32						
T25A	**Trinidad**	**25.31**	**337**	IAmb	IAmb	04 00 51.4	
	comp=Z,21nm,0.8s						
P40A	**Paris**	**25.37**	**1**	IAmb	IAmb	04 00 47.4	
	comp=Z,10nm,0.7s						
CBKS	**Cedar Bluff**	**25.47**	**347**	P	**P**	**04 00 47.6**	**+0.6**
P38A	**Dawn**	**25.48**	**358**	P	**P**	**04 00 47.4**	**+0.3**
P38A				IAmb	IAmb	04 00 48.9	
	comp=Z,8.4nm,0.6s						
BLO	**Bloomington**	**25.57**	**11**	P	**P**	**04 00 47.0**	**-0.8**
BLO				IAmb	IAmb	04 00 47.7	
	comp=Z,14nm,0.7s						
SJG	**San Juan**	**25.65**	**77**	LR	LR	04 11 44.4	
	comp=Z,487nm,20.1s,baz=259,slow=39						
S54A	**Dingess, Beckl**	**25.66**	**21**	IAmb	IAmb	04 00 48.6	
	comp=Z,12nm,0.8s						
T57A	**Hurt**	**25.73**	**25**	P	**P**	**04 00 49.1**	**-0.3**
P48A	**Milroy**	**26.06**	**13**	IAmb	IAmb	04 00 52.2	
	comp=Z,11nm,0.8s						
Q51A	**Peebles**	**26.16**	**16**	P	**P**	**04 00 52.8**	**-0.4**
Q51A				IAmb	IAmb	04 00 53.7	
	comp=Z,24nm,0.8s						
SDCO	**Great Sand Dun**	**26.26**	**336**	P	**P**	**04 00 55.5**	**+1.0**
SDCO				IAmb	IAmb	04 00 57.7	
	comp=Z,17nm,1.1s						
KSCO	**Kaye Shedlock'**	**26.41**	**342**	IAmb	IAmb	04 00 57.5	
	comp=Z,23nm,1.1s						
T59A	**Double "B" Far**	**26.44**	**28**	IAmb	IAmb	04 00 55.7	
	comp=Z,11nm,0.8s						
R55A	**Marlinton**	**26.52**	**22**	P	**P**	**04 00 56.2**	**-0.3**
R55A				IAmb	IAmb	04 00 56.8	
	comp=Z,16nm,0.8s						
N38A	**Joes South For**	**26.64**	**359**	P	**P**	**04 00 58.6**	**+1.1**
SFIN	**Lafayette**	**26.65**	**9**	P	**P**	**04 00 56.9**	**-0.7**
SFIN				IAmb	IAmb	04 00 57.5	
	comp=Z,14nm,0.7s						
Q54A	**Coxs Mills**	**26.89**	**20**	IAmb	IAmb	04 00 59.8	
	comp=Z,16nm,0.9s						
O49A	**Covington**	**27.00**	**14**	IAmb	IAmb	04 01 07.6	
	comp=Z,16nm,1.1s						
MVCO	**Mesa Verde**	**27.10**	**331**	P	**P**	**04 01 02.3**	**+0.3**
MVCO				IAmb	IAmb	04 01 12.7	
	comp=Z,18nm,0.8s						
Y14A	**Wickenburg**	**27.13**	**320**	P	**P**	**04 01 03.3**	**+1.2**
P53A	**Whipple**	**27.16**	**19**	IAmb	IAmb	04 01 02.4	
	comp=Z,12nm,1.1s						
Q56A	**Snyder Ridge,**	**27.53**	**23**	P	**P**	**04 01 05.5**	**0.0**
O52A	**Adamsville**	**27.60**	**18**	IAmb	IAmb	04 01 05.9	
	comp=Z,11nm,0.7s						
PV15	**Paradox Valley**	**28.01**	**333**	IAmb	IAmb	04 01 14.1	
	comp=Z,12nm,1.0s						
PV13	**Radium Mtn., P**	**28.02**	**332**	IAmb	IAmb	04 01 16.7	
	comp=Z,19nm,1.0s						
PV02	**Paradox Valley**	**28.02**	**332**	IAmb	IAmb	04 01 13.9	
	comp=Z,30nm,1.5s						
SMCO	**Snowmass**	**28.08**	**336**	IAmb	IAmb	04 01 22.9	
	comp=Z,12nm,1.1s						
PV05	**Paradox Valley**	**28.08**	**331**	IAmb	IAmb	04 01 17.5	
	comp=Z,12nm,0.9s						
PV03	**Paradox Valley**	**28.11**	**332**	IAmb	IAmb	04 01 21.8	
	comp=Z,16nm,1.0s						
O54A	**Avella**	**28.12**	**20**	IAmb	IAmb	04 01 10.3	
	comp=Z,14nm,0.7s						
PV18	**Skein Mesa, Pa**	**28.13**	**332**	IAmb	IAmb	04 01 18.0	
	comp=Z,17nm,1.0s						
PV12	**Saucer Basin,**	**28.14**	**332**	IAmb	IAmb	04 01 22.8	
	comp=Z,22nm,0.9s						
PV11	**David Mesa, Pa**	**28.16**	**332**	IAmb	IAmb	04 01 26.9	
	comp=Z,23nm,1.1s						
PV07	**Paradox Valley**	**28.17**	**332**	IAmb	IAmb	04 01 22.9	
	comp=Z,13nm,0.9s						
PV17	**East Wray Mesa**	**28.18**	**332**	IAmb	IAmb	04 01 17.9	
	comp=Z,14nm,0.9s						
PV16	**Nyswonger Mesa**	**28.18**	**332**	IAmb	IAmb	04 01 27.2	
	comp=Z,20nm,1.1s						
PV04	**Paradox Valley**	**28.25**	**332**	P	**P**	**04 01 12.9**	**+0.7**
PV04				IAmb	IAmb	04 01 22.4	
	comp=Z,26nm,1.1s						
PV22	**Blue Mesa, Par**	**28.31**	**332**	P	**P**	**04 01 12.7**	**-0.1**
PV22				IAmb	IAmb	04 01 23.9	
	comp=Z,11nm,0.8s						
PV23	**Carpenter Ridg**	**28.34**	**332**	IAmb	IAmb	04 01 19.4	
	comp=Z,18nm,0.9s						
P57A	**Homestead Farm**	**28.37**	**24**	IAmb	IAmb	04 01 14.1	
	comp=Z,19nm,0.9s						
N53A	**Lisbon**	**28.54**	**19**	P	**P**	**04 01 13.5**	**-1.0**
N53A				IAmb	IAmb	04 01 14.2	
	comp=Z,12nm,0.9s						
L48A	**N Adams**	**28.66**	**13**	P	**P**	**04 01 14.5**	**-1.0**
O56A	**Blue Knob Stat**	**28.83**	**23**	IAmb	IAmb	04 01 17.7	
	comp=Z,12nm,0.9s						
N54A	**Moraine State**	**28.95**	**20**	P	**P**	**04 01 17.1**	**-1.0**
N54A				IAmb	IAmb	04 01 17.9	
	comp=Z,16nm,0.8s						
M53A	**Wl Miller and**	**29.16**	**18**	P	**P**	**04 01 19.2**	**-0.8**
M53A				IAmb	IAmb	04 01 19.6	
	comp=Z,13nm,0.7s						
KNB	**Kanab**	**29.16**	**325**	P	**P**	**04 01 21.5**	**+1.2**
PFO	**Pinyon Flats O**	**29.16**	**316**	LR	LR	04 13 33.5	
	comp=Z,235nm,18.3s,baz=130,slow=37						
O20A	**White River Ci**	**29.40**	**335**	IAmb	IAmb	04 01 25.9	
	comp=Z,12nm,1.2s						
SSPA	**Standing Stone**	**29.41**	**23**	P	**P**	**04 01 21.4**	**-0.8**
SSPA				IAmb	IAmb	04 01 22.2	
	comp=Z,9.9nm,0.7s						
M54A	**Oil Creek Stat**	**29.55**	**20**	IAmb	IAmb	04 01 28.6	
	comp=Z,21nm,1.5s						
ECSD	**EROS Data Cent**	**29.78**	**354**	P	**P**	**04 01 25.0**	**-0.5**
M55A	**Ridgway**	**29.82**	**21**	P	**P**	**04 01 24.8**	**-1.0**
M55A				IAmb	IAmb	04 01 25.0	
	comp=Z,9.3nm,0.8s						
M57A	**Sunshine Farm,**	**30.30**	**23**	P	**P**	**04 01 29.9**	**-0.3**
M57A				IAmb	IAmb	04 01 30.2	
	comp=Z,14nm,0.8s						
RWWY	**Rawlins**	**30.34**	**338**	IAmb	IAmb	04 01 33.0	
	comp=Z,14nm,1.1s						
LUPA	**Lehigh Univers**	**30.40**	**26**	IAmb	IAmb	04 01 31.1	
	comp=Z,11nm,0.8s						
L56A	**Greenwood**	**30.83**	**22**	P	**P**	**04 01 33.7**	**-1.2**
L56A				IAmb	IAmb	04 01 34.3	
	comp=Z,9.3nm,0.8s						
K22A	**Casper**	**30.95**	**340**	IAmb	IAmb	04 01 38.4	
	comp=Z,8.0nm,0.9s						
SPMN	**Marine on St.**	**31.06**	**360**	IAmb	IAmb	04 01 39.0	
	comp=Z,8.9nm,0.7s						
MMNY	**Mt. Morris Dam**	**31.23**	**21**	P	**P**	**04 01 37.5**	**-0.8**
MMNY				IAmb	IAmb	04 01 38.3	
	comp=Z,17nm,1.0s						
SPR3	**Spring Creek 3**	**31.42**	**326**	P	**P**	**04 01 39.9**	**-0.5**
SPR3				PcP	**PcP**	**04 04 33.8**	**+0.9**
BINY	**Binghamton**	**31.48**	**24**	P	**P**	**04 01 39.2**	**-1.3**
RSSD	**Black Hills**	**31.53**	**344**	P	**P**	**04 01 42.0**	**+0.7**
RSSD				IAmb	IAmb	04 01 43.4	
	comp=Z,8.7nm,0.8s						
TCUT	**Toone Canyon**	**31.58**	**332**	IAmb	IAmb	04 01 45.2	
	comp=Z,14nm,0.8s						
K57A	**Scipio Center**	**31.73**	**23**	IAmb	IAmb	04 01 42.3	
	comp=Z,16nm,0.8s						
L59A	**Walton**	**31.85**	**25**	P	**P**	**04 01 43.8**	**0.0**
L59A				IAmb	IAmb	04 01 44.2	
	comp=Z,12nm,0.8s						
HWUT	**Hardware Ranch**	**32.04**	**333**	IAmb	IAmb	04 01 54.9	
	comp=Z,11nm,1.2s						
J56A	**Wolcott**	**32.08**	**22**	P	**P**	**04 01 44.4**	**-1.3**
KSCT	**Kent School, K**	**32.14**	**27**	P	**P**	**04 01 45.5**	**-0.8**
KSCT				IAmb	IAmb	04 01 46.1	
	comp=Z,9.0nm,0.7s						
PDAR	**Pinedale Array**	**32.16**	**336**	P	**P**	**04 01 47.9**	**+1.2**
	comp=Z,3.4nm,0.9s,baz=134,slow=8.5,SNR=21						
PDAR				PcP	**PcP**	**04 04 38.6**	**+4.0**
	comp=Z,1.0nm,0.6s,baz=146,slow=4.5,SNR=8.9						
PDAR				LR	LR	04 18 03.7	
	comp=Z,120nm,19.3s,baz=152,slow=42						
PDAR	**Pinedale Array**	**32.16**	**336**	P	**P**	**04 01 47.3**	**+0.6**
J57A	**Williamstown**	**32.51**	**23**	P	**P**	**04 01 47.4**	**-2.1**
J57A				IAmb	IAmb	04 01 48.9	
	comp=Z,9.5nm,0.8s						
PECO	**Prince Edward**	**32.60**	**21**	P	**P**	**04 01 48.6**	**-1.7**
SADO	**Sadowa**	**32.66**	**18**	P	**P**	**04 01 48.9**	**-1.9**
	comp=Z,8.8nm,0.8s,baz=232,slow=7.2,SNR=9.9						
SADO				PcP	**PcP**	**04 04 37.8**	**+2.1**
	comp=Z,1.0nm,0.4s,baz=252,slow=6.4,SNR=3.2						
SADO				LR	LR	04 16 45.5	
	comp=Z,766nm,19.3s,baz=214,slow=40						
SADO	**Sadowa**	**32.66**	**18**	P	**P**	**04 01 48.7**	**-2.1**
SADO				IAmb	IAmb	04 01 50.3	
	comp=Z,16nm,1.2s						
HVU	**Hansel Valley**	**32.73**	**331**	P	**P**	**04 01 52.2**	**+0.5**
HVU				IAmb	IAmb	04 01 58.1	
	comp=Z,9.1nm,0.9s						
J58A	**Remsen**	**32.74**	**24**	P	**P**	**04 01 50.7**	**-0.9**
J58A				IAmb	IAmb	04 01 51.1	
	comp=Z,7.9nm,0.7s						
UCCT	**U. Connecticut**	**32.77**	**29**	P	**P**	**04 01 51.4**	**-0.4**
AHID	**Auburn Hatcher**	**32.78**	**334**	IAmb	IAmb	04 01 55.9	
	comp=Z,9.2nm,1.0s						
DELO	**Deloro Mine**	**32.91**	**20**	P	**P**	**04 01 51.3**	**-1.7**
E46A	**Sault Ste Mari**	**32.94**	**10**	IAmb	IAmb	04 02 01.4	
	comp=Z,9.3nm,0.8s						
E28A	**Huff**	**33.13**	**350**	P	**P**	**04 01 54.3**	**-0.6**
J59A	**Piesco**	**33.13**	**24**	P	**P**	**04 01 53.9**	**-1.2**
J59A				IAmb	IAmb	04 01 55.7	
	comp=Z,8.7nm,0.8s						
ELK	**Elko**	**33.16**	**328**	P	**P**	**04 01 55.1**	**-0.5**
REDW	**Red Top Meadow**	**33.17**	**335**	P	**P**	**04 01 56.1**	**+0.5**
SNOW	**Snow King Moun**	**33.22**	**335**	P	**P**	**04 01 58.0**	**+2.0**
NV11	**Mina Array Sit**	**33.22**	**322**	P	**P**	**04 01 57.6**	**+1.6**
LOHW	**Long Hollow**	**33.28**	**336**	P	**P**	**04 01 57.3**	**+0.8**
MDPB	**Devils Postpil**	**33.28**	**320**	P	**P**	**04 01 57.6**	**+0.9**
NVAR	**Mina Array Bea**	**33.30**	**322**	P	**P**	**04 01 59.6**	**+2.8**
	comp=Z,5.3nm,0.7s,baz=135,slow=8.6,SNR=45						
NVAR				PcP	**PcP**	**04 04 39.7**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=155,slow=3.0,SNR=5.0						
NVAR				LR	LR	04 17 20.0	
	comp=Z,503nm,18.3s,baz=132,slow=40						
NVAR	**Mina Array Bea**	**33.30**	**322**	P	**P**	**04 01 57.1**	**+0.3**

NVAR PcP 04 04 38.6 +0.6
LHV Little Huntoon 33.31 321 P P 04 01 56.8 +0.2
LHV IAmb IAmb 04 02 07.7
comp=Z,7.7nm,1.0s
TPAW Teton Pass 33.32 335 P P 04 01 56.8 -0.1
MOOW Moose Ponds 33.45 336 IAmb IAmb 04 02 00.9
comp=Z,11nm,1.1s
FXWY Fox Creek 33.47 335 P P 04 01 59.1 +0.9
FXWY IAmb IAmb 04 02 01.2
comp=Z,6.9nm,0.9s
PLVO Plevna 33.55 20 P P 04 01 57.0 -1.6
PLVO IAmb IAmb 04 01 57.8
comp=Z,8.2nm,0.8s
KVN Kaiserville 33.58 323 IAmb IAmb 04 02 02.6
comp=Z,7.0nm,1.1s
IMW Indian Meadow 33.65 336 P P 04 02 01.0 +1.2
IMW IAmb IAmb 04 02 03.5
comp=Z,6.0nm,0.8s
IMW PcP 04 04 40.2 +1.3
FLWY Flagg Ranch 33.71 336 P P 04 02 01.1 +0.8
FLWY IAmb IAmb 04 02 03.3
comp=Z,8.6nm,0.9s
H17A Grant Village 33.93 337 IAmb IAmb 04 02 07.6
comp=Z,7.7nm,1.1s
LKWY Lake 34.00 337 IAmb IAmb 04 02 07.3
comp=Z,9.4nm,0.9s
YMP Mirror Lake Pl 34.06 337 IAmb IAmb 04 02 19.3
comp=Z,7.9nm,1.0s
LONY Lake Ozonia 34.08 23 P P 04 02 02.1 -1.1
LONY IAmb IAmb 04 02 02.7
comp=Z,9.2nm,0.8s
MDND Maddock 34.20 352 P P 04 02 04.4 +0.2
B35A Bob, Littlefor 34.21 359 IAmb IAmb 04 02 05.4
comp=Z,5.9nm,1.0s
YNE Yellowstone No 34.23 338 P P 04 02 05.2 +0.4
YNE IAmb IAmb 04 02 15.7
comp=Z,9.0nm,1.0s
YHH Holmes Hill 34.36 337 P P 04 02 06.5 +0.5
YHH IAmb IAmb 04 02 09.4
comp=Z,10nm,1.2s
YHB Horse Butte 34.47 336 IAmb IAmb 04 02 18.8
comp=Z,5.4nm,0.9s
HLID Hailey 34.88 332 P P 04 02 10.8 +0.4
HLID IAmb IAmb 04 02 13.5
comp=Z,6.2nm,0.9s
MCMT McKenzie Canyo 35.20 335 P P 04 02 14.2 +1.0
BOZ Bozeman (W) 35.34 337 P P 04 02 14.9 +0.7
PTGA Pitinga 35.44 112 P P 04 02 14.8 -0.4
comp=Z,21nm,0.8s,baz=302,slow=8.5,SNR=18
PTGA Pitinga 35.44 112 P P 04 02 14.1 -1.2
DLMT Dillon 35.53 335 P P 04 02 16.7 +0.9
DGMT Dagmar 35.64 347 P P 04 02 17.4 +0.8
LRM Limekiln Ridge 35.85 336 P P 04 02 18.6 -0.1
ULM Lac du Bonnet 36.19 356 P P 04 02 19.8 -1.5
comp=Z,6.1nm,0.7s,baz=166,slow=9.8,SNR=13
ULM PcP PcP 04 04 46.3 +0.6
comp=Z,2.2nm,0.7s,baz=189,slow=2.9,SNR=3.2
ULM LR LR 04 17 52.4
comp=Z,72nm,20.8s,baz=190,slow=38
ULM Lac du Bonnet 36.19 356 P P 04 02 20.1 -1.2
ULM IAmb IAmb 04 02 21.1
comp=Z,5.9nm,0.8s
HRY Holter Researc 36.35 337 P P 04 02 23.6 +0.7
PLID Pearl Lake 36.78 332 P P 04 02 27.9 +1.3
PLID IAmb IAmb 04 02 29.2
comp=Z,12nm,1.1s
MSO Missoula 37.27 336 IAmb IAmb 04 02 33.2
comp=Z,13nm,1.1s
I07A Izee 37.76 328 P P 04 02 35.4 +0.6
F10A Beach Ranch, E 38.01 332 P P 04 02 37.7 +0.7
JTMT Jette 38.15 336 P P 04 02 38.7 +0.6
JTMT IAmb IAmb 04 02 40.6
comp=Z,9.4nm,0.9s
PINE Pine Mountain 38.32 326 P P 04 02 40.0 +0.3
LPAZ La Paz 38.61 141 P P 04 02 41.7 -1.1
comp=Z,1.2nm,0.8s,baz=324,slow=9.6,SNR=4.9
LPAZ La Paz 38.61 141 *eP* P 04 02 41.0 -1.8
H04A Detroit Lake 39.58 326 P P 04 02 50.4 +0.4
H04A IAmb IAmb 04 02 52.4
comp=Z,10.0nm,0.9s
C09A Chrisman Ranch 39.86 333 IAmb IAmb 04 02 55.8
comp=Z,7.5nm,0.8s
PB11 IPOC Station P 40.45 146 P P 04 02 59.8 +2.2
PB11 IAmb IAmb 04 03 01.6
comp=Z,11nm,0.9s
ITTB Itaituba 40.83 114 *eP* P 04 02 58.8 -1.9
MALB Monte Alegre 41.08 110 *eP* P 04 03 02.0 -0.7
FFC Flin Flon 41.24 352 P P 04 03 03.8 +0.3
FFC IAmb IAmb 04 03 04.5
comp=Z,4.9nm,0.6s
EDM Edmonton 42.41 342 P P 04 03 14.3 +1.1
NPGB Novo Progresso 42.43 117 *eP* P 04 03 12.0 -1.8
MCPB Macapa, AP 42.55 106 *eP* P 04 03 12.4 -2.3
SIV San Ignacio 43.11 133 P P 04 03 18.5 -0.7
comp=Z,3.7nm,0.9s,baz=308,slow=6.5,SNR=11
PTLB Pontes e Lacer 44.16 130 *eP* P 04 03 26.0 -1.6
DRLN Deer Lake 45.33 32 P P 04 03 34.0 -2.5
SCHQ Schefferville 45.34 21 P P 04 03 34.7 -1.9
comp=Z,15nm,0.9s,baz=205,slow=8.1,SNR=13
SCHQ PcP PcP 04 05 16.2 +0.9
comp=Z,5.7nm,0.8s,baz=223,slow=2.7,SNR=5.2
SCHQ LR LR 04 23 40.4
comp=Z,623nm,19.3s,baz=220,slow=38
SCHQ Schefferville 45.34 21 P P 04 03 35.1 -1.5
SCHQ PcP 04 05 16.5 +1.2
SNDB Serra Nova Dou 48.37 120 *eP* P 04 03 58.3 -2.4
PP1B Ponte de Pedra 48.68 129 *eP* P 04 04 01.8 -1.3
AQDB Aquidauana 49.88 133 *eP* P 04 04 10.6 -1.6
ARAG Araguaiana, MT 49.95 125 *eP* P 04 04 12.0 -0.8
SMTB Santa Maria do 50.07 114 *eP* P 04 04 13.5 -0.3
YKA Yellowknife Ar 50.85 347 P P 04 04 19.7 +0.7
comp=Z,23nm,0.7s,baz=146,slow=8.1,SNR=88
YKA PcP PcP 04 05 35.3 +0.4
comp=Z,2.5nm,0.8s,baz=143,slow=3.9,SNR=6.3
YKA Yellowknife Ar 50.85 347 P P 04 04 19.8 +0.9
ROSB Rosrio 50.85 106 *eP* P 04 04 19.0 -0.7
PEXB Peixe 50.96 119 *eP* P 04 04 19.6 -1.0
DLBC Dease Lake 52.39 336 P P 04 04 32.1 +1.5
CPUP Villa Florida 52.76 139 P P 04 04 34.4 +0.7
comp=Z,2.8nm,0.9s,baz=294,slow=8.7,SNR=5.7
CPUP LR LR 04 25 03.6
comp=Z,94nm,18.8s,baz=330,slow=34
CPUP Villa Florida 52.76 139 P P 04 04 34.5 +0.8
CPUP IAmb IAmb 04 04 36.2
comp=Z,5.1nm,1.1s
CPUP Villa Florida 52.76 139 *eP* P 04 04 32.3 -1.4
BDFB Brasilia 52.99 122 P P 04 04 34.7 -1.0
comp=Z,2.3nm,0.7s,baz=150,slow=9.7,SNR=3.6
BDFB LR LR 04 29 51.8
comp=Z,111nm,18.4s,baz=307,slow=39
NBPS Pedro II - PI 53.88 106 *eP* P 04 04 41.4 -0.9
SDBA SAO DESIDERIO 54.02 117 *eP* P 04 04 42.4 -0.8
IPMB Ipameri, GO 54.07 125 *eP* P 04 04 41.9 -1.7
N2PB Pedra_Branca-C 56.02 107 *eP* P 04 04 57.5 -0.1
HYT Haines Junctio 56.85 336 P P 04 05 04.4 +1.4
HYT IAmb IAmb 04 05 09.8
comp=Z,4.0nm,1.0s
MC01 Montes Claros 56.89 121 *eP* P 04 05 03.3 -0.6
NBMA Muriti-CE 57.44 108 *eP* P 04 05 07.1 -0.7
NBPN Ponto Novo - B 57.49 113 *eP* P 04 05 07.6 -0.5
TIJ01 Guaruva-PR 57.72 133 *eP* P 04 05 10.3 +0.8
CPSB Cacapava Do Su 58.05 140 *eP* P 04 05 11.4 -0.3
PLCA Paso Flores 58.20 160 P P 04 05 15.2 +2.6
comp=Z,4.9nm,1.1s,baz=14,slow=12,SNR=3.5
LOGN Logan Glacier 58.29 334 IAmb IAmb 04 05 23.6
comp=Z,5.8nm,0.8s
BSCB Bom Sucesso 58.42 126 *eP* P 04 05 13.9 -0.6
CTGM Chitina Glacie 58.50 334 P P 04 05 15.6 +1.1
NBLV Livramento - P 59.14 108 *eP* P 04 05 18.2 -1.5
TRQA Tornquist 59.23 152 *eP* P 04 05 20.8 +1.0
GDU01 Guandu, BA 59.25 116 *eP* P 04 05 19.4 -0.9
DAWY Dawson 59.43 338 P P 04 05 21.8 +1.0
DAWY IAmb IAmb 04 05 23.9
comp=Z,3.4nm,0.7s
M27K Edge Creek, AK 59.44 336 P P 04 05 22.3 +1.2
M27K IAmb IAmb 04 05 27.4
comp=Z,5.1nm,0.8s
VRDI Verde Repeater 59.52 334 IAmb IAmb 04 05 33.7
comp=Z,4.9nm,0.8s
GLB Gilahina Butte 59.78 334 P P 04 05 24.5 +1.2
GLB IAmb IAmb 04 05 26.5
comp=Z,7.9nm,1.1s
BCAR Beaver Creek A 59.78 336 P P 04 05 24.7 +1.4
L27K Beaver Creek, 59.79 336 P P 04 05 24.8 +1.5

BMRM Bremner River 59.89 334 P P 04 05 25.1 +1.0
M26K Nabesna, AK 59.91 335 IAmb IAmb 04 05 39.2
comp=Z,6.0nm,1.0s
CMC01 Camacan, BA 60.02 117 *eP* P 04 05 24.7 -0.8
N25K Chitina, Valde 60.19 334 P P 04 05 27.2 +1.1
INK Inuvik 60.24 344 P P 04 05 27.1 +0.9
comp=Z,6.6nm,0.6s,baz=122,slow=7.3,SNR=35
INK Inuvik 60.24 344 P P 04 05 27.7 +1.5
NBPV Pedro Velho 60.32 106 *eP* P 04 05 28.1 +0.3
L26K Log Cabin Wild 60.37 336 P P 04 05 28.2 +1.0
L26K IAmb IAmb 04 05 37.1
comp=Z,6.5nm,1.1s
K27K Chicken 60.40 337 P P 04 05 28.7 +1.3
K27K IAmb IAmb 04 05 31.1
comp=Z,5.2nm,0.8s
EGAK Eagle 60.47 338 P P 04 05 28.8 +1.0
EGAK IAmb IAmb 04 05 31.1
comp=Z,7.2nm,0.8s
HIN Hinchinbrook I 60.47 333 P P 04 05 28.9 +0.9
BSFB Barra de Sao F 60.50 121 *eP* P 04 05 27.7 -1.1
NBAN Anadia - AL 60.58 110 *eP* P 04 05 29.6 +0.2
NAN01 Guarapari, ES 60.63 120 *eP* P 04 05 29.7 0.0
RES Resolute Bay 60.63 359 P P 04 05 28.7 -0.1
comp=Z,4.4nm,0.7s,baz=190,slow=6.7,SNR=4.7
KLU Klutina 60.70 334 P P 04 05 30.9 +1.3
DOT Dot Lake 60.96 336 P P 04 05 32.7 +1.4
SCRK Sand Creek 61.09 337 P P 04 05 33.0 +0.7
SCRK IAmb IAmb 04 05 35.2
comp=Z,5.9nm,1.0s
RIB01 Linhares ES 61.11 122 *eP* P 04 05 31.3 -1.6
PAX Paxson 61.15 335 P P 04 05 34.0 +1.1
NBRF Rio Formoso - 61.27 108 *eP* P 04 05 34.2 +0.1
SCM Sheep Creek Mo 61.45 334 P P 04 05 35.8 +1.1
KNK Knik Glacier 61.76 333 IAmb IAmb 04 05 49.7
comp=Z,6.2nm,0.8s
RC01 Rabbit Creek A 62.20 332 P P 04 05 40.8 +1.1
BRLK Bradley Lake 62.23 331 P P 04 05 41.1 +1.1
CNPM China Poot 62.32 331 P P 04 05 41.5 +1.1
PRP Porcupine Dome 62.43 338 P P 04 05 42.2 +0.9
IL31 62.58 337 P P 04 05 43.5 +1.4
ILAR Eielson Array 62.58 337 P P 04 05 43.3 +1.2
comp=Z,7.5nm,1.0s,baz=153,slow=4.6,SNR=25
ILAR LR LR 04 35 18.7
comp=Z,96nm,18.9s,baz=134,slow=38
ILAR Eielson Array 62.58 337 P P 04 05 43.0 +0.9
RND Reindeer 62.76 335 P P 04 05 44.3 +0.9
SUA Susitna One 62.79 333 P P 04 05 44.5 +0.8
CCB Clear Creek Bu 62.88 337 P P 04 05 45.0 +0.9
CCB IAmb IAmb 04 05 47.8
comp=Z,3.7nm,0.8s
WRH Wood River Hil 62.91 336 IAmb IAmb 04 05 48.1
comp=Z,3.9nm,1.0s
MCK McKinley 62.93 335 IAmb IAmb 04 05 58.9
comp=Z,7.9nm,1.0s
BMAR Burnt Mountain 63.06 340 P P 04 05 46.9 +1.5
MDM Murphy Dome 63.18 337 P P 04 05 47.0 +0.9
MDM IAmb IAmb 04 05 48.9
comp=Z,5.2nm,1.0s
P19K Oil Pt 63.31 330 P P 04 05 48.3 +1.2
NEA2 Nenana 63.35 336 P P 04 05 47.8 +0.6
NEA2 IAmb IAmb 04 05 50.6
comp=Z,13nm,1.5s
TRF Thorofare Moun 63.37 335 P P 04 05 48.7 +1.1
H24K Noodor Dome 63.44 338 IAmb IAmb 04 05 51.4
comp=Z,7.7nm,0.8s
KTH Kantishna Hill 63.67 335 P P 04 05 49.9 +0.4
KTH IAmb IAmb 04 05 52.9
comp=Z,7.7nm,0.8s
I23K Minto, Yukon-K 63.69 337 P P 04 05 50.6 +1.2
BPAW Bear Paw Mtn. 63.91 335 P P 04 05 52.2 +1.2
BPAW IAmb IAmb 04 05 54.4
comp=Z,7.4nm,0.8s
PPLA Purkeypile 63.95 334 P P 04 05 52.0 +0.6
PPLA IAmb IAmb 04 05 55.0
comp=Z,9.0nm,0.9s
M20K Styx River 64.01 333 P P 04 05 52.4 +0.7
H23K Yukon River 64.05 337 IAmb IAmb 04 06 12.0
comp=Z,5.4nm,1.1s
ICESG Greenland Ices 64.18 19 *i* P P 04 05 51.3 -1.7
ICESG IAmb IAmb 04 05 52.8
comp=Z,9.9nm,0.8s
MLY Manley 64.18 336 P P 04 05 54.0 +1.3
N19K Bonanza Creek 64.28 331 P P 04 05 54.7 +1.1
O18K Koktuh Hills 64.33 330 P P 04 05 54.8 +1.0
PPT Papeete 64.46 243 LR LR 04 26 12.0
comp=Z,157nm,20.3s,baz=105,slow=28
M19K Big River Lodg 64.58 332 P P 04 05 56.9 +1.5
M19K IAmb IAmb 04 05 59.6
comp=Z,6.6nm,0.7s
I21K Tanana 64.72 336 P P 04 05 57.2 +1.0
I21K IAmb IAmb 04 06 08.7
comp=Z,8.9nm,1.1s
SVW2 Sparrevohn 64.87 331 P P 04 05 58.0 +0.7
SVW2 IAmb IAmb 04 06 00.9
comp=Z,5.2nm,0.7s
COLD Coldfoot 64.89 339 IAmb IAmb 04 06 01.5
comp=Z,6.4nm,0.9s
N18K Kilae Creek 64.89 331 P P 04 05 57.7 +0.3
N18K IAmb IAmb 04 06 01.6
comp=Z,6.9nm,0.8s
K20K Telida 64.92 334 P P 04 05 58.2 +0.7
J20K Nowinta River 65.22 335 P P 04 06 00.1 +0.6
J20K IAmb IAmb 04 06 02.9
comp=Z,6.3nm,0.8s
TOLK Toolik Lake Re 65.29 340 P P 04 06 00.7 +0.8
TOLK IAmb IAmb 04 06 03.5
comp=Z,7.5nm,0.7s
IMAR Indian Mountai 65.70 337 P P 04 06 02.4 -0.2
SUMG Summit 66.31 15 *i* P P 04 06 05.8 -1.0
SUMG IAmb IAmb 04 06 08.1
comp=Z,3.6nm,0.6s
NEEM North Greenlan 66.75 9 *i* P P 04 06 08.9 -0.6
NEEM IAmb IAmb 04 06 10.1
comp=Z,7.8nm,0.7s
GO09 Cerro Castillo 67.40 166 P P 04 06 13.3 -0.2
NOR Nord 74.12 9 *i* P P 04 06 53.0 -1.0
NOR IAmb IAmb 04 06 54.8
comp=Z,3.9nm,0.9s
ESDC Sonseca Array 80.08 52 P P 04 07 27.1 -1.2
comp=Z,2.1nm,0.8s,baz=287,slow=5.6,SNR=11
ESDC LR LR 04 38 32.3
comp=Z,78nm,20.4s,baz=275,slow=33
ESDC Sonseca Array 80.08 52 P P 04 07 27.7 -0.6
PMSA Palmer Station 81.52 168 P P 04 07 36.5 +1.4
NOA NORSAR Array B 84.33 28 P P 04 07 48.6 -1.4
comp=Z,1.1nm,0.8s,baz=266,slow=5.7,SNR=3.3
NOA LR LR 04 44 10.8
comp=Z,60nm,21.9s,baz=285,slow=35
DBIC Dimbokro 86.16 84 P P 04 07 59.6 -0.4
comp=Z,6.6nm,0.8s,baz=300,slow=3.5,SNR=5.4
DBIC LR LR 04 43 31.4
comp=Z,54nm,20.0s,baz=283,slow=34
DBIC Dimbokro 86.16 84 P P 04 07 58.7 -1.3
ARCES ARCESS Array B 86.24 18 P P 04 07 59.9 +0.5
comp=Z,3.1nm,1.0s,baz=329,slow=4.2,SNR=6.1
ARCES LR LR 04 46 48.8
comp=Z,94nm,18.3s,baz=305,slow=36
SENIN Lac Senin/Sane 86.59 43 P P 04 08 00.6 -1.3
SENIN IAmb IAmb 04 08 13.0
comp=Z,4.1nm,0.9s
SEY Seymchan 88.49 336 LR LR 04 53 06.7
comp=Z,65nm,18.8s,baz=33,slow=39
GERES GERESS Array B 89.88 39 P P 04 08 15.9 -1.4
comp=Z,0.3nm,0.4s,baz=318,slow=1.3,SNR=2.2
GERES LR LR 04 47 00.2
comp=Z,122nm,19.9s,baz=290,slow=35
FINES FINESS Array B 90.66 25 P P 04 08 20.5 0.0
comp=Z,2.4nm,0.8s,baz=259,slow=5.1,SNR=2.1
FINES LR LR 04 50 38.6
comp=Z,82nm,18.1s,baz=270,slow=37
TORD Torodi Ar. Bea 90.86 76 P P 04 08 21.3 -1.0
comp=Z,1.0nm,0.7s,baz=296,slow=5.5,SNR=6.3
TORD LR LR 04 49 25.0
comp=Z,38nm,18.1s,baz=250,slow=36
KEST Kesra 91.27 23 P P 04 08 24.1 +0.1
comp=Z,1.6nm,0.7s,baz=135,slow=1.4,SNR=2.5
VRAC Vranov 91.46 38 LR LR 04 48 49.7
comp=Z,68nm,19.1s,baz=302,slow=35
NRIK Noril'sk 96.82 360 LR LR 04 57 25.3
comp=Z,186nm,18.3s,baz=24,slow=39
YAK Yakutsk 97.24 341 LR LR 04 57 56.9
comp=Z,55nm,21.8s,baz=92,slow=39
BOSA Boshof 120.84 115 PKP PKiKP 04 14 13.3 +2.3
comp=Z,3.4nm,0.8s,baz=259,slow=3.7,SNR=5.7
BOSA Boshof 120.84 115 PKPdf 04 14 10.5 -0.4

WRA Warramunga Arr 134.91 256 PKhKP PKPpre 04 14 36.5
comp=Z,0.6nm,0.7s,baz=84,slow=2.0,SNR=2.6
WRA PKP **PKiKP 04 14 41.4 +2.1**
comp=Z,0.8nm,0.8s,baz=85,slow=2.3,SNR=5.8
CMAR Chiang Mai Arr 145.77 340 PKPbc **PKPab 04 14 58.7 +0.5**
comp=Z,11nm,0.7s,baz=338,slow=3.8,SNR=33
CMAR Chiang Mai Arr 145.77 340 PKPdf **PKPbc 04 14 57.9 +0.1**

MEX 03 04:10:01.4±0.8, 15°.31N×92°.83W, h116km±9km, MD3.9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PCIG		**0.54**	**316**	*eP*		Pn	04 10 17.8	-1.3
PCIG				*i* S		Sn	04 10 30.8	-1.7
THIG		**0.68**	**127**	*eP*		Pn	04 10 19.2	-0.9
THIG				*eS*		Sn	04 10 32.8	-1.4
CCIG	**Comitan**	**1.17**	**34**	*eP*		Pn	04 10 25.2	+0.1
CCIG				*eS*		Sn	04 10 42.1	-0.8
TGIG		**1.48**	**349**	*eP*		Pn	04 10 27.3	-1.1
TGIG				*eS*		Sn	04 10 46.1	-2.9
CMIG	**Matias Romero**	**2.65**	**312**	*eP*		Pn	04 10 43.0	0.0
CMIG				*eS*		Sn	04 11 11.3	-3.7

MEX 03 04:23:46.9±0.9, 15°.55N×97°.43W, h15km±27km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PEIG	**Puerto Escondi**	**0.52**	**31**	*i* P		Pg	04 23 53.7	-3.5
	baz=211,slow=6.5							
PEIG				*eS*		Sg	04 23 59.7	-4.5
PNIG	**Pinotepa**	**1.07**	**321**	*eP*		Pb	04 24 02.5	-4.8
PNIG				*eS*		Sb	04 24 14.7	-6.4
YOIG	**Yosondua**	**1.30**	**355**	*eP*		Pn	04 24 06.2	-4.7
YOIG				*eS*		Sb	04 24 22.3	-5.8
VHO	**Vista Hermosa**	**1.65**	**24**	*eP*		Pn	04 24 11.1	-4.6
VHO				*eS*		Sn	04 24 32.4	-4.3
MGIG	**Malinaltepec**	**2.04**	**325**	*eP*		Pn	04 24 19.3	-1.5
MGIG				*eS*		Sn	04 24 40.4	-5.8
TLIG	**Tlapa**	**2.28**	**332**	*eP*		Pn	04 24 21.9	-2.3
TLIG				*eS*		Sn	04 24 47.4	-4.7
HLIG	**Huajuapan de L**	**2.30**	**351**	*eP*		Pn	04 24 21.7	-2.8
HLIG				*eS*		Sn	04 24 48.8	-3.8
TOIG	**Toxpalan**	**2.56**	**8**	*eP*		Pn	04 24 25.7	-2.3
TOIG				*eS*		Sn	04 24 56.9	-2.0
DAIG	**Los Arroyos**	**2.59**	**305**	*eP*		Pn	04 24 28.2	-0.1
DAIG				*eS*		Sn	04 24 52.5	-7.0
MEIG	**Mezcala**	**3.16**	**319**	*eP*		Pn	04 24 39.0	+2.7
MEIG				*eS*		Sb	04 25 18.6	-2.7

*IDC **03** 04:43:09.2±1.9, 45°.56N×152°.02E, h0km, mb3.8/9, mb1 3.9/12, mb1mx3.7/57, mbtmp3.8/12, ML2.8/3, MS3.1/2, Ms1 3.1/2, ms1mx2.5/59, Error ellipse: s-maj=55.5km s-min=21.5km az=172.0*

*ISC **03** 04:43:14.1±1.5, 45°.6N±0°.3×152°.0E±0°.1, h30km, n19, σ0°75/12, **mb3.7/9, Kuril Islands***

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**6.83**	**261**		Pn	**Pn**	**04 44 52.5**	**+0.3**
	0.7nm,0.3s,baz=131,slow=18,SNR=2.7							
ASAJ					LR	LR	04 47 46.3	
	comp=Z,76nm,18.9s,baz=60,slow=40							
PETK	**Petropavlovsk-**	**8.37**	**24**	Pn		**Pn**	**04 45 13.4**	**+0.1**
	0.1nm,0.3s,baz=180,slow=12,SNR=1.6							
USRK	**Ussuriysk Ar.**	**14.23**	**271**	Pn		**Pn**	**04 46 33.0**	**-0.5**
	baz=96,slow=13,SNR=3.5							
H11N2	**WAKE ISLAND Hy**	**28.62**	**150**	T		T	05 19 45.6	
	baz=338,slow=75,SNR=28							
H11N1	**WAKE ISLAND Hy**	**28.63**	**150**	T		T	05 19 41.0	
	baz=338,slow=75,SNR=16							
H11N3	**WAKE ISLAND Hy**	**28.63**	**150**	T		T	05 19 44.4	
	baz=338,slow=75,SNR=17							
H11S1	**WAKE ISLAND Hy**	**29.68**	**151**	T		T	05 21 08.2	
	baz=339,slow=76,SNR=27							
H11S3	**WAKE ISLAND Hy**	**29.69**	**151**	T		T	05 21 05.8	
	baz=339,slow=76,SNR=20							
H11S2	**WAKE ISLAND Hy**	**29.70**	**151**	T		T	05 21 06.7	
	baz=339,slow=76,SNR=19							
SONM	**Songino Array**	**30.98**	**291**	P		**P**	**04 49 29.8**	**+1.2**
	0.4nm,0.7s,baz=90,slow=8.6,SNR=2.4							
MKAR	**Makanchi Array**	**46.76**	**298**	P		**P**	**04 51 40.0**	**-0.5**
	0.5nm,0.6s,baz=54,slow=4.9,SNR=4.5							
KURBB	**Kurchatov Arra**	**47.42**	**304**	P		**P**	**04 51 45.2**	**-0.4**
	0.5nm,0.2s,baz=71,slow=8.6,SNR=3.3							
JAY	**Jayapura**	**48.96**	**195**	LR		LR	05 10 02.5	
	comp=Z,45nm,19.7s,baz=180,slow=33							
NVAR	**Mina Array Bea**	**63.66**	**61**	P		**P**	**04 53 43.2**	**+0.5**
	0.4nm,0.8s,baz=296,slow=8.9,SNR=2.9							
FINES	**FINESS Array B**	**64.72**	**335**	P		**P**	**04 53 48.7**	**-0.2**
	2.5nm,0.7s,baz=35,slow=7.0,SNR=6.3							
NOA	**NORSAR Array B**	**69.03**	**341**	P		**P**	**04 54 17.6**	**+1.2**
	1.2nm,0.8s,baz=27,slow=6.8,SNR=2.5							
KBZ	**Khabar**	**71.07**	**314**	P		**P**	**04 54 28.2**	**-0.9**
	1.1nm,0.5s,baz=56,slow=3.6,SNR=3.6							
AKASG	**Malin Array Be**	**72.04**	**326**	P		**P**	**04 54 34.8**	**-0.1**
	0.3nm,0.3s,baz=34,slow=5.7,SNR=2.3							
TXAR	**Lajitas Array**	**78.74**	**60**	P		**P**	**04 55 13.2**	**-0.7**
	0.4nm,0.7s,baz=324,slow=5.6,SNR=5.4							

*IDC **03** 05:03:35.9±4.4, 36°.36N×70°.94E, h188km±40km, mb3.3/6, mb1 3.4/7, mb1mx3.1/54, mbtmp3.8/7, MS3.9/1, Ms1 3.9/1, ms1mx2.5/32, Error ellipse: s-maj=31.4km s-min=22.2km az=20.0*

*NNC **03** 05:03:42.5±4.0, 36°.94N×70°.84E, h162km±80km, mb2.7, mpv3.4, Error ellipse: s-maj=37.4km s-min=23.1km az=27.0*

*ISC **03** 05:03:36.8±1.1, **36°.58N±0°.09×70°.9E±0°.1, h188km, n12, σ1°77/16, **mb3.6/5, 5C-2D, Hindu Kush region***

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.52**	**357**	P		**Pn**	**05 05 11.8**	**+1.2**
	0.7nm,0.3s,baz=192,slow=14,SNR=24							
KK31				⇑S		**Sn**	**05 06 21.3**	**-3.6**
	13nm,0.6s,baz=178,slow=15,SNR=18							
AAK	**Ala-Archa**	**6.65**	**23**	P		**Pn**	**05 05 14.4**	**+2.0**
	1.9nm,0.3s,baz=188,slow=6.8,SNR=8.3							
AAK				S		**Sn**	**05 06 26.9**	**-1.2**
	1.1nm,0.3s,baz=130,slow=22,SNR=11							
AAK	**Ala-Archa**	**6.65**	**23**	⇓P		**Pn**	**05 05 14.8**	**+2.3**
	1.3nm,0.3s							
AAK				⇓S		**Sn**	**05 06 27.4**	**-0.7**
	5.4nm,0.5s							
TKM2	**Tokmak 2**	**7.29**	**28**	⇑P		**Pn**	**05 05 21.7**	**+0.9**
	1.3nm,0.3s							
TKM2				⇑S		**Sn**	**05 06 41.4**	**-1.8**
	2.6nm,0.7s							
AB31	**Akbulak array**	**14.98**	**331**	⇑P		**P**	**05 07 01.7**	**+1.6**
	0.8nm,0.5s,baz=263,slow=35,SNR=18							
AB31				⇑S		**Sn**	**05 09 45.3**	**-1.1**
	0.6nm,0.6s,baz=149,slow=23,SNR=2.8							
ZALV	**Zalesovo Beam**	**19.87**	**25**	P		**P**	**05 07 53.6**	**+0.2**
	0.9nm,0.4s,baz=221,slow=11,SNR=2.9							
ASF	**Jabal al Asfar**	**28.33**	**271**	LR		LR	05 22 42.1	
	comp=Z,247nm,21.3s,baz=95,slow=40							
FINES	**FINESS Array B**	**37.38**	**326**	P		**P**	**05 10 32.2**	**+1.2**
	1.4nm,0.8s,baz=102,slow=13,SNR=1.3							
TORD	**Torodi Ar. Bea**	**65.65**	**269**	P		**P**	**05 14 00.1**	**-1.0**
	0.4nm,0.4s,baz=49,slow=6.0,SNR=11							
INK	**Inuvik**	**73.84**	**9**	P		**P**	**05 14 50.6**	**+0.4**
	1.6nm,0.9s,baz=346,slow=5.2,SNR=7.2							
WRA	**Warramunga Arr**	**82.09**	**122**	P		**P**	**05 15 34.8**	**-1.7**
	0.2nm,0.3s,baz=322,slow=4.8,SNR=11							
ASAR	**Alice Springs**	**84.36**	**125**	P		**P**	**05 15 46.7**	**-1.3**
	0.5nm,0.5s,baz=314,slow=4.8,SNR=5.1							

IDC 03 05:08:00.3±2.5, 6°.55S×152°.78E, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.5/39, mbtmp3.6/3, Error ellipse: s-maj=170.3km s-min=29.1km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.32**	**232**	P		P	05 13 00.5	+0.7
	0.9nm,0.7s,baz=56,slow=9.8,SNR=8.7							
ASAR	**Alice Springs**	**24.88**	**225**	P		P	05 13 24.6	-0.5
	0.9nm,0.7s,baz=64,slow=7.9,SNR=8.2							
ILAR	**Eielson Array**	**83.77**	**22**	P		P	05 20 31.5	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.4nm,0.6s,baz=247,slow=5.2,SNR=6.2						
TORD	**Torodi Ar. Bea**	**150.79**	**285**	PKPbc	PKPbc	05 27 55.0	-0.8
	0.5nm,0.6s,baz=80,slow=3.6,SNR=2.5						

DJA 03 05:10:49.0±1.2**, 11°S**±5°×**10°5E**±°**, h17**km±7km**, M4.6**/8**, mb4.6**/7**, mB5.5**/1**, MLv4.6**/8**, Mw(mB)5.0**/1**, South of Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**4.08**	**24**	P	Pn	05 11 50.1	-0.5
SKJI	**Sukabumi**	**4.17**	**16**	P	Pn	05 11 51.4	-0.5
CISI	**Cisompet, Garu**	**4.20**	**34**	P	Pn	05 11 52.1	-0.2
CMJI	**Cimerak**	**4.41**	**43**	P	Pn	05 11 55.4	+0.3
KPJI	**Karang Pucung**	**5.06**	**43**	P	Pn	05 12 05.1	+1.0
	0.3nm30nm,0.8s						
KASI	**Kota Agung**	**5.57**	**350**	P	Pn	05 12 11.5	+0.4
	0.5nm16nm,0.4s						
UGM	**Wanagama**	**5.91**	**59**	P	Pn	05 12 15.6	-0.3
	1.0nm191nm,1.9s						
PCJI	**Pacitan**	**6.34**	**64**	P	Pn	05 12 21.3	-0.4
PWJI	**Pagerwojo**	**6.97**	**65**	P	Pn	05 12 29.9	-0.5
	0.3nm3μm62nm,1.4s						
JAGI	**Jajag, Banyuwa**	**8.97**	**74**	P	Pn	05 12 58.3	+0.4
	64nm,0.8s						
TWSI	**Taliwang, Sumb**	**11.51**	**80**	P	Pn	05 13 33.3	+0.5
	16nm,0.6s						
PLAI	**Plampang**	**12.36**	**81**	P	Pn	05 13 45.1	+0.7
	42nm,1.2s						

IDC 03 05:11:58.7±5.6**, 14°31N**×**92°40W, h0**km**, mb3.6**/3**, mb1 3.8**/5**, mb1mx3.5**/36**, mbtmp3.4**/5**, ML3.2**/2**, MS3.4**/3**, Ms1 3.4**/3**, ms1mx2.8**/33**, Error ellipse: s-maj=172.1km s-min=53.7km az=35.0, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**3.66**	**319**	Pn	Pn	05 12 55.2	-1.3
	1.0nm,0.3s,baz=141,slow=14,SNR=6.6						
CMIG				Sn	Sn	05 13 42.6	+2.1
	3.9nm,0.3s,baz=120,slow=20,SNR=2.8						
TXAR	**Lajitas Array**	**18.23**	**327**	P	P	05 16 14.1	+0.5
	0.0nm,0.3s,baz=150,slow=11,SNR=4.7						
TKL	**Tuckaleechee C**	**22.63**	**19**	LR	LR	05 26 51.2	
	comp=Z,38nm,18.4s,baz=190,slow=39						
NVAR	**Mina Array Bea**	**33.19**	**321**	P	P	05 18 37.7	+0.2
	0.3nm,0.7s,baz=134,slow=7.6,SNR=3.7						
NVAR				LR	LR	05 34 06.8	
	comp=Z,87nm,19.0s,baz=236,slow=40						
YKA	**Yellowknife Ar**	**50.64**	**347**	P	P	05 20 58.9	-0.4
	2.0nm,0.8s,baz=153,slow=7.6,SNR=5.1						
KDAK	**Kodiak Island**	**62.25**	**328**	LR	LR	05 49 45.3	
	comp=Z,51nm,18.8s,baz=214,slow=36						
ILAR	**Eielson Array**	**62.41**	**337**	P	P	05 22 23.3	+0.2
	0.3nm,0.7s,baz=122,slow=8.6,SNR=2.9						

MEX 03 05:13:24.6±0.7**, 15°94N**×**97°73W, h20**km±24km**, MD3.7, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PEIG	**Puerto Escondi**	**0.57**	**84**	*e*P	Pb	05 13 33.6	-2.3
PEIG				*i* S	Sb	05 13 41.5	-2.1
PEIG				*e*S	Sn	05 13 41.6	-4.8
PNIG	**Pinotepa**	**0.59**	**320**	*e*P	Pb	05 13 32.6	-3.7
PNIG				*e*S	Sb	05 13 39.5	-4.7
YOIG	**Yosondua**	**0.93**	**11**	*e*P	Pb	05 13 37.8	-4.5
YOIG				*e*S	Sb	05 13 48.9	-5.3
VHO	**Vista Hermosa**	**1.48**	**40**	*e*P	Pn	05 13 47.5	-2.8
VHO				*e*S	Sn	05 14 02.1	-7.1
MGIG	**Malinaltepec**	**1.55**	**326**	*e*P	Pn	05 13 48.2	-3.0
MGIG				*e*S	Sn	05 14 06.5	-4.4
TLIG	**Tlapa**	**1.80**	**334**	*e*P	Pn	05 13 52.7	-2.0
TLIG				*e*S	Sn	05 14 14.1	-2.9
HLIG	**Huajuapan de L**	**1.88**	**358**	*e*P	Pn	05 13 52.8	-3.1
HLIG				*e*S	Sn	05 14 15.0	-4.1
TOIG	**Toxpalan**	**2.24**	**17**	*e*P	Pn	05 13 58.2	-2.5
TOIG				*e*S	Sn	05 14 27.3	-0.5

*IDC **03** 05:15:15.6±1.2, 7°05S×120°92E, h536km±14km, mb2.9/5, mb1 3.1/8, mb1mx2.9/34, mbtmp3.8/8, Error ellipse: s-maj=48.3km s-min=14.4km az=61.0*

ISC 03 05:15:16.1±1.0**, 7°0S**±0°1×**121°1E**±0°2**, h550**km**, n9, σ1s31**/9**, mb3.3**/4**, Flores Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.37**	**327**	P	**P**	**05 16 26.0**	**-1.6**
	13nm,0.3s,baz=176,slow=2.7,SNR=42						
BATI	**Baumata**	**4.09**	**141**	P	**P**	**05 16 37.2**	**-1.5**
	10nm,0.3s,baz=256,slow=3.5,SNR=7.5						
SIJI	**Sorong**	**11.86**	**60**	P	**P**	**05 17 52.9**	**-0.4**
	36nm,0.3s,baz=202,slow=10,SNR=7.9						
WRA	**Warramunga Arr**	**18.20**	**136**	P	**P**	**05 18 57.7**	**+1.8**
	0.2nm,0.3s,baz=313,slow=10,SNR=19						
ASAR	**Alice Springs**	**20.65**	**145**	P	**P**	**05 19 18.8**	**+0.6**
	0.7nm,0.4s,baz=318,slow=8.3,SNR=11						
SONM	**Songino Array**	**56.12**	**348**	P	**P**	**05 24 04.8**	**+1.2**
	0.6nm,0.6s,baz=156,slow=9.0,SNR=1.5						
MKAR	**Makanchi Array**	**63.66**	**331**	P	**P**	**05 24 54.2**	**+0.6**
	0.8nm,0.5s,baz=146,slow=7.6,SNR=7.8						
ZALV	**Zalesovo Beam**	**67.94**	**338**	P	**P**	**05 25 20.0**	**-0.1**
	0.9nm,0.4s,baz=141,slow=9.3,SNR=2.7						
VNDA	**Vanda**	**73.64**	**171**	P	**P**	**05 25 53.1**	**-0.2**
	0.3nm,0.6s,baz=326,slow=5.4,SNR=2.5						

IDC 03 05:34:48.3±3.8**, 6°27S**×**148°74E, h0**km**, mb3.1**/1**, mb1 3.6**/2**, mb1mx3.3**/44**, mbtmp3.4**/2**, ML3.6**/1**, MS3.4**/1**, Ms1 3.4**/1**, ms1mx2.6**/13**, Error ellipse: s-maj=126.0km s-min=48.0km az=113.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.50**	**224**	P	P	05 39 17.6	+0.3
	0.2nm,0.3s,baz=51,slow=11,SNR=18						
ASAR	**Alice Springs**	**22.42**	**218**	P	P	05 39 48.9	+0.1
	0.6nm,0.6s,baz=50,slow=9.5,SNR=8.9						
DZM	**Mont Dzumac**	**23.23**	**134**	LR	LR	05 47 29.0	
	comp=Z,102nm,19.8s,baz=274,slow=33						
TORD	**Torodi Ar. Bea**	**146.83**	**284**	PKPbc	PKPdf	05 54 32.6	+0.8
	0.5nm,1.0s,baz=62,slow=2.8,SNR=5.6						

KRSC 03 05:41:42.0±2.4**, 54°53N**×**166°03E, h38**km±17km**, ML3.6, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.68**	**357**	*e*P	Pn	05 41 53.8	-1.3
BKI				*e*S	Sn	05 42 00.9	-3.5
MKZ	**Mys Kozlova**	**2.51**	**272**	*e*P	Pn	05 42 24.2	+4.1
MKZ				*e*S	Sn	05 42 53.7	+4.3
KZV	**Kizimen**	**3.37**	**282**	*e*P	Pn	05 42 36.9	+4.7
KZV				*e*S	Sn	05 43 15.4	+4.4
TUMR	**Tumrok**	**3.48**	**285**	*e*P	Pn	05 42 39.3	+5.6
KMNR	**Kamenistaya**	**3.54**	**293**	*e*P	Pn	05 42 39.6	+5.1
KMNR				*e*S	Sn	05 43 20.8	+5.6
SPN	**Mys Shipunski**	**3.84**	**251**	*e*P	Pn	05 42 43.0	+4.5
SPN				*e*S	Sn	05 43 25.2	+2.9
KII	**Karymskiy**	**3.89**	**265**	*e*P	Pn	05 42 44.2	+4.9
KII				*e*S	Sn	05 43 27.5	+3.8
NLC	**Nalytchevo**	**4.19**	**254**	*e*P	Pn	05 42 47.2	+4.0
NLC				*e*S	Sn	05 43 34.5	+3.7
SDLR	**Sedlovina**	**4.41**	**256**	*e*P	Pn	05 42 51.1	+4.7
SDLR				*e*S	Sn	05 43 41.7	+5.2
SMAR	**Somma**	**4.46**	**256**	*e*P	Pn	05 42 52.5	+5.3
SMAR				*e*S	Sn	05 43 40.5	+2.6
UGLR	**Uglovaya**	**4.47**	**256**	*e*P	Pn	05 42 52.2	+5.0
UGLR				*e*S	Sn	05 43 43.3	+5.4
KRER	**Koryakskii**	**4.48**	**257**	*e*P	Pn	05 42 52.9	+5.5
KRER				*e*S	Sn	05 43 42.7	+4.4
AVH	**Avacha**	**4.50**	**257**	*e*P	Pn	05 42 52.6	+5.0
AVH				*e*S	Sn	05 43 44.8	+6.2
KRX	**Arik**	**4.52**	**258**	*e*P	Pn	05 42 53.3	+5.4
KRX				*e*S	Sn	05 43 42.6	+3.4
KOK	**Koryaka**	**4.54**	**257**	*e*P	Pn	05 42 53.5	+5.2
KOK				*e*S	Sn	05 43 45.9	+6.1
DALK	**Dalny**	**4.57**	**254**	*e*P	Pn	05 42 53.3	+4.8
GNL	**Ganaly**	**4.83**	**263**	*e*P	Pn	05 42 58.0	+5.8
RUS	**Russkaya**	**4.96**	**248**	*e*P	Pn	05 42 58.3	+4.5
RUS				*e*S	Sn	05 43 52.9	+3.1
KRMR	**Karymshinskiy**	**5.00**	**253**	*e*P	Pn	05 42 59.3	+5.0
KRMR				*e*S	Sn	05 43 56.4	+5.6
MTVR	**Mutnovka**	**5.11**	**250**	*e*P	Pn	05 43 01.3	+5.2
MTVR				*e*S	Sn	05 43 57.0	+3.1
GRL	**Gorelyy**	**5.14**	**251**	*e*P	Pn	05 43 02.3	+5.8
GRL				*e*S	Sn	05 44 00.6	+6.0
ASAK	**Asacha**	**5.31**	**249**	*e*P	Pn	05 43 04.4	+5.6
ASAK				*e*S	Sn	05 44 02.9	+4.2
KDTR	**Khodutka, Kamc**	**5.50**	**244**	*e*P	Pn	05 43 05.7	+4.4
KDTR				*e*S	Sn	05 44 05.1	+1.8

IDC 03 05:49:39.8±6.4**, 16°21N**×**41°25E, h0**km**, mb3.6**/4**, mb1 3.6**/4**, mb1mx3.4**/40**, mbtmp3.6**/4**, MS3.2**/2**, Ms1 3.3**/2**, ms1mx2.7**/28**, Error ellipse: s-maj=250.5km s-min=30.7km az=155.0, Red Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GEYT	**Alibeck**	**26.26**	**31**	LR	LR	06 08 10.4	
	comp=Z,27nm,19.1s,baz=220,slow=42						
TORD	**Torodi Ar. Bea**	**38.34**	**271**	P	P	05 57 02.7	-0.1
	0.6nm,0.7s,baz=82,slow=8.4,SNR=4.4						
KURBB	**Kurchatov Arra**	**45.51**	**33**	P	P	05 58 01.2	+0.2
	0.8nm,1.0s,baz=233,slow=8.3,SNR=3.9						
DBIC	**Dimbokro**	**46.08**	**264**	LR	LR	06 18 03.2	
	comp=Z,58nm,18.8s,baz=163,slow=37						
ZALV	**Zalesovo Beam**	**50.57**	**32**	P	P	05 58 39.5	-0.5
	0.5nm,0.3s,baz=235,slow=6.8,SNR=3.8						
SONM	**Songino Array**	**61.51**	**44**	P	P	05 59 58.7	0.0
	0.4nm,0.7s,baz=255,slow=8.7,SNR=3.7						

IDC 03 05:49:39.4±2.9**, 53°60N**×**86°98E, h0**km**, mb1 2.6**/2**, mb1mx2.6**/38**, mbtmp2.6**/2**, ML2.3**/2**, Error ellipse: s-maj=28.9km s-min=16.8km az=68.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.33**	**286**	*i*		05 56 10.0	
	baz=104,slow=321,SNR=5.6						
ZALV	**Zalesovo Beam**	**1.33**	**286**	Pg	Pg	05 50 03.4	-1.5
	0.8nm,0.3s,baz=109,slow=18,SNR=6.7						
ZALV				Lg	Lg	05 50 22.1	
	0.7nm,0.3s,baz=108,slow=28,SNR=4.6						
KURBB	**Kurchatov Arra**	**6.00**	**244**	Pn	Pn	05 51 11.0	+1.7
	0.0nm,0.3s,baz=61,slow=14,SNR=2.7						
MKAR	**Makanchi Array**	**7.45**	**206**	Pn	Pn	05 51 30.1	+0.9
	0.1nm,0.3s,baz=29,slow=12,SNR=4.3						

*IDC **03** 06:13:42.9±9.7, 37°51N×78°12E, h0km, mb3.9/1, mb1 3.7/3, mb1mx3.3/46, mbtmp3.7/3, ML3.1/2, Error ellipse: s-maj=171.2km s-min=43.0km az=137.0*

*NNC **03** 06:13:45.4±6.0, 37°63N×78°14E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=43.7km s-min=40.8km az=45.0*

*SOME **03** 06:13:46.7, 37°73N×78°27E, h10km*

ISC 03 06:13:46.1±2.0**, 37°7N**±0°1×**78°14E**±0°08**, h10**km**, n18, σ2s12**/30**, 5C-4D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.34**	**2**	*e*P	**Pg**	**06 15 28.5**	**0.0**
	7.7nm,0.5s						
SATY				*e*S	**Sg**	**06 16 41.3**	**+3.7**
	21nm,0.4s						
MDOK	**Medeo**	**5.51**	**352**	*e*P	**Pg**	**06 15 29.5**	**-2.1**
	8.2nm,0.7s						
MDOK				*e*S	**Sg**	**06 16 43.2**	**+0.3**
	16nm,0.4s						
MDOK	**Medeo**	**5.51**	**352**	⇓Pg	**Pg**	**06 15 30.8**	**-0.8**
	18nm,1.0s						
MDOK				⇓Lg	Lg	06 16 46.9	
	27nm,0.8s						
SHLS	**Shalkode**	**5.53**	**10**	*e*P	**Pg**	**06 15 29.5**	**-2.5**
	9.1nm,0.5s						
SHLS				*e*S	**Sg**	**06 16 43.3**	**-0.3**
TKM2	**Tokmak 2**	**5.55**	**340**	⇑Pg	**Pg**	**06 15 31.2**	**-1.2**
	4.8nm,0.8s						
TKM2				⇓Lg	Lg	06 16 50.3	
	12nm,0.8s						
MTBS	**Maitube**	**5.57**	**347**	*e*P	**Pg**	**06 15 31.0**	**-1.7**
	4.2nm,0.3s						
MTBS				*e*S	**Sg**	**06 16 45.6**	**+0.9**
	7.7nm,0.3s						
KST	**Kastek**	**5.58**	**343**	*e*P	**Pg**	**06 15 31.6**	**-1.3**
	8.4nm,0.5s						
KST				*e*S	**Sg**	**06 16 46.6**	**+1.5**
	10nm,1.0s						
AAK	**Ala-Archa**	**5.66**	**332**	⇑Pg	**Pg**	**06 15 35.5**	**+1.1**
	6.7nm,0.8s						
AAK				⇑Lg	Lg	06 16 55.6	
	22nm,0.8s						
PDGK	**Podgornoye**	**5.70**	**10**	⇑Pn	**Pn**	**06 15 10.4**	**-0.6**
	2.6nm,0.5s						
PDGK				⇑Pg	**Pb**	**06 15 28.2**	**+2.4**
	6.1nm,1.0s						
PDGK				⇓Lg	Lg	06 16 42.5	
	23nm,0.9s,baz=176						
KPKS	**Kokpek**	**5.76**	**4**	*e*P	**Pg**	**06 15 34.1**	**-2.3**
	7.5nm,0.3s						
KPKS				*e*S	**Sg**	**06 16 51.3**	**+0.2**
	10nm,0.3s						
DGS	**Degeres**	**5.81**	**343**	*e*P	Pg	06 15 33.3	-4.0
	6.3nm,0.6s						
DGS				*e*S	**Sg**	**06 16 49.7**	**-2.9**
	7.2nm,0.2s						
KRBS	**Karabastau**	**6.26**	**343**	*e*P	**Pg**	**06 15 44.0**	**-2.0**
	3.6nm,0.6s						
KRBS				*e*S	**Sg**	**06 17 07.9**	**+0.8**
	6.2nm,0.5s						
MRKS	**Merke**	**6.28**	**325**	*e*P	**Pg**	**06 15 43.2**	**-3.1**
	2.7nm,0.2s						
MRKS				*e*S	**Sg**	**06 17 06.6**	**-0.9**
	6.5nm,0.5s						
ARXS	**Arharly**	**6.50**	**358**	*e*P	**Pg**	**06 15 46.4**	**-4.1**
	9.6nm,0.4s						
ARXS				*e*S	**Sg**	**06 17 11.8**	**-2.8**
	7.3nm,0.3s						
DJR	**Jarkent**	**6.73**	**10**	*e*P	**Pg**	**06 15 51.0**	**-3.9**
	2.0nm,0.4s						
DJR				*e*S	**Sg**	**06 17 20.1**	**-2.0**
	4.2nm,0.4s						
MKAR	**Makanchi Array**	**9.58**	**17**	Pn	**Pn**	**06 16 06.0**	**+2.0**
	0.6nm,0.3s,baz=198,slow=13,SNR=21						
MKAR				Sn	**Sn**	**06 17 53.5**	**+1.8**
	0.1nm,0.3s,baz=198,slow=28,SNR=1.9						
ZALV	**Zalesovo Beam**	**16.88**	**14**	P	**P**	**06 17 44.6**	**+0.3**
	0.1nm,0.3s,baz=185,slow=16,SNR=4.0						
FINES	**FINESS Array B**	**39.78**	**324**	P	**P**	**06 21 18.1**	**-0.8**
	3.3nm,1.1s,baz=114,slow=13,SNR=5.1						

IDC 03 06:15:45.8±4.2**, 6°15S**×**148°45E, h0**km**, mb2.9**/1**, mb1 3.4**/2**, mb1mx3.2**/36**, mbtmp3.1**/2**, ML3.3**/1**, Error ellipse: s-maj=142.1km s-min=51.9km az=113.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.39**	**224**	P	Pn	06 20 14.3	-0.3
	0.1nm,0.3s,baz=50,slow=11,SNR=7.5						
ASAR	**Alice Springs**	**22.34**	**217**	P	P	06 20 45.4	-0.1
	0.2nm,0.5s,baz=48,slow=10,SNR=4.7						
TORD	**Torodi Ar. Bea**	**146.52**	**284**	PKPbc	PKPdf	06 35 29.0	+0.2
	0.2nm,0.5s,baz=61,slow=3.3,SNR=1.6						

*IDC **03** 06:16:17.2±0.9, 27°08N×143°72E, h0km, mb3.9/10, mb1 4.0/13, mb1mx3.9/45, mbtmp3.9/13, ML3.4/3, MS2.9/1, Ms1 2.9/1, ms1mx2.2/45, Error ellipse: s-maj=23.3km s-min=19.4km az=83.0*

*NEIC **03** 06:16:18.7±1.2, 27°23N±0°10×143°58E±0°08, h10km±1km, mb4.5/9, Error ellipse: s-maj=17.3km s-min=10.9km az=165.0*

*JMA **03** 06:16:20.4, 27°27N×143°60E, h73km, M4.3*

*NIED **03** 06:16:20.5, 27°28N×143°60E, h73km, MW3.8, Moment Tensor Solution. s1 Moment tensor: Scale 10^14 Nm; Mrr-3.32; Mθθ2.77; Mφφ0.55; Mrθ-4.04; Mθφ-2.06; Mφr0.05; Fault plane solution: M0 5.48000×10^14 NP1:φs99.00000°, δ70.00000°, λ-108.00000°. NP2:φs323.00000°, δ27.00000°, λ-49.00000°.*

ISC 03 06:16:22.3±0.8**, 27°29N**±0°08×**143°56E**±0°08**, h35**km**, n42, σ1s46**/46**, mb4.2**/15**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.24**	**261**	P	**Pn**	**06 16 42.9**	**-0.3**
CBIJ				*e*S	**Sn**	**06 16 59.6**	**+0.9**
JCJ	**Chichijima**	**1.24**	**261**	Pn	**Pn**	**06 16 43.0**	**-0.2**
	63nm,0.3s,baz=276,slow=23,SNR=107						
JCJ				Sn	**Sn**	**06 16 58.3**	**-0.4**
	172nm,0.3s,baz=270,slow=20,SNR=13						
JCJ				LR	LR	06 17 12.6	
	comp=Z,94nm,18.6s,baz=168,slow=40						
JCJ	**Chichijima**	**1.24**	**261**		**Pn**	**06 16 42.6**	**-0.6**
JCJ					**Sn**	**06 16 55.5**	**-3.2**
JHH2	**Haha-jima-NKT2**	**1.40**	**243**	P	**Pn**	**06 16 44.8**	**-0.5**
JHH2				*e*S	**Sn**	**06 17 03.0**	**+0.4**
BSO1	**Boso 1**	**7.67**	**344**	P	**Pn**	**06 18 10.6**	**-0.4**
JHU	**Hanno**	**9.28**	**338**	P	**Pn**	**06 18 33.8**	**+0.1**
JRY	**Ryogami san**	**9.56**	**337**	P	**Pn**	**06 18 38.2**	**+0.7**
JAG	**Ashikaga**	**9.76**	**340**	P	**Pn**	**06 18 40.4**	**+0.3**
MJAR	**Matsushiro Arr**	**10.28**	**335**	Pn	**Pn**	**06 18 48.1**	**+0.7**
	0.5nm,0.3s,baz=150,slow=11,SNR=18						
MJAR	**Matsushiro Arr**	**10.28**	**335**		**Pn**	**06 18 47.6**	**+0.2**
MAJO	**Matsushiro**	**10.29**	**335**		**Pn**	**06 18 46.9**	**-0.5**
MAT	**Matsushiro**	**10.29**	**335**	P	**Pn**	**06 18 48.2**	**+0.8**
MAT				*e*S	**Sn**	**06 20 37.1**	**-4.3**
JMM	**Marumori**	**10.80**	**348**	Pn	**Pn**	**06 18 52.8**	**-1.7**
JSD	**Sado**	**11.61**	**339**	Pn	**Pn**	**06 19 04.8**	**-0.7**
JOW	**Kunigami**	**13.63**	**272**	LR	LR	06 24 45.4	
	comp=Z,45nm,18.3s,baz=130,slow=37						
KSRS	**Korea Array**	**16.63**	**311**	Pn	**P**	**06 20 15.7**	**+0.9**
	0.2nm,0.3s,baz=120,slow=11,SNR=13						
USRK	**Ussuriysk Ar.**	**19.28**	**334**	P	**Pn**	**06 20 46.1**	**+0.9**
	baz=143,slow=10.0,SNR=7.4						
KLR	**Kul'dur**	**23.73**	**341**	P	**P**	**06 21 33.2**	**+2.1**
	0.9nm,0.3s,baz=138,slow=7.4,SNR=5.1						
ULN	**Ulaanbaatar**	**35.03**	**316**	P	**P**	**06 23 11.6**	**-0.1**
ULN				IAmb	IAmb	06 23 11.9	
	comp=Z,4.1nm,0.5s						
SONM	**Songino Array**	**35.43**	**315**	P	**P**	**06 23 18.7**	**+3.5**
	comp=Z,0.6nm,0.3s,baz=120,slow=5.3,SNR=3.7						
WB0	**Warramunga Arr**	**47.61**	**192**	P	**P**	**06 24 54.0**	**-0.9**
WB0				IAmb	IAmb	06 26 24.2	
	comp=Z,7.7nm,1.3s						
WRA	**Warramunga Arr**	**47.79**	**192**	P	**P**	**06 24 55.1**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=12,slow=8.4,SNR=7.0						
WRA	**Warramunga Arr**	**47.79**	**192**	P	**P**	**06 24 55.2**	**-1.2**
ZAA0	**Zalesovo Array**	**50.15**	**319**	P	**P**	**06 25 13.8**	**-0.3**
MK31	**Makanchi Array**	**51.30**	**309**	P	**P**	**06 25 21.8**	**-1.1**
MK31				IAmb	IAmb	06 26 15.7	
	comp=Z,4.3nm,1.3s						
MKAR	**Makanchi Array**	**51.30**	**309**	P	**P**	**06 25 24.6**	**+1.6**
	comp=Z,1.2nm,0.6s,baz=83,slow=9.5,SNR=6.9						
MKAR	**Makanchi Array**	**51.30**	**309**	P	**P**	**06 25 23.2**	**+0.2**
ASAR	**Alice Springs**	**51.51**	**191**	P	**P**	**06 25 22.9**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=355,slow=5.6,SNR=2.6						
ASAR	**Alice Springs**	**51.51**	**191**	P	**P**	**06 25 23.1**	**-1.6**
MAKZ	**Makanchi**	**51.51**	**309**	P	**P**	**06 25 23.0**	**-1.5**
KDAK	**Kodiak Island**	**53.48**	**37**	P	**P**	**06 25 39.6**	**+0.8**
	comp=Z,3.4nm,1.1s,baz=190,slow=11,SNR=1.7						
CAPN	**Captain Cook N**	**54.55**	**33**	P	**P**	**06 25 46.8**	**+0.2**
ILAR	**Eielson Array**	**56.96**	**29**	P	**P**	**06 26 03.6**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=270,slow=6.3,SNR=5.1						
ILAR	**Eielson Array**	**56.96**	**29**	P	**P**	**06 26 04.1**	**+0.2**
KK31	**Karatay Array**	**59.97**	**306**	P	**P**	**06 26 23.2**	**-2.0**
KK31				IAmb	IAmb	06 26 28.0	
	comp=Z,3.0nm,0.7s						
KKAR	**Karatay Array**	**59.97**	**306**	P	**P**	**06 26 24.7**	**-0.5**
MOD	**Modoc Plateau**	**76.56**	**50**	P	**P**	**06 28 07.2**	**-2.2**
MOD				IAmb	IAmb	06 28 08.0	
	comp=Z,3.7nm,0.6s						
FINES	**FINESS Array B**	**78.31**	**334**	P	**P**	**06 28 20.9**	**+2.4**
	comp=Z,1.8nm,0.8s,baz=57,slow=5.1,SNR=1.8						
FINES	**FINESS Array B**	**78.31**	**334**	P	**P**	**06 28 18.9**	**+0.4**
KBZ	**Khabaz**	**78.77**	**313**	P	**P**	**06 28 23.7**	**+2.3**
	comp=Z,1.0nm,0.5s,baz=85,slow=6.7,SNR=4.1						
AKASG	**Malin Array Be**	**83.18**	**324**	P	**P**	**06 28 45.4**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=52,slow=4.6,SNR=2.6						
LPAZ	**La Paz**	**148.69**	**76**	PKPbc	**PKiKP**	**06 36 08.4**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=346,slow=4.2,SNR=2.3						

IDC 03 06:18:16.0±2.1**, 4°38S**×**153°23E, h0**km**, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.6**/35**, mbtmp3.7**/4**, Error ellipse: s-maj=48.9km s-min=36.7km az=18.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**21.76**	**145**	P	P	06 23 09.8	+0.3
	3.8nm,0.9s,baz=0.0,slow=9.1,SNR=7.1						
WRA	**Warramunga Arr**	**24.05**	**228**	P	P	06 23 33.7	+0.5
	1.2nm,0.4s,baz=54,slow=9.9,SNR=28						
ASAR	**Alice Springs**	**26.75**	**222**	P	P	06 23 57.5	-0.2
	0.3nm,0.8s,baz=55,slow=8.6,SNR=2.1						
VNDA	**Vanda**	**73.24**	**178**	P	P	06 29 48.3	-0.3
	0.8nm,0.7s,baz=333,slow=6.7,SNR=6.6						
TORD	**Torodi Ar. Bea**	**150.58**	**289**	PKPbc	PKPbc	06 38 10.6	-0.5
	0.9nm,0.9s,baz=80,slow=1.9,SNR=6.5						

NOU 03 06:37:53.7, 15°32S×**173°27W, h0**km**, MLv3.7**/4**, Tonga Islands, Tonga Islands**

MEX 03 06:58:12.1±0.6**, 18°83N**×**102°83W, h95**km±12km**, MD3.7, Michoacan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.73**	**222**	*e*P	Pn	06 58 27.8	-1.5
MMIG				*e*S	Sn	06 58 40.4	-1.8
COIG	**Colima**	**0.88**	**293**	*e*P	Pn	06 58 29.6	-1.4
COIG				*e*S	Sn	06 58 43.8	-1.3
EZ5V		**0.97**	**312**	*e*P	Pn	06 58 30.6	-1.5
EZ5V				*e*S	Sn	06 58 45.5	-1.6
R15V		**1.14**	**287**	*e*P	Pn	06 58 33.8	+0.1
R15V				*e*S	Sn	06 58 50.8	+0.7
ZIIG	**Zihuatanejo**	**1.78**	**133**	*e*P	Pn	06 58 40.6	-1.1
ZIIG				*e*S	Sn	06 59 03.5	-0.6
CJM	**Chamela**	**2.19**	**288**	*e*P	Pn	06 58 50.8	+3.8
CJM				*e*S	Sn	06 59 19.1	+5.4

DJA 03 07:05:01.0±0.8**, 8°S**±4°×**10°8E**±°**, h17**km±6km**, M4.1**/12**, mb4.5**/1**, MLv3.9**/12**, Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.82**	**42**	P	Pb	07 05 16.9	0.0
CMJI				S	Sb	07 05 27.1	-0.6
CISI	**Cisompet, Garu**	**0.84**	**355**	P	Pn	07 05 17.9	-0.3
CNJI	**Cibinong**	**1.32**	**325**	P	Pn	07 05 25.0	+0.3
KPJI	**Karang Pucung**	**1.48**	**44**	P	Pb	07 05 27.7	-0.4
LEM	**Lembang**	**1.59**	**350**	P	Pb	07 05 30.6	+0.6
CTJI	**Waduk Cacaban**	**1.89**	**43**	P	Pn	07 05 33.5	+1.0
CTJI				S	Sn	07 05 56.9	+1.0
SKJI	**Sukabumi**	**1.92**	**316**	P	Pn	07 05 33.4	+0.5
SKJI				S	Sn	07 05 56.4	-0.2
DBJI	**Dramaga**	**2.15**	**328**	P	Pn	07 05 35.8	-0.4
UGM	**Wanagama**	**2.65**	**80**	P	Pn	07 05 41.6	-1.4
CGJI	**Cibinong**	**2.81**	**309**	P	Pn	07 05 44.3	-0.9
PCJI	**Pacitan**	**3.26**	**87**	P	Pn	07 05 51.3	-0.1
PWJI	**Pagerwojo**	**3.89**	**85**	P	Pn	07 06 00.2	+0.1
SJI	**Sawahan**	**3.90**	**81**	P	Pn	07 06 00.6	+0.4
EGSI	**Enggano, Bengk**	**6.34**	**298**	P	Pn	07 06 34.7	+0.9

*IDC **03** 07:16:38.9±7.6, 31°01S×179°03W, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.5/26, mbtmp3.5/2, Error ellipse: s-maj=316.4km s-min=61.3km az=157.0*

*WEL **03** 07:17:27.2±0.5, 31°S±4°×17°8E±°, h33km, M4.5/21, mB4.9/10, ML5.1/25, MLv4.9/21, Mw(mB)4.2/10, Error ellipse: s-maj=0.0km s-min=0.0km az=111.1*

ISC 03 07:17:23.8±1.0**, 31°63S**±0°09×**179°7W**±0°2**, h400**km**, n57, σ2s11**/73**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.80**	**33**	P	**Pn**	**07 18 25.7**	**+0.3**
GLKZ				S	**S**	**07 19 15.3**	**+0.1**
MXZ	**Matakaoa Point**	**6.15**	**195**	S	**S**	**07 20 13.2**	**-1.6**
WMGZ	**Waiomatatini S**	**6.38**	**194**	P	**Pn**	**07 19 02.6**	**+2.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WMGZ				S	S	07 20 20.6	+1.3
HAZ	Te Kaha	6.47	198	P	Pn	07 19 03.9	+2.5
HAZ				S	S	07 20 19.1	-1.9
PUZ	Puketiti	6.65	194	P	P	07 19 07.5	+3.4
PUZ				S	S	07 20 22.7	-2.2
URZ	Urewera	7.13	201	P	Pn	07 19 09.6	+0.9
URZ				S	S	07 20 33.5	-1.0
TOZ	Tahuroa Road	7.27	212	P	P	07 19 14.3	+3.3
HRRZ	Handcock Road	7.52	205	P	P	07 19 17.1	+3.4
SNGZ	Shannon Statio	7.55	198	P	Pn	07 19 13.4	-0.1
SNGZ				S	S	07 20 41.3	-2.0
PRRZ	Plateau Road	7.58	204	P	P	07 19 17.1	+2.8
TLZ	Tolley Road	7.76	209	P	P	07 19 19.6	+3.2
ARHZ	Aropaoanui	8.09	199	P	Pn	07 19 21.7	+2.0
ARHZ				S	S	07 20 52.1	-2.5
BKZ	Black Stump Fm	8.15	202	P	Pn	07 19 21.3	+0.9
BKZ				S	S	07 20 53.3	-2.7
HIZ	Hauiti	8.21	212	P	P	07 19 24.9	+3.6
NTVZ	North Tongarir	8.37	206	P	P	07 19 26.1	+2.9
KWHZ	Kaweka Forest	8.41	201	P	Pn	07 19 24.4	+1.0
KWHZ				S	S	07 20 59.1	-2.3
WTVZ	West Tongariro	8.41	206	P	P	07 19 26.3	+2.6
NNVZ	North Ngauruho	8.42	206	P	P	07 19 26.5	+2.6
SNVZ	South Ngauruho	8.46	206	P	Pn	07 19 26.3	+2.3
NGZ	Ngauruhoe	8.46	206	P	Pn	07 19 26.4	+2.3
NGZ				S	S	07 21 03.0	+0.2
FWVZ	Far West T-bar	8.55	206	P	Pn	07 19 27.1	+1.9
WHVZ	Whangaehu Hut	8.56	206	P	Pn	07 19 27.3	+2.0
WHVZ				S	S	07 21 03.9	-1.1
BHHZ	Black Hill Sta	8.58	203	P	Pn	07 19 26.3	+1.0
BHHZ				S	S	07 21 00.4	-4.7
TRVZ	Turoa	8.59	206	P	Pn	07 19 27.7	+2.1
WNVZ	Wahianoa	8.60	205	P	Pn	07 19 26.1	+0.5
WNVZ				S	S	07 21 02.5	-3.1
MOVZ	Moawhango	8.61	204	P	Pn	07 19 26.8	+1.0
MOVZ				S	S	07 21 00.2	-5.6
KAHZ	Kahuranaki	8.62	198	P	Pn	07 19 28.3	+2.5
KAHZ				S	S	07 21 04.5	-1.4
KRHZ	Kereru	8.62	201	P	Pn	07 19 26.9	+1.1
KRHZ				S	S	07 21 01.8	-4.2
MTVZ	Mangateitei	8.70	206	P	Pn	07 19 29.0	+2.3
PXZ	Pawanui	8.85	198	P	Pn	07 19 31.0	+2.7
PXZ				S	S	07 21 07.6	-2.9
PNHZ	Pukenui	8.92	201	P	P	07 19 29.7	+0.3
PNHZ				S	S	07 21 07.5	-4.8
TSZ	Takapari Road	9.13	202	P	P	07 19 32.2	+0.6
TSZ				S	S	07 21 11.1	-5.5
PKE	Pukeiti	9.15	213	P	Pn	07 19 36.5	+4.6
NEZ	North Egmont	9.16	212	P	Pn	07 19 36.4	+4.3
DVHZ	Dannevirke	9.29	200	P	P	07 19 34.2	+0.9
DVHZ				S	S	07 21 14.0	-5.9
ANWZ	Angora Road	9.35	198	P	Pn	07 19 36.6	+2.5
ANWZ				S	S	07 21 18.7	-2.4
PRWZ	Pori Road	9.58	200	P	P	07 19 33.8	-2.8
PRWZ				S	S	07 21 20.3	-5.6
BFZ	Birch Farm	9.62	199	P	P	07 19 37.9	+0.9
BFZ				S	S	07 21 22.9	-3.8
MRZ	Mangatainoka R	9.80	202	P	P	07 19 38.6	-0.3
MRZ				S	S	07 21 24.1	-6.2
TIWZ	Tintock	9.81	200	P	P	07 19 40.7	+1.6
TIWZ				S	S	07 21 27.1	-3.6
HOWZ	Holdsworth Sta	10.03	201	P	P	07 19 42.5	+0.9
OGWZ	Otaki Gorge	10.07	203	P	P	07 19 41.4	-0.6
TMWZ	Te Maipa	10.11	199	P	P	07 19 44.3	+1.8
KIW	Kapiti Island	10.20	204	P	P	07 19 44.0	+0.6
MTW	Mount Morrison	10.28	201	P	P	07 19 45.1	+0.8
CAW	Cannon Point	10.37	203	P	P	07 19 45.4	+0.1
PAWZ	Paruwai Farm	10.50	201	P	P	07 19 48.0	+1.2
DUWZ	D'Urville Isla	10.52	208	P	P	07 19 46.7	-0.2
MSWZ	Moikau Station	10.59	201	P	P	07 19 47.4	-0.3
PLWZ	Palliser	10.73	201	P	P	07 19 50.6	+1.3
TUWZ	Tuamarina	11.05	206	P	P	07 19 52.5	-0.3
NNZ	Nelson	11.08	208	P	P	07 19 53.0	-0.2
QRZ	Quartz Range	11.13	212	P	P	07 19 53.7	0.0
BSWZ	Blackbirch Sta	11.32	205	P	P	07 19 56.0	+0.2
ASAR	Alice Springs	41.63	269	P	P	07 24 32.3	-2.8
	0.4nm,0.9s,baz=105,slow=7.1,SNR=2.1						
WRA	Warramunga Arr	42.74	274	P	P	07 24 42.9	-1.1
	0.3nm,0.3s,baz=111,slow=8.0,SNR=17						
FINES	FINESS Array B	145.78	338	PKPbc	PKiKP	07 36 17.2	-1.7
	2.0nm,0.9s,baz=64,slow=4.4,SNR=4.3						

NNC 03 07:21:06.8±2.8**, 53°.50N×90°.58E, h0**^{km}**, mb3.6, mpv3.3, 7C-3D, Error ellipse: s-maj=25.4km s-min=19.0km az=53.0, Suspected Mining explosion., Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	3.45	280	⇑Pn	Pn	07 22 02.2	+0.5
	0.5nm,0.6s						
ZAA0				⇑Pg	Pb	07 22 09.6	+0.8
	1.5nm,0.8s						
ZAA0				⇑Lg	Lg	07 22 56.9	
	13nm,0.9s						
KURBB	Kurchatov Arra	7.97	254	⇑Pn	Pn	07 23 01.2	-2.6
	2.0nm,0.3s						
KURBB				⇑Sn	Sn	07 24 35.8	+1.3
	32nm,0.7s						
KURBB				⇓Lg	Lg	07 25 22.7	
	33nm,0.8s						
MK31	Makanchi Array	8.57	222	⇑Pn	Pn	07 23 13.9	+1.9
	1.6nm,0.7s,baz=40,slow=13,SNR=6.3						
MK31				⇓Lg	Lg	07 25 39.1	
	11nm,1.1s,baz=40,slow=30,SNR=4.2						
MAKZ	Makanchi	8.68	223	⇓Pn	Pn	07 23 13.2	-0.4
	10nm,0.9s						
MAKZ				⇑Lg	Lg	07 25 40.9	
	5.3nm,0.8s						

*NEIC **03** 07:21:23.1±0.5, 37°.28N±0°.02×98°.12W±0°.02, h8^{km}±4^{km}, mb_Lg2.7/51, Error ellipse: s-maj=2.6km s-min=1.9km az=193.0*

*ANF **03** 07:21:24.3±0.5, 37°.28N×98°.08W, h8^{km}, ML3.3/14, Error ellipse: s-maj=7.6km s-min=4.1km az=52.0*

ISC 03 07:21:23.1±1.0**, 37°.28N**±0°.03×**98°.11W**±0°.03**, h6**^{km}±8^{km}**, n63, σ0^s.58**/47**, Kansas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAN12	Harper NE Stat	0.09	79		Pg	07 21 25.4	+0.2
KAN12				Sg	Sg	07 21 26.9	+0.3
KAN08	Anthony NE Sta	0.12	115		Pg	07 21 25.8	+0.1
KAN10	Anthony SW Sta	0.16	175		Pg	07 21 26.2	-0.1
KAN05	Bluff City Nor	0.26	132		Pg	07 21 28.2	+0.1
KAN05				Sg	Sg	07 21 31.7	+0.2
KAN14	Manchester OK	0.34	160		Pg	07 21 29.9	+0.1
KAN14				Sg	Sg	07 21 34.5	+0.2
KAN17	Caldwell West	0.36	130		Pg	07 21 30.1	0.0
KS20	Mayfield South	0.45	96		Pg	07 21 31.7	0.0
KS20				Sg	Sg	07 21 37.8	+0.2
GC02	Grant County #	0.47	155		Pg	07 21 32.2	0.0
OK032	Salt Plains WL	0.48	189		Pg	07 21 32.4	+0.1
KAN13	South Haven SW	0.57	118		Pg	07 21 34.0	-0.1
KAN13				Sg	Sg	07 21 41.4	-0.1
CROK	Carrier	0.78	172		Pg	07 21 37.8	-0.3
BLOK	Blackwell	0.89	126		Pg	07 21 39.6	-0.5
U32A	Winter Ranch,	1.15	219	Pg	Pg	07 21 44.9	-0.2
R32A	Long Quarter,	1.23	338		Pb	07 21 46.5	-0.3
R32A	Long Quarter,	1.23	338	P	Pb	07 21 46.6	-0.3
	baz=157						
T35A	Sooner Cattle	1.33	105		Pn	07 21 47.6	-0.6
T35B	Sooner Cattle	1.33	105	P	Pn	07 21 47.8	-0.4
	baz=286,SNR=99						
T35B				S	Sb	07 22 05.0	-0.7
	baz=286						
OK029	Liberty Lake	1.57	160		Pn	07 21 51.6	+0.1
QUOK	Quay	1.58	134		Pn	07 21 51.8	+0.2
OK031	S. Brethren Rd	1.67	142		Pn	07 21 53.1	+0.2
OK025	Westminster Rd	1.81	160		Pn	07 21 55.1	+0.4
OKCFA	Oklahoma City	1.94	164	Pn	Pn	07 21 56.9	+0.4
CBKS	Cedar Bluff	2.00	321		Pb	07 21 58.9	-0.9
CBKS	Cedar Bluff	2.00	321	P	Pb	07 21 58.7	-1.1
	baz=140,SNR=36						
CBKS				S	Sg	07 22 26.6	-0.7
	baz=140						
KSU1	Kansas State U	2.17	33		Pb	07 22 01.5	-1.2
KSU1				IAmb_Lg		07 22 32.8	
	comp=Z,27nm,0.7s						
KSU1	Kansas State U	2.17	33	P	Pb	07 22 01.8	-0.9
	baz=214,SNR=5.9						
KSU1				S	Sb	07 22 29.9	+0.1
	baz=214						
TUL1	Leonard	2.31	126	P	Pn	07 22 02.4	+0.7
	baz=307,SNR=52						
TUL1				S	Sb	07 22 34.3	+0.3
	baz=307						
WMOK	Wichita Mounta	2.59	192		Pn	07 22 06.2	+0.7
WMOK	Wichita Mounta	2.59	192	P	Pn	07 22 06.4	+0.8
	baz=12,SNR=11						
U38A	Gravette	3.10	105	P	Pn	07 22 13.6	+1.0
	baz=287,SNR=26						
X37A	Clayton	3.49	140	IAmb_Lg		07 23 19.5	
	comp=Z,22nm,0.8s						
X37A	Clayton	3.49	140	P	Pn	07 22 18.5	+0.7
	baz=321,SNR=55						
N33B	J Bar K, Exete	3.49	8	S	Sn	07 23 00.4	+0.9
	baz=189						
HHAR	Hobbs	3.49	105	IAmb_Lg		07 23 20.2	
	comp=Z,18nm,0.7s						
HHAR	Hobbs	3.49	105	P	Pn	07 22 18.9	+1.0
	baz=288						
S39A	Bolivar	3.83	82	P	Pn	07 22 23.0	+0.5
	baz=265,SNR=19						
KSCO	Kaye Shedlock'	3.96	297	IAmb_Lg		07 23 33.9	
	comp=Z,14nm,0.8s						
W39A	Magazine	4.07	119	IAmb_Lg		07 23 38.4	
	comp=Z,24nm,0.9s						
BGNE	Belgrade	4.12	360	IAmb_Lg		07 23 36.8	
	comp=Z,21nm,0.7s						
BGNE	Belgrade	4.12	360	P	Pn	07 22 27.6	+1.1
	baz=180,SNR=5.7						
P38A	Dawn	4.29	56	IAmb_Lg		07 23 42.3	
	comp=Z,14nm,0.8s						
U40A	Yellville	4.32	101	IAmb_Lg		07 23 38.8	
	comp=Z,13nm,0.8s						
U40A	Yellville	4.32	101	P	Pn	07 22 30.1	+0.9
	baz=284,SNR=48						
MIAR	Mount Ida	4.58	125	P	Pn	07 22 33.5	+0.7
	baz=308,SNR=57						
R40A	Maddies Statio	4.74	76	IAmb_Lg		07 23 55.0	
	comp=Z,14nm,0.8s						
R40A	Maddies Statio	4.74	76	P	Pn	07 22 35.3	+0.3
	baz=260,SNR=30						
Z38A	Mt. Pleasant	4.76	147	IAmb_Lg		07 24 02.0	
	comp=Z,17nm,0.8s						
OGNE	Ogallala	4.76	321	IAmb_Lg		07 24 06.5	
	comp=Z,12nm,0.9s						
FCAR	Ozark Folk Cen	5.01	104	IAmb_Lg		07 24 02.7	
	comp=Z,12nm,0.8s						
T25A	Trinidad	5.03	270	IAmb_Lg		07 24 03.2	
	comp=Z,10nm,0.8s						
WHAR	Wooly Hollow	5.11	111	IAmb_Lg		07 24 16.8	
	comp=Z,15nm,0.8s						
N38A	Joes South For	5.17	46	IAmb_Lg		07 24 09.7	
	comp=Z,16nm,0.7s						
P40A	Paris	5.26	63	IAmb_Lg		07 24 17.6	
	comp=Z,14nm,0.9s						
CCM	Cathedral Cave	5.50	80	IAmb_Lg		07 24 21.3	
	comp=Z,10nm,0.7s						
LCAR	Lake Charles	5.72	100	IAmb_Lg		07 24 24.9	
	comp=Z,11nm,0.7s						
SCIA	State Center	5.97	38	IAmb_Lg		07 24 40.0	
	comp=Z,13nm,0.8s						
PBMO	Poplar Bluff	6.17	92	IAmb_Lg		07 24 51.9	
	comp=Z,13nm,0.7s						
N41A	Harden Midland	6.61	57	IAmb_Lg		07 25 06.6	
	comp=Z,11nm,0.7s						
JCT	Junction City	6.93	192	IAmb_Lg		07 25 14.6	
	comp=Z,9.3nm,1.1s						
L40A	Anamosa	7.14	46	IAmb_Lg		07 25 14.4	
	comp=Z,10nm,0.7s						
W45A	Hickory Valley	7.52	104	IAmb_Lg		07 25 31.1	
	comp=Z,10nm,0.8s						
O44A	Mansfield	8.07	66	IAmb_Lg		07 25 56.8	
	comp=Z,8.3nm,0.8s						
JFWS	Jewell Farm	8.24	45	IAmb_Lg		07 25 47.2	
	comp=Z,7.9nm,0.7s						

*IDC **03** 07:30:31.2±2.3, 3°.51S×128°.03E, h0^{km}, mb4.0/2, mb1 4.2/3, mb1mx3.7/33, mbtmp4.0/3, ML3.3/1, Error ellipse: s-maj=200.8km s-min=27.0km az=67.0*

*DJA **03** 07:30:32.8±1.3, 3°S±5°×13°0E±°, h12^{km}±12^{km}, M3.9/7, mb4.1/1, MLv3.8/7*

ISC 03 07:30:31.4±0.9**, 2°.72S**±0°.06×**129°.64E**±0°.06**, h10**^{km}**, n11, σ2^s.09**/14**, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSAI	Masohi	0.95	229	P	Pg	07 30 50.6	+0.9
MSAI				S	Sn	07 31 05.9	+1.5
KRAI	Karang Ratu	1.38	245	P	Pn	07 30 58.0	+1.2
BNDI	Bandanaira	1.81	172	P	Pn	07 31 05.3	+2.6
SIJI	Sorong	2.45	41	P	Pn	07 31 12.4	+0.8
SIJI				S	Sn	07 31 43.0	+1.4
SWI	Sorong	2.45	41	P	Pn	07 31 13.0	+1.4
SWI				S	Sn	07 31 42.8	+1.2
FAKI	Fak Fak	2.61	94	P	Pn	07 31 15.0	+1.3
SANI	Sanana	3.71	280	P	Pn	07 31 28.3	-0.6
GTOI	Gorontalo	7.42	297	P	Pn	07 32 22.5	+2.6
WRA	Warramunga Arr	17.72	165	P	Pn	07 34 34.4	-4.1
	0.1nm,0.3s,baz=341,slow=13,SNR=3.5						
ASAR	Alice Springs	21.23	169	P	P	07 35 15.6	-2.2
	5.2nm,0.6s,baz=346,slow=10,SNR=23						
MKAR	Makanchi Array	64.49	326	P	P	07 41 08.2	-0.3
	1.1nm,0.6s,baz=116,slow=8.0,SNR=8.1						

*NEIC **03** 07:32:46.1±1.8, 15°.47S±0°.09×174°.71W±0°.09, h212^{km}±5^{km}, mb5.2/212, Error ellipse: s-maj=13.2km s-min=11.7km az=207.0*

*BJI **03** 07:32:46.6±0.0, 14°.93S×174°.24W, h235^{km}, mB5.1/33, mb4.9/56*

*IDC **03** 07:32:47.7±0.5, 15°.40S×174°.83W, h230^{km}±4^{km}, mb4.6/25, mb1 4.7/27, mb1mx4.7/32, mbtmp5.2/27, Error ellipse: s-maj=11.6km s-min=8.5km az=159.0*

*NOU **03** 07:32:47.6, 15°.52S×174°.65W, h238^{km}, mb5.2/78, Tonga Islands*

*MOS **03** 07:32:48.5±1.0, 15°.39S×174°.81W, h249^{km}, mb5.1/34, Error ellipse: s-maj=8.8km s-min=7.1km az=148.3*

*BGR **03** 07:32:48.7±0.0, 15°.98S×174°.23W, h241^{km}*

*GCMT **03** 07:32:52.1±0.1, 15°.43S±0°.01×174°.61W±0°.01, h245^{km}, MW5.5/140, Moment Tensor Solution. s140,c230; s135,c256; Duration: 1^s.3 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.15±.02; $M_{\theta\theta}$-0.20±.02; $M_{\phi\phi}$1.35±.02; $M_{r\theta}$0.75±.02; $M_{\theta\phi}$1.03±.02; $M_{\phi r}$-0.69±.02; Best double couple: $M_0$1.91800×10^{17} NP1:ϕ_s238.00000°, δ51.00000°, λ-38.00000°. NP2:ϕ_s354.00000°, δ61.00000°, λ-134.00000°. Principal axes: T 1.8930, Plg6.0000°, Azm114.0000°; N 0.0490, Plg38.0000°, Azm20.0000°; P -1.9420, Plg51.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 07:32:48.0±0.3**, 15°.54S**±0°.05×**174°.69W**±0°.04**, h238**^{km}±2^{km}**, h238**^{km}**:pP-P, n1023, σ1^s.06**/1076**, mb5.2**/237**, 44C-54D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIUE	Niue	5.75	128	P	Pn	07 34 10.9	-1.9
	baz=5.8,SNR=46						
NIUE				S	S	07 35 16.8	-3.4
	baz=5.8						
NIUE	Niue	5.75	128		Pn	07 34 11.8	-0.9
NIUE	Niue	5.75	128	P	Pn	07 34 12.6	-0.1
MSVF	Nonsavu	7.29	252	P	Pn	07 34 35.2	+2.8
	3.6nm,0.3s,baz=92,slow=9.0,SNR=65						
MSVF	Nonsavu	7.29	252c	iP	Pn	07 34 34.4	+2.1
MSVF	Nonsavu	7.29	252		Pn	07 34 34.5	+2.2
FUNA	Funafuti	9.18	319		Pn	07 34 55.8	-0.7
FUNA	Funafuti	9.18	319	P	Pn	07 34 56.7	+0.3
RAR	Rarotonga	15.24	114	P	Pn	07 36 12.8	+1.2
	2.0nm,0.3s,baz=246,slow=9.6,SNR=7.6						
RAR	Rarotonga	15.24	114	P	P	07 36 10.5	-0.7
MARNC	Mare, Loyalty	17.41	248	P	P	07 36 34.1	-0.9
MARNC	Mare, Loyalty	17.41	248	P	P	07 36 34.7	-0.4
SANVU	Saraoutou	17.45	268	P	P	07 36 35.7	+0.2
SANVU				IAmb	IAmb	07 36 39.0	
	comp=Z,156nm,1.2s						
SANVU	Saraoutou	17.45	268	P	P	07 36 35.7	+0.2
LIFNC	LIFOU	17.94	250	P	P	07 36 41.2	+0.4
LIFNC	LIFOU	17.94	250	P	P	07 36 40.8	0.0
PINNC	Pines Island,	18.28	245	P	P	07 36 43.9	-0.5
PINNC	Pines Island,	18.28	245	P	P	07 36 43.8	-0.6
YATNC	Mamie plateau,	18.59	247	P	P	07 36 48.3	+0.4
OUENC	Ouen Island, N	18.75	246	P	P	07 36 48.8	-0.7
OUENC	Ouen Island, N	18.75	246	P	P	07 36 49.8	+0.3
DZM	Mont Dzumac	18.99	247	eP	P	07 36 51.3	-1.0
	comp=Z,276nm,1.3s						
DZM	Mont Dzumac	18.99	247	P	P	07 36 51.0	-1.3
	comp=Z,0.9nm,0.3s,baz=71,slow=18,SNR=29						
DZM	Mont Dzumac	18.99	247	P	P	07 36 51.3	-1.0
DZM	Mont Dzumac	18.99	247	P	P	07 36 52.4	+0.1
ONTNC	Ouen Toro	19.05	246		P	07 36 52.8	0.0
ONTNC	Ouen Toro	19.05	246	P	P	07 36 52.5	-0.3
NOUC	Port Laguerre	19.13	247	P	P	07 36 53.9	+0.3
KOUNC	Koumac, New Ca	20.59	253	P	P	07 37 09.0	-0.3
TARA	Tarawa	20.78	323		P	07 37 10.2	-1.1
TARA	Tarawa	20.78	323	P	P	07 37 11.4	+0.1
	comp=Z,490nm,1.1s						
URZ	Urewera	23.76	196	P	P	07 37 36.7	-2.2
	comp=Z,157nm,0.8s,baz=352,slow=3.0,SNR=32						
URZ				S	S	07 41 42.3	+5.9
	comp=Z,19nm,1.0s,baz=130,slow=16,SNR=2.1						
PAE	Paea	24.15	99	eP	P	07 37 42.8	+0.1
	comp=Z,29nm,0.9s						
PPT	Papeete	24.15	98	P	P	07 37 45.6	+2.9
	comp=Z,115nm,1.0s,baz=286,slow=18,SNR=3.3						
PPT2	Papeete2	24.15	98	eP	P	07 37 43.4	+0.6
	comp=Z,121nm,1.1s						
BKZ	Black Stump Fm	24.77	197	P	P	07 37 46.0	-2.1
BKZ				IAmb	IAmb	07 37 51.4	
	comp=Z,38nm,0.8s						
PMOR	Pomariorio Ree	25.85	92	eP	P	07 37 58.7	+0.6
	comp=Z,261nm,1.3s						
BFZ	Birch Farm	26.26	196	P	P	07 38 00.3	-1.2
QRZ	Quartz Range	27.53	201	P	P	07 38 11.9	-0.8
TUWZ	Tuamarina	27.61	199	P	P	07 38 12.1	-1.4
THZ	Tophouse	28.24	200	P	P	07 38 18.5	-0.6
THZ				IAmb	IAmb	07 38 20.1	
	comp=Z,44nm,0.7s						
KHZ	Kahutara	28.63	198	P	P	07 38 21.4	-1.1
KHZ				IAmb	IAmb	07 38 23.7	
	comp=Z,49nm,0.8s						
ARMA	Armidale	34.20	238	P	P	07 39 10.8	-0.6
	baz=34,SNR=9.5						
ARMA	Armidale	34.20	238	P	P	07 39 10.9	-0.5
RMQ	Roma	35.70	246	P	P	07 39 24.0	-0.1
	baz=36,SNR=5.0						
CTA	Charters Tower	37.40	257	P	P	07 39 37.6	-1.0
	comp=Z,20nm,0.9s,baz=99,slow=11,SNR=14						
CTA				PcP	PcP	07 41 53.1	+1.0
	comp=Z,11nm,0.8s,baz=17,slow=1.5,SNR=6.6						
CTA	Charters Tower	37.40	257	P	P	07 39 37.6	-1.0
CTAO	Charters Tower	37.40	257	P	P	07 39 37.5	-1.0
CTAO				pmax	pmax		
	comp=Z,31nm,1.1s						
CTAO	Charters Tower	37.40	257	P	P	07 39 37.5	-1.0
CNB	Canberra Magne	37.68	232	P	P	07 39 40.5	-0.3
	baz=38,SNR=25						
CAN	Canberra	37.96	232	P	P	07 39 42.1	-1.0
CAN				pmax	pmax		
	comp=Z,37nm,0.8s						
CAN	Canberra	37.96	232	P	P	07 39 42.1	-1.0
CAN				IAmb	IAmb	07 39 43.5	
	comp=Z,37nm,0.8s						
WAKE	Wake Island	39.17	331	P	P	07 39 53.0	-0.2
MTSU	Mount Surprise	39.26	260	P	P	07 39 53.6	-0.5
	baz=39,SNR=43						
CMSA	Cobar Meteorol	39.41	239	P	P	07 39 54.9	-0.2
	baz=40,SNR=31						
QLP	Quilpie	39.72	247	P	P	07 39 57.1	-0.6
	baz=40,SNR=14						
COEN	Coen	40.73	267	P	P	07 40 06.2	+0.1
COEN				IAmb	IAmb	07 40 07.7	
	comp=Z,102nm,1.3s						
TOO	Toolangi	41.41	230	P	P	07 40 10.8	-0.6
	baz=42,SNR=16						
TOO	Toolangi	41.41	230	P	P	07 40 10.3	-1.2
TOO				pmax	pmax		
	comp=Z,125nm,1.1s						
TOO	Toolangi	41.41	230	P	P	07 40 10.3	-1.2
TOO				IAmb	IAmb	07 40 12.3	
	comp=Z,125nm,1.1s						
STKA	Stephens Creek	42.89	240	P	P	07 40 23.3	-0.1
	baz=43,SNR=12						
STKA	Stephens Creek	42.89	240	P	P	07 40 22.9	-0.4
	comp=Z,25nm,0.8s,baz=95,slow=11,SNR=37						
STKA				PcP	PcP	07 42 11.1	+1.4
	comp=Z,19nm,0.7s,baz=117,slow=5.8,SNR=8.2						
STKA	Stephens Creek	42.89	240	P	P	07 40 23.0	-0.4
STKA						07 42 11.1	
STKA	Stephens Creek	42.89	240	P	P	07 40 22.4	-0.9
STKA	Stephens Creek	42.89	240		PcP	07 42 11.1	+1.4
QIS	Mount Isa	43.63	256	P	P	07 40 28.6	-0.9
	baz=44,SNR=7.9						
ARPS	Mount Arapiles	43.91	233	P	P	07 40 31.1	-0.3
	baz=44,SNR=7.4						
HTT	Hallett	45.41	238	P	P	07 40 42.9	-0.5
	baz=46,SNR=20						
JAY	Jayapura	45.80	282	P	P	07 40 47.2	+0.6
	comp=Z,14nm,0.6s,baz=21,slow=5.6,SNR=4.5						
JAY	Jayapura	45.80	282	P	P	07 40 47.2	+0.6
BBOO	Buckleboo	47.66	240	P	P	07 40 59.9	-0.9
	baz=48,SNR=34						
BBOO	Buckleboo	47.66	240	P	P	07 40 59.6	-1.2
BBOO				IAmb	IAmb	07 41 01.8	
	comp=Z,48nm,0.7s						
WB2	Warramunga Arr	48.59	257	P	P	07 41 07.4	-0.6
WB2				IAmb	IAmb	07 41 08.8	
	comp=Z,96nm,0.9s						
WRAB	Tennant Creek	48.59	257	P	P	07 41 08.0	-0.1
WRAB				pmax	pmax		
	comp=Z,95nm,1.0s						
WRAB	Tennant Creek	48.59	257	P	P	07 41 08.0	-0.1
WRAB				IAmb	IAmb	07 41 08.8	
	comp=Z,95nm,1.0s						
WRA	Warramunga Arr	48.60	257	P	P	07 41 06.5	-1.6
	comp=Z,60nm,0.9s,baz=92,slow=7.2,SNR=135						
WRA				PcP	PcP	07 42 30.2	+0.3
	comp=Z,21nm,0.8s,baz=89,slow=3.9,SNR=11						
WRA				PKiKP	PKiKP	07 49 18.0	-0.9
	comp=Z,0.4nm,0.6s,baz=87,slow=0.8,SNR=4.6						
WRA	Warramunga Arr	48.60	257	P	P	07 41 06.6	-1.6
WRA						07 42 30.3	
WRA	Warramunga Arr	48.60	257	P	P	07 41 06.1	-2.0
WRA	Warramunga Arr	48.60	257		PcP	07 42 30.2	+0.3
AS31	Alice Springs	48.88	252	P	P	07 41 09.7	-0.5
AS31				IAmb	IAmb	07 41 11.4	
	comp=Z,102nm,0.8s						
ASAR	Alice Springs	48.88	252	P	P	07 41 09.3	-0.9
	comp=Z,395nm,0.8s,baz=89,slow=7.9,SNR=837						
ASAR				PcP	PcP	07 42 31.2	+0.2
	comp=Z,24nm,0.7s,baz=99,slow=4.1,SNR=8.0						
ASAR				S	S	07 47 51.2	-4.4
	comp=Z,5.5nm,1.1s,baz=84,slow=16,SNR=15						
ASAR				PKiKP	PKiKP	07 49 17.4	-1.6
	comp=Z,0.4nm,0.5s,baz=99,slow=1.5,SNR=4.6						
ASAR	Alice Springs	48.88	252	P	P	07 41 10.3	0.0
ASAR						07 42 31.2	
ASAR	Alice Springs	48.88	252	P	P	07 41 10.3	0.0
ASAR	Alice Springs	48.88	252		PcP	07 42 31.2	+0.2
GUMO	Guam	49.37	304	P	P	07 41 12.4	-1.5
	comp=Z,53nm,0.8s,baz=165,slow=19,SNR=2.2						
GUMO	Guam	49.37	304	P	P	07 41 13.9	0.0
GUMO				pmax	pmax		
	comp=Z,504nm,1.7s						
GUMO	Guam	49.37	304	P	P	07 41 13.9	0.0
SRPI	Serui, Papua	50.22	281	P	P	07 41 21.3	+0.9
	comp=Z,498nm,0.4s						
KDU	Kakadu	51.22	266	P	P	07 41 26.9	-0.9
	baz=51,SNR=9.8						
MTN	Manton Dam	52.48	266	P	P	07 41 36.2	-0.9
	baz=52,SNR=21						
MTN	Manton Dam	52.48	266	P	P	07 41 36.8	-0.4
WRKA	Warakurna	53.98	250	P	P	07 41 47.2	-0.8
	baz=54,SNR=63						
FORT	Forrest	54.24	243	P	P	07 41 48.3	-1.4
	baz=54,SNR=69						
FORT	Forrest	54.24	243	P	P	07 41 48.8	-0.9
KNRA	Kununurra	54.31	262	P	P	07 41 49.6	-0.8
	baz=54,SNR=16						
KNRA	Kununurra	54.31	262	P	P	07 41 50.2	-0.2
KNRA				IAmb	IAmb	07 41 52.1	
	comp=Z,30nm,0.7s						
SIJI	Sorong	55.26	280	P	P	07 41 56.4	-0.8

comp=Z,149nm,0.9s,baz=92,slow=6.2,SNR=18
SIJI Sorong 55.26 280 P **P** **07 41 56.1 -1.1**
comp=Z,18µmcomp=Z,103nm,0.9s
SIJI Sorong 55.26 280 P **P** **07 41 55.6 -1.6**
comp=Z,18µmcomp=Z,103nm,0.9s
SWI Sorong 55.26 280 P **P** **07 41 56.9 -0.3**
comp=Z,2µmcomp=Z,227nm,0.8s
SWI Sorong 55.26 280 P **P** **07 41 56.2 -1.0**
comp=Z,2µmcomp=Z,227nm,0.8s
FITZ Fitzroy Crossi 56.96 258 P **P** **07 42 08.0 -1.2**
baz=57,SNR=6.0
KRAI Karang Ratu 57.27 276 P **P** **07 42 11.4 0.0**
comp=Z,66nm,1.0s
KRAI Karang Ratu 57.27 276 P **P** **07 42 10.9 -0.5**
comp=Z,66nm,1.0s
SOEI Soe 59.68 268 P **P** **07 42 29.4 +1.3**
SOEI Soe 59.68 268 P **P** **07 42 29.0 +0.8**
comp=Z,2µmcomp=Z,166nm,1.1s
SOEI Soe 59.68 268 P **P** **07 42 28.8 +0.6**
comp=Z,2µmcomp=Z,166nm,1.1s
SANI Sanana 59.94 277 P **P** **07 42 29.2 -0.6**
comp=Z,1µmcomp=Z,89nm,1.1s
SANI Sanana 59.94 277 P **P** **07 42 29.0 -0.8**
comp=Z,1µmcomp=Z,89nm,1.1s
MMRI Maumere 61.88 268 P **P** **07 42 42.3 -0.5**
comp=Z,153nm,1.2s
PSA00 Pilbara Seismi 61.97 254 P **P** **07 42 42.8 -0.5**
PSA00 IAmb IAmb 07 42 43.6
comp=Z,55nm,0.9s
EDFI Ende, Flores 62.38 268 P **P** **07 42 45.1 -1.2**
comp=Z,811nmcomp=Z,107nm,0.8s
EDFI Ende, Flores 62.38 268 P **P** **07 42 44.9 -1.4**
comp=Z,811nmcomp=Z,107nm,0.8s
MEEK Meekatharra 62.61 248 P **P** **07 42 46.4 -1.1**
baz=63,SNR=11
KMSI Cibinong 62.63 279 P **P** **07 42 47.6 -0.2**
comp=Z,127nm,0.6s
SBA Scott Base 63.01 184 P **P** **07 42 52.4 +3.2**
SBA pmax pmax
comp=Z,107nm,0.8s
SBA Scott Base 63.01 184 P **P** **07 42 52.4 +3.2**
VNDA Vanda 63.11 186 P **P** **07 42 52.0 +2.1**
comp=Z,66nm,0.9s,baz=6.0,slow=6.6,SNR=290
VNDA PcP **PcP** **07 43 27.2 +1.9**
comp=Z,7.9nm,1.0s,baz=333,slow=2.2,SNR=3.9
VNDA Vanda 63.11 186 P **P** **07 42 52.2 +2.3**
VNDA pmax pmax
comp=Z,95nm,1.0s
VNDA Vanda 63.11 186 P **P** **07 42 52.1 +2.3**
NWAO Narrogin (SRO) 63.46 241 P **P** **07 42 52.8 -0.2**
baz=64,SNR=5.4
NWAO Narrogin (SRO) 63.46 241 P **P** **07 42 53.5 +0.5**
GTOI Gorontalo 63.57 279 P **P** **07 42 54.0 0.0**
comp=Z,341nmcomp=Z,22nm,0.9s
GTOI Gorontalo 63.57 279 P **P** **07 42 53.4 -0.6**
comp=Z,341nmcomp=Z,22nm,0.9s
BLDU Ballidu 64.02 243 P **P** **07 42 55.8 -0.9**
baz=64,SNR=20
BSSI Bau Bau, Buton 64.14 271 P **P** **07 42 56.9 -0.8**
comp=Z,44nm,0.8s
MUN Mundaring 64.37 242 P **P** **07 42 58.7 -0.2**
baz=64,SNR=10
WBSI Waikabubak, Su 64.40 267 P **P** **07 42 58.5 -0.9**
comp=Z,75nm,1.4s
APSI Ampana 64.42 277 P **P** **07 43 00.0 +0.5**
comp=Z,1µmcomp=Z,121nm,1.1s
APSI Ampana 64.42 277 P **P** **07 42 59.8 +0.3**
comp=Z,1µmcomp=Z,121nm,1.1s
MRSI Marisa 64.54 278 P **P** **07 43 00.0 -0.3**
comp=Z,36nm,0.7s
MORW Morawa 64.70 245 P **P** **07 43 00.2 -0.9**
baz=65,SNR=8.9
MORW Morawa 64.70 245 P **P** **07 43 00.8 -0.3**
BKSI Bulukumba 64.70 271 P **P** **07 43 00.1 -1.2**
comp=Z,407nmcomp=Z,27nm,0.9s
BKSI Bulukumba 64.70 271 P **P** **07 43 00.1 -1.2**
comp=Z,407nmcomp=Z,27nm,0.9s
BNSI Bone 64.95 272 P **P** **07 43 03.2 +0.3**
comp=Z,943nmcomp=Z,100nm,1.0s
BNSI Bone 64.95 272 P **P** **07 43 02.9 0.0**
comp=Z,941nmcomp=Z,100nm,1.0s
KAPI Kappang 65.14 272 P **P** **07 43 04.2 +0.1**
comp=Z,28nm,0.8s,baz=176,slow=4.3,SNR=14
KAPI Kappang 65.14 272 P **P** **07 43 03.5 -0.6**
KAPI IAmb IAmb 07 43 05.0
comp=Z,35nm,0.8s
KAPI Kappang 65.14 272 P **P** **07 43 04.0 -0.2**
comp=Z,558nmcomp=Z,54nm,0.9s
KAPI Kappang 65.14 272 P **P** **07 43 03.9 -0.2**
comp=Z,558nmcomp=Z,54nm,0.9s
TTSI Tana Toraja 65.58 274 P **P** **07 43 07.5 +0.5**
TOLI2 Tolitoli 65.84 278 P **P** **07 43 07.7 -0.9**
TOLI2 IAmb IAmb 07 43 09.2
comp=Z,29nm,0.9s
PLAI Plampang 66.13 267 P **P** **07 43 09.9 -0.6**
comp=Z,71nm,0.8s
PLAI Plampang 66.13 267 P **P** **07 43 09.6 -0.9**
comp=Z,71nm,0.8s
PMSI Majene 66.33 273 P **P** **07 43 12.6 +0.8**
comp=Z,162nm,1.1s
MPSI Mapaga 66.45 277 P **P** **07 43 12.2 -0.3**
comp=Z,2µmcomp=Z,110nm,0.8s
MPSI Mapaga 66.45 277 P **P** **07 43 11.7 -0.8**
comp=Z,2µmcomp=Z,110nm,0.8s
JYT Yasato 66.84 321 P **P** **07 43 12.8 -1.6**
JYT IAmb IAmb 07 43 15.3
comp=Z,99nm,1.5s
GIRL Giralia 67.00 252 P **P** **07 43 16.8 +0.9**
baz=67,SNR=9.6
GIRL Giralia 67.00 252 P **P** **07 43 16.2 +0.4**
TWSI Taliwang, Sumb 67.01 267 P **P** **07 43 15.6 -0.4**
comp=Z,1µmcomp=Z,157nm,0.8s
TWSI Taliwang, Sumb 67.01 267 P **P** **07 43 15.1 -0.9**
comp=Z,1µmcomp=Z,157nm,0.8s
JSG Sagara 67.06 319 P **P** **07 43 15.8 -0.1**
KIWB Kanaga Island 67.14 358 P **P** **07 43 15.4 -0.6**
KLNI Mataram 67.84 267 P **P** **07 43 20.3 -0.9**
comp=Z,52nm,1.6s
MJAR Matsushiro Arr 68.25 321 P **P** **07 43 22.6 -0.8**
comp=Z,2.6nm,0.4s,baz=153,slow=5.8,SNR=9.8
MJAR Matsushiro Arr 68.25 321 P **P** **07 43 22.5 -0.8**
MAJO Matsushiro 68.25 321 *i* P **P** **07 43 22.5 -0.8**
MAJO pmax pmax
comp=Z,4.0nm,0.4s
MAJO Matsushiro 68.25 321 P **P** **07 43 23.0 -0.3**
MAT Matsushiro 68.25 321 P **P** **07 43 22.6 -0.7**
MAT S **S** **07 52 02.8 -1.7**
NIKH Nikolski High 68.42 4 P **P** **07 43 25.8 +1.9**
baz=186
SRBI Singaraja 68.77 267 P **P** **07 43 25.9 -1.1**
comp=Z,133nm,1.0s
SRBI Singaraja 68.77 267 P **P** **07 43 26.2 -0.8**
comp=Z,133nm,1.0s
KBKI Kotabaru 69.03 272 P **P** **07 43 29.3 +0.7**
comp=Z,107nm,0.9s
KBKI Kotabaru 69.03 272 P **P** **07 43 29.2 +0.7**
comp=Z,107nm,0.9s
JSD Sado 69.19 322 P **P** **07 43 28.8 -0.2**
JWT Wachi 69.22 318 P **P** **07 43 29.2 -0.1**
UNV Unalaska Valle 69.46 5 P **P** **07 43 32.0 +1.7**
baz=188
JOW Kunigami 69.57 307 P **P** **07 43 31.4 -0.1**
comp=Z,24nm,0.9s,baz=153,slow=9.0,SNR=2.2
JAGI Jajag, Banyuwa 69.70 267 P **P** **07 43 31.2 -1.5**
JAGI Jajag, Banyuwa 69.70 267 P **P** **07 43 31.6 -1.1**
comp=Z,2µmcomp=Z,301nm,0.9s
CASY Casey 69.76 205 P **P** **07 43 31.9 -0.2**
ABJI Asem Bagus 69.78 267 P **P** **07 43 33.3 +0.2**
comp=Z,128nm,1.3s
BBKI Banjar Baru 70.27 272 P **P** **07 43 37.1 +1.0**
comp=Z,106nm,1.0s
BBKI Banjar Baru 70.27 272 P **P** **07 43 36.7 +0.6**
comp=Z,106nm,1.0s
JHS Saijyo 70.55 317 P **P** **07 43 36.8 -0.6**
JHS IAmb IAmb 07 43 38.6
comp=Z,26nm,0.7s
SPMM Sapulut 71.03 281 P **P** **07 43 41.0 +0.2**
KRKI Karangkates 71.41 266 P **P** **07 43 43.5 +0.5**
comp=Z,23µmcomp=Z,241nm,0.7s
SDPT Sand Point 71.63 8 P **P** **07 43 42.5 -0.8**
baz=194
GRJI Gresik 71.68 268 P **P** **07 43 45.7 +1.1**
comp=Z,1µmcomp=Z,174nm,0.7s
GRJI Gresik 71.68 268 P **P** **07 43 46.0 +1.4**
comp=Z,1µmcomp=Z,174nm,0.7s
SCZ2 Santa Cruz Isl 71.91 46 P **P** **07 43 46.4 +0.8**
baz=236

PET Petropavlovsk 72.05 343 *e*P **P** **07 43 41.9 -4.0**
PET *e*S **S** **07 52 43.7 -4.0**
PET pmax pmax
comp=Z,17nm,1.5s
PWJI Pagerwojo 72.06 266 P **P** **07 43 46.7 -0.2**
comp=Z,198nm,0.7s
PWJI Pagerwojo 72.06 266 P **P** **07 43 46.2 -0.7**
comp=Z,198nm,0.7s
SCI2 San Clemente I 72.12 47 P **P** **07 43 47.9 +1.2**
baz=237
SJI Sawahan 72.17 267 P **P** **07 43 47.9 +0.3**
comp=Z,5µmcomp=Z,174nm,0.9s
SJI Sawahan 72.17 267 P **P** **07 43 47.6 0.0**
comp=Z,5µmcomp=Z,174nm,0.9s
SAO San Andreas Ge 72.27 42 P **P** **07 43 48.9 +1.2**
SAO pmax pmax
comp=Z,51nm,1.5s
SAO San Andreas Ge 72.27 42 P **P** **07 43 48.9 +1.2**
SAO IAmb IAmb 07 43 50.3
comp=Z,51nm,1.4s
PKM Mcpherson Peak 72.29 45 P **P** **07 43 49.5 +1.5**
baz=236
TBJI Tambak Boyo 72.31 268 P **P** **07 43 48.6 +0.3**
comp=Z,3µmcomp=Z,344nm,0.8s
PMPB Monarch Peak 72.38 43 P **P** **07 43 49.3 +0.9**
PMPB IAmb IAmb 07 43 51.3
comp=Z,64nm,1.4s
PEA0B Petropavlovsk- 72.39 343 *i* P **P** **07 43 47.6 -0.4**
PEA0B *i* *PP **pwP** **07 44 48.4 +2.7**
PEA0B Petropavlovsk- 72.39 343 P **P** **07 43 47.1 -0.8**
PETK Petropavlovsk- 72.39 343 P **P** **07 43 47.0 -1.0**
comp=Z,36nm,0.8s,baz=120,slow=8.8,SNR=54
PETK Petropavlovsk- 72.39 343 P **P** **07 43 47.2 -0.8**
PETK Petropavlovsk- 72.39 343 P **P** **07 43 47.1 -0.8**
SMMC Simmler 72.40 44 P **P** **07 43 50.2 +1.8**
baz=236
CIS Catalina Islan 72.44 47 P **P** **07 43 49.8 +1.1**
baz=237
PAGB Antelope Grade 72.47 44 P **P** **07 43 50.0 +1.2**
HOPS Hopland Field 72.57 40 P **P** **07 43 51.1 +1.7**
HOPS IAmb IAmb 07 43 52.0
comp=Z,63nm,1.2s
YOJ Yonaguni jima 72.62 302 P **P** **07 43 49.5 -0.4**
YOJ pmax pmax
comp=Z,32nm,0.6s
YOJ Yonaguni jima 72.62 302 P **P** **07 43 49.5 -0.4**
YOJ IAmb IAmb 07 43 50.3
comp=Z,32nm,0.6s
PCJI Pacitan 72.63 266 P **P** **07 43 50.5 +0.3**
comp=Z,6µmcomp=Z,615nm,0.7s
PCJI Pacitan 72.63 266 P **P** **07 43 49.9 -0.3**
comp=Z,6µmcomp=Z,615nm,0.7s
GDXM Geysers 72.63 40 P **P** **07 43 51.0 +1.2**
CHGN Chignik 72.86 9 P **P** **07 43 49.8 -0.8**
CHGN IAmb IAmb 07 44 44.4
comp=Z,38nm,1.0s
KMRM Mail Ridge 72.94 38 P **P** **07 43 52.2 +0.7**
DECC Green Verdugo 72.95 46 P **P** **07 43 52.7 +0.9**
baz=237
YSS Yuzh-Sakhalins 73.00 331 *e*P **P** **07 43 51.8 +0.2**
YSS *e**PP **pP** **07 44 47.2 +0.6**
YSS *eS **S** **07 52 58.0 -0.6**
YSS *e* 07 53 33.0
YSS pmax pmax
comp=Z,30nm,0.8s
YSS smax smax
comp=E,200nm,7.7s
ARVC Arvin 73.09 45 P **P** **07 43 53.7 +1.2**
baz=236
109C Camp Elliot, M 73.09 48 P **P** **07 43 53.7 +1.2**
baz=238
CBX Cerro Bola 73.11 49 P **P** **07 43 53.0 +0.2**
MWC Mount Wilson 73.13 46 P **P** **07 43 53.5 +0.5**
MWC pmax pmax
comp=Z,30nm,1.1s
MWC Mount Wilson 73.13 46 P **P** **07 43 53.5 +0.5**
VES Vestal, Richgr 73.31 44 P **P** **07 43 54.8 +1.1**
baz=236
UGM Wanagama 73.32 266 P **P** **07 43 54.0 -0.3**
UGM Wanagama 73.32 266 P **P** **07 43 54.3 0.0**
comp=Z,251nm,0.8s
UGM Wanagama 73.32 266 P **P** **07 43 53.8 -0.5**
comp=Z,252nm,0.8s
KHMM Horse Mountain 73.33 38 P **P** **07 43 54.2 +0.3**
VOG Valley Oaks Go 73.38 44 P **P** **07 43 55.1 +1.0**
baz=236
MURC Murrieta 73.40 47 P **P** **07 43 55.4 +1.0**
baz=238,SNR=7.0
BFSC Mount Baldy Ra 73.42 46 P **P** **07 43 55.2 +0.7**
baz=238,SNR=8.0
O02D Mt. Diablo Mer 73.47 39 P **P** **07 43 56.4 +1.7**
baz=232,SNR=13
PBKI Pangkalan Bun 73.52 272 P **P** **07 43 56.3 +0.9**
comp=Z,341nm,1.0s
PBKI Pangkalan Bun 73.52 272 P **P** **07 43 56.3 +0.9**
comp=Z,341nm,1.0s
EDW2 Edwards Air Fo 73.53 46 P **P** **07 43 56.4 +1.3**
baz=237,SNR=22
YOGI Yogyakarta 73.56 266 P **P** **07 43 55.2 -0.5**
comp=Z,248nm,1.1s
YULB Yu-li 73.56 301 P **P** **07 43 54.1 -1.4**
MONP2 Monument Peak 73.58 48 P **P** **07 43 56.9 +1.2**
baz=239,SNR=13
SMRI Semarang 73.61 267 P **P** **07 43 55.5 -0.5**
comp=Z,246nm,0.8s
ISA Isabella, Lake 73.63 45 P **P** **07 43 56.1 +0.4**
ISA pmax pmax
comp=Z,46nm,1.4s
ISA Isabella, Lake 73.63 45 P **P** **07 43 56.1 +0.4**
ISA IAmb IAmb 07 43 58.3
comp=Z,46nm,1.4s
ISA Isabella, Lake 73.63 45 P **P** **07 43 56.9 +1.2**
baz=237,SNR=19
NACB Ninganchiao 73.66 301 P **P** **07 43 55.0 -0.9**
IKP In-Ko-Pah, Jac 73.69 49 P **P** **07 43 57.3 +1.2**
baz=239,SNR=6.5
CMB Columbia Colle 73.70 42 P **P** **07 43 56.5 +0.5**
CMB pmax pmax
comp=Z,25nm,1.1s
CMB Columbia Colle 73.70 42 P **P** **07 43 56.5 +0.5**
SII Sitkinak Islan 73.85 12 P **P** **07 43 56.4 0.0**
baz=201
WDC Whiskeytown Da 73.86 39 P **P** **07 43 57.5 +0.6**
WDC pmax pmax
comp=Z,36nm,1.3s
WDC Whiskeytown Da 73.86 39 P **P** **07 43 57.5 +0.6**
ORV Oroville 73.88 40 P **P** **07 43 57.4 +0.4**
ORV pmax pmax
comp=Z,13nm,1.0s
ORV Oroville 73.88 40 P **P** **07 43 57.4 +0.4**
KBO Bosley Butte 73.89 37 P **P** **07 43 58.0 +1.0**
PFO Pinyon Flats O 73.93 48 P **P** **07 43 57.7 +0.1**
PFO pmax pmax
comp=Z,30nm,1.4s
PFO Pinyon Flats O 73.93 48 P **P** **07 43 57.7 +0.1**
PFO Pinyon Flats O 73.93 48 P **P** **07 43 58.4 +0.8**
baz=238,SNR=9.4
TPFO Pinon Flats 73.93 48 P **P** **07 43 58.5 +0.9**
baz=238,SNR=12
BBRC Big Bear Solar 73.95 47 P **P** **07 43 58.6 +0.8**
baz=238
N02D Trinity Center 74.01 38 P **P** **07 43 59.3 +1.5**
baz=232,SNR=13
YHNB Yeheng 74.05 302 P **P** **07 43 57.1 -1.2**
YHNB IAmb IAmb 07 43 59.2
comp=Z,93nm,1.4s
SWSC Sam W. Stewart 74.06 48 P **P** **07 43 59.1 +1.0**
baz=239
LRMC Laurel Mtn Rad 74.07 45 P **P** **07 43 59.4 +1.1**
baz=237
O03E Paynes Creek 74.14 39 P **P** **07 43 59.5 +0.9**
baz=233,SNR=21
M02C Callahan 74.17 38 P **P** **07 44 00.1 +1.3**
baz=232,SNR=11
L02E Cave Junction 74.21 37 P **P** **07 44 00.1 +1.3**
baz=231
RRX Edison Barstow 74.22 46 P **P** **07 44 00.2 +1.1**
baz=238
MDPB Devils Postpil 74.32 43 P **P** **07 44 00.3 +0.5**
CWC Cottonwood Cre 74.32 44 P **P** **07 44 00.8 +1.0**
baz=237
SBUM Sibu 74.41 277 P **P** **07 44 01.0 +0.4**
STKI Sintang 74.45 274 P **P** **07 44 01.4 +0.6**
comp=Z,57nm,0.9s
STKI Sintang 74.45 274 P **P** **07 44 01.4 +0.6**
comp=Z,57nm,0.9s

BELC Belle Mtn. Jos 74.46 47 P **P** **07 44 01.7 +1.1**
baz=239,SNR=16
YBH Yreka Blue Hor 74.47 38 P **P** **07 44 01.2 +0.8**
YBH pmax pmax
comp=Z,43nm,1.0s
YBH Yreka Blue Hor 74.47 38 P **P** **07 44 01.2 +0.8**
YBH IAmb IAmb 07 44 03.1
comp=Z,43nm,1.0s
MLAC Mammoth, Mammo 74.48 43 P **P** **07 44 01.9 +1.1**
baz=236
QSPA South Pole Qui 74.50 180 P **P** **07 44 01.5 +1.2**
K02D Willamette Mer 74.51 36 P **P** **07 44 02.0 +1.4**
baz=231,SNR=7.2
TIN Tinemaha, Big 74.56 44 P **P** **07 44 02.1 +1.1**
baz=236
GSC Goldstone, Bar 74.58 46 P **P** **07 44 02.2 +1.0**
baz=238,SNR=17
OHAK Old Harbor 74.65 12 P **P** **07 44 00.9 -0.1**
baz=201
J01E Myrtle Point 74.65 36 P **P** **07 44 01.9 +0.6**
baz=231
HEC Hector,Ludlow 74.66 47 P **P** **07 44 02.6 +0.9**
baz=238,SNR=24
BC3 Big Chuckawall 74.67 48 P **P** **07 44 03.3 +1.5**
baz=239,SNR=9.8
BEKR Beckworth 74.78 40 P **P** **07 44 02.7 +0.4**
PNTR Pine Nut 74.81 41 P **P** **07 44 03.6 +1.0**
PNTR IAmb IAmb 07 44 05.0
comp=Z,54nm,1.0s
GLA Glamis 74.82 49 P **P** **07 44 03.5 +0.9**
GLA pmax pmax
comp=Z,26nm,1.1s
GLA Glamis 74.82 49 P **P** **07 44 03.5 +0.9**
GLA Glamis 74.82 49 P **P** **07 44 03.7 +1.1**
baz=240
CTJI Waduk Cacaban 74.83 267 P **P** **07 44 03.0 0.0**
comp=Z,2µmcomp=Z,123nm,0.9s
CTJI Waduk Cacaban 74.83 267 P **P** **07 44 03.0 0.0**
comp=Z,2µmcomp=Z,123nm,0.9s
YERR Yerington 74.98 42 P **P** **07 44 03.7 +0.1**
YERR IAmb IAmb 07 44 05.8
comp=Z,46nm,1.2s
KPJI Karang Pucung 74.99 266 P **P** **07 44 02.9 -1.0**
comp=Z,137nm,0.8s
KPJI Karang Pucung 74.99 266 P **P** **07 44 03.7 -0.2**
comp=Z,137nm,0.8s
L04D Klamath Falls 75.00 38 P **P** **07 44 04.7 +1.2**
baz=232,SNR=12
M04C Macdoel 75.02 38 P **P** **07 44 04.8 +1.2**
baz=233,SNR=25
LHV Little Huntoon 75.04 43 P **P** **07 44 04.0 +0.4**
LHV IAmb IAmb 07 44 06.4
comp=Z,46nm,1.1s
GRAC Grapevine Rang 75.10 44 P **P** **07 44 05.4 +1.3**
baz=237,SNR=6.6
GMRC Granite Mounta 75.11 47 P **P** **07 44 05.4 +1.1**
baz=239,SNR=17
IRM Iron Mountain 75.15 48 P **P** **07 44 05.8 +1.3**
baz=239,SNR=16
FURC Furnace Creek, 75.16 45 P **P** **07 44 05.5 +1.2**
baz=238,SNR=11
RYN Ryan 75.24 42 P **P** **07 44 05.6 +0.6**
SHOC Shoshone, Teco 75.26 46 P **P** **07 44 05.8 +0.8**
baz=238,SNR=6.7
TUQ Turquoise Moun 75.26 46 P **P** **07 44 06.2 +1.1**
baz=238,SNR=14
NVAR Mina Array Bea 75.27 43 P **P** **07 44 06.4 +1.1**
comp=Z,18nm,0.9s,baz=228,slow=9.3,SNR=131
NVAR pP **pP** **07 44 59.7 -0.6**
comp=Z,5.1nm,0.9s,baz=231,slow=10.0,SNR=3.2
NVAR PKPPKP **P'P'df** **08 11 21.3 -5.8**
comp=Z,0.1nm,0.3s,baz=108,slow=2.6,SNR=3.8
KDAK Kodiak Island 75.31 12 P **P** **07 44 04.9 +0.2**
baz=202
I03D Drain, OR 75.32 36 P **P** **07 44 06.6 +1.5**
baz=231
CMJI Cimerak 75.35 266 P **P** **07 44 04.6 -1.3**
comp=Z,67nm,0.7s
KSRS Korea Array 75.39 316 P **P** **07 44 06.8 +1.1**
comp=Z,4.0nm,0.9s,baz=125,slow=6.3,SNR=16
113A Mohawk Valley, 75.45 50 P **P** **07 44 06.4 +0.3**
K04D Chiloquin, OR 75.58 37 P **P** **07 44 07.7 +1.0**
baz=232
J04D Umpqua Nationa 75.75 37 P **P** **07 44 09.0 +1.2**
baz=232,SNR=19
KVN Kaiserville 75.75 42 P **P** **07 44 08.1 +0.2**
KVN pmax pmax
comp=Z,39nm,1.2s
KVN Kaiserville 75.75 42 P **P** **07 44 08.1 +0.2**
KVN IAmb IAmb 07 44 10.1
comp=Z,39nm,1.2s
214A Organ Pipe Nat 75.76 51 P **P** **07 44 08.7 +0.7**
214A Organ Pipe Nat 75.76 51 P **P** **07 44 09.2 +1.3**
baz=241,SNR=7.6
TPH Tonopah 75.79 43 P **P** **07 44 09.0 +0.8**
TPH pmax pmax
comp=Z,187nm,1.2s
TPH Tonopah 75.79 43 P **P** **07 44 09.0 +0.8**
TPNV Topopah Spring 75.83 45 P **P** **07 44 09.5 +1.1**
baz=238,SNR=20
BUCK Buck Mountain 75.84 36 P **P** **07 44 08.3 +0.1**
BUCK IAmb IAmb 07 44 10.6
comp=Z,80nm,1.2s
I04A Tendick Farm, 75.91 36 P **P** **07 44 09.3 +0.7**
baz=232,SNR=7.4
PDMCI Parker Dam,Lak 75.94 48 P **P** **07 44 10.2 +1.4**
baz=240,SNR=18
KSM Kuching 75.96 276 P **P** **07 44 10.0 +0.6**
CISI Cisompet, Garu 76.01 266 P **P** **07 44 08.6 -1.2**
comp=Z,1µmcomp=Z,111nm,0.7s
CISI Cisompet, Garu 76.01 266 P **P** **07 44 08.3 -1.5**
comp=Z,1µmcomp=Z,111nm,0.7s
K05A Summer Lake 76.14 38 P **P** **07 44 11.4 +1.3**
K05A IAmb IAmb 07 44 12.7
comp=Z,66nm,1.0s
Q19K Cape Douglas, 76.18 11 P **P** **07 44 09.2 -0.5**
baz=201
H04D Lebanon 76.18 35 P **P** **07 44 11.2 +1.3**
baz=231,SNR=8.7
J05D Fort Rock, OR 76.28 37 P **P** **07 44 12.0 +1.3**
baz=233,SNR=43
G03D McMinnville, O 76.32 35 P **P** **07 44 12.0 +1.2**
baz=231,SNR=5.2
SHPR Sheep Range 76.34 46 P **P** **07 44 12.2 +0.8**
LEM Lembang 76.38 267 P **P** **07 44 12.5 +0.5**
comp=Z,210nm,0.6s,baz=129,slow=16,SNR=43
LEM Lembang 76.38 267 P **P** **07 44 11.9 -0.1**
comp=Z,2µmcomp=Z,196nm,0.8s
QZH Quanzhou 76.46 301 P **P** **07 44 12.2 +0.3**
QZH S **S** **07 53 38.8 +1.0**
QZH pmax pmax
comp=Z,27nm,0.7s
W13A Hualapai Mount 76.52 47 P **P** **07 44 13.1 +0.8**
H04A Detroit Lake 76.59 36 P **P** **07 44 12.8 +0.4**
H04A IAmb IAmb 07 44 14.0
comp=Z,91nm,1.4s
CNJI Cibinong 76.73 266 P **P** **07 44 10.8 -2.9**
comp=Z,6µmcomp=Z,252nm,1.1s
USRK Ussuriysk Ar. 76.75 324 P **P** **07 44 13.8 +0.6**
comp=Z,2.2nm,0.6s,baz=121,slow=6.1,SNR=7.7
O18K Koktuh Hills 76.78 10 P **P** **07 44 12.7 -0.3**
baz=199,SNR=13
I05D Terrebonne, OR 76.86 36 P **P** **07 44 14.7 +0.8**
baz=232,SNR=13
P19K Oil Pt 76.93 11 P **P** **07 44 13.5 -0.4**
baz=201,SNR=7.9
F04D Rainier, OR 77.01 34 P **P** **07 44 15.8 +1.3**
baz=231
R11A Troy Canyon, C 77.02 44 P **P** **07 44 15.9 +0.8**
baz=238,SNR=28
SSE Sheshan 77.05 308 P **P** **07 44 16.8 +1.7**
SSE S **S** **07 53 45.2 +1.2**
SSE pmax pmax
comp=Z,13nm,0.6s
SSE pmax pmax
comp=Z,26nm,4.2s
SSE LR LR
comp=Z,90nm,20.2s
SSE LR LR
comp=Z,53nm,23.8s
CBJI Citeko 77.22 267 P **P** **07 44 15.4 -1.1**
comp=Z,203nm,0.5s
HOM Homer 77.24 12 P **P** **07 44 15.2 -0.3**
baz=203
O19K Port Alsworth 77.25 10 P **P** **07 44 15.1 -0.4**
O19K IAmb IAmb 07 44 16.4
comp=Z,99nm,1.4s

O19K Port Alsworth 77.25 10 P P 07 44 15.1 -0.4
baz=200,SNR=14
DBJI Dramaga 77.28 267 P P 07 44 16.9 +0.1
comp=Z,14µcomp=Z,213nm,1.0s
DBJI Dramaga 77.28 267 P P 07 44 16.7 -0.1
comp=Z,14µcomp=Z,213nm,1.0s
WVOR Wild Horse Val 77.32 39 P P 07 44 16.9 +0.3
WVOR pmax pmax
comp=Z,49nm,1.1s
WVOR Wild Horse Val 77.32 39 P P 07 44 16.9 +0.3
WVOR lAmb lAmb 07 44 18.8
comp=Z,49nm,1.1s
SKJI Sukabumi 77.36 266 P P 07 44 16.8 -0.4
comp=Z,5µcomp=Z,513nm,0.9s
SKJI Sukabumi 77.36 266 P P 07 44 16.3 -0.9
comp=Z,5µcomp=Z,512nm,0.9s
TPI Tanjungpandan 77.38 271 P P 07 44 17.7 +0.4
comp=Z,912nmcomp=Z,85nm,1.0s
TPI Tanjungpandan 77.38 271 P P 07 44 17.7 +0.4
comp=Z,912nmcomp=Z,85nm,1.0s
G05D Wamic, OR 77.42 36 P P 07 44 17.8 +0.8
baz=232,SNR=8.1
O20K Slope Mountain 77.44 11 P P 07 44 16.4 -0.4
baz=202,SNR=7.3
TUC Tucson 77.45 51 P P 07 44 18.3 +0.9
TUC pmax pmax
comp=Z,21nm,0.9s
TUC Tucson 77.45 51 P P 07 44 18.3 +0.9
TUC Tucson 77.45 51 P P 07 44 19.1 +1.7
baz=242
N18K Kilae Creek 77.45 9 P P 07 44 16.4 -0.3
baz=199,SNR=5.7
BRSE Bradley Lake S 77.50 12 P P 07 44 16.8 -0.2
baz=204
E04D Cinebar 77.55 34 P P 07 44 18.8 +1.3
baz=231,SNR=13
F05D White Salmon 77.73 35 P P 07 44 19.5 +0.9
baz=232,SNR=11
I07A Izee 77.76 37 P P 07 44 19.3 +0.3
I07A lAmb lAmb 07 44 21.3
comp=Z,42nm,1.2s
N19K Bonanza Creek 77.80 10 P P 07 44 17.9 -0.8
N19K lAmb lAmb 07 45 14.5
comp=Z,60nm,1.4s
N19K Bonanza Creek 77.80 10 P P 07 44 18.1 -0.6
baz=200,SNR=10
D04E Lakebay 77.83 33 P P 07 44 20.2 +1.1
baz=231
LCMT Little Creek M 77.93 46 P P 07 44 20.7 +0.7
X16A Lo Mia Camp, P 77.95 49 P P 07 44 21.5 +1.3
X16A lAmb lAmb 07 44 23.2
comp=Z,36nm,1.0s
SBJI Serang 77.99 267 P P 07 44 19.9 -0.8
comp=Z,14µcomp=Z,310nm,0.9s
SEW Seward 78.09 13 P P 07 44 19.7 -0.5
baz=205
319A Douglas 78.17 53 P P 07 44 22.5 +1.1
319A lAmb lAmb 07 44 24.2
comp=Z,31nm,0.9s
D05A Enumclaw 78.25 34 P P 07 44 22.4 +1.0
U15A North Rim 78.30 47 P P 07 44 22.8 +0.5
U15A lAmb lAmb 07 44 25.2
comp=Z,44nm,1.1s
CAPN Captain Cook N 78.36 12 P P 07 44 22.3 +0.7
baz=203
O22K Cooper Landing 78.38 12 P P 07 44 21.4 -0.3
O22K Cooper Landing 78.38 12 P P 07 44 21.5 -0.3
baz=204
MDJ Mudanjiang 78.38 323 P P 07 44 23.7 +1.5
MDJ S S 07 53 59.6 +1.9
MDJ sS sS 07 55 35.1 0.0
MDJ pmax pmax
comp=Z,11nm,1.0s
MDJ pmax pmax
comp=Z,170nm,4.7s
PGC Sidney 78.41 32 P P 07 44 21.9 -0.3
PGC lAmb lAmb 07 44 24.1
comp=Z,52nm,1.0s
WUAZ Wupatki 78.52 48 P P 07 44 24.7 +1.4
baz=242,SNR=28
SPCR Spurr Chakacha 78.56 11 P P 07 44 22.3 -0.6
baz=202
F07A Phinny Hill Vi 78.59 36 P P 07 44 23.6 +0.3
M19K Big River Lodg 78.85 10 P P 07 44 23.7 -0.6
baz=200,SNR=6.5
B05A Bryant 78.87 33 P P 07 44 25.7 +1.0
baz=231,SNR=21
FIS Fire Island 78.89 12 P P 07 44 24.6 +0.1
FIS lAmb lAmb 07 44 25.5
comp=Z,52nm,0.7s
RC01 Rabbit Creek A 78.94 12 P P 07 44 24.4 -0.4
baz=204,SNR=15
CRAG Craig 78.94 23 P P 07 44 25.7 +0.8
baz=221
PPBI Pangkal Pinang 78.99 271 P P 07 44 26.7 +0.5
comp=Z,18µcomp=Z,142nm,1.1s
PPBI Pangkal Pinang 78.99 271 P P 07 44 26.7 +0.5
comp=Z,18µcomp=Z,142nm,1.1s
LTY Liberty 79.00 34 P P 07 44 24.9 -0.7
PWL Port Wells 79.02 13 P P 07 44 23.9 -1.4
PWL lAmb lAmb 07 44 26.0
comp=Z,56nm,1.2s
E07A Sunnyside 79.03 35 P P 07 44 26.2 +0.5
E07A lAmb lAmb 07 44 27.8
comp=Z,52nm,1.0s
L19K White Mountain 79.04 9 P P 07 44 24.9 -0.5
baz=200
M20K Styx River 79.04 10 P P 07 44 24.5 -1.0
baz=201,SNR=6.0
SUA Susitna One 79.08 11 P P 07 44 25.1 -0.7
baz=204,SNR=26
KAIM Kayak Island 79.09 15 P P 07 44 26.0 +0.3
KAIM lAmb lAmb 07 44 27.2
comp=Z,56nm,0.8s
KAIM Kayak Island 79.09 15 P P 07 44 26.2 +0.5
baz=210,SNR=13
NJ2 Nanjing 79.26 308 *e*P P 07 44 27.6 +0.4
NJ2 pmax pmax
comp=Z,18nm,0.9s
C06D Leavenworth 79.29 34 P P 07 44 27.8 +0.7
baz=232
GLI Glacier Island 79.30 13 P P 07 44 26.3 -0.5
baz=207,SNR=25
EYAK Cordova Ski Ar 79.32 14 P P 07 44 26.2 -0.7
baz=208
MVU Marysvale 79.38 45 P P 07 44 28.6 +0.6
MSU Marysvale 79.41 45 P P 07 44 29.5 +1.3
MSU Marysvale 79.41 45 P P 07 44 29.5 +1.3
SKT Skwentna 79.41 11 P P 07 44 26.0 -1.4
baz=203,SNR=8.3
E08A Dider Farm, El 79.43 35 P P 07 44 27.7 -0.1
E08A lAmb lAmb 07 44 29.9
comp=Z,81nm,1.3s
RAGM Ragged Mountai 79.43 15 P P 07 44 27.3 -0.2
L20K Farewell, AK 79.47 10 P P 07 44 27.3 -0.4
baz=200,SNR=8.9
HMT Hamilton 79.49 15 P P 07 44 27.2 -0.7
KNK Knik Glacier 79.49 12 P P 07 44 27.4 -0.4
baz=206,SNR=12
BMO Blue Mountains 79.49 38 P P 07 44 28.5 +0.2
BMO pmax pmax
comp=Z,39nm,1.2s
BMO Blue Mountains 79.49 38 P P 07 44 28.5 +0.2
BMO lAmb lAmb 07 44 30.1
comp=Z,39nm,1.1s
W18A Petrified Fore 79.51 49 P P 07 44 29.4 +0.6
W18A Petrified Fore 79.51 49 P P 07 44 30.0 +1.2
baz=243,SNR=6.6
PMR Palmer 79.52 12 P P 07 44 27.1 -0.8
PMR pmax pmax
comp=Z,48nm,1.3s
PMR Palmer 79.52 12 P P 07 44 27.1 -0.8
PMR lAmb lAmb 07 45 24.1
comp=Z,48nm,1.3s
PMR Palmer 79.52 12 P P 07 44 27.5 -0.4
baz=205,SNR=22
MFID Camas Ranch 79.58 39 P P 07 44 29.2 +0.3
MFID lAmb lAmb 07 44 30.8
comp=Z,32nm,1.0s
121A Cookes Peak, D 79.81 52 P P 07 44 31.9 +1.5
baz=244
DUG Dugway, Tooele 79.81 43 P P 07 44 31.1 +0.9
baz=240,SNR=17
SML Sawmill 79.87 12 P P 07 44 29.4 -0.6
baz=206,SNR=7.2
MA2 Magadan 79.93 343 *i* P P 07 44 29.3 -0.9
MA2 pmax pmax
comp=Z,18nm,1.0s
MA2 Magadan 79.93 343 P P 07 44 28.7 -1.5
MESA MESA 79.94 16 P P 07 44 30.1 -0.4
MESA lAmb lAmb 07 44 32.1
comp=Z,67nm,1.1s
MESA MESA 79.94 16 P P 07 44 31.0 +0.4
baz=212,SNR=13
WRAK Wrangell Islan 79.95 22 P P 07 44 30.9 +0.6
baz=221
BMRM Bremner River 79.96 14 P P 07 44 30.3 -0.1
baz=209,SNR=36
KLR Kul'dur 79.97 328 *d i* P P 07 44 30.5 -0.1
KLR pmax pmax
comp=Z,8.0nm,1.1s
CUT Chulitna 80.03 11 P P 07 44 30.0 -0.6
baz=204,SNR=12
KLU Klutina 80.11 14 P P 07 44 30.9 -0.3
baz=208,SNR=16
CRQE Cirque 80.14 15 P P 07 44 31.5 0.0
baz=211,SNR=19
LWLI Liwa 80.26 267 P P 07 44 32.5 -0.7
comp=Z,14µcomp=Z,216nm,0.7s
LWLI Liwa 80.26 267 P P 07 44 32.2 -1.0
comp=Z,14µcomp=Z,216nm,0.7s
K20K Telida 80.27 9 P P 07 44 32.0 +0.1
baz=200,SNR=16
MDSI Maura Dua 80.28 268 P P 07 44 31.3 -1.8
comp=Z,676nmcomp=Z,60nm,0.8s
PINM Pinnacle 80.34 17 P P 07 44 32.2 -0.2
baz=214
PLID Pearl Lake 80.39 38 P P 07 44 33.3 0.0
CN2 Changchun 80.40 321 *e* P P 07 44 33.0 -0.1
CN2 S S 07 54 20.7 +1.8
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,100nm,6.2s
CN2 LR LR
comp=Z,100nm,20.0s
CN2 LR LR
comp=Z,100nm,20.0s
CN2 LR LR
comp=Z,100nm,20.0s
TMUT Trail Mountain 80.45 45 P P 07 44 34.6 +0.7
TMUT lAmb lAmb 07 44 36.6
comp=Z,40nm,0.9s
VRDI Verde Repeater 80.46 15 P P 07 44 32.4 -0.9
VRDI lAmb lAmb 07 44 34.3
comp=Z,49nm,1.2s
N25K Chitina, Valde 80.52 14 P P 07 44 32.9 -0.5
N25K lAmb lAmb 07 44 34.5
comp=Z,33nm,0.8s
N25K Chitina, Valde 80.52 14 P P 07 44 33.3 -0.1
baz=209,SNR=35
HLID Hailey 80.53 40 P P 07 44 35.2 +1.2
baz=238,SNR=64
SNY Shenyang 80.55 318 ⇓P P 07 44 34.1 +0.2
SNY S S 07 54 22.2 +1.7
SNY pmax pmax
comp=Z,20nm,1.6s
SNY pmax pmax
comp=Z,200nm,3.6s
SNY LR LR
comp=Z,73nm,19.2s
SNY LR LR
comp=Z,120nm,19.6s
SNY LR LR
comp=Z,84nm,11.4s
M24K Tolsona, Glenn 80.60 13 P P 07 44 34.2 +0.4
baz=208,SNR=16
WAT6 Susitna Watana 80.69 12 P P 07 44 34.0 -0.4
baz=206,SNR=23
MCARA McCarthy VSAT 80.70 15 P P 07 44 33.7 -0.6
MCARA McCarthy VSAT 80.70 15 P P 07 44 34.3 0.0
baz=211,SNR=12
LOGN Logan Glacier 80.74 16 P P 07 44 34.4 -0.4
LOGN lAmb lAmb 07 44 35.9
comp=Z,36nm,1.0s
WAT1 Susitna Watana 80.75 12 P P 07 44 34.0 -0.6
baz=206
CTU Camp Tracy 80.77 43 P P 07 44 36.0 +0.7
BARN Barnard Glacie 80.77 16 P P 07 44 34.3 -0.6
BARN lAmb lAmb 07 44 36.1
comp=Z,50nm,1.0s
CTG Chitna Glacier 80.77 16 P P 07 44 34.9 +0.1
baz=212,SNR=27
CTGM Chitina Glacie 80.78 16 P P 07 44 34.5 -0.3
CTGM lAmb lAmb 07 44 36.0
comp=Z,35nm,1.0s
SRU San Rafael Swe 80.82 45 P P 07 44 35.9 +0.2
SRU pmax pmax
comp=Z,24nm,1.1s
SRU San Rafael Swe 80.82 45 P P 07 44 35.9 +0.2
DSRI Dabo 80.94 272 P P 07 44 37.5 +0.9
comp=Z,1µcomp=Z,36nm,1.4s
TRF Thorofare Moun 80.99 11 P P 07 44 35.0 -0.9
baz=204,SNR=16
TNA Tin City 81.02 3 P P 07 44 36.4 +0.6
baz=187,SNR=6.0
J20K Nowinta River 81.03 9 P P 07 44 36.1 +0.2
baz=200,SNR=28
CHUM Lake Minchumin 81.04 10 P P 07 44 34.9 -1.1
baz=202,SNR=15
HARP HAARP 81.08 13 P P 07 44 36.0 -0.3
baz=209,SNR=7.7
Y22D IRIS PASSCAL I 81.13 51 P P 07 44 38.0 +0.7
Y22D lAmb lAmb 07 44 43.4
comp=Z,108nm,1.5s
Y22D IRIS PASSCAL I 81.13 51 P P 07 44 38.7 +1.4
baz=244
TCUT Toone Canyon 81.20 43 P P 07 44 38.3 +0.6
SKAG Skagway 81.28 19 P P 07 44 38.2 +0.9
baz=218,SNR=16
MNTX Cornudas Mount 81.31 54 P P 07 44 38.8 +0.6
MNTX lAmb lAmb 07 44 40.7
comp=Z,63nm,1.8s
MNTX Cornudas Mount 81.31 54 P P 07 44 39.6 +1.5
baz=246
MVCO Mesa Verde 81.36 48 P P 07 44 39.4 +0.9
baz=243,SNR=6.4
BPAW Bear Paw Mtn. 81.47 10 P P 07 44 36.8 -1.4
baz=203,SNR=5.7
MCK McKinley 81.50 11 P P 07 44 38.0 -0.4
baz=205,SNR=23
PV10 Paradox Valley 81.51 46 P P 07 44 39.5 +0.1
PV10 lAmb lAmb 07 44 41.3
comp=Z,123nm,1.9s
PV19 Morning Glory 81.52 46 P P 07 44 39.8 +0.4
PV19 lAmb lAmb 07 44 41.6
comp=Z,69nm,1.5s
PV17 East Wray Mesa 81.52 47 P P 07 44 40.0 +0.6
PV17 lAmb lAmb 07 44 41.6
comp=Z,74nm,1.5s
PAX Paxson 81.52 13 P P 07 44 37.9 -0.8
baz=208,SNR=13
NEW Newport 81.53 35 P P 07 44 39.0 0.0
baz=235,SNR=11
PV18 Skein Mesa, Pa 81.54 47 P P 07 44 40.1 +0.6
PV18 lAmb lAmb 07 44 41.7
comp=Z,65nm,1.5s
PV20 West Nyswonger 81.54 46 P P 07 44 40.1 +0.7
PV20 lAmb lAmb 07 44 41.6
comp=Z,41nm,1.2s
BCYI Bear Canyon 81.54 40 P P 07 44 39.9 +0.5
PV13 Radium Mtn., P 81.56 47 P P 07 44 38.2 -1.5
PV13 lAmb lAmb 07 44 41.9
comp=Z,68nm,1.5s
PV23 Carpenter Ridg 81.56 46 P P 07 44 40.2 +0.6
PV23 lAmb lAmb 07 44 42.0
comp=Z,98nm,1.6s
PV16 Nyswonger Mesa 81.56 46 P P 07 44 40.2 +0.6
PV16 lAmb lAmb 07 44 41.9
comp=Z,47nm,1.4s
YUK6 Outpost Mounta 81.56 17 P P 07 44 39.4 +0.3
baz=215,SNR=8.1
PV03 Paradox Valley 81.58 47 P P 07 44 39.9 +0.2
PV03 lAmb lAmb 07 44 42.0
comp=Z,60nm,1.5s
M26K Nabesna, AK 81.59 14 P P 07 44 38.3 -0.7
M26K lAmb lAmb 07 44 40.2
comp=Z,63nm,1.1s
M26K Nabesna, AK 81.59 14 P P 07 44 39.0 +0.1
baz=211,SNR=52
PV11 David Mesa, Pa 81.59 47 P P 07 44 40.4 +0.7
PV11 lAmb lAmb 07 44 42.8
comp=Z,51nm,1.2s
PV04 Paradox Valley 81.61 46 P P 07 44 39.6 -0.2
PV04 lAmb lAmb 07 44 42.1
comp=Z,109nm,1.8s
PV21 Cone Mtn., Par 81.64 46 P P 07 44 40.2 +0.1
PV21 lAmb lAmb 07 44 42.5
comp=Z,86nm,1.6s
PV02 Paradox Valley 81.64 47 P P 07 44 40.2 +0.1
PV02 lAmb lAmb 07 44 42.3
comp=Z,101nm,1.8s
PV12 Saucer Basin, 81.64 47 P P 07 44 40.7 +0.6
YUK3 Moose Creek 81.69 16 P P 07 44 39.7 0.0
baz=213,SNR=35
HYT Haines Junctio 81.71 17 P P 07 44 39.5 -0.3
HYT Haines Junctio 81.71 17 P P 07 44 40.3 +0.5
baz=216,SNR=24
PV01 Paradox Valley 81.72 47 P P 07 44 40.6 +0.1
PV01 lAmb lAmb 07 44 42.6
comp=Z,82nm,1.6s
TXAR Lajitas Array 81.73 57 P P 07 44 42.0 +1.5
comp=Z,11nm,1.0s,baz=222,slow=4.9,SNR=78
TXAR pP pP 07 45 36.3 -0.2
comp=Z,2.1nm,1.0s,baz=237,slow=8.3,SNR=1.7
TXAR Lajitas Array 81.73 57 P P 07 44 42.0 +1.5
YUK4 Talbot Arm 81.82 17 P P 07 44 40.9 +0.6
baz=215,SNR=7.9
M27K Edge Creek, AK 81.82 15 P P 07 44 40.7 +0.4
baz=212,SNR=47
ANMO Albuquerque 81.85 50 *i* P P 07 44 42.3 +1.2
ANMO pmax pmax
comp=Z,58nm,1.5s
ANMO Albuquerque 81.85 50 P P 07 44 42.3 +1.2
baz=245
KSI Kapahiang 82.02 268 P P 07 44 40.7 -1.7
L26K Log Cabin Wild 82.04 14 P P 07 44 41.5 +0.2
baz=210,SNR=28
BVCY Beaver Creek 82.12 15 P P 07 44 42.0 +0.3
baz=213,SNR=25
WHN Wuhan 82.15 305 ⇓P P 07 44 42.8 +0.3
BTDF Bukit Timah Da 82.21 274 P P 07 44 43.7 +0.4
comp=Z,766nmcomp=Z,66nm,1.0s
BTDF Bukit Timah Da 82.21 274 P P 07 44 43.4 +0.1
comp=Z,765nmcomp=Z,66nm,1.0s
NEA2 Nenana 82.26 11 P P 07 44 41.4 -0.9
baz=205
I21K Tanana 82.30 9 P P 07 44 42.2 -0.4
baz=202,SNR=8.0
RIDG Independent Ri 82.33 13 P P 07 44 42.6 -0.2
baz=209,SNR=15
SEY Seymchan 82.34 345 *i* P P 07 44 42.3 -0.5
TIA Tai'an 82.35 311 ⇑P P 07 44 44.3 +0.8
TIA pmax pmax
comp=Z,15nm,0.8s
WHY Whitehorse 82.36 19 P P 07 44 43.5 +0.4
baz=218,SNR=8.1
MLY Manley 82.37 10 P P 07 44 41.8 -1.1
baz=203,SNR=18
L27K Beaver Creek, 82.43 14 P P 07 44 43.5 +0.1
baz=212,SNR=25
HDA Harding Lake 82.49 12 P P 07 44 43.2 -0.4
baz=207,SNR=20
MASI Maura Aman, Be 82.49 269 P P 07 44 44.3 -0.5
comp=Z,144nm,1.3s
MSO Missoula 82.54 37 P P 07 44 44.3 -0.1
baz=238,SNR=26
I23K Minto, Yukon-K 82.71 11 P P 07 44 43.9 -0.8
baz=205,SNR=18
SCRK Sand Creek 82.73 13 P P 07 44 44.8 -0.1
baz=210,SNR=16
TCOL CIGO, UAF Yank 82.74 11 P P 07 44 44.2 -0.6
baz=206,SNR=12
COLA College 82.74 11 P P 07 44 44.4 -0.4
baz=206
SNOW Snow King Moun 82.77 41 P P 07 44 46.2 +0.4
S22A 4UR Ranch, Cre 82.78 48 P P 07 44 47.4 +1.4
baz=244,SNR=80
ILAR Eielson Array 82.83 12 P P 07 44 44.6 -0.7
comp=Z,14nm,0.9s,baz=222,slow=5.3,SNR=144
ILAR pP pP 07 45 39.5 -2.2
comp=Z,14nm,1.2s,baz=222,slow=5.5,SNR=5.4
ILAR PKPPKP P'P'df 08 11 12.4 +0.1
comp=Z,0.7nm,1.1s,baz=2.5,slow=2.1,SNR=4.2
JTMT Jette 82.83 36 P P 07 44 45.2 -0.7
O20A White River Ci 82.86 45 P P 07 44 46.7 +0.5
O20A White River Ci 82.86 45 P P 07 44 47.0 +0.8
baz=243,SNR=20
LRM Limekiln Ridge 82.90 39 P P 07 44 46.4 0.0
MOOW Moose Ponds 82.92 41 P P 07 44 46.8 +0.3
LOHW Long Hollow 82.94 41 P P 07 44 47.1 +0.5
LOHW lAmb lAmb 07 44 48.7
comp=Z,49nm,1.2s
J25K Salcha River, 82.99 12 P P 07 44 46.1 -0.1
baz=208,SNR=40
QLMT Earthquake Lak 83.02 40 P P 07 44 47.8 +0.7
POKR Poker Plat Res 83.04 11 P P 07 44 45.6 -0.8
POKR lAmb lAmb 07 44 47.2
comp=Z,54nm,0.9s
POKR Poker Plat Res 83.04 11 P P 07 44 45.9 -0.4
baz=206,SNR=22
FLWY Flagg Ranch 83.11 41 P P 07 44 48.2 +0.7
FLWY lAmb lAmb 07 44 50.0
comp=Z,72nm,1.0s
YHB Horse Butte 83.13 40 P P 07 44 48.5 +1.0
K27K Chicken 83.20 14 P P 07 44 47.6 +0.4
K27K lAmb lAmb 07 44 49.2
comp=Z,44nm,1.3s
K27K Chicken 83.20 14 P P 07 44 47.7 +0.5
baz=212
BW06 Boulder Array 83.20 42 P P 07 44 48.3 +0.3
baz=242,SNR=76
PDAR Pinedale Array 83.20 42 P P 07 44 48.0 0.0
comp=Z,39nm,0.8s,baz=212,slow=3.2,SNR=261
PDAR PKKPbc PKKPbc 08 03 07.5 -1.7
comp=Z,1.2nm,0.8s,baz=94,slow=4.8,SNR=8.8
YMR Madison River 83.23 40 P P 07 44 48.8 +0.7
YMR lAmb lAmb 07 44 50.9
comp=Z,66nm,1.1s
J26K Charley River, 83.28 13 P P 07 44 48.1 +0.4
baz=210,SNR=38
BOZ Bozeman (W) 83.28 39 P P 07 44 48.2 -0.1
BOZ pmax pmax
comp=Z,55nm,1.2s
BOZ Bozeman (W) 83.28 39 P P 07 44 48.2 -0.1
BOZ lAmb lAmb 07 44 50.4
comp=Z,55nm,1.2s
BOZ Bozeman (W) 83.28 39 P P 07 44 49.1 +0.9
baz=240,SNR=38
H23K Yukon River 83.30 10 P P 07 44 46.9 -0.8
baz=204,SNR=12
SMCO Snowmass 83.31 46 P P 07 44 49.3 +0.4
SMCO lAmb lAmb 07 44 50.9
comp=Z,27nm,0.8s
H17A Grant Village 83.34 40 P P 07 44 49.9 +1.2
H17A lAmb lAmb 07 44 51.9
comp=Z,40nm,0.9s
H17A Grant Village 83.34 40 P P 07 44 50.8 +2.1
baz=241,SNR=32
H24K Noodor Dome 83.60 11 P P 07 44 47.9 -1.4
baz=206,SNR=5.7
HRY Holter Researc 83.72 38 P P 07 44 50.4 0.0
SDCO Great Sand Dun 83.73 48 P P 07 44 51.5 +0.6
baz=245
PRP Porcupine Dome 83.76 12 P P 07 44 49.3 -0.9
PRP lAmb lAmb 07 44 51.3
comp=Z,60nm,1.2s
PRP Porcupine Dome 83.76 12 P P 07 44 50.0 -0.1
baz=208,SNR=35
YMP Mirror Lake Pl 83.77 40 P P 07 44 51.1 +0.2
YMP lAmb lAmb 07 45 09.7
comp=Z,37nm,1.2s
RDOG Red Dog Mine 83.80 4 P P 07 44 51.5 +1.4
RDOG lAmb lAmb 07 44 53.4
comp=Z,35nm,1.0s
RDOG Red Dog Mine 83.80 4 P P 07 44 52.0 +1.8
baz=191,SNR=7.3
DAWY Dawson 83.87 15 P P 07 44 51.0 +0.4
baz=214,SNR=43
YNE Yellowstone No 83.99 40 P P 07 44 52.7 +0.7
YNE lAmb lAmb 07 44 54.5
comp=Z,60nm,1.3s
FARO Faro, Yukon 84.05 18 P P 07 44 51.3 -0.3
baz=220,SNR=7.5
EGAK Eagle 84.05 14 P P 07 44 50.8 -0.7
EGAK lAmb lAmb 07 44 52.8
comp=Z,44nm,1.1s
EGAK Eagle 84.05 14 P P 07 44 51.4 -0.1
baz=212,SNR=32

JRMM **Jerantut** 84.14 276 P **P** 07 44 54.0 +0.9
MSTX **Muleshoe** 84.23 53 P **P** 07 44 53.5 +0.3
MSTX IAmb IAmb 07 44 55.1
comp=Z,33nm,1.1s
MSTX Muleshoe 84.23 53 P **P** 07 44 53.6 +0.3
baz=247
T25A **Trinidad** 84.27 49 P **P** 07 44 53.0 -0.5
T25A **Trinidad** 84.27 49 P **P** 07 44 53.9 +0.3
baz=246
MAYO **Mayo, Yukon** 84.39 16 P **P** 07 44 53.7 +0.5
baz=217,SNR=10
COLD **Coldfoot** 84.48 9 P **P** 07 44 54.2 +0.6
baz=204,SNR=26
BILL **Bilibino** 84.49 353*c i*P **P** 07 44 53.5 -0.1
BILL *e**PP **pwP** 07 45 55.6 +2.8
BILL *SP **sP** 07 46 18.0 +3.0
BILL S **S** 07 55 02.0 +2.7
BILL pmax pmax
comp=Z,37nm,1.1s
Q24A **Divide** 84.50 47 P **P** 07 44 55.4 +0.7
baz=245,SNR=12
RLMT **Red Lodge** 84.50 40 P **P** 07 44 54.8 +0.3
RLMT IAmb IAmb 07 44 56.8
comp=Z,45nm,1.1s
RLMT Red Lodge 84.50 40 P **P** 07 44 55.5 +1.0
baz=242,SNR=31
ISCO **Idaho Springs** 84.53 46 P **P** 07 44 55.6 +0.7
baz=245,SNR=7.8
GCMT **Greycliff** 84.58 40 P **P** 07 44 55.4 +0.6
BJI **Beijing** 84.67 314 P **P** 07 44 55.3 +0.2
BJI pP **pP** 07 45 51.9 0.0
BJI sP **sP** 07 46 12.7 -3.9
BJI S **S** 07 55 05.9 +3.7
BJI sS **sS** 07 56 40.6 -1.1
BJI SS **SS** 08 00 40.2 +0.2
BJI pmax pmax
comp=Z,31nm,1.3s
BJI LR LR
comp=Z,120nm,11.3s
BJI LR LR
comp=Z,130nm,8.5s
N23A **Red Feather La** 84.77 45 P **P** 07 44 56.8 +0.8
baz=244,SNR=16
833A **Chaparral WMA,** 84.84 59 P **P** 07 44 57.0 +0.8
baz=249
MMPY **Sheldon Lake,** 84.98 19 P **P** 07 44 56.7 +0.5
baz=222,SNR=28
TGTN **Hyland Airport** 85.14 20 P **P** 07 44 57.7 +0.7
baz=224,SNR=5.4
K22A **Casper** 85.14 43 P **P** 07 44 57.9 +0.3
baz=244,SNR=7.5
JCT **Junction City** 85.27 57 P **P** 07 44 58.4 0.0
baz=249
AMTX **Amarillo** 85.42 52 P **P** 07 44 59.0 -0.1
AMTX IAmb IAmb 07 45 00.7
comp=Z,57nm,1.8s
AMTX Amarillo 85.42 52 P **P** 07 44 59.0 -0.1
baz=248
EGMT **Eagleton** 85.60 38 P **P** 07 44 58.9 -0.8
EGMT IAmb IAmb 07 45 01.4
comp=Z,36nm,1.1s
EGMT Eagleton 85.60 38 P **P** 07 45 00.1 +0.4
baz=241,SNR=7.1
BMAR **Burnt Mountain** 85.63 11 P **P** 07 45 00.2 +0.9
IPM **Ipoh** 85.69 276 P **P** 07 45 02.0 +1.1
TOLK **Toolik Lake Re** 85.88 9 P **P** 07 44 59.8 -0.7
TOLK IAmb IAmb 07 45 02.0
comp=Z,71nm,1.8s
TOLK Toolik Lake Re 85.88 9 P **P** 07 45 00.5 0.0
baz=204
ENH **Enshi** 85.95 303 P **P** 07 45 01.7 0.0
MNSI **Mandailing Nat** 86.09 272 P **P** 07 45 01.8 -1.0
ABTX **Abilene, Hawle** 86.16 55 P **P** 07 45 02.9 +0.2
ABTX IAmb IAmb 07 45 04.6
comp=Z,65nm,1.2s
ABTX Abilene, Hawle 86.16 55 P **P** 07 45 02.9 +0.2
baz=249
EDM **Edmonton** 86.26 32 P **P** 07 45 02.1 -0.7
EDM pmax pmax
comp=Z,83nm,1.1s
EDM Edmonton 86.26 32 P **P** 07 45 02.1 -0.7
KULM **Kulim** 86.28 276 P **P** 07 45 05.0 +1.3
KSCO **Kaye Shedlock'** 86.31 48 P **P** 07 45 02.9 -0.6
KSCO Kaye Shedlock' 86.31 48 P **P** 07 45 03.3 -0.2
baz=247
TIY **Taiyuan** 86.39 311 *e*P **P** 07 45 05.1 +1.3
TIY pmax pmax
comp=Z,31nm,0.5s
EPYK Eagle Plains 86.41 14 P **P** 07 45 02.8 -0.4
baz=216,SNR=7.0
SKLT **Songkhla** 86.82 278 P **P** 07 45 07.7 +1.4
GYA **Guiyang** 87.01 298 ⇓P **P** 07 45 08.1 +1.0
GYA sP 07 46 27.9 -0.9
GYA SKS S 07 55 14.1 -12
GYA S **SKKSac** 07 55 26.3 +5.0
GYA pmax pmax
comp=Z,57nm,1.1s
GYA pmax pmax
comp=Z,280nm,3.5s
LAO **LASA Array** 87.11 40 P **P** 07 45 08.0 +0.9
baz=244
435B **Jarrell** 87.16 57 P **P** 07 45 08.4 +0.8
baz=250
RPSI **Rantau Prapat** 87.23 274 P **P** 07 45 08.4 +0.1
MAW **Mawson** 87.26 199 P **P** 07 45 08.4 +1.1
baz=87,SNR=71
MAW Mawson 87.26 199 P **P** 07 45 08.4 +1.1
comp=Z,74nm,0.7s,baz=128,slow=6.3,SNR=140
MAW **Mawson** 87.26 199 P **P** 07 45 07.5 +0.2
PSI **Prapat** 87.26 274 P **P** 07 45 08.4 -0.2
comp=Z,17nm,0.9s,baz=179,slow=3.3,SNR=15
PSI Prapat 87.26 274 P **P** 07 45 07.5 -1.1
comp=Z,408nmcomp=Z,22nm,1.4s
KHON **Khomkaen** 87.33 288 P **P** 07 45 10.4 +1.8
SRAK **Srakaew** 87.39 285 P **P** 07 45 08.4 -0.5
RSSD **Black Hills** 87.41 43 P **P** 07 45 07.7 -1.0
RSSD **Black Hills** 87.41 43 P **P** 07 45 07.7 -1.0
RSSD **Black Hills** 87.41 43 P **P** 07 45 08.4 -0.3
baz=246
NONG **Nongkai** 87.54 289 P **P** 07 45 10.4 +0.8
WHTX **Lake Whitney,** 87.67 56 P **P** 07 45 10.3 +0.3
baz=250
XAN **Xi'an** 87.71 306 P **P** 07 45 10.6 +0.5
XAN pmax pmax
comp=Z,40nm,1.1s
XAN **Xi'an** 87.71 306 P **P** 07 45 11.0 +0.9
XAN **Xi'an** 87.71 306 P **P** 07 45 11.0 +0.9
SLVN **Son La** 87.82 293 P **P** 07 45 11.9 +0.9
SLVN IAmb IAmb 07 45 13.7
comp=Z,38nm,0.8s
TRTT **Trang** 87.89 279 P **P** 07 45 12.9 +1.6
CHAI **Chaiyaphum** 87.97 287 P **P** 07 45 12.4 +0.7
HHC **Hu-ho-hao-te** 88.21 313 *e*P **P** 07 45 12.8 +0.4
HHC pP pwP 07 46 11.1 -0.7
HHC SKS **SKSac** 07 55 16.9 -1.5
HHC S **ScS** 07 55 42.7 +1.0
HHC pmax pmax
comp=Z,38nm,1.2s
HHC pmax pmax
comp=Z,260nm,7.0s
HKT Hockley 88.32 58 *i* P **P** 07 45 11.7 -1.2
HKT pmax pmax
comp=Z,2.0nm,0.3s
LL02 **Futaleuf** 88.57 134 P **P** 07 45 15.9 +1.9
INK **Inuvik** 88.71 14 P **P** 07 45 13.3 -0.6
baz=219,SNR=5.4
OK032 **Salt Plains WL** 88.74 51 P **P** 07 45 15.1 +0.3
YAK **Yakutsk** 88.76 337 *i* P **P** 07 45 12.7 -1.6
YAK pmax pmax
comp=Z,27nm,0.7s
R32A **Long Quarter,** 88.93 50 P **P** 07 45 15.3 -0.4
R32A IAmb IAmb 07 45 16.9
comp=Z,25nm,1.0s
SURT **Suratani** 89.04 280 P **P** 07 45 20.9 +4.1
TPTI 89.06 274 P **P** 07 45 17.2 +0.3
comp=Z,917nmcomp=Z,70nm,0.8s
DGMT **Dagmar** 89.12 39 P **P** 07 45 16.8 +0.4
DGMT Dagmar 89.12 39 P **P** 07 45 17.3 +0.9
baz=245,SNR=19
PKDT **Phuket** 89.19 278 P **P** 07 45 19.1 +1.6
PHET **Kaeng Krachan** 89.33 284 P **P** 07 45 20.1 +2.0
KS20 **Mayfield South** 89.38 51 P **P** 07 45 17.9 0.0
MTO3 **Montecristo** 89.41 75 P **P** 07 45 18.7 0.0
MTO3 IAmb IAmb 07 45 21.5
comp=Z,27nm,1.2s

BLOK **Blackwell** 89.47 52 P **P** 07 45 18.1 -0.2
BLOK IAmb IAmb 07 45 19.6
comp=Z,21nm,0.9s
PHIT **Phitsanulok** 89.78 288 P **P** 07 45 21.7 +1.6
NATX **Nacogdoches** 89.85 57 P **P** 07 45 20.6 +0.5
baz=252
KMI **Kunming** 89.97 296 ⇓P **P** 07 45 22.8 +1.6
KMI PP **PP** 07 49 02.0 +4.1
KMI SKS **SKSac** 07 55 32.5 +2.9
KMI S **ScS** 07 55 57.6 +0.4
KMI sS sS 07 57 32.9 -1.6
KMI pmax pmax
comp=Z,45nm,1.4s
KMI pmax pmax
comp=Z,190nm,4.2s
KMI LR LR
comp=Z,73nm,12.6s
KMI LR LR
comp=Z,89nm,13.3s
KMI LR LR
comp=Z,120nm,15.4s
T35A **Sooner Cattle** 90.06 52 P **P** 07 45 20.1 -0.9
SRDT **SRDT** 90.20 285 P **P** 07 45 24.6 +2.5
SRDT **SRDT** 90.20 285 P **P** 07 45 24.1 +2.0
UTHA **Uthaitani** 90.23 286 P **P** 07 45 23.8 +1.6
TUL1 **Leonard** 90.28 53 P **P** 07 45 22.0 -0.1
baz=251
PLCA **Paso Flores** 90.33 133 P **P** 07 45 24.9 +2.4
comp=Z,2.7nm,0.8s,baz=218,slow=5.8,SNR=4.7
K31A **O'Neill** 90.39 46 P **P** 07 45 22.3 -0.1
KSU1 **Kansas State U** 90.71 50 P **P** 07 45 24.3 +0.3
baz=251
YKA **Yellowknife Ar** 90.72 24 P **P** 07 45 24.2 +0.8
comp=Z,7.2nm,1.0s,baz=226,slow=4.0,SNR=16
CD2 **Chengdu** 90.83 302 ⇑*i*P **P** 07 45 25.0 +0.2
CD2 S **S** 07 56 01.7 +0.7
CD2 pmax pmax
comp=Z,30nm,1.1s
CD2 pmax pmax
comp=Z,140nm,5.5s
LAMP **Lampang** 90.87 289 P **P** 07 45 26.7 +1.5
comp=Z,1µmcomp=Z,130nm,0.8s
SUSD **Miller** 90.90 44 P **P** 07 45 23.9 -0.8
baz=249
CM04 **Chiang Mai Arr** 91.43 289 P **P** 07 45 29.3 +1.5
comp=Z,413nmcomp=Z,52nm,0.9s
CM09 **Chiang Mai Arr** 91.43 289 P **P** 07 45 29.5 +1.7
comp=Z,482nmcomp=Z,54nm,0.9s
CM01 **Chiang Mai Arr** 91.45 289 P **P** 07 45 29.4 +1.5
comp=Z,429nmcomp=Z,45nm,1.0s
CM05 **Chiang Mai Arr** 91.46 289 P **P** 07 45 29.2 +1.3
comp=Z,278nmcomp=Z,34nm,1.0s
CM02 **Chiang Mai Arr** 91.47 289 P **P** 07 45 29.5 +1.5
comp=Z,383nmcomp=Z,44nm,0.9s
CMAR **Chiang Mai Arr** 91.48 289 P **P** 07 45 29.7 +1.7
comp=Z,24nm,0.7s,baz=94,slow=2.5,SNR=82
CMAR **Chiang Mai Arr** 91.48 289 P **P** 07 45 28.6 +0.5
CM15 **Chiang Mai Arr** 91.50 289 P **P** 07 45 29.5 +1.4
comp=Z,625nmcomp=Z,59nm,0.8s
CM13 **Chiang Mai Arr** 91.50 289 P **P** 07 45 29.4 +1.3
comp=Z,320nmcomp=Z,36nm,0.8s
CMMT **Chiang Mai** 91.57 289 P **P** 07 45 29.0 +0.6
comp=Z,630nmcomp=Z,66nm,0.7s
MIAR **Mount Ida** 91.57 55 P **P** 07 45 28.6 +0.5
baz=252
CHTO **Chiang Mai** 91.58 289 P **P** 07 45 29.0 +0.5
CHTO **Chiang Mai** 91.58 289 P **P** 07 45 29.4 +0.9
comp=Z,664nmcomp=Z,69nm,0.8s
CHTO **Chiang Mai** 91.58 289 P **P** 07 45 29.0 +0.5
CHTO **Chiang Mai** 91.58 289 P **P** 07 45 29.0 +0.5
comp=Z,373nmcomp=Z,39nm,0.8s
W39A **Magazine** 91.61 54 P **P** 07 45 29.1 +0.9
baz=252
WLAR **White Oak Lake** 91.68 56 P **P** 07 45 29.1 +0.5
WLAR IAmb IAmb 07 45 30.9
comp=Z,37nm,1.0s
MDND **Maddock** 91.70 41 P **P** 07 45 29.0 +0.6
baz=249
Z41A **Richland Creek** 91.80 56 P **P** 07 45 30.3 +1.1
baz=253
HHAR **Hobbs** 91.82 53 P **P** 07 45 28.3 -0.9
SYO **Syowa Base** 92.21 192 ⇓*i*P **P** 07 45 30.0 -0.4
SYO **Syowa Base** 92.21 192 ⇑*e*PcP **PcP** 07 45 31.9 +0.9
SYO **Syowa Base** 92.21 192 ⇑*e*pP pP 07 46 23.8 -3.8
ECSD **EROS Data Cent** 92.24 45 P **P** 07 45 30.4 -0.5
ECSD IAmb IAmb 07 45 31.9
comp=Z,44nm,1.6s
ECSD EROS Data Cent 92.24 45 P **P** 07 45 30.3 -0.7
baz=251
LZH **Lanzhou** 92.31 307 ⇓P **P** 07 45 32.7 +1.0
LZH pP pP 07 46 24.9 -4.1
LZH sP sP 07 46 53.0 -0.7
LZH SKS **SKSac** 07 55 40.3 -2.0
LZH S **S** 07 56 13.3 -1.0
LZH pmax pmax
comp=Z,29nm,1.3s
LZH pmax pmax
comp=Z,180nm,7.1s
JTS **Las Juntas de** 92.46 80 *i* P **P** 07 45 31.3 -1.4
JTS pmax pmax
comp=Z,7.0nm,0.8s
U40A **Yellville** 92.68 53 P **P** 07 45 32.7 -0.4
U40A IAmb IAmb 07 45 34.3
comp=Z,19nm,1.1s
U40A Yellville 92.68 53 P **P** 07 45 33.3 +0.2
baz=253
S39A **Bolivar** 92.72 52 P **P** 07 45 32.7 -0.6
W41B **Gary Mavity, V** 92.80 54 P **P** 07 45 34.6 +0.8
baz=253
WHAR **Wooly Hollow** 92.80 54 P **P** 07 45 34.2 +0.5
WHAR IAmb IAmb 07 45 35.5
comp=Z,20nm,1.1s
VNA3 **Neumayer Olymp** 92.82 175 P **P** 07 45 33.9 +0.7
SNAA **Sanae** 92.82 177 P **P** 07 45 33.7 +0.3
SNAA **Sanae** 92.82 177 *ce*P **P** 07 45 33.5 +0.2
SNAA pmax pmax
comp=Z,28nm,1.2s
VNA2 **Neumayer--Watz** 93.31 176 P **P** 07 45 36.4 +1.0
baz=185,slow=3.6
MGMO **Mountain Grove** 93.36 52 P **P** 07 45 35.9 -0.4
VNA1 **Neumayer--Stat** 93.51 176 P **P** 07 45 37.4 +1.0
R40A **Maddies Statio** 93.69 51 P **P** 07 45 37.1 -0.6
X43A **Marvell** 93.69 55 P **P** 07 45 37.6 -0.2
baz=254
N38A **Joes South For** 93.70 49 P **P** 07 45 37.4 -0.3
ULN **Ulaanbaatar** 93.71 319 *i* P **P** 07 45 35.3 -2.6
ULN pmax pmax
comp=Z,12nm,2.0s
LCAR **Lake Charles** 93.91 54 P **P** 07 45 37.7 -1.1
LCAR IAmb IAmb 07 45 40.0
comp=Z,24nm,1.4s
SCIA **State Center** 94.05 48 P **P** 07 45 39.5 +0.2
baz=253
SONM **Songino Array** 94.12 318 P **P** 07 45 38.6 -1.1
comp=Z,1.6nm,0.7s,baz=146,slow=4.1,SNR=5.6
P40A **Paris** 94.21 50 P **P** 07 45 39.1 -1.0
P40A IAmb IAmb 07 45 40.9
comp=Z,25nm,1.1s
AGMN **Agassiz Nation** 94.22 41 P **P** 07 45 38.6 -1.4
AGMN IAmb IAmb 07 45 40.3
comp=Z,19nm,1.1s
AGMN Agassiz Nation 94.22 41 P **P** 07 45 39.3 -0.6
baz=252
CCM **Cathedral Cave** 94.39 52 P **P** 07 45 40.2 -0.8
CCM pmax pmax
comp=Z,14nm,1.1s
CCM Cathedral Cave 94.39 52 P **P** 07 45 40.2 -0.8
CCM IAmb IAmb 07 45 41.5
comp=Z,14nm,1.1s
CCM Cathedral Cave 94.39 52 P **P** 07 45 40.2 -0.8
baz=254
Y45A **Yeager Farm, C** 94.58 56 P **P** 07 45 42.9 +0.9
Y45A IAmb IAmb 07 45 44.1
comp=Z,23nm,1.2s
TIXI **Tiksi** 94.81 345 *i* P **P** 07 45 40.5 -1.6
ULM **Lac du Bonnet** 94.83 39 P **P** 07 45 41.2 -1.4
comp=Z,7.7nm,1.0s,baz=252,slow=4.7,SNR=7.1
ULM Lac du Bonnet 94.83 39 P **P** 07 45 41.6 -1.1
ULM pmax pmax
comp=Z,63nm,1.9s
ULM Lac du Bonnet 94.83 39 P **P** 07 45 41.6 -1.1
OXF **Oxford** 94.86 56 P **P** 07 45 43.7 +0.5
OXF pmax pmax
comp=Z,25nm,1.2s
OXF Oxford 94.86 56 P **P** 07 45 43.7 +0.5

OXF IAmb IAmb 07 45 45.3
comp=Z,25nm,1.2s
OXF Oxford 94.86 56 P **P** 07 45 43.6 +0.5
baz=255
F36A **Milaca** 94.99 44 P **P** 07 45 42.8 -0.7
W45A **Hickory Valley** 95.21 55 P **P** 07 45 44.6 -0.2
SPMN **Marine on St.** 95.29 45 P **P** 07 45 44.7 -0.3
SPMN Marine on St. 95.29 45 P **P** 07 45 44.8 -0.1
baz=253
PLAL **Pickwick Lake** 96.04 56 P **P** 07 45 47.5 -1.1
PLAL IAmb IAmb 07 45 49.9
comp=Z,24nm,1.8s
P43A **Skaggs, Pawnee** 96.12 51 P **P** 07 45 48.2 -0.6
GTA **Gaotai** 96.30 309 *e*P **P** 07 45 49.9 +0.1
GTA pmax pmax
comp=Z,7.0nm,1.0s
I40A **Norwalk** 96.43 46 P **P** 07 45 49.4 -0.8
JFWS **Jewell Farm** 96.44 47 P **P** 07 45 49.4 -0.8
JFWS pmax pmax
comp=Z,25nm,1.0s
JFWS **Jewell Farm** 96.44 47 P **P** 07 45 49.4 -0.8
JFWS Jewell Farm 96.44 47 P **P** 07 45 49.6 -0.6
baz=255
HDIL **Hopedale** 96.52 50 P **P** 07 45 50.6 0.0
baz=255
WVT **Waverly** 96.52 54 P **P** 07 45 51.1 +0.4
WVT pmax pmax
comp=Z,5.0nm,1.1s
WVT Waverly 96.52 54 P **P** 07 45 51.1 +0.4
baz=256
L42A **Oliver, Polo** 96.62 48 P **P** 07 45 49.8 -1.2
ZAK **Zakamensk** 96.83 320 *e*P **P** 07 45 49.1 -2.8
ZAK pmax pmax
comp=Z,3.0nm,1.4s
EYMN **Ely** 96.91 42 P **P** 07 45 51.7 -0.5
baz=255
G40A **Rib Lake** 97.08 45 P **P** 07 45 52.5 -0.5
SFIN **Lafayette** 98.10 50 P Pdif 07 45 57.6 -0.1
baz=257
D41A **Chassel** 98.62 44 P Pdif 07 45 59.7 -0.1
LPAZ **La Paz** 100.93 110 PKKPbc PKKPbc 08 02 21.4 -1.3
comp=Z,0.6nm,0.6s,baz=128,slow=4.9,SNR=5.3
P52A **Corning** 101.68 52 P **Pdif** 07 46 12.8 -0.9
baz=260
ZALV **Zalesovo Beam** 108.57 322 PKiKP **PKiKP** 07 50 47.4 -0.8
comp=Z,2.1nm,0.5s,baz=58,slow=0.7,SNR=7.2
K61A **Williamstown** 108.70 50 P **PKiKP** 07 50 48.5 -0.3
baz=266
MKAR **Makanchi Array** 110.04 315 PKiKP **PKiKP** 07 50 50.5 -0.8
comp=Z,4.5nm,0.6s,baz=87,slow=0.3,SNR=35
MKAR PKKPbc **PKKPbc** 08 01 54.8 -0.6
comp=Z,0.6nm,0.6s,baz=257,slow=3.8,SNR=4.6
MKAR PKKPab **PKKPab** 08 02 06.4 +1.4
comp=Z,0.6nm,0.7s,baz=258,slow=3.6,SNR=3.6
M66A **Nantucket** 110.95 51 P **PKiKP** 07 50 52.4 -0.6
baz=268
G64A **Maxfield** 112.05 47 P **PKiKP** 07 50 55.2 +0.1
baz=270
KSH **Kashi** 114.56 307 PKP **PKiKP** 07 51 01.3 +1.1
KSH LR LR
comp=Z,540nm,17.5s
KSH LR LR
comp=Z,470nm,20.4s
BRVK **Borovoye** 117.29 322 *i* PKiKP **PKPdf** 07 51 04.2 -0.6
BRVK **Borovoye** 117.29 322 PKPdf **PKPdf** 07 51 04.3 -0.6
BDFB **Brasilia** 118.90 118 PKKPbc PKKPbc 08 01 23.6 -0.9
comp=Z,0.9nm,0.5s,baz=90,slow=5.1,SNR=3.6
ARU **Arti** 122.81 328 *i* PKiKP **PKPdf** 07 51 15.0 -0.3
ARU 07 52 57.0
ARU 07 58 00.5
ARU SS SS 08 09 13.2 -7.1
ARCES **ARCESS Array B** 124.57 352 PKP **PKPdf** 07 51 18.3 -0.1
comp=Z,15nm,0.6s,baz=6.0,slow=1.2,SNR=62
ARCES PKKPab **PKKPab** 08 01 01.9 +1.3
comp=Z,6.6nm,1.2s,baz=250,slow=3.5,SNR=4.4
PRGR **Permogore** 125.80 338 *e*PKiKP **PKPdf** 07 51 19.7 -1.2
PRGR pmax pmax
comp=Z,83nm,1.1s
KIRV **Kirov** 126.11 333 *i* PKiKP **PKPdf** 07 51 21.3 -0.3
KLMR **Klimovskoe** 128.49 339 *e*PKiKP **PKPdf** 07 51 23.1 -3.0
KLMR pmax pmax
comp=Z,41nm,1.4s
KLMR **Klimovskoe** 128.49 339 *e*PKPdf **PKPdf** 07 51 23.2 -2.9
KLMR AMP 07 51 27.5
comp=Z,41nm,1.4s
GEYT **Alibeck** 128.59 306 PKP **PKPdf** 07 51 27.4 +0.3
comp=Z,54nm,0.7s,baz=212,slow=5.3,SNR=6.3
BELG **Belogornoye** 130.33 327 *i* PKiKP **PKPdf** 07 51 29.2 -0.6
FINES **FINESS Array B** 131.81 347 PKhKP PKPpre 07 51 21.5
comp=Z,2.7nm,0.8s,baz=36,slow=3.5,SNR=4.1
FINES PKP **PKPdf** 07 51 31.4 -1.0
comp=Z,7.3nm,0.7s,baz=264,slow=1.9,SNR=4.3
BOSA **Boshof** 132.05 204 PKP **PKiKP** 07 51 35.4 +0.2
comp=Z,6.7nm,0.9s,baz=150,slow=6.6,SNR=9.3
MOS **Moscow** 132.87 336 *e*PKiKP **PKPdf** 07 51 34.1 -0.4
OBN **Obninsk** 133.74 336 *c i*PKiKP **PKiKP** 07 51 36.8 -0.7
OBN *e*SP SP 08 04 30.1 +28
OBN pmax pmax
comp=Z,21nm,0.8s
NB2 **NORSAR Subarra** 134.37 356 PKP **PKPdf** 07 51 37.5 +0.2
comp=Z,3.3nm,0.6s,baz=10,slow=3.2
NOA **NORSAR Array B** 134.37 356 PKP **PKPdf** 07 51 37.1 -0.2
comp=Z,2.7nm,0.9s,baz=13,slow=4.1,SNR=6.6
MNK **Minsk** 137.34 341 *i* PKiKP **PKPdf** 07 51 41.4 -1.5
MNK *i* 07 52 47.5
MNK *i* 07 54 32.7
MNK *i* 08 04 26.7
MNK *i* 08 04 53.4
MNK pmax pmax
comp=N,22nm,1.0s
MNK pmax pmax
comp=Z,32nm,0.7s
MNK pmax pmax
comp=E,7.0nm,1.4s
MNK MLR MLR
comp=Z,227nm,21.0s
MNK Minsk 137.34 341 *i* PKP **PKPdf** 07 51 41.5 -1.5
comp=E,7.0nm,1.4s
MNK *i* PKP **PKPdf** 07 51 41.5 -1.5
comp=N,22nm,1.0s
MNK *i* PKP **PKPdf** 07 51 41.5 -1.5
comp=Z,32nm,0.7s,baz=213
MNK *i* pPKP **pPKPdf** 07 52 47.6 +4.4
MNK *i* PP **PP** 07 54 32.7 +2.4
MNK *i* PKKP **PKKPdf** 08 01 11.4 -7.7
MNK *i* SKKP 08 04 26.7
MNK *i* PKSS 08 04 53.4
MNK *i* SKKS 08 08 00.3
MNK *i* PPS PPS 08 10 27.8
MNK *i* SS SS 08 11 59.9 -17
MNK *i* LR LR 08 44 52.2
MNK *i* LRM MLR 08 52 02.9
comp=E,101nm,29.7s
MNK *i* LRM MLR 08 52 02.9
comp=N,434nm,39.1s
MNK *i* LRM MLR 08 52 02.9
comp=Z,227nm,21.4s
NACGM **Naroch** 137.34 342 *i* PKP **PKPdf** 07 51 38.2 -4.7
KBZ **Khabaz** 137.49 319 PKP **PKiKP** 07 51 45.5 +0.1
comp=Z,1.8nm,0.5s,baz=89,slow=2.0,SNR=5.1
KBZ **Khabaz** 137.49 319 **PKiKP** 07 51 45.5 +0.1
SOC **Sochi** 139.54 321 *i* PKiKP **PKPdf** 07 51 48.3 +1.0
SOC *e* 07 54 45.6
SOC *e*PPP PPP 07 57 48.9
SOC *e*SSS SSS 08 18 04.5
SOC pmax pmax
comp=Z,11nm,0.6s
AKASG **Malin Array Be** 139.98 336 PKhKP PKPpre 07 51 39.8
comp=Z,2.9nm,0.7s,baz=40,slow=4.2,SNR=1.6
AKASG PKP **PKPdf** 07 51 47.6 -0.2
comp=Z,3.9nm,0.6s,baz=34,slow=3.1,SNR=6.6
KWP **Kalwaria Pacla** 143.17 341 *e*PKP PKPab 07 51 50.5 +0.6
OJC **Ojcow** 143.47 344 *e*PKP PKPbc 07 51 51.6 -0.5
CLZ **Clausthal** 143.56 355 *e*PKPbc PKPbc 07 51 51.8 -0.5
baz=9.4,slow=3.2
KSP **Ksiaz** 143.69 348 *e*PKP PKPbc 07 51 52.9 +0.2
CLL **Collm** 143.79 352 ⇓*i*PKPdf PKPab 07 51 52.1 -0.1
comp=Z,18nm,0.8s
CLL *i* 07 51 54.2
CLL *e*PKiKP **PKiKP** 07 51 57.0 -1.2
CLL *ep*PKiKP pPKPdf 07 52 53.0 -1.9
CLL *e*SKPdf **SKPbc** 07 55 09.0 -1.7
CLL *e*SKPbc **SKiKP** 07 55 14.0 +2.4
CLL *e*PPPrev 08 06 36.0
CLL *ep*PPS 08 08 24.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CLL				*e*SS	SS	08 13 48.0	+16
CLL				*e*sSS		08 15 12.0	
CLL				*e*SSS	SSS	08 19 06.0	
CLL				*e*SSSS		08 23 30.0	
CLL	Collm	143.79	352	⇓*i*PKIKP	PKPab	07 51 52.1	-0.1
CLL				*e*		07 52 58.0	
CLL				pmax	pmax		
	comp=Z,18nm,0.8s						
CLL	Collm	143.79	352	*e*PKPbc	PKPab	07 51 52.1	-0.1
	baz=9.4,slow=3.2						
STHS	Stebnicka Huta	143.80	342	*e*PKIKP	PKPbc	07 51 53.7	+0.6
STHS	Stebnicka Huta	143.80	342	*e*PKP	PKPbc	07 51 53.7	+0.6
GTTG	Gottingen	143.89	355	*e*PKPbc	PKPbc	07 51 53.1	-0.2
	baz=9.4,slow=3.2						
BZK	Bozkurt	143.90	323	⇑P	PKPdf	07 51 54.6	-0.5
KOLS	Kolonicke sedl	143.92	341	*e*PKIKP	PKPbc	07 51 53.1	-0.3
KOLS	Kolonicke sedl	143.92	341	*e*PKP	PKPbc	07 51 53.1	-0.3
OSTC	Ostas	143.98	348	*e*PKP	PKPbc	07 51 53.6	0.0
CHVC	Chvalec	143.98	348	*e*PKP	PKPbc	07 51 53.3	-0.3
BURAR	Bucovina Array	144.02	337	⇑P	PKPab	07 51 53.3	-0.1
BURAR	Bucovina Array	144.02	337	⇑PKIKP	PKPab	07 51 53.3	-0.1
UPC	Upice	144.07	348	*e*PKIKP	PKPbc	07 51 54.0	+0.2
UPC	Upice	144.07	348	*e*PKP	PKPbc	07 51 54.0	+0.2
NIE	Niedzica	144.07	343	*e*PKP	PKPdf	07 51 54.8	-0.4
BRG	Berggiesshubel	144.08	351	*e*PKPbc	PKPab	07 51 53.5	+0.1
	baz=9.4,slow=3.2						
BRG	Berggiesshubel	144.08	351	*e*PKP	PKPbc	07 51 53.7	-0.1
BRG				Amp		07 51 54.7	
	comp=Z,18nm,1.4s						
BRG	Berggiesshubel	144.08	351	P	PKiKP	07 51 58.4	-0.4
BRG				Amp		07 51 60.0	
	comp=Z,12nm,0.9s						
FBE	Freiberg	144.12	351	*e*PKPbc	PKPbc	07 51 53.9	-0.1
	baz=9.4,slow=3.2						
DPC	Dobruska-Polom	144.16	348	*e*PKIKP	PKPbc	07 51 53.9	-0.2
DPC	Dobruska-Polom	144.16	348	*e*PKP	PKPbc	07 51 53.9	-0.2
BUG	Bochum--Univer	144.16	358	*e*PKPbc	PKPab	07 51 53.3	-0.3
	baz=9.4,slow=3.2						
UZH	Uzhgorod	144.18	341	⇓*i*PKIKP	PKPbc	07 51 54.2	0.0
UZH				*e*		07 52 54.6	
BIZ	Bicaz	144.23	335	⇑P	PKPab	07 51 54.0	-0.1
OKC	Ostrava-Krasne	144.24	346	*e*PKIKP	PKPbc	07 51 54.4	+0.1
OKC	Ostrava-Krasne	144.24	346	*e*PKP	PKPbc	07 51 54.4	+0.1
PVCC	Panska Ves	144.31	350	*e*PKIKP	PKPab	07 51 54.3	+0.1
PVCC	Panska Ves	144.31	350	*e*PKP	PKPab	07 51 54.3	+0.1
KRLC	Kraliky	144.32	347	*e*PKIKP	PKPab	07 51 54.2	-0.2
KRLC	Kraliky	144.32	347	*e*PKP	PKPab	07 51 54.2	-0.2
KASTN	Kahler Asten	144.34	357	*e*PKPbc	PKPbc	07 51 54.4	-0.2
	baz=9.4,slow=3.2						
KMBO	Kilima Mbogo	144.35	245	PKP	PKPdf	07 51 57.5	+0.4
	comp=Z,67nm,0.9s,baz=74,slow=4.6,SNR=140						
KMBO	Kilima Mbogo	144.35	245		PKPdf	07 51 57.5	+0.4
MORC	Moravsky Berou	144.43	346	⇓P	PKPbc	07 51 55.2	+0.2
MORC	Moravsky Berou	144.43	346	PKIKP	PKPab	07 51 54.5	-0.3
MORC	Moravsky Berou	144.43	346	PKPdf	PKPab	07 51 54.5	-0.3
MORC	Moravsky Berou	144.43	346	*e*PKP	PKPab	07 51 54.5	-0.3
MORC				*e*		07 52 55.2	
GAZ	Gaziantep	144.47	313	PKPdf	PKPab	07 51 54.8	-0.6
TRPA	Tarpa	144.53	340	*e*PKPpB		07 51 55.0	
LANS	Liptovska Anna	144.54	344	*e*PKIKP	PKPdf	07 51 56.3	+0.2
LANS	Liptovska Anna	144.54	344	*e*PKP	PKPdf	07 51 56.3	+0.2
BNN	Bunyan	144.55	317	PKPdf	PKPbc	07 51 55.8	0.0
UBBA	Unterbreizbach	144.61	355	*e*PKPbc	PKPab	07 51 55.1	-0.1
	baz=9.4,slow=3.2						
MOX	Moxa	144.62	353	*e*PKPbc	PKPab	07 51 55.2	-0.2
	baz=9.4,slow=3.2						
PLN	Plauen	144.71	352	*e*PKPbc	PKPbc	07 51 55.7	-0.1
	baz=9.4,slow=3.2						
WERD	Werda	144.73	352	*e*PKPbc	PKPbc	07 51 55.9	+0.1
	baz=9.4,slow=3.2						
TANN	Tannenbergstha	144.74	352	*e*PKPbc	PKPbc	07 51 55.8	-0.1
	baz=9.4,slow=3.2						
CFR	Carcaliu	144.75	332	⇓P	PKPab	07 51 56.2	+0.2
CFR	Carcaliu	144.75	332	⇓PKIKP	PKPab	07 51 56.2	+0.2
ARCR	ARCALIA	144.79	337	⇓P	PKPdf	07 51 56.4	-0.2
GUNZ	Gunzen	144.81	352	*e*PKPbc	PKPdf	07 51 56.3	-0.2
	baz=9.4,slow=3.2						
UCC	Uccle	144.83	1	*d*PKP	PKPbc	07 51 55.6	-0.4
BEBN	Eben Emael	144.84	360	*d*PKP	PKPbc	07 51 56.0	-0.1
PRU	Pruhonice	144.84	350	*e*PKIKP	PKPab	07 51 56.2	0.0
PRU				*e*		07 52 59.8	
PRU	Pruhonice	144.84	350	*e*PKP	PKPab	07 51 56.2	0.0
PRU				*e*x	x	07 52 59.8	
VRI	Vrincioaia	144.84	334	⇓P	PKPbc	07 51 55.5	-0.8
VRI	Vrincioaia	144.84	334	⇓PKIKP	PKPbc	07 51 55.5	-0.8
KECS	Kecovo	144.86	342	*e*PKIKP	PKPdf	07 51 56.5	-0.1
KECS	Kecovo	144.86	342	*e*PKP	PKPdf	07 51 56.5	-0.1
WERN	Wernitzgruen	144.88	352	*e*PKPbc	PKPdf	07 51 56.6	0.0
	baz=9.4,slow=3.2						
PLOR	Plostina	144.88	334	⇑P	PKPdf	07 51 56.7	-0.1
PLOR	Plostina	144.88	334	⇑PKIKP	PKPdf	07 51 56.7	-0.1
NKC	Novy Kostel	144.92	352	*e*PKIKP	PKPbc	07 51 56.3	-0.1
NKC	Novy Kostel	144.92	352	*e*PKP	PKPbc	07 51 56.3	-0.1
MEM	Membach	145.02	359	*d*PKP	PKPbc	07 51 56.6	-0.1
BTNL	Ternell	145.04	359	*d*PKP	PKPbc	07 51 56.6	-0.2
OZUR		145.04	335	⇑P	PKPab	07 51 57.9	+0.6
BSTI	Sart Tilman	145.05	360	*d*PKP	PKPab	07 51 56.9	-0.1
AHRW	Bad Neuenahr-A	145.06	358	*e*PKPbc	PKPab	07 51 56.9	-0.1
	baz=9.4,slow=3.2						
VRAC	Vranov	145.09	347	⇑P	PKPab	07 51 57.1	-0.1
VRAC	Vranov	145.09	347	⇑PKIKP	PKPab	07 51 57.1	-0.1
VRAC	Vranov	145.09	347	*e*PKP	PKPdf	07 51 57.0	0.0
VRAC				*e*		07 52 57.9	
BISRR	Bisoca	145.09	333	⇑P	PKPab	07 51 57.8	+0.3
SNF	Seneffe	145.11	1	*d*PKP	PKPab	07 51 57.1	-0.1
TIRR	Tirgusor	145.16	331	⇑P	PKPab	07 51 58.0	+0.4
TIRR	Tirgusor	145.16	331	PKIKP	PKPdf	07 51 56.7	-0.5
TIRR	Tirgusor	145.16	331		PKPdf	07 51 56.7	-0.5
HARR	Harsova	145.21	331	⇑P	PKPab	07 51 58.1	+0.3
HARR	Harsova	145.21	331	⇑PKP2	PKPab	07 51 58.1	+0.3
BCLA	Clavier	145.21	0	*d*PKP	PKPdf	07 51 57.1	0.0
PBCC	Pribram	145.22	350	*e*PKP	PKPab	07 51 57.7	0.0
PBCC				*e*x	x	07 53 00.9	
BGES	Gesves	145.25	0	*d*PKP	PKPdf	07 51 57.2	-0.1
JAVC	Velka Javorina	145.26	346	*e*PKP	PKPab	07 51 58.7	+0.7
JAVC				*e*		07 52 59.1	
TLBR	Topalu	145.27	331	⇓P	PKPab	07 51 57.8	-0.2
BHOU	Houvegnez	145.28	359	*d*PKP	PKPbc	07 51 57.3	-0.2
BHOU				*d*pPKP	pPKPab	07 52 55.1	-1.4
VYHS	Vyhne	145.31	344	*e*PKP2	PKPab	07 51 58.1	0.0
VYHS	Vyhne	145.31	344	*e*PKP	PKPab	07 51 58.1	0.0
VYHS				*e*		07 52 58.4	
DOPR	Dopca	145.31	335	⇑P	PKPab	07 51 58.2	0.0
TNS	Taunus Mts	145.32	356	*e*PKPbc	PKPab	07 51 58.0	-0.1
	baz=9.4,slow=3.2						
TREC	Trest	145.33	348	*e*PKP2	PKPbc	07 51 57.8	+0.1
TREC	Trest	145.33	348	*e*PKP	PKPbc	07 51 57.8	+0.1
BMRD	Maredsous	145.33	1	*d*PKP	PKPbc	07 51 57.5	-0.2
EFOR	EFORIE	145.34	330	⇑P	PKPab	07 51 58.5	+0.2
KRUC	Moravsky	145.36	347	*e*PKP	PKPbc	07 51 57.9	+0.1
KRUC				*e*		07 52 57.7	
MFTR	Murfatlar	145.37	330	⇑P	PKPbc	07 51 58.1	+0.1
ROTZ	Rotzenmuhle	145.41	352	*e*PKPbc	PKPab	07 51 58.3	-0.1
	baz=9.4,slow=3.2						
ROTZ				*e*pPKPbc	pPKPdf	07 52 58.9	+1.1
	baz=8.7,slow=3.0						
MLR	Muntele Rosu	145.47	334	⇑P	PKPbc	07 51 58.5	+0.1
MLR	Muntele Rosu	145.47	334	PKP2	PKPbc	07 51 58.4	-0.1
MLR	Muntele Rosu	145.47	334	PKPdf	PKPbc	07 51 58.4	-0.1
BRTR	Keskin Array B	145.47	320	PKPbc	PKPdf	07 51 57.9	-0.3
	comp=Z,24nm,0.8s,baz=83,slow=2.5,SNR=56						
BRTR				pPKPbc	pPKPdf	07 52 58.4	0.0
	comp=Z,20nm,1.0s,baz=132,slow=1.8,SNR=6.3						
BRTR	Keskin Array B	145.47	320	PKPdf	PKPdf	07 51 57.9	-0.3
RCHB	Rochefort	145.48	0	*d*PKP	PKPbc	07 51 57.8	-0.3
ISR	Istrita	145.50	333	⇑P	PKPbc	07 51 58.1	-0.3
ISR	Istrita	145.50	333	⇑PKP2	PKPbc	07 51 58.1	-0.3
DOU	Dourbes	145.53	1	*d*PKP	PKPbc	07 51 58.2	-0.1
DOU				*d*pPKP	pPKPab	07 52 56.2	-1.2
PSZ	Piszkesteto	145.54	343	⇑P	PKPdf	07 51 57.2	-0.7
PSZ	Piszkesteto	145.54	343	*e*PKPpB		07 51 57.9	
PSZ	Piszkesteto	145.54	343	⇑PKIKP	PKPdf	07 51 57.2	-0.7
GRF	Grafenberg Arr	145.60	353	*e*PKPbc	PKPab	07 51 59.1	0.0
	baz=9.4,slow=3.2						
GRF				*e*pPKPbc	pPKPdf	07 52 59.6	+1.4
	baz=8.7,slow=3.0						
DRGR		145.63	339	⇑P	PKPdf	07 51 58.1	0.0
SMOL	Smolenice	145.64	346	*e*PKP2	PKPab	07 51 59.5	+0.1
SMOL	Smolenice	145.64	346	*e*PKP	PKPab	07 51 59.5	+0.1
SECR		145.78	333	⇑P	PKPbc	07 51 58.8	-0.4
KHC	Kasperske Hory	145.83	350	*e*PKP2	PKPdf	07 51 58.7	+0.4
KHC	Kasperske Hory	145.83	350	*e*PKP	PKPdf	07 51 58.7	+0.4
KHC				*e*x	x	07 52 58.5	
VOIR		145.88	335	⇓P	PKPbc	07 51 59.2	-0.4
VOIR		145.88	335	⇓PKP2	PKPbc	07 51 59.2	-0.4
ANTO	Ankara	145.91	321	PKP2	PKPdf	07 51 59.1	+0.3
ANTO	Ankara	145.91	321		PKPdf	07 51 59.1	+0.3
WET	Wettzell	145.92	351	*e*PKPdf	PKPdf	07 51 58.6	+0.1
	baz=12,slow=1.5						
WET				*e*pPKPbc	pPKPab	07 53 00.9	+2.0
	baz=8.7,slow=3.0						
WLF	Walferdange	145.96	359	*d*PKP	PKPab	07 52 00.1	-0.4
WLF	Walferdange	145.96	359	PKP2	PKPbc	07 51 59.2	-0.4
WLF	Walferdange	145.96	359	PKPdf	PKPbc	07 51 59.2	-0.4
WLF	Walferdange	145.96	359	*e*PKPbc	PKPab	07 52 00.3	-0.2
	baz=9.4,slow=3.2						
WLF				*e*pPKPbc	pPKPab	07 53 00.9	+1.9
	baz=8.7,slow=3.0						
CKRC	Cesky Krumlov	146.00	349	*e*PKP	PKPdf	07 51 59.0	+0.4
CKRC				*e*x	x	07 53 00.3	
ZST	Bratislava	146.02	346	*e*PKP2	PKPab	07 52 00.4	-0.4
ZST	Bratislava	146.02	346	*e*PKP	PKPab	07 52 00.4	-0.4
SRO	Srobarova	146.07	344	*e*PKP2	PKPab	07 52 01.2	+0.2
SRO	Srobarova	146.07	344	*e*PKP	PKPab	07 52 01.2	+0.2
GEC2	GERESS Array S	146.08	350	*e*PKPdf	PKPdf	07 51 58.9	+0.1
	baz=12,slow=1.5						
GEC2				*e*pPKPbc	pPKPab	07 53 01.4	+1.7
	baz=8.7,slow=3.0						
GERES	GERESS Array B	146.08	350	PKPbc	PKPdf	07 51 58.6	-0.2
	comp=Z,12nm,0.6s,baz=26,slow=3.4,SNR=73						
GERES				pPKPbc	pPKPab	07 52 59.6	0.0
	comp=Z,9.9nm,1.0s,baz=59,slow=0.6,SNR=4.1						
ARR	Arges	146.11	335	⇑P	PKPbc	07 51 59.8	-0.5
BUD	Budapest	146.18	343	*e*PKPpB		07 52 00.7	
LOT	Lotru	146.38	336	⇑P	PKPbc	07 52 00.5	-0.6
SIRR	Siria	146.45	339	⇑P	PKPdf	07 51 59.5	0.0
CONA	Conrad Observa	146.55	347	*e*P	PKPdf	07 51 59.8	+0.2
	comp=Z,4.6nm,0.9s,SNR=40						
CONA				*i* P	PKPbc	07 52 01.9	+0.4
	comp=Z,28nm,0.7s						
CONA				*e*P	pPKPab	07 53 02.1	+0.7
	comp=Z,77nm,1.8s						
SOP	Sopron	146.62	346	*e*PKPpB		07 52 02.1	
EGYH	Egyhazaskeszo	146.69	345	*e*PKPpB		07 51 59.2	
STU	Stuttgart	146.71	355	*e*PKPdf	PKPdf	07 52 00.0	+0.3
	baz=12,slow=1.5						
STU				*e*PKPbc	PKPbc	07 52 02.3	+0.5
	baz=9.4,slow=3.2						
RAZG	Razgrad	146.73	331	⇑P	PKPbc	07 52 02.4	+0.4
GZR	Gura Zlata	146.81	337	⇑P	PKPdf	07 52 01.0	+0.9
GZR	Gura Zlata	146.81	337	⇑PKIKP	PKPdf	07 52 01.0	+0.9
MPLH	Magyarpolny	146.87	345	*e*PKPpB		07 52 00.7	
MOA	Molln	146.94	349	*i* P	PKPbc	07 52 02.6	+0.1
	comp=Z,25nm,0.7s,SNR=24						
MOA				*e*P	pPKPab	07 53 02.5	-0.3
	comp=Z,20nm,1.0s						
TIH	Tihany	147.03	344	*e*P	PKPbc	07 52 03.2	+0.5
BZS	Buzias	147.03	339	⇑P	PKPdf	07 52 00.7	+0.3
BZS	Buzias	147.03	339	⇑PKIKP	PKPdf	07 52 00.7	+0.3
FUR	Furstenfeldbru	147.10	353	*e*PKPdf	PKPdf	07 52 00.7	+0.2
	baz=12,slow=1.5						
FUR				*e*PKPbc	PKPbc	07 52 03.3	+0.3
	baz=9.4,slow=3.2						
FUR				*e*pPKPbc	pPKPab	07 53 04.0	+0.6
	baz=8.7,slow=3.0						
BFO	Black Forest	147.21	356	*e*PKPdf	PKPdf	07 52 00.7	+0.1
	baz=12,slow=1.5						
BFO				*e*PKPbc	PKPbc	07 52 03.5	+0.3
	baz=9.4,slow=3.2						
ARSA	Arzberg	147.26	347	*e*P	PKPbc	07 52 03.2	-0.3
	comp=Z,22nm,0.8s,SNR=13						
ARSA				*e*P	pPKPab	07 53 03.8	-0.3
	comp=Z,34nm,1.8s						
RJOB	Jochberg	147.31	351	*e*PKPdf	PKPdf	07 52 00.7	-0.1
	baz=12,slow=1.5						
RJOB				*e*PKPbc	PKPbc	07 52 03.6	+0.1
	baz=9.4,slow=3.2						
HERR	Herculane	147.38	337	⇑P	PKPdf	07 52 02.1	+1.2
UBR	Ueberruh	147.71	354	*e*PKPdf	PKPdf	07 52 01.4	-0.1
	baz=12,slow=1.5						
UBR				*e*PKPbc	PKPbc	07 52 04.7	0.0
	baz=9.4,slow=3.2						
BEHE	Becsehely	147.71	345	*e*P	PKPab	07 52 07.8	+0.3
BEHE	Becsehely	147.71	345	⇓*i*P	PKPbc	07 52 04.3	-0.3
KOVH	Kovagotottos	147.72	343	*e*PKPpB		07 52 01.6	
MDVR	Moldovita	147.72	338	⇓P	PKPbc	07 52 04.7	-0.1
RETA	Reutte	147.83	353	*e*P	PKPbc	07 52 04.9	-0.1
	comp=Z,18nm,0.8s,SNR=14						
RETA				*e*P	pPKPbc	07 53 04.8	+0.1
	comp=Z,13nm,1.2s						
KBA	Koelnbreinsper	147.85	350	*i* P	PKPdf	07 52 00.9	-1.0
	comp=Z,9.7nm,1.3s,SNR=21						
KBA				*i* P	PKPbc	07 52 04.4	-0.8
	comp=Z,22nm,0.5s						
KBA				*e*P	pPKPbc	07 53 04.1	-0.6
	comp=Z,2.7nm,0.6s						
WATA	Walderalm	147.88	352	*e*P	PKPbc	07 52 05.1	-0.1
	comp=Z,18nm,0.7s,SNR=11						
WATA				*e*P	pPKPbc	07 53 04.6	-0.2
	comp=Z,29nm,1.5s						
SOKA	Soboth	147.91	347	*i* P	PKPdf	07 52 01.8	-0.1
	comp=Z,7.6nm,1.1s,SNR=27						
SOKA				*e*P	PKPbc	07 52 04.6	-0.6
	comp=Z,46nm,1.1s						
SOKA				*e*P	pPKPbc	07 53 04.6	-0.2
	comp=Z,13nm,1.1s						
MOTA	Moosalm	147.93	353	*e*P	PKPdf	07 52 01.6	-0.5
	comp=Z,10nm,1.0s						
MOTA				*e*P	PKPbc	07 52 05.2	-0.2
	comp=Z,54nm,1.1s,SNR=9.9						
MOTA				*e*P	pPKPbc	07 53 04.7	-0.3
	comp=Z,24nm,1.5s						
PERS	Pernice	147.94	347	*i* PKPdf	PKPdf	07 52 01.4	-0.5
PERS				*i* PKPbc	PKPbc	07 52 04.7	-0.6
PERS				*i* PKPab	PKiKP	07 52 07.6	+0.7
PERS				*i* pPKPbc	pPKPbc	07 53 04.6	-0.3
WTTA	Wattenberg	147.94	352	*e*P	PKPdf	07 52 01.8	-0.3
	comp=Z,10nm,1.0s						
WTTA				*i* P	PKPbc	07 52 05.3	-0.1
	comp=Z,42nm,0.7s,SNR=20						
WTTA				*e*P	pPKPbc	07 53 05.1	+0.1
	comp=Z,21nm,1.2s						
SQTA	Sankt Quirin	148.04	352	*e*P	PKPdf	07 52 02.3	+0.1
	comp=Z,2.5nm,0.4s						
SQTA				*e*P	PKPbc	07 52 05.6	0.0
	comp=Z,34nm,0.8s,SNR=6.8						
SQTA				*e*P	pPKPbc	07 53 05.3	+0.1
	comp=Z,23nm,1.1s						
FRGS	Fruska Gora	148.04	340	⇑P	PKPbc	07 52 04.6	-1.0
FRGS	Fruska Gora	148.04	340	⇓*i*P	PKPbc	07 52 05.6	+0.1
LODK	Lodwar	148.06	251		PKPdf	07 52 04.1	+1.0
DAVA	Damuels	148.12	354	*e*P	PKPbc	07 52 05.9	+0.1
	comp=Z,32nm,0.9s,SNR=15						
DAVA				*e*P	pPKPbc	07 53 05.7	+0.2
	comp=Z,18nm,1.1s						
OBKA	Obir	148.18	348	*e*P	PKPbc	07 52 05.1	-0.8
	comp=Z,14nm,1.0s,SNR=6.6						
OBKA				*e*P	pPKPbc	07 53 05.2	-0.4
	comp=Z,3.0nm,0.6s						
MYKA	Terra Mystica	148.23	349	*e*P	PKPbc	07 52 05.1	-0.9
	comp=Z,19nm,0.6s,SNR=13						
MYKA				*e*P	pPKPbc	07 53 05.2	-0.5
	comp=Z,9.9nm,1.0s						
FETA	Feichten	148.29	353	*i* P	PKPdf	07 52 02.6	-0.1
	comp=Z,8.4nm,1.0s,SNR=19						
FETA				*i* P	PKPbc	07 52 06.3	-0.1
	comp=Z,29nm,0.9s						
FETA				*e*P	pPKPbc	07 53 06.1	+0.1
	comp=Z,18nm,1.2s						
ABTA	Abfaltersbach	148.31	351	*i* P	PKPdf	07 52 01.9	-0.6
	comp=Z,15nm,1.1s,SNR=31						
ABTA				*e*P	PKPbc	07 52 05.6	-0.7
	comp=Z,66nm,1.0s						
ABTA				*e*P	pPKPbc	07 53 05.5	-0.4
	comp=Z,9.0nm,0.9s						
MOSL	Moslavina	148.51	345	*i* P	PKPbc	07 52 06.8	+0.1
LJU	Ljubljana	148.62	348	⇓*i*P	PKPbc	07 52 06.7	-0.3
LJU	Ljubljana	148.62	348	*i* PKPdf	PKPdf	07 52 03.1	+0.1
LJU				*i* PKPbc	PKPbc	07 52 06.8	-0.3
LJU				*i* PKPab	PKPab	07 52 10.3	-1.0
LJU				*i* pPKPdf	pPKPdf	07 53 03.0	-0.4
LJU				*i* pPKPbc	pPKPbc	07 53 06.5	-0.2
LJU				*e*		07 53 47.0	
CRES	Cresnjev	148.63	346	⇓*i*P	PKPbc	07 52 06.6	-0.4
TEKS	Tekeris	148.68	340	⇓*i*P	PKPbc	07 52 06.3	-0.9
BOVS	Bovan	148.70	337	⇑P	PKPbc	07 52 06.4	-0.9
DIVS	Divibare	148.92	339	⇓*i*P	PKPbc	07 52 07.9	0.0
CEY	Cerknica	148.94	348	⇓*i*P	PKPbc	07 52 07.4	-0.4
VTS	Vitosha	148.94	334	⇑P	PKPbc	07 52 07.4	-0.7
VTS	Vitosha	148.94	334	⇑PKP2	PKPbc	07 52 07.4	-0.7
BOJS	Bojanci	148.98	346	⇓*i*P	PKPbc	07 52 07.8	-0.1
BOJS	Bojanci	148.98	346	*i* PKPdf	PKPdf	07 52 03.8	+0.2
BOJS				*i* PKPbc	PKPbc	07 52 08.0	+0.1
BOJS				*e*pPKPbc	pPKPbc	07 53 06.7	-0.9
MRAK	Mrakovica	149.03	344	⇓*i*P	PKPbc	07 52 08.0	-0.1
CTI	Castel Tesino	149.13	351	PKIKP	PKPdf	07 52 01.9	-2.0
CTI	Castel Tesino	149.13	351		PKPdf	07 52 01.9	-2.0
BLY	Banja Luka	149.20	343	⇓*i*P	PKPbc	07 52 08.2	-0.2
SKDS	Skadanscina	149.21	348	⇓*i*P	PKPbc	07 52 07.8	-0.7
SENIN	Lac Senin/Sane	149.23	357		PKPbc	07 52 07.6	-1.2
BBLS	Lazići	149.32	340	⇓*i*P	PKPbc	07 52 08.9	0.0
RUDO	Rudo	149.56	340	⇓*i*P	PKPbc	07 52 08.7	-0.7
SMTH	Samothraki Isl	149.56	329	P	PKPbc	07 52 08.1	-1.4
EZN	Ezine	149.63	327	P	PKPbc	07 52 09.1	-0.5
KAVA	Kavala	149.66	330	P	PKPbc	07 52 09.1	-0.6
NVR	Nevrokopi	149.68	332	P	PKPbc	07 52 09.2	-0.6
BRJN	Brijuni	149.87	348	*i* P	PKPbc	07 52 09.8	-0.3
NVLJ	Novalja	149.96	346	*i* P	PKPbc	07 52 09.8	-0.4
UPM	Unac-Piva	150.08	340	⇓*i*P	PKPbc	07 52 10.1	-0.8
KIJV	Kijevo	150.10	344	*i* P	PKPbc	07 52 10.4	-0.3
STIP	Stip	150.14	334	*i* P	PKPbc	07 52 10.0	-0.8
LIA	Limnos Island	150.17	328	P	PKPbc	07 52 10.2	-0.7
SKO	Skopje	150.22	335	*i* P	PKPbc	07 52 10.9	-0.1
VAY	Valandovo	150.28	333	*i* P	PKPbc	07 52 10.4	-0.7
SIGR	SIGRI	150.33	327	P	PKPbc	07 52 10.5	-0.8
RICI	Ricice	150.37	342	*i* P	PKPbc	07 52 10.8	-0.6
DUGI	Dugi Otok	150.46	346	*i* P	PKPbc	07 52 10.3	-1.2
BRY	Bratogost	150.47	340	⇓*i*P	PKPbc	07 52 11.1	-0.7
MAKA	Makarska	150.59	342	*i* P	PKPbc	07 52 10.9	-0.9
ZIRJ	Zirje	150.63	345	*i* P	PKPbc	07 52 11.1	-0.8
PDG	Podgorica	150.64	339	⇓P	PKPbc	07 52 11.6	-0.3
PDG	Podgorica	150.64	339	⇓*i*P	PKPbc	07 52 11.6	-0.3
STON	Ston	150.76	341	⇓*i*P	PKPbc	07 52 11.2	-1.0
STON	Ston	150.76	341	*i* P	PKPbc	07 52 11.2	-1.0
CHOS	Chios island	150.81	325	P	PKPbc	07 52 12.2	-0.4
SMG	Samos	150.85	323	P	PKPbc	07 52 11.7	-0.9
HCY	Herceg Novi	150.89	340	⇓*i*P	PKPbc	07 52 11.6	-1.0
BODT	Bodrum	151.01	322	P	PKPbc	07 52 12.3	-0.7
DAT	Datca	151.07	321	P	PKPbc	07 52 12.3	-1.0
PGAV	Gavieira, Arco	151.18	21	*e*PKPdf	PKPdf	07 52 07.2	-0.1
PGAV	Gavieira, Arco	151.18	21	*e*PKPbc	PKPbc	07 52 13.5	+0.1
OHR	Ohrid	151.20	335	*i* P	PKPbc	07 52 13.1	-0.3
FNA	Florina	151.24	334	P	PKPbc	07 52 12.5	-1.0
XOR	Xorichti	151.56	330	P	PKPbc	07 52 12.6	-1.7
NEST	Nestorio	151.68	334	P	PKiKP	07 52 15.0	+0.1
PBRG	Braganca	151.84	19	*e*PKPdf	PKPdf	07 52 08.4	+0.2
PBRG	Braganca	151.84	19	*e*PKPbc	PKiKP	07 52 15.0	-0.1
POLO	Lamas de Olo	151.87	21	*e*PKPbc	PKiKP	07 52 15.6	+0.3
KPRO	Kipourio	151.93	333	P	PKPbc	07 52 13.4	-1.7
KARY	Karystos	151.95	327	P	PKiKP	07 52 15.6	+0.2
THL	Klokotos Trika	151.96	332	P	PKPbc	07 52 12.7	-2.4
KARP	Karpathos	152.09	320	P	PKPbc	07 52 13.9	-1.7
AGG	Agios Georgios	152.24	331	P	PKPdf	07 52 11.6	+2.7
MVO	Moncorvo	152.32	20	*e*PKPdf	PKPdf	07 52 10.2	+1.2
MVO	Moncorvo	152.32	20	*e*PKPbc	PKiKP	07 52 16.4	+0.2
MAKR	Makrakomi, Fth	152.34	331	P	PKPbc	07 52 14.1	-1.9
ANX	Ano Chora	152.78	331	P	PKPbc	07 52 13.9	-3.2
KEK	Kerkira	152.79	335	P	PKPdf	07 52 13.0	+3.4
MTE	Manteigas	152.82	22	*e*PKPbc	PKiKP	07 52 17.4	+0.2
SERG	Sergoula	152.86	330	P	PKPbc	07 52 14.9	-2.3
PMTG	Montargil	153.72	24	*e*PKPbc	PKiKP	07 52 19.1	+0.1
PMRV	Marv??o	153.73	23	*e*PKPdf	PKPdf	07 52 09.9	-1.1
PMRV	Marv??o	153.73	23	*e*PKPbc	PKiKP	07 52 19.4	+0.3
PNCL	Nicolau / Gran	154.41	26	*e*PKPbc	PKiKP	07 52 22.0	+1.5
ESDC	Sonseca Array	154.63	17	PKP	PKPdf	07 52 13.1	+0.8
	comp=Z,1.7nm,1.0s,baz=354,slow=3.0,SNR=6.9						
ESDC				PKPab	PKPab	07 52 36.8	+0.2
	comp=Z,6.3nm,1.0s,baz=324,slow=4.0,SNR=12						
ESDC				pPKPab	pPKPab	07 53 34.2	0.0
	comp=Z,3.5nm,1.0s,baz=314,slow=3.1,SNR=3.9						
MESJ	Messejana	154.77	26	*e*PKPbc	PKiKP	07 52 22.0	+0.8
KEST	Kesra	159.57	351	PKP	PKPdf	07 52 19.4	+0.7
	comp=Z,3.0nm,0.8s,baz=325,slow=3.8,SNR=4.8						
KEST				PKPab	PKPab	07 52 58.2	+0.1
	comp=Z,7.3nm,1.0s,baz=304,slow=5.1,SNR=5.1						
LIC	Lamto	166.27	131	*e*P	PKPab	07 53 28.5	+0.5
	comp=Z,71nm,1.3s						
TIC	Toumodi	166.56	130	*e*P	PKPab	07 53 30.8	+1.5
KIC	Kosan Boka	166.57	132	*e*P	PKPab	07 53 30.8	+1.4
	comp=Z,64nm,1.6s						
DBIC	Dimbokro	166.69	130	PKP	PKPdf	07 52 25.9	0.0
	comp=Z,8.8nm,1.0s,baz=273,slow=2.2,SNR=4.4						
DBIC				PKPab	PKPab	07 53 30.6	+0.7
	comp=Z,10nm,0.9s,baz=206,slow=8.1,SNR=7.0						
DBIC	Dimbokro	166.69	130	PKIKP	PKPdf	07 52 25.9	0.0
DBIC						07 53 30.6	
DBIC	Dimbokro	166.69	130		PKPdf	07 52 23.7	-2.2
DBIC	Dimbokro	166.69	130		PKPab	07 53 30.6	+0.7
TORD	Torodi Ar. Bea	175.76	124	PKP	PKPdf	07 52 29.5	-0.9
	comp=Z,8.5nm,1.1s,baz=344,slow=1.8,SNR=24						
TORD				PKPab	PKPab	07 54 10.3	+0.1
	comp=Z,4.3nm,0.9s,baz=247,slow=4.8,SNR=10						
TORD				PP	PP	07 58 04.8	+1.9
	comp=Z,1.1nm,0.9s,baz=151,slow=3.4,SNR=3.7						
TORD	Torodi Ar. Bea	175.76	124		PKPdf	07 52 27.3	-3.2
TORD					PKPab	07 54 07.4	-2.7

TAP ***03*** *07:33:12.3, 21.°92N×121.°17E, h25km, ML3.7, D*
JMA ***03*** *07:33:19.2±0.3, 22.°52N×121.°41E, h11km±4km, M3.7*
ISC 03 07:33:12.6±1.1**, 22.°05N**±0.°03×**121.°22E**±0.°02**, h9**km±9km**,**
n88, σ1§**03**/141**, 6D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LAY	Lan-yu	0.31	91	P	Pb	07 33 20.7	+0.4
	baz=72						
LAY				S	Sb	07 33 26.9	+1.5
	baz=72						
TSEB	Hengchuen, Pin	0.33	244	⇓*i*P	Pg	07 33 19.9	+0.7
	baz=275						
TSEB				*i* S	Sb	07 33 25.4	-0.6
	baz=275						
TWKBT	Hengchun	0.39	255	⇓P	Pg	07 33 20.4	+0.1
	baz=282						
TWKBT				S	Sg	07 33 25.9	+0.3
	baz=282						
TWK1	Hengchun	0.40	255	⇓P	Pg	07 33 20.4	-0.1
	baz=282						
TWK1				S	Sg	07 33 25.9	+0.2
	baz=282						
SLIU	Shizi	0.43	293	⇓*i*P	Pb	07 33 22.0	-0.3
	baz=311						
SLIU				*e*S	Sb	07 33 28.5	-0.4
	baz=311						
TAW	Tawu	0.43	316	*i* P	Pb	07 33 22.5	+0.1
	baz=341						
TAW				*i* S	Sb	07 33 30.0	+1.0
	baz=341						
HEN	Hengchun	0.45	265	⇓*i*P	Pg	07 33 21.7	+0.3
	baz=286						
HEN				*i* S	Sb	07 33 28.6	-0.9
	baz=286						
EAST	Anshuo	0.48	314	⇓P	Pb	07 33 23.2	0.0
	baz=336						
EAST				S	Sb	07 33 31.5	+1.0
	baz=336						
ECL	Taimali	0.60	336	*i* P	Pg	07 33 24.7	+0.5
	baz=344						
ECL				*i* S	Sb	07 33 34.3	+0.4
	baz=344						
SCZT	Fangliau	0.65	300	P	Pb	07 33 25.9	-0.1
	baz=312						
SCZT				*i* S	Sb	07 33 35.4	+0.3
	baz=312						
LDUT	Ludao	0.67	20	*e*P	Pb	07 33 26.3	-0.1
	baz=29						
LDUT				S	Sn	07 33 38.5	-0.2
	baz=29						
TTN	Taitung	0.71	354	*e*P	Pb	07 33 27.8	+0.6
	baz=346						
TTN				S	Sb	07 33 38.0	+1.0
	baz=346						
TWGBT	Beinan	0.78	350	P	Pg	07 33 27.5	-0.1
	baz=344						
TWG	Pinlang	0.78	350	*i* P	Pg	07 33 27.6	-0.1
	baz=344						
TWG				S	Sb	07 33 39.5	+0.4
	baz=344						
MASBT	Mashibuluo	0.78	316	P	Pg	07 33 28.0	+0.3
	baz=333						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MASBT				eS	Sb	07 33 39.6	+0.4
	baz=333						
WLCH	Liuqiu	0.84	291	eP	Pb	07 33 29.6	+0.3
	baz=301						
WLCH				S	Sb	07 33 41.9	+1.2
	baz=301						
TSMG	Majia	0.85	321	eP	Pb	07 33 29.2	-0.3
	baz=336						
TSMG				eS	Sn	07 33 42.6	-0.7
	baz=336						
LONT	Longtian	0.86	354	P	Pg	07 33 29.3	+0.1
	baz=348						
LONT				S	Sn	07 33 43.1	-0.6
	baz=348						
SSD	Sandimen	0.89	322	eP	Pg	07 33 29.8	+0.1
	baz=337						
SSD				eS	Sb	07 33 42.3	+0.3
	baz=337						
EDH	Donghe	0.93	5	eP	Pg	07 33 30.3	-0.1
	baz=352						
EDH				S	Sb	07 33 44.8	+1.6
	baz=352						
KAU	Kaohsiung	0.99	302	eP	Pb	07 33 32.4	+0.4
	baz=310						
CHKT	Chengkung	1.06	7	eP	Pg	07 33 33.0	+0.1
	baz=355						
CHKT				S	Sb	07 33 47.6	+0.6
	baz=355						
SCST	Cishan	1.07	321	eP	Pn	07 33 34.5	+0.7
	baz=327						
SLGT	Liugui	1.08	331	eP	Pn	07 33 35.0	+1.0
	baz=336						
FULB	Fuli	1.15	3	P	Pg	07 33 34.3	-0.4
	baz=353						
FULB				S	Sb	07 33 50.4	+0.7
	baz=353						
ELDTW	Lidau	1.15	351	P	Pg	07 33 33.3	-1.5
	baz=6.0						
SGST	Jiashian	1.19	330	eP	Pb	07 33 35.5	+0.2
	baz=335						
SGST				eS	Sn	07 33 53.3	+1.6
	baz=335						
STYH	Taoyuan	1.19	340	eP	Pn	07 33 37.1	+1.7
	baz=344						
STYH				eS	Sn	07 33 52.7	+0.9
	baz=344						
CHN3	Shinhua	1.29	322	eP	Pg	07 33 36.3	-1.2
	baz=327						
CHN3				eS	Sn	07 33 55.4	+1.0
	baz=327						
EYUL	Yuli	1.30	4	eP	Pg	07 33 36.4	-1.1
	baz=354						
EYUL				eS	Sg	07 33 53.0	-1.4
	baz=354						
CHN1	Nanshi	1.30	331	i P	Pn	07 33 37.6	+0.6
	baz=335						
CHN1				S	Sn	07 33 57.0	+2.4
	baz=335						
WTP	Ta-pu	1.32	335	P	Pn	07 33 38.3	+1.0
	baz=339						
WTP				S	Sn	07 33 56.3	+1.3
	baz=339						
YULB	Yu-li	1.34	3	eP	Pn	07 33 36.9	-0.6
	baz=4.0						
YULB				eS	Sg	07 33 53.1	-2.7
	baz=4.0						
SNST	Tainan City	1.35	330	eP	Pb	07 33 38.2	+0.2
	baz=334						
SNST				eS	Sn	07 33 57.0	+1.4
	baz=334						
TPUB	Ta-pu	1.36	336	P	Pg	07 33 38.5	-0.3
	baz=326						
TPUB				eS	Sn	07 33 57.9	+1.8
	baz=326						
TWK	Hsinying	1.39	331	eP	Pg	07 33 39.0	-0.3
	baz=335						
TWK				eS	Sn	07 33 58.9	+2.1
	baz=335						
HGSD	Ruisui	1.45	7	eP	Pn	07 33 39.1	+0.1
	baz=8.0						
EHY	Hungye	1.46	4	eP	Pn	07 33 38.7	-0.4
	baz=5.0						
SCLT	Jiali	1.47	320	eP	Pn	07 33 39.7	+0.4
	baz=325						
SCLT				S	Sg	07 34 00.1	+0.2
	baz=325						
ALS	Alishan	1.51	345	P	Pb	07 33 41.2	+0.3
	baz=358						
ALS				eS	Sn	07 34 01.4	+1.4
	baz=358						
ICHU	Yijhu	1.57	327	eP	Pn	07 33 40.9	+0.2
	baz=330						
ICHU				eS	Sg	07 34 02.5	-0.7
	baz=330						
CHN8	Yiju	1.59	324	P	Pb	07 33 42.4	+0.1
	baz=329						
CHN8				S	Sg	07 34 04.2	+0.3
	baz=329						
CHY	Chiayi	1.62	333	eP	Pn	07 33 42.1	+0.7
	baz=337						
CHY				eS	Sb	07 34 03.6	+0.3
	baz=337						
CHN5	Tsauling	1.62	342	P	Pb	07 33 42.7	-0.1
	baz=330						
CHN5				eS	Sg	07 34 04.8	0.0
	baz=330						
EGFH	Guangfu	1.63	7	eP	Pn	07 33 40.9	-0.6
	baz=357						
EGFH				eS	Sn	07 34 01.7	-0.8
	baz=357						
WHYT	Xinyi Township	1.68	348	eP	Pb	07 33 43.6	-0.1
	baz=359						
WHYT				eS	Sg	07 34 05.8	-0.8
	baz=359						
SSLB	Suanglung	1.75	352	eP	Pn	07 33 43.3	+0.1
	baz=354						
SSLB				eS	Sb	07 34 07.6	+0.6
	baz=354						
ESL	Shilin	1.77	6	eS	Sn	07 34 03.7	-2.4
	baz=7.0						
WTK	Tuku	1.81	335	eP	Pn	07 33 44.6	+0.7
	baz=338						
WTK				eS	Sb	07 34 09.2	+0.6
	baz=338						
WSF	Szhu	1.83	330	eS	Sn	07 34 07.1	-0.5
	baz=333						
TEYL	Yanliau Villag	1.85	11	eP	Pb	07 33 46.8	+0.2
	baz=360						
TEYL				eS	Sb	07 34 10.1	+0.4
	baz=360						
SMLT	Sun Moon Lake	1.85	351	P	Pn	07 33 46.1	+1.5
	baz=4.0						
SMLT				S	Sg	07 34 11.1	-1.2
	baz=4.0						
TYC	Yuchr	1.88	350	P	Pb	07 33 47.0	0.0
	baz=352						
TYC				eS	Sb	07 34 10.4	-0.3
	baz=352						
WDGT	Dungji	1.88	310	P	Pn	07 33 43.3	-1.6
	baz=315						
WDGT				S	Sn	07 34 07.0	-1.8
	baz=315						
WNT	Mingjian	1.89	345	P	Pb	07 33 47.0	-0.2
	baz=332						
WNT				S	Sb	07 34 11.4	+0.4
	baz=332						
OWD	Renai	1.90	359	eP	Pn	07 33 46.4	+1.1
	baz=11						
OWD				eS	Sn	07 34 09.2	-0.3
	baz=11						
WRL	Guolierlin Hig	2.00	337	eP	Pn	07 33 47.0	+0.4
	baz=326						
CHGB	Renai	2.00	359	eP	Pn	07 33 48.0	+1.1
	baz=11						
CHGB				eS	Sn	07 34 13.2	+1.0
	baz=11						
VCHM	Qimei	2.02	305	P	Pn	07 33 44.9	-2.0
	baz=323						
WCS	Beigang Elemen	2.02	352	eP	Pb	07 33 48.9	-0.6
	baz=353						
WCS				eS	Sb	07 34 14.8	0.0
	baz=353						
TWD	Chiawan	2.05	10	eP	Pn	07 33 48.0	+0.7
TWD				eS	Sn	07 34 12.5	-0.5
WHF	Hehuan Shan	2.09	1	eP	Pn	07 33 49.2	+1.0
	baz=14						
WHF				eS	Sn	07 34 15.4	+0.9
	baz=14						
PHUB	P'eng-hu	2.11	314	P	Pn	07 33 46.8	-1.3
	baz=318						
WCHH	Zhanghua	2.11	343	eS	Sn	07 34 15.7	+1.2
	baz=332						
NACB	Ninganchiao	2.15	9	eP	Pn	07 33 48.6	0.0
	baz=9.0						
PNG	Penghu	2.16	315	eP	Pn	07 33 47.4	-1.4
	baz=319						
ETLH	Xiulin Townshi	2.16	6	eP	Pn	07 33 49.9	+0.9
	baz=6.0						
FUSS	Fushou	2.19	1	eP	Pn	07 33 51.1	+1.7
	baz=11						
TDCB	Techi	2.20	358	eP	Pn	07 33 51.4	+2.0
	baz=359						
WHP	Taichung City	2.24	354	eP	Pn	07 33 51.4	+1.5
	baz=354						
TWQ1	Liyutan	2.33	350	eP	Pn	07 33 52.9	+1.7
	baz=338						
YHNB	Yeheng	2.62	3	eP	Pn	07 33 56.4	+1.3
	baz=347						
NSK	Sanguang	2.62	3	eP	Pn	07 33 56.7	+1.5
	baz=347						
HATJ	Hateruma jima	3.11	49	P	Pn	07 34 03.3	+1.5
HATJ				eS	Sn	07 34 36.6	-2.5
IRIF	Iriomote-Funau	3.24	45	P	Pn	07 34 04.0	+0.3
VWUC	VWUC	3.35	331	eP	Pn	07 34 04.8	-0.4
	baz=333						
JKRS	Kuro-shima	3.37	49	P	Pn	07 34 06.4	+1.0
KNM	Kinmen	3.48	313	eP	Pn	07 34 07.3	+0.3
	baz=316						
JIJ	Ishigaki jima	3.54	49	P	Pn	07 34 09.2	+1.4
JIJ				S	Sn	07 34 46.6	-3.2
KNMB	Chin-men Tao	3.55	313	eP	Pn	07 34 07.3	-0.5
	baz=317						
PTMZ	Houxiangcun	3.55	328	eP	Pn	07 34 07.3	-0.6
	baz=339						
ZPLA	Ao Xicun	3.71	301	eP	Pn	07 34 07.9	-2.1
	baz=306						
JISG	Ishigakijimahi	3.80	48	S	Sn	07 34 54.9	-1.3
JTJ	Tarama	4.11	50	P	Pn	07 34 16.7	+1.1
MATB	Ma-tsu	4.25	344	eP	Pn	07 34 17.6	+0.1
	baz=344						
MHZQ	Yeshan	4.50	334	eP	Pn	07 34 21.3	+0.3
	baz=335						
LYJJ	Jianjiangzhen	4.68	344	eP	Pn	07 34 23.8	+0.4
	baz=343						
XPSS	Dashiqiu	4.95	349	eP	Pn	07 34 28.8	+1.7
	baz=348						

JMA 03 07:50:08.5±0.4, 33.°47N×138.°43E, h314km±4km, M3.6
IDC 03 07:50:09.8±0.7, 33.°37N×138.°10E, h292km±6km, mb3.4/10, mb1 3.5/16, mb1mx3.2/59, mbtmp4.0/16, Error ellipse: s-maj=15.1km s-min=11.3km az=90.0
ISC 03 07:50:10.0±0.7, 33.°36N±0.°07×138.°32E±0.°06, h298km±6km, n41, σ1.s64/51, mb3.7/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK02	Tokai 2	0.75	321	P	Pn	07 50 49.6	+0.8
TK03	Tokai 3	0.86	340	P	Pn	07 50 49.8	+0.5
TK03				eS	S	07 51 22.7	+2.2
TTO4	TONANKAI O.B.S	0.92	315	P	Pn	07 50 50.0	+0.6
TTO4				eS	S	07 51 21.6	+0.9
TTO5	TONANKAI O.B.S	1.02	331	P	Pn	07 50 50.8	+0.8
TTO5				eS	S	07 51 22.9	+1.1
TK04	Tokai 4	1.09	340	P	Pn	07 50 51.2	+0.8
TK04				eS	S	07 51 24.0	+1.5
JMKN	Mikurajimanish	1.18	63	P	Pn	07 50 51.0	0.0
JHJ	Hachijo jima 2	1.25	101	P	Pn	07 50 52.0	+0.6
	23nm,0.3s,baz=328,slow=21,SNR=8.2						
JHJ				S	S	07 51 25.9	+1.6
	12nm,0.3s,baz=75,slow=20,SNR=2.2						
JHJ2	Mitsune	1.28	101	P	Pn	07 50 52.0	+0.4
TTO1	TONANKAI O.B.S	1.31	282	P	Pn	07 50 52.2	+0.8
JIE	Ise	1.69	308	P	Pn	07 50 54.3	+0.1
JOD2	Odawara 2	2.00	18	P	Pn	07 50 56.2	-0.3
JYN	Shimob	2.14	5	P	Pn	07 50 57.6	-0.1
JTNC	Tanabenakahech	2.31	282	P	Pn	07 50 59.0	-0.1
JWY	Kouya	2.43	291	P	Pn	07 51 00.4	+0.1
BSO1	Boso 1	2.56	59	P	Pn	07 50 59.2	-1.5
BSO1				eS	S	07 51 38.4	-2.8
JYTA	Yamagatataniai	2.59	330	P	Pn	07 51 01.4	-0.1
JYTA				eS	S	07 51 42.1	-0.6
JRY	Ryogami san	2.69	10	P	Pn	07 51 02.4	-0.2
JRY				eS	S	07 51 43.7	-0.9
JWT	Wachi	3.09	309	P	Pn	07 51 06.2	-0.2
JWT				eS	S	07 51 49.8	-1.6
MJAR	Matsushiro Arr	3.18	358	P	Pn	07 51 05.8	-1.5
	2.8nm,0.3s,baz=167,slow=11,SNR=90						
MAT	Matsushiro	3.18	358	P	Pn	07 51 06.7	-0.6
MAT				S	S	07 51 51.1	-2.0
MAT	Matsushiro	3.18	358	P	Pn	07 51 06.7	-0.6
JAG	Ashikaga	3.20	17	P	Pn	07 51 05.6	-1.9
JAI	Aioi	3.26	279	P	Pn	07 51 07.9	-0.3
JMN	Monobe	3.73	277	P	Pn	07 51 13.4	+0.2
JNU	Nakatsue	6.24	270	P	Pn	07 51 39.7	-2.5
	0.3nm,0.3s,baz=18,slow=6.4,SNR=2.1						
JCJ	Chichijima	7.08	151	P	Pn	07 51 48.5	-3.8
	7.5nm,0.3s,baz=293,slow=22,SNR=9.7						
JCJ				S	S	07 53 07.4	-7.7
	15nm,0.3s,baz=298,slow=22,SNR=11						
KSRS	Korea Array	9.42	299	P	Pn	07 52 19.2	-1.7
	0.1nm,0.3s,baz=112,slow=13,SNR=5.6						
ASAJ	Asahikawa	11.25	16	P	Pn	07 52 42.1	-1.2
	1.5nm,0.3s,baz=201,slow=8.0,SNR=8.1						
USRK	Ussuriysk Ar.	11.89	337	P	Pn	07 52 49.1	-2.0
	baz=129,slow=12,SNR=2.6						
KLR	Kul'dur	16.60	345	P	P	07 53 42.6	-1.8
	0.5nm,0.3s,baz=172,slow=7.3,SNR=6.5						
MKAR	Makanchi Array	44.03	305	P	P	07 57 48.7	0.0
	1.0nm,0.7s,baz=87,slow=8.2,SNR=5.8						
KDAK	Kodiak Island	51.53	40	P	P	07 58 46.3	+0.7
	3.5nm,0.6s,baz=176,slow=1.5,SNR=7.3						
WRA	Warramunga Arr	53.14	185	P	P	07 58 57.9	0.0
	2.0nm,0.4s,baz=360,slow=7.6,SNR=89						
ILAR	Eielson Array	53.94	31	P	P	07 59 03.9	+0.8
	0.6nm,0.9s,baz=256,slow=5.5,SNR=4.6						
ASAR	Alice Springs	56.86	185	P	P	07 59 23.9	-0.4
	0.8nm,0.7s,baz=16,slow=11,SNR=14						
INK	Inuvik	58.80	26	P	P	07 59 37.5	+0.5
	1.9nm,0.9s,baz=243,slow=2.3,SNR=1.9						
RES	Resolute Bay	66.77	13	P	P	08 00 30.1	+0.9
	1.9nm,0.6s,baz=278,slow=3.9,SNR=4.8						
FINES	FINESS Array B	70.87	332	P	P	08 00 54.4	-0.2
	2.2nm,0.9s,baz=35,slow=7.0,SNR=6.9						
NVAR	Mina Array Bea	79.24	51	P	P	08 01 44.7	+1.8
	0.6nm,0.7s,baz=303,slow=5.2,SNR=8.4						
TXAR	Lajitas Array	94.38	51	P	P	08 02 58.4	+1.7
	0.6nm,0.8s,baz=298,slow=3.0,SNR=7.8						
LPAZ	La Paz	150.71	61	PKPbc	PKPbc	08 09 29.2	+0.9
	0.5nm,0.5s,baz=56,slow=3.6,SNR=4.5						

NDI 03 07:59:24.9±1.0, 30.°00N×79.°65E, h7km±9km, ML3.5, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTH	Pithoragarh	0.67	132	ePG	Pg	07 59 32.5	-5.3
PTH				eSG	Sg	07 59 41.9	-4.7
DDI	Dehra Dun	1.42	283	eP	Pn	07 59 51.4	+0.2
DDI				eS	Sg	08 00 11.3	+0.9
DDI				IAML		08 00 15.3	
	comp=N,1µm,0.3s						
DDI				IAML		08 00 15.3	
	comp=E,1µm,0.0s						
SMLA	Simla	2.42	298	eP	Pn	08 00 05.3	+0.4
SMLA				i x	x	08 00 07.1	
SMLA				eS	Sn	08 00 35.3	+0.6
SMLA				IAML		08 00 39.8	
	comp=E,208nm,0.5s						
SMLA				IAML		08 00 40.1	
	comp=N,225nm,0.0s						
NDI	New Delhi	2.50	239	eP	Pg	08 00 17.0	+4.2
THN	Thein Dam	4.15	307	ex	x	08 01 18.0	
BHPL	Bhopal	7.02	197	eS	Sn	08 02 22.6	-5.9

MEX 03 08:17:04.1±0.4, 17.°10N×100.°17W, h31km±5km, MD4.0, 1C, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAIG	Los Arroyos	0.51	99	eP	Pb	08 17 12.9	-1.7
DAIG				eS	Sb	08 17 19.8	-2.1
MEIG	Mezcala	0.97	33	eP	Pn	08 17 19.3	-2.5
MEIG				eS	Sn	08 17 29.4	-5.2
ZIIG	Zihuatanejo	1.33	292	eP	Pb	08 17 28.2	-0.3
ZIIG				eS	Sn	08 17 43.3	0.0
PLIG	Platanillo	1.43	26	i P	Pn	08 17 26.1	-1.9
PLIG				eS	Sn	08 17 43.8	-2.1
MGIG	Malinaltepec	1.48	85	eP	Pn	08 17 26.8	-2.0
MGIG				eS	Sn	08 17 43.6	-3.5
TLIG	Tlapa	1.60	73	eP	Pn	08 17 28.5	-1.9
TLIG				eS	Sn	08 17 46.8	-3.4
PNIG	Pinotepa	2.08	110⇑	eP	Pn	08 17 35.0	-2.0
PNIG				eS	Sn	08 17 57.0	-4.9
HLIG	Huajuapan de L	2.37	72	eP	Pn	08 17 39.4	-1.7

IDC 03 08:18:02.4±1.2, 17.°14S×167.°22E, h0km, mb4.2/6, mb1 4.5/7, mb1mx4.1/35, mbtmp4.3/7, ML4.5/1, MS3.4/6, Ms1 3.4/6, ms1mx3.1/30, Error ellipse: s-maj=46.1km s-min=21.8km az=142.0
NOU 03 08:18:04.4, 17.°22S×167.°23E, h14km, MLv5.0/15, Vanuatu Islands
ISC 03 08:18:05.7±0.9, 17.°23S±0.°06×167.°24E±0.°08, h25km, n30, σ0.s98/27, mb4.3/5, MS3.5/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DVP	Devils Point	1.03	119	P	Pn	08 18 24.0	-0.6
RTV	Rentapao	1.27	116	P	Pn	08 18 27.5	-0.3
SANVU	Saraoutou	1.77	359	P	Pn	08 18 33.8	-1.0
MARNC	Mare, Loyalty	4.29	170	P	Pn	08 19 09.9	+0.5
KOUNC	Koumac, New Ca	4.32	220	P	Pn	08 19 09.8	0.0
YATNC	Mamie plateau,	4.81	184	P	Pn	08 19 15.9	-0.7
YATNC	Mamie plateau,	4.81	184	P	Pn	08 19 15.4	-1.2
DZM	Mont Dzumac	4.87	189	ePn	Pn	08 19 17.5	0.0
	72nm,0.2s						
DZM				eSn	Sn	08 20 11.4	-1.8
	63nm,0.2s						
DZM	Mont Dzumac	4.87	189	Pn	Pn	08 19 17.3	-0.2
	19nm,0.3s,baz=340,slow=9.4,SNR=240						
DZM				Sn	Sn	08 20 10.0	-3.1
	7.6nm,0.3s,baz=108,slow=19,SNR=1.6						
DZM				LR	LR	08 21 07.6	
	comp=Z,579nm,18.1s,baz=88,slow=37						
DZM	Mont Dzumac	4.87	189	P	Pn	08 19 17.2	-0.3
DZM	Mont Dzumac	4.87	189	P	Pn	08 19 17.5	0.0
NOUC	Port Laguerre	4.92	190	P	Pn	08 19 18.2	+0.2
NOUC	Port Laguerre	4.92	190	P	Pn	08 19 18.3	+0.2
ONTNC	Ouen Toro	5.10	188	P	Pn	08 19 20.8	+0.2
ONTNC	Ouen Toro	5.10	188	P	Pn	08 19 21.1	+0.5
OUENC	Ouen Island, N	5.17	184	P	Pn	08 19 21.9	+0.4
OUENC	Ouen Island, N	5.17	184	P	Pn	08 19 22.0	+0.4
PINNC	Pines Island,	5.36	178	P	Pn	08 19 24.6	+0.5
PINNC	Pines Island,	5.36	178	P	Pn	08 19 25.1	+1.0
HNR	Honiara	10.50	317	LR	LR	08 23 37.7	
	comp=Z,111nm,19.1s,baz=126,slow=32						
CTA	Charters Tower	20.08	259	P	Pn	08 22 39.5	+0.1
	7.1nm,0.9s,baz=85,slow=13,SNR=6.5						
STKA	Stephens Creek	27.41	233	P	P	08 23 51.0	+1.5
	8.1nm,1.0s,baz=59,slow=10,SNR=9.8						
STKA				LR	LR	08 34 52.7	
	comp=Z,90nm,18.5s,baz=202,slow=37						
WRA	Warramunga Arr	31.27	260	P	P	08 24 23.4	-0.4
	1.8nm,0.7s,baz=90,slow=9.0,SNR=12						
ASAR	Alice Springs	31.83	253	P	P	08 24 28.7	0.0
	3.9nm,0.6s,baz=80,slow=8.7,SNR=62						
ASAR				LR	LR	08 36 24.9	
	comp=Z,102nm,21.3s,baz=105,slow=35						
JNU	Nakatsue	60.94	325	LR	LR	08 54 45.7	
	comp=Z,516nm,18.1s,baz=259,slow=36						
KSRS	Korea Array	65.78	326	LR	LR	08 57 35.2	
	comp=Z,10nm,18.2s,baz=280,slow=36						
PETK	Petropavlovsk-	70.53	354	LR	LR	08 54 15.6	
	comp=Z,31nm,20.4s,baz=109,slow=31						
ILAR	Eielson Array	88.90	18	P	P	08 30 57.2	-0.2
	1.3nm,0.7s,baz=238,slow=5.3,SNR=14						
NVAR	Mina Array Bea	88.92	49	P	P	08 30 59.7	+1.3
	1.0nm,0.9s,baz=224,slow=7.9,SNR=5.6						
ARCES	ARCESS Array B	122.65	345	PKP	PKiKP	08 36 59.3	+0.5
	2.2nm,0.9s,baz=10,slow=1.0,SNR=4.7						

ISK 03 08:23:19.7, 39.°15N×29.°13E, h10km, ML4.1/44
DDA 03 08:23:19.5, 39.°12N×29.°12E, h10km±2km, MW4.1
IDC 03 08:23:21.0±5.7, 39.°23N×29.°40E, h0km, mb3.8/3, mb1 3.7/4, mb1mx3.5/35, mbtmp3.7/4, ML3.1/1, MS3.1/2, Ms1 3.1/2, ms1mx2.6/51, Error ellipse: s-maj=109.0km s-min=30.7km az=19.0
ISC 03 08:23:20.2±0.9, 39.°15N±0.°02×29.°13E±0.°01, h9km±6km, n158, σ0.s93/196, mb3.7/3, 30C-17D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIMA	Simav-Kutahya	0.13	241	PG	Pg	08 23 23.4	+0.1
SIMA				SG	Sg	08 23 25.7	+0.3
GEDZ	Gediz	0.24	115	PG	Pg	08 23 25.3	+0.2
GEDZ				SG	Sg	08 23 29.0	+0.6
GDZ	Gediz	0.28	102⇑	iP	Pg	08 23 25.7	-0.1
GDZ				i S	Sg	08 23 29.8	+0.2
GDZ				IAML		08 23 30.0	
	comp=E,16µm,0.4s						
GDZ				IAML		08 23 30.0	
	comp=N,40µm,0.5s						
DEMI	Demirci	0.34	252⇑	iP	Pg	08 23 26.9	-0.1
DEMI				IAML		08 23 31.0	
	comp=E,9µm,0.4s						
DEMI				i S	Sg	08 23 31.3	-0.2
DEMI				IAML		08 23 32.0	
	comp=N,6µm,0.3s						
TVSB	Tavsanli	0.40	40	PG	Pg	08 23 28.1	+0.1
TVSB				SG	Sg	08 23 33.5	+0.2
USAK	Uak-Merkez	0.44	192⇑	iP	Pg	08 23 28.5	-0.4
USAK				IAML		08 23 34.0	
	comp=E,9µm,0.3s						
USAK				IAML		08 23 34.0	
	comp=N,15µm,0.2s						
USAK				i S	Sg	08 23 34.2	-0.5
DST	Dursunbey	0.60	319	PG	Pg	08 23 31.9	0.0
DURS	Dursunbey	0.68	312⇑	iP	Pg	08 23 33.3	-0.1
DURS				IAML		08 23 47.0	
	comp=N,7µm,0.5s						
DURS				i S	Sn	08 23 47.5	+0.7
DURS				IAML		08 23 48.0	
	comp=E,10µm,0.4s						
ANDZ	Kutahya, Merke	0.70	59⇓	iP	Pg	08 23 33.4	-0.3
ANDZ				i S	Sg	08 23 42.9	+0.1
ANDZ				IAML		08 23 48.0	
	comp=E,12µm,0.2s						
ANDZ				IAML		08 23 48.0	
	comp=N,10µm,0.2s						
KULA	Kula-Manisa	0.73	210	PG	Pg	08 23 33.7	-0.6
MANT	Manisa	0.80	215⇑	iP	Pg	08 23 34.7	-0.8
MANT				i S	Sg	08 23 44.4	-1.5
MANT				IAML		08 23 46.0	
	comp=E,3µm,0.3s						
MANT				IAML		08 23 46.0	
	comp=N,4µm,0.4s						
PASA	Karahalli, USA	0.85	161⇑	iP	Pg	08 23 36.0	-0.5
PASA				i S	Sg	08 23 46.8	-0.8
PASA				IAML		08 23 52.0	
	comp=E,5µm,0.9s						
PASA				IAML		08 23 53.0	
	comp=N,4µm,0.6s						
ORLT	Orhaneli	0.92	349	PG	Pg	08 23 37.8	0.0
AFYO	Afyonkarahisar	0.98	111⇑	iP	Pg	08 23 38.4	-0.7
AFYO				i S	Sb	08 23 52.5	+0.1
AFYO				IAML		08 23 56.0	
	comp=E,6µm,0.5s						
AFYO				IAML		08 23 56.0	
	comp=N,9µm,0.6s						
ULDT	Uludag	0.99	0⇑	iP	Pg	08 23 38.9	-0.5
ULDT				i S	Sg	08 23 52.1	-0.2
ULDT				IAML		08 23 56.0	
	comp=E,5µm,0.8s						
ULDT				IAML		08 23 56.0	
	comp=N,5µm,0.2s						
AUBOZ	BOZOYUK	1.03	42⇑	iP	Pg	08 23 39.5	-0.6
AUBOZ				i S	Sg	08 23 53.9	+0.3
AUBOZ				IAML		08 23 57.0	
	comp=E,8µm,0.8s						
AUBOZ				IAML		08 23 57.0	
	comp=N,6µm,0.6s						
AUBOZ	BOZOYUK	1.03	42	PG	Pg	08 23 40.2	+0.1

AUBOZ SG Sb 08 23 54.6 +0.6
AKHS Akhisar 1.06 256 ⇓ *i* P Pg 08 23 40.3 -0.3
AKHS *i* S Sn 08 23 55.9 -0.2
AKHS IAML 08 23 58.0
comp=E,1μm,0.4s
AKHS IAML 08 24 00.0
comp=N,0.9nm,0.5s
AKS Akhisar 1.06 256 PG Pb 08 23 40.4 -0.3
BALB Balikesir 1.09 297 PN Pg 08 23 41.1 0.0
AUKIR Kırka- Seyitga 1.09 83 *i* P Pn 08 23 41.9 +0.1
AUKIR *i* S Sg 08 23 55.2 -0.3
IGD Bursa 1.12 3 ⇑ *i* P Pb 08 23 41.1 -0.6
IGD *i* S Sn 08 23 58.6 +1.1
IGD IAML 08 24 02.0
comp=E,1μm,0.2s
IGD IAML 08 24 02.0
comp=N,2μm,0.5s
STEP BALIKESIR_Sava 1.12 282 ⇑ *i* P Pb 08 23 41.2 -0.5
STEP *i* S Sn 08 23 57.8 +0.2
STEP IAML 08 24 00.0
comp=E,3μm,0.5s
STEP IAML 08 24 00.0
comp=N,4μm,0.7s
BILE Bilecik/Merkez 1.16 29 ⇑ *i* P Pb 08 23 41.9 -0.6
BILE *i* S Sg 08 23 58.2 +0.5
BILE IAML 08 24 01.0
comp=E,3μm,0.5s
BILE IAML 08 24 05.0
comp=N,5μm,0.5s
CAVI Cavuskoy 1.19 27 PN Pn 08 23 42.6 -0.4
CAVI SN Sg 08 23 58.9 +0.4
KZIL AFYON_Kizioren 1.19 138 ⇑ *i* P Pb 08 23 42.5 -0.5
KZIL *i* S Sg 08 23 58.5 0.0
KZIL IAML 08 24 01.0
comp=N,2μm,0.6s
KZIL IAML 08 24 03.0
comp=E,2μm,0.7s
MDNY Mudanya-Bursa 1.23 351 PN Pn 08 23 43.3 -0.3
BORA Eskisehir 1.26 54 ⇑ *i* P Pn 08 23 43.4 -0.6
BORA *i* S Sg 08 24 00.9 +0.2
BORA IAML 08 24 01.0
comp=E,10μm,0.6s
BORA IAML 08 24 02.0
comp=N,11μm,0.3s
BORA Eskisehir 1.26 54 PN Pn 08 23 43.9 -0.1
BORA SN Sg 08 24 00.9 +0.2
SHUT Suhut-Afyon 1.26 118 PN Pb 08 23 44.1 0.0
KCTX Karacabey (Bur 1.27 332 PN Pn 08 23 43.8 -0.3
GEMT Gemlik 1.29 2 PN Pn 08 23 44.0 -0.3
BALY Balya 1.31 297 ⇑ *i* P Pn 08 23 44.3 -0.4
BALY *i* S Sb 08 24 01.7 -0.2
BALY IAML 08 24 04.0
comp=E,2μm,0.4s
BALY IAML 08 24 04.0
comp=N,3μm,0.4s
ADVT Abdulvahap 1.37 20 PN Pn 08 23 45.3 -0.1
SGAZ Eskisehir, Sey 1.38 73 ⇑ *i* P Pn 08 23 45.5 -0.2
SGAZ *i* S Sn 08 24 04.2 +0.1
SGAZ IAML 08 24 08.0
comp=N,2μm,0.4s
SGAZ IAML 08 24 10.0
comp=E,1μm,0.2s
YLV Yalova 1.43 7 PN Pn 08 23 45.8 -0.6
ARMT Armutlu 1.43 352 PN Pn 08 23 45.8 -0.6
GONE Gonen-Balikesi 1.43 309 PN Pb 08 23 46.5 -0.6
GPA Golpazari 1.46 38 PN Pg 08 23 48.1 -0.1
SRCK Saricakaya, Es 1.46 52 PN Pn 08 23 46.6 -0.1
TRML Termal-Yalova 1.46 1 PN Pn 08 23 46.5 -0.2
CIFT Cifteler, Eski 1.51 81 PN Pn 08 23 47.6 +0.1
AYDB Zeytinkoy-Aydi 1.54 219 PN Pn 08 23 47.0 -1.0
EDC Edincik 1.55 321 PN Pn 08 23 47.7 -0.2
GEYV SAKARYA_Geyve 1.61 34 *i* P Pn 08 23 49.1 +0.4
GEYV *i* S Sb 08 24 11.3 +0.9
GEYV IAML 08 24 16.0
comp=E,3μm,0.4s
GEYV IAML 08 24 20.0
comp=N,3μm,0.8s
ZEDA zmir-Bergama 1.61 264 *i* P Pg 08 23 50.7 -0.4
ZEDA *i* S Sn 08 24 08.8 -0.9
ZEDA IAML 08 24 18.0
comp=N,706nm,0.5s
ZEDA IAML 08 24 19.0
comp=E,340nm,0.4s
BRDR BURDUR-Merkez 1.62 153 ⇓ *i* P Pn 08 23 48.2 -0.8
BRDR *i* S Sg 08 24 14.6 +2.2
BRDR IAML 08 24 17.0
comp=E,1μm,0.6s
BRDR IAML 08 24 20.0
comp=N,2μm,0.6s
BUHA Balikesir, Bur 1.63 283 *i* P Pn 08 23 49.1 +0.1
BUHA *i* S Sn 08 24 09.3 -0.9
BUHA IAML 08 24 17.0
comp=N,787nm,1.0s
BUHA IAML 08 24 18.0
comp=E,2μm,0.6s
GULT Gulveren 1.67 39 PN Pn 08 23 49.7 0.0
KNL Balıkesir 1.67 313 *i* P Pn 08 23 49.2 -0.4
KNL IAML 08 24 15.0
comp=N,3μm,0.7s
KNL IAML 08 24 15.0
comp=E,3μm,0.6s
TAVA DENIZLI_Tavas 1.69 186 *i* P Pn 08 23 48.6 -1.3
TAVA *i* S Sg 08 24 14.2 -0.3
TAVA IAML 08 24 24.0
comp=E,427nm,0.9s
TAVA IAML 08 24 24.0
comp=N,616nm,0.8s
ISP Isparta 1.71 140 PN Pn 08 23 49.5 -0.8
HRT Hereke 1.72 14 PN Pn 08 23 49.7 -0.7
BAGO Egridir - ISPA 1.74 131 *i* P Pn 08 23 50.1 -0.5
BAGO *i* S Sg 08 24 17.9 +1.8
BAGO IAML 08 24 23.0
comp=E,496nm,0.7s
BAGO IAML 08 24 24.0
comp=N,647nm,1.6s
AYDN Tasoluk 1.78 214 *i* P Pn 08 23 50.1 -1.1
AYDN IAML 08 24 20.0
comp=E,619nm,1.2s
AYDN IAML 08 24 25.0
comp=N,358nm,0.8s
SAUV Serdivan-Sakar 1.84 30 PN Pn 08 23 52.0 +0.1
YVAC Isparta, Yalva 1.87 117 *i* P Pn 08 23 52.6 +0.1
YVAC *i* S Sn 08 24 16.6 +0.4
YVAC IAML 08 24 27.0
comp=N,258nm,0.6s
YVAC IAML 08 24 28.0
comp=E,411nm,0.7s
MRMT Marmara Adasi 1.87 321 PN Pn 08 23 52.4 -0.1
SVRH Sivrihisar-ESK 1.88 80 PN Pn 08 23 52.4 -0.2
KRBG Karabiga-Canak 1.88 312 PN Pn 08 23 52.4 -0.1
AUSIV SIVRIHISAR 1.89 80 *i* P Pn 08 23 52.7 -0.1
AUSIV SIVRIHISAR 1.89 80 PN Pn 08 23 52.8 +0.1
KAVV Kandilli-Istan 1.91 358 PN Pn 08 23 53.9 +0.9
ISK Istanbul-Kandi 1.92 358 PN Pn 08 23 52.2 -0.8
MULA Mugla, Merkez- 1.99 199 *i* P Pn 08 23 53.4 -0.7
MULA IAML 08 24 31.0
comp=N,325nm,0.9s
MULA IAML 08 24 31.0
comp=E,459nm,1.1s
BTAS Taskesti 2.02 45 *i* P Pn 08 23 54.9 +0.4
BTAS *i* S Sg 08 24 26.0 +0.8
BTAS IAML 08 24 30.0
comp=N,3μm,0.5s
BTAS IAML 08 24 33.0
comp=E,2μm,0.7s
CAEL Denizli, Camel 2.03 176 *i* P Pn 08 23 54.3 -0.3
CAEL *i* S Sg 08 24 29.5 +4.1
CAEL IAML 08 24 36.0
comp=N,1μm,1.1s
CAEL IAML 08 24 42.0
comp=E,1μm,0.8s
SILT Sile 2.04 11 PN Pn 08 23 54.5 -0.2
ELBA Catalca 2.07 345 *i* P Pn 08 23 54.9 -0.2
ELBA IAML 08 24 27.0
comp=N,556nm,0.6s
ELBA IAML 08 24 28.0
comp=E,676nm,0.3s
DGB zmir 2.07 239 *i* P Pb 08 23 57.9 0.0
DGB *i* S Sg 08 24 26.2 -0.6
DGB IAML 08 24 28.0
comp=N,209nm,0.8s
DGB IAML 08 24 41.0
comp=E,84nm,0.5s
GCAM G?zelcaml? 2.08 226 *i* P Pb 08 23 58.1 +0.1
GCAM IAML 08 24 32.0
comp=N,177nm,1.1s
GCAM IAML 08 24 33.0
comp=E,258nm,1.5s
KLYT Kilyos 2.10 358 PN Pn 08 23 55.1 -0.4
GZKV Gazikoy-Tekird 2.12 320 PN Pn 08 23 56.7 +1.0
YER Yerkesik 2.12 199 PN Pn 08 23 55.2 -0.6
URLA Izmir 2.13 249 *i* P Pg 08 23 60.0 -1.1
URLA IAML 08 24 38.0
comp=N,376nm,1.3s
URLA IAML 08 24 42.0
comp=E,264nm,0.8s
URLA Izmir 2.13 249 PN Pn 08 23 56.2 +0.2
BUCA Burdur, Bucak- 2.14 148 *i* P Pn 08 23 55.8 -0.3
BUCA *i* S Sg 08 24 26.9 -2.0
BUCA IAML 08 24 40.0
comp=N,264nm,0.9s
BUCA IAML 08 24 49.0
comp=E,340nm,1.3s
CTKS Kestanelik-??a 2.14 347 PN Pn 08 23 56.0 -0.1
RKY Sarkoy-Tekirda 2.15 316 PN Pn 08 23 56.4 +0.1
SART Tekirdag 2.15 316 *i* P Pn 08 23 56.1 -0.2
SART IAML 08 24 33.0
comp=N,1μm,1.1s
SART IAML 08 24 36.0
comp=E,2μm,0.8s
SAHE Sakarya_HENDEK 2.16 37 *i* P Pn 08 23 56.2 -0.1
SAHE IAML 08 24 33.0
comp=E,921nm,0.6s
SAHE IAML 08 24 35.0
comp=N,1μm,0.6s
KIZT Kizilcal 2.16 96 PN Pn 08 23 56.6 +0.2
MAR4 Marsite Statio 2.16 320 PN Pn 08 23 56.1 -0.3
SLVT Silivri 2.20 342 PN Pn 08 23 57.7 +0.9
LPK Lapseki 2.20 305 PN Pn 08 23 57.5 +0.6
CAME Cameli-Denizli 2.21 176 PN Pn 08 23 56.6 -0.5
DOGA KONYA_Doganhis 2.24 117 *i* P Pn 08 23 57.8 +0.2
DOGA IAML 08 24 40.0
comp=E,189nm,1.2s
DOGA IAML 08 24 43.0
comp=N,198nm,1.4s
ZEYE Izmir, Urla-Ze 2.25 247 *i* P Pn 08 23 57.0 -0.6
ZEYE IAML 08 24 34.0
comp=E,193nm,1.1s
ZEYE IAML 08 24 37.0
comp=N,348nm,0.4s
DDIM Aydin, Didim 2.25 222 *i* P Pb 08 24 01.1 +0.2
DDIM IAML 08 24 39.0
comp=N,527nm,1.4s
DDIM IAML 08 24 50.0
comp=E,384nm,1.2s
EZN Ezine 2.27 288 PN Pn 08 23 57.9 0.0
KOCA Canakkale, Ayv 2.35 280 *i* P Pn 08 23 58.6 -0.4
KOCA IAML 08 24 38.0
comp=E,522nm,1.0s
KOCA IAML 08 24 41.0
comp=N,475nm,0.4s
KORT Korkueli 2.35 155 *i* P Pn 08 23 58.9 -0.2
KORT IAML 08 24 47.0
comp=E,497nm,0.9s
KORT IAML 08 24 52.0
comp=N,421nm,0.8s
KORT Korkueli 2.35 155 PN Pn 08 23 58.8 -0.2
DALY Dalyan (Mula) 2.36 189 *i* P Pn 08 23 58.9 -0.1
DALY IAML 08 24 43.0
comp=E,263nm,1.1s
DALY IAML 08 24 54.0
comp=N,368nm,1.1s
KDHN Kadinhani 2.41 104 *i* P Pn 08 23 60.0 +0.1
KDHN IAML 08 24 46.0
comp=N,74nm,0.8s
KDHN IAML 08 24 47.0
comp=E,130nm,0.7s
ECEA Canakkale, Ece 2.45 292 *i* P Pn 08 24 00.7 +0.3
ECEA *i* S Sn 08 24 28.6 -1.8
ECEA IAML 08 24 45.0
comp=N,1μm,0.9s
ECEA IAML 08 24 51.0
comp=E,898nm,0.9s
BDRM Kayabasi 2.47 213 *i* P Pn 08 23 59.6 -1.0
BDRM IAML 08 24 45.0
comp=N,181nm,1.0s
BDRM IAML 08 24 45.0
comp=E,121nm,0.9s
TURN Turunc 2.47 197 *i* P Pn 08 23 59.9 -0.7
TURN IAML 08 24 47.0
comp=N,152nm,0.9s
TURN IAML 08 24 50.0
comp=E,180nm,1.0s
BOZC Bozcaada 2.48 287 *i* P Pn 08 24 00.8 0.0
BOZC IAML 08 24 42.0
comp=N,390nm,1.1s
BOZC IAML 08 24 42.0
comp=E,226nm,0.4s
FETY Fethiye 2.51 181 *i* P Pn 08 24 01.3 +0.2
FETY IAML 08 24 48.0
comp=E,212nm,1.1s
FETY IAML 08 24 50.0
comp=N,229nm,1.1s
KESN Edirne-Kesan 2.52 312 *i* P Pn 08 24 01.3 -0.3
KESN IAML 08 24 44.0
comp=N,1μm,0.5s
KESN IAML 08 24 45.0
comp=E,998nm,0.9s
YIGI Dzce 2.54 44 *i* P Pn 08 24 02.5 +0.9
YIGI IAML 08 24 47.0
comp=N,1.3nm,0.6s
YIGI IAML 08 24 47.0
comp=Z,387nm,1.1s
YIGI IAML 08 24 48.0
comp=E,280nm,0.6s
VIZE Kirklareli, Vi 2.62 338 *i* P Pn 08 24 02.6 -0.1
SEDI Konya, Seydise 2.67 129 *i* P Pn 08 24 03.8 +0.3
SEDI IAML 08 24 39.0
comp=N,172nm,0.5s
SEDI IAML 08 25 00.0
comp=E,163nm,0.7s
CAVK Edirne/Enez-Ca 2.75 305 *i* P Pn 08 24 05.3 +0.8
CAVK IAML 08 24 56.0
comp=E,440nm,0.9s
CAVK IAML 08 24 59.0
comp=N,676nm,0.9s
KONT Konya--Tatoy 2.80 114 *i* P Pn 08 24 05.5 +0.3
KONT *i* S Sn 08 24 38.7 -0.5
KONT IAML 08 24 41.0
comp=N,124nm,0.9s
KONT IAML 08 24 41.0
comp=E,98nm,0.8s
BCAM Yenicaga 2.80 53 *i* P Pn 08 24 06.6 +1.3
BCAM IAML 08 25 00.0
comp=E,341nm,0.9s
BCAM IAML 08 25 04.0
comp=N,289nm,1.5s
CMDR Camlidere-ANKA 2.91 61 *i* P Pb 08 24 10.3 -1.9
CMDR IAML 08 25 02.0
comp=E,533nm,0.5s
CMDR IAML 08 25 05.0
comp=N,521nm,1.0s
AKAS Kas 2.93 172 *i* P Pn 08 24 08.4 +1.3
AKAS IAML 08 25 09.0
comp=N,347nm,1.0s
AKAS IAML 08 25 12.0
comp=E,312nm,1.0s
KKUL Konya-Kulu 2.94 88 *i* P Pn 08 24 09.0 +1.8
KKUL IAML 08 25 10.0
comp=E,137nm,0.8s
KKUL IAML 08 25 23.0
comp=N,139nm,0.8s
KEPZ Antalya-Kepez 2.97 138 *i* P Pn 08 24 08.0 +0.4
KEPZ *i* S Sn 08 24 45.0 +1.7
KEPZ IAML 08 24 50.0
comp=E,124nm,0.8s
KEPZ IAML 08 24 53.0
comp=N,166nm,0.8s
AKUM Antalya-Kumluc 2.98 161 *i* P Pn 08 24 09.3 +1.7
AKUM IAML 08 25 17.0
comp=E,194nm,1.0s
AKUM IAML 08 25 17.0
comp=N,132nm,1.1s
ARMN Kirklareli, Me 3.01 335 *i* P Pn 08 24 07.9 -0.1
ARMN IAML 08 25 01.0
comp=N,184nm,0.8s
ARMN IAML 08 25 01.0
comp=E,182nm,0.6s
ALIN Konya, Altinte 3.05 105 *i* P Pn 08 24 06.2 -2.5
KIRK Kırklareli 3.05 330 *i* P Pn 08 24 08.1 -0.6
KIRK IAML 08 24 46.0
comp=N,109nm,0.3s
KIRK IAML 08 25 00.0
comp=E,97nm,0.8s
APE Apeiranthos 3.52 235 ⇑ P Pg 08 24 28.0 +0.4
APE Apeiranthos 3.52 235 ⇑ S Sg 08 25 18.2 +5.0
BRTR Keskin Array B 3.54 79 Pn Pn 08 24 16.1 +0.6
comp=E,2.0nm,0.3s,baz=252,slow=13,SNR=36
BRTR Sn Sn 08 24 56.3 -1.1
comp=E,10nm,0.3s,baz=98,slow=5.8,SNR=8.6
KKBE Karaman, Kazim 3.56 121 *i* P Pn 08 24 17.0 +1.2
KKBE IAML 08 25 32.0
comp=E,36nm,1.1s
KKBE IAML 08 25 43.0
comp=N,33nm,1.6s
ELDT Eldivan 3.57 67 *i* P Pn 08 24 16.5 +0.7
KIRS Kırehir-Merke 3.72 89 *i* P Pn 08 24 18.2 +0.4
KIRS IAML 08 25 44.0
comp=N,24nm,0.7s
KIRS IAML 08 25 55.0
comp=E,20nm,1.1s
DELI KIRIKKALE 3.80 76 *i* P Pn 08 24 19.8 +0.8
DELI IAML 08 25 28.0
comp=N,53nm,0.9s
DELI IAML 08 25 38.0
comp=E,47nm,0.7s
GAZI Gazipasa 3.85 138 *i* P Pn 08 24 15.6 -4.1
PELI Kastamonı-Ara 3.85 55 *i* P Pn 08 24 20.0 +0.3
PELI IAML 08 25 41.0
comp=E,135nm,1.0s
PELI IAML 08 25 43.0
comp=N,125nm,1.6s
CDAG Cicekdag 4.09 82 *i* P Pn 08 24 23.7 +0.8
KALB Balgarevo 4.29 353 ⇑ P Pn 08 24 26.2 +0.7
BZK Bozkurt 4.65 51 ⇑ P Pb 08 24 41.8 -0.2
ICOR Ion Corvin 5.06 349 ⇓ P Pn 08 24 36.4 +0.1
TIRR Tirgusor 5.33 354 ⇓ P Pn 08 24 40.3 +0.4
TLBR Topalu 5.45 352 ⇑ P Pn 08 24 41.9 +0.3
HARR Harsova 5.61 351 ⇑ P Pn 08 24 44.6 +0.9
TPGR Topolog 5.73 355 ⇓ P Pn 08 24 45.8 +0.4
STIP Stip 5.88 298 / Pn Pn 08 24 46.5 -1.0
TLCR 6.04 358 ⇑ P Pn 08 24 50.4 +0.8
ISR Istrita 6.27 343 ⇑ P Pn 08 24 53.9 +1.0
BISRR Bisoca 6.64 345 ⇓ P Pn 08 24 59.4 +1.4
MLR Muntele Rosu 6.76 341 ⇑ P Pn 08 25 00.2 +0.5
MTUR Matau 6.78 335 ⇓ P Pn 08 25 01.0 +1.1
PLOR Plostina 6.95 346 ⇓ P Pn 08 25 03.2 +1.0
VRI Vrincioaia 6.95 346 ⇓ P Pn 08 25 03.1 +1.0
VOIR 6.97 336 ⇑ P Pn 08 25 03.2 +0.7
ARR Arges 7.05 333 ⇓ P Pn 08 25 04.3 +0.7
BOVS Bovan 7.16 311 ⇓ P Pn 08 25 05.5 +0.5
DOPR Dopca 7.35 339 ⇓ P Pn 08 25 08.6 +0.9
LOT Lotru 7.44 329 ⇑ P Pn 08 25 09.4 +0.3
TESR Tescani 7.58 347 ⇑ P Pn 08 25 11.2 +0.4
HERR Herculane 7.60 321 ⇓ P Pn 08 25 11.1 0.0
MDVR Moldovita 7.89 318 ⇑ P Pn 08 25 14.7 -0.3
BIZ Bicaz 8.10 345 ⇓ P Pn 08 25 18.6 +0.7
PDG Podgorica 8.18 297 ⇓ P Pn 08 25 20.0 +1.1
BURAR Bucovina Array 8.93 343 ⇓ P Pn 08 25 31.1 +1.7
SORM Soroca 9.00 357 ⇑ P Pn 08 25 30.1 -0.1
GERES GERESS Array B 14.71 316 LR LR 08 33 26.4
comp=N,50nm,19.2s,baz=140,slow=41
FINES FINESS Array B 22.40 356 P P 08 28 20.1 +1.4
comp=N,2.7nm,0.8s,baz=156,slow=10,SNR=2.4
KLMR Klimovskoe 22.68 13 *e* P P 08 28 18.1 -3.5
KLMR AMP 08 28 29.6
comp=Z,20nm,1.4s
NOA NORSAR Array B 24.58 339 LR LR 08 40 07.1
comp=Z,47nm,18.6s,baz=35,slow=41
MKAR Makanchi Array 38.99 61 P P 08 30 47.0 +0.2
comp=Z,1.2nm,0.8s,baz=275,slow=6.2,SNR=4.3
SONM Songino Array 54.54 54 P P 08 32 49.2 +0.7
comp=Z,0.6nm,0.6s,baz=282,slow=7.2,SNR=3.9

*IDC **03** 08:30:28.6±0.9, 27.70N×100.27E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.7/44, mbtmp3.8/8, ML3.5/1, MS3.3/6, Ms1 3.3/6, ms1mx2.9/48, Error ellipse: s-maj=29.2km s-min=16.8km az=76.0*
*NEIC **03** 08:30:33.4±1.5, 27.65N±0.07×100.28E±0.08, h27km±5km, mb4.3/11, Error ellipse: s-maj=11.8km s-min=8.1km az=218.0*
ISC 03 08:30:34.2±0.6, 27.72N±0.08×100.31E±0.07, h35km, n29, σ1♀25/24, mb4.2/10, MS3.3/5, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**3.38**	**139**		Pn	08 31 31.4	+6.7
SLVN	**Son La**	**7.15**	**152**	Pn	**Pn**	**08 32 14.2**	**-2.2**
SHL	**Shillong**	**7.84**	**256**	Pn	**Pn**	**08 32 26.7**	**+0.8**
SHL	**Shillong**	**7.84**	**256**	*eP*	**Pn**	**08 32 25.0**	**-0.9**
SHL				*eS*	**Sn**	**08 33 54.0**	**+0.4**
ENH	**Enshi**	**8.43**	**70**	Pn	**Pn**	**08 32 34.3**	**+0.5**
CMAR	**Chiang Mai Arr**	**9.30**	**188**	Pn	**Pn**	**08 32 44.7**	**-1.2**
	0.1nm,0.3s,baz=16,slow=14,SNR=2.8						
CMAR				Lg	Lg	08 35 27.0	
	0.8nm,0.3s,baz=6.7,slow=16,SNR=3.7						
CMAR				LR	LR	08 36 35.8	
	comp=Z,39nm,18.6s,baz=140,slow=40						
XAN	**Xi'an**	**9.71**	**47**	P	**Pn**	**08 32 50.4**	**-1.1**
XAN				pP		08 32 59.2	
XAN				sP		08 33 04.4	
XAN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,120nm,4.0s						
PBA	**Port Blair**	**17.49**	**205**		Pn	08 34 33.9	-1.4
BJT	**Baijiatuau**	**17.96**	**43**		**Pn**	**08 34 40.2**	**-0.8**
SURA	**Surathani**	**18.47**	**182**	P	**Pn**	**08 34 50.8**	**+3.4**
SONM	**Songino Array**	**20.64**	**12**	P	**P**	**08 35 11.9**	**+1.2**
	comp=Z,4.9nm,0.9s,baz=197,slow=10,SNR=24						
SONM	**Songino Array**	**20.64**	**12**	P	**P**	**08 35 11.5**	**+0.8**
YOJ	**Yonaguni jima**	**20.64**	**94**	P	**P**	**08 35 11.6**	**+0.8**
YOJ				IAmb	IAmb	08 35 16.6	
	comp=Z,26nm,1.5s						
ULN	**Ulaanbaatar**	**20.79**	**13**	P	**P**	**08 35 13.4**	**+1.1**
ULN				IAmb	IAmb	08 35 14.7	
	comp=Z,10nm,0.8s						
MKAR	**Makanchi Array**	**23.74**	**328**	P	**P**	**08 35 42.8**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=134,slow=10,SNR=3.7						
NIL	**Nilore**	**23.97**	**291**	P	**P**	**08 35 44.5**	**-0.9**
NIL				IAmb	IAmb	08 35 53.9	
	comp=Z,10nm,0.9s						
KS19	**Wonju Array Si**	**25.10**	**60**	P	**P**	**08 35 56.8**	**+1.2**
KS19				IAmb	IAmb	08 36 08.9	
	comp=Z,12nm,1.1s						
KSRS	**Korea Array**	**25.13**	**60**	P	**P**	**08 35 54.9**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=253,slow=9.7,SNR=3.1						
KSRS				LR	LR	08 46 51.4	
	comp=Z,58nm,18.6s,baz=246,slow=39						
AAK	**Ala-Archa**	**25.69**	**312**	P	**P**	**08 35 59.4**	**-1.7**
	comp=Z,1.1nm,0.5s,baz=0.0,slow=7.1,SNR=2.6						
AAK	**Ala-Archa**	**25.69**	**312**	P	**P**	**08 36 00.7**	**-0.4**
AAK				IAmb	IAmb	08 36 09.5	
	comp=Z,4.7nm,1.1s						
GAR	**Garm**	**27.34**	**302**	P	**P**	**08 36 15.5**	**-0.5**
GAR				IAmb	IAmb	08 36 38.3	
	comp=Z,4.6nm,0.5s						
KBL	**Kabul**	**27.54**	**292**	P	**P**	**08 36 17.7**	**-0.3**
KBL				IAmb	IAmb	08 36 27.5	
	comp=Z,6.3nm,1.1s						
PALK	**Pallekele**	**27.54**	**226**	LR	LR	08 47 41.8	
	comp=Z,44nm,21.9s,baz=167,slow=38						
MA2	**Magadan**	**46.72**	**33**	LR	LR	08 58 20.8	
	comp=Z,32nm,18.8s,baz=200,slow=36						
SEY	**Seymchan**	**48.65**	**29**	LR	LR	09 00 55.5	
	comp=Z,48nm,20.4s,baz=154,slow=38						
WRA	**Warramunga Arr**	**57.70**	**141**	P	**P**	**08 40 20.9**	**-0.7**
	comp=Z,2.1nm,0.7s,baz=328,slow=7.8,SNR=38						
ASAR	**Alice Springs**	**60.50**	**144**	P	**P**	**08 40 40.6**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=327,slow=7.0,SNR=25						
ILAR	**Eielson Array**	**74.29**	**24**	P	**P**	**08 42 08.1**	**+0.6**
	comp=Z,0.9nm,1.0s,baz=275,slow=4.7,SNR=5.8						
MDT	**Midelt**	**86.71**	**305**	LR	LR	09 29 25.8	
	comp=Z,58nm,18.9s,baz=195,slow=41						

*NNC **03** 09:11:39.6±0.8, 45.98N×82.70E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=6.9km s-min=3.4km az=95.0*
*SOME **03** 09:11:40.4, 46.00N×82.60E, h10km*
ISC 03 09:11:36.9±1.6, 45.93N±0.05×82.82E±0.06, h8km±15km, n16, σ0♀69/22, 3C-3D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MK31	Makanchi Array	0.94	337	⇑P	Pb	09 11 55.6	+0.2
	1.1nm,0.2s,baz=84,slow=34,SNR=259						
MK31				⇑S	Sb	09 12 08.0	0.0
	1.7nm,0.1s,baz=151,slow=16,SNR=28						
MAKZ	Makanchi	1.05	327	⇓P	Pn	09 11 58.0	0.0
	3.3nm,0.5s						
MAKZ				⇑S	Sn	09 12 12.0	-0.8
	3.7nm,0.3s						
ZSN	Zaisan	2.07	42	eP	Pb	09 12 15.2	+0.5
	3.4nm,0.1s						
ZSN				eS	Sb	09 12 40.2	-0.5
	16nm,0.2s						
ZSN	Zaisan	2.07	42	Pg	Pb	09 12 15.8	+1.0
	3.4nm,0.1s						
ZSN				Lg	Lg	09 12 41.1	
	16nm,0.2s						
KAPS	Kapalarasan	2.51	256	eP	Pg	09 12 25.8	+0.7
	1.1nm,0.2s						
KAPS				eS	Sg	09 12 58.4	+0.7
	5.6nm,0.1s						
KAPS	Kapalarasan	2.51	256	Pg	Pg	09 12 25.8	+0.7
	1.1nm,0.2s						
KAPS				Lg	Lg	09 12 58.4	
	5.6nm,0.1s						
DJR	Jarkent	2.67	234	eP	Pg	09 12 27.8	-0.3
	1.0nm,0.2s						
DJR				eS	Sg	09 13 01.9	-0.8
	4.2nm,0.3s						
DJR	Jarkent	2.67	234	Pg	Pg	09 12 27.8	-0.3
	1.0nm,0.2s						
DJR				Lg	Lg	09 13 01.9	
	4.2nm,0.3s						
PDGK	Podgornoye	3.52	224	Pg	Pg	09 12 43.8	-0.6
	0.7nm,0.3s						
PDGK				Lg	Lg	09 13 29.5	
	1.8nm,0.4s						
PDGK	Podgornoye	3.52	224	⇓Lg	Lg	09 13 30.7	
	3.9nm,0.6s						
SHLS	Shalkode	3.67	222	eP	Pb	09 12 42.8	+0.8
	6.0nm,0.2s						
SHLS				eS	Sb	09 13 27.2	+0.5
	11nm,0.2s						
SHLS	Shalkode	3.67	222	Pg	Pb	09 12 42.8	+0.8
	6.0nm,0.2s						
SHLS				Lg	Lg	09 13 27.2	
	11nm,0.2s						
KPKS	Kokpek	3.84	232	eP	Pg	09 12 50.0	-0.5
	5.0nm,0.2s						
KPKS				eS	Sg	09 13 39.9	-0.3
	5.7nm,0.3s						
ARXS	Arharly	3.93	246	eP	Pg	09 12 51.4	-0.8
	2.5nm,0.4s						
ARXS				eS	Sg	09 13 42.4	-0.7
	3.2nm,0.3s						
ARXS	Arharly	3.93	246	Pg	Pg	09 12 51.4	-0.8
	2.5nm,0.4s						
ARXS				Lg	Lg	09 13 42.4	
	3.2nm,0.3s						
KURBB	Kurchatov Arra	5.50	330	⇓Lg	Lg	09 14 31.0	
	7.1nm,0.7s						

*IDC **03** 09:20:20.5±0.7, 51°.09N×169°.25W, h0km, mb4.3/25, mb1 4.5/25, mb1mx4.3/60, mbtmp4.3/25, MS3.2/14, Ms1 3.2/14, ms1mx3.0/53, Error ellipse: s-maj=20.2km s-min=12.6km az=6.0*

*AEIC **03** 09:20:24±2.5, 51°.25N±0°.07×169°.10W±0°.09, h25km±5km, Error ellipse: s-maj=10.6km s-min=7.8km az=167.0*

*NEIC **03** 09:20:25.0±2.4, 51°.37N±0°.03×169°.16W±0°.08, h24km±4km, mb4.6/194, ML3.8(AEIC), Error ellipse: s-maj=6.9km s-min=4.4km az=96.0*

ISC 03 09:20:26.2±0.5, **51°.28N**±0°.06×**169°.04W**±0°.05, **h35**km, **n421**, σ1s33/341, **mb4.5**/127, **MS3.4**/14, **1C-1D, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIKH	Nikolski High	1.70	4		Pn	09 20 51.7	-1.7
NIKH					Sn	09 21 11.8	-2.0
OKSP	Okmok Steeple	2.03	13		Pn	09 20 56.4	-1.5
OKSO	Okmok South	2.15	14		Pn	09 20 58.1	-1.4
OKSO					Sn	09 21 22.7	-2.3
OKTU	Okmok Mt. Tuli	2.19	16		Pn	09 20 58.9	-1.3
OKFG	Magazine Ridge	2.24	17		Pn	09 20 59.5	-1.3
OKFG					Sn	09 21 26.2	-1.1
MAPS	Pakushin South	2.84	26		Pn	09 21 07.8	-1.2
MAPS					Sn	09 21 41.3	-0.6
MSW	Makushin Switc	2.98	27		Pn	09 21 10.2	-0.8
MNAT	Makushin Natee	2.98	28		Pn	09 21 10.0	-0.9
UNV	Unalaska Valle	3.00	30		Pn	09 21 10.3	-0.9
MTBL	Makushin Table	3.05	27		Pn	09 21 11.3	-0.7
KOFP	Korovin Flat P	3.30	290		Pn	09 21 13.6	-1.7
ATKA	Atka Island	3.34	288		Pn	09 21 13.5	-2.3
KOKL	Mount Kliuchef	3.37	290		Pn	09 21 14.8	-1.5
AKRB	Akutan Reef Bi	3.38	31		Pn	09 21 16.4	0.0
AKLV	Akutan Long Va	3.44	32		Pn	09 21 17.0	-0.3
AKUT	Akutan	3.48	33	Pn	Pn	09 21 18.5	+0.7
AKUT					Sn	09 21 57.5	-0.3
AKSA	Akutan Strait	3.51	34		Pn	09 21 17.5	-0.7
AKSA	Akutan Strait	3.51	34		Pn	09 21 17.3	-0.9
WESP	Westdahl Peak	4.15	37		Pn	09 21 26.7	-0.3
WECS	Westdahl Cape	4.15	37		Pn	09 21 27.3	+0.2
GSMY	Great Sitkin M	4.44	283		Pn	09 21 28.6	-2.4
GSTR	Great Sitkin T	4.45	283		Pn	09 21 28.9	-2.2
GSTD	Great Sitkin T	4.49	283		Pn	09 21 29.7	-2.1
ETKA	Kagalaska Isla	4.63	280		Pn	09 21 31.2	-2.5
ADK	Adak	4.81	280	Pn	Pn	09 21 34.0	-2.1
FALS	False Pass	4.93	41		Pn	09 21 36.7	-1.0
KIWB	Kanaga Island	5.09	280	Pn	Pn	09 21 38.1	-1.9
KIKV	Kanaga Island	5.11	280		Pn	09 21 38.4	-1.8
KICM	Kanaga Island	5.13	280		Pn	09 21 38.6	-1.8
DT1	Dutton Round H	5.58	44		Pn	09 21 45.8	-0.9
TAFP	Tanaga Falls P	5.61	280		Pn	09 21 45.1	-2.0
TASE	Tanaga Southea	5.64	279		Pn	09 21 46.1	-1.4
PS4A	Pavlof South-4	5.92	44		Pn	09 21 50.6	-0.8
GAEA	Gareloi East	6.08	279		Pn	09 21 51.7	-1.8
SDPT	Sand Point	6.55	48	Pn	Pn	09 21 59.8	-0.2
SDPT	Sand Point	6.55	48	P	Pn	09 21 59.3	-0.6
	baz=235						
CNBA	Chernabura Isl	6.71	54		Pn	09 22 01.1	-1.0
AMKA	Amchitka	7.31	275	Pn	Pn	09 22 08.1	-2.3
LSNW	Little Sitkin	7.78	280		Pn	09 22 14.5	-2.3
CHGN	Chignik	8.05	47		Pn	09 22 20.1	-0.4
CHGN	Chignik	8.05	47	P	Pn	09 22 19.4	-1.1
	baz=236,SNR=14						
ANNE	Aniakchak Nort	8.56	45		Pn	09 22 25.8	-1.8
SII	Sitkinak Islan	10.22	53		Pn	09 22 48.3	-2.0
OHAK	Old Harbor	10.96	51	Pn	Pn	09 22 58.4	-1.9
OHAK	Old Harbor	10.96	51	P	Pn	09 22 58.8	-1.4
	baz=244						
KDAK	Kodiak Island	11.55	49	Pn	Pn	09 23 06.5	-1.9
	2.2nm,0.3s,baz=233,slow=4.3,SNR=171						
KDAK				Sn	Sn	09 25 08.8	-7.1
	0.2nm,0.3s,baz=63,slow=18,SNR=2.7						
KDAK				LR	LR	09 27 34.9	
	comp=Z,77nm,20.4s,baz=256,slow=37						
KDAK	Kodiak Island	11.55	49	Pn	Pn	09 23 06.3	-2.0
KDAK	Kodiak Island	11.55	49	P	Pn	09 23 06.6	-1.7
	baz=243						
O18K	Koktuh Hills	11.60	37		Pn	09 23 09.3	+0.2
O18K	Koktuh Hills	11.60	37	P	Pn	09 23 07.8	-1.3
	baz=228,SNR=13						
Q19K	Cape Douglas,	11.66	43	Pn	Pn	09 23 09.1	-0.8
Q19K	Cape Douglas,	11.66	43	P	Pn	09 23 09.5	-0.4
	baz=236,SNR=9.4						
N18K	Kilae Creek	11.93	33	Pn	Pn	09 23 14.4	+0.8
N18K	Kilae Creek	11.93	33	P	Pn	09 23 13.5	-0.1
	baz=224						
O19K	Port Alsworth	12.16	37		Pn	09 23 17.2	+0.6
O19K	Port Alsworth	12.16	37	P	Pn	09 23 16.5	-0.2
	baz=229						
P19K	Oil Pt	12.25	41		Pn	09 23 17.5	-0.5
P19K	Oil Pt	12.25	41	P	Pn	09 23 17.1	-0.9
	baz=234						
SVW2	Sparrevohn	12.34	32		Pn	09 23 18.9	-0.3
N19K	Bonanza Creek	12.51	35	Pn	Pn	09 23 21.8	+0.1
N19K	Bonanza Creek	12.51	35	P	Pn	09 23 21.1	-0.6
	baz=227,SNR=11						
O20K	Slope Mountain	12.75	40	P	Pn	09 23 24.2	-0.7
	baz=234						
HOM	Homer	12.92	43		Pn	09 23 25.7	-1.4
M19K	Big River Lodg	13.32	31		Pn	09 23 33.9	+1.4
M19K	Big River Lodg	13.32	31	P	Pn	09 23 32.2	-0.3
	baz=224						
L19K	White Mountain	13.38	30	Pn	Pn	09 23 34.4	+1.1
L19K	White Mountain	13.38	30	P	Pn	09 23 32.9	-0.5
	baz=222						
M20K	Styx River	13.72	33	Pn	Pn	09 23 38.3	+0.1
M20K	Styx River	13.72	33	P	Pn	09 23 37.2	-0.9
	baz=226,SNR=12						
L20K	Farewell, AK	13.90	30	P	Pn	09 23 38.8	-1.7
	baz=223,SNR=5.5						
O22K	Cooper Landing	14.17	42	P	Pn	09 23 41.8	-2.3
	baz=238						
SUA	Susitna One	14.32	38		Pn	09 23 44.9	-1.4
SKT	Skwentna	14.35	35		Pn	09 23 45.9	-0.8
RC01	Rabbit Creek A	14.50	40	Pn	Pn	09 23 46.4	-2.3
K20K	Telida	14.50	28		Pn	09 23 48.8	+0.2
K20K	Telida	14.50	28	P	Pn	09 23 47.9	-0.8
	baz=220,SNR=8.3						
PMR	Palmer	15.02	39	P	Pn	09 23 53.7	-1.9
	baz=236						
J20K	Nowinta River	15.12	26	P	Pn	09 23 55.6	-1.2
	baz=218,SNR=8.3						
Q23K	Middleton Isla	15.20	49	P	Pn	09 23 56.1	-1.9
	baz=248						
MID	Middleton Isla	15.21	49	Pn	Pn	09 23 55.3	-2.7
MID				IAmb	IAmb	09 24 04.0	
	comp=Z,71nm,1.2s						
SML	Sawmill	15.46	39		Pn	09 23 58.8	-2.7
M24K	Tolsona, Glenn	16.48	40	IAmb	IAmb	09 24 13.1	
	comp=Z,48nm,0.7s						
M24K	Tolsona, Glenn	16.48	40	P	Pn	09 24 12.3	-2.2
	baz=239,SNR=24						
I21K	Tanana	16.49	26	IAmb	IAmb	09 24 21.3	
	comp=Z,49nm,0.9s						
I21K	Tanana	16.49	26	P	Pn	09 24 14.3	-0.2
	baz=220,SNR=32						
MLY	Manley	16.73	28	P	Pn	09 24 17.9	+0.4
MLY				IAmb	IAmb	09 24 25.7	
	comp=Z,24nm,0.8s						
N25K	Chitina, Valde	16.90	43	P	Pn	09 24 17.2	-2.6
	baz=243,SNR=20						
HARP	HAARP	17.04	40	P	Pn	09 24 19.7	-1.8
	baz=240,SNR=5.7						
I23K	Minto, Yukon-K	17.22	29	P	Pn	09 24 22.5	-1.1
	baz=226,SNR=20						
TCOL	CIGO, UAF Yank	17.50	31	P	Pn	09 24 25.7	-1.4
	baz=229						
COLA	College	17.50	31	P	Pn	09 24 24.7	-2.4
COLA	College	17.50	31	P	Pn	09 24 25.5	-1.6
	baz=229						
H23K	Yukon River	17.65	27	P	Pn	09 24 27.4	-1.6
	baz=224,SNR=12						
IL31		17.75	32	P	Pn	09 24 27.8	-2.4
ILAR	Eielson Array	17.75	32	P	Pn	09 24 26.9	-3.4
	comp=Z,0.3nm,0.3s,baz=236,slow=10,SNR=19						
ILAR				S	Sn	09 27 46.4	-0.4
	comp=Z,0.1nm,0.3s,baz=227,slow=17,SNR=4.3						
ILAR				LR	LR	09 31 52.5	
	comp=Z,59nm,19.9s,baz=268,slow=38						
ILAR	Eielson Array	17.75	32	P	Pn	09 24 26.3	-4.0
RIDG	Independent Ri	17.87	36	P	P	09 24 32.1	0.0
M26K	Nabesna, AK	17.93	42	IAmb	IAmb	09 24 37.5	
	comp=Z,27nm,1.1s						
M26K	Nabesna, AK	17.93	42	P	Pn	09 24 30.8	-1.7
	baz=244,SNR=20						
L26K	Log Cabin Wild	18.08	40	P	Pn	09 24 33.4	-0.9
L26K	Log Cabin Wild	18.08	40	P	Pn	09 24 33.9	-0.4
	baz=241,SNR=23						
H24K	Noodor Dome	18.14	28	P	Pn	09 24 33.4	-1.7
H24K	Noodor Dome	18.14	28	P	Pn	09 24 33.9	-1.2
	baz=227,SNR=25						
J25K	Salcha River,	18.17	34	P	Pn	09 24 34.2	-1.3
	baz=234,SNR=21						
M27K	Edge Creek, AK	18.38	42	P	P	09 24 36.4	-1.6
M27K				IAmb	IAmb	09 24 43.5	
	comp=Z,75nm,1.0s						
M27K	Edge Creek, AK	18.38	42	P	P	09 24 37.0	-0.9
	baz=245,SNR=85						
J26K	Charley River,	18.70	35	P	P	09 24 40.4	-1.0
	baz=237,SNR=41						
L27K	Beaver Creek,	18.71	40	P	P	09 24 40.2	-1.2
	baz=244,SNR=25						
YUK3	Moose Creek	18.77	45	P	P	09 24 42.2	-0.1
	baz=249,SNR=40						
BVCY	Beaver Creek	18.84	43	P	Pn	09 24 43.2	-0.3
	baz=247,SNR=21						
K27K	Chicken	19.07	38	P	P	09 24 45.1	-0.1
	baz=241						
YUK4	Talbot Arm	19.45	47	P	Pn	09 24 50.8	-0.2
	baz=252,SNR=45						
YUK6	Outpost Mounta	19.47	48	P	Pn	09 24 51.1	-0.2
	baz=254,SNR=23						
TOLK	Toolik Lake Re	19.78	21	P	P	09 24 53.0	-0.1
TOLK				IAmb	IAmb	09 25 01.4	
	comp=Z,18nm,0.9s						
TOLK	Toolik Lake Re	19.78	21	P	P	09 24 53.0	-0.1
	baz=218,SNR=13						
EGAK	Eagle	19.78	36	IAmb	IAmb	09 25 01.7	
	comp=Z,14nm,0.7s						
EGAK	Eagle	19.78	36	P	P	09 24 53.5	+0.4
	baz=240,SNR=24						
HYT	Haines Junctio	19.84	49	P	Pn	09 24 56.6	+1.0
HYT	Haines Junctio	19.84	49	P	P	09 24 54.6	+0.7
	baz=255,SNR=88						
DAWY	Dawson	20.13	39	P	Pn	09 24 58.6	-0.3
DAWY				IAmb	IAmb	09 25 03.4	
	comp=Z,30nm,0.8s						
DAWY	Dawson	20.13	39	P	Pn	09 24 58.0	-0.9
	baz=244,SNR=40						
BMAR	Burnt Mountain	20.19	28	P	P	09 24 58.4	+0.9
PETK	Petropavlovsk-	20.37	288	P	P	09 24 58.8	-0.7
	comp=Z,2.8nm,0.6s,baz=88,slow=14,SNR=6.4						
SKAG	Skagway	20.63	54	P	P	09 25 03.2	+0.9
SKAG				IAmb	IAmb	09 25 13.7	
	comp=Z,22nm,0.6s						
SKAG	Skagway	20.63	54	P	P	09 25 02.9	+0.6
	baz=262,SNR=12						
WHY	Whitehorse	21.06	50	P	P	09 25 08.5	+1.4
WHY				IAmb	IAmb	09 25 18.8	
	comp=Z,29nm,0.9s						
WHY	Whitehorse	21.06	50	P	P	09 25 06.7	-0.3
	baz=259,SNR=8.3						
MAYO	Mayo, Yukon	21.38	42	P	P	09 25 09.9	-0.5
	baz=250						
FARO	Faro, Yukon	22.11	47	P	P	09 25 18.8	+0.5
	baz=257,SNR=28						
EPYK	Eagle Plains	22.17	35	P	P	09 25 18.6	-0.2
	baz=243,SNR=33						
MMPY	Sheldon Lake,	23.14	46	P	P	09 25 28.7	-0.4
	baz=258,SNR=14						
DLBC	Dease Lake	23.29	57	P	P	09 25 32.3	+1.7
	comp=Z,3.4nm,0.8s,baz=290,slow=8.8,SNR=8.0						
DLBC	Dease Lake	23.29	57	P	P	09 25 32.1	+1.5
DLBC				IAmb	IAmb	09 25 34.4	
	comp=Z,21nm,1.4s						
SEY	Seymchan	23.57	314	P	P	09 25 32.2	-1.0
	comp=Z,2.8nm,0.9s,baz=92,slow=11,SNR=9.1						
SEY				LR	LR	09 34 29.5	
	comp=Z,31nm,19.5s,baz=280,slow=36						
MA2	Magadan	23.94	306	P	P	09 25 35.6	-1.1
	comp=Z,7.3nm,0.8s,baz=95,slow=8.6,SNR=8.6						
MA2	Magadan	23.94	306	P	P	09 25 35.6	-1.1
MA2				IAmb	IAmb	09 25 37.5	
	comp=Z,13nm,1.0s						
INK	Inuvik	24.15	32	P	P	09 25 39.8	+1.2
	comp=Z,14nm,0.7s,baz=242,slow=8.2,SNR=18						
INK	Inuvik	24.15	32	P	P	09 25 38.0	-0.6
INK				IAmb	IAmb	09 25 44.5	
	comp=Z,16nm,0.8s						
INK	Inuvik	24.15	32	P	P	09 25 38.0	-0.6
	baz=243,SNR=9.9						
YKA	Yellowknife Ar	30.82	47	P	P	09 26 40.0	+1.8
	comp=Z,2.6nm,0.9s,baz=271,slow=8.1,SNR=5.4						
YKA				LR	LR	09 40 31.5	
	comp=Z,41nm,18.6s,baz=0.0,slow=39						
H04D	Lebanon	31.33	84	P	P	09 26 44.7	+1.6
	baz=299						
H04A	Detroit Lake	31.60	83	P	P	09 26 46.3	+0.8
H04A				IAmb	IAmb	09 26 48.1	
	comp=Z,9.9nm,0.8s						
K02D	Willamette Mer	31.68	88	P	P	09 26 47.8	+1.6
	baz=302						
G05D	Wamic, OR	31.87	82	P	P	09 26 49.3	+1.5
	baz=298						
I04A	Tendick Farm,	31.90	85	P	P	09 26 49.7	+1.7
	baz=300						
L02E	Cave Junction	32.00	88	P	P	09 26 49.3	+0.3
	baz=302						
I05D	Terrebonne, OR	32.30	83	P	P	09 26 52.3	+0.7
	baz=300						
J04D	Umpqua Nationa	32.37	86	P	P	09 26 53.7	+1.3
	baz=301						
L04D	Klamath Falls	32.78	87	P	P	09 26 57.2	+1.2
	baz=302						
YBH	Yreka Blue Hor	32.79	88	P	P	09 26 58.4	+2.5
PINE	Pine Mountain	32.82	84	IAmb	IAmb	09 27 03.4	
	comp=Z,9.6nm,1.4s						
M02C	Callahan	32.88	89	P	P	09 26 58.1	+1.4
	baz=304						
J05D	Fort Rock, OR	32.89	85	P	P	09 26 58.5	+1.6
	baz=301						
NEW	Newport	33.09	74	P	P	09 26 59.1	+0.6
	baz=295						
N02D	Trinity Center	33.21	90	P	P	09 27 00.5	+0.9
	baz=304						
M04C	Macdoel	33.31	88	P	P	09 27 01.6	+1.0
	baz=303						
K05A	Summer Lake	33.40	86	IAmb	IAmb	09 27 04.8	
	comp=Z,9.9nm,0.7s						
EDM	Edmonton	33.42	64	IAmb	IAmb	09 27 02.6	
	comp=Z,5.4nm,0.8s						
WDC	Whiskeytown Da	33.53	90	IAmb	IAmb	09 27 06.1	
	comp=Z,19nm,1.5s						
O02D	Mt. Diablo Mer	33.61	91	P	P	09 27 04.6	+1.5
	baz=305,SNR=5.3						
O03E	Paynes Creek	34.16	90	P	P	09 27 08.4	+0.5
	baz=305,SNR=8.1						
GDXM	Geysers	34.40	93	IAmb	IAmb	09 27 14.5	
	comp=Z,20nm,1.4s						
WALA	Waterton Lakes	34.68	72	P	P	09 27 13.2	+0.8
WALA				IAmb	IAmb	09 27 14.7	
	comp=Z,6.9nm,1.1s						
WVOR	Wild Horse Val	34.96	84	IAmb	IAmb	09 27 17.4	
	comp=Z,4.3nm,1.0s						
BEKR	Beckworth	35.31	89	IAmb	IAmb	09 27 20.4	
	comp=Z,5.6nm,1.1s						
MSO	Missoula	35.66	75	P	P	09 27 21.1	+0.3
MSO	Missoula	35.66	75	P	P	09 27 20.8	0.0
	baz=298						
PAHR	Pah Rah Range	36.02	89	IAmb	IAmb	09 27 26.6	
	comp=Z,11nm,1.1s						
VCNR	Virginia City	36.09	90	IAmb	IAmb	09 27 27.6	
	comp=Z,5.9nm,0.9s						
PNTR	Pine Nut	36.24	90	P	P	09 27 28.7	+2.7
PNTR				IAmb	IAmb	09 27 28.9	
	comp=Z,10nm,0.8s						
CMB	Columbia Colle	36.38	92	IAmb	IAmb	09 27 35.4	
	comp=Z,6.6nm,1.2s						
YERR	Yerington	36.53	90	IAmb	IAmb	09 27 31.2	
	comp=Z,7.5nm,1.0s						
H11N2	WAKE ISLAND Hy	36.74	220	T	T	10 06 24.3	
	baz=25,slow=76,SNR=3.9						
H11N3	WAKE ISLAND Hy	36.74	220	T	T	10 06 27.3	
	baz=25,slow=76,SNR=4.0						
H11N1	WAKE ISLAND Hy	36.76	220	T	T	10 06 26.4	
	baz=25,slow=76,SNR=4.0						
HLID	Hailey	36.99	80	P	P	09 27 32.7	+0.4
	baz=302						
RYN	Ryan	37.19	90	IAmb	IAmb	09 27 36.6	
	comp=Z,6.0nm,1.1s						
LHV	Little Huntoon	37.43	90	IAmb	IAmb	09 27 39.2	
	comp=Z,8.5nm,1.4s						
MDPB	Devils Postpil	37.45	91	IAmb	IAmb	09 27 39.3	
	comp=Z,8.9nm,0.9s						
NVAR	Mina Array Bea	37.45	90	P	P	09 27 38.0	+1.7
	comp=Z,2.0nm,0.8s,baz=291,slow=9.3,SNR=17						
NVAR				PcP	PcP	09 29 54.7	+0.5
	comp=Z,0.5nm,0.7s,baz=315,slow=3.2,SNR=4.3						
EGMT	Eagleton	37.62	71	IAmb	IAmb	09 27 38.9	
	comp=Z,13nm,0.8s						
EGMT	Eagleton	37.62	71	P	P	09 27 37.2	-0.2
	baz=298,SNR=11						
BOZ	Bozeman (W)	37.66	76	P	P	09 27 38.2	+0.3
	baz=300,SNR=6.0						
PAGB	Antelope Grade	37.90	95	IAmb	IAmb	09 27 42.6	
	comp=Z,13nm,0.8s						
SMMC	Simmler	38.32	95	P	P	09 27 44.6	+1.1
	baz=310						
TIN	Tinemaha, Big	38.33	92	P	P	09 27 44.9	+1.2
	baz=308						
VES	Vestal, Richgr	38.56	94	P	P	09 27 46.5	+1.1
	baz=310						
PKM	Mcpherson Peak	38.71	96	P	P	09 27 47.8	+0.9
	baz=311						
CWC	Cottonwood Cre	38.81	92	P	P	09 27 48.4	+0.7
	baz=309						
ISA	Isabella, Lake	39.05	93	IAmb	IAmb	09 27 51.5	
	comp=Z,7.3nm,0.8s						
ISA	Isabella, Lake	39.05	93	P	P	09 27 50.6	+1.0
	baz=310,SNR=8.3						
R11A	Troy Canyon, C	39.20	88	P	P	09 27 51.6	+0.6
	baz=307						
RLMT	Red Lodge	39.34	75	IAmb	IAmb	09 27 54.0	
	comp=Z,7.7nm,0.9s						
RLMT	Red Lodge	39.34	75	P	P	09 27 52.7	+0.7
	baz=301,SNR=9.9						
FURC	Furnace Creek,	39.56	91	P	P	09 27 54.9	+1.2
	baz=309						
TPNV	Topopah Spring	39.64	90	P	P	09 27 55.6	+1.0
	baz=308,SNR=5.4						
DUG	Dugway, Tooele	39.85	84	P	P	09 27 56.8	+0.5
	baz=306						
EDW2	Edwards Air Fo	39.86	94	P	P	09 27 57.2	+0.9
	baz=310						
PRN	Pahroc Range	40.11	89	IAmb	IAmb	09 28 01.7	
	comp=Z,11nm,1.2s						
SHOC	Shoshone, Teco	40.28	91	P	P	09 28 00.8	+1.0
	baz=309						
GSC	Goldstone, Bar	40.33	93	IAmb	IAmb	09 28 02.6	
	comp=Z,9.3nm,0.9s						
GSC	Goldstone, Bar	40.33	93	P	P	09 28 01.2	+0.9
	baz=310,SNR=10						
BW06	Boulder Array	40.42	78	P	P	09 28 01.1	+0.1
	baz=304,SNR=9.3						
PDAR	Pinedale Array	40.42	78	P	P	09 28 01.8	+0.7
	comp=Z,4.5nm,0.8s,baz=311,slow=4.6,SNR=44						
BFSC	Mount Baldy Ra	40.48	94	P	P	09 28 02.6	+1.1
	baz=311,SNR=8.2						
CIS	Catalina Islan	40.56	96	P	P	09 28 02.9	+0.8
	baz=312						
TUQ	Turquoise Moun	40.80	92	P	P	09 28 05.0	+0.9
	baz=310						
CCUT	Cedar City	41.08	87	P	P	09 28 08.1	+1.5
MURC	Murrieta	41.19	95	P	P	09 28 08.5	+1.2
	baz=312						
GMRC	Granite Mounta	41.38	92	P	P	09 28 09.3	+0.3
	baz=310,SNR=6.0						
Q16A	Castle Valley	41.63	84	IAmb	IAmb	09 28 13.4	
	comp=Z,6.7nm,1.0s						
PFO	Pinyon Flats O	41.65	94	P	P	09 28 12.5	+1.3
PFO	Pinyon Flats O	41.65	94	P	P	09 28 11.6	+0.5
	baz=311						
RDMU	Red Mountain	41.65	81	IAmb	IAmb	09 28 13.2	
	comp=Z,7.0nm,0.9s						
TPFO	Pinon Flats	41.65	94	P	P	09 28 11.6	+0.4
	baz=311						
BELC	Belle Mtn. Jos	41.68	93	P	P	09 28 12.1	+0.7
	baz=311						
109C	Camp Elliot, M	41.72	96	IAmb	IAmb	09 28 13.9	
	comp=Z,11nm,0.8s						
109C	Camp Elliot, M	41.72	96	P	P	09 28 12.5	+0.9
	baz=312						
IRM	Iron Mountain	42.11	92	P	P	09 28 15.4	+0.5
	baz=311						
BAR	Barrett	42.13	95	IAmb	IAmb	09 28 17.3	
	comp=Z,6.0nm,0.8s						
MONP2	Monument Peak	42.15	95	P	P	09 28 16.0	+0.6
	baz=312						
K22A	Casper	42.34	76	P	P	09 28 16.3	-0.4
	baz=304						
CBX	Cerro Bola	42.38	96	IAmb	IAmb	09 28 19.8	
	comp=Z,4.6nm,0.6s						
IKP	In-Ko-Pah, Jac	42.50	95	P	P	09 28 19.1	+1.0
	baz=312						
PDMCI	Parker Dam,Lak	42.65	92	P	P	09 28 19.8	+0.7
	baz=311						
O20A	White River Ci	42.73	80	IAmb	IAmb	09 28 21.4	
	comp=Z,8.2nm,0.8s						
O20A	White River Ci	42.73	80	P	P	09 28 20.4	+0.4
	baz=306,SNR=8.7						
RSSD	Black Hills	43.03	73	P	P	09 28 22.3	-0.1
	baz=304						
PV23	Carpenter Ridg	43.26	83	IAmb	IAmb	09 28 25.7	
	comp=Z,7.0nm,1.0s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PV22	**Blue Mesa, Par**	**43.35**	**83**	IAmb	IAmb	09 28 26.3	
	comp=Z,6.2nm,1.0s						
PV04	**Paradox Valley**	**43.36**	**83**	IAmb	IAmb	09 28 26.5	
	comp=Z,5.9nm,0.9s						
PV17	**East Wray Mesa**	**43.39**	**83**	IAmb	IAmb	09 28 26.7	
	comp=Z,12nm,1.1s						
PV16	**Nyswonger Mesa**	**43.40**	**83**	IAmb	IAmb	09 28 26.8	
	comp=Z,5.9nm,1.0s						
PV05	**Paradox Valley**	**43.43**	**83**	IAmb	IAmb	09 28 32.2	
	comp=Z,8.6nm,1.3s						
PV11	**David Mesa, Pa**	**43.44**	**83**	IAmb	IAmb	09 28 28.9	
	comp=Z,5.3nm,0.8s						
PV18	**Skein Mesa, Pa**	**43.45**	**83**	IAmb	IAmb	09 28 27.7	
	comp=Z,7.2nm,1.0s						
PV12	**Saucer Basin,**	**43.47**	**83**	IAmb	IAmb	09 28 27.4	
	comp=Z,5.5nm,0.8s						
PV03	**Paradox Valley**	**43.48**	**83**	IAmb	IAmb	09 28 27.4	
	comp=Z,6.2nm,1.0s						
PV13	**Radium Mtn., P**	**43.55**	**83**	IAmb	IAmb	09 28 28.7	
	comp=Z,12nm,0.9s						
PV02	**Paradox Valley**	**43.58**	**83**	IAmb	IAmb	09 28 28.8	
	comp=Z,8.4nm,0.9s						
WUAZ	**Wupatki**	**43.60**	**88**	IAmb	IAmb	09 28 29.9	
	comp=Z,11nm,1.5s						
WUAZ	**Wupatki**	**43.60**	**88**	P	**P**	**09 28 26.9**	**-0.2**
	baz=310						
MDND	**Maddock**	**43.63**	**66**	P	**P**	**09 28 27.1**	**+0.1**
	baz=302						
PV15	**Paradox Valley**	**43.65**	**83**	IAmb	IAmb	09 28 28.7	
	comp=Z,5.7nm,0.9s						
N23A	**Red Feather La**	**43.70**	**78**	P	**P**	**09 28 28.5**	**+0.6**
	baz=306						
PV01	**Paradox Valley**	**43.73**	**83**	IAmb	IAmb	09 28 29.5	
	comp=Z,6.9nm,0.8s						
MVCO	**Mesa Verde**	**44.34**	**84**	IAmb	IAmb	09 28 35.1	
	comp=Z,9.6nm,1.4s						
MVCO	**Mesa Verde**	**44.34**	**84**	P	**P**	**09 28 33.8**	**+0.7**
	baz=309						
ULM	**Lac du Bonnet**	**44.49**	**61**	P	**P**	**09 28 33.8**	**0.0**
	comp=Z,4.9nm,0.8s,baz=310,slow=4.4,SNR=5.7						
ULM	**Lac du Bonnet**	**44.49**	**61**	IAmb	IAmb	09 28 34.4	
	comp=Z,7.2nm,0.9s						
214A	**Organ Pipe Nat**	**45.03**	**93**	P	**P**	**09 28 39.6**	**+1.2**
	baz=312						
S22A	**4UR Ranch, Cre**	**45.05**	**82**	P	**P**	**09 28 38.5**	**-0.2**
	baz=308,SNR=5.9						
AGMN	**Agassiz Nation**	**45.52**	**64**	IAmb	IAmb	09 28 42.4	
	comp=Z,8.8nm,0.8s						
AGMN	**Agassiz Nation**	**45.52**	**64**	P	**P**	**09 28 41.0**	**-1.0**
	baz=303,SNR=5.4						
SDCO	**Great Sand Dun**	**45.87**	**81**	IAmb	IAmb	09 28 47.1	
	comp=Z,4.3nm,1.1s						
SDCO	**Great Sand Dun**	**45.87**	**81**	P	**P**	**09 28 44.5**	**-0.8**
	baz=308,SNR=6.5						
NEEM	**North Greenlan**	**45.98**	**16**	*i* P	**P**	**09 28 47.0**	**+1.4**
NEEM				IAmb	IAmb	09 28 47.5	
	comp=Z,18nm,0.8s						
TUC	**Tucson**	**46.07**	**91**	P	**P**	**09 28 47.9**	**+1.2**
TUC				IAmb	IAmb	09 28 48.6	
	comp=Z,6.7nm,1.2s						
TUC	**Tucson**	**46.07**	**91**	P	**P**	**09 28 46.6**	**0.0**
	baz=312						
KSCO	**Kaye Shedlock’**	**46.87**	**78**	P	**P**	**09 28 52.6**	**-0.3**
	baz=308						
T25A	**Trinidad**	**46.93**	**81**	P	**P**	**09 28 52.7**	**-0.8**
	baz=309,SNR=11						
ANMO	**Albuquerque**	**47.05**	**85**	P	**P**	**09 28 54.5**	**0.0**
ANMO	**Albuquerque**	**47.05**	**85**	P	**P**	**09 28 54.7**	**+0.2**
	baz=310						
ECSD	**EROS Data Cent**	**47.66**	**69**	P	**P**	**09 28 58.0**	**-0.9**
ECSD				IAmb	IAmb	09 28 58.8	
	comp=Z,12nm,1.1s						
ECSD	**EROS Data Cent**	**47.66**	**69**	P	**P**	**09 28 57.5**	**-1.3**
	baz=306,SNR=8.4						
121A	**Cookes Peak, D**	**47.80**	**88**	P	**P**	**09 29 00.6**	**+0.3**
	baz=312						
BGNE	**Belgrade**	**48.13**	**73**	P	**P**	**09 29 02.4**	**-0.2**
	baz=307						
EYMN	**Ely**	**48.15**	**62**	P	**P**	**09 29 02.2**	**-0.4**
EYMN				IAmb	IAmb	09 29 02.9	
	comp=Z,8.5nm,1.1s						
EYMN	**Ely**	**48.15**	**62**	P	**P**	**09 29 02.1**	**-0.5**
	baz=305						
F36A	**Milaca**	**48.21**	**65**	IAmb	IAmb	09 29 03.0	
	comp=Z,4.6nm,0.8s						
CBKS	**Cedar Bluff**	**48.76**	**76**	P	**P**	**09 29 07.2**	**-0.2**
	baz=309						
R32A	**Long Quarter,**	**49.63**	**76**	IAmb	IAmb	09 29 14.8	
	comp=Z,11nm,1.0s						
MNTX	**Cornudas Mount**	**49.87**	**87**	P	**P**	**09 29 15.7**	**-0.2**
MNTX				IAmb	IAmb	09 29 17.7	
	comp=Z,4.4nm,0.8s						
MNTX	**Cornudas Mount**	**49.87**	**87**	P	**P**	**09 29 16.3**	**+0.3**
	baz=313,SNR=10						
MSTX	**Muleshoe**	**49.99**	**83**	P	**P**	**09 29 16.0**	**-0.9**
	baz=312,SNR=10.0						
AMTX	**Amarillo**	**50.07**	**82**	P	**P**	**09 29 17.0**	**-0.6**
	baz=311						
SPITS	**Spitsbergen Ar**	**50.77**	**359**	P	**P**	**09 29 22.7**	**+0.6**
	comp=Z,9.0nm,0.9s,baz=3.8,slow=8.7,SNR=4.0						
SUMG	**Summit**	**51.77**	**17**	*i* P	**P**	**09 29 31.0**	**+0.9**
SUMG				IAmb	IAmb	09 29 32.6	
	comp=Z,13nm,0.9s						
SUMG	**Summit**	**51.77**	**17**	P	**P**	**09 29 31.6**	**+1.5**
JFWS	**Jewell Farm**	**51.85**	**66**	IAmb	IAmb	09 29 30.1	
	comp=Z,7.6nm,0.7s						
JFWS	**Jewell Farm**	**51.85**	**66**	P	**P**	**09 29 29.2**	**-1.6**
	baz=308						
WMOK	**Wichita Mounta**	**51.97**	**80**	IAmb	IAmb	09 29 32.7	
	comp=Z,5.8nm,0.9s						
WMOK	**Wichita Mounta**	**51.97**	**80**	P	**P**	**09 29 30.9**	**-0.7**
	baz=312,SNR=5.8						
SONM	**Songino Array**	**52.04**	**302**	P	**P**	**09 29 32.3**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=46,slow=8.1,SNR=7.8						
SONM				LR	LR	09 52 48.5	
	comp=Z,23nm,19.8s,baz=36,slow=37						
SONM	**Songino Array**	**52.04**	**302**	IAmb	IAmb	09 29 34.2	
	comp=Z,5.0nm,1.4s						
OK031	**S. Brethren Rd**	**52.36**	**77**	IAmb	IAmb	09 29 35.1	
	comp=Z,9.6nm,0.8s						
TX32	**Lajitas Array**	**52.57**	**88**	IAmb	IAmb	09 29 37.5	
	comp=Z,7.4nm,0.8s						
TXAR	**Lajitas Array**	**52.57**	**88**	P	**P**	**09 29 36.6**	**+0.3**
	comp=Z,5.3nm,0.6s,baz=300,slow=5.5,SNR=106						
TXAR				PcP	**PcP**	**09 30 45.7**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=297,slow=4.0,SNR=1.8						
ABTX	**Abilene, Hawle**	**52.84**	**82**	P	**P**	**09 29 38.0**	**-0.2**
	baz=313						
TUL1	**Leonard**	**53.03**	**77**	P	**P**	**09 29 38.4**	**-1.1**
	baz=311						
K43A	**Burlington**	**53.09**	**65**	IAmb	IAmb	09 29 39.4	
	comp=Z,12nm,1.0s						
S39A	**Bolivar**	**53.37**	**73**	IAmb	IAmb	09 29 40.5	
	comp=Z,3.8nm,0.7s						
HHC	**Hu-ho-hao-te**	**53.51**	**292**	*e*P	**P**	**09 29 44.0**	**+0.9**
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,74nm,5.2s						
U38A	**Gravette**	**53.54**	**75**	IAmb	IAmb	09 29 42.9	
	comp=Z,5.7nm,0.9s						
R40A	**Maddies Statio**	**53.61**	**72**	IAmb	IAmb	09 29 42.3	
	comp=Z,6.2nm,0.6s						
HDIL	**Hopedale**	**53.90**	**68**	P	**P**	**09 29 45.1**	**-0.7**
HDIL	**Hopedale**	**53.90**	**68**	P	**P**	**09 29 44.3**	**-1.5**
	baz=310						
HHAR	**Hobbs**	**53.91**	**75**	IAmb	IAmb	09 29 45.1	
	comp=Z,3.7nm,0.8s						
X37A	**Clayton**	**54.16**	**78**	IAmb	IAmb	09 29 48.7	
	comp=Z,6.4nm,0.8s						
JCT	**Junction City**	**54.20**	**84**	IAmb	IAmb	09 29 48.5	
	comp=Z,6.5nm,0.8s						
JCT	**Junction City**	**54.20**	**84**	P	**P**	**09 29 47.4**	**-0.8**
	baz=314,SNR=5.0						
ICESG	**Greenland Ices**	**54.32**	**20**	*i* P	**P**	**09 29 50.7**	**+1.8**
ICESG				IAmb	IAmb	09 29 51.7	
	comp=Z,8.1nm,1.0s						
MGMO	**Mountain Grove**	**54.35**	**73**	IAmb	IAmb	09 29 47.9	
	comp=Z,6.3nm,0.8s						
CCM	**Cathedral Cave**	**54.37**	**72**	P	**P**	**09 29 46.7**	**-2.6**
CCM				IAmb	IAmb	09 29 48.6	
	comp=Z,3.9nm,0.7s						
CCM	**Cathedral Cave**	**54.37**	**72**	P	**P**	**09 29 47.6**	**-1.7**
	baz=311						
U40A	**Yellville**	**54.52**	**74**	IAmb	IAmb	09 29 49.6	
	comp=Z,7.1nm,0.7s						
U40A	**Yellville**	**54.52**	**74**	P	**P**	**09 29 48.3**	**-2.1**
	baz=312,SNR=7.4						
W39A	**Magazine**	**54.73**	**76**	IAmb	IAmb	09 29 51.6	
	comp=Z,6.7nm,1.1s						
W39A	**Magazine**	**54.73**	**76**	P	**P**	**09 29 50.9**	**-1.0**
	baz=312						
DY2G	**Dye2**	**54.81**	**24**	*i* P	**P**	**09 29 54.2**	**+1.8**
DY2G				IAmb	IAmb	09 29 55.1	
	comp=Z,3.3nm,0.7s						
NJ2	**Nanjing**	**54.91**	**279**	*e*P	**P**	**09 29 52.8**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,12nm,0.7s						
FCAR	**Ozark Folk Cen**	**55.27**	**74**	IAmb	IAmb	09 29 54.9	
	comp=Z,8.6nm,0.8s						
SFIN	**Lafayette**	**55.29**	**67**	P	**P**	**09 29 55.0**	**-0.9**
	baz=311						
MIAR	**Mount Ida**	**55.29**	**76**	IAmb	IAmb	09 29 56.1	
	comp=Z,4.3nm,0.8s						
MIAR	**Mount Ida**	**55.29**	**76**	P	**P**	**09 29 55.0**	**-1.0**
	baz=312,SNR=5.1						
435B	**Jarrell**	**55.37**	**83**	P	**P**	**09 29 56.2**	**-0.5**
	baz=314						
W41B	**Gary Mavity, V**	**55.68**	**75**	P	**P**	**09 29 57.5**	**-1.3**
	baz=312						
X40A	**Basin Creek Fa**	**55.78**	**76**	P	**P**	**09 29 58.6**	**-0.9**
	baz=313						
833A	**Chaparral WMA,**	**55.95**	**86**	P	**P**	**09 30 00.9**	**+0.1**
	baz=315						
WCI	**Wyandotte Cave**	**57.18**	**68**	P	**P**	**09 30 08.1**	**-1.4**
	baz=312						
WVT	**Waverly**	**57.69**	**71**	P	**P**	**09 30 12.4**	**-0.6**
WVT				IAmb	IAmb	09 30 13.1	
	comp=Z,8.2nm,1.1s						
WVT	**Waverly**	**57.69**	**71**	P	**P**	**09 30 12.4**	**-0.6**
	baz=313						
OXF	**Oxford**	**57.84**	**74**	P	**P**	**09 30 13.6**	**-0.5**
	baz=313						
M53A	**Wl Miller and**	**58.23**	**62**	P	**P**	**09 30 16.3**	**-0.4**
	baz=312						
PLAL	**Pickwick Lake**	**58.32**	**72**	IAmb	IAmb	09 30 17.1	
	comp=Z,5.2nm,0.8s						
ZALV	**Zalesovo Beam**	**58.37**	**318**	P	**P**	**09 30 17.7**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=357,slow=5.9,SNR=4.9						
ZALV	**Zalesovo Beam**	**58.37**	**318**	P	**P**	**09 30 17.6**	**+0.1**
V48A	**Smith Brothers**	**58.55**	**71**	IAmb	IAmb	09 30 18.7	
	comp=Z,4.1nm,0.8s						
CLTN	**Cedars of Leba**	**58.60**	**70**	IAmb	IAmb	09 30 19.6	
	comp=Z,5.9nm,1.1s						
M54A	**Oil Creek Stat**	**58.74**	**61**	P	**P**	**09 30 19.2**	**-1.1**
	baz=313						
VBMS	**Vicksburg**	**58.74**	**76**	P	**P**	**09 30 19.9**	**-0.5**
	baz=314						
N54A	**Moraine State**	**58.93**	**62**	P	**P**	**09 30 20.6**	**-1.1**
	baz=313						
ARCES	**ARCESS Array B**	**59.03**	**354**	P	**P**	**09 30 23.1**	**+1.2**
	comp=Z,6.9nm,0.9s,baz=356,slow=14,SNR=5.4						
ARCES				LR	LR	09 55 49.5	
	comp=Z,15nm,21.4s,baz=90,slow=36						
S51A	**Beattyville**	**59.15**	**67**	IAmb	IAmb	09 30 22.9	
	comp=Z,4.0nm,0.9s						
LONY	**Lake Ozonia**	**59.34**	**56**	P	**P**	**09 30 23.6**	**-0.9**
	baz=313						
W50A	**Signal Mountai**	**59.82**	**70**	IAmb	IAmb	09 30 27.6	
	comp=Z,7.1nm,0.9s						
MCWV	**Mont Chateau**	**59.90**	**63**	P	**P**	**09 30 27.8**	**-0.6**
	baz=314						
FPAL	**Fort Paine**	**60.10**	**71**	P	**P**	**09 30 28.0**	**-1.8**
O56A	**Blue Knob Stat**	**60.19**	**62**	IAmb	IAmb	09 30 30.4	
	comp=Z,6.8nm,0.9s						
O56A	**Blue Knob Stat**	**60.19**	**62**	P	**P**	**09 30 29.4**	**-1.0**
	baz=314						
BINY	**Binghamton**	**60.27**	**59**	P	**P**	**09 30 30.5**	**-0.4**
	baz=314						
LRAL	**Lakeview Retre**	**60.31**	**73**	P	**P**	**09 30 30.3**	**-0.9**
	baz=314						
SSPA	**Standing Stone**	**60.32**	**61**	P	**P**	**09 30 30.6**	**-0.6**
SSPA	**Standing Stone**	**60.32**	**61**	P	**P**	**09 30 30.7**	**-0.6**
	baz=314						
LBNH	**Lisbon**	**60.98**	**55**	P	**P**	**09 30 35.0**	**-0.7**
	baz=315						
G62A	**West of Eustis**	**61.00**	**53**	P	**P**	**09 30 35.5**	**-0.3**
	baz=315						
P57A	**Homestead Farm**	**61.05**	**62**	IAmb	IAmb	09 30 36.6	
	comp=Z,9.5nm,1.1s						
E63A	**Oxbow**	**61.19**	**51**	P	**P**	**09 30 35.7**	**-1.3**
	baz=315						
BLA	**Blacksburg**	**61.27**	**66**	P	**P**	**09 30 37.1**	**-0.7**
	baz=314						
N59A	**State Game Lan**	**61.28**	**60**	P	**P**	**09 30 37.4**	**-0.4**
	baz=314						
J61A	**Chester**	**61.28**	**56**	P	**P**	**09 30 37.3**	**-0.4**
	baz=315						
F63A	**Nahmakanta, Br**	**61.37**	**52**	P	**P**	**09 30 37.7**	**-0.5**
	baz=315						
K61A	**Williamstown**	**61.38**	**57**	P	**P**	**09 30 38.2**	**-0.2**
	baz=315						
J62A	**Henniker**	**61.75**	**55**	P	**P**	**09 30 40.6**	**-0.3**
	baz=315						
K62A	**Royalston**	**61.93**	**56**	P	**P**	**09 30 41.6**	**-0.5**
	baz=315						
GOGA	**Godfrey**	**62.16**	**71**	P	**P**	**09 30 41.8**	**-1.9**
	baz=315						
KMSC	**Kings Mountain**	**62.19**	**68**	IAmb	IAmb	09 30 43.9	
	comp=Z,6.0nm,0.8s						
KMSC	**Kings Mountain**	**62.19**	**68**	P	**P**	**09 30 43.0**	**-1.0**
	baz=315						
T59A	**Double "B" Far**	**63.06**	**64**	P	**P**	**09 30 48.6**	**-1.1**
NHSC	**New Hope**	**64.31**	**69**	P	**P**	**09 30 57.4**	**-0.6**
	baz=316						
WMQ	**Urumqi**	**64.37**	**309**	*e*P	**P**	**09 31 00.7**	**+2.4**
MKAR	**Makanchi Array**	**64.71**	**314**	P	**P**	**09 31 00.3**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=47,slow=7.8,SNR=3.6						
BRVK	**Borovoye**	**64.72**	**325**	P	**P**	**09 31 01.2**	**+0.8**
ARU	**Arti**	**65.69**	**333**	P	**P**	**09 31 07.3**	**+0.7**
	comp=Z,3.0nm,0.2s,baz=359,slow=4.2,SNR=8.7						
ARU	**Arti**	**65.69**	**333**	IAmb	IAmb	09 31 08.1	
	comp=Z,11nm,0.9s						
KLMR	**Klimovskoe**	**65.89**	**345**	*e*P	**P**	**09 31 05.3**	**-2.5**
KLMR				AMP		09 31 08.4	
	comp=Z,7.0nm,0.9s						
FINES	**FINESS Array B**	**66.98**	**352**	P	**P**	**09 31 15.3**	**+0.5**
	comp=Z,5.5nm,1.0s,baz=338,slow=4.5,SNR=6.4						
FINES				LR	LR	10 03 22.5	
	comp=Z,8.4nm,19.6s,baz=26,slow=38						
NOA	**NORSAR Array B**	**68.03**	**360**	LR	LR	10 02 26.1	
	comp=Z,7.7nm,18.1s,baz=310,slow=37						
HFS	**Hagfors**	**68.92**	**359**	P	**P**	**09 31 27.3**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=29,slow=3.3,SNR=5.4						
AAK	**Ala-Archa**	**71.42**	**316**	P	**P**	**09 31 43.8**	**+1.0**
AAK				IAmb	IAmb	09 31 44.5	
	comp=Z,4.6nm,0.8s						
ABKAR	**Akbulak array**	**71.47**	**329**	P	**P**	**09 31 43.4**	**+0.6**
ABKAR	**Akbulak array**	**71.47**	**329**	P	**P**	**09 31 43.0**	**+0.3**
BELG	**Belogornoye**	**72.17**	**337**	P	**P**	**09 31 48.1**	**+1.2**
	comp=Z,36nm,0.8s,baz=267,slow=5.5,SNR=6.7						
KK31	**Karatay Array**	**72.74**	**319**	P	**P**	**09 31 50.0**	**-0.6**
KK31				IAmb	IAmb	09 31 51.3	
	comp=Z,3.7nm,0.8s						
KKAR	**Karatay Array**	**72.74**	**319**	P	**P**	**09 31 49.9**	**-0.6**
KKAR	**Karatay Array**	**72.74**	**319**	IAmb	IAmb	09 31 51.3	
	comp=Z,3.7nm,0.8s						
KSH	**Kashi**	**73.27**	**313**	pP	pP	09 32 04.3	+1.8
KSH	**Kashi**	**73.27**	**313**	pmax	pmax		
	comp=Z,7.0nm,0.5s						
KSH	**Kashi**	**73.27**	**313**	LR	LR		
	comp=E,340nm,24.2s						
KSH	**Kashi**	**73.27**	**313**	LR	LR		
	comp=N,520nm,27.0s						
KSH	**Kashi**	**73.27**	**313**	P	**P**	**09 31 57.6**	**+3.8**
MNK	**Minsk**	**73.64**	**350**	*i* P	**P**	**09 31 56.0**	**+0.4**
	comp=E,5.0nm,1.3s						
MNK				*i* P	**P**	**09 31 56.0**	**+0.4**
	comp=N,27nm,0.8s						
MNK				*i* P	**P**	**09 31 56.0**	**+0.4**
	comp=Z,14nm,0.8s,baz=191						
MNK				*i* PP	**PP**	**09 34 39.4**	**+0.1**
MNK				*i* PPP	PPP	09 36 24.1	
MNK				*i* S	**S**	**09 41 24.5**	**+1.3**
MNK				*i* SS	**SS**	**09 46 09.4**	**+4.0**
MNK				*i* SSS	SSS	09 49 30.4	
MNK				*i* LQ	LQ	09 59 16.7	
MNK				*i* LR	LR	10 02 01.1	
MNK				*i* LRM	MLR	10 06 38.3	
	comp=E,94nm,26.0s						
MNK				*i* LRM	MLR	10 06 38.3	
	comp=N,209nm,23.8s						
MNK				*i* LRM	MLR	10 06 38.3	
	comp=Z,177nm,20.1s						
CMAR	**Chiang Mai Arr**	**77.06**	**283**	P	**P**	**09 32 15.6**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=11,slow=6.2,SNR=9.6						
AKASG	**Malin Array Be**	**77.22**	**348**	P	**P**	**09 32 16.0**	**-0.2**
	comp=Z,3.2nm,0.6s,baz=13,slow=5.9,SNR=15						
AKASG				LR	LR	10 11 01.0	
	comp=Z,13nm,19.7s,baz=345,slow=39						
CLL	**Collm**	**77.77**	**359**	*e*P	**P**	**09 32 20.0**	**+0.7**
	comp=Z,4.0nm,0.8s						
CHVC	**Chvalec**	**78.42**	**357**	*e*P	**P**	**09 32 24.2**	**+1.3**
OSTC	**Ostas**	**78.44**	**357**	*e*P	**P**	**09 32 25.4**	**+2.4**
DPC	**Dobruska-Polom**	**78.64**	**357**	*e*P	**P**	**09 32 25.8**	**+1.6**
KRLC	**Kraliky**	**78.90**	**356**	*e*P	**P**	**09 32 26.9**	**+1.3**
MORC	**Moravsky Berou**	**79.17**	**356**	*e*P	**P**	**09 32 28.5**	**+1.5**
VRAC	**Vranov**	**79.67**	**356**	*e*P	**P**	**09 32 31.5**	**+1.7**
LANS	**Liptovska Anna**	**79.69**	**354**	*e*P	**P**	**09 32 32.0**	**+2.1**
KRUC	**Moravsky**	**79.93**	**356**	*e*P	**P**	**09 32 32.6**	**+1.4**
KHC	**Kasperske Hory**	**79.94**	**358**	*e*P	**P**	**09 32 32.7**	**+1.4**
JAVC	**Velka Javorina**	**80.08**	**356**	*e*P	**P**	**09 32 34.6**	**+2.6**
GERES	**GERESS Array B**	**80.23**	**358**	P	**P**	**09 32 34.2**	**+1.3**
	comp=Z,2.5nm,0.9s,baz=20,slow=4.3,SNR=13						
VYHS	**Vyhne**	**80.38**	**355**	*e*P	**P**	**09 32 35.1**	**+1.5**
CONA	**Conrad Observa**	**81.08**	**357**	*i* P	**P**	**09 32 39.5**	**+2.0**
	comp=Z,4.8nm,0.8s						
BIZ	**Bicaz**	**81.30**	**350**	⇊P	P	09 32 25.3	-13
VASR	**Vaslui**	**81.39**	**348**	⇈P	P	09 32 30.3	-8.7
KBZ	**Khabaz**	**81.40**	**337**	P	**P**	**09 32 39.8**	**+0.7**
	comp=Z,2.5nm,0.7s,baz=85,slow=2.9,SNR=5.7						
KBZ				LR	LR	10 14 01.9	
	comp=Z,23nm,18.6s,baz=22,slow=40						
MOTA	**Moosalm**	**81.76**	**360**	*e*P	**P**	**09 32 42.3**	**+1.1**
	comp=Z,12nm,1.2s						
WATA	**Walderalm**	**81.76**	**360**	*e*P	**P**	**09 32 43.0**	**+1.8**
	comp=Z,2.8nm,0.5s						
ARSA	**Arzberg**	**81.77**	**357**	*e*P	**P**	**09 32 43.0**	**+1.9**
	comp=Z,2.0nm,0.6s						
SQTA	**Sankt Quirin**	**81.88**	**360**	*e*P	**P**	**09 32 43.8**	**+2.1**
	comp=Z,9.9nm,0.9s						
KBA	**Koelnbreinsper**	**82.00**	**358**	*e*P	**P**	**09 32 44.6**	**+2.2**
	comp=Z,14nm,0.7s						
FETA	**Feichten**	**82.08**	**0**	*e*P	**P**	**09 32 44.9**	**+2.0**
	comp=Z,5.9nm,0.8s						
DAVOX	**Davos/Dischmat**	**82.32**	**1**	LR	LR	10 14 04.2	
	comp=Z,25nm,18.1s,baz=87,slow=39						
ABTA	**Abfaltersbach**	**82.34**	**359**	*e*P	**P**	**09 32 45.7**	**+1.6**
	comp=Z,5.9nm,1.0s						
SOKA	**Soboth**	**82.36**	**357**	*e*P	**P**	**09 32 45.9**	**+1.7**
	comp=Z,8.1nm,1.0s						
MYKA	**Terra Mystica**	**82.44**	**358**	*e*P	**P**	**09 32 45.7**	**+1.1**
	comp=Z,4.6nm,1.0s						
MLR	**Muntele Rosu**	**82.74**	**349**	LR	LR	10 12 41.7	
	comp=Z,21nm,19.9s,baz=9.5,slow=38						
BNI	**Bardonecchia**	**83.98**	**3**	P	**P**	**09 32 55.1**	**+2.4**
GNI	**Garni**	**84.28**	**335**	LR	LR	10 17 36.4	
	comp=Z,16nm,18.5s,baz=297,slow=41						
WRA	**Warramunga Arr**	**86.49**	**232**	P	**P**	**09 33 03.0**	**-2.2**
	comp=Z,0.8nm,0.8s,baz=38,slow=5.0,SNR=5.8						
ESDC	**Sonseca Array**	**88.49**	**11**	P	**P**	**09 33 15.3**	**+0.4**
	comp=Z,1.4nm,0.9s,baz=334,slow=4.0,SNR=6.6						
ESDC	**Sonseca Array**	**88.49**	**11**	P	**P**	**09 33 15.1**	**+0.3**
ESDC				IAmb	IAmb	09 33 16.0	
	comp=Z,1.7nm,0.9s						
ASAR	**Alice Springs**	**89.85**	**230**	P	**P**	**09 33 19.9**	**-1.4**
	comp=Z,1.6nm,0.8s,baz=34,slow=4.4,SNR=25						
VAE	**Valguarnera**	**91.56**	**357**	LR	LR	10 20 36.3	
	comp=Z,48nm,18.1s,baz=140,slow=39						
TORD	**Torodi Ar. Bea**	**115.34**	**10**	PKP	**PKiKP**	**09 39 02.3**	**-2.0**
	comp=Z,0.3nm,0.7s,baz=28,slow=1.7,SNR=1.4						
MAW	**Mawson**	**150.14**	**217**	PKPbc	**PKPbc**	**09 40 11.2**	**-0.5**
	comp=Z,2.6nm,0.8s,baz=113,slow=3.5,SNR=4.1						

*ISK **03** 09:24:49.8, 39°.52N×28°.86E, h7km, ML3.7/37*
*DDA **03** 09:24:49.9, 39°.51N×28°.86E, h7km±2km, MW3.6*
*THE **03** 09:24:53.1, 39°.53N×28°.98E, h32km±40km, ML3.4/1, Error ellipse: s-maj=40.6km s-min=2.0km az=103.0*
ISC 03 09:24:50.2±1.0**, 39°.53N**±0°.02×**28°.87E**±0°.01**, h7**km±8km**, n109,** σ0s.76/145**, 4C-7D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DST	**Dursunbey**	**0.21**	**291**	PG	**Pg**	**09 24 54.3**	**-0.1**
DURS	**Dursunbey**	**0.32**	**284**	*i* P	**Pg**	**09 24 56.5**	**+0.1**
DURS				*i* S	**Sg**	**09 25 01.1**	**+0.4**
SMAA	**Simav-Kutahya**	**0.43**	**169**	PG	**Pg**	**09 24 58.9**	**+0.2**
SIMA	**Simav-Kutahya**	**0.45**	**169**	PG	**Pg**	**09 24 59.1**	**+0.1**
SIMA				SG	**Sg**	**09 25 05.1**	**+0.2**
TVSB	**Tavsanli**	**0.46**	**99**	PG	**Pg**	**09 24 59.2**	**0.0**
TVSB				SG	**Sg**	**09 25 05.5**	**+0.2**
DEMI	**Demirci**	**0.50**	**194**	*i* P	**Pg**	**09 24 59.8**	**-0.1**
DEMI				*i* S	**Sg**	**09 25 05.8**	**-0.6**
GEDZ	**Gediz**	**0.64**	**139**	PG	**Pg**	**09 25 02.6**	**+0.1**
GDZ	**Gediz**	**0.65**	**133**	*i* P	**Pg**	**09 25 02.4**	**-0.2**
GDZ				*i* S	**Sg**	**09 25 10.8**	**-0.3**
ULDT	**Uludag**	**0.65**	**18**	*i* P	**Pg**	**09 25 02.8**	**+0.1**
ULDT				*i* S	**Sg**	**09 25 10.8**	**-0.4**
BALB	**Balikesir**	**0.77**	**279**	PG	**Pg**	**09 25 05.2**	**+0.1**
IGD	**Bursa**	**0.78**	**19**	*i* P	**Pg**	**09 25 05.3**	**+0.1**
IGD				*i* S	**Sb**	**09 25 16.2**	**-0.7**
ANDZ	**Kutahya, Merke**	**0.80**	**91**	*i* P	**Pg**	**09 25 05.1**	**-0.4**
ANDZ				*i* S	**Sg**	**09 25 15.2**	**-0.6**
USAK	**Uak-Merkez**	**0.82**	**172**	*i* P	**Pg**	**09 25 05.7**	**-0.3**
USAK				*i* S	**Sg**	**09 25 16.1**	**-0.6**
KCTX	**Karacabey (Bur**	**0.84**	**332**	PG	**Pg**	**09 25 06.6**	**+0.3**
MDNY	**Mudanya-Bursa**	**0.84**	**1**	PG	**Pg**	**09 25 06.6**	**+0.2**
STEP	**BALIKESIR_Sava**	**0.91**	**261**	*i* P	**Pg**	**09 25 07.3**	**-0.3**
STEP				*i* S	**Sb**	**09 25 20.9**	**+0.4**
GEMT	**Gemlik**	**0.94**	**15**	PG	**Pb**	**09 25 08.6**	**-0.2**
AUBOZ	**BOZOYUK**	**0.97**	**67**	*e*P	**Pb**	**09 25 09.5**	**+0.1**
AUBOZ				*i* S	**Sb**	**09 25 23.0**	**+0.5**
AUBOZ	**BOZOYUK**	**0.97**	**67**	PG	**Pg**	**09 25 09.1**	**+0.2**
BALY	**Balya**	**0.99**	**283**	*i* P	**Pg**	**09 25 08.8**	**-0.5**
BALY				*i* S	**Sb**	**09 25 22.9**	**-0.1**
BILE	**Bilecik/Merkez**	**1.00**	**50**	*i* P	**Pg**	**09 25 08.9**	**-0.5**
BILE				*i* S	**Sb**	**09 25 23.6**	**+0.3**
CAVI	**Cavuskoy**	**1.01**	**48**	PG	**Pg**	**09 25 09.2**	**-0.3**
KULA	**Kula-Manisa**	**1.02**	**189**	P	**Pg**	**09 25 09.5**	**-0.4**
KULA	**Kula-Manisa**	**1.02**	**189**	PG	**Pg**	**09 25 09.5**	**-0.4**
AKHS	**Akhisar**	**1.05**	**232**	*i* P	**Pg**	**09 25 10.1**	**-0.2**
AKHS				*i* S	**Sb**	**09 25 24.4**	**-0.1**
AKS	**Akhisar**	**1.05**	**232**	PG	**Pb**	**09 25 10.3**	**-0.3**
GONE	**Gonen-Balikesi**	**1.05**	**300**	PG	**Pb**	**09 25 10.5**	**-0.2**
MANT	**Manisa**	**1.06**	**193**	*i* P	**Pg**	**09 25 10.1**	**-0.5**
MANT				*i* S	**Sg**	**09 25 23.1**	**-1.3**
TRML	**Termal-Yalova**	**1.10**	**12**	PN	**Pb**	**09 25 11.6**	**0.0**
YLV	**Yalova**	**1.11**	**20**	PN	**Pb**	**09 25 11.6**	**-0.1**
ADVT	**Abdulvahap**	**1.12**	**36**	PN	**Pg**	**09 25 11.5**	**-0.3**
EDC	**Edincik**	**1.13**	**317**	PN	**Pg**	**09 25 11.8**	**0.0**
BORA	**Eskisehir**	**1.27**	**73**	*i* P	**Pn**	**09 25 13.9**	**-0.5**
BORA				*i* S	**Sn**	**09 25 33.0**	**+1.2**
BORA	**Eskisehir**	**1.27**	**73**	PN	**Pn**	**09 25 13.9**	**-0.5**
PASA	**Karahalli, USA**	**1.27**	**158**	*i* P	**Pn**	**09 25 14.1**	**-0.4**
PASA				*i* S	**Sb**	**09 25 30.0**	**-1.1**
KNL	**Balıkesir**	**1.27**	**306**	*i* P	**Pg**	**09 25 14.7**	**0.0**
KNL				*i* S	**Sn**	**09 25 32.0**	**+0.3**
AUKIR	**Kırka- Seyitga**	**1.31**	**100**	*i* P	**Pg**	**09 25 15.7**	**+0.4**
AUKIR				*i* S	**Sn**	**09 25 32.8**	**+0.1**
AFYO	**Afyonkarahisar**	**1.33**	**123**	*i* P	**Pg**	**09 25 15.8**	**0.0**
AFYO				*i* S	**Sn**	**09 25 35.1**	**+1.8**
GPA	**Golpazari**	**1.34**	**55**	PN	**Pn**	**09 25 15.4**	**0.0**
BUHA	**Balikesir, Bur**	**1.39**	**269**	*i* P	**Pb**	**09 25 16.2**	**-0.2**
BUHA				*i* S	**Sg**	**09 25 35.4**	**+0.5**
HRT	**Hereke**	**1.43**	**25**	PN	**Pn**	**09 25 16.5**	**-0.1**
SRCK	**Saricakaya, Es**	**1.45**	**69**	PN	**Pb**	**09 25 17.2**	**-0.2**
GEYV	**SAKARYA_Geyve**	**1.45**	**48**	*i* P	**Pb**	**09 25 17.2**	**-0.4**
GEYV				*i* S	**Sg**	**09 25 37.0**	**+0.1**
MRMT	**Marmara Adasi**	**1.45**	**318**	PN	**Pn**	**09 25 17.1**	**+0.2**
KRBG	**Karabiga-Canak**	**1.49**	**306**	PN	**Pn**	**09 25 17.5**	**+0.2**
ZEDA	**zmir-Bergama**	**1.50**	**249**	*i* P	**Pn**	**09 25 17.5**	**0.0**
ZEDA				*i* S	**Sn**	**09 25 36.2**	**-1.1**
SGAZ	**Eskisehir, Sey**	**1.52**	**89**	*i* P	**Pb**	**09 25 18.4**	**-0.4**
SGAZ				*i* S	**Sg**	**09 25 39.0**	**-0.1**
ESKT	**Eskisehir**	**1.53**	**90**	PN	**Pn**	**09 25 18.1**	**+0.1**
ISK	**Istanbul-Kandi**	**1.54**	**5**	P	**Pn**	**09 25 17.9**	**-0.2**
ISK	**Istanbul-Kandi**	**1.54**	**5**	PN	**Pn**	**09 25 17.8**	**-0.3**
GULT	**Gulveren**	**1.55**	**54**	PN	**Pn**	**09 25 18.6**	**+0.3**
KZIL	**AFYON_Kizioren**	**1.61**	**142**	*i* P	**Pn**	**09 25 19.3**	**+0.2**
KZIL				*i* S	**Sb**	**09 25 41.0**	**+0.1**
SHUT	**Suhut-Afyon**	**1.63**	**126**	PN	**Pb**	**09 25 20.2**	**-0.4**
SAUV	**Serdivan-Sakar**	**1.65**	**42**	PN	**Pn**	**09 25 19.7**	**+0.2**
ELBA	**Catalca**	**1.65**	**348**	*i* P	**Pn**	**09 25 19.2**	**-0.4**
GZKV	**Gazikoy-Tekird**	**1.70**	**316**	PN	**Pn**	**09 25 20.8**	**+0.6**
AYVA	**Ayvalik**	**1.70**	**263**	*e*P	**Pb**	**09 25 21.1**	**-0.7**
AYVA				*i* S	**Sg**	**09 25 45.1**	**+0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CIFT	**Cifteler, Eski**	**1.71**	**95**	PN	**Pn**	**09 25 20.8**	**+0.4**
MAR3	**Marsite Statio**	**1.71**	**316**	PN	**Pn**	**09 25 20.8**	**+0.4**
SILT	**Sile**	**1.73**	**20**	PN	**Pn**	**09 25 20.8**	**+0.2**
KLYT	**Kilyos**	**1.73**	**4**	PN	**Pn**	**09 25 20.7**	**+0.1**
CTKS	**Kestanelik-??a**	**1.73**	**351**	PN	**Pn**	**09 25 20.5**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.74**	**312**	PN	**Pn**	**09 25 20.7**	**-0.2**
SART	**Tekirdag**	**1.74**	**312**	*i* P	**Pn**	**09 25 21.1**	**+0.3**
SART				*i* S	**Sn**	**09 25 43.4**	**0.0**
MAR4	**Marsite Statio**	**1.74**	**317**	PN	**Pn**	**09 25 21.1**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.75**	**206**	PN	**Pn**	**09 25 20.5**	**-0.6**
SLVT	**Silivri**	**1.77**	**344**	PN	**Pn**	**09 25 21.5**	**+0.2**
BLCB	**Balcova**	**1.83**	**232**	P	**Pn**	**09 25 21.9**	**-0.1**
BLCB				S	**Sn**	**09 25 45.6**	**+0.3**
LPK	**Lapseki**	**1.83**	**298**	PN	**Pn**	**09 25 22.5**	**+0.5**
BASM	**Basmaki-Afyon**	**1.85**	**150**	PN	**Pn**	**09 25 22.3**	**-0.1**
BTAS	**Taskesti**	**1.94**	**57**	*e*P	**Pn**	**09 25 24.4**	**+0.8**
BTAS				*i* S	**Sn**	**09 25 48.6**	**+0.5**
EZN	**Ezine**	**1.99**	**279**	P	**Pn**	**09 25 25.2**	**+1.0**
EZN	**Ezine**	**1.99**	**279**	PN	**Pn**	**09 25 24.2**	**0.0**
CTYL	**Yalikoy Yolu**	**2.00**	**347**	PN	**Pn**	**09 25 24.4**	**+0.1**
SAHE	**Sakarya_HENDEK**	**2.01**	**48**	*i* P	**Pn**	**09 25 24.8**	**+0.2**
SAHE				*i* S	**Sn**	**09 25 50.3**	**+0.3**
AYDN	**Tasoluk**	**2.02**	**203**	*i* P	**Pn**	**09 25 24.1**	**-0.6**
AYDN				*i* S	**Sg**	**09 25 56.9**	**+1.8**
PRK	**Paraskevi**	**2.03**	**263**	P	**Pn**	**09 25 25.5**	**+0.7**
BRDR	**BURDUR-Merkez**	**2.05**	**153**	*i* P	**Pn**	**09 25 24.9**	**-0.3**
TAVA	**DENIZLI_Tavas**	**2.06**	**179**	*e*P	**Pn**	**09 25 25.4**	**+0.1**
AUSIV	**SIVRIHISAR**	**2.07**	**92**	*e*P	**Pn**	**09 25 25.1**	**-0.3**
KOCA	**Canakkale, Ayv**	**2.11**	**270**	*i* P	**Pn**	**09 25 26.9**	**+1.0**
KOCA				*i* S	**Sb**	**09 25 55.5**	**+0.3**
KESN	**Edirne-Kesan**	**2.12**	**308**	*i* P	**Pn**	**09 25 26.8**	**+0.4**
KESN				*i* S	**Sn**	**09 25 52.8**	**-0.4**
URLA	**Izmir**	**2.12**	**237**	*e*P	**Pn**	**09 25 24.0**	**-2.1**
ECEA	**Canakkale, Ece**	**2.14**	**285**	*i* P	**Pn**	**09 25 27.2**	**+0.9**
ECEA				*i* S	**Sb**	**09 25 54.6**	**-1.4**
BAGO	**Egridir - ISPA**	**2.15**	**135**	*i* P	**Pn**	**09 25 26.5**	**0.0**
BAGO				*i* S	**Sg**	**09 26 00.9**	**+1.8**
VIZE	**Kirklareli, Vi**	**2.19**	**339**	*i* P	**Pn**	**09 25 27.2**	**+0.1**
BOZC	**Bozcaada**	**2.20**	**279**	*i* P	**Pn**	**09 25 28.0**	**+0.9**
BOZC				*i* S	**Sn**	**09 25 55.4**	**+0.9**
YVAC	**Isparta, Yalva**	**2.23**	**123**	*i* P	**Pn**	**09 25 28.5**	**+0.8**
ZEYE	**Izmir, Urla-Ze**	**2.25**	**236**	*e*P	**Pn**	**09 25 29.1**	**+1.3**
MULA	**Mugla, Merkez-**	**2.31**	**191**	*e*P	**Pn**	**09 25 30.2**	**+1.5**
GOLH	**Golhisar**	**2.35**	**166**	*i* P	Pn	09 25 11.3	-18
SIGR	**SIGRI**	**2.36**	**263**	P	**Pn**	**09 25 30.3**	**+1.0**
CAVK	**Edirne/Enez-Ca**	**2.38**	**300**	*e*P	**Pn**	**09 25 29.2**	**-0.3**
ENEZ	**Enez**	**2.41**	**301**	P	**Pn**	**09 25 29.7**	**-0.3**
ENEZ				S	**Sn**	**09 25 59.3**	**-0.4**
	358nm,0.5s						
SMG	**Samos**	**2.42**	**222**	P	**Pn**	**09 25 31.7**	**+1.6**
YER	**Yerkesik**	**2.43**	**191**	P	**Pn**	**09 25 30.1**	**-0.3**
SMTH	**Samothraki Isl**	**2.73**	**291**	P	**Pn**	**09 25 35.4**	**+0.9**
BODT	**Bodrum**	**2.75**	**207**	P	**Pn**	**09 25 35.7**	**+1.0**
APE	**Apeiranthos**	**3.60**	**228**	⇑P	**Pg**	**09 25 59.4**	**+0.3**
TIRR	**Tirgusor**	**4.94**	**356**	⇓P	**Pn**	**09 26 05.4**	**+0.7**
TIRR	**Tirgusor**	**4.94**	**356**	⇓S	**Sn**	**09 26 59.1**	**-2.9**
HARR	**Harsova**	**5.21**	**353**	⇓P	**Pn**	**09 26 09.9**	**+1.5**
TPGR	**Topolog**	**5.34**	**357**	⇑P	**Pn**	**09 26 10.8**	**+0.6**
TPGR	**Topolog**	**5.34**	**357**	⇓S	**Sn**	**09 27 09.0**	**-2.9**
TLCR		**5.66**	**360**	⇑P	**Pn**	**09 26 14.2**	**-0.4**
MLR	**Muntele Rosu**	**6.34**	**341**	⇓P	**Pn**	**09 26 25.8**	**+1.6**
PLOR	**Plostina**	**6.53**	**346**	⇑P	**Pn**	**09 26 28.7**	**+2.1**
VRI	**Vrincioaia**	**6.53**	**347**	⇓P	**Pn**	**09 26 28.4**	**+1.8**
VOIR		**6.55**	**336**	⇓P	**Pn**	**09 26 28.0**	**+1.1**

BEO 03 09:25:24.4±0.5**, 44°.12N**×**22°.16E, h0**km**, ML1.7**/8**, 7C-5D, Mining explosion., Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUBS	**Kucevo**	**0.45**	**310**	*e*Pg	Pg	09 25 30.9	-2.2
KUBS				*e*Sg	Sg	09 25 37.9	-1.0
BOVS	**Bovan**	**0.59**	**214**	⇓P	Pg	09 25 35.5	-0.2
BOVS	**Bovan**	**0.59**	**214**	⇑S	Sg	09 25 41.6	-1.7
BOVS	**Bovan**	**0.59**	**214**	*e*Pg	Pg	09 25 35.0	-0.6
BOVS				*e*Sg	Sg	09 25 42.9	-0.3
BLKB	**Belogradchik**	**0.62**	**143**	⇑S	Sg	09 25 45.3	+0.9
MDVR	**Moldovita**	**0.73**	**334**	⇑P	Pg	09 25 37.8	-0.6
MDVR	**Moldovita**	**0.73**	**334**	⇓S	Sg	09 25 48.0	+0.1
HERR	**Herculane**	**0.78**	**14**	⇑P	Pg	09 25 39.3	0.0
HERR	**Herculane**	**0.78**	**14**	⇑S	Sg	09 25 50.1	+0.6
ZAPS	**Zavoj**	**0.92**	**158**	*e*Pg	Pg	09 25 41.7	-0.2
ZAPS				*e*Sg	Sg	09 25 53.8	0.0
GRUS	**Gruza**	**1.07**	**258**	*e*Pg	Pg	09 25 45.2	+0.4
GRUS				*e*Sg	Sg	09 25 58.8	+0.1
SELS	**Selova**	**1.18**	**220**	*e*Pg	Pg	09 25 46.3	-0.6
SELS				*e*Sg	Sb	09 26 03.1	-0.3
TRUS	**Trudelj**	**1.26**	**275**	*e*Pg	Pg	09 25 48.7	+0.1
TRUS				*e*Sg	Sg	09 26 05.0	0.0
BARS	**Barje**	**1.33**	**191**	*e*Pg	Pg	09 25 46.7	-3.2
BARS				*e*Sg	Sg	09 26 05.5	-1.6
GZR	**Gura Zlata**	**1.34**	**19**	⇓P	Pg	09 25 50.0	-0.2
GZR	**Gura Zlata**	**1.34**	**19**	⇑S	Sb	09 26 08.4	+0.1
BZS	**Buzias**	**1.54**	**346**	⇓P	Pn	09 25 52.2	-0.9
BZS	**Buzias**	**1.54**	**346**	⇑S	Sn	09 26 13.5	-0.3
IVAS	**Ivanjica**	**1.55**	**250**	*e*Pg	Pn	09 25 52.6	-0.7
IVAS				*e*Sg	Sn	09 26 13.5	-0.7
DIVS	**Divibare**	**1.56**	**270**	*e*Pg	Pb	09 25 54.0	-0.2
DIVS				*e*Sg	Sn	09 26 13.5	-1.0
BOSS	**Bosilegrad**	**1.64**	**172**	*e*Pg	Pn	09 25 54.2	-0.3
BOSS				*e*Sg	Sn	09 26 15.5	-0.9
LOT	**Lotru**	**1.75**	**40**	⇓S	Sb	09 26 19.7	-0.4

*REN **03** 09:36:32.2±2.8, 41°.85N±0°.04×119°.63W±0°.06, h8km±7km, ML3.2/4, ML3.0/64(NEIC), ML3.1/38(SEA), Error ellipse: s-maj=6.2km s-min=5.2km az=81.0*
*SEA **03** 09:36:33.6±4.1, 41°.88N±0°.02×119°.65W±0°.02, h3km±7km, Error ellipse: s-maj=3.7km s-min=1.3km az=142.0*
*NEIC **03** 09:36:34.3±4.0, 41°.89N±0°.04×119°.64W±0°.03, h12km±7km, Error ellipse: s-maj=5.5km s-min=3.1km az=181.0*
*ANF **03** 09:36:34.5±1.1, 41°.80N×119°.97W, h0km, ML3.1/12, Error ellipse: s-maj=11.9km s-min=4.5km az=93.0*
ISC 03 09:36:33.3±1.3**, 41°.88N**±0°.03×**119°.69W**±0°.03**, h5**km±13km**, n66,** σ1§**33**/69**, Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKVW	**Lakeview**	**0.61**	**305**		**Pg**	**09 36 45.1**	**+0.1**
LKVW					**Sg**	**09 36 54.4**	**+1.5**
WVOR	**Wild Horse Val**	**0.96**	**54**		**Pg**	**09 36 50.4**	**-1.4**
WVOR					**Sg**	**09 37 03.6**	**-0.7**
WVOR	**Wild Horse Val**	**0.96**	**54**	IAML		09 37 06.8	
	604nm,0.9s						
WVOR				IAML		09 37 06.9	
	495nm,0.9s						
K05A	**Summer Lake**	**1.23**	**314**		**Pn**	**09 36 56.5**	**-0.9**
K05A	**Summer Lake**	**1.23**	**314**	IAML		09 37 18.7	
	comp=E,284nm,0.7s						
K05A				IAML		09 37 21.9	
	comp=N,262nm,1.4s						
LASM	**Arnica Sink**	**1.44**	**260**		**Pn**	**09 36 59.6**	**-0.6**
LTIM	**Timbered Crate**	**1.52**	**243**		**Pn**	**09 37 00.9**	**-0.4**
HOG	**Hogback Mounta**	**1.54**	**284**		**Pn**	**09 37 01.2**	**-0.4**
M04C	**Macdoel**	**1.61**	**267**		**Pn**	**09 37 01.8**	**-0.7**
M04C	**Macdoel**	**1.61**	**267**	P	**Pn**	**09 37 01.8**	**-0.7**
	baz=87,SNR=127						
LBCM	**Butte Creek Ri**	**1.62**	**231**		**Pn**	**09 37 02.2**	**-0.5**
K04D	**Chiloquin, OR**	**1.70**	**297**		**Pn**	**09 37 03.2**	**-0.7**
K04D	**Chiloquin, OR**	**1.70**	**297**	P	**Pn**	**09 37 03.1**	**-0.7**
	baz=115,SNR=29						
K04D				S	**Sn**	**09 37 25.3**	**-0.7**
	baz=115						
J08A	**Circle Bar Ran**	**1.73**	**31**		**Pn**	**09 37 02.4**	**-1.8**
J08A				IAML		09 37 30.7	
	comp=N,190nm,1.0s						
J05D	**Fort Rock, OR**	**1.81**	**322**		**Pn**	**09 37 06.5**	**+1.1**
J05D	**Fort Rock, OR**	**1.81**	**322**	P	**Pn**	**09 37 06.4**	**+1.1**
	baz=140,SNR=226						
J05D				Sg	**Sg**	**09 37 32.9**	**+1.4**
	baz=140						
LHEM	**Herd Peak**	**1.91**	**263**		**Pn**	**09 37 08.4**	**+1.7**
L04D	**Klamath Falls**	**1.98**	**281**		**Pn**	**09 37 07.0**	**-0.6**
L04D	**Klamath Falls**	**1.98**	**281**	P	**Pn**	**09 37 06.7**	**-0.9**
	baz=100,SNR=56						
TMBU	**Tom Butte, New**	**2.03**	**329**		**Pb**	**09 37 10.7**	**-0.1**
BEKR	**Beckworth**	**2.07**	**194**	Pn	**Pn**	**09 37 10.7**	**+1.8**
BEKR				IAML		09 37 40.0	
	comp=E,126nm,0.2s						
BEKR				IAML		09 37 42.3	
	comp=N,95nm,0.4s						
SVIC	**Surveyors Ice**	**2.11**	**327**		**Pb**	**09 37 11.8**	**-0.3**
PINE	**Pine Mountain**	**2.12**	**335**		**Pn**	**09 37 10.8**	**+1.1**
PINE				IAML		09 37 50.4	
	comp=N,81nm,0.7s						
PAHR	**Pah Rah Range**	**2.18**	**174**	Pn	**Pb**	**09 37 12.6**	**-0.7**
I07A	**Izee**	**2.21**	**4**	Pn	**Pn**	**09 37 12.7**	**+2.0**
I07A				IAML		09 37 53.0	
	comp=E,72nm,1.6s						
O03E	**Paynes Creek**	**2.24**	**226**	P	**Pn**	**09 37 10.6**	**-0.6**
	baz=46,SNR=54						
O03E				Sg	**Sb**	**09 37 42.2**	**-0.3**
	baz=46						
J04D	**Umpqua Nationa**	**2.25**	**308**		**Pb**	**09 37 15.0**	**+0.5**
J04D	**Umpqua Nationa**	**2.25**	**308**	P	**Pn**	**09 37 10.9**	**-0.4**
	baz=126,SNR=39						
YBH	**Yreka Blue Hor**	**2.26**	**267**	Pn	**Pn**	**09 37 10.2**	**-1.2**
YBH				IAML		09 37 46.6	
	comp=N,79nm,0.7s						
BMN	**Battle Mountai**	**2.36**	**127**	Pn	**Pn**	**09 37 14.0**	**+1.1**
BMN				IAML		09 37 48.5	
	comp=N,125nm,0.5s						
BMN				IAML		09 37 48.8	
	comp=E,100nm,0.5s						
M02C	**Callahan**	**2.42**	**260**	P	**Pn**	**09 37 11.8**	**-1.8**
	baz=78,SNR=17						
N02D	**Trinity Center**	**2.44**	**249**		**Pn**	**09 37 16.6**	**+2.8**
N02D	**Trinity Center**	**2.44**	**249**	P	**Pn**	**09 37 12.4**	**-1.4**
	baz=68,SNR=9.3						
WDC	**Whiskeytown Da**	**2.51**	**240**	Pn	**Pn**	**09 37 14.0**	**-0.8**
WDC				IAML		09 37 52.0	
	comp=N,84nm,0.5s						
HUMO	**Hull Mountain**	**2.53**	**288**	Pn	**Pn**	**09 37 14.1**	**-1.0**
HUMO				IAML		09 37 54.3	
	comp=N,52nm,0.5s						
VCNR	**Virginia City**	**2.58**	**179**	Pn	**Pb**	**09 37 20.1**	**-0.1**
I05D	**Terrebonne, OR**	**2.74**	**334**	P	**Pn**	**09 37 21.1**	**+3.0**
	baz=153,SNR=18						
I04A	**Tendick Farm,**	**2.77**	**315**	Pb	**Pb**	**09 37 23.2**	**-0.1**
	baz=133						
PNTR	**Pine Nut**	**2.78**	**179**	Pn	**Pb**	**09 37 22.8**	**-0.8**
PNTR				IAML		09 38 14.8	
	comp=E,61nm,0.9s						
RUBR	**Rubicon Trail**	**2.84**	**187**	Pn	**Pn**	**09 37 19.2**	**-0.3**
RUBR				IAML		09 38 11.8	
	comp=E,62nm,0.6s						
RUBR				IAML		09 38 29.3	
	comp=N,51nm,0.9s						
O02D	**Mt. Diablo Mer**	**2.89**	**235**	P	**Pn**	**09 37 18.8**	**-1.3**
	baz=54						
L02E	**Cave Junction**	**2.93**	**277**	P	**Pn**	**09 37 20.2**	**-0.4**
	baz=95						
K02D	**Willamette Mer**	**3.06**	**287**	P	**Pn**	**09 37 22.2**	**-0.2**
	baz=104,SNR=99						
KVN	**Kaiserville**	**3.07**	**156**	Pn	**Pn**	**09 37 24.0**	**+1.3**
KVN				IAML		09 38 13.6	
	comp=E,37nm,0.6s						
KVN				IAML		09 38 15.1	
	comp=N,41nm,0.5s						
KRMB	**Red Mountain**	**3.18**	**265**	Pn	**Pn**	**09 37 24.7**	**+0.7**
KRMB				IAML		09 38 15.9	
	comp=E,41nm,4.1s						
MFID	**Camas Ranch**	**3.24**	**60**	Pn	**Pn**	**09 37 23.5**	**-1.4**
MFID				IAML		09 38 17.8	
	comp=E,54nm,0.6s						
I03D	**Drain, OR**	**3.25**	**305**	Pb	**Pb**	**09 37 30.5**	**-0.9**
	baz=123						
RYN	**Ryan**	**3.37**	**164**	Pn	**Pn**	**09 37 28.6**	**+2.0**
RYN				IAML		09 38 22.4	
	comp=N,42nm,0.5s						
RYN				IAML		09 38 23.5	
	comp=E,47nm,0.9s						
J01E	**Myrtle Point**	**3.39**	**294**	P	**Pn**	**09 37 27.5**	**+0.7**
	baz=111						
KBO	**Bosley Butte**	**3.39**	**277**	Pn	**Pn**	**09 37 27.6**	**+0.6**
JCC	**Jacoby Creek,**	**3.43**	**253**	Pn	**Pn**	**09 37 27.1**	**-0.3**
JCC				IAML		09 38 16.5	
	comp=E,44nm,4.8s						
JCC				IAML		09 38 32.1	
	comp=N,46nm,1.5s						
BMO	**Blue Mountains**	**3.45**	**30**	Pn	**Pn**	**09 37 29.9**	**+2.1**
KMRM	**Mail Ridge**	**3.46**	**243**	Pn	**Pn**	**09 37 28.4**	**+0.5**
H04D	**Lebanon**	**3.46**	**321**	Pb	**Pb**	**09 37 35.2**	**+0.2**
	baz=139						
ELK	**Elko**	**3.54**	**107**	Pn	**Pn**	**09 37 29.5**	**+0.3**
ELK				IAML		09 38 25.7	
	comp=N,28nm,0.3s						
KEBM	**Edson Butte**	**3.58**	**288**	Pn	**Pn**	**09 37 30.0**	**+0.4**
NVAR	**Mina Array Bea**	**3.60**	**162**	Pn	**Pn**	**09 37 32.4**	**+2.4**
NV11	**Mina Array Sit**	**3.64**	**161**	Pn	**Pb**	**09 37 37.2**	**-1.0**
LHV	**Little Huntoon**	**3.73**	**165**	Pn	**Pn**	**09 37 34.0**	**+2.5**
LHV				IAML		09 38 40.5	
	comp=N,39nm,0.8s						
COR	**Corvallis**	**3.78**	**317**	Pn	**Pn**	**09 37 32.0**	**-0.2**
COR				IAML		09 39 17.1	
	comp=N,36nm,3.8s						
PLID	**Pearl Lake**	**4.19**	**39**	Pn	**Pn**	**09 37 36.8**	**-1.2**
HLID	**Hailey**	**4.24**	**65**	Pn	**Pn**	**09 37 38.1**	**-0.6**
HLID				IAML		09 38 46.8	
	comp=N,22nm,0.7s						
HLID				IAML		09 38 52.4	
	comp=N,17nm,1.0s						
LVP	**Lakeview Peak**	**4.63**	**336**		**Pn**	**09 37 47.5**	**+3.6**
SPR3	**Spring Creek 3**	**5.00**	**123**	Pn	**Pn**	**09 37 51.4**	**+2.1**
BGU	**Big Grassy Mou**	**5.10**	**99**		**Pn**	**09 37 51.9**	**+1.3**
BGU				IAML		09 39 19.1	
	comp=N,10nm,1.1s						
PRN	**Pahroc Range**	**5.72**	**140**	Pn	**Pn**	**09 38 01.7**	**+2.6**

WEL 03 09:49:23.7±1.0**, 37°S**±10°×**17°8E**±°**, h236**km±5km**, M3.7**/55**, mB4.3**/1**, ML3.4**/8**, MLv3.7**/55**, Mw(mB)3.5**/1**, Error ellipse: s-maj=0.0km s-min=0.0km az=157.6, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.87**	**165**	P	Pn	09 49 55.6	-0.9
HAZ	**Te Kaha**	**1.05**	**190**	P	Pn	09 49 56.3	-1.2
HAZ				S	S	09 50 22.3	-1.8
WMGZ	**Waiomatatini S**	**1.14**	**164**	P	Pn	09 49 57.8	-0.3
PKGZ	**Pakihiroa**	**1.16**	**178**	P	Pn	09 49 57.9	-0.5
RUGZ	**Raukumara Rang**	**1.27**	**192**	P	Pn	09 49 57.8	-1.3
PUZ	**Puketiti**	**1.36**	**172**	P	Pn	09 49 59.5	-0.1
PUZ				S	S	09 50 27.4	-0.6
TWGZ	**Tauwhareparae**	**1.45**	**181**	P	Pn	09 50 01.1	+0.7
TWGZ				S	S	09 50 30.6	+1.4
MARZ	**Manawahe**	**1.66**	**220**	P	Pn	09 50 02.0	0.0
MWZ	**Matawai**	**1.66**	**194**	P	Pn	09 50 01.9	-0.1
MWZ				S	S	09 50 33.3	+1.2
URZ	**Urewera**	**1.70**	**205**	P	Pn	09 50 01.7	-0.6
URZ				S	S	09 50 32.2	-0.4
TKGZ	**Te Karaka**	**1.72**	**185**	P	Pn	09 50 03.0	+0.5
TKGZ				S	S	09 50 33.5	+0.5
CNGZ	**Carnagh Statio**	**1.76**	**175**	P	Pn	09 50 04.0	+1.2
RAGZ	**Rawiri**	**1.83**	**195**	P	Pn	09 50 04.2	+0.6
RAGZ				S	S	09 50 36.2	+1.3
KUZ	**Kuaotunu**	**1.85**	**269**	P	Pn	09 49 59.3	-4.3
RIGZ	**Rimuhau**	**1.99**	**186**	P	Pn	09 50 05.7	+0.8
KMRZ	**Kaimai**	**2.00**	**235**	P	Pn	09 49 56.1	-9.0
MUGZ	**Murupara**	**2.01**	**209**	P	Pn	09 50 04.9	-0.2
RTZ	**Ruatahuna**	**2.06**	**203**	P	Pn	09 50 05.5	-0.2
PRGZ	**Paritu Road**	**2.20**	**183**	P	Pn	09 50 08.2	+1.2
GRRZ	**Galatos Road**	**2.22**	**223**	P	Pn	09 50 08.1	+0.9
TOZ	**Tahuroa Road**	**2.25**	**243**	P	Pn	09 50 06.4	-1.0
RAHZ	**Arahi**	**2.31**	**198**	P	Pn	09 50 08.8	+0.8
MTHZ	**Maungataniwha**	**2.32**	**203**	P	Pn	09 50 08.2	0.0
MHGZ	**Mahia Peninsul**	**2.43**	**182**	P	Pn	09 50 10.6	+1.4
WHHZ	**Waihua**	**2.43**	**195**	P	Pn	09 50 10.2	+1.0
MRHZ	**Matea Rd**	**2.46**	**211**	P	Pn	09 50 09.6	0.0
MBAZ	**Motutapu North**	**2.51**	**268**	P	Pn	09 50 06.5	-3.6
TLZ	**Tolley Road**	**2.54**	**230**	P	Pn	09 50 11.4	+1.0
NMHZ	**Naumai**	**2.56**	**202**	P	Pn	09 50 11.7	+1.1
ARHZ	**Aropaoanui**	**2.66**	**197**	P	Pn	09 50 12.6	+1.0
BKZ	**Black Stump Fm**	**2.72**	**206**	P	Pn	09 50 12.4	0.0
MCHZ	**McNeill Hill**	**2.91**	**201**	P	Pn	09 50 15.3	+0.9
KWHZ	**Kaweka Forest**	**2.98**	**205**	P	Pn	09 50 15.6	+0.5
NTVZ	**North Tongarir**	**3.01**	**217**	P	Pn	09 50 16.2	+0.7
TMVZ	**Te Maari**	**3.01**	**217**	P	Pn	09 50 16.2	+0.7
CKHZ	**Cape Kidnapper**	**3.02**	**194**	P	Pn	09 50 16.5	+1.0
ETVZ	**East Tongariro**	**3.02**	**216**	P	Pn	09 50 16.2	+0.5
WCZ	**Waipu Caves**	**3.07**	**284**	P	Pn	09 50 10.9	-5.2
HIZ	**Hauiti**	**3.08**	**234**	P	Pn	09 50 17.0	+0.8
SNVZ	**South Ngauruho**	**3.10**	**217**	P	Pn	09 50 16.9	+0.4
TWVZ	**Taurewa**	**3.11**	**220**	P	Pn	09 50 17.1	+0.5
TUVZ	**Tukino**	**3.15**	**216**	P	Pn	09 50 17.5	+0.3
BHHZ	**Black Hill Sta**	**3.16**	**209**	P	Pn	09 50 17.2	0.0
FWVZ	**Far West T-bar**	**3.19**	**217**	P	Pn	09 50 17.8	+0.1
KRHZ	**Kereru**	**3.19**	**204**	P	Pn	09 50 17.5	0.0
KAHZ	**Kahuranaki**	**3.20**	**196**	P	Pn	09 50 18.5	+1.0
WHVZ	**Whangaehu Hut**	**3.20**	**216**	P	Pn	09 50 17.8	+0.1
MOVZ	**Moawhango**	**3.22**	**213**	P	Pn	09 50 17.5	-0.4
WNVZ	**Wahianoa**	**3.23**	**216**	P	Pn	09 50 18.0	0.0
PXZ	**Pawanui**	**3.43**	**195**	P	Pn	09 50 20.5	+0.5
PNHZ	**Pukenui**	**3.49**	**204**	P	Pn	09 50 20.9	0.0
VRZ	**Vera Road**	**3.52**	**226**	P	Pn	09 50 21.9	+0.7
WPHZ	**Waipukurau**	**3.56**	**200**	P	Pn	09 50 22.0	+0.3
TSZ	**Takapari Road**	**3.70**	**205**	P	Pn	09 50 23.2	-0.1
DVHZ	**Dannevirke**	**3.85**	**202**	P	Pn	09 50 25.1	-0.1
ANWZ	**Angora Road**	**3.92**	**198**	P	Pn	09 50 26.5	+0.6
NEZ	**North Egmont**	**4.01**	**229**	P	Pn	09 50 28.4	+1.3
POWZ	**Post Office Ro**	**4.07**	**205**	P	Pn	09 50 27.5	-0.1
PRWZ	**Pori Road**	**4.15**	**202**	P	Pn	09 50 28.8	+0.2
BFZ	**Birch Farm**	**4.19**	**199**	P	Pn	09 50 29.1	0.0
MRZ	**Mangatainoka R**	**4.37**	**205**	P	Pn	09 50 30.8	-0.5
TIWZ	**Tintock**	**4.38**	**202**	P	Pn	09 50 31.4	0.0
HOWZ	**Holdsworth Sta**	**4.60**	**204**	P	Pn	09 50 33.4	-0.8
OGWZ	**Otaki Gorge**	**4.66**	**208**	P	Pn	09 50 34.1	-0.7
TMWZ	**Te Maipa**	**4.68**	**200**	P	Pn	09 50 35.0	-0.1
KIW	**Kapiti Island**	**4.79**	**210**	P	Pn	09 50 35.4	-1.1
MTW	**Mount Morrison**	**4.84**	**203**	P	Pn	09 50 36.2	-0.9
CAW	**Cannon Point**	**4.95**	**207**	P	Pn	09 50 37.3	-1.0
PAWZ	**Paruwai Farm**	**5.07**	**203**	P	Pn	09 50 39.0	-0.9
MSWZ	**Moikau Station**	**5.16**	**204**	P	Pn	09 50 39.7	-1.3
DUWZ	**D'Urville Isla**	**5.18**	**217**	P	Pn	09 50 39.6	-1.7
WEL	**Wellington**	**5.21**	**208**	P	Pn	09 50 40.4	-1.2
PLWZ	**Palliser**	**5.29**	**203**	P	Pn	09 50 41.5	-1.2
TCW	**Tory Channel**	**5.35**	**212**	P	Pn	09 50 41.5	-1.8
TUWZ	**Tuamarina**	**5.67**	**213**	P	Pn	09 50 45.4	-1.9
BSWZ	**Blackbirch Sta**	**5.93**	**212**	P	Pn	09 50 49.3	-1.4
THZ	**Tophouse**	**6.41**	**217**	P	Pn	09 50 55.4	-1.3
KHZ	**Kahutara**	**6.66**	**210**	P	Pn	09 50 58.2	-1.5
GVZ	**Greta Valley S**	**7.32**	**210**	P	Pn	09 51 06.4	-1.8
LTZ	**Lake Taylor**	**7.50**	**214**	P	Pn	09 51 09.4	-1.1
INZ	**Inchbonnie**	**7.85**	**218**	P	Pn	09 51 13.4	-1.5
OKCZ	**Okains Bay**	**7.95**	**207**	P	Pn	09 51 15.0	-1.3
OXZ	**Oxford**	**8.03**	**213**	P	Pn	09 51 14.9	-2.4
MQZ	**McQueen's Vall**	**8.09**	**209**	P	Pn	09 51 15.5	-2.5
TMZ	**Timaru**	**9.33**	**213**	P	Pn	09 51 32.2	-1.6
ODZ	**Otahua Downs**	**10.01**	**212**	P	Pn	09 51 41.6	-0.8

*IDC **03** 09:49:54.3±0.3, 14°.03N×144°.79E, h178km±3km, mb3.8/21, mb1 3.9/22, mb1mx3.8/55, mbtmp4.3/22, MS2.9/2, Ms1 2.9/2, ms1mx2.5/45, Error ellipse: s-maj=15.1km s-min=8.6km az=83.0*
*NEIC **03** 09:49:55.5±1.0, 13°.94N±0°.07×144°.7E±0°.1, h178km±5km, mb4.4/53, Error ellipse: s-maj=17.2km s-min=10.2km az=101.0*
ISC 03 09:49:54.5±0.4**, 13°.93N**±0°.06×**144°.8E**±0°.1**, h178**km**, n90,** σ1§**25**/73**, mb4.3**/52**, 1D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.36**	**162**	P	**Pn**	**09 50 19.7**	**+1.1**
	246nm,0.3s,baz=330,slow=8.1,SNR=224						
GUMO				S	**Sn**	**09 50 38.2**	**+1.1**
	611nm,0.3s,baz=28,slow=23,SNR=10.0						
ANA2	**Anatahan**	**2.57**	**21**		**Pn**	**09 50 40.3**	**+2.4**
JCJ	**Chichijima**	**13.32**	**350**	P	**Pn**	**09 52 55.7**	**-1.0**
	18nm,0.3s,baz=251,slow=14,SNR=20						
JCJ	**Chichijima**	**13.32**	**350**	P	**Pn**	**09 52 56.0**	**-0.7**
JHJ2	**Mitsune**	**19.62**	**348**	P	**P**	**09 54 09.5**	**+0.2**
JHJ	**Hachijo jima 2**	**19.63**	**348**	P	**P**	**09 54 11.4**	**+2.0**
	8.7nm,0.3s,baz=253,slow=16,SNR=8.3						
JOW	**Kunigami**	**20.05**	**312**	P	**P**	**09 54 15.0**	**+0.9**
	18nm,0.8s,baz=162,slow=11,SNR=11						
JOW	**Kunigami**	**20.05**	**312**	P	**P**	**09 54 13.8**	**-0.3**
FAKI	**Fak Fak**	**20.84**	**217**	P	**P**	**09 54 22.2**	**-0.2**
H11S3	**WAKE ISLAND Hy**	**21.54**	**75**	T	T	10 16 20.8	
	baz=263,slow=75,SNR=5.5						
H11S1	**WAKE ISLAND Hy**	**21.55**	**75**	T	T	10 16 24.8	
	baz=263,slow=75,SNR=5.2						
H11S2	**WAKE ISLAND Hy**	**21.55**	**75**	T	T	10 16 23.9	
	baz=263,slow=75,SNR=4.0						
H11N1	**WAKE ISLAND Hy**	**21.95**	**72**	T	T	10 18 01.9	
	baz=257,slow=75,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**21.95**	**72**	T	T	10 18 03.0	
	baz=257,slow=75,SNR=3.6						
H11N3	**WAKE ISLAND Hy**	**21.96**	**72**	T	T	10 18 03.5	
	baz=257,slow=75,SNR=4.3						
JGF	**Kuroka**	**22.58**	**344**	P	**P**	**09 54 40.5**	**+0.5**
JGF				IAmb	IAmb	09 54 42.0	
	comp=Z,8.3nm,0.8s						
JNU	**Nakatsue**	**22.91**	**329**	P	**P**	**09 54 40.3**	**-2.7**
	comp=Z,19nm,0.9s,baz=164,slow=4.5,SNR=9.0						
JNU	**Nakatsue**	**22.91**	**329**		**P**	**09 54 42.6**	**-0.4**
YOJ	**Yonaguni jima**	**23.02**	**300**	P	**P**	**09 54 43.8**	**-0.3**
MJAR	**Matsushiro Arr**	**23.27**	**347**	P	**P**	**09 54 44.0**	**-2.2**
	comp=Z,5.7nm,0.7s,baz=171,slow=9.8,SNR=16						
MJAR				LR	LR	10 02 30.6	
	comp=Z,32nm,18.6s,baz=40,slow=33						
MJAR	**Matsushiro Arr**	**23.27**	**347**	P	**P**	**09 54 44.4**	**-1.7**
MAJO	**Matsushiro**	**23.27**	**347**		**P**	**09 54 44.8**	**-1.4**
MAT	**Matsushiro**	**23.27**	**347**	P	**P**	**09 54 44.8**	**-1.4**
MAT				*e*S	**S**	**09 58 46.6**	**+1.6**
JHS	**Saijyo**	**23.46**	**335**		**P**	**09 54 48.0**	**0.0**
JHS				IAmb	IAmb	09 54 49.5	
	comp=Z,14nm,0.8s						
YULB	**Yu-li**	**24.10**	**296**	P	**P**	**09 54 52.6**	**-1.3**
YULB				IAmb	IAmb	09 54 54.7	
	comp=Z,13nm,0.9s						
SSLB	**Suanglung**	**24.53**	**297**	P	**P**	**09 54 56.3**	**-1.5**
SSLB				IAmb	IAmb	09 55 01.1	
	comp=Z,20nm,1.0s						
JSD	**Sado**	**24.69**	**348**		**P**	**09 54 57.6**	**-1.5**
KSRS	**Korea Array**	**27.81**	**330**	P	**P**	**09 55 26.7**	**-0.4**
	comp=Z,2.9nm,0.9s,baz=146,slow=9.4,SNR=13						
KSRS				LR	LR	10 05 33.8	
	comp=Z,18nm,19.9s,baz=110,slow=34						
NJ2	**Nanjing**	**29.77**	**312**	*e*P	**P**	**09 55 45.1**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,14nm,0.6s						
CN2	**Changchun**	**34.05**	**335**	*e*P	**P**	**09 56 24.3**	**+2.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WR0	**Warramunga Arr**	**35.15**	**197**	P	**P**	**09 56 31.5**	**+0.1**
WRAB	**Tennant Creek**	**35.17**	**197**	P	**P**	**09 56 31.3**	**-0.3**
WRAB				IAmb	IAmb	09 56 31.9	
	comp=Z,4.8nm,0.6s						
WB2	**Warramunga Arr**	**35.18**	**197**	P	**P**	**09 56 31.4**	**-0.3**
WB2				IAmb	IAmb	09 56 32.1	
	comp=Z,5.2nm,0.7s						
WRA	**Warramunga Arr**	**35.19**	**197**	P	**P**	**09 56 31.4**	**-0.3**
	comp=Z,4.1nm,0.6s,baz=18,slow=8.8,SNR=79						
WRA				ScP	**ScP**	**10 02 26.4**	**-1.5**
	comp=Z,1.9nm,1.2s,baz=15,slow=3.6,SNR=3.5						
BJI	**Beijing**	**36.11**	**321**	P	**P**	**09 56 39.3**	**0.0**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KLR	**Kul'dur**	**36.79**	**346**	P	**P**	**09 56 44.6**	**-0.4**
	comp=Z,2.6nm,0.5s,baz=145,slow=7.1,SNR=13						
FITZ	**Fitzroy Crossi**	**36.99**	**211**	P	**P**	**09 56 46.8**	**-0.2**
ASAR	**Alice Springs**	**38.84**	**196**	P	**P**	**09 57 02.1**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=14,slow=13,SNR=22						
ASAR				ScP	**ScP**	**10 02 40.7**	**-0.9**
	comp=Z,0.8nm,1.0s,baz=45,slow=4.1,SNR=2.8						
HHC	**Hu-ho-hao-te**	**39.44**	**319**	*e*P	**P**	**09 57 07.5**	**+0.1**
HHC				pmax	pmax		
	comp=Z,13nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,5.0s						
DZM	**Mont Dzumac**	**41.62**	**149**	P	**P**	**09 57 27.4**	**+1.9**
	comp=Z,6.8nm,0.5s,baz=239,slow=6.2,SNR=13						
DZM	**Mont Dzumac**	**41.62**	**149**	IAmb	IAmb	09 57 28.2	
	comp=Z,7.5nm,0.7s						
LZH	**Lanzhou**	**42.72**	**309**	⇓P	**P**	**09 57 35.2**	**+0.9**
LZH				pP	pwP	09 58 17.0	+0.1
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
CMAR	**Chiang Mai Arr**	**44.14**	**282**	P	**P**	**09 57 46.2**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=88,slow=5.9,SNR=6.6						
STKA	**Stephens Creek**	**45.65**	**184**	P	**P**	**09 57 57.0**	**-0.3**
	comp=Z,3.8nm,0.4s,baz=19,slow=7.4,SNR=22						
STKA	**Stephens Creek**	**45.65**	**184**	P	**P**	**09 57 57.2**	**-0.1**
MA2	**Magadan**	**45.78**	**4**	P	**P**	**09 57 56.9**	**-1.1**
	comp=Z,2.3nm,0.5s,baz=165,slow=10,SNR=3.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SONM	Songino Array	46.39	325	P	P	09 58 03.0	-0.1
	comp=Z,0.6nm,0.4s,baz=107,slow=7.9,SNR=4.0						
SONM				ScP	ScP	10 03 09.7	-2.1
	comp=Z,0.2nm,0.3s,baz=126,slow=4.0,SNR=4.5						
SONM	Songino Array	46.39	325	IAmb	IAmb	09 58 06.5	
	comp=Z,1.4nm,1.2s						
GTA	Gaotai	46.86	311	eP	P	09 58 07.6	+0.6
GTA				pP	pP	09 58 44.0	-1.1
GTA				sP	sP	09 59 06.3	+1.7
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BBOO	Buckleboo	47.22	190	P	P	09 58 08.7	-0.8
FORT	Forrest	47.27	200	P	P	09 58 09.9	0.0
SEY	Seymchan	49.23	5	P	P	09 58 24.6	0.0
	comp=Z,1.6nm,0.8s,baz=172,slow=9.5,SNR=5.8						
MORW	Morawa	50.96	213	P	P	09 58 36.6	-1.5
MORW				IAmb	IAmb	09 58 37.2	
	comp=Z,5.1nm,0.7s						
TOO	Toolangi	51.23	179	P	P	09 58 41.3	+1.4
TOO				IAmb	IAmb	09 58 53.0	
	comp=Z,26nm,1.5s						
LSA	Lhasa	51.74	297	P	P	09 58 44.1	-0.4
LSA				IAmb	IAmb	09 58 46.3	
	comp=Z,7.3nm,0.8s						
WMQ	Urumqi	56.82	313	eP	P	09 59 23.2	+2.7
MKAR	Makanchi Array	61.17	316	P	P	09 59 50.4	+0.1
	comp=Z,0.9nm,0.4s,baz=93,slow=8.6,SNR=15						
KDAK	Kodiak Island	63.84	32	P	P	10 00 06.3	-1.4
	comp=Z,2.6nm,0.5s,baz=317,slow=4.8,SNR=17						
KSH	Kashi	64.95	307	P	P	10 00 19.0	+3.5
ILAR	Eielson Array	68.31	25	P	P	10 00 33.4	-2.7
	comp=Z,1.2nm,0.4s,baz=248,slow=5.9,SNR=18						
YKA	Yellowknife Ar	82.61	27	P	P	10 01 55.4	-2.1
	comp=Z,0.8nm,0.5s,baz=293,slow=3.7,SNR=5.4						
PINE	Pine Mountain	83.56	47	IAmb	IAmb	10 02 04.3	
	comp=Z,13nm,1.4s						
BMO	Blue Mountains	85.83	45	IAmb	IAmb	10 02 15.7	
	comp=Z,4.8nm,1.0s						
ARCES	ARCESS Array B	86.73	342	P	P	10 02 17.8	-0.3
	comp=Z,0.5nm,0.5s,baz=100,slow=7.4,SNR=3.9						
NVAR	Mina Array Bea	86.80	51	P	P	10 02 19.8	+0.5
	comp=Z,3.2nm,0.7s,baz=267,slow=6.0,SNR=32						
NVAR				PP	PP	10 05 44.1	0.0
	comp=Z,0.4nm,0.7s,baz=278,slow=6.3,SNR=3.6						
MFID	Camas Ranch	87.25	46	IAmb	IAmb	10 02 22.9	
	comp=Z,6.0nm,0.9s						
HLID	Hailey	88.19	46	IAmb	IAmb	10 02 27.4	
	comp=Z,3.0nm,0.9s						
ELK	Elko	88.43	48	P	P	10 02 27.1	+0.1
ELK				IAmb	IAmb	10 02 28.7	
	comp=Z,5.2nm,0.7s						
TPNV	Topopah Spring	88.77	52	P	P	10 02 28.8	+0.2
GSC	Goldstone, Bar	88.79	54	IAmb	IAmb	10 02 30.0	
	comp=Z,5.3nm,0.8s						
PRN	Pahroc Range	89.55	52	IAmb	IAmb	10 02 34.4	
	comp=Z,3.6nm,1.0s						
SPR3	Spring Creek 3	89.62	50	IAmb	IAmb	10 02 34.8	
	comp=Z,4.5nm,1.1s						
SHPR	Sheep Range	89.73	52	IAmb	IAmb	10 02 34.8	
	comp=Z,4.1nm,0.8s						
DUG	Dugway, Tooele	90.36	48	IAmb	IAmb	10 02 36.6	
	comp=Z,5.9nm,1.2s						
HWUT	Hardware Ranch	90.80	47	IAmb	IAmb	10 02 38.9	
	comp=Z,2.9nm,0.7s						
LCMT	Little Creek M	91.04	52	IAmb	IAmb	10 02 43.2	
	comp=Z,1.9nm,0.9s						
KNB	Kanab	91.36	51	IAmb	IAmb	10 02 42.5	
	comp=Z,3.7nm,0.9s						
PDAR	Pinedale Array	91.80	45	P	P	10 02 42.2	-0.5
	comp=Z,0.5nm,0.6s,baz=226,slow=2.1,SNR=8.6						
VNDA	Vanda	91.81	176	P	P	10 02 42.5	+0.9
	comp=Z,0.9nm,0.9s,baz=331,slow=2.6,SNR=4.3						
U15A	North Rim	91.95	52	IAmb	IAmb	10 02 45.6	
	comp=Z,3.4nm,1.0s						
Y14A	Wickenburg	92.19	54	IAmb	IAmb	10 02 45.9	
	comp=Z,3.8nm,0.7s						
PV16	Nyswonger Mesa	93.85	49	IAmb	IAmb	10 02 52.8	
	comp=Z,3.3nm,0.8s						
PV03	Paradox Valley	93.92	49	IAmb	IAmb	10 02 52.9	
	comp=Z,2.3nm,0.6s						
TXAR	Lajitas Array	101.26	56	P	Pdif	10 03 26.3	+0.7
	comp=Z,0.2nm,0.7s,baz=285,slow=4.6,SNR=3.4						
SNAA	Sanae	119.10	191	PKPdf	PKPdf	10 08 21.2	-0.4
VNA2	Neumayer--Watz	120.54	190	PKPdf	PKPdf	10 08 24.3	0.0
VNA3	Neumayer Olymp	120.64	189	PKPdf	PKPdf	10 08 24.3	-0.2
VNA1	Neumayer--Stat	120.93	190	PKPdf	PKPdf	10 08 25.1	+0.1
TORD	Torodi Ar. Bea	134.58	305	PKP	PKiKP	10 08 54.3	+0.2
	comp=Z,0.2nm,0.5s,baz=42,slow=4.4,SNR=1.3						
TORD				SKPbc	SKPbc	10 12 04.3	-1.9
	comp=Z,1.4nm,0.8s,baz=41,slow=2.9,SNR=6.6						
LPAZ	La Paz	148.19	98	PKPbc	PKPbc	10 09 22.1	+1.1
	comp=Z,0.8nm,0.5s,baz=292,slow=4.8,SNR=6.3						

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*UPP **03** 09:59:57.3±3.1, 64.57N×31.17E, h0km, ML1.8, Suspected explosion*
*KOLA **03** 10:00:00.2, 64.80N×30.29E, h0km, ML2.5, Karelia*
ISC 03 09:59:59.3±2.9**, 64.6N**±0.2×**31.0E**±0.1**, h10km, n12, σ0.57**/14**, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
APA0	Apatity Array	3.12	14	P	Pn	10 00 48.6	+0.2
APA0				S	Sn	10 01 24.8	-0.7
APA	Apatity	3.13	17	P	Pn	10 00 49.0	+0.5
PAJU	Pajala	4.03	310	P	Pn	10 01 01.2	+0.2
PAJU				S	Sn	10 01 49.0	+0.8
SJUU	Sjulsmark	4.06	287	P	Pn	10 01 01.1	-0.2
ERTU	Ertsjaerv	4.13	302	P	Pn	10 01 02.5	+0.2
ODEU	Stanfors	4.43	272	P	Pn	10 01 05.7	-0.7
HARU	Harads	4.45	295	P	Pn	10 01 06.9	+0.2
LILU	Lilltraesk	4.77	283	P	Pn	10 01 10.9	-0.1
SVAU	Svanoeiden	4.91	274	P	Pn	10 01 13.6	+0.6
DUNU	Dundret	4.95	305	P	Pn	10 01 13.6	+0.1
LANU	Lannavaara	4.99	318	P	Pn	10 01 13.1	-1.0
RATU	Laukkuluspa	5.61	310	P	Pn	10 01 22.4	-0.2

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*IDC **03** 10:01:02.7±1.0, 34.14N×25.87E, h0km, mb4.1/13, mb1 4.1/21, mb1mx3.9/66, mbtmp4.0/21, ML3.9/8, MS3.4/3, Ms1 3.3/3, ms1mx2.5/57, Error ellipse: s-maj=20.0km s-min=16.0km az=4.0*
*NIC **03** 10:01:03.8±0.0, 33.73N×25.80E, h33km±32km, Ml3.8/3*
*ISK **03** 10:01:06.5, 34.02N×25.95E, h103km±1km, ML3.5/10*
*HLW **03** 10:01:06.3, 34.07N×25.92E, h21km±19km, Md4.1*
*THE **03** 10:01:11.8, 34.21N×25.93E, h29km±16km, ML2.9/3, Error ellipse: s-maj=16.5km s-min=1.3km az=167.0*
ISC 03 10:01:05.2±1.3**, 33.88N**±0.04×**25.97E**±0.04**, h29km**±10km**, n71, σ1.89**/80**, mb4.1**/13**, MS3.3**/3**, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FRMA	Ierapetra Chan	1.15	350	P	Pn	10 01 25.7	+0.3
FRMA				S	Sn	10 01 37.0	-3.2
	775nm,0.6s						
ZKR	Zakros	1.25	9	P	Pb	10 01 27.9	-0.4
ZKR				S	Sn	10 01 40.2	-2.5
	2μm,1.1s						
ZKR	Zakros	1.25	9	P	Pn	10 01 27.0	+0.1
ZKR				S	Sb	10 01 45.4	+1.4
ZKR				AML	AML	10 01 54.8	
	4.7nm,1.5s						
ZKR				AML	AML	10 01 54.8	
	4.7nm,1.5s						
STIA	Sitia Lasithi	1.33	4	P	Pn	10 01 28.8	+1.0
NPS	Neapolis	1.41	348	P	Pn	10 01 29.9	+0.9
IDI	Anoyia	1.67	328	Pn	Pn	10 01 34.0	+1.5
	13nm,0.3s,baz=329,slow=6.5,SNR=36						
IDI				Sn	Sb	10 01 58.9	+3.0
	28nm,0.3s,baz=135,slow=18,SNR=9.7						
IDI	Anoyia	1.67	328	P	Pn	10 01 34.1	+1.5
IDI				S	Sn	10 01 51.2	-1.8
	412nm,0.6s						
GVD	Gavdhos	1.83	302	PN	Pb	10 01 36.8	-1.2
GVD				SN	Sn	10 01 58.9	+2.0
KARP	Karpathos	1.94	30	P	Pn	10 01 37.9	+1.7
KARP	Karpathos	1.94	30	PN	Pn	10 01 37.8	+1.6
KARP				SN	Sn	10 02 00.7	+1.1
KARP	Karpathos	1.94	30	P	Pn	10 01 37.9	+1.7
KARP				S	Sb	10 02 04.0	+0.3
KARP				AML	AML	10 02 19.4	
	1.5nm,0.9s						
KARP				AML	AML	10 02 19.4	
	1.5nm,0.9s						
KARP				AML	AML	10 02 25.5	
	1.5nm,0.8s						
KARP				AML	AML	10 02 25.5	
	1.5nm,0.8s						
IMMV	Iera Moni Meta	2.27	315	P	Pn	10 01 42.5	+1.6
IMMV	Iera Moni Meta	2.27	315	PN	Pn	10 01 42.4	+1.6
IMMV				SN	Sn	10 02 08.5	+0.6
KNDR	Palaiochora Ch	2.32	306	PN	Pn	10 01 43.7	+2.3
KNDR				SN	Sn	10 02 10.8	+1.8
SLUM	Salum	2.46	195	P	Pb	10 01 46.9	-1.9
	baz=194						
ARG	Arkhangelos	2.93	37	PN	Pn	10 01 51.0	+1.1
ARG	Arkhangelos	2.93	37	P	Pn	10 01 51.4	+1.5
ARG				S	Sn	10 02 27.8	+3.7
DAT	Datca	3.14	24	PN	Pn	10 01 53.4	+0.6
APE	Apeiranthos	3.21	354	PN	Pn	10 01 54.2	+0.5
APE	Apeiranthos	3.21	354	P	Pn	10 01 54.3	+0.5
KTHA	Kythira Island	3.36	316	PN	Pn	10 01 56.8	+1.0
BODT	Bodrum	3.36	19	PN	Pn	10 01 56.4	+0.6
TURN	Turunc	3.44	32	PN	Pn	10 01 57.7	+0.8
DALY	Dalyan (Mula)	3.67	36	PN	Pn	10 02 00.9	+0.9
MLSB	Milas	3.72	23	PN	Pn	10 02 01.3	+0.6
YER	Yerkesik	3.76	30	PN	Pn	10 02 01.9	+0.6
AKAS	Kas	3.80	51	PN	Pn	10 02 03.1	+1.1
ELL	Elmali	4.31	47	P	Pn	10 02 10.8	+1.8
OSC1	CSNet OBS 1	4.44	93	P	Pn	10 02 11.4	+0.7
SWA2		4.64	186	P	Pn	10 02 16.9	+3.6
	baz=185						
OSC2	CSNet OBS 4	5.33	97	P	Pn	10 02 23.9	+1.1
AKMS	Akamas	5.38	76	P	Pn	10 02 24.6	+1.0
AKMS				AML	AML	10 03 21.6	
	0.4nm,0.3s						
AKMS				AML	AML	10 03 21.8	
	0.2nm,0.3s						
NATA	Nata	5.54	79	P	Pn	10 02 27.2	+1.4
ALFC	Alefka	5.62	75	P	Pn	10 02 27.7	+0.8
SZAC	Souni	5.79	79	P	Pn	10 02 31.2	+2.0
RYAN	Fayoum	6.03	141	P	Pn	10 02 35.3	+2.8
	baz=142						
ASGA	Asgata	6.09	79	P	Pn	10 02 35.3	+2.0
HSAF	As Saff	6.38	130	P	Pn	10 02 40.2	+3.0
	baz=131						
GLL	Jalalah	6.50	130	P	Pn	10 02 41.2	+2.2
	baz=130						
HHAG	Hagoal	6.52	125	P	Pn	10 02 42.7	+3.5
	baz=126						
HFRF	Wahat Farafira	7.00	163	P	Pn	10 02 49.3	+3.4
	baz=162						
SUZ	Suez	7.09	123	P	Pn	10 02 50.2	+3.1
	baz=123						
SUZ				S	Sn	10 04 05.8	-0.9
	baz=123						
MMAI	Mount Meron Ar	7.94	94	Pn	Pn	10 02 58.9	+0.2
	1.9nm,0.3s,baz=258,slow=14,SNR=4.4						
BRTR	Keskin Array B	8.48	44	Pn	Pn	10 03 08.2	+2.0
	0.4nm,0.3s,baz=212,slow=13,SNR=7.3						
BRTR				Sn	Sn	10 04 38.5	-2.5
	0.3nm,0.3s,baz=218,slow=25,SNR=3.0						
EIL	Elat	8.72	116	Pn	Pn	10 03 11.5	+2.1
	1.4nm,0.3s,baz=193,slow=2.8,SNR=14						
EIL				Sn	Sn	10 04 42.8	-4.0
	0.7nm,0.3s,baz=217,slow=20,SNR=2.3						
ASF	Jabal al Asfar	9.34	97	Pn	Pn	10 03 19.1	+1.2
	0.4nm,0.3s,baz=215,slow=16,SNR=2.5						
ASF				Sn	Sn	10 05 01.1	-0.9
	0.4nm,0.3s,baz=16,slow=15,SNR=1.5						
MAKA	Makarska	11.71	326	ePn	Pn	10 03 46.7	-3.6
MAKA				Sn	Sn	10 05 47.0	-13
RICI	Ricice	11.82	327	ePn	Pn	10 03 47.9	-3.9
KIJV	Kijevo	12.55	327	ePn	Pn	10 03 58.4	-3.4
ZIRJ	Zirje	12.65	324	ePn	Pn	10 03 58.7	-4.3
DUGI	Dugi Otok	13.18	323	ePn	Pn	10 04 06.7	-3.7
DUGI				Sn	Sn	10 06 23.8	-12
KBZ	Khabaz	16.43	48	Pn	Pn	10 04 54.9	+1.2
	0.1nm,0.3s,baz=304,slow=11,SNR=2.9						
VRAC	Vranov	16.92	339	Pn	Pn	10 04 58.3	-1.4
	0.3nm,0.3s,baz=126,slow=17,SNR=2.8						
AKASG	Malin Array Be	16.98	7	Pn	Pn	10 04 59.8	-0.7
	3.0nm,0.3s,baz=196,slow=11,SNR=20						
GERES	GERESS Array B	17.53	332	P	Pn	10 05 05.5	-1.9
	0.1nm,0.3s,baz=148,slow=12,SNR=11						
HFS	Hagfors	27.48	347	P	P	10 06 47.4	-1.2
	3.0nm,0.7s,baz=126,slow=12,SNR=6.2						
FINES	FINESS Array B	27.58	0	P	P	10 06 48.3	-1.2
	2.0nm,0.4s,baz=160,slow=11,SNR=18						
AKTO	Aktyubinsk	28.66	45	P	P	10 06 59.5	+0.2
	1.1nm,0.4s,baz=185,slow=1.5,SNR=3.3						
NOA	NORSAR Array B	28.81	345	P	P	10 06 58.3	-2.3
	0.3nm,0.4s,baz=146,slow=9.4,SNR=3.3						
TORD	Torodi Ar. Bea	30.21	233	P	P	10 07 16.2	+2.9
	1.6nm,0.4s,baz=34,slow=9.1,SNR=19						
WSAR	Wadi Sarin	30.47	102	LR	LR	10 23 42.8	
	comp=Z,44nm,18.2s,baz=194,slow=44						
ARCES	ARCESS Array B	35.71	360	P	P	10 07 59.5	-1.3
	2.0nm,0.6s,baz=181,slow=7.7,SNR=11						
BVAR	Borovoye Array	36.77	45	P	P	10 08 11.7	+1.6
	0.8nm,0.6s,baz=250,slow=7.3,SNR=3.9						
DBIC	Dimbokro	39.31	233	LR	LR	10 25 49.6	
	comp=Z,42nm,19.4s,baz=342,slow=38						
KURBB	Kurchatov Arra	41.42	50	P	P	10 08 50.4	+1.4
	0.6nm,0.3s,baz=270,slow=8.5,SNR=7.8						
MKAR	Makanchi Array	43.94	55	P	P	10 09 10.4	+0.9
	0.6nm,0.6s,baz=268,slow=8.2,SNR=5.8						
SPITS	Spitsbergen Ar	44.60	357	P	P	10 09 14.3	-0.1
	7.1nm,1.0s,baz=133,slow=12,SNR=2.6						
ZALV	Zalesovo Beam	45.42	45	P	P	10 09 22.3	+1.1
	2.4nm,0.3s,baz=269,slow=8.1,SNR=6.0						
TSUM	Tsumeb	53.38	190	LR	LR	10 34 18.5	
	comp=Z,43nm,18.4s,baz=297,slow=37						
SONM	Songino Array	59.79	50	P	P	10 11 09.4	+1.7
	0.5nm,0.3s,baz=271,slow=6.5,SNR=3.3						
SCHQ	Schefferville	64.59	320	P	P	10 11 40.1	+0.5
	3.9nm,0.7s,baz=40,slow=8.6,SNR=6.4						

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*IDC **03** 10:12:17.5±4.0, 0.77S×99.84E, h81km±32km, mb3.8/9, mb1 3.9/10, mb1mx3.5/62, mbtmp4.1/10, MS2.6/1, Ms1 2.8/1, ms1mx2.5/31, Error ellipse: s-maj=63.5km s-min=14.2km az=56.0*
*DJA **03** 10:12:18.6±0.6, 1°S±2°×10°0E±°, h36km±13km, M4.3/13, mb4.7/1, mB5.3/1, MLv4.1/13, Mw(mB)4.7/1*
ISC 03 10:12:17.2±0.9**, 0.69S**±0.04×**99.76E**±0.04**, h77km**±8km**, n31, σ1.14**/31**, mb4.2**/9**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PDSI	Padang	0.73	107	P	Pn	10 12 32.4	-0.6
PDSI				S	Sn	10 12 43.8	-0.9
SISI	Saibi	0.92	227	P	Pn	10 12 35.6	+0.5
SISI				S	Sn	10 12 49.9	+1.4
MNSI	Mandailing Nat	1.49	353	P	Pn	10 12 42.7	+0.4
MNSI				S	Sn	10 13 01.8	+0.6
PBSI	Pulau Batu	1.61	293	P	Pn	10 12 44.1	+0.2
PBSI				S	Sn	10 13 04.1	0.0
BKNI	Bangkinang	1.63	52	P	Pn	10 12 45.3	+1.2
BKNI				S	Sn	10 13 04.2	-0.2
KRJI	Kerinci	2.19	129	P	Pn	10 12 54.0	+2.3
GSI	Gunungsitoli	2.95	312	P	Pn	10 13 02.6	+0.7
MASI	Maura Aman, Be	3.47	135	P	Pn	10 13 11.3	+2.4
PSI	Prapat	3.57	346	P	Pn	10 13 10.9	+0.5
	baz=181,slow=10						
PSI	Prapat	3.57	346	P	Pn	10 13 10.9	+0.5
PSI				P	Pn	10 13 10.9	+0.5
UBSI	University, Be	3.95	141	P	Pn	10 13 16.8	+1.4
BTDF	Bukit Timah Da	4.50	63	P	Pn	10 13 24.5	+1.6
TPTI		4.70	327	P	Pn	10 13 27.7	+2.0
EGSI	Enggano, Bengk	5.26	152	P	Pn	10 13 32.1	-1.3
CMAR	Chiang Mai Arr	19.05	358	LR	LR	10 25 10.5	
	comp=Z,20nm,20.4s,baz=250,slow=40						
H08S2	Diego Garcia H	28.05	255	T	T	10 46 07.7	
	baz=76,slow=74,SNR=3.9						
H08S3	Diego Garcia H	28.05	255	T	T	10 46 07.7	
	baz=76,slow=74,SNR=12						
H08S1	Diego Carcia H	28.06	255	T	T	10 46 11.6	
	baz=76						
H01W3	Cape Leeuwin H	36.57	160	T	T	10 57 24.9	
	baz=335,slow=76,SNR=3.1						
H01W2	Cape Leeuwin H	36.58	160	T	T	10 57 24.7	
	baz=335,slow=76,SNR=4.7						
H01W1	Cape Leeuwin H	36.58	160	T	T	10 57 21.9	
	baz=335,slow=76,SNR=3.3						
WRA	Warramunga Arr	38.87	122	P	P	10 19 34.0	-1.4
	1.3nm,0.4s,baz=305,slow=9.4,SNR=31						
WRA				PcP	PcP	10 21 45.2	+0.1
	0.3nm,0.6s,baz=309,slow=2.5,SNR=4.8						
ASAR	Alice Springs	40.22	127	P	P	10 19 45.4	-1.2
	0.4nm,0.3s,baz=302,slow=7.5,SNR=31						
ASAR				PcP	PcP	10 21 49.6	+0.2
	0.4nm,0.4s,baz=306,slow=2.7,SNR=5.1						
MKAR	Makanchi Array	49.72	344	P	P	10 21 02.0	+0.5
	1.6nm,0.4s,baz=158,slow=7.7,SNR=18						
STKA	Stephens Creek	50.20	132	P	P	10 21 04.4	-1.0
	2.3nm,0.4s,baz=316,slow=8.3,SNR=6.0						
USRK	Ussuriysk Ar.	53.12	29	P	P	10 21 26.9	-0.1
	0.6nm,0.4s,baz=268,slow=3.4,SNR=6.3						
KURBB	Kurchatov Arra	54.24	343	P	P	10 21 35.8	+0.8
	1.0nm,0.6s,baz=160,slow=6.5,SNR=5.8						
ZALV	Zalesovo Beam	55.85	349	P	P	10 21 47.9	+1.3
	1.8nm,0.4s,baz=168,slow=7.4,SNR=6.1						
FINES	FINESS Array B	82.85	332	P	P	10 24 32.6	-0.3
	0.7nm,0.6s,baz=143,slow=3.5,SNR=4.3						
ARCES	ARCESS Array B	85.17	340	P	P	10 24 44.2	-0.4
	2.9nm,0.9s,baz=72,slow=4.2,SNR=5.0						
TXAR	Lajitas Array	143.80	36	PKP	PKPbc	10 31 42.4	+0.2
	0.4nm,0.5s,baz=215,slow=0.3,SNR=11						

NEIC 03 10:13:28.8±0.7**, 36.271N**±0.008×**97.26W**±0.01**, h7km**±7km**, ML1.8**/27**, Error ellipse: s-maj=1.8km s-min=0.8km az=56.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
QUOK	Quay	0.46	102	Pg	Pg	10 13 37.8	+0.1
QUOK				Sg	Sg	10 13 44.0	+0.4
QUOK				IAML		10 13 44.3	
	comp=N,90nm,0.3s						
QUOK				IAML		10 13 48.6	
	comp=E,64nm,0.2s						
OK031	S. Brethren Rd	0.46	133	Pg	Pg	10 13 37.9	0.0
OK031				Sg	Sg	10 13 44.4	+0.5
OK031				IAML		10 13 44.7	
	comp=E,54nm,0.4s						
OK031				IAML		10 13 46.6	
	comp=E,82nm,0.5s						
BLOK	Blackwell	0.49	4	Pg	Pg	10 13 38.6	+0.2
BLOK				IAML		10 13 47.6	
	comp=E,80nm,0.2s						
OK029	Liberty Lake	0.50	199	Pg	Pg	10 13 38.5	0.0
OK029				Sg	Sg	10 13 45.6	+0.6
OK029				IAML		10 13 49.7	
	comp=E,84nm,0.4s						
OK029				IAML		10 13 49.8	
	comp=E,48nm,0.6s						
CROK	Carrier	0.63	292	Pg	Pg	10 13 40.6	-0.4
CROK				Sg	Sg	10 13 49.8	+0.6
OK025	Westminster Rd	0.69	185	Pg	Pg	10 13 42.0	-0.1
OK025				IAML		10 13 56.2	
	comp=E,35nm,0.6s						
GC02	Grant County #	0.76	320	Pg	Pg	10 13 43.3	-0.1
KAN13	South Haven SW	0.76	347	Pg	Pg	10 13 43.1	-0.4
KAN13				Sg	Sg	10 13 53.7	+0.3
KAN13				IAML		10 13 54.2	
	comp=N,48nm,0.3s						
KAN13				IAML		10 13 58.2	
	comp=E,39nm,0.3s						
KAN17	Caldwell West	0.87	332		Pg	10 13 45.8	+0.1
KAN17				IAML		10 13 57.9	
	comp=E,34nm,0.2s						
KAN17				IAML		10 14 04.8	
	comp=N,37nm,0.3s						
T35A	Sooner Cattle	0.88	43	Pg	Pg	10 13 45.6	-0.2
KAN14	Manchester OK	0.89	321	Pg	Pg	10 13 46.2	+0.3
KAN14				IAML		10 14 04.4	
	comp=N,34nm,0.1s						
KS20	Mayfield South	0.99	346	Pg	Pg	10 13 47.8	0.0
KS20				IAML		10 14 08.2	
	comp=N,30nm,0.1s						
KS20				IAML		10 14 10.2	
	comp=N,24nm,0.2s						
FNO	Franklin	1.02	187	Pg	Pg	10 13 47.7	-0.7
U32A	Winter Ranch,	1.41	275	Pn	Pn	10 13 55.0	0.0
WMOK	Wichita Mounta	1.97	220		Pn	10 14 03.2	+0.6
X37A	Clayton	2.28	137		Pn	10 14 06.3	-0.5
U38A	Gravette	2.32	85		Pn	10 14 07.4	-0.1
KSU1	Kansas State U	2.87	10		Pn	10 14 14.9	-0.1

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*IDC **03** 10:14:43.9±0.5, 31.15N×141.79E, h0km, mb4.5/24, mb1 4.6/30, mb1mx4.5/46, mbtmp4.5/30, ML3.9/6, MS3.8/20, Ms1 3.8/20, ms1mx3.6/39, Error ellipse: s-maj=16.2km s-min=11.8km az=72.0*
*JMA **03** 10:14:43.4±0.3, 31.21N×141.99E, h8km, M4.3*
*NIED **03** 10:14:43.4, 31.21N×141.99E, h8km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}0.49; $M_{\theta\theta}$-0.01; $M_{\phi\phi}$-0.49; $M_{r\theta}$-0.62; $M_{\theta\phi}$0.22; $M_{\phi r}$1.40; Fault plane solution: $M_0$1.62000×10^{16} NP1: ϕ_s336.00000°, δ80.00000°, λ89.00000°. NP2: ϕ_s162.00000°, δ10.00000°, λ95.00000°.*
*MOS **03** 10:14:44.4±1.1, 31.20N×141.82E, h14km, mb4.9/36 Error ellipse: s-maj=10.7km s-min=5.0km az=111.3*
*NEIC **03** 10:14:45.9±1.9, 31.15N±0.06×141.8E±0.1, h10km±1km, mb4.6/130, Error ellipse: s-maj=14.9km s-min=9.6km az=77.0*
ISC 03 10:14:46.0±0.6**, 31.14N**±0.04×**141.86E**±0.05**, h16km**±2km**, h16km:pP-P, n238, σ1.37**/204**, mb4.7**/112**, MS4.0**/24**, 13C-5D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAOM	Aogashimamukai	2.22	307	P	Pn	10 15 22.1	-0.1
JHCJ	Hachijojimakas	2.60	318	P	Pn	10 15 26.8	-0.6
JHJ2	Mitsune	2.62	319	P	Pn	10 15 27.1	-0.6
JHJ2	Mitsune	2.62	319	Pn	Pn	10 15 27.5	-0.1
JHJ	Hachijo jima 2	2.64	319	Pn	Pn	10 15 26.9	-1.1
	15nm,0.3s,baz=68,slow=22,SNR=22						
JHJ				Sn	Sn	10 15 58.2	-1.6
	35nm,0.3s,baz=66,slow=20,SNR=2.8						
BSO1	Boso 1	3.58	348	P	Pn	10 15 39.9	-0.5
BSO3	Boso 3	3.82	343	P	Pn	10 15 43.7	-0.3
CBIJ	Chichi jima	4.04	176	P	Pn	10 15 48.2	+1.0
JCJ	Chichijima	4.04	176	Pn	Pn	10 15 47.0	-0.2
	14nm,0.3s,baz=3.6,slow=19,SNR=30						
JCJ				Sn	Sn	10 16 30.7	-3.5
	52nm,0.3s,baz=278,slow=23,SNR=6.0						
JCJ				LR	LR	10 17 17.8	
	comp=Z,759nm,18.8s,baz=14,slow=38						
JOD2	Odawara 2	4.72	331	P	Pn	10 15 57.4	+0.8
JHU	Hanno	5.17	336	P	Pn	10 16 03.9	+1.2
JYT	Yasato	5.26	345	Pn	Pn	10 16 03.5	-0.5
JNY	Yasuok	5.38	323	P	Pn	10 16 09.3	+3.7
JRY	Ryogami san	5.45	334	P	Pn	10 16 08.4	+1.7
JRY				eS	Sn	10 17 10.3	+1.2
JHO	Hitachi	5.56	349	P	Pn	10 16 06.7	-1.4
JHO				S	Sn	10 17 07.9	-3.8
JAG	Ashikaga	5.64	340	P	Pn	10 16 09.2	0.0
JGF	Kuroka	5.83	321		Pn	10 16 12.7	+0.9
INU	Inuyama	5.83	317		Pn	10 16 12.7	+0.8
MJAR	Matsushiro Arr	6.18	332	Pn	Pn	10 16 17.0	+0.3
	0.9nm,0.3s,baz=149,slow=11,SNR=90						
MJAR				LR	LR	10 18 56.7	
	comp=Z,447nm,18.9s,baz=195,slow=41						
MJAR	Matsushiro Arr	6.18	332	P	Pn	10 16 17.2	+0.5
MJAR	Matsushiro Arr	6.18	332		Pn	10 16 17.2	+0.5
MAJO	Matsushiro	6.18	332 c	iP	Pn	10 16 17.8	+1.1
MAJO	Matsushiro	6.18	332		Pn	10 16 17.9	+1.1
MAT	Matsushiro	6.18	332	P	Pn	10 16 18.2	+1.5
MAT				S	Sn	10 17 28.4	+1.3
MJB9	Matsu-Tunnel	6.19	332		Pn	10 16 17.0	+0.2
JMM	Marumori	6.77	353	Pn	Pn	10 16 22.8	-1.9
JWT	Wachi	6.81	309		Pn	10 16 27.9	+2.7
JSD	Sado	7.49	338	Pn	Pn	10 16 34.2	-0.4
JMK	Ichinoseki	7.81	356	P	Pn	10 16 37.7	-1.3
JNU	Nakatsue	9.52	285	Pn	Pn	10 17 07.4	+5.0
	0.2nm,0.3s,baz=49,slow=11,SNR=4.4						
JNU				LR	LR	10 20 34.7	
	comp=Z,646nm,19.1s,baz=94,slow=37						
ERM	Erimo	10.90	5 ce	P	Pn	10 17 18.7	-2.7
ERM				pmax	pmax		
	comp=Z,65nm,1.3s						
JOW	Kunigami	12.64	254	LR	LR	10 22 40.7	
	comp=Z,530nm,18.3s,baz=109,slow=38						
ASAJ	Asahikawa	12.97	2	Pn	Pn	10 17 48.7	-0.9
	comp=Z,1.2nm,0.3s,baz=221,slow=11,SNR=13						
JKA	Kamikawa-asahi	12.97	2		Pn	10 17 48.7	-0.9
KSRS	Korea Array	13.12	302	Pn	Pn	10 17 54.5	+2.8
	comp=Z,0.2nm,0.3s,baz=115,slow=13,SNR=13						

KSRS LR LR 10 22 59.2
comp=Z,404nm,18.0s,baz=116,slow=38
USA0B Ussuriysk Arra 15.18 332 *i* P **Pn** **10 18 17.8 -1.9**
USRK Ussuriysk Ar. 15.18 332 Pn **Pn** **10 18 18.6 -1.1**
baz=150,slow=13,SNR=8.2
USRK LR LR 10 24 00.3
comp=Z,251nm,19.5s,baz=141,slow=37
YSS Yuzh-Sakhalins 15.81 2 *eP* **Pn** **10 18 25.8 -2.0**
YSS *eS* **Sn** **10 21 16.8 -5.9**
YSS pmax pmax
comp=Z,200nm,4.0s
YSS pmax pmax
comp=Z,20nm,1.1s
YSS MLR MLR
comp=Z,600nm,12.0s
YSS MLR MLR
comp=N,500nm,13.0s
YSS Yuzh-Sakhalins 15.81 2 Pn **Pn** **10 18 25.2 -2.7**
YSS IAmb IAmb 10 18 26.8
comp=Z,38nm,0.9s
MDJ Mudanjiang 16.55 328 P **P** **10 18 39.5 -0.4**
MDJ S **Sn** **10 21 42.8 +2.1**
MDJ sS sS 10 22 04.8 +8.2
MDJ pmax pmax
comp=Z,20nm,1.1s
MDJ pmax pmax
comp=Z,96nm,5.2s
MDJ LR LR
comp=N,380nm,19.9s
MDJ LR LR
comp=E,400nm,21.4s
MDJ LR LR
comp=Z,380nm,19.2s
GUMO Guam 17.69 170 P **P** **10 18 53.3 +0.7**
comp=Z,0.9nm,0.3s,baz=67,slow=6.1,SNR=3.9
GUMO LR LR 10 25 20.3
comp=Z,272nm,18.4s,baz=356,slow=36
YOJ Yonaguni jima 17.94 253 P **P** **10 18 55.4 0.0**
YOJ pmax pmax
comp=Z,31nm,0.8s
YOJ Yonaguni jima 17.94 253 P **P** **10 18 55.4 0.0**
YOJ IAmb IAmb 10 18 57.4
comp=Z,32nm,0.8s
CN2 Changchun 18.11 319 *eP* **Pn** **10 18 55.9 -0.9**
CN2 *eS* **Sn** **10 22 16.4 -2.1**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=N,500nm,16.0s
CN2 LR LR
comp=E,200nm,16.0s
CN2 LR LR
comp=Z,500nm,15.0s
TATO Taipei 18.98 256 P **P** **10 19 05.0 -1.9**
TATO IAmb IAmb 10 19 08.7
comp=Z,46nm,1.0s
YHNB Yeheng 19.20 255 P **P** **10 19 08.1 -1.3**
NACB Ninganchiao 19.23 254 P **Pn** **10 19 09.3 -1.3**
NJ2 Nanjing 19.61 279 *eP* **Pn** **10 19 15.0 -0.1**
NJ2 pmax pmax
comp=Z,8.0nm,0.8s
KLR Kul'dur 19.62 340 P **P** **10 19 13.2 -0.4**
comp=Z,0.4nm,0.3s,baz=131,slow=10,SNR=13
KLR LR LR 10 26 38.3
comp=Z,125nm,18.2s,baz=154,slow=36
KLR Kul'dur 19.62 340 *ceP* **P** **10 19 12.7 -0.9**
KLR pmax pmax
comp=Z,10.0nm,0.9s
TYV Tymovskoe 19.71 2 *eP* **P** **10 19 16.0 +1.3**
TYV *eS* **Sn** **10 23 00.6 +3.4**
TYV pmax pmax
comp=Z,11nm,0.9s
TYV pmax pmax
comp=Z,100nm,5.3s
TYV smax smax
comp=E,10.0nm,1.3s
TYV smax smax
comp=E,300nm,6.4s
TYV smax smax
comp=N,5.0nm,1.4s
TYV smax smax
comp=N,200nm,6.2s
YULB Yu-li 19.82 252 P **P** **10 19 15.5 -0.6**
YULB IAmb IAmb 10 19 17.4
comp=Z,31nm,0.8s
SSLB Suanglung 19.92 254 P **Pn** **10 19 17.5 -1.3**
TWG Pinlang 20.27 251 P **P** **10 19 19.8 -1.2**
TPUB Ta-pu 20.41 253 P **P** **10 19 21.2 -1.3**
TPUB IAmb IAmb 10 19 46.3
comp=Z,41nm,1.0s
SKR Severo-Kuril's 22.23 24 *eP* **P** **10 19 39.4 -2.4**
SKR *eS* **S** **10 23 45.1 -0.7**
SKR pmax pmax
comp=Z,39nm,1.3s
SKR pmax pmax
comp=Z,100nm,1.5s
SKR MLR MLR
comp=Z,100nm,17.0s
BJI Beijing 22.63 300 P **P** **10 19 44.6 -1.6**
BJI pP **sP** **10 19 52.1 +1.5**
BJI sP **pwP** **10 19 56.4 +0.1**
BJI S S **10 23 49.4 -4.1**
BJI pmax pmax
comp=Z,28nm,1.1s
BJI LR LR
comp=N,270nm,14.6s
BJI LR LR
comp=E,350nm,12.4s
BJI LR LR
comp=Z,640nm,16.1s
BJT Baijiatuan 22.63 300 P **P** **10 19 44.7 -1.5**
BJT pmax pmax
comp=Z,29nm,1.1s
BJT Baijiatuan 22.63 300 P **P** **10 19 44.7 -1.5**
BJT IAmb IAmb 10 19 45.7
comp=Z,29nm,1.1s
HIA Hailar 24.61 324 P **P** **10 20 04.1 -1.4**
HIA pmax pmax
comp=Z,29nm,1.1s
HIA Hailar 24.61 324 P **P** **10 20 04.1 -1.4**
HIA IAmb IAmb 10 20 06.1
comp=Z,29nm,1.1s
ZEA Zeya 24.93 339 *eP* **P** **10 20 08.6 +0.3**
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=N,30nm,1.1s
ZEA pmax pmax
comp=Z,50nm,1.1s
H11N2 WAKE ISLAND Hy 25.25 111 T T 10 46 31.5
baz=305,slow=75,SNR=5.3
H11N1 WAKE ISLAND Hy 25.25 111 T T 10 46 28.4
baz=305,slow=75,SNR=4.8
H11N3 WAKE ISLAND Hy 25.26 111 T T 10 46 31.8
baz=305,slow=75,SNR=6.3
H11S3 WAKE ISLAND Hy 25.75 113 T T 10 47 16.1
baz=304,slow=74,SNR=11
H11S1 WAKE ISLAND Hy 25.75 113 T T 10 47 15.0
baz=304,SNR=10
H11S2 WAKE ISLAND Hy 25.76 113 T T 10 47 13.0
baz=304,slow=74,SNR=8.9
HHC Hu-ho-hao-te 26.24 300 *eP* **P** **10 20 19.1 -1.4**
HHC S **S** **10 24 54.9 +2.6**
HHC SS **SnSn** **10 25 53.7 +2.0**
HHC pmax pmax
comp=Z,13nm,0.8s
HHC pmax pmax
comp=Z,76nm,4.5s
HHC LR LR
comp=N,250nm,13.5s
HHC LR LR
comp=E,520nm,14.8s
HHC LR LR
comp=Z,630nm,12.2s
BTO Baotou 27.35 299 *eP* **P** **10 20 30.3 -0.1**
XAN Xi'an 27.83 285 P **P** **10 20 33.0 -1.8**
XAN pP sP 10 20 39.8 +0.6
XAN sP pwP 10 20 45.2 +0.1
XAN pmax pmax
comp=Z,11nm,0.9s
QIZ Qiongzhong 31.29 255 P **P** **10 21 04.0 -1.5**
QIZ S S 10 26 21.6 +10
QIZ LR LR
comp=N,200nm,16.5s
QIZ LR LR
comp=E,200nm,17.1s
QIZ LR LR
comp=Z,180nm,19.7s
ULN Ulaanbaatar 31.29 312 *ceP* **P** **10 21 05.9 +0.5**
ULN pmax pmax
comp=Z,15nm,1.0s
ULN Ulaanbaatar 31.29 312 P **P** **10 21 06.2 +0.7**
SONM Songino Array 31.70 312 P **P** **10 21 09.3 +0.3**
comp=Z,12nm,0.9s,baz=115,slow=8.7,SNR=45
SONM LR LR 10 34 28.3
comp=Z,151nm,19.6s,baz=102,slow=37
SONM Songino Array 31.70 312 P **P** **10 21 05.7 -3.4**
SONM IAmb IAmb 10 21 10.9
comp=Z,15nm,1.0s
LZH Lanzhou 31.90 289 *eP* **P** **10 21 08.5 -2.4**
LZH pP sP 10 21 15.8 +0.4
LZH sP pwP 10 21 20.0 -1.3
LZH pmax pmax
comp=Z,20nm,1.3s
LZH LR LR
comp=N,240nm,13.6s
LZH LR LR
comp=E,330nm,12.8s
LZH LR LR
comp=Z,220nm,16.3s
YAK Yakutsk 31.90 349 *i* P **P** **10 21 10.3 -0.1**
YAK pmax pmax
comp=Z,8.0nm,0.5s
SEY Seymchan 32.52 9 P **P** **10 21 16.4 +0.6**
comp=Z,1.9nm,0.8s,baz=194,slow=3.8,SNR=6.7
SEY Seymchan 32.52 9 *i* P **P** **10 21 15.8 0.0**
CD2 Chengdu 32.54 280 *eP* **P** **10 21 15.5 -1.0**
CD2 LR LR
comp=N,560nm,15.1s
CD2 LR LR
comp=E,540nm,14.1s
CD2 LR LR
comp=Z,630nm,14.9s
BOD Bodaibo 32.82 333 *eP* **P** **10 21 17.9 -0.6**
BOD pmax pmax
comp=Z,8.0nm,1.6s
KMI Kunming 34.88 270 ⇑P P 10 21 42.0 +4.9
KMI pmax pmax
comp=Z,8.0nm,0.5s
KMI LR LR
comp=N,160nm,10.4s
KMI LR LR
comp=E,180nm,12.7s
KMI LR LR
comp=Z,270nm,15.0s
GTA Gaotai 35.05 295 *eP* **P** **10 21 38.9 +0.6**
GTA pP sP 10 21 43.2 +0.5
GTA sP pwP 10 21 46.2 -2.4
GTA pmax pmax
comp=Z,8.0nm,0.9s
GTA LR LR
comp=N,220nm,14.2s
GTA LR LR
comp=E,400nm,16.4s
GTA LR LR
comp=Z,450nm,16.4s
MOY Mondy 36.25 316 *eP* **P** **10 21 49.4 +1.0**
MOY pmax pmax
comp=Z,13nm,1.5s
BILL Bilibino 39.60 14⇑ *eP* **P** **10 22 16.7 +0.3**
BILL pmax pmax
comp=Z,6.0nm,1.2s
BILL MLR MLR
comp=Z,126nm,17.0s
CMMT Chiang Mai 40.55 263 P **P** **10 22 28.8 +4.0**
comp=Z,6.3nm,1.1s
CMAR Chiang Mai Arr 40.71 262 P **P** **10 22 24.5 -1.6**
comp=Z,0.7nm,0.3s,baz=76,slow=7.5,SNR=1.4
CMAR LR LR 10 40 55.0
comp=Z,169nm,18.4s,baz=108,slow=39
WMQ Urumqi 44.07 302 *eP* **P** **10 22 55.5 +2.1**
WMQ LR LR
comp=N,380nm,20.7s
WMQ LR LR
comp=Z,97nm,21.7s
DGZ Jazzator, Alta 44.34 311 *i* P **P** **10 22 55.8 +0.3**
DGZ pmax pmax
comp=Z,10.0nm,0.7s
ZALV Zalesovo Beam 46.30 317 P **P** **10 23 11.2 +0.4**
comp=Z,2.9nm,0.5s,baz=120,slow=8.5,SNR=3.9
ZALV PcP **PcP** **10 24 46.3 +0.4**
comp=Z,4.1nm,0.6s,baz=118,slow=3.3,SNR=6.1
ZALV LR LR 10 43 06.6
comp=Z,95nm,18.3s,baz=112,slow=37
MK31 Makanchi Array 47.76 307 P **P** **10 23 22.3 0.0**
MK31 pmax pmax
comp=Z,6.0nm,0.9s
MK31 Makanchi Array 47.76 307 P **P** **10 23 22.3 0.0**
MK31 IAmb IAmb 10 23 24.0
comp=Z,5.6nm,0.9s
MKAR Makanchi Array 47.76 307 P **P** **10 23 22.6 +0.3**
comp=Z,6.5nm,0.9s,baz=90,slow=9.7,SNR=20
MKAR Makanchi Array 47.76 307 P **P** **10 23 22.0 -0.3**
MAKZ Makanchi 47.97 307 P **P** **10 23 24.1 +0.2**
MAKZ pmax pmax
comp=Z,8.0nm,0.9s
MAKZ Makanchi 47.97 307 P **P** **10 23 24.1 +0.2**
MAKZ IAmb IAmb 10 23 25.3
comp=Z,7.7nm,0.9s
NRIK Noril'sk 48.80 337 P **P** **10 23 30.1 +0.1**
comp=Z,8.4nm,0.8s,baz=105,slow=9.0,SNR=6.4
NRIK Noril'sk 48.80 337 *ceP* **P** **10 23 29.6 -0.4**
NRIK pmax pmax
comp=Z,8.0nm,0.8s
NRIK Noril'sk 48.80 337 P **P** **10 23 29.7 -0.4**
KURK Kurchatov 50.01 312 P **P** **10 23 39.8 +0.3**
KURBB Kurchatov Arra 50.07 312 P **P** **10 23 39.8 -0.2**
comp=Z,9.5nm,0.8s,baz=88,slow=7.3,SNR=66
WR0 Warramunga Arr 51.29 189 P **P** **10 23 48.9 -0.5**
WR0 IAmb IAmb 10 24 10.0
comp=Z,6.3nm,0.8s
WRAB Tennant Creek 51.29 189 *ceP* **P** **10 23 49.2 -0.2**
WRAB pmax pmax
comp=Z,7.0nm,1.3s
WRAB Tennant Creek 51.29 189 P **P** **10 23 48.7 -0.7**
WRAB IAmb IAmb 10 24 10.1
comp=Z,11nm,1.0s
WB2 Warramunga Arr 51.30 189 IAmb IAmb 10 24 10.1
comp=Z,8.5nm,0.9s
WRA Warramunga Arr 51.30 189 P **P** **10 23 49.3 -0.1**
comp=Z,3.9nm,0.5s,baz=5.4,slow=7.2,SNR=52
WRA LR LR 10 45 55.7
comp=Z,101nm,18.8s,baz=15,slow=36
TARG Taragay, Kyrgy 51.53 301 P **P** **10 23 52.5 +0.9**
TARG IAmb IAmb 10 23 54.1
comp=Z,8.1nm,0.9s
SUA Susitna One 52.44 34 IAmb IAmb 10 23 58.6
comp=Z,6.2nm,0.8s
MLY Manley 52.72 30 P **P** **10 23 59.4 -0.2**
PMR Palmer 53.22 34 IAmb IAmb 10 24 04.8
comp=Z,7.9nm,1.2s
H23K Yukon River 53.29 29 IAmb IAmb 10 24 22.4
comp=Z,11nm,1.5s
GHO Glory Hole Cre 53.32 34 IAmb IAmb 10 24 06.9
comp=Z,10.0nm,1.2s
NEA2 Nenana 53.39 30 IAmb IAmb 10 24 06.6
comp=Z,7.4nm,0.9s
MCK McKinley 53.40 31 IAmb IAmb 10 24 23.5
comp=Z,17nm,1.5s
KNK Knik Glacier 53.54 34 P **P** **10 24 06.3 +0.6**
KNK IAmb IAmb 10 24 21.9
comp=Z,8.8nm,0.9s
TOLK Toolik Lake Re 53.59 25 P **P** **10 24 07.7 +1.7**
TOLK IAmb IAmb 10 24 11.8
comp=Z,5.7nm,0.9s
SML Sawmill 53.60 34 IAmb IAmb 10 24 08.0
comp=Z,8.2nm,1.0s
AAK Ala-Archa 53.78 302 *ceP* **P** **10 24 08.0 0.0**
AAK pmax pmax
comp=Z,5.0nm,0.6s
H24K Noodor Dome 53.98 29 P **P** **10 24 10.0 +1.1**
HDA Harding Lake 54.30 30 P **P** **10 24 11.3 +0.1**
ILAR Eielson Array 54.34 30 P **P** **10 24 11.7 +0.2**
comp=Z,3.4nm,1.0s,baz=263,slow=6.3,SNR=22
ILAR Eielson Array 54.34 30 P **P** **10 24 12.0 +0.5**
ILAR Eielson Array 54.34 30 P **P** **10 24 12.0 +0.5**
M24K Tolsona, Glenn 54.62 33 P **P** **10 24 14.9 +1.2**
M24K IAmb IAmb 10 24 33.3
comp=Z,9.7nm,0.9s
BRVK Borovoye 54.98 316 *ceP* **P** **10 24 15.7 -0.6**
BRVK pmax pmax
comp=Z,4.0nm,0.9s
AS31 Alice Springs 55.02 189 P **P** **10 24 16.2 -0.7**
ASAR Alice Springs 55.02 189 P **P** **10 24 17.0 +0.1**
comp=Z,3.3nm,0.6s,baz=5.1,slow=4.7,SNR=44
BMAR Burnt Mountain 55.37 27 P **P** **10 24 20.4 +1.4**
MENT Mentasta 55.74 32 P **P** **10 24 23.1 +1.4**
KKAR Karatay Array 56.55 304 P **P** **10 24 27.4 -0.4**
KKAR 10 24 27.4
KKAR Karatay Array 56.55 304 P **P** **10 24 27.9 +0.2**
KKAR Karatay Array 56.55 304 P **P** **10 24 27.4 -0.4**
KKAR IAmb IAmb 10 24 29.2
comp=Z,18nm,0.9s
L27K Beaver Creek, 56.60 32 P **P** **10 24 28.2 +0.3**
L27K IAmb IAmb 10 24 30.1
comp=Z,6.2nm,1.0s
M27K Edge Creek, AK 56.62 33 IAmb IAmb 10 24 30.8
comp=Z,4.8nm,1.0s
NIL Nilore 56.99 292 P **P** **10 24 31.7 +0.6**
NIL pmax pmax
comp=Z,12nm,0.8s
NIL Nilore 56.99 292 P **P** **10 24 31.6 +0.6**
DAWY Dawson 57.61 31 P **P** **10 24 36.1 +1.1**
EPYK Eagle Plains 58.50 28 P **P** **10 24 42.0 +0.9**
HYT Haines Junctio 58.88 34 IAmb IAmb 10 25 09.2
comp=Z,5.9nm,1.1s
INK Inuvik 59.50 25 P **P** **10 24 48.5 +0.6**
comp=Z,4.1nm,0.9s,baz=269,slow=6.5,SNR=5.7
INK Inuvik 59.50 25 P **P** **10 24 49.2 +1.3**
INK pmax pmax
comp=Z,4.0nm,0.9s
INK Inuvik 59.50 25 P **P** **10 24 49.2 +1.3**
INK IAmb IAmb 10 24 49.5
comp=Z,3.6nm,0.8s
SVE Sverdlovsk 59.88 321 *eP* **P** **10 24 51.3 +0.5**
SVE pmax pmax
comp=Z,24nm,1.1s
ARU Arti 61.09 321 *d* *i* P **P** **10 24 59.0 0.0**
ARU 10 25 38.9
ARU S **S** **10 33 20.3 +3.0**
ARU pmax pmax
comp=Z,37nm,1.4s
ABKAR Akbulak array 62.11 313 P **P** **10 25 05.7 -0.4**
ABKAR Akbulak array 62.11 313 IAmb IAmb 10 25 07.2
comp=Z,8.5nm,0.8s
STKA Stephens Creek 62.67 180 P **P** **10 25 11.3 +1.5**
comp=Z,1.7nm,0.5s,baz=336,slow=13,SNR=4.0
STKA Stephens Creek 62.67 180 IAmb IAmb 10 25 14.9
comp=Z,1.0nm,1.1s
FORT Forrest 62.96 193 P **P** **10 25 11.6 -0.1**
BBOO Buckleboo 63.84 185 P **P** **10 25 17.1 -0.5**
KIRV Kirov 65.22 325 *ceP* **P** **10 25 26.5 +0.2**
PRGR Permogore 65.94 329 *eP* **P** **10 25 29.6 -1.4**
PRGR pmax pmax
comp=Z,59nm,1.5s
GEYT Alibeck 67.11 301 P **P** **10 25 40.1 +1.1**
comp=Z,64nm,0.8s,baz=90,slow=1.5,SNR=4.0
YKA Yellowknife Ar 68.74 29 P **P** **10 25 49.5 +0.8**
comp=Z,2.1nm,0.8s,baz=291,slow=5.9,SNR=4.2
KLMR Klimovskoe 68.96 329 *eP* **P** **10 25 47.8 -2.3**
KLMR pmax pmax
comp=Z,9.0nm,1.1s
KLMR Klimovskoe 68.96 329 *eP* **P** **10 25 47.8 -2.3**
KLMR AMP 10 25 55.6
comp=Z,9.0nm,1.1s
ARCES ARCESS Array B 69.64 340 P **P** **10 25 54.4 +0.1**
comp=Z,6.7nm,0.9s,baz=40,slow=7.1,SNR=6.2
OBN Obninsk 73.06 325‖ *eP* **P** **10 26 15.7 +0.6**
OBN *SP **sP** **10 26 20.0 +0.2**
OBN 10 26 32.0
OBN pmax pmax
comp=Z,7.0nm,0.4s
OBN MLR MLR
comp=Z,141nm,16.0s
YBH Yreka Blue Hor 73.71 51 LR LR 10 52 27.0
comp=Z,70nm,20.2s,baz=310,slow=31
EDM Edmonton 73.77 37 P **P** **10 26 20.3 +0.9**
EDM pmax pmax
comp=Z,18nm,1.4s
EDM Edmonton 73.77 37 P **P** **10 26 20.3 +0.9**
PINE Pine Mountain 73.92 48 P **P** **10 26 22.0 +1.3**
PINE IAmb IAmb 10 26 25.4
comp=Z,6.2nm,0.8s
NEW Newport 74.14 43 P **P** **10 26 23.1 +1.4**
NEW pmax pmax
comp=Z,8.0nm,1.1s
FINES FINESS Array B 74.21 333 P **P** **10 26 21.8 0.0**
comp=Z,2.7nm,0.8s,baz=117,slow=2.1,SNR=4.8
FINES LR LR 11 02 04.5
comp=Z,47nm,21.9s,baz=40,slow=38
FINES FINESS Array B 74.21 333 *i* P **P** **10 26 22.6 +0.9**
FINES pmax pmax
comp=Z,12nm,1.2s
KBZ Khabaz 75.07 312 P **P** **10 26 28.0 +1.0**
comp=Z,6.3nm,0.8s,baz=76,slow=3.2,SNR=11
KBZ Khabaz 75.07 312 *ceP* **P** **10 26 28.1 +1.0**
KBZ pmax pmax
comp=Z,10.0nm,0.9s
KIV Kislovodsk 75.09 312 *deP* **P** **10 26 29.0 +1.6**
KIV *PP **sP** **10 26 32.0 -0.1**
KIV *SP **pwP** **10 26 35.0 -2.8**
KIV 10 26 39.0
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,65nm,17.0s
ONI Oni 75.26 311 P **P** **10 26 29.0 +0.7**
ONI pmax pmax
comp=Z,7.0nm,1.1s
ONI Oni 75.26 311 P **P** **10 26 28.9 +0.7**
ONI IAmb IAmb 10 26 31.0
comp=Z,7.0nm,1.1s
GNI Garni 75.58 308 P **P** **10 26 30.2 -0.1**
comp=Z,3.8nm,0.4s,baz=154,slow=7.1,SNR=4.7
GNI Garni 75.58 308 *i* P **P** **10 26 28.7 -1.6**
GNI pmax pmax
comp=Z,8.0nm,1.1s
GNI Garni 75.58 308 IAmb IAmb 10 26 39.0
comp=Z,24nm,1.4s
WALA Waterton Lakes 75.59 41 P **P** **10 26 30.7 +0.5**
WALA IAmb IAmb 10 26 32.1
comp=Z,5.4nm,0.7s
JTMT Jette 76.05 42 P **P** **10 26 34.0 +1.2**
JTMT IAmb IAmb 10 26 34.9
comp=Z,8.0nm,0.8s
BEKR Beckworth 76.16 52 IAmb IAmb 10 26 40.8
comp=Z,3.8nm,0.8s
CMB Columbia Colle 77.04 53 IAmb IAmb 10 26 44.6
comp=Z,4.8nm,1.1s
MFID Camas Ranch 77.34 47 IAmb IAmb 10 26 42.3
comp=Z,4.5nm,0.9s
YERR Yerington 77.35 52 IAmb IAmb 10 26 54.7
comp=Z,7.3nm,1.3s
LHV Little Huntoon 78.22 52 IAmb IAmb 10 26 54.8
comp=Z,5.6nm,0.8s
NVAR Mina Array Bea 78.26 52 P **P** **10 26 45.5 -0.1**
comp=Z,2.3nm,0.7s,baz=292,slow=5.5,SNR=25
NVAR LR LR 10 58 11.7
comp=Z,80nm,20.7s,baz=272,slow=33
FFC Flin Flon 78.47 32 P **P** **10 26 45.5 -0.6**
FFC pmax pmax
comp=Z,7.0nm,1.0s
FFC Flin Flon 78.47 32 P **P** **10 26 45.5 -0.6**
FFC IAmb IAmb 10 26 59.6
comp=Z,6.6nm,1.0s
AKASG Malin Array Be 79.20 323 P **P** **10 26 50.5 +0.3**
comp=Z,2.4nm,0.6s,baz=48,slow=5.6,SNR=14
AKASG LR LR 11 04 23.0
comp=Z,149nm,18.7s,baz=60,slow=38
AKASG Malin Array Be 79.20 323 *i* P **P** **10 26 50.0 -0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 79.20 323 *ceP* **P** **10 26 50.1 -0.1**
AKBB pmax pmax
comp=Z,6.0nm,1.0s
YHB Horse Butte 79.46 44 IAmb IAmb 10 26 54.4
comp=Z,4.9nm,0.8s
NB2 NORSAR Subarra 79.76 338 P **P** **10 26 52.8 -0.3**
comp=Z,4.1nm,0.8s,baz=41,slow=5.3
NOA NORSAR Array B 79.76 338 P **P** **10 26 52.8 -0.3**
comp=Z,3.0nm,0.9s,baz=41,slow=5.3,SNR=5.2
NOA LR LR 11 05 27.6
comp=Z,89nm,19.8s,baz=35,slow=38
HVU Hansel Valley 80.12 47 IAmb IAmb 10 26 57.9
comp=Z,4.6nm,0.8s
FLWY Flagg Ranch 80.12 44 IAmb IAmb 10 27 04.8

	comp=Z,4.7nm,0.8s						
TPAW	Teton Pass	80.30	45	IAmb	IAmb	10 26 58.1	
	comp=Z,3.7nm,0.7s						
TPNV	Topopah Spring	80.42	53	IAmb	IAmb	10 27 05.1	
	comp=Z,4.9nm,0.9s						
REDW	Red Top Meadow	80.44	45	IAmb	IAmb	10 27 02.4	
	comp=Z,8.2nm,1.5s						
DUG	Dugway, Tooele	80.96	48	IAmb	IAmb	10 27 14.9	
	comp=Z,5.6nm,0.9s						
HWUT	Hardware Ranch	80.97	47	IAmb	IAmb	10 27 02.4	
	comp=Z,5.8nm,1.0s						
PRN	Pahroc Range	80.99	52	IAmb	IAmb	10 27 11.4	
	comp=Z,4.9nm,1.0s						
CTU	Camp Tracy	81.36	48	IAmb	IAmb	10 27 09.4	
	comp=Z,5.5nm,0.8s						
SHPR	Sheep Range	81.40	53	P	P	10 27 04.0	+1.4
PDAR	Pinedale Array	81.55	45	P	P	10 27 04.0	+0.7
	comp=Z,1.2nm,0.6s,baz=254,slow=2.9,SNR=15						
PDAR				LR	LR	11 06 09.9	
	comp=Z,28nm,18.4s,baz=240,slow=38						
MPU	Maple Canyon	81.81	48	IAmb	IAmb	10 27 12.8	
	comp=Z,4.7nm,1.0s						
PFO	Pinyon Flats O	82.03	56	P	P	10 27 06.7	+0.9
PFO				pmax	pmax		
	comp=Z,6.0nm,1.1s						
PFO	Pinyon Flats O	82.03	56	P	P	10 27 06.7	+0.9
PFO				IAmb	IAmb	10 27 07.3	
	comp=Z,5.6nm,1.1s						
LCMT	Little Creek M	82.42	51	IAmb	IAmb	10 27 22.2	
	comp=Z,4.6nm,1.1s						
TMUT	Trail Mountain	82.49	48	IAmb	IAmb	10 27 23.3	
	comp=Z,4.3nm,0.9s						
KNB	Kanab	82.70	51	IAmb	IAmb	10 27 12.2	
	comp=Z,12nm,1.4s						
Q16A	Castle Valley	82.72	49	IAmb	IAmb	10 27 20.4	
	comp=Z,2.7nm,0.8s						
SRU	San Rafael Swe	83.03	48	IAmb	IAmb	10 27 17.5	
	comp=Z,5.2nm,0.7s						
BRTR	Keskin Array B	83.06	312	P	P	10 27 11.4	+0.3
	comp=Z,7.1nm,1.0s,baz=94,slow=3.7,SNR=12						
BRTR				LR	LR	11 09 51.0	
	comp=Z,46nm,18.1s,baz=81,slow=40						
BRTR	Keskin Array B	83.06	312	*i* P	P	10 27 12.1	+1.0
BRTR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BRTR	Keskin Array B	83.06	312	P	P	10 27 11.1	0.0
KWP	Kalwaria Pacla	83.14	325	P	P	10 27 12.5	+1.3
KWP	Kalwaria Pacla	83.14	325	P	P	10 27 12.5	+1.3
BURAR	Bucovina Array	83.18	322	P	P	10 27 12.5	+1.0
BURAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BURAR	Bucovina Array	83.18	322	P	P	10 27 11.4	-0.1
BURAR				IAmb	IAmb	10 27 13.5	
	comp=Z,4.1nm,0.9s						
VRI	Vrincioaia	83.47	320	P	P	10 27 15.0	+2.0
VRI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
O20A	White River Ci	83.88	46	IAmb	IAmb	10 27 17.1	
	comp=Z,4.0nm,0.8s						
PV22	Blue Mesa, Par	84.47	48	IAmb	IAmb	10 27 26.5	
	comp=Z,9.0nm,1.3s						
WUAZ	Wupatki	84.50	52	IAmb	IAmb	10 27 21.1	
	comp=Z,7.6nm,1.1s						
PV03	Paradox Valley	84.59	48	IAmb	IAmb	10 27 20.9	
	comp=Z,7.0nm,1.0s						
PV02	Paradox Valley	84.69	48	IAmb	IAmb	10 27 33.5	
	comp=Z,6.2nm,0.9s						
PV01	Paradox Valley	84.84	48	IAmb	IAmb	10 27 22.4	
	comp=Z,7.6nm,1.2s						
X16A	Lo Mia Camp, P	85.08	53	IAmb	IAmb	10 27 35.4	
	comp=Z,3.7nm,1.2s						
ASF	Jabal al Asfar	85.12	305	P	P	10 27 22.2	+0.5
	comp=Z,2.7nm,0.8s,baz=276,slow=3.5,SNR=4.3						
SMCO	Snowmass	85.23	47	IAmb	IAmb	10 27 29.6	
	comp=Z,5.9nm,1.1s						
MVCO	Mesa Verde	85.43	49	IAmb	IAmb	10 27 27.8	
	comp=Z,3.6nm,1.1s						
VYHS	Vyhne	85.79	326	*e*P	P	10 27 25.1	+0.5
VYHS	Vyhne	85.79	326	*e*P	P	10 27 25.1	+0.5
CLL	Collm	86.39	331	⇓*i*P	P	10 27 28.0	+0.5
	comp=Z,13nm,1.4s						
CLL				*e*pP	sP	10 27 33.0	+1.1
CLL	Collm	86.39	331	⇓*i*P	P	10 27 28.0	+0.5
CLL				*e*		10 27 33.0	
CLL				pmax	pmax		
	comp=Z,13nm,1.4s						
GERES	GERESS Array B	87.92	329	LR	LR	11 10 57.6	
	comp=Z,53nm,18.9s,baz=46,slow=38						
TX32	Lajitas Array	93.41	53	IAmb	IAmb	10 28 08.0	
	comp=Z,3.7nm,0.9s						
TXAR	Lajitas Array	93.41	53	P	P	10 28 02.8	+1.7
	comp=Z,2.5nm,0.8s,baz=303,slow=2.9,SNR=31						
TORD	Torodi Ar. Bea	121.67	313	PKP	PKPdf	10 33 39.4	-0.4
	comp=Z,0.4nm,0.6s,baz=49,slow=2.2,SNR=2.5						
LPAZ	La Paz	148.94	69	PKPbc	PKPbc	10 34 35.6	+1.1
	comp=Z,2.2nm,0.7s,baz=318,slow=2.7,SNR=11						
LPAZ	La Paz	148.94	69		PKPbc	10 34 35.0	+0.5
PLCA	Paso Flores	152.20	119	PKPbc	PKPbc	10 34 41.5	+0.6
	comp=Z,0.7nm,0.7s,baz=258,slow=4.8,SNR=3.4						

MEX 03 10:41:52.8±0.7, 16°.29N×98°.30W, h7km±3km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.20	60	*i* P	Pg	10 41 56.5	-0.2
PNIG				*i* S	Sg	10 41 59.3	-0.1
YOIG	Yosondua	0.92	52	*e*P	Pg	10 42 08.0	-2.4
YOIG				*e*S	Sg	10 42 18.1	-4.3
MGIG	Malinaltepec	0.99	341	*e*P	Pg	10 42 09.1	-2.8
MGIG				*i* S	Sg	10 42 21.5	-3.2
PEIG	Puerto Escondi	1.15	105	*e*P	Pg	10 42 11.6	-3.3
PEIG				*e*S	Sg	10 42 26.4	-3.4
TLIG	Tlapa	1.29	349	*e*P	Pn	10 42 14.0	-3.4
TLIG				*e*S	Sb	10 42 29.7	-4.6
DAIG	Los Arroyos	1.48	299	*e*P	Pn	10 42 17.6	-2.3
DAIG				*e*S	Sn	10 42 34.5	-5.1
HLIG	Huajuapan de L	1.60	17	*e*P	Pn	10 42 18.6	-3.1
HLIG				*e*S	Sn	10 42 38.4	-4.4
VHO	Vista Hermosa	1.69	63	*e*P	Pn	10 42 19.3	-3.7
VHO				*e*S	Sn	10 42 40.0	-5.0

KMA 03 11:00:29.7±0.1, 38°.02N×128°.89E, h1km, Error ellipse: s-maj=2.2km s-min=0.9km az=253.0, North Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSJMJ	Jumunjin	0.17	217	P	Pg	11 00 33.0	0.0
	SNR=276						
KSJMJ	Jumunjin	0.17	217	P	Pg	11 00 33.0	0.0
	SNR=276						
KSJMJ	Jumunjin	0.17	217	P	Pg	11 00 33.0	0.0
	SNR=276						
KSDGY	Daegwallycong	0.37	207	P	Pg	11 00 36.7	0.0
	SNR=29						
KSDGY	Daegwallycong	0.37	207	P	Pg	11 00 36.7	0.0
	SNR=29						
KSDGY	Daegwallycong	0.37	207	P	Pg	11 00 36.7	0.0
	SNR=29						
KSSKC	Sokcho	0.39	313	P	Pg	11 00 37.4	+0.1
	SNR=17						
KSSKC	Sokcho	0.39	313	P	Pg	11 00 37.4	+0.1
	SNR=17						
KSSKC	Sokcho	0.39	313	P	Pg	11 00 37.4	+0.1
	SNR=17						
SEHB	SEOHWA	0.56	297	P	Pg	11 00 40.1	-0.3
	SNR=30						
SEHB	SEOHWA	0.56	297	P	Pg	11 00 40.1	-0.3
	SNR=30						
SEHB	SEOHWA	0.56	297	P	Pg	11 00 40.1	-0.3
	SNR=30						
KSCHC	Chuncheon	0.88	254	P	Pg	11 00 46.0	-0.6
	SNR=26						
KSCHC	Chuncheon	0.88	254	P	Pg	11 00 46.0	-0.6
	SNR=26						
KSCHC	Chuncheon	0.88	254	P	Pg	11 00 46.0	-0.6
	SNR=26						
KSTBA	Taebaek	0.90	177	P	Pb	11 00 47.9	-0.1
	SNR=9.3						
KSTBA	Taebaek	0.90	177	P	Pb	11 00 47.9	-0.1
	SNR=9.3						
KSTBA	Taebaek	0.90	177	P	Pb	11 00 47.9	-0.1
	SNR=9.3						
KSWJU	Wonju	0.90	227	P	Pg	11 00 47.0	0.0
	SNR=16						
KSWJU	Wonju	0.90	227	P	Pg	11 00 47.0	0.0
	SNR=16						
KSWJU	Wonju	0.90	227	P	Pg	11 00 47.0	0.0
	SNR=16						
KSULJ	Uljin	1.38	162	P	Pn	11 00 56.0	-0.1
	SNR=11						
KSULJ	Uljin	1.38	162	P	Pn	11 00 56.0	-0.1
	SNR=11						
KSULJ	Uljin	1.38	162	P	Pn	11 00 56.0	-0.1
	SNR=11						
KSMGY	Mungyeong	1.51	206	P	Pn	11 00 57.9	0.0
	SNR=12						
KSMGY	Mungyeong	1.51	206	P	Pn	11 00 57.9	0.0
	SNR=12						
YNCB	YEONCHEON	1.55	271	P	Pn	11 00 58.5	+0.1
	SNR=7.6						

IDC ***03*** *11:10:10.3±7.8, 38°.97N×44°.53E, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.3/43, mbtmp3.5/4, ML2.9/2, MS3.0/4, Ms1 3.0/4, ms1mx2.5/42, Error ellipse: s-maj=110.1km s-min=24.6km az=130.0*
NSSP ***03*** *11:10:14.1, 39°.38N×43°.80E, h5km, Ms3.3*
ISK ***03*** *11:10:15.2, 39°.41N×43°.90E, h8km, ML3.6/8*
DDA ***03*** *11:10:15.4, 39°.39N×43°.90E, h5km±1km, MW3.7*
TEH ***03*** *11:10:15.6, 39°.38N×43°.92E, h8km, ML3.3*
ISC 03 11:10:15.8±1.0**, 39°.39N**±0°.02×**43°.91E**±0°.02**, h7**km±9km**, n57,** σ1**s.01**/66**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CLDR	Caldiran	0.25	178	*i* P	Pg	11 10 20.6	-0.1
CLDR				*i* S	Sg	11 10 24.9	+0.8
CLDR	Caldiran	0.25	178	PG	Pg	11 10 20.7	-0.1
CLDR				SG	Sg	11 10 25.3	+1.2
CLDR	Caldiran	0.25	178	*e*Pg	Pg	11 10 20.7	-0.1
IGDI	IGDIR	0.49	16	*i* P	Pg	11 10 25.1	-0.3
IGDI				*i* S	Sb	11 10 33.0	-1.5
TASB	TASBURUN-IGDIR	0.65	23	PG	Pg	11 10 27.9	-0.4
TASB				SG	Sg	11 10 37.4	+0.7
TASB	TASBURUN-IGDIR	0.65	23	*e*Pg	Pg	11 10 27.9	-0.4
VNNZ	Vanand	0.71	355	*i* P	Pb	11 10 30.0	-0.7
VNNZ				*i* S	Sb	11 10 41.3	+0.6
AGRB	Hanur-Agry	0.73	285	PG	Pg	11 10 29.4	-0.5
AGRB				SG	Sb	11 10 40.1	-1.2
AGRB	Hanur-Agry	0.73	285	*e*Pg	Pg	11 10 29.3	-0.6
OZAP	Van, Ozalp-Mer	0.73	175	*i* P	Pb	11 10 30.2	-0.8
OZAP				IAML		11 10 50.0	
	comp=N,478nm,0.8s						
OZAP				IAML		11 11 00.0	
	comp=E,501nm,1.1s						
METS	Metsamor	0.77	10	*i* P	Pg	11 10 30.5	-0.2
METS				*i* S	Sb	11 10 42.6	+0.3
HYR	Heyderabad	0.80	66	*e*Pg	Pg	11 10 30.8	-0.4
NRKZ	NAREK	0.84	43	*i* P	Pb	11 10 33.0	+0.2
NRKZ				*i* S	Sn	11 10 46.9	0.0
VANB	Van	0.89	207	PG	Pn	11 10 34.8	-0.1
VANB	Van	0.89	207	*e*Pg	Pn	11 10 34.4	-0.5
ARUZ	Aruch	0.90	9	*i* P	Pg	11 10 32.9	-0.3
ARUZ				*i* S	Sb	11 10 46.5	+0.3
GNI	Garni	0.99	40	Pg	Pg	11 10 34.4	-0.6
	comp=E,66nm,0.3s,baz=247,slow=3.2,SNR=114						
GNI	Garni	0.99	40	*i* P	Pb	11 10 34.9	-0.6
GNI				*i* S	Sn	11 10 49.9	-0.8
GNI	Garni	0.99	40	PG	Pg	11 10 34.3	-0.6
MLAZ	Malazgirt-MUS	1.08	257	PN	Pb	11 10 36.4	-0.6
MLAZ	Malazgirt-MUS	1.08	257	*e*Pg	Pn	11 10 36.9	-0.7
ADCV	BITLIS_Adilcev	1.09	238	*i* P	Pn	11 10 36.9	-0.8
ADCV				IAML		11 10 59.0	
	comp=N,245nm,0.6s						
ADCV				IAML		11 11 04.0	
	comp=E,215nm,0.6s						
KAPZ	Kaputan	1.11	33	*i* P	Pg	11 10 36.4	-0.8
KAPZ				*i* S	Sb	11 10 52.4	+0.1
NAX	Nakhchivan	1.25	99	*e*Pg	Pg	11 10 38.9	-0.9
SBZ	Shahbuz	1.28	89	*e*Pn	Pg	11 10 39.7	-0.6
AKDM	Akdamar-Van	1.28	215	PN	Pg	11 10 39.6	-0.8
AKDM				SN	Sn	11 10 58.4	+0.5
AKDM	Akdamar-Van	1.28	215	*e*Pg	Pn	11 10 40.0	-0.3
EAK	Akyaka	1.31	350	*i* P	Pb	11 10 40.8	-0.2
KARS	Kars	1.39	333	PN	Pn	11 10 41.3	-0.5
IMRD	Marand	1.56	115	*e*Pn	Pn	11 10 43.6	-0.5
ORD	Ordubad	1.69	105	*e*Pn	Pb	11 10 46.6	-0.7
BLIS	Bitlis-Merkez	1.70	236	*i* P	Pg	11 10 47.5	-0.9
BLIS				IAML		11 11 19.0	
	comp=E,187nm,0.6s						
BLIS				IAML		11 11 26.0	
	comp=N,163nm,0.7s						
ISHB	Shabestar	1.73	129	*e*Pn	Pn	11 10 46.2	-0.4
ISHB				*e*		11 10 52.2	
	comp=Z,6μm,0.4s						
YOVA	Hakkari_Yksek	1.83	170	*i* P	Pg	11 10 50.1	-0.7
YOVA				IAML		11 11 29.0	
	comp=N,110nm,1.1s						
YOVA				IAML		11 11 44.0	
	comp=E,122nm,1.0s						
MUSM	Mu-Merkez	1.98	251	*i* P	Pg	11 10 52.4	-1.3
MUSM				*i* S	Sg	11 11 20.3	+0.9
MUSM				IAML		11 11 22.0	
	comp=E,73nm,0.8s						
MUSM				IAML		11 11 33.0	
	comp=N,52nm,0.6s						
ERZM	Erzurum	2.03	286	*i* P	Pg	11 10 54.7	+0.1
EJDE	Erzurum, Palan	2.06	283	*i* P	Pb	11 10 53.6	-0.1
SRTM	Siirt_Merkez	2.09	229	*i* P	Pb	11 10 53.2	-0.9
SRTM				IAML		11 11 45.0	
	comp=E,133nm,1.1s						
ITBZ	Tabriz	2.10	123	*e*Pn	Pb	11 10 53.6	-0.7
ITBZ				*e*		11 11 02.0	
	comp=Z,2μm,0.6s						
CUKT	Cukurca	2.15	186	*e*Pn	Pn	11 10 52.8	+0.6
SLHN	Bingol, Solhan	2.28	260	*i* P	Pg	11 10 58.5	-1.0
DBAD	Bademkaya	2.35	315	*i* P	Pb	11 10 59.1	+0.6
IAZR	Azarshahr	2.36	136	*e*Pn	Pb	11 10 58.0	-0.8
IAZR				*e*		11 11 52.0	
	comp=Z,4μm,0.7s						
AHAR	Ahar	2.61	109	*e*Pn	Pb	11 11 01.1	-2.0
IHRS	Heris	2.67	113	*e*Pn	Pb	11 11 01.5	-2.6
IBST	Bostanabad	2.89	125	*e*		11 11 16.4	
	comp=Z,592nm,0.7s						
IBST				*e*Pn	Pb	11 11 05.7	-2.1
HANI	Diyarbakir_Han	2.90	251	*i* P	Pg	11 11 11.0	-0.5
ISRB	Sarab	3.34	117	*e*Pn	Pn	11 11 10.9	+2.3
ISRB				*e*		11 11 32.8	
	comp=Z,854nm,0.5s						
KBZ	Khabaz	4.40	350	Pn	Pb	11 11 29.8	-3.6
	comp=Z,0.1nm,0.3s,baz=148,slow=14,SNR=3.7						
QSDN	Sirdan	5.06	123	*e*Pn	Pn	11 11 34.0	+1.6
MMAI	Mount Meron Ar	9.36	230	LR	LR	11 16 40.9	
	comp=Z,79nm,19.3s,baz=70,slow=41						
BELG	Belogornoye	13.26	10	LR	LR	11 19 20.9	
	comp=Z,39nm,20.6s,baz=167,slow=40						
AKTO	Aktyubinsk	14.87	37	LR	LR	11 21 07.5	
	comp=Z,60nm,18.4s,baz=263,slow=44						
AKASG	Malin Array Be	15.31	322	Pn	Pn	11 13 53.2	+0.9
	comp=Z,0.2nm,0.3s,baz=134,slow=12,SNR=2.2						
GERES	GERESS Array B	23.52	304	P	P	11 15 28.0	+1.5
	comp=Z,0.8nm,0.8s,baz=98,slow=9.8,SNR=5.4						
FINES	FINESS Array B	24.66	339	P	P	11 15 37.4	+0.5
	comp=Z,1.6nm,0.7s,baz=131,slow=8.6,SNR=5.4						
HFS	Hagfors	28.07	328	LR	LR	11 29 09.0	
	comp=Z,42nm,19.2s,baz=124,slow=40						

MAN 03 11:12:49.5, 14°.39N×120°.41E, h154km, mb4.2, ML3.0, MS2.6, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PGP	Puerto Galera	1.03	149	⇓*e*P	Pn	11 13 15.7	+0.7
PGP				*i* S	Sn	11 13 35.5	+1.0

IDC ***03*** *11:50:32.5±3.2, 33°.15S×179°.02W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/21, mbtmp3.7/3, ML3.9/1, Error ellipse: s-maj=70.7km s-min=36.4km az=110.0*
WEL ***03*** *11:50:37.8±0.5, 33°S±4°×17°9W±°, h33km, M4.4/24, mB4.8/6, ML4.7/27, MLv4.6/24, Mw(mB)4.1/6, Error ellipse: s-maj=0.0km s-min=0.0km az=110.2*
ISC 03 11:50:36.1±1.2**, 33°.28S**±0°.06×**178°.6W**±0°.1**, h35**km**, n39,** σ1**s.82**/62**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	4.04	8	P	Pn	11 51 36.4	+1.0
GLKZ				S	Sn	11 52 20.4	-1.2
MXZ	Matakaoa Point	4.98	210	P	Pn	11 51 51.2	+2.9
WMGZ	Waiomatatini S	5.16	208	P	Pn	11 51 52.4	+1.7
WMGZ				S	Sn	11 52 52.1	+3.1
PKGZ	Pakihiroa	5.35	210	P	Pn	11 51 54.4	+0.9
PKGZ				S	Sn	11 52 54.7	+0.8
HAZ	Te Kaha	5.37	213	P	Pn	11 51 54.6	+1.0
HAZ				S	Sn	11 52 58.1	+3.9
PUZ	Puketiti	5.44	208	P	Pn	11 51 55.6	+1.0
PUZ				S	Sn	11 52 54.8	-1.1
RUGZ	Raukumara Rang	5.59	212	P	Pn	11 51 58.5	+1.7
RUGZ				S	Sn	11 53 00.2	+0.4
TWGZ	Tauwhareparae	5.64	209	P	Pn	11 51 58.4	+1.0
TWGZ				S	Sn	11 53 02.7	+1.8
CNGZ	Carnagh Statio	5.82	206	P	Pn	11 52 00.6	+0.8
KUZ	Kuaotunu	5.83	232	P	Pn	11 52 03.3	+3.3
TKGZ	Te Karaka	5.92	209	P	Pn	11 52 01.8	+0.7
TKGZ				S	Sn	11 53 07.0	-0.7
MWZ	Matawai	5.96	211	P	Pn	11 52 02.2	+0.4
MWZ				S	Sn	11 53 08.6	-0.2
OPRZ	Ohinepanea	6.05	220	P	Pn	11 52 05.1	+2.1
URZ	Urewera	6.09	214	Pn	Pn	11 52 01.8	-1.7
	3.3nm,0.3s,baz=276,slow=5.1,SNR=24						
URZ				Sn	Sn	11 53 10.7	-1.2
	1.9nm,0.3s,baz=238,slow=21,SNR=6.8						
URZ	Urewera	6.09	214	P	Pn	11 52 03.3	-0.2
URZ				S	Sn	11 53 10.1	-1.8
RAGZ	Rawiri	6.14	211	P	Pn	11 52 06.0	+1.7
RIGZ	Rimuhau	6.18	208	P	Pn	11 52 06.1	+1.3
RIGZ				S	Sn	11 53 14.2	-0.1
PRGZ	Paritu Road	6.32	206	P	Pn	11 52 08.6	+1.8
PRGZ				S	Sn	11 53 16.5	-1.3
SNGZ	Shannon Statio	6.42	210	P	Pn	11 52 08.5	+0.5
SNGZ				S	Sn	11 53 19.6	-0.4
MUGZ	Murupara	6.42	215	P	Pn	11 52 09.5	+1.4
MUGZ				S	Sn	11 53 18.7	-1.5
WCZ	Waipu Caves	6.42	244	P	Pn	11 52 10.3	+2.1
MHGZ	Mahia Peninsul	6.52	205	P	Pn	11 52 09.6	+0.2
MHGZ				S	Sn	11 53 20.5	-2.0
TOZ	Tahuroa Road	6.57	226	P	Pn	11 52 13.2	+3.1
RAHZ	Arahi	6.63	211	P	Pn	11 52 13.0	+1.9
RAHZ				S	Sn	11 53 23.6	-1.8
MTHZ	Maungataniwha	6.69	213	P	Pn	11 52 13.2	+1.3
MTHZ				S	Sn	11 53 26.6	-0.3
OUZ	Omahuta	6.78	251	P	Pn	11 52 14.3	+1.3
OUZ				S	Sn	11 53 26.2	-2.7
MRHZ	Matea Rd	6.87	215	P	Pn	11 52 14.7	+0.3
NMHZ	Naumai	6.91	212	P	Pn	11 52 16.0	+1.1
NMHZ				S	Sn	11 53 33.2	+1.0
ARHZ	Aropaoanui	6.96	210	P	Pn	11 52 17.2	+1.6
BKZ	Black Stump Fm	7.10	213	P	Pn	11 52 18.8	+1.3
BKZ				S	Sn	11 53 34.1	-2.9
TMVZ	Te Maari	7.44	217	P	Pn	11 52 24.0	+1.8
NTVZ	North Tongarir	7.44	217	P	Pn	11 52 24.0	+1.8
KAHZ	Kahuranaki	7.46	208	P	Pn	11 52 23.5	+1.0
KAHZ				S	Sn	11 53 43.6	-2.2
HIZ	Hauiti	7.47	224	P	Pn	11 52 25.4	+2.9
KRHZ	Kereru	7.55	211	P	Pn	11 52 23.3	-0.3
KRHZ				S	Sn	11 53 42.7	-5.3
FWVZ	Far West T-bar	7.62	217	P	Pn	11 52 25.3	+0.5
ASAR	Alice Springs	42.56	270	P	P	11 58 27.0	-1.7
	0.5nm,0.7s,baz=111,slow=7.6,SNR=5.5						
WRA	Warramunga Arr	43.81	275	P	P	11 58 37.4	-1.4
	0.4nm,0.3s,baz=112,slow=7.9,SNR=13						
FINES	FINESS Array B	147.66	338	PKPbc	PKPbc	12 10 16.6	+0.5
	0.5nm,0.4s,baz=67,slow=4.7,SNR=4.0						

MEX 03 11:54:27.5±1.0**, 15°.90N×97°.43W, h20**km±52km**, MD4.0, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PEIG	Puerto Escondi	0.29	70	*i* P	Pb	11 54 33.1	-0.9
PEIG				*i* S	Sb	11 54 37.1	-1.3
PNIG	Pinotepa	0.83	306	*e*P	Pb	11 54 40.2	-3.1
PNIG				*e*S	Sb	11 54 49.7	-4.4
YOIG	Yosondua	0.96	353	*i* P	Pb	11 54 40.6	-5.0
YOIG				*e*S	Sb	11 54 50.5	-7.4
OXBJ	Oaxaca	1.34	30	*i* P	Pn	11 54 48.0	-3.3
OXBJ				*i* S	Sn	11 55 00.3	-8.4
VHO	Vista Hermosa	1.34	30	*e*P	Pn	11 54 47.9	-3.4
VHO				*e*S	Sn	11 54 59.1	-10
MGIG	Malinaltepec	1.76	319	*e*P	Pn	11 54 55.2	-1.8
HLIG	Huajuapan de L	1.95	349	*e*P	Pn	11 54 57.9	-1.8
HLIG				*e*S	Sn	11 55 19.8	-4.0
TLIG	Tlapa	1.98	327	*e*P	Pn	11 54 58.6	-1.4
TLIG				*i* S	Sn	11 55 22.2	-2.1
DAIG	Los Arroyos	2.41	298	*e*P	Pn	11 55 03.8	-2.0
DAIG				*e*S	Sn	11 55 33.4	-1.3
MEIG	Mezcala	2.91	314	*e*P	Pb	11 55 16.6	-2.1
MEIG				*e*S	Sn	11 55 42.1	-5.1

ISK ***03*** *12:01:06.2, 39°.39N×43°.87E, h8km, ML2.7/4*
DDA ***03*** *12:01:07.0, 39°.42N×43°.96E, h7km±8km, ML2.2*
ISC 03 12:01:07.0±1.0**, 39°.42N**±0°.02×**43°.91E**±0°.04**, h10**km±9km**, n11,** σ1**s.03**/20**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DYDN	Diyadin	0.21	307	*i* P	Pg	12 01 10.9	-0.7
DYDN				*i* S	Sg	12 01 16.7	+2.0
DYDN				IAML		12 01 17.0	
	comp=N,1μm,0.5s						
DYDN				IAML		12 01 21.0	
	comp=E,1μm,0.5s						
CLDR	Caldiran	0.27	178	*i* P	Pg	12 01 11.5	-1.1
CLDR				*i* S	Sg	12 01 17.8	+1.5
CLDR	Caldiran	0.27	178	PG	Pg	12 01 11.5	-1.1
CLDR				SG	Sg	12 01 15.8	-0.5
IGDI	IGDIR	0.47	16	*i* P	Pg	12 01 16.0	-0.2
IGDI				*i* S	Sb	12 01 23.8	-0.7
IGDI				IAML		12 01 27.0	
	comp=N,195nm,0.4s						
IGDI				IAML		12 01 29.0	
	comp=E,195nm,0.7s						
VMUR	Van-Muradiye	0.50	212	*i* P	Pg	12 01 16.0	-0.8
VMUR				*i* S	Sb	12 01 26.6	+1.2
VMUR				IAML		12 01 32.0	
	comp=E,122nm,0.7s						
VMUR				IAML		12 01 37.0	
	comp=N,123nm,1.6s						
TASB	TASBURUN-IGDIR	0.62	24	PG	Pg	12 01 19.1	0.0
TASB				SG	Sb	12 01 29.5	+0.6
AGRB	Hanur-Agry	0.73	283	PG	Pg	12 01 20.1	-0.9
AGRB				SG	Sg	12 01 30.5	-0.1
OZAP	Van, Ozalp-Mer	0.76	175	*i* P	Pb	12 01 22.3	-0.1
OZAP				*i* S	Sb	12 01 34.6	+1.8
VANB	Van	0.91	206	PG	Pg	12 01 24.9	+0.3
GNI	Garni	0.97	41	PG	Pb	12 01 25.9	-0.2
GNI				SG	Sn	12 01 40.9	0.0
AKDM	Akdamar-Van	1.30	214	PN	Pn	12 01 30.8	-0.6

IDC ***03*** *12:07:36.7±0.7, 8°.77N×39°.48W, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.0/49, mbtmp4.2/13, ML3.4/1, MS3.6/12, Ms1 3.6/12, ms1mx3.3/40, Error ellipse: s-maj=27.4km s-min=14.9km az=163.0*
NEIC ***03*** *12:07:39.6±2.4, 8°.6N±0°.2×39°.49W±0°.06, h10km±1km, mb4.6/37, Error ellipse: s-maj=27.6km s-min=9.2km az=176.0*
ISC 03 12:07:39.0±0.6**, 8°.6N**±0°.1×**39°.49W**±0°.09**, h15**km**, n68,** σ1**s.10**/49**, mb4.6**/26**, MS3.6**/11**, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MDP	Montagnes des	13.52	256	Pn	Pn	12 10 49.0	-1.5
	0.2nm,0.3s,baz=74,slow=16,SNR=2.5						
MDP				LR	LR	12 15 03.4	
	comp=Z,251nm,20.2s,baz=76,slow=33						
MCPB	Macapa, AP	15.38	235	*e*P	P	12 11 20.3	-0.1
ITTB	Itaituba	20.71	232	*e*P	P	12 12 19.2	+0.1
H05S1	Guadeloupe/Mar	21.69	287	T	T	12 34 38.0	
	SNR=74						
BOAV	Boa Vista	21.82	255	*e*P	P	12 12 31.2	+0.1
NPGB	Novo Progresso	22.20	226	*e*P	P	12 12 34.9	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
H05N1	Guadeloupe/Mar	22.39	292	T	T	12 35 29.3	
	SNR=21						
PTGA	Pitinga	22.43	247	P	P	12 12 37.6	+0.1
	9.1nm,1.0s,baz=88,slow=12,SNR=12						
PTGA				LR	LR	12 20 33.0	
	comp=Z,98nm,20.8s,baz=88,slow=34						
PTGA	Pitinga	22.43	247	P	P	12 12 36.5	-1.1
PTGA				IAmb	IAmb	12 12 43.5	
	comp=Z,20nm,1.1s						
CLDB	Colider	25.27	220	*e*P	P	12 13 05.3	+0.3
SJG	San Juan	27.57	293	LR	LR	12 22 46.8	
	comp=Z,138nm,19.8s,baz=88,slow=33						
SAML	Samuel	29.36	234	P	P	12 13 42.5	+0.7
H10N3	ASCENSION HYDR	29.79	123	T	T	12 45 09.5	
	baz=302,slow=75,SNR=114						
H10N2	ASCENSION HYDR	29.80	123	T	T	12 45 09.9	
	baz=302,slow=75,SNR=198						
H10N1	ASCENSION HYDR	29.81	123	T	T	12 45 11.1	
	baz=302,slow=75,SNR=266						
H10S3	ASCENSION HYDR	30.27	125	T	T	12 45 43.2	
	baz=299,slow=74,SNR=93						
H10S2	ASCENSION HYDR	30.29	125	T	T	12 45 44.8	
	baz=281,slow=74,SNR=31						
PTLB	Pontes e Lacer	30.84	219	*e*P	P	12 13 56.6	+1.8
ETMB	Extrema	32.31	236	*e*P	P	12 14 08.5	+0.7
SIV	San Ignacio	32.48	221	P	P	12 14 10.5	+1.1
	comp=Z,2.3nm,0.8s,baz=69,slow=8.0,SNR=9.3						
DBIC	Dimbokro	34.37	91	P	P	12 14 25.1	-0.8
	comp=Z,11nm,0.8s,baz=299,slow=7.5,SNR=11						
DBIC				LR	LR	12 25 47.1	
	comp=Z,99nm,18.5s,baz=302,slow=32						
DBIC	Dimbokro	34.37	91	P	P	12 14 25.0	-0.8
ROSC	El Rosal	34.79	266	LR	LR	12 28 32.9	
	comp=Z,121nm,21.3s,baz=99,slow=36						
KOWA	Kowa	35.21	77	P	P	12 14 33.1	+0.1
	comp=Z,4.7nm,1.0s,baz=259,slow=5.6,SNR=4.6						
KOWA	Kowa	35.21	77	IAmb	IAmb	12 14 33.9	
	comp=Z,10nm,1.2s						
CZSB	Cruzeiro do Su	36.88	245	*e*P	P	12 14 47.4	0.0
LPAZ	La Paz	37.64	229	P	P	12 14 55.6	+1.2
	comp=Z,4.0nm,0.9s,baz=51,slow=10.0,SNR=12						
LPAZ	La Paz	37.64	229	P	P	12 14 55.2	+0.7
LPAZ	La Paz	37.64	229	*e*P	P	12 14 55.6	+1.2
TORD	Torodi Ar. Bea	40.65	80	P	P	12 15 18.2	-0.9
	comp=Z,3.1nm,0.9s,baz=277,slow=8.6,SNR=13						
TORD				LR	LR	12 30 22.3	
	comp=Z,148nm,18.8s,baz=240,slow=34						
TORD	Torodi Ar. Bea	40.65	80	P	P	12 15 18.5	-0.6
ESDC	Sonseca Array	44.28	40	LR	LR	12 32 34.4	
	comp=Z,60nm,18.1s,baz=240,slow=34						
BIRD	Birdtown, Kers	45.59	311	P	P	12 15 59.0	+0.3
BIRD				IAmb	IAmb	12 16 01.0	
	comp=Z,8.7nm,1.1s						
S57A	Dark Hollow, R	45.90	315	P	P	12 16 02.4	+1.2
S57A				IAmb	IAmb	12 16 03.6	
	comp=Z,8.6nm,1.0s						
BG3	Lake Jocassee	47.59	310	P	P	12 16 15.8	+1.3
TZTN	Tazewell	48.66	312	P	P	12 16 22.4	-0.3
W50A	Signal Mountai	49.47	309	P	P	12 16 30.4	+1.4
W50A				IAmb	IAmb	12 16 31.4	
	comp=Z,6.8nm,1.0s						
R50A	Paris	49.93	314	P	P	12 16 34.1	+1.7
R50A				IAmb	IAmb	12 16 34.9	
	comp=Z,11nm,1.1s						
SWET	Sewanee	49.95	309	P	P	12 16 33.4	+0.7
SWET				IAmb	IAmb	12 16 34.9	
	comp=Z,8.6nm,1.1s						
SCHQ	Schefferville	50.97	340	LR	LR	12 35 30.3	
	comp=Z,39nm,20.1s,baz=92,slow=33						
T47A	Sharon Grove	51.47	311	P	P	12 16 44.8	+0.8
T47A				IAmb	IAmb	12 16 46.2	
	comp=Z,8.2nm,0.9s						
Q44A	Meyer Farm, Va	53.56	312	P	P	12 16 59.9	+0.4
MGMO	Mountain Grove	55.43	309	P	P	12 17 13.0	-0.1
MGMO				IAmb	IAmb	12 17 14.2	
	comp=Z,4.7nm,0.9s						
U40A	Yellville	55.65	308	P	P	12 17 13.7	-1.1
U40A				IAmb	IAmb	12 17 15.3	
	comp=Z,6.5nm,1.1s						
PDG	Podgorica	61.31	46	P	P	12 17 56.3	+2.2
ULM	Lac du Bonnet	62.25	323	P	P	12 17 59.0	-1.3
	comp=Z,2.8nm,0.6s,baz=88,slow=9.0,SNR=4.1						
ULM	Lac du Bonnet	62.25	323	IAmb	IAmb	12 17 59.8	
	comp=Z,3.0nm,0.7s						
TXAR	Lajitas Array	63.34	298	P	P	12 18 08.2	0.0
	comp=Z,0.5nm,0.6s,baz=114,slow=7.0,SNR=11						
TX31	Lajitas Ar. Si	63.34	298	IAmb	IAmb	12 18 16.1	
	comp=Z,5.1nm,1.1s						
NOA	NORSAR Array B	64.22	25	LR	LR	12 42 22.4	
	comp=Z,14nm,19.0s,baz=245,slow=32						
MNTX	Cornudas Mount	65.03	301	P	P	12 18 19.3	+0.2
SDCO	Great Sand Dun	65.83	307	IAmb	IAmb	12 18 26.4	
	comp=Z,3.5nm,1.0s						
MLR	Muntele Rosu	66.73	44	P	P	12 18 30.9	+1.0
X16A	Lo Mia Camp, P	70.30	303	IAmb	IAmb	12 18 55.8	
	comp=Z,7.1nm,1.4s						
WUAZ	Wupatki	70.31	305	P	P	12 18 54.4	+1.8
YHH	Holmes Hill	70.75	314	P	P	12 18 57.2	+2.0
HWUT	Hardware Ranch	70.93	311	P	P	12 18 57.0	+0.8
HWUT				IAmb	IAmb	12 18 57.7	
	comp=Z,4.4nm,1.1s						
BRTR	Keskin Array B	71.57	51	P	P	12 19 00.8	+0.8
	comp=Z,1.9nm,0.6s,baz=271,slow=5.6,SNR=6.5						
DLMT	Dillon	72.05	315	P	P	12 19 02.2	-0.6
DLMT				IAmb	IAmb	12 19 06.0	
	comp=Z,9.6nm,1.4s						
HLID	Hailey	73.19	313	P	P	12 19 11.1	+1.3
PRN	Pahroc Range	73.36	306	P	P	12 19 13.4	+2.6
PRN				IAmb	IAmb	12 19 13.6	
	comp=Z,7.2nm,1.3s						
TPH	Tonopah	75.09	307	P	P	12 19 22.5	+1.5
NEW	Newport	75.39	318	LR	LR	12 50 02.0	
	comp=Z,52nm,19.1s,baz=118,slow=34						
NVAR	Mina Array Bea	75.95	307	P	P	12 19 26.1	+0.2
	comp=Z,0.4nm,0.8s,baz=92,slow=6.6,SNR=3.6						
NVAR				LR	LR	12 49 30.9	
	comp=Z,35nm,22.0s,baz=144,slow=33						
YBH	Yreka Blue Hor	79.27	311	LR	LR	12 56 09.7	
	comp=Z,63nm,18.8s,baz=108,slow=37						
ILAR	Eielson Array	89.55	336	P	P	12 20 34.6	-1.1
	comp=Z,0.5nm,0.9s,baz=74,slow=4.7,SNR=4.2						
ABKAR	Akbulak array	89.63	40	P	P	12 20 35.7	-0.7
NRIK	Noril'sk	94.14	17	P	P	12 20 55.7	-1.2
	comp=Z,1.2nm,0.4s,baz=320,slow=7.9,SNR=2.1						

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*IDC **03** 12:24:32.4±0.8, 41.°41S×85.°58W, h0^{km}, mb4.1/9, mb1 4.3/10, mb1mx4.2/24, mbtmp4.1/10, ML3.5/1, MS4.5/17, Ms1 4.5/17, ms1mx4.4/21, Error ellipse: s-maj=28.3km s-min=20.7km az=110.0*

*NEIC **03** 12:24:34.0±2.2, 41.°38S±0.°10×85.°45W±0.°04, h10^{km}±1^{km}, mb4.9/147, Error ellipse: s-maj=17.3km s-min=4.1km az=163.0*

*GCMT **03** 12:24:35.0±0.1, 41.°33S±0.°01×85.°65W±0.°01, h12^{km}, MW5.2/124, Moment Tensor Solution. s78,c108; s124,c224; Duration: 1.s0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.70±.01; $M_{\theta\theta}$-0.09±.01; $M_{\phi\phi}$0.78±.01; $M_{r\theta}$0.17±.04; $M_{\theta\phi}$-0.11±.01; $M_{\phi r}$0.02±.03; Best double couple: $M_0$0.76900×10^{17} NP1:ϕ_s339.00000°,δ47.00000°, λ-111.00000°. NP2:ϕ_s188.00000°,δ47.00000°, λ-69.00000°. Principal axes: T 0.7960, Plg0.0000°, Azm263.0000°; N -0.0550, Plg15.0000°, Azm353.0000°; P -0.7420, Plg75.0000°, Azm173.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 12:24:34.8±0.5**, 41.°39S**±0.°07×**85.°42W**±0.°07**, h14**^{km}**, n207,** σ**1.s21**/152**, mb4.8**/71**, MS4.6**/20**, West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H03S2	Juan Fernandez	9.13	36	T	T	12 36 25.8	
	baz=211,slow=73,SNR=770						
H03S1	Juan Fernandez	9.13	37	T	T	12 36 27.1	
	baz=211,slow=73,SNR=660						
H03S3	Juan Fernandez	9.14	36	T	T	12 36 20.5	
	baz=211,slow=73,SNR=862						
H03N3	Juan Fernandez	9.45	35	T	T	12 36 45.2	
	baz=188,slow=79,SNR=28						
H03N2	Juan Fernandez	9.46	35	T	T	12 36 41.5	
	baz=188,slow=79,SNR=44						
H03N1	Juan Fernandez	9.47	35	T	T	12 36 43.7	
	baz=188,slow=79,SNR=202						
LC01	Cunco	10.67	81		Pn	12 27 06.4	-0.8
PLCA	Paso Flores	11.25	92	Pn	Pn	12 27 16.8	+1.6
	0.1nm,0.3s,baz=300,slow=8.1,SNR=2.2						
PLCA				LR	LR	12 30 48.7	
	comp=Z,7µm,19.1s,baz=300,slow=33						
PLCA	Paso Flores	11.25	92	*e*P	Pn	12 27 15.3	+0.1
GO05	Huala	12.37	63	Pn	Pn	12 27 29.3	-1.3
BO02	Sierra Bellavi	13.27	65	Pn	Pn	12 27 41.8	-1.0
EDS3	Malargue	13.73	71	*i*P	P	12 28 01.8	+4.0
COIS	El Sosneado	13.92	68	*i*P	P	12 28 03.6	+3.8
LAMA	Las Malvinas	14.28	68	*i*P	P	12 28 05.2	+1.4
RFA	San Rafael	14.89	69	*e*P	P	12 28 13.0	+2.4
AAGR	Agrelo	15.58	63	*e*P	P	12 28 20.7	+2.3
ARCO	CERRO ARCO	15.66	62	*i*P	P	12 28 22.8	+3.5
AUSP	Uspallata	15.75	60	*e*P	P	12 28 21.7	+1.3
CO03	El Pedregal	15.87	53	P	Pn	12 28 18.9	+1.1
CO03				IAmb	IAmb	12 28 31.4	
	comp=Z,99nm,1.4s						
ASAL	Salagasta	15.88	62	*e*P	P	12 28 24.5	+2.8
RTLS	Leoncito	16.08	59	*e*P	P	12 28 26.5	+2.4
ZON	Zonda	16.64	59	P	P	12 28 31.6	+1.5
MRA	San Martin	18.09	67	*e*P	P	12 28 47.6	+1.5
TRQA	Tornquist	18.33	87	P	P	12 28 50.1	+1.5
TRQA	Tornquist	18.33	87	*e*P	P	12 28 50.9	+2.3
AC02	Maricunga	19.77	48	P	P	12 29 04.9	-0.1
PB14	IPOC Station P	20.88	41	P	Pn	12 29 18.0	-1.4
PB14				IAmb	IAmb	12 29 25.5	
	comp=Z,65nm,1.5s						
PB15	IPOC Station P	22.52	41	P	P	12 29 35.5	+1.0
PB15				IAmb	IAmb	12 29 44.9	
	comp=Z,48nm,1.0s						
LVC	Limon Verde	23.30	42	P	P	12 29 43.3	+0.6
	comp=Z,2.1nm,0.5s,baz=210,slow=9.0,SNR=12						
LVC				LR	LR	12 36 34.3	
	comp=Z,2µm,19.4s,baz=226,slow=31						
LVC	Limon Verde	23.30	42	P	P	12 29 43.3	+0.6
LVC				IAmb	IAmb	12 29 58.7	
	comp=Z,46nm,1.4s						
LVC	Limon Verde	23.30	42	*e*P	P	12 29 43.0	+0.3
RPN	Rapa Nui	24.25	298	LR	LR	12 36 41.7	
	comp=Z,2µm,20.2s,baz=126,slow=30						
PB01	IPOC Station P	24.36	38	P	P	12 29 52.8	+0.2
PSGCX	Pisagua	25.33	36	P	P	12 30 01.4	+0.1
PB11	IPOC Station P	25.39	37	P	P	12 30 03.1	+1.1
PB11				IAmb	IAmb	12 30 30.0	
	comp=Z,27nm,1.3s						
ITQB	Itaqui	26.07	73	*e*P	P	12 30 08.0	+0.2
PMSA	Palmer Station	26.45	159	*e*P	P	12 30 09.1	-1.8
PLTB	Pedras Altas	27.17	80	*e*P	P	12 30 17.8	-0.1
CPUP	Villa Florida	27.59	66	P	P	12 30 23.2	+1.6
	comp=Z,2.1nm,0.7s,baz=248,slow=14,SNR=2.2						
CPUP				LR	LR	12 40 40.6	
	comp=Z,2µm,19.8s,baz=240,slow=35						
CPUP	Villa Florida	27.59	66	*e*P	P	12 30 21.6	0.0
CPSB	Cacapava Do Su	27.98	77	*e*P	P	12 30 25.3	+0.2
LPAZ	La Paz	29.12	36	P	P	12 30 36.9	+0.8
	comp=Z,0.8nm,0.4s,baz=214,slow=7.8,SNR=7.4						
LPAZ				LR	LR	12 39 50.2	
	comp=Z,706nm,18.8s,baz=186,slow=31						
LPAZ	La Paz	29.12	36	P	P	12 30 35.9	-0.1
LPAZ				IAmb	IAmb	12 30 50.9	
	comp=Z,21nm,1.4s						
LPAZ	La Paz	29.12	36	*e*P	P	12 30 36.5	+0.5
NNA	Nana	30.24	17	LR	LR	12 39 30.7	
	comp=Z,627nm,18.9s,baz=184,slow=30						
CNLB	Canela	30.46	78	*e*P	P	12 30 46.5	-0.7
TER01	Tubaro-SC	32.16	78	*e*P	P	12 31 02.0	-0.1
PTGB	Pitanga	32.28	69	*e*P	P	12 31 03.7	+0.4
AQDB	Aquidauana	32.68	59	P	P	12 31 06.4	-0.3
AQDB				IAmb	IAmb	12 31 09.2	
	comp=Z,12nm,1.1s						
AQDB	Aquidauana	32.68	59	*e*P	P	12 31 06.6	-0.1
TRCB	Terra Rica	33.12	66	*e*P	P	12 31 11.1	+0.5
TIJ01	Guaruva-PR	34.09	73	*e*P	P	12 31 19.1	0.0
PTLB	Pontes e Lacer	34.42	49	*e*P	P	12 31 22.1	+0.2
PCMB	Pacaembu	34.86	66	*e*P	P	12 31 25.8	+0.1
PP1B	Ponte de Pedra	35.31	57	*e*P	P	12 31 29.8	+0.2
CZSB	Cruzeiro do Su	35.37	22	*e*P	P	12 31 31.2	+1.1
ETMB	Extrema	35.72	34	*e*P	P	12 31 33.3	+0.3
VILB	Vilhena	35.87	45	*e*P	P	12 31 34.9	+0.5
PET01	Itanhaem-SP	35.96	74	*e*P	P	12 31 34.9	-0.2
SALV	Santo Antonio	36.09	54	*e*P	P	12 31 36.4	+0.2
SPB	Sao Paulo	36.28	73	*e*P	P	12 31 38.4	+0.6
ITRB	Iturama	36.77	65	*e*P	P	12 31 41.1	-1.0
ARAG	Araguaiana, MT	38.67	59	*e*P	P	12 31 57.9	-0.2
IPMB	Ipameri, GO	39.42	65	*e*P	P	12 32 04.4	-0.1
TBTG	Tabatinga, AM	39.56	25	*e*P	P	12 32 05.6	0.0
BSCB	Bom Sucesso	39.82	72	*e*P	P	12 32 07.8	0.0
CLDB	Colider	40.01	49	*e*P	P	12 32 09.3	0.0
BDFB	Brasilia	41.21	63	LR	LR	12 49 17.2	
	comp=Z,2µm,19.1s,baz=211,slow=36						
CAM01	Campos-RJ	41.55	76	*e*P	P	12 32 22.0	0.0
SNDB	Serra Nova Dou	41.82	55	*e*P	P	12 32 24.5	+0.3
BELA	Belgrano 2	41.90	166	P	P	12 32 23.8	-0.4
BELA				IAmb	IAmb	12 32 25.2	
	comp=Z,26nm,1.5s						
OTAV	Otavalo	41.91	10	*e*P	P	12 32 25.2	-0.3
MC01	Montes Claros	43.25	68	*e*P	P	12 32 36.2	+0.3
NPGB	Novo Progresso	43.40	46	*e*P	P	12 32 36.8	-0.2
PEXB	Peixe	43.61	59	*e*P	P	12 32 38.4	-0.4
FLOC	Florencia	43.68	14	P	P	12 32 39.5	+0.2
FLOC				IAmb	IAmb	12 32 46.5	
	comp=Z,31nm,1.5s						
BSFB	Barra de Sao F	44.03	73	*e*P	P	12 32 42.7	+0.6
MACA	Manacapuru-AM	44.07	37	*e*P	P	12 32 42.4	-0.1
ITTB	Itaituba	45.44	44	*e*P	P	12 32 52.9	-0.5
SDBA	SAO DESIDERIO	45.62	63	*e*P	P	12 32 55.7	+0.8
SMTB	Santa Maria do	46.52	57	*e*P	P	12 33 02.9	+1.0
PTGA	Pitinga	46.55	36	P	P	12 33 01.2	-0.9
PTGA				IAmb	IAmb	12 33 09.2	
	comp=Z,11nm,0.9s						
VNA3	Neumayer Olymp	46.91	155	P	P	12 33 03.9	-0.5
ROSC	El Rosal	47.11	15	LR	LR	12 51 18.5	
	comp=Z,828nm,18.2s,baz=227,slow=34						
CMC01	Camacan, BA	47.27	71	*e*P	P	12 33 07.7	-0.1
VNA1	Neumayer--Stat	47.41	154	P	P	12 33 09.1	+0.9
VNA2	Neumayer--Watz	47.68	154	P	P	12 33 09.6	-0.8
	baz=268,slow=8.8						
MALB	Monte Alegre	48.34	44	*e*P	P	12 33 17.5	+1.4
RUSC	La Rusia	48.39	17	P	P	12 33 15.7	-1.2
QSPA	South Pole Qui	48.85	180	P	P	12 33 18.8	-0.9
	comp=Z,3.8nm,1.0s,baz=140,slow=4.9,SNR=6.6						
QSPA	South Pole Qui	48.85	180	P	P	12 33 19.5	-0.1
SNAA	Sanae	49.04	155	P	P	12 33 20.1	-0.8
SNAA	Sanae	49.04	155	P	P	12 33 19.5	-1.5
BOAV	Boa Vista	49.11	34	*e*P	P	12 33 20.9	-1.0
NBPN	Ponto Novo - B	49.93	66	*e*P	P	12 33 28.3	0.0
NBLA	Lagarto - SE	51.49	68	*e*P	P	12 33 39.7	-0.4
SDV	Santo Domingo	51.84	19	P	P	12 33 41.6	-1.2
SDV				IAmb	IAmb	12 33 42.7	
	comp=Z,20nm,1.4s						
SBA	Scott Base	53.49	195	P	P	12 33 54.8	+0.7
VNDA	Vanda	54.58	194	P	P	12 34 02.3	+0.2
	comp=Z,1.4nm,1.1s,baz=106,slow=6.1,SNR=4.9						
VNDA				LR	LR	12 52 18.4	
	comp=Z,429nm,21.8s,baz=130,slow=31						
VNDA	Vanda	54.58	194	P	P	12 34 02.4	+0.4
MTO3	Montecristo	55.62	355	P	P	12 34 09.3	-1.1
TBI	Tubuai	55.78	268	*e*S	S	12 42 01.9	+3.9
	comp=Z,727nm,30.8s						
TBI				*e*LR	LR	12 50 24.3	
	comp=Z,2µm,29.8s,baz=128						
TAOE	Nuku Hiva Isla	57.98	288	*e*S	S	12 42 28.4	+0.9
	comp=Z,314nm,26.2s						
TAOE				*e*LQ	LQ	12 49 04.3	
	comp=Z,478nm,28.2s						
TAOE				*e*LR	LR	12 51 31.9	
	comp=Z,1µm,26.1s,baz=145						
PPT2	Papeete2	59.29	273	*e*S	S	12 42 47.2	+2.9
	comp=Z,606nm,27.0s						
PPT2				*e*LR	LR	12 51 58.0	
	comp=Z,2µm,27.2s,baz=135						
PPT	Papeete	59.30	273	LR	LR	12 53 48.1	
	comp=Z,581nm,21.6s,baz=126,slow=30						
ZAIG	Zacatecas	65.78	343	P	P	12 35 20.2	+0.5
SLBS	Sierra La Lagu	68.62	336	P	P	12 35 37.2	-0.3
MAW	Mawson	68.71	168	LR	LR	13 04 26.2	
	comp=Z,145nm,19.1s,baz=230,slow=35						
HPIG		70.52	341	P	P	12 35 49.2	0.0
TX32	Lajitas Array	72.36	343	IAmb	IAmb	12 36 15.2	
	comp=Z,15nm,1.4s						
TXAR	Lajitas Array	72.36	343	P	P	12 35 59.2	-1.0
	comp=Z,2.1nm,0.9s,baz=163,slow=9.1,SNR=17						
TXAR				LR	LR	13 02 40.7	
	comp=Z,139nm,18.6s,baz=0.0,slow=32						
TXAR	Lajitas Array	72.36	343	P	P	12 35 59.4	-0.8
TX31	Lajitas Ar. Si	72.36	343	P	P	12 36 00.8	+0.6
JCT	Junction City	72.73	347	P	P	12 36 00.6	-1.8
152A	Waverly Hall	73.69	1	P	P	12 36 07.1	-0.8
152A				IAmb	IAmb	12 36 08.5	
	comp=Z,18nm,1.2s						
WHTX	Lake Whitney,	73.85	349	P	P	12 36 08.7	-0.1
LRAL	Lakeview Retre	74.07	359	P	P	12 36 10.3	+0.3
GOGA	Godfrey	74.45	2	P	P	12 36 10.5	-1.8
MNTX	Cornudas Mount	75.02	342	P	P	12 36 13.3	-2.4
JSC	Jenkinsville	75.39	4	P	P	12 36 17.0	-0.7
X48A	Hartselle	75.48	359	IAmb	IAmb	12 36 18.8	
	comp=Z,16nm,1.2s						
PAULI	Pauline	75.91	3	P	P	12 36 18.0	-2.6
PAULI				IAmb	IAmb	12 36 21.3	
	comp=Z,12nm,1.1s						
PLAL	Pickwick Lake	76.03	358	P	P	12 36 20.1	-1.3
PLAL				IAmb	IAmb	12 36 21.4	
	comp=Z,13nm,1.4s						
SWET	Sewanee	76.23	360	IAmb	IAmb	12 36 34.6	
	comp=Z,14nm,1.4s						
KMSC	Kings Mountain	76.25	3	P	P	12 36 21.5	-1.1
KMSC				IAmb	IAmb	12 36 30.9	
	comp=Z,16nm,1.4s						
W57A	Gilead	76.33	5	P	P	12 36 21.5	-1.5
121A	Cookes Peak, D	76.39	341	P	P	12 36 23.8	+0.1
121A				IAmb	IAmb	12 36 33.6	
	comp=Z,16nm,1.3s						
CPCT	Cooper Cave	76.47	1	P	P	12 36 23.4	-0.4
CPCT				IAmb	IAmb	12 36 24.4	
	comp=Z,16nm,1.2s						
WHAR	Wooly Hollow	76.56	354	P	P	12 36 22.3	-2.1
WHAR				IAmb	IAmb	12 36 24.9	
	comp=Z,16nm,1.2s						
MSTX	Muleshoe	76.67	345	P	P	12 36 24.7	-0.4
WMOK	Wichita Mounta	76.74	349	P	P	12 36 24.4	-1.1
V48A	Smith Brothers	76.76	359	P	P	12 36 23.8	-1.7
V48A				IAmb	IAmb	12 36 25.8	
	comp=Z,19nm,1.4s						
CLTN	Cedars of Leba	77.11	359	IAmb	IAmb	12 36 27.8	
	comp=Z,21nm,1.4s						
WVT	Waverly	77.17	358	P	P	12 36 26.6	-1.2
WVT				IAmb	IAmb	12 36 27.9	
	comp=Z,16nm,1.4s						
LCAR	Lake Charles	77.26	355	P	P	12 36 27.0	-1.2
LCAR				IAmb	IAmb	12 36 36.4	
	comp=Z,12nm,1.4s						
U40A	Yellville	77.67	354	P	P	12 36 28.9	-1.7
U40A				IAmb	IAmb	12 36 33.9	
	comp=Z,13nm,1.5s						
T47A	Sharon Grove	78.01	359	P	P	12 36 31.8	-0.7
T47A				IAmb	IAmb	12 36 44.1	
	comp=Z,8.5nm,0.8s						
BLA	Blacksburg	78.35	4	P	P	12 36 34.0	-0.4
ANMO	Albuquerque	78.38	342	P	P	12 36 34.6	-0.2
MGMO	Mountain Grove	78.41	354	P	P	12 36 34.3	-0.5
MGMO				IAmb	IAmb	12 36 35.0	
	comp=Z,13nm,1.2s						
T35A	Sooner Cattle	78.58	351	IAmb	IAmb	12 36 44.1	
	comp=Z,18nm,1.1s						
X18A	Snowflake	78.84	340	P	P	12 36 37.2	-0.1
S39A	Bolivar	79.03	354	IAmb	IAmb	12 36 38.3	
	comp=Z,13nm,1.4s						
X16A	Lo Mia Camp, P	79.14	338	P	P	12 36 39.8	+0.8
CCM	Cathedral Cave	79.24	355	P	P	12 36 39.1	-0.1
CCM				IAmb	IAmb	12 36 39.7	
	comp=Z,13nm,1.1s						
R49A	Shelbyville	79.30	0	P	P	12 36 37.7	-1.9
R49A				IAmb	IAmb	12 36 39.3	
	comp=Z,17nm,1.4s						
T25A	Trinidad	80.06	345	P	P	12 36 44.0	+0.1
WUAZ	Wupatki	80.15	339	P	P	12 36 41.9	-2.5
W13A	Hualapai Mount	80.48	337	P	P	12 36 45.4	-0.8
P40A	Paris	80.76	355	P	P	12 36 46.5	-0.9
P40A				IAmb	IAmb	12 36 56.8	
	comp=Z,9.0nm,1.1s						
SDCO	Great Sand Dun	80.86	344	P	P	12 36 48.4	0.0
SDCO				IAmb	IAmb	12 36 57.5	
	comp=Z,12nm,1.4s						
P38A	Dawn	80.97	354	P	P	12 36 46.8	-1.7
P38A				IAmb	IAmb	12 36 48.5	
	comp=Z,16nm,1.2s						
MVCO	Mesa Verde	81.02	342	P	P	12 36 49.7	+0.6
MVCO				IAmb	IAmb	12 37 11.6	
	comp=Z,18nm,1.5s						
U15A	North Rim	81.26	338	P	P	12 36 50.2	-0.3
U15A				IAmb	IAmb	12 37 01.0	
	comp=Z,13nm,1.4s						
GSC	Goldstone, Bar	81.57	334	P	P	12 36 52.5	+0.6
PV01	Paradox Valley	81.92	342	IAmb	IAmb	12 37 04.0	
	comp=Z,16nm,1.4s						
PV05	Paradox Valley	81.99	341	P	P	12 36 54.2	0.0
PV05				IAmb	IAmb	12 37 04.2	
	comp=Z,8.5nm,1.0s						
PV02	Paradox Valley	82.03	342	P	P	12 36 54.9	+0.5
PV02				IAmb	IAmb	12 37 04.5	
	comp=Z,19nm,1.4s						
PV03	Paradox Valley	82.10	342	IAmb	IAmb	12 37 04.7	
	comp=Z,9.7nm,1.3s						
PV12	Saucer Basin,	82.15	342	IAmb	IAmb	12 37 20.6	
	comp=Z,10nm,1.4s						
SHPR	Sheep Range	82.16	336	P	P	12 36 56.3	+1.2
PV16	Nyswonger Mesa	82.17	342	IAmb	IAmb	12 37 21.2	
	comp=Z,10nm,1.4s						
ISA	Isabella, Lake	82.45	333	IAmb	IAmb	12 37 06.2	
	comp=Z,13nm,1.5s						
SMCO	Snowmass	82.55	343	IAmb	IAmb	12 37 02.1	
	comp=Z,14nm,1.3s						
CCUT	Cedar City	82.61	338	IAmb	IAmb	12 37 08.3	
	comp=Z,12nm,1.4s						
ISCO	Idaho Springs	82.87	344	P	P	12 36 59.0	+0.1
TPNV	Topopah Spring	82.91	336	IAmb	IAmb	12 37 28.6	
	comp=Z,9.2nm,1.2s						
Q16A	Castle Valley	83.30	340	IAmb	IAmb	12 37 19.1	
	comp=Z,9.4nm,1.2s						
PSUT	Pine Spring	83.66	338	IAmb	IAmb	12 37 10.4	
	comp=Z,9.0nm,1.5s						
TMUT	Trail Mountain	83.67	340	IAmb	IAmb	12 37 12.3	
	comp=Z,12nm,1.2s						
O20A	White River Ci	83.75	343	P	P	12 37 04.0	+0.7
R11A	Troy Canyon, C	84.00	337	IAmb	IAmb	12 37 15.2	
	comp=Z,12nm,1.3s						
RDMU	Red Mountain	84.47	342	IAmb	IAmb	12 37 20.9	
	comp=Z,6.6nm,1.3s						
LHV	Little Huntoon	84.82	334	IAmb	IAmb	12 37 22.8	
	comp=Z,14nm,1.5s						
NV11	Mina Array Sit	84.87	335	P	P	12 37 09.5	+0.6
NV11				IAmb	IAmb	12 37 18.5	
	comp=Z,7.2nm,1.4s						
NVAR	Mina Array Bea	84.91	335	P	P	12 37 10.2	+0.9
	comp=Z,0.9nm,0.8s,baz=157,slow=5.4,SNR=4.5						
DUG	Dugway, Tooele	84.93	339	IAmb	IAmb	12 37 11.3	
	comp=Z,15nm,1.5s						
ECSD	EROS Data Cent	85.33	352	IAmb	IAmb	12 37 15.4	
	comp=Z,14nm,1.5s						
BOSA	Boshof	85.40	124	LR	LR	13 10 21.6	
	comp=Z,247nm,19.8s,baz=212,slow=32						
ELK	Elko	86.11	338	IAmb	IAmb	12 37 25.2	
	comp=Z,12nm,1.4s						
HVU	Hansel Valley	86.40	340	IAmb	IAmb	12 37 26.9	
	comp=Z,8.0nm,1.4s						
BW06	Boulder Array	86.56	342	P	P	12 37 17.5	+0.2
PD31	Pinedale Array	86.56	342	IAmb	IAmb	12 37 26.0	
	comp=Z,16nm,1.4s						
PDAR	Pinedale Array	86.56	342	P	P	12 37 18.4	+1.1
	comp=Z,1.6nm,0.8s,baz=157,slow=6.4,SNR=10.0						
PDAR				LR	LR	13 11 57.2	
	comp=Z,81nm,18.0s,baz=164,slow=33						
RSSD	Black Hills	86.75	347	P	P	12 37 19.0	+0.8
RSSD				IAmb	IAmb	12 37 26.8	
	comp=Z,12nm,1.1s						
FXWY	Fox Creek	87.72	342	IAmb	IAmb	12 37 39.5	
	comp=Z,8.1nm,1.4s						
MOOW	Moose Ponds	87.76	342	P	P	12 37 22.6	-0.6
DZM	Mont Dzumac	88.35	242	*e*S	S	12 48 11.5	-0.1
	comp=Z,115nm,26.9s						
DZM	Mont Dzumac	88.35	242	*e*LR	LR	13 05 37.1	
	comp=Z,1µm,29.3s						
HLID	Hailey	88.50	339	IAmb	IAmb	12 37 34.9	
	comp=Z,10nm,1.3s						
WVOR	Wild Horse Val	88.67	336	IAmb	IAmb	12 37 45.0	
	comp=Z,8.9nm,1.4s						
RLMT	Red Lodge	88.73	343	IAmb	IAmb	12 37 41.0	
	comp=Z,14nm,1.5s						
MFID	Camas Ranch	88.75	338	IAmb	IAmb	12 37 39.7	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,6.1nm,1.2s						
MCMT	McKenzie Canyo	89.28	341	P	P	12 37 31.4	+1.0
J08A	Circle Bar Ran	89.46	337	IAmb	IAmb	12 37 49.8	
	comp=Z,8.6nm,1.3s						
DLMT	Dillon	89.72	341	IAmb	IAmb	12 38 02.6	
	comp=Z,15nm,1.5s						
ULM	Lac du Bonnet	91.71	353	LR	LR	13 15 22.0	
	comp=Z,93nm,20.4s,baz=116,slow=33						
TORD	Torodi Ar. Bea	96.43	78	P	P	12 38 02.3	-1.5
	comp=Z,1.6nm,1.1s,baz=270,slow=3.0,SNR=7.1						
TORD				LR	LR	13 17 11.8	
	comp=Z,364nm,20.9s,baz=205,slow=33						
TORD	Torodi Ar. Bea	96.43	78	P	P	12 38 02.2	-1.5
TORD				IAmb	IAmb	12 38 23.7	
	comp=Z,6.1nm,1.5s						
PMOZ	Porto Moniz, M	96.91	52	eLQ	LQ	13 05 14.8	
PMOZ				eLR	LR	13 11 20.8	
	comp=Z,270nm,22.0s						
SCHQ	Schefferville	97.16	11	LR	LR	13 19 20.1	
	comp=Z,107nm,21.0s,baz=175,slow=34						
PVAQ	Vaqueiros	105.71	54	eLR	LR	13 14 42.1	
	comp=Z,220nm,20.0s						
PMRV	Marv??o	107.20	52	eLR	LR	13 15 55.9	
	comp=Z,172nm,18.0s						
MTE	Manteigas	107.73	52	eLQ	LQ	13 09 16.1	
MTE				eLR	LR	13 15 54.3	
	comp=Z,330nm,20.0s						
PGAV	Gavieira, Arco	108.30	50	eLQ	LQ	13 07 06.4	
PGAV				eLR	LR	13 15 36.8	
	comp=Z,340nm,20.0s						
MVO	Moncorvo	108.52	51	eLR	LR	13 16 37.2	
	comp=Z,364nm,20.0s						
TIXI	Tiksi	145.25	342	PKPbc	PKPbc	12 44 08.3	-2.1
	comp=Z,4.2nm,0.8s,baz=42,slow=4.7,SNR=6.5						

*IDC **03** 12:28:43.3±1.1, 41°.32S×86°.39W, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.1/23, mbtmp4.0/9, ML3.4/1, Error ellipse: s-maj=32.0km s-min=23.5km az=106.0*
*NEIC **03** 12:28:44.2±3.0, 41°.2S±0°.1×86°.5W±0°.2, h10km±1km, mb4.5/18, Error ellipse: s-maj=24.4km s-min=18.7km az=302.0*
ISC 03 12:28:44.7±0.9, 41°.2S±0°.1×86°.3W±0°.1, h10km, n36, σ1s31/27, mb4.3/13, West Chile Rise

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H03S2	Juan Fernandez	9.39	41	T	T	12 40 55.0	
	baz=215,slow=73,SNR=21						
H03S1	Juan Fernandez	9.40	41	T	T	12 40 56.3	
	baz=215,slow=73,SNR=21						
H03S3	Juan Fernandez	9.41	41	T	T	12 40 55.5	
	baz=215,slow=73,SNR=29						
VA04	Juan Fernndez	9.60	41	Pn	Pn	12 31 02.6	-0.3
H03N3	Juan Fernandez	9.70	40	T	T	12 41 17.5	
	baz=267,slow=72,SNR=22						
H03N2	Juan Fernandez	9.71	40	T	T	12 41 15.3	
	baz=267,slow=72,SNR=10						
H03N1	Juan Fernandez	9.72	40	T	T	12 41 17.1	
	baz=267,slow=72,SNR=18						
LL04	Puerto Octay	10.53	93	Pn	Pn	12 31 17.3	+1.7
LC01	Cunco	11.32	83	Pn	Pn	12 31 28.0	+1.5
PLCA	Paso Flores	11.95	93	Pn	Pn	12 31 33.6	-1.5
	0.1nm,0.3s,baz=36,slow=19,SNR=1.9						
GO05	Huala	12.90	66	Pn	Pn	12 31 45.4	-2.7
BO02	Sierra Bellavi	13.82	68		Pn	12 31 59.4	-1.3
BO01	Tunca	13.82	66	Pn	Pn	12 31 59.7	-1.0
VA03	San Esteban	15.14	61		Pn	12 32 18.1	-0.5
CO02	Combarbal	15.86	56	Pn	Pn	12 32 26.9	-1.2
TRQA	Tornquist	19.01	89	P	Pn	12 33 08.2	+1.0
AC02	Maricunga	20.15	50	P	P	12 33 19.9	+0.3
AC02				IAmb	IAmb	12 33 26.9	
	comp=Z,28nm,1.4s						
PB14	IPOC Station P	21.19	44	P	P	12 33 30.6	0.0
PB14				IAmb	IAmb	12 33 36.8	
	comp=Z,25nm,1.3s						
PB15	IPOC Station P	22.83	43	P	P	12 33 49.4	+1.3
PB15				IAmb	IAmb	12 33 52.5	
	comp=Z,21nm,0.9s						
LVC	Limon Verde	23.62	44	P	P	12 33 58.0	+1.7
	comp=Z,3.4nm,0.5s,baz=217,slow=10,SNR=4.7						
LVC	Limon Verde	23.62	44	P	P	12 33 57.3	+1.1
PB01	IPOC Station P	24.63	41	P	P	12 34 06.9	+1.5
PMSA	Palmer Station	26.89	159	P	P	12 34 25.3	0.0
	comp=Z,3.9nm,0.5s,baz=308,slow=18,SNR=2.1						
CPUP	Villa Florida	28.14	67	P	P	12 34 36.8	-0.1
	comp=Z,2.1nm,0.6s,baz=253,slow=5.6,SNR=4.1						
CPUP	Villa Florida	28.14	67	IAmb	IAmb	12 35 07.3	
	comp=Z,17nm,1.6s						
LPAZ	La Paz	29.37	38	P	P	12 34 51.2	+2.6
	comp=Z,3.1nm,0.7s,baz=203,slow=3.7,SNR=12						
LPAZ	La Paz	29.37	38	P	P	12 34 49.4	+0.8
SAML	Samuel	38.08	39	P	P	12 36 03.7	+0.1
PTGA	Pitinga	46.80	38	P	P	12 37 13.8	-0.7
PTGA				IAmb	IAmb	12 37 15.5	
	comp=Z,6.5nm,0.9s						
VNDA	Vanda	54.61	194	P	P	12 38 11.6	-1.2
	comp=Z,0.9nm,1.0s,baz=117,slow=6.4,SNR=3.1						
VNDA	Vanda	54.61	194	IAmb	IAmb	12 38 15.7	
	comp=Z,6.5nm,1.6s						
TXAR	Lajitas Array	71.96	344	P	P	12 40 09.3	+1.0
	comp=Z,0.4nm,0.8s,baz=165,slow=8.2,SNR=3.7						
PLAL	Pickwick Lake	75.80	359	P	P	12 40 29.2	-1.3
PLAL				IAmb	IAmb	12 40 30.9	
	comp=Z,5.7nm,1.1s						
PV14	Lion Creek, Pa	81.83	342	IAmb	IAmb	12 41 06.3	
	comp=Z,7.4nm,0.9s						
PDAR	Pinedale Array	86.15	343	P	P	12 41 26.7	+0.9
	comp=Z,0.2nm,0.6s,baz=157,slow=2.9,SNR=2.5						
ULM	Lac du Bonnet	91.43	354	P	P	12 41 50.2	-0.2
	comp=Z,2.1nm,0.6s,baz=256,slow=4.2,SNR=3.4						

MEX 03 12:48:26.4±0.3, 15°.21N×93°.79W, h16km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCIG		0.74	49	*i* P	Pg	12 48 38.2	-2.7
PCIG				*i* S	Sg	12 48 47.6	-3.1

*TUL **03** 12:49:42±1.3, 36°.59N±0°.01×98°.31W±0°.01, h4km±4km, ML2.5, mb_Lg2.1/7(NEIC), Error ellipse: s-maj=2.0km s-min=1.5km az=145.0*
NEIC 03 12:49:42.0±0.9, 36°.60N±0°.02×98°.34W±0°.02, h11km±3km, Error ellipse: s-maj=2.7km s-min=1.6km az=140.0, Oklahoma

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OK032	Salt Plains WL	0.23	27	Pg	Pg	12 49 46.5	-0.2
OK032				Sg	Sg	12 49 50.8	+0.9
CROK	Carrier	0.30	109	Pg	Pg	12 49 47.8	-0.3
CROK				Sg	Sg	12 49 51.9	-0.3
GC02	Grant County #	0.46	57	Pg	Pg	12 49 51.0	0.0
GC02				Sg	Sg	12 49 56.9	-0.2
KAN14	Manchester OK	0.47	40	Pg	Pg	12 49 51.4	+0.2
KAN14				Sg	Sg	12 49 57.5	+0.2
U32A	Winter Ranch,	0.58	247		Pg	12 49 53.3	+0.1
U32A				Sg	Sb	12 50 01.9	-0.5
KAN17	Caldwell West	0.64	46	Pg	Pg	12 49 54.3	-0.1
KAN17				Sg	Sg	12 50 03.1	+0.3
KAN08	Anthony NE Sta	0.69	25	Pg	Pg	12 49 55.2	-0.2
KAN13	South Haven SW	0.80	59	Pg	Pg	12 49 57.2	-0.3
BLOK	Blackwell	0.92	80	Pg	Pg	12 49 59.0	-0.7
OK029	Liberty Lake	1.08	138	Pg	Pb	12 50 00.7	-2.0
OK025	Westminster Rd	1.30	141	Pn	Pn	12 50 05.3	-0.9
OK031	S. Brethren Rd	1.38	118	Pn	Pn	12 50 06.9	-0.3
QUOK	Quay	1.39	108	Pn	Pn	12 50 06.8	-0.5
T35A	Sooner Cattle	1.50	77		Pn	12 50 08.7	-0.3
FNO	Franklin	1.54	150	Pn	Pn	12 50 09.6	+0.1
WMOK	Wichita Mounta	1.90	191	Pn	Pn	12 50 15.3	+0.9
WMOK					Sb	12 50 40.8	+0.4
X34A	Smith Ranch, M	2.04	168	Pn	Pb	12 50 18.1	-1.0
X37A	Clayton	3.15	129	Pn	Pn	12 50 33.0	+1.5
U38A	Gravette	3.19	92	IAmb_Lg		12 51 22.3	
	comp=Z,2.4nm,0.8s						
KSCO	Kaye Shedlock’	4.16	307	IAmb_Lg		12 52 02.8	
	comp=Z,18nm,0.7s						
L34A	Svendsen Farm,	5.57	15	IAmb_Lg		12 52 50.8	
	comp=Z,15nm,0.9s						
PV12	Saucer Basin,	8.49	285	IAmb_Lg		12 54 32.5	
	comp=Z,0.9nm,0.8s						

*SOME **03** 12:55:02.7, 37°.65N×78°.23E, h20km*
*IDC **03** 12:55:06.2±1.0, 37°.79N×77°.97E, h0km, mb3.7/9, mb1 3.8/14, mb1mx3.7/50, mbtmp3.7/14, ML3.5/6, MS4.1/3, Ms1 4.1/3, ms1mx2.9/58, Error ellipse: s-maj=22.6km s-min=18.5km az=54.0*
*NNC **03** 12:55:07.2±1.0, 37°.67N×78°.04E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=8.2km s-min=7.3km az=110.0*
*NEIC **03** 12:55:10.2±2.9, 37°.53N±0°.09×78°.1E±0°.1, h42km±10km, mb4.2/2, Error ellipse: s-maj=16.8km s-min=11.9km az=118.0*
ISC 03 12:55:08.7±0.7, 37°.66N±0°.05×77°.99E±0°.06, h17km, n73, σ2s55/84, mb3.7/9, MS4.3/3, 12C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KDJ	Kajisay	4.51	352	Pn	Pn	12 56 19.0	+2.6
BOOM	Boomskoye usch	5.08	343		Pn	12 56 27.1	+3.0
SATY	Saty	5.41	3	eP	Pb	12 56 45.9	+3.2
	19nm,0.4s						
SATY				eS	Sg	12 58 00.1	-2.0
	72nm,0.8s						
SATY	Saty	5.41	3	Pg	Pb	12 56 45.9	+3.2
	19nm,0.4s						
SATY				Lg	Lg	12 58 00.4	
	72nm,0.8s						
TNSS	Tian-Shan	5.43	352	Pg	Pb	12 56 45.8	+2.4
	20nm,0.6s						
TNSS				Lg	Lg	12 58 00.2	
	48nm,0.4s						
IZV	Izvestkoviy	5.47	349	eP	Pb	12 56 47.0	+3.1
	14nm,0.4s						
IZV				eS	Sg	12 58 02.2	-2.2
	40nm,0.5s						
IZV	Izvestkoviy	5.47	349	Pg	Pb	12 56 46.0	+2.0
	14nm,0.4s						
IZV				Lg	Lg	12 58 00.7	
	40nm,0.5s						
UZB	Uzynbulak	5.54	8	eP	Pb	12 56 47.2	+2.2
	11nm,0.6s						
UZB				eS	Sg	12 58 02.5	-4.0
	28nm,0.6s						
MDOK	Medeo	5.55	353	eP	Pb	12 56 47.6	+2.5
	14nm,0.6s						
MDOK				eS	Sg	12 58 03.4	-3.3
	30nm,0.6s						
MDOK	Medeo	5.55	353	⇑Pn	Pn	12 56 31.8	+1.2
	3.2nm,0.4s						
MDOK				⇓Pg	Pb	12 56 46.3	+1.2
	29nm,0.8s						
MDOK				⇑Lg	Lg	12 58 03.4	
	60nm,0.9s						
MDOK	Medeo	5.55	353	Pg	Pb	12 56 49.0	+3.9
	14nm,0.6s						
MDOK				Lg	Lg	12 58 04.2	
	30nm,0.6s						
NIL	Nilore	5.55	225		Pn	12 56 30.9	+0.2
TKM2	Tokmak 2	5.57	342	⇑Pn	Pn	12 56 32.3	+1.4
	5.0nm,0.5s						
TKM2				⇓Pg	Pb	12 56 48.0	+2.5
	19nm,1.1s						
TKM2				⇓Lg	Lg	12 58 03.4	
	35nm,0.8s						
DHRM	DHARAMSHALA	5.57	195	eP	Pn	12 56 30.9	-0.1
MTBS	Maitube	5.59	348	eP	Pb	12 56 49.6	+3.7
	9.0nm,0.8s						
MTBS				eS	Sg	12 58 06.5	-1.7
	25nm,0.3s						
MTBS	Maitube	5.59	348	Pg	Pb	12 56 49.8	+3.9
	9.0nm,0.8s						
MTBS				Lg	Lg	12 58 06.5	
	25nm,0.3s						
SHLS	Shalkode	5.61	11	eP	Pb	12 56 49.9	+3.8
	23nm,0.6s						
SHLS				eS	Sg	12 58 06.8	-1.8
	68nm,0.5s						
SHLS	Shalkode	5.61	11	Pg	Pb	12 56 50.3	+4.2
	23nm,0.6s						
SHLS				Lg	Lg	12 58 06.6	
	68nm,0.5s						
KNDC	Almaty	5.61	352	⇑Pg	Pb	12 56 49.2	+3.1
	42nm,0.6s						
KNDC				⇑Lg	Lg	12 58 06.0	
	191nm,0.9s						
KOTS	Kotyrbulak	5.61	353	eP	Pb	12 56 50.2	+3.9
	10nm,0.3s						
KOTS				eS	Sg	12 58 07.7	-1.0
	105nm,0.4s						
KOTS	Kotyrbulak	5.61	353	Pg	Pb	12 56 50.4	+4.2
	10nm,0.3s						
KOTS				Lg	Lg	12 58 08.2	
	105nm,0.4s						
AAK	Ala-Archa	5.65	333	Pn	Pn	12 56 34.6	+2.6
	2.5nm,0.3s,baz=145,slow=7.3,SNR=17						
AAK				Lg	Lg	12 58 06.4	
	3.6nm,0.3s,baz=356,slow=19,SNR=2.4						
AAK	Ala-Archa	5.65	333	⇑Pn	Pn	12 56 33.2	+1.2
	5.5nm,0.5s						
AAK				⇑Pg	Pb	12 56 49.7	+2.8
	16nm,0.7s						
AAK				⇑Lg	Lg	12 58 06.7	
	44nm,0.8s						
AAK	Ala-Archa	5.65	333		Pn	12 56 33.7	+1.7
PDGK	Podgornoye	5.78	11	Pg	Pb	12 56 50.3	+1.2
	6.6nm,0.6s						
PDGK				Lg	Lg	12 58 07.5	
	16nm,0.6s						
PDGK	Podgornoye	5.78	11	⇓Pn	Pn	12 56 34.6	+0.8
	9.6nm,0.6s						
PDGK				⇑Pg	Pb	12 56 51.5	+2.4
	17nm,0.7s						
PDGK				⇑Lg	Lg	12 58 06.4	
	31nm,0.6s						
DGS	Degeres	5.83	344	eP	Pb	12 56 54.3	+4.4
	18nm,0.4s						
DGS				eS	Sg	12 58 14.8	-0.9
	17nm,0.4s						
BTK	Batken	6.09	295	Pn	Pn	12 56 38.9	+0.9
KTBS	Karatobe	6.13	351	eP	Pb	12 56 57.7	+2.7
	7.3nm,0.4s						
KTBS				eS	Sg	12 58 20.6	-4.8
	52nm,0.3s						
KTBS	Karatobe	6.13	351	Pg	Pb	12 56 58.6	+3.6
	7.3nm,0.4s						
KTBS				Lg	Lg	12 58 20.7	
	52nm,0.3s						
CHKK	Chushkaly	6.24	353	eP	Pb	12 56 59.7	+2.9
	10nm,0.3s						
CHKK				eS	Sg	12 58 24.3	-4.5
	23nm,0.3s						
CHKK	Chushkaly	6.24	353	Pg	Pb	12 56 59.7	+2.9
	10nm,0.3s						
CHKK				Lg	Lg	12 58 22.9	
	23nm,0.3s						
KRBS	Karabastau	6.28	344	eP	Pb	12 57 00.6	+3.0
	14nm,0.4s						
KRBS				eS	Sg	12 58 25.6	-4.6
	12nm,0.4s						
KRBS	Karabastau	6.28	344	Pg	Pb	12 57 03.0	+5.3
	14nm,0.4s						
KRBS				Lg	Lg	12 58 28.1	
	12nm,0.4s						
SMLA	Simla	6.55	186	eP	Pn	12 56 42.5	-1.6
ARXS	Arharly	6.55	359	eP	Pb	12 57 05.2	+3.0
	29nm,0.3s						
ARXS				eS	Sg	12 58 33.4	-5.5
	19nm,0.4s						
ARXS	Arharly	6.55	359	Pg	Pb	12 57 05.9	+3.7
	29nm,0.3s						
ARXS				Lg	Lg	12 58 33.0	
	19nm,0.4s						
DJR	Jarkent	6.81	11	eP	Pb	12 57 08.4	+1.9
	0.6nm,0.6s						
DJR				eS	Sb	12 58 39.0	+11
	1.6nm,0.5s						
DJR	Jarkent	6.81	11	Pg	Pb	12 57 10.7	+4.1
	0.6nm,0.6s						
DJR				Lg	Lg	12 58 40.6	
	1.6nm,0.5s						
CHGR	Chuyangaron	7.03	281		Pn	12 56 52.1	+1.2
KBL	Kabul	7.88	249		Pn	12 57 01.7	-1.0
KK31	Karatay Array	7.88	316	⇓Pn	Pn	12 57 01.7	-0.9
	0.4nm,0.3s,baz=127,slow=12,SNR=7.3						
KK31				⇑Sn	Sn	12 58 34.4	+3.1
	1.1nm,0.3s						
KKAR	Karatay Array	7.88	316	Pn	Pn	12 57 02.7	+0.2
MAKZ	Makanchi	9.61	17	⇓Pn	Pn	12 57 26.2	0.0
	5.4nm,0.5s						
MAKZ	Makanchi	9.61	17		Pn	12 57 26.1	-0.1
MK31	Makanchi Array	9.67	18	Pn	Pn	12 57 26.4	-0.6
	2.0nm,0.5s,baz=204,slow=12,SNR=33						
MK31				⇓Sn	Sn	12 59 19.2	+4.0
	7.3nm,0.8s,baz=249,slow=44,SNR=3.0						
MK31	Makanchi Array	9.67	18		Pn	12 57 26.6	-0.4
MKAR	Makanchi Array	9.67	18	Pn	Pn	12 57 26.9	-0.1
	1.0nm,0.3s,baz=207,slow=14,SNR=28						
MKAR				Sn	Sn	12 59 12.3	-2.9
	0.5nm,0.3s,baz=188,slow=20,SNR=1.9						
MKAR	Makanchi Array	9.67	18		Pn	12 57 26.6	-0.4
OTUK	Ortayu	11.36	340	⇑Lg	Lg	13 01 11.3	
	13nm,1.1s						
KURBB	Kurchatov Arra	12.97	2	Pn	Pn	12 58 11.0	-1.1
	0.0nm,0.3s,baz=186,slow=12,SNR=6.6						
KURBB	Kurchatov Arra	12.97	2	⇓Lg	Lg	13 01 59.1	
	13nm,1.0s						
KURK	Kurchatov	13.06	2		Pn	12 58 11.0	-2.4
GEYT	Alibeck	15.72	277	Pn	Pn	12 58 50.7	+1.4
	0.5nm,0.3s,baz=251,slow=22,SNR=1.7						
BVAR	Borovoye Array	16.25	343	Pn	P	12 59 00.0	+1.0
	0.8nm,0.3s,baz=181,slow=15,SNR=11						
BRVK	Borovoye	16.31	343	Pn	Pn	12 58 57.6	+0.8
BRVK				IAmb	IAmb	12 59 02.2	
	comp=Z,13nm,1.2s						
ZALV	Zalesovo Beam	16.96	14	Pn	Pn	12 59 02.2	-2.7
	comp=Z,0.3nm,0.3s,baz=194,slow=12,SNR=6.2						
ABKAR	Akbulak array	17.44	317	Pn	Pn	12 59 10.1	-0.9
AKTO	Aktyubinsk	19.14	318	P	P	12 59 30.8	-0.2
	comp=Z,0.2nm,0.3s,baz=114,slow=10,SNR=7.4						
ARU	Arti	22.83	332	P	P	13 00 07.9	-2.7
	comp=Z,0.6nm,0.3s,baz=359,slow=8.7,SNR=3.1						
SONM	Songino Array	23.09	55	P	P	13 00 12.3	-1.3
	comp=Z,1.0nm,0.6s,baz=256,slow=10.0,SNR=6.9						
MMAI	Mount Meron Ar	34.83	275	LR	LR	13 18 02.9	
	comp=Z,158nm,21.4s,baz=200,slow=40						
FINES	FINESS Array B	39.76	324	P	P	13 02 39.7	-0.4
	comp=Z,1.5nm,0.4s,baz=115,slow=8.8,SNR=18						
ARCES	ARCESS Array B	42.31	336	P	P	13 03 00.3	-0.8
	comp=Z,2.9nm,1.0s,baz=48,slow=1.8,SNR=3.6						
ARCES	ARCESS Array B	42.31	336	IAmb	IAmb	13 03 20.5	
	comp=Z,13nm,1.5s						
NB2	NORSAR Subarra	46.86	322	P	P	13 03 36.1	-1.5
	comp=Z,1.2nm,0.6s,baz=89,slow=7.9						
NOA	NORSAR Array B	46.86	322	P	P	13 03 36.6	-0.9
	comp=Z,0.2nm,0.4s,baz=90,slow=7.7,SNR=3.9						
KEST	Kesra	53.92	290	LR	LR	13 32 44.8	
	comp=Z,267nm,21.0s,baz=184,slow=42						
FITZ	Fitzroy Crossi	71.30	132	LR	LR	13 37 42.3	
	comp=Z,270nm,21.9s,baz=14,slow=36						
TORD	Torodi Ar. Bea	71.30	272	P	P	13 06 25.9	-1.7
	comp=Z,0.4nm,0.6s,baz=42,slow=6.2,SNR=2.1						
ILAR	Eielson Array	72.02	19	P	P	13 06 29.2	-1.9
	comp=Z,0.7nm,0.8s,baz=312,slow=4.8,SNR=7.3						
WRA	Warramunga Arr	78.03	127	P	P	13 07 08.7	+2.3
	comp=Z,0.4nm,1.0s,baz=331,slow=6.7,SNR=1.6						
ASAR	Alice Springs	80.50	130	P	P	13 07 21.6	+1.6
	comp=Z,0.2nm,0.6s,baz=329,slow=6.9,SNR=4.1						

IDC 03 12:57:06.1±28.0, 12°.44N×46°.23E, h0km, mb3.9/3, mb1 3.9/3, mb1mx3.4/39, mbtmp3.9/3, Error ellipse: s-maj=625.6km s-min=266.3km az=65.0, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	45.73	34	P	P	13 05 29.0	-0.1
	1.4nm,0.8s,baz=231,slow=7.7,SNR=5.5						
ZALV	Zalesovo Beam	51.39	28	P	P	13 06 12.4	-0.1
	1.2nm,0.7s,baz=224,slow=6.0,SNR=3.6						
SONM	Songino Array	60.95	42	P	P	13 07 21.2	0.0
	0.9nm,0.9s,baz=253,slow=8.6,SNR=4.1						

ISC 03 13:04:52.3±1.0, 48°.82N±0°.09×18°.11E±0°.06, h10km, n10, σ0s55/10, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAVC	Velka Javorina	0.29	278	eSG	Sg	13 05 02.1	-0.1
JAVC	Velka Javorina	0.29	278	ePG	Pg	13 04 57.4	-0.8
KOLL	Kolacno	0.31	141	eSG	Sg	13 05 02.6	0.0
KOLL	Kolacno	0.31	141	ePG	Pg	13 04 58.7	+0.2
VYHS	Vyhne	0.58	124	eSG	Sg	13 05 10.6	-0.6
VYHS	Vyhne	0.58	124	ePG	Pg	13 05 02.8	-0.8
MORC	Moravsky Berou	1.03	339	eSG	Sn	13 05 27.6	+0.2
MORC	Moravsky Berou	1.03	339	ePG	Pb	13 05 12.3	0.0
VRAC	Vranov	1.11	297	eSG	Sb	13 05 28.6	+0.4
VRAC	Vranov	1.11	297	ePG	Pn	13 05 14.4	+0.5

*IDC **03** 13:23:05.0±2.2, 20°.11S×177°.74W, h529km±24km, mb3.4/8, mb1 3.6/9, mb1mx3.3/46, mbtmp4.3/9, Error ellipse: s-maj=22.7km s-min=21.7km az=111.0*
ISC 03 13:23:06.3±0.9, 19°.9S±0°.2×177°.8W±0°.1, h550km, n12, σ1s61/12, mb4.1/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.52	298	P	P	13 24 30.2	-2.1
	1.6nm,0.3s,baz=77,slow=22,SNR=9.0						
DZM	Mont Dzumac	14.89	259	P	P	13 26 17.3	+2.5
	0.8nm,0.3s,baz=95,slow=19,SNR=7.0						
CTA	Charters Tower	33.76	263	P	P	13 29 03.0	+0.1
	6.7nm,0.3s,baz=91,slow=12,SNR=46						
STKA	Stephens Creek	38.22	244	P	P	13 29 39.1	-0.5
	4.5nm,0.8s,baz=93,slow=11,SNR=9.8						
ASAR	Alice Springs	44.85	256	P	P	13 30 32.3	+0.2
	11nm,0.5s,baz=88,slow=9.3,SNR=4.1						
FITZ	Fitzroy Crossi	53.31	262	P	P	13 31 35.1	+0.5
	31nm,1.0s,baz=121,slow=12,SNR=1.5						
VNDA	Vanda	58.49	185	P	P	13 32 09.0	-0.4
	0.7nm,0.8s,baz=346,slow=7.8,SNR=5.1						
QSPA	South Pole Qui	70.13	180	P	P	13 33 22.5	-1.0
	2.9nm,0.7s,baz=281,slow=0.6,SNR=25						
TXAR	Lajitas Array	86.58	57	P	P	13 34 54.5	+2.6
	0.2nm,0.8s,baz=204,slow=5.9,SNR=3.7						
ILAR	Eielson Array	87.72	13	P	P	13 34 56.1	-0.2
	0.2nm,0.5s,baz=214,slow=4.4,SNR=1.6						
AKASG	Malin Array Be	142.62	332	PKP	PKPdf	13 41 35.3	-1.5
	1.2nm,0.6s,baz=43,slow=4.6,SNR=5.8						
BRTR	Keskin Array B	146.61	313	PKPbc	PKiKP	13 41 47.8	-1.2
	2.1nm,0.7s,baz=116,slow=3.4,SNR=3.3						

*BJI **03** 13:23:56.2±0.0, 1°.90N×126°.63E, h50km, mB5.2/68, mb5.4/90, Ms4.8/90, Ms7 4.8/88*
*NEIC **03** 13:23:58.1, 2°.09N×126°.70E, h51km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.25; $M_{\theta\theta}$-0.40; $M_{\phi\phi}$-1.85; $M_{r\theta}$-0.15; $M_{\theta\phi}$-0.59; $M_{\phi r}$-0.87; Fault plane solution: $M_0$2.34000×10^{17} NP1:ϕ_s196.18000°, δ56.15000°, λ86.43000°. NP2:ϕ_s22.57000°, δ34.01000°, λ95.30000°. Principal axes: T 2.4312, Plg79.0000°, Azm93.0000°; N -0.2032, Plg3.0000°, Azm198.0000°; P -2.2280, Plg11.0000°, Azm289.0000°;*
*MOS **03** 13:23:58.2±1.1, 2°.07N×126°.65E, h51km, mb5.8/71, MS4.6/11 Error ellipse: s-maj=6.9km s-min=3.9km az=113.9*
*IDC **03** 13:24:00.2±1.2, 2°.04N×126°.56E, h56km±10km, mb5.2/54, mb1 5.2/57, mb1mx5.2/62, mbtmp5.5/57, MS4.3/27, Ms1 4.3/27, ms1mx4.1/46, Error ellipse: s-maj=9.5km s-min=6.8km az=75.0*
*DJA **03** 13:24:00.2±0.2, 2°N±2°×12°7E±°, h63km±2km, M5.3/107, mB5.7/72, mb5.6/107, MLv5.6/13, Mw(mB)5.3/72, MwMwp5.2/27, Mwp5.4/27*
*GCMT **03** 13:24:00.7±0.1, 2°.20N±0°.01×126°.56E±0°.01, h44km, MW5.5/133, Moment Tensor Solution. s133,c242; s130,c227; Duration: 1s4 Moment tensor: Scale 10^{17} Nm; M_{rr}2.22±.03; $M_{\theta\theta}$-0.35±.02; $M_{\phi\phi}$-1.87±.03; $M_{r\theta}$-0.15±.03; $M_{\theta\phi}$-0.86±.02; $M_{\phi r}$-0.66±.03; Best double couple: $M_0$2.33800×10^{17} NP1:ϕ_s28.00000°, δ37.00000°, λ95.00000°. NP2:ϕ_s201.00000°, δ53.00000°, λ86.00000°. Principal axes: T 2.3240, Plg81.0000°, Azm92.0000°; N 0.0250, Plg3.0000°, Azm203.0000°; P -2.3520, Plg8.0000°, Azm294.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **03** 13:24:00.7±2.6, 2°.06N±0°.07×126°.68E±0°.03, h53km±1km,*

mb5.6/154, Mwb5.5/39, Mww5.5, Mwc5.5(GCMT) Error ellipse: s-maj=12.0km s-min=4.6km az=176.0
*NEIC **03** 13:24:00, 2.18N×126.71E, h46km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.02; $M_{\theta\theta}$-0.64; $M_{\phi\phi}$-1.39; $M_{r\theta}$-0.11; $M_{\theta\phi}$-0.17; $M_{\phi r}$-0.58; Fault plane solution: $M_0$1.89000×10^{17} NP1:ϕ_s12.00000°, δ35.00000°, λ90.00000°. NP2:ϕ_s192.00000°, δ54.00000°, λ90.00000°. Principal axes: T 2.1228, Plg81.0000°, Azm101.0000°; N -0.6034, Plg0.0000°, Azm192.0000°; P -1.5195, Plg9.0000°, Azm282.0000°;*
*KLM **03** 13:24:01, 2.17N×126.94E, h83km, mb5.7*
*NEIC **03** 13:24:03, 2.22N×126.59E, h45km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.23; $M_{\theta\theta}$-0.30; $M_{\phi\phi}$-1.93; $M_{r\theta}$-0.10; $M_{\theta\phi}$-0.89; $M_{\phi r}$-0.51; Fault plane solution: $M_0$2.33000×10^{17} NP1:ϕ_s27.00000°, δ39.00000°, λ95.00000°. NP2:ϕ_s201.00000°, δ51.00000°, λ86.00000°. Principal axes: T 2.2936, Plg83.0000°, Azm88.0000°; N 0.0795, Plg3.0000°, Azm203.0000°; P -2.3731, Plg6.0000°, Azm293.0000°;*
ISC 03 13:23:59.9±0.3, **2.06N**±0.02×**126.67E**±0.03, **h54**km±2km, **h54**km**:pP-P, n1095,** σ1.**47**/1187, **mb5.6**/242, **MS4.6**/74, **200C-53D, Fault plane solution: NP1:**ϕ_s3.41063°, δ44.75263°, λ75.08625°. **NP2:**ϕ_s203.96872°, δ47.13049°, λ104.31372°. **Principal axes:** T Plg79.4893°, Azm187.3706°; N Plg10.4395°, Azm14.1210°; P Plg1.2083°, Azm283.8983°; **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMI	**Galela, Maluku**	**1.14**	**101**	P	**Pn**	**13 24 18.0**	**-1.6**
GAMI				S	**Sn**	**13 24 32.3**	**-1.9**
TNTI	**Ternate**	**1.45**	**151**	Pn	**Pn**	**13 24 23.2**	**-0.7**
TNTI	**Ternate**	**1.45**	**151**	P	**Pn**	**13 24 23.1**	**-0.7**
TNTI				S	**Sn**	**13 24 41.4**	**-0.4**
MNI	**Manado**	**1.93**	**252**	P	**Pn**	**13 24 31.9**	**+1.7**
MNI	**Manado**	**1.93**	**252**	P	**Pn**	**13 24 32.0**	**+1.7**
SGSI	**Sangihe**	**1.98**	**325**	P	**Pn**	**13 24 30.9**	**-0.1**
GTOI	**Gorontalo**	**3.92**	**249**	P	**Pn**	**13 25 00.1**	**+2.5**
SANI	**Sanana**	**4.13**	**189**	P	**Pn**	**13 25 00.5**	**0.0**
MRSI	**Marisa**	**4.98**	**252**	P	**Pn**	**13 25 15.6**	**+3.5**
	9.1nm23µm26µm3µm,0.8s						
MRSI				S	**Sn**	**13 26 12.9**	**+4.5**
	9.1nm23µm26µm3µm,0.8s						
DAV	**Davao City (W)**	**5.10**	**348**	P	**Pn**	**13 25 18.0**	**+4.2**
	53nm,0.3s,baz=84,slow=15,SNR=1.8						
DAV				S	**Sn**	**13 26 15.6**	**+4.2**
	84nm,0.3s,baz=339,slow=14,SNR=1.3						
DAV				LR	LR	13 27 31.1	
	comp=Z,58nm,20.2s,baz=157,slow=41						
KCP	**Kidapawan**	**5.17**	**342**	⇑*i*P	**Pn**	**13 25 16.7**	**+1.9**
KCP				*i* S	**Sn**	**13 26 18.4**	**+5.3**
SWI	**Sorong**	**5.43**	**122**	P	**Pn**	**13 25 18.9**	**+0.6**
SWI				pmax	pmax		
	comp=Z,626nm,1.2s						
SWI	**Sorong**	**5.43**	**122**	P	**Pn**	**13 25 19.0**	**+0.6**
	comp=Z,2.5nmcomp=Z,32µmcomp=Z,8µmcomp=Z,625nm,1.2s						
SIJI	**Sorong**	**5.44**	**122**	P	**Pn**	**13 25 18.1**	**-0.4**
	comp=Z,32nm,0.3s,baz=314,slow=9.6,SNR=43						
SIJI	**Sorong**	**5.44**	**122**	P	**Pn**	**13 25 18.0**	**-0.4**
	comp=Z,0.9nmcomp=Z,17µmcomp=Z,3µmcomp=Z,225nm,1.1s						
KRAI	**Karang Ratu**	**5.61**	**162**	P	**Pn**	**13 25 23.6**	**+2.8**
	comp=Z,3.7nmcomp=Z,10µmcomp=Z,1µm,0.9s						
APSI	**Ampana**	**5.82**	**240**	P	**Pn**	**13 25 26.9**	**+3.2**
	comp=Z,12nmcomp=Z,11µmcomp=Z,24µmcomp=Z,3µm,1.1s						
MSAI	**Masohi**	**5.82**	**157**	P	**Pn**	**13 25 26.5**	**+2.8**
	comp=Z,0.6nmcomp=Z,1µmcomp=Z,138nm,0.6s						
TOLI2	**Tolitoli**	**5.96**	**261**		**Pn**	**13 25 26.6**	**+1.1**
BUKP	**Musuan**	**6.00**	**345**	⇓*e*P	**Pn**	**13 25 28.2**	**+2.0**
BIPH	**Bislig**	**6.10**	**357**	⇑*e*P	**Pn**	**13 25 29.9**	**+2.4**
BIPH				*e*S	**Sn**	**13 26 39.1**	**+3.2**
PAGZ	**Pagadian**	**6.62**	**330**	⇑*i*P	**Pn**	**13 25 35.9**	**+1.3**
ZCP	**Zamboanga City**	**6.67**	**317**	⇓*e*P	**Pn**	**13 25 36.2**	**+1.0**
ZCP				*i* S	**Sn**	**13 26 50.5**	**+0.6**
MPSI	**Mapaga**	**6.98**	**256**	P	**Pn**	**13 25 42.2**	**+2.6**
	comp=Z,3.4nmcomp=Z,28µmcomp=Z,8µmcomp=Z,986nm,1.1s						
DCPH	**Dipolog City**	**7.28**	**333**	⇑*e*P	**Pn**	**13 25 48.3**	**+4.7**
BNDI	**Bandanaira**	**7.29**	**154**	P	**Pn**	**13 25 44.8**	**+1.0**
	comp=Z,5.8nmcomp=Z,17µmcomp=Z,17µmcomp=Z,2µm,1.0s						
FAKI	**Fak Fak**	**7.45**	**132**	Pn	**Pn**	**13 25 46.6**	**+0.5**
FAKI	**Fak Fak**	**7.45**	**132**	P	**Pn**	**13 25 46.4**	**+0.3**
	comp=Z,1.2nmcomp=Z,23µmcomp=Z,4µmcomp=Z,309nm,1.0s						
KKSI	**Kolaka, Sulawe**	**7.96**	**219**	P	**Pn**	**13 25 54.8**	**+1.7**
	comp=Z,6µmcomp=Z,842nm,0.8s						
SNPH	**Sibulan**	**8.01**	**335**	*e*P	**Pn**	**13 25 57.1**	**+3.4**
SNPH				*e*S	Sn	13 26 26.3	-57
TTSI	**Tana Toraja**	**8.52**	**234**	P	**Pn**	**13 26 02.4**	**+1.7**
	comp=Z,10µmcomp=Z,6µmcomp=Z,639nm,0.9s						
LLP	**Lapu-Lapu**	**8.64**	**342**	*e*P	**Pn**	**13 26 03.1**	**+0.8**
CNOP	**Candoni, Negro**	**8.70**	**333**	⇓*i*P	**Pn**	**13 26 04.2**	**+1.0**
BNSI	**Bone**	**9.17**	**226**	P	**Pn**	**13 26 11.0**	**+1.4**
	comp=Z,9µmcomp=Z,4µmcomp=Z,361nm,0.7s						
PMSI	**Majene**	**9.51**	**235**	P	**Pn**	**13 26 16.3**	**+2.0**
	comp=Z,3µmcomp=Z,154nm,1.2s						
BKSI	**Bulukumba**	**9.82**	**222**	P	**Pn**	**13 26 19.6**	**+1.1**
	comp=Z,5µmcomp=Z,4µmcomp=Z,455nm,0.5s						
KAPI	**Kappang**	**9.85**	**225**	P	**Pn**	**13 26 18.9**	**0.0**
	comp=Z,12nm,0.3s,baz=67,slow=6.6,SNR=44						
KAPI				S	**Sn**	**13 28 09.1**	**+1.0**
	baz=90,slow=20,SNR=1.0						
KAPI				LR	LR	13 30 54.3	
	comp=Z,2µm,21.0s,baz=96,slow=42						
KAPI	**Kappang**	**9.85**	**225**	P	**Pn**	**13 26 20.4**	**+1.5**
KAPI	**Kappang**	**9.85**	**225**	Pn	**Pn**	**13 26 20.4**	**+1.5**
KAPI	**Kappang**	**9.85**	**225**	P	**Pn**	**13 26 20.5**	**+1.6**
KAPI	**Kappang**	**9.85**	**225**	P	**Pn**	**13 26 18.8**	**-0.1**
	comp=Z,2µmcomp=Z,195nm,1.1s						
BAKI	**Biak**	**9.97**	**109**	P	**Pn**	**13 26 22.0**	**+1.4**
	comp=Z,21µmcomp=Z,2µm,1.3s						
MKS	**Makassar**	**10.19**	**225**	P	**Pn**	**13 26 24.5**	**+0.9**
	comp=Z,3µmcomp=Z,338nm,0.8s						
RCP	**Roxas**	**10.21**	**338**	⇑*e*P	**Pn**	**13 26 27.4**	**+3.5**
BSSI	**Bau Bau, Buton**	**10.21**	**217**	P	**Pn**	**13 26 24.7**	**+0.8**
	comp=Z,3µmcomp=Z,5µmcomp=Z,522nm,0.5s						
SPMM	**Sapulut**	**10.52**	**285**	P	**Pn**	**13 26 31.0**	**+2.9**
SAUI	**Saumlaki**	**10.99**	**155**	P	**Pn**	**13 26 35.2**	**+0.7**
	comp=Z,8µmcomp=Z,518nm,1.2s						
MMRI	**Maumere**	**11.50**	**203**	P	**Pn**	**13 26 43.5**	**+2.0**
	comp=Z,4µmcomp=Z,6µmcomp=Z,306nm,0.8s						
KBKI	**Kotabaru**	**11.77**	**243**	P	**Pn**	**13 26 46.1**	**+1.0**
	comp=Z,1µmcomp=Z,190nm,1.0s						
EDFI	**Ende, Flores**	**11.82**	**205**	P	**Pn**	**13 26 47.6**	**+1.6**
	comp=Z,3µmcomp=Z,2µmcomp=Z,153nm,1.0s						
SOEI	**Soe**	**11.97**	**191**	Pn	**Pn**	**13 26 50.2**	**+2.1**
SOEI	**Soe**	**11.97**	**191**	P	**Pn**	**13 26 51.2**	**+3.1**
	comp=Z,7µmcomp=Z,9µmcomp=Z,1µm,0.9s						
MTKI	**Muara Teweh, K**	**12.14**	**256**	P	**Pn**	**13 26 52.1**	**+1.8**
	comp=Z,6µmcomp=Z,60nm,0.8s						
PGP	**Puerto Galera**	**12.70**	**334**	⇑*e*P	**Pn**	**13 26 59.6**	**+1.7**
JCNP	**Jose Panganiba**	**12.77**	**342**	⇑*e*P	**P**	**13 27 05.0**	**-3.3**
LQP	**Lukban**	**13.01**	**337**	⇓*e*P	**Pn**	**13 27 03.7**	**+1.4**
BBKI	**Banjar Baru**	**13.03**	**245**	P	**Pn**	**13 27 04.7**	**+2.3**
	comp=Z,9µmcomp=Z,115nm,1.3s						
LUBP	**Lubang**	**13.23**	**332**	⇓*i*P	**Pn**	**13 27 06.7**	**+1.7**
TGY	**Tagaytay City**	**13.24**	**335**	⇑*e*P	**Pn**	**13 27 01.5**	**-3.9**
WSI	**Waingapu**	**13.26**	**208**	P	**Pn**	**13 27 06.6**	**+1.0**
PKKI	**Palangkaraya**	**13.39**	**251**	P	**Pn**	**13 27 09.0**	**+1.7**
	comp=Z,3µmcomp=Z,248nm,1.1s						
BASI	**Baing, Sumba**	**13.62**	**206**	P	**Pn**	**13 27 11.7**	**+1.3**
WBSI	**Waikabubak, Su**	**13.69**	**212**	P	**Pn**	**13 27 12.9**	**+1.4**
	comp=Z,4µmcomp=Z,655nm,0.9s						
PLAI	**Plampang**	**13.98**	**219**	P	**Pn**	**13 27 17.4**	**+2.1**
	comp=Z,4µmcomp=Z,596nm,0.9s						
GENI	**Genyem**	**14.26**	**109**	P	**Pn**	**13 27 19.1**	**0.0**
	comp=Z,10µmcomp=Z,12µmcomp=Z,1µm,1.0s						
SBUM	**Sibu**	**14.44**	**272**	P	**P**	**13 27 26.0**	**-0.9**
TWSI	**Taliwang, Sumb**	**14.49**	**222**	P	**P**	**13 27 25.1**	**-2.4**
	comp=Z,7µmcomp=Z,992nm,0.9s						
PCPH	**Palayan**	**14.50**	**338**	⇑*e*P	**Pn**	**13 27 23.1**	**+0.9**
JAY	**Jayapura**	**14.75**	**108**	P	**P**	**13 27 28.0**	**-2.3**
	comp=Z,11nm,0.3s,baz=272,slow=7.0,SNR=24						
JAY	**Jayapura**	**14.75**	**108**	P	**Pn**	**13 27 25.9**	**+0.4**
	comp=Z,3µmcomp=Z,2µmcomp=Z,154nm,0.9s						
KHKI	**Kahang-Kahang**	**15.12**	**227**	P	**Pn**	**13 27 31.5**	**+1.2**
SRBI	**Singaraja**	**15.23**	**228**	P	**Pn**	**13 27 33.3**	**+1.6**
	comp=Z,4µmcomp=Z,480nm,0.8s						
STKI	**Sintang**	**15.31**	**263**	P	**Pn**	**13 27 34.5**	**+1.7**
	comp=Z,4µmcomp=Z,136nm,1.2s						
MTN	**Manton Dam**	**15.45**	**163**	P	**Pn**	**13 27 32.6**	**-1.9**
	baz=15,SNR=223						
MTN	**Manton Dam**	**15.45**	**163**	Pn	**Pn**	**13 27 32.6**	**-1.9**
MTN				IAmb	IAmb	13 27 39.2	
	comp=Z,254nm,0.8s						
KMMI	**Kalianget**	**15.57**	**234**	P	**Pn**	**13 27 37.0**	**+0.9**
	comp=Z,11µmcomp=Z,2µm,0.9s						
DNP	**Denpasar**	**15.62**	**227**	P	**P**	**13 27 42.9**	**+2.9**
DNP				pmax	pmax		
	comp=Z,3µm,1.2s						
DNP	**Denpasar**	**15.62**	**227**	P	**Pn**	**13 27 37.3**	**+0.5**
	comp=Z,25µmcomp=Z,3µm,1.1s						
PBKI	**Pangkalan Bun**	**15.72**	**253**	P	**Pn**	**13 27 39.1**	**+1.1**
	comp=Z,3µmcomp=Z,252nm,1.0s						
KDU	**Kakadu**	**15.74**	**159**	P	**Pn**	**13 27 36.6**	**-1.6**
	baz=16,SNR=184						
ABJI	**Asem Bagus**	**15.80**	**232**	P	**Pn**	**13 27 40.0**	**+1.0**
	comp=Z,4µmcomp=Z,4µmcomp=Z,451nm,1.1s						
JAGI	**Jajag, Banyuwa**	**16.28**	**230**		**P**	**13 27 49.0**	**+1.6**
JAGI	**Jajag, Banyuwa**	**16.28**	**230**	P	**P**	**13 27 46.6**	**-0.7**
	comp=Z,7µmcomp=Z,972nm,1.1s						
KSM	**Kuching**	**16.36**	**268**	P	**P**	**13 27 50.0**	**+1.7**
APYP	**Conner**	**16.59**	**342**	⇑*e*P	**Pn**	**13 27 48.6**	**-0.4**
GRJI	**Gresik**	**16.73**	**238**	P	**Pn**	**13 27 51.0**	**+0.2**
	comp=Z,163nm,1.0s						
SIPP	**Brgy, Tapao**	**16.91**	**339**	⇓*e*P	Pn	13 27 40.8	-12
MMPI	**Merauke**	**17.21**	**128**	P	**P**	**13 27 57.4**	**-0.2**
	comp=Z,9µmcomp=Z,479nm,0.9s						
TBJI	**Tambak Boyo**	**17.22**	**239**	P	**P**	**13 27 57.7**	**0.0**
	comp=Z,259nm,0.9s						
KRKI	**Karangkates**	**17.43**	**234**	P	**P**	**13 28 00.9**	**+0.8**
	comp=Z,20µmcomp=Z,1µm,1.1s						
KNRA	**Kununurra**	**17.74**	**173**	P	**Pn**	**13 28 02.1**	**-1.1**
	baz=18,SNR=313						
KNRA	**Kununurra**	**17.74**	**173**	P	**Pn**	**13 28 02.6**	**-0.6**
KNRA				IAmb	IAmb	13 28 03.5	
	comp=Z,460nm,0.8s						
SJI	**Sawahan**	**17.76**	**237**	P	**P**	**13 28 04.5**	**+0.7**
	comp=Z,4µmcomp=Z,317nm,1.2s						
PWJI	**Pagerwojo**	**17.89**	**236**	P	**P**	**13 28 05.6**	**+0.5**
	comp=Z,3µmcomp=Z,397nm,0.8s						
PCJI	**Pacitan**	**18.50**	**236**	P	**Pn**	**13 28 13.3**	**+0.8**
	comp=Z,4µmcomp=Z,270nm,1.1s						
SMRI	**Semarang**	**18.55**	**241**	P	**Pn**	**13 28 13.2**	**+0.1**
	comp=Z,309nm,0.9s						
UGM	**Wanagama**	**18.90**	**238**	P	**P**	**13 28 16.7**	**+0.4**
UGM				IAmb	IAmb	13 28 56.5	
	comp=Z,239nm,0.8s						
UGM	**Wanagama**	**18.90**	**238**	P	**Pn**	**13 28 17.9**	**+0.5**
	comp=Z,216nm,0.8s						
YOGI	**Yogyakarta**	**19.05**	**239**	P	**Pn**	**13 28 19.3**	**+0.2**
	comp=Z,350nm,0.8s						
TPI	**Tanjungpandan**	**19.60**	**256**	P	**P**	**13 28 24.4**	**+0.5**
	comp=Z,1µmcomp=Z,118nm,1.2s						
CTJI	**Waduk Cacaban**	**19.64**	**243**	P	**P**	**13 28 23.9**	**-0.4**
	comp=Z,1µmcomp=Z,122nm,0.9s						
KPJI	**Karang Pucung**	**20.00**	**242**	P	**P**	**13 28 28.0**	**-0.3**
	comp=Z,4µmcomp=Z,535nm,0.9s						
FITZ	**Fitzroy Crossi**	**20.05**	**183**	P	**P**	**13 28 27.7**	**-1.1**
	baz=20,SNR=247						
FITZ	**Fitzroy Crossi**	**20.05**	**183**	P	**P**	**13 28 27.6**	**-1.1**
	comp=Z,70nm,0.8s,baz=18,slow=9.5,SNR=115						
FITZ				S	**S**	**13 32 07.8**	**-3.6**
	comp=Z,8.7nm,0.7s,baz=151,slow=19,SNR=1.1						
FITZ	**Fitzroy Crossi**	**20.05**	**183**	P	**P**	**13 28 28.1**	**-0.7**
JCJI	**Jatiwangi**	**20.23**	**245**	P	**P**	**13 28 30.7**	**-0.1**
	comp=Z,246nm,0.9s						
CMJI	**Cimerak**	**20.64**	**242**	P	**P**	**13 28 32.6**	**-2.5**
	comp=Z,155nm,0.9s						
PPBI	**Pangkal Pinang**	**20.95**	**259**	P	**P**	**13 28 38.6**	**0.0**
	comp=Z,3µmcomp=Z,7µmcomp=Z,228nm,1.0s						
LEM	**Lembang**	**20.96**	**245**	P	**P**	**13 28 37.4**	**-1.5**
	comp=Z,70nm,0.8s,baz=72,slow=8.7,SNR=9.2						
LEM				LR	LR	13 37 17.4	
	comp=Z,1µm,20.9s,baz=62,slow=38						
LEM	**Lembang**	**20.96**	**245**	P	**P**	**13 28 37.4**	**-1.5**
	comp=Z,1µmcomp=Z,115nm,1.2s						
MANU	**Manus Island**	**21.09**	**101**	P	**P**	**13 28 38.7**	**-1.4**
CISI	**Cisompet, Garu**	**21.09**	**243**	P	**P**	**13 28 40.7**	**+0.5**
CISI	**Cisompet, Garu**	**21.09**	**243**	P	**P**	**13 28 38.3**	**-1.9**
	comp=Z,1µmcomp=Z,118nm,0.9s						
GUMO	**Guam**	**21.34**	**57**	P	**P**	**13 28 39.0**	**-3.7**
	comp=Z,24nm,0.5s,baz=200,slow=8.8,SNR=2.4						
GUMO	**Guam**	**21.34**	**57**	P	**P**	**13 28 40.9**	**-1.8**
GUMO				pmax	pmax		
	comp=Z,429nm,1.5s						
GUMO	**Guam**	**21.34**	**57**	P	**P**	**13 28 40.9**	**-1.8**
GUMO				IAmb	IAmb	13 28 48.4	
	comp=Z,429nm,1.4s						
TWG	**Pinlang**	**21.34**	**346**	P	**P**	**13 28 40.2**	**-2.5**
TWG				IAmb	IAmb	13 28 47.9	
	comp=Z,125nm,0.6s						
CBJI	**Citeko**	**21.50**	**247**	P	**P**	**13 28 43.5**	**-1.0**
	comp=Z,334nm,0.9s						
CNJI	**Cibinong**	**21.60**	**244**	P	**P**	**13 28 45.5**	**0.0**
	comp=Z,2µmcomp=Z,232nm,1.1s						
DBJI	**Dramaga**	**21.64**	**247**	P	**P**	**13 28 46.7**	**+0.7**
	comp=Z,96nm,0.9s						
YULB	**Yu-li**	**21.84**	**347**	P	**P**	**13 28 43.8**	**-4.2**
TPUB	**Ta-pu**	**21.92**	**345**	P	**P**	**13 28 45.8**	**-3.0**
TPUB				IAmb	IAmb	13 28 52.1	
	comp=Z,319nm,1.1s						
SKJI	**Sukabumi**	**22.00**	**246**	P	**P**	**13 28 49.6**	**-0.2**
	comp=Z,262nm,0.9s						
SBJI	**Serang**	**22.06**	**248**	P	**P**	**13 28 51.1**	**+0.7**
	comp=Z,348nm,1.2s						
SSLB	**Suanglung**	**22.30**	**346**	P	**P**	**13 28 50.1**	**-2.9**
NACB	**Ninganchiao**	**22.53**	**348**	P	**P**	**13 28 52.5**	**-2.9**
YOJ	**Yonaguni jima**	**22.55**	**351**	P	**P**	**13 28 54.8**	**-0.8**
YOJ				pmax	pmax		
	comp=Z,150nm,0.8s						
YOJ	**Yonaguni jima**	**22.55**	**351**	P	**P**	**13 28 54.8**	**-0.8**
YOJ				IAmb	IAmb	13 29 07.0	
	comp=Z,150nm,0.8s						
BLSI	**Bandar Lampung**	**22.63**	**251**	P	**P**	**13 28 55.0**	**-1.6**
	comp=Z,414nm,0.8s						
COEN	**Coen**	**22.82**	**135**	P	**P**	**13 28 56.0**	**-2.6**
BTDF	**Bukit Timah Da**	**22.89**	**269**	P	**P**	**13 28 58.4**	**-1.0**
	comp=Z,2µmcomp=Z,1µmcomp=Z,139nm,1.1s						
YHNB	**Yeheng**	**23.06**	**348**	P	**P**	**13 28 59.8**	**-1.1**
YHNB				IAmb	IAmb	13 29 28.0	
	comp=Z,217nm,1.3s						
WRAB	**Tennant Creek**	**23.12**	**161**	*ce*P	**P**	**13 28 59.7**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,528nm,1.7s						
WRAB	**Tennant Creek**	**23.12**	**161**	P	**P**	**13 28 59.3**	**-2.2**
WRAB				IAmb	IAmb	13 29 15.6	
	comp=Z,219nm,0.8s						
WRA	**Warramunga Arr**	**23.12**	**161**	P	**P**	**13 29 00.2**	**-1.3**
	comp=Z,236nm,0.6s,baz=343,slow=12,SNR=582						
WRA				S	**S**	**13 33 06.6**	**-2.4**
	comp=Z,15nm,0.7s,baz=336,slow=21,SNR=5.0						
WRA				P3KPbc		14 02 30.9	
	comp=Z,1.2nm,0.8s,baz=145,slow=3.1,SNR=7.6						
WRA	**Warramunga Arr**	**23.12**	**161**	*i* P	**P**	**13 28 59.7**	**-1.8**
WRA				pmax	pmax		
	comp=Z,237nm,0.6s						
WB2	**Warramunga Arr**	**23.12**	**161**	P	**P**	**13 29 00.2**	**-1.3**
WB2				IAmb	IAmb	13 29 17.5	
	comp=Z,235nm,0.7s						
WR0	**Warramunga Arr**	**23.20**	**161**	P	**P**	**13 29 01.1**	**-1.3**
WR0				IAmb	IAmb	13 29 29.1	
	comp=Z,210nm,1.0s						
TATO	**Taipei**	**23.33**	**348**	P	**P**	**13 29 03.0**	**-0.4**
KASI	**Kota Agung**	**23.39**	**251**	P	**P**	**13 29 03.8**	**-0.4**
	comp=Z,3µmcomp=Z,453nm,0.9s						
MDSI	**Maura Dua**	**23.39**	**254**	P	**P**	**13 29 02.7**	**-1.5**
	comp=Z,896nmcomp=Z,111nm,1.1s						
QIZ	**Qiongzhong**	**23.58**	**317**	P	**P**	**13 29 05.3**	**-0.6**
QIZ				sP	**sP**	**13 29 24.0**	**-0.8**
QIZ				S	**S**	**13 33 19.7**	**+3.2**
QIZ				pmax	pmax		
	comp=Z,120nm,0.9s						
QIZ				pmax	pmax		
	comp=Z,430nm,5.0s						
QIZ				LR	LR		
	comp=Z,2µm,22.6s						
QIZ				LR	LR		
	comp=Z,1µm,25.7s						
QIZ				LR	LR		
	comp=Z,2µm,26.1s						
LWLI	**Liwa**	**23.65**	**253**	P	**P**	**13 29 04.4**	**-2.4**
	comp=Z,5µmcomp=Z,458nm,0.8s						
LHSI	**Lahat**	**23.86**	**256**	P	**P**	**13 29 09.5**	**+0.9**
	comp=Z,3µmcomp=Z,261nm,0.9s						
JMZ	**Minamidaito 2**	**24.03**	**10**	P	**P**	**13 29 08.9**	**-1.1**
JMZ				IAmb	IAmb	13 29 15.8	
	comp=Z,186nm,0.8s						
QZH	**Quanzhou**	**24.05**	**342**	⇑*i*P	**P**	**13 29 08.8**	**-1.4**
QZH				S	**S**	**13 33 19.9**	**-4.0**
QZH				pmax	pmax		
	comp=Z,47nm,0.9s						
QZH				pmax	pmax		
	comp=Z,380nm,3.6s						
QZH				LR	LR		
	comp=Z,2µm,27.5s						
QZH				LR	LR		
	comp=Z,950nm,22.7s						
QZH				LR	LR		
	comp=Z,4µm,30.3s						
JRMM	**Jerantut**	**24.23**	**275**	P	**P**	**13 29 12.0**	**+0.1**
PSA00	**Pilbara Seismi**	**24.41**	**196**	P	**P**	**13 29 13.2**	**-0.2**
PSA00	**Pilbara Seismi**	**24.41**	**196**	P	**P**	**13 29 13.3**	**-0.2**
PSA00				IAmb	IAmb	13 29 20.6	
	comp=Z,60nm,1.1s						
RGRI	**Rengat**	**24.45**	**265**	P	**P**	**13 29 15.1**	**+1.2**
JOW	**Kunigami**	**24.68**	**3**	P	**P**	**13 29 17.1**	**+1.2**
	comp=Z,303nm,0.8s,baz=199,slow=7.5,SNR=101						
JOW	**Kunigami**	**24.68**	**3**	P	**P**	**13 29 17.4**	**+1.4**
MASI	**Maura Aman, Be**	**24.96**	**258**	P	**P**	**13 29 19.8**	**+1.1**
	comp=Z,5µmcomp=Z,663nm,1.0s						
UBSI	**University, Be**	**25.06**	**257**	P	**P**	**13 29 21.1**	**+1.6**
	comp=Z,377nm,0.8s						
EGSI	**Enggano, Bengk**	**25.45**	**253**	P	**P**	**13 29 24.8**	**+1.7**
	comp=Z,177nm,1.1s						
BKNI	**Bangkinang**	**25.68**	**266**	P	**P**	**13 29 24.8**	**-0.4**
	comp=Z,3µmcomp=Z,2µmcomp=Z,220nm,1.1s						
IPM	**Ipoh**	**25.71**	**276**	P	**P**	**13 29 25.0**	**-0.5**
QIS	**Mount Isa**	**25.80**	**151**	P	**P**	**13 29 25.4**	**-0.8**
	baz=26,SNR=212						
KULM	**Kulim**	**26.16**	**278**	P	**P**	**13 29 29.0**	**-0.5**
PDSI	**Padang**	**26.37**	**264**	P	**P**	**13 29 32.1**	**+0.7**
	comp=Z,2µmcomp=Z,565nmcomp=Z,35nm,1.1s						
AS31	**Alice Springs**	**26.52**	**165**	P	**P**	**13 29 32.1**	**-0.6**
ASAR	**Alice Springs**	**26.52**	**165**	P	**P**	**13 29 31.6**	**-1.1**
	comp=Z,31nm,0.5s,baz=349,slow=6.6,SNR=129						
ASAR				PcP	**PcP**	**13 32 56.6**	**+0.1**
	comp=Z,14nm,0.8s,baz=20,slow=3.1,SNR=4.0						
ASAR				S	**S**	**13 34 11.2**	**+7.9**
	comp=Z,16nm,0.8s,baz=349,slow=22,SNR=6.6						
ASAR				LR	LR	13 42 05.0	
	comp=Z,1µm,21.6s,baz=349,slow=41						
ASAR	**Alice Springs**	**26.52**	**165**	P	**P**	**13 29 32.0**	**-0.7**
ASAR						13 32 57.3	
ASAR	**Alice Springs**	**26.52**	**165**	P	**P**	**13 29 32.0**	**-0.7**
ASAR					**PcP**	**13 32 57.3**	**+0.8**
MTSU	**Mount Surprise**	**26.54**	**140**	P	**P**	**13 29 32.7**	**-0.2**
	baz=27,SNR=82						
SKNT	**Sakolnakorn**	**26.78**	**305**	P	**P**	**13 29 34.5**	**-0.6**
	comp=Z,79nm,1.1s						
SKNT	**Sakolnakorn**	**26.78**	**305**	P	**P**	**13 29 34.0**	**-1.1**
	comp=Z,79nm,1.1s						
WRKA	**Warakurna**	**26.98**	**177**	P	**P**	**13 29 36.3**	**-0.4**
	baz=27,SNR=456						
SRAK	**Srakaew**	**27.08**	**297**	P	**P**	**13 29 33.5**	**-4.3**
	comp=Z,5µmcomp=Z,530nm,0.9s						
MNSI	**Mandailing Nat**	**27.11**	**268**	P	**P**	**13 29 38.5**	**+0.4**
	comp=Z,1µmcomp=Z,64nm,0.9s						
GIRL	**Giralia**	**27.38**	**206**	P	**P**	**13 29 41.5**	**+1.1**
	baz=27,SNR=19						
GIRL	**Giralia**	**27.38**	**206**	P	**P**	**13 29 41.4**	**+1.1**
TRTT	**Trang**	**27.47**	**283**	P	**P**	**13 29 42.8**	**+1.5**
	comp=Z,29nm,1.0s						
TRTT	**Trang**	**27.47**	**283**	P	**P**	**13 29 42.0**	**+0.7**
	comp=Z,29nm,1.0s						
RPSI	**Rantau Prapat**	**27.73**	**272**	P	**P**	**13 29 43.3**	**-0.3**
PSI	**Prapat**	**27.73**	**272**	P	**P**	**13 29 42.3**	**-1.4**
	comp=Z,28nm,0.7s,baz=173,slow=0.2,SNR=20						
PSI				S	**S**	**13 34 20.1**	**-2.8**
	comp=Z,3.9nm,0.8s,baz=180,slow=20,SNR=1.5						
PSI	**Prapat**	**27.73**	**272**	P	**P**	**13 29 43.3**	**-0.5**
PSI				pmax	pmax		
	comp=Z,60nm,0.9s						
PSI	**Prapat**	**27.73**	**272**	P	**P**	**13 29 42.0**	**-1.8**
	comp=Z,365nmcomp=Z,37nm,1.2s,comp=Z,2µm,1.2s, comp=Z,739nm,1.2s,comp=Z,76nm,1.2s						
PSI				P	**P**	**13 29 42.4**	**-1.4**
	comp=Z,365nmcomp=Z,37nm,1.2s,comp=Z,2µm,1.2s, comp=Z,739nm,1.2s,comp=Z,76nm,1.2s						
SURA	**Surathani**	**27.80**	**286**	P	**P**	**13 29 47.7**	**+3.5**
	comp=Z,31nm,0.9s						
SURA	**Surathani**	**27.80**	**286**	P	**P**	**13 29 47.8**	**+3.5**
	comp=Z,30nm,0.9s						
CHAI	**Chaiyaphum**	**27.94**	**301**	P	**P**	**13 29 45.0**	**-0.4**
	comp=Z,997nmcomp=Z,111nm,0.7s						
CHAI	**Chaiyaphum**	**27.94**	**301**	P	**P**	**13 29 45.0**	**-0.4**
	comp=Z,248nmcomp=Z,28nm,0.7s						
NONG	**Nongkai**	**28.03**	**306**	P	**P**	**13 29 45.2**	**-1.0**
	comp=Z,218nm,0.9s						
NONG	**Nongkai**	**28.03**	**306**	P	**P**	**13 29 45.3**	**-1.0**
	comp=Z,220nm,0.9s						
SURT	**Suratani**	**28.56**	**285**	P	**P**	**13 29 53.2**	**+2.2**
	comp=Z,1.1nm,1.0s						
SURT	**Suratani**	**28.56**	**285**	P	**P**	**13 29 53.3**	**+2.2**
	comp=Z,1.1nm,1.0s						
PKDT	**Phuket**	**28.80**	**283**	P	**P**	**13 29 53.0**	**-0.2**
	comp=Z,35nm,0.8s						
PKDT	**Phuket**	**28.80**	**283**	P	**P**	**13 29 53.0**	**-0.2**
	comp=Z,35nm,0.8s						
PHET	**Kaeng Krachan**	**28.86**	**293**	P	**P**	**13 29 54.6**	**+1.0**
	comp=Z,549nmcomp=Z,63nm,0.9s						
PHET	**Kaeng Krachan**	**28.86**	**293**	P	**P**	**13 29 54.7**	**+1.0**
	comp=Z,141nmcomp=Z,16nm,0.9s						
JCJ	**Chichijima**	**29.00**	**29**	P	**P**	**13 29 53.8**	**-1.0**
	comp=Z,154nm,0.8s,baz=270,slow=22,SNR=14						
JCJ	**Chichijima**	**29.00**	**29**	P	**P**	**13 29 53.7**	**-1.0**
JCJ				IAmb	IAmb	13 30 03.7	
	comp=Z,203nm,0.9s						
GSI	**Gunungsitoli**	**29.09**	**269**	P	**P**	**13 29 56.0**	**+0.3**
GSI				IAmb	IAmb	13 29 58.0	
	comp=Z,130nm,1.0s						
GSI	**Gunungsitoli**	**29.09**	**269**	P	**P**	**13 29 54.4**	**-1.3**
	comp=Z,139nm,0.9s						
CTA	**Charters Tower**	**29.21**	**140**	P	**P**	**13 29 55.8**	**-1.0**
	comp=Z,35nm,0.9s,baz=324,slow=12,SNR=23						
CTA				LR	LR	13 43 15.4	
	comp=Z,2µm,20.8s,baz=330,slow=40						
CTAO	**Charters Tower**	**29.21**	**140**	P	**P**	**13 29 56.7**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,69nm,0.9s						
CTAO	**Charters Tower**	**29.21**	**140**	P	**P**	**13 29 56.7**	**-0.1**
SLVN	**Son La**	**29.30**	**313**	P	**P**	**13 29 57.3**	**-0.3**
SSE	**Sheshan**	**29.35**	**350**	P	**P**	**13 29 59.0**	**+1.3**
SSE				S	**S**	**13 34 49.0**	**+1.4**
SSE				pmax	pmax		
	comp=Z,28nm,0.9s						
SSE				pmax	pmax		
	comp=Z,130nm,6.9s						
SSE				LR	LR		
	comp=Z,240nm,22.2s						
SSE				LR	LR		
	comp=Z,140nm,20.4s						
TPTI		**29.48**	**273**	P	**P**	**13 29 59.3**	**+0.1**
	comp=Z,18nm,1.3s						
JSU	**Suzuyama**	**29.51**	**7**	P	**P**	**13 29 59.4**	**+0.1**
MEEK	**Meekatharra**	**29.57**	**195**	P	**P**	**13 29 59.4**	**-0.4**
	baz=30,SNR=63						
PHIT	**Phitsanulok**	**29.86**	**302**	P	**P**	**13 30 02.9**	**+0.4**
	comp=Z,3µmcomp=Z,279nm,0.9s						
PHIT	**Phitsanulok**	**29.86**	**302**	P	**P**	**13 30 03.0**	**+0.4**
	comp=Z,722nmcomp=Z,69nm,0.9s						
UTHA	**Uthaitani**	**30.00**	**298**	P	**P**	**13 30 04.0**	**+0.3**
	comp=Z,468nmcomp=Z,57nm,0.7s						
UTHA	**Uthaitani**	**30.00**	**298**	P	**P**	**13 30 04.1**	**+0.3**
	comp=Z,116nmcomp=Z,14nm,0.7s						
UTTA	**Uttaradit**	**30.00**	**303**	P	**P**	**13 30 04.0**	**+0.3**
	comp=Z,509nmcomp=Z,63nm,0.8s						
UTTA	**Uttaradit**	**30.00**	**303**	P	**P**	**13 30 04.1**	**+0.3**
	comp=Z,127nmcomp=Z,16nm,0.8s						
KHLT	**Khaolaem Dam**	**30.47**	**296**	P	**P**	**13 30 09.7**	**+1.8**
	comp=Z,1µmcomp=Z,32nm,0.6s						
KHLT	**Khaolaem Dam**	**30.47**	**296**	P	**P**	**13 30 09.7**	**+1.8**
	comp=Z,1µmcomp=Z,32nm,0.6s						
WHN	**Wuhan**	**30.64**	**339**	P	**P**	**13 30 09.8**	**+0.6**
WHN				S	**S**	**13 35 07.0**	**-1.0**
WHN				pmax	pmax		
	comp=Z,97nm,0.9s						
WHN				LR	LR		
	comp=Z,2µm,20.5s						
WHN				LR	LR		
	comp=Z,2µm,17.3s						
WHN				LR	LR		
	comp=Z,6µm,31.2s						
NJ2	**Nanjing**	**30.73**	**347**	⇑P	**P**	**13 30 11.3**	**+1.3**
NJ2				pP	**pP**	**13 30 21.9**	**-1.1**
NJ2				sP	**sP**	**13 30 28.4**	**-0.7**
NJ2				S	**S**	**13 35 12.3**	**+3.0**
NJ2				SS	**SnSn**	**13 36 54.5**	**+2.5**
NJ2				pmax	pmax		

comp=Z,42nm,0.9s
NJ2 pmax pmax
comp=Z,320nm,4.3s
NJ2 LR LR
comp=Z,790nm,23.5s
NJ2 LR LR
comp=Z,750nm,22.7s
NJ2 LR LR
comp=Z,1μm,22.7s
UMPA Umpang Tak 30.78 299 P **P** **13 30 11.0 +0.4**
comp=Z,427nmcomp=Z,43nm,0.7s
UMPA Umpang Tak 30.78 299 P **P** **13 30 11.1 +0.4**
comp=Z,106nmcomp=Z,11nm,0.7s
GYA Guiyang 30.95 323 ⇓P **P** **13 30 12.1 -0.1**
GYA PcP **PcP** **13 33 09.0 +1.3**
GYA S **S** **13 35 10.0 -3.2**
GYA pmax pmax
comp=Z,27nm,1.2s
GYA LR LR
comp=Z,750nm,24.9s
GYA LR LR
comp=Z,470nm,17.2s
GYA LR LR
comp=Z,1μm,32.2s
LAMP Lampang 31.14 304 P **P** **13 30 14.6 +0.8**
comp=Z,570nmcomp=Z,69nm,0.9s
LAMP Lampang 31.14 304 P **P** **13 30 14.6 +0.8**
comp=Z,142nmcomp=Z,17nm,0.9s
JNU Nakatsue 31.16 7 P **P** **13 30 14.1 +0.3**
JNU IAmb IAmb 13 30 16.0
comp=Z,94nm,0.9s
CM36 Chiang Mai Arr 31.59 303 P **P** **13 30 17.0 -0.8**
CM35 Chiang Mai Arr 31.62 303 P **P** **13 30 18.0 0.0**
CM04 Chiang Mai Arr 31.63 303 P **P** **13 30 18.9 +0.7**
comp=Z,243nmcomp=Z,26nm,0.9s
CM04 Chiang Mai Arr 31.63 303 P **P** **13 30 18.9 +0.7**
comp=Z,243nmcomp=Z,26nm,0.9s
CM09 Chiang Mai Arr 31.64 303 P **P** **13 30 19.0 +0.7**
comp=Z,259nmcomp=Z,40nm,0.8s
CM09 Chiang Mai Arr 31.64 303 P **P** **13 30 19.0 +0.7**
comp=Z,259nmcomp=Z,40nm,0.8s
CM01 Chiang Mai Arr 31.66 303 P **P** **13 30 19.1 +0.7**
comp=Z,203nmcomp=Z,26nm,0.8s
CM01 Chiang Mai Arr 31.66 303 P **P** **13 30 19.2 +0.8**
comp=Z,203nmcomp=Z,26nm,0.8s
CM05 Chiang Mai Arr 31.66 303 P **P** **13 30 19.2 +0.8**
comp=Z,175nmcomp=Z,22nm,1.0s
CM05 Chiang Mai Arr 31.66 303 P **P** **13 30 19.2 +0.8**
comp=Z,175nmcomp=Z,22nm,1.0s
CM02 Chiang Mai Arr 31.68 303 P **P** **13 30 19.2 +0.7**
comp=Z,293nmcomp=Z,48nm,0.9s
CM02 Chiang Mai Arr 31.68 303 P **P** **13 30 19.3 +0.7**
comp=Z,293nmcomp=Z,48nm,0.9s
CM31 Chiang Mai Arr 31.69 303 P **P** **13 30 19.4 +0.8**
comp=Z,7μmcomp=Z,856nm,0.8s
CM31 Chiang Mai Arr 31.69 303 P **P** **13 30 17.8 -0.9**
CM31 Chiang Mai Arr 31.69 303 P **P** **13 30 19.8 +1.1**
CMAR Chiang Mai Arr 31.69 303 P **P** **13 30 18.0 -0.7**
comp=Z,19nm,0.9s,baz=111,slow=6.9,SNR=96
CMAR PcP **PcP** **13 33 11.6 +1.9**
comp=Z,5.1nm,0.9s,baz=116,slow=3.3,SNR=4.0
CMAR PKiKP **PKiKP** **13 40 38.9 +0.1**
comp=Z,1.0nm,0.8s,baz=278,slow=1.2,SNR=6.1
CMAR LR LR 13 43 52.0
comp=Z,323nm,19.3s,baz=178,slow=38
CMAR Chiang Mai Arr 31.69 303 *i* P **P** **13 30 18.7 0.0**
CMAR pmax pmax
comp=Z,19nm,0.9s
CMAR Chiang Mai Arr 31.69 303 P **P** **13 30 17.8 -0.9**
CM34 Chiang Mai Arr 31.70 304 P **P** **13 30 18.0 -0.8**
CM15 Chiang Mai Arr 31.70 303 P **P** **13 30 19.4 +0.7**
comp=Z,278nmcomp=Z,44nm,0.8s
CM15 Chiang Mai Arr 31.70 303 P **P** **13 30 19.5 +0.7**
comp=Z,278nmcomp=Z,44nm,0.8s
CM13 Chiang Mai Arr 31.70 303 P **P** **13 30 19.4 +0.7**
comp=Z,208nmcomp=Z,30nm,0.9s
CM13 Chiang Mai Arr 31.70 303 P **P** **13 30 19.5 +0.7**
comp=Z,208nmcomp=Z,30nm,0.9s
CMMT Chiang Mai 31.85 303 P **P** **13 30 19.8 -0.3**
comp=Z,606nmcomp=Z,77nm,0.7s
CMMT Chiang Mai 31.85 303 P **P** **13 30 19.8 -0.3**
comp=Z,606nmcomp=Z,77nm,0.7s
CMMT Chiang Mai 31.85 303 P **P** **13 30 20.2 +0.1**
comp=Z,576nmcomp=Z,74nm,0.7s
CM33 Chiang Mai Arr 31.86 303 P **P** **13 30 19.0 -1.1**
CHTO Chiang Mai 31.86 303 P **P** **13 30 20.3 +0.2**
CHTO pmax pmax
comp=Z,51nm,0.8s
CHTO Chiang Mai 31.86 303 P **P** **13 30 19.9 -0.2**
comp=Z,619nmcomp=Z,77nm,0.8s
CHTO Chiang Mai 31.86 303 P **P** **13 30 20.3 +0.2**
CHTO Chiang Mai 31.86 303 P **P** **13 30 20.4 +0.2**
CHTO Chiang Mai 31.86 303 P **P** **13 30 20.3 +0.2**
comp=Z,347nmcomp=Z,43nm,0.8s
CM32 Chiang Mai Arr 31.86 303 P **P** **13 30 20.0 -0.2**
JMN Monobe 32.23 11 P **P** **13 30 22.4 -0.8**
JMN IAmb IAmb 13 30 25.2
comp=Z,90nm,0.9s
JTU Tsushima 32.40 4 P **P** **13 30 23.0 -1.7**
JTU IAmb IAmb 13 30 27.5
comp=Z,74nm,1.0s
MHMT Maesarieng 32.42 302 P **P** **13 30 25.7 +0.6**
comp=Z,980nmcomp=Z,81nm,0.9s
MHMT Maesarieng 32.42 302 P **P** **13 30 25.0 -0.1**
comp=Z,980nmcomp=Z,81nm,0.9s
ENH Enshi 32.45 332 IAmb IAmb 13 30 31.5
comp=Z,88nm,0.8s
KMI Kunming 32.53 317 ⇑P **P** **13 30 26.4 +0.2**
KMI pP pP 13 30 38.5 -0.9
KMI sP sP 13 30 45.3 -0.2
KMI S **S** **13 35 37.3 -0.8**
KMI sS sS 13 36 00.9 +0.9
KMI pmax pmax
comp=Z,55nm,1.0s
KMI pmax pmax
comp=Z,150nm,4.1s
KMI LR LR
comp=Z,670nm,24.1s
KMI LR LR
comp=Z,1μm,22.4s
KMI LR LR
comp=Z,2μm,28.2s
MORW Morawa 32.58 197 P **P** **13 30 26.1 -0.2**
baz=33,SNR=47
FORT Forrest 32.68 178 P **P** **13 30 26.7 -0.4**
baz=33,SNR=220
KSBUS Busan 33.10 4 P **P** **13 30 31.5 +0.7**
SNR=9.7
KSBUS Busan 33.10 4 P **P** **13 30 31.5 +0.7**
SNR=9.7
KSBUS Busan 33.10 4 P **P** **13 30 31.5 +0.7**
SNR=9.7
QLP Quilpie 33.14 150 P **P** **13 30 30.1 -1.1**
baz=33,SNR=26
JHS Saijyo 33.32 10 IAmb IAmb 13 30 56.7
comp=Z,96nm,1.1s
KSUSN Ulsan 33.56 4 P **P** **13 30 36.9 +2.1**
SNR=6.3
KSUSN Ulsan 33.56 4 P **P** **13 30 36.9 +2.1**
SNR=6.3
KSUSN Ulsan 33.56 4 P **P** **13 30 36.9 +2.1**
SNR=6.3
KSDAG Daegu 33.61 3 P **P** **13 30 36.0 +0.8**
SNR=11
KSDAG Daegu 33.61 3 P **P** **13 30 36.0 +0.8**
SNR=11
KSDAG Daegu 33.61 3 P **P** **13 30 36.0 +0.8**
SNR=11
BLDU Ballidu 33.85 196 P **P** **13 30 37.2 -0.1**
baz=34,SNR=12
JWT Wachi 34.04 13 P **P** **13 30 39.4 +0.4**
JWT PcP **PcP** **13 33 17.6 +1.8**
TJN Taejon 34.16 1*ce*P **P** **13 30 40.8 +0.9**
KSEUS ULSEONG 34.18 3 P **P** **13 30 42.6 +2.5**
SNR=18
KSEUS ULSEONG 34.18 3 P **P** **13 30 42.6 +2.5**
SNR=18
KSEUS ULSEONG 34.18 3 P **P** **13 30 42.6 +2.5**
SNR=18
KSSAJ Sangju 34.21 2 P **P** **13 30 41.4 +1.0**
SNR=9.0
KSSAJ Sangju 34.21 2 P **P** **13 30 41.4 +1.0**
SNR=9.0
KSSAJ Sangju 34.21 2 P **P** **13 30 41.4 +1.0**
SNR=9.0
KSADO Andong 34.25 3 P **P** **13 30 44.6 +3.9**
SNR=6.2
KSADO Andong 34.25 3 P **P** **13 30 44.6 +3.9**
SNR=6.2
KSBON Boeun 34.29 2 P **P** **13 30 42.5 +1.4**
SNR=59
KSBON Boeun 34.29 2 P **P** **13 30 42.5 +1.4**
SNR=59
KSBON Boeun 34.29 2 P **P** **13 30 42.5 +1.4**
SNR=59
KSMGY Mungyeong 34.45 2 P **P** **13 30 43.7 +1.2**
SNR=25
KSMGY Mungyeong 34.45 2 P **P** **13 30 43.7 +1.2**
SNR=25
KSMGY Mungyeong 34.45 2 P **P** **13 30 43.7 +1.2**
SNR=25
KSCHJ Chungju 34.67 2 P **P** **13 30 46.0 +1.6**
SNR=30
KSCHJ Chungju 34.67 2 P **P** **13 30 46.0 +1.6**
SNR=30
KSCHJ Chungju 34.67 2 P **P** **13 30 46.0 +1.6**
SNR=30
KSSWO Suwon 35.04 0 P **P** **13 30 49.6 +2.1**
SNR=20
KSSWO Suwon 35.04 0 P **P** **13 30 49.6 +2.1**
SNR=20
KSSWO Suwon 35.04 0 P **P** **13 30 49.3 +1.7**
SNR=11
KSICN Icheon 35.07 1 P **P** **13 30 49.7 +1.9**
SNR=11
KSICN Icheon 35.07 1 P **P** **13 30 49.8 +1.9**
SNR=8.3
TIA Tai'an 35.12 347 ⇑P **P** **13 30 48.0 -0.3**
TIA S S 13 36 08.0 -9.4
TIA pmax pmax
comp=Z,12nm,0.8s
TIA pmax pmax
comp=Z,200nm,3.4s
TIA LR LR
comp=Z,380nm,17.7s
TIA LR LR
comp=Z,610nm,20.6s
TIA LR LR
comp=Z,880nm,28.4s
KSAR Wonju Array Be 35.23 2 P **P** **13 30 49.9 +0.7**
KSAR 13 33 20.4
KSAR Wonju Array Be 35.23 2 P **P** **13 30 49.9 +0.7**
KSAR PcP **PcP** **13 33 20.4 +1.2**
KSRS Korea Array 35.25 2 P **P** **13 30 50.0 +0.7**
comp=Z,40nm,0.8s,baz=179,slow=9.8,SNR=164
KSRS PcP **PcP** **13 33 20.1 +0.8**
comp=Z,11nm,0.9s,baz=180,slow=3.3,SNR=10
KSRS LR LR 13 49 03.0
comp=Z,293nm,18.0s,baz=172,slow=43
INCN Inchon 35.26 360 P **P** **13 30 51.4 +1.9**
KSSEO Seoul 35.26 0 P **P** **13 30 51.4 +1.9**
SNR=7.7
KSSEO Seoul 35.26 0 P **P** **13 30 51.7 +2.2**
SNR=7.7
KSSEO Seoul 35.26 0 P **P** **13 30 51.4 +1.9**
SNR=7.7
KSSEO Seoul 35.26 0 P **P** **13 30 51.7 +2.2**
SNR=7.7
MUN Mundaring 35.27 195 P **P** **13 30 49.5 -0.1**
baz=35,SNR=24
KS19 Wonju Array Si 35.29 2 P **P** **13 30 50.2 +0.5**
KS19 IAmb IAmb 13 30 56.2
comp=Z,44nm,0.8s
KSGAH Ganghwa 35.48 360 P **P** **13 30 53.8 +2.4**
SNR=8.5
KSGAH Ganghwa 35.48 360 P **P** **13 30 53.8 +2.4**
SNR=8.5
RMQ Roma 35.50 145 P **P** **13 30 50.7 -0.9**
baz=36,SNR=34
KSCHC Chuncheon 35.57 2 P P 13 30 57.0 +4.9
SNR=5.7
KSCHC Chuncheon 35.57 2 P P 13 30 57.0 +4.9
SNR=5.7
DACB Daecheong-do R 35.65 357 P **P** **13 30 55.0 +2.2**
SNR=11
DACB Daecheong-do R 35.65 357 P **P** **13 30 55.0 +2.2**
SNR=11
KSMUS Musan 35.66 0 P **P** **13 30 56.4 +3.6**
SNR=12
KSIJA INJE 35.78 2 P P 13 31 00.6 +6.6
SNR=8.0
KSBAR Backryungdo 35.80 357 P **P** **13 30 56.7 +2.7**
SNR=7.9
KSBAR Backryungdo 35.80 357 P **P** **13 30 56.7 +2.7**
SNR=7.9
BBOO Buckleboo 35.80 166 P **P** **13 30 53.3 -0.8**
baz=36,SNR=35
BBOO Buckleboo 35.80 166 IAmb IAmb 13 30 55.5
comp=Z,132nm,1.1s
BBOO PcP **PcP** **13 33 21.5 +0.5**
XAN Xi'an 35.88 334 P **P** **13 30 54.0 -0.9**
XAN S **S** **13 36 24.5 -4.8**
XAN SS **SnSn** **13 38 48.9 -8.0**
XAN pmax pmax
comp=Z,53nm,0.9s
XAN LR LR
comp=Z,880nm,22.0s
XAN LR LR
comp=Z,920nm,19.2s
XAN LR LR
comp=Z,1μm,22.9s
NWAO Narrogin (SRO) 35.92 194 P **P** **13 30 55.4 +0.2**
baz=36,SNR=52
NWAO Narrogin (SRO) 35.92 194 P **P** **13 30 55.3 +0.1**
comp=Z,39nm,0.6s,baz=27,slow=8.0,SNR=73
NWAO Narrogin (SRO) 35.92 194 IAmb IAmb 13 31 02.4
comp=Z,147nm,1.4s
NWAO Narrogin (SRO) 35.92 194 P **P** **13 30 55.9 +0.7**
MJAR Matsushiro Arr 35.94 16 P **P** **13 30 54.2 -1.1**
comp=Z,54nm,0.9s,baz=185,slow=8.9,SNR=65
MJAR PcP **PcP** **13 33 22.0 +0.6**
comp=Z,11nm,0.9s,baz=155,slow=2.3,SNR=5.4
MJAR ScP **ScP** **13 37 04.2 +0.9**
comp=Z,6.5nm,1.1s,baz=177,slow=3.8,SNR=6.7
MJAR Matsushiro Arr 35.94 16 P **P** **13 30 54.0 -1.4**
MJAR IAmb IAmb 13 30 57.1
comp=Z,50nm,0.9s
MJAR PcP **PcP** **13 33 23.0 +1.6**
MAJO Matsushiro 35.94 16*c* *i*P **P** **13 30 54.4 -0.9**
MAJO pmax pmax
comp=Z,74nm,0.9s
MAJO Matsushiro 35.94 16 P **P** **13 30 54.8 -0.5**
MAJO IAmb IAmb 13 30 56.9
comp=Z,76nm,0.9s
MAT Matsushiro 35.94 16 P **P** **13 30 54.2 -1.1**
MAT S **S** **13 36 27.6 -2.4**
CD2 Chengdu 35.96 325 ⇑*i*P **P** **13 30 54.6 -1.1**
CD2 pP pP 13 31 08.2 -0.8
CD2 sP sP 13 31 13.2 -1.9
CD2 PP **PnPn** **13 32 17.3 -0.5**
CD2 S **S** **13 36 31.2 +0.6**
CD2 pmax pmax
comp=Z,60nm,1.2s
CD2 pmax pmax
comp=Z,260nm,5.3s
CD2 LR LR
comp=Z,3μm,30.4s
CD2 LR LR
comp=Z,2μm,27.4s
CD2 LR LR
comp=Z,2μm,31.9s
EIDS Eidsvold 36.09 141 P **P** **13 30 55.7 -1.1**
baz=36,SNR=35
STKA Stephens Creek 36.60 158 P **P** **13 31 00.1 -1.0**
baz=37,SNR=61
STKA Stephens Creek 36.60 158 P **P** **13 31 00.2 -0.8**
comp=Z,74nm,0.7s,baz=334,slow=8.4,SNR=69
STKA PcP **PcP** **13 33 23.9 +0.5**
comp=Z,24nm,1.0s,baz=338,slow=2.3,SNR=4.5
STKA LR LR 13 47 38.9
comp=Z,902nm,21.7s,baz=346,slow=39
STKA Stephens Creek 36.60 158 P **P** **13 31 00.4 -0.6**
STKA PcP **PcP** **13 33 24.0 +0.5**
DL2 Dalian 36.97 353 ⇓*i*P **P** **13 31 05.6 +1.6**
DL2 S **S** **13 36 46.4 +0.9**
DL2 pmax pmax
comp=Z,200nm,0.8s
DL2 pmax pmax
comp=Z,250nm,11.8s
DL2 LR LR
comp=Z,930nm,14.5s
DL2 LR LR
comp=Z,780nm,17.2s
DL2 LR LR
comp=Z,1μm,16.4s
HTT Hallett 37.14 163 P **P** **13 31 05.1 -0.5**
baz=37,SNR=22
TIY Taiyuan 37.82 341 *e*P **P** **13 31 11.4 0.0**
TIY PP **PnPn** **13 32 41.5 +1.2**
TIY S **S** **13 36 54.1 -4.6**
TIY sS **sS** **13 37 25.6 +4.7**
TIY pmax pmax
comp=Z,54nm,0.5s
TIY pmax pmax
comp=Z,200nm,4.8s
TIY LR LR
comp=Z,520nm,14.4s
TIY LR LR
comp=Z,140nm,9.2s
TIY LR LR
comp=Z,3μm,33.6s
JMM Marumori 37.93 18 PcP **PcP** **13 33 28.3 +1.0**
CMSA Cobar Meteorol 37.98 153 P **P** **13 31 12.3 -0.4**
baz=38,SNR=68
LKP Lekhapani 38.76 313 *e*P **P** **13 31 17.7 -1.7**
BJT Baijiatuan 38.97 347 P **P** **13 31 21.1 +0.2**
BJT pmax pmax
comp=Z,80nm,0.8s
BJT Baijiatuan 38.97 347 P **P** **13 31 21.1 +0.2**
BJT IAmb IAmb 13 31 23.7
comp=Z,80nm,0.8s
BJI Beijing 38.99 347 P **P** **13 31 21.0 -0.1**
BJI pP **pP** **13 31 31.6 -2.7**
BJI sP **pwP** **13 31 36.1 -1.0**
BJI PcP **PcP** **13 33 31.3 +0.7**
BJI ScP **S** **13 37 15.8 -0.4**
BJI S **ScP** **13 37 16.8 +2.2**
BJI pmax pmax
comp=Z,130nm,0.9s
BJI LR LR
comp=Z,470nm,13.9s
BJI LR LR
comp=Z,440nm,12.2s
BJI LR LR
comp=Z,730nm,20.0s
KOHI KOHIMA 39.18 310 *e*P **P** **13 31 21.6 -1.4**
KOHI IAmb IAmb 13 31 23.7
comp=Z,98nm,0.8s
KOHI *i*S **S** **13 37 20.0 +0.2**
SNY Shenyang 39.69 356 ⇑P **P** **13 31 27.3 +0.4**
SNY pP **pwP** **13 31 42.6 -0.2**
SNY S **S** **13 37 29.0 +2.4**
SNY pmax pmax
comp=Z,43nm,1.0s
SNY pmax pmax
comp=Z,480nm,4.2s
SNY LR LR
comp=Z,750nm,24.4s
SNY LR LR
comp=Z,630nm,21.8s
SNY LR LR
comp=Z,1μm,24.5s
SILR SILCHAR 39.72 308 *e*P **P** **13 31 27.4 0.0**
LZH Lanzhou 39.91 331 ⇑P **P** **13 31 29.2 +0.1**
LZH pP pP 13 31 42.8 +0.4
LZH sP sP 13 31 50.0 +1.5
LZH PP **PnPn** **13 33 06.2 +0.8**
LZH PcP **PcP** **13 33 35.5 +1.6**
LZH PcS **PcS** **13 37 24.9 +0.6**
LZH S **S** **13 37 30.1 -0.4**
LZH sS sS 13 37 50.7 -2.1
LZH SS **SS** **13 40 23.1 -5.8**
LZH pmax pmax
comp=Z,98nm,1.3s
LZH pmax pmax
comp=Z,380nm,5.2s
LZH LR LR
comp=Z,1μm,14.3s
LZH LR LR
comp=Z,2μm,14.5s
LZH LR LR
comp=Z,2μm,16.8s
ARMA Armidale 40.12 146 P **P** **13 31 30.9 +0.1**
baz=40,SNR=59
ARMA Armidale 40.12 146 P **P** **13 31 30.6 -0.1**
ARMA PcP **PcP** **13 33 34.9 +0.4**
ITAN ITANAGAR 40.23 311 *e*P **P** **13 31 31.1 -0.5**
ITAN IAmb IAmb 13 31 32.1
comp=Z,316nm,1.2s
MSHR Mys Shultsa 40.55 5*c* *i*P **P** **13 31 35.3 +1.4**
MSHR pmax pmax
comp=Z,111nm,0.9s
AGT Agartala 40.55 305 *e*P **P** **13 31 34.8 +0.5**
AGT IAmb IAmb 13 31 35.7
comp=Z,979nm,2.0s
SHL Shillong 40.83 308 P **P** **13 31 35.8 -1.0**
SHL pmax pmax
comp=Z,171nm,0.9s
SHL Shillong 40.83 308 P **P** **13 31 35.8 -1.0**
SHL IAmb IAmb 13 31 37.3
comp=Z,171nm,0.9s
SHL Shillong 40.83 308 *e*P **P** **13 31 36.3 -0.5**
SHL IAmb IAmb 13 31 36.8
comp=Z,212nm,1.2s
SHL Shillong 40.83 308 P **P** **13 31 36.1 -0.7**
HHC Hu-ho-hao-te 40.96 342 *e*P **P** **13 31 37.8 +0.2**
HHC S **S** **13 37 46.2 +0.3**
HHC pmax pmax
comp=Z,33nm,0.8s
HHC pmax pmax
comp=Z,340nm,4.1s
HHC LR LR
comp=Z,1μm,15.2s
HHC LR LR
comp=Z,630nm,16.7s
HHC LR LR
comp=Z,3μm,14.1s
ARPS Mount Arapiles 41.13 161 P **P** **13 31 38.9 +0.1**
baz=41,SNR=39
BTO Baotou 41.23 341 *e*P **P** **13 31 40.8 +1.1**
YNG Young 41.53 152 P **P** **13 31 42.6 +0.4**
baz=42,SNR=9.3
CN2 Changchun 41.58 359 *e*P **P** **13 31 41.9 -0.5**
CN2 PP **PP** **13 33 20.4 +1.0**
CN2 S **S** **13 37 54.5 -0.2**
CN2 SS **SS** **13 40 58.1 -3.4**
CN2 pmax pmax
comp=Z,10.0nm,1.4s
CN2 pmax pmax
comp=Z,300nm,9.0s
CN2 LR LR
comp=Z,400nm,25.0s
CN2 LR LR
comp=Z,600nm,25.0s
CN2 LR LR
comp=Z,600nm,28.0s
USA0B Ussuriysk Arra 42.23 6*c* *i*P **P** **13 31 48.5 +0.8**
USRK Ussuriysk Ar. 42.23 6 P **P** **13 31 48.5 +0.7**
comp=Z,177nm,0.8s,baz=190,slow=7.1,SNR=275
USRK LR LR 13 50 45.9
comp=Z,214nm,21.1s,baz=188,slow=38
ERM Erimo 42.45 18*ce*P **P** **13 31 50.8 +1.3**
ERM pmax pmax
comp=Z,64nm,1.0s
ERM Erimo 42.45 18 P **P** **13 31 49.5 0.0**
MDJ Mudanjiang 42.46 3 P **P** **13 31 50.5 +0.9**
MDJ pP pP 13 32 03.6 +0.6
MDJ sP sP 13 32 08.4 -0.6
MDJ S **S** **13 38 09.9 +2.2**
MDJ pmax pmax
comp=Z,80nm,1.0s
MDJ pmax pmax
comp=Z,370nm,9.7s
MDJ LR LR
comp=Z,880nm,24.2s
MDJ LR LR
comp=Z,340nm,22.7s
MDJ LR LR
comp=Z,2μm,23.5s
MDJ Mudanjiang 42.46 3 IAmb IAmb 13 31 53.4
comp=Z,79nm,1.0s
H11S3 WAKE ISLAND Hy 42.48 65 T T 14 17 25.6
baz=252,slow=75,SNR=56
H11S2 WAKE ISLAND Hy 42.49 65 T T 14 17 24.4
baz=252,slow=75,SNR=7.5
H11S1 WAKE ISLAND Hy 42.49 65 T T 14 17 25.6
baz=252,slow=75,SNR=4.9

CAN Canberra 42.66 153 P P 13 31 52.0 +0.6
CAN pmax pmax
comp=Z,424nm,1.8s
CAN Canberra 42.66 153 P P 13 31 52.0 +0.6
CNB Canberra Magne 42.82 152 P P 13 31 52.9 +0.2
baz=43,SNR=4.4
TOO Toolangi 43.12 158 P P 13 31 55.8 +0.7
baz=43,SNR=7.1
TOO Toolangi 43.12 158 P P 13 31 55.8 +0.7
TOO pmax pmax
comp=Z,152nm,1.5s
TOO Toolangi 43.12 158 P P 13 31 55.8 +0.7
TOO lAmb lAmb 13 31 58.2
comp=Z,152nm,1.5s
TEY Ternei 43.69 10|| *e*P P 13 31 59.5 0.0
TEY pmax pmax
comp=Z,130nm,0.8s
TEY pmax pmax
comp=N,70nm,0.8s
TEY pmax pmax
comp=Z,100nm,2.1s
SANVU Saraoutou 43.70 115 P P 13 32 00.4 +0.4
SANVU lAmb lAmb 13 32 01.3
comp=Z,135nm,1.0s
MILA Mila 44.16 154 P P 13 32 04.1 +0.6
baz=44,SNR=4.7
ASAJ Asahikawa 44.20 16 P P 13 32 04.6 +0.9
comp=Z,58nm,0.9s,baz=236,slow=13,SNR=26
JKA Kamikawa-asahi 44.20 16 P P 13 32 04.0 +0.3
GTK Tadong 44.25 308 *e*P P 13 32 03.8 -0.7
GTK lAmb lAmb 13 32 05.6
comp=Z,60nm,0.8s
GTA Gaotai 44.50 330 ⇑P P 13 32 05.8 -0.5
GTA pP pP 13 32 18.0 -1.9
GTA sP pwP 13 32 23.4 +1.1
GTA PcP **PP 13 33 50.5 -0.5**
GTA S **S 13 38 35.3 -2.7**
GTA sS sS 13 38 58.0 -2.5
GTA SS **SS 13 41 50.6 -8.6**
GTA ScS **ScS 13 41 59.7 -0.1**
GTA pmax pmax
comp=Z,20nm,1.0s
GTA pmax pmax
comp=Z,190nm,6.9s
GTA LR LR
comp=Z,900nm,24.4s
GTA LR LR
comp=Z,1μm,24.3s
GTA LR LR
comp=Z,2μm,24.2s
BOK Bokaro 44.97 302 *e*P P 13 32 09.6 -0.6
BOK lAmb lAmb 13 32 11.3
comp=Z,22nm,0.8s
YUK Yuzh-Kuril'sk 45.14 20 *e*P P 13 32 03.4 -7.7
YUK *e* 13 34 00.8
YUK *e*PPP PPP 13 34 44.2
YUK *e*S **S 13 38 46.0 -0.7**
YUK *e*SSS SSS 13 43 03.7
YUK pmax pmax
comp=Z,259nm,1.1s
YUK pmax pmax
comp=N,58nm,0.3s
YUK pmax pmax
comp=E,91nm,1.0s
DZM Mont Dzumac 45.64 124 *e*P P 13 32 14.9 -0.7
comp=E,231nm,1.2s
DZM *e*S **S 13 38 56.7 +1.8**
comp=E,1μm,34.1s
DZM *e*LR LR 13 45 01.0
comp=E,4μm,32.1s
DZM Mont Dzumac 45.64 124 P P 13 32 15.4 -0.2
comp=E,64nm,1.1s,baz=294,slow=5.5,SNR=24
DZM Mont Dzumac 45.64 124 lAmb lAmb 13 32 16.7
comp=Z,150nm,1.3s
RAMN Ramite 45.67 307 *e*P P 13 32 15.9 -0.1
comp=Z,82nm,0.7s
LIFNC LIFOU 45.75 122 P P 13 32 16.0 -0.3
OUENC Ouen Island, N 46.13 124 lAmb lAmb 13 32 22.5
comp=Z,93nm,1.4s
JIRN Jiri 46.31 307 *e*P P 13 32 20.4 -0.7
comp=Z,112nm,0.7s
PINNC Pines Island, 46.71 124 lAmb lAmb 13 32 36.3
comp=Z,105nm,0.9s
YSS Yuzh-Sakhalins 46.86 15⇑ *e*P P 13 32 25.0 +0.4
YSS *e**PP **sP 13 32 43.7 -0.4**
YSS *e* 13 33 57.8
YSS *e* 13 34 13.5
YSS *e*S **S 13 39 03.6 -7.8**
YSS *e* 13 42 14.9
YSS pmax pmax
comp=Z,60nm,0.9s
YSS pmax pmax
comp=N,30nm,1.0s
YSS smax smax
comp=N,200nm,3.3s
YSS MLR MLR
comp=Z,400nm,15.0s
YSS MLR MLR
comp=N,200nm,14.0s
YSS Yuzh-Sakhalins 46.86 15 P P 13 32 24.5 -0.1
YSS lAmb lAmb 13 32 26.1
comp=Z,70nm,1.0s
PKI Pulchoki 46.90 307 *e*P P 13 32 24.4 -1.3
PKIN Phulchoki 46.91 307 *e*P P 13 32 24.5 -1.2
KKN Kakani 47.09 307 *e*P P 13 32 26.1 -1.0
DMN Daman 47.16 307 *e*P P 13 32 26.8 -0.8
KLR Kul'dur 47.20 5 P P 13 32 27.6 +0.4
comp=Z,71nm,1.0s,baz=206,slow=6.1,SNR=102
GKN Gorkha 47.70 307 *e*P P 13 32 30.6 -1.1
KOLN Koldanda 48.44 306 *e*P P 13 32 36.8 -0.7
DANN Dangsing 48.55 307 *e*P P 13 32 37.5 -0.9
comp=Z,261nm,0.9s
UGL Uglegorsk 48.67 13 *e*P P 13 32 40.1 +1.5
UGL *e*S **S 13 39 36.8 -0.2**
UGL pmax pmax
comp=Z,230nm,1.0s
ULN Ulaanbaatar 48.69 342 *ce*P P 13 32 39.1 +0.1
ULN pmax pmax
comp=Z,32nm,0.6s
ULN Ulaanbaatar 48.69 342 P P 13 32 39.4 +0.5
ULN lAmb lAmb 13 32 41.4
comp=Z,79nm,1.1s
ULN Ulaanbaatar 48.69 342 P P 13 32 39.5 +0.5
ULN Ulaanbaatar 48.69 342 P P 13 32 39.0 +0.1
comp=Z,2μmcomp=Z,244nm,0.9s
SONM Songino Array 48.86 342 P P 13 32 40.4 +0.1
comp=Z,41nm,1.0s,baz=158,slow=8.4,SNR=112
SONM LR LR 13 53 30.0
comp=Z,613nm,22.0s,baz=155,slow=36
SONM Songino Array 48.86 342 P P 13 32 40.4 +0.1
PYUN Piuthan 49.06 306 *e*P P 13 32 41.7 -0.6
comp=Z,200nm,0.7s
GRNR Gornyy 49.24 8⇑ *i*P P 13 32 44.0 +1.1
GRNR *e*S **S 13 39 51.7 +6.7**
GRNR pmax pmax
comp=N,30nm,0.9s
GRNR pmax pmax
comp=Z,60nm,0.8s
GRNR smax smax
comp=N,1.0nm,0.8s
GRNR MLR MLR
comp=E,80nm,16.0s
GRNR MLR MLR
comp=N,110nm,14.0s
GRNR MLR MLR
comp=Z,190nm,15.0s
HYB Hyderabad 49.64 291 *e*P P 13 32 45.6 -1.0
HYB lAmb lAmb 13 32 47.9
comp=Z,274nm,1.6s
HYB Hyderabad 49.64 291 *i* P P 13 32 45.0 -1.6
HYB *e*pP **pwP 13 33 02.0 -0.8**
HYB *e*PcP **PcP 13 34 08.0 +0.5**
TRD Trivandrum 49.87 279 *e*P P 13 32 46.5 -1.8
TRD lAmb lAmb 13 32 48.3
comp=Z,34nm,0.8s
TYV Tymovskoe 50.48 13 *e*P P 13 32 53.6 +1.3
TYV *e*S **S 13 40 08.1 +5.9**
TYV pmax pmax
comp=Z,36nm,0.9s
TYV pmax pmax
comp=Z,400nm,3.9s
TYV smax smax
comp=N,200nm,7.6s
TYV smax smax
comp=E,200nm,7.6s

CIT Chita 50.99 350 *e*P P 13 32 57.2 +0.9
CIT *e* 13 33 07.5
CIT *e* 13 33 21.4
CIT *e* 13 34 59.6
CIT pmax pmax
comp=Z,132nm,1.7s
ZEA Zeya 51.52 0 *e*P P 13 33 00.5 +0.4
ZEA *e*S **S 13 40 22.2 +5.7**
ZEA *e*SS **ScS 13 42 48.8 +3.3**
ZEA pmax pmax
comp=E,20nm,0.5s
ZEA pmax pmax
comp=N,20nm,0.4s
ZEA pmax pmax
comp=Z,40nm,0.6s
ZEA pmax pmax
comp=Z,100nm,10.3s
ZAK Zakamensk 52.08 341 *e*P P 13 33 03.5 -1.0
ZAK pmax pmax
comp=Z,21nm,0.9s
BHPL Bhopal 52.11 298 *e*P P 13 33 03.0 -2.1
BHPL lAmb lAmb 13 33 06.7
comp=Z,153nm,1.6s
NKL Nikolayevsk 52.23 11 *e*P P 13 33 06.0 +0.6
NKL pmax pmax
comp=E,9.0nm,1.0s
NKL pmax pmax
comp=N,351nm,0.7s
NKL pmax pmax
comp=Z,153nm,0.9s
IRK Irkutsk 53.40 343 *e*P P 13 33 14.2 +0.1
IRK pmax pmax
comp=Z,64nm,1.9s
DDI Dehra Dun 53.90 307 *e*P P 13 33 17.7 -0.5
MOY Mondy 53.93 340 *e*P P 13 33 18.9 +0.8
MOY pmax pmax
comp=Z,64nm,1.4s
WMQ Urumqi 54.06 326 *e*P P 13 33 19.5 +0.4
WMQ pP pP 13 33 32.3 -0.7
WMQ sP pwP 13 33 36.5 +1.0
WMQ PcP **PcP 13 34 26.4 +2.9**
WMQ S **S 13 40 48.7 -3.0**
WMQ pmax pmax
comp=Z,66nm,1.1s
WMQ pmax pmax
comp=Z,270nm,3.7s
WMQ LR LR
comp=Z,920nm,20.3s
WMQ LR LR
comp=Z,670nm,21.7s
WMQ LR LR
comp=Z,1μm,21.7s
POO Poona 54.25 291 *e*P P 13 33 19.6 -1.4
POO lAmb lAmb 13 33 21.2
comp=Z,26nm,1.2s
MSVF Nonsavu 54.29 113 P P 13 33 22.1 +0.9
comp=Z,144nm,0.9s,baz=261,slow=5.6,SNR=46
MSVF Nonsavu 54.29 113 P P 13 33 22.1 +0.9
SMLA Simla 54.91 307 *e*P P 13 33 24.7 -0.7
SMLA lAmb lAmb 13 33 27.7
comp=Z,228nm,1.2s
DHRM DHARAMSHALA 56.01 308 *e*P P 13 33 32.7 -1.0
BOD Bodaibo 56.50 352 *e*P P 13 33 36.6 +0.2
BOD pmax pmax
comp=Z,85nm,1.9s
PEA0B Petropavlovsk- 57.00 22 *ce*P P 13 33 41.0 +1.0
PETK Petropavlovsk- 57.00 22 P P 13 33 40.4 +0.4
comp=Z,28nm,0.8s,baz=202,slow=7.4,SNR=41
PETK LR LR 13 54 14.2
comp=Z,201nm,21.7s,baz=194,slow=32
PETK Petropavlovsk- 57.00 22 P P 13 33 40.1 +0.1
PET Petropavlovsk 57.29 22 *ce*P P 13 33 42.7 +0.7
PET *e**PP **pP 13 33 55.2 -0.7**
PET *e*S **S 13 41 34.8 +0.7**
PET *e*SS **SS 13 45 28.5 +4.3**
PET pmax pmax
comp=Z,76nm,1.1s
PET pmax pmax
comp=Z,300nm,14.8s
PET MLR MLR
comp=Z,400nm,22.0s
ZSN Zaisan 57.88 328 *e*S S 13 41 42.6 +0.5
baz=328
DGZ Jazzator, Alta 58.02 331⇑ *e*P P 13 33 47.4 0.0
DGZ pmax pmax
comp=Z,23nm,0.9s
SHLS Shalkode 58.59 321⇑ *e*P P 13 33 49.1 -2.4
comp=Z,45nm,1.0s,baz=321
SHLS *e*S **S 13 41 49.6 -2.4**
baz=321
SHLS Shalkode 58.59 321 *ce*P P 13 33 49.1 -2.4
SHLS *e*S **S 13 41 49.5 -2.4**
SHLS pmax pmax
comp=Z,45nm,1.0s
PDGK Podgornoye 58.66 321 P P 13 33 50.7 -1.3
UZB Uzynbulak 58.87 321⇑ *i*P P 13 33 52.8 -0.7
comp=Z,25nm,1.0s,baz=321
UZB *e*S **S 13 41 52.5 -3.1**
baz=321
UZB Uzynbulak 58.87 321 *c* *i*P P 13 33 52.8 -0.7
UZB *e*S **S 13 41 52.4 -3.1**
UZB pmax pmax
comp=Z,25nm,1.0s
MK31 Makanchi Array 58.89 326 *e*P P 13 33 52.9 -0.5
MK31 Makanchi Array 58.89 326 P P 13 33 53.2 -0.2
MK31 lAmb lAmb 13 33 55.6
comp=Z,37nm,0.9s
MKAR Makanchi Array 58.89 326 P P 13 33 53.1 -0.4
comp=Z,34nm,0.5s,baz=120,slow=8.2,SNR=238
MKAR S **S 13 41 53.8 -1.7**
comp=Z,1.3nm,1.0s,baz=140,slow=11,SNR=2.7
MKAR LR LR 14 01 55.4
comp=Z,453nm,19.9s,baz=110,slow=39
MKAR PKPPKP **P'P'df 14 03 26.5 -2.0**
comp=Z,1.0nm,0.9s,baz=359,slow=5.8,SNR=2.7
MKAR Makanchi Array 58.89 326 *i* P P 13 33 53.0 -0.4
MKAR pmax pmax
comp=Z,35nm,0.5s
NIL Nilore 58.90 309 P P 13 33 53.5 -0.3
MAKZ Makanchi 59.08 326 P P 13 33 54.6 -0.1
MAKZ pmax pmax
comp=Z,119nm,1.2s
MAKZ Makanchi 59.08 326 P P 13 33 54.5 -0.1
KSH Kashi 59.19 316 P P 13 33 56.5 +0.8
KSH S **S 13 42 02.2 +2.5**
KSH pmax pmax
comp=Z,50nm,0.9s
KSH pmax pmax
comp=Z,280nm,8.5s
KSH LR LR
comp=Z,560nm,26.5s
KSH LR LR
comp=Z,510nm,26.5s
KSH LR LR
comp=Z,1μm,28.9s
SATY Saty 59.21 320 *e*P P 13 33 55.6 -0.3
comp=Z,55nm,0.8s,baz=320
SATY Saty 59.21 320 *e*P P 13 33 55.5 -0.3
SATY pmax pmax
comp=Z,55nm,0.8s
KPKS Kokpek 59.24 321⇑ *i*P P 13 33 55.3 -0.7
comp=Z,47nm,0.9s,baz=321
KPKS Kokpek 59.24 321 *c* *i*P P 13 33 55.3 -0.7
KPKS pmax pmax
comp=Z,47nm,0.9s
KDJ Kajisay 59.55 319 P P 13 33 59.0 +0.7
KDJ pmax pmax
comp=Z,56nm,0.8s
KDJ Kajisay 59.55 319 P P 13 33 59.0 +0.7
KDJ lAmb lAmb 13 34 00.8
comp=Z,56nm,0.8s
YAK Yakutsk 59.87 2 P P 13 33 59.9 +0.1
comp=Z,94nm,0.8s,baz=183,slow=1.1,SNR=74
YAK LR LR 14 01 58.2
comp=Z,294nm,20.3s,baz=253,slow=38
YAK Yakutsk 59.87 2 *ce*P P 13 34 00.1 +0.3
YAK pmax pmax
comp=Z,239nm,1.0s
YAK Yakutsk 59.87 2 P P 13 34 00.2 +0.4
MDOK Medeo 60.13 320 *i* P P 13 34 02.0 -0.2
baz=320
MDOK *e*S **S 13 42 11.4 -0.4**
baz=320
MDOK Medeo 60.13 320 *i* P P 13 34 02.0 -0.2
MDOK *e*S **S 13 42 11.4 -0.4**

ARXS Arharly 60.15 321 *e*P P 13 34 01.4 -0.8
TDK Taldyqorghan 60.19 322 *e*P P 13 34 01.8 -0.7
comp=Z,84nm,1.0s,baz=322
TDK Taldyqorghan 60.19 322 *e*P P 13 34 01.7 -0.7
TDK pmax pmax
comp=Z,84nm,1.0s
AAA Alma-Ata 60.24 320 *e*P P 13 34 02.8 0.0
baz=320
AAA Alma-Ata 60.24 320 *e*P P 13 34 02.8 0.0
MA2 Magadan 60.34 14 P P 13 34 04.2 +1.1
comp=Z,163nm,0.9s,baz=198,slow=6.7,SNR=110
LBZ Lake Benmore 60.34 145 P P 13 34 03.2 -0.2
THZ Tophouse 60.43 142 P P 13 34 03.5 -0.6
RPZ Rata Peaks 60.44 144 P P 13 34 03.2 -0.9
CHKK Chushkaly 60.50 321⇑ *i*P P 13 34 03.4 -1.1
baz=321
MTBS Maitube 60.52 320⇑ *i*P P 13 34 04.3 -0.5
baz=320
BOOM Boomskoye usch 60.54 319 P P 13 34 04.8 -0.2
BOOM pmax pmax
comp=Z,28nm,1.0s
BOOM Boomskoye usch 60.54 319 P P 13 34 04.8 -0.2
LTZ Lake Taylor 60.62 143 P P 13 34 04.9 -0.4
LTZ lAmb lAmb 13 34 13.4
comp=Z,55nm,0.9s
KZA Kyzart 60.81 318 P P 13 34 07.8 +0.7
SNR=12
KUU Kurty 60.93 320⇑ *i*P P 13 34 06.9 -0.6
comp=Z,147nm,1.0s,baz=320
KUU *e*S **S 13 42 21.5 -0.3**
baz=320
KUU Kurty 60.93 320 *c* *i*P P 13 34 06.9 -0.6
KUU *e*S **S 13 42 21.5 -0.3**
KUU pmax pmax
comp=Z,147nm,1.0s
TKM2 Tokmak 2 60.96 319 P P 13 34 07.9 0.0
SNR=45
TKM2 Tokmak 2 60.96 319 P P 13 34 07.5 -0.4
KHZ Kahutara 61.18 142 P P 13 34 08.0 -1.1
KBK Karagaybulak 61.27 319 P P 13 34 10.4 +0.4
SNR=32
URZ Urewera 61.38 136 P P 13 34 09.7 -0.8
comp=Z,34nm,0.8s,baz=321,slow=5.8,SNR=10
BKZ Black Stump Fm 61.39 137 lAmb lAmb 13 34 10.7
comp=Z,62nm,0.8s
CHMS Chumysh 61.55 319 P P 13 34 11.6 0.0
SNR=19
AAK Ala-Archa 61.56 318 P P 13 34 11.7 -0.2
comp=Z,30nm,0.9s,baz=139,slow=6.4,SNR=31
AAK Ala-Archa 61.56 318 P P 13 34 12.4 +0.5
SNR=24
AAK Ala-Archa 61.56 318 *ce*P P 13 34 12.0 +0.1
AAK pmax pmax
comp=Z,100nm,1.0s
AAK Ala-Archa 61.56 318 P P 13 34 12.1 +0.1
SGDS Sogindy 61.83 319⇑ *i*P P 13 34 12.7 -1.0
comp=Z,12nm,1.1s,baz=319
SGDS Sogindy 61.83 319 *e*P P 13 34 13.2 -0.4
USP Ospenovka 61.83 319 P P 13 34 13.4 -0.2
SNR=66
AML Almayashu 61.87 318 P P 13 34 14.5 +0.2
SNR=77
BFZ Birch Farm 61.99 139 P P 13 34 12.6 -2.0
BFZ lAmb lAmb 13 34 14.2
comp=Z,59nm,1.0s
EKS2 Erkin-Say 62.04 318 P P 13 34 15.4 +0.2
SNR=67
ZAA0 Zalesovo Array 62.05 333 P P 13 34 13.9 -0.8
ZAA0 lAmb lAmb 13 34 18.0
comp=Z,27nm,0.8s
ZALV Zalesovo Beam 62.05 333 P P 13 34 14.0 -0.7
comp=Z,25nm,0.8s,baz=115,slow=6.7,SNR=40
ZALV PKP2bc 14 03 26.2
comp=Z,7.4nm,1.1s,baz=308,slow=4.9,SNR=10
ZALV LR LR 14 04 13.5
comp=Z,408nm,20.3s,baz=127,slow=39
ZALV Zalesovo Beam 62.05 333 P P 13 34 14.4 -0.3
KBL Kabul 62.49 308 P P 13 34 18.1 -0.3
KBL pmax pmax
comp=Z,72nm,0.7s
KBL Kabul 62.49 308 P P 13 34 18.1 -0.3
KBL Kabul 62.49 308 P P 13 34 17.9 -0.5
BTLS Baital 62.92 321⇑ *i*P P 13 34 20.0 -0.8
comp=Z,17nm,1.0s,baz=321
BTLS Baital 62.92 321 *c* *i*P P 13 34 20.0 -0.8
BTLS pmax pmax
comp=Z,17nm,1.0s
GAR Garm 63.01 313 P P 13 34 21.3 -0.4
BTK Batken 63.04 315 lAmb lAmb 13 34 37.6
comp=Z,40nm,0.8s
KURBB Kurchatov Arra 63.11 328 P P 13 34 21.5 -0.4
comp=Z,86nm,0.6s,baz=129,slow=6.3,SNR=529
KURBB Kurchatov Arra 63.11 328 P P 13 34 21.3 -0.6
KURK Kurchatov 63.12 328 P P 13 34 21.5 -0.4
KURK Kurchatov 63.12 328 P P 13 34 21.5 -0.4
SEY Seymchan 63.67 13 P P 13 34 26.8 +1.4
comp=Z,93nm,0.9s,baz=217,slow=6.0,SNR=212
SEY LR LR 14 03 21.7
comp=Z,87nm,20.6s,baz=201,slow=37
SEY PKP2bc 14 03 29.0
comp=Z,3.3nm,1.1s,baz=77,slow=0.5,SNR=4.8
SEY Seymchan 63.67 13 *d* *i*P P 13 34 26.9 +1.6
DZA Taraz 63.78 318 *e*P P 13 34 25.8 -0.8
baz=318
DZA *e*S S 13 42 47.5 -10
baz=318
DZA Taraz 63.78 318 *e*P P 13 34 25.7 -0.8
DZA *e*S S 13 42 47.5 -10
IUG Iuzhnay 64.37 316⇑ *i*P P 13 34 30.3 -0.3
baz=316
IUG *e*S **S 13 43 05.4 +0.2**
baz=316
IUG Iuzhnay 64.37 316 *c* *i*P P 13 34 30.2 -0.3
IUG *e*S **S 13 43 05.4 +0.2**
KK31 Karatay Array 64.41 318 *i* P P 13 34 29.8 -0.9
KKAR Karatay Array 64.41 318 P P 13 34 30.2 -0.5
KKAR Karatay Array 64.41 318 P P 13 34 30.1 -0.5
KKAR Karatay Array 64.41 318 lAmb lAmb 13 34 32.7
comp=Z,40nm,0.8s
CHM Chimkent 64.73 317 *e*S S 13 43 08.5 -0.9
baz=316
BRZS Berezniki 66.02 325⇑ *i*P P 13 34 40.5 -0.5
comp=Z,11nm,0.6s,baz=325
BRZS *i* S **S 13 43 23.9 -1.0**
baz=325
BRZS Berezniki 66.02 325 *c* *i*P P 13 34 40.4 -0.5
BRZS *i* S **S 13 43 23.8 -1.0**
BRZS pmax pmax
comp=Z,11nm,0.6s
KIWB Kanaga Island 68.10 34 P P 13 34 54.4 +0.3
JLN Jalan Bani Buh 68.19 293 P P 13 34 53.0 -2.2
ADK Adak 68.38 34 P P 13 34 56.4 +0.6
ADK pmax pmax
comp=Z,38nm,0.9s
ADK Adak 68.38 34 P P 13 34 56.4 +0.6
WBK Wadi Bani Khal 68.65 293 P P 13 34 55.1 -3.1
BVAR Borovoye Array 68.69 327 P P 13 34 57.6 -0.1
comp=Z,66nm,0.9s,baz=177,slow=10,SNR=127
BRVK Borovoye 68.76 327 P P 13 34 58.1 0.0
BRVK pmax pmax
comp=Z,74nm,1.0s
BRVK Borovoye 68.76 327 P P 13 34 58.1 0.0
BRVK lAmb lAmb 13 35 00.1
comp=Z,74nm,0.9s
CASY Casey 69.16 187 P P 13 35 01.0 +0.7
CASY lAmb lAmb 13 35 02.2
comp=Z,99nm,1.2s
MHTO MHTO 69.40 292 P P 13 35 03.0 +0.2
SNR=8.8
JMDO Jabal Madar 69.42 293 P P 13 35 02.1 -0.8
TIXI Tiksi 69.51 1 P P 13 35 01.8 -0.6
comp=Z,39nm,0.8s,baz=154,slow=3.3,SNR=17
TIXI Tiksi 69.51 1 P P 13 35 02.4 0.0
TIXI pmax pmax
comp=Z,42nm,0.9s
TIXI Tiksi 69.51 1 P P 13 35 02.4 0.0
SOHO SOHO 71.05 295 P P 13 35 15.4 +2.6
BILL Bilibino 71.18 15 *d* *i*P P 13 35 12.8 +0.1
BILL *e**SP **pP 13 35 28.2 +1.2**
BILL *e* 13 35 33.3
BILL S **S 13 44 32.0 +6.6**
BILL SSS SSS 13 52 13.0
BILL pmax pmax
comp=Z,39nm,2.5s
BILL MLR MLR

comp=Z,227nm,22.0s
HATD Hatta, Dubai 71.49 295 P **P** **13 35 14.7 -0.8**
MASF Masafi 71.53 296 P **P** **13 35 13.9 -1.9**
ASHO Ashiyiah 71.54 295 P **P** **13 35 14.7 -1.2**
SHME Shamm 71.62 297 P **P** **13 35 19.3 +3.1**
ALNE Al Ain 71.75 295 P **P** **13 35 19.0 +1.9**
GEYT Alibeck 71.89 309 P **P** **13 35 17.1 -0.6**
comp=Z,12nm,0.7s,baz=163,slow=7.3,SNR=12
GEYT Alibeck 71.89 309 P **P** **13 35 16.6 -1.1**
FAQ Al Faqa, Dubai 71.97 295 P **P** **13 35 17.5 -0.9**
NRIK Noril'sk 72.03 346 P **P** **13 35 18.1 +0.3**
comp=Z,51nm,0.8s,baz=130,slow=6.1,SNR=54
NRIK S **S** **13 44 34.2 -1.0**
comp=Z,4.5nm,0.8s,baz=16,slow=24,SNR=13
NRIK Noril'sk 72.03 346*ce*P **P** **13 35 17.9 +0.1**
NRIK pmax pmax
comp=Z,62nm,0.9s
NRIK Noril'sk 72.03 346 IAmb IAmb 13 35 19.2
comp=Z,52nm,0.8s
ASUD Al Ashush, Dub 72.19 295 P **P** **13 35 19.4 -0.3**
AJN Ajban 72.50 295 P **P** **13 35 20.9 -0.6**
SOCY Socotra 72.64 282 P **P** **13 35 18.8 -3.8**
SNR=5.4
RBK Rabkut 72.66 288 P **P** **13 35 23.2 +0.5**
DOK Doka 72.80 289 P **P** **13 35 21.8 -1.7**
SNR=14
AB31 Akbulak array 73.40 321 *i* P **P** **13 35 26.0 -0.4**
ABKAR Akbulak array 73.40 321 P **P** **13 35 26.8 +0.4**
ABKAR IAmb IAmb 13 35 28.6
comp=Z,43nm,0.8s
JRN Qarnain Island 74.47 295 P **P** **13 35 32.3 -0.7**
AKTO Aktyubinsk 74.93 322 P **P** **13 35 35.4 +0.2**
comp=Z,41nm,0.8s,baz=103,slow=7.1,SNR=122
AKTO S **S** **13 45 07.0 -1.6**
comp=Z,0.5nm,0.3s,baz=335,slow=21,SNR=12
AKTO Aktyubinsk 74.93 322 *i* P **P** **13 35 34.8 -0.4**
AKTO pmax pmax
comp=Z,109nm,1.1s
AKUT Akutan 75.33 34 P **P** **13 35 37.8 +0.4**
AKUT IAmb IAmb 13 35 39.1
comp=Z,134nm,1.1s
SVE Sverdlovsk 75.35 329*d* *i*P **P** **13 35 37.7 +0.2**
SVE *e*S **S** **13 45 11.2 -1.8**
SVE pmax pmax
comp=Z,341nm,0.9s
GAMB Gambell 75.94 24 P **P** **13 35 41.6 +0.8**
GAMB IAmb IAmb 13 35 43.2
comp=Z,84nm,1.0s
ARU Arti 76.31 328 P **P** **13 35 43.0 0.0**
comp=Z,72nm,0.8s,baz=115,slow=2.5,SNR=189
ARU S **S** **13 45 17.5 -6.1**
comp=Z,0.5nm,0.3s,baz=212,slow=22,SNR=8.9
ARU Arti 76.31 328*c* *i*P **P** **13 35 42.6 -0.4**
ARU 13 35 54.6
ARU S **S** **13 45 24.3 +0.6**
ARU pmax pmax
comp=Z,239nm,0.9s
ARU MLR MLR
comp=Z,656nm,25.0s
ARU Arti 76.31 328 P **P** **13 35 42.9 -0.1**
MLH Mauna Loa 77.95 71 P **P** **13 35 53.1 -0.1**
SDPT Sand Point 78.61 34 P **P** **13 35 56.3 +0.4**
baz=257
QRN Al-Qurain 79.15 299 *e*P **P** **13 35 58.4 -1.0**
KBD Kabd 79.37 299 *e*P **P** **13 35 59.5 -1.1**
UMR Umm Al-Rimmam 79.38 300 *e*P **P** **13 35 59.7 -0.9**
RDF Al-Radifah 79.48 299 *e*P **P** **13 36 00.1 -1.1**
MIB Mutribah 79.72 300 *e*P **P** **13 36 01.6 -0.9**
CHGN Chignik 79.95 33 P **P** **13 36 03.4 +0.3**
baz=258
RST Umm Al-Ruwaisa 80.00 299 *e*P **P** **13 36 02.5 -1.6**
MAK Makhachkala 80.67 313 *e*P **P** **13 36 03.9 -3.4**
MAK *e*PPP PPP 13 41 00.7
MAK *e*S **S** **13 46 08.2 -2.6**
MAK pmax pmax
comp=Z,72nm,0.9s
ABPO Ambohimpanom 80.69 250 P **P** **13 36 08.1 0.0**
ABPO pmax pmax
comp=Z,46nm,1.0s
ABPO Ambohimpanom 80.69 250 P **P** **13 36 08.1 0.0**
VOI Vohitsoka 81.38 248 P **P** **13 36 10.3 -1.3**
VOI IAmb IAmb 13 36 13.0
comp=Z,66nm,1.0s
VOI Vohitsoka 81.38 248 P **P** **13 36 12.0 +0.4**
KIRV Kirov 81.61 329 S **S** **13 46 16.2 -3.8**
comp=Z,9.7nm,0.5s,baz=170,slow=24,SNR=17
BELG Belogornoye 81.69 323 P **P** **13 36 12.5 0.0**
comp=Z,282nm,0.9s,baz=103,slow=0.6,SNR=57
BELG S **S** **13 46 17.7 -3.3**
comp=Z,15nm,0.8s,baz=53,slow=22,SNR=13
BELG Belogornoye 81.69 323*c* *i*P **P** **13 36 12.0 -0.5**
BELG pmax pmax
comp=Z,52nm,0.9s
VNDA Vanda 81.78 173 P **P** **13 36 12.8 +0.3**
comp=Z,86nm,1.0s,baz=318,slow=6.0,SNR=313
VNDA PKKPbc **PKKPbc** **13 54 43.4 -4.1**
comp=Z,1.5nm,0.8s,baz=223,slow=4.3,SNR=8.0
VNDA Vanda 81.78 173 P **P** **13 36 12.9 +0.3**
VNDA pmax pmax
comp=Z,90nm,1.0s
VNDA Vanda 81.78 173 P **P** **13 36 12.9 +0.3**
VNDA IAmb IAmb 13 36 13.9
comp=Z,90nm,1.0s
GROC Groznyy 81.94 313 *e*P **P** **13 36 14.4 +0.3**
GROC *e**PP **pP** **13 36 29.1 +0.3**
GROC *e**SP **sP** **13 36 35.1 +0.6**
GROC *e* 13 39 22.9
GROC *e*S **S** **13 46 22.4 -1.6**
GROC pmax pmax
comp=Z,95nm,0.9s
N18K Kilae Creek 82.07 29 P **P** **13 36 16.0 +1.6**
baz=260,SNR=8.3
MAW Mawson 82.17 200 P **P** **13 36 15.4 +0.7**
baz=82,SNR=54
MAW Mawson 82.17 200 P **P** **13 36 15.1 +0.5**
comp=Z,38nm,0.9s,baz=70,slow=5.8,SNR=84
MAW LR LR 14 12 38.6
comp=Z,64nm,20.9s,baz=58,slow=36
MAW Mawson 82.17 200 P **P** **13 36 15.3 +0.6**
MAW pmax pmax
comp=Z,18nm,1.2s
MAW Mawson 82.17 200 P **P** **13 36 15.3 +0.6**
O18K Koktuh Hills 82.27 30 P **P** **13 36 16.6 +1.1**
baz=261,SNR=11
TTA Tatalina 82.41 27 P **P** **13 36 17.8 +1.5**
baz=260
GNI Garni 82.50 310 *e*P **P** **13 36 18.5 +1.2**
GNI Garni 82.50 310*ce*P **P** **13 36 18.3 +1.0**
GNI pmax pmax
comp=Z,33nm,1.3s
SBA Scott Base 82.69 172 P **P** **13 36 18.5 +1.2**
SBA pmax pmax
comp=Z,73nm,1.1s
SBA Scott Base 82.69 172 P **P** **13 36 18.5 +1.2**
SBA IAmb IAmb 13 36 19.8
comp=Z,73nm,1.1s
O19K Port Alsworth 82.76 30 P **P** **13 36 18.6 +0.7**
baz=261,SNR=7.3
N19K Bonanza Creek 82.77 29 P **P** **13 36 19.6 +1.4**
baz=261,SNR=44
L19K White Mountain 82.81 28 IAmb IAmb 13 36 21.2
comp=Z,84nm,1.0s
L19K White Mountain 82.81 28 P **P** **13 36 19.9 +1.6**
baz=261,SNR=48
KZRT Kazreti 82.84 311 P **P** **13 36 19.9 +1.0**
GUDG Gudauri 82.85 312 P **P** **13 36 18.3 -0.8**
OHAK Old Harbor 82.89 33 IAmb IAmb 13 36 20.8
comp=Z,52nm,1.0s
OHAK Old Harbor 82.89 33 P **P** **13 36 19.6 +1.0**
baz=263
Q19K Cape Douglas, 82.92 31 P **P** **13 36 19.7 +0.8**
baz=262
M19K Big River Lodg 82.98 28 IAmb IAmb 13 36 22.2
comp=Z,62nm,0.9s
M19K Big River Lodg 82.98 28 P **P** **13 36 20.9 +1.8**
baz=261,SNR=40
P19K Oil Pt 83.23 30 P **P** **13 36 20.5 0.0**
baz=262
ZEI Tsey 83.30 313 *e*P **P** **13 36 21.5 +0.1**
ZEI pmax pmax
comp=Z,55nm,1.0s
L20K Farewell, AK 83.31 27 P **P** **13 36 22.4 +1.6**
baz=262,SNR=40
KDAK Kodiak Island 83.33 32 P **P** **13 36 21.9 +1.0**
comp=Z,225nm,0.7s,baz=275,slow=4.1,SNR=35
KDAK LR LR 14 09 35.8
comp=Z,356nm,21.8s,baz=267,slow=33
KDAK Kodiak Island 83.33 32 P **P** **13 36 21.3 +0.4**
KDAK IAmb IAmb 13 36 23.3
comp=Z,73nm,1.4s
KDAK Kodiak Island 83.33 32 P **P** **13 36 21.9 +1.0**
baz=263
K20K Telida 83.35 26 IAmb IAmb 13 36 24.1
comp=Z,89nm,1.1s
K20K Telida 83.35 26 P **P** **13 36 22.8 +1.8**
baz=261,SNR=39
J20K Nowinta River 83.45 26 IAmb IAmb 13 36 24.5
comp=Z,92nm,0.9s
J20K Nowinta River 83.45 26 P **P** **13 36 23.2 +1.8**
baz=261,SNR=64
AKH Akhalkalaki 83.52 311 ⇓P **P** **13 36 24.6 +2.1**
AKH Akhalkalaki 83.52 311 *e*P **P** **13 36 24.1 +1.5**
AKH Akhalkalaki 83.52 311 P **P** **13 36 24.0 +1.5**
M20K Styx River 83.57 28 P **P** **13 36 23.9 +1.6**
baz=262,SNR=68
O20K Slope Mountain 83.59 30 P **P** **13 36 22.4 +0.1**
baz=263
ONI Oni 83.62 312 P **P** **13 36 24.0 +1.1**
AKDM Akdamar-Van 83.78 308 *e*P **P** **13 36 25.1 +1.2**
A21K Barrow 83.82 18 P **P** **13 36 24.8 +1.6**
baz=258
AGRB Hanur-Agry 83.82 309 *e*P **P** **13 36 25.5 +1.4**
IMAR Indian Mountai 83.89 24 P **P** **13 36 25.1 +1.4**
SPCR Spurr Chakacha 83.92 29 P **P** **13 36 24.4 +0.3**
baz=263,SNR=14
PRGR Permogore 83.94 332 *e*P **P** **13 36 24.0 0.0**
PRGR *e*S **S** **13 46 42.2 -1.3**
PRGR pmax pmax
comp=Z,215nm,0.9s
GOF Gofitskoye 84.04 315⇑*e*P **P** **13 36 25.5 +0.6**
GOF pmax pmax
comp=Z,66nm,0.8s
KBZ Khabaz 84.08 314 P **P** **13 36 25.6 +0.5**
comp=Z,30nm,0.9s,baz=156,slow=5.6,SNR=45
KBZ Khabaz 84.08 314*d* *i*P **P** **13 36 25.5 +0.5**
KBZ pmax pmax
comp=Z,49nm,1.2s
KIV Kislovodsk 84.24 314*c* *i*P **P** **13 36 26.2 +0.2**
KIV *SP **pP** **13 36 41.0 +0.2**
KIV 13 39 44.0
KIV *e*S **S** **13 46 44.3 -3.3**
KIV PS 13 47 40.0
KIV SS **SS** **13 52 18.0 +0.1**
KIV pmax pmax
comp=Z,56nm,1.3s
KIV MLR MLR
comp=Z,346nm,29.0s
KIV Kislovodsk 84.24 314 P **P** **13 36 26.3 +0.2**
KIV IAmb IAmb 13 36 36.4
comp=Z,42nm,0.9s
SHA1 Shidzhatmaz 84.25 314*c* *i*P **P** **13 36 26.5 +0.2**
SKT Skwentna 84.34 28 IAmb IAmb 13 36 27.6
comp=Z,58nm,0.9s
I21K Tanana 84.51 25 P **P** **13 36 25.9 -0.9**
I21K Tanana 84.51 25 P **P** **13 36 28.1 +1.3**
baz=263,SNR=19
CHVG Ch'k'valeri 84.63 313 ⇑P **P** **13 36 29.0 +1.1**
CHVG Ch'k'valeri 84.63 313 ⇑P **P** **13 36 29.0 +1.1**
PPT Papeete 84.66 108 LR LR 14 10 26.5
comp=Z,243nm,21.8s,baz=294,slow=33
PPT2 Papeete2 84.67 108 *e*S **S** **13 46 53.2 +0.6**
comp=Z,190nm,27.2s
PPT2 Papeete2 84.67 108 *e*LR LR 14 03 09.7
comp=Z,1μm,28.5s
KOPR Koprukoy-ERZUR 84.71 310 *e*P **P** **13 36 29.6 +1.0**
BATM Batumi 84.88 311 ⇓P **P** **13 36 30.3 +1.0**
BATM Batumi 84.88 311 P **P** **13 36 30.2 +1.0**
BCA Borcka 84.93 311 ⇑P **P** **13 36 30.2 +0.7**
BCA Borcka 84.93 311 *e*P **P** **13 36 30.1 +0.6**
VRTB Varto-Mus 85.00 309 *e*P **P** **13 36 33.3 +3.2**
O22K Cooper Landing 85.06 30 P **P** **13 36 29.9 +0.2**
baz=265,SNR=8.1
TBI Tubuai 85.18 114 *e*S **S** **13 46 57.9 +0.5**
comp=Z,255nm,31.8s
TBI Tubuai 85.18 114 *e*LR LR 14 03 24.3
comp=Z,1μm,29.8s
VRH Novokhopyorsk 85.23 321 *e*P **P** **13 36 30.5 -0.2**
VRH *e*S **S** **13 46 52.9 -4.0**
VRH pmax pmax
comp=Z,280nm,1.1s
PMR Palmer 85.44 29 IAmb IAmb 13 36 33.5
comp=Z,72nm,1.0s
PMR Palmer 85.44 29 P **P** **13 36 31.7 +0.2**
baz=266,SNR=48
GHO Glory Hole Cre 85.55 28 IAmb IAmb 13 36 41.0
comp=Z,26nm,0.7s
CHOM Cayeli-Rize 85.57 311 *e*P **P** **13 36 33.6 +0.9**
H23K Yukon River 85.58 24 IAmb IAmb 13 36 35.1
comp=Z,35nm,0.8s
H23K Yukon River 85.58 24 P **P** **13 36 33.2 +0.9**
baz=265,SNR=50
BNGB Bingl 85.60 309 *e*P **P** **13 36 34.3 +1.3**
I23K Minto, Yukon-K 85.61 25 P **P** **13 36 33.0 +0.7**
baz=265,SNR=30
YEDI Yedisu-Bingol 85.71 309 *e*P **P** **13 36 34.9 +1.3**
MAZI Mazidag 85.76 307 *e*P **P** **13 36 34.4 +0.6**
TOLK Toolik Lake Re 85.82 21 IAmb IAmb 13 36 36.9
comp=Z,50nm,0.8s
TOLK Toolik Lake Re 85.82 21 P **P** **13 36 34.7 +1.3**
baz=265
SML Sawmill 85.83 28 IAmb IAmb 13 36 35.9
comp=Z,60nm,0.9s
TCOL CIGO, UAF Yank 86.22 25 P **P** **13 36 35.2 -0.1**
baz=267
COLA College 86.23 25 P **P** **13 36 35.4 +0.1**
baz=267
H24K Noodor Dome 86.27 24 P **P** **13 36 36.4 +0.7**
baz=267,SNR=19
KTUT Trabzon 86.32 311 ⇑P **P** **13 36 37.9 +1.5**
SOC Sochi 86.38 313 *e*P **P** **13 36 34.9 -1.7**
SOC *e*PPP PPP 13 41 54.0
SOC *e*S **SKSac** **13 46 58.2 -0.5**
SOC *e*SS **SS** **13 52 49.3 +0.2**
SOC *e*SSS SSS 13 56 20.2
SOC pmax pmax
comp=Z,63nm,0.9s
SOC MLR MLR
comp=Z,268nm,22.0s
POKR Poker Flat Res 86.42 25 P **P** **13 36 37.5 +1.2**
baz=267
PTK Pertek 86.60 309 *e*P P 13 36 50.2 +12
ILAR Eielson Array 86.63 25 P **P** **13 36 36.5 -0.9**
comp=Z,6.6nm,0.9s,baz=244,slow=4.1,SNR=36
ILAR PP **PP** **13 39 58.0 -1.9**
comp=Z,2.5nm,1.0s,baz=266,slow=7.4,SNR=4.2
ILAR PKKPbc **PKKPbc** **13 54 34.0 -1.5**
comp=Z,1.5nm,1.1s,baz=85,slow=2.1,SNR=4.9
ILAR LR LR 14 13 46.9
comp=Z,66nm,20.2s,baz=260,slow=34
ILAR Eielson Array 86.63 25 P **P** **13 36 35.8 -1.6**
SVRC Sivrice-ELAZID 86.67 308 *e*P **P** **13 36 39.2 +0.8**
Q23K Middleton Isla 86.70 31 P **P** **13 36 38.8 +1.0**
baz=268
VORD Divnogorie 86.76 321 *e*P **P** **13 36 39.0 +0.7**
VORD pmax pmax
comp=Z,60nm,0.6s
VORR Voronezh 86.82 321 *e*P **P** **13 36 37.0 -1.6**
VORR pmax pmax
comp=Z,250nm,2.0s
KLMR Klimovskoe 86.83 331*c* *i*P **P** **13 36 37.3 -1.1**
KLMR S **SKSac** **13 47 01.6 +0.9**
KLMR pmax pmax
comp=Z,89nm,1.0s
KLMR MLR MLR
comp=Z,376nm,17.0s
KLMR Klimovskoe 86.83 331⇑*i*P **P** **13 36 37.3 -1.1**
KLMR ⇓*i*P **P** **13 36 37.3 -1.1**
KLMR *e*P **P** **13 36 37.3 -1.1**
KLMR AMP 13 36 49.0
comp=Z,89nm,1.0s
KLMR S **SKSac** **13 47 01.7 +1.0**
KLMR S **SKSac** **13 47 01.7 +1.0**
KLMR LR LR 14 12 03.9
KLMR AMP 14 19 05.1
comp=Z,376nm,16.8s
M24K Tolsona, Glenn 86.86 28 P **P** **13 36 39.0 +0.4**
M24K IAmb IAmb 13 37 07.0
comp=Z,37nm,0.8s
M24K Tolsona, Glenn 86.86 28 P **P** **13 36 39.2 +0.5**
baz=268,SNR=8.5
LPSR Galich'ya Gora 87.00 322 *e*P **P** **13 36 38.9 -0.5**
LPSR *e*S **S** **13 47 09.8 -4.3**
LPSR pmax pmax
comp=Z,100nm,0.9s
URFA Urfa 87.05 307 *e*P **P** **13 36 41.1 +0.9**
J25K Salcha River, 87.28 26 P **P** **13 36 39.7 -0.9**
baz=269,SNR=12
HARP HAARP 87.34 28 P **P** **13 36 41.3 +0.3**
baz=269,SNR=7.3
ARPR Arapgir-MALATY 87.42 309 *e*P **P** **13 36 43.3 +1.3**
N25K Chitina, Valde 87.60 29 P **P** **13 36 42.8 +0.5**
baz=270,SNR=11
BMAR Burnt Mountain 87.64 23 P **P** **13 36 43.6 +1.3**
MOS Moscow 87.78 326 *e*P **P** **13 36 40.8 -2.3**
MOS *e* 13 37 00.1
MOS *e*S **SKSac** **13 47 06.4 -0.3**
MOS *e* 13 47 15.1
MOS pmax pmax
comp=Z,100nm,0.9s
MOS pmax pmax
comp=Z,93nm,0.9s
ANN Anapa 88.02 315 *e*P **P** **13 36 43.1 -1.4**
ANN *e*S **SKSac** **13 47 07.9 -0.7**
ANN pmax pmax
comp=Z,225nm,0.9s
ANN MLR MLR
comp=Z,852nm,25.0s
DARE Darende-Malaty 88.09 308 *e*P **P** **13 36 46.2 +1.0**
L26K Log Cabin Wild 88.18 27 P **P** **13 36 45.5 +0.6**
baz=271,SNR=12
GAZ Gaziantep 88.34 307 *e*P **P** **13 36 46.1 -0.2**
M26K Nabesna, AK 88.35 28 P **P** **13 36 46.0 +0.2**
baz=271,SNR=7.3
OBN Obninsk 88.39 325 P **P** **13 36 45.5 -0.5**
comp=Z,7.7nm,0.3s,baz=139,slow=1.1,SNR=15
OBN LR LR 14 19 57.3
comp=Z,20nm,20.6s,baz=38,slow=38
OBN Obninsk 88.39 325*ce*P **P** **13 36 45.4 -0.5**
OBN *SP **pP** **13 37 01.0 +0.1**
OBN *e* 13 37 06.8
OBN *e* 13 47 25.2
OBN pmax pmax
comp=Z,84nm,1.0s
OBN MLR MLR
comp=Z,471nm,24.0s
KMRS Kahramanmaras 88.58 307 *e*P **P** **13 36 47.9 +0.5**
K27K Chicken 88.72 26 IAmb IAmb 13 36 50.4
comp=Z,48nm,0.9s
L27K Beaver Creek, 88.87 27 IAmb IAmb 13 36 50.2
comp=Z,24nm,0.9s
L27K Beaver Creek, 88.87 27 P **P** **13 36 48.9 +0.7**
baz=272,SNR=41
M27K Edge Creek, AK 88.87 28 P **P** **13 36 49.0 +0.6**
baz=272,SNR=13
SARI SarD1z-Kayseri 88.93 308 *e*P **P** **13 36 49.8 +0.6**
EGAK Eagle 89.09 25 P **P** **13 36 49.1 0.0**
baz=273,SNR=14
KVT Kavak 89.13 311 P **P** **13 36 51.0 +1.1**
BVCY Beaver Creek 89.34 28 P **P** **13 36 51.1 +0.6**
baz=273,SNR=10
APA Apatity 89.37 337⇑*i*P **P** **13 36 47.7 -2.6**
APA *i* 13 40 19.9
APA *i*S **SKSac** **13 47 24.0 +8.3**
APA *i*PS PS 13 48 39.0 -8.7
APA pmax pmax
comp=Z,12nm,1.1s
BNN Bunyan 89.37 309 *e*P **P** **13 36 51.2 0.0**
KMBO Kilima Mbogo 89.46 269 P **P** **13 36 53.3 +1.1**
comp=Z,12nm,0.9s,baz=49,slow=5.9,SNR=21
KMBO SKKP 13 57 45.9
comp=Z,3.6nm,0.5s,baz=139,slow=7.8,SNR=4.2
KMBO LR LR 14 15 07.5
comp=Z,161nm,19.1s,baz=93,slow=34
CEYT Ceyhan 89.51 307 *e*P **P** **13 36 52.3 +0.6**
DIKM Dikmen 89.70 311 *e*P **P** **13 36 52.3 -0.2**
DAWY Dawson 89.90 26 IAmb IAmb 13 36 54.7
comp=Z,21nm,0.9s
DAWY Dawson 89.90 26 P **P** **13 36 53.3 +0.3**
baz=274,SNR=31
MMAI Mount Meron Ar 89.95 303 LR LR 14 23 15.8
comp=Z,64nm,20.3s,baz=190,slow=40
MMLI Mount Malkishu 89.96 302 *e*P **P** **13 36 55.0 +1.0**
CORM Corum 90.25 310 *e*P **P** **13 36 55.6 +0.3**
SIM Simferopol' 90.37 315 *i* P **P** **13 36 52.8 -2.8**
SIM pmax pmax
comp=Z,48nm,0.9s
HRFI Mount Harif 90.40 300 *e*P **P** **13 36 56.6 +0.6**
YUK4 Talbot Arm 90.47 29 P **P** **13 36 56.9 +1.0**
baz=275
EIL Elat 90.49 300 LR LR 14 21 32.9
comp=Z,80nm,20.8s,baz=102,slow=38
YUK6 Outpost Mounta 90.64 29 P **P** **13 36 57.4 +0.7**
baz=275
EPYK Eagle Plains 90.79 24 IAmb IAmb 13 36 58.4
comp=Z,21nm,1.0s
EPYK Eagle Plains 90.79 24 P **P** **13 36 57.0 -0.1**
baz=277,SNR=9.9
KIZK Mersin 90.83 306 *e*P **P** **13 36 57.3 -0.5**
SYO Syowa Base 90.85 201⇑*i*P **P** **13 36 58.0 +0.8**
SYO Syowa Base 90.85 201⇑*e*PcP **PcP** **13 37 00.6 +2.4**
BRTR Keskin Array B 91.03 310 P **P** **13 36 58.5 -0.5**
comp=Z,6.9nm,0.8s,baz=116,slow=5.6,SNR=17
BRTR PP **PP** **13 40 35.3 -0.6**
comp=Z,1.2nm,0.7s,baz=136,slow=9.3,SNR=1.9
BRTR LR LR 14 25 20.0
comp=Z,70nm,20.0s,baz=86,slow=40
HYT Haines Junctio 91.07 29 P **P** **13 36 59.6 +0.9**
baz=276
IKL Isikli 91.21 306 *e*P **P** **13 36 59.4 -0.2**
MAYO Mayo, Yukon 91.49 26 P **P** **13 37 01.2 +0.8**
baz=278
AFSR Afar-Bala (An 91.49 309 *e*P **P** **13 37 00.7 -0.3**
INK Inuvik 91.73 22 P **P** **13 37 01.2 -0.1**
comp=Z,17nm,1.0s,baz=275,slow=6.0,SNR=17
INK LR LR 14 18 06.3
comp=Z,111nm,21.9s,baz=254,slow=35
INK Inuvik 91.73 22 IAmb IAmb 13 37 02.4
comp=Z,26nm,1.1s
INK Inuvik 91.73 22 P **P** **13 37 01.1 -0.2**
baz=280,SNR=14
QSPA South Pole Qui 91.97 180 P **P** **13 37 03.0 +0.4**
comp=Z,16nm,0.8s,baz=147,slow=1.3,SNR=64
QSPA South Pole Qui 91.97 180 P **P** **13 37 03.0 +0.4**
ARA0 ARCESS Array S 91.99 340 *e*P **P** **13 37 02.1 -0.4**
ARCES ARCESS Array B 91.99 340 P **P** **13 37 02.4 -0.2**
comp=Z,31nm,0.8s,baz=74,slow=4.4,SNR=36
ARCES PKKP **PKKPdf** **13 54 20.0 +0.9**
comp=Z,3.5nm,0.9s,baz=352,slow=2.5,SNR=5.2
ARCES ARCESS Array B 91.99 340 IAmb IAmb 13 37 03.7
comp=Z,35nm,0.9s
SPITS Spitsbergen Ar 92.10 349 P **P** **13 37 02.8 -0.1**
comp=Z,9.7nm,0.7s,baz=95,slow=7.6,SNR=9.3
GAZI Gazipasa 92.31 306 *e*P **P** **13 37 03.6 -1.2**
SKAG Skagway 92.32 30 P **P** **13 37 06.0 +1.8**
SKAG IAmb IAmb 13 37 06.5
comp=Z,26nm,1.0s
SKAG Skagway 92.32 30 P **P** **13 37 05.3 +1.0**
baz=278
HAMF Hammerfest 92.37 341 *e*P **P** **13 37 03.5 -0.8**
WHY Whitehorse 92.37 29 P **P** **13 37 04.0 -0.6**
WHY IAmb IAmb 13 37 06.9
comp=Z,28nm,1.0s
WHY Whitehorse 92.37 29 P **P** **13 37 05.6 +1.0**
baz=278
KIZT Kizilcal 92.45 309 *e*P **P** **13 37 04.6 -0.9**
KBS Kingsbay 92.63 350 *e*P **P** **13 37 05.0 -0.4**
SIT Sitka 92.65 33 P **P** **13 37 06.8 +1.0**
baz=278
SVRH Sivrihisar-ESK 92.69 309 *e*P **P** **13 37 06.0 -0.5**
FARO Faro, Yukon 92.85 28 P **P** **13 37 07.5 +0.8**
baz=280
KTK1 Kautokeino 92.89 339 *e*P **P** **13 37 05.9 -0.8**
AKASG Malin Array Be 93.14 321 P **P** **13 37 06.7 -1.6**
comp=Z,8.5nm,0.8s,baz=71,slow=4.2,SNR=33
AKASG LR LR 14 22 47.3
comp=Z,199nm,21.8s,baz=60,slow=38
AKASG Malin Array Be 93.14 321 *i* P **P** **13 37 07.0 -1.2**
AKASG pmax pmax
comp=Z,10.0nm,0.8s
PURM Purcari 93.20 317 ⇓P **P** **13 37 09.3 +0.7**
FINES FINESS Array B 93.27 332 P **P** **13 37 07.6 -1.0**
comp=Z,7.1nm,0.8s,baz=81,slow=6.0,SNR=16
FINES LR LR 14 23 19.1
comp=Z,130nm,19.2s,baz=79,slow=38
SRCK Saricakaya, Es 93.32 310 *e*P **P** **13 37 08.4 -0.9**
GULT Gulveren 93.37 311 *e*P **P** **13 37 08.6 -1.0**

MNK	**Minsk**	**93.44**	**325**	*i* P	**P**	**13 37 09.6**	**+0.1**
MNK				*i*		13 40 53.6	
MNK				*i* PPP	PPP	13 42 54.1	
MNK				*i* S	**SKSac**	**13 47 41.0**	**+1.6**
MNK				*i* SS	**SS**	**13 54 32.9**	**+2.2**
MNK				*i* SSS	SSS	13 58 13.8	
MNK				pmax	pmax		
	comp=Z,30nm,0.9s						
MNK				pmax	pmax		
	comp=N,19nm,0.7s						
MNK				pmax	pmax		
	comp=E,7.0nm,1.1s						
MNK				MLR	MLR		
	comp=E,49nm,24.0s						
MNK				MLR	MLR		
	comp=Z,317nm,21.0s						
MNK				MLR	MLR		
	comp=N,153nm,28.0s						
MNK	**Minsk**	**93.44**	**325**	*i* P	**P**	**13 37 09.6**	**+0.1**
	comp=E,7.0nm,1.1s						
MNK				*i* P	**P**	**13 37 09.6**	**+0.1**
	comp=N,19nm,0.7s						
MNK				*i* P	**P**	**13 37 09.6**	**+0.1**
	comp=Z,30nm,0.8s,baz=261						
MNK				*i* PP	**PP**	**13 40 53.6**	**-0.5**
MNK				*i* PPP	PPP	13 42 54.1	
MNK				*i* S	**SKSac**	**13 47 41.1**	**+1.7**
MNK				*i* SS	**SS**	**13 54 33.0**	**+2.3**
MNK				*i* SSS	SSS	13 58 13.8	
MNK				*i* LQ	LQ	14 13 24.5	
MNK				*i* LR	LR	14 16 47.1	
MNK				*i* LRM	MLR	14 19 11.5	
	comp=E,49nm,23.9s						
MNK				*i* LRM	MLR	14 19 14.0	
	comp=Z,317nm,20.9s						
MNK				*i* LRM	MLR	14 19 44.7	
	comp=N,153nm,28.1s						
TAOE	**Nuku Hiva Isla**	**93.46**	**99**	*e*LR	LR	14 07 07.4	
	comp=N,653nm,25.1s						
BORA	**Eskisehir**	**93.47**	**310**	*e*P	**P**	**13 37 09.1**	**-1.0**
SHUT	**Suhut-Afyon**	**93.52**	**309**	*e*P	**P**	**13 37 09.7**	**-0.7**
JETT	**Jettan, Norway**	**93.72**	**340**	*e*P	**P**	**13 37 10.8**	**+0.2**
MMPY	**Sheldon Lake,**	**93.73**	**27**	P	**P**	**13 37 11.9**	**+1.2**
	baz=282						
ADVT	**Abdulvahap**	**93.96**	**311**	*e*P	**P**	**13 37 11.5**	**-0.7**
HRT	**Hereke**	**93.97**	**311**	*e*P	P	13 37 18.5	+6.1
NACGM	**Naroch**	**94.02**	**325**	*i* P	**P**	**13 37 11.8**	**-0.4**
SORM	**Soroca**	**94.04**	**318**	⇑P	**P**	**13 37 12.3**	**-0.1**
SORM	**Soroca**	**94.04**	**318**	⇑P	**P**	**13 37 12.3**	**-0.1**
TLCR		**94.09**	**315**	⇑P	**P**	**13 37 13.8**	**+1.1**
TLCR		**94.09**	**315**	⇑P	**P**	**13 37 13.8**	**+1.1**
WRAK	**Wrangell Islan**	**94.37**	**33**	P	**P**	**13 37 14.5**	**+0.8**
WRAK	**Wrangell Islan**	**94.37**	**33**	P	**P**	**13 37 14.5**	**+0.8**
	baz=280						
TPGR	**Topolog**	**94.41**	**315**	⇓P	**P**	**13 37 14.3**	**0.0**
TIRR	**Tirgusor**	**94.47**	**315**	⇑P	**P**	**13 37 14.5**	**+0.1**
TIRR	**Tirgusor**	**94.47**	**315**	⇑P	**P**	**13 37 14.5**	**+0.1**
VLDR	**Vladesti**	**94.52**	**316**	⇑P	**P**	**13 37 15.7**	**+1.0**
CFR	**Carcaliu**	**94.57**	**315**	⇑P	**P**	**13 37 15.0**	**+0.1**
CFR	**Carcaliu**	**94.57**	**315**	⇑P	**P**	**13 37 15.0**	**+0.1**
VASR	**Vaslui**	**94.61**	**317**	⇓P	**P**	**13 37 15.0**	**-0.2**
HARR	**Harsova**	**94.78**	**315**	⇓P	**P**	**13 37 16.5**	**+0.6**
HARR	**Harsova**	**94.78**	**315**	⇓P	**P**	**13 37 16.5**	**+0.6**
DLBC	**Dease Lake**	**95.20**	**31**	P	**P**	**13 37 18.4**	**+0.7**
	comp=N,8.3nm,0.9s,baz=297,slow=4.6,SNR=16						
TGTN	**Hyland Airport**	**95.35**	**28**	P	**P**	**13 37 19.1**	**+0.9**
	baz=284						
TESR	**Tescani**	**95.41**	**317**	⇓P	**P**	**13 37 18.8**	**0.0**
WTLY	**Watson Lake, Y**	**95.44**	**29**	P	**P**	**13 37 19.6**	**+0.9**
	baz=284						
VRI	**Vrincioaia**	**95.45**	**316**	⇓P	**P**	**13 37 19.4**	**+0.4**
VRI	**Vrincioaia**	**95.45**	**316**	*e*P	**P**	**13 37 18.6**	**-0.4**
VRI	**Vrincioaia**	**95.45**	**316**	⇓P	**P**	**13 37 19.4**	**+0.4**
PLOR	**Plostina**	**95.51**	**316**	⇓P	**P**	**13 37 19.4**	**+0.1**
PLOR	**Plostina**	**95.51**	**316**	⇓P	**P**	**13 37 19.4**	**+0.1**
BISRR	**Bisoca**	**95.52**	**316**	⇓P	**P**	**13 37 20.3**	**+1.0**
BIZ	**Bicaz**	**95.72**	**317**	⇓P	**P**	**13 37 20.3**	**+0.1**
NEHR	**Nehoiu**	**95.82**	**316**	⇓P	**P**	**13 37 21.1**	**+0.4**
STEI	**Steigen**	**96.03**	**339**	*e*P	**P**	**13 37 19.7**	**-1.4**
MLR	**Muntele Rosu**	**96.06**	**316**	⇓P	**P**	**13 37 21.5**	**-0.4**
MLR	**Muntele Rosu**	**96.06**	**316**	P	**P**	**13 37 22.0**	**+0.1**
	comp=N,18nm,0.9s,baz=272,slow=0.5,SNR=17						
MLR	**Muntele Rosu**	**96.06**	**316**	P	**P**	**13 37 22.0**	**+0.1**
MLR	**Muntele Rosu**	**96.06**	**316**	IAmb	IAmb	13 37 22.7	
	comp=Z,20nm,0.9s						
BURAR	**Bucovina Array**	**96.20**	**318**	⇑P	**P**	**13 37 22.9**	**+0.4**
BURAR	**Bucovina Array**	**96.20**	**318**	⇑P	**P**	**13 37 22.9**	**+0.4**
BURAR	**Bucovina Array**	**96.20**	**318**	P	**P**	**13 37 22.3**	**-0.2**
FAUS	**Fauske**	**96.20**	**339**	*e*P	**P**	**13 37 20.8**	**-1.1**
BUR08	**Bucovina Ar. S**	**96.21**	**318**	IAmb	IAmb	13 37 24.1	
	comp=Z,22nm,0.9s						
DOPR	**Dopca**	**96.36**	**317**	⇑P	**P**	**13 37 23.1**	**0.0**
LVV	**L'vov**	**96.57**	**320**	*e*P	**P**	**13 37 26.5**	**+2.5**
URLA	**Izmir**	**96.63**	**309**	*e*P	**P**	**13 37 23.6**	**-0.9**
VOIR		**96.69**	**316**	⇓P	**P**	**13 37 24.7**	**0.0**
VOIR		**96.69**	**316**	⇓P	**P**	**13 37 24.7**	**0.0**
ARCR	**ARCALIA**	**96.87**	**318**	⇑P	**P**	**13 37 26.0**	**+0.6**
MOR8	**Moi Rana**	**96.95**	**338**	*e*P	**P**	**13 37 23.4**	**-2.0**
ARR	**Arges**	**96.99**	**316**	⇓P	**P**	**13 37 26.6**	**+0.6**
KWP	**Kalwaria Pacla**	**97.45**	**320**	P	Pdif	13 37 28.7	+0.7
KWP	**Kalwaria Pacla**	**97.45**	**320**	P	Pdif	13 37 28.7	+0.7
LOT	**Lotru**	**97.57**	**316**	⇑P	Pdif	13 37 29.3	+0.5
KOLS	**Kolonicke sedl**	**97.88**	**320**	*e*P	**P**	**13 37 29.5**	**-0.4**
KOLS	**Kolonicke sedl**	**97.88**	**320**	*e*PDIFF	**P**	**13 37 29.5**	**-0.4**
UZH	**Uzhgorod**	**97.93**	**320**	⇑*e*P	Pdif	13 37 30.2	+0.1
UZH				*e*		13 37 43.0	
DRGR		**98.03**	**318**	⇑P	Pdif	13 37 31.4	+0.7
DRGR		**98.03**	**318**	⇑P	Pdif	13 37 31.4	+0.6
CRVS	**Cervenica-Dubn**	**98.41**	**320**	*e*P	Pdif	13 37 32.4	+0.1
CRVS	**Cervenica-Dubn**	**98.41**	**320**	*e*PDIFF	Pdif	13 37 32.4	+0.1
IDI	**Anoyia**	**98.42**	**306**	P	**P**	**13 37 32.0**	**-0.7**
	comp=Z,16nm,0.9s,baz=63,slow=2.3,SNR=4.0						
VTS	**Vitosha**	**98.47**	**313**	⇓P	**P**	**13 37 32.8**	**-0.1**
VTS	**Vitosha**	**98.47**	**313**	⇓P	**P**	**13 37 32.8**	**-0.1**
SIRR	**Siria**	**98.85**	**317**	⇑P	Pdif	13 37 34.8	+0.5
MDVR	**Moldovita**	**99.13**	**316**	⇑P	**Pdif**	**13 37 36.1**	**+0.4**
RES	**Resolute Bay**	**99.46**	**10**	P	**Pdif**	**13 37 34.5**	**-1.9**
	comp=Z,14nm,0.8s,baz=308,slow=5.3,SNR=9.2						
RES	**Resolute Bay**	**99.46**	**10**	IAmb	IAmb	13 37 37.8	
	comp=Z,15nm,0.8s						
HFS	**Hagfors**	**99.46**	**332**	P	**Pdif**	**13 37 35.9**	**-0.9**
	comp=Z,5.5nm,0.9s,baz=288,slow=0.5,SNR=5.2						
HFS				LR	LR	14 26 52.9	
	comp=Z,226nm,20.3s,baz=69,slow=38						
NB2	**NORSAR Subarra**	**100.25**	**333**	P	**Pdif**	**13 37 38.6**	**-1.7**
	comp=Z,6.4nm,0.8s,baz=68,slow=4.4						
NB2	**NORSAR Subarra**	**100.25**	**333**	P	**Pdif**	**13 37 38.6**	**-1.7**
	baz=68,slow=4.4						
NOA	**NORSAR Array B**	**100.25**	**333**	P	**Pdif**	**13 37 38.3**	**-2.0**
	comp=Z,5.9nm,0.9s,baz=68,slow=4.6,SNR=16						
OKC	**Ostrava-Krasne**	**100.28**	**321**	AMS	AMS	14 21 50.0	
	comp=Z,400nm,26.4s						
NAO01	**NORSAR Array S**	**100.47**	**333**	*e*P	**Pdif**	**13 37 40.1**	**-1.1**
NEEM	**North Greenlan**	**100.59**	**359**	*i* P	**Pdif**	**13 37 42.0**	**+0.2**
NEEM				IAmb	IAmb	13 37 43.4	
	comp=Z,12nm,0.9s						
MORC	**Moravsky Berou**	**100.67**	**321**	⇑P	**Pdif**	**13 37 43.2**	**+0.8**
MORC	**Moravsky Berou**	**100.67**	**321**	⇑P	**Pdif**	**13 37 43.2**	**+0.8**
YKA	**Yellowknife Ar**	**101.04**	**25**	P	**Pdif**	**13 37 43.6**	**-0.1**
	comp=Z,4.1nm,0.9s,baz=301,slow=3.7,SNR=5.2						
YKA	**Yellowknife Ar**	**101.04**	**25**	*i* P	**Pdif**	**13 37 45.0**	**+1.3**
YKA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KRLC	**Kraliky**	**101.06**	**322**	*e*P	**Pdif**	**13 37 44.5**	**+0.4**
KRLC	**Kraliky**	**101.06**	**322**	*e*PDIFF	**Pdif**	**13 37 44.5**	**+0.4**
KRLC				AMS	AMS	14 22 10.0	
	comp=Z,500nm,37.5s						
DPC	**Dobruska-Polom**	**101.26**	**322**	*e*P	**Pdif**	**13 37 45.5**	**+0.5**
DPC	**Dobruska-Polom**	**101.26**	**322**	*e*PDIFF	**Pdif**	**13 37 45.5**	**+0.5**
DPC				AMS	AMS	14 22 00.0	
	comp=Z,500nm,31.6s						
OSTC	**Ostas**	**101.26**	**322**	AMS	AMS	14 22 00.0	
	comp=Z,400nm,27.2s						
CHVC	**Chvalec**	**101.35**	**323**	AMS	AMS	14 23 40.0	
	comp=Z,400nm,28.4s						
UPC	**Upice**	**101.40**	**322**	AMS	AMS	14 23 30.0	
	comp=Z,400nm,23.6s						
AKN	**Aaknes**	**101.58**	**335**	*e*Pdif	**Pdif**	**13 37 45.5**	**-0.6**
TREC	**Trest**	**102.09**	**321**	AMS	AMS	14 22 30.0	
	comp=Z,500nm,29.0s						
PVCC	**Panska Ves**	**102.27**	**323**	AMS	AMS	14 24 20.0	
	comp=Z,500nm,28.0s						
PRU	**Pruhonice**	**102.46**	**322**	AMS	AMS	14 24 20.0	
	comp=Z,400nm,29.2s						
PRA	**Prague**	**102.50**	**322**	AMS	AMS	14 17 40.0	
	comp=Z,4µm,29.8s						
BRG	**Berggiesshubel**	**102.54**	**323**	*e*P	**Pdif**	**13 37 51.2**	**+0.6**
BRG				Amp		13 37 52.4	
	comp=Z,7.2nm,0.9s						
BRG	**Berggiesshubel**	**102.54**	**323**	P	**Pdif**	**13 37 59.7**	**+9.1**
BRG				Amp		13 38 00.1	
	comp=Z,8.1nm,1.1s						
CLL	**Collm**	**102.95**	**324**	*e*Pdif	**Pdif**	**13 37 52.0**	**-0.4**
CLL				*e*SKSac	**SKSac**	**13 48 27.0**	**-0.7**
CLL				*e*(SP)		13 51 00.0	
CLL				*e*(PPS)		13 52 00.0	
CLL				*e*		13 52 48.0	
CLL				*e*SS	**SS**	**13 56 42.0**	**-2.1**
CLL				*e*		14 02 42.0	
CLL				*e*		14 05 18.0	
CLL	**Collm**	**102.95**	**324**	*e*P	**Pdif**	**13 37 52.0**	**-0.4**
CLL				*e*		13 48 27.0	
CKRC	**Cesky Krumlov**	**102.97**	**321**	*e*PDIFF	**Pdif**	**13 37 57.0**	**+4.4**
KHC	**Kasperske Hory**	**103.33**	**322**	*e*P	**Pdif**	**13 37 52.1**	**-2.1**
KHC	**Kasperske Hory**	**103.33**	**322**	*e*PDIFF	**Pdif**	**13 37 52.1**	**-2.1**
KHC				AMS	AMS	14 23 20.0	
	comp=Z,700nm,35.0s						
GERES	**GERESS Array B**	**103.35**	**321**	Pdiff	**Pdif**	**13 37 54.2**	**-0.2**
	comp=Z,0.3nm,0.2s,baz=64,slow=6.1,SNR=6.3						
GERES				PKiKP	**PKiKP**	**13 42 13.1**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=64,slow=6.1,SNR=3.8						
GERES				PKKPbc	**PKKPbc**	**13 53 48.6**	**-1.8**
	comp=Z,0.9nm,0.8s,baz=215,slow=3.1,SNR=4.4						
NKC	**Novy Kostel**	**103.65**	**323**	AMS	AMS	14 25 20.0	
	comp=Z,600nm,26.0s						
VNA2	**Neumayer--Watz**	**105.20**	**194**	PKiKP	**PKiKP**	**13 42 16.5**	**+0.5**
DAVOX	**Davos/Dischmat**	**106.48**	**320**	PKKPab	PKKPab	13 53 55.5	-0.6
	comp=Z,1.6nm,0.4s,baz=321,slow=6.5,SNR=5.2						
PKM	**Mcpherson Peak**	**107.91**	**52**	PKiKP	**PKiKP**	**13 42 21.9**	**-0.4**
	baz=286						
NVAR	**Mina Array Bea**	**108.06**	**48**	Pdiff	**Pdif**	**13 38 15.6**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=271,slow=6.7,SNR=6.0						
NVAR				PKiKP	**PKiKP**	**13 42 22.6**	**0.0**
	comp=Z,0.5nm,0.7s,baz=284,slow=3.6,SNR=3.9						
NVAR				PP	**PP**	**13 42 42.2**	**-3.2**
	comp=Z,4.3nm,1.1s,baz=273,slow=7.6,SNR=7.7						
NVAR				PKKPbc	**PKKPbc**	**13 53 36.4**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=160,slow=4.3,SNR=4.8						
NVAR				PKKP	**PKKPab**	**13 53 45.6**	**-3.5**
	comp=Z,1.0nm,0.8s,baz=147,slow=4.0,SNR=3.8						
HLID	**Hailey**	**109.08**	**42**	PKiKP	**PKiKP**	**13 42 25.0**	**+0.7**
	baz=292						
BOZ	**Bozeman (W)**	**110.08**	**39**	PKiKP	**PKiKP**	**13 42 26.7**	**+0.7**
	baz=295						
GSC	**Goldstone, Bar**	**110.16**	**51**	PKiKP	**PKiKP**	**13 42 26.7**	**+0.3**
	baz=288						
EGMT	**Eagleton**	**110.16**	**37**	PKiKP	**PKiKP**	**13 42 26.5**	**+0.5**
	baz=298						
KEST	**Kesra**	**110.64**	**309**	PKiKP	**PKiKP**	**13 42 28.3**	**+1.0**
	comp=Z,4.6nm,0.5s,baz=100,slow=4.0,SNR=6.9						
KEST				PP	**PP**	**13 43 03.6**	**-0.4**
	comp=Z,4.0nm,0.8s,baz=359,slow=10,SNR=4.5						
MONP2	**Monument Peak**	**111.18**	**54**	PKiKP	**PKiKP**	**13 42 29.6**	**+1.0**
	baz=287						
BELC	**Belle Mtn. Jos**	**111.19**	**52**	PKiKP	**PKiKP**	**13 42 29.7**	**+1.3**
	baz=288						
DUG	**Dugway, Tooele**	**111.46**	**45**	PKiKP	**PKiKP**	**13 42 29.8**	**+1.0**
	baz=292						
IKP	**In-Ko-Pah, Jac**	**111.50**	**54**	PKiKP	**PKiKP**	**13 42 30.4**	**+1.4**
	baz=287						
SWSC	**Sam W. Stewart**	**111.66**	**53**	PKiKP	**PKiKP**	**13 42 28.6**	**-0.6**
	baz=288						
BW06	**Boulder Array**	**112.64**	**42**	PKiKP	**PKiKP**	**13 42 31.6**	**+0.5**
	baz=296						
PDAR	**Pinedale Array**	**112.64**	**42**	PKiKP	**PKiKP**	**13 42 30.6**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=326,slow=3.9,SNR=4.4						
PDAR				PKKPbc	**PKKPbc**	**13 53 19.6**	**-1.5**
	comp=Z,1.3nm,0.7s,baz=108,slow=4.8,SNR=7.1						
PDAR				PKKPab	**PKKPab**	**13 53 27.8**	**-1.0**
	comp=Z,3.4nm,0.9s,baz=116,slow=6.8,SNR=14						
LAO	**LASA Array**	**112.91**	**37**	PKiKP	**PKiKP**	**13 42 32.5**	**+1.3**
	baz=300						
WUAZ	**Wupatki**	**114.26**	**49**	PKiKP	**PKiKP**	**13 42 35.5**	**+1.2**
	baz=292						
O20A	**White River Ci**	**114.68**	**44**	PKiKP	PKPdf	13 42 35.8	+0.8
	baz=296						
K22A	**Casper**	**114.69**	**41**	PKiKP	PKPdf	13 42 35.1	+0.2
	baz=298						
RSSD	**Black Hills**	**115.54**	**38**	PKiKP	**PKPdf**	**13 42 36.7**	**+0.2**
	baz=301						
MVCO	**Mesa Verde**	**115.74**	**47**	PKiKP	**PKPdf**	**13 42 38.2**	**+1.0**
	baz=294						
TUC	**Tucson**	**115.87**	**52**	PKiKP	**PKiKP**	**13 42 38.3**	**+0.9**
	baz=291						
N23A	**Red Feather La**	**115.90**	**42**	PKiKP	**PKPdf**	**13 42 37.9**	**+0.5**
	baz=298						
MDND	**Maddock**	**116.04**	**33**	PKiKP	**PKPdf**	**13 42 37.9**	**+0.8**
	baz=307						
ULM	**Lac du Bonnet**	**116.45**	**29**	PKP	**PKPdf**	**13 42 36.1**	**-1.7**
	comp=Z,7.6nm,0.8s,baz=264,slow=5.0,SNR=7.4						
ISCO	**Idaho Springs**	**116.64**	**43**	PKiKP	**PKiKP**	**13 42 39.0**	**0.0**
	baz=298						
S22A	**4UR Ranch, Cre**	**116.72**	**46**	PKiKP	**PKiKP**	**13 42 39.7**	**+0.6**
	baz=296						
Q24A	**Divide**	**117.34**	**44**	PKiKP	**PKPdf**	**13 42 40.3**	**0.0**
	baz=298						
SDCO	**Great Sand Dun**	**117.66**	**45**	PKiKP	**PKiKP**	**13 42 41.1**	**+0.1**
	baz=297						
121A	**Cookes Peak, D**	**118.15**	**51**	PKiKP	**PKiKP**	**13 42 42.3**	**+0.4**
	baz=293						
ANMO	**Albuquerque**	**118.19**	**48**	PKiKP	**PKiKP**	**13 42 42.5**	**+0.6**
	baz=295						
ESDC	**Sonseca Array**	**118.66**	**318**	PKP	**PKPdf**	**13 42 42.3**	**-0.2**
	comp=Z,1.3nm,1.0s,baz=8.1,slow=3.1,SNR=4.7						
ESDC				PP	PP	13 43 50.4	-10
	comp=Z,0.5nm,0.6s,baz=60,slow=10,SNR=4.1						
T25A	**Trinidad**	**118.71**	**45**	PKiKP	**PKiKP**	**13 42 43.3**	**+0.4**
	baz=298						
EYMN	**Ely**	**120.13**	**29**	PKiKP	**PKPdf**	**13 42 44.8**	**-0.1**
	baz=314						
ECSD	**EROS Data Cent**	**120.19**	**35**	PKiKP	**PKPdf**	**13 42 45.1**	**-0.1**
	baz=308						
POLO	**Lamas de Olo**	**120.22**	**322**	*e*PKP	**PKiKP**	**13 42 46.3**	**+0.7**
MNTX	**Cornudas Mount**	**120.35**	**51**	PKPdf	**PKiKP**	**13 42 47.2**	**+1.2**
MNTX	**Cornudas Mount**	**120.35**	**51**	PKiKP	**PKiKP**	**13 42 46.7**	**+0.7**
	baz=294						
F36A	**Milaca**	**120.53**	**32**		**PKiKP**	**13 42 46.2**	**+0.3**
BGNE	**Belgrade**	**120.65**	**38**	PKiKP	**PKPdf**	**13 42 45.6**	**-0.6**
	baz=305						
PCBR	**Castelo Branco**	**120.88**	**320**	*e*PKP	**PKiKP**	**13 42 47.5**	**+0.7**
SPMN	**Marine on St.**	**121.33**	**32**	PKiKP	**PKPdf**	**13 42 47.2**	**-0.1**
	baz=312						
MSTX	**Muleshoe**	**121.35**	**48**	PKiKP	**PKPdf**	**13 42 47.9**	**0.0**
	baz=297						
PBAR	**Barrancos**	**121.49**	**318**	*e*PKP	**PKiKP**	**13 42 49.0**	**+1.0**
EVO	**Evora**	**121.94**	**319**	*e*PKP	**PKiKP**	**13 42 49.8**	**+0.9**
SCHQ	**Schefferville**	**122.22**	**9**	PKP	**PKiKP**	**13 42 49.2**	**+0.2**
	comp=Z,14nm,0.6s,baz=330,slow=1.6,SNR=14						
SCHQ	**Schefferville**	**122.22**	**9**	PKPdf	**PKiKP**	**13 42 49.6**	**+0.6**
TX31	**Lajitas Ar. Si**	**122.66**	**53**		**PKiKP**	**13 42 50.9**	**+0.2**
TX32	**Lajitas Array**	**122.66**	**53**		**PKiKP**	**13 42 50.9**	**+0.1**
TXAR	**Lajitas Array**	**122.66**	**53**	PKP	**PKiKP**	**13 42 50.9**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=256,slow=1.4,SNR=30						
TXAR				PKKPab	**PKKPbc**	**13 52 44.6**	**0.0**
	comp=Z,1.0nm,0.8s,baz=132,slow=8.6,SNR=5.2						
TXAR	**Lajitas Array**	**122.66**	**53**	PKIKP	**PKiKP**	**13 42 51.5**	**+0.8**
TXAR	**Lajitas Array**	**122.66**	**53**	PKPdf	**PKiKP**	**13 42 51.5**	**+0.8**
KSU1	**Kansas State U**	**122.94**	**39**	PKiKP	**PKPdf**	**13 42 50.7**	**0.0**
	baz=305						
SCIA	**State Center**	**123.28**	**35**	PKiKP	**PKPdf**	**13 42 51.0**	**-0.2**
	baz=310						
TORD	**Torodi Ar. Bea**	**123.36**	**287**	PKP	**PKiKP**	**13 42 52.3**	**0.0**
	comp=Z,10nm,0.9s,baz=48,slow=2.2,SNR=40						
TORD				PKKPbc	**PKKPbc**	**13 52 41.5**	**+0.1**
	comp=Z,4.6nm,0.9s,baz=284,slow=2.6,SNR=8.4						
TORD	**Torodi Ar. Bea**	**123.36**	**287**		**PKPdf**	**13 42 51.7**	**-0.4**
WMOK	**Wichita Mounta**	**123.86**	**45**	PKiKP	**PKPdf**	**13 42 52.3**	**-0.3**
	baz=301						
JFWS	**Jewell Farm**	**124.25**	**32**	PKiKP	**PKPdf**	**13 42 52.6**	**-0.5**
	baz=314						
JCT	**Junction City**	**125.19**	**50**	PKiKP	**PKPdf**	**13 42 55.3**	**+0.1**
	baz=298						
TUL1	**Leonard**	**125.29**	**42**	PKiKP	**PKPdf**	**13 42 55.1**	**-0.1**
	baz=304						
S39A	**Bolivar**	**125.85**	**39**		**PKiKP**	**13 42 57.0**	**+0.3**
L44A	**Lake County Fo**	**126.00**	**31**	PKiKP	**PKPdf**	**13 42 56.2**	**-0.2**
	baz=316						
R40A	**Maddies Statio**	**126.14**	**38**		**PKiKP**	**13 42 57.6**	**+0.4**
WHTX	**Lake Whitney,**	**126.21**	**47**	PKiKP	**PKPdf**	**13 42 57.1**	**-0.1**
	baz=300						
HDIL	**Hopedale**	**126.39**	**34**	PKiKP	**PKPdf**	**13 42 57.1**	**-0.1**
	baz=313						
833A	**Chaparral WMA,**	**126.48**	**52**	PKiKP	**PKiKP**	**13 42 58.5**	**+0.3**
	baz=297						
CCM	**Cathedral Cave**	**126.91**	**37**	PKiKP	**PKPdf**	**13 42 58.0**	**-0.3**
	baz=310						
U40A	**Yellville**	**126.96**	**40**		**PKiKP**	**13 42 59.2**	**+0.3**
U40A	**Yellville**	**126.96**	**40**	PKiKP	**PKPdf**	**13 42 58.2**	**-0.3**
	baz=307						
W39A	**Magazine**	**127.04**	**42**	PKiKP	**PKPdf**	**13 42 58.5**	**-0.1**
	baz=306						
MIAR	**Mount Ida**	**127.56**	**42**	PKiKP	**PKPdf**	**13 42 59.9**	**+0.2**
	baz=306						
SFIN	**Lafayette**	**127.71**	**32**	PKiKP	**PKPdf**	**13 42 59.8**	**+0.1**
	baz=316						
L48A	**N Adams**	**127.93**	**29**		**PKiKP**	**13 43 00.8**	**+0.1**
W41B	**Gary Mavity, V**	**128.07**	**41**	PKiKP	**PKPdf**	**13 43 00.2**	**-0.3**
	baz=307						
PLVO	**Plevna**	**128.57**	**21**	PKPdf	**PKiKP**	**13 43 02.3**	**+0.4**
D62A	**Allapoint, All**	**129.16**	**14**	PKiKP	**PKPdf**	**13 43 02.4**	**+0.1**
	baz=340						
E62A	**Clayton Lake**	**129.47**	**14**	PKiKP	**PKPdf**	**13 43 02.9**	**0.0**
	baz=339						
P49A	**Miami Univ. Ec**	**129.58**	**32**	PKiKP	**PKPdf**	**13 43 03.0**	**-0.3**
	baz=318						
WCI	**Wyandotte Cave**	**129.67**	**34**	PKiKP	**PKPdf**	**13 43 03.7**	**+0.1**
	baz=315						
LONY	**Lake Ozonia**	**129.81**	**20**	PKiKP	**PKPdf**	**13 43 03.7**	**0.0**
	baz=332						
ERPA	**Erie**	**129.84**	**26**	PKiKP	**PKPdf**	**13 43 03.5**	**-0.2**
	baz=324						
E63A	**Oxbow**	**129.92**	**14**	PKiKP	**PKPdf**	**13 43 03.7**	**0.0**
	baz=340						
ACSO	**Alum Creek Sta**	**129.94**	**30**	PKiKP	**PKPdf**	**13 43 03.9**	**0.0**
	baz=320						
F62A	**Pittston Farm,**	**130.03**	**15**	PKiKP	**PKPdf**	**13 43 03.8**	**-0.2**
	baz=338						
M53A	**WI Miller and**	**130.09**	**27**	PKiKP	**PKPdf**	**13 43 04.1**	**-0.2**
	baz=323						
WVT	**Waverly**	**130.23**	**37**	PKIKP	**PKiKP**	**13 43 05.8**	**+0.3**
WVT	**Waverly**	**130.23**	**37**	PKPdf	**PKiKP**	**13 43 05.8**	**+0.3**
WVT	**Waverly**	**130.23**	**37**	PKiKP	**PKPdf**	**13 43 04.5**	**-0.2**
	baz=312						
OXF	**Oxford**	**130.31**	**40**	PKiKP	**PKPdf**	**13 43 04.4**	**-0.5**
	baz=310						
F63A	**Nahmakanta, Br**	**130.43**	**14**	PKiKP	**PKPdf**	**13 43 04.7**	**-0.1**
	baz=339						
F64A	**Sherman**	**130.47**	**14**	PKiKP	**PKPdf**	**13 43 05.0**	**+0.2**
	baz=340						
M54A	**Oil Creek Stat**	**130.48**	**26**	PKPdf	**PKPdf**	**13 43 05.2**	**+0.2**
M54A	**Oil Creek Stat**	**130.48**	**26**	PKiKP	**PKPdf**	**13 43 04.9**	**-0.1**
	baz=324						
G62A	**West of Eustis**	**130.51**	**16**	PKiKP	**PKPdf**	**13 43 05.1**	**+0.2**
	baz=337						
KIC	**Kosan Boka**	**130.77**	**280**	*e*P	**PKiKP**	**13 43 08.6**	**+1.4**
	comp=Z,16nm,0.7s						
N54A	**Moraine State**	**130.78**	**27**	PKiKP	**PKPdf**	**13 43 05.6**	**0.0**
	baz=324						
O53A	**New Philadelph**	**130.78**	**28**	PKiKP	**PKPdf**	**13 43 05.7**	**+0.1**
	baz=322						
PKME	**Peaks-Kenny Pk**	**130.79**	**15**	PKiKP	**PKPdf**	**13 43 05.6**	**+0.2**
	baz=339						
P52A	**Corning**	**130.82**	**29**	PKiKP	**PKPdf**	**13 43 05.5**	**-0.1**
	baz=321						
DBIC	**Dimbokro**	**130.84**	**281**	PKP	**PKiKP**	**13 43 07.1**	**-0.2**
	comp=Z,6.2nm,0.8s,baz=155,slow=3.6,SNR=7.4						
DBIC				SKPbc	**SKPbc**	**13 46 25.4**	**-0.9**
	comp=Z,31nm,1.2s,baz=112,slow=5.7,SNR=6.3						
PLAL	**Pickwick Lake**	**130.84**	**38**	PKPdf	**PKiKP**	**13 43 06.3**	**-0.4**
I60A	**Shoreham**	**130.93**	**19**	PKiKP	**PKPdf**	**13 43 05.9**	**+0.2**
	baz=333						
G64A	**Maxfield**	**130.94**	**14**	PKiKP	**PKPdf**	**13 43 05.9**	**+0.2**
	baz=339						
LBNH	**Lisbon**	**131.00**	**18**	PKiKP	**PKPdf**	**13 43 06.3**	**+0.4**
	baz=335						
TIC	**Toumodi**	**131.01**	**281**	*e*P	**PKiKP**	**13 43 09.1**	**+1.4**
LIC	**Lamto**	**131.07**	**280**	*e*P	**PKiKP**	**13 43 07.4**	**-0.4**
	comp=Z,97nm,1.7s						
G65A	**Princeton**	**131.28**	**13**		**PKiKP**	**13 43 06.8**	**-0.5**
G65A	**Princeton**	**131.28**	**13**	PKiKP	**PKPdf**	**13 43 06.4**	**+0.1**
	baz=341						
H64A	**Troy**	**131.39**	**15**	PKiKP	**PKPdf**	**13 43 06.8**	**+0.2**
	baz=339						
BINY	**Binghamton**	**131.41**	**22**	PKiKP	**PKPdf**	**13 43 06.5**	**-0.2**
	baz=329						
I62A	**Tamworth**	**131.51**	**17**	PKiKP	**PKPdf**	**13 43 06.7**	**-0.1**
	baz=336						
I63A	**Otisfield**	**131.57**	**17**	PKiKP	**PKPdf**	**13 43 07.2**	**+0.2**
	baz=337						
J61A	**Chester**	**131.61**	**19**	PKiKP	**PKPdf**	**13 43 07.1**	**+0.1**
	baz=334						
H66A	**Whiting**	**131.73**	**13**	PKiKP	**PKPdf**	**13 43 07.5**	**+0.3**
	baz=341						
J62A	**Henniker**	**131.95**	**18**	PKiKP	**PKPdf**	**13 43 08.2**	**+0.4**
	baz=335						
I64A	**Boothbay**	**131.95**	**16**	PKiKP	**PKPdf**	**13 43 07.7**	**0.0**
	baz=338						
SSPA	**Standing Stone**	**131.96**	**25**	PKiKP	**PKPdf**	**13 43 08.0**	**+0.2**
	baz=326						
K61A	**Williamstown**	**131.98**	**20**	PKiKP	**PKPdf**	**13 43 07.9**	**+0.1**
	baz=333						
J63A	**Strafford**	**132.13**	**17**	PKiKP	**PKPdf**	**13 43 08.4**	**+0.4**
	baz=336						
K62A	**Royalston**	**132.32**	**19**	PKiKP	**PKPdf**	**13 43 08.6**	**+0.1**
	baz=334						
L61B	**Northampton**	**132.37**	**19**	PKiKP	**PKPdf**	**13 43 08.5**	**0.0**
	baz=333						
TZTN	**Tazewell**	**132.40**	**33**		**PKiKP**	**13 43 09.9**	**0.0**
TZTN	**Tazewell**	**132.40**	**33**	PKiKP	**PKPdf**	**13 43 08.7**	**-0.1**
	baz=317						
K63A	**Dunstable**	**132.53**	**18**	PKiKP	**PKPdf**	**13 43 09.1**	**+0.3**
	baz=335						
N59A	**State Game Lan**	**132.59**	**23**	PKiKP	**PKPdf**	**13 43 09.2**	**+0.1**
	baz=329						
HRV	**Adam Dziewonsk**	**132.68**	**18**	PKiKP	**PKPdf**	**13 43 09.5**	**+0.4**
	baz=335						
LRAL	**Lakeview Retre**	**132.79**	**39**	PKiKP	**PKiKP**	**13 43 10.2**	**-0.6**
	baz=311						
TKL	**Tuckaleechee C**	**132.92**	**34**	PKIKP	**PKiKP**	**13 43 11.0**	**0.0**
TKL	**Tuckaleechee C**	**132.92**	**34**		**PKiKP**	**13 43 10.9**	**0.0**
L63A	**North Scituate**	**133.25**	**19**	PKiKP	**PKPdf**	**13 43 10.7**	**+0.5**
	baz=335						
L64A	**Middleborough**	**133.42**	**18**	PKiKP	**PKPdf**	**13 43 11.0**	**+0.5**
	baz=336						
BLA	**Blacksburg**	**133.54**	**30**	PKiKP	**PKPdf**	**13 43 11.2**	**+0.2**
	baz=321						
L65A	**Cape Cod Natio**	**133.58**	**17**	PKiKP	**PKPdf**	**13 43 11.3**	**+0.5**
	baz=337						
P60A	**Greenville**	**133.59**	**24**	PKiKP	**PKPdf**	**13 43 10.8**	**-0.1**
	baz=328						
CBN	**Corbin Frederi**	**134.19**	**27**	PKiKP	**PKPdf**	**13 43 12.6**	**+0.6**
	baz=326						
KMSC	**Kings Mountain**	**134.65**	**33**	PKiKP	**PKPdf**	**13 43 13.4**	**+0.3**
	baz=319						
GOGA	**Godfrey**	**134.70**	**36**	PKiKP	**PKPdf**	**13 43 13.4**	**+0.2**
	baz=315						
TRQA	**Tornquist**	**143.30**	**169**	*e*P	**PKPdf**	**13 43 27.6**	**-1.1**
FSCY	**Frank Sound, G**	**145.36**	**51**		**PKPab**	**13 43 34.2**	**+1.3**
ORTG	**Ortega, Santa**	**145.72**	**68**		**PKPab**	**13 43 35.8**	**+1.3**
LCCY	**Blossom Villag**	**146.00**	**49**		**PKPab**	**13 43 36.1**	**+0.9**
SACV	**Santiago Islan**	**146.06**	**301**	PKPdf	**PKPab**	**13 43 36.8**	**+1.1**
CBCY	**The Bluff, Cay**	**146.21**	**49**		**PKPab**	**13 43 36.5**	**+0.4**
JTS	**Las Juntas de**	**146.22**	**68**	PKPbc	**PKPbc**	**13 43 35.6**	**0.0**
	comp=Z,27nm,0.7s,baz=347,slow=4.1,SNR=20						
SRBA	**San Rafael, Bu**	**148.05**	**69**		**PKiKP**	**13 43 42.6**	**0.0**
PRVC	**Isla de Provid**	**148.25**	**60**	*e*P	**PKPbc**	**13 43 41.5**	**+0.4**
GTBY	**Guantanamo Bay**	**149.44**	**43**	*e*P	**PKPbc**	**13 43 43.6**	**-0.4**
PLTB	**Pedras Altas**	**150.45**	**180**		**PKiKP**	**13 43 47.5**	**+0.6**
PLTB	**Pedras Altas**	**150.45**	**180**	*e*P	**PKPdf**	**13 43 41.6**	**+0.7**
GRTK	**Grand Turk**	**150.82**	**36**		**PKiKP**	**13 43 48.4**	**+0.5**
BCIP	**Isla Barro Col**	**151.33**	**67**	PKIKP	**PKiKP**	**13 43 49.0**	**-0.2**
BCIP	**Isla Barro Col**	**151.33**	**67**		**PKiKP**	**13 43 49.0**	**-0.2**
BCIP	**Isla Barro Col**	**151.33**	**67**	*e*P	**PKPbc**	**13 43 47.4**	**-1.3**
CPSB	**Cacapava Do Su**	**151.80**	**180**	*e*P	**PKPdf**	**13 43 43.9**	**+1.0**
CNLB	**Canela**	**152.79**	**185**	*e*P	**PKPdf**	**13 43 44.4**	**-0.2**
TER01	**Tubaro-SC**	**153.37**	**188**	*e*P	**PKPdf**	**13 43 46.1**	**+0.8**
PAC1	**Pacto, Paraso**	**154.44**	**85**	*e*P	**PKPdf**	**13 43 45.1**	**-2.3**
LVC	**Limon Verde**	**154.58**	**145**	PKPbc	**PKiKP**	**13 43 56.5**	**+0.3**
	comp=Z,17nm,1.0s,baz=161,slow=2.0,SNR=4.8						
LVC				PKPab	**pPKPbc**	**13 44 12.1**	**+0.8**
	comp=Z,39nm,1.0s,baz=227,slow=3.0,SNR=8.6						
LVC	**Limon Verde**	**154.58**	**145**	*e*P	**PKPdf**	**13 43 47.3**	**-0.3**
NNA	**Nana**	**154.69**	**114**	PKPbc	**PKiKP**	**13 43 57.4**	**+1.2**
	comp=Z,37nm,1.1s,baz=299,slow=4.6,SNR=6.9						
NNA				PKPab	**PKPab**	**13 44 11.0**	**-0.2**
	comp=Z,15nm,0.8s,baz=113,slow=1.5,SNR=3.8						
OTAV	**Otavalo**	**154.78**	**85**	*e*P	**PKPdf**	**13 43 49.3**	**+1.0**
OTAV	**Otavalo**	**154.78**	**85**	*e*P	**PKPdf**	**13 43 48.0**	**-0.3**

ITAB	**Concordia**	**154.94**	**183**	*e*P	**PKPdf**	**13 43 47.8**	**+0.2**
SJCC	**San Jacinto, C**	**155.22**	**61**	*e*P	**PKPdf**	**13 43 49.1**	**+0.8**
DBBC	**Dabeiba**	**155.45**	**68**	*e*P	**PKPdf**	**13 43 50.8**	**+2.1**
CPUP	**Villa Florida**	**155.56**	**171**	PKPbc	PKPdf	13 43 58.1	+10
	comp=Z,15nm,1.0s,baz=226,slow=2.7,SNR=4.4						
CPUP				PKPab	**PKPab**	**13 44 14.1**	**-0.1**
	comp=Z,33nm,1.0s,baz=204,slow=6.5,SNR=7.4						
CPUP	**Villa Florida**	**155.56**	**171**	*e*P	**PKPdf**	**13 43 48.5**	**+0.1**
BBAC	**Balboa, Cauca**	**155.75**	**81**	*e*P	**PKPdf**	**13 43 51.2**	**+1.8**
CBOC	**Ciudad Bolivar**	**156.02**	**71**	*e*P	**PKPdf**	**13 43 45.8**	**-3.8**
YOTC	**Yotoco, Valle**	**156.23**	**75**	*e*P	**PKPdf**	**13 43 48.3**	**-1.5**
ZARC	**Zaragoza, Cauc**	**156.52**	**66**	*e*P	**PKPdf**	**13 43 50.7**	**+0.7**
SMLC	**San Martn de**	**156.68**	**62**	*e*P	**PKPdf**	**13 43 49.5**	**-0.7**
GUY2C	**Guyana, Caldas**	**156.83**	**72**	*e*P	**PKPdf**	**13 43 51.4**	**+0.3**
MARP	**Paez Belalcaza**	**156.87**	**78**	*e*P	**PKPdf**	**13 43 52.4**	**+1.5**
URIC	**Uribia, Colomb**	**156.96**	**53**	*e*P	**PKPdf**	**13 43 51.9**	**+1.3**
TOLC	**Tolima**	**157.06**	**73**	*e*P	**PKPdf**	**13 43 51.9**	**+0.8**
PET01	**Itanhaem-SP**	**157.13**	**194**	*e*P	**PKPdf**	**13 43 50.5**	**0.0**
CAM01	**Campos-RJ**	**157.30**	**209**	*e*P	**PKPdf**	**13 43 51.1**	**+0.4**
ORTC	**Ortega, Tolima**	**157.31**	**75**	*e*P	**PKPdf**	**13 43 50.3**	**-0.8**
PTGB	**Pitanga**	**157.44**	**183**	*e*P	**PKPdf**	**13 43 51.7**	**+0.7**
PARB	**Paraibuna**	**157.56**	**199**	*e*P	**PKPdf**	**13 43 51.1**	**-0.1**
SPBC	**San Pablo de B**	**157.92**	**70**	*e*P	**PKPdf**	**13 43 52.7**	**+0.8**
ROSC	**El Rosal**	**157.94**	**72**	PKP	**PKPdf**	**13 43 52.9**	**+0.5**
	comp=Z,9.2nm,0.4s,baz=182,slow=5.4,SNR=6.5						
ROSC				PKPab	**PKPab**	**13 44 27.9**	**+2.3**
	comp=Z,38nm,0.9s,baz=325,slow=0.7,SNR=7.4						
VAO	**Valinhos**	**158.28**	**196**	*e*P	**PKPdf**	**13 43 52.0**	**-0.1**
BARC	**Barichara**	**158.40**	**66**	*e*P	**PKPdf**	**13 43 51.6**	**-1.1**
CHIC	**Chingaza**	**158.56**	**72**	*e*P	**PKPdf**	**13 43 52.0**	**-1.1**
RIB01	**Linhares ES**	**158.68**	**216**	*e*P	**PKPdf**	**13 43 53.4**	**+0.8**
RUSC	**La Rusia**	**158.75**	**68**	*e*P	**PKPdf**	**13 43 53.1**	**-0.3**
RCLB	**Rio Claro- Sao**	**158.99**	**195**	*e*P	**PKPdf**	**13 43 53.5**	**+0.6**
MACC	**Macarena, Meta**	**159.07**	**79**	*e*P	**PKPdf**	**13 43 54.5**	**+1.2**
TRCB	**Terra Rica**	**159.37**	**182**	*e*P	**PKPdf**	**13 43 54.7**	**+1.3**
SDV	**Santo Domingo**	**159.62**	**58**	PKP	**PKPdf**	**13 43 54.0**	**0.0**
	comp=Z,25nm,1.0s,baz=74,slow=1.0,SNR=15						
SDV				PKPab	**PKPab**	**13 44 33.8**	**+1.3**
	comp=Z,25nm,0.8s,baz=300,slow=2.4,SNR=7.8						
SDV	**Santo Domingo**	**159.62**	**58**	*e*P	**PKPdf**	**13 43 54.2**	**+0.2**
SJMB	**Sao Joao De Ma**	**159.62**	**215**	*e*P	**PKPdf**	**13 43 54.4**	**+0.7**
PCMB	**Pacaembu**	**160.46**	**186**	*e*P	**PKPdf**	**13 43 54.8**	**+0.2**
BB19B	**Bebedouro**	**160.53**	**194**	*e*P	**PKPdf**	**13 43 55.4**	**+0.7**
CMC01	**Camacan, BA**	**161.02**	**225**	*e*P	**PKPdf**	**13 43 56.0**	**+0.7**
DIAM	**Diamantina, MG**	**161.28**	**210**	*e*P	**PKPdf**	**13 43 55.1**	**-0.6**
NBAN	**Anadia - AL**	**161.43**	**245**	*e*P	**PKPdf**	**13 43 56.6**	**+0.8**
NBPV	**Pedro Velho**	**161.50**	**256**	*e*P	**PKPdf**	**13 43 54.7**	**-1.2**
AQDB	**Aquidauana**	**161.55**	**173**	*e*P	**PKPdf**	**13 43 56.1**	**+0.4**
GDU01	**Guandu, BA**	**162.13**	**229**	*e*P	**PKPdf**	**13 43 56.9**	**+0.4**
NBLA	**Lagarto - SE**	**162.20**	**239**	*e*P	**PKPdf**	**13 43 57.0**	**+0.5**
NBLV	**Livramento - P**	**162.82**	**252**	*e*P	**PKPdf**	**13 43 57.9**	**+0.6**
TBTG	**Tabatinga, AM**	**163.31**	**98**	*e*P	**PKPdf**	**13 43 58.2**	**+0.5**
SIV	**San Ignacio**	**164.19**	**152**	PKPab	**PKPab**	**13 44 53.2**	**+1.1**
	comp=Z,27nm,0.9s,baz=228,slow=4.6,SNR=7.5						
NBPN	**Ponto Novo - B**	**164.31**	**236**	*e*P	**PKPdf**	**13 43 58.0**	**-0.6**
JANB	**Januaria**	**164.31**	**214**	*e*P	**PKPdf**	**13 43 59.4**	**+0.8**
PP1B	**Ponte de Pedra**	**164.48**	**174**	*e*P	**PKPdf**	**13 43 58.5**	**-0.2**
NBMA	**Muriti-CE**	**164.56**	**250**	*e*P	**PKPdf**	**13 43 59.2**	**+0.4**
NBCL	**Cascavel-CE**	**164.83**	**261**	*e*P	**PKPdf**	**13 43 59.7**	**+0.6**
BDFB	**Brasilia**	**165.52**	**201**	PKP	**PKPdf**	**13 43 60.0**	**+0.3**
	comp=Z,3.6nm,0.7s,baz=185,slow=4.4,SNR=5.4						
BDFB				PKPab	**PKPab**	**13 44 58.6**	**+0.7**
	comp=Z,3.7nm,0.5s,baz=42,slow=2.3,SNR=4.0						
NBPB	**Pedra_Branca-C**	**165.85**	**255**	*e*P	**PKPdf**	**13 44 00.4**	**+0.5**
SALV	**Santo Antonio**	**166.04**	**171**	*e*P	**PKPdf**	**13 44 00.8**	**+0.9**
ARAG	**Araguaiana, MT**	**166.35**	**186**	*e*P	**PKPdf**	**13 44 00.8**	**+0.6**
NBMO	**Morrinhos-CE**	**166.66**	**264**	*e*P	**PKPdf**	**13 44 01.1**	**+0.6**
SDBA	**SAO DESIDERIO**	**166.75**	**219**	*e*P	**PKPdf**	**13 44 01.3**	**+0.6**
PEXB	**Peixe**	**168.84**	**206**	*e*P	**PKPdf**	**13 44 02.6**	**+0.5**
ROSB	**Rosrio**	**170.76**	**265**	*e*P	**PKPdf**	**13 44 03.4**	**+0.1**
SMTB	**Santa Maria do**	**171.15**	**220**	*e*P	**PKPdf**	**13 44 04.1**	**+0.7**
BOAV	**Boa Vista**	**171.56**	**58**	*e*P	**PKPdf**	**13 44 04.1**	**+0.4**
MACA	**Manacapuru-AM**	**172.57**	**99**	*e*P	**PKPdf**	**13 44 04.4**	**+0.3**
PTGA	**Pitinga**	**173.24**	**79**	PKP	**PKPdf**	**13 44 04.0**	**-0.4**
	comp=Z,3.2nm,0.8s,baz=40,slow=2.6,SNR=7.9						
PRPB	**Parauapebas**	**174.61**	**221**	*e*P	**PKPdf**	**13 44 05.1**	**+0.3**
NPGB	**Novo Progresso**	**174.65**	**158**	*e*P	**PKPdf**	**13 44 05.1**	**+0.2**
TMAB	**Tom-Au,PA,Br**	**174.76**	**266**	*e*P	**PKPdf**	**13 44 05.0**	**+0.1**
ITTB	**Itaituba**	**176.68**	**134**	*e*P	**PKPdf**	**13 44 05.4**	**0.0**
MCPB	**Macapa, AP**	**177.89**	**323**	*e*P	**PKPdf**	**13 44 05.5**	**0.0**
MALB	**Monte Alegre**	**179.05**	**78**	*e*P	**PKPdf**	**13 44 08.1**	**+2.4**

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*TRN **03** 13:25:37.2, 13.°81N×58.°44W, h87km, MD3.7*

ISC 03 13:25:38.0±3.0**, 13.°89N**±0.°06**×58.°6W**±0.°2**, h10**km**, n26,** σ**0.s98**/39**, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**1.21**	**232**	*e*P	**Pn**	**13 26 00.8**	**-0.2**
BBGH				*e*S	**Sn**	**13 26 19.5**	**+2.1**
MPOM	**Morne Pois Mar**	**2.28**	**284**	*e*P	**Pn**	**13 26 15.5**	**-0.3**
MPOM				*e*S	**Sn**	**13 26 44.2**	**+0.3**
MCLT	**Moule a Chique**	**2.30**	**266**	*e*P	**Pn**	**13 26 15.9**	**-0.2**
MCLT				*e*S	**Sn**	**13 26 45.7**	**+1.2**
SLBI	**Saint Lucia, B**	**2.33**	**274**	*e*P	**Pn**	**13 26 15.4**	**-1.1**
SLBI				*e*S	**Sn**	**13 26 44.8**	**-0.4**
MVM	**Montagne Vaucl**	**2.34**	**287**	*e*P	**Pn**	**13 26 16.7**	**0.0**
ZAM	**Aeronautique**	**2.47**	**286**	*e*P	**Pn**	**13 26 17.9**	**-0.5**
TRMF	**Trois Ilets**	**2.48**	**285**	*e*P	**Pn**	**13 26 18.2**	**-0.4**
BIM	**Bigot**	**2.50**	**285**	*e*P	**Pn**	**13 26 18.3**	**-0.6**
BIM				*e*S	**Sn**	**13 26 49.9**	**+0.5**
SSV	**Crater Summit**	**2.60**	**258**	*e*P	**Pn**	**13 26 20.4**	**+0.1**
SSV				*e*S	**Sn**	**13 26 52.4**	**+0.3**
SVV	**Soufriere Volc**	**2.63**	**258**	*e*P	**Pn**	**13 26 20.6**	**0.0**
SVV				*e*S	**Sn**	**13 26 53.0**	**+0.5**
FDF	**Fort de France**	**2.63**	**289**	*e*P	**Pn**	**13 26 20.6**	**-0.1**
BAMF	**Morne Balai**	**2.66**	**291**	*e*P	**Pn**	**13 26 22.2**	**+1.2**
SVB	**Belmont**	**2.67**	**257**	*e*P	**Pn**	**13 26 20.6**	**-0.6**
SVB				*e*S	**Sn**	**13 26 53.5**	**-0.1**
CXM	**Morne La Croix**	**2.67**	**290**	*e*P	**Pn**	**13 26 23.4**	**+2.1**
SVN	**Savane Anatole**	**2.69**	**291**	*e*P	**Pn**	**13 26 22.7**	**+1.3**
PCM	**Pelee Case Pet**	**2.71**	**290**	*e*P	**Pn**	**13 26 22.4**	**+0.6**
DLPL	**La Plaine**	**2.96**	**299**	*e*S	**Sn**	**13 27 01.4**	**+0.7**
GCMP	**Grenada, Carri**	**3.10**	**244**	*e*P	**Pn**	**13 26 26.4**	**-0.7**
GCMP				*e*S	**Sn**	**13 27 02.5**	**-1.8**
DSLB	**Salisbury**	**3.16**	**300**	*e*P	**Pn**	**13 26 28.8**	**+0.9**
DSLB				*e*S	**Sn**	**13 27 05.8**	**+0.2**
TDBA	**Terre de Bas,**	**3.54**	**304**	*e*P	**Pn**	**13 26 34.4**	**+1.2**
TDBA				*e*S	**Sn**	**13 27 14.4**	**-0.7**
TBG	**Guadaloupe-3**	**3.55**	**304**	*e*P	**Pn**	**13 26 33.8**	**+0.6**
TBG				*e*S	**Sn**	**13 27 14.3**	**-1.1**
CBE	**Ff, Capester**	**3.65**	**307**	*e*P	**Pn**	**13 26 34.8**	**+0.2**
CBE				*e*S	**Sn**	**13 27 17.1**	**-0.6**
ANBD	**Bethesda, Anti**	**4.40**	**316**	*e*P	**Pn**	**13 26 45.2**	**+0.3**
ANBD	**Bethesda, Anti**	**4.40**	**316**	*e*S	**Sn**	**13 27 34.4**	**-1.7**
ANWB	**Willy Bob**	**4.87**	**321**	*e*P	**Pn**	**13 26 52.5**	**+1.1**
ANWB	**Willy Bob**	**4.87**	**321**	*e*S	**Sn**	**13 27 45.8**	**-2.0**

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*NEIC **03** 13:37:58.7±1.5, 36.°76S±0.°05×72.°76W±0.°09, h52km±6km, Error ellipse: s-maj=10.8km s-min=7.3km az=95.0*

*IDC **03** 13:37:59.8±0.4, 36.°74S×72.°46W, h51km±2km, mb4.3/17, mb1 4.4/18, mb1mx4.3/26, mbtmp4.6/18, MS3.8/3, Ms1 3.7/3, ms1mx3.4/22, Error ellipse: s-maj=17.0km s-min=9.7km az=82.0*

*VAO **03** 13:37:59.8±0.5, 36.°67S×72.°47W, h52km, mb4.8*

*GUC **03** 13:37:59.0±0.5, 36.°81S×72.°57W, h60km±12km, ML4.8, MW4.7*

ISC 03 13:37:59.1±0.3**, 36.°72S**±0.°03**×72.°61W**±0.°05**, h52**km±3km**, n216,** σ**1.s37**/226**, mb4.9**/39**, 4C-9D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.41**	**253**	⇑*i*P	**Pn**	**13 38 10.2**	**+0.7**
CCSP				*e*S	**Sn**	**13 38 18.0**	**+1.0**
CCSP	**San Pedro de C**	**0.41**	**253**	⇑*e*P	**Pn**	**13 38 10.1**	**+0.5**
CCSP				*e*S	**Sn**	**13 38 18.0**	**+1.0**
ML02	**Panimavida**	**1.36**	**46**	⇓*i*P	**Pn**	**13 38 23.2**	**+1.5**
ML02				*i* S	**Sn**	**13 38 39.9**	**+1.2**
ML02				IAML		13 38 42.1	
	comp=N,20μm,0.5s						
ML02	**Panimavida**	**1.36**	**46**	*e*P	**Pn**	**13 38 23.2**	**+1.5**
ML02				*e*S	**Sn**	**13 38 38.1**	**-0.6**
ML02				IAML		13 38 42.0	
	comp=N,21μm,0.6s						
ML02	**Panimavida**	**1.36**	**46**		**Pn**	**13 38 23.2**	**+1.5**
GO05	**Huala**	**1.80**	**18**	⇓*i*P	**Pn**	**13 38 29.0**	**+1.3**
GO05				*e*S	**Sn**	**13 38 43.3**	**-6.2**
GO05				IAML		13 39 00.5	
	comp=E,7μm,0.5s						
GO05	**Huala**	**1.80**	**18**	⇓*e*P	**Pn**	**13 38 29.1**	**+1.4**
GO05				*e*S	**Sn**	**13 38 43.5**	**-5.9**
GO05				IAML		13 39 00.5	
	comp=E,7μm,0.5s						
GO05	**Huala**	**1.80**	**18**		**Pn**	**13 38 29.1**	**+1.3**
LC01	**Cunco**	**2.25**	**165**	⇓*i*P	**Pn**	**13 38 32.8**	**-1.1**
LC01				*i* S	**Sn**	**13 38 58.0**	**-2.4**
LC01	**Cunco**	**2.25**	**165**	*e*P	**Pn**	**13 38 32.8**	**-1.1**
LC01				*e*S	Sn	13 38 49.0	-11
LC01				IAML		13 39 13.7	
	comp=E,4μm,0.5s						
LC01	**Cunco**	**2.25**	**165**		**Pn**	**13 38 32.9**	**-1.0**
BO03	**Pichilemu**	**2.29**	**14**	⇓*i*P	**Pn**	**13 38 35.2**	**+0.9**
BO03				*i* S	**Sn**	**13 39 02.9**	**+1.6**
BO03				IAML		13 39 16.9	
	comp=N,4μm,0.2s						
BO03	**Pichilemu**	**2.29**	**14**	*e*P	**Pn**	**13 38 35.2**	**+0.9**
BO03				*e*S	**Sn**	**13 38 53.7**	**-7.6**
BO03				IAML		13 39 25.9	
	comp=N,4μm,0.5s						
BO02	**Sierra Bellavi**	**2.44**	**38**	*i* P	**Pn**	**13 38 38.0**	**+1.5**
BO02				*i* S	**Sn**	**13 39 03.0**	**-2.1**
BO02	**Sierra Bellavi**	**2.44**	**38**	*e*P	**Pn**	**13 38 37.9**	**+1.5**
BO02				IAML		13 39 23.6	
	comp=N,7μm,0.5s						
BO02	**Sierra Bellavi**	**2.44**	**38**	Pn	**Pn**	**13 38 38.0**	**+1.5**
BO01	**Tunca**	**2.64**	**29**	⇓*i*P	**Pn**	**13 38 40.1**	**+1.0**
BO01				IAML		13 39 01.1	
	comp=N,3μm,0.5s						
BO01				*i* S	**Sn**	**13 39 11.2**	**+1.2**
BO01	**Tunca**	**2.64**	**29**	*e*P	**Pn**	**13 38 40.5**	**+1.2**
BO01				IAML		13 39 01.1	
	comp=N,3μm,0.4s						
BO01	**Tunca**	**2.64**	**29**		**Pn**	**13 38 40.2**	**+1.0**
MT01	**Popeta**	**3.06**	**22**	⇓*i*P	**Pn**	**13 38 45.9**	**+0.9**
MT01				*i* S	**Sn**	**13 39 21.6**	**+1.1**
MT01				IAML		13 39 40.5	
	comp=E,2μm,0.4s						
MT01	**Popeta**	**3.06**	**22**	*e*P	**Pn**	**13 38 46.0**	**+0.9**
MT01				IAML		13 39 40.4	
	comp=E,2μm,0.4s						
MT01	**Popeta**	**3.06**	**22**		**Pn**	**13 38 46.0**	**+0.9**
VA05	**Santo Domingo**	**3.17**	**15**	*e*	Pn	13 37 52.4	-54
VA05				*e*P	**Pn**	**13 38 47.1**	**+0.7**
VA05	**Santo Domingo**	**3.17**	**15**	*e*P	**Pn**	**13 38 47.1**	**+0.7**
VA05	**Santo Domingo**	**3.17**	**15**		**Pn**	**13 38 46.5**	**+0.1**
MT09	**Talagante**	**3.23**	**25**	⇓*i*P	**Pn**	**13 38 48.3**	**+0.9**
MT09				IAML		13 39 49.6	
	comp=N,4μm,0.5s						
MT09	**Talagante**	**3.23**	**25**	⇓*i*P	**Pn**	**13 38 48.3**	**+0.9**
MT09	**Talagante**	**3.23**	**25**	Pn	**Pn**	**13 38 48.3**	**+0.9**
LMEL	**Las Melosas**	**3.48**	**35**	*e*P	**Pn**	**13 38 53.1**	**+2.2**
LMEL	**Las Melosas**	**3.48**	**35**	*e*P	**Pn**	**13 38 53.1**	**+2.2**
MT05	**Renca**	**3.66**	**25**	⇑*i*P	**Pn**	**13 38 54.5**	**+1.1**
MT05	**Renca**	**3.66**	**25**	*e*P	**Pn**	**13 38 54.4**	**+1.1**
MT05	**Renca**	**3.66**	**25**		**Pn**	**13 38 54.5**	**+1.1**
VA01	**Torpederas**	**3.78**	**12**	*e*P	**Pn**	**13 38 55.0**	**+0.1**
VA01	**Torpederas**	**3.78**	**12**	*e*P	**Pn**	**13 38 55.1**	**+0.4**
VA01	**Torpederas**	**3.78**	**12**		**Pn**	**13 38 54.9**	**+0.1**
ROCH	**El Roble**	**3.97**	**20**	*e*P	**Pn**	**13 38 58.3**	**+0.6**
LL04	**Puerto Octay**	**4.18**	**178**	*e*P	**Pn**	**13 38 59.3**	**-1.0**
LL04	**Puerto Octay**	**4.18**	**178**	*e*P	**Pn**	**13 38 59.5**	**-0.8**
LL04	**Puerto Octay**	**4.18**	**178**		**Pn**	**13 38 59.5**	**-0.8**
VA03	**San Esteban**	**4.30**	**24**		**Pn**	**13 39 02.7**	**+0.6**
PLCA	**Paso Flores**	**4.32**	**159**	P	**Pn**	**13 39 03.2**	**+1.0**
	comp=N,22nm,0.3s,baz=326,slow=11,SNR=632						
PLCA				S	Sn	13 40 04.3	+13
	comp=N,20nm,0.3s,baz=31,slow=19,SNR=1.4						
PLCA				LR	LR	13 40 55.6	
	comp=N,893nm,21.5s,baz=344,slow=41						
PLCA	**Paso Flores**	**4.32**	**159**	Pn	**Pn**	**13 39 03.2**	**+1.0**
PLCA	**Paso Flores**	**4.32**	**159**	*e*P	**Pn**	**13 39 02.6**	**+0.4**
LL03	**Petrohue**	**4.41**	**178**	*e*P	**Pn**	**13 39 02.9**	**-0.6**
LL05	**Los Muermos**	**4.72**	**188**	*e*P	**Pn**	**13 39 06.0**	**-1.8**
LL05	**Los Muermos**	**4.72**	**188**	*e*P	**Pn**	**13 39 06.3**	**-1.5**
LL05	**Los Muermos**	**4.72**	**188**		**Pn**	**13 39 05.9**	**-1.8**
LL01	**San Ignacio de**	**5.65**	**178**		**Pn**	**13 39 20.4**	**0.0**
CO02	**Combarbal**	**5.67**	**14**		**Pn**	**13 39 21.3**	**+0.5**
H03S1	**Juan Fernandez**	**5.89**	**297**	T	T	13 45 07.4	
	baz=115,slow=74,SNR=372						
H03S3	**Juan Fernandez**	**5.91**	**297**	T	T	13 45 08.3	
	baz=115,slow=74,SNR=530						
H03S2	**Juan Fernandez**	**5.91**	**297**	T	T	13 45 05.2	
	baz=115,slow=74,SNR=348						
VA04	**Juan Fernndez**	**5.95**	**299**	Pn	**Pn**	**13 39 26.0**	**+1.4**
CO06	**Fray Jorge**	**6.09**	**8**	Pn	**Pn**	**13 39 25.7**	**-0.9**
H03N1	**Juan Fernandez**	**6.11**	**301**	T	T	13 45 19.6	
	baz=107						
H03N3	**Juan Fernandez**	**6.11**	**300**	T	T	13 45 20.5	
	baz=107,slow=74,SNR=6.4						
H03N2	**Juan Fernandez**	**6.13**	**300**	T	T	13 45 23.1	
	baz=107,slow=74,SNR=5.2						
LL07	**Hotel Espejo d**	**6.14**	**186**		**Pn**	**13 39 25.1**	**-2.0**
GO07	**Milladeo Hill,**	**6.43**	**187**		**Pn**	**13 39 28.7**	**-2.5**
LL02	**Futaleuf**	**6.49**	**175**		**Pn**	**13 39 31.6**	**-0.3**
GO04	**Tololo Observa**	**6.71**	**14**		**Pn**	**13 39 35.3**	**+0.1**
TRQA	**Tornquist**	**8.57**	**102**	Pn	**Pn**	**13 40 03.0**	**+2.5**
AC04	**Llanos de Chal**	**8.59**	**9**	Pn	**Pn**	**13 39 60.0**	**-0.9**
AC02	**Maricunga**	**10.29**	**18**	Pn	**Pn**	**13 40 23.2**	**-1.4**
PB14	**IPOC Station P**	**12.21**	**10**		**Pn**	**13 40 52.1**	**+1.5**
LVC	**Limon Verde**	**14.43**	**14**	P	**P**	**13 41 23.9**	**-2.4**
	comp=N,0.4nm,0.3s,baz=195,slow=5.6,SNR=2.7						
LVC	**Limon Verde**	**14.43**	**14**	*e*P	**Pn**	**13 41 17.2**	**-3.5**
PLTB	**Pedras Altas**	**16.47**	**78**	*e*P	**Pn**	**13 41 45.5**	**-1.1**
CPUP	**Villa Florida**	**16.63**	**56**	P	**P**	**13 41 50.9**	**+0.6**
	comp=N,0.3nm,0.3s,baz=238,slow=10,SNR=6.1						
CPUP	**Villa Florida**	**16.63**	**56**	P	**Pn**	**13 41 48.9**	**+0.4**
CPUP	**Villa Florida**	**16.63**	**56**	*e*P	**Pn**	**13 41 47.9**	**-0.7**
CPSB	**Cacapava Do Su**	**17.17**	**74**	*e*P	**Pn**	**13 41 54.7**	**-0.6**
CNLB	**Canela**	**19.66**	**74**	*e*P	**P**	**13 42 22.4**	**-1.4**
ITAB	**Concordia**	**19.75**	**67**	P	**P**	**13 42 24.7**	**+0.1**
ITAB				IAmb	IAmb	13 42 29.9	
	comp=Z,80nm,1.3s						
ITAB	**Concordia**	**19.75**	**67**	*e*P	**P**	**13 42 24.9**	**+0.3**
LPAZ	**La Paz**	**20.74**	**12**	P	Pn	13 42 39.4	+0.6
	comp=Z,5.3nm,0.7s,baz=186,slow=7.4,SNR=22						
LPAZ	**La Paz**	**20.74**	**12**	*e*P	Pn	13 42 41.3	+2.4
PTGB	**Pitanga**	**21.29**	**62**	*e*P	**P**	**13 42 40.7**	**-0.7**
AQDB	**Aquidauana**	**21.91**	**47**	*e*P	**P**	**13 42 47.3**	**-0.6**
TRCB	**Terra Rica**	**22.16**	**57**	*e*P	**P**	**13 42 50.5**	**-0.1**
SIV	**San Ignacio**	**23.05**	**29**	P	**P**	**13 43 00.0**	**-0.1**
	comp=Z,8.8nm,0.8s,baz=223,slow=12,SNR=38						
PCMB	**Pacaembu**	**23.89**	**57**	*e*P	**P**	**13 43 06.6**	**-1.3**
PTLB	**Pontes e Lacer**	**24.35**	**33**	*e*P	**P**	**13 43 11.8**	**-0.3**
NNA	**Nana**	**24.92**	**350**	P	**P**	**13 43 18.0**	**+0.6**
	comp=Z,9.5nm,0.6s,baz=212,slow=9.5,SNR=1.7						
PET01	**Itanhaem-SP**	**25.02**	**67**	*e*P	**P**	**13 43 17.4**	**-0.8**
SPB	**Sao Paulo**	**25.32**	**66**	*e*P	**P**	**13 43 20.9**	**0.0**
SALV	**Santo Antonio**	**25.61**	**40**	*e*P	**P**	**13 43 24.1**	**+0.5**
ITRB	**Iturama**	**25.82**	**55**	*e*P	**P**	**13 43 24.7**	**-0.9**
RCLB	**Rio Claro- Sao**	**25.96**	**64**	*e*P	**P**	**13 43 27.2**	**+0.3**
BB19B	**Bebedouro**	**26.13**	**60**	*e*P	**P**	**13 43 27.7**	**-0.7**
VILB	**Vilhena**	**26.16**	**28**	*e*P	**P**	**13 43 28.9**	**+0.2**
ETMB	**Extrema**	**27.41**	**14**	*e*P	**P**	**13 43 41.2**	**+1.4**
IPMB	**Ipameri, GO**	**28.47**	**56**	*e*P	**P**	**13 43 48.5**	**-0.8**
BSCB	**Bom Sucesso**	**28.84**	**65**	*e*P	**P**	**13 43 52.1**	**-0.6**
CZSB	**Cruzeiro do Su**	**28.86**	**360**	*e*P	**P**	**13 43 53.6**	**+0.9**
CZSB	**Cruzeiro do Su**	**28.86**	**360**	*e*P	**P**	**13 43 54.4**	**+1.6**
SAML	**Samuel**	**28.95**	**20**	P	**P**	**13 43 54.1**	**+0.6**
SAML	**Samuel**	**28.95**	**20**	*e*P	**P**	**13 43 53.1**	**-0.4**
VAS01	**Vassouras-RJ**	**29.05**	**68**	*e*P	**P**	**13 43 52.3**	**-2.1**
CLDB	**Colider**	**29.88**	**35**	*e*P	**P**	**13 44 01.1**	**-0.7**
CLDB	**Colider**	**29.88**	**35**	*e*P	**P**	**13 44 02.9**	**+1.1**
BDFB	**Brasilia**	**30.31**	**53**	P	**P**	**13 44 06.3**	**+0.6**
	comp=Z,5.6nm,0.7s,baz=168,slow=4.4,SNR=6.8						
BDFB				LR	LR	13 58 21.6	
	comp=Z,166nm,20.6s,baz=257,slow=40						
BDFB	**Brasilia**	**30.31**	**53**	P	**P**	**13 44 05.2**	**-0.5**
SNDB	**Serra Nova Dou**	**31.23**	**43**	*e*P	P	13 44 03.0	-11
SJMB	**Sao Joao De Ma**	**32.90**	**65**	*e*P	**P**	**13 44 27.3**	**-1.1**
RIB01	**Linhares ES**	**33.10**	**67**	*e*P	**P**	**13 44 29.7**	**-0.5**
JANB	**Januaria**	**33.16**	**57**	*e*P	**P**	**13 44 30.0**	**-0.8**
SDBA	**SAO DESIDERIO**	**34.71**	**53**	*e*P	**P**	**13 44 44.0**	**-0.2**
GUA01	**Guaratinga, BA**	**35.27**	**64**	*e*P	**P**	**13 44 48.4**	**-0.5**
CMC01	**Camacan, BA**	**36.28**	**63**	*e*P	**P**	**13 44 57.2**	**-0.4**
GDU01	**Guandu, BA**	**37.36**	**61**	*e*P	**P**	**13 45 05.2**	**-1.5**
PTGA	**Pitinga**	**37.68**	**21**	P	**P**	**13 45 09.5**	**+0.1**
	comp=Z,4.5nm,0.5s,baz=203,slow=9.9,SNR=15						
PTGA				pP	**pP**	**13 45 23.0**	**0.0**
	comp=Z,6.4nm,0.6s,baz=218,slow=14,SNR=5.5						
PTGA				sP	**sP**	**13 45 29.4**	**+0.1**
	comp=Z,26nm,0.6s,baz=210,slow=14,SNR=18						
PTGA	**Pitinga**	**37.68**	**21**	P	**P**	**13 45 08.9**	**-0.5**
MALB	**Monte Alegre**	**38.62**	**30**	*e*P	**P**	**13 45 17.2**	**-0.1**
NBPN	**Ponto Novo - B**	**38.96**	**57**	*e*P	**P**	**13 45 19.6**	**-0.7**
BOAV	**Boa Vista**	**40.52**	**19**	*e*P	**P**	**13 45 33.1**	**0.0**
NBMA	**Muriti-CE**	**42.47**	**55**	*e*P	**P**	**13 45 49.0**	**-0.2**
NBPS	**Pedro II - PI**	**43.05**	**49**	*e*P	**P**	**13 45 53.6**	**-0.3**
NBPB	**Pedra_Branca-C**	**43.31**	**52**	*e*P	**P**	**13 45 56.6**	**+0.6**
NBLV	**Livramento - P**	**43.70**	**57**	*e*P	**P**	**13 45 58.2**	**-0.9**
NBCL	**Cascavel-CE**	**45.14**	**52**	*e*P	**P**	**13 46 11.1**	**+0.4**
SDV	**Santo Domingo**	**45.41**	**3**	P	**P**	**13 46 13.3**	**+0.5**
	comp=Z,9.6nm,0.8s,baz=288,slow=3.2,SNR=3.6						
SDV	**Santo Domingo**	**45.41**	**3**	*e*P	**P**	**13 46 12.5**	**-0.3**
VNA3	**Neumayer Olymp**	**47.03**	**157**	P	**P**	**13 46 26.5**	**+1.6**
VNA3	**Neumayer Olymp**	**47.03**	**157**	pP	pP	13 46 39.0	+0.2
VNA1	**Neumayer--Stat**	**47.37**	**156**	P	**P**	**13 46 27.4**	**0.0**
VNA1	**Neumayer--Stat**	**47.37**	**156**	pP	pP	13 46 40.9	-0.5
VNA2	**Neumayer--Watz**	**47.70**	**156**	P	**P**	**13 46 30.0**	**-0.1**
	baz=276,slow=8.8						
VNA2	**Neumayer--Watz**	**47.70**	**156**	pP	pP	13 46 44.1	0.0
JTS	**Las Juntas de**	**48.18**	**344**	P	**P**	**13 46 35.2**	**+0.9**
	comp=Z,4.4nm,0.5s,baz=260,slow=3.2,SNR=2.8						
SNAA	**Sanae**	**49.26**	**157**	P	**P**	**13 46 42.8**	**+0.7**
SNAA	**Sanae**	**49.26**	**157**	pP	pP	13 46 56.3	+0.2
SNAA	**Sanae**	**49.26**	**157**	P	**P**	**13 46 42.9**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=287,slow=9.2,SNR=12						
SNAA				pP	**pP**	**13 46 55.6**	**-0.6**
	comp=Z,11nm,0.9s,baz=254,slow=5.1,SNR=14						
SNAA	**Sanae**	**49.26**	**157**	P	**P**	**13 46 42.7**	**+0.7**
SNAA				IAmb	IAmb	13 47 03.5	
	comp=Z,19nm,1.1s						
QSPA	**South Pole Qui**	**53.52**	**180**	P	**P**	**13 47 15.4**	**+1.3**
	comp=Z,1.9nm,0.5s,baz=319,slow=2.4,SNR=16						
QSPA				pP	**pP**	**13 47 28.8**	**+0.5**
	comp=Z,9.0nm,0.8s,baz=300,slow=0.7,SNR=12						
QSPA				sP	**sP**	**13 47 35.3**	**+0.9**
	comp=Z,11nm,0.8s,baz=116,slow=8.4,SNR=7.7						
QSPA	**South Pole Qui**	**53.52**	**180**	P	**P**	**13 47 13.6**	**-0.5**
QSPA				IAmb	IAmb	13 47 38.9	
	comp=Z,14nm,1.0s						
MLPR	**Magueyes Islan**	**54.65**	**7**	P	**P**	**13 47 20.5**	**-2.0**
VNDA	**Vanda**	**61.34**	**192**	pP	pP	13 48 23.1	-0.2
	comp=Z,2.5nm,1.1s,baz=208,slow=4.9,SNR=4.8						
SYO	**Syowa Base**	**63.51**	**158**	⇑*e*sP	sP	13 48 43.6	-0.3
GOGA	**Godfrey**	**70.51**	**350**	P	**P**	**13 49 07.6**	**-0.4**
GOGA				IAmb	IAmb	13 49 09.0	
	comp=Z,8.5nm,0.7s						
MAW	**Mawson**	**70.71**	**163**	P	**P**	**13 49 09.5**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=180,slow=14,SNR=1.7						
MAW				pP	**pP**	**13 49 23.5**	**-0.3**
	comp=Z,5.6nm,0.7s,baz=190,slow=9.5,SNR=10						
TXAR	**Lajitas Array**	**71.89**	**332**	P	**P**	**13 49 18.3**	**+1.6**
	comp=Z,2.9nm,0.6s,baz=157,slow=9.0,SNR=42						
TXAR				pP	**pP**	**13 49 32.6**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=151,slow=9.1,SNR=4.7						
TXAR				sP	**sP**	**13 49 38.5**	**+1.1**
	comp=Z,2.6nm,0.5s,baz=154,slow=8.6,SNR=9.8						
TXAR	**Lajitas Array**	**71.89**	**332**	P	**P**	**13 49 15.8**	**-0.8**
TX31	**Lajitas Ar. Si**	**71.89**	**332**	P	**P**	**13 49 15.6**	**-1.1**
TX31				IAmb	IAmb	13 49 19.4	
	comp=Z,37nm,1.4s						
TX32	**Lajitas Array**	**71.89**	**332**	P	**P**	**13 49 16.5**	**-0.2**
FPAL	**Fort Paine**	**71.93**	**349**	P	**P**	**13 49 15.7**	**-1.0**
X48A	**Hartselle**	**72.08**	**347**	P	**P**	**13 49 17.3**	**-0.2**
X48A				IAmb	IAmb	13 49 19.6	
	comp=Z,28nm,1.1s						
W50A	**Signal Mountai**	**72.53**	**349**	P	**P**	**13 49 20.9**	**+0.6**
SWET	**Sewanee**	**72.64**	**349**	P	**P**	**13 49 21.8**	**+0.9**
CPCT	**Cooper Cave**	**72.66**	**350**	P	**P**	**13 49 21.4**	**+0.4**
CPCT				IAmb	IAmb	13 49 22.5	
	comp=Z,14nm,0.7s						
TKL	**Tuckaleechee C**	**72.76**	**351**	P	**P**	**13 49 21.0**	**-0.6**
PLAL	**Pickwick Lake**	**72.78**	**347**	P	**P**	**13 49 21.5**	**-0.2**
PLAL				IAmb	IAmb	13 49 22.7	
	comp=Z,10nm,0.6s						
V52A	**Sevierville**	**72.92**	**351**	P	**P**	**13 49 22.5**	**0.0**
V52A				IAmb	IAmb	13 49 23.6	
	comp=Z,9.4nm,0.7s						
V48A	**Smith Brothers**	**73.30**	**348**	P	**P**	**13 49 24.9**	**+0.1**
WVT	**Waverly**	**73.85**	**347**	P	**P**	**13 49 27.4**	**-0.6**
WVT				IAmb	IAmb	13 49 29.6	
	comp=Z,34nm,1.2s						
SUR	**Sutherland**	**73.94**	**118**	P	**P**	**13 49 30.0**	**+0.8**
	comp=Z,5.2nm,0.8s,baz=258,slow=10,SNR=5.4						
LCAR	**Lake Charles**	**74.45**	**344**	P	**P**	**13 49 30.9**	**-0.6**
T47A	**Sharon Grove**	**74.56**	**348**	P	**P**	**13 49 31.7**	**-0.4**
T47A				IAmb	IAmb	13 49 33.3	
	comp=Z,13nm,0.9s						
MNTX	**Cornudas Mount**	**74.66**	**331**	P	**P**	**13 49 31.3**	**-1.5**
U40A	**Yellville**	**75.10**	**343**	P	**P**	**13 49 34.8**	**-0.5**
U40A				IAmb	IAmb	13 49 36.8	
	comp=Z,10nm,0.8s						
MGMO	**Mountain Grove**	**75.73**	**344**	P	**P**	**13 49 37.3**	**-1.6**
LIC	**Lamto**	**76.09**	**71**	*e*P	**P**	**13 49 41.8**	**+0.3**
	comp=Z,38nm,0.5s						
TIC	**Toumodi**	**76.36**	**71**	*e*P	**P**	**13 49 44.1**	**+1.1**
CCM	**Cathedral Cave**	**76.38**	**345**	P	**P**	**13 49 42.5**	**0.0**
KIC	**Kosan Boka**	**76.39**	**71**	*e*P	**P**	**13 49 44.6**	**+1.4**
	comp=Z,49nm,0.5s						
DBIC	**Dimbokro**	**76.50**	**71**	P	**P**	**13 49 44.3**	**+0.5**
	comp=Z,15nm,0.6s,baz=223,slow=4.7,SNR=30						
R40A	**Maddies Statio**	**76.82**	**344**	P	**P**	**13 49 44.3**	**-0.7**
R40A				IAmb	IAmb	13 49 46.6	
	comp=Z,20nm,0.8s						
P43A	**Skaggs, Pawnee**	**77.57**	**347**	P	**P**	**13 49 48.4**	**-0.7**
P40A	**Paris**	**77.96**	**345**	P	**P**	**13 49 52.1**	**+0.7**
BOSA	**Boshof**	**79.23**	**118**	P	**P**	**13 49 59.1**	**+0.1**
	comp=Z,2.5nm,0.6s,baz=297,slow=5.3,SNR=3.8						
BOSA				pP	**pP**	**13 50 12.9**	**-1.1**
	comp=Z,3.3nm,0.7s,baz=244,slow=2.6,SNR=2.9						
N38A	**Joes South For**	**79.43**	**344**	P	**P**	**13 49 59.0**	**-0.4**
PECO	**Prince Edward**	**80.38**	**357**	P	**P**	**13 50 05.0**	**+0.6**
PECO				IAmb	IAmb	13 50 06.1	
	comp=Z,9.9nm,0.7s						
G62A	**West of Eustis**	**81.59**	**1**	P	**P**	**13 50 11.3**	**+0.4**
G62A				IAmb	IAmb	13 50 13.4	
	comp=Z,16nm,1.2s						
LBTB	**Lobatse**	**81.59**	**115**	P	**P**	**13 50 10.6**	**-1.1**
LBTB				IAmb	IAmb	13 50 12.4	
	comp=Z,11nm,0.6s						
PV17	**East Wray Mesa**	**81.84**	**332**	P	**P**	**13 50 12.5**	**-0.1**
PV17				IAmb	IAmb	13 50 15.2	
	comp=Z,32nm,1.6s						
KOWA	**Kowa**	**82.19**	**66**	P	**P**	**13 50 15.1**	**+0.3**
F62A	**Pittston Farm,**	**82.28**	**2**	P	**P**	**13 50 15.8**	**+1.3**
ECSD	**EROS Data Cent**	**83.00**	**343**	P	**P**	**13 50 18.8**	**+0.5**
ECSD				IAmb	IAmb	13 50 40.6	
	comp=Z,15nm,0.8s						
E62A	**Clayton Lake**	**83.01**	**2**	P	**P**	**13 50 19.0**	**+0.7**
E62A				IAmb	IAmb	13 50 20.6	
	comp=Z,9.9nm,0.8s						
E46A	**Sault Ste Mari**	**83.38**	**352**	P	**P**	**13 50 19.9**	**-0.2**
D62A	**Allapoint, All**	**83.49**	**2**	P	**P**	**13 50 20.6**	**-0.1**
D62A				IAmb	IAmb	13 50 22.7	
	comp=Z,14nm,0.8s						
TPNV	**Topopah Spring**	**83.71**	**326**	P	**P**	**13 50 21.6**	**-0.8**
F36A	**Milaca**	**84.34**	**345**	P	**P**	**13 50 23.9**	**-1.2**
F36A				IAmb	IAmb	13 50 26.3	
	comp=Z,8.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**85.58**	**70**	P	**P**	**13 50 32.3**	**+0.3**
	comp=Z,3.3nm,0.7s,baz=238,slow=4.1,SNR=13						
TORD				pP	**pP**	**13 50 46.8**	**-0.4**
	comp=Z,3.3nm,0.8s,baz=248,slow=3.8,SNR=7.7						
TORD	**Torodi Ar. Bea**	**85.58**	**70**	P	**P**	**13 50 31.7**	**-0.3**
NV11	**Mina Array Sit**	**85.79**	**326**	P	**P**	**13 50 31.4**	**-1.3**
NVAR	**Mina Array Bea**	**85.86**	**326**	P	**P**	**13 50 35.6**	**+2.5**
	comp=Z,3.0nm,0.6s,baz=152,slow=5.9,SNR=24						
NVAR				pP	**pP**	**13 50 49.9**	**+1.6**
	comp=Z,1.4nm,0.7s,baz=144,slow=7.3,SNR=5.2						
PDAR	**Pinedale Array**	**85.98**	**334**	P	**P**	**13 50 35.4**	**+1.7**
	comp=Z,2.0nm,0.6s,baz=142,slow=5.1,SNR=12						
HVU	**Hansel Valley**	**86.33**	**331**	P	**P**	**13 50 33.9**	**-1.4**
HVU				IAmb	IAmb	13 50 37.5	
	comp=Z,8.0nm,0.9s						
ULM	**Lac du Bonnet**	**89.00**	**345**	P	**P**	**13 50 48.0**	**+0.3**
	comp=Z,9.1nm,0.8s,baz=173,slow=5.2,SNR=7.8						
ULM				pP	**pP**	**13 51 03.0**	**+0.1**
	comp=Z,4.3nm,0.9s,baz=245,slow=3.0,SNR=2.7						
ULM				LR	LR	14 28 47.0	
	comp=Z,81nm,22.0s,baz=288,slow=34						
ASAR	**Alice Springs**	**114.93**	**207**	PKP	**PKiKP**	**13 56 33.7**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=136,slow=1.8,SNR=7.5						
ASAR				pPKP	PKPdf	13 56 49.3	+15
	comp=Z,0.4nm,0.5s,baz=142,slow=1.3,SNR=4.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ASAR				PKKPbc	PKKPbc	14 07 10.9	+0.8
	comp=Z,0.3nm,0.5s,baz=334,slow=3.1,SNR=9.2						
ASAR				PKKP	PKKPab	14 07 26.1	+6.5
	comp=Z,0.2nm,0.4s,baz=340,slow=3.3,SNR=5.6						
WRA	Warramunga Arr	118.16	209	PKP	PKPdf	13 56 39.8	-1.0
	comp=Z,1.1nm,0.5s,baz=171,slow=1.6,SNR=13						
WRA				pPKP	pPKPdf	13 56 55.5	-1.1
	comp=Z,0.9nm,0.5s,baz=132,slow=1.4,SNR=6.3						
FITZ	Fitzroy Crossi	122.81	201	PKP	PKPdf	13 56 49.6	-0.1
	comp=Z,2.1nm,0.8s,baz=217,slow=5.1,SNR=3.2						
FITZ				pPKP	pPKPdf	13 57 05.1	-0.4
	comp=Z,1.8nm,0.7s,baz=259,slow=11,SNR=2.6						
AKASG	Malin Array Be	124.35	49	PKhKP	PKPpre	13 56 48.8	
	comp=Z,0.7nm,0.4s,baz=270,slow=2.4,SNR=5.9						
ARCES	ARCESS Array B	126.67	26	PKP	PKPdf	13 56 54.6	-0.9
	comp=Z,5.2nm,1.0s,baz=265,slow=3.3,SNR=4.7						
ARU	Arti	142.08	43	PKhKP	PKPpre	13 57 20.7	
	baz=90,slow=2.0,SNR=3.2						
SEY	Seymchan	142.12	328	PKhKP	PKPpre	13 57 19.9	
	comp=Z,1.7nm,0.5s,baz=92,slow=4.5,SNR=15						
AKTO	Aktyubinsk	142.40	53	PKhKP	PKPpre	13 57 20.8	
	comp=Z,0.5nm,0.4s,baz=256,slow=4.2,SNR=5.6						
TIXI	Tiksi	143.28	349	PKhKP	PKPpre	13 57 21.7	
	comp=Z,7.4nm,0.8s,baz=316,slow=4.3,SNR=3.2						
MA2	Magadan	144.07	323	PKP	PKPbc	13 57 27.0	+0.9
	comp=Z,6.1nm,0.7s,baz=82,slow=4.3,SNR=6.1						
MA2	Magadan	144.07	323		PKPbc	13 57 26.7	+0.6
PSI	Prapat	145.35	165	PKPbc	PKPbc	13 57 31.3	-0.3
	comp=Z,14nm,0.9s,baz=225,slow=1.0,SNR=9.2						
PSI				pPKPbc	pPKPab	13 57 46.9	-0.4
	comp=Z,31nm,0.9s,baz=191,slow=1.8,SNR=11						
NRIK	Noril'sk	145.57	12	PKPbc	PKPbc	13 57 30.7	+0.1
	comp=Z,4.4nm,0.9s,baz=270,slow=5.1,SNR=2.0						
NRIK				pPKPbc	pPKPab	13 57 47.5	+1.1
	comp=Z,5.0nm,0.8s,baz=193,slow=3.9,SNR=2.7						
YAK	Yakutsk	151.11	338	PKPbc	PKPbc	13 57 45.7	+0.3
	comp=Z,24nm,0.6s,baz=13,slow=1.7,SNR=8.0						
ASAJ	Asahikawa	152.35	296	PKPbc	PKPbc	13 57 49.0	+0.2
	comp=Z,7.6nm,0.8s,baz=117,slow=4.5,SNR=9.0						
KSH	Kashi	155.19	74	P	PKPab	13 58 10.7	-0.8
KSH				pmax	pmax		
	comp=Z,14nm,0.8s						
MJAR	Matsushiro Arr	155.31	279	PKPab	PKPab	13 58 13.8	+1.8
	comp=Z,0.7nm,0.5s,baz=143,slow=3.5,SNR=4.2						
ZALV	Zalesovo Beam	156.75	35	PKP	PKPdf	13 57 48.0	+0.3
	comp=Z,1.5nm,0.6s,baz=327,slow=2.5,SNR=5.9						
ZALV				PKPab	PKPab	13 58 18.3	+0.9
	comp=Z,2.8nm,0.7s,baz=305,slow=5.1,SNR=3.5						
MKAR	Makanchi Array	158.83	54	PKP	PKPdf	13 57 50.9	+0.3
	comp=Z,1.4nm,0.8s,baz=274,slow=0.5,SNR=6.5						
MKAR				pPKP	pPKPdf	13 58 06.5	0.0
	comp=Z,2.4nm,1.1s,baz=258,slow=3.6,SNR=3.3						
MKAR				PKPab	PKPab	13 58 26.9	+0.1
	comp=Z,1.5nm,0.7s,baz=277,slow=4.5,SNR=6.9						
CMAR	Chiang Mai Arr	160.34	156	PKP	PKPdf	13 57 53.0	-0.2
	comp=Z,0.7nm,0.9s,baz=246,slow=3.2,SNR=5.6						
CMAR				pPKP	pPKPdf	13 58 07.2	-1.9
	comp=Z,1.1nm,1.0s,baz=235,slow=3.5,SNR=3.4						
WMQ	Urumqi	163.41	59	eP	PKPdf	13 57 55.5	-0.1
WMQ				pmax	pmax		
	comp=Z,160nm,9.7s						
KSRS	Korea Array	163.59	279	PKPab	PKPab	13 58 49.6	+1.7
	comp=Z,1.0nm,0.8s,baz=124,slow=6.0,SNR=2.3						
SONM	Songino Array	168.87	3	PKPab	PKPab	13 59 12.5	+1.7
	comp=Z,2.8nm,0.8s,baz=330,slow=4.1,SNR=15						
HHC	Hu-ho-hao-te	174.75	323	eP	PKPdf	13 58 04.4	+1.5
LZH	Lanzhou	177.07	101	ePKP	PKPdf	13 58 00.4	-3.3
LZH				pPKP	pPKPdf	13 58 13.0	-6.6

*RSNC **03** 14:03:50.1±1.0, 6.°81N×73.°15W, h148km±3km, ML3.2, Mw3.7*
*IDC **03** 14:03:54.5±6.0, 4.°88N×76.°40W, h123km±69km, mb2.8/1, mb1 3.4/2, mb1mx3.0/36, mbtmp3.4/2, Error ellipse: s-maj=100.0km s-min=38.5km az=49.0*
ISC 03 14:03:49.0±0.9**, 6.°83N**±0.°03×**73.°13W**±0.°04**, h157**km±6km**, n38,** σ1s**70**/73**, 1C-4D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.24	191	⇓iP	Pn	14 04 10.1	-0.4
BARC				eS	Sn	14 04 25.2	-1.7
BARC				i		14 04 27.4	
	comp=Z,230nm,0.3s						
BRRC	Barranca, Sant	0.64	295	⇓iP	Pn	14 04 11.9	+0.1
BRRC				eS	Sn	14 04 28.7	-0.6
BRRC				i		14 04 32.4	
	comp=Z,256nm,0.3s						
PAMC	Pamplona, Colo	0.66	41	⇓iP	Pn	14 04 13.0	+0.4
PAMC				eS	Sn	14 04 30.0	-0.6
PAMC				i		14 04 32.4	
	comp=Z,604nm,0.5s						
RUSC	La Rusia	0.94	177	eP	Pn	14 04 14.2	-0.3
RUSC				eS	Sn	14 04 32.8	-1.2
RUSC				i		14 04 34.1	
	comp=Z,290nm,0.3s						
PTBC	PUERTO BERRIO,	1.34	258	eP	Pn	14 04 16.9	-0.7
PTBC				eS	Sn	14 04 38.1	-1.4
PTBC				i		14 04 43.7	
	comp=Z,133nm,0.5s						
TAMC	Tame, Arauca	1.39	106	⇓eP	Pn	14 04 18.6	+0.5
TAMC				eS	Sn	14 04 40.0	-0.3
TAMC				i		14 04 41.5	
	comp=Z,66nm,0.4s						
OCAC	Ocana	1.41	353	eP	Pn	14 04 18.4	+0.1
OCAC				eS	Sn	14 04 39.7	-1.2
OCAC				i		14 04 45.3	
	comp=Z,334nm,0.6s						
SPBC	San Pablo de B	1.50	219	eP	Pn	14 04 19.1	-0.1
SPBC				eS	Sn	14 04 40.5	-1.8
SPBC				i		14 04 43.6	
	comp=Z,376nm,0.3s						
ZARC	Zaragoza, Cauc	1.83	291	eP	Pn	14 04 22.8	+0.1
ZARC				eS	Sn	14 04 48.4	-0.1
ZARC				i		14 04 54.4	
	comp=Z,178nm,0.3s						
NORC	Norcasia	2.14	234	eP	Pn	14 04 26.2	0.0
NORC				eS	Sn	14 04 54.0	-0.9
NORC				i		14 05 01.7	
	comp=Z,86nm,0.3s						
SMLC	San Martn de	2.17	335	eP	Pn	14 04 26.6	+0.1
SMLC				eS	Sn	14 04 56.0	+0.5
SMLC				i		14 05 02.4	
	comp=Z,266nm,0.1s						
CHIC	Chingaza	2.27	195	eP	Pn	14 04 28.2	0.0
CHIC				eS	Sn	14 04 56.6	-1.7
CHIC				i		14 05 01.4	
	comp=Z,107nm,0.4s						
ROSC	El Rosal	2.30	211	P	Pn	14 04 29.6	+1.0
	comp=Z,48nm,0.3s,baz=262,slow=17,SNR=52						
ROSC				S	Sn	14 04 56.5	-2.5
	comp=Z,35nm,0.3s,baz=286,slow=18,SNR=6.3						
ROSC	El Rosal	2.30	211	eP	Pn	14 04 29.3	+0.8
ROSC				eS	Sn	14 04 58.7	-0.3
ROSC				i		14 05 03.9	
	comp=Z,209nm,0.3s						
HELC	Santa Helena	2.46	255	eP	Pn	14 04 30.6	+0.2
HELC				eS	Sn	14 05 01.6	-0.7
HELC				i		14 05 08.4	
	comp=Z,50nm,0.4s						
UREC	San Jos de Ur	2.55	291	eP	Pn	14 04 30.6	-0.5
UREC				eS	Sn	14 05 01.6	-2.0
UREC				i		14 05 13.2	
	comp=Z,124nm,0.3s						
LL2C	La Loma 2 Cana	2.72	354	eP	Pn	14 04 33.8	+0.6
LL2C				eS	Sn	14 05 07.6	+0.1
LL2C				i		14 05 13.5	
	comp=Z,157nm,0.4s						
GUY2C	Guyana, Caldas	2.73	234	eP	Pn	14 04 34.4	+0.6
GUY2C				eS	Sn	14 05 08.5	+0.1
GUY2C				i		14 05 20.4	
	comp=Z,89nm,0.5s						
VILC	Villavicencio,	2.76	192	eP	Pn	14 04 33.7	-0.2
VILC				eS	Sn	14 05 07.3	-1.1
VILC				i		14 05 10.9	
	comp=Z,133nm,0.4s						
PTGC	Puerto Gaitan,	2.80	159	⇑eP	Pn	14 04 33.3	-0.9
PTGC				eS	Sn	14 05 06.8	-2.4
PTGC				i		14 05 11.8	
	comp=Z,136nm,0.5s						
CBOC	Ciudad Bolivar	3.02	252	eP	Pn	14 04 37.8	+0.7
CBOC				eS	Sn	14 05 13.1	-1.1
CBOC				i		14 05 25.4	
	comp=Z,24nm,0.6s						
DBBC	Dabeiba	3.06	274	eP	Pn	14 04 37.6	+0.1
DBBC				eS	Sn	14 05 13.9	-1.1
DBBC				i		14 05 17.9	
	comp=Z,188nm,0.5s						
TOLC	Tolima	3.12	224	eP	Pn	14 04 39.0	+0.5
TOLC				eS	Sn	14 05 16.8	0.0
TOLC				i		14 05 24.7	
	comp=Z,82nm,0.6s						
ARGC	Ariguani, Magd	3.20	340	eP	Pn	14 04 40.6	+1.3
ARGC				eS	Sn	14 05 18.4	+0.2
ARGC				i		14 05 31.7	
	comp=Z,26nm,0.3s						
SDV	Santo Domingo	3.21	50	eP	Pn	14 04 40.3	+0.8
SDV				eS	Sn	14 05 17.0	-1.7
SDV				i		14 05 20.4	
	comp=Z,34nm,0.3s						
PRAC	Prado	3.56	209	eP	Pn	14 04 43.5	-0.2
PRAC				eS	Sn	14 05 25.4	-0.9
PRAC				i		14 05 32.5	
	comp=Z,63nm,0.3s						
ORTC	Ortega, Tolima	3.58	216	eP	Pn	14 04 44.4	+0.2
ORTC				eS	Sn	14 05 26.9	-0.2
ORTC				i		14 05 30.5	
	comp=Z,48nm,0.5s						
CVALL	Valledupar, Ce	3.65	358	eP	Pn	14 04 44.3	-0.8
CVALL				eS	Sn	14 05 25.2	-3.4
SJCC	San Jacinto, C	3.66	327	eP	Pn	14 04 44.1	-0.9
SJCC				eS	Sn	14 05 25.4	-3.3
SJCC				i		14 05 29.6	
	comp=Z,34nm,0.7s						
CRJC	Cerrejon, Guaj	4.17	3	eP	Pn	14 04 50.3	-1.5
CRJC				eS	Sn	14 05 37.7	-2.9
CRJC				i		14 05 48.3	
	comp=Z,29nm,0.6s						
GUVC	San Jose del G	4.29	173	eP	Pn	14 04 52.9	-0.3
GUVC				eS	Sn	14 05 41.6	-1.8
GUVC				i		14 05 46.4	
	comp=Z,63nm,0.1s						
SMRC	Santa Marta, M	4.44	346	eP	Pn	14 04 54.8	-0.4
SMRC				eS	Sn	14 05 42.5	-4.3
SMRC				i		14 05 46.7	
	comp=Z,19nm,0.1s						
CAPC	Capurgana	4.55	293	eP	Pn	14 04 55.2	-1.4
CAPC				eS	Sn	14 05 45.2	-4.2
CAPC				i		14 05 49.8	
	comp=Z,14nm,0.3s						
MACC	Macarena, Meta	4.71	189	eP	Pn	14 04 57.3	-1.5
MACC				eS	Sn	14 05 46.5	-6.8
MACC				i		14 05 52.6	
	comp=Z,14nm,0.3s						
MARP	Paez Belalcaza	4.86	215	eP	Pn	14 05 00.8	-0.2
MARP				eS	Sn	14 05 55.8	-1.4
TXAR	Lajitas Array	36.45	312	P	P	14 10 39.2	+0.1
	comp=Z,0.2nm,0.8s,baz=125,slow=7.8,SNR=3.6						
ASAR	Alice Springs	149.11	234	PKPbc	PKPdf	14 23 18.2	+2.8
	comp=Z,0.2nm,0.5s,baz=111,slow=4.4,SNR=4.0						
WRA	Warramunga Arr	150.33	241	PKPbc	PKPdf	14 23 21.6	+4.2
	comp=Z,0.3nm,0.4s,baz=114,slow=2.9,SNR=4.5						

*IDC **03** 14:15:33.0±1.1, 9.°29N×126.°86E, h0km, mb4.0/12, mb1 4.1/12, mb1mx3.8/65, mbtmp4.0/12, MS2.5/3, Ms1 2.5/3, ms1mx2.4/53, Error ellipse: s-maj=59.2km s-min=14.9km az=72.0*
*NEIC **03** 14:15:34.5±1.5, 9.°32N±0.°10×126.°8E±0.°2, h9km±7km, mb4.3/16, Error ellipse: s-maj=26.5km s-min=14.0km az=86.0*
*MAN **03** 14:15:38.3, 9.°30N×126.°75E, h24km, mb4.5, ML3.3, MS3.2*
ISC 03 14:15:34.1±0.7**, 9.°24N**±0.°06×**126.°88E**±0.°07**, h10**km**, n49,** σ1s**56**/46**, mb4.2**/17**, 9C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	1.17	206	⇑eP	Pn	14 15 56.8	+0.3
BIPH				i S	Sb	14 16 09.6	-2.0
SCPH	Surigao	1.48	292	⇑iP	Pb	14 16 00.8	-0.9
SCPH				i S	Sb	14 16 19.1	-1.5
BUKP	Musuan	2.25	233	⇑iP	Pn	14 16 13.7	+2.2
BUKP				eS	Sn	14 16 40.4	+1.1
DAV	Davao City (W)	2.51	211	LR	LR	14 17 32.4	
	comp=Z,10.0nm,19.7s,baz=356,slow=47						
DAV	Davao City (W)	2.51	211	Pn	Pn	14 16 16.0	+1.0
KCP	Kidapawan	2.84	219	⇑eP	Pn	14 16 22.2	+2.6
LLP	Lapu-Lapu	3.07	291	⇑eP	Pb	14 16 27.3	-1.5
LLP				i S	Sb	14 17 03.3	-3.1
DCPH	Dipolog City	3.55	260	⇑eP	Pn	14 16 31.1	+1.8
DCPH				i S	Sn	14 17 12.8	+1.5
SNPH	Sibulan	3.60	272	⇑eP	Pn	14 16 32.5	+2.5
SNPH				eS	Sn	14 17 13.5	+0.8
CNOP	Candoni, Negro	4.23	278	⇑eP	Pn	14 16 40.9	+2.3
RCP	Roxas	4.68	300	⇑eP	Pn	14 16 48.0	+3.2
TOLI2	Tolitoli	10.10	217	Pn	Pn	14 17 59.9	+0.6
SIJI	Sorong	10.95	156	LR	LR	14 24 12.8	
	comp=Z,70nm,18.4s,baz=56,slow=47						
SAUI	Saumlaki	17.66	165	Pn	Pn	14 19 40.4	-0.1
SOEI	Soe	19.05	188	P	P	14 19 52.9	-3.8
SOEI				IAmb	IAmb	14 20 09.2	
	comp=Z,6.6nm,0.6s						
KNRA	Kununurra	24.82	176	P	P	14 20 58.3	+1.7
KNRA				IAmb	IAmb	14 21 14.9	
	comp=Z,4.7nm,0.6s						
FITZ	Fitzroy Crossi	27.19	183	P	P	14 21 19.1	+1.0
	comp=Z,3.4nm,0.9s,baz=20,slow=9.6,SNR=4.0						
FITZ	Fitzroy Crossi	27.19	183	P	P	14 21 19.1	+1.0
FITZ				IAmb	IAmb	14 21 37.2	
	comp=Z,5.0nm,0.9s						
CMAR	Chiang Mai Arr	28.60	292	P	P	14 21 30.5	-0.3
	comp=Z,0.3nm,0.3s,baz=115,slow=6.1,SNR=5.0						
MJAR	Matsushiro Arr	29.06	19	LR	LR	14 33 28.0	
	comp=Z,32nm,19.7s,baz=95,slow=37						
WRA	Warramunga Arr	29.91	166	P	P	14 21 42.9	+0.5
	comp=Z,0.4nm,0.5s,baz=348,slow=9.4,SNR=10						
WB2	Warramunga Arr	29.91	166	P	P	14 21 42.7	+0.3
WB2				IAmb	IAmb	14 21 51.1	
	comp=Z,5.2nm,1.4s						
WR0	Warramunga Arr	29.98	165	P	P	14 21 43.6	+0.7
WR0				IAmb	IAmb	14 21 56.3	
	comp=Z,5.8nm,1.3s						
AS31	Alice Springs	33.41	168	P	P	14 22 12.7	-0.5
ASAR	Alice Springs	33.41	168	P	P	14 22 13.9	+0.7
	comp=Z,0.3nm,0.4s,baz=353,slow=7.1,SNR=8.1						
ASAR	Alice Springs	33.41	168	P	P	14 22 11.5	-1.7
MORW	Morawa	39.49	195	P	P	14 23 05.6	+0.6
MORW				IAmb	IAmb	14 23 15.9	
	comp=Z,13nm,1.4s						
H11S3	WAKE ISLAND Hy	39.65	72	T	T	15 06 05.8	
	baz=262,slow=74,SNR=92						
H11S1	WAKE ISLAND Hy	39.66	72	T	T	15 06 06.9	
	baz=262,slow=74,SNR=60						
H11S2	WAKE ISLAND Hy	39.66	72	T	T	15 06 07.1	
	baz=262,slow=74,SNR=106						
FORT	Forrest	39.80	178	P	P	14 23 08.9	+1.4
H11N1	WAKE ISLAND Hy	40.02	70	T	T	15 06 46.2	
	baz=266,slow=75,SNR=27						
H11N2	WAKE ISLAND Hy	40.03	70	T	T	15 06 46.5	
	baz=266,slow=75,SNR=19						
H11N3	WAKE ISLAND Hy	40.04	70	T	T	15 06 46.3	
	baz=266,slow=75,SNR=24						
SONM	Songino Array	42.19	339	P	P	14 23 28.1	+0.9
	comp=Z,0.5nm,0.5s,baz=155,slow=11,SNR=2.1						
SONM	Songino Array	42.19	339	P	P	14 23 24.6	-2.6
BBOO	Buckleboo	42.72	169	P	P	14 23 32.8	+1.3
NWAO	Narrogin (SRO)	42.93	192	P	P	14 23 34.5	+1.4
	comp=Z,2.7nm,0.3s,baz=41,slow=8.0,SNR=6.1						
NWAO	Narrogin (SRO)	42.93	192	P	P	14 23 34.0	+0.9
NWAO				IAmb	IAmb	14 23 39.2	
	comp=Z,8.4nm,1.0s						
MK31	Makanchi Array	53.21	323	P	P	14 24 52.2	-0.4
MKAR	Makanchi Array	53.21	323	P	P	14 24 53.0	+0.3
	comp=Z,1.6nm,0.6s,baz=119,slow=8.3,SNR=15						
MKAR	Makanchi Array	53.21	323	P	P	14 24 51.4	-1.3
MAKZ	Makanchi	53.40	323	P	P	14 24 52.9	-1.2
MAKZ				IAmb	IAmb	14 24 54.5	
	comp=Z,2.2nm,0.7s						
ZALV	Zalesovo Beam	55.82	331	P	P	14 25 10.4	-1.1
	comp=Z,1.1nm,0.6s,baz=96,slow=10,SNR=2.4						
KURBB	Kurchatov Arra	57.26	326	P	P	14 25 21.4	-0.3
	comp=Z,1.3nm,0.5s,baz=124,slow=6.9						
BVAR	Borovoye Array	62.85	326	P	P	14 26 00.4	+0.2
	comp=Z,1.0nm,0.6s,baz=170,slow=12,SNR=5.6						
ARCES	ARCESS Array B	85.36	340	P	P	14 28 11.7	+0.4
	comp=Z,1.9nm,0.7s,baz=72,slow=4.0,SNR=5.2						
ARCES	ARCESS Array B	85.36	340	P	P	14 28 11.4	+0.1
FINES	FINESS Array B	87.08	332	P	P	14 28 20.0	+0.1
	comp=Z,1.4nm,0.9s,baz=86,slow=5.7,SNR=3.4						

*VAO **03** 14:24:09.3±0.3, 23.°00S×68.°12W, h139km, mb4.7*
*NEIC **03** 14:24:09.1±2.2, 23.°11S±0.°06×68.°09W±0.°08, h129km±5km, Error ellipse: s-maj=11.3km s-min=8.1km az=96.0*
*IDC **03** 14:24:09.0±0.7, 23.°03S×68.°00W, h122km±8km, mb4.2/11, mb1 4.2/15, mb1mx4.0/37, mbtmp4.6/15, Error ellipse: s-maj=19.0km s-min=12.8km az=114.0*
*GUC **03** 14:24:10.2±0.7, 23.°09S×68.°37W, h135km±4km, ML4.7*
ISC 03 14:24:08.7±0.6**, 23.°07S**±0.°04×**68.°11W**±0.°05**, h131**km±5km**, n148,** σ1s**24**/160**, mb4.4**/12**, 5C-9D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	San Pedro de A	0.13	332		Pn	14 24 27.8	+0.8
AF01				Sn	Sn	14 24 42.0	+1.2
LVC	Limon Verde	0.87	302	P	Pn	14 24 31.7	+0.6
	1μm,0.3s,baz=125,slow=6.1,SNR=8807						
LVC				S	Sn	14 24 47.9	+0.1
	2μm,0.3s,baz=255,slow=20,SNR=25						
LVC				LR	LR	14 25 04.8	
	comp=Z,481nm,21.1s,baz=334,slow=60						
LVC	Limon Verde	0.87	302	⇓iP	Pn	14 24 31.8	+0.8
LVC				i S	Sn	14 24 48.0	+0.2
LVC	Limon Verde	0.87	302	Pn	Pn	14 24 31.6	+0.6
LVC				Sn	Sn	14 24 48.5	+0.7
LVC	Limon Verde	0.87	302	eP	Pn	14 24 31.9	+0.9
PB15	IPOC Station P	1.26	263	⇑iP	Pn	14 24 35.0	+0.5
PB15				i S	Sn	14 24 53.5	-0.6
PB15	IPOC Station P	1.26	263		Pn	14 24 34.4	-0.1
PB15				Sn	Sn	14 24 53.9	-0.2
PB06	IPOC Station P	1.39	285	⇑iP	Pn	14 24 36.4	+0.5
PB06				i S	Sn	14 24 55.5	-1.0
PB06				IAML		14 24 59.0	
	comp=E,17μm,0.3s						
PB06	IPOC Station P	1.39	285		Pn	14 24 36.5	+0.6
PB09	IPOC Station P	1.64	320	⇓iP	Pn	14 24 40.2	+1.4
PB09				eS	Sn	14 25 02.7	+1.1
PB09	IPOC Station P	1.64	320		Pn	14 24 40.1	+1.4
PB03	IPOC Station P	1.83	304	⇓iP	Pn	14 24 41.4	+0.5
PB03				eS	Sn	14 25 04.8	-0.6
PB03				IAML		14 25 06.5	
	comp=N,7μm,0.1s						
PB05	IPOC Station P	1.94	276	⇑iP	Pn	14 24 42.0	-0.2
PB05				i S	Sn	14 25 06.0	-1.7
PB04	IPOC Station P	2.02	291	⇓iP	Pn	14 24 43.4	+0.2
PB04				i S	Sn	14 25 08.5	-1.0
PB04				IAML		14 25 10.0	
	comp=E,11μm,0.4s						
PB04	IPOC Station P	2.02	291		Pn	14 24 43.3	+0.2
PB07	IPOC Station P	2.12	309	⇓iP	Pn	14 24 45.0	+0.6
PB07				i S	Sn	14 25 11.4	-0.3
PB07				IAML		14 25 12.6	
	comp=E,11μm,0.4s						
PB07	IPOC Station P	2.12	309		Pn	14 24 44.2	-0.2
PB10	IPOC Station P	2.29	258	⇑iP	Pn	14 24 45.9	-0.4
PB10				i S	Sn	14 25 12.8	-2.4
PB10	IPOC Station P	2.29	258	Pn	Pn	14 24 45.9	-0.4
PB01	IPOC Station P	2.39	327	⇓iP	Pn	14 24 48.3	+0.6
PB01				i S	Sn	14 25 18.2	+0.6
PB01				IAML		14 25 18.4	
	comp=E,2μm,0.2s						
PB01	IPOC Station P	2.39	327		Pn	14 24 48.2	+0.5
PB02	IPOC Station P	2.40	316	eP	Pn	14 24 48.7	+0.8
PB02				eS	Sn	14 25 17.7	-0.2
PB14	IPOC Station P	2.61	233	⇑iP	Pn	14 24 49.9	-0.8
PB14				eP		14 24 50.5	
PB14				eS	Sn	14 25 19.9	-2.9
PB14	IPOC Station P	2.61	233	Pn	Pn	14 24 49.8	-0.8
PB08	IPOC Station P	3.07	341	⇓iP	Pn	14 24 58.1	+1.4
PB08				i S	Sn	14 25 33.9	+0.2
PB08				IAML		14 25 39.4	
	comp=E,695nm,0.2s						
PB08	IPOC Station P	3.07	341		Pn	14 24 58.1	+1.4
TA01	Diego Aracena	3.15	322	⇓iP	Pn	14 24 56.2	-1.1
TA01				i S	Sn	14 25 33.8	-1.0
TA01				IAML		14 26 00.8	
	comp=N,1μm,0.7s						
TA01	Diego Aracena	3.15	322		Pn	14 24 56.4	-0.9
HMBC	Humberstone	3.23	329	⇓iP	Pn	14 24 57.8	-0.7
HMBC				eS	Sn	14 25 33.4	-3.7
TA02	Huaiquique	3.36	326		Pn	14 24 59.1	-0.9
PB11	IPOC Station P	3.59	336	Pn	Pn	14 25 03.3	-0.1
AC02	Maricunga	3.86	194		Pn	14 25 07.3	+0.2
PSGCX	Pisagua	3.93	331	Pn	Pn	14 25 05.9	-1.8
GO03	Copiap	4.90	203	Pn	Pn	14 25 17.8	-2.7
AC04	Llanos de Chal	5.77	207	Pn	Pn	14 25 27.6	-4.5
LPAZ	La Paz	6.75	360	P	Pn	14 25 47.5	+1.5
	comp=N,7.3nm,0.3s,baz=168,slow=7.2,SNR=87						
LPAZ	La Paz	6.75	360	Pn	Pn	14 25 47.2	+1.2
LPAZ	La Paz	6.75	360	eP	Pn	14 25 45.7	-0.2
GO04	Tololo Observa	7.47	198		Pn	14 25 51.1	-4.2
CO03	El Pedregal	8.07	196		Pn	14 25 59.1	-4.0
CO06	Fray Jorge	8.20	202	Pn	Pn	14 25 58.9	-6.0
CO02	Combarbal	8.50	197	Pn	Pn	14 26 04.1	-4.9
SIV	San Ignacio	9.67	45	P	Pn	14 26 22.7	-2.1
	comp=N,53nm,0.3s,baz=230,slow=11,SNR=312						
SIV				S	Sn	14 28 03.6	-8.2
	comp=N,4.7nm,0.3s,baz=307,slow=20,SNR=2.4						
CPUP	Villa Florida	10.33	111	P	Pn	14 26 32.7	-0.7
	comp=N,0.6nm,0.3s,baz=288,slow=12,SNR=8.9						
CPUP	Villa Florida	10.33	111		Pn	14 26 30.5	-2.9
CPUP	Villa Florida	10.33	111	eP	Pn	14 26 32.7	-0.7
PTLB	Pontes e Lacer	11.37	50	eP	Pn	14 26 45.3	-2.0
AQDB	Aquidauana	11.82	80	eP	Pn	14 26 53.4	+0.2
BO02	Sierra Bellavi	11.91	191		Pn	14 26 51.8	-2.7
ITQB	Itaqui	12.21	125	eP	Pn	14 26 60.0	+1.6
VILB	Vilhena	12.56	38	eP	Pn	14 27 02.2	-0.8
ETMB	Extrema	13.30	8	eP	Pn	14 27 10.4	-2.1
PP1B	Ponte de Pedra	13.55	69	eP	Pn	14 27 16.4	+0.7
SALV	Santo Antonio	13.71	61	eP	Pn	14 27 16.7	-1.0
SAML	Samuel	14.81	19	eP	Pn	14 27 29.6	-2.2
CPSB	Cacapava Do Su	15.00	122	eP	Pn	14 27 35.3	+1.3
ITAB	Concordia	15.05	109	eP	Pn	14 27 35.1	+0.4
PLTB	Pedras Altas	15.51	127	Pn	Pn	14 27 38.6	-1.8
PLTB				IAmb	IAmb	14 27 42.0	
	comp=Z,14nm,1.0s						
PLTB	Pedras Altas	15.51	127	eP	Pn	14 27 39.7	-0.7
PCMB	Pacaembu	15.66	88	eP	Pn	14 27 42.5	+0.2
TRQA	Tornquist	15.84	162		Pn	14 27 42.5	-1.8
TRQA	Tornquist	15.84	162	eP	Pn	14 27 43.3	-1.1
CZSB	Cruzeiro do Su	15.88	343	eP	Pn	14 27 44.6	-0.4
CNLB	Canela	16.68	116	eP	P	14 27 55.4	+0.4
ITRB	Iturama	16.87	82	eP	P	14 27 57.0	0.0
CLDB	Colider	16.89	46	eP	Pn	14 27 57.3	-0.1
ARAG	Araguaiana, MT	17.02	67	eP	Pn	14 27 58.8	-0.2
PLCA	Paso Flores	17.73	186	P	P	14 28 06.8	+0.4
	comp=Z,0.6nm,0.3s,baz=5.1,slow=11,SNR=17						
PLCA	Paso Flores	17.73	186	P	P	14 28 06.0	-0.3
PLCA	Paso Flores	17.73	186	eP	P	14 28 06.8	+0.4
LL04	Puerto Octay	18.15	190	P	P	14 28 09.6	-1.3
LL04				IAmb	IAmb	14 28 13.0	
	comp=Z,23nm,1.1s						
BB19B	Bebedouro	18.26	87	eP	P	14 28 13.1	+0.8
RCLB	Rio Claro- Sao	19.00	92	eP	P	14 28 20.8	+0.4
SPB	Sao Paulo	19.00	96	eP	P	14 28 20.8	+0.5
PET01	Itanhaem-SP	19.12	98	eP	P	14 28 22.8	+1.2
IPMB	Ipameri, GO	19.31	78	eP	P	14 28 24.0	+0.2
SNDB	Serra Nova Dou	19.44	58	eP	P	14 28 24.7	-0.5
VAO	Valinhos	19.46	94	eP	P	14 28 25.1	-0.3
NPGB	Novo Progresso	20.11	40	eP	P	14 28 31.1	-1.3
BDFB	Brasilia	20.34	72	P	P	14 28 34.4	-0.5
	comp=Z,42nm,0.6s,baz=247,slow=10,SNR=52						
BDFB	Brasilia	20.34	72	P	P	14 28 34.6	-0.3
PARB	Paraibuna	20.67	95	eP	P	14 28 37.6	-0.8
MACA	Manacapuru-AM	21.06	21	eP	P	14 28 42.5	0.0
BSCB	Bom Sucesso	21.73	89	eP	P	14 28 49.9	+0.1
PEXB	Peixe	21.78	63	eP	P	14 28 49.5	-0.8
ESAR	Angra dos Reis	21.78	95	eP	P	14 28 50.1	0.0
ITTB	Itaituba	22.11	35	eP	P	14 28 52.5	-1.1
VAS01	Vassouras-RJ	22.77	93	eP	P	14 28 59.8	-0.4
DIAM	Diamantina, MG	23.34	83	eP	P	14 29 05.0	-0.6
PTGA	Pitinga	23.57	21	P	P	14 29 07.3	-0.2
	comp=Z,6.3nm,0.4s,baz=208,slow=15,SNR=23						
PTGA	Pitinga	23.57	21	P	P	14 29 07.4	-0.2
PTGA				IAmb	IAmb	14 29 10.1	
	comp=Z,9.2nm,0.9s						
MC01	Montes Claros	23.58	79	eP	P	14 29 06.9	-0.7
DUB01	Friburgo-RJ	23.78	93	eP	P	14 29 09.9	+0.4
JANB	Januaria	23.84	75	eP	P	14 29 08.6	-1.4
SMTB	Santa Maria do	24.22	58	eP	P	14 29 13.7	+0.2
PRPB	Parauapebas	24.35	49	eP	P	14 29 13.9	-0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CAM01	Campos-RJ	24.47	92	eP	P	14 29 15.8	+0.1
SDBA	SAO DESIDERIO	24.48	68	eP	P	14 29 14.9	-1.0
MALB	Monte Alegre	25.01	34	eP	P	14 29 20.2	-0.4
SJMB	Sao Joao De Ma	25.51	85	eP	P	14 29 25.0	-0.2
ALF01	Guarapari-ES	25.52	90	eP	P	14 29 25.7	+0.5
BSFB	Barra de Sao F	25.79	86	eP	P	14 29 27.9	+0.2
RIB01	Linhares ES	26.09	87	eP	P	14 29 30.4	0.0
BOAV	Boa Vista	26.37	17	eP	P	14 29 32.4	-0.5
GUA01	Guaratinga, BA	27.37	82	eP	P	14 29 41.7	-0.2
MCPB	Macapa, AP	27.44	37	eP	P	14 29 42.9	+0.4
CMC01	Camacan, BA	28.03	79	eP	P	14 29 47.4	-0.3
GDU01	Guandu, BA	28.58	76	eP	P	14 29 52.2	-0.4
NBPN	Ponto Novo - B	29.27	70	eP	P	14 29 58.6	-0.2
ROSB	Rosrio	30.69	53	eP	P	14 30 11.1	-0.1
NBLA	Lagarto - SE	31.31	73	eP	P	14 30 14.9	-1.8
NBPS	Pedro II - PI	31.76	58	eP	P	14 30 20.7	-0.1
MDP	Montagnes des	31.82	30	P	P	14 30 21.4	+0.2
	comp=Z,5.4nm,0.5s,baz=218,slow=9.4,SNR=10						
NBMA	Muriti-CE	32.24	66	eP	P	14 30 23.7	-1.2
NBPB	Pedra_Branca-C	32.56	62	eP	P	14 30 28.2	+0.5
NBAN	Anadia - AL	33.23	72	eP	P	14 30 32.0	-1.6
NBMO	Morrinhos-CE	33.52	58	eP	P	14 30 35.9	-0.2
NBLV	Livramento - P	33.80	67	eP	P	14 30 38.8	+0.3
NBCL	Cascavel-CE	34.37	61	eP	P	14 30 44.0	+0.6
NBRF	Rio Formoso -	34.69	71	eP	P	14 30 44.5	-1.7
RCBR	Riachuelo	35.46	66	P	P	14 30 52.6	-0.1
RCBR				IAmb	IAmb	14 30 53.8	
	comp=Z,12nm,1.1s						
RCBR	Riachuelo	35.46	66	eP	P	14 30 52.5	-0.2
NBPV	Pedro Velho	35.67	67	eP	P	14 30 54.4	-0.1
ANWB	Willy Bob	40.96	9	P	P	14 31 38.7	+0.1
PMSA	Palmer Station	41.78	177	P	P	14 31 46.5	+1.7
	comp=Z,3.5nm,0.7s,baz=346,slow=12,SNR=3.7						
PMSA	Palmer Station	41.78	177	eP	P	14 31 46.3	+1.5
VNA3	Neumayer Olymp	58.36	161	P	P	14 33 50.7	+0.9
VNA1	Neumayer--Stat	58.56	160	P	P	14 33 52.8	+1.7
VNA2	Neumayer--Watz	58.93	160	P	P	14 33 54.6	+0.9
	baz=287,slow=8.0						
SNAA	Sanae	60.56	161	P	P	14 34 05.7	+0.8
SNAA	Sanae	60.56	161	P	P	14 34 06.3	+1.4
	comp=Z,5.8nm,0.6s,baz=284,slow=7.7,SNR=61						
SNAA	Sanae	60.56	161	P	P	14 34 05.7	+0.8
SNAA				IAmb	IAmb	14 34 06.6	
	comp=Z,6.2nm,0.6s						
QSPA	South Pole Qui	67.13	180	P	P	14 34 49.7	+1.6
DBIC	Dimbokro	68.49	72	P	P	14 34 58.4	+1.1
	comp=Z,12nm,0.8s,baz=235,slow=5.7,SNR=13						
DBIC	Dimbokro	68.49	72	IAmb	IAmb	14 34 58.9	
	comp=Z,9.0nm,0.7s						
KOWA	Kowa	72.98	66	P	P	14 35 22.9	-1.5
KOWA				IAmb	IAmb	14 35 26.7	
	comp=Z,7.2nm,0.8s						
VNDA	Vanda	75.44	190	P	P	14 35 39.1	+1.4
	comp=Z,0.5nm,0.8s,baz=108,slow=3.2,SNR=2.8						
PDAR	Pinedale Array	75.83	330	P	P	14 35 41.9	+1.3
	comp=Z,1.2nm,0.3s,baz=128,slow=7.4,SNR=2.8						
TORD	Torodi Ar. Bea	77.20	70	P	P	14 35 49.3	+0.7
	comp=Z,7.5nm,0.4s,baz=258,slow=5.5,SNR=100						
TORD	Torodi Ar. Bea	77.20	70	P	P	14 35 48.4	-0.2
MAW	Mawson	82.62	163	P	P	14 36 18.5	+1.6
	comp=Z,3.4nm,0.6s,baz=216,slow=5.7,SNR=14						
MAW	Mawson	82.62	163	IAmb	IAmb	14 36 18.9	
	comp=Z,0.9nm,0.7s						
ESDC	Sonseca Array	86.44	44	P	P	14 36 37.5	+1.0
	comp=Z,1.0nm,0.9s,baz=245,slow=4.5,SNR=5.0						
ESDC	Sonseca Array	86.44	44	IAmb	IAmb	14 36 39.1	
	comp=Z,2.4nm,1.1s						
ASAR	Alice Springs	128.85	206	PKP	PKiKP	14 43 02.4	+0.2
	comp=Z,0.5nm,0.6s,baz=152,slow=2.2,SNR=12						
ASAR	Alice Springs	128.85	206		PKiKP	14 43 02.5	+0.4
WRA	Warramunga Arr	131.96	209	PKP	PKiKP	14 43 08.8	+0.3
	comp=Z,0.4nm,0.5s,baz=169,slow=2.2,SNR=8.4						
MKAR	Makanchi Array	146.44	38	PKPbc	PKPab	14 43 35.1	-0.4
	comp=Z,1.4nm,0.7s,baz=321,slow=2.5,SNR=10						

IDC 03 14:31:19.1±15.0**, 4°.47S×145°.37E, h167**km±124km**, mb2.9**/2**, mb1 3.1**/4**, mb1mx2.8**/32**, mbtmp3.5**/4**, Error ellipse: s-maj=123.5km s-min=73.5km az=7.0, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	15.55	177	P	Pn	14 34 49.4	-0.3
	0.3nm,0.3s,baz=15,slow=13,SNR=5.4						
WRA	Warramunga Arr	18.77	214	P	P	14 35 25.4	-0.4
	0.1nm,0.3s,baz=40,slow=10,SNR=13						
ASAR	Alice Springs	22.07	209	P	P	14 36 00.4	-0.4
	0.1nm,0.4s,baz=46,slow=8.4,SNR=8.9						
FITZ	Fitzroy Crossi	23.58	233	P	P	14 36 20.4	+5.5
	0.8nm,0.5s,baz=63,slow=12,SNR=1.6						
STKA	Stephens Creek	27.50	187	P	P	14 36 50.9	+0.8
	1.2nm,0.7s,baz=346,slow=15,SNR=3.7						

*NEIC **03** 14:47:47.3±1.4, 19°.63N±0°.07×144°.8E±0°.1, h116km±10km, mb4.0/9, Error ellipse: s-maj=20.5km s-min=7.2km az=69.0*
*IDC **03** 14:47:49.8±7.9, 19°.52N×144°.77E, h135km±69km, mb3.1/3, mb1 3.4/4, mb1mx3.0/45, mbtmp3.6/4, Error ellipse: s-maj=168.9km s-min=26.3km az=110.0*
ISC 03 14:47:46.0±0.8**, 19°.70N**±0°.07×**144°.8E**±0°.1**, h100**km**, n19, σ1s.52**/20**, mb3.6**/4**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	Anatahan	3.45	165	Pn	Pn	14 48 38.4	+0.5
GUMO	Guam	6.08	179	P	Pn	14 49 16.4	+2.9
	2.1nm,0.3s,baz=240,slow=20,SNR=3.0						
GUMO				S	Sn	14 50 21.0	-0.6
	8.3nm,0.3s,baz=27,slow=18,SNR=6.2						
GUMO	Guam	6.08	179		Pn	14 49 16.0	+2.5
JMZ	Minamidaito 2	13.91	298	Pn	Pn	14 50 59.2	+0.3
MAJO	Matsushiro	17.75	342	P	P	14 51 47.9	+1.8
MAJO				IAmb	IAmb	14 51 54.9	
	comp=Z,6.2nm,1.1s						
JNU	Nakatsue	18.25	320	P	P	14 51 50.8	-0.8
JNU				IAmb	IAmb	14 52 02.4	
	comp=Z,9.0nm,1.1s						
JHS	Saijyo	18.41	328	P	P	14 51 52.6	-0.8
JHS				IAmb	IAmb	14 52 05.4	
	comp=Z,6.8nm,1.0s						
WAKE	Wake Island	20.62	87	P	P	14 52 16.3	-1.2
YOJ	Yonaguni jima	20.72	287	P	P	14 52 17.8	-0.8
YOJ				IAmb	IAmb	14 52 23.4	
	comp=Z,12nm,1.0s						
PEA0B	Petropavlovsk-	34.81	14	P	P	14 54 27.6	+0.5
PETK	Petropavlovsk-	34.81	14	P	P	14 54 26.9	-0.2
WR0	Warramunga Arr	40.67	195	P	P	14 55 15.6	-1.2
WR0				IAmb	IAmb	14 55 17.5	
	comp=Z,2.7nm,1.1s						
WB2	Warramunga Arr	40.70	195	P	P	14 55 15.4	-1.6
WRA	Warramunga Arr	40.71	195	P	P	14 55 15.9	-1.1
	comp=Z,0.9nm,0.4s,baz=16,slow=8.1,SNR=28						
WRA	Warramunga Arr	40.71	195	P	P	14 55 15.6	-1.4
AS31	Alice Springs	44.39	194	P	P	14 55 44.9	-2.0
ASAR	Alice Springs	44.39	194	P	P	14 55 45.7	-1.1
	comp=Z,0.2nm,0.6s,baz=11,slow=7.6,SNR=6.0						
ASAR	Alice Springs	44.39	194	P	P	14 55 45.0	-1.8
ILAR	Eielson Array	63.13	27	P	P	14 58 03.8	+0.8
	comp=Z,0.3nm,0.7s,baz=265,slow=5.7,SNR=2.9						

*HEL **03** 15:00:01.1±0.1, 60°.06N×21°.41E, h0km, ML2.2, ML2.7(UPP), Explosion*
*DNK **03** 15:00:02.6±2.4, 60°.10N×21°.12E, h0km, ML2.2, Suspected explosion*
*IDC **03** 15:00:02.1±1.3, 60°.19N×21°.36E, h0km, mb1 3.0/4, mb1mx2.9/56, mbtmp2.9/4, ML2.2/4, Error ellipse: s-maj=20.6km s-min=6.7km az=163.0*
*UPP **03** 15:00:04.4±0.8, 60°.09N×20°.85E, h0km, ML2.7, Suspected explosion*
ISC 03 14:59:58.6±0.7**, 60°.14N**±0°.03×**21°.37E**±0°.02**, h0**km**, n51, σ1s.19**/69**, Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAL	Aland	0.69	274	eP	Pb	15 00 13.9	+0.4
AAL	Aland	0.69	274	eP	Pb	15 00 13.9	+0.4
AAL				eS	Sb	15 00 23.6	+0.1
RAF	Rauma	0.91	12	eP	Pn	15 00 18.8	+0.1
RAF				eS	Sn	15 00 31.5	-1.0
RAF				MSG		15 00 32.1	
	comp=Z,26nm,0.1s						
GRAU	Graesoe	1.43	279	P	Pb	15 00 26.3	+0.3
GRAU	Graesoe	1.43	279	P	Pb	15 00 26.3	+0.3
GRAU	Graesoe	1.43	279	eP	Pb	15 00 26.3	+0.3
NRTU	Norrtaelje	1.46	253	P	Pb	15 00 26.8	+0.3
NRTU				S	Sg	15 00 43.0	-2.3
NRTU	Norrtaelje	1.46	253	P	Pb	15 00 26.8	+0.3
NRTU				S	Sg	15 00 43.0	-2.3
NRTU	Norrtaelje	1.46	253	eP	Pb	15 00 26.8	+0.3
NRTU				eS	Sg	15 00 43.0	-2.3
MEF	Metsahovi	1.51	86	eP	Pg	15 00 27.6	0.0
MEF				eS	Sg	15 00 47.0	-0.1
FORU	Forsmark	1.61	280	P	Pg	15 00 29.6	+0.2
FORU	Forsmark	1.61	280	P	Pg	15 00 29.6	+0.2
FORU	Forsmark	1.61	280	eP	Pg	15 00 29.6	+0.2
NUR	Nurmijrvi	1.67	76	eP	Pg	15 00 30.5	-0.1
NUR				eS	Sg	15 00 52.3	0.0
FLYU	Flymyra	1.75	271	P	Pb	15 00 31.5	+0.1
FLYU	Flymyra	1.75	271	P	Pb	15 00 31.5	+0.1
FLYU	Flymyra	1.75	271	eP	Pb	15 00 31.5	+0.1
MTSE	Matsula	1.90	138	eP	Pb	15 00 33.5	-0.5
MTSE				eS	Sb	15 00 58.6	+0.4
MTSE	Matsula	1.90	138	eP	Pb	15 00 33.6	-0.4
MTSE				eS	Sn	15 00 57.0	+0.3
UPP	Uppsala	1.90	263	eP	Pg	15 00 35.2	+0.2
UPP	Uppsala	1.90	263	P	Pb	15 00 34.5	+0.3
UPP	Uppsala	1.90	263	eP	Pb	15 00 34.5	+0.3
FIBU	Brunna	2.03	265	P	Pb	15 00 36.7	+0.3
FIBU	Brunna	2.03	265	P	Pb	15 00 36.7	+0.3
NYNU	Nynaeshamn	2.06	238	P	Pb	15 00 36.8	+0.1
NYNU	Nynaeshamn	2.06	238	P	Pb	15 00 36.8	+0.1
NYNU	Nynaeshamn	2.06	238	eP	Pb	15 00 36.8	+0.1
OSTU	Oestervaala	2.12	274	P	Pb	15 00 38.0	+0.2
OSTU	Oestervaala	2.12	274	P	Pb	15 00 38.0	+0.2
OSTU	Oestervaala	2.12	274	eP	Pb	15 00 38.0	+0.2
IGGU	Iggoen	2.14	292	P	Pg	15 00 39.0	-0.5
IGGU	Iggoen	2.14	292	P	Pg	15 00 39.0	-0.5
IGGU	Iggoen	2.14	292	eP	Pg	15 00 39.0	-0.5
PVF	Pernaja	2.27	78	ePB	Pb	15 00 40.7	+0.3
PVF				MSG		15 01 11.0	
	comp=Z,16nm,0.2s						
ARNU	Arnoeviken	2.50	310	P	Pb	15 00 44.0	-0.3
ARNU	Arnoeviken	2.50	310	P	Pb	15 00 44.0	-0.3
ARNU	Arnoeviken	2.50	310	eP	Pb	15 00 44.0	-0.3
SLIT	Slitere, Latvi	2.56	169	eP	Pb	15 00 43.9	-1.4
SLIT				eS	Sb	15 01 17.5	+0.2
SLIT				IAML		15 01 23.3	
	comp=Z,210nm,0.2s						
FINES	FINESS Array B	2.65	58	Pn	Pb	15 00 46.7	-0.2
	comp=Z,2.6nm,0.3s,baz=240,slow=13,SNR=162						
FINES				Sn	Sb	15 01 20.4	+0.4
	comp=Z,4.7nm,0.3s,baz=245,slow=23,SNR=21						
FIA1	FINESS Array S	2.66	58	ePB	Pb	15 00 47.2	+0.3
VSU	Vasula	3.22	119	eP	Pb	15 00 57.4	+0.8
VSU				eS	Sb	15 01 37.0	+0.7
VSU				IAML		15 01 41.5	
	comp=Z,49nm,0.2s						
HFS	Hagfors	3.84	273	Pn	Pn	15 01 01.6	+2.8
	comp=Z,0.1nm,0.3s,baz=83,slow=13,SNR=8.9						
HFS				Pg	Pb	15 01 08.7	+1.6
	comp=Z,0.5nm,0.3s,baz=90,slow=15,SNR=18						
HFS				Sn	Sn	15 01 47.2	+2.5
	comp=Z,0.3nm,0.3s,baz=92,slow=28,SNR=1.5						
HFS				Lg	Lg	15 02 01.3	
	comp=Z,1.1nm,0.3s,baz=82,slow=29,SNR=14						
BLEU	Blekinge	4.84	220	i P	Pn	15 01 14.4	+1.9
BLEU				eS	Sn	15 02 09.5	+0.4
NOA	NORSAR Array B	5.09	285	Pn	Pn	15 01 18.3	+2.2
	comp=Z,0.0nm,0.3s,baz=82,slow=14,SNR=5.0						
NOA				Sn	Sn	15 02 15.4	-0.1
	comp=Z,0.0nm,0.3s,baz=90,slow=14,SNR=1.2						
NOA				Lg	Lg	15 02 36.3	
	comp=Z,0.1nm,0.3s,baz=48,slow=23,SNR=4.3						
BORU	Boraas	5.12	244	i P	Pn	15 01 21.4	+5.0
STRU	Stroemstad	5.29	262	i P	Pn	15 01 21.1	+2.3
DEL	Delary	5.40	230	e	Pn	15 01 20.7	+0.4
	baz=56,slow=16						
DEL				i P	Pn	15 01 22.0	+1.7
DEL				IAML		15 02 45.1	
	comp=Z,0.4nm,0.4s						
ONAU	Onsala	5.63	245	i P	Pn	15 01 27.0	+3.6
BJUU	Bjuv	6.01	231	i P	Pn	15 01 29.8	+1.1
BJUU				eS	Sn	15 02 37.5	-0.6
HOMB	Homborsund	6.87	260	i P	Pn	15 01 41.8	+1.4
HOMB				IAML		15 03 12.4	
	comp=Z,2.5nm,0.4s						
ARCES	ARCESS Array B	9.60	9	Pn	Pn	15 02 18.2	+0.4
	baz=190,slow=14,SNR=22						
ARCES				Sn	Sn	15 04 01.8	-4.4
	baz=189,slow=22,SNR=1.1						

ZUR 03 15:01:41.5, 46°.61N×7°.43E, h0km±3km**, MLh1.3**/5**, 6C, Error ellipse: s-maj=6.3km s-min=1.1km az=113.0, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIMIS	Wimmis	0.14	68	⇑Pg	Pg	15 01 44.8	+0.5
	0.4nm,SNR=62						
WIMIS				⇑Pg	Pg	15 01 44.8	+0.5
WIMIS				Sg	Sg	15 01 47.1	+1.0
LKBD	Leukerbad	0.26	149	Pg	Pg	15 01 46.9	+0.4
	0.1nm,SNR=18						
LKBD				Pg	Pg	15 01 46.9	+0.4
LKBD				Sg	Sg	15 01 50.7	+0.8
SENIN	Lac Senin/Sane	0.26	200	⇑Pg	Pg	15 01 46.9	+0.4
	0.1nm,SNR=14						
SENIN				⇑Pg	Pg	15 01 46.9	+0.4
LAUCH	Lauchernalp	0.31	130	Pg	Pg	15 01 47.9	+0.6
	0.1nm,SNR=6.7						
LAUCH				Pg	Pg	15 01 47.9	+0.6
LAUCH				Sg	Sg	15 01 52.3	+1.0
FIESA	Fiescheralp	0.50	110	⇑Pg	Pg	15 01 51.7	+0.6
FIESA				⇑Pg	Pg	15 01 51.7	+0.6
	SNR=12						
FIESA				Sg	Sg	15 01 58.7	+1.1

*IDC **03** 15:03:30.1±0.8, 30°.05N×142°.72E, h0km, mb3.9/14, mb1 4.0/19, mb1mx3.9/61, mbtmp3.9/19, ML3.4/4, Error ellipse: s-maj=23.2km s-min=15.6km az=78.0*
*NEIC **03** 15:03:30.5±2.2, 30°.13N±0°.06×142°.84E±0°.09, h5km±5km, mb4.5/26, Error ellipse: s-maj=11.1km s-min=7.7km az=108.0*
ISC 03 15:03:31.1±0.6**, 30°.15N**±0°.05×**142°.75E**±0°.09**, h10**km**, n60, σ1s.76**/63**, mb4.3**/24**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	3.08	189	Pn	Pn	15 04 18.1	-1.8
	14nm,0.3s,baz=275,slow=23,SNR=16						
JCJ				Sn	Sn	15 04 52.1	-4.7
	24nm,0.3s,baz=295,slow=23,SNR=9.4						
JHJ2	Mitsune	3.87	320	Pn	Pn	15 04 29.0	-1.7
JHJ	Hachijo jima 2	3.89	320	Pn	Pn	15 04 30.4	-0.6
	5.2nm,0.3s,baz=75,slow=20,SNR=2.5						
JHJ				Sn	Sn	15 05 13.2	-3.6
	6.5nm,0.3s,baz=84,slow=18,SNR=1.6						
JYT	Yasato	6.43	341		Pn	15 05 06.2	+0.4
JGF	Kuroka	7.08	322	Pn	Pn	15 05 17.6	+2.8
INU	Inuyama	7.08	319	Pn	Pn	15 05 17.4	+2.6
MJAR	Matsushiro Arr	7.42	330	Pn	Pn	15 05 19.2	-0.3
	0.6nm,0.3s,baz=148,slow=10,SNR=26						
MJAR	Matsushiro Arr	7.42	330		Pn	15 05 19.0	-0.4
MAJO	Matsushiro	7.42	330		Pn	15 05 20.0	+0.6
MAT	Matsushiro	7.42	330	P	Pn	15 05 19.9	+0.4
MAT				S	Sn	15 06 41.2	-2.5
MJB9	Matsu-Tunnel	7.42	330	Pn	Pn	15 05 17.7	-1.8
JMM	Marumori	7.86	349		Pn	15 05 23.5	-2.0
JMM					Sn	15 06 48.5	-6.0
JWT	Wachi	8.03	311	Pn	Pn	15 05 28.4	+0.6
JSD	Sado	8.70	336	Pn	Pn	15 05 35.4	-1.6
JTM	Tenmabayashi	10.70	353	Pn	Pn	15 06 01.7	-2.7
ERM	Erimo	11.84	1	Pn	Pn	15 06 16.0	-4.0
ASAJ	Asahikawa	13.94	360	Pn	Pn	15 06 46.6	-2.0
	0.6nm,0.3s,baz=216,slow=8.9,SNR=6.9						
ASAJ				Sn	Sn	15 09 12.3	-11
	0.2nm,0.3s,baz=120,slow=20,SNR=1.7						
JKA	Kamikawa-asahi	13.94	360		Pn	15 06 46.6	-2.0
KSRS	Korea Array	14.31	305	Pn	Pn	15 06 55.1	+1.4
	0.1nm,0.3s,baz=112,slow=13,SNR=9.5						
USRK	Ussuriysk Ar.	16.41	332	Pn	P	15 07 23.8	-0.5
	baz=106,slow=8.3,SNR=3.2						
MDJ	Mudanjiang	17.79	328	P	Pn	15 07 37.5	-1.2
YULB	Yu-li	20.28	256	P	P	15 08 07.1	0.0
SSLB	Suanglung	20.42	257	P	P	15 08 07.2	-1.3
SSLB				IAmb	IAmb	15 08 26.0	
	comp=Z,12nm,0.5s						
KLR	Kul'dur	20.81	339	P	Pn	15 08 14.2	-0.7
	comp=Z,3.1nm,0.6s,baz=150,slow=11,SNR=13						
SONM	Songino Array	32.93	313	P	P	15 10 07.7	+1.9
	comp=Z,1.3nm,0.7s,baz=123,slow=8.3,SNR=6.8						
SONM	Songino Array	32.93	313	P	P	15 10 07.0	+1.2
CMAR	Chiang Mai Arr	41.35	264	P	P	15 11 17.6	+0.1
	comp=Z,0.3nm,0.3s,baz=88,slow=4.7,SNR=4.5						
MTN	Manton Dam	44.19	196	P	P	15 11 40.4	+0.1
MTN				IAmb	IAmb	15 11 40.7	
	comp=Z,7.2nm,0.8s						
MKAR	Makanchi Array	48.96	308	P	P	15 12 18.4	+0.7
	comp=Z,0.9nm,0.7s,baz=85,slow=9.9,SNR=6.8						
WR0	Warramunga Arr	50.44	190	P	P	15 12 28.1	-1.0
WR0				IAmb	IAmb	15 13 05.2	
	comp=Z,5.5nm,1.3s						
WB2	Warramunga Arr	50.46	190	P	P	15 12 28.6	-0.6
WB2				IAmb	IAmb	15 12 40.9	
	comp=Z,6.4nm,1.2s						
WRA	Warramunga Arr	50.46	190	P	P	15 12 28.9	-0.3
	comp=Z,1.3nm,0.6s,baz=9.5,slow=7.7,SNR=9.4						
WRA	Warramunga Arr	50.46	190	P	P	15 12 28.1	-1.1
J20K	Nowinta River	51.62	30		P	15 12 39.6	+2.1
J20K				IAmb	IAmb	15 12 40.4	
	comp=Z,5.6nm,1.1s						
KDAK	Kodiak Island	51.65	38	P	P	15 12 38.1	+0.4
IMAR	Indian Mountai	52.11	28	P	P	15 12 38.9	-2.3
A21K	Barrow	52.41	21	P	P	15 12 43.7	+0.5
SKT	Skwentna	52.50	33	P	P	15 12 43.1	-1.0
SKT				IAmb	IAmb	15 13 08.7	
	comp=Z,9.5nm,1.6s						
SUA	Susitna One	52.83	34	P	P	15 12 47.1	+0.5
SUA				IAmb	IAmb	15 13 09.0	
	comp=Z,13nm,1.6s						
H23K	Yukon River	53.79	28	P	P	15 12 55.0	+1.5
ASAR	Alice Springs	54.18	190	P	P	15 12 56.5	-0.4
	comp=Z,0.4nm,0.8s,baz=10,slow=8.7,SNR=7.6						
ILAR	Eielson Array	54.81	30	P	P	15 13 01.7	+0.7
	comp=Z,0.8nm,0.8s,baz=260,slow=5.9,SNR=10						
BVAR	Borovoye Array	56.16	316	P	P	15 13 11.4	+0.5
	comp=Z,1.0nm,0.5s,baz=158,slow=12,SNR=5.8						
KK31	Karatay Array	57.74	304	P	P	15 13 23.3	+1.0
KK31				IAmb	IAmb	15 13 23.9	
	comp=Z,2.9nm,0.7s						
KKAR	Karatay Array	57.74	304	P	P	15 13 22.8	+0.6
KKAR	Karatay Array	57.74	304	P	P	15 13 23.1	+0.9
KKAR				IAmb	IAmb	15 13 23.9	
	comp=Z,2.9nm,0.7s						
GAR	Garm	58.87	300	P	P	15 13 30.3	-0.1
HYT	Haines Junctio	59.26	34	P	P	15 13 32.6	0.0
HYT				IAmb	IAmb	15 14 02.9	
	comp=Z,4.5nm,1.5s						
CHGR	Chuyangaron	59.83	300	P	P	15 13 37.9	+0.9
INK	Inuvik	60.06	25	P	P	15 13 38.6	+0.7
INK				IAmb	IAmb	15 13 57.6	
	comp=Z,8.5nm,1.5s						
FORT	Forrest	62.19	194	P	P	15 13 53.1	+0.4
A36M	Sachs Harbour	62.26	21	P	P	15 13 53.0	+0.2
ABKAR	Akbulak array	63.34	313	P	P	15 14 00.8	+0.5
ABKAR	Akbulak array	63.34	313	P	P	15 13 60.0	-0.4
ABKAR				IAmb	IAmb	15 14 16.9	
	comp=Z,1.2nm,0.5s						
AKTO	Aktyubinsk	64.21	315	P	P	15 14 08.2	+2.1
	comp=Z,1.5nm,0.6s,baz=64,slow=6.8,SNR=3.8						
FINES	FINESS Array B	75.44	334	P	P	15 15 15.8	+0.9
	comp=Z,0.8nm,0.5s,baz=46,slow=5.5,SNR=6.5						
KBZ	Khabaz	76.30	313	P	P	15 15 21.6	+1.4
	comp=Z,1.9nm,0.7s,baz=81,slow=5.0,SNR=4.7						
NVAR	Mina Array Bea	78.26	52	P	P	15 15 32.9	+1.2
	comp=Z,0.5nm,0.6s,baz=294,slow=6.7,SNR=4.5						
AKASG	Malin Array Be	80.45	324	P	P	15 15 43.6	+0.5
	comp=Z,0.7nm,0.5s,baz=46,slow=5.6,SNR=6.3						
TXAR	Lajitas Array	93.38	53	P	P	15 16 48.9	+1.8
	comp=Z,0.5nm,0.8s,baz=298,slow=2.7,SNR=5.8						

*IDC **03** 15:05:25.8±1.0, 17°.38N×93°.87W, h177km±12km, mb3.4/7, mb1 3.7/8, mb1mx3.3/44, mbtmp3.9/8, Error ellipse: s-maj=37.3km s-min=16.6km az=72.0*
*NEIC **03** 15:05:26.4±1.3, 17°.40N±0°.10×94°.01W±0°.06, h183km±4km, Error ellipse: s-maj=14.4km s-min=7.6km az=191.0*
*MEX **03** 15:05:27.9±0.7, 17°.33N×94°.05W, h187km±5km, MD4.6*
ISC 03 15:05:26.1±0.7**, 17°.35N**±0°.07×**94°.06W**±0°.04**, h186**km±6km**, n45, σ1s.01**/59**, mb4.0**/6**, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.83	252	P	Pn	15 05 53.8	+0.6
	207nm,0.3s,baz=72,slow=7.7,SNR=2762						
CMIG				S	Sn	15 06 14.5	+0.3
	116nm,0.3s,baz=292,slow=22,SNR=46						
CMIG				LR	LR	15 06 21.7	
	comp=Z,112nm,20.3s,baz=282,slow=55						
CMIG	Matias Romero	0.83	252	i P	Pn	15 05 53.8	+0.6
CMIG				i S	Sn	15 06 14.3	+0.1
TGIG		1.06	122	i P	Pn	15 05 55.0	+0.1
TGIG				i S	Sn	15 06 15.9	-1.3
TGIG		1.06	122		Pn	15 05 55.0	+0.1
TGIG					Sn	15 06 15.9	-1.3
PCIG		1.82	154	i P	Pn	15 06 02.0	+0.2
PCIG				i S	Sn	15 06 28.7	-0.7
PCIG		1.82	154		Pn	15 06 02.0	+0.2
PCIG					Sn	15 06 28.7	-0.7
CCIG	Comitan	2.12	120	i P	Pn	15 06 05.5	+0.4
CCIG				i S	Sn	15 06 34.8	-0.7
CCIG	Comitan	2.12	120		Pn	15 06 05.5	+0.4
CCIG					Sn	15 06 34.8	-0.7
VHO	Vista Hermosa	2.57	264	i P	Pn	15 06 11.0	+0.8
VHO				i S	Sn	15 06 46.0	+1.6
TOIG	Toxpalan	2.96	285	i P	Pn	15 06 15.8	+1.1
TOIG				i S	Sn	15 06 52.2	-0.3
THIG		2.98	144	i P	Pn	15 06 15.5	+0.8
THIG				i S	Sn	15 06 53.2	+0.5
THIG		2.98	144		Pn	15 06 15.5	+0.8
THIG					Sn	15 06 53.2	+0.5
PEIG	Puerto Escondi	3.25	246	i P	Pn	15 06 16.5	-1.6
PEIG				i S	Sn	15 06 58.5	-0.2
YOIG	Yosondua	3.37	262	i P	Pn	15 06 19.9	+0.1
YOIG				i S	Sn	15 06 59.7	-2.1
HLIG	Huajuapan de L	3.60	278	i P	Pn	15 06 23.5	+0.9
HLIG				i S	Sn	15 07 03.8	-3.0
PNIG	Pinotepa	4.01	257	i P	Pn	15 06 26.6	-1.0
PNIG				i S	Sn	15 07 13.9	-1.8
PNIG	Pinotepa	4.01	257		Pn	15 06 26.6	-1.0
PNIG					Sn	15 07 13.9	-1.8
PETF	Flores	4.03	95		Pn	15 06 27.0	-0.8
TLIG	Tlapa	4.31	274		Pn	15 06 32.7	+1.3
MTO3	Montecristo	5.39	122		Pn	15 06 44.3	-1.2
ORTG	Ortega, Santa	10.86	129		Pn	15 07 57.5	+0.7
JTS	Las Juntas de	11.29	127	Pn	Pn	15 08 02.1	-0.2
TX32	Lajitas Array	14.83	325	P	P	15 08 48.2	+0.2
TXAR	Lajitas Array	14.83	325	P	P	15 08 49.9	+1.8
	0.1nm,0.3s,baz=149,slow=14,SNR=17						
TXAR	Lajitas Array	14.83	325	P	P	15 08 47.8	-0.2
TX31	Lajitas Ar. Si	14.83	325	P	P	15 08 48.3	+0.2
061Z	Ochoppi	14.87	53	P	Pn	15 08 46.8	-0.5
MIAR	Mount Ida	17.13	1	P	P	15 09 13.8	+0.5
MIAR				IAmb	IAmb	15 09 17.4	
	comp=Z,19nm,1.6s						
W39A	Magazine	17.78	1	P	P	15 09 20.7	+0.4
PLAL	Pickwick Lake	18.36	16	P	P	15 09 24.6	-2.0
AMTX	Amarillo	18.74	340	P	P	15 09 30.6	-0.4
AMTX				IAmb	IAmb	15 10 05.9	
	comp=Z,15nm,1.8s						
U40A	Yellville	18.96	3	P	P	15 09 32.9	-0.4
U40A				IAmb	IAmb	15 09 51.9	
	comp=Z,15nm,1.9s						
CLTN	Cedars of Leba	19.89	19	P	P	15 09 41.4	-1.8
TKL	Tuckaleechee C	20.40	25	P	P	15 09 47.7	-1.0
	comp=Z,1.1nm,0.4s,baz=204,slow=10.0,SNR=3.6						
TKL	Tuckaleechee C	20.40	25	IAmb	IAmb	15 10 04.7	
	comp=Z,14nm,1.6s						
LPAZ	La Paz	42.07	141	P	P	15 13 00.4	-0.2
	comp=Z,1.1nm,0.6s,baz=325,slow=7.9,SNR=6.1						
LPAZ	La Paz	42.07	141	IAmb	IAmb	15 13 34.7	
	comp=Z,9.7nm,1.6s						
INK	Inuvik	56.69	344	P	P	15 14 50.1	+0.4
	comp=Z,2.7nm,0.6s,baz=129,slow=7.8,SNR=7.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**56.69**	**344**	IAmb	IAmb	15 14 56.1	
	comp=Z,10nm,1.7s						
ILAR	**Eielson Array**	**59.00**	**337**	P	**P**	**15 15 06.9**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=161,slow=4.6,SNR=4.7						
PLCA	**Paso Flores**	**61.78**	**160**	P	**P**	**15 15 25.6**	**+0.5**
	comp=Z,2.7nm,0.9s,baz=343,slow=5.0,SNR=5.0						
ARCES	**ARCESS Array B**	**83.59**	**18**	P	**P**	**15 17 33.2**	**+0.1**
	comp=Z,5.3nm,1.1s,baz=291,slow=5.7,SNR=4.2						
GERES	**GERESS Array B**	**88.28**	**39**	P	**P**	**15 17 56.6**	**0.0**
	comp=Z,0.2nm,0.4s,baz=20,slow=4.4,SNR=4.4						
WRA	**Warramunga Arr**	**134.19**	**259**	PKP	**PKPdf**	**15 24 23.0**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=72,slow=2.6,SNR=1.6						
ASAR	**Alice Springs**	**134.80**	**254**	PKP	**PKPdf**	**15 24 23.9**	**+0.5**
	comp=Z,0.2nm,0.8s,baz=92,slow=2.8,SNR=1.6						

MEX 03 15:09:33.6±1.4**, 18°.88N×102°.54W, h60km**±42km**, MD4.0, Michoacan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.97**	**233**	*i* P	Pn	15 09 49.9	-1.4
MMIG				*i* S	Sn	15 10 02.6	-1.7
COIG	**Colima**	**1.13**	**285**	*e*P	Pn	15 09 51.5	-2.0
COIG				*e*S	Sn	15 10 05.7	-2.6
EZ5V		**1.17**	**301**	*e*P	Pn	15 09 52.4	-1.8
EZ5V				*e*S	Sn	15 10 07.1	-2.3
EZ5V				*e*S		15 10 07.6	
R15V		**1.40**	**282**	*e*P	Pn	15 09 56.1	-0.9
R15V				*e*S	Sn	15 10 10.9	-3.7
R15V				*e*S		15 10 12.7	
ZIIG	**Zihuatanejo**	**1.63**	**141**	*i* P	Pn	15 10 05.0	+5.0
ZIIG				*i* S	Sn	15 10 25.3	+5.4
ARIG	**Puente Sto Nin**	**2.16**	**106**	*e*P	Pn	15 10 11.0	+3.7
ARIG				*e*S	Sn	15 10 39.0	+6.0

*TUL **03** 15:16:03.9±1.4, 35°.89N±0°.01×96°.74W±0°.03, h4km±4km, ML2.6, mb_Lg2.1/11(NEIC), Error ellipse: s-maj=3.4km s-min=1.6km az=105.0*

NEIC 03 15:16:04.1±1.1**, 35°.91N**±0°.01×**96°.76W**±0°.03**, h8km**±3km**, Error ellipse: s-maj=3.4km s-min=1.8km az=112.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.08**	**306**		Pg	15 16 06.4	+0.1
OK031				Sg	Sg	15 16 08.0	+0.3
QUOK	**Quay**	**0.27**	**8**		Pg	15 16 09.8	+0.3
QUOK				Sg	Sg	15 16 13.8	+0.7
OK025	**Westminster Rd**	**0.57**	**236**	Pg	Pg	15 16 15.2	0.0
OK025				Sg	Sg	15 16 23.5	+0.9
OK029	**Liberty Lake**	**0.58**	**259**		Pg	15 16 15.4	+0.1
OK029				Sg	Sg	15 16 23.6	+0.8
OKCFA	**Oklahoma City**	**0.75**	**229**	Pg	Pb	15 16 19.8	+0.4
OKCFA				Sg	Sg	15 16 28.8	+0.6
FNO	**Franklin**	**0.83**	**219**	Pg	Pg	15 16 19.2	-1.0
FNO				Sg	Sg	15 16 31.3	+0.4
BLOK	**Blackwell**	**0.93**	**337**	Pg	Pg	15 16 21.9	-0.1
BLOK				Sg	Sb	15 16 35.6	+0.5
T35A	**Sooner Cattle**	**1.03**	**11**		Pg	15 16 23.6	-0.3
T35A				Sg	Sb	15 16 37.6	-0.2
CROK	**Carrier**	**1.16**	**301**	Pg	Pg	15 16 25.8	-0.5
CROK				Sg	Sb	15 16 41.9	+0.3
KAN13	**South Haven SW**	**1.25**	**332**	Pg	Pn	15 16 27.2	-0.7
KAN13				Sg	Sn	15 16 44.7	-0.3
GC02	**Grant County #**	**1.30**	**317**	Pn	Pn	15 16 28.3	-0.3
GC02					Sb	15 16 45.8	+0.1
KAN17	**Caldwell West**	**1.40**	**325**	Pn	Pb	15 16 30.3	-0.2
KAN17				Sn	Sg	15 16 49.7	+0.6
KAN14	**Manchester OK**	**1.43**	**318**	Pn	Pn	15 16 30.7	+0.3
KAN14				Sn	Sg	15 16 50.1	-0.1
KS20	**Mayfield South**	**1.47**	**334**	Pn	Pb	15 16 31.8	0.0
KS20				Sn	Sb	15 16 51.0	+0.3
OK032	**Salt Plains WL**	**1.48**	**308**	Pn	Pb	15 16 32.0	+0.1
OK032				Sn	Sg	15 16 51.5	-0.1
KAN05	**Bluff City Nor**	**1.50**	**324**	Pn	Pn	15 16 31.3	-0.1
KAN05				IAmb_Lg		15 16 52.3	
	comp=Z,14nm,0.8s						
X34A	**Smith Ranch, M**	**1.57**	**214**	Pn	Pn	15 16 32.3	-0.1
KAN08	**Anthony NE Sta**	**1.64**	**324**	Pn	Pn	15 16 32.5	-0.9
KAN12	**Harper NE Stat**	**1.71**	**325**	Pn	Pn	15 16 34.0	-0.3
X37A	**Clayton**	**1.73**	**139**		Pn	15 16 34.6	+0.1
U32A	**Winter Ranch,**	**1.88**	**285**	Pn	Pn	15 16 35.9	-0.7
U38A	**Gravette**	**1.99**	**74**		Pn	15 16 38.9	+0.7
WMOK	**Wichita Mounta**	**2.02**	**235**		Pn	15 16 38.0	-0.6
HHAR	**Hobbs**	**2.31**	**80**		Pn	15 16 42.4	-0.2
W39A	**Magazine**	**2.52**	**105**		Sg	15 17 24.7	-0.6
W39A				IAmb_Lg		15 17 28.7	
	comp=Z,6.6nm,1.0s						
MIAR	**Mount Ida**	**2.94**	**117**	Pn	Pn	15 16 48.3	-2.8
U40A	**Yellville**	**3.19**	**81**	Pn	Pn	15 16 55.0	+0.4
U40A				IAmb_Lg		15 17 50.7	
	comp=Z,4.7nm,0.8s						
S39A	**Bolivar**	**3.28**	**56**	Pn	Pn	15 16 56.3	+0.5
X40A	**Basin Creek Fa**	**3.51**	**113**	Pn	Pn	15 16 59.6	+0.6
X40A				IAmb_Lg		15 18 00.2	
	comp=Z,4.0nm,0.8s						
WHAR	**Wooly Hollow**	**3.69**	**98**	Pn	Pn	15 17 01.1	-0.4
CBKS	**Cedar Bluff**	**3.75**	**322**	Pn	Pn	15 17 02.6	+0.2
FCAR	**Ozark Folk Cen**	**3.76**	**89**	Pn	Pn	15 17 02.6	+0.1
MGMO	**Mountain Grove**	**3.82**	**70**	IAmb_Lg		15 18 07.2	
	comp=Z,9.0nm,0.8s						
R40A	**Maddies Statio**	**4.31**	**55**	Pn	Pn	15 17 09.8	-0.1
R40A				IAmb_Lg		15 18 24.3	
	comp=Z,3.7nm,0.8s						
P38A	**Dawn**	**4.51**	**34**	IAmb_Lg		15 18 33.0	
	comp=Z,3.8nm,0.7s						
T42A	**Van Buren**	**4.70**	**75**	Pn	Pn	15 17 13.7	-1.6

MEX 03 15:30:22.0±0.7**, 15°.87N×98°.76W, h16km**±13km**, MD4.2, Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.80**	**49**	*i* P	Pb	15 30 34.3	-3.3
PNIG				*i* S	Sb	15 30 44.6	-3.6
MGIG	**Malinaltepec**	**1.36**	**5**	*i* P	Pn	15 30 43.0	-3.6
MGIG				*i* S	Sn	15 30 59.3	-5.2
DAIG	**Los Arroyos**	**1.43**	**324**	*e*P	Pn	15 30 43.7	-3.6
DAIG				*i* S	Sn	15 30 59.4	-6.4
YOIG	**Yosondua**	**1.53**	**50**	*e*P	Pn	15 30 45.6	-3.3
YOIG				*i* S	Sn	15 31 03.9	-4.7
PEIG	**Puerto Escondi**	**1.56**	**85**	*e*P	Pn	15 30 45.5	-3.6
PEIG				*i* S	Sn	15 31 03.8	-5.2
TLIG	**Tlapa**	**1.70**	**6**	*e*P	Pn	15 30 47.8	-3.3
TLIG				*e*S	Sn	15 31 08.0	-4.5
HLIG	**Huajuapan de L**	**2.16**	**25**	*e*P	Pn	15 30 55.0	-2.5
HLIG				*e*S	Sn	15 31 22.3	-1.8
MEIG	**Mezcala**	**2.21**	**338**	*e*P	Pn	15 30 57.4	-0.6
MEIG				*e*S	Sn	15 31 19.0	-6.1
VHO	**Vista Hermosa**	**2.29**	**58**	*e*P	Pn	15 30 51.1	-8.2
VHO				*e*S	Sn	15 31 22.8	-4.5
PLIG	**Platanillo**	**2.61**	**344**	*e*P	Pn	15 31 01.6	-2.0
PLIG				*e*S	Sn	15 31 31.3	-3.8
TOIG	**Toxpalan**	**2.75**	**36**	*e*P	Pn	15 31 01.5	-4.1
TOIG				*e*S	Sn	15 31 32.2	-6.3

*IDC **03** 15:30:46.7±0.6, 52°.40N×89°.91E, h0km, mb3.8/13, mb1 4.1/19, mb1mx3.9/53, mbtmp4.0/19, ML3.7/6, MS3.2/10, Ms1 3.2/10, ms1mx2.9/48, Error ellipse: s-maj=12.6km s-min=9.5km az=168.0*

*MOS **03** 15:30:47.5±1.3, 52°.42N×89°.79E, h9km, mb4.4/7, Error ellipse: s-maj=5.9km s-min=4.5km az=79.9*

*BJI **03** 15:30:48.4±0.0, 52°.28N×89°.76E, h7km, mB4.5/13, mb4.2/25, ML4.8/3, Ms4.0/13, Ms7 3.7/11*

*NEIC **03** 15:30:49.4±1.4, 52°.38N±0°.03×89°.8E±0°.1, h15km±4km, mb4.5/48, Error ellipse: s-maj=11.7km s-min=4.3km az=78.0*

*ASRS **03** 15:30:50.0±0.2, 52°N±1°×9°0E±°, h10km, MLh4.9/22, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*

*NNC **03** 15:30:56.2±1.7, 52°.42N×89°.04E, h24km±9km, mb4.6, mpv4.5, Error ellipse: s-maj=12.7km s-min=7.8km az=87.0, Suspected Mining explosion.*

ISC 03 15:30:47.2±0.3**, 52°.42N**±0°.02×**89°.72E**±0°.02**, h0km, n204, σ1.78**/272**, mb4.2**/37**, MS3.3**/5**, 13C-7D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TBTR	**Tabat**	**0.79**	**50**	P	**Pg**	**15 30 59.0**	**-3.4**
TBTR				S	**Sg**	**15 31 09.3**	**-3.3**
TBTR	**Tabat**	**0.79**	**50**	PG	**Pg**	**15 30 58.9**	**-3.4**
TBTR				S	**Sg**	**15 31 09.3**	**-3.3**
DJO	**Djoy, Khakassi**	**0.98**	**68**	P	**Pb**	**15 31 07.3**	**+0.2**
DJO				S	**Sb**	**15 31 19.7**	**-0.9**
DJO	**Djoy, Khakassi**	**0.98**	**68**	PG	**Pb**	**15 31 07.3**	**+0.2**
DJO				S	**Sb**	**15 31 19.6**	**-0.9**
DJOS	**Djoyskaya Sosn**	**1.09**	**69**	P	**Pb**	**15 31 08.3**	**-0.6**
DJOS				S	**Sg**	**15 31 22.2**	**+0.1**
DJOS	**Djoyskaya Sosn**	**1.09**	**69**	PG	**Pb**	**15 31 08.3**	**-0.6**
DJOS				S	**Sg**	**15 31 22.2**	**+0.1**
CERR	**Cheremushki**	**1.12**	**67**	P	**Pn**	**15 31 09.7**	**-0.4**
CERR				S	**Sb**	**15 31 24.8**	**+0.2**
CERR	**Cheremushki**	**1.12**	**67**	PG	**Pn**	**15 31 09.7**	**-0.4**
CERR				S	**Sb**	**15 31 24.7**	**+0.2**
TASR	**Tashtagol**	**1.17**	**287**	P	**Pg**	**15 31 09.9**	**+0.1**
TASR				S	**Sg**	**15 31 24.9**	**0.0**
TASR	**Tashtagol**	**1.17**	**287**	PG	**Pg**	**15 31 09.8**	**+0.1**
TASR				S	**Sg**	**15 31 24.9**	**0.0**
LUZB	**Luzhba, Kemero**	**1.34**	**339**	P	**Pg**	**15 31 12.7**	**-0.1**
LUZB				S	**Sg**	**15 31 29.1**	**-1.0**
LUZB	**Luzhba, Kemero**	**1.34**	**339**	PG	**Pg**	**15 31 12.7**	**-0.1**
LUZB				S	**Sg**	**15 31 29.1**	**-1.0**
ARTR	**Artybash**	**1.63**	**248**	P	**Pn**	**15 31 16.9**	**-0.3**
ARTR				S	**Sn**	**15 31 37.1**	**-1.8**
ARTR	**Artybash**	**1.63**	**248**	PN	**Pn**	**15 31 16.9**	**-0.3**
ARTR				S	**Sn**	**15 31 37.0**	**-1.8**
ABNR	**Abakan**	**1.66**	**38**	Pg	**Pg**	**15 31 19.1**	**0.0**
ABNR				Sg	**Sg**	**15 31 41.9**	**+1.2**
ABNR	**Abakan**	**1.66**	**38**	PN	**Pg**	**15 31 19.1**	**0.0**
ABNR				S	**Sg**	**15 31 41.8**	**+1.2**
SHRR	**Shira**	**2.09**	**7**	P	**Pb**	**15 31 26.0**	**0.0**
SHRR				S	**Sb**	**15 31 52.3**	**-0.2**
SHRR	**Shira**	**2.09**	**7**	PN	**Pb**	**15 31 26.0**	**0.0**
SHRR				S	**Sb**	**15 31 52.3**	**-0.2**
ULGR	**Ulagan, Altay**	**2.11**	**212**	P	**Pb**	**15 31 27.0**	**+0.5**
ULGR				S	**Sn**	**15 31 52.6**	**+1.7**
ULGR	**Ulagan, Altay**	**2.11**	**212**	PN	**Pb**	**15 31 26.9**	**+0.5**
ULGR				S	**Sn**	**15 31 52.5**	**+1.7**
ELT	**Eltsovka**	**2.27**	**293**	P	**Pn**	**15 31 27.4**	**+1.3**
ELT				S	**Sn**	**15 31 55.9**	**+1.2**
ELT	**Eltsovka**	**2.27**	**293**	PN	**Pn**	**15 31 27.3**	**+1.3**
ELT				S	**Sn**	**15 31 55.9**	**+1.2**
GALT	**Gorno-Altaysk,**	**2.37**	**260**	P	**Pb**	**15 31 30.6**	**-0.2**
GALT				S	**Sb**	**15 31 59.6**	**-0.9**
GALT	**Gorno-Altaysk,**	**2.37**	**260**	PN	**Pb**	**15 31 30.5**	**-0.2**
GALT				S	**Sb**	**15 31 59.6**	**-0.9**
CUR	**Chagan-Uzun**	**2.48**	**201**	P	**Pb**	**15 31 31.4**	**-1.4**
CUR				S	**Sb**	**15 32 03.1**	**-0.7**
CUR	**Chagan-Uzun**	**2.48**	**201**	PN	**Pb**	**15 31 31.3**	**-1.4**
CUR				S	**Sb**	**15 32 03.1**	**-0.7**
AKAR	**Aktash**	**2.48**	**213**	P	**Pn**	**15 31 31.2**	**+2.2**
AKAR				S	**Sn**	**15 32 02.5**	**+2.4**
AKAR	**Aktash**	**2.48**	**213**	PN	**Pn**	**15 31 31.2**	**+2.2**
AKAR				S	**Sn**	**15 32 02.4**	**+2.4**
VCHU	**Verkh-Chumysh,**	**2.50**	**309**	Pg	**Pb**	**15 31 33.8**	**+0.8**
VCHU				Sg	**Sg**	**15 32 06.8**	**-0.7**
VCHU	**Verkh-Chumysh,**	**2.50**	**309**	PN	**Pb**	**15 31 33.8**	**+0.8**
VCHU				S	**Sg**	**15 32 06.8**	**-0.7**
CHBI	**Chibit, Altay**	**2.53**	**214**	P	**Pb**	**15 31 33.0**	**-0.6**
CHBI				S	**Sn**	**15 32 03.4**	**+2.2**
CHBI	**Chibit, Altay**	**2.53**	**214**	PN	**Pb**	**15 31 32.9**	**-0.6**
CHBI				S	**Sn**	**15 32 03.3**	**+2.2**
POMOR	**Pomortsevo, Ku**	**2.76**	**317**	P	**Pn**	**15 31 34.0**	**+1.3**
POMOR				S	**Sn**	**15 32 08.4**	**+1.8**
POMOR	**Pomortsevo, Ku**	**2.76**	**317**	PN	**Pn**	**15 31 33.9**	**+1.3**
POMOR				S	**Sn**	**15 32 08.4**	**+1.8**
BJR2	**Bachatsky-2, K**	**2.85**	**312**	P	**Pn**	**15 31 36.0**	**+2.1**
BJR2				S	**Sb**	**15 32 12.4**	**-1.8**
BJR2	**Bachatsky-2, K**	**2.85**	**312**	PN	**Pn**	**15 31 35.9**	**+2.1**
BJR2				S	**Sb**	**15 32 12.4**	**-1.8**
BJR1	**Bachatsky 1, K**	**2.86**	**311**	P	**Pb**	**15 31 37.1**	**-2.0**
BJR1				S	**Sb**	**15 32 13.8**	**-0.9**
BJR1	**Bachatsky 1, K**	**2.86**	**311**	PN	**Pb**	**15 31 37.1**	**-2.0**
BJR1				S	**Sb**	**15 32 13.7**	**-0.9**
KZLR	**Kyzyl**	**3.01**	**102**	P	**Pn**	**15 31 37.8**	**+1.6**
KZLR				S	**Sb**	**15 32 16.5**	**-2.4**
KZLR	**Kyzyl**	**3.01**	**102**	PN	**Pn**	**15 31 37.7**	**+1.6**
KZLR				S	**Sb**	**15 32 16.5**	**-2.4**
DGZ	**Jazzator, Alta**	**3.08**	**209**	P	**Pn**	**15 31 40.5**	**+3.2**
DGZ				S	**Sn**	**15 32 18.4**	**+3.4**
DGZ	**Jazzator, Alta**	**3.08**	**209**	*e*PN	**Pn**	**15 31 40.5**	**+3.2**
SALR	**Pechorkino, Sa**	**3.13**	**311**	P	**Pn**	**15 31 39.9**	**+2.1**
SALR				S	**Sn**	**15 32 17.0**	**+1.3**
SALR	**Pechorkino, Sa**	**3.13**	**311**	PN	**Pn**	**15 31 39.8**	**+2.1**
SALR				S	**Sn**	**15 32 17.0**	**+1.3**
ZAA0	**Zalesovo Array**	**3.32**	**299**	⇑Pn	**Pn**	**15 31 41.8**	**+1.4**
	14nm,0.3s						
ZAA0				⇑Pg	**Pg**	**15 31 51.4**	**+0.5**
	45nm,0.6s						
ZAA0				⇑Lg	Lg	15 32 28.7	
	171nm,0.7s						
ZAA0	**Zalesovo Array**	**3.32**	**299**	Pn	**Pn**	**15 31 41.4**	**+1.0**
ZALV	**Zalesovo Beam**	**3.32**	**299**	Pn	**Pn**	**15 31 42.1**	**+1.7**
	39nm,0.3s,baz=109,slow=14,SNR=101						
ZALV				Pg	**Pb**	**15 31 47.5**	**+0.6**
	86nm,0.3s,baz=119,slow=16,SNR=172						
ZALV				Lg	Lg	15 32 30.6	
	134nm,0.3s,baz=124,slow=23,SNR=10						
ZALV				LR	LR	15 33 11.2	
	comp=Z,170nm,18.9s,baz=82,slow=42						
ZALV	**Zalesovo Beam**	**3.32**	**299**	Pn	**Pn**	**15 31 41.6**	**+1.2**
UKR	**Ust'-Kan**	**3.42**	**246**	P	**Pn**	**15 31 44.3**	**+2.4**
UKR				S	**Sn**	**15 32 24.0**	**+0.8**
UKR	**Ust'-Kan**	**3.42**	**246**	PN	**Pn**	**15 31 44.2**	**+2.4**
UKR				S	**Sn**	**15 32 23.9**	**+0.8**
KEM	**Kemerovo**	**3.63**	**325**	P	**Pn**	**15 31 47.2**	**+2.5**
KEM				S	**Sn**	**15 32 30.1**	**+1.9**
KEM	**Kemerovo**	**3.63**	**325**	PN	**Pn**	**15 31 47.1**	**+2.5**
KEM				S	**Sn**	**15 32 30.0**	**+1.9**
ASR1	**Anjero-Sudjens**	**4.26**	**331**	P	**Pn**	**15 31 54.3**	**+1.0**
ASR1				Sg	**Sg**	**15 33 01.5**	**-2.4**
ASR1	**Anjero-Sudjens**	**4.26**	**331**	PN	**Pn**	**15 31 54.2**	**+1.0**
ASR1				S	**Sg**	**15 33 01.4**	**-2.4**
KHAR	**Kharino, NSO,**	**4.27**	**303**	P	**Pb**	**15 31 58.6**	**-4.5**
KHAR				S	**Sn**	**15 32 44.2**	**+0.4**
KHAR	**Kharino, NSO,**	**4.27**	**303**	PN	**Pb**	**15 31 58.5**	**-4.5**
KHAR				S	**Sn**	**15 32 44.2**	**+0.4**
SHTK	**Zheleznogorsk-**	**4.53**	**29**	P	Pn	15 31 50.9	-6.0
SHTK				S	**Sn**	**15 32 45.6**	**-4.6**
SHTK	**Zheleznogorsk-**	**4.53**	**29**	PN	Pn	15 31 50.9	-6.0
NVSII	**Novosibirsk**	**4.56**	**305**	P	**Pn**	**15 31 58.8**	**+1.5**
NVSII				S	**Sn**	**15 32 49.6**	**-1.4**
NVSII	**Novosibirsk**	**4.56**	**305**	PN	**Pn**	**15 31 58.8**	**+1.5**
NVSII				S	**Sn**	**15 32 49.5**	**-1.4**
NVS	**Novosibirsk**	**4.56**	**305**	P	**Pn**	**15 31 58.4**	**+1.1**
NVS				S	**Sn**	**15 32 50.5**	**-0.4**
NVS	**Novosibirsk**	**4.56**	**305**	PN	**Pn**	**15 31 58.4**	**+1.1**
NVS				S	**Sn**	**15 32 50.5**	**-0.4**
MOY	**Mondy**	**7.00**	**92**	P	Pb	15 32 43.5	-6.1
MOY	**Mondy**	**7.00**	**92**	PN	Pb	15 32 43.4	-6.2
KURK	**Kurchatov**	**7.13**	**261**	PN	**Pn**	**15 32 35.9**	**+3.2**
KURK	**Kurchatov**	**7.13**	**261**		**Pn**	**15 32 35.9**	**+3.2**
KURK					**Sn**	**15 33 51.9**	**-2.4**
KURBB	**Kurchatov Arra**	**7.21**	**260**	Pn	**Pn**	**15 32 35.8**	**+2.0**
	2.0nm,0.3s,baz=73,slow=16,SNR=43						
KURBB				Sn	**Sn**	**15 33 51.9**	**-4.5**
	6.1nm,0.3s,baz=71,slow=25,SNR=11						
KURBB				Lg	Lg	15 34 31.5	
	2.0nm,0.3s,baz=73,slow=29,SNR=2.4						
KURBB	**Kurchatov Arra**	**7.21**	**260**	⇑Pn	**Pn**	**15 32 35.4**	**+1.6**
	67nm,0.5s						
KURBB				⇑Sn	**Sn**	**15 33 52.4**	**-4.0**
	425nm,0.7s						
KURBB				⇑Lg	Lg	15 34 31.6	
	455nm,0.7s						
KURBB	**Kurchatov Arra**	**7.21**	**260**	P	**Pn**	**15 32 35.4**	**+1.6**
KURBB				S	**Sn**	**15 33 52.4**	**-4.0**
MK31	**Makanchi Array**	**7.42**	**224**	⇑Pn	**Pn**	**15 32 38.4**	**+1.7**
	25nm,0.4s,baz=45,slow=13,SNR=1219						
MK31				⇓Sn	**Sn**	**15 34 00.8**	**-0.7**
	39nm,0.5s						
MK31				⇑Lg	Lg	15 34 40.6	
	104nm,0.7s,baz=49,slow=27,SNR=5.4						
MK31	**Makanchi Array**	**7.42**	**224**	*i* P	**Pn**	**15 32 38.8**	**+2.1**
MK31	**Makanchi Array**	**7.42**	**224**	Pn	**Pn**	**15 32 38.8**	**+2.1**
MKAR	**Makanchi Array**	**7.42**	**224**	Pn	**Pn**	**15 32 38.9**	**+2.2**
	9.7nm,0.3s,baz=31,slow=12,SNR=225						
MKAR				Sn	**Sn**	**15 34 02.2**	**+0.7**
	13nm,0.3s,baz=69,slow=31,SNR=5.1						
MKAR				Lg	Lg	15 34 40.2	
	16nm,0.3s,baz=40,slow=34,SNR=5.2						
MKAR				LR	LR	15 35 42.1	
	comp=Z,132nm,21.0s,baz=23,slow=40						
MKAR	**Makanchi Array**	**7.42**	**224**	P	**Pn**	**15 32 38.8**	**+2.2**
MKAR				S	**Sn**	**15 34 00.7**	**-0.8**
MKAR	**Makanchi Array**	**7.42**	**224**	P	**Pn**	**15 32 38.8**	**+2.2**
MKAR				S	**Sn**	**15 34 00.7**	**-0.8**
MKAR	**Makanchi Array**	**7.42**	**224**	Pn	**Pn**	**15 32 38.7**	**+2.0**
MAKZ	**Makanchi**	**7.54**	**225**	P	**Pn**	**15 32 40.8**	**+2.4**
MAKZ				S	**Sn**	**15 34 02.3**	**-2.2**
MAKZ	**Makanchi**	**7.54**	**225**	⇓Pn	**Pn**	**15 32 40.8**	**+2.4**
	65nm,0.8s						
MAKZ				⇓Sn	**Sn**	**15 34 03.2**	**-1.3**
	59nm,0.5s						
MAKZ				⇓Lg	Lg	15 34 46.4	
	88nm,0.7s						
MAKZ	**Makanchi**	**7.54**	**225**	P	**Pn**	**15 32 40.7**	**+2.4**
MAKZ				S	**Sn**	**15 34 02.3**	**-2.2**
MAKZ	**Makanchi**	**7.54**	**225**		**Pn**	**15 32 40.7**	**+2.4**
WMQ	**Urumqi**	**8.71**	**190**	*e*P	**Pn**	**15 32 58.3**	**+3.8**
WMQ				smax	smax		
	comp=N,230nm,0.9s						
WMQ				smax	smax		
	comp=E,180nm,0.9s						
PDGK	**Podgornoye**	**11.39**	**221**	⇑P	**Pn**	**15 33 32.9**	**+1.7**
	17nm,0.8s						
PDGK	**Podgornoye**	**11.39**	**221**	P	**Pn**	**15 33 32.9**	**+1.7**
SONM	**Songino Array**	**11.64**	**107**	Pn	**Pn**	**15 33 36.9**	**+2.4**
	baz=294,slow=11,SNR=2.1						
SONM				Pg		15 34 17.4	
	baz=308,slow=16,SNR=1.9						
SONM				Sn	**Sn**	**15 35 42.4**	**-2.8**
	0.3nm,0.3s,baz=316,slow=23,SNR=2.3						
SONM				Lg	Lg	15 36 49.9	
	0.5nm,0.3s,baz=295,slow=28,SNR=3.9						
SONM				LR	LR	15 38 03.8	
	comp=Z,132nm,18.5s,baz=302,slow=38						
BVAR	**Borovoye Array**	**11.74**	**281**	Pn	**Pn**	**15 33 35.9**	**+0.1**
	1.7nm,0.3s,baz=90,slow=7.4,SNR=18						
BVAR				Sn	**Sn**	**15 35 42.6**	**-4.9**
	5.3nm,0.3s,baz=94,slow=21,SNR=4.2						
BVAR				Lg	Lg	15 37 04.8	
	baz=97,slow=23,SNR=1.3						
BRVK	**Borovoye**	**11.80**	**281**	⇓Pn	**Pn**	**15 33 37.5**	**+0.9**
	8.4nm,0.6s						
BRVK				⇓Sn	**Sn**	**15 35 43.7**	**-5.2**
	7.5nm,0.5s						
BRVK				⇑Lg	Lg	15 36 57.5	
	34nm,0.9s						
BRVK	**Borovoye**	**11.80**	**281**	*ce*P	**Pn**	**15 33 37.5**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.5s						
BRVK	**Borovoye**	**11.80**	**281**	Pn	**Pn**	**15 33 36.4**	**-0.3**
ULN	**Ulaanbaatar**	**12.01**	**105**	*i* P	**Pn**	**15 33 42.6**	**+2.9**
KDJ	**Kajisay**	**13.34**	**224**	P	**Pn**	**15 33 59.7**	**+1.8**
KDJ	**Kajisay**	**13.34**	**224**	Pn	**Pn**	**15 33 59.6**	**+1.8**
BOOM	**Boomskoye usch**	**13.60**	**229**	P	**Pn**	**15 34 04.0**	**+2.5**
BOOM	**Boomskoye usch**	**13.60**	**229**	Pn	**Pn**	**15 34 04.0**	**+2.5**
AAK	**Ala-Archa**	**14.17**	**232**	Pn	**P**	**15 34 15.0**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=74,slow=7.6,SNR=2.1						
AAK				Sn	**Sn**	**15 36 41.8**	**-5.4**
	comp=Z,0.4nm,0.3s,baz=255,slow=20,SNR=2.8						
AAK				Lg	Lg	15 38 19.2	
	comp=Z,0.2nm,0.3s,baz=200,slow=18,SNR=3.0						
AAK	**Ala-Archa**	**14.17**	**232**	*i* P	**P**	**15 34 15.0**	**-2.0**
GTA	**Gaotai**	**14.77**	**148**	*e*P	**Pn**	**15 34 17.9**	**+0.6**
GTA				pP	P	15 34 22.4	-1.2
GTA				sP		15 34 25.7	
GTA				pmax	pmax		
	comp=Z,67nm,6.2s						
GTA				LR	LR		
	comp=Z,85nm,9.1s						
GTA				LR	LR		
	comp=Z,150nm,9.4s						
GTA				LR	LR		
	comp=Z,140nm,10.5s						
BOD	**Bodaibo**	**14.86**	**59**	*e*P	**Pn**	**15 34 17.2**	**-1.1**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KK31	**Karatay Array**	**15.89**	**242**	⇓Pn	**Pn**	**15 34 32.0**	**0.0**
	comp=Z,9.6nm,0.8s,baz=42,slow=12,SNR=34						
KK31	**Karatay Array**	**15.89**	**242**	P	**Pn**	**15 34 32.3**	**+0.3**
KK31				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KK31	**Karatay Array**	**15.89**	**242**		**Pn**	**15 34 32.3**	**+0.3**
KKAR	**Karatay Array**	**15.89**	**242**	P	**Pn**	**15 34 32.0**	**0.0**
KKAR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KKAR	**Karatay Array**	**15.89**	**242**	Pn	**Pn**	**15 34 32.0**	**0.0**
KKAR	**Karatay Array**	**15.89**	**242**		**Pn**	**15 34 32.1**	**+0.1**
KKAR				IAmb	IAmb	15 34 42.9	
	comp=Z,8.9nm,0.8s						
ARSB	**Arslanbob**	**15.90**	**232**	P	**P**	**15 34 34.7**	**-1.5**
ARSB				pmax	pmax		
	comp=Z,24nm,0.8s						
ARSB	**Arslanbob**	**15.90**	**232**		**P**	**15 34 34.7**	**-1.5**
ARSB				IAmb	IAmb	15 34 43.3	
	comp=Z,24nm,0.8s						
NRIK	**Noril'sk**	**17.01**	**357**	Pn	**P**	**15 34 50.6**	**+2.5**
	comp=Z,1.4nm,0.3s,baz=156,slow=9.1,SNR=13						
NRIK				Sn	**Sn**	**15 37 58.0**	**+2.5**
	comp=Z,0.3nm,0.3s,baz=294,slow=7.0,SNR=1.9						
NRIK				Lg	Lg	15 39 48.3	
	comp=Z,0.3nm,0.3s,baz=106,slow=7.6,SNR=3.8						
NRIK	**Noril'sk**	**17.01**	**357**	*i* P	**Pn**	**15 34 44.8**	**-1.3**
NRIK	**Noril'sk**	**17.01**	**357**	P	**P**	**15 34 48.2**	**+0.1**
SVE	**Sverdlovsk**	**17.34**	**296**	*e*P	**P**	**15 34 55.0**	**+3.2**
BTK	**Batken**	**17.93**	**234**	P	**P**	**15 34 58.7**	**+0.1**
BTK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BTK	**Batken**	**17.93**	**234**	P	**P**	**15 34 58.7**	**+0.1**
ARU	**Arti**	**18.48**	**295**	P	**Pn**	**15 35 05.4**	**+1.0**
	comp=Z,0.0nm,0.3s,baz=81,slow=5.9,SNR=13						
ARU				S	**Sn**	**15 38 24.2**	**-7.0**
	comp=Z,0.0nm,0.3s,baz=270,slow=19,SNR=2.5						
ARU				LR	LR	15 41 47.9	
	comp=Z,35nm,18.6s,baz=104,slow=36						
ARU	**Arti**	**18.48**	**295**	*c i*P	**Pn**	**15 35 05.9**	**+1.5**
ARU				S	**S**	**15 38 35.8**	**-0.1**
ARU				pmax	pmax		
	comp=Z,13nm,0.8s						
ARU	**Arti**	**18.48**	**295**		**P**	**15 35 04.0**	**-0.4**
HHC	**Hu-ho-hao-te**	**18.86**	**119**	*e*P	**Pn**	**15 35 10.6**	**+1.3**
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,82nm,4.6s						
HHC				LR	LR		
	comp=Z,170nm,10.0s						
HHC				LR	LR		
	comp=Z,140nm,12.1s						
HHC				LR	LR		
	comp=Z,250nm,10.0s						
GAR	**Garm**	**18.99**	**233**	P	**P**	**15 35 09.9**	**-0.4**
GAR				IAmb	IAmb	15 35 21.1	
	comp=Z,17nm,0.6s						
AB31	**Akbulak array**	**19.01**	**272**	P	**P**	**15 35 09.7**	**-0.6**
	comp=Z,2.7nm,0.6s,baz=68,slow=10,SNR=50						
AB31	**Akbulak array**	**19.01**	**272**	P	**P**	**15 35 09.6**	**-0.6**
ABKAR	**Akbulak array**	**19.01**	**272**	P	**P**	**15 35 10.4**	**+0.1**
ABKAR	**Akbulak array**	**19.01**	**272**	P	**P**	**15 35 09.7**	**-0.5**
LZH	**Lanzhou**	**19.15**	**143**	*e*P	**Pn**	**15 35 12.8**	**-0.1**
LZH				pP	P	15 35 16.3	+4.2
LZH				sP		15 35 19.9	
LZH				pmax	pmax		
	comp=Z,20nm,1.1s						
LZH				LR	LR		
	comp=Z,210nm,10.8s						
LZH				LR	LR		
	comp=Z,190nm,11.0s						
LZH				LR	LR		
	comp=Z,150nm,13.2s						
AKTO	**Aktyubinsk**	**19.79**	**277**	P	**P**	**15 35 19.5**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=81,slow=9.3,SNR=8.7						
AKTO				LR	LR	15 43 20.2	
	comp=Z,56nm,19.5s,baz=59,slow=38						
AKTO	**Aktyubinsk**	**19.79**	**277**	⇑P	**P**	**15 35 19.5**	**+0.7**
	comp=Z,5.4nm,0.8s						
CHGR	**Chuyangaron**	**19.83**	**234**	P	**P**	**15 35 19.2**	**-0.2**
CHGR				IAmb	IAmb	15 35 34.0	
	comp=Z,12nm,0.7s						
BJI	**Beijing**	**21.95**	**114**	P	**P**	**15 35 44.8**	**+2.6**

BJI				S	S	15 39 47.4	+2.1
BJI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BJI				LR	LR		
	comp=Z,100nm,7.5s						
BJI				LR	LR		
	comp=Z,140nm,5.6s						
BJI				LR	LR		
	comp=Z,180nm,6.1s						
BJT	Baijiatuau	21.96	114	P	P	15 35 41.6	-0.7
BJT				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BJT	Baijiatuau	21.96	114	P	P	15 35 41.6	-0.7
NIL	Nilore	22.20	219	P	P	15 35 44.1	-0.9
NIL				pmax	pmax		
	comp=Z,12nm,0.8s						
NIL	Nilore	22.20	219	P	P	15 35 44.1	-0.9
NIL				IAmb	IAmb	15 35 56.8	
	comp=Z,12nm,0.8s						
LSA	Lhasa	22.73	177	P	P	15 35 50.2	-0.9
LSA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LSA	Lhasa	22.73	177	P	P	15 35 50.2	-0.9
YAK	Yakutsk	23.30	50	eP	P	15 36 00.6	+4.4
YAK				e		15 36 27.9	
YAK				ePPP	PPP	15 36 39.9	
YAK				eSS	Sn	15 41 05.1	+38
YAK				e		15 47 07.6	
YAK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.5s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,52nm,3.1s						
YAK				pmax	pmax		
	comp=E,38nm,2.9s						
YAK				pmax	pmax		
	comp=N,75nm,3.7s						
BELG	Belogornoye	25.42	287	iP	P	15 36 18.2	+2.1
BELG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TIXI	Tiksi	25.80	27	LR	LR	15 47 02.4	
	comp=Z,60nm,18.5s,baz=325,slow=38						
TIXI	Tiksi	25.80	27	iP	P	15 36 21.0	+1.5
GEYT	Alibeck	26.32	249	LR	LR	15 47 46.8	
	comp=Z,86nm,18.1s,baz=200,slow=39						
KLR	Kul'dur	26.47	80	iP	P	15 36 27.6	+1.9
KLR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
USRK	Ussuriysk Ar.	28.93	89	P	P	15 36 47.8	0.0
	comp=Z,1.2nm,0.7s,baz=292,slow=8.0,SNR=4.3						
USRK	Ussuriysk Ar.	28.93	89	P	P	15 36 47.1	-0.7
NJ2	Nanjing	29.34	122	eP	P	15 36 52.4	+0.9
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
KSRS	Korea Array	30.49	104	LR	LR	15 50 07.3	
	comp=Z,19nm,21.5s,baz=300,slow=38						
ARCES	ARCESS Array B	33.52	325	P	P	15 37 27.8	-0.2
	comp=Z,3.7nm,0.9s,baz=84,slow=10,SNR=3.0						
ARCES				PcP	PcP	15 40 07.5	-0.9
	comp=Z,2.1nm,0.8s,baz=95,slow=2.1,SNR=3.8						
FIA1	FINESS Array S	34.52	311	P	P	15 37 38.9	+2.2
FINES	FINESS Array B	34.52	311	P	P	15 37 36.2	-0.5
	comp=Z,1.7nm,0.6s,baz=81,slow=8.6,SNR=2.5						
FINES	FINESS Array B	34.52	311	P	P	15 37 39.2	+2.5
FINES	FINESS Array B	34.52	311	P	P	15 37 39.2	+2.5
CMAR	Chiang Mai Arr	34.66	164	P	P	15 37 37.6	-0.7
	comp=Z,0.8nm,0.7s,baz=353,slow=8.9,SNR=7.7						
SPB2	Spitsbergen Ar	35.93	340	P	P	15 37 48.9	+0.3
SPITS	Spitsbergen Ar	35.93	340	P	P	15 37 49.0	+0.3
SPITS				pmax	pmax		
	comp=Z,64nm,1.4s						
AKASG	Malin Array Be	36.69	292	P	P	15 37 54.9	-0.6
	comp=Z,1.6nm,0.4s,baz=57,slow=9.0,SNR=5.0						
AKASG	Malin Array Be	36.69	292	IAmb	IAmb	15 38 01.8	
	comp=Z,1.2nm,1.1s						
PETK	Petropavlovsk-	39.72	61	P	P	15 38 21.1	+0.1
	comp=Z,0.7nm,0.8s,baz=292,slow=7.6,SNR=1.4						
BRTR	Keskin Array B	39.94	274	P	P	15 38 28.6	+5.5
	comp=Z,1.9nm,0.6s,baz=79,slow=7.6,SNR=6.7						
BRTR	Keskin Array B	39.94	274	P	P	15 38 23.5	+0.4
BRTR	Keskin Array B	39.94	274	P	P	15 38 23.5	+0.4
BUR08	Bucovina Ar. S	40.49	290	P	P	15 38 26.7	-0.8
BUR08				IAmb	IAmb	15 38 33.4	
	comp=Z,5.4nm,0.8s						
BURAR	Bucovina Array	40.49	290	P	P	15 38 26.4	-1.2
BURAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BURAR	Bucovina Array	40.49	290	P	P	15 38 26.4	-1.2
BURAR				IAmb	IAmb	15 38 33.7	
	comp=Z,5.3nm,0.7s						
NC405	NORSAR Array S	41.16	314	P	P	15 38 31.8	-1.0
NC300	NORSAR Array S	41.23	314	P	P	15 38 34.0	+0.6
NC303	NORSAR Array S	41.27	314	P	P	15 38 32.9	-0.8
NB2	NORSAR Subarra	41.41	314	P	P	15 38 35.1	+0.2
	comp=Z,0.5nm,0.5s,baz=65,slow=8.6						
NOA	NORSAR Array B	41.41	314	P	P	15 38 34.0	-0.9
	comp=Z,0.5nm,0.7s,baz=79,slow=7.0,SNR=1.8						
NOA				LR	LR	15 57 34.9	
	comp=Z,68nm,18.9s,baz=70,slow=39						
NC204	NORSAR Array S	41.51	314	P	P	15 38 36.1	+0.4
CLL	Collm	45.27	301	eP	P	15 39 08.0	+1.9
CLL				epP		15 39 11.0	
CLL				e		15 39 18.0	
CLL	Collm	45.27	301	eP	P	15 39 08.0	+1.9
CLL				e		15 39 11.0	
GERES	GERESS Array B	46.27	297	LR	LR	15 59 55.7	
	comp=Z,37nm,20.9s,baz=17,slow=38						
MSSA	Maissana	51.30	295	P	P	15 39 52.6	-0.3
GSI	Gunungsitoli	51.36	170	P	P	15 39 52.8	-0.7
AMKA	Amchitka	51.77	53	P	P	15 39 57.7	+1.6
BNI	Bardonecchia	52.40	297	P	P	15 40 01.1	0.0
BNI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BNI	Bardonecchia	52.40	297	P	P	15 40 01.1	0.0
BNI				IAmb	IAmb	15 40 09.1	
	comp=Z,6.3nm,0.9s						
IMAR	Indian Mountai	52.46	28	P	P	15 40 00.7	-0.4
RES	Resolute Bay	53.14	2	P	P	15 40 07.5	+1.5
RES				pmax	pmax		
	comp=Z,8.0nm,1.2s						
RES	Resolute Bay	53.14	2	P	P	15 40 07.5	+1.5
RES				IAmb	IAmb	15 40 29.8	
	comp=Z,8.1nm,1.1s						
J20K	Nowinta River	53.66	29	P	P	15 40 10.4	+0.5
J20K				IAmb	IAmb	15 40 16.1	
	comp=Z,2.9nm,0.8s						
H23K	Yukon River	53.74	26	P	P	15 40 10.1	-0.5
BMAR	Burnt Mountain	53.75	23	P	P	15 40 09.9	-0.8
H24K	Noodor Dome	54.17	25	P	P	15 40 13.9	+0.1
H24K				IAmb	IAmb	15 40 40.3	
	comp=Z,4.4nm,1.2s						
L19K	White Mountain	54.91	31	P	P	15 40 19.5	+0.3
L19K				IAmb	IAmb	15 40 25.6	
	comp=Z,7.7nm,1.3s						
KTH	Kantishna Hill	55.08	28	P	P	15 40 21.4	+0.9
KTH				IAmb	IAmb	15 40 26.4	
	comp=Z,6.8nm,1.2s						
IL31		55.26	26	P	P	15 40 23.6	+2.1
IL31				IAmb	IAmb	15 40 26.3	
	comp=Z,3.0nm,1.1s						
ILAR	Eielson Array	55.26	26	P	P	15 40 21.2	-0.4
	comp=Z,0.7nm,0.8s,baz=312,slow=4.5,SNR=7.0						
ILAR	Eielson Array	55.26	26	P	P	15 40 20.9	-0.8
M19K	Big River Lodg	55.27	31	P	P	15 40 21.6	0.0
M19K				IAmb	IAmb	15 40 28.9	
	comp=Z,8.9nm,1.3s						
SVW2	Sparrevohn	55.48	32	P	P	15 40 23.6	+0.4
SVW2				IAmb	IAmb	15 40 30.0	
	comp=Z,6.8nm,1.1s						
M20K	Styx River	55.68	31	P	P	15 40 23.7	-1.1
M20K				IAmb	IAmb	15 40 33.6	
	comp=Z,5.1nm,0.8s						
N19K	Bonanza Creek	56.05	32	P	P	15 40 28.1	+0.6
SKT	Skwentna	56.10	30	P	P	15 40 27.8	+0.1
SKT				IAmb	IAmb	15 40 47.5	
	comp=Z,6.2nm,1.4s						
SUA	Susitna One	56.74	30	P	P	15 40 32.3	-0.1
SUA				IAmb	IAmb	15 40 38.0	
	comp=Z,6.0nm,0.9s						
K27K	Chicken	57.11	24	P	P	15 40 34.7	-0.1
K27K				IAmb	IAmb	15 41 09.4	
	comp=Z,3.6nm,1.4s						
OHAK	Old Harbor	59.19	34		P	15 40 48.6	-0.9
CTGM	Chitina Glacie	59.85	26	P	P	15 40 55.6	+1.5
CTGM				IAmb	IAmb	15 41 00.3	
	comp=Z,4.2nm,0.8s						
ESDC	Sonseca Array	61.82	299	P	P	15 41 08.1	+0.4
	comp=Z,1.2nm,0.8s,baz=40,slow=7.7,SNR=4.6						
TORD	Torodi Ar. Bea	78.51	277	P	P	15 42 49.3	-1.0
	comp=Z,0.3nm,0.5s,baz=12,slow=5.3,SNR=2.1						
TORD	Torodi Ar. Bea	78.51	277	P	P	15 42 50.2	-0.1
WRA	Warramunga Arr	81.83	138	P	P	15 43 06.0	-2.0
	comp=Z,1.3nm,0.9s,baz=330,slow=3.8,SNR=10						
WRA	Warramunga Arr	81.83	138	P	P	15 43 06.0	-2.0
ASAR	Alice Springs	85.00	140	P	P	15 43 22.2	-2.1
	comp=Z,0.5nm,0.7s,baz=337,slow=5.6,SNR=13						
NVAR	Mina Array Bea	86.29	22	P	P	15 43 30.9	-0.1
	comp=Z,0.5nm,0.7s,baz=352,slow=3.9,SNR=2.4						
VNA2	Neumayer--Watz	140.49	211	PKPdf	PKiKP	15 50 19.1	-0.2
VNA1	Neumayer--Stat	140.69	211	PKPdf	PKiKP	15 50 18.6	-1.0
VNA1	Neumayer--Stat	140.69	211	PKiKP	PKiKP	15 50 23.1	+3.5
VNA3	Neumayer Olymp	141.29	211	PKPdf	PKPdf	15 50 19.3	+1.1

ISK 03 15:43:12.3, 35.°93N×31.°71E, h27km, ML2.6/11
DDA 03 15:43:12.5, 35.°86N×31.°65E, h28km±1km, ML2.4
NIC 03 15:43:15.4±0.0, 35.°97N×31.°93E, h53km±8km, Ml2.7/5
ISC 03 15:43:15.0±1.3, 35.°98N±0.°03×31.°85E±0.°05, h53km±17km, n25, σ1.s00/37, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	Gazipasa	0.46	56	iP	Pn	15 43 25.8	-0.2
GAZI				iS	Sn	15 43 34.6	+0.7
GAZI				IAML		15 43 35.0	
	comp=N,237nm,0.2s						
KEPZ	Antalya-Kepez	0.94	348	iP	Pn	15 43 31.6	-0.5
KEPZ				iS	Sn	15 43 45.3	+0.6
KEPZ				IAML		15 43 46.0	
	comp=E,136nm,0.7s						
KEPZ				IAML		15 43 46.0	
	comp=N,119nm,0.7s						
ALFC	Alefka	1.02	143	P	Pn	15 43 32.5	-0.7
ALFC				S	Sn	15 43 46.9	+0.3
ALFC				AML	AML	15 43 49.2	
	comp=N,0.7nm,0.2s						
ALFC				AML	AML	15 43 49.2	
	comp=N,0.7nm,0.2s						
ALFC				AML	AML	15 43 50.0	
	comp=N,0.8nm,0.2s						
ALFC				AML	AML	15 43 50.0	
	comp=N,0.8nm,0.2s						
AKMS	Akamas	1.04	157	P	Pn	15 43 33.2	-0.1
AKMS				S	Sn	15 43 48.1	+1.2
AKMS				AML	AML	15 43 49.5	
	comp=N,0.8nm,0.3s						
AKMS				AML	AML	15 43 49.5	
	comp=N,0.8nm,0.3s						
AKMS				AML	AML	15 43 49.8	
	comp=N,0.6nm,0.2s						
AKMS				AML	AML	15 43 49.8	
	comp=N,0.6nm,0.2s						
AKDN	Akdeniz- Kıbrı	1.14	126	PN	Pn	15 43 34.1	-0.5
LEF	Lefka	1.21	135	iP	Pn	15 43 34.4	-1.2
LEF				iS	Sn	15 43 49.5	-1.4
LEF				IAML		15 43 50.0	
	comp=N,54nm,0.2s						
LEF				IAML		15 43 50.0	
	comp=E,45nm,0.2s						
LEF	Lefka	1.21	135	PN	Pn	15 43 34.3	-1.2
LEF				SN	Sn	15 43 50.2	-0.7
NATA	Nata	1.33	154	P	Pn	15 43 37.8	+0.5
NATA				AML	AML	15 44 01.1	
	comp=E,0.5nm,0.6s						
NATA				AML	AML	15 44 02.2	
	comp=E,0.5nm,0.5s						
GULN	MERSIN_Gulnar	1.39	81	iP	Pn	15 43 36.9	-1.1
GULN				iS	Sn	15 43 54.8	-0.5
GULN				IAML		15 43 56.0	
	comp=E,30nm,0.5s						
AKKU	Akkuyu-Mersin	1.39	82	PN	Pn	15 43 38.3	+0.2
SEYD	Seydisehir-KON	1.43	360	PN	Pn	15 43 37.9	-0.8
SEYD				SN	Sn	15 43 56.4	0.0
SEDI	Konya, Seydise	1.47	357	iP	Pn	15 43 38.7	-0.6
SEDI				iS	Sn	15 43 57.5	0.0
SEDI				IAML		15 44 01.0	
	comp=E,61nm,0.6s						
SEDI				IAML		15 44 04.0	
	comp=N,36nm,0.7s						
SZAC	Souni	1.48	145	P	Pn	15 43 39.7	+0.3
SZAC				S	Sn	15 43 58.1	+0.4
SZAC				AML	AML	15 44 01.3	
	comp=N,0.3nm,0.4s						
SZAC				AML	AML	15 44 01.3	
	comp=N,0.3nm,0.4s						
SZAC				AML	AML	15 44 01.3	
	comp=N,0.2nm,0.3s						
SZAC				AML	AML	15 44 01.3	
	comp=N,0.2nm,0.3s						
IKL	Isikli	1.51	80	PN	Pn	15 43 39.7	0.0
ATHAL	Athalassa	1.51	123	S	Sn	15 43 58.3	0.0
LFK	Lefkose	1.54	116	PN	Pn	15 43 39.8	-0.3
CSS	Mathiatis	1.58	130	PN	Pn	15 43 39.7	-0.9
CSS	Mathiatis	1.58	130	P	Pn	15 43 39.5	-1.2
KEBE	Keben-Mersin	1.58	72	PN	Pn	15 43 41.0	+0.3
KEBE				SN	Sn	15 44 01.8	+1.8
KORT	Korkueli	1.58	311	PN	Pn	15 43 38.5	-2.3
ASGA	Asgata	1.65	136	P	Pn	15 43 41.9	+0.3
ASGA				S	Sn	15 44 01.4	-0.2
ASGA				AML	AML	15 44 04.6	
	comp=N,0.2nm,0.3s						
ASGA				AML	AML	15 44 04.6	
	comp=N,0.2nm,0.3s						
ASGA				AML	AML	15 44 06.3	
	comp=N,0.2nm,0.2s						
ASGA				AML	AML	15 44 06.3	
	comp=N,0.2nm,0.2s						
ELL	Elmali	1.75	297	S	Sn	15 44 07.0	+2.8
KIZK	Mersin	1.92	74	PN	Pn	15 43 45.9	+0.6
KONT	Konya--Tatoy	2.01	12	PN	Pn	15 43 46.5	0.0
OSC1	CSNet OBS 1	2.52	191	P	Pn	15 43 54.9	+1.4
OSC1				S	Sn	15 44 24.2	+1.3

JMA 03 15:44:31.8±0.1, 24.°85N×121.°96E, h36km, M2.2
TAP 03 15:44:31.2, 24.°86N×122.°02E, h12km, ML2.8, C
ISC 03 15:44:31.3±0.8, 24.°87N±0.°02×122.°02E±0.°02, h14km±6km, n51, σ0.s52/75, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.14	347	iP	Pg	15 44 35.0	-0.1
	baz=342						
TWB1				S	Sg	15 44 37.3	-0.2
	baz=342						
NTC	Toucheng	0.18	266	iP	Pg	15 44 35.6	0.0
	baz=274						
NTC				S	Sg	15 44 38.4	0.0
	baz=274						
TIPB	Shuangxi	0.21	300	iP	Pg	15 44 36.4	+0.3
	baz=302						
TIPB				eS	Sg	15 44 39.5	+0.2
	baz=302						
ILA	Ilan	0.27	248	eP	Pg	15 44 37.2	+0.1
	baz=250						
ILA				eS	Sb	15 44 41.7	-0.7
	baz=250						
NWF	Wu-fen Shan	0.30	312	P	Pb	15 44 38.3	-0.2
	baz=309						
NWF				eS	Sb	15 44 42.8	-0.6
	baz=309						
WFSB	Wu-fen Shan	0.30	312	iP	Pb	15 44 38.3	-0.2
	baz=309						
WFSB				eS	Sb	15 44 42.8	-0.5
	baz=309						
TWC	Suao	0.30	212	eP	Pg	15 44 37.4	-0.3
	baz=222						
TWC				eS	Sg	15 44 41.6	-0.4
	baz=222						
TWE	Neicheng	0.36	246	P	Pg	15 44 38.6	0.0
	baz=238						
TNOU	National Taiwa	0.36	321	eP	Pg	15 44 38.1	-0.6
	baz=321						
TNOU				eS	Sg	15 44 43.2	-0.5
	baz=321						
NDS	Dongshan	0.36	230	P	Pg	15 44 38.6	-0.1
	baz=233						
TWA	Mucha	0.41	286	iP	Pb	15 44 40.2	-0.3
	baz=279						
TWA				eS	Sb	15 44 46.1	-0.6
	baz=279						
NHDH	Xindian Distri	0.46	282	eP	Pb	15 44 41.3	0.0
	baz=276						
NHDH				eS	Sb	15 44 47.6	-0.4
	baz=276						
NWRT	Kuosheng	0.47	315	eP	Pb	15 44 41.6	+0.3
	baz=318						
NWRT				eS	Sb	15 44 48.1	0.0
	baz=318						
EWUT	Wuta	0.48	208	eP	Pg	15 44 40.8	0.0
	baz=217						
YM01	YM01	0.50	304	iP	Pb	15 44 42.3	+0.4
	baz=303						
YM08	YM08	0.51	309	iP	Pb	15 44 42.2	+0.2
	baz=308						
ENA	Nanau	0.51	211	eP	Pg	15 44 41.8	+0.4
	baz=216						
ENA				eS	Sb	15 44 49.4	+0.1
	baz=216						
NDT	Datong Townshi	0.54	240	eP	Pg	15 44 41.9	0.0
	baz=238						
ANP	Anpu	0.56	305	eP	Pb	15 44 43.1	+0.1
	baz=297						
TWY	Chenhua	0.56	317	P	Pb	15 44 43.6	+0.6
	baz=315						
TWS1	Kuangyinshan	0.60	293	eP	Pb	15 44 43.6	+0.1
	baz=293						
NTST	Danshui	0.60	300	eP	Pb	15 44 43.7	+0.1
	baz=300						
YHNB	Yeheng	0.62	252	iP	Pg	15 44 43.4	-0.2
	baz=253						
YHNB				eS	Sg	15 44 50.5	-1.4
	baz=253						
NSK	Sanguang	0.64	253	iP	Pg	15 44 43.5	-0.3
	baz=260						
NNS	Nan Shan	0.73	234	eP	Pg	15 44 45.7	+0.1
	baz=229						
PCYT	Pengchaiyu	0.76	3	eP	Pb	15 44 47.1	+0.7
	baz=357						
PCYT				eS	Sb	15 44 57.5	+0.9
	baz=357						
ETL	Fush Village	0.80	207	eP	Pg	15 44 46.9	+0.1
	baz=204						
NACB	Ninganchiao	0.80	210	P	Pg	15 44 46.7	0.0
	baz=214						
NACB				eS	Sg	15 44 56.9	-0.3
	baz=214						
ETLH	Xiulin Townshi	0.82	217	eP	Pg	15 44 47.3	-0.1
	baz=219						
TWD	Chiawan	0.88	207	eP	Pg	15 44 48.2	-0.1
	baz=204						
JYNG	Yonagunijimaku	0.94	116	P	Pg	15 44 49.2	-0.2
JYNG				S	Sg	15 45 02.0	+0.3
FUSS	Fushou	0.94	229	eP	Pg	15 44 49.5	-0.1
	baz=227						
LIOB	Emei	0.94	257	eP	Pn	15 44 50.3	+0.1
	baz=251						
NSTT	Nanjuang	0.96	256	eP	Pn	15 44 50.3	-0.1
	baz=257						
NSTT				eS	Sn	15 45 04.9	+1.1
	baz=257						
YOJ	Yonaguni jima	0.98	114	P	Pb	15 44 50.4	+0.2
YOJ				S	Sb	15 45 03.2	+0.2
TDCB	Techi	1.00	232	eP	Pb	15 44 50.9	+0.4
	baz=231						
WHF	Hehuan Shan	1.00	224	eP	Pn	15 44 51.7	+0.4
	baz=227						
WHF				eS	Sb	15 45 04.8	+1.0
	baz=227						
CHGB	Renai	1.12	224	eP	Pb	15 44 52.4	-0.1
	baz=222						
WHP	Taichung City	1.15	239	eP	Pg	15 44 53.6	+0.2
	baz=248						
SSLB	Suanglung	1.45	222	eP	Pg	15 44 59.0	-0.3
	baz=226						
HGSD	Ruisui	1.48	202	eP	Pn	15 44 58.0	+0.5
	baz=222						
WHYT	Xinyi Township	1.58	223	eP	Pg	15 45 02.6	+0.8
	baz=226						
YULB	Yu-li	1.61	204	eP	Pg	15 45 01.7	-0.6
	baz=209						
IRIF	Iriomote-Funau	1.64	109	P	Pn	15 44 59.1	-0.7
IRIF				S	Sn	15 45 19.9	-0.7
ALS	Alishan	1.75	220	eP	Pg	15 45 05.8	+0.8
	baz=224						
CHN5	Tsauling	1.76	224	eP	Pg	15 45 06.6	+1.3
	baz=229						
HATJ	Hateruma jima	1.81	116	P	Pn	15 45 01.5	-0.6
HATJ				eS	Sn	15 45 23.5	-1.4
JKRS	Kuro-shima	1.91	109	P	Pn	15 45 03.2	-0.3
JKRS				S	Sn	15 45 26.8	-0.6
JIJ	Ishigaki jima	1.99	104	P	Pn	15 45 04.8	+0.2
JIJ				eS	Sn	15 45 29.2	-0.1
JISG	Ishigakijimahi	2.10	97	P	Pn	15 45 07.1	+1.1
JISG				eS	Sn	15 45 32.1	+0.2
JTJ	Tarama	2.44	95	P	Pn	15 45 11.3	+0.5

NOU 03 15:48:36.7, 17.°63S×168.°59E, h100km, MLv4.4/16, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	Rentapao	0.23	224	P	Pn	15 48 52.4	+1.4
DVP	Devils Point	0.40	256	P	Pn	15 48 52.9	+1.1
SANVU	Saraoutou	2.55	328	P	Pn	15 49 15.9	-0.5
LIFNC	LIFOU	3.38	202	P	Pn	15 49 26.2	-1.4
MARNC	Mare, Loyalty	3.87	188	P	Pn	15 49 32.8	-1.3
YATNC	Mamie plateau,	4.69	200	P	Pn	15 49 44.4	-0.8
DZM	Mont Dzumac	4.86	204	P	Pn	15 49 47.5	-0.1
NOUC	Port Laguerre	4.94	205	P	Pn	15 49 49.1	+0.5
KOUNC	Koumac, New Ca	5.00	234	P	Pn	15 49 49.6	+0.2
OUENC	Ouen Island, N	5.04	199	P	Pn	15 49 50.9	+0.9
ONTNC	Ouen Toro	5.07	203	P	Pn	15 49 51.0	+0.6
PINNC	Pines Island,	5.07	192	P	Pn	15 49 51.6	+1.2

KRSC 03 15:52:50.4±1.4, 55.°50N×165.°86E, h40km±13km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.31	168	eP	Pn	15 52 59.1	+0.4
BKI				eS	Sn	15 53 05.2	+0.8
KBTR	Krutoberegovo	1.85	294	eP	Pn	15 53 20.3	+0.7
KBTR				eS	Sn	15 53 42.8	+1.0
KBG	Krutoberegovo	1.93	294	eP	Pn	15 53 20.7	+0.1
BZGR	Bezymyannyi-Gr	2.95	281	eP	Pn	15 53 38.8	+4.0
KLY	Klyuchi	3.04	288	eP	Pn	15 53 36.8	+0.9
KLY				eS	Sn	15 54 13.1	+2.1
BZWR	Bezymyannyi-We	3.07	281	eP	Pn	15 53 39.7	+3.3
BZMR	Bezymyannaya	3.07	280	eP	Pn	15 53 40.5	+4.1
BZMR				eS	Sn	15 54 16.6	+4.7
KRSR	Krestovskiy	3.07	286	eP	Pn	15 53 39.2	+2.8
KIRR	Kirishev	3.15	280	eP	Pn	15 53 41.3	+3.7
KIRR				eS	Sn	15 54 19.1	+5.1
KMNR	Kamenistaya	3.20	277	eP	Pn	15 53 42.4	+4.3
KZV	Kizimen	3.21	265	eP	Pn	15 53 42.0	+3.7
KZV				eS	Sn	15 54 19.7	+4.4
KPT	Kopyto	3.22	281	eP	Pn	15 53 41.9	+3.4
TUMR	Tumrok	3.27	268	eP	Pn	15 53 43.6	+4.5
TUMR				eS	Sn	15 54 22.0	+5.3
KOZ	Kozyrevsk	3.43	282	eP	Pn	15 53 45.2	+4.0
KOZ				eS	Sn	15 54 25.3	+4.8
KII	Karymskiy	3.99	251	eP	Pn	15 53 53.8	+4.8
ESO	Esso	4.07	279	eP	Pn	15 53 55.0	+4.9
SPN	Mys Shipunski	4.18	237	eP	Pn	15 53 55.2	+3.6
SPN				eS	Sn	15 54 42.0	+2.9
NLC	Nalytchevo	4.47	241	eS	Sn	15 54 50.9	+4.7
SDLR	Sedlovina	4.65	244	eP	Pn	15 54 02.9	+4.8
SDLR				eS	Sn	15 54 56.0	+5.3
SMAR	Somma	4.70	244	eP	Pn	15 54 02.6	+3.8
SMAR				eS	Sn	15 54 56.8	+4.7
KRER	Koryakskii	4.70	245	eP	Pn	15 54 03.7	+4.8
KRER				eS	Sn	15 54 57.7	+5.5
UGLR	Uglovaya	4.71	244	eP	Pn	15 54 03.7	+4.7
UGLR				eS	Sn	15 54 58.1	+5.7
KRX	Arik	4.73	246	eP	Pn	15 54 04.0	+4.8
AVH	Avacha	4.73	245	eP	Pn	15 54 04.2	+5.1
KOK	Koryaka	4.77	245	eP	Pn	15 54 04.8	+5.1
DALK	Dalny	4.84	242	eP	Pn	15 54 05.2	+4.6
DALK				eS	Sn	15 55 01.1	+5.7

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**4.90**	**243**	*e*S	Sn	15 55 02.3	+5.5
GNL	**Ganaly**	**4.95**	**252**	*e*P	Pn	15 54 07.3	+5.1
RUS	**Russkaya**	**5.32**	**238**	*e*P	Pn	15 54 11.3	+4.2
RUS				*e*S	Sn	15 55 10.2	+3.2
MTVR	**Mutnovka**	**5.45**	**239**	P	Pn	15 54 13.9	+4.9
MTVR				*e*S	Sn	15 55 13.8	+3.4
ASAK	**Asacha**	**5.64**	**240**	P	Pn	15 54 17.0	+5.3
ASAK				S	Sn	15 55 19.9	+4.7
KDTR	**Khodutka, Kamc**	**5.92**	**235**	P	Pn	15 54 20.1	+4.7
KDTR				S	Sn	15 55 24.6	+2.6

MEX 03 16:01:33.2±0.5**, 15°.18N×93°.10W, h106km**±16km**, MD3.5, Near coast of Chiapas**

*IDC **03** 16:10:52.5±2.1, 38°.78N×44°.93E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.3/34, mbtmp3.6/4, ML3.8/1, MS2.5/3, Ms1 2.4/3, ms1mx2.2/57, Error ellipse: s-maj=33.3km s-min=23.0km az=80.0*
*NSSP **03** 16:10:59.4, 39°.37N×43°.88E, h5km, Ms3.2*
*ISK **03** 16:10:59.9, 39°.38N×43°.95E, h5km, ML3.3/9*
*DDA **03** 16:11:00.5, 39°.36N×43°.94E, h9km±4km, ML3.3*
*TEH **03** 16:11:00.7, 39°.38N×43°.94E, h9km, ML3.3*
ISC 03 16:11:01.3±1.0**, 39°.37N**±0°.02×**43°.97E**±0°.02**, h10km**±8km**, n49, σ1^{s}61**/61**, mb3.5**/3**, Turkey**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.23**	**190**	*i* P	**Pg**	**16 11 05.7**	**-0.5**
CLDR				*i* S	**Sg**	**16 11 12.2**	**+2.8**
CLDR				IAML		16 11 19.0	
	comp=E,4μm,1.2s						
CLDR				IAML		16 11 24.0	
	comp=N,5μm,0.9s						
CLDR	**Caldiran**	**0.23**	**190**	PG	**Pg**	**16 11 05.9**	**-0.2**
CLDR				SG	**Sg**	**16 11 10.3**	**+0.9**
CLDR	**Caldiran**	**0.23**	**190**	*e*Pg	**Pg**	**16 11 06.0**	**-0.2**
DYDN	**Diyadin**	**0.28**	**309**	*i* P	**Pg**	**16 11 05.0**	**-2.0**
DYDN				*i* S	**Sb**	**16 11 11.0**	**-2.4**
DYDN	**Diyadin**	**0.28**	**309**	*e*Pg	**Pg**	**16 11 05.0**	**-2.0**
VMUR	**Van-Muradiye**	**0.49**	**219**	*i* P	**Pb**	**16 11 10.2**	**-2.0**
VMUR				*i* S	**Sb**	**16 11 19.1**	**-0.4**
VMUR				IAML		16 11 32.0	
	comp=E,2μm,1.0s						
VMUR	**Van-Muradiye**	**0.49**	**219**	*e*Pg	**Pb**	**16 11 10.1**	**-2.0**
IGDI	**IGDIR**	**0.50**	**10**	*i* P	**Pg**	**16 11 10.4**	**-0.8**
IGDI				*i* S	**Sb**	**16 11 18.7**	**-1.1**
IGDI				IAML		16 11 23.0	
	comp=E,2μm,0.8s						
IGDI	**IGDIR**	**0.50**	**10**	*e*Pg	**Pg**	**16 11 10.3**	**-0.8**
TASB	**TASBURUN-IGDIR**	**0.65**	**19**	PG	**Pb**	**16 11 13.5**	**-1.3**
TASB	**TASBURUN-IGDIR**	**0.65**	**19**	*e*Pg	**Pb**	**16 11 13.5**	**-1.3**
OZAP	**Van, Ozalp-Mer**	**0.71**	**178**	*i* P	**Pb**	**16 11 14.7**	**-1.2**
OZAP				*i* S	**Sn**	**16 11 29.3**	**+0.5**
VNNZ	**Vanand**	**0.74**	**351**	*i* P	**Pb**	**16 11 15.3**	**-1.0**
VNNZ				*i* S	**Sb**	**16 11 26.7**	**+0.1**
HYR	**Heyderabad**	**0.77**	**63**	*e*Pg	**Pb**	**16 11 16.1**	**-0.7**
AGRB	**Hanur-Agry**	**0.78**	**285**	*e*Pg	**Pg**	**16 11 14.9**	**-1.5**
METS	**Metsamor**	**0.78**	**6**	*i* P	**Pb**	**16 11 15.8**	**-1.3**
METS				*i* S	**Sb**	**16 11 27.0**	**-0.8**
NRKZ	**NAREK**	**0.82**	**40**	*i* P	**Pn**	**16 11 18.4**	**-0.7**
NRKZ				*i* S	**Sn**	**16 11 31.7**	**+0.2**
VANB	**Van**	**0.90**	**210**	PG	**Pn**	**16 11 19.6**	**-0.6**
ARUZ	**Aruch**	**0.92**	**6**	*i* P	**Pb**	**16 11 18.1**	**-1.3**
ARUZ				*i* S	**Sb**	**16 11 31.5**	**-0.2**
GNI	**Garni**	**0.98**	**37**	Pg	**Pb**	**16 11 19.9**	**-0.6**
	comp=E,62nm,0.3s,baz=248,slow=3.7,SNR=110						
GNI				Lg	Lg	16 11 37.1	
	comp=E,124nm,0.3s,baz=342,slow=20,SNR=7.2						
GNI	**Garni**	**0.98**	**37**	*i* P	**Pb**	**16 11 19.7**	**-0.9**
GNI				*i* S	**Sn**	**16 11 34.4**	**-1.0**
GNI	**Garni**	**0.98**	**37**	PG	**Pb**	**16 11 19.8**	**-0.7**
GNI				SG	**Sn**	**16 11 34.3**	**-1.1**
KAPZ	**Kaputan**	**1.10**	**30**	*i* P	**Pb**	**16 11 21.6**	**-1.1**
KAPZ				*i* S	**Sb**	**16 11 37.3**	**+0.1**
MLAZ	**Malazgirt-MUS**	**1.12**	**259**	PN	**Pn**	**16 11 22.2**	**-1.1**
MLAZ	**Malazgirt-MUS**	**1.12**	**259**	*e*Pg	**Pn**	**16 11 22.7**	**-0.6**
DIGO	**Kars**	**1.14**	**337**	*i* P	**Pg**	**16 11 21.9**	**-1.3**
DIGO				*i* S	**Sn**	**16 11 42.8**	**+3.3**
DIGO				IAML		16 11 46.0	
	comp=N,723nm,0.6s						
DIGO				IAML		16 11 55.0	
	comp=E,1μm,0.8s						
NAX	**Nakhchivan**	**1.20**	**99**	*e*Pg	**Pn**	**16 11 23.6**	**-0.7**
SBZ	**Shahbuz**	**1.23**	**88**	*e*Pn	**Pn**	**16 11 24.8**	**+0.1**
AKDM	**Akdamar-Van**	**1.30**	**217**	PN	**Pn**	**16 11 25.3**	**-0.4**
AKDM	**Akdamar-Van**	**1.30**	**217**	*e*Pn	**Pn**	**16 11 25.4**	**-0.3**
KARS	**Kars**	**1.43**	**332**	PN	**Pg**	**16 11 27.3**	**-1.4**
IMRD	**Marand**	**1.50**	**115**	*e*Pn	**Pb**	**16 11 28.7**	**-0.8**
IMRD				*e*		16 11 35.6	
	comp=Z,12μm,0.4s						
ORD	**Ordubad**	**1.64**	**105**	*e*Pn	**Pb**	**16 11 30.9**	**-0.8**
ISHB	**Shabestar**	**1.69**	**130**	*e*Pn	**Pb**	**16 11 31.3**	**-1.3**
ISHB				*e*		16 11 37.3	
	comp=Z,5μm,0.4s						
GURO	**Guroymak-BITLI**	**1.72**	**242**	PN	**Pb**	**16 11 32.0**	**-1.1**
SENK	**Senkaya-Erzuru**	**1.72**	**314**	PN	**Pb**	**16 11 32.0**	**-1.2**
HOMI	**Horasan**	**1.73**	**294**	*i* P	**Pb**	**16 11 31.6**	**-1.7**
HOMI				*i* S	**Sg**	**16 12 02.4**	**+5.5**
HOMI				IAML		16 12 07.0	
	comp=E,720nm,0.7s						
HOMI				IAML		16 12 09.0	
	comp=N,569nm,0.8s						
ITBZ	**Tabriz**	**2.05**	**123**	*e*Pn	**Pb**	**16 11 37.1**	**-1.6**
ITBZ				*e*		16 11 52.5	
	comp=Z,1μm,0.9s						
EJDE	**Erzurum, Palan**	**2.11**	**283**	*i* P	**Pb**	**16 11 38.0**	**-1.9**
EJDE				IAML		16 12 21.0	
	comp=N,219nm,0.6s						
EJDE				IAML		16 12 31.0	
	comp=E,490nm,0.9s						
IHRS	**Heris**	**2.62**	**113**	*e*Pn	**Pb**	**16 11 46.5**	**-2.0**
IHRS				*e*		16 12 00.7	
	comp=Z,1μm,0.4s						
IBST	**Bostanabad**	**2.84**	**125**	*e*Pn	**Pb**	**16 11 50.6**	**-1.6**
ISRB	**Sarab**	**3.28**	**117**	*e*Pn	**Pb**	**16 11 55.9**	**-3.9**
ISRB				*e*		16 12 10.7	
	comp=Z,788nm,0.5s						
KBZ	**Khabaz**	**4.43**	**350**	Pn	**Pb**	**16 12 17.5**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=195,slow=18,SNR=1.9						
KBZ				LR	LR	16 14 17.5	
	comp=Z,44nm,19.9s,baz=34,slow=40						
MMAI	**Mount Meron Ar**	**9.38**	**230**	LR	LR	16 17 26.3	
	comp=Z,23nm,19.1s,baz=250,slow=41						
AKASG	**Malin Array Be**	**15.36**	**322**	Pn	**Pn**	**16 14 39.0**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=133,slow=12,SNR=1.2						
GERES	**GERESS Array B**	**23.57**	**304**	P	**P**	**16 16 14.8**	**+2.7**
	comp=Z,1.0nm,0.8s,baz=101,slow=6.9,SNR=6.2						
FINES	**FINESS Array B**	**24.70**	**339**	P	**P**	**16 16 22.7**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=153,slow=9.4,SNR=2.8						
MKAR	**Makanchi Array**	**28.73**	**62**	P	P	16 16 47.9	-11
	comp=Z,0.9nm,1.1s,baz=272,slow=7.8,SNR=2.6						
NOA	**NORSAR Array B**	**29.63**	**328**	LR	LR	16 28 58.6	
	comp=Z,7.7nm,18.8s,baz=300,slow=36						

*JMA **03** 16:47:59.1±0.1, 23°.52N×122°.08E, h37km, M2.6*
*TAP **03** 16:48:00.1, 23°.53N×121°.95E, h33km, ML2.4, D*
ISC 03 16:47:58.7±1.1**, 23°.50N**±0°.03×**122°.05E**±0°.03**, h29km**±12km**, n61, σ0^{s}57**/90**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.51**	**294**	P	**Pn**	**16 48 09.6**	**-0.4**
	baz=295						
TEGC				*e*S	**Sn**	**16 48 16.9**	**-1.0**
	baz=295						
HGSD	**Ruisui**	**0.57**	**269**	P	**Pn**	**16 48 11.0**	**+0.1**
	baz=265						
HGSD				*e*S	**Sn**	**16 48 18.8**	**-0.6**
	baz=265						
ECBN	**Changbin**	**0.58**	**252**	P	**Pn**	**16 48 11.3**	**+0.3**
	baz=245						
ECBN				*e*S	**Sn**	**16 48 20.2**	**+0.8**
	baz=245						
EGFH	**Guangfu**	**0.59**	**287**	P	**Pn**	**16 48 11.4**	**+0.2**
	baz=286						
EGFH				*e*S	**Sn**	**16 48 18.9**	**-1.0**
	baz=286						
HWA	**Hwalien**	**0.63**	**320**	*e*P	**Pn**	**16 48 11.9**	**+0.3**
	baz=325						
ESL	**Shilin**	**0.65**	**299**	P	**Pn**	**16 48 11.8**	**-0.1**
	baz=301						
ESL				*e*S	**Sb**	**16 48 20.1**	**-0.2**
	baz=301						
EHY	**Hungye**	**0.67**	**271**	P	**Pn**	**16 48 12.0**	**-0.2**
	baz=267						
EHY				*e*S	**Sn**	**16 48 22.4**	**+0.7**
	baz=267						
EYUL	**Yuli**	**0.69**	**257**	P	**Pn**	**16 48 13.0**	**+0.5**
	baz=252						
ETM	**Tongmen**	**0.69**	**313**	P	**Pn**	**16 48 12.7**	**+0.1**
	baz=316						
ETM				*e*S	**Sb**	**16 48 21.4**	**0.0**
	baz=316						
YULB	**Yu-li**	**0.70**	**261**	*i* P	**Pn**	**16 48 13.2**	**+0.6**
	baz=257						
TWF1	**Yuli**	**0.70**	**258**	P	**Pn**	**16 48 13.2**	**+0.4**
	baz=253						
TWD	**Chiawan**	**0.71**	**325**	P	**Pn**	**16 48 12.8**	**-0.1**
	baz=330						
TWD				*e*S	**Sn**	**16 48 22.3**	**-0.5**
	baz=330						
CHKT	**Chengkung**	**0.74**	**238**	P	**Pn**	**16 48 13.2**	**0.0**
	baz=230						
CHKT				*e*S	**Sn**	**16 48 23.5**	**0.0**
	baz=230						
FULB	**Fuli**	**0.75**	**247**	P	**Pn**	**16 48 13.4**	**0.0**
	baz=241						
ETL	**Fush Village**	**0.76**	**329**	P	**Pn**	**16 48 13.6**	**0.0**
	baz=334						
ETL				*e*S	**Sb**	**16 48 23.8**	**+0.2**
	baz=334						
NACB	**Ninganchiao**	**0.79**	**328**	P	**Pb**	**16 48 13.8**	**-0.1**
	baz=333						
NACB				*e*S	**Sb**	**16 48 24.2**	**-0.1**
	baz=333						
ECS	**Chishang**	**0.86**	**242**	*e*P	**Pb**	**16 48 16.0**	**+0.9**
	baz=237						
EDH	**Donghe**	**0.86**	**233**	*e*P	**Pb**	**16 48 14.9**	**-0.3**
	baz=226						
EDH				*e*S	**Sn**	**16 48 25.7**	**-0.7**
	baz=226						
ETLH	**Xiulin Townshi**	**0.88**	**324**	P	**Pn**	**16 48 15.2**	**+0.1**
	baz=327						
ETLH				*e*S	**Sb**	**16 48 26.4**	**-0.4**
	baz=327						
WHF	**Hehuan Shan**	**0.96**	**312**	*e*P	**Pb**	**16 48 17.1**	**0.0**
	baz=314						
WHF				*e*S	**Sn**	**16 48 29.6**	**0.0**
	baz=314						
CHGB	**Renai**	**0.98**	**305**	*e*P	**Pb**	**16 48 17.5**	**+0.3**
	baz=306						
LDUT	**Ludao**	**0.98**	**213**	*e*P	**Pn**	**16 48 16.3**	**-0.2**
	baz=207						
ELDTW	**Lidau**	**1.00**	**252**	P	**Pb**	**16 48 17.2**	**-0.2**
	baz=248						
LONT	**Longtian**	**1.03**	**235**	P	**Pb**	**16 48 17.9**	**-0.1**
	baz=230						
LONT				*e*S	**Sb**	**16 48 30.8**	**-0.3**
	baz=230						
SSLB	**Suanglung**	**1.04**	**286**	*e*P	**Pb**	**16 48 18.4**	**+0.2**
	baz=285						
SSLB				*e*S	**Sb**	**16 48 31.1**	**-0.5**
	baz=285						
FUSS	**Fushou**	**1.05**	**316**	*e*P	**Pb**	**16 48 18.5**	**0.0**
	baz=317						
FUSS				*e*S	**Sb**	**16 48 32.0**	**+0.1**
	baz=317						
TDCB	**Techi**	**1.11**	**313**	*e*P	**Pb**	**16 48 19.7**	**+0.4**
	baz=314						
WHYT	**Xinyi Township**	**1.11**	**280**	*e*P	**Pb**	**16 48 20.1**	**+0.7**
	baz=279						
TWGBT	**Beinan**	**1.12**	**233**	P	**Pb**	**16 48 19.0**	**-0.5**
	baz=228						
TWGBT				*e*S	**Sn**	**16 48 31.1**	**-1.8**
	baz=228						
SMLT	**Sun Moon Lake**	**1.12**	**290**	*e*P	**Pb**	**16 48 19.8**	**+0.2**
	baz=290						
TWG	**Pinlang**	**1.12**	**233**	P	**Pb**	**16 48 19.0**	**-0.6**
	baz=228						
ALS	**Alishan**	**1.14**	**271**	*e*P	**Pb**	**16 48 20.8**	**+0.7**
	baz=268						
NDS	**Dongshan**	**1.17**	**345**	P	**Pb**	**16 48 20.0**	**-0.4**
	baz=348						
NDS				S	**Sb**	**16 48 35.4**	**+0.2**
	baz=348						
WCS	**Beigang Elemen**	**1.18**	**298**	*e*P	**Pb**	**16 48 21.1**	**+0.6**
	baz=298						
STYH	**Taoyuan**	**1.21**	**255**	*e*P	**Pb**	**16 48 21.3**	**+0.2**
	baz=251						
STYT	**Tauyuan**	**1.23**	**255**	*e*P	**Pb**	**16 48 21.6**	**+0.2**
	baz=251						
JYNG	**Yonagunijimaku**	**1.25**	**41**	P	**Pn**	**16 48 20.7**	**+0.4**
JYNG				S	**Sn**	**16 48 35.9**	**-0.3**
CHN5	**Tsauling**	**1.26**	**275**	*e*P	**Pb**	**16 48 23.3**	**+1.4**
	baz=273						
YOJ	**Yonaguni jima**	**1.30**	**42**	P	**Pn**	**16 48 21.3**	**+0.4**
YOJ				S	**Sn**	**16 48 37.0**	**-0.4**
WNT	**Mingjian**	**1.31**	**287**	*e*P	**Pb**	**16 48 24.0**	**+1.3**
	baz=286						
TPUB	**Ta-pu**	**1.32**	**262**	*e*P	**Pb**	**16 48 23.2**	**+0.4**
	baz=259						
YHNB	**Yeheng**	**1.32**	**332**	*e*P	**Pb**	**16 48 22.4**	**-0.5**
	baz=335						
WTP	**Ta-pu**	**1.34**	**259**	*e*P	**Pb**	**16 48 23.9**	**+0.6**
	baz=256						
ECL	**Taimali**	**1.35**	**229**	*e*P	**Pn**	**16 48 21.6**	**0.0**
	baz=224						
WWF	**Wufeng**	**1.35**	**294**	*e*P	**Pb**	**16 48 24.8**	**+1.4**
	baz=294						
CHN1	**Nanshi**	**1.43**	**258**	*e*P	**Pb**	**16 48 25.7**	**+0.9**
	baz=255						
TWK	**Hsinying**	**1.45**	**261**	*e*P	**Pb**	**16 48 25.9**	**+0.7**
	baz=258						
TIPB	**Shuangxi**	**1.48**	**352**	*e*P	**Pb**	**16 48 25.2**	**-0.4**
	baz=355						
TIPB				*e*S	**Sb**	**16 48 43.5**	**-0.5**
	baz=355						
EAST	**Anshuo**	**1.57**	**225**	*e*P	**Pn**	**16 48 25.3**	**+0.7**
	baz=221						
MASBT	**Mashibuluo**	**1.57**	**236**	P	**Pb**	**16 48 26.1**	**-1.1**
	baz=233						
HATJ	**Hateruma jima**	**1.70**	**71**	P	**Pn**	**16 48 26.6**	**+0.2**
HATJ				*e*S	**Sn**	**16 48 47.1**	**-0.2**
SLIU	**Shizi**	**1.72**	**222**	P	**Pn**	**16 48 27.7**	**+1.0**
	baz=219						
SCZT	**Fangliau**	**1.73**	**230**	*e*P	**Pb**	**16 48 30.3**	**+0.4**
	baz=226						
IRIF	**Iriomote-Funau**	**1.75**	**61**	P	**Pn**	**16 48 27.7**	**+0.6**
IRIF				*e*S	**Sn**	**16 48 48.6**	**+0.2**
JKRS	**Kuro-shima**	**1.94**	**67**	P	**Pn**	**16 48 30.3**	**+0.6**
JKRS				*e*S	**Sn**	**16 48 53.6**	**+0.5**
JIJ	**Ishigaki jima**	**2.10**	**65**	P	**Pn**	**16 48 32.1**	**+0.2**
JIJ				*e*S	**Sn**	**16 48 57.0**	**-0.1**
JISG	**Ishigakijimahi**	**2.33**	**62**	P	**Pn**	**16 48 35.1**	**0.0**
JISG				*e*S	**Sn**	**16 49 01.7**	**-1.2**
JTJ	**Tarama**	**2.68**	**64**	P	**Pn**	**16 48 40.0**	**+0.1**
JTJ				*e*S	**Sn**	**16 49 11.7**	**+0.3**
JIRB	**Irabujima**	**3.15**	**64**	P	**Pn**	**16 48 46.3**	**0.0**
JMJ2	**Miyako jima3**	**3.24**	**67**	P	**Pn**	**16 48 48.2**	**+0.6**
JOGS	**Gusukube**	**3.31**	**67**	P	**Pn**	**16 48 49.4**	**+0.8**
JOGS				*e*S	**Sn**	**16 49 26.8**	**-0.3**

JMA 03 16:51:27.4, 37°.09N×140°.58E, h9km, M0.4, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
JFFD	**Fukushimafurud**	**0.01**	**273**	P	Pg	16 51 29.0	0.0
JFFD				S	Sg	16 51 30.0	-0.2
ONAJ	**Iwakimizuishiy**	**0.17**	**86**	P	Pg	16 51 31.3	+0.2
ONAJ				S	Sg	16 51 34.0	+0.3
JFT	**Otama**	**0.47**	**336**	P	Pg	16 51 36.8	+0.2
JFT				S	Sg	16 51 43.2	+0.4
JHO	**Hitachi**	**0.48**	**181**	P	Pg	16 51 36.7	0.0
JHO				S	Sg	16 51 43.0	0.0

*IDC **03** 16:51:45.8±0.3, 37°.09N×143°.64E, h0km, mb5.0/55, mb1 5.1/62, mb1mx5.1/69, mbtmp5.0/62, ML4.7/5, MS4.6/41, Ms1 4.6/41, ms1mx4.6/49, Error ellipse: s-maj=11.0km s-min=8.3km az=98.0*
*NEIC **03** 16:51:47.9, 37°.18N×143°.50E, h9km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-7.61; $M_{\theta\theta}$5.60; $M_{\phi\phi}$2.02; $M_{r\theta}$-2.15; $M_{\theta\phi}$3.61; $M_{\phi r}$1.09; Fault plane solution: $M_0$8.09000×10^{16} NP1:ϕ_s224.37000°, δ42.12000°, λ-111.47000°. NP2:ϕ_s72.30000°, δ51.38000°, λ-71.69000°. Principal axes: T 7.9375, Plg5.0000°, Azm149.0000°; N 0.3034, Plg14.0000°, Azm241.0000°; P -8.2409, Plg75.0000°, Azm41.0000°;*
*NEIC **03** 16:51:47.8±1.9, 37°.20N±0°.06×143°.47E±0°.04, h10km±1km, mb5.6/455, Ms_20 4.8/217, Mwr5.2/31, Mww5.4 Error ellipse: s-maj=9.7km s-min=5.2km az=174.0*
*BJI **03** 16:51:48.6±0.0, 37°.34N×143°.12E, h10km, mB5.5/67, mb5.1/80, Ms5.3/96, Ms7 4.9/89*
*MOS **03** 16:51:48.5±1.2, 37°.32N×143°.53E, h22km, mb5.6/49, MS5.0/45, Error ellipse: s-maj=5.6km s-min=3.3km az=109.5*
*NIED **03** 16:51:49.6, 37°.15N×143°.44E, h54km, MW5.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-7.43; $M_{\theta\theta}$5.13; $M_{\phi\phi}$2.30; $M_{r\theta}$0.80; $M_{\theta\phi}$4.28; $M_{\phi r}$1.51; Fault plane solution: $M_0$8.02000×10^{16} NP1: ϕ_s228.00000°, δ51.00000°, λ-98.00000°. NP2:ϕ_s61.00000°, δ40.00000°, λ-80.00000°.*
*GCMT **03** 16:51:49.8±0.1, 37°.15N±0°.01×143°.55E±0°.01, h12km, MW5.3/137, Moment Tensor Solution. s101,c182; s137,c283; Duration: 1^{s}1 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.07±.01; $M_{\theta\theta}$0.77±.01; $M_{\phi\phi}$0.29±.01; $M_{r\theta}$0.06±.04; $M_{\theta\phi}$0.70±.01; $M_{\phi r}$0.52±.04; Best double couple: $M_0$1.29000×10^{17} NP1:ϕ_s74.00000°, δ40.00000°, λ-59.00000°. NP2:ϕ_s216.00000°, δ56.00000°, λ-114.00000°. Principal axes: T 1.3210, Plg9.0000°, Azm322.0000°; N -0.0660, Plg19.0000°, Azm229.0000°; P -1.2590, Plg69.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*JMA **03** 16:51:49.6±0.2, 37°.15N×143°.44E, h54km, M5.3*
JMA Felt II J1.
*NEIC **03** 16:51:51, 37°.19N×143°.53E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-1.05; $M_{\theta\theta}$0.73; $M_{\phi\phi}$0.32; $M_{r\theta}$-0.84; $M_{\theta\phi}$0.69; $M_{\phi r}$0.00; Fault plane solution: $M_0$1.44000×10^{17} NP1:ϕ_s212.00000°, δ34.00000°, λ-127.00000°. NP2:ϕ_s74.00000°, δ64.00000°, λ-68.00000°. Principal axes: T 1.4440, Plg16.0000°, Azm148.0000°; N -0.0134, Plg20.0000°, Azm244.0000°; P -1.4306, Plg64.0000°, Azm22.0000°;*
*BGR **03** 16:51:56.5±0.0, 37°.68N×144°.15E, h49km, mb5.6, Ms5.2*
ISC 03 16:51:48.7±0.4**, 37°.14N**±0°.03×**143°.55E**±0°.03**, h20km**±1km**, h21km:pP-P, n1694, σ1^{s}70**/1585**, mb5.5**/471**, MS4.8**/202**, 81C-84D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.02**	**306**	⇑P	**Pn**	**16 52 20.9**	**-0.7**
JIKH				S	**Sn**	**16 52 43.9**	**-2.4**
JFK	**Kawauchi**	**2.15**	**277**	⇑P	**Pn**	**16 52 22.6**	**-0.8**
JFK				*e*S	**Sn**	**16 52 46.7**	**-2.7**
JIO	**Ouri**	**2.18**	**308**	⇑P	**Pn**	**16 52 23.3**	**-0.5**
JIO				S	**Sn**	**16 52 47.6**	**-2.6**
JMST	**Minamisoumatoc**	**2.20**	**286**	⇑P	**Pn**	**16 52 23.2**	**-0.8**
JMST				S	**Sn**	**16 52 48.1**	**-2.5**
ONAJ	**Iwakimizuishiy**	**2.20**	**270**	⇑P	**Pn**	**16 52 23.2**	**-0.9**
ONAJ				S	**Sn**	**16 52 47.9**	**-2.9**
JMM	**Marumori**	**2.31**	**289**	⇑P	**Pn**	**16 52 24.9**	**-0.7**
JMM				*e*S	**Sn**	**16 52 51.3**	**-2.0**
JMM	**Marumori**	**2.31**	**289**	Pn	**Pn**	**16 52 24.9**	**-0.7**
JMM					LR	16 52 50.8	
JKMT	**Kesennumamotoy**	**2.34**	**316**	⇑P	**Pn**	**16 52 25.2**	**-0.8**
JFFD	**Fukushimafurud**	**2.39**	**270**	⇑P	**Pn**	**16 52 25.9**	**-0.8**
OFUJ	**Ofunato**	**2.44**	**323**	⇑P	**Pn**	**16 52 26.5**	**-0.9**
JHO	**Hitachi**	**2.45**	**258**	⇑P	**Pn**	**16 52 26.5**	**-1.0**
JOFO	**Osakifurukawao**	**2.54**	**306**	P	**Pn**	**16 52 29.0**	**+0.2**
JMK	**Ichinoseki**	**2.58**	**315**	⇑P	**Pn**	**16 52 28.8**	**-0.5**
JMK				S	**Sn**	**16 52 58.1**	**-1.9**
JFT	**Otama**	**2.59**	**279**	P	**Pn**	**16 52 29.7**	**+0.3**
JFT				*e*S	**Sn**	**16 52 58.9**	**-1.4**
JOU	**Okura**	**2.59**	**299**	⇑P	**Pn**	**16 52 29.4**	**-0.1**
JYT	**Yasato**	**2.85**	**252**	Pn	**Pn**	**16 52 31.9**	**-1.1**
JYT				Sn	**Sn**	**16 53 02.5**	**-4.1**
JSB	**Shiboa**	**2.91**	**268**	⇑P	**Pn**	**16 52 34.3**	**+0.4**
JOM	**Ohasama**	**2.92**	**323**	⇑P	**Pn**	**16 52 33.6**	**-0.5**
JOM				S	**Sn**	**16 53 06.7**	**-1.9**
JYS	**Shirataka**	**2.96**	**292**	⇑P	**Pn**	**16 52 34.6**	**0.0**
JFY	**Yanaizu**	**3.08**	**276**	⇑P	**Pn**	**16 52 36.3**	**+0.1**
JYK	**Kaneyama**	**3.08**	**306**	⇑P	**Pn**	**16 52 36.1**	**-0.1**
I30JP	**ISUMI INFRASON**	**3.19**	**236**	Pn	**Pn**	**16 52 38.1**	**+0.4**
I30JP				Sn	**Sn**	**16 53 18.5**	**+3.3**
JRG	**Rokugo**	**3.21**	**315**	⇑P	**Pn**	**16 52 37.8**	**-0.2**
BSO1	**Boso 1**	**3.24**	**221**	P	**Pn**	**16 52 37.3**	**-0.7**
JSZI	**Iwateshizukuis**	**3.30**	**323**	⇑P	**Pn**	**16 52 39.0**	**-0.2**
JKZ	**Kuzumaki**	**3.33**	**329**	⇑P	**Pn**	**16 52 39.3**	**-0.3**
JKUC	**kamogawauchiur**	**3.36**	**235**	P	**Pn**	**16 52 39.8**	**-0.2**
JYA	**Atsumi**	**3.36**	**297**	⇑P	**Pn**	**16 52 40.2**	**+0.1**
JAG	**Ashikaga**	**3.36**	**259**	⇑P	**Pn**	**16 52 39.7**	**-0.4**
JAG				S	**Sn**	**16 53 16.0**	**-3.5**
BSO3	**Boso 3**	**3.40**	**227**	P	**Pn**	**16 52 39.8**	**-0.5**
JKT	**Katashina**	**3.46**	**265**	P	**Pn**	**16 52 42.2**	**+0.6**
JYW	**Yuwa**	**3.55**	**313**	P	**Pn**	**16 52 43.1**	**+0.4**
JANG	**Nango**	**3.59**	**334**	⇑P	**Pn**	**16 52 41.9**	**-1.4**
JANG				*e*S	**Sn**	**16 53 22.3**	**-2.9**
JAW	**Awa shima**	**3.65**	**292**	P	**Pn**	**16 52 44.9**	**+0.9**
JAH	**Hinai**	**3.80**	**324**	⇑P	**Pn**	**16 52 46.1**	**0.0**
JSGW	**Sagamiharawaka**	**3.83**	**248**	P	**Pn**	**16 52 46.5**	**+0.1**
JRY	**Ryogami san**	**3.91**	**255**	⇑P	**Pn**	**16 52 47.1**	**-0.5**
JGK	**Kuni**	**3.98**	**263**	⇑P	**Pn**	**16 52 49.8**	**+1.2**
JOD2	**Odawara 2**	**4.07**	**244**	⇑P	**Pn**	**16 52 49.2**	**-0.6**
JTM	**Tenmabayashi**	**4.12**	**333**	Pn	**Pn**	**16 52 49.7**	**-0.7**
JTM				Sn	**Sn**	**16 53 34.6**	**-3.5**
AJI	**Ajiro2**	**4.17**	**241**	P	**Pn**	**16 52 50.4**	**-0.8**
JSD	**Sado**	**4.29**	**284**	P	**Pn**	**16 52 53.3**	**+0.4**
JSD	**Sado**	**4.29**	**284**	Pn	**Pn**	**16 52 52.8**	**-0.1**
MJAR	**Matsushiro Arr**	**4.32**	**264**	Pn	**Pn**	**16 52 53.4**	**0.0**
	18nm,0.3s,baz=74,slow=10,SNR=492						
MJAR				Sn	**Sn**	**16 53 41.4**	**-1.8**
	11nm,0.3s,baz=90,slow=12,SNR=4.9						
MJAR				LR	LR	16 55 09.0	
	comp=Z,6μm,21.1s,baz=75,slow=47						
MJAR	**Matsushiro Arr**	**4.32**	**264**	P	**Pn**	**16 52 53.6**	**+0.3**
MJAR	**Matsushiro Arr**	**4.32**	**264**		**Pn**	**16 52 53.6**	**+0.3**
MAJO	**Matsushiro**	**4.33**	**264***c*	*i*P	**Pn**	**16 52 54.6**	**+1.2**
MAJO	**Matsushiro**	**4.33**	**264**	Pn	**Pn**	**16 52 54.5**	**+1.1**
MAT	**Matsushiro**	**4.33**	**264**	P	**Pn**	**16 52 54.5**	**+1.2**
MAT				S	**Sn**	**16 53 42.9**	**-0.3**
MAT	**Matsushiro**	**4.33**	**264**	P	**Pn**	**16 52 54.6**	**+1.2**
MJB9	**Matsu-Tunnel**	**4.33**	**264**		**Pn**	**16 52 52.8**	**-0.6**
JYN	**Shimob**	**4.36**	**249**	⇑P	**Pn**	**16 52 54.3**	**+0.4**
JNG	**Nsakai**	**4.43**	**262**	P	**Pn**	**16 52 55.9**	**+1.0**
JOG3	**Oga3**	**4.47**	**310**	S	Sn	16 53 37.6	-9.0
JOT	**Ohata**	**4.66**	**336**	P	**Pn**	**16 52 57.7**	**-0.1**
JNY	**Yasuok**	**4.93**	**251**	P	**Pn**	**16 53 02.9**	**+1.2**
JSZ	**Suzu**	**4.94**	**275**	P	**Pn**	**16 53 02.9**	**+1.1**
JSG	**Sagara**	**5.00**	**242**		**Pn**	**16 53 03.8**	**+1.2**
JHJ2	**Mitsune**	**5.05**	**218**	P	**Pn**	**16 53 01.2**	**-2.1**
JHJ2				*e*S	**Sn**	**16 53 55.5**	**-5.6**
JHJ2	**Mitsune**	**5.05**	**218**	Pn	**Pn**	**16 53 01.1**	**-2.1**
JHJ	**Hachijo jima 2**	**5.06**	**219**	Pn	**Pn**	**16 53 01.3**	**-2.2**
	208nm,0.3s,baz=329,slow=2.4,SNR=92						
JHJ				Sn	**Sn**	**16 53 54.2**	**-7.2**
	1μm,0.3s,baz=70,slow=23,SNR=8.6						
JHJ				LR	LR	16 55 26.5	
	comp=Z,5μm,18.1s,baz=22,slow=44						
JGN	**Niukaw**	**5.09**	**261**	P	**Pn**	**16 53 05.7**	**+1.8**
JKB	**Kayabe**	**5.12**	**338**	P	**Pn**	**16 53 04.1**	**-0.1**
JKB				*e*S	**Sn**	**16 53 57.1**	**-5.6**
JGF	**Kuroka**	**5.23**	**255**	Pn	**Pn**	**16 53 07.0**	**+1.2**
JAO	**Obara**	**5.42**	**252**	P	**Pn**	**16 53 09.3**	**+0.9**
JCH	**Churui**	**5.47**	**359**	P	**Pn**	**16 53 07.4**	**-1.6**
JCH				S	**Sn**	**16 54 05.6**	**-5.6**
INU	**Inuyama**	**5.57**	**253**	Pn	**Pn**	**16 53 11.0**	**+0.5**
JKG	**Kaga**	**5.86**	**264**	P	**Pn**	**16 53 16.5**	**+2.1**
JEW	**Eniwo**	**5.91**	**345**		**Pn**	**16 53 14.9**	**-0.3**
JAR	**Ashorobuto**	**6.15**	**2**	P	**Pn**	**16 53 16.2**	**-2.2**
NMR	**Nemuro--Hokkai**	**6.44**	**14**	⇑*i*P	**Pn**	**16 53 19.1**	**-3.2**
NMR				*i* S	**Sn**	**16 54 27.4**	**-7.8**
JKN2	**Miekihoku**	**6.59**	**246**	P	**Pn**	**16 53 24.5**	**+0.1**
GLVR	**Golovnino**	**6.76**	**12**	⇑*i*P	**Pn**	**16 53 24.1**	**-2.6**
GLVR				*i* S	**Sn**	**16 54 36.2**	**-6.8**
GLVR				pmax	pmax		
	comp=Z,704nm,0.4s						
GLVR				pmax	pmax		

comp=N,318nm,0.3s
GLVR pmax pmax
comp=E,145nm,0.2s
GLVR pmax pmax
comp=Z,1μm,2.0s
JTKR Abashiri--Toko 6.83 2 ⇓P **Pn 16 53 25.9 -1.7**
JWT Wachi 6.84 257 Pn Pn 16 53 28.5 +0.6
ASAJ Asahikawa 7.00 354 Pn **Pn 16 53 29.4 -0.7**
comp=Z,38nm,0.3s,baz=203,slow=10,SNR=192
ASAJ Sn **Sn 16 54 47.1 -2.0**
comp=Z,73nm,0.3s,baz=64,slow=31,SNR=6.0
JKA Kamikawa-asahi 7.00 354 Pn **Pn 16 53 28.9 -1.1**
GRPR Tuman 7.05 13*d* iP **Pn 16 53 27.2 -3.5**
GRPR *i* S Sn 16 54 40.1 -10
GRPR pmax pmax
comp=E,204nm,0.5s
GRPR pmax pmax
comp=Z,422nm,0.5s
GRPR pmax pmax
comp=N,162nm,0.4s
RUSJ Misakicho 7.07 10*d* iP **Pn 16 53 28.6 -2.4**
RUSJ *i* S **Sn 16 54 44.6 -6.2**
YUK Yuzh-Kuril'sk 7.11 14*c* iP **Pn 16 53 28.5 -3.0**
YUK *i* S Sn 16 54 42.4 -9.2
YUK pmax pmax
comp=Z,1μm,1.1s
YUK pmax pmax
comp=Z,972nm,0.4s
YUK pmax pmax
comp=N,238nm,0.3s
YUK pmax pmax
comp=E,221nm,0.2s
YUK MLR MLR
comp=E,3μm,10.0s
YUK MLR MLR
comp=Z,5μm,21.0s
YUK MLR MLR
comp=N,3μm,12.0s
JMN Monobe 8.59 250 Pn **Pn 16 53 52.5 +0.5**
KUR Kuril'sk 8.71 21*c* iP **Pn 16 53 51.1 -2.4**
KUR *i* S **Sn 16 55 23.4 -7.7**
KUR pmax pmax
comp=Z,212nm,0.5s
KUR pmax pmax
comp=E,138nm,0.4s
KUR pmax pmax
comp=N,76nm,0.3s
KUR pmax pmax
comp=Z,2μm,4.1s
KUR pmax pmax
comp=E,2μm,3.6s
KUR pmax pmax
comp=N,1μm,3.9s
KUR smax smax
comp=E,1μm,0.5s
KUR smax smax
comp=N,702nm,0.4s
KUR smax smax
comp=N,2μm,3.3s
KUR smax smax
comp=E,1μm,1.4s
JHS Saijyo 8.71 259 Pn **Pn 16 53 54.6 +1.0**
TEY Ternei 9.46 329⇓ *e*P **Pn 16 54 04.2 +0.4**
TEY pmax pmax
comp=N,60nm,1.2s
TEY pmax pmax
comp=Z,80nm,1.2s
TEY pmax pmax
comp=E,80nm,1.2s
YSS Yuzh-Sakhalins 9.82 357⇑ *e*P **Pn 16 54 08.6 -0.1**
YSS *e*S **Sn 16 55 55.6 -2.7**
YSS pmax pmax
comp=Z,1μm,3.9s
YSS pmax pmax
comp=N,1μm,3.5s
YSS pmax pmax
comp=Z,320nm,1.1s
YSS pmax pmax
comp=N,350nm,1.3s
YSS Yuzh-Sakhalins 9.82 357 Pn **Pn 16 54 06.5 -2.2**
ULDB Ullung-do Bore 10.08 276 P Pn 16 54 18.8 +6.4
SNR=6.3
ULDB Ullung-do Bore 10.08 276 P Pn 16 54 18.8 +6.4
SNR=6.3
JCJ Chichijima 10.09 187 Pn Pn 16 54 07.3 -5.1
comp=N,87nm,0.3s,baz=58,slow=9.1,SNR=102
JCJ Sn Sn 16 55 50.2 -15
comp=N,144nm,0.3s,baz=73,slow=22,SNR=11
VLA Vladivostok 10.73 307 *i* P **Pn 16 54 22.3 +1.1**
MSHR Mys Shultsa 10.96 304*ce*P **Pn 16 54 25.3 +1.0**
MSHR pmax pmax
comp=Z,289nm,1.7s
JNU Nakatsue 11.12 253 Pn **Pn 16 54 27.0 +0.4**
comp=Z,2.3nm,0.3s,baz=46,slow=12,SNR=30
JNU Nakatsue 11.12 253 Pn **Pn 16 54 25.7 -0.9**
USA0B Ussuriysk Arra 11.25 312*c* iP **Pn 16 54 29.2 +0.9**
USA0B Ussuriysk Arra 11.25 312 Pn **Pn 16 54 28.1 -0.2**
USRK Ussuriysk Ar. 11.25 312 Pn **Pn 16 54 29.1 +0.8**
baz=122,slow=14,SNR=81
USRK LR LR 16 58 23.5
comp=Z,5μm,20.6s,baz=117,slow=35
USRK Ussuriysk Ar. 11.25 312 Pn **Pn 16 54 26.7 -1.6**
UJN ULJIN 11.30 273 P Pn 16 54 34.6 +5.6
SNR=14
UJN ULJIN 11.30 273 P Pn 16 54 34.6 +5.6
SNR=14
KSULJ Uljin 11.33 272 P **Pn 16 54 31.0 +1.7**
SNR=24
KSULJ Uljin 11.33 272 P Pn 16 54 36.0 +6.6
SNR=12
KSULJ Uljin 11.33 272 P **Pn 16 54 31.0 +1.7**
SNR=24
KSULJ Uljin 11.33 272 P Pn 16 54 36.0 +6.6
SNR=12
KSULJ Uljin 11.33 272 P **Pn 16 54 31.0 +1.7**
SNR=24
IMWB Imwonan-gil 11.33 275 P **Pn 16 54 32.0 +2.5**
SNR=44
IMWB Imwonan-gil 11.33 275 P Pn 16 54 35.0 +5.5
SNR=13
IMWB Imwonan-gil 11.33 275 P **Pn 16 54 32.0 +2.5**
SNR=44
IMWB Imwonan-gil 11.33 275 P Pn 16 54 35.0 +5.5
SNR=13
IMWB Imwonan-gil 11.33 275 P **Pn 16 54 32.0 +2.5**
SNR=44
KSPHA Pohang 11.43 269 P **Pn 16 54 33.1 +2.4**
SNR=19
KSPHA Pohang 11.43 269 P **Pn 16 54 33.1 +2.4**
SNR=19
KSPHA Pohang 11.43 269 P **Pn 16 54 33.1 +2.4**
SNR=19
OKEB Okgye-meyeon 11.60 277 P Pn 16 54 40.0 +6.8
SNR=7.6
OKEB Okgye-meyeon 11.60 277 P Pn 16 54 40.0 +6.8
SNR=7.6
KSTBA Taebaek 11.65 274 P **Pn 16 54 36.7 +2.8**
SNR=17
KSTBA Taebaek 11.65 274 P **Pn 16 54 36.7 +2.8**
SNR=17
KSTBA Taebaek 11.65 274 P **Pn 16 54 36.7 +2.8**
SNR=17
KSUSN Ulsan 11.71 267 P **Pn 16 54 36.4 +1.8**
SNR=31
KSUSN Ulsan 11.71 267 P **Pn 16 54 36.4 +1.8**
SNR=31
KSUSN Ulsan 11.71 267 P **Pn 16 54 36.4 +1.8**
SNR=31
KSADO Andong 11.73 271 P **Pn 16 54 37.0 +2.1**
SNR=27
KSADO Andong 11.73 271 P Pn 16 54 41.0 +6.1
SNR=22
KSADO Andong 11.73 271 P **Pn 16 54 37.0 +2.1**
SNR=27
KSADO Andong 11.73 271 P Pn 16 54 41.0 +6.1
SNR=22
KSADO Andong 11.73 271 P **Pn 16 54 37.0 +2.1**
SNR=27
KSGWL Sabuk 11.75 275 P **Pn 16 54 39.6 +4.5**
SNR=9.5
KSGWL Sabuk 11.75 275 P **Pn 16 54 39.6 +4.5**
SNR=9.5
KSGWL Sabuk 11.75 275 P **Pn 16 54 39.6 +4.5**
SNR=9.5
KSJMJ Jumunjin 11.77 278 P **Pn 16 54 39.4 +4.0**
SNR=8.1
KSJMJ Jumunjin 11.77 278 P **Pn 16 54 39.4 +4.0**
SNR=8.1
KSJMJ Jumunjin 11.77 278 P **Pn 16 54 39.4 +4.0**
SNR=8.1
JTU Tsushima 11.78 261 Pn 16 54 36.1 +0.5
KSYOC YEONGCHEON 11.80 269 P Pn 16 54 42.0 +6.2
SNR=17
KSYOC YEONGCHEON 11.80 269 P Pn 16 54 42.0 +6.2
SNR=17
KSBUS Busan 11.82 265 P **Pn 16 54 37.4 +1.3**
SNR=34
KSBUS Busan 11.82 265 P Pn 16 54 42.0 +5.9
SNR=20
KSBUS Busan 11.82 265 P **Pn 16 54 37.4 +1.3**
SNR=34
KSBUS Busan 11.82 265 P Pn 16 54 42.0 +5.9
SNR=20
KSBUS Busan 11.82 265 P **Pn 16 54 37.4 +1.3**
SNR=34
KSDGY Daegwallycong 11.84 277 P Pn 16 54 43.1 +6.6
SNR=7.4
KSDGY Daegwallycong 11.84 277 P Pn 16 54 43.1 +6.6
SNR=7.4
KSDAG Daegu 11.88 268 P **Pn 16 54 40.0 +3.0**
SNR=26
KSDAG Daegu 11.88 268 P Pn 16 54 43.0 +6.0
SNR=21
KSDAG Daegu 11.88 268 P **Pn 16 54 40.0 +3.0**
SNR=26
KSDAG Daegu 11.88 268 P Pn 16 54 43.0 +6.0
SNR=21
KSDAG Daegu 11.88 268 P **Pn 16 54 40.0 +3.0**
SNR=26
KSBSA Busan_acc 11.91 265 P **Pn 16 54 38.8 +1.4**
SNR=8.3
KSBSA Busan_acc 11.91 265 P **Pn 16 54 38.8 +1.4**
SNR=8.3
KSBSA Busan_acc 11.91 265 P **Pn 16 54 38.8 +1.4**
SNR=8.3
KSEUS ULSEONG 11.95 271 P **Pn 16 54 39.9 +2.0**
SNR=15
KSEUS ULSEONG 11.95 271 P **Pn 16 54 39.9 +2.0**
SNR=15
KSEUS ULSEONG 11.95 271 P **Pn 16 54 39.9 +2.0**
SNR=15
KSYOW Yeongwol 12.04 275 P **Pn 16 54 42.0 +2.8**
SNR=17
KSYOW Yeongwol 12.04 275 P **Pn 16 54 42.0 +2.8**
SNR=17
KSYOW Yeongwol 12.04 275 P **Pn 16 54 42.0 +2.8**
SNR=17
MIYA Miryang-si 12.06 267 P **Pn 16 54 42.0 +2.6**
SNR=21
MIYA Miryang-si 12.06 267 P **Pn 16 54 42.0 +2.6**
SNR=21
MIYA Miryang-si 12.06 267 P **Pn 16 54 42.0 +2.6**
SNR=21
SEHB SEOHWA 12.17 280 P Pn 16 54 47.1 +6.2
SNR=11
SEHB SEOHWA 12.17 280 P Pn 16 54 47.1 +6.2
SNR=11
JSU Suzuyama 12.19 246 Pn **Pn 16 54 41.9 +0.7**
KSMAS Masan 12.27 265 P **Pn 16 54 43.7 +1.5**
SNR=15
KSMAS Masan 12.27 265 P **Pn 16 54 43.7 +1.5**
SNR=15
KSMAS Masan 12.27 265 P **Pn 16 54 43.7 +1.5**
SNR=15
KSIJA INJE 12.28 279 P **Pn 16 54 46.1 +3.7**
SNR=21
KSIJA INJE 12.28 279 P Pn 16 54 48.2 +5.8
SNR=11
KSIJA INJE 12.28 279 P **Pn 16 54 46.1 +3.7**
SNR=21
KSIJA INJE 12.28 279 P Pn 16 54 48.2 +5.8
SNR=11
KSIJA INJE 12.28 279 P **Pn 16 54 46.1 +3.7**
SNR=21
KSWJU Wonju 12.35 276 P **Pn 16 54 47.0 +3.6**
SNR=21
KSWJU Wonju 12.35 276 P **Pn 16 54 47.0 +3.6**
SNR=21
KSWJU Wonju 12.35 276 P **Pn 16 54 47.0 +3.6**
SNR=21
KSSAJ Sangju 12.37 271 P **Pn 16 54 46.8 +3.2**
SNR=7.4
KSSAJ Sangju 12.37 271 P **Pn 16 54 46.8 +3.2**
SNR=7.4
KSSAJ Sangju 12.37 271 P **Pn 16 54 46.8 +3.2**
SNR=7.4
KSMGY Mungyeong 12.41 272 P **Pn 16 54 47.1 +2.9**
SNR=16
KSMGY Mungyeong 12.41 272 P P 16 54 51.2 -4.9
SNR=8.5
KSMGY Mungyeong 12.41 272 P **Pn 16 54 47.1 +2.9**
SNR=16
KSMGY Mungyeong 12.41 272 P P 16 54 51.2 -4.9
SNR=8.5
KSMGY Mungyeong 12.41 272 P **Pn 16 54 47.1 +2.9**
SNR=16
KSRS Korea Array 12.45 276 Pn **Pn 16 54 46.9 +2.2**
comp=Z,1.6nm,0.3s,baz=91,slow=13,SNR=92
KSRS LR LR 16 59 51.7
comp=Z,2μm,18.5s,baz=78,slow=39
KSCHJ Chungju 12.46 273 P **Pn 16 54 48.0 +3.2**
SNR=17
KSCHJ Chungju 12.46 273 P **Pn 16 54 48.0 +3.2**
SNR=17
KSCHJ Chungju 12.46 273 P **Pn 16 54 48.0 +3.2**
SNR=17
EURB Uiryeong-eup 12.46 266 P **Pn 16 54 47.0 +2.2**
SNR=25
EURB Uiryeong-eup 12.46 266 P P 16 54 51.0 -5.6
SNR=11
EURB Uiryeong-eup 12.46 266 P **Pn 16 54 47.0 +2.2**
SNR=25
EURB Uiryeong-eup 12.46 266 P P 16 54 51.0 -5.6
SNR=11
EURB Uiryeong-eup 12.46 266 P **Pn 16 54 47.0 +2.2**
SNR=25
KSGIC Gimchen 12.46 270 P **Pn 16 54 47.2 +2.4**
SNR=11
KSGIC Gimchen 12.46 270 P **Pn 16 54 47.2 +2.4**
SNR=11
KSGIC Gimchen 12.46 270 P **Pn 16 54 47.2 +2.4**
SNR=11
KSAR Wonju Array Be 12.48 276 P **Pn 16 54 45.6 +0.5**
KSAR Wonju Array Be 12.48 276 Pn **Pn 16 54 45.6 +0.5**
KS19 Wonju Array Si 12.49 276 Pn 16 54 46.4 +1.1
KSCHC Chuncheon 12.52 278 P **Pn 16 54 49.0 +3.3**
SNR=8.9
KSCHC Chuncheon 12.52 278 P **Pn 16 54 49.0 +3.3**
SNR=8.9
KSCHC Chuncheon 12.52 278 P **Pn 16 54 49.0 +3.3**
SNR=8.9
KSCPR CHUPUNGNYEONG 12.54 270 P **Pn 16 54 47.9 +1.9**
SNR=31
KSCPR CHUPUNGNYEONG 12.54 270 P **Pn 16 54 47.9 +1.9**
SNR=31
KSCPR CHUPUNGNYEONG 12.54 270 P **Pn 16 54 47.9 +1.9**
SNR=31
HWCB Hwacheon 12.63 280 P **Pn 16 54 50.0 +2.9**
SNR=23
HWCB Hwacheon 12.63 280 P P 16 54 53.0 -5.5
SNR=8.9
HWCB Hwacheon 12.63 280 P P 16 54 53.0 -5.5
SNR=8.9
KSBON Boeun 12.64 272 P **Pn 16 54 49.3 +2.0**
SNR=15
KSBON Boeun 12.64 272 P **Pn 16 54 49.3 +2.0**
SNR=15
KSBON Boeun 12.64 272 P **Pn 16 54 49.3 +2.0**
SNR=15
OKCB Cheongsan-myeo 12.66 271 P **Pn 16 54 50.0 +2.4**
SNR=18
OKCB Cheongsan-myeo 12.66 271 P P 16 54 54.0 -4.9
SNR=5.9
OKCB Cheongsan-myeo 12.66 271 P **Pn 16 54 50.0 +2.4**
SNR=18
OKCB Cheongsan-myeo 12.66 271 P P 16 54 54.0 -4.9
SNR=5.9
OKCB Cheongsan-myeo 12.66 271 P **Pn 16 54 50.0 +2.4**
SNR=18
KSKCH Geochang 12.69 268 P Pn 16 54 53.5 +5.5
SNR=10
KSKCH Geochang 12.69 268 P Pn 16 54 53.5 +5.5
SNR=10
EMSB Eumseong 12.72 274 P **P 16 54 55.0 -4.6**
SNR=7.2
EMSB Eumseong 12.72 274 P **P 16 54 55.0 -4.6**
SNR=7.2
KSCWO Cheorwon 12.75 279 P **Pn 16 54 52.7 +3.8**
SNR=15
KSCWO Cheorwon 12.75 279 P **Pn 16 54 52.7 +3.8**
SNR=15
KSCWO Cheorwon 12.75 279 P **Pn 16 54 52.7 +3.8**
SNR=15
HAMB Hamyang 12.85 267 P **Pn 16 54 53.0 +2.8**
SNR=17
HAMB Hamyang 12.85 267 P P 16 54 56.0 -4.9
SNR=9.4
HAMB Hamyang 12.85 267 P **Pn 16 54 53.0 +2.8**
SNR=17
HAMB Hamyang 12.85 267 P P 16 54 56.0 -4.9
SNR=9.4
HAMB Hamyang 12.85 267 P **Pn 16 54 53.0 +2.8**
SNR=17
KSICN Icheon 12.86 276 P **Pn 16 54 53.7 +3.3**
SNR=16
KSICN Icheon 12.86 276 P **Pn 16 54 53.7 +3.3**
SNR=16
KSICN Icheon 12.86 276 P **Pn 16 54 53.7 +3.3**
SNR=16
KSNAH Namhae 12.87 264 P **Pn 16 54 51.4 +1.0**
SNR=10
KSNAH Namhae 12.87 264 P **Pn 16 54 51.4 +1.0**
SNR=10
KSNAH Namhae 12.87 264 P **Pn 16 54 51.4 +1.0**
SNR=10
MDJ Mudanjiang 12.92 310 P **Pn 16 54 51.4 +0.3**
MDJ S **Sn 16 57 16.2 +1.9**
MDJ pmax pmax
comp=Z,61nm,1.1s
MDJ pmax pmax
comp=Z,1μm,10.9s
MDJ LR LR
comp=Z,7μm,16.4s
MDJ LR LR
comp=Z,3μm,17.1s
MDJ LR LR
comp=Z,7μm,15.7s
MDJ Mudanjiang 12.92 310 Pn **Pn 16 54 50.9 -0.2**
TJN Taejon 13.00 271⇓ *e*P **Pn 16 54 53.0 +0.7**
GWYB Gwangyang 13.02 265 P **P 16 54 59.0 -3.8**
SNR=5.9
GWYB Gwangyang 13.02 265 P **P 16 54 59.0 -3.8**
SNR=5.9
KSCEA Cheonan 13.03 274 P **Pn 16 54 55.1 +2.4**
SNR=15
KSCEA Cheonan 13.03 274 P **P 16 54 58.6 -4.3**
SNR=7.8
KSCEA Cheonan 13.03 274 P **Pn 16 54 55.1 +2.4**
SNR=15
KSCEA Cheonan 13.03 274 P **P 16 54 58.6 -4.3**
SNR=7.8
KSCEA Cheonan 13.03 274 P **Pn 16 54 55.1 +2.4**
SNR=15
KSJEO Jeonju 13.13 270 P Pn 16 54 59.0 +5.0
SNR=7.0
KSJEO Jeonju 13.13 270 P Pn 16 54 59.0 +5.0
SNR=7.0
KOJ2 Gongju-si 13.17 272 P **Pn 16 54 57.0 +2.6**
SNR=12
KOJ2 Gongju-si 13.17 272 P **P 16 55 01.0 -3.5**
SNR=8.2
KOJ2 Gongju-si 13.17 272 P **Pn 16 54 57.0 +2.6**
SNR=12
KOJ2 Gongju-si 13.17 272 P **P 16 55 01.0 -3.5**
SNR=8.2
KOJ2 Gongju-si 13.17 272 P **Pn 16 54 57.0 +2.6**
SNR=12
KSSOD Songwoldong 13.20 277 P **P 16 55 00.9 -4.0**
SNR=7.6
KSSOD Songwoldong 13.20 277 P **P 16 55 00.9 -4.0**
SNR=7.6
KSSWO Suwon 13.22 276 P **Pn 16 54 59.1 +3.8**
SNR=8.2
KSSWO Suwon 13.22 276 P **P 16 55 01.9 -3.1**
SNR=7.8
KSSWO Suwon 13.22 276 P **Pn 16 54 59.1 +3.8**
SNR=8.2
KSSWO Suwon 13.22 276 P **P 16 55 01.9 -3.1**
SNR=7.8
KSSWO Suwon 13.22 276 P **Pn 16 54 59.1 +3.8**
SNR=8.2
KSSEO Seoul 13.24 277 P **P 16 55 00.9 -4.4**
SNR=8.3
KSSEO Seoul 13.24 277 P **P 16 55 02.0 -3.3**
SNR=8.3
KSSEO Seoul 13.24 277 P **P 16 55 00.9 -4.4**
SNR=8.3
KSSEO Seoul 13.24 277 P **P 16 55 02.0 -3.3**
SNR=8.3
KSMUS Musan 13.35 278 P **Pn 16 55 01.7 +4.7**
SNR=8.1
KSMUS Musan 13.35 278 P **Pn 16 55 01.7 +4.7**
SNR=8.1
HAWB Hwaseong-si 13.39 275 P **Pn 16 55 02.0 +4.4**
SNR=8.9
HAWB Hwaseong-si 13.39 275 P **Pn 16 55 02.0 +4.4**
SNR=8.9
HAWB Hwaseong-si 13.39 275 P **Pn 16 55 02.0 +4.4**
SNR=8.9
SHHB Siheung-si 13.43 276 P **P 16 55 05.0 -2.3**
SNR=6.8
SHHB Siheung-si 13.43 276 P **P 16 55 05.0 -2.3**
SNR=6.8
INCN Inchon 13.47 277 P **Pn 16 54 59.8 +1.1**
INCN Inchon 13.47 277 Pn **Pn 16 54 59.8 +1.1**
INCN Inchon 13.47 277 P **P 16 55 03.7 -4.1**
KSJEU Jeongeup 13.50 268 P **Pn 16 55 00.7 +1.6**
SNR=33
KSJEU Jeongeup 13.50 268 P **Pn 16 55 00.7 +1.6**
SNR=33
KSJEU Jeongeup 13.50 268 P **P 16 55 04.9 -3.3**
SNR=11
KSJEU Jeongeup 13.50 268 P **Pn 16 55 00.7 +1.6**
SNR=33
TYV Tymovskoe 13.73 358 *e*P **Pn 16 55 01.5 -0.6**
TYV *e*S **Sn 16 57 34.8 +0.9**
TYV pmax pmax
comp=Z,800nm,3.0s
TYV pmax pmax
comp=Z,100nm,1.0s
TYV smax smax
comp=N,9.0nm,0.8s
TYV smax smax
comp=E,9.0nm,0.8s
TYV smax smax
comp=N,700nm,5.5s
TYV smax smax
comp=E,400nm,5.5s
GOCB Gochang-gun 13.80 268 P **P 16 55 08.0 -3.5**
SNR=7.3
GOCB Gochang-gun 13.80 268 P **P 16 55 08.0 -3.5**
SNR=7.3
KSJDO Jindo 14.24 264 P **Pn 16 55 11.5 +2.3**
SNR=5.6
KSJDO Jindo 14.24 264 P **Pn 16 55 11.5 +2.3**
SNR=5.6
GRNR Gornyy 14.54 342⇓ *i*P **Pn 16 55 12.0 -1.3**
GRNR *e*S **Sn 16 57 53.9 +0.1**
GRNR pmax pmax
comp=N,30nm,0.9s
GRNR pmax pmax
comp=E,20nm,0.9s
GRNR pmax pmax
comp=Z,40nm,0.9s
GRNR smax smax
comp=N,10.0nm,0.9s
KLR Kul'dur 14.81 328 Pn **Pn 16 55 15.2 -1.7**
comp=N,2.6nm,0.3s,baz=135,slow=12,SNR=121
KLR LR LR 17 00 39.9
comp=N,2μm,21.3s,baz=134,slow=36
KLR Kul'dur 14.81 328*ce*P **Pn 16 55 15.0 -1.9**
KSBAR Backryungdo 14.96 279 P **P 16 55 23.7 -0.7**
SNR=6.1
CN2 Changchun 15.28 301 *e*P **Pn 16 55 21.2 -2.0**
CN2 S **Sn 16 58 12.3 +0.5**
CN2 pmax pmax
comp=N,900nm,12.4s
CN2 LR LR
comp=N,5μm,16.0s
CN2 LR LR
comp=N,3μm,16.0s

CN2 LR LR
comp=N,3µm,19.0s
JMZ Minamidaito 2 15.41 226 Pn **Pn 16 55 24.1 -0.8**
SNY Shenyang 16.10 293 ⇑P **Pn 16 55 32.1 -1.7**
SNY pmax pmax
comp=N,270nm,2.8s
SNY LR LR
comp=N,3µm,11.8s
SNY LR LR
comp=N,5µm,15.7s
SNY LR LR
comp=N,5µm,16.4s
NKL Nikolayevsk 16.13 354 *e*P **Pn 16 55 31.6 -2.5**
NKL *e*S **Sn 16 58 36.1 +3.8**
NKL pmax pmax
comp=N,609nm,0.7s
NKL pmax pmax
comp=E,4.0nm,0.7s
NKL pmax pmax
comp=Z,115nm,1.4s
NKL MLR MLR
comp=N,6µm,14.0s
SKR Severo-Kuril's 16.25 30 *e*P **P 16 55 39.3 +0.7**
SKR pmax pmax
comp=Z,400nm,3.2s
SKR pmax pmax
comp=Z,112nm,1.2s
SKR pmax pmax
comp=Z,200nm,3.9s
SKR MLR MLR
comp=Z,800nm,15.0s
OKH Okha 16.41 359*c i*P **Pn 16 55 39.0 +1.3**
OKH *e*S **Sn 16 58 43.5 +4.4**
OKH pmax pmax
comp=Z,300nm,16.1s
OKH smax smax
comp=N,800nm,7.9s
OKH MLR MLR
comp=E,4µm,15.0s
JOW Kunigami 16.52 236 Pn **P 16 55 42.3 +0.5**
comp=E,1.1nm,0.3s,baz=77,slow=11,SNR=9.7
JOW LR LR 17 02 46.9
comp=E,2µm,18.9s,baz=88,slow=40
JOW Kunigami 16.52 236 Pn **Pn 16 55 37.8 -1.5**
DL2 Dalian 17.36 283 P **Pn 16 55 49.7 0.0**
DL2 pmax pmax
comp=E,230nm,1.3s
DL2 pmax pmax
comp=E,1µm,3.5s
DL2 LR LR
comp=E,3µm,13.2s
DL2 LR LR
comp=E,1µm,14.3s
DL2 LR LR
comp=E,2µm,15.5s
PEA0B Petropavlovsk- 18.77 27*ce*P **P 16 56 05.9 -0.5**
PEA0B Petropavlovsk- 18.77 27 P **P 16 56 04.2 -2.2**
PETK Petropavlovsk- 18.77 27 P **P 16 56 06.1 -0.4**
comp=E,0.4nm,0.3s,baz=216,slow=7.3,SNR=14
PETK LR LR 17 05 01.8
comp=E,2µm,19.0s,baz=221,slow=42
PETK Petropavlovsk- 18.77 27 P 16 56 04.5 -1.9
PET Petropavlovsk 19.06 29*de*P **Pn 16 56 10.9 +0.5**
PET *e*S **Sn 16 59 38.3 -5.0**
PET pmax pmax
comp=Z,2µm,6.8s
PET pmax pmax
comp=Z,1µm,6.9s
PET pmax pmax
comp=Z,57nm,1.4s
PET Petropavlovsk 19.06 29 P **P 16 56 07.6 -2.0**
SSE Sheshan 19.45 259 P **P 16 56 14.1 +0.1**
SSE S **Sn 16 59 50.9 -2.1**
SSE pmax pmax
comp=Z,240nm,6.9s
SSE LR LR
comp=Z,2µm,20.6s
SSE LR LR
comp=Z,1µm,20.0s
ZEA Zeya 20.07 331 *e*P **P 16 56 20.5 -0.1**
ZEA *e*S S 16 59 50.7 -14
ZEA pmax pmax
comp=E,900nm,2.6s
ZEA pmax pmax
comp=N,1µm,2.3s
ZEA pmax pmax
comp=Z,2µm,2.4s
ZEA pmax pmax
comp=E,180nm,0.9s
ZEA pmax pmax
comp=N,240nm,1.0s
ZEA pmax pmax
comp=Z,500nm,1.0s
ZEA smax smax
comp=N,900nm,6.0s
NJ2 Nanjing 20.93 263 ⇑P **P 16 56 31.4 +1.3**
NJ2 pP **sP 16 56 36.3 +1.1**
NJ2 sP **pwP 16 56 39.1 -3.8**
NJ2 PP **PnPn 16 56 52.7 +3.9**
NJ2 pmax pmax
comp=N,400nm,5.7s
NJ2 LR LR
comp=N,2µm,17.0s
NJ2 LR LR
comp=N,3µm,18.4s
NJ2 LR LR
comp=N,3µm,14.2s
HIA Hailar 21.06 313 P **P 16 56 29.5 -2.0**
HIA pmax pmax
comp=Z,61nm,0.9s
HIA MLR MLR
comp=Z,3µm,18.0s
HIA Hailar 21.06 313 P **P 16 56 29.4 -2.0**
HIA Hailar 21.06 313 IAms_20 IAms_20 17 04 56.1
comp=Z,3µm,18.0s
TIA Tai'an 21.20 275 ⇑P **P 16 56 31.4 -1.6**
TIA S **S 17 00 24.3 -3.5**
TIA pmax pmax
comp=Z,11nm,0.6s
TIA LR LR
comp=Z,1µm,13.7s
TIA LR LR
comp=Z,3µm,15.6s
TIA LR LR
comp=Z,3µm,14.7s
BJI Beijing 21.56 286 P **P 16 56 36.0 -0.8**
BJI pP **pP 16 56 40.4 -0.2**
BJI S **S 17 00 36.7 +1.9**
BJI PcP **PcP 17 00 40.1 +1.5**
BJI pmax pmax
comp=Z,41nm,0.9s
BJI LR LR
comp=Z,3µm,16.6s
BJI LR LR
comp=Z,1µm,14.9s
BJI LR LR
comp=Z,2µm,15.8s
BJT Baijiatuau 21.57 286 P **P 16 56 33.5 -3.4**
BJT pmax pmax
comp=Z,204nm,1.3s
BJT Baijiatuau 21.57 286 P **P 16 56 33.5 -3.4**
YOJ Yonaguni jima 21.65 240 P **P 16 56 34.8 -3.0**
YOJ pmax pmax
comp=Z,74nm,0.7s
YOJ MLR MLR
comp=Z,2µm,20.0s
YOJ Yonaguni jima 21.65 240 P **P 16 56 34.8 -3.0**
TATO Taipei 22.39 243 P **P 16 56 45.3 -0.6**
TATO Taipei 22.39 243 P **P 16 56 48.6 +2.7**
YHNB Yeheng 22.66 243 P **P 16 56 47.2 -1.7**
NACB Ninganchiao 22.82 242 P **P 16 56 47.3 -3.1**
MA2 Magadan 22.93 9 P **P 16 56 51.5 +0.2**
comp=Z,52nm,1.1s,baz=194,slow=10,SNR=24
MA2 LR LR 17 06 35.7
comp=Z,1µm,20.3s,baz=198,slow=39
MA2 Magadan 22.93 9*ce*P **P 16 56 51.3 +0.1**
MA2 pmax pmax
comp=Z,51nm,1.0s
MA2 Magadan 22.93 9 P **P 16 56 50.3 -0.9**
GUMO Guam 23.49 177 P **P 16 56 56.6 -0.6**
comp=Z,32nm,0.7s,baz=62,slow=5.4,SNR=1.9
GUMO LR LR 17 04 16.7
comp=Z,866nm,19.9s,baz=2.5,slow=32
GUMO Guam 23.49 177 P **P 16 56 55.9 -1.3**
SSLB Suanglung 23.52 242 P **P 16 56 55.2 -2.3**
SSLB IAms_20 IAms_20 17 07 36.2
comp=Z,3µm,19.0s
YULB Yu-li 23.53 241 P **P 16 56 55.1 -2.5**
YULB IAmb IAmb 16 57 18.0
comp=Z,105nm,0.9s
TPUB Ta-pu 24.05 241 P **P 16 57 00.6 -2.0**
TPUB IAMs_20 IAMs_20 17 08 00.5
comp=Z,4µm,19.0s
TWG Pinlang 24.06 240 P **P 16 57 00.2 -2.4**
TWG IAmb IAmb 16 57 20.6
comp=Z,158nm,0.8s
QZH Quanzhou 24.52 247⇑*i*P **P 16 57 07.5 +0.7**
QZH S **S 17 01 28.7 +2.3**
QZH pmax pmax
comp=Z,58nm,0.7s
QZH pmax pmax
comp=Z,420nm,4.5s
QZH LR LR
comp=Z,2µm,17.1s
QZH LR LR
comp=Z,1µm,14.7s
QZH LR LR
comp=Z,2µm,15.2s
TIY Taiyuan 24.66 281 *e*P **P 16 57 07.2 -1.0**
TIY pP **pP 16 57 11.3 -0.7**
TIY S **S 17 01 28.2 -0.5**
TIY sS **sS 17 01 36.0 +1.1**
TIY pmax pmax
comp=Z,34nm,0.6s
TIY pmax pmax
comp=Z,890nm,3.6s
TIY LR LR
comp=Z,3µm,14.2s
TIY LR LR
comp=Z,4µm,14.5s
KNMB Chin-men Tao 24.95 247 P **P 16 57 08.1 -2.6**
KNMB IAmb IAmb 16 57 29.8
comp=Z,104nm,0.9s
HHC Hu-ho-hao-te 25.06 288 *e*P **P 16 57 13.2 +1.5**
HHC S **S 17 01 34.4 -0.7**
HHC pmax pmax
comp=Z,35nm,1.0s
HHC pmax pmax
comp=Z,830nm,4.1s
HHC LR LR
comp=Z,5µm,15.8s
HHC LR LR
comp=Z,1µm,13.0s
HHC LR LR
comp=Z,2µm,13.0s
WHN Wuhan 25.07 263 ⇑P **P 16 57 12.7 +0.9**
WHN S **S 17 01 35.3 +0.1**
WHN LR LR
comp=Z,9µm,14.9s
WHN LR LR
comp=Z,4µm,13.9s
WHN LR LR
comp=Z,7µm,13.3s
CIT Chita 25.80 315 *e*P **P 16 57 19.0 +0.7**
CIT *e* 16 57 32.6
CIT *e* 16 57 54.1
CIT *e* 16 58 05.1
CIT *e*S **S 17 01 52.5 +6.0**
BTO Baotou 26.24 288 *e*P **P 16 57 24.3 +1.8**
BTO S **S 17 01 49.1 -4.7**
BTO LR LR
comp=Z,19µm,16.0s
BTO LR LR
comp=Z,3µm,9.8s
YAK Yakutsk 26.37 345 P **P 16 57 23.6 +0.3**
comp=Z,43nm,0.7s,baz=13,slow=1.2,SNR=44
YAK LR LR 17 09 49.1
comp=Z,2µm,18.1s,baz=148,slow=41
YAK Yakutsk 26.37 345 *e*P **P 16 57 23.8 +0.6**
YAK pmax pmax
comp=Z,16nm,1.1s
YAK pmax pmax
comp=E,74nm,1.3s
YAK Yakutsk 26.37 345 P **P 16 57 20.7 -2.6**
YAK IAmb IAmb 16 57 35.2
comp=Z,195nm,0.9s
SEY Seymchan 26.38 9 P **P 16 57 24.9 +1.5**
comp=Z,74nm,0.9s,baz=189,slow=9.7,SNR=119
SEY LR LR 17 08 56.6
comp=Z,1µm,20.2s,baz=196,slow=39
SMY Shemya 26.39 44 P **P 16 57 23.3 -0.2**
SMY pmax pmax
comp=Z,180nm,1.3s
SMY MLR MLR
comp=Z,2µm,20.0s
SMY Shemya 26.39 44 P **P 16 57 23.3 -0.2**
SMY IAmb IAmb 16 57 30.0
comp=Z,180nm,1.3s
H11N2 WAKE ISLAND Hy 26.77 124 T T 17 25 27.2
baz=322,SNR=81
H11N1 WAKE ISLAND Hy 26.77 124 T T 17 25 31.8
baz=322,SNR=5.8
H11N3 WAKE ISLAND Hy 26.78 124 T T 17 25 30.6
baz=322
WAKE Wake Island 26.92 125 P **P 16 57 28.7 +0.1**
WAKE IAmb IAmb 16 58 07.6
comp=Z,414nm,1.9s
H11S1 WAKE ISLAND Hy 27.52 126 T T 17 26 28.2
baz=317,slow=76,SNR=7.4
H11S3 WAKE ISLAND Hy 27.52 126 T T 17 26 43.0
baz=317,slow=76,SNR=32
H11S2 WAKE ISLAND Hy 27.53 126 T T 17 26 21.5
baz=317,slow=76,SNR=14
XAN Xi'an 28.24 274 P **P 16 57 41.0 +0.6**
XAN pP pwP 16 57 49.9 -4.0
XAN S **S 17 02 26.1 +0.8**
XAN pmax pmax
comp=Z,93nm,1.3s
XAN LR LR
comp=Z,4µm,16.5s
XAN LR LR
comp=Z,3µm,15.8s
XAN LR LR
comp=Z,2µm,13.1s
BOD Bodaibo 28.37 326 *e*P **P 16 57 41.7 +0.5**
BOD pmax pmax
comp=Z,280nm,1.6s
ULN Ulaanbaatar 28.71 304*ce*P **P 16 57 46.5 +1.9**
ULN pmax pmax
comp=Z,97nm,1.4s
ULN Ulaanbaatar 28.71 304 P **P 16 57 44.3 -0.3**
ULN Ulaanbaatar 28.71 304 P **P 16 57 44.1 -0.5**
ULN S **S 17 02 37.5 +4.8**
ULN Ulaanbaatar 28.71 304 P **P 16 57 45.8 +1.2**
comp=Z,8µmcomp=Z,12µmcomp=Z,452nm,1.2s
ENH Enshi 29.04 266 P **P 16 57 47.0 -0.5**
SONM Songino Array 29.14 303 P **P 16 57 50.1 +1.7**
comp=Z,93nm,1.1s,baz=97,slow=7.8,SNR=76
SONM LR LR 17 10 30.4
comp=Z,1µm,18.0s,baz=100,slow=38
SONM Songino Array 29.14 303 P **P 16 57 49.7 +1.2**
SONM IAmb IAmb 16 58 04.6
comp=Z,117nm,1.0s
IRK Irkutsk 31.30 311 *e*P **P 16 58 08.4 +1.1**
IRK pmax pmax
comp=Z,98nm,2.2s
ZAK Zakamensk 31.55 308 *e*P **P 16 58 10.9 +1.3**
ZAK pmax pmax
comp=Z,101nm,1.3s
LZH Lanzhou 31.73 280 ⇑P **P 16 58 13.0 +1.6**
LZH sP sP 16 58 17.4 +0.6
LZH PP **PP 16 59 19.9 -3.2**
LZH S **S 17 03 17.8 -2.5**
LZH sS sS 17 03 30.3 +3.7
LZH pmax pmax
comp=Z,100nm,1.3s
LZH pmax pmax
comp=Z,610nm,5.4s
LZH LR LR
comp=Z,4µm,14.1s
LZH LR LR
comp=Z,3µm,14.1s
LZH LR LR
comp=Z,3µm,15.7s
GYA Guiyang 32.92 262 ⇑P **P 16 58 25.3 +3.4**
GYA S **S 17 03 42.1 +3.1**
GYA pmax pmax
comp=Z,29nm,1.0s
GYA LR LR
comp=Z,3µm,17.0s
GYA LR LR
comp=Z,2µm,15.9s
GYA LR LR
comp=Z,2µm,14.7s
ATKA Atka Island 33.08 49 IAMs_20 IAMs_20 17 09 48.3
comp=Z,2µm,20.0s
MOY Mondy 33.18 310 *e*P **P 16 58 25.0 +1.1**
MOY pmax pmax
comp=Z,93nm,2.0s
CD2 Chengdu 33.38 271⇓*i*P **P 16 58 24.6 -1.2**
CD2 pP pP 16 58 29.1 -0.5
CD2 PP **PP 16 59 41.5 +0.2**
CD2 S **S 17 03 45.3 -0.6**
CD2 sS sS 17 03 52.6 +0.5
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 pmax pmax
comp=Z,450nm,5.8s
CD2 LR LR
comp=Z,4µm,17.0s
CD2 LR LR
comp=Z,3µm,15.6s
CD2 LR LR
comp=Z,3µm,15.4s
BILL Bilibino 33.45 15*c i*P **P 16 58 26.2 +0.2**
BILL *e**SP **sP 16 58 34.0 +2.5**
BILL *i* 16 58 39.6
BILL *e* 16 59 31.4
BILL *e* 17 01 08.6
BILL S **S 17 03 49.0 +2.8**
BILL pmax pmax
comp=Z,31nm,1.3s
BILL MLR MLR
comp=Z,680nm,18.0s
BILL Bilibino 33.45 15 P **P 16 58 24.8 -1.2**
BILL IAmb IAmb 16 58 43.8
comp=Z,83nm,1.3s
GTA Gaotai 34.16 287 ⇓P **P 16 58 33.9 +1.3**
GTA pP sP 16 58 38.4 +0.4
GTA sP pwP 16 58 41.6 -4.1
GTA PcP **PcP 17 01 10.6 +1.2**
GTA S **S 17 03 50.3 -7.7**
GTA PcS **PcS 17 04 56.6 +0.9**
GTA ScS **ScS 17 08 55.8 +0.3**
GTA pmax pmax
comp=Z,18nm,1.5s
GTA pmax pmax
comp=Z,600nm,5.8s
GTA LR LR
comp=Z,3µm,16.7s
GTA LR LR
comp=Z,1µm,17.8s
GTA LR LR
comp=Z,2µm,16.7s
QIZ Qiongzhong 34.54 248 P **P 16 58 34.6 -1.3**
QIZ S **S 17 04 07.6 +3.7**
QIZ pmax pmax
comp=Z,21nm,1.5s
QIZ pmax pmax
comp=Z,190nm,3.8s
QIZ LR LR
comp=Z,1µm,19.1s
QIZ LR LR
comp=Z,2µm,17.2s
QIZ LR LR
comp=Z,1µm,14.9s
QIZ Qiongzhong 34.54 248 P **P 16 58 34.7 -1.2**
TIXI Tiksi 35.40 352 P **P 16 58 42.8 +0.1**
comp=Z,5.1nm,0.6s,baz=137,slow=14,SNR=5.4
TIXI Tiksi 35.40 352 *i*P **P 16 58 42.2 -0.5**
TIXI Tiksi 35.40 352 P **P 16 58 41.6 -1.1**
TIXI IAMs_20 IAMs_20 17 15 40.6
comp=Z,2µm,18.0s
SPIA Saint Paul Isl 36.35 42 P **P 16 58 52.0 +1.0**
baz=257
NIKH Nikolski High 36.42 49 P **P 16 58 50.6 -1.1**
KMI Kunming 36.67 263 ⇑P **P 16 58 55.1 +0.7**
KMI pP sP 16 59 02.0 +2.2
KMI sP pwP 16 59 04.8 -3.1
KMI PP **PP 17 00 18.3 +0.4**
KMI S **S 17 04 35.0 -1.9**
KMI pmax pmax
comp=Z,46nm,1.2s
KMI pmax pmax
comp=Z,270nm,3.8s
KMI LR LR
comp=Z,3µm,15.2s
KMI LR LR
comp=Z,2µm,15.9s
KMI LR LR
comp=Z,1µm,23.0s
SLVN Son La 37.71 257 P **P 16 59 02.5 -0.7**
SLVN IAMs_20 IAMs_20 17 15 46.1
comp=Z,1µm,19.0s
BAKI Biak 38.76 192 P **P 16 59 11.5 -0.3**
comp=Z,50nm,0.8s
MANU Manus Island 39.15 174 P **P 16 59 16.0 +0.9**
TNTI Ternate 39.16 206 P **P 16 59 14.5 -0.7**
TNTI IAmb IAmb 16 59 19.6
comp=Z,159nm,1.5s
TNTI Ternate 39.16 206 P **P 16 59 13.8 -1.4**
comp=Z,1µmcomp=Z,62nm,1.3s
SRPI Serui, Papua 39.41 192 P **P 16 59 17.9 +0.7**
SWI Sorong 39.49 200 P **P 16 59 18.4 +0.4**
comp=Z,674nmcomp=Z,30nm,1.1s
MNI Manado 39.50 210 P **P 16 59 18.0 0.0**
SIJI Sorong 39.50 200 P **P 16 59 17.5 -0.5**
comp=Z,20nm,1.0s,baz=8.7,slow=11,SNR=7.6
SIJI Sorong 39.50 200 P **P 16 59 14.4 -3.6**
comp=Z,362nmcomp=Z,24nm,1.5s
JAY Jayapura 39.55 184 P **P 16 59 18.5 +0.1**
comp=Z,19nm,0.8s,baz=316,slow=7.8,SNR=5.1
JAY LR LR 17 14 47.7
comp=Z,330nm,18.9s,baz=12,slow=35
JAY Jayapura 39.55 184 P **P 16 59 19.3 +0.9**
comp=Z,329nmcomp=Z,22nm,1.2s
GENI Genyem 39.66 185 P **P 16 59 20.8 +1.5**
comp=Z,2µmcomp=Z,112nm,1.4s
FALS False Pass 39.79 46 P **P 16 59 20.1 0.0**
FALS IAmb IAmb 17 00 26.5
comp=Z,219nm,1.6s
TNA Tin City 39.92 29 P **P 16 59 21.1 +0.1**
NONG Nongkai 40.17 253 P **P 16 59 25.3 +1.7**
comp=Z,75nm,1.0s
NONG Nongkai 40.17 253 P **P 16 59 25.4 +1.7**
comp=Z,76nm,1.0s
ANM Nome 40.62 31 P **P 16 59 25.9 -0.9**
ANM pmax pmax
comp=Z,119nm,1.4s
ANM MLR MLR
comp=Z,1µm,20.0s
ANM Nome 40.62 31 P **P 16 59 25.9 -0.9**
ANM IAmb IAmb 16 59 58.4
comp=Z,119nm,1.4s
ANM IAMs_20 IAMs_20 17 18 53.8
comp=Z,1µm,20.0s
SPMM Sapulut 40.70 224 P **P 16 59 30.0 +1.9**
GTOI Gorontalo 40.99 212 P **P 16 59 30.5 +0.1**
comp=Z,417nmcomp=Z,33nm,1.1s
WAMI Wamena 41.06 187 P **P 16 59 32.7 +1.7**
comp=Z,1µmcomp=Z,43nm,1.0s
LKP Lekhapani 41.15 270 *e*P **P 16 59 33.4 +1.7**
LKP *i* x x 16 59 47.4
LKP IAmb IAmb 16 59 54.4
comp=Z,213nm,0.3s
SDPT Sand Point 41.51 46 P **P 16 59 34.1 -0.1**
SDPT IAmb IAmb 17 00 54.7
comp=Z,137nm,1.4s
SDPT Sand Point 41.51 46 P **P 16 59 35.1 +0.8**
baz=268
TOLI2 Tolitoli 41.56 216 P **P 16 59 34.4 -0.7**
MRSI Marisa 41.59 214 P **P 16 59 35.9 +0.6**
comp=Z,µmcomp=Z,110nm,1.0s
DGZ Jazzator, Alta 41.71 306 *i*P **P 16 59 37.8 +1.6**
SANI Sanana 42.27 207 P **P 16 59 40.3 -0.6**
comp=Z,912nmcomp=Z,95nm,0.9s
WMQ Urumqi 42.31 297 *e*P **P 16 59 44.4 +3.3**
WMQ sP pwP 16 59 51.5 -2.7
WMQ PP **PP 17 01 23.9 +4.8**
WMQ PcP **PcP 17 01 35.7 +1.2**
WMQ S **S 17 06 01.2 +0.2**
WMQ pmax pmax
comp=Z,60nm,1.3s
WMQ pmax pmax
comp=Z,680nm,4.1s
WMQ LR LR
comp=Z,4µm,18.9s

WMQ LR LR
comp=Z,1μm,19.7s
WMQ LR LR
comp=Z,1μm,20.7s
UTTA Uttaradit 42.34 255 P **P** **16 59 44.6 +3.1**
comp=Z,305nmcomp=Z,46nm,0.9s
UTTA Uttaradit 42.34 255 P **P** **16 59 44.6 +3.1**
comp=Z,76nmcomp=Z,12nm,0.9s
CHAI Chaiyaphum 42.35 251 P **P** **16 59 42.9 +1.3**
comp=Z,712nmcomp=Z,89nm,1.0s
CHAI Chaiyaphum 42.35 251 P **P** **16 59 42.9 +1.3**
comp=Z,178nmcomp=Z,22nm,1.0s
MSAI Masohi 42.52 202 P **P** **16 59 44.6 +1.7**
comp=Z,185nmcomp=Z,15nm,1.5s
LAMP Lampang 42.61 256 P **P** **16 59 46.4 +2.7**
comp=Z,590nmcomp=Z,66nm,1.2s
LAMP Lampang 42.61 256 P **P** **16 59 46.4 +2.7**
comp=Z,147nmcomp=Z,16nm,1.2s
RDOG Red Dog Mine 42.64 27 P **P** **16 59 43.3 -0.1**
RDOG Red Dog Mine 42.64 27 P **P** **16 59 46.0 +2.7**
baz=252
MPSI Mapaga 42.65 216 P **P** **16 59 44.5 +0.5**
comp=Z,501nmcomp=Z,34nm,1.0s
KRAI Karang Ratu 42.66 203 P **P** **16 59 45.5 +1.5**
comp=Z,2μmcomp=Z,143nm,1.4s
PBKT Sadao Pong 42.72 253 P **P** **16 59 45.1 +0.5**
PHIT Phitsanulok 42.77 254 P **P** **16 59 49.6 +4.6**
comp=Z,80nm,0.9s
PHIT Phitsanulok 42.77 254 P **P** **16 59 49.7 +4.6**
comp=Z,20nm,0.9s
CM34 Chiang Mai Arr 42.80 257 P **P** **16 59 46.0 +0.8**
CM35 Chiang Mai Arr 42.89 257 P **P** **16 59 47.0 +1.0**
APSI Ampana 42.96 213 P **P** **16 59 46.2 -0.3**
comp=Z,1μmcomp=Z,137nm,1.1s
CM33 Chiang Mai Arr 42.97 257 P **P** **16 59 47.0 +0.3**
CMMT Chiang Mai 42.97 257 P **P** **16 59 47.8 +1.1**
comp=Z,764nmcomp=Z,62nm,1.2s
CMMT Chiang Mai 42.97 257 P **P** **16 59 47.0 +0.3**
comp=Z,764nmcomp=Z,62nm,1.2s
CMMT Chiang Mai 42.97 257 P **P** **16 59 47.8 +1.1**
comp=Z,731nmcomp=Z,59nm,1.2s
CHTO Chiang Mai 42.98 257 P **P** **16 59 47.3 +0.6**
CHTO pmax pmax
comp=Z,72nm,1.2s
CHTO MLR MLR
comp=Z,1μm,21.0s
CHTO Chiang Mai 42.98 257 P **P** **16 59 47.8 +1.1**
comp=Z,808nmcomp=Z,63nm,1.2s
CHTO Chiang Mai 42.98 257 P **P** **16 59 47.3 +0.6**
CHTO Chiang Mai 42.98 257 IAMs_20 IAMs_20 17 20 18.5
comp=Z,1μm,21.0s
CHTO Chiang Mai 42.98 257 P **P** **16 59 47.6 +0.9**
CHTO S **S** **17 06 06.9 -4.2**
CHTO Chiang Mai 42.98 257 P **P** **16 59 47.8 +1.1**
comp=Z,454nmcomp=Z,35nm,1.2s
CM36 Chiang Mai Arr 43.03 257 P **P** **16 59 48.0 +0.9**
ZAA0 Zalesovo Array 43.10 312 P **P** **16 59 47.6 +0.3**
ZAA0 IAmb IAmb 17 00 06.1
comp=Z,176nm,1.1s
ZAA0 PcP **PcP** **17 01 36.7 -0.1**
ZALV Zalesovo Beam 43.10 312 P **P** **16 59 48.3 +1.1**
comp=Z,58nm,1.0s,baz=90,slow=6.5,SNR=47
ZALV PcP **PcP** **17 01 37.5 +0.7**
comp=Z,14nm,0.7s,baz=76,slow=3.0,SNR=3.7
ZALV LR LR 17 18 40.6
comp=Z,2μm,18.0s,baz=88,slow=37
ZALV Zalesovo Beam 43.10 312 *i* P **P** **16 59 48.2 +0.9**
ZALV pmax pmax
comp=Z,59nm,1.0s
ZALV Zalesovo Beam 43.10 312 P **P** **16 59 47.6 +0.4**
ZALV PcP **PcP** **17 01 36.9 +0.1**
CM32 Chiang Mai Arr 43.14 257 P **P** **16 59 49.0 +1.0**
CM09 Chiang Mai Arr 43.15 257 P **P** **16 59 50.1 +2.0**
comp=Z,210nmcomp=Z,23nm,1.0s
CM09 Chiang Mai Arr 43.15 257 P **P** **16 59 50.1 +2.0**
comp=Z,210nmcomp=Z,23nm,1.0s
CM31 Chiang Mai Arr 43.18 257 P **P** **16 59 50.3 +1.9**
comp=Z,7μmcomp=Z,636nm,1.2s
CM31 Chiang Mai Arr 43.18 257 P **P** **16 59 48.5 +0.2**
CM31 Chiang Mai Arr 43.18 257 P **P** **16 59 49.8 +1.5**
SNR=22
CMAR Chiang Mai Arr 43.18 257 P **P** **16 59 49.6 +1.2**
comp=Z,8.2nm,0.9s,baz=47,slow=5.8,SNR=49
CMAR LR LR 17 21 32.3
comp=Z,527nm,18.6s,baz=85,slow=41
CMAR Chiang Mai Arr 43.18 257 *i* P **P** **16 59 49.9 +1.6**
CMAR pmax pmax
comp=Z,9.0nm,0.9s
CMAR Chiang Mai Arr 43.18 257 P **P** **16 59 48.9 +0.6**
CM04 Chiang Mai Arr 43.18 257 P **P** **16 59 50.3 +2.0**
comp=Z,257nmcomp=Z,27nm,0.8s
CM04 Chiang Mai Arr 43.18 257 P **P** **16 59 50.4 +2.0**
comp=Z,257nmcomp=Z,27nm,0.8s
CM01 Chiang Mai Arr 43.19 257 P **P** **16 59 50.8 +2.4**
comp=Z,220nmcomp=Z,33nm,1.0s
CM01 Chiang Mai Arr 43.19 257 P **P** **16 59 50.0 +1.6**
comp=Z,220nmcomp=Z,33nm,1.0s
CM02 Chiang Mai Arr 43.19 257 P **P** **16 59 50.4 +2.0**
comp=Z,229nmcomp=Z,29nm,0.9s
CM02 Chiang Mai Arr 43.19 257 P **P** **16 59 50.0 +1.6**
comp=Z,229nmcomp=Z,29nm,0.9s
CM15 Chiang Mai Arr 43.20 257 P **P** **16 59 50.3 +1.9**
comp=Z,188nmcomp=Z,22nm,0.9s
CM15 Chiang Mai Arr 43.20 257 P **P** **16 59 50.4 +1.9**
comp=Z,188nmcomp=Z,22nm,0.9s
CM05 Chiang Mai Arr 43.21 257 P **P** **16 59 50.6 +2.0**
comp=Z,245nmcomp=Z,25nm,1.0s
CM05 Chiang Mai Arr 43.21 257 P **P** **16 59 50.7 +2.1**
comp=Z,245nmcomp=Z,25nm,1.0s
CM13 Chiang Mai Arr 43.23 257 P **P** **16 59 50.7 +2.0**
comp=Z,294nmcomp=Z,31nm,0.9s
CM13 Chiang Mai Arr 43.23 257 P **P** **16 59 50.8 +2.0**
comp=Z,294nmcomp=Z,31nm,0.9s
KOHI KOHIMA 43.26 269 *eP* **P** **16 59 49.5 +0.4**
BNDI Bandanaira 43.36 200 P **P** **16 59 49.8 +0.1**
comp=Z,2μmcomp=Z,164nm,1.0s
ZSN Zaisan 43.66 303 *i* P P 16 59 57.7 +5.8
comp=Z,160nm,1.4s,baz=303
ZSN *eS* S 17 06 29.6 +9.0
baz=303
ZSN Zaisan 43.66 303 *c i* P P 16 59 57.7 +5.8
ZSN pmax pmax
comp=Z,160nm,1.4s
NRIK Noril'sk 43.89 335 P **P** **16 59 54.1 +0.7**
comp=Z,24nm,1.0s,baz=120,slow=6.5,SNR=15
NRIK LR LR 17 19 54.7
comp=Z,2μm,18.3s,baz=102,slow=38
NRIK Noril'sk 43.89 335 *c eP* **P** **16 59 53.9 +0.5**
NRIK pmax pmax
comp=Z,93nm,1.5s
NRIK Noril'sk 43.89 335 P **P** **16 59 52.9 -0.5**
NRIK IAmb IAmb 16 59 59.0
comp=Z,135nm,1.6s
LSA Lhasa 43.90 276 *i* P **P** **16 59 56.9 +2.3**
SNR=7.9
LSA Lhasa 43.90 276 P **P** **16 59 54.5 -0.1**
LSA pmax pmax
comp=Z,57nm,0.9s
LSA MLR MLR
comp=Z,700nm,22.0s
LSA Lhasa 43.90 276 P **P** **16 59 54.5 -0.1**
LSA Lhasa 43.90 276 P **P** **16 59 56.1 +1.6**
LSA S **S** **17 06 25.9 +0.6**
MHMT Maesarieng 44.13 257 P **P** **16 59 58.1 +2.1**
comp=Z,1μmcomp=Z,127nm,1.2s
MHMT Maesarieng 44.13 257 P **P** **16 59 58.0 +2.1**
comp=Z,1μmcomp=Z,127nm,1.2s
N18K Kilae Creek 44.22 38 P **P** **16 59 57.1 +0.9**
N18K IAmb IAmb 17 00 00.0
comp=Z,126nm,1.6s
N18K Kilae Creek 44.22 38 P **P** **16 59 58.2 +2.0**
baz=266,SNR=10
CHIR Chirikof Islan 44.26 45 P **P** **16 59 57.6 +1.0**
baz=272
SVW2 Sparrevohn 44.40 37 P **P** **16 59 57.3 -0.3**
UTHA Uthaitani 44.49 253 P **P** **17 00 01.6 +2.8**
comp=Z,346nmcomp=Z,24nm,0.9s
UTHA Uthaitani 44.49 253 P **P** **17 00 01.7 +2.8**
comp=Z,86nmcomp=Z,6.0nm,0.9s
O18K Koktuh Hills 44.52 39 P **P** **16 59 57.6 -1.0**
O18K Koktuh Hills 44.52 39 P **P** **17 00 00.3 +1.7**
baz=268
UMPA Umpang Tak 44.55 254 P **P** **17 00 03.2 +3.8**
comp=Z,66nm,1.0s
UMPA Umpang Tak 44.55 254 P **P** **17 00 03.3 +3.8**
comp=Z,16nm,1.0s
L19K White Mountain 44.82 36 P **P** **17 00 01.9 +0.9**
baz=271
L19K White Mountain 44.82 36 P **P** **17 00 02.5 +1.5**
baz=266,SNR=13
N19K Bonanza Creek 44.92 38 P **P** **17 00 02.0 +0.2**
N19K Bonanza Creek 44.92 38 P **P** **17 00 03.2 +1.3**
baz=268
SBUM Sibu 44.97 227 P **P** **17 00 04.0 +1.4**
O19K Port Alsworth 44.97 39 P **P** **17 00 01.4 -0.8**
O19K Port Alsworth 44.97 39 P **P** **17 00 03.6 +1.5**
baz=268
M19K Big River Lodg 45.02 36 P **P** **17 00 02.1 -0.4**
M19K Big River Lodg 45.02 36 P **P** **17 00 04.0 +1.4**
baz=266,SNR=6.4
SII Sitkinak Islan 45.05 44 P **P** **17 00 02.6 -0.2**
baz=272
PATY Pattaya 45.06 249 P **P** **17 00 07.9 +4.5**
comp=Z,2μmcomp=Z,81nm,1.1s
PATY Pattaya 45.06 249 P **P** **17 00 08.0 +4.5**
comp=Z,598nmcomp=Z,21nm,1.1s
SHL Shillong 45.11 270 P **P** **17 00 02.9 -1.1**
SHL pmax pmax
comp=Z,111nm,1.0s
SHL Shillong 45.11 270 P **P** **17 00 02.9 -1.1**
SHL IAmb IAmb 17 00 18.9
comp=Z,111nm,1.0s
SHL Shillong 45.11 270 *eP* **P** **17 00 03.9 -0.1**
SHL IAmb IAmb 17 00 12.5
comp=Z,37nm,1.2s
SHL *eS* **S** **17 06 48.0 +5.5**
SHL Shillong 45.11 270 P **P** **17 00 04.7 +0.7**
SHL S **S** **17 06 41.3 -1.1**
K20K Telida 45.28 34 P **P** **17 00 05.2 +0.6**
K20K IAmb IAmb 17 00 08.1
comp=Z,133nm,1.7s
K20K Telida 45.28 34 P **P** **17 00 06.1 +1.5**
baz=265,SNR=21
L20K Farewell, AK 45.30 35 P **P** **17 00 06.3 +1.5**
baz=266,SNR=14
J20K Nowinta River 45.32 33 P **P** **17 00 05.0 +0.1**
J20K IAmb IAmb 17 00 08.3
comp=Z,141nm,1.7s
J20K Nowinta River 45.32 33 P **P** **17 00 06.6 +1.7**
baz=264,SNR=26
SRDT SRDT 45.48 252 P **P** **17 00 08.7 +2.0**
comp=Z,9μmcomp=Z,69nm,1.2s
SRDT SRDT 45.48 252 P **P** **17 00 08.8 +2.0**
comp=Z,9μmcomp=Z,69nm,1.2s
SRDT SRDT 45.48 252 P **P** **17 00 08.3 +1.6**
comp=Z,66nm,1.2s
MK31 Makanchi Array 45.50 302 *i* P **P** **17 00 07.4 +0.8**
MK31 Makanchi Array 45.50 302 P **P** **17 00 06.7 0.0**
MK31 IAmb IAmb 17 00 27.3
comp=Z,77nm,1.0s
MKAR Makanchi Array 45.50 302 P **P** **17 00 07.4 +0.7**
comp=Z,10nm,0.8s,baz=84,slow=9.1,SNR=50
MKAR LR LR 17 19 20.9
comp=Z,768nm,19.4s,baz=79,slow=36
MKAR Makanchi Array 45.50 302 P **P** **17 00 06.9 +0.3**
P19K Oil Pt 45.51 39 P **P** **17 00 06.7 +0.2**
baz=270
OHAK Old Harbor 45.52 43 P **P** **17 00 05.5 -1.0**
OHAK Old Harbor 45.52 43 P **P** **17 00 06.7 +0.2**
baz=272
KHLT Khaolaem Dam 45.61 253 P **P** **17 00 12.3 +4.6**
comp=Z,42nm,1.1s
KHLT Khaolaem Dam 45.61 253 P **P** **17 00 12.4 +4.6**
comp=Z,42nm,1.1s
M20K Styx River 45.62 36 P **P** **17 00 07.8 +0.4**
M20K Styx River 45.62 36 P **P** **17 00 09.4 +2.0**
baz=268,SNR=11
TTSI Tana Toraja 45.67 214 P **P** **17 00 04.1 -4.1**
IMAR Indian Mountai 45.69 31 P **P** **17 00 06.6 -1.2**
MAKZ Makanchi 45.71 302 P **P** **17 00 08.7 +0.4**
MAKZ Makanchi 45.71 302 P **P** **17 00 08.6 +0.3**
MAKZ IAmb IAmb 17 00 18.9
comp=Z,122nm,1.1s
MAKZ IAMs_20 IAMs_20 17 20 24.2
comp=Z,1μm,18.0s
RSO Redoubt South 45.76 38 P **P** **17 00 08.4 -0.2**
O20K Slope Mountain 45.82 39 P **P** **17 00 09.6 +0.6**
baz=270
KDAK Kodiak Island 45.88 42 P **P** **17 00 09.8 +0.5**
KDAK pmax pmax
comp=Z,86nm,1.4s
KDAK MLR MLR
comp=Z,1μm,20.0s
KDAK Kodiak Island 45.88 42 P **P** **17 00 09.8 +0.5**
KDAK IAmb IAmb 17 00 11.3
comp=Z,86nm,1.4s
KDAK Kodiak Island 45.88 42 IAMs_20 IAMs_20 17 18 50.4
comp=Z,1μm,20.0s
KDAK Kodiak Island 45.88 42 P **P** **17 00 09.5 +0.2**
baz=272
KKSI Kolaka, Sulawe 45.89 211 P **P** **17 00 10.1 +0.2**
comp=Z,798μmcomp=Z,8μmcomp=Z,25nm,1.1s
JOHN Johnston Islan 45.98 103 P **P** **17 00 11.5 +0.9**
PHET Kaeng Krachan 46.00 250 P **P** **17 00 12.8 +2.0**
comp=Z,2μmcomp=Z,233nm,0.9s
PHET Kaeng Krachan 46.00 250 P **P** **17 00 12.8 +2.0**
comp=Z,518nmcomp=Z,60nm,0.9s
SPCR Spurr Chakacha 46.04 37 P **P** **17 00 12.2 +1.5**
baz=269,SNR=7.2
CHUM Lake Minchumin 46.10 34 P **P** **17 00 13.2 +2.1**
baz=266,SNR=12
PPLA Purkeypile 46.10 35 P **P** **17 00 11.0 -0.3**
PPLA Purkeypile 46.10 35 P **P** **17 00 13.1 +1.8**
baz=268,SNR=14
MTKI Muara Teweh, K 46.27 222 P **P** **17 00 13.2 +0.3**
comp=Z,20nm,0.7s
I21K Tanana 46.34 32 P **P** **17 00 13.2 +0.3**
I21K IAMs_20 IAMs_20 17 23 02.0
comp=Z,842nm,20.0s
I21K Tanana 46.34 32 P **P** **17 00 14.2 +1.3**
baz=266
SKT Skwentna 46.38 36 P **P** **17 00 13.7 +0.4**
SKT IAmb IAmb 17 00 16.0
comp=Z,67nm,1.6s
SKT Skwentna 46.38 36 P **P** **17 00 14.2 +0.9**
baz=269,SNR=8.9
AGT Agartala 46.42 269 *eP* **P** **17 00 16.2 +2.2**
CNPM China Poot 46.53 40 P **P** **17 00 15.3 +0.8**
CNPM IAmb IAmb 17 01 35.6
comp=Z,100nm,1.8s
CAPN Captain Cook N 46.55 38 P **P** **17 00 14.8 +0.2**
BPAW Bear Paw Mtn. 46.70 33 P **P** **17 00 16.3 +0.5**
BPAW IAmb IAmb 17 00 19.1
comp=Z,67nm,1.6s
BPAW Bear Paw Mtn. 46.70 33 P **P** **17 00 17.0 +1.2**
baz=267,SNR=13
KTH Kantishna Hill 46.70 34 P **P** **17 00 16.1 +0.2**
KTH IAmb IAmb 17 00 19.1
comp=Z,116nm,1.4s
SUA Susitna One 46.74 37 P **P** **17 00 16.0 -0.3**
SUA Susitna One 46.74 37 P **P** **17 00 15.8 -0.5**
baz=270
BNSI Be 46.75 213 P **P** **17 00 17.9 +1.2**
comp=Z,992nmcomp=Z,85nm,1.2s
BRSE Bradley Lake S 46.77 39 P **P** **17 00 17.2 +0.8**
baz=272
MLY Manley 46.85 32 P **P** **17 00 18.2 +1.1**
MLY IAmb IAmb 17 00 20.3
comp=Z,89nm,1.5s
MLY IAMs_20 IAMs_20 17 23 27.6
comp=Z,1μm,19.0s
MLY Manley 46.85 32 P **P** **17 00 18.7 +1.7**
baz=267,SNR=21
KSM Kuching 46.88 229 P **P** **17 00 20.0 +2.2**
GTK Tadong 46.94 275 *eP* **P** **17 00 19.3 +1.0**
CUT Chulitna 46.97 36 P **P** **17 00 18.5 +0.6**
CUT Chulitna 46.97 36 P **P** **17 00 18.6 +0.6**
baz=270
TRF Thorofare Moun 46.98 34 P **P** **17 00 17.6 -0.6**
TRF IAmb IAmb 17 00 22.0
comp=Z,124nm,1.8s
TRF Thorofare Moun 46.98 34 P **P** **17 00 18.9 +0.7**
baz=269
KURK Kurchatov 47.21 308 P **P** **17 00 21.2 +1.3**
KURK Kurchatov 47.21 308 P **P** **17 00 21.2 +1.3**
COLD Coldfoot 47.23 29 P **P** **17 00 20.8 +1.0**
COLD Coldfoot 47.23 29 P **P** **17 00 21.1 +1.3**
baz=265,SNR=9.5
RC01 Rabbit Creek A 47.24 37 P **P** **17 00 20.2 +0.2**
RC01 IAmb IAmb 17 00 22.1
comp=Z,92nm,1.5s
RC01 IAMs_20 IAMs_20 17 19 24.1
comp=Z,801nm,21.0s
RC01 Rabbit Creek A 47.24 37 P **P** **17 00 20.3 +0.3**
baz=271
O22K Cooper Landing 47.26 38 P **P** **17 00 20.9 +0.7**
O22K IAmb IAmb 17 00 44.1
comp=Z,56nm,0.7s
O22K IAMs_20 IAMs_20 17 23 41.8
comp=Z,715nm,18.0s
O22K Cooper Landing 47.26 38 P **P** **17 00 20.2 0.0**
baz=272
KURBB Kurchatov Arra 47.28 308 P **P** **17 00 21.2 +0.7**
comp=Z,38nm,0.8s,baz=82,slow=8.0,SNR=159
KURBB Kurchatov Arra 47.28 308 P **P** **17 00 20.3 -0.2**
STKI Sintang 47.33 226 P **P** **17 00 21.2 0.0**
comp=Z,78nm,1.1s
BWN Browne 47.37 33 P **P** **17 00 22.2 +1.3**
BWN IAMs_20 IAMs_20 17 23 12.2
comp=Z,737nm,20.0s
H23K Yukon River 47.40 31 P **P** **17 00 21.6 +0.4**
H23K IAmb IAmb 17 00 24.9
comp=Z,115nm,1.4s
H23K Yukon River 47.40 31 P **P** **17 00 23.2 +2.0**
baz=267,SNR=42
SEW Seward 47.41 39 **P** **17 00 21.4 +0.1**
SEW IAmb IAmb 17 00 23.4
comp=Z,88nm,1.6s
SEW Seward 47.41 39 P **P** **17 00 21.4 +0.1**
baz=272
I23K Minto, Yukon-K 47.44 32 P **P** **17 00 22.8 +1.3**
I23K IAmb IAmb 17 00 24.9
comp=Z,105nm,1.6s
I23K PcP **PcP** **17 01 53.4 +1.8**
I23K IAMs_20 IAMs_20 17 23 45.2
comp=Z,831nm,19.0s
I23K Minto, Yukon-K 47.44 32 P **P** **17 00 23.0 +1.5**
baz=268,SNR=15
KAPI Kappang 47.45 213 P **P** **17 00 22.6 +0.4**
comp=Z,29nm,0.8s,baz=35,slow=4.3,SNR=14
KAPI Kappang 47.45 213 P **P** **17 00 21.5 -0.6**
KAPI IAmb IAmb 17 00 27.4
comp=Z,108nm,1.3s
KAPI Kappang 47.45 213 P **P** **17 00 22.9 +0.8**
KAPI Kappang 47.45 213 P **P** **17 00 22.5 +0.4**
comp=Z,989nmcomp=Z,71nm,1.3s
PMR Palmer 47.52 37 P **P** **17 00 22.2 +0.1**
PMR pmax pmax
comp=Z,98nm,1.6s
PMR Palmer 47.52 37 P **P** **17 00 22.2 +0.1**
PMR IAmb IAmb 17 00 24.1
comp=Z,98nm,1.6s
PMR Palmer 47.52 37 P **P** **17 00 22.4 +0.3**
baz=271,SNR=6.0
NEA2 Nenana 47.55 33 P **P** **17 00 21.7 -0.7**
NEA2 Nenana 47.55 33 P **P** **17 00 23.3 +0.9**
baz=269,SNR=14
BKSI Bulukumba 47.57 212 P **P** **17 00 23.3 +0.3**
comp=Z,461nmcomp=Z,28nm,1.1s
MCK McKinley 47.59 34 IAMs_20 IAMs_20 17 20 04.3
comp=Z,833nm,20.0s
MCK McKinley 47.59 34 P **P** **17 00 23.4 +0.6**
baz=270,SNR=5.1
TOLK Toolik Lake Re 47.59 27 P **P** **17 00 23.5 +0.8**
TOLK IAmb IAmb 17 00 25.8
comp=Z,78nm,1.6s
TOLK IAMs_20 IAMs_20 17 22 33.0
comp=Z,706nm,18.0s
TOLK Toolik Lake Re 47.59 27 P **P** **17 00 24.1 +1.3**
baz=264,SNR=9.8
RND Reindeer 47.63 34 P **P** **17 00 23.4 +0.3**
RND pmax pmax
comp=Z,94nm,1.4s
RND MLR MLR
comp=Z,900nm,19.0s
RND Reindeer 47.63 34 P **P** **17 00 23.4 +0.3**
RND IAmb IAmb 17 00 25.2
comp=Z,94nm,1.4s
RND IAMs_20 IAMs_20 17 20 44.2
comp=Z,938nm,19.0s
MKS Makassar 47.76 213 P **P** **17 00 25.6 +1.1**
comp=Z,975nmcomp=Z,115nm,1.1s
WAT1 Susitna Watana 47.77 35 P **P** **17 00 24.2 +0.1**
baz=271
KNK Knik Glacier 47.84 37 P **P** **17 00 25.2 +0.4**
KNK IAmb IAmb 17 00 28.4
comp=Z,153nm,1.8s
KNK PcP **PcP** **17 01 53.7 +0.5**
KNK IAMs_20 IAMs_20 17 20 04.2
comp=Z,1μm,20.0s
KNK Knik Glacier 47.84 37 P **P** **17 00 25.5 +0.8**
baz=272,SNR=10
SML Sawmill 47.89 36 P **P** **17 00 25.5 +0.3**
SML Sawmill 47.89 36 P **P** **17 00 25.8 +0.6**
baz=272,SNR=11
MDM Murphy Dome 47.91 32 P **P** **17 00 26.4 +1.2**
MDM IAMs_20 IAMs_20 17 24 09.7
comp=Z,794nm,19.0s
PWL Port Wells 47.93 38 IAmb IAmb 17 00 43.1
comp=Z,43nm,1.1s
WRH Wood River Hil 47.97 33 IAMs_20 IAMs_20 17 24 16.2
comp=Z,850nm,20.0s
TCOL CIGO, UAF Yank 48.07 32 IAMs_20 IAMs_20 17 24 33.9
comp=Z,675nm,18.0s
TCOL CIGO, UAF Yank 48.07 32 P **P** **17 00 27.8 +1.4**
baz=270
COLA College 48.08 32 P **P** **17 00 27.8 +1.4**
baz=270
H24K Noodor Dome 48.08 31 P **P** **17 00 28.3 +1.8**
baz=269,SNR=19
CCB Clear Creek Bu 48.09 33 IAMs_20 IAMs_20 17 23 58.5
comp=Z,736nm,19.0s
WAT6 Susitna Watana 48.15 35 P **P** **17 00 27.9 +0.7**
baz=272,SNR=13
BSSI Bau Bau, Buton 48.15 212 P **P** **17 00 27.8 +0.2**
comp=Z,508nmcomp=Z,47nm,1.3s
PDGK Podgornoye 48.23 298 P **P** **17 00 29.0 +0.9**
POKR Poker Flat Res 48.25 32 IAMs_20 IAMs_20 17 24 19.7
comp=Z,878nm,20.0s
POKR Poker Flat Res 48.25 32 P **P** **17 00 29.3 +1.5**
baz=270,SNR=15
SHLS Shalkode 48.29 298 *eP* **P** **17 00 26.4 -2.3**
comp=Z,82nm,2.6s,baz=298
SHLS Shalkode 48.29 298 *eP* **P** **17 00 26.3 -2.3**
SHLS pmax pmax
comp=Z,82nm,2.6s
SCM Sheep Creek Mo 48.37 36 IAmb IAmb 17 00 31.6
comp=Z,107nm,1.5s
BBKI Banjar Baru 48.43 220 P **P** **17 00 29.8 0.0**
comp=Z,72nm,1.1s
SURA Surathani 48.43 246 P **P** **17 00 32.2 +2.4**
comp=Z,7μmcomp=Z,100nm,1.3s
SURA Surathani 48.43 246 P **P** **17 00 32.3 +2.4**
comp=Z,7μmcomp=Z,99nm,1.3s
HDA Harding Lake 48.47 33 P **P** **17 00 28.8 -0.7**
HDA IAmb IAmb 17 00 31.4
comp=Z,76nm,1.5s
HDA Harding Lake 48.47 33 P **P** **17 00 29.4 -0.1**
baz=271,SNR=12
IL31 48.49 32 IAmb IAmb 17 00 33.4
comp=Z,101nm,1.6s
ILAR Eielson Array 48.49 32 P **P** **17 00 30.1 +0.4**
comp=Z,9.8nm,0.7s,baz=264,slow=5.5,SNR=70
ILAR LR LR 17 24 49.5
comp=Z,469nm,18.9s,baz=284,slow=41
GLI Glacier Island 48.53 38 IAMs_20 IAMs_20 17 22 39.4
comp=Z,753nm,20.0s
GLI Glacier Island 48.53 38 P **P** **17 00 30.6 +0.5**
baz=274
TDK Taldyqorghan 48.55 301 *eP* **P** **17 00 30.0 -0.4**
comp=Z,149nm,1.7s,baz=301
TDK *eS* **S** **17 07 31.8 +1.0**
baz=301
TDK Taldyqorghan 48.55 301 *eP* **P** **17 00 30.0 -0.4**
TDK *eS* **S** **17 07 31.8 +1.0**
TDK pmax pmax
comp=Z,149nm,1.7s
RAMN Ramite 48.70 275 *eP* **P** **17 00 33.0 +0.9**
JIRN Jiri 48.70 276 *eP* **P** **17 00 33.5 +1.2**
KPKS Kokpek 48.76 299 *eP* **P** **17 00 31.9 -0.3**
comp=Z,56nm,1.9s,baz=299
KPKS Kokpek 48.76 299 *eP* **P** **17 00 31.8 -0.3**
KPKS pmax pmax
comp=Z,56nm,1.9s
HNR Honiara 48.82 158 IAMs_20 IAMs_20 17 20 47.2
comp=Z,1μm,20.0s
FID Port Fidalgo 48.84 38 IAMs_20 IAMs_20 17 22 42.1
comp=Z,785nm,20.0s
HIN Hinchinbrook I 48.86 38 IAMs_20 IAMs_20 17 24 59.1
comp=Z,880nm,20.0s
M24K Tolsona, Glenn 48.90 36 P **P** **17 00 34.5 +1.6**

baz=274,SNR=8.9
Q23K Middleton Isla 49.02 40 P **P** **17 00 35.4 +1.6**
baz=276
PRP Porcupine Dome 49.05 31 IAMs_20 IAMs_20 17 24 33.8
comp=Z,673nm,19.0s
PRP Porcupine Dome 49.05 31 P **P** **17 00 34.7 +0.5**
baz=271
KLU Klutina 49.06 37 P **P** **17 00 34.2 +0.1**
KLU IAmb IAmb 17 00 37.1
comp=Z,102nm,1.6s
KLU IAMs_20 IAMs_20 17 21 31.2
comp=Z,888nm,19.0s
KLU Klutina 49.06 37 P **P** **17 00 35.3 +1.1**
baz=274,SNR=19
SATY Saty 49.06 298 *e*P **P** **17 00 38.2 +3.6**
baz=298
SATY Saty 49.06 298 *e*P **P** **17 00 38.2 +3.6**
SKLT Songkhla 49.07 243 P **P** **17 00 39.0 +4.3**
comp=Z,914nmcomp=Z,81nm,1.2s
SKLT Songkhla 49.07 243 P **P** **17 00 39.0 +4.3**
comp=Z,914nmcomp=Z,81nm,1.2s
PAX Paxson 49.17 35 P **P** **17 00 35.7 +0.7**
baz=273,SNR=16
SURT Suratani 49.18 247 P **P** **17 00 38.8 +3.2**
comp=Z,52nmcomp=Z,5.7nm,1.1s
SURT Suratani 49.18 247 P **P** **17 00 38.0 +2.4**
comp=Z,52nmcomp=Z,5.7nm,1.1s
EYAK Cordova Ski Ar 49.22 38 P **P** **17 00 36.4 +1.1**
baz=275,SNR=6.4
TRTT Trang 49.28 245 P **P** **17 00 40.6 +4.2**
comp=Z,8µmcomp=Z,58nm,1.3s
TRTT Trang 49.28 245 P **P** **17 00 40.0 +3.6**
comp=Z,8µmcomp=Z,58nm,1.3s
HARP HAARP 49.35 36 P **P** **17 00 37.0 +0.6**
baz=274,SNR=5.8
PKI Pulchoki 49.36 277 *e*P **P** **17 00 37.8 +0.5**
comp=Z,76nm,1.1s
KKN Kakani 49.37 277 *e*P **P** **17 00 38.2 +1.0**
comp=Z,120nm,0.7s
PKIN Phulchoki 49.37 277 *e*P **P** **17 00 37.7 +0.4**
RIDG Independent Ri 49.41 34 IAMs_20 IAMs_20 17 21 22.4
comp=Z,854nm,21.0s
RIDG Independent Ri 49.41 34 P **P** **17 00 37.1 +0.2**
baz=273
DMN Daman 49.59 277 *e*P **P** **17 00 39.7 +0.8**
N25K Chitina, Valde 49.68 37 IAMs_20 IAMs_20 17 21 49.7
comp=Z,890nm,19.0s
N25K Chitina, Valde 49.68 37 P **P** **17 00 40.0 +1.1**
baz=275,SNR=15
MMRI Maumere 49.73 208 P **P** **17 00 40.0 +0.4**
comp=Z,1µmcomp=Z,76nm,1.0s
BMRM Bremner River 49.74 37 IAmb IAmb 17 01 01.4
comp=Z,69nm,1.2s
BMRM Bremner River 49.74 37 P **P** **17 00 40.6 +1.2**
baz=276,SNR=16
RAGM Ragged Mountai 49.76 38 P **P** **17 00 40.5 +0.9**
RAGM IAmb IAmb 17 00 42.9
comp=Z,104nm,1.4s
RAGM IAMs_20 IAMs_20 17 24 25.0
comp=Z,770nm,19.0s
SCRK Sand Creek 49.78 33 P **P** **17 00 40.3 +0.6**
baz=274,SNR=27
GKN Gorkha 49.78 277 *e*P **P** **17 00 41.2 +0.9**
comp=Z,321nm,1.1s
J26K Charley River, 49.82 33 P **P** **17 00 39.8 -0.2**
baz=274,SNR=11
CHKK Chushkaly 49.83 300 *e*P **P** **17 00 39.9 -0.3**
baz=300
KAIM Kayak Island 49.94 39 P **P** **17 00 42.7 +1.9**
baz=277
HMT Hamilton 49.97 38 IAmb IAmb 17 00 44.3
comp=Z,166nm,2.0s
HMT IAMs_20 IAMs_20 17 24 38.5
comp=Z,792nm,18.0s
MDOK Medeo 49.99 299 *e*P P 17 00 33.9 -7.7
baz=299
MDOK *e*S S 17 07 41.3 -10
baz=299
SOEI Soe 50.04 205 P **P** **17 00 41.9 -0.2**
comp=Z,1µmcomp=Z,69nm,0.9s
EDFI Ende, Flores 50.04 209 P **P** **17 00 41.7 -0.4**
comp=Z,527nmcomp=Z,35nm,0.9s
AAA Alma-Ata 50.07 299 *e*P **P** **17 00 45.5 +3.4**
baz=299
AAA Alma-Ata 50.07 299 *e*P **P** **17 00 45.5 +3.4**
GLB Gilahina Butte 50.07 37 IAmb IAmb 17 00 45.1
comp=Z,98nm,1.6s
GLB IAMs_20 IAMs_20 17 21 26.0
comp=Z,752nm,20.0s
JRMM Jerantut 50.09 239 P **P** **17 00 44.0 +1.5**
L26K Log Cabin Wild 50.13 35 IAmb IAmb 17 00 45.6
comp=Z,81nm,1.4s
L26K IAMs_20 IAMs_20 17 23 24.6
comp=Z,981nm,18.0s
L26K Log Cabin Wild 50.13 35 P **P** **17 00 43.8 +1.5**
baz=275,SNR=23
PKDT Phuket 50.23 246 P **P** **17 00 45.8 +2.2**
comp=Z,2µmcomp=Z,155nm,1.2s
PKDT Phuket 50.23 246 P **P** **17 00 45.8 +2.2**
BERG Berg Lake 50.24 38 IAmb IAmb 17 00 46.4
comp=Z,156nm,1.5s
VRDI Verde Repeater 50.27 37 P **P** **17 00 44.3 +0.8**
VRDI IAmb IAmb 17 00 46.6
comp=Z,104nm,1.6s
VRDI PcP **PcP** **17 02 04.8 +2.6**
VRDI IAMs_20 IAMs_20 17 21 29.2
comp=Z,716nm,20.0s
KUU Kurty 50.27 300 *e*P **P** **17 00 43.5 -0.2**
baz=300
KUU *e*S **S** **17 07 57.1 +2.1**
baz=300
KUU Kurty 50.27 300 *e*P **P** **17 00 43.4 -0.2**
KUU *e*S **S** **17 07 57.1 +2.1**
DANN Dangsing 50.33 278 *e*P **P** **17 00 45.8 +1.2**
comp=Z,264nm,0.8s
M26K Nabesna, AK 50.36 35 IAMs_20 IAMs_20 17 26 02.5
comp=Z,646nm,19.0s
M26K Nabesna, AK 50.36 35 P **P** **17 00 45.6 +1.6**
baz=276,SNR=22
KULM Kulim 50.36 242 P **P** **17 00 47.0 +2.5**
MTBS Maitube 50.43 299 *e*P **P** **17 00 46.8 +1.9**
baz=299
MCARA McCarthy VSAT 50.45 37 IAMs_20 IAMs_20 17 21 47.2
comp=Z,828nm,21.0s
MCARA McCarthy VSAT 50.45 37 P **P** **17 00 46.2 +1.5**
baz=277,SNR=12
CRQM Cirque 50.47 38 IAmb IAmb 17 00 48.2
comp=Z,66nm,1.0s
CRQM IAMs_20 IAMs_20 17 25 19.4
comp=Z,704nm,20.0s
BGLC Bering Glacier 50.48 38 P **P** **17 00 47.0 +2.2**
baz=278
CRQE Cirque 50.50 38 P **P** **17 00 46.6 +1.4**
baz=277,SNR=26
TGL Tana Glacier 50.62 38 IAMs_20 IAMs_20 17 25 21.7
comp=Z,721nm,19.0s
WAX Waxell Ridge 50.65 38 P **P** **17 00 46.7 +0.4**
WAX IAmb IAmb 17 00 49.6
comp=Z,107nm,1.5s
WAX PcP **PcP** **17 02 05.2 +1.6**
WAX IAMs_20 IAMs_20 17 25 35.5
comp=Z,667nm,19.0s
KOLN Koldanda 50.71 278 *e*P **P** **17 00 48.3 +0.9**
BOK Bokaro 50.75 272 *e*P **P** **17 00 48.2 +0.7**
BOK IAmb IAmb 17 00 52.0
comp=Z,128nm,1.8s
BOK *i* x x 17 01 01.9
L27K Beaver Creek, 50.82 35 IAMs_20 IAMs_20 17 22 04.7
comp=Z,956nm,21.0s
L27K Beaver Creek, 50.82 35 P **P** **17 00 49.1 +1.6**
baz=276,SNR=29
COEN Coen 50.83 180 P **P** **17 00 48.2 +0.3**
M27K Edge Creek, AK 50.88 35 P **P** **17 00 49.3 +1.2**
baz=277,SNR=13
ISLE Juniper Island 50.88 38 IAmb IAmb 17 00 50.9
comp=Z,142nm,1.8s
ISLE IAMs_20 IAMs_20 17 25 30.6
comp=Z,897nm,19.0s
DGPR DIGLIPUR 50.95 256 *e*P **P** **17 00 51.2 +2.3**
DGPR IAmb IAmb 17 00 54.2
comp=Z,109nm,0.9s
PYUN Piuthan 51.05 278 *e*P **P** **17 00 50.9 +1.0**
comp=Z,357nm,1.1s
MTN Manton Dam 51.07 196 P **P** **17 00 48.7 -1.1**
TKM2 Tokmak 2 51.08 299 P **P** **17 00 50.4 +0.5**
BRZS Berezniki 51.08 308 *e*P **P** **17 00 49.7 0.0**
baz=308
BRZS *e*S **S** **17 08 05.7 -0.4**
baz=308
BRZS Berezniki 51.08 308 *e*P **P** **17 00 49.6 0.0**
BRZS *e*S **S** **17 08 05.6 -0.4**
BTDF Bukit Timah Da 51.09 235 P **P** **17 00 51.5 +1.5**
comp=Z,434nmcomp=Z,43nm,1.0s
MESA MESA 51.14 38 IAmb IAmb 17 00 53.1
comp=Z,78nm,1.5s
MESA MESA 51.14 38 P **P** **17 00 51.0 +0.9**
baz=279,SNR=5.6
CTG Chitna Glacier 51.32 37 P **P** **17 00 52.6 +1.2**
baz=278,SNR=12
BVCY Beaver Creek 51.34 35 P **P** **17 00 52.7 +1.2**
baz=278,SNR=6.2
TABL Table Mountain 51.49 38 P **P** **17 00 51.1 -1.7**
BTLS Baital 51.51 302 *e*P **P** **17 00 53.1 +0.3**
comp=Z,32nm,1.2s,baz=302
BTLS *e*S **S** **17 08 12.8 +0.6**
baz=302
BTLS Baital 51.51 302 *e*P **P** **17 00 53.1 +0.3**
BTLS *e*S **S** **17 08 12.7 +0.6**
BTLS pmax pmax
comp=Z,32nm,1.2s
SGDS Sogindy 51.59 300 *e*P **P** **17 00 53.5 -0.1**
comp=Z,67nm,2.8s,baz=300
YUK3 Moose Creek 51.62 36 P **P** **17 00 54.6 +0.9**
baz=279,SNR=14
OTUK Ortayu 51.74 306 P **P** **17 00 54.7 +0.1**
BVAR Borovoye Array 51.76 313 P **P** **17 00 55.4 +0.7**
comp=Z,25nm,1.0s,baz=149,slow=3.5,SNR=26
DAWY Dawson 51.78 33 P **P** **17 00 55.7 +1.0**
baz=278
BRVK Borovoye 51.81 313 *ce*P **P** **17 00 55.6 +0.6**
BRVK pmax pmax
comp=Z,44nm,1.1s
BRVK Borovoye 51.81 313 P **P** **17 00 54.9 -0.1**
BRVK IAmb IAmb 17 01 10.8
comp=Z,68nm,0.9s
BRVK PcP **PcP** **17 02 08.1 +0.2**
BRVK Borovoye 51.81 313 P **P** **17 00 55.3 +0.3**
BRVK S **S** **17 08 17.0 +1.0**
TPI Tanjungpandan 51.84 228 P **P** **17 00 55.0 -0.6**
comp=Z,699nmcomp=Z,54nm,1.0s
KSH Kashi 51.91 295 P P 17 01 01.2 +5.1
KSH sP pwP 17 01 09.0 -0.3
KSH S S 17 08 27.6 +10
KSH pmax pmax
comp=Z,60nm,1.3s
KSH LR LR
comp=Z,2µm,21.3s
KSH LR LR
comp=Z,1µm,17.1s
KSH LR LR
comp=Z,2µm,15.6s
AAK Ala-Archa 51.93 299 P **P** **17 00 57.6 +1.3**
comp=Z,2.8nm,0.7s,baz=187,slow=4.8,SNR=5.5
AAK Ala-Archa 51.93 299 *ce*P **P** **17 00 57.2 +0.9**
AAK pmax pmax
comp=Z,102nm,1.3s
AAK Ala-Archa 51.93 299 IAMs_20 IAMs_20 17 21 15.9
comp=Z,902nm,19.0s
AAK Ala-Archa 51.93 299 P **P** **17 00 57.1 +0.8**
AAK S **S** **17 08 20.5 +2.1**
PINM Pinnacle 51.99 38 P **P** **17 00 57.3 +1.0**
baz=280
TWSI Taliwang, Sumb 52.04 214 P **P** **17 00 56.6 -0.4**
comp=Z,26nm,0.9s
SRBI Singaraja 52.23 216 P **P** **17 00 59.8 +1.3**
comp=Z,2µmcomp=Z,139nm,1.7s
PPBI Pangkal Pinang 52.28 230 P **P** **17 01 00.4 +1.5**
comp=Z,4µmcomp=Z,33nm,1.5s
BCPM Bamps Point 52.32 38 IAMs_20 IAMs_20 17 21 33.5
comp=Z,640nm,19.0s
YUK4 Talbot Arm 52.55 36 P **P** **17 01 02.2 +1.6**
baz=280,SNR=6.7
EPYK Eagle Plains 52.58 30 P **P** **17 01 02.1 +1.5**
baz=278,SNR=45
YUK6 Outpost Mounta 52.76 37 P **P** **17 01 04.0 +1.8**
baz=281,SNR=7.8
HYT Haines Junctio 53.19 37 IAmb IAmb 17 01 09.3
comp=Z,164nm,1.5s
HYT Haines Junctio 53.19 37 P **P** **17 01 07.3 +2.0**
baz=282,SNR=37
RGRI Rengat 53.31 235 P **P** **17 01 08.0 +1.4**
PSI Prapat 53.33 241 P **P** **17 01 07.7 +0.9**
comp=Z,24nm,0.8s,baz=3.7,slow=3.8
PSI Prapat 53.33 241 P **P** **17 01 07.2 +0.4**
comp=Z,300nmcomp=Z,18nm,0.8s,comp=Z,635nm,0.8s,
comp=Z,38nm,0.7s
PSI P **pP** **17 01 08.0 -2.9**
comp=Z,300nmcomp=Z,18nm,0.8s,comp=Z,635nm,0.8s,
comp=Z,38nm,0.7s
MAYO Mayo, Yukon 53.39 33 P **P** **17 01 08.7 +2.2**
baz=281
RPSI Rantau Prapat 53.40 241 P **P** **17 01 06.2 -1.1**
RPSI PcP **PcP** **17 02 16.9 +2.5**
INK Inuvik 53.51 27 P **P** **17 01 08.5 +1.2**
baz=280,SNR=18
SJI Sawahan 53.65 220 P **P** **17 01 08.9 -0.1**
comp=Z,54nm,1.5s
KRKI Karangkates 53.65 219 P **P** **17 01 11.0 +2.0**
comp=Z,127nm,0.7s
PWJI Pagerwojo 53.87 220 P **P** **17 01 10.2 -0.4**
comp=Z,94nm,0.8s
DZA Taraz 54.05 300 *e*P **P** **17 01 10.9 -0.9**
baz=300
DZA *e*S **S** **17 08 47.6 +0.7**
baz=300
DZA Taraz 54.05 300 *e*P **P** **17 01 10.8 -0.9**
DZA *e*S **S** **17 08 47.6 +0.7**
SMLA Simla 54.28 285 *e*P **P** **17 01 13.6 +0.1**
SMLA IAmb IAmb 17 01 16.6
comp=Z,35nm,0.9s
MNSI Mandailing Nat 54.31 239 P **P** **17 01 14.2 +0.3**
comp=Z,36nm,1.1s
KNRA Kununurra 54.35 198 P **P** **17 01 14.0 0.0**
CTJI Waduk Cacaban 54.42 224 P **P** **17 01 13.1 -1.5**
comp=Z,71nm,1.6s
UGM Wanagama 54.45 222 P **P** **17 01 15.1 +0.3**
comp=Z,258nm,1.6s
DHRM DHARAMSHALA 54.47 286 *e*P **P** **17 01 15.3 +0.1**
DHRM IAmb IAmb 17 01 18.9
comp=Z,31nm,0.6s
WHY Whitehorse 54.48 37 IAmb IAmb 17 01 18.4
comp=Z,95nm,1.8s
WHY Whitehorse 54.48 37 P **P** **17 01 16.4 +1.7**
baz=284,SNR=9.9
KK31 Karatay Array 54.54 301 *i* P **P** **17 01 15.4 +0.1**
KKAR Karatay Array 54.54 301 P **P** **17 01 15.9 +0.6**
KKAR pmax pmax
comp=Z,125nm,1.1s
KKAR Karatay Array 54.54 301 P **P** **17 01 15.9 +0.6**
SKAG Skagway 54.56 38 P **P** **17 01 17.0 +2.0**
baz=284,SNR=7.7
BHK Bhakra 54.73 285 *ex* x 17 01 09.4
FARO Faro, Yukon 54.82 35 P **P** **17 01 18.3 +1.3**
baz=284,SNR=14
KPJI Karang Pucung 54.83 224 P **P** **17 01 17.3 -0.2**
comp=Z,72nm,0.8s
BESE Bessie Mountai 55.02 39 IAmb IAmb 17 01 22.0
comp=Z,116nm,1.7s
LEM Lembang 55.14 225 P **P** **17 01 20.4 +0.4**
comp=Z,107nm,1.0s,baz=86,slow=8.5,SNR=14
LEM LR LR 17 24 37.1
comp=Z,200nm,22.0s,baz=41,slow=36
LEM Lembang 55.14 225 P **P** **17 01 20.6 +0.5**
comp=Z,1µmcomp=Z,90nm,0.8s
SIT Sitka 55.19 41 P **P** **17 01 20.4 +0.7**
baz=286
LHSI Lhat 55.20 231 P **P** **17 01 21.1 +0.8**
comp=Z,2µmcomp=Z,128nm,1.1s
IUG Iuzhnay 55.21 300⇓ *i* P **P** **17 01 20.9 +0.7**
baz=300
IUG *e*S **S** **17 09 04.8 +2.1**
baz=300
IUG Iuzhnay 55.21 300 *d* i P **P** **17 01 20.9 +0.7**
IUG *e*S **S** **17 09 04.8 +2.1**
MDSI Maura Dua 55.31 230 P **P** **17 01 20.5 -0.6**
comp=Z,794nmcomp=Z,63nm,1.6s
GSI Gunungsitoli 55.33 241 P **P** **17 01 21.7 +0.4**
GSI Gunungsitoli 55.33 241 P **P** **17 01 20.6 -0.7**
comp=Z,251nm,1.3s
BTK Batken 55.42 297 IAmb IAmb 17 01 51.1
comp=Z,104nm,1.2s
MASI Maura Aman, Be 55.48 233 P **P** **17 01 22.8 +0.4**
comp=Z,6µmcomp=Z,204nm,1.0s
A36M Sachs Harbour 55.52 22 P **P** **17 01 22.9 +1.1**
baz=284
MMPY Sheldon Lake, 55.66 34 P **P** **17 01 25.0 +1.8**
baz=286,SNR=19
LWLI Liwa 55.80 230 P **P** **17 01 23.5 -1.2**
comp=Z,8µmcomp=Z,104nm,0.4s
SVE Sverdlovsk 56.19 319 *ce*P **P** **17 01 28.3 +1.4**
SVE *e*S **S** **17 09 18.1 +3.0**
SVE pmax pmax
comp=Z,136nm,1.1s
SVE MLR MLR
comp=Z,2µm,17.0s
NIL Nilore 56.20 289 P **P** **17 01 28.0 +0.6**
NIL pmax pmax
comp=Z,470nm,1.8s
NIL MLR MLR
comp=Z,600nm,19.0s
NIL Nilore 56.20 289 P **P** **17 01 28.0 +0.6**
NIL Nilore 56.20 289 IAMs_20 IAMs_20 17 25 51.9
comp=Z,576nm,19.0s
NIL Nilore 56.20 289 P **P** **17 01 28.5 +1.1**
CRAG Craig 56.83 43 P **P** **17 01 32.7 +1.3**
baz=289
WRAK Wrangell Islan 56.94 41 IAMs_20 IAMs_20 17 23 49.1
comp=Z,615nm,20.0s
WRAK Wrangell Islan 56.94 41 P **P** **17 01 34.1 +1.8**
baz=289
TGTN Hyland Airport 57.33 35 P **P** **17 01 36.8 +1.8**
baz=288,SNR=7.9
ARU Arti 57.40 319 P **P** **17 01 36.1 +0.6**
comp=Z,9.2nm,0.7s,baz=71,slow=5.6,SNR=44
ARU Arti 57.40 319 *d* i P **P** **17 01 35.9 +0.4**
ARU 17 02 31.2
ARU 17 03 38.6
ARU S **S** **17 09 32.4 +1.3**
ARU 17 11 27.5
ARU SS **SS** **17 13 16.1 -4.1**
ARU pmax pmax
comp=Z,65nm,0.9s
ARU MLR MLR
comp=Z,2µm,17.0s
ARU Arti 57.40 319 P **P** **17 01 35.3 -0.2**
WR0 Warramunga Arr 57.43 190 IAmb IAmb 17 01 38.9
comp=Z,68nm,0.7s
WRAB Tennant Creek 57.43 190 P **P** **17 01 34.9 -1.1**
WRAB pmax pmax
comp=Z,94nm,0.9s
WRAB Tennant Creek 57.43 190 P **P** **17 01 34.9 -1.1**
WRA Warramunga Arr 57.44 190 P **P** **17 01 35.4 -0.7**
comp=Z,69nm,0.8s,baz=9.6,slow=6.4,SNR=164
WRA PKP2bc 17 31 35.2
comp=Z,1.1nm,1.0s,baz=211,slow=1.0,SNR=4.7
FITZ Fitzroy Crossi 57.48 200 P **P** **17 01 37.0 +0.6**
comp=Z,39nm,0.9s,baz=18,slow=7.5,SNR=59
FITZ LR LR 17 29 11.8
comp=Z,100nm,18.1s,baz=32,slow=39
FITZ Fitzroy Crossi 57.48 200 P **P** **17 01 37.2 +0.8**
DLBC Dease Lake 57.48 39 IAmb IAmb 17 01 40.2
comp=Z,136nm,1.9s
WTLY Watson Lake, Y 57.54 36 P **P** **17 01 38.2 +1.7**
baz=289
BHPL Bhopal 57.76 276 *e*P **P** **17 01 38.3 -0.3**
BHPL *i* x x 17 01 52.3
DIB Dawson Inlet, 57.95 45 P **P** **17 01 39.9 +0.5**
DIB IAmb IAmb 17 01 41.9
comp=Z,74nm,1.5s
WRGLY Wrigley 58.86 32 P **P** **17 01 47.0 +1.5**
baz=291
KBL Kabul 58.96 292 P **P** **17 01 46.8 -0.2**
SNR=21
KBL S **S** **17 09 51.3 -1.2**
AB31 Akbulak array 59.17 311 *i* P **P** **17 01 48.1 +0.1**
AKTO Aktyubinsk 59.87 313 P **P** **17 01 53.3 +0.5**
comp=Z,22nm,0.8s,baz=68,slow=9.5,SNR=23
ALE Alert 59.89 4 IAMs_20 IAMs_20 17 27 54.8
comp=Z,613nm,21.0s
HYB Hyderabad 59.91 270 *e*P **P** **17 01 54.1 +0.4**
HYB *i* x x 17 02 07.8
HYB Hyderabad 59.91 270 *i* P **P** **17 01 54.0 +0.4**
HYB *e*PcP **PcP** **17 02 38.0 -1.9**
SPITS Spitsbergen Ar 60.74 349 P **P** **17 01 59.0 +0.6**
comp=Z,7.1nm,0.8s,baz=83,slow=12,SNR=2.2
KBS Kingsbay 60.84 350 *ce*P **P** **17 01 59.6 +0.6**
KBS pmax pmax
comp=Z,38nm,1.3s
KBS Kingsbay 60.84 350 P **P** **17 01 58.6 -0.3**
KBS IAmb IAmb 17 02 15.7
comp=Z,43nm,0.9s
KBS Kingsbay 60.84 350 IAMs_20 IAMs_20 17 30 23.6
comp=Z,739nm,20.0s
NOR Nord 61.05 357 *i* P **P** **17 02 00.5 +0.1**
NOR IAmb IAmb 17 02 01.9
comp=Z,13nm,1.1s
NOR IAMs_20 IAMs_20 17 27 08.8
comp=Z,591nm,20.5s
NOR Nord 61.05 357 *i* P **P** **17 02 00.4 +0.1**
NOR pmax pmax
comp=Z,13nm,1.1s
NOR MLR MLR
comp=Z,600nm,20.0s
ASAR Alice Springs 61.16 190 P **P** **17 02 01.8 -0.1**
comp=Z,38nm,0.9s,baz=4.6,slow=7.4,SNR=188
ASAR LR LR 17 27 34.4
comp=Z,186nm,21.9s,baz=1.5,slow=35
ASAR PKP2bc 17 31 27.2
comp=Z,2.0nm,1.0s,baz=182,slow=2.3,SNR=7.6
ASAR Alice Springs 61.16 190 P **P** **17 02 01.3 -0.6**
KIRV Kirov 61.18 323 P **P** **17 02 02.6 +1.0**
comp=Z,40nm,0.7s,baz=90,slow=2.7,SNR=23
PRGR Permogore 61.60 327 *e*P **P** **17 02 04.5 +0.2**
PRGR *e* 17 02 16.6
PRGR *e* 17 02 41.8
PRGR *e* 17 04 22.5
PRGR pmax pmax
comp=Z,107nm,1.3s
HSPB Hornsund (broa 61.69 348 *e*P **P** **17 02 05.8 +1.0**
RES Resolute Bay 62.06 15 P **P** **17 02 07.6 +0.3**
comp=Z,27nm,1.0s,baz=321,slow=8.0,SNR=19
RES Resolute Bay 62.06 15 P **P** **17 02 07.0 -0.2**
RES IAmb IAmb 17 02 09.2
comp=Z,76nm,1.3s
EIDS Eidsvold 62.58 172 IAmb IAmb 17 02 15.4
comp=Z,36nm,1.1s
LVZ Lovozero 62.70 336 *ce*P **P** **17 02 12.7 +1.0**
LVZ pmax pmax
comp=Z,46nm,1.3s
DZM Mont Dzumac 62.73 156 *e*P **P** **17 02 13.8 +1.3**
comp=Z,100nm,1.4s
DZM *e*S **S** **17 10 40.5 +0.2**
comp=Z,522nm,25.5s
DZM Mont Dzumac 62.73 156 *e*LR LR 17 20 44.7
comp=Z,1µm,32.9s
DZM Mont Dzumac 62.73 156 LR LR 17 30 29.2
comp=Z,582nm,18.4s,baz=306,slow=37
DZM Mont Dzumac 62.73 156 P **P** **17 02 13.2 +0.7**
DZM IAmb IAmb 17 02 17.9
comp=Z,70nm,1.5s
YKA Yellowknife Ar 62.85 31 P **P** **17 02 13.4 +0.7**
comp=Z,10.0nm,1.1s,baz=294,slow=5.4,SNR=10.0
YKA LR LR 17 34 12.6
comp=Z,262nm,18.7s,baz=0.0,slow=40
YKA Yellowknife Ar 62.85 31 *i* P **P** **17 02 13.6 +0.9**
YKA pmax pmax
comp=Z,10.0nm,1.1s
POO Poona 63.07 274 *e*P **P** **17 02 14.0 -0.9**
POO *e*P **pP** **17 02 15.0 -4.0**
APA Apatity 63.28 336⇓ *i* P **P** **17 02 15.3 -0.2**
APA *i* 17 04 36.0
APA *i* PPP PPP 17 06 14.0
APA *i* S **S** **17 10 47.0 +0.9**
APA *i* SS **SS** **17 14 52.0 +0.3**
APA *i* SSS SSS 17 17 33.0
APA pmax pmax
comp=Z,21nm,1.0s
APA MLR MLR
comp=Z,2µm,14.0s
KAD Karad 63.46 272⇑ *i* P **P** **17 02 13.1 -4.4**
ARCES ARCESS Array B 64.49 340 P **P** **17 02 24.3 +0.8**
comp=Z,0.8nm,0.2s,baz=55,slow=7.8,SNR=9.1
ARCES LR LR 17 36 02.0
comp=Z,1µm,18.2s,baz=30,slow=41
ARCES ARCESS Array B 64.49 340 IAmb IAmb 17 02 39.7
comp=Z,68nm,1.1s
KLMR Klimovskoe 64.57 328 *e*P **P** **17 02 23.1 -1.0**
KLMR *e* 17 02 37.5
KLMR *e* 17 04 44.1
KLMR pmax pmax

comp=Z,145nm,1.4s
KLMR MLR MLR
comp=Z,1µm,15.0s
KLMR Klimovskoe 64.57 328 *e*P **P** **17 02 23.1 -1.0**
KLMR *e* 17 02 37.5
KLMR AMP 17 02 40.1
comp=Z,145nm,1.4s
KLMR *e*PP **PP** **17 04 44.1 -1.6**
KLMR SS SS 17 15 28.1 +16
KLMR SS SS 17 15 28.1 +16
KLMR LQ LQ 17 26 07.2
KLMR LQ LQ 17 26 07.2
KLMR LR LR 17 27 09.7
KLMR AMP 17 33 05.9
comp=Z,1µm,14.6s
GOA Goa 64.75 271 *e*P **P** **17 02 26.7 +0.7**
GOA *i* x x 17 02 40.0
BELG Belogornoye 64.88 318 P **P** **17 02 26.9 +0.7**
comp=Z,79nm,1.1s,baz=114,slow=3.1,SNR=20
BELG Belogornoye 64.88 318 *i* P **P** **17 02 26.8 +0.6**
GEYT Alibeck 65.27 300 P **P** **17 02 29.9 +0.8**
comp=Z,172nm,0.9s,baz=67,slow=1.9,SNR=19
GEYT LR LR 17 33 59.3
comp=Z,769nm,18.0s,baz=60,slow=39
GYA0 ALIBECK ARRAY 65.27 300 P **P** **17 02 28.8 -0.3**
GYA0B ALIBECK ARRAY 65.27 300 IAmb IAmb 17 02 51.9
comp=Z,47nm,0.9s
NEEM North Greenlan 65.32 3⇓ *i*P **P** **17 02 29.7 +0.6**
NEEM IAmb IAmb 17 02 34.4
comp=Z,40nm,1.1s
NEEM IAMs_20 IAMs_20 17 30 39.8
comp=Z,524nm,18.3s
NLWA Neilton Lookou 65.38 48 P **P** **17 02 29.8 +0.2**
B05A Bryant 66.00 47 P **P** **17 02 35.0 +1.4**
baz=299
E04D Cinebar 66.56 49 P **P** **17 02 39.0 +1.8**
baz=300,SNR=7.2
C06D Leavenworth 66.87 47 P **P** **17 02 40.7 +1.5**
baz=300
LTY Liberty 67.33 47 IAmb IAmb 17 02 44.9
comp=Z,69nm,1.9s
J01E Myrtle Point 67.41 52 P **P** **17 02 43.7 +1.0**
baz=300
H04D Lebanon 67.47 51 P **P** **17 02 45.1 +2.0**
baz=300
I03D Drain, OR 67.51 52 P **P** **17 02 45.2 +1.9**
baz=300
F05D White Salmon 67.56 49 P **P** **17 02 45.4 +1.7**
baz=301
K02D Willamette Mer 67.82 53 P **P** **17 02 45.8 +0.4**
baz=301,SNR=5.6
G05D Wamic, OR 67.98 49 P **P** **17 02 46.8 +0.5**
baz=301
I04A Tendick Farm, 68.05 51 P **P** **17 02 47.0 +0.2**
baz=301,SNR=7.6
L02E Cave Junction 68.13 53 P **P** **17 02 48.0 +0.8**
baz=301
MOS Moscow 68.17 324 *e*P **P** **17 02 45.8 -1.4**
MOS *e* 17 03 00.0
MOS *e* 17 05 14.7
MOS *e*S **S** **17 11 44.0 -2.1**
MOS pmax pmax
comp=Z,200nm,2.1s
MOS pmax pmax
comp=Z,89nm,1.6s
MOS MLR MLR
comp=Z,1µm,17.0s
I05D Terrebonne, OR 68.43 50 P **P** **17 02 50.3 +1.1**
baz=301
HAWA Hanford 68.45 48 P **P** **17 02 48.1 -1.0**
HAWA IAmb IAmb 17 02 52.1
comp=Z,43nm,1.6s
J04D Umpqua Nationa 68.52 52 P **P** **17 02 51.7 +1.7**
baz=301,SNR=6.5
VRH Novokhopyorsk 68.64 319 *e*P **P** **17 02 49.3 -0.9**
VRH pmax pmax
comp=Z,30nm,0.7s
VRH MLR MLR
comp=Z,2µm,16.0s
E08A Dider Farm, El 68.68 47 IAmb IAmb 17 02 52.4
comp=Z,48nm,1.6s
STKA Stephens Creek 68.69 182 P **P** **17 02 50.8 +0.2**
comp=Z,30nm,0.9s,baz=355,slow=6.5,SNR=26
STKA LR LR 17 34 35.1
comp=Z,193nm,19.3s,baz=5.2,slow=37
STKA Stephens Creek 68.69 182 P **P** **17 02 50.4 -0.2**
NEW Newport 68.85 45 P **P** **17 02 52.6 +0.9**
baz=302,SNR=9.0
L04D Klamath Falls 68.93 53 P **P** **17 02 54.0 +1.6**
baz=302,SNR=10
M02C Callahan 69.00 54 P **P** **17 02 54.8 +1.9**
baz=302,SNR=5.4
OBN Obninsk 69.02 324 *d*iP **P** **17 02 52.9 +0.4**
OBN *i* *PP **sP** **17 02 57.5 -0.6**
OBN *i* 17 03 07.2
OBN 17 05 28.0
OBN *e*S **S** **17 11 53.6 -2.6**
OBN *e* 17 12 27.7
OBN pmax pmax
comp=Z,77nm,1.7s
OBN MLR MLR
comp=Z,756nm,16.0s
J05D Fort Rock, OR 69.04 51 P **P** **17 02 54.7 +1.6**
baz=302,SNR=14
K04D Chiloquin, OR 69.06 52 P **P** **17 02 54.7 +1.5**
baz=302
FORT Forrest 69.11 194 P **P** **17 02 53.5 +0.3**
LPSR Galich'ya Gora 69.30 321 *e*P **P** **17 02 54.5 +0.2**
LPSR pmax pmax
comp=Z,60nm,1.6s
LPSR MLR MLR
comp=Z,2µm,16.0s
N02D Trinity Center 69.32 54 P **P** **17 02 56.5 +1.7**
baz=302,SNR=8.4
M04C Macdoel 69.45 53 P **P** **17 02 57.0 +1.4**
baz=302,SNR=5.3
FIA1 FINESS Array S 69.50 333 P **P** **17 02 55.7 +0.3**
FINES FINESS Array B 69.50 333 P **P** **17 02 56.2 +0.8**
comp=Z,23nm,0.7s,baz=40,slow=8.6,SNR=44
FINES LR LR 17 36 37.4
comp=Z,1µm,18.3s,baz=44,slow=39
FINES FINESS Array B 69.50 333 *i* P **P** **17 02 56.0 +0.6**
FINES pmax pmax
comp=Z,23nm,0.7s
UPNV Upernavik 69.52 6 *i* P **P** **17 02 54.7 -0.7**
UPNV IAmb IAmb 17 02 56.1
comp=Z,52nm,1.3s
O02D Mt. Diablo Mer 69.68 55 P **P** **17 02 58.5 +1.5**
baz=302,SNR=8.8
MAK Makhachkala 69.73 309 *e*P **P** **17 02 53.5 -3.6**
MAK *e*PPP PPP 17 07 05.8
MAK *e*S **S** **17 12 01.2 -3.7**
MAK *e*SS **SS** **17 16 29.2 -3.4**
MAK pmax pmax
comp=Z,83nm,1.2s
MAK MLR MLR
comp=Z,648nm,15.0s
BBOO Buckleboo 69.94 187 IAmb IAmb 17 03 02.2
comp=Z,47nm,1.0s
VORD Divnogorie 70.04 319 *e*P **P** **17 02 58.9 0.0**
VORD pmax pmax
comp=Z,50nm,1.4s
VORD MLR MLR
comp=Z,3µm,16.0s
WALA Waterton Lakes 70.20 43 P **P** **17 03 00.2 0.0**
O03E Paynes Creek 70.26 54 P **P** **17 03 01.2 +0.6**
baz=302,SNR=14
MOD Modoc Plateau 70.36 52 IAmb IAmb 17 03 04.1
comp=Z,61nm,1.7s
GDXM Geysers 70.40 56 IAmb IAmb 17 03 04.8
comp=Z,67nm,1.6s
SUMG Summit 70.57 1 *i* P **P** **17 03 03.6 +1.2**
SUMG IAMs_20 IAMs_20 17 40 35.4
comp=Z,891nm,21.4s
SUMG Summit 70.57 1 *i* P **P** **17 03 03.5 +1.2**
SUMG MLR MLR
comp=Z,900nm,21.0s
SUMG Summit 70.57 1 P **P** **17 03 03.3 +1.0**
SUMG IAmb IAmb 17 03 19.5
comp=Z,45nm,0.8s
GROC Groznyy 70.65 310 *e*P **P** **17 03 01.0 -1.8**
GROC *e* 17 03 24.1
GROC *e* 17 05 38.5
GROC pmax pmax
comp=Z,28nm,0.6s
J08A Circle Bar Ran 70.71 50 P **P** **17 03 03.9 +0.6**
J08A IAmb IAmb 17 03 06.4
comp=Z,56nm,1.5s
MORW Morawa 70.74 205 P **P** **17 03 02.9 -0.4**
MORW IAmb IAmb 17 03 07.0
comp=Z,75nm,1.4s
WVOR Wild Horse Val 71.11 51 IAmb IAmb 17 03 08.8
comp=Z,78nm,1.7s
VSU Vasula 71.22 330 *e*P **P** **17 03 07.3 +1.4**
GOF Gofitskoye 71.28 313⇑ *e*P **P** **17 03 08.4 +1.8**
GOF pmax pmax
comp=Z,88nm,1.2s
DDFL Dedoflistskaro 71.41 308 P **P** **17 03 10.6 +3.0**
BEKR Beckworth 71.42 54 IAmb IAmb 17 03 10.4
comp=Z,61nm,1.5s
MSO Missoula 71.44 45 P **P** **17 03 07.8 +0.1**
baz=305,SNR=6.0
NCK Nalchik 71.83 311 *i* P **P** **17 03 11.1 +1.1**
NCK pmax pmax
comp=Z,27nm,1.0s
GUDG Gudauri 71.87 310 P **P** **17 03 09.9 -0.6**
ZEI Tsey 72.04 310 *e*P **P** **17 03 09.6 -1.9**
ZEI pmax pmax
comp=Z,13nm,1.0s
KVAR Kislovodsk Arr 72.11 312 P **P** **17 03 13.6 +1.8**
comp=Z,20nm,1.0s,baz=90,slow=20,SNR=7.9
KIV Kislovodsk 72.11 312 P **P** **17 03 12.7 +1.0**
KIV Kislovodsk 72.11 312 *de*P **P** **17 03 12.9 +1.1**
KIV *e*SP **sP** **17 03 18.9 +1.6**
KIV *i* 17 03 26.5
KIV 17 05 55.0
KIV *i* S **S** **17 12 33.9 +1.0**
KIV pmax pmax
comp=Z,109nm,1.0s
KIV MLR MLR
comp=Z,533nm,17.0s
KIV Kislovodsk 72.11 312 P **P** **17 03 11.9 +0.1**
KIV IAMs_20 IAMs_20 17 37 40.4
comp=Z,532nm,18.0s
KBZ Khabaz 72.12 312 P **P** **17 03 12.8 +1.1**
comp=Z,28nm,1.0s,baz=59,slow=3.2,SNR=49
KBZ LR LR 17 35 59.5
comp=Z,522nm,19.9s,baz=42,slow=37
KBZ Khabaz 72.12 312 *ce*P **P** **17 03 12.7 +1.1**
KBZ pmax pmax
comp=Z,59nm,1.2s
MTSE Matsula 72.18 332 *e*P **P** **17 03 13.2 +1.5**
ONI Oni 72.42 310 P **P** **17 03 15.3 +1.7**
ONI Oni 72.42 310 IAmb IAmb 17 03 29.9
comp=Z,96nm,1.2s
NEY Neytrino 72.49 311 *i* P **P** **17 03 15.9 +1.7**
NEY pmax pmax
comp=Z,13nm,1.4s
AAL Aland 72.54 334 *e*P **P** **17 03 14.3 +0.4**
YERR Yerington 72.63 54 IAmb IAmb 17 03 18.0
comp=Z,104nm,1.6s
FFC Flin Flon 72.68 34 P **P** **17 03 14.8 0.0**
FFC pmax pmax
comp=Z,146nm,1.8s
FFC MLR MLR
comp=Z,400nm,20.0s
FFC Flin Flon 72.68 34 P **P** **17 03 14.8 0.0**
FFC IAmb IAmb 17 03 16.8
comp=Z,146nm,1.8s
FFC IAMs_20 IAMs_20 17 38 48.6
comp=Z,377nm,20.0s
BIDO Bidbid 72.71 287 P **P** **17 03 17.0 +1.5**
SNR=7.1
BANOM Banah 72.78 290 P **P** **17 03 15.2 -0.8**
SHME Shamm 72.83 290 *i* P **P** **17 03 16.7 +0.5**
SNR=6.5
GNI Garni 73.00 308 P **P** **17 03 18.7 +1.5**
comp=Z,17nm,1.0s,baz=267,slow=2.0,SNR=9.0
GNI Garni 73.00 308 P **P** **17 03 17.5 +0.3**
GNI Garni 73.00 308 *ce*P **P** **17 03 18.0 +0.8**
GNI pmax pmax
comp=Z,36nm,1.4s
HLID Hailey 73.04 48 P **P** **17 03 18.5 +1.1**
baz=305,SNR=12
EGMT Eagleton 73.05 42 IAMs_20 IAMs_20 17 34 17.2
comp=Z,511nm,20.0s
EGMT Eagleton 73.05 42 P **P** **17 03 17.4 +0.1**
baz=307,SNR=7.9
DLMT Dillon 73.05 46 IAmb IAmb 17 03 19.9
comp=Z,75nm,1.4s
AKH Akhalkalaki 73.07 309⇑ P **P** **17 03 19.7 +2.1**
AKH Akhalkalaki 73.07 309 P **P** **17 03 19.7 +2.1**
BMN Battle Mountai 73.11 52 P **P** **17 03 18.6 +0.8**
BMN pmax pmax
comp=Z,68nm,1.6s
BMN Battle Mountai 73.11 52 P **P** **17 03 18.6 +0.8**
BMN IAmb IAmb 17 03 21.0
comp=Z,68nm,1.6s
FCC Fort Churchill 73.13 27 P **P** **17 03 16.4 -0.9**
FCC pmax pmax
comp=Z,94nm,1.4s
FCC Fort Churchill 73.13 27 P **P** **17 03 16.4 -0.9**
FCC IAmb IAmb 17 03 19.1
comp=Z,94nm,1.4s
CHVG Ch'k'valeri 73.18 311⇑ P **P** **17 03 20.6 +2.5**
MSFE Esma-Masafi 73.20 289 P **P** **17 03 18.4 -0.1**
RYN Ryan 73.30 54 IAmb IAmb 17 03 21.9
comp=Z,62nm,1.6s
IDID Didziasalis 73.30 328 *e*P **P** **17 03 19.9 +1.5**
MNK Minsk 73.35 327 *i* P **P** **17 03 19.7 +0.9**
MNK *i* 17 06 02.7
MNK *i* PPP PPP 17 07 47.3
MNK *i* S **S** **17 12 46.4 0.0**
MNK *i* SS **SS** **17 17 30.8 +3.3**
MNK pmax pmax
comp=N,23nm,0.7s
MNK pmax pmax
comp=Z,40nm,1.1s
MNK pmax pmax
comp=E,10.0nm,1.5s
MNK MLR MLR
comp=N,607nm,17.0s
MNK MLR MLR
comp=Z,2µm,19.0s
MNK MLR MLR
comp=E,207nm,17.0s
MNK Minsk 73.35 327 *i* P **P** **17 03 19.8 +1.0**
comp=E,10.0nm,1.6s
MNK *i* P **P** **17 03 19.8 +1.0**
comp=N,23nm,0.7s
MNK *i* P **P** **17 03 19.8 +1.0**
comp=Z,40nm,1.1s,baz=228
MNK *i* PP **PP** **17 06 02.7 +1.0**
MNK *i* PPP PPP 17 07 47.4
MNK *i* S **S** **17 12 46.4 0.0**
MNK *i* SS **SS** **17 17 30.8 +3.3**
MNK *i* SSS SSS 17 20 51.8
MNK *i* LQ LQ 17 30 36.2
MNK *i* LR LR 17 35 20.8
MNK *i* LRM MLR 17 37 58.4
comp=E,207nm,17.4s
MNK *i* LRM MLR 17 37 58.4
comp=N,607nm,16.6s
MNK *i* LRM MLR 17 37 58.4
comp=Z,2µm,19.2s
ISAL Salakas 73.39 328 *e*P **P** **17 03 20.9 +2.0**
UOSS Minazif 73.39 289 P **P** **17 03 18.9 -0.6**
UOSS Minazif 73.39 289 P **P** **17 03 20.2 +0.6**
UOSS IAmb IAmb 17 03 36.4
comp=Z,63nm,1.1s
BOZ Bozeman (W) 73.47 45 P **P** **17 03 20.6 +0.7**
baz=306,SNR=22
IIGN Ignalina 73.50 328 *e*P **P** **17 03 21.5 +1.8**
HATD Hatta, Dubai 73.51 289 P **P** **17 03 20.8 +0.5**
HATD Hatta, Dubai 73.51 289 P **P** **17 03 21.1 +0.8**
LHV Little Huntoon 73.52 54 IAmb IAmb 17 03 23.6
comp=Z,113nm,1.5s
NVAR Mina Array Bea 73.55 54 P **P** **17 03 21.8 +1.2**
comp=Z,4.7nm,0.7s,baz=289,slow=5.9,SNR=40
NVAR LR LR 17 32 22.8
comp=Z,284nm,18.8s,baz=278,slow=33
NACGM Naroch 73.56 327 *i* P **P** **17 03 21.4 +1.4**
SOHO SOHO 73.59 288 *i* P **P** **17 03 21.1 +0.4**
SNR=7.0
SOHO SOHO 73.59 288 P **P** **17 03 21.0 +0.4**
UPP Uppsala 73.59 335 *e*P **P** **17 03 20.7 +0.6**
NV11 Mina Array Sit 73.64 54 P **P** **17 03 21.2 +0.2**
NV11 IAmb IAmb 17 03 24.0
comp=Z,60nm,1.6s
ASHO Ashiyiah 73.65 289 P **P** **17 03 21.9 +0.8**
ASHO Ashiyiah 73.65 289 P **P** **17 03 22.1 +1.0**
MLAC Mammoth, Mammo 73.65 55 P **P** **17 03 22.7 +1.5**
baz=305
NAZ Nazwa, Dubai 73.78 289 P **P** **17 03 22.4 +0.5**
NAZ Nazwa, Dubai 73.78 289 P **P** **17 03 22.9 +1.1**
NWAO Narrogin (SRO) 73.91 203 P **P** **17 03 22.7 +0.5**
NWAO pmax pmax
comp=Z,31nm,1.0s
NWAO Narrogin (SRO) 73.91 203 P **P** **17 03 22.6 +0.5**
FAQ Al Faqa, Dubai 73.97 289 P **P** **17 03 22.8 -0.1**
FAQ Al Faqa, Dubai 73.97 289 P **P** **17 03 23.2 +0.3**
VOG Valley Oaks Go 74.03 56 P **P** **17 03 24.1 +1.0**
baz=305
ICESG Greenland Ices 74.05 1⇓ *i*P **P** **17 03 24.4 +1.2**
BATM Batumi 74.06 310⇓ P **P** **17 03 25.3 +2.1**
BATM Batumi 74.06 310 P **P** **17 03 24.7 +1.5**
SOC Sochi 74.08 313 *d*iP **P** **17 03 23.8 +0.5**
SOC *e* 17 06 08.4
SOC *e*PPP PPP 17 07 51.8
SOC *e*S **S** **17 12 57.4 +2.4**
SOC *e*SSS SSS 17 20 54.0
SOC pmax pmax
comp=Z,39nm,1.1s
SOC MLR MLR
comp=Z,484nm,16.0s
SMMC Simmler 74.19 58 P **P** **17 03 25.6 +1.5**
baz=305
BCA Borcka 74.20 310⇓ P **P** **17 03 25.8 +1.8**
ALNE Al Ain 74.23 288 *i* P **P** **17 03 25.1 +0.6**
SNR=7.1
ALNE Al Ain 74.23 288 P **P** **17 03 25.6 +1.1**
SNR=7.8
ASUD Al Ashush, Dub 74.23 289 P **P** **17 03 24.3 -0.1**
ASUD Al Ashush, Dub 74.23 289 P **P** **17 03 25.5 +1.1**
MHTO MHTO 74.24 285 P **P** **17 03 25.6 +1.0**
SNR=21
PABE Paberze 74.33 329 *e*P **P** **17 03 26.1 +1.6**
PABE Paberze 74.33 329 IAmb IAmb 17 03 40.8
comp=Z,112nm,1.1s
TIN Tinemaha, Big 74.38 55 P **P** **17 03 26.3 +1.0**
baz=305
YHH Holmes Hill 74.39 45 P **P** **17 03 26.4 +0.9**
YMR Madison River 74.40 46 P **P** **17 03 26.1 +0.7**
VES Vestal, Richgr 74.50 57 P **P** **17 03 26.4 +0.5**
baz=305
NC303 NORSAR Array S 74.54 338 P **P** **17 03 25.7 0.0**
NC303 IAmb IAmb 17 03 42.0
comp=Z,90nm,1.2s
PKM Mcpherson Peak 74.55 58 P **P** **17 03 27.4 +1.0**
baz=305,SNR=7.1
ANN Anapa 74.67 315 *e*P **P** **17 03 26.2 -0.5**
ANN *e*S **S** **17 13 01.5 -0.1**
ANN pmax pmax
comp=Z,64nm,1.3s
ANN MLR MLR
comp=Z,662nm,17.0s
HFS Hagfors 74.68 337 P **P** **17 03 27.2 +0.7**
comp=Z,13nm,0.7s,baz=46,slow=6.4,SNR=29
NB2 NORSAR Subarra 74.73 338 P **P** **17 03 27.3 +0.5**
comp=Z,120nm,1.7s,baz=37,slow=6.2
NB2 NORSAR Subarra 74.73 338 P **P** **17 03 24.2 -2.6**
NB2 pmax pmax
comp=Z,105nm,1.6s
NB2 NORSAR Subarra 74.73 338 P **P** **17 03 27.3 +0.5**
baz=37,slow=6.2
NOA NORSAR Array B 74.73 338 P **P** **17 03 27.6 +0.7**
comp=Z,13nm,0.8s,baz=38,slow=5.8,SNR=28
NOA PP **PP** **17 06 06.5 -6.8**
comp=Z,1.9nm,1.0s,baz=33,slow=8.4,SNR=2.5
NOA LR LR 17 40 23.5
comp=Z,924nm,18.5s,baz=30,slow=39
LKWY Lake 74.78 45 IAMs_20 IAMs_20 17 42 52.2
comp=Z,586nm,19.0s
H17A Grant Village 74.78 46 IAmb IAmb 17 03 32.0
comp=Z,78nm,1.4s
H17A Grant Village 74.78 46 P **P** **17 03 29.9 +2.2**
baz=307,SNR=5.1
CWC Cottonwood Cre 74.83 56 P **P** **17 03 28.9 +0.9**
baz=305
NBO00 NORSAR Array S 74.87 338 P **P** **17 03 26.8 -0.8**
NORES NORESS Array B 74.88 338 P **P** **17 03 31.3 +3.7**
NORES pmax pmax
comp=Z,3.0nm,0.6s
GRAC Grapevine Rang 74.98 55 P **P** **17 03 29.7 +1.0**
baz=305
MOOW Moose Ponds 75.08 46 IAmb IAmb 17 03 32.7
comp=Z,84nm,1.7s
RLMT Red Lodge 75.08 44 P **P** **17 03 30.7 +1.3**
baz=308,SNR=7.5
TPAW Teton Pass 75.11 47 P **P** **17 03 29.7 +0.1**
DQM DQM 75.16 284 P **P** **17 03 30.6 +0.7**
SCZ2 Santa Cruz Isl 75.18 59 P **P** **17 03 30.7 +0.8**
baz=305
AKASG Malin Array Be 75.24 323 P **P** **17 03 30.2 +0.3**
comp=Z,15nm,0.8s,baz=43,slow=6.0,SNR=40
AKASG PP **PP** **17 06 18.6 +0.7**
comp=Z,2.4nm,0.8s,baz=41,slow=9.0,SNR=2.1
AKASG LR LR 17 39 28.9
comp=Z,592nm,19.4s,baz=35,slow=38
AKBB Malin Array Si 75.24 323 *ce*P **P** **17 03 30.5 +0.6**
AKBB Malin Array Si 75.24 323 IAmb IAmb 17 03 45.6
comp=Z,42nm,0.9s
REDW Red Top Meadow 75.25 47 IAmb IAmb 17 03 33.4
comp=Z,91nm,1.8s
R11A Troy Canyon, C 75.34 53 P **P** **17 03 31.4 +0.4**
R11A IAmb IAmb 17 03 33.8
comp=Z,68nm,1.6s
R11A Troy Canyon, C 75.34 53 P **P** **17 03 31.6 +0.7**
baz=306,SNR=27
UMZA Um Al Zommool 75.43 288 P **P** **17 03 31.4 0.0**
OSI Osito Audit: C 75.44 58 P **P** **17 03 32.6 +1.2**
baz=305
FURC Furnace Creek, 75.61 55 P **P** **17 03 33.3 +1.1**
baz=306
SFJD Kangerlussuaq 75.62 6⇓ *i*P **P** **17 03 32.5 +0.7**
SFJD IAmb IAmb 17 03 36.6
comp=Z,13nm,0.9s
SFJD Kangerlussuaq 75.62 6⇓ *i*P **P** **17 03 32.4 +0.7**
SFJD pmax pmax
comp=Z,13nm,0.9s
SFJD Kangerlussuaq 75.62 6 P **P** **17 03 31.8 0.0**
SFJD IAmb IAmb 17 03 48.5
comp=Z,47nm,0.9s
SFJD Kangerlussuaq 75.62 6 IAMs_20 IAMs_20 17 35 05.5
comp=Z,643nm,21.0s
LRMC Laurel Mtn Rad 75.64 56 P **P** **17 03 33.4 +0.8**
baz=306
DGMT Dagmar 75.68 39 IAmb IAmb 17 03 34.5
comp=Z,79nm,1.4s
DGMT Dagmar 75.68 39 P **P** **17 03 32.6 +0.2**
baz=310
SNCC San Nicolas Is 75.68 59 P **P** **17 03 34.0 +1.2**
baz=305
SUW Suwalki 75.70 328 *e*P **P** **17 03 33.1 +0.6**
SUW Suwalki 75.70 328 *e*P **P** **17 03 33.6 +1.1**
KOPT Kop Dagi 75.73 309 IAmb IAmb 17 03 50.5
comp=Z,51nm,1.2s
TPNV Topopah Spring 75.73 54 P **P** **17 03 34.2 +1.0**
baz=306,SNR=12
LAO LASA Array 75.77 42 P **P** **17 03 33.7 +0.6**
LAO IAMs_20 IAMs_20 17 34 15.9
comp=Z,448nm,20.0s
LAO LASA Array 75.77 42 P **P** **17 03 34.2 +1.2**
baz=310
EDW2 Edwards Air Fo 75.78 57 P **P** **17 03 34.2 +0.9**
baz=306
DECC Green Verdugo 75.91 58 P **P** **17 03 34.7 +0.6**
baz=306
JRN Qarnain Island 75.92 291 P **P** **17 03 32.8 -1.4**
DUG Dugway, Tooele 75.98 50 P **P** **17 03 35.6 +1.0**
baz=307,SNR=12
FMP Fort Macarthur 76.25 58 P **P** **17 03 36.5 +0.6**
baz=306
TCUT Toone Canyon 76.28 49 IAmb IAmb 17 04 52.2
comp=Z,36nm,0.8s
GSC Goldstone, Bar 76.33 56 P **P** **17 03 37.6 +1.1**
baz=306
SHOC Shoshone, Teco 76.33 55 P **P** **17 03 37.2 +0.8**
baz=306
PSUT Pine Spring 76.33 52 P **P** **17 03 36.9 +0.3**
PSUT IAmb IAmb 17 03 39.4
comp=Z,92nm,1.9s
KONO Kongsberg 76.33 338 *ce*P **P** **17 03 38.5 +2.6**
KONO pmax pmax
comp=Z,24nm,1.7s
CIS Catalina Islan 76.35 58 P **P** **17 03 37.2 +0.6**
baz=306

BW06 Boulder Array 76.36 46 P P 17 03 37.4 +0.6
baz=308,SNR=17
PDAR Pinedale Array 76.36 46 P P 17 03 37.3 +0.5
comp=Z,3.6nm,0.7s,baz=266,slow=2.8,SNR=41
PDAR LR LR 17 32 10.9
comp=Z,112nm,20.9s,baz=343,slow=32
BFSC Mount Baldy Ra 76.38 57 P P 17 03 37.6 +0.8
baz=306
DY2G Dye2 76.43 4 *i* P P 17 03 37.5 +0.9
DY2G IAmb IAmb 17 03 40.8
comp=Z,101nm,1.2s
SIM Simferopol' 76.44 316 *i* P P 17 03 36.7 -0.1
SIM *e* 17 03 49.2
SIM S S 17 13 21.0 -0.1
SIM pmax pmax
comp=Z,29nm,1.0s
RRX Edison Barstow 76.45 57 P P 17 03 37.9 +0.8
baz=306
SCI2 San Clemente I 76.50 59 P P 17 03 38.2 +0.8
baz=306
NLU North Lily Min 76.58 50 P P 17 03 38.7 +0.7
SHPR Sheep Range 76.70 54 IAmb IAmb 17 03 55.1
comp=Z,102nm,1.2s
TUQ Turquoise Moun 76.83 56 P P 17 03 40.4 +1.0
baz=306,SNR=9.7
BBRC Big Bear Solar 76.86 57 P P 17 03 40.5 +0.8
baz=306
HEC Hector,Ludlow 76.92 56 P P 17 03 41.0 +1.2
baz=306
SAKB Bahrain 77.05 293 P P 17 03 41.5 +1.0
MURC Murrieta 77.06 58 P P 17 03 41.3 +0.7
baz=306
MARD Mardin 77.17 307 P P 17 03 42.4 +1.1
CCUT Cedar City 77.23 53 IAmb IAmb 17 03 44.9
comp=Z,96nm,1.9s
SLWR Sila 77.28 291 P P 17 03 43.2 +1.3
SORM Soroca 77.38 322 ⇓P P 17 03 43.2 +1.2
GMRC Granite Mounta 77.39 56 P P 17 03 43.2 +0.7
baz=307,SNR=8.8
109C Camp Elliot, M 77.54 58 P P 17 03 43.9 +0.7
baz=306
PFO Pinyon Flats O 77.55 57 P P 17 03 44.4 +0.9
baz=306,SNR=5.4
TPFO Pinon Flats 77.56 57 P P 17 03 44.0 +0.5
baz=306,SNR=9.0
LCMT Little Creek M 77.63 53 IAmb IAmb 17 03 47.0
comp=Z,117nm,1.9s
BELC Belle Mtn. Jos 77.63 57 P P 17 03 44.2 +0.3
baz=307,SNR=8.3
PURM Purcari 77.68 320 ⇑P P 17 03 45.0 +1.3
P17A Butcher Ranch, 77.69 50 IAmb IAmb 17 03 47.0
comp=Z,125nm,1.7s
RDMU Red Mountain 77.72 48 IAmb IAmb 17 04 03.5
comp=Z,37nm,0.9s
KVT Kavak 77.77 312 P P 17 03 47.1 +2.7
Q16A Castle Valley 77.77 50 P P 17 03 45.8 +1.1
Q16A IAmb IAmb 17 03 47.8
comp=Z,106nm,1.7s
KNB Kanab 77.89 53 IAmb IAmb 17 03 48.7
comp=Z,117nm,1.6s
KIS Kishinev 77.91 321 ⇓*i* P P 17 03 45.0 0.0
comp=Z,120nm,3.1s
KIS Kishinev 77.91 321 *e*PcP PcP 17 03 58.0 +3.2
KIS *e*LR LR 17 40 27.0
comp=Z,600nm,18.0s
KIS Kishinev 77.91 321 *d i* P P 17 03 45.0 0.0
KIS *e* 17 03 58.0
KIS pmax pmax
comp=Z,120nm,3.1s
BAR Barrett 77.96 58 IAmb IAmb 17 03 48.0
comp=Z,97nm,1.8s
MONP2 Monument Peak 78.00 58 P P 17 03 46.7 +0.6
baz=307,SNR=9.2
NEE2 Needles Airpor 78.09 55 P P 17 03 47.0 +0.7
baz=307
IRM Iron Mountain 78.11 56 P P 17 03 47.2 +0.8
baz=307,SNR=14
BSD Bornholm Skovb 78.14 333 *e*P P 17 03 46.9 +0.8
BSD Bornholm Skovb 78.14 333 ⇓*i* P P 17 03 46.7 +0.6
BSD IAmb IAmb 17 03 47.7
comp=Z,92nm,1.2s
BSD *i* 17 04 00.1
BSD IAMs_20 IAMs_20 17 44 09.7
comp=Z,839nm,19.7s
BSD Bornholm Skovb 78.14 333 ⇓*i* P P 17 03 46.7 +0.6
BSD *i* 17 04 00.0
BSD pmax pmax
comp=Z,92nm,1.2s
BSD MLR MLR
comp=Z,850nm,20.0s
K22A Casper 78.17 45 IAmb IAmb 17 03 49.1
comp=Z,99nm,1.6s
K22A Casper 78.17 45 P P 17 03 47.1 +0.2
baz=310,SNR=14
BC3 Big Chuckawall 78.20 57 P P 17 03 47.6 +0.6
baz=307,SNR=11
BEL Belsk 78.28 328 *e*P P 17 03 48.9 +1.9
LVV L'vov 78.28 325 *e*P P 17 03 47.7 +0.6
LVV *e* 17 04 01.6
LVV *e*S S 17 13 39.0 -2.0
NUUK Nuuk 78.29 7 ⇓*i* P P 17 03 48.3 +1.5
NUUK IAmb IAmb 17 03 49.0
comp=Z,39nm,0.9s
IKP In-Ko-Pah, Jac 78.36 58 P P 17 03 49.0 +1.1
baz=307,SNR=13
MDND Maddock 78.39 38 P P 17 03 48.2 +0.5
baz=314
SWSC Sam W. Stewart 78.39 58 P P 17 03 48.7 +0.8
baz=307
RWWY Rawlins 78.40 46 IAmb IAmb 17 03 49.5
comp=Z,59nm,1.5s
RWWY IAMs_20 IAMs_20 17 33 03.0
comp=Z,362nm,20.0s
DMTO DMTO 78.44 283 P P 17 03 48.7 +0.2
ULM Lac du Bonnet 78.46 34 P P 17 03 48.0 0.0
comp=Z,12nm,1.1s,baz=315,slow=6.2,SNR=11
ULM LR LR 17 43 22.8
comp=Z,157nm,18.8s,baz=284,slow=40
ULM Lac du Bonnet 78.46 34 IAmb IAmb 17 03 49.6
comp=Z,123nm,1.9s
DOK Doka 78.55 285 P P 17 03 49.1 0.0
U15A North Rim 78.59 53 IAmb IAmb 17 03 52.6
comp=Z,64nm,1.5s
RSSD Black Hills 78.60 43 P P 17 03 49.4 +0.2
RSSD pmax pmax
comp=Z,36nm,0.8s
RSSD Black Hills 78.60 43 P P 17 03 49.4 +0.2
RSSD IAmb IAmb 17 05 29.0
comp=Z,36nm,0.8s
RSSD Black Hills 78.60 43 P P 17 03 49.5 +0.2
baz=311
VASR Vaslui 78.67 321 ⇑P P 17 03 50.7 +1.5
PDMCI Parker Dam,Lak 78.68 56 P P 17 03 50.2 +0.6
baz=307,SNR=6.1
E28A Huff 78.71 39 IAmb IAmb 17 03 51.6
comp=Z,96nm,1.5s
O20A White River Ci 78.78 48 IAmb IAmb 17 03 52.5
comp=Z,115nm,1.9s
O20A White River Ci 78.78 48 P P 17 03 50.6 +0.3
baz=310,SNR=7.4
GLA Glamis 78.98 57 P P 17 03 52.3 +1.0
baz=307
KWP Kalwaria Pacla 79.02 325 *e*P P 17 03 52.6 +1.5
KWP Kalwaria Pacla 79.02 325 P P 17 03 52.1 +0.9
KWP MLR MLR
comp=Z,7μm,18.0s
KWP Kalwaria Pacla 79.02 325 P P 17 03 52.1 +0.9
MUD Monsted U'grnd 79.06 336 *e*P P 17 03 52.0 +0.9
MUD Monsted U'grnd 79.06 336 *e*P P 17 03 52.0 +0.9
VLDR Vladesti 79.06 320 ⇓P P 17 03 53.5 +2.1
RBK Rabkut 79.14 284 P P 17 03 52.2 -0.1
RGN Rugen 79.16 333 *e*pP pP 17 04 07.1 +11
baz=36,slow=5.2
BUR08 Bucovina Ar. S 79.26 323 IAmb IAmb 17 04 08.5
comp=Z,56nm,1.4s
BURAR Bucovina Array 79.27 323 ⇓P P 17 03 53.6 +0.9
BURAR Bucovina Array 79.27 323 ⇑P P 17 03 54.3 +1.6
BNN Bunyan 79.29 311 P P 17 03 54.0 +1.0
BNN IAmb IAmb 17 04 11.9
comp=Z,124nm,1.2s
BIZ Bicaz 79.31 322 ⇓P P 17 03 54.2 +1.5
TESR Tescani 79.33 321 ⇑P P 17 03 54.1 +1.2
PV10 Paradox Valley 79.41 50 IAmb IAmb 17 03 56.1
comp=Z,64nm,0.9s
PV14 Lion Creek, Pa 79.42 50 IAmb IAmb 17 03 55.7
comp=Z,50nm,1.0s
PV04 Paradox Valley 79.48 50 IAmb IAmb 17 03 57.0
comp=Z,163nm,1.7s
CFR Carcaliu 79.48 319 ⇓P P 17 03 55.3 +1.5
GAZ Gaziantep 79.50 309 IAmb IAmb 17 04 09.6
comp=Z,57nm,1.3s
PV17 East Wray Mesa 79.52 50 IAmb IAmb 17 03 56.3
comp=Z,59nm,1.0s
TPGR Topolog 79.56 319 ⇑P P 17 03 55.4 +1.2
PV11 David Mesa, Pa 79.56 50 IAmb IAmb 17 03 57.3
comp=Z,143nm,1.6s
PV12 Saucer Basin, 79.59 50 IAmb IAmb 17 03 57.7
comp=Z,177nm,1.7s
PV03 Paradox Valley 79.60 50 IAmb IAmb 17 03 57.5
comp=Z,202nm,1.9s
N23A Red Feather La 79.64 46 P P 17 03 56.3 +1.3
baz=311,SNR=14
PHWY Pilot Hill 79.65 46 IAmb IAmb 17 03 57.5
comp=Z,88nm,1.9s
LNIZ Loecknitz 79.66 332 *e*P P 17 03 55.9 +1.4
comp=Z,196nm,1.4s,baz=36,slow=5.1
LNIZ *e*pP pwP 17 04 09.9 +1.6
baz=36,slow=5.2
PV13 Radium Mtn., P 79.68 50 P P 17 03 56.2 +0.9
PV02 Paradox Valley 79.70 50 IAmb IAmb 17 03 58.1
comp=Z,123nm,1.7s
KOLS Kolonicke sedl 79.72 325 *e*P P 17 03 56.3 +1.3
KOLS pmax pmax
comp=Z,28nm,1.3s
KOLS Kolonicke sedl 79.72 325 *e*P P 17 03 56.3 +1.3
VRI Vrincioaia 79.74 321 ⇓P P 17 03 57.3 +2.1
VRI Vrincioaia 79.74 321 P P 17 03 57.2 +2.1
WUAZ Wupatki 79.74 53 IAmb IAmb 17 03 58.4
comp=Z,109nm,1.8s
WUAZ Wupatki 79.74 53 P P 17 03 56.3 +0.8
baz=309,SNR=9.3
PV15 Paradox Valley 79.77 49 IAmb IAmb 17 03 58.5
comp=Z,67nm,1.5s
PLOR Plostina 79.79 321 ⇓P P 17 03 57.4 +2.0
TIRR Tirgusor 79.83 319 ⇓P P 17 03 56.3 +0.7
TIRR Tirgusor 79.83 319 IAmb IAmb 17 04 11.2
comp=Z,78nm,1.3s
113A Mohawk Valley, 79.86 57 IAmb IAmb 17 03 58.4
comp=Z,78nm,1.6s
AGMN Agassiz Nation 79.86 36 IAMs_20 IAMs_20 17 37 19.7
comp=Z,433nm,21.0s
AGMN Agassiz Nation 79.86 36 P P 17 03 55.2 -0.5
baz=316
OJC Ojcow 79.89 327 *e*P P 17 03 57.0 +1.1
OJC Ojcow 79.89 327 P P 17 03 56.0 +0.2
OJC pmax pmax
comp=Z,86nm,1.2s
OJC MLR MLR
comp=Z,2μm,18.0s
OJC Ojcow 79.89 327 P P 17 03 56.0 +0.2
OJC IAmb IAmb 17 04 12.5
comp=Z,86nm,1.2s
HARR Harsova 79.92 319 ⇓P P 17 03 58.0 +1.9
ABTO Aybut 79.93 284 P P 17 03 56.6 -0.1
UZH Uzhgorod 79.93 325 *e*P P 17 03 56.2 +0.1
UZH *e* 17 04 10.6
UZH *e*S S 17 13 54.2 -4.3
UZH MLR MLR
comp=N,150nm,16.0s
UZH MLR MLR
comp=E,300nm,16.0s
UZH MLR MLR
comp=Z,130nm,16.0s
BR131 Keskin Array S 80.05 313 P P 17 03 58.6 +1.5
SNR=10
BRTR Keskin Array B 80.05 313 P P 17 03 58.0 +0.9
comp=Z,15nm,1.1s,baz=116,slow=2.9,SNR=16
BRTR PP PP 17 06 48.8 -10
comp=Z,1.6nm,0.8s,baz=60,slow=8.5,SNR=1.8
BRTR LR LR 17 42 46.2
comp=Z,344nm,18.6s,baz=56,slow=38
BRTR Keskin Array B 80.05 313 *i* P P 17 03 58.2 +1.1
BRTR pmax pmax
comp=Z,16nm,1.1s
BRTR Keskin Array B 80.05 313 P P 17 03 57.1 +0.1
OZUR 80.05 321 ⇑P P 17 03 59.0 +2.1
CRVS Cervenica-Dubn 80.11 325 *e*P P 17 03 58.6 +1.5
CRVS pmax pmax
comp=Z,142nm,2.0s
CRVS Cervenica-Dubn 80.11 325 *e*P P 17 03 58.6 +1.5
TRPA Tarpa 80.18 324 ⇓P P 17 03 58.6 +1.3
TRPA Tarpa 80.18 324 *e*P P 17 03 57.3 -0.1
TRPA Tarpa 80.18 324 *e*P P 17 03 58.7 +1.3
NIE Niedzica 80.26 326 *e*P P 17 04 00.1 +2.2
DOPR Dopca 80.34 321 ⇑P P 17 04 00.4 +2.0
ISR Istrita 80.35 320 ⇑P P 17 04 00.1 +1.6
MLR Muntele Rosu 80.39 321 ⇑P P 17 03 59.5 +0.6
MLR Muntele Rosu 80.39 321 P P 17 04 00.4 +1.6
ANTO Ankara 80.45 313 P P 17 04 01.5 +2.3
MVCO Mesa Verde 80.48 50 IAmb IAmb 17 04 02.3
comp=Z,93nm,1.6s
MVCO Mesa Verde 80.48 50 P P 17 04 00.4 +0.8
baz=310,SNR=13
ISCO Idaho Springs 80.54 47 IAmb IAmb 17 04 02.9
comp=Z,82nm,1.9s
ISCO Idaho Springs 80.54 47 P P 17 04 01.0 +1.0
baz=311,SNR=10
RUE Ruedersdorf 80.62 332 *e*P P 17 04 01.0 +1.3
comp=Z,119nm,1.5s,baz=36,slow=5.1
RUE *e*pP pwP 17 04 14.9 +1.4
baz=36,slow=5.2
BSEG Bad Segeberg 80.72 334 *e*P P 17 04 01.3 +1.1
comp=Z,82nm,1.4s,baz=36,slow=5.1
BSEG *e*pP pwP 17 04 15.6 +1.5
baz=36,slow=5.2
B35A Bob, Littlefor 80.80 35 P P 17 04 00.4 -0.4
LANS Liptovska Anna 80.82 327 *e*P P 17 04 02.9 +1.9
LANS pmax pmax
comp=Z,27nm,1.7s
LANS Liptovska Anna 80.82 327 *e*P P 17 04 02.9 +1.9
VOIR 80.88 321 ⇓P P 17 04 02.6 +1.2
OKC Ostrava-Krasne 80.88 328 AMS AMS 17 42 50.0
comp=Z,2μm,16.8s
KSP Ksiaz 80.89 329 *e*P P 17 04 02.4 +1.2
KSP Ksiaz 80.89 329 P P 17 04 02.5 +1.2
214A Organ Pipe Nat 81.00 57 IAmb IAmb 17 04 04.9
comp=Z,75nm,1.7s
214A Organ Pipe Nat 81.00 57 P P 17 04 02.8 +0.6
baz=308,SNR=5.7
W18A Petrified Fore 81.03 53 P P 17 04 03.7 +1.2
baz=309
SUSD Miller 81.07 40 P P 17 04 02.4 0.0
baz=314
OSTC Ostas 81.14 329 *e*P P 17 04 03.5 +0.9
OSTC *ex* x 17 04 18.1
OSTC *ex* x 17 14 00.0
OSTC AMS AMS 17 43 10.0
comp=Z,1μm,14.5s
S22A 4UR Ranch, Cre 81.15 49 P P 17 04 04.6 +1.4
baz=311,SNR=24
MORC Moravsky Berou 81.19 328 ⇓P P 17 04 03.9 +1.0
MORC Moravsky Berou 81.19 328 P P 17 04 03.9 +1.0
MORC pmax pmax
comp=Z,53nm,1.3s
MORC Moravsky Berou 81.19 328 P P 17 04 03.9 +1.0
MORC IAmb IAmb 17 04 19.6
comp=Z,53nm,1.2s
MORC Moravsky Berou 81.19 328 ⇓*i* P P 17 04 03.9 +1.0
CHVC Chvalec 81.19 329 *e*P P 17 04 04.0 +1.2
CHVC AMS AMS 17 43 20.0
comp=Z,1μm,19.2s
DPC Dobruska-Polom 81.26 329 *e*P P 17 04 04.2 +0.9
DPC *e* 17 04 17.7
DPC *e* 17 14 03.9
DPC MLR MLR
comp=Z,900nm,15.4s
DPC Dobruska-Polom 81.26 329 *e*P P 17 04 04.2 +0.9
DPC *ex* x 17 04 17.7
DPC *ex* x 17 14 03.9
DPC AMS AMS 17 43 10.0
comp=Z,900nm,15.4s
UPC Upice 81.27 329 *e*P P 17 04 04.7 +1.5
UPC *e* 17 14 05.8
UPC MLR MLR
comp=Z,1μm,15.4s
UPC Upice 81.27 329 *e*P P 17 04 04.7 +1.5
UPC *e*S S 17 14 05.8 -6.7
UPC AMS AMS 17 43 10.0
comp=Z,1μm,15.4s
KRLC Kraliky 81.28 329 *e*P P 17 04 03.7 +0.3
KRLC *e* 17 04 17.6
KRLC *e* 17 14 01.9
KRLC MLR MLR
comp=Z,1μm,18.0s
KRLC Kraliky 81.28 329 *e*P P 17 04 03.7 +0.3
KRLC *ex* x 17 04 17.6
KRLC *ex* x 17 14 01.9
KRLC AMS AMS 17 43 00.0
comp=Z,1μm,18.0s
Q24A Divide 81.36 47 P P 17 04 04.6 +0.2
baz=311,SNR=5.1
F33A 5 Mile Ranch, 81.42 38 IAmb IAmb 17 04 05.9
comp=Z,91nm,1.4s
PSZ Piszkesteto 81.55 326 ⇓P P 17 04 06.0 +1.2
PSZ Piszkesteto 81.55 326 *e*P P 17 04 05.6 +0.8
PSZ Piszkesteto 81.55 326 P P 17 04 05.2 +0.3
PSZ pmax pmax
comp=Z,46nm,1.1s
PSZ MLR MLR
comp=Z,1μm,18.0s
PSZ Piszkesteto 81.55 326 P P 17 04 05.2 +0.3
PSZ IAmb IAmb 17 04 21.0
comp=Z,46nm,1.1s
VYHS Vyhne 81.59 326 *e*P P 17 04 06.6 +1.6
VYHS pmax pmax
comp=Z,35nm,1.4s
VYHS Vyhne 81.59 326 *e*P P 17 04 06.6 +1.6
FLTG Flechtingen 81.69 333 *e*P P 17 04 05.9 +0.6
comp=Z,76nm,1.3s,baz=36,slow=5.1
FLTG *e*pP pwP 17 04 20.0 +0.9
baz=36,slow=5.2
BRG Berggiesshubel 81.81 330 *e*P P 17 04 07.1 +1.0
comp=Z,44nm,1.5s,baz=36,slow=5.1
BRG *e*pP pwP 17 04 21.2 +1.3
baz=36,slow=5.2
BRG Berggiesshubel 81.81 330 *e*P P 17 04 07.2 +1.1
BRG Amp 17 04 11.2
comp=Z,33nm,1.2s
BRG Berggiesshubel 81.81 330 S S 17 14 21.0 +2.9
BRG Berggiesshubel 81.81 330 SS SS 17 19 39.0 +4.0
BRG Amp 17 44 12.0
comp=N,1.2nm,16.6s
BRG Amp 17 44 16.0
comp=Z,1.7nm,16.1s
BRG Amp 17 44 20.0
comp=E,0.6nm,15.5s
OGNE Ogallala 81.82 44 IAmb IAmb 17 04 08.5
comp=Z,92nm,1.4s
OGNE Ogallala 81.82 44 P P 17 04 06.8 +0.3
baz=313
JAVC Velka Javorina 81.83 327 ⇓*i* P P 17 04 08.4 +2.1
PVCC Panska Ves 81.83 330 *e*P P 17 04 07.7 +1.5
PVCC MLR MLR
comp=Z,2μm,16.7s
PVCC Panska Ves 81.83 330 *e*P P 17 04 07.7 +1.5
PVCC AMS AMS 17 43 40.0
comp=Z,2μm,16.7s
CLL Collm 81.84 331 ⇓*i* P P 17 04 06.8 +0.6
comp=Z,64nm,1.3s
CLL *i* pP pP 17 04 09.7 -0.7
comp=Z,44nm,1.0s
CLL *e*Pmax 17 04 09.0
CLL *i* 17 04 20.8
CLL *e* 17 04 31.0
CLL *e*PP PP 17 07 11.0 -1.8
CLL *e* 17 07 25.0
CLL *e*PPPP 17 10 12.0
CLL *e*S S 17 14 18.0 -0.3
CLL *e*(PS) 17 14 58.0
CLL *e*PPS PPS 17 15 19.0
CLL *e*SS SS 17 19 36.0 +0.7
CLL *e* 17 20 18.0
CLL *e*SSS SSS 17 23 24.0
CLL *e*SSSS 17 25 36.0
CLL LmH 17 39 00.0
comp=N,1μm,19.0s
CLL LmH 17 39 00.0
comp=E,1μm,19.5s
CLL Lmax 17 44 00.0
CLL Collm 81.84 331 ⇓*i* P P 17 04 06.8 +0.6
CLL *i* 17 04 20.8
CLL *e*S S 17 14 18.0 -0.3
CLL pmax pmax
comp=Z,64nm,1.3s
CLL Collm 81.84 331 *e*P P 17 04 07.0 +0.8
comp=Z,64nm,1.3s,baz=36,slow=5.1
CLL *e*pP pwP 17 04 21.1 +1.0
baz=36,slow=5.2
VRAC Vranov 81.94 328 ⇓P P 17 04 08.1 +1.3
VRAC Vranov 81.94 328 P P 17 04 08.1 +1.3
comp=Z,10nm,0.8s,baz=49,slow=5.2,SNR=29
VRAC Vranov 81.94 328 ⇓*i* P P 17 04 08.2 +1.3
SDCO Great Sand Dun 81.95 48 P P 17 04 08.5 +1.0
baz=311,SNR=23
NRDL Niedersach Rie 81.96 333 *e*pP pP 17 04 21.9 +11
baz=36,slow=5.2
FBE Freiberg 82.01 331 *e*P P 17 04 08.4 +1.3
comp=Z,73nm,1.4s,baz=36,slow=5.1
FBE *e*pP pwP 17 04 22.5 +1.5
baz=36,slow=5.2
GZR Gura Zlata 82.03 322 ⇑P P 17 04 08.6 +1.1
ASSE Asse, Remlinge 82.05 333 *e*P P 17 04 08.2 +0.9
comp=Z,32nm,1.4s,baz=36,slow=5.1
ASSE *e*pP pwP 17 04 22.4 +1.3
baz=36,slow=5.2
EYMN Ely 82.11 34 IAmb IAmb 17 04 09.2
comp=Z,78nm,1.6s
EYMN Ely 82.11 34 P P 17 04 07.8 0.0
baz=319
TUC Tucson 82.12 55 P P 17 04 08.7 +0.5
TUC pmax pmax
comp=Z,14nm,0.5s
TUC MLR MLR
comp=Z,900nm,19.0s
TUC Tucson 82.12 55 P P 17 04 08.7 +0.5
TUC Tucson 82.12 55 P P 17 04 09.3 +1.1
baz=309
SMOL Smolenice 82.19 327 *e*P P 17 04 10.0 +1.8
SMOL pmax pmax
comp=Z,15nm,1.2s
SMOL Smolenice 82.19 327 *e*P P 17 04 10.0 +1.8
KRUC Moravsky 82.22 328 ⇓*i* P P 17 04 09.3 +1.0
PRA Prague 82.25 330 AMS AMS 17 43 50.0
comp=Z,2μm,17.5s
PRU Pruhonice 82.27 330 *e*P P 17 04 09.7 +1.2
PRU *e* 17 04 23.1
PRU *e* 17 14 11.6
PRU MLR MLR
comp=Z,2μm,17.0s
PRU Pruhonice 82.27 330 *e*P P 17 04 09.7 +1.2
PRU *ex* x 17 04 23.1
PRU *ex* x 17 14 11.6
PRU AMS AMS 17 43 50.0
comp=Z,2μm,17.0s
SRO Srobarova 82.33 326 *e*P P 17 04 10.2 +1.3
SRO Srobarova 82.33 326 *e*P P 17 04 10.2 +1.3
NEUB Neuenburg 82.39 332 *e*P P 17 04 09.8 +0.8
comp=Z,81nm,1.3s,baz=36,slow=5.1
NEUB *e*pP pwP 17 04 24.2 +1.3
baz=36,slow=5.2
CLZ Clausthal 82.40 333 *e*P P 17 04 10.5 +1.3
comp=Z,76nm,1.3s,baz=36,slow=5.1
CLZ *e*pP pwP 17 04 24.5 +1.5
baz=36,slow=5.2
SOCY Socotra 82.41 279 P P 17 04 08.3 -1.6
SOCY Socotra 82.41 279 P P 17 04 08.6 -1.4
TREC Trest 82.42 329 AMS AMS 17 43 50.0
comp=Z,1μm,18.1s
BZS Buzias 82.44 323 ⇓P P 17 04 10.0 +0.5
BZS Buzias 82.44 323 P P 17 04 10.7 +1.2
ZST Bratislava 82.58 327 *e*P P 17 04 11.7 +1.6
ZST pmax pmax
comp=Z,259nm,2.2s
ZST Bratislava 82.58 327 *e*P P 17 04 11.7 +1.6
HERR Herculane 82.58 322 ⇓P P 17 04 11.0 +0.8
TANN Tannenbergstha 82.75 331 *e*P P 17 04 11.9 +0.8
comp=Z,42nm,1.7s,baz=36,slow=5.1
TANN *e*pP pwP 17 04 25.8 +0.9
baz=36,slow=5.2
ECSD EROS Data Cent 82.76 39 IAmb IAmb 17 04 12.8
comp=Z,121nm,1.9s
ECSD EROS Data Cent 82.76 39 IAMs_20 IAMs_20 17 40 31.8
comp=Z,463nm,20.0s
ECSD EROS Data Cent 82.76 39 P P 17 04 11.3 0.0
baz=316,SNR=16
GTTG Gottingen 82.78 333 *e*P P 17 04 12.2 +1.1

comp=Z,38nm,1.2s,baz=36,slow=5.1
GTTG ep P pwP 17 04 26.3 +1.3
baz=36,slow=5.2
KSCO Kaye Shedlock' 82.79 46 P P 17 04 11.9 +0.3
baz=313
PLN Plauen 82.82 331 eP P 17 04 12.3 +1.0
comp=Z,35nm,1.5s,baz=36,slow=5.1
PLN ep P pwP 17 04 26.3 +1.1
baz=36,slow=5.2
GUNZ Gunzen 82.85 331 eP P 17 04 12.6 +1.1
comp=Z,39nm,1.5s,baz=36,slow=5.1
GUNZ ep P pwP 17 04 26.7 +1.3
baz=36,slow=5.2
ASF Jabal al Asfar 82.85 305 P P 17 04 13.1 +1.1
comp=Z,7.6nm,1.1s,baz=44,slow=1.7,SNR=11
ASF PP PP 17 07 18.9 -3.0
comp=Z,2.5nm,0.8s,baz=85,slow=6.1,SNR=2.8
WERN Wernitzgruen 82.89 331 eP P 17 04 13.0 +1.2
comp=Z,128nm,2.2s,baz=36,slow=5.1
WERN ep P pwP 17 04 27.0 +1.4
baz=36,slow=5.2
MOX Moxa 82.90 331 eP P 17 04 12.6 +0.8
comp=Z,119nm,2.2s,baz=36,slow=5.1
MOX ep P pwP 17 04 26.8 +1.1
baz=36,slow=5.2
MOX eL L 17 47 30.2
comp=Z,1µm,18.0s
NKC Novy Kostel 82.90 331 eP P 17 04 12.7 +0.8
NKC e 17 14 23.3
NKC MLR MLR
comp=Z,1µm,15.2s
NKC Novy Kostel 82.90 331 eP P 17 04 12.7 +0.8
NKC eS S 17 14 23.3 -6.1
NKC AMS AMS 17 44 10.0
comp=Z,1µm,15.2s
IBBN Ibbenburen 82.94 334 eP P 17 04 12.9 +1.0
comp=Z,52nm,1.3s,baz=36,slow=5.1
IBBN ep P pwP 17 04 27.0 +1.2
baz=36,slow=5.2
MDVR Moldovita 83.00 322 ⇑P P 17 04 13.5 +1.0
T25A Trinidad 83.00 48 P P 17 04 13.8 +0.9
baz=312,SNR=13
E38A The Farm, Brul 83.09 35 IAmb IAmb 17 04 13.2
comp=Z,66nm,1.4s
ISP Isparta 83.13 313 IAMs_20 IAMs_20 17 44 47.7
comp=Z,302nm,19.0s
PPT Papeete 83.17 118 LR LR 17 38 09.6
comp=Z,510nm,18.7s,baz=300,slow=34
PPT2 Papeete2 83.18 118 eS S 17 14 30.6 -2.4
comp=Z,182nm,22.5s
PPT2 Papeete2 83.18 118 eLR LR 17 29 30.6
comp=Z,386nm,20.5s
ANMO Albuquerque 83.20 51 i P P 17 04 15.1 +1.2
ANMO Albuquerque 83.20 51 P P 17 04 15.0 +1.0
ANMO IAmb IAmb 17 04 16.7
comp=Z,56nm,1.4s
ANMO Albuquerque 83.20 51 P P 17 04 15.2 +1.3
baz=311
SOP Sopron 83.20 327 eP P 17 04 14.9 +1.4
SOP Sopron 83.20 327 P P 17 04 15.4 +2.0
MANZ Manzenberg 83.23 331 eP P 17 04 14.6 +1.0
comp=Z,32nm,1.5s,baz=36,slow=5.1
MANZ ep P pwP 17 04 28.6 +1.2
baz=36,slow=5.2
CKRC Cesky Krumlov 83.27 329 eP P 17 04 14.7 +0.9
CKRC ex x 17 04 28.3
CKRC ex x 17 14 31.0
MMAI Mount Meron Ar 83.28 306 P P 17 04 15.3 +1.1
comp=Z,18nm,1.0s,baz=51,slow=5.7,SNR=14
CONA Conrad Observa 83.31 328 i P P 17 04 15.3 +1.2
comp=Z,35nm,1.2s,SNR=25
KHC Kasperske Hory 83.33 330 eP P 17 04 14.3 +0.2
KHC e 17 04 28.4
KHC e 17 14 24.5
KHC MLR MLR
comp=Z,1µm,16.8s
KHC Kasperske Hory 83.33 330 eP P 17 04 14.3 +0.2
KHC ex x 17 04 28.4
KHC ex x 17 14 24.5
KHC AMS AMS 17 44 30.0
comp=Z,1µm,16.8s
CSS Mathiatis 83.33 309 IAmb IAmb 17 04 29.8
comp=Z,48nm,1.1s
UBBA Unterbreizbach 83.36 332 eP P 17 04 14.8 +0.8
comp=Z,76nm,2.0s,baz=36,slow=5.1
UBBA ep P pwP 17 04 29.0 +1.2
baz=36,slow=5.2
ROTZ Rotzenmuhle 83.37 331 eP P 17 04 15.6 +1.3
comp=Z,89nm,1.6s,baz=36,slow=5.1
ROTZ ep P pwP 17 04 29.6 +1.5
baz=36,slow=5.2
Y22D IRIS PASSCAL I 83.48 52 P P 17 04 16.7 +1.4
baz=311
GEC2 GERESS Array S 83.50 329 P P 17 04 15.1 0.0
GEC2 IAmb IAmb 17 04 30.5
comp=Z,47nm,1.5s
GEC2 GERESS Array S 83.50 329 eP P 17 04 15.7 +0.6
comp=Z,30nm,1.5s,baz=36,slow=5.1
GEC2 ep P pwP 17 04 29.8 +0.9
baz=36,slow=5.2
GERES GERESS Array B 83.50 329 P P 17 04 15.7 +0.6
comp=Z,5.2nm,0.8s,baz=46,slow=5.8,SNR=30
GERES PP PP 17 07 18.7 -7.9
comp=Z,1.0nm,0.9s,baz=38,slow=8.1,SNR=2.8
GERES LR LR 17 45 13.3
comp=Z,981nm,18.6s,baz=30,slow=38
SPMN Marine on St. 83.54 36 IAmb IAmb 17 04 16.8
comp=Z,94nm,1.7s
SPMN Marine on St. 83.54 36 P P 17 04 15.1 -0.1
baz=318
EKA Eskdalemuir Ar 83.58 342 P P 17 04 16.3 +1.1
comp=Z,3.2nm,0.8s,baz=50,slow=4.1,SNR=6.5
WET Wettzell 83.60 330 eP P 17 04 16.7 +1.2
comp=Z,60nm,1.7s,baz=36,slow=5.1
WET ep P pwP 17 04 30.7 +1.3
baz=36,slow=5.2
BNM Barren Site 83.61 52 P P 17 04 16.1 0.0
BGNE Belgrade 83.62 42 P P 17 04 15.6 -0.1
baz=315
KASTN Kahler Asten 83.62 333 eP P 17 04 16.4 +0.8
comp=Z,66nm,1.9s,baz=36,slow=5.1
KASTN ep P pwP 17 04 30.5 +1.1
baz=36,slow=5.2
FRGS Fruska Gora 83.63 324 ⇑P P 17 04 17.0 +1.2
FRGS Fruska Gora 83.63 324 ⇓iP P 17 04 15.4 -0.3
319A Douglas 83.70 55 IAmb IAmb 17 04 18.9
comp=Z,69nm,1.3s
KOVH Kovagotottos 83.73 325 eP P 17 04 16.7 +0.6
VTS Vitosha 83.81 320 ⇓P P 17 04 18.1 +1.3
VTS Vitosha 83.81 320 IAmb IAmb 17 04 33.0
comp=Z,69nm,1.4s
GRF Grafenberg Arr 83.81 331 eP P 17 04 17.9 +1.4
comp=Z,124nm,1.4s,baz=36,slow=5.1
GRF ep P pwP 17 04 32.0 +1.6
baz=36,slow=5.2
GRF eP P PP 17 07 27.9 -1.1
baz=38,slow=8.5
GRF eL L 17 48 08.6
comp=Z,747nm,18.5s
GRFO Grafenberg 83.81 331 P P 17 04 17.7 +1.1
GRFO pmax pmax
comp=Z,95nm,1.3s
GRFO MLR MLR
comp=Z,800nm,19.0s
GRFO Grafenberg 83.81 331 P P 17 04 17.7 +1.1
BUG Bochum--Üniver 83.83 334 eP P 17 04 17.1 +0.5
comp=Z,71nm,1.6s,baz=36,slow=5.1
BUG ep P pwP 17 04 31.3 +1.0
baz=36,slow=5.2
BOVS Bovan 83.84 322 ⇑P P 17 04 16.6 -0.1
121A Cookes Peak, D 83.93 54 P P 17 04 18.9 +1.2
baz=311,SNR=16
ARSA Arzberg 83.98 327 i P P 17 04 18.3 +0.8
comp=Z,17nm,1.6s,SNR=7.5
MOA Molln 84.05 328 eP P 17 04 19.2 +1.4
comp=Z,21nm,1.4s
D41A Chassel 84.07 33 IAmb IAmb 17 04 19.8
comp=Z,43nm,1.1s
HSIG 84.08 58 IAmb IAmb 17 04 20.6
comp=Z,109nm,1.8s
EZN Ezine 84.14 316 P P 17 04 19.5 +1.1
L34A Svendsen Farm, 84.15 40 P P 17 04 18.5 +0.1
ELL Elmali 84.21 312 P P 17 04 20.1 +1.1
SRIG Santa Rosalia 84.26 60 IAmb IAmb 17 04 21.5
comp=Z,102nm,1.6s
GHAJ Ghor Haditha 84.28 305 IAMs_20 IAMs_20 17 46 22.8
comp=Z,478nm,18.0s

KOGS Kog 84.29 326 i P P 17 04 18.9 -0.1
KOGS i 17 04 32.7
DIVS Divibare 84.33 323 ⇓iP P 17 04 19.7 +0.3
DIVS Divibare 84.33 323 IAmb IAmb 17 04 34.8
comp=Z,47nm,1.2s
TNS Taunus Mts 84.42 333 eP P 17 04 20.5 +0.9
comp=Z,45nm,1.5s,baz=36,slow=5.1
TNS ep P pwP 17 04 34.6 +1.1
baz=36,slow=5.2
MILB Miltenberg 84.43 332 eP P 17 04 20.5 +0.8
comp=Z,86nm,1.9s,baz=36,slow=5.1
MILB ep P pwP 17 04 34.6 +1.1
baz=36,slow=5.2
TAOE Nuku Hiva Isla 84.55 105 eLR LR 17 30 34.6
comp=Z,530nm,20.9s,baz=310
CBKS Cedar Bluff 84.57 45 P P 17 04 20.4 -0.2
baz=314
SOKA Soboth 84.64 327 i P P 17 04 21.5 +0.6
comp=Z,38nm,1.4s,SNR=20
AHRW Bad Neuenahr-A 84.65 334 eP P 17 04 21.5 +0.8
comp=Z,64nm,1.4s,baz=36,slow=5.1
AHRW ep P pwP 17 04 35.8 +1.2
baz=36,slow=5.2
G40A Rib Lake 84.72 35 IAmb IAmb 17 04 22.9
comp=Z,62nm,1.6s
AKAS Kas 84.74 312 IAmb IAmb 17 04 36.3
comp=Z,55nm,1.1s
SCHQ Schefferville 84.75 17 P P 17 04 21.6 +0.4
comp=Z,8.6nm,0.9s,baz=344,slow=6.2,SNR=5.5
SCHQ LR LR 17 45 23.2
comp=Z,361nm,19.6s,baz=336,slow=38
SCHQ Schefferville 84.75 17 P P 17 04 21.6 +0.4
RJOB Jochberg 84.75 329 eP P 17 04 22.6 +1.2
comp=Z,203nm,1.5s,baz=36,slow=5.1
RJOB ep P pwP 17 04 36.6 +1.4
baz=36,slow=5.2
BBLS Lazići 84.79 323 ⇓iP P 17 04 21.8 +0.1
BEBN Eben Emael 84.92 335 dP P 17 04 23.2 +1.2
BEBN dx x 17 04 36.8
BTNL Ternell 84.94 334 dP P 17 04 23.0 +0.8
BTNL dx x 17 04 36.2
MEM Membach 84.96 334 dP P 17 04 22.9 +0.6
MEM dx x 17 04 36.9
OBKA Obir 84.98 327 eP P 17 04 22.9 +0.3
comp=Z,10nm,1.5s
RUDO Rudo 84.99 323 eP P 17 04 22.8 +0.2
STIP Stip 85.01 320 iP P 17 04 22.8 0.0
FUR Furstenfeldbru 85.02 330 eP P 17 04 23.9 +1.2
comp=Z,53nm,1.1s,baz=36,slow=5.1
FUR ep P pwP 17 04 37.9 +1.4
baz=36,slow=5.2
KBA Koelnbreinsper 85.05 328 iP P 17 04 24.5 +1.4
comp=Z,22nm,1.6s,SNR=9.1
VAY Valandovo 85.08 320 iP P 17 04 24.1 +1.0
MRAK Mrakovica 85.10 325 ⇓iP P 17 04 23.0 -0.2
CRES Cresnjev 85.12 326 ⇓iP P 17 04 23.3 +0.1
BLY Banja Luka 85.17 325 ⇓iP P 17 04 23.7 +0.2
BHOU Houvegnez 85.18 334 dP P 17 04 24.2 +0.7
comp=Z,32nm,1.7s
BHOU dx x 17 04 38.3
SKO Skopje 85.19 321 iP P 17 04 25.1 +1.4
EPT El Paso 85.25 53 IAMs_20 IAMs_20 17 39 49.1
comp=Z,439nm,19.0s
MYKA Terra Mystica 85.27 328 iP P 17 04 24.5 +0.4
comp=Z,16nm,1.0s,SNR=8.1
N35A Tabor 85.33 41 IAmb IAmb 17 04 42.4
comp=Z,47nm,0.9s
STU Stuttgart 85.34 332 P P 17 04 25.7 +1.5
STU Stuttgart 85.34 332 eP P 17 04 25.2 +1.0
comp=Z,137nm,1.3s,baz=36,slow=5.1
STU ep P pwP 17 04 39.3 +1.3
baz=36,slow=5.2
LJU Ljubljana 85.35 327 ⇓iP P 17 04 24.1 -0.3
LJU Ljubljana 85.35 327 iP P 17 04 24.4 0.0
LJU i 17 04 37.6
LJU eSKSac S 17 14 51.9 -2.2
LJU e 17 15 49.5
BCLA Clavier 85.37 335 dP P 17 04 24.4 0.0
comp=Z,28nm,1.4s
BCLA dx x 17 04 39.0
BOJS Bojanci 85.46 326 eP P 17 04 25.2 +0.3
BGES Gesves 85.47 335 dP P 17 04 25.7 +0.8
comp=Z,27nm,1.7s
BGES dx x 17 04 39.3
K38A Parkersburg 85.47 38 IAmb IAmb 17 04 26.9
comp=Z,94nm,1.6s
WATA Walderalm 85.57 330 iP P 17 04 26.4 +0.8
comp=Z,26nm,1.6s,SNR=7.2
I40A Norwalk 85.58 36 IAmb IAmb 17 04 26.2
comp=Z,34nm,1.2s
WTTA Wattenberg 85.60 329 iP P 17 04 26.3 +0.5
comp=Z,14nm,1.3s,SNR=6.8
GBRS Gornja Briga 85.63 327 iP P 17 04 26.0 +0.1
GBRS i 17 04 39.4
GBRS eSKSac S 17 14 54.5 -2.3
SNF Seneffe 85.64 335 dP P 17 04 26.2 +0.5
SNF dx x 17 04 40.3
CEY Cerknica 85.64 327 ⇓iP P 17 04 25.4 -0.4
BMRD Maredsous 85.65 335 dP P 17 04 26.4 +0.7
BMRD dx x 17 04 40.3
ABTA Abfaltersbach 85.66 329 iP P 17 04 26.1 +0.1
comp=Z,12nm,1.1s,SNR=5.1
WLF Walferdange 85.71 334 dP P 17 04 27.3 +1.2
comp=Z,40nm,1.9s
WLF dx x 17 04 41.2
WLF Walferdange 85.71 334 eP P 17 04 27.2 +1.2
comp=Z,109nm,1.6s,baz=36,slow=5.1
WLF ep P pwP 17 04 41.3 +1.5
baz=36,slow=5.2
EIL Elat 85.74 304 P P 17 04 27.4 +0.8
comp=Z,4.1nm,0.8s,baz=116,slow=4.2,SNR=5.8
MOTA Moosalm 85.75 330 eP P 17 04 27.5 +0.9
comp=Z,35nm,1.4s,SNR=12
RETA Reutte 85.77 330 iP P 17 04 27.5 +1.0
comp=Z,42nm,1.4s,SNR=14
SCIA State Center 85.81 39 P P 17 04 27.3 +0.6
baz=318
SQTA Sankt Quirin 85.81 330 iP P 17 04 27.8 +1.0
comp=Z,18nm,1.3s,SNR=7.8
UBR Ueberruh 85.88 331 eP P 17 04 27.5 +0.5
comp=Z,23nm,1.4s,baz=36,slow=5.1
DOU Dourbes 85.88 335 dP P 17 04 26.5 -0.4
comp=Z,20nm,1.5s
DOU dLg Lg 17 04 40.8
BRY Bratogost 85.93 323 eP P 17 04 27.3 -0.2
PDG Podgorica 85.94 322 ⇑P P 17 04 27.7 +0.4
PDG Podgorica 85.94 322 ⇓iP P 17 04 27.3 0.0
PDG Podgorica 85.94 322 IAmb IAmb 17 04 43.3
comp=Z,89nm,1.3s
SKDS Skadanscina 85.97 327 ⇓iP P 17 04 26.3 -1.2
LIT Litokhoron 86.01 319 P P 17 04 27.5 -0.3
LIT Litokhoron 86.01 319 P P 17 04 27.5 -0.3
MNTX Cornudas Mount 86.01 53 IAmb IAmb 17 04 30.2
comp=Z,65nm,1.6s
MNTX Cornudas Mount 86.01 53 P P 17 04 28.6 +0.6
baz=312,SNR=27
BFO Black Forest 86.03 332 P P 17 04 27.6 -0.1
BFO pmax pmax
comp=Z,46nm,1.0s
BFO MLR MLR
comp=Z,800nm,18.0s
BFO Black Forest 86.03 332 P P 17 04 27.6 -0.1
BFO IAmb IAmb 17 04 44.6
comp=Z,46nm,1.0s
BFO Black Forest 86.03 332 eP P 17 04 28.4 +0.7
comp=Z,71nm,1.4s,baz=36,slow=5.1
BFO ep P pwP 17 04 42.6 +1.0
baz=36,slow=5.2
KSU1 Kansas State U 86.09 43 IAMs_20 IAMs_20 17 44 09.1
comp=Z,390nm,19.0s
KSU1 Kansas State U 86.09 43 P P 17 04 27.9 -0.3
baz=316
OHR Ohrid 86.15 320 iP P 17 04 22.1 -6.4
DRME Dracevica, Mon 86.16 322 ⇓iP P 17 04 27.9 -0.5
AMTX Amarillo 86.16 48 IAmb IAmb 17 04 47.6
comp=Z,40nm,0.9s
AMTX Amarillo 86.16 48 P P 17 04 29.5 +0.8
baz=314
FETA Feichten 86.16 330 iP P 17 04 29.6 +1.0
comp=Z,17nm,1.4s,SNR=6.0
DAVA Damuels 86.29 330 iP P 17 04 29.9 +0.7
comp=Z,30nm,1.1s,SNR=9.0
E46A Sault Ste Mari 86.42 31 IAmb IAmb 17 04 31.2
comp=Z,103nm,1.6s
H43A Windswept, Lux 86.44 34 IAmb IAmb 17 04 30.8
comp=Z,50nm,1.0s

JFWS Jewell Farm 86.49 36 IAMs_20 IAMs_20 17 40 38.3
comp=Z,501nm,22.0s
JFWS Jewell Farm 86.49 36 P P 17 04 29.9 -0.2
baz=320
KBN Korca 86.51 320 P P 17 04 29.7 -0.6
KBN pmax pmax
comp=Z,59nm,1.0s
KBN Korca 86.51 320 P P 17 04 29.7 -0.6
KBN IAmb IAmb 17 04 47.8
comp=Z,59nm,1.0s
APE Apeiranthos 86.52 315 ⇑P P 17 04 30.2 -0.2
CTI Castel Tesino 86.57 329 P P 17 04 29.7 -0.8
CTI pmax pmax
comp=Z,28nm,1.3s
CTI Castel Tesino 86.57 329 P P 17 04 29.7 -0.8
KARP Karpathos 86.65 313 IAMs_20 IAMs_20 17 48 47.1
comp=Z,432nm,20.0s
L40A Anamosa 86.67 38 IAmb IAmb 17 04 32.4
comp=Z,72nm,1.4s
DAVOX Davos/Dischmat 86.70 330 P P 17 04 31.9 +0.6
comp=Z,8.0nm,1.1s,baz=293,slow=0.8,SNR=9.5
KS21 Milan North St 86.80 44 IAMs_20 IAMs_20 17 48 11.3
comp=Z,270nm,20.0s
SANT Santorini 87.06 315 IAMs_20 IAMs_20 17 47 53.7
comp=Z,355nm,19.0s
TBI Tubuai 87.13 122 eS S 17 15 09.8 -1.9
comp=Z,225nm,25.5s
TBI Tubuai 87.13 122 eLR LR 17 31 43.1
comp=Z,591nm,33.0s,baz=311
P38A Dawn 87.33 40 P P 17 04 34.1 -0.2
P38A IAmb IAmb 17 04 36.2
comp=Z,84nm,1.4s
L42A Oliver, Polo 87.47 37 IAmb IAmb 17 04 39.2
comp=Z,38nm,1.2s
GLMI Grayling 87.53 32 IAMs_20 IAMs_20 17 46 35.2
comp=Z,362nm,18.0s
GLMI Grayling 87.53 32 P P 17 04 35.7 +0.7
baz=324
K43A Burlington 87.55 35 IAmb IAmb 17 04 36.6
comp=Z,53nm,1.4s
N41A Harden Midland 87.88 38 P P 17 04 36.4 -0.4
WMOK Wichita Mounta 87.97 47 IAmb IAmb 17 04 39.4
comp=Z,58nm,1.5s
WMOK Wichita Mounta 87.97 47 P P 17 04 37.9 +0.4
baz=315,SNR=12
SENIN Lac Senin/Sane 88.05 331 IAmb IAmb 17 04 39.8
comp=Z,41nm,1.7s
IDI Anoyia 88.15 314 P P 17 04 39.9 +1.6
comp=Z,11nm,0.8s,baz=14,slow=4.2,SNR=2.3
L44A Lake County Fo 88.16 36 P P 17 04 38.3 +0.1
baz=322
SLBS Sierra La Lagu 88.17 62 P P 17 04 39.3 +0.7
SLBS IAmb IAmb 17 04 42.3
comp=Z,65nm,1.6s
MURB Monte Urbino 88.43 327 IAmb IAmb 17 04 47.6
comp=Z,89nm,1.7s
X34A Smith Ranch, M 88.62 46 P P 17 04 41.0 +0.6
TX31 Lajitas Ar. Si 88.69 54 IAmb IAmb 17 04 59.1
comp=Z,42nm,0.8s
TXAR Lajitas Array 88.69 54 P P 17 04 41.6 +0.6
comp=Z,6.4nm,0.6s,baz=296,slow=3.4,SNR=77
TXAR LR LR 17 42 01.0
comp=Z,605nm,19.0s,baz=0.0,slow=34
AQU L'Aquila 88.76 325 ⇓iP P 17 04 41.4 +0.4
HDIL Hopedale 88.76 37 IAMs_20 IAMs_20 17 42 31.3
comp=Z,342nm,20.0s
HDIL Hopedale 88.76 37 P P 17 04 41.1 +0.1
baz=321
TUL1 Leonard 88.84 44 P P 17 04 41.8 +0.3
baz=317
S39A Bolivar 88.88 42 IAmb IAmb 17 04 42.7
comp=Z,82nm,1.7s
ABTX Abilene, Hawle 88.94 49 P P 17 04 42.6 +0.6
baz=315
U38A Gravette 89.23 43 IAmb IAmb 17 04 45.0
comp=Z,67nm,1.6s
P43A Skaggs, Pawnee 89.35 38 IAmb IAmb 17 04 45.6
comp=Z,78nm,1.4s
TIP Timpagrande 89.64 322 ⇓P P 17 04 45.2 0.0
CCM Cathedral Cave 89.69 40 P P 17 04 45.2 -0.2
CCM pmax pmax
comp=Z,108nm,1.4s
CCM Cathedral Cave 89.69 40 P P 17 04 45.2 -0.2
CCM Cathedral Cave 89.69 40 P P 17 04 45.6 +0.2
baz=319
SADO Sadowa 89.79 29 IAmb IAmb 17 04 47.2
comp=Z,35nm,1.4s
MGMO Mountain Grove 89.83 41 P P 17 04 45.2 -0.9
MGMO IAmb IAmb 17 04 47.5
comp=Z,83nm,1.6s
Z35A Perchaven, San 89.86 47 IAmb IAmb 17 05 04.2
comp=Z,42nm,0.9s
SFIN Lafayette 89.95 36 P P 17 04 46.8 +0.2
baz=322
AAM Ann Arbor 89.98 33 IAMs_20 IAMs_20 17 50 50.1
comp=Z,334nm,19.0s
AAM Ann Arbor 89.98 33 P P 17 04 47.2 +0.6
baz=324
X37A Clayton 90.03 45 IAmb IAmb 17 04 49.1
comp=Z,69nm,1.6s
U40A Yellville 90.12 42 P P 17 04 47.0 -0.5
U40A IAMs_20 IAMs_20 17 44 43.9
comp=Z,395nm,21.0s
U40A Yellville 90.12 42 P P 17 04 47.6 +0.1
baz=318
N47A Urbana 90.21 35 IAmb IAmb 17 04 49.3
comp=Z,92nm,1.5s
JCT Junction City 90.34 50 P P 17 04 48.6 0.0
JCT pmax pmax
comp=Z,71nm,1.9s
JCT Junction City 90.34 50 P P 17 04 48.6 0.0
JCT IAmb IAmb 17 04 52.3
comp=Z,71nm,1.9s
JCT Junction City 90.34 50 P P 17 04 48.6 0.0
baz=315
W39A Magazine 90.47 44 IAmb IAmb 17 04 50.9
comp=Z,66nm,1.6s
W39A Magazine 90.47 44 P P 17 04 48.6 -0.5
baz=318
T42A Van Buren 90.55 41 IAmb IAmb 17 04 51.0
comp=Z,58nm,1.4s
DELO Deloro Mine 90.59 28 IAmb IAmb 17 05 07.0
comp=Z,30nm,1.1s
WHTX Lake Whitney, 90.70 48 IAmb IAmb 17 05 08.8
comp=Z,45nm,1.0s
WHTX Lake Whitney, 90.70 48 P P 17 04 50.7 +0.5
baz=316,SNR=7.1
MIAR Mount Ida 91.07 44 IAMs_20 IAMs_20 17 45 48.2
comp=Z,392nm,19.0s
MIAR Mount Ida 91.07 44 P P 17 04 52.5 +0.6
baz=318
D62A Allapoint, All 91.21 22 IAmb IAmb 17 04 54.5
comp=Z,35nm,1.4s
D62A Allapoint, All 91.21 22 P P 17 04 52.9 +0.6
baz=335
LCAR Lake Charles 91.24 41 IAmb IAmb 17 04 54.3
comp=Z,76nm,1.7s
PECO Prince Edward 91.32 28 P P 17 04 53.3 +0.4
PECO IAmb IAmb 17 04 54.5
comp=Z,49nm,1.5s
W41B Gary Mavity, V 91.33 43 P P 17 04 52.9 -0.2
baz=319
O49A Covington 91.38 35 IAmb IAmb 17 06 34.0
comp=Z,44nm,0.9s
435B Jarrell 91.48 49 P P 17 04 54.2 +0.3
baz=316
E62A Clayton Lake 91.49 22 P P 17 04 53.7 +0.1
baz=334
ATD Arta Tunnel 91.49 286 P P 17 04 52.0 -2.2
ATD IAmb IAmb 17 05 10.2
comp=Z,28nm,1.1s
X40A Basin Creek Fa 91.52 43 P P 17 04 54.4 +0.4
baz=318,SNR=6.1
J55A Hilton 91.58 29 IAmb IAmb 17 04 55.8
comp=Z,59nm,1.4s
LONY Lake Ozonia 91.61 26 IAmb IAmb 17 04 55.7
comp=Z,42nm,1.6s
LONY IAMs_20 IAMs_20 17 53 57.5
comp=Z,461nm,19.0s
LONY Lake Ozonia 91.61 26 P P 17 04 53.6 -0.6
baz=331
ERPA Erie 91.68 31 IAMs_20 IAMs_20 17 50 12.9
comp=Z,387nm,20.0s
ERPA Erie 91.68 31 P P 17 04 54.7 +0.1
baz=327
P49A Miami Univ. Ec 91.73 35 IAmb IAmb 17 04 56.6
comp=Z,62nm,1.5s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
P49A	**Miami Univ. Ec**	**91.73**	**35**	P	**P**	**17 04 55.1**	**+0.2**
	baz=324						
BATG	**Bathurst New B**	**91.88**	**20**	IAmb	IAmb	17 05 12.9	
	comp=Z,20nm,0.9s						
PQI	**Presque Isle**	**91.88**	**21**	P	**P**	**17 04 55.3**	**-0.1**
J56A	**Wolcott**	**91.93**	**28**	IAmb	IAmb	17 04 58.1	
	comp=Z,88nm,1.9s						
ACSO	**Alum Creek Sta**	**91.95**	**34**	IAMs_20	IAMs_20	17 51 15.4	
	comp=Z,423nm,19.0s						
ACSO	**Alum Creek Sta**	**91.95**	**34**	P	**P**	**17 04 56.3**	**+0.4**
	baz=325						
M53A	**WI Miller and**	**91.96**	**32**	IAmb	IAmb	17 04 58.0	
	comp=Z,42nm,1.4s						
M53A	**WI Miller and**	**91.96**	**32**	P	**P**	**17 04 56.4**	**+0.5**
	baz=326						
E63A	**Oxbow**	**91.99**	**21**	IAmb	IAmb	17 04 57.7	
	comp=Z,76nm,1.6s						
E63A	**Oxbow**	**91.99**	**21**	P	**P**	**17 04 56.0**	**0.0**
	baz=335						
F62A	**Pittston Farm,**	**92.00**	**23**	IAmb	IAmb	17 05 13.5	
	comp=Z,37nm,1.1s						
F62A	**Pittston Farm,**	**92.00**	**23**	P	**P**	**17 04 56.4**	**+0.4**
	baz=334						
WCI	**Wyandotte Cave**	**92.03**	**37**	P	**P**	**17 04 56.3**	**0.0**
WCI				pmax	pmax		
	comp=Z,36nm,1.0s						
WCI				MLR	MLR		
	comp=Z,400nm,21.0s						
WCI	**Wyandotte Cave**	**92.03**	**37**	P	**P**	**17 04 56.3**	**0.0**
WCI				IAmb	IAmb	17 06 34.3	
	comp=Z,36nm,1.0s						
WCI	**Wyandotte Cave**	**92.03**	**37**	IAMs_20	IAMs_20	17 44 41.7	
	comp=Z,353nm,21.0s						
WCI	**Wyandotte Cave**	**92.03**	**37**	P	**P**	**17 04 56.6**	**+0.3**
	baz=322						
833A	**Chaparral WMA,**	**92.10**	**52**	P	**P**	**17 04 57.4**	**+0.6**
	baz=315						
J57A	**Williamstown**	**92.14**	**28**	IAmb	IAmb	17 04 58.5	
	comp=Z,72nm,1.6s						
M54A	**Oil Creek Stat**	**92.32**	**31**	IAMs_20	IAMs_20	17 52 47.9	
	comp=Z,382nm,18.0s						
M54A	**Oil Creek Stat**	**92.32**	**31**	P	**P**	**17 04 57.8**	**+0.2**
	baz=327						
N53A	**Lisbon**	**92.41**	**32**	IAmb	IAmb	17 04 59.9	
	comp=Z,43nm,1.6s						
G62A	**West of Eustis**	**92.43**	**23**	IAmb	IAmb	17 05 00.6	
	comp=Z,63nm,1.4s						
G62A	**West of Eustis**	**92.43**	**23**	P	**P**	**17 04 58.9**	**+0.9**
	baz=334						
F63A	**Nahmakanta, Br**	**92.44**	**22**	IAmb	IAmb	17 05 16.1	
	comp=Z,52nm,1.6s						
F63A	**Nahmakanta, Br**	**92.44**	**22**	P	**P**	**17 04 58.8**	**+0.7**
	baz=335						
Z41A	**Richland Creek**	**92.45**	**44**	P	**P**	**17 04 59.0**	**+0.6**
	baz=318						
VT1	**Waterbury**	**92.49**	**25**	P	**P**	**17 04 58.7**	**+0.4**
VT1				IAmb	IAmb	17 05 15.7	
	comp=Z,25nm,1.1s						
VT1				IAMs_20	IAMs_20	17 48 33.1	
	comp=Z,332nm,21.0s						
NATX	**Nacogdoches**	**92.50**	**46**	P	**P**	**17 04 59.4**	**+0.8**
	baz=317						
F64A	**Sherman**	**92.52**	**22**	IAmb	IAmb	17 05 15.5	
	comp=Z,18nm,1.0s						
F64A	**Sherman**	**92.52**	**22**	P	**P**	**17 04 58.9**	**+0.5**
	baz=335						
T47A	**Sharon Grove**	**92.61**	**38**	IAmb	IAmb	17 06 24.6	
	comp=Z,35nm,0.8s						
J59A	**Piesco**	**92.64**	**27**	IAmb	IAmb	17 05 00.8	
	comp=Z,44nm,1.6s						
N54A	**Moraine State**	**92.64**	**31**	IAmb	IAmb	17 05 00.1	
	comp=Z,43nm,1.6s						
N54A	**Moraine State**	**92.64**	**31**	P	**P**	**17 04 59.6**	**+0.6**
	baz=327						
O53A	**New Philadelph**	**92.71**	**33**	IAMs_20	IAMs_20	17 46 47.5	
	comp=Z,414nm,22.0s						
O53A	**New Philadelph**	**92.71**	**33**	P	**P**	**17 04 59.4**	**0.0**
	baz=326						
M55A	**Ridgway**	**92.72**	**30**	IAmb	IAmb	17 05 00.8	
	comp=Z,44nm,1.6s						
I60A	**Shoreham**	**92.73**	**26**	P	**P**	**17 04 59.3**	**-0.1**
	baz=332						
PKME	**Peaks-Kenny Pk**	**92.78**	**23**	IAMs_20	IAMs_20	17 45 56.2	
	comp=Z,351nm,19.0s						
PKME	**Peaks-Kenny Pk**	**92.78**	**23**	P	**P**	**17 04 59.9**	**+0.3**
	baz=334						
P52A	**Corning**	**92.82**	**34**	IAMs_20	IAMs_20	17 51 11.3	
	comp=Z,322nm,18.0s						
P52A	**Corning**	**92.82**	**34**	P	**P**	**17 04 59.5**	**-0.4**
	baz=325						
LBNH	**Lisbon**	**92.85**	**25**	P	**P**	**17 05 00.5**	**+0.5**
	baz=332						
VSL	**Villasalto**	**92.86**	**326**	IAMs_20	IAMs_20	17 50 33.7	
	comp=Z,449nm,20.0s						
WVT	**Waverly**	**92.91**	**39**	P	**P**	**17 04 59.5**	**-0.9**
WVT				pmax	pmax		
	comp=Z,36nm,0.9s						
WVT				MLR	MLR		
	comp=Z,300nm,18.0s						
WVT	**Waverly**	**92.91**	**39**	P	**P**	**17 04 59.5**	**-0.9**
WVT				IAmb	IAmb	17 08 14.9	
	comp=Z,36nm,0.9s						
WVT	**Waverly**	**92.91**	**39**	IAMs_20	IAMs_20	17 50 09.5	
	comp=Z,322nm,18.0s						
WVT	**Waverly**	**92.91**	**39**	P	**P**	**17 05 00.6**	**+0.2**
	baz=322						
G64A	**Maxfield**	**92.95**	**22**	P	**P**	**17 05 00.9**	**+0.5**
	baz=335						
ACCN	**Adirondack Com**	**93.00**	**26**	IAmb	IAmb	17 05 17.9	
	comp=Z,26nm,1.4s						
HKT	**Hockley**	**93.13**	**48**	P	**P**	**17 05 02.3**	**+0.9**
HKT				pmax	pmax		
	comp=Z,93nm,2.0s						
HKT	**Hockley**	**93.13**	**48**	P	**P**	**17 05 02.3**	**+0.9**
BINY	**Binghamton**	**93.19**	**28**	IAMs_20	IAMs_20	17 50 14.5	
	comp=Z,388nm,21.0s						
BINY	**Binghamton**	**93.19**	**28**	P	**P**	**17 05 01.8**	**+0.2**
	baz=330						
HNH	**Hanover**	**93.20**	**25**	IAMs_20	IAMs_20	17 47 28.7	
	comp=Z,324nm,20.0s						
WVL	**Waterville**	**93.29**	**23**	IAmb	IAmb	17 05 04.2	
	comp=Z,66nm,1.7s						
OXF	**Oxford**	**93.35**	**41**	IAMs_20	IAMs_20	17 48 55.2	
	comp=Z,255nm,18.0s						
OXF	**Oxford**	**93.35**	**41**	P	**P**	**17 05 02.8**	**+0.3**
	baz=320						
G65A	**Princeton**	**93.35**	**21**	IAmb	IAmb	17 05 04.5	
	comp=Z,52nm,1.6s						
G65A				IAMs_20	IAMs_20	17 51 09.4	
	comp=Z,322nm,20.0s						
G65A	**Princeton**	**93.35**	**21**	P	**P**	**17 05 01.6**	**-0.6**
	baz=336						
H64A	**Troy**	**93.36**	**23**	P	**P**	**17 05 02.0**	**-0.3**
	baz=334						
I62A	**Tamworth**	**93.37**	**24**	P	**P**	**17 05 02.5**	**+0.2**
	baz=333						
I63A	**Otisfield**	**93.46**	**24**	IAMs_20	IAMs_20	17 48 32.4	
	comp=Z,427nm,20.0s						
I63A	**Otisfield**	**93.46**	**24**	P	**P**	**17 05 03.7**	**+1.0**
	baz=334						
LMN	**Caledonia Moun**	**93.53**	**19**	IAmb	IAmb	17 05 20.8	
	comp=Z,24nm,0.9s						
L59A	**Walton**	**93.55**	**28**	IAmb	IAmb	17 05 21.6	
	comp=Z,16nm,0.9s						
PLAL	**Pickwick Lake**	**93.68**	**40**	IAmb	IAmb	17 08 40.9	
	comp=Z,20nm,1.1s						
K61A	**Williamstown**	**93.77**	**26**	P	**P**	**17 05 03.7**	**-0.5**
	baz=332						
SSPA	**Standing Stone**	**93.78**	**30**	P	**P**	**17 05 04.3**	**0.0**
SSPA				IAmb	IAmb	17 05 06.2	
	comp=Z,39nm,1.8s						
SSPA	**Standing Stone**	**93.78**	**30**	IAMs_20	IAMs_20	17 52 07.4	
	comp=Z,474nm,20.0s						
SSPA	**Standing Stone**	**93.78**	**30**	P	**P**	**17 05 04.5**	**+0.2**
	baz=328						
J62A	**Henniker**	**93.79**	**25**	P	**P**	**17 05 04.1**	**-0.2**
	baz=333						
MCWV	**Mont Chateau**	**93.79**	**32**	P	**P**	**17 05 04.7**	**+0.3**
	baz=327						
H66A	**Whiting**	**93.81**	**21**	P	**P**	**17 05 04.0**	**-0.3**
	baz=336						
O56A	**Blue Knob Stat**	**93.81**	**31**	IAmb	IAmb	17 05 06.1	
	comp=Z,33nm,1.6s						
O56A	**Blue Knob Stat**	**93.81**	**31**	P	**P**	**17 05 04.8**	**+0.3**
	baz=328						
EMMW	**East Machias**	**93.83**	**22**	IAMs_20	IAMs_20	17 51 15.1	
	comp=Z,375nm,20.0s						
ZAIG	**Zacatecas**	**93.86**	**58**	P	**P**	**17 05 04.4**	**-1.0**
I64A	**Boothbay**	**93.88**	**23**	P	**P**	**17 05 04.9**	**+0.2**
	baz=334						
Q54A	**Coxs Mills**	**93.92**	**33**	IAmb	IAmb	17 05 07.0	
	comp=Z,39nm,1.5s						
J63A	**Strafford**	**93.99**	**25**	P	**P**	**17 05 05.4**	**+0.2**
	baz=333						
K62A	**Royalston**	**94.14**	**26**	P	**P**	**17 05 05.5**	**-0.4**
	baz=332						
L61B	**Northampton**	**94.17**	**26**	P	**P**	**17 05 05.8**	**-0.3**
	baz=332						
K63A	**Dunstable**	**94.36**	**25**	P	**P**	**17 05 06.2**	**-0.7**
	baz=333						
N59A	**State Game Lan**	**94.37**	**29**	IAmb	IAmb	17 05 08.9	
	comp=Z,40nm,1.7s						
N59A				IAMs_20	IAMs_20	17 54 32.0	
	comp=Z,366nm,20.0s						
N59A	**State Game Lan**	**94.37**	**29**	P	**P**	**17 05 06.2**	**-0.9**
	baz=330						
QUA2	**Belchertown**	**94.44**	**26**	IAMs_20	IAMs_20	17 53 42.5	
	comp=Z,367nm,20.0s						
VBMS	**Vicksburg**	**94.50**	**44**	P	**P**	**17 05 07.9**	**+0.1**
	baz=320						
HRV	**Adam Dziewonsk**	**94.51**	**25**	IAMs_20	IAMs_20	17 55 48.3	
	comp=Z,329nm,18.0s						
HRV	**Adam Dziewonsk**	**94.51**	**25**	P	**P**	**17 05 07.7**	**0.0**
	baz=333						
TZTN	**Tazewell**	**94.68**	**36**	IAmb	IAmb	17 06 00.7	
	comp=Z,33nm,1.6s						
TZTN				IAMs_20	IAMs_20	17 44 48.0	
	comp=Z,393nm,21.0s						
TZTN	**Tazewell**	**94.68**	**36**	P	**P**	**17 05 08.8**	**+0.2**
	baz=324						
V51A	**Loudon**	**94.89**	**37**	IAmb	IAmb	17 05 52.1	
	comp=Z,55nm,1.5s						
PAL	**Palisades**	**95.00**	**28**	P	**P**	**17 05 09.8**	**0.0**
	baz=331						
L63A	**North Scituate**	**95.06**	**26**	P	**P**	**17 05 09.4**	**-0.8**
	baz=333						
WSPT	**Westport, CT**	**95.06**	**27**	IAMs_20	IAMs_20	17 49 45.1	
	comp=Z,410nm,21.0s						
V52A	**Sevierville**	**95.23**	**37**	P	**P**	**17 05 11.1**	**0.0**
V52A				IAmb	IAmb	17 05 12.8	
	comp=Z,30nm,1.4s						
L64A	**Middleborough**	**95.26**	**25**	P	**P**	**17 05 09.7**	**-1.3**
	baz=333						
TKL	**Tuckaleechee C**	**95.29**	**37**	LR	LR	17 52 06.2	
	comp=Z,81nm,18.9s,baz=326,slow=38						
P60A	**Greenville**	**95.38**	**29**	IAMs_20	IAMs_20	17 54 15.6	
	comp=Z,358nm,20.0s						
P60A	**Greenville**	**95.38**	**29**	P	**P**	**17 05 11.3**	**-0.3**
	baz=330						
M64A	**Tiverton**	**95.48**	**25**	IAMs_20	IAMs_20	17 53 01.9	
	comp=Z,304nm,20.0s						
M64A	**Tiverton**	**95.48**	**25**	P	**P**	**17 05 11.7**	**-0.3**
	baz=333						
BLA	**Blacksburg**	**95.57**	**34**	IAMs_20	IAMs_20	17 48 58.3	
	comp=Z,458nm,20.0s						
BLA	**Blacksburg**	**95.57**	**34**	P	**P**	**17 05 12.1**	**-0.6**
	baz=326						
M65A	**Busby, Falmout**	**95.66**	**25**	IAMs_20	IAMs_20	17 53 57.7	
	comp=Z,358nm,20.0s						
LRAL	**Lakeview Retre**	**95.76**	**41**	IAMs_20	IAMs_20	17 45 47.0	
	comp=Z,345nm,22.0s						
LRAL	**Lakeview Retre**	**95.76**	**41**	P	**P**	**17 05 13.2**	**-0.3**
	baz=322						
KEST	**Kesra**	**95.95**	**324**	P	**P**	**17 05 14.6**	**+0.1**
	comp=Z,3.5nm,1.1s,baz=301,slow=5.9,SNR=2.0						
KEST				LR	LR	17 53 35.1	
	comp=Z,843nm,18.2s,baz=253,slow=39						
CBN	**Corbin Frederi**	**96.05**	**31**	IAMs_20	IAMs_20	17 53 49.6	
	comp=Z,364nm,20.0s						
CBN	**Corbin Frederi**	**96.05**	**31**	P	**P**	**17 05 14.5**	**-0.2**
	baz=328						
BG3	**Lake Jocassee**	**96.23**	**37**	P	**P**	**17 05 15.3**	**-0.3**
BG3				IAmb	IAmb	17 05 17.6	
	comp=Z,64nm,1.9s						
KMSC	**Kings Mountain**	**96.86**	**36**	P	**P**	**17 05 16.7**	**-1.8**
	baz=326						
BRAL	**Brewton**	**97.19**	**42**	P	**P**	**17 05 20.2**	**+0.1**
	baz=322						
GOGA	**Godfrey**	**97.25**	**38**	IAMs_20	IAMs_20	17 55 48.2	
	comp=Z,407nm,19.0s						
GOGA	**Godfrey**	**97.25**	**38**	P	**P**	**17 05 20.1**	**-0.1**
	baz=324						
ESDC	**Sonseca Array**	**97.92**	**335**	P	**P**	**17 05 23.2**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=45,slow=3.8,SNR=2.1						
ESDC				PP	PP	17 09 06.2	-15
	comp=Z,1.4nm,0.8s,baz=26,slow=7.3,SNR=4.9						
ESDC				LR	LR	17 55 08.7	
	comp=Z,680nm,18.6s,baz=355,slow=39						
CNNC	**Cliffs of the**	**98.34**	**33**	IAMs_20	IAMs_20	17 50 08.4	
	comp=Z,384nm,20.0s						
TIGA	**Tifton**	**98.77**	**39**	P	**P**	**17 05 26.3**	**-0.9**
	baz=324						
NHSC	**New Hope**	**99.08**	**36**	IAMs_20	IAMs_20	17 54 54.4	
	comp=Z,369nm,20.0s						
DWPF	**Disney Wildern**	**102.56**	**40**	IAMs_20	IAMs_20	18 01 37.0	
	comp=Z,317nm,20.0s						
VNDA	**Vanda**	**114.95**	**176**	PKP	PKPdf	17 10 26.6	-0.1
	comp=Z,1.4nm,1.0s,baz=316,slow=3.1,SNR=6.0						
SBA	**Scott Base**	**115.60**	**175**	PKIKP	**PKiKP**	**17 10 28.4**	**+0.4**
SBA	**Scott Base**	**115.60**	**175**		**PKiKP**	**17 10 28.4**	**+0.4**
TORD	**Torodi Ar. Bea**	**118.44**	**317**	PKP	**PKPdf**	**17 10 35.0**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=39,slow=2.6,SNR=6.0						
TORD				PP	**PP**	**17 11 45.0**	**-6.2**
	comp=Z,4.2nm,1.1s,baz=30,slow=6.1,SNR=4.0						
TORD				PKKPbc	**PKKPbc**	**17 20 52.4**	**+0.9**
	comp=Z,1.8nm,1.1s,baz=250,slow=2.4,SNR=4.2						
SMRT	**St. Maarten**	**119.64**	**29**	IAMs_20	IAMs_20	18 05 08.1	
	comp=Z,257nm,22.0s						
MAW	**Mawson**	**120.38**	**206**	PKP	**PKiKP**	**17 10 37.8**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=75,slow=3.8,SNR=7.1						
MAW				PP	**PP**	**17 12 03.4**	**-1.1**
	comp=Z,4.9nm,1.1s,baz=78,slow=9.3,SNR=3.7						
HELC	**Santa Helena**	**123.53**	**49**	*e*P	**PKiKP**	**17 10 47.9**	**+1.9**
PTBC	**PUERTO BERRIO,**	**123.89**	**47**	*e*P	**PKPdf**	**17 10 45.5**	**-0.5**
GUY2C	**Guyana, Caldas**	**124.39**	**49**	*e*P	**PKPdf**	**17 10 46.9**	**-0.6**
YOTC	**Yotoco, Valle**	**124.76**	**51**	*e*P	**PKPdf**	**17 10 46.8**	**-1.0**
SPBC	**San Pablo de B**	**124.83**	**48**	*e*P	**PKPdf**	**17 10 47.7**	**-0.2**
TOLC	**Tolima**	**124.92**	**50**	*e*P	**PKiKP**	**17 10 50.7**	**+2.1**
POPC	**Popayan, Colom**	**125.67**	**53**	*e*P	**PKiKP**	**17 10 50.5**	**+0.5**
CHIC	**Chingaza**	**125.84**	**48**	*e*P	**PKPdf**	**17 10 48.7**	**-1.5**
DBIC	**Dimbokro**	**127.35**	**319**	PKP	**PKPdf**	**17 10 52.9**	**+0.4**
	comp=Z,6.0nm,0.9s,baz=208,slow=1.0,SNR=4.4						
BOSA	**Boshof**	**128.27**	**260**	PKP	**PKPdf**	**17 10 54.2**	**+0.2**
	comp=Z,4.0nm,1.0s,baz=315,slow=1.4,SNR=3.2						
SYO	**Syowa Base**	**129.07**	**207**	⇓*e*pPdiff	pPdif	17 07 46.0	+1.1
BOAV	**Boa Vista**	**134.75**	**35**	*e*P	**PKiKP**	**17 11 07.7**	**-0.3**
CZSB	**Cruzeiro do Su**	**135.97**	**57**	*e*P	**PKiKP**	**17 11 10.4**	**0.0**
PTGA	**Pitinga**	**137.75**	**36**		**PKPdf**	**17 11 10.3**	**-1.9**
MACA	**Manacapuru-AM**	**139.51**	**39**	*e*P	**PKPdf**	**17 11 15.7**	**+0.4**
MCPB	**Macapa, AP**	**140.66**	**25**	*e*P	**PKPdf**	**17 11 17.8**	**+0.4**
MALB	**Monte Alegre**	**141.23**	**29**	*e*P	**PKPdf**	**17 11 19.5**	**+1.1**
SNAA	**Sanae**	**141.34**	**196**	PKPdf	**PKPdf**	**17 11 10.3**	**-6.7**
SNAA	**Sanae**	**141.34**	**196**	PP	PP	17 14 20.1	+0.1
VNA2	**Neumayer--Watz**	**142.89**	**195**	PKPdf	**PKPdf**	**17 11 15.9**	**-3.8**
VNA2	**Neumayer--Watz**	**142.89**	**195**	PP	PP	17 14 28.0	-1.2
SAML	**Samuel**	**142.94**	**48**	PKIKP	**PKPdf**	**17 11 19.6**	**-1.9**
SAML	**Samuel**	**142.94**	**48**	*e*P	**PKPdf**	**17 11 18.1**	**-3.4**
VNA3	**Neumayer Olymp**	**143.10**	**194**	PKPdf	PKPab	17 11 15.8	+0.3
VNA3	**Neumayer Olymp**	**143.10**	**194**	PP	PP	17 14 30.7	+0.2
VNA1	**Neumayer--Stat**	**143.28**	**195**	PKPdf	PKPbc	17 11 17.3	-0.2
VNA1	**Neumayer--Stat**	**143.28**	**195**	PP	PP	17 14 36.3	+4.7
TMAB	**Tom-Au,PA,Br**	**143.77**	**20**	*e*P	**PKPdf**	**17 11 22.1**	**-0.9**
LPAZ	**La Paz**	**145.15**	**62**	PKPbc	**PKPbc**	**17 11 25.3**	**-0.2**
	comp=Z,12nm,1.0s,baz=352,slow=5.1,SNR=25						
LPAZ	**La Paz**	**145.15**	**62**	*e*P	**PKPbc**	**17 11 25.6**	**+0.1**
LPAZ	**La Paz**	**145.15**	**62**	*e*P	**PKPbc**	**17 11 25.7**	**+0.1**
ROSB	**Rosrio**	**145.19**	**14**	*e*P	**PKPdf**	**17 11 25.8**	**+0.3**
NPGB	**Novo Progresso**	**145.45**	**35**	*e*P	**PKPab**	**17 11 26.2**	**+0.2**
PSGCX	**Pisagua**	**145.84**	**69**	PKPdf	**PKPbc**	**17 11 26.9**	**-0.1**
NBMO	**Morrinhos-CE**	**146.17**	**6**	*e*P	**PKPbc**	**17 11 28.4**	**+0.3**
PRPB	**Parauapebas**	**146.85**	**25**	*e*P	**PKPbc**	**17 11 30.0**	**0.0**
PB08	**IPOC Station P**	**146.89**	**68**		**PKPdf**	**17 11 27.6**	**-1.0**
NBPS	**Pedro II - PI**	**147.09**	**9**	*e*P	**PKPbc**	**17 11 31.1**	**+0.3**
PMSA	**Palmer Station**	**147.85**	**158**		**PKPdf**	**17 11 29.6**	**+1.3**
PMSA	**Palmer Station**	**147.85**	**158**	*e*P	**PKPbc**	**17 11 30.0**	**-1.2**
VILB	**Vilhena**	**147.88**	**48**	*e*P	**PKPbc**	**17 11 31.8**	**-1.1**
NBPB	**Pedra_Branca-C**	**148.42**	**6**	*e*P	**PKPdf**	**17 11 31.9**	**+1.0**
LVC	**Limon Verde**	**148.53**	**72**	PKIKP	**PKPdf**	**17 11 31.6**	**+0.4**
LVC	**Limon Verde**	**148.53**	**72**	PKPdf	**PKPdf**	**17 11 31.6**	**+0.4**
LVC	**Limon Verde**	**148.53**	**72**	*e*P	**PKPbc**	**17 11 33.2**	**-1.7**
CLDB	**Colider**	**148.57**	**39**	*e*P	**PKPdf**	**17 11 31.3**	**+0.2**
RCBR	**Riachuelo**	**148.83**	**359**	PKP2	**PKPbc**	**17 11 34.5**	**-0.9**
RCBR	**Riachuelo**	**148.83**	**359**		**PKPbc**	**17 11 34.5**	**-0.9**
RCBR	**Riachuelo**	**148.83**	**359**	*e*P	**PKPbc**	**17 11 34.0**	**-1.4**
NBPV	**Pedro Velho**	**149.40**	**358**	*e*P	**PKPbc**	**17 11 35.4**	**-1.4**
SMTB	**Santa Maria do**	**150.09**	**23**	*e*P	**PKPdf**	**17 11 34.7**	**+1.2**
NBMA	**Muriti-CE**	**150.28**	**5**	*e*P	**PKPbc**	**17 11 36.9**	**-2.1**
LCO	**Las Campanas**	**150.30**	**84**	PKIKP	**PKiKP**	**17 11 39.8**	**+0.1**
LCO	**Las Campanas**	**150.30**	**84**		**PKiKP**	**17 11 39.8**	**+0.1**
NBLV	**Livramento - P**	**150.35**	**1**	*e*P	**PKPdf**	**17 11 35.1**	**+1.1**
PTLB	**Pontes e Lacer**	**150.47**	**49**	*e*P	**PKPdf**	**17 11 35.1**	**+1.1**
GO04	**Tololo Observa**	**150.69**	**86**		**PKPbc**	**17 11 38.9**	**-0.9**
GO09	**Cerro Castillo**	**150.98**	**131**	PKPdf	**PKPdf**	**17 11 32.2**	**-1.5**
GO09					**PKiKP**	**17 11 40.0**	**-0.1**
GO05	**Huala**	**151.35**	**97**		**PKPbc**	**17 11 41.1**	**+0.1**
SNDB	**Serra Nova Dou**	**151.61**	**32**	*e*P	**PKPdf**	**17 11 36.5**	**+0.7**
NBRF	**Rio Formoso -**	**151.64**	**357**	*e*P	**PKPdf**	**17 11 38.9**	**+3.0**
AROD	**Rodeo**	**151.75**	**86**	*i* P	**PKiKP**	**17 11 43.6**	**+0.9**
LL04	**Puerto Octay**	**151.94**	**109**		**PKPab**	**17 11 52.4**	**+1.0**
ACDV	**Cuesta del Vie**	**152.03**	**85**	*i* P	**PKiKP**	**17 11 43.8**	**+0.7**
LC01	**Cunco**	**152.14**	**105**		**PKPdf**	**17 11 34.8**	**-1.2**
VCA	**Vinchina**	**152.16**	**82**	*i* P	**PKiKP**	**17 11 44.1**	**+0.6**
ACCO	**Cerro Coronel**	**152.23**	**86**	*i* P	**PKPbc**	**17 11 43.6**	**+0.2**
AGUA	**GUANDACOL**	**152.25**	**83**	*i* P	**PKiKP**	**17 11 44.0**	**+0.5**
RTLS	**Leoncito**	**152.49**	**89**	*i* P	**PKPbc**	**17 11 43.8**	**-0.1**
AUSP	**Uspallata**	**152.56**	**90**	*i* P	**PKiKP**	**17 11 45.0**	**+0.7**
NBAN	**Anadia - AL**	**152.65**	**360**	*e*P	**PKPdf**	**17 11 40.5**	**+3.1**
SALV	**Santo Antonio**	**152.83**	**44**	*e*P	**PKPdf**	**17 11 38.8**	**+1.2**
ZON	**Zonda**	**152.89**	**88**	PKIKP	**PKPdf**	**17 11 37.2**	**-0.1**
ZON						17 11 45.0	
ZON	**Zonda**	**152.89**	**88**	PKPdf	**PKPdf**	**17 11 37.2**	**-0.1**
ZON					**PKiKP**	**17 11 45.0**	**+0.2**
ZON					**PKPab**	**17 11 57.4**	**+1.6**
PEXB	**Peixe**	**152.89**	**26**	*e*P	**PKPdf**	**17 11 39.0**	**+1.2**
ASAL	**Salagasta**	**153.12**	**90**	*e*P	**PKPdf**	**17 11 36.8**	**-0.9**
PLCA	**Paso Flores**	**153.34**	**108**	PKP	**PKPdf**	**17 11 38.1**	**+0.4**
	comp=Z,3.1nm,1.1s,baz=333,slow=4.5,SNR=3.0						
PLCA				PKPab	**PKPab**	**17 11 56.9**	**-0.6**
	comp=Z,3.8nm,0.7s,baz=235,slow=2.4,SNR=12						
PLCA	**Paso Flores**	**153.34**	**108**		**PKPdf**	**17 11 37.8**	**0.0**
PLCA	**Paso Flores**	**153.34**	**108**	*e*P	**PKPdf**	**17 11 37.6**	**0.0**
ACLC	**CERRO LA CRUZ**	**153.45**	**82**	*i* P	**PKPdf**	**17 11 39.1**	**+0.8**
AVFE	**Valle Fertil**	**153.54**	**85**	*i* P	**PKPdf**	**17 11 38.9**	**+0.6**
NBPN	**Ponto Novo - B**	**153.60**	**8**	*e*P	**PKPdf**	**17 11 39.8**	**+1.0**
CYA	**Choya**	**153.93**	**79**	*i* P	**PKPdf**	**17 11 39.5**	**+0.6**
NBLA	**Lagarto - SE**	**153.94**	**3**	*e*P	**PKPdf**	**17 11 42.1**	**+2.9**
APLL	**PUNTA DE LOS L**	**154.18**	**84**	*i* P	**PKPbc**	**17 11 47.2**	**-0.2**
SDBA	**SAO DESIDERIO**	**154.23**	**19**	*e*P	**PKPdf**	**17 11 40.2**	**+0.5**
PP1B	**Ponte de Pedra**	**154.66**	**45**	*e*P	**PKPdf**	**17 11 41.4**	**+1.2**
ARAG	**Araguaiana, MT**	**154.67**	**37**	*e*P	**PKPdf**	**17 11 41.5**	**+1.3**
BDFB	**Brasilia**	**156.25**	**29**	PKPab	**PKPab**	**17 12 09.9**	**-0.4**
	comp=Z,3.6nm,0.7s,baz=11,slow=8.4,SNR=4.1						
AQDB	**Aquidauana**	**156.41**	**51**	*e*P	**PKPdf**	**17 11 43.2**	**+0.8**
GDU01	**Guandu, BA**	**156.51**	**8**	*e*P	**PKPdf**	**17 11 43.6**	**+0.9**
JANB	**Januaria**	**156.92**	**20**	*e*P	**PKPdf**	**17 11 43.6**	**+0.4**
CMC01	**Camacan, BA**	**158.13**	**8**	*e*P	**PKPdf**	**17 11 45.4**	**+0.7**
IPMB	**Ipameri, GO**	**158.29**	**32**	*e*P	**PKPdf**	**17 11 45.6**	**+0.7**
MC01	**Montes Claros**	**158.59**	**20**	*e*P	**PKPdf**	**17 11 46.3**	**+1.0**
ITRB	**Iturama**	**158.80**	**39**	*e*P	**PKPdf**	**17 11 47.7**	**+2.2**
CPUP	**Villa Florida**	**159.27**	**65**	PKP	**PKPdf**	**17 11 46.1**	**+0.3**
	comp=Z,3.3nm,1.0s,baz=240,slow=4.7,SNR=3.4						
CPUP				PKPab	**PKPab**	**17 12 22.6**	**-0.5**
	comp=Z,2.4nm,0.7s,baz=322,slow=3.7,SNR=3.3						
PCMB	**Pacaembu**	**159.89**	**44**	*e*P	**PKPdf**	**17 11 47.5**	**+0.9**
BB19B	**Bebedouro**	**160.85**	**37**	*e*P	**PKPdf**	**17 11 50.4**	**+2.6**
SJMB	**Sao Joao De Ma**	**161.16**	**14**	*e*P	**PKPdf**	**17 11 49.2**	**+1.1**
PTGB	**Pitanga**	**161.79**	**52**	*e*P	**PKPdf**	**17 11 51.7**	**+3.0**
FRTB	**Fartura**	**162.21**	**43**	*e*P	**PKPdf**	**17 11 49.3**	**+0.2**
BSCB	**Bom Sucesso**	**162.36**	**27**	*e*P	**PKPdf**	**17 11 50.1**	**+0.7**
SPB	**Sao Paulo**	**163.52**	**38**	*e*P	**PKPdf**	**17 11 53.5**	**+3.2**
VAS01	**Vassouras-RJ**	**164.00**	**24**	*e*P	**PKPdf**	**17 11 52.9**	**+2.1**
PLTB	**Pedras Altas**	**164.87**	**74**	*e*P	**PKPdf**	**17 11 52.0**	**+0.7**

*IDC **03** 16:53:48.2±1.9, 5°.30N×126°.46E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/54, mbtmp3.7/4, Error ellipse: s-maj=109.4km s-min=25.9km az=70.0*

*MAN **03** 16:54:06.7, 6°.38N×125°.84E, h38km, mb4.8, ML3.7, MS3.7*

ISC 03 16:53:52.6±1.7**, 5°.4N**±0°.2×**126°.2E**±0°.4**, h35**km**, n7,** σ**2**s**10**/8**, mb3.7**/4**, 1C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.80**	**339**	Pn	**Pn**	**16 54 22.8**	**+1.7**
	baz=180,slow=15,SNR=0.9						
DAV				Sn	**Sn**	**16 54 44.1**	**+1.3**
	105nm,0.3s,baz=321,slow=23,SNR=11						
DAV				LR	LR	16 54 50.3	
	comp=Z,6.2nm,18.7s,baz=56,slow=32						
KCP	**Kidapawan**	**1.98**	**325**	⇓*i*P	**Pn**	**16 54 25.3**	**+1.6**
KCP				*i* S	**Sn**	**16 54 46.9**	**-0.4**
BUKP	**Musuan**	**2.74**	**335**	⇑*e*P	**Pn**	**16 54 34.0**	**-0.1**
BUKP				*i* S	**Sn**	**16 55 02.3**	**-3.8**
FITZ	**Fitzroy Crossi**	**23.34**	**181**	P	**P**	**16 58 57.8**	**-0.1**
	1.5nm,0.4s,baz=6.9,slow=9.7,SNR=11						
WRA	**Warramunga Arr**	**26.40**	**163**	P	**P**	**16 59 25.3**	**-0.8**
	0.3nm,0.4s,baz=344,slow=10,SNR=12						
ASAR	**Alice Springs**	**29.83**	**166**	P	P	16 59 56.0	-0.6
	0.7nm,0.5s,baz=341,slow=7.0,SNR=27						
STKA	**Stephens Creek**	**39.84**	**159**	P	P	17 01 22.2	-0.6
	0.6nm,0.4s,baz=335,slow=12,SNR=4.3						

NEIC 03 17:01:39.3±0.5**, 30°.65N**±0°.03×**97°.83W**±0°.06**, h5**km±2km**, mb_Lg2.9**/20**, Error ellipse: s-maj=9.7km s-min=3.0km az=117.0, Central Texas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
435B	**Jarrell**	**0.25**	**57**	Pg	Pg	17 01 44.2	0.0
WHTX	**Lake Whitney,**	**1.38**	**13**	Pn	Pn	17 02 05.3	+0.1
WHTX				Sg	Sb	17 02 23.5	0.0
JCT	**Junction City**	**1.71**	**265**	Pn	Pn	17 02 09.7	-0.1
JCT				Sn	Sg	17 02 37.5	+3.2
ABTX	**Abilene, Hawle**	**2.51**	**322**	Pn	Pn	17 02 18.0	-2.8
MSTX	**Muleshoe**	**5.34**	**310**	IAmb_Lg		17 04 32.5	
	comp=Z,13nm,1.2s						
QUOK	**Quay**	**5.59**	**9**	IAmb_Lg		17 04 44.6	
	comp=Z,33nm,1.2s						
143A	**Socs Landing,**	**5.85**	**68**	IAmb_Lg		17 04 58.1	
	comp=Z,23nm,0.7s						
344A	**Westbrook Farm**	**6.14**	**81**	IAmb_Lg		17 04 58.8	
	comp=Z,18nm,0.8s						
T35A	**Sooner Cattle**	**6.35**	**10**	IAmb_Lg		17 04 56.0	
	comp=Z,16nm,1.2s						
U38A	**Gravette**	**6.45**	**26**	IAmb_Lg		17 05 01.7	
	comp=Z,14nm,1.0s						
HHAR	**Hobbs**	**6.49**	**29**	IAmb_Lg		17 05 03.0	
	comp=Z,11nm,0.9s						
KS20	**Mayfield South**	**6.57**	**2**		Pn	17 03 14.6	-2.0
U40A	**Yellville**	**7.05**	**35**	IAmb_Lg		17 05 17.8	
	comp=Z,17nm,1.1s						
FCAR	**Ozark Folk Cen**	**7.08**	**41**	IAmb_Lg		17 05 21.2	
	comp=Z,12nm,1.0s						
319A	**Douglas**	**9.85**	**277**	IAmb_Lg		17 07 15.1	
	comp=Z,6.6nm,0.8s						

DJA 03 17:06:03.7±0.4**, 9°S**±6°×**11°7E**±°**, h114**km±5km**, M3.9**/10**, mb4.5**/3**, MLv3.5**/10**, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.51**	**331**	P	Pn	17 06 22.9	+1.8
TWSI				S	Sn	17 06 35.2	+1.1
PLAI	**Plampang**	**0.73**	**61**	P	Pn	17 06 24.4	+1.7
PLAI				S	Sn	17 06 39.7	+2.6
KLNI	**Mataram**	**1.28**	**307**	P	Pn	17 06 28.9	+0.7
KLNI				S	Sn	17 06 47.7	+1.0
DNP	**Denpasar**	**1.96**	**285**	P	Pn	17 06 36.2	-0.2
SRBI	**Singaraja**	**2.19**	**300**	P	Pn	17 06 39.6	+0.3
WBSI	**Waikabubak, Su**	**2.28**	**102**	P	Pn	17 06 41.1	+0.7
JAGI	**Jajag, Banyuwa**	**3.03**	**283**	P	Pn	17 06 49.8	-0.4
BSSI	**Bau Bau, Buton**	**4.50**	**48**	P	Pn	17 07 10.0	+0.1
EDFI	**Ende, Flores**	**4.53**	**85**	P	Pn	17 07 09.6	-0.7
BKSI	**Bulukumba**	**4.86**	**38**	P	Pn	17 07 15.0	+0.3
MMRI	**Maumere**	**5.08**	**84**	P	Pn	17 07 16.6	-1.0
	0.1nm32nm,1.0s						
UGM	**Wanagama**	**6.66**	**280**	P	Pn	17 07 39.0	-0.1
	0.9nm139nm,1.5s						

*IDC **03** 17:16:32.9±2.8, 32°.90N×139°.47E, h193km±24km, mb3.0/5, mb1 3.1/7, mb1mx3.0/37, mbtmp3.5/7, Error ellipse: s-maj=59.0km s-min=17.6km az=74.0*

*JMA **03** 17:16:33.0±0.4, 33°.01N×139°.33E, h193km±4km, M3.3*

ISC 03 17:16:33.4±1.0**,32°.9N**±0°.1×**139°.3E**±0°.1**,h200**km**,n16,** σ**1.22**/17**,mb3.4**/5**,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**0.41**	**71**	P	**Pn**	**17 16 58.8**	**-1.3**
JHJ2	**Mitsune**	**0.44**	**67**	P	**Pn**	**17 16 59.1**	**-1.1**
JAOM	**Aogashimamukai**	**0.59**	**143**	P	**Pn**	**17 17 00.3**	**-0.6**
JMKN	**Mikurajimanish**	**0.97**	**12**	P	**Pn**	**17 17 01.6**	**-1.3**
TK02	**Tokai 2**	**1.66**	**308**	P	**Pn**	**17 17 07.4**	**-0.8**
TTO2	**TONANKAI O.B.S**	**2.09**	**293**	P	**Pn**	**17 17 11.6**	**-0.9**
TTO1	**TONANKAI O.B.S**	**2.24**	**288**	P	**Pn**	**17 17 13.1**	**-1.0**
JIE	**Ise**	**2.63**	**304**	P	**Pn**	**17 17 17.6**	**-1.1**
JIE				S	**Sn**	**17 17 51.7**	**-2.4**
JWY	**Kouya**	**3.38**	**293**	P	**Pn**	**17 17 26.9**	**-0.6**
MJAR	**Matsushiro Arr**	**3.71**	**346**	P	**Pn**	**17 17 31.1**	**-0.4**
	0.2nm,0.3s,baz=204,slow=13,SNR=2.2						
KSRS	**Korea Array**	**10.37**	**299**	P	**Pn**	**17 18 59.0**	**+1.8**
	0.1nm,0.3s,baz=117,slow=14,SNR=6.5						
MKAR	**Makanchi Array**	**44.97**	**305**	P	**P**	**17 24 29.2**	**+0.6**
	0.2nm,0.4s,baz=82,slow=9.0,SNR=2.4						
WRA	**Warramunga Arr**	**52.80**	**186**	P	**P**	**17 25 27.6**	**-0.6**
	0.4nm,0.4s,baz=0.6,slow=7.3,SNR=12						
ASAR	**Alice Springs**	**56.53**	**186**	P	**P**	**17 25 55.3**	**+0.4**
	0.3nm,1.0s,baz=21,slow=11,SNR=9.2						
FINES	**FINESS Array B**	**71.64**	**332**	P	**P**	**17 27 33.8**	**+1.1**
	2.7nm,1.0s,baz=52,slow=7.5,SNR=4.5						
AKASG	**Malin Array Be**	**76.48**	**322**	P	**P**	**17 28 01.6**	**+0.6**
	0.4nm,0.3s,baz=47,slow=6.1,SNR=4.7						

NEIC 03 17:26:48.2±1.4**,36°.43N**±0°.03×**95°.95W**±0°.02**,h5**km±2km**,** **mb_Lg2.6**/38**,Error ellipse: s-maj=5.3km s-min=3.0km az=354.0,Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.66**	**248**	Pg	Pg	17 26 59.7	-1.3
T35A	**Sooner Cattle**	**0.67**	**317**	Pg	Pg	17 27 01.0	0.0
OK031	**S. Brethren Rd**	**0.86**	**237**		Pn	17 27 07.4	+0.4
BLOK	**Blackwell**	**1.07**	**288**	Pn	Pg	17 27 08.8	0.0
U38A	**Gravette**	**1.26**	**89**		Pn	17 27 12.8	+0.2
U38A				Sg	Sg	17 27 28.4	-0.4
OK029	**Liberty Lake**	**1.37**	**243**	Pn	Pg	17 27 15.0	+0.5
OK025	**Westminster Rd**	**1.41**	**234**	Pn	Pn	17 27 14.2	-0.3
KS21	**Milan North St**	**1.62**	**302**	IAmb_Lg		17 27 42.6	
	comp=Z,90nm,1.0s						
HHAR	**Hobbs**	**1.63**	**95**	Pn	Pn	17 27 17.5	-0.1
HHAR				Sn	Sn	17 27 38.1	-0.8
HHAR				IAmb_Lg		17 27 44.1	
	comp=Z,20nm,0.8s						
CROK	**Carrier**	**1.64**	**273**	Pn	Pb	17 27 18.4	-0.6
FNO	**Franklin**	**1.66**	**226**	Pn	Pn	17 27 16.1	-2.0
KAN10	**Anthony SW Sta**	**1.86**	**293**	Pn	Pn	17 27 21.1	+0.3
KAN10					Pg	17 27 25.0	+1.1
KAN10				IAmb_Lg		17 27 47.4	
	comp=Z,56nm,1.0s						
OK032	**Salt Plains WL**	**1.86**	**282**	Pn	Pn	17 27 20.9	+0.1
X37A	**Clayton**	**1.89**	**165**	Pn	Pn	17 27 21.7	+0.5
X37A				IAmb_Lg		17 27 50.4	
	comp=Z,15nm,0.7s						
W39A	**Magazine**	**2.15**	**124**	Pn	Pn	17 27 23.4	-1.3
W39A				IAmb_Lg		17 28 00.1	
	comp=Z,21nm,0.7s						
X34A	**Smith Ranch, M**	**2.38**	**221**	Pn	Pn	17 27 26.0	-2.0
X34A				IAmb_Lg		17 28 10.2	
	comp=Z,13nm,0.8s						
S39A	**Bolivar**	**2.45**	**58**		Pb	17 27 33.2	+0.4
S39A				IAmb_Lg		17 28 06.3	
	comp=Z,8.7nm,0.8s						
U40A	**Yellville**	**2.50**	**91**		Pb	17 27 33.3	-0.4
U40A				IAmb_Lg		17 28 12.2	
	comp=Z,9.7nm,0.8s						
LOOK	**Love County**	**2.63**	**203**	Pn	Pn	17 27 32.1	+0.7
MIAR	**Mount Ida**	**2.70**	**133**	Pn	Pn	17 27 30.0	-2.3
FCAR	**Ozark Folk Cen**	**3.14**	**99**	Pn	Pn	17 27 37.1	-1.2
WHAR	**Wooly Hollow**	**3.18**	**110**		Pn	17 27 39.6	+0.6
R40A	**Maddies Statio**	**3.47**	**57**	Pn	Pn	17 27 43.3	+0.3
R40A				IAmb_Lg		17 28 44.3	
	comp=Z,7.4nm,0.9s						
T42A	**Van Buren**	**3.95**	**80**	IAmb_Lg		17 29 00.1	
	comp=Z,5.9nm,0.8s						
CCAR	**Cane Creek**	**4.24**	**125**	IAmb_Lg		17 29 09.2	
	comp=Z,36nm,0.8s						
P40A	**Paris**	**4.37**	**44**	Pn	Pn	17 27 52.6	-2.6
P40A				IAmb_Lg		17 29 12.7	
	comp=Z,6.1nm,1.1s						
PBMO	**Poplar Bluff**	**4.46**	**84**	IAmb_Lg		17 29 10.4	
	comp=Z,8.2nm,0.8s						
LPAR	**Lepanto**	**4.65**	**99**	IAmb_Lg		17 29 13.3	
	comp=Z,33nm,0.9s						
N38A	**Joes South For**	**4.85**	**25**	IAmb_Lg		17 29 33.3	
	comp=Z,12nm,0.8s						
S44A	**Carbondale**	**5.50**	**75**	IAmb_Lg		17 29 45.3	
	comp=Z,7.7nm,0.9s						
SIUC	**Southern Illin**	**5.53**	**75**	IAmb_Lg		17 29 51.1	
	comp=Z,8.1nm,0.7s						
OLIL	**Olney**	**6.64**	**67**	IAmb_Lg		17 30 19.5	
	comp=Z,20nm,1.1s						
I37A	**Lemond, Waseca**	**7.83**	**14**	IAmb_Lg		17 31 17.3	
	comp=Z,8.9nm,0.8s						
I40A	**Norwalk**	**8.50**	**27**	IAmb_Lg		17 31 38.7	
	comp=Z,10.0nm,0.8s						

JMA 03 17:42:54.1±0.1**,24°.67N**×**122°.80E,h19**km±2km**,M1.1,** **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.26**	**149**	P	Pb	17 42 59.8	-0.1
JYNG				S	Sb	17 43 03.8	+0.1
YOJ	**Yonaguni jima**	**0.28**	**137**	P	Pg	17 43 00.2	-0.2
YOJ				S	Sg	17 43 04.4	-0.3
IRIF	**Iriomote-Funau**	**0.91**	**111**	P	Pb	17 43 11.4	+0.1
IRIF				*e*S	Sb	17 43 23.3	+0.3
HATJ	**Hateruma jima**	**1.10**	**123**	P	Pn	17 43 14.4	-0.1
HATJ				*e*S	Sn	17 43 29.5	+0.3
JKRS	**Kuro-shima**	**1.18**	**111**	P	Pn	17 43 15.1	-0.5
JKRS				S	Sb	17 43 30.1	-0.8
JIJ	**Ishigaki jima**	**1.26**	**104**	P	Pn	17 43 16.4	-0.3
JIJ				*e*S	Sb	17 43 32.4	-0.7
JISG	**Ishigakijimahi**	**1.38**	**93**	P	Pn	17 43 18.0	-0.3

TAP 03 17:43:51.0,23°.91N×**121°.46E,h16**km±1km**,ML1.2,C,** **Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETM	**Tongmen**	**0.07**	**27**	P	Pg	17 43 54.7	+0.6
	baz=27						
ETM				*e*S	Sg	17 43 57.0	+0.9
	baz=27						
ESL	**Shilin**	**0.10**	**195**	*i* P	Pg	17 43 55.1	+0.7
	baz=190						
ESL				S	Sg	17 43 57.3	+0.8
	baz=190						
TWD	**Chiawan**	**0.21**	**36**	*e*P	Pb	17 43 56.7	+0.1
	baz=37						
TWD				*e*S	Sg	17 43 59.5	+0.3
	baz=37						
EGFH	**Guangfu**	**0.24**	**187**	*e*P	Pb	17 43 57.0	0.0
	baz=187						
EGFH				*e*S	Sb	17 44 00.8	-0.2
	baz=187						
OWD	**Renai**	**0.26**	**280**	*e*P	Pb	17 43 57.7	+0.2
	baz=280						
OWD				*e*S	Sb	17 44 01.7	-0.2
	baz=280						
NACB	**Ninganchiao**	**0.29**	**25**	*e*P	Pb	17 43 57.9	0.0
	baz=24						
WHF	**Hehuan Shan**	**0.30**	**323**	P	Pb	17 43 58.3	0.0
	baz=323						
WHF				*e*S	Sb	17 44 02.7	-0.4
	baz=323						
ETLH	**Xiulin Townshi**	**0.30**	**4**	*e*P	Pg	17 43 57.5	+0.1
	baz=3.0						

NEIC ***03*** *17:57:47.6±1.5,27°.4N±0°.1×75°.5E±0°.1,h14km±6km, mb4.0/11,Error ellipse: s-maj=17.5km s-min=12.4km az=210.0*

IDC ***03*** *17:57:49.6±0.9,27°.61N×75°.62E,h0km,mb3.9/12, mb1 4.1/14,mb1mx3.8/54,mbtmp4.0/14,ML3.8/2,MS3.6/2, Ms1 3.6/2,ms1mx2.9/33,Error ellipse: s-maj=28.1km s-min=15.0km az=58.0*

NDI ***03*** *17:57:52.7±2.0,27°.61N×75°.69E,h10km,MD4.1,ML4.3*

ISC 03 17:57:52.5±0.5**,27°.56N**±0°.04×**75°.62E**±0°.05**,h35**km**,n99,** σ**3.44**/116**,mb4.2**/27**,1D,Northern India**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDI	**New Delhi**	**1.80**	**51**	*e*P	**Pn**	**17 58 23.0**	**+1.9**
NDI				*e*S	**Sn**	**17 58 45.0**	**+2.2**
DDI	**Dehra Dun**	**3.49**	**37**	*e*P	**Pn**	**17 58 46.3**	**+1.9**
DDI				*e*S	**Sn**	**17 59 26.0**	**+1.6**
BHK	**Bhakra**	**3.91**	**10**	*e*P	Pn	17 58 42.0	-8.1
BHK				*e*S	**Sn**	**17 59 33.2**	**-1.6**
LGTI	**Lohaghat**	**4.49**	**64**	*e*x	**Sn**	**17 59 46.9**	**-2.1**
LGTI				*e*x	x	18 00 58.8	
PTH	**Pithoragarh**	**4.51**	**63**	*e*PN	**Pn**	**17 58 59.2**	**+0.7**
PTH				*e*SN	**Sn**	**17 59 49.2**	**-0.5**
BHPL	**Bhopal**	**4.60**	**159**	*e*P	**Pn**	**17 59 00.8**	**+1.2**
BHPL				*e*S	**Sn**	**17 59 55.2**	**+3.4**
BHPL				IAML		18 00 16.8	
	comp=N,472nm,0.3s						
DHRM	**DHARAMSHALA**	**4.72**	**7**	*e*P	**Pn**	**17 59 02.6**	**+1.3**
DHRM				*e*S	**Sn**	**17 59 55.8**	**+0.8**
THN	**Thein Dam**	**4.86**	**1**	*e*P	**Pn**	**17 59 06.0**	**+2.9**
THN				*e*x	**Sn**	**18 00 02.5**	**+4.3**
JBP	**Jabalpur**	**5.89**	**137**	*e*P	**Pn**	**17 59 19.4**	**+2.2**
JBP				*e*S	**Sn**	**18 00 25.6**	**+2.1**
THW	**Thamme Wali**	**6.21**	**328**	P	**Pn**	**17 59 21.3**	**-0.3**
NIL	**Nilore**	**6.41**	**342**		**Pn**	**17 59 22.4**	**-2.0**
CHCP	**Chirah Chowk**	**6.41**	**342**	P	**Pn**	**17 59 24.4**	**-0.1**
PYUN	**Piuthan**	**6.55**	**84**	*e*Pn	**Pn**	**17 59 28.3**	**+1.7**
PYUN				*e*Sn	**Sn**	**18 00 39.4**	**-0.8**
	comp=N,408nm,0.5s						
CEP	**Cherat**	**7.02**	**334**	P	**Pn**	**17 59 32.1**	**-0.8**
KOLN	**Koldanda**	**7.08**	**86**	*e*Pn	**Pn**	**17 59 35.3**	**+1.4**
KOLN				*e*Sn	**Sn**	**18 00 52.2**	**-1.1**
	comp=N,130nm,0.4s						
DANN	**Dangsing**	**7.25**	**82**	*e*Pn	**Pn**	**17 59 37.7**	**+1.5**
DANN				*e*Sn	**Sn**	**18 00 56.7**	**-0.7**
	comp=N,108nm,0.4s						
GKN	**Gorkha**	**8.00**	**85**	*e*Pn	**Pn**	**17 59 47.5**	**+1.1**
GKN				*e*Sn	**Sn**	**18 01 14.1**	**-1.7**
	comp=N,128nm,0.4s						
DMN	**Daman**	**8.42**	**87**	*e*Pn	**Pn**	**17 59 52.4**	**+0.1**
DMN				*e*Sn	**Sn**	**18 01 23.9**	**-2.4**
	comp=N,69nm,0.3s						
KKN	**Kakani**	**8.57**	**86**	*e*Pn	**Pn**	**17 59 54.6**	**+0.3**
KKN				*e*Sn	**Sn**	**18 01 27.5**	**-2.4**
	comp=N,70nm,0.4s						
PKIN	**Phulchoki**	**8.68**	**88**	*e*Pn	**Pn**	**17 59 56.3**	**+0.5**
PKIN				*e*Sn	**Sn**	**18 01 29.0**	**-3.6**
	comp=N,152nm,0.5s						
PKI	**Pulchoki**	**8.69**	**88**	*e*Pn	**Pn**	**17 59 57.0**	**+1.0**
PKI				*e*Sn	**Sn**	**18 01 30.6**	**-2.4**
	comp=N,105nm,0.5s						
KBL	**Kabul**	**8.96**	**323**	Pn	**Pn**	**17 59 59.0**	**-0.6**
POO	**Poona**	**9.13**	**191**	*e*P	**Pn**	**18 00 04.0**	**+2.1**
	comp=N,20nm,1.0s						
POO				*e*P	**Pn**	**18 00 04.5**	**+2.6**
POO				*i* S	**Sn**	**18 01 39.0**	**-4.5**
POO				*e*S	**Sn**	**18 01 41.2**	**-2.2**
POO				IAML		18 02 34.0	
	comp=N,85nm,0.4s						
JIRN	**Jiri**	**9.38**	**87**	*e*Pn	**Pn**	**18 00 06.2**	**+0.7**
JIRN				*e*Sn	**Sn**	**18 01 46.6**	**-3.4**
	comp=N,57nm,0.3s						
RAMN	**Ramite**	**9.79**	**91**	*e*Pn	**Pn**	**18 00 10.3**	**-0.8**
RAMN				*e*Sn	**Sn**	**18 01 55.9**	**-4.1**
	comp=N,116nm,0.5s						
BOK	**Bokaro**	**9.99**	**110**	*e*S	**Sn**	**18 01 59.9**	**-4.5**
BOK				IAML		18 03 04.6	
	comp=E,150nm,1.4s						
BOK				IAML		18 03 11.8	
	comp=N,148nm,0.3s						
KAD	**Karad**	**10.29**	**188**	⇓*i*P	**Pn**	**18 00 18.1**	**+0.4**
KAD				*i* S	Sn	18 02 01.0	-11
HYB	**Hyderabad**	**10.45**	**164**	*i* P	Pn	18 00 15.5	-4.4
HYB				*e*S	**Sn**	**18 02 12.0**	**-3.8**
KSH	**Kashi**	**11.93**	**1**	P	**Pn**	**18 00 35.7**	**-4.5**
KSH				sP		18 00 41.5	
KSH				S	Sn	18 02 30.1	-22
KSH				pmax	pmax		
	comp=Z,13nm,0.5s						
GAR	**Garm**	**12.24**	**340**		**Pn**	**18 00 42.4**	**-2.0**
CHGR	**Chuyangaron**	**12.32**	**336**		**Pn**	**18 00 44.0**	**-1.5**
BTK	**Batken**	**13.09**	**344**		**Pn**	**18 00 54.4**	**-1.5**
LSA	**Lhasa**	**13.81**	**77**	Pn	**Pn**	**18 01 04.7**	**-1.5**
TARG	**Taragay, Kyrgy**	**14.25**	**7**	Pn	**Pn**	**18 01 11.8**	**-0.3**
SHL	**Shillong**	**14.69**	**94**	Pn	**Pn**	**18 01 14.5**	**-3.5**
SHL	**Shillong**	**14.69**	**94**	*e*P	**Pn**	**18 01 16.0**	**-2.0**
SHL				*e*S	Sn	18 03 48.0	-12
BOOM	**Boomskoye usch**	**14.90**	**1**	Pn	**Pn**	**18 01 18.4**	**-2.3**
AAK	**Ala-Archa**	**15.08**	**357**	Pn	**Pn**	**18 01 24.4**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=166,slow=3.9,SNR=9.7						
AAK				Sn	**Sn**	**18 04 01.3**	**-7.6**
	comp=Z,0.4nm,0.3s,baz=162,slow=19,SNR=2.0						
AAK	**Ala-Archa**	**15.08**	**357**		**Pn**	**18 01 22.1**	**-0.9**
AAK				IAmb	IAmb	18 01 32.0	
	comp=Z,5.7nm,0.7s						
WSAR	**Wadi Sarin**	**15.94**	**258**	Pn	**Pn**	**18 01 35.5**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=23,slow=7.7,SNR=1.8						
WSAR				Sn	Sn	18 04 19.4	-10
	comp=Z,0.1nm,0.3s,baz=291,slow=17,SNR=1.3						
KK31	**Karatay Array**	**16.06**	**346**	Pn	**Pn**	**18 01 33.1**	**-2.5**
KK31				IAmb	IAmb	18 01 47.7	
	comp=Z,4.8nm,0.5s						
KKAR	**Karatay Array**	**16.06**	**346**		**Pn**	**18 01 31.7**	**-3.9**
KKAR	**Karatay Array**	**16.06**	**346**		**Pn**	**18 01 32.9**	**-2.7**
KKAR				IAmb	IAmb	18 01 47.7	
	comp=Z,4.8nm,0.5s						
UOSS	**Minazif**	**17.61**	**266**	Pn	**Pn**	**18 01 48.7**	**-6.5**
UOSS				IAmb	IAmb	18 02 00.3	
	comp=Z,55nm,1.4s						
GEYT	**Alibeck**	**17.96**	**310**	LR	LR	18 10 17.7	
	comp=Z,71nm,18.0s,baz=15,slow=42						
WMQ	**Urumqi**	**18.93**	**28**	*e*P	**Pn**	**18 02 12.1**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,40nm,4.3s						
MAKZ	**Makanchi**	**19.86**	**13**	P	**P**	**18 02 20.3**	**-0.2**
MK31	**Makanchi Array**	**19.91**	**14**		**P**	**18 02 20.6**	**-0.4**
MKAR	**Makanchi Array**	**19.91**	**14**	P	**P**	**18 02 21.9**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=204,slow=12,SNR=15						
MKAR				S	**S**	**18 05 53.4**	**-10**
	comp=Z,0.2nm,0.3s,baz=187,slow=23,SNR=4.2						
MKAR	**Makanchi Array**	**19.91**	**14**		**P**	**18 02 19.3**	**-1.7**
PALK	**Pallekele**	**20.74**	**166**	P	Pn	18 02 33.3	+0.5
	comp=Z,9.8nm,1.0s,baz=57,slow=13,SNR=2.1						
PALK				S	**S**	**18 06 13.5**	**-6.6**
	comp=Z,6.3nm,0.7s,baz=292,slow=19,SNR=1.8						
PALK	**Pallekele**	**20.74**	**166**	P	**P**	**18 02 26.1**	**-4.2**
MHMT	**Maesarieng**	**22.55**	**110**	P	**P**	**18 02 55.7**	**+6.1**
	comp=Z,15nm,0.8s						
MHMT	**Maesarieng**	**22.55**	**110**	P	**P**	**18 02 55.8**	**+6.1**
	comp=Z,15nm,0.8s						
CHTO	**Chiang Mai**	**23.11**	**107**	P	**P**	**18 03 01.9**	**+6.4**
	comp=Z,8.0nm,1.1s						
CHTO	**Chiang Mai**	**23.11**	**107**	P	**P**	**18 02 52.2**	**-3.3**
CHTO				IAmb	IAmb	18 03 02.7	
	comp=Z,9.5nm,1.1s						
CMMT	**Chiang Mai**	**23.11**	**107**	P	**P**	**18 03 01.8**	**+6.2**
	comp=Z,8.0nm,1.1s						
CMMT	**Chiang Mai**	**23.11**	**107**	P	**P**	**18 03 01.9**	**+6.3**
	comp=Z,8.0nm,1.1s						
KURBB	**Kurchatov Arra**	**23.14**	**5**	P	**P**	**18 02 56.8**	**+1.2**
	comp=Z,3.7nm,0.7s,baz=194,slow=11,SNR=9.5						
KURK	**Kurchatov**	**23.24**	**5**	P	**P**	**18 02 56.8**	**+0.3**
CM13	**Chiang Mai Arr**	**23.25**	**108**	P	**P**	**18 03 00.6**	**+3.6**
	comp=Z,68nmcomp=Z,8.5nm,0.8s						
CM13	**Chiang Mai Arr**	**23.25**	**108**	P	**P**	**18 03 00.0**	**+3.0**
	comp=Z,68nmcomp=Z,8.5nm,0.8s						
CM15	**Chiang Mai Arr**	**23.25**	**108**	P	**P**	**18 03 02.1**	**+5.1**
	comp=Z,66nmcomp=Z,8.6nm,0.9s						
CM15	**Chiang Mai Arr**	**23.25**	**108**	P	**P**	**18 03 02.0**	**+5.1**
	comp=Z,66nmcomp=Z,8.6nm,0.9s						
CM31	**Chiang Mai Arr**	**23.27**	**108**	P	**P**	**18 03 02.7**	**+5.6**
	comp=Z,2µmcomp=Z,213nm,0.8s						
CMAR	**Chiang Mai Arr**	**23.27**	**108**	P	**P**	**18 02 59.2**	**+2.1**
	comp=Z,5.8nm,0.8s,baz=293,slow=10,SNR=19						
CM02	**Chiang Mai Arr**	**23.28**	**108**	P	**P**	**18 03 00.7**	**+3.5**
	comp=Z,69nmcomp=Z,9.6nm,0.9s						
CM02	**Chiang Mai Arr**	**23.28**	**108**	P	**P**	**18 03 00.0**	**+2.8**
	comp=Z,69nmcomp=Z,9.6nm,0.9s						
CM05	**Chiang Mai Arr**	**23.30**	**108**	P	**P**	**18 03 02.7**	**+5.3**
	comp=Z,68nmcomp=Z,7.7nm,0.9s						
CM05	**Chiang Mai Arr**	**23.30**	**108**	P	**P**	**18 03 02.0**	**+4.6**
	comp=Z,68nmcomp=Z,7.7nm,0.9s						
CM01	**Chiang Mai Arr**	**23.30**	**108**	P	**P**	**18 03 03.6**	**+6.2**
	comp=Z,74nmcomp=Z,9.1nm,0.8s						
CM01	**Chiang Mai Arr**	**23.30**	**108**	P	**P**	**18 03 03.6**	**+6.2**
	comp=Z,74nmcomp=Z,9.1nm,0.8s						
GTA	**Gaotai**	**23.31**	**53**	*e*P	**P**	**18 03 02.9**	**+5.4**
GTA				pP	pP	18 03 07.2	0.0
GTA				sP	sP	18 03 10.1	-1.5
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CM09	**Chiang Mai Arr**	**23.32**	**108**	P	**P**	**18 03 01.1**	**+3.5**
	comp=Z,75nmcomp=Z,9.8nm,0.8s						
CM09	**Chiang Mai Arr**	**23.32**	**108**	P	**P**	**18 03 01.1**	**+3.5**
	comp=Z,75nmcomp=Z,9.8nm,0.8s						
CM04	**Chiang Mai Arr**	**23.32**	**108**	P	**P**	**18 03 03.0**	**+5.4**
	comp=Z,94nmcomp=Z,10nm,0.9s						
CM04	**Chiang Mai Arr**	**23.32**	**108**	P	**P**	**18 03 03.0**	**+5.4**
	comp=Z,94nmcomp=Z,10nm,0.9s						
ABKAR	**Akbulak array**	**24.81**	**335**	P	**P**	**18 03 10.6**	**-0.5**
ABKAR				IAmb	IAmb	18 03 17.2	
	comp=Z,2.6nm,0.7s						
UTTA	**Uttaradit**	**24.96**	**108**	P	**P**	**18 03 18.5**	**+5.8**
	comp=Z,10nm,0.8s						
UTTA	**Uttaradit**	**24.96**	**108**	P	**P**	**18 03 18.6**	**+5.8**
	comp=Z,2.5nm,0.8s						
PHIT	**Phitsanulok**	**25.10**	**109**	P	P	18 03 21.5	+7.4
	comp=Z,22nm,0.9s						
PHIT	**Phitsanulok**	**25.10**	**109**	P	P	18 03 21.6	+7.5
	comp=Z,5.4nm,0.9s						
UTHA	**Uthaitani**	**25.12**	**113**	P	**P**	**18 03 20.4**	**+6.2**
UTHA	**Uthaitani**	**25.12**	**113**	P	**P**	**18 03 20.5**	**+6.2**
BVAR	**Borovoye Array**	**25.74**	**353**	P	**P**	**18 03 21.1**	**+1.6**
	comp=Z,0.7nm,0.4s,baz=181,slow=13,SNR=7.4						
AKTO	**Aktyubinsk**	**26.50**	**334**	P	**P**	**18 03 28.8**	**+2.4**
	comp=Z,1.9nm,0.5s,baz=140,slow=11,SNR=8.3						
ZALV	**Zalesovo Beam**	**27.23**	**12**	P	**P**	**18 03 34.5**	**+1.6**
	comp=Z,2.5nm,0.7s,baz=208,slow=8.4,SNR=7.1						
ZALV	**Zalesovo Beam**	**27.23**	**12**	P	**P**	**18 03 31.2**	**-1.7**
SONM	**Songino Array**	**31.35**	**41**	P	**P**	**18 04 12.4**	**+2.5**
	comp=Z,0.6nm,0.5s,baz=236,slow=6.8,SNR=1.3						
SONM	**Songino Array**	**31.35**	**41**	IAmb	IAmb	18 04 17.1	
	comp=Z,1.1nm,0.9s						
HHC	**Hu-ho-hao-te**	**32.32**	**56**	*e*P	**P**	**18 04 16.9**	**-1.5**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,55nm,4.2s						
HHC				LR	LR		
	comp=N,170nm,13.2s						
HHC				LR	LR		
	comp=E,130nm,11.7s						
HHC				LR	LR		
	comp=Z,140nm,12.2s						
AKASG	**Malin Array Be**	**41.88**	**316**	P	**P**	**18 05 41.0**	**+1.8**
	comp=Z,0.5nm,0.4s,baz=110,slow=8.6,SNR=5.3						
FINES	**FINESS Array B**	**47.13**	**330**	P	**P**	**18 06 22.6**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=120,slow=6.2,SNR=6.2						
FINES	**FINESS Array B**	**47.13**	**330**	P	**P**	**18 06 21.5**	**+0.6**
ARCES	**ARCESS Array B**	**50.88**	**340**	P	**P**	**18 06 51.5**	**+1.9**
	comp=Z,1.7nm,0.7s,baz=115,slow=5.8,SNR=8.1						
CLL	**Collm**	**52.08**	**315**	*e*(P)	**P**	**18 07 00.0**	**+1.2**
CLL				*e*		18 07 06.0	
WRA	**Warramunga Arr**	**73.88**	**123**	P	**P**	**18 09 26.9**	**+2.8**
	comp=Z,0.9nm,0.5s,baz=315,slow=5.3,SNR=6.4						
ASAR	**Alice Springs**	**75.86**	**126**	P	**P**	**18 09 37.9**	**+2.4**
	comp=Z,0.6nm,0.6s,baz=306,slow=6.1,SNR=8.1						
DBIC	**Dimbokro**	**78.52**	**272**	LR	LR	18 47 59.2	
	comp=Z,82nm,19.1s,baz=267,slow=38						

NEIC ***03*** *18:02:07.8±1.2,10°.19S±0°.09×161°.24E±0°.06,h81km±7km, mb4.8/46,Error ellipse: s-maj=14.9km s-min=4.3km az=214.0*

IDC ***03*** *18:02:08.5±0.8,10°.15S×161°.23E,h86km±5km,mb3.9/16, mb1 4.0/17,mb1mx3.8/38,mbtmp4.2/17,MS3.1/2, Ms1 3.1/2,ms1mx2.8/25,Error ellipse: s-maj=18.5km s-min=12.1km az=92.0*

ISC 03 18:02:07.9±0.4**,10°.19S**±0°.06×**161°.26E**±0°.06**,h86**km**,n84,** σ**1.39**/92**,mb4.7**/38**,Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.50**	**300**	P	**Pn**	**18 02 33.8**	**+0.4**
	341nm,0.3s,baz=139,slow=9.3,SNR=353						
HNR				S	**Sn**	**18 02 53.4**	**+0.6**
	526nm,0.3s,baz=138,slow=22,SNR=8.5						
HNR	**Honiara**	**1.50**	**300**		**Pn**	**18 02 32.9**	**-0.6**
HNR				Sn	**Sn**	**18 02 52.4**	**-0.4**
HNR	**Honiara**	**1.50**	**300**	P	**Pn**	**18 02 33.5**	**0.0**
SANVU	**Saraoutou**	**7.80**	**133**	Pn	**Pn**	**18 03 58.1**	**-0.7**
SANVU				Sn	**Sn**	**18 05 24.8**	**-0.8**
SANVU	**Saraoutou**	**7.80**	**133**	P	**Pn**	**18 04 00.8**	**+2.0**
LIFNC	**LIFOU**	**12.00**	**152**	Pn	**Pn**	**18 04 55.7**	**-0.2**
LIFNC	**LIFOU**	**12.00**	**152**	P	**Pn**	**18 04 57.4**	**+1.5**
NOUC	**Port Laguerre**	**12.79**	**158**	P	**Pn**	**18 05 09.5**	**+2.9**
DZM	**Mont Dzumac**	**12.82**	**158**	P	**Pn**	**18 05 09.7**	**+2.7**
	1.2nm,0.3s,baz=25,slow=13,SNR=25						
DZM				S	**Sn**	**18 07 25.2**	**-2.7**
	0.5nm,0.3s,baz=204,slow=19,SNR=3.6						
DZM				LR	LR	18 08 54.7	
	comp=Z,100nm,19.9s,baz=26,slow=32						
DZM	**Mont Dzumac**	**12.82**	**158**	Pn	**Pn**	**18 05 06.6**	**-0.5**
MARNC	**Mare, Loyalty**	**12.98**	**151**	Pn	**Pn**	**18 05 06.9**	**-2.1**
MARNC	**Mare, Loyalty**	**12.98**	**151**	P	**Pn**	**18 05 12.2**	**+3.2**
YATNC	**Mamie plateau,**	**12.98**	**156**	P	**Pn**	**18 05 11.7**	**+2.6**
ONTNC	**Ouen Toro**	**13.04**	**158**	Pn	**Pn**	**18 05 08.3**	**-1.6**
ONTNC	**Ouen Toro**	**13.04**	**158**	P	**P**	**18 05 14.6**	**-2.3**
OUENC	**Ouen Island, N**	**13.29**	**157**	Pn	**Pn**	**18 05 10.4**	**-2.7**
OUENC	**Ouen Island, N**	**13.29**	**157**	P	**Pn**	**18 05 16.7**	**+3.6**
MANU	**Manus Island**	**16.00**	**299**		**Pn**	**18 05 47.7**	**-0.4**
PATS	**Pohnpei**	**17.17**	**350**	P	**Pn**	**18 06 01.5**	**-0.9**
COEN	**Coen**	**18.08**	**256**		**Pn**	**18 06 15.9**	**+2.3**
JAY	**Jayapura**	**21.79**	**289**	P	**P**	**18 06 51.7**	**-1.5**
	7.4nm,0.6s,baz=55,slow=7.2,SNR=7.2						
ARMA	**Armidale**	**22.04**	**203**	P	**P**	**18 06 55.2**	**-0.5**
WR0	**Warramunga Arr**	**27.53**	**246**	P	**P**	**18 07 46.1**	**-0.7**
WB2	**Warramunga Arr**	**27.70**	**246**	P	**P**	**18 07 47.5**	**-0.8**
WRA	**Warramunga Arr**	**27.71**	**246**	P	**P**	**18 07 48.8**	**+0.4**
	2.6nm,0.6s,baz=76,slow=9.4,SNR=27						
WRA				pP	**pP**	**18 08 09.6**	**+3.1**
	2.3nm,0.6s,baz=69,slow=9.7,SNR=4.0						
WRA	**Warramunga Arr**	**27.71**	**246**	P	**P**	**18 07 47.3**	**-1.1**
STKA	**Stephens Creek**	**28.23**	**217**	P	**P**	**18 07 54.3**	**+1.5**
	0.6nm,0.4s,baz=42,slow=15,SNR=3.3						
STKA				pP	**pP**	**18 08 14.5**	**+3.3**
	1.6nm,0.6s,baz=59,slow=15,SNR=1.7						
GUMO	**Guam**	**28.68**	**325**	LR	LR	18 18 07.1	
	comp=Z,42nm,21.6s,baz=144,slow=34						
AS31	**Alice Springs**	**29.33**	**239**	P	**P**	**18 08 02.3**	**-0.4**
ASAR	**Alice Springs**	**29.33**	**239**	P	**P**	**18 08 02.3**	**-0.5**
	0.6nm,0.4s,baz=63,slow=10.0,SNR=16						
ASAR				pP	**pP**	**18 08 24.4**	**+3.0**
	0.8nm,0.5s,baz=63,slow=10,SNR=4.6						
ASAR	**Alice Springs**	**29.33**	**239**	P	**P**	**18 08 01.1**	**-1.7**
BKZ	**Black Stump Fm**	**31.90**	**157**	P	**P**	**18 08 24.4**	**-0.9**
BKZ				IAmb	IAmb	18 08 50.7	
	comp=Z,33nm,1.5s						
KNRA	**Kununurra**	**32.12**	**257**	P	**P**	**18 08 27.4**	**+0.1**
KNRA				IAmb	IAmb	18 08 28.2	
	comp=Z,12nm,0.7s						
BBOO	**Buckleboo**	**32.34**	**222**	P	**P**	**18 08 29.6**	**+0.5**
BBOO				IAmb	IAmb	18 08 48.4	
	comp=Z,24nm,1.4s						
FITZ	**Fitzroy Crossi**	**35.37**	**253**	P	**P**	**18 08 55.2**	**-0.4**
FITZ				IAmb	IAmb	18 08 55.9	
	comp=Z,6.4nm,0.7s						
MLZ	**Mavora Lakes**	**35.55**	**172**	P	**P**	**18 08 57.4**	**+0.7**
WHZ	**Wether Hill Ro**	**36.04**	**172**	P	**P**	**18 09 01.2**	**+0.3**
SOEI	**Soe**	**36.43**	**267**	P	**P**	**18 09 02.4**	**-2.4**
SOEI				IAmb	IAmb	18 09 28.4	
	comp=Z,15nm,1.0s						
FORT	**Forrest**	**37.02**	**232**	P	**P**	**18 09 08.6**	**-0.9**
FORT				IAmb	IAmb	18 09 17.8	
	comp=Z,20nm,1.3s						
PSA00	**Pilbara Seismi**	**41.29**	**249**	P	**P**	**18 09 43.7**	**-1.5**
PSA00	**Pilbara Seismi**	**41.29**	**249**	P	**P**	**18 09 44.5**	**-0.8**
PSA00				IAmb	IAmb	18 09 46.5	
	comp=Z,17nm,1.4s						
JCJ	**Chichijima**	**41.43**	**334**	P	**P**	**18 09 45.2**	**-1.0**
TOLI2	**Tolitoli**	**41.82**	**283**	P	**P**	**18 09 48.3**	**-1.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TOLI2				IAmb	IAmb	18 09 48.9	
	comp=Z,5.9nm,0.9s						
MORW	**Morawa**	**46.21**	**239**	P	**P**	**18 10 24.5**	**-0.1**
MORW				IAmb	IAmb	18 10 45.1	
	comp=Z,6.5nm,1.0s						
JAGI	**Jajag, Banyuwa**	**46.49**	**268**	P	**P**	**18 10 26.0**	**-0.9**
YOJ	**Yonaguni jima**	**50.79**	**313**	P	**P**	**18 10 59.1**	**-0.6**
YOJ				IAmb	IAmb	18 11 00.5	
	comp=Z,11nm,0.6s						
KIP	**Kipapa**	**50.85**	**52**	P	**P**	**18 10 59.6**	**-0.6**
JSU	**Suzuyama**	**50.89**	**326**	P	**P**	**18 11 00.7**	**+0.3**
MJAR	**Matsushiro Arr**	**51.30**	**336**	P	**P**	**18 11 02.7**	**-0.6**
	comp=Z,2.5nm,0.6s,baz=159,slow=8.5,SNR=12						
MJAR	**Matsushiro Arr**	**51.30**	**336**	IAmb	IAmb	18 11 04.0	
	comp=Z,2.1nm,0.8s						
MAJO	**Matsushiro**	**51.30**	**336**	P	**P**	**18 11 02.1**	**-1.2**
MAJO				IAmb	IAmb	18 11 03.9	
	comp=Z,5.2nm,0.6s						
MAT	**Matsushiro**	**51.30**	**336**	P	**P**	**18 11 03.1**	**-0.2**
YULB	**Yu-li**	**51.40**	**311**	P	**P**	**18 11 02.9**	**-1.5**
YULB				IAmb	IAmb	18 11 04.4	
	comp=Z,5.1nm,0.8s						
JWT	**Wachi**	**51.41**	**333**	P	**P**	**18 11 03.9**	**-0.3**
JWT				IAmb	IAmb	18 11 06.1	
	comp=Z,12nm,0.7s						
JMM	**Marumori**	**51.50**	**339**	P	**P**	**18 11 04.4**	**-0.3**
NACB	**Ninganchiao**	**51.64**	**312**	P	**P**	**18 11 05.9**	**-0.2**
NACB				IAmb	IAmb	18 11 06.6	
	comp=Z,10nm,0.9s						
SSLB	**Suanglung**	**51.89**	**311**	P	**P**	**18 11 07.5**	**-0.5**
SSLB				IAmb	IAmb	18 11 08.2	
	comp=Z,9.2nm,0.5s						
YHNB	**Yeheng**	**52.10**	**312**	P	**P**	**18 11 09.4**	**-0.2**
YHNB				IAmb	IAmb	18 11 10.2	
	comp=Z,9.4nm,0.7s						
TATO	**Taipei**	**52.20**	**313**	P	**P**	**18 11 10.2**	**0.0**
JSD	**Sado**	**52.58**	**337**	P	**P**	**18 11 12.1**	**-0.7**
CISI	**Cisompet, Garu**	**52.83**	**268**	P	**P**	**18 11 14.0**	**-1.2**
JTM	**Tenmabayashi**	**54.04**	**341**	P	**P**	**18 11 24.0**	**+0.6**
JTM				IAmb	IAmb	18 11 26.0	
	comp=Z,21nm,1.2s						
JKA	**Kamikawa-asahi**	**56.64**	**344**	P	**P**	**18 11 41.8**	**-0.3**
JKA				IAmb	IAmb	18 11 45.8	
	comp=Z,17nm,1.1s						
ASAJ	**Asahikawa**	**56.64**	**344**	P	**P**	**18 11 43.8**	**+1.7**
	comp=Z,6.5nm,0.7s,baz=200,slow=3.9,SNR=7.6						
KSRS	**Korea Array**	**56.76**	**328**	P	**P**	**18 11 43.3**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=140,slow=7.8,SNR=9.3						
KSAR	**Wonju Array Be**	**56.77**	**328**	P	**P**	**18 11 43.3**	**+0.1**
USA0B	**Ussuriysk Arra**	**60.29**	**336**	P	**P**	**18 12 07.5**	**0.0**
USA0B				IAmb	IAmb	18 12 09.8	
	comp=Z,8.9nm,1.1s						
USRK	**Ussuriysk Ar.**	**60.29**	**336**	P	**P**	**18 12 08.2**	**+0.7**
	comp=Z,3.6nm,0.7s,baz=159,slow=5.2,SNR=8.4						
PETK	**Petropavlovsk-**	**63.12**	**358**	P	**P**	**18 12 26.9**	**+0.6**
	comp=Z,1.9nm,0.9s,baz=97,slow=6.4,SNR=4.6						
KIWB	**Kanaga Island**	**64.54**	**15**	P	**P**	**18 12 37.3**	**+1.6**
VNDA	**Vanda**	**67.31**	**180**	P	**P**	**18 12 54.0**	**+0.8**
	comp=Z,1.9nm,0.8s,baz=336,slow=6.7,SNR=12						
VNDA	**Vanda**	**67.31**	**180**	P	**P**	**18 12 54.0**	**+0.8**
VNDA				IAmb	IAmb	18 12 55.1	
	comp=Z,6.6nm,1.4s						
CMAR	**Chiang Mai Arr**	**67.74**	**295**	P	**P**	**18 12 57.2**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=133,slow=4.9,SNR=6.9						
CMAR				pP	**pP**	**18 13 20.4**	**+1.9**
	comp=Z,1.3nm,0.8s,baz=122,slow=5.1,SNR=5.0						
CMAR	**Chiang Mai Arr**	**67.74**	**295**	P	**P**	**18 12 54.3**	**-2.6**
HIA	**Hailar**	**69.51**	**332**	P	**P**	**18 13 07.7**	**+0.5**
HIA				IAmb	IAmb	18 13 08.2	
	comp=Z,5.4nm,0.5s						
ULN	**Ulaanbaatar**	**75.06**	**326**	P	**P**	**18 13 41.0**	**+0.5**
ULN				IAmb	IAmb	18 13 41.7	
	comp=Z,6.2nm,0.6s						
SONM	**Songino Array**	**75.41**	**325**	P	**P**	**18 13 43.0**	**+0.5**
	comp=Z,6.2nm,0.5s,baz=139,slow=5.6,SNR=36						
SONM				pP	**pP**	**18 14 04.2**	**-0.4**
	comp=Z,2.5nm,0.7s,baz=136,slow=5.8,SNR=5.8						
SONM	**Songino Array**	**75.41**	**325**	P	**P**	**18 13 43.0**	**+0.5**
SONM				IAmb	IAmb	18 13 43.8	
	comp=Z,6.7nm,0.6s						
YAK	**Yakutsk**	**76.09**	**345**	P	**P**	**18 13 45.7**	**-0.1**
YAK				IAmb	IAmb	18 13 46.5	
	comp=Z,13nm,0.6s						
QSPA	**South Pole Qui**	**79.81**	**180**	P	**P**	**18 14 06.9**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=322,slow=0.4,SNR=18						
QSPA	**South Pole Qui**	**79.81**	**180**	IAmb	IAmb	18 14 07.6	
	comp=Z,3.3nm,0.8s						
ILAR	**Eielson Array**	**84.16**	**20**	P	**P**	**18 14 30.0**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=238,slow=5.2,SNR=2.7						
ILAR				pP	**pP**	**18 14 51.1**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=247,slow=5.0,SNR=4.1						
NVAR	**Mina Array Bea**	**88.87**	**51**	P	**P**	**18 14 54.4**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=243,slow=7.0,SNR=3.0						
MKAR	**Makanchi Array**	**89.90**	**318**	P	**P**	**18 14 56.8**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=90,slow=4.3,SNR=5.9						
MKAR				pP	**pP**	**18 15 19.7**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=75,slow=5.2,SNR=3.8						

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*IDC **03** 18:04:30.4±0.7, 51°.96N×175°.85W, h0km, mb4.0/10, mb1 4.3/12, mb1mx4.0/45, mbtmp4.1/12, ML4.4/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/36, Error ellipse: s-maj=31.4km s-min=13.7km az=160.0*

*AEIC **03** 18:04:39±2.0, 51°.76N±0°.09×175°.60W±0°.06, h60km±6km, Error ellipse: s-maj=13.5km s-min=4.3km az=167.0*

*NEIC **03** 18:04:39.6±1.7, 51°.78N±0°.10×175°.60W±0°.06, h65km±7km, mb4.4/148, ML4.4(AEIC), Error ellipse: s-maj=15.0km s-min=2.9km az=164.0*

ISC 03 18:04:38.3±0.9**, 51°.74N**±0°.10×**175°.59W**±0°.04**, h64**km±8km**, n332, σ1s.30**/328**, mb4.4**/54**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSIG	**Igitkin Island**	**0.33**	**320**		**Pn**	**18 04 49.6**	**+0.5**
GSIG					**Sn**	**18 04 57.0**	**+0.2**
GSMY	**Great Sitkin M**	**0.42**	**317**		**Pn**	**18 04 50.5**	**+0.7**
GSTR	**Great Sitkin T**	**0.46**	**321**		**Pn**	**18 04 51.0**	**+0.7**
GSTD	**Great Sitkin T**	**0.47**	**313**		**Pn**	**18 04 51.0**	**+0.7**
GSSP	**Great Sitkin S**	**0.51**	**315**		**Pn**	**18 04 51.5**	**+0.8**
GSSP					**Sn**	**18 04 60.0**	**+0.2**
ADAG	**Mount Adagdak**	**0.68**	**292**		**Pn**	**18 04 53.4**	**+0.9**
ADK	**Adak**	**0.70**	**283**		**Pn**	**18 04 53.6**	**+0.9**
KIRH	**Kanaga Island**	**0.95**	**281**		**Pn**	**18 04 57.2**	**+1.4**
KIWB	**Kanaga Island**	**0.98**	**278**		**Pn**	**18 04 57.3**	**+1.1**
KIWB					**Sn**	**18 05 11.6**	**+2.2**
ATKA	**Atka Island**	**0.98**	**61**		**Pn**	**18 04 56.8**	**+0.6**
ATKA	**Atka Island**	**0.98**	**61**		**Sn**	**18 05 10.2**	**+0.8**
KIKV	**Kanaga Island**	**0.99**	**279**		**Pn**	**18 04 57.4**	**+1.0**
KICM	**Kanaga Island**	**1.01**	**281**		**Pn**	**18 04 57.8**	**+1.1**
KIMD	**Kanaga Island**	**1.02**	**272**		**Pn**	**18 04 57.9**	**+1.1**
KIMD					**Sn**	**18 05 11.2**	**+0.7**
KOKL	**Mount Kliuchef**	**1.04**	**55**		**Pn**	**18 04 58.0**	**+1.0**
KOWE	**Korovin West**	**1.04**	**52**		**Pn**	**18 04 58.3**	**+1.3**
KOWE					**Sn**	**18 05 12.5**	**+1.6**
KOFP	**Korovin Flat P**	**1.07**	**59**		**Pn**	**18 04 58.4**	**+1.1**
KOSE	**Korovin Southe**	**1.13**	**57**		**Pn**	**18 04 59.3**	**+1.2**
TAPA	**Tanaga Point A**	**1.39**	**274**		**Pn**	**18 05 02.9**	**+1.3**
TAPA					**Sn**	**18 05 20.4**	**+1.4**
TASE	**Tanaga Southea**	**1.53**	**275**		**Pn**	**18 05 04.6**	**+1.2**
GAEA	**Gareloi East**	**1.96**	**273**		**Pn**	**18 05 10.7**	**+1.5**
GALAA	**Gareloi Lava P**	**1.98**	**272**		**Pn**	**18 05 10.9**	**+1.5**
CERAA	**Semis' Rag'd T**	**2.94**	**275**		**Pn**	**18 05 23.8**	**+1.3**
CEAP	**Semis' Anvil P**	**3.01**	**277**		**Pn**	**18 05 24.9**	**+1.4**
CEAP					**Sn**	**18 05 59.8**	**+1.5**
CESW	**Semis' Southwe**	**3.02**	**275**		**Pn**	**18 05 24.9**	**+1.4**
AMKA	**Amchitka**	**3.21**	**266**		**Pn**	**18 05 27.6**	**+1.4**
LSPA	**Little Sitkin**	**3.63**	**276**		**Pn**	**18 05 34.0**	**+2.0**
LSNW	**Little Sitkin**	**3.66**	**276**		**Pn**	**18 05 34.1**	**+1.7**
LSSA	**Little Sitkin**	**3.67**	**276**		**Pn**	**18 05 34.5**	**+2.0**
NIKH	**Nikolski High**	**4.31**	**71**	Pn	**Pn**	**18 05 43.3**	**+2.1**
NIKH	**Nikolski High**	**4.31**	**71**	P	**Pn**	**18 05 43.0**	**+1.8**
	baz=256,SNR=52						
OKSP	**Okmok Steeple**	**4.71**	**68**		**Pn**	**18 05 49.1**	**+2.4**
OKSO	**Okmok South**	**4.81**	**67**		**Pn**	**18 05 50.7**	**+2.6**
OKCE	**Okmok Cone E**	**4.83**	**67**		**Pn**	**18 05 51.3**	**+2.9**
OKNC	**Okmok New Cone**	**4.87**	**66**		**Pn**	**18 05 51.5**	**+2.6**
OKTU	**Okmok Mt. Tuli**	**4.89**	**67**		**Pn**	**18 05 51.9**	**+2.7**
OKFG	**Magazine Ridge**	**4.97**	**67**		**Pn**	**18 05 53.5**	**+3.2**
MAPS	**Pakushin South**	**5.64**	**65**		**Pn**	**18 06 01.9**	**+2.4**
MSW	**Makushin Switc**	**5.77**	**64**		**Pn**	**18 06 03.2**	**+2.1**
MNAT	**Makushin Natee**	**5.81**	**65**		**Pn**	**18 06 04.3**	**+2.5**
MTBL	**Makushin Table**	**5.84**	**64**		**Pn**	**18 06 05.2**	**+3.0**
UNV	**Unalaska Valle**	**5.90**	**65**	Pn	**Pn**	**18 06 06.0**	**+3.0**
UNV	**Unalaska Valle**	**5.90**	**65**	P	**Pn**	**18 06 05.0**	**+2.0**
	baz=253,SNR=19						
AKMO	**Akutan Morgan**	**6.25**	**64**		**Pn**	**18 06 10.7**	**+2.9**
SPIA	**Saint Paul Isl**	**6.28**	**28**	Pn	**Pn**	**18 06 09.3**	**+1.3**
SPIA	**Saint Paul Isl**	**6.28**	**28**	P	**Pn**	**18 06 08.4**	**+0.3**
	baz=212,SNR=18						
AKGG	**Akutan Green G**	**6.30**	**63**		**Pn**	**18 06 10.9**	**+2.5**
AKBBA	**Akutan Broad B**	**6.30**	**64**		**Pn**	**18 06 11.2**	**+2.7**
AKUT	**Akutan**	**6.40**	**64**	Pn	**Pn**	**18 06 11.5**	**+1.7**
AKSA	**Akutan Strait**	**6.44**	**64**		**Pn**	**18 06 13.3**	**+2.9**
ISLZ	**Isanotski Laza**	**7.73**	**63**		**Pn**	**18 06 30.6**	**+2.6**
FALS	**False Pass**	**7.93**	**62**	P	**Pn**	**18 06 31.7**	**+1.0**
	baz=252						
SDPT	**Sand Point**	**9.69**	**62**	Pn	**Pn**	**18 06 56.0**	**+1.3**
SDPT	**Sand Point**	**9.69**	**62**	P	**Pn**	**18 06 55.7**	**+0.9**
	baz=254						
CNBA	**Chernabura Isl**	**10.07**	**66**	Pn	**Pn**	**18 07 00.4**	**+0.5**
CHNA	**Chernabura Isl**	**10.07**	**66**	P	**Pn**	**18 07 00.5**	**+0.6**
	baz=259						
CHGN	**Chignik**	**11.08**	**59**	Pn	**Pn**	**18 07 14.3**	**+0.7**
CHGN	**Chignik**	**11.08**	**59**	P	**Pn**	**18 07 14.4**	**+0.7**
	baz=253						
GAMB	**Gambell**	**12.25**	**8**	Pn	**Pn**	**18 07 29.9**	**+0.4**
GAMB	**Gambell**	**12.25**	**8**	P	**Pn**	**18 07 29.4**	**-0.2**
	baz=192						
O18K	**Koktuh Hills**	**14.00**	**47**		**Pn**	**18 07 54.5**	**+1.3**
O18K	**Koktuh Hills**	**14.00**	**47**	P	**Pn**	**18 07 54.3**	**+1.0**
	baz=244						
OHAK	**Old Harbor**	**14.05**	**58**	P	**Pn**	**18 07 54.9**	**+1.1**
	baz=256						
N18K	**Kilae Creek**	**14.10**	**43**	Pn	**Pn**	**18 07 57.1**	**+2.6**
N18K	**Kilae Creek**	**14.10**	**43**	P	**Pn**	**18 07 55.3**	**+0.7**
	baz=239						
Q19K	**Cape Douglas,**	**14.37**	**51**	Pn	**Pn**	**18 07 59.4**	**+1.4**
TNA	**Tin City**	**14.41**	**13**	P	**Pn**	**18 07 58.1**	**-0.4**
	baz=200						
SVW2	**Sparrevohn**	**14.45**	**42**		**Pn**	**18 07 59.5**	**+0.4**
KDAK	**Kodiak Island**	**14.55**	**56**	Pn	**Pn**	**18 07 58.2**	**-2.2**
	2.4nm,0.3s,baz=300,slow=5.4,SNR=19						
KDAK				Sn	**Sn**	**18 10 36.6**	**-3.6**
	0.1nm,0.3s,baz=180,slow=20,SNR=1.3						
KDAK				LR	LR	18 13 26.2	
	comp=Z,113nm,19.1s,baz=256,slow=37						
KDAK	**Kodiak Island**	**14.55**	**56**		**Pn**	**18 07 59.2**	**-1.2**
KDAK	**Kodiak Island**	**14.55**	**56**	P	**Pn**	**18 08 01.6**	**+1.2**
	baz=255						
O19K	**Port Alsworth**	**14.55**	**46**	Pn	**Pn**	**18 08 01.6**	**+1.1**
N19K	**Bonanza Creek**	**14.77**	**44**	P	**P**	**18 08 07.1**	**-0.7**
N19K	**Bonanza Creek**	**14.77**	**44**	P	**Pn**	**18 08 04.4**	**+1.1**
	baz=241,SNR=5.1						
P19K	**Oil Pt**	**14.83**	**49**	P	**P**	**18 08 09.4**	**+1.0**
P19K	**Oil Pt**	**14.83**	**49**	P	**Pn**	**18 08 04.6**	**+0.5**
	baz=248						
O20K	**Slope Mountain**	**15.28**	**48**	P	**Pn**	**18 08 10.0**	**+0.2**
	baz=247						
L19K	**White Mountain**	**15.32**	**39**	P	**P**	**18 08 14.5**	**+0.6**
L19K				IAmb	IAmb	18 08 18.1	
	comp=Z,25nm,0.9s						
L19K	**White Mountain**	**15.32**	**39**	P	**Pn**	**18 08 10.7**	**+0.3**
	baz=236,SNR=16						
M19K	**Big River Lodg**	**15.36**	**40**	P	**P**	**18 08 14.0**	**-0.2**
M19K				IAmb	IAmb	18 08 17.8	
	comp=Z,65nm,1.5s						
M19K	**Big River Lodg**	**15.36**	**40**	P	**Pn**	**18 08 11.1**	**+0.2**
	baz=238,SNR=15						
RSO	**Redoubt South**	**15.37**	**46**	Pn	**Pn**	**18 08 12.0**	**+0.8**
CNPM	**China Poot**	**15.73**	**51**	Pn	**Pn**	**18 08 15.7**	**0.0**
M20K	**Styx River**	**15.86**	**41**		**Pn**	**18 08 16.6**	**-0.6**
M20K	**Styx River**	**15.86**	**41**	P	**Pn**	**18 08 17.7**	**+0.4**
	baz=240						
L20K	**Farewell, AK**	**15.87**	**39**	P	**Pn**	**18 08 17.7**	**+0.4**
	baz=237						
BRLK	**Bradley Lake**	**15.98**	**50**	Pn	**Pn**	**18 08 19.1**	**+0.3**
BRLK				IAmb	IAmb	18 08 28.1	
	comp=Z,35nm,1.3s						
BRSE	**Bradley Lake S**	**16.04**	**50**	P	**Pn**	**18 08 20.2**	**+0.7**
	baz=251						
K20K	**Telida**	**16.29**	**36**	P	**P**	**18 08 25.1**	**+0.5**
K20K	**Telida**	**16.29**	**36**	P	**Pn**	**18 08 22.8**	**+0.2**
	baz=234						
PETK	**Petropavlovsk-**	**16.32**	**285**	Pn	**Pn**	**18 08 23.1**	**0.0**
	comp=Z,0.1nm,0.3s,baz=81,slow=14,SNR=4.9						
SKT	**Skwentna**	**16.57**	**42**	P	**P**	**18 08 28.9**	**+1.2**
SKT				IAmb	IAmb	18 08 31.8	
	comp=Z,17nm,0.9s						
SKT	**Skwentna**	**16.57**	**42**	P	**Pn**	**18 08 26.5**	**+0.4**
	baz=243,SNR=9.7						
SUA	**Susitna One**	**16.68**	**45**	P	**P**	**18 08 29.8**	**+0.7**
SUA	**Susitna One**	**16.68**	**45**	P	**Pn**	**18 08 27.7**	**+0.1**
	baz=246						
PPLA	**Purkeypile**	**16.75**	**39**	P	**P**	**18 08 31.6**	**+1.7**
PPLA	**Purkeypile**	**16.75**	**39**	P	**Pn**	**18 08 28.5**	**0.0**
	baz=239						
J20K	**Nowinta River**	**16.76**	**34**	P	**P**	**18 08 30.7**	**+1.0**
J20K	**Nowinta River**	**16.76**	**34**	P	**Pn**	**18 08 28.5**	**+0.1**
	baz=232						
O22K	**Cooper Landing**	**16.77**	**48**	Pn	**Pn**	**18 08 24.8**	**-3.8**
SEW	**Seward**	**16.77**	**50**	Pn	**Pn**	**18 08 26.3**	**-2.3**
SEW				IAmb	IAmb	18 08 30.1	
	comp=Z,26nm,1.2s						
SEW	**Seward**	**16.77**	**50**	P	**Pn**	**18 08 28.5**	**-0.1**
	baz=252						
PMR	**Palmer**	**17.44**	**45**	Pn	**Pn**	**18 08 33.8**	**-3.1**
PMR				IAmb	IAmb	18 08 49.2	
	comp=Z,25nm,1.5s						
PWL	**Port Wells**	**17.54**	**48**	P	**Pn**	**18 08 36.2**	**-2.0**
KTH	**Kantishna Hill**	**17.58**	**38**	P	**P**	**18 08 39.6**	**+0.7**
KTH				IAmb	IAmb	18 08 44.8	
	comp=Z,22nm,0.8s						
GHO	**Glory Hole Cre**	**17.60**	**45**		**P**	**18 08 39.6**	**+0.5**
GHO				IAmb	IAmb	18 08 49.2	
	comp=Z,17nm,0.6s						
KNK	**Knik Glacier**	**17.68**	**46**	Pn	**Pn**	**18 08 37.1**	**-2.7**
KNK	**Knik Glacier**	**17.68**	**46**	P	**Pn**	**18 08 39.4**	**-0.3**
	baz=249						
TRF	**Thorofare Moun**	**17.78**	**39**	Pn	**Pn**	**18 08 37.4**	**-3.8**
TRF	**Thorofare Moun**	**17.78**	**39**	P	**Pn**	**18 08 40.4**	**-0.7**
	baz=240						
BPAW	**Bear Paw Mtn.**	**17.85**	**37**		**Pn**	**18 08 42.5**	**+0.7**
BPAW	**Bear Paw Mtn.**	**17.85**	**37**	P	**Pn**	**18 08 42.4**	**+0.6**
	baz=238,SNR=7.9						
SML	**Sawmill**	**17.88**	**45**		**Pn**	**18 08 44.1**	**+1.8**
SML				IAmb	IAmb	18 08 52.5	
	comp=Z,9.5nm,0.6s						
IMAR	**Indian Mountai**	**18.05**	**29**	P	**Pn**	**18 08 46.3**	**+2.1**
I21K	**Tanana**	**18.11**	**33**	P	**Pn**	**18 08 45.3**	**+0.4**
I21K				IAmb	IAmb	18 08 48.9	
	comp=Z,27nm,1.4s						
WAT1	**Susitna Watana**	**18.19**	**42**	P	**P**	**18 08 45.9**	**+0.3**
	baz=245						
RND	**Reindeer**	**18.32**	**40**	P	**P**	**18 08 46.5**	**-0.5**
RND				IAmb	IAmb	18 08 49.8	
	comp=Z,14nm,0.5s						
SCM	**Sheep Creek Mo**	**18.33**	**46**	P	**P**	**18 08 46.7**	**-0.4**
FID	**Port Fidalgo**	**18.38**	**49**	P	**P**	**18 08 46.0**	**-1.5**
FID				IAmb	IAmb	18 09 28.2	
	comp=Z,23nm,1.2s						
WAT6	**Susitna Watana**	**18.43**	**43**	P	**P**	**18 08 48.1**	**-0.2**
	baz=247						
MCK	**McKinley**	**18.44**	**39**	P	**P**	**18 08 48.1**	**-0.2**
	baz=242						
MLY	**Manley**	**18.45**	**34**	P	**Pn**	**18 08 49.5**	**+0.4**
MLY				IAmb	IAmb	18 08 50.4	
	comp=Z,9.5nm,0.6s						
MLY	**Manley**	**18.45**	**34**	P	**P**	**18 08 47.8**	**-0.6**
	baz=236,SNR=11						
BWN	**Browne**	**18.45**	**38**	P	**P**	**18 08 47.7**	**-0.7**
BWN				IAmb	IAmb	18 09 22.7	
	comp=Z,23nm,1.1s						
DIV	**Divide**	**18.81**	**48**	P	**P**	**18 08 52.6**	**+0.2**
NEA2	**Nenana**	**18.82**	**37**	P	**P**	**18 08 52.3**	**0.0**
	baz=239						
KLU	**Klutina**	**18.85**	**47**	P	**Pn**	**18 08 54.5**	**+0.5**
KLU	**Klutina**	**18.85**	**47**	P	**P**	**18 08 52.7**	**-0.1**
	baz=252,SNR=7.9						
M24K	**Tolsona, Glenn**	**18.94**	**45**	P	**P**	**18 08 53.0**	**-0.8**
M24K				IAmb	IAmb	18 09 06.9	
	comp=Z,15nm,0.8s						
I23K	**Minto, Yukon-K**	**19.00**	**35**	P	**P**	**18 08 54.8**	**+0.4**
I23K				IAmb	IAmb	18 08 57.9	
	comp=Z,9.5nm,0.7s						
I23K	**Minto, Yukon-K**	**19.00**	**35**	P	**P**	**18 08 54.1**	**-0.3**
	baz=238,SNR=7.1						
WRH	**Wood River Hil**	**19.12**	**38**	P	**Pn**	**18 08 56.7**	**-0.5**
RAGM	**Ragged Mountai**	**19.14**	**51**	Pn	**Pn**	**18 08 59.7**	**+2.2**
RAGM				IAmb	IAmb	18 09 15.5	
	comp=Z,26nm,1.8s						
H23K	**Yukon River**	**19.31**	**33**	P	**P**	**18 08 58.5**	**+0.8**
H23K	**Yukon River**	**19.31**	**33**	P	**P**	**18 08 57.7**	**-0.1**
	baz=236,SNR=7.3						
MDM	**Murphy Dome**	**19.31**	**36**	P	**P**	**18 08 58.2**	**+0.4**
BMRM	**Bremner River**	**19.32**	**49**	P	**Pn**	**18 08 59.4**	**-0.2**
BMRM	**Bremner River**	**19.32**	**49**	P	**P**	**18 08 58.7**	**+0.8**
	baz=255,SNR=5.8						
CCB	**Clear Creek Bu**	**19.32**	**37**	P	**P**	**18 08 57.1**	**-0.7**
HMT	**Hamilton**	**19.33**	**51**	P	**Pn**	**18 08 59.3**	**-0.4**
HMT				IAmb	IAmb	18 09 02.3	
	comp=Z,15nm,1.0s						
N25K	**Chitina, Valde**	**19.49**	**48**	P	**Pn**	**18 09 01.2**	**-0.4**
N25K	**Chitina, Valde**	**19.49**	**48**	P	**P**	**18 09 00.5**	**+0.7**
	baz=254,SNR=9.4						
HDA	**Harding Lake**	**19.53**	**39**	P	**P**	**18 09 01.0**	**+0.8**
HDA				IAmb	IAmb	18 09 03.2	
	comp=Z,16nm,0.6s						
HDA	**Harding Lake**	**19.53**	**39**	P	**P**	**18 09 00.4**	**+0.2**
	baz=243,SNR=17						
PAX	**Paxson**	**19.55**	**43**	P	**P**	**18 09 00.7**	**+0.3**
PAX				IAmb	IAmb	18 09 05.5	
	comp=Z,7.5nm,0.6s						
PAX	**Paxson**	**19.55**	**43**	P	**P**	**18 09 00.8**	**+0.3**
	baz=249,SNR=14						
POKR	**Poker Plat Res**	**19.68**	**36**	P	**P**	**18 09 01.9**	**0.0**
	baz=241						
IL31		**19.72**	**38**	P	**P**	**18 09 00.7**	**-1.4**
ILAR	**Eielson Array**	**19.72**	**38**	P	**P**	**18 09 00.4**	**-1.8**
	comp=Z,0.8nm,0.3s,baz=230,slow=9.7,SNR=28						
ILAR	**Eielson Array**	**19.72**	**38**	P	**P**	**18 09 01.4**	**-0.8**
GLB	**Gilahina Butte**	**19.81**	**48**	P	**Pn**	**18 09 05.0**	**-0.3**
H24K	**Noodor Dome**	**19.89**	**34**	P	**P**	**18 09 04.2**	**+0.1**
H24K				IAmb	IAmb	18 09 07.5	
	comp=Z,10nm,0.8s						
H24K	**Noodor Dome**	**19.89**	**34**	P	**P**	**18 09 03.7**	**-0.4**
	baz=238,SNR=16						
VRDI	**Verde Repeater**	**19.92**	**49**	P	**P**	**18 09 02.8**	**-1.8**
COLD	**Coldfoot**	**19.94**	**29**	P	**P**	**18 09 03.8**	**-0.8**
COLD				IAmb	IAmb	18 09 10.9	
	comp=Z,16nm,0.9s						
COLD	**Coldfoot**	**19.94**	**29**	P	**P**	**18 09 03.9**	**-0.6**
	baz=231,SNR=13						
WAX	**Waxell Ridge**	**20.04**	**51**	P	**P**	**18 09 05.0**	**-0.8**
RIDG	**Independent Ri**	**20.09**	**41**	P	**P**	**18 09 05.8**	**-0.5**
RIDG				IAmb	IAmb	18 09 11.2	
	comp=Z,11nm,0.7s						
RIDG	**Independent Ri**	**20.09**	**41**	P	**P**	**18 09 06.4**	**+0.1**
	baz=248						
MCARA	**McCarthy VSAT**	**20.16**	**49**	P	Pn	18 09 08.7	-0.7
MCARA				IAmb	IAmb	18 09 12.4	
	comp=Z,11nm,0.9s						
MCARA	**McCarthy VSAT**	**20.16**	**49**	P	**P**	**18 09 08.0**	**+1.0**
	baz=256,SNR=6.4						
J25K	**Salcha River,**	**20.24**	**39**	P	**P**	**18 09 07.2**	**-0.7**
	baz=245,SNR=24						
MENT	**Mentasta**	**20.29**	**44**	P	**P**	**18 09 08.6**	**+0.2**
SEY	**Seymchan**	**20.36**	**316**	P	**P**	**18 09 10.3**	**+1.2**
	comp=Z,6.5nm,0.7s,baz=122,slow=12,SNR=21						
DOT	**Dot Lake**	**20.38**	**42**	P	**P**	**18 09 09.2**	**-0.3**
DOT				IAmb	IAmb	18 09 11.4	
	comp=Z,20nm,0.6s						
M26K	**Nabesna, AK**	**20.44**	**46**	P	**P**	**18 09 10.6**	**+0.5**
M26K	**Nabesna, AK**	**20.44**	**46**	P	**P**	**18 09 10.4**	**+0.3**
	baz=254						
L26K	**Log Cabin Wild**	**20.48**	**44**	P	**P**	**18 09 10.2**	**-0.2**
L26K	**Log Cabin Wild**	**20.48**	**44**	P	**P**	**18 09 10.9**	**+0.4**
	baz=252						
SCRK	**Sand Creek**	**20.54**	**41**	P	**P**	**18 09 10.3**	**-0.9**
SCRK	**Sand Creek**	**20.54**	**41**	P	**P**	**18 09 10.8**	**-0.3**
	baz=248,SNR=34						
YAH	**Yahtse**	**20.57**	**52**		Pn	18 09 14.6	+0.2
YAH				IAmb	IAmb	18 09 56.4	
	comp=Z,6.0nm,0.5s						
BARN	**Barnard Glacie**	**20.73**	**50**	P	**P**	**18 09 12.8**	**-0.6**
BARN				IAmb	IAmb	18 09 28.1	
	comp=Z,38nm,2.0s						
J26K	**Charley River,**	**20.84**	**40**	P	**P**	**18 09 14.3**	**-0.1**
	baz=247,SNR=13						
CTGM	**Chitina Glacie**	**20.87**	**50**	P	**P**	**18 09 15.0**	**+0.1**
TABL	**Table Mountain**	**20.87**	**52**	P	**P**	**18 09 15.5**	**+0.5**
TABL				IAmb	IAmb	18 09 52.1	
	comp=Z,30nm,1.9s						
M27K	**Edge Creek, AK**	**20.93**	**46**	P	**P**	**18 09 16.1**	**+0.7**
M27K	**Edge Creek, AK**	**20.93**	**46**	P	**P**	**18 09 15.9**	**+0.4**
	baz=255,SNR=7.7						
LOGN	**Logan Glacier**	**21.01**	**51**	P	**P**	**18 09 15.8**	**-0.5**
TOLK	**Toolik Lake Re**	**21.03**	**27**	P	**P**	**18 09 16.8**	**+0.4**
TOLK				IAmb	IAmb	18 09 19.0	
	comp=Z,39nm,1.8s						
TOLK	**Toolik Lake Re**	**21.03**	**27**	P	**P**	**18 09 16.5**	**+0.2**
	baz=230						
L27K	**Beaver Creek,**	**21.15**	**45**	P	**P**	**18 09 16.2**	**-1.4**
L27K	**Beaver Creek,**	**21.15**	**45**	P	**P**	**18 09 18.0**	**+0.4**
	baz=253						
BCAR	**Beaver Creek A**	**21.17**	**45**	P	**P**	**18 09 18.1**	**+0.2**
PCA	**Pinnacle**	**21.26**	**53**	P	**P**	**18 09 18.4**	**-0.5**
PINM	**Pinnacle**	**21.26**	**53**	P	**P**	**18 09 19.8**	**+0.8**
	baz=263						
K27K	**Chicken**	**21.34**	**42**	P	**P**	**18 09 19.5**	**-0.1**
K27K				IAmb	IAmb	18 09 23.0	
	comp=Z,9.0nm,0.7s						
YUK3	**Moose Creek**	**21.45**	**48**	P	**P**	**18 09 21.6**	**+0.6**
	baz=258						
BMAR	**Burnt Mountain**	**21.85**	**32**	P	**P**	**18 09 24.9**	**-0.1**
EGAK	**Eagle**	**21.97**	**40**	P	**P**	**18 09 25.5**	**-0.8**
EGAK				IAmb	IAmb	18 09 56.7	
	comp=Z,12nm,1.1s						
DAWY	**Dawson**	**22.48**	**43**	P	**P**	**18 09 31.6**	**-0.2**
DAWY	**Dawson**	**22.48**	**43**	P	**P**	**18 09 31.7**	**-0.2**
	baz=254						
EPYK	**Eagle Plains**	**24.24**	**38**	P	**P**	**18 09 47.6**	**-1.2**
EPYK				IAmb	IAmb	18 10 04.1	
	comp=Z,32nm,1.7s						
INK	**Inuvik**	**26.02**	**35**	P	**P**	**18 10 03.6**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=212,slow=4.6,SNR=5.2						
INK	**Inuvik**	**26.02**	**35**	IAmb	IAmb	18 10 45.6	
	comp=Z,34nm,1.9s						
YKA	**Yellowknife Ar**	**33.52**	**47**	P	**P**	**18 11 10.9**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=297,slow=6.4,SNR=4.4						
B05A	**Bryant**	**33.92**	**74**	P	**P**	**18 11 16.2**	**+1.4**
	baz=296						
H11N2	**WAKE ISLAND Hy**	**34.77**	**210**	T	T	18 48 06.9	
	baz=18,slow=76,SNR=268						
H11N3	**WAKE ISLAND Hy**	**34.78**	**210**	T	T	18 48 04.9	
	baz=18,slow=76,SNR=206						
H11N1	**WAKE ISLAND Hy**	**34.79**	**210**	T	T	18 48 14.2	
	baz=18,slow=76,SNR=189						
F04A	**Amboy**	**34.81**	**78**	P	**P**	**18 11 25.2**	**+2.6**
LTY	**Liberty**	**35.23**	**75**	P	**P**	**18 11 27.4**	**+1.2**
LTY				IAmb	IAmb	18 12 29.5	
	comp=Z,8.4nm,1.4s						
B08A	**Colville Reser**	**35.52**	**73**	P	**P**	**18 11 29.2**	**+0.5**
HUH	**Hualalai**	**35.54**	**147**	P	**P**	**18 11 28.3**	**-1.1**
H04A	**Detroit Lake**	**35.58**	**80**	P	**P**	**18 11 29.5**	**+0.3**
HMH	**Humu'ula Sheep**	**35.74**	**146**	P	**P**	**18 11 27.8**	**-3.2**
MWH	**Moku'aweowe**	**35.81**	**147**	P	**P**	**18 11 30.4**	**-1.5**
MLH	**Mauna Loa**	**35.87**	**146**	P	**P**	**18 11 30.3**	**-1.9**
AIN	**Ainahou**	**35.96**	**146**	P	**P**	**18 11 28.9**	**-3.9**
H11S1	**WAKE ISLAND Hy**	**35.98**	**209**	T	T	18 50 00.3	
	baz=18,slow=76,SNR=247						
H11S2	**WAKE ISLAND Hy**	**36.00**	**209**	T	T	18 49 39.4	
	baz=18,slow=76,SNR=127						
H11S3	**WAKE ISLAND Hy**	**36.00**	**209**	T	T	18 49 42.3	
	baz=18,slow=76,SNR=86						
KHU	**Kahuku**	**36.02**	**147**	P	**P**	**18 11 29.6**	**-3.8**
HAWA	**Hanford**	**36.33**	**76**	P	**P**	**18 11 37.5**	**+1.9**
D08A	**Wollman Farm,**	**36.38**	**74**	P	**P**	**18 11 37.7**	**+1.7**
J04D	**Umpqua Nationa**	**36.39**	**82**	P	**P**	**18 11 36.5**	**+0.1**
	baz=303						
C09A	**Chrisman Ranch**	**36.41**	**73**	P	**P**	**18 11 36.8**	**+0.5**
C09A				IAmb	IAmb	18 11 38.4	
	comp=Z,4.6nm,0.7s						
E08A	**Dider Farm, El**	**36.57**	**75**	P	**P**	**18 11 38.7**	**+1.1**
NEW	**Newport**	**36.87**	**72**	P	**P**	**18 11 41.2**	**+1.0**
NEW				IAmb	IAmb	18 11 42.3	
	comp=Z,6.2nm,0.8s						
NEW	**Newport**	**36.87**	**72**	P	**P**	**18 11 40.8**	**+0.5**
	baz=298						
EDM	**Edmonton**	**36.88**	**62**	P	**P**	**18 11 40.6**	**+0.4**
E09A	**Wood Farm, Sta**	**37.11**	**75**	P	**P**	**18 11 43.1**	**+0.9**
I07A	**Izee**	**37.53**	**79**	P	**P**	**18 11 48.1**	**+2.2**
I07A				IAmb	IAmb	18 11 50.4	
	comp=Z,3.8nm,0.7s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
F10A	Beach Ranch, E	37.93	75	P	P	18 11 50.6	+1.4
BMO	Blue Mountains	38.46	77	P	P	18 11 55.5	+1.8
BMO				IAmb	IAmb	18 12 06.6	
	comp=Z,6.5nm,1.6s						
J08A	Circle Bar Ran	38.55	79	P	P	18 11 56.9	+2.4
J08A				IAmb	IAmb	18 11 57.5	
	comp=Z,5.7nm,1.0s						
WVOR	Wild Horse Val	38.96	81	P	P	18 12 00.1	+2.1
WVOR				IAmb	IAmb	18 12 01.0	
	comp=Z,11nm,1.4s						
MSO	Missoula	39.45	72	P	P	18 12 03.0	+0.9
MSO				IAmb	IAmb	18 12 03.6	
	comp=Z,4.3nm,0.7s						
MSO	Missoula	39.45	72	P	P	18 12 02.3	+0.3
	baz=301						
HRY	Holter Researc	40.76	71	P	P	18 12 12.1	-0.8
HLID	Hailey	40.91	77	P	P	18 12 15.7	+1.6
HLID				IAmb	IAmb	18 12 17.4	
	comp=Z,8.3nm,1.4s						
HLID	Hailey	40.91	77	P	P	18 12 15.0	+0.8
	baz=304,SNR=6.1						
BMN	Battle Mountai	40.98	82	P	P	18 12 16.2	+1.4
BCYI	Bear Canyon	41.10	75	P	P	18 12 16.9	+1.1
MCMT	McKenzie Canyo	41.16	74	P	P	18 12 17.2	+0.9
EGMT	Eagleton	41.29	68	P	P	18 12 15.3	-1.8
EGMT				IAmb	IAmb	18 12 59.1	
	comp=Z,5.3nm,1.1s						
BOZ	Bozeman (W)	41.47	72	P	P	18 12 19.7	+1.0
BOZ				IAmb	IAmb	18 12 20.4	
	comp=Z,4.4nm,0.8s						
BOZ	Bozeman (W)	41.47	72	P	P	18 12 19.4	+0.7
	baz=303,SNR=8.7						
NVAR	Mina Array Bea	41.52	85	P	P	18 12 21.2	+1.9
	comp=Z,0.7nm,0.6s,baz=295,slow=6.7,SNR=4.5						
KSRS	Korea Array	41.63	273	P	P	18 12 20.2	+0.3
	comp=Z,2.8nm,0.8s,baz=61,slow=8.4,SNR=12						
ELK	Elko	42.02	81	P	P	18 12 23.9	+0.5
YMR	Madison River	42.37	73	P	P	18 12 27.3	+1.2
YHH	Holmes Hill	42.37	73	P	P	18 12 26.5	+0.3
YHH				IAmb	IAmb	18 12 28.0	
	comp=Z,6.0nm,0.6s						
YNR	Norris Junctio	42.51	73	P	P	18 12 27.7	+0.3
GCMT	Greycliff	42.52	71	P	P	18 12 28.3	+1.0
H17A	Grant Village	42.75	73	P	P	18 12 30.4	+1.1
IMW	Indian Meadow	42.81	74	P	P	18 12 29.4	-0.4
FLWY	Flagg Ranch	42.85	74	P	P	18 12 31.4	+1.3
FLWY				IAmb	IAmb	18 12 32.7	
	comp=Z,4.0nm,0.8s						
RLMT	Red Lodge	43.12	72	P	P	18 12 33.7	+1.5
RLMT				IAmb	IAmb	18 12 34.9	
	comp=Z,4.8nm,0.8s						
RLMT	Red Lodge	43.12	72	P	P	18 12 32.6	+0.4
	baz=304						
LOHW	Long Hollow	43.17	74	P	P	18 12 33.9	+1.2
LOHW				IAmb	IAmb	18 13 32.5	
	comp=Z,14nm,1.9s						
R11A	Troy Canyon, C	43.25	84	P	P	18 12 29.6	-3.7
TPNV	Topopah Spring	43.72	86	P	P	18 12 38.8	+1.8
TPNV	Topopah Spring	43.72	86	P	P	18 12 37.4	+0.4
	baz=309						
HWUT	Hardware Ranch	43.75	77	P	P	18 12 38.9	+1.5
HWUT				IAmb	IAmb	18 12 39.8	
	comp=Z,5.5nm,1.4s						
DUG	Dugway, Tooele	43.83	80	P	P	18 12 39.7	+1.7
DUG				IAmb	IAmb	18 12 41.9	
	comp=Z,4.4nm,0.8s						
DUG	Dugway, Tooele	43.83	80	P	P	18 12 39.1	+1.1
	baz=307						
LAO	LASA Array	44.04	68	P	P	18 12 39.3	0.0
LAO				IAmb	IAmb	18 12 57.3	
	comp=Z,4.4nm,0.7s						
PRN	Pahroc Range	44.17	84	P	P	18 12 42.0	+1.4
BW06	Boulder Array	44.28	75	P	P	18 12 43.0	+1.3
BW06				IAmb	IAmb	18 12 43.4	
	comp=Z,7.0nm,0.7s						
BW06	Boulder Array	44.28	75	P	P	18 12 42.3	+0.7
	baz=306						
PD31	Pinedale Array	44.28	75	P	P	18 12 42.6	+1.0
PD31				IAmb	IAmb	18 12 43.4	
	comp=Z,6.1nm,0.7s						
PDAR	Pinedale Array	44.28	75	P	P	18 12 42.6	+1.0
	comp=Z,5.1nm,0.5s,baz=303,slow=4.4,SNR=43						
PDAR	Pinedale Array	44.28	75	P	P	18 12 41.8	+0.2
GSC	Goldstone, Bar	44.42	88	P	P	18 12 43.7	+1.1
GSC				IAmb	IAmb	18 12 46.2	
	comp=Z,11nm,1.6s						
GSC	Goldstone, Bar	44.42	88	P	P	18 12 43.2	+0.6
	baz=311						
NLU	North Lily Min	44.43	79	P	P	18 12 44.0	+1.2
NLU				IAmb	IAmb	18 12 46.0	
	comp=Z,7.2nm,1.5s						
TMUT	Trail Mountain	45.36	80	P	P	18 12 52.0	+1.7
TMUT				IAmb	IAmb	18 12 54.6	
	comp=Z,4.0nm,0.8s						
GMRC	Granite Mounta	45.47	88	P	P	18 12 52.3	+1.3
	baz=311						
P17A	Butcher Ranch,	45.54	79	P	P	18 12 50.2	-1.3
P17A				IAmb	IAmb	18 12 54.1	
	comp=Z,6.1nm,1.2s						
RDMU	Red Mountain	45.58	77		P	18 12 52.6	+0.7
RDMU				IAmb	IAmb	18 12 54.3	
	comp=Z,7.5nm,0.9s						
Q16A	Castle Valley	45.62	80	P	P	18 12 54.0	+1.8
Q16A				IAmb	IAmb	18 12 55.9	
	comp=Z,10nm,1.4s						
SRU	San Rafael Swe	45.89	79	P	P	18 12 56.0	+1.7
SRU				IAmb	IAmb	18 12 57.1	
	comp=Z,2.7nm,0.7s						
RWWY	Rawlins	46.33	74	P	P	18 12 57.2	-0.7
RWWY				IAmb	IAmb	18 14 43.6	
	comp=Z,7.3nm,1.2s						
O20A	White River Ci	46.65	77	P	P	18 13 00.7	+0.4
O20A	White River Ci	46.65	77	P	P	18 13 00.4	+0.1
	baz=308						
RSSD	Black Hills	46.76	70	P	P	18 13 01.1	-0.1
RSSD				IAmb	IAmb	18 13 03.7	
	comp=Z,3.0nm,0.6s						
RSSD	Black Hills	46.76	70	P	P	18 13 00.5	-0.7
	baz=306						
PV21	Cone Mtn., Par	47.18	79	P	P	18 13 05.3	+0.8
PV21				IAmb	IAmb	18 14 21.7	
	comp=Z,4.5nm,1.0s						
PV04	Paradox Valley	47.33	79	P	P	18 13 06.6	+1.0
PV04				IAmb	IAmb	18 13 10.7	
	comp=Z,3.7nm,0.6s						
PV17	East Wray Mesa	47.37	79	P	P	18 13 06.9	+1.0
PV17				IAmb	IAmb	18 13 09.1	
	comp=Z,4.1nm,0.8s						
PV16	Nyswonger Mesa	47.37	79	P	P	18 13 06.2	+0.3
PV11	David Mesa, Pa	47.41	79	P	P	18 13 06.8	+0.6
PV05	Paradox Valley	47.41	79	P	P	18 13 07.3	+1.1
PV03	Paradox Valley	47.45	79	P	P	18 13 07.1	+0.5
PV03				IAmb	IAmb	18 13 09.7	
	comp=Z,3.3nm,0.7s						
PV13	Radium Mtn., P	47.53	79	P	P	18 13 08.3	+1.1
PV02	Paradox Valley	47.55	79	P	P	18 13 08.6	+1.2
PV02				IAmb	IAmb	18 13 10.9	
	comp=Z,4.6nm,0.7s						
N23A	Red Feather La	47.57	74	P	P	18 13 08.0	+0.5
	baz=308						
PV15	Paradox Valley	47.62	79	P	P	18 13 08.7	+0.8
PV15				IAmb	IAmb	18 13 15.9	
	comp=Z,3.3nm,0.6s						
WUAZ	Wupatki	47.65	84	P	P	18 13 08.4	+0.3
	baz=311						
PV01	Paradox Valley	47.70	79	P	P	18 13 09.4	+0.9
PV01				IAmb	IAmb	18 13 11.6	
	comp=Z,3.7nm,0.8s						
MVCO	Mesa Verde	48.33	80	P	P	18 13 13.7	+0.3
	baz=310						
SDCO	Great Sand Dun	49.81	77	P	P	18 13 25.6	+0.8
SDCO	Great Sand Dun	49.81	77	P	P	18 13 25.6	+0.8
	baz=310						
TUC	Tucson	50.15	86	P	P	18 13 28.1	+0.9
	baz=313						
T25A	Trinidad	50.87	77	P	P	18 13 34.1	+1.5
T25A	Trinidad	50.87	77	P	P	18 13 33.7	+1.0
	baz=311						
CBKS	Cedar Bluff	52.58	73	P	P	18 13 44.6	-0.6
	baz=311						
MNTX	Cornudas Mount	53.91	83	P	P	18 13 56.4	+1.3
MNTX				IAmb	IAmb	18 14 54.3	
	comp=Z,12nm,1.9s						
MNTX	Cornudas Mount	53.91	83	P	P	18 13 55.9	+0.9
	baz=314						
MSTX	Muleshoe	53.97	79		P	18 13 56.6	+1.1
AMTX	Amarillo	54.01	77	P	P	18 13 54.8	-1.0
AMTX				IAmb	IAmb	18 14 09.5	
	comp=Z,4.7nm,0.9s						
P40A	Paris	56.59	67	P	P	18 14 13.1	-1.1
TX31	Lajitas Ar. Si	56.62	84	P	P	18 14 15.0	+0.4
TX32	Lajitas Array	56.62	84	P	P	18 14 15.8	+1.2
TXAR	Lajitas Array	56.62	84	P	P	18 14 15.6	+1.0
	comp=Z,1.7nm,0.7s,baz=303,slow=5.1,SNR=17						
TXAR	Lajitas Array	56.62	84	P	P	18 14 15.4	+0.8
TUL1	Leonard	56.86	73	P	P	18 14 16.3	+0.2
	baz=313						
R40A	Maddies Statio	57.30	68	P	P	18 14 17.4	-1.8
U38A	Gravette	57.33	71	P	P	18 14 18.6	-0.8
U38A				IAmb	IAmb	18 14 19.4	
	comp=Z,3.4nm,0.7s						
HHAR	Hobbs	57.70	71	P	P	18 14 20.9	-1.1
HHAR				IAmb	IAmb	18 14 21.8	
	comp=Z,3.5nm,0.7s						
X37A	Clayton	58.01	73	P	P	18 14 24.7	+0.5
U40A	Yellville	58.28	70	P	P	18 14 24.9	-1.2
U40A	Yellville	58.28	70	P	P	18 14 25.4	-0.7
	baz=314						
W39A	Magazine	58.53	72	P	P	18 14 27.7	-0.2
	baz=314						
FCAR	Ozark Folk Cen	59.03	70	P	P	18 14 29.8	-1.5
MIAR	Mount Ida	59.11	72	P	P	18 14 32.2	+0.3
MIAR	Mount Ida	59.11	72	P	P	18 14 31.3	-0.6
	baz=314						
PBMO	Poplar Bluff	59.40	68	P	P	18 14 32.9	-0.9
W41B	Gary Mavity, V	59.46	71	P	P	18 14 33.9	-0.3
	baz=314						
X40A	Basin Creek Fa	59.59	72	P	P	18 14 35.1	0.0
	baz=314						
WVT	Waverly	61.35	67	P	P	18 14 47.0	-0.1
	baz=315						
MKAR	Makanchi Array	61.36	310	P	P	18 14 44.5	-2.6
	comp=Z,0.5nm,0.5s,baz=40,slow=6.6,SNR=7.8						
OXF	Oxford	61.58	70	P	P	18 14 48.4	-0.3
	baz=315						
PLAL	Pickwick Lake	62.02	68	P	P	18 14 50.4	-1.3
PLAL				IAmb	IAmb	18 14 51.8	
	comp=Z,4.2nm,0.9s						
GOGA	Godfrey	65.80	66	P	P	18 15 16.1	-0.4
	baz=317						
CMAR	Chiang Mai Arr	72.96	278	P	P	18 16 01.1	+0.2
	comp=Z,1.0nm,0.8s,baz=27,slow=6.2,SNR=10.0						
WRA	Warramunga Arr	83.69	227	P	P	18 17 00.3	+0.4
	comp=Z,0.7nm,0.6s,baz=36,slow=4.8,SNR=11						
ASAR	Alice Springs	87.13	225	P	P	18 17 18.0	+1.1
	comp=Z,1.8nm,0.6s,baz=26,slow=4.7,SNR=32						
H03N2	Juan Fernandez	119.33	108	T	T	20 35 06.3	
	baz=317,slow=77,SNR=19						
H03N1	Juan Fernandez	119.34	108	T	T	20 35 13.4	
	baz=317,slow=77,SNR=18						
H03N3	Juan Fernandez	119.34	108	T	T	20 35 02.8	
	baz=317,slow=77,SNR=14						

MAN 03 18:07:34.5, 19°31N×121°23E, h2km, mb4.4, ML3.2, MS3.0, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	Conner	1.44	179	⇓eP	Pn	18 07 59.6	-2.0
APYP				iS	Sg	18 08 15.6	-5.1

SOME 03 18:18:26.4, 39°53N×72°10E, h10km
KRNET 03 18:18:27.9±0.1, 39°22N×71°81E, h14km, mb3.0
NNC 03 18:18:28.8±7.4, 39°58N×71°75E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=53.0km s-min=27.4km az=179.0
ISC 03 18:18:29.5±0.9, 39°54N±0°04×71°70E±0°04, h14km±7km, n18, σ2§60/29, 18C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	Karamyk	0.10	128	⇑iP	Pg	18 18 33.0	+0.1
	baz=59						
DRK				⇑iS	Sg	18 18 37.1	+1.9
	baz=59						
BTK	Batken	0.86	308	⇑iP	Pn	18 18 49.1	+1.8
	baz=18						
BTK				⇑iS	Sn	18 19 04.8	+5.1
	baz=18						
GAR	Garm	1.20	244	⇑iP	Pn	18 18 50.0	-2.1
	baz=60						
GAR				⇑iS	Sb	18 19 06.4	-1.2
	baz=60						
OHH	Osh	1.29	40	⇑iP	Pg	18 18 55.7	+1.4
	baz=30						
OHH				⇑iS	Sn	18 19 15.7	+5.4
	baz=30						
TRKS	Terek-Say	2.03	348	⇓iP	Pg	18 19 08.2	-0.3
	baz=48						
TRKS				⇓iS	Sg	18 19 37.3	+2.4
	baz=48						
CHGR	Chuyangaron	2.17	247	⇑iP	Pn	18 19 06.1	+0.8
	baz=56						
CHGR				⇑iS	Sn	18 19 33.5	+1.5
	baz=56						
IUG	Iuzhnay	2.90	335	eP	Pg	18 19 23.6	-1.4
	544nm,0.2s						
IUG				eS	Sg	18 20 05.2	+2.7
	111nm,0.5s						
IUG	Iuzhnay	2.90	335	Pg	Pg	18 19 23.6	-1.4
	544nm,0.2s						
IUG				Lg	Lg	18 20 05.2	
	111nm,0.5s						
AML	Almayashu	3.00	30	⇑iP	Pb	18 19 21.3	-1.6
	baz=26						
AML				⇑iS	Sb	18 20 00.4	+0.8
	baz=26						
MNAS	Manas	3.01	11	⇑iP	Pb	18 19 22.3	-0.6
	baz=9.0						
MNAS				⇑iS	Sg	18 20 01.8	-4.3
	baz=9.0						
ARLS	Aral	3.06	40	⇑iP	Pb	18 19 21.7	-2.1
	baz=35						
ARLS				⇑iS	Sb	18 20 00.4	-0.6
	baz=35						
MRKS	Merke	3.40	19	eP	Pb	18 19 28.9	-0.8
	2.3nm,0.3s						
MRKS				eS	Sg	18 20 14.4	-4.4
	7.2nm,0.5s						
MRKS	Merke	3.40	19	Pg	Pb	18 19 28.9	-0.8
	2.3nm,0.3s						
MRKS				Lg	Lg	18 20 14.4	
	7.2nm,0.5s						
KK31	Karatay Array	3.67	346	Pg	Pb	18 19 33.2	-1.0
	2.5nm,0.4s,baz=160,slow=12,SNR=29						
KK31				⇓Lg	Lg	18 20 23.5	
	3.6nm,0.6s,baz=169,slow=22,SNR=4.5						
AAK	Ala-Archa	3.75	33	⇑Pg	Pg	18 19 38.2	-3.1
	6.8nm,1.1s						
AAK				⇑Lg	Lg	18 20 23.6	
	5.4nm,0.6s						
BRLS	Borolday	3.76	339	eP	Pb	18 19 33.4	-2.3
	7.0nm,0.3s						
BRLS				eS	Sb	18 20 22.3	+1.2
	4.4nm,0.4s						
BRLS	Borolday	3.76	339	Pg	Pb	18 19 31.9	-3.8
	1.7nm,0.2s						
BRLS				Lg	Lg	18 20 19.8	
	0.9nm,0.4s						
SGDS	Sogindy	4.49	28	Pg	Pb	18 19 43.0	-5.0
SGDS				Lg	Lg	18 20 38.3	

UCR 03 18:20:48.2±1.0, 9°70N×85°91W, h27km±2km, MW3.8, 9C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRZA	Playa Garza	0.35	51	⇑iP	Pb	18 20 55.8	-0.3
GRZA				eS	Sb	18 21 02.1	+0.5
SAJU	San Juanillo,	0.42	28	⇑iP	Pb	18 20 57.1	-0.2
SAJU				eS	Sb	18 21 04.3	+1.0
INDI	Punta indio, G	0.44	67	⇑iP	Pb	18 20 57.0	-0.5
INDI				eS	Sb	18 21 04.4	+0.5
GUAI	GUAI	0.70	35	⇑iP	Pb	18 21 01.1	-0.7
GUAI				iS	Sb	18 21 11.5	+0.5
LAFE	Finca La Fe, P	0.99	83	⇑eP	Pn	18 21 04.5	-1.9
HZTE	Horizontes, Gu	1.06	17	⇑iP	Pn	18 21 07.5	+0.2
COLC	Colonia	1.19	36	iP	Pn	18 21 08.9	-0.2
LIM1	Limonal	1.19	33	⇑iP	Pn	18 21 09.0	-0.1
LIM1				iS	Sb	18 21 24.9	-0.4
CUI	Cuipilapa	1.21	38	⇑iP	Pn	18 21 09.1	-0.2
CUI				iS	Sn	18 21 25.3	+0.4
GB1A	Borinquen Arri	1.23	24	⇑iP	Pn	18 21 09.7	+0.1
JACO	JACO, Garabito	1.24	91	eP	Pn	18 21 08.7	-1.0
BUAI	Buenos Aires	1.31	26	iP	Pn	18 21 10.9	+0.1
CASO	Castillo	1.37	58	iP	Pn	18 21 11.5	-0.1
ARE1	Arenal 1	1.40	57	eP	Pn	18 21 12.2	+0.2
CEDE	Laguna Cedeo	1.43	56	iP	Pn	18 21 12.9	+0.5
LCR2	La Lucha 2	1.88	88	eP	Pn	18 21 19.4	+0.5
RIMA	Rio Macho	2.02	88	eP	Pn	18 21 20.8	+0.1
RIFO	Rio Frio, Sara	2.06	72	eP	Pn	18 21 21.9	+1.0
CVTR	Volcan Turrial	2.15	81	eP	Pn	18 21 23.5	+0.9
RIOS	Rincon, Osa	2.57	112	eP	Pn	18 21 29.8	+1.8

MEX 03 18:44:01.0±0.5, 17°07N×94°09W, h150km±4km, MD3.7, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.76	272	iP	Pn	18 44 22.4	-1.5
CMIG				eS	Sn	18 44 39.4	-1.9
TGIG		0.97	107	eP	Pn	18 44 24.0	-1.6
TGIG				eS	Sn	18 44 42.6	-1.7
PCIG		1.59	148	iP	Pn	18 44 30.5	-1.1
PCIG				eS	Sn	18 44 52.9	-2.1
VHO	Vista Hermosa	2.53	270	iP	Pn	18 44 41.9	-0.8
VHO				eS	Sn	18 45 13.0	-1.8
TOIG	Toxpalan	3.02	290	eP	Pn	18 44 47.2	-1.5
TOIG				eS	Sn	18 45 21.5	-4.0
YOIG	Yosondua	3.31	267	eP	Pn	18 44 51.1	-1.5
YOIG				eS	Sn	18 45 27.6	-5.0

INET 03 18:45:53.7, 12°12N×87°84W, h15km, MW4.9
UCR 03 18:46:01.7±2.2, 12°35N×87°72W, h39km±321km, ML4.3, mb4.0(NEIC)
SNET 03 18:46:02.6±0.9, 12°39N×87°98W, h12km±9km, ML4.4
NEIC 03 18:46:03.2±2.1, 12°35N±0°06×87°60W±0°06, h59km±7km, mb4.5/208, Md4.4(SNET), Error ellipse: s-maj=10.6km s-min=7.2km az=219.0
IDC 03 18:46:04.1±1.6, 12°45N×87°45W, h72km±16km, mb4.0/14, mb1 4.2/16, mb1mx3.9/41, mbtmp4.3/16, MS3.4/11, Ms1 3.5/11, ms1mx3.3/34, Error ellipse: s-maj=24.5km s-min=10.3km az=49.0
ISC 03 18:46:03.3±0.5, 12°43N±0°05×87°65W±0°05, h67km, n361, σ1§38/366, mb4.5/110, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.64	65	Pn	Pn	18 46 16.3	-1.2
CNCH	Conchagua	0.87	348	eP	Pn	18 46 18.8	-1.3
CNCH				eS	Sn	18 46 32.6	0.0
CNCH	Conchagua	0.87	348	eP	Pn	18 46 18.8	-1.3
CNCH				eS	Sn	18 46 32.6	0.0
LCND	La Caada	0.91	345	eP	Pn	18 46 19.3	-1.3
LCND				eS	Sn	18 46 31.8	-1.6
LCND				IAML		18 46 36.8	
	comp=Z,13µm,0.4s						
LCND	La Caada	0.91	345	eP	Pn	18 46 19.3	-1.3
LCND				eP		18 46 19.4	
LCND				eS	Sn	18 46 31.8	-1.6
LCND				IAML		18 46 36.8	
	comp=Z,13µm,0.4s						
CNGN	Cerro Negro	0.93	85		Pn	18 46 19.7	-1.2
JUCU	Jucuar¡n	1.01	325	eP	Pn	18 46 19.5	-2.4
JUCU				IAML		18 46 36.8	
	comp=Z,8µm,0.3s						
JUCU	Jucuar¡n	1.01	325	eP	Pn	18 46 19.5	-2.4
JUCU				IAML		18 46 36.8	
	comp=Z,8µm,0.3s						
BLLM	Bellamira	1.16	330	eP	Pn	18 46 22.3	-1.6
BLLM	Bellamira	1.16	330	eP	Pn	18 46 22.3	-1.6
VSM	San Miguel	1.17	329	eP	Pn	18 46 22.6	-1.6
VSM	San Miguel	1.17	329	eP	Pn	18 46 22.6	-1.6
LCY	Lacayo	1.18	328	eP	Pn	18 46 22.4	-1.7
LCY				eS	Sn	18 46 37.2	-2.4
LCY	Lacayo	1.18	328	eP	Pn	18 46 22.4	-1.7
LCY				eS	Sn	18 46 37.2	-2.4
PACA	Pacayal	1.23	328	eP	Pn	18 46 23.5	-1.3
PACA				eS	Sn	18 46 39.3	-1.5
PACA	Pacayal	1.23	328	eP	Pn	18 46 23.5	-1.3
PACA				eS	Sn	18 46 39.3	-1.5
ALJI	Alcalda de J	1.27	315	eP	Pn	18 46 21.8	-3.4
ALJI	Alcalda de J	1.27	315	eP	Pn	18 46 21.8	-3.4
TECA	Tecapa	1.35	322	eP	Pn	18 46 24.6	-1.8
TECA	Tecapa	1.35	322	eP	Pn	18 46 24.6	-1.8
COEB	Comit de Eme	1.37	321	eP	Pn	18 46 24.6	-2.0
COEB	Comit de Eme	1.37	321	eP	Pn	18 46 24.6	-2.0
PQSS	Presa 15 de Se	1.49	323	eP	Pn	18 46 26.5	-1.5
MASN	Masaya	1.52	106	Pn	Pn	18 46 26.4	-2.3
TECO	Alcaldia de Te	1.56	315	eP	Pn	18 46 26.9	-2.2
UESV	Universidad de	1.64	317	eP	Pn	18 46 28.6	-1.6
UESV				IAML		18 46 56.8	
	comp=Z,4µm,0.5s						
UESV	Universidad de	1.64	317	eP	Pn	18 46 28.6	-1.6
UESV				IAML		18 46 56.8	
	comp=Z,4µm,0.5s						
SNVI	San Vicente	1.66	316	eP	Pn	18 46 28.7	-1.8
SNVI	San Vicente	1.66	316	eP	Pn	18 46 28.7	-1.8
TGUH	Tegucigalpa,Un	1.66	13		Pn	18 46 30.8	+0.2
COEG	Centro de Oper	1.69	315	eP	Pn	18 46 28.9	-1.9
COEG				IAML		18 46 57.0	
	comp=Z,5µm,0.3s						
COEG	Centro de Oper	1.69	315	eP	Pn	18 46 28.9	-1.9
COEG				IAML		18 46 57.0	
	comp=Z,5µm,0.3s						
SJTE	Alcalda de S	1.78	312	eP	Pn	18 46 30.1	-2.0
SJTE	Alcalda de S	1.78	312	eP	Pn	18 46 30.1	-2.0
PAVA	Las Pavas	1.79	316	eP	Pn	18 46 30.6	-1.7
PAVA	Las Pavas	1.79	316	eP	Pn	18 46 30.6	-1.7
LFRS	El Faro	1.82	311	eP	Pn	18 46 30.5	-2.2
LFRS	El Faro	1.82	311	eP	Pn	18 46 30.5	-2.2
LBRS	Las Brisas	1.89	314	eP	Pn	18 46 32.1	-1.4
LBRS	Las Brisas	1.89	314	eP	Pn	18 46 32.1	-1.4
AEIL	Aeropuerto Ilo	1.91	312	eP	Pn	18 46 32.2	-1.6
AEIL				IAML		18 46 59.8	
	comp=Z,4µm,0.4s						
AEIL	Aeropuerto Ilo	1.91	312	eP	Pn	18 46 32.2	-1.6
AEIL				IAML		18 46 59.8	
	comp=Z,4µm,0.4s						
LFU	La Fuente	1.94	313	eP	Pn	18 46 33.4	-0.9
LFU	La Fuente	1.94	313	eP	Pn	18 46 33.4	-0.9
OPAM	Oficina de Pla	1.98	310	eP	Pn	18 46 32.3	-2.4
OPAM				IAML		18 47 01.5	
	comp=Z,3µm,0.3s						
OPAM	Oficina de Pla	1.98	310	eP	Pn	18 46 32.3	-2.4
OPAM				IAML		18 47 01.5	
	comp=Z,3µm,0.3s						
SNET	Serv Nac Est T	1.99	309	eP	Pn	18 46 33.5	-1.4
SNET	Serv Nac Est T	1.99	309	eP	Pn	18 46 33.5	-1.4
SNET	Serv Nac Est T	1.99	309	Pn	Pn	18 46 33.7	-1.2
BOQS	Boqueron	2.06	309	eP	Pn	18 46 34.2	-1.7
BOQS	Boqueron	2.06	309	eP	Pn	18 46 34.2	-1.7
ACON	Acoyapa	2.46	100		Pn	18 46 39.2	-2.0
MTO3	Montecristo	2.58	320		Pn	18 46 41.9	-1.0
HZTE	Horizontes, Gu	2.63	130	eP	Pn	18 46 42.7	-0.9
HZTE	Horizontes, Gu	2.63	130		Pn	18 46 42.7	-0.9
ESQI	Esquipulas	2.69	322		Pn	18 46 44.0	-0.4
GBS3	Finca Las Img	2.70	127	eP	Pn	18 46 41.9	-2.6
GB1A	Borinquen Arri	2.72	126	eP	Pn	18 46 42.5	-2.3
LAPC	Finca la Perla	2.72	127	eP	Pn	18 46 42.2	-2.6
BUEV	Buena Vista	2.73	126	eP	Pn	18 46 43.9	-1.0
BUAI	Buenos Aires	2.74	124	eP	Pn	18 46 42.4	-2.7
GPS2	Hotel Rincn d	2.80	126	eP	Pn	18 46 45.1	-0.8
LIM1	Limonal	2.91	126	eP	Pn	18 46 46.5	-0.8
HORNC	Hornillas	2.96	125	eP	Pn	18 46 45.9	-2.2
COLC	Colonia	2.96	126	eP	Pn	18 46 47.1	-1.0
ORTG	Ortega, Santa	2.97	133		Pn	18 46 46.7	-1.5
GUAI	GUAI	3.00	135	eP	Pn	18 46 46.9	-1.6
CUI	Cuipilapa	3.00	126	eP	Pn	18 46 47.0	-1.6
SAJU	San Juanillo,	3.02	141	eP	Pn	18 46 46.4	-2.4
PTEN	Parque Tenorio	3.11	123	eP	Pn	18 46 47.8	-2.4
DUNO	Dulce Nombre,	3.15	138		Pn	18 46 48.5	-2.0
GRZA	Playa Garza	3.18	141	eP	Pn	18 46 48.8	-2.3
INDI	Punta indio, G	3.30	140	eP	Pn	18 46 50.5	-2.2
JTS	Las Juntas de	3.39	128	P	Pn	18 46 52.4	-1.5
	comp=Z,16nm,0.3s,baz=200,slow=23,SNR=35						
JTS				S	Sn	18 47 31.2	-1.7
	comp=Z,40nm,0.3s,baz=114,slow=17,SNR=4.1						

JTS Las Juntas de 3.39 128 Pn **Pn** 18 46 52.3 -1.6
CEDE Laguna Cedeo 3.47 123 *e*P **Pn** 18 46 56.2 +1.2
ARE1 Arenal 1 3.47 124 *e*P **Pn** 18 46 54.4 -0.6
FORC Fortuna 3.51 123 *e*P **Pn** 18 46 56.8 +1.3
CAO2 Cobano, Puntar 3.69 137 **Pn** 18 46 56.9 -1.1
LAFE Finca La Fe, P 3.74 134 *e*P **Pn** 18 46 56.7 -2.0
SRA1 San Ramn 3.88 127 *e*P **Pn** 18 47 01.4 +0.7
JACO JACO, Garabito 4.02 133 *e*P **Pn** 18 47 01.4 -1.0
JACO JACO, Garabito 4.02 133 **Pn** 18 47 01.8 -0.7
RIFO Rio Frio, Sara 4.21 119 *e*P **Pn** 18 47 07.0 +1.9
HDC Heredia 4.22 124 *e*P **Pn** 18 47 07.0 +1.7
OCM Ochomogo 4.41 124 *e*P **Pn** 18 47 08.2 +0.3
LCR2 La Lucha 2 4.46 126 *e*P **Pn** 18 47 07.5 -1.2
CVTR Volcan Turrial 4.50 122 *e*P **Pn** 18 47 07.9 -1.5
CVTR Volcan Turrial 4.50 122 **Pn** 18 47 06.5 -3.0
RIMA Rio Macho 4.56 125 *e*P **Pn** 18 47 09.8 -0.2
RIMA Rio Macho 4.56 125 **Pn** 18 47 08.6 -1.5
PEZE Perez Zeledon, 4.93 127 *e*P **Pn** 18 47 15.4 +0.4
PEZE Perez Zeledon, 4.93 127 **Pn** 18 47 14.7 -0.4
PETF Flores 4.96 335 **Pn** 18 47 16.9 +1.7
SRBA San Rafael, Bu 5.27 127 Pn **Pn** 18 47 19.8 +0.1
EDPN Palmar Norte 5.37 129 *e*P **Pn** 18 47 20.4 -0.5
RIOS Rincon, Osa 5.50 132 *e*P **Pn** 18 47 22.7 +0.1
RIOS Rincon, Osa 5.50 132 **Pn** 18 47 22.9 +0.2
CDITO Canoas 6.06 129 **Pn** 18 47 28.1 -2.3
PRVC Isla de Provid 6.20 81 **Pn** 18 47 32.6 +0.3
BCIP Isla Barro Col 8.33 112 Pn **Pn** 18 47 59.7 -1.7
CMIG Matias Romero 8.40 304 P **Pn** 18 48 04.5 +2.2
comp=Z,0.6nm,0.3s,baz=140,slow=12,SNR=4.4
CMIG S **Sn** 18 49 40.7 +5.0
comp=Z,0.5nm,0.3s,baz=135,slow=20,SNR=1.6
CMIG LR LR 18 51 48.0
comp=Z,239nm,21.8s,baz=126,slow=40
CAPC Capurgana 10.80 109 *e*P **Pn** 18 48 36.5 +1.2
SOR Soroa 11.22 23 **Pn** 18 48 41.7 +0.8
DBBC Dabeiba 12.48 114 *e*P **Pn** 18 48 59.2 +0.9
SJCC San Jacinto, C 12.49 100 Pn **Pn** 18 48 57.9 -0.4
ZARC Zaragoza, Cauc 13.51 110 *e*P **Pn** 18 49 15.4 +3.3
SMLC San Martn de 13.82 104 *e*P **P** 18 49 23.7 +1.2
GUY2C Guyana, Caldas 14.08 119 *e*P **Pn** 18 49 21.9 +1.7
GTBY Guantanamo Bay 14.16 57 P **P** 18 49 25.2 -0.9
PTBC PUERTO BERRIO, 14.26 113 *e*P **P** 18 49 27.3 -0.1
TOLC Tolima 14.46 122 *e*P **P** 18 49 32.0 +2.0
BBAC Balboa, Cauca 14.59 134 *e*P **P** 18 49 33.4 +2.1
POPC Popayan, Colom 14.64 131 *e*P **P** 18 49 33.9 +2.0
ORTC Ortega, Tolima 14.90 124 *e*P **P** 18 49 35.8 +1.3
SOTA Rioblanco 14.97 132 *e*P **P** 18 49 38.9 +3.1
MARP Paez Belalcaza 14.99 128 *e*P **P** 18 49 38.0 +2.2
PCON Cinco Dias 14.99 131 *e*P **P** 18 49 39.0 +2.9
ROSC El Rosal 15.17 119 LR LR 18 55 27.1
comp=Z,306nm,19.0s,baz=224,slow=38
PRAC Prado 15.30 123 *e*P **P** 18 49 40.4 +1.4
FLOC Florencia 16.04 131 P **Pn** 18 49 44.9 0.0
152A Waverly Hall 20.33 7 P **P** 18 50 35.7 +1.6
152A IAmb IAmb 18 50 39.3
comp=Z,20nm,0.7s
154A Montrose 20.52 11 P **P** 18 50 37.5 +1.3
LRAL Lakeview Retre 20.52 2 **P** 18 50 38.2 +1.8
Z51A Franklin 20.92 6 P **P** 18 50 42.1 +1.7
Z51A IAmb IAmb 18 50 46.1
comp=Z,17nm,0.5s
JCT Junction City 21.20 330 P **P** 18 50 45.1 +1.5
JCT IAmb IAmb 18 50 47.7
comp=Z,10nm,0.6s
GOGA Godfrey 21.24 10 P **P** 18 50 46.6 +2.7
GOGA IAmb IAmb 18 50 50.0
comp=Z,18nm,0.6s
Y49A Blount Mountai 21.36 3 P **P** 18 50 45.9 +0.6
Y49A IAmb IAmb 18 50 54.1
comp=Z,16nm,1.1s
SJG San Juan 21.49 72 P **P** 18 50 46.3 -0.3
comp=Z,4.4nm,0.3s,baz=285,slow=6.8,SNR=5.4
SJG San Juan 21.49 72 P **P** 18 50 46.1 -0.6
GCPR Guaynabo City 21.59 72 P **P** 18 50 48.3 +0.5
Y52A Lilburn 21.59 8 P **P** 18 50 49.7 +2.1
Y52A IAmb IAmb 18 50 51.9
comp=Z,20nm,0.8s
X48A Hartselle 21.93 1 P **P** 18 50 52.2 +0.9
X48A IAmb IAmb 18 51 15.2
comp=Z,18nm,1.2s
HODGE Hodges 22.26 12 P **P** 18 50 57.3 +2.5
HODGE IAmb IAmb 18 50 58.1
comp=Z,12nm,0.7s
TXAR Lajitas Array 22.47 321 P **P** 18 50 58.5 +1.2
comp=Z,7.2nm,0.7s,baz=139,slow=9.8,SNR=81
TXAR PcP **PcP** 18 54 49.8 +0.3
comp=Z,0.9nm,0.7s,baz=157,slow=4.3,SNR=7.7
TXAR Lajitas Array 22.47 321 P **P** 18 50 57.5 +0.2
TX31 Lajitas Ar. Si 22.47 321 P **P** 18 50 58.1 +0.8
TX32 Lajitas Array 22.47 321 P **P** 18 50 57.3 0.0
TX32 IAmb IAmb 18 51 00.3
comp=Z,8.4nm,0.7s
JSC Jenkinsville 22.52 14 P **P** 18 50 58.2 +0.6
JSC IAmb IAmb 18 51 00.8
comp=Z,12nm,0.8s
MIAR Mount Ida 22.67 347 P **P** 18 50 59.7 +0.5
MIAR IAmb IAmb 18 51 02.1
comp=Z,9.3nm,0.7s
W50A Signal Mountai 22.77 5 P **P** 18 51 01.9 +1.5
W52A Murphy 22.82 8 P **P** 18 51 01.4 +0.5
W52A IAmb IAmb 18 51 23.9
comp=Z,16nm,0.8s
BG3 Lake Jocassee 22.87 10 P **P** 18 51 02.8 +1.5
PAULI Pauline 22.92 12 P **P** 18 51 03.0 +1.2
PAULI IAmb IAmb 18 51 04.4
comp=Z,10nm,0.7s
ABTX Abilene, Hawle 22.92 333 P **P** 18 51 02.4 +0.6
BIRD Birdtown, Kers 23.06 15 P **P** 18 51 04.6 +1.4
BIRD IAmb IAmb 18 51 05.4
comp=Z,11nm,0.7s
CPCT Cooper Cave 23.10 7 P **P** 18 51 05.3 +1.8
WHAR Wooly Hollow 23.15 350 P **P** 18 51 04.7 +0.6
X37A Clayton 23.16 344 P **P** 18 51 06.0 +1.9
X37A IAmb IAmb 18 51 08.2
comp=Z,15nm,1.2s
LOOK Love County 23.16 340 P **P** 18 51 05.4 +1.2
LOOK IAmb IAmb 18 51 09.5
comp=Z,17nm,0.7s
V48A Smith Brothers 23.23 2 P **P** 18 51 05.8 +1.0
ABVI Anegada Island 23.30 71 P **P** 18 51 05.0 -0.7
KMSC Kings Mountain 23.33 13 P **P** 18 51 07.2 +1.5
KMSC IAmb IAmb 18 51 08.4
comp=Z,15nm,0.7s
W39A Magazine 23.34 347 P **P** 18 51 06.5 +0.6
TKL Tuckaleechee C 23.39 8 P **P** 18 51 07.8 +1.4
comp=Z,13nm,0.9s,baz=185,slow=13,SNR=8.7
TKL Tuckaleechee C 23.39 8 P **P** 18 51 07.5 +1.1
TKL IAmb IAmb 18 51 09.5
comp=Z,14nm,0.9s
V51A Loudon 23.47 7 P **P** 18 51 08.8 +1.8
V51A IAmb IAmb 18 51 11.1
comp=Z,12nm,0.7s
V53A Saluda 23.55 10 P **P** 18 51 09.4 +1.6
V53A IAmb IAmb 18 51 32.9
comp=Z,12nm,0.7s
CLTN Cedars of Leba 23.59 3 P **P** 18 51 08.3 +0.1
V52A Sevierville 23.60 8 P **P** 18 51 08.9 +0.7
V52A IAmb IAmb 18 51 33.3
comp=Z,28nm,1.5s
WVT Waverly 23.60 360 P **P** 18 51 07.6 -0.7
W57A Gilead 23.67 16 P **P** 18 51 09.4 +0.6
W57A IAmb IAmb 18 51 11.4
comp=Z,14nm,1.1s
FCAR Ozark Folk Cen 23.71 351 P **P** 18 51 09.1 -0.1
LCAR Lake Charles 23.75 353 P **P** 18 51 09.5 -0.1
X34A Smith Ranch, M 23.94 339 P **P** 18 51 12.5 +1.2
X34A IAmb IAmb 18 51 14.4
comp=Z,14nm,0.6s
U49A Red Boiling Sp 24.04 4 P **P** 18 51 11.7 -0.5
U49A IAmb IAmb 18 51 29.4
comp=Z,13nm,1.2s
U40A Yellville 24.29 350 P **P** 18 51 14.2 -0.2
TZTN Tazewell 24.30 8 P **P** 18 51 14.6 +0.1
TZTN IAmb IAmb 18 51 39.7
comp=Z,15nm,1.1s
PBMO Poplar Bluff 24.38 355 P **P** 18 51 14.2 -1.1
FNO Franklin 24.39 340 P **P** 18 51 15.8 +0.4
WMOK Wichita Mounta 24.41 337 P **P** 18 51 17.6 +2.0
HHAR Hobbs 24.42 348 **P** 18 51 16.3 +0.6
T47A Sharon Grove 24.46 1 P **P** 18 51 15.6 -0.5
V58A Windy Hill, Pi 24.51 17 P **P** 18 51 17.6 +1.1
U54A Nelsons Funny 24.56 11 P **P** 18 51 18.8 +1.8
U54A IAmb IAmb 18 51 42.4
comp=Z,22nm,0.8s
T42A Van Buren 24.70 353 P **P** 18 51 18.0 -0.1
T42A IAmb IAmb 18 51 18.9
comp=Z,6.3nm,0.6s
OK031 S. Brethren Rd 24.85 342 P **P** 18 51 18.5 -1.1
MNTX Cornudas Mount 25.19 322 P **P** 18 51 22.9 +0.2
S51A Beattyville 25.37 8 P **P** 18 51 25.2 +0.9
S51A IAmb IAmb 18 51 49.8
comp=Z,11nm,0.8s
U59A Littleton 25.43 19 P **P** 18 51 24.6 -0.2
MSTX Muleshoe 25.49 330 P **P** 18 51 26.1 +0.5
T57A Hurt 25.60 16 P **P** 18 51 27.5 +1.1
S39A Bolivar 25.67 350 P **P** 18 51 26.6 -0.4
S39A IAmb IAmb 18 51 28.4
comp=Z,8.3nm,0.6s
CCM Cathedral Cave 25.73 353 P **P** 18 51 27.1 -0.4
WCI Wyandotte Cave 25.73 2 P **P** 18 51 27.1 -0.4
WCI IAmb IAmb 18 51 29.5
comp=Z,13nm,0.7s
AMTX Amarillo 25.73 333 P **P** 18 51 28.2 +0.5
AMTX IAmb IAmb 18 51 34.4
comp=Z,14nm,0.8s
R40A Maddies Statio 26.09 352 P **P** 18 51 30.2 -0.5
R40A IAmb IAmb 18 51 31.0
comp=Z,5.8nm,0.5s
R53A Hurricane 26.29 10 P **P** 18 51 34.1 +1.4
R53A IAmb IAmb 18 51 35.3
comp=Z,11nm,0.8s
S57A Dark Hollow, R 26.40 16 P **P** 18 51 34.1 +0.5
R55A Marlinton 26.61 13 P **P** 18 51 37.0 +1.4
R55A IAmb IAmb 18 51 37.8
comp=Z,7.5nm,0.8s
JSRW J. Sargeant Re 26.64 17 P **P** 18 51 36.4 +0.7
Q51A Peebles 26.77 7 P **P** 18 51 37.7 +0.8
Q52A Bidwell 26.86 9 P **P** 18 51 38.6 +0.9
Q52A IAmb IAmb 18 51 40.1
comp=Z,12nm,0.8s
Q54A Coxs Mills 27.14 12 P **P** 18 51 41.3 +1.1
Q54A IAmb IAmb 18 51 41.9
comp=Z,11nm,0.6s
121A Cookes Peak, D 27.23 321 P **P** 18 51 43.0 +1.6
121A IAmb IAmb 18 51 48.4
comp=Z,5.9nm,0.4s
P53A Whipple 27.52 11 P **P** 18 51 43.8 +0.2
P52A Corning 27.54 9 P **P** 18 51 44.4 +0.6
P52A IAmb IAmb 18 51 45.5
comp=Z,11nm,0.7s
Q56A Snyder Ridge, 27.55 14 P **P** 18 51 45.6 +1.6
Q56A IAmb IAmb 18 51 48.9
comp=Z,7.2nm,0.8s
P38A Dawn 27.59 350 P **P** 18 51 43.9 -0.4
P38A IAmb IAmb 18 51 45.4
comp=Z,9.4nm,0.7s
BNM Barren Site 27.68 325 P **P** 18 51 46.7 +1.3
LENM Lemitar 27.89 324 P **P** 18 51 48.3 +1.0
ACSO Alum Creek Sta 28.00 8 P **P** 18 51 48.3 +0.4
ACSO IAmb IAmb 18 51 49.9
comp=Z,8.6nm,0.7s
O52A Adamsville 28.05 10 P **P** 18 51 49.1 +0.7
O52A IAmb IAmb 18 51 49.8
comp=Z,9.8nm,0.8s
ANMO Albuquerque 28.17 326 P **P** 18 51 52.6 +2.8
comp=Z,1.7nm,0.8s,baz=115,slow=11,SNR=4.4
ANMO Albuquerque 28.17 326 P **P** 18 51 51.7 +2.0
P57A Homestead Farm 28.27 16 P **P** 18 51 51.2 +0.9
P57A IAmb IAmb 18 51 52.9
comp=Z,9.7nm,0.7s
O53A New Philadelph 28.29 10 P **P** 18 51 51.6 +1.1
N41A Harden Midland 28.31 355 P **P** 18 51 50.1 -0.5
N41A IAmb IAmb 18 51 54.2
comp=Z,6.0nm,0.5s
O54A Avella 28.38 12 P **P** 18 51 52.2 +0.8
O54A IAmb IAmb 18 51 53.8
comp=Z,8.3nm,0.8s
N53A Lisbon 28.90 11 P **P** 18 51 55.8 -0.1
N53A IAmb IAmb 18 51 57.5
comp=Z,9.4nm,0.7s
N54A Moraine State 29.21 12 P **P** 18 51 59.2 +0.6
N54A IAmb IAmb 18 52 00.0
comp=Z,8.4nm,0.6s
PAGS Pennsylvania G 29.32 17 P **P** 18 52 01.2 +1.6
PAGS IAmb IAmb 18 52 01.6
comp=Z,12nm,0.8s
SSPA Standing Stone 29.38 15 P **P** 18 52 01.1 +0.9
SSPA IAmb IAmb 18 52 04.6
comp=Z,7.1nm,0.8s
M54A Oil Creek Stat 29.80 12 P **P** 18 52 04.3 +0.4
SDCO Great Sand Dun 29.84 331 P **P** 18 52 05.5 +0.9
N58A Sunbury 29.89 17 P **P** 18 52 06.0 +1.3
N58A IAmb IAmb 18 52 06.5
comp=Z,6.2nm,0.8s
N59A State Game Lan 30.24 18 P **P** 18 52 08.8 +1.0
N59A IAmb IAmb 18 52 09.9
comp=Z,8.3nm,0.7s
M57A Sunshine Farm, 30.24 16 P **P** 18 52 08.6 +0.8
M57A IAmb IAmb 18 52 10.0
comp=Z,8.4nm,0.7s
X16A Lo Mia Camp, P 30.77 319 P **P** 18 52 14.8 +2.0
MVCO Mesa Verde 30.96 326 P **P** 18 52 15.7 +1.2
BINY Binghamton 31.35 17 P **P** 18 52 18.6 +1.0
BINY IAmb IAmb 18 52 19.6
comp=Z,7.1nm,0.7s
WUAZ Wupatki 31.44 321 P **P** 18 52 19.9 +1.3
L59A Walton 31.62 18 P **P** 18 52 21.0 +1.0
L59A IAmb IAmb 18 52 22.5
comp=Z,7.2nm,0.7s
PV01 Paradox Valley 31.68 328 P **P** 18 52 22.8 +2.1
SMCO Snowmass 31.68 331 P **P** 18 52 22.3 +1.3
SMCO IAmb IAmb 18 52 23.6
comp=Z,3.2nm,0.7s
PV02 Paradox Valley 31.82 327 P **P** 18 52 23.8 +1.8
PV02 IAmb IAmb 18 52 27.0
comp=Z,3.7nm,0.6s
PV13 Radium Mtn., P 31.83 327 P **P** 18 52 23.8 +1.7
PV13 IAmb IAmb 18 52 25.2
comp=Z,5.4nm,0.6s
PV03 Paradox Valley 31.91 327 P **P** 18 52 24.0 +1.1
PV05 Paradox Valley 31.92 327 P **P** 18 52 24.1 +1.2
PV05 IAmb IAmb 18 52 25.2
comp=Z,6.6nm,0.8s
PV12 Saucer Basin, 31.94 328 P **P** 18 52 24.6 +1.5
PV18 Skein Mesa, Pa 31.94 327 P **P** 18 52 24.3 +1.3
PV07 Paradox Valley 31.95 328 P **P** 18 52 24.1 +1.0
PV07 IAmb IAmb 18 52 26.0
comp=Z,4.6nm,0.8s
PV11 David Mesa, Pa 31.96 327 P **P** 18 52 24.5 +1.3
PV17 East Wray Mesa 31.99 327 P **P** 18 52 24.9 +1.4
PV16 Nyswonger Mesa 31.99 327 P **P** 18 52 24.6 +1.1
PV19 Morning Glory 32.03 327 P **P** 18 52 24.2 +0.4
PV04 Paradox Valley 32.05 328 P **P** 18 52 25.4 +1.4
PV22 Blue Mesa, Par 32.09 328 P **P** 18 52 26.1 +1.7
PV14 Lion Creek, Pa 32.09 327 P **P** 18 52 25.8 +1.4
J56A Wolcott 32.12 15 P **P** 18 52 24.3 0.0
ECSD EROS Data Cent 32.14 348 P **P** 18 52 23.4 -1.1
ECSD IAmb IAmb 18 52 37.7
comp=Z,11nm,1.5s
PV23 Carpenter Ridg 32.15 327 P **P** 18 52 26.1 +1.2
PV23 IAmb IAmb 18 52 27.8
comp=Z,9.7nm,0.8s
SAML Samuel 32.28 130 P **P** 18 52 24.4 -1.6
J58A Remsen 32.62 17 P **P** 18 52 28.7 -0.1
J58A IAmb IAmb 18 52 29.6
comp=Z,3.9nm,0.7s
SPMN Marine on St. 32.98 353 P **P** 18 52 30.6 -1.2
O20A White River Ci 33.04 330 P **P** 18 52 35.0 +2.4
SADO Sadowa 33.05 11 P **P** 18 52 32.2 -0.2
SRU San Rafael Swe 33.43 327 P **P** 18 52 37.4 +1.3
SRU IAmb IAmb 18 52 38.1
comp=Z,6.2nm,0.6s
MTPU Mount Pierson 33.61 324 P **P** 18 52 40.6 +2.8
MTPU IAmb IAmb 18 52 41.9
comp=Z,4.3nm,0.9s
Q16A Castle Valley 33.65 326 P **P** 18 52 39.1 +1.2
Q16A IAmb IAmb 18 52 41.0
comp=Z,4.5nm,0.7s
F36A Milaca 33.70 353 P **P** 18 52 36.9 -1.2
F36A IAmb IAmb 18 52 37.7
comp=Z,3.5nm,0.7s
P17A Butcher Ranch, 33.81 327 P **P** 18 52 40.5 +1.2
TMUT Trail Mountain 33.94 326 P **P** 18 52 41.9 +1.3
TMUT IAmb IAmb 18 52 44.5
comp=Z,3.1nm,0.7s
LONY Lake Ozonia 33.98 17 P **P** 18 52 40.5 0.0
LONY IAmb IAmb 18 52 43.2
comp=Z,4.3nm,0.7s
F33A 5 Mile Ranch, 34.10 349 P **P** 18 52 40.8 -0.7
LPAZ La Paz 34.44 145 LR LR 19 05 52.3
comp=Z,77nm,19.7s,baz=310,slow=35
MPU Maple Canyon 34.68 327 P **P** 18 52 46.1 -0.8
MPU IAmb IAmb 18 52 48.9
comp=Z,6.0nm,0.8s
PSUT Pine Spring 34.91 323 P **P** 18 52 48.7 -0.2
PSUT IAmb IAmb 18 52 51.3
comp=Z,3.5nm,0.9s
CTU Camp Tracy 35.23 327 P **P** 18 52 52.5 +0.9
CTU IAmb IAmb 18 52 53.5
comp=Z,7.0nm,0.8s
TCUT Toone Canyon 35.36 328 P **P** 18 52 53.4 +0.7
DUG Dugway, Tooele 35.44 326 P **P** 18 52 55.2 +1.8
SPR3 Spring Creek 3 35.50 323 P **P** 18 52 55.6 +1.5
EYMN Ely 35.56 356 P **P** 18 52 52.9 -1.2
EYMN IAmb IAmb 18 53 00.1
comp=Z,3.7nm,0.8s
BW06 Boulder Array 35.70 332 P **P** 18 52 56.3 +0.7
BW06 IAmb IAmb 18 52 59.4
comp=Z,4.3nm,0.7s
PD31 Pinedale Array 35.70 332 P **P** 18 52 56.1 +0.4
PD31 IAmb IAmb 18 52 59.4
comp=Z,3.2nm,0.6s
PDAR Pinedale Array 35.70 332 P **P** 18 52 56.4 +0.7
comp=Z,3.0nm,0.6s,baz=128,slow=10,SNR=37
PDAR PcP **PcP** 18 55 22.8 +0.1
comp=Z,0.6nm,0.8s,baz=132,slow=2.2,SNR=3.8
PDAR LR LR 19 08 36.3
comp=Z,42nm,21.8s,baz=122,slow=38
G62A West of Eustis 35.80 21 P **P** 18 52 57.3 +1.2
G62A IAmb IAmb 18 52 58.6
comp=Z,7.1nm,0.8s
HWUT Hardware Ranch 35.80 329 P **P** 18 52 57.9 +1.4
BGU Big Grassy Mou 36.07 327 P **P** 18 53 00.2 +1.4
BGU IAmb IAmb 18 53 02.5
comp=Z,2.8nm,0.7s
PKME Peaks-Kenny Pk 36.28 22 P **P** 18 53 02.0 +1.8
AHID Auburn Hatcher 36.43 330 P **P** 18 53 02.9 +1.1
REDW Red Top Meadow 36.77 331 P **P** 18 53 06.3 +1.6
SNOW Snow King Moun 36.80 332 P **P** 18 53 06.9 +1.9
LOHW Long Hollow 36.84 332 P **P** 18 53 06.5 +1.2
LOHW IAmb IAmb 18 53 07.8
comp=Z,5.8nm,0.6s
G65A Princeton 36.88 24 P **P** 18 53 07.1 +1.7
TPAW Teton Pass 36.91 331 P **P** 18 53 06.9 +0.9
MOOW Moose Ponds 37.01 332 P **P** 18 53 08.2 +1.4
MOOW IAmb IAmb 18 53 09.2
comp=Z,7.1nm,0.8s
FXWY Fox Creek 37.06 331 P **P** 18 53 08.3 +1.1
FXWY IAmb IAmb 18 53 09.3
comp=Z,4.2nm,0.7s
ELK Elko 37.17 324 P **P** 18 53 09.8 +1.6
IMW Indian Meadow 37.22 332 P **P** 18 53 09.5 +0.9
FLWY Flagg Ranch 37.25 332 P **P** 18 53 10.3 +1.5
RLMT Red Lodge 37.45 335 P **P** 18 53 11.2 +0.8
RLMT IAmb IAmb 18 53 12.2
comp=Z,5.9nm,0.7s
NVAR Mina Array Bea 37.59 319 P **P** 18 53 13.5 +1.7
comp=Z,1.5nm,0.7s,baz=130,slow=7.5,SNR=9.5
NVAR PcP **PcP** 18 55 29.2 +0.8
comp=Z,2.5nm,0.6s,baz=130,slow=3.9,SNR=18
NVAR LR LR 19 09 16.3
comp=Z,87nm,18.4s,baz=96,slow=37
NVAR Mina Array Bea 37.59 319 P **P** 18 53 12.9 +1.1
LHV Little Huntoon 37.62 319 P **P** 18 53 14.1 +2.4
YNE Yellowstone No 37.67 334 P **P** 18 53 13.1 +0.7
YMR Madison River 37.83 333 P **P** 18 53 15.9 +2.2
YHH Holmes Hill 37.87 333 P **P** 18 53 15.8 +1.7
YHH IAmb IAmb 18 53 19.6
comp=Z,3.2nm,0.7s
D62A Allapoint, All 37.92 21 P **P** 18 53 14.6 +0.4
BMN Battle Mountai 38.13 322 P **P** 18 53 17.0 +0.8
GCMT Greycliff 38.15 335 P **P** 18 53 17.0 +0.7
ULM Lac du Bonnet 38.32 351 P **P** 18 53 16.3 -1.1
comp=Z,5.3nm,0.5s,baz=165,slow=8.9,SNR=9.5
ULM Lac du Bonnet 38.32 351 P **P** 18 53 15.9 -1.5
DGMT Dagmar 38.49 342 P **P** 18 53 19.7 +0.8
HLID Hailey 38.66 328 P **P** 18 53 21.5 +0.8
MCMT McKenzie Canyo 38.81 331 P **P** 18 53 23.4 +1.4
BOZ Bozeman (W) 38.84 333 P **P** 18 53 22.9 +0.8
BOZ IAmb IAmb 18 53 24.1
comp=Z,7.0nm,0.7s
DLMT Dillon 39.10 332 P **P** 18 53 25.5 +1.2
DLMT IAmb IAmb 18 53 26.6
comp=Z,8.1nm,0.7s
BATG Bathurst New B 39.19 23 P **P** 18 53 25.4 +0.6
BATG IAmb IAmb 18 53 27.4
comp=Z,10.0nm,0.9s
MFID Camas Ranch 39.30 327 P **P** 18 53 27.2 +1.3
LRM Limekiln Ridge 39.38 332 P **P** 18 53 27.6 +0.8
HRY Holter Researc 39.80 334 P **P** 18 53 29.9 -0.1
EGMT Eagleton 40.00 337 P **P** 18 53 31.9 +0.2
EGMT IAmb IAmb 18 53 33.2
comp=Z,4.9nm,0.7s
WVOR Wild Horse Val 40.21 324 P **P** 18 53 34.1 +0.6
WVOR IAmb IAmb 18 53 35.9
comp=Z,4.3nm,0.8s
PLID Pearl Lake 40.55 329 P **P** 18 53 36.4 0.0
PLID IAmb IAmb 18 53 37.3
comp=Z,4.0nm,0.7s
J08A Circle Bar Ran 40.70 325 P **P** 18 53 37.5 -0.1
MSO Missoula 40.82 332 P **P** 18 53 38.5 0.0
BMO Blue Mountains 41.05 328 P **P** 18 53 39.6 -0.8
I07A Izee 41.74 325 P **P** 18 53 47.0 +1.0
F10A Beach Ranch, E 41.78 329 P **P** 18 53 46.3 -0.1
F10A IAmb IAmb 18 53 47.6
comp=Z,7.0nm,0.8s
PINE Pine Mountain 42.38 324 P **P** 18 53 51.8 +0.5
PINE IAmb IAmb 18 53 55.3
comp=Z,6.7nm,1.0s
WALA Waterton Lakes 42.50 334 P **P** 18 53 52.9 +0.7
E09A Wood Farm, Sta 42.62 329 P **P** 18 53 53.9 +0.9
HAWA Hanford 43.25 328 P **P** 18 53 58.1 0.0
HAWA IAmb IAmb 18 53 59.6
comp=Z,4.9nm,0.7s
NEW Newport 43.34 331 P **P** 18 53 58.7 -0.1
D08A Wollman Farm, 43.38 329 P **P** 18 53 59.6 +0.5
D08A IAmb IAmb 18 54 00.6
comp=Z,8.2nm,0.7s
E07A Sunnyside 43.52 328 P **P** 18 54 00.9 +0.6
C09A Chrisman Ranch 43.56 330 P **P** 18 54 01.4 +0.7
FFC Flin Flon 43.68 348 P **P** 18 54 01.4 -0.1
FFC IAmb IAmb 18 54 02.3
comp=Z,4.3nm,0.6s
LTY Liberty 44.40 328 P **P** 18 54 07.4 -0.1
B08A Colville Reser 44.46 330 P **P** 18 54 06.9 -1.0
B08A IAmb IAmb 18 54 08.6
comp=Z,4.8nm,0.8s
AQDB Aquidauana 45.34 136 P **P** 18 54 13.6 -1.5
AQDB IAmb IAmb 18 54 14.5
comp=Z,4.3nm,0.9s
SCHQ Schefferville 45.36 17 P **P** 18 54 13.9 -1.0
comp=Z,12nm,0.5s,baz=214,slow=5.4,SNR=22
SCHQ Schefferville 45.36 17 P **P** 18 54 13.5 -1.3
EDM Edmonton 45.56 339 P **P** 18 54 16.0 -0.5
B06A Marblemount 45.64 329 P **P** 18 54 16.6 -0.5
LLLB Lillooet 47.21 331 P **P** 18 54 30.1 +0.7
LLLB IAmb IAmb 18 54 30.7
comp=Z,6.1nm,0.7s
CPUP Villa Florida 48.51 143 P **P** 18 54 38.7 -1.1
comp=Z,0.7nm,0.4s,baz=315,slow=12,SNR=3.4
CPUP Villa Florida 48.51 143 IAmb IAmb 18 55 02.1
comp=Z,6.8nm,1.4s
FRB Frobisher Bay 52.99 11 LR LR 19 19 12.9
comp=Z,61nm,18.0s,baz=186,slow=38
YKA Yellowknife Ar 53.59 345 P **P** 18 55 16.9 -0.4
comp=Z,2.4nm,0.7s,baz=138,slow=7.9,SNR=6.1
YKA LR LR 19 18 48.7
comp=Z,42nm,20.9s,baz=0.0,slow=37
PLCA Paso Flores 55.21 164 P **P** 18 55 29.5 +0.1
comp=Z,1.8nm,0.8s,baz=348,slow=6.3,SNR=4.3
DLBC Dease Lake 55.85 335 P **P** 18 55 34.9 +1.0
comp=Z,4.2nm,0.7s,baz=132,slow=6.6,SNR=11
DLBC Dease Lake 55.85 335 P **P** 18 55 34.6 +0.7
DLBC IAmb IAmb 18 55 35.9
comp=Z,4.7nm,0.8s
PCA Pinnacle 61.17 333 **P** 18 56 11.4 +0.5
INK Inuvik 63.17 343 P **P** 18 56 23.6 -0.3
comp=Z,2.7nm,0.9s,baz=109,slow=8.9,SNR=5.4
INK Inuvik 63.17 343 P **P** 18 56 23.2 -0.7
INK IAmb IAmb 18 56 49.5
comp=Z,7.7nm,1.4s

BCAR	**Beaver Creek A**	**63.20**	**336**	P	**P**	**18 56 23.7**	**-0.6**
L27K	**Beaver Creek,**	**63.21**	**336**	P	**P**	**18 56 23.9**	**-0.5**
L27K				IAmb	IAmb	18 56 25.1	
	comp=Z,2.0nm,0.7s						
BMRM	**Bremner River**	**63.48**	**333**	P	**P**	**18 56 26.6**	**+0.3**
BMRM				IAmb	IAmb	18 56 27.2	
	comp=Z,3.3nm,0.6s						
K27K	**Chicken**	**63.76**	**336**	P	**P**	**18 56 28.4**	**+0.4**
KLU	**Klutina**	**64.28**	**333**	P	**P**	**18 56 31.2**	**-0.3**
DOT	**Dot Lake**	**64.38**	**336**	P	**P**	**18 56 32.4**	**+0.4**
DOT				IAmb	IAmb	18 56 32.9	
	comp=Z,2.8nm,0.6s						
SCRK	**Sand Creek**	**64.49**	**336**	P	**P**	**18 56 32.6**	**-0.3**
GHO	**Glory Hole Cre**	**65.72**	**333**	P	**P**	**18 56 40.3**	**-0.5**
GHO				IAmb	IAmb	18 56 41.1	
	comp=Z,4.3nm,0.8s						
ILAR	**Eielson Array**	**65.97**	**336**	P	**P**	**18 56 41.8**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=155,slow=4.8,SNR=10						
FYU	**Fort Yukon**	**66.08**	**338**	P	**P**	**18 56 43.2**	**+0.2**
BMAR	**Burnt Mountain**	**66.24**	**339**	P	**P**	**18 56 44.1**	**0.0**
RND	**Reindeer**	**66.25**	**334**	P	**P**	**18 56 44.1**	**-0.1**
CCB	**Clear Creek Bu**	**66.28**	**336**	P	**P**	**18 56 42.7**	**-1.6**
H24K	**Noodor Dome**	**66.77**	**337**	P	**P**	**18 56 47.5**	**+0.1**
MLY	**Manley**	**67.59**	**336**	P	**P**	**18 56 52.1**	**-0.6**
MLY				IAmb	IAmb	18 56 52.7	
	comp=Z,3.5nm,0.6s						
ESDC	**Sonseca Array**	**77.36**	**52**	LR	LR	19 28 02.1	
	comp=Z,25nm,19.3s,baz=250,slow=33						
NOA	**NORSAR Array B**	**83.48**	**29**	LR	LR	19 33 49.7	
	comp=Z,7.6nm,20.3s,baz=240,slow=34						
ARCES	**ARCESS Array B**	**86.27**	**19**	LR	LR	19 35 23.8	
	comp=Z,18nm,21.1s,baz=225,slow=34						
GERES	**GERESS Array B**	**88.08**	**40**	LR	LR	19 33 05.2	
	comp=Z,30nm,20.3s,baz=280,slow=32						
KSRS	**Korea Array**	**120.19**	**328**	PKP	**PKiKP**	**19 04 47.3**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=354,slow=1.7,SNR=7.6						
WRA	**Warramunga Arr**	**139.08**	**254**	PKhKP	PKPpre	19 05 13.4	
	comp=Z,0.3nm,0.8s,baz=104,slow=3.3,SNR=1.6						
WRA				PKP	**PKPdf**	**19 05 23.7**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=106,slow=2.2,SNR=16						
ASAR	**Alice Springs**	**139.08**	**248**	PKhKP	PKPpre	19 05 13.0	
	comp=Z,0.2nm,0.7s,baz=106,slow=3.7,SNR=1.5						
ASAR				PKP	**PKPdf**	**19 05 23.9**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=108,slow=2.0,SNR=11						
CMAR	**Chiang Mai Arr**	**148.63**	**348**	PKPbc	**PKPbc**	**19 05 43.4**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=343,slow=3.8,SNR=23						
CMAR	**Chiang Mai Arr**	**148.63**	**348**		**PKPdf**	**19 05 37.6**	**-2.4**

IDC 03 18:46:13.5±7.1**,16°.48S**×**176°.08W,h384**km±37km**,**
mb3.5/4**,mb1 3.6**/5**,mb1mx3.1**/36**,mbtmp4.2**/5**,Error ellipse: s-maj=127.4km s-min=32.7km az=122.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.75**	**257**	P	Pn	18 47 43.1	+0.1
	1.2nm,0.3s,baz=106,slow=11,SNR=13						
STKA	**Stephens Creek**	**41.27**	**240**	P	P	18 53 23.2	+0.1
	2.4nm,0.7s,baz=101,slow=13,SNR=5.5						
WRA	**Warramunga Arr**	**47.10**	**258**	P	P	18 54 08.6	-0.4
	0.9nm,0.6s,baz=92,slow=6.8,SNR=30						
WRA				PcP	PcP	18 55 34.1	+0.3
	0.5nm,0.6s,baz=86,slow=3.5,SNR=2.9						
ASAR	**Alice Springs**	**47.33**	**253**	P	P	18 54 10.5	-0.2
	6.9nm,0.5s,baz=88,slow=8.1,SNR=163						
PETK	**Petropavlovsk-**	**72.90**	**344**	P	P	18 57 01.4	-0.1
	1.8nm,0.8s,baz=109,slow=8.5,SNR=3.6						

IDC 03 19:00:40.0±5.8**,28°.82S**×**178°.19W,h0**km**,mb3.5**/2**,**
mb1 3.7/2**,mb1mx3.4**/36**,mbtmp3.5**/2**,Error ellipse: s-maj=283.7km s-min=88.7km az=164.0,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.05**	**265**	P	P	19 08 41.5	-0.4
	0.2nm,0.5s,baz=104,slow=7.5,SNR=5.7						
WRA	**Warramunga Arr**	**43.89**	**271**	P	P	19 08 48.7	0.0
	1.0nm,0.8s,baz=110,slow=7.2,SNR=8.4						
FINES	**FINESS Array B**	**143.60**	**341**	PKP	PKPdf	19 20 15.9	-0.2
	1.0nm,0.5s,baz=30,slow=3.4,SNR=12						

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*IDC **03** 19:13:52.5±1.6,39°.50N×143°.54E,h0km,mb3.7/6, mb1 3.8/10,mb1mx3.5/49,mbtmp3.8/10,ML3.3/3,MS2.7/3, Ms1 2.7/3,ms1mx2.3/44,Error ellipse: s-maj=38.2km s-min=20.3km az=97.0*
*JMA **03** 19:13:54.2±0.2,39°.60N×143°.37E,h18km±3km,M3.6*
*NIED **03** 19:13:54.3,39°.60N×143°.37E,h18km,MW3.6,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; Mrr1.74; Mθθ-0.18; Mφφ-1.56; Mrθ1.45; Mθφ-0.80; Mφr2.11; Fault plane solution: M0 3.15000×10^{14} NP1:φs33.00000°, δ72.00000°,λ96.00000°. NP2:φs195.00000°,δ18.00000°, λ73.00000°.*
ISC 03 19:13:54.1±1.0**,39°.55N**±0°.05×**143°.41E**±0°.07**,h11**km**,n35,**
σ**1s.89**/37**,mb3.7**/6**,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.23**	**272**	P	**Pn**	**19 14 16.0**	**-1.3**
MIYJ				*e*S	**Sb**	**19 14 31.8**	**-1.5**
JTH	**Tanohata**	**1.26**	**289**	P	**Pn**	**19 14 16.3**	**-1.3**
OFUJ	**Ofunato**	**1.43**	**252**	P	**Pn**	**19 14 19.2**	**-0.8**
OFUJ				*e*S	**Sn**	**19 14 37.2**	**-1.6**
JKEN	**Kujiedanarisaw**	**1.47**	**297**	P	**Pn**	**19 14 18.9**	**-1.6**
JKEN				*e*S	**Sn**	**19 14 37.1**	**-2.6**
JOM	**Ohasama**	**1.64**	**268**	P	**Pn**	**19 14 22.7**	**-0.2**
JOM				*e*S	**Sn**	**19 14 43.2**	**-0.8**
JANG	**Nango**	**1.68**	**300**	P	**Pn**	**19 14 21.8**	**-1.6**
JMK	**Ichinoseki**	**1.80**	**251**	P	**Pn**	**19 14 25.0**	**-0.1**
JMK				*e*S	**Sn**	**19 14 47.8**	**-0.2**
JIO	**Ouri**	**1.94**	**236**	P	**Pn**	**19 14 26.5**	**-0.5**
JRG	**Rokugo**	**2.16**	**267**	P	**Pn**	**19 14 30.2**	**+0.2**
JTM	**Tenmabayashi**	**2.18**	**305**	P	**Pn**	**19 14 29.9**	**-0.4**
JAH	**Hinai**	**2.23**	**288**	P	**Pn**	**19 14 30.9**	**-0.1**
JOU	**Okura**	**2.45**	**242**	P	**Pn**	**19 14 34.3**	**+0.3**
JYK	**Kaneyama**	**2.45**	**256**	P	**Pn**	**19 14 34.2**	**+0.1**
JEM	**Erimo**	**2.47**	**356**	P	**Pn**	**19 14 34.5**	**+0.2**
JEM				*e*S	**Sn**	**19 15 03.9**	**-0.6**
JOT	**Ohata**	**2.57**	**316**	P	**Pn**	**19 14 35.3**	**-0.4**
JNBK	**Urakawa-nobuka**	**2.78**	**350**	P	**Pn**	**19 14 39.1**	**+0.6**
JNBK				*e*S	**Sn**	**19 15 11.7**	**-0.3**
ASAJ	**Asahikawa**	**4.61**	**353**	Pn	**Pn**	**19 15 04.3**	**+0.7**
	1.3nm,0.3s,baz=212,slow=12,SNR=18						
ASAJ				Sn	**Sn**	**19 16 00.5**	**+3.4**
	0.8nm,0.3s,baz=31,slow=18,SNR=1.6						
MAT	**Matsushiro**	**5.09**	**235**	P	**Pn**	**19 15 11.9**	**+1.6**
MAT				*e*S	**Sn**	**19 16 14.2**	**+5.2**
MJAR	**Matsushiro Arr**	**5.09**	**235**	Pn	**Pn**	**19 15 11.1**	**+0.8**
	0.2nm,0.3s,baz=40,slow=12,SNR=11						
JHJ	**Hachijo jima 2**	**7.05**	**206**	Pn	**Pn**	**19 15 37.2**	**-0.1**
	5.3nm,0.3s,baz=72,slow=20,SNR=1.8						
JHJ				Sn	**Sn**	**19 16 50.9**	**-6.5**
	6.0nm,0.3s,baz=58,slow=19,SNR=2.1						
USRK	**Ussuriysk Ar.**	**9.70**	**302**	Pn	**Pn**	**19 16 16.9**	**+3.3**
	baz=96,slow=15,SNR=1.4						
KSRS	**Korea Array**	**12.32**	**265**	LR	LR	19 20 54.0	
	comp=Z,30nm,20.4s,baz=70,slow=34						
KLR	**Kul'dur**	**12.76**	**323**	LR	LR	19 21 58.6	
	comp=Z,38nm,20.2s,baz=86,slow=38						
SEY	**Seymchan**	**24.04**	**10**	P	**P**	**19 19 09.9**	**+1.1**
	0.8nm,0.5s,baz=170,slow=9.7,SNR=4.3						
SONM	**Songino Array**	**27.80**	**300**	P	**P**	**19 19 44.9**	**+1.7**
	0.6nm,0.6s,baz=110,slow=11,SNR=3.7						
SONM				LR	LR	19 32 53.1	
	comp=Z,21nm,18.1s,baz=257,slow=41						
H11N2	**WAKE ISLAND Hy**	**28.25**	**128**	T	T	19 49 33.8	
	baz=320						
H11N1	**WAKE ISLAND Hy**	**28.26**	**128**	T	T	19 49 30.4	
	baz=320						
H11N3	**WAKE ISLAND Hy**	**28.27**	**128**	T	T	19 49 35.9	
	baz=320						
H11S1	**WAKE ISLAND Hy**	**29.07**	**129**	T	T	19 50 34.1	
	baz=321						
H11S3	**WAKE ISLAND Hy**	**29.07**	**129**	T	T	19 50 33.5	
	baz=321						
H11S2	**WAKE ISLAND Hy**	**29.09**	**129**	T	T	19 50 34.1	
	baz=321						
ZALV	**Zalesovo Beam**	**41.44**	**310**	P	**P**	**19 21 40.3**	**-0.1**
	0.9nm,0.5s,baz=102,slow=13,SNR=4.1						
MKAR	**Makanchi Array**	**44.16**	**300**	P	**P**	**19 22 02.7**	**-0.1**
	1.2nm,0.8s,baz=84,slow=9.8,SNR=8.0						
WRA	**Warramunga Arr**	**59.78**	**190**	P	**P**	**19 23 59.2**	**0.0**
	0.3nm,0.9s,baz=10,slow=5.6,SNR=1.4						
HFS	**Hagfors**	**72.44**	**336**	P	**P**	**19 25 20.4**	**+0.3**
	3.3nm,1.0s,baz=22,slow=8.3,SNR=4.8						

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*TUL **03** 19:43:03.1±0.7,36°.56N±0°.01×97°.19W±0°.02,h8km±4km, ML2.5,mb_Lg2.6/37(NEIC),Error ellipse: s-maj=3.0km s-min=1.5km az=60.0*
NEIC 03 19:43:02.9±1.0**,36°.54N**±0°.02×**97°.20W**±0°.02**,h8**km±5km**,**
Error ellipse: s-maj=2.9km s-min=2.3km az=71.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLOK	**Blackwell**	**0.22**	**357**		Pg	19 43 07.6	+0.3
BLOK				Sg	Sg	19 43 10.8	+0.5
KAN13	**South Haven SW**	**0.52**	**335**	Pg	Pg	19 43 12.9	0.0
KAN13				Sg	Sg	19 43 20.2	+0.5
QUOK	**Quay**	**0.55**	**133**		Pg	19 43 13.7	+0.3
GC02	**Grant County #**	**0.61**	**300**		Pg	19 43 14.7	0.0
GC02				Sg	Sg	19 43 23.1	+0.3
CROK	**Carrier**	**0.63**	**267**		Pg	19 43 15.0	-0.1
CROK				Sg	Sg	19 43 24.1	+0.7
OK031	**S. Brethren Rd**	**0.66**	**154**		Pg	19 43 15.7	+0.1
T35A	**Sooner Cattle**	**0.67**	**56**		Pg	19 43 15.6	-0.2
KAN17	**Caldwell West**	**0.67**	**318**	Pg	Pg	19 43 15.9	0.0
KAN14	**Manchester OK**	**0.74**	**304**	Pg	Pg	19 43 16.8	-0.3
KS20	**Mayfield South**	**0.74**	**338**	Pg	Pg	19 43 16.7	-0.5
OK029	**Liberty Lake**	**0.77**	**195**	Pg	Pg	19 43 17.9	+0.1
OK032	**Salt Plains WL**	**0.85**	**288**		Pg	19 43 19.1	-0.2
KAN08	**Anthony NE Sta**	**0.92**	**318**	Pg	Pg	19 43 20.4	-0.2
OK025	**Westminster Rd**	**0.97**	**187**	Pg	Pg	19 43 21.0	-0.5
KAN12	**Harper NE Stat**	**0.99**	**320**	Pg	Pg	19 43 21.7	-0.1
FNO	**Franklin**	**1.29**	**187**	Pn	Pn	19 43 25.4	-1.8
U32A	**Winter Ranch,**	**1.46**	**264**	Pn	Pn	19 43 29.7	+0.2
U32A				Sn	Sb	19 43 49.3	+0.2
X34A	**Smith Ranch, M**	**2.01**	**195**	Pg	Pb	19 43 39.9	+0.3
X34A				IAmb_Lg		19 44 06.7	
	comp=Z,17nm,0.9s						
WMOK	**Wichita Mounta**	**2.21**	**216**	Pn	Pn	19 43 41.2	+1.3
R32A	**Long Quarter,**	**2.23**	**328**	Pn	Pn	19 43 39.3	-0.8
X37A	**Clayton**	**2.46**	**142**		Pn	19 43 42.1	-1.1
X37A				IAmb_Lg		19 44 22.4	
	comp=Z,15nm,1.1s						
HHAR	**Hobbs**	**2.64**	**95**		Pn	19 43 45.5	-0.3
W39A	**Magazine**	**3.08**	**115**		Pb	19 43 56.7	-1.2
S39A	**Bolivar**	**3.30**	**69**		Pn	19 43 55.0	+0.1
U40A	**Yellville**	**3.51**	**92**		Pn	19 43 57.6	-0.1
MGMO	**Mountain Grove**	**4.00**	**80**	IAmb_Lg		19 45 11.2	
	comp=Z,16nm,0.7s						
AMTX	**Amarillo**	**4.00**	**247**	IAmb_Lg		19 45 18.3	
	comp=Z,11nm,0.7s						
X40A	**Basin Creek Fa**	**4.11**	**119**		Pn	19 44 03.6	-2.4
FCAR	**Ozark Folk Cen**	**4.16**	**98**	IAmb_Lg		19 45 13.8	
	comp=Z,8.2nm,0.8s						
WHAR	**Wooly Hollow**	**4.18**	**106**	Pg	Pb	19 44 15.8	-0.8
P38A	**Dawn**	**4.22**	**42**	IAmb_Lg		19 45 19.8	
	comp=Z,7.9nm,0.9s						
R40A	**Maddies Statio**	**4.30**	**65**		Pn	19 44 09.4	+0.9
LCAR	**Lake Charles**	**4.91**	**94**	IAmb_Lg		19 45 36.9	
	comp=Z,9.3nm,0.8s						
T42A	**Van Buren**	**4.93**	**83**	IAmb_Lg		19 45 42.1	
	comp=Z,7.8nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.95**	**301**	IAmb_Lg		19 45 47.8	
	comp=Z,7.6nm,0.8s						
CCM	**Cathedral Cave**	**4.98**	**71**	IAmb_Lg		19 45 49.9	
	comp=Z,16nm,0.7s						
P40A	**Paris**	**5.04**	**52**	IAmb_Lg		19 45 48.8	
	comp=Z,6.1nm,0.9s						
N38A	**Joes South For**	**5.26**	**35**	IAmb_Lg		19 45 53.9	
	comp=Z,8.1nm,0.7s						
PBMO	**Poplar Bluff**	**5.45**	**86**	IAmb_Lg		19 45 54.8	
	comp=Z,12nm,0.8s						
L34A	**Svendsen Farm,**	**5.45**	**6**	IAmb_Lg		19 46 07.5	
	comp=Z,16nm,0.8s						
T25A	**Trinidad**	**5.81**	**278**	IAmb_Lg		19 46 12.7	
	comp=Z,14nm,1.0s						
S44A	**Carbondale**	**6.45**	**77**	IAmb_Lg		19 46 32.0	
	comp=Z,8.7nm,0.8s						
K38A	**Parkersburg**	**6.99**	**28**	IAmb_Lg		19 46 58.9	
	comp=Z,6.9nm,0.8s						
PLAL	**Pickwick Lake**	**7.58**	**99**	IAmb_Lg		19 47 08.0	
	comp=Z,4.8nm,1.0s						
JFWS	**Jewell Farm**	**8.31**	**38**	IAmb_Lg		19 47 47.4	
	comp=Z,8.3nm,0.9s						

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*TIF **03** 19:51:53.6,41°.94N×42°.72E,h19km*
*DDA **03** 19:51:55.1,41°.86N×42°.68E,h7km±1km,ML2.1*
*NORS **03** 19:51:55.1±0.0,42°.00N×42°.71E,h14km,MPVA3.3*
ISC 03 19:51:54.4±0.9**,41°.93N**±0°.02×**42°.73E**±0°.02**,h15**km±7km**,**
n24,σ**0s.50**/48**,Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABS	**Abastumani**	**0.19**	**160**	P	**Pg**	**19 51 59.1**	**+0.1**
ABS				S	**Sg**	**19 52 02.1**	**0.0**
EPOS	**Posof**	**0.43**	**180**	*i* P	**Pg**	**19 52 03.1**	**+0.1**
EPOS				*i* S	**Sb**	**19 52 10.0**	**-0.1**
TKB	**Tkibuli**	**0.46**	**25**	P	**Pg**	**19 52 03.5**	**-0.2**
TKB				S	**Sg**	**19 52 09.8**	**-0.1**
BKRG	**Bakuriani**	**0.62**	**106**	P	**Pg**	**19 52 06.4**	**-0.2**
BKRG				S	**Sb**	**19 52 15.3**	**-0.3**
AKH	**Akhalkalaki**	**0.78**	**132**	P	**Pg**	**19 52 09.6**	**0.0**
AKH				S	**Sb**	**19 52 20.2**	**+0.1**
BATM	**Batumi**	**0.84**	**247**	P	**Pg**	**19 52 10.3**	**-0.5**
BATM				S	**Sg**	**19 52 21.7**	**0.0**
BATM	**Batumi**	**0.84**	**247**	*i* P	**Pg**	**19 52 10.2**	**-0.5**
BATM				*i* S	**Sg**	**19 52 21.9**	**+0.2**
ONI	**Oni**	**0.85**	**39**	P	**Pg**	**19 52 10.6**	**-0.3**
ONI				S	**Sg**	**19 52 22.0**	**-0.1**
ONI	**Oni**	**0.85**	**39**	*e*Pg	**Pg**	**19 52 10.6**	**-0.3**
ONI				*e*Sg	**Sg**	**19 52 22.1**	**-0.1**
BRNG	**Burnasheti**	**0.88**	**110**	P	**Pb**	**19 52 11.6**	**+0.1**
BRNG				S	**Sg**	**19 52 23.0**	**0.0**
CHVG	**Ch'k'valeri**	**0.92**	**329**	P	**Pg**	**19 52 12.0**	**-0.2**
CHVG				S	**Sb**	**19 52 25.2**	**+1.2**
BGD	**Bogdanovka**	**0.94**	**135**	P	**Pg**	**19 52 12.1**	**-0.5**
BGD				S	**Sb**	**19 52 25.6**	**+0.9**
DBOC	**Borcka**	**0.99**	**234**	*i* P	**Pg**	**19 52 13.0**	**-0.5**
DBOC				*i* S	**Sg**	**19 52 26.3**	**-0.2**
DBOC				IAML		19 52 27.0	
	comp=E,60nm,0.4s						
DIGR	**Digorskoe uzhe**	**1.15**	**33**	*e*Pg	**Pb**	**19 52 16.0**	**-0.2**
DIGR				*e*Sg	**Sg**	**19 52 31.6**	**-0.2**
DBAD	**Bademkaya**	**1.20**	**221**	*i* P	**Pn**	**19 52 16.6**	**-0.2**
DBAD				*i* S	**Sb**	**19 52 32.4**	**+0.2**
DBAD				IAML		19 52 34.0	
	comp=N,105nm,0.4s						
DBAD				IAML		19 52 35.0	
	comp=E,79nm,0.5s						
DMNI	**Dmanisi**	**1.25**	**118**	P	**Pn**	**19 52 17.4**	**-0.1**
DMNI				S	**Sb**	**19 52 34.1**	**+0.3**
NEY	**Neytrino**	**1.31**	**360**	*e*Pg	**Pb**	**19 52 19.1**	**+0.2**
NEY				*e*Sg	**Sb**	**19 52 36.1**	**+0.4**
GUDG	**Gudauri**	**1.40**	**67**	P	**Pn**	**19 52 18.3**	**-1.4**
GUDG				S	**Sn**	**19 52 37.0**	**-1.0**
EAK	**Akyaka**	**1.41**	**152**	*i* P	**Pn**	**19 52 20.1**	**+0.4**
EAK				IAML		19 52 39.0	
	comp=N,19nm,0.4s						
EAK				*i* S	**Sb**	**19 52 39.2**	**+0.8**
EAK				IAML		19 52 49.0	
	comp=E,17nm,0.7s						
LACR	**Lac**	**1.47**	**52**	*e*Pg	**Pb**	**19 52 21.9**	**+0.4**
LACR				*e*Sg	**Sg**	**19 52 41.4**	**-0.3**
KORR	**Kora**	**1.52**	**40**	*e*Pg	**Pb**	**19 52 22.0**	**-0.3**
KORR				*e*Sg	**Sg**	**19 52 42.8**	**-0.6**
MTEO	**Meteo**	**1.53**	**60**	P	**Pb**	**19 52 22.6**	**-0.2**
MTEO				S	**Sb**	**19 52 43.0**	**+0.8**
PNSH	**Pansheti**	**1.57**	**63**	P	**Pn**	**19 52 22.6**	**+0.8**
PNSH				S	**Sn**	**19 52 42.7**	**+0.7**
LSNR	**Lesken**	**1.57**	**31**	*e*Pg	**Pb**	**19 52 23.7**	**+0.5**
LSNR				*e*Sg	**Sg**	**19 52 45.5**	**+0.6**

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*IDC **03** 19:52:21.8±0.2,33°.39N×139°.76E,h114km±2km,mb4.5/44, mb1 4.6/47,mb1mx4.5/59,mbtmp4.9/47,MS3.4/28, Ms1 3.5/28,ms1mx3.4/42,Error ellipse: s-maj=10.4km s-min=6.6km az=78.0*
*JMA **03** 19:52:22.6,33°.49N×140°.00E,h107km±1km,M4.7*
JMA Felt II J1.
*NIED **03** 19:52:22.6,33°.49N×140°.00E,h107km,MW4.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; Mrr0.06; Mθθ-1.02; Mφφ0.96; Mrθ-0.38; Mθφ-0.04; Mφr-1.32; Fault plane solution: M0 1.61000×10^{16} NP1: φs216.00000°,δ88.00000°,λ53.00000°. NP2: φs124.00000°,δ37.00000°,λ177.00000°.*
*NEIC **03** 19:52:22.5±2.4,33°.45N±0°.06×139°.90E±0°.09, h116km±4km,mb4.9/321 Error ellipse: s-maj=10.6km s-min=8.7km az=93.0*
*GCMT **03** 19:52:23.5±0.3,33°.46N±0°.02×139°.99E±0°.02, h111km±4km,MW4.8/103,Moment Tensor Solution. s13,c16; s103,c156; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr-0.16±.10; Mθθ-0.92±.09; Mφφ1.07±.10; Mrθ-0.10±.06; Mθφ-0.28±.10; Mφr-2.28±.06; Best double couple: M0 2.39400×10^{16} NP1:φs126.00000°,δ14.00000°, λ-151.00000°. NP2:φs8.00000°,δ83.00000°,λ-78.00000°. Principal axes: T 2.8240, Plg37.0000°, Azm87.0000°; N -0.8640, Plg12.0000°, Azm186.0000°; P -1.9630, Plg50.0000°, Azm291.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **03** 19:52:27.3±1.0,33°.89N×139°.72E,h119km,mb5.0/50 Error ellipse: s-maj=6.9km s-min=3.7km az=119.3*
*BGR **03** 19:52:29.1±0.0,34°.71N×140°.71E,h132km,mb5.1*
ISC 03 19:52:21.6±0.3**,33°.41N**±0°.03×**139°.90E**±0°.04**,h119**km±2km**,**
h120km**:pP-P,n1158,**σ**1s.63**/1210**,mb4.8**/330**,91C-93D, Fault plane solution: NP1:**φs204.89468°**,**δ17.75857°, λ-59.71647°. **NP2:**φs353.37866°**,**δ74.72895°, λ-99.17429°. **Principal axes:** T Plg29.1548°, Azm90.7960°**;** N Plg8.8477°, Azm355.8144°**;** P Plg59.2779°, Azm250.6297°**; Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.30**	**194**	⇓P	**Pn**	**19 52 38.6**	**+0.1**
JHJ2	**Mitsune**	**0.30**	**194**		**Pn**	**19 52 38.6**	**+0.1**
JHJ	**Hachijo jima 2**	**0.31**	**199**	P	**Pn**	**19 52 38.7**	**+0.2**
	3μm,0.3s,baz=132,slow=22,SNR=2196						
JHJ				S	**Sn**	**19 52 51.6**	**+0.4**
	10μm,0.3s,baz=52,slow=23,SNR=26						
JHCJ	**Hachijojimakas**	**0.35**	**195**	P	**Pn**	**19 52 38.7**	**0.0**
JHCJ				S	**Sn**	**19 52 50.9**	**-0.6**
JMKN	**Mikurajimanish**	**0.55**	**332**	⇑P	**Pn**	**19 52 39.4**	**-0.4**
JMKN				S	**Sn**	**19 52 52.0**	**-1.5**
JAOM	**Aogashimamukai**	**0.95**	**187**	⇓P	**Pn**	**19 52 44.3**	**+1.2**
JKO	**Kozu shima**	**1.00**	**321**	⇑P	**Pn**	**19 52 43.8**	**+0.2**
JKO				S	**Sn**	**19 53 00.2**	**-0.1**
JTHY	**Toshimahigashi**	**1.22**	**335**	P	**Pn**	**19 52 46.2**	**+0.3**
JTHY				S	**Sn**	**19 53 04.0**	**-0.3**
JIM2	**Oshima 3**	**1.36**	**343**	⇑P	**Pn**	**19 52 47.5**	**+0.1**
JIM2				S	**Sn**	**19 53 06.1**	**-1.0**
BSO3	**Boso 3**	**1.48**	**20**	P	**Pn**	**19 52 48.5**	**+0.1**
BSO1	**Boso 1**	**1.53**	**35**	⇓P	**Pn**	**19 52 48.6**	**-0.1**
JIZS	**Izushimoda**	**1.56**	**327**	⇑P	**Pn**	**19 52 50.1**	**+0.5**
JIZS				S	**Sn**	**19 53 11.0**	**0.0**
TK02	**Tokai 2**	**1.87**	**287**	P	**Pn**	**19 52 54.5**	**+1.4**
JSG	**Sagara**	**1.91**	**312**		**Pn**	**19 52 54.0**	**+0.2**
TK04	**Tokai 4**	**1.95**	**301**	⇑P	**Pn**	**19 52 55.7**	**+1.5**
TK04				S	**Sn**	**19 53 20.7**	**+1.5**
JOD2	**Odawara 2**	**1.97**	**340**	⇑P	**Pn**	**19 52 55.1**	**+0.5**
JOD2				S	**Sn**	**19 53 19.3**	**-0.6**
JFNN	**Fujinakano**	**2.05**	**331**	P	**Pn**	**19 52 56.7**	**+1.1**
SHZ3	**Shizuoka 3**	**2.17**	**320**	P	**Pn**	**19 52 58.5**	**+1.3**
JYN	**Shimob**	**2.37**	**332**	⇑P	**Pn**	**19 53 00.9**	**+1.2**
JYT	**Yasato**	**2.82**	**5**	Pn	**Pn**	**19 53 04.0**	**-1.5**
JGF	**Kuroka**	**3.03**	**317**		**Pn**	**19 53 09.2**	**+0.8**
INU	**Inuyama**	**3.07**	**310**	Pn	**Pn**	**19 53 10.0**	**+1.2**
MJAR	**Matsushiro Arr**	**3.42**	**336**	P	**Pn**	**19 53 12.7**	**-0.7**
	17nm,0.3s,baz=339,slow=18,SNR=461						
MJAR				S	**Sn**	**19 53 52.9**	**-0.6**
	13nm,0.3s,baz=39,slow=27,SNR=6.5						
MJAR				LR	LR	19 54 36.1	
	comp=Z,486nm,19.1s,baz=170,slow=40						
MJAR	**Matsushiro Arr**	**3.42**	**336**	P	**Pn**	**19 53 13.3**	**-0.1**
MJAR	**Matsushiro Arr**	**3.42**	**336**	Pn	**Pn**	**19 53 13.3**	**-0.1**
MAJO	**Matsushiro**	**3.42**	**336**	*d i*P	**Pn**	**19 53 14.4**	**+1.0**
MAJO	**Matsushiro**	**3.42**	**336**	Pn	**Pn**	**19 53 14.1**	**+0.7**
MAT	**Matsushiro**	**3.42**	**336**	P	**Pn**	**19 53 14.3**	**+0.9**
MAT				S	**Sn**	**19 53 54.7**	**+1.2**
MJB9	**Matsu-Tunnel**	**3.43**	**336**		**Pn**	**19 53 14.2**	**+0.7**
JWT	**Wachi**	**4.17**	**298**	Pn	**Pn**	**19 53 24.7**	**+1.4**
JMM	**Marumori**	**4.51**	**9**		**Pn**	**19 53 26.0**	**-1.9**
JSD	**Sado**	**4.81**	**344**	Pn	**Pn**	**19 53 30.9**	**-1.0**
JMN	**Monobe**	**5.04**	**275**	Pn	**Pn**	**19 53 36.4**	**+1.3**
JHS	**Saijyo**	**5.84**	**288**	Pn	**Pn**	**19 53 47.5**	**+1.6**
JCJ	**Chichijima**	**6.59**	**162**	P	**Pn**	**19 53 52.8**	**-3.3**
	56nm,0.3s,baz=5.6,slow=15,SNR=26						
JCJ				S	**Sn**	**19 55 02.9**	**-7.0**
	95nm,0.3s,baz=271,slow=22,SNR=6.1						
JCJ				LR	LR	19 56 21.4	
	comp=Z,264nm,21.6s,baz=26,slow=36						
JTM	**Tenmabayashi**	**7.42**	**7**	Pn	**Pn**	**19 54 04.5**	**-2.6**
JNU	**Nakatsue**	**7.56**	**270**	P	**Pn**	**19 54 11.1**	**+1.9**
	3.5nm,0.3s,baz=78,slow=7.9,SNR=24						
JNU				LR	LR	19 56 16.9	
	comp=Z,226nm,18.2s,baz=105,slow=32						
JNU	**Nakatsue**	**7.56**	**270**	Pn	**Pn**	**19 54 11.2**	**+2.0**
JSU	**Suzuyama**	**8.21**	**259**	Pn	**Pn**	**19 54 20.2**	**+2.3**
JTU	**Tsushima**	**8.80**	**280**	Pn	**Pn**	**19 54 27.7**	**+2.0**
KSPHA	**Pohang**	**9.10**	**291**	P	**Pn**	**19 54 32.0**	**+2.2**
	SNR=14						
KSPHA	**Pohang**	**9.10**	**291**	P	**Pn**	**19 54 32.0**	**+2.2**
	SNR=14						
KSPHA	**Pohang**	**9.10**	**291**	P	**Pn**	**19 54 32.0**	**+2.2**
	SNR=14						
KSULJ	**Uljin**	**9.21**	**294**	P	**Pn**	**19 54 34.0**	**+2.6**
	SNR=43						
KSULJ	**Uljin**	**9.21**	**294**	P	**Pn**	**19 54 34.0**	**+2.6**
	SNR=43						
KSULJ	**Uljin**	**9.21**	**294**	P	**Pn**	**19 54 34.0**	**+2.6**
	SNR=43						
UJN	**ULJIN**	**9.30**	**296**	P	**Pn**	**19 54 34.9**	**+2.4**
	SNR=7.5						
UJN	**ULJIN**	**9.30**	**296**	P	**Pn**	**19 54 34.9**	**+2.4**
	SNR=7.5						
UJN	**ULJIN**	**9.30**	**296**	P	**Pn**	**19 54 34.9**	**+2.4**
	SNR=7.5						
KSYOC	**YEONGCHEON**	**9.37**	**289**	P	**Pn**	**19 54 36.2**	**+2.6**
	SNR=7.3						
KSYOC	**YEONGCHEON**	**9.37**	**289**	P	**Pn**	**19 54 36.2**	**+2.6**
	SNR=7.3						
KSYOC	**YEONGCHEON**	**9.37**	**289**	P	**Pn**	**19 54 36.2**	**+2.6**
	SNR=7.3						
IMWB	**Imwonan-gil**	**9.44**	**297**	P	**Pn**	**19 54 37.0**	**+2.6**
	SNR=12						
IMWB	**Imwonan-gil**	**9.44**	**297**	P	**Pn**	**19 54 37.0**	**+2.6**
	SNR=12						
IMWB	**Imwonan-gil**	**9.44**	**297**	P	**Pn**	**19 54 37.0**	**+2.6**
	SNR=12						
KSADO	**Andong**	**9.48**	**291**	P	**Pn**	**19 54 37.2**	**+2.2**
	SNR=35						
KSADO	**Andong**	**9.48**	**291**	P	**Pn**	**19 54 37.2**	**+2.2**
	SNR=35						
KSADO	**Andong**	**9.48**	**291**	P	**Pn**	**19 54 37.2**	**+2.2**
	SNR=35						
JEW	**Eniwo**	**9.49**	**7**	Pn	**Pn**	**19 54 32.1**	**-3.0**
KSEUS	**ULSEONG**	**9.67**	**291**	P	**Pn**	**19 54 40.1**	**+2.5**
	SNR=13						
KSEUS	**ULSEONG**	**9.67**	**291**	P	**Pn**	**19 54 40.1**	**+2.5**
	SNR=13						
KSEUS	**ULSEONG**	**9.67**	**291**	P	**Pn**	**19 54 40.1**	**+2.5**
	SNR=13						
KSTBA	**Taebaek**	**9.69**	**296**	P	**Pn**	**19 54 41.3**	**+3.4**
	SNR=24						
KSTBA	**Taebaek**	**9.69**	**296**	P	**Pn**	**19 54 41.3**	**+3.4**
	SNR=24						
KSTBA	**Taebaek**	**9.69**	**296**	P	**Pn**	**19 54 41.3**	**+3.4**
	SNR=24						
KSGWL	**Sabuk**	**9.81**	**296**	P	**Pn**	**19 54 42.8**	**+3.3**
	SNR=6.3						
KSGWL	**Sabuk**	**9.81**	**296**	P	**Pn**	**19 54 42.8**	**+3.3**
	SNR=6.3						
OKEB	**Okgye-meyeon**	**9.84**	**298**	P	**Pn**	**19 54 43.0**	**+3.1**
	SNR=5.2						
OKEB	**Okgye-meyeon**	**9.84**	**298**	P	**Pn**	**19 54 43.0**	**+3.1**
	SNR=5.2						
OKEB	**Okgye-meyeon**	**9.84**	**298**	P	**Pn**	**19 54 43.0**	**+3.1**
	SNR=5.2						
KSYOW	**Yeongwol**	**10.08**	**295**	P	**Pn**	**19 54 45.8**	**+2.7**
	SNR=13						

KSYOW **Yeongwol** 10.08 295 P Pn 19 54 45.8 +2.7
SNR=13
KSDGY **Daegwallycong** 10.10 298 P Pn 19 54 46.0 +2.6
SNR=26
KSDGY **Daegwallycong** 10.10 298 P Pn 19 54 46.0 +2.6
SNR=26
KSDGY **Daegwallycong** 10.10 298 P Pn 19 54 46.0 +2.6
SNR=26
KSSAJ **Sangju** 10.10 291 P Pn 19 54 46.3 +2.9
SNR=9.8
KSSAJ **Sangju** 10.10 291 P Pn 19 54 46.3 +2.9
SNR=9.8
KSJMJ **Jumunjin** 10.11 299 P Pn 19 54 46.4 +2.9
SNR=8.1
KSJMJ **Jumunjin** 10.11 299 P Pn 19 54 46.4 +2.9
SNR=8.1
KSCPR **CHUPUNGNYEONG** 10.20 289 P Pn 19 54 47.3 +2.5
SNR=19
KSCPR **CHUPUNGNYEONG** 10.20 289 P Pn 19 54 47.3 +2.5
SNR=19
KSMGY **Mungyeong** 10.24 292 P Pn 19 54 48.3 +3.1
SNR=18
KSMGY **Mungyeong** 10.24 292 P Pn 19 54 48.3 +3.1
SNR=18
KSCHJ **Chungju** 10.36 293 P Pn 19 54 50.1 +3.2
SNR=19
KSCHJ **Chungju** 10.36 293 P Pn 19 54 50.1 +3.2
SNR=19
KSCHJ **Chungju** 10.36 293 P Pn 19 54 50.1 +3.2
SNR=19
OKCB **Cheongsan-myeo** 10.37 290 P Pn 19 54 50.0 +3.0
SNR=6.7
OKCB **Cheongsan-myeo** 10.37 290 P Pn 19 54 50.0 +3.0
SNR=6.7
OKCB **Cheongsan-myeo** 10.37 290 P Pn 19 54 50.0 +3.0
SNR=6.7
KSBON **Boeun** 10.40 291 P Pn 19 54 50.7 +3.3
SNR=27
KSBON **Boeun** 10.40 291 P Pn 19 54 50.7 +3.3
SNR=27
KSWJU **Wonju** 10.46 296 P Pn 19 54 52.0 +3.7
SNR=10
KSWJU **Wonju** 10.46 296 P Pn 19 54 52.0 +3.7
SNR=10
KSRS **Korea Array** 10.57 296 P Pn 19 54 52.5 +2.8
1.5nm,0.3s,baz=109,slow=14,SNR=87
KSRS LR LR 19 59 29.4
comp=Z,102nm,18.4s,baz=110,slow=41
KSRS ScP **ScP** 20 04 04.0 +0.1
0.2nm,0.3s,baz=164,slow=0.7,SNR=8.9
KSAR **Wonju Array Be** 10.60 296 P Pn 19 54 52.0 +1.9
KSAR **Wonju Array Be** 10.60 296 Pn Pn 19 54 52.0 +1.9
KSIJA **INJE** 10.62 299 P Pn 19 54 53.8 +3.4
SNR=16
KSIJA **INJE** 10.62 299 P Pn 19 54 53.8 +3.4
SNR=16
SEHB **SEOHWA** 10.63 300 P Pn 19 54 53.3 +2.8
SNR=8.6
SEHB **SEOHWA** 10.63 300 P Pn 19 54 53.3 +2.8
SNR=8.6
KS19 **Wonju Array Si** 10.63 296 Pn 19 54 51.8 +1.3
JMZ **Minamidaito 2** 10.69 227 Pn Pn 19 54 48.8 -2.5
TJN **Taejon** 10.72 290 ⇓*eP* Pn 19 54 54.3 +2.6
KSCHC **Chuncheon** 10.76 297 P Pn 19 54 56.1 +3.8
SNR=11
KSCHC **Chuncheon** 10.76 297 P Pn 19 54 56.1 +3.8
SNR=11
ASAJ **Asahikawa** 10.90 10 P Pn 19 54 50.2 -3.8
14nm,0.3s,baz=192,slow=11,SNR=85
ASAJ S Sn 19 56 43.3 -11
3.7nm,0.3s,baz=105,slow=20,SNR=2.1
ASAJ LR LR 19 59 57.0
comp=Z,146nm,20.0s,baz=198,slow=42
JKA **Kamikawa-asahi** 10.90 10 Pn Pn 19 54 50.2 -3.8
KSCEA **Cheonan** 10.90 292 P Pn 19 54 57.5 +3.3
SNR=13
KSCEA **Cheonan** 10.90 292 P Pn 19 54 57.5 +3.3
SNR=13
KSICN **Icheon** 10.91 294 P Pn 19 54 57.6 +3.4
SNR=7.0
KSICN **Icheon** 10.91 294 P Pn 19 54 57.6 +3.4
SNR=7.0
KOJ2 **Gongju-si** 10.91 290 P Pn 19 54 58.0 +3.7
SNR=8.6
KOJ2 **Gongju-si** 10.91 290 P Pn 19 54 58.0 +3.7
SNR=8.6
KSJEU **Jeongeup** 10.91 285 P Pn 19 54 56.8 +2.5
SNR=7.0
KSJEU **Jeongeup** 10.91 285 P Pn 19 54 56.8 +2.5
SNR=7.0
NMR **Nemuro--Hokkai** 10.94 23 *eP* Pn 19 54 49.9 -4.7
HWCB **Hwacheon** 11.03 299 P Pn 19 54 60.0 +4.1
SNR=8.7
HWCB **Hwacheon** 11.03 299 P Pn 19 54 60.0 +4.1
SNR=8.7
PYTK **Pyeongtaek** 11.06 292 P Pn 19 55 00.0 +3.7
SNR=6.0
PYTK **Pyeongtaek** 11.06 292 P Pn 19 55 00.0 +3.7
SNR=6.0
KSCWO **Cheorwon** 11.09 298 P Pn 19 55 01.0 +4.3
SNR=7.6
KSCWO **Cheorwon** 11.09 298 P Pn 19 55 01.0 +4.3
SNR=7.6
GLVR **Golovnino** 11.21 21 *eP* Pn 19 54 54.8 -3.4
GLVR *eS* Sn 19 56 50.5 -11
GLVR pmax pmax
comp=Z,137nm,0.7s
GLVR pmax pmax
comp=E,26nm,0.3s
GLVR pmax pmax
comp=N,40nm,0.4s
GLVR pmax pmax
comp=Z,383nm,1.1s
KSSWO **Suwon** 11.24 294 P Pn 19 55 02.0 +3.2
SNR=5.1
KSSWO **Suwon** 11.24 294 P Pn 19 55 02.0 +3.2
SNR=5.1
KSJDO **Jindo** 11.34 279 P Pn 19 55 03.2 +3.2
SNR=9.2
KSJDO **Jindo** 11.34 279 P Pn 19 55 03.2 +3.2
SNR=9.2
HAWB **Hwaseong-si** 11.34 293 P Pn 19 55 04.0 +3.9
SNR=14
HAWB **Hwaseong-si** 11.34 293 P Pn 19 55 04.0 +3.9
SNR=14
KSSEO **Seoul** 11.34 295 P P 19 55 05.0 -4.1
SNR=6.2
KSSEO **Seoul** 11.34 295 P P 19 55 05.0 -4.1
SNR=6.2
RUSJ **Misakicho** 11.46 20 *eP* Pn 19 54 58.3 -3.2
RUSJ *eS* Sn 19 56 58.0 -10
YNCB **YEONCHEON** 11.51 297 P Pn 19 55 05.1 +2.8
SNR=13
YNCB **YEONCHEON** 11.51 297 P Pn 19 55 06.0 +3.7
SNR=5.3
GRPR **Tuman** 11.52 22 *eP* Pn 19 54 58.2 -4.1
GRPR *eS* Sn 19 56 55.3 -14
GRPR pmax pmax
comp=Z,166nm,0.2s
GRPR pmax pmax
comp=N,49nm,0.1s
GRPR pmax pmax
comp=E,48nm,0.1s
GRPR pmax pmax
comp=Z,165nm,1.0s
KSSES **Seosan** 11.52 291 P Pn 19 55 06.1 +3.7
SNR=11
KSSES **Seosan** 11.52 291 P Pn 19 55 06.1 +3.7
SNR=11
INCN **Inchon** 11.56 294 P Pn 19 55 05.3 +2.3
INCN **Inchon** 11.56 294 Pn Pn 19 55 05.3 +2.3
YUK **Yuzh-Kuril'sk** 11.58 22 *eP* Pn 19 55 00.1 -3.0
YUK pmax pmax
comp=Z,179nm,0.6s
YUK pmax pmax
comp=N,94nm,0.5s
YUK pmax pmax
comp=E,59nm,0.3s
KSMUS **Musan** 11.59 296 P Pn 19 55 07.1 +3.8
SNR=8.0
KSMUS **Musan** 11.59 296 P Pn 19 55 07.1 +3.8
SNR=8.0
KSGAH **Ganghwa** 11.77 295 P P 19 55 10.7 -3.1
SNR=9.3
JOW **Kunigami** 12.01 240 P Pn 19 55 08.7 -0.2
comp=E,0.7nm,0.3s,baz=45,slow=6.4,SNR=5.3
JOW LR LR 19 59 30.3
comp=E,110nm,20.6s,baz=142,slow=36

USA0B **Ussuriysk Arra** 12.41 333 P Pn 19 55 09.5 -4.5
USA0B **Ussuriysk Arra** 12.41 333 Pn Pn 19 55 09.5 -4.5
USRK **Ussuriysk Ar.** 12.41 333 P Pn 19 55 13.3 -0.7
baz=143,slow=12,SNR=11
USRK LR LR 19 58 44.1
comp=E,148nm,21.7s,baz=135,slow=31
USRK **Ussuriysk Ar.** 12.41 333 Pn Pn 19 55 13.0 -1.0
DACB **Daecheong-do R** 13.13 294 P P 19 55 28.0 -1.1
SNR=5.8
KSBAR **Backryungdo** 13.16 295 P P 19 55 27.9 -1.5
SNR=7.9
KUR **Kuril'sk** 13.31 25 *eP* Pn 19 55 23.9 -1.8
KUR *eS* Sn 19 57 40.0 -12
KUR pmax pmax
comp=Z,57nm,0.6s
KUR pmax pmax
comp=N,11nm,0.2s
KUR pmax pmax
comp=E,9.0nm,0.2s
KUR smax smax
comp=N,96nm,0.6s
KUR smax smax
comp=E,61nm,0.5s
YSS **Yuzh-Sakhalins** 13.70 8 *eP* Pn 19 55 27.3 -3.5
YSS *eS* Sn 19 57 51.2 -11
YSS pmax pmax
comp=Z,140nm,0.6s
YSS pmax pmax
comp=Z,200nm,2.2s
YSS MLR MLR
comp=Z,400nm,16.0s
YSS **Yuzh-Sakhalins** 13.70 8 Pn Pn 19 55 27.3 -3.5
MDJ **Mudanjiang** 13.75 327 P Pn 19 55 32.3 +0.9
MDJ pmax pmax
comp=Z,18nm,0.9s
MDJ pmax pmax
comp=Z,150nm,5.7s
MDJ LR LR
comp=Z,160nm,14.9s
MDJ LR LR
comp=Z,400nm,14.2s
MDJ LR LR
comp=Z,440nm,15.7s
MDJ **Mudanjiang** 13.75 327 Pn Pn 19 55 31.1 -0.3
CN2 **Changchun** 15.32 317 *eP* P 19 55 52.9 -0.4
CN2 S Sn 19 58 40.4 -0.4
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,200nm,16.0s
UGL **Uglegorsk** 15.74 5 *eP* P 19 55 58.0 +0.1
UGL *eS* Sn 19 58 46.0 -4.8
UGL pmax pmax
comp=Z,160nm,0.9s
UGL smax smax
comp=N,800nm,5.8s
DL2 **Dalian** 15.74 296 P P 19 55 59.5 +1.5
DL2 sP **sP** 19 56 35.8 +2.8
DL2 S **S** 19 58 56.0 -0.5
DL2 pmax pmax
comp=N,45nm,1.1s
DL2 pmax pmax
comp=N,150nm,6.5s
SSE **Sheshan** 16.00 267 P P 19 56 01.2 +0.2
SSE pmax pmax
comp=N,23nm,0.9s
SSE pmax pmax
comp=N,130nm,7.8s
KLR **Kul'dur** 16.93 341 P Pn 19 56 08.0 -3.2
comp=N,4.1nm,0.3s,baz=143,slow=9.8,SNR=29
KLR LR LR 20 02 13.4
comp=N,94nm,21.9s,baz=154,slow=35
KLR **Kul'dur** 16.93 341 *ceP* Pn 19 56 07.8 -3.3
KLR pmax pmax
comp=Z,11nm,0.6s
YOJ **Yonaguni jima** 17.25 243 P P 19 56 14.1 -0.7
YOJ pmax pmax
comp=Z,125nm,1.0s
YOJ **Yonaguni jima** 17.25 243 P P 19 56 14.1 -0.7
SARN **Sarigan** 17.46 161 P Pn 19 56 19.8 +2.0
GRNR **Gornyy** 17.54 353 ⇓*iP* P 19 56 15.9 -1.9
GRNR *eS* S 19 59 25.5 -8.4
GRNR pmax pmax
comp=N,20nm,0.8s
GRNR pmax pmax
comp=E,10.0nm,0.8s
GRNR pmax pmax
comp=Z,20nm,0.8s
GRNR smax smax
comp=N,1.0nm,0.7s
GRNR MLR MLR
comp=N,80nm,16.0s
GRNR MLR MLR
comp=Z,120nm,15.0s
TYV **Tymovskoe** 17.56 6 *eP* P 19 56 17.7 -0.3
TYV *eS* S 19 59 27.3 -7.0
TYV pmax pmax
comp=Z,100nm,2.1s
TYV pmax pmax
comp=Z,80nm,0.8s
TYV smax smax
comp=E,6.0nm,1.2s
TYV smax smax
comp=N,9.0nm,1.3s
TYV smax smax
comp=E,300nm,4.2s
TYV smax smax
comp=N,200nm,4.3s
NJ2 **Nanjing** 17.76 271 *eP* Pn 19 56 22.6 +1.3
NJ2 pP **pP** 19 56 42.0 +1.0
NJ2 sP **sP** 19 56 57.5 +1.9
NJ2 pmax pmax
comp=N,33nm,1.0s
TATO **Taipei** 18.12 247 P Pn 19 56 25.5 -0.2
TATO lAmb lAmb 19 56 27.7
comp=Z,32nm,0.8s
YHNB **Yeheng** 18.37 247 P P 19 56 26.0 -1.2
YHNB lAmb lAmb 19 56 32.1
comp=Z,35nm,0.8s
TIA **Tai'an** 18.91 285 ⇓P P 19 56 32.8 -0.1
TIA S Sn 20 00 09.7 +2.6
TIA pmax pmax
comp=Z,8.0nm,0.8s
TIA pmax pmax
comp=Z,140nm,3.5s
TIA LR LR
comp=Z,120nm,10.8s
TIA LR LR
comp=Z,180nm,17.5s
TIA LR LR
comp=Z,260nm,23.1s
YULB **Yu-li** 19.14 243 P P 19 56 34.1 -1.5
SSLB **Suanglung** 19.18 245 P P 19 56 35.5 -0.4
SSLB lAmb lAmb 19 56 42.5
comp=Z,40nm,0.9s
TWG **Pinlang** 19.65 242 P P 19 56 40.8 -0.3
TWG lAmb lAmb 19 56 46.3
comp=Z,28nm,0.7s
TPUB **Ta-pu** 19.70 244 P P 19 56 41.1 -0.5
BJI **Beijing** 20.11 296 P P 19 56 46.5 +0.6
BJI S S 20 00 29.4 +4.3
BJI sS **sS** 20 01 01.6 +0.3
BJI pmax pmax
comp=Z,5.0nm,0.5s
BJI LR LR
comp=Z,210nm,8.7s
BJI LR LR
comp=Z,120nm,8.2s
BJT **Baijiatuau** 20.11 296 P P 19 56 45.6 -0.3
BJT pmax pmax
comp=Z,14nm,1.0s
BJT **Baijiatuau** 20.11 296 P P 19 56 45.6 -0.3
GUMO **Guam** 20.24 166 P P 19 56 47.6 +0.2
comp=Z,55nm,0.4s,baz=240,slow=2.1,SNR=8.5
GUMO **Guam** 20.24 166 P P 19 56 46.3 -1.1
GUMO **Guam** 20.24 166 P P 19 56 47.9 +0.4
HIA **Hailar** 21.81 323 P P 19 57 01.6 -2.4
HIA pmax pmax
comp=Z,40nm,0.7s
HIA **Hailar** 21.81 323 P P 19 57 01.6 -2.4

HIA lAmb lAmb 19 57 07.7
comp=Z,40nm,0.7s
WHN **Wuhan** 21.85 269 ⇓P P 19 57 04.4 -0.2
WHN pmax pmax
comp=Z,45nm,0.7s
WHN LR LR
comp=Z,390nm,10.7s
ZEA **Zeya** 22.23 340 *eP* P 19 57 08.7 +0.4
ZEA pmax pmax
comp=E,80nm,0.9s
ZEA pmax pmax
comp=N,220nm,0.7s
ZEA pmax pmax
comp=Z,430nm,0.6s
PETK **Petropavlovsk-** 23.45 28 P P 19 57 20.9 +0.9
comp=Z,4.1nm,0.8s,baz=206,slow=9.7,SNR=8.4
PETK LR LR 20 05 59.4
comp=Z,51nm,21.9s,baz=212,slow=35
PETK **Petropavlovsk-** 23.45 28 P P 19 57 20.4 +0.4
HHC **Hu-ho-hao-te** 23.71 296 *eP* P 19 57 23.9 +1.2
HHC sP sP 19 57 56.8 -4.9
HHC S **S** 20 01 30.8 +1.8
HHC pmax pmax
comp=Z,25nm,0.8s
HHC pmax pmax
comp=Z,110nm,4.3s
BTO **Baotou** 24.84 295 *eP* P 19 57 31.5 -1.4
XAN **Xi'an** 25.73 280 P P 19 57 40.7 -0.3
XAN **Xi'an** 25.73 280 P P 19 57 40.7 -0.3
ENH **Enshi** 25.98 271 P P 19 57 41.4 -1.9
ENH lAmb lAmb 19 57 42.5
comp=Z,31nm,0.9s
CIT **Chita** 26.61 322 *eP* P 19 57 44.8 -3.9
CIT *e* 19 58 18.0
CIT *e* 19 58 33.4
CIT pmax pmax
comp=Z,104nm,2.0s
MA2 **Magadan** 27.15 12 P P 19 57 54.5 +1.1
comp=Z,14nm,0.6s,baz=199,slow=10.0,SNR=17
MA2 LR LR 20 11 27.5
comp=Z,40nm,18.1s,baz=121,slow=42
MA2 **Magadan** 27.15 12 *ceP* P 19 57 54.1 +0.8
MA2 pmax pmax
comp=Z,15nm,0.7s
MA2 **Magadan** 27.15 12 P P 19 57 53.4 +0.1
MA2 lAmb lAmb 19 57 55.1
comp=Z,16nm,0.7s
H11N2 **WAKE ISLAND Hy** 27.62 113 T T 20 27 03.7
baz=306,slow=75,SNR=174
H11N1 **WAKE ISLAND Hy** 27.63 113 T T 20 27 14.1
baz=306,slow=75,SNR=200
H11N3 **WAKE ISLAND Hy** 27.64 113 T T 20 27 04.6
baz=306,slow=75,SNR=173
H11S3 **WAKE ISLAND Hy** 28.18 115 T T 20 27 47.8
baz=308,slow=75,SNR=17
H11S1 **WAKE ISLAND Hy** 28.19 115 T T 20 27 48.1
baz=308,slow=75,SNR=21
H11S2 **WAKE ISLAND Hy** 28.20 115 T T 20 27 48.7
baz=308,slow=75,SNR=13
ULN **Ulaanbaatar** 28.56 310 *ceP* P 19 58 06.9 +0.7
ULN pmax pmax
comp=Z,20nm,0.8s
ULN **Ulaanbaatar** 28.56 310 P P 19 58 06.7 +0.5
ULN lAmb lAmb 19 58 08.6
comp=Z,18nm,0.8s
ULN **Ulaanbaatar** 28.56 310 P P 19 58 07.6 +1.3
ULN **Ulaanbaatar** 28.56 310 P P 19 58 07.2 +1.0
comp=Z,99nm,1.8s
SONM **Songino Array** 28.97 310 P P 19 58 10.4 +0.6
comp=Z,6.9nm,0.6s,baz=112,slow=8.5,SNR=48
SONM ScP **ScP** 20 04 46.0 -0.1
comp=Z,3.5nm,0.8s,baz=147,slow=3.1,SNR=15
SONM LR LR 20 09 52.3
comp=Z,72nm,18.7s,baz=96,slow=36
SONM **Songino Array** 28.97 310 P P 19 58 10.0 +0.1
SONM ScP **ScP** 20 04 45.7 -0.3
YAK **Yakutsk** 29.38 350 P P 19 58 13.9 +0.8
comp=Z,4.2nm,0.4s,baz=288,slow=1.7,SNR=5.0
YAK **Yakutsk** 29.38 350 *eP* P 19 58 13.2 +0.1
YAK *e* 19 59 12.4
YAK *e* 20 01 11.8
YAK *eS* **S** 20 02 59.1 +1.3
YAK *e* 20 08 35.7
YAK pmax pmax
comp=Z,17nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.5s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=Z,12nm,0.9s
YAK pmax pmax
comp=E,81nm,4.0s
YAK pmax pmax
comp=N,55nm,4.0s
YAK smax smax
comp=N,77nm,4.0s
YAK smax smax
comp=E,70nm,3.5s
YAK **Yakutsk** 29.38 350 P P 19 58 12.9 -0.2
YAK lAmb lAmb 19 58 28.6
comp=Z,18nm,0.7s
GYA **Guiyang** 29.54 265 ⇓P P 19 58 17.1 +2.0
GYA pmax pmax
comp=Z,8.0nm,0.6s
LZH **Lanzhou** 29.65 285 *eP* P 19 58 16.9 +0.9
LZH pmax pmax
comp=Z,25nm,1.1s
LZH pmax pmax
comp=Z,93nm,5.2s
LZH LR LR
comp=Z,180nm,13.0s
LZH LR LR
comp=Z,200nm,12.5s
LZH LR LR
comp=Z,150nm,16.3s
BOD **Bodaibo** 30.05 332 ⇑*iP* P 19 58 08.8 -10
BOD pmax pmax
comp=Z,39nm,1.0s
SEY **Seymchan** 30.58 11 P P 19 58 24.6 +0.9
comp=Z,2.9nm,0.7s,baz=193,slow=6.3,SNR=18
SEY **Seymchan** 30.58 11 *iP* P 19 58 24.1 +0.4
CD2 **Chengdu** 30.61 275 P P 19 58 22.8 -1.6
CD2 pP pP 19 58 49.6 -0.2
CD2 S **S** 20 03 19.6 +1.7
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 pmax pmax
comp=Z,140nm,5.7s
CD2 LR LR
comp=Z,250nm,13.3s
CD2 LR LR
comp=Z,190nm,17.3s
ZAK **Zakamensk** 31.70 313 *eP* P 19 58 34.4 +0.5
ZAK pmax pmax
comp=Z,18nm,1.6s
GTA **Gaotai** 32.62 292 *eP* P 19 58 40.6 -1.4
GTA ScP **ScP** 20 04 57.0 -1.3
GTA pmax pmax
comp=Z,4.0nm,1.0s
KMI **Kunming** 33.32 266 ⇑P P 19 58 48.6 +0.2
KMI pmax pmax
comp=Z,7.0nm,0.7s
KMI LR LR
comp=Z,140nm,17.0s
MOY **Mondy** 33.48 315 *eP* P 19 58 49.4 +0.1
MOY pmax pmax
comp=Z,18nm,1.6s
SLVN **Son La** 33.99 259 P P 19 58 52.0 -2.1
SLVN PcP **PcP** 20 01 31.4 +1.8
TNTI **Ternate** 34.54 203 P P 19 58 55.7 -3.0
SWI **Sorong** 35.05 195 P P 19 59 01.7 -1.4
comp=Z,37nm,0.8s
SIJI **Sorong** 35.05 195 P P 19 59 01.3 -1.8
comp=Z,11nm,0.9s
KIWB **Kanaga Island** 35.94 46 P P 19 59 11.5 +1.2
NONG **Nongkai** 36.25 254 P P 19 59 14.6 +1.2
comp=Z,24nm,0.8s
GTOI **Gorontalo** 36.26 209 P P 19 59 11.0 -2.4
comp=Z,9.8nm,1.0s
GSTR **Great Sitkin T** 36.65 46 P P 19 59 17.8 +1.4
TOLI2 **Tolitoli** 36.80 213 P P 19 59 15.2 -2.8
TOLI2 lAmb lAmb 19 59 16.8
comp=Z,9.6nm,0.8s
FAKI **Fak Fak** 36.85 193 P P 19 59 17.3 -1.1
FAKI **Fak Fak** 36.85 193 P P 19 59 17.4 -1.1

comp=Z,36nm,1.8s
MRSI Marisa 36.85 211 P **P** **19 59 17.6 -0.9**
comp=Z,286nmcomp=Z,30nm,1.0s
SANI Sanana 37.63 203 P **P** **19 59 22.2 -2.8**
comp=Z,432nmcomp=Z,40nm,0.8s
ATKA Atka Island 37.80 46 P **P** **19 59 27.4 +1.4**
BILL Bilibino 37.84 16 *eP* **P** **19 59 26.5 +0.2**
BILL *SP **sP** **20 00 04.0 -2.0**
BILL 20 00 56.0
BILL 20 01 45.0
BILL pmax pmax
comp=Z,10.0nm,0.5s
MPSI Mapaga 37.89 214 P **P** **19 59 26.3 -0.9**
comp=Z,538nmcomp=Z,13nm,0.8s
KRAI Karang Ratu 38.12 199 P **P** **19 59 29.5 +0.4**
comp=Z,2µmcomp=Z,34nm,0.9s
APSI Ampana 38.22 210 P **P** **19 59 29.2 -0.8**
comp=Z,49nm,0.8s
CHAI Chaiyaphum 38.36 252 P **P** **19 59 30.5 -0.7**
comp=Z,326nmcomp=Z,24nm,0.6s
UTTA Uttaradit 38.52 256 P **P** **19 59 32.8 +0.3**
comp=Z,183nmcomp=Z,20nm,0.9s
TIXI Tiksi 38.75 354 P **P** **19 59 33.8 0.0**
comp=Z,7.9nm,0.6s,baz=140,slow=9.5,SNR=5.2
TIXI LR LR 20 17 00.6
comp=Z,64nm,18.7s,baz=179,slow=38
TIXI Tiksi 38.75 354 *i* P **P** **19 59 33.6 -0.2**
TIXI Tiksi 38.75 354 P **P** **19 59 33.1 -0.6**
TIXI IAmb IAmb 19 59 34.6
comp=Z,10nm,0.6s
CM34 Chiang Mai Arr 39.10 259 P **P** **19 59 37.0 -0.4**
CM35 Chiang Mai Arr 39.18 258 P **P** **19 59 38.0 -0.1**
CM33 Chiang Mai Arr 39.28 259 P **P** **19 59 38.0 -0.9**
CMMT Chiang Mai 39.28 259 P **P** **19 59 38.7 -0.2**
comp=Z,8.1nm,0.9s
CMMT Chiang Mai 39.28 259 P **P** **19 59 38.7 -0.2**
comp=Z,8.1nm,0.9s
CMMT Chiang Mai 39.28 259 P **P** **19 59 37.6 -1.3**
comp=Z,7.6nm,0.9s
CHTO Chiang Mai 39.28 259 P **P** **19 59 37.1 -1.8**
CHTO pmax pmax
comp=Z,12nm,1.2s
CHTO Chiang Mai 39.28 259 P **P** **19 59 38.9 0.0**
comp=Z,8.2nm,0.9s
CHTO Chiang Mai 39.28 259 P **P** **19 59 37.1 -1.8**
CHTO **PcP** **20 01 46.1 +0.6**
CHTO Chiang Mai 39.28 259 P **P** **19 59 38.3 -0.7**
CHTO Chiang Mai 39.28 259 P **P** **19 59 37.6 -1.3**
comp=Z,4.5nm,0.9s
CM36 Chiang Mai Arr 39.31 258 P **P** **19 59 39.0 -0.1**
CM09 Chiang Mai Arr 39.43 258 P **P** **19 59 43.0 +2.9**
comp=Z,4.8nm,0.8s
CM09 Chiang Mai Arr 39.43 258 P **P** **19 59 43.0 +2.9**
comp=Z,4.8nm,0.8s
CM32 Chiang Mai Arr 39.44 259 P **P** **19 59 42.0 +1.8**
CM04 Chiang Mai Arr 39.46 258 P **P** **19 59 41.1 +0.7**
comp=Z,56nmcomp=Z,6.0nm,1.0s
CM04 Chiang Mai Arr 39.46 258 P **P** **19 59 41.1 +0.7**
comp=Z,56nmcomp=Z,6.0nm,1.0s
CM31 Chiang Mai Arr 39.46 258 P **P** **19 59 41.0 +0.6**
comp=Z,2µmcomp=Z,167nm,0.7s
CM31 Chiang Mai Arr 39.46 258 P **P** **19 59 39.3 -1.1**
CM31 **PcP** **20 01 45.9 -0.2**
CM31 Chiang Mai Arr 39.46 258 P **P** **19 59 40.0 -0.4**
CMAR Chiang Mai Arr 39.46 258 P **P** **19 59 39.5 -1.0**
comp=Z,2.8nm,0.7s,baz=47,slow=7.3,SNR=28
CMAR PcP **PcP** **20 01 47.4 +1.4**
comp=Z,4.8nm,0.9s,baz=11,slow=1.7,SNR=13
CMAR ScP **ScP** **20 05 24.6 +0.9**
comp=Z,2.2nm,0.8s,baz=23,slow=3.2,SNR=16
CMAR LR LR 20 18 37.6
comp=Z,46nm,18.1s,baz=68,slow=40
CMAR Chiang Mai Arr 39.46 258 P **P** **19 59 39.5 -1.0**
CMAR **PcP** **20 01 46.9 +0.9**
CM01 Chiang Mai Arr 39.47 258 P **P** **19 59 41.5 +1.0**
comp=Z,55nmcomp=Z,5.5nm,0.9s
CM01 Chiang Mai Arr 39.47 258 P **P** **19 59 41.0 +0.5**
comp=Z,55nmcomp=Z,5.5nm,0.9s
CM02 Chiang Mai Arr 39.47 258 P **P** **19 59 41.5 +1.0**
comp=Z,52nmcomp=Z,7.1nm,0.8s
CM02 Chiang Mai Arr 39.47 258 P **P** **19 59 41.5 +1.0**
comp=Z,52nmcomp=Z,7.1nm,0.8s
CM15 Chiang Mai Arr 39.48 258 P **P** **19 59 41.0 +0.5**
comp=Z,45nmcomp=Z,5.0nm,0.8s
CM15 Chiang Mai Arr 39.48 258 P **P** **19 59 41.0 +0.5**
comp=Z,45nmcomp=Z,5.0nm,0.8s
CM05 Chiang Mai Arr 39.49 258 P **P** **19 59 41.6 +1.0**
comp=Z,3.4nm,0.9s
CM05 Chiang Mai Arr 39.49 258 P **P** **19 59 41.6 +1.0**
comp=Z,3.4nm,0.9s
CM13 Chiang Mai Arr 39.51 258 P **P** **19 59 41.6 +0.8**
comp=Z,36nmcomp=Z,5.3nm,0.9s
CM13 Chiang Mai Arr 39.51 258 P **P** **19 59 41.6 +0.8**
comp=Z,36nmcomp=Z,5.3nm,0.9s
SPIA Saint Paul Isl 41.12 39 P **P** **19 59 55.4 +1.9**
baz=256
NIKH Nikolski High 41.14 46 P **P** **19 59 53.8 0.0**
NIKH Nikolski High 41.14 46 P **P** **19 59 54.6 +0.9**
baz=262
WMQ Urumqi 41.48 300 *eP* **P** **19 59 57.2 +0.4**
WMQ pmax pmax
comp=Z,24nm,1.1s
WMQ pmax pmax
comp=Z,150nm,5.9s
SRDT SRDT 41.51 253 P **P** **19 59 55.4 -1.9**
comp=Z,21nm,0.9s
DGZ Jazzator, Alta 41.62 309 *d iP* **P** **19 59 58.7 +0.8**
DGZ pmax pmax
comp=Z,32nm,0.9s
PHET Kaeng Krachan 41.93 251 P **P** **20 00 02.4 +1.7**
comp=Z,27nm,0.8s
BNSI Bone 42.02 210 P **P** **19 59 59.7 -1.6**
comp=Z,26nm,0.9s
KAPI Kappang 42.72 210 P **P** **20 00 06.5 -0.5**
comp=Z,4.4nm,0.3s,baz=355,slow=6.9,SNR=5.1
KAPI PcP **PcP** **20 01 57.5 +0.9**
comp=Z,10.0nm,0.7s,baz=279,slow=5.8,SNR=5.0
KAPI Kappang 42.72 210 IAmb IAmb 20 00 06.8
comp=Z,29nm,1.1s
KAPI Kappang 42.72 210 P **P** **20 00 04.5 -2.5**
comp=Z,22nm,1.2s
ZAA0 Zalesovo Array 43.53 315 P **P** **20 00 13.0 -0.1**
ZAA0 IAmb IAmb 20 00 14.1
comp=Z,24nm,0.9s
ZAA0 **PcP** **20 01 58.8 +0.1**
ZALV Zalesovo Beam 43.53 315 P **P** **20 00 13.0 -0.1**
comp=Z,19nm,0.8s,baz=103,slow=6.5,SNR=48
ZALV PcP **PcP** **20 01 59.2 +0.4**
comp=Z,15nm,0.6s,baz=106,slow=3.6,SNR=22
ZALV ScP **ScP** **20 05 39.5 +0.3**
comp=Z,2.0nm,0.7s,baz=90,slow=3.0,SNR=5.3
ZALV LR LR 20 18 03.3
comp=Z,51nm,21.4s,baz=77,slow=36
ZALV Zalesovo Beam 43.53 315 *i* P **P** **20 00 13.0 -0.1**
ZALV pmax pmax
comp=Z,19nm,0.8s
ZALV Zalesovo Beam 43.53 315 P **P** **20 00 12.4 -0.7**
ZALV **PcP** **20 01 58.5 -0.3**
MK31 Makanchi Array 45.09 305 *i* P **P** **20 00 25.3 -0.4**
MK31 pmax pmax
comp=Z,3.0nm,0.4s
MK31 Makanchi Array 45.09 305 P **P** **20 00 25.0 -0.7**
MKAR Makanchi Array 45.09 305 P **P** **20 00 25.6 0.0**
comp=Z,4.8nm,0.4s,baz=89,slow=9.0,SNR=58
MKAR PcP **PcP** **20 02 04.7 +0.3**
comp=Z,4.9nm,0.7s,baz=81,slow=5.2,SNR=5.6
MKAR ScP **ScP** **20 05 45.4 -0.4**
comp=Z,2.4nm,0.8s,baz=73,slow=4.6,SNR=7.9
MKAR LR LR 20 20 46.0
comp=Z,45nm,18.6s,baz=85,slow=38
MKAR Makanchi Array 45.09 305 P **P** **20 00 24.9 -0.8**
MAKZ Makanchi 45.30 305 P **P** **20 00 26.7 -0.7**
MAKZ pmax pmax
comp=Z,8.0nm,0.9s
MAKZ Makanchi 45.30 305 P **P** **20 00 26.7 -0.7**
ANM Nome 45.34 30 P **P** **20 00 27.8 +0.5**
baz=254
EDFI Ende, Flores 45.36 206 P **P** **20 00 26.6 -1.6**
comp=Z,6.1nm,1.0s
SOEI Soe 45.43 202 P **P** **20 00 26.9 -1.8**
SOEI IAmb IAmb 20 00 41.6
comp=Z,30nm,1.0s
SOEI Soe 45.43 202 P **P** **20 00 26.7 -2.1**
comp=Z,32nm,0.9s
BATI Baumata 46.05 202 P **P** **20 00 32.4 -1.1**
comp=Z,23nm,1.0s

NRIK Noril'sk 46.08 337 P **P** **20 00 33.3 +0.2**
comp=Z,8.3nm,0.6s,baz=124,slow=3.6,SNR=6.1
NRIK ScP **ScP** **20 05 49.9 +0.5**
comp=Z,6.1nm,0.8s,baz=194,slow=3.4,SNR=4.0
NRIK LR LR 20 20 28.2
comp=Z,36nm,20.6s,baz=119,slow=37
NRIK Noril'sk 46.08 337 *ceP* **P** **20 00 33.5 +0.4**
NRIK pmax pmax
comp=Z,11nm,1.1s
NRIK Noril'sk 46.08 337 P **P** **20 00 33.1 0.0**
RAMN Ramite 46.11 277 *eP* **P** **20 00 32.5 -1.8**
comp=Z,23nm,0.5s
JIRN Jiri 46.20 278 *eP* **P** **20 00 34.2 -0.9**
comp=Z,35nm,0.5s
SDPT Sand Point 46.25 43 P **P** **20 00 35.5 +0.9**
baz=267
HNR Honiara 46.68 152 LR LR 20 20 56.9
comp=Z,42nm,18.2s,baz=208,slow=37
CHNA Chernabura Isl 46.74 44 P **P** **20 00 38.9 +0.4**
baz=268
MTN Manton Dam 46.75 192 P **P** **20 00 37.0 -1.9**
MTN IAmb IAmb 20 00 39.1
comp=Z,14nm,0.5s
PKI Pulchoki 46.88 278 *eP* **P** **20 00 38.6 -1.7**
PKIN Phulchoki 46.89 278 *eP* **P** **20 00 38.7 -1.6**
COEN Coen 47.20 176 P **P** **20 00 42.7 +0.3**
KLNI Mataram 47.36 213 P **P** **20 00 43.1 -0.6**
comp=Z,29nm,1.1s
GKN Gorkha 47.36 279 *eP* **P** **20 00 42.2 -1.7**
comp=Z,11nm,0.5s
PDGK Podgornoye 47.46 301 P **P** **20 00 43.6 -0.8**
SHLS Shalkode 47.51 300 *eP* **P** **20 00 41.4 -3.4**
comp=Z,5.8nm,0.7s,baz=300
SHLS Shalkode 47.51 300 *eP* **P** **20 00 41.4 -3.4**
SHLS pmax pmax
comp=Z,6.0nm,0.7s
UZB Uzynbulak 47.83 300 *eP* **P** **20 00 46.3 -1.1**
comp=Z,4.1nm,0.5s,baz=300
UZB Uzynbulak 47.83 300 *eP* **P** **20 00 46.2 -1.1**
UZB pmax pmax
comp=Z,4.0nm,0.5s
DANN Dangsing 47.96 280 *eP* **P** **20 00 47.8 -0.9**
comp=Z,36nm,0.5s
TDK Taldyqorghan 47.98 303 *eP* **P** **20 00 47.3 -0.9**
baz=303
TDK Taldyqorghan 47.98 303 *eP* **P** **20 00 47.3 -0.9**
KPKS Kokpek 48.02 301 *eP* **P** **20 00 47.8 -1.0**
baz=301
KPKS Kokpek 48.02 301 *eP* **P** **20 00 47.7 -1.0**
SATY Saty 48.29 300 *eP* **P** **20 00 50.2 -0.7**
baz=300
SATY Saty 48.29 300 *eP* **P** **20 00 50.1 -0.7**
KOLN Koldanda 48.30 279 *eP* **P** **20 00 49.8 -1.4**
ARXS Arharly 48.51 302 *eP* **P** **20 00 52.0 -0.4**
PYUN Piuthan 48.69 280 *eP* **P** **20 00 53.2 -0.9**
comp=Z,63nm,0.4s
SJI Sawahan 48.87 218 P **P** **20 00 54.0 -1.5**
comp=Z,12nm,1.3s
PWJI Pagerwojo 49.10 218 P **P** **20 00 54.8 -2.2**
comp=Z,54nm,0.7s
CHKK Chishkaly 49.17 302 *eP* **P** **20 00 56.5 -0.9**
baz=302
MDOK Medeo 49.25 301 *eP* **P** **20 00 58.0 -0.2**
baz=301
MDOK Medeo 49.25 301 *eP* **P** **20 00 57.9 -0.2**
O18K Koktuh Hills 49.29 37 P **P** **20 01 00.4 +2.4**
O18K Koktuh Hills 49.29 37 P **P** **20 00 60.0 +2.0**
baz=268
AAA Alma-Ata 49.34 301 *eP* **P** **20 00 58.2 -0.5**
baz=301
AAA Alm-Ata 49.34 301 *eP* **P** **20 00 58.2 -0.5**
L19K White Mountain 49.59 34 P **P** **20 01 02.2 +2.0**
L19K IAmb IAmb 20 01 03.9
comp=Z,27nm,1.4s
L19K White Mountain 49.59 34 P **P** **20 01 02.3 +2.0**
baz=266,SNR=5.4
KUU Kurty 49.62 302 *eP* **P** **20 00 59.7 -1.2**
baz=302
KUU Kurty 49.62 302 *eP* **P** **20 00 59.6 -1.2**
UGM Wanagama 49.68 220 P **P** **20 00 59.5 -2.0**
N19K Bonanza Creek 49.69 36 P **P** **20 01 03.7 +2.6**
N19K IAmb IAmb 20 01 04.1
comp=Z,8.8nm,0.9s
N19K Bonanza Creek 49.69 36 P **P** **20 01 03.2 +2.1**
baz=267
MTBS Maitube 49.70 301 *eP* **P** **20 01 01.1 -0.4**
baz=301
O19K Port Alsworth 49.74 37 P **P** **20 01 03.8 +2.4**
O19K IAmb IAmb 20 01 04.8
comp=Z,16nm,0.8s
O19K Port Alsworth 49.74 37 P **P** **20 01 03.5 +2.1**
baz=268
M19K Big River Lodg 49.78 34 P **P** **20 01 03.3 +1.5**
M19K IAmb IAmb 20 01 14.6
comp=Z,9.0nm,0.9s
M19K Big River Lodg 49.78 34 P **P** **20 01 04.2 +2.4**
baz=266
SII Sitkinak Islan 49.81 41 P **P** **20 01 03.2 +1.2**
baz=271
KNRA Kununurra 49.95 194 P **P** **20 01 02.5 -1.0**
K20K Telida 50.03 33 P **P** **20 01 05.9 +2.3**
K20K IAmb IAmb 20 01 07.2
comp=Z,15nm,0.7s
K20K Telida 50.03 33 P **P** **20 01 06.1 +2.5**
baz=266,SNR=15
L20K Farewell, AK 50.06 34 P **P** **20 01 06.3 +2.5**
baz=266
J20K Nowinta River 50.06 31 P **P** **20 01 06.1 +2.3**
J20K IAmb IAmb 20 01 07.3
comp=Z,14nm,0.8s
J20K Nowinta River 50.06 31 P **P** **20 01 06.0 +2.3**
baz=265,SNR=13
OHAK Old Harbor 50.28 41 P **P** **20 01 06.6 +1.1**
OHAK IAmb IAmb 20 01 08.0
comp=Z,15nm,0.7s
OHAK Old Harbor 50.28 41 P **P** **20 01 06.4 +0.9**
baz=272
P19K Oil Pt 50.28 37 P **P** **20 01 07.7 +2.2**
baz=270
TKM2 Tokmak 2 50.34 301 P **P** **20 01 07.2 +0.7**
SNR=6.6
TKM2 Tokmak 2 50.34 301 *i* P **P** **20 01 06.2 -0.3**
TKM2 pmax pmax
comp=Z,11nm,0.7s
M20K Styx River 50.38 34 P **P** **20 01 08.2 +1.9**
M20K IAmb IAmb 20 01 17.6
comp=Z,11nm,1.1s
M20K Styx River 50.38 34 P **P** **20 01 08.8 +2.5**
baz=268
IMAR Indian Mountai 50.40 29 P **P** **20 01 08.2 +1.9**
RSO Redoubt South 50.53 36 P **P** **20 01 07.8 +0.2**
O20K Slope Mountain 50.59 37 P **P** **20 01 09.9 +2.0**
baz=270
MDSI Maura Dua 50.62 229 P **P** **20 01 06.9 -1.7**
comp=Z,261nmcomp=Z,14nm,0.9s
KDAK Kodiak Island 50.64 40 P **P** **20 01 09.6 +1.4**
comp=Z,40nm,0.6s,baz=287,slow=5.1,SNR=42
KDAK Kodiak Island 50.64 40 P **P** **20 01 09.5 +1.3**
KDAK Kodiak Island 50.64 40 P **P** **20 01 09.2 +1.0**
baz=272
SPCR Spurr Chakacha 50.80 35 P **P** **20 01 11.8 +2.3**
baz=269
KSH Kashi 50.83 296 P **P** **20 01 14.1 +4.0**
KSH pmax pmax
comp=Z,11nm,0.9s
CHUM Lake Minchumin 50.84 32 P **P** **20 01 12.4 +2.7**
baz=267
PPLA Purkeypile 50.86 33 P **P** **20 01 12.1 +2.1**
PPLA Purkeypile 50.86 33 P **P** **20 01 12.5 +2.5**
baz=268,SNR=5.9
KBK Karagaybulak 50.86 300 P **P** **20 01 10.7 +0.3**
SNR=12
CISI Cisompet, Garu 50.88 223 P **P** **20 01 09.4 -1.1**
CISI IAmb IAmb 20 01 38.4
comp=Z,31nm,1.4s
GSI Gunungsitoli 50.90 240 P **P** **20 01 07.9 -2.9**
GSI Gunungsitoli 50.90 240 P **P** **20 01 09.8 -1.0**
comp=Z,37nm,1.1s
BTLS Baital 51.02 304 *i* P **P** **20 01 10.9 -0.5**
comp=Z,14nm,1.0s,baz=304
BTLS Baital 51.02 304 *d iP* **P** **20 01 10.8 -0.5**
BTLS pmax pmax
comp=Z,15nm,1.0s
USP Ospenovka 51.05 301 P **P** **20 01 11.6 -0.1**
SNR=7.1
FRU1 Bishkek 51.06 301 P **P** **20 01 10.3 -1.4**
FRU1 pmax pmax
comp=Z,17nm,0.9s
FRU1 Bishkek 51.06 301 P **P** **20 01 10.2 -1.4**
FRU1 IAmb IAmb 20 01 13.3
comp=Z,17nm,0.9s
I21K Tanana 51.07 30 P **P** **20 01 12.6 +1.3**
I21K IAmb IAmb 20 01 15.2
comp=Z,24nm,1.4s
I21K Tanana 51.07 30 P **P** **20 01 13.9 +2.6**
baz=266
BRZS Berezniki 51.13 310 *i* P **P** **20 01 11.8 -0.3**
comp=Z,4.4nm,0.4s,baz=310
BRZS Berezniki 51.13 310 *d iP* **P** **20 01 11.7 -0.3**
BRZS pmax pmax
comp=Z,4.0nm,0.4s
SKT Skwentna 51.14 34 P **P** **20 01 12.8 +0.9**
SKT IAmb IAmb 20 01 14.5
comp=Z,9.2nm,0.8s
SKT Skwentna 51.14 34 P **P** **20 01 13.5 +1.5**
baz=269
AAK Ala-Archa 51.19 301 P **P** **20 01 13.0 +0.2**
SNR=5.2
AAK Ala-Archa 51.19 301 *i* P **P** **20 01 13.0 +0.2**
AAK pmax pmax
comp=Z,30nm,1.0s
AAK Ala-Archa 51.19 301 P **P** **20 01 11.6 -1.3**
AAK IAmb IAmb 20 01 14.1
comp=Z,8.2nm,0.9s
AAK Ala-Archa 51.19 301 P **P** **20 01 13.1 +0.2**
CNPM China Poot 51.30 38 P **P** **20 01 13.2 0.0**
BPAW Bear Paw Mtn. 51.44 32 P **P** **20 01 15.9 +1.8**
BPAW Bear Paw Mtn. 51.44 32 P **P** **20 01 16.4 +2.2**
baz=268
KTH Kantishna Hill 51.45 32 P **P** **20 01 16.3 +1.9**
KTH IAmb IAmb 20 01 25.2
comp=Z,7.9nm,0.9s
BRLK Bradley Lake 51.47 37 P **P** **20 01 14.6 +0.1**
BRLK IAmb IAmb 20 01 17.0
comp=Z,17nm,0.9s
SUA Susitna One 51.51 35 P **P** **20 01 15.5 +0.7**
SUA IAmb IAmb 20 01 17.8
comp=Z,16nm,0.8s
SUA Susitna One 51.51 35 P **P** **20 01 15.8 +1.0**
baz=270,SNR=5.5
MLY Manley 51.58 30 P **P** **20 01 17.5 +2.3**
MLY IAmb IAmb 20 01 18.3
comp=Z,14nm,0.6s
MLY Manley 51.58 30 P **P** **20 01 17.7 +2.4**
baz=267,SNR=12
OTUK Ortayu 51.61 308 P **P** **20 01 15.5 -0.2**
TRF Thorofare Moun 51.73 32 P **P** **20 01 18.2 +1.7**
baz=269
CUT Chulitna 51.73 34 P **P** **20 01 17.9 +1.6**
baz=270
AML Almayashu 51.88 300 P **P** **20 01 18.9 +0.6**
SNR=12
COLD Coldfoot 51.92 28 P **P** **20 01 19.9 +2.2**
COLD Coldfoot 51.92 28 P **P** **20 01 19.7 +2.1**
baz=266
RC01 Rabbit Creek A 52.01 36 P **P** **20 01 20.1 +1.7**
baz=271
BWN Browne 52.11 32 P **P** **20 01 19.9 +0.8**
H23K Yukon River 52.11 29 P **P** **20 01 21.9 +2.8**
H23K IAmb IAmb 20 01 23.1
comp=Z,35nm,1.5s
H23K Yukon River 52.11 29 P **P** **20 01 22.0 +2.8**
baz=268,SNR=14
I23K Minto, Yukon-K 52.17 30 P **P** **20 01 21.2 +1.7**
I23K IAmb IAmb 20 01 24.1
comp=Z,13nm,1.2s
I23K Minto, Yukon-K 52.17 30 P **P** **20 01 21.8 +2.3**
baz=268
SEW Seward 52.18 37 P **P** **20 01 19.4 -0.2**
SEW Seward 52.18 37 P **P** **20 01 20.5 +0.9**
baz=272
BRVK Borovoye 52.21 314 *i* P **P** **20 01 19.8 -0.2**
BRVK pmax pmax
comp=Z,22nm,0.9s
BRVK Borovoye 52.21 314 P **P** **20 01 19.9 -0.2**
BRVK IAmb IAmb 20 01 21.4
comp=Z,20nm,0.8s
BRVK Borovoye 52.21 314 P **P** **20 01 20.5 +0.5**
TOLK Toolik Lake Re 52.26 26 P **P** **20 01 21.8 +1.6**
TOLK IAmb IAmb 20 01 26.3
comp=Z,11nm,0.9s
TOLK Toolik Lake Re 52.26 26 P **P** **20 01 22.5 +2.3**
baz=266
PMR Palmer 52.28 35 P **P** **20 01 21.0 +0.6**
PMR pmax pmax
comp=Z,30nm,1.2s
PMR Palmer 52.28 35 P **P** **20 01 21.0 +0.6**
PMR Palmer 52.28 35 P **P** **20 01 21.5 +1.1**
baz=272
NEA2 Nenana 52.28 31 P **P** **20 01 21.9 +1.5**
NEA2 Nenana 52.28 31 P **P** **20 01 22.6 +2.2**
baz=269
MCK McKinley 52.34 32 P **P** **20 01 22.3 +1.5**
MCK pmax pmax
comp=Z,16nm,1.1s
MCK McKinley 52.34 32 P **P** **20 01 22.3 +1.5**
MCK IAmb IAmb 20 01 27.2
comp=Z,16nm,1.1s
MCK McKinley 52.34 32 P **P** **20 01 22.0 +1.2**
baz=270
GHO Glory Hole Cre 52.38 35 P **P** **20 01 22.6 +1.4**
RND Reindeer 52.38 33 P **P** **20 01 21.9 +0.7**
RND pmax pmax
comp=Z,17nm,0.8s
RND Reindeer 52.38 33 P **P** **20 01 21.9 +0.7**
RND IAmb IAmb 20 01 23.4
comp=Z,17nm,0.8s
WAT1 Susitna Watana 52.52 33 P **P** **20 01 23.1 +0.9**
baz=271
KNK Knik Glacier 52.61 35 P **P** **20 01 24.0 +1.1**
KNK Knik Glacier 52.61 35 P **P** **20 01 24.0 +1.1**
baz=272,SNR=7.3
MDM Murphy Dome 52.65 31 P **P** **20 01 25.0 +1.9**
SML Sawmill 52.66 35 P **P** **20 01 24.8 +1.5**
SML Sawmill 52.66 35 P **P** **20 01 24.4 +1.2**
baz=272,SNR=6.6
PWL Port Wells 52.70 36 P **P** **20 01 24.7 +1.2**
H24K Noodor Dome 52.80 29 P **P** **20 01 26.7 +2.5**
H24K IAmb IAmb 20 01 27.4
comp=Z,11nm,0.6s
H24K Noodor Dome 52.80 29 P **P** **20 01 26.7 +2.5**
baz=269,SNR=13
CCB Clear Creek Bu 52.83 31 P **P** **20 01 26.2 +1.9**
CCB IAmb IAmb 20 01 28.1
comp=Z,7.1nm,0.7s
WAT6 Susitna Watana 52.91 34 P **P** **20 01 26.4 +1.2**
baz=272
POKR Poker Plat Res 52.98 30 P **P** **20 01 27.5 +2.0**
POKR Poker Plat Res 52.98 30 P **P** **20 01 27.7 +2.1**
baz=270,SNR=6.9
FITZ Fitzroy Crossi 53.00 197 LR LR 20 24 50.7
comp=Z,45nm,18.5s,baz=66,slow=37
FITZ Fitzroy Crossi 53.00 197 P **P** **20 01 25.6 -0.5**
SCM Sheep Creek Mo 53.13 35 P **P** **20 01 28.3 +1.6**
SCM pmax pmax
comp=Z,24nm,0.9s
SCM Sheep Creek Mo 53.13 35 P **P** **20 01 28.3 +1.6**
HDA Harding Lake 53.20 31 P **P** **20 01 27.9 +0.8**
HDA IAmb IAmb 20 01 28.7
comp=Z,13nm,0.6s
HDA Harding Lake 53.20 31 P **P** **20 01 28.0 +0.8**
baz=271,SNR=11
ILAR Eielson Array 53.22 31 P **P** **20 01 28.3 +1.0**
comp=Z,7.3nm,0.7s,baz=271,slow=6.3,SNR=69
ILAR Eielson Array 53.22 31 P **P** **20 01 27.6 +0.3**
GLI Glacier Island 53.30 36 P **P** **20 01 28.4 +0.4**
GLI IAmb IAmb 20 01 30.3
comp=Z,20nm,0.9s
GLI Glacier Island 53.30 36 P **P** **20 01 28.9 +1.0**
baz=274,SNR=5.2
WRAB Tennant Creek 53.31 187 *ceP* **P** **20 01 28.1 -0.3**
WRAB pmax pmax
comp=Z,9.0nm,0.6s
WRAB Tennant Creek 53.31 187 P **P** **20 01 27.1 -1.2**
WRAB IAmb IAmb 20 01 38.0
comp=Z,13nm,0.7s
WR0 Warramunga Arr 53.31 186 P **P** **20 01 27.6 -0.8**
WB2 Warramunga Arr 53.32 187 P **P** **20 01 27.5 -0.9**
WRA Warramunga Arr 53.32 187 P **P** **20 01 27.8 -0.7**
comp=Z,13nm,0.3s,baz=1.1,slow=7.6,SNR=325
WRA ScP **ScP** **20 06 21.9 +0.8**
comp=Z,7.8nm,0.9s,baz=1.9,slow=3.2,SNR=17

WRA Warramunga Arr 53.32 187 *i* P **P** **20 01 27.7 -0.7**
WRA pmax pmax
comp=Z,17nm,0.3s
WRA Warramunga Arr 53.32 187 P **P** **20 01 27.2 -1.2**
WRA **S** **20 08 49.3 -1.7**
DZA Taraz 53.40 302 *e*P **P** **20 01 29.0 0.0**
baz=302
DZA Taraz 53.40 302 *e*P **P** **20 01 28.9 0.0**
CTAO Charters Tower 53.54 173 P **P** **20 01 30.4 +0.3**
CTAO pmax pmax
comp=Z,11nm,1.1s
CTAO Charters Tower 53.54 173 P **P** **20 01 30.4 +0.3**
CTAO IAmb IAmb 20 01 39.2
comp=Z,11nm,1.1s
FID Port Fidalgo 53.61 36 P **P** **20 01 31.3 +1.1**
FID IAmb IAmb 20 01 32.7
comp=Z,22nm,1.0s
HIN Hinchinbrook I 53.63 36 P **P** **20 01 32.4 +2.0**
M24K Tolsona, Glenn 53.66 34 P **P** **20 01 32.6 +2.0**
M24K Tolsona, Glenn 53.66 34 P **P** **20 01 32.2 +1.6**
baz=274
PRP Porcupine Dome 53.78 30 P **P** **20 01 33.3 +1.8**
PRP IAmb IAmb 20 01 34.3
comp=Z,7.4nm,0.5s
PRP Porcupine Dome 53.78 30 P **P** **20 01 33.6 +2.1**
baz=272
KLU Klutina 53.82 35 P **P** **20 01 33.7 +1.9**
KLU IAmb IAmb 20 01 34.2
comp=Z,9.7nm,0.7s
KLU Klutina 53.82 35 P **P** **20 01 33.4 +1.6**
baz=274,SNR=6.7
FYU Fort Yukon 53.87 29 P **P** **20 01 32.5 +0.5**
FYU IAmb IAmb 20 01 35.8
comp=Z,26nm,1.4s
DIV Divide 53.92 35 P **P** **20 01 34.1 +1.6**
PAX Paxson 53.93 33 P **P** **20 01 33.8 +1.2**
PAX pmax pmax
comp=Z,10.0nm,1.1s
PAX Paxson 53.93 33 P **P** **20 01 33.8 +1.2**
PAX IAmb IAmb 20 01 35.4
comp=Z,9.9nm,1.1s
PAX Paxson 53.93 33 P **P** **20 01 33.9 +1.3**
baz=274,SNR=7.7
KK31 Karatay Array 53.93 302 P **P** **20 01 33.0 +0.2**
KK31 pmax pmax
comp=Z,33nm,1.0s
KK31 Karatay Array 53.93 302 P **P** **20 01 33.0 +0.2**
KKAR Karatay Array 53.93 302 P **P** **20 01 32.9 +0.1**
KKAR pmax pmax
comp=Z,33nm,1.0s
KKAR Karatay Array 53.93 302 P **P** **20 01 32.9 +0.1**
KKAR Karatay Array 53.93 302 P **P** **20 01 33.0 +0.2**
KKAR IAmb IAmb 20 01 34.6
comp=Z,33nm,1.0s
DRK Karamyk 53.95 297 P **P** **20 01 33.8 +0.4**
DRK IAmb IAmb 20 01 34.7
comp=Z,21nm,1.1s
EYAK Cordova Ski Ar 53.99 36 P **P** **20 01 35.1 +2.2**
EYAK IAmb IAmb 20 01 35.9
comp=Z,18nm,1.0s
EYAK Cordova Ski Ar 53.99 36 P **P** **20 01 34.7 +1.9**
baz=275
BMAR Burnt Mountain 54.10 27 P **P** **20 01 36.4 +2.7**
HARP HAARP 54.11 34 P **P** **20 01 36.1 +2.3**
baz=274,SNR=5.2
RIDG Independent Ri 54.16 32 P **P** **20 01 35.6 +1.4**
baz=274
N25K Chitina, Valde 54.45 35 P **P** **20 01 38.4 +2.1**
N25K Chitina, Valde 54.45 35 P **P** **20 01 38.2 +1.8**
baz=275
BMRM Bremner River 54.51 35 P **P** **20 01 38.7 +2.0**
BMRM Bremner River 54.51 35 P **P** **20 01 38.7 +2.0**
baz=276,SNR=11
DOT Dot Lake 54.51 32 P **P** **20 01 37.9 +1.2**
DOT IAmb IAmb 20 01 38.9
comp=Z,9.8nm,0.7s
BTK Batken 54.52 298 P **P** **20 01 37.2 0.0**
BTK pmax pmax
comp=Z,10.0nm,1.1s
BTK Batken 54.52 298 P **P** **20 01 37.2 0.0**
BTK IAmb IAmb 20 01 38.1
comp=Z,9.5nm,1.1s
IUG Iuzhnay 54.52 301 ⇓ *i* P **P** **20 01 37.5 +0.2**
baz=301
IUG Iuzhnay 54.52 301 *d i* P **P** **20 01 37.4 +0.2**
SCRK Sand Creek 54.52 32 P **P** **20 01 38.0 +1.1**
SCRK IAmb IAmb 20 01 39.3
comp=Z,16nm,0.8s
SCRK Sand Creek 54.52 32 P **P** **20 01 38.3 +1.4**
baz=274,SNR=11
NIL Nilore 54.63 290 P **P** **20 01 37.8 -0.3**
NIL pmax pmax
comp=Z,15nm,0.9s
NIL Nilore 54.63 290 P **P** **20 01 37.8 -0.3**
NIL IAmb IAmb 20 01 39.3
comp=Z,15nm,0.8s
KAIM Kayak Island 54.71 37 P **P** **20 01 40.4 +2.2**
KAIM IAmb IAmb 20 01 41.5
comp=Z,16nm,0.8s
KAIM Kayak Island 54.71 37 P **P** **20 01 40.0 +1.8**
baz=277
GLB Gilahina Butte 54.84 35 P **P** **20 01 41.1 +2.0**
GLB IAmb IAmb 20 01 43.2
comp=Z,20nm,1.4s
L26K Log Cabin Wild 54.89 33 P **P** **20 01 41.5 +2.1**
L26K Log Cabin Wild 54.89 33 P **P** **20 01 41.7 +2.3**
baz=275
BERG Berg Lake 55.01 36 P **P** **20 01 42.1 +1.8**
VRDI Verde Repeater 55.03 35 P **P** **20 01 42.2 +1.6**
VRDI IAmb IAmb 20 01 43.2
comp=Z,7.3nm,0.9s
M26K Nabesna, AK 55.11 34 P **P** **20 01 42.4 +1.3**
M26K IAmb IAmb 20 01 43.9
comp=Z,6.7nm,0.8s
M26K Nabesna, AK 55.11 34 P **P** **20 01 43.0 +1.9**
baz=276,SNR=9.0
SANVU Saraoutou 55.13 147 P **P** **20 01 42.3 +0.7**
GAR Garm 55.19 297 P **P** **20 01 41.0 -1.2**
MCARA McCarthy VSAT 55.22 35 P **P** **20 01 42.4 +0.6**
MCARA IAmb IAmb 20 01 45.1
comp=Z,21nm,1.0s
MCARA McCarthy VSAT 55.22 35 P **P** **20 01 43.8 +2.0**
baz=277,SNR=8.6
CRQM Cirque 55.24 36 P **P** **20 01 44.1 +1.9**
CRQE Cirque 55.27 36 P **P** **20 01 44.2 +1.9**
baz=277,SNR=7.2
K27K Chicken 55.35 32 P **P** **20 01 44.8 +2.1**
K27K IAmb IAmb 20 01 45.9
comp=Z,16nm,1.0s
TGL Tana Glacier 55.39 36 P **P** **20 01 44.6 +1.4**
TGL IAmb IAmb 20 01 46.2
comp=Z,11nm,0.9s
WAX Waxell Ridge 55.42 36 P **P** **20 01 44.8 +1.4**
WAX IAmb IAmb 20 01 47.2
comp=Z,13nm,0.9s
L27K Beaver Creek, 55.57 33 P **P** **20 01 46.4 +2.0**
L27K IAmb IAmb 20 01 47.3
comp=Z,12nm,0.7s
L27K Beaver Creek, 55.57 33 P **P** **20 01 46.3 +2.0**
baz=277,SNR=22
BCAR Beaver Creek A 55.59 33 P **P** **20 01 46.5 +2.0**
M27K Edge Creek, AK 55.64 34 P **P** **20 01 46.9 +1.9**
M27K IAmb IAmb 20 01 48.2
comp=Z,14nm,0.8s
M27K Edge Creek, AK 55.64 34 P **P** **20 01 46.8 +1.9**
baz=277,SNR=17
ISLE Juniper Island 55.65 36 P **P** **20 01 46.3 +1.2**
ISLE IAmb IAmb 20 01 49.9
comp=Z,10nm,0.7s
EGAK Eagle 55.67 31 P **P** **20 01 45.7 +0.8**
EGAK IAmb IAmb 20 01 47.1
comp=Z,6.4nm,0.7s
BARN Barnard Glacie 55.92 35 P **P** **20 01 48.7 +1.7**
BARN IAmb IAmb 20 01 49.6
comp=Z,7.4nm,0.8s
YAH Yahtse 55.98 36 P **P** **20 01 45.4 -2.1**
CTG Chitna Glacier 56.09 35 P **P** **20 01 49.8 +1.6**
baz=278,SNR=8.6
CTGM Chitina Glacie 56.09 35 P **P** **20 01 49.9 +1.7**
CTGM IAmb IAmb 20 01 51.2
comp=Z,15nm,1.1s
BVCY Beaver Creek 56.10 33 P **P** **20 01 49.9 +1.8**
baz=278
CHGR Chuyangaron 56.16 297 P **P** **20 01 48.4 -0.6**
TABL Table Mountain 56.26 36 P **P** **20 01 51.2 +1.6**
TABL IAmb IAmb 20 01 51.7
comp=Z,6.1nm,0.8s
LOGN Logan Glacier 56.27 35 P **P** **20 01 51.0 +1.4**
LOGN IAmb IAmb 20 01 56.2
comp=Z,17nm,1.4s
YUK3 Moose Creek 56.38 34 P **P** **20 01 52.3 +2.0**
baz=279
DAWY Dawson 56.52 31 P **P** **20 01 52.7 +1.6**
DAWY Dawson 56.52 31 P **P** **20 01 53.1 +2.0**
baz=278
PCA Pinnacle 56.76 36 P **P** **20 01 55.1 +2.3**
PCA IAmb IAmb 20 01 55.9
comp=Z,19nm,1.2s
PINM Pinnacle 56.76 36 P **P** **20 01 54.8 +1.9**
baz=280
HYB Hyderabad 56.91 270 *i* P **P** **20 01 53.0 -1.5**
HYB *es*P **sP** **20 02 39.0 +3.3**
HYB *e*PcP **PcP** **20 02 49.0 +0.3**
AS31 Alice Springs 57.04 187 P **P** **20 01 54.5 -0.7**
AS31 IAmb IAmb 20 01 56.7
comp=Z,8.3nm,0.5s
ASAR Alice Springs 57.05 187 P **P** **20 01 54.9 -0.3**
comp=Z,8.3nm,0.4s,baz=360,slow=6.3,SNR=352
ASAR ScP **ScP** **20 06 38.0 +0.6**
comp=Z,1.7nm,1.0s,baz=4.1,slow=4.9,SNR=5.3
ASAR Alice Springs 57.05 187 P **P** **20 01 54.5 -0.7**
SVE Sverdlovsk 57.08 320 ⇑ *e*P **P** **20 01 55.7 +0.6**
SVE pmax pmax
comp=Z,30nm,1.0s
BCPM Bancas Point 57.09 36 P **P** **20 01 56.6 +1.5**
EPYK Eagle Plains 57.29 28 P **P** **20 01 58.3 +1.8**
EPYK Eagle Plains 57.29 28 P **P** **20 01 58.9 +2.4**
baz=279,SNR=23
YUK4 Talbot Arm 57.31 34 P **P** **20 01 59.3 +2.5**
baz=280,SNR=16
YUK6 Outpost Mounta 57.52 35 P **P** **20 02 01.2 +2.8**
baz=281,SNR=12
KBL Kabul 57.61 293 P **P** **20 01 57.7 -1.7**
KBL pmax pmax
comp=Z,7.0nm,0.8s
KBL Kabul 57.61 293 P **P** **20 01 57.7 -1.7**
KBL IAmb IAmb 20 01 59.7
comp=Z,6.7nm,0.8s
PSA00 Pilbara Seismi 57.93 202 P **P** **20 02 00.7 -0.7**
PSA00 IAmb IAmb 20 02 18.2
comp=Z,9.3nm,0.9s
PSA00 Pilbara Seismi 57.93 202 P **P** **20 02 00.8 -0.5**
PSA00 IAmb IAmb 20 02 17.7
comp=Z,3.1nm,0.8s
HYT Haines Junctio 57.95 35 P **P** **20 02 04.2 +2.8**
HYT IAmb IAmb 20 02 06.5
comp=Z,12nm,0.8s
HYT Haines Junctio 57.95 35 P **P** **20 02 04.1 +2.8**
baz=282,SNR=16
INK Inuvik 58.17 26 P **P** **20 02 04.0 +1.5**
comp=Z,9.4nm,0.7s,baz=291,slow=5.9,SNR=39
INK Inuvik 58.17 26 P **P** **20 02 03.5 +1.0**
INK IAmb IAmb 20 02 04.6
comp=Z,8.6nm,0.6s
INK Inuvik 58.17 26 P **P** **20 02 03.9 +1.5**
baz=280
ARU Arti 58.29 320 P **P** **20 02 03.6 +0.1**
comp=Z,7.7nm,0.5s,baz=85,slow=2.8,SNR=48
ARU Arti 58.29 320 *c i* P **P** **20 02 03.4 -0.1**
ARU 20 04 08.8
ARU S **S** **20 09 57.6 +1.4**
ARU SS **SS** **20 13 48.4 -1.0**
ARU pmax pmax
comp=Z,29nm,0.7s
ARU Arti 58.29 320 P **P** **20 02 03.3 -0.3**
WHY Whitehorse 59.25 35 P **P** **20 02 09.6 -0.7**
WHY IAmb IAmb 20 02 13.8
comp=Z,13nm,0.9s
WHY Whitehorse 59.25 35 P **P** **20 02 12.5 +2.2**
baz=284
SKAG Skagway 59.33 36 P **P** **20 02 11.3 +0.7**
SKAG IAmb IAmb 20 02 14.3
comp=Z,15nm,1.1s
SKAG Skagway 59.33 36 P **P** **20 02 13.4 +2.8**
baz=284
ABKAR Akbulak array 59.37 311 P **P** **20 02 10.8 -0.3**
ABKAR Akbulak array 59.37 311 P **P** **20 02 10.7 -0.4**
ABKAR IAmb IAmb 20 02 12.0
comp=Z,25nm,0.8s
FARO Faro, Yukon 59.57 33 P **P** **20 02 14.7 +2.3**
baz=284
A36M Sachs Harbour 60.08 21 P **P** **20 02 18.0 +2.4**
baz=286
JIS Juneau Island 60.11 37 P **P** **20 02 17.7 +1.7**
JIS IAmb IAmb 20 02 19.7
comp=Z,12nm,0.8s
AKTO Aktyubinsk 60.21 313 P **P** **20 02 16.9 0.0**
comp=Z,21nm,0.7s,baz=85,slow=11,SNR=57
MMPY Sheldon Lake, 60.41 32 P **P** **20 02 20.5 +2.4**
baz=286,SNR=5.8
PALK Pallekele 60.41 259 P **P** **20 02 17.6 -1.2**
DZM Mont Dzumac 60.70 152 P **P** **20 02 22.8 +2.3**
comp=Z,5.9nm,0.9s,baz=300,slow=20,SNR=2.2
DZM Mont Dzumac 60.70 152 IAmb IAmb 20 02 51.1
comp=Z,14nm,1.1s
CRAG Craig 61.60 40 P **P** **20 02 28.6 +2.4**
baz=288
TGTN Hyland Airport 62.08 33 P **P** **20 02 31.6 +2.3**
baz=289,SNR=6.8
DLBC Dease Lake 62.25 36 P **P** **20 02 30.8 +0.2**
DLBC IAmb IAmb 20 02 34.3
comp=Z,13nm,1.2s
KIRV Kirov 62.41 324 P **P** **20 02 31.9 +0.4**
comp=Z,23nm,0.6s,baz=181,slow=0.9,SNR=14
KIRV Kirov 62.41 324 *c e* P **P** **20 02 32.0 +0.5**
DIB Dawson Inlet, 62.70 43 P **P** **20 02 32.8 -0.7**
DIB IAmb IAmb 20 02 40.1
comp=Z,32nm,1.5s
HRA Herat 62.88 295 P **P** **20 02 34.9 -0.4**
HRA IAmb IAmb 20 02 37.2
comp=Z,13nm,0.7s
PRGR Permogore 63.15 328 *e*P **P** **20 02 34.3 -2.0**
PRGR pmax pmax
comp=Z,14nm,1.0s
RUBB Prince Rupert 63.54 41 P **P** **20 02 38.8 -0.3**
SPB2 Spitsbergen Ar 63.83 349 P **P** **20 02 40.6 0.0**
SPB2 IAmb IAmb 20 02 45.2
comp=Z,18nm,0.9s
SPITS Spitsbergen Ar 63.83 349 P **P** **20 02 41.7 +1.1**
comp=Z,8.2nm,0.8s,baz=110,slow=4.5,SNR=15
GEYT Alibeck 64.53 300 P **P** **20 02 46.3 +0.4**
comp=Z,18nm,0.8s,baz=95,slow=1.8,SNR=25
GYA0B ALIBECK ARRAY 64.53 300 P **P** **20 02 46.4 +0.4**
FORT Forrest 64.82 191 P **P** **20 02 47.2 -0.4**
STKA Stephens Creek 64.96 178 P **P** **20 02 49.4 +0.9**
comp=Z,7.9nm,0.5s,baz=349,slow=6.4,SNR=37
STKA LR LR 20 30 51.3
comp=Z,81nm,19.0s,baz=205,slow=36
STKA Stephens Creek 64.96 178 P **P** **20 02 49.1 +0.6**
BELG Belogornoye 65.63 318 P **P** **20 02 52.9 +0.3**
comp=Z,62nm,1.0s,baz=52,slow=1.1,SNR=13
BBOO Buckleboo 65.97 184 P **P** **20 02 55.4 +0.5**
MORW Morawa 66.12 203 P **P** **20 02 55.3 -0.7**
MORW IAmb IAmb 20 03 07.7
comp=Z,21nm,1.4s
KLMR Klimovskoe 66.17 328 *e*P **P** **20 02 54.5 -1.4**
KLMR pmax pmax
comp=Z,23nm,1.2s
KLMR Klimovskoe 66.17 328 *e*P **P** **20 02 54.6 -1.4**
KLMR AMP 20 02 57.8
comp=Z,23nm,1.2s
RES Resolute Bay 66.41 14 P **P** **20 02 57.6 +0.3**
RES pmax pmax
comp=Z,16nm,0.8s
RES Resolute Bay 66.41 14 P **P** **20 02 57.6 +0.3**
RES IAmb IAmb 20 02 59.0
comp=Z,16nm,0.8s
ARA0 ARCESS Array S 66.95 340 *e*P **P** **20 03 00.6 -0.3**
ARCES ARCESS Array B 66.95 340 P **P** **20 03 01.1 +0.3**
comp=Z,7.9nm,0.7s,baz=53,slow=6.9,SNR=13
ARCES LR LR 20 35 07.7
comp=Z,32nm,20.9s,baz=45,slow=38
ARCES ARCESS Array B 66.95 340 P **P** **20 03 01.4 +0.5**
ARCES pmax pmax
comp=Z,13nm,1.2s
ARCES ARCESS Array B 66.95 340 P **P** **20 03 01.4 +0.5**
ARCES IAmb IAmb 20 03 10.8
comp=Z,13nm,1.1s
YKA Yellowknife Ar 67.56 29 P **P** **20 03 05.5 +0.7**
comp=Z,2.3nm,0.7s,baz=295,slow=4.7,SNR=5.4
YKA Yellowknife Ar 67.56 29 *i* P **P** **20 03 06.1 +1.3**
YKA pmax pmax
comp=Z,3.0nm,0.7s
KTK1 Kautokeino 67.92 340 *e*P **P** **20 03 04.8 -2.1**
NEEM North Greenlan 69.20 3 *i* P **P** **20 03 15.4 +0.2**
NEEM IAmb IAmb 20 03 16.6
comp=Z,9.6nm,0.8s
NEEM *i* 20 03 45.1
NWAO Narrogin (SRO) 69.35 200 P **P** **20 03 15.8 -0.4**
NWAO pmax pmax
comp=Z,19nm,0.9s
NWAO Narrogin (SRO) 69.35 200 P **P** **20 03 15.8 -0.4**
NWAO IAmb IAmb 20 03 16.5
comp=Z,19nm,0.9s
NWAO Narrogin (SRO) 69.35 200 P **P** **20 03 16.1 -0.1**
MOS Moscow 69.43 324 *e*P **P** **20 03 14.9 -1.6**
MOS *e* 20 07 40.3
VRH Novokhopyorsk 69.45 318 *e*P **P** **20 03 15.6 -1.1**
VRH pmax pmax
comp=Z,30nm,0.6s
LLLB Lillooet 69.74 42 P **P** **20 03 18.4 -0.2**
NLWA Neilton Lookou 70.09 46 P **P** **20 03 23.8 +3.0**
NLWA IAmb IAmb 20 03 24.7
comp=Z,29nm,1.2s
OBN Obninsk 70.26 324 P **P** **20 03 22.1 +0.5**
comp=Z,3.2nm,0.4s,baz=160,slow=15,SNR=4.0
OBN Obninsk 70.26 324 *c e* P **P** **20 03 22.1 +0.5**
OBN 20 03 42.0
OBN *i* *SS **sS** **20 13 13.7 -0.9**
OBN pmax pmax
comp=Z,26nm,1.3s
LPSR Galich'ya Gora 70.30 321 *e*P **P** **20 03 21.8 -0.1**
LPSR pmax pmax
comp=Z,30nm,1.0s
N2IH Innhavet 70.66 341 *e*P **P** **20 03 24.2 +0.4**
E03A Lebam 70.68 47 P **P** **20 03 25.0 +0.8**
E03A IAmb IAmb 20 03 27.9
comp=Z,32nm,1.1s
GROC Groznyy 70.73 309 *e*P **P** **20 03 23.0 -1.7**
GROC *e* 20 03 43.0
GROC pmax pmax
comp=Z,36nm,1.2s
B05A Bryant 70.73 45 P **P** **20 03 26.6 +2.0**
baz=299,SNR=5.1
D04E Lakebay 70.85 46 P **P** **20 03 28.0 +2.7**
baz=298
STEI Steigen 70.88 341 *e*P **P** **20 03 25.6 +0.5**
B06A Marblemount 70.97 44 P **P** **20 03 26.5 +0.5**
B06A IAmb IAmb 20 03 28.4
comp=Z,14nm,0.7s
LOF Lofoten 71.20 341 *e*P **P** **20 03 27.6 +0.6**
BANOM Banah 71.20 289 P **P** **20 03 28.5 +0.6**
FAUS Fauske 71.24 340 *e*P **P** **20 03 27.7 +0.4**
SHME Shamm 71.27 289 *i* P **P** **20 03 28.7 +0.5**
SNR=10
SHME Shamm 71.27 289 P **P** **20 03 28.8 +0.5**
E04D Cinebar 71.28 46 P **P** **20 03 30.3 +2.4**
baz=299
DDFL Dedoflistskaro 71.35 308 P **P** **20 03 31.2 +2.7**
FIA1 FINESS Array S 71.44 332 P **P** **20 03 27.7 -0.9**
FIA1 IAmb IAmb 20 03 30.6
comp=Z,10.0nm,0.6s
FINES FINESS Array B 71.44 332 P **P** **20 03 28.7 +0.1**
comp=Z,4.7nm,0.3s,baz=72,slow=5.4,SNR=45
FINES LR LR 20 38 43.9
comp=Z,32nm,18.3s,baz=52,slow=39
FINES FINESS Array B 71.44 332 P **P** **20 03 28.1 -0.5**
HOQ Hoqain 71.52 286 P **P** **20 03 30.0 +0.2**
MSFE Esma-Masafi 71.58 289 P **P** **20 03 30.4 +0.2**
GOF Gofitskoye 71.59 312 ⇑ *e*P **P** **20 03 31.8 +1.9**
GOF pmax pmax
comp=Z,43nm,0.9s
F04A Amboy 71.67 47 P **P** **20 03 31.8 +1.6**
F04A IAmb IAmb 20 03 33.6
comp=Z,40nm,1.3s
UOSS Minazif 71.75 288 P **P** **20 03 31.1 0.0**
UOSS Minazif 71.75 288 P **P** **20 03 30.7 -0.4**
UOSS IAmb IAmb 20 03 31.8
comp=Z,18nm,0.8s
HATD Hatta, Dubai 71.86 288 P **P** **20 03 32.2 +0.3**
SOHO SOHO 71.88 287 *i* P **P** **20 03 31.9 +0.1**
SNR=16
SOHO SOHO 71.88 287 P **P** **20 03 32.2 +0.3**
GUDG Gudauri 71.93 309 P **P** **20 03 31.2 -1.0**
ASHO Ashiyiah 71.99 288 P **P** **20 03 32.6 0.0**
BSY Bisya 72.02 286 P **P** **20 03 33.0 +0.2**
LTY Liberty 72.07 45 P **P** **20 03 33.7 +0.9**
LTY IAmb IAmb 20 03 35.3
comp=Z,7.6nm,0.6s
J01E Myrtle Point 72.07 50 P **P** **20 03 35.4 +2.7**
baz=299
ZEI Tsey 72.15 310 *e*P **P** **20 03 32.9 -0.6**
ZEI pmax pmax
comp=Z,7.0nm,1.0s
H04D Lebanon 72.16 48 P **P** **20 03 35.7 +2.4**
baz=299
BUCK Buck Mountain 72.17 49 P **P** **20 03 35.1 +1.7**
BUCK IAmb IAmb 20 03 37.5
comp=Z,36nm,1.1s
I03D Drain, OR 72.18 49 P **P** **20 03 36.2 +2.9**
baz=299
F05D White Salmon 72.28 46 P **P** **20 03 36.0 +2.0**
baz=300
B08A Colville Reser 72.29 43 P **P** **20 03 35.1 +1.1**
B08A IAmb IAmb 20 03 36.8
comp=Z,13nm,0.8s
MOR8 Moi Rana 72.33 340 *e*P **P** **20 03 33.2 -0.7**
FAQ Al Faqa, Dubai 72.33 288 *i* P **P** **20 03 35.0 +0.4**
SNR=6.0
FAQ Al Faqa, Dubai 72.33 288 P **P** **20 03 34.5 -0.1**
SNR=6.0
KBZ Khabaz 72.33 311 P **P** **20 03 35.1 +0.9**
comp=Z,45nm,0.9s,baz=86,slow=2.1,SNR=96
KBZ Khabaz 72.33 311 *c e* P **P** **20 03 35.3 +1.1**
KBZ pmax pmax
comp=Z,50nm,0.9s
KVAR Kislovodsk Arr 72.35 311 P **P** **20 03 36.1 +1.5**
comp=Z,13nm,0.9s,baz=90,slow=20,SNR=12
KIV Kislovodsk 72.35 311 P **P** **20 03 37.0 +2.4**
KIV Kislovodsk 72.35 311 *d i* P **P** **20 03 35.1 +0.6**
KIV *SP **sP** **20 04 17.0 +0.6**
KIV pmax pmax
comp=Z,37nm,0.8s
KIV Kislovodsk 72.35 311 P **P** **20 03 34.5 -0.1**
H04A Detroit Lake 72.42 48 P **P** **20 03 35.8 +0.9**
H04A IAmb IAmb 20 03 38.1
comp=Z,16nm,0.9s
K02D Willamette Mer 72.47 50 P **P** **20 03 37.6 +2.3**
baz=299
KZRT Kazreti 72.51 308 P **P** **20 03 37.0 +1.5**
ONI Oni 72.53 310 P **P** **20 03 36.5 +0.9**
ONI pmax pmax
comp=Z,20nm,1.0s
ONI Oni 72.53 310 P **P** **20 03 36.5 +0.9**
ONI IAmb IAmb 20 03 38.0
comp=Z,20nm,1.0s
ALNE Al Ain 72.54 288 *i* P **P** **20 03 36.1 +0.2**
SNR=18
ASUD Al Ashush, Dub 72.60 288 *i* P **P** **20 03 36.5 +0.3**
SNR=8.4
ASUD Al Ashush, Dub 72.60 288 P **P** **20 03 36.5 +0.3**
SNR=8.4
G05D Wamic, OR 72.68 47 P **P** **20 03 39.0 +2.6**
baz=300
I04A Tendick Farm, 72.73 49 P **P** **20 03 39.2 +2.5**
baz=300
L02E Cave Junction 72.78 51 P **P** **20 03 39.4 +2.4**
baz=300
GNI Garni 72.89 307 P **P** **20 03 39.2 +1.4**
comp=Z,18nm,0.9s,baz=246,slow=3.1,SNR=9.5
GNI Garni 72.89 307 P **P** **20 03 39.4 +1.5**
GNI Garni 72.89 307 *c e* P **P** **20 03 39.9 +2.0**
GNI pmax pmax
comp=Z,21nm,0.7s
GNI Garni 72.89 307 P **P** **20 03 38.5 +0.7**
GNI IAmb IAmb 20 03 45.6
comp=Z,33nm,1.1s
E07A Sunnyside 72.90 45 P **P** **20 03 38.6 +1.0**
VSU Vasula 72.95 330 *e*P **P** **20 03 38.3 +0.7**
EDM Edmonton 72.96 37 P **P** **20 03 39.1 +1.2**
EDM pmax pmax
comp=Z,16nm,0.9s
EDM Edmonton 72.96 37 P **P** **20 03 39.1 +1.2**
EDM IAmb IAmb 20 03 40.2
comp=Z,16nm,0.9s
AKH Akhalkalaki 73.09 309 ⇑ P **P** **20 03 40.8 +1.7**

AKH Akhalkalaki 73.09 309 P P 20 03 40.3 +1.2
HAWA Hanford 73.18 45 P P 20 03 39.8 +0.6
C09A Chrisman Ranch 73.19 44 P P 20 03 41.0 +1.7
C09A IAmb IAmb 20 03 42.1
comp=Z,12nm,0.8s
D08A Wollman Farm, 73.20 44 P P 20 03 41.0 +1.7
D08A IAmb IAmb 20 03 42.1
comp=Z,12nm,0.7s
KHMM Horse Mountain 73.33 52 P P 20 03 41.2 +0.8
KHMM IAmb IAmb 20 03 47.4
comp=Z,10nm,0.8s
CHVG Ch'k'valeri 73.35 310 ⇓P P 20 03 42.0 +1.6
CHVG Ch'k'valeri 73.35 310 ⇓P P 20 03 42.0 +1.6
E08A Dider Farm, El 73.41 45 P P 20 03 40.6 +0.1
L04D Klamath Falls 73.58 50 P P 20 03 44.2 +2.3
baz=300
NEW Newport 73.61 43 P P 20 03 42.5 +0.7
NEW pmax pmax
comp=Z,11nm,0.9s
NEW Newport 73.61 43 P P 20 03 42.5 +0.7
NEW IAmb IAmb 20 03 44.5
comp=Z,11nm,0.9s
NEW Newport 73.61 43 P P 20 03 43.5 +1.7
baz=302,SNR=8.7
M02C Callahan 73.64 51 P P 20 03 44.6 +2.4
baz=300
PINE Pine Mountain 73.65 48 P P 20 03 44.4 +2.0
PINE IAmb IAmb 20 03 45.6
comp=Z,17nm,0.8s
UMZA Um Al Zommool 73.67 287 P P 20 03 42.1 -0.4
J05D Fort Rock, OR 73.72 49 P P 20 03 45.2 +2.5
baz=301
E09A Wood Farm, Sta 73.94 45 P P 20 03 44.9 +1.3
E09A IAmb IAmb 20 03 46.7
comp=Z,11nm,0.7s
N02D Trinity Center 73.95 51 P P 20 03 46.5 +2.6
baz=300
MTSE Matsula 74.01 331 eP P 20 03 44.6 +0.8
G08A Pilot Rock 74.09 46 P P 20 03 46.2 +1.5
M04C Macdoel 74.10 50 P P 20 03 47.1 +2.2
baz=301
BATM Batumi 74.16 310 ⇑P P 20 03 46.3 +1.2
BATM Batumi 74.16 310 ⇑P P 20 03 46.3 +1.2
K05A Summer Lake 74.22 49 P P 20 03 48.0 +2.3
K05A IAmb IAmb 20 03 48.8
comp=Z,14nm,0.8s
BCA Borcka 74.29 309 ⇑P P 20 03 47.8 +2.0
SUMG Summit 74.30 359 i P P 20 03 46.0 +0.2
SUMG IAmb IAmb 20 03 48.2
comp=Z,13nm,0.8s
SUMG Summit 74.30 359 i P P 20 03 46.0 +0.2
SUMG pmax pmax
comp=Z,13nm,0.8s
SUMG Summit 74.30 359 P P 20 03 47.0 +1.2
SUMG IAmb IAmb 20 03 49.5
comp=Z,14nm,1.0s
O02D Mt. Diablo Mer 74.30 52 P P 20 03 48.5 +2.5
baz=300
I07A Izee 74.39 47 P P 20 03 48.0 +1.5
SOC Sochi 74.40 312 eP P 20 03 46.6 +0.2
SOC e 20 06 34.8
SOC ePPP PPP 20 08 19.2
SOC eSS SS 20 17 54.4 -4.7
SOC eSSS SSS 20 21 12.1
SOC pmax pmax
comp=Z,18nm,0.6s
MNK Minsk 74.80 326 i P P 20 03 46.9 -1.6
MNK i 20 06 35.8
MNK i PPP PPP 20 08 22.0
MNK i S S 20 13 13.2 -2.1
MNK i SS SS 20 18 06.7 +2.2
MNK pmax pmax
comp=E,3.0nm,1.1s
MNK pmax pmax
comp=Z,27nm,1.5s
MNK pmax pmax
comp=N,20nm,1.3s
MNK MLR MLR
comp=N,22nm,15.0s
MNK MLR MLR
comp=E,5.0nm,17.0s
MNK Minsk 74.80 326 i P P 20 03 47.0 -1.5
comp=E,3.0nm,1.1s
MNK i P P 20 03 47.0 -1.5
comp=N,20nm,1.3s
MNK i P P 20 03 47.0 -1.5
comp=Z,27nm,1.5s,baz=234
MNK i pP pP 20 04 17.0 -1.0
MNK i PP PP 20 06 35.8 -0.9
MNK i PPP PPP 20 08 22.1
MNK i S S 20 13 13.2 -2.0
MNK i SS SS 20 18 06.7 +2.2
MNK i SSS SSS 20 21 29.5
MNK i LR LR 20 34 02.8
MNK i LRM MLR 20 39 17.1
comp=E,5.0nm,17.4s
MNK i LRM MLR 20 39 17.1
comp=N,22nm,14.6s
MNK i LRM MLR 20 39 17.1
comp=Z,522nm,53.4s
IDID Didziasalis 74.84 327 eP P 20 03 49.9 +1.2
O03E Paynes Creek 74.89 52 P P 20 03 50.7 +1.3
baz=301
ISAL Salakas 74.96 327 eP P 20 03 51.0 +1.6
WALA Waterton Lakes 74.97 41 P P 20 03 51.3 +1.6
WALA IAmb IAmb 20 03 52.5
comp=Z,15nm,0.7s
MOD Modoc Plateau 75.02 50 P P 20 03 51.9 +1.7
IIGN Ignalina 75.05 327 eP P 20 03 51.0 +1.0
NACGM Naroch 75.07 327 i P P 20 03 50.9 +0.9
ANN Anapa 75.15 314 eP P 20 03 49.9 -0.8
ANN eS S 20 13 15.6 -3.9
BMO Blue Mountains 75.31 46 P P 20 03 53.5 +1.7
BMO pmax pmax
comp=Z,7.0nm,0.7s
BMO Blue Mountains 75.31 46 P P 20 03 53.5 +1.7
SLIT Slitere, Latvi 75.32 330 eP P 20 03 52.0 +0.6
J08A Circle Bar Ran 75.40 48 P P 20 03 54.0 +1.6
J08A IAmb IAmb 20 03 55.1
comp=Z,9.6nm,0.7s
ORV Oroville 75.47 52 P P 20 03 52.7 0.0
ORV pmax pmax
comp=Z,8.0nm,1.1s
ORV Oroville 75.47 52 P P 20 03 52.7 0.0
JTMT Jette 75.49 42 P P 20 03 54.6 +1.8
JTMT IAmb IAmb 20 03 55.7
comp=Z,16nm,0.8s
UPP Uppsala 75.66 334 eP P 20 03 54.0 +0.7
WVOR Wild Horse Val 75.80 48 P P 20 03 56.5 +1.9
WVOR pmax pmax
comp=Z,4.0nm,0.9s
WVOR Wild Horse Val 75.80 48 P P 20 03 56.5 +1.9
PABE Paberze 75.96 328 eP P 20 03 55.8 +0.7
PABE Paberze 75.96 328 P P 20 03 55.2 +0.1
PABE IAmb IAmb 20 03 56.5
comp=Z,16nm,0.7s
PLID Pearl Lake 75.97 45 P P 20 03 56.2 +0.5
UMR Umm Al-Rimmam 76.05 296 eP P 20 03 55.6 -0.5
BEKR Beckworth 76.05 51 P P 20 03 56.6 +0.4
BEKR IAmb IAmb 20 03 58.8
comp=Z,10.0nm,0.8s
MSO Missoula 76.19 43 P P 20 03 57.2 +0.4
MSO Missoula 76.19 43 P P 20 03 58.3 +1.5
baz=304
MIB Mutribah 76.20 297 eP P 20 03 56.5 -0.5
KBD Kabd 76.26 296 eP P 20 03 57.0 -0.2
QRN Al-Qurain 76.31 295⇑eP P 20 03 56.6 -0.9
AKASG Malin Array Be 76.40 322 P P 20 03 57.5 -0.2
comp=Z,2.2nm,0.3s,baz=50,slow=6.2,SNR=27
AKASG LR LR 20 40 34.5
comp=Z,66nm,18.8s,baz=30,slow=38
AKASG Malin Array Be 76.40 322 P P 20 03 57.5 -0.2
AKBB Malin Array Si 76.40 322ceP P 20 03 57.8 +0.1
AKBB Malin Array Si 76.40 322 P P 20 03 56.8 -0.9
AKBB IAmb IAmb 20 03 59.8
comp=Z,13nm,0.8s
RDF Al-Radifah 76.49 296 eP P 20 03 58.1 -0.5
PBUR Paburge 76.51 329 eP P 20 03 58.9 +0.7
DOK Doka 76.56 284 P P 20 03 59.0 -0.2
SNR=10
RST Umm Al-Ruwaisa 76.61 296 eP P 20 03 58.3 -1.0
PAHR Pah Rah Range 76.78 51 P P 20 04 01.0 +0.8
NC405 NORSAR Array S 76.82 337 P P 20 03 59.2 -0.7
NC303 NORSAR Array S 76.85 337 P P 20 04 00.3 +0.3
NC303 IAmb IAmb 20 04 04.1
comp=Z,17nm,1.2s
HFS Hagfors 76.87 336 P P 20 04 00.2 0.0
comp=Z,9.9nm,0.8s,baz=54,slow=7.2,SNR=25
MFID Camas Ranch 76.99 46 P P 20 04 02.5 +1.2
NB201 NORSAR Array S 77.01 337 P P 20 04 00.5 -0.5
NB201 IAmb IAmb 20 04 02.2
comp=Z,33nm,1.0s
NC204 NORSAR Array S 77.01 337 P P 20 04 00.9 -0.1
NB2 NORSAR Subarra 77.04 337 P P 20 04 01.1 -0.1
comp=Z,14nm,1.0s,baz=42,slow=5.9
NB2 NORSAR Subarra 77.04 337 P P 20 04 01.1 -0.1
baz=42,slow=5.9
NOA NORSAR Array B 77.04 337 P P 20 04 01.2 -0.1
comp=Z,8.1nm,0.8s,baz=42,slow=5.6,SNR=26
NOA LR LR 20 42 42.6
comp=Z,25nm,18.5s,baz=45,slow=39
WHFO Wadi Hawf 77.22 283 P P 20 04 02.0 -0.9
SNR=32
SUW Suwalki 77.27 327 eP P 20 04 01.9 -0.6
SUW Suwalki 77.27 327 P P 20 04 02.0 -0.5
SUW pmax pmax
comp=Z,22nm,1.0s
SUW Suwalki 77.27 327 P P 20 04 01.9 -0.5
SUW IAmb IAmb 20 04 04.0
comp=Z,22nm,1.0s
NAO01 NORSAR Array S 77.29 337 P P 20 04 00.7 -1.8
FFC Flin Flon 77.42 32 P P 20 04 03.6 +0.2
FFC pmax pmax
comp=Z,7.0nm,0.8s
FFC Flin Flon 77.42 32 P P 20 04 03.6 +0.2
AKN Aaknes 77.48 339 eP P 20 04 04.5 +0.9
LRM Limekiln Ridge 77.62 43 P P 20 04 06.4 +1.5
HLID Hailey 77.76 46 P P 20 04 07.4 +1.7
HLID Hailey 77.76 46 P P 20 04 07.8 +2.1
baz=304,SNR=6.1
BMN Battle Mountai 77.77 50 P P 20 04 07.3 +1.5
BMN pmax pmax
comp=Z,8.0nm,0.9s
BMN Battle Mountai 77.77 50 P P 20 04 07.3 +1.5
DLMT Dillon 77.80 43 P P 20 04 07.2 +1.3
DLMT IAmb IAmb 20 04 08.6
comp=Z,13nm,0.7s
ICESG Greenland Ices 77.81 360 i P P 20 04 06.9 +1.2
ICESG IAmb IAmb 20 04 07.7
comp=Z,15nm,0.6s
ICESG i 20 04 35.6
EGMT Eagleton 77.82 40 P P 20 04 07.0 +1.2
EGMT IAmb IAmb 20 04 08.4
comp=Z,23nm,1.1s
EGMT Eagleton 77.82 40 P P 20 04 07.3 +1.5
baz=307,SNR=9.9
ABTO Aybut 77.89 283 P P 20 04 06.4 -0.3
SNR=12
RYN Ryan 77.92 52 P P 20 04 07.7 +1.0
KVN Kaiserville 77.97 51 P P 20 04 08.5 +1.6
KVN pmax pmax
comp=Z,12nm,0.7s
KVN Kaiserville 77.97 51 P P 20 04 08.5 +1.6
KVN IAmb IAmb 20 04 09.7
comp=Z,12nm,0.7s
KVT Kavak 78.04 311 P P 20 04 08.9 +1.8
LHV Little Huntoon 78.14 52 P P 20 04 09.4 +1.8
NVAR Mina Array Bea 78.17 52 P P 20 04 10.1 +1.9
comp=Z,6.5nm,0.8s,baz=296,slow=5.4,SNR=37
NVAR Mina Array Bea 78.17 52 P P 20 04 09.8 +1.7
BOZ Bozeman (W) 78.22 43 P P 20 04 09.6 +1.4
BOZ pmax pmax
comp=Z,7.0nm,0.7s
BOZ Bozeman (W) 78.22 43 P P 20 04 09.6 +1.4
BOZ Bozeman (W) 78.22 43 P P 20 04 09.8 +1.7
baz=306,SNR=12
NV11 Mina Array Sit 78.27 52 P P 20 04 09.8 +1.2
PAGB Antelope Grade 78.33 55 P P 20 04 10.0 +1.2
PAGB IAmb IAmb 20 04 11.9
comp=Z,25nm,0.8s
SORM Soroca 78.40 321 ⇑P P 20 04 08.8 0.0
SORM Soroca 78.40 321 ⇑P P 20 04 08.8 0.0
STRU Stroemstad 78.55 336 i P P 20 04 09.7 +0.2
BLEU Blekinge 78.83 332 i P P 20 04 10.5 -0.6
ELK Elko 78.85 48 P P 20 04 13.8 +1.9
ELK pmax pmax
comp=Z,6.0nm,0.6s
ELK Elko 78.85 48 P P 20 04 13.8 +1.9
TIN Tinemaha, Big 78.98 53 P P 20 04 13.8 +1.4
baz=304
BORU Boraas 79.02 334 eP P 20 04 12.0 -0.1
VES Vestal, Richgr 79.07 54 P P 20 04 13.9 +1.1
baz=303
TPH Tonopah 79.08 52 P P 20 04 14.6 +1.5
TPH pmax pmax
comp=Z,32nm,0.9s
TPH Tonopah 79.08 52 P P 20 04 14.6 +1.5
PKM Mcpherson Peak 79.09 55 P P 20 04 15.1 +2.0
baz=303
YHH Holmes Hill 79.14 43 P P 20 04 13.3 -0.1
GCMT Greycliff 79.21 42 P P 20 04 14.1 +0.5
BNN Bunyan 79.41 310 P P 20 04 15.8 +1.0
CWC Cottonwood Cre 79.42 53 P P 20 04 16.2 +1.3
baz=304
GAZ Gaziantep 79.46 308 P P 20 04 15.1 +0.1
DEL Delary 79.47 333 i P P 20 04 14.0 -0.5
DEL i P P 20 04 14.2 -0.3
YPP Pitchstone Pla 79.47 44 P P 20 04 15.2 0.0
H17A Grant Village 79.53 43 P P 20 04 17.7 +2.2
H17A IAmb IAmb 20 04 20.1
comp=Z,13nm,0.8s
H17A Grant Village 79.53 43 P P 20 04 18.7 +3.2
baz=307
ISA Isabella, Lake 79.58 54 P P 20 04 15.4 -0.3
ISA pmax pmax
comp=Z,6.0nm,0.9s
ISA Isabella, Lake 79.58 54 P P 20 04 15.4 -0.3
ISA Isabella, Lake 79.58 54 P P 20 04 16.6 +0.9
baz=304
IMW Indian Meadow 79.62 44 P P 20 04 17.4 +1.4
FXWY Fox Creek 79.72 44 P P 20 04 15.8 -0.8
HVU Hansel Valley 79.78 47 P P 20 04 15.8 -1.0
HVU pmax pmax
comp=Z,9.0nm,0.7s
HVU Hansel Valley 79.78 47 P P 20 04 15.8 -1.0
HVU IAmb IAmb 20 04 19.8
comp=Z,9.5nm,0.7s
MOOW Moose Ponds 79.82 44 P P 20 04 16.1 -0.9
RLMT Red Lodge 79.84 42 P P 20 04 18.9 +1.8
baz=307
TPAW Teton Pass 79.85 44 P P 20 04 17.8 +0.6
TLCR 79.94 318 ⇑P P 20 04 17.9 +0.6
TLCR 79.94 318 ⇑P P 20 04 17.9 +0.6
LOHW Long Hollow 79.98 44 P P 20 04 19.5 +1.6
REDW Red Top Meadow 79.99 44 P P 20 04 19.0 +1.0
OSI Osito Audit: C 79.99 55 P P 20 04 18.7 +0.8
OSI IAmb IAmb 20 04 20.6
comp=Z,19nm,0.9s
OSI Osito Audit: C 79.99 55 P P 20 04 20.0 +2.1
baz=304
R11A Troy Canyon, C 79.99 51 P P 20 04 19.7 +1.7
baz=305,SNR=6.5
SOCY Socotra 80.03 278 P P 20 04 16.2 -2.2
BJUU Bjuv 80.08 333 i P P 20 04 18.3 +0.5
BGU Big Grassy Mou 80.12 47 P P 20 04 20.1 +1.5
FURC Furnace Creek, 80.21 53 P P 20 04 20.7 +1.7
baz=304
LRMC Laurel Mtn Rad 80.22 54 P P 20 04 20.8 +1.6
baz=304
TESR Tescani 80.31 320 ⇑P P 20 04 19.3 -0.1
BR131 Keskin Array S 80.32 311 P P 20 04 20.1 +0.4
BR131 pmax pmax
comp=Z,25nm,1.0s
BR131 Keskin Array S 80.32 311 P P 20 04 20.1 +0.4
BR131 IAmb IAmb 20 04 22.0
comp=Z,25nm,0.9s
BRTR Keskin Array B 80.32 311 P P 20 04 20.6 +0.9
comp=Z,15nm,1.0s,baz=104,slow=4.1,SNR=30
BRTR LR LR 20 43 36.6
comp=Z,35nm,18.1s,baz=78,slow=38
BRTR Keskin Array B 80.32 311 P P 20 04 19.9 +0.2
DY2G Dye2 80.32 3 i P P 20 04 20.4 +1.1
DY2G IAmb IAmb 20 04 21.4
comp=Z,10nm,0.7s
CFR Carcaliu 80.33 318 ⇑P P 20 04 19.8 +0.4
CFR Carcaliu 80.33 318 ⇑P P 20 04 19.8 +0.4
BIZ Bicaz 80.34 321 ⇑P P 20 04 20.5 +1.0
EDW2 Edwards Air Fo 80.34 55 P P 20 04 21.5 +1.8
baz=304,SNR=9.0
KWP Kalwaria Pacla 80.34 324 eP P 20 04 20.2 +0.8
KWP Kalwaria Pacla 80.34 324 P P 20 04 19.3 -0.1
KWP pmax pmax
comp=Z,108nm,0.9s
KWP Kalwaria Pacla 80.34 324 P P 20 04 19.3 -0.1
TPNV Topopah Spring 80.35 52 P P 20 04 21.1 +1.2
TPNV pmax pmax
comp=Z,15nm,1.0s
TPNV Topopah Spring 80.35 52 P P 20 04 21.1 +1.2
TPNV IAmb IAmb 20 04 22.5
comp=Z,15nm,0.9s
TPNV Topopah Spring 80.35 52 P P 20 04 21.6 +1.7
baz=304,SNR=7.9
BUR08 Bucovina Ar. S 80.37 321 P P 20 04 20.0 +0.3
TPGR Topolog 80.37 318 ⇑P P 20 04 20.5 +0.8
BURAR Bucovina Array 80.38 321 ⇑P P 20 04 20.7 +0.9
BURAR Bucovina Array 80.38 321 ⇑P P 20 04 20.7 +0.9
BURAR Bucovina Array 80.38 321 P P 20 04 19.8 0.0
GKP Gorka Klasztor 80.39 329 eP P 20 04 31.7 +12
SNART Snartemo 80.42 337 eP P 20 04 20.7 +1.1
SPR3 Spring Creek 3 80.42 50 P P 20 04 22.0 +1.5
LAO LASA Array 80.53 40 P P 20 04 22.5 +1.9
baz=309
HWUT Hardware Ranch 80.61 46 P P 20 04 20.7 -0.6
HWUT IAmb IAmb 20 04 24.3
comp=Z,15nm,1.1s
VRI Vrincioaia 80.68 319 ⇑P P 20 04 23.1 +1.8
VRI Vrincioaia 80.68 319 ⇑P P 20 04 23.1 +1.8
DUG Dugway, Tooele 80.68 48 P P 20 04 21.7 +0.1
DUG pmax pmax
comp=Z,10.0nm,0.8s
DUG Dugway, Tooele 80.68 48 P P 20 04 21.7 +0.1
DUG IAmb IAmb 20 04 24.5
comp=Z,10.0nm,0.8s
DUG Dugway, Tooele 80.68 48 P P 20 04 23.6 +2.0
baz=306,SNR=8.0
PLOR Plostina 80.73 319 ⇑P P 20 04 23.5 +1.9
PLOR Plostina 80.73 319 ⇑P P 20 04 23.5 +1.9
HARR Harsova 80.74 318 ⇑P P 20 04 22.3 +0.7
HARR Harsova 80.74 318 ⇑P P 20 04 22.3 +0.7
ANTO Ankara 80.76 312 P P 20 04 22.0 0.0
ANTO pmax pmax
comp=Z,16nm,0.9s
ANTO Ankara 80.76 312 P P 20 04 22.0 0.0
ANTO IAmb IAmb 20 04 24.4
comp=Z,16nm,0.8s
CIS Catalina Islan 80.87 56 P P 20 04 24.0 +1.4
baz=304
PRN Pahroc Range 80.87 51 P P 20 04 24.3 +1.6
PRN IAmb IAmb 20 04 25.6
comp=Z,11nm,0.9s
BISRR Bisoca 80.89 319 ⇑P P 20 04 24.0 +1.5
GSC Goldstone, Bar 80.91 54 P P 20 04 23.2 +0.4
GSC pmax pmax
comp=Z,11nm,1.2s
GSC Goldstone, Bar 80.91 54 P P 20 04 23.2 +0.4
GSC Goldstone, Bar 80.91 54 P P 20 04 24.3 +1.4
baz=304
SHOC Shoshone, Teco 80.93 53 P P 20 04 24.3 +1.5
baz=305
BFSC Mount Baldy Ra 80.93 55 P P 20 04 24.5 +1.5
baz=304
PSUT Pine Spring 81.00 50 P P 20 04 25.0 +1.6
KOLS Kolonicke sedl 81.02 324 eP P 20 04 23.8 +0.8
KOLS Kolonicke sedl 81.02 324 eP P 20 04 23.8 +0.8
OZUR 81.04 320 ⇓P P 20 04 24.2 +0.9
PD31 Pinedale Array 81.10 44 P P 20 04 24.9 +1.0
PDAR Pinedale Array 81.10 44 P P 20 04 24.7 +0.8
comp=Z,1.9nm,0.3s,baz=268,slow=2.6,SNR=18
ICOR Ion Corvin 81.17 318 ⇓P P 20 04 25.6 +1.7
NLU North Lily Min 81.28 48 P P 20 04 25.3 +0.4
SHPR Sheep Range 81.32 52 P P 20 04 25.4 +0.3
DOPR Dopca 81.34 320 ⇑P P 20 04 26.4 +1.6
MLR Muntele Rosu 81.34 319 ⇓P P 20 04 26.7 +1.7
MLR Muntele Rosu 81.34 319 P P 20 04 26.5 +1.6
comp=Z,1.5nm,0.5s,baz=319,slow=6.5,SNR=8.3
MLR Muntele Rosu 81.34 319 ⇓P P 20 04 26.7 +1.7
MLR Muntele Rosu 81.34 319 P P 20 04 26.5 +1.6
OJC Ojcow 81.34 326 eP P 20 04 25.4 +0.7
OJC Ojcow 81.34 326 P P 20 04 24.5 -0.2
OJC pmax pmax
comp=Z,14nm,1.1s
OJC Ojcow 81.34 326 P P 20 04 24.5 -0.2
OJC IAmb IAmb 20 04 26.4
comp=Z,14nm,1.1s
MDUB Mudurnu 81.39 313 P P 20 04 24.6 -0.7
TRPA Tarpa 81.41 323 ⇓P P 20 04 26.3 +1.2
TUQ Turquoise Moun 81.43 53 P P 20 04 27.2 +1.6
baz=305,SNR=5.6
CRVS Cervenica-Dubn 81.44 324 eP P 20 04 26.1 +0.8
CRVS Cervenica-Dubn 81.44 324 eP P 20 04 26.1 +0.8
HEC Hector,Ludlow 81.50 54 P P 20 04 27.5 +1.6
baz=305
LNIZ Loecknitz 81.50 331 eP P 20 04 26.2 +0.8
comp=Z,16nm,0.8s,baz=40,slow=5.0
MPU Maple Canyon 81.52 47 P P 20 04 25.9 -0.2
MPU IAmb IAmb 20 04 28.9
comp=Z,8.6nm,0.7s
NIE Niedzica 81.65 325 eP P 20 04 28.5 +2.0
VOIR 81.86 320 ⇓P P 20 04 28.7 +1.1
VOIR 81.86 320 ⇓P P 20 04 28.7 +1.1
CCUT Cedar City 81.88 50 P P 20 04 29.6 +1.5
GMRC Granite Mounta 81.98 54 P P 20 04 30.0 +1.5
baz=305,SNR=11
MVU Marysvale 82.05 49 P P 20 04 29.4 +0.4
MSU Marysvale 82.07 49 P P 20 04 29.7 +0.6
MSU Marysvale 82.07 49 P P 20 04 29.7 +0.6
PFO Pinyon Flats O 82.10 55 P P 20 04 28.7 -0.5
PFO pmax pmax
comp=Z,8.0nm,0.8s
PFO Pinyon Flats O 82.10 55 P P 20 04 28.7 -0.5
PFO Pinyon Flats O 82.10 55 P P 20 04 30.7 +1.5
baz=305,SNR=5.3
TPFO Pinon Flats 82.11 55 P P 20 04 30.5 +1.3
baz=305,SNR=6.4
ARR Arges 82.13 320 ⇑P P 20 04 30.7 +1.7
BELC Belle Mtn. Jos 82.20 54 P P 20 04 30.7 +1.0
baz=305,SNR=6.7
TMUT Trail Mountain 82.21 48 P P 20 04 30.0 +0.2
DRGR 82.21 322 ⇑P P 20 04 30.2 +0.8
DRGR 82.21 322 ⇑P P 20 04 30.2 +0.8
LANS Liptovska Anna 82.23 325 eP P 20 04 31.0 +1.5
LANS pmax pmax
comp=Z,4.0nm,0.6s
LANS Liptovska Anna 82.23 325 eP P 20 04 31.0 +1.5
LCMT Little Creek M 82.28 51 P P 20 04 31.5 +1.4
LCMT IAmb IAmb 20 04 33.0
comp=Z,12nm,0.8s
MTPU Mount Pierson 82.35 49 P P 20 04 32.8 +2.1
MTPU IAmb IAmb 20 04 34.0
comp=Z,10nm,0.8s
P17A Butcher Ranch, 82.39 47 P P 20 04 32.0 +1.3
P17A IAmb IAmb 20 04 33.5
comp=Z,20nm,0.7s
RDMU Red Mountain 82.44 46 P P 20 04 32.6 +1.7
Q16A Castle Valley 82.46 48 P P 20 04 32.9 +1.8
Q16A IAmb IAmb 20 04 34.9
comp=Z,9.8nm,0.7s
KSP Ksiaz 82.52 328 eP P 20 04 31.4 +0.6
LOT Lotru 82.54 320 ⇓P P 20 04 31.5 +0.3
MONP2 Monument Peak 82.54 56 P P 20 04 32.9 +1.3
baz=305
KNB Kanab 82.55 50 P P 20 04 32.9 +1.4
KNB pmax pmax
comp=Z,18nm,1.0s
KNB Kanab 82.55 50 P P 20 04 32.9 +1.4
KNB IAmb IAmb 20 04 34.7
comp=Z,18nm,1.0s
IRM Iron Mountain 82.68 54 P P 20 04 33.4 +1.3
baz=306
CBX Cerro Bola 82.70 56 P P 20 04 32.2 -0.1
MORC Moravsky Berou 82.70 326 ⇑P P 20 04 33.1 +1.2
MORC Moravsky Berou 82.70 326 ⇑P P 20 04 33.1 +1.2
MORC Moravsky Berou 82.70 326 P P 20 04 30.8 -1.1
MORC Moravsky Berou 82.70 326 eP P 20 04 32.5 +0.6
SRU San Rafael Swe 82.74 48 P P 20 04 34.1 +1.6
SRU pmax pmax
comp=Z,25nm,0.7s
SRU San Rafael Swe 82.74 48 P P 20 04 34.1 +1.6
OSTC Ostas 82.75 328 eP P 20 04 33.2 +1.1
BC3 Big Chuckawall 82.77 54 P P 20 04 33.9 +1.2
baz=305
CHVC Chvalec 82.80 328 eP P 20 04 33.3 +0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KRLC	Kraliky	82.84	327	eP	P	20 04 33.0	+0.4
KRLC	Kraliky	82.84	327	eP	P	20 04 33.0	+0.4
DPC	Dobruska-Polom	82.85	327	eP	P	20 04 32.9	+0.2
DPC	Dobruska-Polom	82.85	327	eP	P	20 04 32.9	+0.2
PSZ	Piszkesteto	82.87	324	⇑P	P	20 04 34.2	+1.4
PSZ	Piszkesteto	82.87	324	⇑P	P	20 04 34.2	+1.4
PSZ	Piszkesteto	82.87	324	P	P	20 04 32.6	-0.2
IKP	In-Ko-Pah, Jac	82.89	56	P	P	20 04 35.0	+1.7
	baz=305						
K22A	Casper	82.92	43	P	P	20 04 34.0	+0.7
K22A				IAmb	IAmb	20 04 35.4	
	comp=Z,7.8nm,0.7s						
SWSC	Sam W. Stewart	82.94	55	P	P	20 04 34.8	+1.5
	baz=305						
VYHS	Vyhne	82.99	325	eP	P	20 04 34.5	+1.1
VYHS	Vyhne	82.99	325	eP	P	20 04 34.5	+1.1
GZR	Gura Zlata	83.10	321	⇑P	P	20 04 34.8	+0.7
GZR	Gura Zlata	83.10	321	⇑P	P	20 04 34.8	+0.7
U15A	North Rim	83.24	51	P	P	20 04 36.1	+0.8
PDMCI	Parker Dam,Lak	83.28	53	P	P	20 04 36.5	+1.5
	baz=306						
JAVC	Velka Javorina	83.29	326	eP	P	20 04 36.5	+1.5
CSS	Mathiatis	83.30	308	P	P	20 04 35.8	+0.5
VRAC	Vranov	83.47	327	⇑P	P	20 04 36.4	+0.5
VRAC	Vranov	83.47	327	P	P	20 04 36.3	+0.5
	comp=Z,7.9nm,0.8s,baz=50,slow=4.8,SNR=8.9						
VRAC	Vranov	83.47	327	⇑P	P	20 04 36.4	+0.5
VRAC	Vranov	83.47	327	eP	P	20 04 36.6	+0.8
O20A	White River Ci	83.50	46	P	P	20 04 37.7	+1.3
	baz=309						
PVCC	Panska Ves	83.50	328	eP	P	20 04 37.0	+1.1
PVCC	Panska Ves	83.50	328	eP	P	20 04 37.0	+1.1
BRG	Berggiesshubel	83.53	329	eP	P	20 04 36.6	+0.5
	comp=Z,9.4nm,1.0s,baz=40,slow=5.0						
BRG	Berggiesshubel	83.53	329	eP	P	20 04 36.9	+0.8
BRG				Amp		20 04 38.2	
	comp=Z,9.4nm,1.0s						
GLA	Glamis	83.54	55	P	P	20 04 38.3	+1.8
	baz=306						
BZS	Buzias	83.56	322	⇑P	P	20 04 36.4	+0.1
BZS	Buzias	83.56	322	⇑P	P	20 04 36.4	+0.1
FLTG	Flechtingen	83.57	331	eP	P	20 04 36.2	0.0
	comp=Z,13nm,1.1s,baz=40,slow=5.0						
CLL	Collm	83.61	330	i P	P	20 04 36.7	+0.3
	comp=Z,20nm,1.0s						
CLL				ePcP	PcP	20 04 43.0	+2.6
CLL				e		20 04 54.0	
CLL				epP	pP	20 05 08.0	+1.4
CLL				ePP	PP	20 07 48.0	-1.8
CLL				eS	S	20 14 49.0	+0.4
CLL				eSS	SS	20 20 18.0	+1.8
CLL				eSSSS		20 26 42.0	
CLL	Collm	83.61	330	i P	P	20 04 36.7	+0.3
CLL				eS	S	20 14 49.0	+0.4
CLL				pmax	pmax		
	comp=Z,20nm,1.0s						
CLL	Collm	83.61	330	P	P	20 04 36.1	-0.3
CLL				IAmb	IAmb	20 04 38.1	
	comp=Z,18nm,0.9s						
CLL	Collm	83.61	330	eP	P	20 04 36.7	+0.3
	comp=Z,20nm,1.0s,baz=40,slow=5.0						
SMOL	Smolenice	83.64	326	eP	P	20 04 38.2	+1.5
SMOL				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SMOL	Smolenice	83.64	326	eP	P	20 04 38.2	+1.5
KRUC	Moravsky	83.74	327	eP	P	20 04 37.9	+0.7
FBE	Freiberg	83.74	329	eP	P	20 04 38.0	+0.8
	comp=Z,29nm,1.1s,baz=40,slow=5.0						
PRA	Prague	83.90	328	eP	P	20 04 38.8	+0.9
PRA	Prague	83.90	328	eP	P	20 04 38.8	+0.9
PRU	Pruhonice	83.91	328	eP	P	20 04 38.9	+0.9
PRU	Pruhonice	83.91	328	eP	P	20 04 38.9	+0.9
GHAJ	Ghor Haditha	83.91	303	P	P	20 04 38.6	+0.2
BALB	Balikesir	83.91	314	P	P	20 04 37.9	-0.3
ASSE	Asse, Remlinge	83.95	331	eP	P	20 04 38.4	+0.3
	baz=40,slow=5.0						
TREC	Trest	83.99	327	eP	P	20 04 39.2	+0.7
TREC	Trest	83.99	327	eP	P	20 04 39.2	+0.7
PV21	Cone Mtn., Par	84.04	47	P	P	20 04 40.3	+1.0
MDVR	Moldovita	84.07	321	⇑P	P	20 04 39.4	+0.4
PV23	Carpenter Ridg	84.08	47	P	P	20 04 40.8	+1.3
PV10	Paradox Valley	84.11	48	P	P	20 04 41.5	+1.8
PV14	Lion Creek, Pa	84.12	48	P	P	20 04 40.7	+1.0
PPT	Papeete	84.16	115	LR	LR	20 33 08.2	
	comp=Z,55nm,20.9s,baz=206,slow=29						
PV22	Blue Mesa, Par	84.17	47	P	P	20 04 41.3	+1.5
PV22				IAmb	IAmb	20 04 42.5	
	comp=Z,12nm,0.8s						
PV20	West Nyswonger	84.18	48	P	P	20 04 41.1	+1.2
PV04	Paradox Valley	84.18	47	P	P	20 04 41.4	+1.5
PV04				IAmb	IAmb	20 04 42.8	
	comp=Z,14nm,0.9s						
PV19	Morning Glory	84.19	48	P	P	20 04 41.4	+1.5
NEUB	Neuenburg	84.19	330	eP	P	20 04 39.8	+0.4
	comp=Z,25nm,0.9s,baz=40,slow=5.0						
PV17	East Wray Mesa	84.22	48	P	P	20 04 41.2	+1.1
PV16	Nyswonger Mesa	84.23	48	P	P	20 04 41.6	+1.5
PV16				IAmb	IAmb	20 04 42.9	
	comp=Z,18nm,0.7s						
Y14A	Wickenburg	84.25	53	P	P	20 04 41.4	+1.2
Y14A				IAmb	IAmb	20 04 42.5	
	comp=Z,11nm,1.0s						
PV05	Paradox Valley	84.26	48	P	P	20 04 41.7	+1.4
PV11	David Mesa, Pa	84.26	47	P	P	20 04 41.5	+1.2
PV18	Skein Mesa, Pa	84.27	48	P	P	20 04 41.9	+1.5
CLZ	Clausthal	84.29	331	eP	P	20 04 40.5	+0.5
	comp=Z,14nm,1.0s,baz=40,slow=5.0						
PV12	Saucer Basin,	84.29	47	P	P	20 04 42.0	+1.5
PV12				IAmb	IAmb	20 04 44.0	
	comp=Z,18nm,0.8s						
PV03	Paradox Valley	84.30	48	P	P	20 04 41.9	+1.3
PV03				IAmb	IAmb	20 04 43.2	
	comp=Z,15nm,0.8s						
PV07	Paradox Valley	84.31	47	P	P	20 04 41.8	+1.2
PBCC	Pribram	84.37	328	eP	P	20 04 40.9	+0.5
N23A	Red Feather La	84.38	44	P	P	20 04 42.7	+1.8
	baz=310						
PV13	Radium Mtn., P	84.38	48	P	P	20 04 42.3	+1.3
PV13				IAmb	IAmb	20 04 43.5	
	comp=Z,16nm,0.6s						
WUAZ	Wupatki	84.38	51	P	P	20 04 42.3	+1.4
WUAZ				IAmb	IAmb	20 04 43.6	
	comp=Z,12nm,0.9s						
WUAZ	Wupatki	84.38	51	P	P	20 04 42.7	+1.8
	baz=307						
PHWY	Pilot Hill	84.40	43	P	P	20 04 42.1	+1.0
PV02	Paradox Valley	84.40	47	P	P	20 04 42.3	+1.2
PV02				IAmb	IAmb	20 04 43.7	
	comp=Z,11nm,0.8s						
ELL	Elmali	84.45	311	P	P	20 04 41.3	+0.1
ELL				pmax	pmax		
	comp=Z,59nm,0.8s						
ELL	Elmali	84.45	311	P	P	20 04 41.3	+0.1
PV15	Paradox Valley	84.47	47	P	P	20 04 42.5	+1.0
TANN	Tannenbergstha	84.50	329	eP	P	20 04 41.5	+0.4
	comp=Z,11nm,1.2s,baz=40,slow=5.0						
PV01	Paradox Valley	84.55	47	P	P	20 04 43.1	+1.3
PV01				IAmb	IAmb	20 04 44.4	
	comp=Z,32nm,1.4s						
PLN	Plauen	84.58	330	eP	P	20 04 41.9	+0.5
	comp=Z,8.5nm,1.1s,baz=40,slow=5.0						
GUNZ	Gunzen	84.59	329	eP	P	20 04 42.1	+0.6
	comp=Z,12nm,0.9s,baz=40,slow=5.0						
WERN	Wernitzgruen	84.63	329	eP	P	20 04 42.4	+0.7
	comp=Z,12nm,0.9s,baz=40,slow=5.0						
NKC	Novy Kostel	84.64	329	eP	P	20 04 42.2	+0.5
NKC	Novy Kostel	84.64	329	eP	P	20 04 42.2	+0.5
GTTG	Gottingen	84.68	331	eP	P	20 04 42.6	+0.7
	comp=Z,15nm,0.9s,baz=40,slow=5.0						
MOX	Moxa	84.69	330	eP	P	20 04 42.4	+0.4
	comp=Z,10nm,1.1s,baz=40,slow=5.0						
VTS	Vitosha	84.69	319	⇑P	P	20 04 44.5	+2.2
VTS	Vitosha	84.69	319	⇑P	P	20 04 44.5	+2.2
VTS	Vitosha	84.69	319	P	P	20 04 43.2	+0.9
CONA	Conrad Observa	84.80	326	i P	P	20 04 43.6	+0.9
	comp=Z,5.6nm,0.9s,SNR=10						
SMCO	Snowmass	84.86	46	P	P	20 04 44.6	+1.0
SMCO				IAmb	IAmb	20 04 45.9	
	comp=Z,7.5nm,0.7s						
CKRC	Cesky Krumlov	84.87	327	eP	P	20 04 43.1	+0.2
IBBN	Ibbenburen	84.96	333	eP	P	20 04 43.4	+0.2
	comp=Z,19nm,0.7s,baz=40,slow=5.0						
KHC	Kasperske Hory	84.97	328	eP	P	20 04 43.6	+0.2
KHC	Kasperske Hory	84.97	328	eP	P	20 04 43.6	+0.2
KHC				epP	pP	20 05 12.0	-1.5
MANZ	Manzenberg	84.97	329	eP	P	20 04 44.0	+0.6
	comp=Z,9.3nm,0.8s,baz=40,slow=5.0						
X16A	Lo Mia Camp, P	85.00	52	P	P	20 04 44.7	+0.6
ROTZ	Rotzenmuhle	85.09	329	eP	P	20 04 44.6	+0.6
	comp=Z,9.1nm,1.0s,baz=40,slow=5.0						
GEC2	GERESS Array S	85.12	328	P	P	20 04 43.7	-0.5
GEC2	GERESS Array S	85.12	328	eP	P	20 04 44.4	+0.2
	comp=Z,8.1nm,1.0s,baz=40,slow=5.0						
GERES	GERESS Array B	85.12	328	P	P	20 04 44.3	+0.1
	comp=Z,4.8nm,0.7s,baz=41,slow=5.4,SNR=48						
GERES				LR	LR	20 48 22.3	
	comp=Z,22nm,18.4s,baz=54,slow=40						
GERES	GERESS Array B	85.12	328	P	P	20 04 43.7	-0.5
MVCO	Mesa Verde	85.17	48	P	P	20 04 46.2	+1.3
	baz=309						
WET	Wettzell	85.27	328	eP	P	20 04 45.4	+0.5
	comp=Z,2.9nm,0.8s,baz=40,slow=5.0						
ISCO	Idaho Springs	85.28	45	P	P	20 04 46.9	+1.4
ISCO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ISCO	Idaho Springs	85.28	45	P	P	20 04 46.9	+1.4
ISCO	Idaho Springs	85.28	45	P	P	20 04 47.2	+1.7
	baz=310						
214A	Organ Pipe Nat	85.56	54	P	P	20 04 48.0	+1.3
	baz=307						
KASTN	Kahler Asten	85.56	332	eP	P	20 04 46.7	+0.3
	comp=Z,12nm,0.8s,baz=40,slow=5.0						
GRA1	Grafenberg Arr	85.57	329	P	P	20 04 46.9	+0.5
GRA1				IAmb	IAmb	20 04 48.6	
	comp=Z,15nm,0.9s						
GRF	Grafenberg Arr	85.57	329	P	P	20 04 46.9	+0.5
GRF				pmax	pmax		
	comp=Z,15nm,0.9s						
GRF	Grafenberg Arr	85.57	329	eP	P	20 04 47.1	+0.7
	comp=Z,19nm,0.9s,baz=40,slow=5.0						
GRF				epP	pwP	20 05 20.4	+1.9
GRFO	Grafenberg	85.57	329	P	P	20 04 47.0	+0.6
GRFO				pmax	pmax		
	comp=Z,14nm,0.8s						
GRFO	Grafenberg	85.57	329	P	P	20 04 47.0	+0.6
GRFO				IAmb	IAmb	20 04 48.5	
	comp=Z,14nm,0.8s						
BUG	Bochum--Univer	85.82	333	eP	P	20 04 47.2	-0.4
	comp=Z,16nm,0.9s,baz=40,slow=5.0						
S22A	4UR Ranch, Cre	85.86	47	P	P	20 04 49.8	+1.4
	baz=310						
Q24A	Divide	86.09	45	P	P	20 04 50.3	+0.8
	baz=310						
SOKA	Soboth	86.09	326	i P	P	20 04 49.3	+0.2
	comp=Z,2.6nm,0.5s,SNR=5.1						
EKA	Eskdalemuir Ar	86.12	340	P	P	20 04 49.2	+0.3
	comp=Z,1.9nm,0.6s,baz=36,slow=5.0,SNR=7.6						
TNS	Taunus Mts	86.31	331	eP	P	20 04 50.3	+0.2
	comp=Z,9.0nm,1.0s,baz=40,slow=5.0						
RJOB	Jochberg	86.35	327	eP	P	20 04 50.7	+0.4
	comp=Z,22nm,1.1s,baz=40,slow=5.0						
OGNE	Ogallala	86.58	42	P	P	20 04 52.5	+0.8
	baz=312						
SDCO	Great Sand Dun	86.67	46	P	P	20 04 53.8	+1.4
SDCO	Great Sand Dun	86.67	46	P	P	20 04 53.8	+1.4
	baz=310						
TUC	Tucson	86.72	53	P	P	20 04 54.2	+1.8
	baz=308						
MYKA	Terra Mystica	86.78	326	eP	P	20 04 51.9	-0.6
	comp=Z,1.9nm,0.4s						
BTNL	Ternell	86.94	333	dP	P	20 04 52.9	-0.2
MEM	Membach	86.97	333	dP	P	20 04 49.5	-3.7
BSTI	Sart Tilman	87.16	333	dP	P	20 04 54.9	+0.8
ABTA	Abfaltersbach	87.21	327	i P	P	20 04 54.0	-0.6
	comp=Z,2.8nm,0.6s,SNR=4.6						
WTTA	Wattenberg	87.22	328	eP	P	20 04 54.9	+0.2
	comp=Z,2.3nm,0.6s						
BCLA	Clavier	87.39	333	dP	P	20 04 55.5	+0.2
MOTA	Moosalm	87.40	328	eP	P	20 04 56.2	+0.7
	comp=Z,1.7nm,0.4s						
RETA	Reutte	87.44	328	eP	P	20 04 55.8	+0.2
	comp=Z,1.1nm,0.4s						
STAL	STALIGIAL	87.49	326	P	P	20 04 54.6	-1.2
BGES	Gesves	87.50	333	dP	P	20 04 55.7	0.0
ECSD	EROS Data Cent	87.53	37	P	P	20 04 55.7	-0.3
ECSD	EROS Data Cent	87.53	37	P	P	20 04 56.7	+0.7
	baz=316						
WLF	Walferdange	87.67	332	dP	P	20 04 57.7	+1.1
BMRD	Maredsous	87.69	333	dP	P	20 04 56.4	-0.2
SNF	Seneffe	87.70	333	dP	P	20 04 56.8	+0.1
T25A	Trinidad	87.72	46	P	P	20 04 58.4	+1.0
	baz=311						
FETA	Feichten	87.81	328	eP	P	20 04 57.6	+0.1
	comp=Z,2.0nm,0.6s						
GIVF	Givet	87.83	333	eP	P	20 04 56.9	-0.4
GIVF				pmax	pmax		
	comp=Z,21nm,1.2s						
DAVA	Damuels	87.98	329	eP	P	20 04 58.5	+0.2
	comp=Z,2.7nm,0.5s						
CTI	Castel Tesino	88.13	327	P	P	20 04 57.7	-1.3
CTI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CTI	Castel Tesino	88.13	327	P	P	20 04 57.7	-1.3
CDF	Champ du Feu	88.21	331	eP	P	20 04 59.4	+0.1
CDF				pmax	pmax		
	comp=Z,5.0nm,0.8s						
DAVOX	Davos/Dischmat	88.37	328	P	P	20 05 00.2	0.0
	comp=Z,4.4nm,0.7s,baz=36,slow=7.1,SNR=10						
121A	Cookes Peak, D	88.56	51	P	P	20 05 03.5	+2.2
	baz=309						
HAU	Haudompre	88.91	331	eP	P	20 05 02.4	-0.1
HAU				pmax	pmax		
	comp=Z,23nm,1.8s						
L34A	Svendsen Farm,	88.92	38	P	P	20 05 03.1	+0.4
G40A	Rib Lake	89.47	33	P	P	20 05 06.1	+0.9
G40A				IAmb	IAmb	20 05 07.0	
	comp=Z,7.3nm,0.7s						
MNTX	Cornudas Mount	90.66	51	P	P	20 05 12.2	+1.3
	baz=311						
LPL	La Plagne	90.73	329	eP	P	20 05 11.0	-0.3
LPL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
LPG	La Plagne	90.73	329	eP	P	20 05 11.1	-0.3
LPG				pmax	pmax		
	comp=Z,9.0nm,1.1s						
AMTX	Amarillo	90.87	46	P	P	20 05 13.7	+1.7
	baz=313						
LDF	La Druitiere	90.90	335	eP	P	20 05 11.3	-0.4
LDF				pmax	pmax		
	comp=Z,34nm,1.7s						
AVF	Avril sur Loir	91.09	332	eP	P	20 05 12.3	-0.3
AVF				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MBDF	Montbardon	91.33	329	eP	P	20 05 13.0	-1.0
MBDF				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GRR	Gorron	91.34	335	eP	P	20 05 13.5	-0.2
GRR				pmax	pmax		
	comp=Z,29nm,1.4s						
BGF	Bois d'Agland	91.48	332	eP	P	20 05 18.3	+3.8
BGF				pmax	pmax		
	comp=Z,2.0nm,0.2s						
ORIF	Oris-en-Rattie	91.57	329	eP	P	20 05 14.4	-0.6
ORIF				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TCF	Toulx Ste Croi	91.95	332	eP	P	20 05 16.5	-0.2
TCF				pmax	pmax		
	comp=Z,8.0nm,0.9s						
VIVF	Saint-Julien-l	92.13	330	eP	P	20 05 17.2	-0.3
VIVF				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WMOK	Wichita Mounta	92.70	45	P	P	20 05 20.7	+0.3
WMOK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WMOK	Wichita Mounta	92.70	45	P	P	20 05 20.7	+0.3
WMOK				IAmb	IAmb	20 05 22.4	
	comp=Z,3.5nm,0.8s						
WMOK	Wichita Mounta	92.70	45	P	P	20 05 21.4	+1.0
	baz=314						
RJF	Les Rejaudoux	93.04	332	eP	P	20 05 21.7	0.0
RJF				pmax	pmax		
	comp=Z,12nm,1.0s						
CAF	Calviac	93.14	331	eP	P	20 05 22.5	+0.3
CAF				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TX31	Lajitas Ar. Si	93.32	52	P	P	20 05 24.3	+0.9
TX32	Lajitas Array	93.32	52	P	P	20 05 24.3	+0.9
TX32				IAmb	IAmb	20 05 26.0	
	comp=Z,7.0nm,0.8s						
TXAR	Lajitas Array	93.32	52	P	P	20 05 24.9	+1.5
	comp=Z,5.4nm,0.7s,baz=296,slow=3.2,SNR=69						
TXAR				LR	LR	20 43 33.5	
	comp=Z,31nm,20.8s,baz=0.0,slow=33						
TXAR	Lajitas Array	93.32	52	P	P	20 05 24.5	+1.1
R40A	Maddies Statio	93.75	39	P	P	20 05 25.2	+0.1
R40A				IAmb	IAmb	20 05 26.4	
	comp=Z,5.0nm,0.7s						
MTLF	Montolieu	94.39	330	eP	P	20 05 27.9	0.0
MTLF				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CCM	Cathedral Cave	94.46	38	P	P	20 05 29.2	+0.8
	baz=319						
U40A	Yellville	94.89	40	P	P	20 05 30.9	+0.6
	baz=318						
MIAR	Mount Ida	95.83	42	P	P	20 05 35.5	+0.9
	baz=318						
ETSF	Etsaut	95.87	332	eP	P	20 05 34.9	+0.1
ETSF				pmax	pmax		
	comp=Z,15nm,1.4s						
E63A	Oxbow	96.52	19	P	P	20 05 38.5	+0.9
	baz=336						
F62A	Pittston Farm,	96.56	20	P	P	20 05 38.2	+0.5
	baz=335						
T47A	Sharon Grove	97.38	36	P	P	20 05 40.2	-1.4
G64A	Maxfield	97.50	20	P	Pdif	20 05 44.8	+2.8
	baz=336						
K61A	Williamstown	98.41	24	P	Pdif	20 05 48.8	+2.6
	baz=332						
O56A	Blue Knob Stat	98.53	29	P	Pdif	20 05 49.5	+2.7
	baz=328						
N59A	State Game Lan	99.06	27	P	Pdif	20 05 51.9	+2.8
	baz=330						
ESDC	Sonseca Array	99.96	332	LR	LR	20 54 16.2	
	comp=Z,28nm,18.2s,baz=345,slow=37						
TORD	Torodi Ar. Bea	118.92	312	PKP	PKPdf	20 10 56.5	-0.1
	comp=Z,1.1nm,0.6s,baz=44,slow=1.1,SNR=18						
BOSA	Boshof	124.60	256	PKP	PKiKP	20 11 08.2	+0.6
	comp=Z,2.2nm,0.7s,baz=162,slow=6.8,SNR=4.1						
DBIC	Dimbokro	127.98	313	PKP	PKiKP	20 11 14.8	+0.1
	comp=Z,1.1nm,0.4s,baz=83,slow=2.3,SNR=4.6						
SNAA	Sanae	136.93	196	SKPbc	SKPbc	20 14 51.9	+0.8
VNA2	Neumayer--Watz	138.50	196	PKiKP	PKiKP	20 11 35.3	+1.1
VNA2	Neumayer--Watz	138.50	196	SKPbc	SKPbc	20 14 56.6	+1.0
VNA3	Neumayer Olymp	138.75	194	SKPbc	SKPbc	20 14 56.9	+0.6
VNA1	Neumayer--Stat	138.90	196	PKPdf	PKPdf	20 11 32.6	-0.2
VNA1	Neumayer--Stat	138.90	196	SKPbc	SKPbc	20 14 57.7	+1.1
H03N2	Juan Fernandez	147.71	101	T	T	22 57 24.9	
	baz=286,slow=75,SNR=9.1						
H03N3	Juan Fernandez	147.72	101	T	T	22 57 29.1	
	baz=286,slow=75,SNR=10						
H03N1	Juan Fernandez	147.73	101	T	T	22 57 20.2	
	baz=286,slow=75,SNR=11						
LPAZ	La Paz	149.52	63	PKPbc	PKiKP	20 11 59.6	+0.4
	comp=Z,8.4nm,0.8s,baz=312,slow=2.9,SNR=26						
LPAZ	La Paz	149.52	63	PKP2	PKiKP	20 11 59.3	+0.1
LPAZ	La Paz	149.52	63		PKiKP	20 11 59.3	+0.1
PLCA	Paso Flores	154.71	116	PKPab	PKPab	20 12 26.2	+2.2
	comp=Z,1.7nm,0.9s,baz=217,slow=3.9,SNR=5.8						
PLCA	Paso Flores	154.71	116		PKPab	20 12 26.5	+2.4
BDFB	Brasilia	160.91	24	PKP	PKPdf	20 12 08.1	-0.2
	comp=Z,15nm,0.8s,baz=127,slow=7.0,SNR=7.7						
BDFB	Brasilia	160.91	24	PKPdf	PKPdf	20 12 05.6	-2.7

MEX 03 19:53:21.9±1.1, 16°.49N×97°.37W, h10km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOIG	Yosondua	0.41	335	eP	Pg	19 53 29.0	-1.0
YOIG				eS	Sg	19 53 35.1	-0.2
PEIG	Puerto Escondi	0.53	156	eP	Pg	19 53 31.0	-1.2
PEIG				eS	Sg	19 53 38.9	-0.4
PNIG	Pinotepa	0.73	263	eP	Pg	19 53 34.2	-1.9
PNIG				eS	Sg	19 53 44.0	-1.7
HLIG	Huajuapan de L	1.40	343	eP	Pn	19 53 44.9	-2.8
HLIG				eS	Sb	19 54 02.2	-4.0
TOIG	Toxpalan	1.63	10	eP	Pn	19 53 48.5	-2.2
TOIG				eS	Sn	19 54 07.8	-4.0

TUL 03 20:08:05.4±1.0, 36°.56N±0°.01×97°.20W±0°.02, h5km±7km, ML2.6, mb_Lg2.5/36(NEIC), Error ellipse: s-maj=2.1km s-min=2.0km az=68.0

NEIC 03 20:08:05.6±1.0, 36°.54N±0°.01×97°.21W±0°.01, h7km±7km, Error ellipse: s-maj=2.2km s-min=1.4km az=147.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLOK	Blackwell	0.22	358	Pg	Pg	20 08 10.1	+0.1
BLOK				Sg	Sg	20 08 13.4	+0.5
KAN13	South Haven SW	0.52	335	Pg	Pg	20 08 15.7	0.0
QUOK	Quay	0.55	133	Pg	Pg	20 08 16.2	0.0
GC02	Grant County #	0.61	301	Pg	Pg	20 08 17.4	0.0
GC02				Sg	Sg	20 08 25.8	+0.5
CROK	Carrier	0.63	267	Pg	Pg	20 08 17.7	0.0
CROK				Sg	Sg	20 08 26.5	+0.6
OK031	S. Brethren Rd	0.66	153	Pg	Pg	20 08 18.4	+0.1
KAN17	Caldwell West	0.67	318		Pg	20 08 18.2	-0.3
T35A	Sooner Cattle	0.67	56	Pg	Pg	20 08 18.2	-0.4
KAN14	Manchester OK	0.73	304	Pg	Pg	20 08 19.6	-0.1
KS20	Mayfield South	0.74	338	Pg	Pg	20 08 19.5	-0.4
OK029	Liberty Lake	0.77	195		Pg	20 08 20.6	+0.2
OK032	Salt Plains WL	0.85	288		Pg	20 08 21.6	-0.3
FNO	Franklin	1.29	187	Pn	Pn	20 08 29.8	-0.4
U32A	Winter Ranch,	1.46	264	Pn	Pn	20 08 31.9	-0.5
X34A	Smith Ranch, M	2.00	195	Pn	Pn	20 08 39.9	-0.1
X34A				IAmb_Lg		20 09 08.8	
	comp=Z,17nm,0.9s						
WMOK	Wichita Mounta	2.21	216		Pn	20 08 42.9	+0.1
R32A	Long Quarter,	2.22	328	Pn	Pn	20 08 42.4	-0.6
U38A	Gravette	2.28	92	Pn	Pn	20 08 43.9	+0.2
X37A	Clayton	2.46	142		Pn	20 08 45.5	-0.7
X37A				IAmb_Lg		20 09 29.8	
	comp=Z,12nm,0.9s						
KSU1	Kansas State U	2.60	10	IAmb_Lg		20 09 29.0	
	comp=Z,14nm,0.9s						
HHAR	Hobbs	2.65	95	Pn	Pn	20 08 48.5	-0.4
CBKS	Cedar Bluff	3.03	319	Pn	Pn	20 08 53.3	-0.8
W39A	Magazine	3.09	115		Pn	20 08 54.9	+0.1
W39A				IAmb_Lg		20 09 50.8	
	comp=Z,18nm,1.1s						
S39A	Bolivar	3.31	69		Pn	20 08 57.1	-0.8
MGMO	Mountain Grove	4.01	80	IAmb_Lg		20 10 15.7	
	comp=Z,15nm,1.0s						
X40A	Basin Creek Fa	4.12	119	IAmb_Lg		20 10 21.5	
	comp=Z,7.2nm,0.8s						
FCAR	Ozark Folk Cen	4.16	98	IAmb_Lg		20 10 16.3	
	comp=Z,6.6nm,0.7s						
WHAR	Wooly Hollow	4.18	106	IAmb_Lg		20 10 26.9	
	comp=Z,7.5nm,0.9s						
P38A	Dawn	4.23	42	IAmb_Lg		20 10 18.9	
	comp=Z,7.7nm,0.8s						
R40A	Maddies Statio	4.30	65	Pn	Pn	20 09 12.5	+1.0
R40A				IAmb_Lg		20 10 22.2	
	comp=Z,7.5nm,0.7s						
N35A	Tabor	4.48	15	IAmb_Lg		20 10 37.5	
	comp=Z,12nm,0.8s						
LCAR	Lake Charles	4.91	94	IAmb_Lg		20 10 41.4	
	comp=Z,7.2nm,0.8s						
T42A	Van Buren	4.93	83	IAmb_Lg		20 10 44.6	
	comp=Z,8.1nm,0.8s						
CCM	Cathedral Cave	4.99	71	IAmb_Lg		20 10 52.8	
	comp=Z,14nm,0.8s						
PBMO	Poplar Bluff	5.45	86	IAmb_Lg		20 11 03.4	
	comp=Z,12nm,0.7s						
S44A	Carbondale	6.46	77	IAmb_Lg		20 11 28.0	
	comp=Z,10.0nm,0.8s						
K38A	Parkersburg	6.99	28	IAmb_Lg		20 11 53.0	
	comp=Z,8.9nm,0.8s						
FPAL	Fort Paine	9.66	99	IAmb_Lg		20 13 05.9	
	comp=Z,3.9nm,1.0s						

FUNV 03 20:39:29.0, 10°.52N×62°.56W, h79km, MW3.8
TRN 03 20:39:29.1, 10°.58N×62°.58W, h89km, MD3.4

ISC 03 20:39:26.7±1.3, 10°.49N±0°.04×62°.62W±0°.03, h97km±13km, n22, σ1s48/40, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	Carupano	0.64	287	eP	Pn	20 39 44.1	+0.8
CRUV				eS	Sn	20 39 54.5	-1.2
TRN	Trinidad (W)	1.20	82	eP	Pn	20 39 51.2	+2.0
TRN				eS	Sn	20 40 06.6	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRN	Trinidad (W)	1.20	82	eP	Pn	20 39 49.5	+0.3
TRN				eS	Sn	20 40 04.3	-1.9
GRFF	Grenada Fort F	1.77	29	eP	Pn	20 39 56.9	+0.6
GRFF				eS	Sn	20 40 17.1	-1.7
GRGR	Grenville	1.88	30	eP	Pn	20 39 58.3	+0.6
GRGR				eS	Sn	20 40 20.6	-0.7
GRGR	Grenville	1.88	30	eP	Pn	20 39 58.3	+0.6
GRGR				eS	Sn	20 40 19.6	-1.7
GRHS	Sauteurs	1.97	29	eP	Pn	20 39 59.3	+0.5
PCRV	Puerto La Cruz	2.01	261	eP	Pn	20 40 00.8	+1.4
PCRV				eS	Sn	20 40 23.1	-1.2
GRSS	Sisters	2.05	29	eP	Pn	20 40 02.1	+2.3
GRSS				eS	Sn	20 40 24.8	-0.3
TOSP	Speyside	2.20	68	eP	Pn	20 40 02.7	+1.0
TOSP				eS	Sn	20 40 28.1	-0.4
GCMP	Grenada, Carri	2.30	30	eP	Pn	20 40 03.7	+0.6
GCMP				eS	Sn	20 40 30.2	-0.8
RIOV	Rio Grande	2.53	162	eP	Pn	20 40 07.2	+1.0
RIOV				eS	Sn	20 40 35.8	-0.7
PRGV	PARIAGUAN	2.64	229	eP	Pn	20 40 09.4	+1.8
PRGV				eS	Sn	20 40 39.0	-0.1
SSV	Crater Summit	3.14	26	eP	Pn	20 40 16.0	+1.6
BIRV	Birongo	3.59	270	eP	Pn	20 40 22.4	+2.0
BIRV				eS	Sn	20 41 01.3	-0.6
MERV	Las Mercedes	3.83	252	eP	Pn	20 40 25.5	+1.9
MERV				eS	Sn	20 41 07.3	-0.3
TACV	Tcata	4.35	266	eP	Pn	20 40 31.5	+0.8
TACV				eS	Sn	20 41 19.3	-1.1
LUEV	Luepa	4.76	166	eP	Pn	20 40 37.5	+1.2
LUEV				eS	Sn	20 41 28.3	-2.1
CACV	CAICARA DEL OR	4.84	233	eP	Pn	20 40 34.0	-3.3
CACV				eS	Sn	20 41 21.6	-11
BENV	Beln	4.93	264	eP	Pn	20 40 39.6	+1.0
BENV				eS	Sn	20 41 33.3	-1.2
BAUV	El Baul	5.56	254	eP	Pn	20 40 47.0	-0.1
BAUV				eS	Sn	20 41 47.8	-2.0
PAYV	Puerto Ayacuch	7.09	225	eP	Pn	20 41 09.4	+1.5
PAYV				eS	Sn	20 42 22.6	-4.3

*IDC **03** 20:49:16.7±0.7, 24°.61N×94°.77E, h0km, mb4.0/15, mb1 4.1/16, mb1mx3.9/56, mbtmp3.9/16, ML3.9/1, MS3.2/7, Ms1 3.2/7, ms1mx2.8/56, Error ellipse: s-maj=32.2km s-min=13.5km az=58.0*

*NEIC **03** 20:49:23.6±1.1, 24°.58N±0°.09×94°.8E±0°.1, h43km±6km, mb4.5/35, Error ellipse: s-maj=17.4km s-min=9.6km az=49.0*

ISC 03 20:49:23.6±0.5, **24°.64N**±0°.09×**94°.90E**±0°.09, **h50**km, **n78**, σ**0.84**/65, **mb4.3**/33, **MS3.1**/6, **Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHL	Shillong	2.89	289	Pn	Pn	20 50 05.8	-1.5
SHL	Shillong	2.89	289	ePN	Pn	20 50 08.5	+1.2
SHL				eSN	Sn	20 50 42.0	+1.1
LSA	Lhasa	6.05	327	Pn	Pn	20 50 51.4	+0.4
CHTO	Chiang Mai	6.91	146	P	Pn	20 51 02.4	+0.1
	0.2nm19nm,0.7s						
CHTO	Chiang Mai	6.91	146	Pn	Pn	20 51 02.4	+0.1
CM15	Chiang Mai Arr	7.20	148	P	Pn	20 51 08.3	+1.9
	0.1nm125nm16nm,0.7s						
CM31	Chiang Mai Arr	7.21	148	P	Pn	20 51 16.0	+10
CMAR	Chiang Mai Arr	7.21	148	Pn	Pn	20 51 05.6	-0.9
	0.6nm,0.3s,baz=323,slow=13,SNR=20						
CMAR				Lg	Lg	20 53 08.4	
	0.5nm,0.3s,baz=320,slow=28,SNR=3.0						
CMAR				LR	LR	20 54 37.5	
	comp=Z,201nm,18.8s,baz=32,slow=44						
CMAR	Chiang Mai Arr	7.21	148		Pn	20 51 06.0	-0.5
CM13	Chiang Mai Arr	7.22	148	P	Pn	20 51 16.2	+10
	0.1nm203nm12nm,0.7s						
CM13	Chiang Mai Arr	7.22	148	P	Pn	20 51 16.2	+10
CM02	Chiang Mai Arr	7.23	148	P	Pn	20 51 08.1	+1.3
	0.1nm156nm16nm,0.9s						
CM09	Chiang Mai Arr	7.24	148	P	Pn	20 51 16.4	+9.4
	0.1nm172nm15nm,0.8s						
CM09	Chiang Mai Arr	7.24	148	P	Pn	20 51 16.0	+9.0
CM01	Chiang Mai Arr	7.25	148	P	Pn	20 51 16.7	+10
	0.1nm182nm22nm,0.8s						
CM01	Chiang Mai Arr	7.25	148	P	Pn	20 51 16.0	+9.0
CM05	Chiang Mai Arr	7.26	148	P	Pn	20 51 08.6	+1.5
	0.1nm91nm10nm,0.8s						
CM04	Chiang Mai Arr	7.28	148	P	Pn	20 51 08.2	+0.8
	0.1nm119nm15nm,0.8s						
CM04	Chiang Mai Arr	7.28	148	P	Pn	20 51 17.1	+10
UTTA	Uttaradit	8.65	141	P	Pn	20 51 36.5	+10
	0.1nm183nm20nm,0.7s						
UTTA	Uttaradit	8.65	141	P	Pn	20 51 36.6	+10
PHIT	Phitsanulok	9.03	144	P	Pn	20 51 42.0	+11
	38nm,0.7s						
PHIT	Phitsanulok	9.03	144	P	Pn	20 51 42.0	+11
NIL	Nilore	20.90	300	P	P	20 54 01.5	-0.4
NIL				IAmb	IAmb	20 54 02.9	
	comp=Z,34nm,1.3s						
PALK	Pallekele	21.97	221	LR	LR	21 05 33.2	
	comp=Z,28nm,18.8s,baz=159,slow=45						
MK31	Makanchi Array	24.30	339	P	P	20 54 36.9	+0.5
MKAR	Makanchi Array	24.30	339	P	P	20 54 37.0	+0.6
	comp=Z,1.3nm,0.5s,baz=149,slow=9.2,SNR=38						
MKAR	Makanchi Array	24.30	339	P	P	20 54 36.5	+0.2
MAKZ	Makanchi	24.42	338	P	P	20 54 37.9	+0.5
KBL	Kabul	24.50	300	P	P	20 54 38.5	0.0
KBL				IAmb	IAmb	20 54 40.0	
	comp=Z,9.1nm,0.7s						
SONM	Songino Array	24.88	19	P	P	20 54 41.7	0.0
	comp=Z,0.6nm,0.7s,baz=195,slow=10,SNR=4.7						
SONM				LR	LR	21 05 38.1	
	comp=Z,59nm,20.0s,baz=224,slow=39						
SONM	Songino Array	24.88	19	P	P	20 54 41.5	-0.3
GAR	Garm	25.22	310	P	P	20 54 44.6	-0.4
GAR				IAmb	IAmb	20 54 47.1	
	comp=Z,34nm,1.2s						
BTK	Batken	25.39	313	P	P	20 54 45.7	-0.7
BTK				IAmb	IAmb	20 54 49.8	
	comp=Z,5.9nm,0.7s						
CHGR	Chuyangaron	25.88	309		P	20 54 49.7	-1.2
CHGR				IAmb	IAmb	20 54 54.2	
	comp=Z,9.6nm,0.9s						
KURBB	Kurchatov Arra	28.87	338	P	P	20 55 17.4	0.0
	comp=Z,0.8nm,0.5s,baz=146,slow=9.7,SNR=12						
KURBB				PcP	PcP	20 58 25.8	+0.1
	comp=Z,0.3nm,0.6s,baz=138,slow=2.5,SNR=4.4						
KURK	Kurchatov	28.92	338	P	P	20 55 17.4	-0.4
KURK					PcP	20 58 25.8	0.0
ZALV	Zalesovo Beam	30.23	348	P	P	20 55 28.0	-1.4
	comp=Z,0.8nm,0.4s,baz=169,slow=8.4,SNR=5.6						
ZALV				LR	LR	21 08 29.3	
	comp=Z,20nm,18.1s,baz=80,slow=38						
ABKAR	Akbulak array	36.69	321	P	P	20 56 26.0	+0.4
ABKAR	Akbulak array	36.69	321	P	P	20 56 25.8	+0.1
JCJ	Chichijima	42.43	76	LR	LR	21 13 57.4	
	comp=Z,78nm,19.6s,baz=98,slow=35						
ONI	Oni	45.70	306	P	P	20 57 42.0	+2.1
ONI				IAmb	IAmb	20 57 42.8	
	comp=Z,3.2nm,0.6s						
KIV	Kislovodsk	46.41	308	P	P	20 57 46.8	+1.4
KIV				IAmb	IAmb	20 57 47.6	
	comp=Z,6.9nm,1.1s						
BRTR	Keskin Array B	53.03	302	P	P	20 58 35.8	-0.1
	comp=Z,1.0nm,0.5s,baz=104,slow=7.9,SNR=3.9						
AKASG	Malin Array Be	56.06	316	P	P	20 58 56.2	-1.2
	comp=Z,2.2nm,0.5s,baz=80,slow=6.3,SNR=15						
AKASG	Malin Array Be	56.06	316	IAmb	IAmb	20 58 57.0	
	comp=Z,1.7nm,1.1s						
AKBB	Malin Array Si	56.06	316	P	P	20 58 56.8	-0.6
AKBB				IAmb	IAmb	20 58 57.4	
	comp=Z,5.1nm,0.8s						
ELL	Elmali	56.22	299	P	P	20 58 59.1	+0.1
MLR	Muntele Rosu	58.36	310	P	P	20 59 14.6	+0.6
MLR				IAmb	IAmb	20 59 15.6	
	comp=Z,5.4nm,0.8s						
FINES	FINESS Array B	58.57	328	P	P	20 59 14.5	-0.4
	comp=Z,1.3nm,0.9s,baz=89,slow=8.5,SNR=6.2						
FINES				LR	LR	21 27 47.2	
	comp=Z,19nm,20.7s,baz=44,slow=40						
FINES	FINESS Array B	58.57	328	P	P	20 59 15.2	+0.3
WRA	Warramunga Arr	58.63	136	P	P	20 59 16.1	+0.2
	comp=Z,0.9nm,0.8s,baz=316,slow=6.4,SNR=9.6						
WRAB	Tennant Creek	58.63	136	P	P	20 59 15.5	-0.3
WRAB				IAmb	IAmb	20 59 29.6	
	comp=Z,3.6nm,0.8s						
WRAB					PcP	21 00 04.0	-1.6
WB2	Warramunga Arr	58.63	136	P	P	20 59 16.2	+0.3
WB2				IAmb	IAmb	20 59 29.6	
	comp=Z,2.4nm,0.9s						
BURAR	Bucovina Array	58.73	312	P	P	20 59 16.4	-0.1
WR0	Warramunga Arr	58.77	135	P	P	20 59 17.5	+0.7
WR0				IAmb	IAmb	20 59 30.4	
	comp=Z,4.5nm,1.1s						
PABE	Paberze	59.33	321	P	P	20 59 21.1	+0.9
ARCES	ARCESS Array B	59.95	338	P	P	20 59 25.2	+0.8
	comp=Z,2.0nm,0.8s,baz=89,slow=5.7,SNR=1.5						
ARCES				LR	LR	21 26 53.4	
	comp=Z,18nm,18.5s,baz=290,slow=38						
KWP	Kalwaria Pacla	60.27	315	P	P	20 59 27.2	+0.3
ASAR	Alice Springs	61.12	139	P	P	20 59 33.0	-0.1
	comp=Z,0.4nm,0.4s,baz=322,slow=6.9,SNR=9.2						
ITM	Ithomi	62.47	301	P	P	20 59 40.0	-2.0
CONA	Conrad Observa	64.97	313	eP	P	20 59 58.6	+0.3
	comp=Z,0.5nm,0.3s						
NOA	NORSAR Array B	65.74	328	P	P	21 00 02.1	-0.9
	comp=Z,1.0nm,0.8s,baz=83,slow=6.4,SNR=3.6						
VOI	Vohitsoka	65.76	229	P	P	21 00 04.0	+0.2
NC204	NORSAR Array S	65.93	328	P	P	21 00 03.7	-0.6
MOA	Molln	66.04	313	eP	P	21 00 04.7	-0.4
	comp=Z,1.6nm,0.6s						
GEC2	GERESS Array S	66.22	314	P	P	21 00 06.7	+0.2
GEC2				IAmb	IAmb	21 00 07.2	
	comp=Z,3.1nm,0.8s						
GERES	GERESS Array B	66.22	314	P	P	21 00 06.5	+0.1
	comp=Z,1.9nm,0.6s,baz=77,slow=6.2,SNR=22						
NRCA	Norcia	67.89	308	P	P	21 00 16.8	-0.3
NRCA				IAmb	IAmb	21 00 26.0	
	comp=Z,3.1nm,1.0s						
SQTA	Sankt Quirin	68.19	313	eP	P	21 00 18.1	-0.9
	comp=Z,1.3nm,0.3s						
MOTA	Moosalm	68.23	313	eP	P	21 00 18.8	-0.5
	comp=Z,1.2nm,0.4s						
RETA	Reutte	68.43	313	eP	P	21 00 19.9	-0.5
	comp=Z,1.0nm,0.3s						
H23K	Yukon River	77.52	22	P	P	21 01 15.3	+1.6
H23K				IAmb	IAmb	21 01 26.5	
	comp=Z,5.7nm,1.4s						
ESDC	Sonseca Array	81.06	309	P	P	21 01 33.4	-0.2
	comp=Z,0.5nm,0.8s,baz=46,slow=2.9,SNR=2.2						
ESDC	Sonseca Array	81.06	309	IAmb	IAmb	21 01 37.6	
	comp=Z,1.8nm,1.4s						
BOSA	Boshof	85.36	236	P	P	21 01 55.9	-0.1
	comp=Z,4.1nm,0.7s,baz=53,slow=3.4,SNR=8.6						
TORD	Torodi Ar. Bea	87.47	283	P	P	21 02 05.7	-0.8
	comp=Z,0.4nm,0.7s,baz=56,slow=3.2,SNR=3.7						
TORD	Torodi Ar. Bea	87.47	283	IAmb	IAmb	21 02 29.6	
	comp=Z,3.6nm,1.5s						

*IDC **03** 20:56:13.5±0.6, 1°.87N×126°.33E, h0km, mb4.2/17, mb1 4.3/18, mb1mx4.1/45, mbtmp4.2/18, ML4.2/1, MS3.1/4, Ms1 3.1/4, ms1mx2.7/38, Error ellipse: s-maj=35.8km s-min=12.2km az=78.0*

*DJA **03** 20:56:18.7±1.3, 2°N±3°×12°7E±°, h16km±11km, M4.3/9, mb4.6/5, mB4.7/3, MLv4.3/9, Mw(mB)3.9/3*

*NEIC **03** 20:56:19.8±1.9, 1°.98N±0°.06×126°.52E±0°.07, h47km±9km, mb4.4/30, Error ellipse: s-maj=10.3km s-min=8.4km az=120.0*

ISC 03 20:56:19.8±0.4, **2°.01N**±0°.04×**126°.57E**±0°.04, **h47**km, **n63**, σ**1.42**/68, **mb4.2**/29, **MS3.2**/3, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GAMI	Galela, Maluku	1.23	98	P	Pn	20 56 41.6	+0.9
GAMI				S	Sn	20 56 58.3	+2.1
TNTI	Ternate	1.47	147	Pn	Pn	20 56 43.7	-0.2
TNTI	Ternate	1.47	147	P	Pn	20 56 43.9	+0.1
MNI	Manado	1.81	252	P	Pn	20 56 48.5	-0.1
MNI				S	Sn	20 57 11.0	+0.5
SGSI	Sangihe	1.96	328	P	Pn	20 56 50.9	+0.2
SGSI				S	Sn	20 57 15.3	+1.2
GTOI	Gorontalo	3.81	249	P	Pn	20 57 16.9	+0.9
GTOI				S	Sn	20 58 03.7	+4.2
SANI	Sanana	4.07	188	P	Pn	20 57 20.7	+1.1
MRSI	Marisa	4.87	252	P	Pn	20 57 31.1	+0.5
KRAI	Karang Ratu	5.60	161	P	Pn	20 57 43.9	+3.3
	0.1nm22nm,0.6s						
APSI	Ampana	5.71	240	P	Pn	20 57 44.7	+2.6
	0.5nm929nm95nm,0.8s						
TOLI2	Tolitoli	5.85	261		Pn	20 57 43.0	-1.0
MPSI	Mapaga	6.87	256	P	Pn	20 57 58.0	-0.1
	0.1nm419nm28nm,0.8s						
TTSI	Tana Toraja	8.41	233	P	Pn	20 58 20.2	+1.1
BATI	Baumata	12.47	193	LR	LR	21 03 36.3	
	comp=Z,55nm,21.2s,baz=288,slow=36						
MTN	Manton Dam	15.44	163		Pn	20 59 53.2	-1.4
MTN				IAmb	IAmb	21 00 02.3	
	comp=Z,10nm,0.6s						
KNRA	Kununurra	17.70	173	P	Pn	21 00 22.6	-0.4
KNRA				IAmb	IAmb	21 00 26.4	
	comp=Z,12nm,0.7s						
FITZ	Fitzroy Crossi	20.00	183	P	P	21 00 47.0	-1.7
	comp=Z,0.6nm,0.3s,baz=13,slow=9.9,SNR=18						
YULB	Yu-li	21.86	347	P	P	21 01 05.5	-3.2
TPUB	Ta-pu	21.94	345	P	P	21 01 07.6	-1.9
SSLB	Suanglung	22.32	346		P	21 01 11.7	-1.9
SSLB				IAmb	IAmb	21 01 17.3	
	comp=Z,7.9nm,0.8s						
YOJ	Yonaguni jima	22.59	352	P	P	21 01 14.5	-2.0
YOJ				IAmb	IAmb	21 01 18.3	
	comp=Z,7.6nm,0.7s						
COEN	Coen	22.86	134	P	P	21 01 19.5	0.0
COEN				IAmb	IAmb	21 01 19.9	
	comp=Z,11nm,1.4s						
WRAB	Tennant Creek	23.10	161	P	P	21 01 20.8	-1.1
WRA	Warramunga Arr	23.11	161	P	P	21 01 20.7	-1.2
	comp=Z,13nm,0.5s,baz=341,slow=12,SNR=101						
WRA				PcP	PcP	21 05 09.0	-0.8
	comp=Z,0.4nm,0.6s,baz=340,slow=1.7,SNR=2.4						
WRA				S	S	21 05 28.1	-1.8
	comp=Z,2.3nm,1.0s,baz=334,slow=20,SNR=6.2						
WRA	Warramunga Arr	23.11	161	P	P	21 01 20.9	-1.0
WB2	Warramunga Arr	23.11	161	P	P	21 01 20.8	-1.2
WB2				IAmb	IAmb	21 01 26.1	
	comp=Z,36nm,1.3s						
WR0	Warramunga Arr	23.19	161	P	P	21 01 21.4	-1.3
WR0				IAmb	IAmb	21 01 26.5	
	comp=Z,8.1nm,0.8s						
AS31	Alice Springs	26.50	165		P	21 01 52.4	-0.6
ASAR	Alice Springs	26.50	165	P	P	21 01 52.5	-0.5
	comp=Z,1.4nm,0.5s,baz=344,slow=8.0,SNR=28						
ASAR				PcP	PcP	21 05 17.2	0.0
	comp=Z,0.5nm,0.3s,baz=349,slow=2.2,SNR=7.5						
ASAR				S	S	21 06 23.0	-1.1
	comp=Z,0.9nm,1.1s,baz=348,slow=15,SNR=4.5						
ASAR	Alice Springs	26.50	165	P	P	21 01 52.3	-0.8
PSI	Prapat	27.63	272	LR	LR	21 14 23.9	
	comp=Z,64nm,18.6s,baz=91,slow=40						
JNU	Nakatsue	31.21	7	P	P	21 02 36.4	+1.5
	comp=Z,9.7nm,1.1s,baz=207,slow=9.0,SNR=2.8						
CMAR	Chiang Mai Arr	31.63	303	P	P	21 02 37.6	-1.1
	comp=Z,0.4nm,0.5s,baz=124,slow=7.7,SNR=1.2						
CMAR				LR	LR	21 15 27.4	
	comp=Z,22nm,21.0s,baz=198,slow=37						
MORW	Morawa	32.50	197	P	P	21 02 45.7	-0.5
MORW				IAmb	IAmb	21 03 08.4	
	comp=Z,18nm,1.4s						
FORT	Forrest	32.63	178	P	P	21 02 47.0	-0.3
JWT	Wachi	34.11	13	P	P	21 03 01.1	+0.9
JWT				IAmb	IAmb	21 03 11.6	
	comp=Z,12nm,1.2s						
KSRS	Korea Array	35.30	2	P	P	21 03 12.7	+2.3
	comp=Z,1.6nm,0.6s,baz=177,slow=9.5,SNR=5.5						
BBOO	Buckleboo	35.77	166	P	P	21 03 14.1	-0.4
MJAR	Matsushiro Arr	36.01	16	P	P	21 03 18.0	+1.5
	comp=Z,1.3nm,0.6s,baz=185,slow=10,SNR=2.4						
MJAR	Matsushiro Arr	36.01	16	P	P	21 03 18.0	+1.5
MJAR	Matsushiro Arr	36.01	16	IAmb	IAmb	21 03 18.6	
	comp=Z,3.3nm,1.5s						
STKA	Stephens Creek	36.59	158	P	P	21 03 20.9	-0.7
	comp=Z,3.1nm,0.6s,baz=344,slow=9.8,SNR=7.0						
STKA				LR	LR	21 19 37.2	
	comp=Z,50nm,19.7s,baz=205,slow=38						
STKA	Stephens Creek	36.59	158	IAmb	IAmb	21 03 25.9	
	comp=Z,0.8nm,0.7s						
USRK	Ussuriysk Ar.	42.29	6	P	P	21 04 09.8	+1.1
	comp=Z,1.3nm,0.7s,baz=179,slow=12,SNR=3.1						
LSA	Lhasa	43.47	313	P	P	21 04 19.0	-0.2
LSA				IAmb	IAmb	21 04 22.3	
	comp=Z,3.0nm,0.6s						
KLR	Kul'dur	47.26	5	P	P	21 04 48.9	+0.6
	comp=Z,0.9nm,0.5s,baz=219,slow=6.5,SNR=1.9						
SONM	Songino Array	48.87	342	P	P	21 05 01.0	0.0
	comp=Z,1.7nm,0.6s,baz=157,slow=8.9,SNR=15						
SONM	Songino Array	48.87	342	P	P	21 05 01.3	+0.3
PETK	Petropavlovsk-	57.08	22	P	P	21 06 02.3	+1.1
	comp=Z,1.5nm,0.7s,baz=221,slow=8.6,SNR=3.0						
MK31	Makanchi Array	58.87	326	P	P	21 06 13.5	-0.5
MK31				IAmb	IAmb	21 06 14.8	
	comp=Z,1.9nm,0.6s						
MKAR	Makanchi Array	58.87	326	P	P	21 06 13.4	-0.6
	comp=Z,2.1nm,0.4s,baz=120,slow=7.5,SNR=66						
MKAR				PcP	PcP	21 07 04.9	+2.0
	comp=Z,0.8nm,0.8s,baz=126,slow=5.9,SNR=3.5						
MAKZ	Makanchi	59.06	326	P	P	21 06 14.7	-0.6
MAKZ				IAmb	IAmb	21 06 17.3	
	comp=Z,3.3nm,0.6s						
ZALV	Zalesovo Beam	62.04	334	P	P	21 06 33.9	-1.5
	comp=Z,0.7nm,0.4s,baz=132,slow=8.9,SNR=3.5						
GAR	Garm	62.97	313	P	P	21 06 40.8	-1.3
KK31	Karatay Array	64.38	318	P	P	21 06 50.2	-0.9
KK31				IAmb	IAmb	21 06 52.9	
	comp=Z,3.1nm,1.0s						
KKAR	Karatay Array	64.38	318	P	P	21 06 50.0	-1.2
NRIK	Noril'sk	72.05	346	P	P	21 07 41.1	+2.5
	comp=Z,2.1nm,0.4s,baz=131,slow=6.5,SNR=4.3						
ABKAR	Akbulak array	73.38	321	P	P	21 07 45.3	-1.6
ABKAR	Akbulak array	73.38	321	P	P	21 07 45.5	-1.4
ARU	Arti	76.30	328	P	P	21 08 03.2	-0.4
ARU				IAmb	IAmb	21 08 06.6	
	comp=Z,12nm,1.5s						
VNDA	Vanda	81.75	173	P	P	21 08 32.9	-0.2
	comp=Z,0.7nm,0.6s,baz=301,slow=9.0,SNR=5.7						
ARCES	ARCESS Array B	92.00	340	P	P	21 09 24.0	+0.7
	comp=Z,5.5nm,1.1s,baz=69,slow=4.9,SNR=2.1						
FINES	FINESS Array B	93.26	332	P	P	21 09 31.6	+2.3
	comp=Z,1.4nm,0.8s,baz=56,slow=5.2,SNR=4.6						

*NEIC **03** 21:04:30.6±1.2, 38°.81N±0°.06×142°.0E±0°.1, h72km±5km, mb4.6/23, Error ellipse: s-maj=12.2km s-min=8.7km az=99.0*

*MOS **03** 21:04:30.2±0.9, 38°.82N×141°.78E, h79km, mb4.5/7, Error ellipse: s-maj=9.3km s-min=6.4km az=91.6*

*IDC **03** 21:04:31.9±0.6, 38°.78N×141°.49E, h69km±4km, mb3.8/26, mb1 3.9/29, mb1mx3.8/54, mbtmp4.1/29, MS3.3/2, Ms1 3.3/2, ms1mx2.5/43, Error ellipse: s-maj=15.9km s-min=10.7km az=91.0*

*JMA **03** 21:04:32.4, 38°.82N×141°.60E, h74km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs253.00000°, δ11.00000°, λ-27.00000°. NP2:φs10.00000°, δ85.00000°, λ-100.00000°. Principal axes: T Plg39.0000°, Azm109.0000°; N Plg10.0000°, Azm11.0000°; P Plg49.0000°, Azm269.0000°;*

JMA Felt II J1.

*NIED **03** 21:04:32.5, 38°.82N×141°.60E, h74km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr-1.99; Mθθ-0.28; Mφφ2.27; Mrθ-1.68; Mθφ0.39; Mφr-8.27; Fault plane solution: M0 8.71000×10^14 NP1:φs11.00000°, δ83.00000°, λ-89.00000°. NP2:φs184.00000°, δ7.00000°, λ-97.00000°.*

ISC 03 21:04:31.7±0.5, **38°.81N**±0°.03×**141°.75E**±0°.05, **h74**km±3km, **h74km:pP-P**, **n132**, σ**1.38**/151, **mb4.3**/41, **20C-4D**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JKMT	Kesennumamotoy	0.21	270	⇑P	Pn	21 04 43.3	+0.4
JKMT				S	Sn	21 04 51.0	-0.1
OFUJ	Ofunato	0.27	347	⇑P	Pn	21 04 43.9	+0.7
OFUJ				S	Sn	21 04 52.3	+0.6
JMK	Ichinoseki	0.43	289	⇑P	Pn	21 04 44.1	-0.2
JMK				S	Sn	21 04 52.8	-0.8
JIO	Ouri	0.47	221	⇑P	Pn	21 04 44.9	+0.2
JIO				S	Sn	21 04 53.9	-0.3
JOM	Ohasama	0.75	332	⇑P	Pn	21 04 47.7	+0.2
JOM				S	Sn	21 04 59.0	-0.1
JOU	Okura	0.96	243	⇑P	Pn	21 04 49.7	-0.2
JOU				S	Sn	21 05 02.7	-0.8
JRG	Rokugo	1.04	304	⇑P	Pn	21 04 50.7	-0.2
JRG				S	Sn	21 05 05.0	-0.3
JYK	Kaneyama	1.09	276	⇑P	Pn	21 04 51.0	-0.5
JMM	Marumori	1.21	219	⇑P	Pn	21 04 52.5	-0.5
JMM				S	Sn	21 05 08.1	-0.8
JMM	Marumori	1.21	219		Pn	21 04 52.7	-0.3
JYS	Shirataka	1.45	246	⇑P	Pn	21 04 55.9	-0.2
JYS				S	Sn	21 05 13.8	-0.7
JANG	Nango	1.57	354	P	Pn	21 04 58.0	+0.3
JFK	Kawauchi	1.60	206	⇑P	Pn	21 04 58.3	+0.2
JFK				S	Sn	21 05 17.7	-0.4
JYA	Atsumi	1.60	263	⇑P	Pn	21 04 57.8	-0.4
JYA				S	Sn	21 05 17.3	-0.9
JAH	Hinai	1.62	328	⇑P	Pn	21 04 58.9	+0.5
JAH				eS	Sn	21 05 19.0	+0.4
JFT	Otama	1.70	221	P	Pn	21 05 00.2	+0.7
JTM	Tenmabayashi	2.04	345		Pn	21 05 04.7	+0.7
JSD	Sado	2.84	255	Pn	Pn	21 05 14.7	-0.2
JYT	Yasato	2.86	206		Pn	21 05 14.9	-0.1
MJAR	Matsushiro Arr	3.61	232	P	Pn	21 05 25.8	+0.6
	0.8nm,0.3s,baz=41,slow=11,SNR=46						
MJAR	Matsushiro Arr	3.61	232	P	Pn	21 05 25.9	+0.7
MJAR	Matsushiro Arr	3.61	232		Pn	21 05 25.9	+0.7
MAJO	Matsushiro	3.61	232	d iP	Pn	21 05 26.8	+1.6
MAJO	Matsushiro	3.61	232		Pn	21 05 26.5	+1.2
MAT	Matsushiro	3.61	232	P	Pn	21 05 26.8	+1.6
MAT				eS	Sn	21 06 09.6	+2.9
JGF	Kuroka	4.75	229		Pn	21 05 41.8	+1.0
INU	Inuyama	5.12	229		Pn	21 05 46.8	+0.9
ASAJ	Asahikawa	5.34	7	P	Pn	21 05 48.6	-0.1
	2.4nm,0.3s,baz=212,slow=8.4,SNR=16						
ASAJ				S	Sn	21 06 47.6	-1.2
	1.7nm,0.3s,baz=216,slow=17,SNR=3.7						
JKA	Kamikawa-asahi	5.34	7	Pn	Pn	21 05 48.6	-0.2
NMR	Nemuro--Hokkai	5.46	32	eP	Pn	21 05 49.3	-1.1
NMR				eS	Sn	21 06 46.6	-5.1
GLVR	Golovnino	5.68	29	eP	Pn	21 05 53.8	+0.4
GLVR				eS	Sn	21 06 54.1	-3.1
GLVR				smax	smax		
	comp=N,279nm,0.3s						
GLVR				smax	smax		
	comp=E,469nm,0.3s						
JHJ	Hachijo jima 2	5.90	196	P	Pn	21 05 55.5	-1.0
	comp=E,8.9nm,0.3s,baz=104,slow=22,SNR=5.2						
JHJ				S	Sn	21 06 58.7	-4.0
	comp=E,10nm,0.3s,baz=0.0,slow=20,SNR=1.5						
JHJ2	Mitsune	5.90	196	Pn	Pn	21 05 56.5	0.0
RUSJ	Misakicho	5.91	25	eP	Pn	21 05 57.2	+0.7
RUSJ				eS	Sn	21 07 01.1	-1.6
GRPR	Tuman	6.00	29	eP	Pn	21 05 56.8	-0.9
GRPR				eS	Sn	21 06 59.7	-5.2
GRPR				smax	smax		
	comp=E,276nm,0.2s						
GRPR				smax	smax		
	comp=N,384nm,0.3s						
YUK	Yuzh-Kuril'sk	6.07	29	eP	Pn	21 05 58.1	-0.6
YUK				eS	Sn	21 07 01.7	-4.9
YUK				pmax	pmax		
	comp=Z,54nm,0.5s						
YUK				smax	smax		
	comp=N,260nm,0.2s						
YUK				smax	smax		
	comp=E,187nm,0.2s						
JWT	Wachi	6.18	237		Pn	21 06 02.1	+1.8
JHS	Saijyo	7.89	244	Pn	Pn	21 06 23.6	-0.1
JMN	Monobe	8.13	234	Pn	Pn	21 06 26.6	-0.4
USA0B	Ussuriysk Arra	9.08	309	P	Pn	21 06 40.7	+0.8
USA0B	Ussuriysk Arra	9.08	309	Pn	Pn	21 06 40.7	+0.8
USRK	Ussuriysk Ar.	9.08	309	P	Pn	21 06 41.0	+1.1
	baz=120,slow=14,SNR=7.6						
USRK	Ussuriysk Ar.	9.08	309	P	Pn	21 06 40.6	+0.7
USRK	Ussuriysk Ar.	9.08	309		Pn	21 06 40.6	+0.7
JTU	Tsushima	10.80	250	Pn	Pn	21 07 05.4	+2.1
KSRS	Korea Array	10.97	267	P	Pn	21 07 08.8	+3.1
	comp=E,0.8nm,0.3s,baz=81,slow=14,SNR=13						
JCJ	Chichijima	11.69	178	P	Pn	21 07 15.3	-0.2
	comp=E,1.5nm,0.3s,baz=281,slow=18,SNR=2.2						
KLR	Kul'dur	12.64	329	LR	LR	21 12 08.5	
	comp=E,32nm,19.0s,baz=146,slow=36						
MA2	Magadan	21.56	13	P	P	21 09 16.4	+1.6
	comp=E,3.8nm,0.6s,baz=188,slow=9.4,SNR=3.7						
MA2				sP	sP	21 09 39.3	-0.2

	comp=E,4.9nm,0.6s,baz=195,slow=12,SNR=2.6						
YAK	**Yakutsk**	**24.40**	**346**	P	**P**	**21 09 42.9**	**+0.2**
	comp=E,7.2nm,0.4s,baz=71,slow=0.4,SNR=7.0						
YAK	**Yakutsk**	**24.40**	**346**	*e*P	**P**	**21 09 42.4**	**-0.3**
YAK				pmax	pmax		
	comp=Z,17nm,0.9s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.2s						
YAK	**Yakutsk**	**24.40**	**346**	P	**P**	**21 09 42.0**	**-0.7**
YAK				IAmb	IAmb	21 09 43.5	
	comp=Z,19nm,0.5s						
SEY	**Seymchan**	**25.00**	**12**	P	**P**	**21 09 49.2**	**+1.0**
	comp=Z,2.5nm,0.9s,baz=188,slow=6.4,SNR=6.2						
SEY				sP	**sP**	**21 10 14.2**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=188,slow=8.6,SNR=3.6						
ULN	**Ulaanbaatar**	**26.62**	**301**	*ce*P	**P**	**21 10 03.7**	**+0.5**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.7s						
ULN	**Ulaanbaatar**	**26.62**	**301**	P	**P**	**21 10 02.8**	**-0.3**
SONM	**Songino Array**	**27.05**	**301**	P	**P**	**21 10 06.9**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=92,slow=9.0,SNR=7.3						
SONM				PcP	**PcP**	**21 13 26.8**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=132,slow=2.1,SNR=2.5						
SONM	**Songino Array**	**27.05**	**301**	P	**P**	**21 10 07.4**	**+0.4**
SONM				pmax	pmax		
	comp=Z,2.0nm,1.2s						
SONM	**Songino Array**	**27.05**	**301**	P	**P**	**21 10 07.4**	**+0.4**
ENH	**Enshi**	**27.79**	**262**	P	**P**	**21 10 12.5**	**-1.2**
H11N2	**WAKE ISLAND Hy**	**28.88**	**124**	T	T	21 40 57.6	
	baz=318,slow=76,SNR=695						
H11N1	**WAKE ISLAND Hy**	**28.89**	**124**	T	T	21 40 57.9	
	baz=318,slow=76,SNR=718						
H11N3	**WAKE ISLAND Hy**	**28.89**	**124**	T	T	21 40 58.9	
	baz=318,slow=76,SNR=520						
H11S1	**WAKE ISLAND Hy**	**29.65**	**126**	T	T	21 41 52.3	
	baz=318,slow=76,SNR=174						
H11S3	**WAKE ISLAND Hy**	**29.65**	**126**	T	T	21 41 52.5	
	baz=318,slow=76,SNR=229						
H11S2	**WAKE ISLAND Hy**	**29.66**	**126**	T	T	21 41 57.1	
	baz=318,slow=76,SNR=136						
DGZ	**Jazzator, Alta**	**39.59**	**304**	*i* P	**P**	**21 11 55.9**	**+0.2**
DGZ				pmax	pmax		
	comp=Z,18nm,0.8s						
ZAA0	**Zalesovo Array**	**40.93**	**311**	P	**P**	**21 12 06.3**	**-0.2**
ZAA0				IAmb	IAmb	21 12 07.4	
	comp=Z,5.8nm,0.9s						
ZALV	**Zalesovo Beam**	**40.93**	**311**	P	**P**	**21 12 06.0**	**-0.5**
	comp=Z,2.4nm,0.4s,baz=79,slow=7.7,SNR=14						
ZALV	**Zalesovo Beam**	**40.93**	**311**	*i* P	**P**	**21 12 06.4**	**-0.1**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZALV	**Zalesovo Beam**	**40.93**	**311**	P	**P**	**21 12 06.2**	**-0.3**
CHTO	**Chiang Mai**	**42.01**	**254**	P	**P**	**21 12 15.5**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,3.0nm,1.4s						
CHTO	**Chiang Mai**	**42.01**	**254**	P	**P**	**21 12 15.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**42.23**	**254**	P	**P**	**21 12 17.1**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=39,slow=7.2,SNR=4.6						
CMAR	**Chiang Mai Arr**	**42.23**	**254**	*i* P	**P**	**21 12 18.7**	**+1.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MK31	**Makanchi Array**	**43.42**	**301**	⇓Lg	Lg	21 13 25.0	
	comp=Z,3.3nm,0.3s,baz=28,slow=31,SNR=5.5						
MK31	**Makanchi Array**	**43.42**	**301**	*i* P	**P**	**21 12 26.6**	**-0.4**
MK31	**Makanchi Array**	**43.42**	**301**	IAmb	IAmb	21 12 27.6	
	comp=Z,7.2nm,0.8s						
MK31	**Makanchi Array**	**43.42**	**301**	⇑Pn	**P**	**21 12 26.5**	**-0.4**
	comp=Z,7.1nm,0.7s,baz=81,slow=11,SNR=39						
MKAR	**Makanchi Array**	**43.42**	**301**	P	**P**	**21 12 26.7**	**-0.2**
	comp=Z,7.2nm,0.7s,baz=86,slow=9.7,SNR=53						
MKAR	**Makanchi Array**	**43.42**	**301**	P	**P**	**21 12 26.5**	**-0.5**
MAKZ	**Makanchi**	**43.63**	**301**	⇓Lg	Lg	21 13 26.9	
	comp=Z,6.4nm,0.7s						
MAKZ	**Makanchi**	**43.63**	**301**	P	**P**	**21 12 28.1**	**-0.5**
MAKZ				pmax	pmax		
	comp=Z,11nm,1.2s						
MAKZ	**Makanchi**	**43.63**	**301**	P	**P**	**21 12 28.1**	**-0.5**
MAKZ				IAmb	IAmb	21 12 29.9	
	comp=Z,11nm,1.2s						
MAKZ	**Makanchi**	**43.63**	**301**	⇑Pn	**P**	**21 12 27.7**	**-0.9**
	comp=Z,7.3nm,1.0s						
KURK	**Kurchatov**	**45.06**	**307**	P	**P**	**21 12 39.8**	**-0.1**
KURK				*PP	**pP**	**21 12 57.7**	**-0.6**
KURBB	**Kurchatov Arra**	**45.13**	**307**	P	**P**	**21 12 39.8**	**-0.6**
	comp=Z,16nm,0.8s,baz=81,slow=8.0,SNR=56						
KURBB				pP	**pP**	**21 12 57.6**	**-1.2**
	comp=Z,1.6nm,0.5s,baz=80,slow=8.1,SNR=2.5						
ILAR	**Eielson Array**	**47.86**	**33**	P	**P**	**21 13 03.6**	**+2.0**
	comp=Z,0.3nm,0.4s,baz=264,slow=5.0,SNR=2.5						
ILAR				sP	**sP**	**21 13 29.4**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=264,slow=6.3,SNR=4.9						
BOOM	**Boomskoye usch**	**48.94**	**297**	P	**P**	**21 13 10.6**	**+0.2**
BOOM				pmax	pmax		
	comp=Z,38nm,1.5s						
BOOM	**Boomskoye usch**	**48.94**	**297**	P	**P**	**21 13 10.6**	**+0.2**
BVAR	**Borovoye Array**	**49.59**	**311**	P	**P**	**21 13 15.0**	**0.0**
	comp=Z,1.7nm,0.5s,baz=110,slow=2.2,SNR=12						
BVAR	**Borovoye Array**	**49.59**	**311**	P	**P**	**21 13 15.0**	**0.0**
BRVK	**Borovoye**	**49.64**	**311**	*i* P	**P**	**21 13 14.2**	**-1.2**
BRVK	**Borovoye**	**49.64**	**311**	P	**P**	**21 13 14.9**	**-0.5**
BRVK				IAmb	IAmb	21 13 16.9	
	comp=Z,3.2nm,0.8s						
AAK	**Ala-Archa**	**49.89**	**297**	P	**P**	**21 13 17.1**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=74,slow=18,SNR=4.5						
KK31	**Karatay Array**	**52.48**	**299**	P	**P**	**21 13 36.6**	**-0.3**
KK31				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KK31	**Karatay Array**	**52.48**	**299**	P	**P**	**21 13 36.5**	**-0.3**
KK31				IAmb	IAmb	21 13 37.4	
	comp=Z,4.4nm,0.8s						
KKAR	**Karatay Array**	**52.48**	**299**	IAmb	IAmb	21 13 37.4	
	comp=Z,4.4nm,0.8s						
INK	**Inuvik**	**52.69**	**28**	P	**P**	**21 13 39.4**	**+1.4**
	comp=Z,0.9nm,0.5s,baz=229,slow=3.0,SNR=4.4						
CHGR	**Chuyangaron**	**55.16**	**294**	P	**P**	**21 13 56.0**	**-0.6**
CHGR				IAmb	IAmb	21 13 57.5	
	comp=Z,10nm,1.0s						
ARU	**Arti**	**55.21**	**318**	P	**P**	**21 13 56.3**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=44,slow=3.9,SNR=12						
ARU	**Arti**	**55.21**	**318**	*d i*P	**P**	**21 13 56.3**	**-0.3**
ARU				S	**S**	**21 21 34.8**	**+0.7**
ARU				SS	**SS**	**21 25 11.9**	**-6.7**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ARU	**Arti**	**55.21**	**318**		**P**	**21 13 56.1**	**-0.5**
ARU				IAmb	IAmb	21 13 57.3	
	comp=Z,6.5nm,0.8s						
KBL	**Kabul**	**57.04**	**290**	P	**P**	**21 14 09.0**	**-1.2**
KBL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KBL	**Kabul**	**57.04**	**290**	P	**P**	**21 14 09.0**	**-1.2**
KBL				IAmb	IAmb	21 14 10.2	
	comp=Z,2.7nm,0.8s						
AKTO	**Aktyubinsk**	**57.69**	**311**	P	**P**	**21 14 13.9**	**-0.3**
	comp=Z,2.4nm,0.6s,baz=69,slow=13,SNR=10						
AKTO	**Aktyubinsk**	**57.69**	**311**	P	**P**	**21 14 14.0**	**-0.3**
WRA	**Warramunga Arr**	**58.86**	**188**	P	**P**	**21 14 22.1**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=7.6,slow=7.9,SNR=42						
WRA				pP	**pP**	**21 14 40.5**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=6.3,slow=6.6,SNR=4.1						
KIRV	**Kirov**	**59.00**	**322**	*ce*P	**P**	**21 14 24.1**	**+0.9**
SANVU	**Saraoutou**	**59.00**	**151**	P	**P**	**21 14 22.1**	**-1.5**
ARCES	**ARCESS Array B**	**62.43**	**339**	P	**P**	**21 14 46.7**	**+0.3**
	comp=Z,5.3nm,1.0s,baz=62,slow=5.6,SNR=5.4						
ASAR	**Alice Springs**	**62.58**	**188**	P	**P**	**21 14 48.2**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=358,slow=5.0,SNR=13						
ASAR				pP	**pP**	**21 15 06.7**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=8.9,slow=7.0,SNR=3.8						
BELG	**Belogornoye**	**62.69**	**317**	P	**P**	**21 14 48.0**	**-0.3**
	comp=Z,6.0nm,0.8s,baz=5.2,slow=11,SNR=2.4						
PSA00	**Pilbara Seismi**	**63.48**	**203**	P	**P**	**21 14 53.7**	**-0.1**
PSA00				IAmb	IAmb	21 14 54.6	
	comp=Z,11nm,1.1s						
FINES	**FINESS Array B**	**67.37**	**332**	P	**P**	**21 15 18.3**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=38,slow=7.2,SNR=7.2						
FINES	**FINESS Array B**	**67.37**	**332**	*i* P	**P**	**21 15 19.7**	**+1.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KVAR	**Kislovodsk Arr**	**69.94**	**311**	P	**P**	**21 15 37.0**	**+2.0**
	comp=Z,2.5nm,0.7s,baz=21,slow=14,SNR=3.2						
KIV	**Kislovodsk**	**69.95**	**311**	*ce*P	**P**	**21 15 35.6**	**+0.6**
KIV				*PP	**pP**	**21 15 54.0**	**-0.8**
KIV				*e*		21 15 59.7	
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KIV	**Kislovodsk**	**69.95**	**311**	P	**P**	**21 15 35.1**	**+0.1**
KIV				IAmb	IAmb	21 15 37.0	
	comp=Z,6.6nm,0.8s						
KBZ	**Khabaz**	**69.95**	**310**	P	**P**	**21 15 35.4**	**+0.5**
	comp=Z,2.8nm,0.8s,baz=28,slow=5.7,SNR=7.8						
KBZ	**Khabaz**	**69.95**	**310**	*ce*P	**P**	**21 15 35.9**	**+1.0**
NB2	**NORSAR Subarra**	**72.65**	**337**	P	**P**	**21 15 50.9**	**0.0**
	comp=Z,1.1nm,0.9s,baz=36,slow=6.5						
NOA	**NORSAR Array B**	**72.65**	**337**	P	**P**	**21 15 51.0**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=40,slow=6.1,SNR=4.0						
AKASG	**Malin Array Be**	**73.06**	**322**	P	**P**	**21 15 53.1**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=45,slow=6.1,SNR=7.4						
AKBB	**Malin Array Si**	**73.06**	**322**	*ce*P	**P**	**21 15 53.6**	**+0.2**
KVN	**Kaiserville**	**73.47**	**53**	P	**P**	**21 15 53.9**	**-2.5**
KVN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KVN	**Kaiserville**	**73.47**	**53**		**P**	**21 15 53.9**	**-2.5**
PDAR	**Pinedale Array**	**76.24**	**46**	P	**P**	**21 16 14.9**	**+2.6**
	comp=Z,0.3nm,0.4s,baz=270,slow=3.3,SNR=2.0						
TKX	**Tecate**	**78.39**	**58**	P	**P**	**21 16 20.9**	**-3.3**
GERES	**GERESS Array B**	**81.34**	**328**	P	**P**	**21 16 40.1**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=40,slow=7.7,SNR=2.2						
URZ	**Urewera**	**83.30**	**153**	LR	LR	21 52 15.3	
	comp=Z,55nm,20.5s,baz=209,slow=34						
TXAR	**Lajitas Array**	**88.83**	**53**	P	**P**	**21 17 20.0**	**+2.2**
	comp=Z,0.2nm,0.6s,baz=245,slow=1.9,SNR=2.5						
LPAZ	**La Paz**	**145.54**	**58**	PKPbc	**PKPab**	**21 24 04.6**	**+1.6**
	comp=Z,1.1nm,0.5s,baz=358,slow=6.2,SNR=5.4						

*GCG **03** 21:10:12.3±0.8, 14°.81N×92°.90W, h50km±999km, MD3.9*
*IDC **03** 21:10:13.2±3.6, 14°.21N×92°.35W, h0km, mb3.9/2, mb1 3.9/5, mb1mx3.6/42, mbtmp3.7/5, ML3.5/3, MS3.3/3, Ms1 3.3/3, ms1mx2.8/33, Error ellipse: s-maj=153.8km s-min=27.8km az=42.0*
ISC 03 21:10:17.0±1.3**, 13°.8N**±0°.1×**92°.71W**±0°.07**, h50**km**, n12,** σ**1s.77**/12**, MS3.2**/3**, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.93**	**70**	*e*P	**Pn**	**21 10 44.6**	**-2.9**
FUG				*e*S	**Sn**	**21 11 10.2**	**-0.4**
PCG	**Pacaya**	**2.12**	**73**	*e*P	**Pn**	**21 10 49.1**	**-1.2**
NBG	**Las Nubes**	**2.42**	**71**	*e*P	**Pn**	**21 10 55.7**	**+1.3**
NBG				*e*S	**Sn**	**21 11 21.8**	**-1.2**
CMIG	**Matias Romero**	**3.90**	**328**	Pn	**Pn**	**21 11 11.9**	**-2.4**
	2.2nm,0.3s,baz=133,slow=12,SNR=9.8						
CMIG				Sn	**Sn**	**21 11 59.1**	**+0.3**
	16nm,0.3s,baz=105,slow=10,SNR=3.6						
JTS	**Las Juntas de**	**8.34**	**114**	Pn	**Pn**	**21 12 14.6**	**-0.9**
	1.0nm,0.3s,baz=273,slow=18,SNR=1.9						
JTS				Lg	Lg	21 14 23.1	
	baz=23,slow=22,SNR=3.1						
TXAR	**Lajitas Array**	**18.50**	**328**	P	**P**	**21 14 30.8**	**+1.5**
	0.0nm,0.3s,baz=138,slow=12,SNR=3.5						
TKL	**Tuckaleechee C**	**23.21**	**19**	LR	LR	21 25 28.4	
	comp=Z,76nm,19.3s,baz=229,slow=40						
SCHQ	**Schefferville**	**45.66**	**21**	LR	LR	21 38 42.5	
	comp=Z,80nm,18.2s,baz=175,slow=38						
YKA	**Yellowknife Ar**	**51.07**	**347**	P	**P**	**21 19 14.5**	**+0.4**
	1.1nm,0.7s,baz=145,slow=8.0,SNR=3.7						
INK	**Inuvik**	**60.45**	**344**	P	**P**	**21 20 21.9**	**+0.8**
	1.3nm,0.7s,baz=131,slow=5.7,SNR=2.0						
NOA	**NORSAR Array B**	**84.66**	**28**	LR	LR	22 00 53.6	
	comp=Z,7.5nm,18.2s,baz=170,slow=36						
CMAR	**Chiang Mai Arr**	**145.96**	**340**	PKPbc	**PKPdf**	**21 29 53.6**	**+2.3**
	0.9nm,0.6s,baz=331,slow=3.3,SNR=7.7						

JMA 03 21:12:00.6, 36°.95N×139°.42E, h6km, M0.9, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKT	**Katashina**	**0.23**	**217**	P		21 12 05.3	
JKT				S		21 12 08.4	

*IDC **03** 21:12:09.0±1.0, 27°.03N×143°.72E, h0km, mb3.8/7, mb1 3.9/10, mb1mx3.7/54, mbtmp3.8/10, ML3.2/3, Error ellipse: s-maj=26.6km s-min=18.7km az=80.0*
*NIED **03** 21:12:11.5, 27°.14N×143°.69E, h25km, MW3.9, Moment Tensor Solution. s1 Moment tensor: Scale 10^14Nm; Mrr-5.58; Mθθ3.68; Mφφ1.90; Mrθ-5.05; Mθφ-2.39; Mφr4.53; Fault plane solution: M0 8.71000×10^14 NP1: φs130.00000°, δ71.00000°, λ-87.00000°. NP2: φs300.00000°, δ20.00000°, λ-100.00000°.*
*NEIC **03** 21:12:14.3±1.9, 27°.21N±0°.09×143°.57E±0°.05, h29km±5km, mb4.5/18 Error ellipse: s-maj=14.0km s-min=6.4km az=165.0*
ISC 03 21:12:14.8±0.8**, 27°.18N**±0°.08×**143°.5E**±0°.1**, h35**km**, n40,** σ**1s.10**/41**, mb4.4**/17**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.21**	**266**	Pn	**Pn**	**21 12 34.9**	**-0.3**
	46nm,0.3s,baz=78,slow=6.0,SNR=62						
JCJ				Sn	**Sn**	**21 12 50.0**	**-0.3**
	155nm,0.3s,baz=279,slow=23,SNR=12						
JCJ	**Chichijima**	**1.21**	**266**		**Pn**	**21 12 35.1**	**-0.1**
JHJ2	**Mitsune**	**6.73**	**332**	Pn	**Pn**	**21 13 49.9**	**-1.2**
JHJ	**Hachijo jima 2**	**6.75**	**332**	Pn	**Pn**	**21 13 49.2**	**-2.1**
	4.3nm,0.3s,baz=77,slow=16,SNR=1.9						
JHJ				Sn	**Sn**	**21 15 04.7**	**-2.3**
	3.8nm,0.3s,baz=107,slow=19,SNR=1.6						
MJAR	**Matsushiro Arr**	**10.37**	**335**	Pn	**Pn**	**21 14 39.8**	**-1.2**
	0.3nm,0.3s,baz=150,slow=11,SNR=14						
MJAR	**Matsushiro Arr**	**10.37**	**335**		**Pn**	**21 14 40.5**	**-0.5**
MAJO	**Matsushiro**	**10.37**	**335**	Pn	**Pn**	**21 14 40.8**	**-0.2**
MAT	**Matsushiro**	**10.37**	**335**	P	**Pn**	**21 14 40.8**	**-0.2**
JEM	**Erimo**	**14.80**	**359**	Pn	P	21 16 08.1	+21
KSRS	**Korea Array**	**16.68**	**312**	Pn	**P**	**21 16 08.4**	**+0.5**
	0.2nm,0.3s,baz=123,slow=11,SNR=6.9						
USRK	**Ussuriysk Ar.**	**19.36**	**334**	P	**Pn**	**21 16 39.8**	**+1.1**
	baz=147,slow=11,SNR=5.6						
KLR	**Kul'dur**	**23.82**	**341**	P	**P**	**21 17 25.8**	**+1.4**
	2.1nm,0.6s,baz=130,slow=7.7,SNR=8.3						
SRIT	**Nakonsritamara**	**45.42**	**254**	P	**P**	**21 20 30.6**	**+0.1**
WR0	**Warramunga Arr**	**47.67**	**191**	P	**P**	**21 20 48.7**	**+0.8**
WB2	**Warramunga Arr**	**47.69**	**192**	P	**P**	**21 20 46.2**	**-1.8**
WB2				IAmb	IAmb	21 21 00.8	
	comp=Z,6.9nm,1.4s						
WRA	**Warramunga Arr**	**47.69**	**192**	P	**P**	**21 20 45.8**	**-2.3**
	comp=Z,2.1nm,0.8s,baz=12,slow=8.5,SNR=10						
FITZ	**Fitzroy Crossi**	**48.24**	**203**	P	**P**	**21 20 51.1**	**-1.3**
FITZ				IAmb	IAmb	21 21 05.6	
	comp=Z,4.4nm,1.1s						
MK31	**Makanchi Array**	**51.35**	**310**	P	**P**	**21 21 17.0**	**+1.2**
MKAR	**Makanchi Array**	**51.35**	**310**	P	**P**	**21 21 17.1**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=88,slow=8.4,SNR=5.0						
MKAR	**Makanchi Array**	**51.35**	**310**	P	**P**	**21 21 16.7**	**+0.9**
ASAR	**Alice Springs**	**51.40**	**191**	P	**P**	**21 21 15.6**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=12,slow=9.9,SNR=5.3						
MAKZ	**Makanchi**	**51.56**	**310**	P	**P**	**21 21 18.3**	**+0.9**
K20K	**Telida**	**53.72**	**30**	P	**P**	**21 21 32.9**	**-0.2**
K20K				IAmb	IAmb	21 21 35.5	
	comp=Z,6.0nm,1.4s						
J20K	**Nowinta River**	**53.86**	**29**	P	**P**	**21 21 34.8**	**+0.7**
J20K				IAmb	IAmb	21 21 35.5	
	comp=Z,3.8nm,0.8s						
SCM	**Sheep Creek Mo**	**56.59**	**32**	P	**P**	**21 21 54.1**	**+0.2**
ILAR	**Eielson Array**	**57.06**	**29**	P	**P**	**21 21 56.1**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=262,slow=6.3,SNR=5.1						
N25K	**Chitina, Valde**	**57.88**	**32**	P	**P**	**21 22 02.6**	**-0.4**
N25K				IAmb	IAmb	21 22 19.0	
	comp=Z,7.3nm,1.4s						
DOT	**Dot Lake**	**58.21**	**30**	P	**P**	**21 22 02.9**	**-2.3**
DOT				IAmb	IAmb	21 22 04.0	
	comp=Z,2.5nm,0.8s						
BMAR	**Burnt Mountain**	**58.26**	**26**	P	**P**	**21 22 06.2**	**+0.7**
BCAR	**Beaver Creek A**	**59.22**	**31**	P	**P**	**21 22 12.2**	**-0.1**
KK31	**Karatay Array**	**60.01**	**306**	P	**P**	**21 22 17.9**	**-0.2**
KK31				IAmb	IAmb	21 22 20.0	
	comp=Z,2.6nm,0.8s						
KKAR	**Karatay Array**	**60.01**	**306**	P	**P**	**21 22 19.1**	**+1.1**
KKAR	**Karatay Array**	**60.01**	**306**	P	**P**	**21 22 17.8**	**-0.3**
KKAR				IAmb	IAmb	21 22 20.0	
	comp=Z,2.6nm,0.8s						
DAWY	**Dawson**	**60.28**	**30**	P	**P**	**21 22 18.9**	**-0.6**
CHGR	**Chuyangaron**	**61.93**	**301**	P	**P**	**21 22 31.6**	**+0.3**
CHGR				IAmb	IAmb	21 22 33.0	
	comp=Z,4.2nm,0.9s						
WHY	**Whitehorse**	**62.63**	**33**	P	**P**	**21 22 34.8**	**-0.8**
WHY				IAmb	IAmb	21 22 36.8	
	comp=Z,3.0nm,0.7s						
ARU	**Arti**	**65.09**	**322**	P	**P**	**21 22 52.6**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=359,slow=6.0,SNR=4.0						
ARU	**Arti**	**65.09**	**322**	P	**P**	**21 22 50.9**	**-0.7**
FINES	**FINESS Array B**	**78.39**	**334**	P	**P**	**21 24 12.6**	**+1.1**
	comp=Z,0.9nm,0.7s,baz=36,slow=3.5,SNR=3.6						
LPAZ	**La Paz**	**148.74**	**76**	PKPbc	**PKPbc**	**21 31 59.5**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=254,slow=7.4,SNR=4.0						

IDC 03 21:20:29.1±2.6**, 27°.00N**×**143°.71E, h0**km**, mb3.3**/2**, mb1 3.7**/3**, mb1mx3.3**/37**, mbtmp3.4**/3**, ML3.1**/1**, Error ellipse: s-maj=52.4km s-min=30.3km az=64.0, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.36**	**274**	Pn	Pg	21 20 55.3	+0.1
	30nm,0.3s,baz=212,slow=9.5,SNR=19						
JCJ				Sn	Sg	21 21 10.8	-2.1
	57nm,0.3s,baz=270,slow=20,SNR=7.7						
MJAR	**Matsushiro Arr**	**10.60**	**335**	Pn	Pn	21 23 00.9	-1.4
	0.2nm,0.3s,baz=163,slow=10,SNR=6.7						
WRA	**Warramunga Arr**	**47.54**	**192**	P	P	21 29 06.2	-0.2
	0.4nm,0.6s,baz=13,slow=8.7,SNR=5.2						
MKAR	**Makanchi Array**	**51.58**	**310**	P	P	21 29 37.5	+0.3
	0.2nm,0.5s,baz=105,slow=7.6,SNR=4.7						

*IDC **03** 21:33:46.8±4.3, 24°.41N×122°.83E, h80km±42km, mb3.6/14, mb1 3.7/15, mb1mx3.6/38, mbtmp3.9/15, ML3.4/1, MS2.4/2, Ms1 2.4/2, ms1mx2.3/30, Error ellipse: s-maj=33.8km s-min=14.4km az=70.0*
*NEIC **03** 21:33:46.3±1.7, 24°.29N±0°.04×122°.88E±0°.05, h75km±8km, mb4.5/9, ML4.7(TAP), Error ellipse: s-maj=8.0km s-min=5.3km az=53.0*
*JMA **03** 21:33:46.9±0.1, 24°.26N×122°.80E, h82km±2km, M3.7*
*TAP **03** 21:33:47.6, 24°.27N×122°.79E, h78km, ML4.5, D*
ISC 03 21:33:46.7±0.6**, 24°.27N**±0°.03×**122°.82E**±0°.02**, h82**km±5km**, n190,** σ**1s.19**/308**, mb3.9**/19**, 40C-10D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.21**	**33**	P	**Pn**	**21 33 59.2**	**+0.4**
JYNG				S	**Sn**	**21 34 07.7**	**0.0**
YOJ	**Yonaguni jima**	**0.26**	**43**	P	**Pn**	**21 33 59.5**	**+0.5**
YOJ				S	**Sn**	**21 34 08.0**	**0.0**
YOJ	**Yonaguni jima**	**0.26**	**43**		**Pn**	**21 33 59.4**	**+0.4**
YOJ					**Sn**	**21 34 07.7**	**-0.3**
IRIF	**Iriomote-Funau**	**0.83**	**86**	P	**Pn**	**21 34 04.5**	**+0.6**
IRIF				S	**Sn**	**21 34 16.9**	**+0.1**
HATJ	**Hateruma jima**	**0.93**	**103**	P	**Pn**	**21 34 06.1**	**+1.1**
HATJ				S	**Sn**	**21 34 19.5**	**+0.9**
TWC	**Suao**	**0.95**	**291**	⇑*i*P	**Pn**	**21 34 05.7**	**+0.5**
	baz=299						
TWC				*i* S	**Sn**	**21 34 18.4**	**-0.7**
	baz=299						
EWUT	**Wuta**	**0.96**	**280**	*e*P	**Pn**	**21 34 05.8**	**+0.4**
	baz=280						
EHP	**Heping Village**	**0.98**	**272**	*e*P	**Pn**	**21 34 06.2**	**+0.5**
	baz=272						
EHP				*e*S	**Sn**	**21 34 19.9**	**0.0**
	baz=272						
EGS		**0.99**	**305**	⇓*e*P	**Pn**	**21 34 05.3**	**-0.4**
	baz=306						
EGS				*e*S	**Sn**	**21 34 18.4**	**-1.5**
	baz=306						
ENA	**Nanau**	**1.00**	**279**	*e*P	**Pn**	**21 34 06.5**	**+0.7**
	baz=279						
TWB1	**Santiao Chiao**	**1.05**	**314**	*e*P	**Pn**	**21 34 07.4**	**+1.0**
	baz=323						
TWB1				*e*S	**Sn**	**21 34 20.3**	**-1.0**
	baz=323						
NDS	**Dongshan**	**1.07**	**290**	P	**Pn**	**21 34 07.3**	**+0.7**
	baz=299						
NDS				S	**Sn**	**21 34 21.6**	**0.0**
	baz=299						
NTC	**Toucheng**	**1.07**	**303**	P	**Pn**	**21 34 07.3**	**+0.6**
	baz=303						
NTC				S	**Sn**	**21 34 21.7**	**0.0**
	baz=303						
JKRS	**Kuro-shima**	**1.09**	**92**	P	**Pn**	**21 34 07.7**	**+0.8**
JKRS				S	**Sn**	**21 34 22.7**	**+0.7**
ILA	**Ilan**	**1.09**	**297**	*e*P	**Pn**	**21 34 08.2**	**+1.3**
	baz=297						
ILA				S	**Sn**	**21 34 22.2**	**+0.1**
	baz=297						
ETL	**Fush Village**	**1.10**	**264**	*e*P	**Pn**	**21 34 07.4**	**+0.3**
	baz=264						
ETL				*e*S	**Sn**	**21 34 22.0**	**-0.4**
	baz=264						
NACB	**Ninganchiao**	**1.12**	**265**	⇑*i*P	**Pn**	**21 34 07.5**	**+0.2**
	baz=265						
NACB				*i* S	**Sn**	**21 34 21.9**	**-0.9**
	baz=265						
NACB	**Ninganchiao**	**1.12**	**265**	Pn	**Pn**	**21 34 07.4**	**+0.1**
NACB				Sn	**Sn**	**21 34 22.1**	**-0.7**
TWD	**Chiawan**	**1.13**	**260**	⇑*i*P	**Pn**	**21 34 07.6**	**+0.1**
	baz=252						
TWD				S	**Sn**	**21 34 22.2**	**-0.8**
	baz=252						
TIPB	**Shuangxi**	**1.14**	**308**	⇓P	**Pn**	**21 34 08.1**	**+0.5**
	baz=308						
TIPB				S	**Sn**	**21 34 22.6**	**-0.6**
	baz=308						
TWE	**Neicheng**	**1.14**	**293**	P	**Pn**	**21 34 08.2**	**+0.6**
	baz=301						
TWE				S	**Sn**	**21 34 23.3**	**+0.1**
	baz=301						
HWA	**Hwalien**	**1.15**	**255**	⇑P	**Pn**	**21 34 08.2**	**+0.6**
	baz=254						
HWA				S	**Sn**	**21 34 23.4**	**0.0**
	baz=254						
JIJ	**Ishigaki jima**	**1.21**	**86**	P	**Pn**	**21 34 08.8**	**+0.4**
JIJ				S	**Sn**	**21 34 24.2**	**-0.5**
ETLH	**Xiulin Townshi**	**1.22**	**267**	⇑P	**Pn**	**21 34 09.0**	**+0.3**
	baz=267						
ETLH				S	**Sn**	**21 34 24.6**	**-0.6**
	baz=267						
NWF	**Wu-fen Shan**	**1.23**	**310**	⇓*i*P	**Pn**	**21 34 09.5**	**+0.7**
	baz=311						
NWF				*i* S	**Sn**	**21 34 25.4**	**0.0**
	baz=311						
WFSB	**Wu-fen Shan**	**1.23**	**310**	⇓*i*P	**Pn**	**21 34 09.4**	**+0.7**
	baz=311						
WFSB				S	**Sn**	**21 34 25.2**	**-0.1**
	baz=311						
NDT	**Datong Townshi**	**1.23**	**286**	⇑*i*P	**Pn**	**21 34 09.9**	**+1.2**
	baz=279						
NDT				S	**Sn**	**21 34 25.8**	**+0.5**
	baz=279						
ETM	**Tongmen**	**1.25**	**256**	⇑*i*P	**Pn**	**21 34 09.0**	**+0.1**
	baz=252						
ETM				S	**Sn**	**21 34 24.5**	**-1.2**
	baz=252						
TNOU	**National Taiwa**	**1.29**	**313**	*e*P	**Pn**	**21 34 11.2**	**+1.8**
	baz=313						
TNOU				*e*S	**Sn**	**21 34 25.4**	**-1.1**
	baz=313						
TEGC	**Jichi Village**	**1.30**	**245**	*e*P	**Pn**	**21 34 09.7**	**+0.2**
	baz=243						
TEGC				*e*S	**Sn**	**21 34 26.0**	**-0.6**
	baz=243						
TWA	**Mucha**	**1.33**	**302**	*e*P	**Pn**	**21 34 10.9**	**+1.1**
	baz=303						
TWA				*e*S	**Sn**	**21 34 26.7**	**-0.7**
	baz=303						
NNS	**Nan Shan**	**1.33**	**277**	⇑*i*P	**Pn**	**21 34 10.6**	**+0.6**
	baz=270						
NNS				S	**Sn**	**21 34 27.7**	**+0.1**
	baz=270						
ESL	**Shilin**	**1.35**	**250**	⇑*i*P	**Pn**	**21 34 09.9**	**-0.2**
	baz=249						
NHDH	**Xindian Distri**	**1.36**	**300**	*e*P	**Pn**	**21 34 11.7**	**+1.4**
	baz=300						
YHNB	**Yeheng**	**1.37**	**287**	⇑*i*P	**Pn**	**21 34 11.7**	**+1.2**
	baz=279						
YHNB				S	**Sn**	**21 34 28.5**	**0.0**
	baz=279						
YHNB	**Yeheng**	**1.37**	**287**	Pn	**Pn**	**21 34 11.4**	**+0.9**
YHNB				Sn	**Sn**	**21 34 28.2**	**-0.3**
NSK	**Sanguang**	**1.39**	**287**	⇑P	**Pn**	**21 34 11.7**	**+1.0**
	baz=279						
NSK				S	**Sn**	**21 34 28.8**	**0.0**
	baz=279						

JISG Ishigakijimahi 1.39 77 P Pn 21 34 11.1 +0.4
JISG S Sn 21 34 28.4 -0.4
TATO Taipei 1.40 300 Pn Pn 21 34 11.1 +0.3
TATO Sn Sn 21 34 28.4 -0.5
TAP1 Taipei 1.40 303 *e*P Pn 21 34 11.8 +1.0
baz=303
TAP1 *e*S Sn 21 34 28.9 -0.1
baz=303
EGFH Guangfu 1.41 245 ⇑P Pn 21 34 11.1 +0.2
baz=244
EGFH *e*S Sn 21 34 28.4 -0.8
baz=244
TAP Taipei 1.42 303 *e*P Pn 21 34 12.5 +1.5
baz=303
WHF Hehuan Shan 1.43 265⇑*i*P Pn 21 34 11.9 +0.4
baz=256
WHF S Sn 21 34 29.7 -0.5
baz=256
YM01 YM01 1.43 308 *e*P Pn 21 34 12.0 +0.8
baz=298
FUSS Fushou 1.44 269⇑*e*P Pn 21 34 12.4 +0.9
baz=269
FUSS *e*S Sn 21 34 30.3 +0.1
baz=269
YM08 YM08 1.44 309 *e*P Pn 21 34 11.7 +0.4
baz=302
YM08 *e*S Sn 21 34 29.2 -0.8
baz=302
ANP Anpu 1.49 308 *e*P Pn 21 34 13.4 +1.4
baz=299
TWY Chenhua 1.49 312 *e*P Pn 21 34 13.2 +1.2
baz=313
TWY *e*S Sn 21 34 32.0 +0.9
baz=313
HGSD Ruisui 1.50 239⇑*e*P Pn 21 34 12.0 0.0
baz=238
HGSD *e*S Sn 21 34 30.2 -1.0
baz=238
TWT Tachien 1.50 270⇓*i*P Pn 21 34 13.6 +1.4
baz=269
TWT S Sn 21 34 31.5 0.0
baz=269
PCYT Pengchaiyu 1.51 333⇓*i*P Pn 21 34 13.6 +1.4
baz=327
PCYT *e*S Sn 21 34 32.3 +0.8
baz=327
TDCB Techi 1.52 270⇑*i*P Pn 21 34 13.6 +1.1
baz=269
TDCB S Sn 21 34 31.8 -0.1
baz=269
CHGB Renai 1.52 262⇑*i*P Pn 21 34 13.2 +0.7
baz=254
CHGB S Sn 21 34 31.3 -0.7
baz=254
TWS1 Kuangyinshan 1.52 303 *e*P Pn 21 34 12.5 +0.2
baz=303
NTST Danshui 1.53 306 *e*P Pn 21 34 12.8 +0.4
baz=298
OWD Renai 1.54 258⇑*i*P Pn 21 34 13.3 +0.6
baz=258
OWD *e*S Sn 21 34 30.6 -1.7
baz=258
NTY Taoyuan 1.56 298 *e*P Pn 21 34 15.0 +2.1
baz=305
EHY Hungye 1.57 241⇑*i*P Pn 21 34 13.1 +0.1
baz=249
EHY *e*S Sn 21 34 32.1 -0.8
baz=249
ECBN Changbin 1.57 233⇑*i*P Pn 21 34 13.2 +0.1
baz=225
ECBN S Sn 21 34 32.0 -0.9
baz=225
NCU National Centr 1.64 295 *e*P Pn 21 34 15.6 +1.8
baz=296
NCU *e*S Sn 21 34 35.3 +0.8
baz=296
NCUH Zhongli 1.64 295 *e*P Pn 21 34 14.8 +1.0
baz=304
NJD Zhudong 1.64 287 *e*P Pn 21 34 15.4 +1.5
baz=286
YULB Yu-li 1.65 238⇑*i*P Pn 21 34 14.3 +0.3
baz=248
YULB *e*S Sn 21 34 33.2 -1.5
baz=248
YULB Yu-li 1.65 238 Pn Pn 21 34 14.2 +0.1
YULB Sn Sn 21 34 33.7 -1.0
EYUL Yuli 1.66 236⇑*i*P Pn 21 34 14.8 +0.7
baz=230
EYUL *e*S Sn 21 34 34.7 -0.2
baz=230
TWF1 Yuli 1.67 237⇑*i*P Pn 21 34 14.7 +0.4
baz=230
TWF1 *e*S Sn 21 34 34.8 -0.4
baz=230
LIOB Emei 1.69 283 *e*P Pn 21 34 16.0 +1.5
baz=291
LIOB *e*S Sn 21 34 36.4 +0.7
baz=291
NSTT Nanjuang 1.69 282 P Pn 21 34 16.2 +1.6
baz=291
NSTT *e*S Sn 21 34 36.2 +0.4
baz=291
WHP Taichung City 1.71 271 ⇑P Pn 21 34 16.7 +1.9
baz=270
WHP S Sn 21 34 37.1 +0.9
baz=270
HSN1 Hsinchu 1.72 287 *e*P Pn 21 34 16.0 +1.2
baz=287
WPL Puli Township 1.72 262 P Pn 21 34 16.1 +1.2
baz=257
WPL *e*S Sn 21 34 37.0 +0.5
baz=257
DPDB Guoxing 1.75 262 ⇑P Pn 21 34 16.7 +1.4
baz=258
DPDB *e*S Sn 21 34 38.0 +0.9
baz=258
SBCB Hsinchu 1.75 288 *e*P Pn 21 34 15.9 +0.6
baz=287
JTJ Tarama 1.75 78 P Pn 21 34 15.9 +0.5
JTJ S Sn 21 34 37.0 -0.2
WCS Beigang Elemen 1.76 263 ⇑P Pn 21 34 16.8 +1.4
baz=259
WCS *e*S Sn 21 34 37.6 +0.3
baz=259
FULB Fuli 1.76 233⇑*i*P Pn 21 34 15.3 -0.2
baz=224
FULB *e*S Sn 21 34 36.3 -1.1
baz=224
CHKT Chengkung 1.77 229⇑*i*P Pn 21 34 15.2 -0.4
baz=221
CHKT *e*S Sn 21 34 35.4 -2.2
baz=221
SSLB Suanglung 1.77 255⇑*i*P Pn 21 34 16.5 +0.8
baz=259
SSLB *e*S Sn 21 34 36.7 -1.0
baz=259
SSLB Suanglung 1.77 255 Pn 21 34 16.5 +0.8
SSLB Sn Sn 21 34 37.7 0.0
SMLT Sun Moon Lake 1.80 258 P Pn 21 34 17.2 +1.1
baz=252
SMLT S Sn 21 34 38.1 -0.2
baz=252
TYC Yuchr 1.83 259 ⇑P Pn 21 34 17.4 +1.1
baz=253
TYC S Sn 21 34 38.8 -0.2
baz=253
NMLH Miaoli 1.87 278 *e*P Pn 21 34 18.3 +1.5
baz=278
TWQ1 Liyutan 1.87 273 *e*P Pn 21 34 18.8 +1.9
baz=272
ECS Chishang 1.88 232⇑*e*P Pn 21 34 17.5 +0.4
baz=225
ECS *e*S Sn 21 34 40.9 +0.7
baz=225
NSY Sanyi 1.88 275 *e*P Pn 21 34 18.2 +1.1
baz=274
WHYT Xinyi Township 1.89 253⇑*e*P Pn 21 34 18.7 +1.5
baz=247
WHYT *e*S Sn 21 34 40.7 +0.3
baz=247
EDH Donghe 1.90 227 ⇑P Pn 21 34 17.0 -0.3
baz=222
EDH S Sn 21 34 39.2 -1.4
baz=222
WWF Wufeng 1.95 264 P Pn 21 34 20.2 +2.2
baz=263
WWF S Sn 21 34 44.2 +2.4
baz=263

TCU Taichung 1.96 267 *e*P Pn 21 34 19.5 +1.4
baz=277
TCU *e*S Sn 21 34 43.1 +1.0
baz=277
WJS Zhushan 1.96 257 *e*P Pn 21 34 20.3 +2.1
baz=256
WJS *e*S Sn 21 34 44.5 +2.3
baz=256
ELDTW Lidau 1.97 237⇑*i*P Pn 21 34 18.6 +0.2
baz=236
WDJ Dajia District 1.99 273 *e*P Pn 21 34 19.5 +1.0
baz=272
WNT1 Nantou City 1.99 260 *e*P Pn 21 34 21.0 +2.5
baz=259
WNT Mingjian 1.99 259 *e*P Pn 21 34 20.5 +2.0
baz=250
WNT *e*S Sn 21 34 44.9 +2.1
baz=250
ALS Alishan 2.00 248 ⇑P Pn 21 34 20.3 +1.5
baz=247
ALS *e*S Sn 21 34 43.3 0.0
baz=247
LDUT Ludao 2.02 218⇑*i*P Pn 21 34 18.5 -0.4
baz=212
LDUT *e*S Sn 21 34 40.9 -2.5
baz=212
LONT Longtian 2.06 229 ⇑P Pn 21 34 19.8 +0.3
baz=237
LONT S Sn 21 34 44.3 -0.2
baz=237
WYL Yuanlin Townsh 2.07 262 *e*P Pn 21 34 21.3 +1.7
baz=261
WYL *e*S Sn 21 34 47.0 +2.3
baz=261
CHN5 Tsauling 2.07 251 P Pn 21 34 21.6 +1.9
baz=251
CHN5 *e*S Sn 21 34 45.5 +0.7
baz=251
WCHH Zhanghua 2.07 265 *e*P Pn 21 34 21.0 +1.4
baz=265
WGK Gukeng 2.15 255 *e*P Pn 21 34 22.8 +2.2
baz=254
WGK *e*S Sn 21 34 48.6 +2.1
baz=254
TTN Taitung 2.16 226 *e*P Pn 21 34 21.5 +0.8
baz=220
TWGBT Beinan 2.16 228⇑*i*P Pn 21 34 20.7 0.0
baz=236
TWGBT *e*S Sn 21 34 45.4 -1.3
baz=236
TWG Pinlang 2.16 228⇑*i*P Pn 21 34 20.7 0.0
baz=236
TWG *e*S Sn 21 34 45.6 -1.3
baz=236
TWG Pinlang 2.16 228 Pn Pn 21 34 20.7 0.0
TWG Sn Sn 21 34 45.5 -1.3
WDLH Douliu 2.17 255 *e*P Pn 21 34 23.3 +2.5
baz=245
WDLH *e*S Sn 21 34 49.5 +2.6
baz=245
STYH Taoyuan 2.17 240 *e*P Pn 21 34 22.3 +1.4
baz=239
STYH *e*S Sn 21 34 47.4 +0.3
baz=239
STYT Tauyuan 2.19 240 *e*P Pn 21 34 22.6 +1.4
baz=239
STYT *e*S Sn 21 34 47.9 +0.2
baz=239
JIRB Irabujima 2.21 75 P Pn 21 34 21.8 +0.4
JIRB S Sn 21 34 47.7 -0.3
TPUB Ta-pu 2.23 245 *e*P Pn 21 34 23.8 +2.1
baz=251
TPUB *e*S Sn 21 34 49.1 +0.6
baz=251
TPUB Ta-pu 2.23 245 Pn 21 34 23.3 +1.6
TPUB Sn Sn 21 34 50.5 +2.1
WRL Guolierlin Hig 2.26 261 *e*P Pn 21 34 23.2 +1.1
baz=261
WTP Ta-pu 2.27 244 ⇓P Pn 21 34 24.0 +1.8
baz=250
WTP *e*S Sn 21 34 50.4 +1.0
baz=250
CHN2 Minshiung 2.27 251 *e*P Pn 21 34 23.8 +1.6
baz=251
WTK Tuku 2.30 256 *e*P Pn 21 34 24.3 +1.7
baz=268
WTK *e*S Sn 21 34 52.5 +2.4
baz=268
JIKM Ikemajima 2.30 73 P Pn 21 34 23.2 +0.6
JIKM S Sn 21 34 50.2 0.0
CHY Chiayi 2.33 251 *e*P Pn 21 34 24.7 +1.8
baz=250
CHY *e*S Sn 21 34 53.1 +2.3
baz=250
JMJ2 Miyako jima3 2.33 78 P Pn 21 34 23.9 +0.9
JMJ2 S Sn 21 34 52.0 +1.1
TWK Hsinying 2.36 245 ⇓P Pn 21 34 25.2 +1.7
baz=244
TWK *e*S Sn 21 34 53.6 +1.9
baz=244
CHN1 Nanshi 2.36 243 *e*P Pn 21 34 25.3 +1.8
baz=252
CHN1 *e*S Sn 21 34 52.8 +1.0
baz=252
SLGT Liugui 2.37 238 *e*P Pn 21 34 25.3 +1.8
baz=237
SGST Jiashian 2.37 240 *e*P Pn 21 34 25.0 +1.5
baz=246
SGST *e*S Sn 21 34 53.4 +1.5
baz=246
SNST Tainan City 2.37 244 *e*P Pn 21 34 25.2 +1.6
baz=243
SNST *e*S Sn 21 34 53.2 +1.4
baz=243
ECL Taimali 2.39 226 *e*P Pn 21 34 23.2 -0.6
baz=232
ECL *e*S Sn 21 34 50.3 -2.1
baz=232
JOGS Gusukube 2.41 78 P Pn 21 34 25.0 +1.0
JOGS S Sn 21 34 53.3 +0.6
WSF Szhu 2.46 256 *e*P Pn 21 34 26.2 +1.5
baz=266
ICHU Yijhu 2.50 249 *e*P Pn 21 34 27.0 +1.7
baz=249
LAY Lan-yu 2.51 208⇑*i*P Pn 21 34 24.6 -0.9
baz=206
SSD Sandimen 2.52 233 *e*P Pn 21 34 26.8 +1.3
baz=229
TSMG Majia 2.54 232 *e*P Pn 21 34 27.2 +1.4
baz=228
SCST Cishan 2.54 238 *e*P Pn 21 34 29.2 +3.4
baz=237
CHN8 Yiju 2.56 249 *e*P Pn 21 34 27.3 +1.2
baz=248
CHN8 *e*S Sn 21 34 58.4 +2.0
baz=248
TAW Tawu 2.60 223 *e*P Pn 21 34 27.1 +0.5
baz=228
MASBT Mashibuluo 2.60 231 *e*P Pn 21 34 27.6 +1.0
baz=225
MASBT *e*S Sn 21 34 56.8 -0.6
baz=225
EAST Anshuo 2.61 224 *e*P Pn 21 34 27.2 +0.3
baz=229
SCLT Jiali 2.64 246 *e*P Pn 21 34 29.1 +1.9
baz=245
SCLT *e*S Sn 21 35 00.1 +1.7
baz=245
SNJT Kaohsiung City 2.74 237 *e*P Pn 21 34 30.9 +2.4
baz=236
SLIU Shizi 2.77 223 *e*P Pn 21 34 29.6 +0.6
baz=213
SLIU *e*S Sn 21 35 00.2 -1.2
baz=213
SCZT Fangliau 2.77 227 *e*P Pn 21 34 30.6 +1.6
baz=223
SCZT *e*S Sn 21 35 01.9 +0.4
baz=223
WLCH Liuqiu 2.95 230 *e*P Pn 21 34 34.9 +3.5
baz=241
TSEB Hengchuen, Pin 2.95 217 ⇓P Pn 21 34 33.3 +1.9
baz=225
TSEB *e*S Sn 21 35 07.2 +1.4
baz=225
HEN Hengchun 2.96 221 *e*P Pn 21 34 34.1 +2.5
baz=219
HEN *e*S Sn 21 35 06.4 +0.3
baz=219

TWP Hsiaoliuchiu 2.96 230 *e*P Pn 21 34 33.4 +1.8
baz=241
TWKBT Hengchun 2.97 219⇓*e*P Pn 21 34 32.1 +0.5
baz=217
TWKBT *e*S Sn 21 35 05.4 -0.8
baz=217
TWK1 Hengchun 2.97 219 *e*P Pn 21 34 32.1 +0.4
baz=217
TWK1 *e*S Sn 21 35 05.6 -0.7
baz=217
WDGT Dungji 3.07 251 *e*P Pn 21 34 33.7 +0.8
baz=250
WDGT *e*S Sn 21 35 08.0 -0.6
baz=250
PHUB P'eng-hu 3.07 256 *e*P Pn 21 34 33.1 +0.2
baz=266
PHUB *e*S Sn 21 35 07.4 -1.3
baz=266
PNG Penghu 3.07 257 *e*P Pn 21 34 33.2 +0.2
baz=257
PNG *e*S Sn 21 35 07.6 -1.1
baz=257
VWUC VWUC 3.15 284 *e*P Pn 21 34 34.3 +0.3
baz=284
VWUC *e*S Sn 21 35 08.1 -2.6
baz=284
MATB Ma-tsu 3.21 306 *e*P Pn 21 34 35.1 +0.3
baz=306
MATB *e*S Sn 21 35 10.9 -1.0
baz=306
MSUT Lienchiang 3.23 306 *e*P Pn 21 34 35.6 +0.4
baz=306
VCHM Qimei 3.28 252 *e*P Pn 21 34 36.6 +0.8
baz=251
VCHM *e*S Sn 21 35 12.8 -1.0
baz=251
PTMZ Houxiangcun 3.45 284 *e*P Pn 21 34 38.5 +0.3
baz=284
PTMZ *e*S Sn 21 35 15.2 -2.8
baz=284
XPSS Dashiqiu 3.55 319 *e*P Pn 21 34 39.6 +0.1
baz=309
LYJJ Jianjiangzhen 3.58 310 *e*P Pn 21 34 40.1 +0.2
baz=311
LYJJ *e*S Sn 21 35 20.3 -0.7
baz=311
MHZQ Yeshan 3.88 299 *e*P Pn 21 34 44.6 +0.5
baz=289
KNM Kinmen 4.00 273 *e*P Pn 21 34 48.1 +2.4
baz=272
KNMB Chin-men Tao 4.04 274 *e*P Pn 21 34 45.7 -0.5
baz=272
KNMB *e*S Sn 21 35 29.5 -3.0
baz=272
KNMB Chin-men Tao 4.04 274 Pn Pn 21 34 46.3 0.0
AXDP Jialang 4.46 279 *e*P Pn 21 34 52.8 +1.0
baz=278
ZPLA Ao Xicun 4.64 267 *e*P Pn 21 34 54.3 -0.1
baz=265
ZPLA *e*S Sn 21 35 43.9 -3.2
baz=265
JOW Kunigami 5.55 62 P Pn 21 35 05.5 -1.2
2.8nm,0.3s,baz=255,slow=16,SNR=17
JOW S Sn 21 36 06.0 -3.1
2.1nm,0.3s,baz=25,slow=21,SNR=1.4
KSRS Korea Array 13.85 17 P Pn 21 37 00.9 +1.8
0.5nm,0.3s,baz=197,slow=13,SNR=16
KSRS LR LR 21 41 48.2
comp=Z,12nm,21.2s,baz=260,slow=35
KS19 Wonju Array Si 13.88 17 P P 21 37 04.1 -1.0
MJAR Matsushiro Arr 18.02 44 LR LR 21 44 21.4
comp=Z,22nm,20.3s,baz=180,slow=35
USRK Ussuriysk Ar. 21.25 18 P P 21 38 25.0 -0.9
2.2nm,0.7s,baz=203,slow=12,SNR=6.3
KLR Kul'dur 25.88 13 P P 21 39 09.9 -0.7
1.7nm,0.8s,baz=176,slow=16,SNR=3.7
SONM Songino Array 26.89 335 P P 21 39 19.5 -0.4
1.6nm,0.7s,baz=153,slow=8.9,SNR=11
SONM Songino Array 26.89 335 IAmb IAmb 21 39 20.1
comp=Z,1.4nm,0.7s
FAKI Fak Fak 28.54 160 P P 21 39 34.5 -0.3
FAKI IAmb IAmb 21 39 47.7
comp=Z,63nm,1.4s
MKAR Makanchi Array 39.32 315 P P 21 41 07.7 0.0
comp=Z,0.8nm,0.6s,baz=100,slow=10.0,SNR=15
MKAR PcP PcP 21 43 14.7 -0.1
comp=Z,0.3nm,0.8s,baz=96,slow=4.3,SNR=2.5
MAKZ Makanchi 39.53 315 P P 21 41 09.7 +0.2
KNRA Kununurra 40.13 171 P P 21 41 14.9 +0.3
KNRA IAmb IAmb 21 41 20.8
comp=Z,16nm,1.4s
ZALV Zalesovo Beam 40.99 326 P P 21 41 20.2 -1.2
comp=Z,0.8nm,0.5s,baz=118,slow=8.8,SNR=4.8
FITZ Fitzroy Crossi 42.20 176 P P 21 41 31.3 -0.3
FITZ IAmb IAmb 21 41 43.7
comp=Z,2.8nm,1.0s
COEN Coen 42.89 150 P P 21 41 38.7 +1.5
COEN IAmb IAmb 21 41 46.6
comp=Z,2.3nm,0.7s
KURK Kurchatov 42.99 319 P P 21 41 37.2 -0.4
KURBB Kurchatov Arra 43.01 319 P P 21 41 37.2 -0.6
comp=Z,0.3nm,0.8s,baz=109,slow=8.1,SNR=5.3
WRA Warramunga Arr 45.36 165 P P 21 41 57.8 +0.9
comp=Z,3.9nm,0.7s,baz=347,slow=8.8,SNR=31
KBL Kabul 47.47 295 P P 21 42 14.3 +0.6
KBL IAmb IAmb 21 42 15.5
comp=Z,4.9nm,0.6s
ASAR Alice Springs 48.85 166 P P 21 42 25.6 +1.5
comp=Z,1.0nm,0.7s,baz=348,slow=10,SNR=16
ILAR Eielson Array 68.45 27 P P 21 44 39.5 -0.1
comp=Z,0.4nm,0.4s,baz=270,slow=5.4,SNR=2.1
ARCES ARCESS Array B 70.01 338 P P 21 44 48.8 -0.4
comp=Z,2.9nm,0.9s,baz=62,slow=6.2,SNR=1.6
FINES FINESS Array B 72.12 330 P P 21 45 01.5 -0.5
comp=Z,1.2nm,0.6s,baz=54,slow=6.6,SNR=9.8
AKASG Malin Array Be 73.79 319 P P 21 45 11.5 -0.6
comp=Z,0.2nm,0.4s,baz=56,slow=5.7,SNR=2.1
NOA NORSAR Array B 78.84 333 P P 21 45 39.4 -1.1
comp=Z,0.6nm,0.7s,baz=54,slow=6.0,SNR=2.1
GERES GERESS Array B 83.72 321 P P 21 46 06.8 +0.2
comp=Z,0.1nm,0.3s,baz=38,slow=6.9,SNR=4.5
RAR Rarotonga 87.79 114 LR LR 22 21 55.0
comp=Z,152nm,19.7s,baz=290,slow=33
DUG Dugway, Tooele 97.57 40 P P 21 47 11.7 -0.6
CCUT Cedar City 98.95 42 P 21 47 17.2 -1.4

*IDC **03** 21:50:04.5±28.0, 22°.80S×173°.38W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/27, mbtmp4.0/4, Error ellipse: s-maj=516.5km s-min=150.1km az=78.0*

*NEIC **03** 21:50:17.7±1.2, 23°.5S±0°.1×174°.2W±0°.1, h35km±2km, mb4.6/15, Error ellipse: s-maj=28.6km s-min=3.8km az=138.0*

ISC 03 21:50:13.8±0.9**, 23°.4S**±0°.1×**173°.8W**±0°.1**, h35km, n22, σ1s09**/21**, mb4.5**/10**, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	Niue	5.63	41	Pn	Pn	21 51 43.4	+8.3
RAR	Rarotonga	13.20	83	Pn	P	21 53 27.1	-1.2
MXZ	Matakaoa Point	15.66	204	Pn	Pn	21 53 52.2	+0.3
MXZ				IAmb	IAmb	21 54 04.8	
	comp=Z,22nm,0.9s						
NNZ	Nelson	20.77	208	P	P	21 54 51.9	+0.2
NNZ				IAmb	IAmb	21 55 10.6	
	comp=Z,55nm,1.1s						
LBZ	Lake Benmore	24.71	208	P	P	21 55 32.0	+0.3
LBZ				IAmb	IAmb	21 55 37.6	
	comp=Z,28nm,1.2s						
WHZ	Wether Hill Ro	26.88	209	P	P	21 55 50.4	-0.8
WHZ				IAmb	IAmb	21 55 53.6	
	comp=Z,15nm,1.1s						
ARMA	Armidale	31.50	250	P	P	21 56 32.7	+0.1
EIDS	Eidsvold	31.96	259	P	P	21 56 35.7	-0.9
EIDS				IAmb	IAmb	21 56 35.9	
	comp=Z,4.4nm,0.8s						
CTA	Charters Tower	37.13	267	P	P	21 57 21.6	+0.1
	comp=Z,2.7nm,0.4s,baz=78,slow=9.9,SNR=6.0						
CTAO	Charters Tower	37.13	267	P	P	21 57 21.6	+0.1
CTAO				IAmb	IAmb	21 57 22.3	
	comp=Z,6.0nm,0.9s						
MCQ	Macquarie Isla	37.14	206	P	P	21 57 21.3	+0.3
RABL	Rabaul	37.96	295		P	21 57 26.8	-1.7
STKA	Stephens Creek	40.15	248	P	P	21 57 46.9	+0.2
	comp=Z,1.2nm,0.5s,baz=92,slow=12,SNR=5.5						
STKA	Stephens Creek	40.15	248	P	P	21 57 46.7	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BBOO	Buckleboo	44.84	246	P	P	21 58 24.6	-0.2
BBOO				IAmb	IAmb	21 58 29.6	
	comp=Z,8.4nm,1.1s						
ASAR	Alice Springs	47.68	259	P	P	21 58 47.1	-0.2
	comp=Z,0.4nm,0.4s,baz=94,slow=7.8,SNR=6.3						
WR0	Warramunga Arr	47.89	264	P	P	21 58 48.5	-0.4
WB2	Warramunga Arr	48.07	264	P	P	21 58 49.9	-0.4
WRAB	Tennant Creek	48.07	264	P	P	21 58 53.1	+2.9
WRA	Warramunga Arr	48.08	264	P	P	21 58 49.8	-0.6
	comp=Z,0.6nm,0.5s,baz=101,slow=8.2,SNR=21						
FORT	Forrest	51.77	248	P	P	21 59 18.4	+0.1
FORT				IAmb	IAmb	21 59 30.4	
	comp=Z,10nm,1.1s						
BARN	Barnard Glacie	88.08	15	P	P	22 03 02.9	+2.5
BARN				IAmb	IAmb	22 03 05.2	
	comp=Z,4.1nm,0.8s						

*IDC **03** 22:19:29.6±0.6, 39.°59N×143.°23E, h0km, mb4.5/23, mb1 4.6/29, mb1mx4.5/45, mbtmp4.5/29, ML3.9/5, MS4.1/35, Ms1 4.1/35, ms1mx3.9/50, Error ellipse: s-maj=16.3km s-min=12.2km az=110.0*

*NIED **03** 22:19:31.0, 39.°61N×143.°38E, h23km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; Mrr0.72; Mθθ-0.00; Mφφ-0.72; Mrθ0.48; Mθφ-0.31; Mφr1.03; Fault plane solution: Mo1.38000×10^{16} NP1:φs25.00000°, δ73.00000°, λ93.00000°. NP2:φs195.00000°, δ17.00000°, λ81.00000°.*

*JMA **03** 22:19:30.9±0.2, 39.°61N×143.°38E, h23km±4km, M4.8*

JMA Felt I J1.

*BJI **03** 22:19:31.6±0.0, 39.°63N×143.°20E, h30km, mB4.9/59, mb4.9/81, Ms4.7/80, Ms7 4.6/75*

*MOS **03** 22:19:31.1±0.9, 39.°67N×143.°19E, h18km, mb5.2/57, MS4.7/16, Error ellipse: s-maj=6.1km s-min=3.8km az=106.5*

*NEIC **03** 22:19:33.9±1.6, 39.°59N±0.°06×143.°22E±0.°09, h24km±5km, mb4.9/152, Error ellipse: s-maj=9.9km s-min=7.7km az=112.0*

*GCMT **03** 22:19:35.8±0.5, 39.°74N±0.°03×143.°40E±0.°05, h32km±1km, MW4.8/67, Moment Tensor Solution. s22,c25; s67,c85; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr1.90±.15; Mθθ-0.52±.09; Mφφ-1.38±.09; Mrθ0.38±.10; Mθφ-0.56±.07; Mφr1.32±.08; Best double couple: Mo2.24600×10^{16} NP1:φs211.00000°, δ27.00000°, λ99.00000°. NP2: φs20.00000°, δ64.00000°, λ86.00000°. Principal axes: T 2.3760, Plg71.0000°, Azm281.0000°; N -0.2610, Plg4.0000°, Azm22.0000°; P -2.1170, Plg19.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **03** 22:19:37.2±0.0, 40.°37N×144.°74E, h33km, mb4.8*

ISC 03 22:19:32.1±0.5**, 39.°57N**±0.°03×**143.°30E**±0.°03**, h17**km±2km**, h18**km**:pP-P, n577,** σ1.**56**/598**, mb4.9**/214**, MS4.5**/66**, 50C-27D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	1.14	271	P	Pn	22 19 52.3	-0.9
MIYJ				eS	Sb	22 20 07.2	-0.7
JTH	Tanohata	1.17	289	P	Pn	22 19 52.8	-0.8
JTH				eS	Sb	22 20 08.5	0.0
OFUJ	Ofunato	1.35	249	P	Pn	22 19 55.7	-0.4
JKEN	Kujiedanarisaw	1.38	298	P	Pn	22 19 55.2	-1.3
JOM	Ohasama	1.55	267	P	Pn	22 19 59.2	+0.3
JOM				eS	Sb	22 20 20.3	+0.6
JANG	Nango	1.59	301	P	Pn	22 19 58.4	-1.0
JMK	Ichinoseki	1.73	250	P	Pn	22 20 01.5	+0.2
JIO	Ouri	1.88	234	P	Pn	22 20 03.1	-0.3
JRG	Rokugo	2.07	266	P	Pn	22 20 06.6	+0.6
JTM	Tenmabayashi	2.10	306	P	Pn	22 20 06.2	-0.2
JTM	Tenmabayashi	2.10	306	Pn	Pn	22 20 06.3	0.0
JAH	Hinai	2.14	288	P	Pn	22 20 07.5	+0.5
JAH				eS	Sb	22 20 36.2	-0.4
JYK	Kaneyama	2.37	255	P	Pn	22 20 10.9	+0.7
JEM	Erimo	2.45	358	P	Pn	22 20 11.2	0.0
JOT	Ohata	2.50	317	P	Pn	22 20 11.2	-0.7
JMM	Marumori	2.59	230	Pn	Pn	22 20 12.7	-0.5
JNBK	Urakawa-nobuka	2.74	352	P	Pn	22 20 15.4	+0.2
JNBK				S	Sn	22 20 48.0	+0.1
JEW	Eniwo	3.56	338	Pn	Pn	22 20 27.8	+1.3
JYT	Yasato	4.14	217	Pn	Pn	22 20 33.8	-0.7
NMR	Nemuro--Hokkai	4.22	25	⇓iP	Pn	22 20 33.9	-1.6
NMR				i S	Sn	22 21 18.7	-5.6
JSD	Sado	4.22	250		Pn	22 20 35.8	+0.2
GLVR	Golovnino	4.49	21	eP	Pn	22 20 37.6	-1.6
GLVR				eS	Sn	22 21 27.0	-4.0
GLVR				pmax	pmax		
	comp=Z,670nm,1.0s						
GLVR				pmax	pmax		
	comp=Z,290nm,0.4s						
GLVR				smax	smax		
	comp=E,1µm,0.5s						
GLVR				smax	smax		
	comp=N,1µm,0.4s						
ASAJ	Asahikawa	4.58	354	Pn	Pn	22 20 40.4	0.0
	comp=N,4.6nm,0.3s,baz=204,slow=14,SNR=44						
ASAJ				Sn	Sn	22 21 31.2	-2.0
	comp=N,11nm,0.3s,baz=189,slow=19,SNR=4.9						
ASAJ	Asahikawa	4.58	354	P	Pn	22 20 40.9	+0.4
JKA	Kamikawa-asahi	4.58	354	Pn	Pn	22 20 40.9	+0.5
RUSJ	Misakicho	4.76	17	eP	Pn	22 20 42.3	-0.7
RUSJ				eS	Sn	22 21 35.3	-2.4
GRPR	Tuman	4.79	22	eP	Pn	22 20 42.6	-0.8
GRPR				eS	Sn	22 21 31.7	-6.8
GRPR				pmax	pmax		
	comp=E,118nm,0.4s						
GRPR				pmax	pmax		
	comp=Z,213nm,0.4s						
GRPR				pmax	pmax		
	comp=N,93nm,0.2s						
GRPR				smax	smax		
	comp=N,2µm,0.4s						
GRPR				smax	smax		
	comp=E,561nm,0.4s						
YUK	Yuzh-Kuril'sk	4.86	22	eP	Pn	22 20 42.8	-1.5
YUK				i S	Sn	22 21 35.0	-5.1
YUK				pmax	pmax		
	comp=Z,275nm,0.4s						
YUK				smax	smax		
	comp=N,1µm,0.5s						
YUK				smax	smax		
	comp=E,2µm,0.6s						
MJAR	Matsushiro Arr	5.02	235	Pn	Pn	22 20 47.3	+0.6
	comp=E,1.2nm,0.3s,baz=48,slow=12,SNR=122						
MJAR				LR	LR	22 22 37.9	
	comp=E,605nm,22.0s,baz=45,slow=38						
MJAR	Matsushiro Arr	5.02	235	P	Pn	22 20 47.9	+1.2
MJAR	Matsushiro Arr	5.02	235	Pn	Pn	22 20 47.9	+1.2
MAJO	Matsushiro	5.02	235c	iP	Pn	22 20 48.6	+1.9
MAJO	Matsushiro	5.02	235	Pn	Pn	22 20 47.9	+1.2
MAT	Matsushiro	5.02	235	P	Pn	22 20 48.3	+1.6
MAT				S	Sn	22 21 43.6	-0.7
MJB9	Matsu-Tunnel	5.02	235		Pn	22 20 47.9	+1.2
JGF	Kuroka	6.16	232		Pn	22 21 03.2	+1.0
JSG	Sagara	6.36	221	Pn	Pn	22 21 03.5	-1.6
INU	Inuyama	6.53	232	Pn	Pn	22 21 07.6	+0.3
KUR	Kuril'sk	6.59	29	eP	Pn	22 21 07.4	-0.8
KUR				eS	Sn	22 22 18.2	-4.7
KUR				pmax	pmax		
	comp=N,48nm,0.4s						
KUR				pmax	pmax		
	comp=E,105nm,0.4s						
KUR				pmax	pmax		
	comp=Z,291nm,0.4s						
KUR				smax	smax		
	comp=E,446nm,0.5s						
KUR				smax	smax		
	comp=N,253nm,0.4s						
JHJ	Hachijo jima 2	7.03	205	Pn	Pn	22 21 13.4	-0.8
	comp=N,24nm,0.3s,baz=313,slow=23,SNR=10						
JHJ				Sn	Sn	22 22 26.6	-7.1
	comp=N,19nm,0.3s,baz=72,slow=20,SNR=2.4						
JHJ				LR	LR	22 24 18.3	
	comp=N,1µm,19.6s,baz=110,slow=41						
JHJ	Hachijo jima 2	7.03	205		Pn	22 21 13.4	-0.8
JHJ					Sn	22 22 26.6	-7.1
YSS	Yuzh-Sakhalins	7.39	357	eP	Pn	22 21 20.2	+1.1
YSS				eS	Sn	22 22 42.3	-0.2
YSS				pmax	pmax		
	comp=Z,60nm,0.9s						
YSS				MLR	MLR		
	comp=Z,2µm,16.0s						
YSS				MLR	MLR		
	comp=N,2µm,15.0s						
YSS	Yuzh-Sakhalins	7.39	357	Pn	Pn	22 21 19.4	+0.3
JWT	Wachi	7.60	238	Pn	Pn	22 21 23.1	+1.1
JHS	Saijyo	9.30	244	Pn	Pn	22 21 46.3	+0.9
JMN	Monobe	9.55	235	Pn	Pn	22 21 49.8	+1.0
USRK	Ussuriysk Ar.	9.62	302	Pn	Pn	22 21 52.3	+2.7
	baz=111,slow=15,SNR=32						
USRK				LR	LR	22 25 23.7	
	comp=N,2µm,20.1s,baz=109,slow=37						
USRK	Ussuriysk Ar.	9.62	302	P	Pn	22 21 51.0	+1.4
USRK	Ussuriysk Ar.	9.62	302	Pn	Pn	22 21 51.0	+1.4
USA0B	Ussuriysk Arra	9.62	302	P	Pn	22 21 50.4	+0.8
USA0B	Ussuriysk Arra	9.62	302	Pn	Pn	22 21 50.4	+0.8
MDJ	Mudanjiang	11.36	301	P	Pn	22 22 14.7	+1.2
MDJ				pmax	pmax		
	comp=N,38nm,1.0s						
MDJ				pmax	pmax		
	comp=N,560nm,3.7s						
MDJ				LR	LR		
	comp=N,1µm,12.8s						
MDJ				LR	LR		
	comp=N,2µm,17.1s						
MDJ				LR	LR		
	comp=N,3µm,16.4s						
MDJ	Mudanjiang	11.36	301	Pn	Pn	22 22 14.1	+0.7
JNU	Nakatsue	11.89	241	Pn	Pn	22 22 22.9	+2.0
	comp=N,0.4nm,0.3s,baz=334,slow=13,SNR=5.1						
JNU				LR	LR	22 27 16.1	
	comp=N,2µm,19.0s,baz=51,slow=39						
JNU	Nakatsue	11.89	241	Pn	Pn	22 22 20.7	-0.2
GRNR	Gornyy	12.20	339	⇓iP	Pn	22 22 25.4	+0.5
GRNR				eS	Sn	22 24 43.1	+2.7
GRNR				pmax	pmax		
	comp=N,20nm,0.7s						
GRNR				pmax	pmax		
	comp=Z,20nm,0.8s						
GRNR				smax	smax		
	comp=N,5.0nm,0.7s						
GRNR				MLR	MLR		
	comp=E,2µm,13.0s						
GRNR				MLR	MLR		
	comp=N,710nm,15.0s						
GRNR				MLR	MLR		
	comp=Z,950nm,16.0s						
KSRS	Korea Array	12.23	265	Pn	Pn	22 22 28.8	+3.4
	comp=Z,0.5nm,0.3s,baz=88,slow=13,SNR=22						
KSRS				LR	LR	22 26 50.9	
	comp=Z,1µm,18.5s,baz=76,slow=36						
KS19	Wonju Array Si	12.26	265		Pn	22 22 26.7	+0.9
KSAR	Wonju Array Be	12.26	265	P	Pn	22 22 26.6	+0.8
KSAR	Wonju Array Be	12.26	265	Pn	Pn	22 22 26.6	+0.8
JCJ	Chichijima	12.47	185	Pn	Pn	22 22 27.2	-1.6
	comp=Z,1.8nm,0.3s,baz=270,slow=20,SNR=2.0						
JCJ	Chichijima	12.47	185	Pn	Pn	22 22 30.1	+1.3
KLR	Kul'dur	12.69	323	Pn	Pn	22 22 31.4	-0.3
	comp=Z,0.2nm,0.3s,baz=128,slow=13,SNR=12						
KLR				LR	LR	22 27 34.8	
	comp=Z,1µm,20.3s,baz=138,slow=38						
KLR	Kul'dur	12.69	323	i P	Pn	22 22 31.0	-0.7
KLR	Kul'dur	12.69	323		Pn	22 22 31.4	-0.3
CN2	Changchun	13.99	293	eP	Pn	22 22 49.1	-0.3
CN2				S	Sn	22 25 22.6	-1.6
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2				pmax	pmax		
	comp=Z,200nm,9.0s						
CN2				LR	LR		
	comp=Z,600nm,16.0s						
CN2				LR	LR		
	comp=Z,1µm,16.0s						
CN2				LR	LR		
	comp=Z,1µm,16.0s						
OKH	Okha	13.99	359d	eP	Pn	22 22 49.5	+0.2
OKH				eS	Sn	22 25 16.7	-7.4
OKH				pmax	pmax		
	comp=Z,100nm,7.2s						
OKH				smax	smax		
	comp=N,100nm,9.0s						
OKH				MLR	MLR		
	comp=Z,1µm,15.0s						
OKH				MLR	MLR		
	comp=N,2µm,14.0s						
OKH				MLR	MLR		
	comp=E,2µm,16.0s						
SKR	Severo-Kuril's	14.31	35	eP	P	22 23 00.7	-0.1
SKR				eS	S	22 25 42.8	-9.3
SKR				pmax	pmax		
	comp=Z,26nm,1.2s						
SKR				MLR	MLR		
	comp=Z,400nm,15.0s						
SKR				MLR	MLR		
	comp=Z,400nm,16.0s						
SNY	Shenyang	15.13	285	⇓P	Pn	22 23 06.0	+1.1
SNY				S	Sn	22 25 54.2	+2.3
SNY				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SNY				pmax	pmax		
	comp=Z,220nm,9.3s						
SNY				LR	LR		
	comp=Z,650nm,15.8s						
SNY				LR	LR		
	comp=Z,2µm,15.6s						
SNY				LR	LR		
	comp=Z,2µm,17.1s						
PEA0B	Petropavlovsk-	16.76	31	P	Pn	22 23 26.1	+0.3
PEA0B				pmax	pmax		
	comp=Z,28nm,1.1s						
PEA0B	Petropavlovsk-	16.76	31		Pn	22 23 26.1	+0.3
PETK	Petropavlovsk-	16.76	31	Pn	Pn	22 23 25.1	-0.7
	comp=Z,0.1nm,0.3s,baz=230,slow=15,SNR=6.2						
PETK				LR	LR	22 29 21.4	
	comp=Z,300nm,21.2s,baz=215,slow=35						
PETK	Petropavlovsk-	16.76	31	P	Pn	22 23 26.7	+0.9
PETK	Petropavlovsk-	16.76	31		Pn	22 23 26.7	+0.9
DL2	Dalian	16.80	275	P	P	22 23 28.0	-0.5
DL2				S	Sn	22 26 36.5	+3.9
DL2				pmax	pmax		
	comp=Z,26nm,0.9s						
DL2				pmax	pmax		
	comp=Z,240nm,8.9s						
DL2				LR	LR		
	comp=Z,940nm,14.8s						
DL2				LR	LR		
	comp=Z,630nm,13.9s						
DL2				LR	LR		
	comp=Z,960nm,16.8s						
PET	Petropavlovsk	17.09	33	eP	P	22 23 32.9	+1.3
PET				eS	Sn	22 26 41.4	+2.1
PET				pmax	pmax		
	comp=Z,71nm,1.2s						
PET				pmax	pmax		
	comp=Z,300nm,8.9s						
PET				pmax	pmax		
	comp=Z,100nm,7.9s						
PET				MLR	MLR		
	comp=Z,500nm,17.0s						
PET				MLR	MLR		
	comp=Z,600nm,15.0s						
PET	Petropavlovsk	17.09	33	P	P	22 23 31.6	0.0
ZEA	Zeya	17.89	328	eP	Pn	22 23 36.9	-3.0
ZEA				pmax	pmax		
	comp=N,40nm,0.8s						
ZEA				pmax	pmax		
	comp=E,30nm,0.7s						
ZEA				pmax	pmax		
	comp=Z,50nm,0.7s						
ZEA				MLR	MLR		
	comp=E,600nm,16.0s						
ZEA				MLR	MLR		
	comp=N,400nm,15.0s						
HIA	Hailar	19.35	308	P	P	22 23 54.2	-2.4
HIA				pmax	pmax		
	comp=Z,22nm,0.8s						
HIA	Hailar	19.35	308	P	P	22 23 54.2	-2.4
SSE	Sheshan	19.89	252	P	P	22 24 02.8	+0.3
SSE				S	S	22 27 44.4	-1.3
SSE				pmax	pmax		
	comp=Z,15nm,0.8s						
SSE				pmax	pmax		
	comp=Z,39nm,3.6s						
SSE				LR	LR		
	comp=Z,370nm,16.3s						
SSE				LR	LR		
	comp=Z,230nm,14.7s						
MA2	Magadan	20.58	11	P	P	22 24 10.4	+0.5
	comp=Z,40nm,0.7s,baz=198,slow=9.4,SNR=28						
MA2				LR	LR	22 32 09.0	
	comp=Z,188nm,20.4s,baz=194,slow=37						
MA2	Magadan	20.58	11c	eP	P	22 24 10.1	+0.3
MA2				pmax	pmax		
	comp=Z,35nm,0.7s						
MA2	Magadan	20.58	11	P	P	22 24 09.9	0.0
MA2				IAmb	IAmb	22 24 11.5	
	comp=Z,44nm,0.7s						
BJI	Beijing	20.82	280	P	P	22 24 10.5	-2.1
BJI				pP	pP	22 24 17.1	+0.1
BJI				S	S	22 28 00.9	-3.2
BJI				PcP	PcP	22 28 24.4	+3.5
BJI				pmax	pmax		
	comp=Z,21nm,1.0s						
BJI				LR	LR		
	comp=Z,330nm,11.1s						
BJI				LR	LR		
	comp=Z,1µm,15.3s						
BJI				LR	LR		
	comp=Z,2µm,15.5s						
BJT	Baijiatuau	20.83	280	P	P	22 24 09.9	-2.8
BJT				pmax	pmax		
	comp=Z,25nm,1.2s						
BJT	Baijiatuau	20.83	280	P	P	22 24 09.9	-2.8
TIA	Tai'an	20.90	269	P	P	22 24 11.5	-2.0
TIA				pmax	pmax		
	comp=Z,52nm,0.9s						
TIA				pmax	pmax		
	comp=Z,170nm,3.6s						
TIA				LR	LR		
	comp=Z,610nm,12.7s						
TIA				LR	LR		
	comp=Z,2µm,14.3s						
TIA				LR	LR		
	comp=Z,2µm,13.7s						
NJ2	Nanjing	21.15	257	eP	P	22 24 14.5	-1.7
NJ2				pP	pP	22 24 20.0	-0.7
NJ2				sP	pwP	22 24 24.1	+1.0
NJ2				PP	PnPn	22 24 42.4	+6.9
NJ2				S	S	22 28 03.2	-7.7
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NJ2				LR	LR		
	comp=Z,430nm,12.8s						
NJ2				LR	LR		
	comp=Z,780nm,15.6s						
NJ2				LR	LR		
	comp=Z,910nm,17.0s						
YOJ	Yonaguni jima	22.79	235	P	P	22 24 32.8	-1.0
YOJ				pmax	pmax		
	comp=Z,16nm,1.0s						
YOJ	Yonaguni jima	22.79	235	P	P	22 24 32.8	-1.0
TATO	Taipei	23.40	238	P	P	22 24 38.7	-1.4
TATO				IAmb	IAmb	22 24 42.8	
	comp=Z,35nm,0.9s						
YHNB	Yeheng	23.69	238	P	P	22 24 40.7	-2.3
NACB	Ninganchiao	23.89	236	P	P	22 24 41.4	-3.4
YAK	Yakutsk	23.98	344	P	P	22 24 43.3	-2.1
	comp=Z,39nm,0.8s,baz=160,slow=18,SNR=20						
YAK				LR	LR	22 36 02.6	
	comp=Z,101nm,19.5s,baz=262,slow=42						
YAK	Yakutsk	23.98	344	⇑eP	P	22 24 43.2	-2.1
YAK				e*PP	pwP	22 24 52.5	-0.4
YAK				ePPP	PPP	22 25 20.6	
YAK				e		22 28 25.3	
YAK				eS	S	22 28 57.8	-3.3
YAK				eSSS	SSS	22 29 53.1	
YAK				pmax	pmax		
	comp=Z,77nm,0.9s						
YAK				pmax	pmax		
	comp=E,26nm,1.1s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.0s						
YAK				smax	smax		
	comp=N,58nm,2.2s						
YAK				smax	smax		
	comp=E,138nm,3.5s						
YAK				MLR	MLR		
	comp=Z,587nm,17.0s						
YAK				MLR	MLR		
	comp=E,308nm,23.0s						
YAK				MLR	MLR		
	comp=N,172nm,17.0s						
YAK	Yakutsk	23.98	344	P	P	22 24 43.5	-1.9
CIT	Chita	24.00	311	eP	P	22 24 40.3	-5.4
CIT				e		22 25 23.7	
CIT				pmax	pmax		
	comp=Z,151nm,2.2s						
SEY	Seymchan	24.03	10	P	P	22 24 45.8	0.0
	comp=Z,30nm,0.9s,baz=194,slow=7.2,SNR=50						
SEY				LR	LR	22 34 20.6	
	comp=Z,196nm,21.1s,baz=196,slow=37						
SEY	Seymchan	24.03	10	⇓eP	P	22 24 45.5	-0.3
TIY	Taiyuan	24.12	275	eP	P	22 24 48.6	+1.6
TIY				pmax	pmax		
	comp=Z,11nm,0.7s						
TIY				LR	LR		
	comp=Z,480nm,13.6s						
TIY				LR	LR		
	comp=Z,460nm,15.7s						
TIY				LR	LR		
	comp=Z,770nm,17.0s						
HHC	Hu-ho-hao-te	24.20	283	eP	P	22 24 44.5	-3.3
HHC				sP	sP	22 24 54.0	-0.4
HHC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,130nm,5.1s						
HHC				LR	LR		
	comp=Z,420nm,12.5s						
HHC				LR	LR		
	comp=Z,2µm,14.1s						
HHC				LR	LR		
	comp=Z,2µm,12.6s						
SSLB	Suanglung	24.58	237	P	P	22 24 48.7	-2.5
SSLB				IAmb	IAmb	22 24 51.5	
	comp=Z,40nm,1.2s						
YULB	Yu-li	24.64	236	P	P	22 24 50.4	-1.3
YULB				IAmb	IAmb	22 24 57.6	
	comp=Z,25nm,1.2s						
TPUB	Ta-pu	25.13	237	P	P	22 24 54.0	-2.2
TPUB				IAmb	IAmb	22 25 07.5	
	comp=Z,25nm,0.9s						
TWG	Pinlang	25.20	235	P	P	22 24 55.9	-0.9
TWG				IAmb	IAmb	22 25 12.6	
	comp=Z,23nm,0.7s						
WHN	Wuhan	25.26	258	⇑P	P	22 24 56.6	-0.7
WHN				S	S	22 29 15.4	-6.8
WHN				pmax	pmax		
	comp=Z,130nm,0.9s						
WHN				LR	LR		
	comp=Z,760nm,10.3s						
WHN				LR	LR		
	comp=Z,2µm,15.4s						
WHN				LR	LR		
	comp=Z,2µm,17.1s						
QZH	Quanzhou	25.37	242	P	P	22 24 42.8	-15
QZH				S	S	22 29 00.9	-23
QZH				LR	LR		
	comp=N,460nm,18.5s						
QZH				LR	LR		
	comp=E,260nm,13.3s						
QZH				LR	LR		
	comp=Z,530nm,15.6s						
KNMB	Chin-men Tao	25.82	242	P	P	22 25 02.7	+0.3
KNMB				IAmb	IAmb	22 25 04.3	
	comp=Z,48nm,1.1s						
GUMO	Guam	25.91	176	LR	LR	22 34 08.9	
	comp=Z,202nm,21.3s,baz=349,slow=34						
BOD	Bodaibo	26.27	324	eP	P	22 25 05.4	-0.8
BOD				pmax	pmax		
	comp=Z,61nm,1.0s						
ULN	Ulaanbaatar	27.27	300c	eP	P	22 25 15.3	-0.2
ULN				pmax	pmax		
	comp=Z,26nm,1.2s						
ULN	Ulaanbaatar	27.27	300	P	P	22 25 15.3	-0.2
ULN				IAmb	IAmb	22 25 17.0	
	comp=Z,43nm,1.1s						
ULN	Ulaanbaatar	27.27	300	P	P	22 25 15.8	+0.2
	comp=Z,2µmcomp=Z,132nm,1.2s						
AMKA	Amchitka	27.59	53	P	P	22 25 18.2	+0.1
SONM	Songino Array	27.71	300	P	P	22 25 19.7	+0.2

comp=Z,13nm,0.8s,baz=104,slow=9.8,SNR=90
SONM LR LR 22 36 57.2

comp=Z,1µm,18.4s,baz=96,slow=38
SONM Songino Array 27.71 300 P P 22 25 19.5 +0.1
SONM IAmb IAmb 22 25 21.1

comp=Z,37nm,1.2s
H11N2 WAKE ISLAND Hy 28.34 127 T T 22 56 10.4

baz=318,slow=74,SNR=405
H11N1 WAKE ISLAND Hy 28.35 127 T T 22 56 18.0

baz=318,slow=74,SNR=330
H11N3 WAKE ISLAND Hy 28.36 127 T T 22 56 17.0

baz=318,slow=74,SNR=413
ENH Enshi 29.09 262 P P 22 25 31.3 -0.5
H11S1 WAKE ISLAND Hy 29.15 129 T T 22 57 07.7

baz=324,slow=77
H11S3 WAKE ISLAND Hy 29.16 129 T T 22 57 19.5

baz=324,slow=77
H11S2 WAKE ISLAND Hy 29.17 129 T T 22 56 24.2

baz=324,slow=77
IRK Irkutsk 29.59 308 *e*P **P 22 25 34.9 -1.1**
IRK pmax pmax

comp=Z,32nm,1.8s
ZAK Zakamensk 29.96 304 *e*P **P 22 25 38.6 -0.8**
ZAK pmax pmax

comp=Z,15nm,1.4s
BILL Bilibino 31.18 16 P **P 22 25 49.4 -0.4**
BILL IAmb IAmb 22 25 50.9

comp=Z,22nm,1.3s
LZH Lanzhou 31.18 276 ⇑P **P 22 25 50.6 +0.2**
LZH pP pwP 22 25 59.7 +1.8
LZH sP sP 22 26 03.6 +6.6
LZH PP **PnPn 22 26 52.8 +0.6**
LZH sS sS 22 31 10.5 +7.0
LZH SS **SnSn 22 32 33.3 -4.7**
LZH pmax pmax

comp=Z,31nm,1.2s
LZH pmax pmax

comp=Z,160nm,4.9s
LZH LR LR

comp=Z,650nm,13.0s
LZH LR LR

comp=Z,2µm,13.2s
LZH LR LR

comp=Z,1µm,15.3s
MOY Mondy 31.52 307 *e*P **P 22 25 53.4 +0.2**
MOY pmax pmax

comp=Z,22nm,1.3s
TIXI Tiksi 32.98 352 LR LR 22 40 28.3

comp=Z,200nm,20.1s,baz=172,slow=38
GYA Guiyang 33.15 258 ⇑*i*P **P 22 26 07.0 -0.7**
GYA pP pwP 22 26 16.9 +1.7
GYA PP **PP 22 27 23.5 +0.8**
GYA S **S 22 31 27.5 +1.0**
GYA sS sS 22 31 38.7 +4.5
GYA pmax pmax

comp=Z,58nm,0.9s
GYA LR LR

comp=Z,290nm,19.4s
GYA LR LR

comp=Z,490nm,21.4s
GYA LR LR

comp=Z,510nm,20.5s
CD2 Chengdu 33.21 267 ⇓*i*P **P 22 26 07.4 -0.7**
CD2 sP pwP 22 26 17.4 +1.8
CD2 S **S 22 31 26.2 -1.0**
CD2 pmax pmax

comp=Z,30nm,1.1s
CD2 pmax pmax

comp=Z,140nm,10.7s
CD2 LR LR

comp=Z,1µm,13.7s
CD2 LR LR

comp=Z,1µm,14.5s
CD2 LR LR

comp=Z,2µm,13.5s
GTA Gaotai 33.31 284 *e*P **P 22 26 09.3 +0.3**
GTA pP pwP 22 26 16.6 +0.1
GTA sP sP 22 26 20.5 +4.9
GTA PcP **PcP 22 28 52.2 +1.4**
GTA S **S 22 31 31.8 +3.0**
GTA pmax pmax

comp=Z,19nm,1.0s
GTA pmax pmax

comp=Z,130nm,8.0s
GTA LR LR

comp=Z,500nm,17.1s
GTA LR LR

comp=Z,1µm,16.3s
GTA LR LR

comp=Z,2µm,17.5s
QIZ Qiongzhong 35.34 244 P P 22 26 32.2 +5.6
QIZ S **S 22 32 06.7 +6.5**
QIZ LR LR

comp=N,410nm,15.9s
QIZ LR LR

comp=E,290nm,13.9s
QIZ LR LR

comp=Z,460nm,16.1s
KMI Kunming 36.85 259 ⇑P **P 22 26 39.5 -0.2**
KMI pP pwP 22 26 46.9 -0.3
KMI sP sP 22 26 49.7 +3.3
KMI PP **PnPn 22 28 05.1 +1.4**
KMI S **S 22 32 21.7 -1.9**
KMI SS **SnSn 22 34 53.4 -2.2**
KMI pmax pmax

comp=Z,25nm,1.1s
KMI pmax pmax

comp=Z,150nm,4.5s
KMI LR LR

comp=Z,380nm,15.5s
KMI LR LR

comp=Z,470nm,15.5s
KMI LR LR

comp=Z,510nm,15.5s
SLVN Son La 38.15 253 P **P 22 26 50.0 -0.5**
DGZ Jazzator, Alta 40.17 304 ⇑*i*P **P 22 27 08.3 +1.0**
DGZ pmax pmax

comp=Z,42nm,1.2s
NONG Nongkai 40.75 250 P **P 22 27 13.3 +1.1**

comp=Z,8µmcomp=Z,27nm,0.9s
NONG Nongkai 40.75 250 P **P 22 27 13.3 +1.1**

comp=Z,8µmcomp=Z,28nm,0.9s
SKNT Sakolnakorn 40.85 248 P **P 22 27 14.4 +1.3**

comp=Z,14nm,1.0s
SKNT Sakolnakorn 40.85 248 P **P 22 27 14.0 +0.9**

comp=Z,14nm,1.0s
WMQ Urumqi 41.08 295 *e*P **P 22 27 15.8 +1.1**
WMQ pP pwP 22 27 22.6 +0.4
WMQ pmax pmax

comp=Z,58nm,0.9s
WMQ pmax pmax

comp=Z,180nm,4.3s
WMQ LR LR

comp=Z,320nm,13.9s
WMQ LR LR

comp=Z,450nm,13.1s
WMQ LR LR

comp=Z,170nm,21.1s
ZAA0 Zalesovo Array 41.36 310 P **P 22 27 16.4 -0.4**
ZAA0 IAmb IAmb 22 27 27.9

comp=Z,14nm,0.8s
ZALV Zalesovo Beam 41.36 310 P **P 22 27 16.6 -0.2**

comp=Z,15nm,0.8s,baz=86,slow=7.9,SNR=39
ZALV PcP **PcP 22 29 14.9 +0.1**

comp=Z,4.5nm,0.8s,baz=72,slow=4.8,SNR=4.0
ZALV LR LR 22 45 11.8

comp=Z,359nm,19.9s,baz=80,slow=37
ZALV Zalesovo Beam 41.36 310 *i*P **P 22 27 17.0 +0.2**
ZALV pmax pmax

comp=Z,15nm,0.8s
NRIK Noril'sk 41.62 334 P **P 22 27 18.4 -0.4**

comp=Z,2.8nm,0.5s,baz=110,slow=8.5,SNR=4.8
NRIK LR LR 22 45 53.1

comp=Z,706nm,18.0s,baz=106,slow=38
NRIK Noril'sk 41.62 334*c**e*P **P 22 27 18.6 -0.2**
NRIK pmax pmax

comp=Z,14nm,1.3s
NRIK Noril'sk 41.62 334 P **P 22 27 18.1 -0.6**
KHON Khomkaen 42.10 248 P **P 22 27 24.9 +1.6**
KHON Khomkaen 42.10 248 P **P 22 27 24.0 +0.7**
UTTA Uttaradit 42.84 252 P **P 22 27 30.2 +0.9**

comp=Z,14nm,0.9s
UTTA Uttaradit 42.84 252 P **P 22 27 30.3 +0.9**

comp=Z,3,4nm,0.9s
CHAI Chaiyaphum 42.99 249 P **P 22 27 31.2 +0.6**
comp=Z,264nmcomp=Z,26nm,0.9s

CHAI Chaiyaphum 42.99 249 P **P 22 27 31.0 +0.4**
comp=Z,66nmcomp=Z,6.4nm,0.9s
LAMP Lampang 43.04 254 P **P 22 27 33.1 +2.2**
comp=Z,244nmcomp=Z,28nm,0.9s
LAMP Lampang 43.04 254 P **P 22 27 33.2 +2.3**
comp=Z,61nmcomp=Z,6.9nm,0.9s
PHIT Phitsanulok 43.30 252 P **P 22 27 35.8 +2.8**
comp=Z,17nm,0.8s
PHIT Phitsanulok 43.30 252 P **P 22 27 35.9 +2.8**
comp=Z,4.2nm,0.8s
CMMT Chiang Mai 43.37 255 P **P 22 27 33.8 +0.2**
comp=Z,13nm,0.8s
CMMT Chiang Mai 43.37 255 P **P 22 27 33.9 +0.2**
comp=Z,13nm,0.8s
CMMT Chiang Mai 43.37 255 P **P 22 27 33.1 -0.5**
comp=Z,12nm,0.8s
CHTO Chiang Mai 43.37 255 P **P 22 27 33.3 -0.3**
CHTO pmax pmax

comp=Z,9.0nm,0.7s
CHTO Chiang Mai 43.37 255 P **P 22 27 33.9 +0.3**
comp=Z,13nm,0.8s
CHTO Chiang Mai 43.37 255 P **P 22 27 33.3 -0.3**
CHTO Chiang Mai 43.37 255 P **P 22 27 32.1 -1.5**
comp=Z,7.2nm,0.8s
K20K Telida 43.41 36 P **P 22 27 35.4 +2.0**
LSA Lhasa 43.49 274 P **P 22 27 35.7 +0.6**
LSA pmax pmax

comp=Z,13nm,0.7s
LSA Lhasa 43.49 274 P **P 22 27 35.7 +0.6**
LSA IAmb IAmb 22 27 48.8

comp=Z,12nm,0.7s
CMAR Chiang Mai Arr 43.59 254 P **P 22 27 35.8 +0.4**
comp=Z,2.6nm,0.8s,baz=52,slow=6.2,SNR=18
CMAR LR LR 22 47 39.9

comp=Z,240nm,18.1s,baz=100,slow=39
CMAR Chiang Mai Arr 43.59 254 *i*P **P 22 27 36.0 +0.6**
CMAR pmax pmax

comp=Z,3.0nm,0.8s
CMAR Chiang Mai Arr 43.59 254 P **P 22 27 35.4 -0.1**
IMAR Indian Mountai 43.72 32 P **P 22 27 38.8 +2.9**
MK31 Makanchi Array 44.08 300 *i*P **P 22 27 38.9 -0.1**
MK31 pmax pmax

comp=Z,27nm,0.8s
MK31 Makanchi Array 44.08 300 P **P 22 27 39.0 -0.1**
MK31 IAmb IAmb 22 27 40.1

comp=Z,20nm,0.8s
MKAR Makanchi Array 44.08 300 P **P 22 27 39.0 0.0**
comp=Z,19nm,0.8s,baz=83,slow=9.4,SNR=132
MKAR LR LR 22 46 46.0

comp=Z,552nm,20.4s,baz=76,slow=37
MAKZ Makanchi 44.28 300 P **P 22 27 40.7 0.0**
MAKZ pmax pmax

comp=Z,29nm,1.0s
MAKZ Makanchi 44.28 300 P **P 22 27 40.7 0.0**
MAKZ IAmb IAmb 22 27 41.9

comp=Z,29nm,1.0s
MHMT Maesarieng 44.52 255 P **P 22 27 46.0 +3.2**
comp=Z,30nm,0.9s
MHMT Maesarieng 44.52 255 P **P 22 27 46.0 +3.2**
BPAW Bear Paw Mtn. 44.80 35 P **P 22 27 46.4 +1.8**
KRAI Karang Ratu 44.83 201 P **P 22 27 44.5 -0.7**
comp=Z,15nm,1.3s
KTH Kantishna Hill 44.83 35 IAmb IAmb 22 28 03.4

comp=Z,13nm,0.9s
MLY Manley 44.92 33 P **P 22 27 47.1 +1.5**
SHL Shillong 44.95 268 P **P 22 27 46.6 +0.2**
SHL pmax pmax

comp=Z,18nm,1.0s
SHL Shillong 44.95 268 P **P 22 27 46.6 +0.2**
SHL IAmb IAmb 22 28 02.6

comp=Z,18nm,1.0s
H23K Yukon River 45.44 32 P **P 22 27 50.9 +1.3**
H23K IAmb IAmb 22 27 58.1

comp=Z,9.3nm,0.9s
NEA2 Nenana 45.63 34 P **P 22 27 51.1 0.0**
NEA2 IAmb IAmb 22 28 02.8

comp=Z,6.4nm,0.6s
MCK McKinley 45.71 35 P **P 22 27 51.6 -0.2**
MCK pmax pmax

comp=Z,7.0nm,0.9s
MCK McKinley 45.71 35 P **P 22 27 51.6 -0.2**
GHO Glory Hole Cre 45.80 38 P **P 22 27 53.0 +0.4**
GHO IAmb IAmb 22 28 10.9

comp=Z,10nm,0.9s
MDM Murphy Dome 45.99 33 IAmb IAmb 22 28 13.0

comp=Z,12nm,1.0s
WRH Wood River Hil 46.06 34 P **P 22 27 54.9 +0.4**
WRH IAmb IAmb 22 28 07.7

comp=Z,8.2nm,0.8s
SML Sawmill 46.08 38 P **P 22 27 55.4 +0.6**
SML Sawmill 46.08 38 P **P 22 27 55.4 +0.6**
SML IAmb IAmb 22 28 01.7

comp=Z,9.4nm,1.0s
H24K Noodor Dome 46.12 32 P **P 22 27 56.0 +0.9**
CCB Clear Creek Bu 46.18 34 P **P 22 27 56.7 +1.3**
POKR Poker Plat Res 46.32 33 P **P 22 27 57.8 +1.2**
POKR IAmb IAmb 22 28 08.7

comp=Z,13nm,0.8s
SCM Sheep Creek Mo 46.55 38 P **P 22 27 59.3 +0.8**
SCM pmax pmax

comp=Z,9.0nm,0.9s
SCM Sheep Creek Mo 46.55 38 P **P 22 27 59.3 +0.8**
SCM IAmb IAmb 22 28 18.0

comp=Z,8.6nm,0.9s
HDA Harding Lake 46.56 34 IAmb IAmb 22 28 11.6

comp=Z,7.9nm,0.8s
IL31 46.57 34 IAmb IAmb 22 28 11.7

comp=Z,7.6nm,0.8s
ILAR Eielson Array 46.57 34 P **P 22 27 59.0 +0.5**
comp=Z,2.0nm,0.7s,baz=264,slow=6.7,SNR=23
ILAR Eielson Array 46.57 34 P **P 22 27 59.0 +0.5**
ILAR Eielson Array 46.57 34 P **P 22 27 58.4 -0.1**
PDGK Podgornoye 46.94 296 *i*P **P 22 28 00.9 -1.0**
PDGK pmax pmax

comp=Z,18nm,1.0s
SHLS Shalkode 47.01 296 ⇑*i*P **P 22 27 59.5 -3.0**
comp=Z,26nm,2.1s,baz=296
SHLS Shalkode 47.01 296*c**i*P **P 22 27 59.4 -3.0**
SHLS pmax pmax

comp=Z,26nm,2.1s
M24K Tolsona, Glenn 47.07 37 P **P 22 28 03.1 +0.5**
M24K IAmb IAmb 22 28 18.8

comp=Z,11nm,0.9s
TDK Taldyqorghan 47.17 299 *e*P **P 22 28 03.6 +0.1**
comp=Z,38nm,0.9s,baz=299
TDK Taldyqorghan 47.17 299 *e*P **P 22 28 03.6 +0.1**
TDK pmax pmax

comp=Z,38nm,0.9s
FYU Fort Yukon 47.18 31 P **P 22 28 05.3 +2.1**
KLU Klutina 47.26 38 P **P 22 28 05.2 +1.1**
KLU IAmb IAmb 22 28 11.7

comp=Z,15nm,1.3s
UZB Uzynbulak 47.32 296 *i*P **P 22 28 03.3 -1.6**
comp=Z,14nm,1.3s,baz=296
UZB Uzynbulak 47.32 296 *i*P **P 22 28 03.3 -1.6**
UZB pmax pmax

comp=Z,14nm,1.3s
DIV Divide 47.37 39 P **P 22 28 06.0 +1.2**
DIV IAmb IAmb 22 28 12.7

comp=Z,12nm,1.0s
BMAR Burnt Mountain 47.40 30 P **P 22 28 06.2 +1.1**
KPKS Kokpek 47.45 297 *e*P **P 22 28 04.1 -1.7**
comp=Z,14nm,1.1s,baz=297
KPKS Kokpek 47.45 297 *e*P **P 22 28 04.9 -0.9**
KPKS pmax pmax

comp=Z,14nm,1.1s
RIDG Independent Ri 47.52 35 P **P 22 28 07.2 +1.1**
SATY Saty 47.78 296 *e*P **P 22 28 07.6 -0.8**
baz=296
SATY Saty 47.78 296 *e*P **P 22 28 07.6 -0.8**
ARXS Arharly 47.80 298 *e*P **P 22 28 08.3 -0.2**
N25K Chitina, Valde 47.87 38 P **P 22 28 09.1 +0.3**
SCRK Sand Creek 47.88 35 P **P 22 28 09.1 +0.2**
SCRK IAmb IAmb 22 28 22.3

comp=Z,8.0nm,0.9s
BMRM Bremner River 47.95 39 P **P 22 28 10.9 +1.5**
MENT Mentasta 48.12 36 P **P 22 28 12.4 +1.8**
MENT IAmb IAmb 22 28 22.7

comp=Z,6.6nm,0.8s
HMT Hamilton 48.21 39 P **P 22 28 12.1 +0.7**
GLB Gilahina Butte 48.27 38 P **P 22 28 13.4 +1.5**
L26K Log Cabin Wild 48.27 36 P **P 22 28 13.8 +2.0**
VRDI Verde Repeater 48.47 38 P **P 22 28 15.2 +1.6**
CHKK Chushkaly 48.49 298 *e*P **P 22 28 12.9 -0.9**
baz=298

M26K Nabesna, AK 48.52 37 P **P 22 28 15.3 +1.6**
MCARA McCarthy VSAT 48.65 38 P **P 22 28 16.7 +1.9**
MCARA IAmb IAmb 22 28 31.1

comp=Z,26nm,1.4s
MDOK Medeo 48.68 297 *e*P P 22 28 11.1 -4.4
baz=297
MDOK Medeo 48.68 297 *e*P P 22 28 11.0 -4.4
CRQM Cirque 48.70 39 P **P 22 28 15.8 +0.5**
CRQM IAmb IAmb 22 28 27.3

comp=Z,18nm,1.0s
K27K Chicken 48.71 34 IAmb IAmb 22 28 28.2

comp=Z,6.0nm,0.8s
AAA Alma-Ata 48.76 297 *e*P **P 22 28 14.8 -1.1**
baz=297
AAA Alma-Ata 48.76 297 *e*P **P 22 28 14.8 -1.1**
WAX Waxell Ridge 48.88 39 P **P 22 28 18.7 +2.1**
WAX IAmb IAmb 22 28 31.1

comp=Z,16nm,1.3s
KUU Kurty 48.92 298 ⇑*i*P **P 22 28 15.7 -1.5**
comp=Z,24nm,0.7s,baz=298
KUU Kurty 48.92 298*c**i*P **P 22 28 15.6 -1.5**
KUU pmax pmax

comp=Z,24nm,0.7s
L27K Beaver Creek, 48.95 36 P **P 22 28 17.6 +0.5**
BCAR Beaver Creek A 48.97 36 P **P 22 28 18.9 +1.7**
EGAK Eagle 49.01 33 P **P 22 28 19.2 +1.8**
EGAK IAmb IAmb 22 28 31.1

comp=Z,9.9nm,0.9s
MTBS Maitube 49.12 297 *e*P **P 22 28 17.1 -1.6**
baz=297
BARN Barnard Glacie 49.36 38 P **P 22 28 22.0 +1.6**
GRNC Granite Creek 49.37 39 P **P 22 28 21.7 +1.2**
GRNC IAmb IAmb 22 28 35.2

comp=Z,8.6nm,1.0s
KAPI Kappang 49.39 212 P **P 22 28 21.2 +0.3**
KAPI pmax pmax

comp=Z,40nm,1.5s
KAPI Kappang 49.39 212 P **P 22 28 21.2 +0.3**
BRZS Berezniki 49.45 307 ⇑*i*P **P 22 28 20.1 -0.9**
comp=Z,22nm,2.1s,baz=307
BRZS Berezniki 49.45 307*c**i*P **P 22 28 20.1 -0.9**
BRZS pmax pmax

comp=Z,22nm,2.1s
TKM2 Tokmak 2 49.76 297 P **P 22 28 24.6 +0.8**
SNR=20
TKM2 Tokmak 2 49.76 297 *i*P **P 22 28 23.5 -0.3**
TKM2 pmax pmax

comp=Z,37nm,0.8s
BRVK Borovoye 50.05 311 *i*P **P 22 28 25.5 0.0**
BRVK pmax pmax

comp=Z,23nm,0.9s
BRVK Borovoye 50.05 311 P **P 22 28 25.5 0.0**
BTLS Baital 50.09 300 ⇑*i*P **P 22 28 24.5 -1.4**
comp=Z,8.2nm,1.1s,baz=300
BTLS Baital 50.09 300*c**i*P **P 22 28 24.5 -1.4**
BTLS pmax pmax

comp=Z,8.0nm,1.1s
OTUK Ortayu 50.17 305 *i*P **P 22 28 25.9 -0.7**
OTUK pmax pmax

comp=Z,13nm,0.8s
PCA Pinnacle 50.22 39 P **P 22 28 26.2 -0.6**
SGDS Sogindy 50.24 298 ⇑*i*P **P 22 28 26.7 -0.5**
comp=Z,5.6nm,0.9s,baz=298
KBK Karagaybulak 50.30 297 P **P 22 28 28.4 +0.6**
SNR=18
CHMS Chumysh 50.32 297 P **P 22 28 27.9 +0.2**
SNR=5.2
USP Ospenovka 50.39 298 P **P 22 28 28.5 +0.2**
SNR=9.4
FRU1 Bishkek 50.47 297 P **P 22 28 28.9 0.0**
FRU1 pmax pmax

comp=Z,20nm,1.0s
FRU1 Bishkek 50.47 297 P **P 22 28 28.9 0.0**
FRU1 IAmb IAmb 22 28 30.4

comp=Z,20nm,0.9s
EPYK Eagle Plains 50.59 31 P **P 22 28 30.1 +0.6**
EPYK IAmb IAmb 22 28 49.0

comp=Z,12nm,0.8s
AAK Ala-Archa 50.62 297 *i*P **P 22 28 30.0 -0.2**
AAK pmax pmax

comp=Z,34nm,1.1s
AAK Ala-Archa 50.62 297 P **P 22 28 29.3 -1.0**
AAK IAmb IAmb 22 28 37.7

comp=Z,9.7nm,0.9s
KSH Kashi 50.76 293 P **P 22 28 35.4 +4.2**
KSH pP pwP 22 28 45.2 +6.4
KSH PcP **PcP 22 29 51.7 +3.6**
KSH pmax pmax

comp=Z,14nm,1.2s
KSH LR LR

comp=Z,680nm,22.7s
KSH LR LR

comp=Z,550nm,21.8s
KSH LR LR

comp=Z,930nm,15.2s
EKS2 Erkin-Say 51.11 297 P **P 22 28 34.0 +0.1**
SNR=9.2
AML Almayashu 51.36 297 P **P 22 28 37.1 +1.1**
SNR=8.8
HYT Haines Junctio 51.39 38 P **P 22 28 37.3 +1.6**
HYT IAmb IAmb 22 28 54.1

comp=Z,13nm,0.9s
INK Inuvik 51.46 28 P **P 22 28 37.3 +1.4**
comp=Z,4.3nm,1.1s,baz=294,slow=5.9,SNR=4.8
INK Inuvik 51.46 28 IAmb IAmb 22 28 48.9
comp=Z,12nm,1.3s
DZA Taraz 52.69 299 *e*P **P 22 28 44.6 -1.0**
baz=298
DZA Taraz 52.69 299 *e*P **P 22 28 44.5 -1.0**
KK31 Karatay Array 53.16 299 IAmb IAmb 22 28 59.1

comp=Z,13nm,0.8s
KKAR Karatay Array 53.16 299 IAmb IAmb 22 28 59.1

comp=Z,13nm,0.8s
DRK Karamyk 53.73 294 P **P 22 28 53.7 +0.1**
DRK IAmb IAmb 22 29 09.0

comp=Z,27nm,1.4s
IUG Iuzhnay 53.87 298 *e*P **P 22 28 53.0 -1.2**
baz=298
IUG Iuzhnay 53.87 298 *e*P **P 22 28 53.0 -1.2**
BTK Batken 54.18 295 IAmb IAmb 22 28 57.6

comp=Z,19nm,1.4s
SVE Sverdlovsk 54.25 318 *e*P **P 22 28 56.9 +0.2**
SVE pmax pmax

comp=Z,50nm,1.3s
SVE MLR MLR

comp=Z,1µm,15.0s
PSI Prapat 54.36 239 P **P 22 28 58.5 +0.4**
PSI pmax pmax

comp=Z,12nm,1.3s
RPSI Rantau Prapat 54.44 239 P **P 22 28 58.5 -0.1**
RPSI IAmb IAmb 22 29 00.3

comp=Z,12nm,1.3s
TAS Tashkent 54.70 297 P **P 22 29 00.0 -0.3**
TAS pmax pmax

comp=Z,32nm,1.2s
TAS Tashkent 54.70 297 P **P 22 28 60.0 -0.3**
GAR Garm 54.97 295 IAmb IAmb 22 29 02.8

comp=Z,16nm,1.0s
NIL Nilore 55.25 287 P **P 22 29 04.8 +0.5**
NIL pmax pmax

comp=Z,25nm,0.8s
NIL Nilore 55.25 287 P **P 22 29 04.8 +0.5**
ARU Arti 55.46 318 LR LR 22 55 23.1

comp=Z,670nm,18.0s,baz=64,slow=39
ARU Arti 55.46 318*c**i*P **P 22 29 05.5 0.0**
ARU 22 30 03.9
ARU 22 31 05.6
ARU S **S 22 36 51.9 +2.5**
ARU SS **SS 22 40 33.4 -0.2**
ARU MLR MLR

comp=Z,915nm,15.0s
ARU Arti 55.46 318 P **P 22 29 05.5 0.0**
KHU Kahuku 55.88 93 P **P 22 29 09.2 -0.1**
KHU pmax pmax

comp=Z,218nm,1.5s
KHU Kahuku 55.88 93 P **P 22 29 09.2 -0.1**
SDHHI Sand Hill 56.04 92 P **P 22 29 10.2 -0.1**
MDSI Maura Dua 56.73 229 P **P 22 29 13.2 -1.8**
comp=Z,10nm,1.3s
AB31 Akbulak array 57.46 309 ⇑*e*P **P 22 29 19.7 -0.1**
AB31 pmax pmax

comp=Z,2.0nm,0.6s
ABKAR Akbulak array 57.46 309 P **P 22 29 19.4 -0.4**
ABKAR IAmb IAmb 22 29 20.8

comp=Z,15nm,0.8s

KBL Kabul 57.91 290 P **P** **22 29 22.8 -0.7**
KBL pmax pmax
comp=Z,29nm,0.9s
KBL Kabul 57.91 290 P **P** **22 29 22.8 -0.7**
AKTO Aktyubinsk 58.10 311 LR LR 22 55 37.3
comp=Z,212nm,19.4s,baz=68,slow=37
KIRV Kirov 59.13 322 LR LR 22 56 58.9
comp=Z,172nm,19.3s,baz=55,slow=38
KIRV Kirov 59.13 322*ce*P **P** **22 29 31.8 +0.5**
PRGR Permogore 59.46 327 *e*P **P** **22 29 31.3 -2.2**
PRGR pmax pmax
comp=Z,57nm,1.3s
HYB Hyderabad 59.76 268 *i* P **P** **22 29 35.0 -1.3**
RES Resolute Bay 59.78 15 P **P** **22 29 34.8 -0.7**
comp=Z,7.6nm,0.8s,baz=285,slow=7.7,SNR=5.0
RES Resolute Bay 59.78 15 P **P** **22 29 35.4 -0.2**
RES pmax pmax
comp=Z,12nm,1.0s
RES Resolute Bay 59.78 15 P **P** **22 29 35.4 -0.2**
RES IAmb IAmb 22 29 36.8
comp=Z,12nm,0.9s
WR0 Warramunga Arr 59.78 190 P **P** **22 29 36.3 +0.1**
WR0 IAmb IAmb 22 29 45.7
comp=Z,5.0nm,0.8s
WB2 Warramunga Arr 59.79 190 P **P** **22 29 36.3 +0.1**
WB2 IAmb IAmb 22 29 45.8
comp=Z,6.7nm,0.8s
WRA Warramunga Arr 59.79 190 P **P** **22 29 35.4 -0.8**
comp=Z,3.2nm,0.9s,baz=9.9,slow=6.8,SNR=16
WRA Warramunga Arr 59.79 190 P **P** **22 29 36.2 0.0**
WRA Warramunga Arr 59.79 190 P **P** **22 29 36.2 0.0**
YKA Yellowknite Ar 60.88 31 LR LR 22 59 24.8
comp=Z,37nm,18.1s,baz=0.0,slow=39
APA Apatity 60.99 336⇓ *i*P **P** **22 29 41.9 -2.0**
APA pmax pmax
comp=Z,14nm,0.9s
APA MLR MLR
comp=Z,600nm,15.0s
ARCES ARCESS Array B 62.15 339 P **P** **22 29 52.1 +0.4**
comp=Z,7.4nm,1.0s,baz=38,slow=8.0,SNR=3.4
ARCES LR LR 23 00 03.3
comp=Z,166nm,20.2s,baz=55,slow=39
ARCES ARCESS Array B 62.15 339 P **P** **22 29 52.1 +0.4**
KLMR Klimovskoe 62.41 328 *e*P **P** **22 29 52.4 -1.2**
KLMR *e* 22 32 10.0
KLMR pmax pmax
comp=Z,29nm,1.4s
KLMR Klimovskoe 62.41 328 *e*P **P** **22 29 52.4 -1.2**
KLMR AMP 22 29 54.8
comp=Z,29nm,1.4s
KLMR *e*PP **PP** **22 32 10.1 -0.4**
HRA Herat 62.87 293 P **P** **22 29 56.6 -0.7**
HRA IAmb IAmb 22 30 10.2
comp=Z,6.6nm,0.8s
NEEM North Greenlan 62.92 3 *i* P **P** **22 29 57.0 -0.1**
NEEM IAmb IAmb 22 29 57.8
comp=Z,16nm,1.0s
BELG Belogornoye 62.97 317 *i* P **P** **22 29 57.6 +0.2**
BELG pmax pmax
comp=Z,9.0nm,0.9s
ASAR Alice Springs 63.51 190 P **P** **22 30 01.9 +0.6**
comp=Z,1.3nm,0.8s,baz=12,slow=6.5,SNR=14
ASAR Alice Springs 63.51 190 P **P** **22 30 02.0 +0.6**
ASAR Alice Springs 63.51 190 P **P** **22 30 01.9 +0.6**
GEYT Alibeck 63.91 299 P **P** **22 30 03.9 -0.2**
comp=Z,6.6nm,0.9s,baz=69,slow=9.4,SNR=7.7
GYA0B ALIBECK ARRAY 63.91 299 P **P** **22 30 03.9 -0.2**
GYA0B IAmb IAmb 22 30 17.5
comp=Z,8.9nm,0.8s
LIFNC LIFOU 64.07 155 P **P** **22 30 05.5 +0.6**
DZM Mont Dzumac 65.02 156 *e*LR LR 22 49 38.6
comp=Z,213nm,21.7s
MOS Moscow 66.10 323 *e*P **P** **22 30 16.6 -1.2**
MOS *e* 22 30 24.9
MOS *e* 22 30 42.1
MOS pmax pmax
comp=Z,36nm,1.3s
VRH Novokhopyorsk 66.70 318 *e*P **P** **22 30 20.2 -1.6**
VRH pmax pmax
comp=Z,10.0nm,0.9s
VRH MLR MLR
comp=Z,740nm,16.0s
OBN Obninsk 66.95 323*ce*P **P** **22 30 23.2 -0.1**
OBN *i* 22 30 32.8
OBN S S 22 39 29.0 +14
OBN SS **SS** **22 43 28.0 -5.2**
OBN pmax pmax
comp=Z,13nm,0.7s
OBN MLR MLR
comp=Z,495nm,15.0s
FIA1 FINESS Array S 67.26 332 P **P** **22 30 25.5 +0.3**
FINES FINESS Array B 67.26 332 P **P** **22 30 24.9 -0.3**
comp=Z,8.8nm,0.7s,baz=61,slow=9.0,SNR=23
FINES LR LR 23 02 39.6
comp=Z,531nm,18.1s,baz=36,slow=38
FINES FINESS Array B 67.26 332 *i* P **P** **22 30 25.2 0.0**
FINES pmax pmax
comp=Z,9.0nm,0.7s
LPSR Galich'ya Gora 67.31 320 *e*P **P** **22 30 24.6 -1.0**
LPSR pmax pmax
comp=Z,20nm,0.9s
LPSR MLR MLR
comp=Z,360nm,13.0s
MAK Makhachkala 68.06 308 *e*P P 22 30 26.2 -4.4
MAK *e*PPP PPP 22 34 37.1
MAK *e*S S 22 39 18.5 -11
MAK *e*SS **SS** **22 43 47.0 -3.9**
MAK *e*SSS SSS 22 46 54.5
MAK pmax pmax
comp=Z,50nm,1.3s
MAK MLR MLR
comp=Z,296nm,15.0s
SUMG Summit 68.15 1 *i* P **P** **22 30 32.0 +0.9**
SUMG IAmb IAmb 22 30 32.6
comp=Z,20nm,1.0s
SUMG Summit 68.15 1 *i* P **P** **22 30 32.0 +0.9**
SUMG pmax pmax
comp=Z,20nm,1.0s
SUMG Summit 68.15 1 P **P** **22 30 32.0 +0.9**
GROC Groznyy 68.96 309 *e*P **P** **22 30 33.9 -2.3**
GROC *e* 22 30 57.2
GROC pmax pmax
comp=Z,16nm,1.1s
VSU Vasula 69.02 330 *e*P **P** **22 30 36.0 -0.3**
GOF Gofitskoye 69.51 312⇑ *e*P **P** **22 30 40.0 +0.4**
GOF pmax pmax
comp=Z,44nm,0.9s
MTSE Matsula 69.96 331 *e*P **P** **22 30 42.3 +0.3**
NCK Nalchik 70.10 310 *i* P **P** **22 30 44.1 +0.8**
NCK pmax pmax
comp=Z,25nm,1.3s
BEKR Beckworth 70.16 54 P **P** **22 30 45.6 +1.6**
BEKR IAmb IAmb 22 30 58.2
comp=Z,9.4nm,0.9s
ZEI Tsey 70.33 310 *e*P **P** **22 30 43.3 -1.6**
ZEI pmax pmax
comp=Z,6.0nm,1.3s
KIV Kislovodsk 70.36 311⇑P **P** **22 30 45.7 +0.7**
KIV Kislovodsk 70.36 311*ce*P **P** **22 30 45.5 +0.6**
KIV *e**PP **sP** **22 30 51.5 -0.3**
KIV *e**SP **pwP** **22 30 54.7 +2.1**
KIV *e*S **S** **22 39 58.2 +1.6**
KIV *e* 22 40 42.1
KIV SS **SS** **22 44 22.0 -4.5**
KIV pmax pmax
comp=Z,59nm,1.3s
KIV Kislovodsk 70.36 311 P **P** **22 30 45.8 +0.9**
KBZ Khabaz 70.38 311 P **P** **22 30 45.6 +0.8**
comp=Z,14nm,0.9s,baz=50,slow=4.2,SNR=28
KBZ LR LR 23 04 02.4
comp=Z,171nm,19.2s,baz=40,slow=38
KBZ Khabaz 70.38 311*ce*P **P** **22 30 45.9 +1.1**
KBZ pmax pmax
comp=Z,25nm,1.0s
ONI Oni 70.72 310 P **P** **22 30 48.0 +0.9**
ONI pmax pmax
comp=Z,20nm,1.0s
ONI Oni 70.72 310 P **P** **22 30 48.0 +0.9**
PAHR Pah Rah Range 70.87 54 P **P** **22 30 49.7 +1.5**
PAHR IAmb IAmb 22 30 55.7
comp=Z,8.5nm,1.1s
STKA Stephens Creek 71.10 182 LR LR 23 01 31.1
comp=Z,47nm,21.3s,baz=23,slow=36
IDID Didziasalis 71.16 327 *e*P **P** **22 30 50.1 +0.7**
MNK Minsk 71.22 326 *i* P **P** **22 30 50.5 +0.7**
MNK *i* 22 33 27.9
MNK *i* PPP PPP 22 35 10.8
MNK *i* S **S** **22 40 08.7 +2.7**
MNK *i* SS **SS** **22 44 40.8 +1.9**
MNK pmax pmax
comp=E,2.0nm,1.2s
MNK pmax pmax
comp=N,10.0nm,1.1s
MNK pmax pmax
comp=Z,31nm,1.3s
MNK MLR MLR
comp=Z,325nm,17.0s
MNK MLR MLR
comp=N,235nm,18.0s
MNK MLR MLR
comp=E,26nm,15.0s
MNK Minsk 71.22 326 *i* P **P** **22 30 50.5 +0.7**
comp=E,2.0nm,1.2s
MNK *i* P **P** **22 30 50.5 +0.7**
comp=N,10.0nm,1.1s
MNK *i* P **P** **22 30 50.5 +0.7**
comp=Z,31nm,1.3s,baz=228
MNK *i* PP **PP** **22 33 27.9 +0.7**
MNK *i* PPP PPP 22 35 10.8
MNK *i* S **S** **22 40 08.8 +2.8**
MNK *i* SS **SS** **22 44 40.8 +1.9**
MNK *i* SSS SSS 22 47 59.7
MNK *i* LQ LQ 22 56 46.3
MNK *i* LR LR 23 02 35.9
MNK *i* LRM MLR 23 04 37.6
comp=E,26nm,15.5s
MNK *i* LRM MLR 23 04 37.6
comp=N,235nm,17.7s
MNK *i* LRM MLR 23 04 37.6
comp=Z,325nm,16.8s
IIGN Ignalina 71.35 328 *e*P **P** **22 30 51.1 +0.5**
GNI Garni 71.38 307*ce*P **P** **22 30 53.5 +2.2**
GNI pmax pmax
comp=Z,14nm,1.3s
GNI Garni 71.38 307 P **P** **22 30 52.4 +1.1**
AKH Akhalkalaki 71.39 309⇑P **P** **22 30 52.6 +1.2**
NACGM Naroch 71.42 327 *i* P **P** **22 30 51.2 +0.2**
DLMT Dillon 71.51 46 P **P** **22 30 53.4 +1.5**
DLMT IAmb IAmb 22 31 04.3
comp=Z,5.9nm,0.8s
ICESG Greenland Ices 71.64 1 *i* P **P** **22 30 53.4 +0.9**
ICESG IAmb IAmb 22 30 54.6
comp=Z,15nm,0.8s
KVN Kaiserville 72.06 54 P **P** **22 30 56.6 +1.2**
KVN pmax pmax
comp=Z,9.0nm,0.9s
KVN Kaiserville 72.06 54 P **P** **22 30 56.6 +1.2**
KVN IAmb IAmb 22 31 07.5
comp=Z,8.9nm,0.9s
PABE Paberze 72.16 329 *e*P **P** **22 30 56.0 +0.6**
NC303 NORSAR Array S 72.22 338 P **P** **22 30 55.6 -0.1**
NVAR Mina Array Bea 72.30 55 P **P** **22 30 58.4 +1.5**
comp=Z,1.1nm,0.7s,baz=297,slow=5.5,SNR=5.7
NVAR LR LR 22 58 47.1
comp=Z,28nm,21.9s,baz=272,slow=33
SOC Sochi 72.31 312 *e*P **P** **22 30 55.4 -1.1**
SOC *e* 22 33 35.4
SOC *e*PPP PPP 22 35 19.4
SOC *e*S **S** **22 40 18.1 -0.7**
SOC pmax pmax
comp=Z,19nm,0.7s
SOC MLR MLR
comp=Z,185nm,21.0s
NC204 NORSAR Array S 72.36 338 P **P** **22 30 56.7 +0.1**
NB2 NORSAR Subarra 72.42 338 P **P** **22 30 56.7 -0.3**
comp=Z,19nm,0.9s,baz=37,slow=6.2
NB2 NORSAR Subarra 72.42 338 P **P** **22 30 56.7 -0.3**
baz=37,slow=6.2
NOA NORSAR Array B 72.42 338 P **P** **22 30 56.5 -0.4**
comp=Z,9.5nm,0.8s,baz=38,slow=6.0,SNR=37
NOA LR LR 23 08 20.1
comp=Z,206nm,18.8s,baz=35,slow=40
BCA Borcka 72.50 309⇓P **P** **22 30 58.6 +0.8**
PBUR Paburge 72.60 330 *e*P **P** **22 30 57.9 -0.1**
ELK Elko 72.80 51 P **P** **22 31 00.8 +0.9**
ELK pmax pmax
comp=Z,5.0nm,1.4s
ELK Elko 72.80 51 P **P** **22 31 00.8 +0.9**
YHH Holmes Hill 72.84 46 P **P** **22 31 00.8 +0.7**
AKASG Malin Array Be 73.19 323 P **P** **22 31 01.2 -0.4**
comp=Z,3.2nm,0.5s,baz=44,slow=6.8,SNR=20
AKASG LR LR 23 06 41.0
comp=Z,115nm,21.5s,baz=45,slow=39
AKASG Malin Array Be 73.19 323*ce*P **P** **22 31 01.3 -0.4**
AKASG pmax pmax
comp=Z,6.0nm,0.8s
AKBB Malin Array Si 73.19 323*ce*P **P** **22 31 01.7 0.0**
TPH Tonopah 73.19 54 P **P** **22 31 03.4 +1.2**
TPH pmax pmax
comp=Z,52nm,1.3s
TPH Tonopah 73.19 54 P **P** **22 31 03.4 +1.2**
FXWY Fox Creek 73.46 47 P **P** **22 31 05.6 +1.8**
SUW Suwalki 73.55 328 *e*P **P** **22 31 03.4 -0.3**
DY2G Dye2 74.03 4 *i* P **P** **22 31 06.6 0.0**
DY2G IAmb IAmb 22 31 08.5
comp=Z,15nm,0.9s
KOPT Kop Dagi 74.05 309 P **P** **22 31 07.9 +0.6**
KOPT IAmb IAmb 22 31 10.0
comp=Z,20nm,1.4s
SPR3 Spring Creek 3 74.42 52 P **P** **22 31 09.9 +0.3**
DUG Dugway, Tooele 74.59 50 P **P** **22 31 11.1 +0.8**
DUG pmax pmax
comp=Z,5.0nm,1.0s
DUG Dugway, Tooele 74.59 50 P **P** **22 31 11.1 +0.8**
PD31 Pinedale Array 74.85 47 P **P** **22 31 12.2 +0.4**
PDAR Pinedale Array 74.85 47 P **P** **22 31 12.4 +0.6**
comp=Z,1.0nm,0.8s,baz=264,slow=1.5,SNR=6.9
PDAR LR LR 23 02 38.2
comp=Z,19nm,21.3s,baz=306,slow=35
PDAR Pinedale Array 74.85 47 P **P** **22 31 11.9 +0.1**
SORM Soroca 75.36 321⇓P **P** **22 31 14.6 +0.2**
SORM Soroca 75.36 321⇓P **P** **22 31 14.6 +0.2**
SHPR Sheep Range 75.45 55 P **P** **22 31 16.4 +1.1**
MARD Mardin 75.56 307 P **P** **22 31 16.1 +0.2**
BEL Belsk 76.13 327 *e*P **P** **22 31 19.8 +1.1**
LVV L'vov 76.20 324 *e*P **P** **22 31 18.0 -1.1**
RDMU Red Mountain 76.26 49 P **P** **22 31 20.1 +0.2**
RDMU IAmb IAmb 22 31 32.9
comp=Z,9.0nm,0.8s
LCMT Little Creek M 76.33 53 IAmb IAmb 22 31 32.6
comp=Z,7.0nm,0.9s
SRU San Rafael Swe 76.64 50 IAmb IAmb 22 31 33.9
comp=Z,8.4nm,0.8s
KWP Kalwaria Pacla 76.92 325 *e*P **P** **22 31 24.1 +0.8**
BURAR Bucovina Array 77.23 322⇑P **P** **22 31 25.4 +0.2**
BURAR Bucovina Array 77.23 322⇑P **P** **22 31 25.4 +0.2**
BURAR Bucovina Array 77.23 322 IAmb IAmb 22 31 27.0
comp=Z,7.1nm,0.8s
BIZ Bicaz 77.29 321⇓P **P** **22 31 26.4 +1.0**
TESR Tescani 77.33 321⇑P **P** **22 31 25.8 +0.2**
ILGA Ilgaz 77.34 313 P **P** **22 31 27.0 +0.9**
ILGA IAmb IAmb 22 31 28.5
comp=Z,21nm,1.2s
CFR Carcaliu 77.52 319⇑P **P** **22 31 26.7 +0.1**
CFR Carcaliu 77.52 319⇑P **P** **22 31 26.7 +0.1**
BNN Bunyan 77.56 310 P **P** **22 31 27.8 +0.6**
TPGR Topolog 77.60 319⇓P **P** **22 31 28.0 +0.8**
KOLS Kolonicke sedl 77.63 325 *e*P **P** **22 31 28.4 +1.2**
KOLS Kolonicke sedl 77.63 325 *e*P **P** **22 31 28.4 +1.2**
VRI Vrincioaia 77.74 320⇓P **P** **22 31 29.0 +1.0**
VRI Vrincioaia 77.74 320⇓P **P** **22 31 29.0 +1.0**
OJC Ojcow 77.75 327 *e*P **P** **22 31 28.6 +0.7**
OJC Ojcow 77.75 327 P **P** **22 31 28.3 +0.4**
OJC pmax pmax
comp=Z,18nm,1.0s
OJC Ojcow 77.75 327 P **P** **22 31 28.3 +0.4**
OJC IAmb IAmb 22 31 29.7
comp=Z,18nm,1.0s
PLOR Plostina 77.79 320⇑P P 22 31 33.1 +4.8
PLOR Plostina 77.79 320⇑P P 22 31 33.1 +4.8
CRVS Cervenica-Dubn 78.01 325 *e*P **P** **22 31 29.7 +0.3**
CRVS pmax pmax
comp=Z,39nm,2.0s
CRVS Cervenica-Dubn 78.01 325 *e*P **P** **22 31 29.7 +0.3**
OZUR 78.04 321⇑P **P** **22 31 30.6 +1.0**
NIE Niedzica 78.14 326 *e*P **P** **22 31 31.9 +1.8**
BRTR Keskin Array B 78.27 312 P **P** **22 31 30.3 +0.2**
comp=Z,2.6nm,0.8s,baz=101,slow=6.4,SNR=7.2
BRTR LR LR 23 11 32.2
comp=Z,159nm,18.6s,baz=50,slow=40
BRTR Keskin Array B 78.27 312*ce*P **P** **22 31 31.7 +0.6**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
DOPR Dopca 78.33 321⇓P **P** **22 31 33.3 +2.1**
ICOR Ion Corvin 78.44 318⇑P **P** **22 31 28.4 -3.4**
BSEG Bad Segeberg 78.46 334 *e*P **P** **22 31 32.5 +0.8**
comp=Z,18nm,1.1s,baz=34,slow=5.3
LANS Liptovska Anna 78.70 326 *e*P **P** **22 31 34.9 +1.7**
LANS pmax pmax
comp=Z,4.0nm,1.0s
LANS Liptovska Anna 78.70 326 *e*P **P** **22 31 34.9 +1.7**
KSP Ksiaz 78.72 329 *e*P **P** **22 31 34.1 +0.9**
VOIR 78.88 321⇑P **P** **22 31 35.7 +1.4**
VOIR 78.88 321⇑P **P** **22 31 35.7 +1.4**
OSTC Ostas 78.97 329 *e*P **P** **22 31 35.3 +0.7**
OSTC AMS AMS 23 09 10.0
comp=Z,300nm,15.2s
CHVC Chvalec 79.01 329 *e*P **P** **22 31 35.4 +0.5**
CHVC AMS AMS 23 09 10.0
comp=Z,300nm,17.7s
MORC Moravsky Berou 79.03 328⇑P **P** **22 31 35.9 +0.9**
MORC Moravsky Berou 79.03 328 P **P** **22 31 35.3 +0.3**
MORC pmax pmax
comp=Z,10.0nm,1.0s
MORC Moravsky Berou 79.03 328 P **P** **22 31 35.3 +0.3**
MORC IAmb IAmb 22 31 36.3
comp=Z,9.7nm,0.9s
MORC Moravsky Berou 79.03 328 *e*P **P** **22 31 35.3 +0.3**
DPC Dobruska-Polom 79.09 329 *e*P **P** **22 31 35.8 +0.5**
DPC MLR MLR
comp=Z,200nm,16.9s
DPC Dobruska-Polom 79.09 329 *e*P **P** **22 31 35.8 +0.5**
DPC AMS AMS 23 09 40.0
comp=Z,200nm,16.9s
UPC Upice 79.09 329 *e*P **P** **22 31 35.3 0.0**
UPC MLR MLR
comp=Z,300nm,15.7s
UPC Upice 79.09 329 *e*P **P** **22 31 35.3 0.0**
UPC AMS AMS 23 09 10.0
comp=Z,300nm,15.7s
KRLC Kraliky 79.11 328 *e*P **P** **22 31 36.1 +0.6**
KRLC MLR MLR
comp=Z,300nm,15.2s
KRLC Kraliky 79.11 328 *e*P **P** **22 31 36.1 +0.6**
KRLC AMS AMS 23 10 50.0
comp=Z,300nm,15.2s
ARR Arges 79.13 321⇓P **P** **22 31 37.4 +1.7**
MDUB Mudurnu 79.14 314 P **P** **22 31 35.9 0.0**
PSZ Piszkesteto 79.44 325 *e*P **P** **22 31 35.5 -1.9**
FLTG Flechtingen 79.45 332 *e*P **P** **22 31 37.1 0.0**
comp=Z,16nm,1.1s,baz=34,slow=5.3
VYHS Vyhne 79.47 326 *e*P **P** **22 31 38.2 +0.8**
VYHS pmax pmax
comp=Z,12nm,1.2s
VYHS Vyhne 79.47 326 *e*P **P** **22 31 38.2 +0.8**
BRG Berggiesshubel 79.61 330 *e*P **P** **22 31 38.4 +0.3**
comp=Z,7.1nm,1.1s,baz=34,slow=5.3
BRG Berggiesshubel 79.61 330 *e*P **P** **22 31 38.8 +0.7**
BRG Amp 22 31 39.7
comp=Z,7.0nm,1.1s
CLL Collm 79.62 331⇑ *i*P **P** **22 31 38.2 +0.1**
comp=Z,11nm,0.9s
CLL *e*pP **PcP** **22 31 47.0 +1.0**
CLL *e*S **S** **22 41 46.0 +6.8**
CLL *e*SS **SS** **22 46 48.0 +1.8**
CLL Lm MLR 23 09 00.0
comp=Z,200nm,18.7s
CLL Collm 79.62 331⇑ *i*P **P** **22 31 38.2 +0.1**
CLL *e**PP **PcP** **22 31 47.0 +1.0**
CLL *e*S **S** **22 41 46.0 +6.8**
CLL pmax pmax
comp=Z,11nm,0.9s
CLL Collm 79.62 331 IAmb IAmb 22 31 39.3
comp=Z,11nm,0.9s
CLL Collm 79.62 331 *e*P **P** **22 31 38.3 +0.2**
comp=Z,11nm,0.9s,baz=34,slow=5.3
PVCC Panska Ves 79.64 330 *e*P **P** **22 31 38.8 +0.5**
PVCC MLR MLR
comp=Z,300nm,14.0s
PVCC Panska Ves 79.64 330 *e*P **P** **22 31 38.8 +0.5**
PVCC AMS AMS 23 09 50.0
comp=Z,300nm,14.0s
JAVC Velka Javorina 79.69 327 *e*P **P** **22 31 40.1 +1.5**
VRAC Vranov 79.79 328⇑P **P** **22 31 39.8 +0.7**
VRAC Vranov 79.79 328⇑P **P** **22 31 39.8 +0.7**
VRAC Vranov 79.79 328 *e*P **P** **22 31 39.9 +0.7**
FBE Freiberg 79.80 330 *e*P **P** **22 31 39.9 +0.8**
comp=Z,12nm,0.9s,baz=34,slow=5.3
GZR Gura Zlata 80.00 322⇓P **P** **22 31 41.1 +0.7**
GZR Gura Zlata 80.00 322⇓P **P** **22 31 41.1 +0.7**
SMOL Smolenice 80.06 327 *e*P **P** **22 31 41.8 +1.2**
SMOL pmax pmax
comp=Z,4.0nm,0.9s
SMOL Smolenice 80.06 327 *e*P **P** **22 31 41.8 +1.2**
PRA Prague 80.06 329 *e*P **P** **22 31 41.3 +0.8**
PRA Prague 80.06 329 *e*P **P** **22 31 41.3 +0.8**
KRUC Moravsky 80.06 328 *e*P **P** **22 31 41.1 +0.5**
PRU Pruhonice 80.08 329 *e*P **P** **22 31 41.3 +0.6**
PRU MLR MLR
comp=Z,300nm,15.1s
PRU Pruhonice 80.08 329 *e*P **P** **22 31 41.3 +0.6**
PRU AMS AMS 23 10 00.0
comp=Z,300nm,15.1s
CLZ Clausthal 80.16 333 *e*P **P** **22 31 41.7 +0.7**
comp=Z,16nm,1.1s,baz=34,slow=5.3
SRO Srobarova 80.22 326 *e*P **P** **22 31 42.7 +1.3**
SRO Srobarova 80.22 326 *e*P **P** **22 31 42.7 +1.3**
SRO2 Moca 80.22 326 *e*P **P** **22 31 42.0 +0.6**
SRO2 Moca 80.22 326 *e*P **P** **22 31 42.0 +0.6**
TREC Trest 80.25 328 *e*P **P** **22 31 42.0 +0.4**
TREC MLR MLR
comp=Z,400nm,15.6s
TREC Trest 80.25 328 *e*P **P** **22 31 42.0 +0.4**
TREC AMS AMS 23 11 40.0
comp=Z,400nm,15.6s
BZS Buzias 80.39 323⇓P **P** **22 31 42.5 +0.1**
BZS Buzias 80.39 323⇓P **P** **22 31 42.5 +0.1**
PLN Plauen 80.61 331 *e*P **P** **22 31 44.0 +0.5**
comp=Z,5.0nm,1.1s,baz=34,slow=5.3
GUNZ Gunzen 80.64 331 *e*P **P** **22 31 44.3 +0.6**
comp=Z,12nm,1.5s,baz=34,slow=5.3
MOX Moxa 80.68 331 *e*P **P** **22 31 44.3 +0.4**
comp=Z,17nm,1.5s,baz=34,slow=5.3
NKC Novy Kostel 80.70 331 *e*P **P** **22 31 44.2 +0.2**
NKC MLR MLR
comp=Z,300nm,14.5s
NKC Novy Kostel 80.70 331 *e*P **P** **22 31 44.2 +0.2**
NKC AMS AMS 23 13 50.0
comp=Z,300nm,14.5s
MDVR Moldovita 80.96 322⇓P **P** **22 31 46.0 +0.4**
MANZ Manzenberg 81.03 331 *e*P **P** **22 31 46.2 +0.4**
comp=Z,5.1nm,0.9s,baz=34,slow=5.3
CKRC Cesky Krumlov 81.10 329 *e*P **P** **22 31 45.3 -0.9**
KHC Kasperske Hory 81.14 329 *e*P **P** **22 31 46.9 +0.5**
KHC *e* 22 31 55.4
KHC MLR MLR
comp=Z,300nm,13.1s
KHC Kasperske Hory 81.14 329 *e*P **P** **22 31 46.9 +0.5**
KHC *e*pP **pwP** **22 31 55.4 +1.0**
KHC *ex* x 22 32 14.0
KHC AMS AMS 23 10 50.0
comp=Z,300nm,13.1s
ROTZ Rotzenmuhle 81.17 330 *e*P **P** **22 31 47.2 +0.7**
comp=Z,9.2nm,1.1s,baz=34,slow=5.3
CONA Conrad Observa 81.17 327 *e*P **P** **22 31 47.7 +1.1**
comp=Z,7.1nm,1.0s
EKA Eskdalemuir Ar 81.22 341 P **P** **22 31 47.5 +0.8**
GEC2 GERESS Array S 81.32 329 P **P** **22 31 47.4 -0.1**
GEC2 GERESS Array S 81.32 329 *e*P **P** **22 31 47.6 +0.1**
comp=Z,4.3nm,1.0s,baz=34,slow=5.3
GERES GERESS Array B 81.32 329 P **P** **22 31 47.5 +0.1**
comp=Z,2.0nm,0.8s,baz=39,slow=5.1,SNR=18
GERES LR LR 23 12 13.1
comp=Z,203nm,18.2s,baz=16,slow=39
KASTN Kahler Asten 81.37 333 *e*P **P** **22 31 47.3 -0.3**
comp=Z,40nm,1.9s,baz=34,slow=5.3
WET Wettzell 81.41 330 *e*P **P** **22 31 48.5 +0.6**
comp=Z,12nm,1.3s,baz=34,slow=5.3
FRGS Fruska Gora 81.57 323⇑P **P** **22 31 49.0 +0.3**
GRA1 Grafenberg Arr 81.60 331 P **P** **22 31 49.4 +0.6**
GRA1 IAmb IAmb 22 31 50.8
comp=Z,15nm,0.9s
GRF Grafenberg Arr 81.60 331 P **P** **22 31 49.4 +0.6**

GRF				pmax	pmax		
	comp=Z,15nm,0.9s						
GRF	**Grafenberg Arr**	**81.60**	**331**	*e*P	**P**	**22 31 49.7**	**+0.9**
	comp=Z,17nm,1.0s,baz=34,slow=5.3						
GRFO	**Grafenberg**	**81.60**	**331**	P	**P**	**22 31 49.4**	**+0.6**
GRFO				pmax	pmax		
	comp=Z,14nm,0.9s						
GRFO	**Grafenberg**	**81.60**	**331**	P	**P**	**22 31 49.4**	**+0.6**
GRFO				IAmb	IAmb	22 31 50.8	
	comp=Z,14nm,0.9s						
BOVS	**Bovan**	**81.82**	**321**	⇓P	**P**	**22 31 49.3**	**-0.8**
VTS	**Vitosha**	**81.83**	**320**	⇑P	**P**	**22 31 50.9**	**+0.6**
VTS	**Vitosha**	**81.83**	**320**	P	**P**	**22 31 50.7**	**+0.4**
VTS	**Vitosha**	**81.83**	**320**	P	**P**	**22 31 50.7**	**+0.4**
VTS				IAmb	IAmb	22 31 52.3	
	comp=Z,7.4nm,0.9s						
ARSA	**Arzberg**	**81.84**	**327**	*e*P	**P**	**22 31 51.1**	**+0.9**
	comp=Z,3.7nm,0.9s						
MOA	**Molln**	**81.89**	**328**	*e*P	**P**	**22 31 52.0**	**+1.6**
	comp=Z,4.9nm,1.0s						
MILB	**Miltenberg**	**82.20**	**332**	*e*P	**P**	**22 31 52.3**	**+0.3**
	comp=Z,7.9nm,1.1s,baz=34,slow=5.3						
SCHQ	**Schefferville**	**82.49**	**17**	LR	LR	23 12 34.0	
	comp=Z,40nm,18.7s,baz=74,slow=39						
PERS	**Pernice**	**82.50**	**327**	*i* P	**P**	**22 31 54.0**	**+0.3**
	comp=Z,30nm,1.1s						
SOKA	**Soboth**	**82.50**	**327**	*i* P	**P**	**22 31 54.1**	**+0.4**
	comp=Z,17nm,1.1s,SNR=13						
RJOB	**Jochberg**	**82.58**	**329**	*e*P	**P**	**22 31 55.0**	**+1.0**
	comp=Z,28nm,0.9s,baz=34,slow=5.3						
GOLS	**Golise**	**82.78**	**326**	*i* P	**P**	**22 31 54.9**	**-0.1**
OBKA	**Obir**	**82.84**	**327**	*i* P	**P**	**22 31 55.7**	**+0.2**
	comp=Z,4.4nm,0.8s						
KBA	**Koelnbreinsper**	**82.88**	**328**	*i* P	**P**	**22 31 57.4**	**+1.6**
	comp=Z,11nm,0.6s						
GCIS	**Gornji Cirnik**	**82.89**	**326**	*i* P	**P**	**22 31 55.6**	**0.0**
	comp=Z,11nm,1.2s						
MYKA	**Terra Mystica**	**83.12**	**328**	*e*P	**P**	**22 31 56.6**	**-0.3**
	comp=Z,7.7nm,1.2s						
SNF	**Seneffe**	**83.36**	**335**	*d*P	**P**	**22 31 57.6**	**-0.3**
BMRD	**Maredsous**	**83.37**	**335**	*d*P	**P**	**22 31 57.7**	**-0.3**
BMRD				*d*PcP	**pP**	**22 32 01.8**	**-1.3**
WATA	**Walderalm**	**83.39**	**329**	*e*P	**P**	**22 31 59.6**	**+1.3**
	comp=Z,7.0nm,0.9s						
WTTA	**Wattenberg**	**83.42**	**329**	*e*P	**P**	**22 31 59.2**	**+0.7**
	comp=Z,7.1nm,1.2s						
WLF	**Walferdange**	**83.45**	**334**	*d*P	**P**	**22 31 58.6**	**+0.2**
WLF	**Walferdange**	**83.45**	**334**	*e*P	**P**	**22 31 58.7**	**+0.2**
	comp=Z,14nm,1.1s,baz=34,slow=5.3						
ABTA	**Abfaltersbach**	**83.49**	**328**	*e*P	**P**	**22 31 58.3**	**-0.5**
	comp=Z,7.3nm,1.1s						
MOTA	**Moosalm**	**83.56**	**330**	*i* P	**P**	**22 31 59.6**	**+0.3**
	comp=Z,17nm,1.0s,SNR=6.3						
RETA	**Reutte**	**83.58**	**330**	*i* P	**P**	**22 31 59.9**	**+0.6**
	comp=Z,15nm,1.1s,SNR=6.2						
SQTA	**Sankt Quirin**	**83.62**	**329**	*e*P	**P**	**22 31 59.9**	**+0.4**
	comp=Z,6.9nm,0.9s						
STAL	**STALIGIAL**	**83.80**	**328**	IAmb	IAmb	22 32 00.3	
	comp=Z,10nm,0.9s						
BFO	**Black Forest**	**83.80**	**332**	*e*P	**P**	**22 32 00.5**	**+0.2**
	comp=Z,11nm,1.2s,baz=34,slow=5.3						
PUK	**Puka**	**83.90**	**321**	IAmb	IAmb	22 32 09.2	
	comp=Z,16nm,1.3s						
PDG	**Podgorica**	**83.91**	**322**	⇓P	**P**	**22 32 01.3**	**+0.5**
FETA	**Feichten**	**83.97**	**330**	*e*P	**P**	**22 32 01.7**	**+0.4**
	comp=Z,8.7nm,1.0s						
DAVA	**Damuels**	**84.09**	**330**	*i* P	**P**	**22 32 02.4**	**+0.4**
	comp=Z,16nm,0.9s,SNR=6.3						
CDF	**Champ du Feu**	**84.12**	**332**	*e*P	**P**	**22 32 01.8**	**-0.2**
CDF				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CTI	**Castel Tesino**	**84.40**	**328**	P	**P**	**22 32 02.6**	**-0.9**
CTI				pmax	pmax		
	comp=Z,8.0nm,1.1s						
CTI	**Castel Tesino**	**84.40**	**328**	P	**P**	**22 32 02.6**	**-0.9**
CTI				IAmb	IAmb	22 32 03.7	
	comp=Z,8.1nm,1.1s						
PPT	**Papeete**	**84.47**	**118**	LR	LR	23 09 57.4	
	comp=Z,150nm,19.1s,baz=323,slow=36						
PPT2	**Papeete2**	**84.49**	**118**	*e*LR	LR	22 58 43.2	
	comp=Z,248nm,22.2s						
KBN	**Korca**	**84.53**	**320**	P	**P**	**22 32 04.2**	**0.0**
KBN				pmax	pmax		
	comp=Z,17nm,1.0s						
KBN	**Korca**	**84.53**	**320**	P	**P**	**22 32 04.2**	**0.0**
HAU	**Haudompre**	**84.79**	**333**	*e*P	**P**	**22 32 04.9**	**-0.4**
HAU				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TAOE	**Nuku Hiva Isla**	**85.38**	**105**	*e*LR	LR	22 59 11.7	
	comp=Z,196nm,21.0s						
SENIN	**Lac Senin/Sane**	**85.83**	**331**	P	**P**	**22 32 10.6**	**-0.2**
SENIN				IAmb	IAmb	22 32 28.6	
	comp=Z,13nm,1.3s						
LOR	**Lormes**	**86.29**	**334**	*e*P	**P**	**22 32 12.6**	**-0.2**
LOR				pmax	pmax		
	comp=Z,17nm,1.0s						
LPL	**La Plagne**	**86.76**	**331**	*e*P	**P**	**22 32 15.4**	**0.0**
LPL				pmax	pmax		
	comp=Z,10.0nm,1.0s						
AVF	**Avril sur Loir**	**86.88**	**334**	*e*P	**P**	**22 32 15.7**	**0.0**
AVF				pmax	pmax		
	comp=Z,19nm,0.9s						
TXAR	**Lajitas Array**	**87.42**	**54**	P	**P**	**22 32 19.6**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=289,slow=2.8,SNR=4.0						
TCF	**Toulx Ste Croi**	**87.71**	**334**	*e*P	**P**	**22 32 20.0**	**+0.3**
TCF				pmax	pmax		
	comp=Z,8.0nm,1.2s						
CCM	**Cathedral Cave**	**87.97**	**40**	P	**P**	**22 32 21.8**	**+0.7**
CCM				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CCM	**Cathedral Cave**	**87.97**	**40**	P	**P**	**22 32 21.8**	**+0.7**
CCM				IAmb	IAmb	22 32 32.1	
	comp=Z,6.6nm,0.8s						
RJF	**Les Rejaudoux**	**88.80**	**334**	*e*P	**P**	**22 32 25.3**	**+0.4**
RJF				pmax	pmax		
	comp=Z,2.0nm,0.2s						
MTLF	**Montolieu**	**90.28**	**333**	*e*P	**P**	**22 32 32.1**	**+0.2**
MTLF				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KEST	**Kesra**	**93.88**	**324**	LR	LR	23 19 57.2	
	comp=Z,160nm,18.7s,baz=320,slow=39						
ESDC	**Sonseca Array**	**95.65**	**335**	LR	LR	23 21 45.1	
	comp=Z,150nm,18.3s,baz=340,slow=39						
TORD	**Torodi Ar. Bea**	**116.53**	**317**	PP	PP	22 39 17.7	-3.9
	comp=Z,3.3nm,1.0s,baz=19,slow=7.8,SNR=9.8						
SNAA	**Sanae**	**143.60**	**197**	PKPbc	PKPbc	22 39 02.1	-0.1
SNAA	**Sanae**	**143.60**	**197**	pPKPdf	pPKPdf	22 39 11.6	+1.7
LPAZ	**La Paz**	**144.12**	**59**	PKP	**PKPdf**	**22 39 09.5**	**+1.5**
	comp=Z,1.2nm,0.8s,baz=243,slow=2.3,SNR=3.7						
VNA2	**Neumayer--Watz**	**145.16**	**196**	PKPbc	**PKPbc**	**22 39 06.7**	**-0.3**
VNA2	**Neumayer--Watz**	**145.16**	**196**	pPKPdf	pPKPdf	22 39 16.1	+3.6
VNA3	**Neumayer Olymp**	**145.39**	**195**	PKPbc	**PKPbc**	**22 39 07.1**	**-0.6**
VNA3	**Neumayer Olymp**	**145.39**	**195**	pPKPdf	pPKPdf	22 39 16.8	+3.8
VNA1	**Neumayer--Stat**	**145.56**	**196**	PKPbc	**PKPdf**	**22 39 08.0**	**0.0**
VNA1	**Neumayer--Stat**	**145.56**	**196**	pPKPdf	pPKPdf	22 39 18.3	+5.0

*NOU **03** 22:23:30.9, 23°.63S×179°.74E, h582km, mb4.5/26, South of Fiji Islands*

*NEIC **03** 22:23:34.8±2.0, 24°.0S±0°.1×179°.1E±0°.1, h557km±10km, mb4.6/42, Error ellipse: s-maj=17.4km s-min=17.0km az=99.0*

*IDC **03** 22:23:35.7±1.4, 24°.03S×178°.91E, h549km±13km, mb3.5/11, mb1 3.7/13, mb1mx3.6/24, mbtmp4.5/13, Error ellipse: s-maj=18.9km s-min=13.3km az=98.0*

ISC 03 22:23:35.1±0.4**, 24°.07S**±0°.06×**178°.95E**±0°.08**, h548**km**,**
n109, σ1^s**48**/114**, mb4.4**/29**, 8C-1D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.88**	**152**	P	**P**	**22 25 15.9**	**+3.5**
	153nm,0.3s,baz=270,slow=20,SNR=5.3						
RAO	**Raoul Island**	**5.88**	**152**	P	**P**	**22 25 13.4**	**+1.0**
MSVF	**Nonsavu**	**6.36**	**352**	P	**P**	**22 25 17.6**	**+0.4**
	6.7nm,0.3s,baz=251,slow=23,SNR=31						
MSVF				S	**S**	**22 26 41.0**	**+0.5**
	baz=80,slow=18,SNR=2.4						
MSVF	**Nonsavu**	**6.36**	**352**	P	**P**	**22 25 15.8**	**-1.3**
MARNC	**Mare, Loyalty**	**10.39**	**282**	P	**P**	**22 25 57.6**	**+0.5**
PINNC	**Pines Island,**	**10.66**	**276**	P	**P**	**22 26 01.3**	**+1.4**
OUENC	**Ouen Island, N**	**11.25**	**276**	P	**P**	**22 26 07.1**	**+1.2**
OUENC	**Ouen Island, N**	**11.25**	**276**	P	**P**	**22 26 08.7**	**+2.8**
YATNC	**Mamie plateau,**	**11.28**	**278**	P	**P**	**22 26 09.2**	**+3.0**
LIFNC	**LIFOU**	**11.31**	**285**	P	**P**	**22 26 07.5**	**+0.9**
NIUE	**Niue**	**11.48**	**66**	P	**P**	**22 26 06.7**	**-1.7**
ONTNC	**Ouen Toro**	**11.62**	**276**		**P**	**22 26 10.5**	**+0.7**
DZM	**Mont Dzumac**	**11.68**	**277**	P	**P**	**22 26 12.5**	**+2.0**
	2.0nm,0.3s,baz=89,slow=16,SNR=33						
DZM	**Mont Dzumac**	**11.68**	**277**		**P**	**22 26 11.8**	**+1.3**
DZM	**Mont Dzumac**	**11.68**	**277**	P	**P**	**22 26 12.9**	**+2.4**
NOUC	**Port Laguerre**	**11.80**	**277**	P	**P**	**22 26 14.5**	**+2.9**
OUZ	**Omahuta**	**12.04**	**201**	P	**P**	**22 26 16.0**	**+2.1**
MXZ	**Matakaoa Point**	**13.46**	**182**	P	**P**	**22 26 27.5**	**-1.0**
URZ	**Urewera**	**14.23**	**186**	P	**P**	**22 26 34.0**	**-2.5**
	6.0nm,0.3s,baz=271,slow=2.1,SNR=27						
URZ				S	**S**	**22 28 58.9**	**-7.1**
	5.0nm,0.3s,baz=108,slow=20,SNR=14						
URZ	**Urewera**	**14.23**	**186**	P	**P**	**22 26 35.3**	**-1.2**
HIZ	**Hauiti**	**14.81**	**193**	P	**P**	**22 26 44.0**	**+1.4**
BKZ	**Black Stump Fm**	**15.20**	**187**	P	**P**	**22 26 44.5**	**-2.0**
BKZ				IAmb	IAmb	22 26 49.5	
	comp=Z,21nm,1.2s						
BFZ	**Birch Farm**	**16.72**	**187**	P	**P**	**22 27 00.2**	**-1.0**
BFZ				IAmb	IAmb	22 27 15.9	
	comp=Z,45nm,1.0s						
QRZ	**Quartz Range**	**17.55**	**196**	P	**P**	**22 27 10.1**	**+1.3**
SNZO	**South Karori**	**17.56**	**191**	P	**P**	**22 27 08.7**	**0.0**
MSWZ	**Moikau Station**	**17.57**	**189**	P	**P**	**22 27 07.9**	**-1.0**
BHW	**Baring Head**	**17.62**	**190**	P	**P**	**22 27 08.7**	**-0.7**
PLWZ	**Palliser**	**17.72**	**189**	P	**P**	**22 27 09.6**	**-0.8**
NNZ	**Nelson**	**17.72**	**194**	P	**P**	**22 27 10.6**	**+0.3**
TUWZ	**Tuamarina**	**17.81**	**192**	P	**P**	**22 27 11.0**	**-0.1**
BSWZ	**Blackbirch Sta**	**18.10**	**192**	P	**P**	**22 27 14.0**	**+0.2**
THZ	**Tophouse**	**18.35**	**194**	P	**P**	**22 27 16.7**	**+0.5**
THZ				IAmb	IAmb	22 27 18.9	
	comp=Z,21nm,0.5s						
KHZ	**Kahutara**	**18.84**	**192**	P	**P**	**22 27 20.3**	**-0.2**
LTZ	**Lake Taylor**	**19.46**	**195**	P	**P**	**22 27 25.6**	**-0.6**
OXZ	**Oxford**	**20.03**	**195**	P	**P**	**22 27 30.3**	**-1.1**
OXZ				IAmb	IAmb	22 27 31.2	
	comp=Z,34nm,1.0s						
MQZ	**McQueen's Vall**	**20.26**	**193**	P	**P**	**22 27 32.9**	**-0.4**
MQZ				IAmb	IAmb	22 27 33.0	
	comp=Z,34nm,1.1s						
RPZ	**Rata Peaks**	**20.64**	**196**	P	**P**	**22 27 36.8**	**-0.1**
RPZ				IAmb	IAmb	22 27 50.4	
	comp=Z,45nm,1.2s						
LBZ	**Lake Benmore**	**21.50**	**197**	P	**P**	**22 27 43.7**	**-0.9**
LBZ				IAmb	IAmb	22 27 44.4	
	comp=Z,10nm,0.6s						
ODZ	**Otahua Downs**	**21.99**	**196**	P	**P**	**22 27 48.4**	**-0.6**
ODZ				IAmb	IAmb	22 27 49.8	
	comp=Z,9.6nm,0.9s						
WKZ	**Wanaka**	**22.23**	**199**	P	**P**	**22 27 50.4**	**-0.8**
WKZ				IAmb	IAmb	22 28 03.2	
	comp=Z,20nm,0.9s						
MLZ	**Mavora Lakes**	**22.99**	**200**	P	**P**	**22 27 59.0**	**+1.0**
MLZ				IAmb	IAmb	22 28 06.2	
	comp=Z,27nm,1.2s						
WHZ	**Wether Hill Ro**	**23.52**	**200**	P	**P**	**22 28 03.1**	**+0.4**
ARMA	**Armidale**	**25.06**	**249**	P	**P**	**22 28 18.3**	**+1.6**
ARMA				IAmb	IAmb	22 28 30.3	
	comp=Z,7.8nm,1.0s						
EIDS	**Eidsvold**	**25.33**	**261**	P	**P**	**22 28 19.8**	**+0.9**
EIDS				IAmb	IAmb	22 28 37.9	
	comp=Z,8.1nm,1.1s						
CAN	**Canberra**	**28.22**	**240**	P	**P**	**22 28 45.5**	**+1.3**
CTAO	**Charters Tower**	**30.51**	**271**	P	**P**	**22 29 05.4**	**+1.1**
TOO	**Toolangi**	**31.55**	**237**	P	**P**	**22 29 14.1**	**+1.1**
TAU	**Tasmania Unive**	**32.12**	**226**	P	**P**	**22 29 18.7**	**+1.1**
TAU				IAmb	IAmb	22 29 19.4	
	comp=Z,17nm,0.7s						
STKA	**Stephens Creek**	**33.76**	**248**	P	**P**	**22 29 32.5**	**+0.8**
	comp=Z,13nm,0.5s,baz=95,slow=10,SNR=68						
STKA	**Stephens Creek**	**33.76**	**248**	P	**P**	**22 29 32.5**	**+0.8**
COEN	**Coen**	**35.19**	**280**	P	**P**	**22 29 44.6**	**+0.8**
COEN				IAmb	IAmb	22 29 46.0	
	comp=Z,13nm,1.1s						
BBOO	**Buckleboo**	**38.49**	**247**	P	**P**	**22 30 10.7**	**0.0**
BBOO				IAmb	IAmb	22 30 11.3	
	comp=Z,28nm,1.1s						
AS31	**Alice Springs**	**41.05**	**261**	P	**P**	**22 30 31.4**	**-0.1**
ASAR	**Alice Springs**	**41.06**	**261**	P	**P**	**22 30 31.6**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=92,slow=8.3,SNR=12						
ASAR				ScP	**ScP**	**22 35 17.5**	**+1.5**
	comp=Z,0.6nm,0.6s,baz=103,slow=3.8,SNR=3.6						
ASAR				S	**S**	**22 36 02.8**	**-2.3**
	comp=Z,1.1nm,0.7s,baz=97,slow=16,SNR=9.2						
ASAR	**Alice Springs**	**41.06**	**261**	P	**P**	**22 30 31.4**	**-0.1**
WR0	**Warramunga Arr**	**41.24**	**267**	P	**P**	**22 30 32.3**	**-0.7**
WB2	**Warramunga Arr**	**41.42**	**267**	P	**P**	**22 30 33.7**	**-0.7**
WB2				IAmb	IAmb	22 30 34.8	
	comp=Z,8.6nm,0.8s						
WRA	**Warramunga Arr**	**41.43**	**267**	P	**P**	**22 30 34.1**	**-0.4**
	comp=Z,2.5nm,0.3s,baz=99,slow=8.0,SNR=51						
WRA				ScP	**ScP**	**22 35 19.4**	**+1.9**
	comp=Z,1.2nm,0.6s,baz=97,slow=3.6,SNR=9.0						
WRA				S	**S**	**22 36 05.4**	**-5.1**
	comp=Z,1.2nm,0.7s,baz=95,slow=14,SNR=7.9						
FORT	**Forrest**	**45.35**	**250**		**P**	**22 31 04.3**	**-0.5**
MTN	**Manton Dam**	**46.51**	**275**	P	**P**	**22 31 12.8**	**-0.9**
MTN				IAmb	IAmb	22 31 21.0	
	comp=Z,9.8nm,1.1s						
KNRA	**Kununurra**	**47.72**	**270**	P	**P**	**22 31 22.9**	**+0.1**
FAKI	**Fak Fak**	**49.71**	**288**	P	**P**	**22 31 36.8**	**-0.8**
FAKI				IAmb	IAmb	22 31 39.4	
	comp=Z,39nm,1.1s						
FITZ	**Fitzroy Crossi**	**49.85**	**266**	P	**P**	**22 31 39.0**	**+0.3**
SIJI	**Sorong**	**51.58**	**289**	P	**P**	**22 31 49.4**	**-1.8**
	comp=Z,13nm,0.6s,baz=160,slow=15,SNR=4.2						
VNDA	**Vanda**	**54.13**	**185**	P	**P**	**22 32 09.4**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=8.2,slow=8.4,SNR=16						
VNDA	**Vanda**	**54.13**	**185**	P	**P**	**22 32 09.5**	**+1.1**
SBA	**Scott Base**	**54.16**	**183**	P	**P**	**22 32 10.8**	**+2.3**
NWAO	**Narrogin (SRO)**	**54.29**	**246**	P	**P**	**22 32 09.6**	**-0.6**
MORW	**Morawa**	**55.91**	**250**	P	**P**	**22 32 21.3**	**-0.4**
CASY	**Casey**	**59.54**	**206**	P	**P**	**22 32 45.4**	**-0.2**
CASY				IAmb	IAmb	22 32 48.5	
	comp=Z,24nm,1.1s						
JAGI	**Jajag, Banyuwa**	**63.61**	**272**	P	**P**	**22 33 12.2**	**-0.9**
JAGI				IAmb	IAmb	22 33 19.8	
	comp=Z,19nm,1.0s						
QSPA	**South Pole Qui**	**66.01**	**180**	P	**P**	**22 33 28.4**	**+0.9**
QSPA				IAmb	IAmb	22 33 29.0	
	comp=Z,7.3nm,0.6s						
MJAR	**Matsushiro Arr**	**71.50**	**326**	P	**P**	**22 34 00.2**	**-0.5**
	comp=Z,2.2nm,0.4s,baz=150,slow=5.6,SNR=6.5						
MAW	**Mawson**	**77.25**	**201**	P	**P**	**22 34 32.8**	**+0.2**
	comp=Z,4.1nm,0.5s,baz=129,slow=6.3,SNR=23						
MAW	**Mawson**	**77.25**	**201**	P	**P**	**22 34 33.2**	**+0.6**
PETK	**Petropavlovsk-**	**79.04**	**347**	P	**P**	**22 34 42.7**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=151,slow=6.3,SNR=3.7						
NJ2	**Nanjing**	**80.05**	**312**	*e*P	**P**	**22 34 47.4**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**80.39**	**328**	P	**P**	**22 34 50.5**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=132,slow=3.9,SNR=6.6						
SNAA	**Sanae**	**84.51**	**179**	P	**P**	**22 35 09.3**	**-0.9**
VNA3	**Neumayer Olymp**	**84.76**	**177**	P	**P**	**22 35 10.6**	**-0.7**
VNA2	**Neumayer--Watz**	**85.16**	**178**	P	**P**	**22 35 12.7**	**-0.6**
	baz=183,slow=4.8						
VNA1	**Neumayer--Stat**	**85.41**	**178**	P	**P**	**22 35 13.9**	**-0.5**
R11A	**Troy Canyon, C**	**87.26**	**46**	P	P	22 35 18.9	-5.0
R11A				IAmb	IAmb	22 35 25.1	
	comp=Z,4.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**88.68**	**291**	P	**P**	**22 35 31.9**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=123,slow=6.6,SNR=4.1						
HHC	**Hu-ho-hao-te**	**89.86**	**316**	*e*P	**P**	**22 35 37.4**	**+1.5**
HHC				pmax	pmax		
	comp=Z,6.0nm,1.2s						
HHC				pmax	pmax		
	comp=Z,320nm,7.3s						
TXAR	**Lajitas Array**	**91.34**	**58**	P	**P**	**22 35 44.2**	**+1.2**
	comp=Z,0.2nm,0.7s,baz=209,slow=7.2,SNR=3.0						
MKAR	**Makanchi Array**	**111.56**	**313**	PKiKP	**PKiKP**	**22 41 06.8**	**-0.5**
	comp=Z,0.1nm,0.5s,baz=163,slow=1.5,SNR=1.4						
ARCES	**ARCESS Array B**	**131.85**	**348**	PKP	**PKPdf**	**22 41 45.4**	**-0.1**
	comp=Z,6.3nm,1.1s,baz=40,slow=1.5,SNR=4.6						
FINES	**FINESS Array B**	**138.29**	**341**	PKhKP	PKPpre	22 41 49.5	
	comp=Z,2.5nm,1.0s,baz=90,slow=3.8,SNR=4.0						
FINES				PKP	**PKPdf**	**22 41 57.9**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=333,slow=1.9,SNR=5.9						
NB2	**NORSAR Subarra**	**142.09**	**350**	PKP	**PKPdf**	**22 42 00.9**	**-3.7**
	comp=Z,0.8nm,0.5s,baz=26,slow=2.9						
NOA	**NORSAR Array B**	**142.09**	**350**	PKhKP	PKPpre	22 42 00.2	
	comp=Z,1.1nm,0.8s,baz=22,slow=4.0,SNR=4.7						
AKASG	**Malin Array Be**	**144.58**	**326**	PKP	**PKPdf**	**22 42 08.4**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=47,slow=3.6,SNR=8.2						
SORM	**Soroca**	**146.57**	**323**	⇑P	**PKPbc**	**22 42 15.0**	**-0.2**
BRTR	**Keskin Array B**	**146.91**	**306**	PKPbc	**PKPbc**	**22 42 16.1**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=140,slow=4.5,SNR=4.2						
CFR	**Carcaliu**	**148.33**	**319**	⇑P	**PKiKP**	**22 42 21.1**	**+0.1**
BURAR	**Bucovina Array**	**148.56**	**325**	⇑P	**PKiKP**	**22 42 22.7**	**+1.1**
PLOR	**Plostina**	**148.83**	**321**	⇓P	**PKPab**	**22 42 25.8**	**-1.5**
MLR	**Muntele Rosu**	**149.45**	**321**	⇑P	**PKPbc**	**22 42 22.6**	**-0.2**
MLR	**Muntele Rosu**	**149.45**	**321**	PKPbc	**PKPbc**	**22 42 22.4**	**-0.3**
	baz=45,slow=4.3						
LANS	**Liptovska Anna**	**150.22**	**332**	*e*PKP	**PKPab**	**22 42 29.8**	**-3.1**
ARR	**Arges**	**150.26**	**322**	⇑P	**PKiKP**	**22 42 25.5**	**+0.4**
OSTC	**Ostas**	**150.35**	**337**	⇑*e*PKP	**PKiKP**	**22 42 25.5**	**+0.4**
DPC	**Dobruska-Polom**	**150.49**	**337**	⇑*e*PKP	**PKiKP**	**22 42 25.5**	**+0.1**
KRLC	**Kraliky**	**150.55**	**336**	⇑*e*PKP	**PKPbc**	**22 42 24.8**	**-0.3**
CLL	**Collm**	**150.72**	**342**	*e*PKPbc	**PKPbc**	**22 42 25.0**	**-0.3**
	comp=Z,4.0nm,0.6s						
CLL				*e*PKPab	**PKPab**	**22 42 34.0**	**-0.9**
	comp=Z,3.0nm,0.5s						
BRG	**Berggiesshubel**	**150.83**	**340**	*e*PKP	**PKiKP**	**22 42 26.3**	**+0.2**
BRG				Amp		22 42 27.0	
	comp=Z,5.8nm,1.2s						
KHC	**Kasperske Hory**	**152.46**	**339**	*e*PKPAB	**PKPab**	**22 42 40.5**	**-1.9**
GERES	**GERESS Array B**	**152.67**	**339**	PKPbc	**PKPbc**	**22 42 29.8**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=58,slow=3.7,SNR=2.5						
TORD	**Torodi Ar. Bea**	**168.83**	**194**	PKPab	**PKPab**	**22 43 54.2**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=173,slow=2.9,SNR=16						

*IASPEI **03** 22:29:21.0±0.8, 46°.37N±0°.02×122°.26W±0°.02, h17km±4km, Error ellipse: s-maj=3.2km s-min=2.6km az=80.6, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009*

*ANF **03** 22:29:20.4±0.2, 46°.34N×122°.34W, h26km±4km, ML3.1/15, Error ellipse: s-maj=2.3km s-min=1.3km az=81.0*

*NEIC **03** 22:29:21.4±1.0, 46°.38N±0°.02×122°.29W±0°.02, h9km±5km, Error ellipse: s-maj=2.8km s-min=1.9km az=200.0*

*PNSN **03** 22:29:21.7, 46°.36N×122°.26W, h10km, MD3.1, Fault plane solution: NP1:ϕ_s235.00000°, δ80.00000°, λ-20.00000°.*

*SEA **03** 22:29:21.7±1.4, 46°.36N±0°.02×122°.26W±0°.04, h12km±4km, ML3.1/100, ML2.8/62(NEIC), Error ellipse: s-maj=4.1km s-min=2.6km az=71.0*

ISC 03 22:29:21.3±0.8**, 46°.36N**±0°.01×**122°.27W**±0°.02**, h16**km±4km**,**
n117, σ1^s**14**/153**, Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDL	**Tradedollar La**	**0.04**	**99**		**Pg**	**22 29 23.8**	**-0.6**
B201	**Coldwater, Mou**	**0.06**	**173**		**Pg**	**22 29 25.5**	**+1.1**
ERK	**Elk Rock**	**0.07**	**222**		**Pg**	**22 29 24.2**	**-0.4**
JRO	**Jston Ridge Ob**	**0.09**	**155**		**Pg**	**22 29 24.3**	**-0.5**
JRO					**Sg**	**22 29 26.3**	**-0.7**
STD	**Studebaker Rid**	**0.12**	**164**		**Pg**	**22 29 24.7**	**-0.4**
STD					**Sg**	**22 29 27.1**	**-0.5**
SOSW	**Source of Smit**	**0.15**	**140**		**Pg**	**22 29 24.9**	**-0.5**
VALT	**Mount Saint He**	**0.15**	**158**		**Pg**	**22 29 25.3**	**-0.2**
VALT					**Sg**	**22 29 28.4**	**0.0**
SHW	**Mount Saint He**	**0.17**	**171**		**Pg**	**22 29 25.6**	**-0.1**
SEPW	**September Lobe**	**0.17**	**160**		**Pg**	**22 29 25.7**	**-0.1**
FL2	**Flat Top 2**	**0.17**	**198**		**Pg**	**22 29 25.5**	**-0.2**
ESD	**East Dome**	**0.18**	**152**		**Pg**	**22 29 25.7**	**-0.2**
SWF2	**Southwest Flan**	**0.18**	**167**		**Pg**	**22 29 25.8**	**-0.1**
B203	**Quarry, Mount**	**0.19**	**192**		**Pg**	**22 29 25.7**	**-0.3**
B203					**Sg**	**22 29 28.8**	**-0.2**
HSR	**South Ridge**	**0.20**	**161**		**Pg**	**22 29 26.0**	**-0.1**
JLK	**June Lake**	**0.23**	**158**		**Pg**	**22 29 26.4**	**-0.2**
E04D	**Cinebar**	**0.28**	**315**		**Pg**	**22 29 27.6**	**+0.2**
E04D	**Cinebar**	**0.28**	**315**	P	**Pg**	**22 29 27.6**	**+0.2**
	baz=134,SNR=331						
E04D				S	**Sg**	**22 29 31.9**	**+0.4**
	baz=134						
CDFW	**Cedar Flats**	**0.29**	**147**		**Pg**	**22 29 27.3**	**-0.2**
LVP	**Lakeview Peak**	**0.30**	**198**		**Pg**	**22 29 27.7**	**-0.1**
MTMW	**Mount Mitchell**	**0.34**	**173**		**Pg**	**22 29 28.2**	**-0.1**
RVW	**Rose Valley**	**0.39**	**238**		**Pg**	**22 29 29.0**	**-0.2**
F04A	**Amboy**	**0.44**	**193**	Pg	**Pg**	**22 29 29.9**	**-0.2**
F04A				Sg	**Sg**	**22 29 36.4**	**+0.3**
F04A				IAML		22 29 38.6	
	comp=N,808nm,0.3s						
GLK	**Glacier Lake**	**0.50**	**66**		**Pg**	**22 29 31.0**	**-0.4**
LON	**Longmire**	**0.51**	**39**		**Pg**	**22 29 30.9**	**-0.5**
ASR	**Mount Adams--S**	**0.52**	**113**		**Pg**	**22 29 31.0**	**-0.6**
REMR	**Mount Rainier-**	**0.55**	**33**		**Pg**	**22 29 31.7**	**-0.6**
F04D	**Rainier, OR**	**0.58**	**242**		**Pg**	**22 29 32.7**	**-0.1**
F04D					**Sg**	**22 29 41.5**	**+1.0**
F04D	**Rainier, OR**	**0.58**	**242**	Pn	**Pg**	**22 29 32.6**	**-0.1**
	baz=62,SNR=46						
F04D				Sn	**Sg**	**22 29 40.9**	**+0.4**
	baz=62						
RCM	**Mount Rainier-**	**0.61**	**38**		**Pg**	**22 29 32.7**	**-0.7**
WPW	**White Pass**	**0.61**	**56**		**Pg**	**22 29 32.7**	**-0.6**
B023	**Clatskanie**	**0.61**	**246**		**Pg**	**22 29 33.0**	**-0.4**
B023					**Sg**	**22 29 41.8**	**+0.4**
RVC	**Mount Rainier-**	**0.62**	**20**		**Pg**	**22 29 33.0**	**-0.6**
OBSR	**Observation Ro**	**0.63**	**30**		**Pg**	**22 29 33.0**	**-0.7**
B941	**Kapowsin**	**0.63**	**3**		**Pg**	**22 29 32.7**	**-1.0**
RCS	**Mount Rainier-**	**0.64**	**36**		**Pg**	**22 29 33.1**	**-0.8**
GULW	**Guler Mountain**	**0.64**	**132**		**Pg**	**22 29 33.2**	**-0.7**
PCFR	**Pierce County**	**0.64**	**350**		**Pg**	**22 29 33.4**	**-0.6**
PANH	**Panhandle Gap,**	**0.66**	**41**		**Pg**	**22 29 33.5**	**-1.0**
GHW	**Garrison Hill**	**0.68**	**0**		**Pg**	**22 29 33.8**	**-1.0**
FMW	**Mount Fremont**	**0.71**	**36**		**Pg**	**22 29 34.5**	**-0.8**
F05D	**White Salmon**	**0.74**	**130**		**Pg**	**22 29 34.9**	**-0.8**
F05D	**White Salmon**	**0.74**	**130**	P	**Pg**	**22 29 34.9**	**-0.8**
	baz=310,SNR=132						
F05D				S	**Sg**	**22 29 45.3**	**-0.2**
	baz=310						
PCEP	**Pierce County**	**0.76**	**359**		**Pg**	**22 29 35.3**	**-0.8**
HUBA	**Hudson Bay Hig**	**0.77**	**200**		**Pg**	**22 29 35.7**	**-0.7**
D05A	**Enumclaw**	**0.85**	**13**	Pg	**Pg**	**22 29 36.9**	**-1.0**
D05A				Sg	**Sg**	**22 29 48.6**	**-0.6**
D05A				IAML		22 29 51.0	
	comp=E,201nm,0.3s						
CPW	**Capitol Peak**	**0.86**	**316**		**Pg**	**22 29 37.1**	**-0.9**
CPW					**Sg**	**22 29 49.2**	**0.0**
NLO	**Nicolai Mounta**	**0.86**	**252**		**Pg**	**22 29 37.6**	**-0.4**
WPO	**West Portland**	**0.86**	**205**		**Pg**	**22 29 37.4**	**-0.7**
D04E	**Lakebay**	**0.89**	**338**		**Pg**	**22 29 38.1**	**-0.4**
D04E	**Lakebay**	**0.89**	**338**	P	**Pg**	**22 29 37.8**	**-0.8**
	baz=157,SNR=28						
D04E				S	**Sg**	**22 29 49.7**	**-0.6**
	baz=157						
GSM	**Grass Mountain**	**0.91**	**21**		**Pg**	**22 29 37.8**	**-1.2**
E03A	**Lebam**	**0.91**	**282**	Pg	**Pg**	**22 29 38.0**	**-1.0**
E03A				Sg	**Sg**	**22 29 51.0**	**0.0**
HIYU	**Hiyu Mountain**	**0.98**	**160**		**Pg**	**22 29 39.4**	**-0.9**
HIYU					**Sg**	**22 29 53.2**	**+0.1**
B019	**Raymond**	**1.00**	**288**		**Pg**	**22 29 39.8**	**-0.8**
SHRK	**Shell Rock**	**1.03**	**150**		**Pg**	**22 29 40.8**	**-0.5**
B022	**Seaside**	**1.22**	**251**		**Pn**	**22 29 42.8**	**-0.9**
WISH	**Wishkah**	**1.28**	**307**		**Pn**	**22 29 44.8**	**+0.3**
G05D	**Wamic, OR**	**1.30**	**149**	Pb	**Pn**	**22 29 45.0**	**+0.1**
	baz=330,SNR=44						
G05D				Sb	**Sb**	**22 30 02.4**	**+0.5**
	baz=330						
G03D	**McMinnville, O**	**1.34**	**212**	Pb	**Pn**	**22 29 44.8**	**-0.6**
	baz=31,SNR=6.1						
G03D				Sb	**Sb**	**22 30 02.6**	**-0.4**
	baz=31						
LTY	**Liberty**	**1.42**	**50**		**Pn**	**22 29 46.7**	**0.0**
LTY				Sn	**Sn**	**22 30 05.2**	**+0.1**
LTY				IAML		22 30 06.0	
	comp=N,182nm,0.4s						
LTY				IAML		22 30 07.2	
	comp=E,109nm,0.3s						
NLWA	**Neilton Lookou**	**1.51**	**314**		**Pn**	**22 29 47.8**	**+0.1**
NLWA				Sn	**Sn**	**22 30 08.5**	**+1.4**
NLWA				IAML		22 30 09.2	
	comp=E,135nm,0.4s						
NLWA				IAML		22 30 09.6	
	comp=E,134nm,0.4s						
H04A	**Detroit Lake**	**1.68**	**178**		**Pn**	**22 29 50.4**	**+0.3**
H04A				Sn	**Sn**	**22 30 12.3**	**+1.1**
E07A	**Sunnyside**	**1.68**	**82**		**Pn**	**22 29 50.4**	**+0.2**
E07A				Sn	**Sn**	**22 30 12.7**	**+1.2**
E07A				IAML		22 30 14.8	
	comp=N,101nm,0.8s						
E07A				IAML		22 30 15.2	
	comp=E,84nm,0.7s						
F07A	**Phinny Hill Vi**	**1.70**	**105**		**Pn**	**22 29 51.0**	**+0.7**
F07A				Sn	**Sb**	**22 30 14.5**	**+1.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
F07A				IAML		22 30 18.5	
	comp=E,89nm,0.5s						
F07A				IAML		22 30 21.1	
	comp=N,131nm,0.7s						
BVW	Beverly	1.71	74		Pn	22 29 51.4	+0.8
WRW	Wenatchee Ridg	1.78	32		Pn	22 29 52.6	+1.1
SQM	Sequim	1.80	343		Pn	22 29 52.7	+1.1
C06D	Leavenworth	1.83	31	Pb	Pn	22 29 53.6	+1.4
	baz=211						
C06D				Sb	Sb	22 30 18.4	+1.3
	baz=211						
JCW	Jim Creek	1.85	7		Pn	22 29 53.5	+1.0
H04D	Lebanon	1.86	190	Pb	Pn	22 29 53.3	+0.7
	baz=10,SNR=21						
H04D				Sb	Sn	22 30 17.5	+1.7
	baz=10						
HAWA	Hanford	1.90	88		Pn	22 29 53.6	+0.5
HAWA					Sb	22 30 19.5	+0.5
HAWA				IAML		22 30 20.7	
	comp=N,110nm,0.7s						
B05A	Bryant	1.91	4	Pb	Pn	22 29 54.2	+0.9
	baz=184,SNR=123						
B05A				Sb	Sb	22 30 19.6	+0.1
	baz=184						
COR	Corvallis	1.91	203		Pn	22 29 54.3	+1.0
COR				Sn	Sn	22 30 18.8	+1.7
COR	Corvallis	1.91	203	IAML		22 30 26.2	
	comp=N,101nm,0.8s						
COR				IAML		22 30 28.1	
	comp=N,90nm,0.6s						
JBO	Jordan Butte	1.92	117		Pn	22 29 55.0	+1.5
I05D	Terrebonne, OR	2.12	162	Pb	Pb	22 29 58.6	-0.8
	baz=342						
I05D				Sb	Sb	22 30 27.0	+1.3
	baz=342						
NLW	Nelson Butte	2.17	37		Pb	22 30 00.1	-0.2
VIPM	Ingram Point	2.19	147		Pn	22 29 59.2	+2.0
BUCK	Buck Mountain	2.22	193		Pn	22 29 59.0	+1.4
BUCK				IAML		22 30 35.0	
	comp=E,54nm,0.6s						
BUCK				IAML		22 30 50.0	
	comp=N,55nm,4.0s						
B06A	Marblemount	2.23	14		Pn	22 29 59.8	+2.2
B06A				Sn	Sb	22 30 28.7	+0.2
E08A	Dider Farm, El	2.23	85		Pn	22 29 59.7	+2.1
E08A				Sn	Sn	22 30 26.2	+1.4
MCW	Mount Constitu	2.35	351		Pn	22 30 01.6	+2.2
D08A	Wollman Farm,	2.41	72		Pn	22 30 01.0	+0.9
D08A				Sn	Sn	22 30 31.1	+1.7
PGC	Sidney	2.43	341	Pn	Pn	22 30 01.1	+0.8
PGC				Sn	Sn	22 30 31.2	+1.5
MBW	Mount Baker	2.44	6		Pn	22 30 03.3	+2.6
I02D	Swisshome	2.51	207	Pb	Pn	22 30 03.6	+2.1
	baz=26						
I02D				Sb	Sb	22 30 36.0	-0.6
	baz=26						
SHUK	Shuksan-Mt. Ba	2.53	9		Pn	22 30 04.7	+2.8
G08A	Pilot Rock	2.55	114		Pn	22 30 03.4	+1.3
G08A				Sn	Sb	22 30 36.5	-1.5
I04A	Tendick Farm,	2.56	182	Pb	Pn	22 30 04.8	+2.5
	baz=2.3						
I04A				Sb	Sb	22 30 38.1	-0.2
	baz=2.3						
PINE	Pine Mountain	2.73	159		Pn	22 30 06.0	+1.3
PINE					Sb	22 30 44.0	+0.7
PINE				IAML		22 30 54.7	
	comp=E,30nm,0.8s						
PINE				IAML		22 30 56.1	
	comp=N,32nm,1.4s						
B926	Mesachie Lake	2.77	334		Pg	22 30 13.2	-1.1
I03D	Drain, OR	2.77	196	Pb	Pn	22 30 07.4	+2.4
	baz=16						
B08A	Colville Reser	2.83	44		Pn	22 30 06.4	+0.5
B08A					Sb	22 30 45.7	-0.2
B08A				IAML		22 30 49.5	
	comp=N,22nm,0.6s						
E09A	Wood Farm, Sta	2.86	85		Pn	22 30 07.0	+0.8
E09A				IAML		22 30 57.9	
	comp=N,29nm,1.2s						
I07A	Izee	3.00	138	Pn	Pn	22 30 09.3	+0.9
I07A				IAML		22 30 59.6	
	comp=N,20nm,0.7s						
I07A				IAML		22 31 02.6	
	comp=E,18nm,0.8s						
C09A	Chrisman Ranch	3.09	61	Pn	Pn	22 30 10.0	+0.5
J04D	Umpqua Nationa	3.12	178	Pb	Pb	22 30 14.5	-2.1
	baz=358						
J05D	Fort Rock, OR	3.16	166	Pb	Pb	22 30 15.6	-1.6
	baz=347						
J01E	Myrtle Point	3.41	201	Pb	Pb	22 30 19.0	-2.3
	baz=20						
F10A	Beach Ranch, E	3.53	94		Pn	22 30 15.8	+0.3
F10A				IAML		22 31 25.2	
	comp=N,17nm,0.9s						
F10A				IAML		22 31 25.9	
	comp=E,17nm,1.1s						
K05A	Summer Lake	3.76	164		Pn	22 30 19.9	+1.0
K05A				IAML		22 31 28.8	
	comp=N,22nm,4.9s						
K05A				IAML		22 32 45.1	
	comp=E,16nm,4.7s						
KEBM	Edson Butte	3.78	204	Pn	Pn	22 30 20.4	+1.3
K02D	Willamette Mer	3.79	196	Pb	Pb	22 30 24.4	-3.5
	baz=15						
BMO	Blue Mountains	3.80	112		Pn	22 30 21.0	+1.8
NEW	Newport	3.99	60		Pn	22 30 22.3	+0.5
NEW				IAML		22 31 27.2	
	comp=E,11nm,0.6s						
NEW				IAML		22 31 29.9	
	comp=E,9.4nm,0.3s						
NEW	Newport	3.99	60	Pb	Pb	22 30 30.0	-1.3
	baz=243						
L04D	Klamath Falls	4.14	180	Pb	Pb	22 30 32.3	-1.6
	baz=0.4						
LLLB	Lillooet	4.26	3	Pn	Pn	22 30 28.2	+2.6
LLLB				IAML		22 31 37.7	
	comp=E,8.9nm,1.8s						
LLLB				IAML		22 31 43.0	
	comp=N,11nm,3.6s						
KBO	Bosley Butte	4.38	199	Pn	Pn	22 30 28.0	+0.8
PLID	Pearl Lake	4.57	104	Pn	Pn	22 30 30.1	0.0
PLID				IAML		22 31 54.2	
	comp=N,6.4nm,3.5s						
MOD	Modoc Plateau	4.67	162		Pn	22 30 33.0	+1.6
MOD				IAML		22 31 35.6	
	comp=N,9.6nm,4.8s						
MOD				IAML		22 32 58.4	
	comp=E,8.7nm,4.4s						
KRMB	Red Mountain	4.97	194	Pn	Pn	22 30 36.8	+1.3
MSO	Missoula	5.76	82	Pn	Pn	22 30 47.0	+0.7
KMRM	Mail Ridge	6.22	190	Pn	Pn	22 30 53.3	+0.8
HLID	Hailey	6.24	114		Pn	22 30 54.0	+1.2
LRM	Limekiln Ridge	6.85	91	Pn	Pn	22 30 58.0	-3.4
BMN	Battle Mountai	6.97	146	Pn	Pn	22 30 59.9	-3.0

IDC ***03*** *22:43:28.5±2.5, 39°.56N×143°.41E, h0km, mb3.7/5, mb1 3.7/8, mb1mx3.5/52, mbtmp3.8/8, ML3.2/3, MS2.9/4, Ms1 2.9/4, ms1mx2.6/51, Error ellipse: s-maj=56.9km s-min=21.8km az=88.0*
JMA ***03*** *22:43:29.7±0.3, 39°.61N×143°.39E, h18km±3km, M3.8*
NIED ***03*** *22:43:29.8, 39°.61N×143°.39E, h18km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.78; $M_{\theta\theta}$0.16; $M_{\phi\phi}$-2.94; $M_{r\theta}$1.34; $M_{\theta\phi}$-0.96; $M_{\phi r}$2.05; Fault plane solution: $M_0$3.88000×10^{14} NP1:ϕ_s28.00000°, δ65.00000°, λ101.00000°. NP2:ϕ_s182.00000°, δ27.00000°, λ67.00000°.*
NEIC ***03*** *22:43:31.4±1.4, 39°.61N±0°.06×143°.0E±0°.1, h10km±6km, mb4.1/5 Error ellipse: s-maj=13.0km s-min=8.9km az=101.0*
ISC 03 22:43:29.2±3.9**, 39°.55N**±0°.05×**143°.36E**±0°.08**, h7**km±24km**, n50,** σ**1**^{s}**73**/49**, mb3.7**/8**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	1.19	272	P	Pb	22 43 51.5	-0.6
MIYJ				eS	Sb	22 44 07.2	-0.6
JTH	Tanohata	1.22	289	P	Pn	22 43 52.1	-0.6
OFUJ	Ofunato	1.39	251	P	Pn	22 43 55.1	0.0
OFUJ				eS	Sn	22 44 13.5	-0.2
JKEN	Kujiedanarisaw	1.43	298	P	Pn	22 43 54.5	-1.1
JKEN				eS	Sn	22 44 12.9	-1.8
JOM	Ohasama	1.60	268	P	Pn	22 43 58.4	+0.4
JANG	Nango	1.64	301	P	Pn	22 43 57.5	-1.0
JMK	Ichinoseki	1.77	251	P	Pn	22 44 00.7	+0.5
JIO	Ouri	1.91	236	P	Pn	22 44 02.4	+0.3
JIO				eS	Sn	22 44 26.7	+0.2
JRG	Rokugo	2.12	267	P	Pn	22 44 05.8	+0.8
JTM	Tenmabayashi	2.15	306	P	Pn	22 44 05.6	+0.1
JTM	Tenmabayashi	2.15	306	Pn	Pn	22 44 06.0	+0.5
JAH	Hinai	2.19	288	P	Pn	22 44 06.7	+0.6
JYK	Kaneyama	2.42	256	P	Pn	22 44 10.2	+1.1
JEM	Erimo	2.47	356	P	Pn	22 44 10.3	+0.4
JEM				eS	Sn	22 44 38.9	-1.4
JMM	Marumori	2.62	231		Pn	22 44 12.3	+0.4
JEW	Eniwo	3.59	337	Pn	Pn	22 44 25.4	0.0
JYT	Yasato	4.15	218	Pn	Pn	22 44 33.1	+0.1
JSD	Sado	4.26	251	Pn	Pn	22 44 33.3	-1.2
JKA	Kamikawa-asahi	4.60	353		Pn	22 44 39.7	+0.5
ASAJ	Asahikawa	4.60	353	Pn	Pn	22 44 39.9	+0.7
	1.4nm,0.3s,baz=214,slow=14,SNR=13						
ASAJ				Sn	Sn	22 45 35.8	+2.9
	1.3nm,0.3s,baz=265,slow=25,SNR=3.9						
MAJO	Matsushiro	5.05	235		Pn	22 44 46.2	+0.8
MAT	Matsushiro	5.05	235	P	Pn	22 44 47.8	+2.4
MAT				eS	Sn	22 45 48.9	+4.8
MJAR	Matsushiro Arr	5.05	235	Pn	Pn	22 44 47.0	+1.6
	0.2nm,0.3s,baz=42,slow=10,SNR=11						
MJAR	Matsushiro Arr	5.05	235	Pn	Pn	22 44 45.8	+0.4
JHJ	Hachijo jima 2	7.03	205	Pn	Pn	22 45 12.3	-0.3
	3.0nm,0.3s,baz=72,slow=20,SNR=1.7						
JHJ				Sn	Sn	22 46 26.3	-6.5
	6.9nm,0.3s,baz=60,slow=20,SNR=1.5						
JWT	Wachi	7.63	239	Pn	Pn	22 45 18.9	-1.8
USRK	Ussuriysk Ar.	9.67	302	Pn	Pn	22 45 53.5	+4.8
	baz=94,slow=14,SNR=5.0						
USRK				LR	LR	22 49 21.9	
	comp=Z,136nm,18.2s,baz=155,slow=36						
USRK	Ussuriysk Ar.	9.67	302		Pn	22 45 46.8	-2.0
KSRS	Korea Array	12.28	265	LR	LR	22 50 49.5	
	comp=Z,32nm,19.1s,baz=74,slow=36						
KLR	Kul'dur	12.74	323	LR	LR	22 51 14.8	
	comp=Z,38nm,21.6s,baz=172,slow=36						
YAK	Yakutsk	24.02	344	LR	LR	22 57 08.0	
	comp=Z,33nm,21.3s,baz=92,slow=34						
SONM	Songino Array	27.77	300	P	P	22 49 19.1	+0.5
	0.8nm,0.7s,baz=96,slow=8.4,SNR=5.3						
SONM	Songino Array	27.77	300	P	P	22 49 18.6	0.0
H11N2	WAKE ISLAND Hy	28.28	127	T	T	23 19 03.3	
	baz=320,slow=74						
H11N1	WAKE ISLAND Hy	28.29	127	T	T	23 19 23.0	
	baz=320,slow=74						
H11N3	WAKE ISLAND Hy	28.30	127	T	T	23 19 07.9	
	baz=320						
H11S1	WAKE ISLAND Hy	29.10	129	T	T	23 20 13.6	
	baz=320,slow=74						
H11S3	WAKE ISLAND Hy	29.10	129	T	T	23 20 21.3	
	baz=320,slow=74						
H11S2	WAKE ISLAND Hy	29.11	129	T	T	23 20 12.2	
	baz=320						
ZALV	Zalesovo Beam	41.41	310	P	P	22 51 16.1	+0.2
	0.7nm,0.5s,baz=102,slow=8.2,SNR=3.7						
ZALV	Zalesovo Beam	41.41	310	P	P	22 51 16.5	+0.5
MK31	Makanchi Array	44.13	300	P	P	22 51 37.6	-0.7
MK31				IAmb	IAmb	22 51 39.0	
	comp=Z,1.4nm,0.9s						
MKAR	Makanchi Array	44.13	300	P	P	22 51 38.4	+0.1
	comp=Z,0.6nm,0.5s,baz=84,slow=9.6,SNR=8.6						
MKAR	Makanchi Array	44.13	300	P	P	22 51 37.5	-0.7
BVAR	Borovoye Array	50.05	311	P	P	22 52 24.6	+0.3
	comp=Z,0.5nm,0.5s,baz=147,slow=2.9,SNR=4.7						
RUBB	Prince Rupert	57.14	44	P	P	22 53 18.4	+2.2
ABKAR	Akbulak array	57.51	309	P	P	22 53 19.0	0.0
ABKAR	Akbulak array	57.51	309	P	P	22 53 18.9	0.0
ABKAR				IAmb	IAmb	22 53 26.7	
	comp=Z,3.9nm,1.4s						
KBL	Kabul	57.97	290	P	P	22 53 21.6	-1.1
KBL				IAmb	IAmb	22 53 22.8	
	comp=Z,2.6nm,1.1s						
WRA	Warramunga Arr	59.77	190	P	P	22 53 35.6	+0.7
	comp=Z,0.2nm,0.5s,baz=9.7,slow=5.5,SNR=1.8						

JMA ***03*** *23:34:12.9±0.1, 42°.90N×146°.38E, h39km±2km, M3.0*
SKHL ***03*** *23:34:13.7±0.3, 42°.80N×145°.90E, h43km±2km, mb4.2/3*
ISC 03 23:34:15.1±2.1**, 42°.97N**±0°.08×**146°.16E**±0°.07**, h28**km±13km**, n15,** σ**1**^{s}**15**/27**, Off southeast coast of Hokkaido**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.50	323	P	Pb	23 34 25.7	+0.2
NEM2				eS	Sn	23 34 34.9	+0.7
NMR	Nemuro--Hokkai	0.51	322	iP	Pb	23 34 25.8	+0.1
NMR				iS	Sn	23 34 35.1	+0.7
JKHN	Kushirohamanak	0.74	279	P	Pb	23 34 29.4	-0.1
JKHN				eS	Sn	23 34 41.6	+1.5
GLVR	Golovnino	0.90	329	eS	Sn	23 34 44.1	+0.1
AKK	Akkeshi	0.97	273	eP	Pn	23 34 29.0	-3.9
GRPR	Tuman	1.06	345	iP	Pn	23 34 33.0	-1.2
GRPR				AMB	AMB	23 34 33.0	
	127nm,0.3s						
GRPR				iS	Sn	23 34 47.3	-0.8
GRPR				A	A	23 34 48.0	
	1µm,0.3s						
GRPR				A	A	23 34 48.0	
	347nm,0.3s						
JAK	Akkeshi	1.07	272	P	Pn	23 34 34.1	-0.2
JAK				eS	Sb	23 34 49.8	+1.1
YUK	Yuzh-Kuril'sk	1.09	349	eP	Pn	23 34 33.5	-1.0
YUK				AMB	AMB	23 34 34.0	
	138nm,0.3s						
YUK				iS	Sn	23 34 48.2	-0.5
YUK				A	A	23 34 51.0	
	457nm,0.3s						
YUK				A	A	23 34 51.0	
	783nm,0.3s						
JNSB	Nemuroshibetsu	1.17	314	P	Pn	23 34 35.4	-0.2
JNSB				eS	Sb	23 34 51.8	+0.4
JNK	Nakash	1.22	301	P	Pn	23 34 36.2	-0.1
JNK				eS	Sb	23 34 52.8	-0.1
JRA	Rausu	1.23	322	P	Pn	23 34 36.2	-0.3
JRA				eS	Sb	23 34 53.3	+0.1
JAR	Ashorobuto	1.78	281	P	Pn	23 34 44.3	+0.3
JAR				eS	Sb	23 35 08.0	-1.0
JTKR	Abashiri--Toko	1.92	302	P	Pn	23 34 46.9	+0.9
JTKR				eS	Sb	23 35 12.2	-0.8
JCH	Churui	2.09	261	P	Pn	23 34 48.6	+0.3
KUR	Kuril'sk	2.58	28	eP	Pn	23 34 54.4	-0.6
KUR				AMB	AMB	23 34 56.0	
	12nm,0.3s						
KUR				eS	Sn	23 35 27.4	+2.0
KUR				A	A	23 35 29.6	
	30nm,0.3s						
KUR				A	A	23 35 29.6	
	30nm,0.3s						

IDC ***04*** *00:12:45.6±1.2, 8°.66S×124°.26E, h0km, mb4.0/3, mb1 4.2/6, mb1mx3.8/27, mbtmp4.1/6, ML4.2/3, Error ellipse: s-maj=53.8km s-min=19.1km az=80.0*
NEIC ***04*** *00:12:52.5±2.9, 8°.77S±0°.09×123°.98E±0°.09, h102km±8km, mb4.2/13, Error ellipse: s-maj=15.8km s-min=8.3km az=220.0*
DJA ***04*** *00:12:56.0±0.3, 9°S±5°×12°4E±°, h102km±5km, M4.2/7, mb4.3/7, mB5.0/5, MLv4.1/7, Mw(mB)4.3/5*
ISC 04 00:12:53.0±0.6**, 9°.01S**±0°.06×**123°.87E**±0°.07**, h100**km**, n45,** σ**2**^{s}**45**/44**, mb4.2**/9**, Timor region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SOEI	Soe	0.84	152	Pn	Pn	00 13 15.6	+3.6
SOEI	Soe	0.84	152	P	Pn	00 13 15.8	+3.8
SOEI				S	Sn	00 13 29.2	+3.0
BATI	Baumata	1.21	189	Pn	Pn	00 13 16.6	+0.7
	100nm,0.3s,baz=38,slow=2.0,SNR=41						
BATI				Sn	Sn	00 13 32.7	-0.4
	219nm,0.3s,baz=32,slow=23,SNR=8.6						
BATI	Baumata	1.21	189	P	Pn	00 13 16.6	+0.7
BATI				S	Sn	00 13 30.1	-3.0
MMRI	Maumere	1.65	283	Pn	Pn	00 13 22.0	+0.8
MMRI	Maumere	1.65	283	P	Pn	00 13 22.1	+0.9
EDFI	Ende, Flores	2.16	277	P	Pn	00 13 27.9	+0.1
WBSI	Waikabubak, Su	4.46	261	P	Pn	00 13 57.3	-1.2
BKSI	Bulukumba	5.21	314	P	Pn	00 14 13.6	+4.9
	0.1nm22nm,0.6s						
PLAI	Plampang	6.02	271	P	Pn	00 14 19.8	+0.2
	0.3nm1µm49nm,0.8s						
TWSI	Taliwang, Sumb	6.91	272	P	Pn	00 14 31.3	-0.4
	0.1nm736nm19nm,0.6s						
KLNI	Mataram	7.70	274	P	Pn	00 14 42.0	-0.5
	0.1nm24nm,1.5s						
MTN	Manton Dam	8.09	119	Pn	Pn	00 14 45.0	-2.8
KNRA	Kununurra	8.18	145	Pn	Pn	00 14 49.8	+0.9
FITZ	Fitzroy Crossi	9.20	169	Pn	Pn	00 15 01.5	-1.4
	1.3nm,0.3s,baz=356,slow=10,SNR=56						
FITZ				Sn	Sn	00 16 35.3	-9.4
	4.5nm,0.3s,baz=157,slow=12,SNR=16						
FITZ	Fitzroy Crossi	9.20	169	Pn	Pn	00 15 02.5	-0.4
JAGI	Jajag, Banyuwa	9.62	272	Pn	Pn	00 15 08.2	-0.4
MPSI	Mapaga	10.09	337	P	Pn	00 15 21.0	+6.0
	560nm5.1nm,1.2s						
BKB	Balikpapan	10.36	318	P	Pn	00 15 24.2	+5.5
	125nm,0.5s						
PCJI	Pacitan	12.57	273	P	Pn	00 15 47.7	-0.7
WRA	Warramunga Arr	14.86	138	Pn	Pn	00 16 17.7	-0.4
	0.9nm,0.3s,baz=313,slow=14,SNR=22						
WRA				Sn	Sn	00 18 53.1	-9.0
	1.1nm,0.3s,baz=318,slow=25,SNR=7.8						
WRA	Warramunga Arr	14.86	138		Pn	00 16 18.3	+0.2
WB2	Warramunga Arr	14.87	138	Pn	Pn	00 16 18.4	+0.2
WR0	Warramunga Arr	15.00	138	Pn	Pn	00 16 20.0	+0.1
WR0				IAmb	IAmb	00 16 29.2	
	comp=Z,8.5nm,1.0s						
CISI	Cisompet, Garu	15.95	274	Pn	Pn	00 16 31.6	-0.2
CISI				IAmb	IAmb	00 16 50.8	
	comp=Z,17nm,1.0s						
AS31	Alice Springs	17.46	148	Pn	Pn	00 16 53.1	+2.7
ASAR	Alice Springs	17.46	148	P	Pn	00 16 53.2	+2.9
	comp=Z,1.1nm,0.3s,baz=319,slow=11,SNR=75						
ASAR				S	Sn	00 19 55.5	-9.3
	comp=Z,0.4nm,0.3s,baz=317,slow=23,SNR=22						
ASAR	Alice Springs	17.46	148	P	Pn	00 16 53.5	+3.1
COEN	Coen	19.55	106	P	P	00 17 12.3	-0.7
MORW	Morawa	21.27	199	P	P	00 17 32.0	+0.6
MORW				IAmb	IAmb	00 17 41.0	
	comp=Z,6.5nm,1.1s						
NWAO	Narrogin (SRO)	24.58	194	P	P	00 18 04.4	+0.6
NWAO				IAmb	IAmb	00 18 18.5	
	comp=Z,16nm,1.1s						
BBOO	Buckleboo	26.24	156	P	P	00 18 20.9	+2.1
EIDS	Eidsvold	30.57	126	P	P	00 18 57.2	-0.2
EIDS				IAmb	IAmb	00 19 01.5	
	comp=Z,3.5nm,0.9s						
DZM	Mont Dzumac	42.88	113	P	P	00 20 41.4	-0.6
DZM				IAmb	IAmb	00 21 00.5	
	comp=Z,11nm,1.1s						
PINNC	Pines Island,	43.89	113	P	P	00 20 49.6	-0.3
JYT	Yasato	47.55	18	P	P	00 21 14.9	-3.5
HHC	Hu-ho-hao-te	50.89	348	eP	P	00 21 44.1	+0.1
HHC				pmax	pmax		
	comp=Z,7.0nm,1.2s						
HHC				pmax	pmax		
	comp=Z,80nm,5.7s						
USA0B	Ussuriysk Arra	53.46	7	P	P	00 21 59.6	-3.2
USA0B				IAmb	IAmb	00 22 12.8	
	comp=Z,3.7nm,0.9s						
MQZ	McQueen's Vall	54.62	138	P	P	00 22 11.2	-0.2
SONM	Songino Array	58.67	346	P	P	00 22 43.5	+3.5
	comp=Z,0.3nm,0.4s,baz=165,slow=11,SNR=1.8						
WMQ	Urumqi	61.97	331	eP	P	00 23 01.9	-0.7
KSH	Kashi	65.56	321	P	P	00 23 28.2	+1.9
MKAR	Makanchi Array	66.75	330	P	P	00 23 38.4	+4.7
	comp=Z,0.8nm,0.6s,baz=133,slow=7.3,SNR=12						
ZALV	Zalesovo Beam	70.85	337	P	P	00 24 03.3	+4.5
	comp=Z,1.7nm,0.4s,baz=138,slow=4.8,SNR=8.4						
TORD	Torodi Ar. Bea	123.20	280	PKP	PKiKP	00 31 44.7	+5.3
	comp=Z,0.4nm,0.6s,baz=105,slow=3.0,SNR=3.1						

VAO ***04*** *00:26:48.5±0.4, 22°.22S×67°.35W, h181km±8km, mb3.9*
GUC ***04*** *00:26:49.5±0.7, 22°.09S×67°.68W, h205km±6km, ML3.8*
SCB ***04*** *00:26:52.0±1.4, 22°.07S×67°.49W, h166km±10km, ML3.6/7, Error ellipse: s-maj=4.5km s-min=3.2km az=0.0*
ISC 04 00:26:48.1±0.9**, 22°.09S**±0°.04×**67°.50W**±0°.04**, h191**km±9km**, n46,** σ**1**^{s}**11**/71**, 12C-1D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.41	248	eP	Pn	00 27 21.0	+0.4
LVC				eS	Sn	00 27 45.2	-0.5
LVC	Limon Verde	1.41	248	P	Pn	00 27 21.6	+1.0
LVC	Limon Verde	1.41	248	eP	Pn	00 27 21.1	+0.5
LVC				eS	Sn	00 27 45.5	-0.3
PB09	IPOC Station P	1.65	280⇑	iP	Pn	00 27 23.8	+1.2
PB09				eS	Sn	00 27 49.7	+0.5
PB09	IPOC Station P	1.65	280	P	Pn	00 27 24.0	+1.4
YJA	Yavi	1.84	93	P	Pn	00 27 25.7	+0.9
YJA				S	Sn	00 27 50.3	-2.9
YJA				IAML		00 27 53.5	
	57nm,0.6s						
MOCB	Mochara	1.92	65	P	Pn	00 27 26.2	+0.6
MOCB				S	Sn	00 27 52.7	-2.0
MOCB				IAML		00 27 54.2	
	546nm,0.4s						
PB06	IPOC Station P	2.02	252⇑	iP	Pn	00 27 26.9	+0.6
PB06				eS	Sn	00 27 55.5	-0.5
PB06				IAML		00 27 57.5	
	comp=N,438nm,0.1s						
PB06	IPOC Station P	2.02	252	P	Pn	00 27 27.1	+0.8
PB03	IPOC Station P	2.09	271⇑	iP	Pn	00 27 27.5	+0.4
PB03				eS	Sn	00 27 56.5	-0.9
PB03				IAML		00 27 58.5	
	comp=N,365nm,0.1s						
PB03	IPOC Station P	2.09	271	P	Pn	00 27 27.9	+0.8
PB01	IPOC Station P	2.12	299⇑	iP	Pn	00 27 28.1	+0.7
PB01				eS	Sn	00 27 57.4	-0.5
PB01				IAML		00 27 59.0	
	comp=E,591nm,0.2s						
PB01	IPOC Station P	2.12	299	P	Pn	00 27 28.4	+1.0
PB15	IPOC Station P	2.14	238⇑	iP	Pn	00 27 28.6	+0.9
PB15				eS	Sn	00 27 58.2	-0.3
PB15	IPOC Station P	2.14	238	P	Pn	00 27 28.7	+1.1
PB15				S	Sn	00 27 56.3	-2.1
PB15				IAML		00 28 00.4	
	comp=E,1µm,0.5s						
PB07	IPOC Station P	2.25	279⇑	iP	Pn	00 27 29.4	+0.6
PB07				eS	Sn	00 27 59.7	-0.7
PB07				IAML		00 28 01.2	
	comp=N,317nm,0.1s						
PB07	IPOC Station P	2.25	279	P	Pn	00 27 29.7	+0.9
PB02	IPOC Station P	2.36	288⇑	iP	Pn	00 27 30.5	+0.5
PB02				eS	Sn	00 28 01.4	-1.1
PB02				IAML		00 28 03.4	
	comp=E,453nm,0.1s						
PB02	IPOC Station P	2.36	288	P	Pn	00 27 30.7	+0.7
PB04	IPOC Station P	2.47	264⇑	iP	Pn	00 27 31.8	+0.5
PB04				eS	Sn	00 28 03.5	-1.4
PB04				IAML		00 28 05.2	
	comp=N,284nm,0.2s						
PB04	IPOC Station P	2.47	264	P	Pn	00 27 32.0	+0.7
PB08	IPOC Station P	2.48	321⇑	iP	Pn	00 27 33.3	+1.7
PB08				eS	Sn	00 28 06.2	+0.7
PB08				IAML		00 28 07.8	
	comp=N,276nm,0.5s						
PB08	IPOC Station P	2.48	321	P	Pn	00 27 33.4	+1.8
PB08				S	Sn	00 28 04.0	-1.5
PB08				IAML		00 28 07.9	
	comp=N,231nm,0.2s						
PB05	IPOC Station P	2.62	253⇑	iP	Pn	00 27 33.5	+0.6
PB05				eS	Sn	00 28 06.0	-1.8
PB05				IAML		00 28 07.1	
	comp=N,154nm,0.2s						
PB05	IPOC Station P	2.62	253	P	Pn	00 27 33.6	+0.7
PB05				S	Sn	00 28 05.6	-2.2
PB05				IAML		00 28 07.0	
	comp=N,127nm,0.3s						
HMBC	Humberstone	2.87	308⇑	iP	Pn	00 27 35.8	0.0
HMBC				iS	Sn	00 28 11.5	-1.6
HMBC				IAML		00 28 12.8	
	comp=N,371nm,0.5s						
HMBC	Humberstone	2.87	308	P	Pn	00 27 36.1	+0.3
HMBC				S	Sn	00 28 11.5	-1.6
HMBC				IAML		00 28 14.5	
	comp=N,230nm,0.5s						
TA01	Diego Aracena	2.92	301	eP	Pn	00 27 36.2	-0.1
TA01				eS	Sn	00 28 12.3	-1.7
TA02	Huaiquique	3.05	306	eP	Pn	00 27 37.7	-0.2
TA02				eS	Sn	00 28 15.1	-1.7
PB11	IPOC Station P	3.07	319⇑	iP	Pn	00 27 38.4	+0.1
PB11				eS	Sn	00 28 16.1	-1.4

PB11	**IPOC Station P**	**3.07**	**319**	P	**Pn**	**00 27 38.8**	**+0.5**
PSGC	**Pisagua**	**3.49**	**315**	*e*P	**Pn**	**00 27 42.6**	**-0.7**
PSGC	**Pisagua**	**3.49**	**315**	P	**Pn**	**00 27 43.9**	**+0.6**
PSGC				S	**Sn**	**00 28 24.9**	**-1.6**
PSGC				IAML		00 28 26.4	
	comp=N,78nm,0.4s						
PB14	**IPOC Station P**	**3.68**	**226**	*e*P	**Pn**	**00 27 46.2**	**+0.4**
PB14				*e*S	**Sn**	**00 28 28.8**	**-2.3**
AC02	**Maricunga**	**4.96**	**197**	⇓*i*P	**Pn**	**00 28 02.7**	**+0.5**
AC02				*e*S	**Sn**	**00 29 00.3**	**-0.2**
BBOE	**La Paz, Chanca**	**5.27**	**355**	P	**Pn**	**00 28 07.2**	**+0.9**
BBOD	**La Paz, Gloria**	**5.52**	**349**	P	**Pn**	**00 28 10.4**	**+0.8**
LPAZ	**La Paz**	**5.80**	**354**	P	**Pn**	**00 28 13.9**	**+0.6**
LPAZ	**La Paz**	**5.80**	**354**	*e*P	**Pn**	**00 28 15.0**	**+1.7**
VILB	**Vilhena**	**11.44**	**39**	*e*P	**Pn**	**00 29 26.7**	**+0.5**
SNDB	**Serra Nova Dou**	**18.45**	**60**	*e*P	**P**	**00 30 50.0**	**+0.4**
IPMB	**Ipameri, GO**	**18.57**	**81**	*e*P	**P**	**00 30 51.2**	**+0.3**
PEXB	**Peixe**	**20.84**	**65**	*e*P	**P**	**00 31 15.8**	**+0.6**
JANB	**Januaria**	**23.05**	**76**	*e*P	**P**	**00 31 36.8**	**0.0**
GDU01	**Guandu, BA**	**27.80**	**77**	*e*P	**P**	**00 32 19.9**	**+0.2**
NBLA	**Lagarto - SE**	**30.48**	**74**	*e*P	**P**	**00 32 43.2**	**-0.1**

MEX 04 00:27:26.4±0.3**, 14°.68N**×**93°.01W, h39**^{km}±55^{km}**, MD3.7, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.04**	**349**	*i* P	Pn	00 27 42.9	-1.6
PCIG				*i* S	Sn	00 27 55.5	-2.3
CCIG	**Comitan**	**1.80**	**28**	*i* P	Pn	00 27 55.2	+0.1
CCIG				*i* S	Sn	00 28 15.3	-1.6
CMIG	**Matias Romero**	**3.00**	**323**	*e*P	Pn	00 28 13.6	+2.2
CMIG				*i* S	Sn	00 28 44.8	-1.4
TUIG	**Tuzandepetl**	**3.60**	**338**	*e*P	Pn	00 28 12.5	-7.2
TUIG				*e*S	Sn	00 28 59.3	-1.7

NOU 04 00:27:27.1, 14°.60S×**167°.28E, h128**^{km}**, mb3.8**/6**, Vanuatu Islands, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.84**	**185**	P	Pn	00 27 49.2	+0.8
YATNC	**Mamie plateau,**	**7.43**	**183**	P	Pn	00 29 13.2	+0.3
DZM	**Mont Dzumac**	**7.47**	**186**	P	Pn	00 29 13.0	-0.6

*CRAAG **04** 00:49:51.6, 36°.26N×1°.72E, Ml2.8*
*MDD **04** 00:49:55.4±2.1, 36°.27N×1°.74E, h24^{km}±41^{km}, mb3.6/7, Error ellipse: s-maj=42.8km s-min=10.4km az=142.0, PRXIMO*
*CNRM **04** 00:50:00.4, 36°.21N×1°.11E, h174^{km}, ml2.9*
ISC 04 00:49:53.8±1.5**, 36°.40N**±0°.05×**1°.59E**±0°.08**, h8**^{km}±11^{km}**, n23,** σ**1^s.36**/37**, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.12**	**204**	P	**Pg**	**00 49 56.1**	**-0.3**
ECHA	**Ech Chlef**	**0.31**	**216**	P	**Pg**	**00 49 59.5**	**-0.3**
ECHF	**Ech Chlef**	**0.31**	**220**	P	**Pg**	**00 49 59.5**	**-0.5**
EANR	**'Ain N'Sour**	**0.60**	**222**	P	**Pg**	**00 50 04.8**	**-0.5**
EANR	**'Ain N'Sour**	**0.60**	**222**	P	**Pg**	**00 50 04.8**	**-0.5**
EIBI	**Ibiza**	**2.63**	**356**	P	**Pn**	**00 50 37.8**	**+1.2**
	3.1nm,0.2s,SNR=7.7						
EIBI				S	**Sn**	**00 51 07.6**	**-1.1**
	15nm,0.2s,SNR=7.9						
EBEN2	**Beniarda presa**	**2.68**	**329**	P	**Pn**	**00 50 38.2**	**+0.9**
	1.9nm,0.2s,SNR=7.9						
EBEN2				S	**Sn**	**00 51 09.3**	**-0.6**
	2.8nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**2.68**	**303**	P	**Pn**	**00 50 37.6**	**+0.3**
	0.5nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**00 51 10.2**	**+0.2**
	3.5nm,0.4s,SNR=7.9						
ENIJ	**Nijar**	**3.10**	**282**	P	**Pn**	**00 50 42.9**	**-0.2**
	1.1nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**00 51 19.7**	**-0.7**
	5.1nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**3.35**	**313**	P	**Pn**	**00 50 47.8**	**+1.2**
	1.4nm,0.3s,SNR=8.6						
ETOB				S	**Sn**	**00 51 26.9**	**+0.2**
	0.3nm,0.2s,SNR=5.5						
ETOS	**Mallorca**	**3.50**	**16**	P	**Pn**	**00 50 48.9**	**+0.3**
	1.0nm,0.2s,SNR=7.9						
ETOS				S	**Sn**	**00 51 27.5**	**-2.7**
	1.2nm,0.4s,SNR=7.9						
TAF	**Taforalt**	**3.62**	**245**	P	**Pn**	**00 50 50.9**	**+0.7**
TAF				S	**Sn**	**00 51 30.5**	**-2.8**
EBER	**Berja**	**3.64**	**279**	P	**Pn**	**00 50 50.9**	**+0.4**
	3.7nm,0.3s,SNR=13						
EBER				S	**Sn**	**00 51 33.0**	**-0.8**
	0.3nm,0.2s,SNR=5.8						
SESP	**Santiago Espad**	**3.72**	**299**	P	**Pn**	**00 50 53.8**	**+2.1**
	1.9nm,0.3s,SNR=7.9						
SESP				S	**Sn**	**00 51 36.3**	**+0.5**
	0.9nm,0.2s,SNR=7.9						
JBK	**JBK**	**3.97**	**240**	P	**Pn**	**00 50 57.6**	**+2.5**
JBK				S	**Sn**	**00 51 42.3**	**+0.3**
EQES	**Quesada**	**3.98**	**292**	P	**Pn**	**00 50 57.1**	**+1.9**
	0.8nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**00 51 42.5**	**+0.4**
	0.4nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**4.12**	**283**	P	**Pn**	**00 50 58.4**	**+1.4**
	1.1nm,0.3s,SNR=33						
ELGU	**Los Guajares,**	**4.22**	**278**	P	**Pn**	**00 50 59.0**	**+0.5**
	0.7nm,0.2s,SNR=7.9						
ELGU				S	**Sn**	**00 51 46.2**	**-1.9**
	0.6nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.28**	**338**	P	**Pn**	**00 51 01.3**	**+2.0**
	0.7nm,0.2s,SNR=11						
EMOS				S	**Sn**	**00 51 48.3**	**-1.3**
	1.2nm,0.5s,SNR=7.9						
TDRA	**Tendrara**	**4.48**	**223**	P	**Pn**	**00 51 04.3**	**+2.1**
TDRA				S	**Sn**	**00 51 54.7**	**0.0**
EGOR	**Sierra Gorda,**	**4.63**	**281**	P	**Pn**	**00 51 05.6**	**+1.5**
	0.5nm,0.3s,SNR=7.9						
MDT	**Midelt**	**6.24**	**237**	P	**Pn**	**00 51 24.3**	**-1.8**
MD31	**MD31**	**6.31**	**238**	P	**Pn**	**00 51 25.9**	**-1.3**

*IDC **04** 01:38:52.5±1.6, 34°.26N×25°.17E, h0^{km}, mb3.5/4, mb1 3.4/6, mb1mx3.3/32, mbtmp3.3/6, ML3.3/2, Error ellipse: s-maj=50.8km s-min=23.1km az=149.0*
*ISK **04** 01:38:55.4, 34°.09N×25°.20E, h96^{km}±2^{km}, ML3.1/12*
*THE **04** 01:38:56.8, 34°.22N×25°.19E, h0^{km}±1^{km}, ML2.8/4, Error ellipse: s-maj=2.7km s-min=0.6km az=178.0*
*HLW **04** 01:38:57.1, 34°.17N×25°.46E, h9^{km}±10^{km}, Md2.9, Ml3.4*
ISC 04 01:38:53.8±1.5**, 34°.11N**±0°.03×**25°.18E**±0°.04**, h5**^{km}±11^{km}**, n43,** σ**1^s.17**/55**, mb3.5**/4**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**1.01**	**27**	P	**Pn**	**01 39 15.4**	**+0.8**
FRMA				S	**Sn**	**01 39 30.1**	**+1.0**
TMBK	**Timbaki Herakl**	**1.02**	**340**	P	**Pn**	**01 39 15.0**	**+0.3**
TMBK				S	**Sn**	**01 39 28.5**	**-0.9**
	745nm,0.7s						
GVD	**Gavdhos**	**1.16**	**309**	P	**Pn**	**01 39 18.1**	**+1.4**
GVD				S	**Sn**	**01 39 33.8**	**+0.9**
	865nm,0.4s						
GVD	**Gavdhos**	**1.16**	**309**	PN	**Pn**	**01 39 18.3**	**+1.6**
GVD				SN	**Sn**	**01 39 35.4**	**+2.5**
KSTL	**Kastelli Herak**	**1.19**	**356**	P	**Pg**	**01 39 16.2**	**-0.5**
KSTL				S	**Sg**	**01 39 31.1**	**-1.1**
HRKL	**Herakleio**	**1.20**	**357**	PN	**Pn**	**01 39 19.1**	**+1.9**
HRKL				SN	**Sn**	**01 39 35.9**	**+2.1**
IDI	**Anoyia**	**1.20**	**348**	P	**Pn**	**01 39 17.8**	**+0.5**
IDI				S	**Sn**	**01 39 34.0**	**+0.1**
	365nm,0.6s						
NPS	**Neapolis**	**1.20**	**17**	P	**Pb**	**01 39 17.3**	**+0.2**
ZKR	**Zakros**	**1.31**	**40**	P	**Pg**	**01 39 19.6**	**+0.6**
ZKR				S	**Sn**	**01 39 38.1**	**+1.4**
	285nm,0.5s						
ZKR	**Zakros**	**1.31**	**40**	PN	**Pg**	**01 39 19.7**	**+0.7**
ZKR				SN	**Sn**	**01 39 38.3**	**+1.6**
STIA	**Sitia Lasithi**	**1.32**	**34**	P	**Pg**	**01 39 19.5**	**+0.4**
STIA				S	**Sn**	**01 39 38.0**	**+1.1**
VAM	**Vamos**	**1.52**	**328**	P	**Pb**	**01 39 22.8**	**+0.2**
KNDR	**Palaiochora Ch**	**1.67**	**313**	PN	**Pb**	**01 39 25.4**	**+0.4**
IMMV	**Iera Moni Meta**	**1.67**	**324**	PN	**Pn**	**01 39 24.9**	**+1.2**
KARP	**Karpathos**	**2.17**	**48**	P	**Pn**	**01 39 32.0**	**+1.4**
KARP	**Karpathos**	**2.17**	**48**	PN	**Pn**	**01 39 31.7**	**+1.1**
SANT	**Santorini**	**2.26**	**6**	PN	**Pn**	**01 39 32.6**	**+0.7**
SLUM	**Salum**	**2.61**	**179**	P	**Pn**	**01 39 39.1**	**+2.4**
	baz=185						
SLUM				S	**Sn**	**01 40 10.0**	**+1.2**
	baz=185						
KTHA	**Kythira Island**	**2.75**	**322**	PN	**Pn**	**01 39 39.3**	**+0.6**
APE	**Apeiranthos**	**2.96**	**5**	PN	**Pn**	**01 39 42.1**	**+0.5**
NIS1	**Nisyros Isl.**	**2.97**	**33**	PN	**Pn**	**01 39 42.1**	**+0.5**
KOSK	**Kos Island**	**3.01**	**29**	PN	**Pn**	**01 39 42.6**	**+0.4**
ARG	**Arkhangelos**	**3.20**	**48**	PN	**Pn**	**01 39 45.2**	**+0.5**
MATC	**Matruh**	**3.25**	**147**	P	**Pn**	**01 39 46.8**	**+1.3**
	baz=151						
DAT	**Datca**	**3.26**	**36**	PN	**Pn**	**01 39 45.5**	**-0.2**
BODT	**Bodrum**	**3.42**	**30**	PN	**Pn**	**01 39 47.9**	**+0.2**
TURN	**Turunc**	**3.65**	**42**	PN	**Pn**	**01 39 51.1**	**+0.2**
MLSB	**Milas**	**3.81**	**33**	PN	**Pn**	**01 39 53.4**	**+0.2**
DALY	**Dalyan (Mula)**	**3.91**	**45**	PN	**Pn**	**01 39 54.8**	**+0.3**
YER	**Yerkesik**	**3.93**	**39**	PN	**Pn**	**01 39 54.9**	**0.0**
ITM	**Ithomi**	**4.05**	**320**	PN	**Pn**	**01 39 54.8**	**-1.6**
SWA2		**4.86**	**177**	P	**Pn**	**01 40 09.5**	**+1.9**
	baz=181						
SWA2				S	**Sn**	**01 41 02.4**	**-1.8**
	baz=181						
RYAN	**Fayoum**	**6.63**	**138**	P	**Pn**	**01 40 31.9**	**-0.1**
	baz=139						
GLL	**Jalalah**	**7.16**	**127**	P	**Pn**	**01 40 38.5**	**-0.7**
	baz=129						
HFRF	**Wahat Farafira**	**7.45**	**158**	P	**Pn**	**01 40 43.7**	**+0.6**
	baz=159						
SUZ	**Suez**	**7.77**	**121**	P	**Pn**	**01 40 46.9**	**-0.6**
	baz=122						
BRTR	**Keskin Array B**	**8.79**	**48**	Pn	**Pn**	**01 41 01.2**	**-0.4**
	0.1nm,0.3s,baz=207,slow=13,SNR=2.1						
AKASG	**Malin Array Be**	**16.84**	**9**	Pn	**Pn**	**01 42 49.4**	**-0.8**
	0.6nm,0.3s,baz=195,slow=10,SNR=5.5						
GERES	**GERESS Array B**	**17.02**	**333**	Pn	**P**	**01 42 55.6**	**+1.2**
	0.1nm,0.3s,baz=141,slow=13,SNR=2.7						
ESDC	**Sonseca Array**	**23.90**	**292**	P	**P**	**01 44 06.4**	**-2.1**
	0.4nm,0.8s,baz=92,slow=9.6,SNR=1.5						
TORD	**Torodi Ar. Bea**	**29.84**	**231**	P	**P**	**01 45 03.0**	**+0.8**
	0.3nm,0.4s,baz=32,slow=8.0,SNR=1.9						
MKAR	**Makanchi Array**	**44.34**	**56**	P	**P**	**01 47 03.9**	**-1.0**
	0.3nm,0.4s,baz=268,slow=7.5,SNR=7.1						
ZALV	**Zalesovo Beam**	**45.72**	**45**	P	**P**	**01 47 13.5**	**-2.2**
	0.8nm,0.4s,baz=267,slow=8.4,SNR=2.7						

*IDC **04** 01:42:16.5±3.3, 33°.77S×70°.27W, h87^{km}±30^{km}, mb3.6/7, mb1 3.7/10, mb1mx3.6/35, mbtmp3.8/10, Error ellipse: s-maj=29.5km s-min=18.9km az=82.0*
*NEIC **04** 01:42:17.8±1.1, 33°.85S±0°.05×70°.44W±0°.09, h106^{km}±2^{km}, Error ellipse: s-maj=10.4km s-min=7.0km az=94.0*
*GUC **04** 01:42:18.1±0.7, 33°.88S×70°.39W, h103^{km}±3^{km}, ML4.1*
ISC 04 01:42:17.6±0.7**, 33°.85S**±0°.04×**70°.40W**±0°.06**, h106**^{km}±5^{km}**, n53,** σ**0^s.76**/62**, mb4.0**/9**, 7C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.16**	**90**	*i* P	**Pn**	**01 42 32.5**	**-0.1**
LMEL				*i* S	**Sn**	**01 42 43.4**	**-0.5**
MT09	**Talagante**	**0.49**	**278**	⇑*i*P	**Pn**	**01 42 34.3**	**+0.1**
MT09				*i* S	**Sn**	**01 42 46.5**	**0.0**
MT09				IAML		01 42 47.2	
	comp=N,25μm,0.3s						
MT09	**Talagante**	**0.49**	**278**		**Pn**	**01 42 34.0**	**-0.1**
MT05	**Renca**	**0.54**	**328**	⇓*i*P	**Pn**	**01 42 34.4**	**+0.1**
MT05				*e*S	**Sn**	**01 42 47.1**	**+0.2**
MT05				IAML		01 42 49.3	
	comp=N,12μm,0.5s						
MT05	**Renca**	**0.54**	**328**		**Pn**	**01 42 34.2**	**-0.1**
MT01	**Popeta**	**0.71**	**268**	⇑*i*P	**Pn**	**01 42 35.6**	**-0.1**
MT01				*e*S	**Sn**	**01 42 49.0**	**-0.2**
MT01				IAML		01 42 49.7	
	comp=E,12μm,0.1s						
MT01	**Popeta**	**0.71**	**268**		**Pn**	**01 42 35.6**	**-0.1**
BO01	**Tunca**	**0.79**	**226**	⇑*i*P	**Pn**	**01 42 36.5**	**+0.2**
BO01				*i* S	**Sn**	**01 42 50.8**	**+0.4**
BO01				IAML		01 42 51.6	
	comp=E,8μm,0.2s						
BO01	**Tunca**	**0.79**	**226**		**Pn**	**01 42 36.4**	**+0.1**
BO02	**Sierra Bellavi**	**0.99**	**198**		**Pn**	**01 42 39.4**	**+0.9**
ROCH	**El Roble**	**1.01**	**330**	⇑*i*P	**Pn**	**01 42 38.7**	**-0.2**
ROCH				*e*S	**Sn**	**01 42 55.0**	**+0.2**
ROCH				IAML		01 42 58.7	
	comp=E,4μm,0.5s						
VA05	**Santo Domingo**	**1.03**	**280**	⇑*i*P	**Pn**	**01 42 38.5**	**-0.2**
VA05				*e*S	**Sn**	**01 42 53.9**	**-0.8**
VA05				IAML		01 42 58.3	
	comp=N,6μm,0.2s						
VA05	**Santo Domingo**	**1.03**	**280**		**Pn**	**01 42 38.5**	**-0.2**
VA03	**San Esteban**	**1.09**	**353**	⇓*i*P	**Pn**	**01 42 40.0**	**+0.5**
VA03				*e*S	**Sn**	**01 42 56.8**	**+0.7**
VA03				IAML		01 42 59.1	
	comp=E,6μm,0.2s						
VA03	**San Esteban**	**1.09**	**353**		**Pn**	**01 42 40.1**	**+0.5**
VA01	**Torpederas**	**1.33**	**308**	*e*P	**Pn**	**01 42 42.5**	**+0.4**
VA01				*e*S	**Sn**	**01 43 00.8**	**+0.1**
VA01				IAML		01 43 02.4	
	comp=E,3μm,0.2s						
VA01	**Torpederas**	**1.33**	**308**		**Pn**	**01 42 42.6**	**+0.4**
BO03	**Pichilemu**	**1.45**	**243**	⇑*i*P	**Pn**	**01 42 43.5**	**0.0**
BO03				*i* S	**Sn**	**01 43 03.3**	**+0.1**
BO03				IAML		01 43 06.6	
	comp=N,1μm,0.2s						
GO05	**Huala**	**1.71**	**227**	⇑*i*P	**Pn**	**01 42 46.5**	**-0.4**
GO05				*i* S	**Sn**	**01 43 08.2**	**-0.9**
GO05				IAML		01 43 13.9	
	comp=E,2μm,0.3s						
GO05	**Huala**	**1.71**	**227**		**Pn**	**01 42 46.5**	**-0.4**
ML02	**Panimavida**	**2.09**	**203**	⇓*i*P	**Pn**	**01 42 52.0**	**+0.5**
ML02				*i* S	**Sn**	**01 43 17.7**	**+0.3**
ML02				IAML		01 43 19.6	
	comp=N,2μm,0.4s						
ML02	**Panimavida**	**2.09**	**203**		**Pn**	**01 42 51.9**	**+0.3**
CO02	**Combarbal**	**2.69**	**349**		**Pn**	**01 42 59.6**	**+0.2**
ZON	**Zonda**	**2.72**	**33**		**Pn**	**01 42 59.5**	**-0.3**
CO03	**El Pedregal**	**3.01**	**355**		**Pn**	**01 43 03.9**	**+0.1**
CO06	**Fray Jorge**	**3.33**	**341**	Pn	**Pn**	**01 43 08.1**	**+0.2**
GO04	**Tololo Observa**	**3.68**	**355**		**Pn**	**01 43 12.8**	**-0.1**
CO05	**La Serena**	**3.98**	**349**		**Pn**	**01 43 16.0**	**-0.6**
LC01	**Cunco**	**5.18**	**193**	Pn	**Pn**	**01 43 31.8**	**-1.0**
PLCA	**Paso Flores**	**6.87**	**181**	P	**Pn**	**01 43 55.7**	**-0.1**
	comp=N,0.6nm,0.3s,baz=356,slow=11,SNR=21						
AC02	**Maricunga**	**7.08**	**9**	Pn	**Pn**	**01 43 58.8**	**-0.3**
TRQA	**Tornquist**	**8.02**	**124**	Pn	**Pn**	**01 44 10.5**	**-0.8**
LPAZ	**La Paz**	**17.60**	**7**	P	**P**	**01 46 16.2**	**-0.2**
	comp=N,0.1nm,0.3s,baz=163,slow=8.7,SNR=2.5						
LPAZ	**La Paz**	**17.60**	**7**	IAmb	IAmb	01 46 19.1	
	comp=Z,5.3nm,1.4s						
SIV	**San Ignacio**	**19.67**	**28**	P	**P**	**01 46 37.2**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=206,slow=8.4,SNR=9.1						
BDFB	**Brasilia**	**27.14**	**54**	P	**P**	**01 47 49.5**	**-1.6**
	comp=Z,10nm,1.0s,baz=219,slow=7.8,SNR=3.1						
BDFB	**Brasilia**	**27.14**	**54**	P	**P**	**01 47 50.5**	**-0.6**
BDFB				IAmb	IAmb	01 47 51.1	
	comp=Z,9.8nm,0.9s						
VNA3	**Neumayer Olymp**	**48.99**	**158**	P	**P**	**01 50 54.1**	**+1.1**
VNA2	**Neumayer--Watz**	**49.63**	**157**	P	**P**	**01 50 58.4**	**+0.5**
SNAA	**Sanae**	**51.21**	**158**	P	**P**	**01 51 07.2**	**-2.6**
SNAA	**Sanae**	**51.21**	**158**	P	**P**	**01 51 10.4**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=293,slow=11,SNR=6.5						
SNAA	**Sanae**	**51.21**	**158**	IAmb	IAmb	01 51 11.5	
	comp=Z,2.9nm,1.3s						
TXAR	**Lajitas Array**	**70.28**	**329**	P	**P**	**01 53 21.2**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=158,slow=9.5,SNR=8.3						
WVT	**Waverly**	**71.50**	**345**	P	**P**	**01 53 25.9**	**-0.8**
LCAR	**Lake Charles**	**72.21**	**342**	P	**P**	**01 53 30.4**	**-0.5**
LCAR				IAmb	IAmb	01 53 31.8	
	comp=Z,3.5nm,0.6s						
R40A	**Maddies Statio**	**74.59**	**342**	P	**P**	**01 53 44.4**	**-0.4**
BRYW	**Bryant College**	**75.40**	**359**	P	**P**	**01 53 48.2**	**-1.3**
BRYW				IAmb	IAmb	01 53 52.3	
	comp=Z,11nm,1.3s						
BOSA	**Boshof**	**78.93**	**117**	P	**P**	**01 54 12.2**	**+2.3**
	comp=Z,1.6nm,0.7s,baz=243,slow=3.5,SNR=7.0						
BOSA	**Boshof**	**78.93**	**117**	IAmb	IAmb	01 54 17.4	
	comp=Z,4.5nm,1.4s						
TORD	**Torodi Ar. Bea**	**82.88**	**69**	P	**P**	**01 54 30.6**	**-0.2**
	comp=Z,0.8nm,0.9s,baz=246,slow=4.1,SNR=3.3						
PDAR	**Pinedale Array**	**84.25**	**332**	P	**P**	**01 54 37.5**	**0.0**
	comp=Z,0.2nm,0.5s,baz=222,slow=3.5,SNR=2.4						
NVAR	**Mina Array Bea**	**84.55**	**324**	P	**P**	**01 54 40.6**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=150,slow=6.2,SNR=3.2						
WRA	**Warramunga Arr**	**121.54**	**208**	PKP	**PKPdf**	**02 00 58.7**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=159,slow=1.7,SNR=2.0						

*DDA **04** 01:51:27.5, 38°.28N×38°.81E, h7^{km}±2^{km}, ML1.9*
*ISK **04** 01:51:28.1, 38°.29N×38°.76E, h19^{km}, ML2.6/2*
ISC 04 01:51:27.9±1.0**, 38°.31N**±0°.03×**38°.80E**±0°.03**, h14**^{km}±8^{km}**, n10,** σ**0^s.66**/20**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.24**	**38**	*i* P	**Pg**	**01 51 32.8**	**-0.4**
ELZG				*i* S	**Sg**	**01 51 36.9**	**+0.1**
ELZG				IAML		01 51 37.0	
	comp=E,723nm,0.5s						
ELZG				IAML		01 51 37.0	
	comp=N,445nm,0.1s						
AKCD	**Akcadag**	**0.69**	**269**	*i* P	**Pg**	**01 51 41.0**	**-0.4**
AKCD				*i* S	**Sb**	**01 51 51.7**	**+0.4**
AKCD				IAML		01 51 52.0	
	comp=N,160nm,0.6s						
AKCD				IAML		01 51 53.0	
	comp=E,172nm,0.4s						
ARPR	**Arapgir-MALATY**	**0.86**	**335**	PG	**Pb**	**01 51 45.1**	**+0.3**
ARPR				SG	**Sn**	**01 51 58.2**	**-0.1**
URFA	**Urfa**	**0.87**	**179**	PG	**Pb**	**01 51 44.9**	**0.0**
URFA				SG	**Sn**	**01 51 57.8**	**-0.6**
KEMA	**Kemaliye**	**0.98**	**346**	*i* P	**Pb**	**01 51 46.6**	**-0.3**
KEMA				*i* S	**Sn**	**01 52 01.9**	**+0.6**
KEMA				IAML		01 52 03.0	
	comp=E,35nm,0.3s						
KEMA				IAML		01 52 05.0	
	comp=N,26nm,0.5s						
DARE	**Darende-Malaty**	**1.06**	**284**	PG	**Pb**	**01 51 47.5**	**-0.7**
DARE				SG	**Sn**	**01 52 02.9**	**-0.3**
SANL	**SANLIURFA_Merk**	**1.15**	**172**	*i* P	**Pg**	**01 51 49.9**	**-0.2**
SANL				*i* S	**Sn**	**01 52 04.8**	**-0.4**
SANL				IAML		01 52 05.0	
	comp=E,90nm,0.3s						
SANL				IAML		01 52 06.0	
	comp=N,48nm,0.4s						
HANI	**Diyarbakir_Han**	**1.26**	**85**	*i* P	**Pn**	**01 51 51.2**	**-0.1**
HANI				*i* S	**Sg**	**01 52 09.5**	**+0.8**
HANI				IAML		01 52 16.0	
	comp=N,11nm,0.3s						
HANI				IAML		01 52 19.0	
	comp=E,13nm,0.5s						
GZT	**Gaziantep**	**1.37**	**226**	*i* P	**Pg**	**01 51 53.4**	**-0.9**
GZT				*i* S	**Sg**	**01 52 13.8**	**+1.8**
GZT				IAML		01 52 14.0	
	comp=E,29nm,0.6s						
GZT				IAML		01 52 17.0	
	comp=N,25nm,0.3s						
MAZI	**Mazidag**	**1.56**	**123**	PN	**Pn**	**01 51 55.7**	**+0.3**
MAZI				SN	**Sb**	**01 52 16.2**	**-0.1**

*IDC **04** 01:52:20.6±1.2, 14°.38N×92°.55W, h0^{km}, mb4.0/11, mb1 4.3/13, mb1mx4.0/47, mbtmp4.1/13, ML4.4/2, MS3.2/4, Ms1 3.2/4, ms1mx2.9/32, Error ellipse: s-maj=40.7km s-min=19.6km az=50.0*
*SNET **04** 01:52:22.8±1.2, 14°.24N×92°.94W, h90^{km}±90^{km}, ML3.3*
*MEX **04** 01:52:24.5±0.6, 14°.33N×92°.87W, h96^{km}±20^{km}, MD4.1*
*NEIC **04** 01:52:26.3±2.7, 14°.28N±0°.07×92°.98W±0°.05, h42^{km}±10^{km}, mb4.2/42, Md4.1/20(MEX), Error ellipse: s-maj=10.0km s-min=7.7km az=190.0*
*GCG **04** 01:52:30.6±0.8, 14°.56N×92°.76W, h50^{km}±999^{km}, MD4.2*
ISC 04 01:52:25.5±0.8**, 14°.26N**±0°.08×**93°.06W**±0°.06**, h38**^{km}±2^{km}**, n94,** σ**1^s.50**/104**, mb4.2**/28**, 1D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.00**	**50**	⇓*e*P	**Pn**	**01 52 41.0**	**-2.0**
THIG				*e*S	**Sn**	**01 52 54.2**	**-1.6**
THIG		**1.00**	**50**		**Pn**	**01 52 41.0**	**-2.0**
THIG					**Sn**	**01 52 54.2**	**-1.6**
PCIG		**1.44**	**354**	*e*P	**Pn**	**01 52 46.9**	**-2.2**
PCIG				*e*S	**Sn**	**01 53 02.4**	**-4.3**
PCIG		**1.44**	**354**		**Pn**	**01 52 46.9**	**-2.2**
PCIG					**Sn**	**01 53 02.4**	**-4.3**
HUEH	**Huehuetenango**	**1.83**	**55**	Pn	**Pn**	**01 52 54.2**	**-0.6**
FUG	**Fuego 3**	**2.16**	**85**	*e*P	**Pn**	**01 52 58.7**	**-0.4**
CCIG	**Comitan**	**2.19**	**24**	*e*P	**Pn**	**01 53 00.6**	**+1.0**
CCIG				*e*S	**Sn**	**01 53 28.6**	**+3.0**
CCIG	**Comitan**	**2.19**	**24**		**Pn**	**01 53 00.6**	**+1.0**
CCIG					**Sn**	**01 53 28.6**	**+3.0**
TGBT	**Tuxtla Gutierr**	**2.50**	**359**	*e*P	**Pn**	**01 53 04.1**	**+0.5**
TGBT				*e*S	**Sn**	**01 53 32.5**	**-0.4**
TGBT	**Tuxtla Gutierr**	**2.50**	**359**		**Pn**	**01 53 04.1**	**+0.5**
TGBT					**Sn**	**01 53 32.5**	**-0.4**
TGIG		**2.50**	**359**	*e*P	**Pn**	**01 53 04.0**	**+0.3**
TGIG				*e*S	**Sn**	**01 53 33.1**	**+0.1**
TGIG		**2.50**	**359**		**Pn**	**01 53 04.0**	**+0.3**
TGIG					**Sn**	**01 53 33.1**	**+0.1**
NBG	**Las Nubes**	**2.65**	**83**	*e*P	**Pn**	**01 53 07.4**	**+1.4**
NBG				*e*S	**Sn**	**01 53 37.1**	**+0.2**
CMIG	**Matias Romero**	**3.31**	**328**	Pn	**Pn**	**01 53 14.4**	**-0.5**
	44nm,0.3s,baz=155,slow=12,SNR=102						
CMIG				Sn	**Sn**	**01 53 52.3**	**-0.8**
	64nm,0.3s,baz=91,slow=11,SNR=5.3						
CMIG				LR	LR	01 54 45.4	
	comp=Z,180nm,18.8s,baz=144,slow=41						
CMIG	**Matias Romero**	**3.31**	**328**	*e*P	**Pn**	**01 53 14.3**	**-0.5**
CMIG				*i* S	**Sn**	**01 53 52.9**	**-0.1**
CMIG	**Matias Romero**	**3.31**	**328**		**Pn**	**01 53 14.3**	**-0.5**
CMIG					**Sn**	**01 53 52.9**	**-0.1**
RTR	**El Retiro**	**3.33**	**96**	*e*P	**Pn**	**01 53 15.5**	**+0.2**
SBLS	**San Blas**	**3.36**	**97**	*e*P	**Pn**	**01 53 15.8**	**0.0**
MRL	**Marmol**	**3.37**	**76**	*e*P	**Pn**	**01 53 17.2**	**+1.4**
MRL				*e*S	**Sn**	**01 53 53.1**	**-1.6**
SNJE	**San Jose**	**3.37**	**96**	*e*P	**Pn**	**01 53 16.0**	**+0.1**
MTO3	**Montecristo**	**3.59**	**87**	*e*P	**Pn**	**01 53 17.9**	**-0.9**
MTO3				IAML		01 53 50.2	
	comp=Z,57nm,0.5s						
MTO3				*e*S	**Sn**	**01 54 03.0**	**+2.9**
MTO3	**Montecristo**	**3.59**	**87**	Pn	**Pn**	**01 53 18.6**	**-0.3**
ESQI	**Esquipulas**	**3.61**	**85**	Pn	**Pn**	**01 53 18.1**	**-1.0**
BOQS	**Boqueron**	**3.71**	**98**	*e*P	**Pn**	**01 53 20.7**	**+0.2**
LFRS	**El Faro**	**3.93**	**99**	*e*P	**Pn**	**01 53 24.2**	**+0.7**
TUIG	**Tuzandepetl**	**3.97**	**341**	*e*P	**Pn**	**01 53 23.2**	**-0.7**
TUIG				*e*S	**Sn**	**01 54 07.9**	**-1.3**
TUIG	**Tuzandepetl**	**3.97**	**341**		**Pn**	**01 53 23.2**	**-0.7**
TUIG					**Sn**	**01 54 07.9**	**-1.3**
PETF	**Flores**	**4.05**	**49**	*e*P	**Pn**	**01 53 25.5**	**+0.5**
PETF	**Flores**	**4.05**	**49**	Pn	**Pn**	**01 53 24.4**	**-0.6**
TLIG	**Tlapa**	**6.23**	**302**	Pn	**Pn**	**01 53 56.4**	**+1.3**
CNGN	**Cerro Negro**	**6.43**	**105**	Pn	**Pn**	**01 53 56.8**	**-1.0**
ORTG	**Ortega, Santa**	**8.38**	**117**		**Pn**	**01 54 23.1**	**-1.5**
DUNO	**Dulce Nombre,**	**8.48**	**119**	Pn	**Pn**	**01 54 25.4**	**-0.5**
JTS	**Las Juntas de**	**8.85**	**116**	Pn	**Pn**	**01 54 32.5**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=16,slow=22,SNR=1.9						
JTS				Lg	Lg	01 56 44.6	
	comp=Z,0.3nm,0.3s,baz=204,slow=21,SNR=5.7						
JTS	**Las Juntas de**	**8.85**	**116**	Pn	**Pn**	**01 54 30.6**	**-0.4**
RIMA	**Rio Macho**	**10.04**	**115**		**Pn**	**01 54 47.9**	**+0.4**
SOR	**Soroa**	**12.75**	**47**	Pn	**Pn**	**01 55 23.5**	**-0.9**
JCT	**Junction City**	**17.29**	**340**		**P**	**01 56 26.5**	**+1.2**
TXAR	**Lajitas Array**	**17.92**	**329**	P	**P**	**01 56 34.9**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=151,slow=13,SNR=19						
TXAR	**Lajitas Array**	**17.92**	**329**	P	**P**	**01 56 34.7**	**+2.4**
352A	**Blakely**	**18.69**	**22**	P	**P**	**01 56 38.0**	**-2.6**
250A	**Grady**	**18.70**	**18**	P	**Pn**	**01 56 45.4**	**+4.1**
250A				IAmb	IAmb	01 56 47.3	
	comp=Z,8.8nm,0.6s						
LPIG	**La Paz**	**18.99**	**304**	LR	LR	02 04 19.6	
	comp=Z,76nm,18.3s,baz=208,slow=37						
ABTX	**Abilene, Hawle**	**19.24**	**343**	P	**P**	**01 56 46.9**	**+0.2**
ABTX				IAmb	IAmb	01 56 54.2	
	comp=Z,5.5nm,0.6s						
152A	**Waverly Hall**	**19.84**	**21**	P	**P**	**01 56 53.1**	**-0.1**
MIAR	**Mount Ida**	**20.20**	**359**	P	Pn	01 56 58.9	-0.3
MIAR				IAmb	IAmb	01 57 02.2	
	comp=Z,7.0nm,0.8s						
MNTX	**Cornudas Mount**	**20.70**	**329**	P	**P**	**01 57 03.2**	**+0.6**
GOGA	**Godfrey**	**20.96**	**23**	P	**P**	**01 57 04.6**	**-0.8**
PLAL	**Pickwick Lake**	**21.11**	**11**	P	**P**	**01 57 07.5**	**+0.5**
Y52A	**Lilburn**	**21.15**	**21**	P	**P**	**01 57 08.1**	**+0.7**
Y52A				IAmb	IAmb	01 57 27.4	
	comp=Z,15nm,1.2s						
FPAL	**Fort Paine**	**21.28**	**17**	P	**P**	**01 57 09.7**	**+0.9**
FPAL				IAmb	IAmb	01 57 13.4	
	comp=Z,9.2nm,1.0s						

RUSC	**La Rusia**	**21.34**	**111**	P	**P**	**01 57 09.7**	**-0.4**
MSTX	**Muleshoe**	**21.50**	**338**	P	**P**	**01 57 12.3**	**+1.0**
MSTX				IAmb	IAmb	01 57 13.8	
	comp=Z,8.2nm,0.8s						
FCAR	**Ozark Folk Cen**	**21.55**	**2**	P	**P**	**01 57 12.3**	**+0.7**
LCAR	**Lake Charles**	**21.78**	**4**	P	**P**	**01 57 14.7**	**+0.6**
HHAR	**Hobbs**	**21.94**	**358**	P	**P**	**01 57 16.1**	**+0.3**
AMTX	**Amarillo**	**21.96**	**341**	P	**P**	**01 57 17.3**	**+1.2**
121A	**Cookes Peak, D**	**22.61**	**326**	P	**P**	**01 57 24.7**	**+1.4**
121A				IAmb	IAmb	01 57 28.1	
	comp=Z,9.4nm,0.9s						
TKL	**Tuckaleechee C**	**22.88**	**20**	P	**P**	**01 57 23.8**	**-2.0**
	comp=Z,1.2nm,0.4s,baz=185,slow=11,SNR=5.6						
TKL	**Tuckaleechee C**	**22.88**	**20**	IAmb	IAmb	01 57 59.4	
	comp=Z,18nm,1.6s						
V53A	**Saluda**	**23.22**	**22**	P	**P**	**01 57 28.3**	**-1.0**
V53A				IAmb	IAmb	01 57 55.2	
	comp=Z,8.4nm,1.1s						
BNM	**Barren Site**	**23.30**	**331**	P	**P**	**01 57 30.3**	**-0.1**
S39A	**Bolivar**	**23.33**	**359**	P	**P**	**01 57 29.6**	**-0.9**
S39A				IAmb	IAmb	01 57 30.7	
	comp=Z,18nm,1.5s						
ANMO	**Albuquerque**	**23.88**	**332**	P	**P**	**01 57 37.5**	**+1.7**
	comp=Z,3.0nm,0.8s,baz=146,slow=12,SNR=7.8						
ANMO	**Albuquerque**	**23.88**	**332**	P	**P**	**01 57 37.8**	**+1.9**
TUC	**Tucson**	**24.18**	**321**	P	**P**	**01 57 38.4**	**-0.2**
V58A	**Windy Hill, Pi**	**24.83**	**28**	IAmb	IAmb	01 57 44.6	
	comp=Z,8.9nm,1.0s						
T25A	**Trinidad**	**24.93**	**338**	P	**P**	**01 57 47.3**	**+1.8**
ATAH	**Atahualpa**	**25.76**	**145**	LR	LR	02 06 31.0	
	comp=Z,84nm,20.6s,baz=341,slow=33						
SDCO	**Great Sand Dun**	**25.87**	**337**	P	**P**	**01 57 56.0**	**+1.9**
SDCO				IAmb	IAmb	01 57 57.1	
	comp=Z,9.2nm,1.4s						
SJG	**San Juan**	**26.11**	**78**	LR	LR	02 07 36.2	
	comp=Z,80nm,21.0s,baz=230,slow=36						
T59A	**Double "B" Far**	**26.51**	**29**	P	**P**	**01 57 57.3**	**-2.2**
T59A				IAmb	IAmb	01 57 59.4	
	comp=Z,5.4nm,0.8s						
MVCO	**Mesa Verde**	**26.68**	**332**	P	**P**	**01 58 01.2**	**-0.1**
MVCO				IAmb	IAmb	01 58 06.2	
	comp=Z,6.2nm,0.8s						
PV13	**Radium Mtn., P**	**27.60**	**332**	P	**P**	**01 58 09.6**	**0.0**
PV13				IAmb	IAmb	01 58 14.6	
	comp=Z,4.1nm,0.8s						
SMCO	**Snowmass**	**27.68**	**336**	P	**P**	**01 58 11.8**	**+1.2**
SMCO				IAmb	IAmb	01 58 14.7	
	comp=Z,6.6nm,1.5s						
TMUT	**Trail Mountain**	**29.62**	**331**	P	**P**	**01 58 28.5**	**+0.9**
TMUT				IAmb	IAmb	01 58 30.4	
	comp=Z,2.8nm,0.7s						
PDAR	**Pinedale Array**	**31.76**	**337**	P	**P**	**01 58 47.7**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=151,slow=11,SNR=6.5						
NVAR	**Mina Array Bea**	**32.83**	**322**	P	**P**	**01 58 59.2**	**+3.4**
	comp=Z,3.0nm,0.7s,baz=138,slow=8.5,SNR=24						
NVAR				PcP	**PcP**	**02 01 41.7**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=114,slow=6.0,SNR=4.6						
LOHW	**Long Hollow**	**32.89**	**336**	P	**P**	**01 58 56.8**	**+0.5**
MOOW	**Moose Ponds**	**33.06**	**336**	IAmb	IAmb	01 59 06.2	
	comp=Z,2.3nm,0.8s						
FXWY	**Fox Creek**	**33.07**	**336**	IAmb	IAmb	01 59 06.0	
	comp=Z,2.6nm,0.9s						
IMW	**Indian Meadow**	**33.26**	**336**	P	**P**	**01 59 01.4**	**+1.9**
IMW				IAmb	IAmb	01 59 04.1	
	comp=Z,2.7nm,0.7s						
YNE	**Yellowstone No**	**33.85**	**338**	IAmb	IAmb	01 59 09.2	
	comp=Z,3.1nm,1.0s						
QLMT	**Earthquake Lak**	**34.23**	**337**	P	**P**	**01 59 09.6**	**+1.7**
SIV	**San Ignacio**	**43.62**	**132**	P	**P**	**02 00 25.6**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=344,slow=12,SNR=6.1						
PB15	**IPOC Station P**	**43.82**	**148**	P	**P**	**02 00 26.4**	**-1.8**
SCHQ	**Schefferville**	**45.34**	**21**	P	**P**	**02 00 38.4**	**-1.5**
	comp=Z,7.9nm,1.1s,baz=26,slow=12,SNR=2.0						
YKA	**Yellowknife Ar**	**50.54**	**347**	P	**P**	**02 01 20.4**	**+0.5**
	comp=Z,3.6nm,0.8s,baz=142,slow=8.4,SNR=8.6						
INK	**Inuvik**	**59.90**	**344**	P	**P**	**02 02 27.4**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=125,slow=8.5,SNR=5.4						
ILAR	**Eielson Array**	**62.20**	**337**	P	**P**	**02 02 43.9**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=139,slow=4.9,SNR=12						
FINES	**FINESS Array B**	**90.69**	**25**	P	**P**	**02 05 22.7**	**-1.5**
	comp=Z,0.8nm,0.8s,baz=236,slow=2.1,SNR=3.8						
TORD	**Torodi Ar. Bea**	**91.31**	**76**	P	**P**	**02 05 25.4**	**-2.5**
	comp=Z,0.4nm,1.0s,baz=299,slow=4.4,SNR=1.4						
WRA	**Warramunga Arr**	**134.46**	**256**	PKP	**PKiKP**	**02 11 42.0**	**0.0**
	comp=Z,0.6nm,0.7s,baz=56,slow=2.0,SNR=6.6						
CMAR	**Chiang Mai Arr**	**145.40**	**340**	PKPbc	**PKPbc**	**02 11 60.0**	**-0.3**
	comp=Z,1.4nm,0.4s,baz=347,slow=3.7,SNR=2.1						

*IDC **04** 01:53:18.4±1.2, 71°.98N×0°.45W, h0km, mb3.7/6, mb1 3.8/10, mb1mx3.5/51, mbtmp3.7/10, ML2.6/3, MS3.1/15, Ms1 3.1/15, ms1mx2.9/45, Error ellipse: s-maj=26.2km s-min=18.8km az=78.0*

ISC 04 01:53:20.0±1.0**, 72°.03N**±0°.09×**0°.2E**±0°.1**, h10**km**, n21, σ1s63**/13**, mb3.7**/6**, MS3.0**/10**, Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPITS	**Spitsbergen Ar**	**7.41**	**26**	Pn	**Pn**	**01 55 08.6**	**+0.5**
	baz=206,slow=15,SNR=38						
ARCES	**ARCESS Array B**	**8.67**	**94**	Pn	**Pn**	**01 55 26.3**	**+1.0**
	baz=301,slow=11,SNR=9.0						
ARCES				Sn	**Sn**	**01 56 60.0**	**-3.0**
	baz=304,slow=19,SNR=1.5						
ARCES				LR	LR	01 58 35.8	
	comp=Z,62nm,20.4s,baz=275,slow=36						
NOA	**NORSAR Array B**	**11.84**	**153**	Pn	**Pn**	**01 56 06.9**	**-1.8**
	0.0nm,0.3s,baz=354,slow=14,SNR=3.2						
NOA				LR	LR	02 00 42.0	
	comp=Z,60nm,18.1s,baz=340,slow=37						
HFS	**Hagfors**	**13.08**	**149**	Pn	**Pn**	**01 56 27.5**	**+1.9**
	0.1nm,0.3s,baz=340,slow=11,SNR=2.5						
HFS				LR	LR	02 01 10.9	
	comp=Z,55nm,19.2s,baz=348,slow=36						
FINES	**FINESS Array B**	**14.56**	**123**	Pn	**Pn**	**01 56 47.4**	**+1.6**
	0.1nm,0.3s,baz=341,slow=12,SNR=1.1						
FINES				LR	LR	02 01 56.5	
	comp=Z,104nm,18.1s,baz=312,slow=35						
EKA	**Eskdalemuir Ar**	**16.82**	**187**	Pn	**P**	**01 57 17.9**	**+0.4**
	baz=8.5,slow=12,SNR=4.4						
SFJD	**Kangerlussuaq**	**17.98**	**279**	LR	LR	02 03 23.7	
	comp=Z,65nm,20.5s,baz=10,slow=34						
KIRV	**Kirov**	**23.65**	**99**	LR	LR	02 07 59.2	
	comp=Z,29nm,19.6s,baz=14,slow=37						
VRAC	**Vranov**	**23.99**	**153**	LR	LR	02 08 28.2	
	comp=Z,40nm,18.1s,baz=346,slow=38						
GERES	**GERESS Array B**	**24.07**	**158**	P	**P**	**01 58 36.6**	**+1.4**
	2.0nm,0.8s,baz=354,slow=9.0,SNR=15						
GERES				LR	LR	02 08 26.7	
	comp=Z,44nm,18.1s,baz=310,slow=38						
RES	**Resolute Bay**	**24.62**	**321**	LR	LR	02 07 57.4	
	comp=Z,82nm,19.7s,baz=44,slow=36						
AKASG	**Malin Array Be**	**25.00**	**133**	P	**P**	**01 58 44.2**	**+0.7**
	2.4nm,0.8s,baz=337,slow=10,SNR=6.6						
DAVOX	**Davos/Dischmat**	**25.73**	**165**	LR	LR	02 10 31.2	
	comp=Z,32nm,19.1s,baz=62,slow=40						
ARU	**Arti**	**28.25**	**92**	LR	LR	02 09 45.1	
	comp=Z,28nm,20.1s,baz=306,slow=35						
BELG	**Belogornoye**	**28.37**	**108**	LR	LR	02 10 12.9	
	comp=Z,73nm,18.6s,baz=247,slow=36						
ESDC	**Sonseca Array**	**32.50**	**186**	P	**P**	**01 59 48.9**	**-1.6**
	0.6nm,0.7s,baz=2.8,slow=9.1,SNR=5.7						
KBZ	**Khabaz**	**34.89**	**121**	LR	LR	02 14 25.6	
	comp=Z,47nm,18.8s,baz=16,slow=36						
BRTR	**Keskin Array B**	**36.40**	**134**	P	**P**	**02 00 25.4**	**+1.0**
	0.5nm,0.6s,baz=343,slow=8.0,SNR=3.6						
BRTR				LR	LR	02 15 36.1	
	comp=Z,24nm,19.5s,baz=346,slow=37						
ILAR	**Eielson Array**	**41.66**	**339**	P	**P**	**02 01 07.2**	**-0.7**
	1.3nm,1.0s,baz=4.3,slow=6.8,SNR=6.4						
TORD	**Torodi Ar. Bea**	**58.86**	**178**	P	**P**	**02 03 18.2**	**-0.4**
	1.7nm,0.7s,baz=356,slow=7.0,SNR=12						
KSRS	**Korea Array**	**64.88**	**44**	LR	LR	02 36 16.0	
	comp=Z,6.5nm,18.9s,baz=30,slow=40						

*IDC **04** 01:58:11.6±4.1, 14°.49N×92°.46W, h0km, mb3.8/4, mb1 4.3/6, mb1mx3.8/38, mbtmp3.9/6, ML4.2/2, Error ellipse: s-maj=137.1km s-min=55.6km az=39.0*
*MEX **04** 01:58:15.3±1.1, 14°.19N×93°.05W, h14km±39km, MD3.4*
*NEIC **04** 01:58:16.9±2.4, 14°.45N±0°.04×93°.04W±0°.07, h23km±8km, mb4.1/24, Error ellipse: s-maj=10.6km s-min=6.1km az=75.0*
*GCG **04** 01:58:25.3±0.6, 14°.57N×92°.29W, h30km, MD3.6*

ISC 04 01:58:13.4±2.2**, 14°.43N**±0°.07×**93°.07W**±0°.07**, h2**km±13km**, n57, σ1s03**/62**, mb4.1**/13**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THIG		**0.92**	**58**	*e*P	**Pg**	**01 58 31.5**	**+0.5**
THIG				*e*S	**Sb**	**01 58 44.4**	**-0.3**
PCIG		**1.28**	**354**	*e*P	**Pg**	**01 58 37.4**	**-0.5**
PCIG				*e*S	**Sb**	**01 58 55.5**	**+0.4**
HUEH	**Huehuetenango**	**1.76**	**59**		**Pn**	**01 58 45.0**	**0.0**
CCIG	**Comitan**	**2.05**	**26**	*e*P	**Pb**	**01 58 51.1**	**-0.4**
CCIG				*e*S	**Sg**	**01 59 20.2**	**+0.7**
CCIG	**Comitan**	**2.05**	**26**		**Pb**	**01 58 50.8**	**-0.7**
FUG	**Fuego 3**	**2.16**	**89**	*e*P	**Pn**	**01 58 49.1**	**-1.4**
TGBT	**Tuxtla Gutierr**	**2.34**	**360**	*i* P	**Pn**	**01 58 54.2**	**+1.4**
TGBT				*i* S	**Sn**	**01 59 23.5**	**+1.4**
TGIG		**2.34**	**359**	*i* P	**Pn**	**01 58 54.5**	**+1.6**
TGIG				*i* S	**Sb**	**01 59 24.7**	**-1.0**
PCG	**Pacaya**	**2.39**	**91**	*e*P	**Pn**	**01 58 53.0**	**-0.7**
CMIG	**Matias Romero**	**3.17**	**327**	Pn	**Pn**	**01 59 04.9**	**+0.5**
	25nm,0.3s,baz=157,slow=12,SNR=45						
CMIG				Sn	**Sn**	**01 59 44.8**	**+2.0**
	35nm,0.3s,baz=78,slow=13,SNR=10						
CMIG	**Matias Romero**	**3.17**	**327**	*e*P	**Pn**	**01 59 04.9**	**+0.5**
CMIG				*e*S	**Sn**	**01 59 44.0**	**+1.2**
MRL	**Marmol**	**3.34**	**78**	*e*P	**Pn**	**01 59 06.6**	**-0.3**
MTO3	**Montecristo**	**3.59**	**90**	Pn	**Pn**	**01 59 08.4**	**-2.0**
ESQI	**Esquipulas**	**3.62**	**87**	Pn	**Pn**	**01 59 09.7**	**-0.8**
SNET	**Serv Nac Est T**	**3.80**	**101**	Pn	**Pn**	**01 59 13.2**	**+0.2**
PETF	**Flores**	**3.96**	**51**	Pn	**Pn**	**01 59 15.3**	**+0.2**
TGUH	**Tegucigalpa,Un**	**5.63**	**93**	Pn	**Pn**	**01 59 38.9**	**+0.6**
CRIN	**San Cristobal**	**6.10**	**106**	Pn	**Pn**	**01 59 44.6**	**-0.1**
CNGN	**Cerro Negro**	**6.49**	**106**	Pn	**Pn**	**01 59 51.4**	**+1.4**
ORTG	**Ortega, Santa**	**8.46**	**118**		**Pn**	**02 00 16.1**	**-1.0**
JTS	**Las Juntas de**	**8.93**	**116**	Pn	**Pn**	**02 00 24.8**	**+1.2**
	0.4nm,0.3s,baz=357,slow=20,SNR=1.8						
JTS				Lg	Lg	02 02 35.1	
	0.6nm,0.3s,baz=217,slow=20,SNR=3.0						
JTS	**Las Juntas de**	**8.93**	**116**		**Pn**	**02 00 23.1**	**-0.4**
RIMA	**Rio Macho**	**10.12**	**116**		**Pn**	**02 00 41.9**	**+1.8**
SOR	**Soroa**	**12.65**	**47**		**Pn**	**02 01 13.9**	**-0.5**
735A	**Kenedy**	**15.02**	**344**	Pn	**Pn**	**02 01 46.5**	**-0.2**
TXAR	**Lajitas Array**	**17.78**	**328**	P	**P**	**02 02 25.0**	**+1.9**
	0.2nm,0.3s,baz=148,slow=14,SNR=15						
TXAR	**Lajitas Array**	**17.78**	**328**	Pn	**Pn**	**02 02 21.6**	**-0.6**
TX31	**Lajitas Ar. Si**	**17.78**	**328**		**Pn**	**02 02 22.1**	**-0.1**
TX31				IAmb	IAmb	02 02 42.4	
	comp=Z,16nm,1.1s						
TX32	**Lajitas Array**	**17.78**	**328**		**Pn**	**02 02 22.1**	**-0.1**
352A	**Blakely**	**18.54**	**22**	P	**Pn**	**02 02 31.5**	**+0.1**
352A				IAmb	IAmb	02 02 35.4	
	comp=Z,14nm,0.8s						
MIAR	**Mount Ida**	**20.04**	**359**	P	**P**	**02 02 48.0**	**+0.3**
MNTX	**Cornudas Mount**	**20.56**	**329**	P	**P**	**02 02 54.4**	**+0.9**
X48A	**Hartselle**	**20.67**	**14**	P	**P**	**02 02 54.2**	**-0.3**
X48A				IAmb	IAmb	02 03 38.2	
	comp=Z,13nm,1.6s						
Y52A	**Lilburn**	**21.00**	**21**	P	**P**	**02 02 57.3**	**-0.9**
Y52A				IAmb	IAmb	02 03 17.4	
	comp=Z,9.3nm,1.1s						
FPAL	**Fort Paine**	**21.13**	**17**	P	**P**	**02 02 59.5**	**-0.2**
FPAL				IAmb	IAmb	02 03 29.2	
	comp=Z,11nm,1.3s						
MSTX	**Muleshoe**	**21.35**	**337**	P	**P**	**02 03 02.2**	**+0.2**
MSTX				IAmb	IAmb	02 03 08.1	
	comp=Z,9.3nm,1.2s						
RUSC	**La Rusia**	**21.41**	**111**	P	**P**	**02 03 03.6**	**+0.3**
RUSC				IAmb	IAmb	02 03 05.4	
	comp=Z,7.4nm,1.1s						
FLOC	**Florencia**	**21.43**	**125**	P	**P**	**02 03 04.6**	**+1.7**
AMTX	**Amarillo**	**21.80**	**341**	P	**P**	**02 03 07.8**	**+0.9**
U40A	**Yellville**	**21.84**	**0**	P	**P**	**02 03 06.8**	**-0.5**
T25A	**Trinidad**	**24.77**	**338**	P	**P**	**02 03 37.2**	**+0.3**
SDCO	**Great Sand Dun**	**25.72**	**337**	P	**P**	**02 03 45.9**	**+0.5**
PHWY	**Pilot Hill**	**28.86**	**340**	P	**P**	**02 04 14.1**	**+0.4**
PHWY				IAmb	IAmb	02 04 29.0	
	comp=Z,5.0nm,1.4s						
PDAR	**Pinedale Array**	**31.61**	**337**	P	**P**	**02 04 38.3**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=142,slow=5.1,SNR=4.4						
PDAR	**Pinedale Array**	**31.61**	**337**	P	**P**	**02 04 37.2**	**-0.8**
REDW	**Red Top Meadow**	**32.62**	**336**	P	**P**	**02 04 47.6**	**+0.8**
SNOW	**Snow King Moun**	**32.67**	**336**	P	**P**	**02 04 48.0**	**+0.8**
NVAR	**Mina Array Bea**	**32.69**	**322**	P	**P**	**02 04 49.6**	**+2.1**
	comp=Z,1.7nm,0.7s,baz=132,slow=8.6,SNR=12						
NVAR	**Mina Array Bea**	**32.69**	**322**	P	**P**	**02 04 48.5**	**+1.0**
LOHW	**Long Hollow**	**32.73**	**336**	IAmb	IAmb	02 04 49.5	
	comp=Z,2.3nm,0.9s						
TPAW	**Teton Pass**	**32.77**	**336**	IAmb	IAmb	02 04 56.1	
	comp=Z,4.0nm,1.1s						
YNE	**Yellowstone No**	**33.70**	**338**	P	**P**	**02 04 56.2**	**0.0**
YNE				IAmb	IAmb	02 04 59.0	
	comp=Z,2.0nm,1.0s						
PLID	**Pearl Lake**	**36.21**	**332**	P	**P**	**02 05 16.1**	**-1.8**
PLID				IAmb	IAmb	02 05 18.9	
	comp=Z,3.3nm,1.0s						
E09A	**Wood Farm, Sta**	**38.27**	**332**	P	**P**	**02 05 36.3**	**+1.2**
YKA	**Yellowknife Ar**	**50.38**	**347**	P	**P**	**02 07 10.4**	**-1.3**
	comp=Z,2.7nm,0.8s,baz=140,slow=8.9,SNR=6.1						
ILAR	**Eielson Array**	**62.04**	**337**	P	**P**	**02 08 34.7**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=156,slow=3.6,SNR=5.4						
CMAR	**Chiang Mai Arr**	**145.25**	**340**	PKPbc	**PKPbc**	**02 17 50.9**	**-2.4**
	comp=Z,0.9nm,0.3s,baz=335,slow=4.1,SNR=2.3						

IDC 04 01:59:12.4±5.0**, 14°.59N**×**91°.81W, h0**km**, mb3.8**/2**, mb1 4.3**/3**, mb1mx3.6**/35**, mbtmp3.8**/3**, ML3.9**/1**, Error ellipse: s-maj=263.2km s-min=73.3km az=43.0, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**3.87**	**310**	Sn	Sn	02 00 46.4	-13
	baz=82,slow=21,SNR=0.8						
JTS	**Las Juntas de**	**7.94**	**122**	Lg	Lg	02 03 28.0	
	0.4nm,0.3s,baz=207,slow=21,SNR=2.4						
TXAR	**Lajitas Array**	**18.31**	**325**	P	Pn	02 03 28.1	-0.1
	0.1nm,0.3s,baz=140,slow=13,SNR=5.9						
NVAR	**Mina Array Bea**	**33.33**	**320**	P	P	02 05 52.2	-0.2
	1.3nm,0.7s,baz=140,slow=7.7,SNR=6.7						
ILAR	**Eielson Array**	**62.37**	**337**	P	P	02 09 36.7	0.0
	0.8nm,0.9s,baz=136,slow=5.5,SNR=5.5						
CMAR	**Chiang Mai Arr**	**145.49**	**342**	PKPbc	PKPbc	02 18 52.7	-0.8
	0.8nm,0.3s,baz=345,slow=2.8,SNR=1.7						

*KISR **04** 02:02:00.6±0.6, 28°.98N×47°.51E, h5km±2km, ML3.6*
*IDC **04** 02:02:17.3±22.0, 31°.42N×48°.05E, h0km, mb3.4/2, mb1 3.4/3, mb1mx3.1/34, mbtmp3.4/3, ML2.6/1, Error ellipse: s-maj=461.6km s-min=39.9km az=11.0*

ISC 04 02:02:01.1±1.2**, 28°.97N**±0°.05×**47°.52E**±0°.07**, h9**km±8km**, n9, σ0s55**/13**, Eastern Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RDF	**Al-Radifah**	**0.05**	**145**	*e*P	**Pg**	**02 02 03.0**	**+0.1**
RDF				IAML		02 02 04.7	
	comp=Z,366μm,0.2s						
KBD	**Kabd**	**0.26**	**36**	*e*P	**Pg**	**02 02 06.5**	**+0.1**
KBD				*e*S	**Sb**	**02 02 12.0**	**-0.6**
KBD				IAML		02 02 14.1	
	comp=Z,14μm,0.2s						
QRN	**Al-Qurain**	**0.41**	**122**	*e*P	**Pb**	**02 02 10.4**	**-0.2**
QRN				*e*S	**Sb**	**02 02 17.4**	**+0.4**
QRN				IAML		02 02 20.6	
	comp=Z,8μm,0.3s						
UMR	**Umm Al-Rimmam**	**0.61**	**16**	*e*P	**Pb**	**02 02 13.3**	**-0.6**
UMR				*e*S	**Sb**	**02 02 23.6**	**+1.0**
UMR				IAML		02 02 24.9	
	comp=Z,4μm,0.4s						
RST	**Umm Al-Ruwaisa**	**0.70**	**320**	*e*P	**Pb**	**02 02 15.3**	**-0.2**
MIB	**Mutribah**	**0.85**	**349**	*e*P	**Pb**	**02 02 18.2**	**+0.2**
MIB				*e*S	**Sn**	**02 02 31.9**	**+0.1**
MIB				IAML		02 02 36.3	
	comp=Z,1μm,0.5s						
BRTR	**Keskin Array B**	**15.68**	**317**	Pn	**P**	**02 05 45.9**	**-0.7**
	comp=Z,0.0nm,0.3s,baz=118,slow=15,SNR=4.3						
AKASG	**Malin Array Be**	**25.72**	**333**	P	**P**	**02 07 31.6**	**0.0**
	comp=Z,0.3nm,0.3s,baz=140,slow=9.2,SNR=6.1						
MKAR	**Makanchi Array**	**32.37**	**47**	P	**P**	**02 08 31.3**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=244,slow=7.8,SNR=3.0						

MEX 04 02:07:14.7±0.7**, 14°.22N**×**93°.04W, h15**km±43km**, MD3.9, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		**1.48**	**353**	*e*P	Pn	02 07 36.8	-4.0
PCIG				*e*S	Sn	02 07 52.3	-7.7
CCIG	**Comitan**	**2.23**	**23**	*e*P	Pn	02 07 50.5	-0.8
CCIG				*e*S	Sn	02 08 18.6	0.0
TGIG		**2.54**	**358**	*e*P	Pn	02 07 54.1	-1.4
TGIG				*e*S	Sn	02 08 23.9	-2.3
CMIG	**Matias Romero**	**3.36**	**328**	*e*P	Pn	02 08 04.4	-2.2
CMIG				*e*S	Sn	02 08 42.2	-4.0

NOU 04 02:43:24.9, 21°.41S×**169°.63E, h0**km**, MLv3.9**/8**, Southeast of Loyalty Islands, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.49**	**267**	P	Pn	02 43 52.1	-0.9
MARNC	**Mare, Loyalty**	**1.49**	**267**	P	Pn	02 43 52.0	-1.0
LIFNC	**LIFOU**	**2.32**	**285**	P	Pn	02 44 04.3	0.0
LIFNC	**LIFOU**	**2.32**	**285**	P	Pn	02 44 04.2	-0.1
PINNC	**Pines Island,**	**2.35**	**239**	P	Pn	02 44 04.5	-0.3
PINNC	**Pines Island,**	**2.35**	**239**	P	Pn	02 44 04.5	-0.3
YATNC	**Mamie plateau,**	**2.63**	**255**	P	Pn	02 44 07.2	-1.4
YATNC	**Mamie plateau,**	**2.63**	**255**	P	Pn	02 44 08.1	-0.5
OUENC	**Ouen Island, N**	**2.78**	**248**	P	Pn	02 44 10.7	0.0
OUENC	**Ouen Island, N**	**2.78**	**248**	P	Pn	02 44 10.6	-0.1
DZM	**Mont Dzumac**	**3.03**	**257**	P	Pn	02 44 14.5	+0.2
DZM	**Mont Dzumac**	**3.03**	**257**	P	Pn	02 44 13.9	-0.4
ONTNC	**Ouen Toro**	**3.08**	**253**	P	Pn	02 44 14.8	-0.1
ONTNC	**Ouen Toro**	**3.08**	**253**	P	Pn	02 44 14.9	0.0
NOUC	**Port Laguerre**	**3.17**	**257**	P	Pn	02 44 16.2	+0.2
NOUC	**Port Laguerre**	**3.17**	**257**	P	Pn	02 44 16.5	+0.5

*IDC **04** 03:13:53.8±0.9, 33°.94N×82°.94E, h0km, mb3.7/12, mb1 4.0/13, mb1mx3.7/49, mbtmp3.7/13, ML3.4/1, MS3.2/2, Ms1 3.2/2, ms1mx2.5/44, Error ellipse: s-maj=28.0km s-min=18.3km az=47.0*

ISC 04 03:13:59.3±0.9**, 34°.1N**±0°.1×**83°.0E**±0°.2**, h35**km**, n17, σ1s21**/14**, mb3.7**/11**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**10.85**	**325**	Pn	Pn	03 16 38.6	+6.4
	0.2nm,0.3s,baz=141,slow=16,SNR=1.5						
MKAR	**Makanchi Array**	**12.72**	**358**	Pn	**Pn**	**03 16 55.7**	**-2.0**
	0.2nm,0.3s,baz=183,slow=13,SNR=13						
ZALV	**Zalesovo Beam**	**19.92**	**3**	P	**P**	**03 18 27.9**	**+0.2**
	0.9nm,0.4s,baz=191,slow=15,SNR=2.6						
CMAR	**Chiang Mai Arr**	**21.07**	**134**	P	**P**	**03 18 39.9**	**-0.6**
	0.8nm,0.3s,baz=315,slow=13,SNR=2.0						
SONM	**Songino Array**	**22.27**	**45**	P	**P**	**03 18 52.7**	**-0.6**
	2.5nm,0.8s,baz=237,slow=10,SNR=4.7						
KSRS	**Korea Array**	**36.34**	**71**	LR	LR	03 37 18.9	
	comp=Z,30nm,19.4s,baz=215,slow=39						
JOW	**Kunigami**	**39.43**	**88**	LR	LR	03 39 04.8	
	comp=Z,45nm,20.8s,baz=286,slow=38						
AKASG	**Malin Array Be**	**42.08**	**310**	P	**P**	**03 21 47.5**	**-0.1**
	0.8nm,0.5s,baz=78,slow=7.6,SNR=4.4						
FINES	**FINESS Array B**	**45.04**	**325**	P	**P**	**03 22 11.3**	**+0.1**
	1.5nm,0.7s,baz=77,slow=10.0,SNR=4.2						
NB2	**NORSAR Subarra**	**52.17**	**324**	P	**P**	**03 23 06.1**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=86,slow=7.4						
NOA	**NORSAR Array B**	**52.17**	**324**	P	**P**	**03 23 06.0**	**-0.1**
	comp=Z,2.0nm,0.9s,baz=86,slow=7.4,SNR=7.2						
GERES	**GERESS Array B**	**52.24**	**309**	P	**P**	**03 23 06.7**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=76,slow=7.4,SNR=4.5						
WRA	**Warramunga Arr**	**72.61**	**130**	P	**P**	**03 25 22.5**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=317,slow=5.2,SNR=5.2						
ILAR	**Eielson Array**	**74.06**	**20**	P	**P**	**03 25 33.2**	**+2.0**
	comp=Z,0.4nm,0.9s,baz=285,slow=4.6,SNR=5.2						
ASAR	**Alice Springs**	**75.08**	**133**	P	**P**	**03 25 36.9**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=228,slow=37,SNR=2.1						
TORD	**Torodi Ar. Bea**	**75.63**	**276**	P	**P**	**03 25 40.7**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=50,slow=5.0,SNR=7.1						
YKA	**Yellowknife Ar**	**82.73**	**8**	P	**P**	**03 26 21.5**	**+2.5**
	comp=Z,0.8nm,0.6s,baz=343,slow=5.6,SNR=2.2						

IDC 04 03:27:57.4±1.7**, 17°.45N**×**144°.65E, h0**km**, mb3.4**/3**, mb1 3.8**/4**, mb1mx3.4**/39**, mbtmp3.5**/4**, ML3.8**/1**, MS2.9**/1**, Ms1 2.9**/1**, ms1mx2.3**/26**, Error ellipse: s-maj=148.0km s-min=25.5km az=106.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.85**	**177**	Pn	Pn	03 28 58.9	+1.1
	6.2nm,0.3s,baz=48,slow=23,SNR=1.3						
GUMO				Sn	Sn	03 29 36.5	-7.3
	4.2nm,0.3s,baz=358,slow=13,SNR=1.6						
H11N1	**WAKE ISLAND Hy**	**21.20**	**80**	T	T	03 53 42.3	
	baz=264,slow=75,SNR=5.3						
H11N2	**WAKE ISLAND Hy**	**21.21**	**80**	T	T	03 53 29.8	
	baz=264,slow=75,SNR=5.1						
H11N3	**WAKE ISLAND Hy**	**21.22**	**80**	T	T	03 53 43.4	
	baz=264,slow=75,SNR=6.6						
PETK	**Petropavlovsk-**	**37.02**	**13**	LR	LR	03 52 54.4	
	comp=Z,15nm,18.5s,baz=140,slow=40						
WRA	**Warramunga Arr**	**38.52**	**196**	P	P	03 35 21.5	-0.2
	0.4nm,0.4s,baz=20,slow=9.8,SNR=13						
ASAR	**Alice Springs**	**42.20**	**195**	P	P	03 35 51.7	-0.4
	0.1nm,0.4s,baz=30,slow=8.1,SNR=1.7						
ILAR	**Eielson Array**	**65.20**	**26**	P	P	03 38 40.3	0.0
	0.2nm,0.4s,baz=253,slow=5.9,SNR=5.4						

IDC 04 03:45:22.3±344.0**, 50°.11N**×**46°.38E, h0**km**, Error ellipse: s-maj=134.1km s-min=65.6km az=157.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**7.48**	**83**	*i*		04 29 20.0	
	baz=277,slow=321,SNR=3.4						
I37NO	**I37NO**	**23.26**	**335**	*i*		06 11 10.0	
	baz=131,slow=330,SNR=1.4						
I46RU	**ZALESOVO INFRA**	**23.76**	**66**	*i*		06 08 40.0	
	baz=274,slow=318,SNR=3.1						

*IDC **04** 03:51:20.3±1.3, 14°.21S×76°.46W, h0km, mb3.8/7, mb1 4.0/12, mb1mx3.9/33, mbtmp3.9/12, ML3.9/5, MS3.5/6, Ms1 3.5/6, ms1mx3.2/30, Error ellipse: s-maj=38.0km s-min=15.9km az=49.0*
*NEIC **04** 03:51:21.7±2.8, 14°.31S±0°.08×76°.7W±0°.1, h23km±7km, mb4.3/12, ML4.7(ARE), Error ellipse: s-maj=21.6km s-min=7.5km az=61.0*
*ARE **04** 03:51:21±3.5, 14°.24S±0°.08×76°.50W±0°.07, h20km±6km, Error ellipse: s-maj=0.0km s-min=0.0km az=124.0*
*VAO **04** 03:51:56.1±0.8, 14°.07S×74°.35W, h163km, mb3.9*

ISC 04 03:51:22.9±0.9**, 14°.30S**±0°.08×**76°.5W**±0°.1**, h23**km**, n67, σ1s59**/57**, mb4.0**/8**, MS3.8**/3**, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNA	**Nana**	**2.32**	**352**	Pn	**Pn**	**03 51 57.2**	**-2.6**
	31nm,0.3s,baz=162,slow=12,SNR=37						
NNA				Sn	**Sn**	**03 52 29.0**	**+1.4**
	264nm,0.3s,baz=234,slow=12,SNR=12						
ATAH	**Atahualpa**	**7.35**	**345**	Pn	**Pn**	**03 53 09.1**	**-0.2**
	1.5nm,0.3s,baz=128,slow=1.3,SNR=14						
ATAH				Sn	**Sn**	**03 54 30.9**	**-1.4**
	0.6nm,0.3s,baz=8.5,slow=17,SNR=1.0						
ATAH				Lg	Lg	03 55 06.9	
	3.7nm,0.3s,baz=271,slow=22,SNR=4.0						
ATAH				LR	LR	03 55 47.7	
	comp=Z,118nm,21.2s,baz=164,slow=37						
PSGCX	**Pisagua**	**8.08**	**132**	Pn	**Pn**	**03 53 17.8**	**-1.2**
LPAZ	**La Paz**	**8.34**	**105**	Pn	**Pn**	**03 53 23.4**	**+0.3**
	0.8nm,0.3s,baz=282,slow=11,SNR=16						
LPAZ				LR	LR	03 57 06.3	
	comp=Z,265nm,19.9s,baz=294,slow=42						
LPAZ	**La Paz**	**8.34**	**105**	Pn	**Pn**	**03 53 24.4**	**+1.4**
TA01	**Diego Aracena**	**8.69**	**137**	Pn	**Pn**	**03 53 26.1**	**-1.1**
PB08	**IPOC Station P**	**9.13**	**131**		**Pn**	**03 53 33.3**	**-0.4**
PB01	**IPOC Station P**	**9.48**	**136**		**Pn**	**03 53 38.0**	**-0.3**
PB07	**IPOC Station P**	**9.72**	**140**		**Pn**	**03 53 41.2**	**-0.4**
PB04	**IPOC Station P**	**10.03**	**144**	Pn	**Pn**	**03 53 44.9**	**-0.9**
LVC	**Limon Verde**	**10.98**	**140**	Pn	**Pn**	**03 53 59.7**	**+0.7**
	1.5nm,0.3s,baz=338,slow=8.8,SNR=10						
LVC				Sn	**Sn**	**03 55 58.4**	**-2.9**
	0.6nm,0.3s,baz=90,slow=22,SNR=7.5						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC				Lg	Lg	03 57 02.0	
	0.4nm,0.3s,baz=199,slow=7.3,SNR=3.1						
LVC	**Limon Verde**	**10.98**	**140**	Pn	**Pn**	**03 53 58.5**	**-0.5**
SAML	**Samuel**	**14.11**	**69**		**Pn**	**03 54 40.1**	**-1.3**
OTAV	**Otavalo**	**14.57**	**352**	*e*P	**P**	**03 54 57.4**	**+2.8**
TULM	**Tulcn-Chalpat**	**14.97**	**355**	*e*P	**P**	**03 54 56.8**	**-2.2**
SIV	**San Ignacio**	**15.02**	**98**	Pn	**Pn**	**03 54 53.8**	**-0.1**
	0.3nm,0.3s,baz=280,slow=16,SNR=6.2						
FLOC	**Florencia**	**15.80**	**3**	Pn	**Pn**	**03 55 01.2**	**-2.9**
FLOC	**Florencia**	**15.80**	**3**	*e*P	**Pn**	**03 55 04.0**	**-0.2**
VILB	**Vilhena**	**15.93**	**87**	*e*P	**Pn**	**03 55 05.5**	**-0.3**
BBAC	**Balboa, Cauca**	**16.23**	**357**	*e*P	**P**	**03 55 12.6**	**-0.2**
SOTA	**Rioblanco**	**16.33**	**360**	*e*P	**P**	**03 55 14.8**	**+0.7**
POPC	**Popayan, Colom**	**16.73**	**359**	*e*P	**P**	**03 55 17.5**	**-0.9**
PTLB	**Pontes e Lacer**	**16.85**	**96**	*e*P	**Pn**	**03 55 17.3**	**-0.1**
ROSC	**El Rosal**	**19.14**	**7**	LR	LR	04 05 00.1	
	comp=Z,166nm,19.2s,baz=217,slow=43						
MACA	**Manacapuru-AM**	**19.15**	**56**	*e*P	**Pn**	**03 55 48.2**	**+2.4**
H03N1	**Juan Fernandez**	**19.18**	**186**	T	T	04 15 35.0	
	baz=7.4,slow=74,SNR=502						
H03N2	**Juan Fernandez**	**19.18**	**186**	T	T	04 15 34.5	
	baz=7.4,slow=74,SNR=379						
H03N3	**Juan Fernandez**	**19.20**	**186**	T	T	04 15 30.7	
	baz=7.4,slow=74,SNR=410						
SPBC	**San Pablo de B**	**19.97**	**7**	*e*P	**Pn**	**03 55 58.9**	**+3.3**
SALV	**Santo Antonio**	**20.18**	**97**	*e*P	**P**	**03 55 56.5**	**+0.4**
RUSC	**La Rusia**	**20.35**	**10**	P	**P**	**03 55 56.6**	**-1.8**
RUSC				IAmb	IAmb	03 56 09.7	
	comp=Z,17nm,1.0s						
RUSC	**La Rusia**	**20.35**	**10**	*e*P	**P**	**03 55 58.2**	**-0.2**
CLDB	**Colider**	**20.51**	**83**	*e*P	**P**	**03 55 59.0**	**-0.7**
AQDB	**Aquidauana**	**20.79**	**110**	P	**P**	**03 56 03.2**	**+0.5**
AQDB				IAmb	IAmb	03 56 04.2	
	comp=Z,12nm,0.7s						
AQDB	**Aquidauana**	**20.79**	**110**	*e*P	**P**	**03 56 03.8**	**+1.1**
PTBC	**PUERTO BERRIO,**	**20.80**	**6**	*e*P	**P**	**03 56 02.6**	**-0.2**
BARC	**Barichara**	**21.02**	**9**	*e*P	**P**	**03 56 10.4**	**+5.0**
PP1B	**Ponte de Pedra**	**21.07**	**102**	*e*P	**P**	**03 56 05.8**	**+0.1**
PTGA	**Pitinga**	**21.21**	**52**	P	**P**	**03 56 08.4**	**+1.1**
	comp=Z,2.0nm,0.3s,baz=245,slow=14,SNR=6.7						
PTGA				LR	LR	04 04 47.4	
	comp=Z,332nm,18.3s,baz=236,slow=38						
PTGA	**Pitinga**	**21.21**	**52**	P	**P**	**03 56 07.6**	**+0.3**
CPUP	**Villa Florida**	**21.59**	**127**	P	**P**	**03 56 12.1**	**+0.9**
	comp=Z,2.8nm,1.0s,baz=302,slow=12,SNR=4.1						
CPUP				LR	LR	04 04 06.3	
	comp=Z,56nm,18.9s,baz=256,slow=36						
CPUP	**Villa Florida**	**21.59**	**127**	IAmb	IAmb	03 56 27.8	
	comp=Z,21nm,1.8s						
ZARC	**Zaragoza, Cauc**	**21.71**	**4**	*e*P	**P**	**03 56 12.2**	**-0.3**
NPGB	**Novo Progresso**	**22.00**	**73**	*e*P	**P**	**03 56 14.8**	**-1.0**
ITTB	**Itaituba**	**22.74**	**66**	*e*P	**P**	**03 56 23.5**	**-0.2**
SDV	**Santo Domingo**	**23.76**	**15**	P	**P**	**03 56 32.0**	**-2.1**
SDV				IAmb	IAmb	03 57 05.2	
	comp=Z,8.3nm,0.7s						
ARAG	**Araguaiana, MT**	**23.91**	**97**	*e*P	**P**	**03 56 35.6**	**+0.3**
SJCC	**San Jacinto, C**	**24.07**	**3**	*e*P	**P**	**03 56 38.6**	**+1.7**
SNDB	**Serra Nova Dou**	**24.68**	**88**	*e*P	**P**	**03 56 42.3**	**-0.1**
CPSB	**Cacapava Do Su**	**26.61**	**131**	*e*P	P	03 57 07.6	+7.8
FRTB	**Fartura**	**27.02**	**113**	*e*P	**P**	**03 57 05.7**	**+2.2**
MDP	**Montagnes des**	**30.54**	**53**	LR	LR	04 10 13.2	
	comp=Z,242nm,18.9s,baz=266,slow=37						
DIAM	**Diamantina, MG**	**31.76**	**102**	*e*P	**P**	**03 57 48.1**	**+2.2**
TXAR	**Lajitas Array**	**50.68**	**329**	P	**P**	**04 00 22.1**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=150,slow=7.3,SNR=3.0						
X37A	**Clayton**	**51.81**	**340**	P	**P**	**04 00 26.0**	**-3.2**
PDAR	**Pinedale Array**	**64.38**	**334**	P	**P**	**04 01 58.2**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=142,slow=4.5,SNR=2.3						
NVAR	**Mina Array Bea**	**65.42**	**325**	P	**P**	**04 02 05.5**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=171,slow=6.4,SNR=1.6						
DBIC	**Dimbokro**	**74.07**	**79**	P	**P**	**04 02 57.6**	**-0.2**
	comp=Z,3.5nm,0.7s,baz=280,slow=6.9,SNR=5.4						
TORD	**Torodi Ar. Bea**	**82.11**	**74**	P	**P**	**04 03 42.5**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=267,slow=4.8,SNR=18						
TORD	**Torodi Ar. Bea**	**82.11**	**74**	P	**P**	**04 03 40.0**	**-2.3**
H11N3	**WAKE ISLAND Hy**	**119.39**	**285**	T	T	06 20 43.9	
	baz=96,slow=74,SNR=75						
H11N2	**WAKE ISLAND Hy**	**119.40**	**285**	T	T	06 20 48.7	
	baz=96,slow=74,SNR=70						
H11N1	**WAKE ISLAND Hy**	**119.41**	**285**	T	T	06 20 40.3	
	baz=96,slow=74,SNR=49						
H11S2	**WAKE ISLAND Hy**	**119.45**	**283**	T	T	06 20 47.3	
	baz=96,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy**	**119.46**	**283**	T	T	06 20 31.6	
	baz=96,slow=75,SNR=24						
H11S3	**WAKE ISLAND Hy**	**119.47**	**283**	T	T	06 20 45.8	
	baz=96,slow=75,SNR=23						
SONM	**Songino Array**	**146.47**	**356**	PKPbc	**PKPbc**	**04 11 02.6**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=324,slow=2.1,SNR=5.4						

IDC 04 04:20:04.2±2.3**,6°.88S**×**128°.89E,h0**km**,mb3.4**/1**, mb1 3.8**/3**,mb1mx3.5**/23**,mbtmp3.6**/3**,ML3.8**/2**,Error ellipse: s-maj=143.6km s-min=33.8km az=67.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.03**	**158**	Pn	Pn	04 23 23.5	-0.8
	0.5nm,0.3s,baz=340,slow=14,SNR=32						
WRA				Sn	Sn	04 25 49.5	-11
	0.4nm,0.3s,baz=339,slow=21,SNR=7.1						
ASAR	**Alice Springs**	**17.38**	**164**	Pn	Pn	04 24 08.9	+0.7
	0.3nm,0.3s,baz=344,slow=9.9,SNR=17						
ASAR				Sn	Sn	04 27 13.8	-8.7
	0.1nm,0.3s,baz=357,slow=30,SNR=2.9						
MKAR	**Makanchi Array**	**67.52**	**327**	P	P	04 31 02.3	0.0
	0.2nm,0.5s,baz=133,slow=8.2,SNR=2.6						

MEX 04 04:29:03.8±1.5**,19°.43N**×**104°.01W,h28**km±17km**,MD3.5, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
R15V		**0.26**	**174**	*i* P	Pb	04 29 08.2	-2.5
R15V				*i* S	Sb	04 29 13.4	-2.0
EZ5V		**0.39**	**83**	*e*P	Pb	04 29 10.9	-1.8
EZ5V				*e*S	Sb	04 29 16.8	-1.9
EZ5V				*e*S	Sn	04 29 17.8	-2.6
EZ5V				*i* S		04 29 18.1	
COIG	**Colima**	**0.39**	**130**	*i* P	Pb	04 29 10.3	-2.2
COIG				*i* S	Sb	04 29 16.8	-1.7
CJM	**Chamela**	**0.98**	**274**	*e*P	Pn	04 29 19.2	-2.5
CJM				*e*S	Sn	04 29 31.6	-2.9
MMIG	**Aquila**	**1.30**	**151**	*i* P	Pn	04 29 24.8	-1.3
MMIG				*i* S	Sn	04 29 42.2	-0.4

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*DDA **04** 04:38:27.7,34°.97N×26°.88E,h6km±2km,ML2.8*
*THE **04** 04:38:27.8,35°.01N×26°.68E,h2km±1km,ML3.4/4,Error ellipse: s-maj=2.4km s-min=0.5km az=163.0*
*ISK **04** 04:38:28.2,35°.09N×26°.64E,h5km,ML3.3/8*
*ATH **04** 04:38:28.6,35°.01N×26°.66E,h13km±2km,ML3.3/8,Error ellipse: s-maj=5.4km s-min=1.1km az=343.0*
*IDC **04** 04:38:28.5±1.6,35°.04N×26°.72E,h0km,mb3.6/2, mb1 3.4/3,mb1mx3.3/44,mbtmp3.4/3,ML2.7/1,Error ellipse: s-maj=32.5km s-min=13.8km az=172.0*
ISC 04 04:38:27.7±1.5**,34°.95N**±0°.07×**26°.66E**±0°.03**,h5**km±9km**, n41,**σ**1ˢ29**/61**,Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.40**	**294**	P	**Pg**	**04 38 36.2**	**+0.8**
ZKR				S	**Sb**	**04 38 42.4**	**-1.4**
	5μm,0.3s						
ZKR	**Zakros**	**0.40**	**294**	P	**Pg**	**04 38 36.2**	**+0.8**
ZKR				S	**Sg**	**04 38 41.6**	**+1.0**
ZKR				AML	AML	04 38 42.7	
	comp=N,7360μm,0.2s						
ZKR				AML	AML	04 38 45.6	
	comp=E,10933μm,0.6s						
ZKR	**Zakros**	**0.40**	**294**	PG	**Pg**	**04 38 36.2**	**+0.8**
ZKR				SG	**Sb**	**04 38 42.4**	**-1.4**
STIA	**Sitia Lasithi**	**0.53**	**298**	P	**Pg**	**04 38 38.4**	**+0.5**
STIA				S	**Sb**	**04 38 46.1**	**-1.4**
KARP	**Karpathos**	**0.72**	**34**	P	**Pg**	**04 38 41.2**	**-0.3**
KARP				S	**Sg**	**04 38 51.1**	**+0.2**
	comp=E,6μm,0.5s						
KARP	**Karpathos**	**0.72**	**34**	P	**Pg**	**04 38 41.1**	**-0.5**
KARP				S	**Sg**	**04 38 50.8**	**-0.1**
KARP				AML	AML	04 38 53.6	
	comp=N,8841μm,0.3s						
KARP				AML	AML	04 38 55.3	
	comp=E,15506μm,0.7s						
KARP	**Karpathos**	**0.72**	**34**	PG	**Pg**	**04 38 41.0**	**-0.5**
KARP				SG	**Sg**	**04 38 51.4**	**+0.5**
FRMA	**Ierapetra Chan**	**0.77**	**275**	P	**Pg**	**04 38 41.0**	**-1.4**
FRMA				S	**Sg**	**04 38 51.8**	**-0.5**
NPS	**Neapolis**	**0.92**	**290**	P	**Pg**	**04 38 45.6**	**+0.4**
NPS				S	**Sb**	**04 38 58.9**	**+0.3**
	comp=E,3μm,0.4s						
NPS	**Neapolis**	**0.92**	**290**	P	**Pg**	**04 38 45.3**	**0.0**
NPS				S	**Sb**	**04 38 58.0**	**-0.6**
NPS				AML	AML	04 39 01.9	
	comp=E,7572μm,0.4s						
NPS				AML	AML	04 39 03.1	
	comp=N,3357μm,0.4s						
HRKL	**Herakleio**	**1.33**	**286**	PN	**Pb**	**04 38 53.2**	**+0.1**
KSTL	**Kastelli Herak**	**1.35**	**286**	P	Pn	04 38 48.3	-4.9
KSTL				S	**Sb**	**04 39 05.1**	**-6.0**
IACM	**Heraklion**	**1.35**	**286**	P	**Pn**	**04 38 53.1**	**-0.1**
IDI	**Anoyia**	**1.49**	**284**	Pg	**Pg**	**04 38 56.7**	**+0.4**
	comp=N,13nm,0.3s,baz=101,slow=16,SNR=85						
IDI				Lg	Lg	04 39 16.5	
	comp=N,26nm,0.3s,baz=95,slow=23,SNR=7.0						
IDI	**Anoyia**	**1.49**	**284**	P	**Pn**	**04 38 55.6**	**+0.4**
IDI				S	**Sn**	**04 39 14.3**	**-0.8**
IDI				AML	AML	04 39 25.0	
	comp=E,948μm,0.6s						
IDI				AML	AML	04 39 25.4	
	comp=N,1139μm,1.1s						
NIS1	**Nisyros Isl.**	**1.70**	**14**	PN	**Pn**	**04 38 58.2**	**+0.1**
SANT	**Santorini**	**1.72**	**326**	PN	**Pn**	**04 38 58.9**	**+0.5**
ARG	**Arkhangelos**	**1.74**	**43**	P	**Pn**	**04 38 56.1**	**-2.5**
ARG				S	**Sn**	**04 39 19.5**	**-1.6**
	comp=N,788nm,0.8s						
ARG	**Arkhangelos**	**1.74**	**43**	P	**Pb**	**04 38 59.3**	**-0.8**
ARG				AML	AML	04 39 31.6	
	comp=E,1839μm,0.6s						
ARG				AML	AML	04 39 34.8	
	comp=N,1250μm,0.8s						
ARG	**Arkhangelos**	**1.74**	**43**	PN	**Pb**	**04 38 59.6**	**-0.5**
KOSK	**Kos Island**	**1.81**	**8**	PN	**Pn**	**04 39 00.1**	**+0.5**
DAT	**Datca**	**1.92**	**22**	*i* P	**Pn**	**04 39 01.1**	**-0.2**
DAT				*i* S	**Sg**	**04 39 28.8**	**-0.7**
DAT				IAML		04 39 35.0	
	comp=N,57nm,0.9s						
DAT				IAML		04 39 35.0	
	comp=E,67nm,0.9s						
DAT	**Datca**	**1.92**	**22**	PN	**Pn**	**04 39 01.8**	**+0.6**
VAM	**Vamos**	**2.07**	**283**	P	**Pb**	**04 39 04.9**	**-0.8**
VAM				AML	AML	04 39 38.5	
	comp=N,1043μm,0.5s						
VAM				AML	AML	04 39 42.9	
	comp=E,1019μm,0.8s						
GVD	**Gavdhos**	**2.12**	**268**	P	**Pn**	**04 39 05.5**	**+1.7**
GVD				AML	AML	04 39 57.6	
	comp=E,934μm,0.8s						
GVD				AML	AML	04 39 57.9	
	comp=N,810μm,0.7s						
GVD	**Gavdhos**	**2.12**	**268**	PN	**Pb**	**04 39 06.2**	**-0.4**
BODT	**Bodrum**	**2.17**	**14**	PN	**Pn**	**04 39 05.1**	**+0.5**
BDRM	**Kayabasi**	**2.20**	**16**	*i* P	**Pn**	**04 39 05.5**	**+0.5**
BDRM				*i* S	**Sb**	**04 39 36.2**	**+0.5**
BDRM				IAML		04 39 38.0	
	comp=N,82nm,0.6s						
BDRM				IAML		04 39 41.0	
	comp=E,53nm,0.6s						
TURN	**Turunc**	**2.23**	**35**	*i* P	**Pn**	**04 39 06.5**	**+1.2**
TURN				*i* S	**Sb**	**04 39 35.4**	**-0.9**
TURN				IAML		04 39 46.0	
	comp=E,77nm,0.5s						
TURN				IAML		04 39 48.0	
	comp=N,84nm,0.4s						
IMMV	**Iera Moni Meta**	**2.25**	**284**	P	**Pb**	**04 39 07.8**	**-1.1**
IMMV				AML	AML	04 39 57.2	
	comp=N,887μm,0.6s						
IMMV				AML	AML	04 40 07.3	
	comp=E,952μm,0.9s						
IMMV	**Iera Moni Meta**	**2.25**	**284**	PN	**Pb**	**04 39 07.5**	**-1.4**
APE	**Apeiranthos**	**2.30**	**337**	PN	**Pn**	**04 39 07.1**	**+0.7**
KNDR	**Palaiochora Ch**	**2.46**	**277**	PN	**Pb**	**04 39 11.5**	**-0.9**
DALY	**Dalyan (Mula)**	**2.47**	**40**	*i* P	**Pb**	**04 39 10.6**	**-1.9**
DALY				*i* S	**Sg**	**04 39 48.1**	**+1.2**
DALY				IAML		04 39 54.0	
	comp=E,71nm,1.0s						
DALY				IAML		04 39 58.0	
	comp=N,103nm,0.6s						
FETY	**Fethiye**	**2.59**	**49**	*i* P	**Pn**	**04 39 11.5**	**+1.2**
FETY				*i* S	**Sg**	**04 39 50.7**	**-0.2**
FETY				IAML		04 40 03.0	
	comp=N,41nm,0.9s						
FETY				IAML		04 40 09.0	
	comp=E,37nm,1.0s						
MULA	**Mugla, Merkez-**	**2.66**	**30**	*i* P	**Pn**	**04 39 13.1**	**+1.7**
MULA				*i* S	**Sn**	**04 39 45.2**	**+1.0**
MULA				IAML		04 40 00.0	
	comp=N,42nm,1.1s						
MULA				IAML		04 40 02.0	
	comp=E,66nm,0.7s						
AKAS	**Kas**	**2.72**	**61**	*i* P	**Pn**	**04 39 12.8**	**+0.6**
AKAS				*i* S	**Sn**	**04 39 45.5**	**0.0**
AKAS				IAML		04 39 48.0	
	comp=N,63nm,0.4s						
AKAS				IAML		04 39 49.0	
	comp=E,48nm,0.5s						
AYDN	**Tasoluk**	**2.88**	**20**	*i* P	**Pn**	**04 39 15.6**	**+1.3**
AYDN				IAML		04 40 00.0	
	comp=N,29nm,0.8s						
BRTR	**Keskin Array B**	**7.32**	**47**	Pn	**Pn**	**04 40 17.8**	**+2.3**
	comp=N,0.1nm,0.3s,baz=235,slow=15,SNR=4.1						
BRTR				Sn	**Sn**	**04 41 37.8**	**-1.2**
	comp=N,0.0nm,0.3s,baz=220,slow=22,SNR=1.8						
TORD	**Torodi Ar. Bea**	**31.32**	**232**	P	**P**	**04 44 50.8**	**+1.7**
	comp=N,0.4nm,0.5s,baz=32,slow=8.9,SNR=5.5						
MKAR	**Makanchi Array**	**42.86**	**56**	P	**P**	**04 46 27.8**	**+0.9**
	comp=N,0.8nm,0.7s,baz=277,slow=7.3,SNR=7.3						

MEX 04 04:42:37.8±0.6**,15°.34N**×**91°.93W,h205**km±6km**,MD3.9, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.96**	**348**	*e*P	Pn	04 43 07.1	-1.0
CCIG				*i* S	S	04 43 28.9	-2.7
PCIG		**1.29**	**287**	*e*P	Pn	04 43 09.3	-1.0
PCIG				*e*S	S	04 43 33.2	-2.0
TGIG		**1.83**	**322**	*e*S	S	04 43 42.0	-1.8
CMIG	**Matias Romero**	**3.33**	**302**	*e*P	Pn	04 43 31.1	-0.5
CMIG				*e*S	S	04 44 11.1	-2.2

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*IDC **04** 04:43:42.7±1.2,8°.70S×129°.18E,h0km,mb4.0/3, mb1 4.0/7,mb1mx3.8/58,mbtmp4.0/7,ML3.9/4,Error ellipse: s-maj=38.3km s-min=20.2km az=83.0*
ISC 04 04:43:47.8±1.0**,8°.75S**±0°.08×**129°.00E**±0°.10**,h35**km**,n7,** σ**1ˢ31**/11**,mb3.8**/3**,Timor Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.46**	**254**	Pn	**Pn**	**04 45 07.6**	**+0.9**
	9.7nm,0.3s,baz=106,slow=7.4,SNR=2.6						
BATI				Sn	**Sn**	**04 46 07.3**	**-1.1**
	8.2nm,0.3s,baz=66,slow=20,SNR=2.3						
FITZ	**Fitzroy Crossi**	**9.85**	**199**	Pn	**Pn**	**04 46 06.6**	**-0.4**
	1.2nm,0.3s,baz=21,slow=14,SNR=16						
FITZ				Sn	**Sn**	**04 47 56.1**	**-0.3**
	1.9nm,0.3s,baz=91,slow=18,SNR=7.8						
WRA	**Warramunga Arr**	**12.27**	**156**	Pn	**Pn**	**04 46 38.7**	**-1.4**
	0.6nm,0.3s,baz=338,slow=12,SNR=28						
WRA				Sn	**Sn**	**04 48 57.0**	**+1.3**
	2.1nm,0.3s,baz=329,slow=22,SNR=11						
ASAR	**Alice Springs**	**15.56**	**163**	Pn	**Pn**	**04 47 23.9**	**-0.8**
	0.2nm,0.3s,baz=335,slow=9.5,SNR=12						
ASAR				Sn	**Sn**	**04 50 17.4**	**+1.3**
	0.6nm,0.3s,baz=342,slow=22,SNR=6.7						
USRK	**Ussuriysk Ar.**	**52.77**	**3**	P	**P**	**04 52 59.0**	**-0.4**
	12nm,0.7s,baz=172,slow=9.4,SNR=26						
SONM	**Songino Array**	**59.79**	**343**	P	**P**	**04 53 48.3**	**-1.3**
	0.4nm,0.5s,baz=170,slow=8.8,SNR=1.7						
MKAR	**Makanchi Array**	**69.15**	**328**	P	**P**	**04 54 52.7**	**+2.0**
	0.5nm,0.9s,baz=120,slow=7.5,SNR=4.2						

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*BJI **04** 04:49:16.6±0.0,29°.12N×130°.80E,h10km,mB5.3/59, mb5.1/68,Ms5.4/82,Ms7 5.4/78*
*MOS **04** 04:49:19.4±1.2,29°.24N×130°.52E,h17km,mb5.5/69, MS5.0/15,Error ellipse: s-maj=8.5km s-min=5.0km az=89.7*
*IDC **04** 04:49:19.0±0.3,29°.35N×130°.43E,h0km,mb5.0/49, mb1 5.1/55,mb1mx5.0/77,mbtmp5.0/55,ML4.4/5,MS5.0/36, Ms1 5.0/36,ms1mx4.8/53,Error ellipse: s-maj=10.8km s-min=9.2km az=106.0*
*NEIC **04** 04:49:22.4±2.1,29°.28N±0°.04×130°.60E±0°.06,h18km±3km, mb5.5/334,Mww5.2,Mwc5.3(GCMT),Error ellipse: s-maj=8.1km s-min=6.3km az=107.0*
*NIED **04** 04:49:23.9,29°.31N×130°.46E,h45km,MW5.3,Moment Tensor Solution. s3 Moment tensor: Scale 10^17Nm; M_{rr}0.03; $M_{\theta\theta}$0.22; $M_{\phi\phi}$-0.25; $M_{r\theta}$0.45; $M_{\theta\phi}$-0.14; $M_{\phi r}$0.93; Fault plane solution: $M_0$1.04000×10^17 NP1:ϕ_s27.00000°, δ86.00000°,λ96.00000°. NP2:ϕ_s152.00000°,δ7.00000°, λ35.00000°.*
*JMA **04** 04:49:23.8,29°.31N×130°.46E,h45km±3km,M5.3*
JMA Felt III J1.
*GCMT **04** 04:49:24.4±0.2,29°.29N±0°.01×130°.59E±0°.02,h15km, MW5.4/115,Moment Tensor Solution. s71,c103; s115,c207; Duration: 1ˢ2 Moment tensor: Scale 10^17 Nm; M_{rr}-0.24±.02; $M_{\theta\theta}$-0.16±.01; $M_{\phi\phi}$0.40±.01; $M_{r\theta}$0.97±.07; $M_{\theta\phi}$0.12±.01; $M_{\phi r}$1.20±.09; Best double couple: $M_0$1.58300×10^17 NP1:ϕ_s337.00000°,δ10.00000°, λ-152.00000°. NP2:ϕ_s219.00000°,δ85.00000°, λ-81.00000°. Principal axes: T 1.6120, Plg39.0000°, Azm300.0000°; N -0.0580, Plg9.0000°, Azm38.0000°; P -1.5540, Plg49.0000°, Azm138.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **04** 04:49:25,29°.28N×130°.47E,h26km,Moment Tensor Solution. Moment tensor: Scale 10^17Nm; M_{rr}-0.47; $M_{\theta\theta}$-0.11; $M_{\phi\phi}$0.57; $M_{r\theta}$0.62; $M_{\theta\phi}$0.13; $M_{\phi r}$0.82; Fault plane solution: $M_0$1.16000×10^17 NP1:ϕ_s345.00000°, δ18.00000°,λ-137.00000°. NP2:ϕ_s214.00000°, δ78.00000°,λ-76.00000°. Principal axes: T 1.1674, Plg31.0000°, Azm293.0000°; N -0.0160, Plg13.0000°, Azm31.0000°; P -1.1514, Plg55.0000°, Azm141.0000°;*
*NEIC **04** 04:49:27,29°.17N×130°.48E,h30km,Moment Tensor Solution. Moment tensor: Scale 10^16Nm; M_{rr}-6.22; $M_{\theta\theta}$0.41; $M_{\phi\phi}$5.81; $M_{r\theta}$3.21; $M_{\theta\phi}$2.43; $M_{\phi r}$3.77; Fault plane solution: $M_0$8.17000×10^16 NP1:ϕ_s8.00000°,δ28.00000°, λ-111.00000°. NP2:ϕ_s213.00000°,δ64.00000°, λ-78.00000°. Principal axes: T 8.2840, Plg18.0000°, Azm295.0000°; N -0.2319, Plg10.0000°, Azm28.0000°; P -8.0521, Plg69.0000°, Azm146.0000°;*
*BGR **04** 04:49:33.4±0.0,31°.80N×130°.21E,h33km,mb5.0*
*KMA **04** 04:49:35.8,30°.16N×131°.00E,h15km*
ISC 04 04:49:25.5±0.6**,29°.23N**±0°.03×**130°.59E**±0°.03**,h50**km±5km**, n1296,**σ**1ˢ81**/1301**,mb5.3**/310**,MS5.2**/69**,51C-139D,Fault plane solution: NP1:**ϕ_s194.48189°**,**δ60.43766°**,** λ-93.96812°. **NP2:**ϕ_s22.48521°**,**δ29.80361°**,**λ-83.04410°. **Principal axes:** T Plg15.3500°**,** Azm287.3905°**;** N Plg3.4509°**,** Azm196.4420°**;** P Plg74.2481°**,** Azm94.0976°**;**
Ryukyu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.88**	**315**	P	**Pn**	**04 49 37.9**	**-3.7**
JNN				*e*S	**Sn**	**04 49 48.1**	**-5.3**
JYAK	**Yakushimahirau**	**1.01**	**356**	P	**Pn**	**04 49 40.6**	**-2.8**
JYAK				*e*S	**Sn**	**04 49 53.4**	**-3.2**
JZK	**Kikaishima**	**1.06**	**211**	P	**Pn**	**04 49 42.9**	**-1.2**
JAM	**Amami Oshima**	**1.19**	**227**	P	**Pn**	**04 49 44.0**	**-1.8**
JAM				*e*S	**Sn**	**04 50 00.0**	**-0.8**
JMTN	**Minamitane**	**1.20**	**13**	P	**Pn**	**04 49 43.8**	**-2.2**
JMTN				*e*S	**Sn**	**04 49 58.7**	**-2.5**
JTAJ	**Takarajima**	**1.22**	**267**	P	**Pn**	**04 49 43.6**	**-2.6**
JKC	**Kuchinoerabu**	**1.28**	**344**	P	**Pn**	**04 49 44.3**	**-2.8**
JTN	**Tanegashima 3**	**1.46**	**13**	P	**Pn**	**04 49 47.5**	**-2.1**
JTN				*e*S	**Sn**	**04 50 04.9**	**-2.7**
JAMN	**Amaminishikomi**	**1.58**	**232**	P	**Pn**	**04 49 49.5**	**-1.7**
JTSR	**Tashiro 2**	**1.96**	**8**	P	**Pn**	**04 49 54.3**	**-2.0**
JTSR				*e*S	**Sn**	**04 50 17.9**	**-1.8**
JTK	**Tokunoshima**	**2.04**	**226**	P	**Pn**	**04 49 56.0**	**-1.4**
JTK				*e*S	**Sn**	**04 50 19.9**	**-1.7**
JSU	**Suzuyama**	**2.28**	**357**	P	**Pn**	**04 49 58.4**	**-2.3**
JSU	**Suzuyama**	**2.28**	**357**	Pn	**Pn**	**04 49 58.4**	**-2.3**
JNAR	**Kushima--Naru**	**2.37**	**14**	P	**Pn**	**04 50 00.5**	**-1.4**
JNKG	**Nichinankitago**	**2.52**	**15**	P	**Pn**	**04 50 02.7**	**-1.3**
JNKG				S	**Sn**	**04 50 31.5**	**-2.0**
JSJ	**Shimokoshiki**	**2.56**	**343**	P	**Pn**	**04 50 01.9**	**-2.7**
JOKE	**Okinoerabujima**	**2.58**	**224**	P	**Pn**	**04 50 03.5**	**-1.3**
JYRO	**Yoronjima**	**2.90**	**221**	P	**Pn**	**04 50 07.3**	**-1.9**
JZO	**Okuchi**	**2.91**	**0**	P	**Pn**	**04 50 07.6**	**-1.7**
JTSN	**Tsuno**	**3.11**	**14**	P	**Pn**	**04 50 09.9**	**-2.2**
JOW	**Kunigami**	**3.14**	**221**	Pn	**Pn**	**04 50 10.5**	**-2.1**
	54nm,0.3s,baz=50,slow=11,SNR=69						
JOW				Sn	**Sn**	**04 50 48.7**	**-0.2**
	115nm,0.3s,baz=52,slow=18,SNR=2.1						
JOW	**Kunigami**	**3.14**	**221**	P	**Pn**	**04 50 10.7**	**-1.8**
JOW	**Kunigami**	**3.14**	**221**	Pn	**Pn**	**04 50 10.8**	**-1.8**
JIH	**Iheya**	**3.18**	**227**	S	**Sn**	**04 50 48.2**	**-1.6**
JKDJ	**Kitadaitoujima**	**3.32**	**169**	P	**Pn**	**04 50 12.7**	**-2.3**
JHHC	**Hyugahichiya**	**3.33**	**15**	P	**Pn**	**04 50 12.8**	**-2.3**
JMZ	**Minamidaito 2**	**3.44**	**171**	Pn	**Pn**	**04 50 14.1**	**-2.6**
JKIT	**Kitakata**	**3.47**	**12**	P	**Pn**	**04 50 15.3**	**-1.7**
JNTH	**Nagotoyohara**	**3.53**	**221**	P	**Pn**	**04 50 15.9**	**-1.9**
JSKE	**Saikikamae**	**3.73**	**17**	P	**Pn**	**04 50 18.0**	**-2.6**
JNU	**Nakatsue**	**3.89**	**4**	Pn	**Pn**	**04 50 21.8**	**-1.1**
	36nm,0.3s,baz=166,slow=6.5,SNR=148						
JNU				Sn	**Sn**	**04 51 03.9**	**-3.4**
	26nm,0.3s,baz=209,slow=19,SNR=1.4						
JNU				LR	LR	04 51 21.5	
	comp=Z,1μm,21.8s,baz=186,slow=32						
JNU	**Nakatsue**	**3.89**	**4**	Pn	**Pn**	**04 50 21.4**	**-1.5**
JAGN	**Aguni-jima**	**3.96**	**229**	P	**Pn**	**04 50 22.1**	**-1.7**
JKE	**Kume jima 2**	**4.44**	**230**	P	**Pn**	**04 50 28.2**	**-2.2**
MRT2	**Murotomisaki 2**	**5.14**	**35**	P	**Pn**	**04 50 37.8**	**-2.2**
JMN	**Monobe**	**5.29**	**31**	Pn	**Pn**	**04 50 39.8**	**-2.3**
JTU	**Tsushima**	**5.38**	**349**		**Pn**	**04 50 42.8**	**-0.5**
KSJJU	**Jeju**	**5.44**	**321**	P	**Pn**	**04 50 45.1**	**+1.0**
	SNR=7.9						
KSJJU	**Jeju**	**5.44**	**321**	P	**Pn**	**04 50 45.1**	**+1.0**
	SNR=7.9						
KSJJU	**Jeju**	**5.44**	**321**	P	**Pn**	**04 50 45.1**	**+1.0**
	SNR=7.9						
GOS1	**Gosan-ri**	**5.53**	**318**	P	**Pn**	**04 50 43.9**	**-1.4**
	SNR=14						
GOS1	**Gosan-ri**	**5.53**	**318**	P	**Pn**	**04 50 43.9**	**-1.4**
	SNR=14						
GOS1	**Gosan-ri**	**5.53**	**318**	P	**Pn**	**04 50 43.9**	**-1.4**
	SNR=14						
HALB	**Hallimjungang-**	**5.57**	**319**	P	**Pn**	**04 50 45.0**	**-0.8**
	SNR=20						
HALB	**Hallimjungang-**	**5.57**	**319**	P	**Pn**	**04 50 45.0**	**-0.8**
	SNR=20						
HALB	**Hallimjungang-**	**5.57**	**319**	P	**Pn**	**04 50 45.0**	**-0.8**
	SNR=20						
JAI	**Aioi**	**5.62**	**35**	P	**Pn**	**04 50 44.8**	**-1.7**
KUJA	**Jangpyeong**	**5.89**	**344**	P	**Pn**	**04 50 53.0**	**+2.7**
	SNR=6.6						
KUJA	**Jangpyeong**	**5.89**	**344**	P	**Pn**	**04 50 53.0**	**+2.7**
	SNR=6.6						
KUJA	**Jangpyeong**	**5.89**	**344**	P	**Pn**	**04 50 53.0**	**+2.7**
	SNR=6.6						
KUJA	**Jangpyeong**	**5.89**	**344**	P	**Pn**	**04 50 53.0**	**+2.7**
	SNR=6.6						
KSNAH	**Namhae**	**6.02**	**339**	P	**Pn**	**04 50 56.0**	**+4.1**
	SNR=9.6						
KSNAH	**Namhae**	**6.02**	**339**	P	**Pn**	**04 50 53.9**	**+1.9**
	SNR=14						
KSNAH	**Namhae**	**6.02**	**339**	P	**Pn**	**04 50 53.9**	**+1.9**
	SNR=14						
KSNAH	**Namhae**	**6.02**	**339**	P	**Pn**	**04 50 53.9**	**+1.9**
	SNR=14						
KSNAH	**Namhae**	**6.02**	**339**	P	**Pn**	**04 50 53.9**	**+1.9**
	SNR=14						
KSNAH	**Namhae**	**6.02**	**339**	P	**Pn**	**04 50 56.0**	**+4.1**
	SNR=9.6						
KOHB	**KOHEUNG**	**6.07**	**333**	P	**Pn**	**04 50 56.3**	**+3.6**
	SNR=7.8						
KOHB	**KOHEUNG**	**6.07**	**333**	P	**Pn**	**04 50 56.3**	**+3.6**
	SNR=7.8						
KOHB	**KOHEUNG**	**6.07**	**333**	P	**Pn**	**04 50 56.3**	**+3.6**
	SNR=7.8						
KOHB	**KOHEUNG**	**6.07**	**333**	P	**Pn**	**04 50 53.4**	**+0.7**
	SNR=16						

KOHB	KOHEUNG	6.07	333	P	Pn	04 50 56.3 +3.6
	SNR=7.8					
KOHB	KOHEUNG	6.07	333	P	Pn	04 50 53.4 +0.7
	SNR=16					
KOHB	KOHEUNG	6.07	333	P	Pn	04 50 53.4 +0.7
	SNR=16					
KSBUS	Busan	6.14	349	P	Pn	04 50 59.0 +5.4
	SNR=11					
KSBUS	Busan	6.14	349	P	Pn	04 50 59.0 +5.4
	SNR=11					
KSBUS	Busan	6.14	349	P	Pn	04 50 59.0 +5.4
	SNR=11					
JHS	Saijyo	6.14	20	Pn	Pn	04 50 51.9 -1.8
GWYB	Gwangyang	6.21	337	P	Pn	04 50 59.0 +4.4
	SNR=7.3					
GWYB	Gwangyang	6.21	337	P	Pn	04 50 57.0 +2.4
	SNR=18					
GWYB	Gwangyang	6.21	337	P	Pn	04 50 57.0 +2.4
	SNR=18					
GWYB	Gwangyang	6.21	337	P	Pn	04 50 57.0 +2.4
	SNR=18					
GWYB	Gwangyang	6.21	337	P	Pn	04 50 57.0 +2.4
	SNR=18					
GWYB	Gwangyang	6.21	337	P	Pn	04 50 59.0 +4.4
	SNR=7.3					
BOSB	Boseong-gun	6.22	333	P	Pn	04 50 59.0 +4.3
	SNR=8.7					
BOSB	Boseong-gun	6.22	333	P	Pn	04 50 56.0 +1.2
	SNR=22					
BOSB	Boseong-gun	6.22	333	P	Pn	04 50 56.0 +1.2
	SNR=22					
BOSB	Boseong-gun	6.22	333	P	Pn	04 50 56.0 +1.2
	SNR=22					
BOSB	Boseong-gun	6.22	333	P	Pn	04 50 55.4 +0.6
	SNR=9.0					
BOSB	Boseong-gun	6.22	333	P	Pn	04 50 59.0 +4.3
	SNR=8.7					
BOSB	Boseong-gun	6.22	333	P	Pn	04 50 55.4 +0.6
	SNR=9.0					
BOSB	Boseong-gun	6.22	333	P	Pn	04 50 55.4 +0.6
	SNR=9.0					
BOSB	Boseong-gun	6.22	333	P	Pn	04 50 59.0 +4.3
	SNR=8.7					
KSJDO	Jindo	6.37	326	P	Pn	04 50 59.1 +2.2
	SNR=12					
KSJDO	Jindo	6.37	326	P	Pn	04 50 59.1 +2.2
	SNR=12					
KSJDO	Jindo	6.37	326	P	Pn	04 50 59.1 +2.2
	SNR=12					
KSJDO	Jindo	6.37	326	P	Pn	04 50 56.0 -0.8
	SNR=60					
KSJDO	Jindo	6.37	326	P	Pn	04 50 56.0 -0.8
	SNR=60					
KSJDO	Jindo	6.37	326	P	Pn	04 50 56.0 -0.8
	SNR=60					
EURB	Uiryeong-eup	6.39	343	P	Pn	04 50 59.1 +2.1
	SNR=11					
EURB	Uiryeong-eup	6.39	343	P	Pn	04 50 59.1 +2.1
	SNR=11					
EURB	Uiryeong-eup	6.39	343	P	Pn	04 50 59.1 +2.1
	SNR=11					
EURB	Uiryeong-eup	6.39	343	P	Pn	04 50 59.1 +2.1
	SNR=11					
KSSCH	SUNCHEON	6.48	335	P	Pn	04 51 01.3 +3.0
	SNR=8.3					
KSSCH	SUNCHEON	6.48	335	P	Pn	04 51 01.3 +3.0
	SNR=8.3					
KSSCH	SUNCHEON	6.48	335	P	Pn	04 50 58.9 +0.6
	SNR=25					
KSSCH	SUNCHEON	6.48	335	P	Pn	04 51 01.3 +3.0
	SNR=8.3					
KSSCH	SUNCHEON	6.48	335	P	Pn	04 50 58.9 +0.6
	SNR=25					
KSSCH	SUNCHEON	6.48	335	P	Pn	04 50 58.9 +0.6
	SNR=25					
JMMH	Miemihama	6.52	44	P	Pn	04 50 57.1 -1.7
KSUSN	Ulsan	6.58	349	P	Pn	04 51 00.3 +0.6
	SNR=82					
KSUSN	Ulsan	6.58	349	P	Pn	04 51 00.7 +1.1
	SNR=54					
KSUSN	Ulsan	6.58	349	P	Pn	04 51 00.3 +0.6
	SNR=82					
KSUSN	Ulsan	6.58	349	P	Pn	04 51 00.3 +0.6
	SNR=82					
KSKWJ	Gwangju	6.66	334	P	Pn	04 51 03.4 +2.6
	SNR=8.3					
KSKWJ	Gwangju	6.66	334	P	Pn	04 51 03.4 +2.6
	SNR=8.3					
KSKWJ	Gwangju	6.66	334	P	Pn	04 51 01.3 +0.5
	SNR=40					
KSKWJ	Gwangju	6.66	334	P	Pn	04 51 03.4 +2.6
	SNR=8.3					
KSKWJ	Gwangju	6.66	334	P	Pn	04 51 01.3 +0.5
	SNR=40					
KSKWJ	Gwangju	6.66	334	P	Pn	04 51 01.3 +0.5
	SNR=40					
KSDAG	Daegu	6.68	348	P	Pn	04 51 02.0 +1.0
	SNR=38					
KSDAG	Daegu	6.68	348	P	Pn	04 51 02.0 +1.0
	SNR=38					
KSDAG	Daegu	6.68	348	P	Pn	04 51 02.0 +1.0
	SNR=38					
KSDAG	Daegu	6.68	348	P	Pn	04 51 02.0 +1.0
	SNR=38					
HAMB	Hamyang	6.71	340	P	Pn	04 51 06.0 +4.4
	SNR=6.4					
HAMB	Hamyang	6.71	340	P	Pn	04 51 04.0 +2.4
	SNR=15					
HAMB	Hamyang	6.71	340	P	Pn	04 51 04.0 +2.4
	SNR=15					
HAMB	Hamyang	6.71	340	P	Pn	04 51 04.0 +2.4
	SNR=15					
HAMB	Hamyang	6.71	340	P	Pn	04 51 04.0 +2.4
	SNR=15					
HAMB	Hamyang	6.71	340	P	Pn	04 51 06.0 +4.4
	SNR=6.4					
NAWB	Namwon	6.74	337	P	Pn	04 51 06.0 +4.1
	SNR=5.6					
NAWB	Namwon	6.74	337	P	Pn	04 51 04.0 +2.1
	SNR=21					
NAWB	Namwon	6.74	337	P	Pn	04 51 04.0 +2.1
	SNR=21					
NAWB	Namwon	6.74	337	P	Pn	04 51 04.0 +2.1
	SNR=21					
NAWB	Namwon	6.74	337	P	Pn	04 51 04.0 +2.1
	SNR=21					
NAWB	Namwon	6.74	337	P	Pn	04 51 06.0 +4.1
	SNR=5.6					
KSKCH	Geochang	6.76	341	P	Pn	04 51 04.8 +2.6
	SNR=12					
KSKCH	Geochang	6.76	341	P	Pn	04 51 04.8 +2.6
	SNR=12					
KSKCH	Geochang	6.76	341	P	Pn	04 51 04.8 +2.6
	SNR=12					
KSKCH	Geochang	6.76	341	P	Pn	04 51 04.8 +2.6
	SNR=12					
SUCA	Sunchang	6.79	335	P	Pn	04 51 05.3 +2.7
	SNR=11					
SUCA	Sunchang	6.79	335	P	Pn	04 51 05.3 +2.7
	SNR=11					
SUCA	Sunchang	6.79	335	P	Pn	04 51 05.3 +2.7
	SNR=11					
SUCA	Sunchang	6.79	335	P	Pn	04 51 05.3 +2.7
	SNR=11					
KSYOC	YEONGCHEON	6.87	349	P	Pn	04 51 04.6 +1.0
	SNR=14					
KSYOC	YEONGCHEON	6.87	349	P	Pn	04 51 04.6 +1.0
	SNR=14					
KSYOC	YEONGCHEON	6.87	349	P	Pn	04 51 04.6 +1.0
	SNR=14					
KSYOC	YEONGCHEON	6.87	349	P	Pn	04 51 04.6 +1.0
	SNR=14					
JKN2	Miekihoku	6.96	43	P	Pn	04 51 03.8 -1.0
KSJEU	Jeongeup	6.98	335	P	Pn	04 51 06.5 +1.4
	SNR=21					
KSJEU	Jeongeup	6.98	335	P	Pn	04 51 06.5 +1.4
	SNR=21					
KSJEU	Jeongeup	6.98	335	P	Pn	04 51 05.5 +0.4
	SNR=70					
KSJEU	Jeongeup	6.98	335	P	Pn	04 51 06.5 +1.4
	SNR=21					
KSJEU	Jeongeup	6.98	335	P	Pn	04 51 05.5 +0.4
	SNR=70					
GOCB	Gochang-gun	6.98	332	P	Pn	04 51 07.0 +1.8
	SNR=20					
GOCB	Gochang-gun	6.98	332	P	Pn	04 51 07.0 +1.8
	SNR=20					
GOCB	Gochang-gun	6.98	332	P	Pn	04 51 07.0 +1.8
	SNR=20					
GOCB	Gochang-gun	6.98	332	P	Pn	04 51 08.1 +3.0
	SNR=12					
GOCB	Gochang-gun	6.98	332	P	Pn	04 51 07.0 +1.8
	SNR=20					
HUK2	Heuksan-myeon	6.98	323	P	Pn	04 51 11.0 +5.8
	SNR=7.6					
HUK2	Heuksan-myeon	6.98	323	P	Pn	04 51 04.0 -1.2
	SNR=11					
HUK2	Heuksan-myeon	6.98	323	P	Pn	04 51 11.0 +5.8
	SNR=7.6					
HUK2	Heuksan-myeon	6.98	323	P	Pn	04 51 04.0 -1.2
	SNR=11					
HUK2	Heuksan-myeon	6.98	323	P	Pn	04 51 04.0 -1.2
	SNR=11					
HUK2	Heuksan-myeon	6.98	323	P	Pn	04 51 11.0 +5.8
	SNR=7.6					
KSPHA	Pohang	7.02	352	P	Pn	04 51 10.0 +4.3
	SNR=10.0					
KSPHA	Pohang	7.02	352	P	Pn	04 51 07.0 +1.2
	SNR=18					
KSPHA	Pohang	7.02	352	P	Pn	04 51 07.0 +1.2
	SNR=18					
KSPHA	Pohang	7.02	352	P	Pn	04 51 07.0 +1.2
	SNR=18					
KSPHA	Pohang	7.02	352	P	Pn	04 51 07.0 +1.2
	SNR=18					
KSPHA	Pohang	7.02	352	P	Pn	04 51 10.0 +4.3
	SNR=10.0					
KSPHA	Pohang	7.02	352	P	Pn	04 51 10.0 +4.3
	SNR=10.0					
KSGIC	Gimchen	7.15	344	P	Pn	04 51 11.1 +3.6
	SNR=5.9					
KSGIC	Gimchen	7.15	344	P	Pn	04 51 10.7 +3.2
	SNR=7.5					
KSGIC	Gimchen	7.15	344	P	Pn	04 51 10.7 +3.2
	SNR=7.5					
KSGIC	Gimchen	7.15	344	P	Pn	04 51 10.7 +3.2
	SNR=7.5					
KSGIC	Gimchen	7.15	344	P	Pn	04 51 11.1 +3.6
	SNR=5.9					
KSGIC	Gimchen	7.15	344	P	Pn	04 51 11.1 +3.6
	SNR=5.9					
KSJEO	Jeonju	7.25	338	P	Pn	04 51 14.0 +5.2
	SNR=6.0					
KSJEO	Jeonju	7.25	338	P	Pn	04 51 11.0 +2.1
	SNR=22					
KSJEO	Jeonju	7.25	338	P	Pn	04 51 11.0 +2.1
	SNR=22					
KSJEO	Jeonju	7.25	338	P	Pn	04 51 11.0 +2.1
	SNR=22					
KSJEO	Jeonju	7.25	338	P	Pn	04 51 11.0 +2.1
	SNR=22					
KSJEO	Jeonju	7.25	338	P	Pn	04 51 14.0 +5.2
	SNR=6.0					
JWT	Wachi	7.28	33		Pn	04 51 08.0 -1.4
KSEUS	ULSEONG	7.29	348	P	Pn	04 51 10.4 +1.1
	SNR=14					
KSEUS	ULSEONG	7.29	348	P	Pn	04 51 10.4 +1.1
	SNR=14					
KSEUS	ULSEONG	7.29	348	P	Pn	04 51 10.4 +1.1
	SNR=14					
KSEUS	ULSEONG	7.29	348	P	Pn	04 51 10.4 +1.1
	SNR=14					
SMKB	Mukjeong-gil	7.29	333	P	Pn	04 51 11.0 +1.5
	SNR=27					
SMKB	Mukjeong-gil	7.29	333	P	Pn	04 51 11.0 +1.5
	SNR=27					
SMKB	Mukjeong-gil	7.29	333	P	Pn	04 51 11.0 +1.5
	SNR=27					
SMKB	Mukjeong-gil	7.29	333	P	Pn	04 51 13.0 +3.5
	SNR=13					
SMKB	Mukjeong-gil	7.29	333	P	Pn	04 51 11.0 +1.5
	SNR=27					
KSADO	Andong	7.30	350	P	Pn	04 51 10.3 +0.8
	SNR=72					
KSADO	Andong	7.30	350	P	Pn	04 51 10.3 +0.8
	SNR=72					
KSADO	Andong	7.30	350	P	Pn	04 51 10.3 +0.8
	SNR=72					
KSADO	Andong	7.30	350	P	Pn	04 51 10.3 +0.8
	SNR=72					
KSCPR	CHUPUNGNYEONG	7.32	343	P	Pn	04 51 11.7 +1.9
	SNR=52					
KSCPR	CHUPUNGNYEONG	7.32	343	P	Pn	04 51 11.7 +1.9
	SNR=52					
KSCPR	CHUPUNGNYEONG	7.32	343	P	Pn	04 51 11.7 +1.9
	SNR=52					
KSSAJ	Sangju	7.45	345	P	Pn	04 51 15.7 +4.1
	SNR=11					
KSSAJ	Sangju	7.45	345	P	Pn	04 51 12.8 +1.2
	SNR=15					
KSSAJ	Sangju	7.45	345	P	Pn	04 51 12.8 +1.2
	SNR=15					
KSSAJ	Sangju	7.45	345	P	Pn	04 51 12.8 +1.2
	SNR=15					
KSSAJ	Sangju	7.45	345	P	Pn	04 51 15.7 +4.1
	SNR=11					
KSSAJ	Sangju	7.45	345	P	Pn	04 51 15.7 +4.1
	SNR=11					
OKCB	Cheongsan-myeo	7.48	342	P	Pn	04 51 14.0 +2.0
	SNR=17					
OKCB	Cheongsan-myeo	7.48	342	P	Pn	04 51 14.0 +2.0
	SNR=17					
OKCB	Cheongsan-myeo	7.48	342	P	Pn	04 51 14.0 +2.0
	SNR=17					
KSGUS	GUNSAN	7.51	336	P	Pn	04 51 15.8 +3.3
	SNR=7.3					
KSGUS	GUNSAN	7.51	336	P	Pn	04 51 15.8 +3.3
	SNR=7.3					
KSGUS	GUNSAN	7.51	336	P	Pn	04 51 15.8 +3.3
	SNR=7.3					
KSULJ	Uljin	7.52	353	P	Pn	04 51 13.3 +0.7
	SNR=14					
KSULJ	Uljin	7.52	353	P	Pn	04 51 13.3 +0.7
	SNR=14					
KSULJ	Uljin	7.52	353	P	Pn	04 51 13.3 +0.7
	SNR=14					
KSULJ	Uljin	7.52	353	P	Pn	04 51 13.3 +0.7
	SNR=14					
KSBON	Boeun	7.62	343	P	Pn	04 51 16.1 +2.0
	SNR=16					
KSBON	Boeun	7.62	343	P	Pn	04 51 16.1 +2.0
	SNR=16					
KSBON	Boeun	7.62	343	P	Pn	04 51 16.1 +2.0
	SNR=16					
KSMGY	Mungyeong	7.71	345	P	Pn	04 51 17.1 +1.9
	SNR=47					
KSMGY	Mungyeong	7.71	345	P	Pn	04 51 17.1 +1.9
	SNR=47					
KSMGY	Mungyeong	7.71	345	P	Pn	04 51 17.1 +1.9
	SNR=47					
JFM	Mihama	7.76	35	P	Pn	04 51 15.1 -0.8
KOJ2	Gongju-si	7.79	339	P	Pn	04 51 19.1 +2.9
	SNR=15					
KOJ2	Gongju-si	7.79	339	P	Pn	04 51 19.1 +2.9
	SNR=15					
KOJ2	Gongju-si	7.79	339	P	Pn	04 51 19.1 +2.9
	SNR=15					
UJN	ULJIN	7.81	353	P	Pn	04 51 15.8 -0.7
	SNR=27					
UJN	ULJIN	7.81	353	P	Pn	04 51 15.8 -0.7
	SNR=27					
UJN	ULJIN	7.81	353	P	Pn	04 51 15.8 -0.7
	SNR=27					
UJN	ULJIN	7.81	353	P	Pn	04 51 19.4 +2.9
	SNR=11					
PORA	Boryeong	7.86	335	P	Pn	04 51 21.0 +3.8
	SNR=7.0					
PORA	Boryeong	7.86	335	P	Pn	04 51 21.0 +3.8
	SNR=7.0					
PORA	Boryeong	7.86	335	P	Pn	04 51 21.0 +3.8
	SNR=7.0					
KSCHJ	Chungju	7.94	345	P	Pn	04 51 22.0 +3.7
	SNR=8.4					
KSCHJ	Chungju	7.94	345	P	Pn	04 51 20.0 +1.7
	SNR=29					
KSCHJ	Chungju	7.94	345	P	Pn	04 51 20.0 +1.7
	SNR=29					
KSCHJ	Chungju	7.94	345	P	Pn	04 51 20.0 +1.7
	SNR=29					
KSCHJ	Chungju	7.94	345	P	Pn	04 51 22.0 +3.7
	SNR=8.4					
KSCHJ	Chungju	7.94	345	P	Pn	04 51 22.0 +3.7
	SNR=8.4					
KSTBA	Taebaek	8.00	351	P	Pn	04 51 20.0 +0.8
	SNR=32					
KSTBA	Taebaek	8.00	351	P	Pn	04 51 20.0 +0.8
	SNR=32					
KSTBA	Taebaek	8.00	351	P	Pn	04 51 20.0 +0.8
	SNR=32					
IMWB	Imwonan-gil	8.06	353	P	Pn	04 51 25.0 +5.0
	SNR=9.9					
IMWB	Imwonan-gil	8.06	353	P	Pn	04 51 21.0 +1.1
	SNR=17					
IMWB	Imwonan-gil	8.06	353	P	Pn	04 51 21.0 +1.1
	SNR=17					
IMWB	Imwonan-gil	8.06	353	P	Pn	04 51 21.0 +1.1
	SNR=17					
IMWB	Imwonan-gil	8.06	353	P	Pn	04 51 25.0 +5.0
	SNR=9.9					
IMWB	Imwonan-gil	8.06	353	P	Pn	04 51 25.0 +5.0
	SNR=9.9					
KSCEA	Cheonan	8.08	341	P	Pn	04 51 22.7 +2.5
	SNR=11					
KSCEA	Cheonan	8.08	341	P	Pn	04 51 22.7 +2.5
	SNR=11					
KSCEA	Cheonan	8.08	341	P	Pn	04 51 20.7 +0.5
	SNR=24					
KSCEA	Cheonan	8.08	341	P	Pn	04 51 22.7 +2.5
	SNR=11					
KSCEA	Cheonan	8.08	341	P	Pn	04 51 20.7 +0.5
	SNR=24					
KSYOW	Yeongwol	8.13	348	P	Pn	04 51 24.7 +3.8
	SNR=19					
KSYOW	Yeongwol	8.13	348	P	Pn	04 51 22.0 +1.1
	SNR=9.1					
KSYOW	Yeongwol	8.13	348	P	Pn	04 51 22.0 +1.1
	SNR=9.1					
KSYOW	Yeongwol	8.13	348	P	Pn	04 51 22.0 +1.1
	SNR=9.1					
KSYOW	Yeongwol	8.13	348	P	Pn	04 51 24.7 +3.8
	SNR=19					
KSYOW	Yeongwol	8.13	348	P	Pn	04 51 24.7 +3.8
	SNR=19					
INU	Inuyama	8.17	40		Pn	04 51 20.9 -0.7
JYTA	Yamagatataniai	8.20	38	P	Pn	04 51 21.2 -0.7
YOJ	Yonaguni jima	8.27	237	P	Pn	04 51 19.5 -3.4
YOJ	Yonaguni jima	8.27	237		Pn	04 51 19.5 -3.4
PYTK	Pyeongtaek	8.27	340	P	Pn	04 51 24.4 +1.6
	SNR=7.0					
PYTK	Pyeongtaek	8.27	340	P	Pn	04 51 24.4 +1.6
	SNR=7.0					
PYTK	Pyeongtaek	8.27	340	P	Pn	04 51 26.1 +3.3
	SNR=9.7					
KSSES	Seosan	8.30	336	P	Pn	04 51 26.0 +2.7
	SNR=12					
KSSES	Seosan	8.30	336	P	Pn	04 51 26.0 +2.7
	SNR=12					
KSSES	Seosan	8.30	336	P	Pn	04 51 26.0 +2.7
	SNR=12					
SSE	Sheshan	8.36	285	P	Pn	04 51 21.4 -2.6
SSE				PP		04 51 29.0
SSE				S	Sn	04 52 57.8 +0.8
SSE				pmax	pmax	
	comp=Z,170nm,4.1s					
KSWJU	Wonju	8.43	346	P	Pn	04 51 30.0 +4.9
	SNR=15					
KSWJU	Wonju	8.43	346	P	Pn	04 51 26.1 +1.0
	SNR=19					
KSWJU	Wonju	8.43	346	P	Pn	04 51 26.1 +1.0
	SNR=19					
KSWJU	Wonju	8.43	346	P	Pn	04 51 26.1 +1.0
	SNR=19					
KSWJU	Wonju	8.43	346	P	Pn	04 51 30.0 +4.9
	SNR=15					
KSWJU	Wonju	8.43	346	P	Pn	04 51 30.0 +4.9
	SNR=15					
JSG	Sagara	8.43	48		Pn	04 51 23.7 -1.3
HAWB	Hwaseong-si	8.47	339	P	Pn	04 51 29.0 +3.5
	SNR=9.6					
HAWB	Hwaseong-si	8.47	339	P	Pn	04 51 29.0 +3.5
	SNR=9.6					
HAWB	Hwaseong-si	8.47	339	P	Pn	04 51 29.0 +3.5
	SNR=9.6					
KSICN	Icheon	8.47	343	P	Pn	04 51 27.7 +2.1
	SNR=15					
KSICN	Icheon	8.47	343	P	Pn	04 51 27.7 +2.1
	SNR=15					
KSICN	Icheon	8.47	343	P	Pn	04 51 27.7 +2.1
	SNR=15					
KSAR	Wonju Array Be	8.50	345	P	Pn	04 51 25.9 -0.1
KSAR	Wonju Array Be	8.50	345		Pn	04 51 25.9 -0.1
KSGBI	Gyogryolbido	8.51	331	P	Pn	04 51 29.8 +3.8
	SNR=10					
KSGBI	Gyogryolbido	8.51	331	P	Pn	04 51 27.7 +1.6
	SNR=22					
KSGBI	Gyogryolbido	8.51	331	P	Pn	04 51 27.7 +1.6
	SNR=22					
KSGBI	Gyogryolbido	8.51	331	P	Pn	04 51 29.8 +3.8
	SNR=10					
KSGBI	Gyogryolbido	8.51	331	P	Pn	04 51 27.7 +1.6
	SNR=22					
KSGBI	Gyogryolbido	8.51	331	P	Pn	04 51 29.8 +3.8
	SNR=10					
KSRS	Korea Array	8.51	345	Pn	Pn	04 51 26.8 +0.7
	2.2nm,0.3s,baz=164,slow=14,SNR=66					
KSRS				Sn	Sn	04 53 09.1 +8.5
	baz=167,slow=27,SNR=2.1					
KSRS				LR	LR	04 54 59.3
	comp=Z,13μm,18.8s,baz=164,slow=41					
JGF	Kuroka	8.55	40		Pn	04 51 25.3 -1.4
KS19	Wonju Array Si	8.56	345		Pn	04 51 25.8 -1.1
KSSWO	Suwon	8.57	340	P	Pn	04 51 29.7 +2.7
	SNR=22					
KSSWO	Suwon	8.57	340	P	Pn	04 51 29.1 +2.1
	SNR=22					
KSSWO	Suwon	8.57	340	P	Pn	04 51 29.1 +2.1
	SNR=22					
SHZ3	Shizuoka 3	8.69	46	P	Pn	04 51 28.1 -0.6
SHHB	Siheung-si	8.73	339	P	Pn	04 51 33.0 +3.9
	SNR=6.6					
SHHB	Siheung-si	8.73	339	P	Pn	04 51 32.0 +2.8
	SNR=16					
SHHB	Siheung-si	8.73	339	P	Pn	04 51 32.0 +2.8
	SNR=16					
SHHB	Siheung-si	8.73	339	P	Pn	04 51 32.0 +2.8
	SNR=16					
SHHB	Siheung-si	8.73	339	P	Pn	04 51 33.0 +3.9
	SNR=6.6					
KSJMJ	Jumunjin	8.77	350	P	Pn	04 51 34.5 +4.8
	SNR=7.9					
KSJMJ	Jumunjin	8.77	350	P	Pn	04 51 34.5 +4.8
	SNR=7.9					
KSJMJ	Jumunjin	8.77	350	P	Pn	04 51 34.5 +4.8
	SNR=7.9					
JHJ	Hachijo jima 2	8.78	61	Pn	Pn	04 51 29.5 -0.3
	49nm,0.3s,baz=246,slow=20,SNR=12					
JHJ				LR	LR	04 54 32.2
	comp=Z,7μm,20.3s,baz=259,slow=35					
KSSEO	Seoul	8.79	341	P	Pn	04 51 32.7 +2.7
	SNR=15					
KSSEO	Seoul	8.79	341	P	Pn	04 51 33.0 +3.0
	SNR=15					
KSSEO	Seoul	8.79	341	P	Pn	04 51 32.7 +2.7
	SNR=15					
KSSEO	Seoul	8.79	341	P	Pn	04 51 33.0 +3.0
	SNR=15					
KSSEO	Seoul	8.79	341	P	Pn	04 51 32.7 +2.7
	SNR=15					
KSSEO	Seoul	8.79	341	P	Pn	04 51 33.0 +3.0
	SNR=15					
KSCHC	Chuncheon	8.84	346	P	Pn	04 51 35.0 +4.3
	SNR=12					
KSCHC	Chuncheon	8.84	346	P	Pn	04 51 33.0 +2.3
	SNR=19					
KSCHC	Chuncheon	8.84	346	P	Pn	04 51 33.0 +2.3
	SNR=19					
KSCHC	Chuncheon	8.84	346	P	Pn	04 51 33.0 +2.3
	SNR=19					
KSCHC	Chuncheon	8.84	346	P	Pn	04 51 35.0 +4.3
	SNR=12					
KSCHC	Chuncheon	8.84	346	P	Pn	04 51 35.0 +4.3
	SNR=12					
KSDEI	Deokjeokdo	8.85	336	P	Pn	04 51 31.8 +1.1
	SNR=37					
KSDEI	Deokjeokdo	8.85	336	P	Pn	04 51 31.8 +1.1
	SNR=37					
KSDEI	Deokjeokdo	8.85	336	P	Pn	04 51 30.9 +0.2
	SNR=26					
KSDEI	Deokjeokdo	8.85	336	P	Pn	04 51 31.8 +1.1
	SNR=37					
KSDEI	Deokjeokdo	8.85	336	P	Pn	04 51 30.9 +0.2
	SNR=26					
KSSOD	Songwoldong	8.86	341	P	Pn	04 51 33.6 +2.7
	SNR=8.7					

KSSOD **Songwoldong** 8.86 341 P **Pn** 04 51 33.6 +2.7
SNR=8.7
KSSOD **Songwoldong** 8.86 341 P **Pn** 04 51 33.6 +2.7
SNR=8.7
INCN **Inchon** 8.88 339 P **Pn** 04 51 31.6 +0.4
INCN **Inchon** 8.88 339 Pn **Pn** 04 51 31.6 +0.4
KSIJA **INJE** 8.98 347 P **Pn** 04 51 36.3 +3.7
SNR=13
KSIJA **INJE** 8.98 347 P **Pn** 04 51 36.3 +3.7
SNR=13
KSIJA **INJE** 8.98 347 P **Pn** 04 51 36.3 +3.7
SNR=13
JGN **Niukaw** 8.98 37 P **Pn** 04 51 31.9 -0.8
KSDDC **Dongducheon** 9.14 342 P **Pn** 04 51 37.3 +2.6
SNR=13
KSDDC **Dongducheon** 9.14 342 P **Pn** 04 51 37.3 +2.6
SNR=13
KSGAH **Ganghwa** 9.14 339 P **Pn** 04 51 37.3 +2.6
SNR=38
KSGAH **Ganghwa** 9.14 339 P **Pn** 04 51 37.3 +2.6
SNR=38
KSGAH **Ganghwa** 9.14 339 P **Pn** 04 51 37.3 +2.6
SNR=38
JHTM **Izuhatsuma** 9.14 49 P **Pn** 04 51 34.6 -0.2
TATO **Taipei** 9.15 245 Pn **Pn** 04 51 33.6 -1.3
KSCWO **Cheorwon** 9.20 345 P **Pn** 04 51 37.6 +2.1
SNR=15
KSCWO **Cheorwon** 9.20 345 P **Pn** 04 51 37.6 +2.1
SNR=15
KSCWO **Cheorwon** 9.20 345 P **Pn** 04 51 37.6 +2.1
SNR=15
KSSKC **Sokcho** 9.20 350 P **Pn** 04 51 37.2 +1.6
SNR=26
KSSKC **Sokcho** 9.20 350 P **Pn** 04 51 37.2 +1.6
SNR=26
KSMUS **Musan** 9.21 341 P **Pn** 04 51 38.0 +2.2
SNR=10
KSMUS **Musan** 9.21 341 P **Pn** 04 51 37.9 +2.2
SNR=16
KSMUS **Musan** 9.21 341 P **Pn** 04 51 37.9 +2.2
SNR=16
SEHB **SEOHWA** 9.23 348 P **Pn** 04 51 37.7 +1.7
SNR=17
SEHB **SEOHWA** 9.23 348 P **Pn** 04 51 37.7 +1.7
SNR=17
SEHB **SEOHWA** 9.23 348 P **Pn** 04 51 37.7 +1.7
SNR=17
SEHB **SEOHWA** 9.23 348 P Pn 04 51 41.4 +5.4
SNR=10
SEHB **SEOHWA** 9.23 348 P Pn 04 51 41.4 +5.4
SNR=10
HWCB **Hwacheon** 9.30 346 P **Pn** 04 51 38.5 +1.6
SNR=11
HWCB **Hwacheon** 9.30 346 P **Pn** 04 51 38.5 +1.6
SNR=11
HWCB **Hwacheon** 9.30 346 P **Pn** 04 51 38.5 +1.6
SNR=11
HWCB **Hwacheon** 9.30 346 P **Pn** 04 51 41.0 +4.1
SNR=10
HWCB **Hwacheon** 9.30 346 P **Pn** 04 51 41.0 +4.1
SNR=10
YNCB **YEONCHEON** 9.31 342 P **Pn** 04 51 38.8 +1.8
SNR=33
YNCB **YEONCHEON** 9.31 342 P **Pn** 04 51 38.8 +1.8
SNR=33
JOD2 **Odawara 2** 9.38 48 P **Pn** 04 51 38.1 +0.1
YHNB **Yeheng** 9.39 243 **Pn** 04 51 36.2 -2.1
JNG **Nsakai** 9.54 39 P **Pn** 04 51 40.6 +0.2
MAJO **Matsushiro** 9.70 39 *ce*P **Pn** 04 51 42.9 +0.4
MAJO pmax pmax
comp=Z,33nm,1.0s
MAJO **Matsushiro** 9.70 39 Pn **Pn** 04 51 41.0 -1.4
MAT **Matsushiro** 9.70 39 P **Pn** 04 51 41.7 -0.8
MAT *e*S **Sn** 04 53 29.6 -0.4
MJAR **Matsushiro Arr** 9.70 39 Pn **Pn** 04 51 41.2 -1.3
comp=Z,1.0nm,0.3s,baz=248,slow=23,SNR=22
MJAR **Matsushiro Arr** 9.70 39 P **Pn** 04 51 41.4 -1.1
MJAR **Matsushiro Arr** 9.70 39 **Pn** 04 51 41.4 -1.1
KSBAR **Backryungdo** 10.01 332 P Pn 04 51 51.2 +4.6
SNR=8.3
YULB **Yu-li** 10.16 237 Pn 04 51 43.0 -5.8
SSLB **Suanglung** 10.19 240 **Pn** 04 51 45.5 -3.7
JAG **Ashikaga** 10.34 44 P **Pn** 04 51 51.7 +0.5
JCJ **Chichijima** 10.45 99 Pn **Pn** 04 51 52.3 -0.4
comp=Z,58nm,0.3s,baz=226,slow=0.9,SNR=45
JCJ Sn **Sn** 04 53 45.6 -2.7
comp=Z,7.0nm,0.3s,baz=8.0,slow=23,SNR=3.1
JCJ **Chichijima** 10.45 99 Pn **Pn** 04 51 48.9 -3.8
NJ2 **Nanjing** 10.50 288 ⇓P **Pn** 04 51 52.9 -0.4
NJ2 S **Sn** 04 53 53.4 +3.9
NJ2 pmax pmax
comp=Z,160nm,0.7s
NJ2 pmax pmax
comp=Z,840nm,3.5s
NJ2 LR LR
comp=Z,4μm,13.7s
NJ2 LR LR
comp=Z,15μm,15.6s
NJ2 LR LR
comp=Z,18μm,16.1s
TWG **Pinlang** 10.67 235 Pn 04 51 48.5 -7.4
JYT **Yasato** 10.68 47 **Pn** 04 51 55.5 -0.3
TPUB **Ta-pu** 10.71 239 **Pn** 04 51 52.7 -3.6
JSD **Sado** 10.86 34 Pn **Pn** 04 51 54.6 -3.7
QZH **Quanzhou** 11.51 251 ⇑*i*P **Pn** 04 52 06.7 -0.5
QZH S **Sn** 04 54 12.7 -1.6
QZH SS **SnSn** 04 54 28.3 +1.8
QZH pmax pmax
comp=Z,98nm,1.6s
QZH pmax pmax
comp=Z,890nm,4.3s
QZH LR LR
comp=Z,6μm,17.5s
QZH LR LR
comp=Z,5μm,17.1s
QZH LR LR
comp=Z,7μm,16.6s
KNMB **Chin-men Tao** 11.88 249 Pn **Pn** 04 52 11.6 -0.7
JMM **Marumori** 12.10 42 **Pn** 04 52 13.0 -2.3
DL2 **Dalian** 12.18 325 ⇑*i*P **Pn** 04 52 17.0 +0.7
DL2 S **Sn** 04 54 37.2 +6.7
DL2 pmax pmax
comp=Z,90nm,1.3s
DL2 pmax pmax
comp=Z,1μm,3.7s
DL2 LR LR
comp=Z,14μm,13.2s
DL2 LR LR
comp=Z,11μm,14.4s
DL2 LR LR
comp=Z,18μm,16.5s
TIA **Tai'an** 13.30 305 ⇓P **Pn** 04 52 33.0 +1.3
TIA pmax pmax
comp=Z,24nm,0.6s
TIA pmax pmax
comp=Z,1μm,5.9s
TIA LR LR
comp=Z,9μm,12.5s
TIA LR LR
comp=Z,12μm,13.6s
TIA LR LR
comp=Z,20μm,14.5s
MSHR **Mys Shultsa** 13.34 2 *i* P **Pn** 04 52 30.5 -1.5
SNY **Shenyang** 13.80 338 ⇑P **Pn** 04 52 38.9 +0.5
SNY S S 04 55 20.4 -10
SNY pmax pmax
comp=Z,58nm,2.8s
SNY LR LR
comp=Z,13μm,14.7s
SNY LR LR
comp=Z,4μm,10.0s
SNY LR LR
comp=Z,20μm,14.7s
WHN **Wuhan** 14.16 279 ⇑P **Pn** 04 52 42.6 -0.6
WHN sP **P** 04 52 51.2 +1.7
WHN S **Sn** 04 55 26.9 +8.1
WHN pmax pmax
comp=Z,2μm,3.1s
WHN LR LR
comp=Z,9μm,11.4s
WHN LR LR
comp=Z,21μm,15.3s
WHN LR LR
comp=Z,23μm,16.6s
JTM **Tenmabayashi** 14.36 34 Pn **Pn** 04 52 41.7 -4.3
USA0B **Ussuriysk Arra** 14.99 4 P **Pn** 04 52 52.0 -2.1
USA0B **Ussuriysk Arra** 14.99 4 Pn **Pn** 04 52 52.0 -2.1
USRK **Ussuriysk Ar.** 14.99 4 Pn **Pn** 04 52 54.5 +0.3
baz=190,slow=13,SNR=5.4
USRK LR LR 04 58 37.3
comp=Z,4μm,21.3s,baz=169,slow=38
CN2 **Changchun** 15.12 346 *e*P **Pn** 04 52 55.8 0.0
CN2 *ep*P P 04 52 59.8 -0.3
CN2 PP **pP** 04 53 09.2 -2.1
CN2 S **Sn** 04 55 44.3 +2.2
CN2 pmax pmax
comp=Z,500nm,4.0s
CN2 LR LR
comp=Z,14μm,14.0s
CN2 LR LR
comp=Z,4μm,14.0s
CN2 LR LR
comp=Z,15μm,14.0s
MDJ **Mudanjiang** 15.38 357 P **Pn** 04 52 58.7 -0.5
MDJ S **Sn** 04 55 53.5 +5.0
MDJ LR LR
comp=Z,4μm,18.7s
MDJ LR LR
comp=Z,4μm,14.0s
MDJ LR LR
comp=Z,6μm,16.1s
MDJ **Mudanjiang** 15.38 357 Pn **Pn** 04 52 56.3 -2.9
BJT **Baijiatuan** 16.01 316 P **Pn** 04 53 06.1 -1.2
BJT pmax pmax
comp=Z,126nm,1.0s
BJT **Baijiatuan** 16.01 316 Pn **Pn** 04 53 06.1 -1.2
BJI **Beijing** 16.02 316 P **Pn** 04 53 06.9 -0.5
BJI S **Sn** 04 56 04.3 +0.4
BJI pmax pmax
comp=Z,37nm,0.9s
BJI pmax pmax
comp=Z,2μm,3.6s
BJI LR LR
comp=Z,14μm,14.6s
BJI LR LR
comp=Z,9μm,14.6s
BJI LR LR
comp=Z,19μm,15.6s
JEW **Eniwo** 16.16 30 Pn **Pn** 04 53 06.5 -2.6
JEW IAmb IAmb 04 53 32.3
comp=Z,212nm,0.9s
TEY **Ternei** 16.48 15 ⇑*e*P **P** 04 53 15.2 0.0
TEY pmax pmax
comp=N,40nm,1.1s
TEY pmax pmax
comp=E,10.0nm,1.1s
TEY pmax pmax
comp=Z,50nm,1.0s
TIY **Taiyuan** 17.34 304 *e*P **P** 04 53 26.0 +1.2
TIY S **S** 04 56 45.7 +3.1
TIY SS Sn 04 56 58.3 +22
TIY pmax pmax
comp=Z,71nm,0.6s
TIY pmax pmax
comp=Z,1μm,4.1s
TIY LR LR
comp=Z,8μm,13.3s
TIY LR LR
comp=Z,8μm,16.1s
TIY LR LR
comp=Z,12μm,15.6s
ASAJ **Asahikawa** 17.68 30 P **Pn** 04 53 25.6 -2.5
comp=Z,2.5nm,0.3s,baz=209,slow=12,SNR=10
ASAJ LR LR 05 00 33.8
comp=Z,7μm,21.0s,baz=216,slow=38
JKA **Kamikawa-asahi** 17.68 30 Pn **Pn** 04 53 25.0 -3.1
ENH **Enshi** 18.36 278 P **P** 04 53 32.7 -3.4
ENH IAmb IAmb 04 53 47.8
comp=Z,229nm,1.0s
SARN **Sarigan** 18.71 128 P **Pn** 04 53 43.5 +2.7
ANA2 **Anatahan** 18.91 129 P **P** 04 53 39.7 -2.5
RCP **Roxas** 19.04 204 ⇑*e*P **Pn** 04 53 45.9 +1.2
XAN **Xi'an** 19.06 290 P **P** 04 53 42.4 -1.4
XAN pP pP 04 53 51.8 -3.2
XAN sP sP 04 53 55.5 -5.8
XAN S **S** 04 57 17.4 0.0
XAN sS Sn 04 57 23.9 +6.2
XAN pmax pmax
comp=Z,470nm,0.9s
XAN pmax pmax
comp=Z,340nm,4.7s
XAN LR LR
comp=Z,6μm,12.4s
XAN LR LR
comp=Z,6μm,12.4s
XAN LR LR
comp=Z,6μm,11.0s
XAN **Xi'an** 19.06 290 P **P** 04 53 42.4 -1.4
XAN **Xi'an** 19.06 290 P **P** 04 53 42.4 -1.4
YUK **Yuzh-Kuril'sk** 19.15 35 *e*P **Pn** 04 53 50.3 +4.4
YUK pmax pmax
comp=Z,551nm,1.3s
YUK MLR MLR
comp=Z,3μm,20.0s
YUK MLR MLR
comp=N,4μm,17.0s
HHC **Hu-ho-hao-te** 19.38 312 *e*P **P** 04 53 47.6 +0.3
HHC pP Pn 04 53 51.3 +2.5
HHC sP pP 04 53 54.5 -4.1
HHC S **S** 04 57 20.3 -3.6
HHC sS Sn 04 57 26.0 +0.6
HHC pmax pmax
comp=N,62nm,1.2s
HHC pmax pmax
comp=N,680nm,5.1s
HHC LR LR
comp=N,5μm,17.3s
HHC LR LR
comp=N,9μm,17.3s
HHC LR LR
comp=N,12μm,16.5s
LLP **Lapu-Lapu** 19.81 200 ⇓*e*P **Pn** 04 53 53.5 -0.4
KLR **Kul'dur** 20.00 2 P **P** 04 53 52.0 -1.7
comp=N,4.4nm,0.3s,baz=185,slow=7.1,SNR=164
KLR LR LR 05 01 34.3
comp=N,3μm,21.0s,baz=182,slow=37
KLR **Kul'dur** 20.00 2 *i* P **P** 04 53 52.1 -1.7
KLR pmax pmax
comp=Z,32nm,0.7s
YSS **Yuzh-Sakhalins** 20.08 25 *ce*P Pn 04 53 55.7 -1.1
YSS *e*S Sn 04 57 41.3 -0.6
YSS pmax pmax
comp=Z,600nm,2.8s
YSS pmax pmax
comp=Z,160nm,1.0s
YSS smax smax
comp=E,1μm,6.6s
YSS MLR MLR
comp=Z,3μm,16.0s
YSS MLR MLR
comp=E,2μm,15.0s
YSS **Yuzh-Sakhalins** 20.08 25 P **P** 04 53 53.4 -1.3
YSS IAmb IAmb 04 54 07.4
comp=Z,173nm,1.0s
BTO **Baotou** 20.28 309 *e*P Pn 04 54 00.2 +0.7
BTO S **S** 04 57 42.2 +0.3
BTO LR LR
comp=Z,28μm,17.1s
BTO LR LR
comp=Z,24μm,14.7s
GUMO **Guam** 20.43 137 P Pn 04 54 01.3 +0.1
comp=Z,343nm,1.0s,baz=271,slow=7.6,SNR=10
GUMO LR LR 05 00 55.9
comp=Z,2μm,18.0s,baz=319,slow=34
GUMO **Guam** 20.43 137 P **P** 04 53 59.2 +0.5
GUMO pmax pmax
comp=Z,993nm,1.5s
GUMO **Guam** 20.43 137 **P** 04 53 59.1 +0.5
GUMO **Guam** 20.43 137 P Pn 04 54 01.4 +0.2
SNPH **Sibulan** 20.95 201 *e*P **P** 04 54 04.0 -0.4
KUR **Kuril'sk** 21.01 36 P **P** 04 54 04.1 -0.7
KUR *i* PPP PPP 04 54 26.6
KUR *e*S Sn 04 58 02.7 -1.6
KUR *i* SS **SnSn** 04 58 16.9 -3.0
KUR *i* SSS SSS 04 58 27.3
KUR pmax pmax
comp=Z,1μm,1.8s
KUR pmax pmax
comp=Z,415nm,1.3s
KUR pmax pmax
comp=E,193nm,1.6s
KUR pmax pmax
comp=N,143nm,1.2s
KUR MLR MLR
comp=Z,4μm,22.0s
KUR MLR MLR
comp=E,3μm,16.0s
GYA **Guiyang** 21.33 268 ⇓P **P** 04 54 08.8 +0.3
GYA pP pP 04 54 15.0 -4.8
GYA S **S** 04 58 00.4 -2.5
GYA SS **SnSn** 04 58 37.1 +9.0
GYA pmax pmax
comp=E,37nm,1.0s
GYA pmax pmax
comp=E,990nm,4.4s
GYA LR LR
comp=E,4μm,11.6s
GYA LR LR
comp=E,9μm,15.5s
GYA LR LR
comp=E,13μm,15.3s
QIZ **Qiongzhong** 21.45 246 P **P** 04 54 09.2 -0.6
QIZ S **S** 04 58 07.4 +2.2
QIZ pmax pmax
comp=E,46nm,1.3s
QIZ LR LR
comp=E,4μm,15.5s
QIZ LR LR
comp=E,2μm,18.4s
QIZ LR LR
comp=E,4μm,17.0s
QIZ **Qiongzhong** 21.45 246 P **P** 04 54 08.6 -1.1
HIA **Hailar** 21.66 340 P **P** 04 54 09.4 -2.4
HIA pmax pmax
comp=Z,24nm,1.0s
HIA **Hailar** 21.66 340 P **P** 04 54 09.3 -2.4
KCP **Kidapawan** 22.70 194 ⇓*i*P **P** 04 54 22.3 -0.9
CD2 **Chengdu** 23.27 281 ⇑P **P** 04 54 27.3 -1.5
CD2 sP pP 04 54 31.4 -9.1
CD2 S **S** 04 58 34.5 -3.0
CD2 sS sS 04 58 46.3 -11
CD2 pmax pmax
comp=Z,160nm,0.7s
CD2 pmax pmax
comp=Z,620nm,4.7s
CD2 LR LR
comp=Z,7μm,12.2s
CD2 LR LR
comp=Z,10μm,14.5s
CD2 LR LR
comp=Z,11μm,12.6s
TYV **Tymovskoe** 23.44 19 *e*P **P** 04 54 31.0 +0.8
TYV *e*S **S** 04 58 46.6 +6.8
TYV pmax pmax
comp=Z,400nm,2.0s
TYV pmax pmax
comp=Z,69nm,1.6s
TYV smax smax
comp=E,800nm,5.6s
TYV smax smax
comp=N,400nm,9.5s
LZH **Lanzhou** 23.49 294 ⇑P **P** 04 54 30.5 -0.6
LZH pP pP 04 54 34.1 -9.1
LZH sP sP 04 54 37.0 -12
LZH S **S** 04 58 36.5 -4.8
LZH sS sS 04 58 49.0 -12
LZH SS **SnSn** 04 59 29.1 +8.2
LZH pmax pmax
comp=N,46nm,1.0s
LZH pmax pmax
comp=N,490nm,4.9s
LZH LR LR
comp=N,3μm,15.2s
LZH LR LR
comp=N,11μm,15.2s
LZH LR LR
comp=N,9μm,14.1s
ZEA **Zeya** 24.61 355 *e*P **P** 04 54 38.8 -2.2
ZEA *e* 04 55 14.2
ZEA *e*PPP PPP 04 55 34.1
ZEA *e*S **S** 04 58 51.6 -7.0
ZEA *e*SS **SnSn** 04 59 58.0 +10
ZEA pmax pmax
comp=Z,50nm,0.9s
ZEA pmax pmax
comp=Z,100nm,3.5s
ZEA pmax pmax
comp=Z,200nm,6.5s
ZEA smax smax
comp=N,300nm,10.8s
ZEA MLR MLR
comp=E,700nm,15.0s
NKL **Nikolayevsk** 25.03 14 *e*P **P** 04 54 48.2 +3.5
NKL pmax pmax
comp=N,223nm,1.0s
NKL pmax pmax
comp=Z,56nm,1.0s
NKL MLR MLR
comp=N,15μm,14.0s
NKL MLR MLR
comp=Z,3μm,21.0s
KMI **Kunming** 25.09 267 ⇑P **P** 04 54 45.8 0.0
KMI pP pP 04 54 49.4 -8.8
KMI sP pwP 04 54 50.9 -7.3
KMI PP sP 04 55 24.3 +20
KMI S **S** 04 59 04.5 -2.7
KMI sS sS 04 59 13.3 -14
KMI SS **SnSn** 05 00 05.3 +5.1
KMI pmax pmax
comp=Z,79nm,0.8s
KMI pmax pmax
comp=Z,250nm,4.7s
KMI LR LR
comp=Z,4μm,15.0s
KMI LR LR
comp=Z,8μm,14.0s
KMI LR LR
comp=Z,10μm,14.2s
KMI **Kunming** 25.09 267 P **P** 04 54 45.8 0.0
KMI **Kunming** 25.09 267 P **P** 04 54 45.8 0.0
SLVN **Son La** 25.34 258 P **P** 04 54 46.2 -1.7
SGSI **Sangihe** 25.85 192 P **P** 04 54 52.2 -0.3
comp=Z,3μmcomp=Z,386nm,0.9s
ULN **Ulaanbaatar** 26.01 322 *i* P **P** 04 54 52.2 -1.7
ULN pmax pmax
comp=Z,26nm,1.2s
ULN **Ulaanbaatar** 26.01 322 P **P** 04 54 52.2 -1.7
ULN IAmb IAmb 04 55 12.4
comp=Z,106nm,1.4s
ULN **Ulaanbaatar** 26.01 322 P **P** 04 54 51.9 -2.0
comp=Z,3μmcomp=Z,233nm,0.7s
CIT **Chita** 26.06 336 *e*P **P** 04 54 50.8 -3.4
CIT *e* 04 55 02.0
CIT *e* 04 55 39.4
CIT *e* 04 55 51.6
CIT pmax pmax
comp=Z,94nm,1.3s
SONM **Songino Array** 26.35 322 P **P** 04 54 54.7 -2.2
comp=Z,31nm,0.7s,baz=139,slow=9.1,SNR=33
SONM LR LR 05 06 35.2
comp=Z,8μm,20.3s,baz=111,slow=40
SONM **Songino Array** 26.35 322 P **P** 04 54 54.8 -2.2
SONM pmax pmax
comp=Z,36nm,0.9s
SONM **Songino Array** 26.35 322 P **P** 04 54 54.8 -2.2
GTA **Gaotai** 27.26 300 *e*P **P** 04 55 04.1 -1.1
GTA pP pP 04 55 07.6 -10
GTA sP sP 04 55 10.8 -13
GTA S **S** 04 59 39.9 -1.2
GTA sS sS 04 59 52.2 -9.2
GTA pmax pmax
comp=Z,210nm,7.6s
GTA LR LR
comp=Z,4μm,16.7s
GTA LR LR
comp=Z,8μm,17.5s
GTA LR LR
comp=Z,10μm,16.5s
GAMI **Galela, Maluku** 27.37 186 P **P** 04 55 02.6 -3.6
comp=Z,95nm,1.0s
NONG **Nongkai** 27.42 252 P **P** 04 55 07.1 +0.4
comp=Z,5μmcomp=Z,29nm,0.9s
SPMM **Sapulut** 27.82 211 P **P** 04 55 12.0 +1.8
TNTI **Ternate** 28.46 187 P **P** 04 55 13.9 -2.0
TNTI IAmb IAmb 04 55 26.5
comp=Z,61nm,0.9s

TNTI **Ternate** 28.46 187 P P 04 55 17.6 +1.7
comp=Z,80nm,1.0s
KHON **Khomkaen** 28.55 249 P P 04 55 17.3 +0.5
comp=Z,6µmcomp=Z,54nm,0.8s
SKR **Severo-Kuril's** 28.77 35 eP P 04 55 18.0 -0.3
SKR eS S 05 00 07.8 +3.6
SKR pmax pmax
comp=Z,84nm,0.8s
SKR pmax pmax
comp=Z,300nm,3.3s
SKR pmax pmax
comp=Z,100nm,3.4s
SKR MLR MLR
comp=Z,600nm,16.0s
CHAI **Chaiyaphum** 29.46 249 P P 04 55 24.8 -0.1
comp=Z,48nm,0.8s
TOLI2 **Tolitoli** 29.48 200 P P 04 55 23.8 -1.2
TOLI2 IAmb IAmb 04 55 26.2
comp=Z,71nm,1.1s
ZAK **Zakamensk** 29.50 323 eP P 04 55 23.1 -1.9
ZAK pmax pmax
comp=Z,22nm,1.6s
SIJI **Sorong** 29.93 179 LR LR 05 05 36.8
comp=Z,2µm,21.4s,baz=360,slow=32
PHIT **Phitsanulok** 30.12 253 P P 04 55 30.6 -0.1
comp=Z,90nm,0.9s
IRK **Irkutsk** 30.14 327 eP P 04 55 28.4 -2.1
IRK pmax pmax
comp=Z,56nm,1.4s
LAMP **Lampang** 30.16 256 P P 04 55 31.9 +0.8
comp=Z,34nm,0.9s
SRAK **Srakaew** 30.45 246 P P 04 55 29.9 -3.6
comp=Z,5µmcomp=Z,577nm,0.9s
MPSI **Mapaga** 30.49 201 P P 04 55 35.7 +1.8
comp=Z,32nm,1.6s
CMMT **Chiang Mai** 30.62 257 P P 04 55 34.4 -0.7
comp=Z,566nmcomp=Z,18nm,0.7s
CMMT **Chiang Mai** 30.62 257 P P 04 55 33.9 -1.2
comp=Z,544nmcomp=Z,17nm,0.7s
CHTO **Chiang Mai** 30.62 257 P P 04 55 34.6 -0.6
CHTO pmax pmax
comp=Z,11nm,0.8s
CHTO **Chiang Mai** 30.62 257 P P 04 55 34.5 -0.6
comp=Z,289nmcomp=Z,18nm,0.7s
CHTO **Chiang Mai** 30.62 257 P P 04 55 34.6 -0.6
CHTO **Chiang Mai** 30.62 257 P P 04 55 33.7 -1.4
comp=Z,160nmcomp=Z,10nm,0.7s
CM09 **Chiang Mai Arr** 30.74 257 P P 04 55 39.9 +3.7
comp=Z,74nmcomp=Z,74nm,0.9s
CM04 **Chiang Mai Arr** 30.77 257 P P 04 55 37.3 +0.8
comp=Z,10nm,1.0s
CMAR **Chiang Mai Arr** 30.78 257 P P 04 55 36.0 -0.5
comp=Z,2.7nm,0.4s,baz=60,slow=7.2,SNR=11
CMAR LR LR 05 09 35.9
comp=Z,3µm,18.1s,baz=112,slow=40
CMAR **Chiang Mai Arr** 30.78 257 P P 04 55 36.0 -0.5
CMAR **Chiang Mai Arr** 30.78 257 P P 04 55 35.4 -1.1
CM01 **Chiang Mai Arr** 30.78 257 P P 04 55 41.6 +5.1
comp=Z,178nmcomp=Z,8.7nm,1.0s
CM02 **Chiang Mai Arr** 30.79 257 P P 04 55 37.5 +0.9
comp=Z,91nmcomp=Z,9.3nm,0.8s
CM05 **Chiang Mai Arr** 30.80 257 P P 04 55 40.3 +3.6
comp=Z,60nmcomp=Z,7.7nm,1.0s
CM13 **Chiang Mai Arr** 30.83 257 P P 04 55 40.6 +3.7
comp=Z,9.2nm,0.9s
BOD **Bodaibo** 30.84 343 eP P 04 55 34.2 -2.4
BOD pmax pmax
comp=Z,16nm,1.1s
PEA0B **Petropavlovsk-** 31.06 32 i P P 04 55 38.7 +0.1
PEA0B **Petropavlovsk-** 31.06 32 P P 04 55 38.2 -0.4
PETK **Petropavlovsk-** 31.06 32 P P 04 55 38.6 0.0
comp=Z,12nm,0.8s,baz=216,slow=9.0,SNR=21
PETK LR LR 05 08 19.8
comp=Z,2µm,20.8s,baz=227,slow=37
PETK **Petropavlovsk-** 31.06 32 P P 04 55 37.5 -1.1
SANI **Sanana** 31.41 189 P P 04 55 40.8 -1.2
comp=Z,1µmcomp=Z,59nm,0.9s
MOY **Mondy** 31.42 324 eP P 04 55 42.2 +0.3
MOY e 04 56 54.4
MOY pmax pmax
comp=Z,22nm,1.6s
PET **Petropavlovsk** 31.45 33 eP P 04 55 42.0 0.0
PET eS S 05 00 45.6 -0.7
PET pmax pmax
comp=Z,58nm,1.3s
PET pmax pmax
comp=Z,100nm,8.3s
PET pmax pmax
comp=Z,500nm,5.8s
PET MLR MLR
comp=Z,3µm,19.0s
PET **Petropavlovsk** 31.45 33 P P 04 55 41.0 -1.0
PET IAmb IAmb 04 55 43.9
comp=Z,105nm,1.5s
UTHA **Uthaitani** 31.73 251 P P 04 55 47.6 +2.7
comp=Z,18nm,0.9s
MHMT **Maesarieng** 31.77 257 P P 04 56 00.4 +15
SBUM **Sibu** 31.85 217 P P 04 55 47.0 +1.1
UMPA **Umpang Tak** 31.90 253 P P 04 55 48.6 +2.2
comp=Z,4µmcomp=Z,26nm,1.0s
FAKI **Fak Fak** 32.00 177 P P 04 55 46.1 -1.1
FAKI **Fak Fak** 32.00 177 P P 04 55 48.2 +1.0
comp=Z,3µmcomp=Z,293nm,1.2s
SMKI **Samarinda** 32.16 206 P P 04 55 52.1 +3.5
comp=Z,173nm,1.1s
MSAI **Masohi** 32.42 183 P P 04 55 49.6 -1.3
comp=Z,4µmcomp=Z,16nm,0.8s
KRAI **Karang Ratu** 32.43 184 P P 04 55 52.3 +1.4
comp=Z,30nm,0.7s
SRDT **SRDT** 32.63 250 P P 04 55 54.2 +1.4
comp=Z,26nm,1.5s
SRDT **SRDT** 32.63 250 P P 04 55 51.3 -1.5
comp=Z,25nm,1.5s
YAK **Yakutsk** 32.82 359 eP P 04 55 49.7 -4.2
YAK eS S 05 01 06.4 -0.9
YAK pmax pmax
comp=Z,35nm,0.9s
YAK pmax pmax
comp=N,18nm,1.0s
YAK smax smax
comp=E,95nm,1.5s
YAK smax smax
comp=N,67nm,1.6s
YAK MLR MLR
comp=Z,2µm,19.0s
YAK MLR MLR
comp=N,983nm,20.0s
YAK MLR MLR
comp=E,551nm,16.0s
YAK **Yakutsk** 32.82 359 P P 04 55 54.7 +0.8
YAK IAmb IAmb 04 56 05.4
comp=Z,34nm,0.6s
GENI **Genyem** 32.94 162 P P 04 55 58.4 +3.0
comp=Z,113nm,1.3s
PHET **Kaeng Krachan** 33.00 247 P P 04 55 57.2 +1.2
comp=Z,651nmcomp=Z,64nm,1.1s
MA2 **Magadan** 33.31 19 LR LR 05 10 51.1
comp=Z,1µm,18.2s,baz=194,slow=39
MA2 **Magadan** 33.31 19 i P P 04 55 57.5 -0.8
MA2 pmax pmax
comp=Z,23nm,0.8s
MA2 **Magadan** 33.31 19 P P 04 55 57.2 -1.1
MA2 IAmb IAmb 04 55 58.7
comp=Z,34nm,0.8s
MTKI **Muara Teweh, K** 33.54 209 P P 04 56 04.5 +3.8
comp=Z,5µmcomp=Z,25nm,0.6s
KSM **Kuching** 33.69 219 P P 04 56 04.0 +2.0
LSA **Lhasa** 34.23 281 P P 04 56 05.2 -2.0
LSA pmax pmax
comp=Z,19nm,1.0s
LSA **Lhasa** 34.23 281 P P 04 56 05.2 -2.0
SHL **Shillong** 34.46 273 P P 04 56 07.2 -1.7
SHL pmax pmax
comp=Z,45nm,0.6s
SHL **Shillong** 34.46 273 P P 04 56 07.2 -1.7
SHL IAmb IAmb 04 56 09.2
comp=Z,45nm,0.6s
SHL **Shillong** 34.46 273 eP P 04 56 07.0 -1.8
SHL IAmb IAmb 04 56 09.4
comp=Z,32nm,0.7s
H11S3 **WAKE ISLAND Hy** 34.57 100 T T 05 33 42.0
baz=284
H11S1 **WAKE ISLAND Hy** 34.57 100 T T 05 34 17.6
baz=284,slow=74
H11S2 **WAKE ISLAND Hy** 34.59 100 T T 05 34 15.7
baz=284,slow=74
KBKI **Kotabaru** 35.18 206 P P 04 56 15.3 +0.5
comp=Z,2µmcomp=Z,29nm,0.8s
KAPI **Kappang** 35.60 199 LR LR 05 12 43.7
comp=Z,260nm,19.6s,baz=40,slow=39
SKLT **Songkhla** 35.75 238 P P 04 56 22.1 +2.3
comp=Z,26nm,1.1s
SURT **Suratani** 35.99 242 P P 04 56 24.7 +2.8
comp=Z,39nmcomp=Z,3.3nm,1.0s
TRTT **Trang** 36.01 240 P P 04 56 23.6 +1.5
comp=Z,37nm,0.9s
SEY **Seymchan** 36.56 17 LR LR 05 11 58.4
comp=Z,2µm,21.5s,baz=204,slow=37
SEY **Seymchan** 36.56 17 i P P 04 56 26.5 +0.3
JRMM **Jerantut** 36.69 232 P P 04 56 29.0 +1.2
KULM **Kulim** 36.99 236 P P 04 56 32.0 +1.6
WMQ **Urumqi** 37.00 305 eP P 04 56 32.7 +2.4
WMQ LR LR
comp=Z,4µm,15.3s
WMQ LR LR
comp=Z,5µm,17.5s
WMQ LR LR
comp=Z,3µm,20.9s
IPM **Ipoh** 37.28 234 P P 04 56 34.0 +1.1
MMRI **Maumere** 38.49 193 P P 04 56 41.3 -1.7
MMRI IAmb IAmb 04 56 51.9
comp=Z,63nm,0.8s
EDFI **Ende, Flores** 38.72 194 P P 04 56 43.3 -1.7
comp=Z,334nmcomp=Z,20nm,1.4s
RABL **Rabaul** 39.15 144 P P 04 56 47.4 -1.2
SOEI **Soe** 39.23 190 P P 04 56 47.7 -1.6
SOEI **Soe** 39.23 190 P P 04 56 48.4 -0.9
comp=Z,2µmcomp=Z,212nm,1.0s
BATI **Baumata** 39.77 191 LR LR 05 13 03.0
comp=Z,464nm,21.0s,baz=11,slow=36
BATI **Baumata** 39.77 191 P P 04 56 51.8 -1.9
comp=Z,90nm,0.8s
PLAI **Plampang** 39.80 200 P P 04 56 52.9 -1.0
comp=Z,1µmcomp=Z,100nm,1.3s
GRJI **Gresik** 39.94 209 P P 04 56 56.0 +0.9
comp=Z,1µmcomp=Z,170nm,1.0s
PSI **Prapat** 39.95 235 P P 04 56 55.6 +0.2
comp=Z,8.0nm,0.6s,baz=354,slow=14,SNR=4.7
PSI **Prapat** 39.95 235 P P 04 56 55.7 +0.3
comp=Z,220nmcomp=Z,11nm,0.8s,comp=Z,450nm,0.8s,
comp=Z,23nm,1.4s
PSI P P 04 56 55.5 +0.2
comp=Z,220nmcomp=Z,11nm,0.8s,comp=Z,450nm,0.8s,
comp=Z,23nm,1.4s
KLNI **Mataram** 39.95 203 P P 04 56 54.9 -0.3
comp=Z,42nm,1.1s
TWSI **Taliwang, Sumb** 39.99 201 P P 04 56 54.8 -0.7
comp=Z,1µmcomp=Z,108nm,1.1s
RPSI **Rantau Prapat** 40.02 235 P P 04 56 55.4 -0.4
RPSI **Rantau Prapat** 40.02 235 P P 04 56 55.6 -0.2
BKNI **Bangkinang** 40.26 230 P P 04 56 57.7 -0.2
BKNI IAmb IAmb 04 57 08.9
comp=Z,216nm,1.4s
JAGI **Jajag, Banyuwa** 40.69 205 P P 04 57 01.1 -0.2
JAGI IAmb IAmb 04 57 02.5
comp=Z,64nm,1.0s
MNSI **Mandailing Nat** 40.91 232 P P 04 57 03.1 0.0
comp=Z,8µmcomp=Z,34nm,0.8s
SMRI **Semarang** 40.95 211 P P 04 57 04.3 +0.8
SMRI IAmb IAmb 04 57 05.6
comp=Z,57nm,0.9s
SJI **Sawahan** 40.98 209 P P 04 57 03.7 -0.1
comp=Z,3µmcomp=Z,131nm,1.4s
MKAR **Makanchi Array** 41.20 309 P P 04 57 04.7 -0.6
comp=Z,5.6nm,0.4s,baz=92,slow=9.6,SNR=0.8
MKAR PcP PcP 04 59 03.3 -0.3
comp=Z,6.8nm,0.7s,baz=92,slow=3.0,SNR=2.1
MKAR P3KP 05 28 10.7
comp=Z,0.7nm,0.8s,baz=173,slow=5.7,SNR=4.6
PWJI **Pagerwojo** 41.22 209 P P 04 57 05.2 -0.4
comp=Z,72nm,1.5s
ZALV **Zalesovo Beam** 41.22 320 P P 04 57 04.2 -1.1
comp=Z,6.2nm,0.4s,baz=108,slow=9.5,SNR=2.0
MTN **Manton Dam** 41.83 179 P P 04 57 09.4 -1.1
LHSI **Lahat** 41.89 223 P P 04 57 12.2 +1.0
comp=Z,63nm,1.2s
KPJI **Karang Pucung** 41.91 213 P P 04 57 12.2 +0.9
comp=Z,2µmcomp=Z,209nm,1.2s
GSI **Gunungsitoli** 41.95 235 P P 04 57 10.8 -1.0
GSI IAmb IAmb 04 57 30.0
comp=Z,102nm,1.1s
MDSI **Maura Dua** 42.03 221 P P 04 57 12.7 +0.3
comp=Z,869nmcomp=Z,56nm,1.7s
LEM **Lembang** 42.12 215 P P 04 57 15.2 +1.9
comp=Z,219nm,0.8s,baz=52,slow=4.3,SNR=36
MASI **Maura Aman, Be** 42.13 225 P P 04 57 14.2 +1.0
comp=Z,28µmcomp=Z,3µmcomp=Z,131nm,1.8s
AMKA **Amchitka** 42.27 44 P P 04 57 14.0 +0.2
SBJI **Serang** 42.29 218 P P 04 57 16.3 +1.9
comp=Z,8µmcomp=Z,378nm,1.3s
DBJI **Dramaga** 42.33 217 P P 04 57 15.5 +0.7
comp=Z,321nm,1.4s
TIXI **Tiksi** 42.48 359 P P 04 57 15.0 -0.4
comp=Z,7.1nm,0.4s,baz=142,slow=14,SNR=4.4
TIXI **Tiksi** 42.48 359 i P P 04 57 16.4 +1.1
TIXI **Tiksi** 42.48 359 P P 04 57 14.4 -0.9
CISI **Cisompet, Garu** 42.64 215 P P 04 57 16.8 -0.6
CISI **Cisompet, Garu** 42.64 215 P P 04 57 16.5 -0.9
comp=Z,49nm,1.0s
KURK **Kurchatov** 44.17 314 P P 04 57 28.6 -0.7
KURK **Kurchatov** 44.17 314 P P 04 57 28.6 -0.7
BILL **Bilibino** 44.18 18 eP P 04 57 29.0 -0.1
BILL e 04 57 35.6
BILL e 04 59 13.8
BILL ePPP PPP 04 59 49.4
BILL pmax pmax
comp=Z,34nm,1.0s
BILL MLR MLR
comp=Z,1µm,22.0s
BILL **Bilibino** 44.18 18 P P 04 57 28.7 -0.4
KURBB **Kurchatov Arra** 44.21 314 P P 04 57 28.6 -1.0
comp=Z,33nm,0.7s,baz=94,slow=9.1,SNR=13
KIWB **Kanaga Island** 44.53 44 P P 04 57 31.4 -0.7
COEN **Coen** 44.62 162 P P 04 57 33.2 +0.1
KNRA **Kununurra** 44.67 183 P P 04 57 33.6 0.0
ADK **Adak** 44.82 44 P P 04 57 32.4 -2.0
ADK pmax pmax
comp=Z,52nm,0.9s
ADK **Adak** 44.82 44 P P 04 57 32.4 -2.0
ADK IAmb IAmb 04 57 34.8
comp=Z,52nm,0.9s
GSTR **Great Sitkin T** 45.23 44 P P 04 57 36.1 -1.7
KSH **Kashi** 45.63 298 P P 04 57 43.8 +2.6
KSH pmax pmax
comp=Z,55nm,1.4s
ATKA **Atka Island** 46.39 44 P P 04 57 45.7 -1.1
AAK **Ala-Archa** 46.56 302 P P 04 57 48.7 +0.2
AAK pmax pmax
comp=Z,58nm,1.0s
AAK **Ala-Archa** 46.56 302 P P 04 57 48.7 +0.2
AAK IAmb IAmb 04 58 15.7
comp=Z,58nm,0.9s
FITZ **Fitzroy Crossi** 47.29 186 P P 04 57 54.2 +0.1
FITZ IAmb IAmb 04 58 09.9
comp=Z,35nm,0.9s
WRAB **Tennant Creek** 49.01 175 P P 04 58 07.3 -0.1
WRAB pmax pmax
comp=Z,70nm,1.1s
WRAB **Tennant Creek** 49.01 175 P P 04 58 07.2 -0.1
WRAB IAmb IAmb 04 58 09.2
comp=Z,70nm,1.1s
WRA **Warramunga Arr** 49.01 175 P P 04 58 07.8 +0.4
comp=Z,39nm,1.0s,baz=347,slow=6.7,SNR=58
WRA PcP PcP 04 59 32.1 +1.3
comp=Z,9.8nm,1.0s,baz=327,slow=2.3,SNR=1.5
WRA LR LR 05 17 26.3
comp=Z,553nm,21.7s,baz=5.0,slow=34
WRA **Warramunga Arr** 49.01 175 P P 04 58 07.8 +0.4
WB2 **Warramunga Arr** 49.02 175 P P 04 58 06.4 -1.0
WB2 IAmb IAmb 04 58 09.2
comp=Z,78nm,1.1s
WR0 **Warramunga Arr** 49.05 175 P P 04 58 07.0 -0.7
SPIA **Saint Paul Isl** 49.35 38 P P 04 58 10.1 +0.5
SPIA **Saint Paul Isl** 49.35 38 P P 04 58 09.2 -0.4
baz=262
NIKH **Nikolski High** 49.70 44 P P 04 58 12.6 +0.2
baz=266
GAMB **Gambell** 50.01 29 P P 04 58 14.9 +0.4
baz=255
UNV **Unalaska Valle** 51.16 43 P P 04 58 23.8 +0.5
baz=268
CTA **Charters Tower** 51.30 161 P P 04 58 25.9 +1.2
comp=Z,15nm,0.8s,baz=148,slow=18,SNR=3.7
CTAO **Charters Tower** 51.30 161 P P 04 58 25.8 +1.0
CTAO pmax pmax
comp=Z,68nm,1.4s
CTAO **Charters Tower** 51.30 161 P P 04 58 25.8 +1.0
CTAO IAmb IAmb 04 58 27.4
comp=Z,68nm,1.4s
PSA00 **Pilbara Seismi** 51.55 193 P P 04 58 26.9 +0.3
PSA00 IAmb IAmb 04 58 28.0
comp=Z,55nm,0.9s
TNA **Tin City** 52.02 28 P P 04 58 30.7 +1.1
TNA IAmb IAmb 04 58 42.9
comp=Z,80nm,1.2s
TNA **Tin City** 52.02 28 P P 04 58 30.7 +1.1
baz=257
AS31 **Alice Springs** 52.68 176 P P 04 58 34.7 -0.3
ASAR **Alice Springs** 52.68 176 P P 04 58 35.6 +0.6
comp=Z,22nm,1.0s,baz=352,slow=6.2,SNR=68
ASAR PcP PcP 04 59 45.8 +1.5
comp=Z,9.2nm,0.9s,baz=8.1,slow=4.2,SNR=4.4
ASAR LR LR 05 19 30.4
comp=Z,480nm,21.4s,baz=3.0,slow=34
ASAR **Alice Springs** 52.68 176 P P 04 58 35.5 +0.5
ANM **Nome** 52.89 29 P P 04 58 37.1 +1.0
baz=260
RDOG **Red Dog Mine** 54.47 25 P P 04 58 49.0 +1.4
RDOG IAmb IAmb 04 58 51.8
comp=Z,57nm,1.5s
RDOG **Red Dog Mine** 54.47 25 P P 04 58 49.6 +2.0
baz=260,SNR=5.3
CHNA **Chernabura Isl** 55.20 41 P P 04 58 52.8 -0.2
baz=272
CNBA **Chernabura Isl** 55.20 41 P P 04 58 52.9 -0.2
CNBA IAmb IAmb 04 58 55.1
comp=Z,71nm,1.0s
CHGN **Chignik** 55.81 40 P P 04 58 56.8 -0.5
baz=272
ARU **Arti** 56.38 321 LR LR 05 25 35.7
comp=Z,4µm,20.0s,baz=71,slow=39
SANVU **Saraoutou** 56.77 137 P P 04 59 05.8 +1.2
SANVU **Saraoutou** 56.77 137 P P 04 59 06.1 +1.4
N18K **Kilae Creek** 56.98 34 P P 04 59 06.2 +0.4
N18K IAmb IAmb 04 59 09.1
comp=Z,37nm,1.1s
N18K **Kilae Creek** 56.98 34 P P 04 59 06.6 +0.9
baz=272,SNR=9.5
SVW2 **Sparrevohn** 57.12 34 P P 04 59 07.9 +1.2
SVW2 IAmb IAmb 04 59 09.1
comp=Z,55nm,1.5s
O18K **Koktuh Hills** 57.35 35 P P 04 59 09.0 +0.6
O18K IAmb IAmb 04 59 10.8
comp=Z,83nm,1.1s
O18K **Koktuh Hills** 57.35 35 P P 04 59 09.5 +1.1
baz=273
CHIR **Chirikof Islan** 57.40 40 P P 04 59 08.8 +0.1
baz=275
L19K **White Mountain** 57.44 32 P P 04 59 10.0 +1.1
L19K IAmb IAmb 04 59 21.8
comp=Z,37nm,1.1s
L19K **White Mountain** 57.44 32 P P 04 59 09.8 +0.9
baz=272,SNR=11
M19K **Big River Lodg** 57.67 33 P P 04 59 12.2 +1.7
M19K **Big River Lodg** 57.67 33 P P 04 59 11.8 +1.3
baz=272,SNR=10
N19K **Bonanza Creek** 57.67 34 P P 04 59 11.8 +1.1
N19K **Bonanza Creek** 57.67 34 P P 04 59 11.8 +1.1
baz=273,SNR=6.2
J20K **Nowinta River** 57.72 30 P P 04 59 12.2 +1.4
J20K **Nowinta River** 57.72 30 P P 04 59 12.0 +1.2
baz=271,SNR=55
EIDS **Eidsvold** 57.74 158 P P 04 59 12.2 +0.8
EIDS IAmb IAmb 04 59 13.5
comp=Z,46nm,1.3s
K20K **Telida** 57.77 31 P P 04 59 12.6 +1.4
K20K IAmb IAmb 04 59 13.7
comp=Z,57nm,0.8s
K20K **Telida** 57.77 31 P P 04 59 12.4 +1.1
baz=272,SNR=38
O19K **Port Alsworth** 57.78 35 P P 04 59 12.6 +1.3
O19K IAmb IAmb 04 59 13.3
comp=Z,44nm,0.8s
O19K **Port Alsworth** 57.78 35 P P 04 59 12.4 +1.1
baz=273,SNR=11
IMAR **Indian Mountai** 57.87 28 P P 04 59 12.5 +0.6
L20K **Farewell, AK** 57.88 32 P P 04 59 13.1 +1.0
baz=272,SNR=20
SII **Sitkinak Islan** 58.13 39 P P 04 59 13.6 -0.3
baz=276
M20K **Styx River** 58.26 33 P P 04 59 16.2 +1.5
M20K IAmb IAmb 04 59 17.8
comp=Z,22nm,0.7s
M20K **Styx River** 58.26 33 P P 04 59 15.9 +1.2
baz=273
P19K **Oil Pt** 58.36 35 P P 04 59 16.0 +0.5
baz=274
CHUM **Lake Minchumin** 58.53 30 P P 04 59 17.8 +1.3
baz=273,SNR=35
RSO **Redoubt South** 58.54 34 P P 04 59 17.7 +0.8
OHAK **Old Harbor** 58.56 38 P P 04 59 16.9 +0.2
OHAK IAmb IAmb 04 59 17.3
comp=Z,33nm,0.7s
OHAK **Old Harbor** 58.56 38 P P 04 59 16.7 -0.1
baz=276
I21K **Tanana** 58.62 29 P P 04 59 18.8 +1.7
I21K **Tanana** 58.62 29 P P 04 59 18.4 +1.3
baz=272,SNR=10.0
O20K **Slope Mountain** 58.63 35 P P 04 59 17.8 +0.4
baz=275
PPLA **Purkeypile** 58.64 32 P P 04 59 18.7 +1.2
PPLA **Purkeypile** 58.64 32 P P 04 59 18.6 +1.1
baz=273,SNR=12
SPCR **Spurr Chakacha** 58.75 34 P P 04 59 18.9 +0.7
baz=274,SNR=6.2
KDAK **Kodiak Island** 58.88 38 P P 04 59 19.3 +0.3
comp=Z,44nm,0.6s,baz=288,slow=5.6,SNR=60
KDAK **Kodiak Island** 58.88 38 P P 04 59 19.2 +0.3
KDAK **Kodiak Island** 58.88 38 P P 04 59 18.9 -0.1
baz=276
SKT **Skwentna** 59.01 33 P P 04 59 18.8 -1.1
SKT IAmb IAmb 04 59 21.2
comp=Z,28nm,1.0s
SKT **Skwentna** 59.01 33 P P 04 59 20.0 +0.1
baz=274,SNR=10
BPAW **Bear Paw Mtn.** 59.11 30 P P 04 59 21.4 +0.9
BPAW IAmb IAmb 04 59 22.7
comp=Z,33nm,1.0s
BPAW **Bear Paw Mtn.** 59.11 30 P P 04 59 21.2 +0.7
baz=274,SNR=19
MLY **Manley** 59.16 29 P P 04 59 22.0 +1.1
MLY IAmb IAmb 04 59 23.1
comp=Z,34nm,0.9s
MLY **Manley** 59.16 29 P P 04 59 22.0 +1.1
baz=273
KTH **Kantishna Hill** 59.17 31 P P 04 59 22.0 +0.9
KTH IAmb IAmb 04 59 38.7
comp=Z,39nm,1.1s
KOUNC **Koumac, New Ca** 59.20 143 P P 04 59 23.8 +2.2
COLD **Coldfoot** 59.26 26 P P 04 59 22.6 +1.0
COLD **Coldfoot** 59.26 26 P P 04 59 22.2 +0.7
baz=273,SNR=10
SUA **Susitna One** 59.43 33 P P 04 59 23.6 +0.7
SUA **Susitna One** 59.43 33 P P 04 59 23.6 +0.7
baz=276,SNR=9.3
TOLK **Toolik Lake Re** 59.44 25 P P 04 59 24.0 +1.2
TOLK IAmb IAmb 04 59 24.9
comp=Z,46nm,1.2s
TOLK **Toolik Lake Re** 59.44 25 P P 04 59 23.4 +0.6
baz=272,SNR=9.0
TRF **Thorofare Moun** 59.46 31 P P 04 59 24.5 +1.3
TRF IAmb IAmb 04 59 39.6
comp=Z,28nm,1.2s
TRF **Thorofare Moun** 59.46 31 P P 04 59 23.1 -0.1
baz=275
BRLK **Bradley Lake** 59.54 35 P P 04 59 25.1 +1.5
BRLK IAmb IAmb 04 59 36.3
comp=Z,51nm,1.0s
CUT **Chulitna** 59.56 32 P P 04 59 24.3 +0.6
CUT **Chulitna** 59.56 32 P P 04 59 23.7 +0.1
baz=275
H23K **Yukon River** 59.60 28 P P 04 59 25.6 +1.6
H23K **Yukon River** 59.60 28 P P 04 59 25.3 +1.4
baz=274,SNR=40
MORW **Morawa** 59.61 195 P P 04 59 24.3 0.0
MORW IAmb IAmb 04 59 25.6
comp=Z,40nm,1.2s
BRSE **Bradley Lake S** 59.61 35 P P 04 59 25.8 +1.7
baz=276

GEYT **Alibeck** 59.64 299 LR LR 05 29 29.9
comp=Z,2µm,18.1s,baz=50,slow=40
FORT **Forrest** 59.72 183 P P 04 59 24.9 -0.1
I23K **Minto, Yukon-K** 59.73 29 P P 04 59 25.9 +1.1
I23K IAmb IAmb 04 59 37.5
comp=Z,46nm,1.3s
I23K **Minto, Yukon-K** 59.73 29 P P 04 59 25.6 +0.9
baz=274,SNR=11
BWN **Browne** 59.77 30 P P 04 59 26.7 +1.7
NEA2 **Nenana** 59.90 29 P P 04 59 26.6 +0.6
baz=275,SNR=46
RC01 **Rabbit Creek A** 59.95 34 P P 04 59 26.9 +0.5
RC01 **Rabbit Creek A** 59.95 34 P P 04 59 26.2 -0.2
baz=277
O22K **Cooper Landing** 60.03 34 P P 04 59 27.3 +0.4
O22K **Cooper Landing** 60.03 34 P P 04 59 26.8 -0.1
baz=277
MCK **McKinley** 60.04 30 P P 04 59 27.3 +0.3
MCK pmax pmax
comp=Z,36nm,0.8s
MCK **McKinley** 60.04 30 P P 04 59 27.3 +0.3
MCK IAmb IAmb 04 59 29.1
comp=Z,36nm,0.8s
MCK **McKinley** 60.04 30 P P 04 59 27.2 +0.2
baz=276,SNR=17
RND **Reindeer** 60.11 31 P P 04 59 27.6 +0.1
RND pmax pmax
comp=Z,80nm,0.8s
RND **Reindeer** 60.11 31 P P 04 59 27.6 +0.1
PMR **Palmer** 60.19 33 P P 04 59 28.3 +0.4
PMR pmax pmax
comp=Z,59nm,1.0s
PMR **Palmer** 60.19 33 P P 04 59 28.2 +0.4
PMR IAmb IAmb 04 59 29.1
comp=Z,59nm,1.0s
PMR **Palmer** 60.19 33 P P 04 59 27.7 -0.2
baz=277,SNR=9.5
SEW **Seward** 60.21 35 P P 04 59 28.3 +0.2
SEW **Seward** 60.21 35 P P 04 59 28.1 -0.1
baz=277,SNR=9.9
MDM **Murphy Dome** 60.22 29 P P 04 59 28.9 +0.7
GHO **Glory Hole Cre** 60.26 33 P P 04 59 29.2 +0.7
GHO IAmb IAmb 04 59 30.9
comp=Z,57nm,1.1s
H24K **Noodor Dome** 60.28 28 P P 04 59 30.0 +1.4
H24K **Noodor Dome** 60.28 28 P P 04 59 29.9 +1.2
baz=276,SNR=24
WAT1 **Susitna Watana** 60.31 31 P P 04 59 28.5 -0.4
baz=277
WRH **Wood River Hil** 60.33 30 P P 04 59 29.3 +0.4
WRH IAmb IAmb 04 59 42.8
comp=Z,31nm,1.1s
TCOL **CIGO, UAF Yank** 60.39 29 P P 04 59 30.6 +1.4
TCOL IAmb IAmb 04 59 31.7
comp=Z,28nm,0.7s
TCOL **CIGO, UAF Yank** 60.39 29 P P 04 59 29.6 +0.3
baz=276,SNR=7.3
COLA **College** 60.39 29 *ce* P P 04 59 30.6 +1.3
COLA pmax pmax
comp=Z,25nm,0.8s
COLA **College** 60.39 29 P P 04 59 30.6 +1.3
COLA IAmb IAmb 04 59 31.7
comp=Z,29nm,0.7s
COLA **College** 60.39 29 P P 04 59 29.3 +0.1
baz=276
CCB **Clear Creek Bu** 60.44 29 P P 04 59 29.8 +0.2
KNK **Knik Glacier** 60.53 33 P P 04 59 31.1 +0.8
KNK **Knik Glacier** 60.53 33 P P 04 59 30.5 +0.2
baz=278,SNR=14
SML **Sawmill** 60.54 33 P P 04 59 30.6 +0.2
baz=277,SNR=11
POKR **Poker Plat Res** 60.54 29 P P 04 59 31.5 +1.1
POKR **Poker Plat Res** 60.54 29 P P 04 59 31.2 +0.8
baz=276,SNR=19
PWL **Port Wells** 60.66 34 P P 04 59 31.7 +0.4
WAT6 **Susitna Watana** 60.71 32 P P 04 59 31.7 -0.1
baz=277,SNR=16
IL31 60.81 29 P P 04 59 31.6 -0.6
IL31 IAmb IAmb 04 59 34.8
comp=Z,19nm,0.8s
ILAR **Eielson Array** 60.81 29 P P 04 59 31.6 -0.6
comp=Z,13nm,0.7s,baz=268,slow=5.4,SNR=77
ILAR **Eielson Array** 60.81 29 P P 04 59 31.4 -0.8
HDA **Harding Lake** 60.83 30 P P 04 59 32.0 -0.3
HDA **Harding Lake** 60.83 30 P P 04 59 31.8 -0.5
baz=277,SNR=42
SCM **Sheep Creek Mo** 61.01 33 P P 04 59 34.3 +0.7
SCM pmax pmax
comp=Z,62nm,0.9s
SCM **Sheep Creek Mo** 61.01 33 P P 04 59 34.3 +0.7
KIRV **Kirov** 61.05 324 P P 04 59 33.4 -0.4
comp=Z,49nm,0.6s,baz=40,slow=7.9,SNR=1.0
GLI **Glacier Island** 61.26 34 P P 04 59 35.9 +0.6
GLI **Glacier Island** 61.26 34 P P 04 59 35.6 +0.3
baz=279,SNR=11
FYU **Fort Yukon** 61.27 27 P P 04 59 37.2 +2.0
PRP **Porcupine Dome** 61.29 28 P P 04 59 36.2 +0.7
baz=278
BMAR **Burnt Mountain** 61.41 26 P P 04 59 37.8 +1.6
J25K **Salcha River,** 61.48 29 P P 04 59 37.1 +0.3
baz=278,SNR=11
M24K **Tolsona, Glenn** 61.50 32 P P 04 59 38.5 +1.5
M24K IAmb IAmb 04 59 38.6
comp=Z,44nm,0.8s
M24K **Tolsona, Glenn** 61.50 32 P P 04 59 37.8 +0.8
baz=279,SNR=7.6
NOUC **Port Laguerre** 61.54 142 P P 04 59 39.4 +1.8
FID **Port Fidalgo** 61.58 34 P P 04 59 37.5 0.0
DZM **Mont Dzumac** 61.59 142 *eP* P 04 59 39.8 +1.7
comp=Z,142nm,1.2s
DZM *eS* S 05 08 02.6 +5.9
comp=Z,668nm,24.9s
DZM *e*LR LR 05 17 49.7
comp=Z,1µm,25.0s
DZM **Mont Dzumac** 61.59 142 LR LR 05 24 16.5
comp=Z,549nm,20.4s,baz=312,slow=34
DZM **Mont Dzumac** 61.59 142 P P 04 59 39.2 +1.1
DZM **Mont Dzumac** 61.59 142 P P 04 59 40.0 +1.9
STKA **Stephens Creek** 61.66 169 P P 04 59 39.4 +1.2
comp=Z,12nm,0.8s,baz=343,slow=7.7,SNR=22
STKA LR LR 05 26 16.0
comp=Z,476nm,22.0s,baz=351,slow=36
STKA **Stephens Creek** 61.66 169 P P 04 59 38.7 +0.5
PAX **Paxson** 61.69 31 P P 04 59 38.7 +0.5
PAX pmax pmax
comp=Z,24nm,1.1s
PAX **Paxson** 61.69 31 P P 04 59 38.7 +0.5
PAX IAmb IAmb 04 59 50.4
comp=Z,24nm,1.1s
PAX **Paxson** 61.69 31 P P 04 59 38.5 +0.2
baz=279,SNR=11
KLU **Klutina** 61.72 33 P P 04 59 38.6 +0.1
KLU IAmb IAmb 04 59 40.2
comp=Z,35nm,1.0s
KLU **Klutina** 61.72 33 P P 04 59 38.8 +0.4
baz=280,SNR=10
RIDG **Independent Ri** 61.84 30 P P 04 59 39.4 +0.2
RIDG IAmb IAmb 04 59 40.6
comp=Z,60nm,1.3s
RIDG **Independent Ri** 61.84 30 P P 04 59 39.1 -0.2
baz=279,SNR=8.5
DIV **Divide** 61.85 33 P P 04 59 40.2 +0.8
BBOO **Buckleboo** 61.91 175 P P 04 59 40.6 +0.7
BBOO IAmb IAmb 05 00 02.1
comp=Z,29nm,1.4s
HARP **HAARP** 61.92 32 P P 04 59 40.7 +0.9
baz=280,SNR=8.0
EYAK **Cordova Ski Ar** 61.97 34 P P 04 59 41.3 +1.3
EYAK IAmb IAmb 04 59 53.7
comp=Z,27nm,0.8s
EYAK **Cordova Ski Ar** 61.97 34 P P 04 59 40.8 +0.8
baz=280
J26K **Charley River,** 62.16 29 P P 04 59 41.0 -0.4
baz=280,SNR=21
SCRK **Sand Creek** 62.18 30 P P 04 59 41.4 -0.2
SCRK IAmb IAmb 04 59 42.3
comp=Z,34nm,0.8s
SCRK **Sand Creek** 62.18 30 P P 04 59 41.7 +0.1
baz=280,SNR=33
DOT **Dot Lake** 62.20 30 P P 04 59 41.7 +0.1
N25K **Chitina, Valde** 62.33 33 P P 04 59 43.3 +0.7
N25K IAmb IAmb 04 59 45.5
comp=Z,26nm,0.8s
N25K **Chitina, Valde** 62.33 33 P P 04 59 43.5 +0.9
baz=281,SNR=12
BMRM **Bremner River** 62.44 33 P P 04 59 44.1 +0.8
BMRM **Bremner River** 62.44 33 P P 04 59 44.0 +0.7
baz=281,SNR=20
MENT **Mentasta** 62.48 31 P P 04 59 44.8 +1.2
MENT IAmb IAmb 04 59 45.6
comp=Z,41nm,0.8s
RAGM **Ragged Mountai** 62.52 34 P P 04 59 45.3 +1.5
L26K **Log Cabin Wild** 62.63 31 P P 04 59 45.5 +1.0
L26K IAmb IAmb 04 59 46.6
comp=Z,34nm,0.9s
L26K **Log Cabin Wild** 62.63 31 P P 04 59 45.4 +0.9
baz=281,SNR=7.6
GLB **Gilahina Butte** 62.73 33 P P 04 59 46.0 +0.8
GLB IAmb IAmb 04 59 47.2
comp=Z,57nm,1.1s
KAIM **Kayak Island** 62.73 34 P P 04 59 46.1 +0.9
baz=282
M26K **Nabesna, AK** 62.91 31 P P 04 59 47.2 +0.8
M26K **Nabesna, AK** 62.91 31 P P 04 59 47.3 +0.8
baz=282,SNR=54
VRDI **Verde Repeater** 62.94 33 P P 04 59 47.5 +0.7
BERG **Berg Lake** 62.99 34 P P 04 59 48.3 +1.4
K27K **Chicken** 63.00 30 P P 04 59 47.8 +0.9
K27K IAmb IAmb 04 59 49.0
comp=Z,58nm,1.2s
K27K **Chicken** 63.00 30 P P 04 59 47.7 +0.9
baz=282
NWAO **Narrogin (SRO)** 63.10 193 P P 04 59 48.4 +0.5
baz=28,slow=7.8
NWAO **Narrogin (SRO)** 63.10 193 P P 04 59 48.0 +0.2
MCARA **McCarthy VSAT** 63.11 33 P P 04 59 48.7 +1.1
MCARA **McCarthy VSAT** 63.11 33 P P 04 59 48.5 +0.8
baz=282,SNR=24
CRQM **Cirque** 63.19 33 P P 04 59 49.1 +0.7
CRQE **Cirque** 63.21 33 P P 04 59 48.9 +0.4
baz=282,SNR=12
EGAK **Eagle** 63.23 29 P P 04 59 48.6 +0.2
EGAK **Eagle** 63.23 29 P P 04 59 48.5 0.0
baz=282,SNR=15
BGLC **Bering Glacier** 63.25 34 P P 04 59 50.0 +1.4
baz=282
BELG **Belogornoye** 63.29 317 P P 04 59 48.0 -1.0
comp=Z,64nm,1.0s,baz=14,slow=4.2,SNR=1.2
BELG LR LR 05 29 15.8
comp=Z,3µm,18.2s,baz=87,slow=38
L27K **Beaver Creek,** 63.30 31 P P 04 59 50.1 +1.1
L27K IAmb IAmb 04 59 51.3
comp=Z,37nm,1.1s
L27K **Beaver Creek,** 63.30 31 P P 04 59 50.1 +1.1
baz=282,SNR=40
BCAR **Beaver Creek A** 63.32 31 P P 04 59 50.1 +1.0
TGL **Tana Glacier** 63.34 33 P P 04 59 49.9 +0.6
WAX **Waxell Ridge** 63.39 34 P P 04 59 50.6 +1.0
M27K **Edge Creek, AK** 63.43 31 P P 04 59 50.9 +0.9
M27K IAmb IAmb 04 59 51.9
comp=Z,38nm,0.8s
M27K **Edge Creek, AK** 63.43 31 P P 04 59 50.7 +0.7
baz=282,SNR=36
ISLE **Juniper Island** 63.60 33 P P 04 59 51.7 +0.6
ISLE IAmb IAmb 04 59 52.5
comp=Z,42nm,0.8s
BARN **Barnard Glacie** 63.82 33 P P 04 59 53.5 +0.9
BARN IAmb IAmb 04 59 54.5
comp=Z,34nm,0.8s
GRNC **Granite Creek** 63.85 33 P P 04 59 53.8 +1.0
GRNC IAmb IAmb 04 59 54.0
comp=Z,25nm,0.9s
BVCY **Beaver Creek** 63.88 31 P P 04 59 53.5 +0.8
baz=283,SNR=5.3
MESA **MESA** 63.89 34 P P 04 59 53.8 +0.8
MESA IAmb IAmb 05 00 11.3
comp=Z,45nm,1.0s
MESA **MESA** 63.89 34 P P 04 59 53.7 +0.7
baz=284,SNR=8.4
YAH **Yahtse** 63.95 34 P P 04 59 53.5 0.0
YAH IAmb IAmb 05 00 11.1
comp=Z,36nm,1.0s
CTG **Chitna Glacier** 64.00 33 P P 04 59 54.5 +0.8
baz=284,SNR=11
CTGM **Chitina Glacie** 64.00 33 P P 04 59 54.7 +0.9
CTGM IAmb IAmb 04 59 55.7
comp=Z,40nm,0.9s
DAWY **Dawson** 64.14 29 P P 04 59 55.1 +0.6
DAWY **Dawson** 64.14 29 P P 04 59 54.7 +0.2
baz=284,SNR=20
LOGN **Logan Glacier** 64.19 33 P P 04 59 56.1 +1.1
LOGN IAmb IAmb 05 00 14.5
comp=Z,26nm,0.9s
YUK3 **Moose Creek** 64.22 32 P P 04 59 55.7 +0.5
baz=284,SNR=25
TABL **Table Mountain** 64.22 33 P P 04 59 56.2 +1.0
TABL IAmb IAmb 04 59 58.1
comp=Z,21nm,0.8s
EPYK **Eagle Plains** 64.66 26 P P 04 59 58.7 +0.9
baz=285,SNR=8.1
PCA **Pinnacle** 64.73 34 P P 04 59 59.5 +1.1
PINM **Pinnacle** 64.73 34 P P 04 59 59.4 +0.9
baz=285,SNR=23
YUK4 **Talbot Arm** 65.17 32 P P 05 00 02.4 +1.0
baz=286,SNR=23
INK **Inuvik** 65.31 24 P P 05 00 02.3 +0.3
comp=Z,10.0nm,0.6s,baz=294,slow=6.1,SNR=29
INK **Inuvik** 65.31 24 P P 05 00 02.3 +0.3
INK IAmb IAmb 05 00 02.9
comp=Z,14nm,0.7s
INK **Inuvik** 65.31 24 P P 05 00 02.3 +0.3
baz=287,SNR=12
MSVF **Nonsavu** 65.40 129 LR LR 05 22 16.0
comp=Z,497nm,21.7s,baz=349,slow=30
MSVF **Nonsavu** 65.40 129 P P 05 00 04.8 +1.5
MSVF pmax pmax
comp=Z,76nm,1.5s
MSVF **Nonsavu** 65.40 129 P P 05 00 04.8 +1.5
MSVF IAmb IAmb 05 00 07.3
comp=Z,76nm,1.4s
MSVF **Nonsavu** 65.40 129 P P 05 00 05.7 +2.4
YUK6 **Outpost Mounta** 65.41 32 P P 05 00 04.3 +1.3
baz=286,SNR=28
LVZ **Lovozero** 65.46 336 P P 05 00 03.9 +0.9
LVZ pmax pmax
comp=Z,51nm,1.0s
LVZ **Lovozero** 65.46 336 P P 05 00 03.9 +0.9
LVZ IAmb IAmb 05 00 18.6
comp=Z,51nm,1.0s
MAYO **Mayo, Yukon** 65.76 29 P P 05 00 06.2 +1.2
baz=287
HYT **Haines Junctio** 65.84 32 P P 05 00 06.2 +0.5
HYT IAmb IAmb 05 00 08.3
comp=Z,43nm,0.9s
HYT **Haines Junctio** 65.84 32 P P 05 00 07.0 +1.3
baz=287,SNR=46
MAK **Makhachkala** 65.98 307 *eP* P 05 00 01.7 -5.0
MAK *eS* S 05 08 43.3 -7.3
MAK *e*SS SS 05 13 04.7 -1.3
MAK pmax pmax
comp=Z,221nm,2.0s
MAK MLR MLR
comp=Z,1µm,16.0s
APA **Apatity** 66.01 335 *j iP* P 04 59 51.2 -15
APA pmax pmax
comp=Z,20nm,0.8s
APA MLR MLR
comp=Z,2µm,16.0s
SPITS **Spitsbergen Ar** 66.34 348 LR LR 05 32 16.4
comp=Z,1µm,19.1s,baz=150,slow=39
A36M **Sachs Harbour** 66.73 19 P P 05 00 12.1 +1.1
A36M **Sachs Harbour** 66.73 19 P P 05 00 11.6 +0.7
baz=293
GROC **Groznyy** 67.09 308 *eP* P 05 00 07.9 -5.9
WHY **Whitehorse** 67.12 32 P P 05 00 15.1 +1.2
WHY IAmb IAmb 05 00 15.7
comp=Z,32nm,0.8s
WHY **Whitehorse** 67.12 32 P P 05 00 14.9 +1.1
baz=289,SNR=23
FARO **Faro, Yukon** 67.30 30 P P 05 00 15.8 +1.0
baz=290,SNR=69
SKAG **Skagway** 67.30 34 P P 05 00 16.3 +1.5
SKAG **Skagway** 67.30 34 P P 05 00 16.0 +1.2
baz=289,SNR=39
BESE **Bessie Mountai** 67.83 34 P P 05 00 19.4 +1.2
BESE IAmb IAmb 05 00 20.6
comp=Z,36nm,1.0s
TOO **Toolangi** 67.90 167 P P 05 00 19.8 +1.1
TOO **Toolangi** 67.90 167 P P 05 00 19.8 +1.1
ARCES **ARCESS Array B** 68.00 339 P P 05 00 18.2 -0.9
comp=Z,11nm,0.9s,baz=64,slow=8.1,SNR=3.6
ARCES LR LR 05 35 12.1
comp=Z,3µm,19.1s,baz=45,slow=41
ARCES **ARCESS Array B** 68.00 339 IAmb IAmb 05 00 19.7
comp=Z,63nm,1.4s
MMPY **Sheldon Lake,** 68.07 30 P P 05 00 20.7 +0.9
baz=291,SNR=28
SIT **Sitka** 68.11 36 P P 05 00 21.5 +1.6
SIT pmax pmax
comp=Z,85nm,1.0s
SIT **Sitka** 68.11 36 P P 05 00 21.5 +1.6
SIT **Sitka** 68.11 36 P P 05 00 21.2 +1.3
baz=290,SNR=21
JIS **Juneau Island** 68.16 35 P P 05 00 20.9 +0.7
OBN **Obninsk** 68.76 322 LR LR 05 33 20.5
comp=Z,978nm,19.5s,baz=43,slow=38
OBN **Obninsk** 68.76 322 *eP* P 05 00 21.4 -2.6
OBN *e* 05 00 44.3
OBN pmax pmax
comp=Z,376nm,1.9s
OBN MLR MLR
comp=Z,4µm,19.0s
GNI **Garni** 68.87 305 P P 05 00 25.7 +0.4
comp=Z,18nm,0.8s,baz=353,slow=8.1,SNR=3.7
KBZ **Khabaz** 68.90 309 P P 05 00 25.4 +0.3
comp=Z,38nm,0.9s,baz=100,slow=0.9,SNR=4.3
KBZ LR LR 05 36 24.5
comp=Z,1µm,18.2s,baz=78,slow=41
KIV **Kislovodsk** 68.96 309 *eP* P 05 00 24.4 -1.2
KIV *e* 05 00 43.6
KIV *e* 05 02 54.7
KIV *e*PPP PPP 05 04 34.5
KIV pmax pmax
comp=Z,40nm,1.1s
KIV MLR MLR
comp=Z,809nm,18.0s
TGTN **Hyland Airport** 69.79 30 P P 05 00 31.5 +1.0
baz=294,SNR=10
CRAG **Craig** 69.83 37 P P 05 00 30.8 +0.1
CRAG IAmb IAmb 05 00 33.1
comp=Z,42nm,1.0s
CRAG **Craig** 69.83 37 P P 05 00 31.9 +1.3
baz=292,SNR=8.0
WRAK **Wrangell Islan** 69.87 36 P P 05 00 32.2 +1.3
WRAK IAmb IAmb 05 00 33.3
comp=Z,29nm,0.9s
WRAK **Wrangell Islan** 69.87 36 P P 05 00 32.1 +1.3
baz=292,SNR=18
WTLY **Watson Lake, Y** 70.13 32 P P 05 00 33.6 +1.1
baz=294
DLBC **Dease Lake** 70.23 33 P P 05 00 34.7 +1.6
comp=Z,16nm,0.8s,baz=292,slow=6.0,SNR=37
DLBC **Dease Lake** 70.23 33 P P 05 00 34.8 +1.6
DLBC IAmb IAmb 05 00 35.5
comp=Z,23nm,0.9s
DIB **Dawson Inlet,** 71.06 39 P P 05 00 39.2 +1.0
DIB IAmb IAmb 05 00 39.8
comp=Z,28nm,0.8s
WRGLY **Wrigley** 71.08 27 P P 05 00 39.0 +0.9
baz=297,SNR=6.5
SOC **Sochi** 71.10 310 *eP* P 05 00 35.3 -3.3
SOC *e*PPP PPP 05 04 54.7
SOC *eS* S 05 09 50.1 -1.3
FINES **FINESS Array B** 71.29 331 P P 05 00 38.1 -1.4
comp=Z,13nm,0.7s,baz=49,slow=6.1,SNR=10
FINES LR LR 05 35 14.9
comp=Z,2µm,18.3s,baz=71,slow=39
FINES **FINESS Array B** 71.29 331 *i* P P 05 00 39.5 0.0
FINES pmax pmax
comp=Z,14nm,0.7s
MOBC **Moresby Island** 71.36 39 P P 05 00 40.7 +0.6
MOBC IAmb IAmb 05 00 41.8
comp=Z,47nm,1.2s
RUBB **Prince Rupert** 71.81 37 P P 05 00 43.6 +0.9
KOPT **Kop Dagi** 71.94 306 P P 05 00 44.8 +0.6
KOPT IAmb IAmb 05 01 04.3
comp=Z,41nm,1.1s
RES **Resolute Bay** 72.22 11 P P 05 00 45.1 +0.3
comp=Z,38nm,0.7s,baz=298,slow=6.5,SNR=17
RES LR LR 05 36 35.6
comp=Z,422nm,18.8s,baz=342,slow=39
RES **Resolute Bay** 72.22 11 P P 05 00 44.6 -0.2
RES IAmb IAmb 05 00 46.3
comp=Z,50nm,0.8s
MARD **Mardin** 72.81 303 P P 05 00 48.9 -0.3
MARD IAmb IAmb 05 00 50.5
comp=Z,56nm,0.9s
MNK **Minsk** 73.60 324 *i* P P 05 00 47.6 -5.7
MNK *i* S SKiKP 05 10 12.7 -6.2
MNK *i* SS SS 05 14 59.2 -3.4
MNK *i* SSS SSS 05 18 12.6
MNK pmax pmax
comp=Z,138nm,1.6s
MNK pmax pmax
comp=E,26nm,1.1s
MNK pmax pmax
comp=N,213nm,1.1s
MNK MLR MLR
comp=E,378nm,13.0s
MNK MLR MLR
comp=N,612nm,12.0s
MNK MLR MLR
comp=Z,4µm,15.0s
MNK **Minsk** 73.60 324 *i* P P 05 00 47.7 -5.6
comp=E,26nm,1.1s
MNK *i* P P 05 00 47.7 -5.6
comp=N,213nm,1.1s
MNK *i* P P 05 00 47.7 -5.6
comp=Z,138nm,1.6s,baz=63
MNK *i* PP PP 05 03 29.3 -8.1
MNK *i* PPP PPP 05 05 13.7
MNK *i* S SKiKP 05 10 12.8 -6.1
MNK *i* SS SS 05 14 59.3 -3.3
MNK *i* SSS SSS 05 18 12.6
MNK *i* LQ LQ 05 27 51.0
MNK *i* LR LR 05 33 06.6
MNK *i* LRM MLR 05 36 10.3
comp=E,378nm,12.6s
MNK *i* LRM MLR 05 36 11.6
comp=N,612nm,12.2s
MNK *i* LRM MLR 05 36 15.1
comp=Z,4µm,15.5s
BBB **Bella Bella** 73.90 39 P P 05 00 55.5 +0.4
comp=Z,14nm,1.0s,baz=346,slow=6.2,SNR=3.9
BBB **Bella Bella** 73.90 39 IAmb IAmb 05 01 19.3
comp=Z,41nm,1.2s
AKASG **Malin Array Be** 74.61 320 P P 05 00 58.1 -1.2
comp=Z,15nm,0.5s,baz=59,slow=6.4,SNR=15
AKASG LR LR 05 37 03.2
comp=Z,2µm,18.8s,baz=60,slow=38
AKASG **Malin Array Be** 74.61 320 *i* P P 05 00 58.5 -0.8
AKASG pmax pmax
comp=Z,15nm,0.4s
YKA **Yellowknife Ar** 74.93 26 P P 05 01 01.4 +0.4
comp=Z,10nm,0.8s,baz=306,slow=4.8,SNR=26
YKA **Yellowknife Ar** 74.93 26 *i* P P 05 01 01.3 +0.4
YKA pmax pmax
comp=Z,11nm,0.8s
YKA **Yellowknife Ar** 74.93 26 P P 05 01 01.1 +0.2
GAZ **Gaziantep** 75.46 305 P P 05 01 04.9 +0.4
GAZ IAmb IAmb 05 01 14.4
comp=Z,67nm,1.4s
ILGA **Ilgaz** 76.19 309 P P 05 01 08.3 -0.5
BR131 **Keskin Array S** 76.84 308 P P 05 01 12.5 0.0
BR131 pmax pmax
comp=Z,26nm,0.8s
BR131 **Keskin Array S** 76.84 308 P P 05 01 12.5 0.0
BR131 IAmb IAmb 05 01 14.2
comp=Z,26nm,0.8s
BRTR **Keskin Array B** 76.84 308 P P 05 01 12.2 -0.2
comp=Z,14nm,0.8s,baz=104,slow=5.2,SNR=28
BRTR LR LR 05 42 10.9
comp=Z,938nm,18.2s,baz=61,slow=41
BRTR **Keskin Array B** 76.84 308 *i* P P 05 01 12.5 0.0
BRTR pmax pmax
comp=Z,15nm,0.7s
BRTR **Keskin Array B** 76.84 308 P P 05 01 12.4 0.0
HFS **Hagfors** 77.14 333 P P 05 01 12.9 -0.6
comp=Z,8.1nm,0.7s,baz=87,slow=6.1,SNR=2.1
ANTO **Ankara** 77.36 309 P P 05 01 14.9 -0.4
ANTO pmax pmax
comp=Z,17nm,0.8s
ANTO **Ankara** 77.36 309 P P 05 01 14.9 -0.4
NB2 **NORSAR Subarra** 77.55 334 P P 05 01 14.1 -1.7
comp=Z,20nm,1.1s,baz=51,slow=5.9
NB2 **NORSAR Subarra** 77.55 334 P P 05 01 14.1 -1.7
baz=51,slow=5.9
NOA **NORSAR Array B** 77.55 334 P P 05 01 14.2 -1.7

NOA comp=Z,6.6nm,0.8s,baz=50,slow=5.6,SNR=4.7 LR LR 05 41 10.9

ASF Jabal al Asfar 77.90 300 P **P 05 01 18.6 +0.2**
comp=Z,21nm,1.2s,baz=135,slow=1.4,SNR=4.2

LLLB Lillooet 78.07 38 P **P**
LLLB IAmb IAmb 05 01 31.8 **05 01 20.0 +1.0**
comp=Z,29nm,0.8s

PGC Sidney 78.22 41 P **P 05 01 19.7 0.0**
NLWA Neilton Lookou 78.62 42 P **P 05 01 23.6 +1.6**
MMAI Mount Meron Ar 78.64 301 P **P 05 01 22.9 +0.4**
comp=Z,0.9nm,0.2s,baz=72,slow=6.4,SNR=3.5

MLR Muntele Rosu 79.06 316 P **P 05 01 24.8 +0.1**
comp=Z,5.0nm,0.6s,baz=146,slow=15,SNR=1.6

B05A Bryant 79.19 40 P **P 05 01 26.1 +1.0**
baz=302,SNR=8.0

E03A Lebam 79.23 43 P **P 05 01 27.1 +1.8**
E03A IAmb IAmb 05 01 27.9
comp=Z,76nm,1.4s

CSS Mathiatis 79.26 304 P **P 05 01 25.5 -0.3**
D04E Lakebay 79.37 42 P **P 05 01 25.8 -0.2**
baz=302

B06A Marblemount 79.40 40 P **P 05 01 27.4 +1.2**
F04D Rainier, OR 79.80 43 P **P 05 01 29.7 +1.2**
baz=302

E04D Cinebar 79.82 42 P **P 05 01 29.9 +1.3**
baz=302,SNR=14

D05A Enumclaw 79.82 41 P **P 05 01 30.5 +1.9**
OJC Ojcow 80.04 322 P **P 05 01 28.9 -0.8**
OJC pmax pmax
comp=Z,42nm,0.9s

OJC Ojcow 80.04 322 P **P 05 01 28.9 -0.8**
OJC IAmb IAmb 05 01 31.1
comp=Z,42nm,0.9s

C06D Leavenworth 80.05 40 P **P 05 01 30.5 +0.7**
baz=303

G03D McMinnville, O 80.11 44 P **P 05 01 31.5 +1.3**
baz=302

F04A Amboy 80.23 43 P **P 05 01 32.2 +1.4**
F04A IAmb IAmb 05 01 43.8
comp=Z,28nm,0.9s

I02D Swisshome 80.33 45 P **P 05 01 31.3 0.0**
baz=301

BKZ Black Stump Fm 80.37 146 P **P 05 01 32.2 +0.7**
COR Corvallis 80.41 44 P **P 05 01 34.0 +2.2**
COR pmax pmax
comp=Z,129nm,1.5s

COR Corvallis 80.41 44 P **P 05 01 34.0 +2.2**
EIL Elat 80.54 299 P **P 05 01 33.2 +0.4**
comp=Z,4.4nm,0.9s,baz=284,slow=19,SNR=1.4

LTY Liberty 80.54 41 P **P 05 01 33.1 +0.5**
KEBM Edson Butte 80.67 46 P **P 05 01 35.4 +2.1**
B08A Colville Reser 80.69 39 P **P 05 01 33.6 +0.4**
J01E Myrtle Point 80.77 46 P **P 05 01 34.5 +0.8**
baz=302

H04D Lebanon 80.79 44 P **P 05 01 35.3 +1.4**
baz=302

BUCK Buck Mountain 80.81 44 P **P 05 01 34.9 +0.8**
BUCK IAmb IAmb 05 01 37.1
comp=Z,72nm,1.2s

LANS Liptovska Anna 80.82 322 *eP* **P 05 01 36.5 +2.5**
LANS Liptovska Anna 80.82 322 *eP* **P 05 01 36.5 +2.5**
F05D White Salmon 80.82 42 P **P 05 01 34.8 +0.8**
baz=303

ELL Elmali 80.84 307 P **P 05 01 33.2 -1.2**
ELL pmax pmax
comp=Z,61nm,0.8s

ELL Elmali 80.84 307 P **P 05 01 33.2 -1.2**
I03D Drain, OR 80.85 45 P **P 05 01 35.5 +1.3**
baz=302,SNR=6.7

MANT Manisa 80.91 309 P **P 05 01 34.6 -0.3**
MANT IAmb IAmb 05 01 56.1
comp=Z,50nm,1.0s

EDM Edmonton 80.95 33 P **P 05 01 35.5 +0.9**
EDM pmax pmax
comp=Z,139nm,1.4s

EDM Edmonton 80.95 33 P **P 05 01 35.5 +0.9**
H04A Detroit Lake 81.04 44 P **P 05 01 36.3 +1.1**
H04A IAmb IAmb 05 01 37.4
comp=Z,43nm,1.4s

OKC Ostrava-Krasne 81.14 323 AMS AMS 05 40 50.0
comp=Z,2µm,17.0s

K02D Willamette Mer 81.18 46 P **P 05 01 37.1 +1.1**
baz=302,SNR=6.5

G05D Wamic, OR 81.26 43 P **P 05 01 37.3 +0.9**
baz=303

PSZ Piszkesteto 81.28 320 P **P 05 01 36.6 +0.1**
PSZ pmax pmax
comp=Z,59nm,1.5s

PSZ Piszkesteto 81.28 320 P **P 05 01 36.6 +0.1**
PSZ IAmb IAmb 05 01 49.6
comp=Z,59nm,1.5s

I04A Tendick Farm, 81.38 44 P **P 05 01 38.3 +1.2**
baz=302,SNR=8.1

E07A Sunnyside 81.39 41 P **P 05 01 38.4 +1.3**
L02E Cave Junction 81.50 46 P **P 05 01 39.3 +1.6**
baz=302,SNR=6.1

VYHS Vyhne 81.54 321 *eP* **P 05 01 39.2 +1.4**
VYHS Vyhne 81.54 321 *eP* **P 05 01 39.2 +1.4**
C09A Chrisman Ranch 81.59 39 P **P 05 01 39.0 +0.9**
C09A IAmb IAmb 05 01 39.5
comp=Z,23nm,0.8s

D08A Wollman Farm, 81.64 40 P **P 05 01 39.4 +1.1**
D08A IAmb IAmb 05 01 40.3
comp=Z,28nm,0.8s

HAWA Hanford 81.67 41 P **P 05 01 39.4 +0.9**
F07A Phinny Hill Vi 81.72 42 P **P 05 01 40.5 +1.8**
F07A IAmb IAmb 05 01 40.6
comp=Z,22nm,0.8s

KRLC Kraliky 81.72 323 *eP* **P 05 01 42.2 +3.5**
KRLC MLR MLR
comp=Z,2µm,17.4s

KRLC Kraliky 81.72 323 *eP* **P 05 01 42.2 +3.5**
KRLC AMS AMS 05 41 30.0
comp=Z,2µm,17.4s

OSTC Ostas 81.72 324 AMS AMS 05 41 10.0
comp=Z,4µm,16.5s

I05D Terrebonne, OR 81.73 44 P **P 05 01 40.1 +1.2**
baz=303,SNR=7.3

YER Yerkesik 81.78 308 P **P 05 01 40.1 +0.8**
CHVC Chvalec 81.79 324 AMS AMS 05 41 20.0
comp=Z,4µm,16.4s

DPC Dobruska-Polom 81.79 324 AMS AMS 05 41 10.0
comp=Z,4µm,16.5s

UPC Upice 81.86 324 AMS AMS 05 41 20.0
comp=Z,5µm,16.6s

J04D Umpqua Nationa 81.86 45 P **P 05 01 41.1 +1.3**
baz=303,SNR=15

E08A Dider Farm, El 81.88 41 P **P 05 01 40.8 +1.2**
E08A IAmb IAmb 05 01 41.8
comp=Z,22nm,0.7s

NEW Newport 81.96 39 P **P 05 01 40.8 +0.8**
comp=Z,17nm,0.7s,baz=310,slow=4.2,SNR=47

NEW Newport 81.96 39 P **P 05 01 40.9 +0.8**
NEW Newport 81.96 39 P **P 05 01 40.8 +0.8**
baz=305,SNR=30

VTS Vitosha 82.23 315 P **P 05 01 41.9 +0.2**
VTS pmax pmax
comp=Z,15nm,1.1s

VTS Vitosha 82.23 315 P **P 05 01 41.9 +0.2**
VRAC Vranov 82.27 323 P **P 05 01 41.8 +0.2**
comp=Z,9.7nm,0.8s,baz=70,slow=7.9,SNR=4.0

PINE Pine Mountain 82.27 44 P **P 05 01 43.4 +1.4**
PINE IAmb IAmb 05 01 44.7
comp=Z,42nm,0.9s

L04D Klamath Falls 82.28 46 P **P 05 01 42.8 +0.8**
baz=303,SNR=18

YBH Yreka Blue Hor 82.29 46 P **P 05 01 43.1 +1.2**
comp=Z,14nm,1.0s,baz=283,slow=2.7,SNR=18

J05D Fort Rock, OR 82.37 44 P **P 05 01 43.7 +1.3**
baz=303,SNR=36

M02C Callahan 82.38 47 P **P 05 01 43.8 +1.4**
baz=302,SNR=10

E09A Wood Farm, Sta 82.39 40 P **P 05 01 43.5 +1.2**
E09A IAmb IAmb 05 01 44.0
comp=Z,28nm,0.9s

K04D Chiloquin, OR 82.41 45 P **P 05 01 43.7 +1.1**
baz=303,SNR=6.4

ATD Arta Tunnel 82.52 279 P **P 05 01 44.4 +0.9**
comp=Z,13nm,0.9s,baz=46,slow=12,SNR=5.9

ATD Arta Tunnel 82.52 279 P **P**
ATD IAmb IAmb 05 01 50.3 **05 01 44.1 +0.6**
comp=Z,51nm,1.1s

PVCC Panska Ves 82.58 325 AMS AMS 05 42 40.0
comp=Z,4µm,16.6s

G08A Pilot Rock 82.62 42 P **P 05 01 44.5 +0.9**

BRG Berggiesshubel 82.68 325 *eP* **P** 05 01 51.7 +8.1
BRG Amp 05 01 52.6
comp=Z,21nm,1.2s

BRG Amp 05 05 43.0
comp=Z,2.7nm,17.1s

BRG Amp 05 05 46.0
comp=E,1.8nm,18.2s

BRG Amp 05 05 58.0
comp=N,2.7nm,18.3s

BRG Amp 05 42 54.0
comp=Z,3.5nm,15.6s

BRG Amp 05 42 58.0
comp=E,1.9nm,16.0s

BRG Amp 05 42 59.0
comp=N,1.9nm,16.6s

N02D Trinity Center 82.70 47 P **P 05 01 45.3 +1.2**
baz=302,SNR=7.2

M04C Macdoel 82.81 46 P **P 05 01 45.7 +1.0**
baz=303,SNR=15

TREC Trest 82.86 323 AMS AMS 05 42 00.0
comp=N,3µm,18.1s

CLL Collm 82.88 326 *eP* **P 05 01 45.0 +0.3**
CLL *i* sP **PcP 05 01 52.9 +3.5**
CLL Lm MLR 05 42 00.0
comp=Z,48nm,1.3s

CLL Lm MLR 05 42 00.0
comp=N,3µm,19.4s

CLL Lmax 05 42 00.0
comp=E,3µm,18.2s

CLL Collm 82.88 326 *eP* **P 05 01 45.0 +0.3**
CLL *i* 05 01 52.9
CLL MLR MLR
comp=Z,5µm,17.9s

CLL Collm 82.88 326 P **P 05 01 47.8 +3.1**
CLL IAmb IAmb 05 01 53.8
comp=Z,34nm,1.1s

CLL Collm 82.88 326 *eP* **P 05 01 44.6 -0.1**
baz=49,slow=5.2

K05A Summer Lake 82.89 45 P **P 05 01 47.1 +1.9**
K05A IAmb IAmb 05 01 47.8
comp=Z,60nm,1.2s

PRU Pruhonice 82.92 324 AMS AMS 05 42 00.0
comp=Z,4µm,15.9s

PRA Prague 82.93 324 AMS AMS 05 42 00.0
comp=Z,4µm,15.6s

FBE Freiberg 82.94 325 *eP* **P 05 01 45.2 +0.2**
baz=49,slow=5.2

I07A Izee 82.97 43 P **P 05 01 46.8 +1.3**
O02D Mt. Diablo Mer 83.07 48 P **P 05 01 47.5 +1.4**
baz=303,SNR=7.9

FLTG Flechtingen 83.08 327 *eP* **P 05 01 45.5 -0.1**
comp=Z,7.7nm,0.8s,baz=49,slow=5.2

WALA Waterton Lakes 83.20 37 P **P 05 01 47.8 +1.2**
WALA IAmb IAmb 05 01 48.9
comp=Z,32nm,1.1s

F10A Beach Ranch, E 83.22 41 P **P 05 01 46.8 +0.1**
KOVH Kovagotottos 83.33 320 *eP* **P 05 01 47.5 +0.4**
DIVS Divibare 83.38 317 P **P 05 01 47.6 +0.1**
CONA Conrad Observa 83.48 322 *eP* **P 05 01 48.6 +0.6**
comp=Z,22nm,0.9s

NEUB Neuenburg 83.54 326 *eP* **P 05 01 48.0 0.0**
baz=49,slow=5.2

O03E Paynes Creek 83.64 47 P **P 05 01 49.3 +0.3**
baz=303,SNR=6.6

MOD Modoc Plateau 83.70 45 P **P 05 01 49.7 +0.4**
MOD IAmb IAmb 05 01 51.6
comp=Z,31nm,1.0s

CKRC Cesky Krumlov 83.76 323 AMS AMS 05 42 30.0
comp=Z,3µm,18.4s

CLZ Calsthal 83.80 327 *eP* **P 05 01 49.4 0.0**
comp=Z,56nm,1.3s,baz=49,slow=5.2

JTMT Jette 83.80 38 P **P 05 01 51.3 +1.6**
JTMT IAmb IAmb 05 01 52.1
comp=Z,38nm,1.3s

GUNZ Gunzen 83.80 325 *eP* **P 05 01 49.6 +0.1**
comp=Z,7.7nm,0.9s,baz=49,slow=5.2

GDXM Geysers 83.80 49 P **P 05 01 52.1 +2.3**
GDXM IAmb IAmb 05 01 52.4
comp=Z,46nm,1.4s

NKC Novy Kostel 83.83 325 *eP* **P 05 01 49.6 0.0**
NKC MLR MLR
comp=Z,4µm,15.2s

NKC Novy Kostel 83.83 325 *eP* **P 05 01 49.6 0.0**
NKC AMS AMS 05 43 30.0
comp=Z,4µm,15.2s

BMO Blue Mountains 83.83 42 P **P 05 01 50.8 +1.0**
BMO pmax pmax
comp=Z,19nm,0.9s

BMO Blue Mountains 83.83 42 P **P 05 01 50.8 +1.0**
BMO IAmb IAmb 05 01 51.4
comp=Z,19nm,0.8s

WERN Wernitzgruen 83.83 325 *eP* **P 05 01 49.5 -0.1**
comp=Z,57nm,1.4s,baz=49,slow=5.2

KHC Kasperske Hory 83.95 324 *eP* **P 05 01 50.4 +0.1**
KHC MLR MLR
comp=Z,4µm,17.3s

KHC Kasperske Hory 83.95 324 *eP* **P 05 01 50.4 +0.1**
KHC AMS AMS 05 42 30.0
comp=Z,4µm,17.3s

MOX Moxa 83.97 326 *eP* **P 05 01 50.2 -0.1**
baz=49,slow=5.2

J08A Circle Bar Ran 84.00 43 P **P 05 01 52.3 +1.5**
GEC2 GERESS Array S 84.06 324 *eP* **P 05 01 51.1 +0.2**
comp=Z,5.7nm,0.9s,baz=49,slow=5.2

GERES GERESS Array B 84.06 324 P **P 05 01 50.5 -0.4**
comp=Z,4.0nm,0.7s,baz=49,slow=4.3,SNR=7.5

GERES LR LR 05 43 10.6
comp=Z,3µm,19.2s,baz=60,slow=38

GERES GERESS Array B 84.06 324 P **P 05 01 51.4 +0.4**
LIT Litokhoron 84.07 313 P **P 05 01 51.0 -0.1**
LIT Litokhoron 84.07 313 P **P 05 01 51.0 -0.1**
ARSA Arberg 84.07 322 *i* P **P 05 01 51.5 +0.5**
comp=Z,16nm,1.1s

SFJD Kangerlussuaq 84.08 0 P **P 05 01 50.0 -0.5**
SFJD pmax pmax
comp=Z,32nm,0.9s

SFJD Kangerlussuaq 84.08 0 P **P 05 01 50.0 -0.5**
SFJD IAmb IAmb 05 01 51.2
comp=Z,32nm,0.8s

MANZ Manzenberg 84.15 325 *eP* **P 05 01 51.3 0.0**
baz=49,slow=5.2

GTTG Gottingen 84.19 327 *eP* **P 05 01 51.3 0.0**
baz=49,slow=5.2

ROTZ Rotzenmuhle 84.24 325 *eP* **P 05 01 51.9 +0.2**
comp=Z,17nm,1.1s,baz=49,slow=5.2

ORV Oroville 84.24 48 P **P 05 01 52.5 +0.5**
ORV pmax pmax
comp=Z,42nm,1.4s

ORV Oroville 84.24 48 P **P 05 01 52.5 +0.5**
ORV IAmb IAmb 05 01 53.5
comp=Z,42nm,1.4s

WET Wettzell 84.30 324 *eP* **P 05 01 52.2 +0.2**
baz=49,slow=5.2

MOA Molln 84.38 323 *i* P **P 05 01 52.8 +0.3**
comp=Z,22nm,1.2s

WVOR Wild Horse Val 84.43 44 P **P 05 01 54.1 +1.1**
WVOR pmax pmax
comp=Z,21nm,1.0s

WVOR Wild Horse Val 84.43 44 P **P 05 01 54.0 +1.1**
WVOR IAmb IAmb 05 01 54.8
comp=Z,21nm,0.9s

PLID Pearl Lake 84.44 41 P **P 05 01 53.4 +0.3**
MSO Missoula 84.54 39 P **P 05 01 53.2 -0.3**
MSO IAmb IAmb 05 01 55.2
comp=Z,27nm,1.3s

MSO Missoula 84.54 39 P **P 05 01 53.7 +0.2**
baz=308,SNR=10

UBBA Unterbreizbach 84.64 327 *eP* **P 05 01 53.8 +0.2**
baz=49,slow=5.2

SOKA Soboth 84.69 321 *eP* **P 05 01 54.2 0.0**
comp=Z,46nm,1.5s

IBBN Ibbenburen 84.70 329 *eP* **P 05 01 53.9 0.0**
comp=Z,14nm,0.7s,baz=49,slow=5.2

AGG Agios Georgios 84.77 312 P **P 05 01 53.8 -0.8**
AGG pmax pmax
comp=Z,13nm,0.9s

AGG Agios Georgios 84.77 312 P **P 05 01 53.8 -0.8**
PDG Podgorica 84.78 316 P **P 05 01 54.4 -0.1**
PDG IAmb IAmb 05 02 00.5
comp=Z,17nm,0.9s

GRA1 Grafenberg Arr 84.78 325 P **P 05 01 55.3 +0.8**
GRF Grafenberg Arr 84.78 325 P **P 05 01 55.3 +0.8**
GRF pmax pmax
comp=Z,76nm,1.4s

GRF Grafenberg Arr 84.78 325 *eP* **P 05 01 54.8 +0.3**
baz=49,slow=5.2

FCC Fort Churchill 84.80 22 P **P 05 01 54.8 +0.5**
FCC pmax pmax
comp=Z,47nm,0.8s

FCC Fort Churchill 84.80 22 P **P 05 01 54.8 +0.5**
BEKR Beckworth 84.80 47 P **P 05 01 55.7 +0.7**
IDI Anoyia 85.08 308 P **P 05 01 54.9 -1.4**
comp=Z,13nm,1.0s,baz=165,slow=5.8,SNR=3.5

KASTN Kahler Asten 85.14 328 *eP* **P 05 01 56.3 0.0**
baz=49,slow=5.2

RJOB Jochberg 85.23 323 *eP* **P 05 01 57.6 +0.8**
baz=49,slow=5.2

RUBR Rubicon Trail 85.39 48 P **P 05 01 59.5 +1.5**
MYKA Terra Mystica 85.47 322 *eP* **P 05 01 58.9 +0.8**
comp=Z,16nm,0.9s

PAHR Pah Rah Range 85.51 47 P **P 05 01 59.6 +1.1**
MFID Camas Ranch 85.53 42 P **P 05 01 59.8 +1.3**
MFID IAmb IAmb 05 02 00.4
comp=Z,27nm,0.8s

VCNR Virginia City 85.58 47 P **P 05 02 00.1 +1.2**
VCNR IAmb IAmb 05 02 01.1
comp=Z,30nm,0.8s

MILB Miltenberg 85.64 326 *eP* **P 05 01 59.3 +0.5**
baz=49,slow=5.2

PNTR Pine Nut 85.73 47 P **P 05 02 01.1 +1.4**
PNTR IAmb IAmb 05 02 02.0
comp=Z,37nm,0.8s

HRY Holter Researc 85.75 38 P **P 05 02 00.7 +1.1**
TNS Taunus Mts 85.78 327 *eP* **P 05 01 59.7 +0.2**
comp=Z,6.1nm,0.8s,baz=49,slow=5.2

LRM Limekiln Ridge 85.98 39 P **P 05 02 01.8 +1.0**
ABTA Abfaltersbach 86.00 323 *eP* **P 05 02 01.0 +0.2**
comp=Z,29nm,1.4s

EGMT Eagleton 86.00 36 P **P 05 02 01.5 +0.8**
EGMT Eagleton 86.00 36 P **P 05 02 01.5 +0.8**
baz=310,SNR=17

ITM Ithomi 86.05 311 P **P 05 02 00.8 -0.2**
DLMT Dillon 86.19 39 P **P 05 02 02.8 +1.1**
DLMT IAmb IAmb 05 02 04.0
comp=Z,41nm,0.9s

STAL STALIGIAL 86.20 322 P **P 05 02 01.0 -0.7**
STAL IAmb IAmb 05 02 05.6
comp=Z,21nm,0.8s

AHRW Bad Neuenahr-A 86.21 328 *eP* **P 05 02 02.0 +0.4**
comp=Z,5.8nm,0.8s,baz=49,slow=5.2

HLID Hailey 86.27 41 P **P 05 02 03.6 +1.5**
HLID IAmb IAmb 05 02 04.9
comp=Z,24nm,0.8s

HLID Hailey 86.27 41 P **P 05 02 03.7 +1.5**
baz=308,SNR=52

MCMT McKenzie Canyo 86.38 40 P **P 05 02 04.1 +1.2**
BCYI Bear Canyon 86.39 40 P **P 05 02 04.1 +1.2**
BMN Battle Mountai 86.45 45 P **P 05 02 04.7 +1.5**
BMN pmax pmax
comp=Z,59nm,1.3s

BMN Battle Mountai 86.45 45 P **P 05 02 04.7 +1.5**
BMN IAmb IAmb 05 02 05.9
comp=Z,59nm,1.3s

BOZ Bozeman (W) 86.57 38 P **P 05 02 04.4 +0.8**
BOZ pmax pmax
comp=Z,16nm,1.0s

BOZ Bozeman (W) 86.57 38 P **P 05 02 04.4 +0.8**
BOZ Bozeman (W) 86.57 38 P **P 05 02 04.6 +1.0**
baz=309,SNR=23

BTNL Ternell 86.62 328 *dP* **P 05 02 02.8 -0.7**
UBR Ueberruh 86.65 324 *eP* **P 05 02 04.2 +0.3**
comp=Z,4.1nm,0.8s,baz=49,slow=5.2

MEM Membach 86.66 328 *dP* **P 05 02 03.2 -0.5**
MEM *dP*cP **PcP 05 02 05.7 -0.4**
MEM *dx* x 05 02 19.9

RYN Ryan 86.68 47 P **P 05 02 05.7 +1.4**
RYN IAmb IAmb 05 02 17.0
comp=Z,40nm,1.1s

KVN Kaiserville 86.70 47 P **P 05 02 05.6 +1.1**
KVN pmax pmax
comp=Z,46nm,0.9s

KVN Kaiserville 86.70 47 P **P 05 02 05.6 +1.1**
MDPB Devils Postpil 86.89 48 P **P 05 02 06.8 +1.3**
MDPB IAmb IAmb 05 02 07.6
comp=Z,27nm,1.2s

CTI Castel Tesino 86.91 322 P **P 05 02 05.3 +0.1**
CTI pmax pmax
comp=Z,34nm,1.4s

CTI Castel Tesino 86.91 322 P **P 05 02 05.3 +0.1**
CTI IAmb IAmb 05 02 23.3
comp=Z,34nm,1.4s

LHV Little Huntoon 86.91 47 P **P 05 02 06.9 +1.8**
NVAR Mina Array Bea 86.93 47 P **P 05 02 07.1 +1.5**
comp=Z,14nm,0.8s,baz=298,slow=5.4,SNR=86

NVAR PKKP **PKKPdf 05 19 49.1 -1.7**
comp=Z,0.8nm,0.7s,baz=196,slow=6.1,SNR=6.7

NVAR Mina Array Bea 86.93 47 P **P 05 02 06.5 +0.8**
EKA Eskdalemuir Ar 86.95 336 P **P 05 02 03.8 -1.3**
comp=Z,3.0nm,0.5s,baz=54,slow=4.4,SNR=8.1

NV11 Mina Array Sit 87.03 47 P **P 05 02 06.9 +0.9**
MLAC Mammoth, Mammo 87.05 48 P **P 05 02 05.7 -0.5**
baz=305

BCLA Clavier 87.12 328 *dP* **P 05 02 06.0 0.0**
QLMT Earthquake Lak 87.16 39 P **P 05 02 08.3 +1.7**
PAGB Antelope Grade 87.19 50 P **P 05 02 08.2 +1.6**
WLF Walferdange 87.25 328 *dP* **P 05 02 07.0 +0.4**
WLF *dx* x 05 02 23.6

WLF Walferdange 87.25 328 P **P 05 02 07.0 +0.4**
WLF pmax pmax
comp=Z,52nm,1.5s

WLF Walferdange 87.25 328 P **P 05 02 07.0 +0.4**
WLF IAmb IAmb 05 02 25.7
comp=Z,52nm,1.5s

TEOL Teolo 87.34 322 P **P 05 02 07.4 +0.2**
YHB Horse Butte 87.34 39 P **P 05 02 09.5 +2.0**
YHB IAmb IAmb 05 02 10.2
comp=Z,34nm,1.0s

DAVOX Davos/Dischmat 87.36 324 P **P 05 02 06.9 -0.6**
comp=Z,5.3nm,0.7s,baz=98,slow=3.8,SNR=4.2

VOG Valley Oaks Go 87.44 49 P **P 05 02 07.9 +0.1**
baz=305

BMRD Maredsous 87.44 329 *dP* **P 05 02 07.2 -0.3**
ELK Elko 87.48 44 P **P 05 02 09.5 +1.3**
comp=Z,9.2nm,0.9s,baz=330,slow=3.6,SNR=26

ELK Elko 87.48 44 P **P 05 02 09.5 +1.3**
GCMT Greycliff 87.50 37 P **P 05 02 09.3 +1.2**
YHH Holmes Hill 87.51 39 P **P 05 02 10.0 +1.6**
YHH IAmb IAmb 05 02 11.2
comp=Z,27nm,1.4s

YMR Madison River 87.52 39 P **P 05 02 10.5 +2.1**
YMR IAmb IAmb 05 02 11.3
comp=Z,29nm,1.0s

SMMC Simmler 87.59 51 P **P 05 02 09.7 +1.0**
baz=304

YNR Norris Junctio 87.65 39 P **P 05 02 11.7 +2.7**
YNR IAmb IAmb 05 02 12.5
comp=Z,20nm,1.2s

TIN Tinemaha, Big 87.78 48 P **P 05 02 10.6 +1.0**
baz=306

YNE Yellowstone No 87.82 38 P **P 05 02 11.5 +1.7**
YNE IAmb IAmb 05 02 12.4
comp=Z,29nm,1.5s

TPH Tonopah 87.83 47 P **P 05 02 11.1 +1.2**
TPH pmax pmax
comp=Z,155nm,1.1s

TPH Tonopah 87.83 47 P **P 05 02 11.1 +1.2**
YPP Pitchstone Pla 87.86 39 P **P 05 02 11.2 +1.2**
VES Vestal, Richgr 87.91 50 P **P 05 02 10.0 0.0**
baz=305,SNR=9.2

H17A Grant Village 87.91 39 P **P 05 02 13.8 +3.5**
H17A Grant Village 87.91 39 P **P 05 02 13.1 +2.8**
baz=310,SNR=9.8

YMP Mirror Lake Pl 87.92 38 P **P 05 02 11.7 +1.4**
YMP IAmb IAmb 05 02 13.0
comp=Z,19nm,1.0s

PKM Mcpherson Peak 87.96 51 P **P 05 02 11.8 +1.2**
baz=305

IMW Indian Meadow 88.03 39 P **P 05 02 13.2 +2.3**
IMW IAmb IAmb 05 02 14.0
comp=Z,41nm,1.4s

FLWY Flagg Ranch 88.04 39 P **P 05 02 13.2 +2.4**
FLWY IAmb IAmb 05 02 25.5
comp=Z,26nm,0.8s

FXWY Fox Creek 88.14 40 P **P 05 02 13.0 +1.7**
FXWY IAmb IAmb 05 02 14.4
comp=Z,26nm,1.4s

NRCA Norcia 88.15 319 P **P 05 02 12.0 +0.9**
NRCA IAmb IAmb 05 02 39.3
comp=Z,28nm,1.3s

RLMT Red Lodge 88.15 38 P **P 05 02 12.7 +1.3**
RLMT IAmb IAmb 05 02 13.3

	comp=Z,18nm,0.9s						
RLMT	Red Lodge	88.15	38	P	P	05 02 12.5	+1.2
	baz=311,SNR=19						
MURB	Monte Urbino	88.21	320	P	P	05 02 14.6	+3.2
MURB				IAmb	IAmb	05 02 19.0	
	comp=Z,24nm,0.8s						
MOOW	Moose Ponds	88.23	40	P	P	05 02 13.8	+2.0
SBC	Santa Barbara	88.28	51	P	P	05 02 12.7	+0.9
	baz=305						
TPAW	Teton Pass	88.28	40	P	P	05 02 12.6	+0.6
TPAW				IAmb	IAmb	05 02 13.9	
	comp=Z,18nm,0.9s						
AQU	L'Aquila	88.28	319	P	P	05 02 12.4	+0.6
AQU				pmax	pmax		
	comp=Z,30nm,1.3s						
AQU	L'Aquila	88.28	319	P	P	05 02 12.4	+0.6
AQU				IAmb	IAmb	05 02 25.6	
	comp=Z,30nm,1.3s						
HVU	Hansel Valley	88.32	42	P	P	05 02 14.1	+2.0
HVU				pmax	pmax		
	comp=Z,14nm,1.0s						
HVU	Hansel Valley	88.32	42	P	P	05 02 14.1	+2.0
GRAC	Grapevine Rang	88.37	48	P	P	05 02 13.3	+1.0
	baz=306						
LOHW	Long Hollow	88.40	40	P	P	05 02 14.0	+1.4
SNOW	Snow King Moun	88.41	40	P	P	05 02 14.2	+1.6
ISA	Isabella, Lake	88.42	50	P	P	05 02 13.1	+0.5
ISA				pmax	pmax		
	comp=Z,12nm,1.5s						
ISA	Isabella, Lake	88.42	50	P	P	05 02 13.1	+0.5
ISA	Isabella, Lake	88.42	50	P	P	05 02 12.4	-0.2
	baz=305						
REDW	Red Top Meadow	88.42	40	P	P	05 02 14.5	+1.9
REDW				IAmb	IAmb	05 02 15.5	
	comp=Z,34nm,1.5s						
DGMT	Dagmar	88.44	33	P	P	05 02 13.3	+0.9
DGMT	Dagmar	88.44	33	P	P	05 02 13.3	+0.9
	baz=314,SNR=7.5						
ARVC	Arvin	88.49	50	P	P	05 02 14.3	+1.5
	baz=305						
SCZ2	Santa Cruz Isl	88.59	51	P	P	05 02 14.4	+1.1
	baz=305						
AHID	Auburn Hatcher	88.66	40	P	P	05 02 14.9	+1.1
LAO	LASA Array	88.68	35	P	P	05 02 14.3	+0.7
	baz=313,SNR=12						
BGU	Big Grassy Mou	88.70	43	P	P	05 02 15.8	+1.9
R11A	Troy Canyon, C	88.71	46	P	P	05 02 14.9	+0.9
R11A	Troy Canyon, C	88.71	46	P	P	05 02 13.7	-0.3
	baz=307,SNR=16						
MPMC	Manual Prospec	88.84	49	P	P	05 02 15.4	+0.7
	baz=306,SNR=8.0						
OSI	Osito Audit: C	88.85	51	P	P	05 02 15.4	+0.8
	baz=305						
FURC	Furnace Creek,	89.01	48	P	P	05 02 16.2	+1.0
	baz=306,SNR=6.8						
LRMC	Laurel Mtn Rad	89.05	49	P	P	05 02 16.5	+0.9
	baz=306						
SPR3	Spring Creek 3	89.10	45	P	P	05 02 18.1	+2.0
TPNV	Topopah Spring	89.12	47	P	P	05 02 16.7	+0.7
TPNV				pmax	pmax		
	comp=Z,22nm,1.1s						
TPNV	Topopah Spring	89.12	47	P	P	05 02 16.7	+0.7
TPNV				IAmb	IAmb	05 02 18.3	
	comp=Z,22nm,1.1s						
TPNV	Topopah Spring	89.12	47	P	P	05 02 17.0	+1.1
	baz=307,SNR=14						
HWUT	Hardware Ranch	89.13	42	P	P	05 02 17.6	+1.7
HWUT				IAmb	IAmb	05 02 18.2	
	comp=Z,26nm,1.1s						
EDW2	Edwards Air Fo	89.19	50	P	P	05 02 16.8	+0.6
	baz=306						
DUG	Dugway, Tooele	89.28	43	P	P	05 02 17.3	+0.7
DUG				pmax	pmax		
	comp=Z,46nm,1.5s						
DUG	Dugway, Tooele	89.28	43	P	P	05 02 17.3	+0.7
DUG				IAmb	IAmb	05 02 19.6	
	comp=Z,46nm,1.4s						
DUG	Dugway, Tooele	89.28	43	P	P	05 02 18.3	+1.6
	baz=309,SNR=14						
BW06	Boulder Array	89.53	40	P	P	05 02 18.4	+0.6
BW06	Boulder Array	89.53	40	P	P	05 02 18.7	+0.8
	baz=311,SNR=19						
PD31	Pinedale Array	89.53	40	P	P	05 02 18.9	+1.0
PDAR	Pinedale Array	89.53	40	P	P	05 02 18.4	+0.5
	comp=Z,5.9nm,0.8s,baz=313,slow=0.9,SNR=55						
PDAR				PKKPbc	PKKPbc	05 19 51.5	-0.6
	comp=Z,0.5nm,0.8s,baz=96,slow=3.6,SNR=4.0						
PDAR	Pinedale Array	89.53	40	P	P	05 02 17.4	-0.4
TCUT	Toone Canyon	89.53	42	P	P	05 02 19.9	+2.0
TCUT				IAmb	IAmb	05 02 22.4	
	comp=Z,47nm,1.4s						
CTU	Camp Tracy	89.60	42	P	P	05 02 20.0	+1.8
PRN	Pahroc Range	89.61	47	P	P	05 02 20.1	+1.8
PSUT	Pine Spring	89.67	45	P	P	05 02 20.1	+1.5
SHOC	Shoshone, Teco	89.73	48	P	P	05 02 19.8	+1.1
	baz=307						
GSC	Goldstone, Bar	89.73	49	P	P	05 02 19.6	+0.8
GSC				pmax	pmax		
	comp=Z,21nm,1.3s						
GSC	Goldstone, Bar	89.73	49	P	P	05 02 19.6	+0.8
GSC	Goldstone, Bar	89.73	49	P	P	05 02 19.6	+0.8
	baz=306,SNR=8.0						
BFSC	Mount Baldy Ra	89.79	50	P	P	05 02 19.9	+0.8
	baz=306						
JLU	Jordanelle	89.83	42	P	P	05 02 21.2	+1.8
NLU	North Lily Min	89.87	43	P	P	05 02 21.1	+1.6
PPT	Papeete	89.91	110	LR	LR	05 37 32.4	
	comp=Z,162nm,19.0s,baz=307,slow=32						
PPT2	Papeete2	89.92	110	*e*S	S	05 13 11.2	+2.3
	comp=Z,163nm,24.2s						
PPT2	Papeete2	89.92	110	*e*LR	LR	05 30 53.2	
	comp=Z,764nm,23.5s,baz=297						
PMOR	Pomariorio Ree	90.02	107	*e*T	T	06 41 52.1	
	comp=Z,3.5nm,0.2s						
SHPR	Sheep Range	90.09	47	P	P	05 02 22.3	+1.7
MPU	Maple Canyon	90.10	43	P	P	05 02 22.5	+1.9
TUQ	Turquoise Moun	90.23	49	P	P	05 02 22.4	+1.2
	baz=307,SNR=6.7						
BBRC	Big Bear Solar	90.27	50	P	P	05 02 22.0	+0.5
	baz=306						
HEC	Hector,Ludlow	90.32	49	P	P	05 02 22.2	+0.7
	baz=307						
MURC	Murrieta	90.47	51	P	P	05 02 22.7	+0.5
	baz=306						
TCRU	Three Creeks R	90.49	44	P	P	05 02 24.8	+2.3
CCUT	Cedar City	90.59	46	P	P	05 02 24.6	+1.7
MVU	Marysvale	90.70	44	P	P	05 02 25.5	+2.1
MSU	Marysvale	90.72	44	P	P	05 02 25.5	+2.0
MSU	Marysvale	90.72	44	P	P	05 02 25.5	+2.0
SZCU	Shurtz Canyon	90.73	45	P	P	05 02 25.2	+1.6
GMRC	Granite Mounta	90.80	49	P	P	05 02 24.8	+1.0
	baz=307						
ULM	Lac du Bonnet	90.81	28	P	P	05 02 22.7	-0.7
	comp=Z,23nm,0.9s,baz=337,slow=3.6,SNR=9.7						
TMUT	Trail Mountain	90.81	43	P	P	05 02 25.9	+1.9
TMUT				IAmb	IAmb	05 02 26.9	
	comp=Z,19nm,1.2s						
RAFF	Raffo Rosso	90.91	314	P	P	05 02 24.5	+0.4
109C	Camp Elliot, M	90.95	51	P	P	05 02 24.7	+0.4
	baz=306						
RDMU	Red Mountain	90.95	41	P	P	05 02 26.3	+1.8
RDMU				IAmb	IAmb	05 02 26.5	
	comp=Z,19nm,1.0s						
PFO	Pinyon Flats O	90.96	50	*ce*P	P	05 02 25.6	+1.0
PFO	Pinyon Flats O	90.96	50	P	P	05 02 25.4	+0.8
PFO	Pinyon Flats O	90.96	50	P	P	05 02 25.3	+0.8
	baz=306,SNR=8.3						
TPFO	Pinon Flats	90.97	50	P	P	05 02 25.4	+0.8
	baz=306,SNR=9.6						
P17A	Butcher Ranch,	90.97	43	P	P	05 02 26.4	+1.8
LCMT	Little Creek M	90.99	46	P	P	05 02 26.2	+1.6
MTPU	Mount Pierson	91.01	45	P	P	05 02 27.0	+2.0
MTPU				IAmb	IAmb	05 02 27.6	
	comp=Z,15nm,1.0s						
MDND	Maddock	91.03	31	P	P	05 02 21.8	-2.6
	baz=318						
BELC	Belle Mtn. Jos	91.04	50	P	P	05 02 25.8	+0.8
	baz=307						
Q16A	Castle Valley	91.07	43	P	P	05 02 27.2	+2.1
KNB	Kanab	91.25	46	P	P	05 02 27.8	+1.8
KNB				pmax	pmax		
	comp=Z,27nm,0.9s						
KNB	Kanab	91.25	46	P	P	05 02 27.8	+1.8
KNB				IAmb	IAmb	05 02 28.9	
	comp=Z,27nm,0.9s						
K22A	Casper	91.27	38	P	P	05 02 27.0	+1.1
K22A				IAmb	IAmb	05 02 56.1	
	comp=Z,18nm,1.1s						
K22A	Casper	91.27	38	P	P	05 02 26.6	+0.7
	baz=313,SNR=6.2						
PKCU	Pink Cliffs	91.31	45	P	P	05 02 28.8	+2.4
PKCU				IAmb	IAmb	05 02 29.0	
	comp=Z,21nm,1.1s						
SRU	San Rafael Swe	91.33	43	P	P	05 02 27.0	+0.7
SRU				pmax	pmax		
	comp=Z,22nm,1.0s						
SRU	San Rafael Swe	91.33	43	P	P	05 02 28.0	+1.7
SRU				IAmb	IAmb	05 02 28.8	
	comp=Z,22nm,1.0s						
BAR	Barrett	91.37	51	P	P	05 02 27.1	+0.8
MONP2	Monument Peak	91.41	51	P	P	05 02 27.4	+0.7
	baz=306						
E28A	Huff	91.46	33	P	P	05 02 28.1	+1.6
E28A				IAmb	IAmb	05 02 40.8	
	comp=Z,42nm,1.2s						
NEE2	Needles Airpor	91.49	48	P	P	05 02 27.5	+0.7
	baz=308						
IRM	Iron Mountain	91.51	49	P	P	05 02 28.3	+1.3
	baz=307						
RSSD	Black Hills	91.57	36	P	P	05 02 28.3	+1.0
RSSD				pmax	pmax		
	comp=Z,20nm,1.0s						
RSSD	Black Hills	91.57	36	P	P	05 02 28.3	+1.0
RSSD				IAmb	IAmb	05 02 53.9	
	comp=Z,20nm,0.9s						
RSSD	Black Hills	91.57	36	P	P	05 02 27.9	+0.5
	baz=315						
CBX	Cerro Bola	91.59	51	P	P	05 02 28.2	+0.7
BC3	Big Chuckawall	91.61	50	P	P	05 02 28.6	+1.0
	baz=307,SNR=5.5						
W13A	Hualapai Mount	91.76	48	P	P	05 02 29.5	+1.1
IKP	In-Ko-Pah, Jac	91.77	51	P	P	05 02 28.9	+0.6
	baz=307						
SWSC	Sam W. Stewart	91.80	50	P	P	05 02 28.4	+0.1
	baz=307						
RMX	La Rumorosa	91.82	51	P	P	05 02 29.3	+0.7
RMX				IAmb	IAmb	05 02 31.3	
	comp=Z,22nm,1.2s						
U15A	North Rim	91.95	46	P	P	05 02 30.4	+1.1
U15A				IAmb	IAmb	05 02 31.6	
	comp=Z,11nm,0.9s						
O20A	White River Ci	92.00	41	P	P	05 02 30.5	+1.1
O20A				IAmb	IAmb	05 02 59.8	
	comp=Z,23nm,1.2s						
O20A	White River Ci	92.00	41	P	P	05 02 30.5	+1.1
	baz=312,SNR=10						
PDMCI	Parker Dam,Lak	92.08	49	P	P	05 02 30.7	+1.1
	baz=308						
GLA	Glamis	92.39	50	P	P	05 02 31.6	+0.5
GLA				pmax	pmax		
	comp=Z,27nm,1.0s						
GLA	Glamis	92.39	50	P	P	05 02 31.6	+0.5
GLA				IAmb	IAmb	05 02 33.6	
	comp=Z,27nm,1.0s						
GLA	Glamis	92.39	50	P	P	05 02 32.6	+1.5
	baz=307,SNR=6.7						
PV21	Cone Mtn., Par	92.61	43	P	P	05 02 32.9	+0.6
N23A	Red Feather La	92.78	39	P	P	05 02 34.5	+1.5
	baz=313,SNR=10						
TBI	Tubuai	92.93	115	*e*S	S	05 13 36.8	+1.0
	comp=Z,156nm,25.8s						
TBI	Tubuai	92.93	115	*e*LR	LR	05 32 24.1	
	comp=Z,328nm,22.2s,baz=314						
Y14A	Wickenburg	93.05	48	P	P	05 02 35.5	+1.4
Y14A				IAmb	IAmb	05 02 36.6	
	comp=Z,22nm,0.9s						
WUAZ	Wupatki	93.11	46	P	P	05 02 36.0	+1.5
WUAZ	Wupatki	93.11	46	P	P	05 02 35.8	+1.3
	baz=310,SNR=18						
PV01	Paradox Valley	93.13	43	P	P	05 02 35.5	+0.8
113A	Mohawk Valley,	93.27	50	P	P	05 02 35.7	+0.6
113A				IAmb	IAmb	05 02 37.4	
	comp=Z,18nm,0.9s						
OPO	Ambohidratompo	93.36	251	P	P	05 02 35.6	-0.2
	comp=Z,7.5nm,1.0s,baz=84,slow=9.2,SNR=2.4						
SMCO	Snowmass	93.37	41	P	P	05 02 37.0	+1.1
KMBO	Kilima Mbogo	93.46	271	P	P	05 02 36.6	0.0
	comp=Z,0.6nm,0.3s,baz=48,slow=5.1,SNR=3.2						
TAOE	Nuku Hiva Isla	93.62	98	*e*LR	LR	05 32 37.6	
	comp=Z,748nm,23.0s,baz=300						
ISCO	Idaho Springs	93.72	40	P	P	05 02 38.0	+0.6
ISCO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ISCO	Idaho Springs	93.72	40	P	P	05 02 38.0	+0.6
ISCO	Idaho Springs	93.72	40	P	P	05 02 38.7	+1.3
	baz=313,SNR=6.1						
X16A	Lo Mia Camp, P	93.76	47	P	P	05 02 39.5	+1.9
X16A				IAmb	IAmb	05 02 40.5	
	comp=Z,24nm,1.0s						
MVCO	Mesa Verde	93.78	43	P	P	05 02 39.2	+1.5
MVCO				IAmb	IAmb	05 02 41.1	
	comp=Z,41nm,1.5s						
MVCO	Mesa Verde	93.78	43	P	P	05 02 39.2	+1.5
	baz=311,SNR=12						
SUSD	Miller	93.86	33	P	P	05 02 38.1	+0.5
SUSD	Miller	93.86	33	P	P	05 02 35.1	-2.5
	baz=318						
W18A	Petrified Fore	94.39	46	P	P	05 02 41.9	+1.5
	baz=310						
214A	Organ Pipe Nat	94.40	50	P	P	05 02 42.2	+1.8
214A	Organ Pipe Nat	94.40	50	P	P	05 02 41.8	+1.4
	baz=308,SNR=5.3						
S22A	4UR Ranch, Cre	94.42	42	P	P	05 02 42.1	+1.4
	baz=312,SNR=7.3						
Q24A	Divide	94.55	40	P	P	05 02 41.9	+0.6
	baz=314						
X18A	Snowflake	94.64	46	P	P	05 02 43.3	+1.7
X18A				IAmb	IAmb	05 02 44.2	
	comp=Z,18nm,1.4s						
SCHQ	Schefferville	94.95	10	LR	LR	05 49 26.4	
	comp=Z,733nm,18.6s,baz=22,slow=38						
KEST	Kesra	94.96	316	LR	LR	05 50 22.5	
	comp=Z,1µm,18.3s,baz=358,slow=39						
SDCO	Great Sand Dun	95.19	41	P	P	05 02 45.7	+1.5
SDCO	Great Sand Dun	95.19	41	P	P	05 02 45.2	+1.1
	baz=313						
K31A	O'Neill	95.31	34	P	P	05 02 46.1	+1.8
TUC	Tucson	95.52	48	P	P	05 02 47.4	+1.8
TUC				pmax	pmax		
	comp=Z,21nm,1.1s						
TUC	Tucson	95.52	48	P	P	05 02 47.4	+1.8
TUC				IAmb	IAmb	05 02 48.2	
	comp=Z,21nm,1.1s						
TUC	Tucson	95.52	48	P	P	05 02 46.7	+1.1
	baz=310						
T25A	Trinidad	96.23	41	P	P	05 02 51.1	+2.3
ANMO	Albuquerque	96.52	44	*i* P	P	05 02 51.2	+1.0
ANMO				pmax	pmax		
	comp=Z,16nm,2.9s						
ANMO	Albuquerque	96.52	44	P	P	05 02 50.8	+0.6
ANMO	Albuquerque	96.52	44	P	P	05 02 51.1	+1.0
	baz=313						
BNM	Barren Site	96.95	45	P	P	05 02 52.8	+0.6
MSTX	Muleshoe	99.40	43	P	Pdif	05 03 03.0	-0.1
ESDC	Sonseca Array	99.47	326	P	Pdif	05 03 02.5	-0.7
	comp=Z,1.1nm,1.0s,baz=20,slow=4.1,SNR=2.2						
ESDC				LR	LR	05 52 33.8	
	comp=Z,1µm,20.8s,baz=350,slow=38						
TXAR	Lajitas Array	102.07	46	P	Pdif	05 03 15.5	+0.5
	comp=Z,2.0nm,0.9s,baz=309,slow=4.0,SNR=12						
TXAR				PKKPbc	PKKPbc	05 19 17.9	-0.2
	comp=Z,0.3nm,0.7s,baz=160,slow=2.9,SNR=3.5						
TXAR				PKKP	PKKPdf	05 19 24.9	+0.9
	comp=Z,0.3nm,0.6s,baz=167,slow=4.5,SNR=2.8						
TXAR	Lajitas Array	102.07	46	Pdif	Pdif	05 03 12.9	-2.1
TORD	Torodi Ar. Bea	115.14	303	PKP	PKiKP	05 08 01.7	-0.3
	comp=Z,1.8nm,0.8s,baz=19,slow=3.4,SNR=5.8						
TORD				PP	PP	05 08 59.6	-2.2
	comp=Z,1.1nm,0.7s,baz=47,slow=5.1,SNR=3.6						
TORD				PKKPbc	PKKPbc	05 18 38.3	+1.9
	comp=Z,1.1nm,0.9s,baz=236,slow=3.4,SNR=6.9						
TORD				PKKPab	PKKPab	05 18 45.1	+0.7
	comp=Z,1.4nm,0.8s,baz=234,slow=3.1,SNR=5.6						
BOSA	Boshof	115.77	250	PKP	PKiKP	05 08 03.3	+0.4
	comp=Z,6.2nm,1.2s,baz=75,slow=1.5,SNR=3.8						
SYO	Syowa Base	117.30	204	⇑*e*Pdiff	Pdif	05 04 22.2	+0.8
KOWA	Kowa	118.28	308	PKKPab	PKKPab	05 18 31.3	+0.5
	comp=Z,3.8nm,1.0s,baz=175,slow=1.4,SNR=3.9						
DBIC	Dimbokro	124.24	303	PKP	PKPdf	05 08 19.5	0.0
	comp=Z,5.3nm,0.7s,baz=35,slow=2.6,SNR=6.6						
KIC	Kosan Boka	124.36	302	*e*PKIKP	PKiKP	05 08 20.6	+0.6
	comp=Z,34nm,1.2s						
TIC	Toumodi	124.38	303	*e*PKIKP	PKiKP	05 08 20.6	+0.5
LIC	Lamto	124.67	302	*e*PKIKP	PKPdf	05 08 20.1	-0.2
	comp=Z,78nm,1.8s						
HUMP	Col San Antoni	130.31	21		PKPdf	05 08 30.3	-0.7
STVI	Saint Thomas	130.38	20	PKPdf	PKPdf	05 08 31.1	0.0
MTP	Monte Pirata	130.44	20		PKiKP	05 08 31.8	-0.3
SNAA	Sanae	130.61	198	PKP	PKPdf	05 08 30.3	+0.3
	comp=Z,3.6nm,1.0s,baz=104,slow=4.2,SNR=5.7						
SDV	Santo Domingo	136.94	32	PKPdf	PKPdf	05 08 43.1	-0.6
PCRV	Puerto La Cruz	138.16	23	PKP	PKPdf	05 08 45.6	-0.3
	comp=Z,6.5nm,0.7s,baz=243,slow=4.5						
PLCV	Puerto La Cruz	138.19	23		PKPdf	05 08 45.6	-0.3
ROSC	El Rosal	138.53	39	PKIKP	PKPdf	05 08 47.4	+0.4
ROSC	El Rosal	138.53	39	PKPdf	PKPdf	05 08 47.4	+0.4
OTAV	Otavalo	139.66	49	PKIKP	PKPdf	05 08 48.2	-0.9
OTAV	Otavalo	139.66	49		PKPdf	05 08 48.1	-0.9
MDP	Montagnes des	145.73	6	PKPbc	PKPab	05 09 00.1	0.0
	comp=Z,12nm,0.6s,baz=2.8,slow=4.6,SNR=12						
NNA	Nana	149.24	62	PKP2	PKPbc	05 09 09.9	+0.5
NNA	Nana	149.24	62		PKPbc	05 09 09.9	+0.5
PTGA	Pitinga	149.93	21	PKPbc	PKiKP	05 09 11.6	-0.4
	comp=Z,34nm,0.6s,baz=318,slow=3.7,SNR=4.3						
PTGA	Pitinga	149.93	21	PKPbc	PKPbc	05 09 11.4	+0.3
SAML	Samuel	156.04	35	PKP2	PKPab	05 09 42.0	-0.3
SAML						06 09 14.1	
SAML	Samuel	156.04	35		PKPdf	05 09 14.1	-0.9
SAML				PKPab	PKPab	05 09 42.0	-0.3
LL02	Futaleuf	157.24	134	PKPdf	PKPdf	05 09 16.0	+0.3
LL02					PKPab	05 09 47.8	+0.9
LPAZ	La Paz	158.50	57	PKP	PKPdf	05 09 20.3	+1.5
	comp=Z,8.5nm,1.3s,baz=354,slow=2.6,SNR=6.0						
LPAZ				PKPab	PKPab	05 09 53.9	+0.2
	comp=Z,9.8nm,1.1s,baz=15,slow=4.1,SNR=8.9						
LPAZ	La Paz	158.50	57	PKIKP	PKPdf	05 09 17.9	-0.9
LPAZ						05 09 52.7	
LPAZ	La Paz	158.50	57	PKPdf	PKPdf	05 09 17.9	-0.9
LPAZ				PKPab	PKPab	05 09 52.7	-1.1
PLCA	Paso Flores	159.27	129	PKPab	PKPab	05 09 56.3	+0.4
	comp=Z,12nm,1.3s,baz=231,slow=4.4,SNR=3.2						
PB07	IPOC Station P	160.08	73		PKPdf	05 09 18.4	-1.5
PB07				PKPab	PKPab	05 09 59.9	-0.2
PB01	IPOC Station P	160.10	70	PKPdf	PKPdf	05 09 18.5	-1.4
PB01					PKPab	05 09 58.5	-1.5
LVC	Limon Verde	161.27	74	PKPab	PKPab	05 10 07.2	+1.7
	comp=Z,5.3nm,0.7s,baz=268,slow=3.7,SNR=5.2						
AF01	San Pedro de A	162.03	74		PKPdf	05 09 21.2	-1.0
SIV	San Ignacio	163.00	42	PKP	PKPdf	05 09 23.9	+0.9
	comp=Z,8.8nm,1.0s,baz=345,slow=1.6,SNR=14						
SIV				PKPab	PKPab	05 10 12.6	0.0
	comp=Z,3.6nm,0.9s,baz=27,slow=3.6,SNR=4.4						
BDFB	Brasilia	166.42	354	PKP	PKPdf	05 09 27.1	+1.0
	comp=Z,1.7nm,0.6s,baz=349,slow=5.2,SNR=4.1						
BDFB				PKPab	PKPab	05 10 26.9	-0.6
	comp=Z,5.0nm,0.8s,baz=54,slow=4.3,SNR=5.1						
AQDB	Aquidauana	169.59	35		PKPdf	05 09 26.1	-1.8
CPUP	Villa Florida	172.41	70	PKP	PKPdf	05 09 30.9	+1.6
	comp=Z,3.4nm,0.8s,baz=352,slow=4.8,SNR=4.0						

BGR ***04*** *04:48:35.6±0.0, 37°69N×55°74E, h33km, mb4.9, Ms5.0*
PDG ***04*** *04:49:14.6, 39°50N×49°70E, h33km, mb5.5/2*
THR ***04*** *04:49:34.3±0.5, 41°06N×47°63E, h14km±9km, ML5.7*
DRS ***04*** *04:49:35.0±0.0, 40°89N×47°26E, h21km, ML5.4/9*
MOS ***04*** *04:49:35.2±0.0, 40°89N×47°37E, h6km, MPVA5.8*
IDC ***04*** *04:49:35.6±0.3, 41°01N×47°40E, h0km, mb4.9/48, mb1 5.0/62, mb1mx4.9/78, mbtmp5.0/62, ML4.3/13, MS4.9/43, Ms1 4.9/43, ms1mx4.8/62, Error ellipse: s-maj=7.3km s-min=6.2km az=168.0*
NSSP ***04*** *04:49:36.4, 41°00N×47°42E, h15km, Ms5.4*
TIF ***04*** *04:49:37.9, 40°96N×47°40E, h27km±1km*
NORS ***04*** *04:49:37.6±0.0, 40°96N×47°44E, h9km, MPVA5.7*
AZER ***04*** *04:49:37.1±0.1, 40°96N×47°43E, h16km, ml5.9/34, Error ellipse: s-maj=1.2km s-min=0.8km az=339.0*
NEIC ***04*** *04:49:38.5±2.0, 40°93N±0°06×47°53E±0°07, h14km±3km, mb5.4/315, Mwb5.3/17, Mww5.4, Mwc5.5(GCMT), Error ellipse: s-maj=9.2km s-min=7.6km az=192.0*
SFS ***04*** *04:49:38.7, 40°90N×47°40E, h15km, ML5.4, AZERBAYAN*
TEH ***04*** *04:49:38.4, 40°98N×47°42E, h23km, ML5.5*
GCMT ***04*** *04:49:39.5±0.1, 40°95N±0°01×47°42E±0°01, h24km, MW5.5/141, Moment Tensor Solution. s108,c164; s141,c277; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}0.31±.03; $M_{\theta\theta}$-1.62±.03; $M_{\phi\phi}$1.31±.02; $M_{r\theta}$0.75±.04; $M_{\theta\phi}$1.12±.02; $M_{\phi r}$-0.12±.03; Best double couple: $M_0$1.96200×10^{17} NP1:ϕ_s335.00000°, δ74.00000°, λ-172.00000°. NP2:ϕ_s243.00000°, δ82.00000°, λ-16.00000°. Principal axes: T 1.7020, Plg6.0000°, Azm290.0000°; N 0.5180, Plg72.0000°, Azm38.0000°; P -2.2230, Plg17.0000°, Azm198.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***04*** *04:49:39.2, 40°94N×47°49E, h18km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-1.27; $M_{\theta\theta}$-6.02; $M_{\phi\phi}$7.29; $M_{r\theta}$3.60; $M_{\theta\phi}$5.52; $M_{\phi r}$-1.86; Fault plane solution: $M_0$9.61000×10^{16} NP1:ϕ_s241.98000°, δ70.25000°, λ-16.06000°. NP2:ϕ_s337.54000°, δ74.91000°, λ-159.51000°. Principal axes: T 9.3075, Plg3.0000°, Azm109.0000°; N 0.5726, Plg65.0000°, Azm12.0000°; P -9.8801, Plg25.0000°, Azm201.0000°;*
NEIC ***04*** *04:49:41, 41°03N×47°47E, h21km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.31; $M_{\theta\theta}$-1.64; $M_{\phi\phi}$1.33; $M_{r\theta}$0.95; $M_{\theta\phi}$1.13; $M_{\phi r}$-0.40; Fault plane solution: $M_0$2.15000×10^{17} NP1:ϕ_s241.00000°, δ73.00000°, λ-12.00000°. NP2:ϕ_s335.00000°, δ78.00000°, λ-162.00000°. Principal axes: T 1.7162, Plg4.0000°, Azm108.0000°; N 0.6951, Plg69.0000°, Azm8.0000°; P -2.4113, Plg21.0000°, Azm199.0000°;*
NEIC ***04*** *04:49:42, 40°93N×47°65E, h18km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.13; $M_{\theta\theta}$-0.98; $M_{\phi\phi}$0.85; $M_{r\theta}$-0.01; $M_{\theta\phi}$1.10; $M_{\phi r}$-0.56; Fault plane solution: $M_0$1.54000×10^{17} NP1:ϕ_s252.00000°, δ70.00000°, λ9.00000°. NP2:ϕ_s159.00000°, δ82.00000°, λ160.00000°. Principal axes: T 1.5542, Plg20.0000°, Azm114.0000°; N -0.0262, Plg68.0000°, Azm318.0000°; P -1.5280, Plg8.0000°, Azm207.0000°;*
NNC ***04*** *04:49:43.4±1.7, 41°17N×48°48E, h0km, mb5.7 Error ellipse: s-maj=23.5km s-min=13.3km az=92.0*

ISC 04 04:49:38.3±0.3**, 40°96N**±0°01×**47°44E**±0°01**, h17**km±2km**, h17**km**:pP-P, n1443,** σ**1s75**/1565**, mb5.4**/359**, MS5.0**/76**, 99C-42D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
QBL	Gabala	0.30	93	P	Pb	04 49 45.4	+0.1
	SNR=1730						
QBL				S	Sb	04 49 51.0	+1.0
QBL	Gabala	0.30	93	*e*Pg	Pb	04 49 45.3	+0.1
SEKA	Sheki	0.31	324	PG	Pg	04 49 44.8	-0.1
SEKA	Sheki	0.31	324	P	Pg	04 49 44.8	-0.1
SEKA				S	Sb	04 49 50.0	-0.1
SEKA	Sheki	0.31	324	*e*Pg	Pg	04 49 44.8	-0.1
MNGR	Mingechevir, A	0.33	235	PG	Pb	04 49 45.6	0.0
MNGR	Mingechevir, A	0.33	235	P	Pb	04 49 45.6	0.0
MNGR				S	Sb	04 49 51.8	+1.2
MNGR	Mingechevir, A	0.33	235	*e*Pg	Pb	04 49 45.6	0.0
AKT	Akhty	0.56	23	*d i*PG	Pb	04 49 49.8	0.0
AKT	Akhty	0.56	23	*e*Pg	Pb	04 49 49.9	+0.1
AKT	Akhty	0.56	23	*i* Pg	Pb	04 49 49.9	+0.1
	49µm,0.5s						
AKT				*i* Sg	Sb	04 49 59.0	+1.4
	137µm,0.7s						
XNQ	Khinaliq	0.57	68	P	Pg	04 49 49.8	+0.1
	SNR=2387						
XNQ				S	Sb	04 49 58.7	+0.8
XNQ	Khinaliq	0.57	68	*e*Pg	Pg	04 49 49.8	+0.1
IML	Ismayilli	0.59	106	P	Pg	04 49 50.1	+0.1
	SNR=1366						
IML				S	Sn	04 49 60.0	-1.2
IML	Ismayilli	0.59	106	*e*Pg	Pg	04 49 50.0	+0.1
ZRD	Zardab	0.71	164	P	Pg	04 49 52.6	+0.5
	SNR=996						
ZRD				S	Sn	04 50 04.9	+1.0
ZRD	Zardab	0.71	164	*e*Pg	Pg	04 49 52.6	+0.5
BRDA	Brd	0.72	196	P	Pg	04 49 53.1	+0.6
	SNR=3721						

BRDA S Sn 04 50 05.5 +1.2
BRDA Brd 0.72 196 *e*Pg Pg 04 49 53.0 +0.6
QUB Quba 0.81 59 *e*Pg Pn 04 49 56.1 +1.1
KDMR Kurdemir 0.81 136 P Pg 04 49 54.2 +0.1
SNR=1772
KDMR S Sn 04 50 07.7 +1.2
KDMR Kurdemir 0.81 136 *e*Pg Pg 04 49 54.2 +0.1
KSMR Kasumkent 0.83 39 *i* PG Pn 04 49 54.9 -0.3
KSMR *e*S Sn 04 50 07.3 +0.3
KSMR Kasumkent 0.83 39 *i* Pg Pn 04 49 54.9 -0.3
22µm,0.3s
KSMR *e*Sg Sn 04 50 07.3 +0.3
QSAR Qusar 0.83 48 P Pn 04 49 55.1 -0.2
SNR=2640
QSAR S Sn 04 50 07.5 +0.3
QSAR Qusar 0.83 48 *e*Pg Pn 04 49 55.0 -0.2
AGDM Agdam 0.89 197 P Pb 04 49 55.0 -0.2
AGDM S Sn 04 50 08.5 +0.1
QUBA Quba, Azerbaij 0.89 63 P Pn 04 49 56.2 +0.2
SNR=907
QUBA S Sn 04 50 08.5 -0.1
PQL Pirkuli 0.89 101 P Pb 04 49 55.5 +0.1
PQL S Sn 04 50 09.3 +0.5
PQL Pirkuli 0.89 101 *e*Pg Pb 04 49 55.3 -0.1
GANJ Ganja 0.90 250 PG Pb 04 49 53.9 -1.6
GANJ Ganja 0.90 250 Pg Pb 04 49 53.9 -1.6
SNR=5150
GANJ Sg Sb 04 50 05.9 -1.4
GANJ Ganja 0.90 250 *e*Pg Pb 04 49 53.9 -1.6
ZKT Zaqatala 0.90 320 *e*Pg Pb 04 49 55.1 -0.4
ZKTA Zakatala 0.91 318 PG Pb 04 49 55.1 -0.5
ZKTA Zakatala 0.91 318 P Pb 04 49 55.2 -0.5
SNR=6698
ZKTA S Sg 04 50 08.5 +0.4
DDFL Dedoflistskaro 1.11 296 P Pg 04 50 00.3 +0.6
DDFL Dedoflistskaro 1.11 296 PG Pg 04 50 00.3 +0.6
SIZA Siyzn 1.11 84 P Pg 04 49 59.7 -0.1
SNR=558
SIZA S Sg 04 50 16.9 +2.5
SIZA Siyzn 1.11 84 *e*Pn Pg 04 49 59.7 -0.1
ATGJ Altiaghaj 1.14 95 P Pg 04 50 00.1 -0.3
SNR=2353
ATGJ S Sg 04 50 16.4 +1.1
ATGJ Altiaghaj 1.14 95 *e*Pn Pg 04 50 00.0 -0.3
URKR Urkarakh 1.21 7 *i* PG Pg 04 50 01.4 -0.3
URKR *e*S Sg 04 50 22.1 +4.5
URKR Urkarakh 1.21 7 *i* Pg Pg 04 50 01.4 -0.3
17µm,0.4s
URKR *i* Sg Sg 04 50 22.1 +4.5
41µm,0.7s
GBS Qobustan 1.22 110 P Pg 04 50 02.2 +0.4
SNR=37
GBS S Sg 04 50 17.9 +0.1
BLQ Beylaqan 1.24 176 P Pn 04 50 00.4 -0.5
SNR=953
BLQ S Sn 04 50 17.7 +0.5
LGD Lagodekhi 1.25 315 P Pn 04 50 01.1 +0.1
LGD S Sg 04 50 18.2 -0.6
LGD Lagodekhi 1.25 315 PG Pn 04 50 01.1 +0.1
LGD S Sg 04 50 18.2 -0.6
GDB GEDABAY 1.30 260 P Pn 04 50 00.2 -1.6
GDB S Sb 04 50 17.1 -1.6
SAAT Saatly 1.33 145 P Pn 04 50 01.3 -0.8
SNR=1113
SAAT S Sb 04 50 19.8 +0.3
GNBR Gunib 1.47 346 *i* PG Pg 04 50 12.2 +5.6
GNBR Gunib 1.47 346 *e*Pg Pg 04 50 07.1 +0.5
13µm,0.5s
GNBR *i* Sg Sg 04 50 29.2 +3.4
28µm,0.7s
QRD Qoradiz 1.50 183 Pn Pn 04 50 04.2 -0.1
SNR=451
QRD Sn Sn 04 50 23.8 +0.3
SGKR Sergokala 1.51 6 *e*PG Pg 04 50 06.6 -0.7
SGKR *e*S Sg 04 50 31.0 +4.1
SGKR Sergokala 1.51 6 *e*Pg Pg 04 50 06.6 -0.7
SGKR *e*Sg Sg 04 50 31.0 +4.1
ALIB Äli-Bayra 1.56 129 Pg Pg 04 50 08.0 -0.3
SNR=760
ALIB Sn Sb 04 50 26.1 0.0
XNZR Khunzakh 1.67 341 ⇓ *i* PN Pg 04 50 09.6 -0.9
XNZR *e*S Sg 04 50 33.5 +1.3
XNZR Khunzakh 1.67 341 *e*Pg Pb 04 50 09.4 +0.7
8µm,0.7s
XNZR *i* Sg Sg 04 50 33.2 +1.0
19µm,1.1s
ARKR Arakani 1.67 349 *e*PN Pb 04 50 09.4 +0.7
ARKR *e*S Sg 04 50 34.1 +1.9
ARKR Arakani 1.67 349 *e*Pg Pb 04 50 09.4 +0.7
8µm,0.7s
ARKR *i* Sg Sg 04 50 34.1 +1.9
28µm,0.5s
GOBA Gobu 1.83 107 Pg Pb 04 50 12.1 +0.8
SNR=165
GOBA Sn Sb 04 50 33.9 -0.1
GLBA Clilabad 1.87 157 Pg Pn 04 50 09.6 +0.1
SNR=798
GLBA Sn Sn 04 50 33.5 +0.9
BUJR Buynaksk 1.88 353 *e*PN Pg 04 50 13.3 -1.1
BUJR *e*S Sg 04 50 40.4 +1.6
BUJR Buynaksk 1.88 353 *e*Pg Pg 04 50 13.3 -1.1
8µm,0.6s
BUJR *i* Sg Sg 04 50 40.4 +1.6
64µm,0.7s
KRNR Karanay 1.91 348 *e*PN Pb 04 50 13.2 +0.6
KRNR *e*S Sg 04 50 40.2 +0.5
KRNR Karanay 1.91 348 *e*Pg Pb 04 50 13.2 +0.6
KRNR *e*Sg Sg 04 50 40.2 +0.5
BTLR Botlikh 1.93 332 *i* PN Pb 04 50 12.9 -0.1
BTLR Botlikh 1.93 332 *e*Pg Pb 04 50 13.6 +0.5
BTLR *i* Sg Sg 04 50 39.5 -0.9
18µm,0.9s
NDR Nardaran 1.97 100 Pn Pb 04 50 13.4 -0.3
SNR=56
NDR Sg Sg 04 50 41.0 -0.8
MAK Makhachkala 2.00 1 *d* *i* PN Pg 04 50 15.5 -1.2
MAK *e* 04 50 17.3
MAK *e*S Sg 04 50 43.3 +0.7
MAK pmax pmax
comp=Z,7µm,0.8s
MAK smax smax
comp=N,57µm,0.8s
MAK Makhachkala 2.00 1 *i* Pg Pg 04 50 15.4 -1.3
MAK *e*Sg Sg 04 50 46.0 +3.4
DBC Dubki 2.11 348 *e*PN Pb 04 50 17.0 +0.9
DBC *e*S Sg 04 50 44.7 -1.4
DBC Dubki 2.11 348 *e*Pg Pb 04 50 16.0 -0.1
DBC *e*Sg Sb 04 50 43.6 +1.7
BTNK Botanikuri 2.11 291 P Pn 04 50 09.1 -3.8
BTNK S Sn 04 50 37.8 -0.9
BTNK Botanikuri 2.11 291 PN Pn 04 50 09.1 -3.8
SBZ Shahbuz 2.13 223 Pn Pn 04 50 14.3 +1.2
SBZ Sn Sb 04 50 42.5 0.0
YRD Yardimli 2.13 163 Pn Pn 04 50 13.1 -0.2
SNR=1602
YRD Sn Sn 04 50 40.8 +1.3
GALA Gala 2.14 104 Pg Pb 04 50 15.7 -0.9
SNR=21
SEAG Tbilisi Sea 2.14 293 P Pn 04 50 13.3 +0.1
SEAG S Sb 04 50 42.4 -0.4
SEAG Tbilisi Sea 2.14 293 PN Pn 04 50 13.3 +0.1
SEAG S Sb 04 50 42.4 -0.4
GRMI Germi 2.18 171 *e*Pn Pn 04 50 13.6 -0.2
GRMI IAML 04 50 44.3
comp=E,41µm,0.5s
GRMI IAML 04 50 47.7
comp=N,35µm,0.3s
GRMI Germi 2.18 171 *e*Pn Pn 04 50 13.6 -0.2
KAPZ Kaputan 2.18 254 *i* P Pn 04 50 14.9 +1.0
KAPZ *i* S Sb 04 50 44.3 +0.2
DLMR Dylym 2.19 344 *e*PN Pb 04 50 18.6 +1.1
DLMR *e*S Sg 04 50 49.7 +0.9
DLMR Dylym 2.19 344 *e*Pn Pb 04 50 18.6 +1.1
comp=N,20µm,0.7s
DLMR *i* Sn Sg 04 50 49.8 +0.9
comp=N,57µm,0.9s
GNI Garni 2.21 249 Pn Pb 04 50 17.4 -0.4
comp=N,1µm,0.3s,baz=69,slow=8.6,SNR=743
GNI Sn Sb 04 50 45.2 +0.3
comp=N,5µm,0.3s,baz=154,slow=23,SNR=17
GNI LR LR 04 51 12.9
comp=N,10µm,19.0s,baz=96,slow=44
GNI Garni 2.21 249 *i* P Pn 04 50 15.6 +1.3
GNI *i* S Sb 04 50 45.8 +0.9
GNI Garni 2.21 249 P Pb 04 50 16.1 -1.7
GNI Garni 2.21 249 *ce*PN Pn 04 50 16.0 +1.7
GNI pmax pmax
comp=Z,9µm,1.3s
GNI Garni 2.21 249 Pn Pn 04 50 15.6 +1.3
GNI Garni 2.21 249 P Pb 04 50 16.1 -1.7
GNI Garni 2.21 249 *e*Pg Pn 04 50 15.8 +1.5
GNI *e*Sg Sb 04 50 44.3 -0.6
DVE Vedeno 2.22 334 *i* PN Pb 04 50 16.9 -1.1
DVE Vedeno 2.22 334 *e*Pg Pb 04 50 16.9 -1.1
DVE *e*Sg Sb 04 50 44.7 -0.6
KANR Karaman 2.23 1 *e*PN Pb 04 50 19.5 +1.3
KANR *e*S Sg 04 50 48.1 -2.0
KANR Karaman 2.23 1 *i* Pn Pb 04 50 19.5 +1.3
KANR *e*Sn Sg 04 50 48.1 -2.0
ORD Ordubad 2.31 209 Pg Pn 04 50 16.7 +1.1
ORD Sn Sb 04 50 46.8 -1.1
STE Stepanavan 2.32 272 *i* P Pn 04 50 16.7 +0.9
STE S Sb 04 50 48.0 -0.2
NAX Nakhchivan 2.33 220 Pn Pn 04 50 17.2 +1.4
SNR=178
NAX Sn Sb 04 50 47.8 -0.4
NRKZ NAREK 2.33 247 *i* P Pb 04 50 18.6 -1.2
NRKZ *i* S Sg 04 50 51.2 -1.9
HYR Heyderabad 2.33 239 Pn Pn 04 50 17.1 +1.2
SNR=69
HYR Sn Sb 04 50 48.1 -0.3
KZRT Kazreti 2.33 282 P Pn 04 50 15.0 -0.9
KZRT S Sb 04 50 47.1 -1.3
KZRT Kazreti 2.33 282 PN Pn 04 50 15.0 -0.9
KZRT S Sb 04 50 47.1 -1.3
LRK Lerik 2.42 163 Pn Pn 04 50 17.2 0.0
SNR=397
LRK Sn Sn 04 50 47.9 +1.5
LKRN Lenkeran, Azer 2.47 155 PN Pn 04 50 17.9 +0.1
LKRN Lenkeran, Azer 2.47 155 Pn Pn 04 50 17.7 -0.1
SNR=33
LKRN Sn Sb 04 50 51.0 -1.4
DMNI Dmanisi 2.48 280 P Pn 04 50 17.0 -0.9
DMNI S Sb 04 50 51.7 -1.0
DMNI Dmanisi 2.48 280 PN Pn 04 50 17.0 -0.9
DMNI S Sb 04 50 51.7 -1.0
AHAR Ahar 2.49 187 *e*PN Pn 04 50 18.9 +0.8
GROC Groznyy 2.55 332 *e*PN Pb 04 50 21.6 -2.0
GROC *e*S Sb 04 50 55.0 +0.3
GROC pmax pmax
comp=Z,3µm,0.8s
GROC smax smax
comp=N,33µm,1.7s
GROC MLR MLR
comp=Z,102µm,2.0s
GROC Groznyy 2.55 332 *e*Pn Pb 04 50 21.8 -1.8
GROC *e*Sn Sb 04 50 54.7 0.0
IMRD Marand 2.61 211 *e*Pn Pn 04 50 20.7 +0.9
ASTR Astara 2.62 156 Pn Pn 04 50 19.5 -0.2
SNR=214
ASTR Sn Sn 04 50 53.3 +2.3
ARUZ Aruch 2.63 256 *i* P Pn 04 50 21.0 +0.9
ARUZ *i* S Sb 04 50 56.4 -0.8
MAKU Maku 2.65 234 *e*Pn Pn 04 50 21.0 +0.6
MAKU *e*S Sb 04 50 55.5 -2.2
MAKU Maku 2.65 234 *e*Pn Pn 04 50 21.0 +0.6
IHRS Heris 2.66 187 *e*Pn Pn 04 50 21.4 +0.9
GUDG Gudauri 2.68 305 P Pn 04 50 19.6 -1.2
GUDG S Sb 04 50 58.1 -0.4
GUDG Gudauri 2.68 305 PN Pn 04 50 19.8 -1.0
METS Metsamor 2.68 254 *i* P Pn 04 50 21.5 +0.8
METS *i* S Sb 04 50 57.5 -1.0
PNSH Pansheti 2.69 309 P Pn 04 50 21.7 +0.7
PNSH Pansheti 2.69 309 PN Pn 04 50 21.7 +0.7
GMRZ Gyumri 2.74 268 ⇓ *i* P Pb 04 50 27.0 +0.1
GMRZ ⇓ *i* S Sb 04 50 03.0 +2.8
MTEO Meteo 2.77 309 P Pn 04 50 23.8 +1.6
BRNG Burnasheti 2.80 285 P Pn 04 50 22.6 +0.2
BRNG S Sb 04 51 00.8 -1.2
KMGR Komgaron 2.84 318 *e*PN Pb 04 50 26.3 -2.2
KMGR *e*S Sb 04 51 03.7 +0.7
KMGR Komgaron 2.84 318 *e*Pn Pn 04 50 25.6 +2.8
VNNZ Vanand 2.88 254 *i* P Pn 04 50 25.0 +1.5
VNNZ *i* S Sb 04 51 04.3 0.0
ITBZ Tabriz 2.90 201 *e*Pn Pn 04 50 23.9 +0.1
ITBZ *e* 04 50 38.9
comp=Z,68µm,0.7s
BGD Bogdanovka 2.92 277 P Pn 04 50 25.7 +1.7
BGD S Sg 04 51 09.1 -2.9
BGD Bogdanovka 2.92 277 PN Pn 04 50 25.7 +1.7
BGD S Sg 04 51 09.1 -2.9
LACR Lac 3.00 310 *e*PN Pn 04 50 27.6 +2.5
LACR *e*S Sb 04 51 06.0 -1.6
LACR Lac 3.00 310 *i* Pn Pn 04 50 26.3 +1.2
LACR *e*Sn Sb 04 51 04.6 -3.0
AKH Akhalkalaki 3.01 280 P Pn 04 50 25.8 +0.5
AKH S Sb 04 51 06.9 -1.1
AKH Akhalkalaki 3.01 280 PN Pn 04 50 25.8 +0.5
AKH S Sb 04 51 06.9 -1.1
ISHB Shabestar 3.02 208 *e*Pn Pn 04 50 25.4 -0.1
ISHB *e* 04 51 10.1
comp=Z,91µm,0.6s
TABZ Tabriz 3.02 197 *e*Pn Pn 04 50 27.8 +2.3
BKRG Bakuriani 3.05 286 P Pn 04 50 26.2 +0.3
BKRG S Sb 04 51 08.9 -0.3
BKRG Bakuriani 3.05 286 PN Pn 04 50 26.2 +0.3
BKRG S Sb 04 51 08.9 -0.3
ISRB Sarab 3.14 177 *e*Pn Pn 04 50 28.1 +1.0
ISRB *e* 04 50 56.3
comp=Z,32µm,0.6s
BTKR Batakoyurt 3.23 319 *e*PN Pn 04 50 31.1 +2.9
BTKR *e*S Sb 04 51 12.9 -1.3
BTKR Batakoyurt 3.23 319 *e*Pn Pn 04 50 30.8 +2.6
BTKR *e*Sn Sn 04 51 09.3 +3.0
IBST Bostanabad 3.28 188 *e*Pn Pn 04 50 29.6 +0.5
IBST *e* 04 50 55.2
comp=Z,40µm,0.7s
KORR Kora 3.29 311 *e*PN Pn 04 50 30.6 +1.6
KORR *e*S Sg 04 51 20.4 -3.5
KORR Kora 3.29 311 *e*Pn Pn 04 50 30.6 +1.6
KARS Kars 3.33 266 PN Pn 04 50 33.0 +3.4
ONI Oni 3.40 300 P Pn 04 50 31.5 +1.0
ONI Oni 3.40 300 PN Pn 04 50 31.5 +1.0
ONI Oni 3.40 300 Pn Pn 04 50 31.5 +1.0
ONI Oni 3.40 300 *e*Pn Pn 04 50 31.5 +1.0
ONI *e*Sn Sb 04 51 16.9 -2.1
TRKR Terskaya 3.41 325 *e*PN Pn 04 50 32.9 +2.2
TRKR *e*S Sn 04 51 14.9 +4.2
TRKR Terskaya 3.41 325 *e*Pn Pn 04 50 32.9 +2.2
TRKR *e*Sn Sn 04 51 14.9 +4.2
DIGR Digorskoe uzhe 3.47 305 *e*PN Pn 04 50 33.9 +2.3
DIGR *e*S Sn 04 51 15.7 +3.3
DIGR Digorskoe uzhe 3.47 305 *e*Pn Pn 04 50 33.8 +2.1
DIGR *e*Sn Sn 04 51 15.8 +3.3
STDR Stavd-Durt 3.48 315 *e*PN Pn 04 50 33.7 +2.1
STDR *e*S Sn 04 51 16.7 +4.4
STDR Stavd-Durt 3.48 315 *e*Pn Pn 04 50 33.7 +2.1
STDR *e*Sn Sn 04 51 16.7 +4.4
LSNR Lesken 3.55 312 *e*PN Pn 04 50 33.8 +1.2
LSNR *e*S Sb 04 51 21.8 -1.5
LSNR Lesken 3.55 312 *e*Pn Pn 04 50 33.8 +1.2
LSNR *e*Sn Sb 04 51 21.8 -1.5
ABS Abastumani 3.57 284 P Pn 04 50 33.1 +0.1
ABS Abastumani 3.57 284 PN Pn 04 50 33.1 +0.1
TKB Tkibuli 3.61 294 P Pn 04 50 33.1 -0.3
TKB S Sb 04 51 25.5 +0.4
TKB Tkibuli 3.61 294 PN Pn 04 50 33.1 -0.3
TKB S Sb 04 51 25.5 +0.4
CSN1 Caspian 3.63 159 *e*Pn Pn 04 50 33.5 -0.1
PRTR Priterechnaya 3.64 321 *i* PN Pn 04 50 35.9 +2.1
PRTR *e*S Sn 04 51 20.2 +3.9
PRTR Priterechnaya 3.64 321 *i* Pn Pn 04 50 35.9 +2.1
PRTR *e*Sn Sn 04 51 20.2 +3.9
IHSH Hashtrud 3.65 182 *e*Pn Pn 04 50 35.0 +0.7
NCK Nalchik 3.81 313 *i* PN Pn 04 50 38.1 +1.9
NCK Nalchik 3.81 313 *e*Pn Pn 04 50 38.0 +1.7
NCK *e*Sn Sn 04 51 24.4 +3.8
RST1 Rasht - Gilan 4.09 155 *e*Pn Pn 04 50 39.9 -0.1
NEY Neytrino 4.19 305 *i* PN Pn 04 50 43.3 +1.8
NEY Neytrino 4.19 305 *e*Pn Pn 04 50 43.7 +2.2
KBZ Khabaz 4.36 311 Pn Pn 04 50 44.7 +1.1
comp=Z,3.4nm,0.3s,baz=137,slow=9.9,SNR=36
KBZ Sn Sn 04 51 37.5 +3.6
comp=Z,33nm,0.3s,baz=108,slow=16,SNR=2.8
KBZ LR LR 04 53 05.0
comp=Z,20µm,19.1s,baz=124,slow=49
KBZ Khabaz 4.36 311 *c* *i* PN Pn 04 50 43.6 0.0
KBZ Khabaz 4.36 311 *e*Pn Pn 04 50 44.3 +0.7
KBZ *e*Sn Sn 04 51 35.2 +1.3
CHVG Ch'k'valeri 4.37 295 P Pn 04 50 44.7 +0.9
CHVG Ch'k'valeri 4.37 295 PN Pn 04 50 44.7 +0.9
BATM Batumi 4.38 280 P Pn 04 50 45.2 +1.3
BATM Batumi 4.38 280 PN Pn 04 50 45.2 +1.3
ZNJK Zanjan 4.39 167 *e*Pn Pn 04 50 43.5 -0.9
ZNJK *e*Sg Sb 04 51 52.6 +4.7
ZNJK Zanjan 4.39 167 *e*Pn Pn 04 50 43.5 -0.9
MAHB Mahabad 4.40 198 *e*Pn Pn 04 50 44.6 +0.2
PYA1 Pyatigorsk 4.46 315 *i* PN Pn 04 50 46.1 +1.0
PYA1 Pyatigorsk 4.46 315 *e*Pn Pn 04 50 45.6 +0.5
PYA1 *e*Sn Sn 04 51 36.0 -0.6
SHA1 Shidzhatmaz 4.50 310 *i* PN Pn 04 50 47.5 +1.7
SHA1 Shidzhatmaz 4.50 310 *e*Pn Pn 04 50 46.4 +0.5
SHA1 *e*Sn Sn 04 51 40.7 +2.8
BEYR Belyy Ugol+ 4.58 313 *e*PN Pn 04 50 47.6 +0.9
BEYR *e*S Sn 04 51 41.1 +1.5
BEYR Belyy Ugol+ 4.58 313 *e*Pn Pn 04 50 47.6 +0.9
BEYR *e*Sn Sn 04 51 41.1 +1.5
KIV0 Kislovodsk Arr 4.61 312 *e*PN Pn 04 50 47.8 +0.5
KIV0 *e*S Sn 04 51 41.1 +0.7
KIV0 Kislovodsk Arr 4.61 312 *e*Pn Pn 04 50 47.8 +0.5
KIV0 *e*Sn Sn 04 51 41.1 +0.7
KVAR Kislovodsk Arr 4.61 312 Pn Pn 04 50 49.0 +1.7
baz=107,slow=19,SNR=7.3
KVAR Sn Sn 04 51 42.6 +2.1
baz=90,slow=20,SNR=3.0
KVAR LR LR 04 53 09.9
comp=Z,23µm,21.8s,baz=44,slow=47
KIV Kislovodsk 4.62 312 *i* P Pn 04 50 47.9 +0.7
SNR=72
KIV Kislovodsk 4.62 312 *ce*PN Pn 04 50 47.8 +0.5
KIV *e*PPP PPP 04 51 00.6
KIV *e*S Sn 04 51 40.2 -0.3
KIV pmax pmax
comp=Z,86nm,1.0s
KIV MLR MLR
comp=Z,6µm,2.0s
KIV Kislovodsk 4.62 312 Pn Pn 04 50 48.3 +1.0
KIV Kislovodsk 4.62 312 P Pn 04 50 50.6 +3.3
KIV Kislovodsk 4.62 312 *e*Pn Pn 04 50 48.0 +0.7
KIV *e*Sn Sn 04 51 39.1 -1.4
JIR1 Jirandeh 4.63 156 *e*Pn Pn 04 50 46.6 -1.0
QSDN Sirdan 4.65 162 *e*Pn Pn 04 50 48.1 +0.1
DOMR Dombai 4.91 300 *i* PN Pn 04 50 53.2 +1.8
DOMR Dombai 4.91 300 *e*Pn Pn 04 50 52.7 +1.3
DOMR *e*Sn Sn 04 51 50.2 +2.3
ALER Alexandrovskoy 5.05 320 *e*PN Pn 04 50 54.5 +1.3
ALER *e*S Sn 04 51 50.4 -0.7
ALER Alexandrovskoy 5.05 320 *e*Pn Pn 04 50 54.5 +1.3
ALER *e*Sn Sn 04 51 50.4 -0.7
IGZV Ghazvin 5.06 154 *e*Pn Pn 04 50 52.7 -0.8
IGZV *e* 04 52 35.8
comp=Z,91µm,1.0s
QCNT Qazvin 5.08 156 *e*Pn Pn 04 50 52.3 -1.4
QALM Alamut, Qazvin 5.17 150 *e*Pn Pn 04 50 53.9 -1.2
SIRT Sirnak 5.20 230 Pn 04 50 56.4 +1.1
GOF Gofitskoye 5.21 323 ⇑ *i* PN Pn 04 50 56.0 +0.6
GOF *e*S Sn 04 51 57.2 +2.2
GOF pmax pmax
comp=Z,469nm,0.8s
GOF smax smax
comp=E,3µm,0.9s
GOF smax smax
comp=N,3µm,0.9s
GOF Gofitskoye 5.21 323 *e*Pn Pn 04 50 56.3 +1.0
GOF *e*Sn Sn 04 51 55.7 +0.7
ARXR Arkhyz 5.26 302 *i* PN Pn 04 50 58.3 +2.1
ARXR Arkhyz 5.26 302 *e*Pn Pn 04 50 57.5 +1.3
ARXR *e*Sn Sn 04 51 57.9 +1.4
KOPT Kop Dagi 5.38 262 Pn 04 50 60.0 +2.0
NVNR Nevinnomyssk 5.43 314 *e*P Pn 04 51 00.7 +2.2
NVNR *e*S Sn 04 52 08.0 +7.4
NVNR Nevinnomyssk 5.43 314 *e*Pn Pn 04 51 00.7 +2.2
NVNR *e*Sn Sn 04 52 08.0 +7.4
QABG Abgarm-Qazvin 5.51 161 *e*Pn Pn 04 50 58.9 -0.8
BINT Bingol 5.73 251 P Pn 04 51 04.5 +1.8
CHTH Charan 5.82 149 *e*Pn Pn 04 51 02.8 -1.2
CHTH Charan 5.82 149 *e*Pn Pn 04 51 02.8 -1.2
IMHD Mahdasht 5.85 153 *e* 04 51 17.5
comp=Z,19µm,0.7s
IMHD *e*Pn Pn 04 51 04.5 +0.3
IRAZ Razeghan 5.88 160 *e*Pn Pn 04 51 04.4 -0.5
RPOR Krasnaya Polya 5.98 300 *e*P Pn 04 51 07.6 +1.7
RPOR *e*S Sn 04 52 09.4 -4.6
RPOR Krasnaya Polya 5.98 300 *e*Pn Pn 04 51 07.6 +1.7
ILIN Lien 6.04 184 *e*Pn Pn 04 51 09.0 +1.9
TEH Tehran 6.07 148 *e*Pn Pn 04 51 08.3 +1.0
IPRN Peran 6.08 139 *e*Pn Pn 04 51 06.5 -0.9
IALM Almabolaq 6.12 174 *e*Pn Pn 04 51 10.7 +2.6
LABN Labinsk 6.16 309 *e*P Pn 04 51 09.5 +1.1
LABN *e*S Sn 04 52 25.3 +6.9
LABN Labinsk 6.16 309 *e*Pn Pn 04 51 09.5 +1.1
HADD Aghdareh 6.27 167 *e*Pn Pn 04 51 11.4 +1.2
IHSB Hasanabad 6.29 150 *e*Pn Pn 04 51 10.9 +0.6
SOC Sochi 6.30 297 *e*P Pn 04 51 11.8 +1.5
SOC *e* 04 52 27.5
SOC pmax pmax
comp=Z,38nm,0.8s
SOC MLR MLR
comp=Z,8µm,16.0s
SOC Sochi 6.30 297 *e*Pn Pn 04 51 11.9 +1.6
SOC *e*Sn Sn 04 52 20.2 -1.6
IDHR Dehrash 6.30 188 *e*Pn Pn 04 51 12.1 +1.5
MARD Mardin 6.33 237 Pn Pn 04 51 12.8 +2.0
IDMV Damavand 6.48 145 *e*Pn Pn 04 51 14.0 +0.9
IBZA Bozab 6.49 177 *e*Pn Pn 04 51 15.6 +2.4
KER Kermanshah 6.57 182 *e*Pn Pn 04 51 16.8 +2.6
IGHG Ghaleghazi 6.66 186 *e*Pn Pn 04 51 17.6 +2.1
LZRR Lazarevskoye 6.66 299 *e*P Pn 04 51 17.7 +2.4
LZRR *i* S Sn 04 52 26.6 -4.1
LZRR Lazarevskoye 6.66 299 *e*Pn Pn 04 51 17.7 +2.4
LZRR *i* Sn Sn 04 52 28.6 -2.1
KCHF Cheshme Sefid, 6.68 183 *e*Pn Pn 04 51 17.8 +2.0
IGLO Ghaloghah 6.69 130 *e*Pn Pn 04 51 14.6 -1.3
ASAO Ashtian 6.72 161 *e*Pn Pn 04 51 15.9 -0.5
ASAO Ashtian 6.72 161 *e*Pn Pn 04 51 15.9 -0.5
IQOM Qom 6.75 154 *e*Pn Pn 04 51 16.8 0.0
IFIR Firoozkooh 6.76 140 *e*Pn Pn 04 51 16.9 0.0
HSAM Samen 6.80 172 *e*Pn Pn 04 51 19.4 +1.9
IVRN Varamin 6.85 149 *e*Pn Pn 04 51 18.7 +0.7
ISHM Shahmirzad 6.90 136 *e*Pn Pn 04 51 18.6 -0.3
TPSR Tuapse 6.90 300 *e*P Pn 04 51 25.2 +6.6
TPSR *e*S Sn 04 52 36.5 -0.2
TPSR Tuapse 6.90 300 *e*Sn Sn 04 52 36.5 -0.2
ERBR Yeremizino-Bor 6.95 315 *e*P Pn 04 51 21.5 +2.3
ERBR *e*S Sn 04 52 38.0 +0.2
ERBR Yeremizino-Bor 6.95 315 *e*Pn Pn 04 51 21.5 +2.3
ERBR *e*Sn Sn 04 52 38.0 +0.2
ILAS Lasjerd 7.07 140 *e*Pn Pn 04 51 21.6 +0.5
IDOB Doab 7.18 175 *e*Pn Pn 04 51 25.8 +3.1
IMND Minoodasht 7.21 118 *e*Pn Pn 04 51 21.0 -1.9
BMDN Meydan 7.36 171 *e*Pn Pn 04 51 28.1 +3.0
IKFM Kafar-mosalman 7.43 177 *e*Pn Pn 04 51 28.5 +2.6
IANJ Anjilo 7.49 135 *e*Pn Pn 04 51 26.9 0.0
IANJ *e* 04 51 51.5
comp=Z,17µm,0.9s
ISFB Sefidab 7.62 148 *e*Pn Pn 04 51 29.0 +0.5
QAMS Qamsar 7.87 155 *e*Pn Pn 04 51 33.3 +1.1
KRSH Karshahi 7.91 150 *e*Pn Pn 04 51 33.4 +0.7
DHL1 Dehloran 8.27 181 *e*Pn Pn 04 51 39.1 +1.8
ANN Anapa 8.29 301 *e*P Pn 04 51 40.4 +2.8
IKLH Kolahrood 8.31 155 *e*Pn Pn 04 51 39.7 +1.5
IPIR Pirpir 8.71 160 *e*Pn Pn 04 51 46.9 +3.2
GEYT Alibeck 8.80 107 Pn Pn 04 51 42.6 -2.1
comp=Z,18nm,0.3s,baz=270,slow=18,SNR=123
GEYT Sn Sn 04 53 16.3 -7.2
comp=Z,25nm,0.3s,baz=283,slow=16,SNR=2.2
GEYT LR LR 04 56 38.5
comp=Z,3µm,20.3s,baz=280,slow=48
GEYT ALIBECK 8.80 107 Pn 04 51 43.0 -1.7
GYA0 ALIBECK ARRAY 8.80 107 P Pn 04 51 41.4 -3.3
GYA0B ALIBECK ARRAY 8.80 107 ⇓ Pn Pn 04 51 41.5 -3.2
GYA0B ALIBECK ARRAY 8.80 107 Pn 04 51 41.5 -3.2
GAZ Gaziantep 8.81 248 Pn Pn 04 51 46.4 +1.6
IZEF Zefreh 8.95 153 *e*Pn Pn 04 51 47.9 +0.9
SHK1 Shahrekord 9.05 161 *e*Pn Pn 04 51 51.4 +3.1

ISFR Sfrayin 9.10 112 ePn Pn 04 51 47.9 -1.1
ISFR e 04 52 03.5
comp=Z,18µm,0.5s
BNN Bunyan 9.15 260 Pn Pn 04 51 51.6 +2.0
SBZV Sabzevar 9.17 117 ePn Pn 04 51 48.4 -1.6
ANAR Anarak 9.24 145 ePn Pn 04 51 51.6 +0.8
SNOP Sinop 9.24 281 Pn Pn 04 51 51.5 +0.8
IGAR Gharneh 9.30 155 ePn Pn 04 51 54.5 +2.7
IEMG Emamgholi 9.40 109 ePn Pn 04 51 50.6 -2.5
IBRJ Brojen 9.54 160 ePn Pn 04 51 57.1 +2.0
IAKL Akhelmad 9.85 113 ePn Pn 04 51 57.7 -1.6
IAKL e 04 52 16.3
comp=Z,6µm,0.5s
IRAM Ramesheh 9.96 155 ePn Pn 04 52 02.8 +2.0
TNSJ Nastanj 10.09 131 ePn Pn 04 52 01.9 -0.6
IPAY Payeh 10.09 113 ePn Pn 04 52 00.6 -2.0
BZK Bozkurt 10.14 280 Pn Pn 04 52 05.3 +2.4
IKRD Kardeh 10.30 110 ePn Pn 04 52 03.4 -2.1
ISAD Sadrabad 10.33 149 ePn Pn 04 52 07.1 +1.1
ICHK Chekchek 10.34 145 ePn Pn 04 52 06.7 +0.7
ILGA Ilgaz 10.37 275 Pn 04 52 09.0 +2.5
KLNJ Kolanjah 10.48 160 ePn Pn 04 52 09.0 +0.9
IMOG Moghan 10.50 114 ePn Pn 04 52 07.0 -1.3
SIM Simferopol' 10.54 297 P Pn 04 52 09.3 +0.8
SIM S Sn 04 54 09.1 +2.9
SIM pmax pmax
comp=Z,37nm,0.3s
BR131 Keskin Array S 10.61 268c iP Pn 04 52 12.6 +3.0
BR131 Keskin Array S 10.61 268 Pn 04 52 12.6 +3.0
BR131 Keskin Array S 10.61 268 P Pn 04 52 12.8 +3.2
SNR=115
BRTR Keskin Array B 10.61 268 Pn Pn 04 52 11.4 +1.9
comp=Z,0.4nm,0.3s,baz=92,slow=11,SNR=172
BRTR LR LR 04 57 15.2
comp=Z,12µm,18.5s,baz=76,slow=44
BRTR Keskin Array B 10.61 268 iP Pn 04 52 13.1 +3.6
BRTR pmax pmax
comp=Z,47nm,1.0s
BRTR Keskin Array B 10.61 268 Pn 04 52 12.7 +3.2
TKDS Koohdasht(Taba 10.64 130 ePn Pn 04 52 09.5 -0.5
TPRV Parvadeh(Tabas 10.83 134 ePn Pn 04 52 12.0 -0.6
IMYA Miami 10.92 111 ePn Pn 04 52 11.4 -2.5
VRH Novokhopyorsk 10.98 341 eP Pn 04 52 14.1 -0.3
VRH pmax pmax
comp=Z,100nm,1.8s
VRH MLR MLR
comp=Z,4µm,13.0s
MIB Mutribah 11.13 180 eP Pn 04 52 15.8 -0.8
IMEH Mehriz 11.17 147 ePn Pn 04 52 17.9 +0.6
ANTO Ankara 11.22 269 P Pn 04 52 21.2 +3.3
ANTO Ankara 11.22 269 Pn Pn 04 52 21.2 +3.3
BR231 Keskin MP Arra 11.24 269 Pn 04 52 20.7 +2.6
JRKH Jarkhoshk 11.31 112 ePn Pn 04 52 16.6 -2.6
UMR Umm Al-Rimmam 11.38 179 eP Pn 04 52 19.2 -0.9
IBAF Bafgh 11.42 142 ePn Pn 04 52 20.8 +0.1
BELG Belogornoye 11.44 1 Pn Pn 04 52 18.9 -1.8
comp=Z,7.9nm,0.3s,baz=180,slow=20,SNR=34
BELG Sn Sn 04 54 23.9 -4.1
comp=Z,14nm,0.3s,baz=348,slow=14,SNR=1.5
BELG LR LR 04 57 21.2
comp=Z,2µm,19.2s,baz=177,slow=41
BELG Belogornoye 11.44 1 iP Pn 04 52 18.0 -2.7
RST Umm Al-Ruwaisa 11.44 182 eP Pn 04 52 20.3 -0.6
VORD Divnogorie 11.49 333 eP Pn 04 52 20.2 -1.2
VORD pmax pmax
comp=Z,30nm,0.5s
BHL Bhannes 11.71 237 eP Pn 04 52 27.1 +2.4
KBD Kabd 11.76 179⇓eP Pn 04 52 24.5 -0.7
AFRZ Afriz 11.90 126 ePn Pn 04 52 26.1 -1.2
QRWL Qaraoun 11.93 235 eP Pn 04 52 30.8 +3.2
AKTO Aktyubinsk 12.01 34 Pn Pn 04 52 26.1 -2.5
comp=Z,13nm,0.3s,baz=215,slow=12,SNR=172
AKTO Sn Sn 04 54 36.3 -5.6
comp=Z,21nm,0.3s,baz=319,slow=20,SNR=6.2
AKTO LR LR 04 58 15.2
comp=Z,2µm,18.9s,baz=236,slow=43
AKTO Aktyubinsk 12.01 34 ⇑Pn Pn 04 52 26.7 -1.8
comp=Z,618nm,1.5s
AKTO ⇓Sn Sn 04 54 37.8 -4.2
comp=Z,804nm,1.2s
AKTO Aktyubinsk 12.01 34 iP Pn 04 52 26.7 -1.8
AKTO pmax pmax
comp=Z,618nm,1.5s
RDF Al-Radifah 12.01 180 eP Pn 04 52 27.8 -0.8
SHI Shiraz 12.03 158 ePn Pn 04 52 29.6 +0.6
ITEG Tejag 12.10 128 ePn Pn 04 52 29.2 -0.9
AB31 Akbulak array 12.11 43 ⇑Pn Pn 04 52 27.8 -2.1
comp=Z,30nm,0.4s,baz=228,slow=13,SNR=645
AB31 Sn Sn 04 54 37.8 -6.6
comp=Z,320nm,0.7s,baz=226,slow=21,SNR=6.7
AB31 Akbulak array 12.11 43 eP Pn 04 52 27.7 -2.1
AB31 e 04 54 37.7
ABKAR Akbulak array 12.11 43 Pn Pn 04 52 29.0 -0.8
VORR Voronezh 12.12 335 eP Pn 04 52 31.0 +1.0
VORR pmax pmax
comp=Z,300nm,1.2s
ASF Jabal al Asfar 12.19 227 Pn Pn 04 52 31.1 0.0
comp=Z,0.4nm,0.3s,baz=336,slow=4.0,SNR=45
ASF Sn Sn 04 54 44.4 -2.2
comp=Z,0.3nm,0.3s,baz=332,slow=20,SNR=0.8
ASF LR LR 04 57 55.0
comp=Z,7µm,19.0s,baz=333,slow=41
QRN Al-Qurain 12.19 178 eP Pn 04 52 31.2 +0.1
MDUB Mudurnu 12.34 273 Pn 04 52 36.1 +2.9
MMAI Mount Meron Ar 12.46 234 LR LR 04 58 15.2
comp=Z,14µm,18.5s,baz=40,slow=42
IMON Monand 12.46 125 ePn Pn 04 52 34.8 -0.2
IKOO Kooshah 12.59 129 ePn Pn 04 52 36.9 +0.1
KHGB Koh Gabri 12.86 142 ePn Pn 04 52 40.5 +0.1
IDAH Dahanechah 12.89 126 ePn Pn 04 52 41.0 +0.1
LPSR Galich'ya Gora 13.01 336 eP Pn 04 52 40.7 -1.5
LPSR pmax pmax
comp=Z,40nm,0.8s
LPSR MLR MLR
comp=Z,2µm,11.0s
HRA Herat 13.43 115 Pn Pn 04 52 45.6 -2.6
ISP Isparta 13.45 262 P Pn 04 52 51.0 +2.6
ISP Isparta 13.45 262 Pn Pn 04 52 51.0 +2.6
GHAJ Ghor Haditha 13.59 229 Pn Pn 04 52 52.1 +2.0
CHMN Cheshme madani 13.79 140 ePn Pn 04 52 53.3 0.0
ISK Istanbul-Kandi 13.88 276 P Pn 04 52 55.1 +1.0
NHDN Nehbandan 13.95 129 ePn Pn 04 52 54.1 -1.1
ELL Elmali 14.29 259 P Pn 04 53 02.8 +2.9
ELL Elmali 14.29 259 P Pn 04 53 02.8 +2.9
TIRR Tirgusor 14.41 290 P Pn 04 52 59.7 -1.7
TIRR Tirgusor 14.41 290 Pn Pn 04 52 59.7 -1.7
MILM Milestii Mici 14.67 300 ⇑P Pn 04 53 06.5 +1.6
KIS Kishinev 14.69 300⇑iP Pn 04 53 04.0 -1.1
comp=Z,370nm,2.1s
KIS Kishinev 14.69 300 ePP P 04 53 17.0 +5.8
KIS eS Sn 04 55 45.0 -2.4
KIS eLi 04 56 25.0
KIS eLq LQ 04 56 44.0
KIS eLR LR 04 57 46.0
comp=Z,1µm,21.0s
KIS Kishinev 14.69 300c iP Pn 04 53 04.0 -1.1
KIS eS Sn 04 55 45.0 -2.4
KIS pmax pmax
comp=Z,370nm,2.1s
KIS pmax pmax
comp=E,490nm,1.8s
KIS MLR MLR
comp=N,2µm,15.0s
CFR Carcaliu 14.72 293 ⇑P Pn 04 53 06.4 +0.9
MANT Manisa 14.74 267 Pn Pn 04 53 07.1 +1.0
ICOR Ion Corvin 14.81 289 ⇑P Pn 04 53 08.3 +1.5
KBAM BAM 14.84 139 ePn Pn 04 53 07.0 -0.3
VLDR Vladesti 14.88 296 ⇑P Pn 04 53 08.9 +1.2
SCTR Scanteiesti 14.91 295 ⇑P Pn 04 53 10.0 +1.9
FETY Fethiye 14.95 259 P P 04 53 13.2 -1.0
BALB Balikesir 14.98 271 Pn 04 53 10.5 +1.3
SAKB Bahrain 15.16 169 P Pn 04 53 11.1 -0.5
EIL Elat 15.17 226 Pn Pn 04 53 12.1 +0.3
comp=N,0.1nm,0.3s,baz=71,slow=7.2,SNR=12
EIL LR LR 04 59 49.1
comp=N,9µm,18.6s,baz=34,slow=40
VASR Vaslui 15.27 298 ⇑P Pn 04 53 14.1 +1.2
GENO Geno 15.32 149 ePn Pn 04 53 13.0 -0.9
SHMA Al-Shehemyia 15.35 168 P Pn 04 53 12.7 -1.3
SHMA S Sn 04 56 03.4 -0.2
SORM Soroca 15.36 304 ⇑P Pn 04 53 14.7 +0.6
SORM Soroca 15.36 304 P Pn 04 53 14.7 +0.6
IBND Bandar-abas 15.42 148 ePn P 04 53 19.5 0.0

IAS Iasi 15.56 300 ⇑P Pn 04 53 18.1 +1.4
IAS Iasi 15.56 300 P Pn 04 53 18.1 +1.4
KHOR Al-Khor Airpor 15.67 166 P Pn 04 53 18.0 -0.2
BISRR Bisoca 15.77 294 ⇓P Pn 04 53 21.1 +1.6
VRI Vrincioaia 15.81 295 ⇓P Pn 04 53 21.0 +0.9
VRI Vrincioaia 15.81 295 P Pn 04 53 20.2 +0.2
VRI pmax pmax
comp=Z,156nm,1.1s
ISR Istrita 15.82 292 P Pn 04 53 21.7 +1.5
ISR pmax pmax
comp=Z,226nm,1.1s
PLOR Plostina 15.87 295 ⇑P Pn 04 53 21.7 +0.9
PLOR Plostina 15.87 295 P Pn 04 53 21.6 +0.9
ZHDN Zahedan 15.87 132 ePn Pn 04 53 20.0 -1.0
OBN Obninsk 15.89 337 ⇑P Pn 04 53 19.2 -1.6
OBN Obninsk 15.89 337 Pn Pn 04 53 17.4 -3.4
comp=Z,3.3nm,0.3s,baz=145,slow=17,SNR=21
OBN LR LR 05 00 09.5
comp=Z,678nm,18.9s,baz=145,slow=40
OBN Obninsk 15.89 337 eP Pn 04 53 17.7 -3.1
OBN eS Sn 04 56 15.0 -1.4
OBN pmax pmax
comp=Z,86nm,0.7s
OBN MLR MLR
comp=Z,3µm,12.0s
OBN Obninsk 15.89 337 Pn 04 53 17.4 -3.4
OBN IAmb IAmb 04 53 39.5
comp=Z,250nm,0.7s
AKASG Malin Array Be 15.96 314 Pn Pn 04 53 16.9 -5.0
comp=Z,1.1nm,0.3s,baz=124,slow=12,SNR=22
AKASG LR LR 05 01 14.9
comp=Z,7µm,18.7s,baz=125,slow=44
AKASG Malin Array Be 15.96 314 iP Pn 04 53 20.7 -1.1
AKASG pmax pmax
comp=Z,181nm,0.7s
AKASG Malin Array Be 15.96 314 Pn Pn 04 53 21.0 -0.9
AKASG IAmb IAmb 04 53 26.1
comp=Z,256nm,0.9s
AKBB Malin Array Si 15.96 314c iP Pn 04 53 19.3 -2.5
AKBB Malin Array Si 15.96 314 Pn 04 53 20.4 -1.4
AKBB IAmb IAmb 04 53 26.0
comp=Z,280nm,1.0s
TESR Tescani 16.00 297 ⇓P Pn 04 53 22.9 +0.5
DAT Datca 16.03 261 P P 04 53 28.5 +2.1
NEHR Nehoiu 16.04 293 ⇑P Pn 04 53 23.5 +0.6
ENEZ Enez 16.11 276 P P 04 53 28.7 +1.7
BODT Bodrum 16.12 263 P Pn 04 53 25.4 +1.4
EZN Ezine 16.12 273 P Pn 04 53 25.2 +1.2
MOS Moscow 16.14 340 eP Pn 04 53 19.8 -4.2
MOS eS Sn 04 56 19.0 -3.4
MOS pmax pmax
comp=Z,179nm,1.2s
MOS pmax pmax
comp=Z,500nm,2.0s
MOS MLR MLR
comp=Z,3µm,12.0s
MLR Muntele Rosu 16.29 293 ⇓P P 04 53 28.0 -1.2
MLR Muntele Rosu 16.29 293 Pn Pn 04 53 26.8 +0.5
comp=Z,0.2nm,0.3s,baz=124,slow=8.9,SNR=14
MLR LR LR 05 01 57.1
comp=Z,7µm,21.4s,baz=74,slow=46
MLR Muntele Rosu 16.29 293 Pn Pn 04 53 25.6 -0.7
GADA Gvkgeada 16.38 274 P Pn 04 53 27.4 +0.1
BIZ Bicaz 16.46 298 ⇓P Pn 04 53 28.7 +0.4
TRNA Turayna 16.48 168 P Pn 04 53 27.1 -1.5
TRNA S Sn 04 56 31.6 +0.3
OZUR 16.50 295 ⇓P P 04 53 30.5 -1.0
RDO Rodhopi 16.52 278 P Pn 04 53 28.1 -0.9
SHME Shamm 16.53 151 iP Pn 04 53 28.4 -0.9
SNR=12
SHME Shamm 16.53 151 P Pn 04 53 28.0 -1.4
SHME S Sn 04 56 32.2 -0.3
JRN Qarnain Island 16.60 163 P Pn 04 53 29.9 -0.3
SNR=7.5
SIGR SIGRI 16.61 271 P Pn 04 53 30.1 -0.1
SMTH Samothraki Isl 16.62 276 P Pn 04 53 30.5 +0.2
CHOS Chios island 16.66 268 P Pn 04 53 31.3 +0.4
BANOM Banah 16.71 151 iP Pn 04 53 30.8 -0.7
SNR=14
BANOM Banah 16.71 151 P Pn 04 53 30.1 -1.5
DOPR Dopca 16.75 295 ⇓P P 04 53 33.1 -1.1
KARP Karpathos 16.81 258 P Pn 04 53 33.5 +0.7
CHGR Chuyangaron 16.84 91 Pn 04 53 31.8 -1.6
MTUR Matau 16.88 292 ⇓P P 04 53 34.8 -0.9
VOIR 16.91 293 ⇓P P 04 53 35.6 -0.4
VOIR 16.91 293 P Pn 04 53 34.3 +0.2
VOIR pmax pmax
comp=Z,206nm,1.2s
IUG Iuzhnay 16.95 79⇑eP Pn 04 53 31.2 -3.4
baz=78
IUG eS Sn 04 56 42.3 -0.4
baz=78
IUG Iuzhnay 16.95 79ceP Pn 04 53 31.2 -3.4
IUG eS Sn 04 56 42.2 -0.4
LIA Limnos Island 16.98 274 P P 04 53 39.0 +2.4
PLD Plovdiv 17.06 281 P P 04 53 37.4 -0.1
PLD pmax pmax
comp=Z,9.0nm,1.8s
ARU Arti 17.10 21 P Pn 04 53 32.9 -3.4
comp=Z,0.0nm,0.3s,baz=208,slow=11,SNR=22
ARU S Sn 04 56 35.0 -11
comp=Z,0.0nm,0.3s,baz=197,slow=19,SNR=1.6
ARU LR LR 05 02 19.2
comp=Z,4µm,18.5s,baz=206,slow=45
ARU Arti 17.10 21c iP Pn 04 53 31.9 -4.3
ARU S Sn 04 56 39.5 -6.3
ARU pmax pmax
comp=Z,65nm,1.2s
ARU MLR MLR
comp=Z,8µm,16.0s
ARU Arti 17.10 21 IAmb IAmb 04 53 46.4
comp=Z,397nm,0.9s
MASF Masafi 17.16 152 P Pn 04 53 36.2 -1.1
SNR=13
MSFE Esma-Masafi 17.17 152 iP Pn 04 53 36.3 -1.1
SNR=28
ARR Arges 17.19 292 ⇓P P 04 53 39.0 -0.1
BURAR Bucovina Array 17.21 300 ⇑P P 04 53 39.5 +0.1
BURAR Bucovina Array 17.21 300 P P 04 53 39.5 +0.1
BURAR Bucovina Array 17.21 300 Pn 04 53 38.2 +0.3
BURAR IAmb IAmb 04 53 50.1
comp=Z,203nm,0.8s
SLWR Sila 17.22 167 P Pn 04 53 36.2 -1.7
BUR08 Bucovina Ar. S 17.23 300 IAmb IAmb 04 53 54.0
comp=Z,337nm,1.1s
KK31 Karatay Array 17.27 75 Pn Pn 04 53 35.2 -3.3
comp=Z,418nm,1.1s,baz=276,slow=13,SNR=1889
KK31 ⇓Sn Sn 04 56 37.8 -12
comp=Z,148nm,0.8s,baz=246,slow=36,SNR=2.6
KK31 Karatay Array 17.27 75 iP Pn 04 53 35.2 -3.3
KK31 04 56 37.8
KK31 Karatay Array 17.27 75 IAmb IAmb 04 53 38.4
comp=Z,462nm,1.1s
KKAR Karatay Array 17.27 75 P Pn 04 53 36.0 -2.5
KKAR Karatay Array 17.27 75 Pn 04 53 36.0 -2.5
MDH Madha 17.28 152 iP Pn 04 53 37.3 -1.3
SNR=22
MDH Madha 17.28 152 P Pn 04 53 37.1 -1.5
SNR=11
MDH S Sn 04 56 51.0 +0.6
NAZ Nazwa, Dubai 17.34 154 iP Pn 04 53 38.5 -1.0
SNR=36
NAZ Nazwa, Dubai 17.34 154 P Pn 04 53 38.7 -0.8
SNR=14
APE Apeiranthos 17.45 264 ⇓P P 04 53 42.2 +0.2
APE Apeiranthos 17.45 264 P P 04 53 44.9 +2.9
APE Apeiranthos 17.45 264 P P 04 53 43.7 +1.7
AJN Ajban 17.53 157 iP Pn 04 53 41.1 -0.6
SNR=15
AJN Ajban 17.53 157 P Pn 04 53 40.8 -1.0
SNR=17
AJN S Sn 04 56 57.8 +1.2
FAQ Al Faqa, Dubai 17.55 155 iP Pn 04 53 40.8 -1.2
SNR=27
FAQ Al Faqa, Dubai 17.55 155 P Pn 04 53 40.6 -1.4
FAQ S Sn 04 56 56.0 -1.1
GHWR Ruwais 17.55 163 P Pn 04 53 41.5 -0.6
GHWR S Sn 04 56 56.6 -0.5
UOSS Minazif 17.57 153 iP Pn 04 53 40.7 -1.6
SNR=33
UOSS Minazif 17.57 153 Pn Pn 04 53 39.9 -2.4
UOSS IAmb IAmb 04 53 59.7
comp=Z,244nm,0.8s
UOSS Minazif 17.57 153 P Pn 04 53 40.9 -1.4

ASUD Al Ashush, Dub 17.57 156 iP Pn 04 53 41.8 -0.6
SNR=18
ASUD Al Ashush, Dub 17.57 156 P Pn 04 53 41.9 -0.5
SNR=11
ASUD S Sn 04 56 57.1 -0.6
HATD Hatta, Dubai 17.65 153 iP Pn 04 53 43.0 -0.4
SNR=33
HATD Hatta, Dubai 17.65 153 P Pn 04 53 43.4 +0.1
SNR=16
ARCR ARCALIA 17.66 298 ⇓P P 04 53 45.0 +0.7
KIRV Kirov 17.69 3 P Pn 04 53 39.9 -3.6
comp=Z,11nm,0.3s,baz=184,slow=6.4,SNR=30
KIRV S Sn 04 56 54.2 -5.8
comp=Z,2.3nm,0.3s,baz=274,slow=20,SNR=1.8
KIRV LR LR 05 02 23.6
comp=Z,3µm,18.5s,baz=192,slow=44
KIRV Kirov 17.69 3c iP Pn 04 53 40.3 -3.2
SANT Santorini 17.75 262 Pn 04 53 44.5 -0.1
ASHO Ashiyiah 17.76 153 iP Pn 04 53 43.4 -1.3
SNR=60
BTK Batken 17.80 85 IAmb IAmb 04 53 44.2
comp=Z,390nm,1.0s
LOT Lotru 17.81 292 ⇑P P 04 53 46.9 +0.9
DZA Taraz 17.87 76 eP Pn 04 53 42.3 -3.8
baz=76
DZA eS Sn 04 56 58.4 -6.5
baz=76
DZA Taraz 17.87 76 eP Pn 04 53 42.2 -3.8
DZA eS Sn 04 56 58.4 -6.5
SRS Serrai 17.98 278 P P 04 53 47.8 0.0
SRS Serrai 17.98 278 P P 04 53 48.9 +1.1
SRS pmax pmax
comp=Z,44nm,1.0s
SVE Sverdlovsk 18.04 24ceP Pn 04 53 44.8 -3.1
SVE eS Sn 04 57 09.9 +1.3
SVE pmax pmax
comp=Z,915nm,1.2s
CJR Cluj-Napoca 18.10 296 ⇑P P 04 53 49.6 +0.5
PAIG Paliouri 18.11 275 P Pn 04 53 48.6 -0.2
PAIG Paliouri 18.11 275 P P 04 53 49.9 +0.8
PAIG pmax pmax
comp=Z,52nm,1.5s
SOH Sokhos 18.20 277 P P 04 53 51.6 +1.3
SOH pmax pmax
comp=Z,29nm,1.4s
KBL Kabul 18.23 104 P Pn 04 53 50.1 -0.5
KBL pmax pmax
comp=Z,387nm,1.2s
KBL Kabul 18.23 104 Pn 04 53 50.1 -0.5
KBL IAmb IAmb 04 53 52.8
comp=Z,387nm,1.2s
ALNE Al Ain 18.24 155 iP Pn 04 53 49.8 -0.8
SNR=32
SRVN Saravan 18.30 133 ePn Pn 04 53 47.9 -3.5
BMR Baia Mare 18.36 299 ⇑P Pn 04 53 52.2 +0.4
BMR Baia Mare 18.36 299 P Pn 04 53 54.4 +2.5
BMR pmax pmax
comp=Z,392nm,1.2s
HORT Hortiatis 18.43 277 P Pn 04 53 52.9 0.0
SOHO SOHO 18.43 153 iP P 04 53 52.0 -0.8
SNR=56
SOHO SOHO 18.43 153 P P 04 53 52.1 -0.6
HRKL Herakleio 18.43 259 P P 04 53 48.4 -4.4
DEV Deva 18.46 294 ⇓P Pn 04 53 54.2 +1.1
DEV Deva 18.46 294 P Pn 04 53 54.6 +1.5
DEV pmax pmax
comp=Z,185nm,1.0s
ATHU Athens Univers 18.49 268 P Pn 04 53 55.9 +2.3
KNT Kendrikon 18.50 279 P Pn 04 53 53.9 +0.3
THE Thessaloniki 18.52 277 P Pn 04 53 54.9 +1.0
THE pmax pmax
comp=Z,27nm,1.4s
XOR Xorichti 18.59 273 P Pn 04 53 54.7 -0.1
IDI Anoyia 18.60 260 P P 04 53 53.2 -1.5
comp=Z,2.6nm,0.3s,baz=57,slow=8.0,SNR=14
IDI LR LR 05 01 08.1
comp=Z,2µm,18.6s,baz=77,slow=37
IDI Anoyia 18.60 260 P Pn 04 53 54.9 -0.1
LVV L'vov 18.61 306 eP Pn 04 53 55.1 +0.1
LVV eS Sn 04 57 21.6 -0.9
LVV pmax pmax
comp=Z,160nm,1.4s
LVV MLR MLR
comp=E,2µm,14.0s
LVV MLR MLR
comp=N,2µm,12.0s
LVV MLR MLR
comp=Z,2µm,14.0s
DRK Karamyk 18.65 87 P P 04 53 55.0 -0.5
HERR Herculane 18.71 290 ⇑P Pn 04 53 56.2 0.0
DRGR 18.72 296 ⇑P Pn 04 53 56.6 +0.2
DRGR 18.72 296 P Pn 04 53 56.5 +0.2
DRGR pmax pmax
comp=Z,111nm,1.0s
MNK Minsk 18.79 323 iP P 04 53 52.4 -4.2
MNK iS Sn 04 57 14.7 -12
MNK pmax pmax
comp=N,26nm,1.0s
MNK pmax pmax
comp=Z,26nm,1.0s
MNK pmax pmax
comp=E,7.0nm,1.4s
MNK MLR MLR
comp=E,637nm,16.0s
MNK MLR MLR
comp=Z,5µm,21.0s
MNK MLR MLR
comp=N,2µm,14.0s
MNK Minsk 18.79 323 iP P 04 53 52.4 -4.1
comp=E,7.0nm,1.4s
MNK iP P 04 53 52.4 -4.1
comp=N,26nm,1.0s
MNK iP P 04 53 52.4 -4.1
comp=Z,26nm,1.0s,baz=126
MNK iPP sP 04 54 03.5 -0.4
MNK iPPP PPP 04 54 11.2
MNK iS Sn 04 57 14.7 -12
MNK iSS S 04 57 29.8 +0.1
MNK iSSS SSS 04 57 42.5
MNK iLQ LQ 04 59 16.1
MNK iLR LR 05 00 38.6
MNK iLRM MLR 05 02 46.2
comp=E,637nm,16.5s
MNK iLRM MLR 05 02 50.5
comp=Z,5µm,21.3s
MNK iLRM MLR 05 02 56.9
comp=N,2µm,14.3s
VILL Villia 18.80 269 P Pn 04 53 58.5 +1.2
STIP Stip 18.96 281 iP P 04 53 57.0 -1.5
LIT Litokhoron 18.97 276 P Pn 04 53 59.1 -0.3
LIT Litokhoron 18.97 276 P Pn 04 53 59.1 -0.3
TRPA Tarpa 19.09 300 eP P 04 53 58.8 -1.1
LTK Loutraki 19.10 269 P Pn 04 54 03.6 +2.7
EPID Epidavros 19.10 268 P P 04 53 59.4 -0.7
IMMV Iera Moni Meta 19.21 261 P P 04 53 58.8 -2.5
AGG Agios Georgios 19.32 272 P P 04 54 01.0 -1.5
AGG Agios Georgios 19.32 272 IAmb IAmb 04 54 13.9
comp=Z,237nm,1.3s
UMZA Um Al Zommool 19.32 158 P P 04 54 01.4 -1.2
BZS Buzias 19.33 293 ⇓P P 04 54 02.3 -0.2
BZS Buzias 19.33 293 P P 04 54 02.9 +0.4
BZS pmax pmax
comp=Z,45nm,1.2s
LTVH Ltavrtes, Hu 19.36 298 eP P 04 54 00.3 -2.6
UZH Uzhgorod 19.36 302 eP P 04 54 02.7 -0.2
UZH iS Sn 04 57 34.7 -5.9
KWP Kalwaria Pacla 19.37 305 eP P 04 54 03.3 +0.3
KWP eS S 04 57 44.2 +2.8
KWP eL L 05 01 56.2
comp=Z,5µm,23.8s
KWP Kalwaria Pacla 19.37 305 P P 04 54 03.5 +0.5
KWP pmax pmax
comp=Z,361nm,1.0s
GVD Gavdhos 19.39 259 P Pn 04 54 04.4 0.0
THL Klokotos Trika 19.44 274 P P 04 54 03.4 -0.3
KOLS Kolonicke sedl 19.45 303 eP Pn 04 54 06.0 +0.9
KOLS Kolonicke sedl 19.45 303 eP Pn 04 54 06.0 +0.9
MAKR Makrakomi, Fth 19.47 273 P P 04 54 04.5 +0.3
SKO Skopje 19.49 282 iP Pn 04 54 05.3 -0.3
VLI Veliai 19.53 265 P P 04 54 04.8 0.0
NACGM Naroch 19.54 322 iP P 04 54 03.4 -1.4
BIDO Bidbid 19.57 149 P P 04 54 05.6 +0.3
SNR=12
BRVK Borovoye 19.62 44 ⇑Pn P 04 54 05.2 -0.5

comp=Z,252nm,0.7s
BRVK Borovoye 19.62 44 *ce* P P 04 54 05.3 -0.4
BRVK pmax pmax
comp=Z,209nm,1.3s
BRVK MLR MLR
comp=Z,3µm,15.0s
BRVK Borovoye 19.62 44 P P 04 54 05.4 -0.3
BRVK Borovoye 19.62 44 P P 04 54 05.6 -0.1
BVAR Borovoye Array 19.66 44 P P 04 54 05.8 -0.3
comp=Z,7.5nm,0.3s,baz=217,slow=17,SNR=90
BVAR S S 04 57 35.3 -12
comp=Z,3.5nm,0.3s,baz=224,slow=30,SNR=3.8
AML Almayashu 19.67 78 P P 04 54 07.0 +0.3
SNR=92
EKS2 Erkin-Say 19.68 76 P P 04 54 07.0 +0.3
SNR=216
KLV Kalavryta, Ach 19.71 270 P P 04 54 07.1 +0.3
ANX Ano Chora 19.73 271 P Pn 04 54 10.7 +2.0
VLX Vlachokerasia 19.74 268 P Pn 04 54 08.9 +0.2
EVR Evrytania 19.74 272 P Pn 04 54 08.3 -0.4
TRIP Tripoli 19.77 268 P P 04 54 05.7 -1.8
LAKA Lakka 19.79 270 P P 04 54 08.1 +0.5
BRZS Berezniki 19.79 54⇑ *i* P P 04 54 06.8 -0.8
baz=54
BRZS *e*S S 04 57 36.6 -13
baz=54
BRZS Berezniki 19.79 54 *c i* P P 04 54 06.7 -0.8
BRZS *e*S S 04 57 36.6 -13
EFP Efpalio 19.79 271 P Pn 04 54 15.2 +6.0
IDID Didziasalis 19.82 323 *e*P P 04 54 07.4 -0.4
KPRO Kipourio 19.85 276 P P 04 54 06.3 -2.0
BTLS Baital 19.85 69⇑ *i* P P 04 54 07.2 -1.0
comp=Z,151nm,1.1s,baz=69
BTLS *e*S S 04 57 35.7 -15
baz=69
BTLS Baital 19.85 69 *c i* P P 04 54 07.2 -1.0
BTLS *e*S S 04 57 35.7 -15
BTLS pmax pmax
comp=Z,151nm,1.1s
CRVS Cervenica-Dubn 19.96 302 *e*P P 04 54 10.1 +0.7
CRVS Cervenica-Dubn 19.96 302 *e*P P 04 54 10.1 +0.7
NEST Nestorio 20.00 277 P P 04 54 10.5 +0.5
AMBH Ambrzfalva 20.02 295 *e*P P 04 54 09.8 -0.2
WSAR Wadi Sarin 20.02 149 P P 04 54 10.2 -0.1
comp=Z,217nm,0.9s,baz=5.4,slow=8.7,SNR=39
WSAR S S 04 57 54.5 -0.3
comp=Z,7.9nm,0.9s,baz=314,slow=13,SNR=1.1
WSAR Wadi Sarin 20.02 149 P P 04 54 10.8 +0.5
SNR=12
IIGN Ignalina 20.07 323 *e*P P 04 54 10.3 -0.2
OHR Ohrid 20.07 279 P Pn 04 54 13.5 +0.9
OHR pmax pmax
comp=Z,179nm,1.2s
OHR Ohrid 20.07 279 *i* P P 04 54 11.6 +0.8
BEO Beograd 20.09 290 P Pn 04 54 13.8 +1.1
ITM Ithomi 20.14 268 P P 04 54 09.1 -2.4
ITM Ithomi 20.14 268 IAmb IAmb 04 54 32.8
comp=Z,127nm,0.8s
KBN Korca 20.16 278 P Pn 04 54 12.7 -0.9
KBN pmax pmax
comp=Z,144nm,1.1s
KBN Korca 20.16 278 P P 04 54 12.7 +0.9
KBN IAmb IAmb 04 54 25.8
comp=Z,144nm,1.1s
USP Ospenovka 20.18 74 P P 04 54 12.3 +0.4
SNR=6.8
AMT Artemida-Makis 20.19 269 P Pn 04 54 14.0 0.0
AAK Ala-Archa 20.21 76 P P 04 54 12.8 +0.4
comp=Z,348nm,0.9s,baz=266,slow=10,SNR=247
AAK S S 04 57 59.8 +1.1
comp=Z,19nm,0.8s,baz=10,slow=22,SNR=1.6
AAK LR LR 05 03 26.9
comp=Z,4µm,19.4s,baz=282,slow=41
AAK Ala-Archa 20.21 76 P P 04 54 12.9 +0.4
SNR=292
AAK Ala-Archa 20.21 76 *i* P P 04 54 12.9 +0.4
SNR=328
AAK Ala-Archa 20.21 76 ⇑ P P 04 54 12.8 +0.4
comp=Z,1µm,1.2s
AAK Ala-Archa 20.21 76 P P 04 54 12.7 +0.3
RLS Riolos of Patr 20.22 270 P P 04 54 11.8 -0.5
ISAL Salakas 20.25 323 *e*P P 04 54 12.2 -0.3
PHP Peshkopia 20.26 281 P P 04 54 12.4 -0.4
SGDS Sogindy 20.27 74⇑ *i* P P 04 54 11.4 -1.4
comp=Z,159nm,1.3s,baz=74
SGDS *e*S S 04 57 56.8 -2.7
baz=74
CHMS Chumysh 20.38 75 P P 04 54 14.4 +0.4
SNR=98
LSK Leskovik 20.38 277 P P 04 54 15.0 +0.8
DIVS Divibare 20.43 288⇑ *i* P P 04 54 14.0 -0.7
BSZH Besenyszg 20.45 297 *e*P Pn 04 54 17.0 +0.2
KLMR Klimovskoe 20.51 349 *c i* P P 04 54 13.4 -1.7
KLMR S S 04 57 58.2 -5.6
KLMR S Sn 04 57 58.3 -10
KLMR pmax pmax
comp=Z,2µm,1.4s
KLMR MLR MLR
comp=Z,2µm,10.0s
KLMR Klimovskoe 20.51 349⇑ *i* P P 04 54 13.5 -1.7
KLMR ⇑ *i* P P 04 54 13.5 -1.7
KLMR ⇓ *i* P P 04 54 13.5 -1.7
KLMR AMP 04 54 26.1
comp=Z,2µm,1.4s
KLMR S S 04 57 58.2 -5.6
KLMR S Sn 04 57 58.3 -10
KLMR LQ LQ 05 01 00.5
KLMR LQ LQ 05 01 00.5
KLMR LR LR 05 01 19.4
KLMR AMP 05 05 03.0
comp=Z,2µm,9.9s
PVY Plav 20.53 284⇑ *i* P P 04 54 16.3 +0.5
KBK Karagaybulak 20.55 76 P P 04 54 16.6 +0.5
SNR=200
IVA Berane 20.55 284⇑ *i* P P 04 54 16.6 +0.6
FRGS Fruska Gora 20.57 291 ⇓ P Pn 04 54 17.4 -1.0
FRGS Fruska Gora 20.57 291⇑ *i* P P 04 54 16.6 +0.5
PUK Puka 20.63 282 IAmb IAmb 04 54 40.3
comp=Z,198nm,1.2s
NYDR Nydri-Lefkada 20.63 273 P P 04 54 15.4 -1.3
TSLK Tsoukalades, L 20.63 273 P Pn 04 54 19.3 +0.2
LKD2 Lefkada island 20.64 273 P P 04 54 16.6 -0.3
EVGI Lefkada island 20.68 272 P P 04 54 17.5 +0.1
IGT Igoumenitsa 20.71 275 P P 04 54 16.6 -1.1
IGT Igoumenitsa 20.71 275 P P 04 54 17.1 -0.6
IGT pmax pmax
comp=Z,125nm,1.0s
WBK Wadi Bani Khal 20.72 149 P P 04 54 17.5 -0.3
SNR=20
PRGR Permogore 20.73 358 *e*P P 04 54 15.6 -2.1
PRGR *e*S S 04 58 01.9 -6.4
PRGR pmax pmax
comp=Z,562nm,0.7s
TIR Tirane 20.74 280 P P 04 54 17.5 -0.4
TIR pmax pmax
comp=Z,76nm,1.0s
TIR Tirane 20.74 280 P P 04 54 17.5 -0.4
TEKS Tekeris 20.76 289⇑ *i* P P 04 54 16.7 -1.5
PSZ Piszkesteto 20.79 299 ⇓ P P 04 54 19.4 +0.8
PSZ Piszkesteto 20.79 299 *e*P P 04 54 18.7 +0.2
PSZ Piszkesteto 20.79 299 P P 04 54 19.3 +0.8
PSZ pmax pmax
comp=Z,301nm,1.3s
PSZ Piszkesteto 20.79 299 IAmb IAmb 04 54 35.6
comp=Z,285nm,1.2s
FSK Fiskardo 20.80 272 P P 04 54 17.9 -0.7
KZA Kyzart 20.82 78 P P 04 54 19.8 +0.4
SNR=68
NIE Niedzica 20.82 303 *e*P Pn 04 54 20.3 -1.0
NIE *e*S Sn 04 58 18.7 +2.8
NIE *e*L L 05 03 10.5
comp=Z,4µm,22.8s
SUW Suwalki 20.82 317 *e*P P 04 54 17.9 -0.9
SUW *e*S S 04 58 07.6 -2.6
SUW *e*L L 05 02 41.0
SUW Suwalki 20.82 317 *e*P P 04 54 18.5 -0.2
KOME Kolasin 20.83 284⇑ *i* P P 04 54 19.7 +0.7
VLS Valsamata 20.85 271 P P 04 54 18.9 -0.3
BBLS Lazići 20.86 287⇑ *i* P P 04 54 19.4 +0.1
PSDA Pessada-Kefalo 20.88 271 P P 04 54 18.9 -0.5
VLMS Volimes, Zakyn 20.88 270 P P 04 54 16.8 -2.8
SRN Sarande 20.89 276 P Pn 04 54 21.7 -0.4
PLE Pljevlja 20.89 266⇑ *i* P P 04 54 20.1 +0.4
RUDO Rudo 20.89 287 *e*P P 04 54 19.9 +0.3

KEF5 Kardakata, Kep 20.92 271 P P 04 54 17.9 -2.0
DMLN Damoulianata-K 21.00 271 P P 04 54 18.7 -2.1
TKM2 Tokmak 2 21.00 75 P P 04 54 20.6 -0.4
SNR=116
TKM2 Tokmak 2 21.00 75 ⇑ P P 04 54 20.5 -0.5
comp=Z,253nm,0.8s
TKM2 Tokmak 2 21.00 75 P P 04 54 20.5 -0.5
KEF3 Kipouria, Keph 21.03 271 P P 04 54 19.7 -1.4
PDG Podgorica 21.06 283⇑ *i* P P 04 54 21.0 -0.4
PDG Podgorica 21.06 283 IAmb IAmb 04 54 47.3
comp=Z,318nm,1.5s
TTG Podgorica 21.06 283⇑ *i* P P 04 54 21.3 -0.1
KEK Kerkira 21.08 276 P P 04 54 20.3 -1.3
DRME Dracevica, Mon 21.14 283⇑ *i* P P 04 54 21.7 -0.5
DRME Dracevica, Mon 21.14 283⇑ *i* P P 04 54 21.9 -0.3
VLO Vlora 21.16 278 P P 04 54 21.8 -0.6
VLO pmax pmax
comp=Z,299nm,1.5s
VLO Vlora 21.16 278 P P 04 54 21.8 -0.6
VLO IAmb IAmb 04 54 46.9
comp=Z,299nm,1.5s
PABE Paberze 21.21 321 *e*P P 04 54 23.1 +0.2
NKY Niksic 21.22 284⇑ *i* P P 04 54 23.6 +0.4
BEL Belsk 21.23 310 *e*P P 04 54 23.0 -0.1
BEL *e*S S 04 58 21.4 +3.0
BEL *e*L L 05 03 13.6
comp=Z,6µm,20.1s
BEL Belsk 21.23 310 P P 04 54 23.3 +0.2
BEL pmax pmax
comp=Z,803nm,1.2s
NKME Niksic 21.25 284⇑ *i* P P 04 54 23.5 0.0
UPM Unac-Piva 21.25 286 *e*P P 04 54 23.9 +0.2
UPM Unac-Piva 21.25 286⇑ *i* P P 04 54 23.6 -0.1
BOOM Boomskoye usch 21.29 76 P P 04 54 23.7 -0.4
BOOM pmax pmax
comp=Z,298nm,0.9s
BOOM Boomskoye usch 21.29 76 P P 04 54 23.7 -0.4
LANS Liptovska Anna 21.30 302 *e*P P 04 54 24.9 +1.0
LANS pmax pmax
comp=Z,61nm,1.1s
LANS Liptovska Anna 21.30 302 *e*P P 04 54 24.9 +1.0
BUD Budapest 21.31 297 *e*P P 04 54 24.7 +0.7
BUD Budapest 21.31 297 P P 04 54 24.9 +0.9
BUD pmax pmax
comp=Z,142nm,1.5s
JLN Jalan Bani Buh 21.31 148 P P 04 54 23.4 -0.8
SNR=30
OJC Ojcow 21.34 305 *e*P P 04 54 23.3 -1.0
OJC *e*S Sn 04 58 26.1 -2.1
OJC *e*L L 05 02 54.0
comp=Z,3µm,24.5s
OJC Ojcow 21.34 305 IAmb IAmb 04 54 38.5
comp=Z,155nm,0.8s
BUM Brajici-Budva 21.34 283⇑ *i* P P 04 54 23.6 -0.9
KUU Kurty 21.49 73⇑ *i* P P 04 54 25.6 -0.4
comp=Z,550nm,1.4s,baz=72
KUU *e*S S 04 58 21.1 -2.6
baz=72
KUU Kurty 21.49 73 *c i* P P 04 54 25.6 -0.4
KUU *e*S S 04 58 21.0 -2.6
KUU pmax pmax
comp=Z,550nm,1.4s
ULHL Ulahol 21.54 77 P P 04 54 27.6 +0.9
SNR=115
BRY Bratogost 21.55 285 *e*P P 04 54 27.0 +0.3
BRY Bratogost 21.55 285⇑ *i* P P 04 54 26.6 -0.1
VYHS Vyhne 21.58 300 *e*P P 04 54 27.9 +0.9
VYHS pmax pmax
comp=Z,212nm,1.5s
VYHS Vyhne 21.58 300 *e*P P 04 54 27.9 +0.9
MTBS Maitube 21.59 75⇑ *i* P P 04 54 27.0 -0.2
baz=74
MTBS *e*S S 04 58 24.1 -1.8
baz=74
HCY Herceg Novi 21.62 284 *e*P P 04 54 26.6 -0.8
HCY Herceg Novi 21.62 284⇑ *i* P P 04 54 26.6 -0.8
PUL Pulkovo 21.65 336 *i* P P 04 54 27.3 -0.2
PUL pmax pmax
comp=Z,119nm,0.5s
PUL MLR MLR
comp=Z,3µm,17.0s
NIL Nilore 21.74 101 P P 04 54 29.0 +0.2
NIL pmax pmax
comp=Z,641nm,1.0s
NIL Nilore 21.74 101 P P 04 54 29.0 +0.2
SRO2 Moca 21.77 298 *e*P P 04 54 29.6 +0.7
SRO2 pmax pmax
comp=Z,195nm,1.1s
SRO2 Moca 21.77 298 *e*P P 04 54 29.6 +0.7
KSH Kashi 21.80 84 P P 04 54 27.6 -1.9
KSH S S 04 58 24.0 -5.9
KSH pmax pmax
comp=Z,480nm,0.8s
KSH pmax pmax
comp=Z,1µm,2.9s
KSH LR LR
comp=Z,3µm,17.0s
KSH LR LR
comp=Z,4µm,18.0s
KSH LR LR
comp=Z,4µm,18.0s
CSKK Cskako 21.81 297 *e*P P 04 54 30.1 +0.8
KOVH Kovagotottos 21.81 293 *e*P P 04 54 29.2 -0.2
SRO Srobarova 21.82 298 *e*P P 04 54 31.4 +1.9
SRO pmax pmax
comp=Z,210nm,1.3s
SRO Srobarova 21.82 298 *e*P P 04 54 31.4 +1.9
MHTO MHTO 21.83 153 P P 04 54 29.2 -0.5
SNR=52
KOLL Kolacno 21.88 300 *e*P P 04 54 30.9 +0.8
VSU Vasula 21.89 330 *e*P P 04 54 29.9 -0.2
VSU Vasula 21.89 330 *i* P P 04 54 28.3 -1.8
VSU pmax pmax
comp=Z,235nm,0.7s
VSU MLR MLR
comp=Z,6µm,18.0s
AAA Alma-Ata 21.94 74 *e*P P 04 54 29.9 -1.1
baz=74
AAA *e*S S 04 58 32.6 -0.1
baz=74
AAA Alma-Ata 21.94 74 *e*P P 04 54 29.8 -1.1
AAA *e*S S 04 58 32.5 -0.1
CHKK Chushkaly 21.96 73⇑ *i* P P 04 54 30.5 -0.5
baz=72
SCTE Santa Cesarea 22.00 277 P P 04 54 30.6 -0.9
SCTE IAmb IAmb 04 54 48.1
comp=Z,142nm,1.1s
TIH Tihany 22.01 296 *e*P P 04 54 32.4 +0.8
MDOK Medeo 22.05 74 *i* P P 04 54 31.4 -0.8
baz=74
MDOK *e*S S 04 58 33.7 -1.1
baz=74
MDOK Medeo 22.05 74 ⇑ P P 04 54 30.9 -1.2
comp=Z,247nm,1.0s
MDOK Medeo 22.05 74 *i* P P 04 54 31.3 -0.8
MDOK *e*S S 04 58 33.6 -1.1
STON Ston 22.16 285⇑ *i* P P 04 54 32.1 -1.0
STON Ston 22.16 285 *i* P P 04 54 32.2 -1.0
OKC Ostrava-Krasne 22.28 303 *e*S S 04 58 38.7 -0.1
OKC AMS AMS 05 04 00.0
comp=Z,3µm,17.2s
JAVC Velka Javorina 22.40 301 *e*P P 04 54 36.3 +0.5
JAVC *e*S S 04 58 43.1 +1.9
BLY Banja Luka 22.43 290⇑ *i* P P 04 54 35.6 -0.5
EGYH Egyhazaskeszo 22.44 297 *e*P P 04 54 30.0 -6.1
PBUR Paburge 22.46 321 *e*P P 04 54 36.0 -0.3
SMOL Smolenice 22.51 300 *e*P P 04 54 38.7 +1.8
SMOL Smolenice 22.51 300 *e*P P 04 54 38.7 +1.8
MGRS Mrkonjic Grad 22.51 289 *e*P P 04 54 36.6 -0.4
RICI Ricice 22.52 287 *i* P P 04 54 35.6 -1.5
MAKA Makarska 22.62 286 *i* P P 04 54 36.9 -1.2
MRAK Mrakovica 22.63 291⇑ *i* P P 04 54 37.3 -1.0
KLNR Kaliningrad 22.64 316 *i* P P 04 54 37.2 -1.0
KLNR MLR MLR
comp=Z,3µm,17.0s
MORC Moravsky Berou 22.65 303 ⇑ P P 04 54 38.0 -0.5
MORC Moravsky Berou 22.65 303 P P 04 54 38.1 -0.4
MORC pmax pmax
comp=Z,103nm,1.3s
MORC Moravsky Berou 22.65 303 IAmb IAmb 04 54 54.2
comp=Z,176nm,1.3s
MORC Moravsky Berou 22.65 303 *e*P P 04 54 37.9 -0.5
MORC *e*S S 04 58 44.9 -0.8
ZST Bratislava 22.68 299 *e*P P 04 54 39.4 +0.7

ZST Bratislava 22.68 299 *e*P P 04 54 39.4 +0.7
MOSL Moslavina 22.74 292 *i* P P 04 54 38.7 -0.7
BEHE Becsehely 22.75 294 *e*P P 04 54 39.3 -0.1
BEHE Becsehely 22.75 294⇑ *i* P P 04 54 39.4 -0.1
TDK Taldyqorghan 22.94 70 *e*P P 04 54 40.1 -1.4
comp=Z,380nm,1.9s,baz=69
TDK *e*S S 04 58 48.2 -2.6
baz=69
TDK Taldyqorghan 22.94 70 *e*P P 04 54 40.1 -1.4
TDK *e*S S 04 58 48.1 -2.6
TDK pmax pmax
comp=Z,380nm,1.9s
KALN Kalnik 22.96 293 *i* P P 04 54 40.9 -0.8
SOP Sopron 22.99 297 *e*P P 04 54 42.0 +0.1
SOP Sopron 22.99 297 P P 04 54 45.6 +3.7
SOP pmax pmax
comp=Z,63nm,1.2s
DOK Doka 23.00 164 P P 04 54 40.1 -2.1
KIJV Kijevo 23.02 288 *i* P P 04 54 41.4 -1.0
SATY Saty 23.04 74 *i* S S 04 58 54.7 +1.9
baz=74
PRZ Przheval'sk 23.10 76 P P 04 54 42.2 -1.2
PRZ pmax pmax
comp=Z,284nm,0.9s
PRZ Przheval'sk 23.10 76 P P 04 54 42.2 -1.2
KOGS Kog 23.11 294 *e*P P 04 54 42.9 -0.3
VRAC Vranov 23.18 302 ⇓ P P 04 54 43.2 -0.6
VRAC Vranov 23.18 302 P P 04 54 43.8 0.0
comp=Z,9.0nm,0.9s,baz=100,slow=10,SNR=14
VRAC S S 04 58 55.5 +0.8
comp=Z,3.7nm,0.7s,baz=30,slow=18,SNR=1.2
VRAC LR LR 05 05 10.4
comp=Z,5µm,21.3s,baz=86,slow=40
VRAC Vranov 23.18 302 *e*P P 04 54 43.4 -0.5
VRAC *e*S S 04 58 55.0 +0.3
SLIT Slitere, Latvi 23.18 324 *e*P P 04 54 44.4 +0.7
KRLC Kraliky 23.19 303 *e*P P 04 54 43.6 -0.5
KRLC *e* 04 54 46.9
KRLC MLR MLR
comp=Z,2µm,16.2s
KRLC Kraliky 23.19 303 *e*P P 04 54 43.6 -0.5
KRLC *ep*P *p*P 04 54 46.9 -2.2
KRLC AMS AMS 05 04 20.0
comp=Z,2µm,16.2s
MTSE Matsula 23.20 328 *e*P P 04 54 45.3 +1.4
KPKS Kokpek 23.21 73⇑ *i* P P 04 54 43.6 -0.8
comp=Z,148nm,1.5s,baz=73
KPKS *e*S S 04 58 56.1 +0.5
baz=73
KPKS Kokpek 23.21 73 *c i* P P 04 54 43.6 -0.8
KPKS *e*S S 04 58 56.0 +0.5
KPKS pmax pmax
comp=Z,148nm,1.5s
MATE Matera 23.21 279 ⇓ P P 04 54 43.1 -1.1
KRUC Moravsky 23.27 301 P P 04 54 44.9 +0.1
KRUC pmax pmax
comp=Z,74nm,2.1s
KRUC Moravsky 23.27 301 *e*P P 04 54 44.7 -0.1
KRUC *e*S S 04 58 57.9 +1.7
PTJ Puntijarka 23.29 293 P P 04 54 44.4 -0.7
CONA Conrad Observa 23.48 298 *i* P P 04 54 46.9 0.0
comp=Z,92nm,2.0s,SNR=23
TIP Timpagrande 23.49 276 ⇓ P P 04 54 46.1 -1.0
TIP Timpagrande 23.49 276 IAmb IAmb 04 54 56.0
comp=Z,165nm,1.1s
MORI Morici 23.53 288 *i* P P 04 54 45.9 -1.5
DPC Dobruska-Polom 23.54 304 *e*P P 04 54 47.5 0.0
DPC MLR MLR
comp=Z,2µm,19.4s
DPC Dobruska-Polom 23.54 304 *e*P P 04 54 47.5 0.0
DPC *e*S S 04 59 07.5 +6.9
DPC AMS AMS 05 04 30.0
comp=Z,2µm,19.4s
KURBB Kurchatov Arra 23.58 55 P P 04 54 47.5 -0.4
comp=Z,35nm,0.8s,baz=261,slow=9.0,SNR=186
KURBB S S 04 59 04.1 +2.9
comp=Z,4.9nm,0.6s,baz=274,slow=26,SNR=1.2
KURBB Kurchatov Arra 23.58 55 ⇑ P P 04 54 47.4 -0.4
comp=Z,335nm,0.9s
KURBB Kurchatov Arra 23.58 55 P P 04 54 47.3 -0.5
ZIRJ Zirje 23.59 287 *i* P P 04 54 46.1 -1.9
WHFO Wadi Hawf 23.60 165 P P 04 54 47.2 -1.1
GROS Grobnik 23.63 294 *e*P P 04 54 48.1 -0.4
OZLJ Ozalj 23.64 292 *i* P P 04 54 47.6 -0.8
OSTC Ostas 23.65 304 *e*P P 04 54 47.7 -0.8
OSTC AMS AMS 05 06 20.0
comp=Z,2µm,20.1s
CRES Cresnjev 23.65 293⇑ *i* P P 04 54 48.2 -0.4
ARSA Arzberg 23.65 296 *i* P P 04 54 48.7 +0.1
comp=Z,78nm,0.9s,SNR=20
KURK Kurchatov 23.66 55 P P 04 54 47.5 -1.1
KURK Kurchatov 23.66 55 S S 04 59 04.1 +1.7
KSP Ksiaz 23.66 305 *e*P P 04 54 48.1 -0.5
KSP *e*S S 04 59 12.9 +10
KSP *e*L L 05 03 49.6
comp=Z,2µm,25.2s
KSP Ksiaz 23.66 305 P P 04 54 48.4 -0.2
KSP pmax pmax
comp=Z,74nm,1.4s
CHVC Chvalec 23.75 305 *e*P P 04 54 49.5 -0.1
CHVC *ex* P 04 54 53.1 +3.5
CHVC AMS AMS 05 06 40.0
comp=Z,2µm,16.0s
GKP Gorka Klasztor 23.76 311 *ep*P P 04 54 51.8 +2.3
GKP *e*S S 04 59 13.0 +9.0
GKP Gorka Klasztor 23.76 311 *e*P P 04 54 49.6 +0.1
UPC Upice 23.76 304 *e*P P 04 54 49.8 +0.2
UPC MLR MLR
comp=Z,3µm,15.6s
UPC Upice 23.76 304 *e*P P 04 54 49.8 +0.2
UPC AMS AMS 05 06 10.0
comp=Z,3µm,15.6s
BOJS Bojanci 23.79 292⇑ *i* P P 04 54 49.7 -0.2
SHLS Shalkode 23.80 74⇑ *i* P P 04 54 53.2 +3.0
comp=Z,60nm,0.8s,baz=74
SHLS *e*S S 04 59 08.7 +3.4
baz=74
SHLS Shalkode 23.80 74 *c i* P P 04 54 53.2 +3.0
SHLS *e*S S 04 59 08.6 +3.4
SHLS pmax pmax
comp=Z,60nm,0.8s
PDGK Podgornoye 23.81 74 ⇑ P P 04 54 49.7 -0.6
comp=Z,226nm,0.9s
PDGK Podgornoye 23.81 74 P P 04 54 49.6 -0.6
TREC Trest 23.89 301 *e*S Sn 04 59 17.9 -11
TREC AMS AMS 05 05 00.0
comp=Z,5µm,21.9s
SHAO Shalim 23.92 160 *i* P P 04 54 49.4 -1.9
SNR=11
SHAO Shalim 23.92 160 P P 04 54 50.1 -1.3
SOKA Soboth 23.96 295 *i* P P 04 54 51.7 +0.1
comp=Z,133nm,1.5s,SNR=33
DMTO DMTO 24.05 162 P P 04 54 51.1 -1.4
ABTO Aybut 24.06 166 P P 04 54 51.3 -1.4
NVLJ Novalja 24.09 289 *i* P P 04 54 51.2 -1.5
RBK Rabkut 24.09 164 P P 04 54 51.7 -1.3
VNDS Vrh nad Dolski 24.18 293 *e*P P 04 54 53.9 +0.3
FIA1 FINESS Array S 24.27 335 P P 04 54 53.6 -0.7
FINES FINESS Array B 24.27 335 P P 04 54 53.4 -0.8
comp=Z,22nm,0.7s,baz=145,slow=10,SNR=85
FINES S S 04 59 08.3 -3.7
comp=Z,17nm,0.9s,baz=126,slow=19,SNR=1.5
FINES LR LR 05 05 20.8
comp=Z,2µm,21.2s,baz=138,slow=39
LJU Ljubljana 24.30 293⇑ *i* P P 04 54 54.6 -0.1
LJU Ljubljana 24.30 293 *e*P P 04 54 54.9 +0.2
CEY Cerknica 24.37 292⇑ *i* P P 04 54 55.1 -0.3
CEL Celeste 24.38 274 IAmb IAmb 04 55 04.8
comp=Z,132nm,1.1s
MOA Molln 24.54 297 *i* P P 04 54 56.2 -0.7
comp=Z,76nm,0.9s,SNR=23
CKRC Cesky Krumlov 24.60 300 *e*P P 04 54 58.8 +1.4
CKRC *e*S S 04 59 26.8 +9.2
CKRC AMS AMS 05 05 50.0
comp=Z,3µm,18.8s
PRU Pruhonice 24.60 303 *e*P P 04 54 58.0 +0.6
PRU MLR MLR
comp=Z,3µm,19.1s
PRU Pruhonice 24.60 303 *e*P P 04 54 58.0 +0.6
PRU *ex* P 04 55 08.5 +11
PRU *e*S S 04 59 28.6 +11
PRU AMS AMS 05 05 10.0
comp=Z,3µm,19.1s
DHRM DHARAMSHALA 24.66 101 *e*P P 04 54 59.6 +1.3

SKDS	**Skadanscina**	**24.66 292⇑**	iP	**P**	**04 54 58.0**	**0.0**
PVCC	**Panska Ves**	**24.67 304**	eP	**P**	**04 54 58.2**	**+0.2**
PVCC			e		04 55 06.0	
PVCC			MLR	MLR		
	comp=Z,2µm,17.0s					
PVCC	**Panska Ves**	**24.67 304**	eP	**P**	**04 54 58.2**	**+0.2**
PVCC			epP	**sP**	**04 55 06.0**	**+0.5**
PVCC			eS	S	04 59 31.6	+13
PVCC			AMS	AMS	05 07 20.0	
	comp=Z,2µm,17.0s					
PRA	**Prague**	**24.68 303**	eP	**P**	**04 54 59.6**	**+1.5**
PRA			MLR	MLR		
	comp=Z,3µm,22.3s					
PRA	**Prague**	**24.68 303**	eP	**P**	**04 54 59.6**	**+1.5**
PRA			eS	S	04 59 31.3	+12
PRA			AMS	AMS	05 05 10.0	
	comp=Z,3µm,22.3s					
PAOL	**Paolisi**	**24.73 281**	IAmb	IAmb	04 55 14.8	
	comp=Z,79nm,1.2s					
TRI	**Trieste**	**24.83 292**	P	**P**	**04 55 00.5**	**+1.0**
TRI			pmax	pmax		
	comp=Z,153nm,0.8s					
MYKA	**Terra Mystica**	**24.92 295**	iP	**P**	**04 55 01.2**	**+0.9**
	comp=Z,71nm,1.0s,SNR=18					
GEC2	**GERESS Array S**	**25.00 300**	P	**P**	**04 55 01.0**	**-0.1**
GEC2	**GERESS Array S**	**25.00 300**	eP	**P**	**04 55 02.8**	**+1.7**
	comp=Z,66nm,0.9s,baz=96,slow=8.7					
GERES	**GERESS Array B**	**25.00 300**	P	**P**	**04 55 00.2**	**-0.9**
	comp=Z,63nm,0.9s,baz=104,slow=9.7,SNR=199					
GERES			S	**S**	**04 59 31.1**	**+6.9**
	comp=Z,1.7nm,0.8s,baz=109,slow=14,SNR=1.3					
GERES			LR	LR	05 06 28.8	
	comp=Z,3µm,21.6s,baz=96,slow=41					
INTR	**Introdacqua**	**25.05 284**	IAmb	IAmb	04 55 19.7	
	comp=Z,78nm,1.0s					
KHC	**Kasperske Hory**	**25.11 300**	eP	**P**	**04 55 01.1**	**-0.9**
KHC			e		04 55 06.6	
KHC			MLR	MLR		
	comp=Z,4µm,23.1s					
KHC	**Kasperske Hory**	**25.11 300**	eP	**P**	**04 55 01.1**	**-0.9**
KHC			epP	**pP**	**04 55 06.6**	**-0.8**
KHC			eS	**S**	**04 59 35.1**	**+9.2**
KHC			AMS	AMS	05 05 50.0	
	comp=Z,4µm,23.1s					
BRG	**Berggiesshubel**	**25.12 305**	eP	**P**	**04 55 02.3**	**+0.2**
	comp=Z,10nm,0.8s,baz=96,slow=8.7					
BRG	**Berggiesshubel**	**25.12 305**	iP	**P**	**04 55 02.3**	**+0.2**
BRG			Amp		04 55 13.3	
	comp=Z,46nm,1.0s					
BRG	**Berggiesshubel**	**25.12 305**	S	**S**	**04 59 24.0**	**-2.0**
KBA	**Koelnbreinsper**	**25.13 296**	iP	**P**	**04 55 02.4**	**0.0**
	comp=Z,212nm,0.9s,SNR=35					
KBA	**Koelnbreinsper**	**25.13 296**	P	**P**	**04 55 02.3**	**0.0**
AQU	**L'Aquila**	**25.37 284**	P	**P**	**04 55 06.5**	**+2.0**
AQU			pmax	pmax		
	comp=Z,135nm,1.6s					
AQU	**L'Aquila**	**25.37 284⇑**	iP	**P**	**04 55 05.7**	**+1.2**
MAKZ	**Makanchi**	**25.43 65**	⇓P	**P**	**04 55 05.3**	**+0.3**
	comp=Z,190nm,1.1s					
MAKZ	**Makanchi**	**25.43 65**	P	**P**	**04 55 05.2**	**+0.3**
MAKZ	**Makanchi**	**25.43 65**	P	**P**	**04 55 05.0**	**0.0**
FBE	**Freiberg**	**25.50 305**	eP	**P**	**04 55 06.0**	**+0.5**
	comp=Z,33nm,0.9s,baz=96,slow=8.7					
NRCA	**Norcia**	**25.52 286**	IAmb	IAmb	04 55 29.5	
	comp=Z,80nm,1.0s					
RJOB	**Jochberg**	**25.53 297**	eP	**P**	**04 55 06.2**	**+0.4**
	baz=96,slow=8.7					
RUE	**Ruedersdorf**	**25.55 308**	eP	**P**	**04 55 05.9**	**0.0**
	baz=96,slow=8.7					
LNIZ	**Loecknitz**	**25.56 311**	eP	**P**	**04 55 04.6**	**-1.4**
	baz=96,slow=8.7					
STAL	**STALIGIAL**	**25.56 294**	IAmb	IAmb	04 55 15.8	
	comp=Z,158nm,1.3s					
WET	**Wettzell**	**25.57 300**	eP	**P**	**04 55 07.5**	**+1.3**
	comp=Z,20nm,0.9s,baz=96,slow=8.7					
BLEU	**Blekinge**	**25.63 317**	iP	**P**	**04 55 07.8**	**+1.2**
AAL	**Aland**	**25.64 328**	eP	**P**	**04 55 09.4**	**+2.8**
MK31	**Makanchi Array**	**25.65 65**	⇑P	**P**	**04 55 07.2**	**+0.3**
	comp=Z,134nm,0.7s,baz=268,slow=7.6,SNR=1436					
MK31	**Makanchi Array**	**25.65 65**	iP	**P**	**04 55 07.2**	**+0.3**
MKAR	**Makanchi Array**	**25.65 65**	P	**P**	**04 55 07.2**	**+0.2**
	comp=Z,79nm,0.9s,baz=271,slow=6.5,SNR=373					
MKAR			S	**S**	**04 59 41.8**	**+7.4**
	comp=Z,6.1nm,0.9s,baz=299,slow=40,SNR=1.1					
MKAR	**Makanchi Array**	**25.65 65**	iP	**P**	**04 55 07.1**	**+0.2**
MKAR			pmax	pmax		
	comp=Z,75nm,0.9s					
MKAR	**Makanchi Array**	**25.65 65**	P	**P**	**04 55 06.9**	**-0.1**
BSD	**Bornholm Skovb**	**25.66 314**	eP	**P**	**04 55 07.4**	**+0.5**
BSD	**Bornholm Skovb**	**25.66 314**	iP	**P**	**04 55 05.2**	**-1.7**
BSD			IAmb	IAmb	04 55 15.8	
	comp=Z,102nm,1.3s					
BSD			i		04 59 43.5	
BSD	**Bornholm Skovb**	**25.66 314**	iP	**P**	**04 55 05.2**	**-1.7**
BSD			pmax	pmax		
	comp=Z,100nm,1.3s					
BHUJ	**Bhuj**	**25.69 127**	eP	**P**	**04 55 08.4**	**+1.0**
ABTA	**Abfaltersbach**	**25.70 295**	eP	**P**	**04 55 06.8**	**-0.6**
	comp=Z,95nm,1.3s					
VAE	**Valguarnera**	**25.73 273**	P	**P**	**04 55 09.2**	**+1.4**
	comp=Z,24nm,0.8s,baz=140,slow=7.8,SNR=9.7					
VAE			S	S	04 59 54.5	+18
	comp=Z,4.0nm,0.4s,baz=101,slow=20,SNR=1.1					
CLL	**Collm**	**25.79 305**	eP	**P**	**04 55 07.0**	**-1.1**
	comp=Z,34nm,1.0s					
CLL			e(sP)	**sP**	**04 55 16.0**	**+0.4**
	comp=Z,266nm,1.9s					
CLL			ePmax		04 55 22.0	
CLL			i		04 55 29.3	
CLL			i		04 55 39.1	
CLL			eS	**S**	**04 59 40.0**	**+3.6**
CLL			eSSS	SSS	05 00 48.0	
CLL			LmV		05 06 00.0	
	comp=Z,3µm,20.8s					
CLL			Lmax		05 10 00.0	
CLL	**Collm**	**25.79 305**	eP	**P**	**04 55 07.0**	**-1.1**
CLL			e		04 55 16.0	
CLL			eS	**S**	**04 59 40.0**	**+3.6**
CLL			pmax	pmax		
	comp=Z,34nm,1.0s					
CLL			MLR	MLR		
	comp=Z,3µm,20.8s					
CLL	**Collm**	**25.79 305**	IAmb	IAmb	04 55 32.4	
	comp=Z,102nm,1.0s					
CLL	**Collm**	**25.79 305**	eP	**P**	**04 55 08.3**	**+0.2**
	baz=96,slow=8.7					
RAFF	**Raffo Rosso**	**25.85 273**	P	**P**	**04 55 10.6**	**+1.7**
SMLA	**Simla**	**25.86 103**	eP	**P**	**04 55 09.4**	**+0.6**
NKC	**Novy Kostel**	**25.97 303**	eP	**P**	**04 55 10.0**	**+0.2**
NKC			MLR	MLR		
	comp=Z,2µm,18.4s					
NKC	**Novy Kostel**	**25.97 303**	eP	**P**	**04 55 10.0**	**+0.2**
NKC			AMS	AMS	05 06 00.0	
	comp=Z,2µm,18.4s					
TANN	**Tannenbergstha**	**25.98 303**	eP	**P**	**04 55 11.9**	**+1.9**
	baz=96,slow=8.7					
WERN	**Wernitzgruen**	**26.02 303**	eP	**P**	**04 55 12.1**	**+1.8**
	baz=96,slow=8.7					
GUNZ	**Gunzen**	**26.06 303**	eP	**P**	**04 55 11.5**	**+0.9**
	comp=Z,5.9nm,0.8s,baz=96,slow=8.7					
ROTZ	**Rotzenmuhle**	**26.07 302**	eP	**P**	**04 55 10.5**	**-0.2**
	baz=96,slow=8.7					
WERD	**Werda**	**26.09 303**	eP	**P**	**04 55 13.4**	**+2.5**
	comp=Z,6.6nm,0.7s,baz=96,slow=8.7					
MANZ	**Manzenberg**	**26.16 302**	eP	**P**	**04 55 12.3**	**+0.8**
	comp=Z,5.1nm,0.8s,baz=96,slow=8.7					
WTTA	**Wattenberg**	**26.30 296**	iP	**P**	**04 55 12.6**	**-0.4**
	comp=Z,206nm,1.1s,SNR=19					
WTTA	**Wattenberg**	**26.30 296**	P	**P**	**04 55 12.6**	**-0.4**
CTI	**Castel Tesino**	**26.30 293**	IAmb	IAmb	04 55 23.8	
	comp=Z,136nm,1.3s					
WATA	**Walderalm**	**26.34 296**	iP	**P**	**04 55 12.7**	**-0.6**
	comp=Z,98nm,1.4s,SNR=20					
RGN	**Rugen**	**26.36 313**	eP	**P**	**04 55 10.9**	**-2.3**
	baz=96,slow=8.7					
UPP	**Uppsala**	**26.44 326**	eP	**P**	**04 55 14.2**	**+0.3**
CORL	**Corleone**	**26.45 275**	IAmb	IAmb	04 55 26.5	
	comp=Z,58nm,0.9s					
NEUB	**Neuenburg**	**26.53 305**	eP	**P**	**04 55 15.2**	**+0.4**
	comp=Z,40nm,0.7s,baz=96,slow=8.7					
MOX	**Moxa**	**26.55 304**	eP	**P**	**04 55 15.0**	**-0.1**
	baz=96,slow=8.7					
MOX			eL	L	05 06 39.0	
	comp=Z,3µm,22.0s					
FUR	**Furstenfeldbru**	**26.56 298**	eP	**P**	**04 55 15.4**	**+0.2**
	comp=Z,22nm,0.8s,baz=96,slow=8.7					
SQTA	**Sankt Quirin**	**26.59 296**	iP	**P**	**04 55 14.8**	**-0.7**
	comp=Z,206nm,1.5s,SNR=16					
MOTA	**Moosalm**	**26.66 296**	iP	**P**	**04 55 14.9**	**-1.4**
	comp=Z,92nm,1.1s,SNR=21					
DEL	**Delary**	**26.69 317**	iP	**P**	**04 55 17.4**	**+1.2**
GRA1	**Grafenberg Arr**	**26.70 301**	IAmb	IAmb	04 55 47.4	
	comp=Z,79nm,1.3s					
GRF	**Grafenberg Arr**	**26.70 301**	eP	**P**	**04 55 16.7**	**+0.3**
	baz=96,slow=8.7					
GRF			eL	L	05 06 54.6	
	comp=Z,3µm,21.9s					
GRFO	**Grafenberg**	**26.70 301**	P	**P**	**04 55 18.4**	**+2.0**
GRFO			pmax	pmax		
	comp=Z,76nm,1.3s					
GRFO	**Grafenberg**	**26.70 301**	P	**P**	**04 55 18.4**	**+2.0**
OSSC	**Osservatorio P**	**26.79 288**	IAmb	IAmb	04 55 44.3	
	comp=Z,128nm,1.1s					
ZCCA	**Zocca**	**26.89 289**	IAmb	IAmb	04 55 47.7	
	comp=Z,201nm,1.5s					
RETA	**Reutte**	**26.89 296**	iP	**P**	**04 55 18.0**	**-0.3**
	comp=Z,34nm,0.8s,SNR=13					
FETA	**Feichten**	**26.92 295**	iP	**P**	**04 55 17.5**	**-1.1**
	comp=Z,89nm,1.2s,SNR=24					
DDI	**Dehra Dun**	**26.93 103**	eP	**P**	**04 55 19.0**	**+0.3**
DDI			IAmb	IAmb	04 55 24.6	
	comp=Z,198nm,0.7s					
BJUU	**Bjuv**	**27.00 316**	eP	**P**	**04 55 20.3**	**+1.3**
FLTG	**Flechtingen**	**27.05 307**	eP	**P**	**04 55 19.2**	**-0.3**
	baz=96,slow=8.7					
COP	**Copenhagen**	**27.19 315**	iP	**P**	**04 55 21.4**	**+0.8**
COP			IAmb	IAmb	04 55 32.1	
	comp=Z,763nm,0.9s					
COP			IAMs_20	IAMs_20	05 08 06.4	
	comp=Z,17µm,16.3s					
COP	**Copenhagen**	**27.19 315**	iP	**P**	**04 55 21.4**	**+0.8**
COP			MLR	MLR		
	comp=Z,17µm,16.0s					
PRMA	**PARMA**	**27.32 290**	P	**P**	**04 55 24.0**	**+2.0**
PRMA			IAmb	IAmb	04 55 37.4	
	comp=Z,87nm,0.9s					
UBR	**Ueberruh**	**27.34 297**	eP	**P**	**04 55 22.2**	**0.0**
	baz=96,slow=8.7					
ASSE	**Asse, Remlinge**	**27.35 307**	eP	**P**	**04 55 21.9**	**-0.2**
	comp=Z,6.5nm,1.0s,baz=96,slow=8.7					
FABU	**Falkenberg**	**27.48 318**	eP	**P**	**04 55 24.3**	**+1.0**
DAVA	**Damuels**	**27.49 296**	iP	**P**	**04 55 22.9**	**-0.8**
	comp=Z,52nm,1.0s,SNR=12					
DAVOX	**Davos/Dischmat**	**27.50 295**	P	**P**	**04 55 23.1**	**-0.8**
	comp=Z,8.1nm,0.8s,baz=107,slow=6.4,SNR=13					
DAVOX			S	**S**	**05 00 05.8**	**+1.7**
	comp=Z,1.7nm,0.5s,baz=115,slow=22,SNR=1.1					
DAVOX			LR	LR	05 07 48.5	
	comp=Z,3µm,21.7s,baz=90,slow=40					
UBBA	**Unterbreizbach**	**27.59 304**	eP	**P**	**04 55 24.7**	**+0.5**
	comp=Z,7.3nm,1.0s,baz=96,slow=8.7					
BORU	**Boraas**	**27.68 319**	iP	**P**	**04 55 26.3**	**+1.2**
APA	**Apatity**	**27.75 348⇓**	iP	**P**	**04 55 28.2**	**+2.6**
APA			iS	**S**	**05 00 05.0**	**-2.1**
APA			pmax	pmax		
	comp=Z,108nm,0.7s					
APA			MLR	MLR		
	comp=Z,2µm,11.0s					
NRDL	**Niedersach Rie**	**27.76 307**	eP	**P**	**04 55 25.5**	**-0.2**
	baz=96,slow=8.7					
LVZ	**Lovozero**	**27.88 350**	iP	**P**	**04 55 26.8**	**0.0**
LVZ			pmax	pmax		
	comp=Z,113nm,0.8s					
LVZ			MLR	MLR		
	comp=Z,2µm,17.0s					
LVZ	**Lovozero**	**27.88 350**	P	**P**	**04 55 26.7**	**0.0**
BSEG	**Bad Segeberg**	**27.91 310**	eP	**P**	**04 55 25.6**	**-1.5**
	baz=96,slow=8.7					
MILB	**Miltenberg**	**27.96 301**	eP	**P**	**04 55 28.6**	**+0.9**
	baz=96,slow=8.7					
STU	**Stuttgart**	**27.97 299**	P	**P**	**04 55 29.1**	**+1.3**
STU	**Stuttgart**	**27.97 299**	eP	**P**	**04 55 27.6**	**-0.2**
	comp=Z,104nm,0.9s,baz=96,slow=8.7					
ZALV	**Zalesovo Beam**	**28.06 50**	P	**P**	**04 55 27.8**	**-0.7**
	comp=Z,17nm,0.7s,baz=265,slow=9.2,SNR=14					
ZALV			S	**S**	**05 00 10.1**	**-2.2**
	comp=Z,2.8nm,0.6s,baz=344,slow=38,SNR=1.5					
ZALV	**Zalesovo Beam**	**28.06 50**	iP	**P**	**04 55 31.5**	**+3.0**
ZALV			pmax	pmax		
	comp=Z,17nm,0.7s					
ZALV	**Zalesovo Beam**	**28.06 50**	P	**P**	**04 55 27.6**	**-1.0**
HFS	**Hagfors**	**28.29 324**	P	**P**	**04 55 30.0**	**-0.5**
	comp=Z,27nm,0.9s,baz=123,slow=11,SNR=28					
HFS			LR	LR	05 08 06.5	
	comp=Z,4µm,19.2s,baz=116,slow=39					
TNS	**Taunus Mts**	**28.53 302**	eP	**P**	**04 55 33.5**	**+0.7**
	comp=Z,9.8nm,0.8s,baz=96,slow=8.7					
KASTN	**Kahler Asten**	**28.63 304**	eP	**P**	**04 55 33.8**	**+0.2**
	comp=Z,8.1nm,0.8s,baz=96,slow=8.7					
DGZ	**Jazzator, Alta**	**29.15 59c**	iP	**P**	**04 55 38.6**	**+0.2**
DGZ			pmax	pmax		
	comp=Z,38nm,1.2s					
DGZ			MLR	MLR		
	comp=Z,3µm,16.0s					
GOET	**G??ttrup**	**29.30 316**	iP	**P**	**04 55 43.7**	**+4.3**
GOET			IAmb	IAmb	04 55 45.9	
	comp=Z,75nm,0.8s					
NC602	**NORSAR Array S**	**29.52 324**	eP	**P**	**04 55 42.4**	**+1.0**
NC602	**NORSAR Array S**	**29.52 324**	IAmb	IAmb	04 55 57.5	
	comp=Z,53nm,0.9s					
NORES	**NORESS Array B**	**29.52 324**	P	**P**	**04 55 41.7**	**+0.3**
NORES			pmax	pmax		
	comp=Z,4.0nm,0.5s					
OSL	**Oslo**	**29.55 322**	eP	**P**	**04 55 42.4**	**+0.7**
ATD	**Arta Tunnel**	**29.59 189**	P	**P**	**04 55 44.1**	**+1.6**
	comp=Z,3.4nm,0.4s,baz=352,slow=9.9,SNR=1.8					
ATD			LR	LR	05 08 24.5	
	comp=Z,2µm,19.6s,baz=3.5,slow=38					
WMQ	**Urumqi**	**29.67 71**	P	**P**	**04 55 43.9**	**+0.9**
WMQ			pP	sP	04 55 50.0	-0.5
WMQ			sP	pP	04 55 54.1	+5.7
WMQ			S	**S**	**05 00 39.5**	**+1.6**
WMQ			pmax	pmax		
	comp=Z,130nm,1.3s					
WMQ			pmax	pmax		
	comp=Z,440nm,3.7s					
WMQ			LR	LR		
	comp=Z,8µm,17.5s					
WMQ			LR	LR		
	comp=Z,5µm,9.7s					
WMQ			LR	LR		
	comp=Z,3µm,20.1s					
NB201	**NORSAR Array S**	**29.76 325**	P	**P**	**04 55 43.3**	**-0.3**
NB2	**NORSAR Subarra**	**29.79 325**	P	**P**	**04 55 42.0**	**-1.9**
	comp=Z,47nm,1.1s,baz=118,slow=8.6					
NB2	**NORSAR Subarra**	**29.79 325**	P	**P**	**04 55 42.0**	**-1.9**
	baz=118,slow=8.6					
NOA	**NORSAR Array B**	**29.79 325**	P	**P**	**04 55 42.7**	**-1.2**
	comp=Z,6.4nm,0.9s,baz=118,slow=8.4,SNR=35					
NOA			LR	LR	05 09 03.2	
	comp=Z,4µm,18.2s,baz=115,slow=39					
NC303	**NORSAR Array S**	**29.81 325**	IAmb	IAmb	04 56 12.1	
	comp=Z,94nm,1.2s					
NAO01	**NORSAR Array S**	**29.85 324**	IAmb	IAmb	04 56 06.9	
	comp=Z,74nm,1.0s					
BNI	**Bardonecchia**	**29.86 292**	IAmb	IAmb	04 56 02.2	
	comp=Z,82nm,1.5s					
KONO	**Kongsberg**	**29.97 321**	eP	**P**	**04 55 45.8**	**+0.4**
WLF	**Walferdange**	**29.98 301**	dP	**P**	**04 55 46.7**	**+1.1**
BTNL	**Ternell**	**30.03 303**	dP	**P**	**04 55 46.4**	**+0.3**
NC204	**NORSAR Array S**	**30.09 325**	P	**P**	**04 55 47.7**	**+1.1**
NC204			IAmb	IAmb	04 56 08.6	
	comp=Z,92nm,1.2s					
BHOU	**Houvegnez**	**30.10 302**	dP	**P**	**04 55 46.4**	**-0.3**
MEM	**Membach**	**30.11 303**	dP	**P**	**04 55 47.2**	**+0.5**
KEST	**Kesra**	**30.16 273**	P	**P**	**04 55 47.1**	**-0.4**
	comp=Z,5.7nm,0.7s,baz=66,slow=6.8,SNR=8.3					
KEST			LR	LR	05 10 06.3	
	comp=Z,931nm,20.4s,baz=16,slow=41					
KEST	**Kesra**	**30.16 273**	P	**P**	**04 55 47.9**	**+0.4**
KEST	**Kesra**	**30.16 273**	P	**P**	**04 55 49.6**	**+2.2**
	SNR=7.4					
BCLA	**Clavier**	**30.55 302**	dP	**P**	**04 55 50.8**	**+0.1**
BCLA			dPnPn	**PnPn**	**04 56 52.7**	**+3.0**
BCLA			dPP	**PP**	**04 57 01.6**	**+2.1**
BHPL	**Bhopal**	**30.73 116**	eP	**P**	**04 55 53.8**	**+1.2**
ARA0	**ARCESS Array S**	**30.86 345**	eP	**P**	**04 55 53.6**	**+0.4**
ARCES	**ARCESS Array B**	**30.86 345**	P	**P**	**04 55 53.5**	**+0.3**
	comp=Z,11nm,0.8s,baz=142,slow=10,SNR=42					
ARCES			LR	LR	05 08 47.2	
	comp=Z,2µm,21.0s,baz=135,slow=37					
ARCES	**ARCESS Array B**	**30.86 345**	IAmb	IAmb	04 56 04.9	
	comp=Z,38nm,0.9s					
KTK1	**Kautokeino**	**30.90 343**	eP	**P**	**04 55 57.6**	**+4.0**
SKAR	**Skarslia**	**30.95 323**	eP	**P**	**04 55 55.2**	**+1.1**
DOU	**Dourbes**	**31.00 302**	dP	**P**	**04 55 54.8**	**+0.2**
DOU			dPP	**PP**	**04 57 06.9**	**+2.4**
NSS	**Namsos**	**31.18 331**	eP	**P**	**04 55 56.4**	**+0.4**
MOR8	**Moi Rana**	**31.27 335**	eP	**P**	**04 55 57.2**	**+0.5**
BLS5	**Blasjo**	**31.40 320**	eP	**P**	**04 55 57.6**	**-0.5**
PYUN	**Piuthan**	**31.75 103**	eP	**P**	**04 56 02.3**	**+0.6**
	comp=Z,205nm,0.6s					
FAUS	**Fauske**	**31.77 337**	eP	**P**	**04 56 02.1**	**+1.0**
POO	**Poona**	**31.81 127**	eP	**P**	**04 56 02.5**	**+0.5**
POO			IAmb	IAmb	04 56 04.0	
	comp=Z,89nm,0.9s					
KONS	**Konsvik**	**31.89 335**	eP	**P**	**04 56 02.5**	**+0.3**
NBB13	**Alf Garage**	**31.90 335**	eP	**P**	**04 56 02.6**	**+0.3**
N2TV	**T¥rnvik**	**31.93 337**	eP	**P**	**04 56 05.0**	**+2.5**
KMY	**Karmoy**	**31.93 319**	eP	**P**	**04 56 03.7**	**+1.0**
NBB40	**Tonnes**	**31.93 335**	eP	**P**	**04 56 02.9**	**+0.2**
JETT	**Jettan, Norway**	**31.96 342**	eP	**P**	**04 56 03.6**	**+0.7**
N2IH	**Innhavet**	**31.96 338**	eP	**P**	**04 56 02.2**	**-0.7**
NBB30	**Finnes**	**31.98 336**	eP	**P**	**04 56 05.8**	**+2.8**
MOL	**Molde**	**32.02 326**	eP	**P**	**04 56 05.0**	**+1.6**
N2NF	**Nordfold**	**32.03 338**	eP	**P**	**04 56 06.2**	**+2.8**
HYA	**Hoyanger**	**32.09 323**	eP	**P**	**04 56 04.0**	**0.0**
AKN	**Aaknes**	**32.10 325**	eP	**P**	**04 56 05.2**	**+1.1**
HAMF	**Hammerfest**	**32.13 345**	eP	**P**	**04 56 06.0**	**+1.7**
DANN	**Dangsing**	**32.19 101**	eP	**P**	**04 56 06.5**	**+0.8**
	comp=Z,732nm,0.9s					
BER	**Bergen**	**32.23 321**	eP	**P**	**04 56 06.3**	**+1.0**
ASK	**Askoy**	**32.33 322**	eP	**P**	**04 56 06.9**	**+0.8**
TRO	**Tromso**	**32.36 342**	eP	**P**	**04 56 06.5**	**+0.1**
KOLN	**Koldanda**	**32.39 103**	eP	**P**	**04 56 07.7**	**+0.4**
CLF	**Chambon-Foret**	**32.61 298**	IAmb	IAmb	04 56 16.3	
	comp=Z,45nm,1.1s					
SUE	**Sulen**	**32.71 322**	eP	**P**	**04 56 09.9**	**+0.4**
LOF	**Lofoten**	**32.76 337**	eP	**P**	**04 56 11.1**	**+1.3**
FOO	**Floro**	**32.76 323**	eP	**P**	**04 56 10.3**	**+0.4**
N2SV	**S¸rv¥gen**	**32.77 337**	eP	**P**	**04 56 11.4**	**+1.5**
N2RO	**R¸st**	**32.81 336**	eP	**P**	**04 56 09.9**	**-0.3**
FURI	**Furi**	**32.87 196**	P	**P**	**04 56 11.9**	**+0.3**
SET	**Setif**	**32.97 276**	P	**P**	**04 56 13.0**	**+0.8**
GKN	**Gorkha**	**33.03 101**	eP	**P**	**04 56 13.2**	**+0.4**
	comp=Z,164nm,0.6s					
DMN	**Daman**	**33.59 101**	eP	**P**	**04 56 18.4**	**+0.5**
KKN	**Kakani**	**33.62 101**	eP	**P**	**04 56 18.2**	**+0.1**
PKIN	**Phulchoki**	**33.82 101**	eP	**P**	**04 56 20.1**	**+0.2**
PKI	**Pulchoki**	**33.84 101**	eP	**P**	**04 56 20.3**	**+0.2**
GUN	**Gumba**	**34.00 100**	eP	**P**	**04 56 21.8**	**+0.3**
	comp=Z,663nm,1.1s					
GOA	**Goa**	**34.16 130**	eP	**P**	**04 56 23.1**	**+0.6**
JIRN	**Jiri**	**34.37 100**	eP	**P**	**04 56 25.3**	**+0.5**
	comp=Z,307nm,0.9s					
HPK	**Haverah Park**	**34.91 309**	eP	**P**	**04 56 30.0**	**+1.3**
HPK			IAmb	IAmb	04 56 35.2	
	comp=Z,92nm,1.0s					
LBWR	**Ladybower, Pea**	**34.96 308**	eP	**P**	**04 56 29.1**	**-0.1**
RAMN	**Ramite**	**35.06 101**	eP	**P**	**04 56 30.9**	**+0.3**
	comp=Z,113nm,0.5s					
EDMD	**Edmundbyers**	**35.14 310**	eP	**P**	**04 56 31.0**	**+0.4**
EDMD			IAmb	IAmb	04 56 40.0	
	comp=Z,104nm,1.2s					
STRD	**Stroud**	**35.25 305**	eP	**P**	**04 56 31.9**	**+0.2**
STRD			IAmb	IAmb	04 56 34.7	
	comp=Z,78nm,0.9s					
NRIK	**Noril'sk**	**35.31 23**	P	**P**	**04 56 32.1**	**+0.2**
	comp=Z,15nm,0.6s,baz=224,slow=5.7,SNR=11					
NRIK			LR	LR	05 14 58.0	
	comp=Z,3µm,18.1s,baz=206,slow=43					
NRIK	**Noril'sk**	**35.31 23c**	eP	**P**	**04 56 32.8**	**+0.9**
NRIK			pmax	pmax		
	comp=Z,32nm,1.2s					
NRIK	**Noril'sk**	**35.31 23**	P	**P**	**04 56 33.2**	**+1.3**
OLDB	**Oldbury-Upon-S**	**35.49 305**	eP	**P**	**04 56 34.5**	**+0.7**
OLDB			IAmb	IAmb	04 56 36.7	
	comp=Z,34nm,0.8s					
ESY	**Stoneypath**	**35.56 312**	eP	**P**	**04 56 34.9**	**+0.5**
HYB	**Hyderabad**	**35.58 122**	eP	**P**	**04 56 35.5**	**+0.6**
HYB	**Hyderabad**	**35.58 122**	iP	**P**	**04 56 34.0**	**-0.9**
HYB			esP	**sP**	**04 56 43.0**	**+0.6**
HYB			ePP	**PnPn**	**04 57 54.0**	**-0.2**
HYB			eS	**S**	**05 02 11.0**	**+0.8**
TAPN	**Taplejung**	**35.67 100**	eP	**P**	**04 56 36.5**	**+0.6**
	comp=Z,421nm,1.2s					
ODAN	**Odare**	**35.70 101**	eP	**P**	**04 56 37.0**	**+0.9**
MCH1	**Michaelchurch**	**35.76 305**	eP	**P**	**04 56 34.5**	**-1.5**
MCH1			IAmb	IAmb	04 56 39.0	
	comp=Z,34nm,0.7s					
KESW	**Keswick, Cumbr**	**35.79 310**	eP	**P**	**04 56 35.7**	**-0.6**
KESW			IAmb	IAmb	04 56 43.0	
	comp=Z,84nm,1.0s					
EBL	**Broad Law**	**35.80 312**	eP	**P**	**04 56 35.8**	**-0.5**
EKA	**Eskdalemuir Ar**	**35.84 311**	P	**P**	**04 56 35.3**	**-1.4**
	comp=Z,17nm,0.7s,baz=101,slow=8.6,SNR=24					
EKA			PcP	**PcP**	**04 59 03.9**	**+0.2**
	comp=Z,3.2nm,0.6s,baz=87,slow=4.3,SNR=2.1					
ESK	**Eskdalemuir**	**35.87 311**	eP	**P**	**04 56 37.8**	**+0.8**
ESK	**Eskdalemuir**	**35.87 311**	P	**P**	**04 56 38.4**	**+1.5**
ESK			pmax	pmax		
	comp=Z,27nm,0.8s					
ESK	**Eskdalemuir**	**35.87 311**	P	**P**	**04 56 38.4**	**+1.5**
BJO1	**Bjornoya**	**36.10 347**	eP	P	04 56 44.0	+5.4
GTK	**Tadong**	**36.35 99**	eP	**P**	**04 56 42.2**	**+0.6**
BOK	**Bokaro**	**36.36 106**	eP	**P**	**04 56 41.7**	**+0.2**
INVG	**Invergeldie, C**	**36.39 313**	eP	**P**	**04 56 41.7**	**+0.3**
INVG			IAmb	IAmb	04 56 49.5	
	comp=Z,36nm,0.9s					
NEWG	**New Galloway**	**36.45 311**	eP	**P**	**04 56 41.1**	**-0.8**
PGBU	**Glenifferbraes**	**36.61 312**	eP	**P**	**04 56 43.8**	**+0.5**
PGBU			IAmb	IAmb	04 56 47.1	
	comp=Z,62nm,1.0s					
YRC	**Rhoscolyn**	**36.67 308**	eP	**P**	**04 56 45.0**	**+1.3**
RSBS	**Rosebush, Pemb**	**36.84 305**	eP	**P**	**04 56 45.3**	**0.0**
RSBS			IAmb	IAmb	04 56 51.6	
	comp=Z,52nm,1.1s					
LSA	**Lhasa**	**37.04 94**	P	**P**	**04 56 48.4**	**+0.6**
LSA			pmax	pmax		
	comp=Z,83nm,1.0s					
LSA	**Lhasa**	**37.04 94**	P	**P**	**04 56 48.4**	**+0.6**
LSA			IAmb	IAmb	04 56 50.0	
	comp=Z,83nm,1.0s					
LINV	**Loch Inver, As**	**37.12 316**	eP	**P**	**04 56 46.4**	**-1.1**
LINV			IAmb	IAmb	04 56 53.0	
	comp=Z,45nm,0.8s					
KAC	**Achnashellach**	**37.13 315**	eP	**P**	**04 56 48.2**	**+0.5**
CART	**Cartagena**	**37.27 281**	P	P	04 56 43.3	-5.8
CART			S	**S**	**05 02 39.4**	**+3.8**
CCA1	**Carnmenellis**	**37.30 302**	eP	**P**	**04 56 47.8**	**-1.4**
CCA1			IAmb	IAmb	04 56 52.7	
	comp=Z,45nm,0.9s					
HSPB	**Hornsund (broa**	**38.59 349**	eP	**P**	**04 57 01.3**	**+1.5**
HSPB			ePP	**PnPn**	**04 58 34.9**	**+4.9**
HSPB	**Hornsund (broa**	**38.59 349**	eP	**P**	**04 57 00.4**	**+0.7**
ESDC	**Sonseca Array**	**38.75 285**	P	**P**	**04 57 00.2**	**-1.5**
	comp=Z,5.3nm,0.9s,baz=56,slow=8.3,SNR=19					
ESDC			LR	LR	05 17 02.5	
	comp=Z,936nm,18.7s,baz=30,slow=43					
LODK	**Lodwar**	**38.92 199**	P	**P**	**04 57 03.4**	**+0.1**
LODK	**Lodwar**	**38.92 199**	P	**P**	**04 57 04.8**	**+1.5**
	SNR=6.4					
PAB	**San Pablo**	**39.07 285**	P	**P**	**04 57 04.8**	**+0.4**
PAB			pmax	pmax		
	comp=Z,25nm,1.2s					
PAB	**San Pablo**	**39.07 285**	P	**P**	**04 57 04.8**	**+0.4**
ZAK	**Zakamensk**	**39.30 57**	eP	**P**	**04 57 06.8**	**+0.7**
ZAK			pmax	pmax		
	comp=Z,37nm,1.5s					
SPITS	**Spitsbergen Ar**	**39.40 350**	P	**P**	**04 57 07.2**	**+0.6**
	comp=Z,21nm,0.5s,baz=140,slow=12,SNR=58					
GTA	**Gaotai**	**39.55 75**	⇑P	**P**	**04 57 09.0**	**+0.6**
GTA			S	**S**	**05 03 12.5**	**+2.2**
GTA			pmax	pmax		
	comp=Z,50nm,1.0s					
GTA			pmax	pmax		
	comp=Z,260nm,8.0s					
GTA			LR	LR		
	comp=Z,3µm,20.3s					
GTA			LR	LR		
	comp=Z,3µm,19.9s					
GTA			LR	LR		
	comp=Z,2µm,18.7s					
MELI	**Melilla**	**39.58 279**	P	P	04 57 14.4	+5.9
MELI			S	**S**	**05 03 12.6**	**+2.1**
SHL	**Shillong**	**39.77 99**	P	**P**	**04 57 09.7**	**-0.7**

SHL pmax pmax
comp=Z,202nm,0.9s
SHL Shillong 39.77 99 P **P 04 57 09.7 -0.7**
MDRS Chennai 39.92 125 *e*P **P 04 57 11.6 +0.1**
MDRS IAmb IAmb 04 57 12.6
comp=Z,58nm,1.0s
PBRG Braganca 40.09 290 *e*pP pP 04 57 24.1 +5.9
ITAN ITANAGAR 40.29 95 *e*P **P 04 57 15.2 +0.6**
ITAN IAmb IAmb 04 57 18.4
comp=Z,93nm,0.8s
MVO Moncorvo 40.49 289 *e*pP **pP 04 57 23.9 +2.3**
MVO *e*S **S 05 03 22.3 -1.9**
MVO *e*LR LR 05 09 25.2
comp=Z,1μm,20.0s
KBS Kingsbay 40.54 350 *i* P **P 04 57 16.4 +0.5**
KBS IAMs_20 IAMs_20 05 17 29.3
comp=Z,6μm,11.1s
KBS Kingsbay 40.54 350 *ce*P **P 04 57 17.1 +1.1**
KBS pmax pmax
comp=Z,37nm,1.0s
KBS MLR MLR
comp=Z,2μm,18.0s
KBS Kingsbay 40.54 350 *e*P **P 04 57 16.5 +0.5**
KBS Kingsbay 40.54 350 P **P 04 57 16.7 +0.7**
LIJA Lijar 40.79 282 P **P 04 57 16.8 -1.9**
SILR SILCHAR 40.90 99 *e*P **P 04 57 21.1 +1.6**
JORH JORHAT 40.91 95 *e*P **P 04 57 20.4 +0.7**
POLO Lamas de Olo 40.97 289 *e*P **P 04 57 17.0 -3.1**
POLO *e*pP **sP 04 57 31.8 +4.1**
POLO *e*S **S 05 03 36.0 +4.6**
DIBR DIBRUGARH 41.02 94 *e*P **P 04 57 21.1 +0.6**
MTE Manteigas 41.11 288 *e*P **P 04 57 24.3 +3.1**
comp=Z,61nm,1.1s
MTE *e*S **S 05 03 34.8 +1.4**
MTE *e*LR LR 05 08 57.4
comp=Z,812nm,18.0s
PGAV Gavieira, Arco 41.13 290 *e*P **P 04 57 20.8 -0.6**
comp=Z,70nm,1.1s
PGAV *e*S **S 05 03 42.6 +8.9**
PGAV *e*LR LR 05 10 06.8
comp=Z,780nm,18.0s
PCBR Castelo Branco 41.25 287 *e*P **P 04 57 23.2 +0.9**
comp=Z,48nm,1.9s
PCBR *e*pP **sP 04 57 31.1 +1.2**
PVIS Viseu 41.26 289 *e*P **P 04 57 23.3 +0.9**
comp=Z,56nm,1.8s
PVIS *e*pP **sP 04 57 34.3 +4.3**
BRDH Bariadhala 41.26 102 P **P 04 57 23.5 +0.9**
comp=Z,94nm,0.4s,baz=338,slow=5.4,SNR=12
PMRV Marv??o 41.33 287 *e*P **P 04 57 22.6 -0.4**
comp=Z,60nm,1.8s
PMRV *e*S **S 05 03 31.6 -5.0**
PMRV *e*LR LR 05 12 20.9
comp=Z,679nm,18.0s
MOKO MOKOCHONG 41.33 96 *e*P **P 04 57 23.4 +0.1**
MOKO IAmb IAmb 04 57 27.3
comp=Z,207nm,1.1s
PBAR Barrancos 41.52 285 *e*P **P 04 57 26.8 +2.3**
comp=Z,29nm,1.2s
PBAR *e*pP **pP 04 57 29.1 -0.9**
PESTR Estremoz 41.67 286 *e*P **P 04 57 25.1 -0.7**
comp=Z,69nm,1.1s
PESTR *e*pP **pP 04 57 30.6 -0.7**
PESTR *e*S **S 05 03 46.0 +4.3**
PESTR Estremoz 41.67 286 P **P 04 57 27.0 +1.2**
IMP Imphal 41.73 98 *e*P **P 04 57 27.8 +1.3**
IMP IAmb IAmb 04 57 29.3
comp=Z,139nm,0.7s
SONM Songino Array 41.78 60 P **P 04 57 26.8 0.0**
comp=Z,5.0nm,0.7s,baz=275,slow=9.1,SNR=6.3
COI Coimbra 41.80 288 P **P 04 57 28.5 +1.7**
COI pmax pmax
comp=Z,62nm,0.9s
COI Coimbra 41.80 288 *e*P **P 04 57 29.5 +2.7**
comp=Z,91nm,1.0s
COI Coimbra 41.80 288 P **P 04 57 28.5 +1.7**
COI IAmb IAmb 04 57 39.9
comp=Z,62nm,0.8s
LKP Lekhapani 41.80 93 *e*P **P 04 57 27.8 +0.9**
LKP IAmb IAmb 04 57 31.6
comp=Z,128nm,0.7s
PCAS Casmilo, Conde 41.91 288 *e*P **P 04 57 30.8 +3.0**
comp=Z,74nm,1.5s
PCAS *e*S **S 05 03 47.6 +2.4**
IFR Ifrane 41.97 277 P P 04 57 35.1 +6.6
IFR S S 05 03 30.9 -16
PMTG Montargil 42.06 286 *e*P **P 04 57 31.6 +2.6**
comp=Z,59nm,1.7s
PMTG *e*S **S 05 03 51.9 +4.5**
EVO Evora 42.10 286 P **P 04 57 30.3 +1.0**
EVO Evora 42.10 286 *e*P **P 04 57 30.5 +1.2**
comp=Z,35nm,1.7s
EVO *e*pP **pP 04 57 34.5 -0.2**
PBEJ Beja 42.18 285 *e*P **P 04 57 31.6 +1.6**
comp=Z,39nm,1.7s
PBEJ *e*pP **pP 04 57 35.1 -0.3**
ULN Ulaanbaatar 42.21 60 *ce*P **P 04 57 30.8 +0.5**
ULN pmax pmax
comp=Z,84nm,1.3s
ULN MLR MLR
comp=Z,5μm,16.0s
ULN Ulaanbaatar 42.21 60 P **P 04 57 30.1 -0.1**
ULN IAmb IAmb 04 57 40.3
comp=Z,101nm,1.1s
ULN Ulaanbaatar 42.21 60 P **P 04 57 31.8 +1.5**
comp=Z,4μmcomp=Z,406nm,1.0s
PVAQ Vaqueiros 42.30 284 *e*P **P 04 57 32.6 +1.6**
comp=Z,43nm,1.4s
PVAQ *e*pP **pP 04 57 37.0 +0.6**
PVAQ *e*S **S 05 03 56.5 +5.5**
PVAQ A A 05 19 50.7
comp=Z,1μm,20.0s
PSBE So Bento 42.31 287 *e*P **P 04 57 34.4 +3.3**
comp=Z,86nm,1.9s
PSBE *e*S **S 05 03 57.7 +6.5**
MESJ Messejana 42.51 285 *e*P **P 04 57 34.0 +1.4**
MESJ IAmb IAmb 04 57 40.2
comp=Z,8.8nm,1.0s
MESJ Messejana 42.51 285 *e*P **P 04 57 34.0 +1.4**
MESJ Messejana 42.51 285 *e*pP pP 04 57 38.6 +0.5
PBDV Barranco-do-Ve 42.52 284 *e*pP **pP 04 57 39.8 +1.5**
PBDV *e*S S 05 04 05.0 +11
PNCL Nicolau / Gran 42.63 285 *e*P **P 04 57 33.1 -0.5**
comp=Z,43nm,1.8s
PNCL *e*pP **sP 04 57 41.0 -0.2**
PNCL *e*S **S 05 04 02.1 +6.3**
PMAFR Mafra 42.87 287 *e*S **S 05 04 06.6 +7.3**
KMBO Kilima Mbogo 42.90 195 P **P 04 57 36.8 +0.6**
comp=Z,1.9nm,0.7s,baz=11,slow=9.7,SNR=4.5
KMBO LR LR 05 16 27.3
comp=Z,2μm,18.8s,baz=4.5,slow=38
LZH Lanzhou 43.75 77 ⇑P **P 04 57 44.1 +1.2**
LZH pmax pmax
comp=Z,110nm,1.0s
AVE Averroes 43.78 278 P **P 04 57 39.8 -3.2**
AVE S S 05 03 53.0 -20
KIBK Kibwezi 43.94 194 P **P 04 57 45.4 +1.0**
MBAR Mbarara 44.07 204 P **P 04 57 45.7 +0.2**
comp=Z,8.9nm,0.2s,baz=13,slow=9.9,SNR=4.4
MBAR Mbarara 44.07 204 *ce*P **P 04 57 46.9 +1.3**
MBAR Mbarara 44.07 204 P **P 04 57 46.4 +0.8**
BOD Bodaibo 44.53 44 *e*P **P 04 57 48.3 -0.4**
BOD pmax pmax
comp=Z,104nm,1.5s
PALK Pallekele 44.74 129 P **P 04 57 50.1 -0.7**
PALK pmax pmax
comp=Z,53nm,1.0s
PALK Pallekele 44.74 129 P **P 04 57 50.1 -0.7**
PALK IAmb IAmb 04 58 00.5
comp=Z,52nm,1.0s
PALK Pallekele 44.74 129 P **P 04 57 51.8 +1.0**
comp=Z,56nm,1.2s
DBG Daneborg 45.03 339 *i* P **P 04 57 54.0 +1.5**
DBG IAmb IAmb 04 58 07.6
comp=Z,66nm,1.1s
DBG IAMs_20 IAMs_20 05 20 21.3
comp=Z,1μm,13.3s
SCO Scoresbysund 45.20 334 *i* P **P 04 57 56.6 +2.8**
SCO IAmb IAmb 04 58 04.4
comp=Z,85nm,1.4s
SCO Scoresbysund 45.20 334 *i* P **P 04 57 56.6 +2.8**
SCO pmax pmax
comp=Z,85nm,1.4s
SCO Scoresbysund 45.20 334 P **P 04 57 56.6 +2.8**
SCO IAmb IAmb 04 58 07.0
comp=Z,102nm,1.5s
CD2 Chengdu 45.99 84 *e*P **P 04 57 59.4 -1.3**
NOR Nord 46.01 349 *i* P **P 04 58 01.4 +1.3**
NOR IAmb IAmb 04 58 09.2
comp=Z,50nm,1.3s
NOR IAMs_20 IAMs_20 05 25 10.6
comp=Z,1μm,14.1s
NOR Nord 46.01 349 *i* P **P 04 58 01.4 +1.3**
NOR pmax pmax
comp=Z,50nm,1.3s
NOR MLR MLR
comp=Z,1μm,14.0s
HHC Hu-ho-hao-te 47.45 68 *e*P **P 04 58 12.1 0.0**
HHC pmax pmax
comp=Z,54nm,1.2s
HHC pmax pmax
comp=Z,810nm,5.7s
HHC LR LR
comp=Z,6μm,19.2s
HHC LR LR
comp=Z,3μm,22.2s
HHC LR LR
comp=Z,2μm,18.2s
KMI Kunming 48.20 91 ⇑P **P 04 58 18.4 +0.2**
KMI pmax pmax
comp=Z,110nm,1.2s
KMI pmax pmax
comp=Z,380nm,3.5s
KMI LR LR
comp=Z,1μm,29.1s
KMI LR LR
comp=Z,1μm,21.9s
KMI LR LR
comp=Z,1μm,27.8s
DGPR DIGLIPUR 48.32 112 *e*P **P 04 58 19.9 +1.0**
XAN Xi'an 48.39 77 P **P 04 58 19.6 +0.3**
XAN pP sP 04 58 31.2 +4.2
XAN sP pP 04 58 34.6 +10
XAN pmax pmax
comp=Z,100nm,1.1s
TORD Torodi Ar. Bea 48.51 249 P **P 04 58 19.2 -1.1**
comp=Z,15nm,0.9s,baz=33,slow=7.9,SNR=30
TORD LR LR 05 21 39.2
comp=Z,931nm,19.5s,baz=55,slow=40
TORD Torodi Ar. Bea 48.51 249 P **P 04 58 19.6 -0.8**
TORD IAmb IAmb 04 58 37.1
comp=Z,33nm,1.2s
MHMT Maesarieng 48.66 102 P **P 04 58 21.9 +0.4**
CM33 Chiang Mai Arr 49.02 101 P **P 04 58 24.0 -0.3**
CHTO Chiang Mai 49.02 101 P **P 04 58 23.3 -1.0**
CHTO pmax pmax
comp=Z,93nm,0.8s
CHTO Chiang Mai 49.02 101 P **P 04 58 23.3 -1.0**
CHTO Chiang Mai 49.02 101 P **P 04 58 24.0 -0.3**
comp=Z,671nmcomp=Z,71nm,1.0s
CMMT Chiang Mai 49.02 101 P **P 04 58 24.0 -0.4**
comp=Z,1μmcomp=Z,126nm,1.1s
CMMT Chiang Mai 49.02 101 P **P 04 58 23.9 -0.4**
comp=Z,1μmcomp=Z,120nm,1.1s
CM32 Chiang Mai Arr 49.04 101 P **P 04 58 24.0 -0.5**
TIXI Tiksi 49.07 24 P **P 04 58 23.1 -0.9**
comp=Z,8.4nm,0.7s,baz=302,slow=7.2,SNR=1.6
TIXI LR LR 05 23 38.5
comp=Z,2μm,18.5s,baz=300,slow=42
TIXI Tiksi 49.07 24 *i* P **P 04 58 22.3 -1.6**
TIXI Tiksi 49.07 24 P **P 04 58 26.3 +2.3**
TIXI IAmb IAmb 04 58 31.8
comp=Z,71nm,1.4s
CM34 Chiang Mai Arr 49.15 101 P **P 04 58 25.0 -0.3**
CM15 Chiang Mai Arr 49.23 101 P **P 04 58 26.1 +0.2**
comp=Z,722nmcomp=Z,82nm,0.9s
CM13 Chiang Mai Arr 49.23 101 P **P 04 58 26.0 +0.1**
comp=Z,713nmcomp=Z,92nm,0.9s
CM31 Chiang Mai Arr 49.24 101 P **P 04 58 26.1 +0.2**
comp=Z,22μmcomp=Z,2μm,1.0s
CM31 Chiang Mai Arr 49.24 101 P **P 04 58 25.2 -0.7**
CM31 Chiang Mai Arr 49.24 101 P **P 04 58 26.3 +0.4**
SNR=18
CMAR Chiang Mai Arr 49.24 101 P **P**
comp=Z,63nm,0.9s,baz=300,slow=8.3,SNR=124
PBA Port Blair 49.24 113 P P 04 58 26.6 +0.7
CM02 Chiang Mai Arr 49.25 101 P **P 04 58 26.2 +0.1**
comp=Z,750nmcomp=Z,107nm,0.9s
CM35 Chiang Mai Arr 49.26 101 P **P 04 58 26.0 -0.1**
CM01 Chiang Mai Arr 49.27 101 P **P 04 58 26.4 +0.1**
comp=Z,744nmcomp=Z,101nm,0.9s
CM05 Chiang Mai Arr 49.27 101 P **P 04 58 26.2 0.0**
comp=Z,675nmcomp=Z,90nm,0.9s
CM09 Chiang Mai Arr 49.28 101 P **P 04 58 26.0 -0.3**
comp=Z,638nmcomp=Z,86nm,0.9s
CM04 Chiang Mai Arr 49.30 101 P **P 04 58 26.6 +0.1**
comp=Z,823nmcomp=Z,114nm,0.9s
CM36 Chiang Mai Arr 49.31 101 P **P 04 58 26.0 -0.5**
PAYA Payao 49.37 100 P **P 04 58 28.2 +1.2**
comp=Z,224nmcomp=Z,11nm,0.9s
LAMP Lampang 49.71 101 P **P 04 58 30.0 +0.4**
comp=Z,655nmcomp=Z,93nm,1.0s
HIA Hailar 49.89 55 P **P 04 58 30.8 +0.1**
HIA pmax pmax
comp=Z,21nm,0.7s
HIA Hailar 49.89 55 P **P 04 58 30.8 +0.1**
SUMG Summit 50.28 337 *i* P **P 04 58 34.9 +1.2**
SUMG IAmb IAmb 04 58 42.9
comp=Z,64nm,1.0s
SUMG IAMs_20 IAMs_20 05 21 07.7
comp=Z,2μm,22.2s
SUMG Summit 50.28 337 *i* P **P 04 58 34.9 +1.2**
SUMG pmax pmax
comp=Z,64nm,1.0s
SUMG MLR MLR
comp=Z,2μm,22.0s
SUMG Summit 50.28 337 P **P 04 58 34.1 +0.4**
SUMG IAmb IAmb 04 58 46.2
comp=Z,70nm,1.0s
GYA Guiyang 50.45 87 ⇑P **P 04 58 34.7 -0.6**
GYA pP sP 04 58 44.2 +1.3
GYA pmax pmax
comp=Z,48nm,1.4s
PMPST Porto Santo, M 50.52 283 *e*pP **pP 04 58 42.5 +1.4**
PMPST *e*S S 05 06 00.5 +12
UMPA Umpang Tak 50.59 104 P **P 04 58 37.0 +0.7**
comp=Z,727nmcomp=Z,22nm,1.1s
ENH Enshi 50.61 81 P **P 04 58 35.7 -0.6**
ENH IAmb IAmb 04 59 00.8
comp=Z,67nm,1.0s
BJI Beijing 51.00 67 P **P 04 58 39.4 +0.3**
BJI pmax pmax
comp=Z,21nm,1.1s
BJT Baijiatuan 51.01 67 P **P 04 58 38.8 -0.3**
BJT pmax pmax
comp=Z,14nm,0.8s
BJT Baijiatuan 51.01 67 P **P 04 58 38.8 -0.3**
PHIT Phitsanulok 51.12 101 P **P 04 58 41.1 +0.9**
comp=Z,1μmcomp=Z,72nm,1.0s
PMAR Madeira 51.12 283 *e*P **P 04 58 41.7 +1.4**
comp=Z,115nm,1.5s
PMAR *e*pP **pP 04 58 45.3 -0.6**
PMAR *e*S **S 05 06 05.2 +7.6**
SLVN Son La 51.23 95 P **P 04 58 40.4 -0.7**
PMOZ Porto Moniz, M 51.28 283 *e*P **P 04 58 43.6 +2.2**
comp=Z,78nm,1.1s
PMOZ *e*S S 05 06 11.3 +12
KHLT Khaolaem Dam 51.30 105 P **P 04 58 42.4 +0.8**
comp=Z,49nm,1.1s
YAK Yakutsk 51.38 37 P **P 04 58 40.5 -1.1**
comp=Z,18nm,0.4s,baz=287,slow=5.0,SNR=1.7
YAK Yakutsk 51.38 37 *e*P **P 04 58 40.5 -1.1**
YAK *e*S **S 05 05 56.1 -3.9**
YAK pmax pmax
comp=Z,60nm,1.1s
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.0s
YAK smax smax
comp=E,108nm,1.9s
YAK smax smax
comp=N,292nm,1.9s
UTHA Uthaitani 51.44 104 P **P 04 58 43.2 +0.6**
comp=N,182nmcomp=N,21nm,0.9s
ICESG Greenland Ices 51.44 333 *i* P **P 04 58 43.4 +1.0**
ICESG IAmb IAmb 04 58 45.9
comp=Z,115nm,0.9s
ICESG IAMs_20 IAMs_20 05 20 57.2
comp=Z,2μm,19.2s
KOWA Kowa 51.72 255 P **P 04 58 44.9 +0.2**
KOWA IAmb IAmb 04 58 48.2
comp=Z,44nm,0.9s
PBKT Sadao Pong 51.92 102 P **P 04 58 47.2 +0.9**
comp=Z,85nm,0.8s
PBKT Sadao Pong 51.92 102 P **P 04 58 47.1 +0.9**
comp=Z,82nm,0.8s
SRDT SRDT 51.98 105 P **P 04 58 46.0 -0.7**
comp=Z,122nm,1.1s
SRDT SRDT 51.98 105 P **P 04 58 46.9 +0.2**
comp=Z,116nm,1.1s
ISOG Isortoq, Green 52.16 328 *i* P **P 04 58 46.6 -0.7**
ISOG IAmb IAmb 04 58 53.6
comp=Z,87nm,1.0s
NEEM North Greenlan 52.21 344 *i* P **P 04 58 48.6 +0.6**
NEEM IAmb IAmb 04 58 56.7
comp=Z,82nm,1.1s
NEEM IAMs_20 IAMs_20 05 28 38.5
comp=Z,1μm,14.2s
NONG Nongkai 52.62 98 P **P 04 58 51.4 0.0**
comp=Z,12μmcomp=Z,186nm,1.2s
ZEA Zeya 52.78 47 *e*P **P 04 58 53.5 +1.4**
ZEA pmax pmax
comp=Z,20nm,1.2s
ZEA MLR MLR
comp=E,2μm,14.0s
ZEA MLR MLR
comp=N,2μm,12.0s
ZEA MLR MLR
comp=Z,2μm,14.0s
CHAI Chaiyaphum 53.10 101 P **P 04 58 55.2 +0.3**
comp=Z,380nmcomp=Z,48nm,0.9s
PHET Kaeng Krachan 53.30 106 P **P 04 58 57.0 +0.6**
comp=Z,314nmcomp=Z,34nm,1.0s
KHON Khomkaen 53.44 100 P **P 04 58 58.0 +0.5**
comp=Z,1μmcomp=Z,131nm,1.0s
WHN Wuhan 54.10 78 ⇓P **P 04 59 02.7 +0.6**
SBV Sambava 54.19 177 P P 04 59 11.3 +8.6
DY2G Dye2 54.66 331 *i* P **P 04 59 06.3 +0.3**
DY2G IAmb IAmb 04 59 11.9
comp=Z,70nm,1.0s
DY2G IAMs_20 IAMs_20 05 20 46.5
comp=Z,1μm,21.6s
UPNV Upernavik 55.22 339 *i* P **P 04 59 11.1 +1.4**
UPNV IAmb IAmb 04 59 19.2
comp=Z,81nm,1.3s
ILULI Ilulissat 55.26 335 *i* P **P 04 59 09.2 -0.8**
ILULI IAmb IAmb 04 59 12.8
comp=Z,30nm,1.0s
ILULI Ilulissat 55.26 335 *i* P **P 04 59 09.1 -0.8**
ILULI pmax pmax
comp=Z,30nm,1.0s
ILULI Ilulissat 55.26 335 IAmb IAmb 04 59 20.9
comp=Z,30nm,0.8s
DL2 Dalian 55.29 66 ⇑P **P 04 59 10.9 +0.2**
DL2 S **S 05 06 54.0 +0.3**
DL2 pmax pmax
comp=Z,110nm,0.8s
DL2 pmax pmax
comp=Z,2μm,4.9s
DL2 LR LR
comp=Z,2μm,20.3s
DL2 LR LR
comp=Z,2μm,19.6s
DL2 LR LR
comp=Z,2μm,17.8s
CN2 Changchun 55.65 59 *e*P P 04 59 22.5 +9.3
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 LR LR
comp=N,7μm,19.0s
CN2 LR LR
comp=E,3μm,19.0s
CN2 LR LR
comp=Z,4μm,17.0s
PKDT Phuket 55.79 112 P **P 04 59 14.7 +0.2**
comp=Z,4μmcomp=Z,70nm,1.1s
SURA Surathani 55.82 109 P **P 04 59 15.0 +0.2**
comp=Z,44nm,1.5s
SFJD Kangerlussuaq 56.03 332 *i* P **P 04 59 15.3 -0.2**
SFJD IAmb IAmb 04 59 21.5
comp=Z,17nm,1.0s
SFJD Kangerlussuaq 56.03 332 P **P 04 59 16.1 +0.6**
SFJD pmax pmax
comp=Z,32nm,1.0s
SFJD Kangerlussuaq 56.03 332 P **P 04 59 16.1 +0.6**
SFJD IAmb IAmb 04 59 31.5
comp=Z,32nm,0.9s
NRS Narsarsuaq 56.44 324 *i* P **P 04 59 19.0 +0.5**
NRS IAmb IAmb 04 59 24.1
comp=Z,74nm,0.9s
NRS Narsarsuaq 56.44 324 *i* P **P 04 59 19.0 +0.5**
NRS pmax pmax
comp=Z,74nm,0.9s
EUNU Eureka 56.51 351 IAmb IAmb 04 59 28.8
comp=Z,51nm,1.1s
NJ2 Nanjing 56.65 74 *e*P **P 04 59 20.5 0.0**
NJ2 pmax pmax
comp=Z,57nm,0.8s
NJ2 LR LR
comp=Z,2μm,20.3s
NJ2 LR LR
comp=Z,2μm,19.9s
NJ2 LR LR
comp=Z,900nm,15.1s
TRTT Trang 56.78 111 P **P 04 59 21.0 -0.6**
comp=Z,65nm,1.2s
KLR Kul'dur 57.16 51 P **P 04 59 23.9 +0.1**
comp=Z,15nm,0.9s,baz=292,slow=7.9,SNR=9.6
KLR LR LR 05 25 10.2
comp=Z,1μm,19.1s,baz=295,slow=37
KLR Kul'dur 57.16 51 *i* P **P 04 59 23.7 -0.2**
KLR pmax pmax
comp=Z,24nm,1.1s
KLR MLR MLR
comp=Z,2μm,16.0s
DBIC Dimbokro 57.62 249 P **P 04 59 26.5 -1.0**
comp=Z,18nm,0.8s,baz=38,slow=7.8,SNR=14
DBIC LR LR 05 28 46.6
comp=Z,839nm,19.4s,baz=62,slow=41
DBIC Dimbokro 57.62 249 P **P 04 59 27.2 -0.4**
DBIC pmax pmax
comp=Z,34nm,1.1s
DBIC Dimbokro 57.62 249 P **P 04 59 27.2 -0.4**
DBIC IAmb IAmb 04 59 34.5
comp=Z,34nm,1.1s
NUUK Nuuk 57.71 329 *i* P **P 04 59 28.3 +0.9**
NUUK IAmb IAmb 04 59 29.6
comp=Z,39nm,1.1s
TIC Toumodi 57.76 249 *e*P **P 04 59 27.7 -0.8**
KIC Kosan Boka 57.76 248 *e*P **P 04 59 27.8 -0.8**
comp=Z,73nm,1.0s
SKLT Songkhla 57.91 110 P **P 04 59 28.9 -0.6**
LIC Lamto 58.06 248 *e*P **P 04 59 29.2 -1.4**
comp=Z,117nm,0.8s
TPTI 58.30 116 P **P 04 59 31.9 -0.4**
comp=Z,34nm,0.8s
GRNR Gornyy 59.14 48 ⇑*i*P **P 04 59 37.7 0.0**
GRNR *e*S **S 05 07 48.5 +4.4**
GRNR pmax pmax
comp=Z,10.0nm,0.9s
GRNR MLR MLR
comp=N,1μm,16.0s
GRNR MLR MLR
comp=E,1μm,16.0s
OPO Ambohidratompo 59.23 180 P **P 04 59 39.1 +0.4**
comp=E,8.0nm,0.6s,baz=346,slow=4.7,SNR=10
KULM Kulim 59.24 112 P **P 04 59 38.0 -0.9**
INCN Inchon 59.43 65 P **P 04 59 39.3 -0.6**
INCN pmax pmax
comp=Z,36nm,0.9s
INCN Inchon 59.43 65 P **P 04 59 39.3 -0.6**
INCN IAmb IAmb 04 59 53.3
comp=Z,36nm,0.9s
USA0B Ussuriysk Arra 59.64 56 P **P 04 59 41.7 +0.4**
USA0B pmax pmax
comp=Z,32nm,1.1s
USA0B Ussuriysk Arra 59.64 56 P **P 04 59 41.7 +0.4**
USA0B IAmb IAmb 04 59 54.5
comp=Z,32nm,1.1s
USRK Ussuriysk Ar. 59.64 56 P **P 04 59 40.5 -0.7**
comp=Z,10nm,0.7s,baz=282,slow=5.8,SNR=14
USRK LR LR 05 28 06.5
comp=Z,2μm,18.6s,baz=287,slow=39
ABPO Ambohimpanom 59.67 180 P **P 04 59 41.8 0.0**
ABPO Ambohimpanom 59.67 180 P **P 04 59 41.8 0.0**
ABPO IAmb IAmb 04 59 50.7
comp=Z,57nm,1.2s

PSI Prapat 59.82 115 P P 04 59 41.3 -1.7
comp=Z,41nm,0.6s,baz=358,slow=4.8,SNR=24
PSI Prapat 59.82 115 P P 04 59 41.2 -1.7
comp=Z,707nmcomp=Z,56nm,1.2s,comp=Z,1μm,1.2s,
comp=Z,120nm,1.2s
PSI P P 04 59 41.3 -1.7
comp=Z,707nmcomp=Z,56nm,1.2s,comp=Z,1μm,1.2s,
comp=Z,120nm,1.2s
KS19 Wonju Array Si 60.26 65 P P 04 59 44.8 -0.8
KS19 IAmb IAmb 04 59 56.4
comp=Z,36nm,0.8s
KSRS Korea Array 60.33 65 P P 04 59 45.9 -0.2
comp=Z,29nm,0.9s,baz=292,slow=6.8,SNR=51
KSRS LR LR 05 30 50.8
comp=Z,872nm,18.1s,baz=338,slow=41
TJN Taejon 60.49 66 *ceP* P 04 59 46.8 -0.4
SEY Seymchan 60.57 30 P P 04 59 48.5 +1.2
comp=Z,30nm,0.8s,baz=292,slow=7.2,SNR=1.9
SEY Seymchan 60.57 30 *i* P P 04 59 47.9 +0.6
MNSI Mandailing Nat 61.72 116 P P 04 59 52.4 -3.4
comp=Z,3μmcomp=Z,31nm,0.8s
MA2 Magadan 61.75 34 P P 04 59 56.2 +0.8
comp=Z,17nm,0.8s,baz=260,slow=6.1
MA2 Magadan 61.75 34 *c i* P P 04 59 56.0 +0.6
MA2 pmax pmax
comp=Z,31nm,1.0s
MA2 Magadan 61.75 34 P P 04 59 56.2 +0.8
BILL Bilibino 62.12 22 *eP* P 04 59 57.9 +0.2
BILL *e* 05 00 40.9
BILL *e* 05 02 10.7
BILL *eP* PPP PPP 05 03 39.5
BILL pmax pmax
comp=Z,22nm,1.0s
BILL Bilibino 62.12 22 P P 04 59 59.8 +2.0
TATO Taipei 62.41 80 P P 05 00 00.5 +0.1
TYV Tymovskoe 62.52 45 *eP* P 05 00 01.5 +0.8
TYV *eS* S 05 08 31.2 +4.0
TYV pmax pmax
comp=Z,19nm,0.8s
TYV pmax pmax
comp=Z,400nm,3.4s
TYV smax smax
comp=N,1μm,9.8s
TYV smax smax
comp=E,500nm,9.8s
TYV MLR MLR
comp=Z,4μm,13.0s
VOI Vohitsoka 62.55 181 P P 05 00 01.3 +0.1
VOI IAmb IAmb 05 00 05.6
comp=Z,52nm,1.5s
VOI Vohitsoka 62.55 181 P P 05 00 06.2 +5.0
TPUB Ta-pu 62.73 82 P P 05 00 02.5 0.0
BKNI Bangkinang 63.06 115 P P 05 00 03.6 -1.1
comp=Z,3μmcomp=Z,270nm,1.1s
TWG Pinlang 63.34 82 P P 05 00 06.6 0.0
MATP Matopo 63.56 200 P P 05 00 08.0 0.0
comp=Z,6.5nm,0.8s,baz=20,slow=13,SNR=15
PDSI Padang 63.57 117 P P 05 00 06.6 -1.5
comp=Z,6μmcomp=Z,6μmcomp=Z,50nm,1.1s
MYKOM Kota Tinggi 63.96 112 P P 05 00 11.0 +0.3
YSS Yuzh-Sakhalins 64.68 49 *eP* P 05 00 14.4 -0.6
YSS pmax pmax
comp=Z,30nm,0.9s
YSS MLR MLR
comp=Z,2μm,16.0s
KRJI Kerinci 65.11 117 P P 05 00 18.7 +0.4
JHS Saijyo 65.18 64 IAmb IAmb 05 00 41.2
comp=Z,55nm,1.4s
TSUM Tsumeb 65.97 211 P P 05 00 23.4 -0.3
comp=Z,7.4nm,1.0s,baz=18,slow=6.0,SNR=7.9
TSUM Tsumeb 65.97 211 P P 05 00 23.6 -0.1
DSRI Dabo 66.08 113 P P 05 00 38.0 +14
ASAJ Asahikawa 66.17 52 P P 05 00 24.4 -0.3
comp=Z,13nm,0.7s,baz=303,slow=12,SNR=6.1
ASAJ LR LR 05 30 05.1
comp=Z,1μm,18.6s,baz=302,slow=37
ASAJ Asahikawa 66.17 52 P P 05 00 24.8 +0.1
ASAJ pmax pmax
comp=Z,69nm,1.2s
JKA Kamikawa-asahi 66.18 52 P P 05 00 24.8 +0.1
JOW Kunigami 66.36 74 P P 05 00 25.6 -0.6
comp=Z,28nm,1.0s,baz=303,slow=14
JOW LR LR 05 31 07.6
comp=Z,1μm,18.8s,baz=328,slow=38
MASI Maura Aman, Be 66.40 117 P P 05 00 26.8 +0.2
comp=Z,237nm,1.0s
JGF Kuroka 67.71 62 IAmb IAmb 05 00 56.0
comp=Z,26nm,1.0s
MAJO Matsushiro 67.73 60 P P 05 00 33.9 -0.9
MAJO pmax pmax
comp=Z,28nm,1.0s
MAJO Matsushiro 67.73 60 P P 05 00 33.9 -0.9
MAJO IAmb IAmb 05 00 57.5
comp=Z,28nm,0.9s
MAT Matsushiro 67.73 60 P P 05 00 33.7 -1.1
MJAR Matsushiro Arr 67.73 60 P P 05 00 34.7 -0.2
comp=Z,16nm,1.0s,baz=308,slow=6.0,SNR=21
MJAR LR LR 05 33 03.3
comp=Z,717nm,19.6s,baz=315,slow=38
MJAR Matsushiro Arr 67.73 60 IAmb IAmb 05 00 45.1
comp=Z,32nm,1.1s
EGSI Enggano, Bengk 68.05 119 P P 05 00 34.7 -2.3
comp=Z,106nm,0.7s
LBTB Lobatse 68.70 201 P P 05 00 41.5 +0.5
comp=Z,15nm,0.8s,baz=26,slow=4.8,SNR=18
LBTB Lobatse 68.70 201 P P 05 00 41.6 +0.7
LBTB pmax pmax
comp=Z,51nm,1.1s
LBTB Lobatse 68.70 201 P P 05 00 41.6 +0.7
PEA0B Petropavlovsk- 68.72 37 P P 05 00 39.7 -1.0
PEA0B pmax pmax
comp=Z,48nm,1.2s
PEA0B Petropavlovsk- 68.72 37 P P 05 00 39.7 -1.0
PEA0B IAmb IAmb 05 00 53.4
comp=Z,48nm,1.2s
PETK Petropavlovsk- 68.72 37 P P 05 00 40.0 -0.8
comp=Z,5.8nm,0.9s,baz=278,slow=1.0,SNR=8.1
PETK LR LR 05 33 47.1
comp=Z,884nm,18.2s,baz=296,slow=39
PETK Petropavlovsk- 68.72 37 P P 05 00 40.0 -0.8
KSM Kuching 68.78 107 P P 05 00 42.0 +0.4
LWLI Liwa 69.00 117 P P 05 00 39.7 -3.4
comp=Z,8μmcomp=Z,412nm,0.8s
SCHQ Schefferville 69.36 326 P P 05 00 46.1 +1.4
SCHQ IAmb IAmb 05 01 00.5
comp=Z,51nm,1.2s
KASI Kota Agung 69.67 117 P P 05 00 46.3 -0.7
comp=Z,1μmcomp=Z,133nm,1.0s
TOLK Toolik Lake Re 69.98 7 P P 05 00 47.1 -1.2
baz=346
STKI Sintang 70.59 108 P P 05 00 53.8 +1.0
COLD Coldfoot 71.30 7 P P 05 00 56.2 -0.1
baz=346
ANM Nome 71.69 14 P P 05 00 58.5 -0.2
baz=334
BOSA Boshof 72.21 200 P P 05 01 01.9 -0.4
comp=Z,16nm,0.8s,baz=15,slow=6.1,SNR=24
BOSA LR LR 05 33 54.7
comp=Z,1μm,19.2s,baz=28,slow=37
BOSA Boshof 72.21 200 P P 05 01 02.4 +0.1
BOSA pmax pmax
comp=Z,29nm,0.8s
BOSA Boshof 72.21 200 P P 05 01 02.4 +0.1
BOSA IAmb IAmb 05 01 13.6
comp=Z,29nm,0.8s
PBKI Pangkalan Bun 72.65 110 P P 05 01 06.3 +1.2
comp=Z,4μmcomp=Z,144nm,0.9s
MLY Manley 73.39 8 IAmb IAmb 05 01 30.0
comp=Z,37nm,1.1s
MLY Manley 73.39 8 P P 05 01 08.8 -0.1
baz=346
CISI Cisompet, Garu 73.39 116 IAmb IAmb 05 01 22.5
comp=Z,26nm,0.6s
CISI Cisompet, Garu 73.39 116 P P 05 01 22.9 +13
I23K Minto, Yukon-K 73.41 7 P P 05 01 09.0 +0.1
baz=347
POKR Poker Plat Res 73.62 6 P P 05 01 09.7 -0.5
baz=348
J20K Nowinta River 73.82 10 P P 05 01 11.0 -0.3
baz=343
COLA College 73.82 7 P P 05 01 12.2 +0.9
COLA pmax pmax
comp=Z,35nm,1.0s
COLA College 73.82 7 P P 05 01 12.2 +0.9
COLA IAmb IAmb 05 01 40.6
comp=Z,35nm,0.9s

ILAR Eielson Array 74.01 6 P P 05 01 13.1 +0.6
comp=Z,1.4nm,0.9s,baz=325,slow=3.6,SNR=2.0
BATG Bathurst New B 74.18 320 IAmb IAmb 05 01 17.3
comp=Z,57nm,1.2s
BPAW Bear Paw Mtn. 74.27 8 P P 05 01 14.2 +0.1
baz=346
LMN Caledonia Moun 74.53 318 P P 05 01 17.0 +1.1
LMN IAmb IAmb 05 01 27.8
comp=Z,35nm,0.9s
K20K Telida 74.62 10 IAmb IAmb 05 01 36.9
comp=Z,37nm,1.1s
K20K Telida 74.62 10 P P 05 01 16.0 0.0
baz=343
KTH Kantishna Hill 74.81 8 IAmb IAmb 05 01 39.5
comp=Z,56nm,1.2s
K27K Chicken 75.08 4 P P 05 01 18.2 -0.5
baz=352
PPLA Purkeypile 75.30 9 P P 05 01 19.8 -0.4
baz=345
L20K Farewell, AK 75.49 10 P P 05 01 21.2 +0.1
baz=343
PQI Presque Isle 75.56 320 IAmb IAmb 05 01 35.4
comp=Z,44nm,0.8s
L19K White Mountain 75.64 11 IAmb IAmb 05 01 43.0
comp=Z,50nm,1.1s
L19K White Mountain 75.64 11 P P 05 01 21.9 -0.1
baz=343
D62A Allapoint, All 75.77 321 P P 05 01 24.6 +1.7
D62A Allapoint, All 75.77 321 P P 05 01 22.6 -0.3
baz=44
E63A Oxbow 75.93 320 IAmb IAmb 05 01 36.4
comp=Z,35nm,1.0s
E63A Oxbow 75.93 320 P P 05 01 24.4 +0.5
baz=44
M19K Big River Lodg 75.97 10 P P 05 01 26.4 +2.6
M19K IAmb IAmb 05 01 43.9
comp=Z,56nm,1.4s
M19K Big River Lodg 75.97 10 P P 05 01 23.6 -0.2
baz=343
LMQ La Malbaie 76.03 322 IAmb IAmb 05 01 38.2
comp=Z,35nm,0.8s
WAT6 Susitna Watana 76.09 7 P P 05 01 24.2 -0.5
baz=348
M20K Styx River 76.16 10 P P 05 01 24.6 -0.4
baz=344
SKT Skwentna 76.27 9 IAmb IAmb 05 01 52.6
comp=Z,25nm,0.7s
SKT Skwentna 76.27 9 P P 05 01 25.5 0.0
baz=345
KBKI Kotabaru 76.29 107 P P 05 01 28.4 +2.1
comp=Z,39nm,1.0s
F64A Sherman 76.30 320 IAmb IAmb 05 01 39.4
comp=Z,25nm,0.9s
F64A Sherman 76.30 320 P P 05 01 26.4 +0.4
baz=44,SNR=5.8
E62A Clayton Lake 76.32 321 IAmb IAmb 05 01 39.2
comp=Z,47nm,0.9s
E62A Clayton Lake 76.32 321 P P 05 01 26.4 +0.2
baz=44
G65A Princeton 76.38 319 P P 05 01 27.0 +0.6
baz=45
SVW2 Sparrevohn 76.58 11 IAmb IAmb 05 01 48.4
comp=Z,36nm,1.2s
MPSI Mapaga 76.58 101 P P 05 01 27.4 -0.6
comp=Z,87nm,1.0s
EMMW East Machias 76.67 318 P P 05 01 29.2 +1.2
EMMW IAmb IAmb 05 01 39.7
comp=Z,34nm,1.1s
F63A Nahmakanta, Br 76.78 320 IAmb IAmb 05 01 57.5
comp=Z,55nm,1.5s
F63A Nahmakanta, Br 76.78 320 P P 05 01 29.0 +0.2
baz=44
SML Sawmill 76.79 8 P P 05 01 28.1 -0.5
baz=348
SCM Sheep Creek Mo 76.86 7 P P 05 01 30.7 +1.7
SCM pmax pmax
comp=Z,51nm,0.9s
SCM Sheep Creek Mo 76.86 7 P P 05 01 30.7 +1.7
SCM IAmb IAmb 05 01 44.9
comp=Z,50nm,0.9s
SUA Susitna One 76.86 9 P P 05 01 28.3 -0.7
baz=346
PMR Palmer 76.92 8 P P 05 01 28.6 -0.5
baz=347
N18K Kilae Creek 76.93 12 P P 05 01 30.8 +1.5
N18K IAmb IAmb 05 01 40.5
comp=Z,25nm,0.8s
N18K Kilae Creek 76.93 12 P P 05 01 28.7 -0.6
baz=342
G64A Maxfield 76.93 319 P P 05 01 30.1 +0.5
baz=44,SNR=6.9
N19K Bonanza Creek 77.01 11 P P 05 01 30.1 +0.3
N19K IAmb IAmb 05 01 51.0
comp=Z,68nm,1.2s
N19K Bonanza Creek 77.01 11 P P 05 01 29.4 -0.4
baz=343
SUR Sutherland 77.01 203 P P 05 01 31.0 +0.8
comp=Z,6.5nm,0.7s,baz=22,slow=6.1,SNR=7.4
SUR Sutherland 77.01 203 IAmb IAmb 05 01 40.4
comp=Z,62nm,1.4s
F62A Pittston Farm, 77.06 320 P P 05 01 30.4 +0.1
baz=44
PKME Peaks-Kenny Pk 77.19 320 IAmb IAmb 05 01 44.7
comp=Z,25nm,0.9s
PKME Peaks-Kenny Pk 77.19 320 P P 05 01 30.5 -0.5
baz=44
KLU Klutina 77.32 7 P P 05 01 31.2 -0.4
baz=350
RC01 Rabbit Creek A 77.34 8 P P 05 01 31.6 0.0
baz=347
H64A Troy 77.60 319 P P 05 01 34.4 +1.1
baz=44
O19K Port Alsworth 77.62 11 IAmb IAmb 05 01 43.7
comp=Z,29nm,0.8s
DIV Divide 77.69 7 P P 05 01 35.0 +1.4
DIV IAmb IAmb 05 01 55.2
comp=Z,39nm,0.8s
O18K Koktuh Hills 77.82 11 P P 05 01 32.4 -1.9
baz=343
G62A West of Eustis 77.82 320 IAmb IAmb 05 01 48.2
comp=Z,26nm,1.0s
G62A West of Eustis 77.82 320 P P 05 01 34.3 -0.3
baz=43,SNR=5.0
MRSI Marisa 78.01 100 P P 05 01 36.2 +0.2
comp=Z,2μmcomp=Z,128nm,0.7s
I64A Boothbay 78.33 319 P P 05 01 37.1 -0.2
baz=43
ISLE Juniper Island 78.47 5 IAmb IAmb 05 01 57.2
comp=Z,61nm,1.1s
YAH Yahtse 78.75 5 IAmb IAmb 05 02 01.2
comp=Z,19nm,0.7s
TTSI Tana Toraja 78.79 104 P P 05 01 40.8 +0.5
comp=Z,19nm,1.1s
I62A Tamworth 79.20 320 P P 05 01 41.9 -0.3
baz=42
LBNH Lisbon 79.22 320 P P 05 01 43.8 +1.5
LBNH pmax pmax
comp=Z,26nm,0.9s
LBNH Lisbon 79.22 320 P P 05 01 43.8 +1.5
LBNH IAmb IAmb 05 01 56.1
comp=Z,26nm,0.9s
LBNH Lisbon 79.22 320 P P 05 01 42.5 +0.2
baz=42,SNR=5.7
J63A Strafford 79.51 319 P P 05 01 43.6 -0.3
baz=42,SNR=5.5
J62A Henniker 79.91 320 P P 05 01 46.3 +0.2
baz=42
KAPI Kappang 80.07 106 P P 05 01 47.6 +0.4
comp=Z,23nm,0.9s,baz=276,slow=6.8,SNR=8.2
KAPI Kappang 80.07 106 P P 05 01 47.1 -0.1
KAPI IAmb IAmb 05 01 48.0
comp=Z,52nm,1.1s
KAPI Kappang 80.07 106 P P 05 01 47.8 +0.5
comp=Z,47nm,1.3s
K63A Dunstable 80.17 319 P P 05 01 47.2 -0.2
baz=42
J61A Chester 80.18 320 P P 05 01 47.5 0.0
baz=42
LONY Lake Ozonia 80.19 322 IAmb IAmb 05 02 00.9
comp=Z,26nm,0.9s
LONY Lake Ozonia 80.19 322 P P 05 01 48.3 +0.7
baz=40
KDAK Kodiak Island 80.20 11 P P 05 01 47.5 +0.2
comp=Z,37nm,1.2s,baz=48,slow=2.0,SNR=5.2
KDAK Kodiak Island 80.20 11 IAmb IAmb 05 02 12.9
comp=Z,54nm,1.2s
HRV Adam Dziewonsk 80.32 319 P P 05 01 49.9 +1.6
HRV pmax pmax
comp=Z,19nm,1.1s
HRV Adam Dziewonsk 80.32 319 P P 05 01 49.9 +1.6
HRV Adam Dziewonsk 80.32 319 P P 05 01 48.5 +0.2
baz=42
L64A Middleborough 80.38 318 P P 05 01 48.3 -0.2
baz=42
K62A Royalston 80.54 319 P P 05 01 49.1 -0.3
baz=42,SNR=5.6
BKSI Bulukumba 80.55 105 P P 05 01 49.8 0.0
comp=Z,596nmcomp=Z,37nm,0.9s
L63A North Scituate 80.82 319 P P 05 01 51.5 +0.5
baz=42
M64A Tiverton 80.85 318 IAmb IAmb 05 02 04.7
comp=Z,36nm,0.9s
M64A Tiverton 80.85 318 P P 05 01 51.9 +0.8
baz=42
L61B Northampton 80.92 320 P P 05 01 51.4 0.0
baz=41
DLBC Dease Lake 80.94 359 P P 05 01 52.2 +0.8
comp=Z,2.9nm,0.6s,baz=23,slow=7.7,SNR=1.3
J59A Piesco 81.03 321 IAmb IAmb 05 02 21.7
comp=Z,28nm,1.1s
UNV Unalaska Valle 81.16 20 P P 05 01 52.4 -0.1
baz=335
FFC Flin Flon 81.16 343 P P 05 01 53.2 +0.7
FFC pmax pmax
comp=Z,41nm,0.9s
FFC Flin Flon 81.16 343 P P 05 01 53.2 +0.7
FFC IAmb IAmb 05 01 56.9
comp=Z,41nm,0.9s
M63A Gales Ferry 81.38 319 IAmb IAmb 05 02 03.6
comp=Z,27nm,1.1s
DELO Deloro Mine 81.66 324 IAmb IAmb 05 01 59.1
comp=Z,30nm,1.2s
PECO Prince Edward 81.83 323 IAmb IAmb 05 02 06.0
comp=Z,28nm,1.1s
KSCT Kent School, K 81.85 320 P P 05 01 57.6 +1.2
L59A Walton 82.26 321 IAmb IAmb 05 02 12.0
comp=Z,29nm,0.9s
J56A Wolcott 82.28 322 IAmb IAmb 05 02 02.2
comp=Z,41nm,1.1s
K57A Scipio Center 82.54 322 IAmb IAmb 05 02 03.1
comp=Z,25nm,1.1s
PAL Palisades 82.61 319 P P 05 02 00.1 -0.3
baz=41
TRNY Table Rock, Ra 82.66 320 IAmb IAmb 05 02 04.7
comp=Z,32nm,1.4s
BINY Binghamton 82.70 321 IAmb IAmb 05 02 04.4
comp=Z,27nm,1.1s
BINY Binghamton 82.70 321 P P 05 02 01.1 +0.2
baz=39,SNR=9.7
SANI Sanana 82.70 99 P P 05 02 00.0 -1.3
comp=Z,645nmcomp=Z,35nm,0.8s
J55A Hilton 82.72 323 IAmb IAmb 05 02 04.9
comp=Z,30nm,1.0s
CPNY Central Park 82.80 319 P P 05 02 03.0 +1.6
CPNY IAmb IAmb 05 02 04.5
comp=Z,36nm,1.4s
E46A Sault Ste Mari 83.00 329 IAmb IAmb 05 02 29.7
comp=Z,19nm,0.9s
KSPA Keystone Colle 83.09 321 IAmb IAmb 05 02 06.2
comp=Z,25nm,1.2s
MEDO Medina 83.09 323 IAmb IAmb 05 02 05.8
comp=Z,24nm,1.0s
L56A Greenwood 83.49 322 IAmb IAmb 05 02 17.6
comp=Z,32nm,0.8s
N59A State Game Lan 83.58 320 IAmb IAmb 05 02 18.2
comp=Z,21nm,0.8s
N59A State Game Lan 83.58 320 P P 05 02 05.2 -0.4
baz=40,SNR=14
LUPA Lehigh Univers 83.64 320 IAmb IAmb 05 02 08.9
comp=Z,31nm,1.1s
ULM Lac du Bonnet 83.64 337 P P 05 02 06.4 +0.9
comp=Z,4.2nm,0.8s,baz=13,slow=6.4,SNR=4.6
ULM LR LR 05 40 18.0
comp=Z,826nm,20.6s,baz=26,slow=36
ULM Lac du Bonnet 83.64 337 P P 05 02 08.0 +2.4
ULM IAmb IAmb 05 02 24.9
comp=Z,36nm,1.1s
M57A Sunshine Farm, 83.91 321 IAmb IAmb 05 02 10.4
comp=Z,33nm,1.2s
E43A Lone Tree Farm 84.02 330 IAmb IAmb 05 02 16.1
comp=Z,17nm,0.8s
D41A Chassel 84.03 331 IAmb IAmb 05 02 16.4
comp=Z,25nm,0.9s
N58A Sunbury 84.10 321 IAmb IAmb 05 02 11.7
comp=Z,24nm,1.1s
EYMN Ely 84.29 334 P P 05 02 09.6 +0.6
EYMN IAmb IAmb 05 02 20.2
comp=Z,23nm,1.1s
EYMN Ely 84.29 334 P P 05 02 09.5 +0.6
baz=30
P60A Greenville 84.37 320 IAmb IAmb 05 02 12.8
comp=Z,44nm,1.1s
P60A Greenville 84.37 320 P P 05 02 08.7 -0.8
baz=40,SNR=7.5
M55A Ridgway 84.57 322 IAmb IAmb 05 02 14.3
comp=Z,28nm,1.1s
MVL Millersville 84.57 320 IAmb IAmb 05 02 13.6
comp=Z,20nm,1.2s
PAGS Pennsylvania G 84.58 320 IAmb IAmb 05 02 13.1
comp=Z,23nm,1.3s
ERPA Erie 84.61 324 P P 05 02 12.0 +1.3
ERPA IAmb IAmb 05 02 19.0
comp=Z,41nm,1.1s
SSPA Standing Stone 84.81 321 P P 05 02 12.6 +0.9
SSPA IAmb IAmb 05 02 33.1
comp=Z,28nm,1.1s
SSPA Standing Stone 84.81 321 P P 05 02 13.0 +1.2
baz=38
M54A Oil Creek Stat 84.95 323 IAmb IAmb 05 02 35.8
comp=Z,27nm,1.2s
M54A Oil Creek Stat 84.95 323 P P 05 02 13.1 +0.6
baz=37
K50A Casco 85.24 326 IAmb IAmb 05 02 39.3
comp=Z,33nm,0.9s
KRAI Karang Ratu 85.34 98 P P 05 02 15.7 +1.0
comp=Z,19nm,1.1s
AGMN Agassiz Nation 85.37 336 IAmb IAmb 05 02 25.7
comp=Z,20nm,1.0s
O56A Blue Knob Stat 85.42 322 P P 05 02 14.4 -0.4
baz=38,SNR=5.5
E38A The Farm, Brul 85.47 333 IAmb IAmb 05 02 31.6
comp=Z,16nm,0.8s
J47A Sunmer 85.78 327 IAmb IAmb 05 02 29.8
comp=Z,35nm,1.0s
SWI Sorong 85.89 95 P P 05 02 17.6 +0.2
comp=Z,7μmcomp=Z,1μmcomp=Z,92nm,1.1s
BATI Baumata 86.42 107 P P 05 02 19.7 -0.3
comp=Z,176nm,0.9s,baz=308,slow=4.2,SNR=11
BATI Baumata 86.42 107 P P 05 02 20.3 +0.3
comp=Z,882nmcomp=Z,104nm,0.8s
SOEI Soe 86.55 106 P P 05 02 25.7 +4.9
O53A New Philadelph 86.66 323 P P 05 02 22.1 +1.2
baz=36
D32A Dogwood Acres, 86.76 337 P P 05 02 22.9 +1.6
F36A Milaca 86.79 334 IAmb IAmb 05 02 32.2
comp=Z,33nm,1.2s
SPMN Marine on St. 87.10 333 IAmb IAmb 05 02 46.7
comp=Z,18nm,0.9s
BNDI Bandanaira 87.26 98 P P 05 02 39.3 +15
I40A Norwalk 87.48 331 IAmb IAmb 05 02 48.8
comp=Z,19nm,0.9s
F33A 5 Mile Ranch, 87.70 336 P P 05 02 26.1 +0.3
F33A IAmb IAmb 05 02 40.0
comp=Z,19nm,0.8s
FAKI Fak Fak 87.97 96 P P 05 02 27.0 -0.6
FAKI Fak Fak 87.97 96 P P 05 02 36.2 +8.6
O49A Covington 88.09 325 IAmb IAmb 05 02 57.4
comp=Z,17nm,0.8s
JFWS Jewell Farm 88.19 330 IAmb IAmb 05 02 51.1
comp=Z,19nm,1.2s
JFWS Jewell Farm 88.19 330 P P 05 02 28.8 +0.6
baz=30
I37A Lemond, Waseca 88.37 333 P P 05 02 29.3 +0.2
I37A IAmb IAmb 05 02 52.5
comp=Z,37nm,1.2s
NBPV Pedro Velho 88.70 260 *eP* P 05 02 30.0 -1.0
ECSD EROS Data Cent 89.69 335 IAmb IAmb 05 02 46.6
comp=Z,18nm,1.0s
ECSD EROS Data Cent 89.69 335 P P 05 02 35.0 -0.3
baz=26
HDIL Hopedale 89.84 329 IAmb IAmb 05 02 38.9
comp=Z,22nm,1.1s
HDIL Hopedale 89.84 329 P P 05 02 36.1 +0.1
baz=31
NBRF Rio Formoso - 90.06 259 *eP* P 05 02 37.2 -0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NEW	Newport	90.11	350	P	P	05 02 38.9	+1.7
	comp=Z,7.4nm,0.8s,baz=326,slow=5.5,SNR=4.3						
NEW	Newport	90.11	350	P	P	05 02 39.3	+2.1
NEW				IAmb	IAmb	05 02 48.9	
	comp=Z,22nm,0.9s						
NBMO	Morrinhos-CE	90.24	266	eP	P	05 02 37.7	-0.5
TZTN	Tazewell	90.74	323	P	P	05 02 41.2	+0.9
	baz=35						
OLIL	Olney	90.91	327	IAmb	IAmb	05 02 52.8	
	comp=Z,21nm,1.1s						
Q44A	Meyer Farm, Va	91.14	327	IAmb	IAmb	05 02 45.4	
	comp=Z,18nm,1.1s						
PAULI	Pauline	91.32	320	IAmb	IAmb	05 03 07.1	
	comp=Z,27nm,1.2s						
PSA00	Pilbara Seismi	91.47	117	P	P	05 02 42.6	-1.1
JSC	Jenkinsville	91.49	320	P	P	05 02 44.4	+0.6
JSC				pmax	pmax		
	comp=Z,21nm,1.2s						
JSC	Jenkinsville	91.49	320	P	P	05 02 44.4	+0.6
JSC				IAmb	IAmb	05 03 07.3	
	comp=Z,21nm,1.2s						
P40A	Paris	91.79	330	IAmb	IAmb	05 02 47.9	
	comp=Z,18nm,1.2s						
HODGE	Hodges	92.01	320	IAmb	IAmb	05 03 09.7	
	comp=Z,18nm,1.1s						
P38A	Dawn	92.27	331	P	P	05 02 47.8	+0.4
P38A				IAmb	IAmb	05 02 59.2	
	comp=Z,9.7nm,0.8s						
CCM	Cathedral Cave	92.76	329	P	P	05 02 50.4	+0.8
CCM				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CCM	Cathedral Cave	92.76	329	P	P	05 02 50.4	+0.8
FITZ	Fitzroy Crossi	93.12	111	P	P	05 02 50.9	-0.5
FITZ				IAmb	IAmb	05 03 00.0	
	comp=Z,10nm,0.8s						
PBMO	Poplar Bluff	93.53	327	IAmb	IAmb	05 03 16.9	
	comp=Z,10nm,0.8s						
MTN	Manton Dam	93.62	104	P	P	05 02 52.3	-1.5
MTN				IAmb	IAmb	05 03 02.3	
	comp=Z,16nm,0.9s						
KNRA	Kununurra	93.75	107	IAmb	IAmb	05 03 20.0	
	comp=Z,29nm,1.1s						
PDAR	Pinedale Array	94.10	343	LR	LR	05 47 50.3	
	comp=Z,812nm,20.2s,baz=16,slow=37						
U40A	Yellville	94.87	329	P	P	05 03 00.8	+1.4
U40A				IAmb	IAmb	05 03 20.5	
	comp=Z,14nm,1.3s						
NVAR	Mina Array Bea	99.92	349	LR	LR	05 53 07.3	
	comp=Z,494nm,18.4s,baz=5.0,slow=38						
WRA	Warramunga Arr	100.54	107	P	Pdif	05 03 23.8	-1.2
	comp=Z,4.3nm,0.6s,baz=316,slow=3.8,SNR=28						
ASAR	Alice Springs	102.58	110	P	Pdif	05 03 32.6	-1.4
	comp=Z,0.7nm,0.8s,baz=310,slow=5.1,SNR=3.3						
TXAR	Lajitas Array	105.11	334	PKKP		05 19 34.7	
	comp=Z,0.6nm,0.8s,baz=153,slow=6.7,SNR=5.2						
SYO	Syowa Base	109.81	183⇑	ePdiff	Pdif	05 04 05.3	+0.3
SYO	Syowa Base	109.81	183⇓	epPdiff	pPdif	05 04 10.5	-0.3
CPUP	Villa Florida	117.47	258	PKP	PKiKP	05 08 23.6	+0.5
	comp=Z,2.4nm,0.9s,baz=90,slow=2.0,SNR=5.1						
SNAA	Sanae	117.80	196	PKPdf	PKPdf	05 08 22.4	0.0
SNAA	Sanae	117.80	196	PKP	PKiKP	05 08 22.6	+0.2
	comp=Z,2.4nm,1.0s,baz=18,slow=2.5,SNR=4.4						
SNAA	Sanae	117.80	196	PKPdf	PKiKP	05 08 25.4	+3.0
VNA2	Neumayer--Watz	118.25	198	PKPdf	PKPdf	05 08 23.1	-0.1
VNA1	Neumayer--Stat	118.26	198	PKPdf	PKiKP	05 08 24.1	+0.9
VNA3	Neumayer Olymp	119.00	198	PKPdf	PKPdf	05 08 24.2	-0.5
LPAZ	La Paz	119.73	274	PKP	PKiKP	05 08 29.4	+0.9
	comp=Z,1.6nm,1.0s,baz=37,slow=5.1,SNR=3.7						
PB09	IPOC Station P	123.86	270		PKiKP	05 08 35.8	-0.1
LVC	Limon Verde	124.07	268	PKP	PKiKP	05 08 36.7	+0.1
	comp=Z,2.6nm,0.9s,baz=18,slow=3.8,SNR=2.1						
DZM	Mont Dzumac	125.78	89	eLR	LR	05 48 00.2	
	comp=Z,560nm,23.9s						
AC02	Maricunga	126.57	264	PKPdf	PKiKP	05 08 42.4	+0.7
TRQA	Tornquist	126.84	248	PKIKP	PKiKP	05 08 41.5	+0.3
TRQA	Tornquist	126.84	248		PKiKP	05 08 41.5	+0.3
TRQA	Tornquist	126.84	248	eP	PKPdf	05 08 39.6	-1.1
PLCA	Paso Flores	133.99	249	PKP	PKiKP	05 08 55.3	-0.3
	comp=Z,2.3nm,0.8s,baz=89,slow=3.5,SNR=9.1						
PLCA	Paso Flores	133.99	249		PKPdf	05 08 54.3	0.0
PLCA	Paso Flores	133.99	249	eP	PKPdf	05 08 53.3	-1.0
VNDA	Vanda	134.87	164	PKP	PKPdf	05 08 55.2	+0.5
	comp=Z,2.1nm,1.1s,baz=270,slow=2.0,SNR=2.3						
PMSA	Palmer Station	135.15	214	eP	PKPdf	05 08 55.3	-0.2
PPT2	Papeete2	152.49	37	eLR	LR	06 00 20.5	
	comp=Z,555nm,25.2s						
TBI	Tubuai	157.42	44	eLR	LR	06 02 36.5	
	comp=Z,509nm,25.2s						

*ANF **04** 05:06:15.1±1.8, 41°.87N×119°.63W, h1km±17km, ML2.9/8, Error ellipse: s-maj=7.6km s-min=4.9km az=53.0*
*NEIC **04** 05:06:15.2±1.5, 41°.90N±0°.03×119°.52W±0°.03, h5km±1km, Error ellipse: s-maj=5.0km s-min=3.1km az=162.0*
*SEA **04** 05:06:16.6±2.2, 41°.85N±0°.03×119°.61W±0°.02, h0km±4km, Error ellipse: s-maj=4.5km s-min=1.7km az=169.0*
*REN **04** 05:06:16.3±1.2, 41°.89N±0°.04×119°.63W±0°.02, h9km±3km, ML2.9/5, ML2.5/18(NEIC), ML2.8/7(SEA), Error ellipse: s-maj=5.1km s-min=2.5km az=169.0*
ISC 04 05:06:15.9±1.4**, 41°.87N**±0°.04×**119°.60W**±0°.03**, h6**km±13km**, n32, σ0.66**/43**, Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOD	Modoc Plateau	0.52	274		Pg	05 06 26.3	+0.3
MOD					Sg	05 06 33.7	+0.8
MOD	Modoc Plateau	0.52	274	IAML		05 06 33.9	
	comp=E,2µm,0.6s						
MOD				IAML		05 06 35.2	
	comp=N,632nm,0.4s						
LKVW	Lakeview	0.67	302		Pg	05 06 28.6	-0.1
LKVW					Sg	05 06 37.7	+0.3
WVOR	Wild Horse Val	0.91	52		Pg	05 06 33.9	+0.4
WVOR					Sb	05 06 46.6	-0.1
WVOR	Wild Horse Val	0.91	52	IAML		05 06 50.1	
	comp=N,213nm,0.9s						
WVOR				IAML		05 06 50.3	
	comp=N,157nm,0.8s						
K05A	Summer Lake	1.28	312		Pg	05 06 40.2	-0.3
K05A					Sb	05 06 57.8	+0.4
K05A	Summer Lake	1.28	312	IAML		05 07 00.9	
	comp=N,91nm,0.9s						
K05A				IAML		05 07 02.2	
	comp=E,80nm,0.7s						
LASM	Arnica Sink	1.50	260		Pn	05 06 43.2	-0.4
LTIM	Timbered Crate	1.58	244		Pn	05 06 44.4	-0.1
HOG	Hogback Mounta	1.61	284		Pn	05 06 44.8	-0.3
M04C	Macdoel	1.67	268		Pn	05 06 45.4	-0.5
M04C					Sg	05 07 10.0	+0.2
M04C	Macdoel	1.67	268	P	Pn	05 06 45.4	-0.5
	baz=86,SNR=25						
M04C				Sb	Sg	05 07 09.6	-0.2
	baz=86						
K04D	Chiloquin, OR	1.77	296		Pb	05 06 48.4	-0.4
K04D					Sg	05 07 13.0	+0.3
K04D	Chiloquin, OR	1.77	296	Pb	Pn	05 06 48.1	+0.9
	baz=114,SNR=25						
K04D				Sb	Sg	05 07 12.3	-0.4
	baz=114						
J05D	Fort Rock, OR	1.86	320		Pb	05 06 49.9	-0.5
J05D	Fort Rock, OR	1.86	320	Pb	Pb	05 06 49.9	-0.5
	baz=139,SNR=17						
J05D				Sg	Sg	05 07 15.9	+0.3
	baz=139						
LHEM	Herd Peak	1.97	264		Pb	05 06 51.9	-0.5
L04D	Klamath Falls	2.04	281		Pn	05 06 50.4	-0.6
L04D	Klamath Falls	2.04	281	P	Pn	05 06 50.2	-0.8
	baz=98,SNR=16						
L04D				Sb	Sb	05 07 20.2	+1.0
	baz=98						
BEKR	Beckworth	2.08	196		Pn	05 06 51.5	-0.1
B040	Montague	2.11	270		Pn	05 06 51.0	-0.8
B040					LR	05 07 22.4	
PINE	Pine Mountain	2.16	333		Pn	05 06 52.0	-0.6
PINE				IAML		05 07 26.4	
	comp=E,22nm,0.6s						
PINE				IAML		05 07 33.7	
	comp=N,30nm,0.7s						
I07A	Izee	2.21	2		Pn	05 06 53.3	0.0
O03E	Paynes Creek	2.29	227	P	Pn	05 06 54.4	+0.1
	baz=45,SNR=10						
O03E				Sb	Sb	05 07 27.4	+1.1
	baz=45						
J04D	Umpqua Nationa	2.30	307	Pb	Pb	05 06 57.4	-0.6
	baz=126,SNR=7.9						
BMN	Battle Mountai	2.30	128		Pn	05 06 54.3	-0.3
BMN				IAML		05 07 31.2	
	comp=E,22nm,0.5s						
BMN				IAML		05 07 32.0	
	comp=N,32nm,0.5s						
M02C	Callahan	2.48	260	P	Pn	05 06 56.0	-1.0
	baz=77						
M02C				Sb	Sb	05 07 33.7	+1.8
	baz=77						
N02D	Trinity Center	2.50	250	P	Pn	05 06 56.4	-0.8
	baz=67,SNR=6.2						
N02D				Sb	Sg	05 07 34.8	-1.5
	baz=67						
O02D	Mt. Diablo Mer	2.95	236	P	Pn	05 07 02.9	-0.4
	baz=53						
L02E	Cave Junction	3.00	277	P	Pn	05 07 03.8	-0.1
	baz=94,SNR=13						
L02E				Sb	Sb	05 07 47.6	+1.1
	baz=94						
K02D	Willamette Mer	3.12	287	P	Pn	05 07 05.7	-0.1
	baz=104,SNR=74						
MFID	Camas Ranch	3.18	60		Pn	05 07 06.6	0.0
MFID				IAML		05 08 01.6	
	comp=N,18nm,0.6s						

*MDD **04** 05:10:14.7±0.8, 39°.11N×10°.16W, h40km±16km, mb4.1/6, Error ellipse: s-maj=8.3km s-min=4.2km az=82.0, PRXIMO*
*SFS **04** 05:10:14.0, 39°.10N×10°.50W, h39km, ML2.6, ATLANTICO PORTUGAL*
*IGIL **04** 05:10:14.8, 39°.12N×10°.11W, h25km, ML2.1*
*INMG **04** 05:10:15.5±1.2, 39°.13N×10°.11W, h26km±5km, ML2.1, Error ellipse: s-maj=3.9km s-min=2.6km az=82.0*
*CNRM **04** 05:10:28.8, 37°.66N×9°.60W, h414km, ml3.0*
ISC 04 05:10:13.1±1.6**, 39°.12N**±0°.03×**10°.13W**±0°.08**, h66**km±11km**, n76, σ1.29**/138**, 2D, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	Mafra	0.68	103	⇓P	Pn	05 10 27.6	+0.1
	9.4nm,0.1s,SNR=18						
PMAFR				S	Sn	05 10 36.4	-1.6
	150nm,0.1s,SNR=32						
PMAFR	Mafra	0.68	103⇓	ePg	Pn	05 10 27.6	+0.1
PMAFR				eSg	Sn	05 10 36.7	-1.4
PMAFR				A	A	05 10 37.6	
	137nm,0.2s						
PMST	Lisbon--Monsan	0.83	117	eP	Pn	05 10 29.9	+0.6
PMST				eS	Sn	05 10 41.3	+0.1
PMST				A	A	05 10 43.4	
	77nm,0.2s						
INMG	Instituto de M	0.85	113	S	Sn	05 10 42.1	+0.4
INMG	Instituto de M	0.85	113	eS	Sn	05 10 42.1	+0.4
LIS	Lisbon	0.86	117	P	Pn	05 10 30.5	+0.9
LIS				S	Sn	05 10 42.1	+0.2
	134nm,0.3s						
LIS	Lisbon	0.86	117	eP	Pn	05 10 30.5	+0.9
LIS				eS	Sn	05 10 42.1	+0.2
LIS				A	A	05 10 43.3	
	134nm,0.3s						
PSBE	So Bento	1.11	69	eP	Pn	05 10 33.6	+0.8
PSBE				eS	Sn	05 10 47.6	+0.1
PSBE				A	A	05 10 58.5	
	15nm,0.5s						
PMTG	Montargil	1.48	91	P	Pn	05 10 38.7	+1.0
PMTG				S	Sn	05 10 56.4	+0.2
	15nm,0.5s						
PMTG	Montargil	1.48	91	eP	Pn	05 10 38.7	+1.0
PMTG				eS	Sn	05 10 56.4	+0.2
PMTG				A	A	05 11 07.9	
	15nm,0.5s						
PCAS	Casmilo, Conde	1.57	53	P	Pn	05 10 39.9	+1.0
PCAS				S	Sn	05 10 58.5	+0.2
	5.4nm,0.3s						
PCAS	Casmilo, Conde	1.57	53	eP	Pn	05 10 39.9	+1.0
PCAS				eS	Sn	05 10 58.5	+0.2
PCAS				A	A	05 11 07.7	
	5.4nm,0.3s						
PNCL	Nicolau / Gran	1.61	128	P	Pn	05 10 40.2	+0.9
PNCL				S	Sn	05 10 59.0	-0.2
	6.9nm,0.3s						
PNCL	Nicolau / Gran	1.61	128	eP	Pn	05 10 40.2	+0.9
PNCL				eS	Sn	05 10 59.0	-0.2
PNCL				A	A	05 11 05.5	
	6.9nm,0.3s						
COI	Coimbra	1.72	50	P	Pn	05 10 42.2	+1.4
COI	Coimbra	1.72	50	eP	Pn	05 10 42.2	+1.4
EVO	Evora	1.75	109	P	Pn	05 10 42.4	+1.1
EVO				S	Sn	05 11 03.1	+0.4
	17nm,0.1s						
EVO	Evora	1.75	109	P	Pn	05 10 47.4	+6.1
EVO				S	Sn	05 11 03.0	+0.2
EVO	Evora	1.75	109	ePn	Pn	05 10 42.4	+1.1
EVO				eSn	Sn	05 11 03.1	+0.4
EVO				A	A	05 11 10.0	
	17nm,0.1s						
PTEO	Sao Teotonio	1.92	144	P	Pn	05 10 44.2	+0.7
PTEO				S	Sn	05 11 05.6	-1.1
	6.2nm,0.8s						
PTEO	Sao Teotonio	1.92	144	ePn	Pn	05 10 44.2	+0.7
PTEO				eSn	Sn	05 11 05.6	-1.1
PTEO				A	A	05 11 06.0	
	12nm,0.8s						
MESJ	Messejana	1.97	130	eP	Pn	05 10 45.2	+1.1
MESJ				eS	Sn	05 11 07.0	-0.9
MESJ				IAML		05 11 08.6	
	comp=N,7.2nm,0.2s						
MESJ	Messejana	1.97	130	P	Pn	05 10 45.3	+1.1
MESJ				S	Sn	05 11 08.1	+0.2
	comp=N,5.3nm,0.2s						
MESJ	Messejana	1.97	130	ePn	Pn	05 10 45.3	+1.1
MESJ				eSn	Sn	05 11 08.1	+0.2
MESJ				A	A	05 11 17.6	
	comp=N,5.3nm,0.2s						
PESTR	Estremoz	2.00	96	eSn	Sn	05 11 08.3	-0.3
PESTR				A	A	05 11 26.4	
	comp=N,9.1nm,0.7s						
PBEJ	Beja	2.08	121	S	Sn	05 11 10.0	-0.7
	comp=N,2.1nm,0.4s						
PBEJ	Beja	2.08	121	eSn	Sn	05 11 10.0	-0.7
PBEJ				A	A	05 11 25.0	
	comp=N,4.2nm,0.4s						
PMRV	Marv??o	2.15	81	P	Pn	05 10 47.5	+0.8
PMRV				S	Sn	05 11 11.8	-0.5
	comp=N,5.7nm,0.2s						
PMRV	Marv??o	2.15	81	ePn	Pn	05 10 47.5	+0.8
PMRV				eSn	Sn	05 11 11.8	-0.5
PMRV				A	A	05 11 14.0	
	comp=N,5.7nm,0.2s						
MORF	Marmelete	2.15	147	eP	Pn	05 10 47.2	+0.6
MORF				eS	Sn	05 11 11.6	-0.8
MORF				IAML		05 11 12.8	
	comp=E,19nm,0.2s						
MORF	Marmelete	2.15	147	P	Pn	05 10 47.3	+0.6
MORF				S	Sn	05 11 12.5	+0.1
	comp=E,9.7nm,0.2s						
MORF	Marmelete	2.15	147	ePn	Pn	05 10 47.3	+0.6
MORF				eSn	Sn	05 11 12.5	+0.1
MORF				A	A	05 11 12.8	
	comp=E,9.7nm,0.2s						
PCBR	Castelo Branco	2.18	70	P	Pn	05 10 48.1	+1.1
PCBR				S	Sn	05 11 12.7	-0.2
	comp=E,2.0nm,0.5s						
PCBR	Castelo Branco	2.18	70	ePn	Pn	05 10 48.1	+1.1
PCBR				eSn	Sn	05 11 12.7	-0.2
PCBR				A	A	05 11 26.1	
	comp=E,4.0nm,0.5s						
PCVE	Castro Verde	2.21	131	P	Pn	05 10 48.6	+1.1
PCVE				S	Sn	05 11 13.6	-0.2
	comp=E,3.2nm,0.4s						
PCVE	Castro Verde	2.21	131	ePn	Pn	05 10 48.6	+1.1
PCVE				eSn	Sn	05 11 13.6	-0.2
PCVE				A	A	05 11 23.4	
	comp=E,3.2nm,0.4s						
PFVI	Vila Bisbo	2.23	152	P	Pn	05 10 48.1	+0.4
	comp=E,1.4nm,0.1s,SNR=7.9						
PFVI				S	Sn	05 11 12.3	-2.0
	comp=E,8.5nm,0.1s,SNR=6.3						
PFVI	Vila Bisbo	2.23	152	ePn	Pn	05 10 49.4	+1.6
PFVI				eSn	Sn	05 11 11.9	-2.4
PFVI				A	A	05 11 14.5	
	comp=E,9.5nm,0.5s						
PVIS	Viseu	2.35	46	P	Pn	05 10 50.6	+1.2
PVIS				S	Sn	05 11 16.7	-0.5
	comp=E,6.9nm,0.1s						
PVIS	Viseu	2.35	46	ePn	Pn	05 10 50.6	+1.2
PVIS				eSn	Sn	05 11 16.7	-0.5
PVIS				A	A	05 11 18.9	
	comp=E,14nm,0.1s						
MTE	Manteigas	2.37	56	P	Pn	05 10 50.9	+1.2
MTE				S	Sn	05 11 17.6	-0.2
	comp=E,3.0nm,0.7s						
MTE	Manteigas	2.37	56	ePn	Pn	05 10 50.9	+1.2
MTE				eSn	Sn	05 11 17.6	-0.2
MTE				A	A	05 11 21.6	
	comp=E,6.0nm,0.7s						
EBAD	Badajoz	2.46	97	P	Pn	05 10 51.9	+1.1
	comp=E,0.6nm,0.1s,SNR=7.9						
EBAD				S	Sn	05 11 19.0	-0.8
	comp=E,5.4nm,0.1s,SNR=13						
PBDV	Barranco-do-Ve	2.55	136	P	Pn	05 10 53.6	+1.5
PBDV				S	Sn	05 11 22.0	-0.1
	comp=E,2.9nm,0.3s						
PBDV	Barranco-do-Ve	2.55	136	ePn	Pn	05 10 53.6	+1.5
PBDV				eSn	Sn	05 11 22.0	-0.1
PBDV				A	A	05 11 23.2	
	comp=E,2.9nm,0.3s						
PVAQ	Vaqueiros	2.56	131	P	Pn	05 10 53.3	+1.1
PVAQ				S	Sn	05 11 22.2	0.0
	comp=E,4.2nm,0.8s						
PVAQ	Vaqueiros	2.56	131	ePn	Pn	05 10 53.3	+1.1
PVAQ				eSn	Sn	05 11 22.2	0.0
PVAQ				A	A	05 11 35.4	
	comp=E,4.2nm,0.8s						
PBAR	Barrancos	2.60	110	P	Pn	05 10 54.2	+1.5
PBAR				S	Sn	05 11 22.9	-0.3
	comp=E,4.4nm,0.5s						
PBAR	Barrancos	2.60	110	ePn	Pn	05 10 54.2	+1.5
PBAR				eSn	Sn	05 11 22.9	-0.3
PBAR				A	A	05 11 43.8	
	comp=E,4.4nm,0.5s						
EGRO	El Granado	2.61	126	P	Pn	05 10 54.3	+1.3
	comp=E,2.8nm,0.1s,SNR=10						
EGRO				S	Sn	05 11 22.3	-1.2
	comp=E,1.7nm,0.1s,SNR=7.9						
POLO	Lamas de Olo	2.88	38	P	Pn	05 10 58.0	+1.4
POLO				S	Sn	05 11 29.0	-1.2
	comp=E,1.4nm,0.1s						
POLO	Lamas de Olo	2.88	38	ePn	Pn	05 10 58.0	+1.4
POLO				eSn	Sn	05 11 29.0	-1.2
POLO				A	A	05 11 32.3	
	comp=E,1.4nm,0.1s						
EMIN	Mina Concepcio	3.03	115	P	Pn	05 11 00.1	+1.4
	comp=E,0.2nm,0.1s,SNR=12						
EMIN				S	Sn	05 11 33.1	-0.7
	comp=E,1.7nm,0.1s,SNR=7.9						
MVO	Moncorvo	3.14	48	P	Pn	05 11 01.2	+1.1
	comp=E,1.3nm,0.1s,SNR=7.9						
MVO				S	Sn	05 11 34.9	-1.6
	comp=E,4.1nm,0.1s,SNR=6.7						
MVO	Moncorvo	3.14	48	ePn	Pn	05 11 01.2	+1.1
MVO				eSn	Sn	05 11 34.9	-1.6
MVO				A	A	05 11 37.4	
	comp=E,5.7nm,0.5s						
ELOB	Lobios	3.17	29	P	Pn	05 11 02.2	+1.5
	comp=E,4.3nm,0.1s,SNR=26						
ELOB				S	Sn	05 11 36.0	-1.2
	comp=E,6.1nm,0.1s,SNR=9.2						
PGAV	Gavieira, Arco	3.18	26	P	Pn	05 11 02.3	+1.5
PGAV				S	Sn	05 11 36.5	-1.0
	comp=E,3.4nm,0.6s						
PGAV	Gavieira, Arco	3.18	26	ePn	Pn	05 11 02.3	+1.5
PGAV				eSn	Sn	05 11 36.5	-1.0
PGAV				A	A	05 11 40.8	
	comp=E,3.4nm,0.6s						
EZAM	Zamans	3.22	19	P	Pn	05 11 02.2	+1.0
	comp=E,0.8nm,0.1s,SNR=7.9						
EZAM				S	Sn	05 11 37.0	-1.4
	comp=E,5.1nm,0.1s,SNR=7.9						
EPLA	Plasencia	3.27	72	P	Pn	05 11 03.2	+1.3
	comp=E,0.1nm,0.1s,SNR=7.9						
EPLA				S	Sn	05 11 38.0	-1.6
	comp=E,3.4nm,0.1s,SNR=9.1						
PBRG	Braganca	3.73	43	P	Pn	05 11 09.3	+1.1
PBRG				S	Sn	05 11 48.7	-2.2
	comp=E,1.0nm,0.5s						
PBRG	Braganca	3.73	43	ePn	Pn	05 11 09.3	+1.1
PBRG				eSn	Sn	05 11 48.7	-2.2
PBRG				A	A	05 11 53.6	
	comp=E,2.0nm,0.5s						
ECAL	Calabor	3.83	41	P	Pn	05 11 11.0	+1.4
	comp=E,0.5nm,0.1s,SNR=7.9						
ECAL				S	Sn	05 11 52.8	-0.5
	comp=E,1.2nm,0.1s,SNR=7.9						
ECAB	El Cabril	3.84	104	P	Pn	05 11 11.0	+1.3
	comp=E,0.1nm,0.1s,SNR=7.9						
ECAB				S	Sn	05 11 51.5	-2.0
	comp=E,2.1nm,0.2s,SNR=7.9						
EMAZ	Mazaricos	3.93	12	S	Sn	05 11 53.1	-2.6
	comp=E,6.4nm,0.1s,SNR=7.9						
EADA	Adamuz	4.45	101	P	Pn	05 11 19.4	+1.3
	comp=E,0.9nm,0.1s,SNR=7.9						
EADA				S	Sn	05 12 06.8	-1.8
	comp=E,1.7nm,0.2s,SNR=7.9						
PAB	San Pablo	4.50	83	P	Pn	05 11 20.5	+1.7
	comp=E,0.3nm,0.1s,SNR=7.9						
PAB				S	Sn	05 12 08.2	-1.8
	comp=E,1.5nm,0.1s,SNR=7.9						
EPON	Pontenova	4.77	27	P	Pn	05 11 23.9	+1.5
	comp=E,3.7nm,0.2s,SNR=11						
EPON				S	Sn	05 12 14.1	-2.3
	comp=E,1.9nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	4.81	81	S	Sn	05 12 15.8	-1.6
	comp=E,0.2nm,0.1s,baz=264,slow=24,SNR=5.3						
GUD	Guadarrama	4.84	70	S	Sn	05 12 16.8	-1.5
	comp=E,1.6nm,0.4s,SNR=7.9						
SESP	Santiago Espad	6.02	97	S	Sn	05 12 45.9	-1.5
	comp=E,0.4nm,0.2s,SNR=7.9						
ZHG	ZHG	6.32	152	P	Pn	05 11 51.6	+7.9
ZHG				S	Sn	05 12 56.4	+1.9
ETOR	Torete	6.43	72	P	Pn	05 11 46.4	+1.2
	comp=E,0.4nm,0.1s,SNR=7.9						
ETOR				S	Sn	05 12 54.7	-2.6
	comp=E,1.8nm,0.3s,SNR=7.9						
MD31	MD31	7.60	143	P	Pn	05 12 02.7	+1.5
MD31				S	Sn	05 13 23.0	-3.0
OUK	Oukaimeden	8.11	166	P	Pn	05 12 10.4	+2.0
OUK				S	Sn	05 13 32.9	-5.8
TTIG	Tnine Tigouga,	8.66	170	P	Pn	05 12 13.7	-2.1
TTIG				S	Sn	05 13 40.1	-12

*INET **04** 05:31:07.3, 10°.69N×86°.91W, h15km, MW3.4*
UCR 04 05:31:16.2±1.4**, 10°.64N×86°.55W, h5km, MW3.7, 2C, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAJU	San Juanillo,	1.01	124	eP	Pg	05 31 35.0	-0.5
GBS3	Finca Las Img	1.09	83	i P	Pg	05 31 36.0	-1.0
GBS3				i S	Sb	05 31 52.5	+0.4
LAPC	Finca la Perla	1.11	83	i P	Pg	05 31 36.2	-1.3
LAPC				i S	Sb	05 31 52.5	-0.2
BUEV	Buena Vista	1.14	82⇑	eP	Pg	05 31 36.8	-1.2
BUEV				i S	Sb	05 31 53.6	+0.1
GB1A	Borinquen Arri	1.15	81	i P	Pg	05 31 37.1	-1.1
GB1A				i S	Sb	05 31 53.9	0.0
GPS2	Hotel Rincn d	1.19	85	eP	Pg	05 31 37.6	-1.4
LIM1	Limonal	1.28	87⇑	iP	Pg	05 31 39.1	-1.7
COLC	Colonia	1.33	89	i P	Pn	05 31 39.9	-1.6
HORNC	Hornillas	1.35	87	i P	Pg	05 31 42.7	+0.5
CUI	Cuipilapa	1.36	89	i P	Pn	05 31 40.6	-1.4
CUI				eS	Sb	05 31 59.4	-0.7
JTS	Las Juntas de	1.61	102	eP	Pn	05 31 44.1	-1.3
LAFE	Finca La Fe, P	1.82	117	eP	Pn	05 31 46.9	-1.2

*IDC **04** 05:50:15.8±0.8, 8°.24S×128°.56E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.9/29, mbtmp4.0/8, ML4.1/1, Error ellipse: s-maj=45.6km s-min=19.0km az=69.0*
ISC 04 05:50:20.6±0.8**, 8°.53S**±0°.07×**128°.81E**±0°.06**, h35km, n29, σ3.14**/38**, mb3.9**/6**, Timor Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	Manton Dam	4.86	152	P	Pn	05 51 35.0	+3.8
	baz=5.1,SNR=11						
MTN				S	Sn	05 52 31.3	+5.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=5.1						
BATI	**Baumata**	**5.35**	**251**	Sn	**Sn**	**05 52 41.0**	**+2.6**
	2.4nm,0.3s,baz=60,slow=15,SNR=1.4						
KDU	**Kakadu**	**5.48**	**139**	P	**Pn**	**05 51 42.7**	**+3.0**
	baz=5.7,SNR=37						
KDU				S	**Sn**	**05 52 47.2**	**+5.6**
	baz=5.7						
KNRA	**Kununurra**	**7.10**	**180**	P	**Pn**	**05 52 04.5**	**+2.4**
	baz=7.4,SNR=27						
KNRA				S	**Sn**	**05 53 24.6**	**+3.0**
	baz=7.4						
FITZ	**Fitzroy Crossi**	**10.00**	**198**	P	**Pn**	**05 52 42.7**	**+0.9**
	baz=10,SNR=29						
FITZ				S	**Sn**	**05 54 31.9**	**-1.0**
	baz=10						
FITZ	**Fitzroy Crossi**	**10.00**	**198**	Pn	**Pn**	**05 52 41.9**	**0.0**
	1.2nm,0.3s,baz=17,slow=8.7,SNR=32						
FITZ				Sn	**Sn**	**05 54 29.4**	**-3.4**
	0.7nm,0.3s,baz=80,slow=18,SNR=2.0						
WRA	**Warramunga Arr**	**12.54**	**155**	Pn	**Pn**	**05 53 16.4**	**-0.3**
	1.2nm,0.3s,baz=330,slow=14,SNR=68						
WRA				Sn	**Sn**	**05 55 30.9**	**-4.3**
	3.9nm,0.3s,baz=330,slow=22,SNR=14						
WRA				Lg	Lg	05 57 04.9	
	baz=322,slow=28,SNR=1.4						
WC3	**Warramunga Arr**	**12.57**	**155**	P	**Pn**	**05 53 16.5**	**-0.5**
	baz=13						
COEN	**Coen**	**15.08**	**112**	P	**Pn**	**05 53 50.2**	**-1.0**
	baz=15						
COEN				S	**Sn**	**05 56 28.7**	**-8.5**
	baz=15						
ASAR	**Alice Springs**	**15.82**	**163**	Pn	**Pn**	**05 53 59.9**	**-1.0**
	0.5nm,0.3s,baz=329,slow=10.0,SNR=23						
ASAR				Sn	**Sn**	**05 56 51.0**	**-4.3**
	0.6nm,0.3s,baz=347,slow=28,SNR=4.8						
ASAR				Lg	Lg	05 58 48.9	
	baz=346,slow=32,SNR=3.6						
QIS	**Mount Isa**	**15.87**	**140**	P	**Pn**	**05 53 58.1**	**-3.3**
	baz=16,SNR=5.8						
QIS				S	**Sn**	**05 56 54.0**	**-2.3**
	baz=16						
WRKA	**Warakurna**	**16.42**	**182**	P	**Pn**	**05 54 07.5**	**-1.0**
	baz=17,SNR=7.0						
WRKA				S	**Sn**	**05 57 03.7**	**-6.1**
	baz=17						
MTSU	**Mount Surprise**	**17.84**	**124**	P	**P**	**05 54 26.2**	**-0.5**
	baz=18,SNR=5.1						
CTA	**Charters Tower**	**20.41**	**126**	P	Pn	05 54 58.8	+1.7
	4.1nm,0.8s,baz=316,slow=12,SNR=5.5						
MEEK	**Meekatharra**	**20.44**	**207**	P	**P**	**05 54 54.0**	**-1.2**
	baz=21,SNR=5.2						
MEEK				S	**S**	**05 58 42.1**	**-0.2**
	baz=21						
QLP	**Quilpie**	**23.16**	**143**	P	**P**	**05 55 27.3**	**+3.2**
	baz=23,SNR=6.8						
MORW	**Morawa**	**23.70**	**209**	P	**P**	**05 55 28.6**	**-0.7**
	baz=24,SNR=5.0						
BBOO	**Buckleboo**	**25.08**	**165**	P	**P**	**05 55 44.5**	**+2.6**
	baz=25,SNR=9.1						
STKA	**Stephens Creek**	**26.09**	**155**	P	**P**	**05 55 54.3**	**+3.2**
	baz=26,SNR=5.0						
STKA	**Stephens Creek**	**26.09**	**155**	P	**P**	**05 55 54.4**	**+3.2**
	1.5nm,0.5s,baz=330,slow=13,SNR=6.1						
CM15	**Chiang Mai Arr**	**39.86**	**312**	P	P	05 57 59.8	+8.6
SONM	**Songino Array**	**59.53**	**343**	P	**P**	**06 00 17.8**	**-2.7**
	0.4nm,0.5s,baz=161,slow=8.2,SNR=2.0						
MKAR	**Makanchi Array**	**68.87**	**328**	P	**P**	**06 01 20.3**	**-1.5**
	1.0nm,0.7s,baz=126,slow=8.2,SNR=8.1						
VNDA	**Vanda**	**71.08**	**173**	P	**P**	**06 01 37.0**	**+2.2**
	0.6nm,0.8s,baz=300,slow=7.0,SNR=4.4						
ZALV	**Zalesovo Beam**	**72.44**	**334**	P	**P**	**06 01 41.6**	**-1.7**
	1.4nm,0.6s,baz=150,slow=6.7,SNR=2.9						
MAW	**Mawson**	**73.10**	**201**	P	**P**	**06 01 49.5**	**+2.5**
	1.5nm,0.6s,baz=84,slow=6.8,SNR=7.8						
TORD	**Torodi Ar. Bea**	**127.93**	**280**	PKP	**PKPdf**	**06 09 23.5**	**-0.3**
	0.7nm,0.9s,baz=70,slow=1.9,SNR=3.8						
CPUP	**Villa Florida**	**144.84**	**170**	PKPbc	**PKPdf**	**06 09 55.4**	**+0.7**
	4.4nm,0.8s,baz=198,slow=5.1,SNR=9.8						
LPAZ	**La Paz**	**150.18**	**146**	PKPbc	**PKiKP**	**06 10 11.3**	**+0.8**
	0.6nm,0.5s,baz=43,slow=5.2,SNR=4.8						

*IDC **04** 05:52:17.4±2.4, 31°.39S×177°.54W, h0km, mb3.9/3, mb1 4.1/5, mb1mx3.8/30, mbtmp4.0/5, ML3.9/2, MS3.7/1, Ms1 3.7/1, ms1mx2.9/34, Error ellipse: s-maj=62.2km s-min=26.6km az=115.0*

ISC 04 05:52:21.5±2.0, **31°.3S**±0°.1×**177°.7W**±0°.3, **h26**km, **n7**, σ**1s.47**/9, **mb4.0**/3, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.02**	**355**	Pn	**Pn**	**05 52 55.1**	**+1.2**
	100nm,0.3s,baz=94,slow=20,SNR=2.1						
RAO				Sn	**Sn**	**05 53 15.7**	**-2.6**
	158nm,0.3s,baz=82,slow=24,SNR=3.9						
URZ	**Urewera**	**8.18**	**210**	Pn	**Pn**	**05 54 16.8**	**-1.7**
	0.5nm,0.3s,baz=348,slow=11,SNR=1.9						
URZ				Sn	**Sn**	**05 55 50.2**	**+0.2**
	2.1nm,0.3s,baz=167,slow=23,SNR=7.8						
STKA	**Stephens Creek**	**34.54**	**258**	P	**P**	**05 59 08.2**	**+0.3**
	1.1nm,0.5s,baz=84,slow=10,SNR=1.4						
ASAR	**Alice Springs**	**43.33**	**268**	P	**P**	**06 00 22.4**	**+0.8**
	0.8nm,0.5s,baz=104,slow=7.7,SNR=1.7						
WRA	**Warramunga Arr**	**44.40**	**273**	P	**P**	**06 00 31.1**	**+0.9**
	0.8nm,0.4s,baz=112,slow=7.8,SNR=2.8						
WRA				LR	LR	06 18 31.9	
	comp=Z,74nm,18.1s,baz=140,slow=35						
FINES	**FINESS Array B**	**146.05**	**340**	PKPbc	**PKPdf**	**06 11 57.3**	**-0.1**
	1.7nm,0.7s,baz=40,slow=2.4,SNR=6.8						
AKASG	**Malin Array Be**	**152.15**	**322**	PKPbc	**PKiKP**	**06 12 15.3**	**+0.7**
	0.1nm,0.3s,baz=54,slow=2.8,SNR=1.2						

*IDC **04** 06:15:01.4±2.8, 30°.46S×138°.35E, h0km, mb1 3.5/4, mb1mx3.3/33, mbtmp3.3/4, ML3.1/4, Error ellipse: s-maj=58.9km s-min=12.9km az=43.0*
*NOU **04** 06:15:03.0, 30°.47S×138°.37E, h0km, MLv3.4/7, South Australia*

ISC 04 06:15:03.0±1.8, **30°.5S**±0°.2×**138°.3E**±0°.2, **h10**km, **n4**, σ**0s.70**/8, **South Australia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.15**	**118**	Pn	**Pn**	**06 15 52.2**	**-0.4**
	0.9nm,0.3s,baz=299,slow=11,SNR=10						
STKA				Pg	**Pb**	**06 15 59.8**	**+0.7**
	3.3nm,0.3s,baz=300,slow=15,SNR=16						
STKA				Sn	**Sn**	**06 16 30.0**	**-0.2**
	4.8nm,0.3s,baz=241,slow=15,SNR=7.2						
STKA				Lg	Lg	06 16 39.4	
	3.1nm,0.3s,baz=319,slow=16,SNR=4.5						
ASAR	**Alice Springs**	**7.82**	**329**	Pn	**Pn**	**06 16 56.9**	**0.0**
	0.2nm,0.3s,baz=145,slow=12,SNR=8.9						
ASAR				Sn	**Sn**	**06 18 26.1**	**+0.6**
	0.3nm,0.3s,baz=156,slow=22,SNR=5.8						
ASAR				Lg	Lg	06 19 12.3	
	baz=153,slow=20,SNR=1.1						
WRA	**Warramunga Arr**	**11.06**	**340**	Pn	**Pn**	**06 17 40.5**	**-0.9**
	0.2nm,0.3s,baz=162,slow=12,SNR=14						
WRA				Sn	**Sn**	**06 19 45.9**	**+0.7**
	0.1nm,0.3s,baz=159,slow=18,SNR=2.3						
WRA				Lg	Lg	06 20 54.1	
	baz=173,slow=34,SNR=1.3						
FITZ	**Fitzroy Crossi**	**16.86**	**314**	Pn	**Pn**	**06 18 59.0**	**-0.1**
	0.1nm,0.3s,baz=145,slow=14,SNR=3.1						

*TUL **04** 06:34:35.2±0.5, 36°.69N±0°.02×98°.62W±0°.02, h6km±2km, ML2.6, mb_Lg2.5/26(NEIC), Error ellipse: s-maj=2.9km s-min=1.6km az=140.0*

NEIC 04 06:34:35.3±0.6, **36°.71N**±0°.02×**98°.619W**±0°.006, **h5**km±2km, **Error ellipse: s-maj=3.0km s-min=2.7km az=174.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.34**	**73**		Pg	06 34 42.1	+0.2
OK032				Sg	Sg	06 34 46.5	+0.1
U32A	**Winter Ranch,**	**0.45**	**224**		Pg	06 34 43.8	-0.1
U32A				Sg	Sg	06 34 50.2	+0.5
CROK	**Carrier**	**0.55**	**111**		Pg	06 34 45.6	-0.2
CROK				Sg	Sg	06 34 53.0	0.0
KAN14	**Manchester OK**	**0.58**	**64**		Pg	06 34 46.7	+0.2
KAN14				Sg	Sg	06 34 53.5	-0.6
KAN10	**Anthony SW Sta**	**0.59**	**45**	Pg	Pg	06 34 46.8	+0.1
GC02	**Grant County #**	**0.63**	**76**		Pg	06 34 47.4	+0.1
KAN05	**Bluff City Nor**	**0.72**	**56**		Pg	06 34 49.3	+0.2
KAN05				Sg	Sg	06 34 57.9	-0.6
KAN08	**Anthony NE Sta**	**0.73**	**45**		Pg	06 34 49.3	-0.1
KAN08				Sg	Sg	06 34 58.0	-0.9
KAN17	**Caldwell West**	**0.76**	**63**		Pg	06 34 50.1	+0.1
KAN17				Sg	Sg	06 34 58.5	-1.4
KAN12	**Harper NE Stat**	**0.77**	**40**		Pg	06 34 50.3	+0.2
KAN13	**South Haven SW**	**0.96**	**71**	Pg	Pg	06 34 53.7	-0.1
KS20	**Mayfield South**	**1.00**	**58**	Pg	Pg	06 34 54.4	-0.1
BLOK	**Blackwell**	**1.13**	**87**		Pg	06 34 56.5	-0.5
OK029	**Liberty Lake**	**1.31**	**134**		Pn	06 34 59.2	-1.0
OK025	**Westminster Rd**	**1.53**	**137**		Pn	06 35 03.0	-0.3
OK031	**S. Brethren Rd**	**1.62**	**117**		Pn	06 35 04.6	+0.1
QUOK	**Quay**	**1.63**	**109**		Pn	06 35 04.4	-0.3
R32A	**Long Quarter,**	**1.72**	**358**	IAmb_Lg		06 35 31.3	
	comp=Z,26nm,0.8s						
FNO	**Franklin**	**1.75**	**145**	IAmb_Lg		06 35 30.6	
	comp=Z,22nm,0.7s						
X34A	**Smith Ranch, M**	**2.19**	**163**	IAmb_Lg		06 35 45.7	
	comp=Z,24nm,0.8s						
LOOK	**Love County**	**2.95**	**156**	IAmb_Lg		06 36 14.4	
	comp=Z,16nm,1.0s						
AMTX	**Amarillo**	**3.08**	**235**	IAmb_Lg		06 36 14.1	
	comp=Z,16nm,0.8s						
Z35A	**Perchaven, San**	**3.55**	**161**	IAmb_Lg		06 36 31.4	
	comp=Z,14nm,1.1s						
KSCO	**Kaye Shedlock'**	**3.92**	**307**	IAmb_Lg		06 36 47.4	
	comp=Z,6.5nm,0.7s						
N33A	**J Bar K, Exete**	**4.13**	**12**	IAmb_Lg		06 36 52.5	
	comp=Z,12nm,0.9s						
ABTX	**Abilene, Hawle**	**4.16**	**192**	IAmb_Lg		06 36 48.4	
	comp=Z,13nm,1.1s						
T25A	**Trinidad**	**4.66**	**277**	IAmb_Lg		06 37 07.7	
	comp=Z,13nm,1.1s						
MGMO	**Mountain Grove**	**5.11**	**83**	IAmb_Lg		06 37 18.8	
	comp=Z,5.4nm,0.8s						
CCM	**Cathedral Cave**	**6.03**	**75**	IAmb_Lg		06 37 47.9	
	comp=Z,5.5nm,0.9s						
JCT	**Junction City**	**6.29**	**189**	IAmb_Lg		06 38 02.6	
	comp=Z,8.8nm,1.1s						
RSSD	**Black Hills**	**8.48**	**333**	IAmb_Lg		06 39 20.1	
	comp=Z,3.3nm,1.0s						

IDC 04 06:39:07.4±4.9, **47°.61S**×**100°.25E**, **h0**km, **mb3.8**/5, **mb1 4.0**/5, **mb1mx3.8**/18, **mbtmp3.8**/5, **MS3.6**/4, **Ms1 3.6**/4, **ms1mx3.1**/34, **Error ellipse: s-maj=139.9km s-min=23.9km az=119.0, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**16.41**	**44**	T	T	07 00 04.5	
	baz=215,slow=74,SNR=58						
H01W3	**Cape Leeuwin H**	**16.42**	**44**	T	T	07 00 00.6	
	baz=215,slow=74,SNR=60						
H01W1	**Cape Leeuwin H**	**16.42**	**44**	T	T	07 00 00.9	
	baz=215,slow=74,SNR=84						
STKA	**Stephens Creek**	**35.00**	**78**	P	P	06 46 00.9	-0.5
	1.8nm,0.7s,baz=211,slow=6.9,SNR=4.8						
STKA				LR	LR	06 57 25.8	
	comp=Z,74nm,21.4s,baz=211,slow=31						
ASAR	**Alice Springs**	**35.87**	**60**	P	P	06 46 09.4	+0.4
	0.8nm,0.8s,baz=214,slow=7.2,SNR=7.7						
VNDA	**Vanda**	**37.94**	**162**	P	P	06 46 26.4	+0.4
	0.8nm,0.7s,baz=292,slow=9.3,SNR=6.2						
VNDA				LR	LR	07 01 52.6	
	comp=Z,172nm,19.1s,baz=176,slow=36						
WRA	**Warramunga Arr**	**39.03**	**57**	P	P	06 46 35.4	-0.4
	1.1nm,0.9s,baz=216,slow=9.4,SNR=2.7						
QSPA	**South Pole Qui**	**42.53**	**180**	P	P	06 47 03.9	-0.5
	2.8nm,1.0s,baz=299,slow=2.7,SNR=12						
H08S2	**Diego Garcia H**	**46.30**	**320**	T	T	07 36 50.8	
	baz=154,slow=76						
H08S1	**Diego Carcia H**	**46.31**	**320**	T	T	07 36 49.6	
	baz=154						
H08S3	**Diego Garcia H**	**46.33**	**320**	T	T	07 36 46.5	
	baz=154,slow=76						
CMAR	**Chiang Mai Arr**	**65.77**	**359**	LR	LR	07 16 05.1	
	comp=Z,25nm,19.5s,baz=245,slow=34						
MSVF	**Nonsavu**	**68.95**	**93**	LR	LR	07 15 43.0	
	comp=Z,38nm,20.9s,baz=5.9,slow=32						

JMA 04 07:09:12.6, 37°.65N×141°.74E, h48km±1km, **M3.6, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JMST	**Minamisoumatoc**	**0.68**	**277**	P	Pn	07 09 26.0	0.0
JMST				S	Sn	07 09 35.6	-0.1
JIKH	**Ishinomakikobu**	**0.69**	**342**	P	Pn	07 09 26.3	+0.1
JIKH				S	Sn	07 09 36.0	0.0
JFK	**Kawauchi**	**0.74**	**248**	P	Pn	07 09 26.9	0.0
JFK				S	Sn	07 09 37.1	-0.1
JMM	**Marumori**	**0.78**	**286**	P	Pn	07 09 27.5	+0.2
JMM				S	Sn	07 09 38.2	+0.2
JIO	**Ouri**	**0.86**	**339**	P	Pn	07 09 28.6	+0.2
JIO				S	Sn	07 09 39.8	-0.1
ONAJ	**Iwakimizuishiy**	**0.93**	**234**	P	Pn	07 09 29.3	-0.1
ONAJ				S	Sn	07 09 41.4	-0.2
JOU	**Okura**	**1.11**	**310**	P	Pn	07 09 32.0	+0.2
JOU				S	Sn	07 09 46.9	+0.9
JFT	**Otama**	**1.12**	**264**	P	Pn	07 09 32.8	+0.9
JFT				S	Sn	07 09 47.5	+1.2
JKMT	**Kesennumamotoy**	**1.18**	**350**	P	Pn	07 09 33.1	+0.4
JKMT				S	Sn	07 09 47.7	+0.1
JMK	**Ichinoseki**	**1.36**	**343**	P	Pn	07 09 35.9	+0.7
JMK				S	Sn	07 09 52.9	+0.8
JYS	**Shirataka**	**1.44**	**294**	P	Pn	07 09 37.1	+0.8
JYS				S	Sn	07 09 56.2	+2.1
JFY	**Yanaizu**	**1.64**	**262**	P	Pn	07 09 39.7	+0.7
JYK	**Kaneyama**	**1.67**	**320**	P	Pn	07 09 40.1	+0.7
JYK				*e*S	Sn	07 10 00.4	+0.8
JOM	**Ohasama**	**1.85**	**349**	P	Pn	07 09 42.9	+1.0
JOM				*e*S	Sn	07 10 05.2	+1.0
JYA	**Atsumi**	**1.85**	**301**	P	Pn	07 09 43.0	+1.1
JYA				*e*S	Sn	07 10 06.3	+2.1
MAT	**Matsushiro**	**3.03**	**250**	P	Pn	07 09 59.9	+1.8
MAT				*e*S	Sn	07 10 37.8	+4.6

*IDC **04** 07:24:43.0±1.6, 20°.17N×146°.86E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.6/42, mbtmp3.6/7, MS3.1/1, Ms1 3.1/1, ms1mx2.4/43, Error ellipse: s-maj=50.4km s-min=31.3km az=84.0*

ISC 04 07:24:48.7±1.4, **20°.2N**±0°.2×**146°.8E**±0°.3, **h40**km, **n7**, σ**1s.00**/7, **mb3.5**/7, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**23.84**	**320**	P	**P**	**07 29 56.5**	**-1.7**
	0.9nm,0.6s,baz=150,slow=9.4,SNR=4.8						
KSRS				LR	LR	07 38 50.8	
	comp=Z,42nm,19.0s,baz=132,slow=36						
WRA	**Warramunga Arr**	**41.68**	**198**	P	**P**	**07 32 33.6**	**-0.2**
	0.4nm,0.6s,baz=14,slow=8.6,SNR=3.0						
SONM	**Songino Array**	**42.71**	**320**	P	**P**	**07 32 42.6**	**+0.7**
	0.3nm,0.3s,baz=120,slow=8.5,SNR=2.2						
ZALV	**Zalesovo Beam**	**57.53**	**322**	P	**P**	**07 34 34.2**	**+0.2**
	1.3nm,0.5s,baz=99,slow=8.9,SNR=3.7						
MKAR	**Makanchi Array**	**58.25**	**313**	P	**P**	**07 34 40.1**	**+0.8**
	0.3nm,0.7s,baz=101,slow=7.5,SNR=2.5						
ILAR	**Eielson Array**	**61.87**	**26**	P	**P**	**07 35 03.7**	**0.0**
	0.2nm,0.7s,baz=275,slow=6.5,SNR=1.7						
FINES	**FINESS Array B**	**86.02**	**336**	P	**P**	**07 37 24.7**	**-0.1**
	2.0nm,0.9s,baz=64,slow=6.3,SNR=1.8						

IDC 04 07:33:52.3±4.7, **12°.19S**×**166°.00E**, **h0**km, **mb3.9**/4, **mb1 4.0**/5, **mb1mx3.7**/37, **mbtmp3.8**/5, **ML3.4**/1, **Error ellipse: s-maj=91.1km s-min=34.0km az=73.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.83**	**178**	Pn	Pn	07 36 16.4	+1.2
	0.3nm,0.3s,baz=297,slow=20,SNR=9.3						
DZM				Sn	Sn	07 38 05.2	-1.2
	0.1nm,0.3s,baz=93,slow=10,SNR=1.7						
STKA	**Stephens Creek**	**29.80**	**225**	P	P	07 40 00.9	-0.2
	1.8nm,0.7s,baz=38,slow=10.0,SNR=5.5						
WRA	**Warramunga Arr**	**31.34**	**252**	P	P	07 40 15.2	+0.3
	0.6nm,0.8s,baz=86,slow=9.2,SNR=3.3						
ASAR	**Alice Springs**	**32.52**	**245**	P	P	07 40 25.2	0.0
	0.5nm,0.7s,baz=70,slow=9.6,SNR=8.7						
CMAR	**Chiang Mai Arr**	**72.80**	**294**	P	P	07 45 23.0	-0.4
	0.8nm,0.3s,baz=124,slow=4.9,SNR=1.2						

IDC 04 07:48:51.0±3.0, **53°.78N**×**88°.11E**, **h0**km, **mb1 3.1**/2, **mb1mx3.0**/41, **mbtmp3.1**/2, **ML2.8**/2, **2C-3D, Error ellipse: s-maj=25.3km s-min=17.0km az=52.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.96**	**276**	*i*		08 01 30.0	
	baz=92,slow=332,SNR=16						
ZALV	**Zalesovo Beam**	**1.96**	**276**	Pg	Pn	07 49 25.8	+0.3
	1.5nm,0.3s,baz=92,slow=13,SNR=27						
ZALV				Lg	Lg	07 49 53.2	
	4.5nm,0.3s,baz=95,slow=26,SNR=15						
KURBB	**Kurchatov Arra**	**6.69**	**246**	Pn	Pn	07 50 31.3	+0.9
	0.1nm,0.3s,baz=62,slow=14,SNR=14						
KURBB				Sn	Sn	07 51 46.9	-0.3
	0.0nm,0.3s,baz=31,slow=21,SNR=1.3						
KURBB				Lg	Lg	07 52 22.6	
	0.0nm,0.3s,baz=57,slow=30,SNR=2.2						
KURBB	**Kurchatov Arra**	**6.69**	**246**	⇑Pn	Pn	07 50 31.1	+0.7
	1.3nm,0.3s						
KURBB				⇓Sn	Sn	07 51 47.2	0.0
	2.5nm,0.5s						
KURBB				⇓Lg	Lg	07 52 23.0	
	4.3nm,0.7s						
MK31	**Makanchi Array**	**7.93**	**210**	Pn	Pn	07 50 48.8	+1.3
	0.1nm,0.3s,baz=27,slow=13,SNR=5.6						
MK31				⇑Sn	Sn	07 52 14.9	-2.9
	0.2nm,0.4s						
MK31				⇓Lg	Lg	07 52 57.6	
	1.4nm,0.8s						
MKAR	**Makanchi Array**	**7.93**	**210**	Pn	Pn	07 50 48.4	+0.9
	0.1nm,0.3s,baz=30,slow=13,SNR=5.9						
MKAR				Sn	Sn	07 52 17.0	-0.8
	0.1nm,0.3s,baz=24,slow=30,SNR=2.0						
MKAR				Lg	Lg	07 52 56.1	
	baz=31,slow=34,SNR=2.6						

*IDC **04** 07:56:20.8±0.8, 20°.72S×67°.60W, h153km±9km, mb3.2/5, mb1 3.3/8, mb1mx3.2/32, mbtmp3.7/8, Error ellipse: s-maj=21.0km s-min=9.2km az=111.0*
*VAO **04** 07:56:21.4±0.4, 20°.70S×68°.00W, h194km±5km, mb3.8*
*GUC **04** 07:56:23.0±0.5, 20°.72S×67°.95W, h172km±5km, ML3.7*

ISC 04 07:56:21.0±0.6, **20°.66S**±0°.04×**67°.85W**±0°.06, **h164**km±8km, **n47**, σ**1s.45**/62, **mb3.6**/5, **7C, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**1.33**	**293**	⇑*e*P	**Pn**	**07 56 52.2**	**+1.8**
PB08				*e*S	**Sn**	**07 57 14.6**	**+1.6**
PB01	**IPOC Station P**	**1.58**	**256**	⇑*i*P	**Pn**	**07 56 53.3**	**+0.7**
PB01				*e*S	**Sn**	**07 57 16.8**	**0.0**
HMBC	**Humberstone**	**1.95**	**281**	⇑*e*P	**Pn**	**07 56 57.0**	**+0.4**
HMBC				*e*S	**Sn**	**07 57 23.6**	**-0.4**
HMBC				IAML		07 57 26.8	
	comp=N,410nm,0.6s						
PB02	**IPOC Station P**	**2.02**	**251**	⇑*i*P	**Pn**	**07 56 57.9**	**+0.5**
PB02				*e*S	**Sn**	**07 57 24.1**	**-1.3**
PB02				IAML		07 57 25.7	
	comp=N,429nm,0.2s						
LVC	**Limon Verde**	**2.18**	**207**	P	**Pn**	**07 57 00.3**	**+0.9**
	comp=N,16nm,0.3s,baz=39,slow=11,SNR=208						
LVC				S	**Sn**	**07 57 29.1**	**+0.1**
	comp=N,11nm,0.3s,baz=118,slow=20,SNR=23						
LVC	**Limon Verde**	**2.18**	**207**	*e*P	**Pn**	**07 57 00.4**	**+0.9**
LVC				*e*S	**Sn**	**07 57 29.3**	**+0.2**
LVC	**Limon Verde**	**2.18**	**207**	*e*P	**Pn**	**07 57 00.4**	**+1.1**
TA02	**Huaiquique**	**2.18**	**280**	*e*P	**Pn**	**07 56 59.7**	**+0.7**
TA02				*e*S	**Sn**	**07 57 27.9**	**-0.4**
TA02				IAML		07 57 29.4	
	comp=N,813nm,0.2s						
PB07	**IPOC Station P**	**2.18**	**241**	*e*P	**Pn**	**07 56 59.7**	**+0.5**
PB07				*e*S	**Sn**	**07 57 28.1**	**-0.6**
PB07				IAML		07 57 29.1	
	comp=N,376nm,0.2s						
PB03	**IPOC Station P**	**2.25**	**232**	*e*P	**Pn**	**07 57 00.4**	**+0.4**
PB03				*i* S	**Sn**	**07 57 29.3**	**-0.9**
PB03				IAML		07 57 30.0	
	comp=E,389nm,0.2s						
AF01	**San Pedro de A**	**2.30**	**188**	⇑*i*P	**Pn**	**07 57 03.1**	**+2.3**
PSGC	**Pisagua**	**2.39**	**296**	⇑*e*P	**Pn**	**07 57 02.1**	**+0.5**
PSGC				*e*S	**Sn**	**07 57 32.1**	**-0.8**
PSGC				IAML		07 57 33.4	
	comp=N,137nm,0.3s						
PB04	**IPOC Station P**	**2.71**	**232**	⇑*i*P	**Pn**	**07 57 05.9**	**+0.4**
PB04				*e*S	**Sn**	**07 57 38.7**	**-1.4**
PB04				IAML		07 57 39.7	
	comp=E,234nm,0.4s						
PB05	**IPOC Station P**	**3.09**	**225**	*e*P	**Pn**	**07 57 10.2**	**0.0**
PB05				*e*S	**Sn**	**07 57 46.4**	**-2.0**
PB05				IAML		07 57 53.1	
	comp=E,97nm,0.1s						
LPAZ	**La Paz**	**4.36**	**356**	P	**Pn**	**07 57 29.1**	**+2.2**
	comp=E,0.3nm,0.3s,baz=176,slow=9.1,SNR=10						
LPAZ				S	**Sn**	**07 58 20.0**	**+1.7**
	comp=E,0.2nm,0.3s,baz=322,slow=21,SNR=1.6						
LPAZ	**La Paz**	**4.36**	**356**	*e*P	**Pn**	**07 57 29.5**	**+2.6**
LPAZ				*e*S	**Sn**	**07 58 20.5**	**+2.3**
SIV	**San Ignacio**	**7.94**	**55**	P	**Pn**	**07 58 12.3**	**-1.3**
	comp=E,2.0nm,0.3s,baz=254,slow=11,SNR=39						
SIV				S	**Sn**	**07 59 36.6**	**-5.8**
	comp=E,0.1nm,0.3s,baz=341,slow=23,SNR=5.7						
PTLB	**Pontes e Lacer**	**9.77**	**59**	*e*P	**Pn**	**07 58 38.7**	**+0.8**
VILB	**Vilhena**	**10.60**	**45**	*e*P	**Pn**	**07 58 49.7**	**+0.9**
ETMB	**Extrema**	**10.90**	**9**	*e*P	**Pn**	**07 58 52.2**	**-0.4**
CPUP	**Villa Florida**	**11.18**	**122**	*e*P	**Pn**	**07 58 57.7**	**+1.4**
AQDB	**Aquidauana**	**11.38**	**91**	*e*P	**Pn**	**07 59 00.6**	**+1.6**
SALV	**Santo Antonio**	**12.47**	**70**	*e*P	**Pn**	**07 59 14.4**	**+1.3**
CZSB	**Cruzeiro do Su**	**13.69**	**339**	*e*P	**Pn**	**07 59 27.5**	**-1.1**
PTGB	**Pitanga**	**15.11**	**108**	*e*P	**P**	**07 59 46.9**	**-0.8**
CLDB	**Colider**	**15.13**	**52**	*e*P	**Pn**	**07 59 46.6**	**0.0**
FRTB	**Fartura**	**17.16**	**102**	*e*P	**P**	**08 00 09.1**	**-1.2**
SNDB	**Serra Nova Dou**	**18.07**	**64**	*e*P	**P**	**08 00 19.8**	**-0.4**
NPGB	**Novo Progresso**	**18.15**	**44**	*e*P	**P**	**08 00 20.2**	**-1.0**
IPMB	**Ipameri, GO**	**18.72**	**85**	*e*P	**Pn**	**08 00 28.4**	**-1.3**
MACA	**Manacapuru-AM**	**18.74**	**23**	*e*P	**P**	**08 00 27.3**	**-0.3**
VAO	**Valinhos**	**19.52**	**101**	*e*P	**P**	**08 00 35.2**	**-0.8**
ITTB	**Itaituba**	**20.03**	**38**	*e*P	**P**	**08 00 41.2**	**-0.2**
PLCA	**Paso Flores**	**20.14**	**186**	*e*P	**P**	**08 00 39.2**	**-3.3**
PEXB	**Peixe**	**20.58**	**69**	*e*P	**P**	**08 00 46.6**	**-0.7**
PARB	**Paraibuna**	**20.78**	**101**	*e*P	**P**	**08 00 48.9**	**-0.6**
PTGA	**Pitinga**	**21.25**	**22**	P	**P**	**08 00 53.2**	**-1.3**
	comp=E,1.1nm,0.4s,baz=191,slow=15,SNR=7.7						
BSCB	**Bom Sucesso**	**21.57**	**95**	*e*P	**P**	**08 00 57.5**	**-0.4**
SMTB	**Santa Maria do**	**22.80**	**62**	*e*P	**P**	**08 01 10.5**	**+0.6**
DIAM	**Diamantina, MG**	**22.91**	**88**	*e*P	**P**	**08 01 10.8**	**-0.3**
MALB	**Monte Alegre**	**22.92**	**37**	*e*P	**P**	**08 01 08.9**	**-2.0**
JANB	**Januaria**	**23.07**	**80**	*e*P	**P**	**08 01 11.1**	**-1.4**
TXAR	**Lajitas Array**	**60.52**	**324**	P	**P**	**08 06 15.8**	**+1.6**
	comp=E,0.2nm,0.7s,baz=154,slow=5.0,SNR=2.1						
QSPA	**South Pole Qui**	**69.53**	**180**	P	**P**	**08 07 12.9**	**+1.1**
	comp=E,1.3nm,1.1s,baz=122,slow=1.0,SNR=1.8						
PDAR	**Pinedale Array**	**73.89**	**329**	P	**P**	**08 07 40.1**	**+1.8**
	comp=E,0.1nm,0.5s,baz=140,slow=4.7,SNR=1.6						
TORD	**Torodi Ar. Bea**	**76.14**	**70**	P	**P**	**08 07 51.6**	**+0.1**
	comp=E,1.9nm,0.4s,baz=255,slow=5.2,SNR=23						
MKAR	**Makanchi Array**	**144.38**	**36**	PKP	**PKPdf**	**08 15 37.6**	**-0.1**
	comp=E,0.4nm,0.3s,baz=306,slow=3.4,SNR=2.9						

*TAP **04** 08:02:08.3, 24°.18N×122°.24E, h22km, ML2.9, C*
*JMA **04** 08:02:09.0±0.1, 24°.09N×122°.21E, h31km±3km, M2.0*

ISC 04 08:02:08.5±1.1, **24°.13N**±0°.02×**122°.21E**±0°.02, **h24**km±12km, **n62**, σ**0s.62**/104, **1D, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.47**	**293**	*e*P	**Pn**	**08 02 19.2**	**-0.5**
	baz=292						
EWUT	**Wuta**	**0.51**	**309**	P	**Pb**	**08 02 18.4**	**-0.4**
	baz=310						
EWUT				*e*S	**Sb**	**08 02 26.3**	**+0.5**
	baz=310						
ENA	**Nanau**	**0.52**	**305**	⇓*i*P	**Pb**	**08 02 18.7**	**-0.4**
	baz=307						
ENA				*e*S	**Sb**	**08 02 26.0**	**-0.3**
	baz=307						
ETL	**Fush Village**	**0.54**	**273**	*e*P	**Pb**	**08 02 20.0**	**+0.6**
	baz=268						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ETL				eS	Sn	08 02 28.3	-0.8
	baz=268						
TWD	**Chiawan**	**0.57**	**265**	eP	**Pb**	**08 02 20.4**	**+0.6**
	baz=245						
TWD				eS	**Sn**	**08 02 29.3**	**-0.3**
	baz=245						
NACB	**Ninganchiao**	**0.57**	**275**	P	**Pb**	**08 02 20.5**	**+0.6**
	baz=277						
NACB				eS	**Sn**	**08 02 29.4**	**-0.3**
	baz=277						
TWC	**Suao**	**0.58**	**325**	iP	**Pb**	**08 02 19.1**	**-1.0**
	baz=321						
TWC				eS	**Sb**	**08 02 27.3**	**-0.7**
	baz=321						
ETLH	**Xiulin Townshi**	**0.67**	**277**	P	**Pb**	**08 02 22.1**	**+0.4**
	baz=273						
ETLH				eS	**Sn**	**08 02 32.1**	**-0.3**
	baz=273						
NDS	**Dongshan**	**0.68**	**318**	P	**Pb**	**08 02 21.2**	**-0.5**
	baz=318						
NDS				eS	**Sb**	**08 02 30.7**	**0.0**
	baz=318						
ETM	**Tongmen**	**0.68**	**256**	eP	**Pb**	**08 02 22.1**	**+0.4**
	baz=253						
TEGC	**Jichi Village**	**0.74**	**236**	eP	**Pb**	**08 02 21.6**	**-1.2**
	baz=224						
TEGC				eS	**Sn**	**08 02 34.3**	**+0.2**
	baz=224						
TWE	**Neicheng**	**0.77**	**320**	eP	**Pb**	**08 02 23.0**	**-0.3**
	baz=319						
TWE				eS	**Sb**	**08 02 34.0**	**+0.6**
	baz=319						
ESL	**Shilin**	**0.78**	**246**	eP	**Pb**	**08 02 23.7**	**+0.3**
	baz=234						
ESL				eS	**Sn**	**08 02 35.0**	**0.0**
	baz=234						
NDT	**Datong Townshi**	**0.79**	**307**	iP	**Pb**	**08 02 23.9**	**+0.2**
	baz=308						
NDT				eS	**Sb**	**08 02 34.3**	**+0.2**
	baz=308						
YOJ	**Yonaguni jima**	**0.80**	**65**	P	**Pn**	**08 02 24.4**	**+0.1**
YOJ				eS	**Sb**	**08 02 34.5**	**+0.3**
NTC	**Toucheng**	**0.80**	**334**	eP	**Pb**	**08 02 23.4**	**-0.4**
	baz=330						
NTC				eS	**Sb**	**08 02 33.5**	**-0.8**
	baz=330						
NNS	**Nan Shan**	**0.83**	**292**	eP	**Pb**	**08 02 24.3**	**0.0**
	baz=296						
NNS				eS	**Sn**	**08 02 36.8**	**+0.4**
	baz=296						
EGFH	**Guangfu**	**0.85**	**238**	eP	**Pb**	**08 02 23.1**	**-1.6**
	baz=224						
EGFH				eS	**Sn**	**08 02 37.6**	**+0.9**
	baz=224						
WHF	**Hehuan Shan**	**0.87**	**271**	P	**Pb**	**08 02 25.2**	**0.0**
	baz=268						
WHF				eS	**Sb**	**08 02 37.3**	**+0.7**
	baz=268						
FUSS	**Fushou**	**0.89**	**278**	P	**Pn**	**08 02 25.7**	**-0.1**
	baz=274						
FUSS				eS	**Sb**	**08 02 37.6**	**+0.5**
	baz=274						
TWB1	**Santiao Chiao**	**0.90**	**347**	eP	**Pn**	**08 02 25.1**	**-0.6**
	baz=349						
YHNB	**Yeheng**	**0.93**	**305**	P	**Pn**	**08 02 26.2**	**0.0**
	baz=302						
NSK	**Sanguang**	**0.95**	**305**	P	**Pn**	**08 02 26.4**	**-0.1**
	baz=311						
NSK				eS	**Sb**	**08 02 38.5**	**-0.1**
	baz=311						
CHGB	**Renai**	**0.95**	**266**	P	**Pn**	**08 02 26.6**	**-0.1**
	baz=249						
CHGB				eS	**Sn**	**08 02 39.9**	**+0.3**
	baz=249						
HGSD	**Ruisui**	**0.96**	**229**	eP	**Pn**	**08 02 26.5**	**-0.1**
	baz=228						
OWD	**Renai**	**0.96**	**260**	eP	**Pn**	**08 02 26.6**	**-0.1**
	baz=257						
OWD				eS	**Sb**	**08 02 39.4**	**+0.4**
	baz=257						
TDCB	**Techi**	**0.97**	**278**	eP	**Pb**	**08 02 27.2**	**+0.4**
	baz=260						
NWF	**Wu-fen Shan**	**1.02**	**337**	P	**Pn**	**08 02 27.2**	**-0.2**
	baz=334						
NWF				eS	**Sn**	**08 02 40.8**	**-0.2**
	baz=334						
WFSB	**Wu-fen Shan**	**1.02**	**337**	eP	**Pn**	**08 02 27.1**	**-0.2**
	baz=334						
WFSB				eS	**Sb**	**08 02 40.8**	**+0.3**
	baz=334						
TWA	**Mucha**	**1.02**	**326**	eP	**Pb**	**08 02 27.8**	**+0.2**
	baz=323						
EHY	**Hungye**	**1.02**	**233**	eP	**Pn**	**08 02 27.1**	**-0.3**
	baz=246						
ECBN	**Changbin**	**1.07**	**221**	eP	**Pn**	**08 02 28.1**	**+0.1**
	baz=208						
ECBN				eS	**Sn**	**08 02 42.0**	**-0.1**
	baz=208						
TNOU	**National Taiwa**	**1.09**	**339**	eP	**Pn**	**08 02 26.4**	**-1.9**
	baz=351						
YULB	**Yu-li**	**1.11**	**229**	eP	**Pn**	**08 02 28.5**	**-0.2**
	baz=219						
YULB				eS	**Sn**	**08 02 43.1**	**-0.1**
	baz=219						
TWF1	**Yuli**	**1.14**	**228**	eP	**Pn**	**08 02 28.9**	**-0.1**
	baz=243						
TWF1				eS	**Sn**	**08 02 43.7**	**-0.2**
	baz=243						
WHP	**Taichung City**	**1.17**	**278**	eP	**Pb**	**08 02 30.7**	**+0.6**
	baz=263						
YM01	**YM01**	**1.17**	**330**	eP	**Pn**	**08 02 29.7**	**+0.3**
	baz=327						
YM01				eS	**Sb**	**08 02 44.9**	**0.0**
	baz=327						
DPDB	**Guoxing**	**1.18**	**266**	eP	**Pn**	**08 02 28.6**	**-1.0**
	baz=263						
WCS	**Beigang Elemen**	**1.19**	**267**	eP	**Pb**	**08 02 30.6**	**+0.1**
	baz=254						
WCS				eS	**Sb**	**08 02 47.0**	**+1.6**
	baz=254						
YM08	**YM08**	**1.20**	**332**	eP	**Pb**	**08 02 30.9**	**+0.4**
	baz=344						
SSLB	**Suanglung**	**1.20**	**254**	eP	**Pb**	**08 02 30.9**	**+0.3**
	baz=240						
LIOB	**Emei**	**1.21**	**295**	eP	**Pn**	**08 02 30.1**	**+0.1**
	baz=293						
NSTT	**Nanjuang**	**1.21**	**295**	eP	**Pb**	**08 02 31.2**	**+0.4**
	baz=292						
NSTT				eS	**Sb**	**08 02 47.0**	**+0.9**
	baz=292						
SMLT	**Sun Moon Lake**	**1.23**	**259**	eP	**Pn**	**08 02 30.7**	**+0.4**
	baz=256						
SMLT				eS	**Sb**	**08 02 47.4**	**+0.9**
	baz=256						
FULB	**Fuli**	**1.25**	**222**	eP	**Pn**	**08 02 30.7**	**+0.1**
	baz=209						
TYC	**Yuchr**	**1.26**	**260**	eP	**Pb**	**08 02 31.4**	**-0.2**
	baz=258						
TYC				eS	**Sn**	**08 02 47.4**	**+0.6**
	baz=258						
CHKT	**Chengkung**	**1.29**	**217**	eP	**Pn**	**08 02 30.3**	**-0.7**
	baz=207						
CHKT				eS	**Sn**	**08 02 46.0**	**-1.4**
	baz=207						
WHYT	**Xinyi Township**	**1.32**	**251**	eP	**Pn**	**08 02 31.8**	**+0.3**
	baz=240						
EDH	**Donghe**	**1.42**	**216**	eP	**Pn**	**08 02 32.3**	**-0.6**
	baz=207						
EDH				eS	**Sn**	**08 02 49.3**	**-1.6**
	baz=207						
ALS	**Alishan**	**1.43**	**245**	eP	**Pb**	**08 02 34.6**	**-0.1**
	baz=242						
ALS				eS	**Sb**	**08 02 52.7**	**+0.1**
	baz=242						
HATJ	**Hateruma jima**	**1.46**	**93**	P	**Pb**	**08 02 34.8**	**-0.2**
HATJ				S	**Sb**	**08 02 53.5**	**+0.4**
PCYT	**Pengchaiyu**	**1.50**	**355**	eP	**Pn**	**08 02 33.4**	**-0.6**
	baz=339						
CHN5	**Tsauling**	**1.50**	**250**	eP	**Pb**	**08 02 35.8**	**0.0**
	baz=237						
JKRS	**Kuro-shima**	**1.64**	**86**	P	**Pb**	**08 02 37.4**	**-0.7**
JKRS				S	**Sb**	**08 02 58.2**	**-0.2**
TPUB	**Ta-pu**	**1.67**	**241**	eP	**Pb**	**08 02 38.2**	**-0.4**
	baz=239						
TPUB				eS	**Sb**	**08 03 00.2**	**+1.0**
	baz=239						
CHN4	**Tsaushan**	**1.68**	**243**	eP	**Pn**	**08 02 37.1**	**+0.8**
	baz=231						
CHN4				eS	**Sb**	**08 02 58.5**	**-0.8**
	baz=231						
WTP	**Ta-pu**	**1.71**	**239**	eP	**Pb**	**08 02 38.9**	**-0.4**
	baz=238						
JIJ	**Ishigaki jima**	**1.78**	**82**	P	**Pn**	**08 02 38.6**	**+0.8**
JIJ				eS	**Sn**	**08 02 59.9**	**+0.3**
TWK	**Hsinying**	**1.80**	**242**	eP	**Pb**	**08 02 40.4**	**-0.4**
	baz=240						
TWK				eS	**Sb**	**08 03 03.5**	**+0.5**
	baz=240						
SLGT	**Liugui**	**1.83**	**232**	eP	**Pb**	**08 02 40.3**	**-1.0**
	baz=220						
JISG	**Ishigakijimahi**	**1.97**	**76**	P	**Pn**	**08 02 40.3**	**-0.1**
JISG				eS	**Sn**	**08 03 04.3**	**0.0**
JTJ	**Tarama**	**2.33**	**77**	P	**Pn**	**08 02 46.9**	**+1.6**
JTJ				eS	**Sn**	**08 03 13.9**	**+0.8**

*IDC **04** 08:02:08.3±1.0, 1°.04N×97°.00E, h0km, mb4.2/13, mb1 4.3/15, mb1mx4.0/45, mbtmp4.2/15, ML3.7/2, MS3.0/4, Ms1 3.1/4, ms1mx2.7/36, Error ellipse: s-maj=30.9km s-min=15.3km az=59.0*

*DJA **04** 08:02:12.4±1.6, 1°N±5°×9°7E±1°0, h26km±7km, M4.0/6, MLv4.0/6*

*NEIC **04** 08:02:14.8±1.2, 1°.11N±0°.08×97°.14E±0°.06, h34km±3km, mb4.5/25, Error ellipse: s-maj=12.0km s-min=8.7km az=198.0*

ISC 04 08:02:12.8±0.6**, 1°.17N**±0°.05×**97°.17E**±0°.06**, h25**km**, n61, σ1s13**/56**, mb4.5**/23**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.43**	**71**	Pn	**Pn**	**08 02 24.2**	**+0.9**
GSI				Sn	**Sn**	**08 02 32.2**	**+1.8**
GSI	**Gunungsitoli**	**0.43**	**71**	P	**Pn**	**08 02 24.1**	**+0.8**
GSI				S	**Sn**	**08 02 32.4**	**+2.0**
PBSI	**Pulau Batu**	**1.64**	**138**	P	**Pb**	**08 02 40.8**	**-1.6**
PBSI				S	**Sb**	**08 03 00.6**	**-2.1**
TRSI	**Tarutung**	**1.98**	**64**	P	**Pn**	**08 02 44.2**	**-0.6**
TPTI		**2.08**	**0**	P	**Pn**	**08 02 45.2**	**-0.9**
RPSI	**Rantau Prapat**	**2.32**	**49**		**Pb**	**08 02 51.5**	**-2.4**
RPSI	**Rantau Prapat**	**2.32**	**49**		**Pb**	**08 02 51.5**	**-2.4**
PSI	**Prapat**	**2.39**	**47**	Pn	**Pn**	**08 02 51.5**	**+1.0**
	5.9nm,0.3s,baz=185,slow=7.5,SNR=24						
PSI				LR	LR	08 03 39.8	
	comp=Z,239nm,20.2s,baz=270,slow=36						
PSI	**Prapat**	**2.39**	**47**	P	**Pn**	**08 02 50.9**	**+0.4**
PSI				P	**Pn**	**08 02 51.4**	**+1.0**
MNSI	**Mandailing Nat**	**2.44**	**99**	P	**Pn**	**08 02 52.2**	**+1.2**
TSI	**Tuntungan**	**2.71**	**31**	P	**Pn**	**08 02 55.2**	**+0.5**
BKNI	**Bangkinang**	**3.96**	**102**	Pn	**Pn**	**08 03 13.6**	**+1.7**
LHMI	**Lhok Sumawe**	**4.04**	**357**	Pn	**Pn**	**08 03 15.8**	**+2.7**
SRAK	**Srakaew**	**13.64**	**20**	P	P	08 05 37.6	+4.2
	0.8nm12μm115nm,0.6s						
XMIS	**Christmas Isla**	**14.32**	**144**	Pn	**Pn**	**08 05 34.7**	**+0.6**
CMAR	**Chiang Mai Arr**	**17.27**	**6**	P	**Pn**	**08 06 11.4**	**-1.0**
	0.2nm,0.3s,baz=197,slow=12,SNR=2.3						
CMAR				LR	LR	08 14 22.3	
	comp=Z,60nm,19.0s,baz=222,slow=42						
PALK	**Pallekele**	**17.50**	**291**	LR	LR	08 12 19.5	
	comp=Z,59nm,20.4s,baz=204,slow=35						
SLVN	**Son La**	**21.09**	**18**	P	**P**	**08 06 55.4**	**-0.2**
SLVN				IAmb	IAmb	08 06 57.4	
	comp=Z,14nm,0.8s						
TOLI2	**Tolitoli**	**23.61**	**90**	P	**P**	**08 07 21.2**	**-0.9**
TOLI2				IAmb	IAmb	08 07 22.8	
	comp=Z,17nm,0.8s						
SHL	**Shillong**	**24.79**	**349**	P	**P**	**08 07 32.5**	**-0.5**
H08S2	**Diego Garcia H**	**26.12**	**250**	T	T	08 34 40.2	
	baz=71,slow=75						
H08S3	**Diego Garcia H**	**26.13**	**250**	T	T	08 34 40.4	
	baz=71,slow=75						
H08S1	**Diego Carcia H**	**26.14**	**250**	T	T	08 34 43.0	
	baz=71,slow=75						
ENH	**Enshi**	**31.22**	**21**	P	**P**	**08 08 30.0**	**-0.4**
TWG	**Pinlang**	**31.66**	**45**	P	**P**	**08 08 36.3**	**+1.9**
YULB	**Yu-li**	**32.19**	**45**	P	**P**	**08 08 39.7**	**+0.7**
YULB				IAmb	IAmb	08 08 41.6	
	comp=Z,6.5nm,0.9s						
FITZ	**Fitzroy Crossi**	**33.93**	**126**	P	**P**	**08 08 52.5**	**-1.7**
	comp=Z,2.3nm,0.9s,baz=45,slow=1.4,SNR=3.2						
H01W3	**Cape Leeuwin H**	**39.23**	**158**	T	T	08 51 10.2	
	baz=332,slow=76						
H01W2	**Cape Leeuwin H**	**39.24**	**158**	T	T	08 51 12.7	
	baz=332,slow=76						
H01W1	**Cape Leeuwin H**	**39.24**	**158**	T	T	08 51 11.2	
	baz=332,slow=76						
WRA	**Warramunga Arr**	**42.04**	**122**	P	**P**	**08 10 02.7**	**0.0**
	comp=Z,1.7nm,0.5s,baz=300,slow=9.0,SNR=24						
WB2	**Warramunga Arr**	**42.05**	**122**	P	**P**	**08 10 02.9**	**+0.1**
WB2				IAmb	IAmb	08 10 16.4	
	comp=Z,9.8nm,1.5s						
WR0	**Warramunga Arr**	**42.22**	**122**	P	**P**	**08 10 04.1**	**-0.1**
ASAR	**Alice Springs**	**43.40**	**127**	P	**P**	**08 10 13.8**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=304,slow=7.6,SNR=11						
DRK	**Karamyk**	**44.61**	**332**	P	**P**	**08 10 24.4**	**+0.9**
CHGR	**Chuyangaron**	**45.28**	**329**	P	**P**	**08 10 28.8**	**+0.2**
CHGR				IAmb	IAmb	08 10 29.4	
	comp=Z,6.2nm,0.7s						
BTK	**Batken**	**45.53**	**331**	P	**P**	**08 10 30.5**	**0.0**
BTK				IAmb	IAmb	08 10 45.8	
	comp=Z,9.2nm,1.2s						
KSAR	**Wonju Array Be**	**45.86**	**35**	P	**P**	**08 10 33.9**	**+0.8**
KSRS	**Korea Array**	**45.89**	**35**	P	**P**	**08 10 33.6**	**+0.3**
	comp=Z,4.9nm,0.8s,baz=224,slow=9.1,SNR=19						
KSRS				LR	LR	08 30 19.9	
	comp=Z,14nm,19.2s,baz=355,slow=37						
KS19	**Wonju Array Si**	**45.90**	**34**	P	**P**	**08 10 33.6**	**+0.3**
KS19				IAmb	IAmb	08 10 46.0	
	comp=Z,7.2nm,0.9s						
SONM	**Songino Array**	**47.17**	**8**	P	**P**	**08 10 43.8**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=195,slow=8.4,SNR=9.5						
SONM				PcP	**PcP**	**08 12 14.8**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=190,slow=3.1,SNR=2.4						
SONM	**Songino Array**	**47.17**	**8**	IAmb	IAmb	08 10 45.3	
	comp=Z,2.0nm,1.0s						
MK31	**Makanchi Array**	**47.27**	**346**	P	**P**	**08 10 44.8**	**+0.8**
MKAR	**Makanchi Array**	**47.27**	**346**	P	**P**	**08 10 44.9**	**+1.0**
	comp=Z,2.2nm,0.5s,baz=161,slow=8.9,SNR=23						
MKAR	**Makanchi Array**	**47.27**	**346**	P	**P**	**08 10 45.0**	**+1.0**
ULN	**Ulaanbaatar**	**47.30**	**9**	P	**P**	**08 10 44.6**	**+0.3**
ULN				IAmb	IAmb	08 10 48.2	
	comp=Z,2.9nm,0.5s						
KK31	**Karatay Array**	**48.07**	**334**	P	**P**	**08 10 50.6**	**+0.3**
KKAR	**Karatay Array**	**48.07**	**334**	P	**P**	**08 10 51.3**	**+1.0**
KKAR	**Karatay Array**	**48.07**	**334**	P	**P**	**08 10 51.1**	**+0.8**
KKAR				IAmb	IAmb	08 10 52.2	
	comp=Z,3.3nm,1.1s						
USRK	**Ussuriysk Ar.**	**52.81**	**31**	P	**P**	**08 11 27.1**	**+1.0**
	comp=Z,4.9nm,0.8s,baz=234,slow=4.3,SNR=9.8						
USRK	**Ussuriysk Ar.**	**52.81**	**31**	P	**P**	**08 11 26.9**	**+0.8**
STKA	**Stephens Creek**	**53.36**	**132**	P	**P**	**08 11 31.1**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=308,slow=9.2,SNR=5.6						
ZALV	**Zalesovo Beam**	**53.59**	**351**	P	**P**	**08 11 32.3**	**+0.7**
	comp=Z,3.5nm,0.5s,baz=178,slow=5.8,SNR=11						
KLR	**Kul'dur**	**56.30**	**27**	P	**P**	**08 11 51.5**	**+0.1**
	comp=Z,4.4nm,0.9s,baz=259,slow=4.4,SNR=11						
ABKAR	**Akbulak array**	**57.53**	**332**	P	**P**	**08 11 60.0**	**-0.1**
ABKAR				IAmb	IAmb	08 12 01.0	
	comp=Z,3.6nm,0.8s						
ABKAR	**Akbulak array**	**57.53**	**332**	P	**P**	**08 12 00.2**	**+0.1**
KBZ	**Khabaz**	**64.08**	**319**	P	**P**	**08 12 44.1**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=100,slow=5.0,SNR=3.7						
FINES	**FINESS Array B**	**80.02**	**333**	P	**P**	**08 14 18.5**	**-1.3**
	comp=Z,1.1nm,0.7s,baz=108,slow=8.9,SNR=2.0						
ARCES	**ARCESS Array B**	**82.56**	**340**	P	**P**	**08 14 32.9**	**-0.3**
	comp=Z,4.8nm,1.0s,baz=81,slow=5.6,SNR=4.4						
ARCES	**ARCESS Array B**	**82.56**	**340**	IAmb	IAmb	08 14 49.2	
	comp=Z,9.6nm,1.2s						
TXAR	**Lajitas Array**	**143.71**	**32**	PKP	**PKPdf**	**08 21 44.5**	**-2.1**
	comp=Z,0.2nm,0.6s,baz=274,slow=1.4,SNR=4.0						

*EST **04** 08:19:26.8±0.1, 59°.24N×27°.78E, h0km, ML1.4(HEL), Explosion*

*LVSN **04** 08:19:27.8±1.4, 57°.55N×27°.25E, h0km±235km, ML1.9*

HEL 04 08:19:26.8±0.3**, 59°.25N**×**27°.82E, h0**km**, ML1.6, Explosion, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EE03	**Tooma soojaam,**	**0.89**	**245**	eP	Pg	08 19 41.8	-1.9
EE03				eS	Sg	08 19 53.1	-2.1
ARBE	**Arbavere**	**0.96**	**282**	eS	Sg	08 19 55.6	-2.0
VSU	**Vasula**	**0.97**	**216**	eP	Pg	08 19 43.9	-1.5
VSU				eS	Sg	08 19 56.1	-2.0
VSU	**Vasula**	**0.97**	**216**	AML	AML	08 19 48.4	
	comp=Z,16nm,0.6s						
VSU				eS	Sg	08 19 56.7	-1.4
VSU				AML	AML	08 20 04.9	
	comp=E,39nm,0.4s						
VSU				AML	AML	08 20 06.0	
	comp=N,44nm,0.4s						
VJF	**Virojoki**	**1.30**	**354**	eP	Pg	08 19 50.1	-1.6
VJF				MSG		08 20 06.0	
	comp=Z,2.6nm,0.2s						
VJF				eSB	Sg	08 20 07.8	-0.6
EE02	**Kiisa, Saku**	**1.61**	**269**	eP	Pn	08 19 54.9	-1.5
EE02				eS	Sn	08 20 15.4	-2.4
PVF	**Pernaja**	**1.63**	**324**	ePG	Pn	08 19 56.1	-0.6
PVF				MSG		08 20 15.5	
	comp=Z,2.0nm,0.2s						
PVF				eSG	Sn	08 20 16.9	-1.5
MEF	**Metsahovi**	**1.99**	**301**	ePG	Pn	08 20 02.2	+0.6
MEF				eSG	Sn	08 20 27.4	+0.2
MEF				MSG		08 20 27.8	
	comp=Z,2.2nm,0.1s						
NUR	**Nurmijrvi**	**2.04**	**310**	ePG	Pn	08 20 03.2	+0.9
NUR				eSB	Sn	08 20 28.5	+0.1
NUR				MSG		08 20 29.7	
	comp=Z,1.1nm,0.1s						
MTSE	**Matsula**	**2.14**	**257**	ePG	Pn	08 20 04.4	+0.6
MTSE				eSG	Sb	08 20 32.6	-0.9
MTSE	**Matsula**	**2.14**	**257**	eP	Pn	08 20 04.8	+1.0
MTSE				eS	Sn	08 20 30.9	-0.1
MTSE				AML	AML	08 20 33.9	
	comp=E,28nm,0.2s						
MTSE				AML	AML	08 20 36.3	
	comp=N,33nm,0.2s						
MTSE				AML	AML	08 20 52.4	
	comp=Z,14nm,0.5s						
FIA0	**FINESS Array S**	**2.36**	**339**	eP	Pn	08 20 06.7	-0.1
FIA0				ePB	Pb	08 20 08.1	-2.2
FIA0				eSB	Sb	08 20 38.4	-1.5
FIA1	**FINESS Array S**	**2.36**	**339**	eP	Pn	08 20 06.7	-0.1
FIA1				ePB	Pb	08 20 08.1	-2.1
FIA1				MSG		08 20 40.9	
	comp=Z,1.0nm,0.1s						
KAF	**Kangasniemi**	**2.97**	**346**	ePB	Pb	08 20 18.4	-2.0
SLIT	**Slitere, Latvi**	**3.33**	**243**	eP	Pn	08 20 10.7	-9.4
RAF	**Rauma**	**3.51**	**303**	eP	Pn	08 20 23.9	+1.4
JOF	**Joensuu**	**4.05**	**23**	eP	Pn	08 20 30.4	+0.4

*JMA **04** 08:21:18.2±0.2, 35°.54N×140°.90E, h38km±2km, M2.7*

*IDC **04** 08:21:21.6±3.4, 35°.50N×140°.34E, h75km±34km, mb3.1/2, mb1 3.4/3, mb1mx3.0/32, mbtmp3.4/3, Error ellipse: s-maj=48.1km s-min=8.3km az=68.0*

ISC 04 08:21:18.3±1.1**, 35°.55N**±0°.05×**140°.83E**±0°.08**, h40**km±9km**, n21, σ1s53**/19**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.16**	**8**	P	**Pn**	**08 21 24.9**	**-0.4**
CHOJ				eS	**Sn**	**08 21 30.3**	**+0.2**
JSMT	**Sammumatsuo**	**0.33**	**287**	P	**Pn**	**08 21 27.4**	**+0.5**
JIHU	**Itakohorinouch**	**0.49**	**329**	P	**Pn**	**08 21 30.0**	**+1.1**
JCN	**Nagara**	**0.53**	**256**	P	**Pn**	**08 21 30.6**	**+1.2**
BSO4	**Boso 4**	**0.69**	**216**	P	**Pn**	**08 21 32.0**	**+0.5**
BSO3	**Boso 3**	**0.79**	**200**	P	**Pn**	**08 21 32.5**	**-0.2**
JYT	**Yasato**	**0.85**	**323**	P	**Pn**	**08 21 33.9**	**0.0**
JIM2	**Oshima 3**	**1.42**	**235**	P	**Pn**	**08 21 41.4**	**-0.2**
JAG	**Ashikaga**	**1.42**	**308**	P	**Pn**	**08 21 42.1**	**+0.5**
JOD2	**Odawara 2**	**1.45**	**259**	P	**Pn**	**08 21 42.5**	**+0.4**
MJAR	**Matsushiro Arr**	**2.35**	**296**	P	**Pn**	**08 21 53.3**	**-1.0**
	0.4nm,0.3s,baz=78,slow=35,SNR=3.6						
MJAR				S	**Sn**	**08 22 17.6**	**-4.4**
	0.6nm,0.3s,baz=141,slow=14,SNR=7.9						
MJAR				LR	LR	08 22 27.9	
	comp=Z,13nm,20.1s,baz=105,slow=34						
MAT	**Matsushiro**	**2.35**	**296**	P	**Pn**	**08 21 56.8**	**+2.4**
MAT				eS	**Sn**	**08 22 23.3**	**+1.3**
JHJ	**Hachijo jima 2**	**2.57**	**200**	P	**Pn**	**08 21 57.6**	**+0.2**
	11nm,0.3s,baz=37,slow=20,SNR=1.2						
JHJ				S	**Sn**	**08 22 28.6**	**+1.1**
	27nm,0.3s,baz=106,slow=23,SNR=6.6						
H11N2	**WAKE ISLAND Hy**	**27.83**	**118**	T	T	08 56 06.7	
	baz=310,slow=75,SNR=6.7						
H11N1	**WAKE ISLAND Hy**	**27.84**	**118**	T	T	08 56 13.0	
	baz=310,slow=75,SNR=7.5						
H11N3	**WAKE ISLAND Hy**	**27.85**	**118**	T	T	08 56 05.5	
	baz=310,slow=75,SNR=9.1						
H11S1	**WAKE ISLAND Hy**	**28.49**	**120**	T	T	08 56 52.0	
	baz=312,slow=76,SNR=23						
H11S3	**WAKE ISLAND Hy**	**28.49**	**120**	T	T	08 56 52.2	
	baz=312,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**28.50**	**120**	T	T	08 56 53.6	
	baz=312,slow=76,SNR=20						
WRA	**Warramunga Arr**	**55.53**	**187**	P	**P**	**08 30 48.3**	**-1.2**
	0.1nm,0.3s,baz=0.7,slow=7.7,SNR=6.1						
PDAR	**Pinedale Array**	**79.05**	**45**	P	**P**	**08 33 19.6**	**+1.0**
	0.1nm,0.4s,baz=282,slow=4.4,SNR=1.5						

NEIC 04 09:00:02.6±0.8**, 37°.18N**±0°.02×**97°.81W**±0°.01**, h8**km±4km**, Error ellipse: s-maj=2.9km s-min=1.4km az=187.0, Kansas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAN06	**Argonia West S**	**0.08**	**327**		Pg	09 00 04.6	-0.2
KAN05	**Bluff City Nor**	**0.09**	**216**		Pg	09 00 04.5	-0.3
KAN05				Sg	Sg	09 00 06.2	-0.3
KAN08	**Anthony NE Sta**	**0.14**	**288**		Pg	09 00 05.8	+0.1
KAN08				Sg	Sg	09 00 08.1	+0.3
KAN17	**Caldwell West**	**0.14**	**167**		Pg	09 00 05.5	-0.2
KAN17				Sg	Sg	09 00 07.6	-0.2
KS21	**Milan North St**	**0.15**	**48**		Pg	09 00 05.8	-0.1
KAN12	**Harper NE Stat**	**0.19**	**307**		Pg	09 00 06.7	+0.1
KAN12				Sg	Sg	09 00 09.5	+0.3
KS20	**Mayfield South**	**0.21**	**77**		Pg	09 00 06.8	0.0
KS20				Sg	Sg	09 00 09.8	+0.1
KAN10	**Anthony SW Sta**	**0.24**	**256**		Pg	09 00 07.5	+0.1
KAN10				Sg	Sg	09 00 10.5	-0.2
KAN14	**Manchester OK**	**0.26**	**209**		Pg	09 00 07.7	-0.1
KAN14				Sg	Sg	09 00 11.4	+0.1
KAN13	**South Haven SW**	**0.31**	**123**		Pg	09 00 08.5	-0.2
KAN13				Sg	Sg	09 00 12.7	-0.3
GC02	**Grant County #**	**0.33**	**188**		Pg	09 00 09.0	-0.2
GC02				Sg	Sg	09 00 13.7	+0.1
OK032	**Salt Plains WL**	**0.50**	**221**		Pg	09 00 12.2	-0.1
OK032				Sg	Sg	09 00 19.0	+0.2
BLOK	**Blackwell**	**0.63**	**132**	Pg	Pg	09 00 14.3	-0.5
BLOK				Sg	Sg	09 00 23.3	+0.2
CROK	**Carrier**	**0.69**	**192**		Pg	09 00 15.6	-0.3
CROK				Sg	Sg	09 00 25.1	+0.2
T35A	**Sooner Cattle**	**1.07**	**104**		Pg	09 00 22.2	-0.9
T35A				Sg	Sg	09 00 36.5	-0.5
U32A	**Winter Ranch,**	**1.25**	**230**	Pg	Pn	09 00 25.8	-0.6
QUOK	**Quay**	**1.34**	**139**		Pn	09 00 27.1	-0.5
OK029	**Liberty Lake**	**1.41**	**168**		Pn	09 00 28.4	-0.2
R32A	**Long Quarter,**	**1.43**	**330**		Pn	09 00 29.1	+0.2
OK031	**S. Brethren Rd**	**1.45**	**147**		Pn	09 00 29.1	-0.1
OK025	**Westminster Rd**	**1.64**	**167**		Pb	09 00 32.4	-0.7
OKCFA	**Oklahoma City**	**1.79**	**171**		Pn	09 00 34.2	+0.5
OKCSW	**OKLAHOMA CITY**	**1.80**	**170**		Pn	09 00 34.7	+0.8
FNO	**Franklin**	**1.95**	**170**		Pn	09 00 37.0	+1.0
KSU1	**Kansas State U**	**2.13**	**26**		Pn	09 00 39.2	+0.7
CBKS	**Cedar Bluff**	**2.23**	**317**	Pn	Pn	09 00 40.5	+0.6
WMOK	**Wichita Mounta**	**2.56**	**198**		Pn	09 00 44.6	+0.2
X34A	**Smith Ranch, M**	**2.58**	**181**	IAmb_Lg		09 01 24.1	
	comp=Z,14nm,0.7s						
LOOK	**Love County**	**3.22**	**171**	IAmb_Lg		09 01 52.4	
	comp=Z,20nm,0.8s						
HHAR	**Hobbs**	**3.23**	**105**	Pn	Pn	09 00 54.7	+1.1
HHAR				IAmb_Lg		09 01 52.1	
	comp=Z,12nm,0.7s						
X37A	**Clayton**	**3.26**	**142**		Pn	09 00 56.3	+2.4
S39A	**Bolivar**	**3.60**	**81**		Pn	09 00 59.9	+1.2
S39A				IAmb_Lg		09 02 03.3	
	comp=Z,12nm,0.8s						
W39A	**Magazine**	**3.81**	**120**	Pn	Pn	09 01 04.7	+3.2
W39A				IAmb_Lg		09 02 12.2	
	comp=Z,23nm,1.1s						
AMTX	**Amarillo**	**3.89**	**235**	IAmb_Lg		09 02 13.7	
	comp=Z,21nm,1.1s						
U40A	**Yellville**	**4.06**	**100**	Pn	Pn	09 01 05.4	+0.4

KSCO	**Kaye Shedlock'**	**4.22**	**297**	Pn	Pn	09 01 08.1	+0.8
KSCO				IAmb_Lg		09 02 17.8	
	comp=Z,10nm,0.7s						
MIAR	**Mount Ida**	**4.33**	**126**	Pn	Pn	09 01 11.3	+2.6
MGMO	**Mountain Grove**	**4.42**	**89**	IAmb_Lg		09 02 22.5	
	comp=Z,14nm,0.8s						
WHAR	**Wooly Hollow**	**4.84**	**111**	IAmb_Lg		09 02 36.4	
	comp=Z,14nm,0.8s						
X40A	**Basin Creek Fa**	**4.85**	**122**	IAmb_Lg		09 02 45.9	
	comp=Z,6.6nm,0.8s						
N38A	**Joes South For**	**5.07**	**43**	IAmb_Lg		09 02 40.8	
	comp=Z,8.9nm,0.8s						
PBMO	**Poplar Bluff**	**5.92**	**92**	IAmb_Lg		09 03 23.2	
	comp=Z,8.6nm,1.2s						
OXF	**Oxford**	**7.32**	**109**	IAmb_Lg		09 03 59.8	
	comp=Z,10nm,1.1s						
HDIL	**Hopedale**	**7.44**	**60**	IAmb_Lg		09 04 05.3	
	comp=Z,6.4nm,0.8s						

MAN 04 09:00:52.7, 12°.95N×119°.20E, h1km, mb4.1, ML2.9, MS2.5, Philippine Islands region

MEX 04 09:02:03.6±1.0**, 18°.17N×103°.41W, h10km, MD3.6, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.13**	**27**	i P	Pg	09 02 05.8	-0.9
MMIG				i S	Sg	09 02 08.3	-0.6
COIG	**Colima**	**1.04**	**345**	i P	Pg	09 02 20.0	-3.6
COIG				eS	Sg	09 02 33.2	-4.0
R15V		**1.13**	**331**	eP	Pb	09 02 21.3	-4.1
R15V				i S	Sb	09 02 35.1	-5.1
EZ5V		**1.31**	**352**	i P	Pn	09 02 25.2	-3.1
EZ5V				i S	Sb	09 02 42.7	-2.9

*IPEC **04** 09:06:26.0±0.2, 50°.19N×19°.04E, h2km±1km, ML2.6/3, Error ellipse: s-maj=2.5km s-min=1.1km az=167.0*
*PRU **04** 09:06:26.2±0.0, 50°.22N×18°.95E, h0km*
*IDC **04** 09:06:28.9±1.2, 50°.52N×18°.53E, h0km, mb3.7/1, mb1 3.7/4, mb1mx3.4/40, mbtmp3.6/4, ML2.8/3, MS3.4/1, Ms1 3.4/1, ms1mx2.2/39, Error ellipse: s-maj=24.0km s-min=11.3km az=153.0*
ISC 04 09:06:25.7±0.7**, 50°.22N**±0°.03×**19°.00E**±0°.02**, h0km, n33,** σ1s**.23**/53**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.52**	**89**	ePg	**Pg**	**09 06 35.5**	**0.0**
OJC				eSg	**Sg**	**09 06 42.4**	**+0.2**
OKC	**Ostrava-Krasne**	**0.67**	**236**	ePG	**Pg**	**09 06 38.6**	**+0.2**
OKC				eSG	**Sg**	**09 06 46.3**	**-0.7**
	comp=Z,63nm,0.4s						
MORC	**Moravsky Berou**	**1.04**	**245**	ePg	**Pg**	**09 06 45.8**	**+0.3**
	baz=66						
MORC				eSg	**Sg**	**09 06 59.0**	**+0.2**
	129nm,0.5s,baz=66						
MORC	**Moravsky Berou**	**1.04**	**245**	ePG	**Pg**	**09 06 45.9**	**+0.4**
MORC				eSG	**Sg**	**09 06 59.1**	**+0.2**
LANS	**Liptovska Anna**	**1.11**	**164**	ePG	**Pg**	**09 06 47.4**	**+0.5**
LANS				eSG	**Sb**	**09 07 02.5**	**-0.2**
LANS				eLG	Lg	09 07 05.6	
NIE	**Niedzica**	**1.16**	**133**	ePg	**Pn**	**09 06 49.1**	**-0.1**
NIE				eSg	**Sn**	**09 07 05.9**	**+0.1**
KRLC	**Kraliky**	**1.43**	**265**	ePG	**Pn**	**09 06 52.4**	**-0.5**
KRLC				eSG	**Sg**	**09 07 11.5**	**-0.1**
	comp=Z,71nm,0.5s						
JAVC	**Velka Javorina**	**1.61**	**213**	ePn	**Pn**	**09 06 55.6**	**+0.2**
	baz=33						
JAVC	**Velka Javorina**	**1.61**	**213**	ePN	**Pn**	**09 06 55.6**	**+0.2**
STHS	**Stebnicka Huta**	**1.66**	**118**	ePN	**Pn**	**09 06 56.4**	**+0.3**
STHS				eSN	**Sg**	**09 07 20.1**	**+1.1**
DPC	**Dobruska-Polom**	**1.72**	**275**	ePG	**Pn**	**09 06 56.7**	**-0.2**
DPC				eSG	**Sb**	**09 07 20.7**	**+0.4**
	comp=Z,31nm,0.5s						
VYHS	**Vyhne**	**1.73**	**184**	ePN	**Pn**	**09 06 56.5**	**-0.4**
VYHS				eSN	**Sn**	**09 07 19.7**	**0.0**
VYHS				eLG	Lg	09 07 25.3	
VRAC	**Vranov**	**1.80**	**241**	ePn	**Pn**	**09 06 58.3**	**+0.3**
	baz=60						
VRAC				eSg	**Sb**	**09 07 22.6**	**-0.1**
	37nm,0.5s,baz=60						
VRAC	**Vranov**	**1.80**	**241**	ePN	**Pn**	**09 06 58.4**	**+0.4**
VRAC				eSG	**Sb**	**09 07 22.6**	**-0.1**
KSP	**Ksiaz**	**1.83**	**291**	ePb	**Pn**	**09 06 58.6**	**+0.2**
KSP				ePg	**Pg**	**09 07 01.0**	**+0.2**
KSP				eSg	**Sg**	**09 07 25.8**	**+1.2**
CHVC	**Chvalec**	**1.92**	**282**	ePG	**Pn**	**09 06 59.6**	**0.0**
SMOL	**Smolenice**	**1.99**	**212**	eSG	**Sg**	**09 07 29.8**	**+0.3**
KECS	**Kecovo**	**1.99**	**150**	eSN	**Sb**	**09 07 27.7**	**-0.3**
KRUC	**Moravsky**	**2.05**	**237**	ePn	**Pn**	**09 07 01.7**	**+0.4**
	baz=56						
KRUC				eSg	**Sb**	**09 07 30.3**	**+0.6**
	32nm,0.7s,baz=56						
KRUC	**Moravsky**	**2.05**	**237**	ePN	**Pn**	**09 07 01.7**	**+0.4**
KRUC				eSG	**Sb**	**09 07 30.3**	**+0.6**
CRVS	**Cervenica-Dubn**	**2.08**	**128**	ePN	**Pn**	**09 07 02.9**	**+1.2**
CRVS				eSG	**Sg**	**09 07 33.5**	**+1.2**
KOLS	**Kolonicke sedl**	**2.49**	**120**	ePG	**Pg**	**09 07 12.6**	**-0.7**
PRU	**Pruhonice**	**2.88**	**267**	eSG	**Sb**	**09 07 55.3**	**+1.8**
	comp=Z,17nm,0.7s						
BRG	**Berggiesshubel**	**3.29**	**283**	Pg	**Pg**	**09 07 28.0**	**-0.7**
BRG				Sg	**Sg**	**09 08 12.3**	**+1.0**
BRG				Amp		09 08 22.6	
	comp=Z,11nm,0.5s						
CKRC	**Cesky Krumlov**	**3.36**	**247**	eSG	**Sg**	**09 08 11.3**	**-2.2**
	comp=Z,32nm,0.9s						
KHC	**Kasperske Hory**	**3.68**	**255**	ePN	**Pn**	**09 07 24.2**	**+0.3**
KHC				ePG	**Pb**	**09 07 31.2**	**-0.4**
KHC				eSG	**Sb**	**09 08 20.1**	**+3.3**
	comp=Z,16nm,0.6s						
GERES	**GERESS Array B**	**3.71**	**250**	Pn	**Pn**	**09 07 25.7**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=71,slow=15,SNR=6.2						
GERES				Lg	Lg	09 08 21.5	
	comp=Z,1.9nm,0.3s,baz=61,slow=28,SNR=6.1						
CLL	**Collm**	**3.96**	**288**	ePg	**Pg**	**09 07 42.0**	**+0.5**
CLL				eSg	**Sg**	**09 08 34.0**	**+1.2**
	comp=Z,21nm,1.2s						
AKASG	**Malin Array Be**	**6.55**	**82**	Pg	Pg	09 08 26.4	-4.6
	comp=Z,0.6nm,0.3s,baz=285,slow=26,SNR=6.0						
AKASG				Sn	**Sn**	**09 09 22.5**	**+4.0**
	comp=Z,0.6nm,0.3s,baz=266,slow=23,SNR=2.1						
FINES	**FINESS Array B**	**11.93**	**17**	Pn	**Pn**	**09 09 12.4**	**-4.3**
	comp=Z,0.4nm,0.3s,baz=197,slow=13,SNR=9.9						
ARCES	**ARCESS Array B**	**19.63**	**7**	P	**P**	**09 10 53.9**	**-1.6**
	baz=199,slow=10,SNR=1.9						
WSAR	**Wadi Sarin**	**40.91**	**116**	LR	LR	09 32 46.2	
	comp=Z,46nm,18.4s,baz=62,slow=38						
SONM	**Songino Array**	**54.13**	**56**	P	**P**	**09 15 54.5**	**+2.2**
	comp=Z,0.3nm,0.3s,baz=309,slow=6.9,SNR=1.9						

*IDC **04** 09:20:09.4±1.8, 42°.86N×78°.55E, h0km, mb3.6/1, mb1 3.7/6, mb1mx3.3/58, mbtmp3.7/6, ML3.4/5, Error ellipse: s-maj=25.8km s-min=9.9km az=143.0*
*NNC **04** 09:20:15.0±0.2, 43°.42N×78°.30E, h0km, mb4.6, mpv4.5, Error ellipse: s-maj=2.9km s-min=1.5km az=179.0*
*MOS **04** 09:20:15.2±0.9, 43°.38N×78°.29E, h10km, mb4.5/3, Error ellipse: s-maj=5.8km s-min=5.4km az=166.2*
*SOME **04** 09:20:15.5, 43°.42N×78°.30E, h20km, MS3.2*
*KRNET **04** 09:20:15.5±0.1, 43°.45N×78°.30E, h23km, mb4.4*
ISC 04 09:20:17.0±0.7**, 43°.42N**±0°.02×**78°.28E**±0°.01**, h14km**±5km**, n153,** σ1s**.83**/259**, mb4.1**/4**, 44C-45D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURS	**Kuram**	**0.10**	**311**	⇓eP	**Pg**	**09 20 20.0**	**-0.3**
	baz=94						
KURS				⇓eS	**Sb**	**09 20 23.0**	**-0.4**
	baz=94						
KURS	**Kuram**	**0.10**	**311**	⇓eP	**Pg**	**09 20 20.0**	**-0.3**
	373nm,0.1s						
KURS				eS	**Sb**	**09 20 23.0**	**-0.4**
	12µm,0.3s						
KURS	**Kuram**	**0.10**	**311**	P	**Pg**	**09 20 19.9**	**-0.3**
	725nm,0.2s						
KURS				S	**Sb**	**09 20 23.0**	**-0.4**
	12µm,0.3s						
KURS	**Kuram**	**0.10**	**311**	ePG	**Pg**	**09 20 20.0**	**-0.3**
KURS				eS	**Sb**	**09 20 23.0**	**-0.4**
ZHN	**Zhinishke**	**0.28**	**155**	⇓eP	**Pg**	**09 20 21.9**	**-1.0**
	baz=61						
ZHN				⇓eS	**Sg**	**09 20 26.1**	**-0.8**
	baz=61						
ZHN	**Zhinishke**	**0.28**	**155**	⇓eP	**Pg**	**09 20 21.9**	**-1.0**
	833nm,0.1s						
ZHN				eS	**Sg**	**09 20 26.1**	**-0.8**
	11µm,0.2s						
ZHN	**Zhinishke**	**0.28**	**155**	P	**Pg**	**09 20 21.9**	**-1.0**
	489nm,0.1s						
ZHN				S	**Sg**	**09 20 26.1**	**-0.8**
	16µm,0.6s						
ZHN	**Zhinishke**	**0.28**	**155**	ePG	**Pg**	**09 20 21.9**	**-1.0**
ZHN				eS	**Sg**	**09 20 26.1**	**-0.8**
KPKS	**Kokpek**	**0.30**	**81**	⇓eP	**Pg**	**09 20 22.1**	**-1.2**
	baz=86						
KPKS				⇓eS	**Sg**	**09 20 26.8**	**-0.8**
	baz=86						
KPKS	**Kokpek**	**0.30**	**81**	⇓eP	**Pg**	**09 20 22.1**	**-1.2**
	10µm,0.2s						
KPKS				eS	**Sg**	**09 20 26.8**	**-0.8**
	14µm,0.2s						
KPKS	**Kokpek**	**0.30**	**81**	ePG	**Pg**	**09 20 22.1**	**-1.2**
KPKS				eS	**Sg**	**09 20 26.8**	**-0.8**
SATY	**Saty**	**0.37**	**165**	⇓eP	**Pg**	**09 20 23.5**	**-1.1**
	baz=69						
SATY				⇓eS	**Sg**	**09 20 29.1**	**-0.7**
	baz=69						
SATY	**Saty**	**0.37**	**165**	⇓eP	**Pg**	**09 20 23.5**	**-1.1**
	2µm,0.1s						
SATY				eS	**Sg**	**09 20 29.1**	**-0.7**
	23µm,0.1s						
SATY	**Saty**	**0.37**	**165**	P	**Pg**	**09 20 23.5**	**-1.1**
	2µm,0.1s						
SATY				S	**Sg**	**09 20 29.1**	**-0.7**
	23µm,0.1s						
SATY	**Saty**	**0.37**	**165**	ePG	**Pg**	**09 20 23.5**	**-1.1**
SATY				eS	**Sg**	**09 20 29.1**	**-0.7**
UZB	**Uzynbulak**	**0.61**	**116**	ePG	**Pg**	**09 20 27.1**	**-1.9**
ANVS	**Anan'yevo**	**0.78**	**215**	⇑iP	**Pg**	**09 20 30.5**	**-1.7**
	baz=15						
ANVS				⇑iS	**Sg**	**09 20 41.6**	**-0.8**
	baz=15						
ARXS	**Arharly**	**0.86**	**338**	eP	**Pb**	**09 20 31.6**	**-2.1**
	117nm,0.1s						
ARXS				eS	**Sb**	**09 20 43.4**	**-1.7**
	764nm,0.3s						
ARXS	**Arharly**	**0.86**	**338**	P	**Pb**	**09 20 31.6**	**-2.1**
	364nm,0.3s						
ARXS				S	**Sb**	**09 20 43.4**	**-1.7**
	764nm,0.3s						
KOTS	**Kotyrbulak**	**0.87**	**258**	⇓eP	**Pb**	**09 20 32.5**	**-1.5**
	baz=57						
KOTS				⇓eS	**Sb**	**09 20 44.7**	**-0.9**
	baz=57						
KOTS	**Kotyrbulak**	**0.87**	**258**	⇓eP	**Pb**	**09 20 32.5**	**-1.5**
	676nm,0.2s						
KOTS				eS	**Sb**	**09 20 44.6**	**-0.9**
	4µm,0.2s						
KOTS	**Kotyrbulak**	**0.87**	**258**	P	**Pb**	**09 20 32.5**	**-1.5**
	1µm,0.2s						
KOTS				S	**Sb**	**09 20 44.6**	**-0.9**
	4µm,0.2s						
KOTS	**Kotyrbulak**	**0.87**	**258**	ePG	**Pb**	**09 20 32.5**	**-1.5**
KOTS				eS	**Sb**	**09 20 44.7**	**-0.9**
PDGK	**Podgornoye**	**0.89**	**96**	P	**Pb**	**09 20 31.8**	**-2.5**
	178nm,0.4s						
PDGK				S	**Sb**	**09 20 43.4**	**-2.7**
	1µm,0.2s						
PDGK	**Podgornoye**	**0.89**	**96**	⇑P	**Pb**	**09 20 31.6**	**-2.7**
	151nm,0.4s						
PDGK				⇑S	**Sb**	**09 20 42.8**	**-3.2**
	878nm,0.3s						
PDGK	**Podgornoye**	**0.89**	**96**	i PG	**Pb**	**09 20 31.6**	**-2.7**
PDGK				pmax	pmax		
	comp=Z,151nm,0.4s						
SHLS	**Shalkode**	**0.90**	**107**	eP	**Pn**	**09 20 37.3**	**+1.9**
	baz=3.0						
SHLS				eS	**Sn**	**09 20 53.2**	**+4.8**
	baz=3.0						
SHLS	**Shalkode**	**0.90**	**107**	eP	**Pn**	**09 20 37.3**	**+1.9**
	comp=Z,77nm,0.3s						
SHLS				eS	**Sn**	**09 20 53.1**	**+4.8**
	comp=Z,984nm,0.4s						
SHLS	**Shalkode**	**0.90**	**107**	P	**Pn**	**09 20 37.3**	**+1.9**
	comp=Z,77nm,0.3s						
SHLS				S	**Sn**	**09 20 53.1**	**+4.8**
	comp=Z,984nm,0.4s						
SHLS	**Shalkode**	**0.90**	**107**	ePG	**Pn**	**09 20 37.3**	**+1.9**
SHLS				eS	**Sn**	**09 20 53.1**	**+4.8**
MDOK	**Medeo**	**0.93**	**254**	eP	**Pb**	**09 20 33.1**	**-2.0**
	baz=53						
MDOK				eS	**Sb**	**09 20 46.1**	**-1.3**
	baz=53						
MDOK	**Medeo**	**0.93**	**254**	eP	**Pb**	**09 20 33.1**	**-2.0**
	comp=Z,253nm,0.3s						
MDOK				eS	**Sb**	**09 20 46.1**	**-1.3**
	comp=Z,1µm,0.2s						
MDOK	**Medeo**	**0.93**	**254**	⇓P	**Pb**	**09 20 33.1**	**-2.0**
	comp=Z,193nm,0.3s						
MDOK				⇓S	**Sb**	**09 20 45.5**	**-1.9**
	comp=Z,571nm,0.4s						
MDOK	**Medeo**	**0.93**	**254**	Pg	**Pb**	**09 20 33.1**	**-2.0**
	comp=Z,717nm,0.2s						
MDOK				Lg	Lg	09 20 46.1	
	comp=Z,1µm,0.2s						
MDOK	**Medeo**	**0.93**	**254**	ePG	**Pb**	**09 20 33.1**	**-2.0**
MDOK				eS	**Sb**	**09 20 46.1**	**-1.3**
PRZ	**Przheval'sk**	**0.94**	**174**	⇑iP	**Pb**	**09 20 33.5**	**-1.7**
	baz=76						
PRZ				⇑iS	**Sb**	**09 20 46.2**	**-1.4**
	baz=76						
KNDC	**Almaty**	**0.98**	**258**	⇑P	**Pb**	**09 20 34.2**	**-1.6**
	comp=Z,583nm,0.3s						
KNDC				⇓S	**Sb**	**09 20 47.9**	**-0.7**
	comp=Z,2µm,0.3s						
KNDC	**Almaty**	**0.98**	**258**	PG	**Pb**	**09 20 34.1**	**-1.6**
KNDC				S	**Sb**	**09 20 47.9**	**-0.7**
AAA	**Alma-Ata**	**1.02**	**258**	eP	**Pb**	**09 20 35.2**	**-1.2**
	baz=57						
AAA				eS	**Sb**	**09 20 49.4**	**-0.3**
	baz=57						
AAA	**Alma-Ata**	**1.02**	**258**	eP	**Pb**	**09 20 35.2**	**-1.2**
	comp=Z,2µm,0.1s						
AAA				eS	**Sb**	**09 20 49.4**	**-0.3**
	comp=Z,282nm,0.3s						
AAA	**Alma-Ata**	**1.02**	**258**	P	**Pb**	**09 20 35.2**	**-1.2**
	comp=Z,2µm,0.1s						
AAA				S	**Sb**	**09 20 49.4**	**-0.3**
	comp=Z,282nm,0.3s						
AAA	**Alma-Ata**	**1.02**	**258**	ePG	**Pb**	**09 20 35.2**	**-1.2**
AAA				eS	**Sb**	**09 20 49.4**	**-0.3**
CHKK	**Chushkaly**	**1.03**	**295**	eP	**Pb**	**09 20 34.7**	**-2.0**
	baz=94						
CHKK				eS	**Sb**	**09 20 48.5**	**-1.6**
	baz=94						
CHKK	**Chushkaly**	**1.03**	**295**	eP	**Pb**	**09 20 34.7**	**-2.0**
	comp=Z,12nm,0.1s						
CHKK				eS	**Sb**	**09 20 48.5**	**-1.6**
	comp=Z,3µm,0.2s						
CHKK	**Chushkaly**	**1.03**	**295**	P	**Pb**	**09 20 34.7**	**-2.0**
	comp=Z,119nm,0.2s						
CHKK				S	**Sb**	**09 20 48.5**	**-1.6**
	comp=Z,3µm,0.2s						
CHKK	**Chushkaly**	**1.03**	**295**	ePG	**Pb**	**09 20 34.7**	**-2.0**
CHKK				eS	**Sb**	**09 20 48.5**	**-1.6**
TNSS	**Tian-Shan**	**1.04**	**249**	P	**Pb**	**09 20 34.9**	**-2.3**
	comp=Z,351nm,0.2s						
TNSS				S	**Sb**	**09 20 49.1**	**-1.7**
	comp=Z,925nm,0.2s						
KTBS	**Karatobe**	**1.20**	**285**	⇓eP	**Pn**	**09 20 37.6**	**-1.8**
	baz=83						
KTBS				⇓eS	**Sb**	**09 20 53.7**	**-1.1**
	baz=83						
KTBS	**Karatobe**	**1.20**	**285**	⇓eP	**Pn**	**09 20 37.6**	**-1.8**
	comp=Z,53nm,0.1s						
KTBS				eS	**Sb**	**09 20 53.7**	**-1.1**
	comp=Z,5µm,0.2s						
KTBS	**Karatobe**	**1.20**	**285**	P	**Pn**	**09 20 37.8**	**-1.6**
	comp=Z,740nm,0.2s						
KTBS				S	**Sb**	**09 20 53.7**	**-1.1**
	comp=Z,5µm,0.2s						
KTBS	**Karatobe**	**1.20**	**285**	ePG	**Pn**	**09 20 37.6**	**-1.8**
KTBS				eS	**Sb**	**09 20 53.7**	**-1.1**
IZV	**Izvestkoviy**	**1.28**	**253**	eP	**Pn**	**09 20 39.5**	**-1.1**
	baz=52						
IZV				eS	**Sb**	**09 20 56.7**	**-0.6**
	baz=52						
IZV	**Izvestkoviy**	**1.28**	**253**	eP	**Pn**	**09 20 39.5**	**-1.1**
	comp=Z,90nm,0.1s						
IZV				eS	**Sb**	**09 20 56.7**	**-0.6**
	comp=Z,841nm,0.2s						
IZV	**Izvestkoviy**	**1.28**	**253**	P	**Pn**	**09 20 39.5**	**-1.1**
	comp=Z,213nm,0.3s						
IZV				S	**Sb**	**09 20 56.7**	**-0.6**
	comp=Z,841nm,0.2s						
IZV	**Izvestkoviy**	**1.28**	**253**	ePG	**Pn**	**09 20 39.5**	**-1.1**
IZV				eS	**Sb**	**09 20 56.7**	**-0.6**
MTBS	**Maitube**	**1.38**	**258**	⇓eP	**Pn**	**09 20 41.0**	**-1.0**
	baz=58						
MTBS				⇓eS	**Sb**	**09 20 59.7**	**-0.5**
	baz=58						
MTBS	**Maitube**	**1.38**	**258**	⇓eP	**Pn**	**09 20 41.0**	**-1.0**
	comp=Z,215nm,0.2s						
MTBS				eS	**Sb**	**09 20 59.6**	**-0.5**
	comp=Z,1µm,0.2s						
MTBS	**Maitube**	**1.38**	**258**	P	**Pn**	**09 20 41.3**	**-0.7**
	comp=Z,740nm,0.3s						
MTBS				S	**Sb**	**09 20 59.6**	**-0.5**
	comp=Z,1µm,0.2s						
MTBS	**Maitube**	**1.38**	**258**	ePG	**Pn**	**09 20 41.0**	**-1.0**
MTBS				eS	**Sb**	**09 20 59.7**	**-0.5**
DJR	**Jarkent**	**1.42**	**50**	eP	**Pn**	**09 20 41.3**	**-1.3**
	comp=Z,20nm,0.3s						
DJR				eS	**Sn**	**09 20 59.8**	**-1.3**
	comp=Z,823nm,0.3s						
DJR	**Jarkent**	**1.42**	**50**	P	**Pn**	**09 20 41.5**	**-1.0**
	comp=Z,151nm,0.4s						
DJR				S	**Sn**	**09 20 59.8**	**-1.3**
	comp=Z,823nm,0.3s						
DJR	**Jarkent**	**1.42**	**50**	ePG	**Pn**	**09 20 41.3**	**-1.3**
DJR				eS	**Sn**	**09 20 59.8**	**-1.3**
KUU	**Kurty**	**1.48**	**289**	⇓eP	**Pn**	**09 20 42.5**	**-0.8**
	baz=88						
KUU				⇓eS	**Sn**	**09 21 01.9**	**-0.6**
	baz=88						
KUU	**Kurty**	**1.48**	**289**	⇓eP	**Pn**	**09 20 42.5**	**-0.8**
	comp=Z,154nm,0.2s						
KUU				eS	**Sn**	**09 21 01.9**	**-0.6**
	comp=Z,2µm,0.3s						
KUU	**Kurty**	**1.48**	**289**	P	**Pn**	**09 20 42.5**	**-0.8**
	comp=Z,154nm,0.2s						
KUU				S	**Sn**	**09 21 01.9**	**-0.6**
	comp=Z,2µm,0.3s						
KUU	**Kurty**	**1.48**	**289**	ePG	**Pn**	**09 20 42.5**	**-0.8**
KUU				eS	**Sn**	**09 21 01.9**	**-0.6**
KTMS	**Ketmen**	**1.51**	**88**	eP	**Pn**	**09 20 42.4**	**-1.4**
	baz=89						
KTMS				eS	**Sn**	**09 21 01.9**	**-1.5**
	baz=89						
KTMS	**Ketmen**	**1.51**	**88**	eP	**Pn**	**09 20 42.4**	**-1.4**
	comp=Z,0.2nm,0.1s						
KTMS				eS	**Sn**	**09 21 01.9**	**-1.5**
	comp=Z,1µm,0.2s						
KTMS	**Ketmen**	**1.51**	**88**	P	**Pn**	**09 20 42.4**	**-1.4**
	comp=Z,0.6nm,0.1s						
KTMS				S	**Sn**	**09 21 01.9**	**-1.5**
	comp=Z,1µm,0.2s						
KTMS	**Ketmen**	**1.51**	**88**	ePG	**Pn**	**09 20 42.4**	**-1.4**
KTMS				eS	**Sn**	**09 21 01.9**	**-1.5**
KDJ	**Kajisay**	**1.52**	**212**	⇓iP	**Pn**	**09 20 43.6**	**-0.4**
	baz=12						
KDJ				⇓iS	**Sb**	**09 21 03.8**	**-0.5**
	baz=12						
TDK	**Taldyqorghan**	**1.58**	**3**	eP	**Pn**	**09 20 44.6**	**-0.1**
	comp=Z,133nm,0.3s						
TDK				eS	**Sb**	**09 21 05.3**	**-0.7**
	comp=Z,3µm,0.5s						
TDK	**Taldyqorghan**	**1.58**	**3**	P	**Pn**	**09 20 44.6**	**-0.1**
	comp=Z,445nm,0.3s						
TDK				S	**Sb**	**09 21 05.3**	**-0.7**
	comp=Z,3µm,0.5s						
TDK	**Taldyqorghan**	**1.58**	**3**	ePN	**Pn**	**09 20 44.6**	**-0.1**
TDK				eS	**Sb**	**09 21 05.3**	**-0.7**
TARG	**Taragay, Kyrgy**	**1.73**	**192**	⇑iP	**Pb**	**09 20 47.7**	**-1.0**
	baz=92						
TARG				⇑iS	**Sg**	**09 21 11.2**	**-1.4**
	baz=92						
KST	**Kastek**	**1.73**	**258**	⇓eP	**Pn**	**09 20 46.9**	**+0.1**
	baz=58						
KST				⇓eS	**Sb**	**09 21 10.2**	**-0.1**
	baz=58						
KST	**Kastek**	**1.73**	**258**	⇓eP	**Pn**	**09 20 46.9**	**+0.1**
	comp=Z,656nm,0.4s						
KST				eS	**Sb**	**09 21 10.2**	**-0.1**
	comp=Z,769nm,0.3s						
KST	**Kastek**	**1.73**	**258**	P	**Pn**	**09 20 46.7**	**-0.2**
	comp=Z,656nm,0.4s						
KST				S	**Sb**	**09 21 10.2**	**-0.1**
	comp=Z,769nm,0.3s						
KST	**Kastek**	**1.73**	**258**	ePN	**Pn**	**09 20 46.9**	**+0.1**
KST				eS	**Sb**	**09 21 10.2**	**-0.1**
DGS	**Degeres**	**1.84**	**265**	⇓eP	**Pn**	**09 20 48.3**	**+0.1**
	baz=65						
DGS				⇓eS	**Sb**	**09 21 12.7**	**-0.6**
	baz=65						
DGS	**Degeres**	**1.84**	**265**	⇓eP	**Pn**	**09 20 48.3**	**+0.1**
	comp=Z,102nm,0.2s						
DGS				eS	**Sb**	**09 21 12.7**	**-0.6**
	comp=Z,1µm,0.5s						
DGS	**Degeres**	**1.84**	**265**	P	**Pn**	**09 20 48.3**	**+0.1**
	comp=Z,622nm,0.3s						
DGS				S	**Sb**	**09 21 12.7**	**-0.6**
	comp=Z,1µm,0.5s						
DGS	**Degeres**	**1.84**	**265**	ePN	**Pn**	**09 20 48.3**	**+0.1**
DGS				eS	**Sb**	**09 21 12.7**	**-0.6**
ULHL	**Ulahol**	**1.90**	**233**	⇑iP	**Pb**	**09 20 50.1**	**-1.5**
	baz=32						
ULHL				⇑iS	**Sb**	**09 21 14.5**	**-0.8**
	baz=32						
ULHL	**Ulahol**	**1.90**	**233**	P	**Pb**	**09 20 50.2**	**-1.4**
	SNR=190						
KRBS	**Karabastau**	**1.91**	**279**	⇓eP	**Pn**	**09 20 49.3**	**+0.1**
	baz=78						
KRBS				⇓eS	**Sb**	**09 21 15.0**	**-0.4**
	baz=78						
KRBS	**Karabastau**	**1.91**	**279**	⇓eP	**Pn**	**09 20 49.3**	**+0.1**
	comp=Z,168nm,0.4s						
KRBS				eS	**Sb**	**09 21 15.0**	**-0.4**
	comp=Z,1µm,0.4s						
KRBS	**Karabastau**	**1.91**	**279**	Pg	**Pn**	**09 20 49.3**	**+0.1**
	comp=Z,168nm,0.4s						
KRBS				Lg	Lg	09 21 15.0	
	comp=Z,1µm,0.4s						
KRBS	**Karabastau**	**1.91**	**279**	ePN	**Pn**	**09 20 49.3**	**+0.1**
KRBS				eS	**Sb**	**09 21 15.0**	**-0.4**
BOOM	**Boomskoye usch**	**1.95**	**242**	⇑iP	**Pn**	**09 20 50.6**	**+0.7**
	baz=42						
BOOM				⇑iS	**Sb**	**09 21 15.7**	**-1.0**
	baz=42						
KAPS	**Kapalarasan**	**2.02**	**22**	⇓eP	**Pb**	**09 20 51.6**	**-1.9**
	comp=Z,13nm,0.1s						
KAPS				eS	**Sb**	**09 21 18.3**	**-0.2**
	comp=Z,466nm,0.3s						
KAPS	**Kapalarasan**	**2.02**	**22**	Pg	**Pb**	**09 20 52.3**	**-1.3**
	comp=Z,110nm,0.4s						
KAPS				Lg	Lg	09 21 18.3	
	comp=Z,466nm,0.3s						
KAPS	**Kapalarasan**	**2.02**	**22**	ePN	**Pb**	**09 20 51.6**	**-1.9**
KAPS				eS	**Sb**	**09 21 18.3**	**-0.2**
TKM2	**Tokmak 2**	**2.02**	**257**	⇑iP	**Pn**	**09 20 51.2**	**+0.3**
	baz=56						
TKM2				⇑iS	**Sn**	**09 21 16.8**	**+0.7**
	baz=56						
TKM2	**Tokmak 2**	**2.02**	**257**	P	**Pn**	**09 20 51.7**	**+0.8**
	SNR=118						
TKM2	**Tokmak 2**	**2.02**	**257**	⇓Pn	**Pn**	**09 20 50.7**	**-0.2**
	comp=Z,177nm,0.3s						
TKM2				⇓Sn	**Sb**	**09 21 18.8**	**-0.1**
	comp=Z,475nm,0.4s						
TKM2	**Tokmak 2**	**2.02**	**257**	i PN	**Pn**	**09 20 50.7**	**-0.2**
TKM2				pmax	pmax		
	comp=Z,177nm,0.3s						
KBK	**Karagaybulak**	**2.56**	**254**	⇑iP	**Pn**	**09 20 58.6**	**+0.4**
	baz=53						
KBK				⇑iS	**Sn**	**09 21 29.9**	**+0.7**
	baz=53						
KBK	**Karagaybulak**	**2.56**	**254**	P	**Pn**	**09 20 58.6**	**+0.4**
	SNR=36						
KZA	**Kyzart**	**2.60**	**240**	⇑iP	**Pn**	**09 20 59.6**	**+0.6**
	baz=40						
KZA				⇑iS	**Sn**	**09 21 31.3**	**+0.6**
	baz=40						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KZA	Kyzart	2.60	240	P	Pb	09 21 01.3	-2.4
	SNR=140						
CHMS	Chumysh	2.61	262	⇑eP	Pn	09 20 59.5	+0.7
	baz=61						
CHMS				⇑iS	Sn	09 21 30.8	+0.4
	baz=61						
CHMS	Chumysh	2.61	262	P	Pn	09 20 58.3	-0.6
	SNR=15						
SGDS	Sogindy	2.66	272	Pg	Pb	09 21 02.9	-1.5
	comp=Z,41nm,0.3s						
SGDS				Lg	Lg	09 21 36.8	
	comp=Z,190nm,0.3s						
SGDS	Sogindy	2.66	272	ePN	Pn	09 20 58.6	-0.9
FRU1	Bishkek	2.74	258	⇑iP	Pn	09 21 00.8	+0.2
	baz=58						
FRU1				⇑iS	Sn	09 21 33.5	-0.1
	baz=58						
USP	Ospenovka	2.76	268	⇑iP	Pn	09 21 01.5	+0.6
	baz=68						
USP				⇑iS	Sn	09 21 34.1	+0.1
	baz=68						
USP	Ospenovka	2.76	268	P	Pn	09 20 59.9	-1.0
	SNR=24						
AAK	Ala-Archa	2.88	256	Pn	Pn	09 21 02.2	-0.5
	comp=Z,13nm,0.3s,baz=112,slow=8.6,SNR=44						
AAK				Lg	Lg	09 21 42.5	
	comp=Z,23nm,0.3s,baz=260,slow=20,SNR=17						
AAK	Ala-Archa	2.88	256	⇑iP	Pn	09 21 03.0	+0.4
	baz=55						
AAK				⇑iS	Sn	09 21 37.5	+0.3
	baz=55						
AAK	Ala-Archa	2.88	256	P	Pn	09 21 03.3	+0.7
	SNR=18						
AAK	Ala-Archa	2.88	256	⇑Pn	Pn	09 21 03.0	+0.4
	comp=Z,31nm,0.3s						
AAK				⇑Lg	Lg	09 21 43.6	
	comp=Z,141nm,0.6s						
AAK	Ala-Archa	2.88	256	d iPN	Pn	09 21 03.1	+0.4
AAK				eS	Sn	09 21 36.7	-0.5
AAK				pmax	pmax		
	comp=Z,202nm,0.3s						
AAK				smax	smax		
	comp=Z,349nm,0.7s						
ARLS	Aral	3.31	243	⇑iP	Pn	09 21 09.1	+0.6
	baz=43						
ARLS				⇑iS	Sn	09 21 47.7	0.0
	baz=43						
EKS2	Erkin-Say	3.38	259	P	Pn	09 21 09.4	-0.1
	SNR=12						
BTLS	Baital	3.45	299	eP	Pb	09 21 18.3	+0.5
	comp=Z,2.6nm,0.2s						
BTLS				eS	Sb	09 22 02.4	+2.9
	comp=Z,53nm,0.2s						
BTLS	Baital	3.45	299	ePN	Pn	09 21 09.4	-0.8
AML	Almayashu	3.61	251	⇑iP	Pn	09 21 13.6	+0.7
	baz=50						
AML				⇑iS	Sn	09 21 55.2	-0.3
	baz=50						
AML	Almayashu	3.61	251	P	Pn	09 21 14.5	+1.6
	SNR=5.1						
MRKS	Merke	3.76	261	eP	Pb	09 21 23.4	+0.2
	comp=Z,3.5nm,0.2s						
MRKS				eS	Sb	09 22 12.3	+3.6
	comp=Z,120nm,0.3s						
MRKS	Merke	3.76	261	Pg	Pb	09 21 23.6	+0.4
	comp=Z,68nm,0.6s						
MRKS				Lg	Lg	09 22 12.3	
	comp=Z,120nm,0.3s						
KSH	Kashi	4.27	205	P	Pn	09 21 26.1	+4.4
KSH				S	Sn	09 22 09.0	-2.3
KSH				smax	smax		
	comp=N,100nm,0.7s						
KSH				smax	smax		
	comp=E,61nm,0.8s						
MAKZ	Makanchi	4.28	36	⇑Pn	Pn	09 21 21.8	0.0
	comp=E,2.4nm,0.5s						
MAKZ				⇑Pg	Pg	09 21 35.5	-3.5
	comp=E,14nm,0.5s						
MAKZ				⇑Lg	Lg	09 22 24.9	
	comp=E,74nm,1.1s						
MAKZ	Makanchi	4.28	36	PN	Pn	09 21 21.7	0.0
MAKZ						09 21 35.4	
MAKZ						09 22 24.8	
MK31	Makanchi Array	4.41	39	⇑Pn	Pn	09 21 23.5	0.0
	comp=E,3.1nm,0.3s,baz=202,slow=33,SNR=165						
MK31				⇓Pg	Pg	09 21 38.4	-3.0
	comp=E,3.8nm,0.3s,baz=218,slow=15,SNR=15						
MK31				⇑Lg	Lg	09 22 30.6	
	comp=E,17nm,0.5s,baz=220,slow=29,SNR=2.6						
MK31	Makanchi Array	4.41	39	d iPN	Pn	09 21 23.2	-0.3
MKAR	Makanchi Array	4.41	39	Pn	Pn	09 21 23.3	-0.2
	comp=E,2.4nm,0.3s,baz=217,slow=15,SNR=38						
MKAR				Sn	Sb	09 22 20.4	-6.9
	comp=E,3.3nm,0.3s,baz=214,slow=19,SNR=5.4						
MKAR				Lg	Lg	09 22 29.6	
	comp=E,8.5nm,0.3s,baz=221,slow=29,SNR=7.0						
MKAR	Makanchi Array	4.41	39	i PN	Pn	09 21 25.1	+1.6
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.4s						
DZA	Taraz	5.11	266	eP	Pb	09 21 49.8	+3.6
	comp=Z,22nm,0.1s						
DZA				eS	Sg	09 22 57.3	-3.7
	comp=Z,140nm,0.3s						
KK31	Karatay Array	5.68	269	⇑Pg	Pb	09 21 58.7	+2.8
	comp=Z,4.4nm,0.5s,baz=77,slow=14,SNR=18						
KK31				Lg	Lg	09 23 14.9	
	comp=Z,17nm,0.4s,baz=84,slow=27,SNR=14						
ZSN	Zaisan	6.14	47	eP	Pb	09 22 04.8	+1.1
	comp=Z,7.6nm,0.4s						
ZSN				eS	Sb	09 23 24.9	+7.9
	comp=Z,9.5nm,0.4s						
ZSN	Zaisan	6.14	47	Pg	Pb	09 22 04.8	+1.1
	comp=Z,7.6nm,0.4s						
ZSN				Lg	Lg	09 23 24.9	
	comp=Z,15nm,0.7s						
BRLS	Borolday	6.18	269	eP	Pg	09 22 11.3	-3.9
	comp=Z,0.5nm,0.1s						
BRLS				eS	Sg	09 23 34.1	-1.2
	comp=Z,37nm,0.8s						
BRLS	Borolday	6.18	269	Pg	Pg	09 22 11.4	-3.9
	comp=Z,2.0nm,0.6s						
BRLS				Lg	Lg	09 23 34.1	
	comp=Z,37nm,0.8s						
IUG	Iuzhnay	6.20	261	eP	Pb	09 22 08.3	+3.5
	comp=Z,73nm,0.6s						
IUG				eS	Sg	09 23 29.9	-6.0
	comp=Z,69nm,1.0s						
IUG	Iuzhnay	6.20	261	Pg	Pb	09 22 09.0	+4.2
	comp=Z,391nm,0.4s						
IUG				Lg	Lg	09 23 29.9	
	comp=Z,69nm,1.0s						
KURBB	Kurchatov Arra	7.21	1	Pn	Pn	09 22 04.9	+3.0
	comp=Z,0.1nm,0.3s,baz=185,slow=12,SNR=3.2						
KURBB				Sn	Sn	09 23 29.5	+6.0
	comp=Z,0.3nm,0.3s,baz=193,slow=30,SNR=4.9						
KURBB				Lg	Lg	09 24 00.6	
	comp=Z,0.8nm,0.3s,baz=192,slow=27,SNR=12						
KURBB	Kurchatov Arra	7.21	1	⇑Pg	Pg	09 22 38.6	+3.7
	comp=Z,1.6nm,0.3s						
KURBB				⇑Lg	Lg	09 24 02.9	
	comp=Z,101nm,0.7s						
KURK	Kurchatov	7.30	2	P	Pn	09 22 04.9	+1.7
KURK						09 23 29.5	
BRZS	Berezniki	7.61	332	eP	Pb	09 22 37.5	+8.9
	comp=Z,3.1nm,0.2s						
BRZS				eS	Sb	09 24 20.8	+22
	comp=Z,24nm,0.5s						
BRZS	Berezniki	7.61	332	Pg	Pb	09 22 37.0	+8.3
	comp=Z,5.6nm,0.3s						
BRZS				Lg	Lg	09 24 17.8	
	comp=Z,23nm,0.8s						
DGZ	Jazzator, Alta	8.90	42	⇑eP	Pn	09 22 28.9	+3.7
BVA1	Borovoye Array	10.95	334	⇓Lg	Lg	09 26 06.3	
	comp=Z,13nm,0.8s						
BVAR	Borovoye Array	10.95	334	Pn	Pn	09 22 54.7	+1.6
	comp=Z,1.2nm,0.3s,baz=165,slow=17,SNR=9.8						
BVAR				Sn	Sn	09 24 50.3	-5.0
	comp=Z,0.7nm,0.3s,baz=161,slow=23,SNR=3.6						
BRVK	Borovoye	11.01	334	ceP	Pn	09 22 56.8	+2.8
ZALV	Zalesovo Beam	11.38	20	Pn	Pn	09 23 01.2	+2.2
	comp=Z,0.6nm,0.3s,baz=209,slow=15,SNR=8.1						
ZALV				Sn	Sn	09 25 10.6	+4.8
	comp=Z,0.6nm,0.3s,baz=225,slow=18,SNR=1.8						
ZALV				Lg	Lg	09 26 16.4	
	comp=Z,0.7nm,0.3s,baz=190,slow=25,SNR=3.9						
ZALV	Zalesovo Beam	11.38	20	i P	Pn	09 23 03.4	+4.4
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AB31	Akbulak array	13.93	301	⇑P	P	09 23 44.8	+2.9
	comp=Z,1.2nm,0.5s,baz=355,slow=12,SNR=14						
AKTO	Aktyubinsk	15.49	304	Sn	Sn	09 26 43.0	-3.1
	comp=Z,0.1nm,0.3s,baz=320,slow=16,SNR=1.4						
AKTO				Lg	Lg	09 28 25.3	
	comp=Z,0.1nm,0.3s,baz=18,slow=20,SNR=1.3						
KIV	Kislovodsk	25.62	284	eP	P	09 25 48.1	+2.1
KIV				e		09 26 22.5	
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
OBN	Obninsk	29.18	308	eP	P	09 26 18.5	+0.9
OBN				e		09 27 11.0	
OBN				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BILL	Bilibino	49.89	29	eP	P	09 29 09.4	-0.1
BILL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
TORD	Torodi Ar. Bea	71.37	271	P	P	09 31 32.8	-3.9
	comp=Z,0.3nm,0.5s,baz=45,slow=5.7,SNR=2.6						

KRSC 04 09:20:27.8±3.8, 48°.60N×156°.65E, h7km±42km, ML4.0,
East of Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.12	351	eP	Pn	09 21 02.4	-1.2
SKR				eS	Sn	09 21 29.2	-1.0
PAU	Pauzhetka	2.87	2	eS	Sn	09 21 51.7	+2.8
KDTR	Khodutka, Kamc	3.34	15	eP	Pb	09 21 24.1	-3.3
KDTR				eS	Sb	09 22 06.2	-2.0
ASAK	Asacha	3.87	11	eP	Pn	09 21 31.3	+3.4
MTVR	Mutnovka	4.01	14	eP	Pn	09 21 33.4	+3.6
MTVR				eS	Sb	09 22 23.7	-3.9
RUS	Russkaya	4.02	16	eP	Pn	09 21 32.9	+3.1
RUS				eS	Sn	09 22 21.9	+4.8
GRL	Gorelyy	4.06	12	eP	Pn	09 21 34.6	+4.1
GRL				eS	Sb	09 22 25.2	-3.8
UGLR	Uglovaya	4.82	16	eP	Pb	09 21 47.3	-5.3
AVH	Avacha	4.86	15	eP	Pn	09 21 47.0	+5.6
KOK	Koryaka	4.86	14	eP	Pn	09 21 47.2	+5.7
KRX	Arik	4.93	14	eP	Pn	09 21 48.0	+5.5
GNL	Ganaly	5.17	9	eP	Pn	09 21 49.0	+3.3
MKZ	Mys Kozlova	6.75	26	eP	Pn	09 22 10.7	+3.4
TUMR	Tumrok	7.03	17	eP	Pn	09 22 18.1	+6.8

*JMA **04** 09:23:00.3±0.1, 29°.30N×130°.46E, h44km, M3.4*
*IDC **04** 09:23:02.5±1.8, 29°.35N×130°.52E, h63km±14km, mb3.5/8, mb1 3.5/12, mb1mx3.3/56, mbtmp3.7/12, MS3.2/9, Ms1 3.2/9, ms1mx2.8/39, Error ellipse: s-maj=29.2km s-min=9.2km az=105.0*
ISC 04 09:22:59.1±0.8**, 29°.26N**±0°.04×**130°.61E**±0°.07**, h34km, n34, σ1^{s}54**/32**, mb3.9**/8**, MS3.2**/7**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.86	312	P	Pb	09 23 14.7	-1.1
JYAK	Yakushimahirau	0.98	355	P	Pb	09 23 17.3	-0.4
JZK	Kikaishima	1.09	211	P	Pn	09 23 19.5	+1.4
JMTN	Minamitane	1.16	12	P	Pb	09 23 20.3	-0.5
JMTN				eS	Sb	09 23 36.4	+0.8
JAM	Amami Oshima	1.22	226	P	Pn	09 23 20.2	+0.4
JTAJ	Takarajima	1.23	265	P	Pb	09 23 20.2	-1.7
JKC	Kuchinoerabu	1.25	343	P	Pb	09 23 20.9	-1.3
JKC				eS	Sb	09 23 37.5	-0.6
JTN	Tanegashima 3	1.43	13	P	Pb	09 23 24.0	-1.2
JAMN	Amaminishikomi	1.62	232	P	Pn	09 23 25.7	+0.5
JTSR	Tashiro 2	1.92	8	P	Pb	09 23 31.3	-2.3
JTK	Tokunoshima	2.07	225	P	Pn	09 23 32.2	+0.7
JTK				eS	Sn	09 23 55.7	-0.4
JSU	Suzuyama	2.24	357	P	Pn	09 23 34.9	+1.0
JOKE	Okinoerabujima	2.61	224	P	Pn	09 23 39.6	+0.7
JYRO	Yoronjima	2.93	221	P	Pn	09 23 43.8	+0.5
JOW	Kunigami	3.18	221	P	Pn	09 23 49.7	+3.0
	4.8nm,0.3s,baz=139,slow=24,SNR=15						
JOW				S	Sn	09 24 28.1	+4.6
	5.5nm,0.3s,baz=192,slow=28,SNR=3.6						
JKDJ	Kitadaitoujima	3.35	169	S	Sn	09 24 25.7	-2.0
JNU	Nakatsue	3.86	3	P	Pn	09 23 58.1	+2.0
	3.1nm,0.3s,baz=199,slow=1.8,SNR=28						
JNU				S	Sn	09 24 42.2	+2.0
	2.3nm,0.3s,baz=64,slow=21,SNR=7.8						
KSRS	Korea Array	8.48	345	P	Pn	09 25 00.2	+0.8
	0.2nm,0.3s,baz=169,slow=13,SNR=2.2						
KSRS				LR	LR	09 28 34.3	
	comp=Z,74nm,19.2s,baz=175,slow=40						
JCJ	Chichijima	10.44	99	LR	LR	09 28 57.0	
	comp=Z,53nm,19.6s,baz=148,slow=34						
KLR	Kul'dur	19.96	2	P	P	09 27 28.5	+0.2
	0.3nm,0.3s,baz=145,slow=4.6,SNR=5.3						
GUMO	Guam	20.44	137	LR	LR	09 33 45.2	
	comp=Z,38nm,20.3s,baz=353,slow=31						
SONM	Songino Array	26.33	321	LR	LR	09 40 19.0	
	comp=Z,71nm,18.2s,baz=162,slow=40						
CMAR	Chiang Mai Arr	30.80	257	LR	LR	09 42 01.2	
	comp=Z,24nm,18.2s,baz=185,slow=37						
MKAR	Makanchi Array	41.19	309	P	P	09 30 40.3	-0.1
	0.2nm,0.4s,baz=91,slow=10,SNR=4.8						
KURBB	Kurchatov Arra	44.20	314	P	P	09 31 04.3	-0.5
	1.6nm,0.5s,baz=99,slow=8.9,SNR=13						
WRA	Warramunga Arr	49.05	175	P	P	09 31 43.8	+0.8
	0.4nm,0.7s,baz=354,slow=7.8,SNR=2.1						
BVAR	Borovoye Array	49.48	316	P	P	09 31 45.4	-0.6
	1.3nm,0.6s,baz=145,slow=8.2,SNR=5.4						
ASAR	Alice Springs	52.72	176	P	P	09 32 12.1	+1.5
	0.2nm,0.6s,baz=11,slow=10,SNR=4.6						
ARU	Arti	56.36	321	LR	LR	09 58 58.2	
	comp=Z,23nm,22.0s,baz=42,slow=38						
AKTO	Aktyubinsk	57.25	313	LR	LR	09 59 12.8	
	comp=Z,48nm,18.9s,baz=58,slow=38						
BELG	Belogornoye	63.28	317	LR	LR	10 01 59.5	
	comp=Z,19nm,18.9s,baz=131,slow=37						
FINES	FINESS Array B	71.27	331	P	P	09 34 13.7	-1.1
	0.5nm,0.3s,baz=65,slow=4.9,SNR=5.5						
FINES				LR	LR	10 09 13.3	
	comp=Z,20nm,18.1s,baz=336,slow=39						
AKASG	Malin Array Be	74.60	320	P	P	09 34 33.1	-1.6
	0.7nm,0.4s,baz=59,slow=6.1,SNR=3.8						
BRTR	Keskin Array B	76.84	308	P	P	09 34 47.8	0.0
	0.8nm,0.7s,baz=101,slow=6.3,SNR=4.7						

*KRNET **04** 09:30:57.4±0.1, 41°.95N×78°.53E, h10km, mb2.7*
*NNC **04** 09:30:58.9±0.8, 42°.03N×78°.58E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=5.6km s-min=2.7km az=164.0, Suspected Mining explosion.*
*SOME **04** 09:30:58.0, 42°.03N×78°.50E, h5km*
ISC 04 09:30:57.5±1.1**, 41°.95N**±0°.04×**78°.53E**±0°.03**, h0km, n46, σ1^{s}05**/80**, 12C-6D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRZ	Przheval'sk	0.55	350	⇓iP	Pg	09 31 07.7	-0.3
	baz=50						
PRZ				⇓iS	Sg	09 31 15.9	+0.9
	baz=50						
TARG	Taragay, Kyrgy	0.58	248	⇓iP	Pg	09 31 08.5	-0.1
	baz=48						
TARG				⇓iS	Sg	09 31 16.7	+0.6
	baz=48						
KDJ	Kajisay	1.02	281	⇑iP	Pg	09 31 16.6	-0.4
	baz=81						
KDJ				⇑iS	Sg	09 31 30.3	+0.1
	baz=81						
ANVS	Anan'yevo	1.05	323	⇑iP	Pg	09 31 17.6	0.0
	baz=23						
ANVS				⇑iS	Sg	09 31 31.7	+0.4
	baz=23						
SATY	Saty	1.12	355	eP	Pg	09 31 18.1	-0.8
	0.7nm,0.1s						
SATY				eS	Sg	09 31 32.8	-0.6
	36nm,0.1s						
SATY	Saty	1.12	355	P	Pg	09 31 18.1	-0.8
	3.1nm,0.1s						
SATY				S	Sg	09 31 32.8	-0.6
	36nm,0.1s						
UZB	Uzynbulak	1.26	17	eP	Pg	09 31 20.4	-1.1
	3.5nm,0.2s						
UZB				eS	Sg	09 31 36.7	-1.1
	5.3nm,0.1s						
UZB	Uzynbulak	1.26	17	P	Pg	09 31 20.5	-1.1
	4.9nm,0.2s						
UZB				S	Sg	09 31 36.7	-1.1
	5.3nm,0.1s						
SHLS	Shalkode	1.40	29	eP	Pb	09 31 26.7	+2.3
	3.0nm,0.1s						
SHLS				eS	Sn	09 31 47.6	+4.1
	25nm,0.4s						
SHLS	Shalkode	1.40	29	P	Pb	09 31 26.8	+2.3
	6.9nm,0.2s						
SHLS				S	Sn	09 31 47.6	+4.1
	25nm,0.4s						
KPKS	Kokpek	1.52	4	eP	Pn	09 31 25.7	-0.4
	7.7nm,0.2s						
KPKS				eS	Sg	09 31 45.8	-0.7
	14nm,0.3s						
PDGK	Podgornoye	1.56	27	P	Pn	09 31 25.7	-0.9
	3.2nm,0.2s						
PDGK				S	Sg	09 31 46.3	-1.2
	6.5nm,0.4s						
PDGK	Podgornoye	1.56	27	⇓P	Pn	09 31 24.7	-1.8
	1.1nm,0.2s						
PDGK				⇑S	Sg	09 31 45.2	-2.2
	1.7nm,0.2s						
KURS	Kuram	1.56	350	eP	Pb	09 31 26.9	-0.4
	0.5nm,0.3s						
KURS				eS	Sg	09 31 48.0	+0.2
	4.9nm,0.3s						
KURS	Kuram	1.56	350	P	Pb	09 31 27.0	-0.4
	3.6nm,0.4s						
KURS				S	Sg	09 31 48.0	+0.2
	4.2nm,0.3s						
TNSS	Tian-Shan	1.60	314	P	Pg	09 31 27.9	-0.2
	6.1nm,0.1s						
TNSS				S	Sb	09 31 49.6	+0.5
	22nm,0.1s						
MDOK	Medeo	1.64	319	eP	Pn	09 31 27.7	+0.1
	5.6nm,0.3s						
MDOK				eS	Sn	09 31 49.2	-0.3
	6.0nm,0.3s						
MDOK	Medeo	1.64	319	Pg	Pn	09 31 27.7	+0.1
	5.6nm,0.3s						
MDOK				Lg	Lg	09 31 49.2	
	6.0nm,0.3s						
ULHL	Ulahol	1.73	281	⇑iP	Pb	09 31 29.7	-0.5
	baz=81						
ULHL				⇑iS	Sb	09 31 52.5	0.0
	baz=81						
IZV	Izvestkoviy	1.79	308	eP	Pb	09 31 31.0	-0.2
	4.0nm,0.1s						
IZV				eS	Sg	09 31 55.0	+0.1
	26nm,0.4s						
IZV	Izvestkoviy	1.79	308	P	Pb	09 31 31.0	-0.2
	8.9nm,0.2s						
IZV				S	Sg	09 31 55.0	+0.1
	42nm,0.3s						
MTBS	Maitube	1.95	308	eP	Pb	09 31 33.5	-0.4
	4.7nm,0.2s						
MTBS				eS	Sg	09 31 59.6	-0.6
	22nm,0.4s						
MTBS	Maitube	1.95	308	Pg	Pb	09 31 33.5	-0.4
	8.7nm,0.4s						
MTBS				Lg	Lg	09 31 59.6	
	12nm,0.3s						
BOOM	Boomskoye usch	2.00	287	⇑iP	Pb	09 31 34.1	-0.7
	baz=87						
BOOM				⇑iS	Sb	09 32 00.7	+0.4
	baz=87						
KTMS	Ketmen	2.02	41	eP	Pb	09 31 34.1	-1.0
	0.1nm,0.1s						
KTMS				eS	Sb	09 32 00.5	-0.2
	12nm,0.3s						
KTMS	Ketmen	2.02	41	Pg	Pb	09 31 34.1	-1.0
	0.2nm,0.1s						
KTMS				Lg	Lg	09 32 00.5	
	12nm,0.3s						
KST	Kastek	2.19	301	eP	Pb	09 31 38.0	-0.1
	4.9nm,0.2s						
KST				eS	Sg	09 32 07.2	-0.6
	12nm,0.4s						
KST	Kastek	2.19	301	Pg	Pb	09 31 38.0	-0.1
	8.2nm,0.2s						
KST				Lg	Lg	09 32 07.2	
	12nm,0.4s						
CHKK	Chushkaly	2.22	330	eP	Pb	09 31 38.0	-0.5
	7.2nm,0.3s						
CHKK				eS	Sb	09 32 07.0	+0.5
	41nm,0.3s						
CHKK	Chushkaly	2.22	330	Pg	Pb	09 31 38.0	-0.5
	7.2nm,0.3s						
CHKK				Lg	Lg	09 32 07.0	
	41nm,0.4s						
KTBS	Karatobe	2.23	323	eP	Pb	09 31 38.4	-0.2
	5.8nm,0.3s						
KTBS				eS	Sg	09 32 07.7	-1.3
	41nm,0.2s						
KTBS	Karatobe	2.23	323	Pg	Pb	09 31 38.5	-0.2
	5.8nm,0.3s						
KTBS				Lg	Lg	09 32 07.7	
	41nm,0.2s						
ARXS	Arharly	2.32	348	eP	Pb	09 31 39.7	-0.6
	1.8nm,0.2s						
ARXS				eS	Sb	09 32 10.1	+0.5
	23nm,0.4s						
ARXS	Arharly	2.32	348	Pg	Pb	09 31 39.7	-0.6
	5.3nm,0.3s						
ARXS				Lg	Lg	09 32 10.1	
	23nm,0.4s						
TKM2	Tokmak 2	2.38	295	⇑iP	Pb	09 31 39.9	-1.4
	baz=95						
TKM2				⇑iS	Sb	09 32 10.1	-1.2
	baz=95						
TKM2	Tokmak 2	2.38	295	⇓Pn	Pb	09 31 40.3	-1.0
	4.0nm,0.3s						
TKM2				⇑Sn	Sg	09 32 12.7	-1.2
	2.7nm,0.3s						
DGS	Degeres	2.41	303	eP	Pb	09 31 41.7	-0.1
	3.7nm,0.3s						
DGS				eS	Sg	09 32 13.8	-1.2
	8.1nm,0.5s						
DGS	Degeres	2.41	303	Pg	Pb	09 31 41.7	-0.1
	6.6nm,0.5s						
DGS				Lg	Lg	09 32 13.8	
	8.1nm,0.5s						
KUU	Kurty	2.52	321	eP	Pb	09 31 43.1	-0.6
	0.6nm,0.2s						
KUU				eS	Sb	09 32 15.5	+0.2
	19nm,0.4s						
KUU	Kurty	2.52	321	Pg	Pb	09 31 43.1	-0.6
	3.1nm,0.3s						
KUU				Lg	Lg	09 32 15.5	
	19nm,0.4s						
DJR	Jarkent	2.56	21	eP	Pb	09 31 43.7	-0.6
	2.4nm,0.2s						
DJR				eS	Sb	09 32 17.0	+0.6
	17nm,0.4s						
DJR	Jarkent	2.56	21	Pg	Pb	09 31 43.7	-0.6
	4.6nm,0.3s						
DJR				Lg	Lg	09 32 17.0	
	17nm,0.4s						
KRBS	Karabastau	2.73	311	eP	Pb	09 31 47.1	-0.2
	1.9nm,0.2s						
KRBS				eS	Sb	09 32 22.9	+1.6
	17nm,0.5s						
KRBS	Karabastau	2.73	311	Pg	Pb	09 31 47.3	+0.1
	2.9nm,0.3s						
KRBS				Lg	Lg	09 32 22.9	
	6.3nm,0.4s						
KAPS	Kapalarasan	3.39	10	eP	Pb	09 31 57.9	-0.7
	0.6nm,0.3s						
KAPS				eS	Sb	09 32 41.4	+1.1
	4.7nm,0.3s						
KAPS	Kapalarasan	3.39	10	Pg	Pb	09 31 58.1	-0.4
	1.5nm,0.8s						

*AZER **04** 09:38:44.4±0.0, 40°.97N×47°.38E, h20km, ml3.3/30, Error ellipse: s-maj=1.1km s-min=0.8km az=312.0*
*MOS **04** 09:38:44.2±0.0, 40°.91N×47°.44E, h15km, MPVA3.9*
*DRS **04** 09:38:44.7±0.0, 41°.01N×47°.08E, h10km, ML3.0/3*
*NSSP **04** 09:38:44.9, 40°.95N×47°.28E, h15km, Ms3.4*
*TEH **04** 09:38:45.1, 40°.96N×47°.38E, h28km, ML3.2*
ISC 04 09:38:45.0±1.0**, 40°.95N**±0°.01×**47°.37E**±0°.02**, h16km**±8km**, n77, σ1^{s}22**/128**, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MNGR	Mingechevir, A	0.28	231	P	Pb	09 38 52.6	+1.0
	SNR=29						
MNGR				S	Sn	09 38 58.7	-1.5
MNGR	Mingechevir, A	0.28	231	ePg	Pb	09 38 52.5	+1.0

SEKA	Sheki	0.29	333	P	Pb	09 38 52.0	+0.1
	SNR=26						
SEKA				S	Sb	09 38 57.7	+1.2
SEKA	Sheki	0.29	333	ePg	Pb	09 38 52.0	+0.1
QBL	Gabala	0.35	90	P	Pb	09 38 52.6	-0.4
	SNR=15						
QBL				S	Sb	09 38 58.8	+0.5
QBL	Gabala	0.35	90	ePg	Pb	09 38 52.5	-0.4
AKT	Akhty	0.60	27	i Pg	Pb	09 38 57.0	-0.1
	362nm,0.2s						
AKT				i Sg	Sn	09 39 06.5	-1.8
	1µm,0.3s						
XNQ	Khinaliq	0.62	69	P	Pg	09 38 56.9	-0.4
	SNR=52						
XNQ				S	Sb	09 39 05.8	-0.4
XNQ	Khinaliq	0.62	69	ePg	Pg	09 38 56.9	-0.4
IML	Ismayilli	0.63	104	P	Pg	09 38 57.3	-0.2
	SNR=35						
IML				S	Sb	09 39 07.6	+1.2
IML	Ismayilli	0.63	104	ePg	Pg	09 38 57.2	-0.2
BRDA	Brd	0.70	192	P	Pn	09 38 60.0	-0.2
	SNR=27						
BRDA				S	Sn	09 39 12.3	+1.7
BRDA	Brd	0.70	192	ePg	Pn	09 38 59.9	-0.2
ZRD	Zardab	0.71	160	P	Pb	09 38 59.6	+0.6
	SNR=17						
ZRD				S	Sn	09 39 11.7	+0.8
ZRD	Zardab	0.71	160	ePg	Pb	09 38 59.5	+0.6
KDMR	Kurdemir	0.84	132	P	Pg	09 39 01.3	-0.1
	SNR=10						
KDMR				S	Sn	09 39 14.7	+0.6
KDMR	Kurdemir	0.84	132	ePg	Pg	09 39 01.2	-0.1
GANJ	Ganja	0.85	250	P	Pb	09 39 01.0	-0.5
	SNR=31						
GANJ				S	Sg	09 39 13.0	+0.2
GANJ	Ganja	0.85	250	ePg	Pb	09 39 00.9	-0.5
AGDM	Agdam	0.86	194	P	Pg	09 39 01.9	+0.2
	SNR=11						
AGDM				S	Sn	09 39 15.3	+0.6
QUB	Quba	0.86	60	ePg	Pn	09 39 03.2	+0.7
QSAR	Qusar	0.88	50	P	Pn	09 39 02.2	-0.5
	SNR=30						
QSAR				S	Sn	09 39 15.1	-0.1
QSAR	Qusar	0.88	50	ePg	Pn	09 39 02.2	-0.5
ZKT	Zaqatala	0.88	323	ePg	Pn	09 39 02.4	-0.4
ZKTA	Zakatala	0.89	321	P	Pn	09 39 02.5	-0.4
	SNR=45						
ZKTA				S	Sn	09 39 15.9	+0.4
PQL	Pirkuli	0.94	99	P	Pg	09 39 02.9	-0.4
	SNR=20						
PQL				S	Sn	09 39 16.8	-0.1
PQL	Pirkuli	0.94	99	ePg	Pg	09 39 02.8	-0.4
QUBA	Quba, Azerbaij	0.94	64	P	Pn	09 39 03.3	-0.3
	SNR=9.9						
QUBA				S	Sn	09 39 16.6	-0.1
SIZA	Siyzn	1.16	83	P	Pb	09 39 06.5	-0.2
	SNR=23						
SIZA				S	Sb	09 39 21.4	-0.2
SIZA	Siyzn	1.16	83	ePg	Pb	09 39 06.5	-0.2
ATGJ	Altiaghaj	1.19	94	P	Pb	09 39 07.0	-0.3
	SNR=10						
ATGJ				S	Sn	09 39 22.9	-0.1
ATGJ	Altiaghaj	1.19	94	ePg	Pb	09 39 06.9	-0.3
URKR	Urkarakh	1.23	9	ePg	Pg	09 39 08.6	-0.2
URKR				eSg	Sg	09 39 26.9	+2.0
BLQ	Beylaqan	1.23	173	Pn	Pn	09 39 07.4	-0.2
	SNR=4.9						
BLQ				S	Sn	09 39 24.6	+0.7
GDB	GEDABAY	1.25	260	P	Pn	09 39 07.3	-0.6
	SNR=19						
GDB				S	Sb	09 39 24.3	+0.1
GDB	GEDABAY	1.25	260	ePg	Pn	09 39 07.3	-0.6
SAAT	Saatly	1.35	143	P	Pn	09 39 07.6	-1.5
	SNR=3.3						
SAAT				S	Sb	09 39 27.1	+0.3
SAAT	Saatly	1.35	143	ePg	Pn	09 39 07.6	-1.5
GNBR	Gunib	1.47	348	ePg	Pg	09 39 15.0	+1.7
GNBR				eSg	Sg	09 39 36.6	+4.1
QRD	Qoradiz	1.48	182	Pn	Pn	09 39 11.3	+0.2
	SNR=10						
QRD				Sn	Sb	09 39 31.4	+0.6
QRD	Qoradiz	1.48	182	ePn	Pn	09 39 11.2	+0.2
QZX	Qazax, Azerbai	1.52	275	Pn	Pn	09 39 12.0	+0.5
	SNR=36						
QZX				Sn	Sg	09 39 32.9	-1.0
QZX	Qazax, Azerbai	1.52	275	ePn	Pn	09 39 11.9	+0.5
SGKR	Sergokala	1.53	8	ePg	Pg	09 39 16.3	+1.9
SGKR				eSg	Sg	09 39 37.7	+3.5
ALIB	Äli-Bayra	1.59	128	Pg	Pb	09 39 14.0	+0.1
	SNR=6.1						
ALIB				Sn	Sg	09 39 35.0	-1.3
XNZR	Khunzakh	1.67	343	ePg	Pg	09 39 17.3	+0.2
XNZR				eSg	Sg	09 39 40.8	+2.0
ARKR	Arakani	1.68	350	ePg	Pg	09 39 17.0	-0.2
ARKR				i Sg	Sg	09 39 39.8	+0.8
	127nm,0.6s						
GLBA	Clilabad	1.88	155	Pn	Pn	09 39 16.8	+0.5
	SNR=7.1						
GLBA				Sn	Sn	09 39 40.9	+1.2
BUJR	Buynaksk	1.89	354	ePg	Pg	09 39 24.0	+2.8
BUJR				eSg	Sg	09 39 46.6	+0.9
KRNR	Karanay	1.91	350	ePg	Pg	09 39 21.1	-0.5
KRNR				eSg	Sg	09 39 47.2	+0.7
BTLR	Botlikh	1.92	334	ePg	Pg	09 39 20.6	-1.2
BTLR				eSg	Sg	09 39 46.0	-0.7
SBZ	Shahbuz	2.08	223	Pn	Pb	09 39 21.3	-1.1
	SNR=14						
SBZ				Sn	Sb	09 39 49.3	+1.2
DBC	Dubki	2.11	349	ePg	Pg	09 39 24.4	-1.0
DBC				i Sg	Sg	09 39 51.4	-1.4
	70nm,0.6s						
KAPZ	Kaputan	2.13	254	i P	Pb	09 39 23.0	-0.2
KAPZ				i S	Sb	09 39 51.0	+1.5
YRD	Yardimli	2.14	161	Pn	Pn	09 39 20.4	+0.2
	SNR=12						
YRD				Sn	Sb	09 39 50.0	+0.3
GNI	Garni	2.16	249	i P	Pb	09 39 23.8	0.0
GNI				i S	Sg	09 39 52.7	-1.7
GNI	Garni	2.16	249	ePg	Pb	09 39 23.7	0.0
GNI				eSg	Sb	09 39 52.0	+1.7
DLMR	Dylym	2.19	346	ePg	Pb	09 39 25.1	+0.8
DLMR				eSg	Sg	09 39 53.4	-2.0
DVE	Vedeno	2.21	336	ePg	Pg	09 39 26.9	-0.5
DVE				eSg	Sb	09 39 53.2	+1.4
STE	Stepanavan	2.27	272	i P	Pb	09 39 23.9	-1.8
STE				S	Sb	09 39 53.6	0.0
NRKZ	NAREK	2.27	246	i P	Pb	09 39 26.9	+1.2
NRKZ				i S	Sg	09 39 57.4	-0.7
ORD	Ordubad	2.28	208	Pn	Pb	09 39 24.0	-1.7
	SNR=32						
ORD				Sn	Sb	09 39 53.8	+0.1
HYR	Heyderabad	2.28	238	Pn	Pb	09 39 24.2	-1.6
	SNR=2.7						
HYR				Sg	Sg	09 39 57.2	-1.1
NAX	Nakhchivan	2.28	220	Pg	Pb	09 39 25.7	-0.1
NAX				Sg	Sg	09 39 57.6	-0.7
LRK	Lerik	2.42	162	Pn	Pn	09 39 24.6	+0.6
	SNR=4.6						
LRK				Sn	Sb	09 39 57.1	-0.8
AHAR	Ahar	2.47	186	ePn	Pn	09 39 25.8	+1.2
AHAR				e		09 40 03.7	
	comp=Z,2µm,0.2s						
LKRN	Lenkeran, Azer	2.48	154	Sn	Sb	09 39 58.4	-1.1
GROC	Groznyy	2.54	333	ePn	Pb	09 39 28.1	-2.1
GROC				eSn	Sb	09 39 59.9	-1.2
IMRD	Marand	2.58	210	ePn	Pn	09 39 28.6	+2.4
IMRD				e		09 40 08.5	
	comp=Z,1µm,0.3s						
ARUZ	Aruch	2.58	256	i P	Pb	09 39 30.9	0.0
ARUZ				i S	Sb	09 40 04.8	+2.2
METS	Metsamor	2.63	253	i P	Pb	09 39 31.6	-0.1
METS				i S	Sb	09 40 05.9	+2.1
IHRS	Heris	2.64	186	ePn	Pn	09 39 28.7	+1.6
IHRS				e		09 40 05.8	
	comp=Z,1µm,0.2s						
VNNZ	Vanand	2.83	254	i P	Pb	09 39 35.4	+0.2
VNNZ				i S	Sg	09 40 13.1	-2.9
ISHB	Shabestar	2.99	208	ePn	Pn	09 39 34.2	+2.3
ONI	Oni	3.36	301	ePn	Pb	09 39 40.9	-3.3
ONI				eSn	Sb	09 40 21.3	-3.5
QALM	Alamut, Qazvin	5.19	149	e	Pn	09 40 03.1	+1.0
	comp=Z,165nm,0.2s						
IPRN	Peran	6.10	139	ePn	Pn	09 40 13.4	-1.2

DNK 04 10:01:56.8±1.1, 56°.80N×15°.94E, h2km±999km, ML1.7, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OSKU	Oskarshamn	0.40	12	P	Pg	10 02 05.1	+0.6
OSKU				S	Sg	10 02 11.0	+1.3
BLEU	Blekinge	0.51	188	e	Pg	10 02 05.4	-1.1
	baz=6.4,slow=16						
BLEU				i P	Pb	10 02 06.2	-2.1
BLEU				i S	Sg	10 02 12.6	-0.4
BLEU	Blekinge	0.51	188	P	Pg	10 02 06.1	-0.4
BLEU				S	Sg	10 02 12.6	-0.4
VXJU	Vaexsjoe	0.56	283	P	Pg	10 02 06.4	-1.2
VXJU				S	Sg	10 02 12.9	-2.0
EKSU	Eksjoe	0.85	336	P	Pg	10 02 12.4	-0.6
EKSU				S	Sg	10 02 23.3	-0.7
VSTU	Vaestervik	0.92	20	P	Pg	10 02 13.4	-0.9
DEL	Delary	1.19	255	i P	Pg	10 02 18.0	-1.6
DEL				eS	Sg	10 02 35.2	+0.2
DEL				IAML		10 02 37.6	
	comp=Z,5.6nm,0.4s						
DEL	Delary	1.19	255	P	Pg	10 02 17.9	-1.8
GNOU	Gnosjoe	1.29	293	P	Pg	10 02 19.7	-1.8
LNKU	Linkoeping	1.44	351	P	Pn	10 02 23.4	-0.5

DNK 04 10:02:22.2±1.6, 59°.21N×9°.50E, h0km, ML1.5, Explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STRU	Stroemstad	0.89	101	i P	Pg	10 02 37.7	-1.4
STRU				i		10 02 39.5	
STRU				eS	Sg	10 02 50.9	+0.2
HOMB	Homborsund	1.07	209	i P	Pg	10 02 41.4	-1.3
HOMB				i S	Sg	10 02 56.6	0.0
HOMB				IAML		10 03 04.7	
	comp=Z,2.4nm,0.4s						
SNART	Snartemo	1.48	235	e	Pn	10 02 47.4	-2.6
	baz=61,slow=18						
SNART				i P	Pg	10 02 49.0	-1.5
SNART				i S	Sg	10 03 07.9	-1.6
SNART				IAML		10 03 08.8	
	comp=Z,3.8nm,0.4s						

IDC 04 10:07:15.0±2.0, 4°.75S×125°.80E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.3/33, mbtmp3.3/3, ML2.9/1, Error ellipse: s-maj=260.7km s-min=29.2km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.24	152	P	P	10 11 18.3	-0.7
	0.0nm,0.3s,baz=331,slow=13,SNR=4.8						
ASAR	Alice Springs	20.37	158	P	P	10 11 52.9	-0.5
	0.2nm,0.3s,baz=335,slow=11,SNR=4.8						
MKAR	Makanchi Array	64.09	328	P	P	10 17 51.0	0.0
	0.4nm,0.6s,baz=118,slow=7.1,SNR=4.9						

NOU 04 10:17:39.2, 17°.33S×174°.92W, h304km, MLv4.7/8, Tonga Islands

IDC 04 10:17:41.6±3.5, 17°.89S×175°.14W, h300km±32km, mb3.3/5, mb1 3.6/6, mb1mx3.2/38, mbtmp4.0/6, Error ellipse: s-maj=38.1km s-min=21.7km az=138.0

ISC 04 10:17:36.5±1.1, 17°.7S±0°.3×175°.2W±0°.3, h250km, n10, σ0$37/7, mb3.7/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	4.99	41	P	Pn	10 18 52.1	-0.3
NIUE	Niue	5.14	106	P	Pn	10 18 57.6	+3.6
MSVF	Nonsavu	6.48	269	P	Pn	10 19 17.3	+6.5
	0.6nm,0.3s,baz=94,slow=12,SNR=6.1						
MSVF	Nonsavu	6.48	269	P	Pn	10 19 17.3	+6.5
URZ	Urewera	21.55	197	P	P	10 22 06.1	-0.2
	2.8nm,0.4s,baz=45,slow=8.6,SNR=1.4						
WRA	Warramunga Arr	47.72	259	P	P	10 25 48.7	-0.1
	0.7nm,0.5s,baz=97,slow=7.0,SNR=26						
ASAR	Alice Springs	47.83	254	P	P	10 25 49.5	-0.1
	4.0nm,0.8s,baz=88,slow=8.7,SNR=46						
NVAR	Mina Array Bea	77.17	42	P	P	10 29 03.6	+0.5
	0.4nm,0.6s,baz=225,slow=8.9,SNR=5.0						
ILAR	Eielson Array	85.05	12	P	P	10 29 43.4	-0.2
	0.7nm,0.5s,baz=222,slow=5.6,SNR=12						
BRTR	Keskin Array B	146.81	317	PKPbc	PKPbc	10 36 50.0	+0.4
	0.4nm,0.4s,baz=49,slow=2.9,SNR=3.7						

IDC 04 10:19:40.4±5.1, 18°.67S×177°.96W, h588km±30km, mb2.8/5, mb1 3.0/6, mb1mx2.7/37, mbtmp3.8/6, Error ellipse: s-maj=147.2km s-min=32.7km az=145.0

ISC 04 10:19:33.5±2.2, 19°.8S±0°.4×177°.1W±0°.3, h550km, n6, σ0$69/8, mb3.4/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.03	293	P	P	10 21 04.2	+0.5
	3.2nm,0.3s,baz=180,slow=5.3,SNR=19						
CTA	Charters Tower	34.43	263	P	P	10 25 35.2	-0.5
	2.5nm,0.9s,baz=90,slow=10,SNR=1.9						
ASAR	Alice Springs	45.53	256	P	P	10 27 04.6	+0.1
	0.7nm,0.5s,baz=84,slow=8.2,SNR=9.8						
ASAR				PcP	PcP	10 28 32.1	+0.4
	0.4nm,0.5s,baz=117,slow=4.2,SNR=4.9						
WRA	Warramunga Arr	45.56	261	P	P	10 27 03.7	-1.1
	0.3nm,0.3s,baz=95,slow=7.6,SNR=9.3						
WRA				PcP	PcP	10 28 32.5	+0.6
	0.1nm,0.3s,baz=91,slow=3.7,SNR=1.4						
FITZ	Fitzroy Crossi	53.98	262	P	P	10 28 06.4	-0.2
	1.4nm,0.8s,baz=81,slow=13,SNR=1.8						
ILAR	Eielson Array	87.40	12	P	P	10 31 21.6	-0.3
	0.1nm,0.5s,baz=204,slow=2.0,SNR=1.8						

IDC 04 10:26:56.3±1.1, 29°.25S×178°.61W, h138km±31km, mb3.4/2, mb1 3.7/2, mb1mx3.2/23, mbtmp3.8/2, Error ellipse: s-maj=256.0km s-min=43.4km az=165.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	0.61	90	P	Pn	10 27 18.7	+1.8
	141nm,0.3s,baz=112,slow=8.9,SNR=9.2						
RAO				S	Sn	10 27 33.0	+0.5
	98nm,0.3s,baz=320,slow=22,SNR=5.1						
ASAR	Alice Springs	42.65	266	P	P	10 34 39.0	-0.3
	0.2nm,0.3s,baz=106,slow=7.3,SNR=5.7						
WRA	Warramunga Arr	43.53	271	P	P	10 34 46.2	-0.3
	0.3nm,0.6s,baz=111,slow=7.8,SNR=8.3						
FINES	FINESS Array B	143.88	340	PKP	PKPbc	10 46 12.9	+0.4
	1.5nm,0.5s,baz=62,slow=3.3,SNR=11						
AKASG	Malin Array Be	150.06	323	PKPbc	PKPbc	10 46 30.0	-0.2
	0.7nm,0.5s,baz=48,slow=2.6,SNR=2.6						

IDC 04 10:35:05.3±0.4, 6°.04N×61°.32E, h0km, mb4.5/36, mb1 4.6/39, mb1mx4.5/50, mbtmp4.5/39, ML3.7/3, MS3.8/32, Ms1 3.8/32, ms1mx3.7/59, Error ellipse: s-maj=11.8km s-min=10.7km az=34.0

GCMT 04 10:35:07.3±0.3, 5°.85N±0°.03×61°.31E±0°.03, h12km±1km, MW4.8/85, Moment Tensor Solution. s7,c8; s85,c107; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.66±.14; Mθθ-1.17±.09; Mφφ-0.49±.08; Mrθ0.27±.25; Mθφ0.74±.05; Mφr0.61±.30; Best double couple: M0 1.76900×10¹⁶ NP1:φs105.00000°, δ46.00000°, λ63.00000°. NP2: φs321.00000°, δ50.00000°, λ115.00000°. Principal axes: T 1.8900, Plg71.0000°, Azm298.0000°; N -0.2430, Plg19.0000°, Azm124.0000°; P -1.6480, Plg2.0000°, Azm33.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

NEIC 04 10:35:08.3±2.2, 5°.95N±0°.07×61°.33E±0°.09, h10km±1km, mb4.8/108 Error ellipse: s-maj=14.9km s-min=11.7km az=75.0

ISC 04 10:35:10.0±1.3, 5°.97N±0°.06×61°.25E±0°.06, h28km±8km, n292, σ1$16/286, mb4.8/124, MS3.9/36, 7C-20D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SOCY	Socotra	9.46	311	Pn	Pn	10 37 30.4	+5.7
WSAR	Wadi Sarin	17.36	352	P	Pn	10 39 09.3	-1.1
	0.1nm,0.3s,baz=195,slow=9.0,SNR=1.9						
WSAR				LR	LR	10 44 32.1	
	comp=Z,368nm,19.9s,baz=194,slow=33						
WSAR	Wadi Sarin	17.36	352	P	Pn	10 39 09.3	-1.1
ATD	Arta Tunnel	19.00	288	P	P	10 39 29.7	-0.1
	0.4nm,0.3s,baz=97,slow=10,SNR=3.9						
ATD	Arta Tunnel	19.00	288	P	P	10 39 29.7	-0.1
PALK	Pallekele	19.37	85	P	P	10 39 32.8	-1.1
	0.2nm,0.3s,baz=260,slow=6.1,SNR=1.3						
PALK				LR	LR	10 45 32.2	
	comp=Z,354nm,18.8s,baz=15,slow=32						
PALK	Pallekele	19.37	85	P	P	10 39 34.3	+0.5
UOSS	Minazif	19.48	346	P	P	10 39 34.8	-0.1
UOSS				IAmb	IAmb	10 39 52.3	
	comp=Z,74nm,1.3s						
HYB	Hyderabad	20.39	55	i P	P	10 39 45.0	+0.1
HYB				esP	pwP	10 39 57.0	+1.5
KIBK	Kibwezi	24.59	251	P	P	10 40 28.7	+0.5
KMBO	Kilima Mbogo	24.97	254	LR	LR	10 48 55.3	
	comp=Z,301nm,21.9s,baz=92,slow=33						
LODK	Lodwar	25.92	266	P	P	10 40 42.2	+2.0
OPO	Ambohidratompo	28.05	209	P	P	10 40 60.0	+0.6
	comp=Z,2.5nm,0.9s,baz=136,slow=23,SNR=3.7						
OPO				LR	LR	10 49 21.4	
	comp=Z,283nm,20.7s,baz=177,slow=30						
OPO	Ambohidratompo	28.05	209	P	P	10 40 60.0	+0.6
HRA	Herat	28.30	2	P	P	10 41 02.3	+0.8
KBL	Kabul	29.33	13	P	P	10 41 13.1	+2.3
NIL	Nilore	29.72	20	P	P	10 41 15.4	+1.4
MBAR	Mbarara	31.15	259	P	P	10 41 28.5	+1.5
GEYT	Alibeck	31.94	355	P	P	10 41 32.2	-1.3
	comp=Z,1.1nm,0.3s,baz=216,slow=27,SNR=1.3						
GEYT				LR	LR	10 53 51.2	
	comp=Z,28nm,21.3s,baz=200,slow=35						
GYA0B	ALIBECK ARRAY	31.94	355	P	P	10 41 35.1	+1.6
GYA0B				IAmb	IAmb	10 41 37.6	
	comp=Z,5.9nm,0.6s						
CHGR	Chuyangaron	33.32	11	P	P	10 41 46.4	+0.7
CHGR				IAmb	IAmb	10 41 46.8	
	comp=Z,13nm,0.7s						
BRDH	Bariadhala	33.70	57	LR	LR	10 55 33.5	
	comp=Z,573nm,19.2s,baz=246,slow=37						
GAR	Garm	33.89	13	P	P	10 41 51.6	+0.9
GAR				IAmb	IAmb	10 41 52.8	
	comp=Z,15nm,1.1s						
DRK	Karamyk	34.70	14	P	P	10 41 59.4	+1.5
DRK				IAmb	IAmb	10 42 00.3	
	comp=Z,24nm,1.1s						
GHAJ	Ghor Haditha	34.84	320	P	P	10 41 59.5	+0.6
GHAJ				IAmb	IAmb	10 42 01.4	
	comp=Z,9.1nm,0.8s						
BTK	Batken	35.02	13	P	P	10 42 02.2	+1.8
BTK				IAmb	IAmb	10 42 10.8	
	comp=Z,13nm,0.9s						
SHL	Shillong	35.19	53	P	P	10 42 02.9	+0.8
SHL				IAmb	IAmb	10 42 03.3	
	comp=Z,11nm,1.1s						
SIRT	Sirnak	35.76	334	P	P	10 42 07.8	+0.9
KSH	Kashi	35.95	20	P	P	10 42 05.0	-3.4
KSH				sP	pP	10 42 11.7	-4.1
KSH				PcP	PcP	10 44 34.2	-0.8
KSH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KSH				AMB	AMB		
	comp=Z,120nm,5.7s						
KSH				LR	LR		
	comp=N,350nm,23.2s						
KSH				LR	LR		
	comp=E,260nm,20.4s						
KSH				LR	LR		
	comp=Z,550nm,24.2s						
MMAI	Mount Meron Ar	36.09	322	LR	LR	10 56 28.8	
	comp=Z,110nm,18.0s,baz=185,slow=36						
MARD	Mardin	36.36	332	P	P	10 42 13.9	+1.9
LSA	Lhasa	36.77	46	P	P	10 42 17.1	+1.2
LSA				IAmb	IAmb	10 42 22.9	
	comp=Z,20nm,1.3s						
GURO	Guroymak-BITLI	36.82	334	P	P	10 42 16.2	+0.4
IUG	Iuzhnay	36.87	11	eP	P	10 42 16.0	-0.2
	baz=11						
GNI	Garni	37.13	339	P	P	10 42 20.1	+1.6
GNI				IAmb	IAmb	10 42 22.1	
	comp=Z,16nm,0.9s						
PSI	Prapat	37.69	93	LR	LR	10 55 05.0	
	comp=Z,173nm,21.5s,baz=266,slow=32						
RPSI	Rantau Prapat	37.70	93	P	P	10 42 22.2	-1.4
RPSI				IAmb	IAmb	10 42 41.8	
	comp=Z,22nm,1.5s						
KK31	Karatay Array	37.88	11	P	P	10 42 26.2	+1.5
KKAR	Karatay Array	37.88	11	P	P	10 42 25.7	+1.0
KKAR	Karatay Array	37.88	11	P	P	10 42 25.9	+1.2
KKAR				IAmb	IAmb	10 42 27.2	
	comp=Z,13nm,1.2s						
GAZ	Gaziantep	38.02	328	P	P	10 42 27.4	+1.3
GAZ				IAmb	IAmb	10 42 36.1	
	comp=Z,18nm,1.2s						
SURA	Surathani	38.17	83	P	P	10 42 28.7	+1.2
UMPA	Umpang Tak	38.22	71	P	P	10 42 31.1	+3.1
	comp=Z,4µmcomp=Z,21nm,0.9s						
AAK	Ala-Archa	38.36	16	P	P	10 42 30.4	+1.5
TARG	Taragay, Kyrgy	38.55	20	P	P	10 42 32.1	+1.3
UTHA	Uthaitani	38.66	73	P	P	10 42 33.2	+1.6
	comp=Z,42nm,0.8s						
CSS	Mathiatis	38.67	322	P	P	10 42 32.7	+1.3
CSS				IAmb	IAmb	10 42 44.2	
	comp=Z,27nm,1.5s						
KDJ	Kajisay	38.70	19	P	P	10 42 33.2	+1.5
KDJ				IAmb	IAmb	10 42 39.8	
	comp=Z,26nm,1.5s						
CM13	Chiang Mai Arr	38.74	68	P	P	10 42 34.3	+2.0
	comp=Z,93nmcomp=Z,10nm,1.1s						
CM15	Chiang Mai Arr	38.76	68	P	P	10 42 34.7	+2.2
	comp=Z,9.0nm,1.0s						
CM05	Chiang Mai Arr	38.77	68	P	P	10 42 34.4	+1.9
	comp=Z,80nmcomp=Z,9.9nm,1.0s						
CM02	Chiang Mai Arr	38.78	68	P	P	10 42 34.5	+1.9
	comp=Z,120nmcomp=Z,15nm,1.0s						
CM31	Chiang Mai Arr	38.78	68	P	P	10 42 34.0	+1.4
CM31				IAmb	IAmb	10 42 39.6	
	comp=Z,16nm,0.9s						
CMAR	Chiang Mai Arr	38.78	68	P	P	10 42 31.6	-1.0
	comp=Z,7.3nm,0.9s,baz=258,slow=9.2,SNR=43						
CMAR				PcP	PcP	10 44 43.5	-0.4
	comp=Z,2.0nm,0.7s,baz=259,slow=4.0,SNR=7.0						
CMAR				LR	LR	10 57 13.7	
	comp=Z,98nm,22.0s,baz=296,slow=34						
CMAR	Chiang Mai Arr	38.78	68	P	P	10 42 33.7	+1.0
CMAR	Chiang Mai Arr	38.78	68		PcP	10 44 43.5	-0.4
CM01	Chiang Mai Arr	38.79	68	P	P	10 42 34.7	+2.0
	comp=Z,121nmcomp=Z,17nm,0.9s						
CM04	Chiang Mai Arr	38.80	68	P	P	10 42 34.4	+1.6
	comp=Z,124nmcomp=Z,16nm,0.9s						
CM09	Chiang Mai Arr	38.82	68	P	P	10 42 34.9	+1.9
	comp=Z,137nmcomp=Z,18nm,0.9s						
CHTO	Chiang Mai	38.87	67	P	P	10 42 34.6	+1.2
	comp=Z,292nmcomp=Z,17nm,1.3s						
CHTO	Chiang Mai	38.87	67	P	P	10 42 33.3	-0.1
CHTO				IAmb	IAmb	10 42 40.0	
	comp=Z,16nm,0.9s						
CHTO	Chiang Mai	38.87	67	P	P	10 42 34.6	+1.2
	comp=Z,164nmcomp=Z,9.8nm,1.3s						
CMMT	Chiang Mai	38.87	67	P	P	10 42 34.5	+1.1
	comp=Z,485nmcomp=Z,18nm,1.3s						
CMMT	Chiang Mai	38.87	67	P	P	10 42 34.5	+1.1
	comp=Z,463nmcomp=Z,17nm,1.3s						
LSZ	Lusaka	38.97	237	P	P	10 42 35.2	+0.9
	comp=Z,4.9nm,0.7s,baz=56,slow=7.1,SNR=7.8						
LSZ	Lusaka	38.97	237	P	P	10 42 35.2	+0.9
SGDS	Sogindy	39.15	15	eP	P	10 42 36.3	+0.8
	comp=Z,15nm,1.5s,baz=16						
MTBS	Maitube	39.37	18	eP	P	10 42 36.9	-0.4
	baz=18						
PRZ	Przheval'sk	39.42	20	P	P	10 42 39.2	+1.4
PRZ				IAmb	IAmb	10 42 44.1	
	comp=Z,14nm,0.5s						
MDOK	Medeo	39.59	18	i P	P	10 42 39.8	+0.6
	baz=18						
ONI	Oni	39.73	339	P	P	10 42 40.8	+0.5
PHIT	Phitsanulok	39.88	70	P	P	10 42 43.4	+1.6
	comp=Z,45nm,0.9s						
SATY	Saty	39.93	20	eP	P	10 42 41.1	-0.9
	baz=20						

BNN Bunyan 39.99 329 P P 10 42 43.5 +0.9
BNN IAmb IAmb 10 42 44.9
comp=Z,29nm,0.9s
KUU Kurty 40.04 17 *e*P **P 10 42 42.2 -0.5**
baz=17
CHKK Chushkaly 40.19 18 *e*P **P 10 42 43.3 -0.8**
baz=18
UZB Uzynbulak 40.22 20 *e*P **P 10 42 43.2 -1.2**
baz=20
SHLS Shalkode 40.38 21 *e*P **P 10 42 47.1 +1.3**
baz=21
KPKS Kokpek 40.39 20 *e*P **P 10 42 45.4 -0.4**
baz=20
BTLS Baital 40.49 14 *e*P **P 10 42 46.1 -0.4**
comp=Z,9.0nm,1.2s,baz=14
KBZ Khabaz 40.93 340 P **P 10 42 50.4 +0.3**
comp=Z,6.2nm,1.0s,baz=184,slow=4.9,SNR=12
KBZ LR LR 11 01 00.3
comp=Z,103nm,18.7s,baz=150,slow=38
KBZ Khabaz 40.93 340 P **P 10 42 50.4 +0.3**
CHAI Chaiyaphum 41.13 73 P **P 10 42 53.6 +1.5**
comp=Z,36nm,0.8s
KIV Kislovodsk 41.20 340 P **P 10 42 53.7 +1.2**
KIV IAmb IAmb 10 42 55.1
comp=Z,17nm,1.1s
MATP Matopo 41.51 230 P **P 10 42 56.1 +0.7**
comp=Z,2.5nm,0.8s,baz=49,slow=16,SNR=4.8
MATP LR LR 10 58 03.7
comp=Z,255nm,18.5s,baz=20,slow=33
MATP Matopo 41.51 230 P **P 10 42 56.1 +0.7**
BR131 Keskin Array S 41.80 328 P **P 10 42 57.4 0.0**
BR131 IAmb IAmb 10 42 58.6
comp=Z,14nm,0.8s
BRTR Keskin Array B 41.80 328 P **P 10 42 57.0 -0.5**
comp=Z,7.1nm,0.8s,baz=148,slow=9.7,SNR=38
BRTR LR LR 11 00 40.9
comp=Z,162nm,20.1s,baz=134,slow=37
BRTR Keskin Array B 41.80 328 P **P 10 42 57.5 -0.1**
ELL Elmali 41.94 321 P **P 10 42 59.5 +0.8**
ELL IAmb IAmb 10 43 12.2
comp=Z,22nm,1.0s
KHON Khomkaen 41.99 72 P P 10 43 05.2 +6.0
ISP Isparta 42.25 323 P **P 10 43 01.2 0.0**
BR231 Keskin MP Arra 42.34 327 P **P 10 43 01.1 -0.8**
BR231 IAmb IAmb 10 43 10.9
comp=Z,13nm,0.5s
ANTO Ankara 42.35 327 ⇓P **P 10 43 00.4 -1.5**
ANTO Ankara 42.35 327 P **P 10 43 03.0 +1.1**
ANTO IAmb IAmb 10 43 03.7
comp=Z,42nm,1.4s
NONG Nongkai 42.60 70 P **P 10 43 05.1 +1.0**
comp=Z,5μmcomp=Z,30nm,0.9s
SNOP Sinop 42.71 331 P **P 10 43 05.5 +0.9**
ILGA Ilgaz 42.72 329 P **P 10 43 05.9 +0.8**
ILGA IAmb IAmb 10 43 13.8
comp=Z,14nm,1.0s
ABKAR Akbulak array 43.15 359 P **P 10 43 08.6 +0.4**
ABKAR IAmb IAmb 10 43 10.1
comp=Z,23nm,1.1s
SKNT Sakolnakorn 43.19 72 P **P 10 43 09.9 +0.9**
comp=Z,24nm,0.9s
MDUB Mudurnu 43.65 326 P **P 10 43 11.4 -1.0**
SLVN Son La 44.00 65 P **P 10 43 14.6 -0.9**
KMI Kunming 44.03 60 ⇓P **P 10 43 17.2 +1.3**
KMI pP pP 10 43 20.5 -2.7
KMI sP sP 10 43 21.6 -4.8
KMI pmax pmax
comp=Z,7.0nm,0.5s
KMI pmax pmax
comp=Z,71nm,3.5s
WMQ Urumqi 44.29 27 *e*P **P 10 43 18.4 +0.9**
WMQ pP pP 10 43 22.8 -2.1
WMQ pmax pmax
comp=Z,22nm,1.3s
WMQ pmax pmax
comp=Z,86nm,3.7s
WMQ LR LR
comp=E,160nm,15.1s
WMQ LR LR
comp=Z,190nm,20.9s
AKTO Aktyubinsk 44.40 357 LR LR 11 02 20.2
comp=Z,145nm,21.7s,baz=163,slow=37
MAKZ Makanchi 44.44 20 P **P 10 43 19.0 +0.4**
MAKZ IAmb IAmb 10 43 19.8
comp=Z,11nm,0.9s
MK31 Makanchi Array 44.53 21 P **P 10 43 19.2 -0.1**
MKAR Makanchi Array 44.53 21 P **P 10 43 18.9 -0.5**
comp=Z,4.2nm,0.7s,baz=210,slow=8.5,SNR=25
MKAR PcP **PcP 10 45 01.3 -1.0**
comp=Z,1.5nm,0.9s,baz=231,slow=4.6,SNR=2.7
MKAR LR LR 11 04 17.0
comp=Z,85nm,18.3s,baz=214,slow=39
MKAR Makanchi Array 44.53 21 P **P 10 43 19.4 0.0**
MKAR Makanchi Array 44.53 21 **PcP 10 45 01.3 -1.0**
BRZS Berezniki 44.91 10 *e*P **P 10 43 21.9 -0.4**
baz=10
APE Apeiranthos 44.93 319 ⇓P **P 10 43 24.7 +1.9**
BALB Balikesir 45.00 323 P **P 10 43 23.8 +0.7**
BALB IAmb IAmb 10 43 25.4
comp=Z,9.3nm,0.8s
LBTB Lobatse 46.38 227 P **P 10 43 34.7 +0.4**
BRVK Borovoye 47.53 7 P **P 10 43 43.4 +0.6**
BRVK IAmb IAmb 10 43 43.6
comp=Z,5.7nm,0.8s
GYA Guiyang 47.81 60 ⇓P **P 10 43 45.3 -0.3**
GYA PP PcP 10 45 25.4 +11
GYA S **S 10 50 45.5 +4.5**
GYA pmax pmax
comp=Z,14nm,0.9s
GYA LR LR
comp=Z,200nm,22.9s
TIRR Tirgusor 47.89 328 ⇑P **P 10 43 45.3 -0.4**
TIRR Tirgusor 47.89 328 P **P 10 43 45.5 -0.2**
GTA Gaotai 48.10 40 *e*P **P 10 43 47.8 +0.1**
GTA pP pP 10 43 52.2 -3.0
GTA sP sP 10 43 55.8 -2.3
GTA pmax pmax
comp=Z,5.0nm,1.2s
AGG Agios Georgios 48.12 319 P **P 10 43 46.5 -1.2**
AGG IAmb IAmb 10 43 46.9
comp=Z,9.7nm,0.9s
TPGR Topolog 48.16 329 ⇑P **P 10 43 47.6 -0.2**
HARR Harsova 48.30 328 ⇓P **P 10 43 49.1 +0.2**
LIT Litokhoron 48.61 320 P **P 10 43 50.9 -0.5**
BOSA Boshof 48.82 223 P **P 10 43 53.8 +0.4**
comp=Z,9.7nm,0.8s,baz=54,slow=8.8,SNR=14
BOSA LR LR 11 02 50.7
comp=Z,268nm,18.4s,baz=16,slow=34
BOSA Boshof 48.82 223 P **P 10 43 53.4 +0.1**
BOSA IAmb IAmb 10 43 54.9
comp=Z,12nm,0.9s
IZVR Izvoarele 48.97 329 ⇑P P 10 44 01.9 +7.9
LZH Lanzhou 49.19 46 *e*P P 10 44 04.7 +8.6
LZH pP pwP 10 44 09.7 +2.5
LZH sP sP 10 44 11.8 +5.2
LZH pmax pmax
comp=Z,14nm,1.0s
LZH pmax pmax
comp=Z,78nm,4.3s
LZH LR LR
comp=N,160nm,17.3s
LZH LR LR
comp=E,190nm,18.4s
LZH LR LR
comp=Z,120nm,17.9s
ISR Istrita 49.31 328 ⇓P **P 10 43 58.4 +1.6**
VTS Vitosha 49.60 323 ⇓P **P 10 43 59.5 +0.4**
VTS Vitosha 49.60 323 P **P 10 43 59.1 0.0**
FNA Florina 49.69 320 P **P 10 43 59.3 -0.5**
VRI Vrincioaia 49.72 329 ⇓P **P 10 44 00.8 +1.0**
PLOR Plostina 49.75 329 ⇓P **P 10 44 01.3 +1.3**
MLR Muntele Rosu 49.88 328 ⇓P **P 10 44 02.3 +1.1**
MLR Muntele Rosu 49.88 328 P **P 10 44 01.9 +0.8**
comp=Z,8.9nm,0.8s,baz=119,slow=3.4,SNR=15
MLR Muntele Rosu 49.88 328 P **P 10 44 01.4 +0.2**
COVR Voineasa-Covas 49.98 328 ⇑P **P 10 44 02.4 +0.6**
KBN Korca 49.98 320 P **P 10 44 02.5 +0.5**
KBN IAmb IAmb 10 44 04.3
comp=Z,14nm,1.0s
TESR Tescani 50.20 329 ⇓P **P 10 44 03.3 -0.1**
VOIR 50.32 327 ⇓P **P 10 44 04.2 -0.2**
ARU Arti 50.37 358 P **P 10 44 04.5 0.0**
DOPR Dopca 50.48 328 ⇓P **P 10 44 05.6 0.0**
SORM Soroca 50.49 332 ⇓P **P 10 44 04.7 -0.9**
ARR Arges 50.50 327 ⇓P **P 10 44 06.0 +0.2**

PRAR RASCA 50.98 330 ⇑P **P 10 44 09.1 -0.3**
ZAA0 Zalesovo Array 51.52 18 P **P 10 44 12.4 -0.9**
ZAA0 IAmb IAmb 10 44 13.7
comp=Z,13nm,0.9s
ZALV Zalesovo Beam 51.52 18 P **P 10 44 12.2 -1.1**
comp=Z,8.3nm,0.8s,baz=224,slow=7.1,SNR=19
ZALV LR LR 11 06 41.4
comp=Z,103nm,20.7s,baz=222,slow=37
ZALV Zalesovo Beam 51.52 18 P **P 10 44 12.5 -0.7**
BURAR Bucovina Array 51.66 330 ⇓P **P 10 44 14.8 +0.3**
BURAR Bucovina Array 51.66 330 P **P 10 44 14.7 +0.2**
BURAR IAmb IAmb 10 44 15.7
comp=Z,7.4nm,0.7s
BUR08 Bucovina Ar. S 51.69 330 P **P 10 44 15.1 +0.4**
ARCR ARCALIA 51.76 329 ⇑P **P 10 44 15.7 +0.5**
MDVR Moldovita 51.77 325 ⇓P **P 10 44 14.5 -0.8**
PDG Podgorica 51.92 321 P **P 10 44 15.7 -0.8**
AKASG Malin Array Be 51.98 335 P **P 10 44 15.8 -0.8**
comp=Z,0.5nm,0.3s,baz=132,slow=6.6,SNR=18
AKASG PcP **PcP 10 45 28.1 -0.7**
comp=Z,0.3nm,0.4s,baz=122,slow=2.4,SNR=4.1
AKASG LR LR 11 08 23.4
comp=Z,61nm,19.3s,baz=115,slow=38
AKASG Malin Array Be 51.98 335 P **P 10 44 15.8 -0.8**
AKASG Malin Array Be 51.98 335 IAmb IAmb 10 44 16.0
comp=Z,2.3nm,1.2s
AKBB Malin Array Si 51.98 335 P **P 10 44 16.0 -0.6**
AKBB IAmb IAmb 10 44 17.1
comp=Z,8.6nm,1.0s
XAN Xi'an 52.15 51 P **P 10 44 18.1 -0.2**
XAN pP pP 10 44 26.0 +0.1
XAN sP pwP 10 44 31.2 +1.7
XAN pmax pmax
comp=Z,15nm,1.1s
XAN Xi'an 52.15 51 P **P 10 44 18.6 +0.2**
BZS Buzias 52.32 326 ⇓P **P 10 44 19.4 0.0**
DIVS Divibare 52.38 323 P **P 10 44 19.7 -0.2**
DIVS IAmb IAmb 10 44 20.5
comp=Z,12nm,1.1s
CORL Corleone 53.82 313 P **P 10 44 31.0 +0.3**
CORL IAmb IAmb 10 44 33.7
comp=Z,14nm,0.9s
KOLS Kolonicke sedl 54.01 329 *e*P **P 10 44 32.5 +0.7**
KWP Kalwaria Pacla 54.24 330 P **P 10 44 33.4 0.0**
CRVS Cervenica-Dubn 54.41 329 *e*P **P 10 44 34.5 -0.2**
KOVH Kovagotoltos 54.60 324 *e*P **P 10 44 35.9 -0.2**
PSZ Piszkesteto 54.64 327 ⇓P **P 10 44 35.7 -0.8**
PSZ Piszkesteto 54.64 327 *e*P **P 10 44 35.4 -1.1**
PSZ Piszkesteto 54.64 327 P **P 10 44 35.8 -0.7**
PSZ IAmb IAmb 10 44 36.8
comp=Z,10nm,1.0s
MNK Minsk 55.36 337 *i* P **P 10 44 38.8 -2.6**
comp=E,2.0nm,0.7s
MNK *i* P **P 10 44 38.8 -2.6**
comp=N,36nm,1.1s
MNK *i* P **P 10 44 38.8 -2.6**
comp=Z,9.0nm,0.8s,baz=138
MNK *i* PcP **PcP 10 45 39.3 -2.3**
MNK *i* PP **PP 10 46 42.9 -2.4**
MNK *i* PPP PPP 10 47 54.8
MNK *i* S **S 10 52 23.1 -0.8**
MNK *i* SS **SS 10 56 15.1 +6.4**
MNK *i* SSS SSS 10 58 18.5
MNK *i* LQ LQ 11 04 52.2
MNK *i* LR LR 11 08 48.1
MNK *i* LRM MLR 11 10 47.7
comp=E,36nm,18.4s
MNK *i* LRM MLR 11 10 49.6
comp=N,204nm,16.6s
MNK *i* LRM MLR 11 11 00.4
comp=Z,159nm,17.8s
VYHS Vyhne 55.55 327 *e*P **P 10 44 42.2 -0.8**
LANS Liptovska Anna 55.60 328 *e*P **P 10 44 44.0 +0.7**
KOLL Kolacno 55.84 327 *e*P **P 10 44 45.1 +0.1**
KEST Kesra 55.99 309 P **P 10 44 46.6 +0.2**
comp=Z,6.0nm,1.0s,baz=76,slow=10,SNR=5.9
KEST Kesra 55.99 309 P **P 10 44 47.3 +0.9**
KEST IAmb IAmb 10 44 49.6
comp=Z,11nm,1.1s
NRCA Norcia 56.06 319 P **P 10 44 47.1 +0.4**
NRCA IAmb IAmb 10 44 47.3
comp=Z,9.1nm,1.1s
OJC Ojcow 56.08 329 P **P 10 44 45.6 -1.1**
NACGM Naroch 56.09 337 *i* P P 10 44 39.8 -6.8
SMOL Smolenice 56.33 326 *e*P **P 10 44 48.0 -0.5**
ZST Bratislava 56.34 326 *e*P **P 10 44 48.1 -0.4**
JAVC Velka Javorina 56.40 327 *e*P **P 10 44 49.2 +0.2**
HHC Hu-ho-hao-te 56.70 44 *e*P **P 10 44 52.6 +1.2**
HHC S **S 10 52 42.0 -0.5**
HHC pmax pmax
comp=Z,12nm,1.1s
HHC pmax pmax
comp=Z,110nm,5.2s
HHC LR LR
comp=N,150nm,15.9s
HHC LR LR
comp=E,150nm,17.7s
HHC LR LR
comp=Z,120nm,15.3s
SONM Songino Array 56.71 35 P **P 10 44 51.5 +0.1**
comp=Z,4.6nm,0.9s,baz=231,slow=7.7,SNR=22
SONM LR LR 11 10 02.7
comp=Z,198nm,18.6s,baz=231,slow=37
SONM Songino Array 56.71 35 P **P 10 44 51.5 +0.1**
SONM IAmb IAmb 10 44 53.0
comp=Z,14nm,1.3s
SOKA Soboth 56.72 324 *i* P **P 10 44 51.1 -0.3**
comp=Z,7.8nm,0.9s,SNR=7.3
ARSA Arzberg 56.72 324 *e*P **P 10 44 51.2 -0.1**
comp=Z,13nm,1.2s
CONA Conrad Observa 56.89 325 *i* P **P 10 44 52.2 -0.4**
comp=Z,25nm,1.5s,SNR=7.3
MORC Moravsky Berou 56.99 328 ⇑P **P 10 44 52.1 -1.1**
MORC Moravsky Berou 56.99 328 P **P 10 44 52.9 -0.3**
MORC IAmb IAmb 10 44 53.2
comp=Z,11nm,0.9s
MORC Moravsky Berou 56.99 328 *e*P **P 10 44 52.6 -0.6**
ULN Ulaanbaatar 57.10 35 P **P 10 44 53.9 -0.3**
KLMR Klimovskoe 57.15 348 *e*P **P 10 44 50.3 -3.8**
KLMR AMP 10 44 55.1
comp=Z,39nm,1.6s
KRUC Moravsky 57.21 327 *e*P **P 10 44 54.1 -0.6**
VRAC Vranov 57.23 327 P **P 10 44 54.0 -0.9**
comp=Z,9.1nm,0.7s,baz=127,slow=7.8,SNR=12
VRAC Vranov 57.23 327 P **P 10 44 54.0 -0.9**
VRAC Vranov 57.23 327 *e*P **P 10 44 54.5 -0.4**
MYKA Terra Mystica 57.52 323 *i* P **P 10 44 57.0 0.0**
comp=Z,24nm,1.6s,SNR=6.4
PABE Paberze 57.64 336 P **P 10 44 57.2 -0.4**
MOA Molln 57.76 324 *i* P **P 10 44 58.4 -0.3**
comp=Z,22nm,0.9s,SNR=7.0
ZOU Zoufplan 57.89 323 P **P 10 44 59.0 -0.8**
ZOU IAmb IAmb 10 45 01.4
comp=Z,7.6nm,1.0s
STAL STALIGIAL 57.90 322 P **P 10 44 58.8 -0.9**
KBA Koelnbreinsper 57.92 323 *e*P **P 10 44 59.4 -0.6**
comp=Z,13nm,1.2s
DPC Dobruska-Polom 57.96 328 *e*P **P 10 44 59.7 -0.4**
TEOL Teolo 58.13 321 P **P 10 45 00.9 -0.3**
CHVC Chvalec 58.24 328 *e*P **P 10 45 01.4 -0.6**
ABTA Abfaltersbach 58.26 323 *i* P **P 10 45 01.7 -0.6**
comp=Z,13nm,0.9s,SNR=7.4
CTI Castel Tesino 58.46 322 P **P 10 45 03.6 0.0**
CTI IAmb IAmb 10 45 04.2
comp=Z,8.9nm,0.8s
GERES GERESS Array B 58.60 325 P **P 10 45 03.0 -1.6**
comp=Z,1.3nm,0.8s,baz=118,slow=7.7,SNR=9.2
GERES LR LR 11 11 28.1
comp=Z,33nm,20.4s,baz=123,slow=37
GERES GERESS Array B 58.60 325 P **P 10 45 03.1 -1.5**
MPSI Mapaga 58.80 93 P **P 10 45 09.7 +3.2**
comp=Z,457nmcomp=Z,16nm,0.9s
KHC Kasperske Hory 58.81 325 *e*P **P 10 45 04.6 -1.4**
WTTA Wattenberg 59.03 323 *i* P **P 10 45 06.8 -0.9**
comp=Z,18nm,0.9s,SNR=5.4
TORD Torodi Ar. Bea 59.05 282 P **P 10 45 07.7 -0.5**
comp=Z,4.4nm,1.0s,baz=81,slow=5.6,SNR=18
TORD PcP **PcP 10 45 57.1 +0.1**
comp=Z,1.5nm,0.8s,baz=79,slow=4.5,SNR=2.9
TORD LR LR 11 11 30.1
comp=Z,81nm,18.1s,baz=85,slow=37
TORD Torodi Ar. Bea 59.05 282 P **P 10 45 08.0 -0.2**
TORD Torodi Ar. Bea 59.05 282 **PcP 10 45 57.1 +0.1**
WATA Walderalm 59.10 323 *e*P **P 10 45 06.8 -1.4**
comp=Z,19nm,1.0s

SQTA Sankt Quirin 59.27 323 *e*P **P 10 45 08.3 -1.0**
comp=Z,10nm,0.8s
MOTA Moosalm 59.39 323 *i* P **P 10 45 08.8 -1.4**
comp=Z,20nm,1.0s,SNR=8.4
FETA Feichten 59.47 322 *e*P **P 10 45 10.0 -0.8**
comp=Z,6.8nm,0.9s
NJ2 Nanjing 59.54 56 *e*P **P 10 45 12.2 +0.9**
NJ2 pmax pmax
comp=Z,16nm,0.5s
RETA Reutte 59.66 323 *e*P **P 10 45 10.6 -1.4**
comp=Z,9.2nm,1.0s
BNSI Bone 59.67 99 P **P 10 45 13.2 +0.7**
comp=Z,1μmcomp=Z,38nm,1.1s
BJI Beijing 59.67 47 P **P 10 45 12.2 +0.1**
BJI pmax pmax
comp=Z,6.0nm,1.1s
DAVOX Davos/Dischmat 59.88 322 P **P 10 45 12.7 -0.9**
comp=Z,7.4nm,0.9s,baz=165,slow=5.4,SNR=8.9
DAVOX Davos/Dischmat 59.88 322 P **P 10 45 12.7 -0.9**
NKC Novy Kostel 60.00 326 *e*P **P 10 45 14.4 +0.2**
DAVA Damuels 60.10 322 *e*P **P 10 45 13.2 -2.0**
comp=Z,11nm,0.8s
YULB Yu-li 60.20 67 P **P 10 45 15.6 -0.4**
YULB IAmb IAmb 10 45 27.0
comp=Z,8.8nm,0.9s
CLL Collm 60.25 327 ⇓*i* P **P 10 45 15.7 -0.1**
comp=Z,19nm,1.3s
CLL Collm 60.25 327 P **P 10 45 15.9 +0.1**
CLL IAmb IAmb 10 45 17.5
comp=Z,12nm,1.2s
FINES FINESS Array B 61.23 342 P **P 10 45 21.0 -1.3**
comp=Z,2.5nm,0.8s,baz=149,slow=13,SNR=5.9
FINES LR LR 11 13 59.7
comp=Z,92nm,21.8s,baz=164,slow=38
FINES FINESS Array B 61.23 342 P **P 10 45 21.0 -1.3**
SENIN Lac Senin/Sade 61.32 320 P **P 10 45 22.5 -1.0**
BFO Black Forest 61.50 323 P **P 10 45 23.6 -0.8**
YOJ Yonaguni jima 61.88 66 P **P 10 45 26.2 -1.2**
SSB Saint Sauveur 62.70 318 P **P 10 45 32.2 -0.3**
MORW Morawa 63.12 127 P **P 10 45 34.0 -1.6**
H01W3 Cape Leeuwin H 64.24 133 T T 11 55 27.9
baz=299,slow=75
H01W2 Cape Leeuwin H 64.25 133 T T 11 55 28.4
baz=299,slow=75
H01W1 Cape Leeuwin H 64.26 133 T T 11 55 29.3
baz=299,slow=75
KOWA Kowa 64.61 283 P **P 10 45 45.9 +0.3**
comp=Z,3.7nm,0.7s,baz=87,slow=6.8,SNR=9.3
KOWA Kowa 64.61 283 P **P 10 45 45.9 +0.3**
KOWA Kowa 64.61 283 IAmb IAmb 10 45 46.9
comp=Z,6.2nm,0.8s
HFS Hagfors 64.82 336 P **P 10 45 45.5 -0.7**
comp=Z,8.4nm,0.7s,baz=140,slow=9.1,SNR=11
HFS Hagfors 64.82 336 P **P 10 45 45.5 -0.7**
CLF Chambon-Foret 65.13 321 P **P 10 45 48.6 +0.2**
HIA Hailar 65.26 38 P **P 10 45 48.4 -0.9**
HIA IAmb IAmb 10 45 49.7
comp=Z,8.2nm,1.0s
NRIK Noril'sk 65.61 10 P **P 10 45 50.2 -0.9**
comp=Z,3.0nm,0.5s,baz=214,slow=7.1,SNR=4.6
DBIC Dimbokro 65.66 275 P **P 10 45 52.8 +0.3**
comp=Z,4.5nm,0.9s,baz=61,slow=2.4,SNR=3.7
NWAO Narrogin (SRO) 65.67 130 P **P 10 45 51.8 -0.3**
comp=Z,8.6nm,0.7s,baz=310,slow=2.8,SNR=3.7
NB2 NORSAR Subarra 66.35 336 P **P 10 45 54.8 -1.3**
comp=Z,32nm,2.0s,baz=124,slow=6.5
NOA NORSAR Array B 66.35 336 P **P 10 45 55.0 -1.1**
comp=Z,2.6nm,0.9s,baz=116,slow=7.2,SNR=6.4
NOA LR LR 11 16 47.9
comp=Z,46nm,21.3s,baz=110,slow=38
ESDC Sonseca Array 67.20 311 P **P 10 46 01.1 -0.8**
comp=Z,4.2nm,0.9s,baz=87,slow=5.4,SNR=15
ESDC Sonseca Array 67.20 311 P **P 10 46 01.7 -0.2**
ESDC IAmb IAmb 10 46 02.2
comp=Z,8.0nm,1.1s
PAB San Pablo 67.46 310 P **P 10 46 03.8 +0.1**
ARCES ARCESS Array B 67.63 347 P **P 10 46 02.8 -1.2**
comp=Z,6.6nm,0.6s,baz=142,slow=5.9,SNR=27
ARCES LR LR 11 17 48.2
comp=Z,41nm,20.4s,baz=150,slow=38
KRAI Karang Ratu 67.69 96 P **P 10 46 05.1 -0.4**
FITZ Fitzroy Crossi 67.86 112 LR LR 11 12 20.6
comp=Z,27nm,18.4s,baz=356,slow=33
FITZ Fitzroy Crossi 67.86 112 P **P 10 46 06.3 -0.1**
FITZ IAmb IAmb 10 46 07.0
comp=Z,5.9nm,0.9s
KS19 Wonju Array Si 67.88 52 P **P 10 46 04.9 -1.4**
KS19 IAmb IAmb 10 46 27.8
comp=Z,13nm,1.2s
KSAR Wonju Array Be 67.89 52 P **P 10 46 04.9 -1.4**
KSRS Korea Array 67.92 52 P **P 10 46 04.7 -1.8**
comp=Z,4.8nm,0.7s,baz=257,slow=7.2,SNR=29
KSRS LR LR 11 15 26.3
comp=Z,88nm,21.8s,baz=273,slow=36
EKA Eskdalemuir Ar 70.71 327 P **P 10 46 22.1 -1.3**
comp=Z,4.9nm,0.8s,baz=116,slow=7.5,SNR=6.3
EKA Eskdalemuir Ar 70.71 327 P **P 10 46 22.1 -1.3**
USRK Ussuriysk Ar. 72.08 46 P **P 10 46 30.2 -1.7**
comp=Z,1.0nm,0.8s,baz=254,slow=8.3,SNR=5.3
USRK LR LR 11 19 51.5
comp=Z,132nm,18.6s,baz=264,slow=37
JMN Monobe 72.27 57 P **P 10 46 32.8 -0.6**
MAW Mawson 73.41 179 P **P 10 46 39.2 0.0**
comp=Z,2.5nm,0.8s,baz=31,slow=8.6,SNR=7.6
MAW LR LR 11 10 52.1
comp=Z,107nm,22.0s,baz=54,slow=29
MAW Mawson 73.41 179 P **P 10 46 40.2 +1.1**
MJAR Matsushiro Arr 76.00 54 P **P 10 46 53.8 -1.2**
comp=Z,1.4nm,0.6s,baz=262,slow=8.7,SNR=2.6
MJAR LR LR 11 23 16.1
comp=Z,35nm,19.1s,baz=255,slow=38
WRA Warramunga Arr 76.28 112 P **P 10 46 56.5 -0.4**
comp=Z,7.0nm,0.8s,baz=298,slow=4.6,SNR=80
WRA Warramunga Arr 76.28 112 P **P 10 46 56.6 -0.4**
WRAB Tennant Creek 76.29 112 P **P 10 46 56.5 -0.4**
WRAB IAmb IAmb 10 46 59.3
comp=Z,12nm,0.8s
WB2 Warramunga Arr 76.30 112 P **P 10 46 56.7 -0.3**
WR0 Warramunga Arr 76.47 112 P **P 10 46 57.5 -0.5**
WR0 IAmb IAmb 10 47 00.2
comp=Z,7.1nm,0.9s
ASAR Alice Springs 76.67 116 P **P 10 46 58.6 -0.4**
comp=Z,6.6nm,0.8s,baz=288,slow=5.7,SNR=54
ASAR Alice Springs 76.67 116 P **P 10 46 58.6 -0.4**
AS31 Alice Springs 76.67 116 P **P 10 46 58.6 -0.4**
MA2 Magadan 84.66 31 LR LR 11 27 25.3
comp=Z,68nm,19.1s,baz=282,slow=37
STKA Stephens Creek 84.98 123 P **P 10 47 43.0 -0.3**
comp=Z,4.5nm,0.8s,baz=293,slow=5.7,SNR=13
STKA LR LR 11 23 39.5
comp=Z,47nm,18.0s,baz=185,slow=34
STKA Stephens Creek 84.98 123 P **P 10 47 42.8 -0.5**
CTA Charters Tower 87.36 110 P **P 10 47 54.2 -1.1**
comp=Z,3.6nm,0.8s,baz=286,slow=8.0,SNR=4.3
VNA2 Neumayer--Watz 88.76 198 P **P 10 48 02.0 +1.2**
VNA1 Neumayer--Stat 88.93 198 P **P 10 48 02.8 +1.3**
PETK Petropavlovsk- 89.14 37 LR LR 11 30 57.2
comp=Z,96nm,18.4s,baz=270,slow=38
VNA3 Neumayer Olymp 89.57 198 P **P 10 48 05.8 +1.2**
VNDA Vanda 98.08 168 LR LR 11 27 24.9
comp=Z,103nm,19.1s,baz=262,slow=32
ILAR Eielson Array 106.42 12 PP **PP 10 53 44.0 -1.1**
comp=Z,1.0nm,1.0s,baz=318,slow=6.3,SNR=4.4
PDAR Pinedale Array 130.78 351 PKP **PKPdf 10 54 18.1 -1.2**
comp=Z,0.9nm,0.6s,baz=84,slow=3.3,SNR=12
PDAR Pinedale Array 130.78 351 **PKPdf 10 54 18.8 -0.6**
NVAR Mina Array Bea 135.83 359 PKP **PKiKP 10 54 29.8 -0.8**
comp=Z,1.4nm,0.8s,baz=319,slow=1.1,SNR=10
TXAR Lajitas Array 142.02 338 PKhKP PKPpre 10 54 34.9
comp=Z,1.1nm,0.8s,baz=47,slow=3.1,SNR=17

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*PDG **04** 10:46:15.8±0.3, 41.90N×19.26E, h14km, MD3.3/7, ML3.2/13, Error ellipse: s-maj=0.4km s-min=0.7km az=0.0*
*RHSSO **04** 10:46:15.7±0.7, 41.85N×19.23E, h7km±1km, ML3.3/11*
*SKO **04** 10:46:15.9, 41.87N×19.23E, h12km*
*BEO **04** 10:46:16.0±0.4, 41.83N×19.22E, h14km±2km, ML3.3/16*
*ROM **04** 10:46:16.0±0.0, 41.94N×19.28E, h2km, ML3.2*
*IDC **04** 10:46:21.5±2.4, 42.05N×19.20E, h71km±28km, mb3.3/1, mb1 3.5/7, mb1mx3.0/48, mbtmp3.6/7, MS2.8/3, Ms1 2.8/3, ms1mx2.3/35, Error ellipse: s-maj=23.8km s-min=17.2km az=177.0*
*THE **04** 10:46:22.5, 41.64N×19.70E, h4km±1km, ML3.0/2, Error ellipse: s-maj=4.5km s-min=0.9km az=245.0*

ISC 04 10:46:15.0±0.9**, 41.°83N**±0.°02×**19.°21E**±0.°02**, h12**km±6km**, n132, σ1.§21**/196**, 19C-28D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.14**	**11**	*i* Pg	**Pg**	**10 46 18.5**	**0.0**
ULC	**Ulcinj**	**0.14**	**11**	⇓*i*Pg	**Pg**	**10 46 18.5**	**0.0**
ULC				*i* Sg	**Sg**	**10 46 20.6**	**-0.4**
DRME	**Dracevica, Mon**	**0.36**	**357**	⇓*i*Pg	**Pg**	**10 46 21.9**	**-0.4**
DRME				*e*Sg	**Sg**	**10 46 27.6**	**+0.5**
DRME	**Dracevica, Mon**	**0.36**	**357**	⇓*i*Pg	**Pg**	**10 46 21.9**	**-0.4**
DRME				*i* Sg	**Sg**	**10 46 26.9**	**-0.2**
BUM	**Brajici-Budva**	**0.53**	**334**	⇓*i*Pg	**Pg**	**10 46 25.1**	**-0.3**
BUM				*e*Sg	**Sg**	**10 46 33.0**	**+0.6**
PDG	**Podgorica**	**0.60**	**3**	⇑P	**Pg**	**10 46 25.8**	**-1.0**
PDG	**Podgorica**	**0.60**	**3**	⇓S	**Sg**	**10 46 35.5**	**+0.7**
PDG	**Podgorica**	**0.60**	**3**	*e*Pg	**Pg**	**10 46 26.0**	**-0.8**
PDG				*e*Sg	**Sb**	**10 46 36.3**	**+0.4**
PDG	**Podgorica**	**0.60**	**3**	⇓*i*Pg	**Pg**	**10 46 25.8**	**-1.0**
PDG				*e*Sg	**Sg**	**10 46 35.0**	**+0.2**
PDG	**Podgorica**	**0.60**	**3**	*i* Pg	**Pg**	**10 46 25.9**	**-1.0**
PDG				*i* Sg	**Sg**	**10 46 35.7**	**+0.9**
TTG	**Podgorica**	**0.60**	**3**	⇑*i*Pg	**Pg**	**10 46 25.8**	**-1.0**
TTG				*i* Sg	**Sg**	**10 46 34.5**	**-0.3**
TIR	**Tirane**	**0.69**	**134**	⇑P	**Pg**	**10 46 29.1**	**+0.7**
TIR	**Tirane**	**0.69**	**134**	*e*Pg	**Pb**	**10 46 29.3**	**+0.4**
TIR				*e*Sg	**Sb**	**10 46 39.4**	**+1.0**
TIR	**Tirane**	**0.69**	**134**	P	**Pg**	**10 46 28.5**	**+0.1**
TIR				S	**Sg**	**10 46 33.2**	**-4.2**
TIR	**Tirane**	**0.69**	**134**	*e*Pg	**Pg**	**10 46 28.5**	**+0.1**
HCY	**Herceg Novi**	**0.82**	**320**	*e*Pg	**Pg**	**10 46 29.8**	**-1.0**
HCY				*e*Sg	**Sg**	**10 46 42.1**	**+0.6**
HCY	**Herceg Novi**	**0.82**	**320**	⇑*i*Pg	**Pg**	**10 46 30.0**	**-0.8**
HCY				*i* Sg	**Sb**	**10 46 42.9**	**+0.8**
PVY	**Plav**	**0.95**	**36**	⇓*i*Pg	**Pg**	**10 46 32.0**	**-1.4**
PVY				*e*Sg	**Sg**	**10 46 45.8**	**0.0**
NKME	**Niksic**	**0.96**	**349**	⇓*i*Pg	**Pg**	**10 46 32.1**	**-1.4**
NKME				*i* Sg	**Sb**	**10 46 46.9**	**+0.7**
NKY	**Niksic**	**1.00**	**351**	⇓*i*Pg	**Pg**	**10 46 33.1**	**-1.2**
NKY				*i* Sg	**Sb**	**10 46 48.2**	**+0.8**
KOME	**Kolasin**	**1.05**	**12**	⇓*i*Pg	**Pg**	**10 46 33.5**	**-1.7**
KOME				*e*Sg	**Sg**	**10 46 49.1**	**+0.2**
IVA	**Berane**	**1.16**	**26**	⇓*i*Pg	**Pb**	**10 46 35.9**	**-1.2**
IVA				*i* Sg	**Sg**	**10 46 53.0**	**+0.5**
BRY	**Bratogost**	**1.18**	**335**	⇑*i*Pg	**Pb**	**10 46 36.4**	**-1.1**
BRY				*i* Sg	**Sn**	**10 46 54.8**	**+1.2**
UPM	**Unac-Piva**	**1.39**	**351**	*e*Pg	**Pn**	**10 46 40.8**	**+0.4**
UPM				*e*Sg	**Sb**	**10 46 59.4**	**+0.5**
UPM	**Unac-Piva**	**1.39**	**351**	⇓*i*Pg	**Pn**	**10 46 40.3**	**-0.1**
UPM				*i* Sg	**Sg**	**10 47 01.2**	**+1.3**
OHR	**Ohrid**	**1.39**	**120**	*i* Pg	**Pn**	**10 46 40.2**	**-0.1**
OHR				*i* Sg	**Sg**	**10 47 01.8**	**+1.9**
OHR				*e*Lg	Lg	10 47 02.8	
	comp=N,235nm,0.7s						
OHR				*e*Lg	Lg	10 47 03.6	
	comp=E,311nm,0.5s						
PLE	**Pljevlja**	**1.51**	**5**	⇑*i*Pg	**Pn**	**10 46 42.4**	**+0.5**
PLE				*i* Sg	**Sg**	**10 47 03.7**	**+0.1**
STON	**Ston**	**1.53**	**314**	*e*Pg	**Pn**	**10 46 42.9**	**+0.8**
STON				*e*Sg	**Sg**	**10 47 05.1**	**+0.8**
STON	**Ston**	**1.53**	**314**	*e*Pn	**Pn**	**10 46 43.4**	**+1.3**
STON				*e*Sn	**Sb**	**10 47 03.3**	**+0.7**
STON	**Ston**	**1.53**	**314**	*i* Pn	**Pn**	**10 46 42.9**	**+0.8**
STON				Sn	**Sg**	**10 47 05.0**	**+0.8**
SJES	**Sjenica**	**1.54**	**21**	*e*Pg	**Pn**	**10 46 42.9**	**+0.5**
SJES				*e*Sg	**Sg**	**10 47 06.0**	**+1.4**
SKO	**Skopje**	**1.67**	**84**	*i* Pg	**Pb**	**10 46 46.0**	**+0.2**
SKO				*i* Sg	**Sb**	**10 47 07.7**	**+0.9**
KBN	**Korca**	**1.69**	**135**	P	**Pb**	**10 46 46.8**	**+0.7**
KBN				S	**Sn**	**10 47 05.2**	**-0.9**
	comp=E,535nm,0.7s						
RUDO	**Rudo**	**1.79**	**4**	⇓*i*Pn	**Pn**	**10 46 46.8**	**+1.0**
RUDO				*e*Sn	**Sn**	**10 47 09.4**	**+0.9**
IVAS	**Ivanjica**	**1.88**	**21**	*e*Pn	**Pn**	**10 46 48.0**	**+1.0**
IVAS				*e*Sn	**Sb**	**10 47 12.9**	**+0.1**
FNA	**Florina**	**1.94**	**122**	P	**Pn**	**10 46 49.5**	**+1.7**
FNA				S	**Sn**	**10 47 11.2**	**-0.9**
	comp=E,480nm,0.4s						
FNA	**Florina**	**1.94**	**122**	*i* Pn	**Pn**	**10 46 49.4**	**+1.7**
NEST	**Nestorio**	**1.98**	**135**	P	**Pb**	**10 46 50.6**	**-0.5**
SELS	**Selova**	**1.98**	**45**	*e*Pn	**Pn**	**10 46 49.2**	**+0.8**
SELS				*e*Sn	**Sb**	**10 47 15.1**	**-0.6**
BBLS	**Lazići**	**2.04**	**4**	*e*Pn	**Pn**	**10 46 50.9**	**+1.6**
BBLS				*e*Sn	**Sn**	**10 47 15.3**	**+0.6**
BBLS	**Lazići**	**2.04**	**4**	*e*Pn	**Pn**	**10 46 50.9**	**+1.6**
BBLS				*e*Sn	**Sn**	**10 47 15.9**	**+1.2**
BARS	**Barje**	**2.17**	**62**	*e*Pn	**Pn**	**10 46 50.4**	**-0.6**
BARS	**Barje**	**2.17**	**62**	*e*Pn	Pg	10 47 03.1	+6.4
BARS				*e*Sn	Sg	10 47 38.5	+14
MAKA	**Makarska**	**2.18**	**313**	*i* Pn	**Pn**	**10 46 52.1**	**+1.1**
MAKA				Sn	**Sn**	**10 47 18.9**	**+1.0**
MATE	**Matera**	**2.23**	**239**	⇓P	**Pn**	**10 46 51.6**	**0.0**
STIP	**Stip**	**2.23**	**92**	*i* Pn	**Pb**	**10 46 55.5**	**+0.3**
PRVS	**Prvonek**	**2.24**	**71**	*e*Pn	**Pn**	**10 46 53.3**	**+1.4**
RICI	**Ricice**	**2.26**	**318**	*e*Pn	**Pn**	**10 46 53.7**	**+1.5**
RICI				Sn	**Sn**	**10 47 21.5**	**+1.5**
GRUS	**Gruza**	**2.34**	**28**	*e*Pn	**Pn**	**10 46 54.5**	**+1.2**
DIVS	**Divibare**	**2.34**	**14**	*e*Pn	**Pn**	**10 46 54.3**	**+0.9**
DIVS				*e*Sn	**Sn**	**10 47 22.8**	**+0.7**
DIVS	**Divibare**	**2.34**	**14**	⇑*i*Pn	**Pn**	**10 46 54.4**	**+1.0**
DIVS				*e*Sn	**Sn**	**10 47 22.8**	**+0.7**
BOSS	**Bosilegrad**	**2.52**	**74**	*e*Pn	**Pn**	**10 46 56.9**	**+1.1**
BOSS				*e*Sn	**Sn**	**10 47 26.7**	**+0.3**
TRUS	**Trudelj**	**2.55**	**20**	*e*Pn	**Pn**	**10 46 57.1**	**+0.9**
TRUS				*e*Sn	**Sn**	**10 47 28.0**	**+0.9**
GRG	**Griva**	**2.56**	**109**	*i* Pn	**Pn**	**10 46 57.7**	**+1.4**
VAY	**Valandovo**	**2.57**	**100**	*i* Pn	**Pn**	**10 46 57.8**	**+1.3**
BOVS	**Bovan**	**2.58**	**45**	⇓P	**Pn**	**10 46 57.2**	**+0.7**
BOVS	**Bovan**	**2.58**	**45**	⇑S	**Sn**	**10 47 29.1**	**+1.3**
BOVS	**Bovan**	**2.58**	**45**	*e*Pn	**Pn**	**10 46 57.7**	**+1.2**
BOVS				*e*Sn	**Sn**	**10 47 28.2**	**+0.4**
TEKS	**Tekeris**	**2.73**	**5**	*e*Pn	**Pn**	**10 46 58.8**	**+0.1**
TEKS	**Tekeris**	**2.73**	**5**	*e*Pn	**Pn**	**10 46 59.4**	**+0.7**
TEKS				*e*Sn	**Sn**	**10 47 33.1**	**+1.5**
KNT	**Kendrikon**	**2.85**	**102**	*i* Pn	**Pn**	**10 47 01.8**	**+1.4**
ZAPS	**Zavoj**	**2.91**	**59**	*e*Pn	**Pn**	**10 47 02.8**	**+1.6**
ZAPS				*e*Sn	**Sn**	**10 47 36.0**	**-0.1**
ZAGS	**Zajecar**	**2.98**	**47**	*e*Pn	**Pn**	**10 47 03.2**	**+1.1**
ZAGS				*e*Sn	**Sn**	**10 47 36.7**	**-1.0**
KIJV	**Kijevo**	**3.00**	**318**	*e*Pn	**Pn**	**10 47 03.7**	**+1.4**
KIJV				Sn	**Sn**	**10 47 40.4**	**+2.3**
MGRS	**Mrkonjic Grad**	**3.02**	**330**	*e*Pn	**Pn**	**10 47 04.2**	**+1.6**
MGRS				*e*Sn	**Sn**	**10 47 39.9**	**+1.2**
VTS	**Vitosha**	**3.09**	**74**	⇑P	**Pn**	**10 47 05.1**	**+1.3**
VTS	**Vitosha**	**3.09**	**74**	⇓S	**Sn**	**10 47 43.2**	**+2.5**
VTS	**Vitosha**	**3.09**	**74**	*e*Pn	**Pn**	**10 47 05.0**	**+1.3**
VTS				*e*Sn	**Sn**	**10 47 39.2**	**-1.5**
VTS	**Vitosha**	**3.09**	**74**	*i* Pn	**Pn**	**10 47 05.4**	**+1.6**
BLKB	**Belogradchik**	**3.12**	**54**	⇑S	**Sn**	**10 47 43.5**	**+2.3**
KUBS	**Kucevo**	**3.15**	**34**	*e*Pn	**Pn**	**10 47 04.2**	**-0.2**
ZIRJ	**Zirje**	**3.20**	**306**	*e*Pn	**Pn**	**10 47 06.2**	**+1.1**
ZIRJ				Sn	**Sn**	**10 47 43.7**	**+0.7**
TIP	**Timpagrande**	**3.24**	**216**	⇓P	**Pn**	**10 47 05.2**	**-0.5**
TIP	**Timpagrande**	**3.24**	**216**	⇓S	**Sn**	**10 47 43.7**	**-0.5**
BLY	**Banja Luka**	**3.27**	**334**	*e*Pn	**Pn**	**10 47 07.2**	**+1.1**
BLY				*e*Sn	**Sn**	**10 47 46.0**	**+1.1**
MORI	**Morici**	**3.28**	**310**	*e*Pn	**Pn**	**10 47 07.5**	**+1.3**
MORI				Sn	**Sn**	**10 47 46.7**	**+1.6**
FRGS	**Fruska Gora**	**3.36**	**7**	⇑P	**Pn**	**10 47 07.7**	**+0.5**
FRGS	**Fruska Gora**	**3.36**	**7**	*e*Pn	**Pn**	**10 47 08.0**	**+0.7**
FRGS	**Fruska Gora**	**3.36**	**7**	*e*Pn	**Pn**	**10 47 07.8**	**+0.5**
FRGS				*e*Sn	**Sn**	**10 47 47.5**	**+0.5**
MDVR	**Moldovita**	**3.47**	**31**	⇓P	**Pn**	**10 47 09.6**	**+0.7**
MDVR	**Moldovita**	**3.47**	**31**	⇑S	**Sn**	**10 47 51.2**	**+1.3**
MRAK	**Mrakovica**	**3.60**	**333**	*e*Pn	**Pn**	**10 47 11.9**	**+1.2**
MRAK				*e*Sn	**Sn**	**10 47 53.6**	**+0.5**
UDBI	**Udbina**	**3.69**	**318**	*e*Pn	**Pn**	**10 47 14.0**	**+2.1**
DUGI	**Dugi Otok**	**3.74**	**307**	*e*Pn	**Pn**	**10 47 13.6**	**+1.1**
HERR	**Herculane**	**3.84**	**36**	⇑P	**Pn**	**10 47 15.1**	**+1.1**
HERR	**Herculane**	**3.84**	**36**	⇓S	**Sn**	**10 47 59.8**	**+0.7**
SRE	**Strehaia**	**4.07**	**45**	⇓P	**Pn**	**10 47 19.0**	**+1.9**
BZS	**Buzias**	**4.17**	**24**	⇓P	**Pn**	**10 47 19.3**	**+0.9**
BZS	**Buzias**	**4.17**	**24**	*e*Pn	**Pn**	**10 47 19.1**	**+0.7**
BZS				*e*Sn	**Sn**	**10 48 04.7**	**-2.3**
MOSL	**Moslavina**	**4.18**	**336**	*e*Pn	**Pn**	**10 47 19.2**	**+0.6**
MOSL				Sn	**Sn**	**10 48 07.9**	**+0.6**
NVLJ	**Novalja**	**4.19**	**312**	*e*Pn	**Pn**	**10 47 19.2**	**+0.6**
NVLJ				Sn	**Sn**	**10 48 07.0**	**-0.4**
KOVH	**Kovagotottos**	**4.33**	**350**	*e*P	**Pn**	**10 47 23.4**	**+2.8**
GZR	**Gura Zlata**	**4.41**	**35**	⇑P	**Pn**	**10 47 22.4**	**+0.6**
OZLJ	**Ozalj**	**4.66**	**326**	*e*Pn	**Pn**	**10 47 26.3**	**+1.2**
BOJS	**Bojanci**	**4.66**	**323**	*e*Pn	**Pn**	**10 47 26.2**	**+1.0**
BOJS				*e*Sn	**Sn**	**10 48 19.1**	**-0.1**
BOJS	**Bojanci**	**4.66**	**323**	*i* Pn	**Pn**	**10 47 26.4**	**+1.2**
BOJS				*e*Sn	**Sn**	**10 48 17.4**	**-1.8**
BOJS				IAML		10 48 21.4	
	comp=Z,38nm,0.9s						
PTJ	**Puntijarka**	**4.70**	**331**	*e*Pn	**Pn**	**10 47 25.9**	**0.0**
SIRR	**Siria**	**4.78**	**21**	⇑P	**Pn**	**10 47 27.8**	**+1.0**
CRES	**Cresnjev**	**4.83**	**327**	*e*Pn	**Pn**	**10 47 28.4**	**+0.9**
CRES				*e*Sn	**Sn**	**10 48 23.0**	**-0.3**
GBRS	**Gornja Briga**	**4.89**	**321**	*i* Pn	**Pn**	**10 47 29.8**	**+1.5**
GBRS				*e*Sn	**Sn**	**10 48 23.5**	**-1.2**
GBRS				IAML		10 48 28.2	
	comp=Z,13nm,0.4s						
LOT	**Lotru**	**4.90**	**41**	⇑P	**Pn**	**10 47 30.2**	**+1.6**
BRJN	**Brijuni**	**5.03**	**310**	*e*Pn	**Pn**	**10 47 30.8**	**+0.6**
CEY	**Cerknica**	**5.22**	**320**	⇑*i*Pn	**Pn**	**10 47 33.9**	**+1.1**
CEY				*e*Sn	**Sn**	**10 48 32.0**	**-1.0**
CEY	**Cerknica**	**5.22**	**320**	*i* Pn	**Pn**	**10 47 34.0**	**+1.1**
SKDS	**Skadanscina**	**5.29**	**316**	*e*Pn	**Pn**	**10 47 33.8**	**0.0**
SKDS				*e*Sn	**Sn**	**10 48 33.3**	**-1.4**
ARR	**Arges**	**5.29**	**46**	⇑P	**Pn**	**10 47 35.3**	**+1.3**
LJU	**Ljubljana**	**5.40**	**323**	*e*Pn	**Pn**	**10 47 36.0**	**+0.7**
DRGR		**5.56**	**26**	⇓P	**Pn**	**10 47 38.7**	**+1.1**
VOIR		**5.57**	**48**	⇓P	**Pn**	**10 47 40.2**	**+2.6**
SOKA	**Soboth**	**5.70**	**330**	*e*Pn	**Pn**	**10 47 40.7**	**+1.1**
	comp=Z,1.8nm,0.4s						
VAE	**Valguarnera**	**5.71**	**222**	P	Pn	10 47 46.5	+6.9
	comp=Z,1.4nm,0.3s,baz=54,slow=19,SNR=1.7						
GORS	**Gorjuse**	**5.85**	**322**	*i* Pn	**Pn**	**10 47 42.0**	**+0.4**
ARSA	**Arzberg**	**6.03**	**335**	*i* Pn	**Pn**	**10 47 46.3**	**+2.4**
	comp=Z,1.1nm,0.2s						
ARSA				*i* Sn	**Sn**	**10 48 55.7**	**+2.9**
	comp=Z,2.9nm,0.5s						
DOPR	**Dopca**	**6.09**	**45**	⇓P	**Pn**	**10 47 45.7**	**+0.9**
MLR	**Muntele Rosu**	**6.11**	**51**	⇓P	**Pn**	**10 47 47.2**	**+2.1**
MLR	**Muntele Rosu**	**6.11**	**51**	P	**Pn**	**10 47 47.4**	**+2.3**
	comp=Z,1.6nm,0.3s,baz=236,slow=18,SNR=8.4						
MLR				S	**Sn**	**10 48 55.4**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=170,slow=17,SNR=2.0						
PSZ	**Piszkesteto**	**6.11**	**4**	⇑P	**Pn**	**10 47 46.4**	**+1.2**
PSZ	**Piszkesteto**	**6.11**	**4**	*e*P	**Pn**	**10 47 45.7**	**+0.6**
PSZ				*e*S	**Sn**	**10 48 53.5**	**-1.4**
MYKA	**Terra Mystica**	**6.25**	**322**	*e*Sn	**Sn**	**10 48 58.7**	**+0.4**
	comp=Z,2.9nm,0.3s						
VYHS	**Vyhne**	**6.67**	**358**	*e*PN	Pn	10 47 58.7	+5.9
VYHS				*e*SN	**Sn**	**10 49 12.0**	**+3.3**
PLOR	**Plostina**	**6.72**	**51**	⇓P	**Pn**	**10 47 53.6**	**+0.2**
KBA	**Koelnbreinsper**	**6.72**	**323**	*i* Pn	**Pn**	**10 47 54.6**	**+1.0**
	comp=Z,2.0nm,0.6s						
KBA				*e*Sn	**Sn**	**10 49 09.8**	**-0.2**
	comp=Z,1.4nm,0.3s						
VRI	**Vrincioaia**	**6.77**	**51**	⇓P	**Pn**	**10 47 55.3**	**+1.1**
ABTA	**Abfaltersbach**	**6.87**	**318**	*e*Pn	**Pn**	**10 47 57.0**	**+1.4**
	comp=Z,0.5nm,0.1s						
MOTA	**Moosalm**	**7.99**	**316**	*e*Pn	**Pn**	**10 48 12.3**	**+1.3**
	comp=Z,1.6nm,0.3s						
MOTA				*i* Sn	**Sn**	**10 49 43.8**	**+2.5**
	comp=Z,5.2nm,0.5s						
GERES	**GERESS Array B**	**8.02**	**333**	P	**Pn**	**10 48 11.8**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=155,slow=14,SNR=4.3						
GERES				S	**Sn**	**10 49 39.7**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=151,slow=25,SNR=2.3						
DAVOX	**Davos/Dischmat**	**8.32**	**310**	P	**Pn**	**10 48 17.8**	**+2.3**
	comp=Z,0.5nm,0.3s,baz=349,slow=5.2,SNR=2.7						
DAVOX				S	**Sn**	**10 49 49.6**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=338,slow=22,SNR=2.0						
DAVOX				LR	LR	10 52 13.8	
	comp=Z,27nm,21.9s,baz=82,slow=43						
HFS	**Hagfors**	**18.64**	**351**	P	**P**	**10 50 31.6**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=161,slow=10,SNR=2.5						
NOA	**NORSAR Array B**	**19.84**	**348**	LR	LR	10 59 36.0	
	comp=Z,11nm,18.3s,baz=350,slow=40						
FINES	**FINESS Array B**	**20.08**	**10**	P	**P**	**10 50 46.3**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=179,slow=9.4,SNR=6.8						
ARU	**Arti**	**29.13**	**46**	LR	LR	11 06 09.0	
	comp=Z,86nm,20.0s,baz=222,slow=41						
MKAR	**Makanchi Array**	**44.34**	**61**	P	**P**	**10 54 23.4**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=278,slow=8.1,SNR=5.4						

DJA ***04*** *10:48:30.6±0.2, 1°S±2°×12°8E±°, h124km±4km, M4.6/12, mb4.6/10, mB5.0/5, MLv4.7/12, Mw(mB)4.3/5*
NEIC ***04*** *10:48:30.9±1.6, 0.°70S±0.°07×127.°51E±0.°07, h119km±9km, mb4.5/17, Error ellipse: s-maj=11.7km s-min=9.2km az=218.0*
IDC ***04*** *10:48:30.6±1.7, 0.°57S×127.°61E, h131km±17km, mb3.8/10, mb1 3.9/13, mb1mx3.6/51, mbtmp4.2/13, MS3.6/1, Ms1 3.6/1, ms1mx2.4/48, Error ellipse: s-maj=19.8km s-min=9.8km az=63.0*
ISC 04 10:48:31.9±0.5**, 0.°61S**±0.°04×**127.°55E**±0.°06**, h150**km**, n56, σ1.§97**/62**, mb4.0**/12**, 1D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.38**	**353**	Pn	**Pn**	**10 48 57.8**	**-2.5**
TNTI	**Ternate**	**1.38**	**353**	P	**Pn**	**10 48 57.7**	**-2.5**
TNTI				S	**Sn**	**10 49 18.0**	**-3.9**
SANI	**Sanana**	**2.12**	**227**	P	**Pn**	**10 49 04.2**	**-4.2**
GAMI	**Galela, Maluku**	**2.44**	**6**	P	**Pn**	**10 49 11.1**	**-1.2**
KRAI	**Karang Ratu**	**2.83**	**163**	P	**Pn**	**10 49 15.8**	**-1.3**
KRAI				S	**Sn**	**10 49 48.7**	**-3.3**
MSAI	**Masohi**	**3.05**	**153**	P	**Pn**	**10 49 18.7**	**-1.3**
MSAI				S	**Sn**	**10 49 54.6**	**-2.6**
MNI	**Manado**	**3.38**	**307**	P	**Pn**	**10 49 22.5**	**-1.7**
SWI	**Sorong**	**3.72**	**94**	P	**Pn**	**10 49 27.5**	**-1.0**
SIJI	**Sorong**	**3.73**	**94**	P	**Pn**	**10 49 26.7**	**-2.0**
	19nm,0.3s,baz=332,slow=23,SNR=26						
SIJI				S	**Sn**	**10 50 09.1**	**-3.6**
	baz=232,slow=22,SNR=0.6						
SIJI	**Sorong**	**3.73**	**94**	P	**Pn**	**10 49 26.5**	**-2.2**
BNDI	**Bandanaira**	**4.55**	**149**	P	**Pn**	**10 49 37.7**	**-1.7**
SGSI	**Sangihe**	**4.71**	**335**	P	**Pn**	**10 49 40.0**	**-1.6**
SGSI				S	**Sn**	**10 50 30.4**	**-5.5**
FAKI	**Fak Fak**	**5.23**	**116**	Pn	**Pn**	**10 49 46.5**	**-2.0**
FAKI	**Fak Fak**	**5.23**	**116**	P	**Pn**	**10 49 46.1**	**-2.3**
	0.5nm2μm150nm,1.1s						
MRSI	**Marisa**	**5.71**	**281**	P	**Pn**	**10 49 53.3**	**-1.4**
	0.7nm3μm130nm,0.7s						
APSI	**Ampana**	**5.90**	**267**	P	**Pn**	**10 49 55.2**	**-2.1**
	1.3nm6μm241nm,0.5s						
TOLI2	**Tolitoli**	**6.97**	**284**	Pn	**Pn**	**10 50 09.6**	**-2.0**
MPSI	**Mapaga**	**7.70**	**277**	P	**Pn**	**10 50 20.3**	**-1.1**
	0.2nm674nm47nm,0.8s						
KCP	**Kidapawan**	**7.95**	**342**	⇓*i*P	**Pn**	**10 50 23.4**	**-1.4**
KCP				*i* S	**Sn**	**10 51 52.1**	**-1.3**
TTSI	**Tana Toraja**	**8.09**	**252**	P	**Pn**	**10 50 26.5**	**-0.1**
	26nm,0.6s						
BNSI	**Bone**	**8.33**	**243**	P	**Pn**	**10 50 30.1**	**+0.3**
	19nm,0.9s						
KAPI	**Kappang**	**8.93**	**240**	P	**Pn**	**10 50 38.5**	**+0.8**
	0.8nm,0.3s,baz=131,slow=20,SNR=1.6						
KAPI				S	**Sn**	**10 52 13.7**	**-3.2**
	2.4nm,0.3s,baz=177,slow=22,SNR=6.0						
MTN	**Manton Dam**	**12.67**	**164**	Pn	**Pn**	**10 51 24.1**	**-2.8**
KNRA	**Kununurra**	**15.02**	**175**	Pn	**Pn**	**10 51 55.0**	**-1.7**
PWJI	**Pagerwojo**	**17.33**	**244**	P	**Pn**	**10 52 25.6**	**+0.8**
	28nm,0.8s						
FITZ	**Fitzroy Crossi**	**17.48**	**186**	P	**P**	**10 52 24.9**	**-0.7**
	0.7nm,0.3s,baz=19,slow=8.7,SNR=26						
FITZ	**Fitzroy Crossi**	**17.48**	**186**		**Pn**	**10 52 25.4**	**-1.3**
WRAB	**Tennant Creek**	**20.33**	**161**	P	**P**	**10 52 56.4**	**-0.1**
WRAB				IAmb	IAmb	10 52 57.4	
	comp=Z,33nm,0.9s						
WRA	**Warramunga Arr**	**20.34**	**161**	P	**P**	**10 52 56.4**	**-0.2**
	comp=Z,24nm,0.7s,baz=342,slow=12,SNR=183						
WRA				S	**S**	**10 56 33.8**	**-2.7**
	comp=Z,0.6nm,0.8s,baz=349,slow=18,SNR=2.2						
WRA	**Warramunga Arr**	**20.34**	**161**	P	**P**	**10 52 56.2**	**-0.3**
WB2	**Warramunga Arr**	**20.34**	**161**	P	**P**	**10 52 56.6**	**0.0**
WB2				IAmb	IAmb	10 52 57.4	
	comp=Z,32nm,0.8s						
COEN	**Coen**	**20.38**	**131**	P	Pn	10 52 59.3	-1.5
COEN				IAmb	IAmb	10 53 10.6	
	comp=Z,18nm,1.4s						
WR0	**Warramunga Arr**	**20.42**	**161**	P	**P**	**10 52 57.4**	**0.0**
WR0				IAmb	IAmb	10 52 58.2	
	comp=Z,28nm,0.8s						
CISI	**Cisompet, Garu**	**20.84**	**250**	P	Pn	10 53 03.2	-3.2
CISI				IAmb	IAmb	10 53 05.1	
	comp=Z,20nm,1.0s						
PSA00	**Pilbara Seismi**	**22.15**	**199**	P	**P**	**10 53 15.1**	**-0.6**
AS31	**Alice Springs**	**23.74**	**165**	P	**P**	**10 53 31.4**	**+0.9**
AS31				IAmb	IAmb	10 53 33.1	
	comp=Z,12nm,1.0s						
ASAR	**Alice Springs**	**23.74**	**165**	P	**P**	**10 53 31.2**	**+0.7**
	comp=Z,38nm,0.9s,baz=340,slow=9.3,SNR=253						
ASAR				PcP	**PcP**	**10 57 11.5**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=0.0,slow=1.9,SNR=2.8						
ASAR				S	**S**	**10 57 38.5**	**+3.6**
	comp=Z,1.5nm,0.8s,baz=343,slow=19,SNR=11						
ASAR	**Alice Springs**	**23.74**	**165**	P	**P**	**10 53 31.4**	**+0.9**
TPUB	**Ta-pu**	**24.70**	**345**	P	**P**	**10 53 40.2**	**+1.0**
TPUB				IAmb	IAmb	10 53 43.8	
	comp=Z,13nm,1.1s						
RGRI	**Rengat**	**25.21**	**270**	P	P	10 53 59.2	+15
FORT	**Forrest**	**30.01**	**179**	P	**P**	**10 54 27.6**	**+1.1**
SLVN	**Son La**	**31.76**	**315**	P	**P**	**10 54 45.1**	**+2.9**
SLVN				IAmb	IAmb	10 54 47.5	
	comp=Z,7.1nm,1.3s						
BBOO	**Buckleboo**	**33.02**	**167**	P	**P**	**10 54 53.8**	**+0.9**
STKA	**Stephens Creek**	**33.82**	**158**	P	**P**	**10 55 00.5**	**+0.6**
	comp=Z,7.1nm,0.7s,baz=331,slow=9.0,SNR=23						
STKA	**Stephens Creek**	**33.82**	**158**	P	**P**	**10 55 00.9**	**+1.0**
CMAR	**Chiang Mai Arr**	**33.90**	**305**	P	**P**	**10 55 02.1**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=133,slow=8.8,SNR=6.3						
KSRS	**Korea Array**	**37.87**	**0**	P	**P**	**10 55 35.3**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=172,slow=9.7,SNR=5.6						
CAN	**Canberra**	**39.91**	**152**	P	**P**	**10 55 53.9**	**+2.6**
SHL	**Shillong**	**43.17**	**310**	P	**P**	**10 56 19.2**	**+1.0**
MSVF	**Nonsavu**	**52.46**	**112**	LR	LR	11 20 25.2	
	comp=Z,56nm,18.0s,baz=128,slow=36						
MKAR	**Makanchi Array**	**61.57**	**326**	P	**P**	**10 58 34.5**	**+1.2**
	comp=Z,1.0nm,0.5s,baz=120,slow=7.5,SNR=8.7						
KURBB	**Kurchatov Arra**	**65.82**	**328**	P	**P**	**10 59 01.4**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=125,slow=6.0,SNR=18						
KURK	**Kurchatov**	**65.82**	**328**	P	**P**	**10 59 01.4**	**+0.4**
BVAR	**Borovoye Array**	**71.38**	**328**	P	**P**	**10 59 35.6**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=188,slow=9.0,SNR=4.0						
AKTO	**Aktyubinsk**	**77.55**	**322**	P	**P**	**11 00 11.5**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=149,slow=3.7,SNR=4.5						
VNDA	**Vanda**	**79.05**	**173**	P	**P**	**11 00 19.7**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=310,slow=6.3,SNR=5.2						

BEO ***04*** *10:50:12.4±0.7, 39.°94N×19.°36E, h3km±3km, ML3.2/11*
IDC ***04*** *10:50:14.7±4.5, 40.°15N×20.°06E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/46, mbtmp3.7/5, ML3.0/1, Error ellipse: s-maj=93.3km s-min=31.6km az=60.0*
TIR ***04*** *10:50:15.8, 40.°16N×19.°81E, h16km±3km, Md3.5, Ml3.2*
THE ***04*** *10:50:16.1, 40.°21N×19.°76E, h0km±1km, ML3.2/8, Error ellipse: s-maj=1.7km s-min=0.5km az=307.0*
PDG ***04*** *10:50:16.4±0.4, 40.°22N×19.°74E, h10km±1km, ML3.1/9, Error ellipse: s-maj=0.9km s-min=1.2km az=0.0*
ATH ***04*** *10:50:17.5, 40.°13N×19.°85E, h24km±6km, ML3.2/11, Error ellipse: s-maj=6.7km s-min=1.2km az=199.0*
ISC 04 10:50:16.2±1.1**, 40.°16N**±0.°02×**19.°80E**±0.°02**, h10**km±8km**, n84, σ1.§39**/126**, mb3.9**/4**, 8C-2D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KASA	**Kassiopi**	**0.43**	**166**	P	**Pb**	**10 50 25.7**	**-0.1**
KASA				S	**Sb**	**10 50 32.1**	**-0.2**
KEK	**Kerkira**	**0.45**	**181**	P	**Pg**	**10 50 25.7**	**+0.7**
KEK				S	**Sb**	**10 50 32.9**	**0.0**
	3μm,0.5s						
KEK	**Kerkira**	**0.45**	**181**	P	**Pg**	**10 50 25.4**	**+0.5**
KEK				S	**Sb**	**10 50 32.1**	**-0.8**
KEK				AML	AML	10 50 33.6	
	comp=E,7453μm,0.3s						
KEK				AML	AML	10 50 33.8	
	comp=N,5955μm,0.7s						
IGT	**Igoumenitsa**	**0.75**	**147**	P	**Pg**	**10 50 31.1**	**+0.5**
IGT				S	**Sb**	**10 50 43.0**	**+1.4**
	comp=N,2μm,0.3s						
IGT	**Igoumenitsa**	**0.75**	**147**	P	**Pg**	**10 50 30.8**	**+0.2**
IGT				S	**Sg**	**10 50 40.8**	**+0.4**
IGT				AML	AML	10 50 48.6	
	comp=E,3120μm,0.3s						
IGT				AML	AML	10 50 49.6	
	comp=N,3168μm,0.4s						
IGT	**Igoumenitsa**	**0.75**	**147**	P	**Pg**	**10 50 30.6**	**0.0**
	baz=147						
IGT				S	**Sb**	**10 50 41.9**	**+0.3**
	baz=147						
KBN	**Korca**	**0.88**	**58**	P	**Pg**	**10 50 32.5**	**-0.7**
KBN				S	**Sb**	**10 50 46.0**	**+0.5**
	comp=N,1μm,0.8s						
KBN	**Korca**	**0.88**	**58**	P	**Pg**	**10 50 32.6**	**-0.6**
	baz=57						
KBN				S	**Sb**	**10 50 46.5**	**+0.9**
	baz=57						
KBN				AMP			
	comp=E,3.7nm,0.6s,baz=57						
JAN	**Janina**	**0.95**	**122**	P	**Pb**	**10 50 35.0**	**+0.2**
JAN				S	**Sn**	**10 50 49.9**	**+0.6**
	comp=E,2μm,0.3s						
JAN	**Janina**	**0.95**	**122**	P	**Pg**	**10 50 34.3**	**-0.2**
JAN				S	**Sg**	**10 50 45.5**	**-1.3**
JAN				AML	AML	10 50 53.0	
	comp=E,5315μm,0.3s						
JAN				AML	AML	10 50 53.5	
	comp=N,4119μm,0.3s						
NEST	**Nestorio**	**0.98**	**75**	P	**Pg**	**10 50 35.5**	**+0.3**
NEST				S	**Sb**	**10 50 49.7**	**+1.2**
	comp=N,895nm,0.5s						
NEST	**Nestorio**	**0.98**	**75**	P	**Pg**	**10 50 34.9**	**-0.2**
NEST				AML	AML	10 50 52.7	
	comp=N,2217μm,0.6s						
NEST				AML	AML	10 50 53.3	
	comp=E,2348μm,0.6s						
PENT	**Pentalofos**	**1.02**	**88**	P	**Pg**	**10 50 35.9**	**0.0**
PENT				S	**Sn**	**10 50 51.7**	**+0.5**
	comp=E,675nm,0.4s						
PENT	**Pentalofos**	**1.02**	**88**	P	**Pg**	**10 50 35.4**	**-0.5**
PENT				S	**Sg**	**10 50 47.9**	**-1.3**
PENT				AML	AML	10 50 54.4	
	comp=E,1203μm,0.6s						
PENT				AML	AML	10 50 57.0	
	comp=N,1443μm,0.4s						
SCTE	**Santa Cesarea**	**1.03**	**265**	P	**Pn**	**10 50 37.1**	**+0.4**
SCTE				S	**Sn**	**10 50 50.9**	**-0.3**
SCTE				AML	AML	10 50 54.7	
	comp=E,2472μm,0.8s						
SCTE				AML	AML	10 50 54.8	
	comp=N,1826μm,0.7s						
TIR	**Tirane**	**1.19**	**2**	*e*Pg	**Pg**	**10 50 39.7**	**+0.7**
TIR				*e*Sg	**Sn**	**10 50 59.6**	**+4.5**
TIR	**Tirane**	**1.19**	**2**	P	**Pn**	**10 50 39.4**	**+0.5**
TIR				AML	AML	10 51 01.6	
	comp=E,2782μm,0.6s						
TIR				AML	AML	10 51 03.8	
	comp=N,2581μm,0.4s						
TIR	**Tirane**	**1.19**	**2**	P	**Pb**	**10 50 38.9**	**+0.1**
	baz=2.0						
TIR				S	**Sn**	**10 50 55.6**	**+0.5**
	baz=2.0						
TIR				AMP			
	comp=N,2.0nm,0.4s,baz=2.0						
KPRO	**Kipourio**	**1.21**	**99**	P	**Pb**	**10 50 39.6**	**+0.3**
KPRO				S	**Sn**	**10 50 57.8**	**+1.9**
	comp=N,1μm,0.7s						
KPRO	**Kipourio**	**1.21**	**99**	P	**Pb**	**10 50 38.8**	**-0.5**
KPRO				AML	AML	10 51 03.9	
	comp=N,1757μm,0.6s						
KPRO				AML	AML	10 51 04.8	
	comp=E,2576μm,0.8s						
OHR	**Ohrid**	**1.21**	**38**	*i* Pn	**Pn**	**10 50 39.5**	**+0.2**
FNA	**Florina**	**1.35**	**62**	P	**Pn**	**10 50 41.4**	**+0.2**
FNA	**Florina**	**1.35**	**62**	P	**Pn**	**10 50 41.6**	**+0.4**
FNA				AML	AML	10 51 05.6	
	comp=N,2821μm,0.5s						
FNA				AML	AML	10 51 07.3	
	comp=E,1998μm,0.5s						
FNA	**Florina**	**1.35**	**62**	P	**Pn**	**10 50 41.6**	**+0.4**
	baz=62						
TSLK	**Tsoukalades, L**	**1.49**	**153**	P	**Pb**	**10 50 43.9**	**0.0**
TSLK				S	**Sg**	**10 51 05.9**	**+1.8**
TSLK	**Tsoukalades, L**	**1.49**	**153**	P	**Pn**	**10 50 43.6**	**+0.6**
KZN	**Kozani**	**1.51**	**84**	P	**Pb**	**10 50 44.3**	**-0.1**
KZN	**Kozani**	**1.51**	**84**	P	**Pb**	**10 50 44.4**	**-0.1**
KZN				AML	AML	10 51 10.7	
	comp=E,1565μm,0.6s						
KZN				AML	AML	10 51 11.7	
	comp=N,1008μm,0.6s						
LKD2	**Lefkada island**	**1.52**	**154**	P	**Pg**	**10 50 45.2**	**-0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LKD2				S	Sg	10 51 07.3	+2.2
	comp=N,1µm,0.5s						
LKD2	Lefkada island	1.52	154	P	Pb	10 50 44.3	-0.2
LKD2	Lefkada island	1.52	154	P	Pn	10 50 44.1	+0.7
	baz=153						
DRAG	Dragano-Lefkad	1.59	158	P	Pn	10 50 45.2	+0.8
NYDR	Nydri-Lefkada	1.60	154	P	Pb	10 50 46.0	+0.1
EVGI	Lefkada island	1.67	157	P	Pb	10 50 46.8	-0.3
KTI	Kastanea	1.78	82	P	Pn	10 50 48.2	+1.0
FSK	Fiskardo	1.80	161	P	Pn	10 50 47.5	+0.2
THL	Klokotos Trika	1.80	109	P	Pn	10 50 48.4	+1.1
THL	Klokotos Trika	1.80	109	P	Pb	10 50 48.8	-0.5
THL				S	Sn	10 51 10.9	+0.7
THL				AML	AML	10 51 18.1	
	comp=E,740µm,0.5s						
THL				AML	AML	10 51 20.9	
	comp=N,490µm,0.4s						
ULC	Ulcinj	1.85	347	⇓*i*Pn	Pn	10 50 48.4	+0.4
ULC				*i* Sn	Sn	10 51 12.8	+1.3
KEF5	Kardakata, Kep	1.95	164	P	Pn	10 50 49.3	-0.1
KEF4	Livadi, Kephal	1.96	166	P	Pn	10 50 50.0	+0.5
EVR	Evrytania	1.99	128	P	Pb	10 50 52.0	-0.5
KEF3	Kipouria, Keph	2.00	168	P	Pn	10 50 49.5	-0.6
VLS	Valsamata	2.07	163	P	Pn	10 50 51.1	0.0
DRME	Dracevica, Mon	2.08	347	⇑*i*Pn	Pn	10 50 51.7	+0.6
DRME				*i* Sn	Sn	10 51 18.2	+1.2
MAKR	Makrakomi, Fth	2.13	122	P	Pb	10 50 54.5	-0.5
NOCI	Noci	2.18	288	P	Pb	10 50 55.4	-0.3
	baz=288						
BUM	Brajici-Budva	2.25	342	⇑*i*Pn	Pn	10 50 54.1	+0.6
BUM				*i* Sn	Sn	10 51 22.7	+1.4
PDG	Podgorica	2.30	350	*e*Pn	Pn	10 50 53.9	-0.3
PDG				*e*Sn	Sb	10 51 25.1	-1.3
TTG	Podgorica	2.30	350	⇑*i*Pn	Pn	10 50 55.0	+0.8
TTG				*i* Sn	Sn	10 51 23.8	+1.2
VAY	Valandovo	2.40	60	*e*Pn	Pn	10 50 57.6	+2.1
VAY				*e*Sn	Sg	10 51 32.8	-0.5
PVY	Plav	2.43	3	⇑*i*Pn	Pn	10 50 57.2	+1.1
PVY				*i* Sn	Sn	10 51 27.3	+1.3
CEME	Cevo	2.48	345	⇑*i*Pn	Pn	10 50 57.0	+0.4
CEME				*i* Sn	Sn	10 51 27.7	+0.7
HCY	Herceg Novi	2.49	337	⇑*i*Pn	Pn	10 50 57.4	+0.6
NKME	Niksic	2.68	346	⇑*i*Pn	Pn	10 51 00.0	+0.5
NKME				*i* Sn	Sn	10 51 33.0	+1.0
KOME	Kolasin	2.69	355	⇑*i*Pn	Pn	10 51 00.5	+0.8
KOME				*i* Sn	Sn	10 51 33.1	+0.7
IVA	Berane	2.71	1	⇓*i*Pn	Pn	10 51 00.4	+0.5
IVA				*i* Sn	Sn	10 51 33.9	+1.1
PRVS	Prvonek	2.90	35	*e*Pn	Pn	10 51 04.3	+1.8
BOSS	Bosilegrad	3.08	40	*e*Pn	Pb	10 51 08.5	-2.6
BOSS				*e*Sn	Sb	10 51 48.0	-0.8
SJES	Sjenica	3.10	2	*e*Pn	Pn	10 51 06.6	+1.3
SJES				*e*Sn	Sn	10 51 46.0	+3.6
STON	Ston	3.13	330	*e*Pn	Pn	10 51 05.6	0.0
STON				Sn	Sn	10 51 42.1	-0.9
SELS	Selova	3.21	17	*e*Pn	Pn	10 51 08.8	+2.1
IVAS	Ivanjica	3.42	4	*e*Pn	Pn	10 51 10.7	+1.0
IVAS				*e*Sn	Sn	10 51 52.4	+2.1
VTS	Vitosha	3.56	45	*e*Pn	Pn	10 51 13.4	+1.7
VTS				*e*Sn	Sb	10 52 00.3	-2.4
BBLS	Lazići	3.71	356	*e*Pn	Pn	10 51 14.0	+0.3
BBLS				*e*Sn	Sn	10 51 57.6	+0.1
BOVS	Bovan	3.75	22	*e*Pn	Pn	10 51 14.2	+0.1
ZAPS	Zavoj	3.76	33	*e*Pn	Pn	10 51 15.2	+0.9
RICI	Ricice	3.88	330	*e*Pn	Pn	10 51 16.4	+0.4
RICI				Sn	Sn	10 52 00.4	-1.2
ZAGS	Zajecar	4.07	26	*e*Pn	Pn	10 51 19.6	+1.1
ZAGS				*e*Sn	Sn	10 52 11.2	+5.0
TRUS	Trudelj	4.08	6	*e*Pn	Pn	10 51 19.3	+0.6
TRUS				*e*Sn	Sn	10 52 08.2	+1.7
KUBS	Kucevo	4.47	17	*e*Pn	Pn	10 51 23.8	-0.2
KIJV	Kijevo	4.60	328	*e*Pn	Pn	10 51 26.6	+0.8
KIJV				Sn	Sn	10 52 17.8	-1.4
ZIRJ	Zirje	4.67	320	*e*Pn	Pn	10 51 26.9	+0.2
MORI	Morici	4.80	322	*e*Pn	Pn	10 51 28.8	+0.4
DUGI	Dugi Otok	5.21	319	*e*Pn	Pn	10 51 35.1	+1.0
UDBI	Udbina	5.29	327	*e*Pn	Pn	10 51 36.9	+1.6
NVLJ	Novalja	5.72	322	*e*Pn	Pn	10 51 41.6	+0.5
MOSL	Moslavina	5.89	339	*e*Pn	Pn	10 51 43.6	+0.1
IDI	Anoyia	6.32	139	Pn	Pn	10 51 47.1	-2.3
	comp=N,0.4nm,0.3s,baz=330,slow=14,SNR=1.8						
IDI				Sn	Sn	10 52 53.4	-8.3
	comp=N,0.5nm,0.3s,baz=285,slow=20,SNR=1.8						
BRJN	Brijuni	6.52	319	*e*Pn	Pn	10 51 52.9	+0.8
NOA	NORSAR Array B	21.57	349	P	P	10 55 06.4	+0.8
	comp=N,0.2nm,0.4s,baz=161,slow=9.9,SNR=2.3						
FINES	FINESS Array B	21.66	8	P	P	10 55 05.7	-0.8
	comp=N,4.2nm,1.1s,baz=187,slow=11,SNR=2.1						
MKAR	Makanchi Array	44.76	60	P	P	10 58 28.5	-1.3
	comp=N,0.8nm,0.4s,baz=280,slow=7.5,SNR=14						
ZALV	Zalesovo Beam	44.80	49	P	P	10 58 28.9	-1.0
	comp=N,1.1nm,0.4s,baz=283,slow=7.7,SNR=3.5						

UPA ***04*** *11:07:56.8±0.3, 9°.35N×78°.31W, h64^{km}±9^{km}, ML3.7*

ISC 04 11:07:55.8±1.4**, 9°.35N**±0°.07×**78°.30W**±0°.03**, h76**^{km}±15^{km}**, n16,** σ1§35/30**, 5C-2D, Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPO	Chepo, Panama	0.83	258	*e*P	Pn	11 08 12.3	-0.3
CHPO				AMP		11 08 13.5	
	comp=Z,904nm,0.0s						
CHPO				*i* S	Sn	11 08 24.0	-1.0
UPD2	Meteti	0.84	161	⇓*i*P	Pn	11 08 13.1	+0.3
UPD2				AMP		11 08 13.4	
	comp=Z,5µm,0.1s						
UPD2				*i* S	Sn	11 08 25.4	0.0
UPD2	Meteti	0.84	161	⇓*i*P	Pn	11 08 13.1	+0.3
UPD2				*e*S	Sn	11 08 25.3	-0.1
UPD2				*i*		11 08 29.9	
	comp=Z,165nm,0.3s						
CAPC	Capurgana	1.17	127	*e*P	Pn	11 08 17.2	+0.5
CAPC				*e*S	Sn	11 08 32.6	+0.2
CAPC				*i*		11 08 36.0	
	comp=Z,113nm,0.3s						
UPA	Univ. de Panam	1.28	254	*e*P	Pn	11 08 18.6	+0.6
UPA				AMP		11 08 19.0	
	comp=Z,1µm,0.0s						
UPA				*e*S	Sn	11 08 34.1	-0.7
CHOR3	La Chorrera	1.52	253	*e*P	Pn	11 08 21.8	+0.6
CHOR3				*i* S	Sn	11 08 40.6	+0.2
BCIP	Isla Barro Col	1.53	263	⇑*e*P	Pn	11 08 22.2	+0.8
BCIP				*i*		11 08 23.2	
	comp=Z,41nm,0.3s						
BCIP				*e*S	Sn	11 08 40.7	0.0
LCBC	Los crdobas,	1.96	104	⇑*i*P	Pn	11 08 29.0	+1.9
LCBC				*i*		11 08 29.2	
	comp=Z,91nm,0.3s						
LCBC				*e*S	Sn	11 08 51.5	+0.5
AZU	Azuero	2.49	232	*e*P	Pn	11 08 34.3	+0.1
AZU				*e*S	Sn	11 09 03.0	-0.8
DBBC	Dabeiba	3.10	138	*e*P	Pn	11 08 45.1	+2.5
DBBC				*i*		11 08 46.9	
	comp=Z,30nm,0.7s						
SJCC	San Jacinto, C	3.12	80	⇑*e*P	Pn	11 08 44.1	+1.3
SJCC				*e*S	Sn	11 09 18.9	-0.1
SJCC	San Jacinto, C	3.12	80	⇑*i*P	Pn	11 08 44.1	+1.3
SJCC				*e*S	Sn	11 09 18.6	-0.5
SJCC				*i*		11 09 23.8	
	comp=Z,10nm,0.5s						
UREC	San Jos de Ur	3.16	120	*e*P	Pn	11 08 43.6	+0.3
UREC				*e*S	Sn	11 09 16.1	-3.9
UREC				*i*		11 09 21.2	
	comp=Z,14nm,0.2s						
ZARC	Zaragoza, Cauc	3.87	118	⇑*e*P	Pn	11 08 53.4	+0.4
ZARC				*i*		11 08 53.7	
	comp=Z,19nm,0.2s						
ZARC				*e*S	Sn	11 09 35.2	-2.0
CBOC	Ciudad Bolivar	4.13	147	*e*P	Pn	11 08 58.7	+2.0
CBOC				*i*		11 09 07.4	
	comp=Z,3.0nm,0.3s						
SMLC	San Martn de	4.21	97	*e*P	Pn	11 08 57.1	-0.5
SMLC				*e*S	Sn	11 09 42.9	-2.6
SMLC				*i*		11 09 49.9	
	comp=Z,8.5nm,0.1s						

IDC 04 11:09:36.2±2.9**, 6°.02S**×**149°.88E, h0**^{km}**, mb3.8**/4**, mb1 4.0**/4**, mb1mx3.6**/29**, mbtmp3.9**/4**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.5**/36**, Error ellipse: s-maj=68.0km s-min=45.3km az=105.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.49	226	P	P	11 14 16.2	+0.3
	4.5nm,0.5s,baz=52,slow=11,SNR=86						
ASAR	Alice Springs	23.33	220	P	P	11 14 45.2	-1.0
	0.4nm,0.4s,baz=53,slow=9.6,SNR=11						
FITZ	Fitzroy Crossi	26.53	241	P	P	11 15 16.1	+0.3
	2.4nm,0.8s,baz=56,slow=13,SNR=7.8						
STKA	Stephens Creek	26.87	196	P	P	11 15 19.2	+0.5
	1.6nm,0.8s,baz=350,slow=17,SNR=4.6						
JCJ	Chichijima	33.75	348	LR	LR	11 29 33.7	
	comp=Z,44nm,18.4s,baz=133,slow=36						
TORD	Torodi Ar. Bea	147.87	285	PKPbc	PKPbc	11 29 23.6	-0.8
	0.5nm,0.4s,baz=52,slow=2.6,SNR=5.7						

ISK 04 11:44:33.2, 37°.15N×**27°.89E, h0**^{km}**, ML2.1**/8**, Suspected Mining explosion., Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	Milas	0.18	328	PG	Pg	11 44 37.4	+0.8
MLSB				SG	Sg	11 44 40.8	+1.9
YER	Yerkesik	0.31	92	PG	Pb	11 44 40.5	-1.2
YER				SG	Sb	11 44 45.7	-1.6
TURN	Turunc	0.46	143	PG	Pg	11 44 43.1	+1.0
BODT	Bodrum	0.47	260	PG	Pb	11 44 43.5	-0.9
BODT				SG	Sb	11 44 51.0	-1.0
DAT	Datca	0.49	211	PG	Pb	11 44 43.6	-1.1
DALY	Dalyan (Mula)	0.69	118	PG	Pb	11 44 47.7	-0.4
GCAM	G?zelcaml?	0.76	317	PG	Pb	11 44 49.1	-0.3
NIS1	Nisyros Isl.	0.79	227	PG	Pb	11 44 49.5	-0.3
AYDB	Zeytinkoy-Aydi	0.80	360	PG	Pb	11 44 49.5	-0.6
AKAS	Kas	1.65	123	PN	Pb	11 45 04.6	0.0

BUC 04 11:46:34.0±0.4**, 45°.30N**×**25°.10E, h1**^{km}**, ml0.9**/3**, 12C-2D, Error ellipse: s-maj=3.5km s-min=2.5km az=177.0, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTUR	Matau	0.08	201	⇑P	Pg	11 46 34.9	-0.7
MTUR	Matau	0.08	201	⇑P	Pg	11 46 34.9	-0.7
VOIR		0.14	344	⇑P	Pg	11 46 35.8	-1.0
VOIR				⇑S	Sg	11 46 38.8	+0.2
VOIR		0.14	344	⇑P	Pg	11 46 35.8	-1.0
VOIR				⇑S	Sg	11 46 38.8	+0.2
ARR	Arges	0.34	282	⇑P	Pg	11 46 41.0	+0.5
ARR				⇓S	Sg	11 46 46.1	+1.1
ARR	Arges	0.34	282	⇑P	Pg	11 46 41.0	+0.5
ARR				⇓S	Sg	11 46 46.1	+1.1
MLR	Muntele Rosu	0.62	72	⇑P	Pg	11 46 46.4	+0.5
MLR				⇑S	Sg	11 46 55.3	+1.2
MLR	Muntele Rosu	0.62	72	⇑P	Pg	11 46 46.4	+0.5
MLR				⇑S	Sg	11 46 55.3	+1.2

NEIC ***04*** *11:47:56.1±0.9, 1°.32S±0°.06×134°.3E±0°.2, h10^{km}±2^{km}, mb3.6/7, Error ellipse: s-maj=40.8km s-min=9.5km az=93.0*

IDC ***04*** *11:47:56.9±2.3, 1°.58S×133°.93E, h0^{km}, mb3.5/3, mb1 3.8/6, mb1mx3.6/54, mbtmp3.7/6, ML3.8/3, MS3.5/2, Ms1 3.5/2, ms1mx2.6/33, Error ellipse: s-maj=42.8km s-min=16.6km az=59.0*

DJA ***04*** *11:47:59.5±0.4, 1°S±5°×13°4E±°, h69^{km}±10^{km}, M4.5/7, mB5.0/4, mb4.2/7, MLv4.6/6, Mw(mB)4.4/4*

ISC 04 11:47:57.7±0.9**, 1°.32S**±0°.07×**134°.29E**±0°.06**, h29**^{km}**, n26,** σ**2§11**/31**, mb3.5**/4**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAKI	Biak	1.82	86	P	Pb	11 48 29.4	-1.0
SRPI	Serui, Papua	2.02	106	P	Pb	11 48 33.2	-0.7
FAKI	Fak Fak	2.59	232	Pn	Pn	11 48 38.5	+0.8
FAKI	Fak Fak	2.59	232	P	Pn	11 48 38.3	+0.6
FAKI				S	Sn	11 49 09.6	+1.4
SIJI	Sorong	3.06	278	Pn	Pn	11 48 42.8	-1.4
	30nm,0.3s,baz=67,slow=24,SNR=168						
SIJI				Sn	Sn	11 49 19.3	-0.5
	33nm,0.3s,baz=86,slow=23,SNR=5.6						
SIJI	Sorong	3.06	278	P	Pn	11 48 43.6	-0.5
SIJI				S	Sn	11 49 20.4	+0.6
SWI	Sorong	3.06	278	P	Pn	11 48 44.0	-0.2
SWI				S	Sn	11 49 19.8	-0.1
BNDI	Bandanaira	5.41	234	P	Pn	11 49 17.3	+0.7
	0.8nm5µm186nm,1.6s						
MSAI	Masohi	5.72	249	P	Pn	11 49 21.8	+1.0
	0.1nm334nm9.2nm,0.6s						
MSAI				S	Sn	11 50 25.2	-0.4
	0.1nm334nm9.2nm,0.6s						
KRAI	Karang Ratu	6.22	251	P	Pn	11 49 29.4	+1.8
	1.2nm3µm54nm,0.6s						
JAY	Jayapura	6.52	101	LR	LR	11 52 15.0	
	comp=Z,71nm,20.2s,baz=313,slow=38						
SANI	Sanana	8.33	265	P	Pn	11 49 55.0	-1.6
	10nm,0.9s						
MTN	Manton Dam	11.87	195	Pn	Pn	11 50 45.2	0.0
KNRA	Kununurra	15.27	201	Pn	Pn	11 51 31.4	-0.1
WRAB	Tennant Creek	18.50	180	P	P	11 52 11.4	-0.3
WRAB				IAmb	IAmb	11 52 20.2	
	comp=Z,6.7nm,1.2s						
WB2	Warramunga Arr	18.51	180	P	P	11 52 11.9	0.0
WB2				IAmb	IAmb	11 52 36.1	
	comp=Z,6.6nm,1.2s						
WRA	Warramunga Arr	18.51	180	P	P	11 52 11.5	-0.4
	comp=Z,0.4nm,0.3s,baz=359,slow=11,SNR=9.9						
WRA				S	Sn	11 55 29.5	-8.9
	comp=Z,0.1nm,0.3s,baz=358,slow=23,SNR=1.5						
WR0	Warramunga Arr	18.53	179	P	Pn	11 52 12.5	+0.1
WR0				IAmb	IAmb	11 52 38.0	
	comp=Z,4.3nm,1.1s						
FITZ	Fitzroy Crossi	18.71	206	P	P	11 52 13.9	-0.2
	comp=Z,0.1nm,0.3s,baz=28,slow=11,SNR=1.5						
FITZ				S	Sn	11 55 28.9	-14
	comp=Z,0.1nm,0.3s,baz=164,slow=22,SNR=1.6						
FITZ	Fitzroy Crossi	18.71	206	P	P	11 52 12.3	-1.8
FITZ				IAmb	IAmb	11 52 40.5	
	comp=Z,3.0nm,0.9s						
CTA	Charters Tower	22.02	149	P	P	11 52 54.3	+4.3
	comp=Z,1.8nm,0.9s,baz=313,slow=18,SNR=1.3						
AS31	Alice Springs	22.22	181	P	P	11 52 54.0	+1.8
AS31				IAmb	IAmb	11 53 16.2	
	comp=Z,1.3nm,0.5s						
ASAR	Alice Springs	22.22	181	P	P	11 52 54.1	+2.0
	comp=Z,1.0nm,0.5s,baz=5.8,slow=12,SNR=23						
ASAR				S	S	11 56 55.4	+0.1
	comp=Z,0.4nm,0.7s,baz=7.4,slow=22,SNR=4.6						
ASAR	Alice Springs	22.22	181	P	P	11 52 53.5	+1.4
CMAR	Chiang Mai Arr	39.93	301	P	P	11 55 30.2	+0.5
	comp=Z,0.3nm,0.3s,baz=116,slow=8.1,SNR=4.5						
RAO	Raoul Island	53.27	126	LR	LR	12 18 25.8	
	comp=Z,225nm,20.9s,baz=276,slow=34						

NNC ***04*** *11:49:50.3±3.7, 36°.85N×70°.59E, h0^{km}, mb4.9, mpv4.8, Error ellipse: s-maj=37.1km s-min=26.9km az=174.0*

BJI ***04*** *11:49:53.4±0.0, 36°.70N×71°.11E, h68^{km}, mB4.4/10, mb4.3/17, ML4.2/4, Ms3.8/4, Ms7 3.5/3*

MOS ***04*** *11:49:53.7±1.3, 36°.68N×71°.02E, h90^{km}, mb4.2/17, Error ellipse: s-maj=7.3km s-min=4.3km az=87.7*

IDC ***04*** *11:49:54.6±0.5, 36°.59N×71°.01E, h92^{km}±4^{km}, mb3.9/28, mb1 4.0/32, mb1mx3.8/66, mbtmp4.3/32, MS3.0/8, Ms1 3.1/8, ms1mx2.7/61, Error ellipse: s-maj=10.5km s-min=9.2km az=46.0*

NEIC ***04*** *11:49:54.6±2.8, 36°.68N±0°.05×70°.83E±0°.06, h82^{km}±5^{km}, mb4.4/38, Error ellipse: s-maj=7.8km s-min=6.8km az=127.0*

ISC 04 11:49:54.3±0.4**, 36°.61N**±0°.04×**71°.01E**±0°.04**, h90**^{km}±3^{km}**, h90**^{km}**:pP-P, n195,** σ**1§69**/212**, mb4.3**/50**, 9C-14D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	Garm	2.45	347		Pn	11 50 32.0	-0.5
CHGR	Chuyangaron	2.52	325	Pn	Pn	11 50 31.7	-1.8
CHGR				Sn	Sn	11 50 59.8	-3.7
KBL	Kabul	2.61	218	PN	Pn	11 50 35.5	+0.6
KBL						11 51 06.6	
KBL	Kabul	2.61	218	Pn	Pn	11 50 35.5	+0.6
KBL				Sn	Sn	11 51 06.6	+0.7
CEP	Cherat	2.88	165	⇓P	Pn	11 50 39.4	+1.1
DRK	Karamyk	2.93	12		Pn	11 50 40.3	+1.2
BTK	Batken	3.45	358	PN	Pn	11 50 46.9	+1.0
BTK	Batken	3.45	358		Pn	11 50 46.9	+1.0
CHCP	Chirah Chowk	3.48	147	P	Pn	11 50 48.0	+1.7
NIL	Nilore	3.48	147	PN	Pn	11 50 48.0	+1.7
NIL	Nilore	3.48	147	Pn	Pn	11 50 48.0	+1.7
THW	Thamme Wali	3.85	171	P	Pn	11 50 51.7	+0.3
KSH	Kashi	4.88	52	P	Pn	11 51 02.2	-3.1
KSH				sP		11 51 18.7	
KSH				S	Sn	11 51 44.3	-16
KSH				smax	smax		
	comp=N,770nm,0.7s						
KSH				smax	smax		
	comp=E,380nm,0.7s						
SARP	Sargodha	4.88	163	P	Pn	11 51 04.3	-0.9
JMU	Jammu	5.04	139	*e*x	Pn	11 50 52.5	-15
JMU				*e*x	Sn	11 51 54.0	-10
THN	Thein Dam	5.70	136	*e*P	Pn	11 51 17.0	+0.6
THN				*e*S	Sn	11 52 20.0	-0.4
AML	Almayashu	5.89	20	P	Pn	11 51 19.8	+0.4
	SNR=183						
DHRM	DHARAMSHALA	6.17	133	*e*P	Pn	11 51 23.4	+0.4
DHRM				*e*S	Sn	11 52 30.1	-2.1
DHRM				IAML		11 52 31.3	
	comp=E,2µm,0.3s						
DHRM				IAML		11 52 33.6	
	comp=N,3µm,0.2s						
KZA	Kyzart	6.37	30	P	Pn	11 51 25.4	-0.5
	SNR=8.0						
EKS2	Erkin-Say	6.41	19	P	Pn	11 51 26.7	+0.5
	SNR=31						
KK31	Karatay Array	6.50	357	P	Pn	11 51 26.4	-0.8
	comp=N,88nm,0.6s,baz=176,slow=12,SNR=493						
KK31				⇑S	Sn	11 52 35.7	-4.2
	comp=N,59nm,0.5s,baz=182,slow=25,SNR=5.2						
KK31	Karatay Array	6.50	357	PN	Pn	11 51 26.5	-0.8
KK31	Karatay Array	6.50	357		Pn	11 51 26.5	-0.8
KKAR	Karatay Array	6.50	357	PN	Pn	11 51 26.4	-0.8
KKAR	Karatay Array	6.50	357	Pn	Pn	11 51 26.4	-0.8
KKAR	Karatay Array	6.50	357		Pn	11 51 26.5	-0.8
AAK	Ala-Archa	6.59	23	P	Pn	11 51 29.5	+0.8
	comp=N,18nm,0.3s,baz=220,slow=9.4,SNR=138						
AAK				S	Sn	11 52 42.5	+0.1
	comp=N,8.5nm,0.3s,baz=180,slow=20,SNR=5.8						
AAK	Ala-Archa	6.59	23	P	Pn	11 51 29.1	+0.4
	SNR=64						
AAK	Ala-Archa	6.59	23	⇑P	Pn	11 51 29.2	+0.5
	comp=N,44nm,0.5s						
AAK				S	Sn	11 52 43.7	+1.3
	comp=N,50nm,0.5s						
KBK	Karagaybulak	6.76	26	P	Pn	11 51 32.7	+1.7
	SNR=7.3						
FRU1	Bishkek	6.79	23	PN	Pn	11 51 32.0	+0.7
FRU1	Bishkek	6.79	23		Pn	11 51 32.0	+0.7
BHK	Bhakra	6.85	138	*e*P	Pn	11 51 22.2	-10
BHK				*e*S	Sn	11 52 36.2	-13
BOOM	Boomskoye usch	7.00	31	PN	Pn	11 51 36.3	+2.0
BOOM	Boomskoye usch	7.00	31	Pn	Pn	11 51 36.2	+2.0
CHMS	Chumysh	7.00	23	P	Pn	11 51 34.6	+0.5
	SNR=33						
USP	Ospenovka	7.17	21	P	Pn	11 51 36.3	-0.1
	SNR=68						
TKM2	Tokmak 2	7.22	28	P	Pn	11 51 38.0	+0.6
	SNR=27						
TKM2	Tokmak 2	7.22	28	⇓P	Pn	11 51 37.7	+0.3
	comp=N,32nm,0.8s						
TKM2	Tokmak 2	7.22	28	PN	Pn	11 51 37.6	+0.3
KDJ	Kajisay	7.29	39	PN	Pn	11 51 38.8	+0.5
KDJ	Kajisay	7.29	39	Pn	Pn	11 51 38.8	+0.5
HRA	Herat	7.49	255	Pn	Pn	11 51 38.6	-2.3
SMLA	Simla	7.49	135	*e*P	Pn	11 51 40.2	-0.6
SMLA				*e*S	Sn	11 52 59.4	-4.7
MDOK	Medeo	8.02	33	⇑P	Pn	11 51 48.6	+0.4
	comp=N,21nm,0.7s						
MDOK	Medeo	8.02	33	PN	Pn	11 51 48.6	+0.4
PRZ	Przheval'sk	8.18	42	PN	Pn	11 51 51.9	+1.5
PRZ	Przheval'sk	8.18	42		Pn	11 51 51.9	+1.5
DDI	Dehra Dun	8.60	135	*e*P	Pn	11 51 55.9	-0.1
DDI				*e*x	Sn	11 53 25.7	-5.6
PDGK	Podgornoye	9.35	42	⇓P	Pn	11 52 05.7	-0.5
	comp=N,11nm,0.7s						
PDGK	Podgornoye	9.35	42	P	Pn	11 52 05.7	-0.5
NDI	New Delhi	9.48	145	*e*P	Pn	11 52 06.0	-1.9
GEYT	Alibeck	10.36	281	P	Pn	11 52 14.2	-5.7
	comp=N,6.6nm,0.3s,baz=163,slow=11,SNR=29						
GEYT				S	Sn	11 54 01.7	-12
	comp=N,9.4nm,0.3s,baz=133,slow=14,SNR=4.0						
GEYT				LR	LR	11 57 36.5	
	comp=N,83nm,19.2s,baz=150,slow=45						
GYA0B	ALIBECK ARRAY	10.36	281	Pn	Pn	11 52 14.5	-5.4
OTUK	Ortayu	11.67	4	⇓P	Pn	11 52 34.7	-2.9
	comp=N,9.3nm,0.7s						
OTUK	Ortayu	11.67	4	P	Pn	11 52 34.6	-2.9
MAKZ	Makanchi	13.06	35	⇓P	Pn	11 52 54.7	-1.5
	comp=N,12nm,1.1s						
MAKZ	Makanchi	13.06	35	P	Pn	11 52 55.3	-0.9
MAKZ	Makanchi	13.06	35		Pn	11 52 55.3	-0.9
MK31	Makanchi Array	13.20	36	P	Pn	11 52 57.9	-0.1
	comp=N,5.7nm,0.7s,baz=220,slow=12,SNR=40						
MK31	Makanchi Array	13.20	36	*de*P	Pn	11 52 57.8	-0.2
MK31	Makanchi Array	13.20	36	Pn	Pn	11 52 58.4	+0.4
MKAR	Makanchi Array	13.20	36	P	Pn	11 52 57.1	-0.9
	comp=N,0.4nm,0.3s,baz=223,slow=14,SNR=43						
MKAR	Makanchi Array	13.20	36	*i* P	Pn	11 52 58.2	+0.2
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MKAR	Makanchi Array	13.20	36	Pn	Pn	11 52 56.9	-1.1
BHPL	Bhopal	14.43	156	*e*P	Pn	11 53 10.4	-3.8
BHPL				*e*S	Sn	11 55 41.3	-12
AB31	Akbulak array	14.99	331	⇓P	Pn	11 53 17.2	-4.0
	comp=Z,4.2nm,0.3s,baz=149,slow=12,SNR=259						
AB31	Akbulak array	14.99	331	*e*P	Pn	11 53 17.1	-4.0
ABKAR	Akbulak array	14.99	331	Pn	Pn	11 53 17.3	-3.8
KURBB	Kurchatov Arra	15.02	19	P	Pn	11 53 19.5	-2.0
	comp=Z,0.1nm,0.3s,baz=214,slow=12,SNR=8.8						
BVAR	Borovoye Array	16.42	359	P	Pn	11 53 36.7	-2.3
	comp=Z,2.7nm,0.3s,baz=188,slow=20,SNR=41						
BRVK	Borovoye	16.45	358	⇑P	Pn	11 53 36.4	-3.1
	comp=Z,26nm,0.9s						
BRVK	Borovoye	16.45	358	*de*P	Pn	11 53 36.7	-2.8
BRVK				pmax	pmax		
	comp=Z,37nm,1.3s						
BRVK	Borovoye	16.45	358	Pn	Pn	11 53 37.0	-2.5
BRVK				IAmb	IAmb	11 53 38.6	
	comp=Z,19nm,0.7s						
AKTO	Aktyubinsk	16.69	330	P	Pn	11 53 40.0	-2.4
	comp=Z,4.0nm,0.3s,baz=133,slow=12,SNR=46						
AKTO				S	Sn	11 56 33.5	-14
	comp=Z,0.5nm,0.3s,baz=34,slow=8.0,SNR=3.1						
AKTO	Aktyubinsk	16.69	330	⇑P	Pn	11 53 39.4	-3.0
	comp=Z,63nm,0.8s						
AKTO	Aktyubinsk	16.69	330	P	Pn	11 53 40.0	-2.4
WSAR	Wadi Sarin	17.09	222	P	P	11 53 47.8	0.0
	comp=Z,0.8nm,0.3s,baz=16,slow=8.7,SNR=5.6						
DGZ	Jazzator, Alta	17.69	37	⇑*i*P	P	11 53 53.3	-1.2
DGZ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
LSA	Lhasa	18.20	106	P	Pn	11 54 01.6	+0.1
LSA				pmax	pmax		
	comp=Z,12nm,0.6s						
LSA	Lhasa	18.20	106	P	Pn	11 54 01.6	+0.1
LSA				IAmb	IAmb	11 54 05.0	
	comp=Z,12nm,0.6s						
ZAA0	Zalesovo Array	19.81	25		P	11 54 16.7	-0.7
ZAA0				IAmb	IAmb	11 54 38.2	
	comp=Z,14nm,0.6s						
ZALV	Zalesovo Beam	19.81	25	P	P	11 54 16.8	-0.6
	comp=Z,3.4nm,0.3s,baz=212,slow=9.5,SNR=16						
ZALV				S	S	11 57 51.2	-4.3
	baz=218,slow=18,SNR=2.0						
ZALV				LR	LR	12 01 53.2	
	comp=Z,30nm,19.6s,baz=159,slow=36						
ZALV	Zalesovo Beam	19.81	25	*i* P	P	11 54 17.2	-0.2
ZALV				pmax	pmax		
	comp=Z,7.0nm,0.4s						
HYB	Hyderabad	20.25	159	*i* P	P	11 54 22.0	-0.5
HYB				*e*sP	sP	11 54 53.5	+0.9
GROC	Groznyy	20.39	297	*e*P	P	11 54 24.5	+0.7
GROC				*e**SP	sP	11 54 56.8	+3.6
GROC				*e*S	S	11 58 07.1	0.0
GROC				*e*		11 58 32.3	
GROC				*e**SS	sS	11 58 43.2	+5.6
GROC				pmax	pmax		
	comp=Z,22nm,0.5s						

UMR	**Umm Al-Rimmam**	**20.72**	**257**	*e*P	**P**	**11 54 27.1**	**-0.4**
GNI	**Garni**	**20.87**	**288**	P	Pn	11 54 31.2	-1.2
	comp=Z,34nm,0.7s,baz=342,slow=4.2,SNR=9.7						
GNI	**Garni**	**20.87**	**288**	IAmb	IAmb	11 54 32.2	
	comp=Z,32nm,0.7s						
KBD	**Kabd**	**20.90**	**256**	*e*P	**P**	**11 54 29.1**	**-0.3**
MIB	**Mutribah**	**20.91**	**258**	*e*P	**P**	**11 54 29.1**	**-0.3**
QRN	**Al-Qurain**	**20.93**	**255**	*e*P	**P**	**11 54 28.8**	**-0.9**
SHL	**Shillong**	**20.95**	**116**	P	**P**	**11 54 30.4**	**+0.3**
SHL				pmax	pmax		
	comp=Z,13nm,0.7s						
SHL	**Shillong**	**20.95**	**116**	P	**P**	**11 54 30.4**	**+0.3**
SHL				IAmb	IAmb	11 54 59.1	
	comp=Z,13nm,0.7s						
RDF	**Al-Radifah**	**21.13**	**255**	*e*P	**P**	**11 54 31.9**	**0.0**
RST	**Umm Al-Ruwaisa**	**21.31**	**258**	*e*P	**P**	**11 54 32.8**	**-0.9**
SVE	**Sverdlovsk**	**21.39**	**344**	⇓*e*P	**P**	**11 54 34.5**	**+0.1**
SVE				pmax	pmax		
	comp=Z,25nm,0.9s						
ARU	**Arti**	**21.53**	**341**	P	**P**	**11 54 35.4**	**-0.5**
	comp=Z,2.9nm,0.4s,baz=153,slow=8.8,SNR=11						
ARU				S	**S**	**11 58 29.4**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=271,slow=22,SNR=1.4						
ARU				LR	LR	12 03 41.4	
	comp=Z,74nm,18.9s,baz=148,slow=38						
ARU	**Arti**	**21.53**	**341**	*d i*P	**P**	**11 54 36.0**	**+0.2**
ARU						11 55 00.2	
ARU				S	**S**	**11 58 30.3**	**+1.0**
ARU				SS	**SnSn**	**11 59 04.9**	**+4.3**
ARU				pmax	pmax		
	comp=Z,27nm,1.2s						
ARU	**Arti**	**21.53**	**341**	P	**P**	**11 54 34.8**	**-1.0**
ARU				IAmb	IAmb	11 54 57.6	
	comp=Z,17nm,0.9s						
ZEI	**Tsey**	**21.70**	**295**	*e*P	**P**	**11 54 32.3**	**-5.7**
ZEI				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ONI	**Oni**	**22.00**	**294**	P	**P**	**11 54 43.4**	**+2.3**
ONI				pmax	pmax		
	comp=Z,14nm,1.0s						
ONI	**Oni**	**22.00**	**294**	P	**P**	**11 54 43.4**	**+2.3**
ONI				IAmb	IAmb	11 55 02.8	
	comp=Z,14nm,1.0s						
KBZ	**Khabaz**	**22.56**	**297**	P	**P**	**11 54 46.0**	**-0.9**
	comp=Z,4.8nm,0.7s,baz=122,slow=9.0,SNR=11						
KBZ				S	**S**	**11 58 51.9**	**+4.3**
	comp=Z,3.7nm,0.9s,baz=238,slow=18,SNR=3.5						
KBZ	**Khabaz**	**22.56**	**297**	⇑*e*P	**P**	**11 54 48.3**	**+1.4**
KBZ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KVAR	**Kislovodsk Arr**	**22.74**	**298**	P	**P**	**11 54 49.0**	**+0.1**
	comp=Z,2.5nm,0.3s,baz=90,slow=20,SNR=1.5						
KIV	**Kislovodsk**	**22.74**	**298**	*e*P	**P**	**11 54 49.8**	**+0.9**
KIV				*e**PP	**pP**	**11 55 05.4**	**-2.0**
KIV				*e*		11 55 17.7	
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BELG	**Belogornoye**	**22.81**	**321**	P	**P**	**11 54 49.3**	**0.0**
	comp=Z,19nm,0.7s,baz=135,slow=2.9,SNR=4.0						
BELG	**Belogornoye**	**22.81**	**321**	⇓*e*P	**P**	**11 54 50.9**	**+1.6**
BELG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GTA	**Gaotai**	**22.83**	**74**	⇓P	**P**	**11 54 51.8**	**+1.9**
GTA				pmax	pmax		
	comp=Z,12nm,0.8s						
VRH	**Novokhopyorsk**	**25.44**	**314**	*e*P	**P**	**11 55 13.4**	**0.0**
VRH				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KIRV	**Kirov**	**26.14**	**334**	P	**P**	**11 55 20.6**	**+0.9**
	comp=Z,21nm,0.5s,baz=186,slow=4.1,SNR=6.4						
LPSR	**Galich'ya Gora**	**27.58**	**316**	*e*P	**P**	**11 55 34.0**	**+1.3**
LPSR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM	**Songino Array**	**28.27**	**55**	P	**P**	**11 55 39.5**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=258,slow=9.8,SNR=6.5						
SONM	**Songino Array**	**28.27**	**55**	IAmb	IAmb	11 55 40.8	
	comp=Z,1.7nm,1.0s						
ULN	**Ulaanbaatar**	**28.71**	**56**	⇓*e*P	**P**	**11 55 43.3**	**+0.3**
ULN				pmax	pmax		
	comp=Z,6.0nm,2.4s						
BR131	**Keskin Array S**	**29.41**	**288**	P	**P**	**11 55 50.3**	**+1.0**
BR131				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BR131	**Keskin Array S**	**29.41**	**288**	P	**P**	**11 55 50.3**	**+1.0**
BRTR	**Keskin Array B**	**29.41**	**288**	P	**P**	**11 55 49.9**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=97,slow=9.0,SNR=11						
BRTR				pP	**pP**	**11 56 09.9**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=99,slow=9.1,SNR=2.9						
BRTR	**Keskin Array B**	**29.41**	**288**	P	**P**	**11 55 49.5**	**+0.2**
OBN	**Obninsk**	**29.86**	**319**	*e*P	**P**	**11 55 53.1**	**+0.3**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**30.50**	**119**	P	**P**	**11 55 59.9**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=304,slow=7.9,SNR=7.5						
CMAR				LR	LR	12 09 25.2	
	comp=Z,37nm,18.5s,baz=195,slow=38						
CMAR	**Chiang Mai Arr**	**30.50**	**119**	*i* P	**P**	**11 56 01.7**	**+2.8**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PALK	**Pallekele**	**30.51**	**161**	P	**P**	**11 56 00.3**	**+1.2**
	comp=Z,13nm,0.7s,baz=92,slow=9.9,SNR=7.5						
PALK	**Pallekele**	**30.51**	**161**	*i* P	**P**	**11 55 58.8**	**-0.3**
KLMR	**Klimovskoe**	**31.39**	**331**	*e*P	**P**	**11 56 05.7**	**-0.6**
KLMR				pmax	pmax		
	comp=Z,18nm,1.4s						
KLMR	**Klimovskoe**	**31.39**	**331**	*e*P	**P**	**11 56 05.7**	**-0.6**
KLMR				AMP		11 56 07.9	
	comp=Z,18nm,1.4s						
ENH	**Enshi**	**32.57**	**90**	P	**P**	**11 56 20.2**	**+3.2**
ENH				IAmb	IAmb	11 56 29.4	
	comp=Z,11nm,1.2s						
ELL	**Elmali**	**32.78**	**283**	P	**P**	**11 56 20.4**	**+1.4**
ELL				pmax	pmax		
	comp=Z,37nm,0.6s						
ELL	**Elmali**	**32.78**	**283**	P	**P**	**11 56 20.4**	**+1.4**
AKASG	**Malin Array Be**	**32.88**	**309**	P	**P**	**11 56 19.4**	**0.0**
	comp=Z,1.2nm,0.5s,baz=83,slow=6.8,SNR=8.4						
AKASG				LR	LR	12 12 42.7	
	comp=Z,13nm,18.2s,baz=85,slow=42						
AKASG	**Malin Array Be**	**32.88**	**309**	P	**P**	**11 56 20.3**	**+0.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**32.88**	**309**	P	**P**	**11 56 20.3**	**+0.8**
AKBB	**Malin Array Si**	**32.88**	**309**	⇑*e*P	**P**	**11 56 20.1**	**+0.6**
AKBB				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKBB	**Malin Array Si**	**32.88**	**309**	P	**P**	**11 56 19.8**	**+0.3**
NRIK	**Noril'sk**	**34.02**	**10**	P	**P**	**11 56 30.1**	**+1.0**
	comp=Z,3.5nm,0.6s,baz=185,slow=2.1,SNR=3.0						
NRIK	**Noril'sk**	**34.02**	**10**	⇓*e*P	**P**	**11 56 30.2**	**+1.1**
NRIK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NRIK	**Noril'sk**	**34.02**	**10**	IAmb	IAmb	11 56 38.0	
	comp=Z,18nm,1.5s						
MLR	**Muntele Rosu**	**34.73**	**299**	P	**P**	**11 56 37.8**	**+2.0**
	comp=Z,2.1nm,0.3s,baz=96,slow=10,SNR=3.0						
MLR	**Muntele Rosu**	**34.73**	**299**	IAmb	IAmb	11 56 41.3	
	comp=Z,4.4nm,0.8s						
BURAR	**Bucovina Array**	**35.23**	**303**	P	**P**	**11 56 38.6**	**-1.4**
BUR08	**Bucovina Ar. S**	**35.24**	**303**	P	**P**	**11 56 37.6**	**-2.5**
BUR08				IAmb	IAmb	11 57 01.9	
	comp=Z,5.4nm,1.4s						
IDI	**Anoyia**	**37.08**	**282**	P	**P**	**11 56 56.0**	**+0.2**
	comp=Z,3.5nm,0.4s,baz=66,slow=8.4,SNR=5.6						
LVZ	**Lovozero**	**37.36**	**338**	P	**P**	**11 56 58.7**	**+0.9**
LVZ				pmax	pmax		
	comp=Z,40nm,1.3s						
LVZ	**Lovozero**	**37.36**	**338**	P	**P**	**11 56 58.7**	**+0.9**
FIA1	**FINESS Array S**	**37.40**	**326**	P	**P**	**11 56 59.1**	**+1.0**
FINES	**FINESS Array B**	**37.40**	**326**	P	**P**	**11 56 58.8**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=116,slow=9.6,SNR=6.9						
FINES				pP	**pP**	**11 57 18.4**	**-1.3**
	comp=Z,3.1nm,0.6s,baz=116,slow=9.4,SNR=4.3						
FINES				LR	LR	12 15 12.5	
	comp=Z,24nm,18.5s,baz=68,slow=41						
FINES	**FINESS Array B**	**37.40**	**326**	P	**P**	**11 56 58.7**	**+0.6**
KEV	**Kevo**	**40.70**	**338**	P	**P**	**11 57 26.6**	**+1.1**
KEV				pmax	pmax		
	comp=Z,20nm,1.1s						
KEV	**Kevo**	**40.70**	**338**	P	**P**	**11 57 26.6**	**+1.1**
ARCES	**ARCESS Array B**	**41.05**	**338**	P	**P**	**11 57 29.3**	**+0.9**
	comp=Z,3.2nm,0.5s,baz=114,slow=7.8,SNR=34						
ARCES				LR	LR	12 14 36.8	
	comp=Z,33nm,19.0s,baz=15,slow=36						
ARCES	**ARCESS Array B**	**41.05**	**338**	P	**P**	**11 57 29.7**	**+1.3**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	**ARCESS Array B**	**41.05**	**338**	P	**P**	**11 57 29.7**	**+1.3**
HFS	**Hagfors**	**42.98**	**322**	P	**P**	**11 57 44.8**	**+0.5**
	comp=Z,3.5nm,0.5s,baz=87,slow=9.1,SNR=13						
CLL	**Collm**	**43.13**	**309**	*e*P	**P**	**11 57 44.0**	**-1.5**
CLL	**Collm**	**43.13**	**309**	*e*P	**P**	**11 57 44.0**	**-1.5**
NC405	**NORSAR Array S**	**44.06**	**323**	P	**P**	**11 57 52.1**	**-0.8**
NORES	**NORESS Array B**	**44.11**	**323**	P	**P**	**11 57 56.5**	**+3.2**
NC303	**NORSAR Array S**	**44.24**	**323**	P	**P**	**11 57 54.9**	**+0.6**
NC303				IAmb	IAmb	11 58 18.5	
	comp=Z,6.1nm,0.9s						
NB2	**NORSAR Subarra**	**44.30**	**323**	P	**P**	**11 57 54.8**	**0.0**
	comp=Z,1.6nm,0.7s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.30**	**323**	P	**P**	**11 57 54.9**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=97,slow=7.9,SNR=12						
NOA				LR	LR	12 16 45.7	
	comp=Z,15nm,20.7s,baz=275,slow=36						
NBO00	**NORSAR Array S**	**44.51**	**323**	P	**P**	**11 57 55.4**	**-1.1**
NC204	**NORSAR Array S**	**44.54**	**323**	P	**P**	**11 57 57.2**	**+0.4**
NC204				IAmb	IAmb	11 58 23.1	
	comp=Z,5.7nm,0.8s						
KSRS	**Korea Array**	**44.84**	**71**	P	**P**	**11 58 02.6**	**+3.3**
	comp=Z,0.8nm,0.6s,baz=293,slow=6.5,SNR=4.4						
KLR	**Kul'dur**	**45.07**	**54**	P	**P**	**11 58 01.3**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=280,slow=9.6,SNR=4.9						
KLR				pP	**pP**	**11 58 24.6**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=278,slow=7.1,SNR=2.7						
TIXI	**Tiksi**	**45.67**	**22**	P	**P**	**11 58 05.9**	**+0.4**
	comp=Z,1.7nm,0.3s,baz=271,slow=5.4,SNR=2.2						
TIXI	**Tiksi**	**45.67**	**22**	P	**P**	**11 58 05.7**	**+0.3**
TIXI				IAmb	IAmb	11 58 29.4	
	comp=Z,5.1nm,0.8s						
MBAR	**Mbarara**	**52.58**	**234**	*ce*P	**P**	**11 59 00.0**	**+0.9**
MBAR	**Mbarara**	**52.58**	**234**	P	**P**	**11 58 59.0**	**-0.1**
ESDC	**Sonseca Array**	**57.41**	**298**	P	**P**	**11 59 33.6**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=65,slow=7.9,SNR=4.5						
BILL	**Bilibino**	**58.51**	**26**	*e*P	**P**	**11 59 37.5**	**-3.1**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.1s						
PETK	**Petropavlovsk-**	**59.88**	**44**	LR	LR	12 25 38.8	
	comp=Z,893nm,21.5s,baz=99,slow=36						
TORD	**Torodi Ar. Bea**	**65.73**	**269**	P	**P**	**12 00 28.6**	**-1.1**
	comp=Z,3.8nm,0.7s,baz=47,slow=6.0,SNR=24						
TORD	**Torodi Ar. Bea**	**65.73**	**269**	P	**P**	**12 00 28.0**	**-1.7**
TORD				IAmb	IAmb	12 00 29.8	
	comp=Z,3.4nm,0.9s						
BMAR	**Burnt Mountain**	**72.83**	**14**	P	**P**	**12 01 13.3**	**+0.5**
J20K	**Nowinta River**	**73.42**	**19**	P	**P**	**12 01 17.4**	**+1.2**
J20K				IAmb	IAmb	12 01 35.0	
	comp=Z,9.1nm,1.5s						
INK	**Inuvik**	**73.80**	**9**	P	**P**	**12 01 19.5**	**+1.1**
	comp=Z,2.0nm,0.5s,baz=334,slow=6.1,SNR=9.8						
INK	**Inuvik**	**73.80**	**9**	P	**P**	**12 01 19.4**	**+1.0**
INK				IAmb	IAmb	12 01 26.2	
	comp=Z,8.2nm,1.5s						
K20K	**Telida**	**74.11**	**19**	P	**P**	**12 01 20.6**	**+0.3**
MDM	**Murphy Dome**	**74.21**	**16**	P	**P**	**12 01 22.4**	**+1.4**
BPAW	**Bear Paw Mtn.**	**74.29**	**18**	P	**P**	**12 01 21.9**	**+0.5**
BPAW				IAmb	IAmb	12 01 47.4	
	comp=Z,9.9nm,1.5s						
ILAR	**Eielson Array**	**74.67**	**16**	P	**P**	**12 01 23.4**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=332,slow=5.1,SNR=4.7						
KTH	**Kantishna Hill**	**74.76**	**18**	P	**P**	**12 01 24.9**	**+0.8**
KTH				IAmb	IAmb	12 01 30.0	
	comp=Z,9.3nm,1.3s						
PPLA	**Purkeypile**	**74.98**	**19**	P	**P**	**12 01 26.8**	**+1.3**
BOSA	**Boshof**	**77.83**	**220**	P	**P**	**12 01 42.0**	**-0.1**
	comp=Z,2.3nm,1.0s,baz=17,slow=7.8,SNR=3.9						
BOSA				pP	**pP**	**12 02 06.0**	**-0.6**
	comp=Z,3.8nm,0.8s,baz=16,slow=2.3,SNR=3.5						
BOSA	**Boshof**	**77.83**	**220**	P	**P**	**12 01 41.9**	**-0.1**
BOSA				IAmb	IAmb	12 02 07.5	
	comp=Z,4.4nm,0.8s						
YKA	**Yellowknife Ar**	**81.14**	**3**	P	**P**	**12 02 00.0**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=1.6,slow=5.3,SNR=6.1						
YKA				pP	**pP**	**12 02 24.2**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=1.5,slow=5.6,SNR=2.7						
YKA	**Yellowknife Ar**	**81.14**	**3**	*i* P	**P**	**12 02 02.0**	**+2.6**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**81.14**	**3**	P	**P**	**12 02 00.8**	**+1.4**
WRA	**Warramunga Arr**	**82.04**	**122**	P	**P**	**12 02 03.7**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=325,slow=4.7,SNR=16						
WRA				pP	**pP**	**12 02 28.6**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=325,slow=4.8,SNR=3.9						
WRA				sP	**sP**	**12 02 39.1**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=327,slow=5.0,SNR=3.1						
WRA	**Warramunga Arr**	**82.04**	**122**	*i* P	**P**	**12 02 06.5**	**+1.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**82.04**	**122**	P	**P**	**12 02 04.3**	**-0.5**
ASAR	**Alice Springs**	**84.31**	**125**	P	**P**	**12 02 15.4**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=309,slow=4.9,SNR=13						
ASAR				pP	**pP**	**12 02 39.7**	**-1.8**
	comp=Z,0.8nm,0.7s,baz=317,slow=5.3,SNR=3.9						
ASAR	**Alice Springs**	**84.31**	**125**	P	**P**	**12 02 16.2**	**-0.2**
ASAR	**Alice Springs**	**84.31**	**125**	P	**P**	**12 02 16.2**	**-0.2**

MEX 04 11:52:09.5±0.5**, 16°45N**×**98°27W, h20**km±5km**, MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.14**	**112**	*i* P	Pb	11 52 12.9	-1.1
PNIG				*i* S	Sb	11 52 15.8	-1.3
YOIG	**Yosondua**	**0.80**	**59**	*e*P	Pb	11 52 22.5	-2.5
YOIG				*e*S	Sb	11 52 31.9	-3.5
MGIG	**Malinaltepec**	**0.86**	**336**	*e*P	Pb	11 52 23.1	-2.7
MGIG				*e*S	Sb	11 52 37.0	+0.1
TLIG	**Tlapa**	**1.15**	**346**	*e*P	Pn	11 52 27.7	-2.8
TLIG				*e*S	Sb	11 52 42.5	-2.7
PEIG	**Puerto Escondi**	**1.17**	**112**	*e*P	Pn	11 52 27.5	-3.2
PEIG				*e*S	Sb	11 52 41.4	-4.3
DAIG	**Los Arroyos**	**1.44**	**293**	*e*P	Pn	11 52 34.4	-0.2
DAIG				*e*S	Sn	11 52 52.2	-0.7
HLIG	**Huajuapan de L**	**1.44**	**18**	*e*P	Pn	11 52 33.1	-1.6
HLIG				*e*S	Sn	11 52 47.8	-5.4

*NIED **04** 11:52:29.4, 39°60N×143°36E, h20km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}3.00; $M_{\theta\theta}$-0.04; $M_{\phi\phi}$-2.96; $M_{r\theta}$2.08; $M_{\theta\phi}$-1.15; $M_{\phi r}$3.02; Fault plane solution: $M_0$4.86000×10^{14} NP1:ϕ_s31.00000°, δ70.00000°, λ99.00000°. NP2:ϕ_s186.00000°, δ22.00000°, λ66.00000°.*

JMA 04 11:52:29.3±0.2**, 39°60N**×**143°36E, h20**km±4km**, M3.7, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.19**	**269**	P	Pn	11 52 50.9	+0.1
JTH	**Tanohata**	**1.20**	**287**	P	Pb	11 52 51.2	-0.2
JKEN	**Kujiedanarisaw**	**1.41**	**296**	P	Pn	11 52 53.8	0.0
JKEN				S	Sn	11 53 11.8	+0.1
OFUJ	**Ofunato**	**1.41**	**249**	P	Pn	11 52 54.3	+0.5
OFUJ				*e*S	Sb	11 53 12.5	0.0
JOM	**Ohasama**	**1.60**	**266**	P	Pb	11 52 57.6	-0.6
JOM				*e*S	Sb	11 53 18.1	+0.1
JANG	**Nango**	**1.61**	**299**	P	Pn	11 52 56.7	+0.1
JMK	**Ichinoseki**	**1.78**	**249**	P	Pn	11 52 59.7	+0.8
JIO	**Ouri**	**1.94**	**234**	P	Pn	11 53 01.5	+0.4
JTM	**Tenmabayashi**	**2.12**	**305**	P	Pn	11 53 04.9	+1.3
JRG	**Rokugo**	**2.12**	**265**	P	Pn	11 53 05.1	+1.5
JRG				*e*S	Sn	11 53 30.9	+1.6
JAH	**Hinai**	**2.18**	**287**	P	Pn	11 53 05.8	+1.4
JEM	**Erimo**	**2.42**	**356**	*e*S	Sn	11 53 37.1	+0.4
JYK	**Kaneyama**	**2.43**	**255**	P	Pn	11 53 09.3	+1.5
JOU	**Okura**	**2.44**	**240**	P	Pn	11 53 09.2	+1.2
JOU				*e*S	Sn	11 53 38.9	+1.7
JOT	**Ohata**	**2.50**	**316**	P	Pn	11 53 10.1	+1.2
JNBK	**Urakawa-nobuka**	**2.72**	**350**	P	Pn	11 53 14.0	+2.2
JNBK				*e*S	Sb	11 53 47.1	-3.0

*IDC **04** 11:58:42.8±6.2, 27°79S×66°46W, h150km±47km, mb3.9/2, mb1 3.6/5, mb1mx3.3/32, mbtmp4.0/5, Error ellipse: s-maj=54.6km s-min=46.7km az=35.0*
*GUC **04** 11:58:42.1±0.5, 28°53S×67°00W, h50km±999km*
ISC 04 11:58:39.5±1.1**, 28°11S**±0°10×**66°89W**±0°09**, h150**km**, n11,** σ1**°96**/17**, Catamarca Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC02	**Maricunga**	**2.36**	**302**	*e*P	**Pn**	**11 59 22.3**	**+2.8**
AC02				*i* S	**Sn**	**11 59 53.2**	**+3.1**
GO03	**Copiap**	**3.01**	**279**	*e*P	**Pn**	**11 59 28.3**	**+1.2**
GO03				*i* S	**Sn**	**12 00 03.4**	**-0.4**
AC04	**Llanos de Chal**	**3.70**	**268**	*e*P	**Pn**	**11 59 35.7**	**-0.1**
AC04				*i* S	**Sn**	**12 00 17.3**	**-2.2**
LVC	**Limon Verde**	**5.77**	**341**	P	**Pn**	**12 00 05.2**	**+1.6**
	3.5nm,0.3s,baz=146,slow=11,SNR=37						
LVC				S	**Sn**	**12 01 08.0**	**-1.2**
	2.2nm,0.3s,baz=88,slow=23,SNR=11						
LPAZ	**La Paz**	**11.82**	**354**	P	**Pn**	**12 01 24.6**	**+0.5**
	0.3nm,0.3s,baz=175,slow=6.4,SNR=4.1						
LPAZ				S	**Sn**	**12 03 30.6**	**-4.5**
	0.1nm,0.3s,baz=342,slow=17,SNR=2.2						
SIV	**San Ignacio**	**13.20**	**25**	P	**Pn**	**12 01 40.3**	**-1.1**
	0.2nm,0.3s,baz=210,slow=14,SNR=8.1						
PTGA	**Pitinga**	**28.02**	**15**	P	**P**	**12 04 16.9**	**+0.3**
	2.2nm,0.3s,baz=206,slow=9.5,SNR=8.4						
TORD	**Torodi Ar. Bea**	**77.98**	**68**	P	**P**	**12 10 21.4**	**-0.2**
	1.0nm,0.5s,baz=263,slow=5.2,SNR=9.8						
KURBB	**Kurchatov Arra**	**145.54**	**40**	PKPbc	**PKPab**	**12 18 01.3**	**+0.9**
	0.4nm,0.6s,baz=289,slow=3.5,SNR=5.3						
ZALV	**Zalesovo Beam**	**146.91**	**31**	PKPbc	**PKPab**	**12 18 05.2**	**-0.4**
	3.1nm,0.6s,baz=323,slow=3.3,SNR=5.1						
MKAR	**Makanchi Array**	**149.51**	**44**	PKPbc	**PKiKP**	**12 18 12.0**	**+0.1**
	0.8nm,0.6s,baz=306,slow=2.6,SNR=6.7						
MKAR				PKPab	**PKPab**	**12 18 18.0**	**+1.6**
	0.7nm,0.5s,baz=294,slow=3.7,SNR=7.2						

IDC 04 12:10:54.6±2.8**, 6°12S**×**150°04E, h0**km**, mb3.9**/4**, mb1 4.1**/4**, mb1mx3.6**/46**, mbtmp3.9**/4**, Error ellipse: s-maj=66.7km s-min=43.6km az=107.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.53**	**227**	P	P	12 15 35.0	+0.1
	5.4nm,0.5s,baz=53,slow=11,SNR=105						
ASAR	**Alice Springs**	**23.35**	**220**	P	P	12 16 03.9	-1.0
	0.5nm,0.4s,baz=57,slow=9.4,SNR=16						
FITZ	**Fitzroy Crossi**	**26.62**	**241**	P	P	12 16 35.1	0.0
	2.0nm,0.7s,baz=88,slow=7.9,SNR=9.6						
STKA	**Stephens Creek**	**26.82**	**196**	P	P	12 16 37.5	+0.8
	2.8nm,1.0s,baz=3.4,slow=19,SNR=4.8						
TORD	**Torodi Ar. Bea**	**148.05**	**285**	PKPbc	PKPbc	12 30 42.7	-0.6
	0.4nm,0.3s,baz=90,slow=2.5,SNR=7.3						

*TUL **04** 12:13:56.2±1.3, 36°54N±0°02×97°71W±0°01, h6km±6km, ML2.5, mb_Lg2.3/6(NEIC), Error ellipse: s-maj=2.2km s-min=1.1km az=163.0*
NEIC 04 12:13:56.2±0.6**, 36°53N**±0°02×**97°71W**±0°01**, h5**km±2km**, Error ellipse: s-maj=3.0km s-min=2.7km az=348.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.22**	**264**		Pg	12 14 00.9	+0.3
CROK				Sg	Sg	12 14 04.3	+0.7
GC02	**Grant County #**	**0.35**	**340**		Pg	12 14 02.9	-0.1
GC02				Sg	Sg	12 14 08.0	+0.5
BLOK	**Blackwell**	**0.46**	**59**		Pg	12 14 05.3	+0.1
BLOK				Sg	Sg	12 14 11.8	+0.7
KAN14	**Manchester OK**	**0.47**	**335**		Pg	12 14 05.4	-0.1
KAN14				Sg	Sg	12 14 11.9	+0.3
OK032	**Salt Plains WL**	**0.49**	**305**		Pg	12 14 05.6	-0.1
OK032				Sg	Sg	12 14 12.8	+0.8
KAN17	**Caldwell West**	**0.52**	**355**		Pg	12 14 06.2	0.0
KAN17				Sg	Sg	12 14 12.8	-0.2
KAN13	**South Haven SW**	**0.52**	**21**		Pg	12 14 06.3	0.0
KAN13				Sg	Sg	12 14 13.5	+0.4
KAN05	**Bluff City Nor**	**0.60**	**347**		Pg	12 14 07.6	-0.1
KAN05				Sg	Sg	12 14 15.8	+0.3
KAN10	**Anthony SW Sta**	**0.67**	**333**		Pg	12 14 09.0	-0.2
KAN10				Sg	Sg	12 14 18.1	+0.2
KS20	**Mayfield South**	**0.71**	**10**		Pg	12 14 09.7	-0.2
KS20				Sg	Sg	12 14 19.1	-0.2
KAN08	**Anthony NE Sta**	**0.73**	**343**	Pg	Pg	12 14 10.3	+0.1
OK029	**Liberty Lake**	**0.76**	**164**		Pg	12 14 10.9	+0.2
KAN12	**Harper NE Stat**	**0.80**	**343**	Pg	Pg	12 14 11.5	-0.1
QUOK	**Quay**	**0.88**	**113**	Pg	Pg	12 14 13.2	0.0
OK031	**S. Brethren Rd**	**0.91**	**129**	Pg	Pg	12 14 13.6	0.0
OK025	**Westminster Rd**	**0.99**	**162**	Pg	Pg	12 14 15.2	0.0
T35A	**Sooner Cattle**	**1.04**	**68**		Pg	12 14 15.8	-0.4
U32A	**Winter Ranch,**	**1.05**	**262**	Pg	Pg	12 14 15.9	-0.5
OKCFA	**Oklahoma City**	**1.13**	**169**	Pg	Pg	12 14 17.8	-0.1
OKCSW	**OKLAHOMA CITY**	**1.14**	**169**	Pg	Pg	12 14 17.9	-0.2
FNO	**Franklin**	**1.29**	**169**		Pn	12 14 20.4	-0.6
X34A	**Smith Ranch, M**	**1.92**	**183**	IAmb_Lg		12 14 56.2	
	comp=Z,14nm,1.3s						
WMOK	**Wichita Mounta**	**1.99**	**206**		Pn	12 14 31.1	+0.5
R32A	**Long Quarter,**	**2.05**	**337**	Pn	Pn	12 14 31.6	+0.1
LOOK	**Love County**	**2.56**	**170**	Pn	Pn	12 14 35.8	-2.7
CBKS	**Cedar Bluff**	**2.79**	**325**	IAmb_Lg		12 15 29.1	
	comp=Z,12nm,0.7s						
S39A	**Bolivar**	**3.69**	**70**	Pn	Pn	12 14 53.2	-0.8
U40A	**Yellville**	**3.92**	**91**	Pn	Pn	12 14 57.3	+0.2
R40A	**Maddies Statio**	**4.68**	**66**	IAmb_Lg		12 16 23.6	
	comp=Z,8.4nm,1.1s						
PBMO	**Poplar Bluff**	**5.86**	**85**	IAmb_Lg		12 17 10.0	
	comp=Z,2.4nm,0.8s						

*IDC **04** 12:15:38.5±0.5, 51°67N×174°82W, h0km, mb4.5/39, mb1 4.6/41, mb1mx4.5/64, mbtmp4.5/41, ML4.1/2, MS4.2/27, Ms1 4.2/27, ms1mx4.0/51, Error ellipse: s-maj=14.9km s-min=9.0km az=163.0*
*BJI **04** 12:15:39.9±0.0, 51°50N×174°96W, h35km, mB5.0/39, mb5.0/64, Ms4.7/41, Ms7 4.5/40*
*AEIC **04** 12:15:41±1.9, 51°28N±0°06×174°79W±0°07, h29km±4km, Error ellipse: s-maj=8.8km s-min=5.4km az=154.0*
*MOS **04** 12:15:41.9±1.1, 51°49N×174°83W, h38km, mb5.1/52, MS4.1/9, Error ellipse: s-maj=7.5km s-min=5.0km az=98.4*
*NEIC **04** 12:15:43.5±1.6, 51°40N±0°06×174°83W±0°07, h40km±5km, mb4.7/251, ML4.5/39(AEIC), Error ellipse: s-maj=9.2km s-min=5.7km az=154.0*
*GCMT **04** 12:15:43.5±0.3, 51°32N±0°02×174°83W±0°04, h20km±1km, MW4.9/91, Moment Tensor Solution. s39,c46; s91,c115; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.39±.14; $M_{\theta\theta}$-2.02±.10; $M_{\phi\phi}$-0.37±.08; $M_{r\theta}$1.78±.17; $M_{\theta\phi}$-0.56±.05; $M_{\phi r}$0.73±.17; Best double couple: $M_0$2.99100×10^{16} NP1:ϕ_s256.00000°, δ25.00000°, λ95.00000°. NP2: ϕ_s70.00000°, δ65.00000°, λ87.00000°. Principal axes: T 3.0940, Plg70.0000°, Azm335.0000°; N -0.2110, Plg2.0000°, Azm71.0000°; P -2.8870, Plg20.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **04** 12:15:45.4±0.0, 51°53N×179°05W, h33km, mb4.7*
ISC 04 12:15:43.6±0.7**, 51°46N**±0°06×**174°77W**±0°03**, h40**km±5km**, n640,** σ1**°10**/607**, mb4.8**/205**, MS4.3**/48**, 16C-10D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.83**	**25**		**Pn**	**12 15 59.1**	**+0.3**
ATKA	**Atka Island**	**0.83**	**25**		**Sn**	**12 16 12.8**	**+3.0**
GSIG	**Igitkin Island**	**0.89**	**307**		**Pn**	**12 15 59.2**	**-0.5**
KOFP	**Korovin Flat P**	**0.92**	**27**		**Pn**	**12 16 01.0**	**+0.9**
KOKL	**Mount Kliuchef**	**0.94**	**22**		**Pn**	**12 16 01.2**	**+0.8**
GSMY	**Great Sitkin M**	**0.99**	**307**		**Pn**	**12 16 00.8**	**-0.3**
GSTR	**Great Sitkin T**	**1.02**	**309**		**Pn**	**12 16 01.7**	**+0.2**
GSTD	**Great Sitkin T**	**1.04**	**306**		**Pn**	**12 16 01.6**	**-0.3**
ADK	**Adak**	**1.27**	**290**	P	**Pn**	**12 16 03.9**	**-0.9**
ADK	**Adak**	**1.27**	**290**		**Pn**	**12 16 03.9**	**-0.9**
KIWB	**Kanaga Island**	**1.54**	**286**		**Pn**	**12 16 07.8**	**-0.7**
KIKV	**Kanaga Island**	**1.55**	**287**		**Pn**	**12 16 08.1**	**-0.6**
KIMD	**Kanaga Island**	**1.57**	**282**		**Pn**	**12 16 07.9**	**-1.0**
KICM	**Kanaga Island**	**1.58**	**288**		**Pn**	**12 16 08.6**	**-0.5**
TASE	**Tanaga Southea**	**2.07**	**282**		**Pn**	**12 16 15.7**	**-0.2**
GAEA	**Gareloi East**	**2.50**	**279**		**Pn**	**12 16 22.1**	**+0.3**
GALAA	**Gareloi Lava P**	**2.51**	**279**		**Pn**	**12 16 22.1**	**+0.1**
CERAA	**Semis' Rag'd T**	**3.48**	**280**		**Pn**	**12 16 34.5**	**-0.7**
CESW	**Semis' Southwe**	**3.56**	**279**		**Pn**	**12 16 35.4**	**-0.8**
CEAP	**Semis' Anvil P**	**3.56**	**281**		**Pn**	**12 16 35.9**	**-0.4**
AMKA	**Amchitka**	**3.71**	**271**	Pn	**Pn**	**12 16 36.5**	**-1.8**

AMKA	Amchitka	3.71	271		Sn	12 17 23.2	+2.4
NIKH	Nikolski High	3.94	65	Pn	Pn	12 16 40.8	-0.8
NIKH	Nikolski High	3.94	65		Sn	12 17 26.9	+0.4
NIKH	Nikolski High	3.94	65	P	Pn	12 16 41.9	+0.4
	baz=248,SNR=12						
LSPA	Little Sitkin	4.17	279		Pn	12 16 44.2	-0.5
LSNW	Little Sitkin	4.21	280		Pn	12 16 44.4	-0.8
LSSA	Little Sitkin	4.21	279		Pn	12 16 44.3	-0.9
OKFG	Magazine Ridge	4.63	62		Pn	12 16 52.2	+1.2
MAPS	Pakushin South	5.32	61		Pn	12 17 01.1	+0.7
MNAT	Makushin Natee	5.49	61		Pn	12 17 03.9	+1.1
UNV	Unalaska Valle	5.57	61	Pn	Pn	12 17 05.0	+1.1
UNV	Unalaska Valle	5.57	61	P	Pn	12 17 04.4	+0.6
	baz=247						
AKGG	Akutan Green G	5.99	59		Pn	12 17 11.0	+1.4
SPIA	Saint Paul Isl	6.31	23	Pn	Pn	12 17 17.8	+3.8
SPIA	Saint Paul Isl	6.31	23	P	Pn	12 17 16.6	+2.5
	baz=207,SNR=16						
WECS	Westdahl Cape	6.77	59		Pn	12 17 22.3	+1.9
SMY	Shemya	6.98	285	P	Pn	12 17 21.2	-1.9
SMY	Shemya	6.98	285	Pn	Pn	12 17 21.2	-1.9
ISLZ	Isanotski Laza	7.42	60		Pn	12 17 30.0	+0.7
FALS	False Pass	7.63	59	Pn	Pn	12 17 31.4	-0.6
FALS	False Pass	7.63	59	P	Pn	12 17 33.4	+1.3
	baz=248						
SDPT	Sand Point	9.38	60	Pn	Pn	12 17 56.4	+0.4
SDPT	Sand Point	9.38	60	P	Pn	12 17 56.5	+0.4
	baz=251						
CNBA	Chernabura Isl	9.72	64	Pn	Pn	12 18 00.3	-0.5
CHNA	Chernabura Isl	9.72	64	P	Pn	12 18 00.4	-0.3
	baz=255						
CHGN	Chignik	10.80	57	P	Pn	12 18 15.8	+0.3
	baz=250						
GAMB	Gambell	12.46	6	Pn	Pn	12 18 41.0	+2.9
GAMB	Gambell	12.46	6	P	Pn	12 18 37.8	-0.2
	baz=189						
SII	Sitkinak Islan	13.12	59	Pn	Pn	12 18 46.3	-0.9
OHAK	Old Harbor	13.77	57	Pn	Pn	12 18 53.9	-2.0
OHAK	Old Harbor	13.77	57	P	Pn	12 18 53.9	-2.0
	baz=254						
O18K	Koktuh Hills	13.83	45	Pn	Pn	12 18 57.7	+0.8
O18K	Koktuh Hills	13.83	45	P	Pn	12 18 56.3	-0.6
	baz=241						
N18K	Kilae Creek	13.97	41	Pn	Pn	12 18 59.2	+0.5
N18K	Kilae Creek	13.97	41	P	Pn	12 18 58.4	-0.3
	baz=237						
ANM	Nome	14.03	17	P	Pn	12 19 02.0	+2.5
ANM	Nome	14.03	17	Pn	Pn	12 19 02.0	+2.5
ANM	Nome	14.03	17	P	Pn	12 19 00.5	+1.0
	baz=205						
Q19K	Cape Douglas,	14.15	50	P	Pn	12 19 02.0	+0.8
	baz=247						
KDAK	Kodiak Island	14.29	55	Pn	Pn	12 18 59.6	-3.4
	1.4nm,0.3s,baz=129,slow=23,SNR=2.5						
KDAK				Sn	Sn	12 21 35.4	-4.5
	0.1nm,0.3s,baz=308,slow=18,SNR=0.8						
KDAK	Kodiak Island	14.29	55	P	Pn	12 19 02.3	-0.8
	baz=253						
SVW2	Sparrevohn	14.32	40	Pn	Pn	12 19 06.5	+3.0
TNA	Tin City	14.57	11	Pn	Pn	12 19 07.9	+1.1
TNA	Tin City	14.57	11	P	Pn	12 19 07.4	+0.6
	baz=197						
N19K	Bonanza Creek	14.62	42		Pn	12 19 09.2	+1.6
N19K	Bonanza Creek	14.62	42	P	Pn	12 19 07.2	-0.5
	baz=239						
P19K	Oil Pt	14.63	48	P	Pn	12 19 07.1	-0.6
	baz=245						
RSO	Redoubt South	15.20	45	Pn	Pn	12 19 16.6	+1.2
L19K	White Mountain	15.23	37	Pn	P	12 19 18.3	-1.7
L19K	White Mountain	15.23	37	P	Pn	12 19 15.0	-0.6
	baz=234,SNR=8.3						
M19K	Big River Lodg	15.25	39	Pn	Pn	12 19 17.0	+1.2
M19K	Big River Lodg	15.25	39	P	Pn	12 19 16.3	+0.5
	baz=236						
TTA	Tatalina	15.27	34	P	Pn	12 19 17.0	+0.9
TTA				pmax	pmax		
	comp=Z,119nm,1.4s						
TTA	Tatalina	15.27	34	Pn	Pn	12 19 17.0	+0.9
TTA				IAmb	IAmb	12 19 28.1	
	comp=Z,119nm,1.4s						
CNPM	China Poot	15.52	50	Pn	Pn	12 19 20.4	+1.1
CNPM				IAmb	IAmb	12 19 34.5	
	comp=Z,74nm,1.4s						
M20K	Styx River	15.74	40	P	Pn	12 19 21.5	-0.7
	baz=238						
L20K	Farewell, AK	15.77	38	P	Pn	12 19 23.0	+0.4
	baz=235						
BRLK	Bradley Lake	15.77	49	Pn	Pn	12 19 22.7	+0.1
BRSE	Bradley Lake S	15.83	49	P	Pn	12 19 22.5	-0.9
	baz=249						
K20K	Telida	16.22	35	P	P	12 19 29.9	-1.1
K20K	Telida	16.22	35	P	Pn	12 19 28.5	+0.2
	baz=232,SNR=14						
PET	Petropavlovsk	16.32	286	eP	P	12 19 33.1	+1.0
PET				eS	Sn	12 22 30.9	+1.4
PET				pmax	pmax		
	comp=Z,53nm,1.2s						
PET				MLR	MLR		
	comp=Z,600nm,18.0s						
PET				MLR	MLR		
	comp=Z,500nm,15.0s						
PET	Petropavlovsk	16.32	286	P	Pn	12 19 29.1	-0.5
PET				IAmb	IAmb	12 19 34.2	
	comp=Z,52nm,1.2s						
SKT	Skwentna	16.44	41	P	Pn	12 19 31.8	+0.8
SKT	Skwentna	16.44	41	P	Pn	12 19 31.5	+0.4
	baz=240						
SUA	Susitna One	16.53	43	P	Pn	12 19 31.6	-0.7
SUA	Susitna One	16.53	43	P	Pn	12 19 31.2	-1.1
	baz=243						
SEW	Seward	16.57	49	P	Pn	12 19 32.1	-0.5
SEW	Seward	16.57	49	P	Pn	12 19 31.1	-1.6
	baz=250						
O22K	Cooper Landing	16.58	47	P	P	12 19 34.4	-0.4
O22K				IAmb	IAmb	12 19 46.2	
	comp=Z,62nm,0.5s						
O22K	Cooper Landing	16.58	47	P	Pn	12 19 31.8	-1.0
	baz=248						
PPLA	Purkeypile	16.65	38	P	P	12 19 35.9	0.0
PPLA	Purkeypile	16.65	38	P	Pn	12 19 32.7	-1.2
	baz=237						
J20K	Nowinta River	16.71	32	P	P	12 19 36.8	+0.5
J20K	Nowinta River	16.71	32	P	Pn	12 19 34.0	-0.5
	baz=230,SNR=9.7						
RC01	Rabbit Creek A	16.81	45	P	P	12 19 37.5	+0.1
PEA0B	Petropavlovsk-	16.89	286⇑	eP	P	12 19 38.0	-0.4
PEA0B	Petropavlovsk-	16.89	286		P	12 19 38.2	-0.2
PEA0B				IAmb	IAmb	12 19 40.9	
	comp=Z,75nm,1.2s						
PETK	Petropavlovsk-	16.89	286	Pn	Pn	12 19 36.2	-0.6
	comp=Z,1.3nm,0.3s,baz=79,slow=15,SNR=43						
PETK	Petropavlovsk-	16.89	286	P	Pn	12 19 37.3	+0.5
CUT	Chulitna	17.16	41	P	P	12 19 41.8	+0.5
CUT				IAmb	IAmb	12 19 49.9	
	comp=Z,55nm,1.3s						
CHUM	Lake Minchumin	17.17	35	P	P	12 19 41.4	+0.1
	baz=234,SNR=14						
PMR	Palmer	17.28	44	P	P	12 19 44.4	+1.8
PMR				pmax	pmax		
	comp=Z,14nm,1.3s						
PMR	Palmer	17.28	44	P	P	12 19 44.4	+1.8
GHO	Glory Hole Cre	17.45	44	P	Pn	12 19 43.6	-0.1
KTH	Kantishna Hill	17.49	37	P	P	12 19 45.8	+0.8
KTH				IAmb	IAmb	12 20 14.8	
	comp=Z,52nm,1.0s						
KNK	Knik Glacier	17.51	45	P	Pn	12 19 43.2	-1.2
KNK	Knik Glacier	17.51	45	P	Pn	12 19 43.0	-1.4
	baz=247						
RDOG	Red Dog Mine	17.63	15	P	P	12 19 47.9	+1.5
TRF	Thorofare Moun	17.68	38	P	P	12 19 49.1	+1.8
SML	Sawmill	17.72	44	P	Pn	12 19 46.2	-0.8
SML	Sawmill	17.72	44	P	Pn	12 19 45.8	-1.2
	baz=246						
BPAW	Bear Paw Mtn.	17.77	35	P	P	12 19 49.1	+1.0
BPAW				IAmb	IAmb	12 20 17.9	
	comp=Z,58nm,1.4s						
BPAW	Bear Paw Mtn.	17.77	35	P	P	12 19 48.1	0.0
	baz=236						
GLI	Glacier Island	17.93	48	P	Pn	12 19 47.5	-2.1
	baz=250						
IMAR	Indian Mountai	18.05	28		P	12 19 52.0	+0.9
WAT1	Susitna Watana	18.07	41	P	Pn	12 19 50.9	-0.3
	baz=243						
SCM	Sheep Creek Mo	18.17	45	P	P	12 19 52.5	0.0
SCM				pmax	pmax		
	comp=Z,23nm,1.0s						
SCM	Sheep Creek Mo	18.17	45	P	P	12 19 52.5	0.0
RND	Reindeer	18.21	39	P	P	12 19 52.5	-0.5
RND				pmax	pmax		
	comp=Z,27nm,1.1s						
RND	Reindeer	18.21	39	P	P	12 19 52.5	-0.5
WAT6	Susitna Watana	18.29	42	P	P	12 19 53.0	-1.0
	baz=245						
MCK	McKinley	18.34	38	P	P	12 19 53.6	-0.8
MCK				pmax	pmax		
	comp=Z,24nm,0.9s						
MCK	McKinley	18.34	38	P	P	12 19 53.6	-0.8
MCK	McKinley	18.34	38	P	P	12 19 53.6	-0.8
	baz=240						
BWN	Browne	18.37	36	P	Pn	12 19 54.9	0.0
BWN				IAmb	IAmb	12 20 14.6	
	comp=Z,55nm,1.0s						
MLY	Manley	18.40	33	P	Pn	12 19 55.5	+0.2
MLY	Manley	18.40	33	P	P	12 19 55.0	0.0
	baz=234						
DIV	Divide	18.62	47	P	P	12 19 57.8	+0.3
KLU	Klutina	18.67	46	P	P	12 19 57.5	-0.5
KLU	Klutina	18.67	46	P	P	12 19 56.8	-1.2
	baz=250						
NEA2	Nenana	18.74	36	P	Pn	12 19 59.3	-0.1
NEA2	Nenana	18.74	36	P	Pn	12 19 59.2	-0.2
	baz=238						
M24K	Tolsona, Glenn	18.77	44	P	Pn	12 20 01.0	+1.1
M24K				IAmb	IAmb	12 20 17.2	
	comp=Z,34nm,0.9s						
M24K	Tolsona, Glenn	18.77	44	P	P	12 19 59.5	+0.3
	baz=248						
RAGM	Ragged Mountai	18.93	50	P	P	12 20 01.0	+0.1
I23K	Minto, Yukon-K	18.94	34	P	P	12 20 00.3	-0.6
I23K				IAmb	IAmb	12 20 28.3	
	comp=Z,54nm,1.2s						
I23K	Minto, Yukon-K	18.94	34	P	Pn	12 20 01.8	0.0
	baz=236,SNR=22						
BILL	Bilibino	19.02	338	deP	Pn	12 20 03.3	+0.5
BILL				pmax	pmax		
	comp=Z,81nm,1.3s						
BILL				MLR	MLR		
	comp=Z,439nm,21.0s						
BILL	Bilibino	19.02	338	P	P	12 20 02.1	+0.4
WRH	Wood River Hil	19.04	37	P	P	12 20 01.9	-0.1
CCB	Clear Creek Bu	19.23	36	P	P	12 20 04.6	+0.6
MDM	Murphy Dome	19.24	35	P	P	12 20 03.7	-0.5
MDM				IAmb	IAmb	12 20 14.8	
	comp=Z,40nm,1.4s						
H23K	Yukon River	19.27	32	P	Pn	12 20 05.7	-0.1
H23K				IAmb	IAmb	12 20 32.3	
	comp=Z,47nm,1.3s						
H23K	Yukon River	19.27	32	P	P	12 20 05.3	+0.7
	baz=234,SNR=8.6						
N25K	Chitina, Valde	19.31	47	P	P	12 20 05.1	+0.1
N25K	Chitina, Valde	19.31	47	P	P	12 20 05.0	0.0
	baz=252						
HARP	HAARP	19.32	44	P	Pn	12 20 05.9	-0.5
	baz=249						
TCOL	CIGO, UAF Yank	19.33	36	P	P	12 20 05.5	+0.4
TCOL				IAmb	IAmb	12 20 26.5	
	comp=Z,58nm,1.4s						
COLA	College	19.33	36	P	Pn	12 20 06.0	-0.5
COLA				pmax	pmax		
	comp=Z,58nm,1.5s						
COLA	College	19.33	36	P	Pn	12 20 06.0	-0.5
COLA				IAmb	IAmb	12 20 26.4	
	comp=Z,58nm,1.4s						
COLA	College	19.33	36	P	Pn	12 20 06.1	-0.4
	baz=239						
PAX	Paxson	19.40	42	P	P	12 20 06.0	-0.1
PAX				pmax	pmax		
	comp=Z,30nm,1.5s						
PAX	Paxson	19.40	42	P	P	12 20 06.0	-0.1
PAX	Paxson	19.40	42	P	P	12 20 06.7	+0.6
	baz=247						
HDA	Harding Lake	19.44	38	P	P	12 20 06.3	0.0
HDA				IAmb	IAmb	12 20 13.2	
	comp=Z,28nm,0.6s						
HDA	Harding Lake	19.44	38	P	P	12 20 06.1	-0.2
	baz=241,SNR=35						
POKR	Poker Plat Res	19.61	35	P	P	12 20 08.6	+0.3
GLB	Gilahina Butte	19.62	47	P	P	12 20 08.3	-0.1
IL31		19.64	37	P	P	12 20 08.0	-0.4
IL31				IAmb	IAmb	12 20 25.0	
	comp=Z,15nm,0.5s						
ILAR	Eielson Array	19.64	37	P	P	12 20 06.8	-1.8
	comp=Z,1.3nm,0.3s,baz=241,slow=7.9,SNR=56						
ILAR				S	S	12 23 45.9	-1.8
	comp=Z,0.0nm,0.3s,baz=320,slow=32,SNR=1.8						
ILAR				LR	LR	12 28 25.2	
	comp=Z,579nm,18.1s,baz=244,slow=39						
ILAR	Eielson Array	19.64	37	P	P	12 20 07.5	-1.0
ILAR	Eielson Array	19.64	37	P	P	12 20 07.5	-1.0
CRQM	Cirque	19.75	50	P	P	12 20 09.7	-0.3
WAX	Waxell Ridge	19.82	51	P	Pn	12 20 11.7	-0.7
WAX				IAmb	IAmb	12 20 33.6	
	comp=Z,18nm,0.7s						
H24K	Noodor Dome	19.84	33	P	P	12 20 11.8	+1.0
H24K				IAmb	IAmb	12 20 35.9	
	comp=Z,26nm,0.9s						
H24K	Noodor Dome	19.84	33	P	P	12 20 11.4	+0.7
	baz=236,SNR=24						
TGL	Tana Glacier	19.90	50	P	P	12 20 11.6	+0.1
COLD	Coldfoot	19.94	28	P	Pn	12 20 13.3	-0.3
COLD	Coldfoot	19.94	28	P	Pn	12 20 12.8	-0.8
	baz=230,SNR=10						
MCARA	McCarthy VSAT	19.97	48	P	P	12 20 12.9	+0.8
MCARA	McCarthy VSAT	19.97	48	P	P	12 20 12.1	-0.1
	baz=254						
RIDG	Independent Ri	19.97	41	P	P	12 20 11.9	-0.3
RIDG				IAmb	IAmb	12 20 33.9	
	comp=Z,30nm,1.1s						
RIDG	Independent Ri	19.97	41	P	P	12 20 12.1	-0.1
	baz=246						
MENT	Mentasta	20.14	43	P	P	12 20 14.6	+0.7
J25K	Salcha River,	20.14	38	P	P	12 20 13.0	-1.0
	baz=243,SNR=40						
DOT	Dot Lake	20.25	41	P	P	12 20 14.4	-0.9
M26K	Nabesna, AK	20.27	45	P	P	12 20 16.4	+0.9
M26K	Nabesna, AK	20.27	45	P	P	12 20 16.3	+0.8
	baz=252						
L26K	Log Cabin Wild	20.33	43	P	Pn	12 20 17.3	-1.0
L26K	Log Cabin Wild	20.33	43	P	P	12 20 16.3	+0.3
	baz=250						
YAH	Yahtse	20.34	51	P	P	12 20 17.0	+0.5
YAH				IAmb	IAmb	12 20 32.3	
	comp=Z,17nm,0.6s						
GRNC	Granite Creek	20.41	50	P	P	12 20 17.5	+0.4
SCRK	Sand Creek	20.41	40	P	P	12 20 16.4	-0.7
SCRK				IAmb	IAmb	12 20 34.7	
	comp=Z,31nm,0.8s						
SCRK	Sand Creek	20.41	40	P	P	12 20 16.0	-1.0
	baz=246,SNR=33						
BARN	Barnard Glacie	20.53	49	P	P	12 20 19.0	+0.6
CTG	Chitna Glacier	20.66	50	P	P	12 20 19.8	+0.1
	baz=258						
CTGM	Chitina Glacie	20.66	50	P	P	12 20 21.1	+1.3
CTGM				IAmb	IAmb	12 20 36.8	
	comp=Z,16nm,0.7s						
J26K	Charley River,	20.73	39	P	P	12 20 19.6	-0.9
	baz=245,SNR=37						
M27K	Edge Creek, AK	20.76	46	P	P	12 20 21.8	+0.9
M27K	Edge Creek, AK	20.76	46	P	P	12 20 21.8	+0.9
	baz=253						
LOGN	Logan Glacier	20.79	50	P	Pn	12 20 24.3	+0.4
SEY	Seymchan	20.91	316	P	P	12 20 22.6	+0.3
	comp=Z,3.6nm,0.6s,baz=117,slow=7.9,SNR=8.3						
SEY				LR	LR	12 28 57.6	
	comp=Z,2µm,18.2s,baz=111,slow=38						
MA2	Magadan	20.93	306	P	P	12 20 23.2	+0.8
	comp=Z,3.7nm,0.4s,baz=96,slow=15,SNR=5.8						
MA2				LR	LR	12 28 24.3	
	comp=Z,647nm,19.1s,baz=109,slow=37						
MA2	Magadan	20.93	306⇑	iP	P	12 20 22.3	-0.2
MA2				pmax	pmax		
	comp=Z,45nm,1.3s						
MA2	Magadan	20.93	306	IAmb	IAmb	12 20 48.6	
	comp=Z,44nm,1.1s						
L27K	Beaver Creek,	20.99	44	P	P	12 20 24.7	+1.5
L27K	Beaver Creek,	20.99	44	P	P	12 20 23.8	+0.6
	baz=252						
BCAR	Beaver Creek A	21.01	44	P	P	12 20 23.8	+0.4
PCA	Pinnacle	21.02	52	P	P	12 20 24.8	+1.1
PCA				IAmb	IAmb	12 20 52.9	
	comp=Z,15nm,0.7s						
PINM	Pinnacle	21.03	52	P	P	12 20 24.1	+0.4
	baz=261						
TOLK	Toolik Lake Re	21.05	26	P	P	12 20 24.9	+1.1
TOLK				IAmb	IAmb	12 20 34.5	
	comp=Z,74nm,1.4s						
TOLK	Toolik Lake Re	21.05	26	P	P	12 20 24.5	+0.7
	baz=228,SNR=10						
FYU	Fort Yukon	21.14	33	P	P	12 20 25.4	+0.7
FYU				IAmb	IAmb	12 20 49.9	
	comp=Z,78nm,1.4s						
K27K	Chicken	21.21	41	IAmb	IAmb	12 20 54.5	
	comp=Z,29nm,1.0s						
K27K	Chicken	21.21	41	P	P	12 20 25.9	+0.4
	baz=249						
BVCY	Beaver Creek	21.23	46	P	P	12 20 26.8	+1.0
	baz=254						
YUK3	Moose Creek	21.25	48	P	P	12 20 26.0	-0.2
	baz=256						
BMAR	Burnt Mountain	21.82	31	P	P	12 20 31.9	-0.2
EGAK	Eagle	21.86	40	P	P	12 20 32.1	-0.3
EGAK				IAmb	IAmb	12 20 50.7	
	comp=Z,28nm,0.6s						
EGAK	Eagle	21.86	40	P	P	12 20 31.9	-0.5
	baz=248,SNR=40						
YUK4	Talbot Arm	22.02	49	P	P	12 20 35.8	+1.4
	baz=259						
YUK6	Outpost Mounta	22.08	50	P	P	12 20 35.4	+0.2
	baz=261						
DAWY	Dawson	22.34	42	P	P	12 20 37.3	-0.4
	baz=252,SNR=9.5						
HYT	Haines Junctio	22.48	51	P	P	12 20 39.6	+0.3
HYT	Haines Junctio	22.48	51	P	P	12 20 38.6	-0.7
	baz=262						
SKAG	Skagway	23.44	55	P	P	12 20 49.7	+0.8
	baz=267						
EPYK	Eagle Plains	24.15	37	IAmb	IAmb	12 21 13.3	
	comp=Z,32nm,1.4s						
EPYK	Eagle Plains	24.15	37	P	P	12 20 55.3	-0.3
	baz=250						
CRAG	Craig	24.84	64	IAmb	IAmb	12 21 18.5	
	comp=Z,57nm,1.5s						
CRAG	Craig	24.84	64	P	P	12 21 02.6	+0.8
	baz=278						
WRAK	Wrangell Islan	25.15	62	P	P	12 21 06.6	+2.0
WRAK				IAmb	IAmb	12 21 26.1	
	comp=Z,18nm,0.8s						
WRAK	Wrangell Islan	25.15	62	P	P	12 21 05.2	+0.6
	baz=276						
KUR	Kuril'sk	25.39	271⇓	eP	P	12 21 08.0	+1.0
MMPY	Sheldon Lake,	25.64	47	P	P	12 21 09.2	0.0
	baz=264						
INK	Inuvik	25.96	34	P	P	12 21 12.2	+0.3
	comp=Z,3.7nm,0.6s,baz=216,slow=10,SNR=11						
INK				PcP	PcP	12 24 40.2	+1.1
	comp=Z,1.4nm,0.5s,baz=304,slow=3.9,SNR=4.3						
INK				LR	LR	12 32 12.8	
	comp=Z,370nm,20.0s,baz=220,slow=38						
INK	Inuvik	25.96	34	P	P	12 21 12.3	+0.4
INK						12 24 40.2	
INK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
INK	Inuvik	25.96	34	P	P	12 21 12.2	+0.4
INK	Inuvik	25.96	34	P	P	12 21 11.6	-0.3
	baz=250,SNR=5.4						
DLBC	Dease Lake	26.21	57	P	P	12 21 14.9	+0.6
	comp=Z,5.7nm,0.8s,baz=291,slow=7.1,SNR=18						
DLBC				LR	LR	12 33 01.4	
	comp=Z,470nm,18.4s,baz=284,slow=40						
DLBC	Dease Lake	26.21	57	P	P	12 21 15.3	+1.0
DLBC				IAmb	IAmb	12 21 34.5	
	comp=Z,17nm,1.1s						
TYV	Tymovskoe	26.44	286	eP	P	12 21 20.0	+3.6
TYV				pmax	pmax		
	comp=Z,19nm,1.3s						
TYV				pmax	pmax		
	comp=Z,200nm,4.6s						
YSS	Yuzh-Sakhalins	27.82	278	eP	P	12 21 31.6	+2.8
YSS				eS	S	12 26 09.7	+0.8
YSS				eSS	SnSn	12 27 44.4	+20
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS				pmax	pmax		
	comp=Z,300nm,3.5s						
YSS				MLR	MLR		
	comp=Z,700nm,16.0s						
YSS	Yuzh-Sakhalins	27.82	278	P	P	12 21 30.3	+1.5
YSS				IAmb	IAmb	12 21 52.4	
	comp=Z,44nm,1.3s						
BBB	Bella Bella	28.46	70	P	P	12 21 35.4	+0.9
	comp=Z,7.2nm,1.1s,baz=258,slow=18,SNR=1.4						
BBB	Bella Bella	28.46	70	IAmb	IAmb	12 21 50.9	
	comp=Z,20nm,1.1s						
JKA	Kamikawa-asahi	29.23	272	P	P	12 21 40.6	-0.7
JKA				IAmb	IAmb	12 21 45.6	
	comp=Z,31nm,1.0s						
ASAJ	Asahikawa	29.23	272	P	P	12 21 41.9	+0.6
	comp=Z,16nm,0.8s,baz=70,slow=16,SNR=6.0						
A36M	Sachs Harbour	29.80	28	P	P	12 21 46.2	+0.1
	baz=253						
YAK	Yakutsk	31.26	311	d iP	P	12 21 58.7	-0.4
YAK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
TIXI	Tiksi	31.82	330	P	P	12 22 02.1	-1.8
	comp=Z,1.2nm,0.3s,baz=90,slow=2.6,SNR=1.7						
TIXI				PcP	PcP	12 24 54.8	+0.9
	comp=Z,2.1nm,0.4s,baz=244,slow=0.4,SNR=3.5						
TIXI	Tiksi	31.82	330	P	P	12 22 05.1	+1.1
TIXI						12 24 54.8	
TIXI				pmax	pmax		
	comp=Z,12nm,1.5s						
TIXI	Tiksi	31.82	330	P	P	12 22 05.1	+1.1
TIXI				IAmb	IAmb	12 22 26.0	
	comp=Z,12nm,1.5s						
YKA	Yellowknife Ar	33.34	47	P	P	12 22 15.8	-1.5
	comp=Z,0.2nm,0.3s,baz=128,slow=16,SNR=8.9						
YKA				PcP	PcP	12 24 59.3	+1.1
	comp=Z,0.4nm,0.6s,baz=191,slow=12,SNR=1.9						
YKA				LR	LR	12 37 39.0	
	comp=Z,732nm,18.1s,baz=0.0,slow=40						
B05A	Bryant	33.50	74	P	P	12 22 18.9	0.0
	baz=296						
KLR	Kul'dur	33.57	288	c iP	P	12 22 18.4	-1.1
KLR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
D05A	Enumclaw	34.04	76	P	P	12 22 23.5	-0.2
D05A				IAmb	IAmb	12 22 50.2	
	comp=Z,10.0nm,0.8s						
ZEA	Zeya	34.45	297	eP	P	12 22 24.9	-2.2
ZEA				eS	S	12 27 43.6	-8.8
ZEA				MLR	MLR		
	comp=Z,200nm,15.0s						
H11N2	WAKE ISLAND Hy	34.79	211	T	T	12 59 21.7	
	baz=18,slow=76,SNR=141						
H11N3	WAKE ISLAND Hy	34.80	211	T	T	12 59 26.4	
	baz=18,slow=76,SNR=118						
H11N1	WAKE ISLAND Hy	34.81	211	T	T	12 59 34.8	
	baz=18,slow=76,SNR=139						
B08A	Colville Reser	35.12	73	P	P	12 22 33.5	+0.5
B08A				IAmb	IAmb	12 22 59.1	
	comp=Z,6.2nm,0.7s						
H04A	Detroit Lake	35.13	80	P	P	12 22 34.0	+0.9
H04A				IAmb	IAmb	12 22 56.6	
	comp=Z,6.2nm,0.8s						
USA0B	Ussuriysk Arra	35.78	280	c iP	P	12 22 37.6	-1.0
USRK	Ussuriysk Ar.	35.78	280	P	P	12 22 37.9	-0.7
	comp=Z,3.3nm,0.4s,baz=55,slow=9.8,SNR=24						
USRK				LR	LR	12 38 23.4	
	comp=Z,265nm,19.6s,baz=37,slow=38						
HAWA	Hanford	35.91	76	IAmb	IAmb	12 22 56.5	
	comp=Z,7.8nm,0.7s						
H11S1	WAKE ISLAND Hy	35.99	211	T	T	13 01 09.0	
	baz=19,slow=76,SNR=162						
C09A	Chrisman Ranch	36.00	73	P	P	12 22 40.6	+0.1
C09A				IAmb	IAmb	12 23 05.9	
	comp=Z,5.0nm,0.8s						
H11S2	WAKE ISLAND Hy	36.01	211	T	T	13 01 09.1	
	baz=19,slow=76,SNR=113						
H11S3	WAKE ISLAND Hy	36.01	211	T	T	13 01 19.7	
	baz=19,slow=76,SNR=65						
MJAR	Matsushiro Arr	36.30	264	P	P	12 22 43.0	-0.2
	comp=Z,4.9nm,0.5s,baz=49,slow=7.8,SNR=14						
MJAR				LR	LR	12 35 56.9	
	comp=Z,289nm,21.5s,baz=30,slow=34						
MJAR	Matsushiro Arr	36.30	264	P	P	12 22 43.0	-0.2
MJAR	Matsushiro Arr	36.30	264	P	P	12 22 42.2	-1.0
MJAR				IAmb	IAmb	12 22 43.7	

comp=Z,11nm,1.4s
MAJO Matsushiro 36.30 264*c i*P P 12 22 43.1 -0.1
MAJO pmax pmax
comp=Z,22nm,0.8s
**MAJO Matsushiro 36.30 264 P P 12 22 42.3 -0.9
**MAT Matsushiro 36.30 264 P P 12 22 42.8 -0.4
**YBH Yreka Blue Hor 36.37 85 P P 12 22 44.4 +0.6
comp=Z,0.8nm,0.8s,baz=347,slow=9.2,SNR=1.7
VLA Vladivostok 36.41 278*d i*P P 12 22 45.0 +1.0
VLA pmax pmax
comp=Z,90nm,1.5s
**NEW Newport 36.48 72 P P 12 22 43.1 -1.5
NEW pmax pmax
comp=Z,6.0nm,0.8s
**NEW Newport 36.48 72 P P 12 22 43.1 -1.5
NEW IAmb IAmb 12 23 10.5
comp=Z,5.8nm,0.8s
**NEW Newport 36.48 72 P P 12 22 44.3 -0.3
baz=297
**EDM Edmonton 36.55 62 P P 12 22 45.4 +0.2
EDM pmax pmax
comp=Z,27nm,0.8s
**EDM Edmonton 36.55 62 P P 12 22 45.4 +0.2
**E09A Wood Farm, Sta 36.69 75 P P 12 22 46.1 -0.3
E09A IAmb IAmb 12 23 10.9
comp=Z,10nm,1.2s
**G08A Pilot Rock 36.80 77 P P 12 22 45.0 -2.5
**MDJ Mudanjiang 37.04 282 P P 12 22 48.4 -0.9
MDJ pmax pmax
comp=Z,14nm,1.1s
MDJ pmax pmax
comp=Z,84nm,3.5s
**MDJ Mudanjiang 37.04 282 P P 12 22 47.8 -1.6
MDJ IAmb IAmb 12 22 49.8
comp=Z,24nm,1.3s
**I07A Izee 37.09 79 P P 12 22 50.2 +0.2
**MSHR Mys Shultsa 37.15 278⇑*e*P P 12 22 50.3 0.0
MSHR pmax pmax
comp=Z,51nm,1.3s
**JGF Kuroka 37.43 264 P P 12 22 52.2 -0.6
JGF IAmb IAmb 12 22 54.8
comp=Z,15nm,0.7s
**MOD Modoc Plateau 37.77 83 P P 12 22 56.9 +1.2
**WALA Waterton Lakes 38.00 69 P P 12 22 58.2 +0.6
WALA IAmb IAmb 12 23 25.2
comp=Z,10nm,1.3s
**J08A Circle Bar Ran 38.10 80 P P 12 22 57.4 -1.1
J08A IAmb IAmb 12 23 16.6
comp=Z,5.7nm,0.9s
**WVOR Wild Horse Val 38.51 81 P P 12 23 02.4 +0.5
WVOR pmax pmax
comp=Z,8.0nm,1.1s
**WVOR Wild Horse Val 38.51 81 P P 12 23 02.4 +0.5
WVOR IAmb IAmb 12 23 29.8
comp=Z,7.7nm,1.1s
**JWT Wachi 38.85 265 P P 12 23 04.3 -0.4
**MSO Missoula 39.06 72 IAmb IAmb 12 23 36.7
comp=Z,11nm,1.2s
**CN2 Changchun 40.00 283 *e*P P 12 23 13.3 -0.9
CN2 S S 12 29 17.9 +1.1
CN2 pmax pmax
comp=Z,30nm,0.7s
CN2 LR LR
comp=Z,500nm,18.0s
CN2 LR LR
comp=Z,500nm,18.0s
CN2 LR LR
comp=Z,600nm,19.0s
**HLID Hailey 40.48 77 P P 12 23 18.4 0.0
HLID IAmb IAmb 12 23 46.7
comp=Z,11nm,1.3s
**BCYI Bear Canyon 40.68 75 P P 12 23 20.5 +0.4
**NVAR Mina Array Bea 41.03 86 P P 12 23 24.6 +1.5
comp=Z,0.1nm,0.3s,baz=198,slow=17,SNR=2.6
NVAR LR LR 12 37 51.6
comp=Z,154nm,20.3s,baz=304,slow=32
**ELK Elko 41.56 81 P P 12 23 28.2 +0.8
ELK pmax pmax
comp=Z,3.0nm,0.8s
**ELK Elko 41.56 81 P P 12 23 28.1 +0.8
**FFC Flin Flon 42.03 56 P P 12 23 31.0 +0.2
FFC pmax pmax
comp=Z,6.0nm,0.7s
**FFC Flin Flon 42.03 56 P P 12 23 31.0 +0.2
**KSRS Korea Array 42.16 274 P P 12 23 32.4 +0.4
comp=Z,5.8nm,0.5s,baz=56,slow=7.7,SNR=38
KSRS LR LR 12 40 41.8
comp=Z,134nm,20.4s,baz=54,slow=36
**KS19 Wonju Array Si 42.16 274 P P 12 23 32.2 +0.2
KS19 IAmb IAmb 12 23 51.6
comp=Z,37nm,1.5s
**KSAR Wonju Array Be 42.19 274 P P 12 23 31.3 -0.9
**KSAR Wonju Array Be 42.19 274 P P 12 23 31.3 -0.9
**SNY Shenyang 42.24 282 ⇑P P 12 23 32.6 0.0
SNY pmax pmax
comp=Z,79nm,1.1s
SNY LR LR
comp=Z,250nm,19.4s
SNY LR LR
comp=Z,130nm,23.9s
SNY LR LR
comp=Z,260nm,19.7s
**H17A Grant Village 42.34 73 IAmb IAmb 12 24 06.2
comp=Z,21nm,1.4s
**RLMT Red Lodge 42.73 72 IAmb IAmb 12 23 56.6
comp=Z,9.5nm,0.9s
**INCN Inchon 42.94 275 P P 12 23 37.5 -0.9
INCN pmax pmax
comp=Z,39nm,1.1s
**INCN Inchon 42.94 275 P P 12 23 37.5 -0.9
**JNU Nakatsue 43.09 267 P P 12 23 38.7 -1.0
JNU IAmb IAmb 12 23 41.2
comp=Z,40nm,1.2s
**TJN Taejon 43.18 273*d i*P P 12 23 42.6 +2.3
**DUG Dugway, Tooele 43.38 80 P P 12 23 41.8 -0.3
DUG pmax pmax
comp=Z,10.0nm,1.6s
**PRN Pahroc Range 43.69 85 P P 12 23 43.0 -1.6
**BW06 Boulder Array 43.87 75 IAmb IAmb 12 24 15.7
comp=Z,10.0nm,0.8s
**PD31 Pinedale Array 43.87 75 IAmb IAmb 12 24 15.2
comp=Z,13nm,1.1s
**PDAR Pinedale Array 43.87 75 P P 12 23 46.2 +0.1
comp=Z,3.0nm,0.8s,baz=298,slow=4.5,SNR=21
PDAR LR LR 12 42 20.6
comp=Z,163nm,18.1s,baz=310,slow=36
**PDAR Pinedale Array 43.87 75 P P 12 23 45.5 -0.5
**GSC Goldstone, Bar 43.92 88 P P 12 23 46.5 0.0
GSC pmax pmax
comp=Z,5.0nm,0.9s
**GSC Goldstone, Bar 43.92 88 P P 12 23 46.5 0.0
**RDMU Red Mountain 45.15 77 P P 12 23 54.8 -1.5
RDMU IAmb IAmb 12 24 20.3
comp=Z,17nm,1.2s
**DL2 Dalian 45.17 280 P P 12 23 56.8 +0.6
DL2 S S 12 30 37.4 +4.5
DL2 pmax pmax
comp=Z,32nm,0.9s
DL2 LR LR
comp=Z,130nm,19.1s
DL2 LR LR
comp=Z,230nm,17.8s
DL2 LR LR
comp=Z,190nm,16.1s
**PFO Pinyon Flats O 45.24 90 P P 12 23 58.1 +1.1
comp=Z,1.7nm,0.9s,baz=149,slow=22,SNR=0.9
**SRU San Rafael Swe 45.44 80 P P 12 23 58.4 -0.3
SRU pmax pmax
comp=Z,7.0nm,0.7s
**SRU San Rafael Swe 45.44 80 P P 12 23 58.4 -0.3
SRU IAmb IAmb 12 24 18.2
comp=Z,6.7nm,0.7s
**NRIK Noril'sk 45.60 331 P P 12 23 58.8 -0.5
comp=Z,2.4nm,0.4s,baz=89,slow=5.1,SNR=1.8
NRIK LR LR 12 46 38.0
comp=Z,266nm,18.0s,baz=106,slow=41
**NRIK Noril'sk 45.60 331 *i*P P 12 23 59.0 -0.2
NRIK pmax pmax
comp=Z,3.0nm,0.7s
**NRIK Noril'sk 45.60 331 P P 12 24 00.2 +0.9
NRIK IAmb IAmb 12 24 26.2
comp=Z,7.3nm,1.1s
**K22A Casper 45.76 73 P P 12 24 00.7 -0.4
K22A IAmb IAmb 12 24 19.8
comp=Z,6.1nm,0.9s
**U15A North Rim 46.02 84 P P 12 24 05.3 +1.9
U15A IAmb IAmb 12 24 32.9
comp=Z,7.6nm,1.1s
**O20A White River Ci 46.22 77 P P 12 24 03.0 -1.8
O20A IAmb IAmb 12 24 29.7
comp=Z,8.5nm,0.8s
**NEEM North Greenlan 46.75 14 *i*P P 12 24 08.4 -0.1
**PV14 Lion Creek, Pa 46.82 79 P P 12 24 11.4 +1.8
PV14 IAmb IAmb 12 24 36.2
comp=Z,4.2nm,0.8s
**PV17 East Wray Mesa 46.92 79 IAmb IAmb 12 24 37.3
comp=Z,8.2nm,0.7s
**PV11 David Mesa, Pa 46.96 79 P P 12 24 09.7 -0.9
PV11 IAmb IAmb 12 24 34.7
comp=Z,12nm,0.7s
**PV12 Saucer Basin, 46.99 79 P P 12 24 10.7 -0.2
PV12 IAmb IAmb 12 24 36.0
comp=Z,8.3nm,0.8s
**PV03 Paradox Valley 47.00 79 IAmb IAmb 12 24 33.8
comp=Z,7.4nm,0.8s
**PV13 Radium Mtn., P 47.08 79 IAmb IAmb 12 24 35.0
comp=Z,13nm,0.7s
**PV02 Paradox Valley 47.10 79 IAmb IAmb 12 24 39.4
comp=Z,18nm,1.2s
**PV01 Paradox Valley 47.25 79 IAmb IAmb 12 24 36.2
comp=Z,7.4nm,0.8s
**ULM Lac du Bonnet 47.51 59 P P 12 24 14.4 0.0
comp=Z,1.9nm,0.4s,baz=299,slow=7.7,SNR=4.9
ULM LR LR 12 46 26.4
comp=Z,272nm,18.6s,baz=297,slow=39
**ULM Lac du Bonnet 47.51 59 P P 12 24 13.8 -0.6
ULM IAmb IAmb 12 24 33.5
comp=Z,21nm,1.5s
**BJI Beijing 47.81 285 P P 12 24 16.8 -0.1
BJI pmax pmax
comp=Z,22nm,1.1s
**BJT Baijiatuan 47.83 285 P P 12 24 16.7 -0.4
BJT pmax pmax
comp=Z,50nm,1.4s
**BJT Baijiatuan 47.83 285 P P 12 24 16.7 -0.4
**ULN Ulaanbaatar 48.47 298*c i*P P 12 24 21.3 -0.8
ULN pmax pmax
comp=Z,10.0nm,1.2s
**ULN Ulaanbaatar 48.47 298 P P 12 24 21.2 -0.8
ULN IAmb IAmb 12 24 22.5
comp=Z,11nm,1.2s
**AGMN Agassiz Nation 48.62 61 P P 12 24 23.1 0.0
**SONM Songino Array 48.85 299 P P 12 24 24.3 -0.7
comp=Z,2.6nm,0.5s,baz=53,slow=8.5,SNR=20
SONM PcP PcP 12 25 49.2 +0.2
comp=Z,2.0nm,0.6s,baz=81,slow=2.6,SNR=6.9
SONM LR LR 12 46 31.3
comp=Z,465nm,19.8s,baz=62,slow=38
**SONM Songino Array 48.85 299 P P 12 24 24.1 -0.9
SONM IAmb IAmb 12 24 25.8
comp=Z,16nm,1.4s
SONM PcP PcP 12 25 47.9 -1.2
**ZAK Zakamensk 49.05 303 *e*P P 12 24 25.8 -0.7
ZAK *e* 12 25 47.6
ZAK pmax pmax
comp=Z,22nm,1.4s
ZAK pmax pmax
comp=Z,9.0nm,1.2s
**SDCO Great Sand Dun 49.38 78 P P 12 24 29.9 +0.6
SDCO IAmb IAmb 12 24 53.3
comp=Z,5.7nm,1.1s
**TIA Tai'an 49.65 280 P P 12 24 30.7 -0.4
TIA pmax pmax
comp=Z,8.0nm,0.7s
**B35A Bob, Littlefor 49.74 60 P P 12 24 31.4 -0.2
B35A IAmb IAmb 12 24 41.0
comp=Z,7.9nm,1.0s
**GUMO Guam 49.78 236 P P 12 24 34.0 +1.8
comp=Z,36nm,0.9s,baz=88,slow=18,SNR=2.3
**GUMO Guam 49.78 236 P P 12 24 34.0 +1.8
**KBS Kingsbay 49.82 358 *i*P P 12 24 33.1 +1.3
**KBS Kingsbay 49.82 358 *e*P P 12 24 32.9 +1.2
**HHC Hu-ho-hao-te 50.08 288 *e*P P 12 24 35.3 +0.9
HHC pmax pmax
comp=Z,21nm,1.3s
HHC pmax pmax
comp=Z,83nm,5.9s
HHC LR LR
comp=Z,240nm,19.4s
HHC LR LR
comp=Z,210nm,20.6s
HHC LR LR
comp=Z,290nm,18.8s
**T25A Trinidad 50.43 78 P P 12 24 37.7 +0.4
**SPITS Spitsbergen Ar 50.45 357 P P 12 24 36.5 -0.1
comp=Z,15nm,0.5s,baz=52,slow=5.4,SNR=72
SPITS LR LR 12 46 49.1
comp=Z,326nm,19.2s,baz=350,slow=37
**SPITS Spitsbergen Ar 50.45 357 P P 12 24 36.6 -0.1
SPITS pmax pmax
comp=Z,52nm,1.4s
**SPB2 Spitsbergen Ar 50.45 357 P P 12 24 36.5 -0.1
**ECSD EROS Data Cent 50.91 66 P P 12 24 42.4 +1.8
ECSD IAmb IAmb 12 25 10.2
comp=Z,11nm,1.3s
**EYMN Ely 51.19 59 P P 12 24 42.7 +0.1
EYMN IAmb IAmb 12 24 43.7
comp=Z,16nm,1.1s
**NJ2 Nanjing 51.33 275 *e*P P 12 24 44.1 +0.4
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
**TIY Taiyuan 51.54 285 *e*P P 12 24 46.5 +1.1
TIY pmax pmax
comp=Z,30nm,0.9s
TIY pmax pmax
comp=Z,120nm,7.9s
TIY LR LR
comp=Z,69nm,6.9s
TIY LR LR
comp=Z,430nm,22.6s
TIY LR LR
comp=Z,240nm,20.8s
**HSPB Hornsund (broa 51.65 357 *e*P P 12 24 45.7 +0.1
**E38A The Farm, Brul 51.98 60 P P 12 24 48.5 0.0
**L34A Svendsen Farm, 52.15 68 P P 12 24 49.4 -0.4
**I37A Lemond, Waseca 52.56 64 P P 12 24 53.7 +0.8
**SUMG Summit 52.59 15 *i*P P 12 24 53.0 -0.1
SUMG IAmb IAmb 12 24 53.8
comp=Z,3.5nm,0.6s
**SUMG Summit 52.59 15 *i*P P 12 24 53.0 -0.1
SUMG pmax pmax
comp=Z,4.0nm,0.6s
**SUMG Summit 52.59 15 P P 12 24 53.7 +0.6
SUMG IAmb IAmb 12 25 13.5
comp=Z,4.4nm,0.8s
**BJO1 Bjornoya 53.99 355 *e*P P 12 25 02.9 +0.1
**SFJD Kangerlussuaq 54.60 24 LR LR 12 50 20.0
comp=Z,236nm,20.9s,baz=300,slow=38
**JFWS Jewell Farm 55.03 63 IAmb IAmb 12 25 17.7
comp=Z,8.4nm,0.6s
**ICESG Greenland Ices 55.32 18 *i*P P 12 25 12.8 -0.2
**LPIG La Paz 55.72 94 LR LR 12 44 06.8
comp=Z,117nm,21.7s,baz=298,slow=31
**ZAA0 Zalesovo Array 55.78 315 PcP PcP 12 26 15.6 +0.8
**ZALV Zalesovo Beam 55.78 315 P P 12 25 15.7 -0.4
comp=Z,1.3nm,0.4s,baz=42,slow=9.1,SNR=2.3
ZALV PcP PcP 12 26 15.6 +0.8
comp=Z,3.4nm,0.6s,baz=46,slow=3.8,SNR=6.9
ZALV LR LR 12 50 58.9
comp=Z,391nm,18.8s,baz=54,slow=38
**ZALV Zalesovo Beam 55.78 315 P P 12 25 15.7 -0.4
ZALV PcP PcP 12 26 14.9 +0.2
**YULB Yu-li 55.91 265 P P 12 25 16.3 -1.1
**DY2G Dye2 56.08 22 *i*P P 12 25 17.6 -0.7
DY2G IAmb IAmb 12 25 18.6
comp=Z,4.9nm,0.7s
**XAN Xi'an 56.11 284 P P 12 25 18.8 0.0
XAN pP pP 12 25 29.8 +0.8
XAN sP pwP 12 25 37.8 +2.9
XAN pmax pmax
comp=Z,27nm,1.6s
**TX31 Lajitas Ar. Si 56.14 84 P P 12 25 18.4 -0.7
TX31 IAmb IAmb 12 25 40.6
comp=Z,9.2nm,0.8s
**TX32 Lajitas Array 56.14 84 P P 12 25 17.6 -1.5
**TXAR Lajitas Array 56.14 84 P P 12 25 19.0 -0.1
comp=Z,0.6nm,0.7s,baz=303,slow=4.8,SNR=7.5
**TXAR Lajitas Array 56.14 84 P P 12 25 18.2 -1.0
**R40A Maddies Statio 56.93 69 IAmb IAmb 12 25 50.7
comp=Z,5.7nm,0.7s
**DGZ Jazzator, Alta 57.44 310⇑*e*P P 12 25 27.9 -0.3
DGZ pmax pmax
comp=Z,20nm,1.6s
**JMIC Jan Mayen 57.47 5 LR LR 12 51 06.8
comp=Z,118nm,19.2s,baz=29,slow=37
**HAMF Hammerfest 57.48 353 *e*P P 12 25 27.1 -0.8
**MGMO Mountain Grove 57.70 70 IAmb IAmb 12 25 51.0
comp=Z,12nm,1.2s
**LZH Lanzhou 57.77 289 ⇓P P 12 25 31.7 +1.0
LZH pP pP 12 25 40.5 -0.7
LZH sP sP 12 25 45.3 -0.1
LZH pmax pmax
comp=Z,43nm,1.1s
LZH pmax pmax
comp=Z,89nm,4.3s
LZH LR LR
comp=Z,310nm,20.6s
LZH LR LR
comp=Z,390nm,19.5s
LZH LR LR
comp=Z,350nm,19.0s
**GTA Gaotai 57.86 294 *e*P P 12 25 31.0 -0.2
GTA pmax pmax
comp=Z,8.0nm,0.8s
GTA pmax pmax
comp=Z,90nm,6.0s
GTA LR LR
comp=Z,240nm,16.3s
GTA LR LR
comp=Z,370nm,19.1s
GTA LR LR
comp=Z,380nm,21.5s
**U40A Yellville 57.90 71 P P 12 25 31.1 -0.3
U40A IAmb IAmb 12 25 48.3
comp=Z,12nm,1.2s
**SCHQ Schefferville 58.34 40 P P 12 25 33.9 -0.4
comp=Z,3.2nm,0.6s,baz=321,slow=7.6,SNR=5.6
SCHQ LR LR 12 52 38.6
comp=Z,411nm,18.1s,baz=307,slow=38
**ARCES ARCESS Array B 58.41 352 P P 12 25 33.5 -0.9
comp=Z,4.8nm,0.6s,baz=22,slow=7.7,SNR=31
ARCES PcP PcP 12 26 25.1 +0.3
comp=Z,5.4nm,0.6s,baz=15,slow=5.0,SNR=8.8
ARCES LR LR 12 53 31.9
comp=Z,116nm,18.1s,baz=5.0,slow=39
**ARCES ARCESS Array B 58.41 352 P P 12 25 34.0 -0.5
ARCES pmax pmax
comp=Z,24nm,1.5s
**ARCES ARCESS Array B 58.41 352 P P 12 25 34.0 -0.5
**SFIN Lafayette 58.48 64 P P 12 25 35.8 +0.4
**FCAR Ozark Folk Cen 58.65 71 P P 12 25 35.0 -1.6
FCAR IAmb IAmb 12 26 02.2
comp=Z,9.2nm,1.0s
**JETT Jettan, Norway 58.79 354 *e*P P 12 25 38.0 +0.8
**TRO Tromso 58.81 354 *e*P P 12 25 36.5 -0.7
**KTK1 Kautokeino 59.11 353 *e*P P 12 25 39.0 -0.3
**ZSN Zaisan 60.23 310 *e*P P 12 25 46.2 -1.3
baz=310
**ZSN Zaisan 60.23 310 *e*P P 12 25 46.1 -1.3
**LOF Lofoten 60.57 356 *e*P P 12 25 49.2 -0.1
**STEI Steigen 60.70 356 *e*P P 12 25 49.6 -0.6
**DELO Deloro Mine 60.70 54 P P 12 25 50.6 0.0
**KURK Kurchatov 60.76 316 P P 12 25 51.3 +0.4
KURK 12 26 35.3
**KURBB Kurchatov Arra 60.87 316 P P 12 25 51.3 -0.3
comp=Z,10nm,0.4s,baz=44,slow=6.6,SNR=92
KURBB PcP PcP 12 26 35.3 +0.4
comp=Z,2.6nm,0.9s,baz=42,slow=4.2,SNR=12
**FAUS Fauske 61.24 356 *e*P P 12 25 53.3 -0.6
**WMQ Urumqi 61.39 305 *e*P P 12 25 56.2 +0.8
WMQ pmax pmax
comp=Z,26nm,0.7s
WMQ pmax pmax
comp=Z,110nm,5.1s
WMQ LR LR
comp=Z,380nm,18.7s
WMQ LR LR
comp=Z,410nm,19.7s
WMQ LR LR
comp=Z,320nm,18.1s
**CD2 Chengdu 61.41 285 P P 12 25 56.0 +0.3
CD2 pmax pmax
comp=Z,20nm,0.7s
**R50A Paris 61.48 64 IAmb IAmb 12 26 24.2
comp=Z,12nm,1.2s
**PLAL Pickwick Lake 61.65 69 IAmb IAmb 12 26 15.4
comp=Z,12nm,1.1s
**NBB30 Finnes 61.72 356 *e*P P 12 25 56.4 -0.7
**CLTN Cedars of Leba 61.88 67 P P 12 25 59.8 +1.1
CLTN IAmb IAmb 12 26 17.4
comp=Z,6.9nm,0.9s
**MK31 Makanchi Array 61.93 311*c i*P P 12 25 58.1 -0.8
**MK31 Makanchi Array 61.93 311 P P 12 25 57.1 -1.8
MK31 IAmb IAmb 12 25 59.3
comp=Z,5.7nm,0.5s
**MKAR Makanchi Array 61.93 311 P P 12 25 58.2 -0.7
comp=Z,6.7nm,0.4s,baz=47,slow=5.5,SNR=109
MKAR LR LR 12 55 13.0
comp=Z,255nm,18.5s,baz=36,slow=38
**MKAR Makanchi Array 61.93 311 P P 12 25 58.1 -0.9
**J56A Wolcott 61.97 55 P P 12 25 59.4 +0.3
**MAKZ Makanchi 62.07 311 P P 12 25 58.9 -1.0
MAKZ pmax pmax
comp=Z,6.0nm,0.5s
**MAKZ Makanchi 62.07 311 P P 12 25 58.9 -1.0
MAKZ IAmb IAmb 12 26 00.3
comp=Z,6.1nm,0.5s
**LONY Lake Ozonia 62.16 53 IAmb IAmb 12 26 07.5
comp=Z,5.5nm,0.8s
**NBB40 Tonnes 62.21 356 *e*P P 12 25 59.8 -0.6
**KONS Konsvik 62.22 356 *e*P P 12 26 00.1 -0.4
**BORG Borgarnes 62.31 13 LR LR 12 54 04.3
comp=Z,71nm,19.2s,baz=327,slow=37
**L56A Greenwood 62.42 56 P P 12 26 02.3 +0.1
**BVAR Borovoye Array 62.42 322 P P 12 26 02.0 -0.1
comp=Z,19nm,0.5s,baz=13,slow=0.6,SNR=99
**BVAR Borovoye Array 62.42 322 P P 12 26 02.0 -0.1
**BRVK Borovoye 62.44 322*c i*P P 12 26 02.3 +0.1
BRVK pmax pmax
comp=Z,8.0nm,1.3s
**BRVK Borovoye 62.44 322 P P 12 26 02.3 +0.1
**MOR8 Moi Rana 62.49 356 *e*P P 12 26 00.4 -2.0
**K57A Scipio Center 62.53 55 P P 12 26 03.0 0.0
**GYA Guiyang 62.81 279 ⇑P P 12 26 07.0 +1.8
GYA pmax pmax
comp=Z,20nm,0.8s
GYA LR LR
comp=Z,190nm,22.0s
**Q54A Coxs Mills 62.92 61 IAmb IAmb 12 26 26.3
comp=Z,8.4nm,0.7s
**D62A Allapoint, All 63.02 48 IAmb IAmb 12 26 08.5
comp=Z,9.9nm,0.8s
**J59A Piesco 63.03 54 P P 12 26 06.0 -0.3
J59A IAmb IAmb 12 26 06.8
comp=Z,6.1nm,0.8s
**BINY Binghamton 63.19 55 P P 12 26 08.2 +0.8
**BINY Binghamton 63.19 55 P P 12 26 07.5 +0.1
baz=316,SNR=6.8
**O56A Blue Knob Stat 63.22 58 P P 12 26 07.0 -0.7
O56A IAmb IAmb 12 26 26.1
comp=Z,14nm,1.1s
**SSPA Standing Stone 63.32 58 P P 12 26 08.2 0.0
**FPAL Fort Paine 63.39 67 P P 12 26 08.7 -0.2
FPAL IAmb IAmb 12 26 24.6
comp=Z,9.0nm,0.7s
**ACCN Adirondack Com 63.51 53 IAmb IAmb 12 26 11.5
comp=Z,14nm,1.1s
**V52A Sevierville 63.62 65 P P 12 26 09.9 -0.4
V52A IAmb IAmb 12 26 28.3
comp=Z,17nm,1.4s
**L59A Walton 63.68 55 P P 12 26 11.4 +0.7
**G62A West of Eustis 63.70 50 IAmb IAmb 12 26 12.2
comp=Z,11nm,0.8s
**KSPA Keystone Colle 63.76 56 P P 12 26 11.3 +0.1
KSPA IAmb IAmb 12 26 14.1
comp=Z,9.0nm,0.8s
**E63A Oxbow 63.80 48 P P 12 26 10.8 -0.6
**R55A Marlinton 63.81 61 P P 12 26 11.7 +0.1
R55A IAmb IAmb 12 26 33.1
comp=Z,8.5nm,0.7s
**ARU Arti 63.83 330 P P 12 26 11.4 +0.1
comp=Z,2.9nm,0.6s,baz=30,slow=5.2,SNR=12
ARU LR LR 12 57 34.2
comp=Z,297nm,19.5s,baz=45,slow=40
**ARU Arti 63.83 330*c i*P P 12 26 11.4 +0.1
ARU 12 26 45.8

ARU 12 28 29.6
ARU S **S** **12 34 44.8 +1.6**
ARU pmax pmax
comp=Z,6.0nm,0.6s
ARU MLR MLR
comp=Z,321nm,20.0s
ARU Arti 63.83 330 P **P** **12 26 10.4 -0.9**
ARU IAmb IAmb 12 26 13.3
comp=Z,6.7nm,0.7s
BRZS Berezniki 63.84 318 *eP* **P** **12 26 10.8 -0.8**
baz=318
BRZS Berezniki 63.84 318 *eP* **P** **12 26 10.7 -0.8**
F63A Nahmakanta, Br 64.02 49 IAmb IAmb 12 26 14.5
comp=Z,11nm,0.8s
P57A Homestead Farm 64.08 59 IAmb IAmb 12 26 40.1
comp=Z,9.3nm,0.9s
N59A State Game Lan 64.23 56 IAmb IAmb 12 26 16.3
comp=Z,13nm,0.9s
N59A State Game Lan 64.23 56 P **P** **12 26 14.4 +0.1**
baz=317,SNR=5.5
NSS Namsos 64.23 357 *eP* **P** **12 26 13.1 -0.7**
HNR Honiara 64.46 208 P **P** **12 26 17.6 +1.7**
comp=Z,48nm,0.3s,baz=196,slow=15,SNR=4.1
HNR LR LR 12 48 56.7
comp=Z,142nm,19.5s,baz=9.0,slow=31
KIRV Kirov 64.56 336 LR LR 12 56 28.7
comp=Z,118nm,20.9s,baz=34,slow=38
KIRV Kirov 64.56 336‖ *eP* **P** **12 26 18.4 +2.3**
LUPA Lehigh Univers 64.67 56 IAmb IAmb 12 26 19.1
comp=Z,14nm,0.9s
KLMR Klimovskoe 64.71 342 *eP* **P** **12 26 14.1 -2.9**
KLMR pmax pmax
comp=Z,14nm,1.4s
KLMR Klimovskoe 64.71 342 *eP* **P** **12 26 14.1 -2.9**
KLMR AMP 12 26 16.4
comp=Z,14nm,1.4s
T57A Hurt 65.21 61 P **P** **12 26 20.8 +0.1**
T57A IAmb IAmb 12 26 23.2
comp=Z,4.9nm,0.7s
R58B Mineral 65.26 60 P **P** **12 26 21.0 0.0**
R58B IAmb IAmb 12 26 40.2
comp=Z,5.9nm,0.8s
KMSC Kings Mountain 65.40 64 IAmb IAmb 12 26 41.3
comp=Z,7.2nm,0.7s
EMMW East Machias 65.53 48 P **P** **12 26 21.9 -0.8**
HODGE Hodges 65.54 65 IAmb IAmb 12 26 27.2
comp=Z,6.9nm,0.8s
BRYW Bryant College 65.65 53 P **P** **12 26 24.1 +0.6**
KPKS Kokpek 66.11 310 *eP* **P** **12 26 25.7 -0.9**
baz=310
KPKS Kokpek 66.11 310 *eP* **P** **12 26 25.6 -0.9**
T59A Double "B" Far 66.16 60 IAmb IAmb 12 26 46.1
comp=Z,10nm,0.8s
UZB Uzynbulak 66.19 310 *eP* **P** **12 26 26.3 -0.8**
baz=310
UZB Uzynbulak 66.19 310 *eP* **P** **12 26 26.2 -0.8**
FINES FINESS Array B 66.22 349 P **P** **12 26 25.9 -0.8**
comp=Z,3.3nm,0.6s,baz=21,slow=9.0,SNR=17
FINES FINESS Array B 66.22 349 *iP* **P** **12 26 25.8 -1.0**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 66.22 349 P **P** **12 26 25.7 -1.1**
MOL Molde 66.30 359 *eP* **P** **12 26 27.1 -0.2**
SATY Saty 66.55 310 *eP* **P** **12 26 28.4 -0.9**
baz=310
SATY Saty 66.55 310 *eP* **P** **12 26 28.4 -0.9**
AKN Aaknes 66.70 359 *eP* **P** **12 26 29.8 -0.1**
KUU Kurty 66.89 312 *eP* **P** **12 26 29.7 -1.7**
baz=312
KUU Kurty 66.89 312 *eP* **P** **12 26 29.7 -1.7**
MDOK Medeo 67.11 311 *eP* **P** **12 26 32.0 -1.1**
baz=311
MDOK Medeo 67.11 311 *eP* **P** **12 26 31.9 -1.1**
MTBS Maitube 67.43 311 *eP* **P** **12 26 33.6 -1.3**
baz=311
NC303 NORSAR Array S 67.56 357 *eP* **P** **12 26 35.2 -0.1**
NC405 NORSAR Array S 67.66 357 P **P** **12 26 34.4 -1.6**
HYA Hoyanger 67.72 359 *eP* **P** **12 26 36.6 +0.3**
NB201 NORSAR Array S 67.74 357 P **P** **12 26 36.6 +0.1**
NB2 NORSAR Subarra 67.75 357 P **P** **12 26 36.2 -0.4**
comp=Z,5.6nm,0.6s,baz=7.2,slow=6.5
NB2 NORSAR Subarra 67.75 357 P **P** **12 26 36.2 -0.4**
baz=7.2,slow=6.5
NOA NORSAR Array B 67.75 357 P **P** **12 26 35.7 -0.9**
comp=Z,2.7nm,0.5s,baz=5.8,slow=6.4,SNR=36
SGDS Sogindy 68.02 313 *eP* **P** **12 26 37.7 -0.9**
baz=313
SKAR Skarslia 68.19 358 *eP* **P** **12 26 39.2 -0.1**
USP Ospenovka 68.22 313 P **P** **12 26 40.7 +0.8**
SNR=12
SLVN Son La 68.28 277 P **P** **12 26 40.2 -0.3**
SLVN IAmb IAmb 12 27 05.6
comp=Z,9.1nm,1.0s
KBK Karagaybulak 68.49 312 P **P** **12 26 42.6 +1.0**
SNR=5.6
HFS Hagfors 68.55 355 P **P** **12 26 40.9 -0.7**
comp=Z,11nm,0.5s,baz=28,slow=4.0,SNR=74
UPP Uppsala 68.59 353 *eP* **P** **12 26 41.6 -0.1**
AAK Ala-Archa 68.72 312 P **P** **12 26 43.8 +0.8**
SNR=8.7
AAK Ala-Archa 68.72 312*c iP* **P** **12 26 43.6 +0.5**
AAK pmax pmax
comp=Z,52nm,1.3s
AAK Ala-Archa 68.72 312 P **P** **12 26 43.3 +0.2**
AAK IAmb IAmb 12 26 44.9
comp=Z,8.9nm,0.6s
EKS2 Erkin-Say 69.03 313 P **P** **12 26 46.1 +1.2**
SNR=6.0
AKTO Aktyubinsk 69.04 327 P **P** **12 26 44.6 -0.1**
comp=Z,8.0nm,0.5s,baz=60,slow=6.8,SNR=33
AKTO LR LR 13 00 31.9
comp=Z,256nm,19.2s,baz=36,slow=39
VSU Vasula 69.04 348 *eP* **P** **12 26 44.1 -0.5**
VSU Vasula 69.04 348‖ *iP* **P** **12 26 44.2 -0.4**
VSU pmax pmax
comp=Z,31nm,0.7s
KONO Kongsberg 69.19 358‖ *iP* **P** **12 26 45.8 +0.3**
KONO pmax pmax
comp=Z,40nm,1.6s
KONO Kongsberg 69.19 358 *eP* **P** **12 26 45.8 +0.3**
ABKAR Akbulak array 69.36 325 P **P** **12 26 46.5 -0.3**
BLS5 Blasjo 69.47 359 *eP* **P** **12 26 47.6 +0.3**
AML Almayashu 69.48 312 P **P** **12 26 49.5 +1.4**
SNR=7.4
KMY Karmoy 69.69 360 *eP* **P** **12 26 48.9 +0.3**
LSA Lhasa 69.77 292 P **P** **12 26 50.3 +0.2**
LSA pmax pmax
comp=Z,38nm,1.2s
LSA Lhasa 69.77 292 P **P** **12 26 50.3 +0.2**
KK31 Karatay Array 70.15 315 P **P** **12 26 51.5 -0.3**
KK31 pmax pmax
comp=Z,16nm,1.3s
KK31 Karatay Array 70.15 315 P **P** **12 26 51.5 -0.3**
KK31 IAmb IAmb 12 26 53.6
comp=Z,16nm,1.3s
KKAR Karatay Array 70.15 315 IAmb IAmb 12 26 53.6
comp=Z,16nm,1.3s
KSH Kashi 70.44 309 P **P** **12 26 56.0 +2.3**
KSH sP pwP 12 27 10.7 +1.1
KSH pmax pmax
comp=Z,23nm,0.5s
KSH pmax pmax
comp=Z,310nm,5.1s
KSH LR LR
comp=Z,260nm,20.4s
KSH LR LR
comp=Z,480nm,21.3s
KSH LR LR
comp=Z,280nm,16.6s
SNART Snartemo 70.55 359 *eP* **P** **12 26 54.5 +0.6**
HOMB Homborsund 70.60 358 *eP* **P** **12 26 54.7 +0.5**
OBN Obninsk 70.64 342 *eP* **P** **12 26 52.3 -2.1**
OBN *e* 12 27 13.5
OBN *e*PPP PPP 12 31 11.0
OBN pmax pmax
comp=Z,5.0nm,0.8s
IUG Iuzhnay 71.13 315 *eP* **P** **12 26 57.7 -0.2**
baz=315
IUG Iuzhnay 71.13 315 *eP* **P** **12 26 57.6 -0.2**
PPT2 Papeete2 72.20 155 *e*S **S** **12 36 28.9 +5.0**
comp=Z,85nm,24.8s
PPT2 Papeete2 72.20 155 *e*LR LR 12 49 12.6
comp=Z,238nm,21.0s
PABE Paberze 72.27 349 *eP* **P** **12 27 03.9 -0.4**
BTK Batken 72.45 313 IAmb IAmb 12 27 08.0
comp=Z,22nm,1.1s

DRK Karamyk 72.45 312 P **P** **12 27 07.1 +1.0**
MNK Minsk 72.73 346 *iP* **P** **12 27 05.2 -1.8**
MNK *i* 12 29 47.0
MNK *i*PPP PPP 12 31 30.0
MNK *i*S **S** **12 36 28.9 -0.3**
MNK *i*SS **SS** **12 41 09.8 +1.9**
MNK pmax pmax
comp=N,13nm,0.9s
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=Z,4.0nm,0.7s
MNK MLR MLR
comp=N,214nm,22.0s
MNK MLR MLR
comp=Z,196nm,17.0s
MNK MLR MLR
comp=E,18nm,21.0s
MNK Minsk 72.73 346 *iP* **P** **12 27 05.2 -1.8**
comp=E,3.0nm,0.9s
MNK *iP* **P** **12 27 05.2 -1.8**
comp=N,13nm,0.9s
MNK *iP* **P** **12 27 05.2 -1.8**
comp=Z,4.0nm,0.7s,baz=15
MNK *i*PP **PP** **12 29 47.0 -1.3**
MNK *i*PPP PPP 12 31 30.0
MNK *i*S **S** **12 36 29.0 -0.2**
MNK *i*SS **SS** **12 41 09.9 +1.9**
MNK *i*SSS SSS 12 44 34.1
MNK *i*LQ LQ 12 54 11.0
MNK *i*LR LR 12 58 20.4
MNK *i*LRM MLR 13 00 58.3
comp=N,214nm,21.9s
MNK *i*LRM MLR 13 01 02.8
comp=Z,196nm,16.8s
MNK *i*LRM MLR 13 01 11.8
comp=E,18nm,20.6s
CHTO Chiang Mai 73.23 279 P **P** **12 27 12.6 +2.0**
comp=E,6.6nm,1.4s
EKA Eskdalemuir Ar 73.35 5 P **P** **12 27 10.9 +0.2**
comp=E,3.7nm,0.7s,baz=351,slow=4.4,SNR=11
CMAR Chiang Mai Arr 73.50 279 P **P** **12 27 12.6 +0.4**
comp=E,1.5nm,0.4s,baz=29,slow=5.8,SNR=13
CMAR Chiang Mai Arr 73.50 279 P **P** **12 27 10.9 -1.3**
CM02 Chiang Mai Arr 73.50 279 P **P** **12 27 15.0 +2.7**
comp=E,5.9nm,0.8s
TAPN Taplejung 73.52 293 *eP* **P** **12 27 13.1 +0.5**
CM01 Chiang Mai Arr 73.52 279 P **P** **12 27 15.5 +3.2**
comp=E,83nmcomp=E,6.1nm,1.2s
CM04 Chiang Mai Arr 73.53 279 P **P** **12 27 15.7 +3.4**
comp=E,61nmcomp=E,5.7nm,0.8s
GAR Garm 73.53 313 P **P** **12 27 12.1 -0.1**
CM05 Chiang Mai Arr 73.55 279 P **P** **12 27 14.7 +2.3**
comp=E,46nmcomp=E,4.6nm,0.8s
CM13 Chiang Mai Arr 73.55 279 P P 12 27 17.6 +5.1
comp=E,62nmcomp=E,5.1nm,0.6s
ODAN Odare 74.08 293 *eP* **P** **12 27 16.2 +0.5**
GUN Gumba 74.14 295 *eP* **P** **12 27 16.8 +0.6**
comp=E,104nm,0.6s
JIRN Jiri 74.16 294 *eP* **P** **12 27 17.1 +0.7**
RAMN Ramite 74.46 294 *eP* **P** **12 27 18.4 +0.4**
comp=E,43nm,0.5s
KKN Kakani 74.57 295 *eP* **P** **12 27 19.1 +0.5**
PKI Pulchoki 74.67 295 *eP* **P** **12 27 19.5 +0.2**
PKIN Phulchoki 74.67 295 *eP* **P** **12 27 19.4 +0.2**
GKN Gorkha 74.77 296 *eP* **P** **12 27 20.0 +0.3**
DMN Daman 74.81 295 *eP* **P** **12 27 20.6 +0.6**
DANN Dangsing 75.00 297 *eP* **P** **12 27 21.7 +0.6**
comp=E,91nm,0.9s
DZM Mont Dzumac 75.05 198 *e*LR LR 12 50 37.3
comp=E,163nm,21.6s
KOLN Koldanda 75.53 296 *eP* **P** **12 27 24.3 +0.2**
PYUN Piuthan 75.62 297 *eP* **P** **12 27 24.9 +0.3**
comp=E,76nm,0.7s
AKASC Malin Array Be 76.20 345 P **P** **12 27 26.2 -1.1**
comp=E,1.7nm,0.2s,baz=18,slow=5.9,SNR=15
AKBB Malin Array Si 76.20 345‖ *eP* **P** **12 27 26.3 -0.9**
AKBB pmax pmax
comp=Z,14nm,1.5s
AKBB Malin Array Si 76.20 345 IAmb IAmb 12 27 26.6
comp=Z,4.2nm,0.7s
NIL Nilore 76.41 307 P **P** **12 27 28.4 -0.4**
NIL pmax pmax
comp=Z,62nm,1.3s
NIL Nilore 76.41 307 P **P** **12 27 28.4 -0.4**
CLL Collm 77.40 355 *eP* **P** **12 27 34.0 0.0**
comp=Z,6.0nm,0.6s
CLL *es*P **sP** **12 27 50.0 +0.5**
CLL *eP*S **PnS** **12 38 04.0 0.0**
CLL *e*SS SS 12 42 36.0 +17
CLL *e*SSSS 12 48 06.0
CLL Lm MLR 13 06 00.0
comp=Z,100nm,19.2s
CLL Collm 77.40 355 *eP* **P** **12 27 34.0 0.0**
CLL *e* 12 27 50.0
CLL pmax pmax
comp=Z,6.0nm,0.6s
CLL Collm 77.40 355 IAmb IAmb 12 27 34.7
TGUH Tegucigalpa,Un 77.60 83 P **P** **12 27 33.1 -2.7**
TBI Tubuai 77.74 156 *e*LR LR 12 51 45.8
comp=Z,222nm,22.5s
KBL Kabul 77.74 311 P **P** **12 27 35.6 -0.9**
KBL pmax pmax
comp=Z,20nm,0.8s
KBL Kabul 77.74 311 P **P** **12 27 35.6 -0.9**
BRG Berggiesshubel 77.78 354 *eP* **P** **12 27 36.1 0.0**
BRG Amp 12 27 37.9
comp=Z,5.1nm,0.7s
DPC Dobruska-Polom 78.13 353 *eP* **P** **12 27 38.2 0.0**
DPC MLR MLR
comp=Z,100nm,19.6s
DPC Dobruska-Polom 78.13 353 *eP* **P** **12 27 38.2 0.0**
DPC AMS AMS 13 11 50.0
comp=Z,100nm,19.6s
NKC Novy Kostel 78.50 355 *eP* **P** **12 27 40.4 +0.2**
NKC Novy Kostel 78.50 355 *eP* **P** **12 27 40.4 +0.2**
PRU Pruhonice 78.62 354 AMS AMS 13 11 10.0
comp=Z,200nm,20.7s
GIVF Givet 78.82 0 *eP* **P** **12 27 44.6 +2.7**
GIVF pmax pmax
comp=Z,6.0nm,0.3s
BAIF Baives 78.86 1 *eP* **P** **12 27 42.8 +0.7**
BAIF pmax pmax
comp=Z,6.0nm,0.6s
CRVS Cervenica-Dubn 79.06 349 *eP* **P** **12 27 43.7 +0.4**
CRVS Cervenica-Dubn 79.06 349 *eP* **P** **12 27 43.7 +0.4**
GRF Grafenberg Arr 79.10 356 *eP* **P** **12 27 44.2 +0.8**
comp=E,6.3nm,0.8s,baz=8.1,slow=4.8
TREC Trest 79.25 353 AMS AMS 13 10 50.0
comp=Z,200nm,19.5s
KHC Kasperske Hory 79.54 354 *eP* **P** **12 27 46.5 +0.6**
KHC MLR MLR
comp=Z,200nm,21.0s
KHC Kasperske Hory 79.54 354 *eP* **P** **12 27 46.5 +0.6**
KHC AMS AMS 13 07 50.0
comp=Z,200nm,21.0s
KIV Kislovodsk 79.58 333 *eP* **P** **12 27 46.0 -0.3**
KIV *e* 12 27 55.9
KIV *e* 12 30 49.0
KIV pmax pmax
comp=Z,3.0nm,0.8s
GEYT Alibeck 79.69 320 P **P** **12 27 47.7 +0.7**
comp=Z,7.3nm,0.9s,baz=229,slow=5.7,SNR=8.2
GYA0B ALIBECK ARRAY 79.69 320 P **P** **12 27 47.8 +0.9**
GYA0B IAmb IAmb 12 27 50.6
comp=Z,21nm,1.2s
KBZ Khabaz 79.73 333 P **P** **12 27 47.4 +0.5**
comp=Z,1.3nm,0.7s,baz=125,slow=4.6,SNR=2.3
KBZ Khabaz 79.73 333*ce*P **P** **12 27 47.2 +0.3**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
BUR08 Bucovina Ar. S 79.80 346 P **P** **12 27 47.1 -0.4**
GERES GERESS Array B 79.81 354 P **P** **12 27 46.8 -0.7**
comp=Z,1.4nm,0.7s,baz=15,slow=5.5,SNR=10.0
LDF La Druitiere 80.22 4 *eP* **P** **12 27 50.1 +0.5**
LDF pmax pmax
comp=Z,6.0nm,0.5s
GRR Gorron 80.40 4 *eP* **P** **12 27 50.8 +0.3**
GRR pmax pmax
comp=Z,10.0nm,0.8s
SGMF Saint Gilles 80.44 5 *eP* **P** **12 27 51.1 +0.4**
SGMF pmax pmax
comp=Z,62nm,1.6s
CLF Chambon-Foret 80.86 2 P **P** **12 27 53.9 +0.9**

HAU Haudompre 80.91 359 *eP* **P** **12 27 53.6 +0.3**
HAU pmax pmax
comp=Z,4.0nm,0.3s
HRA Herat 80.98 315 P **P** **12 27 54.4 +0.3**
HINF Hinteralfeld 81.10 359 *eP* **P** **12 27 55.9 +1.6**
HINF pmax pmax
comp=Z,3.0nm,0.3s
KBA Koelnbreinsper 81.60 354 *i*P **P** **12 27 58.0 +0.8**
comp=Z,8.3nm,0.8s
LOR Lormes 81.65 1 *eP* **P** **12 27 57.2 0.0**
LOR pmax pmax
comp=Z,8.0nm,0.6s
MLR Muntele Rosu 81.79 345 P **P** **12 27 58.2 0.0**
comp=Z,3.0nm,0.5s,baz=178,slow=5.8,SNR=4.3
MLR Muntele Rosu 81.79 345 P **P** **12 27 58.7 +0.5**
MLR pmax pmax
comp=Z,4.0nm,0.7s
MLR Muntele Rosu 81.79 345 P **P** **12 27 58.6 +0.5**
MLR IAmb IAmb 12 27 60.0
comp=Z,3.8nm,0.7s
SOKA Soboth 81.88 353 *eP* **P** **12 27 58.7 +0.2**
comp=Z,5.6nm,0.8s
ABTA Abfaltersbach 81.97 355 *eP* **P** **12 27 58.4 -0.6**
comp=Z,6.6nm,1.4s
MYKA Terra Mystica 82.03 354 *eP* **P** **12 27 59.0 -0.2**
comp=Z,1.7nm,0.4s
DAVOX Davos/Dischmat 82.06 357 P **P** **12 27 59.9 +0.3**
comp=Z,1.4nm,0.5s,baz=328,slow=15,SNR=1.9
BGF Bois d'Agland 82.34 2 *eP* **P** **12 28 01.4 +0.5**
BGF pmax pmax
comp=Z,26nm,1.4s
GNI Garni 82.47 331‖ *eP* **P** **12 28 03.0 +1.1**
GNI pmax pmax
comp=Z,12nm,1.5s
RJF Les Rejaudoux 83.57 3 *eP* **P** **12 28 08.0 +0.8**
RJF pmax pmax
comp=Z,32nm,1.4s
WRA Warramunga Arr 83.87 227 P **P** **12 28 07.2 -1.8**
comp=Z,1.9nm,1.1s,baz=35,slow=5.6,SNR=8.7
WRA Warramunga Arr 83.87 227 *iP* **P** **12 28 07.3 -1.6**
WRA pmax pmax
comp=Z,2.0nm,1.1s
WRA Warramunga Arr 83.87 227 IAmb IAmb 12 28 08.9
comp=Z,0.6nm,1.4s
CAF Calviac 83.96 2 *eP* **P** **12 28 11.1 +1.8**
CAF pmax pmax
comp=Z,19nm,1.3s
VIVF Saint-Julien-l 84.07 0 *eP* **P** **12 28 10.9 +1.1**
VIVF pmax pmax
comp=Z,8.0nm,0.9s
MBDF Montbardon 84.19 359 *eP* **P** **12 28 12.5 +1.9**
MBDF pmax pmax
comp=Z,3.0nm,0.6s
VTS Vitosha 85.00 347 P **P** **12 28 14.9 +0.1**
VTS pmax pmax
comp=Z,6.0nm,1.1s
VTS Vitosha 85.00 347 P **P** **12 28 14.9 +0.1**
VTS IAmb IAmb 12 28 16.7
comp=Z,6.4nm,1.1s
MTLF Montolieu 85.55 2 *eP* **P** **12 28 18.2 +1.0**
MTLF pmax pmax
comp=Z,11nm,1.0s
SJPF Ste Jean 85.64 5 *eP* **P** **12 28 19.1 +1.4**
SJPF pmax pmax
comp=Z,7.0nm,0.7s
PDG Podgorica 85.70 350 P **P** **12 28 16.2 -1.8**
PDG IAmb IAmb 12 28 19.6
comp=Z,8.4nm,0.8s
BRTR Keskin Array B 85.86 338 P **P** **12 28 18.8 -0.2**
comp=Z,1.6nm,0.6s,baz=28,slow=2.9,SNR=12
BRTR Keskin Array B 85.86 338 P **P** **12 28 18.2 -0.8**
ETSF Etsaut 85.89 4 *eP* **P** **12 28 20.2 +1.1**
ETSF pmax pmax
comp=Z,32nm,1.6s
FITZ Fitzroy Crossi 86.54 235 P **P** **12 28 21.9 -0.4**
FITZ IAmb IAmb 12 28 23.9
comp=Z,8.0nm,1.2s
FNA Florina 87.06 348 P **P** **12 28 24.5 -0.3**
FNA pmax pmax
comp=Z,4.0nm,0.6s
FNA Florina 87.06 348 P **P** **12 28 24.5 -0.3**
FNA IAmb IAmb 12 28 26.4
comp=Z,3.6nm,0.6s
ASAR Alice Springs 87.30 226 P **P** **12 28 24.8 -1.2**
comp=Z,2.1nm,0.9s,baz=27,slow=4.7,SNR=13
POO Poona 88.28 298 *eP* **P** **12 28 29.0 -2.0**
ESDC Sonseca Array 88.89 7 P **P** **12 28 33.6 +0.1**
comp=Z,0.8nm,0.6s,baz=354,slow=3.9,SNR=6.0
ESDC Sonseca Array 88.89 7 P **P** **12 28 33.2 -0.3**
ESDC IAmb IAmb 12 28 35.7
comp=Z,6.1nm,1.4s
TORD Torodi Ar. Bea 115.59 4 PKP **PKiKP** **12 34 20.6 -0.9**
comp=Z,0.5nm,0.5s,baz=358,slow=2.5,SNR=4.8
H03N2 Juan Fernandez 118.76 108 T T 14 46 04.3
baz=317,slow=77,SNR=9.8
H03N1 Juan Fernandez 118.77 108 T T 14 46 05.8
baz=317,slow=77,SNR=14
H03N3 Juan Fernandez 118.77 108 T T 14 46 04.9
baz=317,slow=77,SNR=9.5
MAW Mawson 148.09 218 PKPbc **PKPbc** **12 35 23.0 -0.4**
comp=Z,3.4nm,0.6s,baz=122,slow=3.6,SNR=16
MAW Mawson 148.09 218 PKP2 **PKPbc** **12 35 23.0 -0.4**
MAW pmax pmax
comp=Z,10.0nm,0.7s
MAW Mawson 148.09 218 **PKPbc** **12 35 23.3 -0.1**
BOSA Boshof 152.68 319 PKPbc **PKPbc** **12 35 35.6 -0.2**
comp=Z,3.1nm,0.5s,baz=17,slow=3.0,SNR=20
BOSA Boshof 152.68 319 PKP2 **PKPab** **12 35 47.2 +0.6**
BOSA Boshof 152.68 319 **PKiKP** **12 35 37.4 +1.3**
BOSA PKPab **PKPab** **12 35 47.2 +0.6**

NOU 04 12:19:16.3, 17°32S×167°83E, h23km, MLv4.2/11,
Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.53**	**140**	P		Pn	12 19 27.8	-0.6
RTV	**Rentapao**	**0.74**	**130**	P		Pn	12 19 31.2	-0.1
SANVU	**Saraoutou**	**1.96**	**342**	P		Pn	12 19 47.1	-1.0
MARNC	**Mare, Loyalty**	**4.14**	**177**	P		Pn	12 20 17.7	-0.5
KOUNC	**Koumac, New Ca**	**4.64**	**226**	P		Pn	12 20 25.3	+0.2
NOUC	**Port Laguerre**	**4.97**	**197**	P		Pn	12 20 29.6	+0.1
PINNC	**Pines Island,**	**5.28**	**184**	P		Pn	12 20 34.3	+0.5

*IDC **04** 12:21:09.6±1.0, 51°.34N×174°.82W, h0km, mb3.8/12, mb1 3.9/14, mb1mx3.7/56, mbtmp3.8/14, ML3.3/2, MS4.7/1, Ms1 4.7/1, ms1mx3.3/47, Error ellipse: s-maj=30.3km s-min=20.0km az=172.0*
*NEIC **04** 12:21:12.8±1.4, 51°.29N±0°.07×174°.79W±0°.07, h16km±6km, Error ellipse: s-maj=11.3km s-min=6.0km az=159.0*
*AEIC **04** 12:21:13±1.8, 51°.25N±0°.05×174°.77W±0°.05, h27km±4km, ML3.4, mb4.0/28(NEIC), Error ellipse: s-maj=7.1km s-min=4.2km az=192.0*

ISC 04 12:21:13.2±1.3, 51°.32N±0°.09×174°.76W±0°.04, h24km±8km, n72, σ1s27/78, mb3.9/13, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.95**	**21**			**Pn**	**12 21 31.5**	**+0.5**
ATKA						**Sn**	**12 21 45.4**	**+1.6**
GSIG	**Igitkin Island**	**0.98**	**313**			**Pn**	**12 21 31.8**	**+0.2**
GSIG						**Sn**	**12 21 45.9**	**+1.2**
KOFP	**Korovin Flat P**	**1.04**	**23**			**Pb**	**12 21 33.4**	**+0.9**
KOKL	**Mount Kliuchef**	**1.06**	**19**			**Pb**	**12 21 33.7**	**+0.8**
GSMY	**Great Sitkin M**	**1.08**	**312**			**Pb**	**12 21 33.5**	**+0.3**
GSMY						**Sn**	**12 21 48.9**	**+1.8**
GSTR	**Great Sitkin T**	**1.12**	**314**			**Pb**	**12 21 34.4**	**+0.6**
GSTD	**Great Sitkin T**	**1.13**	**311**			**Pb**	**12 21 34.4**	**+0.2**
GSTD						**Sn**	**12 21 49.9**	**+1.5**
GSSP	**Great Sitkin S**	**1.17**	**312**			**Pb**	**12 21 34.8**	**+0.1**
GSSP						**Sn**	**12 21 50.5**	**+1.2**
ADK	**Adak**	**1.33**	**296**			**Pn**	**12 21 36.3**	**+0.1**
ADK	**Adak**	**1.33**	**296**			**Sn**	**12 21 53.6**	**+0.6**
KIWB	**Kanaga Island**	**1.58**	**291**			**Pn**	**12 21 40.2**	**+0.5**
KIKV	**Kanaga Island**	**1.60**	**291**			**Pn**	**12 21 40.6**	**+0.6**
KIMD	**Kanaga Island**	**1.61**	**287**			**Pn**	**12 21 40.4**	**+0.3**
KIMD						**Sn**	**12 22 01.1**	**+1.1**
KICM	**Kanaga Island**	**1.63**	**292**			**Pn**	**12 21 41.1**	**+0.7**
TAFP	**Tanaga Falls P**	**2.09**	**287**			**Pn**	**12 21 47.7**	**+1.0**
TAFP						**Sb**	**12 22 14.8**	**-1.1**
TASE	**Tanaga Southea**	**2.11**	**285**			**Pn**	**12 21 48.2**	**+1.2**
AMKA	**Amchitka**	**3.72**	**273**			**Pn**	**12 22 09.3**	**+0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NIKH	Nikolski High	4.00	63		Pn	12 22 14.1	+1.3
UNV	Unalaska Valle	5.63	60	Pn	Pn	12 22 36.7	+1.4
AKUT	Akutan	6.14	59	Pn	Pn	12 22 44.2	+1.9
SDPT	Sand Point	9.45	59	Pn	Pn	12 23 28.5	+0.9
OHAK	Old Harbor	13.84	56	Pn	Pn	12 24 25.7	-1.8
KDAK	Kodiak Island	14.36	55	Pn	Pn	12 24 33.0	-1.7
	0.5nm,0.3s,baz=277,slow=6.3,SNR=15						
KDAK				Sn	Sn	12 27 06.3	-6.7
	0.1nm,0.3s,baz=125,slow=15,SNR=1.6						
KDAK	Kodiak Island	14.36	55	Pn	Pn	12 24 35.0	+0.2
CNPM	China Poot	15.61	49	Pn	Pn	12 24 51.2	-0.1
SUA	Susitna One	16.62	43	Pn	Pn	12 25 04.6	+0.2
SUA				IAmb	IAmb	12 25 26.8	
	comp=Z,14nm,1.2s						
SEW	Seward	16.66	48	Pn	Pn	12 25 02.5	-2.2
J20K	Nowinta River	16.82	32		P	12 25 08.4	-0.4
J20K				IAmb	IAmb	12 25 33.2	
	comp=Z,9.5nm,1.3s						
PETK	Petropavlovsk-	16.93	287	Pn	Pn	12 25 08.4	+0.1
	comp=Z,0.1nm,0.3s,baz=106,slow=8.4,SNR=4.6						
PETK	Petropavlovsk-	16.93	287		Pn	12 25 07.3	-1.0
PWL	Port Wells	17.44	47	Pn	Pn	12 25 12.4	-2.2
PWL				IAmb	IAmb	12 25 13.1	
	comp=Z,13nm,1.0s						
KTH	Kantishna Hill	17.60	37		Pn	12 25 16.4	-0.1
KTH				IAmb	IAmb	12 25 26.0	
	comp=Z,15nm,1.4s						
BPAW	Bear Paw Mtn.	17.88	35		P	12 25 20.3	-0.2
SCM	Sheep Creek Mo	18.26	44		Pn	12 25 23.9	-0.8
SCM				IAmb	IAmb	12 25 50.4	
	comp=Z,23nm,1.5s						
FID	Port Fidalgo	18.26	48		Pn	12 25 22.2	-2.5
MCK	McKinley	18.45	38	P	Pn	12 25 27.3	+0.4
MLY	Manley	18.51	33	P	P	12 25 25.7	-1.8
M24K	Tolsona, Glenn	18.87	44	P	Pn	12 25 33.0	+1.0
CCB	Clear Creek Bu	19.34	36	P	Pn	12 25 38.3	+0.7
MDM	Murphy Dome	19.35	35	P	P	12 25 37.2	+0.6
N25K	Chitina, Valde	19.40	46	P	Pn	12 25 38.2	-0.2
N25K				IAmb	IAmb	12 25 47.5	
	comp=Z,9.3nm,1.3s						
PAX	Paxson	19.50	42	P	Pn	12 25 40.2	+0.5
PAX				IAmb	IAmb	12 25 57.5	
	comp=Z,9.1nm,1.4s						
HDA	Harding Lake	19.54	37	P	P	12 25 39.3	+0.6
GLB	Gilahina Butte	19.71	47	P	P	12 25 41.2	+0.6
GLB				IAmb	IAmb	12 26 07.6	
	comp=Z,10nm,1.3s						
IL31		19.74	36	P	P	12 25 41.5	+0.7
ILAR	Eielson Array	19.74	36	P	P	12 25 41.3	+0.4
	comp=Z,0.3nm,0.3s,baz=221,slow=7.9,SNR=10						
ILAR	Eielson Array	19.74	36	P	P	12 25 41.7	+0.8
VRDI	Verde Repeater	19.81	48	P	P	12 25 42.1	+0.2
H24K	Noodor Dome	19.95	33	P	Pn	12 25 44.9	-0.1
H24K				IAmb	IAmb	12 25 51.5	
	comp=Z,4.5nm,1.0s						
RIDG	Independent Ri	20.07	40	P	P	12 25 45.0	+0.5
RIDG				IAmb	IAmb	12 26 01.7	
	comp=Z,6.6nm,1.2s						
DOT	Dot Lake	20.35	41	P	P	12 25 47.5	-0.1
DOT				IAmb	IAmb	12 25 58.0	
	comp=Z,3.7nm,0.9s						
M26K	Nabesna, AK	20.37	45	P	Pn	12 25 49.5	-0.4
SCRK	Sand Creek	20.51	40	P	P	12 25 49.0	-0.4
SCRK				IAmb	IAmb	12 26 03.0	
	comp=Z,6.8nm,0.6s						
LOGN	Logan Glacier	20.87	50	P	Pn	12 25 55.6	-0.3
LOGN				IAmb	IAmb	12 26 06.5	
	comp=Z,7.2nm,1.0s						
BCAR	Beaver Creek A	21.11	43	P	P	12 25 58.6	+2.9
TOLK	Toolik Lake Re	21.17	26	P	P	12 25 57.3	+1.0
EGAK	Eagle	21.96	39	P	P	12 26 05.5	+0.7
EGAK				IAmb	IAmb	12 26 05.9	
	comp=Z,5.2nm,0.6s						
TIXI	Tiksi	31.94	330	LR	LR	12 42 39.3	
	comp=Z,1μm,19.6s,baz=228,slow=40						
USRK	Ussuriysk Ar.	35.81	280	P	P	12 28 10.8	+0.4
	comp=Z,0.7nm,0.6s,baz=57,slow=12,SNR=1.8						
KSRS	Korea Array	42.17	274	P	P	12 29 03.9	+0.3
	comp=Z,0.8nm,0.5s,baz=78,slow=23,SNR=4.0						
PDAR	Pinedale Array	43.90	75	P	P	12 29 18.7	+0.8
	comp=Z,0.4nm,0.5s,baz=308,slow=5.5,SNR=3.5						
TXAR	Lajitas Array	56.15	84	P	P	12 30 51.3	+0.5
	comp=Z,0.2nm,0.6s,baz=288,slow=6.5,SNR=2.7						
KURBB	Kurchatov Arra	60.97	316	P	P	12 31 23.4	-0.5
	comp=Z,1.3nm,0.4s,baz=40,slow=7.2,SNR=8.3						
MKAR	Makanchi Array	62.02	311	P	P	12 31 30.8	-0.4
	comp=Z,0.9nm,0.3s,baz=43,slow=6.8,SNR=7.7						
BVAR	Borovoye Array	62.53	322	P	P	12 31 35.2	+0.7
	comp=Z,2.1nm,0.4s,baz=332,slow=0.7,SNR=9.9						
FINES	FINESS Array B	66.36	349	P	P	12 31 58.3	-1.0
	comp=Z,1.0nm,0.7s,baz=35,slow=7.0,SNR=3.3						
NB2	NORSAR Subarra	67.89	357	P	P	12 32 08.5	-0.6
	comp=Z,0.5nm,0.6s,baz=6.0,slow=6.5						
NOA	NORSAR Array B	67.89	357	P	P	12 32 08.6	-0.5
	comp=Z,0.9nm,0.7s,baz=5.0,slow=6.4,SNR=4.5						
AKTO	Aktyubinsk	69.16	327	P	P	12 32 17.3	+0.2
	comp=Z,1.0nm,0.5s,baz=191,slow=0.6,SNR=2.3						
CLL	Collm	77.54	355	eP	P	12 33 07.0	+0.5
CLL				i (pP)	pP	12 33 12.3	-0.4
WRA	Warramunga Arr	83.78	227	P	P	12 33 39.6	-0.7
	comp=Z,0.3nm,0.9s,baz=8.7,slow=39,SNR=1.1						
ASAR	Alice Springs	87.21	226	P	P	12 33 57.6	+0.3
	comp=Z,0.1nm,0.3s,baz=338,slow=39,SNR=1.1						

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*IDC **04** 12:24:17.3±0.5, 51.°43N×174.°85W, h0km, mb4.5/32, mb1 4.6/34, mb1mx4.6/45, mbtmp4.5/34, ML3.9/2, MS4.0/3, Ms1 4.0/3, ms1mx3.5/47, Error ellipse: s-maj=17.6km s-min=10.4km az=165.0*

*MOS **04** 12:24:21.7±0.9, 51.°50N×174.°85W, h42km, mb5.1/68, Error ellipse: s-maj=8.1km s-min=7.1km az=107.6*

*AEIC **04** 12:24:21±1.6, 51.°30N±0.°04×174.°85W±0.°06, h31km±1km, Error ellipse: s-maj=5.4km s-min=5.3km az=45.0*

*BJI **04** 12:24:22.5±0.0, 51.°63N×175.°23W, h43km, mB4.9/36, mb5.0/66, Ms4.6/31, Ms7 4.4/29*

*NEIC **04** 12:24:23.6±1.5, 51.°44N±0.°06×174.°91W±0.°06, h43km±5km, mb4.9/299, ML4.5/35(AEIC), Error ellipse: s-maj=9.4km s-min=4.8km az=162.0*

*BGR **04** 12:24:26.5±0.0, 51.°88N×177.°84W, h33km, mb5.1*

ISC 04 12:24:21.8±0.7**, 51.°37N**±0.°06×**174.°83W**±0.°03**, h30**km±4km**, n783,** σ1.02/742**, mb4.9**/253**, MS4.4**/8**, 31C-44D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSIG	Igitkin Island	0.92	312		Pn	12 24 38.7	0.0
ATKA	Atka Island	0.92	25	Pn	Pn	12 24 38.9	+0.3
ATKA	Atka Island	0.92	25		Sb	12 24 53.1	+2.0
KOFP	Korovin Flat P	1.01	26		Pb	12 24 40.8	0.0
GSMY	Great Sitkin M	1.02	312		Pb	12 24 40.3	-0.5
KOKL	Mount Kliuchef	1.03	22		Pn	12 24 41.0	+0.7
GSTR	Great Sitkin T	1.05	314	Pn	Pb	12 24 41.2	-0.3
GSTD	Great Sitkin T	1.07	310		Pb	12 24 41.1	-0.6
KONE	Korovin Northe	1.11	23		Pb	12 24 42.5	0.0
KONE					Sn	12 24 57.1	+1.5
ADK	Adak	1.26	295	Pn	Pn	12 24 43.3	-0.1
ADK	Adak	1.26	295	Sn	Sb	12 25 00.6	-0.3
KIWB	Kanaga Island	1.52	289	Pn	Pn	12 24 47.1	+0.1
KIKV	Kanaga Island	1.54	290		Pn	12 24 47.5	+0.3
KIMD	Kanaga Island	1.55	285		Pn	12 24 47.2	-0.1
KICM	Kanaga Island	1.57	291		Pn	12 24 48.0	+0.4
TASE	Tanaga Southea	2.05	284		Pn	12 24 55.0	+0.7
GAEA	Gareloi East	2.48	281		Pn	12 25 01.0	+0.9
GALAA	Gareloi Lava P	2.49	281		Pn	12 25 01.3	+1.0
CERAA	Semis' Rag'd T	3.46	281		Pn	12 25 14.1	+0.6
CESW	Semis' Southwe	3.53	281		Pn	12 25 14.8	+0.2
CEAP	Semis' Anvil P	3.54	282		Pn	12 25 15.2	+0.6
AMKA	Amchitka	3.68	272	Pn	Pn	12 25 15.8	-0.7
AMKA	Amchitka	3.68	272		Sn	12 26 02.2	+3.4
NIKH	Nikolski High	4.01	64	Pn	Pn	12 25 21.9	+0.8
NIKH	Nikolski High	4.01	64	P	Pn	12 25 23.8	+2.7
	baz=248,SNR=13						
LSPA	Little Sitkin	4.15	281		Pn	12 25 23.6	+0.5
LSNW	Little Sitkin	4.18	281		Pn	12 25 23.9	+0.3
LSSA	Little Sitkin	4.18	281		Pn	12 25 23.9	+0.4
MAPS	Pakushin South	5.39	60		Pn	12 25 41.3	+1.2
MNAT	Makushin Natee	5.56	60		Pn	12 25 43.6	+1.2
UNV	Unalaska Valle	5.64	61	Pn	Pn	12 25 46.4	+2.9
UNV	Unalaska Valle	5.64	61	P	Pn	12 25 46.7	+3.2
	baz=247,SNR=6.1						
AKMO	Akutan Morgan	6.01	60		Pn	12 25 50.1	+1.6
AKUT	Akutan	6.16	60	Pn	Pn	12 25 55.3	+4.8
SPIA	Saint Paul Isl	6.40	23	Pn	Pn	12 25 56.7	+2.8
SPIA	Saint Paul Isl	6.40	23	P	Pn	12 25 56.7	+2.8
	baz=206,SNR=11						
WESP	Westdahl Peak	6.86	59		Pn	12 26 03.2	+2.9
SMY	Shemya	6.96	286	P	Pn	12 26 01.6	0.0
SMY	Shemya	6.96	286	Pn	Pn	12 26 01.6	0.0
FALS	False Pass	7.70	59	Pn	Pn	12 26 13.1	+1.4
FALS	False Pass	7.70	59	P	Pn	12 26 14.2	+2.5
	baz=247						
SDPT	Sand Point	9.46	60	Pn	Pn	12 26 36.8	+1.1
SDPT	Sand Point	9.46	60	P	Pn	12 26 37.3	+1.5
	baz=251						
CHNA	Chernabura Isl	9.80	63	P	Pn	12 26 39.7	-0.7
	baz=255						
GAMB	Gambell	12.55	6		Pn	12 27 21.1	+3.2
GAMB	Gambell	12.55	6	P	Pn	12 27 19.3	+1.3
	baz=189						
SII	Sitkinak Islan	13.19	59	P	Pn	12 27 28.8	+1.9
	baz=255						
OHAK	Old Harbor	13.84	57	P	Pn	12 27 37.6	+1.9
	baz=254						
O18K	Koktuh Hills	13.92	45	P	Pn	12 27 38.2	+1.4
	baz=241						
N18K	Kilae Creek	14.05	41	Pn	P	12 27 42.4	-3.6
N18K	Kilae Creek	14.05	41	P	Pn	12 27 41.1	+2.5
	baz=237,SNR=6.5						
ANM	Nome	14.12	17	P	Pn	12 27 40.8	+1.4
	baz=205						
Q19K	Cape Douglas,	14.23	50	P	Pn	12 27 43.9	+2.8
	baz=247						
KDAK	Kodiak Island	14.37	55	Pn	Pn	12 27 39.0	-3.8
	1.5nm,0.3s,baz=242,slow=6.8,SNR=19						
KDAK				Sn	Sn	12 30 15.5	-5.4
	0.4nm,0.3s,baz=298,slow=20,SNR=1.6						
KDAK	Kodiak Island	14.37	55	P	P	12 27 46.8	-2.7
KDAK	Kodiak Island	14.37	55	Pn	P	12 27 46.8	-2.7
KDAK	Kodiak Island	14.37	55	P	Pn	12 27 45.0	+2.1
	baz=253						
SVW2	Sparrevohn	14.41	40		Pn	12 27 44.9	+1.4
O19K	Port Alsworth	14.47	44	Pn	Pn	12 27 46.2	+1.9
O19K	Port Alsworth	14.47	44	P	Pn	12 27 46.0	+1.7
	baz=241						
TNA	Tin City	14.66	11	Pn	Pn	12 27 47.6	+0.8
TNA	Tin City	14.66	11	P	Pn	12 27 47.0	+0.2
	baz=197						
N19K	Bonanza Creek	14.71	42	Pn	Pn	12 27 48.6	+1.1
N19K	Bonanza Creek	14.71	42	P	Pn	12 27 49.9	+2.3
	baz=239,SNR=6.3						
P19K	Oil Pt	14.72	47		P	12 27 53.7	+0.2
L19K	White Mountain	15.32	37	P	P	12 27 59.6	-0.4
L19K	White Mountain	15.32	37	P	Pn	12 27 56.9	+1.3
	baz=234,SNR=11						
M19K	Big River Lodg	15.34	39	P	P	12 28 00.6	+0.4
HOM	Homer	15.46	49		P	12 28 01.7	+0.1
CNPM	China Poot	15.60	49		P	12 28 01.9	-1.3
CNPM				IAmb	IAmb	12 28 15.8	
	comp=Z,94nm,1.4s						
M20K	Styx River	15.82	40	P	P	12 28 04.9	-0.8
M20K				IAmb	IAmb	12 28 20.1	
	comp=Z,68nm,1.2s						
M20K	Styx River	15.82	40	P	P	12 28 04.1	-1.7
	baz=238,SNR=7.0						
BRLK	Bradley Lake	15.86	49	P	P	12 28 04.8	-1.2
BRLK				IAmb	IAmb	12 28 25.4	
	comp=Z,49nm,1.0s						
L20K	Farewell, AK	15.86	37	P	Pn	12 28 03.5	+0.9
	baz=235						
BRSE	Bradley Lake S	15.92	49	P	P	12 28 05.2	-1.5
	baz=249						
PET	Petropavlovsk	16.31	286	eP	P	12 28 12.5	+1.4
PET				pmax	pmax		
	comp=Z,29nm,0.6s						
PET	Petropavlovsk	16.31	286	P	P	12 28 10.9	-0.2
K20K	Telida	16.31	35	P	P	12 28 10.6	-0.5
K20K	Telida	16.31	35	P	Pn	12 28 09.5	+1.1
	baz=232,SNR=13						
SKT	Skwentna	16.53	41	P	P	12 28 12.5	-0.9
	baz=240,SNR=6.5						
SEW	Seward	16.65	49	P	P	12 28 14.6	-0.2
O22K	Cooper Landing	16.66	47	P	P	12 28 14.1	-0.8
O22K				IAmb	IAmb	12 28 36.6	
	comp=Z,71nm,0.8s						
O22K	Cooper Landing	16.66	47	P	P	12 28 13.8	-1.1
	baz=248						
PPLA	Purkeypile	16.74	38	P	P	12 28 16.8	+0.8
PPLA				IAmb	IAmb	12 28 22.6	
	comp=Z,88nm,1.4s						
PPLA	Purkeypile	16.74	38	P	Pn	12 28 14.9	+0.9
	baz=237,SNR=7.8						
J20K	Nowinta River	16.80	32		P	12 28 16.8	+0.3
J20K	Nowinta River	16.80	32	P	P	12 28 15.8	-0.7
	baz=230,SNR=15						
PEA0B	Petropavlovsk-	16.88	287⇓	eP	P	12 28 16.3	-1.1
PEA0B	Petropavlovsk-	16.88	287		P	12 28 17.2	-0.1
PEA0B				IAmb	IAmb	12 28 20.8	
	comp=Z,62nm,1.2s						
PETK	Petropavlovsk-	16.88	287	Pn	P	12 28 16.5	-0.9
	comp=Z,0.8nm,0.3s,baz=101,slow=14,SNR=29						
PETK				LR	LR	12 34 40.4	
	comp=Z,310nm,20.9s,baz=95,slow=37						
CUT	Chulitna	17.25	41	P	P	12 28 21.8	+0.4
	baz=241						
CHUM	Lake Minchumin	17.26	35	P	P	12 28 22.0	+0.5
	baz=234,SNR=11						
PMR	Palmer	17.37	44	P	Pn	12 28 21.5	-0.1
	baz=245						
PWL	Port Wells	17.44	47	P	P	12 28 23.9	+0.4
GHO	Glory Hole Cre	17.53	44	P	P	12 28 25.0	+0.4
KTH	Kantishna Hill	17.58	37	P	P	12 28 25.2	+0.1
KTH				IAmb	IAmb	12 28 53.5	
	comp=Z,53nm,1.0s						
KNK	Knik Glacier	17.59	45	P	Pn	12 28 24.3	-0.1
KNK	Knik Glacier	17.59	45	P	Pn	12 28 23.9	-0.5
	baz=247						
RDOG	Red Dog Mine	17.72	15	P	Pn	12 28 26.0	+0.1
TRF	Thorofare Moun	17.77	38	P	P	12 28 28.0	+0.7
TRF	Thorofare Moun	17.77	38	P	P	12 28 28.7	+1.4
	baz=238						
SML	Sawmill	17.80	44	P	Pn	12 28 26.7	-0.4
	baz=246						
BPAW	Bear Paw Mtn.	17.86	35		P	12 28 29.0	+0.8
BPAW	Bear Paw Mtn.	17.86	35	P	P	12 28 28.4	+0.2
	baz=236,SNR=13						
GLI	Glacier Island	18.01	47		P	12 28 30.0	+0.1
IMAR	Indian Mountai	18.14	28		P	12 28 32.1	+0.9
WAT1	Susitna Watana	18.15	41	P	P	12 28 31.6	+0.2
	baz=243						
I21K	Tanana	18.16	32	P	P	12 28 31.9	+0.5
I21K				IAmb	IAmb	12 28 39.9	
	comp=Z,70nm,1.1s						
I21K	Tanana	18.16	32	P	Pn	12 28 30.8	-0.6
	baz=231						
SCM	Sheep Creek Mo	18.25	44	P	Pn	12 28 32.7	+0.1
SCM				pmax	pmax		
	comp=Z,31nm,1.0s						
SCM	Sheep Creek Mo	18.25	44	P	Pn	12 28 32.7	+0.1
RND	Reindeer	18.30	39	P	Pn	12 28 33.6	+0.4
RND				pmax	pmax		
	comp=Z,26nm,0.8s						
RND	Reindeer	18.30	39	P	Pn	12 28 33.6	+0.4
WAT6	Susitna Watana	18.38	42	P	P	12 28 34.0	-0.1
	baz=245						
MCK	McKinley	18.43	38	P	P	12 28 34.1	-0.4
MCK				pmax	pmax		
	comp=Z,24nm,0.9s						
MCK	McKinley	18.43	38	P	P	12 28 34.1	-0.4
MCK	McKinley	18.43	38	P	P	12 28 33.7	-0.8
	baz=240						
BWN	Browne	18.46	36	P	Pn	12 28 35.5	+0.5
BWN				IAmb	IAmb	12 28 53.4	
	comp=Z,67nm,1.0s						
MLY	Manley	18.49	33	P	P	12 28 34.4	-0.7
MLY	Manley	18.49	33	P	Pn	12 28 35.3	-0.1
	baz=234						
KLU	Klutina	18.75	46	P	Pn	12 28 38.5	-0.1
KLU	Klutina	18.75	46	P	Pn	12 28 38.6	-0.1
	baz=250						
NEA2	Nenana	18.83	36	P	P	12 28 38.5	-0.3
NEA2	Nenana	18.83	36	P	Pn	12 28 39.3	-0.2
	baz=237						
M24K	Tolsona, Glenn	18.86	44	P	Pn	12 28 39.5	-0.4
M24K				IAmb	IAmb	12 29 02.1	
	comp=Z,83nm,1.3s						
M24K	Tolsona, Glenn	18.86	44	P	Pn	12 28 40.0	+0.1
	baz=248						
I23K	Minto, Yukon-K	19.03	34	P	Pn	12 28 41.6	-0.3
I23K				IAmb	IAmb	12 28 54.2	
	comp=Z,68nm,1.1s						
I23K	Minto, Yukon-K	19.03	34	P	Pn	12 28 41.5	-0.3
	baz=236,SNR=13						
BILL	Bilibino	19.09	338	deP	Pn	12 28 42.7	+0.2
BILL				pmax	pmax		
	comp=Z,100nm,1.7s						
BILL	Bilibino	19.09	338	P	Pn	12 28 42.8	+0.3
BILL				IAmb	IAmb	12 28 49.6	
	comp=Z,110nm,1.2s						
WRH	Wood River Hil	19.13	37	P	P	12 28 42.4	+0.3
BMRM	Bremner River	19.20	48	P	P	12 28 42.4	-0.6
	baz=254						
CCB	Clear Creek Bu	19.32	36	P	Pn	12 28 45.3	-0.1
MDM	Murphy Dome	19.33	35	P	Pn	12 28 45.0	-0.6
H23K	Yukon River	19.36	32	P	P	12 28 44.3	-0.4
H23K	Yukon River	19.36	32	P	P	12 28 44.4	-0.2
	baz=234,SNR=14						
N25K	Chitina, Valde	19.39	46	P	P	12 28 44.7	-0.4
N25K	Chitina, Valde	19.39	46	P	Pn	12 28 46.2	-0.1
	baz=252						
HARP	HAARP	19.41	44	P	P	12 28 45.3	+0.1
	baz=249						
TCOL	CIGO, UAF Yank	19.42	36	P	P	12 28 45.7	+0.5
TCOL				IAmb	IAmb	12 29 04.9	
	comp=Z,55nm,1.3s						
TCOL	CIGO, UAF Yank	19.42	36	P	Pn	12 28 46.0	-0.5
	baz=239						
COLA	College	19.42	36	P	P	12 28 45.7	+0.4
COLA				pmax	pmax		
	comp=Z,54nm,1.3s						
COLA	College	19.42	36	P	P	12 28 45.7	+0.4
COLA				IAmb	IAmb	12 29 04.9	
	comp=Z,54nm,1.3s						
COLA	College	19.42	36	P	Pn	12 28 46.4	-0.1
	baz=239						
PAX	Paxson	19.49	42	P	P	12 28 46.5	+0.3
PAX				pmax	pmax		
	comp=Z,13nm,1.0s						
PAX	Paxson	19.49	42	P	P	12 28 46.5	+0.3
PAX	Paxson	19.49	42	P	Pn	12 28 47.9	+0.4
	baz=247						
HDA	Harding Lake	19.53	37	IAmb	IAmb	12 29 08.0	
	comp=Z,35nm,0.7s						
HDA	Harding Lake	19.53	37	P	P	12 28 46.7	+0.3
	baz=241,SNR=21						
POKR	Poker Plat Res	19.70	35	P	P	12 28 48.9	+0.6
	baz=239						
IL31		19.73	37	P	P	12 28 47.5	-1.0
ILAR	Eielson Array	19.73	37	P	P	12 28 47.6	-1.1
	comp=Z,0.9nm,0.3s,baz=218,slow=7.8,SNR=21						
ILAR				S	S	12 32 27.7	-1.4
	comp=Z,0.1nm,0.3s,baz=100,slow=7.7,SNR=2.1						
ILAR	Eielson Array	19.73	37	P	P	12 28 47.4	-1.2
CRQE	Cirque	19.86	50	P	Pn	12 28 51.0	-0.9
	baz=256						
H24K	Noodor Dome	19.93	33	P	P	12 28 51.1	+0.2
H24K				IAmb	IAmb	12 28 59.4	
	comp=Z,59nm,1.1s						
H24K	Noodor Dome	19.93	33	P	P	12 28 51.0	+0.1
	baz=236,SNR=42						
COLD	Coldfoot	20.03	28	P	P	12 28 52.5	+0.7
COLD				IAmb	IAmb	12 29 02.1	
	comp=Z,51nm,1.0s						
COLD	Coldfoot	20.03	28	P	P	12 28 52.2	+0.3
	baz=230,SNR=20						
MCARA	McCarthy VSAT	20.05	48	P	P	12 28 52.1	0.0
	baz=254						
RIDG	Independent Ri	20.06	40	P	P	12 28 52.5	+0.2
RIDG	Independent Ri	20.06	40	P	P	12 28 52.4	+0.1
	baz=246						
J25K	Salcha River,	20.23	38	P	P	12 28 53.6	-0.5
	baz=243,SNR=47						
M26K	Nabesna, AK	20.36	45	P	P	12 28 56.2	+0.7
	baz=252,SNR=6.9						
L26K	Log Cabin Wild	20.41	43	P	P	12 28 56.6	+0.5
	baz=250						
YAH	Yahtse	20.42	51	IAmb	IAmb	12 29 22.6	
	comp=Z,28nm,0.8s						
GRNC	Granite Creek	20.49	50	P	Pn	12 28 58.4	-1.1
SCRK	Sand Creek	20.50	40	P	P	12 28 55.6	-1.5
SCRK				IAmb	IAmb	12 29 17.4	
	comp=Z,54nm,1.0s						
SCRK	Sand Creek	20.50	40	P	P	12 28 56.5	-0.7
	baz=246,SNR=32						
BARN	Barnard Glacie	20.61	49	P	Pn	12 28 59.6	-1.2
CTG	Chitna Glacier	20.74	49	P	P	12 28 59.6	-0.2
	baz=257						
CTGM	Chitina Glacie	20.75	49	P	Pn	12 29 01.7	-0.7
J26K	Charley River,	20.82	39	P	P	12 28 59.5	-1.0
	baz=245,SNR=34						
M27K	Edge Creek, AK	20.84	45	P	P	12 29 01.1	+0.2
M27K	Edge Creek, AK	20.84	45	P	Pn	12 29 02.3	-1.2
	baz=253,SNR=10						
LOGN	Logan Glacier	20.87	50	P	Pn	12 29 04.0	+0.2
MA2	Magadan	20.94	306	P	P	12 29 02.5	+0.7
	comp=Z,6.6nm,0.7s,baz=218,slow=22,SNR=2.2						
MA2	Magadan	20.94	306⇑	eP	P	12 29 02.2	+0.4
MA2				pmax	pmax		
	comp=Z,33nm,1.1s						
SEY	Seymchan	20.94	316	P	P	12 29 02.2	+0.4
	comp=Z,11nm,1.1s,baz=92,slow=8.5,SNR=6.9						
SEY				LR	LR	12 37 36.7	
	comp=Z,985nm,18.2s,baz=109,slow=38						
SEY	Seymchan	20.94	316⇓	iP	P	12 29 02.5	+0.7
L27K	Beaver Creek,	21.08	44	P	P	12 29 02.2	-1.1
L27K	Beaver Creek,	21.08	44	P	P	12 29 03.1	-0.2
	baz=252						
BCAR	Beaver Creek A	21.10	44	P	P	12 29 04.5	+1.0
PINM	Pinnacle	21.11	52	P	P	12 29 04.0	+0.3
	baz=261						
TOLK	Toolik Lake Re	21.14	26	P	P	12 29 04.7	+0.7
TOLK				IAmb	IAmb	12 29 13.7	
	comp=Z,53nm,0.9s						
TOLK	Toolik Lake Re	21.14	26	P	P	12 29 04.6	+0.6
	baz=228,SNR=17						
FYU	Fort Yukon	21.23	33	P	P	12 29 04.8	0.0
FYU				IAmb	IAmb	12 29 28.6	
	comp=Z,60nm,1.2s						
K27K	Chicken	21.30	41	P	P	12 29 05.0	-0.7
K27K				IAmb	IAmb	12 29 33.7	
	comp=Z,40nm,1.1s						
K27K	Chicken	21.30	41	P	P	12 29 05.9	+0.3
	baz=249,SNR=21						
BVCY	Beaver Creek	21.32	46	P	P	12 29 06.4	+0.6
	baz=254						
YUK3	Moose Creek	21.34	48	P	P	12 29 06.9	+0.6
	baz=256						
BCPM	Bancas Point	21.39	53	P	P	12 29 09.0	+2.4
BMAR	Burnt Mountain	21.91	31	P	P	12 29 12.0	-0.1
EGAK	Eagle	21.95	39	P	P	12 29 11.4	-1.1
EGAK				IAmb	IAmb	12 29 19.7	
	comp=Z,52nm,0.8s						
EGAK	Eagle	21.95	39	P	P	12 29 12.8	+0.3
	baz=248,SNR=35						
YUK4	Talbot Arm	22.10	49	P	P	12 29 14.4	0.0
	baz=259						
YUK6	Outpost Mounta	22.16	50	P	P	12 29 16.1	+0.9
	baz=261						
DAWY	Dawson	22.43	42	P	P	12 29 17.2	-0.6
	baz=252,SNR=9.9						
HYT	Haines Junctio	22.56	51	P	P	12 29 18.3	-1.0
	baz=262						
SKAG	Skagway	23.52	54	P	P	12 29 29.0	+0.1
	baz=267						
SIT	Sitka	23.53	61	P	P	12 29 30.2	+1.2
SIT				pmax	pmax		
	comp=Z,14nm,0.8s						
SIT	Sitka	23.53	61	P	P	12 29 30.1	+1.2
SIT	Sitka	23.53	61	P	P	12 29 29.8	+0.8
	baz=273						
MAYO	Mayo, Yukon	23.80	44	P	P	12 29 30.9	-0.7
	baz=257						
JIS	Juneau Island	24.00	57	P	P	12 29 35.8	+2.4
EPYK	Eagle Plains	24.23	37	P	P	12 29 34.8	-0.8
EPYK				IAmb	IAmb	12 29 56.6	
	comp=Z,19nm,0.9s						
EPYK	Eagle Plains	24.23	37	P	P	12 29 35.3	-0.3
	baz=250,SNR=6.5						
CRAG	Craig	24.91	64	P	P	12 29 43.4	+1.7
CRAG				IAmb	IAmb	12 29 59.4	
	comp=Z,52nm,1.4s						
CRAG	Craig	24.91	64	P	P	12 29 43.1	+1.3
	baz=278						
WRAK	Wrangell Islan	25.22	62	P	P	12 29 46.0	+1.4

WRAK IAmb IAmb 12 30 05.0
comp=Z,28nm,0.9s
WRAK Wrangell Islan 25.22 62 P **P** **12 29 45.5 +1.0**
baz=276,SNR=14
MMPY Sheldon Lake, 25.73 47 P **P** **12 29 49.5 +0.3**
baz=264
INK Inuvik 26.05 34 P **P** **12 29 51.7 -0.3**
comp=Z,9.5nm,0.9s,baz=205,slow=3.5,SNR=12
INK Inuvik 26.05 34 P **P** **12 29 51.0 -1.0**
INK Inuvik 26.05 34 P **P** **12 29 52.1 +0.1**
baz=250,SNR=5.1
DLBC Dease Lake 26.28 57 P **P** **12 29 55.1 +0.8**
comp=Z,9.5nm,0.9s,baz=276,slow=10,SNR=13
DLBC Dease Lake 26.28 57 P **P** **12 29 56.5 +2.2**
DLBC IAmb IAmb 12 30 13.8
comp=Z,19nm,1.1s
TYV Tymovskoe 26.42 286 *e*P **P** **12 29 59.6 +4.1**
TYV pmax pmax
comp=Z,19nm,1.5s
YSS Yuzh-Sakhalins 27.79 278 *e*P **P** **12 30 10.3 +2.5**
YSS pmax pmax
comp=Z,20nm,1.2s
BBB Bella Bella 28.53 70 P **P** **12 30 15.3 +0.9**
comp=Z,7.7nm,0.9s,baz=308,slow=17,SNR=2.5
ASAJ Asahikawa 29.19 273 P **P** **12 30 21.8 +1.4**
comp=Z,22nm,1.0s,baz=89,slow=11,SNR=9.8
A36M Sachs Harbour 29.89 28 P **P** **12 30 26.8 +0.6**
baz=253
YAK Yakutsk 31.29 312⇓ *e*P **P** **12 30 39.2 +0.6**
YAK pmax pmax
comp=Z,6.0nm,0.5s
TIXI Tiksi 31.87 330 P **P** **12 30 43.3 -0.4**
comp=Z,1.4nm,0.3s,baz=297,slow=7.1,SNR=2.2
TIXI PcP **PcP** **12 33 33.8 +0.3**
comp=Z,7.3nm,0.7s,baz=124,slow=5.5,SNR=4.9
YKA Yellowknife Ar 33.42 47 P **P** **12 30 57.2 -0.2**
comp=Z,1.8nm,0.9s,baz=280,slow=11,SNR=6.6
YKA PcP **PcP** **12 33 38.8 +0.8**
comp=Z,0.5nm,0.6s,baz=316,slow=30,SNR=3.9
YKA Yellowknife Ar 33.42 47 *i* P **P** **12 30 58.2 +0.9**
KLR Kul'dur 33.56 288 *ce*P **P** **12 30 57.7 -1.0**
KLR pmax pmax
comp=Z,15nm,0.9s
JMM Marumori 33.81 264 P **P** **12 31 00.9 -0.1**
ZEA Zeya 34.46 297 *e*P **P** **12 31 05.9 -0.5**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ZEA MLR MLR
comp=Z,200nm,14.0s
H11N2 WAKE ISLAND Hy 34.70 211 T T 13 08 12.1
baz=18,slow=76,SNR=49
H11N3 WAKE ISLAND Hy 34.71 211 T T 13 08 07.2
baz=18,slow=76,SNR=35
H11N1 WAKE ISLAND Hy 34.72 211 T T 13 08 02.1
baz=18,slow=76,SNR=51
B08A Colville Reser 35.18 73 P **P** **12 31 13.8 +1.0**
B08A IAmb IAmb 12 31 28.7
comp=Z,11nm,0.8s
H04A Detroit Lake 35.18 80 P **P** **12 31 13.5 +0.7**
H04A IAmb IAmb 12 31 35.9
comp=Z,13nm,1.1s
G05D Wamic, OR 35.44 78 P **P** **12 31 15.3 +0.3**
baz=300
I04A Tendick Farm, 35.49 81 P **P** **12 31 16.4 +0.9**
baz=301
E07A Sunnyside 35.69 76 P **P** **12 31 18.7 +1.5**
USA0B Ussuriysk Arra 35.76 280 *c i*P **P** **12 31 17.1 -0.6**
USRK Ussuriysk Ar. 35.76 280 P **P** **12 31 17.3 -0.4**
comp=Z,5.4nm,0.6s,baz=72,slow=8.1,SNR=18
USRK PcP **PcP** **12 33 46.2 +1.2**
comp=Z,1.5nm,0.6s,baz=38,slow=5.7,SNR=3.2
I05D Terrebonne, OR 35.88 80 P **P** **12 31 20.0 +1.1**
baz=301
H11S1 WAKE ISLAND Hy 35.91 211 T T 13 10 24.0
baz=20,slow=76,SNR=34
H11S2 WAKE ISLAND Hy 35.92 211 T T 13 10 15.9
baz=20,slow=76,SNR=52
H11S3 WAKE ISLAND Hy 35.92 211 T T 13 10 17.1
baz=20,slow=76,SNR=32
HAWA Hanford 35.97 76 IAmb IAmb 12 31 38.4
comp=Z,8.7nm,0.8s
J04D Umpqua Nationa 35.97 82 P **P** **12 31 21.6 +1.8**
baz=302
D08A Wollman Farm, 36.02 74 P **P** **12 31 22.4 +2.4**
C09A Chrisman Ranch 36.06 73 P **P** **12 31 23.3 +3.0**
C09A IAmb IAmb 12 31 35.9
comp=Z,8.4nm,0.8s
MAJO Matsushiro 36.25 265 *c i*P **P** **12 31 22.5 +0.4**
MAJO pmax pmax
comp=Z,18nm,0.7s
MAJO Matsushiro 36.25 265 P **P** **12 31 21.6 -0.5**
MAJO IAmb IAmb 12 31 24.1
comp=Z,19nm,0.8s
MAT Matsushiro 36.25 265 P **P** **12 31 22.4 +0.3**
MJAR Matsushiro Arr 36.25 264 P **P** **12 31 22.0 -0.1**
comp=Z,6.5nm,0.6s,baz=45,slow=7.6,SNR=21
MJAR PcP **PcP** **12 33 47.3 +0.7**
comp=Z,2.4nm,1.1s,baz=26,slow=3.2,SNR=2.1
MJAR Matsushiro Arr 36.25 264 P **P** **12 31 21.6 -0.4**
VLA Vladivostok 36.38 278⇓ *e*P **P** **12 31 24.7 +1.6**
VLA pmax pmax
comp=Z,69nm,1.4s
PINE Pine Mountain 36.40 80 P **P** **12 31 25.4 +1.9**
PINE IAmb IAmb 12 31 51.6
comp=Z,9.7nm,1.0s
J05D Fort Rock, OR 36.49 81 P **P** **12 31 24.7 +0.5**
baz=302
NEW Newport 36.54 72 P **P** **12 31 24.9 +0.4**
NEW pmax pmax
comp=Z,10.0nm,0.9s
NEW Newport 36.54 72 P **P** **12 31 24.9 +0.4**
NEW IAmb IAmb 12 31 30.0
comp=Z,9.8nm,0.8s
NEW Newport 36.54 72 P **P** **12 31 25.1 +0.7**
baz=297,SNR=7.7
EDM Edmonton 36.63 62 P **P** **12 31 25.0 -0.1**
EDM pmax pmax
comp=Z,25nm,0.7s
EDM Edmonton 36.63 62 P **P** **12 31 25.0 -0.1**
MDJ Mudanjiang 37.02 282 P **P** **12 31 27.3 -1.2**
MDJ pmax pmax
comp=Z,22nm,1.3s
MDJ pmax pmax
comp=Z,66nm,3.5s
MDJ Mudanjiang 37.02 282 P **P** **12 31 26.4 -2.1**
MDJ IAmb IAmb 12 31 29.1
comp=Z,18nm,0.9s
MSHR Mys Shultsa 37.12 278 *d i*P **P** **12 31 30.1 +0.7**
MSHR pmax pmax
comp=Z,39nm,1.2s
JGF Kuroka 37.38 264 P **P** **12 31 32.0 +0.2**
O03E Paynes Creek 37.79 86 P **P** **12 31 36.8 +1.6**
baz=305
WALA Waterton Lakes 38.07 69 IAmb IAmb 12 31 48.8
comp=Z,10.0nm,1.0s
WVOR Wild Horse Val 38.56 81 P **P** **12 31 43.2 +1.5**
WVOR pmax pmax
comp=Z,13nm,0.9s
JWT Wachi 38.81 265 P **P** **12 31 41.9 -1.7**
JWT IAmb IAmb 12 31 45.3
comp=Z,22nm,0.9s
MSO Missoula 39.12 72 P **P** **12 31 46.9 +0.6**
MSO IAmb IAmb 12 32 06.2
comp=Z,15nm,1.0s
MSO Missoula 39.12 72 P **P** **12 31 47.0 +0.7**
baz=300
MFID Camas Ranch 39.75 78 P **P** **12 31 51.4 -0.2**
PNTR Pine Nut 39.87 86 P **P** **12 31 52.9 +0.1**
PNTR IAmb IAmb 12 32 21.0
comp=Z,12nm,0.7s
CN2 Changchun 39.98 283 *e*P **P** **12 31 53.0 -0.4**
CN2 pmax pmax
comp=Z,30nm,0.6s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,400nm,18.0s
CN2 LR LR
comp=Z,400nm,17.0s
JHS Saijyo 40.42 267 P **P** **12 31 56.8 -0.4**
JHS IAmb IAmb 12 32 19.5
comp=Z,14nm,1.1s
HLID Hailey 40.53 77 P **P** **12 31 59.6 +1.4**
HLID Hailey 40.53 77 P **P** **12 31 58.9 +0.8**
baz=303
BMN Battle Mountai 40.56 82 P **P** **12 31 58.3 -0.2**
BMN pmax pmax
comp=Z,4.0nm,0.9s
BMN Battle Mountai 40.56 82 P **P** **12 31 58.3 -0.2**
HIA Hailar 40.58 294⇓ *i*P **P** **12 31 59.7 +1.4**
BCYI Bear Canyon 40.74 75 P **P** **12 31 59.5 -0.5**
MCMT McKenzie Canyo 40.80 74 P **P** **12 32 00.9 +0.4**
KVN Kaiserville 40.83 85 P **P** **12 32 01.9 +1.2**
KVN pmax pmax
comp=Z,4.0nm,0.9s
KVN Kaiserville 40.83 85 P **P** **12 32 01.9 +1.2**
NVAR Mina Array Bea 41.08 86 P **P** **12 32 04.9 +2.1**
comp=Z,1.2nm,0.8s,baz=292,slow=9.3,SNR=6.7
NVAR ScP **ScP** **12 37 49.7 +0.4**
comp=Z,0.7nm,0.8s,baz=311,slow=1.9,SNR=3.9
NVAR Mina Array Bea 41.08 86 P **P** **12 32 02.2 -0.6**
BOZ Bozeman (W) 41.13 72 P **P** **12 32 03.1 +0.1**
BOZ pmax pmax
comp=Z,9.0nm,0.9s
BOZ Bozeman (W) 41.13 72 P **P** **12 32 03.1 +0.1**
BOZ Bozeman (W) 41.13 72 P **P** **12 32 03.1 +0.1**
baz=302
ELK Elko 41.61 81 P **P** **12 32 06.7 -0.5**
ELK pmax pmax
comp=Z,4.0nm,0.7s
ELK Elko 41.61 81 P **P** **12 32 06.7 -0.5**
YHB Horse Butte 41.84 73 P **P** **12 32 10.2 +1.2**
YMR Madison River 42.02 73 P **P** **12 32 10.4 0.0**
YMR IAmb IAmb 12 32 29.3
comp=Z,16nm,1.0s
YHH Holmes Hill 42.02 73 IAmb IAmb 12 32 29.3
comp=Z,15nm,0.9s
FFC Flin Flon 42.11 56 P **P** **12 32 10.5 -0.2**
FFC pmax pmax
comp=Z,8.0nm,0.8s
FFC Flin Flon 42.11 56 P **P** **12 32 10.5 -0.2**
KSRS Korea Array 42.12 274 P **P** **12 32 12.1 +1.1**
comp=Z,14nm,0.8s,baz=57,slow=7.9,SNR=45
KS19 Wonju Array Si 42.13 274 P **P** **12 32 10.5 -0.6**
KS19 IAmb IAmb 12 32 19.3
comp=Z,16nm,0.9s
KSAR Wonju Array Be 42.16 274 P **P** **12 32 11.2 -0.1**
KSAR Wonju Array Be 42.16 274 P **P** **12 32 11.2 -0.1**
YNR Norris Junctio 42.17 73 P **P** **12 32 12.9 +1.2**
YNR IAmb IAmb 12 32 31.1
comp=Z,22nm,1.1s
SNY Shenyang 42.22 282⇑ P **P** **12 32 12.3 +0.5**
SNY pmax pmax
comp=Z,72nm,0.8s
H17A Grant Village 42.40 73 P **P** **12 32 15.4 +1.8**
H17A IAmb IAmb 12 32 35.1
comp=Z,30nm,1.4s
ISA Isabella, Lake 42.69 89 P **P** **12 32 16.0 +0.2**
ISA pmax pmax
comp=Z,7.0nm,1.2s
ISA Isabella, Lake 42.69 89 P **P** **12 32 15.9 +0.2**
RLMT Red Lodge 42.79 72 P **P** **12 32 18.0 +1.4**
RLMT IAmb IAmb 12 32 35.9
comp=Z,20nm,0.9s
RLMT Red Lodge 42.79 72 P **P** **12 32 17.3 +0.7**
baz=303
LOHW Long Hollow 42.82 74 P **P** **12 32 20.1 +3.2**
R11A Troy Canyon, C 42.82 84 P **P** **12 32 20.1 +3.1**
R11A Troy Canyon, C 42.82 84 P **P** **12 32 17.2 +0.2**
baz=308
INCN Inchon 42.91 275 P **P** **12 32 17.1 -0.4**
INCN pmax pmax
comp=Z,44nm,1.1s
INCN Inchon 42.91 275 P **P** **12 32 17.1 -0.4**
JNU Nakatsue 43.05 267 P **P** **12 32 19.3 +0.6**
JNU IAmb IAmb 12 32 21.0
comp=Z,30nm,1.0s
MPMC Manual Prospec 43.05 88 P **P** **12 32 20.5 +1.6**
baz=309
TJN Taejon 43.15 273 *ce*P **P** **12 32 22.3 +2.9**
TPNV Topopah Spring 43.27 86 P **P** **12 32 20.7 +0.1**
baz=309
DUG Dugway, Tooele 43.43 80 P **P** **12 32 23.0 +1.2**
baz=306
PRN Pahroc Range 43.73 84 P **P** **12 32 25.2 +0.9**
PRN IAmb IAmb 12 32 48.8
comp=Z,18nm,0.9s
SHOC Shoshone, Teco 43.92 87 P **P** **12 32 26.6 +1.0**
baz=310
BW06 Boulder Array 43.93 75 P **P** **12 32 26.2 +0.3**
BW06 IAmb IAmb 12 32 44.6
comp=Z,15nm,1.0s
BW06 Boulder Array 43.93 75 P **P** **12 32 26.2 +0.3**
baz=305,SNR=6.9
PD31 Pinedale Array 43.93 75 P **P** **12 32 25.7 -0.2**
PD31 IAmb IAmb 12 32 44.6
comp=Z,12nm,0.9s
PDAR Pinedale Array 43.93 75 P **P** **12 32 26.1 +0.3**
comp=Z,4.5nm,0.7s,baz=301,slow=4.6,SNR=13
PDAR Pinedale Array 43.93 75 P **P** **12 32 25.3 -0.6**
DGMT Dagmar 43.95 65 P **P** **12 32 26.5 +0.7**
baz=302
GSC Goldstone, Bar 43.97 88 P **P** **12 32 28.2 +2.1**
baz=310
JSU Suzuyama 44.40 265 IAmb IAmb 12 32 31.0
comp=Z,33nm,1.1s
TMUT Trail Mountain 44.96 80 IAmb IAmb 12 32 58.4
comp=Z,8.9nm,0.8s
DL2 Dalian 45.15 280 P **P** **12 32 35.6 +0.2**
DL2 pmax pmax
comp=Z,34nm,1.0s
RDMU Red Mountain 45.20 77 IAmb IAmb 12 32 59.5
comp=Z,17nm,0.9s
PFO Pinyon Flats O 45.28 90 LR LR 12 47 38.9
comp=Z,137nm,20.7s,baz=322,slow=31
SRU San Rafael Swe 45.50 79 IAmb IAmb 12 33 02.7
comp=Z,8.8nm,0.8s
NRIK Noril'sk 45.65 331⇑ *e*P **P** **12 32 40.1 +1.1**
NRIK pmax pmax
comp=Z,4.0nm,0.7s
K22A Casper 45.82 73 IAmb IAmb 12 32 58.5
comp=Z,8.8nm,0.9s
RWWY Rawlins 45.97 74 P **P** **12 32 43.9 +1.7**
RWWY IAmb IAmb 12 32 56.0
comp=Z,10.0nm,1.1s
U15A North Rim 46.07 84 P **P** **12 32 42.4 -0.7**
U15A IAmb IAmb 12 33 07.0
comp=Z,8.3nm,0.8s
O20A White River Ci 46.27 77 P **P** **12 32 44.7 +0.2**
O20A IAmb IAmb 12 33 03.3
comp=Z,9.3nm,0.8s
O20A White River Ci 46.27 77 P **P** **12 32 45.1 +0.6**
baz=307
RSSD Black Hills 46.44 70 P **P** **12 32 46.0 +0.2**
RSSD pmax pmax
comp=Z,10.0nm,1.1s
RSSD Black Hills 46.44 70 P **P** **12 32 46.0 +0.2**
RSSD IAmb IAmb 12 33 04.5
comp=Z,9.6nm,1.1s
PV14 Lion Creek, Pa 46.87 79 IAmb IAmb 12 33 11.6
comp=Z,8.4nm,0.9s
MDND Maddock 46.88 63 P **P** **12 32 49.3 +0.4**
baz=304
PV05 Paradox Valley 47.01 80 IAmb IAmb 12 33 14.3
comp=Z,12nm,1.2s
PV03 Paradox Valley 47.06 79 IAmb IAmb 12 33 13.6
comp=Z,11nm,1.0s
PV13 Radium Mtn., P 47.13 79 IAmb IAmb 12 33 14.3
comp=Z,19nm,0.9s
N23A Red Feather La 47.21 75 P **P** **12 32 51.4 -0.5**
baz=307
PV01 Paradox Valley 47.30 79 IAmb IAmb 12 33 15.6
comp=Z,13nm,0.8s
ULM Lac du Bonnet 47.58 59 P **P** **12 32 55.0 +0.7**
comp=Z,7.5nm,0.7s,baz=294,slow=6.3,SNR=6.8
ULM Lac du Bonnet 47.58 59 P **P** **12 32 53.6 -0.7**
ULM IAmb IAmb 12 32 55.8
comp=Z,22nm,1.2s
BJI Beijing 47.80 285 P **P** **12 32 56.6 +0.5**
BJI pP **pP** **12 33 04.2 +0.4**
BJI sP **pwP** **12 33 09.3 -0.5**
BJI pmax pmax
comp=Z,34nm,0.8s
BJI LR LR
comp=Z,470nm,19.6s
BJI LR LR
comp=Z,320nm,20.4s
BJI LR LR
comp=Z,740nm,18.5s
BJT Baijiatuau 47.81 285 P **P** **12 32 56.3 0.0**
BJT pmax pmax
comp=Z,21nm,0.7s
BJT Baijiatuau 47.81 285 P **P** **12 32 56.3 0.0**
MVCO Mesa Verde 47.93 80 P **P** **12 32 59.1 +1.6**
MVCO IAmb IAmb 12 33 20.2
comp=Z,6.3nm,0.9s
ULN Ulaanbaatar 48.47 298 *d i*P **P** **12 33 01.2 -0.2**
ULN pmax pmax
comp=Z,10.0nm,1.0s
ULN Ulaanbaatar 48.47 298 P **P** **12 33 01.2 -0.2**
ULN IAmb IAmb 12 33 02.4
comp=Z,9.0nm,0.9s
ULN Ulaanbaatar 48.47 298 P **P** **12 33 01.3 -0.2**
comp=Z,41nm,1.0s
S22A 4UR Ranch, Cre 48.62 78 P **P** **12 33 03.7 +0.9**
baz=309
AGMN Agassiz Nation 48.69 61 P **P** **12 33 03.3 +0.3**
AGMN IAmb IAmb 12 33 25.5
comp=Z,16nm,1.1s
AGMN Agassiz Nation 48.69 61 P **P** **12 33 03.3 +0.3**
baz=305
SONM Songino Array 48.85 299 P **P** **12 33 04.4 +0.1**
comp=Z,4.6nm,0.8s,baz=52,slow=8.4,SNR=21
SONM PcP **PcP** **12 34 28.9 +0.3**
comp=Z,2.6nm,0.7s,baz=72,slow=2.4,SNR=6.7
SONM ScP **ScP** **12 38 21.8 +0.7**
comp=Z,0.3nm,0.3s,baz=8.1,slow=3.1,SNR=2.9
SONM Songino Array 48.85 299 P **P** **12 33 03.2 -1.1**
SONM IAmb IAmb 12 33 05.0
comp=Z,7.3nm,1.0s
JOW Kunigami 49.03 262 P **P** **12 33 05.1 -0.7**
JOW IAmb IAmb 12 33 06.9
comp=Z,16nm,1.1s
ZAK Zakamensk 49.07 303 *e*P **P** **12 33 04.8 -1.1**
ZAK *e* 12 34 28.4
ZAK pmax pmax
comp=Z,21nm,1.3s
ZAK pmax pmax
comp=Z,11nm,1.1s
SDCO Great Sand Dun 49.43 78 P **P** **12 33 09.3 +0.2**
SDCO Great Sand Dun 49.43 78 P **P** **12 33 09.8 +0.7**
baz=310
MOY Mondy 49.52 305 *e*P **P** **12 33 09.5 +0.1**
MOY pmax pmax
comp=Z,21nm,1.5s
TIA Tai'an 49.62 280⇓ P **P** **12 33 10.5 +0.3**
TIA pmax pmax
comp=Z,13nm,0.6s
B35A Bob, Littlefor 49.82 60 IAmb IAmb 12 33 12.8
comp=Z,12nm,1.0s
KBS Kingsbay 49.90 358 *de*P **P** **12 33 10.8 -0.9**
KBS pmax pmax
comp=Z,26nm,1.0s
HHC Hu-ho-hao-te 50.07 288 *e*P **P** **12 33 14.3 +0.6**
HHC pmax pmax
comp=Z,18nm,1.2s
HHC pmax pmax
comp=Z,68nm,5.7s
T25A Trinidad 50.48 77 P **P** **12 33 17.9 +0.9**
T25A IAmb IAmb 12 33 40.7
comp=Z,18nm,0.9s
T25A Trinidad 50.48 77 P **P** **12 33 17.2 +0.2**
baz=310
SPITS Spitsbergen Ar 50.53 357 P **P** **12 33 16.2 -0.4**
SPITS pmax pmax
comp=Z,91nm,1.3s
SPB2 Spitsbergen Ar 50.53 357 P **P** **12 33 15.5 -1.0**
ECSD EROS Data Cent 50.98 66 IAmb IAmb 12 33 28.5
comp=Z,7.6nm,1.0s
ECSD EROS Data Cent 50.98 66 P **P** **12 33 19.9 -0.5**
baz=308
BTO Baotou 51.14 289 *e*P **P** **12 33 22.2 +0.5**
EYMN Ely 51.27 59 P **P** **12 33 22.8 +0.3**
EYMN IAmb IAmb 12 33 24.4
comp=Z,14nm,1.0s
EYMN Ely 51.27 59 P **P** **12 33 23.2 +0.7**
baz=307,SNR=5.6
NJ2 Nanjing 51.30 275 *e*P **P** **12 33 22.4 -0.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
F36A Milaca 51.42 62 P **P** **12 33 23.0 -0.7**
F36A IAmb IAmb 12 33 38.8
comp=Z,8.6nm,1.1s
TIY Taiyuan 51.53 285 *e*P **P** **12 33 26.1 +1.4**
TIY pmax pmax
comp=Z,41nm,1.0s
TIY pmax pmax
comp=Z,100nm,6.3s
TIY LR LR
comp=Z,240nm,17.0s
TIY LR LR
comp=Z,56nm,7.6s
TIY LR LR
comp=Z,210nm,16.5s
E38A The Farm, Brul 52.05 60 IAmb IAmb 12 33 29.6
comp=Z,19nm,0.9s
D41A Chassel 53.38 58 IAmb IAmb 12 33 40.1
comp=Z,20nm,1.0s
MNTX Cornudas Mount 53.49 83 P **P** **12 33 40.5 +1.3**
baz=313
G40A Rib Lake 53.62 61 P **P** **12 33 39.3 -0.7**
G40A IAmb IAmb 12 33 54.0
comp=Z,16nm,1.2s
KAN10 Anthony SW Sta 54.32 73 P **P** **12 33 44.4 -0.9**
E43A Lone Tree Farm 54.65 58 P **P** **12 33 47.2 -0.2**
N38A Joes South For 54.78 67 P **P** **12 33 50.0 +1.5**
L40A Anamosa 55.11 64 IAmb IAmb 12 33 58.7
comp=Z,8.3nm,0.8s
SSLB Suanglung 55.79 266 P **P** **12 33 56.1 +0.1**
ZALV Zalesovo Beam 55.81 315 P **P** **12 33 54.3 -1.4**
comp=Z,0.9nm,0.3s,baz=311,slow=12,SNR=3.8
ZALV PcP **PcP** **12 34 54.7 +0.3**
comp=Z,2.2nm,0.6s,baz=25,slow=4.4,SNR=4.7
YULB Yu-li 55.86 265 P **P** **12 33 55.7 -0.8**
YULB IAmb IAmb 12 34 05.7
comp=Z,15nm,1.0s
E46A Sault Ste Mari 56.07 57 P **P** **12 33 57.2 -0.5**
XAN Xi'an 56.09 284 P **P** **12 33 58.1 0.0**
XAN pP pwP 12 34 10.0 -1.9
XAN sP sP 12 34 18.0 +9.2
XAN pmax pmax
comp=Z,25nm,1.3s
TX31 Lajitas Ar. Si 56.19 84 P **P** **12 33 58.5 -0.3**
TX31 IAmb IAmb 12 34 19.8
comp=Z,18nm,1.1s
TX32 Lajitas Array 56.19 84 P **P** **12 33 58.4 -0.5**
TXAR Lajitas Array 56.19 84 P **P** **12 33 58.9 +0.1**
comp=Z,1.0nm,0.7s,baz=302,slow=4.5,SNR=11
TXAR Lajitas Array 56.19 84 P **P** **12 33 58.2 -0.6**
P40A Paris 56.30 67 P **P** **12 33 58.6 -0.8**
TPUB Ta-pu 56.34 266 P **P** **12 33 59.1 -0.8**
S39A Bolivar 56.78 70 P **P** **12 34 03.6 +0.7**
R40A Maddies Statio 57.00 68 P **P** **12 34 03.6 -0.8**
R40A IAmb IAmb 12 34 11.8
comp=Z,8.4nm,0.5s
DGZ Jazzator, Alta 57.47 310 *ce*P **P** **12 34 07.8 +0.1**
DGZ pmax pmax
comp=Z,13nm,1.1s
CCM Cathedral Cave 57.75 68 P **P** **12 34 09.8 +0.1**
CCM pmax pmax
comp=Z,5.0nm,0.8s
CCM Cathedral Cave 57.75 68 P **P** **12 34 09.8 +0.1**
CCM IAmb IAmb 12 34 36.1
comp=Z,4.9nm,0.8s
CCM Cathedral Cave 57.75 68 P **P** **12 34 09.1 -0.6**
baz=313
LZH Lanzhou 57.76 289⇑ P **P** **12 34 10.6 +0.6**
LZH pP pwP 12 34 24.8 +0.9
LZH sP sP 12 34 28.1 +7.3
LZH pmax pmax
comp=Z,37nm,1.2s
MGMO Mountain Grove 57.76 69 P **P** **12 34 11.0 +1.2**
MGMO IAmb IAmb 12 34 30.6
comp=Z,8.7nm,0.8s
JCT Junction City 57.79 80 P **P** **12 34 09.4 -0.7**
JCT pmax pmax
comp=Z,5.0nm,0.6s
JCT Junction City 57.79 80 P **P** **12 34 09.4 -0.7**
JCT IAmb IAmb 12 34 34.0
comp=Z,5.0nm,0.6s
GTA Gaotai 57.86 294⇑ P **P** **12 34 10.1 -0.5**
GTA pmax pmax
comp=Z,9.0nm,1.2s
U40A Yellville 57.96 71 P **P** **12 34 10.8 -0.4**
U40A IAmb IAmb 12 34 32.0
comp=Z,13nm,1.1s
U40A Yellville 57.96 71 P **P** **12 34 10.5 -0.8**
baz=313

W39A Magazine 58.20 72 P **P** 12 34 13.2 +0.3
W39A IAmb IAmb 12 34 42.4
comp=Z,15nm,1.2s
W39A Magazine 58.20 72 P **P** 12 34 12.4 -0.5
baz=313
ENH Enshi 58.34 280 P **P** 12 34 12.8 -1.2
ENH IAmb IAmb 12 34 15.0
comp=Z,8.1nm,0.6s
SCHQ Schefferville 58.43 40 P **P** 12 34 14.1 -0.2
comp=Z,4.9nm,0.7s,baz=341,slow=6.8,SNR=5.4
ARCES ARCESS Array B 58.49 352 P **P** 12 34 13.1 -1.3
comp=Z,6.7nm,0.7s,baz=10,slow=7.0,SNR=16
ARCES PcP **PcP** 12 35 04.7 +0.1
comp=Z,10.0nm,0.8s,baz=15,slow=5.0,SNR=8.6
ARCES ARCESS Array B 58.49 352 IAmb IAmb 12 34 14.5
comp=Z,12nm,0.9s
ARCES **PcP** 12 35 04.9 +0.3
SFIN Lafayette 58.55 63 P **P** 12 34 15.6 +0.4
SFIN Lafayette 58.55 63 P **P** 12 34 14.5 -0.8
baz=313
FCAR Ozark Folk Cen 58.71 70 P **P** 12 34 16.3 -0.1
FCAR IAmb IAmb 12 34 33.9
comp=Z,13nm,0.9s
MIAR Mount Ida 58.77 73 P **P** 12 34 16.2 -0.7
MIAR pmax pmax
comp=Z,13nm,1.0s
MIAR Mount Ida 58.77 73 P **P** 12 34 16.2 -0.7
MIAR IAmb IAmb 12 34 39.1
comp=Z,13nm,0.9s
MIAR Mount Ida 58.77 73 P **P** 12 34 17.1 +0.3
baz=314
PBMO Poplar Bluff 59.09 69 P **P** 12 34 18.5 -0.5
OLIL Olney 59.10 66 P **P** 12 34 18.3 -0.8
W41B Gary Mavity, V 59.13 71 P **P** 12 34 18.1 -1.2
baz=314
X40A Basin Creek Fa 59.25 72 P **P** 12 34 19.9 -0.3
baz=314
SADO Sadowa 59.83 55 IAmb IAmb 12 34 25.2
comp=Z,13nm,0.9s
ZSN Zaisan 60.25 310 *e*P **P** 12 34 26.6 -0.4
baz=310
ZSN Zaisan 60.25 310 *e*P **P** 12 34 26.5 -0.4
WCI Wyandotte Cave 60.48 65 P **P** 12 34 28.0 -0.6
baz=314
PLVO Plevna 60.69 54 P **P** 12 34 30.0 +0.1
DELO Deloro Mine 60.78 54 P **P** 12 34 30.9 +0.4
KURK Kurchatov 60.79 316 P **P** 12 34 31.1 +0.6
KURK 12 35 14.6
KURK Kurchatov 60.79 316 P **P** 12 34 31.1 +0.6
T47A Sharon Grove 60.88 66 IAmb IAmb 12 34 34.2
comp=Z,14nm,0.9s
KURBB Kurchatov Arra 60.90 316 P **P** 12 34 31.1 -0.1
comp=Z,12nm,0.6s,baz=43,slow=6.7,SNR=73
KURBB PcP **PcP** 12 35 14.6 +0.1
comp=Z,8.4nm,1.1s,baz=42,slow=4.4,SNR=11
KURBB Kurchatov Arra 60.90 316 P **P** 12 34 30.7 -0.5
ACSO Alum Creek Sta 60.93 61 P **P** 12 34 30.4 -1.2
baz=314
WVT Waverly 61.05 67 P **P** 12 34 31.8 -0.8
WVT pmax pmax
comp=Z,6.0nm,0.9s
WVT Waverly 61.05 67 P **P** 12 34 31.8 -0.8
WVT IAmb IAmb 12 34 43.4
comp=Z,5.7nm,0.9s
WVT Waverly 61.05 67 P **P** 12 34 32.4 -0.1
baz=314
ERPA Erie 61.23 58 P **P** 12 34 33.6 -0.1
baz=315
OXF Oxford 61.26 70 P **P** 12 34 33.9 0.0
baz=315
M53A Wi Miller and 61.34 59 P **P** 12 34 33.6 -0.8
baz=315
CD2 Chengdu 61.40 285 P **P** 12 34 35.7 +0.7
CD2 pmax pmax
comp=Z,30nm,0.6s
WMQ Urumqi 61.41 305 P **P** 12 34 35.3 +0.4
WMQ pP pwP 12 34 50.4 +1.9
WMQ sP sP 12 34 55.5 +10
WMQ pmax pmax
comp=Z,28nm,0.7s
WMQ pmax pmax
comp=Z,120nm,4.7s
WMQ LR LR
comp=Z,500nm,17.5s
WMQ LR LR
comp=Z,430nm,22.5s
WMQ LR LR
comp=Z,240nm,19.1s
R50A Paris 61.55 64 IAmb IAmb 12 34 44.6
comp=Z,6.7nm,0.7s
PLAL Pickwick Lake 61.72 69 P **P** 12 34 37.7 +0.7
PLAL IAmb IAmb 12 34 58.5
comp=Z,14nm,1.1s
P52A Corning 61.82 61 P **P** 12 34 37.3 -0.3
baz=315
M54A Oil Creek Stat 61.83 58 P **P** 12 34 38.4 +0.7
M54A Oil Creek Stat 61.83 58 P **P** 12 34 36.9 -0.8
baz=315
O53A New Philadelph 61.89 60 P **P** 12 34 38.4 +0.2
O53A IAmb IAmb 12 34 40.2
comp=Z,17nm,1.1s
O53A New Philadelph 61.89 60 P **P** 12 34 38.3 +0.2
baz=315
CLTN Cedars of Leba 61.95 67 P **P** 12 34 39.0 +0.5
CLTN IAmb IAmb 12 34 48.3
comp=Z,12nm,1.1s
MK31 Makanchi Array 61.95 311 ⇓*i*P **P** 12 34 38.0 -0.5
MKAR Makanchi Array 61.95 311 P **P** 12 34 37.8 -0.7
comp=Z,7.4nm,0.5s,baz=48,slow=6.0,SNR=22
U49A Red Boiling Sp 61.97 66 P **P** 12 34 40.1 +1.4
U49A IAmb IAmb 12 34 41.4
comp=Z,13nm,1.4s
N54A Moraine State 62.05 59 P **P** 12 34 39.7 +0.5
N54A Moraine State 62.05 59 P **P** 12 34 38.9 -0.2
baz=315
J56A Wolcott 62.05 55 P **P** 12 34 40.2 +1.1
MAKZ Makanchi 62.09 311 P **P** 12 34 38.7 -0.7
MAKZ pmax pmax
comp=Z,8.0nm,0.7s
MAKZ Makanchi 62.09 311 P **P** 12 34 38.7 -0.7
MAKZ IAmb IAmb 12 34 39.4
comp=Z,7.8nm,0.7s
LONY Lake Ozonia 62.24 53 P **P** 12 34 39.8 -0.6
LONY Lake Ozonia 62.24 53 P **P** 12 34 40.0 -0.4
baz=316,SNR=5.9
M55A Ridgway 62.34 58 P **P** 12 34 41.7 +0.6
J57A Williamstown 62.39 54 P **P** 12 34 41.5 +0.1
BRVK Borovoye 62.48 322 *d*P **P** 12 34 42.2 +0.3
BRVK pmax pmax
comp=Z,13nm,1.2s
GYA Guiyang 62.79 279 ⇓P **P** 12 34 44.6 +0.1
GYA pmax pmax
comp=Z,15nm,0.7s
PRGR Permogore 62.82 340 *e*P **P** 12 34 42.8 -1.1
PRGR *e* 12 35 20.6
PRGR pmax pmax
comp=Z,16nm,0.9s
MOQ Mont Orford 62.88 51 P **P** 12 34 44.2 -0.6
Q54A Coxs Mills 62.99 61 P **P** 12 34 45.3 -0.1
Q54A IAmb IAmb 12 34 54.4
comp=Z,11nm,0.8s
D62A Allapoint, All 63.10 48 P **P** 12 34 45.7 -0.4
D62A Allapoint, All 63.10 48 P **P** 12 34 45.6 -0.5
baz=318,SNR=8.4
J59A Piesco 63.11 53 P **P** 12 34 46.0 -0.2
W50A Signal Mountai 63.16 67 P **P** 12 34 46.7 0.0
W50A IAmb IAmb 12 35 08.3
comp=Z,12nm,0.8s
TZTN Tazewell 63.21 64 IAmb IAmb 12 34 56.7
comp=Z,16nm,1.2s
TZTN Tazewell 63.21 64 P **P** 12 34 47.2 +0.1
baz=316
E62A Clayton Lake 63.23 48 P **P** 12 34 46.4 -0.6
baz=317
BINY Binghamton 63.27 55 P **P** 12 34 47.8 +0.5
BINY Binghamton 63.27 55 P **P** 12 34 48.5 +1.2
baz=316,SNR=9.5
M57A Sunshine Farm, 63.29 57 P **P** 12 34 47.7 +0.2
M57A IAmb IAmb 12 34 49.4
comp=Z,11nm,0.9s
O56A Blue Knob Stat 63.30 58 P **P** 12 34 47.6 0.0
O56A IAmb IAmb 12 35 01.4
comp=Z,10nm,1.0s
O56A Blue Knob Stat 63.30 58 P **P** 12 34 47.6 0.0
baz=316
SSPA Standing Stone 63.40 58 P **P** 12 34 48.1 -0.1
SSPA IAmb IAmb 12 35 02.8
comp=Z,13nm,0.8s
SSPA Standing Stone 63.40 58 P **P** 12 34 48.1 -0.1
baz=316
CPCT Cooper Cave 63.44 66 IAmb IAmb 12 35 05.0
comp=Z,13nm,1.4s
I60A Shoreham 63.44 52 P **P** 12 34 47.6 -0.7
baz=317
FPAL Fort Paine 63.46 67 IAmb IAmb 12 35 03.6
comp=Z,11nm,0.7s
F62A Pittston Farm, 63.55 49 IAmb IAmb 12 34 50.0
comp=Z,17nm,1.1s
F62A Pittston Farm, 63.55 49 P **P** 12 34 48.6 -0.5
baz=318
S54A Dingess, Beckl 63.57 62 P **P** 12 34 49.8 +0.3
S54A IAmb IAmb 12 35 07.8
comp=Z,12nm,0.7s
ACCN Adirondack Com 63.59 53 P **P** 12 34 48.9 -0.5
ACCN IAmb IAmb 12 34 50.3
comp=Z,17nm,0.9s
V52A Sevierville 63.69 65 P **P** 12 34 50.3 +0.1
V52A IAmb IAmb 12 34 59.7
comp=Z,8.6nm,1.1s
TKL Tuckaleechee C 63.72 65 P **P** 12 34 50.8 +0.4
TKL pmax pmax
comp=Z,7.0nm,0.9s
TKL Tuckaleechee C 63.72 65 P **P** 12 34 50.8 +0.4
TKL IAmb IAmb 12 35 11.9
comp=Z,7.1nm,0.8s
L59A Walton 63.76 55 P **P** 12 34 51.0 +0.4
G62A West of Eustis 63.78 50 P **P** 12 34 50.5 -0.1
G62A West of Eustis 63.78 50 P **P** 12 34 50.5 -0.1
baz=317,SNR=6.6
LBNH Lisbon 63.82 51 P **P** 12 34 50.7 -0.3
baz=317
KSPA Keystone Colle 63.84 56 P **P** 12 34 50.9 -0.2
N58A Sunbury 63.87 57 P **P** 12 34 51.5 +0.2
BRZS Berezniki 63.88 318 *e*P **P** 12 34 50.2 -1.1
baz=318
BRZS Berezniki 63.88 318 *e*P **P** 12 34 50.1 -1.1
ARU Arti 63.88 330 *c i*P **P** 12 34 51.0 -0.1
ARU 12 35 25.9
ARU S **S** 12 43 24.6 +0.5
ARU SS **SS** 12 47 30.4 -1.3
ARU pmax pmax
comp=Z,8.0nm,0.6s
ARU Arti 63.88 330 P **P** 12 34 50.3 -0.8
ARU IAmb IAmb 12 34 52.1
comp=Z,8.9nm,0.6s
R55A Marlinton 63.88 61 IAmb IAmb 12 35 11.8
comp=Z,9.0nm,0.8s
E63A Oxbow 63.88 48 P **P** 12 34 50.5 -0.7
E63A Oxbow 63.88 48 P **P** 12 34 50.4 -0.8
baz=318,SNR=6.3
F63A Nahmakanta, Br 64.10 49 P **P** 12 34 51.8 -0.9
baz=318
P57A Homestead Farm 64.16 59 IAmb IAmb 12 34 59.4
comp=Z,20nm,1.5s
J61A Chester 64.17 52 P **P** 12 34 53.5 +0.3
baz=317,SNR=5.0
N59A State Game Lan 64.31 56 P **P** 12 34 54.7 +0.5
baz=317,SNR=8.8
K61A Williamstown 64.31 53 P **P** 12 34 53.7 -0.4
baz=317
BATG Bathurst New B 64.32 46 P **P** 12 34 53.3 -0.8
BATG IAmb IAmb 12 35 17.1
comp=Z,17nm,1.2s
F64A Sherman 64.33 48 P **P** 12 34 53.6 -0.7
F64A Sherman 64.33 48 P **P** 12 34 53.5 -0.7
baz=318,SNR=6.2
PKME Peaks-Kenny Pk 64.34 49 IAmb IAmb 12 34 54.9
comp=Z,18nm,1.1s
PKME Peaks-Kenny Pk 64.34 49 P **P** 12 34 53.9 -0.3
baz=318
G64A Maxfield 64.60 49 P **P** 12 34 54.5 -1.4
baz=318
I63A Otisfield 64.62 51 P **P** 12 34 56.2 +0.1
baz=318
KIRV Kirov 64.62 336 *de*P **P** 12 34 55.9 0.0
J62A Henniker 64.62 52 P **P** 12 34 55.9 -0.2
baz=318
MVL Millersville 64.67 57 IAmb IAmb 12 34 58.6
comp=Z,7.9nm,0.9s
BG3 Lake Jocassee 64.67 65 P **P** 12 34 57.3 +0.7
BG3 IAmb IAmb 12 35 17.9
comp=Z,11nm,0.9s
LUPA Lehigh Univers 64.74 56 P **P** 12 34 57.5 +0.5
L61B Northampton 64.76 53 P **P** 12 34 56.2 -0.9
baz=317
KLMR Klimovskoe 64.78 342 *e*P **P** 12 34 53.9 -3.0
KLMR pmax pmax
comp=Z,21nm,1.5s
KLMR Klimovskoe 64.78 342 *e*P **P** 12 34 53.9 -3.0
KLMR AMP 12 34 57.7
comp=Z,21nm,1.5s
ODNJ Ogdensburg 64.79 55 P **P** 12 34 57.3 +0.1
K62A Royalston 64.83 53 P **P** 12 34 57.1 -0.4
baz=318
H64A Troy 64.83 49 P **P** 12 34 56.8 -0.7
baz=318
S57A Dark Hollow, R 64.89 61 IAmb IAmb 12 35 14.0
comp=Z,8.3nm,0.8s
V55A Taylorsville 65.02 63 IAmb IAmb 12 35 21.5
comp=Z,8.7nm,1.0s
G65A Princeton 65.20 48 P **P** 12 34 59.9 0.0
baz=319
PAL Palisades 65.20 55 P **P** 12 34 59.8 -0.1
baz=317
HRV Adam Dziewonsk 65.28 52 P **P** 12 35 00.2 -0.2
baz=318
T57A Hurt 65.28 61 P **P** 12 35 00.3 -0.3
T57A IAmb IAmb 12 35 26.1
comp=Z,9.0nm,1.0s
152A Waverly Hall 65.32 68 P **P** 12 35 01.4 +0.6
152A IAmb IAmb 12 35 17.4
comp=Z,6.6nm,0.9s
R58B Mineral 65.33 60 P **P** 12 35 01.4 +0.5
R58B IAmb IAmb 12 35 15.8
comp=Z,7.3nm,0.7s
PAULI Pauline 65.43 65 P **P** 12 35 01.3 -0.3
PAULI IAmb IAmb 12 35 03.9
comp=Z,11nm,1.2s
KMSC Kings Mountain 65.47 64 P **P** 12 35 01.5 -0.3
KMSC Kings Mountain 65.47 64 P **P** 12 35 01.8 0.0
baz=317
GOGA Godfrey 65.51 67 P **P** 12 35 03.0 +1.0
GOGA pmax pmax
comp=Z,8.0nm,1.0s
GOGA Godfrey 65.51 67 P **P** 12 35 03.0 +1.0
GOGA IAmb IAmb 12 35 23.3
comp=Z,7.9nm,0.9s
GOGA Godfrey 65.51 67 P **P** 12 35 02.1 +0.1
baz=316
JSRW J. Sargeant Re 65.53 60 P **P** 12 35 02.5 +0.4
HODGE Hodges 65.61 65 IAmb IAmb 12 35 18.2
comp=Z,8.3nm,0.6s
PDGK Podgornoye 65.85 310 P **P** 12 35 03.7 -0.6
SHLS Shalkode 65.99 310 *e*P **P** 12 35 03.1 -2.2
baz=309
SHLS Shalkode 65.99 310 *e*P **P** 12 35 03.0 -2.2
KPKS Kokpek 66.13 310 *e*P **P** 12 35 05.5 -0.6
baz=310
KPKS Kokpek 66.13 310 *e*P **P** 12 35 05.5 -0.6
KMI Kunming 66.18 281 ⇑P **P** 12 35 06.9 +0.1
KMI pP sP 12 35 17.4 -0.3
KMI sP pwP 12 35 22.8 +2.1
KMI pmax pmax
comp=Z,16nm,0.7s
UZB Uzynbulak 66.21 310 *e*P **P** 12 35 05.6 -1.1
baz=310
UZB Uzynbulak 66.21 310 *e*P **P** 12 35 05.5 -1.1
T59A Double "B" Far 66.23 60 P **P** 12 35 06.8 +0.1
T59A IAmb IAmb 12 35 22.2
comp=Z,11nm,0.8s
FINES FINESS Array B 66.30 349 P **P** 12 35 05.4 -1.2
comp=Z,5.8nm,0.8s,baz=28,slow=8.6,SNR=12
SATY Saty 66.57 310 *e*P **P** 12 35 07.8 -1.1
baz=310
SATY Saty 66.57 310 *e*P **P** 12 35 07.8 -1.1
CHKK Chushkaly 66.64 312 *e*P **P** 12 35 08.2 -1.0
baz=311
KUU Kurty 66.92 312 *e*P **P** 12 35 10.0 -1.0
baz=312
KUU Kurty 66.92 312 *e*P **P** 12 35 09.9 -1.0
MDOK Medeo 67.14 311 *e*P **P** 12 35 11.6 -1.0
baz=311
MDOK Medeo 67.14 311 *e*P **P** 12 35 11.6 -1.0
MTBS Maitube 67.46 311 *e*P **P** 12 35 13.7 -0.8
baz=311
NC204 NORSAR Array S 67.61 357 P **P** 12 35 14.2 -0.9
NC303 NORSAR Array S 67.64 357 P **P** 12 35 14.5 -0.7
NC303 IAmb IAmb 12 35 15.2
comp=Z,16nm,0.8s
NC405 NORSAR Array S 67.74 357 P **P** 12 35 14.2 -1.7
NB201 NORSAR Array S 67.82 357 P **P** 12 35 16.0 -0.4
NB2 NORSAR Subarra 67.83 357 P **P** 12 35 15.5 -1.0
comp=Z,12nm,0.9s,baz=4.2,slow=6.5
NOA NORSAR Array B 67.83 357 P **P** 12 35 15.8 -0.7
comp=Z,9.7nm,0.9s,baz=3.3,slow=6.3,SNR=29
KDJ Kajisay 67.87 310 P **P** 12 35 17.7 +0.5
KDJ pmax pmax
comp=Z,15nm,1.1s
KDJ Kajisay 67.87 310 P **P** 12 35 17.7 +0.5
KDJ IAmb IAmb 12 35 18.5
comp=Z,14nm,1.1s
NORES NORESS Array B 68.12 357 P **P** 12 35 18.6 +0.3
NC602 NORSAR Array S 68.13 357 IAmb IAmb 12 35 42.1
comp=Z,22nm,1.4s
SLVN Son La 68.25 277 P **P** 12 35 20.3 +0.5
SLVN IAmb IAmb 12 35 22.6
comp=Z,13nm,1.1s
UPP Uppsala 68.67 353 *e*P **P** 12 35 20.8 -0.8
AAK Ala-Archa 68.74 312 *c i*P **P** 12 35 23.1 +0.4
AAK pmax pmax
comp=Z,54nm,1.3s
AAK Ala-Archa 68.74 312 P **P** 12 35 23.0 +0.3
AAK IAmb IAmb 12 35 24.0
comp=Z,11nm,0.7s
GAMI Galela, Maluku 68.75 245 P P 12 35 30.2 +7.4
comp=Z,44nm,0.5s
AKTO Aktyubinsk 69.09 327 P **P** 12 35 24.2 -0.3
VSU Vasula 69.12 348 *e*P **P** 12 35 24.0 -0.5
VSU Vasula 69.12 348 ⇓*i*P **P** 12 35 23.8 -0.7
VSU pmax pmax
comp=Z,59nm,0.8s
MTSE Matsula 69.22 350 *e*P **P** 12 35 24.5 -0.6
KONO Kongsberg 69.28 358 ⇑*e*P **P** 12 35 25.4 0.0
KONO pmax pmax
comp=Z,59nm,2.5s
AB31 Akbulak array 69.41 325 *i*P **P** 12 35 26.4 0.0
ABKAR Akbulak array 69.41 325 P **P** 12 35 26.6 +0.1
LSA Lhasa 69.77 292 P **P** 12 35 30.9 +1.3
LSA pmax pmax
comp=Z,31nm,0.9s
LSA Lhasa 69.77 292 P **P** 12 35 30.9 +1.3
KK31 Karatay Array 70.18 315 *i*P **P** 12 35 31.2 -0.2
KK31 Karatay Array 70.18 315 P **P** 12 35 30.9 -0.5
KK31 IAmb IAmb 12 35 32.2
comp=Z,13nm,1.1s
KKAR Karatay Array 70.18 315 P **P** 12 35 30.7 -0.7
KKAR Karatay Array 70.18 315 P **P** 12 35 30.7 -0.7
KSH Kashi 70.47 309 P P 12 35 37.5 +4.2
KSH sP PcP 12 35 54.9 +0.4
KSH pmax pmax
comp=Z,29nm,0.7s
KSH pmax pmax
comp=Z,150nm,4.5s
KSH LR LR
comp=Z,290nm,13.5s
KSH LR LR
comp=Z,220nm,14.0s
KSH LR LR
comp=Z,320nm,19.4s
OBN Obninsk 70.71 342 *e*P **P** 12 35 35.0 +0.7
OBN *e* 12 35 57.4
OBN *e* 12 38 11.9
OBN pmax pmax
comp=Z,10.0nm,0.9s
IUG Iuzhnay 71.16 315 *e*P **P** 12 35 37.0 -0.4
baz=315
IUG Iuzhnay 71.16 315 *e*P **P** 12 35 37.0 -0.4
SKNT Sakolnakorn 71.46 274 P **P** 12 35 40.1 +0.7
comp=Z,14nm,0.9s
PABE Paberze 72.35 349 *e*P **P** 12 35 43.5 -0.7
PABE Paberze 72.35 349 P **P** 12 35 43.4 -0.7
BTK Batken 72.47 313 IAmb IAmb 12 35 46.7
comp=Z,21nm,0.9s
LPSR Galich'ya Gora 72.56 339 *e*P **P** 12 35 44.4 -1.1
LPSR pmax pmax
comp=Z,10.0nm,1.0s
NACGM Naroch 72.57 347 *i*P **P** 12 35 43.1 -2.4
SPMM Sapulut 73.12 256 P **P** 12 35 50.0 +0.6
VRH Novokhopyorsk 73.21 337 *e*P **P** 12 35 47.7 -1.6
VRH pmax pmax
comp=Z,10.0nm,0.9s
CHTO Chiang Mai 73.21 279 P **P** 12 35 53.2 +3.3
comp=Z,3.6nm,0.8s
CHTO Chiang Mai 73.21 279 P **P** 12 35 53.2 +3.3
comp=Z,2.0nm,0.8s
EKA Eskdalemuir Ar 73.44 5 P **P** 12 35 50.4 -0.2
CM09 Chiang Mai Arr 73.46 279 P P 12 35 56.1 +4.7
comp=Z,6.9nm,0.9s
CMAR Chiang Mai Arr 73.48 279 P **P** 12 35 51.9 +0.4
comp=Z,2.5nm,0.7s,baz=28,slow=6.6,SNR=14
CMAR Chiang Mai Arr 73.48 279 P **P** 12 35 50.8 -0.7
CM02 Chiang Mai Arr 73.50 279 P **P** 12 35 54.2 +2.6
comp=Z,6.3nm,0.8s
CM01 Chiang Mai Arr 73.50 279 P **P** 12 35 54.1 +2.5
comp=Z,95nmcomp=Z,5.7nm,0.9s
CM04 Chiang Mai Arr 73.50 279 P **P** 12 35 54.2 +2.6
comp=Z,72nmcomp=Z,9.0nm,0.9s
TAPN Taplejung 73.52 293 *e*P **P** 12 35 52.7 +0.7
CM05 Chiang Mai Arr 73.52 279 P **P** 12 35 53.8 +2.1
comp=Z,48nmcomp=Z,6.5nm,0.9s
CM13 Chiang Mai Arr 73.53 279 P **P** 12 35 53.9 +2.1
comp=Z,53nmcomp=Z,6.0nm,0.9s
GAR Garm 73.56 313 P **P** 12 35 51.3 -0.5
VSR Storozhevoye 73.80 339 *e*P **P** 12 35 51.9 -1.0
VSR pmax pmax
comp=Z,20nm,1.2s
SUW Suwalki 73.91 349 *e*P **P** 12 35 52.1 -1.3
VORD Divnogorie 74.01 338 *e*P **P** 12 35 52.9 -1.1
VORD pmax pmax
comp=Z,10.0nm,1.0s
ODAN Odare 74.08 293 *e*P **P** 12 35 55.4 +0.2
GUN Gumba 74.14 295 *e*P **P** 12 35 56.3 +0.6
JIRN Jiri 74.16 294 *e*P **P** 12 35 56.6 +0.8
comp=Z,156nm,0.8s
MHMT Maesarieng 74.32 279 P P 12 36 02.8 +6.4
CHGR Chuyangaron 74.36 313 P **P** 12 35 56.6 +0.1
RAMN Ramite 74.46 294 *e*P **P** 12 35 57.9 +0.5
comp=Z,67nm,0.7s
MPSI Mapaga 74.53 250 P **P** 12 36 00.6 +3.0
comp=Z,270nmcomp=Z,16nm,0.9s
KKN Kakani 74.57 295 *e*P **P** 12 35 58.6 +0.6
PKI Pulchoki 74.67 295 *e*P **P** 12 35 59.0 +0.3
PKIN Phulchoki 74.67 295 *e*P **P** 12 35 58.8 +0.1
GKN Gorkha 74.78 296 *e*P **P** 12 35 59.5 +0.4
DMN Daman 74.81 295 *e*P **P** 12 36 00.0 +0.5
SRAK Srakaew 74.91 274 P **P** 12 35 58.5 -1.3
DANN Dangsing 75.00 297 *e*P **P** 12 36 01.1 +0.5
comp=Z,196nm,0.9s
UTHA Uthaitani 75.36 277 P **P** 12 36 04.0 +1.6
KOLN Koldanda 75.54 296 *e*P **P** 12 36 03.9 +0.3
PYUN Piuthan 75.62 297 *e*P **P** 12 36 04.5 +0.4
comp=Z,194nm,1.0s
AKASG Malin Array Be 76.27 345 P **P** 12 36 05.8 -1.3
comp=Z,1.5nm,0.3s,baz=18,slow=6.0,SNR=11
AKASG Malin Array Be 76.27 345 IAmb IAmb 12 36 11.7
comp=Z,2.5nm,1.3s
AKBB Malin Array Si 76.27 345 *d i*P **P** 12 36 06.1 -1.0
AKBB pmax pmax
comp=Z,7.0nm,1.1s
AKBB Malin Array Si 76.27 345 P **P** 12 36 06.1 -1.0
NIL Nilore 76.43 307 P **P** 12 36 08.4 0.0
NIL pmax pmax
comp=Z,32nm,0.7s
NIL Nilore 76.43 307 P **P** 12 36 08.4 0.0
CLL Collm 77.48 355 ⇓*i*P **P** 12 36 13.5 -0.4
comp=Z,11nm,0.8s
CLL *e*SS SS 12 51 18.0 +18
CLL Collm 77.48 355 ⇓*i*P **P** 12 36 13.5 -0.4
CLL pmax pmax
comp=Z,11nm,0.8s
CLL Collm 77.48 355 P **P** 12 36 12.8 -1.1
CLL IAmb IAmb 12 36 14.3
comp=Z,10nm,0.8s
SBUM Sibu 77.48 258 P **P** 12 36 15.0 +0.6
KBL Kabul 77.76 311 P **P** 12 36 15.1 -1.0
KBL pmax pmax
comp=Z,53nm,1.3s

KBL	Kabul	77.76	311	P	P	12 36 15.1	-1.0
BRG	Berggiesshubel	77.86	354	*i* P	P	12 36 16.1	0.0
BRG				Amp		12 36 17.1	
	comp=Z,10nm,0.9s						
OSTC	Ostas	78.01	353	*e*P	P	12 36 17.4	+0.5
DPC	Dobruska-Polom	78.21	353	*e*P	P	12 36 18.1	0.0
DPC	Dobruska-Polom	78.21	353	*e*P	P	12 36 18.1	0.0
KWP	Kalwaria Pacla	78.27	348	P	P	12 36 18.1	-0.2
KWP				pmax	pmax		
	comp=Z,106nm,0.9s						
KWP	Kalwaria Pacla	78.27	348	P	P	12 36 18.1	-0.2
MEM	Membach	78.39	359	*d*P	P	12 36 19.3	+0.4
	comp=Z,14nm,1.1s						
BTNL	Ternell	78.41	359	*d*P	P	12 36 19.4	+0.3
	comp=Z,12nm,1.2s						
NKC	Novy Kostel	78.58	355	*e*P	P	12 36 20.3	+0.2
NKC	Novy Kostel	78.58	355	*e*P	P	12 36 20.3	+0.2
MORC	Moravsky Berou	78.68	352	⇑P	P	12 36 20.2	-0.5
MORC	Moravsky Berou	78.68	352	⇑P	P	12 36 20.2	-0.5
MORC	Moravsky Berou	78.68	352	*e*P	P	12 36 20.3	-0.3
BMRD	Maredsous	78.70	0	*d*P	P	12 36 20.9	+0.3
	comp=Z,16nm,1.2s						
PRU	Pruhonice	78.70	354	*e*P	P	12 36 20.0	-0.7
PRU	Pruhonice	78.70	354	*e*P	P	12 36 20.0	-0.7
GIVF	Givet	78.90	0	*e*P	P	12 36 22.4	+0.6
GIVF				pmax	pmax		
	comp=Z,18nm,1.0s						
DOU	Dourbes	78.91	0	*d*P	P	12 36 21.9	+0.1
BAIF	Baives	78.94	1	*e*P	P	12 36 21.9	-0.1
BAIF				pmax	pmax		
	comp=Z,13nm,0.8s						
KOLS	Kolonicke sedl	79.01	349	*e*P	P	12 36 23.8	+1.4
KOLS	Kolonicke sedl	79.01	349	*e*P	P	12 36 23.8	+1.4
GRF	Grafenberg Arr	79.18	356	*e*P	P	12 36 23.9	+0.5
	comp=Z,20nm,1.0s,baz=3.9,slow=4.7						
VRAC	Vranov	79.22	352	⇑P	P	12 36 23.2	-0.4
VRAC	Vranov	79.22	352	⇑P	P	12 36 23.2	-0.4
VRAC	Vranov	79.22	352	*e*P	P	12 36 23.6	0.0
KSM	Kuching	79.42	259	P	P	12 36 26.0	+0.8
KRUC	Moravsky	79.48	353	*e*P	P	12 36 24.7	-0.3
JAVC	Velka Javorina	79.57	352	*e*P	P	12 36 26.6	+1.0
KHC	Kasperske Hory	79.62	354	*e*P	P	12 36 25.7	-0.1
KHC	Kasperske Hory	79.62	354	*e*P	P	12 36 25.7	-0.1
KIV	Kislovodsk	79.64	333	⇑*e*P	P	12 36 26.8	+0.7
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GEYT	Alibeck	79.73	320	P	P	12 36 26.8	+0.1
	comp=Z,15nm,0.9s,baz=304,slow=3.4,SNR=13						
GYA0B	ALIBECK ARRAY	79.73	320	P	P	12 36 25.3	-1.3
GYA0B				IAmb	IAmb	12 36 28.6	
	comp=Z,24nm,1.1s						
KBZ	Khabaz	79.79	333	P	P	12 36 27.2	+0.5
	comp=Z,1.1nm,0.6s,baz=71,slow=2.9,SNR=4.3						
KBZ	Khabaz	79.79	333	⇑*e*P	P	12 36 27.6	+0.9
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BUR08	Bucovina Ar. S	79.87	346	P	P	12 36 27.2	-0.1
BUR08				IAmb	IAmb	12 36 28.8	
	comp=Z,8.0nm,1.1s						
GEC2	GERESS Array S	79.89	354	P	P	12 36 26.6	-0.7
GERES	GERESS Array B	79.89	354	P	P	12 36 27.3	-0.1
	comp=Z,3.3nm,0.8s,baz=34,slow=5.0,SNR=21						
GERES	GERESS Array B	79.89	354	P	P	12 36 27.1	-0.3
BURAR	Bucovina Array	79.90	346	⇑P	P	12 36 27.2	-0.2
BURAR	Bucovina Array	79.90	346	⇑P	P	12 36 27.2	-0.2
BURAR	Bucovina Array	79.90	346	P	P	12 36 26.9	-0.5
BURAR				IAmb	IAmb	12 36 28.7	
	comp=Z,6.5nm,0.9s						
FLN	La Foliniere	80.12	4	*e*P	P	12 36 27.9	-0.6
FLN				pmax	pmax		
	comp=Z,34nm,1.3s						
LDF	La Druitiere	80.31	4	*e*P	P	12 36 28.8	-0.7
LDF				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BIZ	Bicaz	80.42	346	⇓P	P	12 36 30.3	+0.1
GRR	Gorron	80.48	4	*e*P	P	12 36 30.0	-0.4
GRR				pmax	pmax		
	comp=Z,17nm,0.9s						
SGMF	Saint Gilles	80.53	5	*e*P	P	12 36 30.4	-0.3
SGMF				pmax	pmax		
	comp=Z,31nm,1.2s						
ARCR	ARCALIA	80.54	347	⇑P	P	12 36 30.8	0.0
CDF	Champ du Feu	80.58	359	*e*P	P	12 36 30.6	-0.4
CDF				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CONA	Conrad Observa	80.65	353	*i* P	P	12 36 31.5	+0.1
	comp=Z,5.3nm,0.9s						
HAU	Haudompre	80.99	359	*e*P	P	12 36 32.9	-0.3
HAU				pmax	pmax		
	comp=Z,25nm,1.2s						
HRA	Herat	81.01	315	P	P	12 36 33.6	-0.1
HRA				IAmb	IAmb	12 36 35.1	
	comp=Z,16nm,0.8s						
DRGR		81.06	348	⇓P	P	12 36 33.7	+0.1
DRGR		81.06	348	⇓P	P	12 36 33.7	+0.1
HINF	Hinteralfeld	81.18	359	*e*P	P	12 36 33.6	-0.6
HINF				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ARSA	Arzberg	81.35	353	*e*P	P	12 36 35.1	0.0
	comp=Z,4.2nm,0.8s						
VRI	Vrincioaia	81.37	345	⇓P	P	12 36 25.0	-10
VRI	Vrincioaia	81.37	345	P	P	12 36 39.0	+3.8
PLOR	Plostina	81.40	345	⇓P	P	12 36 37.1	+1.7
PLOR	Plostina	81.40	345	⇓P	P	12 36 37.1	+1.7
RETA	Reutte	81.40	356	*e*P	P	12 36 36.1	+0.6
	comp=Z,7.4nm,1.3s						
COVR	Voineasa-Covas	81.47	345	⇓P	P	12 36 36.9	+1.1
DOPR	Dopca	81.48	346	⇓P	P	12 36 36.4	+0.6
IZVR	Izvoarele	81.51	344	⇓P	P	12 36 42.6	+6.7
MOTA	Moosalm	81.53	356	*e*P	P	12 36 37.0	+0.8
	comp=Z,4.5nm,0.9s						
WTTA	Wattenberg	81.58	356	*i* P	P	12 36 36.5	-0.1
	comp=Z,7.3nm,1.0s						
SQTA	Sankt Quirin	81.65	356	*e*P	P	12 36 36.9	+0.1
	comp=Z,2.4nm,0.3s						
TLCR		81.67	343	⇑P	P	12 36 37.1	+0.3
TLCR		81.67	343	⇑P	P	12 36 37.1	+0.3
KBA	Koelnbreinsper	81.67	354	*i* P	P	12 36 37.2	+0.2
	comp=Z,14nm,0.9s						
LOR	Lormes	81.73	1	*e*P	P	12 36 36.8	-0.3
LOR				pmax	pmax		
	comp=Z,12nm,0.9s						
CFR	Carcaliu	81.80	344	⇑P	P	12 36 37.9	+0.5
CFR	Carcaliu	81.80	344	⇑P	P	12 36 37.9	+0.5
MLR	Muntele Rosu	81.86	345	⇑P	P	12 36 39.1	+1.1
MLR	Muntele Rosu	81.86	345	⇑P	P	12 36 39.1	+1.1
MLR	Muntele Rosu	81.86	345	P	P	12 36 39.1	+1.1
MLR				IAmb	IAmb	12 36 40.9	
	comp=Z,13nm,1.2s						
FETA	Feichten	81.87	356	*e*P	P	12 36 38.0	0.0
	comp=Z,7.1nm,1.0s						
SOKA	Soboth	81.96	353	*e*P	P	12 36 38.3	-0.1
	comp=Z,8.5nm,0.9s						
VOIR		82.05	346	⇓P	P	12 36 40.2	+1.3
VOIR		82.05	346	⇓P	P	12 36 40.2	+1.3
ABTA	Abfaltersbach	82.05	355	*e*P	P	12 36 38.5	-0.4
	comp=Z,5.0nm,1.0s						
TPGR	Topolog	82.06	344	⇑P	P	12 36 38.7	-0.1
HARR	Harsova	82.31	344	⇓P	P	12 36 40.3	+0.2
HARR	Harsova	82.31	344	⇓P	P	12 36 40.3	+0.2
BZS	Buzias	82.35	348	⇓P	P	12 36 39.8	-0.6
BZS	Buzias	82.35	348	⇓P	P	12 36 39.8	-0.6
CABF	La Chapelle	82.39	359	*e*P	P	12 36 37.8	-2.9
CABF				pmax	pmax		
	comp=Z,107nm,0.8s						
GZR	Gura Zlata	82.42	348	⇓P	P	12 36 40.4	-0.4
GZR	Gura Zlata	82.42	348	⇓P	P	12 36 40.4	-0.4
TIRR	Tirgusor	82.45	343	⇓P	P	12 36 40.8	-0.1
TIRR	Tirgusor	82.45	343	P	P	12 36 41.0	+0.1
TIRR				pmax	pmax		
	comp=Z,33nm,0.9s						
TIRR	Tirgusor	82.45	343	P	P	12 36 41.0	+0.1
TCF	Toulx Ste Croi	82.68	2	*e*P	P	12 36 41.7	-0.4
TCF				pmax	pmax		
	comp=Z,14nm,1.2s						
IPM	Ipoh	82.86	268	P	P	12 36 43.0	-0.5
HUMR	Humele	82.95	346	⇓P	P	12 36 42.3	-1.2
MDVR	Moldovita	83.16	348	⇓P	P	12 36 43.9	-0.8
WRA	Warramunga Arr	83.79	227	P	P	12 36 46.8	-1.2
	comp=Z,1.4nm,0.9s,baz=42,slow=5.3,SNR=9.3						
CAF	Calviac	84.04	2	*e*P	P	12 36 49.2	0.0
CAF				pmax	pmax		
	comp=Z,21nm,1.3s						
DIVS	Divibare	84.04	349	P	P	12 36 49.0	-0.2
VIVF	Saint-Julien-l	84.15	0	*e*P	P	12 36 51.1	+1.4
VIVF				pmax	pmax		
	comp=Z,22nm,1.5s						
BOVS	Bovan	84.29	348	⇓P	P	12 36 49.3	-1.1
VTS	Vitosha	85.08	347	⇓P	P	12 36 54.1	-0.5
VTS	Vitosha	85.08	347	P	P	12 36 54.3	-0.3
VTS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
VTS	Vitosha	85.08	347	P	P	12 36 54.3	-0.3
VTS				IAmb	IAmb	12 36 55.3	
	comp=Z,7.8nm,0.9s						
MTLF	Montolieu	85.63	2	*e*P	P	12 36 58.3	+1.2
MTLF				pmax	pmax		
	comp=Z,19nm,1.2s						
SJPF	Ste Jean	85.73	5	*e*P	P	12 36 58.3	+0.7
SJPF				pmax	pmax		
	comp=Z,44nm,1.9s						
PDG	Podgorica	85.77	350	⇓P	P	12 36 57.5	-0.3
PDG	Podgorica	85.77	350	P	P	12 36 57.0	-0.8
PDG				IAmb	IAmb	12 36 58.3	
	comp=Z,12nm,0.9s						
NRCA	Norcia	85.92	354	P	P	12 36 58.8	+0.2
NRCA				IAmb	IAmb	12 36 59.8	
	comp=Z,11nm,1.1s						
BR131	Keskin Array S	85.92	338	P	P	12 36 58.4	-0.4
BR131				pmax	pmax		
	comp=Z,12nm,1.2s						
BR131	Keskin Array S	85.92	338	P	P	12 36 58.4	-0.4
BR131				IAmb	IAmb	12 36 59.7	
	comp=Z,12nm,1.2s						
BRTR	Keskin Array B	85.92	338	P	P	12 36 58.9	+0.1
	comp=Z,3.4nm,1.0s,baz=58,slow=3.1,SNR=17						
BRTR	Keskin Array B	85.92	338	P	P	12 36 58.3	-0.5
ETSF	Etsaut	85.97	4	*e*P	P	12 36 59.3	+0.4
ETSF				pmax	pmax		
	comp=Z,42nm,2.0s						
BNN	Bunyan	86.22	336	P	P	12 37 00.9	+0.6
FITZ	Fitzroy Crossi	86.46	235	P	P	12 37 01.3	-0.1
FITZ				IAmb	IAmb	12 37 02.6	
	comp=Z,8.6nm,1.0s						
FNA	Florina	87.14	348	P	P	12 37 03.9	-0.8
FNA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
FNA	Florina	87.14	348	P	P	12 37 03.9	-0.8
FNA				IAmb	IAmb	12 37 05.1	
	comp=Z,6.8nm,0.8s						
ASAR	Alice Springs	87.22	226	P	P	12 37 04.7	-0.4
	comp=Z,2.9nm,0.9s,baz=38,slow=4.3,SNR=21						
POO	Poona	88.29	298	*e*x	P	12 37 08.0	-2.5
ESDC	Sonseca Array	88.98	7	P	P	12 37 12.8	-0.6
	comp=Z,3.3nm,1.1s,baz=359,slow=4.0,SNR=9.6						
ESDC	Sonseca Array	88.98	7	P	P	12 37 13.1	-0.3
ESDC				IAmb	IAmb	12 37 14.1	
	comp=Z,5.6nm,1.2s						
STKA	Stephens Creek	91.33	216	P	P	12 37 23.6	-0.5
	comp=Z,1.8nm,0.9s,baz=333,slow=7.8,SNR=3.7						
TORD	Torodi Ar. Bea	115.68	4	PKP	PKiKP	12 43 00.5	-0.7
	comp=Z,0.6nm,0.5s,baz=345,slow=2.7,SNR=3.4						
H03N2	Juan Fernandez	118.77	108	T	T	14 53 55.7	
	baz=313						
H03N1	Juan Fernandez	118.78	108	T	T	14 53 53.3	
	baz=313,slow=74						
H03N3	Juan Fernandez	118.78	108	T	T	14 53 48.2	
	baz=313,slow=74						
MAW	Mawson	148.00	218	PKPbc	PKiKP	12 44 02.8	-1.6
	comp=Z,7.5nm,0.9s,baz=79,slow=1.8,SNR=17						
MAW	Mawson	148.00	218		PKiKP	12 44 02.6	-1.8
MAW				PKPab	sPKPdf	12 44 09.0	-1.8
BOSA	Boshof	152.72	319	PKPbc	PKiKP	12 44 15.0	-0.6
	comp=Z,3.5nm,0.5s,baz=55,slow=2.7,SNR=9.6						
BOSA	Boshof	152.72	319		PKiKP	12 44 17.3	+1.6

NOU 04 12:28:40.3, 13°.49S×166°.52E, h16km, mb4.1/10, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	2.06	161	P	Pn	12 29 15.6	+1.4
DVP	Devils Point	4.51	159	P	Pn	12 29 48.0	+0.1
YATNC	Mamie plateau,	8.53	178	P	Pn	12 30 43.5	+0.3
DZM	Mont Dzumac	8.54	180	P	Pn	12 30 42.8	-0.6
NOUC	Port Laguerre	8.57	181	P	Pn	12 30 43.1	-0.6
OUENC	Ouen Island, N	8.88	178	P	Pn	12 30 48.9	+0.8
PINNC	Pines Island,	9.12	175	P	Pn	12 30 51.6	+0.3

ISK 04 12:34:29.0, 37°.11N×27°.91E, h0km, ML2.0/6, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.30	86	PG	Pg	12 34 35.4	+0.6
YER				SG	Sg	12 34 40.7	+2.0
TURN	Turunc	0.43	141	PG	Pg	12 34 38.2	+0.9
DAT	Datca	0.46	215	PG	Pg	12 34 38.8	+0.9
DAT				SG	Sb	12 34 46.2	-1.4
BODT	Bodrum	0.48	264	PG	Pg	12 34 38.9	+0.7
BODT				SG	Sb	12 34 46.5	-1.4
DALY	Dalyan (Mula)	0.67	116	PG	Pg	12 34 42.6	+0.8
AYDB	Zeytinkoy-Aydi	0.83	359	PG	Pb	12 34 46.1	-0.4
CAME	Cameli-Denizli	1.13	98	PN	Pn	12 34 52.3	+0.1

*LDG **04** 12:37:25.6±0.5, 36°.52N×9°.53W, h30km, Ml3.1/2, Error ellipse: s-maj=8.7km s-min=6.2km az=47.0*
*INMG **04** 12:37:26.9±1.0, 36°.71N×9°.70W, h20km±3km, ML2.4, Error ellipse: s-maj=3.7km s-min=1.9km az=51.0*
*MDD **04** 12:37:26.1±1.1, 36°.70N×9°.76W, h26km±30km, mbLg2.6/40, Error ellipse: s-maj=30.3km s-min=7.1km az=47.0, PRXIMO*
*IGIL **04** 12:37:26.7, 36°.71N×9°.70W, h17km, ML2.0*
*CNRM **04** 12:37:34.6, 35°.34N×9°.31W, h243km, ml3.1*
ISC 04 12:37:23.1±1.8**, 36°.63N**±0°.06×**9°.84W**±0°.07**, h35km, n86,** σ**1s.76**/143**, 11C, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	0.95	58	⇑P	Pn	12 37 41.7	+1.7
	68nm,0.1s,SNR=18						
PFVI				S	Sn	12 37 52.4	+0.1
	55nm,0.1s,SNR=10						
PFVI	Vila Bisbo	0.95	58	⇑*i*P	Pn	12 37 41.7	+1.7
PFVI				*e*S	Sn	12 37 53.0	+0.7
PFVI				A	A	12 37 53.9	
	38nm,0.5s						
MORF	Marmelete	1.17	54	*e*P	Pn	12 37 44.7	+1.8
MORF				*e*S	Sn	12 37 58.0	+0.3
MORF				IAML		12 37 58.7	
	comp=N,52nm,0.1s						
MORF	Marmelete	1.17	54	P	Pn	12 37 44.7	+1.8
MORF				S	Sn	12 37 58.2	+0.5
	comp=N,36nm,0.1s						
MORF	Marmelete	1.17	54	⇑*e*P	Pn	12 37 44.7	+1.8
MORF				*e*S	Sn	12 37 58.2	+0.5
MORF				A	A	12 38 00.2	
	comp=N,36nm,0.1s						
PTEO	Sao Teotonio	1.28	44	P	Pn	12 37 46.2	+1.8
PTEO				S	Sn	12 38 00.9	+0.6
	comp=N,10nm,0.1s						
PTEO	Sao Teotonio	1.28	44	⇑*e*P	Pn	12 37 46.2	+1.8
PTEO				*e*S	Sn	12 38 00.9	+0.6
PTEO				A	A	12 38 02.4	
	comp=N,21nm,0.1s						
PBDV	Barranco-do-Ve	1.65	68	P	Pn	12 37 51.4	+1.9
PBDV				S	Sn	12 38 09.6	+0.1
	comp=N,14nm,0.1s						
PBDV	Barranco-do-Ve	1.65	68	⇑*i*P	Pn	12 37 51.4	+1.9
PBDV				*e*S	Sn	12 38 09.6	+0.1
PBDV				A	A	12 38 14.8	
	comp=N,14nm,0.1s						
PCVE	Castro Verde	1.75	55	P	Pn	12 37 53.0	+2.1
PCVE				S	Sn	12 38 12.7	+0.7
	comp=N,18nm,0.4s						
PCVE	Castro Verde	1.75	55	⇑*e*Pn	Pn	12 37 53.0	+2.1
PCVE				*e*Sn	Sn	12 38 12.7	+0.7
PCVE				A	A	12 38 14.4	
	comp=N,18nm,0.4s						
MESJ	Messejana	1.77	46	*e*P	Pn	12 37 52.9	+1.7
MESJ				*e*S	Sn	12 38 12.3	-0.1
MESJ				IAML		12 38 13.5	
	comp=N,9.3nm,0.1s						
MESJ	Messejana	1.77	46	P	Pn	12 37 52.9	+1.7
MESJ				S	Sn	12 38 12.6	+0.2
	comp=N,11nm,0.4s						
MESJ	Messejana	1.77	46	⇑*e*Pn	Pn	12 37 52.9	+1.7
MESJ				*e*Sn	Sn	12 38 12.6	+0.2
MESJ				A	A	12 38 23.8	
	comp=N,11nm,0.4s						
PNCL	Nicolau / Gran	1.81	35	P	Pn	12 37 53.4	+1.7
PNCL				S	Sn	12 38 13.7	+0.2
	comp=N,17nm,0.1s						
PNCL	Nicolau / Gran	1.81	35	⇑*e*Pn	Pn	12 37 53.4	+1.7
PNCL				*e*Sn	Sn	12 38 13.7	+0.2
PNCL				A	A	12 38 17.8	
	comp=N,17nm,0.1s						
PVAQ	Vaqueiros	1.87	65	P	Pn	12 37 54.3	+1.8
PVAQ				S	Sn	12 38 14.8	0.0
	comp=N,21nm,0.2s						
PVAQ	Vaqueiros	1.87	65	⇑*i*Pn	Pn	12 37 54.3	+1.8
PVAQ				*e*Sn	Sn	12 38 14.8	0.0
PVAQ				A	A	12 38 19.7	
	comp=N,21nm,0.2s						
EGRO	El Granado	2.09	64	P	Pn	12 37 57.3	+1.7
	comp=N,3.7nm,0.1s,SNR=14						
EGRO				S	Sn	12 38 20.7	+0.4
	comp=N,12nm,0.1s,SNR=10						
PBEJ	Beja	2.10	48	P	Pn	12 37 57.2	+1.5
PBEJ				S	Sn	12 38 20.5	-0.2
	comp=N,3.1nm,0.1s						
PBEJ	Beja	2.10	48	*e*Pn	Pn	12 37 57.2	+1.5
PBEJ				*e*Sn	Sn	12 38 20.5	-0.2
PBEJ				A	A	12 38 21.9	
	comp=N,6.1nm,0.1s						
PMST	Lisbon--Monsan	2.17	14	*e*Sn	Sn	12 38 22.8	+0.5
PMST				A	A	12 38 23.0	
	comp=N,50nm,0.4s						
PMAFR	Mafra	2.36	11	P	Pn	12 38 01.2	+1.9
	comp=N,1.9nm,0.1s,SNR=7.9						
PMAFR				S	Sn	12 38 27.5	+0.3
	comp=N,52nm,0.1s,SNR=21						
PMAFR	Mafra	2.36	11	*e*Pn	Pn	12 38 01.3	+1.9
PMAFR				*e*Sn	Sn	12 38 27.4	+0.3
PMAFR				A	A	12 38 29.1	
	comp=N,57nm,0.2s						
EVO	Evora	2.39	37	P	Pn	12 38 00.8	+1.1
EVO				S	Sn	12 38 27.1	-0.6
EVO	Evora	2.39	37	P	Pn	12 38 00.8	+1.1
EVO				S	Sn	12 38 27.1	-0.6
EVO	Evora	2.39	37	⇑*e*Pn	Pn	12 38 01.3	+1.6
EVO				*e*Sn	Sn	12 38 27.5	-0.3
EVO				A	A	12 38 30.2	
	comp=N,22nm,0.3s						
PBAR	Barrancos	2.71	54	P	Pn	12 38 05.6	+1.5
PBAR				S	Sn	12 38 35.5	-0.2
	comp=N,7.6nm,0.4s						
PBAR	Barrancos	2.71	54	*e*Pn	Pn	12 38 05.6	+1.5
PBAR				*e*Sn	Sn	12 38 35.5	-0.2
PBAR				A	A	12 38 37.3	
	comp=N,7.6nm,0.4s						
EMIN	Mina Concepcio	2.77	65	P	Pn	12 38 06.3	+1.3
	comp=N,1.9nm,0.1s,SNR=28						
EMIN				S	Sn	12 38 36.7	-0.5
	comp=N,7.0nm,0.1s,SNR=29						
PESTR	Estremoz	2.86	38	*e*Pn	Pn	12 38 07.4	+1.2
PESTR				*e*Sn	Sn	12 38 38.5	-0.8
PESTR				A	A	12 38 40.9	
	comp=N,4.7nm,0.4s						
PSBE	So Bento	3.00	16	*e*Pn	Pn	12 38 10.1	+2.0
PSBE				*e*Sn	Sn	12 38 42.1	-0.7
PSBE				A	A	12 38 45.9	
	comp=N,13nm,0.3s						
EBAD	Badajoz	3.09	46	⇑P	Pn	12 38 10.4	+1.2
	comp=N,6.3nm,0.1s,SNR=18						
EBAD				S	Sn	12 38 43.7	-1.3
	comp=N,8.8nm,0.2s,SNR=7.9						
ESPR	Espera	3.21	85	P	Pn	12 38 12.5	+1.6
	comp=N,9.7nm,0.1s,SNR=9.8						
ESPR				S	Sn	12 38 47.2	-0.7
	comp=N,66nm,0.3s,SNR=7.9						
PMRV	Marv??o	3.40	34	P	Pn	12 38 15.1	+1.5
PMRV				S	Sn	12 38 51.3	-1.4
	comp=N,7.0nm,0.3s						
PMRV	Marv??o	3.40	34	*e*Pn	Pn	12 38 15.1	+1.5
PMRV				*e*Sn	Sn	12 38 51.3	-1.4
PMRV				A	A	12 38 53.7	
	comp=N,7.0nm,0.3s						
PCAS	Casmilo, Conde	3.58	17	P	Pn	12 38 18.1	+2.1
PCAS				S	Sn	12 38 56.7	-0.4
	comp=N,5.2nm,0.7s						
PCAS	Casmilo, Conde	3.58	17	*e*Pn	Pn	12 38 18.1	+2.1
PCAS				*e*Sn	Sn	12 38 56.7	-0.4
PCAS				A	A	12 38 59.3	
	comp=N,5.2nm,0.7s						
PCBR	Castelo Branco	3.71	29	P	Pn	12 38 19.9	+2.1
PCBR				S	Sn	12 38 59.1	-1.1
PCBR	Castelo Branco	3.71	29	*e*Pn	Pn	12 38 19.9	+2.1
PCBR				*e*Sn	Sn	12 38 59.1	-1.1
ECAB	El Cabril	3.81	66	P	Pn	12 38 20.9	+1.7
	comp=N,0.2nm,0.1s,SNR=8.8						
ECAB				S	Sn	12 39 00.9	-1.8
	comp=N,6.0nm,0.3s,SNR=9.0						
EMIJ	Mijas	4.08	89	P	Pn	12 38 25.2	+2.3
	comp=N,0.0nm,0.3s,SNR=4.0						
EMIJ				S	Sn	12 39 08.2	-1.2
	comp=N,2.6nm,0.3s,SNR=7.9						
ZHG	ZHG	4.12	140	P	Pn	12 38 24.6	+1.1
ZHG				S	Sn	12 39 07.5	-3.0
MTE	Manteigas	4.17	25	P	Pn	12 38 26.0	+1.7
MTE				S	Sn	12 39 11.0	-0.8
	comp=N,2.5nm,0.4s						
MTE	Manteigas	4.17	25	*e*Pn	Pn	12 38 26.0	+1.7
MTE				*e*Sn	Sn	12 39 11.0	-0.8
MTE				A	A	12 39 13.6	
	comp=N,5.0nm,0.4s						
PVIS	Viseu	4.36	20	S	Sn	12 39 15.1	-1.2
	comp=N,5.6nm,0.3s						
PVIS	Viseu	4.36	20	*e*Sn	Sn	12 39 15.1	-1.2
PVIS				A	A	12 39 17.7	
	comp=N,11nm,0.3s						
EADA	Adamuz	4.46	68	P	Pn	12 38 29.8	+1.6
	comp=N,2.0nm,0.1s,SNR=29						
EADA				S	Sn	12 39 16.2	-2.8
	comp=N,5.2nm,0.1s,SNR=7.9						
EPLA	Plasencia	4.53	40	P	Pn	12 38 30.8	+1.7
	comp=N,1.3nm,0.1s,SNR=12						
EPLA				S	Sn	12 39 19.1	-1.4
	comp=N,7.3nm,0.2s,SNR=7.9						
EGOR	Sierra Gorda,	4.62	82	S	Sn	12 39 20.4	-2.6
	comp=N,4.4nm,0.4s,SNR=7.9						
PVRL	Vila Real	4.93	19	S	Sn	12 39 27.9	-2.5
	comp=N,7.0nm,0.1s						
PVRL	Vila Real	4.93	19	*e*Sn	Sn	12 39 27.9	-2.5
PVRL				A	A	12 39 31.4	
	comp=N,14nm,0.1s						
ELGU	Los Guajares,	4.99	85	P	Pn	12 38 38.1	+2.6
	comp=N,5.2nm,0.4s,SNR=7.9						
ELGU				S	Sn	12 39 31.5	-0.6
	comp=N,9.5nm,0.3s,SNR=7.9						
POLO	Lamas de Olo	5.00	18	P	Pn	12 38 37.3	+1.7
POLO				S	Sn	12 39 29.9	-2.3
	comp=N,1.1nm,0.3s						
POLO	Lamas de Olo	5.00	18	*e*Pn	Pn	12 38 37.3	+1.7
POLO				*e*Sn	Sn	12 39 29.9	-2.3
POLO				A	A	12 39 32.3	
	comp=N,1.1nm,0.3s						
MVO	Moncorvo	5.03	25	S	Sn	12 39 30.1	-2.9
	comp=N,2.4nm,0.1s,SNR=7.9						
MVO	Moncorvo	5.03	25	*e*Pn	Pn	12 38 37.9	+1.8
MVO				*e*Sn	Sn	12 39 30.8	-2.2
MVO				A	A	12 39 33.5	
	comp=N,6.8nm,0.3s						
EQUE	Quentar	5.16	82	P	Pn	12 38 39.6	+1.7
	comp=N,0.1nm,0.0s,SNR=7.9						
EQUE				S	Sn	12 39 33.6	-2.6
	comp=N,3.2nm,0.5s,SNR=7.9						
PAB	San Pablo	5.22	54	P	Pn	12 38 40.3	+1.6
	comp=N,1.7nm,0.1s,SNR=7.9						
PAB				S	Sn	12 39 34.9	-2.7
	comp=N,2.3nm,0.4s,SNR=7.9						
PCAB	Cabril	5.27	15	P	Pn	12 38 41.0	+1.7
PCAB				S	Sn	12 39 36.5	-2.2
PCAB	Cabril	5.27	15	*e*Pn	Pn	12 38 41.0	+1.7
PCAB				*e*Sn	Sn	12 39 36.5	-2.2
CZD	Col de Zad	5.33	131	P	Pn	12 38 41.6	+1.2
CZD				S	Sn	12 39 34.8	-6.0
ELOB	Lobios	5.41	14	P	Pn	12 38 43.1	+1.8
	comp=N,0.0nm,0.1s,SNR=7.9						
ELOB				S	Sn	12 39 38.1	-4.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=N,4.0nm,0.3s,SNR=6.1						
PGAV	Gavieira, Arco	5.47	12	S	Sn	12 39 40.1	-3.7
	comp=N,2.7nm,0.4s						
PGAV	Gavieira, Arco	5.47	12	eSn	Sn	12 39 40.1	-3.7
PGAV				A	A	12 39 46.0	
	comp=N,2.7nm,0.4s						
EQES	Quesada	5.53	76	P	Pn	12 38 44.4	+1.4
	comp=N,0.4nm,0.1s,SNR=7.9						
EQES				S	Sn	12 39 42.6	-2.7
	comp=N,4.4nm,0.3s,SNR=8.1						
ESDC	Sonseca Array	5.54	55	P	Pn	12 38 44.5	+1.5
	comp=N,3.3nm,0.1s,baz=241,slow=13,SNR=31						
ESDC				S	Sn	12 39 42.7	-2.8
	comp=N,0.6nm,0.2s,baz=240,slow=24,SNR=11						
EZAM	Zamans	5.58	9	S	Sn	12 39 43.1	-3.4
	comp=N,2.0nm,0.3s,SNR=4.0						
EBER	Berja	5.58	85	S	Sn	12 39 44.8	-2.1
	comp=N,13nm,0.8s,SNR=7.9						
MD31	MD31	5.62	130	P	Pn	12 38 45.2	+1.0
MD31				S	Sn	12 39 38.9	-8.6
PBRG	Braganca	5.70	24	S	Sn	12 39 46.4	-3.0
	comp=N,1.0nm,0.2s						
PBRG	Braganca	5.70	24	eSn	Sn	12 39 46.4	-3.0
PBRG				A	A	12 39 46.5	
	comp=N,2.0nm,0.2s						
ECAL	Calabor	5.83	23	P	Pn	12 38 49.0	+2.1
	comp=N,0.5nm,0.1s,SNR=7.9						
ECAL				S	Sn	12 39 49.8	-2.8
	comp=N,3.6nm,0.2s,SNR=5.2						
GUD	Guadarrama	5.99	46	P	Pn	12 38 51.3	+2.0
	comp=N,1.4nm,0.1s,SNR=7.9						
GUD				S	Sn	12 39 53.7	-2.9
	comp=N,1.3nm,0.3s,SNR=7.9						
SESP	Santiago Espad	6.00	73	S	Sn	12 39 53.8	-3.1
	comp=N,2.7nm,0.2s,SNR=7.9						
TTIG	Tnine Tigouga,	6.18	169	P	Pn	12 38 48.3	-3.6
TTIG				S	Sn	12 39 47.8	-14
ETOB	Tobarra	6.88	71	P	Pn	12 39 02.7	+1.2
	comp=N,0.2nm,0.1s,SNR=7.9						
ETOB				S	Sn	12 40 14.5	-4.0
	comp=N,1.2nm,0.3s,SNR=7.9						
SJPF	Ste Jean	9.26	43	ePn	Pn	12 39 33.9	-0.1
SJPF				eSn	Sn	12 41 08.1	-8.8
	comp=N,0.9nm,0.4s						
SJPF	Ste Jean	9.26	43	P	Pn	12 39 33.9	-0.1
SJPF				S	Sn	12 41 08.1	-8.8
	comp=N,0.4nm,0.4s						
ETSF	Etsaut	9.50	46	ePn	Pn	12 39 37.1	-0.2
ETSF				eSn	Sn	12 41 10.7	-12
	comp=N,1.0nm,0.3s						
ETSF	Etsaut	9.50	46	P	Pn	12 39 37.1	-0.2
ETSF				S	Sn	12 41 10.7	-12
	comp=N,0.0nm,0.3s						
EPF	Esparros	10.10	48	ePn	Pn	12 39 44.2	-1.4
EPF	Esparros	10.10	48	P	Pn	12 39 44.2	-1.4
MFF	Saint Martin d	12.31	33	ePn	Pn	12 40 15.2	-0.6
MFF	Saint Martin d	12.31	33	eP	Pn	12 40 20.9	+5.1
MFF	Saint Martin d	12.31	33	P	Pn	12 40 20.9	+5.1

*INET **04** 12:38:26.1, 9°.31N×85°.41W, h15km, MW3.2*
*UCR **04** 12:38:30.8±1.4, 9°.31N×85°.50W, h24km±3km, MW3.6*
*UPA **04** 12:38:32.8±1.6, 9°.39N×85°.32W, h9km±40km, MW3.9*
ISC 04 12:38:30.8±1.8**, 9°.36N**±0°.06×**85°.49W**±0°.07**, h18**km±5km**,**
n39, σ0s.**87**/53**, 8C-1D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INDI	Punta indio, G	0.51	358	eP	Pg	12 38 41.7	+0.6
INDI				eS	Sb	12 38 50.3	+2.0
GRZA	Playa Garza	0.57	345	eP	Pg	12 38 42.5	+0.2
LAFE	Finca La Fe, P	0.72	52	eP	Pb	12 38 44.7	-0.2
SAJU	San Juanillo,	0.74	343	eP	Pb	12 38 44.6	-0.6
JACO	JACO, Garabito	0.87	70	eP	Pb	12 38 47.2	-0.2
JACO				eS	Sn	12 38 60.0	-0.5
GUAI	GUAI	0.91	359⇑	iP	Pb	12 38 47.6	-0.5
JTS	Las Juntas de	1.07	30	i P	Pb	12 38 50.5	-0.3
JTS				i S	Sg	12 39 05.2	-0.4
JTS	Las Juntas de	1.07	30	eP	Pb	12 38 50.4	-0.4
CASO	Castillo	1.30	35	i P	Pn	12 38 54.5	+0.3
CASO				i S	Sg	12 39 12.8	-0.3
COLC	Colonia	1.33	12⇑	iP	Pn	12 38 54.5	-0.1
CUI	Cuipilapa	1.33	14⇑	iP	Pn	12 38 54.6	0.0
CUI				i S	Sb	12 39 12.5	+0.4
ARE1	Arenal 1	1.33	35	eP	Pn	12 38 55.2	+0.6
HZTE	Horizontes, Gu	1.35	356	eP	Pn	12 38 54.8	-0.1
LIM1	Limonal	1.35	10⇑	iP	Pn	12 38 54.8	-0.1
CEDE	Laguna Cedeo	1.36	34⇑	iP	Pn	12 38 55.6	+0.6
FORC	Fortuna	1.37	36	i P	Pn	12 38 55.3	+0.3
GPS2	Hotel Rincn d	1.39	6⇑	iP	Pn	12 38 55.3	-0.2
GPS2				eP	Pn	12 38 55.3	-0.2
LAPC	Finca la Perla	1.40	2	i P	Pn	12 38 55.0	-0.5
GBS3	Finca Las Img	1.42	1⇓	iP	Pn	12 38 55.2	-0.6
BUEV	Buena Vista	1.44	3⇑	iP	Pn	12 38 55.8	-0.3
PTEN	Parque Tenorio	1.44	20	i P	Pn	12 38 56.3	+0.3
GB1A	Borinquen Arri	1.46	3⇑	iP	Pn	12 38 56.2	-0.2
HDC	Heredia	1.50	65	eP	Pn	12 38 56.5	-0.5
LCR2	La Lucha 2	1.51	75	eP	Pn	12 38 56.5	-0.7
BUAI	Buenos Aires	1.52	6	i P	Pn	12 38 57.1	0.0
OCM	Ochomogo	1.60	70	eP	Pn	12 38 58.1	-0.3
CDM	Cerro de Muert	1.71	83	eP	Pn	12 39 00.1	-0.1
PEZE	Perez Zeledon,	1.79	89	eP	Pn	12 39 00.7	-0.2
RIOS	Rincon, Osa	2.06	108	eP	Pn	12 39 03.8	-0.7
MLIR3	Monte Lirio, C	2.69	102	eP	Pn	12 39 14.4	+1.1
MLIR3				i S	Sn	12 39 45.2	-0.2
CDITO	Canoas	2.70	107	eP	Pn	12 39 12.4	-0.9
CDITO				i S	Sn	12 39 46.6	+1.1
BC3P	Paso Ancho	2.89	100	eP	Pn	12 39 16.7	+0.5
BC3P				eS	Sn	12 39 50.2	-0.4
BCO2	Palmira	2.99	102	i P	Pn	12 39 18.5	+0.9
BCO2				i S	Sn	12 39 49.9	-3.1
PTAR3	Potrerillos Ar	3.03	102	eP	Pn	12 39 18.9	+0.9
PTAR3				i S	Sn	12 39 53.1	-0.8
LNBQ3	Los Naranjos,	3.06	100	eP	Pn	12 39 20.0	+1.5
PSOM3	Paja de Sombre	3.20	102	eP	Pn	12 39 20.6	+0.3
PSOM3				i S	Sn	12 39 57.2	-0.7
CHIR3	Chiriqui UPA,	3.26	107	eP	Pn	12 39 21.7	+0.6
CHIR3				eS	Sn	12 39 57.1	-2.4
CHGR2	Aguacate	3.33	97	eP	Pn	12 39 23.1	+1.1
CHGR2				i S	Sn	12 40 01.0	-0.1
CACAO	El Cacao, Vera	5.00	113	eP	Pn	12 39 46.2	+1.3

*AEIC **04** 12:42:02.8±2.4, 51°.27N±0°.04×174°.79W±0°.06, h25km±2km, Error ellipse: s-maj=6.7km s-min=5.3km az=149.0*
*GCMT **04** 12:42:03.7±0.2, 51°.28N±0°.02×174°.85W±0°.03, h22km, MW5.0/105, Moment Tensor Solution. s59,c77; s105,c157; Duration: 0 Moment tensor: Scale 10[16]Nm; M_{rr}3.27±.15; $M_{\theta\theta}$-2.91±.11; $M_{\phi\phi}$-0.36±.09; $M_{r\theta}$2.05±.16; $M_{\theta\phi}$-0.93±.06; $M_{\phi r}$0.86±.15; Best double couple: $M_0$3.93100×10[16] NP1:ϕ_s254.00000°, δ28.00000°, λ94.00000°. NP2:ϕ_s69.00000°, δ62.00000°, λ88.00000°. Principal axes: T 3.9620, Plg73.0000°, Azm334.0000°; N -0.0650, Plg2.0000°, Azm70.0000°; P -3.9010, Plg17.0000°, Azm161.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **04** 12:42:04.3±1.1, 51°.56N×174°.84W, h44km, mb5.2/67, MS4.2/7 Error ellipse: s-maj=6.8km s-min=4.5km az=100.6*
*BJI **04** 12:42:04.1±0.0, 51°.70N×175°.14W, h43km, mB5.2/38, mb5.1/72, Ms4.8/46, Ms7 4.6/44*
*IDC **04** 12:42:04.1±3.3, 51°.56N×174°.84W, h31km±23km, mb4.4/45, mb1 4.6/47, mb1mx4.5/62, mbtmp4.6/47, ML3.7/2, MS4.4/36, Ms1 4.4/36, ms1mx4.3/45, Error ellipse: s-maj=13.2km s-min=8.4km az=161.0*
*NEIC **04** 12:42:05.7±1.6, 51°.50N±0°.06×174°.92W±0°.06, h44km±5km, mb5.0/328, ML4.6/34(AEIC), Error ellipse: s-maj=9.4km s-min=4.8km az=160.0*
*BGR **04** 12:42:07.8±0.0, 51°.62N×178°.11W, h33km, mb5.0*
ISC 04 12:42:05.2±0.6**, 51°.51N**±0°.06×**174°.85W**±0°.03**, h40**km±4km**,**
n861, σ**1s.13**/803**, mb5.0**/286**, MS4.5**/50**, 44C-29D,**
Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.80	30		Pn	12 42 20.4	+0.4
ATKA	Atka Island	0.80	30		Sn	12 42 33.9	+3.2
GSIG	Igitkin Island	0.82	306		Pn	12 42 20.6	+0.3
KOFP	Korovin Flat P	0.89	31		Pn	12 42 22.4	+1.0
KOKL	Mount Kliuchef	0.91	26		Pn	12 42 22.6	+1.0
GSMY	Great Sitkin M	0.92	306		Pn	12 42 22.2	+0.6
GSTR	Great Sitkin T	0.95	308		Pn	12 42 22.9	+0.9
GSTD	Great Sitkin T	0.97	305		Pn	12 42 22.9	+0.5
ADK	Adak	1.20	289	P	Pn	12 42 25.2	-0.3
ADK						12 42 41.8	
ADK	Adak	1.20	289		Pn	12 42 25.2	-0.3
KIWB	Kanaga Island	1.47	284		Pn	12 42 29.1	-0.1
KIKV	Kanaga Island	1.49	285		Pn	12 42 29.4	0.0
KIMD	Kanaga Island	1.51	280		Pn	12 42 29.2	-0.5
KICM	Kanaga Island	1.51	286		Pn	12 42 30.0	+0.2
TASE	Tanaga Southea	2.01	280		Pn	12 42 37.0	+0.4
GAEA	Gareloi East	2.44	278		Pn	12 42 42.9	+0.3
GALAA	Gareloi Lava P	2.46	277		Pn	12 42 43.4	+0.6
CERAA	Semis' Rag'd T	3.42	279		Pn	12 42 56.3	+0.3
AMKA	Amchitka	3.66	270		Pn	12 42 58.3	-0.9
AMKA					Sn	12 43 44.4	+3.2
NIKH	Nikolski High	3.96	66		Sn	12 43 49.1	+0.5
NIKH	Nikolski High	3.96	66	Pn	Pn	12 43 03.4	0.0
NIKH	Nikolski High	3.96	66	P	Pn	12 43 03.5	+0.1
	baz=247,SNR=6.3						
LSNW	Little Sitkin	4.15	279		Pn	12 43 05.9	0.0
LSSA	Little Sitkin	4.15	279		Pn	12 43 05.9	-0.1
OKWE	Okmok W'ng Wal	4.49	62		Pn	12 43 11.8	+1.1
OKTU	Okmok Mt. Tuli	4.57	63		Pn	12 43 12.3	+0.6
MAPS	Pakushin South	5.33	61		Pn	12 43 22.8	+0.6
UNV	Unalaska Valle	5.59	62		Pn	12 43 26.3	+0.6
UNV	Unalaska Valle	5.59	62	P	Pn	12 43 28.2	+2.6
	baz=246						
AKUT	Akutan	6.10	61	Pn	Pn	12 43 34.9	+2.2
SPIA	Saint Paul Isl	6.28	24		Pn	12 43 39.7	+4.6
SPIA	Saint Paul Isl	6.28	24	P	Pn	12 43 34.4	-0.8
	baz=206,SNR=17						
WECS	Westdahl Cape	6.79	60		Pn	12 43 43.9	+1.7
SMY	Shemya	6.91	284	P	Pn	12 43 44.4	+0.5
SMY	Shemya	6.91	284	Pn	Pn	12 43 44.4	+0.5
FALS	False Pass	7.64	60	Pn	Pn	12 43 55.9	+2.1
FALS	False Pass	7.64	60	P	Pn	12 43 56.6	+2.8
	baz=247						
SDPT	Sand Point	9.40	60	Pn	Pn	12 44 18.4	+0.5
SDPT	Sand Point	9.40	60	P	Pn	12 44 19.7	+1.8
	baz=250						
CNBA	Chernabura Isl	9.74	64	Pn	Pn	12 44 22.4	-0.2
CHNA	Chernabura Isl	9.75	64	P	Pn	12 44 22.8	+0.2
	baz=255						
CHGN	Chignik	10.81	57	Pn	Pn	12 44 36.6	-0.5
CHIR	Chirikof Islan	12.18	62	Pn	Pn	12 44 55.3	-0.6
GAMB	Gambell	12.41	7	Pn	Pn	12 45 00.6	+1.6
GAMB	Gambell	12.41	7	P	Pn	12 44 57.9	-1.1
	baz=189,SNR=6.5						
SII	Sitkinak Islan	13.13	59	Pn	Pn	12 45 08.1	-0.8
OHAK	Old Harbor	13.78	57	Pn	Pn	12 45 15.2	-2.4
OHAK	Old Harbor	13.78	57	P	Pn	12 45 18.3	+0.6
	baz=254						
O18K	Koktuh Hills	13.83	45	Pn	Pn	12 45 19.9	+1.5
O18K	Koktuh Hills	13.83	45	P	Pn	12 45 18.7	+0.3
	baz=241						
N18K	Kilae Creek	13.96	42	Pn	Pn	12 45 23.0	+2.8
N18K	Kilae Creek	13.96	42	P	Pn	12 45 20.7	+0.6
	baz=236,SNR=9.8						
ANM	Nome	13.99	17	P	Pn	12 45 24.0	+3.4
ANM	Nome	13.99	17	Pn	Pn	12 45 24.0	+3.4
ANM	Nome	13.99	17	P	Pn	12 45 19.4	-1.2
	baz=205,SNR=6.4						
Q19K	Cape Douglas,	14.15	50	Pn	Pn	12 45 23.8	+1.0
Q19K	Cape Douglas,	14.15	50	P	Pn	12 45 23.9	+1.1
	baz=247						
KDAK	Kodiak Island	14.30	55	Pn	Pn	12 45 22.5	-2.3
	0.5nm,0.3s,baz=204,slow=3.5,SNR=58						
KDAK				Sn	Sn	12 47 56.8	-4.9
	0.2nm,0.3s,baz=324,slow=21,SNR=1.2						
KDAK	Kodiak Island	14.30	55	P	Pn	12 45 23.3	-1.4
KDAK	Kodiak Island	14.30	55		Pn	12 45 23.3	-1.4
KDAK	Kodiak Island	14.30	55	P	Pn	12 45 26.1	+1.4
	baz=253						
SVW2	Sparrevohn	14.31	40	Pn	Pn	12 45 27.5	+2.5
O19K	Port Alsworth	14.38	45	Pn	Pn	12 45 26.9	+1.0
O19K	Port Alsworth	14.38	45	P	Pn	12 45 28.0	+2.1
	baz=241						
TNA	Tin City	14.53	12	Pn	Pn	12 45 30.4	+2.6
TNA	Tin City	14.53	12	P	P	12 45 31.8	-1.8
	baz=197						
N19K	Bonanza Creek	14.62	43	Pn	Pn	12 45 29.7	+0.7
N19K	Bonanza Creek	14.62	43	P	Pn	12 45 29.8	+0.7
	baz=239,SNR=10						
P19K	Oil Pt	14.63	48	P	Pn	12 45 30.8	+1.5
	baz=245						
O20K	Slope Mountain	15.09	47	P	Pn	12 45 37.6	+2.2
	baz=244						
L19K	White Mountain	15.21	38	P	P	12 45 41.2	-0.2
L19K	White Mountain	15.21	38	P	Pn	12 45 37.0	+0.1
	baz=234,SNR=18						
M19K	Big River Lodg	15.23	39	P	P	12 45 42.1	+0.5
M19K	Big River Lodg	15.23	39	P	P	12 45 40.3	-1.3
	baz=236						
HOM	Homer	15.38	49	P	P	12 45 43.1	-0.1
HOM				IAmb	IAmb	12 45 57.9	
	comp=Z,213nm,1.1s						
CNPM	China Poot	15.52	50	Pn	Pn	12 45 42.7	+1.7
CNPM				P	P	12 45 43.6	-1.2
CNPM				IAmb	IAmb	12 45 55.2	
	comp=Z,139nm,1.4s						
M20K	Styx River	15.73	40	P	Pn	12 45 43.7	+0.1
	baz=238,SNR=8.5						
L20K	Farewell, AK	15.76	38	P	Pn	12 45 44.1	+0.2
	baz=235,SNR=12						
SPCR	Spurr Chakacha	15.77	43	P	P	12 45 47.4	-0.2
	baz=242						
BRLK	Bradley Lake	15.78	49	Pn	Pn	12 45 44.5	+0.3
BRLK				IAmb	IAmb	12 46 05.1	
	comp=Z,158nm,1.6s						
BRSE	Bradley Lake S	15.84	49	P	Pn	12 45 46.2	+1.2
	baz=248						
K20K	Telida	16.21	35		P	12 45 52.5	+0.1
K20K	Telida	16.21	35	P	Pn	12 45 49.9	+0.2
	baz=232,SNR=19						
PET	Petropavlovsk	16.26	286	eP	P	12 45 52.6	-0.3
PET				eS	Sn	12 48 49.0	-0.5
PET				pmax	pmax		
	comp=Z,64nm,0.9s						
PET				MLR	MLR		
	comp=Z,2μm,20.0s						
PET	Petropavlovsk	16.26	286	P	P	12 45 52.4	-0.5
SKT	Skwentna	16.43	41	P	P	12 45 55.2	+0.4
SKT				IAmb	IAmb	12 46 01.9	
	comp=Z,114nm,1.4s						
SKT	Skwentna	16.43	41	P	Pn	12 45 53.3	+0.7
	baz=240,SNR=8.0						
SUA	Susitna One	16.52	44	P	Pn	12 45 54.9	+1.1
O22K	Cooper Landing	16.58	47	P	P	12 45 57.0	+0.6
O22K				IAmb	IAmb	12 46 26.0	
	comp=Z,119nm,1.0s						
O22K	Cooper Landing	16.58	47	P	Pn	12 45 55.3	+1.0
	baz=248						
PPLA	Purkeypile	16.64	38	P	P	12 45 57.3	0.0
PPLA				IAmb	IAmb	12 46 04.2	
	comp=Z,129nm,1.4s						
PPLA	Purkeypile	16.64	38	P	Pn	12 45 55.4	+0.2
	baz=237,SNR=11						
J20K	Nowinta River	16.69	33		P	12 45 57.9	+0.2
J20K	Nowinta River	16.69	33	P	Pn	12 45 55.9	+0.1
	baz=230,SNR=20						
RC01	Rabbit Creek A	16.81	46	P	Pn	12 45 56.8	-0.4
PEA0B	Petropavlovsk-	16.82	286⇑	eP	P	12 45 59.5	+0.3
PEA0B	Petropavlovsk-	16.82	286	P	Pn	12 45 58.1	+0.6
PETK	Petropavlovsk-	16.82	286	Pn	Pn	12 45 57.4	-0.1
	comp=Z,0.5nm,0.3s,baz=90,slow=15,SNR=36						
PETK				LR	LR	12 52 00.6	
	comp=Z,1μm,21.7s,baz=99,slow=36						
PETK	Petropavlovsk-	16.82	286	P	P	12 46 00.1	+0.8
PETK	Petropavlovsk-	16.82	286	P	P	12 46 00.1	+0.8
CHUM	Lake Minchumin	17.15	35	P	Pn	12 46 01.9	+0.4
	baz=234,SNR=24						
CUT	Chulitna	17.15	41	P	P	12 46 03.9	+1.1
	baz=241						
PMR	Palmer	17.28	44	P	P	12 46 03.7	-0.5
PMR				pmax	pmax		
	comp=Z,30nm,1.2s						
PMR	Palmer	17.28	44	P	P	12 46 03.6	-0.5
PMR	Palmer	17.28	44	P	P	12 46 03.9	-0.2
	baz=245						
PWL	Port Wells	17.35	47	P	Pn	12 46 01.5	-2.6
GHO	Glory Hole Cre	17.44	44	P	Pn	12 46 05.4	+0.2
KTH	Kantishna Hill	17.48	37	P	P	12 46 07.2	+0.7
KTH				IAmb	IAmb	12 46 36.5	
	comp=Z,117nm,1.2s						
KNK	Knik Glacier	17.50	45	P	Pn	12 46 05.9	-0.1
KNK	Knik Glacier	17.50	45	P	Pn	12 46 05.8	-0.1
	baz=247						
RDOG	Red Dog Mine	17.59	15	P	Pn	12 46 07.2	+0.3
	baz=205						
TRF	Thorofare Moun	17.66	38	P	Pn	12 46 07.9	-0.1
TRF	Thorofare Moun	17.66	38	P	Pn	12 46 08.3	+0.2
	baz=238,SNR=5.4						
SML	Sawmill	17.71	44	P	P	12 46 09.3	+0.2
	baz=246						
BPAW	Bear Paw Mtn.	17.75	36		Pn	12 46 09.0	0.0
BPAW	Bear Paw Mtn.	17.75	36	P	P	12 46 09.4	-0.1
	baz=235,SNR=20						
IMAR	Indian Mountai	18.02	28	P	P	12 46 13.6	+1.3
I21K	Tanana	18.05	32	P	P	12 46 14.5	+1.8
I21K				IAmb	IAmb	12 46 21.6	
	comp=Z,83nm,1.1s						
I21K	Tanana	18.05	32	P	P	12 46 13.2	+0.5
	baz=231						
WAT1	Susitna Watana	18.05	41	P	P	12 46 13.3	+0.5
	baz=243						
SCM	Sheep Creek Mo	18.16	45	P	P	12 46 13.2	-0.8
SCM				pmax	pmax		
	comp=Z,36nm,1.0s						
SCM	Sheep Creek Mo	18.16	45	P	P	12 46 13.2	-0.8
RND	Reindeer	18.20	39	P	P	12 46 13.9	-0.5
RND				pmax	pmax		
	comp=Z,46nm,1.0s						
RND	Reindeer	18.20	39	P	P	12 46 13.9	-0.5
SKR	Severo-Kuril's	18.20	279	eP	Pn	12 46 15.7	+1.2
SKR				eS	S	12 49 42.3	+1.8
SKR				pmax	pmax		
	comp=Z,31nm,1.1s						
SKR				pmax	pmax		
	comp=Z,200nm,3.9s						
SKR				MLR	MLR		
	comp=Z,700nm,18.0s						
WAT6	Susitna Watana	18.28	42	P	Pn	12 46 15.8	+0.2
	baz=244						
MCK	McKinley	18.33	38	P	P	12 46 15.7	-0.1
MCK				pmax	pmax		
	comp=Z,50nm,1.2s						
MCK	McKinley	18.33	38	P	P	12 46 15.7	-0.1
MCK	McKinley	18.33	38	P	P	12 46 15.6	-0.2
	baz=240,SNR=13						
BWN	Browne	18.36	37	P	Pn	12 46 17.2	+0.9
BWN				IAmb	IAmb	12 46 29.7	
	comp=Z,80nm,0.9s						
MLY	Manley	18.38	33	P	Pn	12 46 16.9	+0.2
MLY	Manley	18.38	33	P	Pn	12 46 17.2	+0.6
	baz=234						
KLU	Klutina	18.67	46	P	P	12 46 18.9	-0.6
KLU	Klutina	18.67	46	P	P	12 46 19.7	+0.2
	baz=250						
NEA2	Nenana	18.73	36	P	P	12 46 20.1	0.0
NEA2	Nenana	18.73	36	P	P	12 46 19.7	-0.4
	baz=237,SNR=11						
M24K	Tolsona, Glenn	18.77	45	P	P	12 46 20.8	+0.1
	baz=248						
I23K	Minto, Yukon-K	18.93	34	P	P	12 46 22.4	+0.2
I23K				IAmb	IAmb	12 46 31.3	
	comp=Z,117nm,1.2s						
I23K	Minto, Yukon-K	18.93	34	P	P	12 46 22.6	+0.4
	baz=236,SNR=14						
BILL	Bilibino	18.95	338d	iP	Pn	12 46 24.3	+0.8
BILL				pmax	pmax		
	comp=Z,113nm,1.3s						
BILL				MLR	MLR		
	comp=Z,592nm,20.0s						
BILL	Bilibino	18.95	338	P	P	12 46 21.9	-0.7
BILL				IAmb	IAmb	12 46 31.4	
	comp=Z,178nm,1.1s						
WRH	Wood River Hil	19.02	37	P	P	12 46 23.8	+0.5
BMRM	Bremner River	19.12	49	P	Pn	12 46 25.4	-0.2
	baz=253						
CCB	Clear Creek Bu	19.22	36	P	P	12 46 25.7	+0.2
MDM	Murphy Dome	19.22	35	P	P	12 46 25.9	+0.4
H23K	Yukon River	19.25	32	P	Pn	12 46 26.9	-0.2
H23K	Yukon River	19.25	32	P	P	12 46 26.1	+0.3
	baz=234,SNR=23						
N25K	Chitina, Valde	19.31	47	P	P	12 46 26.2	-0.4
N25K	Chitina, Valde	19.31	47	P	P	12 46 26.7	+0.1
	baz=252						
TCOL	CIGO, UAF Yank	19.31	36	P	Pn	12 46 28.2	+0.4
TCOL	CIGO, UAF Yank	19.31	36	P	P	12 46 27.2	+0.8
	baz=238,SNR=7.6						
COLA	College	19.32	36	P	Pn	12 46 28.4	+0.6
COLA				pmax	pmax		
	comp=Z,35nm,0.9s						
COLA	College	19.32	36	P	Pn	12 46 28.4	+0.6
COLA	College	19.32	36	P	P	12 46 26.7	+0.1
	baz=238						
HARP	HAARP	19.32	44	P	P	12 46 27.2	+0.6
	baz=249						
PAX	Paxson	19.40	42	P	Pn	12 46 28.7	-0.2
PAX				pmax	pmax		
	comp=Z,15nm,0.9s						
PAX	Paxson	19.40	42	P	Pn	12 46 28.7	-0.2
PAX	Paxson	19.40	42	P	Pn	12 46 28.6	-0.3
	baz=247,SNR=8.9						
HDA	Harding Lake	19.42	38	P	P	12 46 28.1	+0.4
HDA				IAmb	IAmb	12 46 35.2	
	comp=Z,47nm,0.6s						
HDA	Harding Lake	19.42	38	P	P	12 46 27.8	+0.1
	baz=241,SNR=33						
POKR	Poker Plat Res	19.60	36	P	P	12 46 29.3	-0.3
POKR	Poker Plat Res	19.60	36	P	Pn	12 46 31.5	+0.3
	baz=238						
GLB	Gilahina Butte	19.62	48	P	Pn	12 46 32.0	+0.4
IL31		19.62	37	P	P	12 46 28.7	-1.1
ILAR	Eielson Array	19.62	37	P	P	12 46 29.8	-0.1
	comp=Z,0.7nm,0.3s,baz=222,slow=7.8,SNR=30						
ILAR				S	S	12 50 06.7	-2.2
	comp=Z,0.0nm,0.3s,baz=321,slow=33,SNR=1.0						
ILAR				LR	LR	12 54 46.8	
	comp=Z,853nm,18.1s,baz=242,slow=39						
ILAR	Eielson Array	19.62	37	P	P	12 46 28.9	-1.1
CRQE	Cirque	19.78	50	P	Pn	12 46 32.8	-0.7
	baz=256						
H24K	Noodor Dome	19.82	33	P	P	12 46 32.6	+0.5
H24K				IAmb	IAmb	12 46 40.6	
	comp=Z,82nm,1.0s						
H24K	Noodor Dome	19.82	33	P	P	12 46 31.9	-0.2
	baz=236,SNR=27						
COLD	Coldfoot	19.91	28	IAmb	IAmb	12 46 43.8	
	comp=Z,70nm,0.9s						
COLD	Coldfoot	19.91	28	P	P	12 46 32.9	-0.1
	baz=229,SNR=25						
RIDG	Independent Ri	19.96	41	P	P	12 46 34.1	+0.4
	baz=246,SNR=12						
MCARA	McCarthy VSAT	19.97	48	P	P	12 46 34.1	+0.5
MCARA	McCarthy VSAT	19.97	48	P	P	12 46 34.1	+0.5
	baz=254						
J25K	Salcha River,	20.12	38	P	P	12 46 34.3	-1.1
	baz=243,SNR=72						
MESA	MESA	20.21	52	P	P	12 46 36.7	+0.2
	baz=259						
M26K	Nabesna, AK	20.27	45	P	P	12 46 36.3	-0.7
	baz=252,SNR=7.1						
L26K	Log Cabin Wild	20.32	43	P	P	12 46 38.5	+1.0
L26K	Log Cabin Wild	20.32	43	P	P	12 46 37.8	+0.3
	baz=250						
SCRK	Sand Creek	20.40	40	IAmb	IAmb	12 46 51.8	
	comp=Z,76nm,0.7s						
SCRK	Sand Creek	20.40	40	P	P	12 46 37.2	-1.3
	baz=246,SNR=61						
GRNC	Granite Creek	20.41	50	P	P	12 46 39.0	+0.3
CTG	Chitna Glacier	20.66	50	P	P	12 46 42.4	+1.0
	baz=257						
J26K	Charley River,	20.72	39	P	P	12 46 40.6	-1.3
	baz=245,SNR=44						
M27K	Edge Creek, AK	20.75	46	P	P	12 46 41.9	-0.4
	baz=253,SNR=10						
SEY	Seymchan	20.84	316	P	P	12 46 42.7	-0.3
	comp=Z,13nm,1.1s,baz=105,slow=9.6,SNR=14						
SEY				LR	LR	12 55 18.9	
	comp=Z,2μm,18.2s,baz=106,slow=38						
SEY	Seymchan	20.84	316c	iP	P	12 46 43.9	+0.9
MA2	Magadan	20.85	306	P	P	12 46 43.7	+0.5
	comp=Z,9.6nm,0.8s,baz=96,slow=10,SNR=2.9						
MA2				LR	LR	12 54 45.7	
	comp=Z,911nm,19.2s,baz=106,slow=37						
MA2	Magadan	20.85	306⇓	eP	P	12 46 44.4	+1.2

MA2 pmax pmax
comp=Z,43nm,1.2s
MA2 Magadan 20.85 306 P **P** **12 46 43.3 0.0**
MA2 IAmb IAmb 12 47 11.8
comp=Z,59nm,1.0s
L27K Beaver Creek, 20.99 44 P **P** **12 46 45.1 +0.4**
L27K Beaver Creek, 20.99 44 P **P** **12 46 45.7 +0.9**
baz=251
BCAR Beaver Creek A 21.01 44 P **P** **12 46 44.5 -0.4**
TOLK Toolik Lake Re 21.02 26 P **P** **12 46 45.8 +0.7**
TOLK IAmb IAmb 12 47 05.1
comp=Z,100nm,1.1s
TOLK Toolik Lake Re 21.02 26 P **P** **12 46 44.3 -0.8**
baz=228,SNR=14
PCA Pinnacle 21.03 52 P **P** **12 46 45.2 -0.1**
PCA IAmb IAmb 12 47 08.9
comp=Z,52nm,1.2s
PINM Pinnacle 21.03 52 P **P** **12 46 46.7 +1.4**
baz=261
FYU Fort Yukon 21.12 33 IAmb IAmb 12 47 10.3
comp=Z,73nm,1.1s
K27K Chicken 21.20 41 IAmb IAmb 12 47 15.5
comp=Z,64nm,1.1s
K27K Chicken 21.20 41 P **P** **12 46 47.0 0.0**
baz=249,SNR=27
BVCY Beaver Creek 21.23 46 P **P** **12 46 47.6 +0.3**
baz=254
YUK3 Moose Creek 21.25 48 P **P** **12 46 49.8 +2.0**
baz=256
BCPM Bancas Point 21.32 53 IAmb IAmb 12 47 07.6
comp=Z,24nm,0.5s
BMAR Burnt Mountain 21.79 32 P **P** **12 46 53.3 0.0**
EGAK Eagle 21.84 40 P **P** **12 46 53.0 -0.8**
EGAK IAmb IAmb 12 47 01.9
comp=Z,59nm,0.8s
EGAK Eagle 21.84 40 P **P** **12 46 53.8 0.0**
baz=248,SNR=72
YUK4 Talbot Arm 22.02 49 P **P** **12 46 57.3 +1.3**
baz=259
YUK6 Outpost Mounta 22.09 51 P **P** **12 46 56.7 0.0**
baz=261
DAWY Dawson 22.33 42 P **P** **12 46 58.7 -0.4**
baz=252,SNR=21
HYT Haines Junctio 22.48 51 P **P** **12 47 01.4 +0.5**
baz=262
SKAG Skagway 23.45 55 P **P** **12 47 11.0 +0.4**
baz=267
SIT Sitka 23.48 61 P **P** **12 47 11.0 +0.2**
SIT pmax pmax
comp=Z,17nm,0.9s
SIT Sitka 23.48 61 P **P** **12 47 11.0 +0.2**
SIT Sitka 23.48 61 P **P** **12 47 11.2 +0.4**
baz=273
BESE Bessie Mountai 23.68 57 P **P** **12 47 13.3 +0.4**
WHY Whitehorse 23.75 52 P **P** **12 47 14.1 +0.5**
baz=265
JIS Juneau Island 23.93 58 P **P** **12 47 14.2 -0.9**
EPYK Eagle Plains 24.13 38 P **P** **12 47 15.7 -1.3**
EPYK Eagle Plains 24.13 38 P **P** **12 47 16.2 -0.7**
baz=250,SNR=9.5
FARO Faro, Yukon 24.64 48 P **P** **12 47 22.0 +0.4**
baz=263
CRAG Craig 24.86 64 IAmb IAmb 12 47 40.5
comp=Z,163nm,2.0s
CRAG Craig 24.86 64 P **P** **12 47 25.7 +2.1**
baz=278
WRAK Wrangell Islan 25.17 62 IAmb IAmb 12 47 41.9
comp=Z,31nm,0.8s
WRAK Wrangell Islan 25.17 62 P **P** **12 47 28.4 +2.1**
baz=276,SNR=14
MMPY Sheldon Lake, 25.64 47 P **P** **12 47 31.7 +1.0**
baz=264
INK Inuvik 25.94 34 P **P** **12 47 32.7 -0.6**
comp=Z,6.3nm,0.9s,baz=223,slow=9.1,SNR=10
INK Inuvik 25.94 34 P **P** **12 47 32.3 -0.9**
INK Inuvik 25.94 34 P **P** **12 47 33.1 -0.2**
baz=250,SNR=6.6
DLBC Dease Lake 26.22 57 P **P** **12 47 36.5 +0.6**
comp=Z,10nm,1.0s,baz=286,slow=8.7,SNR=13
DLBC LR LR 12 59 22.7
comp=Z,747nm,18.3s,baz=285,slow=40
DLBC Dease Lake 26.22 57 P **P** **12 47 37.6 +1.6**
TYV Tymovskoe 26.37 285 *e*P **P** **12 47 41.5 +4.2**
TYV pmax pmax
comp=Z,22nm,1.1s
TYV pmax pmax
comp=Z,200nm,4.0s
RUBB Prince Rupert 26.70 66 P **P** **12 47 40.5 +0.3**
RUBB IAmb IAmb 12 47 57.8
comp=Z,26nm,1.1s
YSS Yuzh-Sakhalins 27.76 277 *e*P **P** **12 47 52.1 +2.3**
YSS *e*S **S** **12 52 30.8 +1.3**
YSS *e*SS SS 12 54 08.1 -19
YSS pmax pmax
comp=Z,30nm,0.9s
YSS Yuzh-Sakhalins 27.76 277 P **P** **12 47 49.8 0.0**
YSS IAmb IAmb 12 48 09.1
comp=Z,46nm,1.2s
BBB Bella Bella 28.49 70 P **P** **12 47 59.2 +2.9**
comp=Z,6.3nm,1.0s,baz=261,slow=23,SNR=2.0
BBB LR LR 12 57 40.3
comp=Z,407nm,19.5s,baz=292,slow=33
JKA Kamikawa-asahi 29.17 272 P **P** **12 48 05.4 +3.0**
JKA IAmb IAmb 12 48 06.9
comp=Z,62nm,1.2s
ASAJ Asahikawa 29.17 272 P **P** **12 48 03.5 +1.0**
comp=Z,31nm,1.0s,baz=58,slow=5.0,SNR=6.9
ASAJ LR LR 13 02 57.2
comp=Z,268nm,18.0s,baz=35,slow=43
ASAJ Asahikawa 29.17 272 P **P** **12 48 05.4 +3.0**
ASAJ pmax pmax
comp=Z,62nm,1.2s
A36M Sachs Harbour 29.78 28 P **P** **12 48 08.3 +0.8**
A36M IAmb IAmb 12 48 28.2
comp=Z,32nm,1.1s
YAK Yakutsk 31.18 311 LR LR 13 01 08.7
comp=Z,1µm,20.0s,baz=96,slow=37
YAK Yakutsk 31.18 311 *de*P **P** **12 48 20.1 +0.1**
YAK pmax pmax
comp=Z,9.0nm,0.7s
TIXI Tiksi 31.75 330 P **P** **12 48 24.3 -0.6**
comp=Z,0.8nm,0.3s,baz=137,slow=21,SNR=1.7
TIXI PcP **PcP** **12 51 15.2 0.0**
comp=Z,9.7nm,0.9s,baz=55,slow=3.2,SNR=6.3
TIXI LR LR 13 02 18.8
comp=Z,396nm,18.1s,baz=104,slow=38
TIXI Tiksi 31.75 330 P **P** **12 48 23.7 -1.1**
TIXI IAmb IAmb 12 48 52.8
comp=Z,26nm,1.8s
TIXI **PcP** **12 51 15.5 +0.3**
YKA Yellowknife Ar 33.34 47 P **P** **12 48 39.5 +0.6**
comp=Z,2.0nm,1.0s,baz=280,slow=8.5,SNR=4.7
YKA LR LR 13 04 00.6
comp=Z,883nm,18.4s,baz=0.0,slow=40
YKA Yellowknife Ar 33.34 47 *i*P **P** **12 48 40.2 +1.3**
KLR Kul'dur 33.51 288 P **P** **12 48 39.9 -0.7**
comp=Z,16nm,1.0s,baz=53,slow=8.5,SNR=32
KLR Kul'dur 33.51 288 *c i*P **P** **12 48 39.8 -0.7**
KLR pmax pmax
comp=Z,21nm,1.0s
B05A Bryant 33.53 74 P **P** **12 48 42.0 +1.3**
baz=295,SNR=8.0
JMM Marumori 33.82 264 IAmb IAmb 12 48 45.8
comp=Z,41nm,1.1s
E04D Cinebar 34.02 77 P **P** **12 48 47.1 +2.1**
baz=298
ZEA Zeya 34.38 297 *e*P **P** **12 48 48.8 +0.8**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ZEA MLR MLR
comp=E,300nm,15.0s
H11N2 WAKE ISLAND Hy 34.81 211 T T 13 25 45.6
baz=18,slow=76,SNR=200
H11N3 WAKE ISLAND Hy 34.82 211 T T 13 25 46.3
baz=18,slow=76,SNR=201
H11N1 WAKE ISLAND Hy 34.83 211 T T 13 25 47.0
baz=18,slow=76,SNR=191
LTY Liberty 34.85 75 IAmb IAmb 12 49 09.6
comp=Z,36nm,2.0s
B08A Colville Reser 35.15 73 IAmb IAmb 12 49 00.0
comp=Z,14nm,0.8s
H04A Detroit Lake 35.17 80 P **P** **12 48 58.7 +3.7**
H04A IAmb IAmb 12 49 25.7
comp=Z,21nm,1.1s
JYT Yasato 35.22 262 P **P** **12 48 54.0 -1.5**
G05D Wamic, OR 35.42 79 P **P** **12 48 57.9 +0.7**
baz=300

I04A Tendick Farm, 35.48 81 P **P** **12 48 59.0 +1.3**
baz=301
USA0B Ussuriysk Arra 35.72 280 *c i*P **P** **12 48 58.8 -0.8**
USA0B Ussuriysk Arra 35.72 280 P **P** **12 48 59.0 -0.6**
USA0B IAmb IAmb 12 49 00.3
comp=Z,19nm,1.1s
USRK Ussuriysk Ar. 35.72 280 P **P** **12 48 59.1 -0.6**
comp=Z,10nm,0.8s,baz=55,slow=7.9,SNR=18
USRK LR LR 13 04 35.5
comp=Z,405nm,19.9s,baz=48,slow=38
USRK Ussuriysk Ar. 35.72 280 P **P** **12 48 58.0 -1.7**
I05D Terrebonne, OR 35.86 80 P **P** **12 49 02.2 +1.2**
baz=301
HAWA Hanford 35.94 76 P **P** **12 49 02.7 +1.1**
HAWA IAmb IAmb 12 49 32.0
comp=Z,12nm,0.7s
D08A Wollman Farm, 35.99 75 P **P** **12 49 04.0 +2.0**
H11S1 WAKE ISLAND Hy 36.02 211 T T 13 27 48.9
baz=19
H11S2 WAKE ISLAND Hy 36.03 211 T T 13 27 32.1
baz=19,slow=74
C09A Chrisman Ranch 36.03 73 P **P** **12 49 04.3 +1.9**
C09A IAmb IAmb 12 49 23.8
comp=Z,10nm,0.8s
H11S3 WAKE ISLAND Hy 36.03 211 T T 13 27 37.9
baz=19,slow=74
MJAR Matsushiro Arr 36.25 264 P **P** **12 49 03.6 -0.7**
comp=Z,10nm,1.0s,baz=43,slow=7.7,SNR=17
MJAR LR LR 13 02 08.0
comp=Z,416nm,21.8s,baz=60,slow=33
MJAR Matsushiro Arr 36.25 264 P **P** **12 49 03.6 -0.7**
MAJO Matsushiro 36.25 264 *c i*P **P** **12 49 04.3 0.0**
MAJO pmax pmax
comp=Z,33nm,1.0s
MAJO Matsushiro 36.25 264 P **P** **12 49 04.3 0.0**
MAJO IAmb IAmb 12 49 05.7
comp=Z,33nm,1.1s
MAT Matsushiro 36.25 264 P **P** **12 49 04.3 0.0**
VLA Vladivostok 36.35 278 *ce*P **P** **12 49 05.8 +0.8**
VLA pmax pmax
comp=Z,130nm,1.4s
YBH Yreka Blue Hor 36.41 85 P **P** **12 49 09.5 +3.8**
comp=Z,1.7nm,0.8s,baz=150,slow=18,SNR=3.9
YBH LR LR 13 00 58.1
comp=Z,255nm,20.1s,baz=316,slow=31
J05D Fort Rock, OR 36.48 81 P **P** **12 49 07.2 +0.9**
baz=302
NEW Newport 36.51 72 P **P** **12 49 07.0 +0.6**
comp=Z,13nm,0.8s,baz=296,slow=6.5,SNR=23
NEW Newport 36.51 72 P **P** **12 49 08.4 +2.0**
NEW pmax pmax
comp=Z,16nm,0.9s
NEW Newport 36.51 72 P **P** **12 49 08.4 +2.0**
NEW IAmb IAmb 12 49 11.7
comp=Z,16nm,0.9s
NEW Newport 36.51 72 P **P** **12 49 07.2 +0.8**
baz=297,SNR=12
G08A Pilot Rock 36.84 77 P **P** **12 49 09.9 +0.6**
M04C Macdoel 36.92 84 P **P** **12 49 11.6 +1.4**
baz=304
MDJ Mudanjiang 36.98 282 P **P** **12 49 09.4 -1.0**
MDJ pmax pmax
comp=Z,32nm,1.2s
MDJ pmax pmax
comp=Z,71nm,3.6s
MDJ Mudanjiang 36.98 282 P **P** **12 49 08.9 -1.5**
MDJ IAmb IAmb 12 49 11.0
comp=Z,29nm,1.0s
MSHR Mys Shultsa 37.09 278 *ce*P **P** **12 49 11.5 +0.1**
MSHR pmax pmax
comp=Z,70nm,1.2s
I07A Izee 37.12 79 P **P** **12 49 12.3 +0.5**
O02D Mt. Diablo Mer 37.24 87 P **P** **12 49 14.0 +1.1**
baz=305
JGF Kuroka 37.38 264 IAmb IAmb 12 49 19.2
comp=Z,23nm,1.0s
O03E Paynes Creek 37.79 86 P **P** **12 49 19.2 +1.8**
baz=305
WALA Waterton Lakes 38.03 69 IAmb IAmb 12 49 29.8
comp=Z,26nm,1.4s
WVOR Wild Horse Val 38.55 81 P **P** **12 49 26.2 +2.4**
WVOR pmax pmax
comp=Z,9.0nm,0.8s
WVOR Wild Horse Val 38.55 81 P **P** **12 49 26.2 +2.4**
JWT Wachi 38.81 265 P **P** **12 49 25.9 0.0**
JWT IAmb IAmb 12 49 27.3
comp=Z,26nm,1.0s
MSO Missoula 39.09 72 P **P** **12 49 29.4 +1.1**
baz=300,SNR=11
BOD Bodaibo 39.86 308 *e*P **P** **12 49 32.1 -2.3**
BOD pmax pmax
comp=Z,11nm,1.9s
CN2 Changchun 39.94 283 *e*P **P** **12 49 34.5 -0.7**
CN2 pmax pmax
comp=Z,30nm,0.6s
CN2 LR LR
comp=Z,800nm,19.0s
CN2 LR LR
comp=Z,700nm,19.0s
CN2 LR LR
comp=Z,900nm,20.0s
HIA Hailar 40.51 294 ⇑ *i*P **P** **12 49 41.7 +1.7**
HIA pmax pmax
comp=Z,10.0nm,0.7s
HLID Hailey 40.51 77 P **P** **12 49 40.5 +0.3**
HLID Hailey 40.51 77 P **P** **12 49 41.0 +0.7**
baz=303,SNR=9.1
BMN Battle Mountai 40.56 83 P **P** **12 49 40.6 0.0**
BMN pmax pmax
comp=Z,5.0nm,0.8s
BMN Battle Mountai 40.56 83 P **P** **12 49 40.6 0.0**
DLMT Dillon 40.64 73 P **P** **12 49 41.9 +0.6**
BCYI Bear Canyon 40.72 75 P **P** **12 49 42.5 +0.5**
EGMT Eagleton 40.95 68 P **P** **12 49 44.0 +0.4**
baz=300
NVAR Mina Array Bea 41.08 86 P **P** **12 49 44.7 -0.3**
comp=Z,0.3nm,0.7s,baz=300,slow=37,SNR=3.3
NVAR LR LR 13 04 31.8
comp=Z,228nm,18.2s,baz=301,slow=33
BOZ Bozeman (W) 41.10 72 P **P** **12 49 45.2 +0.2**
baz=302,SNR=16
ELK Elko 41.60 81 P **P** **12 49 48.8 -0.5**
ELK pmax pmax
comp=Z,6.0nm,0.8s
ELK Elko 41.60 81 P **P** **12 49 48.8 -0.5**
YHB Horse Butte 41.81 73 P **P** **12 49 51.2 +0.3**
YHH Holmes Hill 41.99 73 IAmb IAmb 12 50 14.1
comp=Z,23nm,1.2s
FFC Flin Flon 42.04 56 P **P** **12 49 52.3 -0.1**
FFC pmax pmax
comp=Z,57nm,1.9s
FFC Flin Flon 42.04 56 P **P** **12 49 52.3 -0.1**
FFC IAmb IAmb 12 49 54.0
comp=Z,57nm,1.9s
KSRS Korea Array 42.10 274 P **P** **12 49 53.7 +0.6**
comp=Z,16nm,0.9s,baz=56,slow=7.5,SNR=61
KSRS LR LR 13 07 03.6
comp=Z,158nm,20.8s,baz=60,slow=36
KS19 Wonju Array Si 42.11 274 P **P** **12 49 51.9 -1.3**
KS19 IAmb IAmb 12 50 00.3
comp=Z,24nm,1.0s
KSAR Wonju Array Be 42.13 274 P **P** **12 49 52.5 -0.9**
KSAR Wonju Array Be 42.13 274 P **P** **12 49 52.5 -0.9**
GCMT Greycliff 42.16 71 P **P** **12 49 53.9 +0.2**
SNY Shenyang 42.18 282 ⇑ P **P** **12 49 54.1 +0.4**
SNY pmax pmax
comp=Z,100nm,1.4s
SNY LR LR
comp=Z,360nm,19.9s
SNY LR LR
comp=Z,230nm,18.7s
SNY LR LR
comp=Z,500nm,19.9s
H17A Grant Village 42.37 73 P **P** **12 49 56.1 +0.6**
baz=303,SNR=9.4
YNE Yellowstone No 42.38 72 IAmb IAmb 12 50 14.2
comp=Z,29nm,1.6s
RLMT Red Lodge 42.76 72 IAmb IAmb 12 50 15.2
comp=Z,37nm,1.1s
RLMT Red Lodge 42.76 72 P **P** **12 49 59.6 +1.0**
baz=303,SNR=11
INCN Inchon 42.89 275 P **P** **12 49 58.7 -0.8**
INCN pmax pmax
comp=Z,61nm,1.2s
INCN Inchon 42.89 275 P **P** **12 49 58.7 -0.8**
INCN IAmb IAmb 12 50 02.9

comp=Z,61nm,1.2s
JNU Nakatsue 43.05 266 P **P** **12 50 01.6 +0.8**
comp=Z,28nm,1.0s,baz=39,slow=9.0,SNR=12
JNU Nakatsue 43.05 266 P **P** **12 50 00.7 -0.2**
JNU IAmb IAmb 12 50 02.9
comp=Z,35nm,1.0s
TJN Taejon 43.12 273 *d i*P **P** **12 50 03.9 +2.5**
TPNV Topopah Spring 43.27 86 P **P** **12 50 04.6 +1.8**
baz=309
DUG Dugway, Tooele 43.42 80 P **P** **12 50 05.5 +1.6**
baz=306
PRN Pahroc Range 43.73 85 P **P** **12 50 06.8 +0.3**
PRN IAmb IAmb 12 50 30.1
comp=Z,14nm,0.8s
PSUT Pine Spring 43.78 82 P **P** **12 50 06.3 -0.6**
BW06 Boulder Array 43.90 75 IAmb IAmb 12 50 38.0
comp=Z,17nm,0.9s
BW06 Boulder Array 43.90 75 P **P** **12 50 07.8 -0.1**
baz=305,SNR=12
PD31 Pinedale Array 43.90 75 P **P** **12 50 06.9 -1.0**
PDAR Pinedale Array 43.90 75 P **P** **12 50 07.8 -0.1**
comp=Z,7.3nm,0.9s,baz=307,slow=3.8,SNR=21
PDAR LR LR 13 08 42.1
comp=Z,264nm,18.1s,baz=312,slow=36
PDAR Pinedale Array 43.90 75 P **P** **12 50 07.5 -0.5**
GSC Goldstone, Bar 43.97 88 P **P** **12 50 10.6 +2.2**
baz=310
JSU Suzuyama 44.40 265 IAmb IAmb 12 50 13.0
comp=Z,31nm,1.0s
TMUT Trail Mountain 44.95 80 IAmb IAmb 12 50 40.6
comp=Z,19nm,1.1s
GMRC Granite Mounta 45.02 88 P **P** **12 50 18.5 +1.7**
baz=310
DL2 Dalian 45.11 280 P **P** **12 50 17.3 0.0**
DL2 S **S** **12 56 55.2 +1.6**
DL2 pmax pmax
comp=Z,45nm,1.0s
DL2 LR LR
comp=Z,310nm,16.9s
DL2 LR LR
comp=Z,240nm,20.3s
DL2 LR LR
comp=Z,410nm,17.4s
RDMU Red Mountain 45.18 77 IAmb IAmb 12 50 41.3
comp=Z,19nm,1.0s
PFO Pinyon Flats O 45.29 90 P **P** **12 50 18.1 -0.9**
comp=Z,1.7nm,0.7s,baz=190,slow=22,SNR=1.4
NRIK Noril'sk 45.53 330 P **P** **12 50 18.6 -1.6**
comp=Z,1.9nm,0.4s,baz=61,slow=7.6,SNR=1.6
NRIK LR LR 13 13 47.2
comp=Z,363nm,18.6s,baz=68,slow=42
NRIK Noril'sk 45.53 330 *ce*P **P** **12 50 20.3 +0.1**
NRIK pmax pmax
comp=Z,10.0nm,1.2s
K22A Casper 45.79 73 IAmb IAmb 12 50 43.4
comp=Z,19nm,1.1s
K22A Casper 45.79 73 P **P** **12 50 24.8 +1.9**
baz=306
RWWY Rawlins 45.95 75 P **P** **12 50 24.5 +0.3**
RWWY IAmb IAmb 12 50 46.7
comp=Z,9.8nm,0.8s
O20A White River Ci 46.26 77 P **P** **12 50 25.4 -1.1**
O20A IAmb IAmb 12 51 04.3
comp=Z,25nm,1.1s
O20A White River Ci 46.26 77 P **P** **12 50 27.3 +0.7**
baz=307
RSSD Black Hills 46.41 70 P **P** **12 50 28.8 +1.1**
RSSD pmax pmax
comp=Z,17nm,1.3s
RSSD Black Hills 46.41 70 P **P** **12 50 28.8 +1.1**
RSSD IAmb IAmb 12 50 46.3
comp=Z,17nm,1.3s
RSSD Black Hills 46.41 70 P **P** **12 50 29.0 +1.3**
baz=305
NEEM North Greenlan 46.70 14 *i*P **P** **12 50 29.6 -0.1**
NEEM IAmb IAmb 12 50 29.9
comp=Z,17nm,0.9s
MDND Maddock 46.83 63 P **P** **12 50 31.6 +0.8**
baz=304
PV22 Blue Mesa, Par 46.91 79 IAmb IAmb 12 51 10.0
comp=Z,12nm,0.9s
E28A Huff 46.93 65 P **P** **12 50 33.4 +1.8**
E28A IAmb IAmb 12 50 40.5
comp=Z,30nm,1.1s
PV11 David Mesa, Pa 47.00 79 P **P** **12 50 33.6 +1.2**
PV11 IAmb IAmb 12 50 54.6
comp=Z,19nm,0.6s
PV18 Skein Mesa, Pa 47.01 79 IAmb IAmb 12 50 55.1
comp=Z,18nm,1.3s
PV03 Paradox Valley 47.04 79 IAmb IAmb 12 50 55.4
comp=Z,11nm,0.9s
PV13 Radium Mtn., P 47.12 79 IAmb IAmb 12 50 56.0
comp=Z,20nm,0.8s
PV02 Paradox Valley 47.14 79 IAmb IAmb 12 50 49.2
comp=Z,14nm,0.9s
N23A Red Feather La 47.19 75 P **P** **12 50 35.6 +1.6**
baz=307
WUAZ Wupatki 47.22 84 P **P** **12 50 35.2 +1.0**
baz=310
PV01 Paradox Valley 47.29 79 IAmb IAmb 12 50 57.3
comp=Z,13nm,0.8s
ULM Lac du Bonnet 47.52 59 P **P** **12 50 35.8 -0.2**
comp=Z,11nm,1.1s,baz=304,slow=8.2,SNR=5.5
ULM LR LR 13 11 25.7
comp=Z,408nm,19.0s,baz=308,slow=37
ULM Lac du Bonnet 47.52 59 P **P** **12 50 35.9 -0.2**
ULM pmax pmax
comp=Z,27nm,1.3s
ULM Lac du Bonnet 47.52 59 P **P** **12 50 35.9 -0.2**
ULM IAmb IAmb 12 50 51.4
comp=Z,27nm,1.3s
BJI Beijing 47.75 285 P **P** **12 50 38.4 +0.5**
BJI pP **pP** **12 50 45.8 -2.3**
BJI sP **sP** **12 50 50.9 -1.5**
BJI pmax pmax
comp=Z,36nm,1.0s
BJI LR LR
comp=Z,670nm,19.0s
BJI LR LR
comp=Z,260nm,20.4s
BJI LR LR
comp=Z,910nm,18.7s
BJT Baijiatuau 47.77 284 P **P** **12 50 38.4 +0.3**
BJT pmax pmax
comp=Z,33nm,1.1s
BJT Baijiatuau 47.77 284 P **P** **12 50 38.4 +0.3**
MVCO Mesa Verde 47.91 80 P **P** **12 50 39.9 +0.3**
baz=309
ISCO Idaho Springs 48.05 76 P **P** **12 50 43.9 +3.2**
ISCO pmax pmax
comp=Z,4.0nm,1.8s
ISCO Idaho Springs 48.05 76 P **P** **12 50 41.9 +1.2**
baz=308
ULN Ulaanbaatar 48.40 298 *ce*P **P** **12 50 42.6 -0.5**
ULN pmax pmax
comp=Z,12nm,1.0s
ULN Ulaanbaatar 48.40 298 P **P** **12 50 42.8 -0.3**
ULN IAmb IAmb 12 50 43.8
comp=Z,13nm,1.1s
ULN Ulaanbaatar 48.40 298 P **P** **12 50 42.6 -0.5**
comp=Z,44nm,1.1s
S22A 4UR Ranch, Cre 48.60 79 P **P** **12 50 46.5 +1.5**
baz=309
AGMN Agassiz Nation 48.63 61 P **P** **12 50 44.8 +0.1**
AGMN IAmb IAmb 12 51 00.6
comp=Z,25nm,1.2s
AGMN Agassiz Nation 48.63 61 P **P** **12 50 44.4 -0.3**
baz=305
SONM Songino Array 48.77 299 P **P** **12 50 45.3 -0.7**
comp=Z,8.7nm,1.0s,baz=56,slow=8.7,SNR=33
SONM PcP **PcP** **12 52 11.3 +1.0**
comp=Z,4.2nm,0.9s,baz=76,slow=2.2,SNR=8.1
SONM ScP **ScP** **12 56 03.5 +1.8**
comp=Z,1.4nm,1.0s,baz=48,slow=2.1,SNR=4.4
SONM LR LR 13 12 52.8
comp=Z,646nm,19.6s,baz=58,slow=38
SONM Songino Array 48.77 299 P **P** **12 50 45.6 -0.4**
SONM IAmb IAmb 12 50 47.0
comp=Z,9.5nm,1.0s
SONM **PcP** **12 52 07.8 -2.5**
ZAK Zakamensk 48.98 303 *e*P **P** **12 50 46.9 -0.6**
ZAK *e* 12 52 10.6
ZAK pmax pmax
comp=Z,30nm,1.3s
ZAK pmax pmax
comp=Z,12nm,1.1s
JOW Kunigami 49.03 262 P **P** **12 50 48.0 -0.1**

JOW IAmb IAmb 12 50 55.0
comp=Z,27nm,1.3s
SUSD Miller 49.17 67 P **P** **12 50 48.4 -0.4**
SDCO Great Sand Dun 49.41 78 P **P** **12 50 51.8 +0.6**
SDCO Great Sand Dun 49.41 78 P **P** **12 50 51.5 +0.4**
baz=309
MOY Mondy 49.42 305 *e*P **P** **12 50 51.3 +0.4**
MOY pmax pmax
comp=Z,24nm,1.2s
TIA Tai'an 49.59 280 P **P** **12 50 51.6 -0.5**
TIA pmax pmax
comp=Z,11nm,0.7s
TIA Tai'an 49.59 280 P **P** **12 50 52.0 -0.1**
TIA pmax pmax
comp=Z,11nm,0.6s
TUC Tucson 49.71 87 P **P** **12 50 55.8 +2.6**
baz=312
B35A Bob, Littlefor 49.76 60 IAmb IAmb 12 50 55.1
comp=Z,21nm,1.3s
SPITS Spitsbergen Ar 50.39 357 P **P** **12 50 57.6 -0.1**
comp=Z,19nm,0.7s,baz=46,slow=7.3,SNR=21
SPB2 Spitsbergen Ar 50.39 357 P **P** **12 50 57.6 -0.1**
T25A Trinidad 50.47 78 P **P** **12 50 59.5 +0.4**
T25A IAmb IAmb 12 51 37.0
comp=Z,15nm,0.9s
T25A Trinidad 50.47 78 P **P** **12 51 00.2 +1.1**
baz=310
ANMO Albuquerque 50.64 81 P **P** **12 51 03.3 +2.9**
comp=Z,1.0nm,0.8s,baz=300,slow=10,SNR=2.2
ANMO Albuquerque 50.64 81 P **P** **12 51 02.6 +2.2**
baz=311
ECSD EROS Data Cent 50.94 66 IAmb IAmb 12 51 10.2
comp=Z,14nm,1.1s
ECSD EROS Data Cent 50.94 66 P **P** **12 51 01.4 -0.9**
baz=308
BTO Baotou 51.08 289 *e*P **P** **12 51 03.9 +0.4**
EYMN Ely 51.20 59 P **P** **12 51 04.8 +0.6**
EYMN IAmb IAmb 12 51 05.7
comp=Z,27nm,1.2s
EYMN Ely 51.20 59 P **P** **12 51 04.4 +0.1**
baz=307,SNR=5.3
NJ2 Nanjing 51.27 275 *e*P **P** **12 51 04.2 -0.7**
NJ2 pmax pmax
comp=Z,12nm,0.8s
121A Cookes Peak, D 51.42 84 P **P** **12 51 05.5 -0.8**
baz=312
TIY Taiyuan 51.48 285 *e*P **P** **12 51 08.3 +1.8**
TIY pmax pmax
comp=Z,43nm,0.8s
TIY pmax pmax
comp=Z,130nm,5.8s
TIY LR LR
comp=Z,150nm,14.7s
TIY LR LR
comp=Z,230nm,13.2s
TIY LR LR
comp=Z,370nm,16.5s
SPMN Marine on St. 52.16 62 P **P** **12 51 11.3 -0.1**
baz=308
SUMG Summit 52.55 15 *i* P **P** **12 51 14.0 -0.3**
SUMG IAmb IAmb 12 51 18.4
comp=Z,12nm,1.1s
SUMG Summit 52.55 15 *i* P **P** **12 51 14.0 -0.3**
SUMG pmax pmax
comp=Z,12nm,1.1s
SUMG Summit 52.55 15 P **P** **12 51 14.4 +0.1**
SUMG IAmb IAmb 12 52 13.0
comp=Z,20nm,1.4s
I37A Lemond, Waseca 52.58 64 P **P** **12 51 15.1 +0.6**
I37A IAmb IAmb 12 51 32.5
comp=Z,25nm,0.9s
D41A Chassel 53.31 58 IAmb IAmb 12 51 21.9
comp=Z,34nm,1.2s
MSTX Muleshoe 53.56 79 P **P** **12 51 23.1 +1.1**
baz=312
G40A Rib Lake 53.56 61 IAmb IAmb 12 51 39.2
comp=Z,16nm,1.2s
SFJD Kangerlussuaq 54.57 24 P **P** **12 51 28.1 -0.6**
comp=Z,8.7nm,0.7s,baz=338,slow=16,SNR=2.8
E43A Lone Tree Farm 54.58 58 IAmb IAmb 12 51 30.2
comp=Z,23nm,0.9s
JFWS Jewell Farm 55.05 63 P **P** **12 51 32.4 -0.2**
JFWS pmax pmax
comp=Z,12nm,0.7s
JFWS Jewell Farm 55.05 63 P **P** **12 51 32.4 -0.2**
JFWS IAmb IAmb 12 51 51.5
comp=Z,12nm,0.7s
L40A Anamosa 55.06 65 IAmb IAmb 12 52 04.3
comp=Z,10.0nm,0.9s
P38A Dawn 55.34 68 IAmb IAmb 12 51 52.4
comp=Z,23nm,1.0s
H43A Windswept, Lux 55.40 60 IAmb IAmb 12 51 52.5
comp=Z,19nm,0.8s
WMOK Wichita Mounta 55.48 76 P **P** **12 51 37.3 +1.5**
baz=312
ZAA0 Zalesovo Array 55.70 315 **PcP** **12 52 36.9 +0.9**
ZALV Zalesovo Beam 55.70 315 P **P** **12 51 36.5 -0.6**
comp=Z,0.6nm,0.3s,baz=76,slow=6.3,SNR=4.7
ZALV PcP **PcP** **12 52 36.8 +0.8**
comp=Z,3.5nm,0.7s,baz=25,slow=4.9,SNR=9.4
ZALV LR LR 13 17 20.0
comp=Z,580nm,18.8s,baz=52,slow=38
ZALV Zalesovo Beam 55.70 315 *i* P **P** **12 51 39.2 +2.1**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 55.70 315 P **P** **12 51 37.6 +0.5**
ZALV **PcP** **12 52 35.8 -0.2**
SSLB Suanglung 55.78 266 P **P** **12 51 37.4 -0.7**
YULB Yu-li 55.86 265 P **P** **12 51 37.5 -1.2**
YULB IAmb IAmb 12 51 47.7
comp=Z,13nm,0.8s
XAN Xi'an 56.05 284 P **P** **12 51 39.8 -0.1**
XAN sP pP 12 51 51.6 +1.3
XAN pmax pmax
comp=Z,43nm,1.3s
TX31 Lajitas Ar. Si 56.19 84 P **P** **12 51 41.9 +0.8**
TX31 IAmb IAmb 12 52 10.7
comp=Z,22nm,1.0s
TX32 Lajitas Array 56.19 84 P **P** **12 51 42.4 +1.4**
TXAR Lajitas Array 56.19 84 P **P** **12 51 40.8 -0.3**
comp=Z,0.6nm,0.9s,baz=294,slow=4.7,SNR=14
TXAR LR LR 13 13 46.3
comp=Z,161nm,20.0s,baz=0.0,slow=34
TPUB Ta-pu 56.34 266 P **P** **12 51 41.2 -0.9**
TPUB IAmb IAmb 12 51 44.7
comp=Z,24nm,1.1s
ABTX Abilene, Hawle 56.39 78 P **P** **12 51 43.2 +0.9**
ABTX IAmb IAmb 12 52 12.6
comp=Z,14nm,0.9s
R40A Maddies Statio 56.96 69 IAmb IAmb 12 52 09.0
comp=Z,7.1nm,0.7s
DGZ Jazzator, Alta 57.37 310 *c i* P **P** **12 51 49.3 +0.1**
DGZ pmax pmax
comp=Z,21nm,1.2s
P43A Skaggs, Pawnee 57.63 66 IAmb IAmb 12 51 54.8
comp=Z,15nm,0.7s
LZH Lanzhou 57.70 289 *e*P **P** **12 51 52.5 +0.8**
LZH pP sP 12 52 05.8 -0.5
LZH sP pwP 12 52 10.8 +3.3
LZH pmax pmax
comp=Z,37nm,1.2s
LZH pmax pmax
comp=Z,110nm,4.3s
LZH LR LR
comp=Z,460nm,19.0s
LZH LR LR
comp=Z,520nm,18.3s
LZH LR LR
comp=Z,520nm,19.0s
CCM Cathedral Cave 57.71 68 P **P** **12 51 51.1 -0.5**
CCM pmax pmax
comp=Z,15nm,1.1s
CCM Cathedral Cave 57.71 68 P **P** **12 51 51.1 -0.5**
CCM IAmb IAmb 12 52 08.9
comp=Z,15nm,1.1s
CCM Cathedral Cave 57.71 68 P **P** **12 51 51.0 -0.5**
baz=313
MGMO Mountain Grove 57.73 70 P **P** **12 51 52.6 +0.8**
MGMO IAmb IAmb 12 52 09.2
comp=Z,21nm,1.2s
GTA Gaotai 57.79 294 ⇑P **P** **12 51 52.0 -0.3**
GTA pmax pmax
comp=Z,9.0nm,1.1s
GTA pmax pmax
comp=Z,210nm,6.4s
GTA LR LR
comp=Z,370nm,17.9s
GTA LR LR
comp=Z,520nm,19.5s
GTA LR LR
comp=Z,610nm,20.7s
U40A Yellville 57.93 71 IAmb IAmb 12 52 11.7
comp=Z,17nm,1.1s
U40A Yellville 57.93 71 P **P** **12 51 54.5 +1.3**
baz=313
W39A Magazine 58.17 72 P **P** **12 51 54.9 +0.1**
baz=313
ENH Enshi 58.30 280 IAmb IAmb 12 51 58.9
comp=Z,11nm,0.7s
SCHQ Schefferville 58.34 40 LR LR 13 19 00.1
comp=Z,550nm,18.2s,baz=310,slow=38
ARCES ARCESS Array B 58.35 352 P **P** **12 51 54.8 -0.7**
comp=Z,9.4nm,0.7s,baz=15,slow=7.3,SNR=16
ARCES PcP **PcP** **12 52 46.3 +0.2**
comp=Z,7.8nm,0.7s,baz=18,slow=5.4,SNR=7.1
ARCES LR LR 13 19 43.9
comp=Z,173nm,18.1s,baz=355,slow=39
ARCES ARCESS Array B 58.35 352 P **P** **12 51 54.7 -0.9**
SFIN Lafayette 58.50 64 P **P** **12 51 56.8 -0.2**
baz=313
FCAR Ozark Folk Cen 58.67 71 P **P** **12 51 58.8 +0.5**
MIAR Mount Ida 58.74 73 P **P** **12 51 59.6 +0.8**
MIAR pmax pmax
comp=Z,21nm,0.9s
MIAR Mount Ida 58.74 73 P **P** **12 51 59.6 +0.8**
MIAR Mount Ida 58.74 73 P **P** **12 51 59.8 +1.0**
baz=314
LVZ Lovozero 58.88 347 ⇓ *e*P **P** **12 51 58.7 -0.6**
LVZ pmax pmax
comp=Z,49nm,1.0s
OLIL Olney 59.06 66 P **P** **12 52 00.6 -0.3**
PBMO Poplar Bluff 59.06 69 P **P** **12 52 00.6 -0.4**
PBMO IAmb IAmb 12 52 18.6
comp=Z,24nm,1.2s
W41B Garry Mavity, V 59.09 71 P **P** **12 52 00.4 -0.8**
baz=314
LCAR Lake Charles 59.12 70 P **P** **12 52 00.6 -0.8**
LCAR IAmb IAmb 12 52 17.5
comp=Z,36nm,1.8s
X40A Basin Creek Fa 59.22 72 P **P** **12 52 02.0 -0.1**
baz=314
SADO Sadowa 59.76 55 P **P** **12 52 04.9 -0.8**
SADO IAmb IAmb 12 52 06.8
comp=Z,17nm,1.0s
ZSN Zaisan 60.16 310 *e*P **P** **12 52 06.7 -1.8**
baz=310
ZSN Zaisan 60.16 310 *e*P **P** **12 52 06.6 -1.8**
WCI Wyandotte Cave 60.43 65 P **P** **12 52 10.5 +0.1**
WCI pmax pmax
comp=Z,22nm,0.9s
WCI Wyandotte Cave 60.43 65 P **P** **12 52 10.5 +0.1**
WVT Waverly 61.01 68 P **P** **12 52 14.8 +0.4**
WVT pmax pmax
comp=Z,9.0nm,1.1s
WVT Waverly 61.01 68 P **P** **12 52 14.8 +0.4**
WVT IAmb IAmb 12 52 31.0
comp=Z,8.5nm,1.1s
WVT Waverly 61.01 68 P **P** **12 52 13.7 -0.7**
baz=314
ERPA Erie 61.17 58 P **P** **12 52 15.3 0.0**
ERPA Erie 61.17 58 P **P** **12 52 14.9 -0.5**
baz=315
M53A WI Miller and 61.28 59 P **P** **12 52 16.4 +0.2**
baz=315
WMQ Urumqi 61.31 305 *e*P **P** **12 52 17.1 +0.7**
WMQ pP sP 12 52 29.9 -1.8
WMQ pmax pmax
comp=Z,42nm,0.7s
WMQ pmax pmax
comp=Z,240nm,5.5s
WMQ LR LR
comp=Z,670nm,17.5s
WMQ LR LR
comp=Z,530nm,17.1s
WMQ LR LR
comp=Z,270nm,19.5s
CD2 Chengdu 61.35 284 P **P** **12 52 17.2 +0.4**
CD2 pmax pmax
comp=Z,30nm,0.6s
PLAL Pickwick Lake 61.68 69 P **P** **12 52 19.7 +0.8**
PLAL IAmb IAmb 12 52 40.2
comp=Z,13nm,0.8s
M54A Oil Creek Stat 61.77 58 P **P** **12 52 18.5 -0.9**
baz=315
O53A New Philadelph 61.83 60 P **P** **12 52 19.0 -0.8**
baz=315
MK31 Makanchi Array 61.85 311 *i* P **P** **12 52 19.3 -0.7**
MK31 Makanchi Array 61.85 311 P **P** **12 52 19.2 -0.8**
MK31 IAmb IAmb 12 52 20.4
comp=Z,13nm,1.1s
MKAR Makanchi Array 61.85 311 P **P** **12 52 19.5 -0.4**
comp=Z,11nm,0.8s,baz=50,slow=5.7,SNR=67
MKAR LR LR 13 21 43.7
comp=Z,334nm,18.1s,baz=33,slow=38
MKAR Makanchi Array 61.85 311 P **P** **12 52 19.0 -0.9**
V48A Smith Brothers 61.87 67 P **P** **12 52 20.2 0.0**
V48A IAmb IAmb 12 52 41.5
comp=Z,9.3nm,0.9s
CLTN Cedars of Leba 61.90 67 IAmb IAmb 12 52 42.1
comp=Z,23nm,1.1s
U49A Red Boiling Sp 61.92 66 P **P** **12 52 19.9 -0.7**
U49A IAmb IAmb 12 52 42.0
comp=Z,9.5nm,0.9s
J56A Wolcott 61.98 55 P **P** **12 52 21.1 +0.3**
N54A Moraine State 61.98 59 P **P** **12 52 20.3 -0.6**
N54A Moraine State 61.98 59 P **P** **12 52 21.1 +0.2**
baz=315
MAKZ Makanchi 61.99 311 P **P** **12 52 20.1 -0.8**
MAKZ pmax pmax
comp=Z,11nm,1.0s
MAKZ Makanchi 61.99 311 P **P** **12 52 20.1 -0.8**
MAKZ IAmb IAmb 12 52 21.3
comp=Z,11nm,1.0s
LMQ La Malbaie 62.09 48 IAmb IAmb 12 52 21.9
comp=Z,21nm,1.0s
LONY Lake Ozonia 62.16 53 IAmb IAmb 12 52 22.4
comp=Z,17nm,1.1s
LONY Lake Ozonia 62.16 53 P **P** **12 52 21.0 -1.1**
baz=316,SNR=5.2
BVAR Borovoye Array 62.35 322 P **P** **12 52 22.9 -0.3**
comp=Z,7.0nm,0.5s,baz=0.0,slow=1.5,SNR=40
S51A Beattyville 62.36 64 P **P** **12 52 22.3 -1.2**
S51A IAmb IAmb 12 52 45.4
comp=Z,13nm,0.9s
BRVK Borovoye 62.36 322 P **P** **12 52 23.8 +0.6**
BRVK Borovoye 62.36 322 P **P** **12 52 22.8 -0.5**
BRVK IAmb IAmb 12 53 04.0
comp=Z,14nm,0.9s
FRNY Flat Rock 62.50 52 P **P** **12 52 23.1 -1.2**
FRNY IAmb IAmb 12 52 24.5
comp=Z,25nm,1.6s
X48A Hartselle 62.65 68 IAmb IAmb 12 52 47.0
comp=Z,14nm,1.1s
PRGR Permogore 62.68 340 *e*P **P** **12 52 23.2 -2.0**
PRGR *e* 12 53 03.0
PRGR pmax pmax
comp=Z,25nm,1.0s
GYA Guiyang 62.76 279 ⇑P **P** **12 52 26.2 -0.2**
GYA pmax pmax
comp=Z,12nm,1.3s
MOQ Mont Orford 62.80 51 P **P** **12 52 25.8 -0.6**
Q54A Coxs Mills 62.93 61 IAmb IAmb 12 52 47.5
comp=Z,18nm,0.9s
MCWV Mont Chateau 62.99 60 P **P** **12 52 26.6 -1.0**
baz=316
D62A Allapoint, All 63.02 48 P **P** **12 52 27.2 -0.5**
baz=317,SNR=6.9
J59A Piesco 63.04 53 IAmb IAmb 12 52 29.4
comp=Z,29nm,1.4s
W50A Signal Mountai 63.12 67 IAmb IAmb 12 52 50.5
comp=Z,16nm,0.9s
E62A Clayton Lake 63.14 48 P **P** **12 52 28.4 -0.1**
baz=317
TZTN Tazewell 63.16 64 P **P** **12 52 28.2 -0.7**
baz=315
BINY Binghamton 63.20 55 P **P** **12 52 29.9 +0.9**
baz=316,SNR=12
O56A Blue Knob Stat 63.24 58 P **P** **12 52 28.6 -0.7**
baz=316
SSPA Standing Stone 63.33 58 P **P** **12 52 29.8 -0.1**
SSPA Standing Stone 63.33 58 P **P** **12 52 30.3 +0.5**
baz=316
I60A Shoreham 63.37 52 P **P** **12 52 30.1 +0.1**
baz=317
CPCT Cooper Cave 63.39 66 P **P** **12 52 30.5 +0.1**
CPCT IAmb IAmb 12 52 47.4
comp=Z,11nm,1.2s
Y49A Blount Mountai 63.44 68 P **P** **12 52 31.1 +0.4**
Y49A IAmb IAmb 12 52 49.2
comp=Z,17nm,1.4s
F62A Pittston Farm, 63.47 49 P **P** **12 52 30.4 -0.3**
baz=317
ACCN Adirondack Com 63.51 53 IAmb IAmb 12 52 32.1
comp=Z,26nm,1.1s
S54A Dingess, Beckl 63.52 62 IAmb IAmb 12 52 49.3
comp=Z,15nm,0.8s
V52A Sevierville 63.64 65 IAmb IAmb 12 52 52.4
comp=Z,15nm,1.0s
TKL Tuckaleechee C 63.67 65 P **P** **12 52 31.3 -0.9**
TKL pmax pmax
comp=Z,16nm,1.0s
TKL Tuckaleechee C 63.67 65 P **P** **12 52 31.3 -0.9**
TKL IAmb IAmb 12 52 54.2
comp=Z,16nm,0.9s
L59A Walton 63.69 55 P **P** **12 52 32.7 +0.5**
LRAL Lakeview Retre 63.69 69 P **P** **12 52 31.7 -0.6**
baz=316
G62A West of Eustis 63.70 50 P **P** **12 52 31.7 -0.5**
G62A IAmb IAmb 12 52 33.0
comp=Z,23nm,0.9s
G62A West of Eustis 63.70 50 P **P** **12 52 32.2 0.0**
baz=317,SNR=5.8
LBNH Lisbon 63.75 51 P **P** **12 52 32.1 -0.4**
baz=317
ARU Arti 63.75 330 P **P** **12 52 31.9 -0.5**
comp=Z,1.5nm,0.4s,baz=34,slow=9.3,SNR=8.2
ARU Arti 63.75 330 *d i* P **P** **12 52 32.9 +0.5**
ARU 12 53 07.1
ARU S **S** **13 01 03.9 +0.1**
ARU SS **SS** **13 05 08.5 -2.6**
ARU pmax pmax
comp=Z,9.0nm,0.8s
ARU MLR MLR
comp=Z,445nm,19.0s
ARU Arti 63.75 330 P **P** **12 52 31.9 -0.5**
ARU IAmb IAmb 12 52 33.9
comp=Z,9.2nm,0.9s
ARU **PcP** **12 53 07.7 -0.4**
BRZS Berezniki 63.77 318 *e*P **P** **12 52 31.6 -1.1**
baz=318
BRZS Berezniki 63.77 318 *e*P **P** **12 52 31.5 -1.1**
KSPA Keystone Colle 63.77 56 P **P** **12 52 32.8 0.0**
E63A Oxbow 63.80 48 P **P** **12 52 32.3 -0.5**
baz=318,SNR=5.3
N58A Sunbury 63.80 57 P **P** **12 52 34.2 +1.2**
N58A IAmb IAmb 12 52 34.7
comp=Z,27nm,1.1s
X51A Calhoun 63.83 67 IAmb IAmb 12 52 54.6
comp=Z,21nm,1.1s
W52A Murphy 63.99 66 IAmb IAmb 12 52 58.7
comp=Z,12nm,1.0s
F63A Nahmakanta, Br 64.02 49 P **P** **12 52 33.6 -0.8**
baz=318
J61A Chester 64.09 52 P **P** **12 52 34.7 -0.2**
baz=317
P57A Homestead Farm 64.10 59 IAmb IAmb 12 52 54.6
comp=Z,16nm,0.9s
V53A Saluda 64.21 65 P **P** **12 52 36.0 +0.2**
V53A IAmb IAmb 12 52 57.7
comp=Z,13nm,0.9s
K61A Williamstown 64.23 53 P **P** **12 52 35.4 -0.4**
baz=317
N59A State Game Lan 64.24 56 P **P** **12 52 36.9 +1.0**
N59A State Game Lan 64.24 56 P **P** **12 52 36.6 +0.7**
baz=317,SNR=8.7
PAGS Pennsylvania G 64.24 57 IAmb IAmb 12 52 59.0
comp=Z,20nm,1.0s
F64A Sherman 64.25 48 IAmb IAmb 12 52 36.4
comp=Z,21nm,1.1s
F64A Sherman 64.25 48 P **P** **12 52 34.6 -1.2**
baz=318
PKME Peaks-Kenny Pk 64.25 49 P **P** **12 52 35.1 -0.7**
baz=318
I62A Tamworth 64.30 51 P **P** **12 52 35.8 -0.4**
baz=318
BLA Blacksburg 64.43 62 IAmb IAmb 12 52 55.9
comp=Z,17nm,0.8s
BLA Blacksburg 64.43 62 P **P** **12 52 37.1 -0.1**
baz=316
KIRV Kirov 64.49 336 P **P** **12 52 37.7 +0.6**
comp=Z,6.7nm,0.5s,baz=31,slow=20,SNR=5.6
KIRV Kirov 64.49 336 *c i* P **P** **12 52 37.1 0.0**
I63A Otisfield 64.54 51 P **P** **12 52 37.1 -0.7**
baz=318
J62A Henniker 64.55 52 P **P** **12 52 37.6 -0.2**
baz=318
MVL Millersville 64.60 57 P **P** **12 52 37.9 -0.3**
MVL IAmb IAmb 12 52 54.1
comp=Z,11nm,1.0s
BG3 Lake Jocassee 64.63 65 P **P** **12 52 38.5 0.0**
BG3 IAmb IAmb 12 53 00.8
comp=Z,17nm,1.0s
KLMR Klimovskoe 64.64 342 *e*P P 12 52 32.9 -5.2
KLMR pmax pmax
comp=Z,26nm,1.4s
KLMR Klimovskoe 64.64 342 *e*P P 12 52 32.9 -5.2
KLMR AMP 12 52 39.0
comp=Z,26nm,1.4s
LUPA Lehigh Univers 64.68 56 P **P** **12 52 38.4 -0.3**
L61B Northampton 64.69 53 P **P** **12 52 37.5 -1.3**
baz=317
ODNJ Ogdensburg 64.72 55 P **P** **12 52 39.1 +0.1**
ODNJ IAmb IAmb 12 52 41.0
comp=Z,30nm,1.2s
H64A Troy 64.75 49 P **P** **12 52 38.9 -0.2**
baz=318
K62A Royalston 64.75 53 P **P** **12 52 39.2 +0.1**
baz=318
V55A Taylorsville 64.97 63 IAmb IAmb 12 53 02.7
comp=Z,21nm,1.1s
G65A Princeton 65.11 48 P **P** **12 52 40.5 -0.9**
baz=319
PAL Palisades 65.13 55 P **P** **12 52 42.5 +0.9**
baz=317
HRV Adam Dziewonsk 65.21 52 P **P** **12 52 42.8 +0.7**
baz=318
T57A Hurt 65.23 61 P **P** **12 52 41.4 -0.9**
T57A IAmb IAmb 12 53 00.6
comp=Z,9.7nm,0.8s
R58B Mineral 65.27 60 P **P** **12 52 43.1 +0.5**
R58B IAmb IAmb 12 53 00.6
comp=Z,20nm,1.3s
PAULI Pauline 65.38 65 IAmb IAmb 12 53 05.1
comp=Z,15nm,0.9s
KMSC Kings Mountain 65.42 64 IAmb IAmb 12 53 05.4
comp=Z,20nm,0.9s
KMSC Kings Mountain 65.42 64 P **P** **12 52 44.1 +0.5**
baz=317
GOGA Godfrey 65.47 67 IAmb IAmb 12 53 05.0
comp=Z,16nm,0.8s
GOGA Godfrey 65.47 67 P **P** **12 52 44.1 +0.2**
baz=316
HODGE Hodges 65.56 65 P **P** **12 52 46.1 +1.6**
HODGE IAmb IAmb 12 53 06.1
comp=Z,15nm,0.8s
PDGK Podgornoye 65.75 310 P **P** **12 52 45.5 -0.3**
LMN Caledonia Moun 65.88 46 P **P** **12 52 45.8 -0.6**
SHLS Shalkode 65.89 309 *e*P **P** **12 52 44.2 -2.5**
baz=309
SHLS Shalkode 65.89 309 *e*P **P** **12 52 44.2 -2.5**
KPKS Kokpek 66.03 310 *e*P **P** **12 52 46.6 -0.9**
baz=310
KPKS Kokpek 66.03 310 *e*P **P** **12 52 46.6 -0.9**
JSC Jenkinsville 66.09 65 P **P** **12 52 47.9 0.0**
JSC pmax pmax
comp=Z,11nm,0.8s
JSC Jenkinsville 66.09 65 P **P** **12 52 47.9 0.0**
JSC IAmb IAmb 12 53 09.8
comp=Z,11nm,0.8s
UZB Uzynbulak 66.11 310 *e*P **P** **12 52 47.1 -1.0**
baz=310
UZB Uzynbulak 66.11 310 *e*P **P** **12 52 47.1 -1.0**
KMI Kunming 66.14 281 ⇑P **P** **12 52 49.2 +0.5**
KMI pP pP 12 53 00.3 +1.0
KMI sP pwP 12 53 06.8 +2.3
KMI pmax pmax
comp=Z,19nm,0.7s
KMI pmax pmax

comp=Z,110nm,4.3s
KMI LR LR
comp=Z,210nm,18.1s
KMI LR LR
comp=Z,190nm,15.0s
KMI LR LR
comp=Z,130nm,14.7s
FIA1 FINESS Array S 66.16 349 P **P 12 52 47.2 -0.6**
FIA1 IAmb IAmb 12 53 01.6
comp=Z,26nm,1.4s
FINES FINESS Array B 66.16 349 P **P 12 52 46.6 -1.3**
comp=Z,7.8nm,0.9s,baz=38,slow=9.6,SNR=13
FINES LR LR 13 25 07.5
comp=Z,263nm,19.3s,baz=40,slow=39
FINES FINESS Array B 66.16 349 *i* P **P 12 52 47.2 -0.7**
FINES pmax pmax
comp=Z,8.0nm,0.9s
FINES FINESS Array B 66.16 349 P **P 12 52 47.0 -0.9**
T59A Double "B" Far 66.17 60 P **P 12 52 48.7 +0.3**
T59A IAmb IAmb 12 53 07.1
comp=Z,22nm,1.0s
QIZ Qiongzhong 66.23 271 P **P 12 52 48.4 -0.6**
QIZ S **S 13 01 34.2 -1.1**
QIZ LR LR
comp=Z,120nm,18.4s
QIZ LR LR
comp=Z,69nm,10.0s
QIZ LR LR
comp=Z,110nm,16.2s
BIRD Birdtown, Kers 66.27 64 P **P 12 52 49.2 +0.1**
BIRD IAmb IAmb 12 53 10.9
comp=Z,12nm,0.9s
SATY Saty 66.47 310 *e*P **P 12 52 49.4 -1.0**
baz=310
SATY Saty 66.47 310 *e*P **P 12 52 49.4 -1.0**
CHKK Chushkaly 66.54 311 *e*P **P 12 52 49.5 -1.2**
baz=311
KUU Kurty 66.81 312 *e*P **P 12 52 51.2 -1.2**
baz=312
KUU Kurty 66.81 312 *e*P **P 12 52 51.2 -1.2**
PRZ Przheval'sk 66.91 310 P **P 12 52 54.9 +1.6**
PRZ pmax pmax
comp=Z,69nm,1.6s
PRZ Przheval'sk 66.91 310 P **P 12 52 54.9 +1.6**
MDOK Medeo 67.04 311 *e*P **P 12 52 52.8 -1.3**
baz=311
MDOK Medeo 67.04 311 *e*P **P 12 52 52.7 -1.3**
TAOE Nuku Hiva Isla 67.15 142 *e*LR LR 13 12 59.5
comp=Z,250nm,24.3s
MTBS Maitube 67.36 311 *e*P **P 12 52 54.7 -1.3**
baz=311
NB2 NORSAR Subarra 67.69 357 P **P 12 52 57.2 -0.5**
comp=Z,13nm,0.8s,baz=3.9,slow=6.5
NOA NORSAR Array B 67.69 357 *s* P **P 12 52 57.6 -0.2**
comp=Z,11nm,0.9s,baz=3.8,slow=6.3,SNR=32
NOA LR LR 13 22 58.6
comp=Z,130nm,20.1s,baz=350,slow=36
KDJ Kajisay 67.77 310 P **P 12 52 59.4 +0.7**
KDJ pmax pmax
comp=Z,24nm,1.2s
KDJ Kajisay 67.77 310 P **P 12 52 59.4 +0.7**
KDJ IAmb IAmb 12 53 00.5
comp=Z,24nm,1.1s
SGDS Sogindy 67.94 313 *e*P **P 12 52 58.3 -1.3**
baz=312
NORES NORESS Array B 67.98 357 P **P 12 52 59.4 -0.1**
NORES pmax pmax
comp=Z,11nm,1.1s
AAL Aland 68.02 352 *e*P **P 12 52 59.1 -0.6**
USP Ospenovka 68.15 313 P **P 12 53 01.7 +0.8**
SNR=19
SLVN Son La 68.22 277 P **P 12 53 02.0 +0.3**
SLVN IAmb IAmb 12 53 04.5
comp=Z,13nm,1.0s
KBK Karagaybulak 68.41 312 P **P 12 53 03.8 +1.0**
SNR=5.4
HFS Hagfors 68.49 355 P **P 12 53 02.2 -0.5**
comp=Z,13nm,0.6s,baz=41,slow=4.7,SNR=45
UPP Uppsala 68.53 353 *e*P **P 12 53 02.5 -0.3**
AAK Ala-Archa 68.64 312 P **P 12 53 05.0 +0.8**
SNR=7.2
AAK Ala-Archa 68.64 312 *c i*P **P 12 53 04.9 +0.8**
AAK pmax pmax
comp=Z,69nm,1.3s
AAK Ala-Archa 68.64 312 P **P 12 53 04.1 -0.1**
AAK IAmb IAmb 12 53 06.0
comp=Z,24nm,1.2s
EKS2 Erkin-Say 68.95 313 P **P 12 53 07.3 +1.2**
SNR=14
AKTO Aktyubinsk 68.96 327 P **P 12 53 05.5 -0.4**
comp=Z,7.0nm,0.6s,baz=7.1,slow=5.3,SNR=22
VSU Vasula 68.98 348 *e*P **P 12 53 05.5 -0.2**
VSU Vasula 68.98 348 *c i*P **P 12 53 05.2 -0.5**
VSU pmax pmax
comp=Z,89nm,1.0s
MTSE Matsula 69.08 350 *e*P **P 12 53 06.0 -0.4**
KONO Kongsberg 69.13 358 P **P 12 53 06.9 +0.2**
KONO pmax pmax
comp=Z,23nm,1.0s
KONO Kongsberg 69.13 358 P **P 12 53 06.9 +0.2**
KONO IAmb IAmb 12 53 08.5
comp=Z,23nm,0.9s
MSVF Nonsavu 69.23 187 LR LR 13 19 05.9
comp=Z,303nm,18.9s,baz=11,slow=32
AB31 Akbulak array 69.28 325 *e*P **P 12 53 08.1 +0.3**
ABKAR Akbulak array 69.28 325 P **P 12 53 07.6 -0.2**
AML Almayashu 69.40 312 P **P 12 53 10.0 +0.8**
SNR=13
LSA Lhasa 69.70 292 P **P 12 53 12.3 +1.0**
LSA pmax pmax
comp=Z,53nm,1.1s
LSA Lhasa 69.70 292 P **P 12 53 12.3 +1.0**
KK31 Karatay Array 70.08 315 *i* P **P 12 53 12.8 0.0**
KK31 Karatay Array 70.08 315 P **P 12 53 12.9 0.0**
KK31 IAmb IAmb 12 53 14.2
comp=Z,20nm,1.1s
KKAR Karatay Array 70.08 315 P **P 12 53 12.4 -0.4**
KKAR Karatay Array 70.08 315 P **P 12 53 12.4 -0.4**
PMOR Pomariorio Ree 70.28 152 *e*T T 14 09 02.2
comp=Z,4.7nm,0.4s
KSH Kashi 70.37 309 P **P 12 53 19.1 +4.3**
KSH pP pwP 12 53 31.4 +2.1
KSH PcP **PcP 12 53 41.4 +5.2**
KSH pmax pmax
comp=Z,36nm,1.1s
KSH LR LR
comp=Z,440nm,16.6s
KSH LR LR
comp=Z,430nm,19.0s
KSH LR LR
comp=Z,430nm,22.7s
BELG Belogornoye 70.46 334 P **P 12 53 12.8 -2.2**
comp=Z,14nm,0.5s,baz=127,slow=3.5,SNR=5.5
BELG Belogornoye 70.46 334‖ *e*P **P 12 53 15.1 +0.2**
BELG pmax pmax
comp=Z,4.0nm,1.0s
OBN Obninsk 70.57 341 *e*P **P 12 53 16.4 +0.8**
OBN *e* 12 53 36.1
OBN *e* 12 55 52.5
OBN pmax pmax
comp=Z,18nm,0.5s
IUG Iuzhnay 71.05 315 *e*P **P 12 53 17.8 -1.1**
baz=314
IUG Iuzhnay 71.05 315 *e*P **P 12 53 17.8 -1.1**
NONG Nongkai 71.14 275 P **P 12 53 21.4 +1.8**
comp=Z,23nm,0.8s
PABE Paberze 72.21 349 *e*P **P 12 53 25.2 -0.3**
PPT Papeete 72.25 155 LR LR 13 19 20.5
comp=Z,456nm,20.8s,baz=329,slow=31
PPT2 Papeete2 72.27 155 *e*LR LR 13 15 17.0
comp=Z,380nm,21.2s,baz=352
BTK Batken 72.37 313 IAmb IAmb 12 53 28.6
comp=Z,26nm,0.9s
NACGM Naroch 72.43 347 *i* P **P 12 53 23.2 -3.6**
UTTA Uttaradit 72.99 277 P **P 12 53 32.5 +1.9**
comp=Z,36nm,0.8s
CMMT Chiang Mai 73.17 279 P **P 12 53 33.7 +1.9**
comp=Z,5.3nm,0.8s
CMMT Chiang Mai 73.17 279 P **P 12 53 33.7 +1.9**
comp=Z,5.1nm,0.8s
CHTO Chiang Mai 73.18 279 P **P 12 53 33.8 +2.0**
CHTO Chiang Mai 73.18 279 P **P 12 53 33.8 +2.0**
comp=Z,7.0nm,1.0s
CHTO Chiang Mai 73.18 279 P **P 12 53 32.4 +0.6**
comp=Z,3.9nm,1.0s
EKA Eskdalemuir Ar 73.30 5 P **P 12 53 30.0 -1.9**
comp=Z,3.7nm,0.5s,baz=359,slow=4.3,SNR=7.1
EKA Eskdalemuir Ar 73.30 5 P **P 12 53 30.0 -1.9**
CM09 Chiang Mai Arr 73.43 279 P **P 12 53 36.0 +2.7**
comp=Z,89nmcomp=Z,9.0nm,0.8s
CMAR Chiang Mai Arr 73.44 279 P **P 12 53 33.4 0.0**
comp=Z,3.6nm,0.8s,baz=28,slow=6.4,SNR=20
CMAR LR LR 13 28 57.2
comp=Z,126nm,19.6s,baz=58,slow=38
CMAR Chiang Mai Arr 73.44 279 P **P 12 53 32.9 -0.5**
GAR Garm 73.45 312 P **P 12 53 33.1 -0.2**
CM02 Chiang Mai Arr 73.46 279 P **P 12 53 35.6 +2.1**
comp=Z,94nmcomp=Z,12nm,0.8s
CM15 Chiang Mai Arr 73.46 279 P **P 12 53 38.0 +4.5**
comp=Z,148nmcomp=Z,7.3nm,0.8s
CM01 Chiang Mai Arr 73.46 279 P **P 12 53 35.5 +2.0**
comp=Z,10nm,0.8s
CM04 Chiang Mai Arr 73.47 279 P **P 12 53 35.7 +2.2**
comp=Z,107nmcomp=Z,15nm,0.8s
CM05 Chiang Mai Arr 73.49 279 P **P 12 53 35.3 +1.7**
comp=Z,63nmcomp=Z,7.8nm,0.9s
CHAI Chaiyaphum 73.49 275 P **P 12 53 37.7 +4.0**
comp=Z,16nm,0.9s
PHIT Phitsanulok 73.49 277 P **P 12 53 36.7 +3.1**
comp=Z,46nm,0.9s
CM13 Chiang Mai Arr 73.50 279 P **P 12 53 36.4 +2.7**
comp=Z,73nmcomp=Z,11nm,1.0s
SUW Suwalki 73.77 349 *e*P **P 12 53 34.6 0.0**
SUW Suwalki 73.77 349 IAmb IAmb 12 53 35.7
comp=Z,23nm,0.9s
GUN Gumba 74.07 295 *e*P **P 12 53 38.2 +0.8**
comp=Z,254nm,1.0s
JIRN Jiri 74.09 294 *e*P **P 12 53 38.4 +0.9**
comp=Z,299nm,1.2s
MHMT Maesarieng 74.28 279 P **P 12 53 40.7 +2.4**
comp=Z,24nm,0.7s
RAMN Ramite 74.39 294 *e*P **P 12 53 39.7 +0.6**
comp=Z,56nm,0.7s
KKN Kakani 74.50 295 *e*P **P 12 53 40.3 +0.6**
PKI Pulchoki 74.60 295 *e*P **P 12 53 40.7 +0.3**
comp=Z,177nm,1.2s
PKIN Phulchoki 74.60 295 *e*P **P 12 53 40.7 +0.3**
comp=Z,148nm,1.2s
GKN Gorkha 74.70 296 *e*P **P 12 53 41.3 +0.5**
DMN Daman 74.74 295 *e*P **P 12 53 41.9 +0.7**
SRAK Srakaew 74.89 274 P **P 12 53 40.2 -1.6**
comp=Z,3µmcomp=Z,236nm,0.8s
DANN Dangsing 74.93 297 *e*P **P 12 53 43.0 +0.7**
comp=Z,225nm,1.0s
DZM Mont Dzumac 75.09 198 *e*LR LR 13 16 27.0
comp=Z,283nm,21.7s
DZM Mont Dzumac 75.09 198 P **P 12 53 42.2 -0.5**
comp=Z,7.8nm,0.9s,baz=235,slow=6.9,SNR=3.1
DZM LR LR 13 24 11.7
comp=Z,323nm,18.4s,baz=31,slow=34
UMPA Umpang Tak 75.20 277 P **P 12 53 47.5 +3.9**
comp=Z,27nm,0.8s
UTHA Uthitani 75.33 277 P **P 12 53 47.9 +3.6**
comp=Z,326nmcomp=Z,19nm,0.8s
KOLN Koldanda 75.46 296 *e*P **P 12 53 45.7 +0.4**
comp=Z,151nm,1.1s
PYUN Piuthan 75.55 297 *e*P **P 12 53 46.4 +0.6**
comp=Z,219nm,1.0s
AKASG Malin Array Be 76.13 345 P **P 12 53 47.2 -1.2**
comp=Z,5.7nm,0.6s,baz=18,slow=6.2,SNR=12
AKASG LR LR 13 30 40.8
comp=Z,217nm,19.7s,baz=35,slow=38
AKASG Malin Array Be 76.13 345 *i* P **P 12 53 47.4 -1.0**
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKASG Malin Array Be 76.13 345 IAmb IAmb 12 53 53.8
comp=Z,5.3nm,1.6s
AKBB Malin Array Si 76.13 345⇑ *i*P **P 12 53 47.3 -1.1**
AKBB pmax pmax
comp=Z,11nm,1.3s
AKBB Malin Array Si 76.13 345 P **P 12 53 47.3 -1.1**
NIL Nilore 76.34 307 P **P 12 53 50.2 +0.3**
NIL pmax pmax
comp=Z,77nm,1.2s
NIL Nilore 76.34 307 P **P 12 53 50.2 +0.3**
CLL Collm 77.34 355⇑ *i*P **P 12 53 55.0 -0.2**
comp=Z,13nm,0.9s
CLL *e*SS SS 13 09 07.0 +28
CLL Collm 77.34 355⇑ *i*P **P 12 53 55.0 -0.2**
CLL pmax pmax
comp=Z,13nm,0.9s
CLL Collm 77.34 355 P **P 12 53 54.4 -0.8**
CLL IAmb IAmb 12 53 56.1
comp=Z,11nm,0.9s
SBUM Sibu 77.50 258 P **P 12 53 57.0 +0.4**
KBL Kabul 77.66 311 P **P 12 53 56.8 -0.8**
KBL pmax pmax
comp=Z,53nm,1.2s
KBL Kabul 77.66 311 P **P 12 53 56.8 -0.8**
BRG Berggiesshubel 77.72 354 *i* P **P 12 53 57.3 0.0**
BRG Amp 12 53 58.5
comp=Z,13nm,0.9s
TBI Tubuai 77.81 156 *e*LR LR 13 17 50.4
comp=Z,291nm,23.0s,baz=347
CHVC Chvalec 77.85 353 *e*P **P 12 53 58.7 +0.5**
OSTC Ostas 77.87 353 *e*P **P 12 53 58.9 +0.6**
UPC Upice 77.94 353 *e*P **P 12 53 58.8 +0.2**
UPC Upice 77.94 353 *e*P **P 12 53 58.8 +0.2**
DPC Dobruska-Polom 78.07 353 *e*P **P 12 53 59.8 +0.4**
DPC Dobruska-Polom 78.07 353 *e*P **P 12 53 59.8 +0.4**
KWP Kalwaria Pacla 78.13 348 P **P 12 53 59.9 +0.3**
KWP Kalwaria Pacla 78.13 348 P **P 12 53 59.9 +0.3**
MEM Membach 78.25 359 *d*P **P 12 54 00.7 +0.4**
comp=Z,13nm,1.0s
NKC Novy Kostel 78.44 355 *e*P **P 12 54 01.8 +0.4**
NKC Novy Kostel 78.44 355 *e*P **P 12 54 01.8 +0.4**
BCLA Clavier 78.44 360 *d*P **P 12 54 02.0 +0.6**
BGES Gesves 78.48 0 *d*P **P 12 54 02.0 +0.4**
MORC Moravsky Berou 78.54 352 *e*P **P 12 54 01.3 -0.7**
BMRD Maredsous 78.56 0 *d*P **P 12 54 02.4 +0.4**
comp=Z,22nm,1.1s
SORM Soroca 78.76 344⇑ P **P 12 54 02.2 -0.9**
SORM Soroca 78.76 344 P **P 12 54 02.2 -0.9**
GIVF Givet 78.76 0 *e*P **P 12 54 04.2 +1.1**
GIVF pmax pmax
comp=Z,18nm,0.9s
DOU Dourbes 78.77 0 *d*P **P 12 54 03.4 +0.2**
DOU *d*PcP **PcP 12 54 10.7 -1.2**
BAIF Baives 78.80 1 *e*P **P 12 54 03.6 +0.3**
BAIF pmax pmax
comp=Z,16nm,0.9s
KOLS Kolonicke sedl 78.87 349 *e*P **P 12 54 04.6 +0.8**
KOLS Kolonicke sedl 78.87 349 *e*P **P 12 54 04.5 +0.8**
PBCC Pribram 78.90 354 *e*P **P 12 54 04.2 +0.3**
LANS Liptovska Anna 78.97 350 *e*P **P 12 54 05.4 +1.0**
LANS Liptovska Anna 78.97 350 *e*P **P 12 54 05.4 +1.0**
CRVS Cervenica-Dubn 79.00 349 *e*P **P 12 54 04.4 -0.1**
CRVS Cervenica-Dubn 79.00 349 *e*P **P 12 54 04.4 -0.1**
GRF Grafenberg Arr 79.04 356 *e*P **P 12 54 05.4 +0.7**
comp=Z,20nm,1.2s,baz=5.9,slow=4.8
VRAC Vranov 79.08 352⇑ P **P 12 54 05.2 +0.3**
VRAC Vranov 79.08 352 P **P 12 54 05.3 +0.4**
comp=Z,7.7nm,0.7s,baz=8.8,slow=5.7,SNR=7.8
VRAC Vranov 79.08 352 *e*P **P 12 54 04.7 -0.2**
KRUC Moravsky 79.34 352 *e*P **P 12 54 05.9 -0.4**
JAVC Velka Javorina 79.43 352 *e*P **P 12 54 07.9 +1.0**
KSM Kuching 79.44 329 P **P 12 54 08.0 +0.7**
KHC Kasperske Hory 79.47 354 *e*P **P 12 54 07.2 +0.1**
KHC Kasperske Hory 79.47 354 *e*P **P 12 54 07.2 +0.1**
KIV Kislovodsk 79.51 333 *e*P **P 12 54 07.3 -0.1**
KIV *e* 12 54 14.8
KIV *e* 12 57 09.1
KIV pmax pmax
comp=Z,5.0nm,1.0s
GEYT Alibeck 79.61 320 P **P 12 54 08.9 +0.9**
comp=Z,17nm,1.0s,baz=317,slow=3.5,SNR=14
GEYT LR LR 13 33 49.1
comp=Z,227nm,19.2s,baz=0.0,slow=39
GEYT Alibeck 79.61 320 P **P 12 54 08.2 +0.2**
GYA0B ALIBECK ARRAY 79.61 320 P **P 12 54 09.2 +1.1**
KBZ Khabaz 79.66 333 P **P 12 54 08.7 +0.6**
comp=Z,2.5nm,0.9s,baz=254,slow=5.8,SNR=2.6
KBZ LR LR 13 35 45.4
comp=Z,274nm,18.2s,baz=21,slow=40
KBZ Khabaz 79.66 333‖ *i*P **P 12 54 09.0 +0.9**
KBZ pmax pmax
comp=Z,5.0nm,1.0s
BUR08 Bucovina Ar. S 79.73 346 P **P 12 54 08.9 +0.2**
GEC2 GERESS Array S 79.75 354 P **P 12 54 09.1 +0.3**
GERES GERESS Array B 79.75 354 P **P 12 54 09.0 +0.3**
comp=Z,3.5nm,0.8s,baz=22,slow=4.6,SNR=25
GERES GERESS Array B 79.75 354 P **P 12 54 08.8 +0.1**
BURAR Bucovina Array 79.76 346⇓ P **P 12 54 08.5 -0.2**
BURAR Bucovina Array 79.76 346⇓ P **P 12 54 08.5 -0.2**
BURAR Bucovina Array 79.76 346 P **P 12 54 08.7 0.0**
FLN La Foliniere 79.99 4 *e*P **P 12 54 09.7 -0.1**
FLN pmax pmax
comp=Z,21nm,1.1s
LDF La Druitiere 80.17 4 *e*P **P 12 54 10.6 -0.2**
LDF pmax pmax
comp=Z,23nm,1.0s
BIZ Bicaz 80.28 346⇑ P **P 12 54 12.6 +1.1**
GRR Gorron 80.34 4 *e*P **P 12 54 11.8 0.0**
GRR pmax pmax
comp=Z,32nm,1.2s
CDF Champ du Feu 80.44 359 *e*P **P 12 54 12.4 0.0**
CDF pmax pmax
comp=Z,11nm,1.0s
CONA Conrad Observa 80.51 353 *e*P **P 12 54 13.4 +0.6**
comp=Z,8.5nm,1.3s
TESR Tescani 80.61 345⇑ P **P 12 54 13.2 -0.1**
HAU Haudompre 80.86 359 *e*P **P 12 54 14.6 0.0**
HAU pmax pmax
comp=Z,18nm,1.0s
HRA Herat 80.90 315 P **P 12 54 16.1 +0.8**
HRA IAmb IAmb 12 54 17.0
comp=Z,33nm,1.1s
DRGR 80.92 348⇓ P **P 12 54 15.7 +0.8**
DRGR 80.92 348⇓ P **P 12 54 15.7 +0.8**
HINF Hinteralfeld 81.04 359 *e*P **P 12 54 15.4 -0.2**
HINF pmax pmax
comp=Z,8.0nm,1.0s
ARSA Arzberg 81.21 353 *i* P **P 12 54 17.1 +0.6**
comp=Z,4.7nm,0.9s
VRI Vrincioaia 81.23 345⇓ P **P 12 54 18.1 +1.5**
VRI Vrincioaia 81.23 345⇓ P **P 12 54 18.1 +1.5**
PLOR Plostina 81.26 345⇓ P P 12 54 29.3 +13
PLOR Plostina 81.26 345⇓ P P 12 54 29.3 +13
RETA Reutte 81.26 356 *i* P **P 12 54 17.3 +0.5**
comp=Z,4.1nm,0.8s
COVR Voineasa-Covas 81.33 345⇑ P **P 12 54 17.8 +0.6**
DOPR Dopca 81.34 346⇓ P **P 12 54 18.3 +1.1**
WATA Walderalm 81.38 356 *e*P **P 12 54 17.7 +0.2**
comp=Z,13nm,1.3s
MOTA Moosalm 81.39 356 *e*P **P 12 54 17.4 -0.2**
comp=Z,11nm,1.2s
WTTA Wattenberg 81.44 356 *e*P **P 12 54 17.8 -0.1**
comp=Z,14nm,1.1s
DAVA Damuels 81.50 357 *e*P **P 12 54 18.2 +0.1**
comp=Z,4.0nm,0.7s
SQTA Sankt Quirin 81.51 356 *e*P **P 12 54 18.7 +0.6**
comp=Z,7.6nm,1.0s
TLCR 81.53 343⇑ P **P 12 54 18.8 +0.7**
TLCR 81.53 343⇑ P **P 12 54 18.8 +0.7**
KBA Koelnbreinsper 81.53 354 *e*P **P 12 54 19.1 +0.7**
comp=Z,18nm,1.0s
SIRR Siria 81.56 349⇑ P **P 12 54 18.2 -0.2**
LOR Lormes 81.59 1 *e*P **P 12 54 18.6 +0.1**
LOR pmax pmax
comp=Z,24nm,1.1s
CFR Carcaliu 81.66 344⇑ P **P 12 54 19.9 +1.1**
CFR Carcaliu 81.66 344⇑ P **P 12 54 19.9 +1.1**
MLR Muntele Rosu 81.72 345⇑ P **P 12 54 20.8 +1.4**
MLR Muntele Rosu 81.72 345 P **P 12 54 20.7 +1.4**
comp=Z,9.6nm,0.8s,baz=321,slow=3.5,SNR=11
MLR Muntele Rosu 81.72 345 P **P 12 54 21.1 +1.8**
MLR pmax pmax
comp=Z,16nm,1.2s
MLR Muntele Rosu 81.72 345 P **P 12 54 21.1 +1.8**
MLR IAmb IAmb 12 54 22.8
comp=Z,16nm,1.2s
FETA Feichten 81.73 356 *e*P **P 12 54 20.1 +0.7**
comp=Z,10nm,1.0s
SOKA Soboth 81.82 353 *e*P **P 12 54 20.2 +0.5**
comp=Z,11nm,1.0s
VOIR 81.91 346⇓ P **P 12 54 21.2 +0.9**
VOIR 81.91 346⇓ P **P 12 54 21.2 +0.9**
ABTA Abfaltersbach 81.91 355 *e*P **P 12 54 19.8 -0.5**
comp=Z,6.5nm,1.0s
TPGR Topolog 81.92 344⇓ P **P 12 54 20.5 +0.2**
ISR Istrita 81.99 345⇑ P **P 12 54 23.0 +2.4**
ISR Istrita 81.99 345⇑ P **P 12 54 23.0 +2.4**
DAVOX Davos/Dischmat 82.00 357 P **P 12 54 22.1 +1.2**
comp=Z,2.2nm,0.5s,baz=344,slow=11,SNR=4.5
HARR Harsova 82.17 344⇑ P **P 12 54 22.0 +0.5**
HARR Harsova 82.17 344⇑ P **P 12 54 22.0 +0.5**
BZS Buzias 82.21 348⇓ P **P 12 54 21.3 -0.4**
BZS Buzias 82.21 348⇓ P **P 12 54 21.3 -0.4**
CABF La Chapelle 82.25 359 *e*P **P 12 54 22.6 +0.6**
CABF pmax pmax
comp=Z,14nm,0.9s
BGF Bois d'Agland 82.29 2 *e*P **P 12 54 22.3 +0.2**
BGF pmax pmax
comp=Z,32nm,1.3s
TIRR Tirgusor 82.31 343⇑ P **P 12 54 22.5 +0.3**
TIRR Tirgusor 82.31 343⇑ P **P 12 54 22.5 +0.3**
GNI Garni 82.40 330‖ *e*P **P 12 54 24.8 +1.8**
GNI pmax pmax
comp=Z,12nm,1.2s
JRMM Jerantut 82.41 267 P **P 12 54 23.0 -0.2**
KULM Kulim 82.46 269 P **P 12 54 24.0 +0.5**
IPM Ipoh 82.86 268 P **P 12 54 26.0 +0.5**
MDVR Moldovita 83.02 348⇑ P **P 12 54 25.5 -0.5**
RJF Les Rejaudoux 83.51 3 *e*P **P 12 54 28.8 +0.3**
RJF pmax pmax
comp=Z,24nm,1.2s
DIKM Dikmen 83.58 338⇓ P **P 12 54 30.4 +1.6**
BNI Bardonecchia 83.81 359 P **P 12 54 32.3 +2.1**
BNI Bardonecchia 83.81 359 IAmb IAmb 12 54 32.4
comp=Z,14nm,1.2s
WRA Warramunga Arr 83.87 227 P **P 12 54 29.0 -1.5**
comp=Z,1.0nm,0.8s,baz=44,slow=4.7,SNR=7.6
WRA Warramunga Arr 83.87 227 *i* P **P 12 54 29.8 -0.7**
WRA pmax pmax
comp=Z,1.0nm,0.8s
DIVS Divibare 83.90 349 P **P 12 54 30.9 +0.3**
CAF Calviac 83.90 2 *e*P **P 12 54 31.1 +0.6**
CAF pmax pmax
comp=Z,22nm,1.3s
VIVF Saint-Julien-l 84.01 0 *e*P **P 12 54 31.9 +0.8**
VIVF pmax pmax
comp=Z,14nm,1.1s
VTS Vitosha 84.94 347⇑ P **P 12 54 35.9 -0.1**
VTS Vitosha 84.94 347⇑ P **P 12 54 35.9 -0.1**
VTS Vitosha 84.94 347 P **P 12 54 35.5 -0.4**
VTS IAmb IAmb 12 54 37.1
comp=Z,9.9nm,1.0s
PSI Prapat 85.47 269 P **P 12 54 38.6 -0.4**
PSI pmax pmax
comp=Z,14nm,1.0s
PSI Prapat 85.47 269 P **P 12 54 38.5 -0.4**
comp=Z,6.6nm,1.0s,comp=Z,14nm,1.0s
PSI P **PcP 12 54 39.7 -2.2**
comp=Z,6.6nm,1.0s,comp=Z,14nm,1.0s
MTLF Montolieu 85.49 2 *e*P **P 12 54 39.0 +0.5**
MTLF pmax pmax
comp=Z,32nm,1.4s
RPSI Rantau Prapat 85.55 269 P **P 12 54 38.6 -0.6**
RPSI IAmb IAmb 12 55 05.9
comp=Z,14nm,1.0s
SJPF Ste Jean 85.59 5 *e*P **P 12 54 40.2 +1.2**
SJPF pmax pmax
comp=Z,7.0nm,0.9s
PDG Podgorica 85.63 350⇑ P **P 12 54 38.9 -0.3**
PDG Podgorica 85.63 350 IAmb IAmb 12 54 40.1
comp=Z,11nm,0.8s
BR131 Keskin Array S 85.79 338 P **P 12 54 40.2 0.0**
BR131 pmax pmax
comp=Z,14nm,1.2s
BR131 Keskin Array S 85.79 338 P **P 12 54 40.2 0.0**
BR131 IAmb IAmb 12 54 41.5
comp=Z,14nm,1.2s
BRTR Keskin Array B 85.79 338 P **P 12 54 39.0 -1.3**
comp=Z,3.9nm,0.9s,baz=40,slow=2.1,SNR=19
BRTR LR LR 13 39 38.6
comp=Z,204nm,18.4s,baz=51,slow=40
BRTR Keskin Array B 85.79 338 *i* P **P 12 54 40.2 0.0**
BRTR pmax pmax
comp=Z,4.0nm,1.0s
BRTR Keskin Array B 85.79 338 P **P 12 54 40.2 0.0**
ETSF Etsaut 85.84 4 *e*P **P 12 54 41.2 +0.9**
ETSF pmax pmax
comp=Z,19nm,1.4s
BNN Bunyan 86.09 336 P **P 12 54 42.4 +0.6**
MARD Mardin 86.20 332 P **P 12 54 42.5 +0.2**

HYB	Hyderabad	86.45	294	iP	P	12 54 43.0	-0.7
HYB				epP	pP	12 54 56.0	+1.4
FNA	Florina	87.00	348	P	P	12 54 46.6	+0.5
FNA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
FNA	Florina	87.00	348	P	P	12 54 46.5	+0.5
FNA				IAmb	IAmb	12 54 46.9	
	comp=Z,8.5nm,1.0s						
ASAR	Alice Springs	87.30	226	P	P	12 54 46.5	-1.0
	comp=Z,2.4nm,0.9s,baz=32,slow=4.4,SNR=21						
ASAR	Alice Springs	87.30	226	P	P	12 54 46.3	-1.2
POO	Poona	88.21	298	eP	P	12 54 49.5	-2.7
ESDC	Sonseca Array	88.84	7	P	P	12 54 53.7	-1.2
	comp=Z,4.1nm,1.1s,baz=338,slow=4.2,SNR=14						
ESDC	Sonseca Array	88.84	7	P	P	12 54 54.4	-0.5
ESDC				IAmb	IAmb	12 54 55.9	
	comp=Z,8.7nm,1.2s						
TIP	Timpagrande	89.11	351	P	P	12 54 56.1	-0.1
TIP				IAmb	IAmb	12 54 57.5	
	comp=Z,14nm,1.3s						
URZ	Urewera	89.67	186	LR	LR	13 28 32.4	
	comp=Z,167nm,20.3s,baz=31,slow=31						
STKA	Stephens Creek	91.43	216	P	P	12 55 06.6	-0.1
	comp=Z,0.8nm,0.6s,baz=338,slow=9.9,SNR=1.6						
STKA				LR	LR	13 34 10.2	
	comp=Z,160nm,18.5s,baz=24,slow=34						
TORD	Torodi Ar. Bea	115.54	4	PKP	PKiKP	13 00 41.1	-1.9
	comp=Z,0.3nm,0.3s,baz=27,slow=2.9,SNR=4.1						
H03N2	Juan Fernandez	118.82	108	T	T	15 12 15.0	
	baz=317,slow=77,SNR=12						
H03N1	Juan Fernandez	118.83	108	T	T	15 12 38.5	
	baz=317,slow=77,SNR=16						
H03N3	Juan Fernandez	118.84	108	T	T	15 12 20.4	
	baz=317,slow=77,SNR=12						
MAW	Mawson	148.10	218	PKPbc	PKPbc	13 01 44.5	-0.4
	comp=Z,5.3nm,0.9s,baz=344,slow=2.0,SNR=9.2						
MAW	Mawson	148.10	218		PKPbc	13 01 45.0	+0.1
BOSA	Boshof	152.61	319	PKPbc	PKPbc	13 01 56.8	-0.3
	comp=Z,3.2nm,0.5s,baz=43,slow=1.3,SNR=10						
BOSA	Boshof	152.61	319	PKIKP	PKPdf	13 01 48.0	-2.1
BOSA	Boshof	152.61	319	PKPdf	PKPdf	13 01 48.0	-2.1
BOSA					PKPbc	13 01 56.4	-0.8
BOSA				PKPab	pPKPbc	13 02 08.3	-0.2
SYO	Syowa Base	156.06	210⇑	ePKPdf	PKPdf	13 01 53.6	+0.1

IDC ***04*** *12:48:52.8±3.0, 51°.57N×174°.87W, h16km±18km, mb4.3/34, mb1 4.4/36, mb1mx4.3/52, mbtmp4.4/36, ML3.5/2, Error ellipse: s-maj=16.9km s-min=9.3km az=161.0*

NEIC ***04*** *12:48:53.2±2.0, 51°.36N±0°.07×174°.83W±0°.06, h19km±3km, mb4.7/206, ML4.4/37(AEIC), Error ellipse: s-maj=9.8km s-min=5.2km az=173.0*

AEIC ***04*** *12:48:53±2.1, 51°.25N±0°.06×174°.83W±0°.03, h20km±3km, Error ellipse: s-maj=9.2km s-min=2.6km az=168.0*

MOS ***04*** *12:48:55.0±0.8, 51°.54N×174°.84W, h47km, mb5.0/44, Error ellipse: s-maj=8.8km s-min=7.7km az=79.8*

ISC 04 12:48:53.8±1.3**, 51°.35N**±0°.07×**174°.82W**±0°.03**, h28**km±7km**, n580,** σ1s**12**/547**, mb4.8**/175**, MS4.7**/4**, 13C-15D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSIG	Igitkin Island	0.94	313		Pb	12 49 11.1	-0.3
ATKA	Atka Island	0.94	24	Pn	Pb	12 49 11.5	+0.1
ATKA	Atka Island	0.94	24		Sn	12 49 25.7	+2.1
KOFP	Korovin Flat P	1.03	26		Pb	12 49 13.4	+0.4
GSMY	Great Sitkin M	1.03	313		Pb	12 49 12.7	-0.3
KOKL	Mount Kliuchef	1.05	21		Pb	12 49 13.5	+0.2
GSTR	Great Sitkin T	1.07	315		Pb	12 49 13.6	0.0
GSTD	Great Sitkin T	1.08	311		Pb	12 49 13.6	-0.3
KOSE	Korovin Southe	1.10	25		Pb	12 49 14.7	+0.5
GSSP	Great Sitkin S	1.12	312		Pb	12 49 14.3	-0.2
GSSP					Sb	12 49 30.6	+1.9
ADK	Adak	1.28	295	P	Pn	12 49 15.7	0.0
ADK						12 49 33.1	
ADK	Adak	1.28	295		Pn	12 49 15.7	0.0
ADK				Sn	Sb	12 49 33.1	0.0
KIWB	Kanaga Island	1.54	290	Pn	Pn	12 49 19.4	+0.1
KIKV	Kanaga Island	1.56	291		Pn	12 49 20.0	+0.4
KIMD	Kanaga Island	1.56	286		Pn	12 49 19.6	0.0
KICM	Kanaga Island	1.58	292		Pn	12 49 20.5	+0.6
TAFP	Tanaga Falls P	2.04	287		Pn	12 49 27.3	+0.9
TAFP					Sb	12 49 53.3	-1.9
TASE	Tanaga Southea	2.06	285		Pn	12 49 27.5	+0.9
GAEA	Gareloi East	2.49	282		Pn	12 49 33.8	+1.4
GALAA	Gareloi Lava P	2.50	281		Pn	12 49 33.8	+1.2
CERAA	Semis' Rag'd T	3.47	281		Pn	12 49 46.5	+0.7
CESW	Semis' Southwe	3.54	281		Pn	12 49 47.3	+0.4
CEAP	Semis' Anvil P	3.55	283		Pn	12 49 47.9	+0.9
AMKA	Amchitka	3.68	273	Pn	Pn	12 49 48.6	-0.2
NIKH	Nikolski High	4.02	64	Pn	Pn	12 49 54.3	+0.9
NIKH	Nikolski High	4.02	64	P	Pn	12 49 54.5	+1.1
	baz=247						
LSPA	Little Sitkin	4.16	281		Pn	12 49 56.1	+0.8
LSNW	Little Sitkin	4.19	281		Pn	12 49 56.2	+0.4
LSSA	Little Sitkin	4.19	281		Pn	12 49 56.7	+0.8
OKTU	Okmok Mt. Tuli	4.63	61		Pn	12 50 02.0	+0.2
MAPS	Pakushin South	5.40	60		Pn	12 50 13.8	+1.4
UNV	Unalaska Valle	5.65	61	Pn	Pn	12 50 17.2	+1.4
UNV	Unalaska Valle	5.65	61	P	Pn	12 50 17.7	+1.9
	baz=246						
AKUT	Akutan	6.16	60		Pn	12 50 24.1	+1.2
SPIA	Saint Paul Isl	6.42	23	Pn	Pn	12 50 27.1	+0.7
SPIA	Saint Paul Isl	6.42	23	P	Pn	12 50 27.6	+1.3
	baz=206,SNR=5.8						
FALS	False Pass	7.71	58	Pn	Pn	12 50 44.8	+0.8
FALS	False Pass	7.71	58	P	Pn	12 50 45.3	+1.3
	baz=247						
SDPT	Sand Point	9.46	59	Pn	Pn	12 51 09.4	+1.4
SDPT	Sand Point	9.46	59	P	Pn	12 51 09.0	+0.9
	baz=250						
CNBA	Chernabura Isl	9.80	63	Pn	Pn	12 51 12.9	+0.2
CHNA	Chernabura Isl	9.80	63	P	Pn	12 51 13.8	+1.1
	baz=255						
GAMB	Gambell	12.57	6	P	Pn	12 51 52.7	+2.3
	baz=189						
SII	Sitkinak Islan	13.20	59	Pn	Pn	12 51 58.6	-0.6
OHAK	Old Harbor	13.85	57	Pn	Pn	12 52 04.3	-3.7
N18K	Kilae Creek	14.07	41	Pn	Pn	12 52 12.9	+1.9
N18K	Kilae Creek	14.07	41	P	Pn	12 52 11.3	+0.3
	baz=237,SNR=5.8						
ANM	Nome	14.14	17	P	Pn	12 52 14.0	+2.1
	baz=205						
Q19K	Cape Douglas,	14.24	50	Pn	Pn	12 52 12.1	-1.3
Q19K	Cape Douglas,	14.24	50	P	Pn	12 52 15.0	+1.6
	baz=247						
KDAK	Kodiak Island	14.38	55	Pn	Pn	12 52 12.0	-3.1
	1.1nm,0.3s,baz=223,slow=4.3,SNR=38						
KDAK				Sn	Sn	12 54 46.0	-7.4
	0.1nm,0.3s,baz=143,slow=16,SNR=1.5						
KDAK	Kodiak Island	14.38	55	P	Pn	12 52 12.8	-2.3
KDAK	Kodiak Island	14.38	55	Pn	Pn	12 52 12.8	-2.3
KDAK	Kodiak Island	14.38	55	P	Pn	12 52 15.6	+0.4
	baz=253						
SVW2	Sparrevohn	14.42	40		Pn	12 52 18.6	+2.7
O19K	Port Alsworth	14.49	44	P	Pn	12 52 17.8	+1.2
	baz=241						
TNA	Tin City	14.69	11	Pn	Pn	12 52 21.9	+2.6
TNA	Tin City	14.69	11	P	Pn	12 52 20.7	+1.4
	baz=197						
N19K	Bonanza Creek	14.72	42	Pn	Pn	12 52 21.3	+1.3
N19K	Bonanza Creek	14.72	42	P	Pn	12 52 20.6	+0.6
	baz=239,SNR=5.3						
P19K	Oil Pt	14.73	47	Pn	Pn	12 52 21.8	+1.7
O20K	Slope Mountain	15.19	46	P	Pn	12 52 27.3	+1.1
	baz=244						
RSO	Redoubt South	15.30	45	Pn	Pn	12 52 28.2	+0.5
L19K	White Mountain	15.33	37	Pn	Pn	12 52 29.3	+1.3
L19K	White Mountain	15.33	37	P	Pn	12 52 27.8	-0.2
	baz=234,SNR=8.4						
M19K	Big River Lodg	15.35	39	Pn	Pn	12 52 29.8	+1.5
M19K	Big River Lodg	15.35	39	P	Pn	12 52 29.4	+1.2
	baz=236						
HOM	Homer	15.47	49	Pn	Pn	12 52 30.2	+0.4
CNPM	China Poot	15.62	49	Pn	Pn	12 52 29.5	-2.2
CNPM				IAmb	IAmb	12 52 51.0	
	comp=Z,27nm,1.0s						
M20K	Styx River	15.84	40	P	P	12 52 36.7	-1.5
M20K				IAmb	IAmb	12 52 52.6	
	comp=Z,42nm,1.3s						
M20K	Styx River	15.84	40	P	Pn	12 52 35.7	+1.1
	baz=238						
L20K	Farewell, AK	15.88	37	P	P	12 52 36.8	-1.7
	baz=235						
PET	Petropavlovsk	16.32	286	eP	P	12 52 43.9	+0.5
PET				pmax	pmax		
	comp=Z,20nm,0.5s						
PET	Petropavlovsk	16.32	286	P	P	12 52 43.3	-0.1
K20K	Telida	16.33	35		P	12 52 44.4	+0.9
K20K	Telida	16.33	35	P	Pn	12 52 41.5	+0.7
	baz=232,SNR=6.5						
SKT	Skwentna	16.54	41		P	12 52 46.4	+0.5
SKT				IAmb	IAmb	12 52 53.2	
	comp=Z,47nm,1.3s						
SKT	Skwentna	16.54	41	P	Pn	12 52 44.1	+0.6
	baz=240,SNR=6.0						
SEW	Seward	16.66	48	P	Pn	12 52 44.9	-0.2
SEW				IAmb	IAmb	12 53 05.4	
	comp=Z,63nm,1.5s						
SEW	Seward	16.66	48	P	Pn	12 52 43.8	-1.2
	baz=249						
O22K	Cooper Landing	16.68	47	P	Pn	12 52 44.8	-0.3
	baz=248						
PPLA	Purkeypile	16.76	38	P	P	12 52 49.4	+1.0
PPLA				IAmb	IAmb	12 52 55.0	
	comp=Z,60nm,1.4s						
PPLA	Purkeypile	16.76	38	P	P	12 52 47.7	-0.6
	baz=237						
J20K	Nowinta River	16.82	32	P	P	12 52 50.3	+1.4
J20K	Nowinta River	16.82	32	P	Pn	12 52 47.5	+0.6
	baz=230						
PEA0B	Petropavlovsk-	16.89	287⇓	eP	P	12 52 49.1	-0.6
PEA0B	Petropavlovsk-	16.89	287	P	P	12 52 49.1	-0.6
PEA0B				IAmb	IAmb	12 52 53.2	
	comp=Z,44nm,1.2s						
PETK	Petropavlovsk-	16.89	287	Pn	Pn	12 52 45.9	-2.0
	comp=Z,0.1nm,0.3s,baz=92,slow=19,SNR=3.1						
PETK	Petropavlovsk-	16.89	287	P	P	12 52 49.6	-0.2
PETK	Petropavlovsk-	16.89	287	P	P	12 52 49.5	-0.2
RC01	Rabbit Creek A	16.91	45	P	Pn	12 52 48.5	+0.4
	baz=246						
CHUM	Lake Minchumin	17.27	35	P	P	12 52 54.2	+0.3
	baz=234						
PMR	Palmer	17.38	44	P	Pn	12 52 54.2	+0.2
PMR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
PMR	Palmer	17.38	44	P	Pn	12 52 54.2	+0.2
PWL	Port Wells	17.45	47	P	P	12 52 55.8	-0.2
KTH	Kantishna Hill	17.60	37	P	P	12 52 59.7	+2.1
KTH				IAmb	IAmb	12 53 15.1	
	comp=Z,58nm,1.3s						
KNK	Knik Glacier	17.60	45	P	Pn	12 52 55.8	-1.0
KNK	Knik Glacier	17.60	45	P	Pn	12 52 56.8	0.0
	baz=247						
RDOG	Red Dog Mine	17.74	15	P	Pn	12 52 57.2	-1.2
RDOG	Red Dog Mine	17.74	15	P	Pn	12 52 58.1	-0.3
	baz=205						
SML	Sawmill	17.82	44	P	Pn	12 52 58.4	-1.0
SML	Sawmill	17.82	44		P	12 52 59.8	-0.2
BPAW	Bear Paw Mtn.	17.88	35	P	P	12 53 02.0	+1.4
BPAW	Bear Paw Mtn.	17.88	35	P	P	12 53 00.6	0.0
	baz=235						
GLI	Glacier Island	18.03	47		P	12 53 02.8	+0.5
IMAR	Indian Mountai	18.16	28	P	P	12 53 04.5	+0.9
WAT1	Susitna Watana	18.17	41	P	Pn	12 53 03.4	-0.3
	baz=243						
SCM	Sheep Creek Mo	18.27	44	P	Pn	12 53 04.7	-0.2
SCM				pmax	pmax		
	comp=Z,14nm,0.8s						
SCM	Sheep Creek Mo	18.27	44	P	Pn	12 53 04.7	-0.2
FID	Port Fidalgo	18.27	48		Pn	12 53 03.4	-1.6
FID				IAmb	IAmb	12 53 14.9	
	comp=Z,71nm,1.2s						
RND	Reindeer	18.32	39	P	P	12 53 05.0	-0.5
RND				pmax	pmax		
	comp=Z,20nm,0.9s						
RND	Reindeer	18.32	39		P	12 53 05.0	-0.5
WAT6	Susitna Watana	18.39	42	P	P	12 53 06.1	-0.3
	baz=245						
MCK	McKinley	18.45	38	P	P	12 53 06.8	-0.1
MCK				pmax	pmax		
	comp=Z,14nm,1.0s						
MCK	McKinley	18.45	38	P	P	12 53 06.8	-0.1
MCK	McKinley	18.45	38	P	Pn	12 53 07.2	0.0
	baz=240						
BWN	Browne	18.48	36	P	Pn	12 53 10.5	+3.1
BWN				IAmb	IAmb	12 53 26.0	
	comp=Z,48nm,1.0s						
MLY	Manley	18.50	33	P	Pn	12 53 08.9	+1.1
MLY	Manley	18.50	33	P	Pn	12 53 08.0	+0.2
	baz=234						
KLU	Klutina	18.77	46	P	P	12 53 10.4	-0.1
	baz=250						
NEA2	Nenana	18.85	35	P	P	12 53 11.3	+0.1
	baz=237						
M24K	Tolsona, Glenn	18.87	44	P	P	12 53 11.6	0.0
	baz=248						
I23K	Minto, Yukon-K	19.05	34	IAmb	IAmb	12 53 34.8	
	comp=Z,30nm,0.9s						
I23K	Minto, Yukon-K	19.05	34	P	P	12 53 13.6	+0.2
	baz=236,SNR=11						
BILL	Bilibino	19.11	338⇓	iP	Pn	12 53 15.4	+0.4
BILL				pmax	pmax		
	comp=Z,80nm,1.3s						
BILL	Bilibino	19.11	338	P	Pn	12 53 14.7	-0.4
BILL				IAmb	IAmb	12 53 22.0	
	comp=Z,76nm,1.2s						
WRH	Wood River Hil	19.14	36	P	P	12 53 14.2	-0.2
BMRM	Bremner River	19.21	48	P	Pn	12 53 16.0	-0.3
	baz=253						
CCB	Clear Creek Bu	19.34	36	P	P	12 53 16.4	-0.2
H23K	Yukon River	19.38	32	P	Pn	12 53 18.0	-0.4
	baz=234						
N25K	Chitina, Valde	19.41	46	P	P	12 53 17.8	+0.3
	baz=252						
HARP	HAARP	19.42	44	P	P	12 53 18.0	+0.4
	baz=249						
TCOL	CIGO, UAF Yank	19.43	36	P	Pn	12 53 18.8	-0.1
TCOL				IAmb	IAmb	12 53 37.4	
	comp=Z,33nm,1.3s						
TCOL	CIGO, UAF Yank	19.43	36	P	Pn	12 53 18.8	-0.2
	baz=238						
COLA	College	19.44	36	P	Pn	12 53 18.6	-0.4
COLA				pmax	pmax		
	comp=Z,34nm,1.3s						
COLA	College	19.44	36	P	Pn	12 53 18.6	-0.4
COLA				IAmb	IAmb	12 53 37.4	
	comp=Z,34nm,1.3s						
COLA	College	19.44	36	P	Pn	12 53 19.0	0.0
	baz=238						
BERG	Berg Lake	19.49	50	P	P	12 53 16.8	-1.5
BERG				IAmb	IAmb	12 53 25.7	
	comp=Z,20nm,0.7s						
PAX	Paxson	19.50	42	P	P	12 53 18.9	+0.3
PAX				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PAX	Paxson	19.50	42	P	P	12 53 18.9	+0.3
PAX	Paxson	19.50	42	P	Pn	12 53 19.5	-0.4
	baz=247						
HDA	Harding Lake	19.54	37	P	P	12 53 18.6	-0.2
HDA				IAmb	IAmb	12 53 25.8	
	comp=Z,51nm,1.3s						
HDA	Harding Lake	19.54	37	P	P	12 53 19.0	+0.1
	baz=241,SNR=29						
POKR	Poker Plat Res	19.72	35	P	P	12 53 20.1	-0.6
POKR	Poker Plat Res	19.72	35	P	Pn	12 53 22.0	-0.3
	baz=239						
IL31		19.74	36	P	P	12 53 20.1	-0.8
ILAR	Eielson Array	19.74	36	P	P	12 53 19.0	-2.1
	comp=Z,1.1nm,0.3s,baz=217,slow=7.9,SNR=30						
ILAR				S	S	12 56 59.0	-2.8
	comp=Z,0.0nm,0.3s,baz=213,slow=48,SNR=1.8						
ILAR	Eielson Array	19.74	36	P	P	12 53 20.7	-0.3
ILAR	Eielson Array	19.74	36	P	P	12 53 20.7	-0.3
CRQE	Cirque	19.87	49	P	P	12 53 23.0	+0.4
	baz=256						
H24K	Noodor Dome	19.95	33	P	P	12 53 23.5	+0.2
H24K				IAmb	IAmb	12 53 31.9	
	comp=Z,37nm,1.1s						
H24K	Noodor Dome	19.95	33	P	P	12 53 23.2	-0.1
	baz=236,SNR=13						
COLD	Coldfoot	20.05	28	P	Pn	12 53 25.2	-1.0
COLD				IAmb	IAmb	12 53 34.6	
	comp=Z,37nm,1.1s						
COLD	Coldfoot	20.05	28	P	P	12 53 24.7	+0.4
	baz=230,SNR=26						
MCARA	McCarthy VSAT	20.06	48	P	Pn	12 53 27.9	+1.5
MCARA	McCarthy VSAT	20.06	48	P	Pn	12 53 25.5	-0.9
	baz=254						
RIDG	Independent Ri	20.07	40	P	P	12 53 24.2	-0.5
	baz=246						
J25K	Salcha River,	20.24	38	P	P	12 53 25.2	-1.4
	baz=243,SNR=33						
DOT	Dot Lake	20.36	41	P	P	12 53 27.2	-0.6
M26K	Nabesna, AK	20.37	45	P	P	12 53 27.8	-0.1
	baz=252						
L26K	Log Cabin Wild	20.43	43	P	Pn	12 53 30.3	-0.4
L26K	Log Cabin Wild	20.43	43	P	Pn	12 53 30.1	-0.6
	baz=250						
SCRK	Sand Creek	20.52	40	P	P	12 53 28.7	-0.9
SCRK				IAmb	IAmb	12 53 36.2	
	comp=Z,31nm,0.9s						
SCRK	Sand Creek	20.52	40	P	P	12 53 28.4	-1.1
	baz=246,SNR=20						
CTG	Chitna Glacier	20.75	49	P	Pn	12 53 33.3	-1.3
	baz=257						
CTGM	Chitina Glacie	20.76	49	P	P	12 53 32.8	+0.6
J26K	Charley River,	20.83	39	P	P	12 53 31.9	-1.1
	baz=245,SNR=22						
M27K	Edge Creek, AK	20.86	45	P	Pn	12 53 35.9	0.0
M27K	Edge Creek, AK	20.86	45	P	P	12 53 34.4	+1.1
	baz=253,SNR=7.0						
MA2	Magadan	20.96	306	P	Pn	12 53 36.3	-0.6
	comp=Z,9.1nm,0.6s,baz=103,slow=12,SNR=5.8						
MA2	Magadan	20.96	306	P	P	12 53 34.3	+0.1
MA2				pmax	pmax		
	comp=Z,18nm,0.9s						
MA2	Magadan	20.96	306	P	P	12 53 34.3	+0.1
MA2				IAmb	IAmb	12 53 43.5	
	comp=Z,18nm,0.9s						
SEY	Seymchan	20.96	316	P	P	12 53 32.4	-1.8
	comp=Z,3.0nm,0.7s,baz=107,slow=12,SNR=4.6						
SEY	Seymchan	20.96	316⇓	eP	P	12 53 35.0	+0.8
L27K	Beaver Creek,	21.09	44	P	P	12 53 37.0	+1.3
L27K	Beaver Creek,	21.09	44	P	P	12 53 35.6	-0.1
	baz=251						
BCAR	Beaver Creek A	21.11	44	P	P	12 53 36.2	+0.2
TOLK	Toolik Lake Re	21.16	26	P	P	12 53 37.5	+1.1
TOLK				IAmb	IAmb	12 53 46.2	
	comp=Z,35nm,0.9s						
TOLK	Toolik Lake Re	21.16	26	P	P	12 53 36.6	+0.2
	baz=228,SNR=12						
K27K	Chicken	21.31	41	P	P	12 53 38.2	+0.2
K27K				IAmb	IAmb	12 54 00.8	
	comp=Z,30nm,1.1s						
K27K	Chicken	21.31	41	P	P	12 53 37.7	-0.3
	baz=249,SNR=16						
BVCY	Beaver Creek	21.33	46	P	P	12 53 38.9	+0.7
	baz=254						
YUK3	Moose Creek	21.35	47	P	P	12 53 39.7	+1.1
	baz=256						
BMAR	Burnt Mountain	21.92	31	P	P	12 53 45.5	+0.9
EGAK	Eagle	21.96	39	P	P	12 53 44.9	-0.1
EGAK				IAmb	IAmb	12 53 52.8	
	comp=Z,33nm,0.8s						
EGAK	Eagle	21.96	39	P	P	12 53 44.8	-0.1
	baz=248,SNR=25						
YUK4	Talbot Arm	22.11	49	P	P	12 53 48.5	+1.7
	baz=259						
DAWY	Dawson	22.44	42	P	P	12 53 49.8	-0.3
DAWY	Dawson	22.44	42	P	P	12 53 50.2	0.0
	baz=252						
HYT	Haines Junctio	22.57	51	P	P	12 53 51.5	-0.2
	baz=262						
SKAG	Skagway	23.53	54	P	P	12 54 01.1	-0.1
	baz=267						
SIT	Sitka	23.54	60	P	P	12 53 59.8	-1.6
	baz=273						
EPYK	Eagle Plains	24.25	37	IAmb	IAmb	12 54 15.7	
	comp=Z,10.0nm,0.8s						
EPYK	Eagle Plains	24.25	37	P	P	12 54 07.6	-0.5
	baz=250						
CRAG	Craig	24.91	64	IAmb	IAmb	12 54 29.1	
	comp=Z,12nm,0.9s						
CRAG	Craig	24.91	64	P	P	12 54 14.7	+0.6
	baz=278						
WRAK	Wrangell Islan	25.23	62	IAmb	IAmb	12 54 20.5	
	comp=Z,18nm,0.9s						
WRAK	Wrangell Islan	25.23	62	P	P	12 54 18.3	+1.4
	baz=276,SNR=9.3						
MMPY	Sheldon Lake,	25.74	47	P	P	12 54 22.4	+0.8
	baz=264						
INK	Inuvik	26.07	34	P	P	12 54 23.9	-0.5
	comp=Z,5.0nm,0.8s,baz=245,slow=9.5,SNR=8.0						
INK				PcP	PcP	12 57 51.9	+0.7
	comp=Z,3.2nm,0.9s,baz=294,slow=2.6,SNR=3.9						
INK	Inuvik	26.07	34	P	P	12 54 24.8	+0.4
INK						12 57 51.5	
INK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
INK	Inuvik	26.07	34	P	P	12 54 24.8	+0.4
INK					PcP	12 57 51.5	+0.2
INK	Inuvik	26.07	34	P	P	12 54 24.4	0.0
	baz=250						
DLBC	Dease Lake	26.29	57	P	P	12 54 28.4	+1.7
	comp=Z,6.9nm,0.9s,baz=302,slow=6.1,SNR=12						
DLBC	Dease Lake	26.29	57	P	P	12 54 28.6	+1.9
TYV	Tymovskoe	26.43	286	eP	P	12 54 32.1	+4.2
TYV				pmax	pmax		
	comp=Z,11nm,1.1s						
YSS	Yuzh-Sakhalins	27.80	278	eP	P	12 54 40.7	+0.5
YSS				pmax	pmax		
	comp=Z,20nm,1.1s						
JKA	Kamikawa-asahi	29.20	273	P	P	12 54 54.3	+1.6
JKA	Kamikawa-asahi	29.20	273	IAmb	IAmb	12 54 58.6	
	comp=Z,61nm,1.5s						
ASAJ	Asahikawa	29.20	273	P	P	12 54 54.3	+1.6
	comp=Z,16nm,1.0s,baz=62,slow=9.7,SNR=7.9						
YAK	Yakutsk	31.30	312⇑	eP	P	12 55 11.3	+0.2
YAK				pmax	pmax		
	comp=Z,8.0nm,0.5s						
TIXI	Tiksi	31.89	330	P	P	12 55 14.1	-2.1
	comp=Z,2.7nm,0.8s,baz=98,slow=7.1,SNR=3.0						
TIXI				PcP	PcP	12 58 06.2	+0.3
	comp=Z,7.4nm,0.8s,baz=60,slow=2.5,SNR=5.3						
TIXI				ScP	ScP	13 01 49.8	+2.7
	comp=Z,3.1nm,0.7s,baz=357,slow=4.9,SNR=3.2						
TIXI	Tiksi	31.89	330	P	P	12 55 14.7	-1.5
TIXI						12 58 06.1	
TIXI				pmax	pmax		
	comp=Z,11nm,1.4s						
TIXI	Tiksi	31.89	330	P	P	12 55 14.7	-1.5
TIXI				IAmb	IAmb	12 55 15.8	
	comp=Z,11nm,1.4s						
TIXI					PcP	12 58 06.1	+0.2
YKA	Yellowknife Ar	33.44	47	P	P	12 55 30.1	+0.3
	comp=Z,1.2nm,0.9s,baz=191,slow=30,SNR=2.0						
YKA				PcP	PcP	12 58 11.2	+0.9
	comp=Z,0.4nm,0.6s,baz=270,slow=1.9,SNR=4.3						
YKA	Yellowknife Ar	33.44	47	P	P	12 55 30.7	+1.0
YKA					PcP	12 58 10.0	-0.3
KLR	Kul'dur	33.57	288c	iP	P	12 55 30.5	-0.6
KLR				pmax	pmax		
	comp=Z,11nm,0.9s						
ZEA	Zeya	34.47	297	eP	P	12 55 37.9	-0.9
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
H11N2	WAKE ISLAND Hy	34.68	211	T	T	13 32 38.6	
	baz=18,slow=76,SNR=39						
H11N3	WAKE ISLAND Hy	34.69	211	T	T	13 32 39.2	
	baz=18,slow=76,SNR=27						
H11N1	WAKE ISLAND Hy	34.70	211	T	T	13 32 39.9	
	baz=18,slow=76,SNR=30						
G05D	Wamic, OR	35.44	78	P	P	12 55 47.8	+0.5
	baz=300						
USA0B	Ussuriysk Arra	35.76	280c	iP	P	12 55 49.3	-0.8
USA0B	Ussuriysk Arra	35.76	280	P	P	12 55 49.7	-0.3
USA0B				IAmb	IAmb	12 56 15.9	
	comp=Z,8.9nm,1.1s						
USRK	Ussuriysk Ar.	35.76	280	P	P	12 55 49.9	-0.2
	comp=Z,3.8nm,0.6s,baz=63,slow=9.5,SNR=12						
USRK	Ussuriysk Ar.	35.76	280	P	P	12 55 49.0	-1.1
I05D	Terrebonne, OR	35.88	80	P	P	12 55 51.3	+0.2
	baz=301						
H11S1	WAKE ISLAND Hy	35.89	211	T	T	13 35 08.2	
	baz=17,slow=74,SNR=24						
H11S2	WAKE ISLAND Hy	35.90	211	T	T	13 35 06.0	
	baz=313,slow=74,SNR=17						
H11S3	WAKE ISLAND Hy	35.91	211	T	T	13 34 34.1	
	SNR=8.7						
HAWA	Hanford	35.97	76	P	P	12 55 53.5	+1.7
HAWA				IAmb	IAmb	12 56 08.6	
	comp=Z,5.4nm,0.8s						
MJAR	Matsushiro Arr	36.25	265	P	P	12 55 54.9	+0.6
	comp=Z,5.3nm,0.6s,baz=46,slow=7.7,SNR=15						

MJAR Matsushiro Arr 36.25 265 P P 12 55 54.6 +0.2
MAJO Matsushiro 36.26 265*d i*P P 12 55 55.1 +0.7
MAJO pmax pmax
comp=Z,19nm,0.9s
MAJO Matsushiro 36.26 265 P P 12 55 54.7 +0.3
MAJO IAmb IAmb 12 55 56.6
comp=Z,17nm,0.9s
MAT Matsushiro 36.26 265 P P 12 55 54.9 +0.5
MJB9 Matsu-Tunnel 36.26 265 P P 12 55 55.9 +1.5
YBH Yreka Blue Hor 36.41 84 P P 12 55 57.6 +1.8
comp=Z,0.4nm,0.5s,baz=291,slow=23,SNR=1.5
J05D Fort Rock, OR 36.49 81 P P 12 55 57.2 +0.7
baz=302
NEW Newport 36.54 72 P P 12 55 56.3 -0.5
comp=Z,1.6nm,0.5s,baz=295,slow=4.4,SNR=3.9
NEW Newport 36.54 72 P P 12 55 58.1 +1.3
NEW IAmb IAmb 12 56 06.7
comp=Z,5.5nm,0.7s
NEW Newport 36.54 72 P P 12 55 57.2 +0.4
baz=297
EDM Edmonton 36.63 62 P P 12 55 58.2 +0.7
EDM pmax pmax
comp=Z,19nm,0.6s
EDM Edmonton 36.63 62 P P 12 55 58.2 +0.7
MDJ Mudanjiang 37.03 282 P P 12 55 59.9 -0.9
MDJ pmax pmax
comp=Z,8.0nm,0.7s
MDJ pmax pmax
comp=Z,98nm,5.8s
MDJ Mudanjiang 37.03 282 P P 12 55 60.0 -0.9
MDJ IAmb IAmb 12 56 01.5
comp=Z,11nm,0.9s
MSHR Mys Shultsa 37.13 278*de*P P 12 56 02.6 +0.9
MSHR pmax pmax
comp=Z,27nm,1.2s
I07A Izee 37.14 79 P P 12 56 03.8 +1.8
JGF Kuroka 37.38 264 P P 12 56 03.4 -0.7
JGF IAmb IAmb 12 56 06.5
comp=Z,33nm,1.3s
WVOR Wild Horse Val 38.55 81 P P 12 56 14.7 +0.8
WVOR pmax pmax
comp=Z,15nm,1.5s
WVOR Wild Horse Val 38.55 81 P P 12 56 14.7 +0.8
WVOR IAmb IAmb 12 56 41.7
comp=Z,15nm,1.4s
MSO Missoula 39.12 72 P P 12 56 19.1 +0.5
baz=300
CN2 Changchun 39.99 283 *e*P P 12 56 25.2 -0.5
CN2 pmax pmax
comp=Z,20nm,0.6s
CN2 LR LR
comp=N,400nm,17.0s
CN2 LR LR
comp=E,200nm,17.0s
CN2 LR LR
comp=Z,400nm,16.0s
HLID Hailey 40.53 77 P P 12 56 30.8 +0.4
baz=303
HIA Hailar 40.59 294⇑ *e*P P 12 56 32.1 +1.4
HIA pmax pmax
comp=Z,7.0nm,0.8s
BCYI Bear Canyon 40.74 75 P P 12 56 32.3 0.0
MCMT McKenzie Canyo 40.80 74 P P 12 56 33.4 +0.6
EGMT Eagleton 40.99 68 P P 12 56 35.6 +1.6
EGMT IAmb IAmb 12 56 48.2
comp=Z,7.1nm,0.8s
EGMT Eagleton 40.99 68 P P 12 56 34.3 +0.2
baz=300
NVAR Mina Array Bea 41.07 86 P P 12 56 38.2 +3.1
comp=Z,0.2nm,0.5s,baz=287,slow=10,SNR=2.4
NVAR ScP ScP 13 02 22.8 +0.9
comp=Z,0.3nm,0.4s,baz=256,slow=2.8,SNR=4.5
BOZ Bozeman (W) 41.13 72 P P 12 56 35.5 +0.2
BOZ pmax pmax
comp=Z,5.0nm,0.9s
BOZ Bozeman (W) 41.13 72 P P 12 56 35.5 +0.2
BOZ Bozeman (W) 41.13 72 P P 12 56 35.1 -0.3
baz=302
ELK Elko 41.61 81 P P 12 56 39.4 -0.1
ELK pmax pmax
comp=Z,3.0nm,0.7s
ELK Elko 41.61 81 P P 12 56 39.4 -0.1
FFC Flin Flon 42.12 56 P P 12 56 43.3 +0.2
FFC pmax pmax
comp=Z,7.0nm,0.8s
FFC Flin Flon 42.12 56 P P 12 56 43.3 +0.2
KSRS Korea Array 42.13 274 P P 12 56 44.1 +0.8
comp=Z,9.6nm,0.8s,baz=54,slow=7.5,SNR=38
KS19 Wonju Array Si 42.13 274 P P 12 56 44.9 +1.4
KS19 IAmb IAmb 12 56 47.5
comp=Z,19nm,1.1s
KSAR Wonju Array Be 42.16 274 P P 12 56 45.4 +1.7
KSAR Wonju Array Be 42.16 274 P P 12 56 45.4 +1.7
GCMT Greycliff 42.19 71 P P 12 56 44.2 +0.2
H17A Grant Village 42.40 73 P P 12 56 46.8 +0.8
H17A IAmb IAmb 12 57 03.6
comp=Z,10nm,1.0s
H17A Grant Village 42.40 73 P P 12 56 45.3 -0.6
baz=303
YNE Yellowstone No 42.41 72 P P 12 56 45.6 -0.4
RLMT Red Lodge 42.79 72 IAmb IAmb 12 57 07.9
comp=Z,11nm,0.9s
RLMT Red Lodge 42.79 72 P P 12 56 47.8 -1.2
baz=303
JNU Nakatsue 43.05 267 P P 12 56 51.3 +0.2
comp=Z,17nm,0.8s,baz=52,slow=7.6,SNR=8.4
JNU Nakatsue 43.05 267 P P 12 56 51.6 +0.6
TJN Taejon 43.15 273‖ *e*P P 12 56 54.1 +2.4
PRN Pahroc Range 43.73 84 P P 12 57 00.1 +3.5
PRN IAmb IAmb 12 57 28.0
comp=Z,9.6nm,0.9s
BW06 Boulder Array 43.93 75 IAmb IAmb 12 57 17.3
comp=Z,8.9nm,0.9s
BW06 Boulder Array 43.93 75 P P 12 56 58.4 +0.2
baz=305
PD31 Pinedale Array 43.93 75 P P 12 56 58.1 -0.1
PD31 IAmb IAmb 12 57 17.3
comp=Z,7.9nm,0.9s
PDAR Pinedale Array 43.93 75 P P 12 56 58.7 +0.5
comp=Z,2.1nm,0.6s,baz=305,slow=5.2,SNR=9.7
PDAR Pinedale Array 43.93 75 P P 12 56 57.8 -0.4
GSC Goldstone, Bar 43.96 88 P P 12 56 58.9 +0.5
baz=310
TMUT Trail Mountain 44.96 80 IAmb IAmb 12 57 36.5
comp=Z,4.6nm,0.8s
DL2 Dalian 45.16 280 P P 12 57 09.0 +1.3
DL2 pmax pmax
comp=Z,29nm,0.8s
RDMU Red Mountain 45.20 77 IAmb IAmb 12 57 32.0
comp=Z,8.3nm,1.0s
NRIK Noril'sk 45.68 331‖ *e*P P 12 57 14.0 +2.5
NRIK pmax pmax
comp=Z,7.0nm,1.4s
O20A White River Ci 46.27 77 IAmb IAmb 12 57 45.4
comp=Z,10nm,1.1s
O20A White River Ci 46.27 77 P P 12 57 16.0 -0.8
baz=307
RSSD Black Hills 46.45 70 P P 12 57 18.8 +0.6
RSSD pmax pmax
comp=Z,8.0nm,1.9s
GLA Glamis 46.67 89 P P 12 57 20.0 +0.1
baz=312
NEEM North Greenlan 46.86 14 *i* P P 12 57 20.4 -0.6
NEEM IAmb IAmb 12 57 21.2
comp=Z,9.5nm,0.8s
NEEM *i* 12 57 40.3
MDND Maddock 46.88 63 P P 12 57 21.5 +0.2
MDND Maddock 46.88 63 P P 12 57 19.8 -1.4
baz=304
PV22 Blue Mesa, Par 46.92 79 P P 12 57 22.4 +0.5
PV22 IAmb IAmb 12 57 47.2
comp=Z,12nm,1.5s
PV03 Paradox Valley 47.05 79 P P 12 57 23.5 +0.5
PV03 IAmb IAmb 12 57 44.8
comp=Z,4.6nm,0.8s
PV13 Radium Mtn., P 47.13 79 IAmb IAmb 12 57 45.1
comp=Z,6.9nm,0.7s
N23A Red Feather La 47.21 74 P P 12 57 23.1 -1.1
baz=307
PV01 Paradox Valley 47.30 79 IAmb IAmb 12 57 46.7
comp=Z,5.1nm,1.0s
ULM Lac du Bonnet 47.59 59 P P 12 57 26.0 -0.7
comp=Z,3.9nm,0.6s,baz=310,slow=7.2,SNR=4.5
ULM Lac du Bonnet 47.59 59 IAmb IAmb 12 57 28.3
comp=Z,18nm,1.4s
BJI Beijing 47.80 285 P P 12 57 29.2 +0.7
BJI pmax pmax
comp=Z,26nm,0.7s
BJI LR LR
comp=N,670nm,18.6s
BJI LR LR
comp=E,370nm,18.6s
BJI LR LR
comp=Z,890nm,21.4s
ISCO Idaho Springs 48.08 75 P P 12 57 31.1 +0.1
baz=308
ULN Ulaanbaatar 48.49 298*d i*P P 12 57 33.7 -0.2
ULN Ulaanbaatar 48.49 298 P P 12 57 33.0 -0.9
ULN IAmb IAmb 12 57 34.4
comp=Z,4.6nm,0.8s
AGMN Agassiz Nation 48.70 61 P P 12 57 35.1 -0.2
AGMN IAmb IAmb 12 57 37.1
comp=Z,7.0nm,0.8s
AGMN Agassiz Nation 48.70 61 P P 12 57 35.7 +0.4
baz=305
SONM Songino Array 48.87 299 P P 12 57 36.3 -0.4
comp=Z,3.8nm,0.8s,baz=56,slow=8.6,SNR=14
SONM PcP PcP 12 59 01.7 +0.8
comp=Z,1.8nm,0.6s,baz=48,slow=2.8,SNR=6.0
SONM ScP ScP 13 02 54.6 +0.9
comp=Z,0.6nm,0.7s,baz=15,slow=6.0,SNR=2.8
SONM Songino Array 48.87 299 P P 12 57 36.1 -0.7
SONM IAmb IAmb 12 57 37.5
comp=Z,4.6nm,1.0s
ZAK Zakamensk 49.08 303 *e*P P 12 57 36.6 -1.7
ZAK *e* 12 59 02.2
ZAK pmax pmax
comp=Z,12nm,1.2s
ZAK pmax pmax
comp=Z,7.0nm,1.1s
SDCO Great Sand Dun 49.43 78 P P 12 57 40.7 -0.7
baz=309
MOY Mondy 49.53 305 *e*P P 12 57 41.9 +0.1
MOY pmax pmax
comp=Z,11nm,1.5s
B35A Bob, Littlefor 49.82 60 P P 12 57 44.0 +0.1
B35A IAmb IAmb 12 57 45.4
comp=Z,8.1nm,1.0s
KBS Kingsbay 49.92 358 P P 12 57 44.5 +0.3
KBS pmax pmax
comp=Z,34nm,0.6s
KBS Kingsbay 49.92 358 P P 12 57 44.5 +0.3
HHC Hu-ho-hao-te 50.08 288 *e*P P 12 57 46.6 +0.5
HHC pmax pmax
comp=Z,14nm,1.2s
HHC pmax pmax
comp=Z,150nm,5.8s
T25A Trinidad 50.48 77 IAmb IAmb 12 58 17.1
comp=Z,8.9nm,1.0s
T25A Trinidad 50.48 77 P P 12 57 49.9 +0.6
baz=310
SPITS Spitsbergen Ar 50.55 357 P P 12 57 48.7 -0.4
comp=Z,13nm,0.6s,baz=52,slow=7.5,SNR=31
SPB2 Spitsbergen Ar 50.56 357 P P 12 57 49.1 +0.1
ECSD EROS Data Cent 50.99 66 P P 12 57 52.3 -0.5
baz=308
EYMN Ely 51.27 59 P P 12 57 55.8 +0.9
EYMN IAmb IAmb 12 57 57.4
comp=Z,13nm,1.1s
EYMN Ely 51.27 59 P P 12 57 55.2 +0.3
baz=307
NJ2 Nanjing 51.30 275 *e*P P 12 57 55.2 0.0
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
TIY Taiyuan 51.54 285 *e*P P 12 57 58.8 +1.8
E38A The Farm, Brul 52.06 60 IAmb IAmb 12 58 02.0
G40A Rib Lake 53.63 61 IAmb IAmb 12 58 29.1
comp=Z,5.5nm,0.9s
P38A Dawn 55.38 68 IAmb IAmb 12 58 28.1
comp=Z,9.8nm,0.9s
SSLB Suanglung 55.79 266 P P 12 58 28.7 +0.4
ZAA0 Zalesovo Array 55.83 315 P P 12 58 28.4 +0.2
ZALV Zalesovo Beam 55.83 315 P P 12 58 26.5 -1.6
comp=Z,0.7nm,0.5s,baz=13,slow=14,SNR=2.0
ZALV PcP PcP 12 59 27.5 +0.8
comp=Z,1.5nm,0.6s,baz=42,slow=3.5,SNR=4.8
ZALV Zalesovo Beam 55.83 315 P P 12 58 29.1 +1.0
ZALV 12 59 27.0
ZALV Zalesovo Beam 55.83 315 P P 12 58 29.1 +1.0
ZALV PcP 12 59 27.0 +0.3
YULB Yu-li 55.86 265 P P 12 58 28.4 -0.4
YULB IAmb IAmb 12 58 31.7
comp=Z,8.2nm,0.9s
E46A Sault Ste Mari 56.08 57 P P 12 58 30.1 +0.1
E46A IAmb IAmb 12 58 31.9
comp=Z,16nm,0.9s
XAN Xi'an 56.10 284 P P 12 58 30.0 -0.4
XAN pP pP 12 58 38.4 +0.8
XAN sP pwP 12 58 42.6 -1.0
XAN pmax pmax
comp=Z,15nm,1.7s
XAN Xi'an 56.10 284 P P 12 58 30.8 +0.4
XAN Xi'an 56.10 284 P P 12 58 30.8 +0.4
TX31 Lajitas Ar. Si 56.18 84 P P 12 58 30.5 -0.6
TX31 IAmb IAmb 12 58 57.1
comp=Z,23nm,1.4s
TX32 Lajitas Array 56.18 84 P P 12 58 31.1 -0.1
TXAR Lajitas Array 56.19 84 P P 12 58 31.2 0.0
comp=Z,0.5nm,0.7s,baz=301,slow=3.7,SNR=5.7
TXAR Lajitas Array 56.19 84 P P 12 58 30.9 -0.2
P40A Paris 56.30 67 P P 12 58 30.9 -0.8
P40A IAmb IAmb 12 58 40.7
comp=Z,12nm,0.8s
R40A Maddies Statio 57.00 68 IAmb IAmb 12 58 43.8
comp=Z,5.5nm,0.6s
DGZ Jazzator, Alta 57.48 310*c i*P P 12 58 40.2 0.0
DGZ pmax pmax
comp=Z,8.0nm,1.0s
CCM Cathedral Cave 57.76 68 P P 12 58 40.2 -1.9
baz=313
MGMO Mountain Grove 57.77 69 IAmb IAmb 12 58 59.3
comp=Z,5.7nm,0.9s
LZH Lanzhou 57.77 289 *e*P P 12 58 43.3 +0.9
LZH pP sP 12 58 52.3 0.0
LZH sP pwP 12 58 58.5 +3.0
LZH pmax pmax
comp=Z,34nm,1.1s
GTA Gaotai 57.87 294 ⇑P P 12 58 42.7 -0.3
GTA pP pP 12 58 47.2 -3.0
GTA sP sP 12 58 50.2 -2.7
GTA pmax pmax
comp=Z,6.0nm,0.9s
U40A Yellville 57.96 71 P P 12 58 42.3 -1.2
baz=313
SCHQ Schefferville 58.45 40 P P 12 58 46.3 -0.3
comp=Z,3.5nm,0.7s,baz=338,slow=7.1,SNR=5.0
ARCES ARCESS Array B 58.51 352 P P 12 58 45.9 -1.0
comp=Z,5.4nm,0.7s,baz=24,slow=9.3,SNR=15
ARCES PcP PcP 12 59 37.2 +0.2
comp=Z,8.2nm,0.8s,baz=15,slow=5.0,SNR=7.7
SFIN Lafayette 58.56 63 IAmb IAmb 12 58 50.8
comp=Z,12nm,0.9s
SFIN Lafayette 58.56 63 P P 12 58 47.3 -0.3
baz=313
FCAR Ozark Folk Cen 58.71 70 P P 12 58 47.1 -1.6
FCAR IAmb IAmb 12 59 06.1
comp=Z,9.5nm,1.0s
ZSN Zaisan 60.27 310 *e*P P 12 58 58.1 -1.3
baz=310
ZSN Zaisan 60.27 310 *e*P P 12 58 58.1 -1.3
WMQ Urumqi 61.42 305 *e*P P 12 59 07.2 -0.1
WMQ pP pwP 12 59 19.7 -0.8
WMQ pmax pmax
comp=Z,23nm,1.1s
WMQ pmax pmax
comp=Z,200nm,4.3s
WMQ LR LR
comp=N,530nm,18.3s
WMQ LR LR
comp=E,530nm,18.3s
WMQ LR LR
comp=Z,560nm,18.5s
O52A Adamsville 61.65 60 IAmb IAmb 12 59 09.6
comp=Z,12nm,0.8s
M54A Oil Creek Stat 61.84 58 P P 12 59 10.2 +0.1
baz=315
O53A New Philadelph 61.90 60 P P 12 59 10.6 +0.1
baz=315
CLTN Cedars of Leba 61.95 67 P P 12 59 11.8 +0.9
CLTN IAmb IAmb 12 59 33.0
comp=Z,6.8nm,1.0s
MK31 Makanchi Array 61.97 311 *ce*P P 12 59 10.1 -0.8
MK31 Makanchi Array 61.97 311 P P 12 59 10.2 -0.7
MK31 IAmb IAmb 12 59 10.9
comp=Z,5.0nm,0.7s
MKAR Makanchi Array 61.97 311 P P 12 59 10.2 -0.7
comp=Z,5.5nm,0.4s,baz=46,slow=5.7,SNR=84
N54A Moraine State 62.05 59 P P 12 59 10.8 -0.7
baz=315
J56A Wolcott 62.06 55 P P 12 59 10.9 -0.5
MAKZ Makanchi 62.11 311 P P 12 59 10.5 -1.3
MAKZ pmax pmax
comp=Z,6.0nm,0.7s
MAKZ Makanchi 62.11 311 P P 12 59 10.5 -1.3
MAKZ IAmb IAmb 12 59 11.9
comp=Z,6.1nm,0.7s
MANU Manus Island 62.13 224 P P 12 59 08.7 -3.6
LONY Lake Ozonia 62.25 53 IAmb IAmb 12 59 13.1
comp=Z,11nm,1.1s
LONY Lake Ozonia 62.25 53 P P 12 59 11.8 -1.0
baz=316
BVAR Borovoye Array 62.49 322 P P 12 59 14.5 +0.3
comp=Z,9.6nm,0.4s,baz=18,slow=0.5,SNR=60
BRVK Borovoye 62.50 322*de*P P 12 59 14.8 +0.5
BRVK pmax pmax
comp=Z,4.0nm,0.5s
BRVK Borovoye 62.50 322 P P 12 59 14.5 +0.2
BRVK IAmb IAmb 12 59 15.8
comp=Z,6.6nm,0.5s
L56A Greenwood 62.50 56 P P 12 59 15.0 +0.4
K57A Scipio Center 62.62 55 P P 12 59 15.9 +0.6
GYA Guiyang 62.80 279 ⇑P P 12 59 18.4 +1.6
GYA pmax pmax
comp=Z,14nm,0.7s
Q54A Coxs Mills 63.00 61 IAmb IAmb 12 59 32.7
comp=Z,7.2nm,0.7s
D62A Allapoint, All 63.12 48 P P 12 59 17.7 -0.8
baz=317
J59A Piesco 63.12 53 IAmb IAmb 12 59 19.5
comp=Z,9.3nm,0.7s
TZTN Tazewell 63.22 64 P P 12 59 20.3 +1.0
baz=315
E62A Clayton Lake 63.24 48 P P 12 59 18.1 -1.2
baz=317
BINY Binghamton 63.27 55 P P 12 59 20.8 +1.1
BINY Binghamton 63.27 55 P P 12 59 19.6 -0.1
baz=316,SNR=6.0
M57A Sunshine Farm, 63.30 57 P P 12 59 20.6 +0.8
M57A IAmb IAmb 12 59 28.2
comp=Z,10nm,0.9s
O56A Blue Knob Stat 63.31 58 P P 12 59 19.4 -0.6
baz=316
SSPA Standing Stone 63.40 58 P P 12 59 20.7 +0.1
SSPA Standing Stone 63.40 58 P P 12 59 20.6 +0.1
baz=316
I60A Shoreham 63.45 52 P P 12 59 19.2 -1.6
baz=317
FPAL Fort Paine 63.46 67 P P 12 59 20.8 -0.3
FPAL IAmb IAmb 12 59 39.6
comp=Z,9.1nm,0.8s
F62A Pittston Farm, 63.56 49 P P 12 59 19.2 -2.2
baz=317
S54A Dingess, Beckl 63.58 62 P P 12 59 22.5 +0.8
ACCN Adirondack Com 63.60 53 P P 12 59 21.9 +0.1
L59A Walton 63.77 55 P P 12 59 23.5 +0.6
G62A West of Eustis 63.79 50 P P 12 59 23.2 +0.2
G62A West of Eustis 63.79 50 P P 12 59 22.9 -0.1
baz=317,SNR=5.5
LBNH Lisbon 63.84 51 P P 12 59 22.1 -1.2
baz=317
KSPA Keystone Colle 63.85 56 P P 12 59 24.3 +0.9
KSPA IAmb IAmb 12 59 25.3
comp=Z,9.5nm,0.8s
N58A Sunbury 63.88 57 IAmb IAmb 12 59 25.6
comp=Z,9.0nm,0.9s
R55A Marlinton 63.89 61 IAmb IAmb 12 59 39.3
comp=Z,9.0nm,1.1s
E63A Oxbow 63.90 48 P P 12 59 23.3 -0.4
E63A Oxbow 63.90 48 P P 12 59 22.6 -1.0
baz=318,SNR=5.7
BRZS Berezniki 63.90 318 *e*P P 12 59 22.3 -1.4
baz=318
BRZS Berezniki 63.90 318 *e*P P 12 59 22.2 -1.4
ARU Arti 63.90 330 P P 12 59 23.6 +0.1
comp=Z,2.4nm,0.6s,baz=15,slow=5.5,SNR=11
ARU Arti 63.90 330*d i*P P 12 59 23.7 +0.1
ARU 12 59 58.2
ARU 13 01 41.2
ARU S S 13 07 57.9 +1.0
ARU SS SS 13 11 59.9 -4.6
ARU pmax pmax
comp=Z,8.0nm,0.8s
ARU Arti 63.90 330 P P 12 59 23.1 -0.4
ARU IAmb IAmb 12 59 24.6
comp=Z,6.5nm,0.7s
F63A Nahmakanta, Br 64.11 49 P P 12 59 24.7 -0.4
baz=318
P57A Homestead Farm 64.17 59 IAmb IAmb 12 59 27.0
comp=Z,7.3nm,0.8s
J61A Chester 64.18 52 P P 12 59 25.4 -0.2
baz=317
N59A State Game Lan 64.31 56 IAmb IAmb 12 59 28.9
comp=Z,14nm,1.0s
N59A State Game Lan 64.31 56 P P 12 59 26.8 +0.2
baz=317
K61A Williamstown 64.32 53 P P 12 59 25.5 -1.0
baz=317
F64A Sherman 64.34 48 P P 12 59 25.8 -0.8
baz=318
J62A Henniker 64.64 52 P P 12 59 29.2 +0.7
baz=318
KIRV Kirov 64.64 336⇑ *i*P P 12 59 28.9 +0.6
LUPA Lehigh Univers 64.75 56 P P 12 59 29.8 +0.5
L61B Northampton 64.77 53 P P 12 59 27.7 -1.8
baz=317
KLMR Klimovskoe 64.80 342 *e*P P 12 59 26.9 -2.4
KLMR pmax pmax
comp=Z,15nm,1.6s
KLMR Klimovskoe 64.80 342 *e*P P 12 59 27.0 -2.4
KLMR AMP 12 59 29.7
comp=Z,15nm,1.6s
K62A Royalston 64.84 53 P P 12 59 30.1 +0.3
baz=318
H64A Troy 64.84 49 P P 12 59 28.7 -1.2
baz=318
K63A Dunstable 65.17 52 P P 12 59 31.7 -0.3
baz=318
G65A Princeton 65.21 48 P P 12 59 31.6 -0.6
baz=319
PAL Palisades 65.21 55 P P 12 59 32.2 -0.1
baz=317
T57A Hurt 65.29 61 IAmb IAmb 12 59 34.4
comp=Z,6.8nm,1.1s
HRV Adam Dziewonsk 65.29 52 P P 12 59 32.7 -0.1
baz=318
R58B Mineral 65.34 60 IAmb IAmb 12 59 48.4
comp=Z,6.2nm,0.8s
KMSC Kings Mountain 65.48 64 IAmb IAmb 12 59 43.5
comp=Z,8.0nm,0.9s
KMSC Kings Mountain 65.48 64 P P 12 59 33.7 -0.4
baz=317
GOGA Godfrey 65.51 67 P P 12 59 34.3 -0.1
GOGA pmax pmax
comp=Z,7.0nm,0.9s
GOGA Godfrey 65.51 67 P P 12 59 34.3 -0.1
GOGA IAmb IAmb 12 59 52.9
comp=Z,6.6nm,0.8s
GOGA Godfrey 65.51 67 P P 12 59 34.6 +0.2
baz=316
HODGE Hodges 65.61 65 P P 12 59 36.3 +1.3
HODGE IAmb IAmb 12 59 50.7
comp=Z,5.8nm,0.7s
L63A North Scituate 65.74 53 P P 12 59 36.4 +0.7
baz=318
LMN Caledonia Moun 65.98 46 P P 12 59 36.2 -1.0
SHLS Shalkode 66.01 310 *e*P P 12 59 35.4 -2.2
baz=309
SHLS Shalkode 66.01 310 *e*P P 12 59 35.4 -2.2
KPKS Kokpek 66.15 310 *e*P P 12 59 37.4 -1.1
baz=310
KPKS Kokpek 66.15 310 *e*P P 12 59 37.4 -1.1
KMI Kunming 66.19 281 ⇑P P 12 59 41.2 +2.1
KMI pP sP 12 59 50.2 +1.1
KMI sP pwP 12 59 53.7 +1.3
KMI pmax pmax
comp=Z,15nm,0.6s
UZB Uzynbulak 66.23 310 *e*P P 12 59 38.1 -1.0

baz=310
UZB Uzynbulak 66.23 310 eP P 12 59 38.1 -1.0
T59A Double "B" Far 66.24 60 IAmb IAmb 12 59 54.3
comp=Z,10.0nm,0.9s
FINES FINESS Array B 66.32 349 P P 12 59 38.0 -1.1
comp=Z,3.0nm,0.6s,baz=13,slow=8.1,SNR=9.2
SATY Saty 66.59 310 eP P 12 59 40.2 -1.2
baz=310
SATY Saty 66.59 310 eP P 12 59 40.2 -1.2
CHKK Chushkaly 66.66 312 eP P 12 59 40.4 -1.2
baz=312
KUU Kurty 66.94 312 eP P 12 59 42.0 -1.4
baz=312
KUU Kurty 66.94 312 eP P 12 59 42.0 -1.4
MDOK Medeo 67.16 311 eP P 12 59 43.7 -1.3
baz=311
MDOK Medeo 67.16 311 eP P 12 59 43.6 -1.4
MTBS Maitube 67.48 311 eP P 12 59 46.0 -0.9
baz=311
NC204 NORSAR Array S 67.63 357 P P 12 59 47.2 -0.4
NC303 NORSAR Array S 67.66 357 P P 12 59 47.1 -0.6
NB201 NORSAR Array S 67.84 357 P P 12 59 48.5 -0.4
NB2 NORSAR Subarra 67.86 357 P P 12 59 48.3 -0.6
comp=Z,2.9nm,0.6s,baz=5.2,slow=6.5
NOA NORSAR Array B 67.86 357 P P 12 59 48.4 -0.6
comp=Z,6.4nm,0.8s,baz=4.4,slow=6.3,SNR=22
NBO00 NORSAR Array S 67.88 357 P P 12 59 49.3 +0.2
KDJ Kajisay 67.89 310 IAmb IAmb 12 59 51.1
comp=Z,9.1nm,1.0s
SGDS Sogindy 68.07 313 eP P 12 59 49.5 -1.1
baz=313
NORES NORESS Array B 68.15 357 P P 12 59 50.1 -0.6
AAL Aland 68.18 352 eP P 12 59 50.1 -0.8
SLVN Son La 68.26 277 P P 12 59 52.9 +0.8
SLVN IAmb IAmb 12 59 55.1
comp=Z,7.5nm,1.1s
UPP Uppsala 68.69 353 eP P 12 59 53.5 -0.6
AAK Ala-Archa 68.76 312 *c iP* **P 12 59 55.6 +0.5**
AAK pmax pmax
comp=Z,25nm,0.7s
AAK Ala-Archa 68.76 312 P P 12 59 55.4 +0.3
AAK IAmb IAmb 12 59 56.5
comp=Z,8.8nm,0.8s
AKTO Aktyubinsk 69.11 327 P P 12 59 57.0 +0.1
comp=Z,6.3nm,0.5s,baz=62,slow=7.6,SNR=21
VSU Vasula 69.14 348 eP P 12 59 56.6 -0.3
VSU Vasula 69.14 348 ‖ eP P 12 59 56.3 -0.6
MTSE Matsula 69.25 350 eP P 12 59 57.2 -0.3
ABKAR Akbulak array 69.43 325 P P 12 59 58.6 -0.3
ABKAR IAmb IAmb 13 00 23.3
comp=Z,5.9nm,0.8s
LSA Lhasa 69.78 292 P P 13 00 03.7 +1.7
LSA pmax pmax
comp=Z,21nm,0.9s
LSA Lhasa 69.78 292 P P 13 00 03.7 +1.7
KK31 Karatay Array 70.20 315 IAmb IAmb 13 00 04.7
comp=Z,9.6nm,1.1s
KKAR Karatay Array 70.20 315 P P 13 00 03.2 -0.6
KKAR pmax pmax
comp=Z,10.0nm,1.1s
KKAR Karatay Array 70.20 315 P P 13 00 03.1 -0.6
KKAR IAmb IAmb 13 00 04.7
comp=Z,9.6nm,1.1s
KSH Kashi 70.48 309 P P 13 00 10.0 +4.3
KSH pmax pmax
comp=Z,22nm,0.7s
KSH LR LR
comp=N,350nm,17.3s
KSH LR LR
comp=E,290nm,14.7s
KSH LR LR
comp=Z,340nm,15.2s
ARSB Arslanbob 70.49 312 P P 13 00 07.2 +1.4
ARSB pmax pmax
comp=Z,9.0nm,1.4s
ARSB Arslanbob 70.49 312 P P 13 00 07.2 +1.4
ARSB IAmb IAmb 13 00 07.7
comp=Z,8.9nm,1.4s
BELG Belogornoye 70.61 334 *d iP* **P 13 00 06.0 0.0**
BELG pmax pmax
comp=Z,1.0nm,0.6s
OBN Obninsk 70.73 342 eP P 13 00 07.0 +0.3
OBN *e* 13 00 29.0
OBN pmax pmax
comp=Z,14nm,0.4s
IUG Iuzhnay 71.18 315 eP P 13 00 08.3 -1.6
baz=315
IUG Iuzhnay 71.18 315 eP P 13 00 08.3 -1.6
PABE Paberze 72.37 349 eP P 13 00 15.7 -0.9
SHL Shillong 72.44 289 P P 13 00 17.5 -0.3
SHL pmax pmax
comp=Z,69nm,1.3s
SHL Shillong 72.44 289 P P 13 00 17.4 -0.3
CHTO Chiang Mai 73.22 279 P P 13 00 26.4 +4.1
comp=Z,6.1nm,1.4s
EKA Eskdalemuir Ar 73.46 5 P P 13 00 22.9 -0.2
CMAR Chiang Mai Arr 73.49 279 P P 13 00 23.1 -0.7
comp=Z,1.7nm,0.6s,baz=28,slow=6.4,SNR=8.9
CMAR Chiang Mai Arr 73.49 279 *i P* **P 13 00 24.5 +0.7**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 73.49 279 P P 13 00 23.5 -0.3
CM04 Chiang Mai Arr 73.51 279 P P 13 00 40.2 +16
CM05 Chiang Mai Arr 73.53 279 P P 13 00 28.8 +4.7
comp=Z,4.3nm,1.0s
TAPN Taplejung 73.53 293 eP P 13 00 25.2 +0.8
GAR Garm 73.57 313 P P 13 00 24.4 +0.2
GUN Gumba 74.15 295 eP P 13 00 28.8 +0.7
JIRN Jiri 74.17 294 eP P 13 00 29.1 +0.9
comp=Z,104nm,0.8s
CHGR Chuyangaron 74.38 313 P P 13 00 28.6 -0.3
RAMN Ramite 74.47 294 eP P 13 00 30.4 +0.6
comp=Z,47nm,0.6s
KKN Kakani 74.59 295 eP P 13 00 31.2 +0.8
PKI Pulchoki 74.68 295 eP P 13 00 31.5 +0.4
comp=Z,83nm,1.1s
PKIN Phulchoki 74.68 295 eP P 13 00 31.4 +0.3
comp=Z,47nm,0.9s
GKN Gorkha 74.79 296 eP P 13 00 32.0 +0.5
DMN Daman 74.83 295 eP P 13 00 32.5 +0.6
DANN Dangsing 75.02 297 eP P 13 00 33.7 +0.7
comp=Z,114nm,0.9s
KOLN Koldanda 75.55 296 eP P 13 00 36.5 +0.5
comp=Z,68nm,1.0s
PYUN Piuthan 75.64 297 eP P 13 00 37.0 +0.5
comp=Z,120nm,0.9s
AKASG Malin Array Be 76.29 345 P P 13 00 38.3 -1.2
comp=Z,2.0nm,0.4s,baz=18,slow=5.7,SNR=9.1
AKBB Malin Array Si 76.29 345 ‖ *eP* **P 13 00 38.3 -1.2**
AKBB pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 76.29 345 IAmb IAmb 13 00 39.0
comp=Z,10nm,1.4s
NIL Nilore 76.45 307 P P 13 00 41.5 +0.7
NIL pmax pmax
comp=Z,26nm,0.8s
NIL Nilore 76.45 307 P P 13 00 41.5 +0.7
CLL Colm 77.50 355 *i P* **P 13 00 46.2 -0.1**
comp=Z,8.0nm,0.9s
CLL Collm 77.50 355 *i P* **P 13 00 46.2 -0.1**
CLL pmax pmax
comp=Z,8.0nm,0.9s
KBL Kabul 77.78 311 P P 13 00 48.2 -0.3
KBL pmax pmax
comp=Z,35nm,1.3s
KBL Kabul 77.78 311 P P 13 00 48.2 -0.3
BRG Berggiesshubel 77.88 354 *i P* **P 13 00 48.6 +0.1**
BRG Amp 13 00 49.2
comp=Z,6.9nm,0.8s
BRG Amp 13 07 13.0
comp=E,0.1nm,10.5s
BRG Amp 13 07 23.0
comp=N,0.1nm,16.9s
BRG Amp 13 07 28.0
comp=Z,0.2nm,15.2s
BRG Amp 13 33 45.0
comp=N,0.2nm,14.8s
BRG Amp 13 33 59.0
comp=Z,0.2nm,17.4s
BRG Amp 13 34 26.0
comp=E,0.0nm,17.5s
OSTC Ostas 78.03 353 eP P 13 00 50.1 +0.7
DPC Dobruska-Polom 78.23 353 eP P 13 00 50.7 +0.2
DPC Dobruska-Polom 78.23 353 eP P 13 00 50.7 +0.2
BGES Gesves 78.64 0 *dP* **P 13 00 53.2 +0.5**
BMRD Maredsous 78.72 0 *kP* **P 13 00 53.8 +0.7**
GIVF Givet 78.92 0 *eP* **P 13 00 55.4 +1.2**
GIVF pmax pmax
comp=Z,24nm,1.2s
BAIF Baives 78.96 1 *eP* **P 13 00 54.9 +0.5**
BAIF pmax pmax
comp=Z,8.0nm,0.7s
KHC Kasperske Hory 79.64 354 *eP* **P 13 00 58.6 +0.4**
KHC Kasperske Hory 79.64 354 *eP* **P 13 00 58.6 +0.4**
KIV Kislovodsk 79.66 333 *eP* **P 13 00 59.8 +1.3**
KIV *e* 13 01 07.2
KIV *e* 13 03 55.3
KIV pmax pmax
comp=Z,4.0nm,0.5s
GEYT Alibeck 79.75 320 P P 13 01 00.1 +1.1
comp=Z,9.0nm,0.8s,baz=3.8,slow=4.5,SNR=9.0
GEYT Alibeck 79.75 320 P P 13 01 00.9 +1.8
KBZ Khabaz 79.81 333 P P 13 00 59.3 +0.2
comp=Z,0.8nm,0.4s,baz=84,slow=6.0,SNR=2.4
BUR08 Bucovina Ar. S 79.89 346 P P 13 00 59.8 +0.1
GERES GERESS Array B 79.92 354 P P 13 00 59.4 -0.4
comp=Z,1.7nm,0.7s,baz=35,slow=4.9,SNR=14
BURAR Bucovina Array 79.92 346 P P 13 00 59.4 -0.5
BURAR IAmb IAmb 13 01 00.8
comp=Z,4.5nm,0.9s
FLN La Foliniere 80.15 4 *eP* **P 13 00 59.8 -1.1**
FLN pmax pmax
comp=Z,69nm,1.9s
LDF La Druitiere 80.33 4 *eP* **P 13 01 01.8 -0.1**
LDF pmax pmax
comp=Z,6.0nm,0.6s
GRR Gorron 80.50 4 *eP* **P 13 01 03.0 +0.2**
GRR pmax pmax
comp=Z,15nm,1.0s
SGMF Saint Gilles 80.55 5 *eP* **P 13 01 03.4 +0.3**
SGMF pmax pmax
comp=Z,70nm,1.8s
CDF Champ du Feu 80.60 359 *eP* **P 13 01 03.6 +0.1**
CDF pmax pmax
comp=Z,3.0nm,0.6s
CONA Conrad Observa 80.67 353 *eP* **P 13 01 04.2 +0.3**
comp=Z,3.9nm,0.9s
MOA Molln 80.87 354 *i P* **P 13 01 05.3 +0.4**
comp=Z,3.2nm,0.7s
HAU Haudompre 81.02 359 *eP* **P 13 01 05.9 +0.3**
HAU pmax pmax
comp=Z,14nm,1.0s
HRA Herat 81.03 315 P P 13 01 06.3 +0.2
HRA IAmb IAmb 13 01 07.6
comp=Z,9.2nm,0.7s
HINF Hinteralfeld 81.20 359 *eP* **P 13 01 06.6 0.0**
HINF pmax pmax
comp=Z,10.0nm,1.1s
ARSA Arzberg 81.38 353 *eP* **P 13 01 07.1 -0.4**
comp=Z,5.1nm,1.1s
KBA Koelnbreinsper 81.70 354 *i P* **P 13 01 09.3 -0.1**
comp=Z,8.8nm,0.8s
MLR Muntele Rosu 81.88 345 P P 13 01 09.9 -0.5
comp=Z,5.0nm,0.8s,baz=53,slow=2.4,SNR=7.3
MLR Muntele Rosu 81.88 345 P P 13 01 10.9 +0.5
MLR IAmb IAmb 13 01 12.9
comp=Z,4.8nm,0.7s
FETA Feichten 81.89 356 *eP* **P 13 01 09.1 -1.3**
comp=Z,4.3nm,0.9s
SOKA Soboth 81.98 353 *eP* **P 13 01 09.4 -1.4**
comp=Z,7.5nm,1.0s
ABTA Abfaltersbach 82.08 355 *eP* **P 13 01 10.9 -0.5**
comp=Z,8.0nm,1.4s
TIRR Tirgusor 82.47 343 P P 13 01 13.9 +0.6
TIRR pmax pmax
comp=Z,25nm,0.8s
TIRR Tirgusor 82.47 343 P P 13 01 13.9 +0.6
GNI Garni 82.55 331 ‖ *eP* **P 13 01 15.3 +1.3**
GNI pmax pmax
comp=Z,17nm,1.9s
WRA Warramunga Arr 83.77 227 P P 13 01 19.0 -1.2
comp=Z,0.8nm,0.8s,baz=43,slow=5.1,SNR=6.8
WRA Warramunga Arr 83.77 227 *i P* **P 13 01 21.1 +0.9**
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 83.77 227 P P 13 01 20.8 +0.6
DIVS Divibare 84.07 349 P P 13 01 20.9 -0.8
DIVS IAmb IAmb 13 01 22.7
comp=Z,2.9nm,0.7s
PSI Prapat 85.48 269 P P 13 01 27.5 -1.8
PSI pmax pmax
comp=Z,10.0nm,0.7s
RPSI Rantau Prapat 85.57 269 P P 13 01 27.5 -2.0
NRCA Norcia 85.94 354 P P 13 01 32.1 +1.0
NRCA IAmb IAmb 13 01 32.4
comp=Z,13nm,1.2s
BRTR Keskin Array B 85.95 338 P P 13 01 31.1 -0.1
comp=Z,2.0nm,0.8s,baz=64,slow=2.9,SNR=8.9
FITZ Fitzroy Crossi 86.45 235 P P 13 01 33.5 -0.2
FITZ IAmb IAmb 13 01 34.6
comp=Z,5.6nm,0.8s
ASAR Alice Springs 87.20 226 P P 13 01 37.0 -0.2
comp=Z,2.5nm,0.9s,baz=33,slow=4.7,SNR=17
ESDC Sonseca Array 89.00 7 P P 13 01 44.8 -1.0
comp=Z,1.5nm,0.9s,baz=10.0,slow=3.9,SNR=6.7
ESDC Sonseca Array 89.00 7 P P 13 01 45.6 -0.2
ESDC IAmb IAmb 13 01 46.9
comp=Z,4.2nm,1.2s
TORD Torodi Ar. Bea 115.70 4 PKP PKiKP 13 07 33.1 -0.5
comp=Z,0.4nm,0.6s,baz=347,slow=2.7,SNR=3.2
H03N2 Juan Fernandez 118.75 108 T T 15 18 52.2
baz=319,slow=76
H03N1 Juan Fernandez 118.77 108 T T 15 19 19.8
baz=319,slow=76
H03N3 Juan Fernandez 118.77 108 T T 15 19 12.0
baz=319
MAW Mawson 147.99 218 PKPbc PKPbc 13 08 34.9 0.0
comp=Z,6.0nm,0.8s,baz=59,slow=3.9,SNR=16
MAW Mawson 147.99 218 PKPdf PKPdf 13 08 33.3 +1.5
BOSA Boshof 152.74 319 PKPbc PKiKP 13 08 49.6 +1.6
comp=Z,4.4nm,0.5s,baz=12,slow=2.9,SNR=8.5
BOSA Boshof 152.74 319 PKP2 PKPab 13 08 59.2 +0.6
BOSA Boshof 152.74 319 PKPab PKPab 13 08 59.2 +0.6

NOU 04 13:06:28.8, 16.85S×167.43E, h0km, mb4.1/12, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**1.13**	**140**	P	Pg	13 06 50.0	-0.5
RTV	**Rentapao**	**1.33**	**135**	P	Pb	13 06 54.9	+0.2
LIFNC	**LIFOU**	**3.91**	**183**	P	Pn	13 07 28.5	-1.7
MARNC	**Mare, Loyalty**	**4.64**	**173**	P	Pn	13 07 40.0	-0.2
KOUNC	**Koumac, New Ca**	**4.74**	**219**	P	Pn	13 07 41.0	-0.5
YATNC	**Mamie plateau,**	**5.21**	**186**	P	Pn	13 07 46.9	-1.1
DZM	**Mont Dzumac**	**5.28**	**190**	P	Pn	13 07 49.0	0.0
NOUC	**Port Laguerre**	**5.33**	**191**	P	Pn	13 07 50.6	+0.9
ONTNC	**Ouen Toro**	**5.51**	**189**	P	Pn	13 07 52.8	+0.7
OUENC	**Ouen Island, N**	**5.57**	**186**	P	Pn	13 07 53.2	+0.3
PINNC	**Pines Island,**	**5.73**	**180**	P	Pn	13 07 56.0	+0.8

*IDC **04** 13:11:31.1±0.8, 15.22S×173.52W, h0km, mb3.7/8, mb1 4.1/9, mb1mx3.8/25, mbtmp3.8/9, ML3.2/1, Error ellipse: s-maj=41.5km s-min=19.2km az=146.0*
ISC 04 13:11:36.0±0.8, 15.4S±0.2×173.4W±0.1, h35km, n16, σ1s0.0, 10, mb3.7/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**14.19**	**116**	Pn	**Pn**	**13 14 53.7**	**-0.9**
	1.1nm,0.3s,baz=284,slow=4.2,SNR=1.8						
URZ	**Urewera**	**24.30**	**198**	P	**P**	**13 16 52.0**	**+1.8**
	1.7nm,0.4s,baz=348,slow=20,SNR=1.1						
H11S2	**WAKE ISLAND Hy**	**38.93**	**329**	T	T	13 59 40.3	
	baz=146,slow=74						
H11S3	**WAKE ISLAND Hy**	**38.94**	**329**	T	T	13 59 46.2	
	baz=146,slow=74						
H11S1	**WAKE ISLAND Hy**	**38.95**	**329**	T	T	13 59 45.5	
	baz=146						
H11N3	**WAKE ISLAND Hy**	**39.88**	**330**	T	T	14 01 32.9	
	baz=149,slow=76,SNR=15						
H11N1	**WAKE ISLAND Hy**	**39.88**	**330**	T	T	14 01 31.7	
	baz=149,slow=76,SNR=16						
H11N2	**WAKE ISLAND Hy**	**39.89**	**330**	T	T	14 01 34.3	
	baz=149,slow=76,SNR=10.0						
STKA	**Stephens Creek**	**44.05**	**240**	P	**P**	**13 19 40.2**	**-0.5**
	0.6nm,0.5s,baz=90,slow=10,SNR=2.0						
WRA	**Warramunga Arr**	**49.85**	**257**	P	**P**	**13 20 25.7**	**-0.5**
	0.3nm,0.4s,baz=90,slow=7.6,SNR=15						
ASAR Alice Springs 50.12 252 P P 13 20 27.7 -0.6
1.9nm,0.6s,baz=91,slow=7.7,SNR=19
NVAR Mina Array Bea 74.30 42 P P 13 23 10.8 +0.5
0.5nm,0.7s,baz=225,slow=8.9,SNR=4.5
TXAR Lajitas Array 80.59 56 P P 13 23 46.7 +1.2
0.1nm,0.3s,baz=224,slow=6.3,SNR=7.4
PDAR Pinedale Array 82.24 42 P P 13 23 54.0 -0.1
0.6nm,0.8s,baz=215,slow=4.9,SNR=5.2
ILAR Eielson Array 82.41 11 P P 13 23 53.4 -0.7
0.3nm,0.7s,baz=208,slow=5.7,SNR=2.3
GERES GERESS Array B 146.10 352 PKPbc PKPab 13 31 13.4 +0.2
0.1nm,0.3s,baz=48,slow=1.5,SNR=3.6

MEX 04 13:14:12.5±0.3, 17.08N×94.17W, h159km±4km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.68**	**271**	*i* P	Pn	13 14 34.5	-1.4
CMIG				*i* S	Sn	13 14 51.6	-2.1
TGIG		**1.05**	**107**	*i* P	Pn	13 14 37.1	-1.5
TGIG				*i* S	Sn	13 14 56.5	-2.1
PCIG		**1.65**	**146**	*eP*	Pn	13 14 43.0	-1.3
PCIG				*eS*	Sn	13 15 06.7	-2.1
VHO	**Vista Hermosa**	**2.45**	**270**	*i* P	Pn	13 14 53.9	+0.3
VHO				*eS*	Sn	13 15 24.2	-1.3
TOIG	**Toxpalan**	**2.94**	**290**	*eP*	Pn	13 14 58.3	-1.2
TOIG				*eS*	Sn	13 15 33.4	-2.6
YOIG	**Yosondua**	**3.24**	**266**	*eP*	Pn	13 15 02.5	-1.0
YOIG				*eS*	Sn	13 15 40.2	-2.8

*TAP **04** 13:24:16.4, 24.48N×122.40E, h6km, ML3.0_D*
*JMA **04** 13:24:16.7, 24.40N×122.46E, h24km±1km, M3.4*
ISC 04 13:24:16.3±0.9, 24.45N±0.03×122.45E±0.02, h15km±8km, n61, σ0s0.68/96, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.45**	**89**	P	**Pg**	**13 24 25.7**	**+0.3**
JYNG				S	Sg	13 24 32.0	+0.5
YOJ	**Yonaguni jima**	**0.51**	**88**	P	**Pg**	**13 24 26.8**	**+0.3**
YOJ				*eS*	**Sg**	**13 24 34.1**	**+0.7**
YOJ	**Yonaguni jima**	**0.51**	**88**	P	**Pg**	**13 24 26.9**	**+0.3**
	baz=91						
YOJ				S	**Sb**	**13 24 36.1**	**+1.8**
	baz=91						
TWC	**Suao**	**0.57**	**287**	*i* P	**Pg**	**13 24 26.6**	**-0.9**
	baz=284						
TWC				*eS*	**Sg**	**13 24 35.3**	**+0.2**
	baz=284						
EWUT	**Wuta**	**0.61**	**270**	*eP*	**Pg**	**13 24 27.8**	**-0.5**
	baz=276						
EWUT				*eS*	**Sb**	**13 24 37.0**	**-0.1**
	baz=276						
EGS		**0.61**	**310**	*eP*	**Pg**	**13 24 28.6**	**+0.3**
	baz=311						
EGS				*eS*	**Sb**	**13 24 37.2**	**0.0**
	baz=311						
ENA	**Nanau**	**0.64**	**268**	P	**Pg**	**13 24 28.4**	**-0.6**
	baz=264						
NDS	**Dongshan**	**0.69**	**286**	P	**Pg**	**13 24 29.1**	**-0.7**
	baz=283						
NDS				S	**Sb**	**13 24 39.3**	**-0.1**
	baz=283						
NTC	**Toucheng**	**0.69**	**306**	*eP*	**Pg**	**13 24 29.6**	**-0.2**
	baz=305						
NTC				*eS*	**Sg**	**13 24 39.0**	**-0.1**
	baz=305						
TWB1	**Santiao Chiao**	**0.70**	**323**	*eP*	**Pg**	**13 24 30.0**	**0.0**
	baz=325						
TWB1				*eS*	**Sg**	**13 24 38.1**	**-1.1**
	baz=325						
ILA	**Ilan**	**0.71**	**297**	*eS*	**Sb**	**13 24 41.0**	**+1.0**
	baz=295						
TWE	**Neicheng**	**0.76**	**291**	P	**Pb**	**13 24 31.3**	**0.0**
	baz=290						
TWE				S	**Sg**	**13 24 40.8**	**-0.4**
	baz=290						
TIPB	**Shuangxi**	**0.77**	**313**	*eP*	**Pb**	**13 24 31.6**	**+0.2**
	baz=302						
TIPB				*eS*	**Sg**	**13 24 40.9**	**-0.6**
	baz=302						
NACB	**Ninganchiao**	**0.82**	**251**	P	**Pg**	**13 24 32.1**	**-0.2**
	baz=247						
NACB				*eS*	**Sn**	**13 24 44.2**	**-1.1**
	baz=247						
TWD	**Chiawan**	**0.86**	**245**	*eP*	**Pn**	**13 24 34.3**	**+0.5**
	baz=250						
NDT	**Datong Townshi**	**0.86**	**280**	*eP*	**Pb**	**13 24 32.7**	**-0.3**
	baz=278						
NDT				*eS*	**Sg**	**13 24 44.4**	**-0.1**
	baz=278						
NWF	**Wu-fen Shan**	**0.87**	**316**	*eP*	**Pn**	**13 24 33.8**	**-0.3**
	baz=316						
NWF				*eS*	**Sg**	**13 24 45.1**	**+0.5**
	baz=316						
ETLH	**Xiulin Townshi**	**0.91**	**255**	*eP*	**Pb**	**13 24 33.8**	**-0.2**
	baz=252						
TWA	**Mucha**	**0.95**	**304**	*eP*	**Pg**	**13 24 35.0**	**+0.3**
	baz=304						
TWA				*eS*	**Sb**	**13 24 46.2**	**-0.7**
	baz=304						
NNS	**Nan Shan**	**0.98**	**270**	P	**Pg**	**13 24 35.4**	**+0.1**
	baz=267						
NNS				*eS*	**Sb**	**13 24 47.4**	**-0.4**
	baz=267						
NHDH	**Xindian Distri**	**0.98**	**302**	*eP*	**Pn**	**13 24 36.1**	**+0.6**
	baz=301						
NHDH				*eS*	**Sb**	**13 24 47.0**	**-0.8**
	baz=301						
ETM	**Tongmen**	**0.99**	**241**	*eP*	**Pn**	**13 24 35.9**	**+0.2**
	baz=218						
ETM				*eS*	**Sn**	**13 24 51.3**	**+1.8**
	baz=218						
YHNB	**Yeheng**	**1.00**	**283**	P	**Pg**	**13 24 35.7**	**0.0**
	baz=281						
YHNB				S	**Sb**	**13 24 47.9**	**-0.5**
	baz=281						
NSK	**Sanguang**	**1.02**	**283**	P	**Pg**	**13 24 35.9**	**-0.1**
	baz=281						
NSK				*eS*	**Sg**	**13 24 49.2**	**-0.1**
	baz=281						
YM01	**YM01**	**1.06**	**311**	*eP*	**Pg**	**13 24 37.5**	**+0.8**
	baz=311						
YM01				*eS*	**Sb**	**13 24 50.3**	**+0.2**
	baz=311						
FUSS	**Fushou**	**1.12**	**260**	*eP*	**Pb**	**13 24 37.4**	**0.0**
	baz=269						
FUSS				*eS*	**Sg**	**13 24 52.3**	**-0.2**
	baz=269						
WHF	**Hehuan Shan**	**1.12**	**255**	*eP*	**Pn**	**13 24 37.8**	**-0.1**
	baz=251						
ESL	**Shilin**	**1.12**	**236**	*eP*	**Pn**	**13 24 37.5**	**0.0**
	baz=232						
ESL				*eS*	**Sn**	**13 24 54.0**	**+1.4**
	baz=232						
TWY	**Chenhua**	**1.13**	**317**	*eS*	**Sg**	**13 24 53.1**	**+0.2**
	baz=317						
TWS1	**Kuangyinshan**	**1.14**	**305**	*eP*	**Pg**	**13 24 38.4**	**+0.1**
	baz=304						
TWS1				*eS*	**Sb**	**13 24 52.7**	**+0.3**
	baz=304						
IRIF	**Iriomote-Funau**	**1.18**	**95**	P	**Pn**	**13 24 37.4**	**-0.8**
IRIF				*eS*	**Sb**	**13 24 52.9**	**-0.5**
TDCB	**Techi**	**1.19**	**261**	*eP*	**Pg**	**13 24 40.9**	**+1.6**
	baz=257						
CHGB	**Renai**	**1.22**	**252**	*eP*	**Pg**	**13 24 40.0**	**+0.1**
	baz=229						
PCYT	**Pengchaiyu**	**1.23**	**344**	*eP*	**Pn**	**13 24 38.2**	**-0.7**
	baz=347						
OWD	**Renai**	**1.26**	**247**	*eP*	**Pg**	**13 24 40.7**	**+0.1**
	baz=226						
HATJ	**Hateruma jima**	**1.30**	**107**	P	**Pn**	**13 24 39.6**	**-0.3**
HATJ				*eS*	**Sb**	**13 24 55.5**	**-1.4**
LIOB	**Emei**	**1.32**	**279**	*eP*	**Pg**	**13 24 41.8**	**0.0**
	baz=296						
NSTT	**Nanjuang**	**1.33**	**278**	*eP*	**Pg**	**13 24 43.2**	**+1.3**
	baz=294						
NSTT				*eS*	**Sg**	**13 25 00.2**	**+0.9**
	baz=294						
HGSD	**Ruisui**	**1.33**	**225**	*eP*	**Pb**	**13 24 40.9**	**-0.1**
	baz=207						
JKRS	**Kuro-shima**	**1.44**	**98**	P	**Pn**	**13 24 41.6**	**-0.3**
JKRS				S	**Sn**	**13 24 59.5**	**-1.0**
WCS	**Beigang Elemen**	**1.46**	**255**	*eP*	**Pg**	**13 24 45.2**	**+0.9**

baz=237
SMLT **Sun Moon Lake** 1.52 249 *e*P Pb 13 24 44.7 +0.4
baz=228
JIJ **Ishigaki jima** 1.55 93 P Pn 13 24 42.5 -0.9
JIJ S Sn 13 25 01.4 -1.8
TYC **Yuchr** 1.55 250 *e*P Pb 13 24 45.3 +0.6
baz=230
FULB **Fuli** 1.63 221 *e*P Pn 13 24 44.1 -0.4
baz=202
JISG **Ishigakijimahi** 1.70 85 P Pn 13 24 44.7 -0.8
JISG *e*S Sn 13 25 06.6 -0.4
ALS **Alishan** 1.77 238 P Pb 13 24 48.4 -0.2
baz=219
EDH **Donghe** 1.80 216 *e*P Pn 13 24 46.2 -0.7
baz=213
ELDTW **Lidau** 1.81 227 *e*P Pn 13 24 46.8 -0.3
baz=224
CHN5 **Tsauling** 1.83 243 *e*P Pb 13 24 50.3 +0.8
baz=222
LDUT **Ludao** 1.98 207 *e*P Pn 13 24 48.9 -0.4
baz=205
CHN4 **Tsaushan** 2.02 238 *e*P Pn 13 24 50.1 +0.3
baz=220
TPUB **Ta-pu** 2.02 236 *e*P Pb 13 24 52.1 -0.6
baz=219
WTP **Ta-pu** 2.06 235 *e*P Pb 13 24 53.2 -0.2
baz=219
JTJ **Tarama** 2.06 84 P Pn 13 24 50.5 +0.1
JTJ S Sn 13 25 15.4 -0.5
TWK **Hsinying** 2.15 237 *e*P Pb 13 24 54.1 -0.8
baz=218
CHN1 **Nanshi** 2.16 235 *e*P Pb 13 24 54.4 -0.8
baz=231
JIRB **Irabujima** 2.51 81 P Pn 13 24 56.9 +0.3
JIRB S Sn 13 25 26.2 -0.7
JIKM **Ikemajima** 2.59 79 P Pn 13 24 58.4 +0.7
JIKM *e*S Sn 13 25 29.0 +0.1
JMJ2 **Miyako jima3** 2.64 83 P Pn 13 24 59.0 +0.6
JMJ2 *e*S Sn 13 25 30.9 +0.8
JOGS **Gusukube** 2.71 83 P Pn 13 25 00.1 +0.7
JOGS S Sn 13 25 32.8 +0.9

IDC ***04*** *13:35:31.7±0.6,51˚.46N×174˚.83W,h0km,mb4.3/27, mb1 4.5/29,mb1mx4.4/43,mbtmp4.3/29,ML3.8/2,MS3.6/21, Ms1 3.6/21,ms1mx3.5/47,Error ellipse: s-maj=19.0km s-min=11.2km az=170.0*
AEIC ***04*** *13:35:35±2.5,51˚.24N±0˚.08×174˚.74W±0˚.08,h31km±5km, Error ellipse: s-maj=11.7km s-min=7.3km az=175.0*
NEIC ***04*** *13:35:37.9±1.8,51˚.43N±0˚.07×174˚.89W±0˚.07,h41km±7km, mb4.5/64,ML4.3/36(AEIC),Error ellipse: s-maj=11.3km s-min=5.3km az=158.0*
MOS ***04*** *13:35:38.5±0.9,51˚.48N×175˚.11W,h45km,mb5.0/44, Error ellipse: s-maj=10.2km s-min=6.4km az=105.4*
ISC 04 13:35:37.8±0.8,51˚.40N±0˚.07×174˚.79W±0˚.04,h42km±5km, n394,σ1$21/376,mb4.7/105,MS3.7/22,14C-9D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	0.88	24	Pn	Pn	13 35 53.2	-0.6
ATKA	**Atka Island**	0.88	24		Sn	13 36 06.7	+1.3
GSIG	**Igitkin Island**	0.92	310		Pn	13 35 53.3	-1.0
KOFP	**Korovin Flat P**	0.98	26		Pn	13 35 55.0	-0.1
KOKL	**Mount Kliuchef**	0.99	21		Pn	13 35 55.3	0.0
GSMY	**Great Sitkin M**	1.02	310		Pn	13 35 54.8	-0.8
GSTR	**Great Sitkin T**	1.05	312		Pn	13 35 55.7	-0.4
GSTD	**Great Sitkin T**	1.07	308		Pn	13 35 55.6	-0.7
ADK	**Adak**	1.28	293	P	Pn	13 35 58.0	-1.1
ADK						13 36 15.2	
ADK	**Adak**	1.28	293	Pn	Pn	13 35 58.0	-1.1
KIWB	**Kanaga Island**	1.54	288		Pn	13 36 01.8	-0.9
KIKV	**Kanaga Island**	1.56	289		Pn	13 36 02.2	-0.8
KIMD	**Kanaga Island**	1.57	284		Pn	13 36 02.0	-1.2
KICM	**Kanaga Island**	1.59	290		Pn	13 36 02.9	-0.5
TASE	**Tanaga Southea**	2.07	283		Pn	13 36 09.8	-0.2
GAEA	**Gareloi East**	2.50	280		Pn	13 36 16.2	+0.3
GALAA	**Gareloi Lava P**	2.51	280		Pn	13 36 16.2	+0.1
CESW	**Semis' Southwe**	3.55	280		Pn	13 36 29.6	-0.8
CEAP	**Semis' Anvil P**	3.56	282		Pn	13 36 30.0	-0.4
AMKA	**Amchitka**	3.70	272		Pn	13 36 31.0	-1.4
AMKA	**Amchitka**	3.70	272		Sn	13 37 18.0	+3.2
NIKH	**Nikolski High**	3.98	64		Sn	13 37 20.8	-0.7
NIKH	**Nikolski High**	3.98	64	Pn	Pn	13 36 36.6	+0.5
NIKH	**Nikolski High** baz=250	3.98	64	P	Pn	13 36 36.8	+0.6
LSPA	**Little Sitkin**	4.17	280		Pn	13 36 38.4	-0.4
LSNW	**Little Sitkin**	4.21	280		Pn	13 36 38.8	-0.5
LSSA	**Little Sitkin**	4.21	280		Pn	13 36 38.9	-0.5
OKCE	**Okmok Cone E**	4.53	61		Pn	13 36 44.4	+0.5
MAPS	**Pakushin South**	5.36	60		Pn	13 36 54.5	-0.6
UNV	**Unalaska Valle**	5.61	61		Pn	13 37 00.3	+1.8
UNV	**Unalaska Valle** baz=248	5.61	61	P	Pn	13 36 59.6	+1.1
AKMO	**Akutan Morgan**	5.97	60		Pn	13 37 05.0	+1.5
SPIA	**Saint Paul Isl**	6.37	23		Pn	13 37 11.9	+3.0
SPIA	**Saint Paul Isl** baz=208,SNR=10	6.37	23	P	Pn	13 37 10.6	+1.7
WECS	**Westdahl Cape**	6.81	59		Pn	13 37 17.6	+2.5
SMY	**Shemya**	6.98	285	P	Pn	13 37 15.8	-1.6
SMY	**Shemya**	6.98	285		Pn	13 37 15.8	-1.6
FALS	**False Pass**	7.67	59		Pn	13 37 29.4	+2.7
FALS	**False Pass** baz=248	7.67	59	P	Pn	13 37 28.9	+2.2
SDPT	**Sand Point**	9.42	60	Pn	Pn	13 37 51.2	+0.4
SDPT	**Sand Point** baz=251	9.42	60	P	Pn	13 37 50.6	-0.1
CNBA	**Chernabura Isl**	9.76	64	Pn	Pn	13 37 54.9	-0.5
CHNA	**Chernabura Isl** baz=256	9.76	63	P	Pn	13 37 55.3	-0.1
GAMB	**Gambell**	12.52	6	Pn	Pn	13 38 35.6	+2.6
GAMB	**Gambell** baz=190	12.52	6	P	Pn	13 38 32.7	-0.3
SII	**Sitkinak Islan** baz=256	13.16	59	P	Pn	13 38 41.3	-0.5
OHAK	**Old Harbor** baz=254	13.81	57	P	Pn	13 38 51.1	+0.5
N18K	**Kilae Creek**	14.02	41	Pn	Pn	13 38 56.1	+2.6
N18K	**Kilae Creek** baz=237,SNR=5.7	14.02	41	P	Pn	13 38 54.1	+0.6
ANM	**Nome**	14.09	17	P	P	13 38 58.0	-3.2
ANM	**Nome**	14.09	17		P	13 38 58.0	-3.2
ANM	**Nome** baz=206	14.09	17	P	Pn	13 38 54.7	+0.2
Q19K	**Cape Douglas,** baz=247	14.20	50	P	Pn	13 38 57.3	+1.4
KDAK	**Kodiak Island** 0.6nm,0.3s,baz=232,slow=3.3,SNR=50	14.33	55	Pn	Pn	13 38 54.4	-3.3
KDAK	**Kodiak Island**	14.33	55	P	P	13 39 02.9	-1.0
KDAK	**Kodiak Island**	14.33	55	P	P	13 39 02.9	-1.0
KDAK	**Kodiak Island** baz=253	14.33	55	P	Pn	13 38 58.0	+0.3
SVW2	**Sparrevohn**	14.37	40		P	13 39 01.9	-2.6
O19K	**Port Alsworth** baz=242	14.44	44	P	Pn	13 38 60.0	+0.9
TNA	**Tin City**	14.63	11	Pn	Pn	13 39 03.4	+1.7
TNA	**Tin City** baz=198	14.63	11	P	Pn	13 39 02.1	+0.4
N19K	**Bonanza Creek**	14.67	42	Pn	Pn	13 39 03.1	+0.7
N19K	**Bonanza Creek** baz=239	14.67	42	P	Pn	13 39 03.5	+1.1
L19K	**White Mountain**	15.28	37		P	13 39 14.3	-0.2
L19K	comp=Z,16nm,0.9s			IAmb	IAmb	13 39 22.3	
L19K	**White Mountain** baz=234	15.28	37	P	Pn	13 39 10.9	+0.6
M19K	**Big River Lodg**	15.30	39		P	13 39 13.7	-1.0
M19K	comp=Z,16nm,0.9s			IAmb	IAmb	13 39 18.9	
M19K	**Big River Lodg** baz=236	15.30	39	P	Pn	13 39 11.7	+1.2
M20K	**Styx River**	15.79	40		P	13 39 20.2	0.0
M20K	comp=Z,26nm,1.2s			IAmb	IAmb	13 39 30.9	
M20K	**Styx River** baz=238,SNR=6.6	15.79	40	P	Pn	13 39 17.4	+0.4
L20K	**Farewell, AK** baz=235	15.82	37	P	P	13 39 19.6	-1.0
BRSE	**Bradley Lake S** baz=249	15.88	49	P	Pn	13 39 18.1	0.0
K20K	**Telida**	16.28	35		P	13 39 25.4	-0.1
K20K	**Telida** baz=233,SNR=11	16.28	35	P	Pn	13 39 23.0	-0.1
PET	**Petropavlovsk**	16.33	286	‖ *e*P	P	13 39 25.4	-0.7
PET	**Petropavlovsk**	16.33	286		Pn	13 39 20.8	-2.9
SKT	**Skwentna**	16.49	41		P	13 39 27.4	-0.6
SKT	**Skwentna** baz=241	16.49	41	P	P	13 39 27.1	-0.8
SUA	**Susitna One**	16.58	43	Pn	Pn	13 39 26.9	0.0
SUA	comp=Z,34nm,1.3s			IAmb	IAmb	13 39 40.2	
SUA	**Susitna One** baz=244	16.58	43	P	Pn	13 39 26.1	-0.8
SEW	**Seward** baz=250	16.62	49	P	Pn	13 39 25.8	-1.5
O22K	**Cooper Landing**	16.63	47	P	P	13 39 29.8	+0.4
O22K	comp=Z,72nm,0.8s			IAmb	IAmb	13 39 47.4	
O22K	**Cooper Landing** baz=248	16.63	47	P	Pn	13 39 27.1	-0.3
PPLA	**Purkeypile**	16.70	38	P	P	13 39 30.9	+0.5
PPLA	comp=Z,40nm,1.3s			IAmb	IAmb	13 39 39.5	
PPLA	**Purkeypile** baz=237	16.70	38	P	Pn	13 39 29.1	+0.6
J20K	**Nowinta River**	16.77	32		P	13 39 32.3	+1.3
J20K	**Nowinta River** baz=230,SNR=16	16.77	32	P	Pn	13 39 30.1	+0.9
PEA0B	**Petropavlovsk-**	16.89	287	‖ *e*P	Pn	13 39 30.0	-0.9
PEA0B	**Petropavlovsk-**	16.89	287		Pn	13 39 30.0	-0.9
PETK	**Petropavlovsk-** comp=Z,0.5nm,0.3s,baz=98,slow=11,SNR=25	16.89	287	Pn	Pn	13 39 30.0	-0.8
PETK				LR	LR	13 45 09.9	
CHUM	comp=Z,252nm,21.6s,baz=101,slow=34 **Lake Minchumin** baz=234	17.22	35	P	P	13 39 36.4	+0.4
PMR	**Palmer** baz=246	17.33	44	P	Pn	13 39 36.1	-0.1
KTH	**Kantishna Hill**	17.55	37	P	P	13 39 40.2	+0.6
KTH	comp=Z,23nm,0.9s			IAmb	IAmb	13 39 46.7	
KNK	**Knik Glacier** baz=247	17.55	45	P	Pn	13 39 37.6	-1.4
TRF	**Throfare Moun** baz=239	17.73	38	P	P	13 39 42.1	+0.3
BPAW	**Bear Paw Mtn.**	17.82	35		P	13 39 44.0	+1.4
BPAW	**Bear Paw Mtn.** baz=236	17.82	35	P	P	13 39 43.2	+0.5
IMAR	**Indian Mountai**	18.10	28	P	Pn	13 39 47.0	+1.4
WAT1	**Susitna Watana** baz=243	18.11	41	P	P	13 39 45.4	-0.4
SCM	**Sheep Creek Mo**	18.21	44	P	P	13 39 45.7	-1.3
SCM	comp=Z,19nm,0.9s			pmax	pmax		
SCM	**Sheep Creek Mo**	18.21	44	P	P	13 39 45.6	-1.3
SCM	comp=Z,19nm,0.9s			IAmb	IAmb	13 39 53.5	
RND	**Reindeer**	18.27	39	P	P	13 39 44.3	-3.2
RND	comp=Z,14nm,0.9s			pmax	pmax		
RND	**Reindeer**	18.27	39	P	P	13 39 44.3	-3.2
WAT6	**Susitna Watana** baz=245	18.34	42	P	P	13 39 47.6	-0.9
MCK	**McKinley** baz=240	18.40	38	P	P	13 39 48.1	-0.8
MLY	**Manley** baz=234	18.45	33	P	P	13 39 48.4	-1.2
KLU	**Klutina**	18.72	46	P	P	13 39 51.2	-1.3
KLU	**Klutina** baz=251	18.72	46	P	P	13 39 51.8	-0.8
NEA2	**Nenana**	18.79	36	P	P	13 39 53.1	-0.1
NEA2	**Nenana** baz=238	18.79	36	P	P	13 39 51.8	-1.4
M24K	**Tolsona, Glenn** baz=249	18.82	44	P	P	13 39 53.2	-0.5
I23K	**Minto, Yukon-K** comp=Z,23nm,0.7s	19.00	34	IAmb	IAmb	13 40 12.9	
I23K	**Minto, Yukon-K** baz=236,SNR=9.5	19.00	34	P	P	13 39 55.9	+0.4
BILL	**Bilibino**	19.07	338	*e*P	Pn	13 39 57.3	-0.1
BILL	comp=Z,59nm,1.3s			pmax	pmax		
BMRM	**Bremner River** baz=254	19.16	48	P	P	13 39 57.6	+0.2
MDM	**Murphy Dome**	19.29	35	P	P	13 39 58.6	-0.2
H23K	**Yukon River** baz=234,SNR=13	19.33	32	P	P	13 39 59.3	+0.2
HARP	**HAARP** baz=249	19.37	44	P	P	13 39 59.8	+0.2
TCOL	**CIGO, UAF Yank** baz=239	19.38	36	P	Pn	13 40 00.7	-0.4
COLA	**College**	19.39	36	P	Pn	13 40 01.5	+0.4
COLA	comp=Z,23nm,1.0s			pmax	pmax		
COLA	**College** baz=239	19.39	36	P	Pn	13 40 01.0	-0.1
PAX	**Paxson** comp=Z,22nm,1.5s	19.45	42	IAmb	IAmb	13 40 19.1	
PAX	**Paxson** baz=247	19.45	42	P	P	13 40 00.9	+0.4
HDA	**Harding Lake** comp=Z,27nm,0.7s	19.49	37	IAmb	IAmb	13 40 07.4	
HDA	**Harding Lake** baz=242,SNR=16	19.49	37	P	P	13 40 00.5	-0.4
POKR	**Poker Plat Res** baz=239	19.66	35	P	Pn	13 40 05.2	+0.8
ILAR	**Eielson Array** comp=Z,1.0nm,0.3s,baz=232,slow=9.1,SNR=38	19.69	37	P	P	13 40 00.5	-2.6
ILAR	comp=Z,176nm,18.7s,baz=244,slow=39			LR	LR	13 48 26.9	
ILAR	**Eielson Array**	19.69	37	P	P	13 40 03.0	-0.1
ILAR	**Eielson Array**	19.69	37	P	P	13 40 03.0	-0.1
CRQE	**Cirque** baz=256	19.82	50	P	P	13 40 05.0	+0.4
H24K	**Noodor Dome** comp=Z,35nm,0.9s	19.90	33	IAmb	IAmb	13 40 13.2	
H24K	**Noodor Dome** baz=237,SNR=15	19.90	33	P	P	13 40 05.5	+0.2
COLD	**Coldfoot**	19.99	28	P	P	13 40 07.2	+0.9
COLD	comp=Z,26nm,1.0s			IAmb	IAmb	13 40 16.4	
COLD	**Coldfoot** baz=230,SNR=22	19.99	28	P	P	13 40 07.4	+1.0
MCARA	**McCarthy VSAT** baz=255	20.01	48	P	P	13 40 06.8	+0.2
RIDG	**Independent Ri**	20.02	40	P	P	13 40 06.2	-0.5
RIDG	comp=Z,16nm,1.0s			IAmb	IAmb	13 40 12.5	
RIDG	**Independent Ri** baz=246	20.02	40	P	P	13 40 07.3	+0.6
J25K	**Salcha River,** baz=243,SNR=35	20.19	38	P	P	13 40 07.1	-1.5
DOT	**Dot Lake** comp=Z,14nm,0.6s	20.30	41	IAmb	IAmb	13 40 28.3	
M26K	**Nabesna, AK** baz=252	20.32	45	P	P	13 40 09.5	-0.5
L26K	**Log Cabin Wild** comp=Z,9.2nm,0.7s	20.38	43	IAmb	IAmb	13 40 31.5	
L26K	**Log Cabin Wild** baz=250	20.38	43	P	P	13 40 11.2	+0.7
SCRK	**Sand Creek** comp=Z,31nm,0.7s	20.46	40	IAmb	IAmb	13 40 24.8	
SCRK	**Sand Creek** baz=247,SNR=38	20.46	40	P	P	13 40 10.1	-1.4
CTG	**Chitna Glacier** baz=258	20.70	50	P	P	13 40 14.8	+0.6
J26K	**Charley River,** baz=246,SNR=34	20.78	39	P	P	13 40 13.8	-1.2
M27K	**Edge Creek, AK** comp=Z,14nm,1.0s	20.81	46	IAmb	IAmb	13 40 36.8	
M27K	**Edge Creek, AK** baz=254,SNR=6.1	20.81	46	P	P	13 40 14.3	-1.1
SEY	**Seymchan** comp=Z,5.9nm,0.9s,baz=116,slow=12,SNR=7.1	20.94	316	P	P	13 40 16.6	0.0
SEY	**Seymchan**	20.94	316	‖ *e*P	P	13 40 17.2	+0.6
MA2	**Magadan** comp=Z,8.7nm,0.8s,baz=117,slow=11,SNR=2.7	20.95	306	P	P	13 40 15.9	-0.8
L27K	**Beaver Creek,** baz=252	21.04	44	P	P	13 40 19.6	+1.9
PINM	**Pinnacle** baz=261	21.07	52	P	P	13 40 17.3	-0.8
TOLK	**Toolik Lake Re**	21.11	26	P	P	13 40 19.4	+1.0
TOLK	comp=Z,24nm,0.8s			IAmb	IAmb	13 40 20.1	
TOLK	**Toolik Lake Re** baz=228,SNR=13	21.11	26	P	P	13 40 18.4	0.0
BVCY	**Beaver Creek** baz=255	21.28	46	P	P	13 40 22.1	+1.9
YUK3	**Moose Creek** baz=257	21.30	48	P	P	13 40 20.9	+0.2
BMAR	**Burnt Mountain**	21.87	31	P	P	13 40 28.2	+1.6
EGAK	**Eagle**	21.91	39	P	P	13 40 26.1	-0.8
EGAK	comp=Z,33nm,0.8s			IAmb	IAmb	13 40 34.5	
EGAK	**Eagle** baz=249,SNR=30	21.91	39	P	P	13 40 26.4	-0.6
YUK4	**Talbot Arm** baz=260	22.06	49	P	P	13 40 30.9	+2.0
DAWY	**Dawson** baz=252	22.39	42	P	P	13 40 32.1	-0.1
HYT	**Haines Junctio** baz=262	22.53	51	P	P	13 40 33.9	+0.2
SKAG	**Skagway** baz=268	23.48	55	P	P	13 40 43.7	+0.4
SIT	**Sitka** baz=273	23.50	61	P	P	13 40 42.6	-0.8
EPYK	**Eagle Plains**	24.20	37	P	P	13 40 49.6	-0.3
EPYK	comp=Z,8.8nm,0.8s			IAmb	IAmb	13 41 03.3	
EPYK	**Eagle Plains** baz=251,SNR=5.2	24.20	37	P	P	13 40 48.8	-1.1
FARO	**Faro, Yukon** baz=263	24.68	48	P	P	13 40 55.4	+1.0
CRAG	**Craig** baz=278	24.87	64	P	P	13 40 57.9	+1.8
WRAK	**Wrangell Islan**	25.18	62	P	P	13 41 00.7	+1.8
WRAK	comp=Z,20nm,0.8s			IAmb	IAmb	13 41 02.3	
WRAK	**Wrangell Islan** baz=277,SNR=14	25.18	62	P	P	13 40 59.7	+0.8
MMPY	**Sheldon Lake,** baz=265	25.69	47	P	P	13 41 03.6	0.0
INK	**Inuvik** comp=Z,4.2nm,0.7s,baz=236,slow=9.5,SNR=9.4	26.02	34	P	P	13 41 05.9	-0.4
INK	comp=Z,2.1nm,0.8s,baz=256,slow=4.2,SNR=3.3			PcP	PcP	13 44 33.4	+0.3
INK	**Inuvik** comp=Z,8.0nm,1.0s	26.02	34	P pmax	P pmax	13 41 06.2	-0.1
INK	**Inuvik** comp=Z,8.4nm,0.9s	26.02	34	P IAmb	P IAmb	13 41 06.2 13 41 15.7	-0.1
INK	**Inuvik** baz=251	26.02	34	P	P	13 41 06.0	-0.3
DLBC	**Dease Lake** comp=Z,7.3nm,0.9s,baz=269,slow=8.6,SNR=12	26.25	57	P	P	13 41 10.6	+1.9
YSS	**Yuzh-Sakhalins**	27.82	278	*e*P	P	13 41 23.9	+1.2
BBB	**Bella Bella** comp=Z,134nm,19.5s,baz=249,slow=31	28.50	70	LR	LR	13 50 16.2	
ASAJ	**Asahikawa** comp=Z,5.9nm,0.8s,baz=74,slow=7.7,SNR=4.7	29.22	273	P	P	13 41 35.6	+0.4
YAK	**Yakutsk**	31.29	312	‖ *e*P	P	13 41 52.7	-0.6
YAK	comp=Z,9.0nm,0.7s			pmax	pmax		
TIXI	**Tiksi** comp=Z,6.2nm,0.7s,baz=54,slow=3.4,SNR=6.2	31.86	330	PcP	PcP	13 44 47.9	+0.1
YKA	**Yellowknife Ar** comp=Z,1.7nm,0.9s,baz=298,slow=1.3,SNR=3.6	33.39	47	PcP	PcP	13 44 52.7	+0.5
YKA	comp=Z,146nm,20.2s,baz=0.0,slow=38			LR	LR	13 56 40.9	
KLR	**Kul'dur**	33.58	288	*d* P	P	13 42 13.0	-0.5
KLR	comp=Z,7.0nm,0.9s			pmax	pmax		
ZEA	**Zeya**	34.47	297	*e*P	P	13 42 21.4	+0.2
ZEA	comp=Z,100nm,13.0s			MLR	MLR		
H11N2	**WAKE ISLAND Hy** baz=21,slow=76	34.73	211	T	T	14 19 30.0	
H11N3	**WAKE ISLAND Hy** baz=21,slow=76	34.74	211	T	T	14 19 30.2	
H11N1	**WAKE ISLAND Hy** baz=21,slow=76	34.75	211	T	T	14 19 31.3	
USA0B	**Ussuriysk Arra**	35.78	280	*c* P	P	13 42 31.7	-0.8
USRK	**Ussuriysk Ar.** comp=Z,2.6nm,0.5s,baz=62,slow=9.6,SNR=13	35.78	280	P	P	13 42 30.8	-1.7
USRK	**Ussuriysk Ar.**	35.78	280	P	P	13 42 29.6	-2.9
H11S1	**WAKE ISLAND Hy** baz=20,slow=76,SNR=49	35.94	211	T	T	14 21 50.4	
H11S2	**WAKE ISLAND Hy** baz=20,slow=76,SNR=38	35.96	211	T	T	14 21 52.1	
H11S3	**WAKE ISLAND Hy** baz=20,slow=76,SNR=13	35.96	211	T	T	14 21 33.6	
MJAR	**Matsushiro Arr** comp=Z,3.4nm,0.6s,baz=46,slow=7.6,SNR=9.4	36.28	264	P	P	13 42 36.8	-0.1
MJAR	comp=Z,61nm,21.6s,baz=100,slow=34			LR	LR	13 55 50.3	
MJAR	**Matsushiro Arr** comp=Z,1.7nm,0.8s	36.28	264	IAmb	IAmb	13 42 40.9	
MAJO	**Matsushiro** comp=Z,2.2nm,1.2s	36.28	265	P pmax	P pmax	13 42 35.2	-1.7
MAJO	**Matsushiro**	36.28	265	P	P	13 42 35.2	-1.7
MAT	**Matsushiro**	36.28	265	P	P	13 42 37.0	+0.1
J05D	**Fort Rock, OR** baz=302	36.46	81	P	P	13 42 38.2	-0.3
NEW	**Newport** comp=Z,8.7nm,0.8s,baz=301,slow=6.1,SNR=14	36.51	72	P	P	13 42 39.8	+1.0
NEW	**Newport** comp=Z,12nm,1.0s	36.51	72	P pmax	P pmax	13 42 40.1	+1.4
NEW	**Newport** comp=Z,12nm,1.0s	36.51	72	P IAmb	P IAmb	13 42 40.1 13 42 55.2	+1.4
NEW	**Newport** baz=297,SNR=6.9	36.51	72	P	P	13 42 39.1	+0.3
EDM	**Edmonton** comp=Z,28nm,1.1s	36.59	62	P pmax	P pmax	13 42 40.3	+0.9
EDM	**Edmonton**	36.59	62	P	P	13 42 40.3	+0.9
MSHR	**Mys Shultsa**	37.15	278	‖ *e*P	P	13 42 44.3	+0.1
MSHR	comp=Z,12nm,0.8s			pmax	pmax		
WALA	**Waterton Lakes** comp=Z,4.8nm,0.9s	38.03	69	P IAmb	P IAmb	13 42 55.5 13 42 56.9	+3.7
WALA							
WVOR	**Wild Horse Val** comp=Z,8.0nm,0.8s	38.52	81	P pmax	P pmax	13 42 58.8	+2.8
WVOR	**Wild Horse Val** comp=Z,7.6nm,0.8s	38.52	81	P IAmb	P IAmb	13 42 58.8 13 43 13.9	+2.8
MSO	**Missoula** baz=300	39.08	72	P	P	13 43 01.4	+0.7
CN2	**Changchun** comp=Z,10.0nm,0.6s	40.00	283	*e*P pmax	P pmax	13 43 07.5	-0.6
CN2	comp=N,200nm,17.0s			LR	LR		
CN2	comp=E,200nm,17.0s			LR	LR		
CN2	comp=Z,200nm,20.0s			LR	LR		
HLID	**Hailey** baz=303	40.50	77	P	P	13 43 12.0	-0.5
EGMT	**Eagleton** baz=300	40.95	68	P	P	13 43 17.0	+1.0
NVAR	**Mina Array Bea** comp=Z,0.2nm,0.6s,baz=293,slow=7.7,SNR=2.3	41.05	86	P	P	13 43 17.7	+0.6
BOZ	**Bozeman (W)** baz=302	41.09	72	P	P	13 43 17.1	-0.3
ELK	**Elko** comp=Z,5.0nm,0.9s	41.58	81	P pmax	P pmax	13 43 25.6	+4.1
KSRS	**Korea Array** comp=Z,8.1nm,0.8s,baz=56,slow=7.6,SNR=37	42.15	274	P	P	13 43 26.8	+1.0
KSRS	comp=Z,33nm,19.2s,baz=18,slow=37			LR	LR	14 01 34.8	
RLMT	**Red Lodge** baz=303	42.76	72	P	P	13 43 31.2	+0.2
TJN	**Taejon**	43.17	273	‖ *e*P	P	13 43 36.4	+2.3
BW06	**Boulder Array** baz=305	43.89	75	P	P	13 43 40.1	-0.1
PDAR	**Pinedale Array** comp=Z,2.4nm,0.6s,baz=305,slow=5.2,SNR=13	43.89	75	P	P	13 43 40.5	+0.2
PDAR	comp=Z,63nm,18.4s,baz=318,slow=36			LR	LR	14 02 03.9	
PDAR	**Pinedale Array**	43.89	75	P	P	13 43 40.2	0.0
NRIK	**Noril'sk** comp=Z,2.0nm,0.5s,baz=59,slow=10,SNR=1.8	45.65	331	P	P	13 43 53.6	+0.1
NRIK	**Noril'sk** comp=Z,7.0nm,1.1s	45.65	331	‖ *e*P pmax	P pmax	13 43 53.3	-0.2
O20A	**White River Ci** baz=307	46.24	77	P	P	13 43 58.7	-0.1
NEEM	**North Greenlan** comp=Z,10nm,0.7s	46.80	14	*i* P IAmb	P IAmb	13 44 02.4 13 44 03.0	-0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MDND	Maddock	46.84	63	P	P	13 44 03.1	-0.1
	baz=304						
N23A	Red Feather La	47.18	75	P	P	13 44 06.3	+0.1
	baz=307						
WUAZ	Wupatki	47.19	84	P	P	13 44 06.3	0.0
	baz=310						
ULM	Lac du Bonnet	47.55	59	P	P	13 44 09.0	+0.3
	comp=Z,5.9nm,0.9s,baz=307,slow=9.3,SNR=4.3						
BJI	Beijing	47.81	285	P	P	13 44 11.3	+0.5
BJI				pP	sP	13 44 23.8	-2.0
BJI				sP	pwP	13 44 31.1	+4.1
BJI				S	S	13 51 02.4	-2.0
BJI				pmax	pmax		
	comp=Z,19nm,0.8s						
BJI				LR	LR		
	comp=N,160nm,19.3s						
BJI				LR	LR		
	comp=E,92nm,13.1s						
BJI				LR	LR		
	comp=Z,180nm,15.5s						
ULN	Ulaanbaatar	48.48	298	ce P	P	13 44 15.9	-0.2
ULN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AGMN	Agassiz Nation	48.66	61	P	P	13 44 17.4	+0.2
	baz=305						
SONM	Songino Array	48.86	299	P	P	13 44 18.9	-0.1
	comp=Z,3.0nm,0.8s,baz=52,slow=8.9,SNR=16						
SONM				PcP	PcP	13 45 42.9	0.0
	comp=Z,1.6nm,0.6s,baz=48,slow=1.9,SNR=6.4						
SONM				LR	LR	14 06 34.5	
	comp=Z,123nm,19.2s,baz=64,slow=38						
ZAK	Zakamensk	49.07	303	eP	P	13 44 17.4	-3.1
ZAK				e		13 45 40.2	
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TIA	Tai'an	49.64	280	⇓P	P	13 44 25.2	+0.3
TIA				pmax	pmax		
	comp=Z,13nm,0.7s						
HHC	Hu-ho-hao-te	50.08	288	eP	P	13 44 27.3	-1.1
HHC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,74nm,5.7s						
T25A	Trinidad	50.45	77	P	P	13 44 29.4	-2.0
	baz=310						
SPB2	Spitsbergen Ar	50.51	357	P	P	13 44 30.2	-0.8
ECSD	EROS Data Cent	50.95	66	P	P	13 44 34.0	-0.7
	baz=308						
EYMN	Ely	51.23	59	P	P	13 44 36.9	+0.1
	baz=307						
NJ2	Nanjing	51.32	275	eP	P	13 44 35.2	-2.4
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
TIY	Taiyuan	51.55	285	eP	P	13 44 40.8	+1.5
TIY				pmax	pmax		
	comp=Z,18nm,0.9s						
TIY				pmax	pmax		
	comp=Z,78nm,6.4s						
SUMG	Summit	52.65	15	iP	P	13 44 46.5	-1.0
SUMG	Summit	52.65	15	iP	P	13 44 46.4	-1.0
SFJD	Kangerlussuaq	54.66	23	LR	LR	14 10 32.3	
	comp=Z,52nm,18.4s,baz=305,slow=38						
LPIG	La Paz	55.73	94	LR	LR	14 04 21.8	
	comp=Z,48nm,21.1s,baz=150,slow=31						
ZALV	Zalesovo Beam	55.81	315	P	P	13 45 09.8	-0.5
	comp=Z,0.5nm,0.4s,baz=63,slow=6.2,SNR=1.9						
ZALV				PcP	PcP	13 46 09.6	+0.9
	comp=Z,1.9nm,0.6s,baz=2.1,slow=3.9,SNR=6.6						
ZALV				LR	LR	14 11 00.8	
	comp=Z,95nm,18.1s,baz=55,slow=38						
XAN	Xi'an	56.11	284	P	P	13 45 12.2	-0.5
XAN				pP	pP	13 45 18.2	-5.3
XAN				sP	sP	13 45 21.7	-6.2
XAN				pmax	pmax		
	comp=Z,11nm,1.2s						
TXAR	Lajitas Array	56.16	84	P	P	13 45 13.1	-0.1
	comp=Z,0.9nm,0.8s,baz=312,slow=9.1,SNR=5.3						
DGZ	Jazzator, Alta	57.47	310	⇑eP	P	13 45 22.3	0.0
DGZ				pmax	pmax		
	comp=Z,7.0nm,1.0s						
LZH	Lanzhou	57.77	289	eP	P	13 45 25.6	+1.0
LZH				pP	pP	13 45 35.9	+0.5
LZH				sP	pwP	13 45 42.2	+1.0
LZH				pmax	pmax		
	comp=Z,21nm,1.1s						
GTA	Gaotai	57.87	294	eP	P	13 45 25.0	-0.2
GTA				pP	pP	13 45 29.3	-6.7
GTA				sP	sP	13 45 32.9	-7.5
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
U40A	Yellville	57.93	71	P	P	13 45 24.5	-1.0
	baz=313						
SCHQ	Schefferville	58.40	40	P	P	13 45 28.6	+0.1
	comp=Z,3.5nm,0.6s,baz=331,slow=13,SNR=2.3						
ARCES	ARCESS Array B	58.46	352	P	P	13 45 27.8	-1.0
	comp=Z,6.7nm,0.7s,baz=21,slow=9.3,SNR=19						
ARCES				PcP	PcP	13 46 18.9	0.0
	comp=Z,4.5nm,0.7s,baz=18,slow=3.1,SNR=9.0						
ARCES				LR	LR	14 12 49.3	
	comp=Z,23nm,18.3s,baz=0.0,slow=38						
ARCES	ARCESS Array B	58.46	352	P	P	13 45 28.0	-0.8
ARCES				pmax	pmax		
	comp=Z,20nm,1.3s						
ARCES	ARCESS Array B	58.46	352	P	P	13 45 28.0	-0.8
SFIN	Lafayette	58.51	64	P	P	13 45 29.3	-0.2
	baz=313						
MIAR	Mount Ida	58.73	73	P	P	13 45 32.0	+0.9
	baz=314						
SADO	Sadowa	59.79	55	LR	LR	14 13 05.7	
	comp=Z,75nm,18.2s,baz=190,slow=38						
OXF	Oxford	61.23	70	P	P	13 45 47.6	-0.7
	baz=315						
M53A	WI Miller and	61.30	59	P	P	13 45 48.4	-0.3
	baz=315						
WMQ	Urumqi	61.41	305	eP	P	13 45 50.0	+0.6
WMQ				pP	pwP	13 46 05.3	-0.9
WMQ				PcP	PcP	13 46 32.2	+1.0
WMQ				pmax	pmax		
	comp=Z,19nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,110nm,4.7s						
MK31	Makanchi Array	61.96	311	c iP	P	13 45 52.3	-0.7
MK31	Makanchi Array	61.96	311	P	P	13 45 52.2	-0.8
MK31				IAmb	IAmb	13 45 53.0	
	comp=Z,4.1nm,0.7s						
MKAR	Makanchi Array	61.96	311	P	P	13 45 52.2	-0.8
	comp=Z,4.6nm,0.4s,baz=48,slow=5.7,SNR=90						
MKAR	Makanchi Array	61.96	311	P	P	13 45 51.8	-1.2
N54A	Moraine State	62.01	59	P	P	13 45 53.1	-0.3
	baz=315						
LONY	Lake Ozonia	62.20	53	P	P	13 45 54.0	-0.7
	baz=316,SNR=5.1						
BRVK	Borovoye	62.48	322	de P	P	13 45 56.8	+0.5
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BRVK	Borovoye	62.48	322	P	P	13 45 56.2	-0.2
GYA	Guiyang	62.81	279	⇑P	P	13 46 00.9	+1.8
GYA				pmax	pmax		
	comp=Z,14nm,1.0s						
D62A	Allapoint, All	63.07	48	P	P	13 45 58.6	-1.7
	baz=318						
TZTN	Tazewell	63.18	64	P	P	13 45 58.1	-3.2
	baz=316						
E62A	Clayton Lake	63.19	48	P	P	13 45 58.9	-2.3
	baz=318						
BINY	Binghamton	63.23	55	P	P	13 46 02.0	+0.4
BINY	Binghamton	63.23	55	P	P	13 46 01.6	+0.1
	baz=316,SNR=7.3						
O56A	Blue Knob Stat	63.26	58	P	P	13 46 01.5	-0.4
	baz=316						
SSPA	Standing Stone	63.36	58	P	P	13 46 02.1	-0.3
	baz=316						
F62A	Pittston Farm,	63.51	49	P	P	13 46 01.6	-1.7
	baz=318						
TKL	Tuckaleechee C	63.68	65	LR	LR	14 11 48.3	
	comp=Z,67nm,21.4s,baz=347,slow=34						
L59A	Walton	63.72	55	P	P	13 46 05.2	+0.4
G62A	West of Eustis	63.74	50	P	P	13 46 04.9	0.0
G62A	West of Eustis	63.74	50	P	P	13 46 04.3	-0.6
	baz=318,SNR=5.3						
LBNH	Lisbon	63.79	51	P	P	13 46 03.2	-2.0
	baz=317						
E63A	Oxbow	63.85	48	P	P	13 46 04.3	-1.2
	baz=318						
ARU	Arti	63.87	330	d iP	P	13 46 06.2	+0.7
ARU						13 46 39.1	
ARU						13 48 22.5	
ARU				S	S	13 54 39.5	+2.1
ARU				SS	SS	13 58 48.0	+2.8
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s						
F63A	Nahmakanta, Br	64.06	49	P	P	13 46 06.5	-0.5
	baz=318						
J61A	Chester	64.13	52	P	P	13 46 07.0	-0.4
	baz=317						
N59A	State Game Lan	64.27	56	P	P	13 46 08.3	-0.1
	baz=317						
K61A	Williamstown	64.27	53	P	P	13 46 06.8	-1.6
	baz=317						
F64A	Sherman	64.30	48	P	P	13 46 07.1	-1.4
	baz=318						
PKME	Peaks-Kenny Pk	64.30	49	P	P	13 46 07.4	-1.1
	baz=318						
HNR	Honiara	64.40	208	LR	LR	14 09 52.4	
	comp=Z,48nm,19.6s,baz=16,slow=32						
I63A	Otisfield	64.58	51	P	P	13 46 10.2	-0.1
	baz=318						
J62A	Henniker	64.59	52	P	P	13 46 10.9	+0.5
	baz=318						
KIRV	Kirov	64.61	336	c iP	P	13 46 09.9	-0.4
L61B	Northampton	64.73	53	P	P	13 46 11.2	-0.1
	baz=318						
KLMR	Klimovskoe	64.76	342	eP	P	13 46 08.5	-2.7
KLMR				pmax	pmax		
	comp=Z,14nm,1.2s						
KLMR	Klimovskoe	64.76	342	eP	P	13 46 08.5	-2.7
KLMR				AMP		13 46 10.9	
	comp=Z,14nm,1.2s						
K63A	Dunstable	65.12	52	P	P	13 46 13.5	-0.4
	baz=318						
G65A	Princeton	65.16	48	P	P	13 46 12.4	-1.7
	baz=319						
GOGA	Godfrey	65.47	67	P	P	13 46 15.9	-0.4
	baz=317						
FINES	FINESS Array B	66.28	349	P	P	13 46 20.0	-1.0
	comp=Z,3.4nm,0.6s,baz=21,slow=7.5,SNR=10						
NB201	NORSAR Array S	67.80	357	P	P	13 46 30.2	-0.5
NB2	NORSAR Subarra	67.81	357	P	P	13 46 30.5	-0.3
	comp=Z,2.9nm,0.6s,baz=4.1,slow=6.5						
NOA	NORSAR Array B	67.81	357	P	P	13 46 29.7	-1.1
	comp=Z,4.9nm,0.7s,baz=4.5,slow=6.4,SNR=24						
NOA				LR	LR	14 16 30.5	
	comp=Z,13nm,20.1s,baz=355,slow=36						
AAK	Ala-Archa	68.75	312	c iP	P	13 46 37.8	+0.7
AAK				pmax	pmax		
	comp=Z,22nm,1.7s						
VSU	Vasula	69.10	348	⇓iP	P	13 46 38.3	-0.5
VSU				pmax	pmax		
	comp=Z,40nm,0.7s						
ABKAR	Akbulak array	69.40	325	IAmb	IAmb	13 46 42.7	
	comp=Z,3.5nm,0.5s						
KK31	Karatay Array	70.19	315	IAmb	IAmb	13 46 46.8	
	comp=Z,7.1nm,1.1s						
KKAR	Karatay Array	70.19	315	P	P	13 46 45.9	+0.1
KKAR	Karatay Array	70.19	315	P	P	13 46 45.9	+0.1
KKAR	Karatay Array	70.19	315	IAmb	IAmb	13 46 46.8	
	comp=Z,7.1nm,1.1s						
KSH	Kashi	70.47	309	P	P	13 46 52.0	+4.2
KSH				PcP	PcP	13 47 13.6	+4.7
KSH				pmax	pmax		
	comp=Z,15nm,0.6s						
OBN	Obninsk	70.69	342	eP	P	13 46 50.5	+1.9
OBN				e		13 49 27.1	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SHL	Shillong	72.44	289	P	P	13 46 59.9	0.0
SHL				pmax	pmax		
	comp=Z,34nm,1.1s						
EKA	Eskdalemuir Ar	73.41	5	P	P	13 47 05.2	+0.3
RAR	Rarotonga	73.49	165	LR	LR	14 12 43.7	
	comp=Z,104nm,19.3s,baz=331,slow=30						
CMAR	Chiang Mai Arr	73.50	279	P	P	13 47 06.6	+0.5
	comp=Z,1.9nm,0.7s,baz=23,slow=6.4,SNR=12						
CMAR				LR	LR	14 22 48.9	
	comp=Z,17nm,19.3s,baz=40,slow=39						
CM04	Chiang Mai Arr	73.52	279	P	P	13 47 08.7	+2.5
	comp=Z,4.3nm,1.1s						
TAPN	Taplejung	73.53	293	eP	P	13 47 07.2	+0.7
	comp=Z,45nm,0.8s						
CM05	Chiang Mai Arr	73.54	279	P	P	13 47 11.5	+5.2
	comp=Z,3.5nm,0.9s						
GUN	Gumba	74.15	295	eP	P	13 47 11.1	+0.9
	comp=Z,49nm,0.5s						
JIRN	Jiri	74.17	294	eP	P	13 47 11.2	+0.9
	comp=Z,77nm,0.7s						
RAMN	Ramite	74.48	294	eP	P	13 47 12.5	+0.5
	comp=Z,40nm,0.6s						
KKN	Kakani	74.59	295	eP	P	13 47 13.2	+0.6
PKI	Pulchoki	74.68	295	eP	P	13 47 13.6	+0.4
PKIN	Phulchoki	74.68	295	eP	P	13 47 13.6	+0.4
GKN	Gorkha	74.79	296	eP	P	13 47 14.0	+0.4
	comp=Z,30nm,0.6s						
DANN	Dangsing	75.01	297	eP	P	13 47 15.8	+0.7
	comp=Z,100nm,0.8s						
KOLN	Koldanda	75.55	296	eP	P	13 47 18.5	+0.4
PYUN	Piuthan	75.64	297	eP	P	13 47 19.1	+0.5
	comp=Z,92nm,0.8s						
AKASG	Malin Array Be	76.25	345	P	P	13 47 20.3	-1.1
	comp=Z,2.9nm,0.4s,baz=16,slow=5.7,SNR=10						
AKASG				LR	LR	14 25 26.4	
	comp=Z,29nm,18.7s,baz=30,slow=39						
AKBB	Malin Array Si	76.25	345	⇑eP	P	13 47 20.4	-1.0
AKBB				pmax	pmax		
	comp=Z,3.0nm,0.4s						
CLL	Collm	77.45	355	⇑iP	P	13 47 27.9	-0.3
	comp=Z,6.0nm,0.8s						
CLL	Collm	77.45	355	⇑iP	P	13 47 27.9	-0.3
CLL				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KBL	Kabul	77.77	311	P	P	13 47 30.3	-0.2
KBL				pmax	pmax		
	comp=Z,21nm,0.9s						
BRG	Berggiesshubel	77.83	354	P	P	13 47 30.2	-0.1
BRG				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BRG	Berggiesshubel	77.83	354	eP	P	13 47 30.4	+0.1
BRG				Amp		13 47 31.1	
	comp=Z,8.3nm,0.9s						
OSTC	Ostas	77.99	353	eP	P	13 47 32.1	+0.9
DPC	Dobruska-Polom	78.19	353	eP	P	13 47 32.5	+0.1
DPC	Dobruska-Polom	78.19	353	eP	P	13 47 32.5	+0.1
NKC	Novy Kostel	78.56	355	eP	P	13 47 34.2	-0.2
NKC	Novy Kostel	78.56	355	eP	P	13 47 34.2	-0.2
GIVF	Givet	78.88	0	eP	P	13 47 37.1	+1.0
GIVF				pmax	pmax		
	comp=Z,16nm,1.0s						
BAIF	Baives	78.92	1	eP	P	13 47 36.7	+0.4
BAIF				pmax	pmax		
	comp=Z,17nm,1.0s						
KHC	Kasperske Hory	79.59	354	eP	P	13 47 40.4	+0.3
KHC	Kasperske Hory	79.59	354	eP	P	13 47 40.4	+0.3
KIV	Kislovodsk	79.62	333	eP	P	13 47 40.9	+0.5
KIV				e		13 47 49.0	
KIV				e		13 50 41.9	
KIV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GEYT	Alibeck	79.73	320	P	P	13 47 41.7	+0.7
	comp=Z,8.0nm,1.0s,baz=352,slow=6.5,SNR=7.9						
GEYT				LR	LR	14 27 41.1	
	comp=Z,67nm,19.4s,baz=215,slow=39						
KBZ	Khabaz	79.78	333	P	P	13 47 41.1	+0.1
	comp=Z,1.7nm,0.7s,baz=89,slow=3.6,SNR=4.0						
KBZ				LR	LR	14 29 17.7	
	comp=Z,49nm,18.1s,baz=12,slow=40						
KBZ	Khabaz	79.78	333	⇓iP	P	13 47 41.5	+0.4
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GERES	GERESS Array B	79.87	354	P	P	13 47 41.2	-0.5
	comp=Z,2.2nm,0.8s,baz=38,slow=5.2,SNR=15						
FLN	La Foliniere	80.10	4	eP	P	13 47 46.3	+3.5
FLN				pmax	pmax		
	comp=Z,30nm,1.3s						
LDF	La Druitiere	80.28	4	eP	P	13 47 43.6	-0.1
LDF				pmax	pmax		
	comp=Z,21nm,1.0s						
GRR	Gorron	80.45	4	eP	P	13 47 44.8	+0.1
GRR				pmax	pmax		
	comp=Z,11nm,0.8s						
CDF	Champ du Feu	80.55	359	eP	P	13 47 45.4	+0.1
CDF				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CONA	Conrad Observa	80.63	353	eP	P	13 47 46.0	+0.2
	comp=Z,3.5nm,1.0s						
HAU	Haudompre	80.97	359	eP	P	13 47 47.7	+0.2
HAU				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HINF	Hinteralfeld	81.15	359	eP	P	13 47 48.4	-0.1
HINF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ARSA	Arzberg	81.33	353	eP	P	13 47 49.8	+0.3
	comp=Z,2.7nm,1.1s						
KBA	Koelnbreinsper	81.65	354	iP	P	13 47 51.7	+0.4
	comp=Z,8.1nm,0.7s						
LOR	Lormes	81.70	1	eP	P	13 47 51.7	+0.3
LOR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CFR	Carcaliu	81.78	344	P	P	13 47 52.3	+0.5
CFR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
FETA	Feichten	81.84	356	iP	P	13 47 52.2	-0.1
	comp=Z,4.7nm,0.8s						
SSF	Saint Saulge	81.91	1	eP	P	13 47 52.8	+0.4
SSF				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SOKA	Soboth	81.94	353	iP	P	13 47 52.7	0.0
	comp=Z,6.1nm,0.9s						
VOIR		82.03	346	P	P	13 47 54.8	+1.6
VOIR				pmax	pmax		
	comp=Z,4.0nm,1.3s						
MYKA	Terra Mystica	82.08	354	iP	P	13 47 53.9	+0.4
	comp=Z,1.1nm,0.4s						
CABF	La Chapelle	82.37	359	eP	P	13 47 55.6	+0.6
CABF				pmax	pmax		
	comp=Z,23nm,1.3s						
TCF	Toulx Ste Croi	82.66	2	eP	P	13 47 56.6	+0.2
TCF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
RJF	Les Rejaudoux	83.62	3	eP	P	13 48 01.7	+0.3
RJF				pmax	pmax		
	comp=Z,14nm,1.2s						
WRA	Warramunga Arr	83.82	227	P	P	13 48 01.1	-1.5
	comp=Z,0.9nm,0.9s,baz=39,slow=5.0,SNR=5.8						
WRA	Warramunga Arr	83.82	227	iP	P	13 48 01.5	-1.1
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CAF	Calviac	84.02	2	eP	P	13 48 04.0	+0.6
CAF				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SJPF	Ste Jean	85.70	5	eP	P	13 48 12.9	+1.0
SJPF				pmax	pmax		
	comp=Z,28nm,1.5s						
EPF	Esparros	85.85	4	eP	P	13 48 11.9	-0.8
EPF				pmax	pmax		
	comp=Z,2.0nm,0.2s						
BRTR	Keskin Array B	85.91	338	P	P	13 48 13.4	+0.2
	comp=Z,1.6nm,0.9s,baz=10,slow=1.4,SNR=8.0						
BRTR	Keskin Array B	85.91	338	iP	P	13 48 13.3	+0.1
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BRTR	Keskin Array B	85.91	338	P	P	13 48 12.8	-0.3
ETSF	Etsaut	85.95	4	eP	P	13 48 14.0	+0.8
ETSF				pmax	pmax		
	comp=Z,94nm,2.6s						
ASAR	Alice Springs	87.25	226	P	P	13 48 19.4	-0.2
	comp=Z,1.2nm,0.8s,baz=20,slow=4.8,SNR=14						
ESDC	Sonseca Array	88.95	7	P	P	13 48 27.1	-0.5
	comp=Z,2.0nm,1.1s,baz=352,slow=4.8,SNR=4.8						
ESDC	Sonseca Array	88.95	7	P	P	13 48 27.8	+0.1
ESDC				IAmb	IAmb	13 48 28.3	
	comp=Z,4.7nm,1.4s						
TORD	Torodi Ar. Bea	115.65	4	PKP	PKiKP	13 54 15.0	-0.5
	comp=Z,0.4nm,0.5s,baz=353,slow=3.1,SNR=2.5						
H03N2	Juan Fernandez	118.75	108	T	T	16 04 44.3	
	baz=317,slow=77,SNR=8.1						
H03N1	Juan Fernandez	118.76	108	T	T	16 04 50.3	
	baz=317,slow=77,SNR=11						
H03N3	Juan Fernandez	118.76	108	T	T	16 05 06.9	
	baz=317,slow=77,SNR=9.2						
MAW	Mawson	148.04	218	PKPbc	PKPbc	13 55 17.0	-0.1
	comp=Z,4.2nm,0.7s,baz=74,slow=2.8,SNR=14						
MAW	Mawson	148.04	218	PKP2	PKPbc	13 55 17.0	-0.1
MAW	Mawson	148.04	218		PKPbc	13 55 17.3	+0.2
BOSA	Boshof	152.72	319	PKPbc	PKiKP	13 55 30.0	+0.1
	comp=Z,2.8nm,0.6s,baz=24,slow=2.4,SNR=12						

*GCG **04** 13:36:24.6±0.5, 13°.75N×91°.07W, h31^{km}±5^{km}, MD3.3*
*SNET **04** 13:36:24.7±1.0, 13°.79N×90°.98W, h61^{km}±32^{km}, ML3.2*
ISC 04 13:36:23.9±8.1**, 13°.7N**±0°.3×**91°.1W**±0°.4**, h37**^{km}±16^{km}**, n8,** σ**0**^{s}**64**/13**, 2C, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	Fuego 3	0.82	18	eP	Pn	13 36 39.0	-0.1
PCG	Pacaya	0.87	34	eP	Pn	13 36 39.8	-0.1
PCG				eS	Sn	13 36 50.8	-0.8
NBG	Las Nubes	1.18	39	eP	Pn	13 36 44.7	+0.6
NBG				eS	Sn	13 37 00.1	+1.1
SLOZ	Alcaldia de Sa	1.34	74	⇑eP	Pn	13 36 45.9	-0.1
SLOZ				eS	Sn	13 37 02.2	-0.4
SLOZ				IAML		13 37 07.4	
	comp=Z,238nm,0.5s						
CEVE	Cerro Verde	1.45	83	eP	Pn	13 36 48.4	+0.6
CEVE				eS	Sn	13 37 06.2	+0.5
CEVE				IAML		13 37 08.3	
	comp=Z,1μm,0.2s						
SBLS	San Blas	1.45	83	⇑eP	Pn	13 36 47.8	0.0
SBLS				eS	Sn	13 37 05.7	-0.1
SNJE	San Jose	1.47	82	eP	Pn	13 36 48.1	+0.1
MTO3	Montecristo	1.85	66	eP	Pn	13 36 52.2	-1.0

*RSNC **04** 13:36:58.0±1.2, 5°.27N×73°.74W, h149^{km}±4^{km}, ML3.6, Mw3.7, Fault plane solution: NP1:ϕ_s74.00000°, δ90.00000°, λ-42.00000°.*
*IDC **04** 13:36:58.4±4.3, 4°.90N×75°.24W, h135^{km}±121^{km}, Error ellipse: s-maj=800.6km s-min=153.1km az=19.0*
ISC 04 13:36:56.7±1.1**, 5°.30N**±0°.03×**73°.73W**±0°.03**, h161**^{km}±6^{km}**, n45,** σ**1**^{s}**74**/76**, 13C-15D, Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPBC	San Pablo de B	0.49	316	⇑iP	Pn	13 37 19.3	0.0
SPBC				eS	Sn	13 37 34.9	-1.8
SPBC				i		13 37 38.4	
	comp=Z,1μm,0.1s						
CHIC	Chingaza	0.67	180	⇓eP	Pn	13 37 20.3	-0.4
CHIC				i		13 37 20.8	
	comp=Z,675nm,0.4s						
CHIC				eS	Sn	13 37 36.9	-2.1
ROSC	El Rosal	0.75	232	P	Pn	13 37 21.8	+0.7
	comp=Z,228nm,0.3s,baz=255,slow=12,SNR=157						
ROSC				S	Sn	13 37 39.5	-0.3
	comp=Z,231nm,0.3s,baz=74,slow=23,SNR=41						
ROSC	El Rosal	0.75	232	⇓iP	Pn	13 37 22.0	+0.8
ROSC				eS	Sn	13 37 39.1	-0.7
ROSC				i		13 37 42.7	
	comp=Z,720nm,0.7s						
RUSC	La Rusia	0.87	47	⇑iP	Pn	13 37 22.7	+0.6
RUSC				i		13 37 23.4	
	comp=Z,329nm,0.3s						
RUSC				eS	Sn	13 37 40.8	-0.7
NORC	Norcasia	1.17	283	⇓eP	Pn	13 37 23.8	-0.2
NORC				eS	Sn	13 37 43.4	-1.5
NORC				i		13 37 45.3	
	comp=Z,1μm,0.1s						
VILC	Villavicencio,	1.18	178	⇓iP	Pn	13 37 23.8	-0.4
VILC				eS	Sn	13 37 43.5	-1.9
VILC				i		13 37 46.0	
	comp=Z,706nm,0.4s						
BARC	Barichara	1.40	23	⇑eP	Pn	13 37 26.5	+0.1
BARC				eS	Sn	13 37 48.7	-0.4
BARC				i		13 37 55.3	
	comp=Z,331nm,0.3s						
PTBC	PUERTO BERRIO,	1.43	330	⇑eP	Pn	13 37 26.0	-0.4
PTBC				eS	Sn	13 37 48.0	-1.4
PTBC				i		13 37 50.1	
	comp=Z,250nm,0.2s						
GUY2C	Guyana, Caldas	1.63	267	⇑eP	Pn	13 37 29.1	+0.1
GUY2C				eS	Sn	13 37 53.0	-0.7
GUY2C				i		13 37 56.7	
	comp=Z,175nm,0.2s						
TOLC	Tolima	1.74	246	⇓iP	Pn	13 37 30.1	+0.1
TOLC				eS	Sn	13 37 54.2	-1.3
TOLC				i		13 37 56.6	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,397nm,0.5s						
BRRC	Barranca, Sant	1.80	0	⇓iP	Pn	13 37 31.3	+1.0
BRRC				i		13 37 31.7	
	comp=Z,344nm,0.1s						
BRRC				eS	Sn	13 37 55.9	-0.3
PTGC	Puerto Gaitan,	1.93	124	⇑iP	Pn	13 37 31.6	-0.1
PTGC				eS	Sn	13 37 56.8	-1.9
PTGC				i		13 38 01.2	
	comp=Z,487nm,0.3s						
PRAC	Prado	1.95	216	⇓iP	Pn	13 37 32.2	+0.1
PRAC				i		13 37 32.4	
	comp=Z,541nm,0.2s						
PRAC				eS	Sn	13 37 57.5	-1.7
HELC	Santa Helena	2.00	296	⇑iP	Pn	13 37 33.3	+0.4
HELC				eS	Sn	13 38 00.2	-0.5
HELC				i		13 38 03.2	
	comp=Z,220nm,0.3s						
ORTC	Ortega, Tolima	2.05	228	⇓iP	Pn	13 37 33.0	-0.1
ORTC				eS	Sn	13 37 59.7	-1.5
ORTC				i		13 38 03.3	
	comp=Z,303nm,0.4s						
TAMC	Tame, Arauca	2.23	60	⇓eP	Pn	13 37 36.1	+0.8
TAMC				i		13 37 37.0	
	comp=Z,235nm,0.1s						
TAMC				eS	Sn	13 38 03.4	-1.6
PAMC	Pamplona, Colo	2.27	27	eP	Pn	13 37 37.3	+1.1
PAMC				eS	Sn	13 38 07.5	+0.9
PAMC				i		13 38 13.0	
	comp=Z,125nm,0.4s						
CBOC	Ciudad Bolivar	2.34	284	⇑eP	Pn	13 37 37.0	+0.3
CBOC				i		13 37 37.8	
	comp=Z,104nm,0.2s						
CBOC				eS	Sn	13 38 06.5	-1.0
ZARC	Zaragoza, Cauc	2.45	333	⇑iP	Pn	13 37 36.9	-0.9
ZARC				eS	Sn	13 38 08.0	-1.7
ZARC				i		13 38 12.1	
	comp=Z,292nm,0.1s						
YOTC	Yotoco, Valle	2.92	244	eP	Pn	13 37 43.1	-0.5
YOTC				eS	Sn	13 38 18.9	-1.0
GUVC	San Jose del G	2.95	158	eS	Sn	13 38 17.6	-2.9
GUVC				i		13 38 20.9	
	comp=Z,385nm,0.2s						
OCAC	Ocana	2.95	8	⇓eP	Pn	13 37 44.8	+0.8
OCAC				eS	Sn	13 38 21.2	+0.4
OCAC				i		13 38 32.0	
	comp=Z,425nm,0.2s						
DBBC	Dabeiba	3.00	305	⇑iP	Pn	13 37 45.3	+0.6
UREC	San Jos de Ur	3.03	324	⇑eP	Pn	13 37 43.5	-1.3
UREC				i		13 37 43.9	
	comp=Z,248nm,0.1s						
UREC				eS	Sn	13 38 19.6	-2.6
BETC	Betania	3.11	213	eP	Pn	13 37 45.4	-0.6
BETC				i		13 37 46.5	
	comp=Z,72nm,0.4s						
MACC	Macarena, Meta	3.13	182	⇓iP	Pn	13 37 45.2	-1.1
MACC				i		13 37 45.5	
	comp=Z,186nm,0.2s						
MARP	Paez Belalcaza	3.30	222	eP	Pn	13 37 48.2	-0.4
SMLC	San Martn de	3.50	354	eP	Pn	13 37 50.0	-0.8
SMLC				eS	Sn	13 38 30.8	-2.1
SMLC				i		13 38 34.8	
	comp=Z,297nm,0.1s						
GARC	Garzon, Huila	3.56	210	⇓iP	Pn	13 37 51.4	-0.5
GARC				i		13 37 52.5	
	comp=Z,241nm,0.2s						
SOCV	Socops	4.11	44	eS	Sn	13 38 43.1	-4.1
FLOC	Florencia	4.16	208	⇓eP	Pn	13 37 59.5	0.0
FLOC				i		13 38 15.5	
	comp=Z,27nm,0.3s						
LL1C	La Loma 1 Cana	4.22	2	eP	Pn	13 38 02.4	+2.2
LL2C	La Loma 2 Cana	4.24	4	⇓eP	Pn	13 38 01.6	+1.2
LL2C				eS	Sn	13 38 50.2	+0.1
LL2C				i		13 38 56.0	
	comp=Z,95nm,0.4s						
LCBC	Los crdobas,	4.40	324	eP	Pn	13 38 01.8	-0.7
LCBC				eS	Sn	13 38 54.2	+0.4
LCBC				i		13 39 01.4	
	comp=Z,52nm,0.5s						
ELOV	Elorza	4.55	68	eP	Pn	13 38 03.9	-0.6
ELOV				eS	Sn	13 38 54.0	-3.2
ARGC	Ariguani, Magd	4.56	354	eP	Pn	13 38 05.6	+1.0
ARGC				i		13 39 15.9	
	comp=Z,23nm,0.4s						
SDV	Santo Domingo	4.70	41	eP	Pn	13 38 08.1	+1.4
SDV				eS	Sn	13 38 57.4	-3.9
SDV				i		13 39 07.2	
	comp=Z,34nm,0.5s						
SJCC	San Jacinto, C	4.79	343	⇓eP	Pn	13 38 05.9	-1.8
SJCC				eS	Sn	13 38 58.5	-4.6
SJCC				i		13 39 03.3	
	comp=Z,79nm,0.3s						
CAPC	Capurgana	4.89	313	⇑eP	Pn	13 38 07.1	-1.9
CAPC				eS	Sn	13 39 01.6	-3.7
CVALL	Valledupar, Ce	5.20	5	eP	Pn	13 38 13.0	0.0
CRJC	Cerrejon, Guaj	5.75	8	⇑eP	Pn	13 38 19.7	-0.6
CRJC				eS	Sn	13 39 20.7	-5.1
CRJC				i		13 39 32.6	
	comp=Z,51nm,0.5s						
DABV	Dabajuro	6.37	29	eP	Pn	13 38 29.4	+0.9
ASAR	Alice Springs	147.73	233	PKPbc	PKPdf	13 56 23.4	+3.0
	comp=Z,0.1nm,0.3s,baz=136,slow=3.4,SNR=4.8						
WRA	Warramunga Arr	149.06	239	PKPbc	PKPdf	13 56 26.9	+4.2
	comp=Z,0.3nm,0.7s,baz=104,slow=3.5,SNR=6.7						

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*NIED **04** 13:42:04.0, 39°.60N×143°.36E, h19km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.43; $M_{\theta\theta}$0.48; $M_{\phi\phi}$-1.91; $M_{r\theta}$0.67; $M_{\theta\phi}$-0.75; $M_{\phi r}$1.84; Fault plane solution: $M_0$2.65000×10^{14} NP1:ϕ_s20.00000°, δ69.00000°, λ94.00000°. NP2:ϕ_s189.00000°, δ21.00000°, λ80.00000°.*
*JMA **04** 13:42:04.0±0.2, 39°.60N×143°.36E, h19km±3km, M3.6*
*IDC **04** 13:42:07.0±1.9, 39°.86N×142°.57E, h0km, mb3.6/3, mb1 3.5/5, mb1mx3.3/36, mbtmp3.5/5, ML2.9/2, Error ellipse: s-maj=49.1km s-min=22.0km az=84.0*
ISC 04 13:42:04.3±1.4, **39°.61N**±0°.04×**143°.23E**±0°.09, **h18**km, **n29**, σ**1s.57**/27, **mb3.6**/4, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MIYJ	Miyakonagasawa	1.09	269	P	Pg	13 42 25.6	+0.2
JTH	Tanohata	1.10	288	P	Pg	13 42 25.9	+0.2
JKEN	Kujiedanarisaw	1.31	298	P	Pg	13 42 28.5	-1.2
JKEN				eS	Sg	13 42 46.7	-0.2
OFUJ	Ofunato	1.32	247	P	Pg	13 42 29.0	-0.8
JOM	Ohasama	1.50	266	P	Pg	13 42 32.3	-1.0
JANG	Nango	1.52	301	P	Pb	13 42 31.5	-0.6
JMK	Ichinoseki	1.69	248	P	Pg	13 42 34.5	-2.3
JIO	Ouri	1.86	232	P	Pb	13 42 36.2	-1.6
JRG	Rokugo	2.02	265	P	Pb	13 42 39.9	-0.6
JTM	Tenmabayashi	2.03	306	P	Pb	13 42 39.5	-1.2
JTM				eS	Sb	13 43 06.0	+0.3
JAH	Hinai	2.08	287	P	Pb	13 42 40.7	-0.8
JYK	Kaneyama	2.33	254	P	Pb	13 42 44.1	-1.7
JOU	Okura	2.35	239	P	Pb	13 42 44.0	-2.2
JEM	Erimo	2.41	359	eS	Sn	13 43 12.3	+0.5
JOT	Ohata	2.43	318	P	Pb	13 42 45.0	-2.5
JNBK	Urakawa-nobuka	2.70	352	P	Pn	13 42 48.8	+2.0
JNBK				eS	Sb	13 43 21.8	-2.9
ASAJ	Asahikawa	4.53	354	Pn	Pn	13 43 13.8	+1.8
	0.9nm,0.3s,baz=185,slow=12,SNR=14						
ASAJ				Sn	Sn	13 44 04.2	0.0
	0.5nm,0.3s,baz=45,slow=26,SNR=1.7						
MJAR	Matsushiro Arr	5.00	234	Pn	Pn	13 43 20.8	+2.3
	0.1nm,0.3s,baz=41,slow=10,SNR=7.2						
MAT	Matsushiro	5.00	234	P	Pn	13 43 21.4	+2.9
MAT				eS	Sn	13 44 15.9	0.0
SONM	Songino Array	27.65	299	P	P	13 47 51.3	+0.3
	0.4nm,0.6s,baz=86,slow=7.9,SNR=2.6						
H11N2	WAKE ISLAND Hy	28.40	127	T	T	14 17 43.1	
	baz=320						
H11N1	WAKE ISLAND Hy	28.41	127	T	T	14 17 49.0	
	baz=320						
H11N3	WAKE ISLAND Hy	28.42	127	T	T	14 17 40.5	
	baz=320						
H11S1	WAKE ISLAND Hy	29.22	129	T	T	14 18 46.9	
	baz=320,slow=74						
H11S3	WAKE ISLAND Hy	29.22	129	T	T	14 18 48.6	
	baz=320						
H11S2	WAKE ISLAND Hy	29.23	129	T	T	14 18 51.8	
	baz=320,slow=74						
ZALV	Zalesovo Beam	41.29	310	P	P	13 49 49.5	+1.1
	0.7nm,0.4s,baz=79,slow=7.8,SNR=2.1						
MKAR	Makanchi Array	44.01	300	P	P	13 50 11.1	+0.4
	0.3nm,0.5s,baz=85,slow=9.9,SNR=4.3						
WRA	Warramunga Arr	59.82	190	P	P	13 52 15.1	+6.5
	1.9nm,0.3s,baz=5.8,slow=6.5,SNR=16						

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*IDC **04** 13:49:09.5±1.6, 51°.59N×174°.72W, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.6/39, mbtmp3.7/8, ML3.7/1, Error ellipse: s-maj=54.1km s-min=20.1km az=179.0*
*NEIC **04** 13:49:12.6±1.3, 51°.29N±0°.05×174°.78W±0°.04, h28km±8km, mb4.0/5, ML3.5/18(AEIC), Error ellipse: s-maj=6.8km s-min=3.2km az=182.0*
*AEIC **04** 13:49:12.3±1.2, 51°.25N±0°.08×174°.79W±0°.06, h26km±7km, Error ellipse: s-maj=12.2km s-min=4.4km az=167.0*
ISC 04 13:49:13.3±0.9, **51°.3N**±0°.1×**174°.74W**±0°.05, **h35**km, **n37**, σ**1s.05**/35, **mb3.8**/8, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ATKA	Atka Island	0.95	20		Pn	13 49 30.1	-0.1
ATKA					Sn	13 49 44.2	+1.7
GSIG	Igitkin Island	1.00	313		Pn	13 49 30.3	-0.6
KOFP	Korovin Flat P	1.04	22		Pn	13 49 32.0	+0.5
KOKL	Mount Kliuchef	1.07	18		Pn	13 49 32.3	+0.5
GSMY	Great Sitkin M	1.10	312		Pn	13 49 31.9	-0.4
GSTR	Great Sitkin T	1.14	314		Pn	13 49 32.7	0.0
GSTD	Great Sitkin T	1.15	311		Pn	13 49 32.7	-0.3
GSTD					Sn	13 49 48.6	+1.1
ADK	Adak	1.34	296		Pn	13 49 34.8	-0.7
ADK					Sn	13 49 52.6	+0.5
KIWB	Kanaga Island	1.60	291		Pn	13 49 38.6	-0.5
KIKV	Kanaga Island	1.62	291		Pn	13 49 39.1	-0.3
KIMD	Kanaga Island	1.62	287		Pn	13 49 38.9	-0.5
KIMD					Sn	13 49 59.7	+0.7
KICM	Kanaga Island	1.65	293		Pn	13 49 39.5	-0.2
TAFP	Tanaga Falls P	2.11	288		Pn	13 49 46.5	+0.4
TASE	Tanaga Southea	2.13	286		Pn	13 49 46.7	+0.3
NIKH	Nikolski High	3.99	63		Pn	13 50 12.6	+0.8
KDAK	Kodiak Island	14.36	55	Pn	Pn	13 52 30.9	-2.8
	0.2nm,0.3s,baz=334,slow=4.9,SNR=17						
CCB	Clear Creek Bu	19.34	36	P	Pn	13 53 35.7	-0.8
CCB				IAmb	IAmb	13 53 50.3	
	comp=Z,2.7nm,0.7s						
HDA	Harding Lake	19.54	37	P	P	13 53 37.6	+0.1
IL31		19.74	36	P	P	13 53 37.5	-2.1
ILAR	Eielson Array	19.74	36	P	P	13 53 39.6	-0.1
	comp=Z,0.2nm,0.3s,baz=222,slow=8.0,SNR=22						
SCRK	Sand Creek	20.51	40	P	P	13 53 47.5	-0.7
SCRK				IAmb	IAmb	13 54 02.0	
	comp=Z,7.4nm,0.7s						
EGAK	Eagle	21.96	39	P	P	13 54 03.2	-0.3
EGAK				IAmb	IAmb	13 54 19.1	
	comp=Z,6.2nm,0.7s						
H11N2	WAKE ISLAND Hy	34.67	211	T	T	14 33 35.0	
	baz=23						
H11N3	WAKE ISLAND Hy	34.68	211	T	T	14 33 39.3	
	baz=23						
H11N1	WAKE ISLAND Hy	34.69	211	T	T	14 33 43.0	
	baz=23						
H11S1	WAKE ISLAND Hy	35.88	211	T	T	14 35 27.8	
	baz=17						
H11S2	WAKE ISLAND Hy	35.90	211	T	T	14 35 21.8	
	baz=17						
H11S3	WAKE ISLAND Hy	35.90	211	T	T	14 35 20.5	
	baz=17						
KSRS	Korea Array	42.19	274	P	P	13 57 05.5	+3.1
	comp=Z,1.3nm,0.9s,baz=62,slow=6.8,SNR=6.0						
PDAR	Pinedale Array	43.89	75	P	P	13 57 17.2	+0.8
	comp=Z,0.5nm,0.6s,baz=305,slow=3.2,SNR=5.5						
PDAR	Pinedale Array	43.89	75	P	P	13 57 15.1	-1.3
ULM	Lac du Bonnet	47.57	59	P	P	13 57 46.0	+1.0
	comp=Z,2.3nm,0.7s,baz=309,slow=6.5,SNR=3.3						
SONM	Songino Array	48.94	299	P	P	13 57 55.8	-0.1
	comp=Z,0.5nm,0.7s,baz=40,slow=9.6,SNR=2.2						
TXAR	Lajitas Array	56.13	84	P	P	13 58 49.1	-0.2
	comp=Z,0.1nm,0.5s,baz=316,slow=3.8,SNR=3.8						
MKAR	Makanchi Array	62.04	311	P	P	13 59 29.3	-0.6
	comp=Z,0.5nm,0.3s,baz=50,slow=6.4,SNR=17						
NB2	NORSAR Subarra	67.90	357	P	P	14 00 07.2	-0.5
	comp=Z,0.5nm,0.6s,baz=6.5,slow=6.5						
NOA	NORSAR Array B	67.90	357	P	P	14 00 07.1	-0.6
	comp=Z,0.9nm,0.7s,baz=6.2,slow=6.6,SNR=4.5						

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*MAN **04** 13:56:00.4, 11°.98N×125°.54E, h38km, mb4.4, ML3.2, MS3.0*
IDC 04 13:55:55.8±1.9, **11°.94N**×**125°.84E**, **h0**km, **mb3.7**/3, **mb1 3.9**/3, **mb1mx3.4**/43, **mbtmp3.7**/3, **1C**, **Error ellipse: s-maj=200.0km s-min=30.0km az=68.0**, **Samar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
RCP	Roxas	3.06	263	⇑eP	Pn	13 56 44.1	-1.3
ASAR	Alice Springs	36.26	167	P	P	14 03 01.4	+0.4
	0.2nm,0.7s,baz=341,slow=6.9,SNR=1.7						
ASAR				PcP	PcP	14 05 25.3	-1.1
	0.1nm,0.5s,baz=343,slow=2.9,SNR=1.3						
H11N1	WAKE ISLAND Hy	40.16	74	T	T	14 46 57.2	
	baz=266,slow=74,SNR=9.3						
H11N2	WAKE ISLAND Hy	40.17	74	T	T	14 47 00.5	
	baz=266,slow=74,SNR=11						
H11N3	WAKE ISLAND Hy	40.18	74	T	T	14 46 58.5	
	baz=266,slow=74,SNR=13						
MKAR	Makanchi Array	50.45	322	P	P	14 04 55.6	+0.2
	0.6nm,0.6s,baz=125,slow=9.0,SNR=6.6						
ARCES	ARCESS Array B	82.49	340	P	P	14 08 19.9	-0.1
	4.6nm,1.0s,baz=72,slow=5.8,SNR=4.6						

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*IDC **04** 14:04:50.6±1.7, 51°.58N×174°.71W, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.5/46, mbtmp3.5/7, ML3.0/2, MS3.3/5, Ms1 3.3/5, ms1mx2.9/33, Error ellipse: s-maj=63.2km s-min=21.4km az=178.0*
*NEIC **04** 14:04:50.2±1.9, 51°.29N±0°.07×174°.83W±0°.06, h1km±4km, Error ellipse: s-maj=10.2km s-min=5.3km az=166.0*
*AEIC **04** 14:04:53.2±1.6, 51°.25N±0°.08×174°.80W±0°.07, h26km±7km, ML3.5/22, mb3.9/19(NEIC), Error ellipse: s-maj=12.7km s-min=4.6km az=159.0*
ISC 04 14:04:52.9±2.2, **51°.3N**±0°.1×**174°.77W**±0°.05, **h22**km±15km, **n58**, σ**1s.16**/55, **mb3.6**/6, **MS3.3**/4, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ATKA	Atka Island	0.98	21		Pn	14 05 11.0	-0.2
ATKA					Sn	14 05 25.6	+1.3
GSIG	Igitkin Island	1.00	314		Pn	14 05 11.2	-0.4
KOFP	Korovin Flat P	1.07	23		Pb	14 05 12.9	+0.2
KOKL	Mount Kliuchef	1.09	19		Pb	14 05 13.3	+0.2
GSMY	Great Sitkin M	1.10	314		Pn	14 05 12.8	-0.1
GSTR	Great Sitkin T	1.13	315		Pn	14 05 13.6	+0.2
GSTD	Great Sitkin T	1.15	312		Pn	14 05 13.7	+0.1
GSTD					Sb	14 05 29.5	+1.0
ADK	Adak	1.33	297		Pn	14 05 15.3	-0.8
ADK					Sn	14 05 33.8	+0.7
KIWB	Kanaga Island	1.59	292		Pn	14 05 19.6	0.0
KIKV	Kanaga Island	1.61	292		Pn	14 05 19.9	0.0
KIMD	Kanaga Island	1.61	288		Pn	14 05 19.6	-0.3
KIMD					Sn	14 05 40.3	+0.4
KICM	Kanaga Island	1.64	293		Pn	14 05 20.4	+0.2
TAFP	Tanaga Falls P	2.09	288		Pn	14 05 27.1	+0.5
TAFP					Sn	14 05 51.7	-0.2
TASE	Tanaga Southea	2.11	286		Pn	14 05 27.5	+0.6
GAEA	Gareloi East	2.53	283		Pn	14 05 33.7	+1.2
AMKA	Amchitka	3.72	274		Pn	14 05 48.4	-0.5
NIKH	Nikolski High	4.01	63		Pn	14 05 53.5	+0.6
SPIA	Saint Paul Isl	6.46	22	Pn	Pn	14 06 28.1	+1.5
SDPT	Sand Point	9.47	59	Pn	Pn	14 07 08.5	+0.8
Q19K	Cape Douglas,	14.26	49		Pn	14 08 09.8	-3.4
KDAK	Kodiak Island	14.38	55	Pn	Pn	14 08 12.3	-2.6
	0.2nm,0.3s,baz=276,slow=4.2,SNR=13						
SVW2	Sparrevohn	14.45	40	Pn	Pn	14 08 13.5	-2.3
L19K	White Mountain	15.36	37	P	P	14 08 32.9	+0.4
L19K				IAmb	IAmb	14 08 49.2	
	comp=Z,6.2nm,0.9s						
HOM	Homer	15.49	48	Pn	Pn	14 08 27.6	-2.0
M20K	Styx River	15.86	40	Pn	Pn	14 08 32.6	-2.0
K20K	Telida	16.36	34	P	P	14 08 43.5	-0.1
SKT	Skwentna	16.56	41	P	P	14 08 47.8	+1.9
SKT				IAmb	IAmb	14 09 00.6	
	comp=Z,8.8nm,1.2s						
PETK	Petropavlovsk-	16.93	287	Pn	P	14 08 50.0	0.0
	comp=Z,0.1nm,0.3s,baz=90,slow=12,SNR=5.0						
PETK				LR	LR	14 14 40.5	
	comp=Z,82nm,20.9s,baz=110,slow=35						
PETK	Petropavlovsk-	16.93	287		Pn	14 08 47.5	-0.7
PWL	Port Wells	17.47	47	Pn	Pn	14 08 53.5	-1.2
GHO	Glory Hole Cre	17.57	43	Pn	Pn	14 08 55.2	-0.9
GHO				IAmb	IAmb	14 09 03.6	
	comp=Z,25nm,1.5s						
BPAW	Bear Paw Mtn.	17.91	35		P	14 08 60.0	-0.7
SCM	Sheep Creek Mo	18.28	44		Pn	14 09 03.3	-1.5
CCB	Clear Creek Bu	19.37	36	P	Pn	14 09 17.2	-0.6
CCB				IAmb	IAmb	14 09 31.9	
	comp=Z,3.1nm,0.6s						
MDM	Murphy Dome	19.38	35	P	P	14 09 16.1	-0.7
MDM				IAmb	IAmb	14 09 18.1	
	comp=Z,8.4nm,1.4s						
N25K	Chitina, Valde	19.42	46	P	Pn	14 09 17.1	-1.5
N25K				IAmb	IAmb	14 09 31.2	
	comp=Z,19nm,1.4s						
HDA	Harding Lake	19.57	37	P	P	14 09 18.4	-0.5
HDA				IAmb	IAmb	14 09 25.6	
	comp=Z,8.5nm,1.1s						
IL31		19.77	36	P	Pn	14 09 21.1	-1.5
ILAR	Eielson Array	19.77	36	P	P	14 09 20.6	-0.5
	comp=Z,0.2nm,0.3s,baz=227,slow=7.7,SNR=18						
ILAR	Eielson Array	19.77	36	P	Pn	14 09 21.0	-1.6
RIDG	Independent Ri	20.09	40	P	P	14 09 24.5	-0.1
RIDG				IAmb	IAmb	14 09 42.7	
	comp=Z,4.3nm,0.8s						
DOT	Dot Lake	20.38	41	P	P	14 09 27.5	-0.2
DOT				IAmb	IAmb	14 09 35.8	
	comp=Z,3.5nm,0.9s						
SCRK	Sand Creek	20.54	40	P	P	14 09 28.3	-1.3
SCRK				IAmb	IAmb	14 09 43.4	
	comp=Z,13nm,1.2s						
K27K	Chicken	21.34	41	P	P	14 09 36.9	-1.1
K27K				IAmb	IAmb	14 09 53.8	
	comp=Z,3.9nm,0.8s						
EGAK	Eagle	21.98	39	P	P	14 09 44.4	-0.6
YKA	Yellowknife Ar	33.45	47	LR	LR	14 25 01.4	
	comp=Z,61nm,19.7s,baz=0.0,slow=36						
H11N2	WAKE ISLAND Hy	34.65	211	T	T	14 48 56.4	
	baz=19						
H11N3	WAKE ISLAND Hy	34.66	211	T	T	14 49 11.1	
	baz=19						
H11N1	WAKE ISLAND Hy	34.67	211	T	T	14 49 20.0	
	baz=19						
H11S1	WAKE ISLAND Hy	35.85	211	T	T	14 50 54.9	
	baz=18,slow=74						
H11S2	WAKE ISLAND Hy	35.87	211	T	T	14 50 52.8	
	baz=18,slow=74						
H11S3	WAKE ISLAND Hy	35.87	211	T	T	14 50 54.7	
	baz=18						
KSRS	Korea Array	42.17	274	P	P	14 12 46.0	+2.5
	comp=Z,1.4nm,0.8s,baz=69,slow=7.3,SNR=5.7						
KSRS				LR	LR	14 30 32.7	
	comp=Z,13nm,19.9s,baz=70,slow=36						
PDAR	Pinedale Array	43.91	75	P	P	14 12 58.3	+0.4
	comp=Z,0.2nm,0.4s,baz=288,slow=6.6,SNR=2.8						
SONM	Songino Array	48.92	299	P	P	14 13 36.8	-0.2
	comp=Z,0.3nm,0.5s,baz=37,slow=8.8,SNR=3.5						
SONM				LR	LR	14 35 42.9	
	comp=Z,31nm,19.2s,baz=83,slow=38						
TXAR	Lajitas Array	56.16	84	P	P	14 14 31.0	+0.2
	comp=Z,0.2nm,0.6s,baz=294,slow=4.5,SNR=1.9						
SCHQ	Schefferville	58.47	40	LR	LR	14 41 59.1	
	comp=Z,76nm,18.2s,baz=47,slow=38						
MKAR	Makanchi Array	62.04	311	P	P	14 15 10.2	-1.0
	comp=Z,0.5nm,0.5s,baz=47,slow=5.0,SNR=8.0						

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*NOU **04** 14:26:47.5, 38°.28S×176°.17E, h198km, MLv4.0/8, North Island, New Zealand*
WEL 04 14:26:54.6±0.5, **38°S**±3°×**17°6E**±°, **h133**km±5km, **M3.1**/78, **ML2.7**/30, **MLv3.1**/78, **Error ellipse: s-maj=0.0km s-min=0.0km az=139.6**, **North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GRRZ	Galatos Road	0.06	18	P	Pn	14 27 13.6	+1.0
WPRZ	Whakapapatarin	0.12	151	P	Pn	14 27 13.5	+0.9
HRRZ	Handcock Road	0.16	83	P	Pn	14 27 13.6	+0.9
HSRZ	Hossack Road	0.16	52	P	Pn	14 27 13.7	+1.0
KUTZ	Kaahu Road	0.22	249	P	Pn	14 27 13.7	+0.9
UTU	Utuhina	0.25	20	P	Pn	14 27 14.0	+1.1
ALRZ	Allen Road	0.25	127	P	Pn	14 27 13.6	+0.7
PRRZ	Plateau Road	0.26	110	P	Pn	14 27 13.6	+0.7
HLRZ	Highlands Stat	0.26	53	P	Pn	14 27 14.4	+1.4
WHTZ	Whakaora	0.27	201	P	Pn	14 27 14.1	+1.1
RRRZ	Republican Roa	0.34	78	P	Pn	14 27 14.0	+0.8
RRRZ				S	Sn	14 27 28.3	+1.0
TARZ	Mount Tarawera	0.37	62	P	Pn	14 27 14.4	+0.9
OMRZ	Omania	0.38	37	P	Pn	14 27 14.2	+0.8
WATZ	Wairara	0.41	223	P	Pn	14 27 14.4	+0.9
KARZ	Kaharoa	0.41	18	P	Pn	14 27 14.4	+0.9
TLZ	Tolley Road	0.44	281	P	Pn	14 27 14.6	+0.9
HATZ	Hinemaiaia	0.48	179	P	Pn	14 27 14.4	+0.5
MRHZ	Matea Rd	0.50	148	P	Pn	14 27 14.5	+0.5
MRHZ				S	Sn	14 27 29.6	+0.9
RATZ	Rangitukua	0.52	208	P	Pn	14 27 14.7	+0.6
MUGZ	Murupara	0.54	97	P	Pn	14 27 14.6	+0.4
KMRZ	Kaimai	0.57	349	P	Pn	14 27 15.2	+0.8
RITZ	Rihia Road	0.59	197	P	Pn	14 27 15.5	+1.0
MARZ	Manawahe	0.63	48	P	Pn	14 27 15.7	+0.9
KATZ	Kakaramea	0.64	208	P	Pn	14 27 15.5	+0.6
OPRZ	Ohinepanea	0.68	33	P	Pn	14 27 15.6	+0.5
TGRZ	Tauranga	0.69	12	P	Pn	14 27 15.9	+0.7
RTZ	Ruatahuna	0.73	106	P	Pn	14 27 16.1	+0.5
RTZ				S	Sn	14 27 32.9	+1.5
MTHZ	Maungataniwha	0.74	127	P	Pn	14 27 16.2	+0.7
NTVZ	North Tongarir	0.76	205	P	Pn	14 27 16.3	+0.5
TMVZ	Te Maari	0.76	203	P	Pn	14 27 16.3	+0.5
KRVZ	Karewarewa	0.77	207	P	Pn	14 27 16.2	+0.4
ETVZ	East Tongariro	0.78	202	P	Pn	14 27 16.5	+0.5
WTVZ	West Tongariro	0.80	209	P	Pn	14 27 16.5	+0.4
NNVZ	North Ngauruho	0.81	207	P	Pn	14 27 16.6	+0.4
BKZ	Black Stump Fm	0.82	157	P	Pn	14 27 16.6	+0.4
BKZ				S	Sn	14 27 33.1	+0.5
OTVZ	Oturere	0.82	203	P	Pn	14 27 16.9	+0.6
TOZ	Tahuroa Road	0.82	326	P	Pn	14 27 16.8	+0.7
URZ	Urewera	0.82	80	P	Pn	14 27 16.2	+0.1
TWVZ	Taurewa	0.83	217	P	Pn	14 27 16.7	+0.4
SNVZ	South Ngauruho	0.85	204	P	Pn	14 27 16.9	+0.4
NGZ	Ngauruhoe	0.85	206	P	Pn	14 27 16.9	+0.3
NMHZ	Naumai	0.89	141	P	Pn	14 27 18.1	+1.3
NMHZ				S	Sn	14 27 36.5	+2.8
TUVZ	Tukino	0.92	201	P	Pn	14 27 17.6	+0.5
RAHZ	Arahi	0.93	123	P	Pn	14 27 18.1	+1.0
RAHZ				S	Sn	14 27 36.2	+2.0
FWVZ	Far West T-bar	0.94	206	P	Pn	14 27 17.5	0.0
WHVZ	Whangaehu Hut	0.95	204	P	Pn	14 27 17.7	+0.1
DRZ	Dome Shelter	0.95	205	P	Pn	14 27 18.2	+0.5
HIZ	Hauiti	0.97	264	P	Pn	14 27 17.9	+0.5
TRVZ	Turoa	0.98	205	P	Pn	14 27 18.0	+0.2
WNVZ	Wahianoa	0.99	202	P	Pn	14 27 18.1	+0.3
MOVZ	Moawhango	1.03	194	P	Pn	14 27 18.0	-0.1
KWHZ	Kaweka Forest	1.05	166	P	Pn	14 27 18.6	+0.4
RAGZ	Rawiri	1.05	95	P	Pn	14 27 18.7	+0.5
PKVZ	Pokaka	1.05	213	P	Pn	14 27 18.4	+0.2
SNGZ	Shannon Statio	1.05	111	P	Pn	14 27 19.1	+0.9
BHHZ	Black Hill Sta	1.08	181	P	Pn	14 27 18.5	0.0
MTVZ	Mangateitei	1.08	206	P	Pn	14 27 18.8	+0.3
ARHZ	Aropaoanui	1.11	140	P	Pn	14 27 19.6	+0.9
WHHZ	Waihua	1.12	127	P	Pn	14 27 19.6	+0.8
MCHZ	McNeill Hill	1.14	155	P	Pn	14 27 20.0	+1.0
MWZ	Matawai	1.14	87	P	Pn	14 27 19.2	+0.2
KRHZ	Kereru	1.25	170	P	Pn	14 27 20.4	+0.2
VRZ	Vera Road	1.26	235	P	Pn	14 27 20.6	+0.4
RUGZ	Raukumara Rang	1.33	71	P	Pn	14 27 20.4	-0.7
RIGZ	Rimuhau	1.35	103	P	Pn	14 27 21.7	+0.5
KNZ	Kokohu	1.38	117	P	Pn	14 27 21.8	+0.3
TKGZ	Te Karaka	1.39	92	P	Pn	14 27 22.1	+0.5
CKHZ	Cape Kidnapper	1.47	148	P	Pn	14 27 22.9	+0.5
HAZ	Te Kaha	1.49	65	P	Pn	14 27 22.0	-0.6
MKAZ	Moumakai	1.50	330	P	Pn	14 27 23.0	+0.3
PRGZ	Paritu Road	1.50	111	P	Pn	14 27 23.1	+0.3
PNHZ	Pukenui	1.50	177	P	Pn	14 27 22.5	-0.4
TWGZ	Tauwhareparae	1.51	82	P	Pn	14 27 23.4	+0.4
KAHZ	Kahuranaki	1.51	156	P	Pn	14 27 23.3	+0.3
WAZ	Wanganui	1.59	212	P	Pn	14 27 23.7	-0.2
MHGZ	Mahia Peninsul	1.60	118	P	Pn	14 27 24.5	+0.5
TSZ	Takapari Road	1.65	183	P	Pn	14 27 23.9	-0.6
PKGZ	Pakihiroa	1.66	72	P	Pn	14 27 24.6	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DREZ	**Durham Road**	**1.67**	**242**	P	Pn	14 27 24.7	+0.1
CNGZ	**Carnagh Statio**	**1.67**	**93**	P	Pn	14 27 25.3	+0.6
WPHZ	**Waipukurau**	**1.67**	**171**	P	Pn	14 27 24.4	-0.4
LREZ	**Lake Rotokare**	**1.68**	**231**	P	Pn	14 27 25.1	+0.3
KUZ	**Kuaotunu**	**1.69**	**350**	P	Pn	14 27 25.0	0.0
ETAZ	**East Tamaki Re**	**1.72**	**327**	P	Pn	14 27 25.3	0.0
PXZ	**Pawanui**	**1.73**	**160**	P	Pn	14 27 25.1	-0.3
PUZ	**Puketiti**	**1.74**	**79**	P	Pn	14 27 25.3	-0.4
AWAZ	**Awhitu Peninsu**	**1.77**	**319**	P	Pn	14 27 25.9	0.0
PREZ	**Palmer Road**	**1.77**	**238**	P	Pn	14 27 26.5	+0.5
NEZ	**North Egmont**	**1.77**	**240**	P	Pn	14 27 26.4	+0.3
WIAZ	**Waiheke Island**	**1.78**	**335**	P	Pn	14 27 26.2	+0.1
PKE	**Pukeiti**	**1.82**	**244**	P	Pn	14 27 26.6	+0.2
KHEZ	**Kahui Hut**	**1.84**	**241**	P	Pn	14 27 27.1	+0.3
DVHZ	**Dannevirke**	**1.89**	**178**	P	Pn	14 27 26.3	-1.1
OHWZ	**Ohakea**	**1.89**	**198**	P	Pn	14 27 26.8	-0.4
MBAZ	**Motutapu North**	**1.89**	**330**	P	Pn	14 27 27.3	0.0
WTAZ	**Waiatarua**	**1.90**	**320**	P	Pn	14 27 27.8	+0.3
WMGZ	**Waiomatatini S**	**1.93**	**73**	P	Pn	14 27 27.4	-0.5
NBEZ	**Newall Road No**	**1.93**	**243**	P	Pn	14 27 28.0	+0.2
MXZ	**Matakaoa Point**	**1.95**	**65**	P	Pn	14 27 27.9	-0.2
POWZ	**Post Office Ro**	**1.99**	**187**	P	Pn	14 27 27.4	-1.2
ANWZ	**Angora Road**	**2.07**	**172**	P	Pn	14 27 28.7	-0.8
PRWZ	**Pori Road**	**2.14**	**182**	P	Pn	14 27 29.3	-1.1
BFZ	**Birch Farm**	**2.27**	**177**	P	Pn	14 27 30.4	-1.5
MRZ	**Mangatainoka R**	**2.28**	**190**	P	Pn	14 27 30.3	-1.7
TIWZ	**Tintock**	**2.37**	**184**	P	Pn	14 27 31.5	-1.7
CPWZ	**Castlepoint**	**2.50**	**178**	P	Pn	14 27 33.5	-1.3
OGWZ	**Otaki Gorge**	**2.50**	**196**	P	Pn	14 27 32.9	-2.0
HOWZ	**Holdsworth Sta**	**2.52**	**190**	P	Pn	14 27 32.9	-2.3
KIW	**Kapiti Island**	**2.61**	**200**	P	Pn	14 27 33.8	-2.5
TMWZ	**Te Maipa**	**2.70**	**183**	P	Pn	14 27 35.0	-2.4
MTW	**Mount Morrison**	**2.78**	**189**	P	Pn	14 27 35.7	-2.7
CAW	**Cannon Point**	**2.81**	**196**	P	Pn	14 27 36.1	-2.6
DUWZ	**D'Urville Isla**	**2.91**	**214**	P	Pn	14 27 37.5	-2.7
TRWZ	**Traveller**	**3.00**	**186**	P	Pn	14 27 38.5	-2.7
PAWZ	**Paruwai Farm**	**3.01**	**189**	P	Pn	14 27 38.3	-3.0
WEL	**Wellington**	**3.04**	**199**	P	Pn	14 27 38.7	-3.0
MSWZ	**Moikau Station**	**3.07**	**192**	P	Pn	14 27 39.0	-3.1
TCW	**Tory Channel**	**3.12**	**206**	P	Pn	14 27 39.7	-3.1
BHW	**Baring Head**	**3.14**	**197**	P	Pn	14 27 39.7	-3.2
PLWZ	**Palliser**	**3.22**	**191**	P	Pn	14 27 40.7	-3.4
TUWZ	**Tuamarina**	**3.44**	**208**	P	Pn	14 27 43.5	-3.4
NNZ	**Nelson**	**3.49**	**216**	P	Pn	14 27 44.4	-3.2
CMWZ	**Cape Campbell**	**3.63**	**203**	P	Pn	14 27 46.8	-2.7
QRZ	**Quartz Range**	**3.66**	**228**	P	Pn	14 27 45.9	-3.8
BSWZ	**Blackbirch Sta**	**3.71**	**206**	P	Pn	14 27 47.1	-3.4
THZ	**Tophouse**	**4.14**	**215**	P	Pn	14 27 52.5	-3.7
KHZ	**Kahutara**	**4.45**	**205**	P	Pn	14 27 56.1	-4.1
DSZ	**Denniston Nort**	**4.68**	**223**	P	Pn	14 27 59.1	-4.2
GVZ	**Greta Valley S**	**5.11**	**206**	P	Pn	14 28 04.5	-4.6
LTZ	**Lake Taylor**	**5.24**	**212**	P	Pn	14 28 05.9	-5.0
INZ	**Inchbonnie**	**5.57**	**218**	P	Pn	14 28 09.3	-5.9
OKCZ	**Okains Bay**	**5.78**	**202**	P	Pn	14 28 13.2	-4.9
OXZ	**Oxford**	**5.79**	**211**	P	Pn	14 28 12.2	-5.9
MQZ	**McQueen's Vall**	**5.89**	**205**	P	Pn	14 28 13.5	-6.0
AKCZ	**Akaroa Harbour**	**5.96**	**203**	P	Pn	14 28 15.2	-5.3
MHCZ	**Mount Hutt**	**6.15**	**212**	P	Pn	14 28 18.1	-4.9
WACZ	**Wakanui South**	**6.39**	**209**	P	Pn	14 28 20.5	-5.6
RPZ	**Rata Peaks**	**6.52**	**214**	P	Pn	14 28 23.5	-4.5
TMZ	**Timaru**	**7.08**	**211**	P	Pn	14 28 30.2	-5.4
ODZ	**Otahua Downs**	**7.78**	**210**	P	Pn	14 28 39.4	-5.4
JCZ	**Jackson Bay**	**7.89**	**222**	P	Pn	14 28 42.3	-4.1

MAN 04 14:46:18.1, 17°.08N×121°.31E, h25km, mb4.5, ML3.3, MS3.1, Luzon

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*IDC **04** 15:06:47.1±3.5, 17°.41S×178°.84W, h535km±18km, mb3.2/4, mb1 3.3/5, mb1mx2.9/35, mbtmp4.1/5, Error ellipse: s-maj=106.1km s-min=49.0km az=148.0*

ISC 04 15:06:47.8±3.1**, 17°.4S**±0°.8×**178°.9W**±0°.6**, h550**km**, n6, σ1ˢ.18**/7**, mb3.7**/4**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.96**	**262**	P	**P**	**15 08 01.0**	**-1.8**
	1.1nm,0.3s,baz=122,slow=13,SNR=14						
STKA	**Stephens Creek**	**38.52**	**240**	P	**P**	**15 13 23.5**	**-0.1**
	1.9nm,0.5s,baz=73,slow=7.8,SNR=7.7						
WRA	**Warramunga Arr**	**44.30**	**259**	P	**P**	**15 14 09.4**	**-0.1**
	0.7nm,0.5s,baz=91,slow=7.5,SNR=23						
ASAR	**Alice Springs**	**44.52**	**254**	P	**P**	**15 14 11.5**	**+0.3**
	8.5nm,0.6s,baz=89,slow=8.0,SNR=277						
ASAR				PcP	**PcP**	**15 15 42.4**	**-0.1**
	0.1nm,0.4s,baz=90,slow=3.7,SNR=1.2						
FITZ	**Fitzroy Crossi**	**52.69**	**260**	P	**P**	**15 15 13.2**	**+1.4**
	1.6nm,1.1s,baz=90,slow=7.1,SNR=1.3						
BRTR	**Keskin Array B**	**144.09**	**315**	PKP	**PKPdf**	**15 25 22.1**	**+0.5**
	0.6nm,0.6s,baz=122,slow=1.9,SNR=3.8						

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*NEIC **04** 15:18:34.9±1.3, 50°.75S±0°.08×114°.8E±0°.4, h10km±1km, mb4.4/14, Error ellipse: s-maj=40.9km s-min=9.6km az=284.0*

*IDC **04** 15:18:35.7±0.9, 50°.24S×114°.23E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.9/36, mbtmp4.0/7, MS3.6/13, Ms1 3.6/13, ms1mx3.4/25, Error ellipse: s-maj=51.4km s-min=17.6km az=117.0*

ISC 04 15:18:35.9±0.7**, 50°.6S**±0°.1×**114°.8E**±0°.2**, h10**km**, n39, σ2ˢ.11**/24**, mb4.2**/13**, MS3.6**/12**, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.70**	**358**	T	T	15 38 00.6	
	baz=180,slow=74,SNR=223						
H01W1	**Cape Leeuwin H**	**15.70**	**358**	T	T	15 38 01.0	
	baz=180,slow=74,SNR=214						
H01W3	**Cape Leeuwin H**	**15.71**	**358**	T	T	15 38 01.7	
	baz=180,slow=74,SNR=233						
NWAO	**Narrogin (SRO)**	**17.74**	**7**	LR	LR	15 27 41.6	
	comp=Z,153nm,18.8s,baz=138,slow=31						
STKA	**Stephens Creek**	**27.24**	**57**	P	**P**	**15 24 23.9**	**+3.9**
	1.5nm,0.9s,baz=193,slow=8.9,SNR=2.5						
STKA				LR	LR	15 33 13.5	
	comp=Z,126nm,21.3s,baz=207,slow=32						
CAN	**Canberra**	**28.98**	**71**	P	**P**	**15 24 33.7**	**-1.9**
MAW	**Mawson**	**30.43**	**217**	P	**P**	**15 24 49.6**	**+1.6**
	0.8nm,0.6s,baz=44,slow=7.7,SNR=2.2						
MAW				LR	LR	15 35 25.5	
	comp=Z,62nm,18.1s,baz=64,slow=33						
MAW	**Mawson**	**30.43**	**217**	P	**P**	**15 24 45.5**	**-2.4**
ASAR	**Alice Springs**	**30.70**	**36**	P	**P**	**15 24 52.8**	**+2.0**
	2.6nm,0.8s,baz=208,slow=7.7,SNR=39						
ASAR				LR	LR	15 35 43.5	
	comp=Z,127nm,20.6s,baz=206,slow=34						
ASAR	**Alice Springs**	**30.70**	**36**	P	**P**	**15 24 52.4**	**+1.6**
AS31	**Alice Springs**	**30.70**	**36**	P	**P**	**15 24 50.4**	**-0.5**
AS31				IAmb	IAmb	15 25 00.7	
	comp=Z,1.4nm,0.8s						
VNDA	**Vanda**	**32.15**	**163**	LR	LR	15 37 30.4	
	comp=Z,144nm,18.3s,baz=316,slow=35						
VNDA	**Vanda**	**32.15**	**163**	P	**P**	**15 25 02.4**	**-0.6**
FITZ	**Fitzroy Crossi**	**33.55**	**19**	LR	LR	15 36 56.0	
	comp=Z,26nm,20.1s,baz=248,slow=33						
FITZ	**Fitzroy Crossi**	**33.55**	**19**	P	**P**	**15 25 16.0**	**+0.2**
FITZ				IAmb	IAmb	15 25 24.9	
	comp=Z,8.7nm,1.1s						
WRA	**Warramunga Arr**	**34.26**	**34**	P	**P**	**15 25 20.8**	**-1.3**
	comp=Z,3.1nm,0.7s,baz=202,slow=10,SNR=21						
WRA	**Warramunga Arr**	**34.26**	**34**	P	**P**	**15 25 23.2**	**+1.1**
WB2	**Warramunga Arr**	**34.27**	**34**	P	**P**	**15 25 21.6**	**-0.5**
WB2				IAmb	IAmb	15 25 31.5	
	comp=Z,6.8nm,0.8s						
WRAB	**Tennant Creek**	**34.28**	**34**	P	**P**	**15 25 21.5**	**-0.7**
WR0	**Warramunga Arr**	**34.32**	**34**	P	**P**	**15 25 22.2**	**-0.3**
WR0				IAmb	IAmb	15 25 32.1	
	comp=Z,7.8nm,0.9s						
KNRA	**Kununurra**	**36.60**	**23**	P	**P**	**15 25 39.6**	**-2.5**
KNRA				IAmb	IAmb	15 25 51.0	
	comp=Z,8.7nm,1.1s						
QSPA	**South Pole Qui**	**39.53**	**180**	P	**P**	**15 26 10.9**	**+4.3**
	comp=Z,1.3nm,0.8s,baz=316,slow=1.8,SNR=6.6						
QSPA	**South Pole Qui**	**39.53**	**180**	P	**P**	**15 26 03.1**	**-3.5**
QSPA				IAmb	IAmb	15 26 19.9	
	comp=Z,3.4nm,0.8s						
SOEI	**Soe**	**41.45**	**14**	P	**P**	**15 26 21.4**	**-1.5**
LEM	**Lembang**	**44.04**	**350**	LR	LR	15 40 41.2	
	comp=Z,128nm,21.2s,baz=190,slow=30						
KAPI	**Kappang**	**45.61**	**7**	LR	LR	15 46 42.9	
	comp=Z,32nm,18.2s,baz=72,slow=37						
SNAA	**Sanae**	**50.41**	**201**	P	**P**	**15 27 35.7**	**+2.8**
	comp=Z,1.9nm,0.8s,baz=101,slow=6.8,SNR=7.0						
SNAA	**Sanae**	**50.41**	**201**	P	**P**	**15 27 30.8**	**-2.1**
SNAA				IAmb	IAmb	15 27 49.1	
	comp=Z,4.6nm,1.0s						
TOLI2	**Tolitoli**	**51.76**	**8**	P	**P**	**15 27 43.5**	**0.0**
TOLI2				IAmb	IAmb	15 27 47.4	
	comp=Z,7.2nm,1.4s						
JAY	**Jayapura**	**52.66**	**33**	LR	LR	15 49 58.7	
	comp=Z,74nm,20.5s,baz=134,slow=36						
PSI	**Prapat**	**54.91**	**340**	LR	LR	15 45 45.8	
	comp=Z,135nm,21.8s,baz=251,slow=30						
H08S2	**Diego Garcia H**	**55.33**	**306**	T	T	16 27 07.2	
	baz=148,slow=76,SNR=7.5						
H08S1	**Diego Carcia H**	**55.34**	**306**	T	T	16 27 08.5	
	baz=148,slow=76,SNR=9.1						
H08S3	**Diego Garcia H**	**55.35**	**306**	T	T	16 27 06.2	
	baz=148,slow=76,SNR=12						
BOSA	**Boshof**	**68.21**	**251**	LR	LR	15 53 56.5	
	comp=Z,43nm,18.2s,baz=184,slow=31						
CMAR	**Chiang Mai Arr**	**70.16**	**344**	P	**P**	**15 29 48.1**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=186,slow=4.6,SNR=2.5						
CMAR				LR	LR	15 57 50.0	
	comp=Z,14nm,19.6s,baz=204,slow=34						
PLCA	**Paso Flores**	**88.93**	**176**	LR	LR	16 10 18.4	
	comp=Z,69nm,18.3s,baz=193,slow=35						
TXAR	**Lajitas Array**	**144.21**	**112**	PKP	**PKPdf**	**15 38 13.8**	**+2.0**
	comp=Z,0.2nm,0.6s,baz=159,slow=3.8,SNR=3.1						
YKA	**Yellowknife Ar**	**151.03**	**47**	PKPab	**PKPab**	**15 38 35.4**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=294,slow=1.8,SNR=3.8						

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*WEL **04** 15:22:29.6±0.7, 36°S±7°×17°9E±°, h215km±8km, M3.7/39, ML3.9/39, MLv3.7/39, Error ellipse: s-maj=0.0km s-min=0.0km az=109.2*

*IDC **04** 15:22:30.5±7.1, 35°.89S×178°.74E, h224km±84km, mb3.1/2, mb1 3.4/3, mb1mx3.0/31, mbtmp3.7/3, Error ellipse: s-maj=144.2km s-min=49.9km az=178.0*

ISC 04 15:22:29.1±1.7**, 35°.7S**±0°.1×**178°.8E**±0°.1**, h216**km±11km**, n56, σ0ˢ.96**/78**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.94**	**191**	P	**Pn**	**15 23 08.1**	**0.0**
MXZ				S	**S**	**15 23 37.6**	**-1.1**
WMGZ	**Waiomatatini S**	**2.18**	**188**	P	**Pn**	**15 23 11.6**	**+1.1**
WMGZ				S	**S**	**15 23 43.8**	**+0.9**
HAZ	**Te Kaha**	**2.25**	**201**	P	**Pn**	**15 23 10.9**	**-0.3**
HAZ				S	**S**	**15 23 43.0**	**-1.0**
PKGZ	**Pakihiroa**	**2.30**	**194**	P	**Pn**	**15 23 11.4**	**-0.5**
PUZ	**Puketiti**	**2.45**	**190**	P	**Pn**	**15 23 13.5**	**+0.1**
PUZ				S	**S**	**15 23 47.3**	**-0.7**
RUGZ	**Raukumara Rang**	**2.47**	**201**	P	**Pn**	**15 23 13.3**	**-0.5**
RUGZ				S	**S**	**15 23 47.5**	**-1.0**
TWGZ	**Tauwhareparae**	**2.60**	**194**	P	**Pn**	**15 23 16.0**	**+1.0**
TWGZ				S	**S**	**15 23 52.1**	**+1.2**
WHRZ	**Whale Island**	**2.63**	**213**	P	**Pn**	**15 23 14.4**	**-1.0**
KUZ	**Kuaotunu**	**2.71**	**245**	P	**Pn**	**15 23 13.7**	**-2.5**
KUZ				S	**S**	**15 23 54.7**	**+1.9**
OPRZ	**Ohinepanea**	**2.83**	**219**	P	**Pn**	**15 23 18.1**	**+0.6**
MWZ	**Matawai**	**2.86**	**200**	P	**Pn**	**15 23 18.3**	**+0.4**
MWZ				S	**S**	**15 23 57.0**	**+1.0**
CNGZ	**Carnagh Statio**	**2.86**	**189**	P	**Pn**	**15 23 18.9**	**+1.0**
TKGZ	**Te Karaka**	**2.88**	**195**	P	**Pn**	**15 23 18.4**	**+0.3**
TKGZ				S	**S**	**15 23 56.8**	**+0.5**
URZ	**Urewera**	**2.92**	**207**	P	**Pn**	**15 23 18.2**	**-0.4**
	3.4nm,0.3s,baz=68,slow=5.4,SNR=34						
URZ				S	**S**	**15 23 55.7**	**-1.6**
	4.9nm,0.3s,baz=113,slow=19,SNR=8.3						
URZ	**Urewera**	**2.92**	**207**	P	**Pn**	**15 23 18.3**	**-0.4**
URZ				S	**S**	**15 23 57.3**	**0.0**
RAGZ	**Rawiri**	**3.04**	**201**	P	**Pn**	**15 23 20.2**	**+0.1**
RAGZ				S	**S**	**15 24 00.6**	**+0.8**
RIGZ	**Rimuhau**	**3.15**	**195**	P	**Pn**	**15 23 21.4**	**+0.1**
RIGZ				S	**S**	**15 24 02.2**	**0.0**
KMRZ	**Kaimai**	**3.16**	**225**	P	**Pn**	**15 23 22.3**	**+0.8**
MUGZ	**Murupara**	**3.25**	**209**	P	**Pn**	**15 23 22.4**	**0.0**
MUGZ				S	**S**	**15 24 02.9**	**-1.1**
RTZ	**Ruatahuna**	**3.29**	**206**	P	**Pn**	**15 23 22.4**	**-0.5**
RTZ				S	**S**	**15 24 03.8**	**-1.2**
SNGZ	**Shannon Statio**	**3.33**	**200**	P	**Pn**	**15 23 23.7**	**+0.3**
SNGZ				S	**S**	**15 24 06.6**	**+0.8**
PRGZ	**Paritu Road**	**3.34**	**192**	P	**Pn**	**15 23 23.5**	**+0.1**
TOZ	**Tahuroa Road**	**3.36**	**231**	P	**Pn**	**15 23 23.7**	**+0.1**
KNZ	**Kokohu**	**3.47**	**194**	P	**Pn**	**15 23 24.7**	**-0.3**
RAHZ	**Arahi**	**3.52**	**202**	P	**Pn**	**15 23 25.9**	**+0.2**
MTHZ	**Maungataniwha**	**3.55**	**205**	P	**Pn**	**15 23 25.5**	**-0.4**
MHGZ	**Mahia Peninsul**	**3.56**	**191**	P	**Pn**	**15 23 26.3**	**+0.3**
WHHZ	**Waihua**	**3.63**	**199**	P	**Pn**	**15 23 27.0**	**+0.1**
WHHZ				S	**S**	**15 24 12.0**	**-0.2**
MRHZ	**Matea Rd**	**3.69**	**210**	P	**Pn**	**15 23 27.6**	**-0.2**
MRHZ				S	**S**	**15 24 13.4**	**-0.2**
TLZ	**Tolley Road**	**3.73**	**223**	P	**Pn**	**15 23 30.0**	**+1.8**
NMHZ	**Naumai**	**3.78**	**204**	P	**Pn**	**15 23 28.8**	**0.0**
NMHZ				S	**S**	**15 24 15.2**	**-0.4**
ARHZ	**Aropaoanui**	**3.87**	**201**	P	**Pn**	**15 23 29.7**	**-0.1**
ARHZ				S	**S**	**15 24 18.6**	**+1.1**
BKZ	**Black Stump Fm**	**3.95**	**207**	P	**Pn**	**15 23 30.6**	**-0.2**
BKZ				S	**S**	**15 24 18.1**	**-1.2**
KATZ	**Kakaramea**	**4.13**	**216**	P	**Pn**	**15 23 36.2**	**+3.0**
MCHZ	**McNeill Hill**	**4.13**	**203**	P	**Pn**	**15 23 32.6**	**-0.4**
MCHZ				S	**S**	**15 24 24.9**	**+1.7**
KWHZ	**Kaweka Forest**	**4.20**	**206**	P	**Pn**	**15 23 33.5**	**-0.5**
CKHZ	**Cape Kidnapper**	**4.22**	**198**	P	**Pn**	**15 23 33.6**	**-0.5**
NTVZ	**North Tongarir**	**4.24**	**215**	P	**Pn**	**15 23 34.8**	**+0.4**
TMVZ	**Te Maari**	**4.24**	**215**	P	**Pn**	**15 23 34.4**	**0.0**
HIZ	**Hauiti**	**4.24**	**227**	P	**Pn**	**15 23 36.2**	**+1.8**
ETVZ	**East Tongariro**	**4.25**	**214**	P	**Pn**	**15 23 34.2**	**-0.4**
WTVZ	**West Tongariro**	**4.29**	**215**	P	**Pn**	**15 23 34.3**	**-0.8**
NNVZ	**North Ngauruho**	**4.29**	**215**	P	**Pn**	**15 23 34.7**	**-0.4**
OTVZ	**Oturere**	**4.29**	**214**	P	**Pn**	**15 23 34.8**	**-0.4**
SNVZ	**South Ngauruho**	**4.32**	**214**	P	**Pn**	**15 23 35.3**	**-0.3**
NGZ	**Ngauruhoe**	**4.33**	**215**	P	**Pn**	**15 23 34.6**	**-1.1**
BHHZ	**Black Hill Sta**	**4.40**	**209**	P	**Pn**	**15 23 35.6**	**-0.7**
KAHZ	**Kahuranaki**	**4.40**	**200**	P	**Pn**	**15 23 35.9**	**-0.4**
KRHZ	**Kereru**	**4.42**	**205**	P	**Pn**	**15 23 35.3**	**-1.2**
WNVZ	**Wahianoa**	**4.46**	**214**	P	**Pn**	**15 23 35.8**	**-1.4**
MTVZ	**Mangateitei**	**4.56**	**214**	P	**Pn**	**15 23 36.7**	**-1.7**
PXZ	**Pawanui**	**4.62**	**199**	P	**Pn**	**15 23 37.6**	**-1.4**
PNHZ	**Pukenui**	**4.72**	**205**	P	**Pn**	**15 23 39.2**	**-1.1**
ASAR	**Alice Springs**	**40.47**	**275**	P	**P**	**15 29 47.8**	**+0.9**
	0.4nm,0.5s,baz=117,slow=7.8,SNR=6.8						
WRA	**Warramunga Arr**	**41.95**	**280**	P	**P**	**15 29 59.1**	**+0.2**
	0.8nm,0.4s,baz=122,slow=8.1,SNR=13						
FINES	**FINESS Array B**	**148.95**	**335**	PKPbc	**PKiKP**	**15 41 50.8**	**-0.8**
	1.1nm,0.8s,baz=107,slow=4.7,SNR=1.5						

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*IDC **04** 15:24:43.1±6.0, 32°.31S×138°.03E, h0km, mb1 3.3/4, mb1mx3.2/33, mbtmp3.1/4, ML3.0/4, Error ellipse: s-maj=99.3km s-min=24.3km az=23.0*

*NOU **04** 15:24:45.7, 32°.35S×138°.11E, h0km, MLv3.4/8, Near Coast of South Australia*

*AUST **04** 15:24:46.1±1.5, 32°.33S×138°.15E, h14km±11km, Error ellipse: s-maj=9.0km s-min=7.4km az=54.0*

ISC 04 15:24:44.2±0.8**, 32°.27S**±0°.04×**138°.16E**±0°.04**, h10**km**, n18, σ1ˢ.63**/27**, Near coast of South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTT	**Hallett**	**1.32**	**151**	P	**Pn**	**15 25 08.7**	**-0.1**
	baz=1.3,SNR=62						
HTT				S	**Sg**	**15 25 27.8**	**+1.1**
	baz=1.3						
LCRK	**Leigh Creek**	**1.82**	**2**	P	**Pg**	**15 25 19.1**	**0.0**
	baz=1.9,SNR=36						
LCRK				S	**Sg**	**15 25 43.3**	**+0.5**
	baz=1.9						
BBOO	**Buckleboo**	**1.85**	**253**	P	**Pb**	**15 25 18.4**	**+0.3**
	baz=1.8						
BBOO				S	**Sb**	**15 25 41.7**	**+0.3**
	baz=1.8						
STKA	**Stephens Creek**	**2.95**	**83**	P	**Pn**	**15 25 32.4**	**+1.3**
	baz=3.0						
STKA	**Stephens Creek**	**2.95**	**83**	Pn	**Pn**	**15 25 32.4**	**+1.3**
	0.4nm,0.3s,baz=266,slow=16,SNR=2.7						
STKA				Pg	**Pg**	**15 25 39.2**	**-1.4**
	2.6nm,0.3s,baz=260,slow=16,SNR=14						
STKA				Sn	**Sn**	**15 26 06.8**	**+0.3**
	2.5nm,0.3s,baz=236,slow=12,SNR=4.4						
STKA				Lg	Lg	15 26 14.6	
	6.8nm,0.3s,baz=114,slow=23,SNR=6.9						
MULG	**Mulgathing**	**4.03**	**298**	P	**Pn**	**15 25 48.7**	**+2.7**
	baz=4.1						
MULG				S	**Sn**	**15 26 34.0**	**+0.7**
	baz=4.1						
OOD	**Oodnadatta**	**4.95**	**334**	P	**Pn**	**15 26 00.7**	**+2.1**
	baz=5.0						
INKA	**Innaminka**	**5.04**	**27**	P	**Pn**	**15 26 02.3**	**+2.4**
	baz=5.1,SNR=3.6						
ARPS	**Mount Arapiles**	**5.42**	**147**	P	**Pn**	**15 26 05.6**	**+0.6**
	baz=5.4						
CMSA	**Cobar Meteorol**	**6.45**	**85**	P	**Pn**	**15 26 19.5**	**+0.3**
	baz=6.4						
FORT	**Forrest**	**8.75**	**277**	P	**Pn**	**15 26 51.7**	**+0.9**
	baz=8.7						
FORT				S	**Sn**	**15 28 26.5**	**-2.9**
	baz=8.7						
ASAR	**Alice Springs**	**9.36**	**335**	Pn	**Pn**	**15 27 00.6**	**+1.3**
	0.3nm,0.3s,baz=153,slow=12,SNR=22						
ASAR				Sn	**Sn**	**15 28 41.5**	**-3.1**
	0.2nm,0.3s,baz=161,slow=23,SNR=5.1						
ASPA	**Alice Springs**	**9.36**	**335**	P	**Pn**	**15 27 01.8**	**+2.6**
	baz=9.4						
WRKA	**Warakurna**	**11.26**	**307**	P	**Pn**	**15 27 25.6**	**+0.3**
	baz=11						
WRKA				S	**Sn**	**15 29 28.6**	**-2.7**
	baz=11						
WC3	**Warramunga Arr**	**12.72**	**344**	P	**Pn**	**15 27 45.0**	**-0.3**
	baz=13						
WRA	**Warramunga Arr**	**12.75**	**344**	Pn	**Pn**	**15 27 44.9**	**-0.8**
	0.1nm,0.3s,baz=164,slow=13,SNR=14						
WRA				Lg	Lg	15 31 26.1	
	baz=163,slow=29,SNR=1.0						
FITZ	**Fitzroy Crossi**	**18.07**	**318**	P	**Pn**	**15 28 54.6**	**-0.9**
	baz=18						
FITZ	**Fitzroy Crossi**	**18.07**	**318**	P	**Pn**	**15 28 54.2**	**-1.2**
	0.1nm,0.3s,baz=166,slow=10,SNR=0.8						

MEX 04 15:38:39.2±0.4**, 16°.31N**×**98°.04W, h26**km±7km**, MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.12**	**314**	*i* P	Pb	15 38 42.9	-1.3
PNIG				*i* S	Sb	15 38 46.1	-1.4
YOIG	**Yosondua**	**0.72**	**41**	*i* P	Pb	15 38 51.1	-2.3
YOIG				*i* S	Sb	15 39 00.4	-2.6
PEIG	**Puerto Escondi**	**0.91**	**110**	*e*P	Pn	15 38 53.7	-2.7
PEIG				*i* S	Sb	15 39 05.4	-2.8
MGIG	**Malinaltepec**	**1.08**	**328**	*i* S	Sn	15 39 12.0	-1.0
HLIG	**Huajuapan de L**	**1.53**	**8**	*i* P	Pn	15 39 02.9	-2.1
HLIG				*i* S	Sn	15 39 20.1	-4.1

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*IDC **04** 15:44:50.6±4.8, 3°.46S×127°.18E, h131km±52km, mb3.2/3, mb1 3.5/6, mb1mx3.2/34, mbtmp3.8/6, Error ellipse: s-maj=48.1km s-min=19.8km az=89.0*

ISC 04 15:44:48.0±1.3**, 3°.4S**±0°.1×**127°.0E**±0°.2**, h100**km**, n6, σ1ˢ.17**/7**, mb3.5**/3**, Buru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.98**	**59**	P	**Pn**	**15 46 00.1**	**-0.3**
	4.6nm,0.3s,baz=256,slow=19,SNR=27						
SIJI				S	**Sn**	**15 46 57.9**	**+1.0**
	3.5nm,0.3s,baz=217,slow=20,SNR=9.3						
FITZ	**Fitzroy Crossi**	**14.63**	**185**	P	**Pn**	**15 48 11.6**	**+1.5**
	0.1nm,0.3s,baz=0.0,slow=8.1,SNR=5.9						
WRA	**Warramunga Arr**	**17.91**	**157**	P	**P**	**15 48 48.9**	**-1.0**
	0.6nm,0.3s,baz=339,slow=12,SNR=44						
ASAR	**Alice Springs**	**21.20**	**162**	P	**P**	**15 49 24.6**	**-1.0**
	1.3nm,0.4s,baz=346,slow=12,SNR=42						
STKA	**Stephens Creek**	**31.45**	**156**	P	**P**	**15 50 59.5**	**-0.5**
	0.4nm,0.4s,baz=323,slow=10,SNR=1.7						
MKAR	**Makanchi Array**	**63.62**	**327**	P	**P**	**15 55 08.3**	**-0.1**
	0.3nm,0.5s,baz=139,slow=7.7,SNR=3.0						

IDC 04 16:00:40.0±3.0**, 15°.64N**×**148°.20E, h0**km**, mb3.3**/3**, mb1 3.5**/4**, mb1mx3.2**/28**, mbtmp3.4**/4**, ML3.7**/1**, Error ellipse: s-maj=76.5km s-min=34.5km az=87.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.81**	**238**	Pn	Pn	16 01 41.6	+1.6
	5.2nm,0.3s,baz=44,slow=1.7,SNR=12						
WRA	**Warramunga Arr**	**37.89**	**202**	P	P	16 07 58.0	-1.1
	0.1nm,0.5s,baz=12,slow=7.0,SNR=1.3						
ASAR	**Alice Springs**	**41.49**	**200**	P	P	16 08 28.8	-0.2
	0.3nm,1.0s,baz=23,slow=12,SNR=2.1						
MKAR	**Makanchi Array**	**62.30**	**315**	P	P	16 11 04.3	+0.2
	0.2nm,0.3s,baz=95,slow=7.0,SNR=4.3						

DJA 04 16:10:46.6±0.7**, 2°N**±4°×**12°7E**±°**, h137**km±7km**, M4.2**/6**, mb4.5**/1**, mB4.8**/1**, MLv4.0**/6**, Mw(mB)4.0**/1**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMI	**Galela, Maluku**	**0.60**	**60**	P	Pn	16 11 07.5	+0.5
GAMI				S	Sn	16 11 23.9	+1.4
TNTI	**Ternate**	**0.77**	**173**	P	Pn	16 11 09.1	+0.9
TNTI				S	Sn	16 11 27.4	+2.7
MNI	**Manado**	**2.43**	**268**	P	Pn	16 11 27.0	+0.7
MNI				S	Sn	16 11 58.6	+1.8
SGSI	**Sangihe**	**2.75**	**321**	P	Pn	16 11 30.5	+0.2
SGSI				S	Sn	16 12 04.7	+0.7
SANI	**Sanana**	**3.79**	**200**	P	Pn	16 11 42.2	-1.6
SANI				S	Sn	16 12 18.5	-10
GTOI	**Gorontalo**	**4.35**	**258**	P	Pn	16 11 53.1	+1.9
GTOI				S	Sn	16 12 43.8	+2.4
KRAI	**Karang Ratu**	**4.96**	**167**	P	Pn	16 12 00.2	+0.9
APSI	**Ampana**	**6.12**	**247**	P	Pn	16 12 15.1	+0.2

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*IDC **04** 16:12:24.3±2.0, 7°.16S×129°.42E, h136km±19km, mb3.5/7, mb1 3.8/12, mb1mx3.6/27, mbtmp4.1/12, Error ellipse: s-maj=27.9km s-min=13.6km az=76.0*

*NEIC **04** 16:12:26.7±2.1, 7°.14S±0°.08×129°.35E±0°.06, h155km±10km, mb4.0/12, Error ellipse: s-maj=12.1km s-min=8.0km az=154.0*

*DJA **04** 16:12:27.3±0.3, 7°S±3°×13°0E±°, h135km±9km, M4.5/11, mb4.5/11, mB5.2/6, MLv4.6/9, Mw(mB)4.6/6*

ISC 04 16:12:25.9±0.5**, 7°.24S**±0°.05×**129°.39E**±0°.06**, h150**km**, n53, σ2ˢ.34**/55**, mb3.8**/10**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.03**	**111**		**Pn**	**16 13 04.2**	**+2.8**
BNDI	**Bandanaira**	**2.75**	**11**	P	**Pn**	**16 13 12.5**	**+2.4**
MSAI	**Masohi**	**3.89**	**353**	P	**Pn**	**16 13 27.9**	**+3.1**
KRAI	**Karang Ratu**	**4.02**	**346**	P	**Pn**	**16 13 29.1**	**+2.6**
FAKI	**Fak Fak**	**5.15**	**34**		**Pn**	**16 13 40.3**	**-1.1**
SOEI	**Soe**	**5.65**	**243**		**Pn**	**16 13 49.5**	**+1.4**
SOEI	**Soe**	**5.65**	**243**	P	**Pn**	**16 13 51.1**	**+3.0**
	1.0nm1µm46nm,0.8s						
MTN	**Manton Dam**	**5.83**	**163**	Pn	**Pn**	**16 13 51.4**	**+1.0**
BATI	**Baumata**	**6.38**	**242**	P	**Pn**	**16 13 58.0**	**+0.2**
	14nm,0.3s,baz=92,slow=5.5,SNR=19						
BATI				S	**Sn**	**16 15 04.2**	**-5.5**
	25nm,0.3s,baz=104,slow=8.3,SNR=11						
BATI	**Baumata**	**6.38**	**242**	P	**Pn**	**16 13 59.5**	**+1.7**
	0.4nm574nm24nm,0.4s						
SIJI	**Sorong**	**6.60**	**17**	P	**Pn**	**16 13 58.1**	**-2.5**
	3.6nm,0.3s,baz=190,slow=18,SNR=38						
SIJI				S	**Sn**	**16 15 08.7**	**-6.2**
	9.4nm,0.3s,baz=255,slow=23,SNR=14						
SIJI	**Sorong**	**6.60**	**17**	P	**Pn**	**16 14 02.7**	**+2.0**
SWI	**Sorong**	**6.60**	**16**	P	**Pn**	**16 14 02.8**	**+2.1**
	0.5nm2µm20nm,0.5s						
MMRI	**Maumere**	**7.22**	**258**	Pn	**Pn**	**16 14 11.3**	**+2.3**
MMRI	**Maumere**	**7.22**	**258**	P	**Pn**	**16 14 12.6**	**+3.6**
	0.2nm1µm33nm,1.0s						
EDFI	**Ende, Flores**	**7.77**	**258**	P	**Pn**	**16 14 18.4**	**+2.0**
	0.0nm7.7nm,0.9s						
TNTI	**Ternate**	**8.21**	**346**	Pn	**Pn**	**16 14 22.7**	**+0.5**
KNRA	**Kununurra**	**8.41**	**184**	Pn	**Pn**	**16 14 24.2**	**-0.6**
WAMI	**Wamena**	**9.86**	**71**	P	Pn	16 15 05.3	+21
FITZ	**Fitzroy Crossi**	**11.40**	**198**	P	**Pn**	**16 15 02.4**	**-2.0**
	2.8nm,0.3s,baz=16,slow=9.4,SNR=98						
FITZ				S	Sn	16 17 02.3	-8.1
	3.0nm,0.3s,baz=100,slow=17,SNR=4.6						
FITZ	**Fitzroy Crossi**	**11.40**	**198**	Pn	**Pn**	**16 15 02.5**	**-1.8**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.51	160	P	Pn	16 15 29.4	-2.3
	5.3nm,0.3s,baz=329,slow=13,SNR=159						
WRA				S	Sn	16 17 53.6	-7.7
	4.4nm,0.3s,baz=331,slow=24,SNR=10						
WB2	Warramunga Arr	13.51	160	Pn	Pn	16 15 29.7	-2.1
WR0	Warramunga Arr	13.60	159	Pn	Pn	16 15 30.7	-2.1
BBKI	Banjar Baru	14.96	284	P	P	16 15 56.2	+4.4
	3μm44nm,1.0s						
COEN	Coen	15.10	117		Pn	16 15 53.6	+1.9
COEN				IAmb	IAmb	16 15 56.3	
	comp=Z,4.5nm,0.8s						
JAGI	Jajag, Banyuwa	15.15	264	Pn	Pn	16 15 50.6	-1.6
MTKI	Muara Teweh, K	15.75	293	P	P	16 16 02.8	+2.3
	comp=Z,12nm,0.5s						
PKKI	Palangkaraya	16.14	287	P	P	16 16 07.5	+2.6
	comp=Z,92nm,0.7s						
AS31	Alice Springs	16.90	166		P	16 16 13.7	+0.5
AS31				IAmb	IAmb	16 16 28.6	
	comp=Z,6.5nm,0.3s						
ASAR	Alice Springs	16.90	166	P	P	16 16 13.9	+0.7
	comp=Z,1.8nm,0.3s,baz=344,slow=14,SNR=92						
ASAR				S	S	16 19 14.8	-6.8
	comp=Z,1.1nm,0.3s,baz=342,slow=26,SNR=4.8						
ASAR	Alice Springs	16.90	166		P	16 16 13.7	+0.5
PSA00	Pilbara Seismi	16.97	212	P	P	16 16 14.9	+0.9
PSA00	Pilbara Seismi	16.97	212	P	P	16 16 14.7	+0.7
PSA00				IAmb	IAmb	16 16 16.4	
	comp=Z,4.1nm,0.6s						
CTA	Charters Tower	20.75	130	P	P	16 16 58.6	+3.6
	comp=Z,2.4nm,0.9s,baz=298,slow=16,SNR=1.8						
FORT	Forrest	23.45	183	P	P	16 17 23.1	+1.3
MORW	Morawa	25.10	208	P	P	16 17 37.2	+0.3
MORW				IAmb	IAmb	16 17 55.3	
	comp=Z,5.8nm,1.0s						
STKA	Stephens Creek	27.03	157	P	P	16 17 55.1	+1.0
	comp=Z,1.1nm,0.5s,baz=323,slow=12,SNR=4.0						
STKA	Stephens Creek	27.03	157	P	P	16 17 55.4	+1.3
EIDS	Eidsvold	27.46	134	P	P	16 17 59.3	+1.2
EIDS				IAmb	IAmb	16 18 07.4	
	comp=Z,4.8nm,0.9s						
CMAR	Chiang Mai Arr	39.42	311	P	P	16 19 41.1	-0.4
	comp=Z,0.9nm,0.6s,baz=136,slow=6.8,SNR=7.6						
SONM	Songino Array	58.48	342	P	P	16 22 05.9	-0.4
	comp=Z,0.3nm,0.5s,baz=145,slow=5.1,SNR=3.7						
SONM	Songino Array	58.48	342	P	P	16 22 05.5	-0.8
MK31	Makanchi Array	68.09	327	P	P	16 23 08.6	-0.9
MKAR	Makanchi Array	68.09	327	P	P	16 23 09.0	-0.6
	comp=Z,0.9nm,0.5s,baz=121,slow=8.1,SNR=14						
MKAR	Makanchi Array	68.09	327	P	P	16 23 08.5	-1.0
MAKZ	Makanchi	68.27	327	P	P	16 23 09.9	-0.7
MAKZ				IAmb	IAmb	16 23 13.6	
	comp=Z,0.9nm,1.1s						
ZALV	Zalesovo Beam	71.53	334	P	P	16 23 29.3	-1.0
	comp=Z,0.7nm,0.4s,baz=151,slow=6.2,SNR=4.1						
VNDA	Vanda	72.28	173	P	P	16 23 35.0	+0.6
	comp=Z,0.3nm,0.4s,baz=352,slow=7.0,SNR=2.3						
MAW	Mawson	74.51	201	P	P	16 23 47.9	+0.2
	comp=Z,0.9nm,0.4s,baz=45,slow=5.7,SNR=3.4						
TORD	Torodi Ar. Bea	128.26	281	PKP	PKPdf	16 31 15.2	-0.4
	comp=Z,0.6nm,0.6s,baz=77,slow=1.8,SNR=4.8						
CPUP	Villa Florida	146.00	169	PKPbc	PKPdf	16 31 49.4	+1.5
	comp=Z,1.8nm,0.7s,baz=297,slow=9.0,SNR=3.8						
LPAZ	La Paz	150.89	144	PKPbc	PKPbc	16 32 02.0	-0.6
	comp=Z,1.3nm,0.3s,baz=85,slow=6.4,SNR=12						

MEX 04 16:13:23.0±0.6**, 15°.73N×93°.56W, h90**km±10km**, MD3.7, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		0.33	94	*i* P	Pn	16 13 35.1	-1.4
PCIG				*i* S	Sn	16 13 45.0	-1.6
TGIG		1.13	22	*i* P	Pn	16 13 43.7	-0.6
TGIG				*i* S	Sn	16 13 58.5	-1.7
CCIG	Comitan	1.48	68	*e*P	Pn	16 13 49.2	+0.6
CCIG				*i* S	Sn	16 14 06.2	-1.9

MEX 04 16:17:15.1±0.3**, 18°.41N×100°.37W, h31**km±14km**, MD3.6, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLIG	Platanillo	0.82	91	*i* P	Pn	16 17 28.4	-2.2
PLIG				*i* S	Sn	16 17 38.7	-3.0
MEIG	Mezcala	0.86	124	*i* P	Pn	16 17 28.9	-2.2
MEIG				*i* S	Sn	16 17 39.6	-3.0
MAVM	Malinalco, Edo	0.99	57	*e*P	Pn	16 17 30.8	-2.3
MAVM				*e*S	Sn	16 17 43.1	-3.0
DAIG	Los Arroyos	1.54	154	*e*P	Pn	16 17 38.5	-1.9
DAIG				*i* S	Sn	16 17 56.5	-3.0
HLIG	Huajuapan de L	2.50	103	*i* P	Pn	16 17 52.5	-1.4

IDC 04 16:23:42.9±3.2**, 4°.85S×133°.48E, h0**km**, mb3.2**/1**, mb1 3.3**/3**, mb1mx3.2**/29**, mbtmp3.1**/3**, ML2.9**/2**, Error ellipse: s-maj=150.6km s-min=34.7km az=76.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.03	177	Pn	Pn	16 27 16.6	-0.1
	0.1nm,0.3s,baz=356,slow=12,SNR=2.3						
ASAR	Alice Springs	18.71	179	P	P	16 28 03.0	-0.1
	0.0nm,0.3s,baz=5.2,slow=10,SNR=2.1						
MKAR	Makanchi Array	68.41	325	P	P	16 34 46.6	0.0
	0.2nm,0.6s,baz=134,slow=7.1,SNR=2.2						

*IDC **04** 16:31:20.1±1.1, 17°.77S×178°.46W, h637km±11km, mb3.0/11, mb1 3.2/13, mb1mx3.0/40, mbtmp4.0/13, Error ellipse: s-maj=24.1km s-min=14.6km az=147.0*

ISC 04 16:31:20.6±0.7**, 17°.8S**±0°.1×**178°.5W**±0°.1**, h650**km**, n16, σ0s.96**/18**, mb3.5**/11**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.28	270	P	P	16 32 44.4	-1.2
	2.4nm,0.3s,baz=100,slow=1.7,SNR=22						
MSVF				S	S	16 33 53.2	-1.6
	baz=108,slow=20,SNR=0.9						
RAO	Raoul Island	11.43	177	P	P	16 33 52.8	-1.2
	50nm,0.3s,baz=307,slow=20,SNR=1.7						
DZM	Mont Dzumac	14.78	251	P	P	16 34 26.0	+1.0
	0.5nm,0.3s,baz=115,slow=17,SNR=2.5						
CTA	Charters Tower	33.38	260	P	P	16 37 07.8	-0.7
	1.6nm,0.5s,baz=75,slow=9.8,SNR=2.2						
STKA	Stephens Creek	38.61	241	P	P	16 37 51.7	+0.6
	2.7nm,0.7s,baz=113,slow=6.5,SNR=7.3						
WRA	Warramunga Arr	44.56	259	P	P	16 38 38.3	+0.6
	1.5nm,0.4s,baz=95,slow=7.3,SNR=24						
ASAR	Alice Springs	44.74	254	P	P	16 38 40.0	+1.0
	5.5nm,0.5s,baz=87,slow=8.0,SNR=77						
ASAR				PcP	PcP	16 40 07.7	+1.0
	0.2nm,0.4s,baz=109,slow=4.2,SNR=1.5						
FITZ	Fitzroy Crossi	52.96	260	P	P	16 39 40.0	+0.6
	0.9nm,0.7s,baz=79,slow=7.5,SNR=1.6						
QSPA	South Pole Qui	72.27	180	P	P	16 41 42.8	+0.7
	2.0nm,0.9s,baz=356,slow=12,SNR=10						
YBH	Yreka Blue Hor	78.48	39	P	P	16 42 17.8	+1.1
	1.0nm,0.6s,baz=162,slow=9.6,SNR=2.3						
NVAR	Mina Array Bea	79.40	44	P	P	16 42 22.7	+1.0
	0.6nm,0.7s,baz=225,slow=11,SNR=4.7						
ILAR	Eielson Array	85.78	13	P	P	16 42 52.2	-0.4
	0.3nm,0.4s,baz=218,slow=4.7,SNR=5.3						
TXAR	Lajitas Array	86.01	58	P	P	16 42 54.6	-0.1
	0.4nm,0.7s,baz=229,slow=7.6,SNR=5.0						
PDAR	Pinedale Array	87.32	43	P	P	16 43 00.6	-0.2
	0.2nm,0.5s,baz=226,slow=7.8,SNR=3.5						
BRTR	Keskin Array B	144.63	315	PKP	PKPab	16 49 46.5	-0.4
	0.6nm,0.7s,baz=89,slow=3.5,SNR=3.9						
GERES	GERESS Array B	147.46	345	PKPbc	PKiKP	16 49 54.1	-0.9
	0.6nm,0.5s,baz=37,slow=3.3,SNR=6.1						

*NEIC **04** 16:31:55.4±2.0, 4°.73S±0°.08×149°.18E±0°.09, h574km±7km, mb4.1/40, Error ellipse: s-maj=13.8km s-min=10.7km az=132.0*

*IDC **04** 16:31:56.7±1.1, 4°.88S×149°.15E, h605km±13km, mb3.2/20, mb1 3.3/23, mb1mx3.3/34, mbtmp4.2/23, Error ellipse: s-maj=11.4km s-min=8.1km az=92.0*

ISC 04 16:31:56.4±0.4**, 4°.82S**±0°.06×**149°.13E**±0°.07**, h600**km**, n95, σ0s.99**/96**, mb4.0**/33**, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MANU	Manus Island	3.27	327	P	P	16 33 11.1	-6.2
JAY	Jayapura	8.71	285	P	P	16 34 02.4	-0.3
	4.1nm,0.3s,baz=120,slow=4.4,SNR=26						
JAY				S	S	16 35 45.3	-0.9
	0.2nm,0.3s,baz=159,slow=4.3,SNR=3.8						
COEN	Coen	10.81	212	P	P	16 34 24.5	+1.2
HNR	Honiara	11.67	114	P	P	16 34 30.8	-1.2
	3.7nm,0.3s,baz=30,slow=9.5,SNR=1.6						
HNR	Honiara	11.67	114	P	P	16 34 30.6	-1.3
CTA	Charters Tower	15.43	190	P	P	16 35 08.6	0.0
	0.6nm,0.3s,baz=9.5,slow=7.9,SNR=12						
CTAO	Charters Tower	15.43	190	P	P	16 35 10.4	+1.8
SANVU	Saraoutou	20.67	122	P	P	16 35 54.0	-2.2
WR0	Warramunga Arr	20.69	222	P	P	16 35 57.3	+0.8
WR0				IAmb	IAmb	16 36 15.4	
	comp=Z,3.4nm,1.1s						
WB2	Warramunga Arr	20.81	222	P	P	16 35 58.3	+0.7
WB2				IAmb	IAmb	16 36 02.2	
	comp=Z,1.8nm,0.8s						
WRA	Warramunga Arr	20.82	223	P	P	16 35 58.0	+0.4
	comp=Z,0.8nm,0.4s,baz=48,slow=9.1,SNR=17						
WRA				S	S	16 39 10.4	-1.7
	comp=Z,0.7nm,0.8s,baz=49,slow=14,SNR=2.3						
WRA				ScP	ScP	16 42 18.5	-2.1
	comp=Z,0.4nm,0.6s,baz=54,slow=2.2,SNR=2.0						
WRA	Warramunga Arr	20.82	223	P	P	16 35 57.6	0.0
ANA2	Anatahan	21.30	351	P	P	16 35 59.7	-2.2
LIFNC	LIFOU	23.69	134	P	P	16 36 23.1	0.0
AS31	Alice Springs	23.80	217	P	P	16 36 23.3	-0.9
ASAR	Alice Springs	23.80	217	P	P	16 36 24.6	+0.4
	comp=Z,1.0nm,0.5s,baz=49,slow=8.0,SNR=43						
ASAR				S	S	16 39 58.9	-0.2
	comp=Z,0.9nm,1.1s,baz=32,slow=24,SNR=4.4						
ASAR				ScP	ScP	16 42 27.3	-1.1
	comp=Z,0.2nm,0.7s,baz=35,slow=3.4,SNR=1.7						
ASAR	Alice Springs	23.80	217	P	P	16 36 24.4	+0.2
DZM	Mont Dzumac	23.99	137	P	P	16 36 25.1	-0.8
	comp=Z,3.8nm,0.7s,baz=258,slow=9.8,SNR=6.6						
DZM	Mont Dzumac	23.99	137	P	P	16 36 25.8	-0.1
DZM				IAmb	IAmb	16 36 42.2	
	comp=Z,6.5nm,1.1s						
ARMA	Armidale	25.57	175	P	P	16 36 40.5	+0.7
ARMA				IAmb	IAmb	16 36 50.8	
	comp=Z,5.9nm,0.9s						
BATI	Baumata	25.80	257	P	P	16 36 41.8	-0.1
	comp=Z,6.1nm,0.4s,baz=90,slow=4.0,SNR=1.1						
FITZ	Fitzroy Crossi	26.48	238	P	P	16 36 47.6	-0.2
	comp=Z,0.6nm,0.6s,baz=32,slow=8.9,SNR=0.9						
FITZ	Fitzroy Crossi	26.48	238	P	P	16 36 49.1	+1.3
FITZ				IAmb	IAmb	16 37 08.1	
	comp=Z,3.6nm,1.1s						
STKA	Stephens Creek	27.83	194	P	P	16 36 58.9	-0.5
	comp=Z,1.0nm,0.8s,baz=22,slow=11,SNR=2.1						
MSVF	Nonsavu	31.07	117	P	P	16 37 27.4	-0.1
	comp=Z,4.4nm,0.7s,baz=274,slow=12,SNR=5.1						
MSVF	Nonsavu	31.07	117	P	P	16 37 29.4	+1.9
MSVF				IAmb	IAmb	16 37 30.2	
	comp=Z,8.0nm,0.9s						
JOW	Kunigami	37.38	328	P	P	16 38 21.6	+1.7
AFI	Afiamalu	39.56	106	P	P	16 38 38.5	+0.7
YHNB	Yeheng	39.85	319	P	P	16 38 41.1	+1.2
YHNB				IAmb	IAmb	16 38 41.8	
	comp=Z,7.7nm,0.8s						
QRZ	Quartz Range	41.55	153	P	P	16 38 54.9	+1.9
URZ	Urewera	41.91	146	P	P	16 38 55.1	-0.7
	comp=Z,5.1nm,0.7s,baz=270,slow=6.1,SNR=2.2						
URZ	Urewera	41.91	146	P	P	16 39 07.5	+12
JWT	Wachi	41.93	343	P	P	16 38 56.6	+0.6
DUWZ	D'Urville Isla	42.18	152	P	P	16 39 00.2	+2.2
BKZ	Black Stump Fm	42.23	148	P	P	16 38 59.5	+1.1
BKZ	Black Stump Fm	42.23	148	P	P	16 38 59.5	+1.1
MJAR	Matsushiro Arr	42.40	347	P	P	16 38 59.7	0.0
	comp=Z,1.9nm,0.7s,baz=172,slow=9.5,SNR=5.5						
MAJO	Matsushiro	42.40	347	P	P	16 38 59.1	-0.6
MAJO				IAmb	IAmb	16 39 01.2	
	comp=Z,6.8nm,0.8s						
TSZ	Takapari Road	42.61	149	P	P	16 39 02.3	+0.9
TCW	Tory Channel	42.66	152	P	P	16 39 03.0	+1.3
TUWZ	Tuamarina	42.68	152	P	P	16 39 02.8	+1.0
OGWZ	Otaki Gorge	42.79	151	P	P	16 39 03.7	+1.0
MRZ	Mangatainoka R	42.87	150	P	P	16 39 04.0	+0.6
SNZO	South Karori	42.94	151	P	P	16 39 03.9	+0.1
CAW	Cannon Point	42.96	151	P	P	16 39 04.8	+0.7
HOWZ	Holdsworth Sta	43.02	150	P	P	16 39 05.1	+0.6
PXZ	Pawanui	43.05	148	P	P	16 39 05.7	+1.0
BFZ	Birch Farm	43.22	150	P	P	16 39 06.5	+0.5
TMWZ	Te Maipa	43.36	150	P	P	16 39 08.0	+0.8
CPWZ	Castlepoint	43.37	150	P	P	16 38 59.5	-7.7
JTM	Tenmabayashi	45.98	351	P	P	16 39 27.6	+0.4
KSRS	Korea Array	46.47	337	P	P	16 39 31.5	+0.7
	comp=Z,2.0nm,0.6s,baz=156,slow=7.9,SNR=11						
KSAR	Wonju Array Be	46.47	337	P	P	16 39 30.6	-0.3
USA0B	Ussuriysk Arra	51.18	344	P	P	16 40 06.8	+1.4
USA0B				IAmb	IAmb	16 40 07.1	
	comp=Z,4.9nm,0.6s						
USRK	Ussuriysk Ar.	51.18	344	P	P	16 40 06.1	+0.7
	comp=Z,3.6nm,0.5s,baz=178,slow=7.3,SNR=27						
CM31	Chiang Mai Arr	54.59	297	P	P	16 40 29.7	-0.4
CMAR	Chiang Mai Arr	54.59	297	P	P	16 40 30.6	+0.5
	comp=Z,1.1nm,0.8s,baz=122,slow=5.7,SNR=9.3						
CMAR	Chiang Mai Arr	54.59	297	P	P	16 40 30.0	-0.2
PEA0B	Petropavlovsk-	58.16	6	P	P	16 40 55.0	+1.1
PEA0B				IAmb	IAmb	16 40 55.5	
	comp=Z,5.5nm,0.5s						
PETK	Petropavlovsk-	58.16	6	P	P	16 40 54.1	+0.2
	comp=Z,4.0nm,0.5s,baz=171,slow=7.4,SNR=24						
SONM	Songino Array	64.44	330	P	P	16 41 35.9	+0.8
	comp=Z,2.0nm,0.5s,baz=150,slow=4.4,SNR=20						
SONM	Songino Array	64.44	330	P	P	16 41 36.5	+1.4
SONM				IAmb	IAmb	16 41 37.6	
	comp=Z,2.9nm,0.7s						
VNDA	Vanda	72.97	177	P	P	16 42 25.9	+0.2
	comp=Z,1.2nm,0.6s,baz=340,slow=5.0,SNR=9.4						
VNDA	Vanda	72.97	177	P	P	16 42 25.8	+0.2
MK31	Makanchi Array	77.95	320	P	P	16 42 54.4	+0.6
MKAR	Makanchi Array	77.95	320	P	P	16 42 54.1	+0.3
	comp=Z,1.1nm,0.5s,baz=99,slow=7.8,SNR=22						
P19K	Oil Pt	78.53	26	P	P	16 42 56.9	+0.3
P19K				IAmb	IAmb	16 43 16.1	
	comp=Z,10nm,0.8s						
ZALV	Zalesovo Beam	79.16	327	P	P	16 42 59.2	-0.7
	comp=Z,0.9nm,0.4s,baz=111,slow=5.3,SNR=4.5						
L19K	White Mountain	79.19	23	P	P	16 43 00.7	+0.7
L19K				IAmb	IAmb	16 43 01.9	
	comp=Z,3.6nm,0.9s						
CNPM	China Poot	79.34	27	P	P	16 43 01.4	+0.6
CNPM				IAmb	IAmb	16 43 10.0	
	comp=Z,16nm,1.2s						
M20K	Styx River	79.72	24	P	P	16 43 02.6	-0.3
K20K	Telida	80.13	23	P	P	16 43 05.8	+0.9
PPLA	Purkeypile	80.62	23	P	P	16 43 07.8	+0.2
PPLA				IAmb	IAmb	16 43 17.4	
	comp=Z,3.5nm,1.1s						
KTH	Kantishna Hill	81.44	23	P	P	16 43 11.3	-0.4
IMAR	Indian Mountai	81.65	20	P	P	16 43 13.3	+0.7
RND	Reindeer	82.19	24	P	P	16 43 15.4	-0.1
RND				IAmb	IAmb	16 43 16.1	
	comp=Z,4.2nm,0.8s						
MLY	Manley	82.24	22	P	P	16 43 16.5	+0.8
MLY				IAmb	IAmb	16 43 16.7	
	comp=Z,3.3nm,0.8s						
IL31		83.58	23	P	P	16 43 21.3	-0.9
IL31				IAmb	IAmb	16 43 21.9	
	comp=Z,2.2nm,0.7s						
ILAR	Eielson Array	83.58	23	P	P	16 43 21.3	-1.0
	comp=Z,2.8nm,0.7s,baz=250,slow=5.1,SNR=24						
ILAR	Eielson Array	83.58	23	P	P	16 43 20.5	-1.8
H24K	Noodor Dome	83.67	22	P	P	16 43 22.5	-0.3
M27K	Edge Creek, AK	84.68	26	P	P	16 43 28.5	+0.6
M27K				IAmb	IAmb	16 43 29.8	
	comp=Z,5.3nm,0.8s						
BCAR	Beaver Creek A	84.97	25	P	P	16 43 29.9	+0.7
QSPA	South Pole Qui	85.14	180	P	P	16 43 29.9	-0.2
	comp=Z,0.5nm,0.6s,baz=304,slow=0.9,SNR=5.2						
QSPA	South Pole Qui	85.14	180	P	P	16 43 30.3	+0.2
BMAR	Burnt Mountain	85.55	21	P	P	16 43 31.7	-0.2
HYT	Haines Junctio	86.16	28	P	P	16 43 36.5	+1.5
HYT				IAmb	IAmb	16 43 37.1	
	comp=Z,2.1nm,0.7s						
YKA	Yellowknife Ar	97.15	28	P	P	16 44 25.1	-0.1
	comp=Z,0.8nm,0.8s,baz=7.4,slow=5.3,SNR=2.0						
AKASG	Malin Array Be	112.35	323	PKiKP	PKiKP	16 49 23.1	-2.0
	comp=Z,0.5nm,0.4s,baz=22,slow=3.0,SNR=5.0						
GERES	GERESS Array B	122.11	327	PKP	PKiKP	16 49 43.7	-0.6
	comp=Z,0.2nm,0.4s,baz=129,slow=3.9,SNR=2.2						
SIV	San Ignacio	143.66	125	PKP	PKPab	16 50 23.3	-0.8
	comp=Z,4.8nm,0.6s,baz=248,slow=4.3,SNR=24						
SAML	Samuel	145.00	113		PKPab	16 50 28.7	-0.7
TORD	Torodi Ar. Bea	146.82	287	PKPbc	PKPbc	16 50 33.2	-0.1
	comp=Z,0.8nm,0.4s,baz=93,slow=2.7,SNR=7.3						
TORD	Torodi Ar. Bea	146.82	287		PKiKP	16 50 33.3	-1.9
DBIC	Dimbokro	154.05	275	PKP	PKPdf	16 50 40.2	-1.3
	comp=Z,1.1nm,0.4s,baz=169,slow=5.2,SNR=0.9						

*NOU **04** 16:48:36.9, 37°.41S×178°.24E, h131km, MLv4.1/10, Off E. Coast of N. Island, N.Z.*

*IDC **04** 16:48:40.5±3.9, 38°.01S×178°.23E, h97km±41km, mb3.1/2, mb1 3.4/2, mb1mx3.1/42, mbtmp3.4/2, Error ellipse: s-maj=235.6km s-min=51.2km az=1.0*

*WEL **04** 16:48:41.9±0.8, 37°S±6°×17°8E±°, h30km±5km, M3.2/39, ML3.5/39, MLv3.2/39, Error ellipse: s-maj=0.0km s-min=0.0km az=25.3*

ISC 04 16:48:41.2±1.1**, 37°.30S**±0°.06×**177°.81E**±0°.05**, h65**km±8km**, n105, σ1s.34**/112**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HAZ	Te Kaha	0.46	183	P	Pn	16 48 52.3	-0.8
HAZ				S	Sn	16 49 00.9	-1.0
MXZ	Matakaoa Point	0.48	124	P	Pn	16 48 52.7	-0.7
WIZ	White Island	0.54	245	P	Pn	16 48 54.0	0.0
WIZ				S	Sn	16 49 03.0	-0.4
WSRZ	White Island S	0.55	246	P	Pn	16 48 54.4	+0.3
PKGZ	Pakihiroa	0.63	160	P	Pn	16 48 54.7	-0.3
RUGZ	Raukumara Rang	0.67	189	P	Pn	16 48 54.7	-0.9
WMGZ	Waiomatatini S	0.71	137	P	Pn	16 48 57.2	+1.3
WMGZ				S	Sn	16 49 10.1	+3.5
PUZ	Puketiti	0.85	155	P	Pn	16 48 58.3	+0.7
PUZ				S	Sn	16 49 12.6	+2.9
WHRZ	Whale Island	0.86	230	P	Pn	16 48 58.0	+0.2
TWGZ	Tauwhareparae	0.89	171	P	Pn	16 48 58.8	+0.8
TWGZ				S	Sn	16 49 14.7	+4.2
MWZ	Matawai	1.06	192	P	Pn	16 48 59.9	-0.3
URZ	Urewera	1.11	210	P	Pn	16 49 00.3	-0.5
	34nm,0.3s,baz=78,slow=16,SNR=30						
URZ				S	Sn	16 49 14.7	-0.7
	baz=149,slow=19						
URZ	Urewera	1.11	210	P	Pn	16 49 00.5	-0.3
URZ				S	Sn	16 49 14.6	-0.8
MARZ	Manawahe	1.13	232	P	Pn	16 49 01.1	0.0
OPRZ	Ohinepanea	1.14	241	P	Pn	16 49 01.0	-0.2
TKGZ	Te Karaka	1.14	178	P	Pn	16 49 02.3	+1.0
EDRZ	Edgecumbe	1.17	226	P	Pn	16 49 01.8	+0.1
CNGZ	Carnagh Statio	1.23	165	P	Pn	16 49 03.2	+0.9
RAGZ	Rawiri	1.24	194	P	Pn	16 49 02.9	+0.3
MYRZ	Mayor Island	1.25	270	P	Pn	16 49 02.9	+0.2
TGRZ	Tauranga	1.30	250	P	Pn	16 49 03.4	+0.1
LIRZ	Lichensteins R	1.33	238	P	Pn	16 49 04.2	+0.5
MKRZ	Makatiti	1.35	231	P	Pn	16 49 05.3	+1.1
TARZ	Mount Tarawera	1.39	227	P	Pn	16 49 05.5	+0.9
OMRZ	Omania	1.40	234	P	Pn	16 49 05.0	+0.4
RIGZ	Rimuhau	1.41	181	P	Pn	16 49 05.4	+0.6
KARZ	Kaharoa	1.44	239	P	Pn	16 49 05.4	+0.3
MUGZ	Murupara	1.44	215	P	Pn	16 49 04.9	-0.2
RRRZ	Republican Roa	1.46	224	P	Pn	16 49 05.0	-0.4
RTZ	Ruatahuna	1.47	206	P	Pn	16 49 05.3	-0.3
HLRZ	Highlands Stat	1.50	230	P	Pn	16 49 06.6	+0.6
NGRZ	Ngongotaha	1.52	238	P	Pn	16 49 06.9	+0.6
SNGZ	Shannon Statio	1.53	194	P	Pn	16 49 07.5	+1.1
UTU	Utuhina	1.55	235	P	Pn	16 49 07.8	+1.1
KMRZ	Kaimai	1.58	249	P	Pn	16 49 07.2	+0.1
HSRZ	Hossack Road	1.60	230	P	Pn	16 49 08.5	+1.2
PRGZ	Paritu Road	1.62	178	P	Pn	16 49 07.8	+0.1
HRRZ	Handcock Road	1.63	227	P	Pn	16 49 08.9	+1.1
PRRZ	Plateau Road	1.64	223	P	Pn	16 49 08.4	+0.6
GRRZ	Galatos Road	1.71	231	P	Pn	16 49 09.8	+1.1
RAHZ	Arahi	1.71	199	P	Pn	16 49 09.8	+0.9
ALRZ	Allen Road	1.71	222	P	Pn	16 49 09.4	+0.5
KNZ	Kokohu	1.73	183	P	Pn	16 49 08.9	-0.1
MTHZ	Maungataniwha	1.73	206	P	Pn	16 49 09.1	0.0
KUZ	Kuaotunu	1.76	288	P	Pn	16 49 09.6	+0.2
WPRZ	Whakapapatarin	1.78	226	P	Pn	16 49 10.9	+1.0
WHHZ	Waihua	1.83	194	P	Pn	16 49 11.6	+1.2
MHGZ	Mahia Peninsul	1.85	178	P	Pn	16 49 10.8	0.0
TOZ	Tahuroa Road	1.88	256	P	Pn	16 49 11.4	+0.3
MRHZ	Matea Rd	1.89	215	P	Pn	16 49 11.4	+0.2
NMHZ	Naumai	1.96	203	P	Pn	16 49 13.7	+1.4
WHTZ	Whakaora	2.00	226	P	Pn	16 49 14.6	+1.8
TLZ	Tolley Road	2.07	240	P	Pn	16 49 14.2	+0.5
BKZ	Black Stump Fm	2.13	209	P	Pn	16 49 15.3	+0.7
WIAZ	Waiheke Island	2.20	282	P	Pn	16 49 16.2	+0.8
RATZ	Rangitukua	2.24	225	P	Pn	16 49 17.1	+1.1
RITZ	Rihia Road	2.27	222	P	Pn	16 49 18.6	+2.1
MCHZ	McNeill Hill	2.31	202	P	Pn	16 49 17.4	+0.4
ETAZ	East Tamaki Re	2.33	278	P	Pn	16 49 18.2	+1.1
KATZ	Kakaramea	2.36	224	P	Pn	16 49 20.2	+2.5
KWHZ	Kaweka Forest	2.39	207	P	Pn	16 49 18.4	+0.4
MBAZ	Motutapu North	2.39	282	P	Pn	16 49 19.0	+1.1
CKHZ	Cape Kidnapper	2.43	193	P	Pn	16 49 18.1	-0.4
TMVZ	Te Maari	2.46	222	P	Pn	16 49 20.5	+1.5
NTVZ	North Tongarir	2.46	222	P	Pn	16 49 20.9	+1.8
ETVZ	East Tongariro	2.47	221	P	Pn	16 49 20.7	+1.5
KRVZ	Karewarewa	2.48	223	P	Pn	16 49 21.3	+2.0
ABAZ	Army Bay	2.48	285	P	Pn	16 49 20.5	+1.3
EPAZ	Eden Park BICE	2.49	279	P	Pn	16 49 20.8	+1.5
HBAZ	Herne Bay Bore	2.50	279	P	Pn	16 49 21.0	+1.5
OTVZ	Oturere	2.51	222	P	Pn	16 49 20.7	+0.9
NNVZ	North Ngauruho	2.52	223	P	Pn	16 49 22.1	+2.2
WTVZ	West Tongariro	2.52	223	P	Pn	16 49 21.9	+2.1
AWAZ	Awhitu Peninsu	2.54	274	P	Pn	16 49 21.4	+1.4
SNVZ	South Ngauruho	2.54	221	P	Pn	16 49 21.7	+1.5
NGZ	Ngauruhoe	2.56	222	P	Pn	16 49 22.1	+1.7
TWVZ	Taurewa	2.57	226	P	Pn	16 49 22.1	+1.5
BHHZ	Black Hill Sta	2.58	212	P	Pn	16 49 21.3	+0.6
TUVZ	Tukino	2.60	220	P	Pn	16 49 22.3	+1.3
KAHZ	Kahuranaki	2.60	196	P	Pn	16 49 20.4	-0.4
KRHZ	Kereru	2.60	205	P	Pn	16 49 20.6	-0.3
WTAZ	Waiatarua	2.61	277	P	Pn	16 49 22.4	+1.4
HIZ	Hauiti	2.63	242	P	Pn	16 49 22.4	+1.1
RVAZ	Riverhead Bore	2.64	281	P	Pn	16 49 22.6	+1.3
WHVZ	Whangaehu Hut	2.64	221	P	Pn	16 49 22.9	+1.3
MOVZ	Moawhango	2.65	217	P	Pn	16 49 22.3	+0.6
WNVZ	Wahianoa	2.67	220	P	Pn	16 49 23.0	+1.1
PKVZ	Pokaka	2.78	223	P	Pn	16 49 24.9	+1.6
MTVZ	Mangateitei	2.78	221	P	Pn	16 49 24.5	+1.1
PXZ	Pawanui	2.83	195	P	Pn	16 49 22.5	-1.4
PNHZ	Pukenui	2.90	205	P	Pn	16 49 24.0	-0.9
WPHZ	Waipukurau	2.96	201	P	Pn	16 49 24.5	-1.3
VRZ	Vera Road	3.02	232	P	Pn	16 49 28.5	+2.0
WCZ	Waipu Caves	3.10	295	P	Pn	16 49 28.7	+1.0
TSZ	Takapari Road	3.11	207	P	Pn	16 49 26.6	-1.3
WAZ	Wanganui	3.30	221	P	Pn	16 49 31.7	+1.2
LREZ	Lake Rotokare	3.44	230	P	Pn	16 49 34.7	+2.4
POWZ	Post Office Ro	3.48	207	P	Pn	16 49 32.4	-0.4
NEZ	North Egmont	3.52	235	P	Pn	16 49 36.5	+3.0
KHEZ	Kahui Hut	3.59	235	P	Pn	16 49 37.8	+3.4
OUZ	Omahuta	3.99	300	P	Pn	16 49 41.4	+1.7
CTZ	Chatham Island	7.70	148	P	Pn	16 50 30.2	-0.3
ASAR	Alice Springs	39.86	277	P	P	16 56 08.5	-0.1
	0.4nm,0.7s,baz=119,slow=7.5,SNR=5.3						
WRA	Warramunga Arr	41.49	282	P	P	16 56 21.9	-0.1
	0.4nm,0.5s,baz=126,slow=7.8,SNR=9.8						
MKAR	Makanchi Array	119.41	308	PKP	PKPdf	17 07 18.7	-4.1
	0.1nm,0.6s,baz=124,slow=2.1,SNR=1.6						

*IDC **04** 16:50:04.1±1.8, 1°.82S×77°.07W, h142km±17km, mb3.9/14, mb1 3.9/21, mb1mx3.8/53, mbtmp4.3/21, MS3.0/1, Ms1 3.0/1, ms1mx2.6/22, Error ellipse: s-maj=16.7km s-min=11.3km az=84.0*

*IGQ **04** 16:50:07±1.0, 2°S±9°×7°7W±1°1, h119km*

*NEIC **04** 16:50:07.5±2.8, 2°.02S±0°.07×77°.0W±0°.1, h161km±8km, mb4.5/25, Error ellipse: s-maj=15.5km s-min=10.4km az=75.0*

*VAO **04** 16:50:07.5±0.5, 1°.98S×76°.91W, h150km±4km, mb4.5*

ISC 04 16:50:05.2±0.4**, 2°.06S**±0°.05×**77°.16W**±0°.05**, h150**km**, n165, σ1s.88**/168**, mb4.3**/22**, 8C-3D, Peru-Ecuador border region**

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PUYO	Puyo, Santa Ro	1.03	303	P	Pn	16 50 32.0	+1.6
BPAT	Tungurahua Vol	1.39	293	P	Pn	16 50 36.0	+1.9
BPAT				S	Sn	16 50 58.0	+1.8
BULB	Ulba Tungurahu	1.39	296	P	Pn	16 50 36.0	+1.9
BULB				S	Sn	16 50 58.0	+1.9
BRUN	Tungurahua Vol	1.40	297	P	Pn	16 50 36.0	+1.9
BRUN				S	Sn	16 50 58.0	+1.8
BMAS	Trigal station	1.43	293	P	Pn	16 50 36.0	+1.5
BBIL	Ulba Tungurahu	1.46	294	P	Pn	16 50 36.0	+1.3
PIAT	Ana Tenorio	1.52	314	P	Pn	16 50 37.0	+1.5
PORT	Chimborazo Vol	1.72	290	P	Pn	16 50 40.0	+2.3
PORT				S	Sn	16 51 05.0	+2.4
CHSH	Refugio Sur-Vo	1.80	288	P	Pn	16 50 41.0	+2.4
BRRN	Barrancas-Volc	1.82	314	P	Pn	16 50 41.0	+2.2
BTAM	Cotopaxi Volca	1.85	318	P	Pn	16 50 42.0	+2.8
BMOR	Cotopaxi Volca	1.85	315	P	Pn	16 50 40.0	+0.8
BVC2	Cotopaxi Volca	1.87	318	P	Pn	16 50 42.0	+2.5
SLOR	San Lorenzo -	1.88	315	P	Pn	16 50 41.0	+1.6
BREF	Cotopaxi Volca	1.88	317	P	Pn	16 50 42.0	+2.4
BNAS	Cotopaxi Volca	1.91	316	P	Pn	16 50 42.0	+2.2
SUCR	Mariscal Sucre	1.94	317	P	Pn	16 50 43.0	+2.9
REVS	Reventador Sur	1.99	347	P	Pn	16 50 42.0	+1.4
TOMA	Boca Toma-Volc	2.01	321	P	Pn	16 50 43.0	+2.1
REVN	San Rafael	2.02	347	P	Pn	16 50 42.0	+1.1
CASC	Dorado de Casc	2.19	355	P	Pn	16 50 44.0	+1.3
GGPT	Toaza - Volcan	2.33	321	P	Pn	16 50 46.0	+1.3
GGPC	Guagua Pichinc	2.35	322	P	Pn	16 50 47.0	+1.8
PULU	Pululahua	2.46	327	P	Pn	16 50 48.0	+1.7
IMBA	Imbabura, San	2.54	336	P	Pn	16 50 50.0	+2.7
CUSW	Cuicocha Oeste	2.62	333	P	Pn	16 50 50.0	+1.8
OTAV	Otavalo	2.62	330		Pn	16 50 50.0	+1.7
OTAV	Otavalo	2.62	330⇓	eP	Pn	16 50 50.0	+1.7
OTAV	Otavalo	2.62	330	eP	Pn	16 50 50.1	+1.8
CUIC	Cuicocha-Domo	2.64	333	P	Pn	16 50 50.0	+1.6
CUSE	Cuicocha Este	2.66	332	eP	Pn	16 50 50.8	+2.1
CUSE	Cuicocha Este	2.66	332	P	Pn	16 50 50.0	+1.3
URCU	Urcuqui	2.71	336	P	Pn	16 50 52.0	+2.6
PAC1	Pacto, Paraso	2.83	325	eP	Pn	16 50 52.6	+2.0
PTLC	Puerto Leguiza	3.24	47⇑	iP	Pn	16 50 54.9	-0.8
CRUC	La Cruz	3.61	3	eP	Pn	16 51 03.1	+2.4
FLOC	Florencia	3.92	23		Pn	16 51 05.2	+0.8
FLOC	Florencia	3.92	23⇑	eP	Pn	16 51 06.0	+1.6
BBAC	Balboa, Cauca	4.05	359	eP	Pn	16 51 08.8	+2.4
SOTA	Rioblanco	4.20	8	eP	Pn	16 51 12.1	+3.5
PCON	Cinco Dias	4.42	10	eP	Pn	16 51 14.3	+2.7
GARC	Garzon, Huila	4.54	22⇑	eP	Pn	16 51 14.6	+1.8
POPC	Popayan, Colom	4.59	6⇑	eP	Pn	16 51 16.2	+2.7
BETC	Betania	5.01	20	eP	Pn	16 51 21.5	+2.6
MARP	Paez Belalcaza	5.02	14⇑	eP	Pn	16 51 22.1	+2.9
ATAH	Atahualpa	5.19	194	P	Pn	16 51 23.4	+1.8
	24nm,0.3s,baz=20,slow=7.8,SNR=122						
ATAH				S	Sn	16 52 21.1	0.0
	13nm,0.3s,baz=190,slow=18,SNR=18						
MACC	Macarena, Meta	5.33	38⇑	eP	Pn	16 51 24.6	+1.6
YOTC	Yotoco, Valle	6.06	8	eP	Pn	16 51 32.4	-0.4
PRAC	Prado	6.17	22⇑	eP	Pn	16 51 36.4	+2.1
ORTC	Ortega, Tolima	6.23	18	eP	Pn	16 51 36.1	+1.1
GUVC	San Jose del G	6.44	45	eP	Pn	16 51 40.0	+2.1
TOLC	Tolima	6.85	16	eP	Pn	16 51 45.1	+1.5
VILC	Villavicencio,	7.04	29	eP	Pn	16 51 49.1	+3.1
CZSB	Cruzeiro do Su	7.17	142	eP	Pn	16 51 48.9	+1.3
ROSC	El Rosal	7.42	22	P	Pn	16 51 47.0	-4.3
	2.9nm,0.3s,baz=155,slow=19,SNR=1.5						
GUY2C	Guyana, Caldas	7.45	14	eP	Pn	16 51 54.2	+2.4
CHIC	Chingaza	7.47	27⇓	eP	Pn	16 51 55.8	+3.7
TBTG	Tabatinga, AM	7.54	106	eP	Pn	16 51 53.2	+0.6
PTGC	Puerto Gaitan,	7.99	39	eP	Pn	16 52 00.6	+2.0
RUSC	La Rusia	8.89	27		Pn	16 52 12.5	+1.6
RUSC	La Rusia	8.89	27⇑	eP	Pn	16 52 12.1	+1.1
PTBC	PUERTO BERRIO,	8.96	18	eP	Pn	16 52 13.9	+2.4
DBBC	Dabeiba	9.07	6	eP	Pn	16 52 16.9	+4.0
PTAC	Punta Ardita,	9.17	356	eP	Pn	16 52 10.5	-3.8
BARC	Barichara	9.47	25	eP	Pn	16 52 18.2	-0.2
ZARC	Zaragoza, Cauc	9.76	14	eP	Pn	16 52 20.8	-1.3
NNA	Nana	9.87	178	P	Pn	16 52 25.5	+1.9
	4.3nm,0.3s,baz=341,slow=10,SNR=4.4						
NNA				S	Sn	16 54 05.8	-7.2
	21nm,0.3s,baz=253,slow=19,SNR=13						
UREC	San Jos de Ur	9.88	9	eP	Pn	16 52 25.3	+1.5
TAMC	Tame, Arauca	10.00	32	eP	Pn	16 52 27.3	+2.0
PAMC	Pamplona, Colo	10.34	25	eP	Pn	16 52 32.4	+2.1
ELOV	Elorza	11.82	40	eP	Pn	16 52 49.9	+0.6
SJCC	San Jacinto, C	12.04	9	Pn	Pn	16 52 50.6	-1.5
SJCC	San Jacinto, C	12.04	9⇓	eP	P	16 53 00.6	+1.9
SOCV	Socops	12.04	31	eP	Pn	16 52 52.3	+0.1
SDV	Santo Domingo	12.67	31	P	Pn	16 52 55.8	-4.6
	0.7nm,0.3s,baz=249,slow=8.6,SNR=1.5						
SDV	Santo Domingo	12.67	31	eP	Pn	16 52 60.0	-0.5
ETMB	Extrema	13.33	126	eP	Pn	16 53 07.4	-1.4
CRJC	Cerrejon, Guaj	13.67	18	eP	Pn	16 53 12.3	-0.9
JTS	Las Juntas de	14.52	328	LR	LR	16 57 56.3	
	comp=Z,60nm,21.2s,baz=80,slow=33						
SAML	Samuel	15.50	117		Pn	16 53 35.2	-0.8
MACA	Manacapuru-AM	16.50	94	eP	P	16 53 46.8	-1.3
LPAZ	La Paz	16.70	148	P	Pn	16 53 51.8	+0.6
	0.7nm,0.3s,baz=340,slow=10,SNR=24						
LPAZ	La Paz	16.70	148	P	Pn	16 53 52.6	+1.4
LPAZ	La Paz	16.70	148	eP	Pn	16 53 53.7	+2.5
LPAZ	La Paz	16.70	148	eP	Pn	16 53 52.6	+1.4
BOAV	Boa Vista	17.21	75	eP	P	16 53 55.3	-0.7
PTGA	Pitinga	17.24	86	P	P	16 53 53.8	-2.5
	0.5nm,0.3s,baz=319,slow=19,SNR=1.2						
PTGA	Pitinga	17.24	86		Pn	16 54 02.5	+5.4
PTGA				IAmb	IAmb	16 54 12.4	
	comp=Z,14nm,1.0s						
PCRV	Puerto La Cruz	17.41	46	P	P	16 53 55.3	-2.9
	comp=Z,0.4nm,0.3s,baz=310,slow=13,SNR=1.4						
PSGCX	Pisagua	18.74	159		Pn	16 54 14.6	-0.3
PSGCX				IAmb	IAmb	16 54 19.9	
	comp=Z,12nm,0.8s						
PB08	IPOC Station P	19.60	157	P	Pn	16 54 25.0	-0.3
PB08				IAmb	IAmb	16 54 29.7	
	comp=Z,16nm,0.8s						
VILB	Vilhena	19.98	124	eP	P	16 54 27.6	+1.5
PB01	IPOC Station P	20.30	159	P	Pn	16 54 32.2	-1.0
PB01				IAmb	IAmb	16 54 35.3	
	comp=Z,21nm,1.1s						
SIV	San Ignacio	21.04	132	P	P	16 54 38.3	+0.7
	comp=Z,5.6nm,0.6s,baz=327,slow=11,SNR=27						
TOSP	Speyside	21.20	51	P	P	16 54 38.9	-0.2
TOSP				IAmb	IAmb	16 54 55.9	
	comp=Z,24nm,0.8s						
ITTB	Itaituba	21.51	97	eP	P	16 54 43.0	+0.4
LVC	Limon Verde	21.94	159	P	P	16 54 49.2	+1.8
	comp=Z,6.8nm,0.4s,baz=329,slow=7.0,SNR=7.1						
LVC	Limon Verde	21.94	159	P	P	16 54 47.5	+0.2
LVC				IAmb	IAmb	16 54 51.5	
	comp=Z,12nm,0.8s						
LVC	Limon Verde	21.94	159	eP	P	16 54 50.2	+2.9
PTLB	Pontes e Lacer	22.20	128	eP	P	16 54 50.8	+1.2
NPGB	Novo Progresso	22.29	104	eP	P	16 54 50.2	-0.3
OBIP	Obispado Ponce	22.52	27	P	P	16 54 51.1	-1.5
OBIP				IAmb	IAmb	16 55 00.3	
	comp=Z,14nm,1.1s						
PDPR	Patillas Dam,	22.77	28	P	P	16 54 54.4	-0.5
SJG	San Juan	22.79	28	P	P	16 54 52.6	-2.5
	comp=Z,11nm,0.2s,baz=188,slow=7.1,SNR=3.9						
MALB	Monte Alegre	22.88	90	eP	P	16 54 56.5	+0.4
CLDB	Colider	22.94	113	eP	P	16 54 56.7	0.0
CBYP	Canovanas	23.07	28	P	P	16 54 56.8	-0.9
CBYP				IAmb	IAmb	16 55 02.3	
	comp=Z,12nm,0.7s						
SVN	Savane Anatole	23.08	43	P	P	16 54 55.9	-2.0
MCPB	Macapa, AP	25.15	86	eP	P	16 55 17.0	+0.2
SALV	Santo Antonio	25.23	124	eP	P	16 55 18.3	+0.9
MDP	Montagnes des	25.51	74	P	P	16 55 18.6	-1.4
	comp=Z,5.0nm,0.4s,baz=248,slow=8.3,SNR=8.4						
PP1B	Ponte de Pedra	26.78	127	eP	P	16 55 33.0	+1.6
SNDB	Serra Nova Dou	27.47	112	eP	P	16 55 37.9	+0.4
PRPB	Parauapebas	27.57	99	eP	P	16 55 39.1	+0.6
AQDB	Aquidauana	27.82	133	P	P	16 55 39.4	-1.2
AQDB	Aquidauana	27.82	133	eP	P	16 55 41.7	+1.1
ARAG	Araguaiana, MT	28.42	120	eP	P	16 55 46.8	+0.8
DAIG	Los Arroyos	29.19	311	P	P	16 55 58.9	+6.1
CO02	Combarbal	29.57	169	P	P	16 55 55.5	-0.6
CO02				IAmb	IAmb	16 55 59.4	
	comp=Z,15nm,0.9s						
MEIG	Mezcala	29.73	313	P	P	16 56 04.3	+6.7
PEXB	Peixe	30.29	111	eP	P	16 56 03.1	+0.5
CPUP	Villa Florida	30.75	143	eP	P	16 56 08.3	+1.9
PCMB	Pacaembu	31.83	130	eP	P	16 56 15.9	-0.2
MT09	Talagante	32.08	170	P	P	16 56 20.2	+2.0
MT09				IAmb	IAmb	16 56 27.8	
	comp=Z,7.5nm,0.9s						
MT01	Popeta	32.12	171	P	P	16 56 19.9	+1.5
IPMB	Ipameri, GO	32.52	121	eP	P	16 56 22.2	0.0
ROSB	Rosrio	33.02	92	eP	P	16 56 26.5	+0.1
PTGB	Pitanga	33.08	135	eP	P	16 56 27.9	+0.9
GO05	Huala	33.14	172	P	P	16 56 28.8	+1.5
GO05				IAmb	IAmb	16 56 37.4	
	comp=Z,11nm,0.9s						
SDBA	SAO DESIDERIO	33.57	109	eP	P	16 56 31.8	+0.5
NBPS	Pedro II - PI	35.73	95	eP	P	16 56 49.3	-0.7
SJMB	Sao Joao De Ma	38.93	118	eP	P	16 57 15.0	-1.7
PLCA	Paso Flores	38.96	172	P	P	16 57 18.2	+1.5
	comp=Z,4.4nm,0.7s,baz=346,slow=8.9,SNR=17						
PLCA				PcP	PcP	16 59 25.2	+0.9
	comp=Z,0.9nm,0.6s,baz=358,slow=7.5,SNR=3.9						
PLCA	Paso Flores	38.96	172	P	P	16 57 18.2	+1.5
PLCA				IAmb	IAmb	16 57 20.1	
	comp=Z,7.4nm,1.1s						
PLCA	Paso Flores	38.96	172	eP	P	16 57 18.6	+1.8
CMC01	Camacan, BA	39.39	112	eP	P	16 57 21.2	+0.6
CAM01	Campos-RJ	39.72	122	eP	P	16 57 22.0	-1.3
RIB01	Linhares ES	39.84	118	eP	P	16 57 24.2	-0.1
NBLA	Lagarto - SE	40.06	105	eP	P	16 57 26.7	+0.4
NBPA	Parau_RN	40.11	96	eP	P	16 57 26.7	0.0
TXAR	Lajitas Array	40.23	323	P	P	16 57 26.1	-1.3
	comp=Z,0.1nm,0.5s,baz=130,slow=9.5,SNR=2.1						
TXAR				PcP	PcP	16 59 28.6	+0.1
	comp=Z,0.5nm,0.7s,baz=152,slow=5.7,SNR=5.3						
NBAN	Anadia - AL	41.33	102	eP	P	16 57 37.1	+0.4
ANMO	Albuquerque	45.92	326	P	P	16 58 12.0	-1.3
	comp=Z,2.0nm,0.7s,baz=153,slow=8.7,SNR=6.2						
NVAR	Mina Array Bea	55.32	321	P	P	16 59 22.6	-1.1
	comp=Z,0.3nm,0.6s,baz=133,slow=6.6,SNR=2.6						
FFC	Flin Flon	60.19	344	P	P	16 59 59.4	+2.3
FFC				IAmb	IAmb	17 00 00.1	
	comp=Z,7.1nm,0.9s						
DBIC	Dimbokro	72.69	82	P	P	17 01 15.9	-1.5
	comp=Z,1.4nm,0.4s,baz=270,slow=3.0,SNR=2.0						
TORD	Torodi Ar. Bea	79.62	76	P	P	17 01 55.6	-0.9
	comp=Z,0.6nm,0.3s,baz=286,slow=6.0,SNR=9.5						
INK	Inuvik	80.06	342	P	P	17 01 56.6	-1.1
	comp=Z,1.9nm,0.7s,baz=101,slow=5.2,SNR=4.4						
INK	Inuvik	80.06	342	P	P	17 01 58.5	+0.7
VNA3	Neumayer Olymp	80.94	162	P	P	17 02 03.3	+0.8
VNA1	Neumayer--Stat	81.17	162	P	P	17 02 05.0	+1.4
VNA2	Neumayer--Watz	81.53	162	P	P	17 02 06.4	+0.8
	baz=304,slow=5.4						
EKA	Eskdalemuir Ar	82.64	34	P	P	17 02 10.4	-1.2
	comp=Z,0.8nm,0.6s,baz=286,slow=16,SNR=2.1						
SNAA	Sanae	83.15	162	P	P	17 02 14.7	+0.6
ILAR	Eielson Array	83.33	336	P	P	17 02 13.1	-2.0
	comp=Z,0.2nm,0.5s,baz=160,slow=2.9,SNR=3.6						
QSPA	South Pole Qui	88.01	180	P	P	17 02 39.2	+0.9
	comp=Z,7.8nm,0.8s,baz=166,slow=0.7,SNR=38						
QSPA	South Pole Qui	88.01	180	P	P	17 02 39.5	+1.2
VNDA	Vanda	94.42	191	P	P	17 03 08.4	+0.8
	comp=Z,0.7nm,0.7s,baz=125,slow=2.7,SNR=4.2						
VNDA	Vanda	94.42	191	IAmb	IAmb	17 03 09.9	
	comp=Z,1.7nm,1.1s						
ZALV	Zalesovo Beam	126.19	13	PKP	PKPdf	17 08 48.4	-1.5
	comp=Z,0.2nm,0.3s,baz=322,slow=9.1,SNR=1.5						
MKAR	Makanchi Array	131.98	19	PKP	PKPdf	17 08 59.7	-1.5
	comp=Z,0.2nm,0.5s,baz=309,slow=2.1,SNR=4.1						
SONM	Songino Array	134.30	357	PKP	PKPdf	17 09 02.5	-3.1
	comp=Z,0.2nm,0.4s,baz=46,slow=0.5,SNR=1.9						
KSRS	Korea Array	137.89	330	PKP	PKPdf	17 09 10.7	-1.7
	comp=Z,0.7nm,0.7s,baz=33,slow=4.2,SNR=4.1						
ASAR	Alice Springs	140.41	228	PKhKP	PKPpre	17 09 07.9	
	comp=Z,0.4nm,0.4s,baz=125,slow=3.7,SNR=8.9						
ASAR				PKP	PKPdf	17 09 16.8	-0.7
	comp=Z,1.0nm,0.8s,baz=103,slow=1.8,SNR=9.3						
WRA	Warramunga Arr	142.14	233	PKhKP	PKPpre	17 09 15.4	
	comp=Z,1.2nm,0.6s,baz=124,slow=2.8,SNR=14						
WRA				PKP	PKPdf	17 09 20.2	-0.4
	comp=Z,0.9nm,0.4s,baz=121,slow=2.2,SNR=11						

*IDC **04** 16:50:34.5±0.8, 51.°71N×175.°02W, h0km, mb3.9/23, mb1 4.0/25, mb1mx3.9/73, mbtmp3.9/25, ML2.9/2, MS3.4/1, Ms1 3.4/1, ms1mx2.8/36, Error ellipse: s-maj=25.2km s-min=12.5km az=168.0*
*AEIC **04** 16:50:37.0±1.8, 51.°25N±0.°06×174.°79W±0.°06, h23km±6km, Error ellipse: s-maj=8.9km s-min=4.6km az=153.0*
*NEIC **04** 16:50:36.6±1.1, 51.°227N±0.°010×174.°79W±0.°04, h28km±6km, mb4.1/20, ML3.9/24(AEIC), Error ellipse: s-maj=3.7km s-min=1.4km az=94.0*
ISC 04 16:50:38.0±0.6, **51.°35N**±0.°09×**174.°80W**±0.°04, **h35km, n82,** σ**1.s53**/76, **mb4.0**/27, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.93	24		Pn	16 50 55.0	+0.4
ATKA					Sn	16 51 09.4	+2.6
GSIG	Igitkin Island	0.95	313		Pn	16 50 55.2	+0.3
KOFP	Korovin Flat P	1.02	25		Pn	16 50 57.0	+1.0
KOKL	Mount Kliuchef	1.04	21		Pn	16 50 57.3	+1.1
GSMY	Great Sitkin M	1.04	312		Pn	16 50 56.7	+0.5
GSTR	Great Sitkin T	1.08	314	Pn	Pn	16 50 57.6	+0.9
GSTD	Great Sitkin T	1.09	311		Pn	16 50 57.5	+0.5
GSTD					Sn	16 51 13.4	+2.5
ADK	Adak	1.29	295	Pn	Pn	16 50 59.6	+0.1
ADK	Adak	1.29	295		Sn	16 51 17.8	+2.3
KIWB	Kanaga Island	1.55	290		Sn	16 51 24.8	+2.8
KIKV	Kanaga Island	1.57	291		Pn	16 51 03.9	+0.5
KIMD	Kanaga Island	1.57	286		Pn	16 51 03.5	+0.1
KIMD					Sn	16 51 24.4	+1.8
KICM	Kanaga Island	1.60	292		Pn	16 51 04.3	+0.6
TAFP	Tanaga Falls P	2.06	287		Pn	16 51 11.1	+1.0
TAFP					Sn	16 51 38.1	+3.5
TASE	Tanaga Southea	2.08	285		Pn	16 51 11.4	+1.1
GAEA	Gareloi East	2.50	282		Pn	16 51 17.6	+1.5
AMKA	Amchitka	3.69	273		Pn	16 51 32.2	-0.4
NIKH	Nikolski High	4.01	64		Pn	16 51 37.5	+0.6
LSNW	Little Sitkin	4.21	281		Pn	16 51 40.5	+0.9
SPIA	Saint Paul Isl	6.42	23		Sn	16 53 46.5	+25
KDAK	Kodiak Island	14.37	55	Pn	Pn	16 53 56.7	-2.0
	0.2nm,0.3s,baz=336,slow=19,SNR=1.4						
CNPM	China Poot	15.61	49	Pn	Pn	16 54 15.0	-0.1
CNPM				IAmb	IAmb	16 54 25.5	
	comp=Z,18nm,1.2s						
M20K	Styx River	15.83	40	Pn	Pn	16 54 18.1	+0.1
K20K	Telida	16.32	35	P	P	16 54 27.4	+0.5
SKT	Skwentna	16.53	41	P	P	16 54 29.1	-0.1
PETK	Petropavlovsk-	16.90	287	Pn	Pn	16 54 27.7	-3.9
	comp=Z,0.1nm,0.3s,baz=113,slow=21,SNR=1.2						
GHO	Glory Hole Cre	17.54	44		P	16 54 40.6	+0.3
GHO				IAmb	IAmb	16 54 42.9	
	comp=Z,13nm,1.2s						
KTH	Kantishna Hill	17.59	37	P	P	16 54 43.5	+2.6
KTH				IAmb	IAmb	16 54 48.1	
	comp=Z,22nm,1.4s						
TRF	Thorofare Moun	17.78	38	P	P	16 54 44.5	+1.5
TRF				IAmb	IAmb	16 55 02.6	
	comp=Z,17nm,1.4s						
BPAW	Bear Paw Mtn.	17.87	35	P	P	16 54 45.6	+1.6
BPAW				IAmb	IAmb	16 55 04.2	
	comp=Z,14nm,1.4s						
SCM	Sheep Creek Mo	18.26	44		P	16 54 48.5	+0.2
SCM				IAmb	IAmb	16 55 02.1	
	comp=Z,37nm,1.5s						
N25K	Chitina, Valde	19.40	46	P	P	16 55 00.6	-0.2
ILAR	Eielson Array	19.74	36	P	P	16 55 02.1	-2.2
	comp=Z,0.2nm,0.3s,baz=223,slow=7.5,SNR=9.7						
H24K	Noodor Dome	19.94	33	P	Pn	16 55 08.3	-0.2
H24K				IAmb	IAmb	16 55 22.1	
	comp=Z,7.2nm,0.9s						
RIDG	Independent Ri	20.06	40	P	Pn	16 55 10.2	+0.2
SCRK	Sand Creek	20.51	40	P	P	16 55 12.6	-0.3
SCRK				IAmb	IAmb	16 55 20.5	
	comp=Z,8.1nm,0.8s						
SEY	Seymchan	20.97	316	P	P	16 55 13.5	-4.2
	comp=Z,0.8nm,0.7s,baz=142,slow=17,SNR=1.3						
TOLK	Toolik Lake Re	21.16	26	P	P	16 55 20.0	+0.2
K27K	Chicken	21.31	41	P	P	16 55 22.4	+1.1
K27K				IAmb	IAmb	16 55 41.9	
	comp=Z,8.0nm,1.1s						
EGAK	Eagle	21.95	39	P	P	16 55 28.5	+0.2
EGAK				IAmb	IAmb	16 55 47.9	
	comp=Z,8.1nm,0.7s						
WRAK	Wrangell Islan	25.22	62	P	P	16 55 56.2	-4.0
INK	Inuvik	26.06	34	P	P	16 56 07.6	-0.1
	comp=Z,1.1nm,0.7s,baz=244,slow=11,SNR=1.8						
DLBC	Dease Lake	26.28	57	P	P	16 56 10.4	+0.5
	comp=Z,2.7nm,0.9s,baz=260,slow=8.8,SNR=2.5						
TIXI	Tiksi	31.90	330	LR	LR	17 11 23.1	
	comp=Z,66nm,21.4s,baz=95,slow=40						
KLR	Kul'dur	33.59	288	P	P	16 57 13.5	-1.1
	comp=Z,1.9nm,0.6s,baz=48,slow=9.0,SNR=11						
H11N2	WAKE ISLAND Hy	34.69	211	T	T	17 34 23.1	
	baz=22,slow=74,SNR=50						
H11N3	WAKE ISLAND Hy	34.69	211	T	T	17 34 25.7	
	baz=22,slow=74,SNR=41						
H11N1	WAKE ISLAND Hy	34.70	211	T	T	17 34 21.4	
	baz=22						
USRK	Ussuriysk Ar.	35.78	280	P	P	16 57 32.9	-0.6
	comp=Z,1.3nm,0.7s,baz=56,slow=6.5,SNR=7.1						
USRK	Ussuriysk Ar.	35.78	280	P	P	16 57 32.6	-0.9
H11S1	WAKE ISLAND Hy	35.89	211	T	T	17 36 05.4	
	baz=19						
H11S2	WAKE ISLAND Hy	35.91	211	T	T	17 36 09.3	
	baz=19						
H11S3	WAKE ISLAND Hy	35.91	211	T	T	17 36 21.6	
	baz=19						
MJAR	Matsushiro Arr	36.27	265	P	P	16 57 38.1	+0.3
	comp=Z,1.6nm,0.8s,baz=40,slow=8.2,SNR=3.2						
JHJ	Hachijo jima 2	37.53	259	P	P	16 57 50.7	+2.2
	comp=Z,73nm,1.1s,baz=18,slow=13,SNR=1.4						
NVAR	Mina Array Bea	41.06	86	P	P	16 58 21.0	+2.8
	comp=Z,0.1nm,0.3s,baz=282,slow=6.3,SNR=1.2						
KSRS	Korea Array	42.14	274	P	P	16 58 28.2	+1.5
	comp=Z,2.5nm,0.8s,baz=58,slow=7.3,SNR=12						
TCUT	Toone Canyon	43.74	78	P	P	16 58 37.2	-2.8
PDAR	Pinedale Array	43.92	75	P	P	16 58 42.4	+1.0
	comp=Z,0.9nm,0.8s,baz=316,slow=4.1,SNR=6.9						
PDAR	Pinedale Array	43.92	75	P	P	16 58 40.6	-0.8
ULM	Lac du Bonnet	47.58	59	P	P	16 59 11.7	+1.7
	comp=Z,2.0nm,0.5s,baz=270,slow=4.0,SNR=2.3						
SONM	Songino Array	48.88	299	P	P	16 59 19.4	-0.8
	comp=Z,1.2nm,0.8s,baz=52,slow=8.6,SNR=7.0						
JOW	Kunigami	49.04	263	P	P	16 59 21.1	-0.3
	comp=Z,3.3nm,0.9s,baz=110,slow=10.0,SNR=3.1						
SPITS	Spitsbergen Ar	50.56	357	P	P	16 59 32.2	-0.1
	comp=Z,6.1nm,0.8s,baz=63,slow=5.9,SNR=9.6						
TXAR	Lajitas Array	56.17	84	P	P	17 00 16.4	+2.1
	comp=Z,0.1nm,0.3s,baz=58,slow=12,SNR=2.3						
ARCES	ARCESS Array B	58.51	352	P	P	17 00 29.4	-0.7
	comp=Z,3.0nm,0.9s,baz=0.8,slow=8.5,SNR=4.0						
ARCES	ARCESS Array B	58.51	352	P	P	17 00 29.5	-0.7
MK31	Makanchi Array	61.98	311	P	P	17 00 54.2	0.0
MKAR	Makanchi Array	61.98	311	P	P	17 00 53.9	-0.4
	comp=Z,0.7nm,0.3s,baz=47,slow=6.4,SNR=28						
MKAR	Makanchi Array	61.98	311	P	P	17 00 54.3	0.0
FINES	FINESS Array B	66.32	349	P	P	17 01 21.5	-0.9
	comp=Z,1.3nm,0.8s,baz=11,slow=12,SNR=2.3						
NB2	NORSAR Subarra	67.86	357	P	P	17 01 32.0	-0.2
	comp=Z,0.9nm,0.7s,baz=2.4,slow=6.5						
NOA	NORSAR Array B	67.86	357	P	P	17 01 31.7	-0.5
	comp=Z,1.7nm,0.8s,baz=3.7,slow=6.4,SNR=7.1						
HFS	Hagfors	68.66	355	P	P	17 01 36.4	-0.8
	comp=Z,2.4nm,0.7s,baz=46,slow=4.3,SNR=6.3						
CMAR	Chiang Mai Arr	73.50	279	P	P	17 02 08.2	+1.1
	comp=Z,0.3nm,0.4s,baz=40,slow=7.1,SNR=1.9						
AKASG	Malin Array Be	76.30	345	P	P	17 02 21.5	-1.3
	comp=Z,0.3nm,0.3s,baz=18,slow=6.3,SNR=4.2						
CLL	Collm	77.50	355	iP	P	17 02 29.8	+0.2
	comp=Z,3.0nm,0.9s						
GEYT	Alibeck	79.76	320	P	P	17 02 43.5	+1.2
	comp=Z,1.7nm,0.5s,baz=14,slow=6.5,SNR=2.4						
GERES	GERESS Array B	79.92	354	P	P	17 02 43.1	0.0
	comp=Z,0.9nm,0.8s,baz=5.7,slow=5.4,SNR=5.5						
BRTR	Keskin Array B	85.95	338	P	P	17 03 14.7	+0.2
	comp=Z,0.5nm,0.9s,baz=90,slow=1.4,SNR=2.8						
MAW	Mawson	147.99	218	PKPbc	PKiKP	17 10 18.7	-1.2
	comp=Z,1.6nm,0.9s,baz=49,slow=10,SNR=2.8						
BOSA	Boshof	152.75	319	PKPbc	PKiKP	17 10 33.5	+2.3
	comp=Z,1.4nm,0.8s,baz=117,slow=2.3,SNR=1.5						

*IDC **04** 16:52:07.8±2.7, 72.°75N×5.°39E, h0km, mb1 3.4/5, mb1mx3.2/60, mbtmp3.4/5, ML3.0/5, Error ellipse: s-maj=33.8km s-min=21.7km az=86.0*
*NAO **04** 16:52:08.1±565.0, 72.°78N×4.°81E, h15km±943km, ML3.0*
*BER **04** 16:52:11.9±1.0, 72.°96N×5.°80E, h10km, ML2.0, ML3.0(NAO), Confirmed Earthquake*
ISC 04 16:52:09.3±1.1, **72.°92N**±0.°09×**5.°80E**±0.°08, **h11km, n39,** σ**0.s97**/42, **Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	Bjornoya	4.04	61	eP	Pn	16 53 11.0	0.0
BJO1				IAML		16 53 55.8	
	comp=Z,15nm,1.1s						
HSPB	Hornsund (broa	4.82	27	eP	Pn	16 53 21.9	+0.2
TRO	Tromso	5.36	122	eP	Pn	16 53 29.3	+0.3
TRO				IAML		16 54 32.5	
	comp=Z,3.7nm,0.6s						
LOF	Lofoten	5.46	148	eP	Pn	16 53 31.1	+0.7
LOF				IAML		16 54 29.2	
	comp=Z,2.8nm,0.3s						
N2SV	S¸rv¥gen	5.60	151	eP	Pn	16 53 33.0	+0.6
N2SV				IAML		16 54 33.4	
	comp=Z,3.2nm,1.0s						
JETT	Jettan, Norway	5.79	118	Pn	Pn	16 53 36.6	+1.6
JETT				eP	Pb	16 53 37.5	-13
JETT				IAML		16 54 48.8	
	comp=E,8.1nm,0.4s						
SPA0	Spitsbergen Ar	5.90	22	Pn	Pn	16 53 37.5	+1.0
	baz=209,slow=16						
SPA0	Spitsbergen Ar	5.90	22	Pn	Pn	16 53 37.5	+1.0
	baz=209,slow=16						
SPITS	Spitsbergen Ar	5.90	22	Pn	Pn	16 53 37.4	+0.9
	baz=208,slow=18,SNR=13						
STEI	Steigen	5.92	143	eP	Pn	16 53 38.3	+1.4
HAMF	Hammerfest	6.04	103	Pn	Pn	16 53 39.0	+0.5
HAMF	Hammerfest	6.04	103	eP	Pn	16 53 38.9	+0.5
HAMF				IAML		16 54 58.1	
	comp=Z,3.8nm,0.9s						
FAUS	Fauske	6.42	145	eP	Pn	16 53 44.7	+1.1
FAUS				IAML		16 54 55.4	
	comp=Z,1.7nm,0.7s						
KOVU	Salmi	6.70	128	P	Pn	16 53 48.7	+1.2
NIKU	Nikkaluokta	6.73	132	P	Pn	16 53 49.4	+1.5
NBB13	Alf Garage	6.83	154	eP	Pn	16 53 49.2	0.0
KTK1	Kautokeino	6.90	116	eP	Pn	16 53 52.2	+1.9
KONS	Konsvik	6.93	155	eP	Pn	16 53 50.6	0.0
KONS				IAML		16 55 07.0	
	comp=Z,2.5nm,0.3s						
KUA	Kurravaara	6.96	129	P	Pn	16 53 51.9	+0.9
KUA				S	Pg	16 54 22.6	+0.3
STOK	Stokkvaagen	7.07	156	eP	Pn	16 53 53.4	+0.8
ARCES	ARCESS Array B	7.18	108	Pn	Pn	16 53 55.3	+1.2
	baz=322,slow=11,SNR=18						
ARCES				Sn	Sn	16 55 14.5	-1.1
	baz=308,slow=19,SNR=1.5						
ARA0	ARCESS Array S	7.18	108	Pn	Pn	16 53 55.6	+1.4
	baz=316,slow=14						
ARA0				Sn	Sn	16 55 14.5	-1.1
	baz=309,slow=22						
ARA0	ARCESS Array S	7.18	108	Pn	Pn	16 53 55.6	+1.4
	baz=316,slow=14						
ARA0				Sn	Sn	16 55 14.5	-1.1
	baz=309,slow=22						
ARA0				IAML		16 55 21.2	
	comp=Z,1.6nm,0.7s						
LANU	Lannavaara	7.28	124	P	Pn	16 53 55.6	+0.2
MOR8	Moi Rana	7.41	152	eP	Pn	16 53 58.2	+0.9
MOR8				IAML		16 55 21.2	
	comp=Z,2.2nm,0.7s						
DBG	Daneborg	7.45	293	Pn	Pn	16 53 52.4	-5.4
DBG				Sn	Sn	16 55 06.8	-15
DBG	Daneborg	7.45	293	eP	Pn	16 53 57.7	0.0
DBG				Sn	Sn	16 55 06.8	-15
DUNU	Dundret	7.69	132	P	Pn	16 54 02.2	+1.1
PAJU	Pajala	8.35	126	P	Pn	16 54 11.2	+1.1
ERTU	Ertsjaerv	8.52	130	P	Pn	16 54 13.5	+1.1
NSS	Namsos	8.71	162	eP	Pn	16 54 15.7	+0.6
SJUU	Sjulsmark	9.28	135	P	Pn	16 54 23.8	+1.0
APA0	Apatity Array	10.54	107	Pn	Pn	16 54 39.4	-0.6
	baz=324,slow=14						
APA0	Apatity Array	10.54	107	Pn	Pn	16 54 39.4	-0.6
	baz=324,slow=14						
NOA	NORSAR Array B	12.11	167	Pn	Pn	16 55 00.7	-0.9
	comp=Z,0.0nm,0.3s,baz=352,slow=12,SNR=4.2						
HFS	Hagfors	13.20	162	Pn	Pn	16 55 15.3	-1.1
	comp=Z,0.3nm,0.3s,baz=352,slow=7.3,SNR=11						
FIA0	FINESS Array S	13.83	136	Pn	Pn	16 55 25.1	+0.2
	baz=341,slow=12						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FIA0	FINESS Array S	13.83	136	Pn	Pn	16 55 25.1	+0.2
	baz=341,slow=12						
FINES	FINESS Array B	13.83	136	Pn	Pn	16 55 24.3	-0.6
	comp=Z,0.3nm,0.3s,baz=332,slow=11,SNR=14						

BJI ***04*** *16:52:08.9±0.0, 51°.57N×174°.97W, h33km, mB4.9/37, mb4.9/58, Ms4.5/30, Ms7 4.3/29*

IDC ***04*** *16:52:08.5±3.3, 51°.45N×174°.95W, h20km±20km, mb4.3/41, mb1 4.4/43, mb1mx4.3/70, mbtmp4.4/43, ML3.9/2, MS3.9/16, Ms1 3.9/16, ms1mx3.7/34, Error ellipse: s-maj=16.3km s-min=9.2km az=163.0*

MOS ***04*** *16:52:09.6±1.1, 51°.48N×174°.80W, h35km, mb5.1/37, Error ellipse: s-maj=8.7km s-min=5.4km az=95.5*

AEIC ***04*** *16:52:09.6±2.5, 51°.25N±0°.09×174°.81W±0°.05, h26km±4km, Error ellipse: s-maj=12.9km s-min=2.5km az=163.0*

NEIC ***04*** *16:52:12.0±1.8, 51°.44N±0°.09×174°.87W±0°.07, h41km±5km, mb4.7/70, ML4.4/24(AEIC), Error ellipse: s-maj=12.6km s-min=6.2km az=170.0*

BGR ***04*** *16:52:11.1±0.0, 51°.06N×176°.29W, h33km, mb5.0*

ISC 04 16:52:11.7±0.4**, 51°.43N**±0°.07×**174°.83W**±0°.04**, h40**km**, n440,** σ1s**22**/434**, mb4.8**/123**, MS4.0**/26**, 33C-32D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATKA	Atka Island	0.87	27		Pn	16 52 27.6	+0.2
GSIG	Igitkin Island	0.88	310		Pn	16 52 27.4	-0.2
KOFP	Korovin Flat P	0.96	28		Pn	16 52 29.4	+0.6
GSMY	Great Sitkin M	0.98	309		Pn	16 52 29.0	+0.1
GSTR	Great Sitkin T	1.01	312	Pn	Pn	16 52 29.8	+0.4
GSTD	Great Sitkin T	1.03	308		Pn	16 52 29.8	+0.1
KOSE	Korovin Southe	1.04	28		Pn	16 52 30.8	+1.0
GSSP	Great Sitkin S	1.07	309		Pn	16 52 30.5	+0.3
ADK	Adak	1.24	292	P	Pn	16 52 31.9	-0.6
ADK	Adak	1.24	292	Pn	Pn	16 52 31.9	-0.6
KIWB	Kanaga Island	1.51	287	Pn	Pn	16 52 35.6	-0.5
KIMD	Kanaga Island	1.54	283		Pn	16 52 35.9	-0.7
TAFP	Tanaga Falls P	2.02	285		Pn	16 52 43.2	0.0
GAEA	Gareloi East	2.47	280		Pn	16 52 49.4	0.0
AMKA	Amchitka	3.67	271	Pn	Pn	16 53 04.5	-1.4
NIKH	Nikolski High	3.99	65		Pn	16 53 10.3	0.0
NIKH	Nikolski High	3.99	65	P	Pn	16 53 10.4	+0.2
	baz=247						
MAPS	Pakushin South	5.36	61		Pn	16 53 29.8	+0.7
UNV	Unalaska Valle	5.62	61		Pn	16 53 32.7	+0.1
UNV	Unalaska Valle	5.62	61	P	Pn	16 53 32.7	+0.1
	baz=246						
SPIA	Saint Paul Isl	6.35	23	P	Pn	16 53 41.7	-0.9
	baz=206						
FALS	False Pass	7.67	59		Pn	16 54 04.2	+3.5
FALS	False Pass	7.67	59	P	Pn	16 54 00.9	+0.2
	baz=247						
SDPT	Sand Point	9.43	60		Pn	16 54 25.2	+0.4
SDPT	Sand Point	9.43	60	P	Pn	16 54 24.3	-0.5
	baz=250						
CHNA	Chernabura Isl	9.77	64	P	Pn	16 54 28.7	-0.7
	baz=255						
CHGN	Chignik	10.84	57	Pn	Pn	16 54 43.2	-0.9
OHAK	Old Harbor	13.81	57	P	Pn	16 55 23.9	-0.7
	baz=254						
ANM	Nome	14.07	17	P	Pn	16 55 27.0	-1.0
	baz=205						
Q19K	Cape Douglas,	14.20	50		Pn	16 55 29.0	-0.9
Q19K	Cape Douglas,	14.20	50	P	Pn	16 55 29.6	-0.2
	baz=247						
KDAK	Kodiak Island	14.33	55	Pn	Pn	16 55 29.0	-2.7
	1.8nm,0.3s,baz=237,slow=6.4,SNR=9.8						
KDAK				Sn	Sn	16 58 04.0	-5.2
	0.3nm,0.3s,baz=348,slow=20,SNR=1.3						
KDAK	Kodiak Island	14.33	55	P	Pn	16 55 29.3	-2.4
KDAK	Kodiak Island	14.33	55		Pn	16 55 29.3	-2.4
KDAK	Kodiak Island	14.33	55	P	Pn	16 55 30.9	-0.8
	baz=252						
SVW2	Sparrevohn	14.37	40	P	P	16 55 36.3	-2.2
TNA	Tin City	14.61	11	P	Pn	16 55 34.6	-0.7
	baz=197						
N19K	Bonanza Creek	14.67	42	Pn	Pn	16 55 38.5	+2.2
N19K	Bonanza Creek	14.67	42	P	Pn	16 55 35.8	-0.5
	baz=239						
P19K	Oil Pt	14.68	48		P	16 55 39.1	-2.9
P19K	Oil Pt	14.68	48	P	Pn	16 55 38.1	+1.7
	baz=245						
O20K	Slope Mountain	15.14	47	P	Pn	16 55 44.2	+1.6
	baz=244						
RSO	Redoubt South	15.25	45		P	16 55 47.0	-1.4
L19K	White Mountain	15.27	37		P	16 55 48.4	-0.1
L19K	White Mountain	15.27	37	P	Pn	16 55 45.8	+1.6
	baz=234,SNR=5.5						
M19K	Big River Lodg	15.29	39		P	16 55 47.7	-1.0
M19K				IAmb	IAmb	16 55 58.2	
	comp=Z,44nm,1.5s						
M19K	Big River Lodg	15.29	39	P	Pn	16 55 45.2	+0.8
	baz=236,SNR=5.4						
M20K	Styx River	15.78	40	P	P	16 55 55.9	+1.7
M20K	Styx River	15.78	40	P	Pn	16 55 51.1	+0.2
	baz=238						
L20K	Farewell, AK	15.82	38	P	Pn	16 55 51.0	-0.3
	baz=235						
BRSE	Bradley Lake S	15.88	49	P	Pn	16 55 51.6	-0.5
	baz=248						
K20K	Telida	16.27	35	P	P	16 55 59.5	0.0
K20K	Telida	16.27	35	P	Pn	16 55 57.5	+0.6
	baz=232						
PET	Petropavlovsk	16.29	286	eP	P	16 55 59.5	-0.3
PET				eS	Sn	16 58 58.0	+1.2
PET				pmax	pmax		
	comp=Z,29nm,1.2s						
PET	Petropavlovsk	16.29	286	P	P	16 56 00.7	+0.9
SKT	Skwentna	16.48	41		P	16 56 01.6	-0.4
SKT	Skwentna	16.48	41	P	Pn	16 55 59.9	+0.2
	baz=240						
SUA	Susitna One	16.57	43	Pn	Pn	16 56 01.6	+0.7
SEW	Seward	16.61	49	P	Pn	16 55 58.3	-3.0
	baz=249						
O22K	Cooper Landing	16.62	47	P	Pn	16 56 00.1	-1.3
	baz=248						
PPLA	Purkeypile	16.70	38	P	Pn	16 56 02.3	-0.2
	baz=237						
J20K	Nowinta River	16.75	32	P	Pn	16 56 03.4	+0.3
	baz=230,SNR=8.0						
RC01	Rabbit Creek A	16.86	45	Pn	Pn	16 56 02.8	-1.6
PEA0B	Petropavlovsk-	16.86	286⇑	eP	P	16 56 06.1	0.0
PEA0B	Petropavlovsk-	16.86	286	P	P	16 56 06.5	+0.4
PEA0B				IAmb	IAmb	16 56 09.4	
	comp=Z,41nm,1.2s						
PETK	Petropavlovsk-	16.86	286	Pn	Pn	16 56 02.6	-1.9
	comp=Z,0.6nm,0.3s,baz=80,slow=11,SNR=12						
PETK				LR	LR	17 02 07.4	
	comp=Z,431nm,21.4s,baz=99,slow=36						
PETK	Petropavlovsk-	16.86	286	P	P	16 56 07.2	+1.0
PETK	Petropavlovsk-	16.86	286	P	P	16 56 07.2	+1.0
CHUM	Lake Minchumin	17.21	35	P	Pn	16 56 08.2	-0.6
	baz=234						
KTH	Kantishna Hill	17.54	37	P	P	16 56 14.0	+0.4
KTH				IAmb	IAmb	16 56 20.5	
	comp=Z,47nm,1.3s						
KNK	Knik Glacier	17.55	45	P	Pn	16 56 11.8	-1.3
	baz=247						
TRF	Thorofare Moun	17.72	38	P	P	16 56 16.1	+0.3
TRF	Thorofare Moun	17.72	38	P	Pn	16 56 12.8	-2.5
	baz=238						
SML	Sawmill	17.76	44	P	Pn	16 56 14.0	-1.6
SML				pmax	pmax		
	comp=Z,21nm,1.3s						
SML	Sawmill	17.76	44	P	Pn	16 56 14.0	-1.6
SML	Sawmill	17.76	44	P	Pn	16 56 14.0	-1.6
	baz=246						
BPAW	Bear Paw Mtn.	17.82	35	P	P	16 56 16.5	-0.1
	baz=235						
GLI	Glacier Island	17.98	48	P	Pn	16 56 17.0	-1.2
	baz=250						
WAT1	Susitna Watana	18.11	41	P	Pn	16 56 19.2	-0.6
	baz=243						
SCM	Sheep Creek Mo	18.21	45	P	P	16 56 19.7	-1.4
SCM				pmax	pmax		
	comp=Z,84nm,1.5s						
SCM	Sheep Creek Mo	18.21	45	P	P	16 56 19.7	-1.4
SCM				IAmb	IAmb	16 56 33.0	
	comp=Z,84nm,1.5s						
WAT6	Susitna Watana	18.34	42	P	P	16 56 21.1	-1.4
	baz=244						
MCK	McKinley	18.39	38	P	Pn	16 56 23.5	+0.3
	baz=240						
MLY	Manley	18.44	33	P	Pn	16 56 23.7	-0.2
	baz=234						
KLU	Klutina	18.72	46	P	P	16 56 25.2	-1.4
KLU	Klutina	18.72	46	P	P	16 56 25.8	-0.8
	baz=250						
NEA2	Nenana	18.79	36	P	P	16 56 26.4	-0.8
	baz=237						
M24K	Tolsona, Glenn	18.82	44	P	Pn	16 56 28.8	+0.3
M24K				IAmb	IAmb	16 56 45.0	
	comp=Z,25nm,0.6s						
M24K	Tolsona, Glenn	18.82	44	P	P	16 56 26.4	-1.3
	baz=248						
I23K	Minto, Yukon-K	18.99	34	P	Pn	16 56 29.8	-0.6
	baz=236						
BILL	Bilibino	19.04	338	d iP	Pn	16 56 31.6	+0.6
BILL				pmax	pmax		
	comp=Z,57nm,1.7s						
WRH	Wood River Hil	19.08	37	P	P	16 56 29.4	-1.1
BMRM	Bremner River	19.16	48	P	P	16 56 29.9	-1.5
	baz=253						
MDM	Murphy Dome	19.29	35	P	P	16 56 32.8	+0.1
MDM				IAmb	IAmb	16 56 43.8	
	comp=Z,43nm,1.4s						
H23K	Yukon River	19.32	32	P	P	16 56 32.1	-1.0
	baz=234						
N25K	Chitina, Valde	19.35	47	P	P	16 56 32.2	-1.3
	baz=252						
HARP	HAARP	19.37	44	P	P	16 56 32.4	-1.3
	baz=249						
COLA	College	19.38	36	P	Pn	16 56 35.8	+0.7
COLA				pmax	pmax		
	comp=Z,16nm,0.7s						
PAX	Paxson	19.45	42	P	P	16 56 33.2	-1.4
	baz=247						
HDA	Harding Lake	19.48	38	P	P	16 56 33.4	-1.5
HDA				IAmb	IAmb	16 56 51.5	
	comp=Z,34nm,0.7s						
HDA	Harding Lake	19.48	38	P	P	16 56 34.8	0.0
	baz=241						
POKR	Poker Plat Res	19.66	35	P	P	16 56 37.3	+0.5
	baz=238						
IL31		19.68	37	IAmb	IAmb	16 56 51.2	
	comp=Z,13nm,0.5s						
ILAR	Eielson Array	19.68	37	P	P	16 56 35.2	-1.8
	comp=Z,1.0nm,0.3s,baz=226,slow=8.3,SNR=17						
ILAR				S	S	17 00 12.0	-4.6
	baz=258,slow=8.8,SNR=2.5						
H24K	Noodor Dome	19.89	33	IAmb	IAmb	16 56 54.4	
	comp=Z,30nm,1.1s						
H24K	Noodor Dome	19.89	33	P	P	16 56 38.4	-0.9
	baz=236,SNR=14						
COLD	Coldfoot	19.98	28	P	P	16 56 40.4	+0.1
	baz=230						
MCARA	McCarthy VSAT	20.01	48	P	P	16 56 40.7	0.0
	baz=254						
RIDG	Independent Ri	20.01	41	P	P	16 56 39.8	-1.0
RIDG				IAmb	IAmb	16 56 49.6	
	comp=Z,13nm,0.6s						
RIDG	Independent Ri	20.01	41	P	P	16 56 40.2	-0.6
	baz=246						
J25K	Salcha River,	20.18	38	P	P	16 56 41.7	-0.9
	baz=243,SNR=27						
M26K	Nabesna, AK	20.32	45	P	P	16 56 44.8	+0.8
	baz=252						
L26K	Log Cabin Wild	20.37	43	P	Pn	16 56 46.2	-0.6
	baz=250						
SCRK	Sand Creek	20.46	40		P	16 56 45.0	-0.6
SCRK				IAmb	IAmb	16 56 52.9	
	comp=Z,36nm,0.6s						
SCRK	Sand Creek	20.46	40	P	P	16 56 45.3	-0.3
	baz=246						
CTG	Chitna Glacier	20.70	50	P	P	16 56 48.6	+0.3
	baz=257						
CTGM	Chitina Glacie	20.71	50		Pn	16 56 51.1	+0.2
CTGM				IAmb	IAmb	16 57 06.4	
	comp=Z,14nm,0.8s						
J26K	Charley River,	20.77	39	P	P	16 56 48.6	-0.4
	baz=245,SNR=15						
M27K	Edge Creek, AK	20.80	46	P	P	16 56 49.6	+0.3
	baz=253,SNR=7.0						
SEY	Seymchan	20.90	316	P	P	16 56 47.6	-2.7
	comp=Z,4.1nm,0.8s,baz=120,slow=14,SNR=4.4						
SEY				LR	LR	17 05 26.3	
	comp=Z,842nm,18.1s,baz=118,slow=38						
SEY	Seymchan	20.90	316⇓	iP	P	16 56 51.0	+0.7
MA2	Magadan	20.91	306	LR	LR	17 04 42.9	
	comp=Z,310nm,19.2s,baz=109,slow=36						
L27K	Beaver Creek,	21.04	44	P	P	16 56 53.0	+1.2
	baz=251						
PINM	Pinnacle	21.07	52	P	P	16 56 53.0	+0.8
	baz=261						
TOLK	Toolik Lake Re	21.09	26	P	P	16 56 53.6	+1.3
TOLK				IAmb	IAmb	16 57 01.8	
	comp=Z,66nm,1.2s						
TOLK	Toolik Lake Re	21.09	26	P	P	16 56 53.1	+0.8
	baz=228,SNR=12						
K27K	Chicken	21.26	41	IAmb	IAmb	16 56 59.2	
	comp=Z,22nm,1.1s						
BVCY	Beaver Creek	21.27	46	P	P	16 56 56.0	+1.7
	baz=254						
YUK3	Moose Creek	21.30	48	P	P	16 56 55.9	+1.1
	baz=256						
BMAR	Burnt Mountain	21.86	31		P	16 57 00.4	-0.1
EGAK	Eagle	21.90	40	P	P	16 57 00.7	-0.2
EGAK				IAmb	IAmb	16 57 08.8	
	comp=Z,35nm,0.6s						
DAWY	Dawson	22.39	42	P	P	16 57 06.5	+0.2
	baz=252						
HYT	Haines Junctio	22.53	51	P	P	16 57 08.9	+1.1
	baz=262						
SIT	Sitka	23.50	61	P	P	16 57 19.3	+1.7
	baz=273						
EPYK	Eagle Plains	24.19	37	P	P	16 57 22.7	-1.3
	baz=250						
CRAG	Craig	24.88	64	P	P	16 57 32.3	+2.0
	baz=278						
MMPY	Sheldon Lake,	25.69	47	P	P	16 57 37.6	0.0
	baz=264						
INK	Inuvik	26.01	34	P	P	16 57 39.5	-0.9
	comp=Z,5.5nm,0.8s,baz=238,slow=6.7,SNR=12						
INK				PcP	PcP	17 01 07.8	+0.5
	comp=Z,4.0nm,1.0s,baz=214,slow=3.6,SNR=2.8						
INK				LR	LR	17 08 09.8	
	comp=Z,188nm,18.2s,baz=216,slow=37						
INK	Inuvik	26.01	34	P	P	16 57 40.6	+0.2
INK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
INK	Inuvik	26.01	34	P	P	16 57 40.6	+0.2
INK	Inuvik	26.01	34	P	P	16 57 40.8	+0.4
	baz=250,SNR=5.2						
DLBC	Dease Lake	26.25	57	P	P	16 57 42.7	-0.1
	comp=Z,5.4nm,0.8s,baz=304,slow=7.2,SNR=7.3						
DLBC				LR	LR	17 09 29.0	
	comp=Z,255nm,18.8s,baz=284,slow=40						
TYV	Tymovskoe	26.41	286	eP	P	16 57 48.4	+4.2
TYV				pmax	pmax		
	comp=Z,10.0nm,1.4s						
YSS	Yuzh-Sakhalins	27.78	278⇑	eP	P	16 57 57.9	+1.4
YSS				pmax	pmax		
	comp=Z,46nm,2.0s						
BBB	Bella Bella	28.51	70	LR	LR	17 07 36.2	
	comp=Z,188nm,18.3s,baz=287,slow=32						
ASAJ	Asahikawa	29.19	272	P	P	16 58 06.4	-2.7
	comp=Z,5.1nm,0.9s,baz=113,slow=7.7,SNR=1.5						
ASAJ				LR	LR	17 10 43.2	
	comp=Z,91nm,18.6s,baz=84,slow=38						
YAK	Yakutsk	31.25	312	P	P	16 58 24.2	-2.9
	comp=Z,3.3nm,0.6s,baz=88,slow=3.1,SNR=6.0						
YAK				PcP	PcP	17 01 19.5	-1.0
	comp=Z,3.4nm,0.7s,baz=114,slow=1.7,SNR=2.2						
YAK				LR	LR	17 11 25.2	
	comp=Z,334nm,19.5s,baz=92,slow=37						
YAK	Yakutsk	31.25	312	ceP	P	16 58 26.6	-0.5
YAK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
TIXI	Tiksi	31.82	330	PcP	PcP	17 01 21.8	-0.1
	comp=Z,2.7nm,0.4s,baz=104,slow=4.2,SNR=5.4						
YKA	Yellowknife Ar	33.38	47	P	P	16 58 45.2	-0.6
	comp=Z,2.0nm,0.9s,baz=305,slow=7.6,SNR=4.3						
YKA				PcP	PcP	17 01 26.4	0.0
	comp=Z,1.2nm,0.7s,baz=295,slow=1.7,SNR=4.3						
YKA				LR	LR	17 14 07.5	
	comp=Z,316nm,18.2s,baz=0.0,slow=40						
KLR	Kul'dur	33.55	288	P	P	16 58 46.4	-1.0
	comp=Z,6.3nm,0.5s,baz=72,slow=8.3,SNR=20						
KLR				PcP	PcP	17 01 27.1	0.0
	comp=Z,0.8nm,0.5s,baz=153,slow=6.8,SNR=2.0						
KLR	Kul'dur	33.55	288	ceP	P	16 58 46.7	-0.6
KLR				pmax	pmax		
	comp=Z,11nm,0.9s						
E04D	Cinebar	34.03	77	P	P	16 58 54.2	+2.6
	baz=298						
LON	Longmire	34.40	76	P	P	16 58 55.7	+0.8
LON				pmax	pmax		
	comp=Z,4.0nm,0.9s						
LON	Longmire	34.40	76	P	P	16 58 55.7	+0.8
ZEA	Zeya	34.43	297	eP	P	16 58 55.3	+0.3
ZEA				MLR	MLR		
	comp=E,100nm,15.0s						
ZEA				MLR	MLR		
	comp=Z,100nm,14.0s						
H11N2	WAKE ISLAND Hy	34.75	211	T	T	17 36 17.1	
	baz=19,slow=76,SNR=4.3						
H11N3	WAKE ISLAND Hy	34.76	211	T	T	17 35 58.3	
	baz=19,slow=76,SNR=4.0						
H11N1	WAKE ISLAND Hy	34.77	211	T	T	17 36 19.3	
	baz=19,slow=76,SNR=49						
USA0B	Ussuriysk Arra	35.75	280⇓	eP	P	16 59 06.1	-0.3
USRK	Ussuriysk Ar.	35.75	280	P	P	16 59 05.0	-1.4
	comp=Z,5.6nm,0.8s,baz=60,slow=11,SNR=15						
USRK	Ussuriysk Ar.	35.75	280	P	P	16 59 05.3	-1.1
USRK	Ussuriysk Ar.	35.75	280	P	P	16 59 05.2	-1.1
H11S1	WAKE ISLAND Hy	35.95	211	T	T	17 38 36.4	
	baz=20,slow=76,SNR=59						
H11S2	WAKE ISLAND Hy	35.97	211	T	T	17 38 31.4	
	baz=20,slow=76,SNR=28						
H11S3	WAKE ISLAND Hy	35.97	211	T	T	17 38 31.2	
	baz=20,slow=76,SNR=17						
MAJO	Matsushiro	36.26	264	c iP	P	16 59 10.9	0.0
MAT	Matsushiro	36.26	264	P	P	16 59 11.1	+0.2
MJAR	Matsushiro Arr	36.26	264	P	P	16 59 09.3	-1.5
	comp=Z,6.2nm,0.8s,baz=44,slow=7.4,SNR=14						
MJAR				LR	LR	17 12 25.1	
	comp=Z,133nm,21.7s,baz=65,slow=34						
MJAR	Matsushiro Arr	36.26	264	P	P	16 59 08.6	-2.3
VLA	Vladivostok	36.38	278	d iP	P	16 59 13.3	+1.5
VLA				pmax	pmax		
	comp=Z,37nm,1.3s						
NEW	Newport	36.52	72	P	P	16 59 14.0	+0.9
	comp=Z,5.1nm,0.8s,baz=305,slow=3.8,SNR=6.5						
NEW	Newport	36.52	72	P	P	16 59 14.0	+0.9
NEW	Newport	36.52	72	P	P	16 59 16.4	+3.3
	baz=297						
EDM	Edmonton	36.60	62	P	P	16 59 14.0	+0.3
EDM				pmax	pmax		
	comp=Z,22nm,1.0s						
EDM	Edmonton	36.60	62	P	P	16 59 14.0	+0.3
MSHR	Mys Shultsa	37.12	278⇑	eP	P	16 59 18.5	+0.4
MSHR				pmax	pmax		
	comp=Z,19nm,1.2s						
I07A	Izee	37.13	79	P	P	16 59 19.8	+1.5
O02D	Mt. Diablo Mer	37.24	87	P	P	16 59 22.8	+3.5
	baz=305						
WALA	Waterton Lakes	38.05	69	P	P	16 59 27.3	+1.2
WALA				IAmb	IAmb	16 59 36.4	
	comp=Z,5.1nm,0.8s						
WVOR	Wild Horse Val	38.55	81	P	P	16 59 32.0	+1.7
WVOR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
JWT	Wachi	38.81	265	P	P	16 59 32.3	-0.2
JWT				IAmb	IAmb	16 59 33.9	
	comp=Z,13nm,0.7s						
MSO	Missoula	39.10	72	P	P	16 59 36.3	+1.4
	baz=300						
CN2	Changchun	39.97	283	eP	P	16 59 41.4	-0.6
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=Z,300nm,18.0s						
CN2				LR	LR		
	comp=Z,200nm,18.0s						
CN2				LR	LR		
	comp=Z,400nm,19.0s						
JCJ	Chichijima	40.40	250	LR	LR	17 12 39.6	
	comp=Z,80nm,21.8s,baz=85,slow=30						
HLID	Hailey	40.52	77	P	P	16 59 47.4	+0.6
	baz=303						
EGMT	Eagleton	40.97	68	P	P	16 59 50.8	+0.5
	baz=300						
NVAR	Mina Array Bea	41.07	86	P	P	16 59 51.5	+0.1
	comp=Z,0.7nm,0.8s,baz=295,slow=7.1,SNR=4.1						
NVAR				PcP	PcP	17 01 50.5	-0.1
	comp=Z,0.2nm,0.4s,baz=286,slow=9.9,SNR=1.2						
NVAR				ScP	ScP	17 05 37.7	+0.8
	comp=Z,0.6nm,0.8s,baz=289,slow=5.6,SNR=3.5						
NVAR	Mina Array Bea	41.07	86	P	P	16 59 51.4	-0.1
BOZ	Bozeman (W)	41.11	72	IAmb	IAmb	17 00 06.9	
	comp=Z,5.8nm,0.6s						
BOZ	Bozeman (W)	41.11	72	P	P	16 59 51.7	+0.1
	baz=302						
KSRS	Korea Array	42.12	274	P	P	16 59 59.0	-0.7
	comp=Z,9.2nm,0.8s,baz=53,slow=7.7,SNR=27						
KS19	Wonju Array Si	42.12	274	P	P	17 00 01.3	+1.4
KS19				IAmb	IAmb	17 00 03.7	
	comp=Z,20nm,1.1s						
RLMT	Red Lodge	42.77	72	P	P	17 00 06.9	+1.7
	baz=303						
JNU	Nakatsue	43.05	267	P	P	17 00 06.8	-0.6
	comp=Z,17nm,0.9s,baz=62,slow=9.1,SNR=8.3						
TJN	Taejon	43.14	273	d iP	P	17 00 10.6	+2.5
PDAR	Pinedale Array	43.91	75	P	P	17 00 14.2	-0.3
	comp=Z,1.5nm,0.5s,baz=305,slow=4.0,SNR=12						
DL2	Dalian	45.14	280	P	P	17 00 24.7	+0.7
DL2				pmax	pmax		
	comp=Z,25nm,0.9s						
NRIK	Noril'sk	45.60	331	PcP	PcP	17 02 05.7	+0.7
	comp=Z,1.2nm,0.4s,baz=118,slow=4.0,SNR=3.7						
O20A	White River Ci	46.26	77	P	P	17 00 33.9	+0.7
O20A				IAmb	IAmb	17 00 49.9	
	comp=Z,6.9nm,0.8s						
NEEM	North Greenlan	46.78	14	i P	P	17 00 36.5	-0.3
PV13	Radium Mtn., P	47.12	79	P	P	17 00 40.6	+0.7
PV13				IAmb	IAmb	17 00 57.7	
	comp=Z,8.6nm,0.8s						
ULM	Lac du Bonnet	47.55	59	P	P	17 00 42.5	-0.4
	comp=Z,2.6nm,0.5s,baz=321,slow=5.1,SNR=5.4						
ULM				LR	LR	17 21 42.8	
	comp=Z,137nm,19.8s,baz=300,slow=37						
ULM	Lac du Bonnet	47.55	59	IAmb	IAmb	17 00 59.8	
	comp=Z,5.1nm,0.8s						
BJI	Beijing	47.78	285	P	P	17 00 45.2	+0.5
BJI				pP	sP	17 00 57.5	-1.4
BJI				sP	pwP	17 01 01.3	+0.8
BJI				S	S	17 07 37.5	-0.8
BJI				pmax	pmax		
	comp=Z,24nm,0.7s						
BJI				LR	LR		
	comp=Z,280nm,18.2s						
BJI				LR	LR		
	comp=Z,130nm,17.9s						
BJI				LR	LR		
	comp=Z,340nm,15.6s						
BJT	Baijiatuau	47.80	285	P	P	17 00 45.5	+0.6
BJT				pmax	pmax		
	comp=Z,14nm,0.7s						
BJT	Baijiatuau	47.80	285	P	P	17 00 45.5	+0.6
ULN	Ulaanbaatar	48.45	298	deP	P	17 00 49.9	-0.1
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SONM	Songino Array	48.83	299	P	P	17 00 52.3	-0.5
	comp=Z,3.3nm,0.7s,baz=51,slow=9.1,SNR=16						
SONM				PcP	PcP	17 02 16.0	-1.0
	comp=Z,1.2nm,0.6s,baz=39,slow=3.1,SNR=4.5						
SONM				ScP	ScP	17 06 09.3	+0.8
	comp=Z,0.5nm,0.8s,baz=123,slow=5.3,SNR=3.5						
SONM				LR	LR	17 23 08.5	
	comp=Z,200nm,19.3s,baz=59,slow=38						
JOW	Kunigami	49.03	262	P	P	17 00 53.9	-0.7
	comp=Z,5.0nm,0.8s,baz=120,slow=9.9,SNR=4.8						
JOW	Kunigami	49.03	262	P	P	17 00 54.6	0.0
JOW				IAmb	IAmb	17 01 03.6	
	comp=Z,11nm,1.1s						
ZAK	Zakamensk	49.03	303	eP	P	17 00 53.6	-0.8
ZAK				pmax	pmax		
	comp=Z,13nm,1.2s						
GUMO	Guam	49.74	236	LR	LR	17 21 26.7	
	comp=Z,23nm,18.8s,baz=54,slow=35						
HHC	Hu-ho-hao-te	50.05	288	eP	P	17 01 03.6	+1.3
HHC				pmax	pmax		
	comp=Z,15nm,1.1s						
HHC				pmax	pmax		
	comp=Z,60nm,5.5s						

T25A Trinidad 50.47 77 pP 17 01 13.9 -1.8
SPA0 Spitsbergen Ar 50.47 357 eP P 17 01 04.5 -0.3
SPITS Spitsbergen Ar 50.47 357 P P 17 01 04.7 -0.2
comp=Z,14nm,0.6s,baz=57,slow=6.1,SNR=38
ANMO Albuquerque 50.64 81⇑eP P 17 01 06.0 -0.9
ANMO pmax pmax
comp=Z,9.0nm,3.4s
EYMN Ely 51.24 59 P P 17 01 10.8 -0.2
EYMN IAmb IAmb 17 01 12.5
comp=Z,12nm,0.9s
NJ2 Nanjing 51.29 275 eP P 17 01 11.8 +0.3
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
TIY Taiyuan 51.51 285 eP P 17 01 15.0 +1.7
TIY pmax pmax
comp=Z,35nm,1.0s
FRB Frobisher Bay 51.66 33 P P 17 01 13.6 -0.3
comp=Z,7.4nm,0.4s,baz=307,slow=9.4,SNR=11
SUMG Summit 52.62 15 i P P 17 01 21.6 +0.2
SUMG Summit 52.62 15 i P P 17 01 21.6 +0.2
WMOK Wichita Mounta 55.48 76 P P 17 01 43.7 +1.3
WMOK pmax pmax
comp=Z,5.0nm,0.9s
WMOK Wichita Mounta 55.48 76 P P 17 01 43.7 +1.3
WMOK IAmb IAmb 17 01 59.0
comp=Z,4.8nm,0.8s
ZALV Zalesovo Beam 55.77 315 P P 17 01 43.4 -0.7
comp=Z,0.6nm,0.3s,baz=50,slow=8.0,SNR=2.4
ZALV PcP PcP 17 02 42.3 -0.5
comp=Z,2.1nm,0.6s,baz=38,slow=3.6,SNR=6.3
XAN Xi'an 56.08 284 P P 17 01 46.8 +0.2
XAN pP pP 17 01 53.9 -3.0
XAN sP sP 17 01 58.5 -2.5
XAN pmax pmax
comp=Z,15nm,1.4s
XAN Xi'an 56.08 284 P P 17 01 47.0 +0.4
XAN Xi'an 56.08 284 P P 17 01 47.0 +0.4
TX32 Lajitas Array 56.18 84 P P 17 01 48.0 +0.5
TXAR Lajitas Array 56.18 84 P P 17 01 47.6 +0.1
comp=Z,0.9nm,0.8s,baz=300,slow=5.7,SNR=3.4
TXAR Lajitas Array 56.18 84 P P 17 01 47.5 +0.1
P40A Paris 56.28 67 P P 17 01 46.4 -1.5
DGZ Jazzator, Alta 57.43 310c iP P 17 01 56.3 +0.2
HAMF Hammerfest 57.50 353 eP P 17 01 56.6 +0.4
LZH Lanzhou 57.74 289 eP P 17 01 59.4 +0.9
LZH pP pP 17 02 07.5 -1.3
LZH sP pwP 17 02 14.1 -0.5
LZH pmax pmax
comp=Z,42nm,1.0s
LZH pmax pmax
comp=Z,64nm,4.3s
LZH LR LR
comp=Z,170nm,18.4s
LZH LR LR
comp=Z,240nm,19.0s
LZH LR LR
comp=Z,150nm,18.4s
GTA Gaotai 57.84 294 ⇑P P 17 01 58.6 -0.5
GTA pP pP 17 02 06.0 -3.4
GTA sP sP 17 02 09.5 -4.0
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA pmax pmax
comp=Z,100nm,6.8s
GTA LR LR
comp=Z,140nm,17.9s
GTA LR LR
comp=Z,160nm,18.7s
GTA LR LR
comp=Z,220nm,20.3s
SCHQ Schefferville 58.39 40 P P 17 02 01.6 -1.0
comp=Z,4.0nm,0.7s,baz=346,slow=8.3,SNR=2.5
SCHQ LR LR 17 29 46.9
comp=Z,186nm,18.3s,baz=292,slow=39
ARCES ARCESS Array B 58.43 352 P P 17 02 01.4 -1.3
comp=Z,8.9nm,0.8s,baz=23,slow=8.2,SNR=16
ARCES PcP PcP 17 02 53.1 +0.2
comp=Z,4.6nm,0.7s,baz=16,slow=6.3,SNR=6.3
ARCES ARCESS Array B 58.43 352 P P 17 02 01.1 -1.6
MIAR Mount Ida 58.75 73 P P 17 02 07.2 +1.8
MIAR pmax pmax
comp=Z,18nm,2.6s
TRO Tromso 58.83 354 eP P 17 02 05.5 +0.1
KTK1 Kautokeino 59.13 353 eP P 17 02 07.3 -0.3
LOF Lofoten 60.59 356 eP P 17 02 16.9 -0.7
N2IH Innhavet 60.65 355 eP P 17 02 17.9 -0.1
STEI Steigen 60.72 356 eP P 17 02 17.8 -0.6
N2NF Nordfold 60.89 356 eP P 17 02 19.6 0.0
N2TV T'rnvik 61.09 356 eP P 17 02 20.7 -0.2
N2RO R_st 61.26 357 eP P 17 02 22.0 -0.1
FAUS Fauske 61.27 356 eP P 17 02 21.7 -0.4
WMQ Urumqi 61.37 305 eP P 17 02 24.0 +0.7
WMQ pP pP 17 02 34.5 +0.6
WMQ pmax pmax
comp=Z,34nm,0.7s
WMQ pmax pmax
comp=Z,97nm,4.7s
WMQ LR LR
comp=Z,250nm,22.1s
WMQ LR LR
comp=Z,240nm,18.9s
WMQ LR LR
comp=Z,130nm,19.9s
NBB05 Inndyr 61.67 356 eP P 17 02 24.4 -0.4
NBB30 Finnes 61.74 356 eP P 17 02 25.2 -0.1
MK31 Makanchi Array 61.92 311c iP P 17 02 26.3 -0.6
MK31 Makanchi Array 61.92 311 P P 17 02 26.4 -0.6
MK31 IAmb IAmb 17 02 27.1
comp=Z,5.1nm,0.8s
MKAR Makanchi Array 61.92 311 P P 17 02 26.0 -0.9
comp=Z,5.3nm,0.4s,baz=48,slow=6.2,SNR=77
MKAR Makanchi Array 61.92 311 iP P 17 02 26.2 -0.7
MKAR pmax pmax
comp=Z,5.0nm,0.4s
MKAR Makanchi Array 61.92 311 P P 17 02 26.4 -0.6
MAKZ Makanchi 62.06 311 P P 17 02 27.5 -0.4
MAKZ pmax pmax
comp=Z,6.0nm,0.6s
MAKZ Makanchi 62.06 311 P P 17 02 27.5 -0.4
MAKZ IAmb IAmb 17 02 28.0
comp=Z,6.4nm,0.6s
NBB13 Alf Garage 62.11 356 eP P 17 02 27.4 -0.3
NBB40 Tonnes 62.23 356 eP P 17 02 28.4 -0.2
KONS Konsvik 62.24 356 eP P 17 02 28.5 -0.2
M55A Ridgway 62.31 58 P P 17 02 30.0 +0.4
M55A IAmb IAmb 17 02 49.0
comp=Z,8.6nm,0.7s
BORG Borgarnes 62.35 12 P P 17 02 29.5 +0.1
comp=Z,18nm,1.2s,baz=31,slow=9.9,SNR=1.9
STOK Stokkvaagen 62.41 356 eP P 17 02 30.2 +0.4
BRVK Borovoye 62.44 322c iP P 17 02 30.5 +0.3
BRVK pmax pmax
comp=Z,4.0nm,0.5s
BRVK Borovoye 62.44 322 P P 17 02 30.8 +0.5
BRVK IAmb IAmb 17 02 31.9
comp=Z,6.4nm,0.5s
MOR8 Moi Rana 62.51 356 eP P 17 02 29.1 -1.5
OUL Oulu 62.72 350 P P 17 02 31.5 -0.4
OUL pmax pmax
comp=Z,17nm,1.1s
PRGR Permogore 62.76 340 eP P 17 02 29.6 -2.6
PRGR e 17 03 06.5
PRGR pmax pmax
comp=Z,84nm,1.5s
GYA Guiyang 62.78 279 ⇓P P 17 02 33.2 +0.1
GYA pmax pmax
comp=Z,8.0nm,1.1s
D62A Allapoint, All 63.07 48 P P 17 02 34.2 -0.3
BINY Binghamton 63.23 55 P P 17 02 35.5 -0.2
baz=316,SNR=6.4
M57A Sunshine Farm, 63.26 57 P P 17 02 36.1 +0.2
M57A IAmb IAmb 17 02 37.7
comp=Z,16nm,1.2s
SSPA Standing Stone 63.37 58 P P 17 02 36.3 -0.3
SSPA IAmb IAmb 17 02 52.8
comp=Z,10nm,0.8s
ARU Arti 63.83 330 P P 17 02 39.3 -0.1
comp=Z,1.2nm,0.3s,baz=14,slow=6.7,SNR=11
ARU Arti 63.83 330c iP P 17 02 39.1 -0.3
ARU 17 03 14.8
ARU 17 04 58.9
ARU S S 17 11 13.2 +1.9
ARU SS SS 17 15 20.0 +1.1
ARU pmax pmax
comp=Z,7.0nm,0.7s
ARU MLR MLR
comp=Z,147nm,19.0s
E63A Oxbow 63.85 48 P P 17 02 39.1 -0.6
NSS Namsos 64.26 357 eP P 17 02 41.4 -0.6
KIRV Kirov 64.57 336⇓eP P 17 02 43.5 -0.7
KLMR Klimovskoe 64.72 342 eP P 17 02 42.0 -3.1
KLMR pmax pmax
comp=Z,8.0nm,1.6s
KLMR Klimovskoe 64.72 342 eP P 17 02 42.1 -3.1
KLMR AMP 17 02 49.1
comp=Z,8.0nm,1.6s
LMN Caledonia Moun 65.93 46 P P 17 02 53.0 -0.2
KMI Kunming 66.17 281 ⇑P P 17 02 56.5 +1.1
KMI pP pP 17 03 04.4 -1.4
KMI sP pwP 17 03 11.1 -0.5
KMI pmax pmax
comp=Z,10.0nm,0.8s
KMI pmax pmax
comp=Z,74nm,4.4s
FINES FINESS Array B 66.24 349 P P 17 02 53.8 -1.1
comp=Z,3.7nm,0.7s,baz=27,slow=8.8,SNR=11
FINES FINESS Array B 66.24 349 iP P 17 02 54.0 -0.9
FINES pmax pmax
comp=Z,4.0nm,0.7s
AKN Aaknes 66.73 359 eP P 17 02 58.6 +0.5
NB201 NORSAR Array S 67.76 357 P P 17 03 04.7 0.0
NB2 NORSAR Subarra 67.78 357 P P 17 03 04.6 -0.2
comp=Z,3.3nm,0.6s,baz=3.9,slow=6.2
NB2 NORSAR Subarra 67.78 357 P P 17 03 04.6 -0.2
baz=3.9,slow=6.2
NOA NORSAR Array B 67.78 357 P P 17 03 04.1 -0.6
comp=Z,5.4nm,0.7s,baz=4.2,slow=6.4,SNR=24
SUE Sulen 67.86 0 eP P 17 03 05.0 -0.2
TKM2 Tokmak 2 67.97 312 P P 17 03 07.5 +0.9
SNR=5.4
NC602 NORSAR Array S 68.07 357 eP P 17 03 06.3 -0.3
NORES NORESS Array B 68.07 357 P P 17 03 06.8 +0.2
AAL Aland 68.10 352 eP P 17 03 05.8 -1.0
SKAR Skarslia 68.21 358 eP P 17 03 08.0 +0.4
USP Ospenovka 68.21 313 P P 17 03 08.8 +1.0
SNR=10
KBK Karagaybulak 68.48 312 P P 17 03 10.6 +0.9
SNR=5.6
HFS Hagfors 68.58 355 P P 17 03 09.1 -0.6
comp=Z,9.8nm,0.5s,baz=28,slow=3.5,SNR=54
UPP Uppsala 68.61 353 eP P 17 03 09.9 0.0
AAK Ala-Archa 68.70 312 P P 17 03 12.0 +0.9
SNR=7.3
AAK Ala-Archa 68.70 312c iP P 17 03 11.9 +0.9
AAK pmax pmax
comp=Z,33nm,1.3s
AAK Ala-Archa 68.70 312 P P 17 03 11.4 +0.4
EKS2 Erkin-Say 69.02 313 P P 17 03 14.0 +1.0
SNR=16
VSU Vasula 69.06 348 eP P 17 03 12.6 -0.2
VSU Vasula 69.06 348c iP P 17 03 12.0 -0.7
VSU pmax pmax
comp=Z,56nm,1.2s
SIJI Sorong 69.08 240 P P 17 03 12.4 -1.1
comp=Z,14nm,0.8s,baz=37,slow=19,SNR=2.9
MTSE Matsula 69.17 350 eP P 17 03 13.1 -0.3
KONO Kongsberg 69.22 358⇑eP P 17 03 13.7 0.0
KONO pmax pmax
comp=Z,60nm,2.5s
KONO Kongsberg 69.22 358 eP P 17 03 14.2 +0.5
ABKAR Akbulak array 69.36 325 P P 17 03 15.0 +0.3
ABKAR Akbulak array 69.36 325 P P 17 03 15.2 +0.4
ABKAR IAmb IAmb 17 03 16.8
comp=Z,4.6nm,0.5s
AML Almayashu 69.47 312 P P 17 03 17.5 +1.4
SNR=8.4
KKAR Karatay Array 70.14 315 P P 17 03 19.9 +0.1
KKAR Karatay Array 70.14 315 P P 17 03 19.9 +0.1
KSH Kashi 70.43 309 P P 17 03 25.8 +4.1
KSH pmax pmax
comp=Z,20nm,0.6s
BELG Belogornoye 70.54 334 P P 17 03 22.0 +0.1
comp=Z,12nm,0.8s,baz=45,slow=2.9,SNR=7.5
BELG Belogornoye 70.54 334c iP P 17 03 22.5 +0.6
BELG pmax pmax
comp=Z,2.0nm,0.8s
OBN Obninsk 70.66 342 eP P 17 03 22.4 -0.2
OBN e 17 03 43.0
OBN pmax pmax
comp=Z,7.0nm,0.6s
IDID Didziasalis 72.12 347 eP P 17 03 31.0 -0.5
IIGN Ignalina 72.16 348 eP P 17 03 31.5 -0.2
PPT2 Papeete2 72.19 155 eLR LR 17 25 44.5
comp=Z,101nm,20.8s
PABE Paberze 72.29 349 eP P 17 03 32.3 -0.2
BTK Batken 72.44 313 IAmb IAmb 17 03 35.3
comp=Z,12nm,0.8s
CHTO Chiang Mai 73.20 279 P P 17 03 41.9 +3.4
CHTO Chiang Mai 73.20 279 P P 17 03 41.9 +3.4
comp=Z,2.2nm,2.5s
EKA Eskdalemuir Ar 73.38 5 P P 17 03 39.2 +0.3
comp=Z,5.8nm,0.8s,baz=357,slow=4.2,SNR=8.2
CMAR Chiang Mai Arr 73.47 279 P P 17 03 40.0 -0.1
comp=Z,1.3nm,0.4s,baz=30,slow=7.3,SNR=7.3
CMAR Chiang Mai Arr 73.47 279 P P 17 03 40.0 -0.1
CM02 Chiang Mai Arr 73.49 279 P P 17 03 56.4 +16
CM05 Chiang Mai Arr 73.51 279 P P 17 03 45.0 +4.7
comp=Z,2.6nm,1.1s
SUW Suwalki 73.85 349 eP P 17 03 41.1 -0.6
CHGR Chuyangaron 74.33 313 P P 17 03 45.0 +0.1
DZM Mont Dzumac 75.01 198 eLR LR 17 26 47.7
comp=Z,80nm,21.2s
AKASG Malin Array Be 76.21 345 P P 17 03 54.5 -0.9
comp=Z,2.3nm,0.3s,baz=18,slow=6.1,SNR=13
AKBB Malin Array Si 76.21 345c iP P 17 03 54.3 -1.1
AKBB pmax pmax
comp=Z,3.0nm,0.4s
AKBB Malin Array Si 76.21 345 P P 17 03 54.7 -0.7
AKBB IAmb IAmb 17 03 54.8
comp=Z,5.7nm,0.5s
NIL Nilore 76.40 307 P P 17 03 56.6 -0.2
NIL pmax pmax
comp=Z,24nm,0.8s
NIL Nilore 76.40 307 P P 17 03 56.6 -0.2
CLL Collm 77.42 355 iP P 17 04 01.9 -0.3
comp=Z,8.0nm,0.9s
CLL ePS PnS 17 14 42.0 +10
CLL eSS SS 17 19 14.0 +27
CLL e 17 21 33.0
CLL e 17 22 42.0
CLL Collm 77.42 355⇑iP P 17 04 01.9 -0.3
CLL pmax pmax
comp=Z,8.0nm,0.9s
TBI Tubuai 77.73 156 eLR LR 17 28 10.8
comp=Z,101nm,24.2s
BRG Berggiesshubel 77.80 354 eP P 17 04 04.6 +0.3
BRG Amp 17 04 05.7
comp=Z,5.8nm,0.7s
CHVC Chvalec 77.94 353 eP P 17 04 05.3 +0.2
DPC Dobruska-Polom 78.15 353 eP P 17 04 06.7 +0.3
DPC Dobruska-Polom 78.15 353 eP P 17 04 06.7 +0.3
MEM Membach 78.33 359 dP P 17 04 09.7 +2.4
BTNL Ternell 78.36 359 dP P 17 04 07.5 +0.1
KRLC Kraliky 78.39 352 eP P 17 04 07.3 -0.4
KRLC Kraliky 78.39 352 eP P 17 04 07.3 -0.4
NKC Novy Kostel 78.52 355 eP P 17 04 08.8 +0.4
NKC Novy Kostel 78.52 355 eP P 17 04 08.8 +0.4
BMRD Maredsous 78.64 0 dP P 17 04 08.2 -0.8
BAIF Baives 78.88 1 eP P 17 04 10.4 +0.1
BAIF pmax pmax
comp=Z,19nm,1.0s
GRF Grafenberg Arr 79.12 356 eP P 17 04 12.4 +0.7
comp=Z,18nm,1.2s,baz=3.0,slow=4.7
VRAC Vranov 79.17 352 ⇓P P 17 04 12.0 +0.1
VRAC Vranov 79.17 352 P P 17 04 11.7 -0.2
comp=Z,5.4nm,0.9s,baz=352,slow=5.4,SNR=5.5
VRAC Vranov 79.17 352 ⇓P P 17 04 12.0 +0.1
KHC Kasperske Hory 79.56 354 eP P 17 04 14.7 +0.6
KHC MLR MLR
comp=Z,100nm,23.0s
KHC Kasperske Hory 79.56 354 eP P 17 04 14.7 +0.6
KHC AMS AMS 17 44 30.0
comp=Z,100nm,23.0s
KIV Kislovodsk 79.59 333 eP P 17 04 14.1 -0.3
KIV e 17 04 21.6
KIV ePPP PPP 17 09 04.1
KIV pmax pmax
comp=Z,3.0nm,1.1s
GEYT Alibeck 79.69 320 P P 17 04 15.2 +0.2
comp=Z,148nm,1.1s,baz=344,slow=9.6,SNR=12
KBZ Khabaz 79.73 333 P P 17 04 13.9 -1.1
comp=Z,1.2nm,0.7s,baz=45,slow=5.1,SNR=2.6
KBZ Khabaz 79.73 333⇓eP P 17 04 15.7 +0.7
KBZ pmax pmax
comp=Z,3.0nm,0.9s
CKRC Cesky Krumlov 79.82 354 eP P 17 04 15.3 -0.2
GERES GERESS Array B 79.84 354 P P 17 04 14.8 -0.9
comp=Z,2.0nm,0.8s,baz=28,slow=6.0,SNR=16
GERES LR LR 17 45 13.3
comp=Z,27nm,18.2s,baz=9.0,slow=40
BURAR Bucovina Array 79.84 346 ⇓P P 17 04 15.6 -0.1
BURAR Bucovina Array 79.84 346 ⇓P P 17 04 15.6 -0.1
FLN La Foliniere 80.07 4 eP P 17 04 16.5 -0.3
FLN pmax pmax
comp=Z,15nm,1.1s
LDF La Druitiere 80.25 4 eP P 17 04 17.2 -0.6
LDF pmax pmax
comp=Z,15nm,0.8s
ROSF Rostrenen 80.35 6 eP P 17 04 18.1 -0.2
ROSF pmax pmax
comp=Z,21nm,1.1s
BIZ Bicaz 80.37 346 ⇓P P 17 04 19.3 +0.9
GRR Gorron 80.43 4 eP P 17 04 18.5 -0.2
GRR pmax pmax
comp=Z,11nm,0.8s
SGMF Saint Gilles 80.47 5 eP P 17 04 19.6 +0.6
SGMF pmax pmax
comp=Z,43nm,1.4s
CDF Champ du Feu 80.52 359 eP P 17 04 19.0 -0.3
CDF pmax pmax
comp=Z,9.0nm,1.0s
CONA Conrad Observa 80.60 353 eP P 17 04 20.3 +0.6
comp=Z,5.5nm,1.0s
HAU Haudompre 80.94 359 eP P 17 04 21.4 -0.1
HAU pmax pmax
comp=Z,8.0nm,0.8s
VLDR Vladesti 81.11 344 ⇓P P 17 04 23.0 +0.6
HINF Hinteralfeld 81.12 359 eP P 17 04 22.7 +0.2
HINF pmax pmax
comp=Z,2.0nm,0.5s
ARSA Arzberg 81.30 353 eP P 17 04 23.8 +0.3
comp=Z,4.5nm,1.1s
VRI Vrincioaia 81.31 345 ⇑P P 17 04 23.9 +0.4
VRI ⇓P P 17 04 24.1 +0.6
VRI Vrincioaia 81.31 345 ⇓P P 17 04 24.1 +0.6
PLOR Plostina 81.34 345 ⇑P P 17 04 25.3 +1.6
PLOR Plostina 81.34 345 ⇑P P 17 04 25.3 +1.6
COVR Voineasa-Covas 81.42 345 ⇓P P 17 04 25.0 +0.9
DOPR Dopca 81.43 346 ⇓P P 17 04 25.4 +1.3
WTTA Wattenberg 81.53 356 eP P 17 04 25.1 +0.2
comp=Z,6.0nm,1.0s
SQTA Sankt Quirin 81.59 356 eP P 17 04 25.5 +0.3
comp=Z,2.0nm,0.5s
TLCR 81.62 343 ⇓P P 17 04 26.0 +0.9
TLCR 81.62 343 ⇓P P 17 04 26.0 +0.9
KBA Koelnbreinsper 81.62 354 eP P 17 04 26.1 +0.8
comp=Z,7.1nm,0.7s
LOR Lormes 81.67 1 eP P 17 04 25.3 -0.1
LOR pmax pmax
comp=Z,13nm,1.0s
CFR Carcaliu 81.74 344 ⇓P P 17 04 25.9 +0.1
CFR Carcaliu 81.74 344 ⇓P P 17 04 25.9 +0.1
MLR Muntele Rosu 81.80 345 ⇑P P 17 04 28.0 +1.7
MLR Muntele Rosu 81.80 345 ⇑P P 17 04 28.0 +1.7
FETA Feichten 81.81 356 eP P 17 04 26.8 +0.4
comp=Z,7.3nm,1.1s
SSF Saint Saulge 81.88 1 eP P 17 04 26.4 -0.1
SSF pmax pmax
comp=Z,9.0nm,0.7s
SOKA Soboth 81.90 353 eP P 17 04 26.7 0.0
comp=Z,6.7nm,0.9s
TPGR Topolog 82.01 344 ⇓P P 17 04 27.8 +0.6
HARR Harsova 82.25 344 ⇓P P 17 04 29.3 +0.8
HARR Harsova 82.25 344 ⇓P P 17 04 29.3 +0.8
BZS Buzias 82.30 348 ⇑P P 17 04 26.8 -1.8
BZS Buzias 82.30 348 ⇑P P 17 04 26.8 -1.8
GZR Gura Zlata 82.36 348 ⇑P P 17 04 29.3 +0.2
GZR Gura Zlata 82.36 348 ⇑P P 17 04 29.3 +0.2
BGF Bois d'Agland 82.37 2 eP P 17 04 29.1 0.0
BGF pmax pmax
comp=Z,3.0nm,0.4s
TIRR Tirgusor 82.39 343 ⇑P P 17 04 29.5 +0.3
TIRR Tirgusor 82.39 343 ⇑P P 17 04 29.5 +0.3
SGRR Singureni 83.04 345 ⇓P P 17 04 37.7 +5.2
MDVR Moldovita 83.10 348 ⇑P P 17 04 33.3 +0.4
RJF Les Rejaudoux 83.59 3 eP P 17 04 36.0 +0.6
RJF pmax pmax
comp=Z,5.0nm,0.8s
WRA Warramunga Arr 83.82 227 P P 17 04 35.1 -1.7
comp=Z,0.6nm,0.6s,baz=36,slow=5.2,SNR=6.6
WRA Warramunga Ar 83.82 227 iP P 17 04 36.7 -0.1
WRA pmax pmax
comp=Z,1.0nm,0.6s
CAF Calviac 83.99 2 eP P 17 04 37.9 +0.4
CAF pmax pmax
comp=Z,14nm,1.2s
ORIF Oris-en-Rattie 84.03 359 eP P 17 04 39.0 +1.2
ORIF pmax pmax
comp=Z,11nm,1.3s
BOVS Bovan 84.23 348 ⇑P P 17 04 38.2 -0.4
VTS Vitosha 85.02 347 ⇓P P 17 04 42.8 -0.1
VTS Vitosha 85.02 347 ⇓P P 17 04 42.8 -0.1
FRF La Foret Royal 85.38 359 eP P 17 04 45.3 +0.8
FRF pmax pmax
comp=Z,38nm,1.9s
SJPF Ste Jean 85.67 5 eP P 17 04 46.9 +0.9
SJPF pmax pmax
comp=Z,38nm,1.8s
BRTR Keskin Array B 85.87 338 P P 17 04 47.1 0.0
comp=Z,2.0nm,0.9s,baz=48,slow=1.8,SNR=12
BRTR Keskin Array B 85.87 338 iP P 17 04 47.5 +0.3
BRTR pmax pmax
comp=Z,2.0nm,0.9s
ETSF Etsaut 85.92 4 eP P 17 04 47.9 +0.6
ETSF pmax pmax
comp=Z,20nm,1.5s
FITZ Fitzroy Crossi 86.49 235 P P 17 04 49.8 -0.4
FITZ IAmb IAmb 17 04 51.1
comp=Z,8.0nm,1.1s
ASAR Alice Springs 87.25 226 P P 17 04 52.0 -1.8
comp=Z,1.7nm,0.9s,baz=34,slow=3.7,SNR=9.8
ESDC Sonseca Array 88.92 7 P P 17 05 01.1 -0.7
comp=Z,2.6nm,1.1s,baz=346,slow=4.2,SNR=6.6
TORD Torodi Ar. Bea 115.62 4 PKP PKiKP 17 10 48.5 -1.1
comp=Z,0.7nm,0.7s,baz=319,slow=2.3,SNR=3.5
H03N2 Juan Fernandez 118.78 108 T T 19 21 06.6
baz=317,slow=78
H03N1 Juan Fernandez 118.80 108 T T 19 21 06.3
baz=317,slow=78
H03N3 Juan Fernandez 118.80 108 T T 19 21 13.3
baz=317,slow=78
MAW Mawson 148.04 218 PKPbc PKPbc 17 11 51.1 -0.2
comp=Z,3.9nm,0.7s,baz=111,slow=6.8,SNR=11
MAW Mawson 148.04 218 PKPbc 17 11 51.2 -0.1
LBTB Lobatse 149.34 322 PKP2 PKiKP 17 11 56.9 -0.3
LBTB Lobatse 149.34 322 PKPbc PKiKP 17 11 56.9 -0.3
BOSA Boshof 152.68 319 PKPbc PKPbc 17 12 03.8 -0.1
comp=Z,3.7nm,0.5s,baz=28,slow=2.6,SNR=14
BOSA PKPab PKPab 17 12 14.5 -0.1
comp=Z,11nm,0.9s,baz=37,slow=3.9,SNR=11
BOSA Boshof 152.68 319 PKiKP 17 12 06.2 +2.2

*IDC **04** 16:52:56.7±1.1,27.00N×143.65E,h0km,mb3.8/7, mb1 3.9/11,mb1mx3.6/63,mbtmp3.8/11,ML3.3/4,Error ellipse: s-maj=24.3km s-min=16.1km az=62.0*

ISC 04 16:53:01.5±0.9,27.07N±0.08×143.70E±0.10,h35km,n13, σ1.925/16,mb4.1/7,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	Chichijima	1.35	272	LR	LR	16 53 22.1	
	comp=Z,28nm,18.7s,baz=85,slow=19						
JCJ				Pn	Pn	16 53 23.3	-0.6
	17nm,0.3s,baz=90,slow=20,SNR=32						
JCJ				Sn	Sn	16 53 40.9	+0.3
	128nm,0.3s,baz=342,slow=20,SNR=11						
JHJ	Hachijo jima 2	6.92	332	Pn	Pn	16 54 38.5	-1.9
	3.9nm,0.3s,baz=73,slow=19,SNR=1.3						
JHJ				Sn	Sn	16 55 57.0	-0.8
	1.2nm,0.3s,baz=120,slow=20,SNR=1.9						
MJAR	Matsushiro Arr	10.53	335	Pn	Pn	16 55 28.3	-1.7
	0.1nm,0.3s,baz=136,slow=12,SNR=6.4						
MAT	Matsushiro	10.54	335	P	Pn	16 55 29.9	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**12.63**	**302**	Pn	**Pn**	**16 55 57.9**	**-0.8**
	0.1nm,0.3s,baz=138,slow=14,SNR=1.3						
JNU				Sn	**Sn**	**16 58 19.6**	**+1.5**
	0.7nm,0.3s,baz=176,slow=1.3,SNR=4.8						
KSRS	**Korea Array**	**16.87**	**312**	Pn	**Pn**	**16 56 55.6**	**+0.7**
	0.1nm,0.3s,baz=121,slow=12,SNR=8.3						
CTA	**Charters Tower**	**46.94**	**177**	P	**P**	**17 01 28.5**	**-0.5**
	4.3nm,1.1s,baz=0.0,slow=10,SNR=2.5						
WRA	**Warramunga Arr**	**47.60**	**192**	P	**P**	**17 01 33.5**	**-0.6**
	1.5nm,0.6s,baz=10,slow=8.2,SNR=22						
FITZ	**Fitzroy Crossi**	**48.19**	**203**	P	**P**	**17 01 38.7**	**0.0**
	1.8nm,0.9s,baz=20,slow=12,SNR=2.0						
ZALV	**Zalesovo Beam**	**50.39**	**319**	P	**P**	**17 01 53.7**	**-1.5**
	1.6nm,0.6s,baz=92,slow=8.9,SNR=5.9						
ASAR	**Alice Springs**	**51.32**	**192**	P	**P**	**17 02 01.9**	**-0.6**
	0.3nm,0.6s,baz=8.9,slow=6.3,SNR=7.1						
MKAR	**Makanchi Array**	**51.53**	**310**	P	**P**	**17 02 05.0**	**+1.1**
	0.4nm,0.6s,baz=87,slow=8.5,SNR=2.6						
ILAR	**Eielson Array**	**57.09**	**29**	P	**P**	**17 02 46.3**	**+2.2**
	0.3nm,0.8s,baz=245,slow=5.8,SNR=2.1						

*TUL **04** 17:09:33.4±1.7, 36°.03N±0°.01×97°.13W±0°.02, h5km±6km, ML2.5, mb_Lg2.2/12(NEIC), Error ellipse: s-maj=2.4km s-min=1.7km az=91.0*

NEIC 04 17:09:33.5±1.4**, 36°.05N**±0°.01×**97°.13W**±0°.02**, h6**km±6km**, Error ellipse: s-maj=2.7km s-min=1.8km az=84.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.25**	**113**		Pg	17 09 38.4	-0.1
OK031				Sg	Sg	17 09 42.2	+0.4
QUOK	**Quay**	**0.36**	**71**		Pg	17 09 40.8	+0.3
QUOK				Sg	Sg	17 09 46.0	+0.7
OK029	**Liberty Lake**	**0.37**	**226**		Pg	17 09 40.6	-0.1
OK029				Sg	Sg	17 09 45.6	+0.1
OK025	**Westminster Rd**	**0.50**	**200**		Pg	17 09 43.0	-0.1
OKCFA	**Oklahoma City**	**0.69**	**203**	Pg	Pg	17 09 46.3	-0.4
OKCFA				Sg	Sg	17 09 55.9	+0.3
OKCSW	**OKLAHOMA CITY**	**0.69**	**201**	Pg	Pg	17 09 46.4	-0.4
BLOK	**Blackwell**	**0.71**	**354**		Pg	17 09 47.5	+0.3
BLOK				Sg	Sb	17 09 57.5	-0.9
FNO	**Franklin**	**0.82**	**196**		Pg	17 09 48.8	-0.5
FNO				Sg	Sb	17 10 02.6	+1.0
CROK	**Carrier**	**0.83**	**303**	Pg	Pg	17 09 49.3	0.0
CROK				Sg	Sb	17 10 01.0	-0.6
GC02	**Grant County #**	**0.99**	**324**	Pg	Pg	17 09 51.9	-0.7
GC02				Sg	Sb	17 10 06.2	-0.3
T35A	**Sooner Cattle**	**0.99**	**30**		Pg	17 09 52.2	-0.4
T35A				Sg	Sb	17 10 06.7	+0.1
KAN13	**South Haven SW**	**1.00**	**344**	Pg	Pg	17 09 52.4	-0.3
KAN13				Sg	Sb	17 10 06.2	-0.5
KAN17	**Caldwell West**	**1.11**	**333**	Pg	Pg	17 09 54.5	-0.4
KAN17				Sg	Sb	17 10 10.0	0.0
KAN14	**Manchester OK**	**1.13**	**324**	Pg	Pg	17 09 55.0	-0.1
KAN14				Sg	Sb	17 10 10.2	-0.1
OK032	**Salt Plains WL**	**1.15**	**311**	Pg	Pg	17 09 54.9	-0.7
OK032				Sg	Sg	17 10 10.6	+0.1
KAN05	**Bluff City Nor**	**1.21**	**331**	Pn	Pg	17 09 54.0	-2.8
KAN05				Sn	Sb	17 10 12.9	+0.1
KS20	**Mayfield South**	**1.23**	**344**	Pn	Pb	17 09 57.0	0.0
KAN10	**Anthony SW Sta**	**1.32**	**324**	Pn	Pn	17 09 58.5	-0.1
KAN10				IAmb_Lg		17 10 15.8	
	comp=Z,11nm,0.7s						
KAN08	**Anthony NE Sta**	**1.35**	**330**	Pn	Pn	17 09 59.1	+0.1
KAN12	**Harper NE Stat**	**1.43**	**331**	Pn	Pb	17 10 00.4	-0.1
U32A	**Winter Ranch,**	**1.55**	**283**	Pn	Pn	17 10 01.8	+0.2
X34A	**Smith Ranch, M**	**1.56**	**202**		Pn	17 10 02.0	+0.3
WMOK	**Wichita Mounta**	**1.88**	**226**		Pn	17 10 06.8	+0.5
X37A	**Clayton**	**2.05**	**135**	Pn	Pn	17 10 07.7	-0.8
X37A				IAmb_Lg		17 10 41.6	
	comp=Z,14nm,0.9s						
LOOK	**Love County**	**2.06**	**181**	Pn	Pn	17 10 09.5	+0.9
U38A	**Gravette**	**2.25**	**79**		Pb	17 10 13.0	-1.5
HHAR	**Hobbs**	**2.59**	**84**	Pn	Pn	17 10 15.4	-0.5
R32A	**Long Quarter,**	**2.68**	**332**	Pn	Pn	17 10 17.1	-0.2
W39A	**Magazine**	**2.85**	**106**	Pn	Pn	17 10 20.4	+0.8
MIAR	**Mount Ida**	**3.27**	**116**	Pn	Pn	17 10 24.1	-1.2
S39A	**Bolivar**	**3.46**	**61**	Pn	Pn	17 10 28.8	+0.8
U40A	**Yellville**	**3.47**	**84**	Pn	Pn	17 10 28.2	+0.1
X40A	**Basin Creek Fa**	**3.84**	**113**	Pn	Pn	17 10 31.5	-1.7
AMTX	**Amarillo**	**3.89**	**254**	Pn	Pn	17 10 31.5	-2.5
AMTX				IAmb_Lg		17 11 36.3	
	comp=Z,5.5nm,0.9s						
WHAR	**Wooly Hollow**	**4.01**	**100**	Pn	Pn	17 10 33.2	-2.3
FCAR	**Ozark Folk Cen**	**4.06**	**91**	Pn	Pn	17 10 34.5	-1.7
FCAR				IAmb_Lg		17 11 41.7	
	comp=Z,4.9nm,0.9s						
MGMO	**Mountain Grove**	**4.06**	**73**	Pn	Pn	17 10 36.1	-0.1
R40A	**Maddies Statio**	**4.48**	**59**	Pn	Pn	17 10 40.4	-1.5
P38A	**Dawn**	**4.56**	**38**	IAmb_Lg		17 12 10.7	
	comp=Z,3.5nm,0.8s						
CCM	**Cathedral Cave**	**5.11**	**65**	Pn	Pn	17 10 49.7	-0.9
P40A	**Paris**	**5.31**	**48**	Pn	Pn	17 10 52.2	-1.2
SWET	**Sewanee**	**9.15**	**92**	IAmb_Lg		17 14 47.7	
	comp=Z,2.3nm,1.2s						

IDC 04 17:13:12.5±3.9**, 3°.25S**×**152°.94E, h0**km**, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.4**/27**, mbtmp3.6**/3**, Error ellipse: s-maj=134.1km s-min=54.8km az=118.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**9.28**	**132**	Pn	Pn	17 15 16.7	-11
	4.7nm,0.3s,baz=302,slow=19,SNR=1.6						
WRA	**Warramunga Arr**	**24.59**	**226**	P	P	17 18 33.7	-0.9
	0.9nm,0.7s,baz=52,slow=9.9,SNR=12						
ASAR	**Alice Springs**	**27.40**	**221**	P	P	17 19 01.2	+1.2
	0.3nm,0.5s,baz=56,slow=9.0,SNR=7.4						
FITZ	**Fitzroy Crossi**	**30.55**	**239**	P	P	17 19 28.2	+0.2
	0.8nm,0.5s,baz=67,slow=8.3,SNR=7.0						
TORD	**Torodi Ar. Bea**	**149.93**	**291**	PKPbc	PKPbc	17 33 05.1	-0.9
	0.5nm,0.8s,baz=48,slow=2.1,SNR=2.5						

MEX 04 17:17:18.7±0.3**, 18°.04N**×**100°.13W, h59**km±4km**, MD3.5, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.32**	**320**	*i* P	Pn	17 17 27.5	-1.4
ARIG				*i* S	Sn	17 17 34.4	-1.8
MEIG	**Mezcala**	**0.50**	**103**	*i* P	Pn	17 17 29.2	-1.4
MEIG				*i* S	Sn	17 17 37.5	-1.8
PLIG	**Platanillo**	**0.69**	**59**	*i* P	Pn	17 17 31.6	-1.4
PLIG				*i* S	Sn	17 17 41.4	-1.9

*TUL **04** 17:30:18.5±1.3, 36°.28N±0°.01×97°.27W±0°.02, h5km±2km, ML2.8, mb_Lg2.7/47(NEIC), Error ellipse: s-maj=3.1km s-min=3.0km az=77.0*

NEIC 04 17:30:18.7±0.9**, 36°.28N**±0°.01×**97°.28W**±0°.02**, h3**km±7km**, Error ellipse: s-maj=2.6km s-min=1.7km az=73.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.47**	**103**	Pg	Pg	17 30 27.7	-0.1
QUOK				Sg	Sg	17 30 34.2	+0.3
BLOK	**Blackwell**	**0.48**	**6**	Pg	Pg	17 30 28.0	+0.1
BLOK				Sg	Sg	17 30 34.8	+0.7
OK031	**S. Brethren Rd**	**0.48**	**133**	Pg	Pg	17 30 27.9	-0.1
OK031				Sg	Sg	17 30 34.6	+0.3
OK029	**Liberty Lake**	**0.51**	**196**	Pg	Pg	17 30 28.3	0.0
OK029				Sg	Sg	17 30 35.5	+0.5
CROK	**Carrier**	**0.61**	**291**	Pg	Pg	17 30 30.5	+0.2
CROK				Sg	Sg	17 30 39.0	+0.8
OK005	**Luther M Schoo**	**0.63**	**173**	Pg	Pg	17 30 30.8	0.0
OK025	**Westminster Rd**	**0.70**	**184**	Pg	Pg	17 30 32.0	-0.1
OK025				Sg	Sg	17 30 41.8	+0.6
OK009	**Oakdale Elemen**	**0.71**	**190**	Pg	Pg	17 30 32.5	+0.2
OK001	**Jones High Sch**	**0.72**	**181**	Pg	Pg	17 30 32.6	+0.1
GC02	**Grant County #**	**0.73**	**321**	Pg	Pg	17 30 32.6	-0.2
KAN13	**South Haven SW**	**0.75**	**348**	Pg	Pg	17 30 33.0	0.0
KAN17	**Caldwell West**	**0.85**	**333**	Pg	Pg	17 30 34.9	-0.2
KAN17				Sg	Sg	17 30 46.6	+0.5
KAN14	**Manchester OK**	**0.87**	**321**	Pg	Pg	17 30 35.2	-0.2
KAN14				Sg	Sg	17 30 46.9	+0.3
OKCFA	**Oklahoma City**	**0.88**	**189**	Pg	Pg	17 30 35.1	-0.4
OKCFA				Sg	Sg	17 30 46.9	+0.1
T35A	**Sooner Cattle**	**0.88**	**44**		Pg	17 30 35.2	-0.4
T35A				Sg	Sg	17 30 46.7	-0.4
OKCSW	**OKLAHOMA CITY**	**0.89**	**188**	Pg	Pg	17 30 35.3	-0.4
OK032	**Salt Plains WL**	**0.91**	**305**	Pg	Pg	17 30 35.8	-0.4
KAN05	**Bluff City Nor**	**0.95**	**330**		Pg	17 30 36.5	-0.4
KS20	**Mayfield South**	**0.97**	**347**	Pg	Pg	17 30 37.0	-0.3
FNO	**Franklin**	**1.03**	**186**		Pg	17 30 37.6	-0.7
KAN10	**Anthony SW Sta**	**1.06**	**322**		Pg	17 30 38.8	-0.3
KAN08	**Anthony NE Sta**	**1.09**	**330**	Pg	Pg	17 30 39.3	-0.3
KAN12	**Harper NE Stat**	**1.17**	**331**	Pg	Pg	17 30 40.6	-0.5
U32A	**Winter Ranch,**	**1.39**	**274**		Pn	17 30 44.4	-0.6
X34A	**Smith Ranch, M**	**1.74**	**195**	Pn	Pn	17 30 49.9	+0.2
X34A				IAmb_Lg		17 31 15.2	
	comp=Z,35nm,0.7s						
WMOK	**Wichita Mounta**	**1.97**	**219**	Pn	Pn	17 30 53.0	0.0
LOOK	**Love County**	**2.29**	**178**	Pn	Pn	17 30 57.1	-0.1
X37A	**Clayton**	**2.30**	**137**	Pn	Pn	17 30 57.4	-0.1
X37A				IAmb_Lg		17 31 32.8	
	comp=Z,26nm,0.8s						
U38A	**Gravette**	**2.34**	**85**	Pn	Pn	17 30 59.1	+1.0
R32A	**Long Quarter,**	**2.42**	**332**	Pn	Pn	17 31 00.4	+1.2
HHAR	**Hobbs**	**2.70**	**89**	Pn	Pn	17 31 03.5	+0.5
KSU1	**Kansas State U**	**2.86**	**10**	Pn	Pn	17 31 05.2	-0.1
KSU1				IAmb_Lg		17 31 56.0	
	comp=Z,25nm,0.8s						
W39A	**Magazine**	**3.04**	**110**	IAmb_Lg		17 31 58.8	
	comp=Z,25nm,0.8s						
CBKS	**Cedar Bluff**	**3.19**	**323**	Pn	Pn	17 31 09.7	-0.1
S39A	**Bolivar**	**3.46**	**65**	Pn	Pn	17 31 13.3	-0.2
MIAR	**Mount Ida**	**3.49**	**119**	Pn	Pn	17 31 14.4	+0.6
Z38A	**Mt. Pleasant**	**3.56**	**147**	Pn	Pn	17 31 14.7	-0.1
Z38A				IAmb_Lg		17 32 18.8	
	comp=Z,27nm,0.8s						
U40A	**Yellville**	**3.58**	**88**	IAmb_Lg		17 32 13.5	
	comp=Z,24nm,0.8s						
AMTX	**Amarillo**	**3.85**	**250**	Pn	Pn	17 31 18.4	-0.5
AMTX				IAmb_Lg		17 32 27.4	
	comp=Z,21nm,0.9s						
X40A	**Basin Creek Fa**	**4.05**	**115**	Pn	Pn	17 31 22.5	+1.0
X40A				IAmb_Lg		17 32 28.2	
	comp=Z,18nm,1.1s						
MGMO	**Mountain Grove**	**4.12**	**76**	Pn	Pn	17 31 22.3	-0.2
MGMO				IAmb_Lg		17 32 33.4	
	comp=Z,14nm,0.8s						
ABTX	**Abilene, Hawle**	**4.14**	**209**	Pn	Pn	17 31 22.2	-0.6
WHAR	**Wooly Hollow**	**4.18**	**102**	Pn	Pn	17 31 24.1	+0.9
FCAR	**Ozark Folk Cen**	**4.19**	**94**	Pn	Pn	17 31 23.7	+0.2
FCAR				IAmb_Lg		17 32 32.7	
	comp=Z,17nm,0.8s						
WHTX	**Lake Whitney,**	**4.28**	**182**	Pn	Pn	17 31 25.5	+0.7
WLAR	**White Oak Lake**	**4.29**	**126**	Pn	Pn	17 31 25.0	+0.2
WLAR				IAmb_Lg		17 32 45.5	
	comp=Z,19nm,0.8s						
237A	**Washetta, Mont**	**4.44**	**164**	Pn	Pn	17 31 26.5	-0.5
P38A	**Dawn**	**4.46**	**40**	Pn	Pn	17 31 25.0	-2.2
R40A	**Maddies Statio**	**4.47**	**62**	Pn	Pn	17 31 27.4	+0.1
R40A				IAmb_Lg		17 32 39.8	
	comp=Z,13nm,0.8s						
LCAR	**Lake Charles**	**4.96**	**91**	IAmb_Lg		17 32 55.3	
	comp=Z,12nm,0.9s						
KSCO	**Kaye Shedlock'**	**5.04**	**304**	Pn	Pn	17 31 37.0	+1.7
KSCO				IAmb_Lg		17 33 05.4	
	comp=Z,13nm,0.9s						
CCM	**Cathedral Cave**	**5.13**	**68**	Pn	Pn	17 31 37.4	+0.9
P40A	**Paris**	**5.25**	**50**	IAmb_Lg		17 33 12.9	
	comp=Z,17nm,0.9s						
T25A	**Trinidad**	**5.79**	**281**	IAmb_Lg		17 33 28.1	
	comp=Z,13nm,0.8s						
S44A	**Carbondale**	**6.58**	**75**	IAmb_Lg		17 33 44.9	
	comp=Z,13nm,1.0s						
SIUC	**Southern Illin**	**6.61**	**75**	IAmb_Lg		17 33 48.2	
	comp=Z,12nm,0.7s						
SDCO	**Great Sand Dun**	**6.74**	**285**	IAmb_Lg		17 33 53.7	
	comp=Z,9.2nm,1.1s						
PLAL	**Pickwick Lake**	**7.61**	**97**	IAmb_Lg		17 34 24.0	
	comp=Z,7.5nm,1.0s						
PHWY	**Pilot Hill**	**8.12**	**311**	IAmb_Lg		17 34 45.6	
	comp=Z,6.3nm,0.9s						
JFWS	**Jewell Farm**	**8.56**	**37**	IAmb_Lg		17 35 09.6	
	comp=Z,7.0nm,0.7s						
SFIN	**Lafayette**	**8.98**	**60**	IAmb_Lg		17 35 01.5	
	comp=Z,7.6nm,0.8s						
I40A	**Norwalk**	**9.15**	**32**	IAmb_Lg		17 35 13.0	
	comp=Z,5.2nm,0.8s						
K22A	**Casper**	**9.56**	**314**	IAmb_Lg		17 35 40.1	
	comp=Z,4.8nm,0.8s						

MEX 04 17:34:54.6±0.3**, 15°.22N**×**92°.81W, h105**km±4km**, MD4.1, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.62**	**121**	*i* P	Pn	17 35 10.3	-1.4
THIG				*i* S	Sn	17 35 23.1	-1.6
PCIG		**0.62**	**321**	*i* P	Pn	17 35 10.4	-1.4
PCIG				*i* S	Sn	17 35 23.0	-1.7
CCIG	**Comitan**	**1.24**	**32**	*i* P	Pn	17 35 17.1	-1.2
CCIG				*i* S	Sn	17 35 34.3	-1.8
TGIG		**1.57**	**349**	*i* P	Pn	17 35 19.8	-2.3
TGIG				*i* S	Sn	17 35 39.1	-3.9
CMIG	**Matias Romero**	**2.72**	**313**	*e*P	Pn	17 35 35.8	-1.1
CMIG				*i* S	Sn	17 36 07.8	-1.5

*IDC **04** 17:48:42.2±1.5, 17°.87S×178°.59W, h600km±15km, mb3.2/13, mb1 3.4/15, mb1mx3.2/35, mbtmp4.1/15, Error ellipse: s-maj=33.6km s-min=12.2km az=150.0*

*NEIC **04** 17:48:42.1±2.4, 18°.0S±0°.1×178°.5W±0°.1, h597km±7km, mb4.4/32, Error ellipse: s-maj=19.7km s-min=14.8km az=160.0*

ISC 04 17:48:40.4±0.5**, 17°.9S**±0°.1×**178°.47W**±0°.08**, h579**km**, n81, σ1s.63**/82**, mb4.1**/29**, 1C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.32**	**272**	P	**P**	**17 50 03.3**	**+3.5**
	2.8nm,0.3s,baz=130,slow=9.6,SNR=22						
MSVF				S	**S**	**17 51 12.5**	**+8.0**
	baz=26,slow=17,SNR=1.0						
MSVF	**Nonsavu**	**3.32**	**272**	P	**P**	**17 50 03.9**	**+4.0**
MSVF				S	**S**	**17 51 08.3**	**+3.8**
AFI	**Afiamalu**	**7.55**	**59**	P	**P**	**17 50 35.2**	**+0.4**
NIUE	**Niue**	**8.19**	**100**	P	**P**	**17 50 45.4**	**+4.6**
DVP	**Devils Point**	**12.71**	**269**	P	**P**	**17 51 30.3**	**+4.0**
MARNC	**Mare, Loyalty**	**13.21**	**252**	P	**P**	**17 51 30.7**	**-0.7**
LIFNC	**LIFOU**	**13.79**	**256**	P	**P**	**17 51 36.5**	**-0.9**
LIFNC	**LIFOU**	**13.79**	**256**	P	**P**	**17 51 36.4**	**-1.0**
SANVU	**Saraoutou**	**13.94**	**278**	P	**P**	**17 51 40.1**	**+1.1**
SANVU	**Saraoutou**	**13.94**	**278**	P	**P**	**17 51 40.9**	**+1.9**
PINNC	**Pines Island,**	**14.03**	**248**	P	**P**	**17 51 40.1**	**+0.4**
PINNC	**Pines Island,**	**14.03**	**248**	P	P	17 51 48.6	+8.8
YATNC	**Mamie plateau,**	**14.38**	**251**	P	**P**	**17 51 43.7**	**+0.5**
DZM	**Mont Dzumac**	**14.78**	**251**	P	**P**	**17 51 47.2**	**0.0**
	0.5nm,0.3s,baz=67,slow=13,SNR=6.4						
DZM	**Mont Dzumac**	**14.78**	**251**	P	**P**	**17 51 47.7**	**+0.5**
EIDS	**Eidsvold**	**29.22**	**250**	P	**P**	**17 53 56.4**	**-0.3**
EIDS				IAmb	IAmb	17 53 57.0	
	comp=Z,16nm,1.4s						
ARMA	**Armidale**	**29.90**	**240**	P	**P**	**17 54 02.8**	**+0.3**
CTAO	**Charters Tower**	**33.40**	**260**	P	**P**	**17 54 32.1**	**-0.1**
CTAO				IAmb	IAmb	17 55 04.7	
	comp=Z,16nm,1.5s						
PATS	**Pohnpei**	**33.60**	**315**	P	**P**	**17 54 34.0**	**+0.1**
CAN	**Canberra**	**33.67**	**232**	P	**P**	**17 54 34.1**	**-0.3**
COEN	**Coen**	**37.05**	**270**	P	**P**	**17 55 03.3**	**+0.7**
COEN				IAmb	IAmb	17 55 03.7	
	comp=Z,6.9nm,0.8s						
TOO	**Toolangi**	**37.14**	**231**	P	**P**	**17 55 03.1**	**+0.1**
TOO				IAmb	IAmb	17 55 16.2	
	comp=Z,26nm,1.6s						
STKA	**Stephens Creek**	**38.59**	**241**	P	**P**	**17 55 14.9**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=66,slow=8.2,SNR=6.4						
STKA	**Stephens Creek**	**38.59**	**241**	IAmb	IAmb	17 55 21.2	
	comp=Z,1.6nm,1.3s						
JAY	**Jayapura**	**42.84**	**286**	P	**P**	**17 55 49.0**	**+0.1**
	comp=Z,3.4nm,0.7s,baz=24,slow=10.0,SNR=0.8						
BBOO	**Buckleboo**	**43.37**	**241**	P	**P**	**17 55 51.3**	**-1.4**
BBOO				IAmb	IAmb	17 55 58.3	
	comp=Z,10nm,1.3s						
WR0	**Warramunga Arr**	**44.39**	**260**	P	**P**	**17 56 00.3**	**-0.4**
WR0				IAmb	IAmb	17 56 37.9	
	comp=Z,9.9nm,1.6s						
WB2	**Warramunga Arr**	**44.57**	**260**	P	**P**	**17 55 59.8**	**-2.3**
WB2				IAmb	IAmb	17 56 02.1	
	comp=Z,14nm,1.3s						
WRA	**Warramunga Arr**	**44.58**	**260**	P	**P**	**17 56 01.2**	**-1.0**
	comp=Z,1.2nm,0.3s,baz=92,slow=7.7,SNR=25						
WRA				PcP	**PcP**	**17 57 31.8**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=95,slow=3.8,SNR=2.4						
WRA	**Warramunga Arr**	**44.58**	**260**	P	**P**	**17 55 59.8**	**-2.4**
AS31	**Alice Springs**	**44.74**	**254**	P	**P**	**17 56 03.0**	**-0.4**
ASAR	**Alice Springs**	**44.74**	**254**	P	**P**	**17 56 02.9**	**-0.5**
	comp=Z,6.1nm,0.5s,baz=86,slow=9.0,SNR=55						
ASAR				PcP	**PcP**	**17 57 31.9**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=106,slow=4.1,SNR=7.0						
ASAR				ScP	**ScP**	**18 00 30.4**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=89,slow=5.9,SNR=1.3						
ASAR				S	**S**	**18 01 56.9**	**-2.2**
	comp=Z,0.5nm,0.9s,baz=88,slow=15,SNR=3.7						
ASAR	**Alice Springs**	**44.74**	**254**	P	**P**	**17 56 02.5**	**-1.0**
MTN	**Manton Dam**	**48.74**	**268**	P	**P**	**17 56 32.8**	**-0.8**
MTN				IAmb	IAmb	17 56 58.5	
	comp=Z,9.4nm,1.2s						
FORT	**Forrest**	**49.97**	**245**	P	**P**	**17 56 41.0**	**-1.3**
FORT				IAmb	IAmb	17 57 17.6	
	comp=Z,24nm,1.1s						
KNRA	**Kununurra**	**50.44**	**264**	P	**P**	**17 56 46.0**	**+0.1**
KNRA				IAmb	IAmb	17 57 14.0	
	comp=Z,21nm,1.6s						
FITZ	**Fitzroy Crossi**	**52.98**	**261**	P	**P**	**17 57 03.7**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=73,slow=11,SNR=0.8						
MJAR	**Matsushiro Arr**	**67.85**	**323**	P	**P**	**17 58 42.1**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=128,slow=7.4,SNR=3.0						
KIWB	**Kanaga Island**	**69.45**	**1**	P	**P**	**17 58 51.0**	**0.0**
ADK	**Adak**	**69.48**	**1**	P	**P**	**17 58 51.0**	**-0.2**
UGM	**Wanagama**	**69.59**	**268**	P	**P**	**17 58 52.3**	**-0.5**
GSTR	**Great Sitkin T**	**69.71**	**2**	P	**P**	**17 58 50.9**	**-1.7**
ATKA	**Atka Island**	**69.89**	**3**	P	**P**	**17 58 53.1**	**-0.5**
YOJ	**Yonaguni jima**	**70.88**	**305**	P	**P**	**17 59 00.4**	**+0.3**
YOJ				IAmb	IAmb	17 59 18.6	
	comp=Z,11nm,1.1s						
NIKH	**Nikolski High**	**71.05**	**6**	P	**P**	**17 59 00.1**	**-0.3**
QSPA	**South Pole Qui**	**72.17**	**180**	P	**P**	**17 59 06.0**	**-1.1**
CISI	**Cisompet, Garu**	**72.27**	**268**	P	**P**	**17 59 06.1**	**-2.4**
PEA0B	**Petropavlovsk-**	**73.64**	**345**	P	**P**	**17 59 13.5**	**-1.9**
PEA0B				IAmb	IAmb	17 59 48.8	
	comp=Z,22nm,1.3s						
PETK	**Petropavlovsk-**	**73.64**	**345**	P	**P**	**17 59 15.4**	**0.0**
	comp=Z,1.5nm,0.6s,baz=117,slow=8.5,SNR=6.4						
PETK	**Petropavlovsk-**	**73.64**	**345**	P	**P**	**17 59 13.6**	**-1.7**
KSRS	**Korea Array**	**74.64**	**318**	P	**P**	**17 59 21.2**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=40,slow=10,SNR=1.5						
OHAK	**Old Harbor**	**77.72**	**14**	P	**P**	**17 59 37.1**	**-0.7**
OHAK				IAmb	IAmb	18 00 15.0	
	comp=Z,46nm,1.6s						
ISA	**Isabella, Lake**	**77.84**	**46**	P	**P**	**17 59 40.2**	**+1.1**
NVAR	**Mina Array Bea**	**79.44**	**44**	P	**P**	**17 59 48.3**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=223,slow=9.8,SNR=9.0						
WVOR	**Wild Horse Val**	**81.42**	**40**	P	**P**	**17 59 58.5**	**+0.8**
I07A	**Izee**	**81.82**	**39**	P	**P**	**17 59 58.5**	**-1.2**
F10A	**Beach Ranch, E**	**84.21**	**38**	P	**P**	**18 00 11.6**	**0.0**
F10A				IAmb	IAmb	18 00 12.6	
	comp=Z,3.7nm,0.9s						
ILAR	**Eielson Array**	**85.88**	**13**	P	**P**	**18 00 17.9**	**-1.1**
	comp=Z,0.9nm,0.4s,baz=232,slow=5.7,SNR=9.4						
TX31	**Lajitas Ar. Si**	**86.03**	**58**	P	**P**	**18 00 21.4**	**+0.6**
TX31				IAmb	IAmb	18 00 23.1	
	comp=Z,8.9nm,0.9s						
TX32	**Lajitas Array**	**86.03**	**58**	P	**P**	**18 00 21.4**	**+0.6**
TX32				IAmb	IAmb	18 00 23.1	
	comp=Z,3.1nm,0.9s						
TXAR	**Lajitas Array**	**86.03**	**58**	P	**P**	**18 00 21.7**	**+0.9**
	comp=Z,1.7nm,0.7s,baz=220,slow=6.2,SNR=20						
PDAR	**Pinedale Array**	**87.37**	**43**	P	**P**	**18 00 26.7**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=219,slow=3.3,SNR=12						
CMAR	**Chiang Mai Arr**	**88.82**	**290**	P	**P**	**18 00 32.1**	**-1.8**
	comp=Z,0.3nm,0.6s,baz=152,slow=2.7,SNR=1.7						
I40A	**Norwalk**	**100.66**	**47**		pP	18 03 33.8	+0.7
MKAR	**Makanchi Array**	**109.08**	**314**	PKiKP	**PKiKP**	**18 06 03.4**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=104,slow=0.6,SNR=4.1						
ARCES	**ARCESS Array B**	**126.28**	**350**	PKP	**PKPdf**	**18 06 36.0**	**-1.2**
	comp=Z,2.3nm,0.9s,baz=38,slow=2.2,SNR=5.9						
FINES	**FINESS Array B**	**133.15**	**344**	PKP	**PKPdf**	**18 06 50.3**	**-0.1**
	comp=Z,1.9nm,0.9s,baz=0.0,slow=0.0,SNR=2.7						
AKASG	**Malin Array Be**	**140.51**	**332**	PKhKP	PKPpre	18 06 56.6	
	comp=Z,0.6nm,0.4s,baz=32,slow=4.1,SNR=5.3						
BUR08	**Bucovina Ar. S**	**144.55**	**332**		**PKPab**	**18 07 12.2**	**-0.3**
BR131	**Keskin Array S**	**144.72**	**315**		PKPbc	18 07 12.7	-0.1
BRTR	**Keskin Array B**	**144.72**	**315**	PKP	**PKPdf**	**18 07 12.2**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=89,slow=1.9,SNR=7.2						
BRTR	**Keskin Array B**	**144.72**	**315**		**PKPdf**	**18 07 12.0**	**-0.3**
CLL	**Collm**	**145.43**	**347**	⇑*i*PKPbc	**PKPbc**	**18 07 13.8**	**-0.4**
	comp=Z,8.0nm,0.7s						
CLL	**Collm**	**145.43**	**347**		**PKPbc**	**18 07 14.1**	**-0.1**
DPC	**Dobruska-Polom**	**145.51**	**343**	*e*PKP	**PKPbc**	**18 07 14.8**	**+0.2**
KRLC	**Kraliky**	**145.63**	**343**	*e*PKP	**PKPbc**	**18 07 14.9**	**0.0**
PRU	**Pruhonice**	**146.31**	**345**	*e*PKP	**PKPbc**	**18 07 16.6**	**-0.2**
KHC	**Kasperske Hory**	**147.34**	**345**	*e*PKP	**PKPbc**	**18 07 19.6**	**0.0**
CKRC	**Cesky Krumlov**	**147.44**	**344**	*e*PKP	**PKPbc**	**18 07 19.5**	**-0.4**
GERES	**GERESS Array B**	**147.57**	**345**	PKPbc	**PKPbc**	**18 07 19.8**	**-0.5**
	comp=Z,1.9nm,0.6s,baz=22,slow=3.6,SNR=16						
GERES	**GERESS Array B**	**147.57**	**345**		**PKPbc**	**18 07 19.1**	**-1.2**

*IDC **04** 17:48:44.5±1.4, 11°.46S×112°.40E, h0km, mb3.8/9, mb1 3.9/13, mb1mx3.7/50, mbtmp3.9/13, ML3.8/4, Error ellipse: s-maj=41.3km s-min=16.8km az=36.0*

*NEIC **04** 17:48:48.4±3.0, 11°.33S±0°.09×112°.62E±0°.08, h40km±9km, mb4.3/4, Error ellipse: s-maj=13.5km s-min=11.7km az=187.0*

*DJA **04** 17:48:49.4±0.5, 11°S±5°×11°3E±°, h10km, M4.5/15, mb4.5/6, mB5.1/2, MLv4.5/15, Mw(mB)4.4/2*

ISC 04 17:48:49.3±0.7**, 11°.34S**±0°.07×**112°.57E**±0°.06**, h35**km**, n53, σ1s.67**/56**, mb3.9**/10**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRKI	**Karangkates**	**3.16**	**358**	P	**Pn**	**17 49 34.9**	**-1.7**
KRKI				S	**Sn**	**17 50 12.5**	**-0.6**
JAGI	**Jajag, Banyuwa**	**3.25**	**29**		**Pn**	**17 49 36.4**	**-1.4**
JAGI	**Jajag, Banyuwa**	**3.25**	**29**	P	**Pn**	**17 49 36.7**	**-1.1**
PWJI	**Pagerwojo**	**3.38**	**347**	P	**Pn**	**17 49 36.9**	**-2.7**
PWJI				S	**Sn**	**17 50 14.6**	**-3.9**
PCJI	**Pacitan**	**3.41**	**336**	P	**Pn**	**17 49 39.2**	**-0.8**
SJI	**Sawahan**	**3.67**	**347**	P	**Pn**	**17 49 41.5**	**-2.1**
SJI				S	**Sn**	**17 50 22.2**	**-3.5**
DNP	**Denpasar**	**3.71**	**45**	P	**Pn**	**17 49 43.9**	**-0.2**
UGM	**Wanagama**	**3.96**	**329**		**Pn**	**17 49 46.4**	**-1.2**
UGM	**Wanagama**	**3.96**	**329**	P	**Pn**	**17 49 46.7**	**-0.8**
SRBI	**Singaraja**	**4.15**	**39**	P	**Pn**	**17 49 50.0**	**-0.2**
YOGI	**Yogyakarta**	**4.16**	**327**	P	**Pn**	**17 49 49.8**	**-0.5**
KHKI	**Kahang-Kahang**	**4.21**	**46**	P	**Pn**	**17 49 50.6**	**-0.3**
GRJI	**Gresik**	**4.39**	**359**	P	**Pn**	**17 49 52.0**	**-1.5**
KLNI	**Mataram**	**4.52**	**50**	P	**Pn**	**17 49 55.4**	**+0.1**
SMRI	**Semarang**	**4.75**	**334**		**Pn**	**17 49 57.3**	**-1.1**
SMRI	**Semarang**	**4.75**	**334**	P	**Pn**	**17 49 57.6**	**-0.9**
TWSI	**Taliwang, Sumb**	**4.97**	**59**	P	**Pn**	**17 50 00.4**	**-1.1**
KPJI	**Karang Pucung**	**5.36**	**318**	P	**Pn**	**17 50 06.7**	**-0.1**
	0.5nm31nm,0.8s						
CMJI	**Cimerak**	**5.38**	**311**	P	**Pn**	**17 50 07.2**	**+0.1**
	0.4nm1μm63nm,1.0s						
PLAI	**Plampang**	**5.70**	**65**	P	**Pn**	**17 50 12.4**	**+0.9**
	0.2nm40nm,1.0s						
CISI	**Cisompet, Garu**	**6.01**	**308**		**Pn**	**17 50 14.4**	**-1.4**
CISI	**Cisompet, Garu**	**6.01**	**308**	P	**Pn**	**17 50 15.9**	**+0.1**
	0.5nm2μm38nm,0.6s						
LEM	**Lembang**	**6.63**	**312**	Pn	**Pn**	**17 50 23.8**	**-0.7**
	3.6nm,0.3s,baz=164,slow=20,SNR=2.3						
LEM				Sn	**Sn**	**17 51 38.0**	**-0.9**
	3.4nm,0.3s,baz=163,slow=19,SNR=3.6						
LEM	**Lembang**	**6.63**	**312**	P	**Pn**	**17 50 24.6**	**+0.1**
	0.1nm12nm,1.2s						
CNJI	**Cibinong**	**6.70**	**306**	P	**Pn**	**17 50 26.0**	**+0.8**
XMIS	**Christmas Isla**	**6.85**	**276**	Pn	**Pn**	**17 50 25.7**	**-1.6**
XMIS	**Christmas Isla**	**6.85**	**276**	P	**Pn**	**17 50 25.9**	**-1.4**
	56nm,0.7s						
EDFI	**Ende, Flores**	**9.34**	**75**	P	Pn	17 51 10.5	+8.9
KAPI	**Kappang**	**9.48**	**49**	Pn	**Pn**	**17 51 05.8**	**+2.4**
	1.5nm,0.3s,baz=148,slow=13,SNR=1.5						
KAPI	**Kappang**	**9.48**	**49**		**Pn**	**17 51 01.9**	**-1.6**
MMRI	**Maumere**	**9.89**	**75**	Pn	**Pn**	**17 51 05.4**	**-3.7**
BATI	**Baumata**	**10.96**	**85**	Pn	**Pn**	**17 51 26.2**	**+2.5**
	2.0nm,0.3s,baz=276,slow=16,SNR=1.4						
BATI				Sn	Sn	17 53 15.3	-10
	1.2nm,0.3s,baz=270,slow=14,SNR=1.0						
GIRL	**Giralia**	**11.36**	**172**	Pn	**Pn**	**17 51 28.4**	**-0.6**
SOEI	**Soe**	**11.61**	**83**	Pn	**Pn**	**17 51 32.4**	**-0.3**

PSA00	Pilbara Seismi	12.34	147	Pn	Pn	17 51 42.3	-0.2
PSA00	Pilbara Seismi	12.34	147	Pn	Pn	17 51 38.8	-3.7
FITZ	Fitzroy Crossi	14.31	120	Pn	Pn	17 52 10.0	+0.5
	0.1nm,0.3s,baz=303,slow=9.5,SNR=2.0						
FITZ				Sn	Sn	17 54 34.0	-13
	0.1nm,0.3s,baz=255,slow=16,SNR=1.9						
FITZ	Fitzroy Crossi	14.31	120		Pn	17 52 12.4	+2.9
TOLI2	Tolitoli	14.82	34	P	Pn	17 52 18.2	+1.8
MTN	Manton Dam	18.21	97	P	P	17 52 58.2	-1.3
MTN				IAmb	IAmb	17 53 28.9	
	comp=Z,24nm,1.3s						
FAKI	Fak Fak	21.23	68	P	P	17 53 32.0	-0.4
SIJI	Sorong	21.28	62	P	P	17 53 33.5	+0.5
	comp=Z,5.3nm,0.6s,baz=276,slow=10,SNR=2.0						
WRA	Warramunga Arr	22.62	115	P	P	17 53 48.6	+1.3
	comp=Z,0.8nm,0.5s,baz=295,slow=10,SNR=11						
WB2	Warramunga Arr	22.63	115	P	P	17 53 45.3	-2.1
WR0	Warramunga Arr	22.81	115	P	P	17 53 50.4	+1.2
WR0				IAmb	IAmb	17 53 59.2	
	comp=Z,7.5nm,0.6s						
ASAR	Alice Springs	23.71	124	P	P	17 53 59.5	+1.2
	comp=Z,0.7nm,0.5s,baz=301,slow=9.4,SNR=16						
ASAR	Alice Springs	23.71	124	P	P	17 53 54.8	-3.4
CMAR	Chiang Mai Arr	32.52	335	P	P	17 55 18.9	+2.0
	comp=Z,0.6nm,0.5s,baz=168,slow=9.0,SNR=4.6						
SONM	Songino Array	59.16	355	P	P	17 58 48.0	+1.3
	comp=Z,0.4nm,0.4s,baz=196,slow=8.4,SNR=3.7						
MKAR	Makanchi Array	63.90	337	P	P	17 59 19.3	+0.8
	comp=Z,0.9nm,0.5s,baz=170,slow=7.4,SNR=2.0						
KURBB	Kurchatov Arra	68.46	337	P	P	17 59 49.2	+1.6
	comp=Z,0.5nm,0.7s,baz=141,slow=5.5,SNR=3.3						
ZALV	Zalesovo Beam	69.18	343	P	P	17 59 52.6	+0.6
	comp=Z,0.6nm,0.5s,baz=143,slow=6.7,SNR=2.1						
BRTR	Keskin Array B	88.80	311	P	P	18 01 39.3	-0.7
	comp=Z,0.7nm,0.7s,baz=132,slow=6.2,SNR=4.1						

*IDC **04** 17:54:18.4±1.2, 37°.42N×78°.01E, h0km, mb3.5/7, mb1 3.5/11, mb1mx3.4/52, mbtmp3.5/11, ML3.2/4, MS3.9/2, Ms1 3.8/2, ms1mx2.4/52, Error ellipse: s-maj=26.4km s-min=18.5km az=56.0*

*NEIC **04** 17:54:20.1±2.7, 37°.16N±0°.07×78°.42E±0°.07, h39km±12km, mb3.5/4, Error ellipse: s-maj=13.2km s-min=2.5km az=140.0*

*NNC **04** 17:54:24.2±3.4, 37°.74N×78°.28E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=25.0km s-min=22.3km az=41.0*

ISC 04 17:54:15.0±0.6, **36°.96N**±0°.04×**78°.39E**±0°.08, **h10**km, **n52**, σ**2s12**/50, **mb3.4**/7, **7C-2D, Kashmir-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	4.79	355		Pn	17 55 28.5	+1.0
DHRM	DHARAMSHALA	5.00	201	eP	Pg	17 55 47.5	-3.3
DHRM				eS	Sg	17 56 53.8	-1.7
KDJ	Kajisay	5.25	350		Pn	17 55 34.0	+0.3
NIL	Nilore	5.34	233		Pn	17 55 40.1	+5.3
PRZ	Przheval'sk	5.52	0		Pn	17 55 36.5	-0.9
DRK	Karamyk	5.76	298	Pn	Pn	17 55 39.5	-1.3
BOOM	Boomskoye usch	5.84	342		Pn	17 55 42.8	+1.1
SMLA	Simla	5.90	190	eP	Pb	17 55 57.6	-0.3
SMLA				eS	Sb	17 57 10.6	+1.9
IZV	Izvestkoviy	6.22	348	Pg	Pb	17 56 03.1	-0.4
	13nm,0.5s						
IZV				Lg	Lg	17 57 15.7	
	14nm,0.8s						
MDOK	Medeo	6.28	351	Pg	Pb	17 56 05.0	+0.6
	15nm,0.7s						
MDOK				Lg	Lg	17 57 20.6	
	25nm,0.8s						
TKM2	Tokmak 2	6.33	341	⇑Pg	Pb	17 56 06.3	+1.0
	2.9nm,0.4s						
TKM2				⇑Lg	Lg	17 57 20.9	
	6.7nm,0.6s						
KOTS	Kotyrbulak	6.34	352	Pg	Pb	17 56 05.6	+0.1
	6.0nm,0.3s						
KOTS				Lg	Lg	17 57 20.2	
	24nm,0.6s						
KST	Kastek	6.36	344	Pg	Pb	17 56 09.1	+3.4
	4.1nm,0.8s						
KST				Lg	Lg	17 57 26.1	
	5.9nm,0.8s						
AAK	Ala-Archa	6.41	333	Pn	Pn	17 55 49.0	-0.6
	0.5nm,0.3s,baz=158,slow=6.7,SNR=4.4						
AAK				Pg	Pb	17 56 06.0	-0.7
	2.3nm,0.3s,baz=167,slow=9.9,SNR=18						
AAK				Sn	Sn	17 56 59.7	-3.2
	1.2nm,0.3s,baz=209,slow=2.8,SNR=1.3						
AAK				Lg	Lg	17 57 23.3	
	1.3nm,0.3s,baz=225,slow=20,SNR=2.0						
AAK	Ala-Archa	6.41	333	⇓Pg	Pb	17 56 12.1	+5.4
	8.8nm,0.5s						
AAK				⇑Lg	Lg	17 57 21.8	
	17nm,0.7s						
AAK	Ala-Archa	6.41	333		Pn	17 55 49.9	+0.3
PDGK	Podgornoye	6.42	7	⇑Pg	Pb	17 56 09.6	+2.8
	7.0nm,0.6s						
PDGK				⇑Lg	Lg	17 57 20.9	
	13nm,0.6s						
DGS	Degeres	6.59	343	Pg	Pb	17 56 10.5	+0.8
	8.9nm,0.7s						
DGS				Lg	Lg	17 57 28.7	
	11nm,0.6s						
DDI	Dehra Dun	6.62	182	eP	Pb	17 56 06.7	-3.6
GAR	Garm	6.69	290	Pn	Pn	17 55 54.1	+0.7
BTK	Batken	6.69	300	Pn	Pn	17 55 54.2	+0.9
MRKS	Merke	7.01	327	Pg	Pb	17 56 18.9	+2.1
	5.7nm,0.5s						
MRKS				Lg	Lg	17 57 43.6	
	8.9nm,0.4s						
SGDS	Sogindy	7.09	337	Pg	Pb	17 56 19.2	+0.9
	4.3nm,0.5s						
SGDS				Lg	Lg	17 57 44.4	
	7.0nm,1.0s						
CHGR	Chuyangaron	7.50	286		Pn	17 56 05.5	+1.0
KBL	Kabul	7.97	255	Pn	Pn	17 56 14.2	+3.2
KK31	Karatay Array	8.61	318	⇓Pn	Pn	17 56 14.5	-5.1
	0.2nm,0.3s,baz=144,slow=14,SNR=5.8						
KK31				Lg	Lg	17 58 33.4	
	1.0nm,0.5s,baz=330,slow=42,SNR=5.4						
KKAR	Karatay Array	8.61	318	Pn	Pn	17 56 18.4	-1.2
MAKZ	Makanchi	10.20	14		Pn	17 56 40.9	-0.5
MK31	Makanchi Array	10.25	15	Pn	Pn	17 56 41.8	-0.2
	0.5nm,0.3s,baz=200,slow=13,SNR=39						
MK31				⇑Sn	Sn	17 58 28.7	-8.3
	2.9nm,0.6s,baz=160,slow=38,SNR=8.0						
MK31	Makanchi Array	10.25	15		Pn	17 56 41.7	-0.4
MKAR	Makanchi Array	10.25	15	Pn	Pn	17 56 42.1	0.0
	0.4nm,0.3s,baz=205,slow=14,SNR=23						
MKAR				Sn	Sn	17 58 28.3	-8.7
	0.8nm,0.3s,baz=197,slow=20,SNR=8.1						
MKAR	Makanchi Array	10.25	15		Pn	17 56 41.5	-0.5
OTUK	Ortayu	12.12	340	⇑Lg	Lg	18 00 25.5	
	2.9nm,0.9s						
SHL	Shillong	16.17	131	P	P	17 58 06.5	+0.8
BVAR	Borovoye Array	17.01	343	Pn	P	17 58 14.1	-0.6
	0.3nm,0.3s,baz=169,slow=16,SNR=3.8						
BRVK	Borovoye	17.07	343	P	Pn	17 58 14.1	+0.5
BRVK				IAmb	IAmb	17 58 22.6	
	comp=Z,13nm,1.4s						
ZAA0	Zalesovo Array	17.57	13	P	Pn	17 58 17.4	-2.3
ZALV	Zalesovo Beam	17.57	13	P	P	17 58 20.8	0.0
	comp=Z,0.1nm,0.3s,baz=206,slow=13,SNR=2.2						
ABKAR	Akbulak array	18.17	318	P	Pn	17 58 25.2	-2.0
ABKAR				IAmb	IAmb	17 58 37.9	
	comp=Z,1.1nm,0.7s						
ABKAR	Akbulak array	18.17	318	P	Pn	17 58 24.8	-2.4
AKTO	Aktyubinsk	19.87	319	P	P	17 58 45.8	-0.4
	comp=Z,0.1nm,0.3s,baz=118,slow=15,SNR=2.0						
SONM	Songino Array	23.24	53	P	P	17 59 27.2	+4.8
	comp=Z,0.6nm,0.6s,baz=245,slow=11,SNR=3.6						
BRTR	Keskin Array B	34.93	289	P	P	18 01 07.4	+0.3
	comp=Z,0.2nm,0.3s,baz=112,slow=10,SNR=2.4						
BRTR	Keskin Array B	34.93	289	P	P	18 01 07.7	+0.6
FINES	FINESS Array B	40.51	324	P	P	18 01 54.8	+1.1
	comp=Z,0.7nm,0.8s,baz=102,slow=13,SNR=4.1						
ARCES	ARCESS Array B	43.08	336	P	P	18 02 15.1	+0.3
	comp=Z,2.4nm,1.0s,baz=96,slow=6.6,SNR=1.6						
NB2	NORSAR Subarra	47.61	323	P	P	18 02 52.2	+1.4
	comp=Z,0.5nm,0.5s,baz=90,slow=7.9						
NOA	NORSAR Array B	47.61	323	P	P	18 02 52.0	+1.2
	comp=Z,0.3nm,0.5s,baz=90,slow=7.8,SNR=4.4						
DAV	Davao City (W)	52.16	113	LR	LR	18 27 12.1	
	comp=Z,412nm,21.0s,baz=252,slow=38						
TORD	Torodi Ar. Bea	71.64	273	P	P	18 05 40.3	+3.2
	comp=Z,0.3nm,0.4s,baz=52,slow=5.1,SNR=2.6						
ASAR	Alice Springs	79.81	130	P	P	18 06 31.4	+7.8
	comp=Z,0.2nm,0.6s,baz=314,slow=6.6,SNR=4.2						
YKA	Yellowknife Ar	80.34	6	LR	LR	18 42 04.9	
	comp=Z,21nm,21.9s,baz=0.0,slow=36						

NNC 04 17:58:19.8±1.8, **36°.95N**×**71°.10E**, **h0**km, **mb3.8**, **mpv3.4**, **4C-1D, Error ellipse: s-maj=20.0km s-min=12.8km az=133.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	Karatay Array	6.16	356	⇓Pn	Pn	17 59 52.4	+0.3
	0.4nm,0.2s,baz=175,slow=12,SNR=23						
KK31				⇑Sn	Sn	18 01 03.5	+0.3
	0.8nm,0.3s,baz=172,slow=20,SNR=4.4						
AAK	Ala-Archa	6.25	24	⇑Pn	Pn	17 59 53.6	+0.2
	2.2nm,0.4s						
AAK				Sn	Sn	18 01 07.0	+1.4
	2.1nm,0.5s						
TKM2	Tokmak 2	6.89	29	⇑Pn	Pn	18 00 01.6	-0.6
	2.0nm,0.5s						
TKM2				⇑Sn	Sn	18 01 22.7	+1.3
	0.9nm,0.6s						

*DJA **04** 17:59:09.5±2.3, 7°S±3°×10°5E±°, h15km±22km, M3.5/6, MLv3.5/6*

*IDC **04** 17:59:29.6±2.8, 5°.40S×105°.62E, h146km±24km, mb2.9/5, mb1 3.0/6, mb1mx2.8/52, mbtmp3.3/6, Error ellipse: s-maj=60.5km s-min=21.4km az=59.0*

ISC 04 17:59:15.3±1.0, **6°.56S**±0°.08×**104°.53E**±0°.07, **h40**km, **n18**, σ**2s48**/18, **mb3.4**/5, **Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KASI	Kota Agung	1.03	358	P	Pn	17 59 33.1	-0.2
KASI				S	Sn	17 59 48.9	+2.4
BLSI	Bandar Lampung	1.38	31	P	Pn	17 59 35.5	-2.6
BLSI				S	Sn	17 59 57.9	+2.7
LWLI	Liwa	1.60	343	P	Pn	17 59 40.5	-0.8
SKJI	Sukabumi	2.06	103	P	Pn	17 59 44.3	-3.1
MDSI	Maura Dua	2.09	350	P	Pn	17 59 45.8	-2.1
EGSI	Enggano, Bengk	2.55	298	P	Pn	17 59 53.1	-1.0
CNJI	Cibinong	2.68	106	P	Pn	17 59 46.8	-9.2
LHSI	Lahat	2.90	340	P	Pn	17 59 56.9	-2.0
LEM	Lembang	3.07	95	P	Pn	18 00 11.9	+10
	2.0nm,0.3s,baz=311,slow=20,SNR=5.0						
LEM				S	Sn	18 00 40.7	+3.5
	0.8nm,0.3s,baz=287,slow=19,SNR=1.9						
KSI	Kapahiang	3.48	326	P	Pn	18 00 05.6	-1.4
WRA	Warramunga Arr	31.84	118	P	P	18 05 38.3	+1.6
	0.5nm,0.9s,baz=287,slow=11,SNR=2.4						
ASAR	Alice Springs	32.95	124	P	P	18 05 48.4	+2.0
	0.2nm,0.8s,baz=306,slow=7.9,SNR=1.6						
MKAR	Makanchi Array	56.68	342	P	P	18 08 52.4	-2.2
	0.4nm,0.6s,baz=154,slow=7.9,SNR=2.3						
KURBB	Kurchatov Arra	61.23	341	P	P	18 09 23.5	-2.6
	0.2nm,0.7s,baz=155,slow=6.1,SNR=2.3						
ZALV	Zalesovo Beam	62.53	347	P	P	18 09 32.0	-2.8
	0.3nm,0.3s,baz=148,slow=5.6,SNR=1.8						
TXAR	Lajitas Array	145.07	46	PKP	PKPbc	18 18 47.7	-1.0
	0.3nm,0.5s,baz=192,slow=1.8,SNR=3.9						
SIV	San Ignacio	153.44	212	PKPbc	PKiKP	18 19 14.0	+3.4
	2.3nm,0.8s,baz=156,slow=0.9,SNR=5.1						
LPAZ	La Paz	156.17	198	PKPab	PKPab	18 19 43.4	+8.6
	0.7nm,0.8s,baz=145,slow=3.3,SNR=2.0						

*IDC **04** 18:15:10.1±0.7, 4°.97S×11°.50W, h0km, mb4.1/16, mb1 4.2/16, mb1mx4.0/38, mbtmp4.1/16, MS3.4/17, Ms1 3.4/17, ms1mx3.3/32, Error ellipse: s-maj=21.1km s-min=15.7km az=116.0*

*NEIC **04** 18:15:12.4±3.0, 5°.0S±0°.1×11°.6W±0°.1, h10km±1km, mb4.4/19, Error ellipse: s-maj=23.7km s-min=14.0km az=317.0*

ISC 04 18:15:12.8±0.5, **5°.0S**±0°.1×**11°.6W**±0°.1, **h18**km, **n55**, σ**1s22**/35, **mb4.2**/17, **MS3.5**/16, **Ascension Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASCN	Ascension	4.00	223	Pn	Pn	18 16 09.5	-3.8
ASCN				Sn	Sn	18 16 50.3	-9.4
H10N2	ASCENSION HYDR	4.01	226	T	T	18 20 19.1	
	baz=46,slow=74,SNR=2209						
H10N1	ASCENSION HYDR	4.02	225	T	T	18 20 18.1	
	baz=46,slow=74,SNR=7.1						
H10N3	ASCENSION HYDR	4.03	226	T	T	18 20 18.7	
	baz=46,slow=74,SNR=11						
H10S2	ASCENSION HYDR	4.96	217	T	T	18 21 32.7	
	baz=39,slow=74,SNR=108						
H10S3	ASCENSION HYDR	4.96	218	T	T	18 21 29.3	
	baz=181,slow=74,SNR=283						
DBIC	Dimbokro	13.41	30	LR	LR	18 22 20.5	
	comp=Z,169nm,21.7s,baz=192,slow=32						
KOWA	Kowa	20.79	21	P	P	18 19 51.8	-1.4
	4.3nm,0.9s,baz=186,slow=9.6,SNR=7.1						
KOWA				LR	LR	18 27 09.0	
	comp=Z,116nm,18.7s,baz=177,slow=35						
TORD	Torodi Ar. Bea	22.35	36	P	P	18 20 08.7	-1.4
	6.0nm,0.9s,baz=220,slow=10,SNR=19						
TORD				LR	LR	18 27 51.0	
	comp=Z,115nm,20.1s,baz=205,slow=34						
TORD	Torodi Ar. Bea	22.35	36	P	P	18 20 07.6	-2.4
BDFB	Brasilia	37.29	251	P	P	18 22 25.1	+0.8
	4.3nm,0.7s,baz=72,slow=6.7,SNR=5.1						
BDFB	Brasilia	37.29	251	IAmb	IAmb	18 22 26.8	
	comp=Z,5.3nm,0.8s						
LBTB	Lobatse	40.84	123	P	P	18 22 53.7	-0.2
	comp=Z,1.1nm,0.6s,baz=266,slow=21,SNR=1.8						
LBTB	Lobatse	40.84	123	IAmb	IAmb	18 23 02.4	
	comp=Z,8.3nm,1.2s						
MATP	Matopo	41.85	115	P	P	18 23 01.2	-1.1
	comp=Z,3.4nm,0.8s,baz=256,slow=15,SNR=5.0						
BOSA	Boshof	42.08	128	P	P	18 23 03.2	-0.9
	comp=Z,3.1nm,1.0s,baz=290,slow=3.3,SNR=4.0						
BOSA				LR	LR	18 38 06.0	
	comp=Z,64nm,19.6s,baz=302,slow=33						
BOSA	Boshof	42.08	128	P	P	18 23 02.7	-1.3
BOSA				IAmb	IAmb	18 23 04.7	
	comp=Z,12nm,1.4s						
ESDC	Sonseca Array	45.02	8	LR	LR	18 43 27.8	
	comp=Z,18nm,18.4s,baz=260,slow=38						
KEST	Kesra	45.04	24	LR	LR	18 42 29.4	
	comp=Z,65nm,20.0s,baz=262,slow=36						
LODK	Lodwar	47.65	81	P	P	18 23 49.8	+1.1
LODK				IAmb	IAmb	18 23 57.5	
	comp=Z,5.6nm,1.4s						
PTGA	Pitinga	48.48	273	P	P	18 23 55.7	+0.7
	comp=Z,0.8nm,0.3s,baz=113,slow=9.2,SNR=1.4						
PTGA	Pitinga	48.48	273	IAmb	IAmb	18 24 04.5	
	comp=Z,6.1nm,1.3s						
CPUP	Villa Florida	48.52	239	P	P	18 23 56.4	+1.2
	comp=Z,1.0nm,0.5s,baz=94,slow=7.6,SNR=2.2						
CPUP				LR	LR	18 44 46.5	
	comp=Z,21nm,18.4s,baz=34,slow=36						
CPUP	Villa Florida	48.52	239	IAmb	IAmb	18 23 58.0	
	comp=Z,4.2nm,1.1s						
KMBO	Kilima Mbogo	48.91	87	LR	LR	18 42 50.9	
	comp=Z,154nm,20.1s,baz=95,slow=34						
H05N1	Guadeloupe/Mar	53.31	294	T	T	19 22 02.5	
LPAZ	La Paz	56.51	254	LR	LR	18 49 32.5	
	comp=Z,33nm,19.4s,baz=107,slow=36						
GERES	GERESS Array B	58.00	19	P	P	18 25 03.3	-1.3
	comp=Z,2.0nm,0.8s,baz=190,slow=5.4,SNR=16						
GERES				LR	LR	18 50 41.5	
	comp=Z,23nm,19.6s,baz=208,slow=37						
GERES	GERESS Array B	58.00	19	P	P	18 25 03.9	-0.7
OPO	Ambohidratompo	58.85	109	LR	LR	18 46 55.4	
	comp=Z,41nm,19.8s,baz=341,slow=32						
BRTR	Keskin Array B	60.93	39	P	P	18 25 26.1	+1.0
	comp=Z,1.5nm,1.0s,baz=197,slow=6.4,SNR=6.9						
BRTR				LR	LR	18 52 14.8	
	comp=Z,17nm,21.4s,baz=230,slow=37						
BRTR	Keskin Array B	60.93	39	P	P	18 25 25.5	+0.5
BR131	Keskin Array S	60.93	39	P	P	18 25 25.5	+0.5
BR131				IAmb	IAmb	18 25 28.0	
	comp=Z,3.3nm,1.1s						
BNN	Bunyan	61.84	41	P	P	18 25 31.6	+0.4
ROSC	El Rosal	63.41	278	LR	LR	18 53 03.2	
	comp=Z,88nm,18.2s,baz=234,slow=36						
VNA1	Neumayer--Stat	65.59	179	P	P	18 25 56.6	+1.4
AKASG	Malin Array Be	65.64	27	P	P	18 25 55.5	-0.3
	comp=Z,3.6nm,0.9s,baz=225,slow=7.1,SNR=15						
AKASG	Malin Array Be	65.64	27	P	P	18 25 55.2	-0.6
AKBB	Malin Array Si	65.64	27		P	18 25 55.3	-0.5
GURO	Guroymak-BITLI	65.83	44	P	P	18 25 58.5	+1.0
GURO				IAmb	IAmb	18 25 59.9	
	comp=Z,2.0nm,0.7s						
VNA2	Neumayer--Watz	65.89	178	P	P	18 25 57.4	+0.3
	baz=356,slow=7.9						
VNA3	Neumayer Olymp	66.16	179	P	P	18 25 59.3	+0.4
SNAA	Sanae	66.81	177	P	P	18 26 03.4	+0.3
SNAA	Sanae	66.81	177	P	P	18 26 03.2	+0.1
	comp=Z,2.0nm,0.9s,baz=261,slow=3.8,SNR=4.7						
NAO01	NORSAR Array S	67.97	12	P	P	18 26 11.0	+0.5
NOA	NORSAR Array B	68.21	12	LR	LR	18 56 57.3	
	comp=Z,10nm,19.7s,baz=335,slow=37						
NC303	NORSAR Array S	68.41	12	P	P	18 26 15.4	+2.1
KBZ	Khabaz	68.92	39	P	P	18 26 17.1	+0.4
	comp=Z,2.5nm,0.9s,baz=288,slow=0.8,SNR=5.2						
PMSA	Palmer Station	70.21	201	P	P	18 26 25.7	+1.4
FINES	FINESS Array B	72.37	18	P	P	18 26 36.9	-0.5
	comp=Z,1.3nm,0.7s,baz=176,slow=5.4,SNR=3.8						
FINES				LR	LR	18 58 01.6	
	comp=Z,26nm,20.0s,baz=316,slow=36						
MAW	Mawson	79.49	158	P	P	18 27 18.4	+0.4
	comp=Z,1.3nm,0.6s,baz=310,slow=5.2,SNR=6.6						
QSPA	South Pole Qui	85.09	180	P	P	18 27 48.4	+0.9
TXAR	Lajitas Array	94.23	299	LR	LR	19 06 20.0	
	comp=Z,38nm,21.0s,baz=0.0,slow=33						
MKAR	Makanchi Array	96.28	44	P	P	18 28 40.1	-0.3
	comp=Z,0.4nm,0.8s,baz=252,slow=2.3,SNR=3.4						
PDAR	Pinedale Array	99.23	312	LR	LR	19 07 42.1	
	comp=Z,23nm,19.0s,baz=164,slow=32						

*IDC **04** 18:26:10.0±2.8, 38°.03N×142°.12E, h58km±28km, mb3.0/2, mb1 3.4/6, mb1mx3.1/43, mbtmp3.5/6, ML2.7/4, Error ellipse: s-maj=32.6km s-min=14.0km az=116.0*

*JMA **04** 18:26:10.0±0.1, 38°.00N×141°.84E, h44km±1km, M3.2*

ISC 04 18:26:08.1±2.0, **38°.01N**±0°.04×**141°.95E**±0°.09, **h25**km±13km, **n22**, σ**1s54**/40, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.48	308	P	Pn	18 26 20.1	+0.7
JIKH				S	Sn	18 26 27.0	-0.1
JIO	Ouri	0.65	313	P	Pn	18 26 22.2	+0.5
JIO				S	Sn	18 26 30.6	-0.5
JKMT	Kesennumamotoy	0.88	335	P	Pn	18 26 25.6	+0.7
JKMT				eS	Sn	18 26 36.9	0.0
JMST	Minamisoumatoc	0.89	251	P	Pb	18 26 24.9	+0.1
JMST				S	Sb	18 26 35.5	-0.8
JMM	Marumori	0.93	261	P	Pb	18 26 25.4	-0.1
JMM				S	Sb	18 26 36.5	-0.9
JFK	Kawauchi	1.07	233	P	Pn	18 26 27.4	-0.1
JFK				eS	Sb	18 26 40.3	-1.2
JOU	Okura	1.07	290	P	Pn	18 26 28.0	+0.4
JOU				S	Sb	18 26 41.1	-0.5
JMK	Ichinoseki	1.10	329	P	Pb	18 26 28.9	+0.5
JMK				eS	Sn	18 26 43.2	+0.9
JFT	Otama	1.37	249	P	Pn	18 26 32.5	+0.8
JFT				S	Sn	18 26 49.3	+0.3
JYS	Shirataka	1.50	279	P	Pn	18 26 34.5	+1.1
JYS				eS	Sn	18 26 52.1	-0.1
JYK	Kaneyama	1.54	306	P	Pn	18 26 35.1	+1.1
JYK				eS	Sn	18 26 53.5	+0.3
JOM	Ohasama	1.55	341	P	Pb	18 26 35.9	-0.1
JOM				eS	Sn	18 26 54.3	+1.0
JRG	Rokugo	1.72	324	P	Pn	18 26 38.1	+1.6
JRG				eS	Sb	18 26 59.8	-0.5
JYA	Atsumi	1.85	289	P	Pn	18 26 39.2	+0.9
JYA				eS	Sn	18 27 00.8	-0.1
JFY	Yanaizu	1.88	252	P	Pn	18 26 39.9	+1.2
MJAR	Matsushiro Arr	3.33	245	P	Pn	18 27 00.5	+2.0
	0.3nm,0.3s,baz=54,slow=10,SNR=16						
MJAR				S	Sn	18 27 41.5	+4.2
	0.1nm,0.3s,baz=28,slow=32,SNR=1.5						
MAT	Matsushiro	3.33	245	P	Pn	18 27 01.9	+3.3
MAT				eS	Sn	18 27 41.2	+3.9
JHJ	Hachijo jima 2	5.19	201	P	Pn	18 27 24.7	+0.5
	4.7nm,0.3s,baz=218,slow=12,SNR=1.7						
JHJ				S	Sn	18 28 20.1	-3.2
	8.0nm,0.3s,baz=272,slow=23,SNR=9.3						
ASAJ	Asahikawa	6.12	4	P	Pn	18 27 38.1	+1.3
	0.2nm,0.3s,baz=138,slow=23,SNR=2.3						
ASAJ				S	Sn	18 28 46.2	+0.3
	0.2nm,0.3s,baz=277,slow=23,SNR=2.0						
USRK	Ussuriysk Ar.	9.73	313	P	Pn	18 28 28.7	+2.3
	baz=125,slow=13,SNR=3.1						
MKAR	Makanchi Array	43.97	301	P	P	18 34 11.6	-1.5
	0.1nm,0.5s,baz=85,slow=8.7,SNR=1.7						
WRA	Warramunga Arr	58.09	188	P	P	18 35 57.9	-1.5
	0.2nm,0.5s,baz=0.7,slow=7.4,SNR=1.7						

*IDC **04** 18:40:21.6±1.9, 10°.73S×110°.99E, h0km, mb3.5/6, mb1 3.6/8, mb1mx3.5/39, mbtmp3.5/8, ML3.4/2, Error ellipse: s-maj=98.2km s-min=17.8km az=46.0*

*DJA **04** 18:40:26.9±1.6, 11°S±9°×11°1E±°, h23km±22km, M4.3/18, mb4.4/5, mB4.8/2, MLv4.3/18, Mw(mB)4.0/2*

ISC 04 18:40:25.5±1.0, **10°.87S**±0°.09×**110°.78E**±0°.06, **h35**km, **n33**, σ**1s46**/37, **mb3.5**/6, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCJI	Pacitan	2.69	8	P	Pn	18 41 06.0	-0.3
PCJI				S	Sn	18 41 36.4	-1.2
UGM	Wanagama	2.95	355	P	Pn	18 41 10.1	+0.2
PWJI	Pagerwojo	3.00	20	P	Pn	18 41 10.0	-0.6
PWJI				S	Sn	18 41 45.1	-0.3
YOGI	Yogyakarta	3.07	351	P	Pn	18 41 12.5	+0.9
KRKI	Karangkates	3.16	32	P	Pn	18 41 12.8	0.0
SJI	Sawahan	3.26	17	P	Pn	18 41 13.9	-0.4
SMRI	Semarang	3.81	355	P	Pn	18 41 21.4	-0.4
CMJI	Cimerak	3.83	323	P	Pn	18 41 23.5	+1.5
KPJI	Karang Pucung	3.96	332	P	Pn	18 41 24.6	+0.8
JAGI	Jajag, Banyuwa	4.09	55	P	Pn	18 41 26.5	+0.9
CTJI	Waduk Cacaban	4.15	338	P	Pn	18 41 27.2	+0.8
TBJI	Tambak Boyo	4.16	15	P	Pn	18 41 26.7	+0.1
GRJI	Gresik	4.27	23	P	Pn	18 41 28.3	+0.2
CISI	Cisompet, Garu	4.40	318	P	Pn	18 41 31.6	+1.6
DNP	Denpasar	4.88	64	P	Pn	18 41 37.6	+1.1
KMMI	Kalianget	4.93	40	P	Pn	18 41 37.1	-0.1
XMI	Christmas Isla	5.02	274	P	Pn	18 41 35.7	-2.7
CNJI	Cibinong	5.05	314	P	Pn	18 41 40.2	+1.4
XMIS	Christmas Isla	5.05	274	P	Pn	18 41 35.7	-3.2
	66nm,0.5s						
LEM	Lembang	5.09	322	Pn	Pn	18 41 39.1	-0.4
	2.7nm,0.3s,baz=103,slow=22,SNR=1.5						
LEM				Sn	Sn	18 42 32.8	-4.3
	2.9nm,0.3s,baz=304,slow=19,SNR=2.0						
LEM	Lembang	5.09	322	P	Pn	18 41 40.5	+1.0
SRBI	Singaraja	5.18	58	P	Pn	18 41 41.3	+0.8
	0.3nm68nm,1.4s						
KHKI	Kahang-Kahang	5.37	63	P	Pn	18 41 44.3	+1.1
SKJI	Sukabumi	5.67	312	P	Pn	18 41 48.6	+1.3
	0.4nm47nm,1.0s						
KLNI	Mataram	5.78	66	P	Pn	18 41 49.7	+0.9
	0.2nm613nm15nm,0.6s						
TWSI	Taliwang, Sumb	6.38	71	P	Pn	18 41 57.2	+0.1
FITZ	Fitzroy Crossi	16.08	118	Pn	Pn	18 44 05.8	-3.2
	0.1nm,0.3s,baz=297,slow=10.0,SNR=8.3						
FITZ				Sn	Sn	18 46 53.1	-13
	0.0nm,0.3s,baz=216,slow=14,SNR=1.9						
WRA	Warramunga Arr	24.41	115	P	P	18 45 40.6	-0.4
	0.7nm,0.7s,baz=286,slow=11,SNR=7.3						
ASAR	Alice Springs	25.44	123	P	P	18 45 51.4	+1.1
	0.7nm,0.7s,baz=297,slow=8.8,SNR=15						
ASAR				PcP	PcP	18 49 22.4	+0.4
	0.2nm,0.7s,baz=289,slow=1.7,SNR=2.0						
CMAR	Chiang Mai Arr	31.39	338	P	P	18 46 45.3	+1.9
	0.4nm,0.5s,baz=175,slow=8.9,SNR=5.1						
MKAR	Makanchi Array	62.80	338	P	P	18 50 48.5	+0.9
	0.2nm,0.4s,baz=152,slow=7.9,SNR=4.4						
KURBB	Kurchatov Arra	67.37	338	P	P	18 51 17.6	+0.6
	0.2nm,0.6s,baz=144,slow=6.7,SNR=3.2						
ZALV	Zalesovo Beam	68.23	344	P	P	18 51 23.3	+1.0
	0.3nm,0.4s,baz=151,slow=6.7,SNR=1.8						

*IDC **04** 18:45:30.8±1.6, 25°.26N×99°.82E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.2/55, mbtmp3.4/3, ML3.8/1, MS2.2/1, Ms1 2.4/1, ms1mx2.1/26, Error ellipse: s-maj=45.2km s-min=21.7km az=81.0*

ISC 04 18:45:32.4±1.6, 25°.1N±0°.1×99°.5E±0°.4, h10km, n26, σ1s.19/26, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM34	Chiang Mai Arr	6.23	183	P	Pg	18 47 31.0	-0.8
CM33	Chiang Mai Arr	6.28	185	P	Pg	18 47 31.0	-1.7
CHTO	Chiang Mai	6.28	185	P	Pg	18 47 31.6	-1.1
	18nm,0.7s						
CMMT	Chiang Mai	6.28	185	P	Pg	18 47 31.6	-1.1
	18nm,0.7s						
CMMT	Chiang Mai	6.28	185	P	Pg	18 47 31.6	-1.1
	18nm,0.7s						
CM35	Chiang Mai Arr	6.40	183	P	Pg	18 47 35.0	-0.1
CM32	Chiang Mai Arr	6.45	186	P	Pg	18 47 35.0	-0.9
CM36	Chiang Mai Arr	6.56	184	P	Pg	18 47 37.5	-0.7
CM31	Chiang Mai Arr	6.63	185	P	Pg	18 47 38.6	-0.9
	8μm904nm,0.7s						
CMAR	Chiang Mai Arr	6.63	185	Pn	Pn	18 47 12.3	+2.3
	0.5nm,0.3s,baz=360,slow=13,SNR=15						
CMAR				Pg	Pg	18 47 35.8	-3.7
	1.1nm,0.3s,baz=357,slow=18,SNR=56						
CMAR				Lg	Lg	18 49 06.4	
	1.0nm,0.3s,baz=10,slow=30,SNR=7.0						
CMAR				LR	LR	18 50 18.8	
	comp=Z,18nm,18.6s,baz=155,slow=42						
CM15	Chiang Mai Arr	6.64	185	P	Pg	18 47 38.6	-1.0
	196nm27nm,0.7s						
CM15	Chiang Mai Arr	6.64	185	P	Pg	18 47 38.0	-1.6
	196nm27nm,0.7s						
CM09	Chiang Mai Arr	6.64	184	P	Pg	18 47 38.7	-1.0
	187nm27nm,0.7s						
CM09	Chiang Mai Arr	6.64	184	P	Pg	18 47 38.8	-1.0
	187nm27nm,0.7s						
CM02	Chiang Mai Arr	6.66	185	P	Pg	18 47 38.9	-1.0
	179nm27nm,0.7s						
CM02	Chiang Mai Arr	6.66	185	P	Pg	18 47 39.0	-1.0
	179nm27nm,0.7s						
CM01	Chiang Mai Arr	6.67	185	P	Pg	18 47 39.2	-0.9
	181nm26nm,0.7s						
CM01	Chiang Mai Arr	6.67	185	P	Pg	18 47 39.2	-0.9
	181nm26nm,0.7s						
CM13	Chiang Mai Arr	6.67	185	P	Pg	18 47 39.4	-0.8
	95nm13nm,0.7s						
CM13	Chiang Mai Arr	6.67	185	P	Pg	18 47 39.0	-1.2
	95nm13nm,0.7s						
CM04	Chiang Mai Arr	6.69	184	P	Pg	18 47 39.5	-1.0
	150nm22nm,0.8s						
CM04	Chiang Mai Arr	6.69	184	P	Pg	18 47 39.0	-1.5
	150nm22nm,0.8s						
CM05	Chiang Mai Arr	6.69	185	P	Pg	18 47 39.4	-1.1
	108nm16nm,0.7s						
CM05	Chiang Mai Arr	6.69	185	P	Pg	18 47 39.5	-1.1
	108nm16nm,0.7s						
MKAR	Makanchi Array	25.64	332	P	P	18 51 01.9	-0.3
	0.4nm,0.5s,baz=149,slow=10,SNR=4.6						
WRA	Warramunga Arr	56.14	140	P	P	18 55 11.9	-0.5
	0.3nm,0.6s,baz=320,slow=6.0,SNR=6.1						

IDC 04 18:54:21.2±1.4, 2°.40S×11°.63W, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.7/41, mbtmp3.9/8, ML3.9/1, MS3.5/12, Ms1 3.5/12, ms1mx3.2/32, Error ellipse: s-maj=57.0km s-min=29.9km az=110.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	ASCENSION HYDR	6.10	208	T	T	19 01 42.8	
	baz=24,slow=74,SNR=249						
H10N1	ASCENSION HYDR	6.11	208	T	T	19 01 43.2	
	baz=24,slow=74,SNR=203						
H10N3	ASCENSION HYDR	6.12	208	T	T	19 01 44.4	
	baz=24,slow=74,SNR=200						
H10S2	ASCENSION HYDR	7.18	205	T	T	19 03 09.0	
	baz=198,slow=74,SNR=13						
H10S3	ASCENSION HYDR	7.18	205	T	T	19 03 11.1	
	baz=22,slow=74,SNR=13						
DBIC	Dimbokro	11.26	37	LR	LR	19 01 00.8	
	comp=Z,148nm,19.3s,baz=210,slow=36						
KOWA	Kowa	18.40	24	P	P	18 58 38.3	+0.3
	0.4nm,0.3s,baz=205,slow=16,SNR=6.6						
KOWA				LR	LR	19 05 27.7	
	comp=Z,87nm,18.4s,baz=214,slow=36						
TORD	Torodi Ar. Bea	20.33	40	P	P	18 58 59.2	0.0
	2.4nm,0.7s,baz=227,slow=11,SNR=12						
TORD				LR	LR	19 06 05.3	
	comp=Z,101nm,19.8s,baz=220,slow=35						
BDFB	Brasilia	38.18	248	LR	LR	19 15 30.8	
	comp=Z,78nm,20.5s,baz=135,slow=33						
KEST	Kesra	42.70	25	LR	LR	19 21 34.5	
	comp=Z,38nm,18.9s,baz=270,slow=38						
BOSA	Boshof	43.75	130	LR	LR	19 18 37.5	
	comp=Z,22nm,20.6s,baz=347,slow=33						
KMBO	Kilima Mbogo	48.87	89	LR	LR	19 22 20.6	
	comp=Z,121nm,19.9s,baz=100,slow=34						
CPUP	Villa Florida	49.87	237	LR	LR	19 21 35.5	
	comp=Z,52nm,19.3s,baz=38,slow=33						
GERES	GERESS Array B	55.57	20	P	P	19 03 58.6	+0.1
	0.8nm,0.8s,baz=184,slow=6.3,SNR=6.0						
GERES				LR	LR	19 28 52.8	
	comp=Z,18nm,18.4s,baz=308,slow=37						
LPAZ	La Paz	57.24	252	LR	LR	19 26 18.1	
	comp=Z,66nm,21.6s,baz=132,slow=34						
BRTR	Keskin Array B	58.95	40	P	P	19 04 22.5	-0.2
	1.1nm,0.9s,baz=206,slow=8.1,SNR=6.4						
ROSC	El Rosal	63.04	277	LR	LR	19 29 10.2	
	comp=Z,90nm,18.9s,baz=198,slow=33						
AKASG	Malin Array Be	63.35	28	P	P	19 04 51.9	-0.3
	0.1nm,0.3s,baz=229,slow=7.7,SNR=1.7						
FINES	FINESS Array B	69.92	18	P	P	19 05 33.7	-0.2
	2.9nm,1.0s,baz=224,slow=5.8,SNR=2.4						
PMSA	Palmer Station	72.62	201	LR	LR	19 32 53.4	
	comp=Z,108nm,19.5s,baz=300,slow=32						
MAW	Mawson	81.91	158	P	P	19 06 42.4	+0.1
	1.6nm,0.8s,baz=289,slow=8.4,SNR=4.6						
TXAR	Lajitas Array	92.94	299	P	P	19 07 36.9	0.0
	0.1nm,0.3s,baz=130,slow=5.1,SNR=3.5						

*SNET **04** 19:09:39.4±1.2, 14°.07N×89°.72W, h13km±3km, ML2.7*
*GCG **04** 19:09:41.9±0.3, 14°.13N×89°.78W, h27km±2km, MD2.9*
ISC 04 19:09:39.9±1.7, 14°.05N±0°.09×89°.74W±0°.08, h20km±3km, n9, σ0s.85/15, 2C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLOZ	Alcaldia de Sa	0.05	241	⇑*i*P	Pb	19 09 42.6	-0.9
SLOZ				*e*S	Sb	19 09 44.5	-1.6
SLOZ				IAML		19 09 45.0	
	comp=Z,5μm,0.1s						
RTR	El Retiro	0.18	148	⇓*i*P	Pb	19 09 45.2	-0.4
RTR				*e*S	Sb	19 09 48.8	-0.8
SNJE	San Jose	0.22	144	*e*P	Pb	19 09 45.9	+0.1
SBLS	San Blas	0.24	151	*e*P	Pb	19 09 46.0	0.0
SBLS				*e*S	Sb	19 09 50.1	-0.2
CEVE	Cerro Verde	0.25	152	IAML		19 09 55.2	
	comp=Z,1μm,0.2s						
MTO3	Montecristo	0.51	47	⇑*i*P	Pb	19 09 49.7	-0.5
MTO3				*e*S	Sb	19 09 56.7	-0.6
MTO3				IAML		19 09 57.5	
	comp=Z,432nm,0.2s						
NBG	Las Nubes	0.79	312	*e*P	Pn	19 09 56.3	+0.2
NBG				*e*S	Sn	19 10 07.5	-0.1
MRL	Marmol	1.03	3	*e*P	Pn	19 09 59.9	+0.6
MRL				*e*S	Sn	19 10 14.1	+0.8
FUG	Fuego 3	1.14	291	*e*P	Pn	19 10 01.7	+0.9
FUG				*e*S	Sn	19 10 17.1	+1.2

*IDC **04** 19:20:52.1±5.0, 37°.58N×78°.16E, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.2/36, mbtmp3.4/4, ML3.2/2, MS3.1/1, Ms1 3.1/1, ms1mx2.3/34, Error ellipse: s-maj=82.7km s-min=42.2km az=174.0*
*NNC **04** 19:20:57.2±3.9, 37°.73N×78°.20E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=35.8km s-min=26.3km az=81.0*
ISC 04 19:20:55.9±2.7, 37°.7N±0°.2×78°.2E±0°.1, h17km, n14, σ3s.08/13, 1C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	Tian-Shan	5.46	351	Pg	Pb	19 22 34.0	+2.9
	3.9nm,0.4s						
TNSS				Lg	Lg	19 23 46.4	
	9.3nm,0.6s						
UZB	Uzynbulak	5.53	6	Pg	Pb	19 22 35.1	+3.0
	3.6nm,0.6s						
UZB				Lg	Lg	19 23 47.3	
	7.0nm,0.8s						
MDOK	Medeo	5.57	352	Pg	Pg	19 22 38.3	-4.4
	4.6nm,0.6s						
MDOK				Lg	Lg	19 23 53.8	
	6.1nm,0.8s						
SHLS	Shalkode	5.59	10	Pg	Pg	19 22 39.7	-3.2
	6.8nm,0.5s						
SHLS				Lg	Lg	19 23 55.2	
	15nm,0.6s						
MTBS	Maitube	5.63	347	Pg	Pb	19 22 37.0	+3.2
	1.1nm,0.2s						
MTBS				Lg	Lg	19 23 51.0	
	3.1nm,0.3s						
KST	Kastek	5.64	343	Pg	Pg	19 22 41.8	-2.2
	1.8nm,0.8s						
KST				Lg	Lg	19 23 59.0	
	2.6nm,0.4s						
PDGK	Podgornoye	5.76	10	Pg	Pb	19 22 40.2	+4.2
	2.0nm,0.3s						
PDGK				Lg	Lg	19 23 56.1	
	5.4nm,0.6s						
PDGK	Podgornoye	5.76	10	⇑Pn	Pn	19 22 22.4	+1.6
	2.4nm,0.5s						
PDGK				⇓Lg	Lg	19 23 57.4	
	9.9nm,0.6s						
KTMS	Ketmen	6.02	15	Pg	Pg	19 22 47.9	-3.3
	1.2nm,0.0s						
KTMS				Lg	Lg	19 24 09.3	
	7.2nm,0.4s						
MKAR	Makanchi Array	9.63	17	Pn	Pn	19 23 14.2	+0.4
	0.4nm,0.3s,baz=199,slow=12,SNR=22						
ZALV	Zalesovo Beam	16.93	14	P	Pn	19 24 51.7	-0.2
	0.3nm,0.3s,baz=201,slow=12,SNR=3.6						
SONM	Songino Array	22.97	55	P	P	19 25 58.8	-0.8
	0.4nm,0.6s,baz=246,slow=9.6,SNR=3.8						
FINES	FINESS Array B	39.85	324	P	P	19 28 27.2	-0.9
	0.4nm,0.5s,baz=112,slow=7.7,SNR=4.1						
MJAR	Matsushiro Arr	47.17	72	LR	LR	19 49 19.0	
	comp=Z,20nm,19.9s,baz=135,slow=36						

*IDC **04** 19:29:00.5±3.3, 51°.53N×175°.08W, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.3/49, mbtmp3.5/4, ML3.0/2, Error ellipse: s-maj=99.2km s-min=30.1km az=179.0*
*AEIC **04** 19:29:03.0±1.6, 51°.30N±0°.06×174°.88W±0°.03, h10km±5km, ML3.2/24, mb3.8/13(NEIC), Error ellipse: s-maj=9.2km s-min=3.1km az=176.0*
*NEIC **04** 19:29:03.7±1.4, 51°.26N±0°.02×174°.85W±0°.07, h31km±7km, Error ellipse: s-maj=6.5km s-min=2.5km az=74.0*
ISC 04 19:29:04.7±1.1, 51°.3N±0°.1×174°.83W±0°.05, h40km, n52, σ1s.01/49, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSIG	Igitkin Island	0.98	316		Pn	19 29 21.1	-0.9
ATKA	Atka Island	1.00	23		Pn	19 29 21.6	-0.6
ATKA	Atka Island	1.00	23		Sn	19 29 36.1	+1.0
GSMY	Great Sitkin M	1.08	315		Pn	19 29 22.7	-0.6
KOFP	Korovin Flat P	1.09	24		Pn	19 29 23.5	0.0
KOKL	Mount Kliuchef	1.11	20		Pn	19 29 23.6	-0.1
GSTR	Great Sitkin T	1.12	317		Pn	19 29 23.6	-0.2
GSTD	Great Sitkin T	1.13	314		Pn	19 29 23.4	-0.6
GSTD					Sn	19 29 39.4	+1.0
KOSE	Korovin Southe	1.17	24		Pn	19 29 24.9	+0.4
ADK	Adak	1.30	298		Pn	19 29 25.6	-0.8
ADK				Sn	Sn	19 29 43.2	+0.7
KIWB	Kanaga Island	1.56	292		Pn	19 29 29.6	-0.3
KIKV	Kanaga Island	1.58	293		Pn	19 29 29.8	-0.4
KIMD	Kanaga Island	1.58	289		Pn	19 29 29.5	-0.6
KICM	Kanaga Island	1.61	294		Pn	19 29 30.4	-0.2
TAFP	Tanaga Falls P	2.06	289		Pn	19 29 37.1	+0.3
TAFP					Sn	19 30 02.7	+1.4
TASE	Tanaga Southea	2.08	287		Pn	19 29 37.4	+0.4
GAEA	Gareloi East	2.50	283		Pn	19 29 43.6	+0.8
GALAA	Gareloi Lava P	2.51	283		Pn	19 29 43.5	+0.5
AMKA	Amchitka	3.68	274	Pn	Pn	19 29 58.4	-0.7
NIKH	Nikolski High	4.05	63	Pn	Pn	19 30 04.4	+0.4
LSNW	Little Sitkin	4.20	282		Pn	19 30 05.8	-0.4
SPIA	Saint Paul Isl	6.49	23	Pn	Pn	19 30 38.8	+1.4
SDPT	Sand Point	9.50	59	Pn	Pn	19 31 18.4	-0.3
CNBA	Chernabura Isl	9.83	63	Pn	Pn	19 31 22.4	-0.9
CHIR	Chirikof Islan	12.28	61	Pn	Pn	19 31 55.4	-1.3
Q19K	Cape Douglas,	14.29	49	Pn	Pn	19 32 23.4	-0.7
KDAK	Kodiak Island	14.42	55	Pn	Pn	19 32 22.9	-2.9
P19K	Oil Pt	14.78	47	Pn	Pn	19 32 31.3	+0.6
L19K	White Mountain	15.39	37	Pn	Pn	19 32 37.2	-1.5
L19K				IAmb	IAmb	19 32 58.1	
	comp=Z,12nm,1.4s						
CNPM	China Poot	15.66	49	Pn	Pn	19 32 39.1	-3.1
K20K	Telida	16.39	34	Pn	Pn	19 32 51.6	+0.1
SKT	Skwentna	16.59	41	Pn	Pn	19 32 54.5	+0.5
SKT				IAmb	IAmb	19 33 07.9	
	comp=Z,6.7nm,1.2s						
PPLA	Purkeypile	16.81	38		P	19 32 59.3	+0.6
PPLA				IAmb	IAmb	19 33 03.0	
	comp=Z,16nm,1.5s						
PETK	Petropavlovsk-	16.91	287	Pn	Pn	19 32 57.0	-1.0
	comp=Z,0.1nm,0.3s,baz=101,slow=15,SNR=1.8						
BPAW	Bear Paw Mtn.	17.93	35		P	19 33 11.9	+1.0
MLY	Manley	18.56	33	P	P	19 33 16.8	-1.0
WRH	Wood River Hil	19.20	36	P	P	19 33 23.6	-1.1
WRH				IAmb	IAmb	19 33 46.5	
	comp=Z,6.4nm,1.4s						
N25K	Chitina, Valde	19.45	46	P	P	19 33 27.6	0.0
N25K				IAmb	IAmb	19 33 29.9	
	comp=Z,11nm,1.2s						
IL31		19.80	36	P	P	19 33 31.7	+0.5
IL31				IAmb	IAmb	19 34 03.8	
	comp=Z,8.3nm,1.5s						
ILAR	Eielson Array	19.80	36	P	P	19 33 31.3	0.0
	comp=Z,0.2nm,0.3s,baz=229,slow=10,SNR=4.7						
ILAR	Eielson Array	19.80	36	P	P	19 33 31.5	+0.2
RIDG	Independent Ri	20.12	40	P	P	19 33 34.4	-0.5
SCRK	Sand Creek	20.57	40	P	P	19 33 38.9	-0.9
SCRK				IAmb	IAmb	19 33 53.1	
	comp=Z,3.2nm,0.8s						
EGAK	Eagle	22.01	39	P	P	19 33 54.8	-0.3
H11N2	WAKE ISLAND Hy	34.62	211	T	T	20 12 49.5	
	baz=19						
H11N3	WAKE ISLAND Hy	34.63	211	T	T	20 12 47.8	
	baz=19						
H11N1	WAKE ISLAND Hy	34.64	211	T	T	20 12 55.0	
	baz=19						
H11S1	WAKE ISLAND Hy	35.83	211	T	T	20 15 02.9	
	baz=19						
H11S2	WAKE ISLAND Hy	35.84	211	T	T	20 15 04.6	
	baz=19						
H11S3	WAKE ISLAND Hy	35.84	211	T	T	20 15 04.6	
	baz=19						
PDAR	Pinedale Array	43.95	75	P	P	19 37 10.1	+2.3
	comp=Z,0.1nm,0.3s,baz=313,slow=7.3,SNR=1.9						
MKAR	Makanchi Array	62.02	311	P	P	19 39 20.0	-0.5
	comp=Z,0.4nm,0.4s,baz=46,slow=5.6,SNR=14						

WEL 04 19:30:54.5±0.8, 32°S±17°×18°0E±4°1, h366km±23km, M4.3/14, mB3.9/2, ML4.5/13, MLv4.3/14, Mw(mB)2.9/2, Error ellipse: s-maj=0.1km s-min=0.0km az=111.7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.54	36	P	Pn	19 31 57.1	-3.0
MXZ	Matakaoa Point	5.51	192	P	Pn	19 32 22.2	+2.0
MXZ				S	S	19 33 30.2	+0.3
HAZ	Te Kaha	5.80	195	P	Pn	19 32 25.9	+2.5
HAZ				S	S	19 33 38.7	+3.0
RUGZ	Raukumara Rang	6.02	195	P	Pn	19 32 27.6	+1.4
RUGZ				S	S	19 33 39.7	-0.9
MWZ	Matawai	6.41	196	P	Pn	19 32 32.8	+2.4
MWZ				S	S	19 33 49.3	+0.9
URZ	Urewera	6.44	199	P	Pn	19 32 31.3	+0.6
URZ				S	S	19 33 50.2	+1.1
RAGZ	Rawiri	6.59	196	P	P	19 32 33.4	-0.2
RAGZ				S	S	19 33 52.7	+0.4
RTZ	Ruatahuna	6.81	198	P	P	19 32 35.7	-0.5
RTZ				S	S	19 33 57.6	+0.7
TLZ	Tolley Road	7.03	208	P	P	19 32 41.2	+2.5
RAHZ	Arahi	7.07	197	P	P	19 32 39.2	+0.1
RAHZ				S	S	19 34 02.5	+0.2
MTHZ	Maungataniwha	7.07	198	P	P	19 32 39.4	+0.3
MTHZ				S	S	19 34 03.3	+1.0
BKZ	Black Stump Fm	7.46	200	P	Pn	19 32 42.4	-0.1
BKZ				S	S	19 34 09.4	-1.3
NNVZ	North Ngauruho	7.71	204	P	Pn	19 32 44.9	-0.6
OTVZ	Oturere	7.72	204	P	Pn	19 32 45.3	-0.4
KWHZ	Kaweka Forest	7.72	199	P	Pn	19 32 45.8	+0.3
KWHZ				S	S	19 34 15.1	-1.1
SNVZ	South Ngauruho	7.75	204	P	Pn	19 32 44.9	-1.1
BHHZ	Black Hill Sta	7.88	201	P	Pn	19 32 46.8	-0.7
BHHZ				S	S	19 34 18.0	-1.8
WNVZ	Wahianoa	7.89	204	P	Pn	19 32 44.6	-3.0
KRHZ	Kereru	7.94	199	P	Pn	19 32 47.4	-0.7
KRHZ				S	S	19 34 19.2	-1.7
KAHZ	Kahuranaki	7.95	196	P	P	19 32 48.7	-0.5
KAHZ				S	S	19 34 22.9	+1.7
PXZ	Pawanui	8.18	196	P	Pn	19 32 50.2	-0.6
PXZ				S	S	19 34 24.1	-1.9

NOU 04 19:33:02.0, 14°.75S×167°.10E, h80km, mb4.9/8, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	0.70	172	P	Pn	19 33 19.3	+1.6
DVP	Devils Point	3.14	161	P	Pn	19 33 48.5	-0.7
YATNC	Mamie plateau,	7.27	182	P	Pn	19 34 45.0	-0.6
DZM	Mont Dzumac	7.31	185	P	Pn	19 34 45.8	-0.4
OUENC	Ouen Island, N	7.63	182	P	Pn	19 34 51.1	+0.6

*IDC **04** 19:44:45.0±1.1, 18°.24N×39°.92E, h0km, mb3.8/10, mb1 4.0/12, mb1mx3.7/52, mbtmp3.9/12, ML3.6/2, MS2.9/5, Ms1 2.8/5, ms1mx2.6/46, Error ellipse: s-maj=28.0km s-min=19.0km az=177.0*
*NEIC **04** 19:44:49.2±2.9, 18°.19N±0°.10×39°.91E±0°.09, h18km±5km, mb4.1/11, Error ellipse: s-maj=14.9km s-min=12.3km az=150.0*
ISC 04 19:44:49.7±0.6, 18°.20N±0°.08×39°.9E±0°.1, h28km, n32, σ1s.92/27, mb3.9/15, MS2.8/3, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	Arta Tunnel	7.21	156	Pn	Pn	19 46 34.2	+0.7
	1.2nm,0.3s,baz=323,slow=17,SNR=3.6						
ATD				LR	LR	19 48 31.1	
	comp=Z,53nm,21.6s,baz=341,slow=31						
FURI	Furi	9.32	188	Pn	Pn	19 47 00.7	-2.0
MMAI	Mount Meron Ar	15.30	346	LR	LR	19 53 56.3	
	comp=Z,44nm,19.1s,baz=215,slow=36						
WSAR	Wadi Sarin	18.21	71	P	P	19 49 00.8	+0.1
	0.1nm,0.3s,baz=10,slow=12,SNR=3.2						
KMBO	Kilima Mbogo	19.38	188	P	Pn	19 49 19.5	+4.5
	0.1nm,0.3s,baz=26,slow=12,SNR=3.9						
MBAR	Mbarara	20.74	207	LR	LR	19 58 25.5	
	comp=Z,46nm,18.7s,baz=21,slow=40						
BR131	Keskin Array S	22.13	347	P	P	19 49 46.3	+3.1
BR131				IAmb	IAmb	19 49 48.8	
	comp=Z,6.1nm,0.9s						
BRTR	Keskin Array B	22.13	347	P	P	19 49 47.0	+3.7
	comp=Z,3.6nm,1.0s,baz=165,slow=11,SNR=18						
BRTR	Keskin Array B	22.13	347	P	P	19 49 45.5	+2.2
GNI	Garni	22.27	10	LR	LR	19 59 37.4	
	comp=Z,24nm,21.9s,baz=222,slow=40						
ONI	Oni	24.50	6	P	P	19 50 07.9	+1.2
ONI				IAmb	IAmb	19 50 13.1	
	comp=Z,5.2nm,1.1s						
GEYT	Alibeck	25.30	35	P	P	19 50 14.9	+0.9
KBZ	Khabaz	25.58	5	LR	LR	20 00 30.4	
	comp=Z,29nm,20.5s,baz=191,slow=37						
KIV	Kislovodsk	25.79	5	P	P	19 50 20.2	+1.8
KIV				IAmb	IAmb	19 50 28.0	
	comp=Z,5.0nm,1.1s						
BURAR	Bucovina Array	31.71	341	P	P	19 51 13.4	+2.3
KK31	Karatay Array	35.85	40	P	P	19 51 47.8	+0.7
KKAR	Karatay Array	35.85	40	P	P	19 51 46.2	-0.9
TORD	Torodi Ar. Bea	37.08	268	P	P	19 51 56.6	-1.3
	comp=Z,0.9nm,0.8s,baz=83,slow=8.3,SNR=6.3						
TORD	Torodi Ar. Bea	37.08	268	P	P	19 51 56.3	-1.6
GERES	GERESS Array B	37.21	331	P	P	19 51 58.5	-0.2
	comp=Z,0.6nm,0.7s,baz=134,slow=7.6,SNR=6.0						
KOWA	Kowa	42.23	272	P	P	19 52 39.9	-0.9
	comp=Z,1.3nm,0.6s,baz=142,slow=2.9,SNR=2.7						
KOWA	Kowa	42.23	272	IAmb	IAmb	19 52 53.3	
	comp=Z,5.6nm,1.3s						
ESDC	Sonseca Array	43.42	309	P	P	19 52 50.5	+0.2
	comp=Z,0.8nm,0.8s,baz=108,slow=7.3,SNR=3.5						
FINES	FINESS Array B	44.30	351	P	P	19 52 56.7	-0.1
	comp=Z,1.5nm,0.8s,baz=167,slow=18,SNR=4.6						
MAKZ	Makanchi	44.74	41	P	P	19 53 01.1	+0.5
MAKZ				IAmb	IAmb	19 53 09.6	
	comp=Z,2.6nm,1.1s						
MK31	Makanchi Array	44.93	41	P	P	19 53 02.0	-0.2
MKAR	Makanchi Array	44.93	41	P	P	19 53 02.3	+0.1
	comp=Z,0.6nm,0.8s,baz=236,slow=7.7,SNR=4.5						
NOA	NORSAR Array B	47.39	341	P	P	19 53 19.8	-1.5
	comp=Z,1.2nm,0.9s,baz=138,slow=7.7,SNR=5.2						
ZAA0	Zalesovo Array	49.59	33	P	P	19 53 36.1	-2.2
ZAA0				IAmb	IAmb	19 53 41.2	
	comp=Z,2.4nm,0.8s						
ZALV	Zalesovo Beam	49.59	33	P	P	19 53 36.8	-1.5
	comp=Z,2.2nm,0.8s,baz=196,slow=10.0,SNR=7.2						
CMAR	Chiang Mai Arr	55.81	80	P	P	19 54 23.8	-1.1
	comp=Z,0.8nm,0.3s,baz=289,slow=8.5,SNR=4.7						
SONM	Songino Array	61.00	45	P	P	19 54 58.2	-2.6
	comp=Z,0.3nm,0.4s,baz=280,slow=8.5,SNR=3.4						

IDC 04 19:46:11.3±1.5, 18°.38N×39°.60E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/51, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=42.9km s-min=31.0km az=143.0, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	Arta Tunnel	7.49	155	Pn	Pn	19 48 01.9	-0.2
	0.9nm,0.3s,baz=63,slow=23,SNR=2.0						
BRTR	Keskin Array B	21.89	348	P	P	19 51 10.4	+4.3
	1.2nm,0.9s,baz=161,slow=9.1,SNR=5.2						
TORD	Torodi Ar. Bea	36.80	267	P	P	19 53 21.2	-0.1
	0.7nm,0.8s,baz=85,slow=7.8,SNR=2.8						
MKAR	Makanchi Array	44.99	41	P	P	19 54 28.4	0.0
	0.3nm,0.7s,baz=232,slow=7.0,SNR=2.9						
ZALV	Zalesovo Beam	49.60	33	P	P	19 55 03.5	-0.8
	0.3nm,0.3s,baz=251,slow=9.0,SNR=2.1						
SONM	Songino Array	61.07	45	P	P	19 56 27.8	+0.5
	0.3nm,0.8s,baz=256,slow=5.8,SNR=1.8						

*IDC **04** 20:05:24.9±1.2, 43°.94N×105°.77W, h0km, mb1 3.5/3, mb1mx3.3/45, mbtmp3.2/3, ML3.3/3, Error ellipse: s-maj=23.8km s-min=9.9km az=152.0*
*NEIC **04** 20:05:24.8±1.7, 43°.74N±0°.05×105°.27W±0°.04, h0km±2km, ML3.2/68, Error ellipse: s-maj=9.0km s-min=4.2km az=343.0*
ISC 04 20:05:23.8±0.9, 43°.74N±0°.05×105°.28W±0°.05, h0km, n62, σ1s.24/63, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.97	66	Pg	Pg	20 05 43.1	+0.6
K22A	Casper	1.42	220		Pn	20 05 50.3	-0.7
K22A				IAML		20 06 15.1	
	comp=N,670nm,0.3s						
K22A				IAML		20 06 16.2	
	comp=E,374nm,0.3s						
PHWY	Pilot Hill	2.44	183		Pn	20 06 05.2	+0.1
RWWY	Rawlins	2.50	216	Pn	Pn	20 06 06.6	+0.7
RWWY				IAML		20 06 43.5	
	comp=E,152nm,0.7s						
RWWY				IAML		20 06 45.5	
	comp=E,170nm,0.9s						
LAO	LASA Array	3.03	348		Pn	20 06 13.5	+0.5
RLMT	Red Lodge	3.18	297	Pn	Pn	20 06 15.8	+0.6
RLMT				IAML		20 07 04.6	
	comp=E,46nm,0.6s						
RLMT				IAML		20 07 09.0	
	comp=E,61nm,0.7s						
BW06	Boulder Array	3.27	254		Pn	20 06 18.1	+1.5
BW06				IAML		20 07 05.5	
	comp=E,40nm,0.3s						
BW06				IAML		20 07 08.8	
	comp=E,38nm,0.3s						
PD31	Pinedale Array	3.27	254		Pn	20 06 17.1	+0.6
PDAR	Pinedale Array	3.27	254	Pn	Pn	20 06 17.4	+0.8
	comp=E,2.8nm,0.3s,baz=72,slow=16,SNR=30						
PDAR				Pg	Pb	20 06 22.4	-0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=E,17nm,0.3s,baz=76,slow=18,SNR=63						
PDAR				Lg	Lg	20 06 58.3	
	comp=E,4.8nm,0.3s,baz=76,slow=20,SNR=3.8						
PDAR	**Pinedale Array**	**3.27**	**254**		**Pn**	**20 06 17.2**	**+0.6**
YNE	**Yellowstone No**	**3.62**	**292**		**Pn**	**20 06 21.4**	**0.0**
YNE				IAML		20 07 18.9	
	comp=N,62nm,0.7s						
YNE				IAML		20 07 23.1	
	comp=E,46nm,0.7s						
YMP	**Mirror Lake Pl**	**3.65**	**288**		**Pn**	**20 06 22.9**	**+1.2**
YMP				IAML		20 07 23.1	
	comp=N,71nm,0.3s						
OGNE	**Ogallala**	**3.68**	**138**	Pn	**Pn**	**20 06 23.3**	**+1.2**
GCMT	**Greycliff**	**3.74**	**305**		**Pn**	**20 06 23.7**	**+0.8**
LOHW	**Long Hollow**	**3.87**	**270**		**Pn**	**20 06 26.4**	**+1.7**
H17A	**Grant Village**	**3.88**	**282**		**Pn**	**20 06 26.8**	**+1.9**
YUF	**Upper Falls**	**3.89**	**286**	Pn	**Pn**	**20 06 24.8**	**-0.3**
YUF				IAML		20 08 59.9	
	comp=E,40nm,0.3s						
FLWY	**Flagg Ranch**	**3.93**	**277**	Pn	**Pn**	**20 06 27.1**	**+1.4**
FLWY				IAML		20 07 34.1	
	comp=E,31nm,2.4s						
FLWY				IAML		20 07 40.0	
	comp=E,35nm,0.9s						
ISCO	**Idaho Springs**	**3.94**	**184**	Pn	**Pn**	**20 06 27.5**	**+1.6**
MOOW	**Moose Ponds**	**3.96**	**272**		**Pn**	**20 06 28.0**	**+2.0**
SNOW	**Snow King Moun**	**3.99**	**268**		**Pn**	**20 06 27.3**	**+0.9**
SNOW				IAML		20 07 32.5	
	comp=E,31nm,0.7s						
SNOW				IAML		20 07 32.6	
	comp=E,55nm,0.4s						
YNR	**Norris Junctio**	**4.00**	**286**	Pn	**Pn**	**20 06 29.3**	**+2.7**
YPP	**Pitchstone Pla**	**4.02**	**280**		**Pn**	**20 06 28.4**	**+1.5**
REDW	**Red Top Meadow**	**4.07**	**267**		**Pn**	**20 06 28.9**	**+1.3**
REDW				IAML		20 07 35.1	
	comp=E,38nm,0.8s						
REDW				IAML		20 07 46.1	
	comp=E,28nm,0.7s						
IMW	**Indian Meadow**	**4.10**	**274**		**Pn**	**20 06 29.8**	**+1.8**
IMW				IAML		20 07 37.6	
	comp=E,21nm,0.6s						
IMW				IAML		20 07 38.1	
	comp=E,44nm,0.7s						
TPAW	**Teton Pass**	**4.13**	**269**	Pn	**Pn**	**20 06 28.4**	**0.0**
TPAW				IAML		20 07 50.3	
	comp=E,20nm,0.8s						
TPAW				IAML		20 07 56.5	
	comp=E,40nm,0.9s						
YHH	**Holmes Hill**	**4.14**	**287**		**Pn**	**20 06 30.8**	**+2.2**
YHH				IAML		20 07 41.5	
	comp=N,21nm,0.9s						
FXWY	**Fox Creek**	**4.17**	**271**	Pn	**Pn**	**20 06 30.5**	**+1.5**
O20A	**White River Ci**	**4.22**	**213**		**Pn**	**20 06 31.5**	**+1.8**
O20A				IAML		20 07 49.2	
	comp=E,30nm,1.0s						
O20A				IAML		20 07 56.1	
	comp=N,30nm,0.9s						
E28A	**Huff**	**4.31**	**47**		**Pn**	**20 06 29.9**	**-0.7**
AHID	**Auburn Hatcher**	**4.36**	**259**		**Pn**	**20 06 33.1**	**+1.6**
AHID				IAML		20 07 46.2	
	comp=N,29nm,0.7s						
AHID				IAML		20 07 48.7	
	comp=N,28nm,0.7s						
RDMU	**Red Mountain**	**4.49**	**227**		**Pn**	**20 06 34.1**	**+0.8**
RDMU				IAML		20 07 47.7	
	comp=N,17nm,1.0s						
RDMU				IAML		20 07 52.9	
	comp=E,20nm,1.2s						
SUSD	**Miller**	**4.61**	**79**	Pn	**Pn**	**20 06 34.9**	**+0.2**
SMCO	**Snowmass**	**4.73**	**196**		**Pn**	**20 06 39.9**	**+3.1**
SMCO				IAML		20 07 57.1	
	comp=E,25nm,0.4s						
SMCO				IAML		20 08 04.4	
	comp=E,19nm,1.1s						
DGMT	**Dagmar**	**4.79**	**9**	Pn	**Pn**	**20 06 38.3**	**+1.0**
BOZ	**Bozeman (W)**	**4.90**	**295**		**Pn**	**20 06 39.3**	**+0.5**
BOZ				IAML		20 08 06.2	
	comp=E,16nm,0.9s						
HWUT	**Hardware Ranch**	**5.10**	**247**	Pn	**Pn**	**20 06 41.9**	**+0.2**
HWUT				IAML		20 08 11.3	
	comp=E,25nm,0.9s						
HWUT				IAML		20 08 12.1	
	comp=E,20nm,1.0s						
KSCO	**Kaye Shedlock'**	**5.12**	**156**		**Pn**	**20 06 41.8**	**-0.1**
EGMT	**Eagleton**	**5.30**	**325**		**Pn**	**20 06 44.4**	**0.0**
DLMT	**Dillon**	**5.48**	**290**		**Pn**	**20 06 47.5**	**+0.7**
LRM	**Limekiln Ridge**	**5.52**	**295**		**Pn**	**20 06 46.5**	**-0.9**
MCMT	**McKenzie Canyo**	**5.54**	**284**		**Pn**	**20 06 46.0**	**-1.8**
PV22	**Blue Mesa, Par**	**5.83**	**208**		**Pn**	**20 06 53.7**	**+2.0**
HVU	**Hansel Valley**	**5.86**	**253**		**Pn**	**20 06 52.3**	**+0.3**
PV07	**Paradox Valley**	**5.88**	**207**	Pn	**Pn**	**20 06 54.5**	**+2.2**
P17A	**Butcher Ranch,**	**5.91**	**226**		**Pn**	**20 06 53.8**	**+1.1**
PV15	**Paradox Valley**	**5.91**	**205**		**Pn**	**20 06 53.9**	**+1.1**
PV23	**Carpenter Ridg**	**5.99**	**209**		**Pn**	**20 06 54.6**	**+0.7**
PV04	**Paradox Valley**	**6.00**	**208**		**Pn**	**20 06 54.9**	**+0.9**
PV11	**David Mesa, Pa**	**6.08**	**208**		**Pn**	**20 06 55.9**	**+0.9**
SRU	**San Rafael Swe**	**6.08**	**222**		**Pn**	**20 06 55.6**	**+0.5**
PV16	**Nyswonger Mesa**	**6.08**	**208**		**Pn**	**20 06 55.4**	**+0.3**
PV03	**Paradox Valley**	**6.11**	**207**		**Pn**	**20 06 56.8**	**+1.3**
PV02	**Paradox Valley**	**6.11**	**207**		**Pn**	**20 06 56.9**	**+1.2**
PV17	**East Wray Mesa**	**6.12**	**208**		**Pn**	**20 06 57.3**	**+1.5**
PV18	**Skein Mesa, Pa**	**6.13**	**208**		**Pn**	**20 06 54.9**	**-1.0**
PV13	**Radium Mtn., P**	**6.18**	**207**		**Pn**	**20 06 57.3**	**+0.7**
TMUT	**Trail Mountain**	**6.29**	**227**		**Pn**	**20 06 58.6**	**+0.6**
PV05	**Paradox Valley**	**6.35**	**208**		**Pn**	**20 06 58.8**	**-0.1**
ULM	**Lac du Bonnet**	**9.14**	**41**	Pn	**Pn**	**20 07 37.0**	**0.0**
	comp=E,0.8nm,0.3s,baz=234,slow=13,SNR=5.5						
ULM				Pg		20 08 09.9	
	comp=E,0.6nm,0.3s,baz=233,slow=15,SNR=2.4						
ULM				Lg	Lg	20 10 06.4	
	comp=E,0.3nm,0.3s,baz=310,slow=22,SNR=1.4						
ULM	**Lac du Bonnet**	**9.14**	**41**		**Pn**	**20 07 36.4**	**-0.5**
TXAR	**Lajitas Array**	**14.43**	**174**	Pn	**P**	**20 08 55.1**	**-1.4**
	comp=E,0.0nm,0.3s,baz=0.5,slow=9.9,SNR=1.7						
TXAR				Lg	Lg	20 13 01.1	
	comp=E,0.0nm,0.3s,baz=352,slow=33,SNR=1.8						

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*NEIC **04** 20:08:28.6, 8°.02S×107°.24E, h40km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.28; $M_{\theta\theta}$0.15; $M_{\phi\phi}$-1.43; $M_{r\theta}$-0.13; $M_{\theta\phi}$-0.28; $M_{\phi r}$-0.32; Fault plane solution: $M_0$1.43000×10^{17} NP1:ϕ_s193.25000°, δ51.96000°, λ94.52000°. NP2:ϕ_s5.94000°, δ38.27000°, λ84.25000°. Principal axes: T 1.3265, Plg82.0000°, Azm128.0000°; N 0.1951, Plg4.0000°, Azm10.0000°; P -1.5216, Plg7.0000°, Azm280.0000°;*

*BJI **04** 20:08:30.5±0.0, 7°.80S×107°.50E, h34km, mB4.9/58, mb5.0/81, Ms4.8/84, Ms7 4.6/78*

*NEIC **04** 20:08:31.6±3.3, 8°.04S±0°.05×107°.23E±0°.05, h37km±1km, mb5.5/190, Ms_20 4.8/84, Mwb5.4/26, Mww5.4, Mwc5.4(GCMT), Error ellipse: s-maj=10.9km s-min=6.7km az=137.0*

*IDC **04** 20:08:32.5±1.1, 7°.82S×107°.53E, h43km±9km, mb5.0/47, mb1 5.0/48, mb1mx5.0/52, mbtmp5.2/48, ML5.7/1, MS4.4/39, Ms1 4.4/39, ms1mx4.4/42, Error ellipse: s-maj=9.2km s-min=7.7km az=55.0*

*DJA **04** 20:08:33.8±0.2, 8°S±2°×10°7E±°, h49km±2km, M5.3/88, mB5.8/64, mb5.5/88, MLv5.9/31, Mw(mB)5.4/64, MwMwp5.1/27, Mwp5.3/27*

*NEIC **04** 20:08:33, 8°.38S×107°.24E, h46km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.55; $M_{\theta\theta}$-0.32; $M_{\phi\phi}$-1.24; $M_{r\theta}$-0.29; $M_{\theta\phi}$-0.51; $M_{\phi r}$-0.21; Fault plane solution: $M_0$1.55000×10^{17} NP1:ϕ_s18.00000°, δ39.00000°, λ81.00000°. NP2:ϕ_s210.00000°, δ51.00000°, λ97.00000°. Principal axes: T 1.6035, Plg82.0000°, Azm160.0000°; N -0.1089, Plg6.0000°, Azm25.0000°; P -1.4946, Plg6.0000°, Azm295.0000°;*

*GCMT **04** 20:08:34.6±0.1, 8°.13S±0°.01×107°.35E±0°.01, h50km, MW5.3/124, Moment Tensor Solution. s124,c204; s121,c202; Duration: 1^{s}1 Moment tensor: Scale 10^{17} Nm; M_{rr}1.17±.02; $M_{\theta\theta}$-0.14±.01; $M_{\phi\phi}$-1.03±.02; $M_{r\theta}$-0.06±.01; $M_{\theta\phi}$-0.62±.01; $M_{\phi r}$-0.23±.01; Best double couple: $M_0$1.28200×10^{17} NP1:ϕ_s30.00000°, δ40.00000°, λ95.00000°. NP2:ϕ_s204.00000°, δ50.00000°, λ86.00000°. Principal axes: T 1.1930, Plg84.0000°, Azm87.0000°; N 0.1710, Plg3.0000°, Azm207.0000°; P -1.3700, Plg5.0000°, Azm297.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **04** 20:08:35, 8°.17S×107°.34E, h50km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.18; $M_{\theta\theta}$-0.05; $M_{\phi\phi}$-1.13; $M_{r\theta}$-0.09; $M_{\theta\phi}$-0.68; $M_{\phi r}$-0.23; Fault plane solution: $M_0$1.36000×10^{17} NP1:ϕ_s27.00000°, δ40.00000°, λ92.00000°. NP2:ϕ_s205.00000°, δ50.00000°, λ88.00000°. Principal axes: T 1.2037, Plg85.0000°, Azm102.0000°; N 0.2752, Plg1.0000°, Azm206.0000°; P -1.4789, Plg5.0000°, Azm296.0000°;*

*MOS **04** 20:08:36.7±1.1, 7°.62S×107°.66E, h91km, mb5.4/43, MS4.5/18 Error ellipse: s-maj=7.6km s-min=4.1km az=122.1*

ISC 04 20:08:34.6±0.4**, 7°.96S**±0°.03×**107°.46E**±0°.03**, h69**km±2km**, h69**km**:pP-P, n1225, σ1^{s}74**/1324**, mb5.4**/238**, 170C-83D, Fault plane solution: NP1:**ϕ_s359.74139°**,** δ39.55915°**,** λ41.87117°. **NP2:**ϕ_s235.09499°**,** δ64.84383°**,** λ121.59701°. **Principal axes:** T Plg57.7511°**,** Azm189.0673°**;** N Plg28.3103°**,** Azm40.4411°**;** P Plg14.1567°**,** Azm302.6320°**; Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.54**	**41**		**Pn**	**20 08 46.8**	**-1.0**
CISI				Sn	**Sn**	**20 08 57.6**	**+0.2**
CISI	**Cisompet, Garu**	**0.54**	**41**	P	**Pn**	**20 08 47.5**	**-0.2**
CISI				S	**Sn**	**20 09 00.2**	**+2.8**
CNJI	**Cibinong**	**0.72**	**333**	P	**Pn**	**20 08 49.2**	**-0.5**
CNJI				S	**Sn**	**20 09 03.2**	**+2.4**
CMJI	**Cimerak**	**1.00**	**80**	P	**Pn**	**20 08 52.9**	**-0.1**
CMJI				S	**Sn**	**20 09 11.9**	**+5.2**
LEM	**Lembang**	**1.14**	**8**	P	**Pn**	**20 08 57.5**	**+2.5**
	4μm,0.3s,baz=148,slow=3.3,SNR=638						
LEM				S	**Sn**	**20 09 15.3**	**+5.2**
	6μm,0.3s,baz=292,slow=22,SNR=17						
LEM	**Lembang**	**1.14**	**8**	P	**Pn**	**20 08 57.8**	**+2.8**
SKJI	**Sukabumi**	**1.30**	**317**	P	**Pn**	**20 08 57.1**	**+0.2**
SKJI				S	**Sn**	**20 09 16.7**	**+3.0**
DBJI	**Dramaga**	**1.56**	**333**	P	**Pn**	**20 09 02.5**	**+2.1**
DBJI				S	**Sn**	**20 09 24.9**	**+5.0**
KPJI	**Karang Pucung**	**1.59**	**67**	P	**Pn**	**20 09 03.2**	**+2.5**
TNG	**Tangerang**	**1.95**	**336**	P	**Pn**	**20 09 09.1**	**+3.5**
TNG				P	**Pn**	**20 09 07.5**	**+1.9**
TNG				S	**Sn**	**20 09 34.4**	**+5.3**
TNG				S	**Sn**	**20 09 34.6**	**+5.5**
CTJI	**Waduk Cacaban**	**1.96**	**61**	P	**Pn**	**20 09 08.9**	**+3.3**
CTJI				S	**Sn**	**20 09 36.2**	**+6.9**
SBJI	**Serang**	**2.25**	**324**	P	**Pn**	**20 09 11.1**	**+1.5**
SBJI				S	**Sn**	**20 09 40.6**	**+4.2**
YOGI	**Yogyakarta**	**2.82**	**87**	P	**Pn**	**20 09 17.5**	**+0.2**
YOGI				S	**Sn**	**20 09 54.6**	**+4.4**
XMI	**Christmas Isla**	**3.02**	**215**	P	Pn	20 09 15.0	-5.1
UGM	**Wanagama**	**3.04**	**89**		**Pn**	**20 09 20.6**	**+0.2**
UGM				Sn	**Sn**	**20 09 55.6**	**0.0**
UGM	**Wanagama**	**3.04**	**89**	P	**Pn**	**20 09 20.7**	**+0.4**
UGM				S	**Sn**	**20 09 59.7**	**+4.1**
XMIS	**Christmas Isla**	**3.07**	**215**		Pn	20 09 14.8	-5.9
XMIS				Sn	Sn	20 09 43.9	-13
XMIS	**Christmas Isla**	**3.07**	**215**	P	Pn	20 09 15.4	-5.4
SMRI	**Semarang**	**3.10**	**73**		**Pn**	**20 09 24.0**	**+2.9**
SMRI				Sn	**Sn**	**20 10 01.9**	**+4.9**
SMRI	**Semarang**	**3.10**	**73**	P	**Pn**	**20 09 23.9**	**+2.9**
BLSI	**Bandar Lampung**	**3.39**	**319**	P	**Pn**	**20 09 26.3**	**+1.2**
PCJI	**Pacitan**	**3.69**	**94**	P	**Pn**	**20 09 29.2**	**0.0**
KASI	**Kota Agung**	**3.81**	**309**	P	**Pn**	**20 09 30.3**	**-0.5**
SJI	**Sawahan**	**4.28**	**87**	P	**Pn**	**20 09 38.8**	**+1.5**
PWJI	**Pagerwojo**	**4.31**	**91**	P	**Pn**	**20 09 37.9**	**+0.3**
LWLI	**Liwa**	**4.47**	**311**	P	**Pn**	**20 09 40.5**	**+0.6**
TBJI	**Tambak Boyo**	**4.50**	**76**	P	**Pn**	**20 09 42.4**	**+2.1**
MDSI	**Maura Dua**	**4.75**	**316**	P	**Pn**	**20 09 44.3**	**+0.6**
KRKI	**Karangkates**	**4.95**	**93**	P	**Pn**	**20 09 47.7**	**+1.3**
	50nm17μm94μm6μm,0.6s						
GRJI	**Gresik**	**5.09**	**79**	P	**Pn**	**20 09 50.0**	**+1.7**
	4.6nm14μm958nm,0.6s						
TPI	**Tanjungpandan**	**5.17**	**2**	P	**Pn**	**20 09 53.3**	**+3.8**
	5μm458nm,0.8s						
BWJI	**Bawean**	**5.57**	**68**	P	**Pn**	**20 09 56.9**	**+1.9**
	9.7nm6μm11μm1μm,0.9s						
LHSI	**Lahat**	**5.67**	**316**	P	**Pn**	**20 09 57.2**	**+0.9**
	6.3nm18μm23μm2μm,0.9s						
EGSI	**Enggano, Bengk**	**5.76**	**296**	P	**Pn**	**20 09 56.1**	**-1.4**
	16nm9μm74μm4μm,0.5s						
PPBI	**Pangkal Pinang**	**5.91**	**347**	P	**Pn**	**20 10 02.2**	**+2.6**
	4.3nm6μm6μm583nm,1.1s						
KSI	**Kapahiang**	**6.46**	**311**	P	**Pn**	**20 10 07.7**	**+0.5**
	24μm1μm,0.6s						
KMMI	**Kalianget**	**6.52**	**82**	P	**Pn**	**20 10 08.3**	**+0.4**
	3.2nm12μm5μm518nm,1.3s						
UBSI	**University, Be**	**6.63**	**309**	P	**Pn**	**20 10 08.3**	**-1.2**
JAGI	**Jajag, Banyuwa**	**6.65**	**95**		**Pn**	**20 10 09.5**	**-0.2**
JAGI	**Jajag, Banyuwa**	**6.65**	**95**	P	**Pn**	**20 10 10.8**	**+1.1**
	8.8nm10μm25μm1μm,0.7s						
PBKI	**Pangkalan Bun**	**6.70**	**39**	P	**Pn**	**20 10 14.1**	**+3.7**
	5.0nm15μm2μm,1.0s						
MASI	**Maura Aman, Be**	**7.06**	**312**	P	**Pn**	**20 10 15.8**	**+0.4**
	6.4nm1μm,0.7s						
SRBI	**Singaraja**	**7.68**	**91**	P	**Pn**	**20 10 25.2**	**+1.4**
	4.5nm8μm15μm1μm,0.7s						
DNP	**Denpasar**	**7.71**	**96**	P	**Pn**	**20 10 24.6**	**+0.5**
DNP				pmax	pmax		
	comp=Z,2μm,0.6s						
DNP	**Denpasar**	**7.71**	**96**	P	**Pn**	**20 10 25.2**	**+1.1**
	comp=Z,18nmcomp=Z,38μmcomp=Z,2μm,0.6s						
PTKI	**Pontianak**	**8.00**	**14**	P	**Pn**	**20 10 31.6**	**+3.4**
	comp=Z,5μmcomp=Z,642nm,0.8s						
KHKI	**Kahang-Kahang**	**8.08**	**93**	P	**Pn**	**20 10 30.2**	**+0.9**
BBKI	**Banjar Baru**	**8.60**	**59**	P	**Pn**	**20 10 40.2**	**+3.8**
	comp=Z,3μmcomp=Z,199nm,0.9s						
PKKI	**Palangkaraya**	**8.62**	**49**	P	**Pn**	**20 10 40.5**	**+3.8**
	comp=Z,3μmcomp=Z,218nm,1.6s						
STKI	**Sintang**	**8.93**	**27**	P	**Pn**	**20 10 44.4**	**+3.6**
	comp=Z,2μmcomp=Z,166nm,1.1s						
RGRI	**Rengat**	**9.12**	**326**	P	**Pn**	**20 10 45.8**	**+2.2**
	comp=Z,74μmcomp=Z,122nm,0.8s						
TWSI	**Taliwang, Sumb**	**9.36**	**95**	P	**Pn**	**20 10 46.3**	**-0.5**
	comp=Z,5μmcomp=Z,6μmcomp=Z,369nm,0.9s						
KBKI	**Kotabaru**	**9.83**	**62**	P	**Pn**	**20 10 56.6**	**+3.4**
	comp=Z,1μmcomp=Z,142nm,0.8s						
BTDF	**Bukit Timah Da**	**9.96**	**338**	P	**Pn**	**20 10 57.7**	**+2.7**
	comp=Z,3μmcomp=Z,2μmcomp=Z,95nm,1.2s						
MTKI	**Muara Teweh, K**	**10.18**	**47**	P	**Pn**	**20 11 01.0**	**+3.0**
	comp=Z,64nm,0.9s						
PLAI	**Plampang**	**10.25**	**96**	P	**Pn**	**20 10 59.4**	**+0.5**
	comp=Z,8μmcomp=Z,8μmcomp=Z,895nm,0.8s						
COCO	**West Island**	**11.27**	**247**		Pn	20 11 05.6	-7.2
BKB	**Balikpapan**	**11.52**	**55**	Pn	**Pn**	**20 11 16.7**	**+0.4**
BKB	**Balikpapan**	**11.52**	**55**	P	**Pn**	**20 11 21.0**	**+4.7**
	comp=Z,5μmcomp=Z,4μmcomp=Z,315nm,1.3s						
MNSI	**Mandailing Nat**	**11.72**	**318**	P	**Pn**	**20 11 14.9**	**-4.1**
WBSI	**Waikabubak, Su**	**11.91**	**99**	P	**Pn**	**20 11 22.7**	**+1.0**
	comp=Z,3μmcomp=Z,357nm,1.1s						
PMSI	**Majene**	**12.23**	**69**	P	**Pn**	**20 11 29.6**	**+3.6**
	comp=Z,3μmcomp=Z,3μmcomp=Z,257nm,1.2s						
MKS	**Makassar**	**12.24**	**78**	P	**Pn**	**20 11 28.8**	**+2.7**
	comp=Z,3μmcomp=Z,248nm,1.0s						
KAPI	**Kappang**	**12.56**	**77**	P	**Pn**	**20 11 33.0**	**+2.5**
	comp=Z,2.9nm,0.3s,baz=276,slow=9.5,SNR=27						
KAPI				LR	LR	20 16 53.9	
	comp=Z,2μm,20.3s,baz=238,slow=40						
KAPI	**Kappang**	**12.56**	**77**	P	**Pn**	**20 11 32.0**	**+1.5**
KAPI	**Kappang**	**12.56**	**77**		**Pn**	**20 11 32.0**	**+1.5**
KAPI	**Kappang**	**12.56**	**77**	P	**Pn**	**20 11 32.7**	**+2.2**
	comp=Z,5μmcomp=Z,2μmcomp=Z,124nm,1.1s						
BKSI	**Bulukumba**	**12.85**	**79**	P	**Pn**	**20 11 37.1**	**+2.7**
	comp=Z,4μmcomp=Z,4μmcomp=Z,292nm,0.7s						
BSSI	**Bau Bau, Buton**	**13.06**	**83**	P	**Pn**	**20 11 39.1**	**+1.8**
	comp=Z,3μmcomp=Z,3μmcomp=Z,280nm,0.8s						
BNSI	**Bone**	**13.06**	**75**	P	**Pn**	**20 11 40.4**	**+3.1**
	comp=Z,5μmcomp=Z,3μmcomp=Z,151nm,0.9s						
TTSI	**Tana Toraja**	**13.24**	**69**	P	**P**	**20 11 43.8**	**-3.3**
	comp=Z,5μmcomp=Z,2μmcomp=Z,288nm,1.1s						
GSI	**Gunungsitoli**	**13.48**	**313**	Pn	Pn	20 11 36.6	-6.4
GSI	**Gunungsitoli**	**13.48**	**313**	P	Pn	20 11 37.4	-5.5
RPSI	**Rantau Prapat**	**13.58**	**321**		Pn	20 11 39.1	-5.2
RPSI	**Rantau Prapat**	**13.58**	**321**		Pn	20 11 38.4	-5.9
PSI	**Prapat**	**13.67**	**321**	P	Pn	20 11 39.1	-6.4
	comp=Z,4.1nm,0.3s,baz=183,slow=12,SNR=14						
PSI				LR	LR	20 17 43.9	
	comp=Z,2μm,19.0s,baz=91,slow=41						
PSI	**Prapat**	**13.67**	**321**	P	Pn	20 11 38.4	-7.1
PSI	**Prapat**	**13.67**	**321**	P	Pn	20 11 39.6	-5.9
PSI				P	Pn	20 11 40.2	-5.3
EDFI	**Ende, Flores**	**14.11**	**94**	P	**Pn**	**20 11 48.2**	**-3.1**
	comp=Z,3μmcomp=Z,2μmcomp=Z,188nm,1.3s						
KKSI	**Kolaka, Sulawe**	**14.61**	**76**	P	**P**	**20 12 00.1**	**-2.2**
	comp=Z,2μmcomp=Z,106nm,0.8s						
MMRI	**Maumere**	**14.64**	**94**	Pn	**Pn**	**20 11 54.3**	**-3.9**
MMRI	**Maumere**	**14.64**	**94**	P	**Pn**	**20 11 56.3**	**-1.9**
	comp=Z,5μmcomp=Z,7μmcomp=Z,487nm,0.8s						
MPSI	**Mapaga**	**14.89**	**57**	P	**P**	**20 12 05.1**	**-0.4**
	comp=Z,3μmcomp=Z,2μmcomp=Z,157nm,1.3s						
APSI	**Ampana**	**15.78**	**64**	P	**P**	**20 12 16.5**	**+1.1**
	comp=Z,4μmcomp=Z,446nm,1.2s						
GIRL	**Giralia**	**15.99**	**157**	P	**Pn**	**20 12 10.7**	**-4.6**
	baz=16,SNR=104						
GIRL				S	Sn	20 14 52.4	-19
	baz=16						
GIRL	**Giralia**	**15.99**	**157**		**Pn**	**20 12 09.7**	**-5.6**
GIRL				IAmb	IAmb	20 12 21.9	
	comp=Z,322nm,1.1s						
TOLI2	**Tolitoli**	**16.06**	**56**	P	**P**	**20 12 18.3**	**-0.1**
BATI	**Baumata**	**16.16**	**99**	P	**Pn**	**20 12 14.9**	**-2.7**
	comp=Z,28nm,0.3s,baz=289,slow=6.8,SNR=36						
BATI				S	**Sn**	**20 15 06.0**	**-10**
	comp=Z,12nm,0.3s,baz=200,slow=21,SNR=2.3						
BATI	**Baumata**	**16.16**	**99**	P	**Pn**	**20 12 15.7**	**-1.9**
	comp=Z,3μmcomp=Z,4μmcomp=Z,322nm,1.1s						
MRSI	**Marisa**	**16.70**	**61**	P	**P**	**20 12 26.4**	**+0.9**
	comp=Z,3μmcomp=Z,318nm,1.1s						
SOEI	**Soe**	**16.71**	**97**	P	**Pn**	**20 12 21.4**	**-3.1**
SOEI	**Soe**	**16.71**	**97**	P	**Pn**	**20 12 22.2**	**-2.3**
	comp=Z,5μmcomp=Z,7μmcomp=Z,806nm,0.9s						
TRTT	**Trang**	**17.50**	**334**	P	**P**	**20 12 39.7**	**+5.3**
TRTT	**Trang**	**17.50**	**334**	P	**P**	**20 12 39.0**	**+4.6**
	comp=Z,1μmcomp=Z,49nm,1.0s						
GTOI	**Gorontalo**	**17.70**	**62**	P	**Pn**	**20 12 36.1**	**-0.5**
	comp=Z,2μmcomp=Z,206nm,1.3s						
PSA00	**Pilbara Seismi**	**18.05**	**140**		**P**	**20 12 36.5**	**-3.9**
PSA00	**Pilbara Seismi**	**18.05**	**140**	P	**P**	**20 12 37.9**	**-2.6**
PSA00				IAmb	IAmb	20 12 42.6	
	comp=Z,339nm,1.6s						
KRAB	**Krabi**	**18.06**	**333**	P	**P**	**20 12 39.3**	**-1.2**
	comp=Z,70μmcomp=Z,819nm,0.6s						
KRAB	**Krabi**	**18.06**	**333**	P	**P**	**20 12 39.3**	**-1.2**
	comp=Z,17μmcomp=Z,204nm,0.6s						
SURA	**Surathani**	**18.72**	**335**	P	**P**	**20 12 47.1**	**-0.6**
	comp=Z,38nm,1.2s						
SURA	**Surathani**	**18.72**	**335**	P	**P**	**20 12 47.1**	**-0.6**
	comp=Z,37nm,1.2s						
SURT	**Suratani**	**18.89**	**333**	P	Pn	20 13 02.8	+12
SANI	**Sanana**	**19.37**	**73**	P	**P**	**20 12 55.7**	**+0.8**
	comp=Z,2μmcomp=Z,7μmcomp=Z,744nm,1.1s						
MNI	**Manado**	**19.69**	**62**	P	**P**	**20 12 58.3**	**-0.2**
	comp=Z,2μmcomp=Z,100nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.36**	**121**	P	**P**	**20 13 06.8**	**+1.1**
	baz=20,SNR=124						
FITZ	**Fitzroy Crossi**	**20.36**	**121**	P	**P**	**20 13 06.8**	**+1.1**
	comp=Z,85nm,0.8s,baz=299,slow=7.8,SNR=132						
FITZ				S	S	20 16 37.3	-13
	comp=Z,16nm,0.8s,baz=302,slow=5.4,SNR=2.8						
FITZ				LR	LR	20 20 53.0	
	comp=Z,2μm,20.8s,baz=287,slow=36						
FITZ	**Fitzroy Crossi**	**20.36**	**121**	P	**P**	**20 13 06.2**	**+0.6**
PPR	**Puerto Princes**	**20.89**	**33**	*e*P	**P**	**20 13 12.2**	**+0.8**
KRAI	**Karang Ratu**	**21.34**	**79**	P	**P**	**20 13 15.8**	**-0.4**
	comp=Z,4μmcomp=Z,204nm,0.7s						
MEEK	**Meekatharra**	**21.38**	**152**	P	**P**	**20 13 17.4**	**+0.8**
	baz=21,SNR=8.9						
TNTI	**Ternate**	**21.67**	**67**	P	**P**	**20 13 18.3**	**-1.4**
TNTI				IAmb	IAmb	20 13 34.5	
	comp=Z,170nm,0.8s						
TNTI					**S**	**20 17 19.1**	**+3.0**
TNTI	**Ternate**	**21.67**	**67**	P	**P**	**20 13 20.2**	**+0.5**
	comp=Z,1μmcomp=Z,4μmcomp=Z,224nm,1.1s						
MSAI	**Masohi**	**21.85**	**79**	P	**P**	**20 13 24.8**	**+3.1**
	comp=Z,529nmcomp=Z,24nm,0.4s						
PHET	**Kaeng Krachan**	**22.15**	**339**	P	**P**	**20 13 24.9**	**+0.1**
	comp=Z,672nmcomp=Z,51nm,0.8s						
PHET	**Kaeng Krachan**	**22.15**	**339**	P	**P**	**20 13 24.0**	**-0.8**
	comp=Z,173nmcomp=Z,13nm,0.8s						
KNRA	**Kununurra**	**22.20**	**112**	P	**P**	**20 13 25.7**	**+0.2**
	baz=22,SNR=49						
KNRA	**Kununurra**	**22.20**	**112**	P	**P**	**20 13 23.9**	**-1.5**
KNRA				IAmb	IAmb	20 13 35.3	
	comp=Z,430nm,1.4s						
GAMI	**Galela, Maluku**	**22.49**	**65**	P	**P**	**20 13 28.9**	**+0.2**
	comp=Z,10μmcomp=Z,742nm,1.4s						
MORW	**Morawa**	**22.50**	**160**	P	**P**	**20 13 28.7**	**+0.1**
	baz=22,SNR=10						
MORW	**Morawa**	**22.50**	**160**	P	**P**	**20 13 25.3**	**-3.3**
MORW				IAmb	IAmb	20 14 07.0	
	comp=Z,247nm,1.8s						
BNDI	**Bandanaira**	**22.57**	**83**	P	**P**	**20 13 29.1**	**-0.4**
	comp=Z,5μmcomp=Z,457nm,1.1s						
UBPT	**Khong Chiam**	**23.18**	**355**	P	**P**	**20 13 36.4**	**+0.9**
	comp=Z,812nmcomp=Z,38nm,1.6s						
UBPT	**Khong Chiam**	**23.18**	**355**	P	**P**	**20 13 36.5**	**+0.9**
	comp=Z,812nmcomp=Z,38nm,1.6s						
UBPT	**Khong Chiam**	**23.18**	**355**	P	**P**	**20 13 33.3**	**-2.2**
SNPH	**Sibulan**	**23.30**	**43**	*e*P	**P**	**20 13 38.6**	**+1.8**
DAV	**Davao City (W)**	**23.44**	**51**	P	**P**	**20 13 40.0**	**+2.0**
	comp=Z,238nm,0.3s,baz=190,slow=1.0,SNR=33						
DAV				LR	LR	20 23 15.7	
	comp=Z,674nm,21.2s,baz=205,slow=38						
DAV	**Davao City (W)**	**23.44**	**51**	P	**P**	**20 13 40.0**	**+2.0**
DAV	**Davao City (W)**	**23.44**	**51**	P	**P**	**20 13 42.0**	**+3.9**
	comp=Z,12μmcomp=Z,1μm,1.3s						
SAUI	**Saumlaki**	**23.61**	**92**	P	**P**	**20 13 36.7**	**-2.9**
SRDT	**SRDT**	**23.66**	**340**	P	**P**	**20 13 44.5**	**+4.5**
	comp=Z,7μmcomp=Z,58nm,1.3s						
MTN	**Manton Dam**	**23.78**	**104**	P	**P**	**20 13 41.6**	**+0.5**
	baz=24,SNR=67						
MTN	**Manton Dam**	**23.78**	**104**	P	**P**	**20 13 41.5**	**+0.4**
MTN				IAmb	IAmb	20 13 52.4	
	comp=Z,207nm,1.1s						
BLDU	**Ballidu**	**24.14**	**160**	P	**P**	**20 13 44.9**	**+0.6**
	baz=24,SNR=7.3						
KHLT	**Khaolaem Dam**	**24.26**	**339**	P	**P**	**20 13 45.2**	**-0.2**
	comp=Z,26nm,1.0s						
KHLT	**Khaolaem Dam**	**24.26**	**339**	P	**P**	**20 13 45.0**	**-0.4**
	comp=Z,26nm,1.0s						
CHAI	**Chaiyaphum**	**24.32**	**347**	P	**P**	**20 13 44.8**	**-1.1**
	comp=Z,590nmcomp=Z,50nm,0.7s						
CHAI	**Chaiyaphum**	**24.32**	**347**	P	**P**	**20 13 44.8**	**-1.1**
	comp=Z,147nmcomp=Z,12nm,0.7s						
LLP	**Lapu-Lapu**	**24.49**	**42**⇓	*e*P	**P**	**20 13 48.4**	**+0.9**
RCP	**Roxas**	**24.65**	**38**⇓	*e*P	**P**	**20 13 49.5**	**+0.5**
SWI	**Sorong**	**24.74**	**75**	P	**P**	**20 13 50.0**	**+0.1**
	comp=Z,2μmcomp=Z,191nm,1.1s						
SIJI	**Sorong**	**24.75**	**75**	P	**P**	**20 13 48.6**	**-1.4**
	comp=Z,116nm,0.6s,baz=254,slow=5.5,SNR=47						
SIJI				S	**S**	**20 18 03.0**	**-4.6**
	comp=Z,5.9nm,0.8s,baz=135,slow=21,SNR=9.3						
SIJI				LR	LR	20 25 06.0	
	comp=Z,587nm,21.8s,baz=236,slow=40						
SIJI	**Sorong**	**24.75**	**75**	P	**P**	**20 13 48.9**	**-1.1**
	comp=Z,938nmcomp=Z,96nm,1.0s						
SKNT	**Sakolnakorn**	**25.01**	**352**	P	**P**	**20 13 56.1**	**+3.8**
	comp=Z,41nm,1.5s						
SKNT	**Sakolnakorn**	**25.01**	**352**	P	**P**	**20 13 56.0**	**+3.8**
	comp=Z,41nm,1.5s						
KDU	**Kakadu**	**25.05**	**103**	P	**P**	**20 13 52.5**	**-0.1**
	baz=25,SNR=19						
FAKI	**Fak Fak**	**25.18**	**80**	P	**P**	**20 13 53.3**	**-0.6**
FAKI				IAmb	IAmb	20 13 58.8	
	comp=Z,101nm,0.6s						
FAKI	**Fak Fak**	**25.18**	**80**	P	**P**	**20 13 56.3**	**+2.4**
	comp=Z,1μmcomp=Z,2μmcomp=Z,162nm,0.7s						
PBKT	**Sadao Pong**	**25.20**	**345**	P	**P**	**20 13 52.6**	**-1.4**
MUN	**Mundaring**	**25.25**	**162**	P	**P**	**20 13 54.7**	**+0.4**
	baz=25,SNR=5.8						
UMPA	**Umpang Tak**	**25.48**	**340**	P	**P**	**20 13 54.4**	**-2.1**
	comp=Z,285nmcomp=Z,28nm,0.8s						
UMPA	**Umpang Tak**	**25.48**	**340**	P	**P**	**20 13 54.5**	**-2.1**
	comp=Z,71nmcomp=Z,7.0nm,0.8s						
PHIT	**Phitsanulok**	**25.94**	**344**	P	**P**	**20 13 59.9**	**-0.7**
	comp=Z,107nm,0.8s						
PHIT	**Phitsanulok**	**25.94**	**344**	P	**P**	**20 13 59.9**	**-0.7**
	comp=Z,26nm,0.8s						
LQP	**Lukban**	**26.00**	**33**	*e*P	**P**	**20 14 00.6**	**-0.9**
WRKA	**Warakurna**	**26.15**	**133**	P	**P**	**20 14 02.8**	**+0.1**
	baz=26,SNR=106						
NONG	**Nongkai**	**26.21**	**351**	P	**P**	**20 14 03.9**	**+0.8**
	comp=Z,39nm,1.1s						
NONG	**Nongkai**	**26.21**	**351**	P	**P**	**20 14 03.0**	**-0.1**
	comp=Z,39nm,1.1s						
UTTA	**Uttaradit**	**26.44**	**345**	P	**P**	**20 14 04.5**	**-0.6**
	comp=Z,346nmcomp=Z,32nm,1.2s						
UTTA	**Uttaradit**	**26.44**	**345**	P	**P**	**20 14 04.5**	**-0.6**
	comp=Z,86nmcomp=Z,8.0nm,1.2s						
NWAO	**Narrogin (SRO)**	**26.44**	**161**	P	**P**	**20 14 05.2**	**+0.1**

baz=26,SNR=11
NWAO Narrogin (SRO) 26.44 161 P **P** **20 14 05.0 -0.1**
comp=Z,7.2nm,0.5s,baz=337,slow=7.1,SNR=14
NWAO S S 20 18 56.8 +23
comp=Z,27nm,1.2s,baz=256,slow=5.9,SNR=1.9
NWAO LR LR 20 23 41.7
comp=Z,2μm,21.4s,baz=328,slow=34
NWAO Narrogin (SRO) 26.44 161 P **P** **20 14 05.0 -0.1**
NWAO Narrogin (SRO) 26.44 161 P **P** **20 14 03.5 -1.6**
NWAO IAMs_20 IAMs_20 20 23 18.3
comp=Z,2μm,21.0s
NWAO Narrogin (SRO) 26.44 161 P **P** **20 14 02.8 -2.3**
NWAO IAmb IAmb 20 14 10.0
comp=Z,0.1nm,0.5s
NWAO Narrogin (SRO) 26.44 161 P **P** **20 14 07.1 +2.0**
QIZ Qiongzhong 26.92 5 P **P** **20 14 08.9 -0.6**
QIZ S **S** **20 18 47.5 +5.8**
QIZ pmax pmax
comp=Z,14nm,1.7s
QIZ LR LR
comp=Z,940nm,18.9s
QIZ LR LR
comp=Z,1μm,14.6s
QIZ LR LR
comp=Z,860nm,13.9s
LAMP Lampang 27.43 344 P **P** **20 14 14.4 +0.4**
comp=Z,427nmcomp=Z,48nm,0.8s
H01W3 Cape Leeuwin H 27.49 168 T T 20 43 51.7
baz=344,slow=74,SNR=15
CM04 Chiang Mai Arr 27.50 342 P **P** **20 14 13.5 -1.2**
comp=Z,193nmcomp=Z,18nm,0.8s
CM04 Chiang Mai Arr 27.50 342 P **P** **20 14 13.6 -1.2**
comp=Z,193nmcomp=Z,18nm,0.8s
H01W1 Cape Leeuwin H 27.50 168 T T 20 43 50.0
baz=344
H01W2 Cape Leeuwin H 27.50 168 T T 20 43 47.1
baz=344,slow=74,SNR=13
CM05 Chiang Mai Arr 27.51 342 P **P** **20 14 13.5 -1.3**
comp=Z,116nmcomp=Z,13nm,1.2s
CM05 Chiang Mai Arr 27.51 342 P **P** **20 14 13.0 -1.8**
comp=Z,116nmcomp=Z,13nm,1.2s
CM01 Chiang Mai Arr 27.52 342 P **P** **20 14 13.7 -1.2**
comp=Z,161nmcomp=Z,17nm,0.7s
CM09 Chiang Mai Arr 27.54 342 P **P** **20 14 13.9 -1.1**
comp=Z,177nmcomp=Z,24nm,0.9s
CM02 Chiang Mai Arr 27.54 342 P **P** **20 14 14.0 -1.1**
comp=Z,155nmcomp=Z,16nm,0.8s
CM13 Chiang Mai Arr 27.54 342 P **P** **20 14 13.4 -1.7**
comp=Z,123nmcomp=Z,14nm,0.7s
CM31 Chiang Mai Arr 27.56 342 P **P** **20 14 13.2 -2.1**
CMAR Chiang Mai Arr 27.56 342 P **P** **20 14 13.8 -1.5**
comp=Z,6.6nm,0.6s,baz=178,slow=8.9,SNR=56
CMAR PcP **PcP** **20 17 32.5 +0.6**
comp=Z,6.6nm,0.8s,baz=201,slow=3.1,SNR=5.9
CMAR ScP **ScP** **20 21 09.2 +2.6**
comp=Z,2.7nm,1.0s,baz=217,slow=3.8,SNR=4.3
CMAR LR LR 20 27 14.8
comp=Z,612nm,20.0s,baz=200,slow=41
CMAR Chiang Mai Arr 27.56 342 P **P** **20 14 13.6 -1.6**
CM36 Chiang Mai Arr 27.57 343 P **P** **20 14 14.0 -1.4**
MHMT Maesarieng 27.62 340 P **P** **20 14 16.8 +1.1**
comp=Z,31nm,0.9s
MHMT Maesarieng 27.62 340 P **P** **20 14 16.9 +1.1**
comp=Z,31nm,0.9s
CM32 Chiang Mai Arr 27.78 342 P **P** **20 14 16.0 -1.2**
CM34 Chiang Mai Arr 27.87 343 P **P** **20 14 16.0 -2.0**
CMMT Chiang Mai 27.90 343 P **P** **20 14 16.9 -1.4**
comp=Z,26nm,1.2s
CMMT Chiang Mai 27.90 343 P **P** **20 14 16.0 -2.3**
comp=Z,26nm,1.2s
CMMT Chiang Mai 27.90 343 P **P** **20 14 16.9 -1.4**
comp=Z,24nm,1.2s
CHTO Chiang Mai 27.90 343 P **P** **20 14 16.4 -1.9**
CHTO pmax pmax
comp=Z,28nm,1.1s
CHTO MLR MLR
comp=Z,600nm,22.0s
CHTO Chiang Mai 27.90 343 P **P** **20 14 16.9 -1.4**
comp=Z,26nm,1.2s
CHTO Chiang Mai 27.90 343 P **P** **20 14 16.4 -1.9**
CHTO Chiang Mai 27.90 343 P **P** **20 14 16.7 -1.5**
CHTO Chiang Mai 27.90 343 P **P** **20 14 16.9 -1.4**
comp=Z,15nm,1.2s
CM33 Chiang Mai Arr 27.90 343 P **P** **20 14 16.0 -2.3**
WRA Warramunga Arr 28.62 117 P **P** **20 14 25.2 +0.4**
comp=Z,33nm,1.0s,baz=297,slow=12,SNR=176
WRA PcP **PcP** **20 17 34.7 +0.2**
comp=Z,7.7nm,0.4s,baz=277,slow=1.7,SNR=11
WRA LR LR 20 26 27.8
comp=Z,1μm,20.8s,baz=280,slow=38
WRA P3KPbc 20 46 42.5
comp=Z,0.6nm,0.8s,baz=96,slow=4.1,SNR=5.3
WRA Warramunga Arr 28.62 117 P **P** **20 14 24.5 -0.3**
WRAB Tennant Creek 28.63 117 *c iP* **P** **20 14 25.5 +0.6**
WRAB pmax pmax
comp=Z,76nm,1.3s
WRAB Tennant Creek 28.63 117 P **P** **20 14 23.4 -1.5**
WB2 Warramunga Arr 28.64 117 P **P** **20 14 24.9 0.0**
WC3 Warramunga Arr 28.66 117 IAMs_20 IAMs_20 20 26 07.8
comp=Z,2μm,21.0s
WR8 Warramunga Arr 28.77 117 IAMs_20 IAMs_20 20 26 08.8
comp=Z,1μm,20.0s
WR0 Warramunga Arr 28.81 117 P **P** **20 14 27.1 +0.6**
WR0 IAmb IAmb 20 15 09.4
comp=Z,177nm,1.8s
SRPI Serui, Papua 29.30 80 P **P** **20 14 31.2 +0.4**
comp=Z,2μmcomp=Z,100nm,0.7s
SLVN Son La 29.32 353 P **P** **20 14 31.2 +0.3**
SLVN IAMs_20 IAMs_20 20 27 27.8
comp=Z,2μm,18.0s
ASAR Alice Springs 29.77 125 P **P** **20 14 35.4 +0.5**
comp=Z,19nm,0.9s,baz=303,slow=8.3,SNR=155
ASAR PcP **PcP** **20 17 38.1 +0.8**
comp=Z,5.5nm,0.5s,baz=334,slow=1.6,SNR=7.8
ASAR LR LR 20 26 48.8
comp=Z,2μm,21.0s,baz=302,slow=37
ASAR P3KPbc 20 46 35.5
comp=Z,0.6nm,0.7s,baz=113,slow=4.0,SNR=4.5
ASAR Alice Springs 29.77 125 P **P** **20 14 35.1 +0.2**
AS31 Alice Springs 29.77 125 P **P** **20 14 34.8 -0.1**
FORT Forrest 29.77 142 P **P** **20 14 35.5 +0.7**
baz=30,SNR=21
FORT Forrest 29.77 142 P **P** **20 14 34.7 -0.1**
FORT IAmb IAmb 20 15 18.0
comp=Z,71nm,0.8s
FORT IAMs_20 IAMs_20 20 26 54.3
comp=Z,3μm,20.0s
PALK Pallekele 30.67 299 P **P** **20 14 45.1 +2.1**
comp=Z,34nm,1.0s,baz=247,slow=6.2,SNR=7.8
PALK Pallekele 30.67 299 P **P** **20 14 41.5 -1.5**
PALK IAmb IAmb 20 14 49.1
comp=Z,71nm,1.2s
PALK Pallekele 30.67 299 IAMs_20 IAMs_20 20 25 36.2
comp=Z,2μm,20.0s
PALK Pallekele 30.67 299 P P 20 14 48.5 +5.5
comp=Z,50nm,1.2s
GENI Genyem 32.99 82 P **P** **20 15 02.7 -0.7**
comp=Z,2μmcomp=Z,86nm,1.1s
KMI Kunming 33.20 352 ⇑P **P** **20 15 07.7 +2.4**
KMI pP pP 20 15 16.2 -5.5
KMI sP sP 20 15 23.3 -6.4
KMI S **S** **20 20 22.5 +2.0**
KMI pmax pmax
comp=Z,16nm,1.1s
KMI pmax pmax
comp=Z,84nm,4.6s
KMI LR LR
comp=Z,1μm,14.9s
KMI LR LR
comp=Z,690nm,16.4s
KMI LR LR
comp=Z,2μm,13.9s
KMI Kunming 33.20 352 IAMs_20 IAMs_20 20 30 48.0
comp=Z,1μm,19.0s
QIS Mount Isa 33.50 115 P **P** **20 15 08.8 +1.0**
baz=34,SNR=24
JAY Jayapura 33.53 83 P **P** **20 15 07.0 -1.1**
comp=Z,46nm,0.9s,baz=246,slow=20,SNR=13
JAY LR LR 20 29 29.3
comp=Z,118nm,21.1s,baz=238,slow=38
JAY Jayapura 33.53 83 P **P** **20 15 09.6 +1.5**
comp=Z,26nm,0.9s
TPUB Ta-pu 33.64 22 P **P** **20 15 08.9 +0.1**
YULB Yu-li 33.98 23 P **P** **20 15 10.9 -0.8**
YULB IAmb IAmb 20 15 15.7
comp=Z,31nm,0.7s
BRDH Bariadhala 34.16 333 LR LR 20 30 48.3
comp=Z,1μm,21.7s,baz=154,slow=39
MDRS Chennai 34.16 307 *e*P **P** **20 15 13.3 -0.1**
MDRS IAmb IAmb 20 15 17.9
comp=Z,75nm,1.3s
SSLB Suanglung 34.20 22 P **P** **20 15 13.8 +0.1**
SSLB IAmb IAmb 20 15 18.5
comp=Z,55nm,0.8s
GYA Guiyang 34.22 359 ⇓P **P** **20 15 14.3 +0.3**
GYA sP pP 20 15 32.9 +2.3
GYA PcP **PcP** **20 17 51.3 +1.8**
GYA S **S** **20 20 34.8 -1.2**
GYA pmax pmax
comp=Z,26nm,0.9s
GYA pmax pmax
comp=Z,110nm,3.9s
GYA LR LR
comp=Z,760nm,12.6s
GYA LR LR
comp=Z,970nm,14.8s
GYA LR LR
comp=Z,1μm,12.8s
QZH Quanzhou 34.46 18 *e*P **P** **20 15 13.8 -2.1**
QZH S **S** **20 20 34.4 -5.0**
QZH LR LR
comp=Z,460nm,21.8s
QZH LR LR
comp=Z,270nm,18.5s
QZH LR LR
comp=Z,630nm,20.8s
TRD Trivandrum 34.52 298 *e*P **P** **20 15 20.0 +3.5**
TRD IAmb IAmb 20 15 22.9
comp=Z,65nm,1.2s
H08S2 Diego Garcia H 34.63 268 T T 20 52 33.9
baz=93,slow=75,SNR=137
H08S3 Diego Garcia H 34.65 268 T T 20 52 37.9
baz=93,slow=75,SNR=247
H08S1 Diego Garcia H 34.65 268 T T 20 52 33.9
baz=93,slow=75,SNR=171
NACB Ninganchiao 34.80 23 P **P** **20 15 18.9 +0.1**
YHNB Yeheng 35.16 22 P **P** **20 15 21.5 -0.5**
TATO Taipei 35.48 22 P **P** **20 15 24.2 -0.4**
TATO IAmb IAmb 20 15 28.4
comp=Z,37nm,0.7s
COEN Coen 35.54 103 P **P** **20 15 24.9 -0.5**
COEN IAmb IAmb 20 15 26.9
comp=Z,71nm,0.7s
COEN IAMs_20 IAMs_20 20 29 28.8
comp=Z,1μm,20.0s
YOJ Yonaguni jima 35.62 25 P **P** **20 15 25.8 -0.1**
YOJ pmax pmax
comp=Z,72nm,0.8s
YOJ Yonaguni jima 35.62 25 P **P** **20 15 25.8 -0.1**
YOJ IAmb IAmb 20 15 29.7
comp=Z,72nm,0.8s
BBOO Buckleboo 36.24 137 P **P** **20 15 31.4 +0.2**
baz=36,SNR=81
BBOO Buckleboo 36.24 137 P **P** **20 15 29.8 -1.4**
BBOO IAmb IAmb 20 15 32.5
comp=Z,46nm,0.7s
BBOO IAMs_20 IAMs_20 20 30 40.1
comp=Z,2μm,20.0s
SHL Shillong 36.61 336 P **P** **20 15 32.0 -2.5**
SHL pmax pmax
comp=Z,46nm,1.3s
SHL Shillong 36.61 336 P **P** **20 15 32.0 -2.5**
SHL Shillong 36.61 336 *e*P **P** **20 15 33.1 -1.4**
SHL IAmb IAmb 20 15 34.3
comp=Z,7.3nm,0.5s
LKP Lekhapani 36.84 343 *e*P **P** **20 15 34.4 -1.8**
LKP IAmb IAmb 20 15 40.3
comp=Z,21nm,0.7s
MTSU Mount Surprise 37.23 109 P **P** **20 15 41.6 +1.8**
baz=37,SNR=152
ITAN ITANAGAR 37.35 340 *e*P **P** **20 15 38.5 -2.1**
BOK Bokaro 37.95 327 *e*P **P** **20 15 44.5 -1.3**
BOK IAmb IAmb 20 15 48.2
comp=Z,20nm,0.3s
HYB Hyderabad 38.10 312 *e*P **P** **20 15 47.3 +0.2**
HYB IAmb IAmb 20 15 48.2
comp=Z,22nm,0.7s
HYB Hyderabad 38.10 312 *i* P **P** **20 15 48.0 +0.9**
HYB *e*pP **pP** **20 15 57.5 -5.8**
HYB *e*S **S** **20 21 36.0 +0.6**
HTT Hallett 38.56 136 P **P** **20 15 51.6 +0.8**
baz=39,SNR=55
CD2 Chengdu 38.81 355 P **P** **20 15 53.7 +0.8**
CD2 pP pP 20 16 04.0 -5.8
CD2 ScP **ScP** **20 21 43.3 -2.1**
CD2 S **S** **20 21 52.5 +6.8**
CD2 pmax pmax
comp=Z,40nm,0.8s
CD2 pmax pmax
comp=Z,90nm,5.9s
CD2 LR LR
comp=Z,1μm,18.8s
CD2 LR LR
comp=Z,2μm,14.1s
CD2 LR LR
comp=Z,1μm,13.5s
WHN Wuhan 38.85 10 ⇓P **P** **20 15 55.9 +2.7**
WHN PcP **PcP** **20 18 04.7 +1.6**
WHN S **S** **20 21 50.5 +4.3**
WHN LR LR
comp=Z,750nm,11.3s
WHN LR LR
comp=Z,600nm,12.5s
CTA Charters Tower 39.42 112 P **P** **20 15 60.0 +1.8**
comp=Z,46nm,1.0s,baz=280,slow=11,SNR=33
CTA PcP **PcP** **20 18 06.5 +1.3**
comp=Z,19nm,0.4s,baz=268,slow=3.1,SNR=19
CTAO Charters Tower 39.42 112 P **P** **20 15 58.3 +0.2**
CTAO pmax pmax
comp=Z,127nm,1.2s
CTAO Charters Tower 39.42 112 P **P** **20 15 58.3 +0.2**
CTAO IAmb IAmb 20 16 01.2
comp=Z,127nm,1.2s
QLP Quilpie 39.50 123 P **P** **20 16 00.8 +2.1**
baz=40,SNR=12
STKA Stephens Creek 39.67 132 P **P** **20 16 01.4 +1.4**
baz=40,SNR=297
STKA Stephens Creek 39.67 132 P **P** **20 16 01.6 +1.6**
comp=Z,159nm,0.4s,baz=307,slow=8.0,SNR=358
STKA PcP **PcP** **20 18 06.8 +1.0**
comp=Z,20nm,0.4s,baz=335,slow=3.9,SNR=4.5
STKA LR LR 20 33 09.1
comp=Z,2μm,20.1s,baz=289,slow=37
STKA Stephens Creek 39.67 132 P **P** **20 16 00.5 +0.5**
STKA IAmb IAmb 20 16 02.8
comp=Z,40nm,0.5s
JOW Kunigami 40.05 30 P **P** **20 16 03.6 +0.4**
comp=Z,24nm,0.3s,baz=196,slow=6.8,SNR=60
JOW Kunigami 40.05 30 P **P** **20 16 02.9 -0.3**
AIS Amsterdam Isla 40.16 218 P **P** **20 16 00.8 -3.2**
MANU Manus Island 40.17 84 P **P** **20 16 03.9 -0.5**
LSA Lhasa 40.60 338 P **P** **20 16 06.8 -1.5**
LSA pmax pmax
comp=Z,21nm,1.1s
LSA MLR MLR
comp=Z,200nm,21.0s
LSA Lhasa 40.60 338 P **P** **20 16 06.8 -1.5**
GOA Goa 40.66 305 *e*P **P** **20 16 10.1 +1.7**
GOA IAmb IAmb 20 16 11.9
comp=Z,28nm,0.6s
JMZ Minamidaito 2 40.76 34 P **P** **20 16 09.1 0.0**
JMZ IAmb IAmb 20 16 47.3
comp=Z,242nm,1.8s
JBP Jabalpur 40.98 320 *e*P **P** **20 16 10.5 -0.4**
JBP *e*S **S** **20 22 24.7 +6.4**
SSE Sheshan 41.00 18 P **P** **20 16 11.7 +0.7**
SSE S **S** **20 22 21.3 +2.9**
SSE pmax pmax
comp=Z,4.0nm,0.6s
SSE pmax pmax
comp=Z,100nm,3.9s
SSE LR LR
comp=Z,190nm,22.6s
SSE LR LR
comp=Z,140nm,21.4s
NJ2 Nanjing 41.25 15 ⇓P **P** **20 16 14.2 +1.2**
NJ2 sP **pP** **20 16 26.4 -3.7**
NJ2 S **S** **20 22 24.2 +2.2**
NJ2 pmax pmax
comp=Z,87nm,1.0s
NJ2 pmax pmax
comp=Z,210nm,3.5s
NJ2 LR LR
comp=Z,480nm,24.6s
NJ2 LR LR
comp=Z,330nm,19.8s
NJ2 LR LR
comp=Z,630nm,22.7s
XAN Xi'an 41.79 2 P **P** **20 16 17.2 -0.3**
XAN pP pP 20 16 23.5 -11
XAN sP sP 20 16 28.2 -14
XAN pmax pmax
comp=Z,18nm,0.8s
XAN Xi'an 41.79 2 P **P** **20 16 16.7 -0.8**
XAN S **S** **20 22 26.1 -4.0**
XAN pmax pmax
comp=Z,38nm,1.0s
XAN pmax pmax
comp=Z,420nm,4.0s
XAN LR LR
comp=Z,1μm,16.5s
XAN LR LR
comp=Z,830nm,16.0s
XAN LR LR
comp=Z,1μm,13.7s
XAN Xi'an 41.79 2 IAMs_20 IAMs_20 20 35 29.3
comp=Z,896nm,18.0s
POO Poona 42.33 309 IAmb IAmb 20 16 25.7
comp=Z,70nm,0.6s
POO ⇓*i*P **P** **20 16 21.0 -1.2**
POO comp=Z,140nm,0.2s
POO *e*P **P** **20 16 22.9 +0.7**
ARPS Mount Arapiles 42.41 138 P **P** **20 16 23.8 +1.3**
baz=42,SNR=55
CMSA Cobar Meteorol 42.61 129 P **P** **20 16 26.1 +1.8**
baz=43,SNR=206
BHPL Bhopal 42.71 317 *e*P **P** **20 16 24.9 -0.2**
BHPL IAmb IAmb 20 16 26.7
comp=Z,26nm,1.0s
GUMO Guam 42.87 60 P **P** **20 16 24.5 -2.0**
comp=Z,28nm,0.3s,baz=183,slow=6.7,SNR=8.1
GUMO Guam 42.87 60 P **P** **20 16 25.1 -1.4**
GUMO pmax pmax
comp=Z,366nm,1.7s
GUMO Guam 42.87 60 P **P** **20 16 25.1 -1.4**
RMQ Roma 43.29 120 P **P** **20 16 31.5 +1.7**
baz=43,SNR=9.4
LZH Lanzhou 43.95 356 *e*P **P** **20 16 36.4 +1.4**
LZH pP pP 20 16 42.8 -9.4
LZH sP sP 20 16 49.5 -11
LZH S **S** **20 22 59.5 -2.4**
LZH sS sS 20 23 20.6 -9.3
LZH pmax pmax
comp=Z,43nm,1.1s
LZH pmax pmax
comp=Z,70nm,4.3s
LZH LR LR
comp=Z,800nm,15.7s
LZH LR LR
comp=Z,920nm,16.3s
LZH LR LR
comp=Z,580nm,16.8s
RABL Rabaul 44.60 88 P **P** **20 16 39.8 -0.7**
RABL IAmb IAmb 20 17 31.9
comp=Z,95nm,0.8s
TIA Tai'an 44.87 11 ⇓P **P** **20 16 41.7 -0.5**
TIA S **S** **20 23 09.8 -5.2**
TIA pmax pmax
comp=Z,7.0nm,0.6s
TIA pmax pmax
comp=Z,110nm,9.6s
TIA LR LR
comp=Z,330nm,21.7s
TIA LR LR
comp=Z,560nm,16.8s
TIA LR LR
comp=Z,520nm,24.7s
ANA2 Anatahan 44.91 57 P **P** **20 16 42.1 -0.7**
EIDS Eidsvold 44.99 118 P **P** **20 16 45.4 +2.0**
baz=45,SNR=7.5
EIDS Eidsvold 44.99 118 P **P** **20 16 44.4 +1.0**
EIDS IAmb IAmb 20 16 47.8
comp=Z,68nm,1.4s
EIDS PcP **PcP** **20 18 23.3 -0.3**
JSU Suzuyama 44.99 28 P **P** **20 16 42.7 -0.6**
JSU **PcP** **20 18 23.5 +0.1**
JSU IAmb IAmb 20 18 25.7
comp=Z,46nm,1.1s
TOO Toolangi 45.30 136 P **P** **20 16 48.3 +2.6**
baz=45,SNR=21
TOO Toolangi 45.30 136 P **P** **20 16 47.8 +2.1**
TOO pmax pmax
comp=Z,59nm,1.2s
TOO MLR MLR
comp=Z,2μm,21.0s
TOO Toolangi 45.30 136 P **P** **20 16 47.8 +2.1**
TOO IAmb IAmb 20 16 49.6
comp=Z,59nm,1.2s
TIY Taiyuan 45.67 6 *e*P **P** **20 16 50.3 +1.7**
TIY S **S** **20 23 27.0 +0.3**
TIY pmax pmax
comp=Z,63nm,1.0s
TIY LR LR
comp=Z,430nm,12.3s
TIY LR LR
comp=Z,340nm,13.0s
TIY LR LR
comp=Z,410nm,12.8s
YNG Young 45.84 131 P **P** **20 16 52.1 +2.0**
baz=46,SNR=39
JNU Nakatsue 46.54 27 P **P** **20 16 54.2 -1.2**
comp=Z,16nm,0.9s,baz=195,slow=4.3,SNR=7.9
JNU PcP **PcP** **20 18 29.6 +0.8**
comp=Z,9.8nm,0.7s,baz=190,slow=2.1,SNR=6.4
JNU Nakatsue 46.54 27 P **P** **20 16 54.3 -1.2**
NDI New Delhi 46.67 323 *e*P **P** **20 16 56.0 -0.6**
CAN Canberra 46.73 132 P **P** **20 16 57.9 +0.9**
CAN pmax pmax
comp=Z,151nm,1.1s
CAN MLR MLR
comp=Z,2μm,19.0s
CAN Canberra 46.73 132 P **P** **20 16 57.9 +0.9**
ARMA Armidale 46.92 125 P **P** **20 17 01.1 +2.4**
baz=47,SNR=4.1
ARMA Armidale 46.92 125 P **P** **20 16 59.6 +0.9**
ARMA IAmb IAmb 20 17 02.9
comp=Z,104nm,1.6s
CNB Canberra Magne 47.00 132 P **P** **20 17 01.0 +1.9**
baz=47,SNR=18
JTU Tsushima 47.08 25 P **P** **20 16 59.6 0.0**
JTU IAmb IAmb 20 17 02.1
comp=Z,38nm,1.0s
DDI Dehra Dun 47.39 325 *e*P **P** **20 17 00.7 -1.5**
DDI IAmb IAmb 20 17 02.5
comp=Z,19nm,0.5s
MILA Mila 47.61 134 P **P** **20 16 59.7 -4.2**
baz=48,SNR=5.7
GTA Gaotai 47.66 352 ⇑P **P** **20 17 03.9 -0.3**
GTA pP pP 20 17 13.2 -7.9
GTA sP sP 20 17 17.7 -11
GTA PcP **PcP** **20 18 34.6 +1.8**
GTA ScP **ScP** **20 22 23.4 +2.2**
GTA S **S** **20 23 52.9 -2.2**
GTA sS sS 20 24 12.4 -11
GTA ScS **ScS** **20 26 50.4 -1.2**
GTA pmax pmax
comp=Z,9.0nm,1.7s
GTA pmax pmax
comp=Z,110nm,8.4s
GTA LR LR
comp=Z,520nm,19.9s
GTA LR LR
comp=Z,1μm,20.7s
GTA LR LR
comp=Z,590nm,19.1s
RIV Riverview 47.75 129 P **P** **20 17 05.1 +0.2**
baz=48,SNR=4.5
TJN Taejon 47.91 22 *c iP* **P** **20 17 05.3 -0.7**
BTO Baotou 48.38 3 *eP* **P** **20 17 10.2 +0.5**
BJT Baijiatuau 48.41 9 **PcP** **20 18 35.8 +0.5**
BJT IAmb IAmb 20 18 37.8
comp=Z,28nm,0.9s
BJI Beijing 48.44 9 P **P** **20 17 09.7 -0.3**
BJI pP **pP** **20 17 20.7 -6.5**
BJI sP sP 20 17 23.5 -12
BJI PcP **PcP** **20 18 36.8 +1.5**
BJI S **S** **20 24 05.2 -0.5**
BJI ScS **ScS** **20 26 57.8 +1.5**
BJI pmax pmax

BJI LR LR
comp=Z,220nm,14.3s
BJI LR LR
comp=Z,460nm,20.2s
BJI LR LR
comp=Z,480nm,21.4s
JCJ Chichijima 48.44 43 P **P** **20 17 08.2 -2.1**
comp=Z,50nm,0.5s,baz=277,slow=17,SNR=8.7
JCJ Chichijima 48.44 43 P **P** **20 17 08.4 -1.9**
DL2 Dalian 48.45 15 P **P** **20 17 08.2 -1.9**
DL2 PcP **PcP** **20 18 35.2 -0.2**
DL2 PcS **PcS** **20 22 31.3 -0.1**
DL2 S **S** **20 24 06.1 +0.1**
DL2 ScS **ScS** **20 26 56.9 +0.4**
DL2 pmax pmax
comp=Z,18nm,0.8s
DL2 pmax pmax
comp=Z,140nm,5.1s
DL2 LR LR
comp=Z,200nm,18.0s
DL2 LR LR
comp=Z,350nm,21.0s
DL2 LR LR
comp=Z,620nm,21.1s
JMN Monobe 48.46 30 P **P** **20 17 09.7 -0.6**
JMN PcP **PcP** **20 18 35.9 +0.2**
JMN IAmb IAmb 20 18 38.7
comp=Z,83nm,1.3s
SMLA Simla 48.50 325 *eP* **P** **20 17 09.2 -1.4**
INCN Inchon 48.64 20 PcP **PcP** **20 18 36.7 +0.5**
HHC Hu-ho-hao-te 48.72 4 *eP* **P** **20 17 15.4 +3.1**
HHC S **S** **20 24 09.1 -0.8**
HHC sS sS 20 24 33.0 -5.4
HHC pmax pmax
comp=Z,22nm,1.2s
HHC pmax pmax
comp=Z,76nm,5.7s
HHC LR LR
comp=Z,210nm,16.7s
HHC LR LR
comp=Z,580nm,15.3s
HHC LR LR
comp=Z,280nm,18.4s
KSAR Wonju Array Be 49.04 22 P **P** **20 17 13.6 -1.1**
KSAR 20 18 39.7
KSAR Wonju Array Be 49.04 22 P **P** **20 17 13.6 -1.1**
KSAR PcP **PcP** **20 18 39.6 +2.0**
KSRS Korea Array 49.07 22 P **P** **20 17 15.0 +0.1**
comp=Z,11nm,0.8s,baz=202,slow=7.0,SNR=21
KSRS PcP **PcP** **20 18 39.2 +1.5**
comp=Z,20nm,0.9s,baz=204,slow=3.5,SNR=21
KSRS ScP **ScP** **20 22 29.2 +2.3**
comp=Z,2.7nm,0.9s,baz=204,slow=4.6,SNR=5.7
KSRS LR LR 20 39 06.0
comp=Z,172nm,21.8s,baz=225,slow=38
KS19 Wonju Array Si 49.09 22 P **P** **20 17 14.8 -0.3**
KS19 **PcP** **20 18 38.3 +0.5**
KS19 IAmb IAmb 20 18 40.3
comp=Z,36nm,1.0s
JHS Saijyo 49.13 28 P **P** **20 17 14.9 -0.5**
JHS IAmb IAmb 20 17 17.5
comp=Z,41nm,0.7s
JHS PcP **PcP** **20 18 39.3 +1.3**
TAU Tasmania Unive 49.31 142 P **P** **20 17 18.1 +1.3**
TAU pmax pmax
comp=Z,241nm,1.9s
TAU Tasmania Unive 49.31 142 P **P** **20 17 18.1 +1.3**
DHRM DHARAMSHALA 49.82 325 *eP* **P** **20 17 20.6 -0.5**
DHRM IAmb IAmb 20 17 22.7
comp=Z,18nm,0.6s
JWT Wachi 50.45 30 P **P** **20 17 24.1 -1.4**
JWT IAmb IAmb 20 17 26.9
comp=Z,26nm,0.6s
JWT PcP **PcP** **20 18 44.4 +1.6**
INU Inuyama 51.31 31 P **P** **20 17 30.9 -1.1**
INU **PcP** **20 18 47.0 +1.0**
JGF Kuroka 51.69 31 P **P** **20 17 33.5 -1.3**
JGF PcP **PcP** **20 18 48.5 +1.0**
SNY Shenyang 51.70 15 ⇑P **P** **20 17 33.2 -1.5**
SNY S **S** **20 24 47.8 -3.4**
SNY pmax pmax
comp=Z,14nm,1.7s
SNY LR LR
comp=Z,300nm,27.2s
SNY LR LR
comp=Z,340nm,20.8s
SNY LR LR
comp=Z,550nm,23.7s
HNR Honiara 51.87 96 P **P** **20 17 35.7 -0.8**
comp=Z,76nm,0.4s,baz=165,slow=3.6,SNR=6.8
HNR Honiara 51.87 96 P **P** **20 17 35.5 -0.9**
HNR Honiara 51.87 96 P **P** **20 17 37.2 +0.7**
NIL Nilore 52.60 324 P **P** **20 17 40.2 -1.4**
NIL pmax pmax
comp=Z,31nm,0.8s
NIL MLR MLR
comp=Z,400nm,22.0s
NIL Nilore 52.60 324 P **P** **20 17 40.2 -1.4**
NIL IAmb IAmb 20 17 41.7
comp=Z,31nm,0.8s
MAJO Matsushiro 52.85 31 *i* P **P** **20 17 40.9 -2.4**
MAJO pmax pmax
comp=Z,32nm,1.1s
MAJO Matsushiro 52.85 31 P **P** **20 17 41.2 -2.1**
MAJO **PcP** **20 18 52.8 +0.9**
MAJO IAmb IAmb 20 18 54.5
comp=Z,42nm,0.9s
MAT Matsushiro 52.85 31 P **P** **20 17 40.8 -2.5**
MAT *eS* **S** **20 25 12.6 +5.5**
MJAR Matsushiro Arr 52.85 31 P **P** **20 17 41.8 -1.6**
comp=Z,10nm,0.4s,baz=202,slow=7.6,SNR=31
MJAR PcP **PcP** **20 18 53.1 +1.3**
comp=Z,21nm,0.8s,baz=196,slow=4.2,SNR=14
MJAR ScP **ScP** **20 22 45.1 +1.8**
comp=Z,5.6nm,1.1s,baz=189,slow=5.4,SNR=6.2
MJAR Matsushiro Arr 52.85 31 P **P** **20 17 41.2 -2.1**
MJAR **PcP** **20 18 52.6 +0.8**
JYT Yasato 53.65 33 P **P** **20 17 46.5 -2.7**
JYT PcP **PcP** **20 18 53.2 -1.6**
JYT IAmb IAmb 20 18 57.2
comp=Z,54nm,1.0s
JSD Sado 54.03 30 P **P** **20 17 50.3 -1.7**
JSD IAmb IAmb 20 17 53.2
comp=Z,65nm,0.9s
CN2 Changchun 54.04 16 ⇑*i* P **P** **20 17 50.7 -1.2**
CN2 PcP **PcP** **20 18 57.1 +1.0**
CN2 S **S** **20 25 18.7 -4.3**
CN2 ScS **ScS** **20 27 36.3 +1.4**
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,400nm,18.0s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,400nm,21.0s
WMQ Urumqi 54.57 343 *eP* **P** **20 17 57.6 +1.8**
WMQ pP pP 20 18 07.0 -6.3
WMQ PcP **PcP** **20 19 00.8 +2.6**
WMQ pmax pmax
comp=Z,22nm,1.1s
WMQ pmax pmax
comp=Z,190nm,4.1s
WMQ LR LR
comp=Z,440nm,17.1s
WMQ LR LR
comp=Z,450nm,21.7s
WMQ LR LR
comp=Z,420nm,22.3s
JMM Marumori 55.19 32 P **P** **20 17 58.0 -2.3**
JMM IAmb IAmb 20 18 00.5
comp=Z,64nm,1.0s
JMM PcP **PcP** **20 19 00.7 0.0**
VLA Vladivostok 55.49 22 *c iP* **P** **20 18 03.3 +1.0**
VLA pmax pmax
comp=Z,21nm,0.8s
KSH Kashi 55.52 331 P **P** **20 18 02.2 -0.6**
KSH PcP **PcP** **20 19 03.1 +1.0**
KSH S **S** **20 25 40.4 -2.8**
KSH pmax pmax
comp=Z,25nm,1.0s
KSH LR LR
comp=Z,330nm,23.2s
KSH LR LR
comp=Z,320nm,23.7s
KSH LR LR
comp=Z,860nm,36.0s
SONM Songino Array 55.56 359 P **P** **20 18 02.9 -0.1**
comp=Z,26nm,0.9s,baz=177,slow=6.4,SNR=131
SONM PcP **PcP** **20 19 03.1 +1.1**
comp=Z,13nm,0.4s,baz=174,slow=3.9,SNR=28
SONM ScP **ScP** **20 22 56.8 +1.7**
comp=Z,8.2nm,0.9s,baz=166,slow=4.1,SNR=13
SONM LR LR 20 43 53.7
comp=Z,615nm,20.7s,baz=175,slow=38
SONM Songino Array 55.56 359 P **P** **20 18 02.6 -0.4**
SONM PcP **PcP** **20 19 01.7 -0.4**
SONM IAmb IAmb 20 19 04.7
comp=Z,56nm,1.2s
SONM ScP **ScP** **20 22 56.5 +1.4**
ULN Ulaanbaatar 55.58 360 *c iP* **P** **20 18 02.9 -0.3**
ULN pmax pmax
comp=Z,31nm,0.8s
ULN Ulaanbaatar 55.58 360 P **P** **20 18 02.8 -0.4**
ULN IAmb IAmb 20 18 05.2
comp=Z,27nm,0.7s
ULN PcP **PcP** **20 19 02.9 +0.7**
ULN Ulaanbaatar 55.58 360 IAMs_20 IAMs_20 20 43 21.1
comp=Z,677nm,22.0s
ULN Ulaanbaatar 55.58 360 P **P** **20 18 03.1 -0.1**
comp=Z,µmcomp=Z,158nm,0.7s
KBL Kabul 55.74 322 P **P** **20 18 02.8 -1.8**
KBL pmax pmax
comp=Z,31nm,1.0s
KBL Kabul 55.74 322 P **P** **20 18 02.8 -1.8**
KBL IAmb IAmb 20 18 07.2
comp=Z,31nm,0.9s
JLN Jalan Bani Buh 55.78 304 P **P** **20 18 07.0 +2.1**
SNR=6.5
MDJ Mudanjiang 56.02 19 P **P** **20 18 06.7 +0.5**
MDJ pmax pmax
comp=Z,15nm,0.7s
MDJ pmax pmax
comp=Z,79nm,5.7s
KOUNC Koumac, New Ca 56.23 109 P **P** **20 18 10.1 +1.9**
USA0B Ussuriysk Arra 56.46 21 *c iP* **P** **20 18 08.1 -1.2**
USRK Ussuriysk Ar. 56.46 21 P **P** **20 18 08.8 -0.6**
comp=Z,10nm,0.5s,baz=184,slow=6.3,SNR=64
USRK LR LR 20 44 09.8
comp=Z,133nm,19.3s,baz=212,slow=38
PRZ Przheval'sk 56.78 335 P **P** **20 18 12.7 +0.8**
PRZ pmax pmax
comp=Z,46nm,1.1s
PRZ Przheval'sk 56.78 335 P **P** **20 18 12.7 +0.8**
PRZ IAmb IAmb 20 18 23.9
comp=Z,46nm,1.1s
SHLS Shalkode 56.89 336 *eP* **P** **20 18 10.6 -2.0**
comp=Z,23nm,1.0s,baz=336
SHLS *i* S **S** **20 25 57.8 -3.5**
baz=336
SHLS Shalkode 56.89 336 *eP* **P** **20 18 10.5 -2.0**
SHLS *i* S **S** **20 25 57.8 -3.5**
SHLS pmax pmax
comp=Z,23nm,1.0s
WSAR Wadi Sarin 56.92 304 P **P** **20 18 14.8 +1.8**
comp=Z,26nm,0.8s,baz=173,slow=5.2,SNR=19
WSAR Wadi Sarin 56.92 304 P **P** **20 18 15.6 +2.6**
SNR=7.8
JMDO Jabal Madar 56.97 303 P **P** **20 18 15.1 +1.8**
SNR=5.3
KDJ Kajisay 57.02 333 P **P** **20 18 13.8 +0.2**
KDJ pmax pmax
comp=Z,38nm,0.6s
KDJ Kajisay 57.02 333 P **P** **20 18 13.8 +0.2**
KDJ IAmb IAmb 20 18 15.1
comp=Z,38nm,0.6s
UZB Uzynbulak 57.06 335 *eP* **P** **20 18 13.5 -0.4**
comp=Z,7.0nm,0.4s,baz=335
UZB *i* S **S** **20 26 00.9 -2.7**
baz=335
UZB *e*ScS **ScS** **20 27 56.2 -0.9**
baz=335
UZB Uzynbulak 57.06 335 *eP* **P** **20 18 13.4 -0.4**
UZB *i* S **S** **20 26 00.9 -2.7**
UZB *e* 20 27 56.1
UZB pmax pmax
comp=Z,7.0nm,0.4s
SMDO Samad 57.31 304 P **P** **20 18 17.8 +1.9**
SNR=9.0
BIDO Bidbid 57.46 304 P **P** **20 18 19.1 +2.3**
SNR=14
KPKS Kokpek 57.47 335 *eP* **P** **20 18 16.4 -0.2**
comp=Z,9.6nm,0.5s,baz=335
KPKS *e*S **S** **20 26 06.4 -2.4**
baz=335
KPKS *e*ScS **ScS** **20 27 58.1 -1.8**
baz=335
KPKS Kokpek 57.47 335 *eP* **P** **20 18 16.4 -0.2**
KPKS *e*S **S** **20 26 06.3 -2.4**
KPKS *e* 20 27 58.1
KPKS pmax pmax
comp=Z,10.0nm,0.5s
JTM Tenmabayashi 57.53 30 P **P** **20 18 16.0 -0.9**
JTM IAmb IAmb 20 18 17.6
comp=Z,68nm,1.0s
DRK Karamyk 57.61 328 P **P** **20 18 17.3 -0.6**
DRK IAmb IAmb 20 19 15.2
comp=Z,118nm,1.6s
KZA Kyzart 57.86 332 P **P** **20 18 20.4 +0.6**
SNR=10
BOOM Boomskoye usch 57.86 333 P **P** **20 18 19.4 -0.1**
BOOM pmax pmax
comp=Z,20nm,1.1s
BOOM Boomskoye usch 57.86 333 P **P** **20 18 19.4 -0.1**
BSY Bisya 57.88 303 P **P** **20 18 21.7 +1.9**
SNR=7.8
MDOK Medeo 57.91 334 *eP* **P** **20 18 18.2 -1.6**
baz=334
MDOK *e*S **S** **20 26 11.0 -3.8**
baz=334
MDOK *e*ScS **ScS** **20 28 02.8 -0.5**
baz=334
MDOK Medeo 57.91 334 *eP* **P** **20 18 18.2 -1.6**
MDOK *e*S **S** **20 26 10.9 -3.8**
MDOK *e* 20 28 02.7
HIA Hailar 58.00 9 IAMs_20 IAMs_20 20 47 04.0
comp=Z,396nm,18.0s
AAA Alma-Ata 58.01 334 *e*S **S** **20 26 14.0 -1.7**
baz=334
GAR Garm 58.06 326 P **P** **20 18 19.6 -1.3**
MTBS Maitube 58.15 334 *e*S **S** **20 26 14.2 -3.6**
baz=334
MTBS *e*P **P** **20 18 20.6 -0.8**
baz=334
MTBS *e*P **P** **20 18 21.2 -0.2**
comp=Z,49nm,0.4s,baz=334
HOQ Hoqain 58.16 304 P **P** **20 18 23.3 +1.6**
SNR=6.4
ZAK Zakamensk 58.22 357 *eP* **P** **20 18 21.0 -0.7**
ZAK pmax pmax
comp=Z,13nm,1.0s
NOUC Port Laguerre 58.22 111 P **P** **20 18 23.9 +1.7**
CASY Casey 58.27 179 P **P** **20 18 21.8 +0.1**
CASY IAmb IAmb 20 18 22.4
comp=Z,50nm,1.3s
DZM Mont Dzumac 58.35 111 *eP* **P** **20 18 24.2 +1.0**
comp=Z,113nm,1.2s
DZM *e*S **S** **20 26 25.0 +3.9**
comp=Z,343nm,28.1s
DZM *e*LR LR 20 35 36.9
comp=Z,1µm,25.2s
DZM Mont Dzumac 58.35 111 P **P** **20 18 25.0 +1.8**
comp=Z,20nm,0.7s,baz=269,slow=11,SNR=13
DZM Mont Dzumac 58.35 111 P **P** **20 18 23.9 +0.7**
DZM IAmb IAmb 20 18 26.4
comp=Z,52nm,1.1s
DZM Mont Dzumac 58.35 111 P **P** **20 18 24.6 +1.4**
TKM2 Tokmak 2 58.36 333 P **P** **20 18 23.2 +0.2**
SNR=15
ARSB Arslanbob 58.37 330 P **P** **20 18 21.3 -1.7**
ARSB pmax pmax
comp=Z,5.0nm,0.8s
ARSB Arslanbob 58.37 330 P **P** **20 18 21.3 -1.7**
ONTNC Ouen Toro 58.37 111 P **P** **20 18 23.4 +0.1**
ONTNC IAmb IAmb 20 18 26.2
comp=Z,43nm,0.9s
ARXS Arharly 58.43 335 *eP* **P** **20 18 22.8 -0.5**
KBK Karagaybulak 58.45 332 P **P** **20 18 23.9 +0.3**
SNR=16
CHGR Chuyangaron 58.47 325 P **P** **20 18 21.4 -2.3**
CHGR IAmb IAmb 20 19 16.0
comp=Z,79nm,1.0s
CHKK Chushkaly 58.49 335 *eP* **P** **20 18 21.7 -2.0**
baz=334
BTK Batken 58.55 328 P **P** **20 18 22.9 -1.3**
BTK pmax pmax
comp=Z,30nm,1.0s
BTK Batken 58.55 328 P **P** **20 18 22.9 -1.3**
BTK IAmb IAmb 20 18 48.9
comp=Z,30nm,1.0s
AML Almayashu 58.63 331 P **P** **20 18 25.1 0.0**
SNR=5.1
AAK Ala-Archa 58.64 332 P **P** **20 18 24.9 0.0**
comp=Z,3.7nm,0.4s,baz=129,slow=4.8,SNR=11
AAK PcP **PcP** **20 19 15.7 +1.4**
AAK comp=Z,12nm,0.6s,baz=174,slow=4.5,SNR=7.8
LR LR 20 45 19.9
comp=Z,477nm,21.7s,baz=144,slow=38
AAK Ala-Archa 58.64 332 P **P** **20 18 25.3 +0.4**
SNR=6.8
AAK Ala-Archa 58.64 332 *i* P **P** **20 18 25.6 +0.7**
SNR=8.1
AAK Ala-Archa 58.64 332 *c iP* **P** **20 18 24.6 -0.3**
AAK pmax pmax
comp=Z,45nm,1.7s
AAK Ala-Archa 58.64 332 P **P** **20 18 24.0 -0.9**
AAK PcP **PcP** **20 19 15.6 +1.2**
AAK IAmb IAmb 20 19 17.0
comp=Z,19nm,0.8s
AAK Ala-Archa 58.64 332 IAMs_20 IAMs_20 20 44 56.2
comp=Z,564nm,22.0s
ZSN Zaisan 58.70 342 *eP* **P** **20 18 24.2 -0.9**
comp=Z,10nm,0.9s,baz=342
ZSN *e*P **S** **20 26 22.9 -1.6**
baz=342
ZSN *e*ScS **ScS** **20 28 10.0 +1.4**
baz=342
ZSN Zaisan 58.70 342 *eP* **P** **20 18 24.1 -0.9**
ZSN pmax pmax
comp=Z,10.0nm,0.9s
FRU1 Bishkek 58.71 332 P **P** **20 18 24.6 -0.6**
FRU1 IAmb IAmb 20 18 26.4
comp=Z,24nm,0.7s
FRU1 PcP **PcP** **20 19 14.3 -0.2**
OUENC Ouen Island, N 58.74 111 P **P** **20 18 26.4 +0.6**
OUENC IAmb IAmb 20 18 29.2
comp=Z,70nm,1.1s
OUENC Ouen Island, N 58.74 111 P **P** **20 18 29.1 +3.3**
comp=Z,80nm,1.1s
YATNC Mamie plateau, 58.76 111 P **P** **20 18 29.2 +3.2**
KUU Kurty 58.80 334 *eP* **P** **20 18 25.2 -0.7**
comp=Z,30nm,0.5s,baz=334
KUU *e*S **S** **20 26 19.4 -6.6**
baz=334
KUU *e*ScS **ScS** **20 28 07.5 -2.0**
baz=334
KUU Kurty 58.80 334 *eP* **P** **20 18 25.1 -0.7**
KUU *e*S **S** **20 26 19.4 -6.6**
KUU *e* 20 28 07.5
KUU pmax pmax
comp=Z,30nm,0.5s
CHMS Chumysh 58.80 332 P **P** **20 18 25.6 -0.2**
SNR=5.8
SANVU Saraoutou 58.83 103 P **P** **20 18 27.0 +0.5**
SANVU Saraoutou 58.83 103 P **P** **20 18 28.9 +2.4**
TDK Taldyqorghan 58.85 336 *eP* **P** **20 18 25.9 -0.3**
comp=Z,53nm,1.0s,baz=336
TDK *e*S **S** **20 26 23.3 -3.3**
baz=336
TDK *i* ScS **ScS** **20 28 08.6 -1.2**
baz=336
TDK Taldyqorghan 58.85 336 *eP* **P** **20 18 25.8 -0.3**
TDK *e*S **S** **20 26 23.2 -3.3**
TDK *i* 20 28 08.5
TDK pmax pmax
comp=Z,53nm,1.0s
MK31 Makanchi Array 58.94 340 *ceP* **P** **20 18 25.4 -1.3**
MK31 Makanchi Array 58.94 340 P **P** **20 18 25.2 -1.5**
MKAR Makanchi Array 58.94 340 P **P** **20 18 25.4 -1.3**
comp=Z,7.9nm,0.3s,baz=155,slow=7.5,SNR=126
MKAR S **S** **20 26 24.9 -2.8**
comp=Z,1.5nm,1.0s,baz=144,slow=10,SNR=2.4
MKAR LR LR 20 47 37.4
comp=Z,366nm,19.8s,baz=152,slow=40
MKAR Makanchi Array 58.94 340 *i* P **P** **20 18 25.3 -1.4**
MKAR pmax pmax
comp=Z,8.0nm,0.3s
EKS2 Erkin-Say 59.00 331 P **P** **20 18 26.6 -0.7**
SNR=14
LIFNC LIFOU 59.00 109 P **P** **20 18 28.3 +0.7**
LIFNC LIFOU 59.00 109 P **P** **20 18 29.0 +1.4**
SOHO SOHO 59.04 304 *i* P **P** **20 18 29.2 +1.5**
SNR=8.3
MAKZ Makanchi 59.06 340 P **P** **20 18 26.6 -0.9**
MAKZ pmax pmax
comp=Z,15nm,1.2s
MAKZ MLR MLR
comp=Z,200nm,22.0s
MAKZ Makanchi 59.06 340 P **P** **20 18 26.6 -0.9**
USP Ospenovka 59.13 332 P **P** **20 18 27.8 -0.3**
SNR=18
SGDS Sogindy 59.21 333 *eP* **P** **20 18 27.8 -0.9**
comp=Z,10nm,1.0s,baz=332
SGDS *e*S **S** **20 26 26.4 -5.0**
baz=332
SGDS *e*ScS **ScS** **20 28 12.6 -0.1**
baz=332
JEW Eniwo 59.28 29 P **P** **20 18 27.6 -1.5**
OPO Ambohidratompo 59.37 253 P **P** **20 18 32.0 +1.6**
comp=Z,8.5nm,0.9s,baz=101,slow=8.0,SNR=9.5
ALNE Al Ain 59.65 304 *i* P **P** **20 18 33.6 +1.6**
SNR=16
ALNE Al Ain 59.65 304 P **P** **20 18 33.8 +1.8**
SNR=5.9
MOY Mondy 59.65 355 *eP* **P** **20 18 31.7 +0.1**
MOY pmax pmax
comp=Z,33nm,2.8s
UOSS Minazif 59.66 305 *i* P **P** **20 18 33.7 +1.6**
SNR=6.1
UOSS Minazif 59.66 305 P **P** **20 18 31.6 -0.5**
UOSS IAmb IAmb 20 18 34.5
comp=Z,82nm,1.1s
ASHO Ashiyiah 59.67 305 *i* P **P** **20 18 33.6 +1.4**
SNR=6.6
HATD Hatta, Dubai 59.67 305 *i* P **P** **20 18 33.7 +1.5**
SNR=10
MDH Madha 59.75 305 P **P** **20 18 33.0 +0.3**
MARNC Mare, Loyalty 59.78 110 P **P** **20 18 33.9 +0.9**
MARNC Mare, Loyalty 59.78 110 P **P** **20 18 36.9 +3.9**
MSFE Esma-Masafi 59.88 305 P **P** **20 18 34.3 +0.6**
VOI Vohitsoka 59.89 249 P **P** **20 18 32.6 -1.3**
VOI IAmb IAmb 20 18 55.8
comp=Z,51nm,1.0s
VOI Vohitsoka 59.89 249 P **P** **20 18 36.2 +2.3**
CIT Chita 59.97 4 *eP* **P** **20 18 34.2 +0.5**
CIT *e* 20 19 20.7
CIT *e* 20 20 49.1
CIT *e* 20 28 15.9
CIT pmax pmax
comp=Z,71nm,2.3s
HRA Herat 60.02 317 P **P** **20 18 33.8 -0.8**
HRA PcP **PcP** **20 19 20.2 +0.1**
HRA IAmb IAmb 20 19 22.4
comp=Z,30nm,1.2s
BANOM Banah 60.03 306 P **P** **20 18 35.7 +1.1**
DGZ Jazzator, Alta 60.03 345 *c iP* **P** **20 18 33.7 -0.6**
DGZ pmax pmax
comp=Z,67nm,0.8s
IRK Irkutsk 60.03 358 *eP* **P** **20 18 31.7 -2.4**
IRK pmax pmax
comp=Z,32nm,1.9s
FAQ Al Faqa, Dubai 60.08 304 *i* P **P** **20 18 36.0 +1.1**
SNR=27
NAZ Nazwa, Dubai 60.12 305 *i* P **P** **20 18 37.0 +1.7**
SNR=11
SHME Shamm 60.21 306 P **P** **20 18 37.3 +1.5**
ASUD Al Ashush, Dub 60.24 304 *i* P **P** **20 18 38.0 +1.9**
SNR=12
IUG Iuzhnay 60.47 329 *eP* **P** **20 18 36.2 -1.2**
baz=329
IUG *i* S **S** **20 26 44.8 -3.0**
baz=329
IUG Iuzhnay 60.47 329 *eP* **P** **20 18 36.2 -1.2**
IUG *i* S **S** **20 26 44.7 -3.0**

AJN Ajban 60.49 304 P **P** **20 18 38.9 +1.2**
ASAJ Asahikawa 60.80 28 P **P** **20 18 38.3 -1.1**
comp=Z,11nm,0.5s,baz=226,slow=2.4,SNR=19
ASAJ PcP **PcP** **20 19 23.6 +0.9**
comp=Z,11nm,1.0s,baz=250,slow=22,SNR=3.6
JKA Kamikawa-asahi 60.80 28 P **P** **20 18 37.5 -1.9**
JKA IAmb IAmb 20 18 39.2
comp=Z,117nm,1.8s
KLR Kul'dur 60.80 18 P **P** **20 18 38.2 -1.2**
comp=Z,15nm,0.4s,baz=214,slow=4.6,SNR=15
KLR PcP **PcP** **20 19 23.1 +0.6**
comp=Z,4.8nm,0.3s,baz=272,slow=4.2,SNR=7.3
KLR Kul'dur 60.80 18*c i*P **P** **20 18 38.0 -1.4**
KLR pmax pmax
comp=Z,46nm,0.9s
KK31 Karatay Array 60.92 330 P **P** **20 18 39.5 -0.8**
KK31 pmax pmax
comp=Z,17nm,1.4s
KK31 Karatay Array 60.92 330 P **P** **20 18 39.5 -0.8**
KKAR Karatay Array 60.92 330 P **P** **20 18 39.0 -1.3**
KKAR pmax pmax
comp=Z,17nm,1.4s
KKAR Karatay Array 60.92 330 P **P** **20 18 39.0 -1.3**
JRN Qarnain Island 62.41 303 P **P** **20 18 50.8 0.0**
SLWR Sila 63.03 302 P **P** **20 18 56.4 +1.6**
YSS Yuzh-Sakhalins 63.03 26*ce*P **P** **20 18 54.4 0.0**
YSS *e* 20 21 08.9
YSS *e*S **S** **20 27 20.1 +0.5**
YSS *e*SS **SS** **20 31 22.2 -4.5**
YSS pmax pmax
comp=Z,70nm,1.0s
YSS Yuzh-Sakhalins 63.03 26 P **P** **20 18 53.8 -0.5**
KURBB Kurchatov Arra 63.51 340 PKPPKP 20 47 50.7
comp=Z,0.2nm,0.4s,baz=322,slow=3.2,SNR=4.3
KURBB PKP2bc 20 48 00.9
comp=Z,0.6nm,0.7s,baz=314,slow=3.3,SNR=5.9
TRNA Turayna 63.69 303 P **P** **20 18 59.6 +0.4**
ZEA Zeya 63.71 13 *e*P **P** **20 18 58.3 -0.4**
ZEA *e* 20 21 15.3
ZEA *e*S **S** **20 27 26.4 -1.4**
ZEA pmax pmax
comp=E,10.0nm,1.2s
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=Z,30nm,1.0s
ZEA pmax pmax
comp=N,100nm,4.6s
ZEA pmax pmax
comp=Z,100nm,6.5s
ZEA smax smax
comp=E,100nm,6.6s
ZEA MLR MLR
comp=Z,200nm,16.0s
SHMA Al-Shehemyia 64.34 304 P **P** **20 19 04.7 +1.2**
ZALV Zalesovo Beam 64.57 345 P **P** **20 19 03.1 -1.2**
comp=Z,7.2nm,0.3s,baz=123,slow=4.0,SNR=56
ZALV PcP **PcP** **20 19 37.4 -0.4**
comp=Z,6.2nm,0.4s,baz=134,slow=3.0,SNR=6.0
ZALV S **S** **20 27 34.8 -3.7**
comp=Z,2.4nm,0.8s,baz=161,slow=14,SNR=5.3
ZALV ScS **SKSac** **20 28 49.3 -3.1**
comp=Z,7.2nm,1.1s,baz=134,slow=4.3,SNR=6.8
ZALV PKP2bc 20 47 56.4
comp=Z,0.2nm,0.3s,baz=343,slow=4.6,SNR=3.7
ZALV LR LR 20 49 16.0
comp=Z,481nm,21.3s,baz=156,slow=38
ZALV Zalesovo Beam 64.57 345 P **P** **20 19 02.2 -2.1**
SAKB Bahrain 64.74 303 P **P** **20 19 07.8 +1.7**
GEYT Alibeck 64.78 318 P **P** **20 19 06.7 +0.5**
comp=Z,140nm,0.7s,baz=171,slow=10,SNR=39
GEYT LR LR 20 50 28.5
comp=Z,296nm,19.8s,baz=65,slow=39
GYA0B ALIBECK ARRAY 64.78 318 IAmb IAmb 20 19 07.8
comp=Z,58nm,1.0s
BRZS Berezniki 65.16 336 *e*P **P** **20 19 08.0 -0.3**
comp=Z,27nm,1.3s,baz=336
BRZS *i* S **S** **20 27 45.1 -0.8**
baz=336
BRZS *e*ScS **SKSac** **20 28 55.4 -1.8**
baz=336
BRZS Berezniki 65.16 336 *e*P **P** **20 19 08.0 -0.3**
BRZS *i* S **S** **20 27 45.1 -0.8**
BRZS *e* 20 28 55.3
BRZS pmax pmax
comp=Z,27nm,1.3s
RPZ Rata Peaks 65.54 134 P **P** **20 19 12.1 +1.1**
BOD Bodaibo 65.77 4 *e*P **P** **20 19 11.4 -0.7**
BOD pmax pmax
comp=Z,61nm,1.8s
QRZ Quartz Range 66.02 131 IAmb IAmb 20 19 17.2
comp=Z,66nm,0.8s
OXZ Oxford 66.15 134 P **P** **20 19 15.7 +0.8**
OXZ IAmb IAmb 20 19 16.6
comp=Z,106nm,1.4s
MAW Mawson 66.58 197 P **P** **20 19 18.2 +1.1**
baz=66,SNR=50
MAW Mawson 66.58 197 P **P** **20 19 18.2 +1.1**
comp=Z,19nm,0.5s,baz=54,slow=6.9,SNR=77
MAW LR LR 20 42 58.5
comp=Z,93nm,19.6s,baz=54,slow=31
MAW PKPPKP **P'P'df** **20 47 45.9 -2.8**
comp=Z,2.6nm,0.8s,baz=221,slow=2.4,SNR=5.9
MAW PKP2bc 20 47 50.8
comp=Z,8.2nm,0.9s,baz=245,slow=3.8,SNR=12
KHZ Kahutara 67.06 133 P **P** **20 19 21.4 +0.7**
KHZ IAmb IAmb 20 19 22.1
comp=Z,65nm,1.2s
SNZO South Karori 67.72 131 IAMs_20 IAMs_20 20 46 37.1
comp=Z,696nm,21.0s
QRN Al-Qurain 67.97 305 *e*P **P** **20 19 26.7 0.0**
KBD Kabd 68.32 306 *e*P **P** **20 19 29.1 +0.2**
RDF Al-Radifah 68.34 305 *e*P **P** **20 19 29.2 +0.2**
UMR Umm Al-Rimmam 68.45 306 *e*P **P** **20 19 30.0 +0.3**
BRVK Borovoye 68.49 337*c i*P **P** **20 19 29.2 -0.2**
BRVK pmax pmax
comp=Z,59nm,1.3s
BRVK Borovoye 68.49 337 P **P** **20 19 29.1 -0.2**
BRVK IAmb IAmb 20 19 30.7
comp=Z,40nm,0.9s
BRVK Borovoye 68.49 337 P **P** **20 19 29.5 +0.1**
BKZ Black Stump Fm 68.77 129 P **P** **20 19 32.4 +0.7**
BFZ Birch Farm 68.78 130 IAmb IAmb 20 19 33.5
comp=Z,84nm,1.1s
MIB Mutribah 68.85 306 *e*P **P** **20 19 31.9 -0.2**
RST Umm Al-Ruwaisa 69.00 306 *e*P **P** **20 19 33.1 0.0**
URZ Urewera 69.15 128 P **P** **20 19 34.3 +0.5**
comp=Z,26nm,0.6s,baz=251,slow=5.3,SNR=25
URZ Urewera 69.15 128 IAmb IAmb 20 19 37.7
comp=Z,28nm,0.6s
MSVF Nonsavu 69.19 106 P **P** **20 19 36.1 +1.5**
comp=Z,21nm,0.8s,baz=247,slow=6.0,SNR=14
MSVF Nonsavu 69.19 106*e*P **P** **20 19 35.8 +1.2**
MSVF pmax pmax
comp=Z,75nm,1.4s
MSVF Nonsavu 69.19 106 P **P** **20 19 35.4 +0.8**
MSVF IAmb IAmb 20 19 37.4
comp=Z,72nm,1.2s
MSVF Nonsavu 69.19 106 P **P** **20 19 36.6 +2.0**
KIBK Kibwezi 69.29 271 IAMs_20 IAMs_20 20 43 42.8
comp=Z,820nm,22.0s
KIBK Kibwezi 69.29 271 P **P** **20 19 36.7 +1.4**
KMBO Kilima Mbogo 70.24 272 P **P** **20 19 42.7 +1.4**
comp=Z,6.2nm,0.9s,baz=59,slow=8.4,SNR=11
KMBO LR LR 20 44 48.7
comp=Z,727nm,21.8s,baz=95,slow=31
KMBO Kilima Mbogo 70.24 272 *i* P **P** **20 19 43.0 +1.6**
KMBO pmax pmax
comp=Z,5.0nm,0.8s
FURI Furi 70.54 282 IAMs_20 IAMs_20 20 45 59.2
comp=Z,775nm,21.0s
YAK Yakutsk 71.89 11*c i*P **P** **20 19 47.8 -2.1**
YAK *e* 20 20 03.4
YAK *e*S **S** **20 28 59.5 -5.7**
YAK *e* 20 29 43.5
YAK pmax pmax
comp=Z,167nm,0.9s
YAK pmax pmax
comp=N,52nm,1.1s
YAK pmax pmax
comp=E,38nm,1.1s
YAK smax smax
comp=E,156nm,2.3s
YAK smax smax
comp=N,44nm,2.0s
YAK Yakutsk 71.89 11 P **P** **20 19 48.9 -1.1**

AKTO Aktyubinsk 72.18 329 LR LR 20 55 47.6
comp=N,164nm,21.7s,baz=128,slow=39
LODK Lodwar 72.79 276 IAMs_20 IAMs_20 20 46 34.8
comp=Z,340nm,21.0s
LODK Lodwar 72.79 276 P **P** **20 19 58.6 +2.1**
SNR=7.6
PEA0B Petropavlovsk- 74.21 29*c i*P **P** **20 20 03.5 -0.4**
PEA0B Petropavlovsk- 74.21 29 IAmb IAmb 20 20 05.3
comp=Z,22nm,0.6s
PETK Petropavlovsk- 74.21 29 P **P** **20 20 03.0 -0.9**
comp=Z,11nm,0.6s,baz=60,slow=1.0,SNR=46
PETK LR LR 20 54 48.6
comp=Z,66nm,20.4s,baz=228,slow=38
PETK Petropavlovsk- 74.21 29 P **P** **20 20 03.0 -0.9**
DDFL Dedoflistskaro 74.55 317 P **P** **20 20 08.8 +2.6**
PET Petropavlovsk 74.62 29 *e*P **P** **20 20 06.1 -0.2**
PET *e*S **S** **20 29 38.3 +1.8**
PET pmax pmax
comp=Z,400nm,2.3s
PET pmax pmax
comp=Z,200nm,16.2s
PET pmax pmax
comp=Z,44nm,0.6s
PET Petropavlovsk 74.62 29 P **P** **20 20 06.0 -0.2**
PET IAmb IAmb 20 20 08.5
comp=Z,212nm,1.9s
SYO Syowa Base 74.76 200⇑ *e*P **P** **20 20 07.4 +0.6**
SYO Syowa Base 74.76 200⇓ *e*pP pP 20 20 18.4 -5.9
VNDA Vanda 74.94 169 P **P** **20 20 08.7 +0.8**
comp=Z,21nm,1.0s,baz=297,slow=6.3,SNR=60
VNDA LR LR 20 49 40.6
comp=Z,240nm,19.1s,baz=318,slow=33
VNDA Vanda 74.94 169 P **P** **20 20 08.2 +0.4**
GNI Garni 74.95 315 LR LR 20 55 35.4
comp=Z,121nm,20.8s,baz=115,slow=38
GNI Garni 74.95 315 P **P** **20 20 09.8 +1.1**
GNI Garni 74.95 315*c i*P **P** **20 20 09.1 +0.4**
GNI pmax pmax
comp=Z,29nm,1.0s
GNI Garni 74.95 315 P **P** **20 20 08.8 +0.1**
GNI IAmb IAmb 20 20 30.0
comp=Z,46nm,1.1s
GNI Garni 74.95 315 P **P** **20 20 10.2 +1.5**
SVE Sverdlovsk 75.07 335*d i*P **P** **20 20 09.4 +0.6**
SVE *e*S **S** **20 29 41.0 -0.4**
SVE pmax pmax
comp=Z,174nm,1.4s
SVE MLR MLR
comp=Z,457nm,22.0s
GROC Groznyy 75.53 318 *e*P **P** **20 20 12.3 +0.6**
GROC *e* 20 20 25.8
GROC *e**PP **pwP** **20 20 33.7 +1.6**
GROC *e**SP **sP** **20 20 43.9 +6.8**
GROC *e*S **S** **20 29 45.9 -1.1**
GROC *e**SS **ScS** **20 30 24.4 +5.0**
GROC pmax pmax
comp=Z,117nm,1.2s
MA2 Magadan 75.62 21 P **P** **20 20 12.2 +0.3**
comp=Z,15nm,0.7s,baz=222,slow=3.7,SNR=7.6
MA2 Magadan 75.62 21*ce*P **P** **20 20 11.6 -0.3**
MA2 pmax pmax
comp=Z,20nm,0.9s
ARU Arti 75.68 334 LR LR 20 55 47.6
comp=Z,233nm,20.9s,baz=132,slow=38
ARU Arti 75.68 334*c i*P **P** **20 20 12.6 +0.3**
ARU 20 20 24.5
ARU 20 23 00.1
ARU PPP PPP 20 24 50.9
ARU S **S** **20 29 51.3 +3.1**
ARU 20 30 24.3
ARU pmax pmax
comp=Z,182nm,1.3s
ARU MLR MLR
comp=Z,301nm,21.0s
ARU Arti 75.68 334 P **P** **20 20 12.1 -0.2**
ARU IAMs_20 IAMs_20 20 53 49.1
comp=Z,420nm,22.0s
SBA Scott Base 76.02 169 P **P** **20 20 15.3 +1.4**
SBA pmax pmax
comp=Z,33nm,1.2s
SBA Scott Base 76.02 169 P **P** **20 20 15.3 +1.4**
GUDG Gudauri 76.09 317 P **P** **20 20 14.6 -0.6**
GURO Guroymak-BITLI 76.25 313 IAmb IAmb 20 20 19.8
comp=Z,53nm,1.0s
KARS Kars 76.31 315 P **P** **20 20 17.7 +1.3**
AKH Akhalkalaki 76.33 316⇑ P **P** **20 20 17.7 +1.1**
AKH Akhalkalaki 76.33 316 P **P** **20 20 18.1 +1.5**
ZEI Tsey 76.61 317 *e*P **P** **20 20 18.4 +0.2**
ZEI pmax pmax
comp=Z,13nm,0.8s
MARD Mardin 76.73 311 IAmb IAmb 20 20 20.7
comp=Z,106nm,1.3s
MBAR Mbarara 76.76 271 P **P** **20 20 21.5 +2.0**
comp=Z,11nm,0.9s,baz=85,slow=7.0,SNR=17
MBAR Mbarara 76.76 271*c i*P **P** **20 20 21.3 +1.7**
MBAR Mbarara 76.76 271 IAMs_20 IAMs_20 20 47 50.9
comp=Z,524nm,21.0s
MBAR Mbarara 76.76 271 P **P** **20 20 21.7 +2.1**
ONI Oni 76.83 317 P **P** **20 20 20.6 +1.4**
NCK Nalchik 77.10 316⇓ *i*P **P** **20 20 21.8 +1.1**
NCK pmax pmax
comp=Z,45nm,0.9s
NEY Neytrino 77.59 317*de*P **P** **20 20 25.5 +1.9**
NEY pmax pmax
comp=Z,13nm,1.0s
BCA Borcka 77.64 315⇑ P **P** **20 20 24.4 +0.7**
KBZ Khabaz 77.66 318 P **P** **20 20 24.7 +1.0**
comp=Z,57nm,1.0s,baz=126,slow=3.6,SNR=68
KBZ S **S** **20 30 09.8 -0.5**
comp=Z,2.2nm,1.0s,baz=256,slow=21,SNR=7.7
KBZ LR LR 20 58 26.2
comp=Z,136nm,20.9s,baz=113,slow=39
KBZ Khabaz 77.66 318*c i*P **P** **20 20 24.5 +0.8**
KBZ pmax pmax
comp=Z,53nm,0.9s
CHVG Ch'k'valeri 77.81 317⇑ P **P** **20 20 26.4 +1.7**
KVAR Kislovodsk Arr 77.89 318 LR LR 20 58 49.5
comp=Z,96nm,19.3s,baz=328,slow=39
KIV Kislovodsk 77.89 318⇑ P **P** **20 20 26.5 +1.3**
KIV Kislovodsk 77.89 318 *i* P **P** **20 20 26.2 +1.0**
SNR=9.5
KIV *i* P PcP 20 20 26.3 -8.5
SNR=9.4
KIV Kislovodsk 77.89 318*c i*P **P** **20 20 25.5 +0.3**
KIV *e* 20 20 34.5
KIV *e* 20 20 47.8
KIV *e* 20 23 19.2
KIV *e*S **S** **20 30 14.6 +1.5**
KIV *e*SS **SS** **20 35 13.6 -1.8**
KIV pmax pmax
comp=Z,45nm,1.3s
KIV MLR MLR
comp=Z,135nm,24.0s
KIV Kislovodsk 77.89 318 P **P** **20 20 25.4 +0.2**
KIV IAmb IAmb 20 20 28.7
comp=Z,27nm,0.9s
KIV Kislovodsk 77.89 318 P **P** **20 20 26.4 +1.3**
KOPT Kop Dagi 77.90 314 P **P** **20 20 25.6 +0.1**
KOPT IAmb IAmb 20 20 49.5
comp=Z,33nm,0.8s
ASF Jabal al Asfar 78.07 305 LR LR 20 54 01.1
comp=Z,602nm,21.8s,baz=274,slow=35
GOF Gofitskoye 78.11 319⇑ *e*P **P** **20 20 26.9 +0.7**
GOF *e*S **S** **20 30 15.3 +0.2**
GOF pmax pmax
comp=Z,69nm,1.0s
GOF smax smax
comp=E,143nm,1.6s
GOF smax smax
comp=N,187nm,2.0s
NRIK Noril'sk 78.35 353 P **P** **20 20 26.9 -0.1**
comp=N,40nm,0.4s,baz=159,slow=5.3,SNR=48
NRIK S **S** **20 30 14.3 -2.4**
comp=N,1.2nm,0.3s,baz=171,slow=21,SNR=14
NRIK LR LR 20 57 52.7
comp=N,419nm,19.9s,baz=168,slow=38
NRIK Noril'sk 78.35 353*c i*P **P** **20 20 26.7 -0.3**
NRIK pmax pmax
comp=Z,164nm,1.1s
SEY Seymchan 78.55 19*c i*P **P** **20 20 28.1 -0.1**
BELG Belogornoye 78.68 327 LR LR 20 59 19.8
comp=Z,168nm,21.8s,baz=139,slow=39
BELG Belogornoye 78.68 327*c i*P **P** **20 20 29.2 +0.1**
BELG pmax pmax
comp=Z,38nm,1.4s

GHAJ Ghor Haditha 78.91 304 IAMs_20 IAMs_20 20 55 56.5
comp=Z,551nm,20.0s
AFI Afiamalu 79.21 103 P **P** **20 20 36.0 +3.0**
AFI Afiamalu 79.21 103 P **P** **20 20 36.0 +3.0**
GAZ Gaziantep 79.36 310 IAmb IAmb 20 20 34.9
comp=Z,53nm,1.0s
BOSA Boshof 79.41 242 P **P** **20 20 35.0 +1.0**
comp=Z,8.8nm,0.5s,baz=112,slow=4.2,SNR=51
BOSA LR LR 20 48 53.1
comp=Z,257nm,20.4s,baz=102,slow=30
BOSA Boshof 79.41 242 P **P** **20 20 35.0 +1.0**
BOSA Boshof 79.41 242 P **P** **20 20 35.0 +1.0**
BOSA IAmb IAmb 20 20 36.3
comp=Z,72nm,1.5s
SOC Sochi 79.74 317 *e*P **P** **20 20 35.0 -0.2**
SOC *e* 20 23 34.6
SOC *e*S **S** **20 30 38.4 +5.9**
SOC *e*SS **SS** **20 35 46.0 +3.1**
SOC pmax pmax
comp=Z,51nm,1.0s
SOC MLR MLR
comp=Z,177nm,18.0s
TIXI Tiksi 80.70 7 P **P** **20 20 38.9 -0.8**
comp=Z,54nm,0.8s,baz=161,slow=2.6,SNR=39
TIXI Tiksi 80.70 7*c i*P **P** **20 20 38.5 -1.2**
TIXI Tiksi 80.70 7 P **P** **20 20 38.6 -1.1**
TIXI IAmb IAmb 20 20 40.0
comp=Z,61nm,0.7s
BNN Bunyan 80.91 311 IAmb IAmb 20 20 43.7
comp=Z,149nm,1.3s
KIRV Kirov 80.94 333 LR LR 21 00 06.4
comp=Z,180nm,20.0s,baz=130,slow=38
KIRV Kirov 80.94 333*de*P **P** **20 20 41.2 0.0**
VRH Novokhopyorsk 81.42 325 *e*P **P** **20 20 44.0 0.0**
VRH *e*S **S** **20 30 46.6 -3.2**
VRH pmax pmax
comp=Z,120nm,0.8s
VRH smax smax
comp=N,110nm,1.1s
KVT Kavak 81.45 314 P **P** **20 20 47.0 +2.5**
ANN Anapa 81.70 317 *e*P **P** **20 20 44.5 -1.1**
QSPA South Pole Qui 82.03 180 P **P** **20 20 47.5 +0.3**
comp=N,28nm,0.9s,baz=316,slow=2.1,SNR=4.7
QSPA South Pole Qui 82.03 180 P **P** **20 20 47.7 +0.6**
QSPA IAmb IAmb 20 20 48.5
comp=Z,68nm,1.2s
LEF Lefka 82.11 307⇑ P **P** **20 20 49.1 +1.1**
VORD Divnogorie 82.74 324 *e*P **P** **20 20 50.7 -0.2**
VORD *e*S **S** **20 31 01.6 -1.7**
VORD pmax pmax
comp=Z,60nm,1.0s
VORD smax smax
comp=N,30nm,1.0s
BR131 Keskin Array S 82.80 312*c i*P **P** **20 20 51.9 +0.3**
BR131 Keskin Array S 82.80 312 IAmb IAmb 20 20 53.3
comp=Z,61nm,1.0s
BR131 Keskin Array S 82.80 312 P **P** **20 20 52.2 +0.5**
SNR=51
BRTR Keskin Array B 82.80 312 P **P** **20 20 52.0 +0.3**
comp=Z,27nm,0.8s,baz=126,slow=6.3,SNR=130
BRTR LR LR 20 59 36.3
comp=Z,498nm,20.9s,baz=128,slow=37
VSR Storozhevoye 82.91 324 *e*P **P** **20 20 51.5 -0.3**
VSR *e*S **S** **20 31 02.2 -2.8**
VSR pmax pmax
comp=Z,90nm,0.4s
VSR smax smax
comp=N,100nm,1.2s
SUR Sutherland 82.97 238 P **P** **20 20 54.4 +1.5**
SUR IAmb IAmb 20 20 56.4
comp=Z,33nm,0.9s
SUR Sutherland 82.97 238 P **P** **20 20 55.4 +2.5**
VORR Voronezh 83.06 324 *e*P **P** **20 20 52.0 -0.5**
VORR pmax pmax
comp=Z,250nm,1.6s
ILGA Ilgaz 83.12 313 IAmb IAmb 20 20 58.6
comp=Z,35nm,1.0s
BZK Bozkurt 83.18 314⇑ P **P** **20 20 55.0 +1.6**
ANTO Ankara 83.47 312 P **P** **20 20 55.4 +0.4**
ANTO pmax pmax
comp=Z,96nm,1.3s
ANTO MLR MLR
comp=Z,300nm,20.0s
ANTO Ankara 83.47 312 P **P** **20 20 55.4 +0.4**
ANTO IAmb IAmb 20 20 57.2
comp=Z,96nm,1.3s
ANTO IAMs_20 IAMs_20 21 00 04.6
comp=Z,328nm,20.0s
LPSR Galich'ya Gora 83.56 325 *e*P **P** **20 20 55.4 +0.3**
LPSR *e*S **S** **20 31 09.5 -2.1**
LPSR pmax pmax
comp=Z,60nm,0.8s
LPSR smax smax
comp=N,70nm,1.2s
SIM Simferopol' 83.99 317 *e*P **P** **20 20 57.6 +0.1**
SIM *e*S **S** **20 31 17.1 +0.9**
SIM pmax pmax
comp=Z,89nm,0.5s
PRGR Permogore 84.12 335 *e*P **P** **20 20 57.2 -0.5**
PRGR *e*S **S** **20 31 14.3 -2.5**
PRGR pmax pmax
comp=Z,277nm,1.2s
ELL Elmali 84.86 308 P **P** **20 21 01.4 -0.8**
ELL pmax pmax
comp=Z,215nm,1.2s
ELL Elmali 84.86 308 P **P** **20 21 01.4 -0.8**
MOS Moscow 85.43 328 *e*P **P** **20 21 01.1 -3.3**
MOS *e* 20 21 23.1
MOS *e*S **S** **20 31 21.5 -8.5**
MOS pmax pmax
comp=Z,300nm,1.9s
MOS pmax pmax
comp=Z,145nm,1.4s
MOS smax smax
comp=N,700nm,2.7s
MOS smax smax
comp=E,900nm,3.3s
OBN Obninsk 85.77 327⇓ P **P** **20 21 06.8 +0.6**
OBN Obninsk 85.77 327*c i*P **P** **20 21 06.4 +0.3**
OBN *e*S **S** **20 31 25.4 -8.0**
OBN *e*SS **SS** **20 37 13.7 +1.9**
OBN pmax pmax
comp=Z,203nm,1.8s
OBN MLR MLR
comp=Z,184nm,23.0s
OBN Obninsk 85.77 327 P **P** **20 21 06.2 0.0**
ARG Arkhangelos 86.14 307 P **P** **20 21 10.7 +2.3**
BILL Bilibino 86.25 19*de*P **P** **20 21 08.3 0.0**
BILL *e* 20 24 31.4
BILL pmax pmax
comp=Z,64nm,1.7s
BILL MLR MLR
comp=Z,177nm,23.0s
BILL Bilibino 86.25 19 P **P** **20 21 07.2 -1.0**
BILL IAmb IAmb 20 21 09.3
comp=Z,60nm,1.3s
KLMR Klimovskoe 86.44 333*c i*P **P** **20 21 09.5 +0.3**
KLMR S **S** **20 31 33.8 -5.9**
KLMR pmax pmax
comp=Z,292nm,1.6s
KLMR MLR MLR
comp=Z,451nm,23.0s
KLMR Klimovskoe 86.44 333⇑ *i*P **P** **20 21 09.6 +0.3**
KLMR *e*P **P** **20 21 09.6 +0.3**
KLMR *e*P **P** **20 21 09.6 +0.3**
KLMR AMP 20 21 11.9
comp=Z,292nm,1.6s
KLMR S **S** **20 31 33.9 -5.8**
KLMR S **S** **20 31 33.9 -5.8**
KLMR LR LR 20 52 34.6
KLMR AMP 21 05 54.8
comp=Z,451nm,22.9s
KARP Karpathos 86.76 306 IAMs_20 IAMs_20 21 01 04.6
comp=Z,549nm,22.0s
EDC Edincik 87.25 311 P **P** **20 21 15.2 +1.4**
PURM Purcari 87.28 318⇑ P **P** **20 21 14.9 +1.1**
JURR Jurilovca 87.53 316⇑ P **P** **20 21 16.0 +1.0**
KALB Balgarevo 87.53 314⇑ P **P** **20 21 17.0 +1.9**
ADK Adak 87.59 37 P **P** **20 21 14.6 -0.5**
ADK pmax pmax
comp=Z,74nm,1.0s
ADK Adak 87.59 37 P **P** **20 21 14.6 -0.5**
TLCR 87.67 316⇑ P **P** **20 21 17.2 +1.6**
TLCR 87.67 316⇑ P **P** **20 21 17.2 +1.6**
MFTR Murfatlar 87.71 315⇓ P **P** **20 21 17.6 +1.8**

TIRR **Tirgusor** 87.78 315 ⇑P P 20 21 17.0 +0.8
TIRR **Tirgusor** 87.78 315 ⇑P P 20 21 17.0 +0.8
TIRR **Tirgusor** 87.78 315 P P 20 21 16.6 +0.4
TPGR **Topolog** 87.86 316 ⇓P P 20 21 18.2 +1.6
TLBR **Topalu** 88.05 315 ⇑P P 20 21 18.6 +1.2
MILM **Milestii Mici** 88.08 318 ⇓P P 20 21 18.3 +0.7
KIS **Kishinev** 88.09 318 *e*P P 20 21 18.0 +0.4
comp=Z,70nm,2.8s
KIS *e*S S 20 31 55.0 -1.2
comp=Z,250nm,4.5s
KIS **Kishinev** 88.09 318 *e*P P 20 21 18.0 +0.4
KIS *e*S S 20 31 55.0 -1.2
KIS pmax pmax
comp=Z,70nm,2.8s
KIS smax smax
comp=N,250nm,4.5s
ICOR **Ion Corvin** 88.13 315 ⇑P P 20 21 18.8 +0.9
CFR **Carcaliu** 88.14 316 ⇓P P 20 21 18.9 +1.0
CFR **Carcaliu** 88.14 316 ⇓P P 20 21 18.9 +1.0
HARR **Harsova** 88.17 315 ⇑P P 20 21 19.3 +1.3
HARR **Harsova** 88.17 315 ⇑P P 20 21 19.3 +1.3
EZN **Ezine** 88.29 310 P P 20 21 19.7 +1.0
VLDR **Vladesti** 88.32 317 ⇑P P 20 21 21.0 +2.3
APE **Apeiranthos** 88.36 308 ⇓P P 20 21 20.0 +0.8
APE **Apeiranthos** 88.36 308 ⇓P P 20 21 20.0 +0.8
SLCR **Slobozia Conac** 88.48 316 ⇑P P 20 21 20.6 +1.1
VARL **Varlezi** 88.49 317 ⇑P P 20 21 21.7 +2.2
SORM **Soroca** 88.67 319 ⇑P P 20 21 20.4 +0.1
SORM **Soroca** 88.67 319 ⇑P P 20 21 20.4 +0.1
VASR **Vaslui** 88.70 317 ⇑P P 20 21 21.3 +0.8
AKASG **Malin Array Be** 88.72 321 P P 20 21 20.1 -0.4
comp=N,6.7nm,0.7s,baz=82,slow=4.7,SNR=61
AKASG PP PP 20 24 47.1 -3.1
comp=N,2.4nm,0.8s,baz=93,slow=6.7,SNR=4.1
AKASG **Malin Array Be** 88.72 321 IAmb IAmb 20 21 21.8
comp=Z,24nm,1.4s
AKBB **Malin Array Si** 88.72 321*c* *i*P P 20 21 20.1 -0.4
AKBB **Malin Array Si** 88.72 321 IAmb IAmb 20 21 21.5
comp=Z,31nm,1.1s
SNAA **Sanae** 88.75 197 P P 20 21 22.0 +1.6
SNAA **Sanae** 88.75 197*c* *i*P P 20 21 22.0 +1.6
SNAA pmax pmax
comp=Z,83nm,1.1s
SNAA **Sanae** 88.75 197 P P 20 21 21.5 +1.1
RAZG **Razgrad** 88.92 314 ⇓P P 20 21 23.3 +1.6
IAS **Iasi** 88.97 318 ⇑P P 20 21 22.5 +0.7
IAS **Iasi** 88.97 318 ⇑P P 20 21 22.5 +0.7
ODBI **Odobesti** 89.00 316 ⇑P P 20 21 24.3 +2.4
BISRR **Bisoca** 89.20 316 ⇑P P 20 21 25.6 +2.6
VRI **Vrincioaia** 89.25 316 ⇑P P 20 21 24.7 +1.6
VRI **Vrincioaia** 89.25 316 ⇑P P 20 21 24.7 +1.6
PLOR **Plostina** 89.30 316 ⇑P P 20 21 23.9 +0.5
PLOR **Plostina** 89.30 316 ⇑P P 20 21 23.9 +0.5
SULR 89.33 315 ⇑P P 20 21 26.2 +2.7
TESR **Tescani** 89.44 317 ⇑P P 20 21 25.0 +1.0
NEHR **Nehoiu** 89.46 316 ⇓P P 20 21 25.9 +1.8
SECR 89.53 315 ⇓P P 20 21 25.7 +1.2
COVR **Voineasa-Covas** 89.61 316 ⇓P P 20 21 26.0 +1.2
MLR **Muntele Rosu** 89.71 316 ⇑P P 20 21 26.8 +1.3
MLR **Muntele Rosu** 89.71 316 ⇑P P 20 21 26.8 +1.3
MLR **Muntele Rosu** 89.71 316 IAMs_20 IAMs_20 21 05 57.1
comp=Z,368nm,22.0s
BIZ **Bicaz** 89.89 317 ⇑P P 20 21 27.1 +0.9
PRAR **RASCA** 89.90 318 ⇑P P 20 21 26.9 +0.7
COPA **Copaceanca** 89.95 314 ⇑P P 20 21 27.7 +1.2
OUR **Ouranopolis** 90.15 311 P P 20 21 28.6 +1.2
DOPR **Dopca** 90.19 316 ⇓P P 20 21 29.0 +1.5
HUMR **Humele** 90.19 315 ⇑P P 20 21 29.1 +1.5
PAIG **Paliouri** 90.31 310 P P 20 21 28.8 +0.6
VOIR 90.32 316 ⇓P P 20 21 28.8 +0.5
VOIR 90.32 316 ⇓P P 20 21 28.8 +0.5
VNA2 **Neumayer--Watz** 90.39 197 P P 20 21 29.8 +1.7
baz=100,slow=4.5
MNK **Minsk** 90.41 325 *i* P P 20 21 25.8 -2.5
MNK *i* 20 25 00.2
MNK *i*S SKSac 20 31 54.0 +0.5
MNK *i*SS SS 20 38 21.5 +2.1
MNK *i*SSS SSS 20 41 59.0
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK pmax pmax
comp=Z,47nm,1.3s
MNK pmax pmax
comp=E,4.0nm,1.0s
MNK MLR MLR
comp=N,64nm,14.0s
MNK MLR MLR
comp=Z,367nm,20.0s
MNK **Minsk** 90.41 325 *i* P P 20 21 25.9 -2.5
comp=E,4.0nm,1.0s
MNK *i* P P 20 21 25.9 -2.5
comp=N,7.0nm,0.8s
MNK *i* P P 20 21 25.9 -2.5
comp=Z,47nm,1.3s,baz=103
MNK *i* PP PP 20 25 00.3 -3.3
MNK *i* PPP PPP 20 26 58.0
MNK *i*S SKSac 20 31 54.0 +0.5
MNK *i*SS SS 20 38 21.5 +2.1
MNK *i*SSS SSS 20 41 59.1
MNK *i* LQ LQ 20 56 20.8
MNK *i* LR LR 21 02 21.5
MNK *i* LRM MLR 21 03 06.0
MNK *i* LRM MLR 21 05 25.5
comp=N,64nm,14.1s
MNK *i* LRM MLR 21 05 46.6
comp=Z,367nm,19.8s
ARR **Arges** 90.59 316 ⇑P P 20 21 30.2 +0.7
BURAR **Bucovina Array** 90.62 318 ⇓P P 20 21 31.3 +1.7
BURAR **Bucovina Array** 90.62 318 ⇓P P 20 21 31.3 +1.7
BUR08 **Bucovina Ar. S** 90.64 318 IAmb IAmb 20 21 34.3
comp=Z,18nm,0.9s
VNA1 **Neumayer--Stat** 90.78 197 P P 20 21 31.6 +1.9
VNA3 **Neumayer Olymp** 90.91 197 P P 20 21 31.9 +1.4
LVZ **Lovozero** 90.95 339⇓ *e*P P 20 21 30.5 -0.1
LVZ pmax pmax
comp=Z,38nm,1.0s
LVZ **Lovozero** 90.95 339 P P 20 21 30.2 -0.4
VTS **Vitosha** 91.10 313 ⇓P P 20 21 32.8 +0.7
VTS **Vitosha** 91.10 313 ⇓P P 20 21 32.8 +0.7
VTS **Vitosha** 91.10 313 IAmb IAmb 20 21 34.1
comp=Z,49nm,1.6s
NACGM **Naroch** 91.12 325 *i* P P 20 21 32.3 +0.7
AGG **Agios Georgios** 91.19 309 IAmb IAmb 20 21 32.9
comp=Z,51nm,1.2s
LOT **Lotru** 91.21 316 ⇓P P 20 21 32.9 +0.5
APA **Apatity** 91.30 338⇓ *i*P P 20 21 29.1 -3.0
APA pmax pmax
comp=Z,15nm,1.2s
VAY **Valandovo** 91.38 311 *i* P P 20 21 33.4 +0.2
IIGN **Ignalina** 91.53 326 *e*P P 20 21 34.0 +0.5
ISAL **Salakas** 91.63 326 *e*P P 20 21 34.5 +0.5
STIP **Stip** 91.72 312 *i* P P 20 21 35.0 +0.3
BELA **Belgrano 2** 91.76 187 IAmb IAmb 20 21 36.2
comp=Z,28nm,1.0s
BMR **Baia Mare** 91.78 318 ⇓P P 20 21 35.8 +1.0
BMR **Baia Mare** 91.78 318 ⇓P P 20 21 35.8 +1.0
LVV **L'vov** 91.80 320 *e*P P 20 21 35.0 +0.1
DEV **Deva** 91.88 316 ⇓P P 20 21 37.1 +1.7
DEV **Deva** 91.88 316 ⇓P P 20 21 37.1 +1.7
GZR **Gura Zlata** 91.89 315 ⇓P P 20 21 36.5 +1.0
VSU **Vasula** 91.90 329 *e*P P 20 21 35.7 +0.6
VSU **Vasula** 91.90 329*c* *i*P P 20 21 35.4 +0.3
VSU pmax pmax
comp=Z,88nm,1.0s
HERR **Herculane** 92.06 315 ⇓P P 20 21 37.7 +1.5
DRGR 92.16 317 P P 20 21 40.7 +4.0
BOVS **Bovan** 92.37 314 ⇑P P 20 21 37.7 +0.1
SPIA **Saint Paul Isl** 92.47 33 P P 20 21 38.9 +1.1
baz=259
NIKH **Nikolski High** 92.51 37 P P 20 21 37.9 -0.2
baz=260,SNR=5.4
MDVR **Moldovita** 92.54 315 ⇑P P 20 21 39.4 +0.9
KWP **Kalwaria Pacla** 92.61 320 *e*P P 20 21 38.7 0.0
BZS **Buzias** 92.73 316 ⇓P P 20 21 40.6 +1.3
BZS **Buzias** 92.73 316 ⇓P P 20 21 40.6 +1.3
KOLS **Kolonicke sedl** 92.79 319 *e*P P 20 21 40.7 +1.2
KOLS pmax pmax
comp=Z,54nm,1.3s
KOLS **Kolonicke sedl** 92.79 319 *e*P P 20 21 40.7 +1.2
SIRR **Siria** 92.79 316 ⇑P P 20 21 40.4 +0.8
PABE **Paberze** 92.82 326 *e*P P 20 21 39.7 +0.3
FIA1 **FINESS Array S** 92.83 332 IAmb IAmb 20 21 42.0
comp=Z,16nm,0.8s
FINES **FINESS Array B** 92.83 332 P P 20 21 39.8 +0.5
comp=Z,17nm,0.8s,baz=102,slow=4.6,SNR=59
FINES PKiKP PKiKP 20 26 27.5 +0.7
comp=Z,0.6nm,0.4s,baz=90,slow=2.4,SNR=5.5
FINES LR LR 21 07 15.5
comp=Z,152nm,21.7s,baz=102,slow=38
FINES **FINESS Array B** 92.83 332 *i* P P 20 21 40.0 +0.7
FINES pmax pmax
comp=Z,17nm,0.8s
FINES **FINESS Array B** 92.83 332 P P 20 21 39.3 0.0
SUW **Suwalki** 93.03 324 *e*P P 20 21 40.7 +0.3
SUW **Suwalki** 93.03 324 *e*P P 20 21 40.4 0.0
GAMB **Gambell** 93.05 26 P P 20 21 41.6 +1.3
GAMB **Gambell** 93.05 26 P P 20 21 42.0 +1.7
baz=258
CRVS **Cervenica-Dubn** 93.31 319 *e*P P 20 21 44.8 +2.9
CRVS **Cervenica-Dubn** 93.31 319 *e*P P 20 21 44.8 +2.9
TIR **Tirane** 93.39 311 IAMs_20 IAMs_20 21 04 05.4
comp=Z,315nm,22.0s
MTSE **Matsula** 93.45 329 *e*P P 20 21 42.5 +0.3
STHS **Stebnicka Huta** 93.53 319 *e*P P 20 21 46.6 +3.7
STHS **Stebnicka Huta** 93.53 319 *e*P P 20 21 46.6 +3.7
DIVS **Divibare** 93.66 314 IAmb IAmb 20 21 45.8
comp=Z,31nm,1.2s
KECS **Kecovo** 93.89 318 *e*P P 20 21 45.2 +0.6
KECS **Kecovo** 93.89 318 *e*P P 20 21 45.2 +0.6
PDG **Podgorica** 93.98 312 ⇑P P 20 21 45.3 +0.2
PDG **Podgorica** 93.98 312 P P 20 21 45.0 -0.1
PDG IAmb IAmb 20 21 46.6
comp=Z,25nm,1.2s
PDG IAMs_20 IAMs_20 21 06 11.9
comp=Z,273nm,21.0s
UNV **Unalaska Valle** 94.03 36 P P 20 21 45.0 -0.1
baz=262
PBUR **Paburge** 94.04 326 *e*P P 20 21 45.3 +0.3
SLIT **Slitere, Latvi** 94.08 327 *e*P P 20 21 45.7 +0.5
KEV **Kevo** 94.12 340 P P 20 21 46.1 +1.0
NIE **Niedzica** 94.14 319 *e*P P 20 21 47.0 +1.3
BEL **Belsk** 94.14 322 *e*P P 20 21 47.2 +1.6
PSZ **Piszkesteto** 94.21 318 P P 20 21 49.2 +3.0
PSZ pmax pmax
comp=Z,10.0nm,1.1s
SCTE **Santa Cesarea** 94.29 310 P P 20 21 46.9 +0.3
SCTE IAmb IAmb 20 21 48.4
comp=Z,46nm,1.2s
OJC **Ojcow** 94.56 320 *e*P P 20 21 48.1 +0.5
OJC **Ojcow** 94.56 320 IAmb IAmb 20 23 30.8
comp=Z,12nm,0.7s
ARA0 **ARCESS Array S** 94.59 340 *e*P P 20 21 47.4 +0.1
ARCES **ARCESS Array B** 94.59 340 P P 20 21 47.5 +0.2
comp=Z,11nm,0.8s,baz=99,slow=5.5,SNR=37
ARCES LR LR 21 09 45.7
comp=Z,336nm,21.3s,baz=110,slow=39
ARCES **ARCESS Array B** 94.59 340 IAmb IAmb 20 21 48.6
comp=Z,26nm,1.1s
TNA **Tin City** 94.96 25 IAmb IAmb 20 21 51.3
comp=Z,27nm,1.2s
TNA **Tin City** 94.96 25 P P 20 21 49.9 +0.9
baz=262
VYHS **Vyhne** 94.98 318 *e*P P 20 21 50.3 +0.7
VYHS **Vyhne** 94.98 318 *e*P P 20 21 50.3 +0.7
SRO2 **Moca** 95.20 317 *e*P P 20 21 51.1 +0.5
SRO2 **Moca** 95.20 317 *e*P P 20 21 51.1 +0.5
SRO **Srobarova** 95.26 317 *e*P P 20 21 52.0 +1.2
SRO **Srobarova** 95.26 317 *e*P P 20 21 52.0 +1.2
KTK1 **Kautokeino** 95.30 339 *e*P P 20 21 50.6 0.0
JAVC **Velka Javorina** 95.79 318 *e*P P 20 21 54.2 +0.9
ANM **Nome** 95.91 26 IAmb IAmb 20 21 56.0
comp=Z,20nm,0.8s
ANM **Nome** 95.91 26 P P 20 21 54.6 +1.1
baz=264
MORC **Moravsky Berou** 95.96 319 ⇑P P 20 21 54.6 +0.5
MORC **Moravsky Berou** 95.96 319 ⇑P P 20 21 54.6 +0.5
MORC **Moravsky Berou** 95.96 319 P P 20 21 53.2 -0.9
MORC IAmb IAmb 20 21 55.9
comp=Z,19nm,1.5s
MORC **Moravsky Berou** 95.96 319 *e*P P 20 21 54.3 +0.2
ZST **Bratislava** 96.11 318 *e*P P 20 21 55.5 +0.8
ZST **Bratislava** 96.11 318 *e*P P 20 21 55.5 +0.8
JETT **Jettan, Norway** 96.37 339 *e*P P 20 21 56.8 +1.4
GKP **Gorka Klasztor** 96.45 323 *e*P P 20 21 58.0 +1.9
KRLC **Kraliky** 96.47 320 *i* P P 20 21 57.5 +1.1
KRLC **Kraliky** 96.47 320 *e*P P 20 21 57.5 +1.1
KOGS **Kog** 96.54 316 *i* P P 20 21 57.3 +0.6
DPC **Dobruska-Polom** 96.79 320 *i* P P 20 21 58.8 +1.0
DPC *e* 20 32 29.1
DPC MLR MLR
comp=Z,200nm,18.5s
DPC **Dobruska-Polom** 96.79 320 *e*P P 20 21 58.8 +1.0
DPC *e*SKS SKSac 20 32 29.1 +0.3
DPC AMS AMS 21 12 20.0
comp=Z,200nm,18.5s
OSTC **Ostas** 96.87 320 *e*P P 20 21 58.0 -0.2
OSTC AMS AMS 21 11 50.0
comp=Z,200nm,23.6s
GCIS **Gornji Cirnik** 96.92 315 *e*P P 20 21 59.1 +0.6
CHVC **Chvalec** 96.98 320 AMS AMS 21 15 00.0
comp=Z,200nm,21.8s
UPC **Upice** 97.00 320 *e*SKS SKSac 20 32 28.4 -1.4
UPC AMS AMS 21 12 20.0
comp=Z,200nm,19.9s
RDOG **Red Dog Mine** 97.19 22 P Pdif 20 22 01.6 +2.4
baz=267
SDPT **Sand Point** 97.66 35 P Pdif 20 22 02.4 +0.8
baz=267
LJU **Ljubljana** 97.70 315 *e*P Pdif 20 22 02.6 +0.5
N2IH **Innhavet** 97.89 338 *e*P P 20 22 02.3 0.0
PRU **Pruhonice** 97.91 319 AMS AMS 21 09 00.0
comp=Z,200nm,22.2s
PVCC **Panska Ves** 97.92 320 AMS AMS 21 11 50.0
comp=Z,200nm,23.5s
SPA0 **Spitsbergen Ar** 97.96 348 *e*P Pdif 20 22 02.7 +0.1
CKRC **Cesky Krumlov** 98.00 318 *e*P Pdif 20 22 03.8 +0.5
CKRC *e*SKS SKSac 20 32 31.6 -3.4
CKRC AMS AMS 21 07 00.0
comp=Z,200nm,22.5s
FAUS **Fauske** 98.13 337 *e*P Pdif 20 22 03.8 +0.4
CLTB **Caltabellotta** 98.15 307 IAMs_20 IAMs_20 21 03 33.1
comp=Z,391nm,21.0s
CHNA **Chernabura Isl** 98.15 36 P Pdif 20 22 04.5 +0.7
baz=268
STEI **Steigen** 98.16 338 *e*P P 20 22 03.5 0.0
AQU **L'Aquila** 98.30 312 IAMs_20 IAMs_20 21 07 35.0
comp=Z,279nm,22.0s
BRG **Berggiesshubel** 98.33 320 *e*P Pdif 20 22 05.6 +0.9
BRG Amp 20 22 07.9
comp=Z,5.5nm,1.1s
GERES **GERESS Array B** 98.40 318 P Pdif 20 22 05.5 +0.3
comp=Z,1.2nm,0.7s,baz=57,slow=4.9,SNR=11
GERES PP PP 20 26 05.7 -0.4
comp=Z,1.8nm,1.1s,baz=79,slow=6.9,SNR=4.1
GERES LR LR 21 11 43.5
comp=Z,164nm,21.2s,baz=90,slow=38
MOR8 **Moi Rana** 98.45 336 *e*P P 20 22 04.8 0.0
KHC **Kasperske Hory** 98.50 318 *e*P Pdif 20 22 06.3 +0.7
KHC *e* 20 32 30.6
KHC MLR MLR
comp=Z,200nm,16.9s
KHC **Kasperske Hory** 98.50 318 *e*P Pdif 20 22 06.3 +0.7
KHC *ex* x 20 26 23.5
KHC *e*SKS SKSac 20 32 30.6 -6.9
KHC AMS AMS 21 13 00.0
comp=Z,200nm,16.9s
TBI **Tubuai** 98.73 115 *e*LR LR 20 54 21.8
comp=Z,864nm,23.5s
CLL **Collm** 98.94 321 *e*SKSac SKSac 20 32 38.0 -1.5
CLL *e*Sdif S 20 33 30.0 -2.2
CLL *e*SP SP 20 34 56.0 -2.0
CLL *e*SS SS 20 40 16.0 -4.8
CLL *e* 20 41 12.0
CLL *e*SSS SSS 20 44 12.0
CLL *e*SSSS 20 47 24.0
KONS **Konsvik** 98.98 336 *e*P Pdif 20 22 07.4 +0.2
NKC **Novy Kostel** 99.27 320 *e*SKS SKSac 20 32 37.2 -4.1
NKC AMS AMS 21 12 50.0
comp=Z,300nm,24.6s
PPT2 **Papeete2** 99.83 109 *e*LR LR 20 54 48.2
comp=Z,391nm,21.2s
PPT **Papeete** 99.83 109 LR LR 21 06 47.8
comp=Z,363nm,18.6s,baz=224,slow=35
NB2 **NORSAR Subarra** 99.94 331 P Pdif 20 22 12.8 +1.1
comp=Z,0.7nm,0.7s,baz=80,slow=7.4
NOA **NORSAR Array B** 99.94 331 P Pdif 20 22 12.1 +0.4
comp=Z,0.9nm,0.8s,baz=88,slow=4.7,SNR=5.2
NOA LR LR 21 13 37.7
comp=Z,94nm,19.4s,baz=110,slow=39
CHIR **Chirikof Islan** 100.43 35 P Pdif 20 22 15.3 +1.4
baz=271
O18K **Koktuh Hills** 100.52 31 P Pdif 20 22 15.3 +1.0
baz=272
VLC **Villacollemand** 100.56 313 IAMs_20 IAMs_20 21 09 03.1
comp=Z,266nm,21.0s
L19K **White Mountain** 100.59 28 P Pdif 20 22 15.2 +0.7
baz=273,SNR=5.6
J20K **Nowinta River** 100.78 26 P Pdif 20 22 16.6 +1.3
baz=274,SNR=7.3
M19K **Big River Lodg** 100.82 28 P Pdif 20 22 16.9 +1.4
baz=274
N19K **Bonanza Creek** 100.84 30 P Pdif 20 22 16.5 +0.7
baz=273,SNR=9.3
K20K **Telida** 100.87 27 P Pdif 20 22 16.6 +0.8
baz=274,SNR=9.5
L20K **Farewell, AK** 101.02 28 P Pdif 20 22 17.3 +0.8
baz=274
Q19K **Cape Douglas,** 101.37 32 P Pdif 20 22 18.9 +0.8
baz=274
SKAR **Skarslia** 101.38 330 *e*Pdif Pdif 20 22 18.0 -0.1
M20K **Styx River** 101.42 28 P Pdif 20 22 19.3 +1.0
baz=275,SNR=6.6
CHUM **Lake Minchumin** 101.61 26 P Pdif 20 22 20.1 +1.1
baz=276
I21K **Tanana** 101.62 25 P Pdif 20 22 20.2 +1.2
baz=276
OHAK **Old Harbor** 101.66 33 P Pdif 20 22 19.9 +0.6
baz=274
PPLA **Purkeypile** 101.76 27 P Pdif 20 22 20.7 +0.8
baz=276
SPCR **Spurr Chakacha** 101.91 29 P Pdif 20 22 21.3 +0.8
baz=275
KDAK **Kodiak Island** 102.00 33 P Pdif 20 22 21.7 +0.8
baz=274
COLD **Coldfoot** 102.07 23 P Pdif 20 22 21.7 +0.7
baz=278
TOLK **Toolik Lake Re** 102.09 21 Pdif Pdif 20 22 22.0 +0.9
TOLK **Toolik Lake Re** 102.09 21 P Pdif 20 22 22.1 +1.0
baz=279,SNR=7.1
MLY **Manley** 102.16 25 P Pdif 20 22 22.3 +0.8
baz=278,SNR=7.4
SKT **Skwentna** 102.16 28 P Pdif 20 22 21.5 0.0
baz=276
BPAW **Bear Paw Mtn.** 102.17 26 IAMs_20 IAMs_20 21 18 16.6
comp=Z,244nm,20.0s
BPAW **Bear Paw Mtn.** 102.17 26 P Pdif 20 22 22.4 +0.9
baz=277,SNR=6.9
KTH **Kantishna Hill** 102.26 27 IAMs_20 IAMs_20 21 10 48.2
comp=Z,226nm,21.0s
H23K **Yukon River** 102.54 24 P Pdif 20 22 24.0 +0.9
baz=279,SNR=6.3
TRF **Thorofare Moun** 102.56 27 P Pdif 20 22 23.9 +0.4
baz=278
SUA **Susitna One** 102.59 29 P Pdif 20 22 23.9 +0.3
baz=277
I23K **Minto, Yukon-K** 102.72 25 P Pdif 20 22 24.6 +0.7
baz=279
BRSE **Bradley Lake S** 102.78 31 P Pdif 20 22 24.3 -0.1
baz=276
ASK **Askoy** 102.93 330 *e*Pdif Pdif 20 22 24.3 -0.6
NEA2 **Nenana** 102.93 25 P Pdif 20 22 25.6 +0.8
baz=279
MCK **McKinley** 103.12 26 P Pdif 20 22 26.3 +0.6
baz=279,SNR=5.2
RC01 **Rabbit Creek A** 103.12 29 P Pdif 20 22 26.9 +1.1
baz=278
BNI **Bardonecchia** 103.20 314 IAMs_20 IAMs_20 21 11 45.0
comp=Z,252nm,22.0s
H24K **Noodor Dome** 103.22 24 Pdif Pdif 20 22 26.8 +0.6
H24K **Noodor Dome** 103.22 24 P Pdif 20 22 27.4 +1.2
baz=280,SNR=6.1
PMR **Palmer** 103.34 29 P Pdif 20 22 27.4 +0.7
baz=278
WAT1 **Susitna Watana** 103.43 27 P Pdif 20 22 27.7 +0.5
baz=279
KNK **Knik Glacier** 103.69 29 P Pdif 20 22 29.0 +0.7
baz=279
SML **Sawmill** 103.69 28 P Pdif 20 22 29.0 +0.7
baz=279
ILAR **Eielson Array** 103.82 25 Pdiff Pdif 20 22 28.2 -0.6
comp=Z,1.0nm,0.8s,baz=288,slow=4.7,SNR=6.2
ILAR PKiKP PP 20 26 47.3 +1.0
comp=Z,0.4nm,0.6s,baz=289,slow=3.4,SNR=4.1
ILAR PKKPbc PKKPbc 20 38 20.6 -1.5
comp=Z,1.1nm,0.8s,baz=87,slow=2.1,SNR=7.3
ILAR PKKP PKKPdf 20 38 37.0 +6.3
comp=Z,2.1nm,1.1s,baz=76,slow=2.7,SNR=5.8
WAT6 **Susitna Watana** 103.84 27 P Pdif 20 22 29.6 +0.4
baz=280
HDA **Harding Lake** 103.86 26 P Pdif 20 22 29.3 +0.3
baz=281
FYU **Fort Yukon** 104.12 23 IAMs_20 IAMs_20 20 56 59.8
comp=Z,154nm,18.0s
J25K **Salcha River,** 104.49 25 P Pdif 20 22 32.2 +0.3
baz=282
PAX **Paxson** 104.79 27 P Pdif 20 22 34.1 +0.8
baz=282
EYAK **Cordova Ski Ar** 105.13 29 P PKiKP 20 26 49.7 +0.9
baz=281
J26K **Charley River,** 105.16 25 P PKiKP 20 26 50.5 +1.6
baz=284
SCRK **Sand Creek** 105.22 26 P PKiKP 20 26 50.4 +1.3
baz=284
MCARA **McCarthy VSAT** 106.26 28 P PKiKP 20 26 50.7 -0.2
baz=284
M27K **Edge Creek, AK** 106.55 27 IAMs_20 IAMs_20 20 55 50.4
comp=Z,227nm,22.0s
GRNC **Granite Creek** 107.01 29 IAMs_20 IAMs_20 20 59 41.1
comp=Z,296nm,20.0s
TOB3 **Torodi Ar. Sit** 107.04 281 IAMs_20 IAMs_20 21 11 30.5
comp=Z,320nm,19.0s
TORD **Torodi Ar. Bea** 107.05 281 Pdiff Pdif 20 22 45.2 +0.9
comp=Z,1.1nm,1.2s,baz=58,slow=5.4,SNR=3.6
TORD PKiKP PKiKP 20 26 53.8 +0.1
comp=Z,1.4nm,0.5s,baz=65,slow=1.7,SNR=28
TORD PKKPbc PKKPbc 20 38 11.1 +0.4
comp=Z,0.4nm,0.3s,baz=305,slow=3.9,SNR=15
TOA3 **Torodi Ar. Sit** 107.05 281 IAMs_20 IAMs_20 21 11 42.8
comp=Z,315nm,20.0s
TOC7 **Torodi Ar. Sit** 107.07 281 IAMs_20 IAMs_20 21 11 31.2
comp=Z,311nm,19.0s
CTGM **Chitina Glacie** 107.15 28 IAMs_20 IAMs_20 20 59 46.7
comp=Z,264nm,18.0s
LOGN **Logan Glacier** 107.35 29 IAMs_20 IAMs_20 21 08 07.8
comp=Z,261nm,20.0s
EPYK **Eagle Plains** 107.45 22 P PKiKP 20 26 54.2 +1.2
baz=291
INK **Inuvik** 107.84 20 P PKiKP 20 26 55.2 +1.6
baz=295
TAOE **Nuku Hiva Isla** 110.60 103 *e*LR LR 20 59 58.8
comp=Z,384nm,22.5s
ESDC **Sonseca Array** 111.51 309 PKiKP PKiKP 20 27 02.2 +0.7
comp=Z,0.6nm,0.8s,baz=33,slow=2.4,SNR=5.3
ESDC PKKPbc PKKPbc 20 37 57.0 -0.3
comp=Z,0.3nm,0.3s,baz=279,slow=3.4,SNR=6.6
DBIC **Dimbokro** 112.92 274 PKiKP PKiKP 20 27 05.0 +0.2
comp=Z,1.9nm,0.5s,baz=42,slow=2.8,SNR=4.7
CRAG **Craig** 112.97 33 P PKiKP 20 27 04.6 +0.9
baz=291
YKA **Yellowknife Ar** 117.60 21 PKP PKiKP 20 27 12.4 +0.1
comp=Z,3.6nm,0.8s,baz=296,slow=4.2,SNR=25
B05A **Bryant** 122.12 37 P PKiKP 20 27 22.6 +1.0
baz=297
E04D **Cinebar** 122.60 39 P PKiKP 20 27 23.2 +0.6
baz=296
G03D **McMinnville, O** 122.72 41 P PKiKP 20 27 23.4 +0.4
baz=294
LON **Longmire** 122.98 38 PKIKP PKiKP 20 27 23.6 +0.1
LON **Longmire** 122.98 38 PKiKP 20 27 23.6 +0.1
J01E **Myrtle Point** 123.10 43 P PKiKP 20 27 24.4 +0.7
baz=293
I03D **Drain, OR** 123.28 42 P PKiKP 20 27 24.4 +0.3
baz=294
H04D **Lebanon** 123.35 41 P PKiKP 20 27 24.7 +0.4
baz=295,SNR=6.9
K02D **Willamette Mer** 123.46 43 P PKiKP 20 27 25.1 +0.5
baz=293
F05D **White Salmon** 123.58 39 P PKiKP 20 27 25.6 +0.9
baz=297
H04A **Detroit Lake** 123.64 41 PKPdf 20 27 24.3 -0.3
L02E **Cave Junction** 123.70 44 P PKiKP 20 27 25.8 +0.8
baz=292
I04A **Tendick Farm,** 123.86 42 P PKiKP 20 27 26.0 +0.6
baz=294,SNR=5.5
G05D **Wamic, OR** 123.96 40 P PKiKP 20 27 26.5 +1.0

baz=296
J04D Umpqua Nationa 124.29 42 P PKiKP 20 27 27.4 +1.0
baz=294
I05D Terrebonne, OR 124.34 41 P PKiKP 20 27 27.2 +0.9
baz=296
M02C Callahan 124.51 45 P PKiKP 20 27 27.9 +1.1
baz=292,SNR=11
L04D Klamath Falls 124.57 44 P PKiKP 20 27 27.5 +0.6
baz=294,SNR=6.2
D08A Wollman Farm, 124.59 37 PKPdf PKiKP 20 27 27.2 +0.6
N02D Trinity Center 124.78 45 P PKiKP 20 27 28.1 +0.8
baz=292
K04D Chiloquin, OR 124.78 43 P PKiKP 20 27 28.1 +0.8
baz=294
J05D Fort Rock, OR 124.85 42 P PKiKP 20 27 28.6 +1.1
baz=295,SNR=19
O02D Mt. Diablo Mer 125.01 46 P PKiKP 20 27 27.6 -0.1
baz=292
NEW Newport 125.02 35 P PKiKP 20 27 28.3 +0.9
baz=302
M04C Macdoel 125.06 44 P PKiKP 20 27 28.3 +0.4
baz=294,SNR=5.0
O03E Paynes Creek 125.67 46 P PKiKP 20 27 29.3 +0.2
baz=293,SNR=6.0
BMO Blue Mountains 126.65 39 IAMs_20 IAMs_20 21 21 38.1
comp=Z,163nm,19.0s
MSO Missoula 127.61 35 P PKiKP 20 27 32.7 -0.1
baz=304
FFC Flin Flon 127.77 21 PKIKP PKPdf 20 27 32.4 +0.3
FFC Flin Flon 127.77 21 PKPdf PKPdf 20 27 32.4 +0.3
NVAR Mina Array Bea 128.90 46 PKP PKiKP 20 27 36.7 +0.9
comp=Z,2.2nm,0.6s,baz=287,slow=1.4,SNR=16
NVAR PP PP 20 29 40.8 -1.7
comp=Z,1.0nm,0.8s,baz=278,slow=5.8,SNR=4.3
NVAR SKPbc SKiKP 20 30 51.4 -15
comp=Z,1.3nm,0.9s,baz=285,slow=5.2,SNR=2.8
HLID Hailey 129.10 39 P PKiKP 20 27 36.9 +0.9
baz=302
PKM Mcpherson Peak 129.11 51 P PKiKP 20 27 37.2 +0.9
baz=290
EGMT Eagleton 129.16 32 PKPdf 20 27 34.3 -0.8
EGMT Eagleton 129.16 32 P PKiKP 20 27 37.0 +1.1
baz=310
DLMT Dillon 129.21 36 IAMs_20 IAMs_20 21 12 47.2
comp=Z,264nm,22.0s
BOZ Bozeman (W) 129.63 35 P PKiKP 20 27 37.5 +0.6
baz=306
CWC Cottonwood Cre 129.85 49 P PKiKP 20 27 38.5 +0.8
baz=293
ISA Isabella, Lake 129.86 50 P PKiKP 20 27 38.1 +0.5
baz=292
ELK Elko 129.99 42 PKP PKiKP 20 27 39.2 +1.3
comp=Z,4.1nm,0.3s,baz=266,slow=2.4
ELK SKPbc SKPbc 20 30 56.0 +2.1
comp=Z,1.9nm,0.8s,baz=175,slow=0.6,SNR=5.0
MPMC Manual Prospec 130.44 49 P PKiKP 20 27 38.7 -0.2
baz=293,SNR=13
EDW2 Edwards Air Fo 130.51 50 P PKiKP 20 27 39.6 +0.7
baz=292,SNR=5.5
R11A Troy Canyon, C 130.86 45 P PKiKP 20 27 40.1 +0.4
baz=297,SNR=8.7
BFSC Mount Baldy Ra 131.01 51 P PKiKP 20 27 40.9 +0.9
baz=292
RLMT Red Lodge 131.24 34 P PKiKP 20 27 41.3 +1.0
baz=308
GSC Goldstone, Bar 131.25 49 P PKiKP 20 27 41.7 +1.3
baz=293
REDW Red Top Meadow 131.38 37 PKPdf 20 27 38.2 -1.4
PLCA Paso Flores 131.51 182 PKP PKiKP 20 27 41.4 +0.6
comp=Z,3.4nm,1.1s,baz=286,slow=2.9,SNR=5.0
PLCA SKPbc SKPab 20 31 00.3 +0.4
comp=Z,2.6nm,1.0s,baz=275,slow=4.4,SNR=3.3
PLCA Paso Flores 131.51 182 PKPdf PKiKP 20 27 40.8 -0.1
PLCA Paso Flores 131.51 182 eP PKPdf 20 27 39.6 -0.3
DGMT Dagmar 131.59 28 P PKiKP 20 27 40.9 +0.3
baz=316
HEC Hector,Ludlow 131.79 50 P PKiKP 20 27 42.2 +0.6
baz=293
LAO LASA Array 131.85 31 P PKiKP 20 27 41.6 +0.4
baz=313
DUG Dugway, Tooele 131.86 42 P PKiKP 20 27 42.3 +0.7
baz=301,SNR=7.5
TPFO Pinon Flats 132.17 51 P PKiKP 20 27 43.2 +0.8
baz=292
GMRC Granite Mounta 132.32 50 P PKiKP 20 27 43.7 +1.1
baz=294,SNR=9.2
BELC Belle Mtn. Jos 132.37 51 P PKiKP 20 27 43.9 +1.1
baz=293
MONP2 Monument Peak 132.46 52 P PKiKP 20 27 44.0 +0.9
baz=292
PDAR Pinedale Array 132.49 37 PKhKP PKPpre 20 27 33.7
comp=Z,0.4nm,0.3s,baz=104,slow=4.2,SNR=6.0
PDAR PKP PKPdf 20 27 41.5 -0.3
comp=Z,1.0nm,0.3s,baz=123,slow=1.6,SNR=13
PDAR SKPbc SKPab 20 31 06.5 +2.2
comp=Z,5.0nm,0.9s,baz=287,slow=1.5,SNR=12
IKP In-Ko-Pah, Jac 132.79 52 P PKiKP 20 27 44.2 +0.6
baz=292
BC3 Big Chuckawall 132.92 51 P PKiKP 20 27 44.5 +0.6
baz=293
SWSC Sam W. Stewart 132.93 52 P PKiKP 20 27 44.6 +0.9
baz=292
IRM Iron Mountain 132.96 50 P PKiKP 20 27 44.4 +0.5
baz=294
SCHQ Schefferville 133.04 355 PKP PKiKP 20 27 42.8 -0.5
comp=Z,5.3nm,0.4s,baz=10.0,slow=2.1,SNR=17
SCHQ SKPbc SKPab 20 31 05.8 0.0
comp=Z,20nm,1.1s,baz=48,slow=6.3,SNR=6.1
TRQA Tornquist 133.17 191 eP PKiKP 20 27 44.4 +0.2
ULM Lac du Bonnet 133.58 21 PKP PKPdf 20 27 43.1 -0.2
comp=Z,6.7nm,0.6s,baz=329,slow=4.4,SNR=9.7
ULM SKPbc SKPab 20 31 07.3 -1.0
comp=Z,13nm,0.8s,baz=310,slow=3.8,SNR=7.8
GLA Glamis 133.64 51 P PKiKP 20 27 45.1 -0.2
baz=293
K22A Casper 134.34 35 P PKiKP 20 27 46.2 -0.4
baz=310
RWWY Rawlins 134.53 37 PKPdf PKPdf 20 27 41.9 -3.9
RSSD Black Hills 134.73 32 PKHKP PKPpre 20 27 31.0
RSSD 20 27 45.8
RSSD Black Hills 134.73 32 PKPpre 20 27 31.0
RSSD PKPdf PKPdf 20 27 45.8 -0.2
RSSD Black Hills 134.73 32 P PKiKP 20 27 46.9 -0.5
baz=314
O20A White River Ci 134.83 39 P PKiKP 20 27 47.7 0.0
baz=306,SNR=10.0
WUAZ Wupatki 135.16 46 P PKiKP 20 27 48.6 +0.2
baz=298
AGMN Agassiz Nation 135.22 22 P PKiKP 20 27 48.8 +0.9
baz=326
214A Organ Pipe Nat 135.64 52 P PKiKP 20 27 49.0 -0.4
baz=294
N23A Red Feather La 135.78 37 P PKiKP 20 27 49.0 -0.7
baz=309
PHWY Pilot Hill 135.81 36 IAMs_20 IAMs_20 21 27 16.8
comp=Z,184nm,21.0s
MVCO Mesa Verde 136.30 43 P PKiKP 20 27 50.2 -0.6
baz=303
W18A Petrified Fore 136.52 46 P PKiKP 20 27 51.2 0.0
baz=300
PLTB Pedras Altas 136.55 204 eP PKiKP 20 27 51.2 -0.1
ISCO Idaho Springs 136.65 38 P PKiKP 20 27 51.1 -0.5
baz=308
SUSD Miller 137.01 28 P PKiKP 20 27 51.7 0.0
baz=320
EYMN Ely 137.03 19 P PKiKP 20 27 51.6 -0.1
baz=332
TUC Tucson 137.05 50 P PKiKP 20 27 52.7 +0.4
baz=296
F33A 5 Mile Ranch, 137.07 24 PKPdf 20 27 47.5 -2.5
S22A 4UR Ranch, Cre 137.11 41 P PKiKP 20 27 52.0 -0.5
baz=305
TER01 Tubaro-SC 137.25 211 eP PKiKP 20 27 52.8 0.0
Q24A Divide 137.45 38 P PKiKP 20 27 53.0 -0.2
baz=308
CNLB Canela 137.46 209 eP PKiKP 20 27 52.9 -0.3
CAM01 Campos-RJ 137.64 225 eP PKPdf 20 27 52.6 +0.9
CPSB Cacapava Do Su 137.67 205 eP PKiKP 20 27 53.5 0.0
ALF01 Guarapari-ES 137.75 227 eP PKiKP 20 27 53.8 -0.1
SDCO Great Sand Dun 137.96 40 P PKiKP 20 27 53.9 -0.3
baz=307
DUB01 Friburgo-RJ 137.97 224 eP PKiKP 20 27 53.8 -0.6
OGNE Ogallala 137.98 34 P PKiKP 20 27 53.6 -0.4
baz=314
RIB01 Linhares ES 138.31 229 eP PKiKP 20 27 54.9 -0.2
VAS01 Vassouras-RJ 138.57 223 eP PKiKP 20 27 55.3 -0.3
ECSD EROS Data Cent 138.62 27 PKPpre 20 27 41.7
ECSD PKPdf PKPdf 20 27 51.7 -1.2
ECSD EROS Data Cent 138.62 27 P PKiKP 20 27 55.0 -0.1
baz=323
ESAR Angra dos Reis 138.72 221 eP PKiKP 20 27 55.3 -0.5
ANMO Albuquerque 138.91 44 PKhKP PKPpre 20 27 46.3
comp=Z,3.0nm,0.9s,baz=202,slow=2.4,SNR=4.7
ANMO PKP PKPdf 20 27 53.9 0.0
comp=Z,5.1nm,1.0s,baz=214,slow=2.1,SNR=8.1
ANMO SKPbc SKiKP 20 31 24.9 -1.5
comp=Z,16nm,1.4s,baz=52,slow=0.3,SNR=3.6
ANMO Albuquerque 138.91 44 PKPdf PKPdf 20 27 49.2 -4.7
ANMO Albuquerque 138.91 44 P PKiKP 20 27 55.6 -0.6
baz=303
KSCO Kaye Shedlock' 138.94 36 P PKiKP 20 27 55.3 -0.7
baz=311
BSFB Barra de Sao F 138.94 229 eP PKiKP 20 27 55.7 -0.7
SPMN Marine on St. 138.94 22 P PKiKP 20 27 55.8 +0.1
baz=329
T25A Trinidad 139.02 40 P PKiKP 20 27 55.7 -0.6
baz=307
121A Cookes Peak, D 139.20 48 P PKiKP 20 27 56.4 -0.4
baz=299
NBRF Rio Formoso - 139.21 247 eP PKiKP 20 27 56.8 -0.3
BNM Barren Site 139.22 45 PKPpre 20 27 46.2
PARB Paraibuna 139.25 220 eP PKiKP 20 27 56.0 -1.0
SJMB Sao Joao De Ma 139.27 229 eP PKPdf 20 27 55.7 +0.9
GUA01 Guaratinga, BA 139.45 233 eP PKPdf 20 27 56.0 +0.9
PET01 Itanhaem-SP 139.56 217 eP PKiKP 20 27 56.8 -0.8
ITQB Itaqui 139.57 202 eP PKiKP 20 27 56.6 -0.8
BGNE Belgrade 139.69 30 P PKiKP 20 27 56.8 -0.5
baz=319
NBAN Arandis - AL 139.85 245 eP PKPdf 20 27 57.0 +1.1
CMC01 Camacan, BA 139.90 235 eP PKiKP 20 27 57.4 -1.1
SPB Sao Paulo 140.18 217 eP PKiKP 20 27 58.7 -0.1
NBPV Pedro Velho 140.20 250 eP PKiKP 20 27 58.5 -0.6
VAO Valinhos 140.33 219 eP PKiKP 20 27 59.1 -0.1
BSCB Bom Sucesso 140.34 223 eP PKiKP 20 27 59.1 -0.2
NBLA Lagarto - SE 140.62 242 eP PKiKP 20 27 59.1 -0.8
GDU01 Guandu, BA 140.82 237 eP PKiKP 20 27 60.0 -0.3
D62A Allapoint, All 140.91 356 P PKiKP 20 27 58.7 -0.8
baz=5.8
RCBR Riachuelo 140.97 251 eP PKiKP 20 27 59.7 -1.0
DIAM Diamantina, MG 141.36 227 eP PKiKP 20 28 00.7 -0.8
MNTX Cornudas Mount 141.38 48 PKPpre 20 27 51.5
MNTX Cornudas Mount 141.38 48 P PKiKP 20 28 00.1 -0.9
baz=31,SNR=14
E63A Oxbow 141.52 355 P PKiKP 20 28 00.6 -0.2
baz=6.8
FRTB Fartura 141.62 215 eP PKiKP 20 28 01.3 -0.5
JFWS Jewell Farm 141.87 21 P PKiKP 20 28 01.0 -0.7
baz=331
PTGB Pitanga 141.87 211 eP PKiKP 20 28 01.3 -1.1
F64A Sherman 142.07 355 P PKiKP 20 28 00.7 -1.3
baz=7.1
F63A Nahmakanta, Br 142.28 356 P PKiKP 20 28 02.0 -0.5
baz=5.0
MC01 Montes Claros 142.56 229 eP PKiKP 20 28 03.1 -0.9
G65A Princeton 142.65 354 P PKiKP 20 28 02.2 -1.0
baz=8.5
PKME Peaks-Kenny Pk 142.73 356 P PKiKP 20 28 02.3 -1.0
baz=5.7
BB19B Bebedouro 142.73 219 eP PKPdf 20 28 02.5 +1.5
CPUP Villa Florida 142.85 203 PKhKP PKPpre 20 27 58.4
comp=Z,7.9nm,0.5s,baz=119,slow=2.5,SNR=22
CPUP Villa Florida 142.85 203 PKiKP PKPdf 20 27 58.5 -2.5
CPUP Villa Florida 142.85 203 PKPdf PKPdf 20 27 58.5 -2.5
CPUP Villa Florida 142.85 203 eP PKiKP 20 28 02.6 -1.6
SADO Sadowa 142.89 8 PKhKP PKPpre 20 27 57.3
comp=Z,8.4nm,0.5s,baz=357,slow=4.5,SNR=6.6
EMMW East Machias 143.13 354 PKPdf PKPbc 20 27 58.0 +0.1
LONY Lake Ozonia 143.44 2 P PKPbc 20 27 58.8 0.0
baz=357,SNR=9.9
NBCL Cascavel-CE 143.75 252 eP PKPdf 20 28 02.6 -0.3
TXAR Lajitas Array 143.85 50 PKP PKPdf 20 28 02.3 -0.5
comp=Z,7.4nm,0.3s,baz=354,slow=1.1,SNR=184
TXAR Lajitas Array 143.85 50 PKPdf PKPdf 20 28 01.9 -0.9
LBNH Lisbon 143.86 359 P PKPbc 20 28 00.5 +0.4
baz=1.4,SNR=6.9
PCMB Pacaembu 143.95 215 eP PKPdf 20 28 02.9 -0.2
PECO Prince Edward 143.96 5 PKPbc 20 28 00.5 +0.2
I63A Otisfield 144.01 358 P PKPbc 20 28 00.8 +0.3
baz=3.7,SNR=8.4
WMOK Wichita Mounta 144.07 38 P PKPbc 20 28 01.8 +0.7
baz=312,SNR=107
I64A Boothbay 144.09 356 P PKPab 20 28 00.4 +0.1
baz=5.3
I62A Tamworth 144.21 359 PKPdf PKPbc 20 28 01.4 +0.3
I62A Tamworth 144.21 359 P PKPbc 20 28 01.3 +0.2
baz=2.4,SNR=9.1
I60A Shoreham 144.25 1 P PKPbc 20 28 01.7 +0.5
baz=359,SNR=18
HDIL Hopedale 144.27 22 PKPdf PKPbc 20 28 01.7 +0.2
HDIL Hopedale 144.27 22 P PKPbc 20 28 01.8 +0.3
baz=331,SNR=26
AAM Ann Arbor 144.42 14 PKIKP PKPbc 20 28 02.5 +0.7
AAM Ann Arbor 144.42 14 PKPbc 20 28 02.5 +0.6
AAM Ann Arbor 144.42 14 P PKPbc 20 28 02.2 +0.4
baz=341,SNR=5.6
J56A Wolcott 144.62 5 PKPab 20 28 02.2 0.0
J61A Chester 144.75 0 P PKPbc 20 28 03.3 +0.4
baz=3.3,SNR=18
IPMB Ipameri, GO 144.76 223 eP PKPdf 20 28 04.3 -0.3
J63A Strafford 144.80 358 P PKPbc 20 28 03.4 +0.4
baz=2.9,SNR=8.1
J62A Henniker 144.87 359 P PKPdf 20 28 03.8 -0.3
baz=1.6,SNR=10
ABTX Abilene, Hawle 144.88 42 P PKPdf 20 28 05.7 +1.2
baz=309,SNR=54
ITRB Iturama 144.88 218 eP PKPdf 20 28 04.5 -0.3
O44A Mansfield 144.93 21 PKPab 20 28 03.5 -0.1
R40A Maddies Statio 144.94 28 PKPdf 20 28 04.3 0.0
TUL1 Leonard 145.00 34 P PKPdf 20 28 04.9 +0.4
baz=317,SNR=61
MMNY Mt. Morris Dam 145.05 7 PKPbc 20 28 03.4 -0.4
SFIN Lafayette 145.20 20 P PKPdf 20 28 05.3 +0.6
baz=334,SNR=61
ERPA Erie 145.35 10 PKPbc 20 28 04.8 0.0
ERPA Erie 145.35 10 P PKPab 20 28 05.3 +0.3
baz=347,SNR=17
K63A Dunstable 145.40 359 P PKPab 20 28 05.2 +0.1
baz=2.1,SNR=7.7
K61A Williamstown 145.43 1 P PKPab 20 28 05.8 +0.5
baz=359,SNR=15
K62A Royalston 145.44 360 P PKPab 20 28 05.8 +0.5
baz=0.9,SNR=18
HRV Adam Dziewonsk 145.58 359 PKIKP PKPbc 20 28 05.4 -0.1
HRV Adam Dziewonsk 145.58 359 PKPbc 20 28 05.4 -0.1
HRV Adam Dziewonsk 145.58 359 P PKPab 20 28 05.9 +0.1
baz=2.1
CCM Cathedral Cave 145.60 27 PKIKP PKPab 20 28 06.1 0.0
CCM Cathedral Cave 145.60 27 PKPab 20 28 06.1 0.0
CCM Cathedral Cave 145.60 27 P PKPab 20 28 06.7 +0.6
baz=326
L61B Northampton 145.65 0 P PKPab 20 28 06.1 0.0
baz=0.1,SNR=10
BINY Binghamton 145.77 5 P PKPab 20 28 06.7 +0.1
baz=354,SNR=42
ALLY Alegheny Colle 145.78 10 PKPbc 20 28 06.0 -0.2
MGMO Mountain Grove 145.86 29 PKPdf 20 28 06.2 +0.3
SDBA SAO DESIDERIO 145.88 234 eP PKPab 20 28 08.9 +1.1
M53A WI Miller and 145.89 11 P PKPab 20 28 07.2 +0.1
baz=346,SNR=30
M54A Otter Creek Stat 146.00 10 P PKPab 20 28 07.6 +0.1
baz=348,SNR=32
JCT Junction City 146.06 45 P PKPab 20 28 09.1 +1.0
baz=306,SNR=152
L64A Middleborough 146.13 358 P PKPbc 20 28 07.4 +0.2
baz=3.4
U40A Yellville 146.21 30 P PKPab 20 28 08.3 -0.1
baz=322,SNR=209
O49A Covington 146.22 16 PKPbc 20 28 07.1 -0.5
L63A North Scituate 146.23 359 P PKPbc 20 28 07.6 +0.1
baz=2.0
BDFB Brasilia 146.23 226 PKPbc PKPbc 20 28 08.7 +0.3
comp=Z,30nm,0.5s,baz=134,slow=3.5,SNR=34
KSPA Keystone Colle 146.42 4 PKPbc 20 28 07.7 -0.4
N54A Moraine State 146.48 10 P PKPab 20 28 08.9 -0.4
baz=347,SNR=29
M64A Tiverton 146.53 358 P PKPbc 20 28 08.5 +0.1
baz=2.8
ACSO Alum Creek Sta 146.54 15 P PKPbc 20 28 08.8 +0.3
baz=341,SNR=13
W39A Magazine 146.62 33 P PKPab 20 28 09.6 -0.4
baz=320,SNR=56
NBPS Pedro II - PI 146.64 249 eP PKPab 20 28 10.3 -0.5
WHTX Lake Whitney, 146.71 41 P PKPab 20 28 10.8 +0.3
baz=311,SNR=32
P49A Miami Univ. Ec 146.72 17 P PKPbc 20 28 09.5 +0.5
baz=338,SNR=16
O53A New Philadelph 146.93 12 P PKPbc 20 28 10.3 +0.6
baz=344,SNR=25
N58A Sunbury 147.05 6 PKPdf 20 28 06.3 -1.5
N58A PKPbc PKPbc 20 28 10.2 +0.2
N59A State Game Lan 147.06 4 P PKPbc 20 28 10.8 +0.8
baz=354,SNR=63
PAL Palisades 147.07 2 P PKPbc 20 28 10.4 +0.5
baz=358,SNR=16
SSPA Standing Stone 147.12 8 PKPdf PKPdf 20 28 07.8 -0.1
SSPA PKPbc 20 28 10.8 +0.7
SSPA Standing Stone 147.12 8 P PKPbc 20 28 10.8 +0.7
baz=351
MIAR Mount Ida 147.22 33 P PKPab 20 28 11.7 -0.7
baz=319,SNR=207
AQDB Aquidauana 147.24 210 PKPdf 20 28 09.1 +0.3
AQDB Aquidauana 147.24 210 eP PKPbc 20 28 10.2 -0.8
P52A Corning 147.31 14 PKPdf 20 28 08.2 -0.1
P52A PKPbc PKPbc 20 28 11.1 +0.4
P52A Corning 147.31 14 P PKPbc 20 28 11.1 +0.4
baz=343,SNR=35
O56A Blue Knob Stat 147.38 9 P PKPbc 20 28 11.7 +0.7
baz=349,SNR=61
435B Jarrell 147.39 43 P PKPab 20 28 12.7 -0.6
baz=309
WCI Wyandotte Cave 147.41 20 PKIKP PKPdf 20 28 08.4 -0.1
WCI 20 28 11.5
WCI Wyandotte Cave 147.41 20 PKPdf PKPdf 20 28 08.4 -0.1
WCI PKPbc 20 28 11.5 +0.5
WCI Wyandotte Cave 147.41 20 P PKPbc 20 28 11.8 +0.8
baz=334
W41B Gary Mavity, V 147.44 31 P PKPbc 20 28 11.7 +0.5
baz=322,SNR=26
833A Chaparral WMA, 147.57 48 P PKiKP 20 28 13.7 -0.2
baz=304
P53A Whipple 147.62 13 PKPdf 20 28 08.8 0.0
P53A PKPbc PKPbc 20 28 12.1 +0.5
X40A Basin Creek Fa 147.67 32 P PKPbc 20 28 12.5 +0.6
baz=320,SNR=17
MCWV Mont Chateau 147.77 11 P PKPbc 20 28 12.8 +0.8
baz=347,SNR=25
PEBM Pemiscott Bayo 147.82 27 PKPdf 20 28 09.4 +0.1
PEBM PKPbc PKiKP 20 28 13.2 -0.9
R50A Paris 147.99 18 PKPdf 20 28 08.5 -1.0
R50A PKPbc PKPbc 20 28 12.9 +0.3
P60A Greenville 148.17 5 P PKPbc 20 28 13.5 +0.5
baz=355,SNR=25
Q56A Snyder Ridge, 148.48 10 PKPdf 20 28 10.4 +0.1
Q56A PKPbc PKPbc 20 28 14.6 +0.7
Z41A Richland Creek 148.62 34 P PKiKP 20 28 15.8 0.0
baz=319,SNR=7.2
NATX Nacogdoches 148.62 38 P PKiKP 20 28 16.1 +0.2
baz=315,SNR=8.8
WVT Waverly 148.68 24 PKIKP PKPdf 20 28 10.2 -0.4
WVT 20 28 15.3
WVT Waverly 148.68 24 PKPdf PKPdf 20 28 10.2 -0.4
WVT PKPbc PKiKP 20 28 15.3 -0.6
WVT Waverly 148.68 24 P PKiKP 20 28 15.8 -0.1
baz=330
PEXB Peixe 148.72 231 eP PKPbc 20 28 13.3 -1.9
ARAG Araguaiana, MT 148.78 221 eP PKPbc 20 28 13.4 -1.8
HKT Hockley 149.09 42 PKIKP PKPdf 20 28 13.3 +1.9
HKT 20 28 18.0
HKT Hockley 149.09 42 PKPdf 20 28 13.7 +1.9
HKT PKPab PKiKP 20 28 18.0 +1.2
OXF Oxford 149.36 28 P PKiKP 20 28 17.2 -0.1
baz=326,SNR=33
LVC Limon Verde 149.41 187 PKPbc PKPbc 20 28 17.2 +0.1
comp=Z,19nm,0.4s,baz=142,slow=1.5,SNR=16
LVC Limon Verde 149.41 187 PKPdf PKPdf 20 28 09.6 -3.1
LVC PKPab PKiKP 20 28 19.3 +1.0
LVC Limon Verde 149.41 187 eP PKPdf 20 28 14.9 +2.2
PLAL Pickwick Lake 149.56 26 PKPdf PKPdf 20 28 11.4 -0.7
CBN Corbin Frederi 149.58 8 P PKiKP 20 28 17.4 -0.3
baz=351
ROSB Rosrio 149.67 250 eP PKPdf 20 28 14.2 +1.3
TZTN Tazewell 149.83 18 P PKiKP 20 28 18.3 0.0
baz=338,SNR=26
BLA Blacksburg 150.02 13 P PKiKP 20 28 18.3 -0.4
baz=345,SNR=9.4
SMTB Santa Maria do 150.04 237 eP PKPdf 20 28 15.1 +1.6
X48A Hartselle 150.45 25 PKPdf 20 28 13.0 -0.5
X48A PKPbc PKPbc 20 28 19.0 +0.2
X48A PKPab PKPab 20 28 26.1 +0.7
TKL Tuckaleechee C 150.58 19 PKP PKPdf 20 28 15.4 +1.7
comp=Z,154nm,1.0s,baz=139,slow=2.7,SNR=7.7
TKL PKPbc PKiKP 20 28 19.8 0.0
comp=Z,89nm,0.7s,baz=112,slow=0.5,SNR=66
VBMS Vicksburg 150.65 32 P PKiKP 20 28 20.8 +0.8
baz=322,SNR=5.7
T59A Double "B" Far 150.76 8 PKPdf PKPdf 20 28 14.2 +0.3
T59A PKPbc PKiKP 20 28 20.7 +0.5
T59A PKPab PKPab 20 28 27.5 +0.9
SALV Santo Antonio 151.01 215 eP PKPdf 20 28 16.4 +1.5
SNDB Serra Nova Dou 151.04 227 eP PKPdf 20 28 15.8 +0.8
Z47A Carrollton 151.06 28 PKPdf 20 28 14.0 -0.5
Z47A PKPbc PKiKP 20 28 21.1 +0.2
Z47A PKPab PKPab 20 28 29.0 +1.0
V58A Windy Hill, Pi 151.65 11 PKPdf 20 28 15.5 +0.2
V58A PKPbc PKiKP 20 28 22.8 +0.8
V58A PKPab PKPab 20 28 30.6 +0.3
LRAL Lakeview Retre 151.68 26 P PKiKP 20 28 22.3 +0.1
baz=329,SNR=24
KMSC Kings Mountain 151.77 15 P PKiKP 20 28 22.9 +0.6
baz=342
W57A Gilead 152.09 13 PKPdf 20 28 14.6 -1.4
W57A PKPbc PKiKP 20 28 23.4 +0.4
W57A PKPab PKPab 20 28 32.2 +0.1
CNNC Cliffs of the 152.41 9 P PKiKP 20 28 24.2 +0.6
baz=349
GOGA Godfrey 152.73 20 P PKiKP 20 28 25.4 +1.0
baz=336,SNR=14
BRAL Brewton 153.23 28 P PKiKP 20 28 27.1 +1.7
baz=327,SNR=9.1
PRPB Parauapebas 153.34 239 eP PKPdf 20 28 19.0 +0.6
TMAB Tom-Au,PA,Br 153.54 248 eP PKPdf 20 28 19.0 +0.3
SIV San Ignacio 153.63 206 PKP PKPdf 20 28 20.4 +1.6
comp=Z,9.0nm,1.0s,baz=134,slow=0.3,SNR=20
SIV PKPbc PKiKP 20 28 27.9 +1.2
comp=Z,6.7nm,0.6s,baz=145,slow=3.1,SNR=18
SIV PKPab PKPab 20 28 39.2 0.0
comp=Z,16nm,0.5s,baz=188,slow=6.2,SNR=23
352A Blakely 153.91 25 PKPdf 20 28 19.2 +0.5
352A PKPbc PKiKP 20 28 27.7 +0.9
352A PKPab PKPab 20 28 40.5 +0.6
NHSC New Hope 154.00 15 P PKiKP 20 28 28.0 +1.0
baz=343
TIGA Tifton 154.47 22 P PKiKP 20 28 29.1 +1.1
baz=334
CLDB Colider 154.94 222 eP PKPdf 20 28 21.7 +1.0
LPAZ La Paz 155.51 190 PKP PKPdf 20 28 23.7 +1.5
comp=Z,3.3nm,1.0s,baz=360,slow=0.6,SNR=12
LPAZ PKPbc pPKPdf 20 28 31.7 -9.4
comp=Z,3.3nm,0.8s,baz=99,slow=6.3,SNR=7.1
LPAZ PKPab sPKPdf 20 28 49.0 +1.0
comp=Z,8.9nm,0.8s,baz=105,slow=4.2,SNR=14
LPAZ La Paz 155.51 190 eP PKPdf 20 28 24.1 +1.9
LPAZ La Paz 155.51 190 eP PKPdf 20 28 23.7 +1.5
VILB Vilhena 155.87 211 eP PKPdf 20 28 23.7 +1.8
CMIG Matias Romero 156.40 65 PKP PKPdf 20 28 23.8 +1.3
comp=Z,5.2nm,0.7s,baz=270,slow=2.6,SNR=7.0
NPGB Novo Progresso 157.29 229 eP PKPdf 20 28 24.6 +0.8
MCPB Macapa, AP 157.97 249 eP PKPdf 20 28 26.9 +2.2
DWPF Disney Wildern 158.27 22 PKPdf PKPdf 20 28 21.1 -3.5
DWPF PKPab 20 28 58.4 -0.4
ITTB Itaituba 159.23 234 eP PKPdf 20 28 27.4 +1.2
MALB Monte Alegre 159.32 243 eP PKPdf 20 28 27.8 +1.6
SAML Samuel 160.78 209 eP PKPdf 20 28 29.0 +1.2
ETMB Extrema 161.25 200 eP PKPdf 20 28 29.0 +0.7
MTO3 Montecristo 162.31 67 PKPdf PKPdf 20 28 26.3 -3.4
MTO3 PKPab 20 29 16.5 -0.7
MACA Manacapuru-AM 163.81 227 eP PKPdf 20 28 32.1 +1.2
ATAH Atahualpa 163.91 159 PKP PKPdf 20 28 33.4 +1.9
comp=Z,9.3nm,0.9s,baz=145,slow=2.1,SNR=9.8
PTGA Pitinga 164.77 236 PKP PKPdf 20 28 32.5 +0.7
comp=Z,1.8nm,0.6s,baz=62,slow=2.5,SNR=11
PTGA PKPab PKPab 20 29 28.7 +1.0
comp=Z,19nm,1.1s,baz=126,slow=5.0,SNR=9.6
PTGA Pitinga 164.77 236 eP PKPdf 20 28 32.5 +0.7
SMRT St. Maarten 166.38 318 PKPdf 20 28 31.9 -1.0
BOAV Boa Vista 166.82 246 eP PKPdf 20 28 34.8 +1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JTS	**Las Juntas de**	**167.53**	**78**	PKPab	**PKPab**	**20 29 41.1**	**+1.0**
	comp=Z,2.7nm,0.3s,baz=6.4,slow=5.8,SNR=4.5						
JTS	**Las Juntas de**	**167.53**	**78**	PKP2	**PKPab**	**20 29 42.0**	**+1.9**
JTS	**Las Juntas de**	**167.53**	**78**	PKPab	**PKPab**	**20 29 42.0**	**+1.9**
TBTG	**Tabatinga, AM**	**167.65**	**192**	*e*P	**PKPdf**	**20 28 34.5**	**+0.5**
TBTG	**Tabatinga, AM**	**167.65**	**192**	*e*P	**PKPdf**	**20 28 35.0**	**+0.9**
SJG	**San Juan**	**168.15**	**329**	PKP	**PKPdf**	**20 28 34.0**	**-0.2**
	comp=Z,3.3nm,0.2s,baz=334,slow=20,SNR=1.3						
SJG	**San Juan**	**168.15**	**329**	PKIKP	**PKPdf**	**20 28 34.0**	**-0.2**
PDPR	**Patillas Dam,**	**168.16**	**328**		**PKPdf**	**20 28 34.1**	**-0.1**
PDPR					**PKPab**	**20 29 42.5**	**+0.1**
OBIP	**Obispado Ponce**	**168.43**	**331**		**PKPdf**	**20 28 32.4**	**-2.1**
OBIP				PKPab	**PKPab**	**20 29 42.1**	**-1.4**
SDDR	**Presa de Saban**	**168.98**	**354**	*e*P	**PKPdf**	**20 28 36.2**	**+1.4**
SRBA	**San Rafael, Bu**	**169.23**	**82**		**PKPdf**	**20 28 32.2**	**-3.0**
OTAV	**Otavalo**	**170.33**	**142**	*e*P	**PKPdf**	**20 28 37.7**	**+1.4**
OTAV	**Otavalo**	**170.33**	**142**	*e*P	**PKPdf**	**20 28 37.8**	**+1.5**
PTLC	**Puerto Leguiza**	**171.94**	**164**	*e*P	**PKPdf**	**20 28 37.1**	**+0.5**
BBAC	**Balboa, Cauca**	**172.47**	**141**	*e*P	**PKPdf**	**20 28 37.3**	**+0.2**
SOTA	**Rioblanco**	**172.94**	**145**	*e*P	**PKPdf**	**20 28 38.5**	**+0.9**
FLOC	**Florencia**	**172.95**	**154**		**PKPdf**	**20 28 36.4**	**-0.6**
FLOC	**Florencia**	**172.95**	**154**	*e*P	**PKPdf**	**20 28 37.8**	**+0.7**
PCON	**Cinco Dias**	**173.21**	**145**	*e*P	**PKPdf**	**20 28 39.0**	**+1.1**
POPC	**Popayan, Colom**	**173.22**	**142**	*e*P	**PKPdf**	**20 28 37.6**	**+0.2**
MARP	**Paez Belalcaza**	**173.88**	**146**	*e*P	**PKPdf**	**20 28 38.6**	**+0.9**
YOTC	**Yotoco, Valle**	**174.53**	**136**	*e*P	**PKPdf**	**20 28 37.5**	**-0.2**
ORTC	**Ortega, Tolima**	**175.16**	**146**	*e*P	**PKPdf**	**20 28 37.5**	**-0.4**
PRAC	**Prado**	**175.18**	**151**	*e*P	**PKPdf**	**20 28 36.5**	**-1.3**
TOLC	**Tolima**	**175.66**	**140**	*e*P	**PKPdf**	**20 28 38.0**	**-0.3**
GUY2C	**Guyana, Caldas**	**176.09**	**134**	*e*P	**PKPdf**	**20 28 38.5**	**-0.1**
PTGC	**Puerto Gaitan,**	**176.24**	**186**	*e*P	**PKPdf**	**20 28 36.9**	**-1.1**
DBBC	**Dabeiba**	**176.25**	**104**	*e*P	**PKPdf**	**20 28 38.4**	**+0.2**
ROSC	**El Rosal**	**176.43**	**150**	PKP	**PKPdf**	**20 28 38.9**	**+0.3**
	comp=Z,7.2nm,0.3s,baz=110,slow=7.2,SNR=8.9						
ROSC	**El Rosal**	**176.43**	**150**	*e*P	**PKPdf**	**20 28 38.9**	**+0.3**
CHIC	**Chingaza**	**176.49**	**160**	*e*P	**PKPdf**	**20 28 37.9**	**-0.7**
NORC	**Norcasia**	**176.68**	**136**	*e*P	**PKPdf**	**20 28 38.0**	**-0.1**
SJCC	**San Jacinto, C**	**176.76**	**53**		**PKPdf**	**20 28 37.6**	**-0.6**
SJCC					**PKPab**	**20 30 20.4**	**-0.5**
SJCC	**San Jacinto, C**	**176.76**	**53**	*e*P	**PKPdf**	**20 28 39.5**	**+1.3**
CRJC	**Cerrejon, Guaj**	**176.94**	**6**	*e*P	**PKPdf**	**20 28 38.3**	**+0.1**
UREC	**San Jos de Ur**	**177.03**	**94**	*e*P	**PKPdf**	**20 28 38.3**	**+0.1**
PTBC	**PUERTO BERRIO,**	**177.63**	**127**	*e*P	**PKPdf**	**20 28 37.7**	**-0.6**
ZARC	**Zaragoza, Cauc**	**177.66**	**101**	*e*P	**PKPdf**	**20 28 38.4**	**+0.1**
RUSC	**La Rusia**	**177.88**	**165**		**PKPdf**	**20 28 37.5**	**-1.5**
RUSC				PKPab	PKPab	20 30 25.1	-0.9
RUSC	**La Rusia**	**177.88**	**165**	*e*P	**PKPdf**	**20 28 38.3**	**-0.6**
SMLC	**San Martn de**	**178.27**	**61**	*e*P	**PKPdf**	**20 28 39.1**	**+0.8**
SOCV	**Socops**	**178.30**	**281**	*e*P	**PKPdf**	**20 28 37.0**	**-1.4**
BARC	**Barichara**	**178.50**	**155**	*e*P	**PKPdf**	**20 28 39.2**	**+0.6**
BRRC	**Barranca, Sant**	**178.56**	**126**	*e*P	**PKPdf**	**20 28 38.9**	**+0.5**
OCAC	**Ocana**	**179.19**	**70**	*e*P	**PKPdf**	**20 28 38.6**	**0.0**
PAMC	**Pamplona, Colo**	**179.36**	**166**	*e*P	**PKPdf**	**20 28 38.0**	**-1.0**

MAN 04 20:08:46.7, 5°.92N×128°.29E, h51km, mb4.9, ML3.8, MS3.7, East of Philippine Islands

*TUL **04** 20:11:15.1±1.6, 35°.77N±0°.01×97°.49W±0°.02, h7km±1km, ML2.5, mb_Lg2.2/7(NEIC), Error ellipse: s-maj=2.7km s-min=1.8km az=80.0*

NEIC 04 20:11:15±0.9, **35°.80N**±0°.01×**97°.51W**±0°.03, **h7**km±7km, **Error ellipse: s-maj=3.1km s-min=1.7km az=82.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.05**	**88**	Pg	Pg	20 11 16.8	+0.1
OK029				Sg	Sg	20 11 18.0	+0.2
OK009	**Oakdale Elemen**	**0.23**	**161**	Pg	Pg	20 11 19.5	0.0
OK025	**Westminster Rd**	**0.26**	**146**	Pg	Pg	20 11 20.0	-0.1
OK025				Sg	Sg	20 11 23.6	+0.1
OK001	**Jones High Sch**	**0.30**	**142**	Pg	Pg	20 11 20.7	-0.1
OK005	**Luther M Schoo**	**0.30**	**118**	Pg	Pg	20 11 20.8	-0.1
OKCFA	**Oklahoma City**	**0.38**	**172**	Pg	Pg	20 11 22.1	-0.3
OKCFA				Sg	Sg	20 11 27.6	+0.1
OKCSW	**OKLAHOMA CITY**	**0.39**	**171**	Pg	Pg	20 11 22.3	-0.3
OKCSW				Sg	Sg	20 11 28.1	+0.3
FNO	**Franklin**	**0.54**	**170**	Pg	Pg	20 11 25.1	-0.4
FNO				Sg	Sg	20 11 32.8	+0.1
OK031	**S. Brethren Rd**	**0.57**	**74**	Pg	Pg	20 11 25.9	-0.1
OK031				Sg	Sg	20 11 33.4	-0.1
QUOK	**Quay**	**0.75**	**60**	Pg	Pg	20 11 29.2	-0.3
CROK	**Carrier**	**0.80**	**332**	Pg	Pg	20 11 30.9	+0.4
BLOK	**Blackwell**	**0.99**	**14**	Pg	Pg	20 11 33.7	-0.4
BLOK				Sg	Sb	20 11 47.5	-0.3
GC02	**Grant County #**	**1.09**	**345**	Pg	Pg	20 11 35.9	0.0
OK032	**Salt Plains WL**	**1.15**	**331**	Pg	Pg	20 11 36.8	-0.4
KAN14	**Manchester OK**	**1.22**	**343**	Pn	Pb	20 11 37.8	-0.5
KAN13	**South Haven SW**	**1.22**	**1**	Pn	Pb	20 11 38.1	-0.3
X34A	**Smith Ranch, M**	**1.22**	**192**	Pn	Pb	20 11 37.9	-0.5
KAN17	**Caldwell West**	**1.26**	**351**	Pn	Pn	20 11 39.1	0.0
U32A	**Winter Ranch,**	**1.34**	**296**	Pn	Pn	20 11 39.9	-0.2
KAN05	**Bluff City Nor**	**1.34**	**348**	Pn	Pn	20 11 40.0	-0.2
T35A	**Sooner Cattle**	**1.38**	**36**	Pn	Pn	20 11 40.2	-0.4
KAN10	**Anthony SW Sta**	**1.41**	**341**	Pn	Pn	20 11 41.1	+0.1
KAN08	**Anthony NE Sta**	**1.48**	**346**	Pn	Pb	20 11 42.7	-0.1
WMOK	**Wichita Mounta**	**1.48**	**225**	Pn	Pn	20 11 42.0	0.0
KAN12	**Harper NE Stat**	**1.55**	**346**	Pn	Pb	20 11 43.6	-0.4
LOOK	**Love County**	**1.82**	**171**	Pn	Pn	20 11 47.3	+0.7
X37A	**Clayton**	**2.13**	**124**	Pn	Pn	20 11 52.0	+1.1
X37A				IAmb_Lg		20 12 24.1	
	comp=Z,9.0nm,0.7s						
U38A	**Gravette**	**2.61**	**75**	Pn	Pn	20 11 58.3	+0.7
HHAR	**Hobbs**	**2.94**	**79**	Pn	Pn	20 12 03.4	+1.3
W39A	**Magazine**	**3.10**	**100**	Pn	Pn	20 12 04.8	+0.5
W39A				IAmb_Lg		20 12 59.2	
	comp=Z,8.4nm,0.8s						
MIAR	**Mount Ida**	**3.46**	**110**	Pn	Pn	20 12 08.8	-0.4
MIAR				IAmb_Lg		20 13 12.9	
	comp=Z,7.7nm,1.1s						
AMTX	**Amarillo**	**3.53**	**256**	Pn	Pn	20 12 09.3	-0.9
U40A	**Yellville**	**3.82**	**80**	Pn	Pn	20 12 15.6	+1.4
S39A	**Bolivar**	**3.86**	**59**	Pn	Pn	20 12 15.1	+0.3
237A	**Washetta, Mont**	**4.04**	**159**	Pn	Pn	20 12 15.9	-1.3
WHAR	**Wooly Hollow**	**4.29**	**95**	Pn	Pn	20 12 20.9	+0.3
FCAR	**Ozark Folk Cen**	**4.38**	**87**	IAmb_Lg		20 13 31.0	
	comp=Z,6.3nm,0.8s						
MSTX	**Muleshoe**	**4.69**	**249**	Pn	Pn	20 12 25.9	-0.4
K38A	**Parkersburg**	**7.77**	**27**	IAmb_Lg		20 15 16.4	
	comp=Z,2.7nm,0.9s						

*IDC **04** 20:44:34.6±0.7, 4°.19N×82°.62W, h0km, mb4.2/15, mb1 4.4/19, mb1mx4.3/34, mbtmp4.2/19, ML3.5/4, MS3.5/9, Ms1 3.6/9, ms1mx3.3/28, Error ellipse: s-maj=23.4km s-min=13.8km az=42.0*

*NEIC **04** 20:44:37.4±2.5, 4°.25N±0°.06×82°.74W±0°.07, h13km±4km, mb4.7/116, Error ellipse: s-maj=10.6km s-min=8.8km az=59.0*

ISC 04 20:44:36.6±0.4, **4°.23N**±0°.05×**82°.71W**±0°.07, **h14**km, **n254**, σ**1s.28**/247, **mb4.7**/67, **MS3.5**/5, **South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CACAO	**El Cacao, Vera**	**3.60**	**31**	*e*P	**Pn**	**20 45 30.9**	**-1.2**
AZU	**Azuero**	**4.29**	**34**	*e*P	**Pn**	**20 45 41.0**	**-0.5**
CDITO	**Canoas**	**4.32**	**358**		**Pn**	**20 45 39.2**	**-2.8**
CDITO				Sn	**Sn**	**20 46 29.9**	**-2.3**
GR1C	**Gorgona, Isla**	**4.69**	**105**	*e*P	**Pn**	**20 45 45.4**	**-1.7**
EDPN	**Palmar Norte**	**4.76**	**351**	*e*P	**Pn**	**20 45 45.6**	**-2.4**
EDBA	**Buenos Aires**	**4.94**	**353**	*e*P	**Pn**	**20 45 49.0**	**-1.4**
SRBA	**San Rafael, Bu**	**5.01**	**353**	Pn	**Pn**	**20 45 49.4**	**-2.3**
SRBA				Sn	**Sn**	**20 46 47.4**	**-2.1**
PEZE	**Perez Zeledon,**	**5.21**	**349**		**Pn**	**20 45 52.2**	**-2.1**
PEZE				Sn	**Sn**	**20 46 52.2**	**-2.1**
MALC	**Bahia Malaga**	**5.36**	**92**	*e*P	**Pn**	**20 45 57.0**	**+0.7**
PIZC	**Pizarro, Choco**	**5.38**	**82**	*e*P	**Pn**	**20 45 56.2**	**-0.3**
PAC1	**Pacto, Paraso**	**5.55**	**135**	*e*P	**Pn**	**20 45 56.5**	**-2.5**
RIMA	**Rio Macho**	**5.62**	**348**	*e*P	**Pn**	**20 45 57.9**	**-2.2**
RIMA	**Rio Macho**	**5.62**	**348**		**Pn**	**20 45 58.2**	**-1.8**
RIMA				Sn	**Sn**	**20 47 02.2**	**-2.4**
LCR2	**La Lucha 2**	**5.63**	**347**	*e*P	**Pn**	**20 45 57.8**	**-2.4**
BCIP	**Isla Barro Col**	**5.67**	**30**	Pn	**Pn**	**20 46 00.6**	**0.0**
BCIP	**Isla Barro Col**	**5.67**	**30**	*e*P	**Pn**	**20 46 00.6**	**0.0**
UPA	**Univ. de Panam**	**5.68**	**34**	*e*P	**Pn**	**20 46 01.0**	**+0.4**
JACO	**JACO, Garabito**	**5.74**	**340**		**Pn**	**20 45 59.0**	**-2.4**
OTAV	**Otavalo**	**5.81**	**133**		**Pn**	**20 46 01.1**	**-1.8**
OTAV	**Otavalo**	**5.81**	**133**	*e*P	**Pn**	**20 46 00.5**	**-2.4**
CVTR	**Volcan Turrial**	**5.85**	**350**	*e*P	**Pn**	**20 46 01.9**	**-1.5**
CVTR	**Volcan Turrial**	**5.85**	**350**		**Pn**	**20 46 02.1**	**-1.3**
BBAC	**Balboa, Cauca**	**5.88**	**112**	*e*P	**Pn**	**20 46 02.3**	**-1.3**
HDC	**Heredia**	**5.90**	**346**	*e*P	**Pn**	**20 46 02.4**	**-1.5**
HDC	**Heredia**	**5.90**	**346**		**Pn**	**20 46 01.9**	**-1.9**
CAO2	**Cobano, Puntar**	**5.92**	**336**		**Pn**	**20 46 01.4**	**-2.7**
POPC	**Popayan, Colom**	**6.25**	**105**	*e*P	**Pn**	**20 46 08.1**	**-0.6**
INDI	**Punta indio, G**	**6.25**	**334**	*e*P	**Pn**	**20 46 07.0**	**-1.5**
UPD2	**Meteti**	**6.34**	**47**	*e*P	**Pn**	**20 46 11.1**	**+1.4**
YOTC	**Yotoco, Valle**	**6.35**	**92**	*e*P	**Pn**	**20 46 09.0**	**-1.0**
JTS	**Las Juntas de**	**6.42**	**340**	Pn	**Pn**	**20 46 08.8**	**-2.1**
	13nm,0.3s,baz=101,slow=6.3,SNR=20						
JTS				Sn	**Sn**	**20 47 19.9**	**-4.2**
	2.4nm,0.3s,baz=307,slow=23,SNR=1.4						
JTS				LR	LR	20 48 18.0	
	comp=Z,573nm,21.4s,baz=212,slow=34						
JTS	**Las Juntas de**	**6.42**	**340**	*e*P	**Pn**	**20 46 09.4**	**-1.5**
JTS	**Las Juntas de**	**6.42**	**340**	Pn	**Pn**	**20 46 09.3**	**-1.5**
JTS	**Las Juntas de**	**6.42**	**340**	*e*P	**Pn**	**20 46 10.0**	**-0.9**
SOTA	**Rioblanco**	**6.43**	**109**	*e*P	**Pn**	**20 46 12.5**	**+1.0**
DUNO	**Dulce Nombre,**	**6.44**	**335**		**Pn**	**20 46 09.7**	**-1.4**
ARE1	**Arenal 1**	**6.51**	**342**	*e*P	**Pn**	**20 46 12.5**	**+0.4**
SAJU	**San Juanillo,**	**6.52**	**333**	*e*P	**Pn**	**20 46 10.9**	**-1.3**
CEDE	**Laguna Cedeo**	**6.53**	**342**	*e*P	**Pn**	**20 46 12.3**	**0.0**
PCON	**Cinco Dias**	**6.58**	**106**	*e*P	**Pn**	**20 46 15.1**	**+1.6**
GUAI	**GUAI**	**6.62**	**335**	*e*P	**Pn**	**20 46 12.7**	**-0.9**
COVE	**Coope Vega, Sa**	**6.67**	**346**	Pn	**Pn**	**20 46 13.4**	**-0.8**
ORTG	**Ortega, Santa**	**6.68**	**336**		**Pn**	**20 46 13.4**	**-1.1**
CUI	**Cuipilapa**	**6.84**	**339**	*e*P	**Pn**	**20 46 16.7**	**+0.1**
COLC	**Colonia**	**6.86**	**339**	*e*P	**Pn**	**20 46 18.1**	**+1.2**
CBOC	**Ciudad Bolivar**	**6.87**	**76**	*e*P	**Pn**	**20 46 16.2**	**-1.0**
MARP	**Paez Belalcaza**	**6.88**	**101**	*e*P	**Pn**	**20 46 19.1**	**+1.7**
CAPC	**Capurgana**	**6.89**	**50**	*e*P	**Pn**	**20 46 18.3**	**+1.0**
HORNC	**Hornillas**	**6.89**	**339**	*e*P	**Pn**	**20 46 17.8**	**+0.4**
LIM1	**Limonal**	**6.91**	**339**	*e*P	**Pn**	**20 46 17.8**	**+0.2**
LAPC	**Finca la Perla**	**7.04**	**338**	*e*P	**Pn**	**20 46 19.5**	**+0.1**
HZTE	**Horizontes, Gu**	**7.05**	**336**		**Pn**	**20 46 19.6**	**+0.1**
GBS3	**Finca Las Img**	**7.06**	**337**	*e*P	**Pn**	**20 46 20.8**	**+1.2**
GB1A	**Borinquen Arri**	**7.07**	**338**	*e*P	**Pn**	**20 46 20.2**	**+0.3**
BUAI	**Buenos Aires**	**7.10**	**339**	*e*P	**Pn**	**20 46 21.3**	**+1.1**
TOLC	**Tolima**	**7.37**	**87**	*e*P	**Pn**	**20 46 24.8**	**+0.6**
GUY2C	**Guyana, Caldas**	**7.38**	**82**	*e*P	**Pn**	**20 46 24.9**	**+0.4**
HELC	**Santa Helena**	**7.41**	**74**	*e*P	**Pn**	**20 46 25.0**	**+0.2**
BETC	**Betania**	**7.41**	**102**	*e*P	**Pn**	**20 46 24.7**	**+0.1**
ORTC	**Ortega, Tolima**	**7.45**	**92**	*e*P	**Pn**	**20 46 25.8**	**+0.8**
GARC	**Garzon, Huila**	**7.48**	**105**	*e*P	**Pn**	**20 46 26.3**	**+0.6**
FLOC	**Florencia**	**7.52**	**110**		**Pn**	**20 46 26.9**	**+0.9**
FLOC	**Florencia**	**7.52**	**110**	*e*P	**Pn**	**20 46 29.0**	**+3.0**
PRAC	**Prado**	**7.82**	**93**	*e*P	**Pn**	**20 46 30.8**	**+0.7**
NORC	**Norcasia**	**7.92**	**80**	*e*P	**Pn**	**20 46 32.9**	**+1.4**
UREC	**San Jos de Ur**	**7.95**	**64**	*e*P	**Pn**	**20 46 33.6**	**+1.7**
ACON	**Acoyapa**	**8.07**	**343**		**Pn**	**20 46 33.2**	**-0.3**
ROSC	**El Rosal**	**8.38**	**86**	Pn	**Pn**	**20 46 38.7**	**+0.6**
	6.5nm,0.3s,baz=103,slow=9.0,SNR=8.2						
ROSC				LR	LR	20 49 55.0	
	comp=Z,301nm,20.8s,baz=357,slow=39						
ROSC	**El Rosal**	**8.38**	**86**	Pn	**Pn**	**20 46 38.3**	**+0.2**
ROSC	**El Rosal**	**8.38**	**86**	*e*P	**Pn**	**20 46 40.8**	**+2.6**
ZARC	**Zaragoza, Cauc**	**8.46**	**67**	*e*P	**Pn**	**20 46 42.0**	**+3.2**
PTBC	**PUERTO BERRIO,**	**8.53**	**74**	*e*P	**Pn**	**20 46 41.5**	**+1.6**
SPBC	**San Pablo de B**	**8.72**	**80**	*e*P	**Pn**	**20 46 43.7**	**+1.2**
CHIC	**Chingaza**	**8.96**	**87**	*e*P	**Pn**	**20 46 47.7**	**+1.6**
VILC	**Villavicencio,**	**8.99**	**90**	*e*P	**Pn**	**20 46 47.2**	**+0.9**
PAYG	**Puerto Ayora**	**9.00**	**237**	Pn	**Pn**	**20 46 45.6**	**-0.8**
MACC	**Macarena, Meta**	**9.08**	**103**	*e*P	**Pn**	**20 46 47.5**	**0.0**
CNGN	**Cerro Negro**	**9.12**	**335**	Pn	**Pn**	**20 46 49.0**	**+1.0**
SJCC	**San Jacinto, C**	**9.35**	**53**	Pn	**Pn**	**20 46 51.6**	**+0.4**
SJCC	**San Jacinto, C**	**9.35**	**53**	*e*P	**Pn**	**20 46 53.5**	**+2.3**
SMLC	**San Martn de**	**9.71**	**62**	*e*P	**Pn**	**20 46 57.9**	**+1.9**
RUSC	**La Rusia**	**9.73**	**80**	Pn	**Pn**	**20 46 58.7**	**+2.0**
RUSC	**La Rusia**	**9.73**	**80**	*e*P	**Pn**	**20 46 60.0**	**+3.3**
BARC	**Barichara**	**9.77**	**76**	*e*P	**Pn**	**20 46 58.8**	**+1.7**
PAMC	**Pamplona, Colo**	**10.43**	**72**	*e*P	**Pn**	**20 47 08.0**	**+1.7**
CRJC	**Cerrejon, Guaj**	**11.84**	**55**	*e*P	**Pn**	**20 47 27.0**	**+1.6**
MTO3	**Montecristo**	**12.05**	**327**		**Pn**	**20 47 31.5**	**+3.3**
SOCV	**Socops**	**12.45**	**71**	*e*P	**Pn**	**20 47 33.7**	**+0.1**
SDV	**Santo Domingo**	**12.86**	**68**	Pn	**Pn**	**20 47 39.4**	**+0.1**
	1.4nm,0.3s,baz=247,slow=8.8,SNR=5.7						
SDV				LR	LR	20 52 51.4	
	comp=Z,130nm,21.1s,baz=236,slow=39						
SDV	**Santo Domingo**	**12.86**	**68**	*e*P	**Pn**	**20 47 40.1**	**+0.8**
PETF	**Flores**	**14.43**	**331**	P	**P**	**20 48 10.5**	**+3.0**
LGNH	**Logne**	**17.29**	**34**	P	**Pn**	**20 48 37.5**	**-0.3**
LGNH				IAmb	IAmb	20 48 56.5	
	comp=Z,90nm,1.4s						
CMIG	**Matias Romero**	**17.49**	**318**	P	**P**	**20 48 41.9**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=129,slow=9.7,SNR=4.4						
CMIG				LR	LR	20 54 08.4	
	comp=Z,205nm,21.4s,baz=152,slow=33						
SDDR	**Presa de Saban**	**18.43**	**36**	P	**P**	**20 48 50.8**	**-1.0**
PCRV	**Puerto La Cruz**	**18.87**	**71**	P	**P**	**20 48 56.8**	**0.0**
	comp=Z,1.0nm,0.3s,baz=262,slow=7.6,SNR=6.4						
DR12	**Loma Pena Alta**	**19.47**	**41**	P	**P**	**20 49 00.8**	**-2.5**
PCDR	**Punta Cana, DR**	**19.95**	**43**	P	**P**	**20 49 07.1**	**-1.3**
CRPR	**Cabo Rojo, PR**	**20.51**	**47**	P	**P**	**20 49 14.8**	**+0.3**
CRPR				IAmb	IAmb	20 49 16.1	
	comp=Z,33nm,0.8s						
GRTK	**Grand Turk**	**20.53**	**32**	P	**P**	**20 49 12.2**	**-2.5**
GRTK				IAmb	IAmb	20 49 22.3	
	comp=Z,29nm,1.0s						
MLPR	**Magueyes Islan**	**20.53**	**47**	P	**P**	**20 49 13.7**	**-1.1**
MLPR				IAmb	IAmb	20 49 20.9	
	comp=Z,32nm,0.9s						
AGPR	**Aguadilla, PR**	**20.80**	**46**	P	**P**	**20 49 16.4**	**-1.4**
AGPR				IAmb	IAmb	20 49 39.4	
	comp=Z,48nm,1.0s						
ICMP	**Isla Caja de M**	**20.86**	**48**	P	**P**	**20 49 17.8**	**-0.6**
OBIP	**Obispado Ponce**	**20.90**	**48**	P	**P**	**20 49 17.4**	**-1.4**
OBIP				IAmb	IAmb	20 49 23.1	
	comp=Z,39nm,0.8s						
AOPR	**Arecibo Observ**	**20.98**	**47**	P	**P**	**20 49 19.4**	**-0.3**
SJG	**San Juan**	**21.28**	**48**	P	**P**	**20 49 23.5**	**+0.6**
	comp=Z,28nm,0.8s,baz=244,slow=10,SNR=9.7						
SJG				LR	LR	20 58 36.1	
	comp=Z,48nm,19.5s,baz=281,slow=40						
SJG	**San Juan**	**21.28**	**48**	P	**P**	**20 49 22.9**	**0.0**
SJG				IAmb	IAmb	20 49 27.8	
	comp=Z,36nm,0.9s						
PDPR	**Patillas Dam,**	**21.32**	**49**	P	**P**	**20 49 23.0**	**-0.3**
PDPR				IAmb	IAmb	20 49 28.6	
	comp=Z,32nm,1.0s						
GCPR	**Guaynabo City**	**21.45**	**48**	P	**P**	**20 49 25.6**	**+0.8**
HUMP	**Col San Antoni**	**21.52**	**49**	P	**P**	**20 49 24.7**	**-0.8**
HUMP				IAmb	IAmb	20 49 29.3	
	comp=Z,31nm,0.9s						
CBYP	**Canovanas**	**21.60**	**48**	P	**P**	**20 49 26.3**	**-0.1**
MTP	**Monte Pirata**	**21.72**	**49**	P	**P**	**20 49 26.8**	**-0.8**
MTP				IAmb	IAmb	20 49 41.4	
	comp=Z,29nm,1.1s						
CUPR	**Culebra, Puert**	**22.05**	**49**	P	**P**	**20 49 31.2**	**0.0**
CUPR				IAmb	IAmb	20 49 34.6	
	comp=Z,23nm,0.8s						
CDVI	**St. Croix**	**22.12**	**51**	P	**P**	**20 49 32.0**	**+0.1**
STVI	**Saint Thomas**	**22.33**	**50**	P	**P**	**20 49 32.4**	**-1.7**
STVI				IAmb	IAmb	20 49 37.7	
	comp=Z,19nm,0.9s						
SVB	**Belmont**	**23.01**	**66**	P	**P**	**20 49 40.4**	**-1.1**
ABVI	**Anegada Island**	**23.02**	**50**	P	**P**	**20 49 41.8**	**+0.3**
TOSP	**Speyside**	**23.05**	**71**	P	**P**	**20 49 40.9**	**-1.0**
TOSP				IAmb	IAmb	20 49 53.3	
	comp=Z,43nm,1.2s						
PTGA	**Pitinga**	**23.25**	**102**	P	**P**	**20 49 43.8**	**-0.1**
	comp=Z,5.0nm,0.5s,baz=289,slow=12,SNR=10						
PTGA				LR	LR	20 57 53.0	
	comp=Z,82nm,21.8s,baz=270,slow=34						
PTGA	**Pitinga**	**23.25**	**102**	P	**P**	**20 49 43.4**	**-0.5**
SMRT	**St. Maarten**	**23.62**	**53**	P	**P**	**20 49 46.4**	**-1.1**
SMRT				IAmb	IAmb	20 49 57.3	
	comp=Z,20nm,0.9s						
BIM	**Bigot**	**23.64**	**63**	P	**P**	**20 49 47.0**	**-0.8**
MPOM	**Morne Pois Mar**	**23.80**	**63**	P	**P**	**20 49 47.3**	**-2.0**
LPAZ	**La Paz**	**24.97**	**145**	P	**P**	**20 50 01.8**	**+1.1**
	comp=Z,10nm,1.1s,baz=343,slow=7.6,SNR=5.1						
LPAZ	**La Paz**	**24.97**	**145**	P	**P**	**20 50 00.3**	**-0.3**
LPAZ				IAmb	IAmb	20 50 04.1	
	comp=Z,18nm,1.2s						
656A	**Willston**	**25.01**	**0**	P	**P**	**20 49 58.4**	**-1.7**
656A				IAmb	IAmb	20 50 16.5	
	comp=Z,25nm,1.1s						
SIV	**San Ignacio**	**29.36**	**134**	LR	LR	21 02 47.6	
	comp=Z,321nm,18.5s,baz=309,slow=37						
HODGE	**Hodges**	**29.86**	**1**	P	**P**	**20 50 43.3**	**-0.3**
JSC	**Jenkinsville**	**29.93**	**2**	P	**P**	**20 50 42.9**	**-1.4**
JSC				IAmb	IAmb	20 51 03.1	
	comp=Z,8.5nm,0.9s						
MDP	**Montagnes des**	**29.98**	**87**	LR	LR	21 02 25.0	
	comp=Z,95nm,19.0s,baz=301,slow=36						
Y45A	**Yeager Farm, C**	**30.17**	**349**	P	**P**	**20 50 46.7**	**+0.3**
JCT	**Junction City**	**30.70**	**330**	P	**P**	**20 50 51.9**	**+0.7**
JCT				IAmb	IAmb	20 50 57.4	
	comp=Z,19nm,1.6s						
WLAR	**White Oak Lake**	**30.87**	**343**	P	**P**	**20 50 54.0**	**+1.4**
SWET	**Sewanee**	**30.98**	**355**	P	**P**	**20 50 53.4**	**-0.3**
PLAL	**Pickwick Lake**	**31.00**	**351**	P	**P**	**20 50 54.1**	**+0.3**
Z38A	**Mt. Pleasant**	**31.08**	**340**	P	**P**	**20 50 56.1**	**+1.6**
H06E1	**SOCORRO T-PHAS**	**31.13**	**300**	T	T	21 23 36.4	
	SNR=19						
V48A	**Smith Brothers**	**31.59**	**354**	P	**P**	**20 51 00.1**	**+1.1**
V48A				IAmb	IAmb	20 51 01.7	
	comp=Z,9.2nm,1.1s						
MIAR	**Mount Ida**	**31.81**	**343**	P	**P**	**20 51 01.1**	**+0.1**
MIAR				IAmb	IAmb	20 51 04.0	
	comp=Z,18nm,1.4s						
CLTN	**Cedars of Leba**	**31.89**	**354**	P	**P**	**20 51 02.0**	**+0.5**
TXAR	**Lajitas Array**	**31.91**	**324**	P	**P**	**20 51 03.9**	**+1.9**
	comp=Z,1.1nm,0.9s,baz=139,slow=9.8,SNR=9.4						
TXAR				PcP	**PcP**	**20 53 54.0**	**+1.6**
	comp=Z,0.4nm,0.9s,baz=164,slow=4.4,SNR=3.2						
WHAR	**Wooly Hollow**	**32.16**	**345**	P	**P**	**20 51 04.1**	**+0.2**
WHAR				IAmb	IAmb	20 51 06.6	
	comp=Z,18nm,1.4s						
W39A	**Magazine**	**32.48**	**343**	P	**P**	**20 51 06.9**	**+0.2**
LCAR	**Lake Charles**	**32.63**	**347**	P	**P**	**20 51 07.5**	**-0.6**
LCAR				IAmb	IAmb	20 51 10.5	
	comp=Z,12nm,1.2s						
FCAR	**Ozark Folk Cen**	**32.69**	**346**	P	**P**	**20 51 08.5**	**-0.1**
FCAR				IAmb	IAmb	20 51 14.0	
	comp=Z,16nm,1.7s						
AC02	**Maricunga**	**33.56**	**158**	P	**P**	**20 51 17.9**	**+1.1**
AC02				IAmb	IAmb	20 51 21.3	
	comp=Z,12nm,1.2s						
U38A	**Gravette**	**33.81**	**343**	P	**P**	**20 51 18.9**	**+0.4**
U38A				IAmb	IAmb	20 51 21.2	
	comp=Z,14nm,1.2s						
MGMO	**Mountain Grove**	**33.92**	**346**	P	**P**	**20 51 19.6**	**+0.2**
MGMO				IAmb	IAmb	20 51 22.3	
	comp=Z,11nm,1.1s						
MNTX	**Cornudas Mount**	**34.65**	**325**	P	**P**	**20 51 26.4**	**+0.7**
MNTX				IAmb	IAmb	20 51 29.5	
	comp=Z,12nm,1.1s						
S39A	**Bolivar**	**34.69**	**345**	P	**P**	**20 51 26.2**	**+0.2**
S39A				IAmb	IAmb	20 51 29.3	
	comp=Z,14nm,1.1s						
T35A	**Sooner Cattle**	**34.91**	**340**	P	**P**	**20 51 28.2**	**+0.2**
AQDB	**Aquidauana**	**36.13**	**134**	P	**P**	**20 51 38.5**	**-0.2**
AQDB				IAmb	IAmb	20 51 39.6	
	comp=Z,15nm,1.1s						
121A	**Cookes Peak, D**	**36.66**	**323**	P	**P**	**20 51 44.2**	**+1.0**
121A				IAmb	IAmb	20 51 48.6	
	comp=Z,16nm,1.1s						
KSU1	**Kansas State U**	**36.94**	**342**	P	**P**	**20 51 45.5**	**+0.2**
BNM	**Barren Site**	**37.16**	**326**	P	**P**	**20 51 47.4**	**-0.1**
LENM	**Lemitar**	**37.36**	**326**	P	**P**	**20 51 50.8**	**+1.6**
H03N2	**Juan Fernandez**	**37.63**	**175**	T	T	21 31 51.8	
	baz=354,slow=76,SNR=43						
H03N1	**Juan Fernandez**	**37.64**	**175**	T	T	21 31 52.8	
	baz=354,slow=76,SNR=51						
H03N3	**Juan Fernandez**	**37.65**	**175**	T	T	21 31 51.6	
	baz=354,slow=76,SNR=69						
ANMO	**Albuquerque**	**37.66**	**327**	P	**P**	**20 51 53.6**	**+1.9**
ANMO				IAmb	IAmb	20 51 56.6	
	comp=Z,14nm,1.1s						
T25A	**Trinidad**	**38.33**	**332**	P	**P**	**20 51 58.6**	**+1.3**
CPUP	**Villa Florida**	**39.07**	**142**	P	**P**	**20 52 03.0**	**-0.5**
	comp=Z,2.9nm,0.8s,baz=297,slow=5.8,SNR=4.9						
SDCO	**Great Sand Dun**	**39.33**	**331**	P	**P**	**20 52 06.3**	**+0.4**
SDCO				IAmb	IAmb	20 52 11.3	
	comp=Z,28nm,1.2s						
X16A	**Lo Mia Camp, P**	**40.17**	**322**	P	**P**	**20 52 13.3**	**+0.5**
MVCO	**Mesa Verde**	**40.45**	**328**	P	**P**	**20 52 15.3**	**+0.2**
MVCO				IAmb	IAmb	20 52 19.6	
	comp=Z,13nm,1.0s						
WUAZ	**Wupatki**	**40.87**	**323**	P	**P**	**20 52 19.6**	**+1.1**
WUAZ				IAmb	IAmb	20 52 28.4	
	comp=Z,15nm,1.1s						
ISCO	**Idaho Springs**	**41.02**	**333**	P	**P**	**20 52 20.9**	**+1.0**
SMCO	**Snowmass**	**41.17**	**331**	P	**P**	**20 52 21.5**	**+0.3**
ECSD	**EROS Data Cent**	**41.22**	**345**	P	**P**	**20 52 21.6**	**+0.6**
PV15	**Paradox Valley**	**41.28**	**329**	P	**P**	**20 52 24.8**	**+2.8**
PV15				IAmb	IAmb	20 52 26.8	
	comp=Z,14nm,1.0s						
PV02	**Paradox Valley**	**41.32**	**328**	P	**P**	**20 52 22.9**	**+0.6**
PV02				IAmb	IAmb	20 52 31.3	
	comp=Z,11nm,1.0s						
PV13	**Radium Mtn., P**	**41.32**	**328**	P	**P**	**20 52 22.5**	**+0.2**
PV13				IAmb	IAmb	20 52 27.3	
	comp=Z,15nm,1.0s						
PV03	**Paradox Valley**	**41.41**	**328**	P	**P**	**20 52 23.2**	**+0.2**
PV12	**Saucer Basin,**	**41.43**	**328**	P	**P**	**20 52 25.6**	**+2.4**
PV12				IAmb	IAmb	20 52 30.3	
	comp=Z,19nm,1.1s						
PV18	**Skein Mesa, Pa**	**41.44**	**328**	P	**P**	**20 52 24.5**	**+1.3**
PV18				IAmb	IAmb	20 52 27.4	
	comp=Z,12nm,1.0s						
PV07	**Paradox Valley**	**41.44**	**329**	P	**P**	**20 52 25.1**	**+1.9**
PV07				IAmb	IAmb	20 52 28.4	
	comp=Z,16nm,1.3s						
PV11	**David Mesa, Pa**	**41.45**	**328**	P	**P**	**20 52 23.9**	**+0.5**
PV17	**East Wray Mesa**	**41.49**	**328**	P	**P**	**20 52 24.7**	**+1.1**
PV17				IAmb	IAmb	20 52 27.8	
	comp=Z,18nm,1.2s						
PV16	**Nyswonger Mesa**	**41.49**	**328**	P	**P**	**20 52 25.6**	**+2.0**
PV16				IAmb	IAmb	20 52 28.6	
	comp=Z,28nm,1.5s						
PV20	**West Nyswonger**	**41.54**	**328**	P	**P**	**20 52 24.5**	**+0.5**
ITQB	**Itaqui**	**41.97**	**145**	P	**P**	**20 52 27.6**	**+0.2**
U15A	**North Rim**	**42.03**	**324**	P	**P**	**20 52 29.4**	**+1.2**
U15A				IAmb	IAmb	20 52 34.0	
	comp=Z,20nm,1.4s						
TKX	**Tecate**	**42.42**	**316**	P	**P**	**20 52 30.8**	**-0.4**
PKCU	**Pink Cliffs**	**42.74**	**325**	P	**P**	**20 52 32.2**	**-1.8**
PKCU				IAmb	IAmb	20 52 39.0	
	comp=Z,25nm,1.1s						
KNB	**Kanab**	**42.74**	**324**	P	**P**	**20 52 34.1**	**+0.3**
SRU	**San Rafael Swe**	**42.92**	**328**	P	**P**	**20 52 35.9**	**+0.6**
SRU				IAmb	IAmb	20 52 44.0	
	comp=Z,16nm,1.0s						
F33A	**5 Mile Ranch,**	**43.11**	**346**	P	**P**	**20 52 36.5**	**+0.1**
P17A	**Butcher Ranch,**	**43.30**	**328**	P	**P**	**20 52 38.8**	**+0.5**
CCUT	**Cedar City**	**43.42**	**324**	P	**P**	**20 52 40.3**	**+0.9**
K22A	**Casper**	**43.73**	**334**	P	**P**	**20 52 42.4**	**+0.6**
K22A				IAmb	IAmb	20 52 46.4	
	comp=Z,20nm,1.6s						
SHPR	**Sheep Range**	**43.83**	**321**	P	**P**	**20 52 42.1**	**-0.5**
RSSD	**Black Hills**	**43.96**	**338**	P	**P**	**20 52 44.2**	**+0.6**
RSSD				IAmb	IAmb	20 52 48.7	
	comp=Z,32nm,1.8s						
LMQ	**La Malbaie**	**44.46**	**12**	P	**P**	**20 52 47.7**	**+0.5**
SPR3	**Spring Creek 3**	**44.96**	**325**	P	**P**	**20 52 51.1**	**-0.7**
PDAR	**Pinedale Array**	**45.19**	**332**	P	**P**	**20 52 55.9**	**+2.4**
	comp=Z,0.3nm,0.7s,baz=133,slow=6.4,SNR=2.9						
PDAR				PcP	**PcP**	**20 54 32.3**	**-1.4**
	comp=Z,0.7nm,1.0s,baz=110,slow=3.9,SNR=2.6						
PDAR	**Pinedale Array**	**45.19**	**332**	P	**P**	**20 52 52.7**	**-0.8**
HWUT	**Hardware Ranch**	**45.29**	**329**	P	**P**	**20 52 54.3**	**+0.1**
BGU	**Big Grassy Mou**	**45.56**	**328**	P	**P**	**20 52 57.0**	**+0.6**
PLCA	**Paso Flores**	**46.11**	**167**	P	**P**	**20 53 00.2**	**-0.3**
	comp=Z,4.5nm,1.1s,baz=350,slow=7.7,SNR=5.4						
PLCA	**Paso Flores**	**46.11**	**167**	IAmb	IAmb	20 53 02.4	
	comp=Z,5.7nm,1.1s						
REDW	**Red Top Meadow**	**46.25**	**332**	P	**P**	**20 53 01.7**	**-0.2**
REDW				IAmb	IAmb	20 53 07.2	
	comp=Z,12nm,1.4s						
ELK	**Elko**	**46.65**	**326**	P	**P**	**20 53 05.9**	**+0.8**
NV11	**Mina Array Sit**	**46.89**	**321**	P	**P**	**20 53 07.5**	**+0.6**
NVAR	**Mina Array Bea**	**46.98**	**321**	P	**P**	**20 53 08.6**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=136,slow=7.0,SNR=6.9						
RYN	**Ryan**	**47.24**	**321**	P	**P**	**20 53 10.3**	**+0.8**
BMN	**Battle Mountai**	**47.58**	**324**	P	**P**	**20 53 11.5**	**-0.7**
BMN				IAmb	IAmb	20 53 16.1	
	comp=Z,11nm,1.4s						
YERR	**Yerington**	**47.90**	**321**	P	**P**	**20 53 13.7**	**-1.0**
BOZ	**Bozeman (W)**	**48.32**	**333**	P	**P**	**20 53 18.0**	**+0.2**
BOZ				IAmb	IAmb	20 53 21.5	
	comp=Z,11nm,1.4s						
G08A	**Pilot Rock**	**51.71**	**328**	P	**P**	**20 53 43.6**	**0.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
E09A	**Wood Farm, Sta**	**52.11**	**330**	P	**P**	**20 53 46.8**	**+0.4**
E09A				IAmb	IAmb	20 53 51.0	
	comp=Z,9.2nm,1.1s						
EDM	**Edmonton**	**54.94**	**338**	P	**P**	**20 54 07.0**	**-0.1**
YKA	**Yellowknife Ar**	**62.74**	**344**	P	**P**	**20 55 01.8**	**+0.7**
	comp=Z,4.1nm,1.1s,baz=135,slow=7.3,SNR=10						
ICESG	**Greenland Ices**	**70.73**	**15**	*i* P	**P**	**20 55 51.4**	**-1.0**
INK	**Inuvik**	**72.41**	**342**	P	**P**	**20 56 01.4**	**-0.6**
	comp=Z,5.9nm,0.9s,baz=178,slow=9.5,SNR=3.7						
INK	**Inuvik**	**72.41**	**342**	P	**P**	**20 56 02.2**	**+0.2**
INK				IAmb	IAmb	20 56 05.6	
	comp=Z,8.1nm,1.1s						
BCAR	**Beaver Creek A**	**72.63**	**336**	P	**P**	**20 56 05.0**	**+1.4**
SUMG	**Summit**	**73.44**	**13**	*i* P	**P**	**20 56 08.4**	**-0.3**
SUMG				IAmb	IAmb	20 56 10.7	
	comp=Z,11nm,0.9s						
SUMG	**Summit**	**73.44**	**13**	*i* P	**P**	**20 56 08.3**	**-0.3**
SUMG	**Summit**	**73.44**	**13**	P	**P**	**20 56 07.8**	**-0.8**
SUMG	**Summit**	**73.44**	**13**	pmax	pmax		
	comp=Z,11nm,0.9s						
NEEM	**North Greenlan**	**75.10**	**7**	*i* P	**P**	**20 56 18.0**	**-0.1**
NEEM				IAmb	IAmb	20 56 20.4	
	comp=Z,9.1nm,0.9s						
ILAR	**Eielson Array**	**75.39**	**337**	P	**P**	**20 56 20.8**	**+1.2**
	comp=Z,1.2nm,1.0s,baz=133,slow=4.5,SNR=8.2						
ILAR	**Eielson Array**	**75.39**	**337**	P	**P**	**20 56 20.5**	**+0.9**
H24K	**Noodor Dome**	**76.17**	**337**	P	**P**	**20 56 24.9**	**+0.8**
H24K				IAmb	IAmb	20 56 29.2	
	comp=Z,10.0nm,1.5s						
BPAW	**Bear Paw Mtn.**	**76.83**	**335**	P	**P**	**20 56 29.2**	**+1.4**
BPAW				IAmb	IAmb	20 56 31.2	
	comp=Z,9.8nm,1.3s						
MLY	**Manley**	**77.02**	**336**	P	**P**	**20 56 30.1**	**+1.1**
MLY				IAmb	IAmb	20 56 31.3	
	comp=Z,13nm,1.8s						
TIC	**Toumodi**	**77.31**	**84**	*e*P	**P**	**20 56 31.8**	**+0.2**
LIC	**Lamto**	**77.32**	**85**	*e*P	**P**	**20 56 30.9**	**-0.7**
	comp=Z,51nm,1.4s						
DBIC	**Dimbokro**	**77.47**	**84**	P	**P**	**20 56 31.1**	**-1.4**
	comp=Z,1.5nm,0.6s,baz=241,slow=4.0,SNR=4.4						
KIC	**Kosan Boka**	**77.60**	**84**	*e*P	**P**	**20 56 33.6**	**+0.4**
	comp=Z,6.5nm,0.7s						
K20K	**Telida**	**77.93**	**334**	P	**P**	**20 56 35.5**	**+1.4**
K20K				IAmb	IAmb	20 56 51.7	
	comp=Z,18nm,1.7s						
KOWA	**Kowa**	**78.02**	**76**	P	**P**	**20 56 35.0**	**-0.5**
J20K	**Nowinta River**	**78.18**	**335**	P	**P**	**20 56 36.3**	**+0.9**
J20K				IAmb	IAmb	20 56 38.0	
	comp=Z,7.3nm,1.2s						
ESDC	**Sonseca Array**	**78.65**	**51**	P	**P**	**20 56 38.5**	**0.0**
	comp=Z,1.3nm,0.9s,baz=291,slow=4.8,SNR=5.3						
ESDC				LR	LR	21 29 26.3	
	comp=Z,62nm,19.2s,baz=280,slow=34						
TORD	**Torodi Ar. Bea**	**83.61**	**77**	P	**P**	**20 57 03.5**	**-1.9**
	comp=Z,3.2nm,1.1s,baz=277,slow=5.3,SNR=8.4						
TORD	**Torodi Ar. Bea**	**83.61**	**77**	P	**P**	**20 57 04.5**	**-0.9**
VNA3	**Neumayer Olymp**	**88.58**	**162**	P	**P**	**20 57 28.9**	**+0.2**
VNA1	**Neumayer--Stat**	**88.85**	**161**	P	**P**	**20 57 27.9**	**-2.0**
VNA2	**Neumayer--Watz**	**89.20**	**161**	P	**P**	**20 57 29.7**	**-1.9**
CLL	**Collm**	**90.30**	**39**	*e*PP	PP	21 01 12.0	+0.9
SNAA	**Sanae**	**90.80**	**162**	P	**P**	**20 57 39.1**	**0.0**
GERES	**GERESS Array B**	**91.06**	**41**	P	**P**	**20 57 40.6**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=330,slow=4.6,SNR=3.5						
H11N3	**WAKE ISLAND Hy**	**107.62**	**292**	T	T	22 59 16.0	
	baz=79,slow=75,SNR=19						
H11N2	**WAKE ISLAND Hy**	**107.63**	**292**	T	T	22 59 16.1	
	baz=79,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**107.64**	**292**	T	T	22 59 18.8	
	baz=79,slow=75,SNR=16						
KURK	**Kurchatov**	**122.96**	**14**		**PKPdf**	**21 03 31.7**	**-1.0**
KURBB	**Kurchatov Arra**	**123.03**	**14**	PKP	**PKPdf**	**21 03 31.7**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=340,slow=2.3,SNR=5.4						
MKAR	**Makanchi Array**	**127.49**	**13**	PKP	**PKPdf**	**21 03 41.4**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=29,slow=2.8,SNR=4.7						
SONM	**Songino Array**	**127.54**	**352**	PKP	**PKPdf**	**21 03 41.8**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=343,slow=4.5,SNR=5.9						
ASAR	**Alice Springs**	**139.75**	**238**	PKhKP	PKPpre	21 03 59.0	
	comp=Z,0.6nm,0.9s,baz=107,slow=1.9,SNR=4.7						
ASAR				PKP	**PKPdf**	**21 04 05.4**	**+0.3**
	comp=Z,1.0nm,1.0s,baz=95,slow=1.4,SNR=5.6						
WRA	**Warramunga Arr**	**140.69**	**243**	PKhKP	PKPpre	21 04 00.4	
	comp=Z,0.8nm,0.9s,baz=112,slow=2.7,SNR=6.2						
WRA				PKP	**PKPdf**	**21 04 06.6**	**-0.3**
	comp=Z,1.5nm,1.0s,baz=105,slow=1.9,SNR=6.6						
H01W1	**Cape Leeuwin H**	**145.72**	**205**	T	T	23 47 45.9	
	baz=152						
H01W2	**Cape Leeuwin H**	**145.72**	**205**	T	T	23 47 44.4	
	baz=152						
H01W3	**Cape Leeuwin H**	**145.73**	**205**	T	T	23 47 44.4	
	baz=152						
CMAR	**Chiang Mai Arr**	**157.40**	**356**	PKP	**PKPdf**	**21 04 33.8**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=346,slow=1.1,SNR=1.9						
CMAR				PKPab	**PKPab**	**21 05 04.3**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=353,slow=3.6,SNR=2.4						

*IDC **04** 20:45:46.2±1.8, 36.34N×70.79E, h0km, mb3.7/10, mb1 3.8/15, mb1mx3.6/49, mbtmp3.8/15, ML3.8/5, Error ellipse: s-maj=33.8km s-min=17.7km az=152.0*

*NNC **04** 20:45:52.7±5.1, 36.85N×70.34E, h0km, mb4.5, mpv4.3, Error ellipse: s-maj=43.4km s-min=38.9km az=170.0*

*BJI **04** 20:45:55.2±0.0, 37.00N×70.64E, h74km, mB4.6/3, mb4.2/10*

*NEIC **04** 20:45:57.5±2.3, 36.71N±0.05×70.70E±0.05, h69km±7km, mb4.0/5, Error ellipse: s-maj=8.6km s-min=4.1km az=207.0*

*MOS **04** 20:45:57.0±1.2, 36.75N×70.87E, h92km, mb4.4/4, Error ellipse: s-maj=12.3km s-min=5.4km az=74.3*

ISC 04 20:45:57.0±0.6**, 36.68N**±0.06×**70.69E**±0.05**, h100**km**, n93,** σ**2.53**/100**, mb3.6**/14**, 12C-4D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGR	**Chuyangaron**	**2.32**	**329**		**Pn**	**20 46 32.9**	**-0.9**
GAR	**Garm**	**2.34**	**353**		**Pn**	**20 46 33.6**	**-0.5**
KBL	**Kabul**	**2.52**	**213**	PN	**Pn**	**20 46 39.2**	**+2.6**
KBL	**Kabul**	**2.52**	**213**		**Pn**	**20 46 39.2**	**+2.6**
DRK	**Karamyk**	**2.93**	**17**		**Pn**	**20 46 43.3**	**+1.2**
BTK	**Batken**	**3.38**	**2**	PN	**Pn**	**20 46 48.2**	**+0.3**
BTK	**Batken**	**3.38**	**2**		**Pn**	**20 46 48.2**	**+0.3**
CHCP	**Chirah Chowk**	**3.68**	**144**	P	**Pn**	**20 46 54.0**	**+2.1**
NIL	**Nilore**	**3.68**	**144**	PN	**Pn**	**20 46 53.0**	**+1.0**
NIL	**Nilore**	**3.68**	**144**	Pn	**Pn**	**20 46 53.0**	**+1.0**
KSH	**Kashi**	**5.04**	**54**	Pn	**Pn**	**20 47 06.8**	**-3.6**
KSH				Sn	**Sn**	**20 47 58.6**	**-8.8**
KSH				smax	smax		
	comp=N,170nm,0.6s						
KSH				smax	smax		
	comp=E,160nm,0.4s						
KSH	**Kashi**	**5.04**	**54**	P	**Pn**	**20 47 06.4**	**-4.0**
KSH				S	**Sn**	**20 47 59.8**	**-7.6**
KSH				smax	smax		
	comp=E,250nm,0.7s						
KSH				smax	smax		
	comp=E,150nm,0.7s						
JMU	**Jammu**	**5.26**	**138**	*e*P	Pn	20 47 05.5	-7.7
JMU				*e*S	Sn	20 48 04.5	-8.1
AML	**Almayashu**	**5.92**	**22**	P	**Pn**	**20 47 22.2**	**-0.3**
	SNR=32						
DHRM	**DHARAMSHALA**	**6.40**	**132**	*e*P	**Pn**	**20 47 29.0**	**0.0**
DHRM				*e*S	**Sn**	**20 48 37.8**	**-2.9**
DHRM				IAML		20 48 40.5	
	comp=E,274nm,0.4s						
DHRM				IAML		20 48 41.5	
	comp=N,346nm,0.3s						
KK31	**Karatay Array**	**6.42**	**359**	⇑P	**Pn**	**20 47 28.5**	**-0.5**
	comp=N,2.8nm,0.3s,baz=174,slow=12,SNR=66						
KK31				⇑S	**Sn**	**20 48 38.2**	**-2.5**
	comp=N,3.9nm,0.2s,baz=186,slow=21,SNR=5.1						
KK31	**Karatay Array**	**6.42**	**359**	PN	**Pn**	**20 47 28.8**	**-0.2**
KK31	**Karatay Array**	**6.42**	**359**		**Pn**	**20 47 28.8**	**-0.2**
KKAR	**Karatay Array**	**6.42**	**359**	PN	**Pn**	**20 47 28.8**	**-0.2**
KKAR	**Karatay Array**	**6.42**	**359**		**Pn**	**20 47 28.8**	**-0.2**
KKAR	**Karatay Array**	**6.42**	**359**	Pn	**Pn**	**20 47 28.5**	**-0.5**
EKS2	**Erkin-Say**	**6.43**	**21**	P	**Pn**	**20 47 29.5**	**+0.3**
	SNR=21						
KZA	**Kyzart**	**6.44**	**32**	P	**Pn**	**20 47 29.4**	**-0.3**
	SNR=7.7						
AAK	**Ala-Archa**	**6.63**	**25**	Pn	**Pn**	**20 47 32.5**	**+0.5**
	comp=N,6.7nm,0.3s,baz=207,slow=7.5,SNR=53						
AAK				Sn	**Sn**	**20 48 45.5**	**-0.7**
	comp=N,1.8nm,0.3s,baz=4.2,slow=20,SNR=1.4						
AAK				Lg	Lg	20 49 22.3	
	comp=N,2.0nm,0.3s,baz=288,slow=18,SNR=1.5						
AAK	**Ala-Archa**	**6.63**	**25**	P	**Pn**	**20 47 32.5**	**+0.5**
	SNR=6.4						
AAK	**Ala-Archa**	**6.63**	**25**	⇑P	**Pn**	**20 47 32.2**	**+0.1**
	comp=N,13nm,0.4s						
AAK				⇓S	**Sn**	**20 48 46.7**	**+0.5**
	comp=N,14nm,0.5s						
KBK	**Karagaybulak**	**6.81**	**28**	P	**Pn**	**20 47 35.2**	**+0.7**
	SNR=14						
FRU1	**Bishkek**	**6.83**	**25**	PN	**Pn**	**20 47 35.1**	**+0.5**
FRU1	**Bishkek**	**6.83**	**25**		**Pn**	**20 47 35.1**	**+0.5**
ULHL	**Ulahol**	**7.02**	**36**	P	**Pn**	**20 47 37.0**	**-0.4**
	SNR=8.8						
CHMS	**Chumysh**	**7.04**	**25**	P	**Pn**	**20 47 37.5**	**+0.1**
	SNR=48						
BOOM	**Boomskoye usch**	**7.08**	**33**	PN	**Pn**	**20 47 37.9**	**-0.2**
BOOM	**Boomskoye usch**	**7.08**	**33**	Pn	**Pn**	**20 47 37.9**	**-0.2**
BHK	**Bhakra**	**7.08**	**136**	*e*x	**Pn**	**20 47 41.2**	**+3.2**
USP	**Ospenovka**	**7.20**	**23**	P	**Pn**	**20 47 39.1**	**-0.5**
	SNR=19						
TKM2	**Tokmak 2**	**7.29**	**30**	P	**Pn**	**20 47 40.9**	**0.0**
	SNR=28						
TKM2	**Tokmak 2**	**7.29**	**30**	⇓P	**Pn**	**20 47 40.7**	**-0.2**
	comp=N,20nm,0.5s						
TKM2				⇑S	**Sn**	**20 49 08.9**	**+6.8**
	comp=N,8.7nm,0.6s						
TKM2	**Tokmak 2**	**7.29**	**30**	*i* PN	**Pn**	**20 47 40.7**	**-0.2**
TKM2				pmax	pmax		
	comp=Z,21nm,0.5s						
KDJ	**Kajisay**	**7.41**	**41**	PN	**Pn**	**20 47 42.1**	**-0.5**
KDJ	**Kajisay**	**7.41**	**41**	Pn	**Pn**	**20 47 42.1**	**-0.5**
TARG	**Taragay, Kyrgy**	**7.48**	**45**	Pn	**Pn**	**20 47 43.7**	**0.0**
SMLA	**Simla**	**7.72**	**134**	*e*P	**Pn**	**20 47 46.0**	**-0.7**
SMLA				*e*S	**Sn**	**20 49 08.9**	**-3.6**
SMLA				IAML		20 49 10.9	
	comp=E,63nm,0.4s						
SMLA				IAML		20 49 11.9	
	comp=N,85nm,0.8s						
MDOK	**Medeo**	**8.11**	**35**	⇑P	**Pn**	**20 47 51.4**	**-0.7**
	comp=N,12nm,0.6s						
MDOK	**Medeo**	**8.11**	**35**	PN	**Pn**	**20 47 51.4**	**-0.7**
PRZ	**Przheval'sk**	**8.31**	**43**	PN	**Pn**	**20 47 55.6**	**+0.8**
PRZ	**Przheval'sk**	**8.31**	**43**	Pn	**Pn**	**20 47 55.6**	**+0.8**
DDI	**Dehra Dun**	**8.83**	**134**	*e*P	**Pn**	**20 48 02.6**	**+0.8**
DDI				*e*S	**Sn**	**20 49 36.2**	**-3.5**
PDGK	**Podgornoye**	**9.47**	**43**	⇓P	**Pn**	**20 48 09.0**	**-1.5**
	comp=N,4.6nm,0.5s						
PDGK	**Podgornoye**	**9.47**	**43**	*i* P	**Pn**	**20 48 09.0**	**-1.5**
PDGK				pmax	pmax		
	comp=Z,5.0nm,0.5s						
GEYT	**Alibeck**	**10.10**	**281**	Pn	Pn	20 48 14.1	-4.9
	comp=Z,1.0nm,0.3s,baz=103,slow=10.0,SNR=9.7						
GEYT				Sn	**Sn**	**20 50 02.6**	**-7.7**
	comp=Z,1.5nm,0.3s,baz=184,slow=22,SNR=5.7						
GYA0B	**ALIBECK ARRAY**	**10.10**	**281**	Pn	**Pn**	**20 48 16.6**	**-2.4**
MAKZ	**Makanchi**	**13.15**	**36**	⇑P	**Pn**	**20 48 58.9**	**-0.9**
	comp=Z,4.1nm,0.7s						
MAKZ	**Makanchi**	**13.15**	**36**	P	**Pn**	**20 48 57.4**	**-2.4**
MAKZ	**Makanchi**	**13.15**	**36**		**Pn**	**20 48 57.4**	**-2.4**
MK31	**Makanchi Array**	**13.29**	**37**	⇓*e*P	**Pn**	**20 49 00.7**	**-1.0**
MK31	**Makanchi Array**	**13.29**	**37**	Pn	**Pn**	**20 48 59.5**	**-2.1**
MKAR	**Makanchi Array**	**13.29**	**37**	Pn	**Pn**	**20 49 00.4**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=224,slow=14,SNR=14						
MKAR	**Makanchi Array**	**13.29**	**37**	Pn	**Pn**	**20 48 59.7**	**-2.0**
WMQ	**Urumqi**	**14.80**	**56**	*e*P	**P**	**20 49 23.2**	**-1.3**
AB31	**Akbulak array**	**14.81**	**331**	⇑P	**Pn**	**20 49 19.1**	**-2.1**
	comp=Z,0.9nm,0.3s,baz=166,slow=11,SNR=64						
AB31	**Akbulak array**	**14.81**	**331**	*i* P	**Pn**	**20 49 19.0**	**-2.1**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ABKAR	**Akbulak array**	**14.81**	**331**		**Pn**	**20 49 19.2**	**-1.9**
KURBB	**Kurchatov Arra**	**15.04**	**20**	Pn	**Pn**	**20 49 20.9**	**-3.1**
	comp=Z,0.0nm,0.3s,baz=216,slow=10,SNR=1.8						
KURBB				Lg	Lg	20 53 50.4	
	comp=Z,0.0nm,0.3s,baz=205,slow=28,SNR=4.7						
KURK	**Kurchatov**	**15.14**	**20**	P	**Pn**	**20 49 20.9**	**-4.4**
KURK	**Kurchatov**	**15.14**	**20**	P	**Pn**	**20 49 20.9**	**-4.4**
BVAR	**Borovoye Array**	**16.35**	**359**	Pn	**Pn**	**20 49 36.5**	**-3.9**
	comp=Z,0.3nm,0.3s,baz=187,slow=11,SNR=3.5						
BRVK	**Borovoye**	**16.38**	**359**	⇑*e*P	**P**	**20 49 44.2**	**+2.4**
BRVK	**Borovoye**	**16.38**	**359**		**P**	**20 49 44.3**	**+2.4**
AKTO	**Aktyubinsk**	**16.50**	**330**	Pn	**Pn**	**20 49 42.1**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=137,slow=14,SNR=5.3						
AKTO	**Aktyubinsk**	**16.50**	**330**	⇑P	**Pn**	**20 49 42.1**	**-0.2**
	comp=Z,5.5nm,0.7s						
DGZ	**Jazzator, Alta**	**17.79**	**38**	⇑*e*P	**P**	**20 49 56.7**	**-0.9**
DGZ				pmax	pmax		
	comp=Z,5.0nm,0.6s						
LSA	**Lhasa**	**18.47**	**106**	P	**P**	**20 50 06.1**	**+0.6**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.4s						
LSA	**Lhasa**	**18.47**	**106**		**P**	**20 50 06.1**	**+0.6**
LSA				IAmb	IAmb	20 50 12.2	
	comp=Z,4.1nm,0.4s						
ZAA0	**Zalesovo Array**	**19.86**	**25**	P	**P**	**20 50 20.2**	**+0.3**
ZAA0				IAmb	IAmb	20 50 20.9	
	comp=Z,5.0nm,0.6s						
ZALV	**Zalesovo Beam**	**19.86**	**25**	P	**P**	**20 50 20.5**	**+0.6**
	comp=Z,5.3nm,0.5s,baz=212,slow=11,SNR=27						
ZALV	**Zalesovo Beam**	**19.86**	**25**	P	**P**	**20 50 20.3**	**+0.4**
ARU	**Arti**	**21.38**	**341**	P	**P**	**20 50 38.8**	**+2.5**
	comp=Z,0.3nm,0.3s,baz=97,slow=17,SNR=1.8						
ARU	**Arti**	**21.38**	**341**	P	P	20 50 46.5	+10
KIV	**Kislovodsk**	**22.48**	**298**	*e*P	**P**	**20 50 44.5**	**-3.6**
KIV				pmax	pmax		
	comp=Z,3.0nm,1.2s						
BELG	**Belogornoye**	**22.59**	**321**	P	**P**	**20 50 52.3**	**+3.3**
	comp=Z,1.6nm,0.5s,baz=210,slow=23,SNR=1.8						
GTA	**Gaotai**	**23.06**	**74**	⇑P	**P**	**20 50 57.0**	**+3.1**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM	**Songino Array**	**28.44**	**56**	P	**P**	**20 51 44.7**	**+2.3**
	comp=Z,0.7nm,0.5s,baz=275,slow=8.4,SNR=6.1						
ULN	**Ulaanbaatar**	**28.88**	**56**	⇑*e*P	**P**	**20 51 47.7**	**+1.4**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**29.14**	**287**	P	**P**	**20 51 49.7**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=92,slow=10,SNR=1.5						
HHC	**Hu-ho-hao-te**	**31.93**	**70**	*e*P	**P**	**20 52 16.5**	**+3.2**
HHC				pmax	pmax		
	comp=Z,5.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,60nm,5.9s						
FINES	**FINESS Array B**	**37.20**	**326**	P	**P**	**20 53 01.5**	**+3.3**
	comp=Z,1.7nm,0.9s,baz=121,slow=13,SNR=1.0						
ARCES	**ARCESS Array B**	**40.88**	**338**	P	**P**	**20 53 32.4**	**+3.6**
	comp=Z,1.0nm,0.6s,baz=108,slow=6.5,SNR=6.3						
ZEA	**Zeya**	**42.13**	**48**	*e*P	**P**	**20 53 34.8**	**-4.4**
NB2	**NORSAR Subarra**	**44.09**	**323**	P	**P**	**20 53 58.8**	**+3.9**
	comp=Z,0.4nm,0.6s,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.09**	**323**	P	**P**	**20 53 58.0**	**+3.1**
	comp=Z,0.4nm,0.9s,baz=104,slow=7.3,SNR=1.3						
BILL	**Bilibino**	**58.56**	**26**	*e*P	**P**	**20 55 40.7**	**-2.0**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**65.47**	**268**	P	**P**	**20 56 32.2**	**+2.5**
	comp=Z,0.4nm,0.4s,baz=52,slow=6.1,SNR=8.3						
YKA	**Yellowknife Ar**	**81.08**	**2**	P	**P**	**20 58 03.7**	**+3.0**
	comp=Z,0.3nm,0.5s,baz=6.7,slow=5.8,SNR=2.1						

*NEIC **04** 20:50:27.5±2.5, 17.89S±0.08×178.0W±0.1, h494km±8km, mb4.2/18, Error ellipse: s-maj=17.3km s-min=11.4km az=96.0*

*IDC **04** 20:50:29.1±1.6, 17.87S×178.17W, h508km±12km, mb3.2/9, mb1 3.4/10, mb1mx3.1/39, mbtmp4.1/10, Error ellipse: s-maj=26.7km s-min=20.7km az=122.0*

ISC 04 20:50:27.2±0.6**, 17.8S**±0.1×**177.94W**±0.09**, h500**km**, n37,** σ**1.33**/40**, mb4.0**/17**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.82**	**271**	P	**P**	**20 51 44.1**	**-0.2**
	27nm,0.3s,baz=93,slow=23,SNR=135						
MSVF				S	**S**	**20 52 48.0**	**+1.0**
	baz=352,slow=24,SNR=0.8						
NIUE	**Niue**	**7.71**	**101**	P	**P**	**20 52 17.7**	**-2.9**
RAO	**Raoul Island**	**11.39**	**180**	P	**P**	**20 53 02.0**	**+2.9**
	156nm,0.3s,baz=27,slow=21,SNR=4.4						
MARNC	**Mare, Loyalty**	**13.71**	**252**	P	**P**	**20 53 23.9**	**+0.1**
PINNC	**Pines Island,**	**14.52**	**248**	P	**P**	**20 53 29.8**	**-2.6**
DZM	**Mont Dzumac**	**15.28**	**251**	P	**P**	**20 53 42.9**	**+2.5**
	0.1nm,0.3s,baz=99,slow=22,SNR=1.6						
CTAO	**Charters Tower**	**33.90**	**260**	P	**P**	**20 56 27.6**	**-0.4**
CTAO				IAmb	IAmb	20 56 51.1	
	comp=Z,10nm,1.4s						
CAN	**Canberra**	**34.12**	**233**	P	**P**	**20 56 31.1**	**+1.4**
COEN	**Coen**	**37.55**	**270**	P	**P**	**20 56 56.5**	**-2.0**
STKA	**Stephens Creek**	**39.07**	**241**	P	**P**	**20 57 09.9**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=100,slow=11,SNR=8.5						
STKA	**Stephens Creek**	**39.07**	**241**	IAmb	IAmb	20 57 18.8	
	comp=Z,1.1nm,1.4s						
BBOO	**Buckleboo**	**43.84**	**241**	P	**P**	**20 57 48.1**	**-0.4**
WR0	**Warramunga Arr**	**44.90**	**259**	P	**P**	**20 57 55.7**	**-1.2**
WR0				IAmb	IAmb	20 58 15.8	
	comp=Z,15nm,1.6s						
WB2	**Warramunga Arr**	**45.08**	**259**	P	**P**	**20 57 57.1**	**-1.1**
WB2				IAmb	IAmb	20 58 02.2	
	comp=Z,9.4nm,1.3s						
WRA	**Warramunga Arr**	**45.09**	**259**	P	**P**	**20 57 57.1**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=92,slow=6.9,SNR=52						
WRA				PcP	**PcP**	**20 59 29.3**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=100,slow=3.4,SNR=3.7						
WRA	**Warramunga Arr**	**45.09**	**259**	P	**P**	**20 57 56.3**	**-2.1**
AS31	**Alice Springs**	**45.24**	**254**	P	**P**	**20 57 59.2**	**-0.3**
AS31				IAmb	IAmb	20 57 59.6	
	comp=Z,3.4nm,0.7s						
AS31				PcP	**PcP**	**20 59 28.9**	**-0.4**
ASAR	**Alice Springs**	**45.25**	**254**	P	**P**	**20 57 59.0**	**-0.5**
	comp=Z,9.8nm,0.4s,baz=91,slow=8.2,SNR=243						
ASAR				PcP	**PcP**	**20 59 29.5**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=103,slow=4.0,SNR=7.9						
ASAR	**Alice Springs**	**45.25**	**254**	P	**P**	**20 57 59.1**	**-0.5**
ASAR					**PcP**	**20 59 29.9**	**+0.7**
MTN	**Manton Dam**	**49.25**	**268**	P	**P**	**20 58 29.2**	**-0.6**
MTN				IAmb	IAmb	20 58 30.0	
	comp=Z,11nm,1.0s						
KNRA	**Kununurra**	**50.94**	**264**	P	**P**	**20 58 42.0**	**-0.3**
KNRA				IAmb	IAmb	20 58 43.1	
	comp=Z,8.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**53.48**	**260**	P	**P**	**20 59 01.1**	**+0.6**
NWAO	**Narrogin (SRO)**	**59.65**	**242**	P	**P**	**20 59 41.9**	**-1.0**
MJAR	**Matsushiro Arr**	**68.10**	**323**	P	**P**	**21 00 37.1**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=155,slow=6.7,SNR=2.1						
MJAR	**Matsushiro Arr**	**68.10**	**323**	IAmb	IAmb	21 00 52.8	
	comp=Z,3.0nm,1.4s						
JOW	**Kunigami**	**68.50**	**309**	P	**P**	**21 00 41.3**	**+2.0**
	comp=Z,1.5nm,0.7s,baz=96,slow=18,SNR=1.4						
UGM	**Wanagama**	**70.10**	**268**	P	**P**	**21 00 49.5**	**+0.3**
QSPA	**South Pole Qui**	**72.24**	**180**	P	**P**	**21 01 01.2**	**+0.2**
SSLB	**Suanglung**	**72.56**	**303**	P	**P**	**21 01 03.9**	**+0.4**
SSLB				IAmb	IAmb	21 01 19.4	
	comp=Z,3.7nm,0.7s						
CISI	**Cisompet, Garu**	**72.77**	**267**	P	**P**	**21 01 02.6**	**-2.3**
CISI				IAmb	IAmb	21 01 14.2	
	comp=Z,18nm,1.2s						
PETK	**Petropavlovsk-**	**73.70**	**345**	P	**P**	**21 01 09.3**	**0.0**
	comp=Z,1.9nm,1.0s,baz=124,slow=7.2,SNR=1.4						
MAW	**Mawson**	**84.10**	**200**	P	**P**	**21 02 03.9**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=135,slow=1.4,SNR=2.0						
TXAR	**Lajitas Array**	**85.57**	**57**	P	**P**	**21 02 14.3**	**+1.8**
	comp=Z,0.5nm,1.0s,baz=190,slow=3.7,SNR=3.5						
CMAR	**Chiang Mai Arr**	**89.27**	**290**	P	**P**	**21 02 31.3**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=100,slow=3.2,SNR=5.2						
BRTR	**Keskin Array B**	**145.03**	**315**	PKP	**PKPab**	**21 09 08.9**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=96,slow=5.0,SNR=3.5						
CLL	**Collm**	**145.47**	**348**	*i* PKPbc	**PKPbc**	**21 09 09.6**	**+0.7**
GERES	**GERESS Array B**	**147.63**	**346**	PKPbc	**PKPbc**	**21 09 15.7**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=342,slow=3.0,SNR=3.7						

MAN 04 20:51:40.8, 8.46N×123.87E, h1km**, mb3.5, ML2.2, MS1.6, Mindanao**

*RSNC **04** 20:59:01.7±1.2, 5.77N×76.00W, h32km±5km, ML3.3, Mw3.6, Fault plane solution: NP1:φs95.00000°, δ76.00000°, λ118.00000°.*

*IDC **04** 20:59:04.6±3.5, 5.65N×75.86W, h89km±28km, mb3.2/4, mb1 3.4/6, mb1mx3.2/31, mbtmp3.7/6, Error ellipse: s-maj=34.6km s-min=18.2km az=95.0*

ISC 04 20:59:00.3±1.1**, 5.75N**±0.02×**76.02W**±0.03**, h34**km±2km**, n50,** σ**1.90**/90**, mb3.4**/4**, 5C-7D, Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBOC	**Ciudad Bolivar**	**0.12**	**6**	⇓*i*P	**Pb**	**20 59 07.1**	**+0.6**
CBOC				*e*S	**Sb**	**20 59 12.3**	**+1.6**
HELC	**Santa Helena**	**0.66**	**48**	⇑*i*P	**Pn**	**20 59 12.9**	**-0.6**
HELC				*e*S	**Sn**	**20 59 22.5**	**-0.4**
HELC				*i*		20 59 23.7	
	comp=Z,3µm,0.3s						
GUY2C	**Guyana, Caldas**	**0.84**	**128**	⇓*e*P	**Pn**	**20 59 15.4**	**-0.7**
GUY2C				*e*S	**Sn**	**20 59 27.6**	**+0.1**
GUY2C				*i*		20 59 29.4	
	comp=Z,2µm,0.1s						
NORC	**Norcasia**	**1.16**	**99**	⇓*i*P	**Pn**	**20 59 20.8**	**+0.5**
NORC				*e*S	**Sn**	**20 59 35.9**	**+0.9**
DBBC	**Dabeiba**	**1.27**	**352**	⇑*e*P	**Pn**	**20 59 22.5**	**+0.7**
DBBC				*e*S	**Sn**	**20 59 38.5**	**+0.7**
TOLC	**Tolima**	**1.35**	**149**	⇓*e*P	**Pn**	**20 59 23.8**	**+0.7**
TOLC				*e*S	**Sn**	**20 59 41.5**	**+1.5**
TOLC				*i*		20 59 46.4	
	comp=Z,408nm,0.6s						
SOLC	**Bahia Solano**	**1.46**	**289**	*e*P	**Pn**	**20 59 24.4**	**+0.1**
SOLC				*e*S	**Sn**	**20 59 43.3**	**+1.2**
SOLC				*i*		20 59 50.8	
	comp=Z,205nm,0.4s						
PIZC	**Pizarro, Choco**	**1.54**	**240**	⇑*e*P	**Pn**	**20 59 26.7**	**+1.3**
PIZC				*e*S	**Sb**	**20 59 47.4**	**-0.1**
PIZC				*i*		20 59 53.3	
	comp=Z,176nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.75**	**63**	⇑*i*P	**Pn**	**20 59 29.6**	**+1.4**
PTBC				*e*S	**Sn**	**20 59 51.8**	**+2.5**
PTBC				*i*		20 59 53.6	
	comp=Z,744nm,0.5s						
YOTC	**Yotoco, Valle**	**1.78**	**190**	⇓*e*P	**Pn**	**20 59 29.3**	**+0.4**
YOTC				*e*S	**Sn**	**20 59 51.7**	**+1.3**
YOTC				*i*		20 59 55.8	
	comp=Z,245nm,0.4s						
ROSC	**El Rosal**	**1.92**	**118**	P	**Pn**	**20 59 33.4**	**+2.4**
	comp=Z,79nm,0.3s,baz=117,slow=2.0,SNR=36						
ROSC				S	**Sn**	**20 59 56.0**	**+1.8**
	comp=Z,33nm,0.3s,baz=141,slow=22,SNR=6.1						
ROSC	**El Rosal**	**1.92**	**118**	*e*P	**Pn**	**20 59 32.6**	**+1.6**
ROSC				*e*S	**Sn**	**20 59 55.5**	**+1.3**
ROSC				*i*		21 00 07.7	
	comp=Z,218nm,0.4s						
SPBC	**San Pablo de B**	**1.94**	**93**	⇑*e*P	**Pn**	**20 59 32.9**	**+1.9**
SPBC				*e*S	**Sn**	**20 59 56.1**	**+1.7**
SPBC				*i*		21 00 01.2	
	comp=Z,306nm,0.5s						
ORTC	**Ortega, Tolima**	**1.99**	**157**	⇓*e*P	**Pn**	**20 59 33.2**	**+1.6**
ORTC				*e*S	**Sb**	**20 59 60.0**	**-0.3**
ORTC				*i*		21 00 06.6	
	comp=Z,243nm,0.5s						
UREC	**San Jos de Ur**	**2.05**	**14**	*e*P	**Pn**	**20 59 33.4**	**+0.9**
UREC				*e*S	**Sn**	**20 59 59.3**	**+2.5**
UREC				*i*		21 00 03.3	
	comp=Z,241nm,0.3s						
ZARC	**Zaragoza, Cauc**	**2.08**	**34**	*e*P	**Pn**	**20 59 33.9**	**+1.0**
ZARC				*e*S	**Sn**	**20 59 56.9**	**-0.8**
ZARC				*i*		21 00 04.0	
	comp=Z,144nm,0.3s						
MALC	**Bahia Malaga**	**2.16**	**217**	*e*P	**Pn**	**20 59 35.5**	**+1.5**
MALC				*e*S	**Sb**	**21 00 04.4**	**-0.9**
MALC				*i*		21 00 09.6	
	comp=Z,166nm,0.3s						
PTAC	**Punta Ardita,**	**2.25**	**308**	*e*P	**Pn**	**20 59 36.3**	**+1.1**
PTAC				*e*S	**Sn**	**21 00 02.9**	**+1.0**
PTAC				*i*		21 00 08.1	
	comp=Z,202nm,0.3s						
PRAC	**Prado**	**2.32**	**151**	*e*P	**Pn**	**20 59 38.3**	**+2.1**
PRAC				*e*S	**Sb**	**21 00 10.9**	**+1.1**
PRAC				*i*		21 00 15.8	
	comp=Z,167nm,0.4s						
CHIC	**Chingaza**	**2.54**	**116**	⇓*e*P	**Pn**	**20 59 41.8**	**+2.3**
CHIC				*e*S	**Sn**	**21 00 08.3**	**-1.2**
CHIC				*i*		21 00 32.5	
	comp=Z,76nm,0.4s						
BRRC	**Barranca, Sant**	**2.66**	**59**	*e*P	**Pn**	**20 59 41.2**	**+0.3**
BRRC				*e*S	**Sn**	**21 00 13.6**	**+1.5**
BRRC				*i*		21 00 29.0	
	comp=Z,100nm,0.7s						
VILC	**Villavicencio,**	**2.83**	**125**	*e*P	**Pn**	**20 59 46.8**	**+3.5**
MARP	**Paez Belalcaza**	**2.89**	**179**	*e*P	**Pn**	**20 59 45.8**	**+1.6**
MARP				*e*S	**Sn**	**21 00 21.0**	**+3.1**
RUSC	**La Rusia**	**2.93**	**87**	*e*P	**Pn**	**20 59 46.9**	**+2.0**
RUSC				*e*S	**Sn**	**21 00 21.5**	**+2.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RUSC				i		21 00 39.3	
	comp=Z,68nm,0.7s						
BARC	**Barichara**	**2.95**	**73**	eP	**Pn**	**20 59 46.8**	**+1.9**
BARC				eS	**Sn**	**21 00 23.0**	**+3.7**
BARC				i		21 00 36.1	
	comp=Z,101nm,0.4s						
BETC	**Betania**	**3.10**	**169**	eP	**Pn**	**20 59 48.4**	**+1.5**
BETC				eS	**Sn**	**21 00 22.2**	**-0.7**
BETC				i		21 00 38.0	
	comp=Z,101nm,0.6s						
LCBC	**Los crdobas,**	**3.11**	**354**	eS	**Sn**	**21 00 27.5**	**+4.6**
LCBC				i		21 00 35.4	
	comp=Z,51nm,0.4s						
CAPC	**Capurgana**	**3.15**	**335**	eP	**Pn**	**20 59 49.1**	**+1.5**
CAPC				eS	**Sn**	**21 00 26.2**	**+2.0**
CAPC				i		21 00 33.1	
	comp=Z,48nm,0.4s						
POPC	**Popayan, Colom**	**3.25**	**192**	eP	**Pn**	**20 59 50.5**	**+1.3**
POPC				eS	**Sn**	**21 00 27.9**	**+1.1**
POPC				i		21 00 39.4	
	comp=Z,57nm,0.5s						
PCON	**Cinco Dias**	**3.42**	**186**	eP	**Pn**	**20 59 55.0**	**+3.3**
PCON				eS	**Sn**	**21 00 31.8**	**+0.4**
PCON				i		21 00 44.9	
	comp=Z,78nm,0.5s						
GARC	**Garzon, Huila**	**3.58**	**171**	eP	**Pn**	**20 59 54.7**	**+1.0**
GARC				eS	**Sn**	**21 00 37.6**	**+2.7**
GARC				i		21 00 49.8	
	comp=Z,72nm,0.2s						
SMLC	**San Martn de**	**3.60**	**32**	eP	**Pn**	**20 59 54.6**	**+0.9**
SMLC				eS	**Sn**	**21 00 37.3**	**+2.2**
SMLC				i		21 00 55.2	
	comp=Z,52nm,0.5s						
SOTA	**Rioblanco**	**3.64**	**189**	eP	**Pn**	**20 59 57.7**	**+3.0**
SOTA				eS	**Sn**	**21 00 40.6**	**+3.8**
SOTA				i		21 00 52.1	
	comp=Z,87nm,0.5s						
OCAC	**Ocana**	**3.65**	**47**	eP	**Pn**	**20 59 56.2**	**+1.6**
OCAC				eS	**Sn**	**21 00 39.4**	**+2.8**
OCAC				i		21 01 00.1	
	comp=Z,127nm,0.5s						
PAMC	**Pamplona, Colo**	**3.66**	**64**	eP	**Pn**	**20 59 56.6**	**+1.6**
PAMC				eS	**Sn**	**21 00 37.5**	**+0.2**
PAMC				i		21 01 02.6	
	comp=Z,61nm,0.4s						
BBAC	**Balboa, Cauca**	**3.90**	**198**	eP	**Pn**	**21 00 01.1**	**+3.1**
BBAC				eS	**Sn**	**21 00 46.9**	**+4.1**
BBAC				i		21 01 01.4	
	comp=Z,45nm,0.4s						
FLOC	**Florencia**	**4.16**	**175**	eP	**Pn**	**21 00 02.1**	**+0.6**
MACC	**Macarena, Meta**	**4.19**	**149**	eP	**Pn**	**21 00 02.6**	**+0.8**
MACC				eS	**Sn**	**21 00 51.9**	**+2.2**
MACC				i		21 01 13.2	
	comp=Z,48nm,0.4s						
SJCC	**San Jacinto, C**	**4.21**	**11**	eP	**Pn**	**21 00 03.6**	**+1.5**
SJCC				eS	**Sn**	**21 00 52.1**	**+2.0**
OTAV	**Otavalo**	**5.99**	**204**	eP	**Pn**	**21 00 30.0**	**+3.0**
OTAV				eS	**Sn**	**21 01 32.6**	**-2.0**
OTAV				i		21 01 36.5	
	comp=Z,7.9nm,0.5s						
CRJC	**Cerrejon, Guaj**	**6.09**	**30**	eP	**Pn**	**21 00 28.3**	**+0.2**
CRJC				eS	**Sn**	**21 01 34.7**	**-1.9**
CRJC				i		21 01 39.9	
	comp=Z,14nm,0.2s						
SDV	**Santo Domingo**	**6.19**	**59**	P	**Pn**	**21 00 31.5**	**+2.0**
	comp=Z,7.6nm,0.3s,baz=249,slow=4.0,SNR=8.9						
SDV				S	**Sn**	**21 01 40.8**	**+1.5**
	comp=Z,7.0nm,0.3s,baz=302,slow=12,SNR=13						
SDV	**Santo Domingo**	**6.19**	**59**	eP	**Pn**	**21 00 31.3**	**+1.8**
SDV				eS	**Sn**	**21 01 40.9**	**+1.6**
SDV				i		21 01 45.7	
	comp=Z,18nm,0.5s						
PTGA	**Pitinga**	**17.28**	**111**	P	**Pn**	**21 02 58.8**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=294,slow=15,SNR=5.0						
LPAZ	**La Paz**	**23.25**	**160**	P	**P**	**21 04 03.5**	**-2.0**
	comp=Z,0.5nm,0.4s,baz=43,slow=8.6,SNR=2.3						
SIV	**San Ignacio**	**26.18**	**146**	P	**P**	**21 04 28.7**	**-3.3**
	comp=Z,1.0nm,0.4s,baz=352,slow=8.2,SNR=7.8						
ILAR	**Eielson Array**	**76.72**	**335**	P	**P**	**21 10 47.6**	**-0.3**
	comp=Z,0.1nm,0.4s,baz=103,slow=3.9,SNR=1.2						
TORD	**Torodi Ar. Bea**	**76.78**	**78**	P	**P**	**21 10 47.5**	**-1.7**
	comp=Z,0.3nm,0.9s,baz=258,slow=5.7,SNR=1.4						
ASAR	**Alice Springs**	**146.14**	**235**	PKPbc	**PKPdf**	**21 18 34.9**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=108,slow=3.0,SNR=1.5						
WRA	**Warramunga Arr**	**147.29**	**242**	PKPbc	**PKPdf**	**21 18 38.0**	**-1.0**
	comp=Z,0.3nm,0.9s,baz=128,slow=3.3,SNR=1.4						

*IDC **04** 21:00:18.7±0.9, 26°.92N×143°.67E, h0km, mb3.9/16, mb1 4.0/19, mb1mx3.8/52, mbtmp3.9/19, ML3.4/3, MS2.9/2, Ms1 2.9/2, ms1mx2.4/41, Error ellipse: s-maj=27.4km s-min=15.8km az=78.0*

*JMA **04** 21:00:20.9, 27°.14N×143°.77E, h43km, M4.4*

*NIED **04** 21:00:21.0, 27°.14N×143°.77E, h43km, MW3.6, Moment Tensor Solution. s1 Moment tensor: Scale 10^{14}Nm; M_{rr}-2.89; $M_{\theta\theta}$1.37; $M_{\phi\phi}$1.52; $M_{r\theta}$0.48; $M_{\theta\phi}$-1.32; $M_{\phi r}$-0.32; Fault plane solution: $M_0$2.89000×10^{14} NP1: ϕ_s314.00000°, δ51.00000°, λ-93.00000°. NP2: ϕ_s139.00000°, δ39.00000°, λ-86.00000°.*

*NEIC **04** 21:00:24.4±2.5, 27°.16N±0°.10×143°.56E±0°.09, h31km±6km, mb4.4/18 Error ellipse: s-maj=14.5km s-min=10.7km az=151.0*

ISC 04 21:00:24.1±0.7**, 27°.05N**±0°.07×**143°.58E**±0°.08**, h35km, n55, σ1ˢ.25**/58**, mb4.2**/24**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.25**	**272**	P	**Pn**	**21 00 44.8**	**-0.2**
CBIJ				eS	**Sn**	**21 01 02.3**	**+1.7**
JCJ	**Chichijima**	**1.25**	**272**	Pn	**Pn**	**21 00 45.0**	**-0.1**
	60nm,0.3s,baz=10.0,slow=8.8,SNR=74						
JCJ				Sn	**Sn**	**21 01 00.5**	**-0.1**
	103nm,0.3s,baz=285,slow=22,SNR=7.6						
JCJ	**Chichijima**	**1.25**	**272**		**Pn**	**21 00 45.1**	**+0.1**
JCJ					**Sn**	**21 00 57.3**	**-3.3**
JHH2	**Haha-jima-NKT2**	**1.32**	**252**	P	**Pn**	**21 00 46.1**	**0.0**
JHH2				eS	**Sn**	**21 01 04.8**	**+2.3**
JHJ2	**Mitsune**	**6.87**	**333**	Pn	**Pn**	**21 02 00.7**	**-1.6**
JHJ	**Hachijo jima 2**	**6.89**	**332**	Pn	**Pn**	**21 01 59.4**	**-3.1**
	3.5nm,0.3s,baz=126,slow=23,SNR=9.7						
JHU	**Hanno**	**9.51**	**338**	P	**Pn**	**21 02 37.0**	**-1.5**
JRY	**Ryogami san**	**9.79**	**337**	P	**Pn**	**21 02 41.2**	**-1.2**
MJAR	**Matsushiro Arr**	**10.51**	**336**	Pn	**Pn**	**21 02 50.4**	**-1.8**
	0.4nm,0.3s,baz=302,slow=12,SNR=19						
MJAR	**Matsushiro Arr**	**10.51**	**336**		**Pn**	**21 02 50.8**	**-1.4**
MAJO	**Matsushiro**	**10.51**	**336**		**Pn**	**21 02 51.6**	**-0.6**
MAT	**Matsushiro**	**10.51**	**336**	P	**Pn**	**21 02 51.1**	**-1.1**
MAT				eS	**Sn**	**21 04 48.7**	**0.0**
JMM	**Marumori**	**11.04**	**348**	Pn	**Pn**	**21 02 59.1**	**-0.3**
JSD	**Sado**	**11.84**	**339**	Pn	**Pn**	**21 03 09.3**	**-1.1**
JTU	**Tsushima**	**14.28**	**305**	P	**P**	**21 03 47.2**	**-3.2**
KSRS	**Korea Array**	**16.80**	**312**	Pn	**P**	**21 04 18.8**	**+0.4**
	0.4nm,0.3s,baz=123,slow=11,SNR=12						
KSRS				LR	LR	21 11 11.9	
	comp=Z,20nm,18.3s,baz=120,slow=38						
USRK	**Ussuriysk Ar.**	**19.50**	**334**	P	**Pn**	**21 04 48.5**	**-1.0**
	baz=149,slow=11,SNR=5.2						
USA0B	**Ussuriysk Arra**	**19.50**	**334**	P	**Pn**	**21 04 49.0**	**-0.6**
NACB	**Ninganchiao**	**20.03**	**267**	P	**P**	**21 04 54.5**	**+0.4**
NACB				IAmb	IAmb	21 05 03.1	
	comp=Z,12nm,0.7s						
YHNB	**Yeheng**	**20.12**	**268**	P	**P**	**21 04 55.1**	**0.0**
YULB	**Yu-li**	**20.48**	**265**	P	**P**	**21 05 00.3**	**+1.2**
SSLB	**Suanglung**	**20.69**	**266**	P	Pn	21 05 03.0	-0.8
SSLB				IAmb	IAmb	21 05 06.7	
	comp=Z,11nm,0.8s						
KLR	**Kul'dur**	**23.96**	**341**	P	**P**	**21 05 36.4**	**+1.3**
	comp=Z,0.9nm,0.4s,baz=168,slow=5.4,SNR=4.5						
SONM	**Songino Array**	**35.61**	**316**	P	**P**	**21 07 20.1**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=123,slow=8.1,SNR=4.4						
KAPI	**Kappang**	**39.34**	**219**	LR	LR	21 22 48.5	
	comp=Z,33nm,20.4s,baz=276,slow=34						
ATKA	**Atka Island**	**40.27**	**40**	P	**P**	**21 07 56.5**	**-1.0**
COEN	**Coen**	**40.77**	**181**	P	**P**	**21 08 02.0**	**+0.1**
MTN	**Manton Dam**	**41.46**	**199**	P	**P**	**21 08 07.4**	**-0.2**
MTN				IAmb	IAmb	21 08 26.8	
	comp=Z,8.9nm,1.2s						
CMAR	**Chiang Mai Arr**	**41.87**	**268**	P	**P**	**21 08 11.6**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=74,slow=4.7,SNR=2.1						
KNRA	**Kununurra**	**44.84**	**200**	P	**P**	**21 08 35.0**	**0.0**
KNRA				IAmb	IAmb	21 08 37.5	
	comp=Z,4.8nm,1.0s						
WR0	**Warramunga Arr**	**47.55**	**192**	P	**P**	**21 08 55.1**	**-1.2**
WR0				IAmb	IAmb	21 08 59.9	
	comp=Z,2.9nm,1.1s						
WRAB	**Tennant Creek**	**47.55**	**192**	P	**P**	**21 08 54.6**	**-1.7**
WB2	**Warramunga Arr**	**47.56**	**192**	P	**P**	**21 08 55.4**	**-1.0**
WB2				IAmb	IAmb	21 09 08.4	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**47.57**	**192**	P	**P**	**21 08 55.2**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=9.2,slow=7.8,SNR=17						
FITZ	**Fitzroy Crossi**	**48.14**	**203**	P	**P**	**21 09 00.3**	**-0.5**
ZALV	**Zalesovo Beam**	**50.34**	**319**	P	**P**	**21 09 18.3**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=110,slow=9.2,SNR=2.4						
ASAR	**Alice Springs**	**51.28**	**191**	P	**P**	**21 09 23.4**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=9.7,slow=6.1,SNR=5.1						
MK31	**Makanchi Array**	**51.47**	**310**	P	**P**	**21 09 26.6**	**+0.6**
MKAR	**Makanchi Array**	**51.47**	**310**	P	**P**	**21 09 27.0**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=92,slow=8.0,SNR=7.1						
MKAR	**Makanchi Array**	**51.47**	**310**		**P**	**21 09 27.1**	**+1.1**
MAKZ	**Makanchi**	**51.68**	**310**	P	**P**	**21 09 28.3**	**+0.8**
MAKZ				IAmb	IAmb	21 09 31.2	
	comp=Z,7.0nm,1.5s						
KURBB	**Kurchatov Arra**	**53.96**	**314**	P	**P**	**21 09 45.1**	**+0.8**
	comp=Z,1.7nm,0.4s,baz=92,slow=8.7,SNR=30						
ILAR	**Eielson Array**	**57.15**	**29**	P	**P**	**21 10 08.1**	**+1.1**
	comp=Z,1.0nm,1.2s,baz=256,slow=5.5,SNR=2.5						
STKA	**Stephens Creek**	**58.63**	**182**	P	**P**	**21 10 16.5**	**-1.2**
	comp=Z,1.7nm,0.9s,baz=141,slow=10,SNR=3.2						
MCARA	**McCarthy VSAT**	**58.72**	**33**	P	**P**	**21 10 17.9**	**-0.1**
BVAR	**Borovoye Array**	**58.92**	**318**	P	**P**	**21 10 20.5**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=173,slow=4.7,SNR=4.9						
KK31	**Karatay Array**	**60.12**	**306**	P	**P**	**21 10 28.7**	**+0.7**
KK31				IAmb	IAmb	21 10 30.0	
	comp=Z,3.2nm,0.8s						
KKAR	**Karatay Array**	**60.12**	**306**	P	**P**	**21 10 28.6**	**+0.5**
KKAR				IAmb	IAmb	21 10 30.0	
	comp=Z,3.2nm,0.8s						
KKAR	**Karatay Array**	**60.12**	**306**	P	**P**	**21 10 28.4**	**+0.4**
CHGR	**Chuyangaron**	**62.04**	**301**	P	**P**	**21 10 41.5**	**+0.2**
CHGR				IAmb	IAmb	21 10 44.7	
	comp=Z,4.3nm,0.7s						
ARU	**Arti**	**65.22**	**322**	P	**P**	**21 11 02.0**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=99,slow=18,SNR=2.2						
AKTO	**Aktyubinsk**	**66.93**	**316**	P	**P**	**21 11 12.5**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=15,slow=7.5,SNR=2.4						
BELG	**Belogornoye**	**72.50**	**320**	P	**P**	**21 11 47.6**	**+0.5**
	comp=Z,5.9nm,0.9s,baz=241,slow=6.5,SNR=4.5						
ARCES	**ARCESS Array B**	**73.99**	**341**	P	**P**	**21 11 58.0**	**+2.3**
	comp=Z,1.8nm,0.9s,baz=64,slow=8.1,SNR=1.4						
FINES	**FINESS Array B**	**78.53**	**334**	P	**P**	**21 12 22.3**	**+0.8**
	comp=Z,2.9nm,1.2s,baz=258,slow=5.5,SNR=4.1						

*IDC **04** 21:01:53.9±1.3, 35°.47N×70°.20E, h0km, mb3.7/5, mb1 3.8/9, mb1mx3.4/56, mbtmp3.6/9, ML3.5/5, Error ellipse: s-maj=29.1km s-min=22.3km az=56.0*

*NNC **04** 21:02:20.3±2.9, 36°.98N×70°.93E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=33.1km s-min=20.1km az=134.0*

ISC 04 21:02:13.0±1.2**, 36°.3N**±0°.1×**71°.06E**±0°.10**, h150km, n22, σ2ˢ.63**/25**, mb3.5**/5**, 2C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**5.04**	**49**	Pn	**Pn**	**21 03 28.4**	**+1.5**
KSH				Sn	**Sn**	**21 04 20.2**	**-4.4**
KSH				pmax	pmax		
	comp=Z,45nm,0.4s						
KSH				smax	smax		
	comp=N,41nm,0.5s						
KSH				smax	smax		
	comp=E,24nm,0.5s						
AML	**Almayashu**	**6.17**	**19**	P	**Pn**	**21 03 45.7**	**+3.5**
	SNR=47						
EKS2	**Erkin-Say**	**6.69**	**18**	P	**Pn**	**21 03 52.2**	**+3.4**
	SNR=47						
KK31	**Karatay Array**	**6.80**	**357**	⇓P	**Pn**	**21 03 52.7**	**+2.4**
	comp=E,0.8nm,0.3s,baz=183,slow=13,SNR=18						
KK31				⇓S	**Sn**	**21 05 02.7**	**-3.9**
	comp=E,5.4nm,0.4s,baz=172,slow=20,SNR=3.6						
AAK	**Ala-Archa**	**6.86**	**22**	Pn	**Pn**	**21 03 54.6**	**+3.4**
	comp=E,3.2nm,0.3s,baz=166,slow=5.3,SNR=17						
AAK				Sn	**Sn**	**21 05 08.2**	**0.0**
	comp=E,0.5nm,0.3s,baz=51,slow=22,SNR=8.4						
AAK	**Ala-Archa**	**6.86**	**22**	P	**Pn**	**21 03 54.8**	**+3.6**
	SNR=6.8						
AAK	**Ala-Archa**	**6.86**	**22**	⇑P	**Pn**	**21 03 54.5**	**+3.4**
	comp=E,3.0nm,0.3s						
AAK				⇓S	**Sn**	**21 05 08.0**	**-0.1**
	comp=E,4.7nm,0.6s						
KBK	**Karagaybulak**	**7.02**	**24**	P	Pn	21 03 57.3	+3.9
	SNR=5.5						
CHMS	**Chumysh**	**7.26**	**22**	P	**Pn**	**21 03 59.9**	**+3.4**
	SNR=5.9						
USP	**Ospenovka**	**7.44**	**20**	P	**Pn**	**21 04 01.8**	**+3.0**
	SNR=7.4						
TKM2	**Tokmak 2**	**7.47**	**27**	P	**Pn**	**21 04 02.8**	**+3.3**
	SNR=16						
TKM2	**Tokmak 2**	**7.47**	**27**	⇑P	**Pn**	**21 04 02.3**	**+2.8**
	comp=E,13nm,0.6s						
TKM2				⇓S	**Sn**	**21 05 24.5**	**+1.4**
	comp=E,1.8nm,0.7s						
GEYT	**Alibeck**	**10.46**	**283**	Pn	Pn	21 04 19.9	-19
	comp=E,0.6nm,0.3s,baz=239,slow=12,SNR=6.3						
MKAR	**Makanchi Array**	**13.42**	**35**	Pn	**P**	**21 05 20.0**	**-1.5**
	comp=E,0.1nm,0.3s,baz=227,slow=12,SNR=3.9						
KURBB	**Kurchatov Arra**	**15.29**	**18**	Pn	**Pn**	**21 05 39.8**	**-1.0**
	comp=E,0.0nm,0.3s,baz=214,slow=11,SNR=3.7						
AKTO	**Aktyubinsk**	**16.97**	**330**	P	**Pn**	**21 05 59.6**	**-1.7**
	comp=E,0.3nm,0.3s,baz=151,slow=10,SNR=4.8						
ZALV	**Zalesovo Beam**	**20.07**	**24**	P	**P**	**21 06 33.5**	**-0.9**
	comp=E,0.8nm,0.6s,baz=210,slow=12,SNR=4.2						
FINES	**FINESS Array B**	**37.67**	**326**	P	**P**	**21 09 13.4**	**+0.2**
	comp=E,0.6nm,0.6s,baz=119,slow=11,SNR=1.1						
ARCES	**ARCESS Array B**	**41.34**	**338**	P	**P**	**21 09 43.6**	**+0.1**
	comp=E,2.8nm,1.0s,baz=109,slow=8.1,SNR=2.4						
NOA	**NORSAR Array B**	**44.56**	**323**	P	**P**	**21 10 08.9**	**-0.7**
	comp=E,0.5nm,0.8s,baz=119,slow=7.5,SNR=1.0						
WRA	**Warramunga Arr**	**81.85**	**122**	P	**P**	**21 14 16.1**	**+0.5**
	comp=E,1.0nm,1.1s,baz=321,slow=4.7,SNR=5.9						
ASAR	**Alice Springs**	**84.11**	**125**	P	**P**	**21 14 27.6**	**+0.5**
	comp=E,0.3nm,0.6s,baz=307,slow=4.3,SNR=5.4						

IDC 04 21:06:14.4±1.4**, 25°.74N**×**140°.93E, h0km, mb3.5**/4**, mb1 3.7**/5**, mb1mx3.3**/51**, mbtmp3.5**/5**, ML3.3**/1**, Error ellipse: s-maj=34.0km s-min=22.5km az=118.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.76**	**39**	Pn	Pn	21 06 46.7	+0.6
	44nm,0.3s,baz=203,slow=8.1,SNR=43						
JCJ				Sn	Sn	21 07 08.4	-0.9
	87nm,0.3s,baz=302,slow=22,SNR=43						
KSRS	**Korea Array**	**16.08**	**320**	Pn	Pn	21 10 01.6	-0.3
	0.1nm,0.3s,baz=130,slow=11,SNR=1.4						
H11N2	**WAKE ISLAND Hy**	**24.66**	**99**	T	T	21 36 48.6	
	baz=289,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**24.66**	**99**	T	T	21 36 47.5	
	baz=289,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**24.67**	**99**	T	T	21 36 47.3	
	baz=289,slow=75,SNR=16						
H11S3	**WAKE ISLAND Hy**	**24.89**	**102**	T	T	21 37 04.5	
	baz=291,slow=75,SNR=156						
H11S1	**WAKE ISLAND Hy**	**24.90**	**102**	T	T	21 37 04.8	
	baz=291,slow=75,SNR=239						
H11S2	**WAKE ISLAND Hy**	**24.91**	**102**	T	T	21 37 05.4	
	baz=291,slow=75,SNR=304						
WRA	**Warramunga Arr**	**45.85**	**189**	P	P	21 14 38.3	-0.2
	1.1nm,0.7s,baz=8.3,slow=8.9,SNR=7.3						
MKAR	**Makanchi Array**	**50.49**	**310**	P	P	21 15 14.0	-0.2
	0.3nm,0.7s,baz=94,slow=7.7,SNR=2.2						
KURBB	**Kurchatov Arra**	**53.20**	**315**	P	P	21 15 34.4	+0.1
	0.2nm,0.6s,baz=97,slow=7.5,SNR=1.9						
FINES	**FINESS Array B**	**78.66**	**334**	P	P	21 18 18.2	+0.1
	1.4nm,0.8s,baz=76,slow=4.2,SNR=4.8						

*IDC **04** 21:15:33.1±1.2, 2°.74S×126°.73E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.5/42, mbtmp3.8/5, ML3.8/2, Error ellipse: s-maj=33.6km s-min=22.1km az=61.0*

*NEIC **04** 21:15:38.6±1.0, 2°.8S±0°.1×126°.71E±0°.10, h35km±8km, mb4.0/7, Error ellipse: s-maj=20.0km s-min=11.6km az=207.0*

ISC 04 21:15:38.0±0.8**, 2°.76S**±0°.09×**126°.72E**±0°.08**, h35km, n16, σ0ˢ.70**/18**, mb3.9**/5**, Ceram Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.91**	**68**	Pn	**Pn**	**21 16 49.3**	**-0.2**
	4.7nm,0.3s,baz=243,slow=23,SNR=16						
SIJI				Sn	**Sn**	**21 17 45.0**	**-0.1**
	0.7nm,0.3s,baz=240,slow=22,SNR=2.0						
FAKI	**Fak Fak**	**5.52**	**92**	Pn	**Pn**	**21 16 58.5**	**+0.7**
FAKI				Sn	**Sn**	**21 18 00.3**	**+0.2**
TOLI2	**Tolitoli**	**7.08**	**303**	Pn	**Pn**	**21 17 19.0**	**-0.2**
WRA	**Warramunga Arr**	**18.62**	**157**	P	**Pn**	**21 19 52.9**	**-0.3**
	0.3nm,0.3s,baz=340,slow=12,SNR=14						
WRA	**Warramunga Arr**	**18.62**	**157**	P	**Pn**	**21 19 53.3**	**+0.1**
WB2	**Warramunga Arr**	**18.63**	**157**	P	**Pn**	**21 19 52.9**	**-0.4**
WB2				IAmb	IAmb	21 20 10.3	
	comp=Z,7.7nm,1.4s						
WR0	**Warramunga Arr**	**18.72**	**157**	P	**P**	**21 19 53.8**	**0.0**
WR0				IAmb	IAmb	21 20 10.6	
	comp=Z,4.7nm,1.4s						
COEN	**Coen**	**19.69**	**125**	P	**Pn**	**21 20 05.5**	**-0.5**
COEN				IAmb	IAmb	21 20 17.4	
	comp=Z,19nm,1.5s						
ASAR	**Alice Springs**	**21.91**	**162**	P	**P**	**21 20 28.4**	**0.0**
	comp=Z,0.9nm,0.3s,baz=346,slow=12,SNR=21						
JHJ2	**Mitsune**	**37.77**	**18**	P	**P**	**21 22 50.6**	**-0.2**
MK31	**Makanchi Array**	**62.92**	**327**	P	**P**	**21 26 02.4**	**+1.5**
MK31				IAmb	IAmb	21 26 03.5	
	comp=Z,0.8nm,0.8s						
MKAR	**Makanchi Array**	**62.92**	**327**	P	**P**	**21 26 02.1**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=129,slow=7.9,SNR=8.4						
MKAR	**Makanchi Array**	**62.92**	**327**	P	**P**	**21 26 02.0**	**+1.1**
CASY	**Casey**	**64.42**	**187**	P	**P**	**21 26 10.4**	**0.0**
CASY				IAmb	IAmb	21 26 19.3	
	comp=Z,41nm,1.4s						
KURBB	**Kurchatov Arra**	**67.22**	**329**	P	**P**	**21 26 28.0**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=131,slow=6.0,SNR=7.8						
KURK	**Kurchatov**	**67.23**	**329**	P	**P**	**21 26 28.0**	**-0.8**

*IDC **04** 21:30:17.9±1.4, 19°.03S×65°.84W, h318km±13km, mb3.1/2, mb1 3.3/5, mb1mx3.1/25, mbtmp3.8/5, Error ellipse: s-maj=29.9km s-min=22.8km az=165.0*

*NEIC **04** 21:30:18.5±1.7, 19°.10S±0°.08×65°.93W±0°.03, h290km±7km, mb4.4/8, Error ellipse: s-maj=11.9km s-min=4.1km az=183.0*

*SCB **04** 21:30:26.7±3.0, 19°.26S×66°.45W, h239km±39km, ML4.0/5, Error ellipse: s-maj=21.6km s-min=9.5km az=1.0*

ISC 04 21:30:16.5±0.7**, 19°.08S**±0°.06×**65°.88W**±0°.07**, h300km, n51, σ1ˢ.78**/55**, mb4.3**/5**, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**2.18**	**174**	P	**Pn**	**21 31 09.6**	**+4.3**
BBOE	**La Paz, Chanca**	**3.01**	**318**	P	**Pn**	**21 31 16.0**	**+2.9**
PB08	**IPOC Station P**	**3.26**	**250**		**Pn**	**21 31 16.4**	**+1.0**
PB08				Sn	**S**	**21 32 03.0**	**+0.7**
PB08	**IPOC Station P**	**3.26**	**250**	P	**Pn**	**21 31 16.7**	**+1.3**
LPAZ	**La Paz**	**3.50**	**322**	P	**Pn**	**21 31 20.1**	**+2.0**
	2.3nm,0.3s,baz=144,slow=8.3,SNR=26						
LPAZ				S	**S**	**21 32 05.4**	**-2.0**
	baz=305,slow=23,SNR=1.1						
LPAZ	**La Paz**	**3.50**	**322**		**Pn**	**21 31 19.8**	**+1.6**
LPAZ	**La Paz**	**3.50**	**322**	P	**Pn**	**21 31 20.2**	**+2.0**
BBOD	**La Paz, Gloria**	**3.55**	**313**	P	**Pn**	**21 31 21.0**	**+2.5**
PB01	**IPOC Station P**	**3.92**	**239**	Pn	**Pn**	**21 31 23.0**	**+1.0**
PB01	**IPOC Station P**	**3.92**	**239**	P	**Pn**	**21 31 23.6**	**+1.7**
PB01				S	S	21 32 06.8	-7.5
HMBC	**Humberstone**	**3.96**	**252**	P	**Pn**	**21 31 23.3**	**+0.8**
PSGC	**Pisagua**	**4.04**	**262**	P	**Pn**	**21 31 23.8**	**+0.5**
PSGCX	**Pisagua**	**4.04**	**262**		**Pn**	**21 31 23.0**	**-0.3**
PB09	**IPOC Station P**	**4.16**	**229**		**Pn**	**21 31 25.7**	**+1.0**
PB09	**IPOC Station P**	**4.16**	**229**	P	**Pn**	**21 31 26.5**	**+1.8**
TA02	**Huaiquique**	**4.18**	**253**		**Pn**	**21 31 25.2**	**+0.4**
TA01	**Diego Aracena**	**4.31**	**249**		**Pn**	**21 31 26.6**	**+0.3**
PB02	**IPOC Station P**	**4.38**	**239**	P	**Pn**	**21 31 28.5**	**+1.4**
PB02				S	S	21 32 15.7	-8.0
PB02				IAML		21 32 22.4	
	39nm,0.3s						
LVC	**Limon Verde**	**4.52**	**218**	P	**Pn**	**21 31 31.5**	**+2.6**
	13nm,0.3s,baz=16,slow=6.3,SNR=98						
LVC				S	**S**	**21 32 25.5**	**-1.4**
	7.9nm,0.3s,baz=282,slow=22,SNR=12						
LVC	**Limon Verde**	**4.52**	**218**		**Pn**	**21 31 30.5**	**+1.6**
PB07	**IPOC Station P**	**4.59**	**234**		**Pn**	**21 31 30.4**	**+0.8**
PB07	**IPOC Station P**	**4.59**	**234**	P	**Pn**	**21 31 30.5**	**+0.9**
PB03	**IPOC Station P**	**4.68**	**230**	P	**Pn**	**21 31 31.8**	**+1.2**
PB03				S	S	21 32 20.4	-10
PB03				IAML		21 32 26.5	
	245nm,0.7s						
PB06	**IPOC Station P**	**5.00**	**223**		**Pn**	**21 31 35.2**	**+1.0**
PB06	**IPOC Station P**	**5.00**	**223**	P	**Pn**	**21 31 35.4**	**+1.2**
PB06				S	S	21 32 28.5	-8.0
PB06				IAML		21 32 33.9	
	24nm,0.4s						
PB04	**IPOC Station P**	**5.15**	**230**		**Pn**	**21 31 36.4**	**+0.4**
PB04	**IPOC Station P**	**5.15**	**230**	P	**Pn**	**21 31 36.5**	**+0.6**
PB04				S	S	21 32 30.3	-9.4
PB04				IAML		21 32 40.9	
	28nm,0.5s						
PB15	**IPOC Station P**	**5.31**	**219**		**Pn**	**21 31 39.1**	**+1.3**
PB15	**IPOC Station P**	**5.31**	**219**	P	**Pn**	**21 31 39.7**	**+1.9**
PB15				S	S	21 32 34.9	-8.3
PB15				IAML		21 32 45.8	
	1µm,0.3s						
SIV	**San Ignacio**	**5.52**	**57**	P	**Pn**	**21 31 42.0**	**+1.8**
	2.8nm,0.3s,baz=244,slow=10,SNR=30						
SIV				S	**S**	**21 32 44.1**	**-3.5**
	0.2nm,0.3s,baz=267,slow=15,SNR=3.0						
PB05	**IPOC Station P**	**5.52**	**226**	P	**Pn**	**21 31 42.0**	**+1.8**
PB10	**IPOC Station P**	**6.20**	**224**	Pn	**Pn**	**21 31 49.2**	**+0.9**
PB14	**IPOC Station P**	**6.94**	**216**		**Pn**	**21 31 57.8**	**+0.3**
PB14	**IPOC Station P**	**6.94**	**216**	P	**Pn**	**21 32 00.4**	**+2.9**
AC02	**Maricunga**	**8.28**	**201**		**Pn**	**21 32 15.6**	**+1.5**
GO03	**Copiap**	**9.38**	**204**	Pn	**Pn**	**21 32 27.3**	**+0.3**
GO03				Sn	**S**	**21 34 09.3**	**-4.0**
BO02	**Sierra Bellavi**	**16.25**	**195**	P	**Pn**	**21 33 50.0**	**+0.4**
BO02				IAmb	IAmb	21 33 56.1	
	comp=Z,9.2nm,1.1s						
PLTB	**Pedras Altas**	**16.79**	**141**	P	**Pn**	**21 33 54.7**	**-1.1**
W57A	**Gilead**	**55.57**	**346**	P	P	21 39 26.8	+5.3
KMSC	**Kings Mountain**	**55.88**	**345**	P	**P**	**21 39 25.1**	**+1.5**
KMSC				IAmb	IAmb	21 39 28.4	
	comp=Z,10nm,0.5s						
V58A	**Windy Hill, Pi**	**55.99**	**347**	P	**P**	**21 39 24.6**	**+0.2**
V58A				IAmb	IAmb	21 39 26.5	
	comp=Z,7.1nm,0.5s						
TKL	**Tuckaleechee C**	**57.02**	**343**	P	**P**	**21 39 35.9**	**+4.3**
TXAR	**Lajitas Array**	**60.38**	**322**	P	**P**	**21 39 54.7**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=135,slow=6.6,SNR=4.7						
TXAR	**Lajitas Array**	**60.38**	**322**	P	**P**	**21 39 54.8**	**-0.1**
P48A	**Milroy**	**61.03**	**343**	P	**P**	**21 40 01.4**	**+2.5**
P48A				IAmb	IAmb	21 40 05.8	
	comp=Z,7.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**73.86**	**70**	P	**P**	**21 41 18.6**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=255,slow=4.9,SNR=13						
TORD	**Torodi Ar. Bea**	**73.86**	**70**	P	**P**	**21 41 19.1**	**-0.2**
ASAR	**Alice Springs**	**133.34**	**205**	PKP	**PKPdf**	**21 48 57.3**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=131,slow=2.7,SNR=1.9						
WRA	**Warramunga Arr**	**136.45**	**208**	PKP	**PKPdf**	**21 49 03.5**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=132,slow=1.4,SNR=6.6						
MKAR	**Makanchi Array**	**142.01**	**36**	PKP	**PKPdf**	**21 49 11.6**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=299,slow=1.8,SNR=1.0						
SONM	**Songino Array**	**150.63**	**11**	PKPbc	**PKPbc**	**21 49 31.8**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=332,slow=2.1,SNR=7.1						

*IDC **04** 21:41:37.6±2.8, 7°.83S×110°.31E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/23, mbtmp3.5/5, Error ellipse: s-maj=106.5km s-min=25.2km az=54.0*

*DJA **04** 21:41:41.0±0.4, 9°S±4°×11°0E±°, h10km, M3.8/13, MLv3.8/13*

ISC 04 21:41:43.8±1.2**, 8°.5S**±0°.1×**109°.75E**±0°.04**, h73km**±11km**, n21, σ0ˢ.84**/28**, mb3.3**/5**, Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOGI	**Yogyakarta**	**0.85**	**40**	P	**Pn**	**21 42 00.2**	**-0.4**
YOGI				S	**Sn**	**21 42 12.6**	**-0.4**
UGM	**Wanagama**	**0.95**	**54**	P	**Pn**	**21 42 01.8**	**0.0**
UGM				S	**Sn**	**21 42 15.0**	**-0.2**
KPJI	**Karang Pucung**	**1.39**	**324**	P	**Pn**	**21 42 08.2**	**+0.8**
PCJI	**Pacitan**	**1.44**	**79**	P	**Pn**	**21 42 07.7**	**-0.3**
PCJI				S	**Sn**	**21 42 25.6**	**-0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMJI	Cimerak	1.46	298	P	Pn	21 42 08.3	+0.1
CMJI				S	Sn	21 42 26.4	-0.3
CTJI	Waduk Cacaban	1.56	339	P	Pn	21 42 10.8	+1.2
SMRI	Semarang	1.57	26	P	Pn	21 42 11.0	+1.2
PWJI	Pagerwojo	2.08	78	P	Pn	21 42 16.7	+0.1
PWJI				S	Sn	21 42 41.9	+0.2
CISI	Cisompet, Garu	2.12	295	P	Pn	21 42 17.6	+0.4
CISI				S	Sn	21 42 42.4	-0.2
SJI	Sawahan	2.13	70	P	Pn	21 42 17.7	+0.4
SJI				S	Sn	21 42 44.9	+2.0
JCJI	Jatiwangi	2.45	323	P	Pn	21 42 20.1	-1.5
LEM	Lembang	2.67	308	P	Pn	21 42 25.4	+0.7
KRKI	Karangkates	2.69	84	P	Pn	21 42 25.0	+0.1
CNJI	Cibinong	2.84	294	P	Pn	21 42 27.3	+0.5
SKJI	Sukabumi	3.48	295	P	Pn	21 42 36.1	+0.5
JAGI	Jajag, Banyuwa	4.36	90	P	Pn	21 42 47.5	-0.1
WRA	Warramunga Arr	26.38	118	P	P	21 47 14.5	+0.9
	0.2nm,0.6s,baz=294,slow=11,SNR=5.3						
ASAR	Alice Springs	27.62	126	P	P	21 47 26.3	+1.5
	0.2nm,0.7s,baz=316,slow=9.2,SNR=2.3						
SONM	Songino Array	56.14	357	P	P	21 51 15.5	-0.5
	0.3nm,0.6s,baz=182,slow=8.4,SNR=2.6						
MKAR	Makanchi Array	60.21	339	P	P	21 51 44.1	-0.1
	0.1nm,0.4s,baz=148,slow=8.0,SNR=4.4						
PETK	Petropavlovsk-	73.58	28	P	P	21 53 07.8	-1.1
	2.4nm,0.8s,baz=213,slow=2.6,SNR=5.6						

*TUL **04** 21:56:51.5±1.4, 35°.614N±0°.010×96°.89W±0°.01, h5^{km}±5^{km}, ML2.7, mb_Lg2.4/17(NEIC), Error ellipse: s-maj=1.4km s-min=1.2km az=157.0*

NEIC 04 21:56:51.7±1.3**, 35°.61N**±0°.02×**96°.90W**±0°.02**, h9**^{km}±3^{km}**, Error ellipse: s-maj=3.3km s-min=1.2km az=132.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OK031	S. Brethren Rd	0.34	8		Pg	21 56 58.5	0.0
OK031				Sg	Sg	21 57 03.5	+0.4
OK025	Westminster Rd	0.36	265		Pg	21 56 58.9	+0.1
OK025				Sg	Sg	21 57 04.3	+0.8
OKCSW	OKLAHOMA CITY	0.48	245	Pg	Pg	21 57 01.0	-0.2
OKCSW				Sg	Sg	21 57 08.3	+0.8
OK029	Liberty Lake	0.49	292		Pg	21 57 01.2	0.0
OK029				Sg	Sg	21 57 08.2	+0.6
OKCFA	Oklahoma City	0.49	246	Pg	Pg	21 57 01.4	+0.2
OKCFA				Sg	Sg	21 57 08.5	+0.8
FNO	Franklin	0.54	229		Pg	21 57 02.1	-0.1
FNO					Sg	21 57 10.0	+0.7
QUOK	Quay	0.58	16		Pg	21 57 02.7	-0.3
QUOK				Sg	Sg	21 57 10.7	+0.1
BLOK	Blackwell	1.17	348	Pg	Pb	21 57 13.8	-0.4
BLOK				Sg	Sg	21 57 29.2	-0.3
CROK	Carrier	1.25	316	Pg	Pn	21 57 15.0	-0.5
X34A	Smith Ranch, M	1.27	217		Pn	21 57 15.6	-0.1
T35A	Sooner Cattle	1.34	13		Pn	21 57 16.0	-0.7
GC02	Grant County #	1.46	328	Pn	Pn	21 57 17.6	-0.7
KAN13	South Haven SW	1.47	342	Pn	Pn	21 57 18.8	+0.3
X37A	Clayton	1.62	129		Pn	21 57 20.9	+0.4
LOOK	Love County	1.63	188	Pn	Pn	21 57 20.3	-0.4
KAN10	Anthony SW Sta	1.79	328	IAmb_Lg		21 57 52.9	
	comp=Z,16nm,0.7s						
U32A	Winter Ranch,	1.87	295	Pn	Pb	21 57 25.1	-1.0
U32A				IAmb_Lg		21 57 52.9	
	comp=Z,16nm,0.7s						
W39A	Magazine	2.58	98	Pn	Pn	21 57 34.2	+0.4
MIAR	Mount Ida	2.93	110		Pn	21 57 39.5	+1.0
X40A	Basin Creek Fa	3.52	107	Pn	Pn	21 57 47.9	+1.2
X40A					Pb	21 57 55.4	+1.1
S39A	Bolivar	3.55	53	IAmb_Lg		21 58 51.9	
	comp=Z,5.7nm,0.8s						
FCAR	Ozark Folk Cen	3.90	85	IAmb_Lg		21 58 56.3	
	comp=Z,11nm,1.0s						
MGMO	Mountain Grove	4.04	66	IAmb_Lg		21 59 03.4	
	comp=Z,11nm,0.8s						
PBMO	Poplar Bluff	5.36	76	IAmb_Lg		21 59 55.5	
	comp=Z,7.6nm,1.0s						
P40A	Paris	5.49	43	IAmb_Lg		21 59 49.4	
	comp=Z,7.3nm,0.9s						
T25A	Trinidad	6.25	286	IAmb_Lg		22 00 11.9	
	comp=Z,3.5nm,1.0s						

TRN 04 21:59:49.3, 11°.78N×61°.13W, h31^{km}, MD3.5, Windward Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GRGR	Grenville	0.62	305	eP	Pn	22 00 02.5	+0.5
GRGR				eS	Sn	22 00 13.0	+2.1
GRFF	Grenada Fort F	0.65	295	eP	Pn	22 00 02.9	+0.4
GRFF				eS	Sn	22 00 12.9	+1.2
GRHS	Sauteurs	0.67	312	eP	Pn	22 00 04.5	+1.8
GRHS				eS	Sn	22 00 15.1	+3.0
TPR	Prospect	0.68	149	eP	Pn	22 00 04.8	+1.9
TPR	Prospect	0.68	149	e	Pn	22 00 16.8	+14
GRSS	Sisters	0.70	318	eP	Pn	22 00 05.7	+2.6
GRSS				eS	Sn	22 00 14.7	+1.8
TOSP	Speyside	0.76	129	eP	Pb	22 00 05.0	+1.0
TOSP				eS	Sn	22 00 16.0	+1.8
GCMP	Grenada, Carri	0.76	338	eP	Pb	22 00 04.5	+0.4
GCMP				eS	Sn	22 00 15.3	+0.9
TRN	Trinidad (W)	1.15	193	eP	Pb	22 00 11.3	+0.6
TRN				eS	Sb	22 00 25.7	+0.4
SVOC	Richmond Hill,	1.37	356	eP	Pb	22 00 13.8	-0.6
SVOC				eS	Sb	22 00 31.5	-0.1
SVB	Belmont	1.49	356	eP	Pn	22 00 15.2	+1.2
SVB				eS	Sb	22 00 34.4	-0.6
SVV	Soufriere Volc	1.54	357	e	Pb	22 00 17.9	+0.7
SVV				eS	Sb	22 00 35.1	-1.1
SSV	Crater Summit	1.54	358	e	Pb	22 00 18.1	+0.7
SSV				eS	Sb	22 00 36.2	-0.4
MCLT	Moule a Chique	1.93	6	eP	Pn	22 00 21.0	+0.9
MCLT				eS	Sn	22 00 44.1	+0.8
SLB	Belfond	2.04	3	eP	Pn	22 00 22.5	+0.8
SLB				eS	Sb	22 00 49.0	-1.8
SLBI	Saint Lucia, B	2.24	4	eP	Pn	22 00 25.4	+1.1
SLBI				eS	Sn	22 00 51.0	+0.1
MPOM	Morne Pois Mar	2.67	6	eP	Pn	22 00 30.8	+0.6
MPOM				eS	Sn	22 01 01.4	-0.1
BIM	Bigot	2.73	1	eP	Pn	22 00 32.2	+1.2
BIM				eS	Sn	22 01 04.7	+1.7
TRMF	Trois Ilets	2.75	2	eP	Pn	22 00 32.8	+1.5
MVM	Montagne Vaucl	2.77	5	eP	Pn	22 00 32.9	+1.3
LPMF	Morne Lapointe	2.79	3	eP	Pn	22 00 33.7	+1.9
FDF	Fort de France	2.94	360	eP	Pn	22 00 34.8	+0.8
FDF				eS	Sn	22 01 07.5	-0.8
PML	Morne Lenard	2.99	359	eP	Pn	22 00 35.7	+1.1
ILAM	Ilet Lapin Mar	2.99	5	eP	Pn	22 00 35.8	+1.1
ILAM				eS	Sn	22 01 10.4	+0.9
BAMF	Morne Balai	3.02	360	eP	Pn	22 00 36.2	+1.1
PCM	Pelee Case Pet	3.02	359	eP	Pn	22 00 36.2	+1.1
SVN	Savane Anatole	3.05	359	eP	Pn	22 00 37.6	+2.1
DSLB	Salisbury	3.65	356	eP	Pn	22 00 46.0	+2.3
DSLB				eS	Sn	22 01 27.0	+1.2
MAGL	Barre de l'ile	4.15	358	eP	Pn	22 00 54.0	+3.4
MAGL	Barre de l'ile	4.15	358	eS	Sn	22 01 40.3	+2.1
CBE	Ff, Capester	4.29	354	eP	Pn	22 00 52.7	+0.1
CBE	Ff, Capester	4.29	354	eS	Sn	22 01 42.3	+0.7
ABD	La Joyeuse, An	4.68	356	eP	Pn	22 01 01.0	+3.1
ANBD	Bethesda, Anti	5.28	353	eP	Pn	22 01 08.6	+2.5
ANBD	Bethesda, Anti	5.28	353	eS	Sn	22 02 05.7	-0.2
ANWB	Willy Bob	5.89	354	eP	Pn	22 01 16.5	+2.0

*TUL **04** 22:03:00.9±1.4, 36°.669N±0°.008×97°.74W±0°.01, h7^{km}±6^{km}, ML2.9, mb_Lg2.6/31(NEIC), Error ellipse: s-maj=1.7km s-min=1.0km az=64.0*

NEIC 04 22:03:01.0±1.1**, 36°.66N**±0°.01×**97°.73W**±0°.02**, h9**^{km}±5^{km}**, Error ellipse: s-maj=1.9km s-min=1.8km az=174.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GC02	Grant County #	0.21	331	Pg	Pg	22 03 05.3	0.0
GC02				Sg	Sg	22 03 08.5	+0.2
CROK	Carrier	0.26	232		Pg	22 03 06.2	+0.1
CROK				Sg	Sg	22 03 10.1	+0.4
KAN14	Manchester OK	0.35	328	Pg	Pg	22 03 07.7	-0.1
KAN14				Sg	Sg	22 03 12.7	+0.3
KAN17	Caldwell West	0.38	356	Pg	Pg	22 03 08.5	0.0
KAN17				Sg	Sg	22 03 13.9	+0.4
KAN13	South Haven SW	0.40	30	Pg	Pg	22 03 08.9	+0.1
KAN13				Sg	Sg	22 03 14.8	+0.6
OK032	Salt Plains WL	0.41	290	Pg	Pg	22 03 08.9	-0.1
OK032				Sg	Sg	22 03 14.8	+0.5
BLOK	Blackwell	0.43	77		Pg	22 03 09.3	0.0
BLOK				Sg	Sg	22 03 15.3	+0.4
KAN05	Bluff City Nor	0.46	346	Pg	Pg	22 03 09.8	-0.1
KAN05				Sg	Sg	22 03 16.0	+0.1
KAN10	Anthony SW Sta	0.54	328	Pg	Pg	22 03 10.2	-1.3
KAN10				Sg	Sg	22 03 19.0	+0.3
KS20	Mayfield South	0.58	14	Pg	Pg	22 03 11.8	-0.4
KS20				Sg	Sg	22 03 19.8	-0.1
KAN08	Anthony NE Sta	0.59	341	Pg	Pg	22 03 12.1	-0.3
KAN08				Sg	Sg	22 03 20.0	-0.3
KAN12	Harper NE Stat	0.67	341	Pg	Pg	22 03 13.2	-0.6
OK029	Liberty Lake	0.90	165		Pg	22 03 17.9	-0.3
QUOK	Quay	0.96	120		Pg	22 03 19.2	-0.3
T35A	Sooner Cattle	1.01	75		Pg	22 03 20.0	-0.4
OK031	S. Brethren Rd	1.01	134		Pg	22 03 20.2	-0.2
U32A	Winter Ranch,	1.06	255		Pg	22 03 20.9	-0.5
OK025	Westminster Rd	1.13	163		Pg	22 03 22.0	-0.6
OKCFA	Oklahoma City	1.27	170		Pn	22 03 24.6	-0.2
OKCSW	OKLAHOMA CITY	1.28	169		Pn	22 03 24.7	-0.3
FNO	Franklin	1.43	169		Pn	22 03 27.3	+0.2
R32A	Long Quarter,	1.92	336	Pn	Pn	22 03 32.9	-1.0
X34A	Smith Ranch, M	2.06	182		Pn	22 03 34.7	-1.1
WMOK	Wichita Mounta	2.10	204		Pn	22 03 36.3	-0.1
KSU1	Kansas State U	2.59	20		Pn	22 03 42.8	-0.2
LOOK	Love County	2.70	170	Pn	Pn	22 03 43.9	-0.7
U38A	Gravette	2.70	94		Pn	22 03 44.5	-0.1
X37A	Clayton	2.83	136		Pn	22 03 46.6	+0.3
X37A				IAmb_Lg		22 04 36.7	
	comp=Z,24nm,0.8s						
HHAR	Hobbs	3.08	96		Pn	22 03 50.8	+1.0
W39A	Magazine	3.52	113		Pn	22 03 56.5	+0.6
W39A				IAmb_Lg		22 04 59.8	
	comp=Z,12nm,0.8s						
S39A	Bolivar	3.67	72		Pn	22 03 58.4	+0.5
AMTX	Amarillo	3.67	242	Pn	Pn	22 03 58.3	+0.3
AMTX				IAmb_Lg		22 04 59.2	
	comp=Z,10nm,0.8s						
U40A	Yellville	3.94	93		Pn	22 04 02.5	+0.8
U40A				IAmb_Lg		22 05 06.9	
	comp=Z,15nm,0.7s						
MIAR	Mount Ida	3.99	121		Pn	22 04 02.6	+0.3
Z38A	Mt. Pleasant	4.08	146	IAmb_Lg		22 05 14.2	
	comp=Z,23nm,0.8s						
P38A	Dawn	4.44	47	IAmb_Lg		22 05 24.1	
	comp=Z,9.9nm,0.7s						
R40A	Maddies Statio	4.64	68	IAmb_Lg		22 05 37.9	
	comp=Z,8.8nm,0.8s						
P40A	Paris	5.32	56	IAmb_Lg		22 05 51.3	
	comp=Z,11nm,0.7s						
LCAR	Lake Charles	5.34	94	IAmb_Lg		22 05 51.9	
	comp=Z,6.6nm,1.1s						
CCM	Cathedral Cave	5.35	73	IAmb_Lg		22 05 56.8	
	comp=Z,10nm,0.8s						
L34A	Svendsen Farm,	5.40	11	IAmb_Lg		22 06 04.0	
	comp=Z,15nm,0.8s						
N38A	Joes South For	5.42	39	IAmb_Lg		22 06 04.3	
	comp=Z,14nm,0.7s						
PBMO	Poplar Bluff	5.87	87	IAmb_Lg		22 06 17.1	
	comp=Z,6.4nm,0.7s						
JCT	Junction City	6.41	196	IAmb_Lg		22 06 32.9	
	comp=Z,11nm,1.2s						
N41A	Harden Midland	6.72	51	IAmb_Lg		22 06 45.5	
	comp=Z,13nm,0.8s						
I37A	Lemond, Waseca	8.05	23	IAmb_Lg		22 07 30.1	
	comp=Z,7.0nm,0.9s						
JFWS	Jewell Farm	8.49	40	IAmb_Lg		22 07 38.6	
	comp=Z,5.4nm,0.8s						

*IDC **04** 22:04:36.8±45.0, 14°.16S×173°.12W, h0^{km}, mb4.1/3, mb1 4.3/3, mb1mx3.7/25, mbtmp4.1/3, MS3.5/1, Ms1 3.5/1, ms1mx2.6/39, Error ellipse: s-maj=871.5km s-min=174.3km az=77.0*

*NEIC **04** 22:05:50.6±1.9, 16°.03S±0°.06×176°.9W±0°.1, h417^{km}±15^{km}, mb4.1/16, Error ellipse: s-maj=18.4km s-min=7.0km az=76.0*

ISC 04 22:05:51.2±0.8**, 16°.0S**±0°.1×**176°.9W**±0°.1**, h450**^{km}**, n27,** σ**1^s.29**/25**, mb4.0**/10**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.17	249	P	P	22 07 15.1	-2.3
AFI	Afiamalu	5.33	68	P	P	22 07 17.6	-1.3
FUNA	Funafuti	8.33	332	P	P	22 07 49.5	-0.8
RAO	Raoul Island	13.26	184	P	P	22 08 42.2	-1.4
MARNC	Mare, Loyalty	15.32	247	P	P	22 09 03.8	-2.0
SANVU	Saraoutou	15.34	270	P	P	22 09 04.5	-1.7
PINNC	Pines Island,	16.21	243	P	P	22 09 15.2	0.0
DZM	Mont Dzumac	16.90	246	P	P	22 09 21.5	-1.1
DZM				IAmb	IAmb	22 09 26.8	
	comp=Z,17nm,1.2s						
XMAS	Kiritimati	26.24	49	P	P	22 10 50.5	+1.6
FOZ	Fox Glacier	29.73	200	P	P	22 11 20.5	+1.4
COEN	Coen	38.61	268	P	P	22 12 35.5	+1.0
COEN				IAmb	IAmb	22 12 52.2	
	comp=Z,23nm,1.4s						
STKA	Stephens Creek	40.87	240	P	P	22 12 53.1	+0.5
	comp=Z,1.8nm,0.6s,baz=80,slow=9.7,SNR=5.9						
STKA	Stephens Creek	40.87	240	P	P	22 12 53.1	+0.5
BBOO	Buckleboo	45.64	240	P	P	22 13 30.6	+0.4
BBOO				IAmb	IAmb	22 13 34.2	
	comp=Z,4.8nm,1.1s						
WR0	Warramunga Arr	46.27	258	P	P	22 13 35.2	+0.1
WR0				IAmb	IAmb	22 13 49.0	
	comp=Z,10nm,1.4s						
WB2	Warramunga Arr	46.45	258	P	P	22 13 36.2	-0.3
WB2				IAmb	IAmb	22 13 50.2	
	comp=Z,8.4nm,1.3s						
WRA	Warramunga Arr	46.46	258	P	P	22 13 36.4	-0.2
	comp=Z,0.8nm,0.4s,baz=91,slow=6.7,SNR=22						
WRA	Warramunga Arr	46.46	258	P	P	22 13 36.4	-0.2
WRA	Warramunga Arr	46.46	258	IAmb	IAmb	22 13 37.2	
	comp=Z,0.1nm,0.7s						
AS31	Alice Springs	46.76	252	P	P	22 13 39.1	+0.2
ASAR	Alice Springs	46.76	252	P	P	22 13 39.1	+0.3
	comp=Z,2.2nm,0.5s,baz=85,slow=8.5,SNR=58						
ASAR	Alice Springs	46.76	252	P	P	22 13 38.8	-0.1
GUMO	Guam	47.88	306	LR	LR	22 30 51.3	
	comp=Z,52nm,21.7s,baz=85,slow=32						
KNRA	Kununurra	52.18	262	P	P	22 14 20.7	+1.6
KNRA				IAmb	IAmb	22 14 23.1	
	comp=Z,14nm,1.5s						
FORT	Forrest	52.18	243	P	P	22 14 18.9	0.0
FORT				IAmb	IAmb	22 14 22.6	
	comp=Z,18nm,0.9s						
FITZ	Fitzroy Crossi	54.82	259	P	P	22 14 40.7	+2.7
PSA00	Pilbara Seismi	59.84	254	P	P	22 15 14.1	+1.7
PSA00				IAmb	IAmb	22 15 25.5	
	comp=Z,7.1nm,1.4s						

*MAN **04** 22:32:05.8, 8°.96N×128°.30E, h9^{km}, mb5.0, ML3.9, MS3.9*

*IDC **04** 22:32:22.9±1.0, 9°.33N×126°.95E, h0^{km}, mb3.7/8, mb1 3.9/9, mb1mx3.7/43, mbtmp3.8/9, ML4.4/1, MS3.3/5, Ms1 3.3/5, ms1mx2.7/47, Error ellipse: s-maj=42.6km s-min=17.2km az=86.0*

ISC 04 22:32:24.6±0.9**, 9°.28N**±0°.05×**126°.90E**±0°.08**, h10**^{km}**, n23,** σ**1^s.72**/23**, mb3.7**/8**, 4C-3D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BIPH	Bislig	1.22	206	⇑eP	Pb	22 32 47.6	-0.1
BIPH				iS	Sb	22 33 02.0	-1.5
SCPH	Surigao	1.48	290	⇑iP	Pn	22 32 51.4	0.0
SCPH				iS	Sn	22 33 05.8	-5.0
DAV	Davao City (W)	2.56	211	Pn	Pn	22 33 06.9	+0.7
	64nm,0.3s,baz=324,slow=8.0,SNR=1.8						
DAV				Sn	Sb	22 33 41.4	-0.8
	46nm,0.3s,baz=200,slow=20,SNR=1.4						
DAV				LR	LR	22 34 21.0	
	comp=Z,296nm,20.4s,baz=26,slow=45						
KCP	Kidapawan	2.88	219	⇓eP	Pn	22 33 13.2	+2.4
KCP				iS	Sn	22 33 46.3	+0.7
LLP	Lapu-Lapu	3.07	290	⇓eP	Pn	22 33 15.8	+2.5
LLP				eS	Sb	22 33 57.6	+0.5
DCPH	Dipolog City	3.58	259	⇓eP	Pn	22 33 21.3	+1.1
DCPH				eS	Sn	22 34 03.1	+0.6
SNPH	Sibulan	3.62	271	⇑iP	Pn	22 33 22.9	+2.0
SNPH				iS	Sn	22 34 03.9	+0.2
RCP	Roxas	4.68	299	⇑eP	Pn	22 33 38.6	+3.3
JOW	Kunigami	17.50	4	LR	LR	22 42 33.7	
	comp=Z,24nm,19.4s,baz=25,slow=35						
GUMO	Guam	18.12	75	LR	LR	22 43 20.0	
	comp=Z,43nm,19.1s,baz=260,slow=36						
FITZ	Fitzroy Crossi	27.23	183	P	P	22 38 08.4	-0.6
	2.1nm,0.7s,baz=356,slow=14,SNR=2.5						
PSI	Prapat	28.54	259	LR	LR	22 50 55.0	
	comp=Z,109nm,18.7s,baz=271,slow=39						
WRA	Warramunga Arr	29.95	166	P	P	22 38 33.3	+0.1
	0.5nm,0.7s,baz=348,slow=9.6,SNR=2.8						
ASAR	Alice Springs	33.45	168	P	P	22 39 04.4	+0.3
	0.2nm,0.4s,baz=356,slow=7.8,SNR=5.9						
CTA	Charters Tower	34.85	147	LR	LR	22 54 39.3	
	comp=Z,233nm,20.3s,baz=86,slow=38						
H11S3	WAKE ISLAND Hy	39.61	72	T	T	23 22 57.4	
	baz=262,slow=75,SNR=23						
H11S1	WAKE ISLAND Hy	39.63	72	T	T	23 23 09.8	
	baz=262,slow=75,SNR=26						
H11S2	WAKE ISLAND Hy	39.63	72	T	T	23 22 57.2	
	baz=262,slow=75,SNR=5.1						
SONM	Songino Array	42.16	339	P	P	22 40 17.8	+0.3
	0.2nm,0.5s,baz=158,slow=7.2,SNR=1.9						
MKAR	Makanchi Array	53.19	323	P	P	22 41 42.1	-0.9
	1.3nm,0.6s,baz=122,slow=8.5,SNR=14						
ILAR	Eielson Array	80.05	26	P	P	22 44 34.1	-0.3
	0.2nm,0.6s,baz=269,slow=6.4,SNR=1.7						
ARCES	ARCESS Array B	85.33	340	P	P	22 45 01.6	-0.1
	1.0nm,0.7s,baz=76,slow=6.6,SNR=5.1						
FINES	FINESS Array B	87.05	332	P	P	22 45 10.1	-0.2
	1.3nm,0.8s,baz=99,slow=6.4,SNR=4.7						

MEX 04 22:41:24.4±0.3**, 14°.87N**×**92°.92W, h76**^{km}±21^{km}**, MD3.5, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCIG		0.88	341	iP	Pn	22 41 40.3	-1.4
PCIG				iS	Sn	22 41 52.8	-1.8

*NEIC **04** 22:43:19.3±1.5, 10°.71S±0°.04×164°.1E±0°.1, h49^{km}±16^{km}, mb4.4/18, Error ellipse: s-maj=16.9km s-min=3.5km az=76.0*

*IDC **04** 22:43:21.4±3.5, 11°.01S×163°.82E, h51^{km}±30^{km}, mb3.9/12, mb1 4.1/15, mb1mx3.9/39, mbtmp4.2/15, ML4.5/3, MS3.6/14, Ms1 3.6/14, ms1mx3.4/29, Error ellipse: s-maj=26.6km s-min=20.0km az=114.0*

ISC 04 22:43:18.3±0.7**, 10°.98S**±0°.07×**164°.00E**±0°.09**, h29**^{km}**, n60,** σ**1^s.81**/52**, mb4.4**/23**, MS3.5**/12**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.27	291	P	Pn	22 44 21.4	-0.1
	103nm,0.3s,baz=181,slow=3.8,SNR=34						
HNR				S	Sn	22 45 12.0	+1.6
	118nm,0.3s,baz=34,slow=22,SNR=7.0						
HNR				LR	LR	22 46 07.6	
	comp=Z,2μm,18.4s,baz=125,slow=40						
HNR	Honiara	4.27	291	Pn	Pn	22 44 21.2	-0.3
SANVU	Saraoutou	5.43	145	Pn	Pn	22 44 39.5	+2.1
LIFNC	LIFOU	10.23	163	Pn	Pn	22 45 46.5	+3.3
DZM	Mont Dzumac	11.28	168	ePn	Pn	22 46 00.7	+3.0
	4.3nm,0.2s						
DZM				eSn	Sn	22 47 57.6	-5.3
	3.0nm,0.3s						
DZM				eLR	LR	22 48 33.6	
	comp=Z,276nm,24.2s						
DZM	Mont Dzumac	11.28	168	P	Pn	22 46 00.2	+2.5
	0.8nm,0.3s,baz=23,slow=9.5,SNR=51						
DZM				S	Sn	22 47 59.0	-3.9
	0.5nm,0.3s,baz=282,slow=20,SNR=1.2						
DZM				LR	LR	22 49 44.5	
	comp=Z,252nm,18.7s,baz=341,slow=34						
DZM	Mont Dzumac	11.28	168	Pn	Pn	22 46 00.9	+3.2
ONTNC	Ouen Toro	11.51	169	Pn	Pn	22 46 04.1	+3.3
OUENC	Ouen Island, N	11.70	167	Pn	Pn	22 46 05.7	+2.4
PINNC	Pines Island,	12.03	165	Pn	Pn	22 46 11.2	+3.2
MSVF	Nonsavu	15.18	118	LR	LR	22 51 40.9	
	comp=Z,248nm,18.3s,baz=291,slow=33						
MANU	Manus Island	18.74	297	P	Pn	22 47 36.6	+1.0
EIDS	Eidsvold	18.83	219		Pn	22 47 38.1	+1.5
EIDS				IAmb	IAmb	22 47 40.6	
	comp=Z,11nm,0.8s						
CTA	Charters Tower	19.33	240	P	P	22 47 42.0	+0.5
	comp=Z,0.9nm,0.3s,baz=68,slow=11,SNR=15						
CTAO	Charters Tower	19.33	240	P	Pn	22 47 43.4	+0.7
CTAO				IAmb	IAmb	22 47 50.5	
	comp=Z,26nm,1.2s						
COEN	Coen	20.54	260	P	P	22 47 55.6	+0.8
COEN				IAmb	IAmb	22 48 02.5	
	comp=Z,17nm,1.1s						
ARMA	Armidale	22.50	209	P	P	22 48 17.2	+1.4
ARMA				IAmb	IAmb	22 48 25.1	
	comp=Z,17nm,1.2s						
MMPI	Merauke	23.41	274	P	P	22 48 25.5	+0.4
JAY	Jayapura	24.59	288	P	P	22 48 35.6	-0.7
	comp=Z,327nmcomp=Z,7.1nm,0.8s						
GENI	Genyem	25.07	288	P	P	22 48 40.1	-0.4
	comp=Z,4μmcomp=Z,65nm,0.5s						
STKA	Stephens Creek	29.33	221	P	P	22 49 18.9	+0.2
	comp=Z,5.6nm,0.9s,baz=27,slow=12,SNR=11						
STKA				LR	LR	23 00 17.9	
	comp=Z,192nm,18.5s,baz=27,slow=35						
STKA	Stephens Creek	29.33	221	P	P	22 49 20.1	+1.4
BAKI	Biak	29.35	287	P	P	22 49 18.8	-0.3
	comp=Z,22nm,1.4s						
URZ	Urewera	29.60	159	LR	LR	22 59 40.8	
	comp=Z,104nm,18.6s,baz=31,slow=33						
WR0	Warramunga Arr	29.72	249	P	P	22 49 21.3	-1.0
WR0				IAmb	IAmb	22 49 26.4	
	comp=Z,5.7nm,1.1s						
WB2	Warramunga Arr	29.89	249	P	P	22 49 23.0	-0.8
WB2				IAmb	IAmb	22 49 23.5	
	comp=Z,13nm,1.2s						
WRA	Warramunga Arr	29.90	249	P	P	22 49 22.9	-1.0
	comp=Z,4.2nm,0.5s,baz=78,slow=9.3,SNR=45						
WRA	Warramunga Arr	29.90	249	P	P	22 49 22.9	-1.0
BKZ	Black Stump Fm	30.20	160	P	P	22 49 26.1	-0.2
BKZ				IAmb	IAmb	22 49 43.4	
	comp=Z,6.7nm,1.1s						
H11N1	WAKE ISLAND Hy	30.63	5	T	T	23 21 30.7	
	baz=184,slow=76,SNR=12						
H11N3	WAKE ISLAND Hy	30.64	5	T	T	23 21 31.2	
	baz=184,slow=76,SNR=8.8						
H11N2	WAKE ISLAND Hy	30.65	5	T	T	23 21 32.0	
	baz=184,slow=76,SNR=10						
TOO	Toolangi	31.27	209	P	P	22 49 36.7	+0.9
TOO				IAmb	IAmb	22 49 54.0	
	comp=Z,14nm,1.2s						
AS31	Alice Springs	31.29	242	P	P	22 49 35.1	-1.1
ASAR	Alice Springs	31.30	242	P	P	22 49 34.9	-1.4
	comp=Z,1.5nm,0.4s,baz=62,slow=10,SNR=36						
ASAR				LR	LR	23 01 38.7	
	comp=Z,84nm,19.7s,baz=60,slow=35						
ASAR	Alice Springs	31.30	242	P	P	22 49 35.4	-0.8
BBOO	Buckleboo	33.63	225	P	P	22 49 56.9	+0.3
ODZ	Otahua Downs	34.42	172	P	P	22 50 04.7	+1.5
KNRA	Kununurra	34.57	258	P	P	22 50 03.4	-1.5
FITZ	Fitzroy Crossi	37.74	255	P	P	22 50 30.6	-1.4
	comp=Z,5.2nm,0.5s,baz=72,slow=7.5,SNR=37						
FITZ	Fitzroy Crossi	37.74	255	P	P	22 50 30.5	-1.4
FITZ				IAmb	IAmb	22 50 31.2	
	comp=Z,6.0nm,0.6s						
FORT	Forrest	38.69	234	P	P	22 50 39.8	0.0
PSA00	Pilbara Seismi	43.53	250	P	P	22 51 18.5	-1.4
PSA00				IAmb	IAmb	22 51 33.3	
	comp=Z,23nm,1.3s						
PPT	Papeete	45.38	104	LR	LR	23 05 54.2	
	comp=Z,39nm,19.9s,baz=347,slow=30						
PPT2	Papeete2	45.38	104	eLR	LR	23 04 49.0	
	comp=Z,85nm,22.8s						
KSRS	Korea Array	58.87	327	LR	LR	23 15 52.6	
	comp=Z,21nm,19.3s,baz=145,slow=33						
USRK	Ussuriysk Ar.	62.13	334	P	P	22 53 37.9	+1.2
	comp=Z,2.0nm,0.8s,baz=160,slow=8.0,SNR=5.9						
VNDA	Vanda	66.54	181	LR	LR	23 19 34.4	
	comp=Z,30nm,18.5s,baz=356,slow=33						
CMAR	Chiang Mai Arr	70.52	294	P	P	22 54 30.4	-0.6
	comp=Z,0.3nm,0.3s,baz=114,slow=4.4,SNR=2.5						
HHC	Hu-ho-hao-te	70.68	320	eP	P	22 54 29.5	-2.2
HHC				pmax	pmax		
	comp=Z,8.0nm,1.0s						

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
HHC				pmax	pmax		
	comp=Z,45nm,5.4s						
LZH	**Lanzhou**	**73.45**	**313**	*e*P	**P**	**22 54 45.7**	**-2.8**
LZH				sP	PcP	22 55 03.7	-0.8
LZH				pmax	pmax		
	comp=Z,12nm,1.1s						
SONM	**Songino Array**	**77.61**	**324**	P	**P**	**22 55 12.2**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=150,slow=7.0,SNR=7.2						
SONM				LR	LR	23 31 12.1	
	comp=Z,19nm,18.8s,baz=128,slow=37						
ILAR	**Eielson Array**	**84.00**	**19**	P	**P**	**22 55 46.0**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=227,slow=5.5,SNR=4.1						
MAW	**Mawson**	**84.14**	**202**	P	**P**	**22 55 46.4**	**+0.1**
	comp=Z,1.7nm,0.9s,baz=260,slow=8.2,SNR=2.4						
PALK	**Pallekele**	**84.84**	**278**	LR	LR	23 39 53.1	
	comp=Z,24nm,18.1s,baz=222,slow=40						
NVAR	**Mina Array Bea**	**87.30**	**50**	P	**P**	**22 56 03.3**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=236,slow=6.2,SNR=4.5						
NVAR				LR	LR	23 28 35.4	
	comp=Z,38nm,18.3s,baz=268,slow=31						
WMQ	**Urumqi**	**87.84**	**315**	*e*P	**P**	**22 56 03.6**	**-1.6**
MKAR	**Makanchi Array**	**92.30**	**317**	P	**P**	**22 56 25.9**	**0.0**
	comp=Z,0.5nm,0.6s,baz=93,slow=6.4,SNR=4.7						
ZALV	**Zalesovo Beam**	**92.50**	**324**	P	**P**	**22 56 25.7**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=126,slow=3.9,SNR=4.0						
ZALV				LR	LR	23 40 32.8	
	comp=Z,13nm,18.4s,baz=52,slow=37						
TXAR	**Lajitas Array**	**97.31**	**62**	LR	LR	23 34 32.0	
	comp=Z,31nm,19.3s,baz=0.0,slow=32						

*IDC **04** 23:29:20.2±2.8, 6°.51S×130°.54E, h71km±37km, mb3.1/1, mb1 3.9/5, mb1mx3.4/42, mbtmp4.0/5, ML4.1/4, Error ellipse: s-maj=72.1km s-min=22.9km az=89.0*

ISC 04 23:29:17.3±0.9**, 6°.58S**±0°.06×**130°.8E**±0°.2**, h50**km**, n5, σ4.s53**/9**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
SIJI	**Sorong**	**5.69**	**5**	P	**Pn**	**23 30 41.4**	**+2.1**
	12nm,0.3s,baz=195,slow=19,SNR=53						
SIJI				S	**Sn**	**23 31 38.1**	**-5.3**
	8.9nm,0.3s,baz=194,slow=23,SNR=11						
FITZ	**Fitzroy Crossi**	**12.49**	**203**	P	**Pn**	**23 32 16.3**	**+3.8**
	0.9nm,0.3s,baz=33,slow=12,SNR=38						
FITZ				S	**Sn**	**23 34 24.9**	**-5.3**
	0.3nm,0.3s,baz=79,slow=11,SNR=2.2						
WRA	**Warramunga Arr**	**13.74**	**166**	P	**Pn**	**23 32 31.8**	**+2.3**
	0.7nm,0.3s,baz=345,slow=13,SNR=24						
WRA				S	**Sn**	**23 34 58.0**	**-2.6**
	1.1nm,0.3s,baz=343,slow=24,SNR=9.2						
ASAR	**Alice Springs**	**17.26**	**170**	P	**Pn**	**23 33 17.8**	**+2.9**
	0.4nm,0.3s,baz=346,slow=11,SNR=18						
ASAR				S	**Sn**	**23 36 21.0**	**-5.2**
	0.2nm,0.3s,baz=352,slow=28,SNR=4.6						
MKAR	**Makanchi Array**	**68.29**	**326**	P	**P**	**23 40 12.7**	**-0.5**
	0.2nm,0.4s,baz=118,slow=7.2,SNR=4.4						

MEX 04 23:30:19.8±0.5**, 14°.76N×92°.90W, h76**km±45km**, MD3.5, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
THIG		**0.63**	**76**	*e*P	Pn	23 30 36.6	+2.3
THIG				*e*S	Sn	23 30 46.0	+0.9
PCIG		**0.99**	**342**	*e*P	Pn	23 30 37.2	-1.3
PCIG				*i* S	Sn	23 30 50.6	-1.8
CCIG	**Comitan**	**1.68**	**26**	*i* P	Pn	23 30 43.1	-4.5

*IDC **04** 23:32:46.0±2.7, 29°.31N×130°.83E, h44km±18km, mb3.4/3, mb1 3.4/6, mb1mx3.2/47, mbtmp3.5/6, ML2.9/3, MS3.1/2, Ms1 3.1/2, ms1mx2.4/22, Error ellipse: s-maj=49.7km s-min=10.9km az=115.0*

*JMA **04** 23:32:47.4±0.1, 29°.30N×130°.52E, h34km±3km, M3.1*

ISC 04 23:32:46.0±1.4**, 29°.34N**±0°.05×**130°.60E**±0°.07**, h31**km±11km**, n20, σ1.s47**/25**, mb3.2**/3**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
JNN	**Nakanoshima**	**0.81**	**308**	P	**Pn**	**23 33 01.9**	**+0.7**
JNN				S	**Sb**	**23 33 12.7**	**+0.6**
JYAK	**Yakushimahirau**	**0.90**	**355**	P	**Pn**	**23 33 04.5**	**+2.1**
JYAK				*e*S	**Sn**	**23 33 16.6**	**+2.3**
JMTN	**Minamitane**	**1.08**	**14**	P	**Pb**	**23 33 07.5**	**+1.3**
JKC	**Kuchinoerabu**	**1.17**	**343**	P	**Pb**	**23 33 08.1**	**+0.4**
JTAJ	**Takarajima**	**1.24**	**262**	P	**Pn**	**23 33 07.9**	**+0.8**
JTAJ				*e*S	**Sn**	**23 33 21.7**	**-1.0**
JAM	**Amami Oshima**	**1.27**	**224**	P	**Pb**	**23 33 08.5**	**-0.9**
JTN	**Tanegashima 3**	**1.35**	**14**	P	**Pb**	**23 33 11.2**	**+0.5**
JAMN	**Amaminishikomi**	**1.66**	**229**	P	**Pn**	**23 33 13.9**	**+0.9**
JTSR	**Tashiro 2**	**1.84**	**9**	P	**Pb**	**23 33 18.3**	**-0.7**
JTSR				*e*S	**Sb**	**23 33 41.1**	**-0.5**
JTK	**Tokunoshima**	**2.12**	**224**	P	**Pn**	**23 33 20.5**	**+1.2**
JSU	**Suzuyama**	**2.16**	**357**	P	**Pb**	**23 33 22.4**	**-2.1**
JNAR	**Kushima--Naru**	**2.25**	**15**	P	**Pb**	**23 33 24.9**	**-1.1**
JNAR				*e*S	**Sb**	**23 33 52.9**	**-0.6**
JOW	**Kunigami**	**3.24**	**220**	P	**Pn**	**23 33 36.9**	**+2.3**
	2.8nm,0.3s,baz=96,slow=16,SNR=6.3						
JOW				S	**Sn**	**23 34 14.3**	**+2.2**
	1.6nm,0.3s,baz=360,slow=28,SNR=3.9						
JNU	**Nakatsue**	**3.77**	**4**	P	**Pn**	**23 33 43.3**	**+1.2**
	1.3nm,0.3s,baz=176,slow=19,SNR=8.0						
JNU				S	**Sn**	**23 34 25.9**	**+0.5**
	0.3nm,0.3s,baz=170,slow=18,SNR=1.5						
MJAR	**Matsushiro Arr**	**9.61**	**40**	P	**Pn**	**23 34 59.2**	**-2.9**
	0.1nm,0.3s,baz=231,slow=13,SNR=4.6						
SONM	**Songino Array**	**26.26**	**321**	P	**P**	**23 38 17.4**	**-1.1**
	0.4nm,0.5s,baz=126,slow=7.3,SNR=1.5						
PETK	**Petropavlovsk-**	**30.95**	**32**	LR	LR	23 51 47.9	
	comp=Z,27nm,18.7s,baz=36,slow=37						
MKAR	**Makanchi Array**	**41.13**	**309**	P	**P**	**23 40 27.7**	**+0.5**
	0.2nm,0.4s,baz=88,slow=9.7,SNR=7.7						
ZALV	**Zalesovo Beam**	**41.14**	**320**	LR	LR	23 59 32.8	
	comp=Z,27nm,19.1s,baz=40,slow=39						
FINES	**FINESS Array B**	**71.19**	**331**	P	**P**	**23 44 00.9**	**-0.6**
	1.6nm,0.9s,baz=70,slow=4.6,SNR=4.3						

MEX 04 23:34:27.9±1.7**, 17°.95N×106°.11W, h20**km±184km**, MD3.6, Off coast of Jalisco**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
CJM	**Chamela**	**1.85**	**33**	*e*P	Pn	23 34 55.1	-3.4
CJM				*e*S	Sn	23 35 17.5	-3.8
R15V		**2.36**	**59**	*e*P	Pn	23 35 04.4	-1.2
R15V				*e*S	Sn	23 35 34.5	+0.6
COIG	**Colima**	**2.60**	**62**	*e*P	Pn	23 35 08.5	-0.5
COIG				*e*S	Sn	23 35 41.0	+0.9
MMIG	**Aquila**	**2.65**	**82**	*e*S	Sn	23 35 37.5	-3.7

*IDC **04** 23:36:54.5±1.2, 6°.38S×154°.88E, h0km, mb3.7/5, mb1 4.0/7, mb1mx3.8/36, mbtmp3.9/7, ML4.0/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/23, Error ellipse: s-maj=37.4km s-min=26.0km az=123.0*

ISC 04 23:37:01.7±1.0**, 6°.6S**±0°.1×**155°.1E**±0°.1**, h56**km**, n8, σ1.s17**/9**, mb3.8**/5**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
HNR	**Honiara**	**5.58**	**120**	Pn	**Pn**	**23 38 23.8**	**+1.6**
	26nm,0.3s,baz=200,slow=2.3,SNR=6.1						
HNR				Sn	**Sn**	**23 39 23.3**	**-1.7**
	14nm,0.3s,baz=164,slow=21,SNR=1.2						
CTA	**Charters Tower**	**15.89**	**212**	Pn	**Pn**	**23 40 41.4**	**-0.5**
	0.1nm,0.3s,baz=30,slow=13,SNR=6.6						
WRA	**Warramunga Arr**	**24.09**	**235**	P	**P**	**23 42 12.4**	**+0.1**
	3.2nm,1.0s,baz=62,slow=9.5,SNR=9.0						
ASAR	**Alice Springs**	**26.48**	**228**	P	**P**	**23 42 33.1**	**-0.9**
	0.4nm,0.6s,baz=66,slow=10,SNR=3.0						
STKA	**Stephens Creek**	**28.11**	**205**	P	**P**	**23 42 49.1**	**+0.7**
	1.9nm,0.8s,baz=30,slow=14,SNR=4.2						
STKA				LR	LR	23 53 07.3	
	comp=Z,81nm,19.5s,baz=24,slow=34						
ILAR	**Eielson Array**	**83.00**	**21**	P	**P**	**23 49 19.9**	**-0.7**
	1.2nm,1.1s,baz=251,slow=5.9,SNR=4.0						
MKAR	**Makanchi Array**	**83.17**	**319**	P	**P**	**23 49 22.6**	**+0.6**
	0.2nm,0.7s,baz=104,slow=6.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**153.00**	**286**	PKPbc	**PKiKP**	**23 56 53.5**	**-0.7**
	0.5nm,0.9s,baz=68,slow=0.8,SNR=2.6						

IDC 04 23:49:03.5±1.2**, 0°.89S×126°.99E, h0**km**, mb3.4**/4**, mb1 3.5**/5**, mb1mx3.4**/26**, mbtmp3.4**/5**, ML3.5**/1**, Error ellipse: s-maj=47.2km s-min=21.8km az=62.0, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
SIJI	**Sorong**	**4.28**	**90**	Pn	Pn	23 50 10.6	+0.6
	2.6nm,0.3s,baz=209,slow=22,SNR=6.6						
SIJI				Sn	Sn	23 50 57.7	-2.9
	1.9nm,0.3s,baz=219,slow=22,SNR=2.2						
WRA	**Warramunga Arr**	**20.26**	**160**	P	P	23 53 39.9	-0.8
	0.7nm,0.6s,baz=340,slow=12,SNR=4.0						
ASAR	**Alice Springs**	**23.62**	**164**	P	P	23 54 16.1	-0.3
	0.3nm,0.6s,baz=334,slow=6.9,SNR=7.9						
SONM	**Songino Array**	**51.74**	**342**	P	P	23 58 12.2	-0.5
	0.4nm,0.7s,baz=148,slow=6.6,SNR=2.3						
MKAR	**Makanchi Array**	**61.50**	**327**	P	P	23 59 22.6	+0.4
	0.5nm,0.4s,baz=112,slow=8.1,SNR=14						

*JMA **05** 00:11:29.4±0.1, 24°.35N×122°.55E, h64km, M1.8*

*TAP **05** 00:11:29.3, 23°.96N×122°.72E, h47km±1km, ML2.5, C*

ISC 05 00:11:29.5±1.2**, 23°.92N**±0°.04×**122°.70E**±0°.03**, h32**km±13km**, n36, σ0.s84**/71**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
YOJ	**Yonaguni jima**	**0.61**	**28**	P	**Pn**	**00 11 41.2**	**-0.6**
YOJ				*e*S	**Sn**	**00 11 50.2**	**-0.3**
YOJ	**Yonaguni jima**	**0.61**	**28**	*e*P	**Pn**	**00 11 41.5**	**-0.3**
	baz=22						
YOJ				*e*S	**Sn**	**00 11 50.5**	**0.0**
	baz=22						
EWUT	**Wuta**	**0.99**	**302**	*e*P	**Pn**	**00 11 47.1**	**0.0**
	baz=301						
EWUT				*e*S	**Sn**	**00 11 59.8**	**-0.2**
	baz=301						
ENA	**Nanau**	**1.01**	**300**	P	**Pn**	**00 11 47.2**	**-0.2**
	baz=299						
ENA				*e*S	**Sn**	**00 12 00.6**	**+0.1**
	baz=299						
IRIF	**Iriomote-Funau**	**1.02**	**66**	P	**Pb**	**00 11 49.1**	**+0.4**
IRIF				S	**Sb**	**00 12 03.7**	**+1.9**
TWD	**Chiawan**	**1.02**	**279**	*e*P	**Pn**	**00 11 47.5**	**0.0**
	baz=278						
TWD				*e*S	**Sn**	**00 12 01.0**	**+0.2**
	baz=278						
TWC	**Suao**	**1.04**	**311**	*e*P	**Pn**	**00 11 48.0**	**+0.2**
	baz=311						
TWC				S	**Sn**	**00 12 01.0**	**-0.1**
	baz=311						
NACB	**Ninganchiao**	**1.04**	**284**	*e*P	**Pn**	**00 11 47.3**	**-0.5**
	baz=273						
NACB				*e*S	**Sn**	**00 12 01.1**	**-0.2**
	baz=273						
NDS	**Dongshan**	**1.15**	**308**	*e*P	**Pn**	**00 11 49.6**	**+0.3**
	baz=308						
NDS				*e*S	**Sn**	**00 12 04.1**	**+0.3**
	baz=308						
ETLH	**Xiulin Townshi**	**1.15**	**284**	*e*P	**Pn**	**00 11 49.8**	**+0.4**
	baz=284						
ETLH				*e*S	**Sn**	**00 12 04.8**	**+0.7**
	baz=284						
ESL	**Shilin**	**1.17**	**265**	*e*P	**Pn**	**00 11 49.2**	**-0.3**
	baz=256						
ESL				*e*S	**Sn**	**00 12 04.4**	**+0.1**
	baz=256						
JKRS	**Kuro-shima**	**1.23**	**75**	P	**Pb**	**00 11 52.3**	**+0.1**
JKRS				*e*S	**Sb**	**00 12 09.5**	**+1.7**
TWE	**Neicheng**	**1.24**	**310**	*e*P	**Pn**	**00 11 50.9**	**+0.5**
	baz=310						
TWE				*e*S	**Sb**	**00 12 06.9**	**-1.0**
	baz=310						
NDT	**Datong Townshi**	**1.28**	**302**	*e*P	**Pn**	**00 11 51.3**	**+0.2**
	baz=292						
NDT				*e*S	**Sn**	**00 12 07.6**	**+0.4**
	baz=292						
WHF	**Hehuan Shan**	**1.33**	**280**	*e*P	**Pn**	**00 11 51.6**	**-0.6**
	baz=280						
WHF				*e*S	**Sn**	**00 12 09.3**	**+0.2**
	baz=280						
FUSS	**Fushou**	**1.37**	**284**	*e*P	**Pn**	**00 11 52.5**	**-0.1**
	baz=284						
FUSS				*e*S	**Sn**	**00 12 10.2**	**+0.4**
	baz=284						
JIJ	**Ishigaki jima**	**1.39**	**71**	P	**Pb**	**00 11 53.8**	**-1.0**
JIJ				*e*S	**Sb**	**00 12 11.7**	**-0.5**
EYUL	**Yuli**	**1.39**	**246**	*e*P	**Pn**	**00 11 52.4**	**-0.2**
	baz=237						
EYUL				*e*S	**Sn**	**00 12 10.2**	**+0.3**
	baz=237						
YULB	**Yu-li**	**1.39**	**248**	*e*P	**Pn**	**00 11 52.0**	**-0.6**
	baz=239						
YULB				*e*S	**Sn**	**00 12 09.8**	**-0.1**
	baz=239						
CHGB	**Renai**	**1.41**	**276**	*e*P	**Pn**	**00 11 52.8**	**-0.2**
	baz=276						
CHGB				*e*S	**Sn**	**00 12 10.6**	**+0.1**
	baz=276						
YHNB	**Yeheng**	**1.42**	**302**	*e*P	**Pn**	**00 11 53.0**	**-0.1**
	baz=302						
YHNB				*e*S	**Sn**	**00 12 10.6**	**-0.2**
	baz=302						
NSK	**Sanguang**	**1.44**	**302**	*e*P	**Pn**	**00 11 53.5**	**+0.2**
	baz=302						
NSK				*e*S	**Sn**	**00 12 11.4**	**+0.2**
	baz=302						
EDH	**Donghe**	**1.59**	**234**	*e*P	**Pn**	**00 11 54.1**	**-1.3**
	baz=226						
EDH				*e*S	**Sn**	**00 12 12.3**	**-2.6**
	baz=226						
SSLB	**Suanglung**	**1.61**	**266**	*e*P	**Pn**	**00 11 55.6**	**0.0**
	baz=265						
SSLB				*e*S	**Sn**	**00 12 15.5**	**+0.2**
	baz=265						
JISG	**Ishigakijimahi**	**1.61**	**65**	P	**Pn**	**00 11 56.0**	**+0.4**
JISG				*e*S	**Sn**	**00 12 15.5**	**+0.3**
WCS	**Beigang Elemen**	**1.64**	**275**	*e*P	**Pn**	**00 11 56.5**	**+0.4**
	baz=275						
WCS				*e*S	**Sn**	**00 12 16.5**	**+0.4**
	baz=275						
WHP	**Taichung City**	**1.65**	**283**	*e*P	**Pn**	**00 11 56.8**	**+0.6**
	baz=283						
WHP				*e*S	**Sn**	**00 12 16.6**	**+0.4**
	baz=283						
SMLT	**Sun Moon Lake**	**1.65**	**269**	*e*P	**Pn**	**00 11 56.9**	**+0.6**
	baz=269						
SMLT				*e*S	**Sn**	**00 12 16.9**	**+0.4**
	baz=269						
LDUT	**Ludao**	**1.68**	**223**	*e*P	**Pn**	**00 11 55.2**	**-1.4**
	baz=221						
LDUT				*e*S	**Sn**	**00 12 15.8**	**-1.3**
	baz=221						
TYC	**Yuchr**	**1.69**	**270**	*e*P	**Pn**	**00 11 57.2**	**+0.5**
	baz=270						
TYC				*e*S	**Sn**	**00 12 17.7**	**+0.5**
	baz=270						
ELDTW	**Lidau**	**1.71**	**245**	*e*P	**Pn**	**00 11 57.0**	**-0.1**
	baz=244						
ELDTW				*e*S	**Sn**	**00 12 17.2**	**-0.8**
	baz=244						
JTJ	**Tarama**	**1.96**	**68**	P	**Pb**	**00 12 02.2**	**-2.3**
SLGT	**Liugui**	**2.10**	**244**	*e*P	**Pn**	**00 12 03.7**	**+1.3**
	baz=236						
SLGT				*e*S	**Sn**	**00 12 29.1**	**+1.7**
	baz=236						
SGST	**Jiashian**	**2.12**	**247**	*e*P	**Pn**	**00 12 03.9**	**+1.2**
	baz=239						
SGST				*e*S	**Sn**	**00 12 28.8**	**+1.0**
	baz=239						
CHN1	**Nanshi**	**2.13**	**250**	*e*P	**Pn**	**00 12 04.1**	**+1.3**
	baz=243						
CHN1				*e*S	**Sn**	**00 12 29.7**	**+1.6**
	baz=243						
SLIU	**Shizi**	**2.44**	**226**	*e*P	**Pn**	**00 12 08.4**	**+1.3**
	baz=225						
SLIU				*e*S	**Sn**	**00 12 37.0**	**+1.2**
	baz=225						

*NAO **05** 00:29:56.0±2.8, 72°.01N×0°.91W, ML3.3*

*IDC **05** 00:29:57.8±0.9, 72°.07N×0°.76W, h0km, mb3.7/9, mb1 3.9/16, mb1mx3.7/45, mbtmp3.7/16, ML2.7/5, MS3.2/27, Ms1 3.2/27, ms1mx3.1/56, Error ellipse: s-maj=19.0km s-min=15.5km az=59.0*

*BER **05** 00:30:00.7±3.9, 72°.18N×0°.46W, h10km, ML2.4, ML3.3(NAO), Confirmed Earthquake*

ISC 05 00:29:58.6±0.7**, 72°.08N**±0°.07×**0°.23W**±0°.06**, h10**km**, n63, σ2.s71**/53**, mb3.7**/9**, MS3.2**/23**, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
JMIC	**Jan Mayen**	**2.85**	**251**	Pn	**Pn**	**00 30 40.8**	**-3.3**
	baz=28,slow=12,SNR=1.8						
JMIC				LR	LR	00 31 11.3	
	comp=Z,21nm,18.2s,baz=40,slow=27						
JMIC	**Jan Mayen**	**2.85**	**251**	*e*P	**Pn**	**00 30 41.9**	**-2.2**
JMIC				IAML		00 31 26.3	
	comp=Z,15nm,0.5s						
LOF	**Lofoten**	**6.14**	**123**	*e*P	**Pn**	**00 31 31.2**	**+2.1**
LOF				*e*S	**Sn**	**00 32 34.6**	**-4.6**
LOF				IAML		00 32 40.1	
	comp=Z,5.5nm,0.5s						
N2SV	**S¸rv¥gen**	**6.18**	**126**	*e*P	**Pn**	**00 31 30.2**	**+0.5**
DBG	**Daneborg**	**6.20**	**300**	Pn	**Pn**	**00 31 26.1**	**-3.9**
DBG	**Daneborg**	**6.20**	**300**	*e*P	**Pn**	**00 31 25.9**	**-4.1**
N2RO	**R¸st**	**6.25**	**131**	*e*S	**Sn**	**00 32 36.0**	**-6.2**
HSPB	**Hornsund (broa**	**6.47**	**33**	Pn	**Pn**	**00 31 33.5**	**-0.2**
HSPB	**Hornsund (broa**	**6.47**	**33**	Pn	**Pn**	**00 31 33.5**	**-0.2**
STEI	**Steigen**	**6.73**	**121**	*e*P	**Pn**	**00 31 39.2**	**+1.9**
TRO	**Tromso**	**6.75**	**102**	*e*P	**Pn**	**00 31 38.1**	**+0.6**
N2NF	**Nordfold**	**6.85**	**122**	*e*P	**Pn**	**00 31 40.2**	**+1.4**
N2IH	**Innhavet**	**6.89**	**119**	*e*P	**Pn**	**00 31 41.3**	**+1.8**
N2IH				*e*S	**Sn**	**00 32 53.9**	**-3.9**
N2IH				IAML		00 32 56.8	
	comp=Z,9.9nm,0.4s						
FAUS	**Fauske**	**7.14**	**124**	*e*P	**Pn**	**00 31 44.8**	**+1.9**
FAUS				*e*S	**Sn**	**00 32 57.8**	**-6.2**
FAUS				IAML		00 33 06.0	
	comp=Z,3.0nm,0.6s						
JETT	**Jettan, Norway**	**7.23**	**100**	Pn	**Pn**	**00 31 44.9**	**+0.6**
JETT				Sn	**Sn**	**00 33 01.8**	**-4.5**
KONS	**Konsvik**	**7.32**	**133**	*e*P	**Pn**	**00 31 48.2**	**+2.9**
KONS				*e*S	**Sn**	**00 33 02.8**	**-5.5**
KONS				IAML		00 33 06.1	
	comp=Z,5.2nm,0.7s						
SPA0	**Spitsbergen Ar**	**7.42**	**27**	Pn	**Pn**	**00 31 48.5**	**+1.7**
	baz=203,slow=14						
SPA0	**Spitsbergen Ar**	**7.42**	**27**	Pn	**Pn**	**00 31 48.5**	**+1.7**
	baz=203,slow=14						
SPITS	**Spitsbergen Ar**	**7.42**	**27**	Pn	**Pn**	**00 31 48.3**	**+1.5**
	baz=205,slow=15,SNR=55						
STOK	**Stokkvaagen**	**7.43**	**134**	*e*P	**Pn**	**00 31 48.4**	**+1.5**
STOK				*e*S	Sn	00 33 03.7	-7.4
KBS	**Kingsbay**	**7.50**	**18**	Pn	**Pn**	**00 31 47.7**	**-0.1**
KBS	**Kingsbay**	**7.50**	**18**	*e*	**Pn**	**00 31 48.0**	**+0.2**
HAMF	**Hammerfest**	**7.77**	**89**	Pn	**Pn**	**00 31 52.7**	**+1.2**
HAMF	**Hammerfest**	**7.77**	**89**	Pn	**Pn**	**00 31 52.7**	**+1.2**
MOR8	**Moi Rana**	**7.89**	**131**	*e*P	**Pn**	**00 31 55.1**	**+1.9**
MOR8				*e*		00 32 04.0	
MOR8				IAML		00 33 21.2	
	comp=Z,7.7nm,0.6s						
SALU	**Saltoluokta**	**8.00**	**117**	*e*P	Pn	00 32 00.1	+5.3
KTK1	**Kautokeino**	**8.38**	**100**	*e*P	**Pn**	**00 32 01.2**	**+1.4**
NSS	**Namsos**	**8.80**	**143**	*e*P	**Pn**	**00 32 07.8**	**+2.2**
NSS				*e*		00 33 39.3	
NSS				IAML		00 33 45.7	
	comp=Z,4.4nm,0.6s						
ARA0	**ARCESS Array S**	**8.81**	**94**	Pn	**Pn**	**00 32 06.7**	**+0.9**
	baz=307,slow=12						
ARA0				Sn	**Sn**	**00 33 40.1**	**-4.8**
	baz=308,slow=22						
ARA0	**ARCESS Array S**	**8.81**	**94**	Pn	**Pn**	**00 32 06.7**	**+0.9**
	baz=307,slow=12						
ARA0				Sn	**Sn**	**00 33 40.1**	**-4.8**
	baz=308,slow=22						
ARCES	**ARCESS Array B**	**8.81**	**94**	Pn	**Pn**	**00 32 06.9**	**+1.1**
	baz=299,slow=12,SNR=21						
ARCES				Sn	**Sn**	**00 33 40.4**	**-4.6**
	baz=306,slow=20,SNR=6.0						
ARCES				LR	LR	00 35 15.2	
	comp=Z,83nm,19.9s,baz=295,slow=35						
NOR	**Nord**	**10.20**	**346**	Pn	**Pn**	**00 32 23.1**	**-1.6**
NOR	**Nord**	**10.20**	**346**	Pn	**Pn**	**00 32 23.1**	**-1.6**
NOA	**NORSAR Array B**	**11.95**	**152**	Pn	**Pn**	**00 32 49.9**	**+1.1**
	comp=Z,0.0nm,0.3s,baz=27,slow=20,SNR=2.1						
NOA				LR	LR	00 37 22.3	
	comp=Z,92nm,18.9s,baz=340,slow=37						
HFS	**Hagfors**	**13.20**	**148**	Pn	**Pn**	**00 33 07.7**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=19,slow=9.7,SNR=5.5						
HFS				Sn	Sn	00 35 24.4	-7.9
	comp=Z,0.1nm,0.3s,baz=346,slow=23,SNR=1.7						
HFS				LR	LR	00 38 00.8	
	comp=Z,101nm,19.1s,baz=346,slow=36						
FINES	**FINESS Array B**	**14.70**	**123**	Pn	**Pn**	**00 33 28.7**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=356,slow=11,SNR=2.0						
FINES				LR	LR	00 38 36.6	
	comp=Z,143nm,18.3s,baz=327,slow=35						
EKA	**Eskdalemuir Ar**	**16.86**	**186**	Pn	**Pn**	**00 33 55.6**	**+1.2**
	baz=14,slow=10,SNR=4.1						
OBN	**Obninsk**	**22.97**	**118**	LR	LR	00 43 35.6	
	comp=Z,31nm,18.3s,baz=344,slow=35						
KIRV	**Kirov**	**23.79**	**98**	LR	LR	00 44 06.3	
	comp=Z,49nm,18.9s,baz=327,slow=35						
VRAC	**Vranov**	**24.10**	**152**	P	**P**	**00 35 14.6**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=9.9,slow=13,SNR=2.5						
VRAC				LR	LR	00 44 36.8	
	comp=Z,58nm,19.7s,baz=9.5,slow=36						
GERES	**GERESS Array B**	**24.17**	**157**	P	**P**	**00 35 17.7**	**+3.0**
	comp=Z,2.0nm,0.8s,baz=356,slow=8.7,SNR=16						
GERES				LR	LR	00 44 25.3	
	comp=Z,63nm,19.5s,baz=336,slow=36						
RES	**Resolute Bay**	**24.50**	**320**	LR	LR	00 44 37.9	
	comp=Z,96nm,18.8s,baz=16,slow=36						
AKASG	**Malin Array Be**	**25.14**	**133**	P	**P**	**00 35 24.3**	**+1.0**
	comp=Z,0.5nm,0.2s,baz=338,slow=10,SNR=6.4						
AKASG				LR	LR	00 44 53.9	
	comp=Z,70nm,20.4s,baz=320,slow=36						
DAVOX	**Davos/Dischmat**	**25.82**	**164**	LR	LR	00 46 14.7	
	comp=Z,37nm,19.8s,baz=2.5,slow=38						
NRIK	**Noril'sk**	**26.72**	**52**	LR	LR	00 47 54.5	
	comp=Z,37nm,19.2s,baz=78,slow=40						
ARU	**Arti**	**28.39**	**92**	LR	LR	00 47 03.5	
	comp=Z,30nm,18.6s,baz=350,slow=36						
BELG	**Belogornoye**	**28.51**	**108**	LR	LR	00 46 53.2	
	comp=Z,85nm,19.0s,baz=103,slow=35						
ESDC	**Sonseca Array**	**32.54**	**185**	P	**P**	**00 36 29.1**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=353,slow=9.4,SNR=6.4						
ESDC				LR	LR	00 49 41.6	
	comp=Z,19nm,19.1s,baz=230,slow=36						
KBZ	**Khabaz**	**35.04**	**120**	LR	LR	00 51 06.4	
	comp=Z,44nm,19.1s,baz=85,slow=36						
BRTR	**Keskin Array B**	**36.53**	**134**	P	**P**	**00 37 06.9**	**+2.9**
	comp=Z,0.5nm,0.6s,baz=337,slow=5.9,SNR=4.5						
BRTR				LR	LR	00 51 31.8	
	comp=Z,27nm,20.2s,baz=15,slow=35						
YKA	**Yellowknife Ar**	**38.48**	**317**	LR	LR	00 52 35.6	
	comp=Z,34nm,20.1s,baz=0.0,slow=35						
ZALV	**Zalesovo Beam**	**38.48**	**71**	LR	LR	00 56 46.8	
	comp=Z,22nm,20.2s,baz=216,slow=42						
ILAR	**Eielson Array**	**41.56**	**339**	P	**P**	**00 37 45.6**	**0.0**
	comp=Z,1.3nm,0.9s,baz=7.1,slow=7.4,SNR=11						
MKAR	**Makanchi Array**	**44.06**	**78**	P	**P**	**00 38 07.2**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=336,slow=5.6,SNR=2.4						
GEYT	**Alibeck**	**44.72**	**107**	LR	LR	00 58 42.3	
	comp=Z,46nm,19.5s,baz=220,slow=38						
AAK	**Ala-Archa**	**45.42**	**88**	LR	LR	00 57 23.5	
	comp=Z,27nm,19.2s,baz=275,slow=36						
BBB	**Bella Bella**	**50.78**	**321**	LR	LR	01 01 43.0	
	comp=Z,40nm,18.2s,baz=261,slow=38						
NEW	**Newport**	**52.13**	**311**	LR	LR	01 01 17.9	
	comp=Z,41nm,18.2s,baz=133,slow=36						
TKL	**Tuckaleechee C**	**54.54**	**277**	LR	LR	01 00 20.2	
	comp=Z,25nm,19.5s,baz=19,slow=34						
PDAR	**Pinedale Array**	**55.40**	**302**	LR	LR	01 05 22.2	
	comp=Z,25nm,18.8s,baz=184,slow=38						
TORD	**Torodi Ar. Bea**	**58.92**	**178**	P	**P**	**00 39 58.3**	**+0.7**
	comp=Z,2.4nm,0.7s,baz=356,slow=6.9,SNR=15						
ANMO	**Albuquerque**	**61.89**	**297**	LR	LR	01 07 09.1	
	comp=Z,30nm,19.7s,baz=205,slow=36						
TXAR	**Lajitas Array**	**66.38**	**292**	P	**P**	**00 40 47.4**	**0.0**
	comp=Z,0.1nm,0.5s,baz=56,slow=3.4,SNR=2.3						
TXAR				LR	LR	01 07 57.2	
	comp=Z,41nm,19.3s,baz=0.0,slow=34						

*IDC **05** 00:42:02.5±5.4, 29°.54S×177°.93W, h70km±25km, mb4.0/3, mb1 4.2/3, mb1mx3.5/38, mbtmp4.3/3, MS3.5/5, Ms1 3.5/5, ms1mx3.2/22, Error ellipse: s-maj=165.9km s-min=27.8km az=155.0*

*NEIC **05** 00:42:04±1.8, 29°.6S±0°.1×177°.9W±0°.2, h65km±13km, mb4.5/19, Error ellipse: s-maj=28.4km s-min=15.2km az=73.0*

ISC 05 00:42:02.4±0.7**, 29°.60S**±0°.09×**177°.8W**±0°.1**, h63**km**, n52,** σ**2s04**/40**, mb4.5**/14**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.37**	**340**	P	**Pn**	**00 42 14.7**	**+1.3**
	435nm,0.3s,baz=293,slow=13,SNR=20						
RAO				S	**Sn**	**00 42 27.9**	**+6.7**
	3μm,0.3s,baz=174,slow=23,SNR=14						
RAO	**Raoul Island**	**0.37**	**340**		**Pn**	**00 42 14.5**	**+1.1**
MXZ	**Matakaoa Point**	**8.59**	**201**		**Pn**	**00 44 05.6**	**+1.7**
OUZ	**Omahuta**	**9.20**	**230**	Pn	**Pn**	**00 44 09.2**	**-3.0**
URZ	**Urewera**	**9.62**	**205**		**Pn**	**00 44 20.9**	**+2.8**
BKZ	**Black Stump Fm**	**10.65**	**205**		**Pn**	**00 44 34.4**	**+2.2**
BFZ	**Birch Farm**	**12.09**	**202**	Pn	**Pn**	**00 44 51.4**	**-0.3**
MSVF	**Nonsavu**	**12.41**	**341**	LR	LR	00 49 09.8	
	comp=Z,335nm,21.5s,baz=166,slow=35						
DZM	**Mont Dzumac**	**16.05**	**294**	*e*LR	LR	00 48 59.0	
	comp=Z,602nm,24.9s						
TBI	**Tubuai**	**26.06**	**83**	*e*LR	LR	00 54 01.3	
	comp=Z,353nm,27.0s						
TBI	**Tubuai**	**26.06**	**83**	*e*T	T	01 14 40.4	
	11nm,0.4s						
ARMA	**Armidale**	**26.47**	**261**	P	**P**	**00 47 34.4**	**+0.5**
ARMA				IAmb	IAmb	00 47 36.5	
	comp=Z,16nm,1.3s						
EIDS	**Eidsvold**	**27.90**	**271**	P	**P**	**00 47 46.5**	**-0.1**
EIDS				IAmb	IAmb	00 47 57.1	
	comp=Z,10nm,1.4s						
PAE	**Paea**	**28.35**	**72**	*e*T	T	01 17 18.6	
	comp=Z,2.8nm,0.3s						
PPT2	**Papeete2**	**28.39**	**71**	*e*S	**S**	**00 52 28.6**	**-5.2**
	comp=Z,58nm,23.5s						
PPT2				*e*LR	LR	00 54 58.1	
	comp=Z,304nm,26.0s						
PPT	**Papeete**	**28.40**	**71**	LR	LR	00 56 57.1	
	comp=Z,26nm,20.6s,baz=199,slow=31						
HNR	**Honiara**	**28.93**	**309**	LR	LR	00 57 40.5	
	comp=Z,83nm,20.4s,baz=78,slow=33						
CTAO	**Charters Tower**	**33.87**	**278**	P	**P**	**00 48 40.6**	**+1.3**
CTAO				IAmb	IAmb	00 48 41.4	
	comp=Z,7.4nm,0.7s						
STKA	**Stephens Creek**	**34.85**	**256**	P	**P**	**00 48 46.4**	**-1.2**
	comp=Z,2.0nm,0.5s,baz=102,slow=11,SNR=8.4						
STKA				LR	LR	01 01 55.3	
	comp=Z,124nm,18.2s,baz=36,slow=34						
STKA	**Stephens Creek**	**34.85**	**256**	P	**P**	**00 48 46.8**	**-0.8**
RABL	**Rabaul**	**38.05**	**306**	P	**P**	**00 49 14.6**	**-0.4**
COEN	**Coen**	**39.24**	**285**	P	**P**	**00 49 26.6**	**+1.6**
COEN				IAmb	IAmb	00 49 27.9	
	comp=Z,12nm,1.4s						
BBOO	**Buckleboo**	**39.38**	**253**	P	**P**	**00 49 23.5**	**-2.4**
BBOO				IAmb	IAmb	00 49 31.2	
	comp=Z,15nm,1.4s						
AS31	**Alice Springs**	**43.35**	**266**	P	**P**	**00 49 57.9**	**-0.7**
ASAR	**Alice Springs**	**43.35**	**266**	P	**P**	**00 49 56.6**	**-2.1**
	comp=Z,1.2nm,0.5s,baz=104,slow=7.3,SNR=22						
ASAR				PcP	**PcP**	**00 51 44.7**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=120,slow=3.6,SNR=1.3						
ASAR	**Alice Springs**	**43.35**	**266**	P	**P**	**00 49 57.4**	**-1.3**
WR0	**Warramunga Arr**	**44.09**	**271**	P	**P**	**00 50 03.8**	**-0.7**
WR0				IAmb	IAmb	00 50 08.4	
	comp=Z,9.3nm,1.3s						
WB2	**Warramunga Arr**	**44.26**	**271**	P	**P**	**00 50 05.1**	**-0.9**
WB2				IAmb	IAmb	00 50 06.9	
	comp=Z,6.1nm,0.8s						
WRA	**Warramunga Arr**	**44.27**	**271**	P	**P**	**00 50 04.3**	**-1.7**
	comp=Z,3.0nm,0.3s,baz=114,slow=7.7,SNR=48						
WRA	**Warramunga Arr**	**44.27**	**271**	P	**P**	**00 50 05.2**	**-0.8**
FORT	**Forrest**	**46.44**	**254**	P	**P**	**00 50 20.5**	**-2.6**
SBA	**Scott Base**	**48.85**	**184**	P	**P**	**00 50 42.8**	**+1.8**
SBA				IAmb	IAmb	00 50 43.2	
	comp=Z,4.2nm,1.0s						
VNDA	**Vanda**	**48.91**	**186**	P	**P**	**00 50 41.8**	**+0.3**
MTN	**Manton Dam**	**50.05**	**278**	P	**P**	**00 50 50.7**	**-0.4**
KNRA	**Kununurra**	**50.84**	**274**	P	**P**	**00 50 56.9**	**-0.1**
KNRA				IAmb	IAmb	00 51 08.1	
	comp=Z,6.4nm,1.1s						
FITZ	**Fitzroy Crossi**	**52.56**	**269**	P	**P**	**00 51 09.8**	**0.0**
FITZ				IAmb	IAmb	00 51 21.6	
	comp=Z,7.4nm,1.2s						
QSPA	**South Pole Qui**	**60.51**	**180**	P	**P**	**00 52 07.5**	**+1.8**
QSPA				IAmb	IAmb	00 52 08.8	
	comp=Z,5.0nm,0.7s						
GIRL	**Giralia**	**60.68**	**259**	P	**P**	**00 52 06.4**	**-1.0**
MAW	**Mawson**	**73.12**	**200**	LR	LR	01 24 26.0	
	comp=Z,58nm,19.0s,baz=68,slow=35						
H03S2	**Juan Fernandez**	**80.75**	**124**	T	T	02 23 35.8	
	baz=238,slow=74,SNR=12						
H03S1	**Juan Fernandez**	**80.76**	**124**	T	T	02 23 31.7	
	baz=238,slow=74,SNR=14						
H03S3	**Juan Fernandez**	**80.76**	**124**	T	T	02 23 43.3	
	baz=238,slow=74,SNR=14						
H03N3	**Juan Fernandez**	**80.93**	**123**	T	T	02 23 44.0	
	baz=239,slow=76,SNR=9.7						
H03N2	**Juan Fernandez**	**80.94**	**123**	T	T	02 23 52.2	
	baz=239,slow=76,SNR=10						
H03N1	**Juan Fernandez**	**80.95**	**123**	T	T	02 23 30.8	
	baz=239,slow=76,SNR=9.9						
MKAR	**Makanchi Array**	**117.40**	**310**	PKP	**PKPdf**	**01 00 39.0**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=143,slow=0.9,SNR=2.2						
ARCES	**ARCESS Array B**	**137.85**	**348**	PKP	**PKPdf**	**01 01 19.2**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=337,slow=1.6,SNR=6.6						
FINES	**FINESS Array B**	**144.46**	**340**	PKP	**PKPab**	**01 01 28.8**	**-0.4**
	comp=Z,4.0nm,0.5s,baz=64,slow=3.7,SNR=66						
NB2	**NORSAR Subarra**	**147.99**	**352**	PKP	**PKPbc**	**01 01 39.6**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=14,slow=4.1						
NOA	**NORSAR Array B**	**147.99**	**352**	PKPbc	**PKPbc**	**01 01 40.0**	**0.0**
	comp=Z,0.4nm,0.5s,baz=14,slow=4.2,SNR=4.1						
AKASG	**Malin Array Be**	**150.78**	**324**	PKPbc	**PKPdf**	**01 01 44.6**	**+3.0**
	comp=Z,0.4nm,0.3s,baz=56,slow=2.5,SNR=7.1						
BRTR	**Keskin Array B**	**152.38**	**300**	PKPbc	**PKPbc**	**01 01 50.1**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=142,slow=5.8,SNR=6.8						

IDC 05 00:43:01.4±3.7**, 35°.51S**×**178°.89W, h0**km**, mb4.0**/2**, mb1 4.3**/2**, mb1mx3.8**/35**, mbtmp4.0**/2**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.8**/16**, Error ellipse: s-maj=225.3km s-min=57.8km az=171.0, East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.35**	**273**	P	P	00 50 58.0	+0.5
	1.0nm,0.4s,baz=115,slow=7.7,SNR=6.1						
VNDA	**Vanda**	**42.95**	**186**	LR	LR	01 05 46.4	
	comp=Z,37nm,21.4s,baz=340,slow=32						
WRA	**Warramunga Arr**	**43.80**	**278**	P	P	00 51 08.4	-0.8
	1.7nm,0.6s,baz=122,slow=7.6,SNR=1.9						
FINES	**FINESS Array B**	**149.60**	**336**	PKPbc	PKPbc	01 02 52.2	+0.2
	0.7nm,0.5s,baz=64,slow=3.2,SNR=1.2						
BRTR	**Keskin Array B**	**153.97**	**289**	PKPbc	PKPbc	01 03 02.2	-0.8
	0.2nm,0.4s,baz=85,slow=2.6,SNR=3.7						

MAN 05 00:43:19.8, 18°.15N×**120°.73E, h83**km**, mb4.6, ML3.5, MS3.3, Luzon**

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*BJI **05** 00:47:26.8±0.0, 45°.81N×143°.67E, h313km, mB4.2/7, mb4.2/14*

*SKHL **05** 00:47:29.2±0.3, 45°.70N×143°.70E, h317km±13km, mb4.6/7, msha5.1/5*

*JMA **05** 00:47:29.5±0.3, 45°.67N×143°.47E, h316km±3km, M4.2*

*NIED **05** 00:47:29.5, 45°.67N×143°.48E, h316km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.37; $M_{\theta\theta}$0.70; $M_{\phi\phi}$-1.06; $M_{r\theta}$0.36; $M_{\theta\phi}$-0.45; $M_{\phi r}$-0.60; Fault plane solution: $M_0$1.24000×10^{15} NP1: ϕ_s154.00000°, δ79.00000°, λ39.00000°. NP2: ϕ_s55.00000°, δ52.00000°, λ165.00000°.*

*NEIC **05** 00:47:29.6±1.5, 45°.83N±0°.05×143°.5E±0°.1, h302km±6km, mb4.0/85 Error ellipse: s-maj=13.3km s-min=7.4km az=80.0*

*IDC **05** 00:47:30.0±0.6, 45°.84N×143°.36E, h308km±7km, mb3.5/26, mb1 3.7/34, mb1mx3.5/66, mbtmp4.3/34, Error ellipse: s-maj=12.1km s-min=9.0km az=159.0*

ISC 05 00:47:29.6±0.5**, 45°.69N**±0°.05×**143°.49E**±0°.05**, h310**km±5km**, n181,** σ**1s14**/195**, mb4.0**/70**, 12C-1D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JSE	**Soyaes**	**0.98**	**221**	P	**Pn**	**00 48 11.2**	**+0.3**
JSE				*e*S	**S**	**00 48 43.5**	**-0.4**
JWK2	**Keihoku**	**1.19**	**252**	⇑P	**Pn**	**00 48 12.7**	**+0.8**
JWK2				*e*S	**S**	**00 48 45.5**	**-0.1**
YSS	**Yuzh-Sakhalins**	**1.36**	**338**		**Pn**	**00 48 11.6**	**-1.2**
YSS					**S**	**00 48 43.3**	**-3.9**
YSS	**Yuzh-Sakhalins**	**1.36**	**338**	*e*P	**Pn**	**00 48 12.4**	**-0.4**
YSS				AMB	AMB	00 48 13.5	
	50nm,0.4s						
YSS				*e*S	**S**	**00 48 46.1**	**-1.1**
YSS				A	A	00 48 46.7	
	210nm,0.6s						
YSS				A	A	00 48 46.7	
	170nm,0.6s						
JRR	**Rishiri**	**1.64**	**251**	P	**Pn**	**00 48 14.9**	**+0.3**
JRR				*e*S	**S**	**00 48 50.8**	**+0.4**
JMP	**Maruseppu**	**1.69**	**183**	⇑P	**Pn**	**00 48 15.5**	**+0.4**
JMP				*e*S	**S**	**00 48 51.5**	**+0.2**
ASAJ	**Asahikawa**	**1.70**	**202**	P	**Pn**	**00 48 16.0**	**+0.8**
	baz=5.5,slow=5.2						
ASAJ				S	**S**	**00 48 52.6**	**+1.2**
	0.8nm,0.3s,baz=73,slow=19,SNR=6.1						
ASAJ	**Asahikawa**	**1.70**	**202**	⇑P	**Pn**	**00 48 15.9**	**+0.8**
ASAJ				*e*S	**S**	**00 48 52.7**	**+1.3**
JKA	**Kamikawa-asahi**	**1.70**	**202**	Pn	**Pn**	**00 48 16.0**	**+0.8**
JRBN	**Rebuntou**	**1.73**	**262**	⇑P	**Pn**	**00 48 14.7**	**-0.5**
JRBN				*e*S	**S**	**00 48 49.3**	**-2.2**
JSS	**Shosan**	**1.74**	**223**	⇑P	**Pn**	**00 48 16.0**	**+0.6**
JTKR	**Abashiri--Toko**	**1.75**	**170**	P	**Pn**	**00 48 16.0**	**+0.6**
JTKR				*e*S	**S**	**00 48 52.1**	**+0.1**
JKK2	**Kamakawa 2**	**1.90**	**197**	⇑P	**Pn**	**00 48 17.1**	**+0.5**
JRA	**Rausu**	**2.10**	**146**	P	**Pn**	**00 48 19.2**	**+1.1**
JRA				*e*S	**S**	**00 48 58.8**	**+2.0**
JHR	**Hokuryu**	**2.32**	**214**	⇑P	**Pn**	**00 48 20.6**	**+0.7**
JAR	**Ashorobuto**	**2.40**	**175**	⇑P	**Pn**	**00 48 21.3**	**+0.7**
JAR				*e*S	**S**	**00 49 01.5**	**+0.1**
JFR	**Furan**	**2.61**	**195**	P	**Pn**	**00 48 22.9**	**+0.4**
NMR	**Nemuro--Hokkai**	**2.82**	**145**	*e*P	**Pn**	**00 48 22.9**	**-1.4**
NMR				AMB	AMB	00 48 25.6	
	40nm,0.8s						
NMR				*e*S	**S**	**00 49 05.1**	**-3.0**
NMR				A	A	00 49 06.8	
	300nm,0.3s						
NMR				A	A	00 49 06.8	
	300nm,0.3s						
NEM2	**Nemuro 2**	**2.83**	**145**	P	**Pn**	**00 48 22.8**	**-1.6**
NEM2				*e*S	**S**	**00 49 04.8**	**-3.5**
JAK	**Akkeshi**	**2.83**	**162**	P	**Pn**	**00 48 23.5**	**-1.0**
JAK				*e*S	**S**	**00 49 06.0**	**-2.3**
AKK	**Akkeshi**	**2.84**	**160**	*e*P	**Pn**	**00 48 23.3**	**-1.3**
AKK				AMB	AMB	00 48 23.8	
	80nm,0.6s						
AKK				*e*S	**S**	**00 49 05.5**	**-3.1**
AKK				A	A	00 49 06.7	
	600nm,0.6s						
AKK				A	A	00 49 06.7	
	500nm,0.6s						
JCH	**Churui**	**3.08**	**182**	⇑P	**Pn**	**00 48 25.9**	**-1.0**
JCH				*e*S	**S**	**00 49 08.4**	**-4.3**
JSK	**Shakotan**	**3.18**	**224**	P	**Pn**	**00 48 28.8**	**+0.9**
JEW	**Eniwo**	**3.21**	**208**	P	**Pn**	**00 48 29.0**	**+0.9**
JEW	**Eniwo**	**3.21**	**208**	Pn	**Pn**	**00 48 28.8**	**+0.7**
JNBK	**Urakawa-nobuka**	**3.45**	**189**	⇑P	**Pn**	**00 48 29.8**	**-0.8**
JNBK				*e*S	**S**	**00 49 16.5**	**-3.0**
JKB	**Kayabe**	**4.20**	**206**	⇑P	**Pn**	**00 48 37.9**	**-0.7**
JKB				*e*S	**S**	**00 49 30.2**	**-3.7**
JOSM	**Okushiri--Mats**	**4.63**	**220**	P	**Pn**	**00 48 43.2**	**-0.2**
JOT	**Ohata**	**4.66**	**203**	⇑P	**Pn**	**00 48 42.6**	**-1.1**
JOT				*e*S	**S**	**00 49 38.5**	**-4.8**
JOMM	**Oshimamatsumae**	**4.88**	**213**	P	**Pn**	**00 48 45.9**	**-0.2**
JTM	**Tenmabayashi**	**5.21**	**201**	Pn	**Pn**	**00 48 48.8**	**-1.2**
JMM	**Marumori**	**8.08**	**195**	Pn	**Pn**	**00 49 23.5**	**-0.8**
USA0B	**Ussuriysk Arra**	**8.30**	**264**	Pn	**Pn**	**00 49 27.2**	**+0.4**
USRK	**Ussuriysk Ar.**	**8.30**	**264**	P	**Pn**	**00 49 27.3**	**+0.5**
	baz=69,slow=12,SNR=64						
USRK	**Ussuriysk Ar.**	**8.30**	**264**	Pn	**Pn**	**00 49 27.2**	**+0.4**
JSD	**Sado**	**8.59**	**209**		**Pn**	**00 49 30.2**	**-0.2**
KLR	**Kul'dur**	**8.71**	**298**	P	**Pn**	**00 49 32.3**	**+0.6**
	0.9nm,0.3s,baz=121,slow=11,SNR=18						
KLR	**Kul'dur**	**8.71**	**298**	*e*P	**Pn**	**00 49 32.2**	**+0.5**
MDJ	**Mudanjiang**	**9.88**	**269**		**Pn**	**00 49 46.1**	**-0.1**
MJB9	**Matsu-Tunnel**	**9.97**	**205**	Pn	**Pn**	**00 49 46.7**	**-0.7**
MAJO	**Matsushiro**	**9.97**	**205**	Pn	**Pn**	**00 49 47.8**	**+0.4**
MAT	**Matsushiro**	**9.97**	**205**	P	**Pn**	**00 49 47.6**	**+0.2**
MJAR	**Matsushiro Arr**	**9.97**	**205**	P	**Pn**	**00 49 48.2**	**+0.8**
	0.8nm,0.3s,baz=16,slow=12,SNR=33						
MJAR	**Matsushiro Arr**	**9.97**	**205**	Pn	**Pn**	**00 49 47.4**	**0.0**
JGF	**Kuroka**	**11.10**	**207**		**Pn**	**00 50 01.1**	**0.0**
INU	**Inuyama**	**11.44**	**208**		**Pn**	**00 50 05.3**	**0.0**
PEA0B	**Petropavlovsk-**	**11.85**	**46**		**Pn**	**00 50 10.0**	**+0.1**
PETK	**Petropavlovsk-**	**11.85**	**46**	P	**P**	**00 50 11.3**	**+0.2**
	1.1nm,0.3s,baz=231,slow=6.8,SNR=8.3						
PETK	**Petropavlovsk-**	**11.85**	**46**		**Pn**	**00 50 09.6**	**-0.3**
JWT	**Wachi**	**12.08**	**213**	Pn	**Pn**	**00 50 12.4**	**-0.5**
JHJ	**Hachijo jima 2**	**12.88**	**194**	P	**P**	**00 50 23.7**	**+0.9**
	11nm,0.3s,baz=43,slow=15,SNR=2.5						
JHJ2	**Mitsune**	**12.88**	**194**		**P**	**00 50 24.1**	**+1.3**
CN2	**Changchun**	**12.97**	**268**	*e*P	**Pn**	**00 50 23.2**	**-0.3**
CN2				pmax	pmax		
	comp=Z,20nm,0.7s						
KSRS	**Korea Array**	**14.25**	**240**	P	**Pn**	**00 50 39.8**	**+1.0**
	0.9nm,0.3s,baz=57,slow=11,SNR=11						
MA2	**Magadan**	**14.57**	**15**	P	**Pn**	**00 50 42.3**	**-0.1**
	1.2nm,0.3s,baz=195,slow=11,SNR=6.4						
MA2	**Magadan**	**14.57**	**15**	P	**P**	**00 50 41.4**	**+0.2**
SEY	**Seymchan**	**18.00**	**13**	P	**P**	**00 51 18.3**	**-0.1**
	2.8nm,0.3s,baz=195,slow=8.2,SNR=25						
BJT	**Baijiatuau**	**20.77**	**264**	P	**P**	**00 51 48.1**	**+0.7**
BJT				IAmb	IAmb	00 51 49.0	
	comp=Z,5.0nm,0.7s						
JOW	**Kunigami**	**22.40**	**218**	P	**P**	**00 52 03.7**	**+1.2**
	comp=Z,1.8nm,0.4s,baz=72,slow=17,SNR=1.7						
JOW	**Kunigami**	**22.40**	**218**	P	**P**	**00 52 03.2**	**+0.7**
JOW				IAmb	IAmb	00 52 21.1	
	comp=Z,7.5nm,1.3s						
AMKA	**Amchitka**	**24.21**	**63**	P	**P**	**00 52 19.2**	**+0.6**
ULN	**Ulaanbaatar**	**24.91**	**288**	P	**P**	**00 52 25.1**	**-0.1**
ULN				IAmb	IAmb	00 52 25.6	
	comp=Z,3.8nm,0.8s						
SONM	**Songino Array**	**25.35**	**288**	P	**P**	**00 52 28.8**	**-0.2**
	comp=Z,2.0nm,0.5s,baz=76,slow=9.1,SNR=11						
SONM	**Songino Array**	**25.35**	**288**	IAmb	IAmb	00 52 30.0	
	comp=Z,1.8nm,1.0s						
KIWB	**Kanaga Island**	**26.41**	**62**	P	**P**	**00 52 39.1**	**+0.8**
SPIA	**Saint Paul Isl**	**30.44**	**51**	P	**P**	**00 53 13.3**	**-0.4**
LZH	**Lanzhou**	**31.20**	**266**	*e*P	**P**	**00 53 20.8**	**0.0**
LZH				pP	pP	00 54 20.0	+0.1
LZH				pmax	pmax		
	comp=Z,12nm,1.1s						
ZALV	**Zalesovo Beam**	**37.75**	**304**	P	**P**	**00 54 15.0**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=108,slow=12,SNR=1.7						
SVW2	**Sparrevohn**	**37.92**	**44**	P	**P**	**00 54 17.3**	**-0.2**
SVW2				IAmb	IAmb	00 54 34.7	
	comp=Z,8.5nm,1.4s						
O18K	**Koktuh Hills**	**38.22**	**46**	P	**P**	**00 54 20.2**	**+0.1**
O18K				IAmb	IAmb	00 54 22.4	
	comp=Z,5.1nm,0.9s						
J20K	**Nowinta River**	**38.41**	**39**	P	**P**	**00 54 21.4**	**-0.1**
J20K				IAmb	IAmb	00 54 22.3	
	comp=Z,5.8nm,1.1s						
K20K	**Telida**	**38.47**	**40**	P	**P**	**00 54 21.8**	**-0.3**
IMAR	**Indian Mountai**	**38.55**	**36**	P	**P**	**00 54 22.3**	**-0.3**
WMQ	**Urumqi**	**38.98**	**288**	*e*P	**P**	**00 54 28.0**	**+1.4**
Q19K	**Cape Douglas,**	**39.14**	**47**	P	**P**	**00 54 27.5**	**-0.1**
P19K	**Oil Pt**	**39.24**	**46**	P	**P**	**00 54 28.6**	**+0.1**
SII	**Sitkinak Islan**	**39.27**	**51**	P	P	00 54 23.5	-5.1
PPLA	**Purkeypile**	**39.36**	**41**	P	**P**	**00 54 29.6**	**+0.1**
PPLA				IAmb	IAmb	00 54 34.6	
	comp=Z,8.8nm,1.2s						
SKT	**Skwentna**	**39.76**	**42**	P	**P**	**00 54 32.4**	**-0.3**
SKT				IAmb	IAmb	00 54 39.4	
	comp=Z,9.8nm,1.4s						
BPAW	**Bear Paw Mtn.**	**39.79**	**39**	P	**P**	**00 54 32.8**	**-0.1**
BPAW				IAmb	IAmb	00 54 59.1	
	comp=Z,7.1nm,1.4s						
MLY	**Manley**	**39.83**	**37**	P	**P**	**00 54 33.9**	**+0.6**
MLY				IAmb	IAmb	00 54 33.9	
	comp=Z,7.2nm,1.4s						
KTH	**Kantishna Hill**	**39.87**	**39**	P	**P**	**00 54 34.0**	**+0.4**
KDAK	**Kodiak Island**	**39.88**	**49**	P	**P**	**00 54 33.7**	**0.0**
	comp=Z,6.5nm,0.5s,baz=307,slow=5.1,SNR=26						
KDAK	**Kodiak Island**	**39.88**	**49**	P	**P**	**00 54 33.5**	**-0.1**
COLD	**Coldfoot**	**39.95**	**34**	P	**P**	**00 54 33.3**	**-0.8**
TOLK	**Toolik Lake Re**	**40.16**	**32**	P	**P**	**00 54 35.2**	**-0.6**
TOLK				IAmb	IAmb	00 54 46.8	
	comp=Z,11nm,1.2s						
TRF	**Thorofare Moun**	**40.16**	**40**	P	**P**	**00 54 35.4**	**-0.8**
SUA	**Susitna One**	**40.20**	**43**	P	**P**	**00 54 35.8**	**-0.6**
SUA				IAmb	IAmb	00 54 56.9	
	comp=Z,11nm,1.4s						
CNPM	**China Poot**	**40.26**	**46**	P	**P**	**00 54 35.4**	**-1.4**
H23K	**Yukon River**	**40.28**	**36**	IAmb	IAmb	00 54 38.2	
	comp=Z,4.3nm,0.5s						
BRLK	**Bradley Lake**	**40.39**	**45**	P	**P**	**00 54 38.3**	**+0.4**
I23K	**Minto, Yukon-K**	**40.41**	**37**	P	**P**	**00 54 38.1**	**+0.3**
I23K				IAmb	IAmb	00 54 41.0	
	comp=Z,12nm,1.5s						
BWN	**Browne**	**40.45**	**38**	P	**P**	**00 54 38.6**	**+0.4**
BWN				IAmb	IAmb	00 54 40.9	
	comp=Z,11nm,0.9s						
NEA2	**Nenana**	**40.58**	**38**	P	**P**	**00 54 39.7**	**+0.4**
NEA2				IAmb	IAmb	00 54 40.8	
	comp=Z,6.4nm,1.0s						
RC01	**Rabbit Creek A**	**40.73**	**43**	P	**P**	**00 54 39.3**	**-1.3**
RC01				IAmb	IAmb	00 55 08.3	
	comp=Z,11nm,1.1s						
RND	**Reindeer**	**40.81**	**40**	P	**P**	**00 54 40.6**	**-0.7**
MDM	**Murphy Dome**	**40.90**	**37**	P	**P**	**00 54 42.2**	**+0.3**
H24K	**Noodor Dome**	**40.96**	**36**	P	**P**	**00 54 42.8**	**+0.4**
GHO	**Glory Hole Cre**	**41.01**	**42**	P	**P**	**00 54 42.5**	**-0.4**
GHO				IAmb	IAmb	00 54 44.4	
	comp=Z,14nm,1.0s						
WRH	**Wood River Hil**	**41.01**	**38**	P	**P**	**00 54 42.9**	**+0.1**
SEW	**Seward**	**41.04**	**45**	P	**P**	**00 54 42.5**	**-0.5**
SEW				IAmb	IAmb	00 54 53.7	
	comp=Z,19nm,1.2s						
CCB	**Clear Creek Bu**	**41.12**	**38**	P	**P**	**00 54 42.9**	**-0.7**
POKR	**Poker Plat Res**	**41.22**	**37**	P	**P**	**00 54 44.6**	**+0.2**
POKR				IAmb	IAmb	00 54 44.9	
	comp=Z,5.7nm,0.8s						
SML	**Sawmill**	**41.28**	**42**	P	**P**	**00 54 44.8**	**-0.3**
SML				IAmb	IAmb	00 55 08.2	
	comp=Z,14nm,1.5s						
KNK	**Knik Glacier**	**41.29**	**43**	P	**P**	**00 54 44.4**	**-0.7**
KNK				IAmb	IAmb	00 54 45.6	
	comp=Z,15nm,1.2s						
MK31	**Makanchi Array**	**41.39**	**294**	P	**P**	**00 54 45.9**	**-0.2**
MKAR	**Makanchi Array**	**41.39**	**294**	P	**P**	**00 54 45.8**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=81,slow=9.2,SNR=8.9						
PWL	**Port Wells**	**41.45**	**43**	P	**P**	**00 54 45.9**	**-0.5**
ILAR	**Eielson Array**	**41.49**	**37**	P	**P**	**00 54 46.2**	**-0.5**
	comp=Z,3.7nm,0.7s,baz=278,slow=7.5,SNR=32						
ILAR	**Eielson Array**	**41.49**	**37**	P	**P**	**00 54 45.9**	**-0.8**
HDA	**Harding Lake**	**41.51**	**38**	P	**P**	**00 54 45.9**	**-0.9**
MAKZ	**Makanchi**	**41.59**	**295**	P	**P**	**00 54 47.3**	**-0.4**
SCM	**Sheep Creek Mo**	**41.75**	**42**	P	**P**	**00 54 48.7**	**-0.1**
FYU	**Fort Yukon**	**41.95**	**35**	P	**P**	**00 54 50.6**	**+0.3**
FYU				IAmb	IAmb	00 54 51.8	
	comp=Z,9.5nm,0.6s						
BMAR	**Burnt Mountain**	**42.10**	**33**	P	**P**	**00 54 51.7**	**+0.1**
KURK	**Kurchatov**	**42.29**	**301**	P	**P**	**00 54 52.9**	**-0.3**
FID	**Port Fidalgo**	**42.36**	**43**	P	**P**	**00 54 52.3**	**-1.4**
KURBB	**Kurchatov Arra**	**42.37**	**301**	P	**P**	**00 54 52.9**	**-1.0**
	comp=Z,1.6nm,0.4s,baz=75,slow=8.6,SNR=20						
PAX	**Paxson**	**42.39**	**40**	P	**P**	**00 54 54.3**	**+0.2**
KLU	**Klutina**	**42.47**	**42**	P	**P**	**00 54 54.0**	**-0.6**
KLU				IAmb	IAmb	00 54 57.5	
	comp=Z,6.5nm,0.9s						
RIDG	**Independent Ri**	**42.53**	**39**	P	**P**	**00 54 54.2**	**-0.9**
RIDG				IAmb	IAmb	00 54 56.0	
	comp=Z,11nm,1.2s						
DIV	**Divide**	**42.62**	**43**	P	**P**	**00 54 55.2**	**-0.6**
DIV				IAmb	IAmb	00 55 19.9	
	comp=Z,11nm,1.3s						
EYAK	**Cordova Ski Ar**	**42.76**	**43**	P	**P**	**00 54 56.7**	**-0.1**
EYAK				IAmb	IAmb	00 54 58.9	
	comp=Z,15nm,1.4s						
SCRK	**Sand Creek**	**42.86**	**38**	P	**P**	**00 54 56.7**	**-1.1**
DOT	**Dot Lake**	**42.89**	**39**	P	**P**	**00 54 57.2**	**-0.7**
N25K	**Chitina, Valde**	**43.07**	**42**	P	**P**	**00 54 59.7**	**+0.3**
N25K				IAmb	IAmb	00 55 18.6	
	comp=Z,13nm,1.4s						
BMRM	**Bremner River**	**43.21**	**43**	P	**P**	**00 54 59.7**	**-0.8**
BMRM				IAmb	IAmb	00 55 19.1	
	comp=Z,19nm,1.2s						
K27K	**Chicken**	**43.68**	**38**	IAmb	IAmb	00 55 05.5	
	comp=Z,4.2nm,0.6s						
VRDI	**Verde Repeater**	**43.69**	**42**	P	**P**	**00 55 04.4**	**-0.1**
VRDI				IAmb	IAmb	00 55 11.8	
	comp=Z,11nm,1.2s						
MCARA	**McCarthy VSAT**	**43.85**	**42**	P	**P**	**00 55 05.2**	**-0.3**
EGAK	**Eagle**	**43.91**	**37**	P	**P**	**00 55 05.1**	**-0.8**
EGAK				IAmb	IAmb	00 55 06.5	
	comp=Z,7.0nm,0.7s						
L27K	**Beaver Creek,**	**44.00**	**39**	P	**P**	**00 55 07.2**	**+0.5**
L27K				IAmb	IAmb	00 55 09.6	
	comp=Z,9.0nm,1.4s						
BCAR	**Beaver Creek A**	**44.02**	**39**	P	**P**	**00 55 07.3**	**+0.4**
M27K	**Edge Creek, AK**	**44.14**	**40**	P	**P**	**00 55 08.2**	**+0.2**
BARN	**Barnard Glacie**	**44.58**	**42**	P	**P**	**00 55 11.7**	**+0.3**
BARN				IAmb	IAmb	00 55 23.6	
	comp=Z,12nm,1.2s						
INK	**Inuvik**	**46.05**	**31**	P	**P**	**00 55 21.9**	**-0.7**
	comp=Z,6.2nm,0.4s,baz=268,slow=4.8,SNR=32						
INK	**Inuvik**	**46.05**	**31**	P	**P**	**00 55 21.9**	**-0.7**
HYT	**Haines Junctio**	**46.58**	**41**	P	**P**	**00 55 28.2**	**+1.2**
HYT				IAmb	IAmb	00 55 30.3	
	comp=Z,6.1nm,0.9s						
KSH	**Kashi**	**48.75**	**288**	P	**P**	**00 55 48.3**	**+4.5**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
JIS	**Juneau Island**	**48.98**	**44**	P	**P**	**00 55 46.6**	**+1.5**
JIS				IAmb	IAmb	00 55 50.7	
	comp=Z,12nm,1.1s						
SIT	**Sitka**	**49.00**	**46**	P	**P**	**00 55 45.3**	**+0.1**
SIT				IAmb	IAmb	00 56 09.0	
	comp=Z,13nm,1.0s						
DLBC	**Dease Lake**	**51.00**	**42**	P	**P**	**00 56 02.0**	**+1.8**
	comp=Z,0.8nm,0.4s,baz=282,slow=6.3,SNR=3.7						
CHGR	**Chuyangaron**	**53.71**	**291**	P	**P**	**00 56 20.6**	**+0.3**
ABKAR	**Akbulak array**	**53.81**	**306**	P	**P**	**00 56 20.4**	**-0.3**
ABKAR	**Akbulak array**	**53.81**	**306**	P	**P**	**00 56 20.6**	**-0.2**
RES	**Resolute Bay**	**53.84**	**16**	P	**P**	**00 56 19.7**	**-0.9**
	comp=Z,14nm,0.8s,baz=335,slow=4.9,SNR=9.5						
YKA	**Yellowknife Ar**	**55.62**	**33**	P	**P**	**00 56 33.4**	**0.0**
	comp=Z,1.8nm,0.6s,baz=309,slow=5.8,SNR=12						
ARCES	**ARCESS Array B**	**56.49**	**338**	P	**P**	**00 56 38.1**	**-1.4**
	comp=Z,1.6nm,0.8s,baz=24,slow=8.1,SNR=6.8						
ARCES	**ARCESS Array B**	**56.49**	**338**	IAmb	IAmb	00 56 38.3	
	comp=Z,18nm,1.4s						
GEYT	**Alibeck**	**61.23**	**296**	P	**P**	**00 57 12.7**	**+0.3**
	comp=Z,35nm,0.5s,baz=43,slow=18,SNR=2.8						
FINES	**FINESS Array B**	**61.94**	**331**	P	**P**	**00 57 15.2**	**-1.3**
	comp=Z,2.3nm,0.5s,baz=44,slow=7.7,SNR=40						
YBH	**Yreka Blue Hor**	**64.01**	**56**	P	**P**	**00 57 31.4**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=0.0,slow=4.0,SNR=3.1						
I07A	**Izee**	**64.35**	**53**	P	**P**	**00 57 33.5**	**+0.7**
I07A				IAmb	IAmb	00 57 34.9	
	comp=Z,2.9nm,1.1s						
K05A	**Summer Lake**	**64.43**	**54**	P	**P**	**00 57 34.6**	**+1.2**
PLID	**Pearl Lake**	**65.61**	**50**	P	**P**	**00 57 41.4**	**+0.3**
HRY	**Holter Researc**	**66.71**	**46**	P	**P**	**00 57 49.0**	**+1.2**
NB2	**NORSAR Subarra**	**66.82**	**337**	P	**P**	**00 57 47.0**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=34,slow=6.5						
NOA	**NORSAR Array B**	**66.82**	**337**	P	**P**	**00 57 47.0**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=29,slow=6.7,SNR=6.7						
NOA	**NORSAR Array B**	**66.82**	**337**	P	**P**	**00 57 47.0**	**-1.1**
SFJD	**Kangerlussuaq**	**67.12**	**6**	P	**P**	**00 57 49.3**	**-0.5**
	comp=Z,4.0nm,0.5s,baz=3.4,slow=3.7,SNR=2.2						
BOZ	**Bozeman (W)**	**67.57**	**47**	IAmb	IAmb	00 57 55.2	
	comp=Z,2.2nm,0.7s						
FRB	**Frobisher Bay**	**68.00**	**15**	P	**P**	**00 57 54.1**	**-1.2**
	comp=Z,14nm,0.9s,baz=24,slow=2.3,SNR=2.0						
BMN	**Battle Mountai**	**68.01**	**54**	P	**P**	**00 57 57.6**	**+1.6**
BMN				IAmb	IAmb	00 58 12.9	
	comp=Z,2.9nm,1.4s						
NVAR	**Mina Array Bea**	**68.72**	**57**	P	**P**	**00 58 02.0**	**+1.5**
	comp=Z,1.5nm,0.7s,baz=298,slow=6.1,SNR=9.5						
ELK	**Elko**	**68.92**	**53**	P	**P**	**00 58 02.9**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=344,slow=4.7,SNR=2.4						
ASAR	**Alice Springs**	**69.58**	**189**	P	**P**	**00 58 07.3**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=354,slow=5.0,SNR=6.8						
ASAR	**Alice Springs**	**69.58**	**189**	P	**P**	**00 58 06.9**	**+1.4**
PD31	**Pinedale Array**	**70.60**	**48**	P	**P**	**00 58 12.6**	**+0.7**
PD31				IAmb	IAmb	00 58 13.1	
	comp=Z,1.7nm,0.6s						
PDAR	**Pinedale Array**	**70.60**	**48**	P	**P**	**00 58 12.7**	**+0.7**
	comp=Z,1.8nm,0.5s,baz=286,slow=1.2,SNR=19						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PDAR	Pinedale Array	70.60	48	P	P	00 58 12.4	+0.6
RDMU	Red Mountain	72.15	50	P	P	00 58 21.5	+0.4
RDMU				IAmb	IAmb	00 58 23.2	
	comp=Z,3.7nm,0.7s						
PV17	East Wray Mesa	74.11	51	P	P	00 58 33.7	+1.2
CLL	Collm	74.36	330	⇓*i*P	P	00 58 33.4	0.0
SCHQ	Schefferville	76.60	17	P	P	00 58 45.3	-0.8
	comp=Z,1.3nm,0.4s,baz=268,slow=7.2,SNR=5.6						
ANMO	Albuquerque	77.92	52	P	P	00 58 53.4	-0.5
	comp=Z,0.4nm,0.3s,baz=329,slow=3.5,SNR=1.9						
RAO	Raoul Island	82.42	147	P	P	00 59 18.4	+1.1
	comp=Z,460nm,0.5s,baz=14,slow=17,SNR=2.1						
TX31	Lajitas Ar. Si	83.68	54	P	P	00 59 25.4	+1.2
TX32	Lajitas Array	83.68	54	P	P	00 59 24.9	+0.7
TX32				IAmb	IAmb	00 59 26.1	
	comp=Z,3.3nm,1.1s						
TXAR	Lajitas Array	83.68	54	P	P	00 59 25.1	+1.0
	comp=Z,0.9nm,0.6s,baz=290,slow=4.4,SNR=18						
TKL	Tuckaleechee C	88.47	37	P	P	00 59 47.1	-0.1
	comp=Z,1.2nm,0.6s,baz=315,slow=1.4,SNR=2.2						
ESDC	Sonseca Array	90.14	335	P	P	00 59 54.5	-0.4
	comp=Z,0.4nm,1.0s,baz=359,slow=2.8,SNR=1.7						

*TAP **05** 00:58:57.0, 24°.34N×122°.93E, h45km, ML3.2, C*
*JMA **05** 00:58:57.1±0.1, 24°.34N×122°.98E, h48km±1km, M2.8*
ISC 05 00:58:57.2±1.2, **24°.30N**±0°.03×**122°.96E**±0°.02, **h45**km±7km, **n74**, σ**0s.84**/146, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.16	355	P	Pn	00 59 04.6	-0.1
JYNG				*i* S	Sn	00 59 10.0	+0.1
YOJ	Yonaguni jima	0.17	16	P	Pn	00 59 04.8	0.0
YOJ				S	Sn	00 59 10.1	+0.1
YOJ	Yonaguni jima	0.17	16	P	Pn	00 59 04.7	0.0
	baz=26						
YOJ				S	Sn	00 59 10.2	+0.1
	baz=26						
IRIF	Iriomote-Funau	0.70	87	P	Pn	00 59 10.5	-0.3
IRIF				S	Sn	00 59 20.7	+0.1
HATJ	Hateruma jima	0.81	107	P	Pn	00 59 12.3	+0.1
HATJ				*e*S	Sn	00 59 23.5	+0.4
JKRS	Kuro-shima	0.96	93	P	Pn	00 59 14.6	+0.4
JKRS				S	Sn	00 59 27.5	+0.8
TWC	Suao	1.06	287	P	Pn	00 59 14.9	-0.7
	baz=286						
TWC				S	Sn	00 59 27.6	-1.6
	baz=286						
JIJ	Ishigaki jima	1.08	86	P	Pn	00 59 15.5	-0.4
JIJ				S	Sn	00 59 28.7	-1.0
EGS		1.08	301	*e*P	Pn	00 59 15.8	-0.1
	baz=306						
EGS				*e*S	Sn	00 59 28.6	-1.3
	baz=306						
EWUT	Wuta	1.09	278	P	Pn	00 59 15.6	-0.4
	baz=285						
EWUT				S	Sn	00 59 28.9	-1.0
	baz=285						
ENA	Nanau	1.12	277	*e*P	Pn	00 59 16.3	-0.1
	baz=284						
ENA				*e*S	Sn	00 59 30.2	-0.5
	baz=284						
TWB1	Santiao Chiao	1.13	309	*e*P	Pn	00 59 16.2	-0.4
	baz=317						
TWB1				*e*S	Sn	00 59 28.7	-2.3
	baz=317						
NTC	Toucheng	1.17	299	*e*P	Pn	00 59 17.1	0.0
	baz=297						
NTC				*e*S	Sn	00 59 31.3	-0.6
	baz=297						
NDS	Dongshan	1.18	287	P	Pn	00 59 17.4	+0.1
	baz=294						
NDS				S	Sn	00 59 31.3	-0.9
	baz=294						
TWE	Neicheng	1.25	290	*e*P	Pn	00 59 18.1	-0.1
	baz=289						
TWE				*e*S	Sn	00 59 32.1	-1.8
	baz=289						
NACB	Ninganchiao	1.25	265	*e*P	Pn	00 59 17.9	-0.4
	baz=263						
NACB				*e*S	Sn	00 59 33.9	0.0
	baz=263						
TWD	Chiawan	1.26	261	*e*P	Pn	00 59 18.7	+0.3
	baz=245						
TWD				*e*S	Sn	00 59 34.0	-0.2
	baz=245						
JISG	Ishigakijimahi	1.27	76	P	Pn	00 59 18.3	-0.1
JISG				S	Sn	00 59 33.4	-0.8
NWF	Wu-fen Shan	1.32	306	P	Pn	00 59 19.3	0.0
	baz=305						
NWF				S	Sn	00 59 34.6	-1.2
	baz=305						
ETLH	Xiulin Townshi	1.35	267	*e*P	Pn	00 59 19.9	+0.2
	baz=265						
ETLH				*e*S	Sn	00 59 37.2	+0.7
	baz=265						
NDT	Datong Townshi	1.35	283	*e*P	Pn	00 59 19.9	+0.2
	baz=289						
NDT				*e*S	Sn	00 59 36.4	-0.1
	baz=289						
ETM	Tongmen	1.38	257	*e*P	Pn	00 59 19.9	-0.1
	baz=245						
ETM				*e*S	Sn	00 59 36.6	-0.5
	baz=245						
TEGC	Jichi Village	1.42	246	*e*P	Pn	00 59 20.5	-0.1
	baz=244						
TEGC				*e*S	Sn	00 59 38.1	0.0
	baz=244						
TWA	Mucha	1.43	299	*e*P	Pn	00 59 20.6	0.0
	baz=308						
TWA				*e*S	Sn	00 59 37.2	-1.0
	baz=308						
NNS	Nan Shan	1.46	276	*e*P	Pn	00 59 21.6	+0.4
	baz=275						
NNS				*e*S	Sn	00 59 38.6	-0.5
	baz=275						
ESL	Shilin	1.48	251	*e*P	Pn	00 59 21.0	-0.3
	baz=249						
ESL				*e*S	Sn	00 59 38.5	-1.0
	baz=249						
YHNB	Yeheng	1.49	285	*e*P	Pn	00 59 21.4	-0.2
	baz=293						
YHNB				*e*S	Sn	00 59 39.6	-0.3
	baz=293						
NSK	Sanguang	1.51	285	*e*P	Pn	00 59 22.2	+0.4
	baz=293						
NSK				*e*S	Sn	00 59 39.8	-0.6
	baz=293						
TAP	Taipei	1.52	300	*e*P	Pn	00 59 21.7	-0.2
	baz=308						
TAP				*e*S	Sn	00 59 39.9	-0.5
	baz=308						
YM01	YM01	1.52	304	*e*P	Pn	00 59 22.2	+0.2
	baz=303						
YM01				*e*S	Sn	00 59 40.0	-0.6
	baz=303						
EGFH	Guangfu	1.54	246	*e*P	Pn	00 59 21.7	-0.5
	baz=244						
EGFH				*e*S	Sn	00 59 40.0	-0.9
	baz=244						
PCYT	Pengchaiyu	1.55	329	*e*P	Pn	00 59 22.6	+0.2
	baz=319						
PCYT				*e*S	Sn	00 59 42.0	+0.7
	baz=319						
WHF	Hehuan Shan	1.56	265	*e*P	Pn	00 59 22.9	+0.1
	baz=251						
WHF				*e*S	Sn	00 59 41.9	-0.1
	baz=251						
FUSS	Fushou	1.57	269	*e*P	Pn	00 59 23.0	+0.2
	baz=267						
FUSS				*e*S	Sn	00 59 42.6	+0.5
	baz=267						
HGSD	Ruisui	1.62	241	*e*P	Pn	00 59 22.7	-0.5
	baz=239						
HGSD				*e*S	Sn	00 59 42.4	-0.5
	baz=239						
JTJ	Tarama	1.62	77	P	Pn	00 59 23.6	+0.3
JTJ				*e*S	Sn	00 59 43.1	+0.1
TDCB	Techi	1.65	269	*e*P	Pn	00 59 25.0	+1.2
	baz=268						
TDCB				*e*S	Sn	00 59 43.9	+0.1
	baz=268						
CHGB	Renai	1.65	262	*e*P	Pn	00 59 23.9	0.0
	baz=249						
CHGB				*e*S	Sn	00 59 43.6	-0.4
	baz=249						
OWD	Renai	1.67	259	*e*P	Pn	00 59 24.4	+0.3
	baz=257						
OWD				*e*S	Sn	00 59 44.4	+0.1
	baz=257						
EHY	Hungye	1.69	243	*e*P	Pn	00 59 24.2	0.0
	baz=241						
EHY				*e*S	Sn	00 59 44.0	-0.7
	baz=241						
YULB	Yu-li	1.77	240	P	Pn	00 59 24.8	-0.6
	baz=252						
YULB				*e*S	Sn	00 59 46.2	-0.5
	baz=252						
EYUL	Yuli	1.77	238	*e*P	Pn	00 59 25.0	-0.5
	baz=236						
EYUL				*e*S	Sn	00 59 45.8	-1.0
	baz=236						
WHP	Taichung City	1.84	270	*e*P	Pn	00 59 27.6	+1.2
	baz=258						
WHP				*e*S	Sn	00 59 49.2	+0.7
	baz=258						
FULB	Fuli	1.88	235	*e*P	Pn	00 59 26.6	-0.3
	baz=222						
FULB				*e*S	Sn	00 59 49.5	+0.2
	baz=222						
CHKT	Chengkung	1.89	231	*e*P	Pn	00 59 26.2	-0.7
	baz=219						
CHKT				*e*S	Sn	00 59 48.2	-1.2
	baz=219						
WCS	Beigang Elemen	1.89	263	*e*P	Pn	00 59 27.4	+0.4
	baz=253						
WCS				*e*S	Sn	00 59 49.5	0.0
	baz=253						
SSLB	Suanglung	1.90	255	*e*P	Pn	00 59 27.1	-0.1
	baz=254						
SSLB				*e*S	Sn	00 59 49.4	-0.6
	baz=254						
SMLT	Sun Moon Lake	1.93	258	*e*P	Pn	00 59 28.0	+0.4
	baz=247						
SMLT				*e*S	Sn	00 59 50.1	-0.6
	baz=247						
TYC	Yuchr	1.96	259	P	Pn	00 59 28.4	+0.4
	baz=248						
TYC				*e*S	Sn	00 59 51.4	0.0
	baz=248						
EDH	Donghe	2.01	229	P	Pn	00 59 28.1	-0.5
	baz=219						
EDH				S	Sn	00 59 49.9	-2.7
	baz=219						
WHYT	Xinyi Township	2.02	253	*e*P	Pn	00 59 29.3	+0.5
	baz=243						
WHYT				*e*S	Sn	00 59 53.3	+0.5
	baz=243						
ELDTW	Lidau	2.09	239	*e*P	Pn	00 59 29.6	-0.3
	baz=237						
ELDTW				*e*S	Sn	00 59 53.3	-1.5
	baz=237						
LDUT	Ludao	2.12	221	*e*P	Pn	00 59 29.5	-0.6
	baz=210						
LDUT				*e*S	Sn	00 59 53.0	-2.2
	baz=210						
ALS	Alishan	2.12	249	*e*P	Pn	00 59 31.4	+0.9
	baz=247						
ALS				*e*S	Sn	00 59 55.5	-0.3
	baz=247						
LONT	Longtian	2.17	231	*e*P	Pn	00 59 31.0	0.0
	baz=221						
LONT				*e*S	Sn	00 59 56.1	-0.5
	baz=221						
CHN5	Tsauling	2.20	252	*e*P	Pn	00 59 32.8	+1.4
	baz=242						
CHN5				*e*S	Sn	00 59 58.5	+1.0
	baz=242						
TTN	Taitung	2.26	228	*e*S	Sn	00 59 59.0	+0.2
	baz=217						
TWGBT	Beinan	2.27	230	*e*P	Pn	00 59 31.7	-0.4
	baz=240						
TWGBT				*e*S	Sn	00 59 58.3	-0.6
	baz=240						
TWG	Pinlang	2.27	230	*e*P	Pn	00 59 33.2	+0.9
	baz=240						
TWG				*e*S	Sn	00 59 58.3	-0.7
	baz=240						
STYH	Taoyuan	2.29	241	*e*P	Pn	00 59 33.2	+0.6
	baz=232						
STYH				*e*S	Sn	00 59 59.7	+0.2
	baz=232						
TPUB	Ta-pu	2.35	246	*e*P	Pn	00 59 34.4	+1.1
	baz=244						
TPUB				*e*S	Sn	01 00 01.7	+0.6
	baz=244						
CHN4	Tsaushan	2.36	247	*e*P	Pn	00 59 34.9	+1.4
	baz=245						
CHN4				*e*S	Sn	01 00 02.8	+1.5
	baz=245						
WRL	Guolierlin Hig	2.39	261	*e*P	Pn	00 59 35.5	+1.6
	baz=260						
WRL				*e*S	Sn	01 00 03.9	+1.9
	baz=260						
TWK	Hsinying	2.48	246	*e*P	Pn	00 59 36.3	+1.0
	baz=244						
TWK				*e*S	Sn	01 00 06.3	+1.9
	baz=244						
SLGT	Liugui	2.49	239	*e*P	Pn	00 59 36.7	+1.5
	baz=230						
SLGT				*e*S	Sn	01 00 05.7	+1.3
	baz=230						
CHN1	Nanshi	2.49	244	*e*P	Pn	00 59 36.9	+1.7
	baz=242						
CHN1				*e*S	Sn	01 00 06.2	+1.8
	baz=242						
LAY	Lan-yu	2.59	210	*e*P	Pn	00 59 35.8	-0.9
	baz=208						
LAY				*e*S	Sn	01 00 05.0	-2.0
	baz=208						
SSD	Sandimen	2.63	235	*e*P	Pn	00 59 38.3	+1.0
	baz=229						
SSD				*e*S	Sn	01 00 08.6	+0.6
	baz=229						
TSMG	Majia	2.65	234	*e*P	Pn	00 59 38.8	+1.4
	baz=228						
TSMG				*e*S	Sn	01 00 08.6	+0.2
	baz=228						
MASBT	Mashibuluo	2.72	232	*e*P	Pn	00 59 39.7	+1.4
	baz=227						
MASBT				*e*S	Sn	01 00 10.0	+0.1
	baz=227						
EAST	Anshuo	2.72	226	*e*P	Pn	00 59 39.2	+0.8
	baz=232						
EAST				*e*S	Sn	01 00 09.1	-1.0
	baz=232						
SLIU	Shizi	2.87	224	*e*P	Pn	00 59 41.3	+0.9
	baz=213						
SLIU				*e*S	Sn	01 00 13.8	0.0
	baz=213						
TWKBT	Hengchun	3.07	221	*e*S	Sn	01 00 17.9	-0.7
	baz=218						
WDGT	Dungji	3.19	252	*e*P	Pn	00 59 45.3	+0.4
	baz=250						
WDGT				*e*S	Sn	01 00 22.2	+0.5
	baz=250						

*IDC **05** 01:15:26.7±0.7, 30°.23S×177°.72W, h0km, mb4.5/11, mb1 4.6/12, mb1mx4.4/25, mbtmp4.4/12, ML3.8/1, MS3.7/17, Ms1 3.7/17, ms1mx3.5/31, Error ellipse: s-maj=20.8km s-min=14.5km az=97.0*
*NEIC **05** 01:15:30.9±1.8, 30°.20S±0°.02×177°.7W±0°.2, h21km±4km, mb4.7/24, Error ellipse: s-maj=20.3km s-min=3.4km az=92.0*
ISC 05 01:15:32.4±0.5, **30°.25S**±0°.05×**177°.75W**±0°.09, **h35**km, **n99**, σ**1s.27**/81, **mb4.7**/21, **MS3.8**/18, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	1.00	352	Pn	Pn	01 15 49.1	-0.9
	845nm,0.3s,baz=200,slow=5.5,SNR=32						
RAO				Sn	Sn	01 16 01.5	-1.3
	10µm,0.3s,baz=55,slow=20,SNR=30						
RAO	Raoul Island	1.00	352		Pn	01 15 49.3	-0.7
MXZ	Matakaoa Point	8.00	203	Pn	Pn	01 17 26.3	+0.2
URZ	Urewera	9.05	207	Pn	Pn	01 17 36.9	-3.6
	1.0nm,0.3s,baz=268,slow=5.1,SNR=11						
URZ				Sn	Sn	01 19 18.7	-2.5
	3.5nm,0.3s,baz=230,slow=15,SNR=7.7						
URZ	Urewera	9.05	207	Pn	Pn	01 17 41.1	+0.6
BKZ	Black Stump Fm	10.08	206	Pn	Pn	01 17 55.4	+0.7
MSVF	Nonsavu	13.03	342	Pn	Pn	01 18 37.1	+1.9
	0.2nm,0.3s,baz=107,slow=19,SNR=3.6						
MSVF				LR	LR	01 22 54.3	
	comp=Z,361nm,19.0s,baz=227,slow=34						
MSVF	Nonsavu	13.03	342		Pn	01 18 33.3	-1.8
DZM	Mont Dzumac	16.35	296	*e*Pn	P	01 19 24.6	+2.7
	55nm,0.9s						
DZM				*e*LR	LR	01 23 06.9	
	comp=Z,639nm,24.9s						
DZM	Mont Dzumac	16.35	296	Pn	P	01 19 26.2	+4.3
	0.2nm,0.3s,baz=105,slow=16,SNR=4.2						
DZM				LR	LR	01 24 28.8	
	comp=Z,371nm,18.8s,baz=108,slow=33						
DZM	Mont Dzumac	16.35	296	Pn	Pn	01 19 19.4	0.0
LIFNC	LIFOU	16.49	301	Pn	Pn	01 19 21.5	+0.4
TBI	Tubuai	26.12	82	*e*LR	LR	01 27 37.3	
	comp=Z,318nm,26.2s						
TBI	Tubuai	26.12	82	*e*T	T	01 47 46.6	
	12nm,0.3s						
ARMA	Armidale	26.39	262	P	P	01 21 07.2	+1.4
ARMA				IAmb	IAmb	01 21 39.9	
	comp=Z,22nm,1.4s						
EIDS	Eidsvold	27.95	272	P	P	01 21 19.7	+0.1
EIDS				IAmb	IAmb	01 21 22.1	
	comp=Z,8.0nm,0.8s						
PAE	Paea	28.54	70	*e*T	T	01 50 44.2	
	comp=Z,3.7nm,0.3s						
PPT2	Papeete2	28.58	70	*e*S	S	01 26 14.7	+3.2
	comp=Z,44nm,24.2s						
PPT2				*e*LR	LR	01 28 40.3	
	comp=Z,298nm,26.5s						
PPT	Papeete	28.59	70	LR	LR	01 32 43.4	
	comp=Z,46nm,18.4s,baz=192,slow=36						
HNR	Honiara	29.37	310	LR	LR	01 31 03.4	
	comp=Z,86nm,20.7s,baz=113,slow=32						
TOO	Toolangi	31.22	247	P	P	01 21 50.5	+1.9
TOO				IAmb	IAmb	01 21 52.0	
	comp=Z,13nm,0.9s						
CTA	Charters Tower	33.99	279	P	P	01 22 14.3	+1.4
	comp=Z,33nm,0.8s,baz=103,slow=11,SNR=41						
CTAO	Charters Tower	33.99	279	P	P	01 22 14.0	+1.1
STKA	Stephens Creek	34.72	257	P	P	01 22 19.9	+0.7
	comp=Z,14nm,0.9s,baz=98,slow=9.3,SNR=24						
STKA				LR	LR	01 35 11.2	
	comp=Z,125nm,18.1s,baz=41,slow=34						
STKA	Stephens Creek	34.72	257	P	P	01 22 19.9	+0.7
BBOO	Buckleboo	39.22	254	P	P	01 22 57.9	+0.5
BBOO				IAmb	IAmb	01 22 58.8	
	comp=Z,19nm,0.8s						
COEN	Coen	39.44	286	P	P	01 23 00.5	+1.1
COEN				IAmb	IAmb	01 24 07.6	
	comp=Z,27nm,1.4s						
TAOE	Nuku Hiva Isla	41.05	67	*e*LR	LR	01 34 22.5	
	comp=Z,167nm,25.4s						
AS31	Alice Springs	43.33	267	P	P	01 23 32.0	+0.7
ASAR	Alice Springs	43.33	267	P	P	01 23 30.9	-0.5
	comp=Z,4.6nm,0.6s,baz=104,slow=7.4,SNR=46						
ASAR				LR	LR	01 41 21.4	
	comp=Z,168nm,18.1s,baz=118,slow=36						
WR0	Warramunga Arr	44.13	272	P	P	01 23 38.2	+0.5
WB2	Warramunga Arr	44.30	272	P	P	01 23 38.5	-0.6
WB2				IAmb	IAmb	01 23 41.3	
	comp=Z,14nm,0.7s						
WRA	Warramunga Arr	44.31	272	P	P	01 23 38.5	-0.6
	comp=Z,6.6nm,0.3s,baz=109,slow=7.9,SNR=128						
WRA	Warramunga Arr	44.31	272	P	P	01 23 38.8	-0.4
SBA	Scott Base	48.20	184	P	P	01 24 09.1	+0.2
SBA				IAmb	IAmb	01 24 17.6	
	comp=Z,8.0nm,0.9s						
VNDA	Vanda	48.27	186	P	P	01 24 11.8	+2.3
	comp=Z,0.6nm,0.7s,baz=338,slow=9.4,SNR=4.8						
VNDA	Vanda	48.27	186	P	P	01 24 10.7	+1.3
VNDA				IAmb	IAmb	01 25 12.8	
	comp=Z,11nm,1.9s						
KNRA	Kununurra	50.91	274	P	P	01 24 30.5	+0.1
KNRA				IAmb	IAmb	01 26 24.8	
	comp=Z,32nm,1.6s						
FITZ	Fitzroy Crossi	52.58	270	P	P	01 24 42.2	-0.6
	comp=Z,6.2nm,0.7s,baz=154,slow=6.0,SNR=22						
FITZ	Fitzroy Crossi	52.58	270	P	P	01 24 42.8	0.0
FITZ				IAmb	IAmb	01 24 44.5	
	comp=Z,5.8nm,0.7s						
CASY	Casey	55.38	208	P	P	01 25 02.2	-0.3
QSPA	South Pole Qui	59.86	180	P	P	01 25 35.6	+1.3
	comp=Z,4.0nm,0.9s,baz=49,slow=2.3,SNR=10						
QSPA	South Pole Qui	59.86	180	P	P	01 25 35.9	+1.6
JCJ	Chichijima	68.70	322	LR	LR	01 50 19.1	
	comp=Z,50nm,21.3s,baz=134,slow=30						
MAW	Mawson	72.53	200	P	P	01 26 54.0	-1.2
	comp=Z,3.4nm,0.8s,baz=102,slow=6.3,SNR=8.4						
MAW				LR	LR	01 55 59.7	
	comp=Z,44nm,21.2s,baz=66,slow=34						
MAW	Mawson	72.53	200	P	P	01 26 55.9	+0.6
MJAR	Matsushiro Arr	78.24	325	P	P	01 27 26.6	-1.8
	comp=Z,0.5nm,0.3s,baz=162,slow=4.5,SNR=4.4						
MJAR	Matsushiro Arr	78.24	325	IAmb	IAmb	01 28 15.2	
	comp=Z,9.8nm,1.8s						
VNA3	Neumayer Olymp	78.44	176	P	P	01 27 29.3	+0.1
VNA2	Neumayer--Watz	78.88	177	P	P	01 27 30.4	-1.1
VNA1	Neumayer--Stat	79.11	176	P	P	01 27 32.0	-0.8
H03S2	Juan Fernandez	80.37	123	T	T	02 57 20.8	
	baz=239,slow=74,SNR=19						
H03S1	Juan Fernandez	80.38	123	T	T	02 57 22.0	
	baz=239,slow=74,SNR=19						
H03S3	Juan Fernandez	80.39	123	T	T	02 57 19.8	
	baz=239,slow=74,SNR=20						
H03N3	Juan Fernandez	80.56	123	T	T	02 57 12.8	
	baz=256,slow=70,SNR=6.5						
H03N2	Juan Fernandez	80.56	123	T	T	02 57 09.4	
	baz=256,slow=70,SNR=6.1						
H03N1	Juan Fernandez	80.57	123	T	T	02 57 08.9	
	baz=256,slow=70,SNR=9.7						
KIWB	Kanaga Island	81.75	0	P	P	01 27 46.5	-0.4
ATKA	Atka Island	82.16	2	P	P	01 27 48.6	-0.4
ASAJ	Asahikawa	82.41	332	LR	LR	02 01 35.8	
	comp=Z,51nm,19.1s,baz=168,slow=34						
KSRS	Korea Array	84.37	319	LR	LR	02 03 54.2	
	comp=Z,17nm,19.7s,baz=176,slow=34						
PETK	Petropavlovsk-	85.72	345	P	P	01 28 07.4	+0.2
	comp=Z,4.8nm,0.8s,baz=171,slow=11,SNR=7.2						
PETK				LR	LR	01 59 43.0	
	comp=Z,27nm,21.6s,baz=167,slow=31						
PETK	Petropavlovsk-	85.72	345	P	P	01 28 07.0	-0.2
YBH	Yreka Blue Hor	87.78	38	LR	LR	01 56 57.7	
	comp=Z,43nm,20.8s,baz=210,slow=28						
NVAR	Mina Array Bea	87.98	43	P	P	01 28 20.0	+1.0
	comp=Z,0.9nm,0.7s,baz=225,slow=7.5,SNR=6.2						
NVAR				LR	LR	02 05 04.3	
	comp=Z,34nm,18.4s,baz=268,slow=34						
NVAR	Mina Array Bea	87.98	43	P	P	01 28 19.3	+0.4
TPNV	Topopah Spring	88.23	45	P	P	01 28 19.2	-0.9
X16A	Lo Mia Camp, P	89.69	49	P	P	01 28 27.4	+0.3
X16A				IAmb	IAmb	01 28 44.8	
	comp=Z,3.4nm,0.9s						
TXAR	Lajitas Array	92.12	57	P	P	01 28 38.6	+0.2
	comp=Z,0.1nm,0.6s,baz=212,slow=4.4,SNR=3.5						
MA2	Magadan	93.20	345	LR	LR	02 05 16.3	
	comp=Z,31nm,21.7s,baz=136,slow=32						
CMAR	Chiang Mai Arr	93.56	289	LR	LR	02 14 43.2	
	comp=Z,44nm,18.6s,baz=200,slow=38						
PDAR	Pinedale Array	95.88	43	LR	LR	02 04 26.2	
	comp=Z,34nm,21.7s,baz=248,slow=31						
CPUP	Villa Florida	99.91	128	LR	LR	02 05 35.8	
	comp=Z,35nm,21.2s,baz=215,slow=30						
MKAR	Makanchi Array	117.84	310	PKP	PKPdf	01 34 13.7	-1.2
	comp=Z,1.1nm,0.9s,baz=120,slow=2.0,SNR=4.5						
KBL	Kabul	124.36	293	PKPdf	PKPdf	01 34 27.6	-0.4
GAR	Garm	124.47	299	PKPdf	PKPdf	01 34 27.8	-0.2
KK31	Karatay Array	125.17	304	PKPdf	PKPdf	01 34 27.8	-1.3
KKAR	Karatay Array	125.17	304	PKPdf	PKPdf	01 34 27.2	-1.8
CHGR	Chuyangaron	125.28	298	PKPdf	PKiKP	01 34 30.9	+1.1
BRVK	Borovoye	126.51	316	PKPdf	PKPdf	01 34 30.6	-0.7
ARU	Arti	133.11	321	PKPdf	PKPdf	01 34 44.1	+0.5
ARCES	ARCESS Array B	138.49	348	PKhKP	PKPpre	01 34 44.5	
	comp=Z,2.1nm,1.0s,baz=46,slow=2.6,SNR=3.4						
ARCES				PKP	PKiKP	01 34 54.6	-0.8
	comp=Z,0.6nm,0.5s,baz=58,slow=2.2,SNR=6.3						
ONI	Oni	144.96	302	PKPbc	PKPab	01 35 04.7	-0.5
FIA1	FINESS Array S	145.07	340	PKPbc	PKPbc	01 35 03.2	-1.6
FINES	FINESS Array B	145.08	340	PKPbc	PKPbc	01 35 03.8	-1.0
	comp=Z,21nm,0.7s,baz=59,slow=3.1,SNR=93						
FINES	FINESS Array B	145.08	340		PKPbc	01 35 03.5	-1.3
OBN	Obninsk	145.17	325	PKPbc	PKPbc	01 35 04.4	-0.8
KBZ	Khabaz	145.21	304	PKPbc	PKPbc	01 35 04.6	-1.1
	comp=Z,3.4nm,1.0s,baz=177,slow=1.0,SNR=4.8						
KARS	Kars	145.43	299		PKPbc	01 35 06.5	-0.3
MARD	Mardin	147.38	293	PKPbc	PKPbc	01 35 12.0	-0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NB2	**NORSAR Subarra**	**148.63**	**352**	PKP	**PKPbc**	**01 35 13.9**	**-1.2**
	comp=Z,3.6nm,0.7s,baz=13,slow=4.4						
NOA	**NORSAR Array B**	**148.63**	**352**	PKPbc	**PKPbc**	**01 35 13.9**	**-1.2**
	comp=Z,3.0nm,0.8s,baz=15,slow=4.4,SNR=9.2						
AKASG	**Malin Array Be**	**151.31**	**323**	PKPbc	**PKPbc**	**01 35 21.1**	**-0.8**
	comp=Z,8.1nm,0.7s,baz=48,slow=2.8,SNR=34						
BRTR	**Keskin Array B**	**152.72**	**299**	PKPbc	**PKPbc**	**01 35 24.5**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=139,slow=4.5,SNR=11						
DPC	**Dobruska-Polom**	**157.31**	**336**	ePKP	**PKPab**	**01 35 55.6**	**+0.1**
CLL	**Collm**	**157.49**	**342**	ePKPdf	**PKPdf**	**01 35 26.0**	**+1.6**
CLL				i PKPab	**PKPab**	**01 35 55.0**	**-1.2**
	comp=Z,5.0nm,0.8s						
KHC	**Kasperske Hory**	**159.27**	**339**	ePKP	**PKPab**	**01 36 03.5**	**-0.5**
GERES	**GERESS Array B**	**159.48**	**338**	PKPab	**PKPab**	**01 36 04.2**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=72,slow=3.2,SNR=5.0						
TORD	**Torodi Ar. Bea**	**162.97**	**178**	PKPab	**PKPab**	**01 36 20.5**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=177,slow=3.9,SNR=8.3						

*TAP **05** 01:22:50.5, 24°.75N×122°.52E, h14km±1km, ML2.7, D*
*JMA **05** 01:22:51.2±0.1, 24°.72N×122°.50E, h6km±2km, M2.0*
ISC 05 01:22:50.9±1.0**, 24°.75N**±0°.03×**122°.51E**±0°.02**, h13**km±9km**,**
n47, σ0s.41/91**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.49**	**126**	P	**Pg**	**01 23 00.7**	**+0.1**
EGS		**0.53**	**281**	eP	**Pb**	**01 23 02.2**	**0.0**
	baz=280						
EGS				eS	**Sb**	**01 23 10.5**	**+0.7**
	baz=280						
YOJ	**Yonaguni jima**	**0.54**	**122**	P	**Pg**	**01 23 01.4**	**-0.1**
YOJ				S	**Sg**	**01 23 08.4**	**-0.2**
YOJ	**Yonaguni jima**	**0.54**	**122**	P	**Pg**	**01 23 01.7**	**+0.2**
	baz=121						
YOJ				S	**Sg**	**01 23 08.5**	**-0.1**
	baz=121						
TWB1	**Santiao Chiao**	**0.54**	**299**	eP	**Pg**	**01 23 02.0**	**+0.5**
	baz=298						
TWB1				eS	**Sg**	**01 23 09.3**	**+0.5**
	baz=298						
TWC	**Suao**	**0.62**	**257**	P	**Pg**	**01 23 02.7**	**-0.2**
	baz=256						
TWC				eS	**Sb**	**01 23 12.0**	**-0.1**
	baz=256						
NTC	**Toucheng**	**0.63**	**280**	eP	**Pb**	**01 23 04.0**	**+0.3**
	baz=279						
NTC				eS	**Sb**	**01 23 13.2**	**+0.8**
	baz=279						
TIPB	**Shuangxi**	**0.66**	**290**	P	**Pg**	**01 23 04.0**	**+0.2**
	baz=289						
TIPB				S	**Sb**	**01 23 13.7**	**+0.2**
	baz=289						
ILA	**Ilan**	**0.69**	**272**	eP	**Pb**	**01 23 05.0**	**+0.2**
	baz=271						
ILA				eS	**Sb**	**01 23 15.4**	**+1.1**
	baz=271						
EWUT	**Wuta**	**0.73**	**246**	P	**Pb**	**01 23 05.3**	**-0.1**
	baz=245						
EWUT				S	**Sb**	**01 23 15.5**	**+0.2**
	baz=245						
NDS	**Dongshan**	**0.73**	**261**	eP	**Pb**	**01 23 05.5**	**0.0**
	baz=261						
NDS				eS	**Sb**	**01 23 15.5**	**+0.1**
	baz=261						
NWF	**Wu-fen Shan**	**0.74**	**296**	P	**Pb**	**01 23 05.6**	**0.0**
	baz=295						
NWF				S	**Sb**	**01 23 15.6**	**0.0**
	baz=295						
WFSB	**Wu-fen Shan**	**0.74**	**296**	eP	**Pg**	**01 23 05.3**	**+0.1**
	baz=295						
WFSB				eS	**Sb**	**01 23 16.3**	**+0.8**
	baz=295						
TWE	**Neicheng**	**0.77**	**268**	eP	**Pg**	**01 23 05.9**	**+0.1**
	baz=267						
TWE				S	**Sb**	**01 23 16.5**	**+0.1**
	baz=267						
ENA	**Nanau**	**0.77**	**246**	P	**Pb**	**01 23 06.0**	**-0.1**
	baz=245						
ENA				eS	**Sb**	**01 23 16.5**	**0.0**
	baz=245						
TWA	**Mucha**	**0.87**	**286**	eP	**Pg**	**01 23 07.8**	**+0.1**
	baz=285						
TWA				eS	**Sb**	**01 23 20.0**	**+0.5**
	baz=285						
NDT	**Datong Townshi**	**0.92**	**261**	eP	**Pg**	**01 23 08.7**	**0.0**
	baz=261						
NDT				eS	**Sb**	**01 23 20.8**	**0.0**
	baz=261						
NHDH	**Xindian Distri**	**0.92**	**284**	eP	**Pg**	**01 23 08.4**	**-0.3**
	baz=283						
NHDH				eS	**Sb**	**01 23 21.0**	**+0.1**
	baz=283						
YM01	**YM01**	**0.94**	**295**	eP	**Pg**	**01 23 08.9**	**-0.2**
	baz=294						
YM01				eS	**Sg**	**01 23 21.4**	**-0.1**
	baz=294						
PCYT	**Pengchaiyu**	**0.96**	**336**	eP	**Pg**	**01 23 08.2**	**-1.4**
	baz=335						
PCYT				eS	**Sg**	**01 23 22.0**	**-0.1**
	baz=335						
TWY	**Chenhua**	**0.98**	**303**	eP	**Pg**	**01 23 09.1**	**-0.7**
	baz=302						
TWY				eS	**Sg**	**01 23 22.6**	**-0.1**
	baz=302						
NACB	**Ninganchiao**	**1.01**	**236**	P	**Pg**	**01 23 10.0**	**-0.4**
	baz=235						
NACB				S	**Sb**	**01 23 24.0**	**+0.5**
	baz=235						
YHNB	**Yeheng**	**1.03**	**266**	P	**Pg**	**01 23 10.3**	**-0.5**
	baz=265						
YHNB				eS	**Sb**	**01 23 25.1**	**+0.8**
	baz=265						
NSK	**Sanguang**	**1.05**	**266**	P	**Pg**	**01 23 10.8**	**-0.3**
	baz=266						
NSK				S	**Sb**	**01 23 25.1**	**+0.5**
	baz=266						
TWD	**Chiawan**	**1.06**	**232**	eP	**Pg**	**01 23 10.9**	**-0.6**
	baz=231						
TWD				eS	**Sb**	**01 23 25.7**	**+0.7**
	baz=231						
NNS	**Nan Shan**	**1.08**	**254**	eP	**Pg**	**01 23 11.2**	**-0.5**
	baz=253						
NNS				eS	**Sb**	**01 23 25.9**	**+0.4**
	baz=253						
ETLH	**Xiulin Townshi**	**1.08**	**240**	P	**Pg**	**01 23 11.4**	**-0.3**
	baz=240						
ETLH				S	**Sn**	**01 23 26.8**	**+0.1**
	baz=240						
IRIF	**Iriomote-Funau**	**1.19**	**110**	P	**Pg**	**01 23 13.6**	**-0.1**
IRIF				eS	**Sb**	**01 23 28.6**	**+0.1**
FUSS	**Fushou**	**1.25**	**247**	eP	**Pn**	**01 23 14.6**	**+0.2**
	baz=246						
FUSS				eS	**Sb**	**01 23 30.9**	**+0.1**
	baz=246						
WHF	**Hehuan Shan**	**1.28**	**242**	P	**Pn**	**01 23 14.8**	**-0.1**
	baz=242						
WHF				S	**Sn**	**01 23 32.5**	**+0.3**
	baz=242						
TDCB	**Techi**	**1.32**	**249**	eP	**Pn**	**01 23 15.5**	**+0.2**
	baz=248						
TDCB				eS	**Sn**	**01 23 33.2**	**+0.4**
	baz=248						
LIOB	**Emei**	**1.36**	**266**	eP	**Pn**	**01 23 15.5**	**-0.1**
	baz=265						
LIOB				eS	**Sb**	**01 23 33.4**	**-0.2**
	baz=265						
HATJ	**Hateruma jima**	**1.37**	**120**	P	**Pb**	**01 23 16.6**	**+0.3**
HATJ				S	**Sb**	**01 23 33.6**	**-0.1**
NSTT	**Nanjuang**	**1.38**	**266**	eP	**Pn**	**01 23 15.8**	**0.0**
	baz=265						
NSTT				eS	**Sb**	**01 23 33.7**	**-0.3**
	baz=265						
CHGB	**Renai**	**1.40**	**241**	P	**Pn**	**01 23 16.2**	**-0.1**
	baz=240						
CHGB				S	**Sn**	**01 23 35.1**	**+0.4**
	baz=240						
JKRS	**Kuro-shima**	**1.46**	**110**	S	**Sb**	**01 23 36.7**	**+0.4**
WHP	**Taichung City**	**1.50**	**252**	eP	**Pn**	**01 23 17.4**	**-0.2**
	baz=251						
WHP				eS	**Sn**	**01 23 37.1**	**0.0**
	baz=251						
JIJ	**Ishigaki jima**	**1.54**	**104**	P	**Pb**	**01 23 19.5**	**+0.3**
JIJ				eS	**Sb**	**01 23 39.0**	**+0.4**
HGSD	**Ruisui**	**1.59**	**219**	eP	**Pn**	**01 23 18.6**	**-0.2**
	baz=218						
HGSD				eS	**Sn**	**01 23 38.7**	**-0.6**
	baz=218						
WCS	**Beigang Elemen**	**1.61**	**245**	eP	**Pn**	**01 23 18.8**	**-0.2**
	baz=244						
WCS				eS	**Sn**	**01 23 39.4**	**-0.3**
	baz=244						
EHY	**Hungye**	**1.64**	**222**	eP	**Pn**	**01 23 19.5**	**0.0**
	baz=221						
EHY				eS	**Sn**	**01 23 40.4**	**-0.1**
	baz=221						
SSLB	**Suanglung**	**1.71**	**236**	eP	**Pn**	**01 23 20.2**	**-0.2**
	baz=236						
SSLB				eS	**Sn**	**01 23 42.1**	**-0.1**
	baz=236						
TYC	**Yuchr**	**1.72**	**241**	eP	**Pn**	**01 23 21.2**	**+0.6**
	baz=240						
TYC				eS	**Sn**	**01 23 43.3**	**+0.9**
	baz=240						
CHN5	**Tsauling**	**2.03**	**236**	eP	**Pn**	**01 23 24.8**	**0.0**
	baz=235						
CHN5				eS	**Sn**	**01 23 49.4**	**-0.7**
	baz=235						
ELDTW	**Lidau**	**2.06**	**222**	eP	**Pn**	**01 23 25.1**	**-0.3**
	baz=221						
EDH	**Donghe**	**2.08**	**212**	eP	**Pn**	**01 23 25.3**	**-0.3**
	baz=212						
EDH				eS	**Sn**	**01 23 50.5**	**-0.8**
	baz=212						
LDUT	**Ludao**	**2.27**	**205**	eP	**Pn**	**01 23 28.4**	**+0.2**
	baz=204						
LDUT				eS	**Sn**	**01 23 55.6**	**-0.4**
	baz=204						

INET 05 01:49:54.4, 12°.02N×87°.68W, h15km, MW3.6, Near coast of Nicaragua

*IDC **05** 01:51:29.5±1.4, 31°.36N×141°.65E, h0km, mb3.6/7, mb1 3.6/9, mb1mx3.4/56, mbtmp3.5/9, ML2.7/2, MS2.9/3, Ms1 2.9/3, ms1mx2.4/39, Error ellipse: s-maj=53.5km s-min=19.9km az=68.0*
ISC 05 01:51:35.7±1.1**, 31°.4N**±0°.2×**141°.4E**±0°.2**, h40**km**, n11,**
σ0s.98/10**, mb3.6**/7**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.20**	**321**	Pn	**Pn**	**01 52 09.8**	**+0.1**
	7.1nm,0.3s,baz=73,slow=20,SNR=1.8						
JHJ				Sn	**Sn**	**01 52 33.8**	**-1.8**
	9.6nm,0.3s,baz=233,slow=20,SNR=2.8						
JHJ				LR	LR	01 52 50.3	
	comp=Z,40nm,21.1s,baz=112,slow=34						
MJAR	**Matsushiro Arr**	**5.76**	**333**	Pn	**Pn**	**01 52 58.9**	**+0.2**
	0.1nm,0.3s,baz=159,slow=11,SNR=5.1						
SONM	**Songino Array**	**31.25**	**312**	P	**P**	**01 57 52.4**	**+0.8**
	0.8nm,0.9s,baz=115,slow=8.8,SNR=3.8						
MKAR	**Makanchi Array**	**47.30**	**307**	P	**P**	**02 00 06.4**	**+1.2**
	0.3nm,0.5s,baz=92,slow=8.8,SNR=4.2						
KURBB	**Kurchatov Arra**	**49.61**	**312**	P	**P**	**02 00 23.4**	**+0.5**
	0.9nm,0.8s,baz=89,slow=7.4,SNR=8.8						
WRA	**Warramunga Arr**	**51.53**	**189**	P	**P**	**02 00 37.0**	**-0.6**
	0.5nm,0.7s,baz=6.1,slow=7.3,SNR=6.1						
ASAR	**Alice Springs**	**55.25**	**188**	P	**P**	**02 01 04.2**	**-0.7**
	0.2nm,0.5s,baz=15,slow=15,SNR=5.4						
ARU	**Arti**	**60.64**	**321**	P	**P**	**02 01 42.6**	**+0.2**
	0.3nm,0.3s,baz=218,slow=7.1,SNR=3.5						
FINES	**FINESS Array B**	**73.80**	**333**	LR	LR	02 37 55.2	
	comp=Z,21nm,19.6s,baz=48,slow=38						
AKASG	**Malin Array Be**	**78.76**	**323**	LR	LR	02 42 41.5	
	comp=Z,12nm,18.4s,baz=270,slow=39						
TXAR	**Lajitas Array**	**93.52**	**53**	P	**P**	**02 04 47.3**	**-0.5**
	0.1nm,0.6s,baz=308,slow=3.3,SNR=2.3						

*NEIC **05** 02:02:10.8±1.1, 19°.62N±0°.04×65°.62W±0°.02, h23km±12km, Error ellipse: s-maj=5.7km s-min=2.6km az=191.0*
*RSPR **05** 02:02:11.0, 19°.62N×65°.63W, h92km±11km, MD3.8/6*
ISC 05 02:02:09.2±1.6**, 19°.66N**±0°.07×**65°.61W**±0°.05**, h16**km**, n45,**
σ0s.43/45**, 10C-2D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CUPR	**Culebra, Puert**	**1.38**	**167**	⇑eP	**Pn**	**02 02 34.1**	**+0.2**
CUPR	**Culebra, Puert**	**1.38**	**167**	eS	**Sb**	**02 02 52.5**	**+0.4**
CUPR	**Culebra, Puert**	**1.38**	**167**		**Pn**	**02 02 34.1**	**+0.2**
CUPR					**Sb**	**02 02 52.5**	**+0.4**
CUPR	**Culebra, Puert**	**1.38**	**167**	IAML		02 02 54.7	
	comp=N,88nm,0.8s						
CUPR				IAML		02 02 57.3	
	comp=E,91nm,1.0s						
CBYP	**Canovanas**	**1.40**	**190**	⇑eP	**Pn**	**02 02 34.1**	**-0.1**
CBYP	**Canovanas**	**1.40**	**190**		**Pn**	**02 02 34.1**	**-0.1**
GCPR	**Guaynabo City**	**1.42**	**198**	⇓eP	**Pn**	**02 02 34.2**	**-0.1**
GCPR	**Guaynabo City**	**1.42**	**198**	eS	**Sb**	**02 02 53.2**	**+0.1**
GCPR	**Guaynabo City**	**1.42**	**198**		**Pn**	**02 02 34.2**	**-0.1**
GCPR					**Sb**	**02 02 53.2**	**+0.1**
GCPR	**Guaynabo City**	**1.42**	**198**	IAML		02 03 03.2	
	comp=N,88nm,1.1s						
STVI	**Saint Thomas**	**1.44**	**154**	⇑eP	**Pb**	**02 02 35.2**	**-0.5**
STVI	**Saint Thomas**	**1.44**	**154**	eS	**Sb**	**02 02 53.9**	**+0.1**
STVI	**Saint Thomas**	**1.44**	**154**		**Pb**	**02 02 35.2**	**-0.5**
STVI					**Sb**	**02 02 53.9**	**+0.1**
STVI	**Saint Thomas**	**1.44**	**154**	IAML		02 03 08.1	
	comp=N,99nm,0.9s						
EMPR	**Esperanza - Ma**	**1.46**	**217**	⇑eP	**Pn**	**02 02 35.5**	**+0.5**
EMPR	**Esperanza - Ma**	**1.46**	**217**		**Pn**	**02 02 35.5**	**+0.5**
EMPR	**Esperanza - Ma**	**1.46**	**217**	IAML		02 02 57.4	
	comp=N,119nm,1.0s						
HUMP	**Col San Antoni**	**1.53**	**189**	⇓eP	**Pn**	**02 02 35.6**	**-0.3**
HUMP	**Col San Antoni**	**1.53**	**189**	eS	**Sn**	**02 02 55.4**	**0.0**
HUMP	**Col San Antoni**	**1.53**	**189**		**Pn**	**02 02 35.6**	**-0.3**
HUMP					**Sn**	**02 02 55.4**	**0.0**
HUMP	**Col San Antoni**	**1.53**	**189**	IAML		02 02 58.4	
	comp=E,88nm,0.2s						
HUMP				IAML		02 02 59.6	
	comp=N,85nm,0.2s						
MTP	**Monte Pirata**	**1.56**	**178**	⇑eP	**Pn**	**02 02 36.5**	**+0.3**
MTP	**Monte Pirata**	**1.56**	**178**	eS	**Sb**	**02 02 57.0**	**-0.1**
MTP	**Monte Pirata**	**1.56**	**178**		**Pn**	**02 02 36.5**	**+0.3**
MTP					**Sb**	**02 02 57.0**	**-0.1**
MTP	**Monte Pirata**	**1.56**	**178**	IAML		02 02 59.8	
	comp=N,69nm,0.8s						
MTP				IAML		02 03 02.7	
	comp=E,108nm,0.5s						
SJG	**San Juan**	**1.62**	**198**		**Pn**	**02 02 37.5**	**+0.3**
SJG				IAML		02 03 08.3	
	comp=E,80nm,0.9s						
SJG				IAML		02 03 09.4	
	comp=E,86nm,0.8s						
VGBI	**Virgin Gorda,**	**1.63**	**135**	⇑eP	**Pn**	**02 02 37.7**	**+0.4**
VGBI	**Virgin Gorda,**	**1.63**	**135**	eS	**Sb**	**02 02 59.1**	**-0.2**
VGBI	**Virgin Gorda,**	**1.63**	**135**		**Pn**	**02 02 37.7**	**+0.4**
VGBI					**Sb**	**02 02 59.1**	**-0.2**
AOPR	**Arecibo Observ**	**1.70**	**220**	⇑eP	**Pn**	**02 02 38.9**	**+0.7**
AOPR	**Arecibo Observ**	**1.70**	**220**		**Pn**	**02 02 38.9**	**+0.7**
IGPR	**InterUniversit**	**1.75**	**196**	⇑eP	**Pn**	**02 02 39.0**	**+0.1**
CELP	**Cerrillos**	**1.82**	**210**	⇑eP	**Pn**	**02 02 40.4**	**+0.5**
CELP	**Cerrillos**	**1.82**	**210**		**Pn**	**02 02 40.4**	**+0.5**
AGPR	**Aguadilla, PR**	**1.85**	**230**	Pn	**Pn**	**02 02 41.1**	**+0.8**
AGPR				IAML		02 03 27.4	
	comp=E,62nm,1.1s						
OBIP	**Obispado Ponce**	**1.87**	**210**	⇑eP	**Pn**	**02 02 40.3**	**-0.1**
OBIP	**Obispado Ponce**	**1.87**	**210**		**Pn**	**02 02 40.3**	**-0.1**
ICMP	**Isla Caja de M**	**1.97**	**206**	Pn	**Pn**	**02 02 42.5**	**+0.7**
ICMP				IAML		02 03 22.8	
	comp=E,71nm,1.5s						
ICMP				IAML		02 03 23.6	
	comp=N,72nm,0.9s						
CDVI	**St. Croix**	**2.06**	**157**		**Pn**	**02 02 44.1**	**+1.0**
MLPR	**Magueyes Islan**	**2.16**	**219**	Pn	**Pn**	**02 02 45.6**	**+1.1**
CRPR	**Cabo Rojo, PR**	**2.17**	**221**	Pn	**Pn**	**02 02 44.5**	**-0.2**
CRPR				IAML		02 03 22.3	
	comp=N,44nm,1.0s						
PCDR	**Punta Cana, DR**	**2.86**	**247**	Pn	**Pn**	**02 02 53.7**	**-0.4**
PCDR				IAML		02 04 03.2	
	comp=E,29nm,1.5s						
DR12	**Loma Pena Alta**	**3.67**	**257**	Pn	**Pn**	**02 03 05.5**	**+0.2**
SDDR	**Presa de Saban**	**5.40**	**264**		**Pn**	**02 03 29.4**	**+0.2**
GRTK	**Grand Turk**	**5.49**	**291**	Pn	**Pn**	**02 03 30.6**	**+0.3**

IDC 05 02:17:29.0±1.6**, 1°.07S**×**127°.49E, h0**km**, mb3.9**/3**,**
mb1 4.0/5**, mb1mx3.6**/30**, mbtmp3.8**/5**, ML3.7**/2**, MS3.3**/1**,**
Ms1 3.3/1**, ms1mx2.4**/30**, Error ellipse: s-maj=114.4km**
s-min=22.0km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.02**	**186**	P	P	02 21 30.4	-0.2
	0.1nm,0.3s,baz=6.3,slow=11,SNR=2.6						
WRA	**Warramunga Arr**	**19.91**	**161**	P	P	02 22 01.4	-1.0
	0.4nm,0.3s,baz=342,slow=12,SNR=24						
LEM	**Lembang**	**20.63**	**253**	LR	LR	02 31 49.4	
	comp=Z,90nm,21.5s,baz=162,slow=42						
ASAR	**Alice Springs**	**23.30**	**165**	P	P	02 22 38.1	-0.7
	1.7nm,0.6s,baz=346,slow=11,SNR=28						
STKA	**Stephens Creek**	**33.41**	**158**	P	P	02 24 10.6	+1.1
	0.6nm,0.3s,baz=333,slow=9.0,SNR=1.6						
MKAR	**Makanchi Array**	**61.93**	**326**	P	P	02 27 50.6	-0.1
	0.5nm,0.3s,baz=113,slow=8.0,SNR=12						

*TAP **05** 02:24:34.9, 23°.72N×122°.29E, h31km, ML3.0, C*
*JMA **05** 02:24:34.8±0.2, 23°.72N×122°.23E, h20km±5km, M2.2*
ISC 05 02:24:34.5±1.3**, 23°.70N**±0°.02×**122°.25E**±0°.02**, h21**km±4km**,**
n80, σ0s.74/154**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.65**	**271**	P	**Pb**	**02 24 47.6**	**+0.4**
	baz=269						
TEGC				S	**Sn**	**02 24 57.5**	**-0.8**
	baz=269						
TWD	**Chiawan**	**0.71**	**302**	P	**Pb**	**02 24 48.0**	**-0.2**
	baz=300						
TWD				S	**Sb**	**02 24 57.7**	**+0.2**
	baz=300						
ETM	**Tongmen**	**0.74**	**291**	eP	**Pb**	**02 24 48.0**	**-0.7**
	baz=284						
ETM				eS	**Sb**	**02 24 59.1**	**+0.6**
	baz=284						
EGFH	**Guangfu**	**0.76**	**268**	P	**Pb**	**02 24 49.2**	**+0.2**
	baz=266						
EGFH				S	**Sb**	**02 24 59.5**	**+0.6**
	baz=266						
ESL	**Shilin**	**0.76**	**279**	P	**Pb**	**02 24 48.6**	**-0.4**
	baz=276						
ESL				S	**Sb**	**02 24 58.4**	**-0.5**
	baz=276						
NACB	**Ninganchiao**	**0.76**	**308**	P	**Pb**	**02 24 48.3**	**-0.8**
	baz=296						
NACB				S	**Sb**	**02 24 58.9**	**-0.2**
	baz=296						
HGSD	**Ruisui**	**0.79**	**255**	P	**Pb**	**02 24 49.3**	**-0.2**
	baz=254						
HGSD				S	**Sb**	**02 24 60.0**	**+0.2**
	baz=254						
EWUT	**Wuta**	**0.86**	**330**	eP	**Pn**	**02 24 51.0**	**-0.4**
	baz=327						
EWUT				eS	**Sn**	**02 25 02.8**	**-0.5**
	baz=327						
ENA	**Nanau**	**0.86**	**327**	P	**Pb**	**02 24 50.8**	**0.0**
	baz=325						
ENA				eS	**Sn**	**02 25 02.4**	**-1.0**
	baz=325						
ETLH	**Xiulin Townshi**	**0.87**	**306**	P	**Pb**	**02 24 50.6**	**-0.3**
	baz=303						
ETLH				S	**Sb**	**02 25 02.7**	**+0.6**
	baz=303						
EHY	**Hungye**	**0.88**	**257**	eP	**Pb**	**02 24 51.0**	**0.0**
	baz=256						
EHY				eS	**Sb**	**02 25 03.0**	**+0.7**
	baz=256						
EYUL	**Yuli**	**0.93**	**248**	P	**Pn**	**02 24 51.7**	**-0.6**
	baz=247						
EYUL				S	**Sb**	**02 25 04.6**	**+0.8**
	baz=247						
YULB	**Yu-li**	**0.93**	**251**	P	**Pn**	**02 24 51.9**	**-0.5**
	baz=250						
YULB				S	**Sb**	**02 25 04.0**	**+0.1**
	baz=250						
TWC	**Suao**	**0.98**	**338**	eP	**Pn**	**02 24 52.4**	**-0.6**
	baz=348						
TWC				eS	**Sb**	**02 25 04.5**	**-0.7**
	baz=348						
WHF	**Hehuan Shan**	**1.01**	**296**	P	**Pn**	**02 24 52.8**	**-1.0**
	baz=284						
WHF				S	**Sb**	**02 25 06.4**	**-0.1**
	baz=284						
CHKT	**Chengkung**	**1.01**	**234**	eP	**Pn**	**02 24 52.2**	**-1.3**
	baz=223						
CHKT				eS	**Sb**	**02 25 05.1**	**-1.1**
	baz=223						
FULB	**Fuli**	**1.01**	**241**	eP	**Pn**	**02 24 52.8**	**-0.8**
	baz=230						
FULB				eS	**Sb**	**02 25 06.5**	**+0.2**
	baz=230						
OWD	**Renai**	**1.02**	**285**	P	**Pn**	**02 24 52.8**	**-0.9**
	baz=282						
OWD				S	**Sb**	**02 25 06.4**	**-0.1**
	baz=282						
YOJ	**Yonaguni jima**	**1.02**	**42**	P	**Pb**	**02 24 54.0**	**+0.5**
YOJ				eS	**Sn**	**02 25 07.3**	**-0.1**
YOJ	**Yonaguni jima**	**1.02**	**42**	P	**Pn**	**02 24 52.8**	**-0.9**
	baz=42						
YOJ				S	**Sb**	**02 25 06.2**	**-0.4**
	baz=42						
NDS	**Dongshan**	**1.05**	**332**	P	**Pn**	**02 24 53.8**	**-0.2**
	baz=341						
NDS				eS	**Sn**	**02 25 07.5**	**-0.5**
	baz=341						
CHGB	**Renai**	**1.05**	**290**	P	**Pn**	**02 24 53.2**	**-1.0**
	baz=288						
CHGB				S	**Sb**	**02 25 07.0**	**-0.5**
	baz=288						
FUSS	**Fushou**	**1.07**	**301**	P	**Pn**	**02 24 54.1**	**-0.5**
	baz=298						
FUSS				S	**Sb**	**02 25 08.2**	**+0.1**
	baz=298						
NNS	**Nan Shan**	**1.09**	**313**	eP	**Pn**	**02 24 54.0**	**-0.7**
	baz=311						
NNS				eS	**Sn**	**02 25 08.1**	**-1.1**
	baz=311						
NDT	**Datong Townshi**	**1.12**	**323**	eP	**Pn**	**02 24 54.7**	**-0.3**
	baz=321						
NDT				eS	**Sb**	**02 25 09.6**	**+0.2**
	baz=321						
TWT	**Tachien**	**1.13**	**299**	eP	**Pn**	**02 24 55.2**	**-0.1**
	baz=297						
TWT				eS	**Sb**	**02 25 10.3**	**+0.6**
	baz=297						
EDH	**Donghe**	**1.14**	**230**	P	**Pn**	**02 24 54.4**	**-0.8**
	baz=222						
EDH				S	**Sn**	**02 25 08.0**	**-2.1**
	baz=222						
TDCB	**Techi**	**1.14**	**299**	eP	**Pn**	**02 24 54.8**	**-0.6**
	baz=297						
TDCB				eS	**Sn**	**02 25 09.4**	**-1.1**
	baz=297						
SSLB	**Suanglung**	**1.19**	**274**	P	**Pn**	**02 24 55.6**	**-0.4**
	baz=273						
SSLB				eS	**Sn**	**02 25 10.5**	**-1.2**
	baz=273						
NTC	**Toucheng**	**1.21**	**341**	eP	**Pn**	**02 24 56.1**	**-0.1**
	baz=352						
NTC				eS	**Sb**	**02 25 11.8**	**-0.2**
	baz=352						
ELDTW	**Lidau**	**1.25**	**246**	P	**Pn**	**02 24 56.1**	**-0.7**
	baz=245						
ELDTW				eS	**Sn**	**02 25 11.8**	**-1.2**
	baz=245						
LDUT	**Ludao**	**1.25**	**215**	P	**Pn**	**02 24 55.7**	**-1.1**
	baz=215						
LDUT				S	**Sn**	**02 25 10.6**	**-2.5**
	baz=215						
SMLT	**Sun Moon Lake**	**1.25**	**279**	P	**Pn**	**02 24 56.5**	**-0.5**
	baz=277						
SMLT				eS	**Sn**	**02 25 12.8**	**-0.4**
	baz=277						
YHNB	**Yeheng**	**1.25**	**320**	P	**Pn**	**02 24 56.2**	**-0.7**
	baz=305						
YHNB				S	**Sn**	**02 25 12.3**	**-0.9**
	baz=305						
NSK	**Sanguang**	**1.27**	**320**	P	**Pn**	**02 24 56.8**	**-0.3**
	baz=305						
NSK				S	**Sn**	**02 25 13.2**	**-0.4**
	baz=305						
WCS	**Beigang Elemen**	**1.28**	**286**	P	**Pn**	**02 24 57.0**	**-0.1**
	baz=285						
WCS				eS	**Sn**	**02 25 12.8**	**-0.9**
	baz=285						
WHYT	**Xinyi Township**	**1.28**	**270**	eP	**Pn**	**02 24 57.2**	**-0.1**
	baz=268						

WHYT				eS	Sb	02 25 14.3	+0.3
	baz=268						
TYC	Yuchr	1.29	279	P	Pn	02 24 57.7	+0.3
	baz=278						
TYC				S	Sn	02 25 13.8	-0.3
	baz=278						
LONT	Longtian	1.30	233	eP	Pn	02 24 56.9	-0.6
	baz=225						
LONT				eS	Sn	02 25 13.8	-0.5
	baz=225						
TIPB	Shuangxi	1.32	343	eP	Pn	02 24 57.8	0.0
	baz=351						
TIPB				eS	Sn	02 25 13.5	-1.3
	baz=351						
WHP	Taichung City	1.33	296	eP	Pn	02 24 58.3	+0.4
	baz=294						
WHP				eS	Sn	02 25 14.9	-0.1
	baz=294						
ALS	Alishan	1.34	262	P	Pn	02 24 58.5	+0.2
	baz=261						
ALS				S	Sn	02 25 15.9	+0.2
	baz=261						
TWGBT	Beinan	1.39	231	eP	Pn	02 24 57.6	-1.1
	baz=241						
TWGBT				eS	Sn	02 25 15.7	-0.9
	baz=241						
TWG	Pinlang	1.40	231	eP	Pn	02 24 58.2	-0.6
	baz=241						
TWG				eS	Sn	02 25 15.7	-0.9
	baz=241						
NWF	Wu-fen Shan	1.43	343	eP	Pn	02 24 59.0	-0.3
	baz=357						
NWF				eS	Sn	02 25 16.8	-0.7
	baz=357						
CHN5	Tsauling	1.45	266	P	Pb	02 25 00.8	-0.1
	baz=265						
CHN5				S	Sb	02 25 18.8	0.0
	baz=265						
STYH	Taoyuan	1.46	249	P	Pn	02 25 00.3	+0.7
	baz=248						
STYH				S	Sn	02 25 18.3	+0.2
	baz=248						
LIOB	Emei	1.47	310	eP	Pn	02 24 59.9	+0.1
	baz=308						
LIOB				eS	Sb	02 25 18.8	-0.6
	baz=308						
NSTT	Nanjuang	1.47	309	eP	Pn	02 25 00.0	+0.2
	baz=307						
NSTT				eS	Sn	02 25 18.4	-0.1
	baz=307						
IRIF	Iriomote-Funau	1.49	65	P	Pb	02 25 01.3	-0.2
IRIF				S	Sb	02 25 19.6	-0.3
TPUB	Ta-pu	1.54	255	P	Pn	02 25 01.6	+0.7
	baz=254						
TPUB				S	Sb	02 25 21.4	-0.1
	baz=254						
CHN4	Tsaushan	1.56	257	eP	Pn	02 25 01.0	-0.1
	baz=256						
CHN4				eS	Sb	02 25 22.3	+0.2
	baz=256						
YM01	YM01	1.57	337	eP	Pn	02 25 01.0	-0.2
	baz=335						
YM01				eS	Sn	02 25 20.4	-0.5
	baz=335						
WTP	Ta-pu	1.57	254	eP	Pn	02 25 02.0	+0.8
	baz=252						
WTP				eS	Sn	02 25 21.9	+0.9
	baz=252						
SLGT	Liugui	1.64	245	P	Pn	02 25 03.3	+1.2
	baz=238						
SLGT				eS	Sn	02 25 23.3	+0.8
	baz=238						
CHN1	Nanshi	1.67	252	P	Pn	02 25 03.8	+1.2
	baz=251						
CHN1				eS	Sb	02 25 25.1	+0.1
	baz=251						
TWK	Hsinying	1.68	255	eP	Pb	02 25 04.7	0.0
	baz=254						
TWK				eS	Sb	02 25 26.2	+0.8
	baz=254						
SNST	Tainan City	1.68	254	eS	Sb	02 25 25.8	+0.3
	baz=253						
JKRS	Kuro-shima	1.69	71	P	Pn	02 25 03.6	+0.8
WTK	Tuku	1.71	270	eP	Pn	02 25 03.6	+0.5
	baz=268						
WTK				eS	Sn	02 25 25.2	+0.9
	baz=268						
WRL	Guolierlin Hig	1.73	277	eP	Pn	02 25 04.3	+0.9
	baz=275						
WRL				eS	Sn	02 25 25.4	+0.5
	baz=275						
SSD	Sandimen	1.77	238	eP	Pn	02 25 03.8	-0.1
	baz=233						
SSD				eS	Sn	02 25 25.4	-0.5
	baz=233						
LAY	Lan-yu	1.78	202	eP	Pn	02 25 02.8	-1.3
	baz=201						
LAY				eS	Sn	02 25 24.4	-1.6
	baz=201						
TSMG	Majia	1.78	236	eP	Pn	02 25 04.1	0.0
	baz=231						
TSMG				eS	Sn	02 25 25.0	-1.1
	baz=231						
EAST	Anshuo	1.84	225	eP	Pn	02 25 04.4	-0.6
	baz=233						
EAST				eS	Sn	02 25 26.1	-1.6
	baz=233						
MASBT	Mashibuluo	1.84	234	eP	Pn	02 25 05.2	+0.3
	baz=227						
MASBT				eS	Sn	02 25 27.5	-0.2
	baz=227						
JIJ	Ishigaki jima	1.85	69	P	Pn	02 25 06.2	+1.2
JIJ				eS	Sn	02 25 28.4	+0.7
SLIU	Shizi	2.00	222	eP	Pn	02 25 07.6	+0.6
	baz=230						
SLIU				eS	Sn	02 25 32.1	+0.7
	baz=230						
SCZT	Fangliau	2.00	229	eP	Pn	02 25 07.1	0.0
	baz=222						
SCZT				eS	Sn	02 25 31.0	-0.6
	baz=222						
TSEB	Hengchuen, Pin	2.19	215	eS	Sn	02 25 38.0	+2.0
	baz=223						
TWKBT	Hengchun	2.20	217	eP	Pn	02 25 11.0	+1.2
	baz=216						
TWKBT				eS	Sn	02 25 36.8	+0.4
	baz=216						
WDGT	Dungji	2.42	260	eP	Pn	02 25 13.8	+0.9
	baz=259						
WDGT				eS	Sn	02 25 42.7	+0.8
	baz=259						
PHUB	P'eng-hu	2.47	266	eP	Pn	02 25 14.4	+1.0
	baz=277						
PHUB				eS	Sn	02 25 43.7	+0.7
	baz=277						
PNG	Penghu	2.48	267	eP	Pn	02 25 14.2	+0.6
	baz=278						
PNG				eS	Sn	02 25 43.9	+0.6
	baz=278						
VCHM	Qimei	2.64	260	eP	Pn	02 25 16.6	+0.7
	baz=259						
VCHM				eS	Sn	02 25 48.2	+0.9
	baz=259						
PTMZ	Houxiangcun	3.15	296	eS	Sn	02 25 59.6	-0.3
	baz=293						
MATB	Ma-tsu	3.21	320	eP	Pn	02 25 24.8	+1.0
	baz=317						
MATB				eS	Sn	02 26 01.7	+0.2
	baz=317						
KNMB	Chin-men Tao	3.61	283	eP	Pn	02 25 30.6	+1.3
	baz=280						
KNMB				eS	Sn	02 26 10.3	-1.0
	baz=280						
LYJJ	Jianjiangzhen	3.63	322	eS	Sn	02 26 11.4	-0.3
	baz=319						
MHZQ	Yeshan	3.78	310	eS	Sn	02 26 15.6	+0.3
	baz=307						

*RSPR **05** 02:36:48.2, 19°.59N×65°.63W, h88km±15km, MD3.8/8*
*NEIC **05** 02:36:48.2±1.1, 19°.65N±0°.08×65°.64W±0°.05, h38km±43km, Error ellipse: s-maj=12.2km s-min=6.9km az=182.0*
*OSPL **05** 02:36:49.1±1.1, 19°.36N×65°.61W, h0km±77km, ML2.4*
ISC 05 02:36:46.2±1.6, **19°.65N**±0°.08×**65°.62W**±0°.04, **h16**km, **n51**, σ**0^{s}96**/53, **7C-4D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUPR	Culebra, Puert	1.38	166⇑	eP	Pn	02 37 10.8	+0.1
CUPR	Culebra, Puert	1.38	166	eS	Sn	02 37 28.7	+0.1
CUPR	Culebra, Puert	1.38	166		Pn	02 37 10.8	+0.1
CUPR					Sn	02 37 28.7	+0.1
CBYP	Canovanas	1.39	189⇓	eP	Pn	02 37 10.5	-0.5
CBYP	Canovanas	1.39	189		Pn	02 37 10.5	-0.5
CBYP	Canovanas	1.39	189	IAML		02 37 34.6	
	comp=E,184nm,0.3s						
GCPR	Guaynabo City	1.41	198		Pn	02 37 10.9	-0.3
GCPR				IAML		02 37 40.0	
	comp=N,94nm,0.8s						
GCPR				IAML		02 37 44.6	
	comp=E,96nm,0.8s						
STVI	Saint Thomas	1.44	154⇑	eP	Pn	02 37 12.1	+0.5
STVI	Saint Thomas	1.44	154		Pn	02 37 12.1	+0.5
STVI	Saint Thomas	1.44	154	IAML		02 37 42.9	
	comp=N,87nm,0.8s						
STVI				IAML		02 37 51.2	
	comp=E,89nm,1.0s						
EMPR	Esperanza - Ma	1.45	216		Pn	02 37 12.1	+0.3
EMPR				IAML		02 38 00.0	
	comp=N,148nm,1.0s						
HUMP	Col San Antoni	1.52	188⇓	eP	Pn	02 37 12.4	-0.3
HUMP	Col San Antoni	1.52	188	eS	Sn	02 37 31.8	-0.3
HUMP	Col San Antoni	1.52	188		Pn	02 37 12.4	-0.3
HUMP					Sn	02 37 31.8	-0.3
HUMP	Col San Antoni	1.52	188	IAML		02 37 44.9	
	comp=E,94nm,0.7s						
ABVI	Anegada Island	1.52	127		Pn	02 37 13.1	+0.3
ABVI	Anegada Island	1.52	127	IAML		02 37 57.6	
	comp=N,140nm,1.1s						
ABV	Anegada	1.52	127⇑	eP	Pn	02 37 13.1	+0.3
MTP	Monte Pirata	1.55	178⇓	eP	Pn	02 37 13.1	0.0
MTP	Monte Pirata	1.55	178	eS	Sn	02 37 32.5	-0.4
MTP	Monte Pirata	1.55	178		Pn	02 37 13.1	0.0
MTP					Sn	02 37 32.5	-0.4
MTP	Monte Pirata	1.55	178	IAML		02 37 36.5	
	comp=N,83nm,0.7s						
MTP				IAML		02 37 41.4	
	comp=E,115nm,0.7s						
SJG	San Juan	1.61	198		Pn	02 37 13.5	-0.4
SJG				IAML		02 37 45.1	
	comp=E,93nm,0.8s						
SJG				IAML		02 37 45.2	
	comp=E,86nm,0.9s						
VGBI	Virgin Gorda,	1.63	135⇑	eP	Pn	02 37 14.5	+0.3
VGBI	Virgin Gorda,	1.63	135	eS	Sn	02 37 35.5	+0.5
VGBI	Virgin Gorda,	1.63	135		Pn	02 37 14.5	+0.3
VGBI					Sn	02 37 35.5	+0.5
AOPR	Arecibo Observ	1.68	220⇑	eP	Pn	02 37 15.6	+0.6
AOPR	Arecibo Observ	1.68	220		Pn	02 37 15.6	+0.6
IGPR	InterUniversit	1.74	195⇓	eP	Pn	02 37 15.8	+0.1
IGPR	InterUniversit	1.74	195	eS	Sn	02 37 37.5	-0.1
CELP	Cerrillos	1.81	210⇑	eP	Pn	02 37 17.1	+0.4
CELP	Cerrillos	1.81	210		Pn	02 37 17.1	+0.4
AGPR	Aguadilla, PR	1.84	230	i P	Pn	02 37 17.4	+0.3
AGPR				eS	Sn	02 37 39.0	-1.0
AGPR				IAML		02 37 45.3	
	comp=Z,24nm,0.6s						
OBIP	Obispado Ponce	1.85	210⇑	eP	Pn	02 37 16.8	-0.5
OBIP	Obispado Ponce	1.85	210		Pn	02 37 16.8	-0.5
OBIP	Obispado Ponce	1.85	210	IAML		02 38 05.8	
	comp=N,58nm,1.3s						
ICMP	Isla Caja de M	1.96	206	Pn	Pn	02 37 18.5	-0.2
ICMP				IAML		02 37 59.0	
	comp=E,70nm,0.9s						
ICMP				IAML		02 38 00.3	
	comp=N,69nm,1.1s						
CDVI	St. Croix	2.06	157		Pn	02 37 20.4	+0.3
MLPR	Magueyes Islan	2.15	219		Pn	02 37 21.1	-0.2
CRPR	Cabo Rojo, PR	2.16	221	Pn	Pn	02 37 21.9	+0.3
CRPR				IAML		02 38 15.4	
	comp=N,46nm,0.8s						
CRPR	Cabo Rojo, PR	2.16	221	i P	Pn	02 37 22.1	+0.6
CRPR				IAML		02 37 55.7	
	comp=Z,6.0nm,0.1s						
PCDR	Punta Cana, DR	2.85	247	i P	Pn	02 37 32.1	+1.1
PCDR				eS	Sn	02 38 04.3	-0.6
PCDR				IAML		02 38 20.3	
	comp=Z,30nm,0.6s						
DR12	Loma Pena Alta	3.66	257	Pn	Pn	02 37 41.8	-0.4
ANWB	Willy Bob	4.14	118	eP	Pn	02 37 50.0	+1.3
ANWB				eS	Sn	02 38 33.5	-3.3
ANBD	Bethesda, Anti	4.49	125	eP	Pn	02 37 52.5	-1.0
ANBD	Bethesda, Anti	4.49	125	eS	Sn	02 38 42.8	-2.6
CBE	Ff, Capester	5.22	132	eS	Sn	02 39 06.3	+2.6
SDDR	Presa de Saban	5.39	264		Pn	02 38 06.0	0.0
SDDR	Presa de Saban	5.39	264	i P	Pn	02 38 08.2	+2.2
SDDR				eS	Sn	02 39 07.5	-0.3
SDDR				IAML		02 39 18.7	
	comp=Z,5.7nm,0.4s						
GRTK	Grand Turk	5.49	291	Pn	Pn	02 38 06.8	-0.4
LONE2	Loma La Sidra	5.64	260	i P	Pn	02 38 12.0	+2.5

*BJI **05** 03:13:09.6±0.0, 38°.40N×142°.13E, h47km, mB4.7/35, mb4.8/59, Ms3.8/23, Ms7 3.7/21*
*BGR **05** 03:13:10.8±0.0, 38°.63N×143°.49E, h33km, mb5.1*
*MOS **05** 03:13:11.7±1.1, 38°.53N×141°.90E, h45km, mb5.1/49, Error ellipse: s-maj=6.7km s-min=4.2km az=111.1*
*NIED **05** 03:13:14.2, 38°.54N×141°.82E, h51km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}3.38; $M_{\theta\theta}$-0.52; $M_{\phi\phi}$-2.86; $M_{r\theta}$1.73; $M_{\theta\phi}$-1.44; $M_{\phi r}$3.88; Fault plane solution: $M_0$5.48000×10^{15} NP1:ϕ_s24.00000°, δ70.00000°, λ89.00000°. NP2:ϕ_s207.00000°, δ20.00000°, λ92.00000°.*
*NEIC **05** 03:13:14.7±1.4, 38°.55N±0°.04×141°.8E±0°.1, h53km±5km, mb4.7/78 Error ellipse: s-maj=12.3km s-min=5.2km az=102.0*
*JMA **05** 03:13:14.1±0.1, 38°.53N×141°.82E, h51km±1km, M4.5*
JMA Felt II J1.
*IDC **05** 03:13:15.6±1.6, 38°.53N×141°.73E, h63km±14km, mb4.2/26, mb1 4.3/33, mb1mx4.2/51, mbtmp4.5/33, MS3.5/27, Ms1 3.5/27, ms1mx3.3/52, Error ellipse: s-maj=13.9km s-min=9.3km az=109.0*
ISC 05 03:13:13.4±0.5, **38°.51N**±0°.03×**141°.92E**±0°.04, **h49**km±3km, **h48**km**:pP-P, n372,** σ**1^{s}38**/378, **mb4.7**/115, **MS3.7**/27, **44C-24D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.41	241	P	Pn	03 13 23.8	+0.4
JIKH				S	Sn	03 13 30.4	-0.2
JIO	Ouri	0.45	263	P	Pn	03 13 24.0	+0.1
JIO				i S	Sn	03 13 30.8	-0.6
JKMT	Kesennumamotoy	0.46	311	P	Pn	03 13 24.2	+0.2
JKMT				i S	Sn	03 13 31.0	-0.6
OFUJ	Ofunato	0.60	341	P	Pn	03 13 26.1	+0.3
OFUJ				S	Sn	03 13 34.3	-0.4
JMK	Ichinoseki	0.70	309	P	Pn	03 13 27.2	+0.2
JMK				S	Sn	03 13 36.4	-0.5
JOU	Okura	0.99	262	P	Pn	03 13 30.8	-0.2
JOU				eS	Sn	03 13 43.2	-0.8
JOM	Ohasama	1.08	333	P	Pn	03 13 32.4	+0.3
JMM	Marumori	1.09	234	P	Pn	03 13 32.1	-0.2
JMM				eS	Sn	03 13 45.4	-0.9
JMM	Marumori	1.09	234		Pn	03 13 31.9	-0.5
JYK	Kaneyama	1.28	289	P	Pn	03 13 34.9	0.0
JRG	Rokugo	1.33	312	P	Pn	03 13 35.5	-0.1
JRG				S	Sn	03 13 49.3	-2.9
JFK	Kawauchi	1.41	216	P	Pn	03 13 36.7	+0.1
JFK				S	Sn	03 13 53.1	-1.0
JYS	Shirataka	1.48	259	P	Pn	03 13 37.7	+0.1
JTM	Tenmabayashi	2.37	344		Pn	03 13 50.6	+0.9
JYT	Yasato	2.66	212		Pn	03 13 54.0	+0.3
JSD	Sado	2.92	262		Pn	03 13 56.2	-1.0
MJAR	Matsushiro Arr	3.54	237	P	Pn	03 14 06.6	+0.7
	3.5nm,0.3s,baz=33,slow=12,SNR=172						
MJAR				LR	LR	03 15 51.2	
	comp=Z,510nm,19.4s,baz=45,slow=46						
MJAR	Matsushiro Arr	3.54	237	P	Pn	03 14 06.7	+0.8
MJAR	Matsushiro Arr	3.54	237		Pn	03 14 06.7	+0.8
MAJO	Matsushiro	3.54	237d	iP	Pn	03 14 07.6	+1.7
MAJO	Matsushiro	3.54	237		Pn	03 14 07.7	+1.9
MAT	Matsushiro	3.54	237	P	Pn	03 14 07.6	+1.7
MAT				S	Sn	03 14 47.9	+1.4
MJB9	Matsu-Tunnel	3.54	238		Pn	03 14 08.1	+2.2
JEW	Eniwo	4.34	355		Pn	03 14 19.3	+2.6
JGF	Kuroka	4.66	233		Pn	03 14 23.2	+2.0
INU	Inuyama	5.04	233		Pn	03 14 28.3	+1.9
ASAJ	Asahikawa	5.62	5	P	Pn	03 14 35.1	+0.7
	5.2nm,0.3s,baz=225,slow=9.9,SNR=16						
ASAJ				S	Sn	03 15 41.8	+4.2
	6.2nm,0.3s,baz=249,slow=26,SNR=3.8						
ASAJ	Asahikawa	5.62	5	P	Pn	03 14 35.1	+0.7
ASAJ				S	Sn	03 15 41.8	+4.2
JKA	Kamikawa-asahi	5.62	5		Pn	03 14 34.9	+0.6
JKA	Kamikawa-asahi	5.62	5		Sn	03 15 41.8	+4.1
NMR	Nemuro--Hokkai	5.65	30	eP	Pn	03 14 33.2	-1.5
NMR				eS	Sn	03 15 33.6	-4.5
JHJ2	Mitsune	5.65	198	Pn	Pn	03 14 36.4	+1.6
JHJ	Hachijo jima 2	5.65	198	P	Pn	03 14 34.8	0.0
	27nm,0.3s,baz=49,slow=23,SNR=12						
JHJ				S	Sn	03 15 35.4	-3.0
	25nm,0.3s,baz=342,slow=20,SNR=1.7						
GLVR	Golovnino	5.89	26	eP	Pn	03 14 38.5	+0.5
GLVR				eS	Sn	03 15 41.7	-2.4
GLVR				smax	smax		
	comp=N,883nm,0.3s						
GLVR				smax	smax		
	comp=E,787nm,0.3s						
RUSJ	Misakicho	6.12	23	eP	Pn	03 14 41.3	+0.1
RUSJ				eS	Sn	03 15 48.0	-1.9
JWT	Wachi	6.13	240		Pn	03 14 43.9	+2.5
GRPR	Tuman	6.20	27	eP	Pn	03 14 42.6	+0.4
GRPR				eS	Sn	03 15 47.7	-4.0
GRPR				pmax	pmax		
	comp=Z,139nm,0.2s						
GRPR				pmax	pmax		
	comp=N,136nm,0.3s						
GRPR				pmax	pmax		
	comp=E,160nm,0.3s						
GRPR				smax	smax		
	comp=N,852nm,0.4s						
GRPR				smax	smax		
	comp=E,931nm,0.4s						
YUK	Yuzh-Kuril'sk	6.27	27	eP	Pn	03 14 43.1	-0.1
YUK				eS	Sn	03 15 49.8	-3.6
YUK				pmax	pmax		
	comp=N,20nm,0.2s						
YUK				pmax	pmax		
	comp=E,50nm,0.2s						
YUK				pmax	pmax		
	comp=Z,85nm,0.2s						
YUK				smax	smax		
	comp=E,688nm,0.4s						
YUK				smax	smax		
	comp=N,644nm,0.5s						
TEY	Ternei	7.63	330⇑	eP	Pn	03 15 06.0	+4.1
TEY				pmax	pmax		
	comp=Z,100nm,1.4s						
TEY				pmax	pmax		
	comp=Z,30nm,1.5s						
TEY				pmax	pmax		
	comp=N,40nm,1.4s						
TEY				pmax	pmax		
	comp=E,20nm,1.4s						
JHS	Saijyo	7.88	246		Pn	03 15 07.5	+2.1
KUR	Kuril'sk	8.05	32	eP	Pn	03 15 08.3	+0.7
KUR				i S	Sn	03 16 33.9	-3.3
KUR				pmax	pmax		
	comp=N,40nm,0.4s						
KUR				pmax	pmax		
	comp=Z,63nm,0.4s						
KUR				smax	smax		
	comp=E,209nm,0.4s						
KUR				smax	smax		
	comp=N,55nm,0.3s						
YSS	Yuzh-Sakhalins	8.46	4	eP	Pn	03 15 11.7	-1.5
YSS				eS	Sn	03 16 43.5	-3.7
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				pmax	pmax		
	comp=Z,200nm,4.6s						
YSS				MLR	MLR		
	comp=Z,200nm,13.0s						
YSS	Yuzh-Sakhalins	8.46	4	Pn	Pn	03 15 14.3	+1.1
VLA	Vladivostok	8.89	304⇓	eP	Pn	03 15 22.2	+3.1
VLA				pmax	pmax		
	comp=Z,122nm,1.0s						
MSHR	Mys Shultsa	9.14	300c	iP	Pn	03 15 23.2	+0.6
MSHR				pmax	pmax		
	comp=Z,22nm,0.7s						
USA0B	Ussuriysk Arra	9.38	310d	eP	Pn	03 15 28.7	+2.9
USA0B	Ussuriysk Arra	9.38	310		Pn	03 15 26.1	+0.3
USRK	Ussuriysk Ar.	9.38	310	P	Pn	03 15 25.9	+0.1
	baz=122,slow=12,SNR=41						
USRK				LR	LR	03 18 52.9	
	comp=Z,277nm,20.4s,baz=128,slow=36						
USRK	Ussuriysk Ar.	9.38	310	P	Pn	03 15 25.9	+0.1
USRK	Ussuriysk Ar.	9.38	310	Pn	Pn	03 15 25.4	-0.3
JNU	Nakatsue	10.45	242	P	Pn	03 15 42.5	+1.9
	comp=Z,1.4nm,0.3s,baz=54,slow=6.1,SNR=15						
JNU	Nakatsue	10.45	242		Pn	03 15 42.0	+1.5
MDJ	Mudanjiang	11.06	307	P	Pn	03 15 48.2	-0.6
MDJ				pP		03 16 03.7	
MDJ				sP		03 16 05.1	
MDJ				S	Sn	03 17 48.0	-3.0
MDJ				PcS	PcS	03 25 18.6	+1.7
MDJ				pmax	pmax		
	comp=Z,6.0nm,2.3s						
MDJ				pmax	pmax		
	comp=Z,74nm,3.6s						
MDJ				LR	LR		
	comp=Z,130nm,11.8s						
MDJ				LR	LR		
	comp=Z,180nm,16.8s						
MDJ				LR	LR		
	comp=Z,390nm,20.8s						
MDJ	Mudanjiang	11.06	307	Pn	Pn	03 15 49.1	+0.3
KSRS	Korea Array	11.10	269	P	Pn	03 15 52.6	+3.3
	comp=Z,0.8nm,0.3s,baz=80,slow=14,SNR=15						
KSRS				LR	LR	03 19 44.9	
	comp=Z,214nm,20.7s,baz=72,slow=35						
KSAR	Wonju Array Be	11.13	269	P	Pn	03 15 49.3	-0.4
KSAR	Wonju Array Be	11.13	269	Pn	Pn	03 15 49.3	-0.4
KS19	Wonju Array Si	11.13	269		Pn	03 15 51.5	+1.7
JCJ	Chichijima	11.39	179	P	Pn	03 15 50.5	-2.8
	comp=Z,6.5nm,0.3s,baz=284,slow=20,SNR=8.5						
JCJ				S	Sn	03 17 47.6	-11
	comp=Z,8.6nm,0.3s,baz=270,slow=20,SNR=1.8						
TJN	Taejon	11.76	264⇑	eP	Pn	03 16 01.9	+3.5
KLR	Kul'dur	12.97	329	P	Pn	03 16 15.3	+0.5
	comp=Z,0.2nm,0.3s,baz=141,slow=14,SNR=4.6						
KLR				LR	LR	03 21 09.8	
	comp=Z,214nm,19.5s,baz=102,slow=37						
KLR	Kul'dur	12.97	329⇑	eP	Pn	03 16 15.8	+1.0
KLR				pmax	pmax		
	comp=Z,3.0nm,1.5s						
CN2	Changchun	13.48	298	eP	P	03 16 29.2	-0.6
CN2				epP	Pn	03 16 39.3	+17
CN2				eS	Sn	03 18 57.5	+7.4
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=N,100nm,16.0s						
CN2				LR	LR		
	comp=E,200nm,16.0s						
CN2				LR	LR		
	comp=Z,200nm,17.0s						
DL2	Dalian	15.85	278	P	Pn	03 16 54.8	+1.7
DL2				S	S	03 19 55.7	-4.2
DL2				pmax	pmax		
	comp=Z,43nm,1.1s						
DL2				pmax	pmax		
	comp=Z,150nm,5.3s						
DL2				LR	LR		
	comp=Z,100nm,8.4s						
DL2				LR	LR		
	comp=Z,130nm,16.6s						
DL2				LR	LR		
	comp=Z,250nm,22.6s						
JOW	Kunigami	16.33	229	P	Pn	03 17 01.0	+1.6
	comp=Z,1.1nm,0.3s,baz=51,slow=15,SNR=6.3						
JOW				LR	LR	03 22 25.4	
	comp=Z,42nm,21.6s,baz=289,slow=34						
PETK	Petropavlovsk-	18.22	32	LR	LR	03 25 42.7	
	comp=Z,40nm,18.1s,baz=212,slow=41						
TIA	Tai'an	19.83	271	⇑P	P	03 17 39.1	-0.9
TIA				pmax	pmax		
	comp=Z,20nm,0.9s						
NJ2	Nanjing	19.87	258	eP	P	03 17 41.5	+1.0
NJ2				pmax	pmax		
	comp=Z,22nm,0.8s						
BJI	Beijing	19.97	282	P	P	03 17 40.5	-0.9
BJI				pP	pP	03 17 52.8	+0.1

BJI sP **sP** **03 17 56.2 -2.6**
BJI pmax pmax
comp=Z,16nm,0.7s
BJT Baijiatuau 19.98 282 P **P** **03 17 40.3 -1.3**
BJT pmax pmax
comp=Z,10.0nm,0.6s
BJT Baijiatuau 19.98 282 P **P** **03 17 40.3 -1.3**
MA2 Magadan 21.83 12 P **P** **03 18 03.2 +1.9**
comp=Z,16nm,0.6s,baz=187,slow=11,SNR=6.8
MA2 Magadan 21.83 12 P **P** **03 18 03.2 +1.9**
YULB Yu-li 23.16 235 P **P** **03 18 17.2 +1.6**
HHC Hu-ho-hao-te 23.42 285 *eP* **P** **03 18 16.3 -1.9**
HHC pP pP 03 18 30.5 +0.4
HHC sP sP 03 18 38.0 +1.9
HHC pmax pmax
comp=Z,11nm,1.2s
HHC pmax pmax
comp=Z,98nm,5.4s
HHC LR LR
comp=Z,60nm,14.3s
HHC LR LR
comp=Z,240nm,14.9s
HHC LR LR
comp=Z,220nm,14.4s
TPUB Ta-pu 23.66 236 P **P** **03 18 20.8 +0.4**
TPUB lAmb lAmb 03 18 22.4
comp=Z,21nm,0.7s
TWG Pinlang 23.71 235 P **P** **03 18 19.7 -1.2**
TWG lAmb lAmb 03 18 44.3
comp=Z,24nm,1.0s
WHN Wuhan 24.00 259 ⇑P **P** **03 18 22.4 -1.1**
WHN pmax pmax
comp=Z,34nm,0.7s
WHN LR LR
comp=Z,360nm,19.6s
BTO Baotou 24.61 285 *eP* **P** **03 18 27.2 -1.9**
BTO S **S** **03 22 40.7 -6.3**
BTO LR LR
comp=Z,510nm,21.6s
BTO LR LR
comp=Z,700nm,20.6s
YAK Yakutsk 24.73 346 P **P** **03 18 29.5 -0.2**
comp=Z,11nm,0.3s,baz=297,slow=2.5,SNR=6.0
YAK Yakutsk 24.73 346 *eP* **P** **03 18 29.3 -0.5**
YAK *e**PP **pP** **03 18 41.2 -1.1**
YAK *e* 03 22 05.4
YAK *e*S **S** **03 22 48.3 +0.1**
YAK *e**SS **sS** **03 23 07.7 -1.4**
YAK *e*SS **SnSn** **03 23 39.2 +1.2**
YAK pmax pmax
comp=Z,42nm,0.9s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK pmax pmax
comp=N,18nm,1.0s
YAK smax smax
comp=E,88nm,3.4s
YAK smax smax
comp=N,71nm,2.8s
YAK Yakutsk 24.73 346 P **P** **03 18 29.6 -0.1**
GUMO Guam 24.96 173 LR LR 03 27 19.1
comp=N,21nm,21.9s,baz=264,slow=34
SEY Seymchan 25.27 11 P **P** **03 18 36.3 +1.6**
comp=N,19nm,1.0s,baz=200,slow=7.8,SNR=19
SEY LR LR 03 28 21.0
comp=N,51nm,19.9s,baz=238,slow=36
SEY Seymchan 25.27 11 *i* P **P** **03 18 36.3 +1.6**
BOD Bodaibo 26.51 326 *eP* **P** **03 18 45.1 -0.9**
BOD pmax pmax
comp=Z,21nm,0.8s
ULN Ulaanbaatar 26.89 302 ⇓*eP* **P** **03 18 50.2 +0.5**
ULN pmax pmax
comp=Z,8.0nm,1.3s
ULN Ulaanbaatar 26.89 302 P **P** **03 18 49.9 +0.1**
XAN Xi'an 26.89 271 P **P** **03 18 49.0 -0.7**
XAN Xi'an 26.89 271 P **P** **03 18 49.0 -0.7**
SONM Songino Array 27.32 301 P **P** **03 18 53.0 -0.6**
comp=Z,2.8nm,0.8s,baz=104,slow=9.6,SNR=14
SONM PcP **PcP** **03 22 12.2 +0.3**
comp=Z,0.9nm,0.5s,baz=94,slow=1.4,SNR=2.8
SONM Songino Array 27.32 301 P **P** **03 18 54.3 +0.7**
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 27.32 301 P **P** **03 18 54.3 +0.7**
ENH Enshi 27.89 263 P **P** **03 18 57.5 -1.1**
H11N2 WAKE ISLAND Hy 28.60 124 T T 03 49 22.2
baz=317,slow=75,SNR=2462
H11N1 WAKE ISLAND Hy 28.61 124 T T 03 49 23.3
baz=317,slow=75,SNR=2720
H11N3 WAKE ISLAND Hy 28.62 124 T T 03 49 21.5
baz=317,slow=75,SNR=2320
H11S1 WAKE ISLAND Hy 29.36 126 T T 03 50 17.2
baz=318,slow=76,SNR=807
H11S3 WAKE ISLAND Hy 29.36 126 T T 03 50 17.3
baz=318,slow=76,SNR=1601
H11S2 WAKE ISLAND Hy 29.38 126 T T 03 50 20.5
baz=318,slow=76,SNR=725
ZAK Zakamensk 29.69 306 *eP* **P** **03 19 12.6 -2.0**
ZAK pmax pmax
comp=Z,8.0nm,1.3s
LZH Lanzhou 30.24 277 *eP* **P** **03 19 17.0 -2.7**
LZH pP sP 03 19 37.0 -1.1
LZH pmax pmax
comp=Z,29nm,1.1s
LZH pmax pmax
comp=Z,85nm,4.3s
LZH LR LR
comp=Z,120nm,14.1s
LZH LR LR
comp=Z,120nm,15.3s
LZH LR LR
comp=Z,86nm,14.1s
GYA Guiyang 31.88 258 ⇑P **P** **03 19 33.9 -0.3**
GYA pP pP 03 19 50.7 +3.8
GYA pmax pmax
comp=Z,20nm,0.6s
CD2 Chengdu 32.09 268 P **P** **03 19 35.6 -0.3**
CD2 pmax pmax
comp=Z,30nm,0.8s
GTA Gaotai 32.54 285 ⇑P **P** **03 19 41.0 +1.2**
GTA pP pP 03 19 51.0 -1.5
GTA sP sP 03 19 54.6 -3.7
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,31nm,8.8s
GTA LR LR
comp=Z,69nm,19.5s
GTA LR LR
comp=Z,140nm,19.9s
GTA LR LR
comp=Z,170nm,17.1s
DGZ Jazzator, Alta 39.87 304 *c i* P **P** **03 20 43.2 +0.9**
SIJI Sorong 40.40 197 P **P** **03 20 49.2 +2.4**
comp=Z,29nm,0.5s,baz=97,slow=16,SNR=6.0
WMQ Urumqi 40.55 295 *eP* **P** **03 20 49.9 +2.0**
ZAA0 Zalesovo Array 41.23 311 lAmb lAmb 03 20 53.9
comp=Z,11nm,0.7s
ZALV Zalesovo Beam 41.23 311 P **P** **03 20 53.7 +0.4**
comp=Z,8.5nm,0.5s,baz=84,slow=7.1,SNR=27
ZALV PcP **PcP** **03 22 50.3 -1.0**
comp=Z,2.5nm,0.3s,baz=36,slow=3.6,SNR=6.3
ZALV LR LR 03 38 44.2
comp=Z,68nm,19.2s,baz=64,slow=37
ZALV Zalesovo Beam 41.23 311 *i* P **P** **03 20 53.2 -0.1**
ZALV pmax pmax
comp=Z,9.0nm,0.5s
ZALV Zalesovo Beam 41.23 311 P **P** **03 20 52.6 -0.6**
ZALV PcP **PcP** **03 22 51.6 +0.3**
CMMT Chiang Mai 42.05 255 P P 03 21 09.5 +9.1
CHTO Chiang Mai 42.05 255 P **P** **03 21 00.5 +0.1**
CHTO pmax pmax
comp=Z,9.0nm,0.6s
CHTO Chiang Mai 42.05 255 P P 03 21 09.6 +9.2
CHTO Chiang Mai 42.05 255 P **P** **03 21 00.5 +0.1**
CHTO lAmb lAmb 03 21 10.4
comp=Z,8.6nm,0.6s
NRIK Noril'sk 42.10 335 P **P** **03 20 59.6 -0.6**
comp=Z,5.1nm,0.6s,baz=138,slow=5.5,SNR=4.5
NRIK LR LR 03 39 34.8
comp=Z,121nm,19.2s,baz=80,slow=38
NRIK Noril'sk 42.10 335 *ceP* **P** **03 20 59.5 -0.6**
NRIK pmax pmax
comp=Z,6.0nm,0.6s
NRIK Noril'sk 42.10 335 P **P** **03 20 58.8 -1.4**
NRIK lAmb lAmb 03 21 00.2
comp=Z,6.2nm,0.7s
CMAR Chiang Mai Arr 42.27 254 P **P** **03 21 01.8 -0.4**
comp=Z,1.1nm,0.3s,baz=29,slow=7.8,SNR=6.3
CMAR PcP **PcP** **03 22 56.1 +0.7**
comp=Z,0.5nm,0.3s,baz=25,slow=1.3,SNR=5.0
CMAR LR LR 03 41 19.3
comp=Z,43nm,18.5s,baz=219,slow=40
CMAR Chiang Mai Arr 42.27 254 *ceP* **P** **03 21 03.5 +1.3**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 42.27 254 P **P** **03 21 01.5 -0.7**
CMAR PcP **PcP** **03 22 55.1 -0.2**
CM04 Chiang Mai Arr 42.28 254 P P 03 21 12.4 +10
CM05 Chiang Mai Arr 42.30 254 P P 03 21 12.5 +10
LSA Lhasa 42.49 274 P **P** **03 21 05.5 +1.1**
LSA pmax pmax
comp=Z,12nm,0.7s
LSA Lhasa 42.49 274 lAmb lAmb 03 21 21.2
comp=Z,7.0nm,0.7s
MK31 Makanchi Array 43.69 301 *c i* P **P** **03 21 13.1 -0.3**
MK31 Makanchi Array 43.69 301 P **P** **03 21 13.2 -0.2**
MK31 lAmb lAmb 03 21 14.2
comp=Z,11nm,0.9s
MKAR Makanchi Array 43.69 301 P **P** **03 21 13.2 -0.1**
comp=Z,11nm,0.8s,baz=83,slow=9.9,SNR=41
MKAR LR LR 03 39 21.4
comp=Z,41nm,21.3s,baz=74,slow=36
MKAR Makanchi Array 43.69 301 P **P** **03 21 13.3 -0.1**
SHL Shillong 43.84 268 P **P** **03 21 14.2 -0.8**
SHL pmax pmax
comp=Z,10.0nm,0.5s
MAKZ Makanchi 43.90 301 P **P** **03 21 15.0 0.0**
MAKZ pmax pmax
comp=Z,9.0nm,0.8s
MAKZ Makanchi 43.90 301 P **P** **03 21 15.0 0.0**
MAKZ lAmb lAmb 03 21 16.0
comp=Z,9.2nm,0.8s
KURK Kurchatov 45.35 307 P **P** **03 21 26.8 +0.3**
KURK 03 23 05.3
KURK Kurchatov 45.35 307 P **P** **03 21 26.8 +0.3**
KURK **03 23 05.2 0.0**
KURBB Kurchatov Arra 45.42 307 P **P** **03 21 26.8 -0.3**
comp=Z,39nm,0.7s,baz=81,slow=8.1,SNR=238
KURBB PcP **PcP** **03 23 05.2 -0.3**
comp=Z,2.4nm,0.7s,baz=82,slow=4.3,SNR=4.1
KURBB Kurchatov Arra 45.42 307 P **P** **03 21 26.5 -0.6**
TOLK Toolik Lake Re 46.98 28 P **P** **03 21 40.8 +1.6**
TOLK lAmb lAmb 03 22 01.3
comp=Z,9.6nm,1.1s
IL31 48.04 33 P **P** **03 21 48.9 +1.6**
IL31 lAmb lAmb 03 22 09.4
comp=Z,12nm,1.5s
ILAR Eielson Array 48.04 33 P **P** **03 21 48.8 +1.4**
comp=Z,1.8nm,0.7s,baz=270,slow=6.7,SNR=24
ILAR Eielson Array 48.04 33 P **P** **03 21 48.8 +1.4**
BMAR Burnt Mountain 48.85 29 P **P** **03 21 55.0 +1.3**
BRVK Borovoye 49.94 312 *c i* P **P** **03 22 02.0 -0.1**
BRVK pmax pmax
comp=Z,8.0nm,1.0s
BRVK Borovoye 49.94 312 P **P** **03 22 02.3 +0.3**
BRVK lAmb lAmb 03 22 03.0
comp=Z,8.1nm,1.0s
AAK Ala-Archa 50.15 297 LR LR 03 44 06.9
comp=Z,34nm,21.1s,baz=76,slow=37
AAK Ala-Archa 50.15 297 ⇑*i* P **P** **03 22 03.9 -0.1**
AAK pmax pmax
comp=Z,8.0nm,0.7s
AAK Ala-Archa 50.15 297 P **P** **03 22 03.0 -1.0**
AAK lAmb lAmb 03 22 07.1
comp=Z,2.9nm,0.6s
KSH Kashi 50.18 293 P **P** **03 22 08.4 +4.1**
KSH pP sP 03 22 26.1 +3.0
KSH pmax pmax
comp=Z,7.0nm,0.8s
HNR Honiara 50.57 157 LR LR 03 42 14.8
comp=Z,42nm,19.0s,baz=10,slow=34
KK31 Karatay Array 52.74 299 *i* P **P** **03 22 22.7 -0.5**
KK31 Karatay Array 52.74 299 P **P** **03 22 23.1 -0.1**
KK31 lAmb lAmb 03 22 23.9
comp=Z,8.9nm,0.8s
KKAR Karatay Array 52.74 299 P **P** **03 22 22.8 -0.4**
KKAR Karatay Array 52.74 299 P **P** **03 22 22.8 -0.4**
INK Inuvik 52.89 28 P **P** **03 22 25.6 +1.7**
comp=Z,2.5nm,0.5s,baz=285,slow=7.0,SNR=12
INK Inuvik 52.89 28 P **P** **03 22 25.6 +1.7**
PSI Prapat 52.90 239 LR LR 03 46 55.4
comp=Z,67nm,19.5s,baz=90,slow=38
BTK Batken 53.66 296 P **P** **03 22 30.0 -0.1**
BTK pmax pmax
comp=Z,7.0nm,0.8s
BTK Batken 53.66 296 P **P** **03 22 29.9 -0.1**
BTK lAmb lAmb 03 22 53.3
comp=Z,6.5nm,0.8s
SVE Sverdlovsk 54.31 318 ⇓*eP* **P** **03 22 34.7 +0.2**
SVE pmax pmax
comp=Z,28nm,0.9s
GAR Garm 54.44 295 lAmb lAmb 03 22 40.4
comp=Z,6.9nm,0.6s
NIL Nilore 54.54 287 P **P** **03 22 36.8 +0.2**
NIL pmax pmax
comp=Z,21nm,0.8s
NIL Nilore 54.54 287 P **P** **03 22 36.8 +0.2**
GSI Gunungsitoli 54.90 239 P **P** **03 22 39.0 -0.3**
CHGR Chuyangaron 55.40 295 P **P** **03 22 42.3 -0.5**
ARU Arti 55.52 318 *c i* P **P** **03 22 43.1 -0.2**
ARU *PP **pP** **03 22 57.1 +0.5**
ARU 03 24 45.4
ARU S **S** **03 30 26.2 +1.4**
ARU SS **SS** **03 34 06.3 -3.3**
ARU pmax pmax
comp=Z,24nm,1.1s
ARU Arti 55.52 318 P **P** **03 22 43.1 -0.2**
KBL Kabul 57.27 290 P **P** **03 22 56.4 +0.1**
KBL pmax pmax
comp=Z,8.0nm,0.8s
KBL Kabul 57.27 290 P **P** **03 22 56.4 +0.1**
KBL lAmb lAmb 03 22 57.6
comp=Z,7.9nm,0.8s
AB31 Akbulak array 57.30 310 *i* P **P** **03 22 55.4 -0.6**
ABKAR Akbulak array 57.30 310 P **P** **03 22 55.3 -0.7**
AKTO Aktyubinsk 57.99 311 P **P** **03 22 59.8 -1.0**
WRAB Tennant Creek 58.57 188 ⇓*eP* **P** **03 23 03.8 -1.3**
WRAB pmax pmax
comp=Z,11nm,1.1s
WR0 Warramunga Arr 58.57 188 P **P** **03 23 05.0 -0.1**
WR0 lAmb lAmb 03 23 23.9
comp=Z,13nm,1.4s
WRA Warramunga Ar 58.58 188 P **P** **03 23 05.0 -0.1**
comp=Z,6.2nm,0.8s,baz=6.5,slow=6.4,SNR=58
WRA Warramunga Ar 58.58 188 P **P** **03 23 05.0 -0.1**
WRA Warramunga Ar 58.58 188 P **P** **03 23 04.8 -0.3**
KIRV Kirov 59.32 323 *c i* P **P** **03 23 09.7 -0.1**
ASAR Alice Springs 62.30 188 P **P** **03 23 30.9 +0.3**
comp=Z,2.4nm,0.7s,baz=12,slow=6.0,SNR=23
ASAR Alice Springs 62.30 188 P **P** **03 23 30.9 +0.3**
ASAR Alice Springs 62.30 188 P **P** **03 23 30.7 +0.1**
YKA Yellowknife Ar 62.34 31 P **P** **03 23 31.1 +0.8**
comp=Z,1.7nm,0.7s,baz=305,slow=5.5,SNR=4.5
YKA Yellowknife Ar 62.34 31 *ceP* **P** **03 23 31.0 +0.7**
YKA pmax pmax
comp=Z,2.0nm,0.7s
KLMR Klimovskoe 62.73 327 *eP* **P** **03 23 31.5 -1.4**
KLMR pmax pmax
comp=Z,14nm,1.3s
KLMR Klimovskoe 62.73 327 *eP* **P** **03 23 31.6 -1.4**
KLMR AMP 03 23 36.3
comp=Z,14nm,1.3s
ARCES ARCESS Array B 62.76 339 P **P** **03 23 33.1 0.0**
comp=Z,1.4nm,0.6s,baz=39,slow=7.8,SNR=8.7
ARCES LR LR 03 53 20.2
comp=Z,19nm,20.5s,baz=70,slow=38
ARCES ARCESS Array B 62.76 339 P **P** **03 23 33.1 0.0**
ARCES ARCESS Array B 62.76 339 lAmb lAmb 03 23 44.8
comp=Z,7.4nm,1.1s
BELG Belogornoye 63.00 317 *c i* P **P** **03 23 34.6 -0.3**
BELG pmax pmax
comp=Z,3.0nm,1.0s
GEYT Alibeck 63.48 299 LR LR 03 52 22.7
comp=Z,44nm,21.2s,baz=55,slow=37
NEEM North Greenlan 64.03 3 *i* P **P** **03 23 41.9 +0.1**
NEEM lAmb lAmb 03 23 42.5
comp=Z,12nm,0.9s
VRH Novokhopyorsk 66.76 318 *eP* **P** **03 23 58.0 -1.3**
VRH pmax pmax
comp=Z,10.0nm,0.7s
LPSR Galich'ya Gora 67.43 320 *eP* **P** **03 24 02.9 -0.7**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
FINES FINESS Array B 67.70 332 P **P** **03 24 05.1 -0.1**
comp=Z,5.3nm,0.6s,baz=38,slow=9.6,SNR=19
FINES LR LR 03 54 56.1
comp=Z,46nm,19.9s,baz=54,slow=37
FINES FINESS Array B 67.70 332 *i* P **P** **03 24 05.0 -0.1**
FINES pmax pmax
comp=Z,5.0nm,0.6s
VSR Storozhevoye 68.09 319 *eP* **P** **03 24 07.3 -0.5**
VSR pmax pmax
comp=Z,9.0nm,0.7s
VORD Divnogorie 68.16 318 *eP* **P** **03 24 07.6 -0.6**
VORD pmax pmax
comp=Z,10.0nm,1.6s
SUMG Summit 69.21 0 *i* P **P** **03 24 15.7 +0.7**
SUMG lAmb lAmb 03 24 16.6
comp=Z,9.9nm,0.7s
SUMG Summit 69.21 0 *i* P **P** **03 24 15.6 +0.7**
SUMG pmax pmax
comp=Z,10.0nm,0.7s
SUMG Summit 69.21 0 P **P** **03 24 15.1 +0.2**
SUMG lAmb lAmb 03 24 16.8
comp=Z,10nm,0.8s
DDFL Dedoflistskaro 69.55 307 P **P** **03 24 20.1 +2.9**
NCK Nalchik 69.96 310 ⇑*eP* **P** **03 24 19.2 -0.4**
NCK pmax pmax
comp=Z,6.0nm,0.5s
KIV Kislovodsk 70.24 311 *eP* **P** **03 24 21.8 +0.4**
KIV pmax pmax
comp=Z,27nm,1.1s
KIV Kislovodsk 70.24 311 P **P** **03 24 22.1 +0.7**
KBZ Khabaz 70.25 310 P **P** **03 24 21.6 +0.3**
comp=Z,9.4nm,0.9s,baz=46,slow=4.6,SNR=18
KBZ LR LR 04 00 22.3
comp=Z,28nm,18.1s,baz=48,slow=40
KBZ Khabaz 70.25 310 *ceP* **P** **03 24 21.3 +0.1**
KBZ pmax pmax
comp=Z,11nm,0.9s
ONI Oni 70.56 309 P **P** **03 24 24.8 +1.5**
MNK Minsk 71.50 326 *i* P **P** **03 24 26.6 -2.1**
MNK *i* *PP **pP** **03 24 43.0 +0.5**
MNK *i* 03 27 05.0
MNK *i* PPP PPP 03 28 48.5
MNK *i* S **S** **03 33 40.0 -3.5**
MNK *i* *SS **sS** **03 34 08.3 +1.5**
MNK *i* 03 34 25.6
MNK *i* SS **SS** **03 38 15.9 -2.2**
MNK *i* SSS SSS 03 41 35.4
MNK pmax pmax
comp=N,10.0nm,1.0s
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK pmax pmax
comp=Z,12nm,0.8s
MNK MLR MLR
comp=N,43nm,14.0s
MNK MLR MLR
comp=Z,230nm,17.0s
MNK MLR MLR
comp=E,8.0nm,16.0s
NACGM Naroch 71.71 327 *i* P **P** **03 24 30.1 +0.2**
PABE Paberze 72.50 328 P **P** **03 24 35.3 +0.7**
ICESG Greenland Ices 72.71 1 *i* P **P** **03 24 37.0 +0.9**
ICESG lAmb lAmb 03 24 37.9
comp=Z,11nm,0.7s
EGMT Eagleton 72.90 42 lAmb lAmb 03 24 40.1
comp=Z,7.1nm,0.9s
NB2 NORSAR Subarra 72.98 337 P **P** **03 24 37.8 +0.3**
comp=Z,3.4nm,0.6s,baz=39,slow=6.2
NOA NORSAR Array B 72.98 337 P **P** **03 24 37.5 0.0**
comp=Z,5.8nm,0.7s,baz=39,slow=6.0,SNR=23
NOA LR LR 03 59 17.0
comp=Z,51nm,21.6s,baz=45,slow=38
NOA NORSAR Array B 72.98 337 P **P** **03 24 37.5 0.0**
AKASG Malin Array Be 73.38 322 P **P** **03 24 39.6 -0.4**
comp=Z,9.4nm,0.8s,baz=47,slow=6.1,SNR=21
AKASG LR LR 03 59 48.9
comp=Z,47nm,18.4s,baz=245,slow=38
AKASG Malin Array Be 73.38 322 *ceP* **P** **03 24 39.5 -0.4**
AKASG pmax pmax
comp=Z,7.0nm,0.6s
AKBB Malin Array Si 73.38 322 *c i* P **P** **03 24 39.4 -0.5**
AKBB pmax pmax
comp=Z,10.0nm,0.8s
AKBB Malin Array Si 73.38 322 P **P** **03 24 39.2 -0.7**
AKBB lAmb lAmb 03 24 40.4
comp=Z,8.5nm,0.8s
KIEV Kiev 73.39 322 P **P** **03 24 43.0 +3.0**
NVAR Mina Array Bea 73.79 54 P **P** **03 24 44.0 +1.1**
comp=Z,1.0nm,0.6s,baz=298,slow=6.5,SNR=7.4
NVAR Mina Array Bea 73.79 54 P **P** **03 24 43.1 +0.2**
TPAW Teton Pass 75.11 46 P **P** **03 24 49.6 -0.9**
DY2G Dye2 75.15 3 *i* P **P** **03 24 51.0 +0.7**
DY2G lAmb lAmb 03 24 52.0
comp=Z,9.2nm,0.8s
MARD Mardin 75.32 306 P **P** **03 24 51.2 -0.4**
MARD lAmb lAmb 03 24 52.9
comp=Z,7.7nm,0.7s
SORM Soroca 75.50 321 ⇑P **P** **03 24 51.7 -0.6**
SORM Soroca 75.50 321 ⇑P **P** **03 24 51.7 -0.6**
LAO LASA Array 75.60 41 lAmb lAmb 03 24 56.1
comp=Z,14nm,1.1s
KVT Kavak 75.89 311 P **P** **03 24 56.3 +1.5**
KMPD K-Podol'skiy 76.14 322 P **P** **03 24 56.0 0.0**
PDAR Pinedale Array 76.35 46 P **P** **03 24 58.8 +1.2**
comp=Z,1.8nm,0.8s,baz=260,slow=1.6,SNR=19
PDAR Pinedale Array 76.35 46 P **P** **03 24 57.8 +0.2**
MPU Maple Canyon 76.91 49 P **P** **03 25 02.0 +1.3**
KWP Kalwaria Pacla 77.16 324 *eP* **P** **03 25 02.8 +1.1**
KWP Kalwaria Pacla 77.16 324 P **P** **03 25 02.5 +0.8**
KWP pmax pmax
comp=Z,17nm,1.1s
BUR08 Bucovina Ar. S 77.39 322 lAmb lAmb 03 25 04.4
comp=Z,4.1nm,0.8s
BURAR Bucovina Array 77.40 322 ⇓P **P** **03 25 03.8 +0.6**
BURAR Bucovina Array 77.40 322 ⇓P **P** **03 25 03.8 +0.6**
BURAR Bucovina Array 77.40 322 P **P** **03 25 03.4 +0.2**
BURAR lAmb lAmb 03 25 04.3
comp=Z,3.9nm,0.8s
BIZ Bicaz 77.43 321 ⇑P **P** **03 25 03.8 +0.5**
JURR Jurilovca 77.50 318 ⇓P **P** **03 25 04.1 +0.5**
CFR Carcaliu 77.61 318 ⇓P **P** **03 25 04.5 +0.2**
CFR Carcaliu 77.61 318 ⇓P **P** **03 25 04.5 +0.2**
VRI Vrincioaia 77.86 320 ⇑P **P** **03 25 06.0 +0.3**
VRI Vrincioaia 77.86 320 ⇑P **P** **03 25 06.0 +0.3**
PLOR Plostina 77.91 320 ⇑P **P** **03 25 05.5 -0.5**
PLOR Plostina 77.91 320 ⇑P **P** **03 25 05.5 -0.5**
OJC Ojcow 78.04 326 *eP* **P** **03 25 07.1 +0.5**
OJC Ojcow 78.04 326 P **P** **03 25 07.0 +0.4**
OJC pmax pmax
comp=Z,11nm,1.0s
OJC Ojcow 78.04 326 lAmb lAmb 03 25 08.1
comp=Z,15nm,1.2s
ULM Lac du Bonnet 78.05 34 P **P** **03 25 06.9 +0.2**
comp=Z,4.2nm,1.0s,baz=304,slow=13,SNR=3.5
ULM Lac du Bonnet 78.05 34 P **P** **03 25 06.9 +0.2**
ULM Lac du Bonnet 78.05 34 lAmb lAmb 03 25 28.6
comp=Z,14nm,1.5s
BISRR Bisoca 78.09 319 ⇓P **P** **03 25 08.5 +1.5**
SRU San Rafael Swe 78.14 49 lAmb lAmb 03 25 29.6
comp=Z,4.1nm,0.7s
BR131 Keskin Array S 78.17 312 ⇓*eP* **P** **03 25 07.0 -0.7**
BRTR Keskin Array B 78.17 312 P **P** **03 25 07.8 0.0**
comp=Z,1.4nm,0.6s,baz=112,slow=3.8,SNR=12
BRTR Keskin Array B 78.17 312 P **P** **03 25 07.8 0.0**
BRTR Keskin Array B 78.17 312 P **P** **03 25 07.6 -0.1**
OZUR 78.18 320 ⇓P **P** **03 25 08.8 +1.3**
NIE Niedzica 78.40 325 *eP* **P** **03 25 10.1 +1.4**
NIE Niedzica 78.40 325 P **P** **03 25 10.4 +1.7**
NIE pmax pmax
comp=Z,5.0nm,1.0s
DOPR Dopca 78.46 320 ⇑P **P** **03 25 10.4 +1.3**
ISR Istrita 78.47 319 ⇓P **P** **03 25 10.6 +1.4**
ISR Istrita 78.47 319 ⇓P **P** **03 25 10.6 +1.4**
ANTO Ankara 78.57 312 P **P** **03 25 09.6 -0.3**
ANTO pmax pmax
comp=Z,7.0nm,0.8s
ANTO Ankara 78.57 312 P **P** **03 25 09.6 -0.3**
ANTO lAmb lAmb 03 25 11.1
comp=Z,7.2nm,0.8s
LANS Liptovska Anna 78.97 326 *eP* **P** **03 25 12.8 +1.0**
LANS Liptovska Anna 78.97 326 *eP* **P** **03 25 12.8 +1.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VOIR		79.00	320	⇑P	P	03 25 13.2	+1.1
VOIR		79.00	320	⇑P	P	03 25 13.2	+1.1
KSP	Ksiaz	79.06	328	eP	P	03 25 12.8	+0.7
KSP	Ksiaz	79.06	328	P	P	03 25 12.9	+0.7
KSP				pmax	pmax		
	comp=Z,10.0nm,0.8s						
DRGR		79.19	322	⇑P	P	03 25 13.2	+0.1
DRGR		79.19	322	⇑P	P	03 25 13.2	+0.1
ARR	Arges	79.26	320	⇑P	P	03 25 14.7	+1.2
MORC	Moravsky Berou	79.34	327	⇑P	P	03 25 14.7	+0.9
MORC	Moravsky Berou	79.34	327	⇑P	P	03 25 14.7	+0.9
MORC	Moravsky Berou	79.34	327	IAmb	IAmb	03 25 15.3	
	comp=Z,6.5nm,0.9s						
MORC	Moravsky Berou	79.34	327	eP	P	03 25 14.4	+0.6
CHVC	Chvalec	79.35	328	eP	P	03 25 14.5	+0.7
DPC	Dobruska-Polom	79.42	328	eP	P	03 25 15.0	+0.7
DPC	Dobruska-Polom	79.42	328	eP	P	03 25 15.0	+0.7
KRLC	Kraliky	79.44	328	eP	P	03 25 14.7	+0.3
KRLC	Kraliky	79.44	328	eP	P	03 25 14.7	+0.3
PV22	Blue Mesa, Par	79.55	49	P	P	03 25 15.8	+0.4
PSZ	Piszkesteto	79.69	325	⇓P	P	03 25 16.8	+1.0
PSZ	Piszkesteto	79.69	325	⇓P	P	03 25 16.8	+1.0
VYHS	Vyhne	79.74	325	eP	P	03 25 16.7	+0.7
VYHS	Vyhne	79.74	325	eP	P	03 25 16.7	+0.7
KOLL	Kolacno	79.86	326	eP	P	03 25 17.7	+1.1
JAVC	Velka Javorina	79.97	326	eP	P	03 25 18.8	+1.5
BRG	Berggiesshubel	79.98	330	eP	P	03 25 17.8	+0.6
BRG				Amp		03 25 19.5	
	comp=Z,4.7nm,0.8s						
PVCC	Panska Ves	80.00	329	eP	P	03 25 18.2	+0.9
PVCC	Panska Ves	80.00	329	eP	P	03 25 18.2	+0.9
CLL	Collm	80.02	330	⇑iP	P	03 25 17.1	-0.3
	comp=Z,7.0nm,0.8s						
CLL	Collm	80.02	330	⇑iP	P	03 25 17.1	-0.3
CLL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CLL	Collm	80.02	330	IAmb	IAmb	03 25 18.3	
	comp=Z,7.3nm,0.8s						
VRAC	Vranov	80.10	327	⇓P	P	03 25 19.0	+1.1
VRAC	Vranov	80.10	327	LR	LR	04 03 23.4	
	comp=Z,25nm,19.2s,baz=36,slow=38						
VRAC	Vranov	80.10	327	⇓P	P	03 25 19.0	+1.1
VRAC	Vranov	80.10	327	eP	P	03 25 18.5	+0.6
GZR	Gura Zlata	80.16	321	⇑P	P	03 25 18.3	-0.1
GZR	Gura Zlata	80.16	321	⇑P	P	03 25 18.3	-0.1
KRUC	Moravsky	80.37	327	P	P	03 25 19.2	-0.2
KRUC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KRUC	Moravsky	80.37	327	eP	P	03 25 19.8	+0.4
PRU	Pruhonice	80.43	329	eP	P	03 25 20.4	+0.7
PRU	Pruhonice	80.43	329	eP	P	03 25 20.4	+0.7
SRO	Srobarova	80.48	325	eP	P	03 25 21.2	+1.3
SRO	Srobarova	80.48	325	eP	P	03 25 21.2	+1.3
BZS	Buzias	80.57	322	⇓P	P	03 25 20.5	+0.1
BZS	Buzias	80.57	322	⇓P	P	03 25 20.5	+0.1
MDVR	Moldovita	81.13	321	⇓P	P	03 25 23.7	+0.2
SOP	Sopron	81.35	326	P	P	03 25 25.7	+1.1
SOP				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CKRC	Cesky Krumlov	81.44	328	eP	P	03 25 25.1	0.0
CONA	Conrad Observa	81.47	327	eP	P	03 25 26.2	+0.9
	comp=Z,6.5nm,0.9s						
KHC	Kasperske Hory	81.49	329	eP	P	03 25 25.8	+0.4
KHC	Kasperske Hory	81.49	329	eP	P	03 25 25.8	+0.4
BALB	Balikesir	81.53	315	P	P	03 25 25.8	+0.1
BALB				IAmb	IAmb	03 25 53.7	
	comp=Z,6.9nm,0.5s						
GERES	GERESS Array B	81.67	328	P	P	03 25 26.6	+0.2
	comp=Z,2.8nm,0.8s,baz=38,slow=5.9,SNR=16						
GERES				LR	LR	04 04 33.4	
	comp=Z,56nm,19.2s,baz=24,slow=38						
GERES	GERESS Array B	81.67	328	P	P	03 25 26.6	+0.2
GERES	GERESS Array B	81.67	328	P	P	03 25 25.8	-0.6
FRGS	Fruska Gora	81.77	323	⇑P	P	03 25 27.4	+0.5
VTS	Vitosha	81.93	319	⇑P	P	03 25 28.8	+0.9
VTS	Vitosha	81.93	319	⇑P	P	03 25 28.8	+0.9
VTS	Vitosha	81.93	319	P	P	03 25 27.6	-0.3
VTS				IAmb	IAmb	03 25 29.6	
	comp=Z,6.5nm,0.8s						
GRA1	Grafenberg Arr	81.99	330	IAmb	IAmb	03 25 29.6	
	comp=Z,11nm,0.9s						
GRF	Grafenberg Arr	81.99	330	eP	P	03 25 28.8	+0.8
	comp=Z,23nm,1.4s,baz=39,slow=4.4						
GRFO	Grafenberg	81.99	330	P	P	03 25 28.0	+0.1
GRFO				pmax	pmax		
	comp=Z,11nm,1.0s						
GRFO	Grafenberg	81.99	330	P	P	03 25 28.0	+0.1
GRFO				IAmb	IAmb	03 25 29.6	
	comp=Z,11nm,1.0s						
K31A	O'Neill	82.26	40	P	P	03 25 29.1	-0.4
SOKA	Soboth	82.79	326	eP	P	03 25 32.5	+0.2
	comp=Z,14nm,1.4s						
KBA	Koelnbreinsper	83.20	327	eP	P	03 25 34.6	+0.1
	comp=Z,4.9nm,0.6s						
GRG	Griva	83.56	318	P	P	03 25 35.0	-1.3
GRG				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BMRD	Maredsous	83.86	334	dP	P	03 25 37.1	-0.5
	comp=Z,7.5nm,1.0s						
EIL	Elat	83.91	303	LR	LR	04 07 23.6	
	comp=Z,27nm,18.5s,baz=120,slow=39						
MOTA	Moosalm	83.92	329	i P	P	03 25 37.8	-0.3
	comp=Z,7.7nm,1.2s						
RETA	Reutte	83.94	329	eP	P	03 25 38.8	+0.6
	comp=Z,14nm,1.0s						
SQTA	Sankt Quirin	83.97	329	i P	P	03 25 38.1	-0.3
	comp=Z,3.1nm,0.7s						
PDG	Podgorica	84.06	321	P	P	03 25 37.6	-1.1
LIT	Litokhoron	84.13	318	IAmb	IAmb	03 25 39.6	
	comp=Z,8.1nm,0.8s						
BFO	Black Forest	84.21	331	P	P	03 25 39.9	+0.4
BFO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BFO	Black Forest	84.21	331	P	P	03 25 39.9	+0.4
BFO				IAmb	IAmb	03 25 40.7	
	comp=Z,8.9nm,0.9s						
FETA	Feichten	84.33	329	eP	P	03 25 39.7	-0.6
	comp=Z,6.7nm,0.9s						
DAVA	Damuels	84.46	329	eP	P	03 25 40.7	-0.2
	comp=Z,9.8nm,0.8s						
CDF	Champ du Feu	84.54	332	eP	P	03 25 41.1	-0.1
CDF				pmax	pmax		
	comp=Z,7.0nm,1.0s						
DAVOX	Davos/Dischmat	84.87	329	LR	LR	04 05 47.8	
	comp=Z,36nm,18.7s,baz=81,slow=37						
PPT	Papeete	84.94	117	LR	LR	03 58 28.7	
	comp=Z,38nm,19.8s,baz=312,slow=32						
HAU	Haudompre	85.22	332	eP	P	03 25 44.1	-0.5
HAU				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SENIN	Lac Senin/Sane	86.23	330	IAmb	IAmb	03 25 51.3	
	comp=Z,4.9nm,0.8s						
LOR	Lormes	86.75	333	eP	P	03 25 51.9	-0.2
LOR				pmax	pmax		
	comp=Z,14nm,1.0s						
LDF	La Druitiere	86.96	336	eP	P	03 25 53.1	0.0
LDF				pmax	pmax		
	comp=Z,46nm,1.7s						
LPL	La Plagne	87.15	330	eP	P	03 25 54.2	-0.2
LPL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GRR	Gorron	87.37	336	eP	P	03 25 55.2	+0.1
GRR				pmax	pmax		
	comp=Z,28nm,1.3s						
P40A	Paris	87.93	39	P	P	03 25 58.0	+0.1
VIVF	Saint-Julien-l	88.50	331	eP	P	03 26 00.5	-0.1
VIVF				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MFF	Saint Martin d	88.71	335	eP	P	03 26 01.8	+0.3
MFF				pmax	pmax		
	comp=Z,19nm,1.6s						
TX31	Lajitas Ar. Si	88.91	53	IAmb	IAmb	03 26 13.9	
	comp=Z,2.0nm,0.8s						
TXAR	Lajitas Array	88.91	53	P	P	03 26 04.6	+1.7
	comp=Z,0.9nm,0.7s,baz=304,slow=3.3,SNR=16						
TXAR	Lajitas Array	88.91	53	P	P	03 26 04.6	+1.7
TXAR	Lajitas Array	88.91	53	P	P	03 26 03.0	+0.1
RJF	Les Rejaudoux	89.27	333	eP	P	03 26 04.3	+0.2
RJF				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CAF	Calviac	89.40	333	eP	P	03 26 05.2	+0.4
CAF				pmax	pmax		
	comp=Z,10.0nm,1.4s						
LFF	La Frestale	89.86	334	eP	P	03 26 07.2	+0.3
LFF				pmax	pmax		
	comp=Z,35nm,1.6s						
ESDC	Sonseca Array	96.14	334	LR	LR	04 14 14.4	
	comp=Z,38nm,19.6s,baz=320,slow=38						
TORD	Torodi Ar. Bea	116.56	316	PKP	PKPdf	03 31 50.9	-1.5
	comp=Z,0.4nm,0.8s,baz=5.5,slow=4.1,SNR=2.3						
SNAA	Sanae	142.28	197	PKPdf	PKPdf	03 32 34.7	-4.6
VNA2	Neumayer--Watz	143.84	197	PKPdf	PKPbc	03 32 40.0	+0.2
VNA3	Neumayer Olymp	144.09	195	PKPdf	PKPab	03 32 40.6	+0.5
VNA1	Neumayer--Stat	144.24	196	PKPdf	PKPbc	03 32 41.4	+0.4
LPAZ	La Paz	145.59	58	PKPbc	PKPab	03 32 48.5	+0.5
	comp=Z,4.2nm,0.8s,baz=22,slow=9.3,SNR=14						
LPAZ	La Paz	145.59	58	PKP2	PKPdf	03 32 47.8	+0.4
LPAZ	La Paz	145.59	58	PKPbc	PKPdf	03 32 47.8	+0.4

IDC 05 03:24:04.2±2.9**, 20°.37S**×**174°.30W, h0**km**, mb3.7**/3**,**
mb1 4.0/3**, mb1mx3.6**/30**, mbtmp3.7**/3**, Error ellipse:**
s-maj=279.0km s-min=35.2km az=159.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	47.93	256	P	P	03 32 45.5	+0.7
	1.7nm,0.7s,baz=86,slow=8.2,SNR=22						
WRA	Warramunga Arr	48.06	261	P	P	03 32 44.9	-0.9
	0.5nm,0.3s,baz=102,slow=7.5,SNR=20						
TXAR	Lajitas Array	84.08	56	P	P	03 36 37.4	0.0
	0.1nm,0.4s,baz=232,slow=5.3,SNR=1.7						

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*ANF **05** 04:04:20.8±0.2, 39°.29N×99°.37W, h5km, ML3.4/9, Error ellipse: s-maj=2.3km s-min=1.8km az=126.0*
NEIC 05 04:04:20.8±1.3**, 39°.30N**±0°.02×**99°.34W**±0°.06**, h5**km±2km**,**
mb_Lg2.6/34**, Error ellipse: s-maj=8.3km s-min=3.2km**
az=268.0, Kansas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBKS	Cedar Bluff	0.58	213	Pg	Pg	04 04 31.4	-0.4
CBKS				Sg	Sg	04 04 39.6	+0.2
CBKS	Cedar Bluff	0.58	213	P	Pg	04 04 31.4	-0.5
	baz=32,SNR=86						
CBKS				S	Sg	04 04 39.7	+0.3
	baz=32						
R32A	Long Quarter,	1.00	151		Pg	04 04 40.3	+0.3
R32A				Sg	Sb	04 04 53.9	-0.3
R32A	Long Quarter,	1.00	151	P	Pg	04 04 40.1	+0.1
	baz=331,SNR=61						
R32A				S	Sb	04 04 54.0	-0.2
	baz=331						
N33B	J Bar K, Exete	2.04	45	P	Pn	04 04 56.0	+0.2
	baz=226,SNR=32						
N33B				S	Sb	04 05 23.0	-0.9
	baz=226						
N33A	J Bar K, Exete	2.04	45		Pn	04 04 55.7	-0.1
N33A				Sn	Sn	04 05 22.2	+0.5
KSU1	Kansas State U	2.13	95		Pn	04 04 57.4	+0.4
KSU1	Kansas State U	2.13	95	P	Pn	04 04 57.2	+0.2
	baz=276,SNR=14						
KSU1				S	Sb	04 05 26.8	+0.3
	baz=276						
KAN12	Harper NE Stat	2.26	152	Pn	Pn	04 04 58.6	-0.2
BGNE	Belgrade	2.29	23		Pn	04 04 58.9	-0.3
BGNE	Belgrade	2.29	23	P	Pn	04 04 59.7	+0.4
	baz=204						
KAN08	Anthony NE Sta	2.33	152	Pn	Pn	04 04 59.6	-0.2
KAN10	Anthony SW Sta	2.38	155	Pn	Pn	04 05 00.8	+0.3
KAN05	Bluff City Nor	2.47	152	Pn	Pn	04 05 00.5	-1.2
KS20	Mayfield South	2.50	145	Pn	Pn	04 05 02.7	+0.6
KS20				IAmb_Lg		04 05 46.4	
	comp=Z,29nm,0.7s						
KAN17	Caldwell West	2.57	151	Pn	Pn	04 05 03.2	+0.1
KSCO	Kaye Shedlock’	2.58	265	Pn	Pn	04 05 03.7	+0.5
KSCO	Kaye Shedlock’	2.58	265	P	Pn	04 05 03.1	-0.1
	baz=82,SNR=13						
KAN14	Manchester OK	2.58	155	Pn	Pb	04 05 05.4	-2.1
OGNE	Ogallala	2.64	309		Pn	04 05 04.3	+0.2
OGNE				IAmb_Lg		04 05 44.3	
	comp=Z,19nm,0.7s						
OK032	Salt Plains WL	2.65	160	Pn	Pn	04 05 03.9	-0.2
GC02	Grant County #	2.71	154	Pn	Pn	04 05 05.0	+0.1
KAN13	South Haven SW	2.71	147	Pn	Pn	04 05 04.3	-0.7
U32A	Winter Ranch,	2.93	175	Pn	Pn	04 05 07.2	-0.8
U32A				IAmb_Lg		04 05 54.7	
	comp=Z,20nm,0.8s						
CROK	Carrier	2.99	159	Pn	Pn	04 05 08.1	-0.7
BLOK	Blackwell	3.04	146	Pn	Pn	04 05 09.6	+0.1
N35A	Tabor	3.23	60	IAmb_Lg		04 06 00.9	
	comp=Z,26nm,0.8s						
T35A	Sooner Cattle	3.26	136	Pn	Pn	04 05 11.6	-0.9
K31A	O'Neill	3.35	7	Pn	Pn	04 05 13.6	-0.2
K31A				IAmb_Lg		04 06 08.4	
	comp=Z,15nm,0.8s						
L34A	Svendsen Farm,	3.49	39		Pn	04 05 15.8	+0.2
QUOK	Quay	3.75	145	Pn	Pn	04 05 19.1	-0.3
OK029	Liberty Lake	3.81	156	Pn	Pn	04 05 19.2	-0.8
OK031	S. Brethren Rd	3.89	149	Pn	Pn	04 05 21.7	+0.5
OK025	Westminster Rd	4.04	156	Pn	Pn	04 05 23.2	0.0
OK025				IAmb_Lg		04 06 32.5	
	comp=Z,12nm,0.8s						
OKCFA	Oklahoma City	4.16	158	Pn	Pn	04 05 23.8	-1.1
FNO	Franklin	4.32	158	Pn	Pn	04 05 26.8	-0.3
P38A	Dawn	4.50	84	Pn	Pn	04 05 30.2	+0.6
P38A				IAmb_Lg		04 06 52.9	
	comp=Z,9.5nm,0.8s						
P38A	Dawn	4.50	84	P	Pn	04 05 29.9	+0.3
	baz=268,SNR=9.9						
T25A	Trinidad	4.54	243	Pn	Pn	04 05 29.2	-1.1
WMOK	Wichita Mounta	4.58	174		Pn	04 05 31.1	+0.4
WMOK	Wichita Mounta	4.58	174	P	Pn	04 05 30.9	+0.3
	baz=355,SNR=18						
AMTX	Amarillo	4.79	204		Pn	04 05 34.0	+0.3
AMTX				IAmb_Lg		04 06 57.1	
	comp=Z,17nm,0.8s						
X34A	Smith Ranch, M	4.84	165	Pn	Pn	04 05 34.5	+0.2
U38A	Gravette	4.85	125	Pn	Pn	04 05 34.0	-0.4
ECSD	EROS Data Cent	4.88	24	Pn	Pn	04 05 35.5	+0.7
ISCO	Idaho Springs	4.88	278	Pn	Pn	04 05 34.9	-0.2
ISCO	Idaho Springs	4.88	278	P	Pn	04 05 34.6	-0.5
	baz=94,SNR=12						
N38A	Joes South For	4.91	70	Pn	Pn	04 05 34.8	-0.4
S39A	Bolivar	4.98	107	Pn	Pn	04 05 35.4	-0.9
SCIA	State Center	5.34	59	IAmb_Lg		04 07 08.3	
	comp=Z,12nm,0.7s						
R40A	Maddies Statio	5.61	98	IAmb_Lg		04 07 29.4	
	comp=Z,17nm,1.2s						
P40A	Paris	5.65	85	IAmb_Lg		04 07 24.3	
	comp=Z,9.5nm,1.0s						
X37A	Clayton	5.67	145	IAmb_Lg		04 07 27.0	
	comp=Z,13nm,0.7s						
U40A	Yellville	5.91	118	IAmb_Lg		04 07 31.9	
	comp=Z,7.1nm,0.7s						
MSTX	Muleshoe	6.00	208	IAmb_Lg		04 07 47.6	
	comp=Z,6.3nm,0.8s						
K22A	Casper	6.38	304	IAmb_Lg		04 07 49.7	
	comp=Z,7.8nm,0.9s						
N41A	Harden Midland	6.66	75	IAmb_Lg		04 08 01.4	
	comp=Z,12nm,0.7s						
F33A	5 Mile Ranch,	6.91	18	IAmb_Lg		04 07 54.8	
	comp=Z,5.1nm,0.8s						
S44A	Carbondale	8.07	98	IAmb_Lg		04 08 40.0	
	comp=Z,6.1nm,0.8s						

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*IDC **05** 04:15:19.7±3.2, 36°.06N×70°.49E, h180km±29km, mb3.4/12, mb1 3.5/18, mb1mx3.3/63, mbtmp4.0/18, Error ellipse: s-maj=23.4km s-min=14.1km az=179.0*
*NEIC **05** 04:15:24.1±1.4, 36°.50N±0°.07×70°.29E±0°.09, h206km±8km, mb4.1/9, Error ellipse: s-maj=11.1km s-min=9.3km az=129.0*
*NNC **05** 04:15:25.9±8.9, 36°.77N×70°.03E, h164km±130km, mb3.6, mpv4.4, Error ellipse: s-maj=74.9km s-min=48.5km az=24.0*
ISC 05 04:15:24.1±0.5**, 36°.53N**±0°.05×**70°.37E**±0°.06**, h204**km**, n78,**
σ**1**s**73**/83**, mb3.8**/13**, 4C-4D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.26	209	Pn	Pn	04 16 05.6	-0.3
CHGR	Chuyangaron	2.33	336	Pn	Pn	04 16 06.6	+0.2
GAR	Garm	2.47	359		Pn	04 16 08.0	0.0
CEP	Cherat	2.98	155	P	Pn	04 16 14.2	+0.3
CEP				S	S	04 16 52.0	-0.1
DRK	Karamyk	3.15	20		Pn	04 16 17.1	+1.1
BTK	Batken	3.54	6		Pn	04 16 21.9	+1.6
CHCP	Chirah Chowk	3.72	140	P	Pn	04 16 23.4	+0.8
NIL	Nilore	3.72	140	Pn	Pn	04 16 23.5	+0.9
THW	Thamme Wali	3.89	163	P	Pn	04 16 24.6	-0.2
KSH	Kashi	5.33	54	P	Pn	04 16 38.6	-4.3
KSH				S	S	04 17 34.1	-11
KSH				smax	smax		
	comp=N,150nm,0.7s						
KSH				smax	smax		
	comp=E,86nm,0.7s						
AML	Almayashu	6.16	24	P	Pn	04 16 53.9	+0.2
	SNR=111						
DHRM	DHARAMSHALA	6.50	129	eP	Pn	04 16 57.7	-0.4
DHRM				eS	S	04 18 08.0	-4.3
DHRM				IAML		04 18 11.8	
	comp=E,272nm,0.4s						
DHRM				IAML		04 18 12.1	
	comp=N,231nm,0.1s						
KK31	Karatay Array	6.57	1	⇓P	Pn	04 16 58.5	-0.1
	comp=N,7.2nm,0.5s,baz=182,slow=13,SNR=156						
KK31				⇑S	S	04 18 11.2	-2.3
	comp=N,4.5nm,0.3s,baz=190,slow=28,SNR=4.8						
KK31	Karatay Array	6.57	1		Pn	04 16 58.6	-0.1
KKAR	Karatay Array	6.57	1	Pn	Pn	04 16 58.5	-0.1
KKAR	Karatay Array	6.57	1		Pn	04 16 58.6	0.0
EKS2	Erkin-Say	6.66	22	P	Pn	04 17 00.5	+0.6
	SNR=14						
KZA	Kyzart	6.71	33	P	Pn	04 17 00.7	-0.1
	SNR=5.7						
AAK	Ala-Archa	6.88	26	P	Pn	04 17 03.5	+0.7
	comp=N,4.1nm,0.3s,baz=203,slow=8.5,SNR=38						
AAK				S	S	04 18 19.3	-1.8
	comp=N,3.6nm,0.3s,baz=334,slow=22,SNR=14						
AAK	Ala-Archa	6.88	26	P	Pn	04 17 03.2	+0.4
	SNR=15						
AAK	Ala-Archa	6.88	26	P	Pn	04 17 02.4	-0.4
	comp=N,14nm,0.6s						
AAK				S	S	04 18 20.9	-0.2
	comp=N,19nm,0.5s						
AAK	Ala-Archa	6.88	26	Pn	Pn	04 17 02.8	-0.1
KBK	Karagaybulak	7.06	29	P	Pn	04 17 06.0	+0.8
	SNR=10.0						
BHK	Bhakra	7.15	134	ex	x	04 18 19.2	
CHMS	Chumysh	7.29	26	P	Pn	04 17 08.5	+0.5
	SNR=5.6						
BOOM	Boomskoye usch	7.34	34	Pn	Pn	04 17 08.2	-0.7
USP	Ospenovka	7.44	24	P	Pn	04 17 09.9	0.0
	SNR=24						
TKM2	Tokmak 2	7.54	31	P	Pn	04 17 11.8	+0.3
	SNR=48						
TKM2	Tokmak 2	7.54	31	⇓P	Pn	04 17 11.8	+0.3
	comp=N,32nm,0.5s						
TKM2				⇑S	S	04 18 34.1	-2.9
	comp=N,9.6nm,0.7s						
SMLA	Simla	7.81	132	eP	Pn	04 17 14.3	-0.5
SMLA				eS	S	04 18 38.9	-4.1
SMLA				IAML		04 18 41.0	
	comp=E,86nm,0.1s						
SMLA				IAML		04 18 41.4	
	comp=N,132nm,0.4s						
NDI	New Delhi	9.72	142	eP	Pn	04 17 37.0	-2.7
NDI				eS	S	04 19 18.0	-11
GEYT	Alibeck	9.88	282	P	Pn	04 17 40.2	-1.4
	comp=N,0.5nm,0.3s,baz=133,slow=10,SNR=2.0						
MAKZ	Makanchi	13.43	37		Pn	04 18 27.1	+0.5
MK31	Makanchi Array	13.57	37		Pn	04 18 28.1	-0.2
MKAR	Makanchi Array	13.57	37	P	Pn	04 18 28.3	0.0
	comp=N,0.4nm,0.3s,baz=226,slow=16,SNR=12						
PYUN	Piuthan	13.57	125	eP	Pn	04 18 29.2	+0.4
	comp=N,28nm,0.3s						
DANN	Dangsing	13.93	122	eP	P	04 18 35.5	+0.3
	comp=N,20nm,0.4s						
KOLN	Koldanda	14.19	124	eP	Pn	04 18 36.1	-0.4
	comp=N,10nm,0.4s						
GKN	Gorkha	14.75	121	eP	P	04 18 45.7	+1.6
	comp=N,20nm,0.3s						
AB31	Akbulak array	14.82	332	⇑P	P	04 18 45.6	+1.1
	comp=N,3.6nm,0.5s,baz=146,slow=12,SNR=88						
AB31				⇓S	S	04 21 23.7	-4.2
	comp=N,0.6nm,0.5s						
ABKAR	Akbulak array	14.82	332		Pn	04 18 43.6	-0.1
WMQ	Urumqi	15.10	56	eP	P	04 18 49.2	+1.5
KURBB	Kurchatov Arra	15.26	20	P	P	04 18 49.7	+0.3
	comp=N,0.1nm,0.3s,baz=7.8,slow=7.7,SNR=4.8						
DMN	Daman	15.32	121	eP	P	04 18 51.1	+0.6
	comp=N,13nm,0.4s						
KKN	Kakani	15.32	120	eP	P	04 18 52.8	+2.3
	comp=N,21nm,0.3s						
KURK	Kurchatov	15.37	20	P	Pn	04 18 49.7	-0.7
PKIN	Phulchoki	15.54	121	eP	Pn	04 18 54.3	+1.3
PKI	Pulchoki	15.55	121	eP	Pn	04 18 54.8	+1.6
GUN	Gumba	15.67	119	eP	Pn	04 18 57.1	+2.5
JIRN	Jiri	16.04	119	eP	Pn	04 19 01.2	+2.1
	comp=N,64nm,0.6s						
BVAR	Borovoye Array	16.49	0	P	Pn	04 19 04.3	+0.4
	comp=N,0.6nm,0.3s,baz=188,slow=19,SNR=5.9						
AKTO	Aktyubinsk	16.51	331	P	Pn	04 19 04.8	+0.7
	comp=N,1.0nm,0.3s,baz=143,slow=10,SNR=23						
AKTO	Aktyubinsk	16.51	331	⇑P	Pn	04 19 04.6	+0.5
	comp=N,11nm,0.9s						
AKTO				⇓S	S	04 22 02.1	-3.2
	comp=N,3.3nm,1.1s						
BRVK	Borovoye	16.53	360		P	04 19 03.8	+0.5
RAMN	Ramite	16.76	120	eP	P	04 19 07.0	+0.6
	comp=N,23nm,0.4s						
ZAA0	Zalesovo Array	20.10	25	P	P	04 19 41.7	-0.3
ZALV	Zalesovo Beam	20.10	25	P	P	04 19 42.9	+1.0
	comp=N,4.3nm,0.3s,baz=221,slow=12,SNR=11						
ZALV	Zalesovo Beam	20.10	25	P	P	04 19 41.9	0.0
GNI	Garni	20.41	288	P	P	04 19 43.4	-2.2
GNI				IAmb	IAmb	04 19 50.1	
	comp=Z,6.4nm,0.9s						
ARU	Arti	21.44	342	P	P	04 19 58.7	+2.6
	comp=Z,2.1nm,0.2s,baz=193,slow=6.0,SNR=7.4						
ARU	Arti	21.44	342	IAmb	IAmb	04 19 59.8	
	comp=Z,6.5nm,0.6s						
KBZ	Khabaz	22.14	297	P	P	04 20 04.0	+1.0
	comp=Z,1.0nm,0.5s,baz=73,slow=11,SNR=2.4						
BELG	Belogornoye	22.55	322	P	P	04 20 08.1	+1.4
	comp=Z,11nm,0.7s,baz=333,slow=2.5,SNR=5.2						
LZH	Lanzhou	26.90	81	eP	P	04 20 53.4	+7.0
LZH				sP	sP	04 22 00.6	+7.5
LZH				pmax	pmax		
	comp=Z,22nm,1.1s						
SONM	Songino Array	28.73	56	P	P	04 21 03.4	+1.0
	comp=Z,0.4nm,0.4s,baz=270,slow=10,SNR=2.9						
BRTR	Keskin Array B	28.94	288	P	P	04 21 05.6	+1.2
	comp=Z,0.4nm,0.6s,baz=82,slow=10,SNR=3.1						
HHC	Hu-ho-hao-te	32.23	70	eP	P	04 21 34.7	+1.5
HHC				pP	pP	04 22 17.0	+0.6
HHC				pmax	pmax		
	comp=Z,19nm,1.2s						
HHC				pmax	pmax		
	comp=Z,41nm,5.3s						
AKASG	Malin Array Be	32.53	309	P	P	04 21 36.1	+0.5
	comp=Z,0.7nm,0.5s,baz=83,slow=7.0,SNR=4.5						
FINES	FINESS Array B	37.18	326	P	P	04 22 16.4	+1.3
	comp=Z,2.1nm,0.6s,baz=113,slow=9.4,SNR=14						
ARCES	ARCESS Array B	40.93	338	P	P	04 22 48.1	+2.0
	comp=Z,2.7nm,0.5s,baz=113,slow=7.4,SNR=25						
ARCES	ARCESS Array B	40.93	338	IAmb	IAmb	04 22 56.9	
	comp=Z,6.9nm,1.1s						
NB2	NORSAR Subarra	44.05	323	P	P	04 23 11.6	+0.2
	comp=Z,1.7nm,0.7s,baz=97,slow=7.9						
NOA	NORSAR Array B	44.05	323	P	P	04 23 11.9	+0.5
	comp=Z,1.4nm,0.8s,baz=95,slow=7.9,SNR=5.3						
TORD	Torodi Ar. Bea	65.21	268	P	P	04 25 42.4	-1.5
	comp=Z,0.6nm,0.7s,baz=52,slow=5.8,SNR=9.2						
TORD	Torodi Ar. Bea	65.21	268	IAmb	IAmb	04 25 59.6	
	comp=Z,3.8nm,1.5s						
H23K	Yukon River	73.40	16	P	P	04 26 33.0	-0.4
BCAR	Beaver Creek A	77.46	14	P	P	04 26 56.2	-0.3
WRA	Warramunga Arr	82.44	121	P	P	04 27 19.6	-4.1
	comp=Z,0.3nm,0.4s,baz=326,slow=5.1,SNR=2.9						

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*BJI **05** 04:18:03.3±0.0, 38°.53N×142°.45E, h32km, mB4.8/35, mb4.6/57, Ms4.0/35, Ms7 3.9/38*
*MOS **05** 04:18:04.9±1.1, 38°.68N×142°.22E, h23km, mb4.8/34, Error ellipse: s-maj=7.3km s-min=4.9km az=105.1*
*BGR **05** 04:18:04.3±0.0, 38°.14N×143°.69E, h33km, mb4.9*
*NEIC **05** 04:18:08.0±2.1, 38°.70N±0°.06×142°.2E±0°.1, h28km±5km, mb4.7/48, Error ellipse: s-maj=12.0km s-min=7.5km az=106.0*

JMA ***05*** *04:18:08.7±0.1, 38°.67N×142°.16E, h42km±1km, M4.5*
JMA Felt II J1.

NIED ***05*** *04:18:08.8, 38°.67N×142°.16E, h42km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}4.72; $M_{\theta\theta}$-0.02; $M_{\phi\phi}$-4.69; $M_{r\theta}$3.31; $M_{\theta\phi}$-1.96; $M_{\phi r}$4.26; Fault plane solution: $M_0$7.41000×10^{15} NP1:ϕ_s33.00000°, δ69.00000°, λ101.00000°. NP2:ϕ_s185.00000°, δ24.00000°, λ63.00000°.*

IDC ***05*** *04:18:10.2±1.8, 38°.67N×142°.03E, h50km±15km, mb4.0/21, mb1 4.2/28, mb1mx4.1/43, mbtmp4.3/28, ML3.8/7, MS3.6/25, Ms1 3.6/25, ms1mx3.5/44 Error ellipse: s-maj=15.7km s-min=10.8km az=109.0*

ISC 05 04:18:08.0±0.7**, 38°.67N**±0°.04×**142°.20E**±0°.05**, h35**km±3km**, n261,** σ1s**43**/265**, mb4.6**/79**, MS4.0**/34**, 19C-25D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.58	315	P	Pb	04 18 20.3	+0.3
OFUJ				S	Sn	04 18 28.4	+0.3
JKMT	Kesennumamotoy	0.58	284	P	Pn	04 18 20.2	+0.4
JKMT				S	Sn	04 18 27.8	-0.3
JIKH	Ishinomakikobu	0.68	238	P	Pn	04 18 21.3	+0.2
JIKH				S	Sn	04 18 30.0	-0.4
JIO	Ouri	0.70	252	P	Pn	04 18 21.6	+0.2
JIO				S	Sn	04 18 30.5	-0.5
JMK	Ichinoseki	0.81	291	P	Pn	04 18 23.5	+0.5
JMK				S	Sn	04 18 34.0	+0.2
JOM	Ohasama	1.07	319	P	Pn	04 18 27.3	+0.8
JOU	Okura	1.24	256	P	Pn	04 18 29.5	+0.6
JOU				S	Sn	04 18 45.2	+0.8
JTH	Tanohata	1.29	349	P	Pn	04 18 30.2	+0.6
JTH				eS	Sn	04 18 46.5	+0.8
JMM	Marumori	1.36	234	P	Pn	04 18 30.7	+0.1
JMM				eS	Sn	04 18 47.2	-0.3
JMM	Marumori	1.36	234		Pn	04 18 30.8	+0.1
JRG	Rokugo	1.42	301	P	Pn	04 18 32.1	+0.8
JRG				eS	Sn	04 18 50.1	+1.3
JYK	Kaneyama	1.46	280	P	Pn	04 18 32.6	+0.7
JTM	Tenmabayashi	2.29	338	Pn	Pn	04 18 44.9	+1.6
JYT	Yasato	2.91	214	Pn	Pn	04 18 52.8	+1.0
JSD	Sado	3.16	260	Pn	Pn	04 18 56.0	+0.7
MJAR	Matsushiro Arr	3.81	237	P	Pn	04 19 05.7	+1.4
	3.3nm,0.3s,baz=36,slow=12,SNR=72						
MJAR				LR	LR	04 20 53.8	
	comp=Z,905nm,18.6s,baz=40,slow=44						
MAJO	Matsushiro	3.81	237	deP	Pn	04 19 06.3	+2.0
MAJO	Matsushiro	3.81	237	Pn	Pn	04 19 05.9	+1.6
MAT	Matsushiro	3.81	237	P	Pn	04 19 06.4	+2.1
MAT				S	Sb	04 19 56.9	-3.5
MJB9	Matsu-Tunnel	3.81	237		Pn	04 19 07.0	+2.7
JEW	Eniwo	4.21	352	Pn	Pn	04 19 10.6	+1.0
JGF	Kuroka	4.93	233		Pn	04 19 21.2	+1.5
INU	Inuyama	5.31	233	Pn	Pn	04 19 27.0	+2.2
NMR	Nemuro--Hokkai	5.40	28	eP	Pn	04 19 25.3	-0.7
NMR				eS	Sn	04 20 23.0	-4.0
JKA	Kamikawa-asahi	5.45	3	Pn	Pn	04 19 27.5	+0.8
ASAJ	Asahikawa	5.45	3	P	Pn	04 19 27.8	+1.1
	8.5nm,0.3s,baz=217,slow=11,SNR=26						
ASAJ				S	Sn	04 20 30.0	+1.8
	8.3nm,0.3s,baz=40,slow=17,SNR=4.4						
GLVR	Golovnino	5.65	25	eP	Pn	04 19 30.2	+0.7
GLVR				eS	Sn	04 20 31.3	-1.8
GLVR				pmax	pmax		
	comp=N,171nm,0.2s						
GLVR				pmax	pmax		
	comp=E,304nm,0.2s						
GLVR				pmax	pmax		
	comp=Z,210nm,0.2s						
GLVR				smax	smax		
	comp=N,968nm,0.3s						
GLVR				smax	smax		
	comp=E,1μm,0.3s						
JHJ	Hachijo jima 2	5.87	200	P	Pn	04 19 32.9	+0.3
	comp=E,22nm,0.3s,baz=72,slow=20,SNR=2.0						
JHJ				S	Sn	04 20 35.5	-3.2
	comp=E,42nm,0.3s,baz=115,slow=22,SNR=6.5						
RUSJ	Misakicho	5.89	22	eP	Pn	04 19 33.8	+1.0
RUSJ				eS	Sn	04 20 38.2	-0.9
GRPR	Tuman	5.96	26	eP	Pn	04 19 33.1	-0.6
GRPR				eS	Sn	04 20 37.0	-3.7
GRPR				smax	smax		
	comp=E,926nm,0.4s						
GRPR				smax	smax		
	comp=N,1μm,0.3s						
YUK	Yuzh-Kuril'sk	6.03	26	eP	Pn	04 19 34.7	+0.1
YUK				eS	Sn	04 20 39.3	-3.1
YUK				pmax	pmax		
	comp=Z,178nm,0.3s						
YUK				smax	smax		
	comp=N,887nm,0.4s						
YUK				smax	smax		
	comp=E,641nm,0.4s						
JWT	Wachi	6.40	240	Pn	Pn	04 19 43.4	+3.5
KUR	Kuril'sk	7.80	31	eP	Pn	04 20 00.3	+1.3
KUR				i S	Sn	04 21 22.7	-3.3
KUR				pmax	pmax		
	comp=Z,62nm,0.5s						
KUR				pmax	pmax		
	comp=E,27nm,0.6s						
KUR				pmax	pmax		
	comp=N,21nm,0.4s						
KUR				smax	smax		
	comp=E,185nm,0.6s						
KUR				smax	smax		
	comp=N,89nm,0.5s						
JHS	Saijyo	8.15	246		Pn	04 20 07.7	+3.8
YSS	Yuzh-Sakhalins	8.29	3	eP	Pn	04 20 06.3	+0.6
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				MLR	MLR		
	comp=N,300nm,15.0s						
YSS				MLR	MLR		
	comp=E,200nm,15.0s						
VLA	Vladivostok	8.98	303	⇑eP	Pn	04 20 18.7	+3.5
VLA				pmax	pmax		
	comp=Z,44nm,0.8s						
MSHR	Mys Shultsa	9.26	298	ceP	Pn	04 20 21.3	+2.3
MSHR				pmax	pmax		
	comp=Z,12nm,0.7s						
USA0B	Ussuriysk Arra	9.45	309	⇓eP	Pn	04 20 24.3	+2.7
USA0B	Ussuriysk Arra	9.45	309	Pn	Pn	04 20 24.3	+2.7
USRK	Ussuriysk Ar.	9.45	309	P	Pn	04 20 23.8	+2.3
	baz=121,slow=13,SNR=87						
USRK				LR	LR	04 23 51.3	
	comp=Z,571nm,19.5s,baz=94,slow=36						
USRK	Ussuriysk Ar.	9.45	309	Pn	Pn	04 20 22.6	+1.0
JNU	Nakatsue	10.72	242	P	Pn	04 20 40.8	+1.8
	comp=Z,0.6nm,0.3s,baz=54,slow=19,SNR=7.7						
JNU	Nakatsue	10.72	242	Pn	Pn	04 20 41.8	+2.8
MDJ	Mudanjiang	11.14	306	P	Pn	04 20 46.8	+2.0
MDJ				sP		04 21 02.8	
MDJ				S	Sn	04 22 46.0	-2.0
MDJ				ScP	ScP	04 30 10.9	+1.3
MDJ				ScS	ScS	04 33 45.2	+0.4
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.9s						
MDJ				pmax	pmax		
	comp=Z,110nm,5.3s						
MDJ				LR	LR		
	comp=Z,230nm,17.2s						
MDJ				LR	LR		
	comp=Z,390nm,16.4s						
MDJ				LR	LR		
	comp=Z,680nm,16.0s						
KSRS	Korea Array	11.32	268	P	Pn	04 20 51.4	+4.1
	comp=Z,0.5nm,0.3s,baz=80,slow=14,SNR=24						
KSRS				LR	LR	04 24 47.2	
	comp=Z,369nm,20.8s,baz=78,slow=35						
KSAR	Wonju Array Be	11.35	268	P	Pn	04 20 50.6	+2.9
KSAR	Wonju Array Be	11.35	268		Pn	04 20 50.6	+2.9
KS19	Wonju Array Si	11.36	269		Pn	04 20 51.2	+3.5
JCJ	Chichijima	11.54	180	P	Pn	04 20 47.7	-2.7
	comp=Z,4.1nm,0.3s,baz=270,slow=20,SNR=1.2						
JCJ				S	Sn	04 22 46.4	-12
	comp=Z,4.0nm,0.3s,baz=308,slow=19,SNR=1.3						
JCJ				LR	LR	04 25 14.7	
	comp=Z,36nm,20.9s,baz=40,slow=37						
TJN	Taejon	12.00	264	⇓eP	Pn	04 21 00.0	+3.5
KLR	Kul'dur	12.95	328	P	Pn	04 21 10.6	+1.2
	comp=Z,0.2nm,0.3s,baz=132,slow=13,SNR=6.1						
KLR				LR	LR	04 26 05.2	
	comp=Z,481nm,19.4s,baz=136,slow=37						
KLR	Kul'dur	12.95	328	⇓eP	Pn	04 21 10.0	+0.5
KLR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CN2	Changchun	13.60	297	eP	P	04 21 23.1	-3.7
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=Z,200nm,14.0s						
CN2				LR	LR		
	comp=Z,300nm,14.0s						
CN2				LR	LR		
	comp=Z,300nm,16.0s						
DL2	Dalian	16.04	277	P	P	04 21 53.0	-1.0
DL2				S	Sn	04 24 51.3	+3.7
DL2				pmax	pmax		
	comp=Z,30nm,1.0s						
DL2				pmax	pmax		
	comp=Z,120nm,5.2s						
DL2				LR	LR		
	comp=Z,240nm,13.4s						
DL2				LR	LR		
	comp=Z,310nm,13.9s						
DL2				LR	LR		
	comp=Z,380nm,15.1s						
JOW	Kunigami	16.60	229	P	P	04 22 00.1	-0.2
	comp=Z,0.6nm,0.3s,baz=72,slow=14,SNR=4.1						
JOW				LR	LR	04 28 54.1	
	comp=Z,47nm,18.9s,baz=46,slow=39						
JOW	Kunigami	16.60	229		P	04 22 00.7	+0.4
PETK	Petropavlovsk-	17.97	31	LR	LR	04 29 33.0	
	comp=Z,73nm,19.1s,baz=213,slow=38						
ZEA	Zeya	18.22	331	eP	P	04 22 15.9	-2.0
ZEA				pmax	pmax		
	comp=E,20nm,0.9s						
ZEA				pmax	pmax		
	comp=N,20nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,40nm,1.0s						
ZEA				MLR	MLR		
	comp=E,200nm,16.0s						
TIA	Tai'an	20.04	271	⇑P	P	04 22 37.4	-0.7
TIA				pmax	pmax		
	comp=E,12nm,0.9s						
NJ2	Nanjing	20.12	258	eP	P	04 22 39.1	+0.2
NJ2				sP	sP	04 22 52.8	+0.7
NJ2				pmax	pmax		
	comp=E,11nm,0.6s						
BJI	Beijing	20.15	282	P	P	04 22 38.2	-0.9
BJI				pP	pP	04 22 47.8	-0.4
BJI				LR	LR		
	comp=E,85nm,14.7s						
BJI				LR	LR		
	comp=E,310nm,14.3s						
BJI				LR	LR		
	comp=E,390nm,15.0s						
BJT	Baijiatuau	20.16	282	P	P	04 22 38.5	-0.7
BJT				pmax	pmax		
	comp=Z,11nm,1.0s						
BJT	Baijiatuau	20.16	282	P	P	04 22 38.5	-0.7
MA2	Magadan	21.63	12	LR	LR	04 32 02.8	
	comp=Z,78nm,19.0s,baz=184,slow=38						
SSLB	Suanglung	23.37	237	P	P	04 23 13.9	+0.3
SSLB				IAmb	IAmb	04 23 29.3	
	comp=Z,16nm,0.9s						
HHC	Hu-ho-hao-te	23.59	285	eP	P	04 23 16.6	+0.9
HHC				pmax	pmax		
	comp=Z,10.0nm,1.2s						
HHC				pmax	pmax		
	comp=Z,70nm,5.4s						
HHC				LR	LR		
	comp=Z,65nm,11.2s						
HHC				LR	LR		
	comp=Z,430nm,13.6s						
HHC				LR	LR		
	comp=Z,520nm,14.7s						
WHN	Wuhan	24.24	259	⇓P	P	04 23 21.2	-0.5
WHN				S	S	04 27 36.1	-1.9
WHN				pmax	pmax		
	comp=Z,30nm,0.8s						
WHN				LR	LR		
	comp=Z,490nm,19.1s						
YAK	Yakutsk	24.62	346	LR	LR	04 33 25.6	
	comp=Z,63nm,19.0s,baz=98,slow=37						
YAK	Yakutsk	24.62	346	eP	P	04 23 23.9	-0.9
YAK				e*PP	pP	04 23 34.1	-0.5
YAK				e		04 26 59.0	
YAK				eS	S	04 27 42.8	-0.8
YAK				e		04 34 20.6	
YAK				pmax	pmax		
	comp=Z,37nm,1.1s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.1s						
YAK				smax	smax		
	comp=E,25nm,1.6s						
YAK				smax	smax		
	comp=N,19nm,1.4s						
SEY	Seymchan	25.07	11	P	P	04 23 29.7	+0.8
	comp=N,9.6nm,0.8s,baz=202,slow=6.3,SNR=12						
SEY				LR	LR	04 33 22.1	
	comp=N,89nm,21.9s,baz=336,slow=36						
SEY	Seymchan	25.07	11	ceP	P	04 23 30.4	+1.5
GUMO	Guam	25.09	174	LR	LR	04 32 55.9	
	comp=N,58nm,21.4s,baz=284,slow=35						
BOD	Bodaibo	26.51	325	eP	P	04 23 40.9	-1.0
BOD				pmax	pmax		
	comp=Z,11nm,1.4s						
ULN	Ulaanbaatar	26.99	301	⇓eP	P	04 23 48.2	+1.6
ULN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ULN	Ulaanbaatar	26.99	301	P	P	04 23 47.2	+0.6
SONM	Songino Array	27.43	301	P	P	04 23 50.6	+0.1
	comp=Z,0.9nm,0.4s,baz=102,slow=9.4,SNR=9.5						
SONM				LR	LR	04 35 09.6	
	comp=Z,151nm,18.1s,baz=106,slow=37						
SONM	Songino Array	27.43	301	P	P	04 23 50.4	-0.2
ENH	Enshi	28.12	263	P	P	04 23 55.5	-1.2
H11N2	WAKE ISLAND Hy	28.50	124	T	T	04 54 19.9	
	baz=317,slow=75,SNR=4480						
H11N1	WAKE ISLAND Hy	28.51	124	T	T	04 54 19.4	
	baz=317,slow=75,SNR=2826						
H11N3	WAKE ISLAND Hy	28.52	124	T	T	04 54 20.2	
	baz=317,slow=75,SNR=3088						
H11S1	WAKE ISLAND Hy	29.28	126	T	T	04 55 14.0	
	baz=318,slow=76,SNR=727						
H11S3	WAKE ISLAND Hy	29.28	126	T	T	04 55 16.8	
	baz=318,slow=76,SNR=1003						
H11S2	WAKE ISLAND Hy	29.29	126	T	T	04 55 17.5	
	baz=318,slow=76,SNR=585						
ZAK	Zakamensk	29.78	306	eP	P	04 24 10.9	-0.5
ZAK				pmax	pmax		
	comp=Z,14nm,1.1s						
LZH	Lanzhou	30.44	277	⇑P	P	04 24 19.7	+2.3
LZH				sP	sP	04 24 35.3	+3.9
LZH				pmax	pmax		
	comp=Z,90nm,4.9s						
LZH				LR	LR		
	comp=Z,120nm,15.7s						
LZH				LR	LR		
	comp=Z,210nm,16.3s						
LZH				LR	LR		
	comp=Z,230nm,15.7s						
GYA	Guiyang	32.13	258	⇓P	P	04 24 33.2	+0.8
GYA				pmax	pmax		
	comp=Z,18nm,0.8s						
GYA				LR	LR		
	comp=Z,210nm,21.1s						
CD2	Chengdu	32.32	268	P	P	04 24 33.4	-0.5
CD2				S	S	04 29 46.0	+0.5
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
CD2				LR	LR		
	comp=Z,170nm,14.2s						
CD2				LR	LR		
	comp=Z,170nm,11.8s						
GTA	Gaotai	32.71	285	⇓P	P	04 24 38.0	+0.7
GTA				pP	pP	04 24 47.5	+0.3
GTA				sP	sP	04 24 51.6	+0.3
GTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,35nm,7.6s						
GTA				LR	LR		
	comp=Z,93nm,17.1s						
GTA				LR	LR		
	comp=Z,280nm,16.3s						
GTA				LR	LR		
	comp=Z,330nm,18.3s						
DGZ	Jazzator, Alta	39.96	304	c iP	P	04 25 40.0	+0.9
DGZ				pmax	pmax		
	comp=Z,30nm,0.9s						
WMQ	Urumqi	40.68	295	eP	P	04 25 46.6	+1.6
WMQ				pP	pP	04 25 56.1	+1.0
WMQ				pmax	pmax		
	comp=Z,34nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,100nm,3.7s						
ZAA0	Zalesovo Array	41.29	311	IAmb	IAmb	04 25 50.6	
	comp=Z,7.3nm,0.8s						
ZALV	Zalesovo Beam	41.29	311	P	P	04 25 49.2	-0.6
	comp=Z,5.1nm,0.4s,baz=88,slow=7.7,SNR=16						
ZALV				PcP	PcP	04 27 46.6	-1.3
	comp=Z,1.2nm,0.3s,baz=95,slow=3.4,SNR=4.4						
ZALV				LR	LR	04 43 42.0	
	comp=Z,169nm,18.7s,baz=72,slow=37						
ZALV	Zalesovo Beam	41.29	311	P	P	04 25 49.1	-0.8
NRIK	Noril'sk	42.05	334	P	P	04 25 55.7	-0.1
	comp=Z,3.3nm,0.3s,baz=107,slow=2.9,SNR=8.2						
NRIK				LR	LR	04 44 19.9	
	comp=Z,221nm,19.2s,baz=82,slow=37						
NRIK	Noril'sk	42.05	334	d iP	P	04 25 56.0	+0.2
NRIK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CHTO	Chiang Mai	42.31	255	P	P	04 25 59.6	+1.0
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CHTO	Chiang Mai	42.31	255	P	P	04 25 59.6	+1.0
CMAR	Chiang Mai Arr	42.52	254	P	P	04 25 59.3	-1.0
	comp=Z,0.7nm,0.3s,baz=44,slow=8.4,SNR=2.2						
CMAR	Chiang Mai Arr	42.52	254	P	P	04 26 00.3	0.0
CMAR	Chiang Mai Arr	42.52	254	P	P	04 26 00.3	0.0
MK31	Makanchi Array	43.80	301	c iP	P	04 26 10.1	-0.2
MK31	Makanchi Array	43.80	301	IAmb	IAmb	04 26 12.5	
	comp=Z,7.3nm,0.8s						
MKAR	Makanchi Array	43.80	301	P	P	04 26 10.2	-0.1
	comp=Z,6.7nm,0.7s,baz=85,slow=9.5,SNR=40						
MKAR				PcP	PcP	04 27 56.3	-0.1
	comp=Z,0.8nm,0.7s,baz=55,slow=5.5,SNR=2.0						
MKAR				LR	LR	04 45 07.7	
	comp=Z,87nm,18.9s,baz=66,slow=37						
MAKZ	Makanchi	44.00	301	P	P	04 26 12.1	+0.1
MAKZ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MAKZ	Makanchi	44.00	301	P	P	04 26 12.1	+0.1
MAKZ				IAmb	IAmb	04 26 14.3	
	comp=Z,7.4nm,0.8s						
SHL	Shillong	44.06	268	P	P	04 26 14.5	+1.6
SHL				pmax	pmax		
	comp=Z,22nm,1.4s						
SHL	Shillong	44.06	268	P	P	04 26 14.5	+1.6
SHL				IAmb	IAmb	04 26 33.0	
	comp=Z,22nm,1.4s						
TAPN	Taplejung	46.46	273	eP	P	04 26 35.0	+2.9
	comp=Z,6.7nm,0.3s						
ODAN	Odare	46.95	272	eP	P	04 26 38.7	+2.9
MDM	Murphy Dome	47.20	33	P	P	04 26 37.8	+0.8
MDM				IAmb	IAmb	04 26 53.6	
	comp=Z,12nm,1.2s						
RAMN	Ramite	47.52	273	eP	P	04 26 40.5	+0.2
	comp=Z,12nm,0.4s						
ILAR	Eielson Array	47.78	33	P	P	04 26 42.9	+1.3
	comp=Z,1.4nm,0.6s,baz=264,slow=5.4,SNR=18						
ILAR	Eielson Array	47.78	33	P	P	04 26 42.5	+1.0
PKI	Pulchoki	48.16	274	eP	P	04 26 45.3	0.0
TARG	Taragay, Kyrgy	48.25	295	IAmb	IAmb	04 26 50.6	
	comp=Z,8.6nm,0.7s						
GKN	Gorkha	48.55	275	eP	P	04 26 48.4	+0.3
DANN	Dangsing	49.07	276	eP	P	04 26 53.0	+0.7
	comp=Z,40nm,0.3s						
KOLN	Koldanda	49.47	276	eP	P	04 26 55.4	+0.2
PYUN	Piuthan	49.79	276	eP	P	04 26 58.2	+0.6
BRVK	Borovoye	50.00	311	c iP	P	04 26 58.5	-0.1
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BRVK	Borovoye	50.00	311	P	P	04 26 58.7	+0.1
BRVK				IAmb	IAmb	04 26 59.6	
	comp=Z,6.1nm,0.8s						
AAK	Ala-Archa	50.27	297	⇓eP	P	04 27 01.5	+0.4
AAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
AAK	Ala-Archa	50.27	297		P	04 27 01.1	0.0
AAK				IAmb	IAmb	04 27 04.6	
	comp=Z,3.8nm,0.9s						
KSH	Kashi	50.32	293	P	P	04 27 06.0	+4.6
KSH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
INK	Inuvik	52.65	28	P	P	04 27 19.2	+1.0
	comp=Z,1.3nm,0.4s,baz=286,slow=7.0,SNR=9.8						
INK	Inuvik	52.65	28	IAmb	IAmb	04 27 20.8	
	comp=Z,4.2nm,1.1s						
KK31	Karatay Array	52.85	299	P	P	04 27 19.3	-0.9
KK31				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KK31	Karatay Array	52.85	299	P	P	04 27 19.3	-0.9
KK31				IAmb	IAmb	04 27 21.0	
	comp=Z,6.7nm,1.0s						
KKAR	Karatay Array	52.85	299	P	P	04 27 19.3	-0.9
KKAR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KKAR	Karatay Array	52.85	299	P	P	04 27 19.3	-0.9
KKAR				IAmb	IAmb	04 27 21.0	
	comp=Z,6.7nm,1.0s						
SVE	Sverdlovsk	54.34	318	⇑eP	P	04 27 31.5	+0.7
SVE				pmax	pmax		
	comp=Z,20nm,0.9s						
GAR	Garm	54.57	295	P	P	04 27 32.6	-0.3
GAR				IAmb	IAmb	04 27 36.7	
	comp=Z,6.4nm,0.8s						
NIL	Nilore	54.70	287	P	P	04 27 33.3	-0.6
NIL				pmax	pmax		
	comp=Z,17nm,0.9s						
NIL	Nilore	54.70	287	P	P	04 27 33.3	-0.6
KNRA	Kununurra	55.51	196	P	P	04 27 39.3	-0.3
CHGR	Chuyangaron	55.53	295	P	P	04 27 39.4	-0.5
ARU	Arti	55.55	318	c iP	P	04 27 39.3	-0.3
ARU						04 28 33.5	
ARU				S	S	04 35 21.2	-1.3
ARU				SS	SS	04 39 01.7	-5.4
ARU				pmax	pmax		
	comp=Z,15nm,0.9s						
ARU				MLR	MLR		
	comp=Z,214nm,16.0s						
ARU	Arti	55.55	318	P	P	04 27 38.9	-0.7
ABKAR	Akbulak array	57.37	310	P	P	04 27 52.0	-0.6
KBL	Kabul	57.42	290	P	P	04 27 53.0	-0.5
KBL				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KBL	Kabul	57.42	290	P	P	04 27 53.0	-0.5
KBL				IAmb	IAmb	04 28 02.1	
	comp=Z,9.1nm,1.1s						
WRAB	Tennant Creek	58.76	189	⇓eP	P	04 28 02.4	-0.1
WRAB				pmax	pmax		
	comp=Z,13nm,2.0s						
WRA	Warramunga Arr	58.77	189	P	P	04 28 02.5	-0.2
	comp=Z,1.8nm,0.5s,baz=7.8,slow=7.7,SNR=24						
WRA	Warramunga Arr	58.77	189	P	P	04 28 02.5	-0.2
KIRV	Kirov	59.32	323	⇓eP	P	04 28 06.5	+0.4
YKA	Yellowknife Ar	62.09	31	LR	LR	04 58 31.8	
	comp=Z,26nm,18.4s,baz=0.0,slow=39						
ASAR	Alice Springs	62.49	189	P	P	04 28 27.8	-0.2
	comp=Z,1.0nm,0.7s,baz=10,slow=7.0,SNR=8.2						
ARCES	ARCESS Array B	62.69	339	P	P	04 28 28.9	+0.1
	comp=Z,0.5nm,0.4s,baz=50,slow=7.1,SNR=13						
ARCES				LR	LR	04 58 03.3	
	comp=Z,46nm,21.6s,baz=100,slow=38						
KLMR	Klimovskoe	62.71	327	eP	P	04 28 25.1	-3.9
KLMR				pmax	pmax		
	comp=Z,12nm,1.3s						
KLMR	Klimovskoe	62.71	327	eP	P	04 28 25.2	-3.8
KLMR				AMP		04 28 30.0	
	comp=Z,12nm,1.3s						
BELG	Belogornoye	63.03	317	⇑eP	P	04 28 30.9	-0.4
BELG				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GEYT	Alibeck	63.59	299	LR	LR	04 58 07.1	
	comp=Z,97nm,18.4s,baz=50,slow=38						
DZM	Mont Dzumac	64.56	155	eLR	LR	04 48 27.6	
	comp=Z,132nm,23.4s						
OBN	Obninsk	67.16	323	deP	P	04 28 58.1	+0.1
OBN				e		04 29 25.7	
OBN				pmax	pmax		
	comp=Z,24nm,2.5s						

OBN				MLR	MLR		
	comp=Z,70nm,15.0s						
FINES	**FINESS Array B**	**67.66**	**332**	P	**P**	**04 29 01.2**	**+0.1**
	comp=Z,9.5nm,0.8s,baz=31,slow=9.4,SNR=25						
FINES				LR	LR	05 00 24.1	
	comp=Z,79nm,18.9s,baz=48,slow=38						
SUMG	**Summit**	**69.05**	**0**	*i* P	**P**	**04 29 10.0**	**-0.2**
SUMG				IAmb	IAmb	04 29 12.2	
	comp=Z,6.8nm,0.9s						
SUMG	**Summit**	**69.05**	**0**	*i* P	**P**	**04 29 10.0**	**-0.2**
SUMG				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ZEI	**Tsey**	**70.24**	**309**	*e*P	**P**	**04 29 16.4**	**-1.4**
ZEI				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KIV	**Kislovodsk**	**70.31**	**311**	*e*P	**P**	**04 29 18.8**	**+0.8**
KIV				pmax	pmax		
	comp=Z,24nm,1.1s						
KIV				MLR	MLR		
	comp=Z,29nm,18.0s						
KIV	**Kislovodsk**	**70.31**	**311**	P	**P**	**04 29 18.2**	**+0.2**
KBZ	**Khabaz**	**70.31**	**311**	P	**P**	**04 29 18.4**	**+0.5**
	comp=Z,7.8nm,0.9s,baz=78,slow=2.0,SNR=15						
KBZ				LR	LR	05 02 15.5	
	comp=Z,44nm,19.8s,baz=28,slow=38						
KBZ	**Khabaz**	**70.31**	**311**	*c i*P	**P**	**04 29 17.8**	**-0.1**
KBZ				pmax	pmax		
	comp=Z,11nm,0.9s						
WVOR	**Wild Horse Val**	**70.97**	**51**	P	**P**	**04 29 22.8**	**+0.7**
WVOR				pmax	pmax		
	comp=Z,3.0nm,1.2s						
WVOR	**Wild Horse Val**	**70.97**	**51**	P	**P**	**04 29 22.8**	**+0.7**
ICESG	**Greenland Ices**	**72.55**	**1**	*i* P	**P**	**04 29 32.0**	**+0.7**
NB2	**NORSAR Subarra**	**72.92**	**337**	P	**P**	**04 29 32.8**	**-0.5**
	comp=Z,4.2nm,0.7s,baz=36,slow=6.2						
NOA	**NORSAR Array B**	**72.92**	**337**	P	**P**	**04 29 33.1**	**-0.2**
	comp=Z,3.0nm,0.8s,baz=37,slow=6.0,SNR=8.7						
NOA				LR	LR	05 04 11.7	
	comp=Z,87nm,21.6s,baz=40,slow=38						
AKASG	**Malin Array Be**	**73.38**	**322**	P	**P**	**04 29 35.8**	**-0.4**
	comp=Z,2.8nm,0.4s,baz=46,slow=6.1,SNR=29						
AKASG				LR	LR	05 04 36.7	
	comp=Z,82nm,19.0s,baz=335,slow=38						
AKBB	**Malin Array Si**	**73.38**	**322**	*d i*P	**P**	**04 29 36.2**	**0.0**
AKBB				pmax	pmax		
	comp=Z,11nm,0.9s						
AKBB	**Malin Array Si**	**73.38**	**322**		**P**	**04 29 35.1**	**-1.1**
AKBB				IAmb	IAmb	04 29 36.8	
	comp=Z,9.5nm,0.9s						
NVAR	**Mina Array Bea**	**73.52**	**54**	P	**P**	**04 29 38.6**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=285,slow=5.8,SNR=4.0						
NVAR	**Mina Array Bea**	**73.52**	**54**	P	**P**	**04 29 39.3**	**+1.8**
H17A	**Grant Village**	**74.48**	**45**	P	**P**	**04 29 43.6**	**+0.5**
MARD	**Mardin**	**75.40**	**306**	P	**P**	**04 29 48.4**	**0.0**
MARD				IAmb	IAmb	04 29 49.8	
	comp=Z,12nm,1.1s						
PD31	**Pinedale Array**	**76.08**	**46**	P	**P**	**04 29 52.3**	**0.0**
PDAR	**Pinedale Array**	**76.08**	**46**	P	**P**	**04 29 53.8**	**+1.4**
	comp=Z,1.0nm,0.7s,baz=28,slow=0.2,SNR=12						
PDAR	**Pinedale Array**	**76.08**	**46**	P	**P**	**04 29 53.4**	**+1.1**
KWP	**Kalwaria Pacla**	**77.16**	**325**	*e*P	**P**	**04 29 58.7**	**+0.7**
ILGA	**Ilgaz**	**77.32**	**313**	P	**P**	**04 29 58.5**	**-0.8**
ILGA				IAmb	IAmb	04 30 01.3	
	comp=Z,8.5nm,0.8s						
BUR08	**Bucovina Ar. S**	**77.40**	**322**	IAmb	IAmb	04 30 00.8	
	comp=Z,4.5nm,0.8s						
BURAR	**Bucovina Array**	**77.41**	**322**	⇓P	**P**	**04 30 00.2**	**+0.7**
BURAR	**Bucovina Array**	**77.41**	**322**	P	**P**	**04 29 59.6**	**+0.1**
BURAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BURAR	**Bucovina Array**	**77.41**	**322**		**P**	**04 29 59.3**	**-0.3**
BURAR				IAmb	IAmb	04 30 01.1	
	comp=Z,4.5nm,0.8s						
BIZ	**Bicaz**	**77.45**	**321**	⇓P	**P**	**04 30 00.0**	**+0.4**
TESR	**Tescani**	**77.47**	**320**	⇓P	**P**	**04 30 00.5**	**+0.7**
BNN	**Bunyan**	**77.48**	**310**	P	**P**	**04 30 00.2**	**+0.1**
Q16A	**Castle Valley**	**77.61**	**50**	P	**P**	**04 30 01.7**	**+0.8**
CFR	**Carcaliu**	**77.63**	**319**	⇓P	**P**	**04 30 01.0**	**+0.4**
ULM	**Lac du Bonnet**	**77.80**	**34**	P	**P**	**04 30 03.1**	**+1.6**
	comp=Z,0.9nm,0.4s,baz=0.0,slow=5.1,SNR=1.5						
VRI	**Vrincioaia**	**77.88**	**320**	⇓P	**P**	**04 30 04.2**	**+2.2**
VRI	**Vrincioaia**	**77.88**	**320**	P	**P**	**04 30 03.9**	**+1.8**
VRI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
OJC	**Ojcow**	**78.03**	**326**	*e*P	**P**	**04 30 03.7**	**+0.9**
OJC	**Ojcow**	**78.03**	**326**	P	**P**	**04 30 02.4**	**-0.4**
OJC				pmax	pmax		
	comp=Z,14nm,1.2s						
OJC	**Ojcow**	**78.03**	**326**	P	**P**	**04 30 02.4**	**-0.4**
OJC				IAmb	IAmb	04 30 04.4	
	comp=Z,14nm,1.2s						
BR131	**Keskin Array S**	**78.23**	**312**	⇑*e*P	**P**	**04 30 04.2**	**-0.1**
BR131	**Keskin Array S**	**78.23**	**312**	IAmb	IAmb	04 30 05.5	
	comp=Z,8.4nm,1.2s						
BRTR	**Keskin Array B**	**78.23**	**312**	P	**P**	**04 30 04.5**	**+0.1**
	comp=Z,1.7nm,0.4s,baz=112,slow=3.7,SNR=22						
BRTR	**Keskin Array B**	**78.23**	**312**	P	**P**	**04 30 03.6**	**-0.7**
CRVS	**Cervenica-Dubn**	**78.25**	**325**	*e*P	**P**	**04 30 04.3**	**+0.2**
CRVS	**Cervenica-Dubn**	**78.25**	**325**	*e*P	**P**	**04 30 04.3**	**+0.2**
NIE	**Niedzica**	**78.40**	**326**	*e*P	**P**	**04 30 06.8**	**+1.9**
DOPR	**Dopca**	**78.48**	**321**	⇑P	**P**	**04 30 07.1**	**+1.7**
MLR	**Muntele Rosu**	**78.54**	**320**	⇑P	**P**	**04 30 06.6**	**+0.7**
LANS	**Liptovska Anna**	**78.96**	**326**	*e*P	**P**	**04 30 09.8**	**+1.8**
LANS				pmax	pmax		
	comp=Z,3.0nm,1.0s						
LANS	**Liptovska Anna**	**78.96**	**326**	*e*P	**P**	**04 30 09.8**	**+1.8**
VOIR		**79.02**	**320**	⇓P	**P**	**04 30 09.1**	**+0.6**
KSP	**Ksiaz**	**79.04**	**328**	*e*P	**P**	**04 30 09.2**	**+0.8**
DRGR		**79.20**	**322**	⇓P	**P**	**04 30 09.1**	**-0.3**
ARR	**Arges**	**79.28**	**321**	⇓P	**P**	**04 30 11.7**	**+1.8**
MORC	**Moravsky Berou**	**79.33**	**327**	⇓P	**P**	**04 30 10.8**	**+0.9**
MORC	**Moravsky Berou**	**79.33**	**327**	P	**P**	**04 30 10.1**	**+0.1**
MORC				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MORC	**Moravsky Berou**	**79.33**	**327**	P	**P**	**04 30 10.1**	**+0.1**
MORC				IAmb	IAmb	04 30 11.5	
	comp=Z,5.5nm,1.0s						
MORC	**Moravsky Berou**	**79.33**	**327**	*e*P	**P**	**04 30 10.9**	**+0.9**
CHVC	**Chvalec**	**79.33**	**328**	*e*P	**P**	**04 30 10.3**	**+0.3**
DPC	**Dobruska-Polom**	**79.40**	**328**	*e*P	**P**	**04 30 11.5**	**+1.1**
DPC	**Dobruska-Polom**	**79.40**	**328**	*e*P	**P**	**04 30 11.5**	**+1.1**
KRLC	**Kraliky**	**79.42**	**328**	*e*P	**P**	**04 30 11.5**	**+1.0**
KRLC	**Kraliky**	**79.42**	**328**	*e*P	**P**	**04 30 11.5**	**+1.0**
CLL	**Collm**	**79.99**	**330**	*i* P	**P**	**04 30 13.4**	**-0.1**
CLL				*i* pPcP		04 30 31.1	
CLL				*e*PP	**PP**	**04 33 14.0**	**-0.8**
CLL	**Collm**	**79.99**	**330**	*i* P	**P**	**04 30 13.4**	**-0.1**
VRAC	**Vranov**	**80.08**	**327**	⇑P	**P**	**04 30 14.9**	**+0.8**
VRAC	**Vranov**	**80.08**	**327**	*e*P	**P**	**04 30 15.2**	**+1.1**
GZR	**Gura Zlata**	**80.18**	**321**	⇓P	**P**	**04 30 15.2**	**+0.5**
KRUC	**Moravsky**	**80.36**	**327**	*e*P	**P**	**04 30 16.3**	**+0.8**
PRU	**Pruhonice**	**80.41**	**329**	*e*P	**P**	**04 30 16.0**	**+0.2**
PRU				MLR	MLR		
	comp=Z,100nm,15.8s						
PRU	**Pruhonice**	**80.41**	**329**	*e*P	**P**	**04 30 16.0**	**+0.2**
PRU				AMS	AMS	05 08 20.0	
	comp=Z,100nm,15.8s						
BZS	**Buzias**	**80.58**	**322**	P	**P**	**04 30 16.7**	**-0.1**
BZS				pmax	pmax		
	comp=Z,4.0nm,2.1s						
MDVR	**Moldovita**	**81.14**	**322**	⇓P	**P**	**04 30 20.0**	**+0.1**
CKRC	**Cesky Krumlov**	**81.42**	**328**	*e*P	**P**	**04 30 22.0**	**+0.8**
CONA	**Conrad Observa**	**81.45**	**327**	*e*P	**P**	**04 30 21.9**	**+0.4**
	comp=Z,5.2nm,0.9s						
KHC	**Kasperske Hory**	**81.47**	**329**	*e*P	**P**	**04 30 22.2**	**+0.7**
KHC				MLR	MLR		
	comp=Z,200nm,16.8s						
KHC	**Kasperske Hory**	**81.47**	**329**	*e*P	**P**	**04 30 22.2**	**+0.7**
KHC				AMS	AMS	05 08 40.0	
	comp=Z,200nm,16.8s						
GERES	**GERESS Array B**	**81.65**	**328**	P	**P**	**04 30 22.9**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=34,slow=5.5,SNR=12						
GERES				LR	LR	05 09 06.4	
	comp=Z,92nm,20.9s,baz=32,slow=38						
GERES	**GERESS Array B**	**81.65**	**328**	P	**P**	**04 30 22.3**	**-0.3**
FRGS	**Fruska Gora**	**81.77**	**323**	⇑P	**P**	**04 30 23.7**	**+0.5**
VTS	**Vitosha**	**81.95**	**319**	⇑P	**P**	**04 30 25.7**	**+1.4**
VTS	**Vitosha**	**81.95**	**319**	P	**P**	**04 30 24.4**	**+0.1**
VTS				pmax	pmax		
	comp=Z,7.0nm,0.7s						
VTS	**Vitosha**	**81.95**	**319**	P	**P**	**04 30 24.4**	**+0.1**
VTS				IAmb	IAmb	04 30 26.0	
	comp=Z,6.5nm,0.7s						
GRA1	**Grafenberg Arr**	**81.96**	**330**	P	**P**	**04 30 24.7**	**+0.6**
GRF	**Grafenberg Arr**	**81.96**	**330**	P	**P**	**04 30 24.7**	**+0.6**
GRF				pmax	pmax		
	comp=Z,13nm,1.0s						
GRF	**Grafenberg Arr**	**81.96**	**330**	*e*P	**P**	**04 30 25.0**	**+0.9**
	comp=Z,7.2nm,0.9s,baz=37,slow=4.3						
SOKA	**Soboth**	**82.78**	**326**	*e*P	**P**	**04 30 28.3**	**-0.2**
	comp=Z,8.9nm,1.1s						
KBA	**Koelnbreinsper**	**83.19**	**328**	*e*P	**P**	**04 30 32.0**	**+1.3**
	comp=Z,10.0nm,1.2s						
WTTA	**Wattenberg**	**83.75**	**329**	*e*P	**P**	**04 30 33.5**	**-0.1**
	comp=Z,7.7nm,1.4s						
RETA	**Reutte**	**83.92**	**329**	*e*P	**P**	**04 30 35.4**	**+1.1**
	comp=Z,12nm,1.2s						
PDG	**Podgorica**	**84.08**	**321**	⇑P	**P**	**04 30 34.8**	**-0.3**
PMOR	**Pomariorio Ree**	**84.27**	**114**	*e*T	T	06 03 45.5	
	comp=Z,26nm,0.2s						
DAVA	**Damuels**	**84.43**	**330**	*i* P	**P**	**04 30 37.9**	**+0.9**
	comp=Z,12nm,1.1s						
PPT	**Papeete**	**84.82**	**117**	LR	LR	05 10 25.6	
	comp=Z,52nm,18.8s,baz=319,slow=37						
PPT2	**Papeete2**	**84.83**	**117**	*e*LR	LR	04 57 52.9	
	comp=Z,93nm,25.8s						
PPT2	**Papeete2**	**84.83**	**117**	*e*T	T	06 04 27.5	
	comp=Z,5.5nm,0.3s						
TIAR	**Tiarei**	**84.97**	**117**	*e*T	T	06 04 36.5	
	comp=Z,1.6nm,0.3s						
TAOE	**Nuku Hiva Isla**	**85.97**	**105**	*e*LR	LR	04 57 50.0	
	comp=Z,73nm,22.3s						
MEH	**Mehetia**	**86.08**	**116**	*e*T	T	06 05 59.5	
	comp=Z,38nm,0.2s						
TXAR	**Lajitas Array**	**88.64**	**53**	P	**P**	**04 30 59.2**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=283,slow=2.9,SNR=9.2						
TBI	**Tubuai**	**88.84**	**121**	*e*LR	LR	04 59 45.9	
	comp=Z,63nm,24.0s						
TBI	**Tubuai**	**88.84**	**121**	*e*T	T	06 09 25.9	
	comp=Z,40nm,0.3s						
ESDC	**Sonseca Array**	**96.09**	**334**	LR	LR	05 19 49.0	
	comp=Z,64nm,18.6s,baz=330,slow=38						
TORD	**Torodi Ar. Bea**	**116.60**	**316**	PKP	**PKPdf**	**04 36 48.1**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=35,slow=1.9,SNR=4.4						
LPAZ	**La Paz**	**145.32**	**58**	PKPbc	**PKPdf**	**04 37 43.9**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=34,slow=5.8,SNR=9.2						

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*JMA **05** 04:27:02.6±0.1, 38°.67N×142°.14E, h41km±1km, M3.9*
JMA Felt I J1.
*IDC **05** 04:27:05.2±2.1, 39°.16N×141°.04E, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.3/33, mbtmp3.3/4, ML3.0/2, MS2.4/1, Ms1 2.4/1, ms1mx1.9/35, Error ellipse: s-maj=58.3km s-min=25.3km az=103.0*
ISC 05 04:27:03.4±1.8**, 38°.68N**±0°.06×**142°.1E**±0°.1**, h39**km±10km**, n23,** σ**0s.80**/26**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKMT	**Kesennumamotoy**	**0.50**	**286**	P	**Pn**	**04 27 14.0**	**-0.1**
JKMT				S	**Sn**	**04 27 21.7**	**0.0**
OFUJ	**Ofunato**	**0.52**	**321**	P	**Pn**	**04 27 14.2**	**-0.2**
OFUJ				S	**Sn**	**04 27 22.2**	**0.0**
JIKH	**Ishinomakikobu**	**0.61**	**234**	P	**Pn**	**04 27 15.1**	**-0.6**
JIKH				S	**Sn**	**04 27 23.8**	**-0.6**
JIO	**Ouri**	**0.63**	**249**	P	**Pn**	**04 27 15.3**	**-0.5**
JIO				S	**Sn**	**04 27 24.1**	**-0.5**
JMK	**Ichinoseki**	**0.74**	**292**	P	**Pn**	**04 27 17.3**	**0.0**
JMK				S	**Sn**	**04 27 27.4**	**+0.1**
JOM	**Ohasama**	**1.01**	**322**	P	**Pn**	**04 27 21.1**	**0.0**
JOM				S	**Sn**	**04 27 32.8**	**-1.3**
JOU	**Okura**	**1.17**	**255**	P	**Pn**	**04 27 23.2**	**0.0**
JOU				S	**Sn**	**04 27 38.9**	**+1.0**
JTH	**Tanohata**	**1.27**	**352**	P	**Pn**	**04 27 24.4**	**-0.3**
JMM	**Marumori**	**1.31**	**232**	P	**Pn**	**04 27 24.4**	**-0.7**
JMM				*e*S	**Sn**	**04 27 40.8**	**-0.5**
JRG	**Rokugo**	**1.34**	**303**	P	**Pn**	**04 27 26.0**	**+0.3**
JRG				*e*S	**Sn**	**04 27 43.8**	**+1.5**
JYK	**Kaneyama**	**1.38**	**281**	P	**Pn**	**04 27 26.4**	**+0.3**
MJAR	**Matsushiro Arr**	**3.75**	**237**	Pn	**Pn**	**04 28 00.4**	**+1.7**
	0.3nm,0.3s,baz=33,slow=11,SNR=10						
MAT	**Matsushiro**	**3.75**	**237**	P	**Pn**	**04 28 00.2**	**+1.4**
MAT				*e*S	Sn	04 28 50.5	+8.8
ASAJ	**Asahikawa**	**5.45**	**4**	Pn	**Pn**	**04 28 23.0**	**+1.0**
	0.9nm,0.3s,baz=228,slow=15,SNR=4.3						
ASAJ				Sn	**Sn**	**04 29 23.7**	**+0.3**
	0.7nm,0.3s,baz=348,slow=19,SNR=1.5						
ASAJ				LR	LR	04 30 49.5	
	comp=Z,41nm,20.8s,baz=150,slow=44						
USRK	**Ussuriysk Ar.**	**9.38**	**309**	Pn	**Pn**	**04 29 15.3**	**-0.6**
	baz=110,slow=13,SNR=1.7						
H11N2	**WAKE ISLAND Hy**	**28.58**	**124**	T	T	05 03 12.5	
	baz=317,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**28.59**	**124**	T	T	05 03 14.3	
	baz=317,slow=75,SNR=27						
H11N3	**WAKE ISLAND Hy**	**28.59**	**124**	T	T	05 03 13.1	
	baz=317,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**29.35**	**126**	T	T	05 04 11.1	
	baz=318,slow=76,SNR=30						
H11S3	**WAKE ISLAND Hy**	**29.35**	**126**	T	T	05 04 10.8	
	baz=318,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**29.36**	**126**	T	T	05 04 09.0	
	baz=318,slow=76,SNR=17						
MKAR	**Makanchi Array**	**43.72**	**301**	P	**P**	**04 35 04.1**	**-0.6**
	0.2nm,0.4s,baz=84,slow=10,SNR=2.0						
WRA	**Warramunga Arr**	**58.76**	**189**	P	P	04 37 07.3	+10
	0.2nm,0.4s,baz=4.7,slow=7.0,SNR=1.6						

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*OSPL **05** 04:45:45.4±0.9, 19°.37N×66°.13W, h0km±22km, ML2.5*
*RSPR **05** 04:45:47.4, 19°.51N×66°.29W, h49km±13km, MD3.5/6*
*NEIC **05** 04:45:48.1±1.8, 19°.40N±0°.07×66°.29W±0°.05, h36km±43km, Error ellipse: s-maj=10.5km s-min=6.9km az=186.0*
ISC 05 04:45:46.7±1.9**, 19°.40N**±0°.10×**66°.28W**±0°.04**, h19**km**, n42,** σ**0s.54**/45**, 9C-1D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.94**	**195**		**Pb**	**04 46 04.3**	**-0.2**
EMPR				IAML		04 46 28.7	
	comp=N,166nm,0.7s						
GCPR	**Guaynabo City**	**1.10**	**170**		**Pn**	**04 46 06.0**	**-1.0**
GCPR				IAML		04 46 22.1	
	comp=E,112nm,0.6s						
GCPR				IAML		04 46 24.6	
	comp=N,136nm,0.4s						
AOPR	**Arecibo Observ**	**1.14**	**203**	⇑*e*P	**Pn**	**04 46 06.8**	**-0.8**
AOPR	**Arecibo Observ**	**1.14**	**203**	*e*S	**Sn**	**04 46 23.0**	**+0.3**
AOPR	**Arecibo Observ**	**1.14**	**203**		**Pn**	**04 46 06.8**	**-0.8**
AOPR					**Sn**	**04 46 23.0**	**+0.3**
CBYP	**Canovanas**	**1.19**	**160**	⇑*e*P	**Pn**	**04 46 08.0**	**-0.4**
CBYP	**Canovanas**	**1.19**	**160**		**Pn**	**04 46 08.0**	**-0.4**
AGPR	**Aguadilla, PR**	**1.21**	**221**	Pn	**Pb**	**04 46 09.4**	**+0.4**
AGPR				IAML		04 46 33.8	
	comp=E,83nm,0.5s						
AGPR				IAML		04 46 49.0	
	comp=N,71nm,0.8s						
AGPR	**Aguadilla, PR**	**1.21**	**221**	*i* P	**Pn**	**04 46 08.0**	**-0.6**
AGPR				*e*S	**Sg**	**04 46 25.8**	**-0.2**
AGPR				IAML		04 46 27.2	
	comp=Z,56nm,1.7s						
SJG	**San Juan**	**1.28**	**174**		**Pn**	**04 46 09.2**	**-0.4**
SJG				IAML		04 46 29.8	
	comp=Z,72nm,0.4s						
SJG				IAML		04 46 35.7	
	comp=Z,95nm,0.5s						
HUMP	**Col San Antoni**	**1.31**	**162**	⇑*e*P	**Pn**	**04 46 09.9**	**-0.1**
HUMP	**Col San Antoni**	**1.31**	**162**	*e*S	**Sn**	**04 46 27.4**	**+0.4**
HUMP	**Col San Antoni**	**1.31**	**162**		**Pn**	**04 46 09.9**	**-0.1**
HUMP					**Sn**	**04 46 27.4**	**+0.4**
HUMP	**Col San Antoni**	**1.31**	**162**	IAML		04 46 30.5	
	comp=N,109nm,0.5s						
HUMP				IAML		04 46 30.8	
	comp=E,101nm,0.2s						
CELP	**Cerrillos**	**1.34**	**192**	⇑*e*P	**Pn**	**04 46 10.0**	**-0.5**
CELP	**Cerrillos**	**1.34**	**192**	*e*S	**Sn**	**04 46 28.3**	**+0.5**
CELP	**Cerrillos**	**1.34**	**192**		**Pn**	**04 46 10.0**	**-0.5**
CELP					**Sn**	**04 46 28.3**	**+0.5**
OBIP	**Obispado Ponce**	**1.38**	**193**	*e*S	**Sn**	**04 46 29.1**	**+0.4**
OBIP	**Obispado Ponce**	**1.38**	**193**		**Pn**	**04 46 09.6**	**-1.3**
OBIP				IAML		04 46 30.7	
	comp=N,67nm,0.7s						
OBIP				IAML		04 46 37.6	
	comp=E,61nm,0.5s						
OBIP	**Obispado Ponce**	**1.38**	**193**		**Sn**	**04 46 29.1**	**+0.4**
IGPR	**InterUniversit**	**1.43**	**173**	⇑*e*P	**Pn**	**04 46 11.8**	**+0.2**
LSP	**Las Mesas**	**1.43**	**212**	⇑*e*P	**Pn**	**04 46 11.4**	**-0.3**
CUPR	**Culebra, Puert**	**1.44**	**139**	⇓*e*P	**Pn**	**04 46 11.2**	**-0.5**
CUPR	**Culebra, Puert**	**1.44**	**139**	*e*S	**Sn**	**04 46 29.8**	**-0.3**
CUPR	**Culebra, Puert**	**1.44**	**139**		**Pn**	**04 46 11.2**	**-0.5**
CUPR					**Sn**	**04 46 29.8**	**-0.3**
MTP	**Monte Pirata**	**1.46**	**152**	⇑*e*P	**Pn**	**04 46 12.2**	**+0.1**
MTP	**Monte Pirata**	**1.46**	**152**	*e*S	**Sn**	**04 46 30.9**	**+0.1**
MTP	**Monte Pirata**	**1.46**	**152**		**Pn**	**04 46 12.2**	**+0.1**
MTP					**Sn**	**04 46 30.9**	**+0.1**
MTP	**Monte Pirata**	**1.46**	**152**	IAML		04 46 36.7	
	comp=E,72nm,0.4s						
ICMP	**Isla Caja de M**	**1.52**	**189**	Pn	**Pn**	**04 46 13.5**	**+0.6**
ICMP				IAML		04 46 40.6	
	comp=N,58nm,0.7s						
CRPR	**Cabo Rojo, PR**	**1.59**	**210**	⇑*e*P	**Pn**	**04 46 13.6**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.59**	**210**		**Pn**	**04 46 13.6**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.59**	**210**	IAML		04 46 40.9	
	comp=N,60nm,0.8s						
CRPR	**Cabo Rojo, PR**	**1.59**	**210**	*i* P	**Pn**	**04 46 13.9**	**+0.1**
CRPR				IAML		04 46 41.8	
	comp=Z,54nm,0.6s						
MLPR	**Magueyes Islan**	**1.59**	**207**		**Pn**	**04 46 13.4**	**-0.5**
MLPR				IAML		04 46 46.2	
	comp=E,47nm,0.7s						
STVI	**Saint Thomas**	**1.63**	**129**	⇑*e*P	**Pn**	**04 46 13.9**	**-0.5**
STVI	**Saint Thomas**	**1.63**	**129**	*e*S	**Sn**	**04 46 35.0**	**+0.2**
STVI	**Saint Thomas**	**1.63**	**129**		**Pn**	**04 46 13.9**	**-0.5**
STVI					**Sn**	**04 46 35.0**	**+0.2**
STVI	**Saint Thomas**	**1.63**	**129**	IAML		04 46 44.3	
	comp=N,56nm,0.3s						
PCDR	**Punta Cana, DR**	**2.17**	**247**	*i* P	**Pn**	**04 46 22.7**	**+0.9**
PCDR				IAML		04 47 08.8	
	comp=Z,41nm,1.3s						
CDVI	**St. Croix**	**2.18**	**138**	Pn	**Pn**	**04 46 23.1**	**+1.3**
DR12	**Loma Pena Alta**	**2.99**	**259**	Pn	**Pn**	**04 46 32.3**	**-0.9**

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*IDC **05** 04:52:05.1±1.7, 26°.90N×143°.57E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/48, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=32.5km s-min=25.1km az=62.0*
ISC 05 04:52:09.6±1.5**, 27°.0N**±0°.1×**143°.6E**±0°.1**, h35**km**, n7,** σ**1s.37**/8**, mb3.7**/4**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.29**	**275**	Pn	**Pn**	**04 52 30.4**	**-0.7**
	10nm,0.3s,baz=23,slow=23,SNR=5.5						
JCJ				Sn	**Sn**	**04 52 47.9**	**+0.7**
	68nm,0.3s,baz=278,slow=23,SNR=18						
MJAR	**Matsushiro Arr**	**10.57**	**336**	Pn	**Pn**	**04 54 37.0**	**-1.6**
	0.3nm,0.3s,baz=165,slow=12,SNR=8.9						
MAT	**Matsushiro**	**10.58**	**336**	P	**Pn**	**04 54 37.7**	**-0.9**
KLR	**Kul'dur**	**24.03**	**341**	P	**P**	**04 57 22.6**	**+1.4**
	0.9nm,0.6s,baz=119,slow=9.5,SNR=4.6						
WRA	**Warramunga Arr**	**47.52**	**192**	P	**P**	**05 00 41.0**	**-0.5**
	0.4nm,0.4s,baz=8.6,slow=7.6,SNR=7.2						
MKAR	**Makanchi Array**	**51.53**	**310**	P	**P**	**05 01 12.4**	**+0.5**
	0.3nm,0.5s,baz=88,slow=6.8,SNR=3.5						
KURBB	**Kurchatov Arra**	**54.03**	**314**	P	**P**	**05 01 31.8**	**+1.5**
	0.7nm,0.4s,baz=91,slow=8.3,SNR=11						

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*IDC **05** 05:00:28.7±0.5, 52°.06N×105°.78E, h0km, mb4.1/19, mb1 4.3/24, mb1mx4.1/53, mbtmp4.1/24, ML3.4/5, MS3.8/29, Ms1 3.8/29, ms1mx3.6/51, Error ellipse: s-maj=13.9km s-min=11.0km az=46.0*
*BJI **05** 05:00:29.3±0.0, 52°.15N×106°.00E, h19km, mB4.4/13, mb4.3/28, Ms4.3/21, Ms7 4.2/21*
*MOS **05** 05:00:29.1±1.3, 52°.04N×105°.80E, h12km, mb4.8/22, MS4.0/16, Error ellipse: s-maj=6.2km s-min=5.8km az=46.2*
MOS Felt (III-IV) at Irkutsk; (III) at Elantsy, Slyudyanka.
*BYKL **05** 05:00:30.9±0.1, 52°.06N×105°.70E, h25km±1km, Mw4.4/10(IEC), #STATIONS ENH CHTO LSA AAK KIV BRVK ARU GRFO KEV KBS FELT I=IV MSK at Bolshoye Goloustnoye, Mishikha, Listvyanka, Novolisikha, Novaya Rasvodnaya, Karluk, Olkha, Shelekhov, Maksimovshina, Kuitun; III-IV at Molodezhniy, Khomutovo, Markova, Ust-Ordinskiy, Chistie Kluchi, Angarsk.*
*NEIC **05** 05:00:31.0±1.1, 52°.07N±0°.08×105°.9E±0°.2, h14km±3km, mb4.5/37, Error ellipse: s-maj=15.7km s-min=10.5km az=70.0*
ISC 05 05:00:30.4±0.8**, 52°.12N**±0°.02×**105°.81E**±0°.01**, h11**km±5km**, n207,** σ**1s.77**/263**, mb4.5**/48**, MS3.8**/35**, 17C-20D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGT	**Bolshoye Golou**	**0.26**	**253**	⇓*i*Pg	**Pg**	**05 00 36.1**	**+0.4**
BGT				*e*Sg	**Sg**	**05 00 39.4**	**+0.2**
BGT	**Bolshoye Golou**	**0.26**	**253**	⇓*i*PG	**Pb**	**05 00 36.2**	**-0.9**
BGT				*e*S	**Sg**	**05 00 39.5**	**+0.2**
KAB	**Kabansk**	**0.53**	**97**	⇑*i*Pg	**Pb**	**05 00 42.5**	**+0.8**
KAB				Pmax		05 00 43.0	
	9μm,0.2s						
KAB				*e*Sg	**Sb**	**05 00 50.6**	**+1.3**
KAB				Smax		05 00 51.9	
	43μm,0.3s						
KAB	**Kabansk**	**0.53**	**97**	*e*PG	**Pb**	**05 00 42.9**	**+1.2**
KAB				*e*		05 00 51.1	
KAB				pmax	pmax		
	comp=Z,15μm,0.5s						
KAB				smax	smax		
	comp=N,56μm,1.5s						
FFNB	**Fofonovo**	**0.59**	**97**	⇓*i*Pg	**Pb**	**05 00 43.5**	**+0.7**
FFNB				*e*Sg	**Sb**	**05 00 52.4**	**+1.1**
LSTR	**Listvyanka**	**0.66**	**248**	⇑*i*Pg	**Pg**	**05 00 42.2**	**-0.9**
LSTR				Pmax		05 00 42.5	
	comp=N,2μm,0.1s						
LSTR				*e*Sg	**Sg**	**05 00 49.9**	**-1.8**
LSTR				Smax		05 00 50.3	
	comp=N,20μm,0.1s						
LSTR	**Listvyanka**	**0.66**	**248**	⇑*i*PG	**Pg**	**05 00 42.2**	**-0.9**
LSTR				*e*		05 00 51.3	
LSTR				pmax	pmax		
	comp=Z,2μm,0.1s						
LSTR				smax	smax		
	comp=N,19μm,0.7s						
TRG	**Tyrgan**	**0.72**	**27**	⇓*i*Pg	**Pn**	**05 00 45.9**	**-0.7**
TRG				Pmax		05 00 48.1	
	comp=N,1μm,0.1s						
TRG				*e*Sg	**Sn**	**05 00 56.8**	**-0.9**
TRG				Smax		05 01 00.9	
	comp=N,17μm,0.1s						
TRG	**Tyrgan**	**0.72**	**27**	⇓*i*PG	**Pn**	**05 00 45.9**	**-0.7**
TRG				*e*		05 00 56.8	
TRG				pmax	pmax		
	comp=Z,1μm,0.1s						
TRG				smax	smax		
	comp=N,17μm,0.1s						
HRMR	**Khuramsha**	**0.86**	**124**	⇓*i*Pg	**Pg**	**05 00 47.4**	**+0.3**
	comp=N,3μm,0.9s						
HRMR				⇑*i*Pg	**Pg**	**05 00 47.4**	**+0.3**
	comp=N,4μm,0.9s						
HRMR				⇑*i*Pg	**Pg**	**05 00 47.4**	**+0.3**
	comp=N,4μm,0.9s						
HRMR				Pmax		05 00 48.5	
	comp=N,11μm,0.4s						
HRMR				*e*Sg	**Sb**	**05 00 59.4**	**+0.3**
HRMR				Smax		05 01 02.5	
	comp=N,43μm,0.2s						
IVK	**Ivanovka**	**0.92**	**250**	⇑*i*Pg	**Pg**	**05 00 46.8**	**-1.3**
IVK				Pmax		05 00 47.1	
	comp=N,3μm,0.6s						
IVK				*e*Sg	**Sg**	**05 00 57.9**	**-2.2**
IVK				Smax		05 00 58.6	
	comp=N,26μm,0.4s						
IVK				*e*		05 01 01.0	
ZRHB	**Zarechye**	**0.93**	**62**	*e*Pg	**Pn**	**05 00 50.2**	**+0.7**
ZRHB				Pmax		05 00 50.8	
	comp=N,4μm,0.9s						
ZRHB				*e*Sg	**Sn**	**05 01 03.7**	**+0.9**
ZRHB				Smax		05 01 09.2	
	comp=N,43μm,1.4s						
IRK	**Irkutsk**	**0.95**	**278**	*e*Pg	**Pg**	**05 00 48.2**	**-0.5**
IRK				Pmax		05 00 48.6	
	comp=N,6μm,0.3s						
IRK				*e*Sg	**Sg**	**05 01 00.3**	**-0.9**
IRK				*e*		05 01 04.6	
IRK				max		05 01 04.9	
	comp=N,113μm,0.5s						
IRK	**Irkutsk**	**0.95**	**278**	*e*PG	**Pg**	**05 00 48.3**	**-0.5**
IRK				*e*		05 01 00.1	
IRK				pmax	pmax		

comp=Z,6µm,0.4s
IRK smax smax
comp=N,83µm,0.7s
UUDB Ulan-Yde 1.17 102⇓ *i*Pg **Pg 05 00 53.3 +0.4**
comp=N,319nm,0.7s
UUDB ⇑*i*Pg **Pg 05 00 53.3 +0.4**
comp=N,2µm,0.7s
UUDB ⇑*i*Pg **Pg 05 00 53.3 +0.4**
comp=N,3µm,0.7s
UUDB Pmax 05 00 54.2
comp=N,4µm,0.3s
UUDB *e*Sg **Sn 05 01 09.4 +0.6**
UUDB Smax 05 01 11.6
comp=N,22µm,1.4s
TLY Talaya 1.41 253⇑ *i*Pg **Pn 05 00 55.2 -0.8**
TLY Pmax 05 00 56.6
comp=N,1µm,0.2s
TLY *e*Sg **Sn 05 01 12.8 -1.9**
TLY Smax 05 01 14.8
comp=N,23µm,0.4s
TLY Talaya 1.41 253 *e*PG **Pn 05 00 55.3 -0.8**
TLY *e* 05 00 56.3
TLY *e* 05 01 13.0
TLY pmax pmax
comp=Z,190nm,1.0s
TLY smax smax
comp=E,2µm,1.0s
KELR Kotokel 1.53 64 *e*Pg **Pg 05 00 59.8 +0.1**
KELR *e*Sg **Sg 05 01 20.8 +1.2**
OGRR Ongureny 1.87 35⇓ *i*Pg **Pg 05 01 06.3 +0.1**
OGRR *e* 05 01 08.3
OGRR *e* 05 01 13.0
OGRR max 05 01 15.6
comp=E,2µm,1.0s
OGRR *e*Sg **Sg 05 01 33.4 +2.9**
OGRR *e* 05 01 34.4
OGRR max 05 01 35.6
comp=E,4µm,0.4s
OGRR *e* 05 01 44.6
OGRR Ongureny 1.87 35 *e*PN **Pg 05 01 06.8 +0.6**
OGRR *e* 05 01 34.4
OGRR pmax pmax
comp=Z,625nm,0.3s
OGRR smax smax
comp=E,5µm,0.8s
ARS Arshan 2.10 266 *e*PN **Pn 05 01 06.0 +0.4**
ARS *e* 05 01 07.3
ARS *e* 05 01 33.4
ARS pmax pmax
comp=Z,3µm,0.3s
ARS smax smax
comp=N,49µm,0.5s
MXMB Maximikha 2.12 56 *e*Pn **Pn 05 01 07.0 +1.2**
MXMB *e*Pg **Pg 05 01 10.6 -0.4**
MXMB *e*Sn **Sn 05 01 32.4 +0.2**
MXMB *e*Sg **Sg 05 01 40.0 +1.5**
MXMB *e* 05 01 52.7
ZAK Zakamensk 2.36 223 *e*Pn **Pn 05 01 08.4 -0.7**
ZAK *e*Pg **Pb 05 01 12.0 -0.9**
ZAK Pmax 05 01 18.6
comp=N,1µm,0.5s
ZAK *e*Sg **Sb 05 01 41.5 -0.5**
ZAK Smax 05 01 43.8
comp=N,9µm,0.5s
ZAK Zakamensk 2.36 223 *e*PN **Pn 05 01 08.4 -0.7**
ZAK *e* 05 01 11.7
ZAK *e* 05 01 41.3
ZAK pmax pmax
comp=Z,457nm,0.3s
ZAK smax smax
comp=N,8µm,0.3s
SYVR Suvo 2.97 57⇓ *i*Pn **Pn 05 01 18.9 +1.4**
SYVR *e*Pg **Pg 05 01 25.4 -1.8**
SYVR Pmax 05 01 44.2
comp=N,320nm,0.8s
SYVR *e*Sn **Sn 05 01 53.4 +0.3**
SYVR *e*Sg **Sg 05 02 06.3 +0.6**
SYVR Smax 05 02 17.8
comp=N,2µm,1.5s
SYVR Suvo 2.97 57 *e*PN **Pg 05 01 26.5 -0.7**
SYVR *e* 05 02 06.2
SYVR pmax pmax
comp=Z,327nm,0.7s
SYVR smax smax
comp=N,2µm,1.3s
MOY Mondy 3.02 263 *e* **Pn 05 01 19.4 +1.2**
MOY *e*Pg **Pb 05 01 23.3 -0.9**
MOY Pmax 05 01 24.3
comp=N,1µm,1.0s
MOY *e* 05 01 59.5
MOY *e*Sg **Sb 05 02 01.5 +0.4**
MOY Smax 05 02 06.6
comp=N,16µm,1.1s
MOY Mondy 3.02 263 *e*PN **Pb 05 01 21.6 -2.6**
MOY *i* 05 01 24.1
MOY *e* 05 02 00.2
ORL Orlik 3.70 279 *e* **Pn 05 01 28.7 +1.0**
ORL *e*Pg **Pb 05 01 35.6 -0.3**
ORL Pmax 05 01 39.4
comp=N,723nm,0.7s
ORL *e* 05 02 12.4
ORL *e*Sg **Sb 05 02 24.0 +3.2**
ORL Smax 05 02 27.2
comp=N,5µm,1.0s
ORL Orlik 3.70 279 *e*PN **Pn 05 01 28.7 +1.0**
ORL *e* 05 01 36.1
ORL *e* 05 02 24.6
ORL pmax pmax
comp=Z,912nm,0.5s
ORL smax smax
comp=N,5µm,0.9s
YLYR Ulyunkhan 4.22 47⇓ *i*Pn **Pn 05 01 36.0 +1.3**
YLYR *e* 05 01 42.2
YLYR *e*Pg **Pg 05 01 47.9 -3.3**
YLYR Pmax 05 02 07.3
comp=N,69nm,0.9s
YLYR *e*Sn **Sn 05 02 23.5 -0.5**
YLYR *e*Sg **Sg 05 02 44.2 -1.7**
YLYR Smax 05 03 14.3
comp=N,2µm,1.9s
YLYR Ulyunkhan 4.22 47 *e*PN **Pn 05 01 36.4 +1.7**
YLYR *e* 05 01 47.6
YLYR *e*S **Sn 05 02 25.8 +1.8**
YLYR *e* 05 02 42.7
YLYR pmax pmax
comp=Z,35nm,0.3s
YLYR smax smax
comp=N,2µm,1.8s
NIZ Nizh Angarsk 4.27 30 *e*Pn **Pn 05 01 36.6 +1.2**
NIZ *e* 05 01 44.0
NIZ *e*Pg **Pg 05 01 49.5 -2.7**
NIZ Pmax 05 02 10.3
comp=N,136nm,0.9s
NIZ *e*Sn **Sn 05 02 24.7 -0.5**
NIZ *e*Sg **Sg 05 02 45.9 -1.6**
NIZ *e* 05 02 57.0
NIZ max 05 02 57.8
comp=N,3µm,1.6s
NIZ Nizh Angarsk 4.27 30 *e*PN **Pn 05 01 36.5 +1.2**
NIZ *e* 05 01 48.5
NIZ *e*S **Sn 05 02 27.9 +2.7**
NIZ *e* 05 02 45.9
NIZ pmax pmax
comp=Z,186nm,1.3s
NIZ smax smax
comp=N,3µm,1.3s
SONM Songino Array 4.31 175 Pn **Pn 05 01 35.6 -0.4**
comp=N,18nm,0.3s,baz=344,slow=13,SNR=169
SONM Pg **Pb 05 01 47.5 +1.3**
comp=N,66nm,0.3s,baz=344,slow=18,SNR=66
SONM Lg Lg 05 02 42.3
comp=N,200nm,0.3s,baz=351,slow=28,SNR=7.3
SONM Songino Array 4.31 175 Pn **Pn 05 01 35.0 -1.0**
ULN Ulaanbaatar 4.33 169 *e*Pn **Pn 05 01 35.9 -0.5**
ULN *e*Pg **Pb 05 01 48.3 +1.6**
ULN *e*Sg **Sb 05 02 43.0 +4.0**
ULN Ulaanbaatar 4.33 169 *d i*PN **Pn 05 01 35.9 -0.5**
ULN pmax pmax
comp=Z,46nm,1.3s
ULN Ulaanbaatar 4.33 169 Pn **Pn 05 01 35.7 -0.7**
CIT Chita 4.78 88 *e*Pn **Pn 05 01 42.1 -0.3**
CIT *e*Pg **Pb 05 01 57.4 +3.3**
CIT *e*Sg **Sg 05 03 00.9 -2.8**
CIT Smax 05 03 43.7
comp=Z,2µm,1.9s
CIT Chita 4.78 88 *e*PN **Pn 05 01 41.4 -1.0**
CIT *e* 05 01 56.6
CIT *e* 05 03 02.2
CIT pmax pmax
comp=Z,238nm,0.8s
CIT smax smax
comp=N,2µm,1.5s
KPC Khapcheranga 4.81 118⇑ *i*Pn **Pn 05 01 42.2 -0.6**
KPC *e*Pg **Pb 05 01 57.7 +3.0**
KPC *e* 05 02 00.3
KPC max 05 02 00.7
comp=N,177nm,0.8s
KPC *e*Sg **Sg 05 03 00.9 -3.8**
KPC Smax 05 03 04.0
comp=N,5µm,1.3s
KPC Khapcheranga 4.81 118 *e*PN **Pn 05 01 42.2 -0.6**
KPC *e* 05 01 55.8
KPC *e* 05 03 01.2
KPC pmax pmax
comp=Z,192nm,1.4s
KPC smax smax
comp=E,5µm,1.3s
KMO Kumora 4.93 38 *e*Pn **Pn 05 01 45.9 +1.5**
KMO *e* 05 01 53.7
KMO *e*Pg **Pg 05 02 01.8 -3.0**
KMO Pmax 05 02 10.0
comp=E,132nm,0.8s
KMO *e*Sg **Sg 05 03 06.9 -1.8**
KMO Smax 05 03 24.5
comp=E,2µm,1.7s
YOA Uoyan 5.32 39 *e*Sn **Sn 05 02 49.7 -1.2**
YOA *e*Sg **Sg 05 03 18.6 -2.3**
YOA Smax 05 03 56.1
comp=E,5µm,1.5s
KNGR Kungurtug, Tuv 5.41 257 *e*Pn **Pn 05 01 50.0 -1.1**
KNGR *e* 05 02 00.8
KNGR *e*Pg **Pb 05 02 05.8 +0.8**
KNGR *e*Sn **Sn 05 02 47.3 -6.1**
KNGR *e*Sg **Sb 05 03 15.6 +5.7**
UKT Uakit 5.73 51 *e*Pn **Pn 05 01 57.0 +1.6**
UKT *e* 05 02 04.3
UKT *e*Pg **Pg 05 02 16.5 -3.5**
UKT Pmax 05 02 34.2
comp=E,91nm,1.5s
UKT *e*Sg **Sg 05 03 32.0 -2.2**
UKT Smax 05 03 57.1
comp=E,740nm,1.7s
SVKR Severomuysk 6.06 46 *e*Sg **Sg 05 03 42.0 -2.9**
SVKR Smax 05 03 57.3
comp=E,1µm,1.4s
KZLR Kyzyl 7.04 271 *e*Pg **Pb 05 02 35.7 +3.1**
KZLR *e*Sg Sg 05 04 06.2 -10
NLYR Nelyaty 7.25 49 *e*Pn **Pn 05 02 18.0 +1.7**
NLYR *e* 05 02 26.5
NLYR *e*Pg Pg 05 02 43.5 -5.7
NLYR Pmax 05 03 12.7
comp=E,37nm,1.2s
NLYR *e*Sg **Sg 05 04 18.4 -4.6**
NLYR Smax 05 04 48.1
comp=E,2µm,1.6s
BOD Bodaibo 7.40 36 *e*Pn **Pn 05 02 19.3 +1.0**
BOD *e* 05 02 27.2
BOD *e*Pg Pg 05 02 45.8 -6.2
BOD Pmax 05 02 49.9
comp=E,34nm,1.7s
BOD *e*Sn **Sn 05 03 39.5 -2.7**
BOD *e*Sg **Sg 05 04 21.8 -5.9**
BOD Smax 05 04 46.4
comp=E,652nm,2.2s
BOD Bodaibo 7.40 36 *e*PN **Pn 05 02 18.3 0.0**
BOD *e* 05 02 43.9
BOD *e* 05 04 24.1
BOD pmax pmax
comp=Z,35nm,1.2s
BOD smax smax
comp=E,654nm,2.3s
CRS Chara 8.68 52 *e*Pn **Pn 05 02 37.4 +1.5**
CRS *e*Pg Pg 05 03 09.3 -7.1
CRS Pmax 05 03 28.3
comp=E,59nm,1.1s
CRS *e*Sn **Sn 05 04 11.0 -2.7**
CRS *e*Sg Sg 05 05 02.6 -6.1
CRS Smax 05 05 43.5
comp=E,642nm,2.1s
TUP Tupik 8.79 69 *e*Pn **Pn 05 02 38.0 +0.7**
TUP *e*Pg Pg 05 03 10.8 -7.6
TUP Pmax 05 03 11.5
comp=E,21nm,1.5s
TUP *e*Sn **Sn 05 04 12.7 -3.6**
TUP *e*Sg Sg 05 05 04.7 -7.4
TUP Smax 05 05 23.9
comp=E,2µm,1.8s
TUP Tupik 8.79 69 *e*PN **Pn 05 02 38.0 +0.7**
TUP *e* 05 03 08.9
TUP *e* 05 05 05.4
TUP pmax pmax
comp=Z,21nm,1.0s
TUP smax smax
comp=N,2µm,1.6s
DGZ Jazzator, Alta 11.85 265⇓ *e*P **Pn 05 03 20.6 +1.2**
BTO Baotou 11.88 164 *e*P **Pn 05 03 15.4 -4.3**
ZAA0 Zalesovo Array 12.76 287 Pn **Pn 05 03 32.6 +1.0**
ZALV Zalesovo Beam 12.76 287 Pn **Pn 05 03 33.1 +1.5**
comp=N,0.3nm,0.3s,baz=92,slow=10,SNR=49
ZALV Lg Lg 05 07 04.8
comp=N,0.7nm,0.3s,baz=101,slow=21,SNR=10
ZALV LR LR 05 08 36.0
comp=N,593nm,19.9s,baz=96,slow=38
ZALV Zalesovo Beam 12.76 287 *i* P **Pn 05 03 33.7 +2.1**
ZALV pmax pmax
comp=Z,20nm,0.9s
ZALV Zalesovo Beam 12.76 287 Pn **Pn 05 03 32.9 +1.3**
ZEA Zeya 13.03 74 *e*P **P 05 03 44.7 -1.1**
ZEA *e* 05 06 00.4
ZEA MLR MLR
comp=Z,600nm,12.0s
GTA Gaotai 13.38 200 *e*P **Pn 05 03 40.8 +0.6**
GTA pP P 05 03 50.2 +0.4
GTA sP 05 03 54.4
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA pmax pmax
comp=Z,69nm,7.6s
GTA LR LR
comp=Z,780nm,11.6s
GTA LR LR
comp=Z,390nm,11.2s
GTA LR LR
comp=Z,1µm,12.0s
BJI Beijing 14.04 145 P **Pn 05 03 47.6 -1.5**
BJT Baijiatuau 14.06 145 P **Pn 05 03 46.8 -2.6**
BJT Baijiatuau 14.06 145 **Pn 05 03 46.8 -2.6**
ZSN Zaisan 14.30 259 *e*P **Pn 05 03 52.4 -0.3**
baz=260
ZSN Zaisan 14.30 259 *e*P **Pn 05 03 52.3 -0.3**
CN2 Changchun 15.53 115 *e*P **Pn 05 04 09.7 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 LR LR
comp=Z,1µm,10.0s
CN2 LR LR
comp=Z,900nm,10.0s
CN2 LR LR
comp=Z,2µm,10.0s
LZH Lanzhou 16.09 186 *e*P **P 05 04 20.7 +0.7**
LZH pP sP 05 04 27.8 +3.2
LZH pmax pmax
comp=Z,33nm,1.2s
MK31 Makanchi Array 16.16 260⇓ *e*P **P 05 04 19.2 -1.4**
MK31 Makanchi Array 16.16 260 P **P 05 04 19.5 -1.1**
MKAR Makanchi Array 16.16 260 Pn **Pn 05 04 16.5 -0.9**
comp=Z,0.1nm,0.3s,baz=68,slow=9.5,SNR=3.7
MKAR Lg Lg 05 08 58.8
comp=Z,0.2nm,0.3s,baz=60,slow=31,SNR=5.6
MKAR LR LR 05 10 50.1
comp=Z,466nm,18.8s,baz=60,slow=38
MKAR Makanchi Array 16.16 260 *i* P **P 05 04 21.2 +0.7**
MKAR pmax pmax
comp=Z,4.0nm,0.9s
MKAR Makanchi Array 16.16 260 P **P 05 04 21.3 +0.7**
YAK Yakutsk 16.23 43 LR LR 05 11 17.2
comp=Z,141nm,21.5s,baz=269,slow=40
YAK Yakutsk 16.23 43 *e*P **P 05 04 22.6 +1.4**
YAK *e*S **S 05 07 26.5 -4.5**
YAK pmax pmax
comp=Z,20nm,1.0s
YAK pmax pmax
comp=N,11nm,1.4s
YAK pmax pmax
comp=E,14nm,1.4s
YAK smax smax
comp=E,12nm,1.0s
YAK smax smax
comp=N,9.0nm,1.1s
YAK MLR MLR
comp=Z,691nm,14.0s
YAK MLR MLR
comp=E,387nm,12.0s
MAKZ Makanchi 16.34 260 P **P 05 04 23.2 +0.6**
MAKZ pmax pmax
comp=Z,12nm,0.9s
MAKZ Makanchi 16.34 260 P **P 05 04 23.2 +0.6**
KLR Kul'dur 16.66 90 Pn **Pn 05 04 24.3 +0.6**
comp=Z,0.1nm,0.3s,baz=315,slow=7.1,SNR=4.0
KLR Lg Lg 05 09 16.6
comp=Z,0.2nm,0.3s,baz=203,slow=22,SNR=4.9
KLR LR LR 05 11 35.2
comp=Z,340nm,18.6s,baz=252,slow=40
KLR Kul'dur 16.66 90⇓ *e*P **P 05 04 25.5 -0.6**
KLR MLR MLR
comp=Z,648nm,11.0s
KURK Kurchatov 16.98 276 P **Pn 05 04 28.3 +0.6**
KURK Kurchatov 16.98 276 P **Pn 05 04 28.3 +0.6**
KURBB Kurchatov Arra 17.06 276 P **Pn 05 04 28.3 -0.4**
comp=Z,0.1nm,0.3s,baz=72,slow=13,SNR=11
KURBB Lg Lg 05 09 25.3
comp=Z,0.0nm,0.3s,baz=64,slow=33,SNR=5.5
USRK Ussuriysk Ar. 19.10 104 Pn **Pn 05 04 59.2 +5.4**
baz=285,slow=8.1,SNR=5.1
USRK Lg Lg 05 10 33.6
baz=298,slow=27,SNR=2.7
NRIK Noril'sk 19.29 340 P **P 05 04 52.4 -2.5**
comp=Z,0.3nm,0.3s,baz=148,slow=10,SNR=4.7
NRIK Lg Lg 05 10 43.1
comp=Z,0.2nm,0.3s,baz=85,slow=11,SNR=3.7
NRIK LR LR 05 13 08.5
comp=Z,363nm,20.6s,baz=152,slow=39
NRIK Noril'sk 19.29 340⇓ *e*P **P 05 04 54.6 -0.3**
NRIK pmax pmax
comp=Z,8.0nm,1.0s
NRIK Noril'sk 19.29 340 P **Pn 05 04 55.3 -0.6**
MSHR Mys Shultsa 19.56 109⇑ *e*P **Pn 05 05 01.0 +1.7**
MSHR pmax pmax
comp=Z,14nm,1.4s
UZB Uzynbulak 20.06 254 *e*P **P 05 05 03.2 -0.5**
baz=254
UZB Uzynbulak 20.06 254 *e*P **P 05 05 03.2 -0.5**
KPKS Kokpek 20.08 255 *e*P **P 05 05 03.8 0.0**
baz=255
KPKS Kokpek 20.08 255 *e*P **P 05 05 03.8 0.0**
BRZS Berezniki 20.84 277 *e*P **P 05 05 10.9 -1.1**
baz=278
BRZS Berezniki 20.84 277 *e*P **P 05 05 10.8 -1.1**
CHKK Chushkaly 20.88 258 *e*P **P 05 05 12.3 -0.1**
baz=258
MDOK Medeo 21.23 256 *e*P **P 05 05 16.5 +0.2**
baz=257
MDOK Medeo 21.23 256 *e*P **P 05 05 16.5 +0.2**
KUU Kurty 21.25 259 *e*P **P 05 05 15.5 -0.9**
baz=259
KUU Kurty 21.25 259 *e*P **P 05 05 15.4 -0.9**
KSRS Korea Array 21.36 125 P **P 05 05 17.2 -0.3**
comp=Z,2.9nm,0.8s,baz=327,slow=10,SNR=8.5
KSRS LR LR 05 14 46.9
comp=Z,166nm,21.2s,baz=308,slow=40
BVAR Borovoye Array 21.42 287 P **P 05 05 17.6 -0.5**
comp=Z,8.6nm,0.8s,baz=124,slow=7.4,SNR=16
BRVK Borovoye 21.47 287⇓ *e*P **P 05 05 17.9 -0.8**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
BRVK MLR MLR
comp=Z,491nm,19.0s
BRVK Borovoye 21.47 287 P **P 05 05 17.3 -1.4**
BRVK IAmb IAmb 05 05 31.2
comp=Z,13nm,0.7s
MTBS Maitube 21.62 257 *e*P **P 05 05 20.1 -0.3**
baz=257
TJN Taejon 21.92 127⇑ *e*P **P 05 05 24.1 +0.5**
ENH Enshi 22.00 171 P **P 05 05 23.5 -1.0**
ENH IAmb IAmb 05 05 37.8
comp=Z,16nm,1.0s
TIXI Tiksi 22.11 19 P **P 05 05 25.0 -0.4**
comp=Z,7.3nm,0.8s,baz=205,slow=6.8,SNR=4.9
TIXI Lg Lg 05 11 58.0
comp=Z,2.9nm,0.3s,baz=314,slow=18,SNR=1.3
TIXI Tiksi 22.11 19 P **P 05 05 24.5 -0.8**
TIXI IAmb IAmb 05 05 26.0
comp=Z,21nm,1.2s
BOOM Boomskoye usch 22.28 256 P **P 05 05 27.8 +0.1**
BOOM pmax pmax
comp=Z,24nm,1.1s
BOOM Boomskoye usch 22.28 256 P **P 05 05 27.8 +0.1**
BOOM IAmb IAmb 05 05 48.7
comp=Z,24nm,1.1s
SGDS Sogindy 22.53 260 *e*P **P 05 05 29.5 -0.6**
baz=260
SGDS Sogindy 22.53 260 *e*P **P 05 05 30.6 +0.5**
AAK Ala-Archa 23.07 258 P **P 05 05 36.0 +0.1**
comp=Z,0.9nm,0.3s,baz=98,slow=9.1,SNR=5.7
AAK Lg Lg 05 12 33.2
comp=Z,0.8nm,0.3s,baz=322,slow=20,SNR=5.3
AAK LR LR 05 14 53.0
comp=Z,377nm,19.5s,baz=50,slow=38
AAK Ala-Archa 23.07 258⇓ *e*P **P 05 05 36.4 +0.5**
AAK pmax pmax
comp=Z,21nm,1.3s
AAK MLR MLR
comp=Z,1µm,17.0s
AAK Ala-Archa 23.07 258 P **P 05 05 36.1 +0.2**
KSH Kashi 24.12 250 P **P 05 05 52.0 +5.8**
KSH pmax pmax
comp=Z,7.0nm,1.0s
YSS Yuzh-Sakhalins 24.34 87 *e*P **P 05 05 42.0 -6.0**
YSS *e*S S 05 09 54.8 -12
YSS pmax pmax
comp=Z,20nm,0.7s
YSS MLR MLR
comp=Z,600nm,13.0s
KK31 Karatay Array 25.23 263 P **P 05 05 56.2 +0.1**
KK31 pmax pmax
comp=Z,20nm,1.1s
KK31 Karatay Array 25.23 263 P **P 05 05 56.2 +0.1**
KKAR Karatay Array 25.23 263 P **P 05 05 56.4 +0.3**
KKAR 05 05 56.8
KKAR pmax pmax
comp=Z,20nm,1.1s
KKAR Karatay Array 25.23 263 P **P 05 05 56.4 +0.3**
KKAR IAmb IAmb 05 06 07.3
comp=Z,20nm,1.1s
KKAR Karatay Array 25.23 263 P **P 05 05 56.8 +0.6**
ASAJ Asahikawa 25.60 94 LR LR 05 17 15.7
comp=Z,260nm,18.3s,baz=343,slow=39
MA2 Magadan 25.87 55 LR LR 05 16 03.9
comp=Z,68nm,19.5s,baz=354,slow=36
IUG Iuzhnay 26.06 262 *e*P **P 05 06 03.9 +0.1**
baz=262
IUG Iuzhnay 26.06 262 *e*P **P 05 06 03.9 +0.1**
SVE Sverdlovsk 26.28 298 *e*P P 05 06 14.3 +8.8
SVE pmax pmax
comp=Z,52nm,1.3s
SVE MLR MLR
comp=Z,396nm,16.0s
SEY Seymchan 26.62 48 LR LR 05 17 45.8
comp=Z,192nm,20.0s,baz=306,slow=39
SEY Seymchan 26.62 48⇑ *e*P **P 05 06 11.6 +3.1**
ARU Arti 27.48 298 P **P 05 06 16.1 -0.2**
comp=Z,1.1nm,0.4s,baz=12,slow=8.2,SNR=3.1
ARU LR LR 05 17 20.9
comp=Z,69nm,19.9s,baz=119,slow=37
ARU Arti 27.48 298 *c i*P **P 05 06 19.0 +2.7**
ARU 05 07 04.8
ARU S **S 05 11 03.0 +6.3**
ARU SS **SnSn 05 12 11.2 +4.9**
ARU pmax pmax
comp=Z,3.0nm,0.6s
ARU MLR MLR
comp=Z,242nm,14.0s
ARU Arti 27.48 298 IAmb IAmb 05 06 25.0
comp=Z,18nm,1.1s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	27.63	111	LR	LR	05 17 31.3	
	comp=Z,91nm,18.6s,baz=5.0,slow=37						
GAR	Garm	27.80	256	P	P	05 06 19.5	+0.1
GAR				IAmb	IAmb	05 06 38.7	
	comp=Z,13nm,1.0s						
SHL	Shillong	28.55	207	P	P	05 06 25.9	-0.4
SHL				pmax	pmax		
	comp=Z,21nm,1.2s						
SHL	Shillong	28.55	207	P	P	05 06 25.9	-0.4
CHGR	Chuyangaron	28.71	257	P	P	05 06 27.5	0.0
ABKAR	Akbulak array	28.83	283	P	P	05 06 28.2	-0.2
AKTO	Aktyubinsk	29.52	286	P	P	05 06 33.9	-0.6
	comp=Z,1.6nm,0.7s,baz=64,slow=6.9,SNR=4.6						
AKTO				LR	LR	05 19 03.3	
	comp=Z,247nm,19.1s,baz=54,slow=38						
JOW	Kunigami	30.39	138	LR	LR	05 20 38.0	
	comp=Z,179nm,18.1s,baz=352,slow=40						
PETK	Petropavlovsk-	30.96	67	LR	LR	05 20 03.7	
	comp=Z,100nm,19.2s,baz=276,slow=38						
CMAR	Chiang Mai Arr	34.02	192	P	P	05 07 14.4	+0.1
	comp=Z,3.3nm,0.8s,baz=357,slow=8.6,SNR=16						
CMAR				LR	LR	05 22 35.0	
	comp=Z,150nm,19.6s,baz=135,slow=39						
CMAR	Chiang Mai Arr	34.02	192	*i* P	P	05 07 14.3	0.0
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CM02	Chiang Mai Arr	34.05	192	P	P	05 07 15.7	+1.2
	comp=Z,6.0nm,0.9s						
BELG	Belogornoye	34.78	294⇓	*e*P	P	05 07 20.5	0.0
BELG				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BELG				MLR	MLR		
	comp=Z,66nm,16.0s						
GEYT	Alibeck	35.89	266	LR	LR	05 23 12.8	
	comp=Z,240nm,18.4s,baz=55,slow=38						
KLMR	Klimovskoe	36.11	310	*e*P	P	05 07 30.8	-1.1
KLMR				pmax	pmax		
	comp=Z,18nm,1.4s						
KLMR	Klimovskoe	36.11	310	*e*P	P	05 07 30.9	-1.0
KLMR				AMP		05 07 40.1	
	comp=Z,18nm,1.4s						
ARCES	ARCESS Array B	39.33	327	LR	LR	05 26 02.2	
	comp=Z,125nm,21.4s,baz=355,slow=39						
OBN	Obninsk	39.65	303⇑	*e*P	P	05 08 03.5	+1.7
OBN				*i*		05 09 34.9	
OBN				*e*S	S	05 14 07.3	+2.7
OBN				*e*SS	SnSn	05 17 01.2	0.0
OBN				pmax	pmax		
	comp=Z,7.0nm,0.4s						
OBN				MLR	MLR		
	comp=Z,312nm,17.0s						
KIV	Kislovodsk	41.77	285	*e*P	P	05 08 21.1	+1.5
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,75nm,16.0s						
KBZ	Khabaz	41.77	284	LR	LR	05 27 20.4	
	comp=Z,75nm,20.3s,baz=39,slow=39						
FINES	FINESS Array B	41.99	315	P	P	05 08 20.7	-0.3
	comp=Z,2.0nm,0.8s,baz=81,slow=7.0,SNR=7.0						
FINES				LR	LR	05 27 46.0	
	comp=Z,305nm,18.2s,baz=64,slow=39						
GNI	Garni	42.75	279⇓	*e*P	P	05 08 30.0	+2.2
GNI				pmax	pmax		
	comp=Z,18nm,1.4s						
GNI				MLR	MLR		
	comp=Z,112nm,17.0s						
SOC	Sochi	43.74	286	*e*P	P	05 08 33.5	-2.0
SOC				*e*		05 10 19.0	
SOC				*e*PPP	PPP	05 10 51.7	
SOC				*e*S	S	05 15 03.8	-1.7
SOC				*e*SS	ScS	05 18 27.7	-6.8
SOC				*e*SSS	SSS	05 19 05.6	
SOC				pmax	pmax		
	comp=Z,9.0nm,0.4s						
SOC				MLR	MLR		
	comp=Z,114nm,19.0s						
MNK	Minsk	44.38	305	*i* P	P	05 08 41.3	+0.9
MNK				*i*		05 10 24.3	
MNK				*i* PPP	PPP	05 10 59.5	
MNK				*i* S	S	05 15 15.0	+0.5
MNK				*i* SS	SS	05 18 33.9	+1.1
MNK				pmax	pmax		
	comp=N,20nm,0.9s						
MNK				pmax	pmax		
	comp=E,1.0nm,0.8s						
MNK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MNK				MLR	MLR		
	comp=E,34nm,16.0s						
MNK				MLR	MLR		
	comp=N,204nm,17.0s						
MNK				MLR	MLR		
	comp=Z,464nm,21.0s						
MNK	Minsk	44.38	305	*i* P	P	05 08 41.4	+0.9
	comp=E,1.0nm,0.8s						
MNK				*i* P	P	05 08 41.4	+0.9
	comp=N,20nm,0.9s						
MNK				*i* P	P	05 08 41.4	+0.9
	comp=Z,8.0nm,0.9s,baz=240						
MNK				*i* PP	PcP	05 10 24.3	+0.2
MNK				*i* PPP	PPP	05 10 59.5	
MNK				*i* S	S	05 15 15.0	+0.5
MNK				*i* SS	SS	05 18 34.0	+1.2
MNK				*i* SSS	SSS	05 19 13.7	
MNK				*i* LQ	LQ	05 22 36.6	
MNK				*i* LR	LR	05 26 02.8	
MNK				*i* LRM	MLR	05 28 55.4	
	comp=E,34nm,16.3s						
MNK				*i* LRM	MLR	05 29 00.5	
	comp=N,204nm,17.4s						
MNK				*i* LRM	MLR	05 29 32.3	
	comp=Z,464nm,20.6s						
GURO	Guroymak-BITLI	45.39	279	P	P	05 08 50.5	+1.6
GURO				IAmb	IAmb	05 09 00.1	
	comp=Z,3.1nm,0.7s						
AKASG	Malin Array Be	45.69	300	P	P	05 08 50.7	-0.2
	comp=Z,1.6nm,0.7s,baz=54,slow=8.6,SNR=9.0						
AKASG				LR	LR	05 28 36.0	
	comp=Z,57nm,19.1s,baz=50,slow=37						
AKBB	Malin Array Si	45.69	300⇑	*e*P	P	05 08 50.5	-0.4
AKBB				pmax	pmax		
	comp=Z,7.0nm,1.0s						
AKBB				MLR	MLR		
	comp=Z,106nm,15.0s						
AKBB	Malin Array Si	45.69	300	P	P	05 08 52.5	+1.6
AKBB				IAmb	IAmb	05 08 59.7	
	comp=Z,6.2nm,1.0s						
NOA	NORSAR Array B	48.41	320	LR	LR	05 31 14.8	
	comp=Z,224nm,18.6s,baz=45,slow=38						
H23K	Yukon River	49.22	32	P	P	05 09 19.5	+1.3
H23K				IAmb	IAmb	05 09 30.6	
	comp=Z,6.2nm,1.1s						
BUR08	Bucovina Ar. S	49.60	299	P	P	05 09 23.1	+1.6
BUR08				IAmb	IAmb	05 09 29.8	
	comp=Z,12nm,1.8s						
BURAR	Bucovina Array	49.61	299	P	P	05 09 22.4	+0.9
BRTR	Keskin Array B	49.70	286	P	P	05 09 24.2	+1.8
	comp=Z,0.9nm,0.9s,baz=76,slow=5.2,SNR=4.5						
BRTR				LR	LR	05 33 31.1	
	comp=Z,99nm,18.9s,baz=80,slow=40						
BRTR	Keskin Array B	49.70	286	*i* P	P	05 09 24.1	+1.7
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRTR	Keskin Array B	49.70	286	P	P	05 09 23.5	+1.1
IL31		50.75	32	P	P	05 09 30.7	+0.9
IL31				IAmb	IAmb	05 09 41.1	
	comp=Z,6.3nm,1.0s						
ILAR	Eielson Array	50.75	32	P	P	05 09 31.0	+1.2
	comp=Z,2.5nm,0.8s,baz=302,slow=5.7,SNR=27						
ILAR				LR	LR	05 35 48.7	
	comp=Z,57nm,19.0s,baz=304,slow=42						
ILAR	Eielson Array	50.75	32	P	P	05 09 30.6	+0.7
DOT	Dot Lake	52.42	32	P	P	05 09 42.5	+0.1
DOT				IAmb	IAmb	05 09 52.6	
	comp=Z,7.9nm,1.1s						
CLL	Collm	53.56	309	*e*P	P	05 09 50.0	-0.9
CLL				*e*PcS	PcS	05 15 00.0	+3.7
CLL				*e*S	S	05 17 24.0	+0.4
CLL				Lmax		05 35 00.0	
CLL	Collm	53.56	309	*e*P	P	05 09 50.0	-0.9
BCAR	Beaver Creek A	53.57	32	P	P	05 09 51.7	+0.8
GERES	GERESS Array B	54.83	306	P	P	05 10 00.2	-0.1
	comp=Z,0.2nm,0.3s,baz=31,slow=8.0,SNR=4.4						
GERES				LR	LR	05 35 53.6	
	comp=Z,320nm,18.1s,baz=41,slow=39						
YKA	Yellowknife Ar	61.36	20	LR	LR	05 40 30.6	
	comp=Z,36nm,18.0s,baz=0.0,slow=39						
JAY	Jayapura	61.91	140	LR	LR	05 38 11.4	
	comp=Z,32nm,19.0s,baz=343,slow=37						
ESDC	Sonseca Array	70.14	309	LR	LR	05 45 58.0	
	comp=Z,68nm,18.2s,baz=320,slow=39						
FITZ	Fitzroy Crossi	72.03	160	P	P	05 11 53.7	-0.4
	comp=Z,6.1nm,0.8s,baz=331,slow=3.2,SNR=12						
FITZ	Fitzroy Crossi	72.03	160	P	P	05 11 53.7	-0.4
C09A	Chrisman Ranch	73.57	29	P	P	05 12 03.9	+0.7
C09A				IAmb	IAmb	05 12 05.7	
	comp=Z,4.6nm,0.9s						
WRAB	Tennant Creek	75.95	152⇓	*e*P	P	05 12 15.5	-1.6
WRAB				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WRAB				MLR	MLR		
	comp=Z,68nm,12.0s						
WRA	Warramunga Arr	75.96	152	P	P	05 12 16.6	-0.5
	comp=Z,3.5nm,0.8s,baz=341,slow=5.0,SNR=18						
WRA	Warramunga Arr	75.96	152	*i* P	P	05 12 16.2	-0.9
WRA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WRA	Warramunga Arr	75.96	152	P	P	05 12 16.2	-0.9
ULM	Lac du Bonnet	76.36	14	LR	LR	05 49 10.8	
	comp=Z,48nm,18.1s,baz=318,slow=38						
BMO	Blue Mountains	76.51	30	P	P	05 12 20.3	0.0
BMO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BMO	Blue Mountains	76.51	30	P	P	05 12 20.3	0.0
BMO				IAmb	IAmb	05 12 32.5	
	comp=Z,2.8nm,0.8s						
DLMT	Dillon	77.42	27	P	P	05 12 25.5	0.0
J08A	Circle Bar Ran	77.49	31	P	P	05 12 25.9	0.0
J08A				IAmb	IAmb	05 12 28.8	
	comp=Z,6.9nm,1.2s						
AS31	Alice Springs	79.37	154	P	P	05 12 35.9	-0.3
ASAR	Alice Springs	79.37	154	P	P	05 12 36.0	-0.2
	comp=Z,3.9nm,0.7s,baz=347,slow=5.7,SNR=36						
ASAR	Alice Springs	79.37	154	P	P	05 12 36.0	-0.2
ASAR	Alice Springs	79.37	154	P	P	05 12 35.0	-1.2
FXWY	Fox Creek	79.45	26	P	P	05 12 37.1	+0.2
PDAR	Pinedale Array	80.65	26	P	P	05 12 44.0	+0.7
	comp=Z,0.5nm,0.9s,baz=96,slow=0.9,SNR=3.5						
SUSD	Miller	81.47	18	P	P	05 12 47.5	+0.2
KVN	Kaiserville	81.48	33	P	P	05 12 48.3	+0.5
KVN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KVN	Kaiserville	81.48	33	P	P	05 12 48.3	+0.5
KVN				IAmb	IAmb	05 12 50.2	
	comp=Z,4.2nm,1.0s						
NVAR	Mina Array Bea	81.97	34	P	P	05 12 51.8	+1.4
	comp=Z,1.9nm,0.8s,baz=343,slow=2.8,SNR=8.6						
TORD	Torodi Ar. Bea	88.20	289	P	P	05 13 21.4	-0.2
	comp=Z,1.9nm,1.0s,baz=32,slow=3.4,SNR=6.6						
ANMO	Albuquerque	88.82	26⇑	*e*P	P	05 13 26.5	+1.9
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.2s						
ANMO				MLR	MLR		
	comp=Z,43nm,12.0s						
STKA	Stephens Creek	89.33	150	P	P	05 13 25.8	-0.6
	comp=Z,2.0nm,0.5s,baz=5.3,slow=5.5,SNR=5.7						
STKA	Stephens Creek	89.33	150	IAmb	IAmb	05 13 27.2	
	comp=Z,7.1nm,1.8s						
CPUP	Villa Florida	151.27	327	PKPbc	PKPbc	05 20 21.8	-1.9
	comp=Z,1.9nm,0.8s,baz=90,slow=3.0,SNR=4.4						

IDC 05 05:06:44.6±6.7**, 6.°54S**×**127.°91E, h342**km±74km**, mb3.0**/2**, mb1 3.0**/5**, mb1mx2.8**/34**, mbtmp3.7**/5**, Error ellipse: s-maj=89.4km s-min=23.1km az=50.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	Baumata	5.56	229	P	Pn	05 08 11.4	+1.2
	7.6nm,0.3s,baz=143,slow=20,SNR=2.9						
BATI				S	S	05 09 18.9	-0.6
	4.3nm,0.3s,baz=94,slow=16,SNR=3.7						
WRA	Warramunga Arr	14.71	155	P	P	05 09 56.4	-0.2
	0.2nm,0.3s,baz=336,slow=12,SNR=12						
ASAR	Alice Springs	17.97	162	P	P	05 10 32.4	+0.5
	0.2nm,0.3s,baz=342,slow=11,SNR=9.7						
STKA	Stephens Creek	28.26	155	P	P	05 12 07.0	-0.6
	0.6nm,0.3s,baz=326,slow=7.3,SNR=1.6						
MKAR	Makanchi Array	66.72	328	P	P	05 16 59.8	0.0
	0.2nm,0.5s,baz=111,slow=8.9,SNR=2.7						

IDC 05 05:23:14.2±8.8**, 20.°22S**×**177.°84W, h488**km±81km**, mb2.6**/3**, mb1 3.1**/4**, mb1mx2.8**/30**, mbtmp3.7**/4**, Error ellipse: s-maj=234.2km s-min=29.8km az=155.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.61	302	P	P	05 24 37.1	-0.1
	9.0nm,0.3s,baz=122,slow=22,SNR=56						
ASAR	Alice Springs	44.73	256	P	P	05 30 43.0	-0.5
	0.7nm,0.5s,baz=91,slow=7.8,SNR=12						
WRA	Warramunga Arr	44.79	262	P	P	05 30 44.6	+0.6
	0.1nm,0.3s,baz=93,slow=10.0,SNR=1.5						
TXAR	Lajitas Array	86.77	57	P	P	05 35 06.4	0.0
	0.2nm,0.6s,baz=216,slow=6.2,SNR=4.1						

MEX 05 05:38:24.7±0.6**, 16.°17N**×**98.°10W, h3**km±3km**, MD3.5, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.22	352	*i* P	Pg	05 38 28.8	-0.2
	baz=173,slow=10						
PNIG				*i* S	Sg	05 38 32.0	+0.2
YOIG	Yosondua	0.86	38	*i* P	Pg	05 38 39.8	-1.4
YOIG				*e*S	Sg	05 38 51.4	-1.1
MGIG	Malinaltepec	1.17	334	*e*P	Pg	05 38 44.6	-2.6
MGIG				*e*S	Sg	05 38 59.9	-2.6
TLIG	Tlapa	1.45	342	*e*P	Pn	05 38 48.4	-3.6
TLIG				*e*S	Sb	05 39 06.3	-5.1
VHO	Vista Hermosa	1.58	55	*e*P	Pn	05 38 52.0	-1.9
VHO				*e*S	Sn	05 39 14.1	-0.8
HLIG	Huajuapan de L	1.67	10	*e*P	Pn	05 38 52.7	-2.4
HLIG				*e*S	Sn	05 39 14.0	-3.2
DAIG	Los Arroyos	1.71	300	*e*P	Pn	05 38 51.3	-4.2
DAIG				*e*S	Sn	05 39 12.6	-5.3

*NDI **05** 05:39:01.0±2.8, 26.°23N×92.°80E, h17km±10km, ML4.0, mb4.2(NEIC)*
*IDC **05** 05:39:01.4±0.8, 25.°76N×92.°00E, h35km±6km, mb3.6/8, mb1 3.8/9, mb1mx3.5/50, mbtmp3.8/9, ML4.3/1, MS2.5/1, Ms1 2.7/1, ms1mx2.2/43, Error ellipse: s-maj=26.9km s-min=11.5km az=73.0*
*NEIC **05** 05:39:03.5±1.7, 26.°19N±0.°04×92.°83E±0.°09, h47km±10km, mb4.2/12, Error ellipse: s-maj=11.3km s-min=5.0km az=97.0*
ISC 05 05:39:02.8±0.6**, 26.°25N**±0.°05×**92.°77E**±0.°03**, h41**km±7km**, n34,** σ**1.s91**/46**, mb3.9**/12**, Northeastern India**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHL	Shillong	1.05	230		Pn	05 39 21.9	+0.7
SHL	Shillong	1.05	230	*e*P	Pn	05 39 21.9	+0.7
SHL				*i* PG	Pn	05 39 22.5	+1.3
SHL				*e*S	Sn	05 39 34.4	-0.3
SHL				*i* SG	Sn	05 39 35.0	+0.3
SHL				IAML		05 39 35.8	
	comp=E,2μm,0.2s						
SHL				IAML		05 39 35.9	
	comp=N,2μm,0.1s						
KOHI	KOHIMA	1.31	113	*e*P	Pn	05 39 24.9	+0.1
KOHI				*e*S	Sn	05 39 41.7	+0.6
KOHI				IAML		05 39 42.4	
	comp=E,2μm,0.1s						
JORH	JORHAT	1.41	69	*e*x	x	05 39 13.4	
JORH				*e*S	Sn	05 39 43.6	+0.1
JORH				*e*S	Sn	05 39 44.0	+0.6
JORH				IAML		05 39 44.9	
	comp=N,5μm,0.4s						
SILR	SILCHAR	1.46	179	*e*P	Pn	05 39 27.0	+0.3
SILR				*e*S	Sn	05 39 47.0	+2.4
SILR				IAML		05 39 52.7	
	comp=E,2μm,0.2s						
MOKO	MOKOCHONG	1.57	87	*e*P	Pn	05 39 28.9	+0.6
MOKO				*e*S	Sn	05 39 47.1	-0.3
MOKO				IAML		05 39 48.0	
	comp=E,8μm,0.3s						
IMP	Imphal	1.76	143	*e*P	Pn	05 39 31.9	+1.0
DIBR	DIBRUGARH	2.26	57	*e*x	Pn	05 39 39.9	+2.1
DIBR				*e*x	Sn	05 39 57.1	-7.3
LKP	Lekhapani	2.95	68	*e*P	Pn	05 39 48.4	+1.2
LKP				*e*S	Sn	05 40 19.5	-1.9
BRDH	Bariadhala	3.70	196	Pg	Pn	05 39 57.4	-0.1
	comp=E,33nm,0.3s,baz=252,slow=20,SNR=2.0						
BRDH				Lg	Lg	05 40 38.0	
	comp=E,159nm,0.3s,baz=234,slow=20,SNR=16						
LSA	Lhasa	3.73	338		Pn	05 40 00.1	+1.8
GTK	Tadong	3.88	287	*e*P	Pn	05 40 01.4	+1.4
GTK				*e*S	Sn	05 40 44.3	-0.2
BOK	Bokaro	6.71	250	*e*P	Pn	05 40 38.9	+0.1
BOK				*e*S	Sn	05 41 49.0	-5.0
CHTO	Chiang Mai	9.34	141	Pn	Pn	05 41 12.8	-2.1
CM31	Chiang Mai Arr	9.62	142	Pn	Pn	05 41 18.8	-0.1
CMAR	Chiang Mai Arr	9.62	142	Pn	Pn	05 41 17.4	-1.4
	comp=E,0.8nm,0.3s,baz=320,slow=14,SNR=7.8						
CMAR				LR	LR	05 46 04.1	
	comp=E,27nm,18.9s,baz=305,slow=44						
BHPL	Bhopal	14.26	261	*e*x	x	05 44 44.8	
ENH	Enshi	15.26	71	Pn	Pn	05 42 35.3	-0.2
ENH				IAmb	IAmb	05 43 10.3	
	comp=Z,12nm,1.1s						
KBL	Kabul	22.04	298	P	P	05 43 54.9	+0.7
KBL				IAmb	IAmb	05 44 07.3	
	comp=Z,9.4nm,0.9s						
MK31	Makanchi Array	22.13	341	P	P	05 43 54.3	-0.5
MKAR	Makanchi Array	22.13	341	P	P	05 43 55.1	+0.3
	comp=Z,1.9nm,0.7s,baz=149,slow=14,SNR=15						
MKAR				pP	pP	05 44 05.8	+0.7
	comp=Z,1.1nm,0.4s,baz=147,slow=14,SNR=8.5						
AAK	Ala-Archa	22.16	322	P	P	05 43 52.7	-2.6
	comp=Z,0.9nm,0.3s,baz=180,slow=18,SNR=1.6						
AAK	Ala-Archa	22.16	322	IAmb	IAmb	05 44 11.3	
	comp=Z,11nm,1.5s						
GAR	Garm	22.72	310	P	P	05 44 01.7	+0.4
GAR				IAmb	IAmb	05 44 02.8	
	comp=Z,8.5nm,0.6s						
BTK	Batken	22.89	312	P	P	05 44 04.2	+1.2
SONM	Songino Array	24.07	23	P	P	05 44 19.4	+5.0
	comp=Z,0.8nm,0.7s,baz=201,slow=11,SNR=3.9						
SONM				pP	sP	05 44 30.3	-0.1
	comp=Z,1.0nm,0.6s,baz=206,slow=13,SNR=3.6						
TPUB	Ta-pu	25.44	91	P	P	05 44 24.6	-2.4
KURBB	Kurchatov Arra	26.68	340	P	P	05 44 38.2	+0.4
	comp=Z,0.7nm,0.7s,baz=154,slow=10.0,SNR=5.5						
USA0B	Ussuriysk Arra	36.29	50	P	P	05 46 02.5	+0.2
USA0B				IAmb	IAmb	05 46 30.9	
	comp=Z,3.6nm,0.8s						
MJAR	Matsushiro Arr	39.80	64	pP	pP	05 46 47.0	+3.5
	comp=Z,1.1nm,0.6s,baz=276,slow=6.9,SNR=2.0						
FINES	FINESS Array B	56.19	328	P	P	05 48 37.3	-1.0
	comp=Z,0.9nm,0.6s,baz=116,slow=13,SNR=3.9						
WRA	Warramunga Arr	61.12	135	P	P	05 49 12.5	-0.6
	comp=Z,0.8nm,0.5s,baz=310,slow=5.8,SNR=9.9						
WRA				pP	pP	05 49 24.4	-0.8
	comp=Z,1.9nm,0.6s,baz=315,slow=6.4,SNR=10						
ASAR	Alice Springs	63.60	138	P	P	05 49 29.4	-0.3
	comp=Z,0.7nm,0.7s,baz=322,slow=6.5,SNR=8.7						
ASAR				pP	pP	05 49 42.1	+0.3
	comp=Z,0.5nm,0.5s,baz=320,slow=7.0,SNR=5.0						
GERES	GERESS Array B	63.73	314	P	P	05 49 30.2	-0.2
	comp=Z,0.7nm,0.6s,baz=86,slow=6.8,SNR=6.5						

*IDC **05** 05:52:01.2±2.8, 6.°66S×129.°96E, h136km±37km, mb3.8/1, mb1 3.4/5, mb1mx3.1/35, mbtmp3.8/5, MS3.5/1, Ms1 3.5/1, ms1mx2.5/36, Error ellipse: s-maj=74.9km s-min=20.4km az=88.0*
ISC 05 05:51:60.0±0.9**, 6.°76S**±0.°06×**130.°1E**±0.°2**, h150**km**, n6,** σ**4.s34**/9**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	Sorong	5.96	11	P	Pn	05 53 26.9	+0.6
	0.9nm,0.3s,baz=224,slow=23,SNR=8.1						
SIJI				S	Sn	05 54 28.8	-5.0
	4.6nm,0.3s,baz=252,slow=23,SNR=8.7						
FITZ	Fitzroy Crossi	12.08	201	P	Pn	05 54 49.1	+1.8
	0.1nm,0.3s,baz=13,slow=14,SNR=13						
FITZ				S	Sn	05 56 54.5	-6.5
	0.4nm,0.3s,baz=351,slow=13,SNR=3.0						
WRA	Warramunga Arr	13.74	163	P	Pn	05 55 10.3	+1.6
	0.3nm,0.3s,baz=350,slow=12,SNR=16						
WRA				S	Sn	05 57 37.0	-4.0
	1.0nm,0.3s,baz=330,slow=22,SNR=9.7						
ASAR	Alice Springs	17.21	168	P	Pn	05 55 56.0	+4.5
	0.3nm,0.3s,baz=349,slow=9.9,SNR=23						
ASAR				S	S	05 59 02.2	-0.3
	0.2nm,0.3s,baz=354,slow=26,SNR=3.0						
LEM	Lembang	22.32	268	LR	LR	06 07 56.5	
	comp=Z,116nm,18.2s,baz=120,slow=43						
MKAR	Makanchi Array	68.07	327	P	P	06 02 45.1	+1.7
	1.0nm,0.4s,baz=129,slow=7.9,SNR=15						

IDC 05 05:57:50.2±3.0**, 18.°99N**×**39.°18E, h0**km**, mb3.5**/3**, mb1 3.6**/3**, mb1mx3.3**/31**, mbtmp3.6**/3**, MS3.1**/2**, Ms1 3.0**/2**, ms1mx2.6**/28**, Error ellipse: s-maj=76.6km s-min=34.3km az=151.0, Red Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRTR	Keskin Array B	21.21	348	P	P	06 02 37.7	0.0
	0.9nm,0.8s,baz=149,slow=12,SNR=4.0						
KBZ	Khabaz	24.87	6	LR	LR	06 14 07.7	
	comp=Z,28nm,19.4s,baz=235,slow=39						
GEYT	Alibeck	25.08	37	LR	LR	06 14 10.2	
	comp=Z,66nm,18.0s,baz=60,slow=39						
TORD	Torodi Ar. Bea	36.43	267	P	P	06 04 56.8	-0.1
	0.7nm,0.8s,baz=68,slow=8.5,SNR=3.6						
MKAR	Makanchi Array	44.80	42	P	P	06 06 05.7	-0.1
	1.1nm,0.9s,baz=250,slow=7.5,SNR=5.4						

*IDC **05** 06:10:45.9±1.5, 51.°38N×174.°33W, h0km, mb3.9/7, mb1 4.0/9, mb1mx3.7/53, mbtmp3.8/9, ML3.6/2, Error ellipse: s-maj=42.5km s-min=20.9km az=164.0*
*AEIC **05** 06:10:51±2.2, 51.°39N±0.°08×174.°38W±0.°07, h23km±5km, ML3.6/30, mb3.9/21(NEIC), Error ellipse: s-maj=11.7km s-min=5.6km az=160.0*
*NEIC **05** 06:10:53.3±1.6, 51.°48N±0.°07×174.°47W±0.°08, h51km±8km, Error ellipse: s-maj=11.3km s-min=5.5km az=152.0*
ISC 05 06:10:52.0±0.8**, 51.°4N**±0.°1×**174.°41W**±0.°05**, h38**km**, n67,** σ**1.s18**/65**, mb4.0**/8**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.82	9		Pn	06 11 06.2	-0.9
ATKA	Atka Island	0.82	9		Sn	06 11 19.2	+1.1
KOFP	Korovin Flat P	0.91	12		Pn	06 11 07.9	-0.4
KOKL	Mount Kliuchef	0.94	8		Pn	06 11 08.5	-0.3
KOSE	Korovin Southe	0.98	13		Pn	06 11 09.1	-0.2
KONE	Korovin Northe	1.02	10		Pn	06 11 09.7	-0.1
GSMY	Great Sitkin M	1.21	303		Pn	06 11 12.3	-0.2
GSTR	Great Sitkin T	1.24	305		Pn	06 11 13.4	+0.5
GSTD	Great Sitkin T	1.27	302		Pn	06 11 13.2	0.0
GSTD					Sn	06 11 30.2	+1.2
GSSP	Great Sitkin S	1.30	303		Pn	06 11 13.8	+0.1
ETKA	Kagalaska Isla	1.33	292		Pn	06 11 14.6	+0.5
ADK	Adak	1.50	290		Pn	06 11 16.7	+0.3
ADK	Adak	1.50	290		Sn	06 11 36.5	+1.9
KIWB	Kanaga Island	1.77	286		Pn	06 11 20.8	+0.7
KIKV	Kanaga Island	1.79	287		Pn	06 11 20.9	+0.6
KIMD	Kanaga Island	1.80	283		Pn	06 11 20.9	+0.4
KICM	Kanaga Island	1.81	288		Pn	06 11 21.8	+1.2
TAFP	Tanaga Falls P	2.28	284		Pn	06 11 28.6	+1.4
TASE	Tanaga Southea	2.30	283		Pn	06 11 28.9	+1.4
NIKH	Nikolski High	3.77	63		Pn	06 11 49.0	+1.5
AMKA	Amchitka	3.94	272	Pn	Pn	06 11 50.6	+0.7
OKWE	Okmok W'ng Wal	4.31	59		Pn	06 11 56.5	+1.4
OKTU	Okmok Mt. Tuli	4.38	60		Pn	06 11 57.3	+1.3
MAPS	Pakushin South	5.16	59		Pn	06 12 07.4	+0.8
MREP	Makushin Rep't	5.26	60		Pn	06 12 08.7	+0.6
MSW	Makushin Switc	5.29	58		Pn	06 12 09.4	+1.0
MNAT	Makushin Natee	5.33	59		Pn	06 12 10.9	+1.9
UNV	Unalaska Valle	5.41	60	Pn	Pn	06 12 12.0	+2.0
SPIA	Saint Paul Isl	6.29	21		Pn	06 12 24.2	+2.1
WECS	Westdahl Cape	6.62	58		Pn	06 12 29.0	+2.4
SDPT	Sand Point	9.22	59	Pn	Pn	06 13 03.7	+1.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CNBA	Chernabura Isl	9.55	63	Pn	Pn	06 13 06.5	-0.2
CHGN	Chignik	10.64	56	Pn	Pn	06 13 22.4	+0.6
Q19K	Cape Douglas,	14.02	49		Pn	06 14 11.3	+3.4
KDAK	Kodiak Island	14.14	55	Pn	Pn	06 14 04.6	-4.8
	0.2nm,0.3s,baz=336,slow=20,SNR=1.4						
KDAK	Kodiak Island	14.14	55		Pn	06 14 06.1	-3.3
SVW2	Sparrevohn	14.23	40	Pn	Pn	06 14 09.5	-1.1
CNPM	China Poot	15.39	49	Pn	Pn	06 14 26.7	+0.5
K20K	Telida	16.15	34	P	P	06 14 38.1	-0.6
SKT	Skwentna	16.34	41	P	P	06 14 40.9	+0.1
SKT				IAmb	IAmb	06 14 41.5	
	comp=Z,5.5nm,1.1s						
J20K	Nowinta River	16.65	32	P	P	06 14 44.4	+0.2
PETK	Petropavlovsk-	17.12	287	Pn	Pn	06 14 48.6	+0.5
	comp=Z,0.2nm,0.3s,baz=79,slow=15,SNR=4.1						
KTH	Kantishna Hill	17.41	37	P	P	06 14 52.5	-0.2
KTH				IAmb	IAmb	06 15 11.0	
	comp=Z,8.0nm,1.0s						
MLY	Manley	18.33	33	P	Pn	06 15 03.5	+0.5
I23K	Minto, Yukon-K	18.87	34	P	P	06 15 08.8	+0.2
I23K				IAmb	IAmb	06 15 32.2	
	comp=Z,15nm,1.5s						
CCB	Clear Creek Bu	19.16	36	P	P	06 15 10.3	-1.5
CCB				IAmb	IAmb	06 15 13.5	
	comp=Z,3.8nm,0.5s						
MDM	Murphy Dome	19.17	35	P	P	06 15 10.7	-1.2
HDA	Harding Lake	19.36	37	P	P	06 15 13.3	-0.7
HDA				IAmb	IAmb	06 15 20.1	
	comp=Z,9.6nm,1.3s						
IL31		19.56	36	P	P	06 15 15.5	-0.6
IL31				IAmb	IAmb	06 15 19.0	
	comp=Z,5.2nm,1.1s						
ILAR	Eielson Array	19.56	36	P	P	06 15 13.7	-2.5
	comp=Z,0.8nm,0.3s,baz=232,slow=8.8,SNR=52						
ILAR	Eielson Array	19.56	36	P	P	06 15 15.9	-0.3
H24K	Noodor Dome	19.77	33	P	P	06 15 18.9	+0.3
H24K				IAmb	IAmb	06 15 23.8	
	comp=Z,6.5nm,1.2s						
RIDG	Independent Ri	19.87	40	P	P	06 15 18.5	-1.2
RIDG				IAmb	IAmb	06 15 28.6	
	comp=Z,14nm,1.4s						
DOT	Dot Lake	20.16	41	P	P	06 15 21.6	-1.1
DOT				IAmb	IAmb	06 15 41.1	
	comp=Z,5.5nm,1.1s						
SCRK	Sand Creek	20.32	40	P	P	06 15 23.5	-1.1
K27K	Chicken	21.12	41	P	P	06 15 32.5	-0.6
K27K				IAmb	IAmb	06 15 41.5	
	comp=Z,11nm,1.5s						
EGAK	Eagle	21.77	39	P	P	06 15 39.6	-0.3
INK	Inuvik	25.89	34	P	P	06 16 19.5	-0.3
	comp=Z,2.1nm,0.9s,baz=256,slow=4.2,SNR=3.4						
INK	Inuvik	25.89	34	IAmb	IAmb	06 16 21.2	
	comp=Z,4.9nm,1.1s						
KLR	Kul'dur	33.81	288	P	P	06 17 30.1	-0.1
	comp=Z,1.2nm,0.5s,baz=90,slow=8.4,SNR=5.2						
USRK	Ussuriysk Ar.	36.01	280	P	P	06 17 49.4	+0.2
	comp=Z,2.3nm,0.7s,baz=48,slow=13,SNR=4.9						
EDM	Edmonton	36.39	63	P	P	06 17 53.1	+0.8
PDAR	Pinedale Array	43.67	75	P	P	06 18 52.8	-0.3
	comp=Z,0.3nm,0.5s,baz=327,slow=2.5,SNR=4.5						
ARCES	ARCESS Array B	58.51	352	P	P	06 20 43.0	-0.8
	comp=Z,3.1nm,0.9s,baz=38,slow=6.1,SNR=5.0						
MKAR	Makanchi Array	62.14	311	P	P	06 21 08.4	-0.5
	comp=Z,0.2nm,0.3s,baz=59,slow=3.2,SNR=4.3						
WRA	Warramunga Arr	83.99	228	P	P	06 23 17.2	-1.0
	comp=Z,0.4nm,0.8s,baz=24,slow=6.7,SNR=2.1						
WRA	Warramunga Arr	83.99	228	IAmb	IAmb	06 23 22.6	
	comp=Z,0.1nm,1.1s						

BER 05 06:11:17.3±1.2, 66°.40N×14°.73E, h0km, ML0.8, Suspected explosion, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MOR8	Moi Rana	0.26	207	*e*P	Pg	06 11 19.4	-2.9
MOR8				IAML		06 11 23.1	
	comp=Z,48nm,0.5s						
KONS	Konsvik	0.65	279	*e*P	Pg	06 11 28.1	-1.6
KONS				IAML		06 11 38.6	
	comp=Z,3.4nm,0.5s						
STOK	Stokkvaagen	0.69	265	*e*P	Pg	06 11 30.5	0.0
FAUS	Fauske	1.01	12	*e*P	Pg	06 11 35.0	-1.6
FAUS				*e*S	Sg	06 11 49.0	-0.7

*IDC **05** 06:12:29.7±2.1, 51°.61N×174°.39W, h28km±13km, mb4.4/36, mb1 4.6/38, mb1mx4.5/51, mbtmp4.6/38, ML4.3/2, MS4.3/18, Ms1 4.3/18, ms1mx4.1/49, Error ellipse: s-maj=13.8km s-min=8.0km az=167.0*

*AEIC **05** 06:12:29±1.9, 51°.46N±0°.06×174°.43W±0°.06, h20km±1km, ML4.8, mb5.1/186(NEIC), Ms_20 4.6/112(NEIC), Error ellipse: s-maj=10.3km s-min=5.1km az=155.0*

*BJI **05** 06:12:30.8±0.0, 51°.83N×174°.84W, h39km, mB5.1/45, mb5.1/66, Ms4.9/50, Ms7 4.6/52*

*MOS **05** 06:12:30.2±1.0, 51°.62N×174°.45W, h45km, mb5.3/88, MS4.4/17, Error ellipse: s-maj=7.1km s-min=4.7km az=99.2*

*GCMT **05** 06:12:31.0±0.2, 51°.38N±0°.01×174°.30W±0°.02, h23km, MW5.1/106, Moment Tensor Solution. s67,c90; s106,c167; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.51±.19; $M_{\theta\theta}$-3.85±.12; $M_{\phi\phi}$-0.66±.11; $M_{r\theta}$2.79±.16; $M_{\theta\phi}$-1.11±.06; $M_{\phi r}$1.61±.17; Best double couple: $M_0$5.41300×10^{16} NP1:ϕ_s259.00000°, δ27.00000°, λ102.00000°. NP2:ϕ_s65.00000°, δ63.00000°, λ84.00000°. Principal axes: T 5.6010, Plg71.0000°, Azm322.0000°; N -0.3840, Plg5.0000°, Azm68.0000°; P -5.2250, Plg18.0000°, Azm160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **05** 06:12:31.0±1.7, 51°.51N±0°.06×174°.46W±0°.06, h42km±5km Error ellipse: s-maj=9.7km s-min=2.9km az=148.0*

*BGR **05** 06:12:36.7±0.0, 51°.94N×175°.62W, h33km, mb5.1*

ISC 05 06:12:31.7±0.4, **51°.62N**±0°.05×**174°.44W**±0°.03, **h43**km±3km, **h43**km**:pP-P, n911, σ1°.32**/892, **mb5.0**/254, **MS4.6**/97, **33C-29D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATKA	Atka Island	0.61	14	Pn	Pn	06 12 43.5	-0.5
ATKA	Atka Island	0.61	14		Sn	06 12 56.3	+3.6
KOFP	Korovin Flat P	0.69	18		Pn	06 12 45.5	+0.3
KOKL	Mount Kliuchef	0.72	12		Pn	06 12 46.0	+0.3
KOSE	Korovin Southe	0.77	18		Pn	06 12 46.7	+0.5
GSIG	Igitkin Island	0.99	293		Pn	06 12 48.8	-0.5
GSMY	Great Sitkin M	1.09	294		Pn	06 12 50.0	-0.5
GSTR	Great Sitkin T	1.11	296	Pn	Pn	06 12 50.4	-0.4
GSTD	Great Sitkin T	1.15	293		Pn	06 12 50.9	-0.4
ETKA	Kagalaska Isla	1.25	282		Pn	06 12 52.0	-0.7
ETKA					Sn	06 13 11.1	+2.9
ADK	Adak	1.42	282	Pn	Pn	06 12 54.0	-1.0
ADK	Adak	1.42	282		Sn	06 13 14.2	+1.7
KINC	Kanaga Island	1.70	282		Pn	06 12 58.7	-0.2
KIWB	Kanaga Island	1.70	279	Pn	Pn	06 12 58.3	-0.6
KICM	Kanaga Island	1.74	281		Pn	06 12 59.3	0.0
KIMD	Kanaga Island	1.75	276		Pn	06 12 58.9	-0.5
GAEA	Gareloi East	2.68	275		Pn	06 13 12.5	+0.1
GALAA	Gareloi Lava P	2.70	275		Pn	06 13 13.6	+1.0
CERAA	Semis' Rag'd T	3.66	277		Pn	06 13 25.6	-0.2
NIKH	Nikolski High	3.69	66	Pn	Pn	06 13 25.4	-0.7
NIKH	Nikolski High	3.69	66	P	Pn	06 13 25.2	-1.0
	baz=247,SNR=27						
CEAP	Semis' Anvil P	3.73	278		Pn	06 13 26.6	-0.1
CESW	Semis' Southwe	3.74	277		Pn	06 13 26.7	-0.1
AMKA	Amchitka	3.92	269		Pn	06 13 28.1	-1.2
OKCE	Okmok Cone E	4.24	62		Pn	06 13 35.2	+1.4
OKNC	Okmok New Cone	4.28	62		Pn	06 13 36.0	+1.7
OKTU	Okmok Mt. Tuli	4.29	63		Pn	06 13 35.5	+1.0
LSPA	Little Sitkin	4.35	277		Pn	06 13 35.5	+0.3
OKFG	Magazine Ridge	4.38	63		Pn	06 13 36.3	+0.7
LSNW	Little Sitkin	4.39	277		Pn	06 13 36.1	+0.4
MAPS	Pakushin South	5.06	61		Pn	06 13 45.4	+0.5
MSW	Makushin Switc	5.19	61		Pn	06 13 47.2	+0.5
MNAT	Makushin Natee	5.23	61		Pn	06 13 48.2	+0.9
MTBL	Makushin Table	5.27	60		Pn	06 13 48.8	+0.9
UNV	Unalaska Valle	5.31	62	Pn	Pn	06 13 48.0	-0.5
UNV	Unalaska Valle	5.31	62	P	Pn	06 13 50.2	+1.7
	baz=246,SNR=20						
AKRB	Akutan Reef Bi	5.66	60		Pn	06 13 54.2	+0.9
AKMO	Akutan Morgan	5.68	61		Pn	06 13 54.5	+1.1
ZRO	Akutan Zero	5.70	61		Pn	06 13 54.7	+1.0
AKBBA	Akutan Broad B	5.72	61		Pn	06 13 55.4	+1.3
AKGG	Akutan Green G	5.73	60		Pn	06 13 55.2	+1.1
AKLV	Akutan Long Va	5.74	60		Pn	06 13 55.4	+1.1
HSB	Akutan Spr's B	5.77	60		Pn	06 13 55.8	+1.1
AKUT	Akutan	5.82	61	Pn	Pn	06 13 56.8	+1.4
AKSA	Akutan Strait	5.87	61		Pn	06 13 56.9	+0.8
SPIA	Saint Paul Isl	6.09	22	Pn	Pn	06 14 00.1	+1.1
SPIA	Saint Paul Isl	6.09	22	P	Pn	06 14 02.9	+3.9
	baz=204						
WECS	Westdahl Cape	6.51	60		Pn	06 14 06.1	+1.1
WESP	Westdahl Peak	6.53	60		Pn	06 14 06.2	+1.0
WESN	West Dahl Nort	6.63	60		Pn	06 14 07.7	+1.2
SMY	Shemya	7.14	283	P	Pn	06 14 13.2	-0.2
SMY	Shemya	7.14	283	Pn	Pn	06 14 13.2	-0.2
FALS	False Pass	7.37	60	Pn	Pn	06 14 18.0	+1.5
FALS	False Pass	7.37	60	P	Pn	06 14 18.3	+1.7
	baz=247						
DT1	Dutton Round H	8.07	60		Pn	06 14 27.4	+1.1
SDPT	Sand Point	9.12	60	Pn	Pn	06 14 40.5	-0.2
SDPT	Sand Point	9.12	60	P	Pn	06 14 40.5	-0.2
	baz=250						
CNBA	Chernabura Isl	9.47	64	Pn	Pn	06 14 44.2	-1.2
CHNA	Chernabura Isl	9.47	64	P	Pn	06 14 45.7	+0.4
	baz=255						
CHGN	Chignik	10.54	57	Pn	Pn	06 14 59.3	-0.7
CHGN	Chignik	10.54	57	P	Pn	06 15 02.6	+2.6
	baz=249						
CHIR	Chirikof Islan	11.91	62	Pn	Pn	06 15 16.9	-1.7
GAMB	Gambell	12.28	6	Pn	Pn	06 15 26.7	+3.1
GAMB	Gambell	12.28	6	P	Pn	06 15 27.7	+4.1
	baz=188,SNR=8.5						
OHAK	Old Harbor	13.51	57	P	Pn	06 15 38.9	-1.6
	baz=254						
O18K	Koktuh Hills	13.57	45		Pn	06 15 41.9	+0.5
O18K	Koktuh Hills	13.57	45	P	P	06 15 46.0	-3.5
	baz=240						
N18K	Kilae Creek	13.71	41		Pn	06 15 43.2	-0.1
N18K	Kilae Creek	13.71	41	P	P	06 15 48.4	-2.6
	baz=236						
Q19K	Cape Douglas,	13.89	50		Pn	06 15 44.3	-1.4
Q19K	Cape Douglas,	13.89	50	P	Pn	06 15 44.5	-1.2
	baz=246						
KDAK	Kodiak Island	14.03	55	Pn	Pn	06 15 43.6	-3.9
	4.0nm,0.3s,baz=312,slow=2.6,SNR=26						
KDAK				Sn	Sn	06 18 30.7	+9.1
	0.3nm,0.3s,baz=149,slow=19,SNR=2.2						
KDAK	Kodiak Island	14.03	55	P	Pn	06 15 46.8	-0.8
KDAK	Kodiak Island	14.03	55		Pn	06 15 46.8	-0.8
KDAK	Kodiak Island	14.03	55	P	Pn	06 15 46.6	-0.9
	baz=252						
SVW2	Sparrevohn	14.07	40		Pn	06 15 50.4	+2.2
O19K	Port Alsworth	14.13	45	P	P	06 15 54.2	-1.3
	baz=241,SNR=9.5						
N19K	Bonanza Creek	14.37	42		Pn	06 15 53.7	+1.5
N19K	Bonanza Creek	14.37	42	P	Pn	06 15 54.2	+2.0
	baz=238,SNR=14						
P19K	Oil Pt	14.38	48		Pn	06 15 53.2	+0.9
P19K	Oil Pt	14.38	48	P	P	06 15 57.7	-0.7
	baz=244,SNR=8.2						
TNA	Tin City	14.38	11		Pn	06 15 52.9	+0.7
O20K	Slope Mountain	14.84	47	P	P	06 16 01.1	-2.4
	baz=244,SNR=6.4						
RSO	Redoubt South	14.95	45		Pn	06 16 00.9	+0.9
L19K	White Mountain	14.98	37		Pn	06 16 01.7	+1.5
L19K				IAmb	IAmb	06 16 08.9	
	comp=Z,78nm,1.0s						
L19K	White Mountain	14.98	37	P	P	06 16 03.7	-1.4
	baz=233,SNR=29						
M19K	Big River Lodg	14.99	39	P	P	06 16 04.4	-0.8
	baz=235,SNR=34						
HOM	Homer	15.12	49	P	P	06 16 05.7	-0.9
	baz=247						
M20K	Styx River	15.48	40		Pn	06 16 08.0	+1.1
M20K				IAmb	IAmb	06 16 34.8	
	comp=Z,81nm,1.1s						
M20K	Styx River	15.48	40	P	P	06 16 10.7	-0.1
	baz=237,SNR=25						
BRLK	Bradley Lake	15.52	49		Pn	06 16 07.6	+0.3
L20K	Farewell, AK	15.52	38	P	P	06 16 10.3	-0.7
	baz=234,SNR=19						
SPCR	Spurr Chakacha	15.52	43	P	Pn	06 16 08.9	+1.5
	baz=241						
BRSE	Bradley Lake S	15.57	49	P	Pn	06 16 08.0	0.0
	baz=248,SNR=8.3						
K20K	Telida	15.98	35		Pn	06 16 13.9	+0.7
K20K				IAmb	IAmb	06 16 24.8	
	comp=Z,128nm,1.1s						
K20K	Telida	15.98	35	P	P	06 16 14.6	-1.5
	baz=232,SNR=54						
SKT	Skwentna	16.18	41		Pn	06 16 16.4	+0.6
SKT	Skwentna	16.18	41	P	P	06 16 17.8	-0.6
	baz=240,SNR=14						
SUA	Susitna One	16.27	44		Pn	06 16 18.0	+1.0
SUA	Susitna One	16.27	44	P	Pn	06 16 17.7	+0.7
	baz=243						
SEW	Seward	16.31	49	P	Pn	06 16 15.8	-1.5
	baz=249,SNR=8.8						
O22K	Cooper Landing	16.32	47		Pn	06 16 17.7	+0.2
O22K				IAmb	IAmb	06 16 30.7	
	comp=Z,302nm,1.1s						
O22K	Cooper Landing	16.32	47	P	P	06 16 19.0	-0.9
	baz=247,SNR=8.5						
PPLA	Purkeypile	16.40	38	P	P	06 16 21.8	+0.9
PPLA				IAmb	IAmb	06 16 46.4	
	comp=Z,107nm,1.2s						
PPLA	Purkeypile	16.40	38	P	P	06 16 22.0	+1.0
	baz=236,SNR=12						
J20K	Nowinta River	16.47	32	P	P	06 16 22.1	+0.6
J20K	Nowinta River	16.47	32	P	P	06 16 22.4	+0.9
	baz=229,SNR=25						
PET	Petropavlovsk	16.48	285	*e*P	Pn	06 16 17.8	-1.7
PET				*e*S	Sn	06 19 18.4	-2.8
PET				pmax	pmax		
	comp=Z,400nm,9.7s						
PET				pmax	pmax		
	comp=Z,300nm,7.9s						
PET				MLR	MLR		
	comp=Z,900nm,19.0s						
RC01	Rabbit Creek A	16.55	45	P	Pn	06 16 20.6	+0.1
	baz=246						
CUT	Chulitna	16.91	41	P	P	06 16 26.5	+0.2
CUT	Chulitna	16.91	41	P	P	06 16 27.2	+0.8
	baz=241						
CHUM	Lake Minchumin	16.92	35	P	P	06 16 28.0	+1.5
	baz=233,SNR=37						
PMR	Palmer	17.02	44	P	Pn	06 16 25.7	-0.6
	baz=245						
PEA0B	Petropavlovsk-	17.04	286*c*	*e*P	Pn	06 16 25.3	-1.3
PEA0B	Petropavlovsk-	17.04	286	P	Pn	06 16 25.5	-1.1
PETK	Petropavlovsk-	17.04	286	P	Pn	06 16 26.4	-0.3
	comp=Z,0.8nm,0.3s,baz=100,slow=12,SNR=12						
PETK				LR	LR	06 22 45.5	
	comp=Z,820nm,21.8s,baz=96,slow=36						
PETK	Petropavlovsk-	17.04	286	P	Pn	06 16 26.9	+0.2
GHO	Glory Hole Cre	17.19	44	P	Pn	06 16 28.0	-0.5
KTH	Kantishna Hill	17.24	37	P	P	06 16 29.8	-0.3
KTH				IAmb	IAmb	06 16 49.4	
	comp=Z,99nm,1.0s						
KNK	Knik Glacier	17.25	45	P	Pn	06 16 27.4	-1.7
	baz=246,SNR=8.8						
RDOG	Red Dog Mine	17.42	15	P	P	06 16 38.3	+6.2
	baz=204,SNR=6.1						
TRF	Thorofare Moun	17.43	38	P	Pn	06 16 31.6	+0.2
TRF	Thorofare Moun	17.43	38	P	P	06 16 32.8	+0.5
	baz=238,SNR=9.7						
SML	Sawmill	17.46	44	P	Pn	06 16 31.0	-0.7
	baz=246,SNR=9.4						
BPAW	Bear Paw Mtn.	17.52	35		P	06 16 33.4	+0.2
BPAW				IAmb	IAmb	06 16 55.1	
	comp=Z,117nm,1.1s						
BPAW	Bear Paw Mtn.	17.52	35	P	P	06 16 34.0	+0.8
	baz=235,SNR=36						
GLI	Glacier Island	17.67	48	P	Pn	06 16 31.8	-2.5
	baz=250						
WAT1	Susitna Watana	17.81	41	P	Pn	06 16 35.6	-0.4
	baz=242						
IMAR	Indian Mountai	17.81	28		P	06 16 37.0	+0.6
I21K	Tanana	17.83	32	P	P	06 16 37.6	+1.1
I21K	Tanana	17.83	32	P	P	06 16 37.8	+1.2
	baz=231,SNR=36						
SCM	Sheep Creek Mo	17.91	45	P	Pn	06 16 36.4	-0.9
SCM				pmax	pmax		
	comp=Z,59nm,0.9s						
SCM	Sheep Creek Mo	17.91	45	P	Pn	06 16 36.4	-0.9
RND	Reindeer	17.96	39	P	Pn	06 16 36.3	-1.6
RND				pmax	pmax		
	comp=Z,37nm,0.8s						
RND	Reindeer	17.96	39	P	Pn	06 16 36.3	-1.6
WAT6	Susitna Watana	18.04	42	P	Pn	06 16 38.0	-0.9
	baz=244,SNR=7.3						
MCK	McKinley	18.09	38	P	Pn	06 16 38.5	-1.0
MCK				pmax	pmax		
	comp=Z,87nm,1.0s						
MCK	McKinley	18.09	38	P	Pn	06 16 38.5	-1.0
MCK	McKinley	18.09	38	P	Pn	06 16 39.1	-0.4
	baz=239,SNR=18						
BWN	Browne	18.12	36	P	Pn	06 16 40.2	+0.5
BWN				IAmb	IAmb	06 17 01.9	
	comp=Z,206nm,1.2s						
MLY	Manley	18.15	33	P	Pn	06 16 40.4	+0.2
MLY	Manley	18.15	33	P	Pn	06 16 41.2	+1.0
	baz=233,SNR=60						
EYAK	Cordova Ski Ar	18.20	49	P	P	06 16 39.9	-0.7
	baz=253						
KLU	Klutina	18.41	46	P	P	06 16 41.9	-1.2
	baz=250,SNR=12						
SKR	Severo-Kuril's	18.44	279	*e*P	P	06 16 39.9	-3.4
SKR				*e*S	S	06 20 11.2	-0.2
SKR				pmax	pmax		
	comp=Z,100nm,3.0s						
SKR				pmax	pmax		
	comp=Z,35nm,1.3s						
SKR				MLR	MLR		
	comp=Z,600nm,14.0s						
SKR				MLR	MLR		
	comp=Z,700nm,16.0s						
NEA2	Nenana	18.49	36	P	P	06 16 43.2	-0.6
	baz=237,SNR=13						
M24K	Tolsona, Glenn	18.52	45	P	P	06 16 43.8	-0.4
M24K				IAmb	IAmb	06 17 08.0	
	comp=Z,70nm,0.8s						
M24K	Tolsona, Glenn	18.52	45	P	Pn	06 16 45.0	+0.4
	baz=248,SNR=10						
I23K	Minto, Yukon-K	18.70	34	P	Pn	06 16 47.1	+0.3
I23K				IAmb	IAmb	06 16 54.2	
	comp=Z,143nm,1.1s						
I23K	Minto, Yukon-K	18.70	34	P	Pn	06 16 46.5	-0.2
	baz=235,SNR=81						
BMRM	Bremner River	18.86	49	P	P	06 16 47.6	-0.3
BMRM	Bremner River	18.86	49	P	P	06 16 47.6	-0.3
	baz=253						
BILL	Bilibino	18.96	338*c*	*i*P	Pn	06 16 51.4	+1.6
BILL				pmax	pmax		
	comp=Z,131nm,1.7s						
BILL				MLR	MLR		
	comp=Z,863nm,19.0s						
MDM	Murphy Dome	18.99	35	P	P	06 16 48.7	-0.6
H23K	Yukon River	19.03	32	P	P	06 16 50.1	+0.3
H23K	Yukon River	19.03	32	P	Pn	06 16 50.4	-0.4
	baz=233,SNR=33						
N25K	Chitina, Valde	19.05	47	P	P	06 16 49.3	-0.7
N25K	Chitina, Valde	19.05	47	P	P	06 16 49.1	-0.9
	baz=251,SNR=9.3						
HARP	HAARP	19.07	44	P	P	06 16 50.2	0.0
	baz=248,SNR=14						
TCOL	CIGO, UAF Yank	19.08	36	P	P	06 16 50.6	+0.3
TCOL				IAmb	IAmb	06 17 10.3	
	comp=Z,170nm,1.9s						
TCOL	CIGO, UAF Yank	19.08	36	P	Pn	06 16 51.1	-0.3
	baz=238						
COLA	College	19.09	36	P	P	06 16 50.1	-0.2
COLA				pmax	pmax		
	comp=Z,28nm,0.9s						
COLA	College	19.09	36	P	P	06 16 50.1	-0.2
PAX	Paxson	19.15	42	P	P	06 16 50.7	-0.4
PAX				pmax	pmax		
	comp=Z,21nm,0.8s						
PAX	Paxson	19.15	42	P	P	06 16 50.7	-0.4
PAX	Paxson	19.15	42	P	P	06 16 51.2	0.0
	baz=246,SNR=15						
HDA	Harding Lake	19.19	38	P	P	06 16 51.0	-0.4
HDA				IAmb	IAmb	06 16 58.8	
	comp=Z,98nm,1.1s						
HDA	Harding Lake	19.19	38	P	P	06 16 51.2	-0.2
	baz=241,SNR=57						
GLB	Gilahina Butte	19.36	48	P	P	06 16 52.9	-0.5
POKR	Poker Plat Res	19.36	35	P	Pn	06 16 55.3	+0.5
	baz=238						
ILAR	Eielson Array	19.39	37	P	P	06 16 51.5	-2.2
	comp=Z,5.6nm,0.3s,baz=235,slow=9.5,SNR=90						
ILAR				S	Sn	06 20 31.9	+0.6
	comp=Z,0.1nm,0.3s,baz=234,slow=18,SNR=2.5						
ILAR				ScP	ScP	06 24 46.5	+0.8
	comp=Z,0.0nm,0.3s,baz=261,slow=1.7,SNR=3.4						
ILAR				LR	LR	06 24 56.2	
	comp=Z,967nm,20.2s,baz=242,slow=38						
CRQM	Cirque	19.50	50	P	Pn	06 16 56.0	-0.6
CRQE	Cirque	19.52	50	P	Pn	06 16 56.0	-0.7
	baz=256						
H24K	Noodor Dome	19.60	33	P	Pn	06 16 57.2	-0.4
H24K				IAmb	IAmb	06 17 19.6	
	comp=Z,76nm,0.9s						
H24K	Noodor Dome	19.60	33	P	P	06 16 56.5	+0.6
	baz=236,SNR=40						
TGL	Tana Glacier	19.64	50	P	P	06 16 56.9	+0.3
TGL				IAmb	IAmb	06 17 16.6	
	comp=Z,87nm,1.4s						
COLD	Coldfoot	19.70	28	P	P	06 16 57.2	+0.2
COLD	Coldfoot	19.70	28	P	Pn	06 16 58.6	-0.1
	baz=229,SNR=25						
MCARA	McCarthy VSAT	19.71	48	P	P	06 16 57.0	-0.2
MCARA	McCarthy VSAT	19.71	48	P	Pn	06 16 58.7	-0.2
	baz=254						
RIDG	Independent Ri	19.71	41	P	P	06 16 56.5	-0.8
RIDG				IAmb	IAmb	06 17 17.3	
	comp=Z,56nm,0.6s						
RIDG	Independent Ri	19.71	41	P	P	06 16 57.1	-0.2
	baz=245,SNR=27						
MENT	Mentasta	19.88	43	P	Pn	06 17 00.1	-0.9
J25K	Salcha River,	19.89	38	P	P	06 16 57.1	-2.0
	baz=242,SNR=97						
MESA	MESA	19.95	52	IAMs_20	IAMs_20	06 25 49.8	
	comp=Z,3μm,19.0s						
DOT	Dot Lake	20.00	41	P	P	06 16 60.0	-0.3
DOT				IAmb	IAmb	06 17 22.5	
	comp=Z,42nm,0.7s						
M26K	Nabesna, AK	20.02	45	P	Pn	06 17 01.5	-1.0
M26K				IAmb	IAmb	06 17 03.1	
	comp=Z,31nm,0.6s						
M26K				IAMs_20	IAMs_20	06 25 36.0	
	comp=Z,3μm,18.0s						
M26K	Nabesna, AK	20.02	45	P	P	06 17 01.3	+0.7
	baz=251,SNR=38						
L26K	Log Cabin Wild	20.07	43	P	Pn	06 17 02.2	-0.9
	baz=249,SNR=34						
YAH	Yahtse	20.08	51	P	P	06 17 01.1	-0.3
YAH				IAmb	IAmb	06 17 24.2	
	comp=Z,69nm,1.0s						
YAH				IAMs_20	IAMs_20	06 26 03.3	
	comp=Z,3μm,18.0s						
GRNC	Granite Creek	20.15	50	IAMs_20	IAMs_20	06 25 47.3	
	comp=Z,2μm,19.0s						
SCRK	Sand Creek	20.16	40	P	P	06 17 01.1	-1.1
SCRK				IAmb	IAmb	06 17 27.1	
	comp=Z,72nm,0.7s						
SCRK				IAMs_20	IAMs_20	06 25 13.0	
	comp=Z,2μm,19.0s						
SCRK	Sand Creek	20.16	40	P	P	06 17 00.8	-1.4
	baz=246,SNR=88						
PRP	Porcupine Dome	20.26	36	P	P	06 17 03.0	-0.3
PRP	Porcupine Dome	20.26	36	P	P	06 17 04.0	+0.8
	baz=240						
TABL	Table Mountain	20.39	51	IAMs_20	IAMs_20	06 26 05.6	
	comp=Z,3μm,18.0s						
CTG	Chitna Glacier	20.40	50	P	P	06 17 05.5	+0.7
	baz=257,SNR=6.1						
J26K	Charley River,	20.48	39	P	P	06 17 04.0	-1.6
	baz=245,SNR=87						
M27K	Edge Creek, AK	20.50	46	IAMs_20	IAMs_20	06 25 15.8	
	comp=Z,2μm,21.0s						
M27K	Edge Creek, AK	20.50	46	P	Pn	06 17 08.0	-0.3
	baz=253,SNR=15						
LOGN	Logan Glacier	20.53	50	P	P	06 17 05.6	-0.7
L27K	Beaver Creek,	20.73	44	IAMs_20	IAMs_20	06 25 58.1	
	comp=Z,2μm,18.0s						
L27K	Beaver Creek,	20.73	44	P	Pn	06 17 10.2	-0.8
	baz=251						
BCAR	Beaver Creek A	20.75	44	P	Pn	06 17 10.0	-1.2
PINM	Pinnacle	20.77	53	P	P	06 17 08.5	-0.2
	baz=261						

TOLK Toolik Lake Re 20.82 26 P **P** **06 17 09.7 +0.5**
TOLK IAmb IAmb 06 17 31.5
comp=Z,100nm,0.9s
TOLK IAMs_20 IAMs_20 06 25 53.0
comp=Z,3µm,19.0s
TOLK Toolik Lake Re 20.82 26 P **P** **06 17 10.3 +1.1**
baz=227,SNR=17
FYU Fort Yukon 20.90 33 P **P** **06 17 09.4 -0.5**
FYU IAmb IAmb 06 17 18.2
comp=Z,122nm,1.4s
FYU IAMs_20 IAMs_20 06 25 58.8
comp=Z,2µm,19.0s
SEY Seymchan 20.94 316 P **P** **06 17 11.6 +1.1**
comp=Z,17nm,1.0s,baz=100,slow=9.5,SNR=8.8
SEY ScP **ScP** **06 24 51.1 +1.8**
comp=Z,3.5nm,0.8s,baz=153,slow=6.8,SNR=1.5
SEY LR LR 06 25 40.7
comp=Z,2µm,18.5s,baz=110,slow=38
SEY Seymchan 20.94 316 *i* P **P** **06 17 10.6 +0.2**
K27K Chicken 20.96 41 P **P** **06 17 10.7 0.0**
K27K IAmb IAmb 06 17 21.3
comp=Z,55nm,0.9s
K27K Chicken 20.96 41 P **P** **06 17 10.9 +0.3**
baz=248
BVCY Beaver Creek 20.97 46 P Pn 06 17 13.3 -0.5
baz=254,SNR=7.6
YUK3 Moose Creek 20.99 48 P **P** **06 17 11.4 +0.1**
baz=256
MA2 Magadan 21.00 306 LR LR 06 25 17.1
comp=Z,1µm,19.2s,baz=112,slow=36
MA2 Magadan 21.00 306 *i* P **P** **06 17 10.0 -1.1**
MA2 pmax pmax
comp=Z,27nm,1.3s
BCPM Bancas Point 21.05 53 P **P** **06 17 10.5 -1.2**
BCPM IAMs_20 IAMs_20 06 25 31.0
comp=Z,2µm,21.0s
A21K Barrow 21.35 16 IAMs_20 IAMs_20 06 26 16.3
comp=Z,2µm,19.0s
BMAR Burnt Mountain 21.57 32 P **P** **06 17 17.2 0.0**
EGAK Eagle 21.60 40 P **P** **06 17 16.9 -0.6**
EGAK IAMs_20 IAMs_20 06 26 15.2
comp=Z,2µm,18.0s
EGAK Eagle 21.60 40 P **P** **06 17 16.9 -0.6**
baz=248,SNR=119
YUK4 Talbot Arm 21.75 50 P **P** **06 17 21.3 +1.9**
baz=259
YUK6 Outpost Mounta 21.82 51 P **P** **06 17 20.5 +0.3**
baz=260
DAWY Dawson 22.09 42 P **P** **06 17 22.9 +0.2**
DAWY Dawson 22.09 42 P **P** **06 17 22.8 0.0**
baz=252,SNR=22
HYT Haines Junctio 22.22 51 P **P** **06 17 23.8 -0.7**
HYT Haines Junctio 22.22 51 P **P** **06 17 23.7 -0.7**
baz=262
SKAG Skagway 23.18 55 P **P** **06 17 33.4 -0.8**
SIT Sitka 23.20 61 P **P** **06 17 35.4 +1.0**
SIT pmax pmax
comp=Z,36nm,0.9s
JIS Juneau Island 23.66 58 P **P** **06 17 38.2 -0.6**
EPYK Eagle Plains 23.89 38 P **P** **06 17 39.8 -1.2**
EPYK IAmb IAmb 06 17 47.8
comp=Z,119nm,1.5s
EPYK IAMs_20 IAMs_20 06 27 55.9
comp=Z,2µm,18.0s
EPYK Eagle Plains 23.89 38 P **P** **06 17 40.1 -0.9**
baz=250,SNR=17
CRAG Craig 24.59 65 P **P** **06 17 49.1 +1.7**
baz=278
WRAK Wrangell Islan 24.89 62 P **P** **06 17 51.2 +1.1**
WRAK IAmb IAmb 06 18 05.5
comp=Z,41nm,0.8s
WRAK Wrangell Islan 24.89 62 P **P** **06 17 52.4 +2.3**
baz=276,SNR=14
MMPY Sheldon Lake, 25.38 48 P **P** **06 17 52.3 -2.3**
baz=264
KUR Kuril'sk 25.60 271 P **P** **06 18 00.0 +3.4**
KUR 06 18 34.0
KUR pmax pmax
comp=Z,184nm,1.6s
KUR MLR MLR
comp=Z,544nm,18.0s
INK Inuvik 25.72 34 P **P** **06 17 56.7 -0.8**
comp=Z,6.1nm,0.6s,baz=228,slow=6.3,SNR=18
INK PcP **PcP** **06 21 26.4 +0.1**
comp=Z,2.5nm,0.7s,baz=268,slow=3.7,SNR=2.1
INK LR LR 06 29 03.1
comp=Z,892nm,19.7s,baz=222,slow=39
INK Inuvik 25.72 34 P **P** **06 17 56.7 -0.8**
INK IAmb IAmb 06 18 18.5
comp=Z,67nm,1.6s
INK Inuvik 25.72 34 P **P** **06 17 57.1 -0.4**
baz=250,SNR=9.5
DLBC Dease Lake 25.95 57 P **P** **06 18 00.7 +0.9**
comp=Z,16nm,0.7s,baz=280,slow=8.3,SNR=24
DLBC LR LR 06 29 39.7
comp=Z,615nm,19.4s,baz=288,slow=40
DLBC Dease Lake 25.95 57 P **P** **06 18 00.7 +0.9**
YUK Yuzh-Kuril'sk 27.43 270 *i* P **P** **06 18 12.8 -0.3**
YSS Yuzh-Sakhalins 28.00 278 *e*P **P** **06 18 19.2 +1.0**
YSS pmax pmax
comp=Z,30nm,1.3s
YSS pmax pmax
comp=Z,300nm,3.0s
YSS MLR MLR
comp=N,200nm,14.0s
YSS MLR MLR
comp=Z,400nm,14.0s
YSS Yuzh-Sakhalins 28.00 278 IAMs_20 IAMs_20 06 28 56.2
comp=Z,1µm,20.0s
BBB Bella Bella 28.22 70 P **P** **06 18 20.5 +0.4**
comp=Z,4.7nm,0.9s,baz=275,slow=14,SNR=3.1
BBB LR LR 06 27 56.2
comp=Z,473nm,19.9s,baz=286,slow=33
ASAJ Asahikawa 29.43 272 P **P** **06 18 31.9 +1.1**
comp=Z,21nm,1.0s,baz=135,slow=5.7,SNR=8.1
ASAJ LR LR 06 33 49.9
comp=Z,333nm,18.0s,baz=72,slow=44
ASAJ Asahikawa 29.43 272 P **P** **06 18 32.0 +1.1**
YAK Yakutsk 31.31 311 *e*P **P** **06 18 47.4 +0.1**
YAK *e**PP **pP** **06 18 56.4 -2.4**
YAK *e* 06 19 53.3
YAK *e* 06 21 39.9
YAK *e*S **S** **06 23 53.1 +2.2**
YAK *e*SS **SnSn** **06 25 41.3 +4.8**
YAK *e* 06 29 17.1
YAK pmax pmax
comp=Z,17nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK pmax pmax
comp=Z,113nm,2.9s
YAK pmax pmax
comp=N,44nm,2.7s
YAK pmax pmax
comp=E,95nm,3.0s
YAK smax smax
comp=E,71nm,3.5s
YAK smax smax
comp=N,52nm,3.0s
YAK MLR MLR
comp=Z,2µm,21.0s
YAK MLR MLR
comp=N,897nm,23.0s
YAK MLR MLR
comp=E,1µm,20.0s
YAK Yakutsk 31.31 311 IAMs_20 IAMs_20 06 31 17.6
comp=Z,1µm,20.0s
TIXI Tiksi 31.79 330 PcP **PcP** **06 21 41.8 +0.4**
comp=Z,8.4nm,0.9s,baz=112,slow=7.1,SNR=4.0
LLLB Lillooet 32.42 71 P **P** **06 18 57.4 +0.1**
LLLB IAmb IAmb 06 19 20.5
comp=Z,26nm,1.2s
YKA Yellowknife Ar 33.08 47 P **P** **06 19 02.2 -0.6**
comp=Z,0.4nm,0.3s,baz=303,slow=23,SNR=7.2
YKA PcP **PcP** **06 21 45.4 +0.2**
comp=Z,2.9nm,0.8s,baz=276,slow=1.8,SNR=6.3
YKA LR LR 06 34 17.4
comp=Z,2µm,18.3s,baz=0.0,slow=40
YKA Yellowknife Ar 33.08 47*ce*P **P** **06 19 04.0 +1.2**
KLR Kul'dur 33.72 288 P **P** **06 19 08.1 -0.5**
comp=Z,7.3nm,0.5s,baz=64,slow=7.1,SNR=19
KLR LR LR 06 33 06.5
comp=Z,513nm,20.7s,baz=72,slow=37
KLR Kul'dur 33.72 288*ce*P **P** **06 19 08.3 -0.3**
KLR pmax pmax
comp=Z,15nm,0.9s
D05A Enumclaw 33.81 76 **P** **06 19 09.4 0.0**
D05A IAmb IAmb 06 19 26.8
comp=Z,34nm,1.0s
ZEA Zeya 34.56 297 *e*P **P** **06 19 13.1 -2.7**
ZEA *e*S **S** **06 24 33.1 -8.5**
ZEA pmax pmax
comp=Z,10.0nm,0.5s
ZEA MLR MLR
comp=E,300nm,15.0s
ZEA MLR MLR
comp=N,200nm,16.0s
B08A Colville Reser 34.87 73 P **P** **06 19 18.7 +0.1**
B08A IAmb IAmb 06 19 38.1
comp=Z,34nm,1.2s
H04A Detroit Lake 34.90 80 P **P** **06 19 18.3 -0.6**
H04A IAmb IAmb 06 19 39.1
comp=Z,27nm,1.2s
H11N2 WAKE ISLAND Hy 35.03 212 T T 06 56 16.3
baz=18,slow=76,SNR=170
H11N3 WAKE ISLAND Hy 35.04 212 T T 06 56 16.9
baz=18,slow=76,SNR=141
H11N1 WAKE ISLAND Hy 35.05 212 T T 06 56 15.5
baz=18,slow=76,SNR=171
G05D Wamic, OR 35.15 79 P **P** **06 19 22.6 +1.6**
baz=300
I04A Tendick Farm, 35.22 82 P **P** **06 19 22.3 +0.7**
baz=301
I05D Terrebonne, OR 35.59 80 P **P** **06 19 25.5 +0.6**
baz=301
HAWA Hanford 35.67 76 P **P** **06 19 24.8 -0.7**
HAWA IAmb IAmb 06 19 42.0
comp=Z,18nm,0.8s
J04D Umpqua Nationa 35.70 82 P **P** **06 19 27.3 +1.4**
baz=302
C09A Chrisman Ranch 35.76 73 P **P** **06 19 26.3 +0.1**
C09A IAmb IAmb 06 19 43.9
comp=Z,22nm,1.2s
USA0B Ussuriysk Arra 35.95 280 *i* P **P** **06 19 27.2 -0.7**
USA0B Ussuriysk Arra 35.95 280 P **P** **06 19 27.5 -0.4**
USA0B IAmb IAmb 06 19 29.4
comp=Z,31nm,0.9s
USRK Ussuriysk Ar. 35.95 280 P **P** **06 19 27.5 -0.4**
comp=Z,33nm,0.9s,baz=56,slow=7.6,SNR=37
USRK Ussuriysk Ar. 35.95 280 P **P** **06 19 27.7 -0.2**
USRK Ussuriysk Ar. 35.95 280 P **P** **06 19 27.7 -0.2**
YBH Yreka Blue Hor 36.15 85 P **P** **06 19 29.7 0.0**
comp=Z,3.1nm,0.8s,baz=267,slow=6.9,SNR=8.5
YBH LR LR 06 31 25.0
comp=Z,255nm,19.2s,baz=308,slow=31
J05D Fort Rock, OR 36.21 82 P **P** **06 19 31.3 +1.0**
baz=302
NEW Newport 36.23 72 P **P** **06 19 30.5 +0.2**
comp=Z,5.9nm,0.8s,baz=293,slow=6.8,SNR=7.1
NEW LR LR 06 31 36.7
comp=Z,270nm,20.8s,baz=308,slow=32
NEW Newport 36.23 72 P **P** **06 19 29.7 -0.6**
NEW IAmb IAmb 06 19 49.4
comp=Z,20nm,0.9s
NEW Newport 36.23 72 P **P** **06 19 30.7 +0.4**
baz=297
H11S1 WAKE ISLAND Hy 36.24 211 T T 06 58 27.2
baz=20,slow=76,SNR=435
H11S2 WAKE ISLAND Hy 36.25 211 T T 06 58 28.4
baz=20,slow=76,SNR=234
H11S3 WAKE ISLAND Hy 36.25 211 T T 06 58 32.5
baz=20,slow=76,SNR=138
EDM Edmonton 36.30 63 P **P** **06 19 30.5 -0.3**
EDM pmax pmax
comp=Z,71nm,0.6s
EDM Edmonton 36.30 63 P **P** **06 19 30.5 -0.3**
MAJO Matsushiro 36.52 265 *i* P **P** **06 19 32.3 -0.5**
MAJO pmax pmax
comp=Z,14nm,1.1s
MAJO Matsushiro 36.52 265 P **P** **06 19 32.2 -0.7**
MAJO IAmb IAmb 06 19 34.2
comp=Z,27nm,1.1s
MAT Matsushiro 36.52 265 P **P** **06 19 33.0 +0.2**
MAT S **S** **06 25 14.6 +2.7**
MJAR Matsushiro Arr 36.52 265 P **P** **06 19 32.9 0.0**
comp=Z,3.3nm,0.8s,baz=59,slow=6.4,SNR=15
MJAR LR LR 06 32 54.3
comp=Z,420nm,21.5s,baz=65,slow=34
MJAR Matsushiro Arr 36.52 265 P **P** **06 19 32.4 -0.4**
MJAR IAmb IAmb 06 19 49.6
comp=Z,37nm,2.0s
N02D Trinity Center 36.58 86 P **P** **06 19 35.6 +2.3**
baz=304
VLA Vladivostok 36.59 278 *i* P **P** **06 19 32.9 -0.4**
VLA pmax pmax
comp=Z,112nm,1.0s
M04C Macdoel 36.66 84 P **P** **06 19 34.7 +0.6**
baz=304
I07A Izee 36.85 80 P **P** **06 19 35.5 -0.2**
O02D Mt. Diablo Mer 36.98 87 P **P** **06 19 37.8 +1.0**
baz=305
MDJ Mudanjiang 37.21 282 IAMs_20 IAMs_20 06 35 03.1
comp=Z,1µm,20.0s
MSHR Mys Shultsa 37.33 278*ce*P **P** **06 19 40.3 +0.7**
MSHR pmax pmax
comp=Z,45nm,1.7s
O03E Paynes Creek 37.53 86 P **P** **06 19 41.1 -0.4**
baz=305
WVOR Wild Horse Val 38.28 81 P **P** **06 19 47.9 +0.1**
WVOR pmax pmax
comp=Z,21nm,0.9s
BOD Bodaibo 40.00 308 *e*P **P** **06 19 59.8 -2.0**
BOD pmax pmax
comp=Z,21nm,1.3s
CN2 Changchun 40.16 283 *e*P **P** **06 20 03.1 -0.2**
CN2 *e*S **S** **06 26 08.1 +1.3**
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 LR LR
comp=Z,800nm,19.0s
CN2 LR LR
comp=Z,700nm,19.0s
CN2 LR LR
comp=Z,1µm,19.0s
HLID Hailey 40.24 77 P **P** **06 20 04.2 -0.1**
baz=303
EGMT Eagleton 40.67 69 P **P** **06 20 07.3 -0.3**
baz=300,SNR=6.0
JCJ Chichijima 40.69 250 LR LR 06 38 59.4
comp=Z,77nm,18.2s,baz=340,slow=39
HIA Hailar 40.71 294 *i* P **P** **06 20 07.5 -0.3**
HIA pmax pmax
comp=Z,16nm,1.0s
HIA Hailar 40.71 294 IAMs_20 IAMs_20 06 40 12.3
comp=Z,504nm,18.0s
NVAR Mina Array Bea 40.82 86 P **P** **06 20 09.1 0.0**
comp=Z,2.4nm,0.8s,baz=292,slow=7.6,SNR=13
NVAR PcP **PcP** **06 22 09.9 +0.6**
comp=Z,1.0nm,0.7s,baz=273,slow=3.0,SNR=4.0
NVAR ScP **ScP** **06 25 56.0 +0.9**
comp=Z,0.5nm,0.7s,baz=323,slow=1.4,SNR=2.4
NVAR LR LR 06 34 38.1
comp=Z,212nm,18.9s,baz=286,slow=32
NVAR Mina Array Bea 40.82 86 P **P** **06 20 08.8 -0.3**
BOZ Bozeman (W) 40.82 73 P **P** **06 20 08.9 -0.1**
BOZ pmax pmax
comp=Z,10.0nm,0.6s
BOZ Bozeman (W) 40.82 73 P **P** **06 20 08.9 -0.1**
BOZ Bozeman (W) 40.82 73 P **P** **06 20 08.9 -0.1**
baz=302,SNR=14
NV11 Mina Array Sit 40.91 86 P **P** **06 20 09.1 -0.6**
ELK Elko 41.33 81 P **P** **06 20 13.3 0.0**
ELK pmax pmax
comp=Z,9.0nm,0.9s
FFC Flin Flon 41.77 56 IAMs_20 IAMs_20 06 37 13.7
comp=Z,710nm,20.0s
VES Vesal, Richgr 41.95 90 P **P** **06 20 17.3 -0.8**
baz=310
H17A Grant Village 42.10 74 P **P** **06 20 22.6 +3.0**
baz=303
IMW Indian Meadow 42.16 75 P **P** **06 20 18.9 -1.2**
KSRS Korea Array 42.35 274 P **P** **06 20 22.7 +1.4**
comp=Z,18nm,1.1s,baz=60,slow=7.7,SNR=16
ISA Isabella, Lake 42.44 90 P **P** **06 20 21.2 -1.0**
ISA pmax pmax
comp=Z,8.0nm,0.8s
RLMT Red Lodge 42.48 72 P **P** **06 20 23.0 +0.4**
baz=303,SNR=6.2
AHID Auburn Hatcher 42.70 76 IAMs_20 IAMs_20 06 38 04.3
comp=Z,465nm,19.0s
MPMC Manual Prospec 42.80 88 P **P** **06 20 24.2 -1.1**
baz=310
FURC Furnace Creek, 42.93 87 P **P** **06 20 26.2 +0.2**
baz=309
TPNV Topopah Spring 43.01 86 P **P** **06 20 26.9 0.0**
baz=309
DUG Dugway, Tooele 43.15 80 P **P** **06 20 27.9 -0.1**
DUG pmax pmax
comp=Z,25nm,1.1s
DUG Dugway, Tooele 43.15 80 P **P** **06 20 28.1 0.0**
baz=306,SNR=8.8
JNU Nakatsue 43.31 267 P **P** **06 20 29.8 +0.6**
comp=Z,16nm,0.9s,baz=26,slow=9.6,SNR=5.9
JNU Nakatsue 43.31 267 P **P** **06 20 29.1 -0.1**
JNU IAmb IAmb 06 20 57.9
comp=Z,29nm,1.1s
LAO LASA Array 43.42 68 P **P** **06 20 30.2 +0.2**
baz=302
PRN Pahroc Range 43.47 85 P **P** **06 20 30.2 -0.4**
PRN IAmb IAmb 06 20 46.0
comp=Z,31nm,1.0s
CTU Camp Tracy 43.51 79 **P** **06 20 30.2 -0.7**
CTU IAmb IAmb 06 20 49.1
comp=Z,21nm,1.0s
BW06 Boulder Array 43.63 75 P **P** **06 20 31.7 -0.2**
baz=305
PD31 Pinedale Array 43.63 75 P **P** **06 20 31.7 -0.2**
PDAR Pinedale Array 43.63 75 P **P** **06 20 30.9 -1.0**
comp=Z,5.4nm,0.8s,baz=300,slow=4.1,SNR=31
DGMT Dagmar 43.63 65 IAMs_20 IAMs_20 06 41 12.5
comp=Z,749nm,18.0s
DGMT Dagmar 43.63 65 P **P** **06 20 31.4 -0.2**
baz=302
GSC Goldstone, Bar 43.72 89 P **P** **06 20 32.8 +0.3**
GSC pmax pmax
comp=Z,20nm,0.9s
GSC Goldstone, Bar 43.72 89 P **P** **06 20 32.8 +0.3**
GSC IAmb IAmb 06 20 53.3
comp=Z,20nm,0.9s
GSC Goldstone, Bar 43.72 89 P **P** **06 20 32.7 +0.1**
baz=310
BFSC Mount Baldy Ra 43.88 90 P **P** **06 20 33.8 -0.1**
baz=311
GMRC Granite Mounta 44.77 88 P **P** **06 20 40.6 -0.4**
baz=311
PFO Pinyon Flats O 45.04 90 P **P** **06 20 43.6 +0.5**
comp=Z,2.3nm,0.8s,baz=291,slow=14,SNR=3.1
PFO Pinyon Flats O 45.04 90 P **P** **06 20 43.8 +0.6**
baz=312
TPFO Pinon Flats 45.05 90 P **P** **06 20 44.9 +1.7**
baz=312
DL2 Dalian 45.35 280 P **P** **06 20 45.7 +0.3**
DL2 S **S** **06 27 26.5 +3.5**
DL2 pmax pmax
comp=Z,51nm,1.1s
DL2 pmax pmax
comp=Z,190nm,4.8s
DL2 LR LR
comp=Z,310nm,20.2s
DL2 LR LR
comp=Z,250nm,21.8s
DL2 LR LR
comp=Z,440nm,20.7s
K22A Casper 45.52 73 P **P** **06 20 46.1 -0.8**
baz=306
NRIK Noril'sk 45.56 331 P **P** **06 20 46.6 0.0**
comp=Z,4.8nm,0.6s,baz=63,slow=7.3,SNR=5.0
NRIK PcP **PcP** **06 22 25.9 +1.4**
comp=Z,1.3nm,0.4s,baz=70,slow=1.7,SNR=4.3
RWWY Rawlins 45.67 75 IAMs_20 IAMs_20 06 40 14.1
comp=Z,494nm,19.0s
O20A White River Ci 45.98 77 P **P** **06 20 50.1 -0.5**
baz=307,SNR=12
RSSD Black Hills 46.13 70 P **P** **06 20 51.9 +0.1**
baz=305
NOR Nord 46.49 4 *i* P **P** **06 20 50.6 -3.2**
NOR IAmb IAmb 06 20 52.8
comp=Z,13nm,1.2s
NOR Nord 46.49 4 *i* P **P** **06 20 50.6 -3.2**
NOR pmax pmax
comp=Z,13nm,1.2s
NEEM North Greenlan 46.54 15 *i* P **P** **06 20 53.8 -0.8**
NEEM IAmb IAmb 06 20 56.6
comp=Z,14nm,0.8s
N23A Red Feather La 46.91 75 P **P** **06 20 57.8 -0.2**
baz=307
ULM Lac du Bonnet 47.25 59 P **P** **06 20 58.7 -1.5**
comp=Z,12nm,0.6s,baz=302,slow=8.7,SNR=21
ISCO Idaho Springs 47.78 76 IAMs_20 IAMs_20 06 42 53.9
comp=Z,476nm,20.0s
BJI Beijing 47.97 285 P **P** **06 21 06.8 +0.9**
BJI pP **pP** **06 21 18.0 +1.2**
BJI sP **sP** **06 21 22.4 +1.0**
BJI S **S** **06 28 00.1 -0.3**
BJI pmax pmax
comp=Z,27nm,0.9s
BJI LR LR
comp=Z,820nm,18.9s
BJI LR LR
comp=Z,460nm,20.3s
BJI LR LR
comp=Z,1µm,20.0s
BJT Baijiatuau 47.99 285 IAMs_20 IAMs_20 06 41 45.6
comp=Z,843nm,20.0s
S22A 4UR Ranch, Cre 48.33 79 P **P** **06 21 09.0 0.0**
baz=309
AGMN Agassiz Nation 48.36 61 P **P** **06 21 07.2 -1.6**
AGMN IAmb IAmb 06 21 24.0
comp=Z,22nm,1.0s
AGMN IAMs_20 IAMs_20 06 39 57.8
comp=Z,582nm,20.0s
AGMN Agassiz Nation 48.36 61 P **P** **06 21 08.3 -0.6**
baz=305,SNR=15
ULN Ulaanbaatar 48.57 298*ce*P **P** **06 21 11.3 +0.7**
ULN pmax pmax
comp=Z,14nm,1.0s
ULN Ulaanbaatar 48.57 298 P **P** **06 21 10.8 +0.1**
ULN IAmb IAmb 06 21 12.3
comp=Z,13nm,1.1s
ULN Ulaanbaatar 48.57 298 IAMs_20 IAMs_20 06 44 29.6
comp=Z,632nm,19.0s
SUSD Miller 48.89 67 P **P** **06 21 12.1 -0.9**
SUSD Miller 48.89 67 P **P** **06 21 12.5 -0.5**
baz=307
SONM Songino Array 48.95 299 P **P** **06 21 13.8 +0.3**
comp=Z,7.0nm,0.9s,baz=58,slow=8.7,SNR=31
SONM PcP **PcP** **06 22 37.5 +0.4**
comp=Z,4.0nm,0.9s,baz=71,slow=4.4,SNR=5.9
SONM ScP **ScP** **06 26 30.6 +2.3**
comp=Z,1.1nm,0.7s,baz=44,slow=4.4,SNR=3.4
SONM Songino Array 48.95 299 P **P** **06 21 13.4 -0.1**
SONM IAmb IAmb 06 21 14.8
comp=Z,16nm,1.2s
ZAK Zakamensk 49.14 303 *e*P **P** **06 21 14.9 0.0**
ZAK *e* 06 22 36.8
ZAK pmax pmax
comp=Z,40nm,1.3s
ZAK pmax pmax
comp=Z,18nm,1.4s
SDCO Great Sand Dun 49.14 78 P **P** **06 21 15.0 -0.3**
SDCO IAmb IAmb 06 21 29.3
comp=Z,12nm,1.0s
SDCO Great Sand Dun 49.14 78 P **P** **06 21 15.2 -0.1**
baz=310,SNR=26
TUC Tucson 49.45 87 P **P** **06 21 17.1 -0.3**
TUC pmax pmax
comp=Z,5.0nm,0.9s
TUC Tucson 49.45 87 P **P** **06 21 16.4 -1.0**
baz=312
TIA Tai'an 49.82 280 ⇓P **P** **06 21 20.6 +0.5**
TIA pmax pmax
comp=Z,30nm,1.2s
KSCO Kaye Shedlock' 50.08 75 P **P** **06 21 21.9 -0.3**
KSCO IAmb IAmb 06 21 36.8
comp=Z,40nm,1.2s
KSCO Kaye Shedlock' 50.08 75 P **P** **06 21 21.9 -0.3**
baz=309
T25A Trinidad 50.20 78 P **P** **06 21 22.1 -1.2**
T25A IAmb IAmb 06 21 38.0
comp=Z,35nm,0.9s
T25A Trinidad 50.20 78 P **P** **06 21 23.3 +0.1**
baz=310
SPITS Spitsbergen Ar 50.30 357 P **P** **06 21 23.2 0.0**
comp=Z,1.1nm,0.8s,baz=43,slow=6.3,SNR=11
ANMO Albuquerque 50.37 81*ce*P **P** **06 21 24.5 -0.1**
ANMO pmax pmax
comp=Z,8.0nm,2.5s
ECSD EROS Data Cent 50.66 66 IAMs_20 IAMs_20 06 42 08.5
comp=Z,464nm,19.0s

ECSD **EROS Data Cent** 50.66 66 P P 06 21 25.0 -1.4
baz=308
BNM **Barren Site** 50.79 82 P 06 21 26.9 -0.8
EYMN **Ely** 50.93 59 IAMs_20 IAMs_20 06 45 13.9
comp=Z,560nm,18.0s
EYMN **Ely** 50.93 59 P P 06 21 27.8 -0.6
baz=307,SNR=5.6
121A **Cookes Peak, D** 51.16 85 P P 06 21 30.8 +0.3
baz=312
FRB **Frobisher Bay** 51.37 33 LR LR 06 44 53.2
comp=Z,849nm,18.3s,baz=305,slow=38
NJ2 **Nanjing** 51.52 275 eP P 06 21 33.5 +0.6
NJ2 pmax pmax
comp=Z,19nm,0.5s
TIY **Taiyuan** 51.70 285 eP P 06 21 36.4 +2.0
TIY pP pP 06 21 44.6 -0.8
TIY sP sP 06 21 53.9 +3.9
TIY pmax pmax
comp=Z,37nm,0.5s
TIY LR LR
comp=Z,500nm,19.2s
TIY LR LR
comp=Z,490nm,15.3s
SPMN **Marine on St.** 51.89 63 P P 06 21 34.9 -0.7
baz=308
SUMG **Summit** 52.38 15 i P P 06 21 38.7 -0.6
SUMG IAmb IAmb 06 21 40.3
comp=Z,3.2nm,0.7s
SUMG **Summit** 52.38 15 i P P 06 21 38.7 -0.6
SUMG pmax pmax
comp=Z,3.0nm,0.7s
MNTX **Cornudas Mount** 53.22 84 P P 06 21 45.2 -0.4
baz=313
MSTX **Muleshoe** 53.29 80 P P 06 21 44.9 -1.3
MSTX IAmb IAmb 06 22 01.4
comp=Z,23nm,0.9s
MSTX **Muleshoe** 53.29 80 P P 06 21 45.8 -0.4
baz=312
G40A **Rib Lake** 53.29 61 P P 06 21 45.2 -0.7
G40A IAmb IAmb 06 22 09.8
comp=Z,35nm,1.4s
KSU1 **Kansas State U** 53.60 71 P P 06 21 46.9 -1.4
KSU1 IAmb IAmb 06 22 10.0
comp=Z,20nm,0.8s
KSU1 **Kansas State U** 53.60 71 P P 06 21 47.3 -1.1
baz=311
I40A **Norwalk** 53.94 63 P P 06 21 49.3 -1.4
I40A IAmb IAmb 06 22 03.7
comp=Z,20nm,0.9s
E43A **Lone Tree Farm** 54.31 58 P P 06 21 52.8 -0.6
E43A IAmb IAmb 06 22 08.2
comp=Z,26nm,0.8s
N38A **Joes South For** 54.47 67 P P 06 21 53.3 -1.3
JFWS **Jewell Farm** 54.78 63 P P 06 21 55.2 -1.6
baz=310
L40A **Anamosa** 54.78 65 P P 06 21 55.4 -1.5
L40A IAmb IAmb 06 22 10.3
comp=Z,16nm,0.9s
I42A **Draeger Farm,** 54.88 62 P P 06 21 56.6 -0.9
I42A IAmb IAmb 06 22 21.4
comp=Z,23nm,1.0s
ICESG **Greenland Ices** 55.11 18 i P P 06 21 58.2 -1.1
H43A **Windswept, Lux** 55.13 61 P P 06 21 58.4 -0.9
H43A IAmb IAmb 06 22 00.5
comp=Z,20nm,0.8s
YHNB **Yeheng** 55.14 266 IAMs_20 IAMs_20 06 43 30.3
comp=Z,360nm,21.0s
WMOK **Wichita Mounta** 55.20 76 P P 06 21 59.1 -0.9
WMOK pmax pmax
comp=Z,16nm,1.0s
WMOK **Wichita Mounta** 55.20 76 P P 06 21 59.1 -0.9
WMOK IAmb IAmb 06 22 14.6
comp=Z,16nm,0.9s
WMOK **Wichita Mounta** 55.20 76 P P 06 21 59.5 -0.5
baz=312
OK029 **Liberty Lake** 55.29 74 P P 06 21 59.1 -1.5
OK029 IAmb IAmb 06 22 28.2
comp=Z,19nm,1.1s
WHN **Wuhan** 55.35 277 ⇓P P 06 22 01.6 +0.6
WHN pP pwP 06 22 14.5 -2.1
WHN LR LR
comp=Z,500nm,20.5s
OK031 **S. Brethren Rd** 55.55 74 P P 06 22 01.9 -0.6
OK031 IAmb IAmb 06 22 12.9
comp=Z,44nm,1.3s
ZALV **Zalesovo Beam** 55.81 315 P P 06 22 04.2 +0.2
comp=Z,0.5nm,0.3s,baz=19,slow=9.2,SNR=2.4
ZALV PcP PcP 06 23 03.6 +1.0
comp=Z,5.5nm,0.9s,baz=43,slow=3.0,SNR=11
TX32 **Lajitas Array** 55.92 85 P P 06 22 03.9 -1.4
TX32 IAmb IAmb 06 22 34.3
comp=Z,11nm,0.9s
TXAR **Lajitas Array** 55.92 85 P P 06 22 04.3 -1.0
comp=Z,3.4nm,0.9s,baz=304,slow=4.5,SNR=15
TXAR ScP ScP 06 26 59.2 +0.4
comp=Z,0.3nm,0.9s,baz=305,slow=3.2,SNR=3.9
ABTX **Abilene, Hawle** 56.12 79 P P 06 22 06.2 -0.5
baz=313
TUL1 **Leonard** 56.21 73 P P 06 22 06.4 -0.8
baz=312
XAN **Xi'an** 56.27 284 P P 06 22 08.1 +0.4
XAN **Xi'an** 56.27 284 P P 06 22 08.1 +0.4
GLMI **Grayling** 56.59 58 P P 06 22 09.9 +0.1
baz=312
TPUB **Ta-pu** 56.60 266 P P 06 22 08.9 -1.3
TPUB IAmb IAmb 06 22 12.8
comp=Z,24nm,1.0s
HDIL **Hopedale** 56.87 65 IAMs_20 IAMs_20 06 48 54.8
comp=Z,613nm,19.0s
HDIL **Hopedale** 56.87 65 P P 06 22 11.5 -0.3
baz=312
P43A **Skaggs, Pawnee** 57.35 66 P P 06 22 14.2 -1.0
CCM **Cathedral Cave** 57.44 68 P P 06 22 14.0 -1.8
baz=313
DGZ **Jazzator, Alta** 57.49 310 i P P 06 22 15.9 -0.4
DGZ pmax pmax
comp=Z,10.0nm,1.2s
JCT **Junction City** 57.51 81 P P 06 22 16.9 +0.4
JCT pmax pmax
comp=Z,15nm,1.0s
JCT **Junction City** 57.51 81 P P 06 22 16.9 +0.4
JCT IAmb IAmb 06 22 32.8
comp=Z,15nm,1.0s
JCT **Junction City** 57.51 81 P P 06 22 17.5 +1.0
baz=314
U40A **Yellville** 57.65 71 P P 06 22 15.4 -1.9
baz=313
W39A **Magazine** 57.89 73 P P 06 22 18.6 -0.5
W39A IAmb IAmb 06 22 36.1
comp=Z,49nm,1.4s
W39A **Magazine** 57.89 73 P P 06 22 17.9 -1.2
baz=313
LZH **Lanzhou** 57.91 289 ⇓P P 06 22 20.7 +1.3
LZH pP pP 06 22 32.5 +1.1
LZH sP sP 06 22 38.3 +2.1
LZH pmax pmax
comp=Z,30nm,1.1s
LZH pmax pmax
comp=Z,82nm,5.4s
LZH LR LR
comp=Z,480nm,20.6s
LZH LR LR
comp=Z,800nm,20.1s
LZH LR LR
comp=Z,560nm,19.5s
GTA **Gaotai** 57.98 294 ⇓P P 06 22 20.0 +0.2
GTA pP pP 06 22 32.0 +0.3
GTA sP sP 06 22 38.6 +2.1
GTA pmax pmax
comp=Z,14nm,1.0s
GTA pmax pmax
comp=Z,61nm,8.0s
GTA LR LR
comp=Z,220nm,19.5s
GTA LR LR
comp=Z,440nm,19.1s
GTA LR LR
comp=Z,420nm,17.9s
SCHQ **Schefferville** 58.09 41 P P 06 22 18.7 -1.5
comp=Z,7.7nm,0.8s,baz=306,slow=9.0,SNR=6.1
SCHQ LR LR 06 49 47.1
comp=Z,795nm,18.7s,baz=320,slow=38
SCHQ **Schefferville** 58.09 41 IAmb IAmb 06 23 32.6
comp=Z,41nm,1.8s
Q44A **Meyer Farm, Va** 58.14 66 P P 06 22 19.7 -1.0
SFIN **Lafayette** 58.23 64 P P 06 22 20.9 -0.4
baz=313
ARA0 **ARCESS Array S** 58.28 352 eP P 06 22 21.3 0.0
ARCES **ARCESS Array B** 58.28 352 P P 06 22 20.1 -1.2
comp=Z,8.0nm,0.7s,baz=21,slow=8.1,SNR=25
ARCES PcP PcP 06 23 12.7 +0.7
comp=Z,19nm,0.8s,baz=15,slow=5.1,SNR=14
MIAR **Mount Ida** 58.46 73 P P 06 22 22.1 -1.0
MIAR pmax pmax
comp=Z,34nm,1.0s
MIAR **Mount Ida** 58.46 73 P P 06 22 22.1 -1.0
MIAR IAmb IAmb 06 22 37.5
comp=Z,34nm,1.0s
MIAR **Mount Ida** 58.46 73 P P 06 22 22.6 -0.5
baz=314,SNR=8.5
ENH **Enshi** 58.53 280 P P 06 22 23.2 -0.5
ENH IAmb IAmb 06 22 38.4
comp=Z,25nm,1.1s
L48A **N Adams** 58.63 61 P P 06 22 23.2 -0.9
L48A IAmb IAmb 06 22 39.6
comp=Z,38nm,1.1s
JETT **Jettan, Norway** 58.65 354 eP P 06 22 25.2 +1.3
TRO **Tromso** 58.67 355 eP P 06 22 24.2 +0.3
P46A **Rosedale** 58.68 65 P P 06 22 24.0 -0.5
W41B **Gary Mavity, V** 58.82 72 P P 06 22 24.0 -1.5
baz=314,SNR=6.5
LVZ **Lovozero** 58.84 348 ceP P 06 22 25.6 +0.4
LVZ pmax pmax
comp=Z,74nm,2.5s
X40A **Basin Creek Fa** 58.95 73 P P 06 22 25.6 -0.9
baz=314
KTK1 **Kautokeino** 58.98 353 eP P 06 22 25.5 -0.7
PARMO **Parma** 59.25 69 P P 06 22 27.2 -1.3
APA **Apatity** 59.31 348 ⇓iP P 06 22 27.1 -1.3
APA pmax pmax
comp=Z,6.0nm,0.9s
WLAR **White Oak Lake** 59.34 73 P P 06 22 27.9 -1.2
P49A **Miami Univ. Ec** 60.13 63 P P 06 22 33.2 -1.3
baz=314
WCI **Wyandotte Cave** 60.15 65 P P 06 22 33.2 -1.5
WCI pmax pmax
comp=Z,33nm,1.1s
WCI MLR MLR
comp=Z,600nm,19.0s
WCI **Wyandotte Cave** 60.15 65 P P 06 22 33.2 -1.5
WCI IAmb IAmb 06 22 48.4
comp=Z,33nm,1.1s
WCI **Wyandotte Cave** 60.15 65 P P 06 22 33.8 -0.9
baz=314
ZSN **Zaisan** 60.29 310 eP P 06 22 35.3 -0.3
baz=310
ZSN **Zaisan** 60.29 310 eP P 06 22 35.2 -0.3
PLVO **Plevna** 60.35 54 P P 06 22 35.4 -0.5
DELO **Deloro Mine** 60.44 55 P P 06 22 36.3 -0.3
STEI **Steigen** 60.55 356 eP P 06 22 36.8 -0.1
T47A **Sharon Grove** 60.56 67 P P 06 22 36.4 -1.1
ACSO **Alum Creek Sta** 60.60 61 IAMs_20 IAMs_20 06 50 25.8
comp=Z,471nm,19.0s
W45A **Hickory Valley** 60.63 70 P P 06 22 37.3 -0.7
WVT **Waverly** 60.74 68 P P 06 22 37.6 -1.1
WVT pmax pmax
comp=Z,13nm,0.9s
WVT **Waverly** 60.74 68 P P 06 22 38.2 -0.5
baz=314
KURBB **Kurchatov Arra** 60.90 316 P P 06 22 38.7 -0.9
OXF **Oxford** 60.95 70 P P 06 22 38.8 -1.4
OXF pmax pmax
comp=Z,75nm,1.1s
OXF **Oxford** 60.95 70 P P 06 22 38.8 -1.4
OXF **Oxford** 60.95 70 P P 06 22 39.4 -0.8
baz=315,SNR=14
M53A **WI Miller and** 61.01 59 P P 06 22 39.8 -0.7
M53A IAmb IAmb 06 22 56.4
comp=Z,29nm,0.9s
M53A **WI Miller and** 61.01 59 P P 06 22 40.4 -0.1
baz=314
FAUS **Fauske** 61.10 356 eP P 06 22 41.4 +0.7
ALLY **Alegheny Colle** 61.14 59 P P 06 22 41.0 -0.4
PECO **Prince Edward** 61.17 55 P P 06 22 41.2 -0.3
O52A **Adamsville** 61.31 61 P P 06 22 42.1 -0.5
Y45A **Yeager Farm, C** 61.33 71 P P 06 22 42.7 0.0
WMQ **Urumqi** 61.47 305 eP P 06 22 44.9 +1.3
WMQ pP pwP 06 22 56.9 -1.2
WMQ pmax pmax
comp=Z,30nm,0.7s
WMQ pmax pmax
comp=Z,210nm,4.5s
WMQ LR LR
comp=Z,820nm,19.1s
WMQ LR LR
comp=Z,580nm,22.7s
WMQ LR LR
comp=Z,430nm,20.1s
P52A **Corning** 61.49 61 IAMs_20 IAMs_20 06 51 03.2
comp=Z,446nm,19.0s
M54A **Oil Creek Stat** 61.50 58 P P 06 22 43.8 -0.1
baz=315
O53A **New Philadelph** 61.56 60 P P 06 22 43.6 -0.6
baz=315
CD2 **Chengdu** 61.57 285 P P 06 22 45.2 +0.7
CD2 S S 06 31 03.0 -0.2
CD2 pmax pmax
comp=Z,60nm,0.8s
CD2 pmax pmax
comp=Z,130nm,4.5s
CD2 LR LR
comp=Z,330nm,15.7s
CD2 LR LR
comp=Z,640nm,18.6s
CD2 LR LR
comp=Z,510nm,19.6s
N54A **Moraine State** 61.71 59 P P 06 22 44.5 -0.7
baz=315
LONY **Lake Ozonia** 61.90 53 P P 06 22 45.6 -0.9
baz=316,SNR=14
MK31 **Makanchi Array** 61.98 311 i P P 06 22 46.1 -0.9
MK31 **Makanchi Array** 61.98 311 P P 06 22 46.8 -0.2
MKAR **Makanchi Array** 61.98 311 P P 06 22 46.2 -0.8
comp=Z,2.5nm,0.3s,baz=41,slow=5.3,SNR=44
MKAR **Makanchi** 61.98 311 P P 06 22 46.6 -0.4
KONS **Konsvik** 62.07 357 eP P 06 22 48.2 +1.0
MAKZ **Makanchi** 62.12 311 P P 06 22 47.5 -0.4
MAKZ pmax pmax
comp=Z,6.0nm,1.0s
MAKZ MLR MLR
comp=Z,400nm,19.0s
MAKZ **Makanchi** 62.12 311 P P 06 22 47.5 -0.4
MAKZ IAMs_20 IAMs_20 06 50 17.3
comp=Z,380nm,19.0s
K57A **Scipio Center** 62.27 56 P P 06 22 49.1 +0.1
MOR8 **Moi Rana** 62.35 356 eP P 06 22 48.1 -1.0
BRVK **Borovoye** 62.44 322 ceP P 06 22 51.5 +1.6
BRVK pmax pmax
comp=Z,9.0nm,1.3s
J58A **Remsen** 62.45 54 P P 06 22 49.8 -0.3
146A **Union** 62.48 71 P P 06 22 49.6 -1.0
Q54A **Coxs Mills** 62.66 61 P P 06 22 51.1 -0.5
Z47A **Carrollton** 62.67 70 P P 06 22 50.3 -1.4
PRGR **Permogore** 62.67 340 eP P 06 22 49.3 -2.0
PRGR pmax pmax
comp=Z,74nm,1.2s
MCWV **Mont Chateau** 62.72 60 P P 06 22 51.8 -0.2
baz=316
D62A **Allapoint, All** 62.76 48 P P 06 22 51.9 -0.2
baz=317,SNR=9.0
W50A **Signal Mountai** 62.84 67 P P 06 22 51.8 -1.2
W50A IAmb IAmb 06 23 06.8
comp=Z,26nm,0.9s
E62A **Clayton Lake** 62.88 48 P P 06 22 51.8 -1.2
baz=317
TZTN **Tazewell** 62.89 65 IAMs_20 IAMs_20 06 48 51.2
comp=Z,531nm,20.0s
TZTN **Tazewell** 62.89 65 P P 06 22 53.0 -0.2
baz=315
BINY **Binghamton** 62.93 56 P P 06 22 53.8 +0.4
baz=316,SNR=12
O56A **Blue Knob Stat** 62.97 59 P P 06 22 52.9 -0.8
baz=316
GYA **Guiyang** 62.99 279 ⇑P P 06 22 55.4 +1.3
GYA pP sP 06 23 08.4 -1.7
GYA pmax pmax
comp=Z,17nm,2.0s
GYA LR LR
comp=Z,310nm,21.2s
VT1 **Waterbury** 63.01 52 IAMs_20 IAMs_20 06 53 59.9
comp=Z,535nm,19.0s
SSPA **Standing Stone** 63.06 58 P P 06 22 54.0 -0.3
baz=316
I60A **Shoreham** 63.10 53 P P 06 22 54.0 -0.4
baz=317
CPCT **Cooper Cave** 63.12 66 P P 06 22 55.5 +0.8
CPCT IAmb IAmb 06 23 09.3
comp=Z,12nm,0.8s
F62A **Pittston Farm,** 63.21 49 P P 06 22 55.1 -0.1
baz=317,SNR=6.5
S54A **Dingess, Beckl** 63.24 62 P P 06 22 55.0 -0.6
ACCN **Adirondack Com** 63.25 53 P P 06 22 55.1 -0.3
TKL **Tuckaleechee C** 63.40 66 P P 06 22 55.7 -0.9
TKL pmax pmax
comp=Z,20nm,1.0s
TKL **Tuckaleechee C** 63.40 66 P P 06 22 55.7 -0.9
TKL IAmb IAmb 06 23 10.5
comp=Z,20nm,0.9s
LRAL **Lakeview Retre** 63.41 70 P P 06 22 55.1 -1.5
baz=316
L59A **Walton** 63.42 55 P P 06 22 57.0 +0.3
G62A **West of Eustis** 63.44 50 P P 06 22 56.4 -0.3
baz=317,SNR=12
LBNH **Lisbon** 63.48 52 P P 06 22 56.8 -0.2
baz=317
E63A **Oxbow** 63.54 48 P P 06 22 56.6 -0.7
baz=318,SNR=5.5
R55A **Marlinton** 63.55 61 P P 06 22 57.5 -0.1
H62A **Milan** 63.61 51 P P 06 22 57.6 -0.3
F63A **Nahmakanta, Br** 63.76 49 P P 06 22 58.2 -0.6
baz=318,SNR=5.3
ARU **Arti** 63.79 330 ciP P 06 22 58.7 -0.1
ARU 06 23 34.0
ARU S S 06 31 31.7 +1.5
ARU SS SS 06 35 46.5 +8.8
ARU pmax pmax
comp=Z,22nm,2.6s
P57A **Homestead Farm** 63.83 59 P P 06 22 59.3 0.0
P57A IAmb IAmb 06 23 17.8
comp=Z,19nm,0.8s
J61A **Chester** 63.83 53 P P 06 22 59.4 +0.1
baz=317,SNR=6.6
BRZS **Berezniki** 63.86 319 eP P 06 22 58.1 -1.3
baz=318
BRZS **Berezniki** 63.86 319 eP P 06 22 58.1 -1.3
N59A **State Game Lan** 63.97 56 P P 06 23 00.5 +0.2
baz=317,SNR=6.2
K61A **Williamstown** 63.97 54 P P 06 23 00.6 +0.3
baz=317,SNR=6.1
F64A **Sherman** 63.99 48 P P 06 22 59.7 -0.6
baz=318,SNR=8.0
PKME **Peaks-Kenny Pk** 63.99 49 P P 06 23 00.1 -0.2
baz=318
NSS **Namsos** 64.08 357 eP P 06 23 01.4 +0.8
BLA **Blacksburg** 64.16 62 IAMs_20 IAMs_20 06 50 41.8
comp=Z,498nm,20.0s
BLA **Blacksburg** 64.16 62 P P 06 23 01.6 0.0
baz=316
I63A **Otisfield** 64.28 51 P P 06 23 02.5 +0.3
baz=318,SNR=6.5
J62A **Henniker** 64.28 52 P P 06 23 02.6 +0.3
baz=317,SNR=5.9
L61B **Northampton** 64.42 53 P P 06 23 03.2 0.0
baz=317
K62A **Royalston** 64.49 53 P P 06 23 03.6 0.0
baz=317,SNR=5.2
H64A **Troy** 64.49 50 P P 06 23 02.9 -0.7
baz=318
KIRV **Kirov** 64.50 336 ceP P 06 23 04.5 +1.1
250A **Grady** 64.60 70 P P 06 23 03.3 -1.2
KLMR **Klimovskoe** 64.62 342 eP P 06 23 01.4 -2.8
KLMR pmax pmax
comp=Z,15nm,1.1s
KLMR **Klimovskoe** 64.62 342 eP P 06 23 01.4 -2.8
KLMR AMP 06 23 03.8
comp=Z,15nm,1.1s
U56A **King** 64.80 63 P P 06 23 05.2 -0.6
U56A IAmb IAmb 06 23 20.4
comp=Z,20nm,0.8s
K63A **Dunstable** 64.82 53 P P 06 23 05.6 -0.1
baz=318
I64A **Boothbay** 64.83 51 P P 06 23 05.8 0.0
baz=318
G65A **Princeton** 64.85 48 P P 06 23 05.9 -0.1
baz=319
PAL **Palisades** 64.86 55 P P 06 23 06.3 +0.2
baz=317,SNR=5.9
HRV **Adam Dziewonsk** 64.94 53 P P 06 23 06.2 -0.4
baz=318
CBN **Corbin Frederi** 65.10 60 IAMs_20 IAMs_20 06 55 00.7
comp=Z,403nm,18.0s
PAULI **Pauline** 65.11 65 P P 06 23 06.9 -0.8
PAULI IAmb IAmb 06 23 22.0
comp=Z,24nm,0.9s
KMSC **Kings Mountain** 65.15 64 P P 06 23 07.2 -0.8
KMSC **Kings Mountain** 65.15 64 P P 06 23 07.6 -0.5
baz=317,SNR=8.2
GOGA **Godfrey** 65.19 67 IAMs_20 IAMs_20 06 53 60.0
comp=Z,436nm,18.0s
GOGA **Godfrey** 65.19 67 P P 06 23 07.2 -1.2
baz=316
HODGE **Hodges** 65.28 66 P P 06 23 08.1 -0.8
HODGE IAmb IAmb 06 23 24.4
comp=Z,22nm,0.9s
JSC **Jenkinsville** 65.81 65 P P 06 23 12.0 -0.3
JSC pmax pmax
comp=Z,96nm,1.7s
JSC **Jenkinsville** 65.81 65 P P 06 23 12.0 -0.3
T59A **Double "B" Far** 65.90 61 P P 06 23 12.6 -0.2
T59A IAmb IAmb 06 23 27.9
comp=Z,31nm,1.1s
V58A **Windy Hill, Pi** 65.91 62 P P 06 23 12.2 -0.8
BIRD **Birdtown, Kers** 66.00 64 P P 06 23 13.4 -0.1
BIRD IAmb IAmb 06 23 27.9
comp=Z,30nm,1.1s
FINES **FINESS Array B** 66.10 349 P P 06 23 12.6 -1.2
comp=Z,6.3nm,0.8s,baz=17,slow=4.9,SNR=13
FINES **FINESS Array B** 66.10 349 ceP P 06 23 13.3 -0.4
FINES pmax pmax
comp=Z,6.0nm,0.8s
MOL **Molde** 66.15 359 eP P 06 23 14.6 +0.6
KPKS **Kokpek** 66.16 310 eP P 06 23 13.3 -1.3
baz=310
KPKS **Kokpek** 66.16 310 eP P 06 23 13.3 -1.3
UZB **Uzynbulak** 66.24 310 eP P 06 23 14.3 -0.9
baz=310
UZB **Uzynbulak** 66.24 310 eP P 06 23 14.2 -0.9
KMI **Kunming** 66.37 281 ⇓P P 06 23 17.7 +1.4
KMI pP sP 06 23 30.0 -2.3
KMI pmax pmax
comp=Z,19nm,1.0s
KMI pmax pmax
comp=Z,130nm,3.5s
QIZ **Qiongzhong** 66.49 271 P P 06 23 16.9 0.0
QIZ pP pwP 06 23 30.7 -1.8
QIZ S S 06 32 02.9 -1.4
QIZ LR LR
comp=Z,170nm,8.0s
QIZ LR LR
comp=Z,220nm,14.5s
QIZ LR LR
comp=Z,150nm,18.1s
AKN **Aaknes** 66.55 359 eP P 06 23 17.1 +0.5
SATY **Saty** 66.60 310 eP P 06 23 17.3 -0.2
baz=310
SATY **Saty** 66.60 310 eP P 06 23 17.2 -0.2
CHKK **Chushkaly** 66.66 312 eP P 06 23 16.9 -0.7
baz=312
KUU **Kurty** 66.94 312 eP P 06 23 18.0 -1.4
baz=312
KUU **Kurty** 66.94 312 eP P 06 23 18.0 -1.4
RAF **Rauma** 66.96 352 eP P 06 23 18.8 -0.4
Y58A **Scranton** 66.99 64 P P 06 23 19.5 -0.3
TAOE **Nuku Hiva Isla** 67.08 143 eS S 06 32 13.8 +2.4
comp=Z,113nm,25.8s
TAOE **Nuku Hiva Isla** 67.08 143 eLR LR 06 43 31.9
comp=Z,277nm,23.9s
FOO **Floro** 67.13 0 eP P 06 23 20.2 -0.1
MDOK **Medeo** 67.17 311 eP P 06 23 20.2 -0.9
baz=311
MDOK **Medeo** 67.17 311 eP P 06 23 20.1 -0.9
MTBS **Maitube** 67.48 312 eP P 06 23 22.3 -0.7
baz=312
NB2 **NORSAR Subarra** 67.60 357 P P 06 23 23.1 -0.3
comp=Z,2.6nm,0.6s,baz=4.7,slow=6.5
NB2 **NORSAR Subarra** 67.60 357 P P 06 23 23.1 -0.3
baz=4.7,slow=6.5

NOA NORSAR Array B 67.60 357 P **P** **06 23 22.7 -0.7**
comp=Z,10nm,1.0s,baz=3.4,slow=6.4,SNR=18
NORES NORESS Array B 67.90 357 P **P** **06 23 28.3 +3.1**
AAL Aland 67.95 352 *eP* **P** **06 23 25.0 -0.5**
SGDS Sogindy 68.06 313 *eP* **P** **06 23 25.6 -1.0**
baz=313
BER Bergen 68.35 0 *eP* **P** **06 23 28.9 +0.9**
UPP Uppsala 68.45 353 *eP* **P** **06 23 28.5 -0.1**
SLVN Son La 68.46 277 P **P** **06 23 28.8 -0.6**
SLVN IAmb IAmb 06 23 44.5
comp=Z,24nm,1.2s
SLVN IAMs_20 IAMs_20 06 53 55.6
comp=Z,289nm,22.0s
AAK Ala-Archa 68.76 312 *ceP* **P** **06 23 32.5 +1.4**
AAK pmax pmax
comp=Z,43nm,1.3s
AAK Ala-Archa 68.76 312 P **P** **06 23 30.9 -0.2**
AAK IAmb IAmb 06 23 32.9
comp=Z,11nm,1.0s
AAK Ala-Archa 68.76 312 IAMs_20 IAMs_20 06 56 07.1
comp=Z,427nm,19.0s
VSU Vasula 68.93 348 *eP* **P** **06 23 32.5 +0.9**
VSU Vasula 68.93 348 *iP* **P** **06 23 29.8 -1.8**
VSU pmax pmax
comp=Z,64nm,1.0s
AKTO Aktyubinsk 69.02 327 P **P** **06 23 31.2 -1.1**
KONO Kongsberg 69.04 358 *ceP* **P** **06 23 32.0 -0.3**
KONO pmax pmax
comp=Z,48nm,2.5s
AB31 Akbulak array 69.34 325 *iP* **P** **06 23 34.3 -0.1**
ABKAR Akbulak array 69.34 325 P **P** **06 23 34.7 +0.3**
ABKAR Akbulak array 69.34 325 P **P** **06 23 34.5 +0.1**
ABKAR IAmb IAmb 06 23 58.9
comp=Z,15nm,1.1s
STRU Stroemstad 69.61 357 *iP* **P** **06 23 37.1 +1.3**
LSA Lhasa 69.90 293 P **P** **06 23 39.8 +1.1**
LSA pmax pmax
comp=Z,46nm,0.9s
LSA MLR MLR
comp=Z,300nm,19.0s
LSA Lhasa 69.90 293 P **P** **06 23 39.8 +1.1**
LSA IAMs_20 IAMs_20 06 57 08.2
comp=Z,269nm,19.0s
KK31 Karatay Array 70.19 315 P **P** **06 23 39.3 -0.4**
KK31 pmax pmax
comp=Z,7.0nm,0.8s
KK31 Karatay Array 70.19 315 P **P** **06 23 39.3 -0.4**
KKAR Karatay Array 70.19 315 P **P** **06 23 39.5 -0.2**
KKAR pmax pmax
comp=Z,7.0nm,0.8s
KKAR Karatay Array 70.19 315 P **P** **06 23 39.7 +0.1**
KKAR Karatay Array 70.19 315 P **P** **06 23 39.5 -0.2**
KKAR IAmb IAmb 06 23 41.0
comp=Z,6.8nm,0.8s
PMOR Pomariorio Ree 70.25 153 *eT* T 07 39 28.8
comp=Z,6.8nm,0.3s
DWPF Disney Wildern 70.27 70 IAMs_20 IAMs_20 06 58 02.6
comp=Z,214nm,18.0s
BELG Belogornoye 70.48 334 *iP* **P** **06 23 40.9 -0.3**
BELG pmax pmax
comp=Z,4.0nm,0.9s
KSH Kashi 70.50 309 P **P** **06 23 46.3 +4.5**
KSH pP PcP 06 24 00.7 -2.2
KSH pmax pmax
comp=Z,34nm,1.3s
KSH pmax pmax
comp=Z,170nm,8.1s
KSH LR LR
comp=Z,470nm,18.5s
KSH LR LR
comp=Z,880nm,18.5s
KSH LR LR
comp=Z,670nm,20.4s
BORU Boraas 70.95 356 *iP* **P** **06 23 44.0 0.0**
IUG luzhnay 71.16 315 *eP* **P** **06 23 45.1 -0.7**
baz=315
IUG luzhnay 71.16 315 *eP* **P** **06 23 45.0 -0.7**
ONAU Onsala 71.22 356 *iP* **P** **06 23 46.1 +0.5**
FABU Falkenberg 71.59 356 *iP* **P** **06 23 47.8 0.0**
SKNT Sakolnakorn 71.69 274 P **P** **06 23 51.4 +2.3**
comp=Z,19nm,0.8s
IIGN Ignalina 72.03 348 *eP* **P** **06 23 50.8 +0.2**
DEL Delary 72.06 355 *iP* **P** **06 23 51.0 +0.3**
BLEU Blekinge 72.11 354 *iP* **P** **06 23 51.0 0.0**
PABE Paberze 72.16 349 *eP* **P** **06 23 51.3 0.0**
PPT2 Papeete2 72.26 155 *eS* **S** **06 33 16.8 +4.8**
comp=Z,510nm,26.8s
PPT2 Papeete2 72.26 155 *eLR* LR 06 45 57.3
comp=Z,429nm,21.8s,baz=354
PPT2 Papeete2 72.26 155 *eT* T 07 41 59.2
comp=Z,5.7nm,0.3s
LPSR Galich'ya Gora 72.42 339 *eP* **P** **06 23 51.8 -1.2**
LPSR pmax pmax
comp=Z,7.0nm,0.6s
BTK Batken 72.49 313 P **P** **06 23 54.6 +0.8**
BTK pmax pmax
comp=Z,22nm,1.2s
BTK Batken 72.49 313 P **P** **06 23 54.5 +0.8**
BTK IAmb IAmb 06 23 55.4
comp=Z,22nm,1.1s
BJUU Bjuv 72.50 356 *iP* **P** **06 23 53.0 -0.3**
SHL Shillong 72.58 289 P **P** **06 23 54.6 0.0**
SHL pmax pmax
comp=Z,102nm,1.2s
SHL Shillong 72.58 289 P **P** **06 23 54.6 0.0**
SHL Shillong 72.58 289 *iP* **P** **06 23 55.0 +0.4**
MNK Minsk 72.62 347 *iP* **P** **06 23 49.6 -4.5**
MNK *i* 06 24 06.8
MNK *i* PPP PPP 06 28 23.1
MNK *i* S **S** **06 33 11.1 -4.3**
MNK *i* 06 33 53.4
MNK *i* SS **SS** **06 37 50.4 -3.4**
MNK *i* SSS SSS 06 41 10.9
MNK pmax pmax
comp=Z,17nm,0.9s
MNK pmax pmax
comp=N,29nm,0.8s
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK MLR MLR
comp=E,28nm,18.0s
MNK MLR MLR
comp=Z,314nm,20.0s
MNK MLR MLR
comp=N,199nm,19.0s
MNK Minsk 72.62 347 *iP* **P** **06 23 49.6 -4.5**
comp=E,2.0nm,0.8s
MNK *iP* **P** **06 23 49.6 -4.5**
comp=N,29nm,0.8s
MNK *iP* **P** **06 23 49.6 -4.5**
comp=Z,17nm,0.8s,baz=15
MNK *i* PcP **pP** **06 24 06.9 +0.3**
MNK *i* PP **PP** **06 26 30.9 -4.3**
MNK *i* PPP PPP 06 28 23.1
MNK *i* S **S** **06 33 11.1 -4.3**
MNK *i* SS **SS** **06 37 50.5 -3.3**
MNK *i* SSS SSS 06 41 11.0
MNK *i* LQ LQ 06 50 44.9
MNK *i* LR LR 06 55 47.6
MNK *i* LRM MLR 06 57 55.0
comp=E,28nm,18.1s
MNK *i* LRM MLR 06 58 14.8
comp=Z,314nm,20.3s
MNK *i* LRM MLR 06 58 18.2
comp=N,199nm,18.8s
VRH Novokhopyorsk 73.08 337 *eP* **P** **06 23 56.0 -0.9**
VRH pmax pmax
comp=Z,10.0nm,1.1s
EKA Eskdalemuir Ar 73.17 5 P **P** **06 23 57.4 0.0**
UTTA Uttaradit 73.23 277 P **P** **06 24 00.7 +2.5**
BSD Bornholm Skovb 73.35 354 *iP* **P** **06 24 00.1 +1.6**
BSD Bornholm Skovb 73.35 354 *iP* **P** **06 24 00.0 +1.6**
CMMT Chiang Mai 73.41 279 P **P** **06 24 01.2 +1.8**
comp=Z,487nmcomp=Z,11nm,1.6s
CHTO Chiang Mai 73.41 279 P **P** **06 23 58.9 -0.5**
CHTO pmax pmax
comp=Z,12nm,1.1s
CHTO MLR MLR
comp=Z,300nm,19.0s
CHTO Chiang Mai 73.41 279 P **P** **06 24 01.3 +1.9**
comp=Z,11nm,1.4s
CHTO Chiang Mai 73.41 279 P **P** **06 23 58.9 -0.5**
CHTO Chiang Mai 73.41 279 IAMs_20 IAMs_20 06 56 44.7
comp=Z,260nm,19.0s
GAR Garm 73.57 313 P **P** **06 24 00.9 +0.8**

TAPN Taplejung 73.65 293 *eP* **P** **06 24 01.9 +0.9**
CM09 Chiang Mai Arr 73.66 279 P **P** **06 24 03.5 +2.6**
comp=Z,99nmcomp=Z,15nm,0.8s
VSR Storozhevoye 73.67 339 *eP* **P** **06 24 00.0 -0.3**
VSR pmax pmax
comp=Z,10.0nm,0.5s
CMAR Chiang Mai Arr 73.68 279 P **P** **06 24 01.6 +0.6**
comp=Z,8.9nm,0.9s,baz=28,slow=6.3,SNR=26
CMAR Chiang Mai Arr 73.68 279 P **P** **06 24 00.7 -0.3**
CM02 Chiang Mai Arr 73.70 279 P **P** **06 24 03.4 +2.4**
comp=Z,116nmcomp=Z,15nm,0.8s
CM15 Chiang Mai Arr 73.70 279 P **P** **06 24 04.4 +3.4**
comp=Z,14nm,0.8s
CM01 Chiang Mai Arr 73.70 279 P **P** **06 24 03.9 +2.8**
comp=Z,113nmcomp=Z,13nm,0.9s
CM04 Chiang Mai Arr 73.70 279 P **P** **06 24 03.6 +2.5**
comp=Z,16nm,1.0s
SUW Suwalki 73.71 349 *eP* **P** **06 24 00.1 -0.5**
SUW Suwalki 73.71 349 *eP* **P** **06 24 00.6 0.0**
CM05 Chiang Mai Arr 73.72 279 P **P** **06 24 03.6 +2.4**
comp=Z,103nmcomp=Z,12nm,0.9s
CM13 Chiang Mai Arr 73.73 279 P **P** **06 24 03.6 +2.4**
comp=Z,139nmcomp=Z,15nm,0.9s
PHIT Phitsanulok 73.73 277 P **P** **06 24 04.5 +3.3**
CHAI Chaiyaphum 73.74 275 P **P** **06 24 04.4 +3.1**
comp=Z,3μmcomp=Z,12nm,1.3s
VORD Divnogorie 73.87 339 *eP* **P** **06 24 01.4 -0.1**
VORD pmax pmax
comp=Z,20nm,1.3s
ODAN Odare 74.20 293 *eP* **P** **06 24 04.7 +0.5**
GUN Gumba 74.26 295 *eP* **P** **06 24 05.5 +0.8**
JIRN Jiri 74.28 295 *eP* **P** **06 24 05.7 +0.9**
comp=Z,244nm,0.9s
CHGR Chuyangaron 74.38 313 P **P** **06 24 05.4 +0.6**
MHMT Maesarieng 74.52 280 P **P** **06 24 08.9 +3.1**
RAMN Ramite 74.59 294 *eP* **P** **06 24 06.9 +0.5**
comp=Z,38nm,0.3s
KKN Kakani 74.69 295 *eP* **P** **06 24 08.1 +1.1**
BSEG Bad Segeberg 74.74 357 *eP* **P** **06 24 08.0 +1.5**
comp=Z,25nm,0.9s,baz=4.3,slow=5.5
PKI Pulchoki 74.79 295 *eP* **P** **06 24 08.5 +0.8**
comp=Z,182nm,1.2s
PKIN Phulchoki 74.79 295 *eP* **P** **06 24 08.1 +0.5**
comp=Z,163nm,1.2s
GKN Gorkha 74.89 296 *eP* **P** **06 24 08.6 +0.5**
DMN Daman 74.93 295 *eP* **P** **06 24 09.6 +1.2**
DANN Dangsing 75.11 297 *eP* **P** **06 24 10.7 +1.2**
comp=Z,258nm,0.9s
DZM Mont Dzumac 75.26 198 *eLR* LR 06 47 28.0
comp=Z,219nm,19.9s
UMPA Umpang Tak 75.44 278 P **P** **06 24 15.3 +4.1**
UTHA Uthaitani 75.57 277 P **P** **06 24 15.0 +3.1**
KOLN Koldanda 75.65 297 *eP* **P** **06 24 13.4 +0.9**
comp=Z,135nm,1.1s
PYUN Piuthan 75.73 297 *eP* **P** **06 24 14.0 +1.0**
comp=Z,277nm,1.0s
AKASG Malin Array Be 76.10 345 P **P** **06 24 13.3 -1.1**
comp=Z,3.5nm,0.5s,baz=17,slow=6.0,SNR=14
AKASG Malin Array Be 76.10 345 *ceP* **P** **06 24 13.1 -1.3**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKBB Malin Array Si 76.10 345 P **P** **06 24 13.7 -0.7**
AKBB pmax pmax
comp=Z,8.0nm,0.8s
AKBB Malin Array Si 76.10 345 P **P** **06 24 13.7 -0.7**
NRDL Niedersach Rie 76.19 357 *eP* **P** **06 24 16.0 +1.2**
comp=Z,11nm,0.9s,baz=4.3,slow=5.5
FLTG Flechtingen 76.32 356 *eP* **P** **06 24 16.3 +0.7**
comp=Z,13nm,0.8s,baz=4.3,slow=5.5
IBBN Ibbenburen 76.43 359 *eP* **P** **06 24 17.7 +1.4**
comp=Z,43nm,0.9s,baz=4.3,slow=5.5
NIL Nilore 76.48 307 P **P** **06 24 17.8 +0.9**
NIL pmax pmax
comp=Z,60nm,1.0s
NIL MLR MLR
comp=Z,400nm,20.0s
NIL Nilore 76.48 307 P **P** **06 24 17.8 +0.9**
ASSE Asse, Remlinge 76.54 357 *eP* **P** **06 24 17.6 +0.9**
comp=Z,8.9nm,0.9s,baz=4.3,slow=5.5
CLZ Clausthal 76.84 357 *eP* **P** **06 24 19.5 +0.9**
comp=Z,26nm,0.9s,baz=4.3,slow=5.5
GTTG Gottingen 77.15 357 *eP* **P** **06 24 21.1 +0.8**
comp=Z,31nm,1.0s,baz=4.3,slow=5.5
CLL Collm 77.26 355 *iP* **P** **06 24 20.7 -0.2**
comp=Z,18nm,0.9s
CLL *eP*cP **pP** **06 24 34.0 +0.4**
CLL *e* 06 24 41.0
CLL *eP*S **PnS** **06 34 54.0 +3.9**
CLL *eSS* SS 06 39 18.0 +14
CLL LmV 07 04 00.0
comp=Z,200nm,19.0s
CLL Collm 77.26 355 *iP* **P** **06 24 20.7 -0.2**
CLL *e*PP **sP** **06 24 36.0 -2.4**
CLL pmax pmax
comp=Z,18nm,0.9s
CLL Collm 77.26 355 *eP* **P** **06 24 21.6 +0.6**
comp=Z,10nm,0.8s,baz=4.3,slow=5.5
BUG Bochum--Univer 77.31 359 *eP* **P** **06 24 22.5 +1.3**
comp=Z,15nm,0.9s,baz=4.3,slow=5.5
NEUB Neuenburg 77.42 356 *eP* **P** **06 24 23.1 +1.3**
comp=Z,29nm,0.9s,baz=4.3,slow=5.5
PHET Kaeng Krachan 77.48 275 P **P** **06 24 26.7 +4.0**
KSP Ksiaz 77.51 353 *eP* **P** **06 24 22.9 +0.5**
KASTN Kahler Asten 77.53 358 *eP* **P** **06 24 23.8 +1.3**
comp=Z,8.1nm,0.9s,baz=4.3,slow=5.5
FBE Freiberg 77.62 355 *eP* **P** **06 24 24.3 +1.3**
comp=Z,16nm,0.8s,baz=4.3,slow=5.5
BRG Berggiesshubel 77.64 355 *eP* **P** **06 24 23.7 +0.6**
comp=Z,11nm,0.8s,baz=4.3,slow=5.5
BRG Berggiesshubel 77.64 355 *eP* **P** **06 24 23.6 +0.5**
BRG Amp 06 24 24.4
comp=Z,21nm,1.0s
BRG Berggiesshubel 77.64 355 P P 06 24 30.3 +7.2
BRG Amp 06 24 31.3
comp=Z,5.3nm,0.7s
BRG Berggiesshubel 77.64 355 P P 06 24 38.2 +15
BRG Amp 06 24 39.3
comp=Z,11nm,1.1s
CHVC Chvalec 77.78 353 *eP* **P** **06 24 24.3 +0.4**
KBL Kabul 77.79 311 P **P** **06 24 23.9 -0.6**
KBL pmax pmax
comp=Z,33nm,1.0s
KBL Kabul 77.79 311 P **P** **06 24 23.9 -0.6**
KBL IAmb IAmb 06 24 25.5
comp=Z,33nm,0.9s
TBI Tubuai 77.80 157 *eLR* LR 06 48 31.0
comp=Z,372nm,22.5s,baz=342
TBI Tubuai 77.80 157 *eT* T 07 48 53.3
comp=Z,7.9nm,0.3s
OSTC Ostas 77.80 353 *eP* **P** **06 24 24.8 +0.8**
OJC Ojcow 77.82 351 *eP* **P** **06 24 24.5 +0.4**
UPC Upice 77.87 353 AMS AMS 07 04 10.0
comp=Z,300nm,19.1s
MOX Moxa 77.99 356 *eP* **P** **06 24 25.7 +0.6**
comp=Z,14nm,0.9s,baz=4.3,slow=5.5
DPC Dobruska-Polom 78.00 353 *eP* **P** **06 24 25.4 +0.2**
DPC MLR MLR
comp=Z,200nm,18.3s
DPC Dobruska-Polom 78.00 353 *eP* **P** **06 24 25.4 +0.2**
DPC AMS AMS 07 03 20.0
comp=Z,200nm,18.3s
KWP Kalwaria Pacla 78.08 349 *eP* **P** **06 24 26.3 +0.7**
MEM Membach 78.15 360 *dP* **P** **06 24 26.5 +0.6**
comp=Z,20nm,1.0s
BTNL Ternell 78.17 360 *dP* **P** **06 24 27.2 +1.1**
BSTI Sart Tilman 78.18 360 *dP* **P** **06 24 27.0 +0.9**
TANN Tannenbergstha 78.18 355 *eP* **P** **06 24 26.8 +0.7**
comp=Z,7.5nm,1.0s,baz=4.3,slow=5.5
AHRW Bad Neuenahr-A 78.21 359 *eP* **P** **06 24 27.4 +1.2**
comp=Z,22nm,0.9s,baz=4.3,slow=5.5
GUNZ Gunzen 78.23 356 *eP* **P** **06 24 27.5 +1.0**
comp=Z,8.4nm,0.9s,baz=4.3,slow=5.5
KRLC Kraliky 78.24 353 *eP* **P** **06 24 26.9 +0.4**
KRLC Kraliky 78.24 353 *eP* **P** **06 24 26.9 +0.4**
SNF Seneffe 78.25 1 *dP* **P** **06 24 26.9 +0.5**
WERN Wernitzgruen 78.31 356 *eP* **P** **06 24 27.8 +1.0**
comp=Z,17nm,0.9s,baz=4.3,slow=5.5
BCLA Clavier 78.34 0 *bP* **P** **06 24 27.2 +0.2**
OKC Ostava-Krasne 78.36 352 AMS AMS 06 58 00.0
comp=Z,400nm,19.6s
NKC Novy Kostel 78.36 355 *eP* **P** **06 24 27.7 +0.6**
NKC Novy Kostel 78.36 355 *eP* **P** **06 24 27.7 +0.6**
BGES Gesves 78.38 0 *dP* **P** **06 24 27.7 +0.6**
BHOU Houvegnez 78.41 360 *dP* **P** **06 24 27.7 +0.3**
BMRD Maredsous 78.46 1 *dP* **P** **06 24 28.1 +0.5**
comp=Z,28nm,1.0s

MORC Moravsky Berou 78.47 352 *eP* **P** **06 24 27.8 0.0**
PRU Pruhonice 78.48 354 *eP* **P** **06 24 28.4 +0.6**
PRU MLR MLR
comp=Z,300nm,18.7s
PRU Pruhonice 78.48 354 *eP* **P** **06 24 28.4 +0.6**
PRU AMS AMS 07 04 30.0
comp=Z,300nm,18.7s
TNS Taunus Mts 78.51 358 *eP* **P** **06 24 29.2 +1.2**
comp=Z,22nm,0.8s,baz=4.3,slow=5.5
RCHB Rochefort 78.61 0 *dP* **P** **06 24 28.9 +0.4**
comp=Z,26nm,1.4s
MANZ Manzenberg 78.62 356 *eP* **P** **06 24 29.7 +1.1**
comp=Z,6.4nm,0.9s,baz=4.3,slow=5.5
GIVF Givet 78.66 0 *eP* **P** **06 24 29.6 +0.9**
GIVF pmax pmax
comp=Z,25nm,1.0s
DOU Dourbes 78.66 1 *dP* **P** **06 24 28.2 -0.6**
comp=Z,17nm,1.0s
BAIF Baives 78.70 1 *eP* **P** **06 24 29.1 +0.2**
BAIF pmax pmax
comp=Z,37nm,1.1s
SORM Soroca 78.73 345 ⇓P **P** **06 24 29.2 0.0**
PBCC Pribram 78.82 354 *eP* **P** **06 24 30.3 +0.6**
ROTZ Rotzenmuhle 78.84 356 *eP* **P** **06 24 31.0 +1.2**
comp=Z,6.8nm,0.9s,baz=4.3,slow=5.5
MILB Miltenberg 78.88 358 *eP* **P** **06 24 31.2 +1.2**
comp=Z,22nm,0.9s,baz=4.3,slow=5.5
LANS Liptovska Anna 78.91 351 *eP* **P** **06 24 31.5 +1.3**
LANS pmax pmax
comp=Z,6.0nm,1.1s
LANS Liptovska Anna 78.91 351 *eP* **P** **06 24 31.5 +1.3**
GRA1 Grafenberg Arr 78.95 356 P **P** **06 24 31.3 +0.9**
GRF Grafenberg Arr 78.95 356 P **P** **06 24 31.3 +0.9**
GRF pmax pmax
comp=Z,32nm,0.8s
GRF Grafenberg Arr 78.95 356 *eP* **P** **06 24 31.1 +0.7**
comp=Z,28nm,0.9s,baz=4.3,slow=5.5
GRFO Grafenberg 78.96 356 P **P** **06 24 30.8 +0.4**
GRFO pmax pmax
comp=Z,33nm,0.9s
GRFO Grafenberg 78.96 356 P **P** **06 24 30.8 +0.4**
GRFO IAmb IAmb 06 24 32.3
comp=Z,33nm,0.9s
VRAC Vranov 79.01 353 ⇑P **P** **06 24 31.9 +1.1**
VRAC Vranov 79.01 353 *eP* **P** **06 24 31.1 +0.4**
WLF Walferdange 79.10 360 *dP* **P** **06 24 32.0 +0.8**
comp=Z,13nm,0.9s
WLF Walferdange 79.10 360 *eP* **P** **06 24 32.7 +1.5**
comp=Z,13nm,0.8s,baz=4.3,slow=5.5
KRUC Moravsky 79.27 353 *eP* **P** **06 24 32.2 +0.1**
JAVC Velka Javorina 79.37 352 *eP* **P** **06 24 33.9 +1.2**
KHC Kasperske Hory 79.40 355 *eP* **P** **06 24 33.6 +0.7**
KHC *e* 06 24 46.5
KHC MLR MLR
comp=Z,300nm,17.9s
KHC Kasperske Hory 79.40 355 *eP* **P** **06 24 33.6 +0.7**
KHC *ep*P **pP** **06 24 46.5 +1.8**
KHC AMS AMS 07 05 40.0
comp=Z,300nm,17.9s
WET Wettzell 79.42 355 *eP* **P** **06 24 33.7 +0.7**
comp=Z,5.0nm,1.0s,baz=4.3,slow=5.5
KIV Kislovodsk 79.53 334 *eP* **P** **06 24 34.2 +0.5**
KIV pmax pmax
comp=Z,6.0nm,1.0s
MTN Manton Dam 79.57 234 P **P** **06 24 32.4 -1.7**
MTN IAmb IAmb 06 24 33.7
comp=Z,17nm,0.9s
VYHS Vyhne 79.62 351 *eP* **P** **06 24 34.9 +0.8**
VYHS Vyhne 79.62 351 *eP* **P** **06 24 34.9 +0.8**
CKRC Cesky Krumlov 79.66 354 *eP* **P** **06 24 34.5 +0.2**
GEC2 GERESS Array S 79.68 355 P **P** **06 24 34.5 +0.1**
GEC2 GERESS Array S 79.68 355 *eP* **P** **06 24 35.0 +0.5**
comp=Z,5.8nm,0.8s,baz=4.3,slow=5.5
GERES GERESS Array B 79.68 355 P **P** **06 24 34.6 +0.1**
comp=Z,5.1nm,0.8s,baz=20,slow=4.7,SNR=38
KBZ Khabaz 79.68 333 P **P** **06 24 34.7 +0.3**
comp=Z,2.5nm,0.8s,baz=31,slow=2.3,SNR=5.7
KBZ Khabaz 79.68 333 *ceP* **P** **06 24 35.2 +0.8**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
BUR08 Bucovina Ar. S 79.69 347 P **P** **06 24 34.6 0.0**
GEYT Alibeck 79.70 320 P **P** **06 24 36.1 +1.4**
comp=Z,112nm,0.8s,baz=12,slow=7.9,SNR=9.9
BURAR Bucovina Array 79.72 347 ⇑P **P** **06 24 34.9 +0.1**
BURAR Bucovina Array 79.72 347 P **P** **06 24 34.7 0.0**
SMOL Smolenice 79.73 352 *eP* **P** **06 24 35.7 +1.0**
SMOL pmax pmax
comp=Z,4.0nm,0.9s
SMOL Smolenice 79.73 352 *eP* **P** **06 24 35.6 +0.9**
SHA1 Shidzhatmaz 79.74 334 *iP* **P** **06 24 34.6 -0.5**
FLN La Foliniere 79.87 4 *eP* **P** **06 24 35.0 -0.3**
FLN pmax pmax
comp=Z,25nm,1.0s
STU Stuttgart 79.94 358 *eP* **P** **06 24 36.9 +1.1**
comp=Z,35nm,0.8s,baz=4.3,slow=5.5
LDF La Druitiere 80.05 4 *eP* **P** **06 24 35.8 -0.6**
LDF pmax pmax
comp=Z,23nm,0.9s
ROSF Rostrenen 80.14 6 *eP* **P** **06 24 40.8 +4.0**
ROSF pmax pmax
comp=Z,53nm,1.4s
GRR Gorron 80.22 4 *eP* **P** **06 24 37.0 -0.3**
GRR pmax pmax
comp=Z,29nm,1.0s
BIZ Bicaz 80.25 346 ⇓P **P** **06 24 37.6 +0.1**
SGMF Saint Gilles 80.27 5 *eP* **P** **06 24 37.3 -0.2**
SGMF pmax pmax
comp=Z,13nm,0.8s
CDF Champ du Feu 80.34 359 *eP* **P** **06 24 37.9 -0.1**
CDF pmax pmax
comp=Z,19nm,0.9s
ARCR ARCALIA 80.36 347 ⇑P **P** **06 24 39.6 +1.6**
SURA Surathani 80.36 273 P **P** **06 24 42.1 +3.6**
BFO Black Forest 80.41 358 *eP* **P** **06 24 39.3 +1.0**
comp=Z,10nm,0.8s,baz=4.3,slow=5.5
CONA Conrad Observa 80.44 353 *eP* **P** **06 24 39.6 +1.0**
comp=Z,17nm,1.3s,SNR=5.9
FUR Furstenfeldbru 80.48 356 *eP* **P** **06 24 39.4 +0.7**
comp=Z,12nm,0.7s,baz=4.3,slow=5.5
QUIF Quistinic 80.56 6 *eP* **P** **06 24 40.0 +0.9**
QUIF pmax pmax
comp=Z,33nm,1.3s
SOC Sochi 80.67 336 *eP* **P** **06 24 38.4 -1.3**
SOC *e* 06 27 40.5
SOC *e*PPP PPP 06 29 32.5
SOC *e*S **S** **06 34 45.0 +1.4**
SOC *e*SS **SS** **06 39 54.5 -1.1**
CLF Chambon-Foret 80.70 2 P **P** **06 24 39.8 0.0**
HAU Haudompre 80.75 359 *eP* **P** **06 24 40.1 -0.1**
HAU pmax pmax
comp=Z,27nm,0.8s
RJOB Jochberg 80.83 355 *eP* **P** **06 24 41.3 +0.6**
comp=Z,22nm,0.8s,baz=4.3,slow=5.5
DRGR 80.87 348 ⇓P **P** **06 24 41.0 +0.2**
HINF Hinteralfeld 80.94 359 *eP* **P** **06 24 40.9 -0.3**
HINF pmax pmax
comp=Z,11nm,0.7s
HRA Herat 81.01 316 P **P** **06 24 41.9 -0.1**
HRA IAmb IAmb 06 24 43.7
comp=Z,26nm,1.1s
UBR Ueberruh 81.01 357 *eP* **P** **06 24 42.4 +0.8**
comp=Z,9.5nm,1.1s,baz=4.3,slow=5.5
RETA Reutte 81.17 356 *iP* **P** **06 24 43.4 +0.9**
comp=Z,11nm,1.0s
VRI Vrincioaia 81.20 345 ⇓P **P** **06 24 44.6 +2.0**
VRI Vrincioaia 81.20 345 P **P** **06 24 46.3 +3.7**
PLOR Plostina 81.22 345 ⇑P **P** **06 24 44.8 +2.1**
WATA Walderalm 81.29 356 *iP* **P** **06 24 44.2 +1.0**
comp=Z,21nm,1.2s,SNR=5.6
COVR Voineasa-Covas 81.30 346 ⇓P **P** **06 24 44.5 +1.3**
MOTA Moosalm 81.30 356 *eP* **P** **06 24 44.2 +0.9**
comp=Z,17nm,1.1s,SNR=6.7
DOPR Dopca 81.31 346 ⇓P **P** **06 24 44.4 +1.2**
WTTA Wattenberg 81.36 356 *iP* **P** **06 24 44.8 +1.2**
comp=Z,21nm,1.1s
DAVA Damuels 81.41 357 *iP* **P** **06 24 45.0 +1.1**
comp=Z,6.9nm,1.0s
SQTA Sankt Quirin 81.42 356 *iP* **P** **06 24 45.0 +1.2**
comp=Z,9.9nm,0.9s
KBA Koelnbreinsper 81.46 355 *eP* **P** **06 24 45.6 +1.5**
comp=Z,37nm,1.1s
LOR Lormes 81.48 1 *eP* **P** **06 24 44.0 -0.1**
LOR pmax pmax
comp=Z,35nm,1.0s
CFR Carcaliu 81.63 344 ⇓P **P** **06 24 45.6 +0.8**

FETA	**Feichten**	**81.64**	**356**	*e*P	**P**	**06 24 46.2**	**+1.1**
	comp=Z,14nm,0.9s,SNR=6.4						
MLR	**Muntele Rosu**	**81.69**	**346**	⇑P	**P**	**06 24 47.0**	**+1.7**
MLR	**Muntele Rosu**	**81.69**	**346**	P	**P**	**06 24 45.0**	**-0.3**
MLR				pmax	pmax		
	comp=Z,11nm,0.9s						
MLR	**Muntele Rosu**	**81.69**	**346**	P	**P**	**06 24 45.0**	**-0.3**
MLR				IAmb	IAmb	06 24 48.3	
	comp=Z,11nm,0.9s						
SSF	**Saint Saulge**	**81.69**	**1**	*e*P	**P**	**06 24 45.1**	**0.0**
SSF				pmax	pmax		
	comp=Z,27nm,0.8s						
SOKA	**Soboth**	**81.75**	**353**	*e*P	**P**	**06 24 46.2**	**+0.7**
	comp=Z,22nm,1.0s,SNR=6.9						
ABTA	**Abfaltersbach**	**81.83**	**355**	*e*P	**P**	**06 24 46.7**	**+0.7**
	comp=Z,14nm,1.3s						
VOIR		**81.87**	**346**	⇑P	**P**	**06 24 47.4**	**+1.2**
TPGR	**Topolog**	**81.90**	**344**	⇓P	**P**	**06 24 46.3**	**0.0**
JURR	**Jurilovca**	**81.90**	**343**	⇑P	**P**	**06 24 47.5**	**+1.2**
ARR	**Arges**	**82.00**	**347**	⇑P	**P**	**06 24 48.4**	**+1.5**
MFF	**Saint Martin d**	**82.04**	**4**	*e*P	**P**	**06 24 47.0**	**0.0**
MFF				pmax	pmax		
	comp=Z,33nm,0.9s						
SMF	**Signal de Mont**	**82.11**	**1**	*e*P	**P**	**06 24 47.3**	**-0.1**
SMF				pmax	pmax		
	comp=Z,43nm,1.0s						
HARR	**Harsova**	**82.14**	**344**	⇓P	**P**	**06 24 47.8**	**+0.3**
BGF	**Bois d'Agland**	**82.18**	**2**	*e*P	**P**	**06 24 47.7**	**0.0**
BGF				pmax	pmax		
	comp=Z,33nm,1.0s						
GZR	**Gura Zlata**	**82.23**	**348**	⇓P	**P**	**06 24 48.7**	**+0.6**
TIRR	**Tirgusor**	**82.28**	**344**	⇑P	**P**	**06 24 49.7**	**+1.4**
TIRR	**Tirgusor**	**82.28**	**344**	P	**P**	**06 24 49.4**	**+1.1**
TIRR				pmax	pmax		
	comp=Z,70nm,0.9s						
GNI	**Garni**	**82.43**	**331**	IAMs_20	IAMs_20	07 08 06.0	
	comp=Z,332nm,18.0s						
TCF	**Toulx Ste Croi**	**82.43**	**2**	*e*P	**P**	**06 24 48.9**	**-0.2**
TCF				pmax	pmax		
	comp=Z,16nm,0.9s						
HERR	**Herculane**	**82.78**	**348**	⇑P	**P**	**06 24 51.2**	**+0.3**
MDVR	**Moldovita**	**82.97**	**348**	⇑P	**P**	**06 24 52.7**	**+0.7**
LPL	**La Plagne**	**83.24**	**359**	*e*P	**P**	**06 24 57.1**	**+3.6**
LPL				pmax	pmax		
	comp=Z,36nm,1.8s						
LPG	**La Plagne**	**83.26**	**359**	*e*P	**P**	**06 24 54.7**	**+1.0**
LPG				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BNI	**Bardonecchia**	**83.71**	**359**	P	**P**	**06 24 57.4**	**+1.5**
BNI				pmax	pmax		
	comp=Z,22nm,1.0s						
BNI	**Bardonecchia**	**83.71**	**359**	P	**P**	**06 24 57.4**	**+1.5**
BNI				IAmb	IAmb	06 24 58.7	
	comp=Z,22nm,1.0s						
BNI				IAMs_20	IAMs_20	07 07 38.5	
	comp=Z,229nm,19.0s						
LFF	**La Frestale**	**83.73**	**3**	*e*P	**P**	**06 24 56.0**	**+0.2**
LFF				pmax	pmax		
	comp=Z,46nm,1.1s						
CAF	**Calviac**	**83.79**	**2**	*e*P	**P**	**06 24 56.4**	**+0.3**
CAF				pmax	pmax		
	comp=Z,31nm,1.2s						
ORIF	**Oris-en-Rattie**	**83.84**	**360**	*e*P	**P**	**06 24 58.4**	**+1.9**
ORIF				pmax	pmax		
	comp=Z,15nm,1.0s						
DIVS	**Divibare**	**83.85**	**350**	IAMs_20	IAMs_20	07 03 17.3	
	comp=Z,287nm,22.0s						
VIVF	**Saint-Julien-l**	**83.91**	**1**	*e*P	**P**	**06 24 58.4**	**+1.7**
VIVF				pmax	pmax		
	comp=Z,13nm,0.8s						
MBDF	**Montbardon**	**84.03**	**359**	*e*P	**P**	**06 24 58.4**	**+0.9**
MBDF				pmax	pmax		
	comp=Z,25nm,1.2s						
WRA	**Warramunga Arr**	**84.13**	**227**	P	**P**	**06 24 56.1**	**-1.9**
	comp=Z,1.6nm,0.7s,baz=34,slow=5.5,SNR=14						
WRA				LR	LR	06 59 08.5	
	comp=Z,106nm,20.6s,baz=150,slow=33						
WRA	**Warramunga Arr**	**84.13**	**227**	*ce*P	**P**	**06 24 57.0**	**-1.0**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILGA	**Ilgaz**	**84.50**	**339**	P	**P**	**06 24 60.0**	**-0.1**
ILGA				IAmb	IAmb	06 25 02.4	
	comp=Z,17nm,1.1s						
SBF	**Sospel**	**84.89**	**359**	*e*P	**P**	**06 25 01.7**	**0.0**
SBF				pmax	pmax		
	comp=Z,29nm,0.9s						
VTS	**Vitosha**	**84.90**	**347**	⇑P	**P**	**06 25 02.3**	**+0.3**
VTS	**Vitosha**	**84.90**	**347**	P	**P**	**06 25 01.7**	**-0.2**
VTS				pmax	pmax		
	comp=Z,11nm,0.9s						
VTS	**Vitosha**	**84.90**	**347**	P	**P**	**06 25 01.7**	**-0.2**
VTS				IAmb	IAmb	06 25 03.1	
	comp=Z,11nm,0.9s						
FRF	**La Foret Royal**	**85.20**	**359**	*e*P	**P**	**06 25 03.3**	**+0.1**
FRF				pmax	pmax		
	comp=Z,24nm,1.0s						
MTLF	**Montolieu**	**85.38**	**2**	*e*P	**P**	**06 25 04.5**	**+0.4**
MTLF				pmax	pmax		
	comp=Z,31nm,1.1s						
LMR	**La Mourre**	**85.43**	**359**	*e*P	**P**	**06 25 04.6**	**+0.3**
LMR				pmax	pmax		
	comp=Z,47nm,1.2s						
SJPF	**Ste Jean**	**85.47**	**5**	*e*P	**P**	**06 25 05.2**	**+0.6**
SJPF				pmax	pmax		
	comp=Z,13nm,1.2s						
PDG	**Podgorica**	**85.58**	**350**	⇓P	**P**	**06 25 05.2**	**+0.1**
PDG	**Podgorica**	**85.58**	**350**	P	**P**	**06 25 04.7**	**-0.4**
PDG				IAmb	IAmb	06 25 08.0	
	comp=Z,16nm,0.9s						
PDG				IAMs_20	IAMs_20	07 06 38.0	
	comp=Z,290nm,21.0s						
EPF	**Esparros**	**85.62**	**4**	*e*P	**P**	**06 25 04.8**	**-0.6**
EPF				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ETSF	**Etsaut**	**85.72**	**5**	*e*P	**P**	**06 25 06.9**	**+1.0**
ETSF				pmax	pmax		
	comp=Z,17nm,1.0s						
BR131	**Keskin Array S**	**85.79**	**339**	P	**P**	**06 25 06.4**	**0.0**
BR131				pmax	pmax		
	comp=Z,15nm,1.3s						
BR131	**Keskin Array S**	**85.79**	**339**	P	**P**	**06 25 06.4**	**0.0**
BR131				IAmb	IAmb	06 25 07.6	
	comp=Z,16nm,1.2s						
BRTR	**Keskin Array B**	**85.79**	**339**	P	**P**	**06 25 06.0**	**-0.4**
	comp=Z,3.2nm,0.9s,baz=45,slow=1.9,SNR=16						
BRTR	**Keskin Array B**	**85.79**	**339**	*ce*P	**P**	**06 25 06.8**	**+0.4**
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BNN	**Bunyan**	**86.10**	**337**	P	**P**	**06 25 08.6**	**+0.6**
AQU	**L'Aquila**	**86.16**	**354**	IAMs_20	IAMs_20	07 10 45.4	
	comp=Z,162nm,20.0s						
MARD	**Mardin**	**86.23**	**333**	P	**P**	**06 25 09.7**	**+1.1**
MARD				IAmb	IAmb	06 25 10.3	
	comp=Z,26nm,1.1s						
HYB	**Hyderabad**	**86.65**	**294**	*i* P	**P**	**06 25 10.0**	**-0.8**
HYB				*e*sP	**pP**	**06 25 23.5**	**+0.9**
GCPR	**Guaynabo City**	**86.70**	**65**	P	**P**	**06 25 10.2**	**-0.8**
GCPR				IAmb	IAmb	06 25 29.6	
	comp=Z,14nm,0.8s						
SJG	**San Juan**	**86.82**	**65**	IAMs_20	IAMs_20	07 06 40.0	
	comp=Z,292nm,20.0s						
ASAR	**Alice Springs**	**87.56**	**226**	P	**P**	**06 25 13.7**	**-1.3**
	comp=Z,3.0nm,0.8s,baz=31,slow=4.6,SNR=32						
ISP	**Isparta**	**88.29**	**340**	IAMs_20	IAMs_20	07 08 29.5	
	comp=Z,168nm,20.0s						
POO	**Poona**	**88.39**	**298**	*e*P	**P**	**06 25 17.0**	**-2.2**
SMRT	**St. Maarten**	**88.59**	**62**	IAMs_20	IAMs_20	07 06 58.8	
	comp=Z,301nm,21.0s						
ESDC	**Sonseca Array**	**88.71**	**7**	P	**P**	**06 25 19.8**	**-0.6**
	comp=Z,6.5nm,0.9s,baz=350,slow=4.6,SNR=30						
TIP	**Timpagrande**	**89.05**	**351**	P	**P**	**06 25 21.4**	**-0.6**
TIP				IAmb	IAmb	06 25 23.2	
	comp=Z,24nm,1.5s						
TIP				IAMs_20	IAMs_20	07 08 29.0	
	comp=Z,224nm,20.0s						
DABV	**Dabajuro**	**89.94**	**73**	*e*P	P	06 25 40.1	+14
OCAC	**Ocana**	**90.44**	**76**	*e*P	**P**	**06 25 28.7**	**-0.3**
SANT	**Santorini**	**90.66**	**344**	IAMs_20	IAMs_20	07 09 02.6	
	comp=Z,188nm,21.0s						
CBOC	**Ciudad Bolivar**	**90.66**	**80**	*e*P	**P**	**06 25 29.1**	**-0.9**
CLTB	**Caltabellotta**	**90.93**	**354**	IAMs_20	IAMs_20	07 11 51.5	
	comp=Z,157nm,19.0s						
PTBC	**PUERTO BERRIO,**	**91.09**	**78**	*e*P	**P**	**06 25 30.9**	**-0.9**
GUY2C	**Guyana, Caldas**	**91.56**	**80**	*e*P	**P**	**06 25 32.5**	**-2.0**
STKA	**Stephens Creek**	**91.67**	**216**	P	**P**	**06 25 33.9**	**0.0**
	comp=Z,2.1nm,0.7s,baz=351,slow=5.7,SNR=4.4						
BARC	**Barichara**	**91.82**	**77**	*e*P	**P**	**06 25 34.0**	**-1.4**
YOTC	**Yotoco, Valle**	**91.93**	**81**	*e*P	**P**	**06 25 35.1**	**-0.8**
TOLC	**Tolima**	**92.09**	**80**	*e*P	**P**	**06 25 37.2**	**+0.4**
ORTC	**Ortega, Tolima**	**92.66**	**80**	*e*P	**P**	**06 25 37.9**	**-1.2**
GHAJ	**Ghor Haditha**	**93.32**	**335**	IAMs_20	IAMs_20	07 14 32.1	
	comp=Z,210nm,20.0s						
TORD	**Torodi Ar. Bea**	**115.42**	**4**	PKhKP	PKPpre	06 31 05.0	
	comp=Z,1.4nm,0.7s,baz=257,slow=4.6,SNR=8.8						
TORD				PKKPab	**PKKPab**	**06 41 56.0**	**+5.3**
	comp=Z,1.0nm,1.0s,baz=208,slow=4.9,SNR=3.5						
TORD	**Torodi Ar. Bea**	**115.42**	**4**		**PKiKP**	**06 31 06.5**	**-2.4**
KMBO	**Kilima Mbogo**	**123.07**	**321**	PKP	**PKPdf**	**06 31 23.5**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=114,slow=20,SNR=4.1						
CPUP	**Villa Florida**	**126.86**	**87**	PKP	**PKPdf**	**06 31 29.6**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=14,slow=4.2,SNR=3.7						
PLCA	**Paso Flores**	**128.46**	**110**	PKP	**PKPdf**	**06 31 32.6**	**-0.5**
	comp=Z,1.7nm,0.9s,baz=241,slow=7.0,SNR=4.1						
MAW	**Mawson**	**148.34**	**218**	PKPbc	**PKPbc**	**06 32 11.7**	**0.0**
	comp=Z,3.5nm,0.7s,baz=103,slow=7.1,SNR=8.8						
BOSA	**Boshof**	**152.70**	**320**	PKPbc	**PKPbc**	**06 32 23.1**	**-0.5**
	comp=Z,5.5nm,0.5s,baz=31,slow=0.5,SNR=14						
BOSA				PKPab	**PKPab**	**06 32 34.6**	**+0.3**
	comp=Z,20nm,0.8s,baz=37,slow=4.4,SNR=13						
SYO	**Syowa Base**	**156.28**	**210**	⇑*e*PKPdf	**PKPdf**	**06 32 19.8**	**-0.1**
SYO	**Syowa Base**	**156.28**	**210**	⇓*e*pPKPdf	pPKPdf	06 32 29.4	-2.9
VNA3	**Neumayer Olymp**	**159.13**	**166**	PKPdf	**PKPdf**	**06 32 21.2**	**-2.2**
VNA2	**Neumayer--Watz**	**159.74**	**168**	PKPdf	**PKPdf**	**06 32 23.3**	**-0.9**

*IDC **05** 06:17:20.5±1.6, 29°.25N×141°.50E, h386km±94km, mb3.4/3, mb1 3.4/4, mb1mx2.9/39, mbtmp4.1/4, Error ellipse: s-maj=191.6km s-min=75.3km az=2.0*
*JMA **05** 06:17:21.0±0.1, 27°.54N×140°.38E, h429km, M3.7*
ISC 05 06:17:17.9±1.8**, 27°.3N**±0°.3×**139°.5E**±0°.2**, h400**km**, n7, σ1ˢ.85**/10**, mb3.6**/3**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.44**	**93**	P	**Pn**	**06 18 18.1**	**+1.4**
CBIJ				*e*S	**S**	**06 19 03.1**	**-1.2**
JCJ	**Chichijima**	**2.44**	**93**	P	**Pn**	**06 18 18.2**	**+1.4**
	14nm,0.3s,baz=350,slow=19,SNR=101						
JCJ				S	**S**	**06 19 02.2**	**-2.1**
	26nm,0.3s,baz=274,slow=22,SNR=9.0						
JHH2	**Haha-jima-NKT2**	**2.50**	**104**	P	**Pn**	**06 18 19.1**	**+1.9**
JHH2				*e*S	**S**	**06 19 04.5**	**-0.7**
JAG	**Ashikaga**	**9.14**	**360**	P	**P**	**06 19 26.8**	**+1.0**
ZALV	**Zalesovo Beam**	**47.78**	**319**	P	**P**	**06 25 17.4**	**+0.9**
	0.8nm,0.3s,baz=101,slow=7.6,SNR=3.3						
ARCES	**ARCESS Array B**	**72.58**	**340**	P	**P**	**06 28 00.1**	**-2.2**
	1.6nm,1.0s,baz=44,slow=6.6,SNR=1.1						
FINES	**FINESS Array B**	**76.72**	**333**	P	**P**	**06 28 24.1**	**-1.8**
	1.2nm,0.4s,baz=68,slow=5.6,SNR=14						

*SKO **05** 06:19:24.9, 40°.75N×21°.24E, h15km*
*TIR **05** 06:19:26.1, 40°.78N×21°.20E, h11km±1km, Md2.8, Ml3.0*
*BEO **05** 06:19:27.6±0.3, 40°.82N×21°.30E, h0km, ML2.5/6*
*ATH **05** 06:19:27.5, 40°.74N×21°.26E, h8km±2km, ML2.8/8, Error ellipse: s-maj=3.1km s-min=0.8km az=173.0*
*THE **05** 06:19:27.5, 40°.74N×21°.24E, h3km, ML2.9/7, Error ellipse: s-maj=0.9km s-min=0.4km az=177.0*
*PDG **05** 06:19:28.1±0.3, 40°.78N×21°.27E, h10km, ML3.0/12, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
*SOF **05** 06:19:32.1, 40°.95N×21°.34E, h20km, MD2.8*
ISC 05 06:19:27.0±1.0**, 40°.74N**±0°.02×**21°.26E**±0°.02**, h8**km±9km**, n99, σ1ˢ.40**/147**, 4C-9D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEST	**Nestorio**	**0.36**	**206**	P	**Pg**	**06 19 34.1**	**0.0**
NEST				S	**Sg**	**06 19 39.3**	**+0.4**
	7µm,0.3s						
NEST	**Nestorio**	**0.36**	**206**	P	**Pg**	**06 19 34.1**	**0.0**
NEST				S	**Sg**	**06 19 39.8**	**+0.8**
NEST				AML	AML	06 19 40.5	
	comp=N,15361µm,0.3s						
NEST				AML	AML	06 19 40.5	
	comp=E,18436µm,0.3s						
KBN	**Korca**	**0.38**	**252**	P	**Pg**	**06 19 33.8**	**-0.6**
	baz=245						
KBN				S	**Sg**	**06 19 38.9**	**-0.4**
	baz=245						
KBN				AMP			
	comp=E,3.7nm,0.5s,baz=245						
OHR	**Ohrid**	**0.51**	**317**	*i* Pg	**Pg**	**06 19 36.5**	**-0.3**
OHR				*i* Sg	**Sg**	**06 19 44.6**	**+1.1**
OHR				*e*Lg	Lg	06 19 44.8	
	comp=N,246nm,0.5s						
OHR				*e*Lg	Lg	06 19 45.4	
	comp=E,780nm,0.4s						
PENT	**Pentalofos**	**0.55**	**190**	P	**Pg**	**06 19 37.9**	**+0.2**
PENT				S	**Sb**	**06 19 45.9**	**-1.2**
	comp=E,1µm,0.5s						
PENT	**Pentalofos**	**0.55**	**190**	P	**Pg**	**06 19 37.9**	**+0.2**
PENT				S	**Sb**	**06 19 45.9**	**-1.2**
PENT				AML	AML	06 19 48.7	
	comp=N,1860µm,0.5s						
PENT				AML	AML	06 19 50.7	
	comp=E,3173µm,0.5s						
KZN	**Kozani**	**0.58**	**138**	P	**Pb**	**06 19 38.7**	**-0.8**
KZN				S	**Sb**	**06 19 47.6**	**-0.4**
	comp=E,4µm,0.2s						
KZN	**Kozani**	**0.58**	**138**	P	**Pb**	**06 19 38.7**	**-0.8**
KZN				S	**Sb**	**06 19 46.8**	**-1.1**
KZN				AML	AML	06 19 49.2	
	comp=N,9589µm,0.2s						
KZN				AML	AML	06 19 50.9	
	comp=E,5612µm,0.4s						
LSK	**Leskovik**	**0.78**	**221**	P	**Pg**	**06 19 41.5**	**-0.4**
	baz=217						
LSK				S	**Sb**	**06 19 53.1**	**-0.5**
	baz=217						
LSK				AMP			
	comp=E,2.5nm,0.7s,baz=217						
KPRO	**Kipourio**	**0.79**	**174**	P	**Pg**	**06 19 42.1**	**0.0**
KPRO				S	**Sb**	**06 19 54.0**	**+0.1**
	comp=E,1µm,0.4s						
KPRO	**Kipourio**	**0.79**	**174**	P	**Pg**	**06 19 42.1**	**0.0**
KPRO				S	**Sg**	**06 19 52.7**	**+0.3**
KPRO				AML	AML	06 19 58.6	
	comp=E,2219µm,0.5s						
KPRO				AML	AML	06 20 00.3	
	comp=N,2311µm,0.3s						
JAN	**Janina**	**1.13**	**196**	P	**Pb**	**06 19 48.6**	**-0.2**
JAN	**Janina**	**1.13**	**196**	P	**Pb**	**06 19 48.6**	**-0.2**
PHP	**Peshkopia**	**1.13**	**327**	P	**Pg**	**06 19 46.9**	**-1.8**
	baz=329						
PHP				S	**Sg**	**06 20 03.1**	**-0.2**
	baz=329						
PHP				AMP			
	comp=N,1.1nm,0.5s,baz=329						
LIT	**Litokhoron**	**1.14**	**124**	P	**Pn**	**06 19 49.0**	**-0.3**
LIT				S	**Sn**	**06 20 05.5**	**+0.4**
	comp=N,580nm,0.4s						
LIT	**Litokhoron**	**1.14**	**124**	P	**Pn**	**06 19 49.0**	**-0.3**
LIT				S	**Sn**	**06 20 04.0**	**-1.1**
LIT				AML	AML	06 20 09.8	
	comp=E,1181µm,0.5s						
LIT				AML	AML	06 20 10.7	
	comp=N,842µm,0.3s						
LIT	**Litokhoron**	**1.14**	**124**	*i* Pg	**Pn**	**06 19 49.2**	**-0.1**
VAY	**Valandovo**	**1.15**	**59**	*e*Pg	**Pg**	**06 19 48.8**	**-0.3**
VAY				*e*Sg	**Sg**	**06 20 03.1**	**-0.9**
VAY	**Valandovo**	**1.15**	**59**	*i* Pg	**Pb**	**06 19 49.0**	**-0.2**
VAY				*i* Sg	**Sn**	**06 20 05.8**	**+0.4**
VAY				*e*Lg	Lg	06 20 06.3	
	comp=N,47nm,0.6s						
VAY				*e*Lg	Lg	06 20 07.8	
	comp=E,46nm,0.6s						
STIP	**Stip**	**1.18**	**36**	*i* Pg	**Pn**	**06 19 52.7**	**+2.8**
STIP				*i* Sg	**Sn**	**06 20 11.6**	**+5.3**
TIR	**Tirane**	**1.22**	**300**	P	**Pn**	**06 19 50.0**	**-0.4**
TIR	**Tirane**	**1.22**	**300**	P	**Pn**	**06 19 49.9**	**-0.4**
TIR	**Tirane**	**1.22**	**300**	P	**Pn**	**06 19 49.1**	**-1.3**
	baz=300						
TIR				S	**Sb**	**06 20 05.6**	**-0.6**
	baz=300						
TIR				AMP			
	comp=N,0.5nm,0.6s,baz=300						
TIR	**Tirane**	**1.22**	**300**	*i* Pg	**Pn**	**06 19 50.5**	**+0.1**
SKO	**Skopje**	**1.24**	**6**	*i* Pg	**Pg**	**06 19 51.1**	**+0.3**
SKO				*i* Sg	**Sn**	**06 20 07.4**	**-0.2**
SRN	**Sarande**	**1.29**	**229**	P	**Pg**	**06 19 51.9**	**+0.2**
	baz=227						
SRN				S	**Sn**	**06 20 09.5**	**+0.7**
	baz=227						
SRN				AMP			
	comp=N,1.0nm,0.7s,baz=227						
THE	**Thessaloniki**	**1.30**	**94**	P	**Pg**	**06 19 51.8**	**-0.2**
THE	**Thessaloniki**	**1.30**	**94**	P	**Pg**	**06 19 51.8**	**-0.2**
THE				S	**Sn**	**06 20 08.9**	**-0.2**
THE				AML	AML	06 20 14.8	
	comp=E,190µm,0.4s						
THE				AML	AML	06 20 15.6	
	comp=N,276µm,0.5s						
THE	**Thessaloniki**	**1.30**	**94**	P	**Pg**	**06 19 52.1**	**+0.2**
	baz=95						
IGT	**Igoumenitsa**	**1.40**	**211**	*e*Pn	**Pg**	**06 19 54.5**	**+0.7**
IGT				*e*Sn	**Sg**	**06 20 16.7**	**+4.7**
IGT	**Igoumenitsa**	**1.40**	**211**	P	**Pn**	**06 19 53.0**	**+0.1**
IGT	**Igoumenitsa**	**1.40**	**211**	P	**Pb**	**06 19 53.4**	**0.0**
HORT	**Hortiatis**	**1.41**	**95**	P	**Pg**	**06 19 53.6**	**-0.4**
HORT				S	**Sg**	**06 20 13.1**	**+0.9**
	comp=N,115nm,0.5s						
HORT	**Hortiatis**	**1.41**	**95**	P	**Pg**	**06 19 53.6**	**-0.4**
HORT				S	**Sg**	**06 20 11.9**	**-0.3**
HORT				AML	AML	06 20 18.3	
	comp=N,299µm,0.6s						
HORT				AML	AML	06 20 19.2	
	comp=E,171µm,0.3s						
KEK	**Kerkira**	**1.52**	**228**	P	**Pn**	**06 19 54.5**	**0.0**
KEK				S	**Sg**	**06 20 15.5**	**-0.3**
	comp=E,162nm,0.7s						
KEK	**Kerkira**	**1.52**	**228**	P	**Pb**	**06 19 55.1**	**-0.3**
KEK				S	**Sg**	**06 20 15.5**	**-0.3**
KEK				AML	AML	06 20 23.0	
	comp=N,275µm,0.6s						
KEK				AML	AML	06 20 27.4	
	comp=E,360µm,0.8s						
SOH	**Sokhos**	**1.59**	**86**	P	**Pb**	**06 19 56.7**	**0.0**
SOH	**Sokhos**	**1.59**	**86**	*i* Pg	**Pg**	**06 19 56.8**	**-0.7**
SOH				*i* Sg	**Sg**	**06 20 18.6**	**+0.4**
PLG	**Polygyros**	**1.71**	**102**	P	**Pb**	**06 19 57.6**	**-1.1**
PLG	**Polygyros**	**1.71**	**102**	P	**Pb**	**06 19 58.2**	**-0.5**
KKB	**Krupnik**	**1.78**	**50**	*i* P	**Pg**	**06 20 01.1**	**0.0**
SRS	**Serrai**	**1.81**	**77**	*e*Pn	**Pn**	**06 19 58.0**	**-0.5**
SRS				*e*Sn	**Sb**	**06 20 22.7**	**-0.5**
SRS	**Serrai**	**1.81**	**77**	*i* Pn	**Pn**	**06 19 58.6**	**+0.1**
BCI	**Bajram Curri**	**1.85**	**332**	P	**Pb**	**06 20 01.0**	**-0.2**
	baz=333						
BCI				AMP			
	comp=E,0.6nm,0.5s,baz=333						
ULC	**Ulcinj**	**1.95**	**310**	⇓*i*Pn	**Pb**	**06 20 02.0**	**-0.8**
ULC				*i* Sn	**Sb**	**06 20 28.8**	**+1.5**
TSLK	**Tsoukalades, L**	**1.97**	**194**	P	**Pb**	**06 20 03.0**	**-0.1**
BOSS	**Bosilegrad**	**1.98**	**27**	*e*Pn	**Pn**	**06 20 01.5**	**+0.6**
BOSS				*e*Sn	**Sn**	**06 20 25.3**	**-0.6**
XOR	**Xorichti**	**2.02**	**132**	P	**Pn**	**06 20 02.0**	**+0.6**
XOR	**Xorichti**	**2.02**	**132**	P	**Pn**	**06 20 02.0**	**+0.6**
MMB	**Musomiste**	**2.05**	**65**	*i* P	**Pg**	**06 20 05.1**	**-1.2**
PVY	**Plav**	**2.09**	**333**	⇓*i*Pn	**Pn**	**06 20 03.8**	**+1.2**
PVY				*i* Sn	**Sb**	**06 20 32.1**	**+0.5**
BARS	**Barje**	**2.12**	**11**	*e*Pn	**Pn**	**06 20 01.5**	**-1.3**
BARS				*e*Sn	**Sn**	**06 20 29.1**	**-0.2**
BARS	**Barje**	**2.12**	**11**	*i* Pn	**Pn**	**06 19 59.7**	**-3.1**
DRME	**Dracevica, Mon**	**2.13**	**314**	*e*Pn	**Pn**	**06 20 04.5**	**+1.6**
DRME	**Dracevica, Mon**	**2.13**	**314**	⇑*i*Pn	**Pn**	**06 20 04.3**	**+1.4**
DRME				*i* Sn	**Sb**	**06 20 32.5**	**+0.1**
PDG	**Podgorica**	**2.26**	**319**	*e*Pn	**Pb**	**06 20 06.7**	**-1.4**
TTG	**Podgorica**	**2.26**	**319**	⇑*i*Pn	**Pb**	**06 20 06.7**	**-1.4**
TTG				*i* Sn	**Sb**	**06 20 36.0**	**-0.2**
IVA	**Berane**	**2.36**	**335**	⇓*i*Pn	**Pn**	**06 20 07.5**	**+1.3**
IVA				*i* Sn	**Sb**	**06 20 38.1**	**-1.2**
BUM	**Brajici-Budva**	**2.36**	**312**	⇓*i*Pn	**Pn**	**06 20 08.0**	**+1.8**
BUM				*i* Sn	**Sb**	**06 20 38.4**	**-0.9**
VTS	**Vitosha**	**2.39**	**38**	*i* P	**Pb**	**06 20 09.0**	**-1.4**
VTS	**Vitosha**	**2.39**	**38**	*i* Pn	**Pn**	**06 20 07.8**	**+1.1**
KOME	**Kolasin**	**2.48**	**329**	⇓*i*Pn	**Pn**	**06 20 09.3**	**+1.5**
KOME				*i* Sn	**Sb**	**06 20 40.8**	**-1.8**
SELS	**Selova**	**2.48**	**358**	*e*Pn	**Pn**	**06 20 07.4**	**-0.4**
CEME	**Cevo**	**2.52**	**317**	⇓*i*Pn	**Pn**	**06 20 10.0**	**+1.7**
CEME				*i* Sn	**Sb**	**06 20 42.3**	**-1.4**
NKME	**Niksic**	**2.66**	**320**	⇑*i*Pn	**Pn**	**06 20 11.7**	**+1.4**
NKME				*i* Sn	**Sb**	**06 20 45.8**	**-2.0**
NKY	**Niksic**	**2.68**	**321**	⇓*i*Pn	**Pn**	**06 20 11.6**	**+1.1**
NKY				*i* Sn	**Sn**	**06 20 45.9**	**+2.7**
HCY	**Herceg Novi**	**2.69**	**310**	*e*Pn	**Pn**	**06 20 06.8**	**-3.8**
HCY	**Herceg Novi**	**2.69**	**310**	⇓*i*Pn	**Pn**	**06 20 12.0**	**+1.4**
HCY				*e*Sn	**Sn**	**06 20 46.2**	**+2.9**
SJES	**Sjenica**	**2.69**	**340**	*e*Pn	**Pn**	**06 20 11.5**	**+0.7**
ZAPS	**Zavoj**	**2.73**	**22**	*e*Pn	**Pn**	**06 20 12.1**	**+0.9**
RZN	**Rozhen**	**2.77**	**69**	*i* P	**Pb**	**06 20 16.3**	**-0.7**
BOVS	**Bovan**	**2.91**	**6**	*e*Pn	**Pn**	**06 20 13.3**	**-0.4**
IVAS	**Ivanjica**	**2.95**	**344**	*e*Pn	**Pn**	**06 20 13.9**	**-0.4**
BRY	**Bratogost**	**2.97**	**318**	*e*Pn	**Pn**	**06 20 16.2**	**+1.6**
BRY	**Bratogost**	**2.97**	**318**	⇓*i*Pn	**Pn**	**06 20 16.0**	**+1.4**
BRY				*e*Sn	**Sn**	**06 20 53.1**	**+2.7**
UPM	**Unac-Piva**	**3.02**	**325**	*e*Pn	**Pb**	**06 20 22.1**	**+0.9**
UPM	**Unac-Piva**	**3.02**	**325**	⇑*i*Pn	**Pn**	**06 20 16.8**	**+1.4**
UPM				*i* Sn	**Sn**	**06 20 54.5**	**+2.6**
GRUS	**Gruza**	**3.17**	**353**	*e*Pn	**Pn**	**06 20 17.7**	**+0.4**
RUDO	**Rudo**	**3.20**	**335**	*e*Pn	**Pb**	**06 20 23.0**	**-1.1**
MPEP	**Malo Peshtene**	**3.20**	**34**	*i* P	**Pg**	**06 20 32.0**	**+3.7**
STON	**Ston**	**3.41**	**310**	*e*Pn	**Pn**	**06 20 23.3**	**+2.8**
STON	**Ston**	**3.41**	**310**	*e*Pn	**Pn**	**06 20 21.0**	**+0.6**
STON				Sn	**Sn**	**06 21 00.2**	**-0.9**
BBLS	**Lazići**	**3.41**	**337**	*e*Pn	**Pn**	**06 20 21.0**	**+0.4**
BBLS	**Lazići**	**3.41**	**337**	*e*Pn	**Pn**	**06 20 20.7**	**+0.1**
DIVS	**Divibare**	**3.48**	**345**	*e*Pn	**Pn**	**06 20 21.1**	**-0.5**
DIVS	**Divibare**	**3.48**	**345**	*e*Pn	**Pn**	**06 20 20.6**	**-1.0**
TRUS	**Trudelj**	**3.54**	**350**	*e*Pn	**Pn**	**06 20 22.6**	**+0.3**
MAKA	**Makarska**	**4.06**	**310**	*e*Pn	**Pn**	**06 20 28.8**	**-0.6**
MAKA				Sn	**Sn**	**06 21 14.8**	**-2.3**
RICI	**Ricice**	**4.12**	**313**	*e*Pn	**Pn**	**06 20 30.6**	**+0.2**
FRGS	**Fruska Gora**	**4.54**	**347**	*e*Pn	**Pn**	**06 20 35.8**	**-0.3**
KIJV	**Kijevo**	**4.86**	**314**	*e*Pn	**Pn**	**06 20 41.4**	**+1.0**
KIJV				Sn	**Sn**	**06 21 37.2**	**+0.4**
ZIRJ	**Zirje**	**5.09**	**307**	*e*Pn	**Pn**	**06 20 41.0**	**-2.6**
ZIRJ				Sn	**Sn**	**06 21 37.3**	**-5.2**
MRAK	**Mrakovica**	**5.34**	**325**	*e*Pn	**Pn**	**06 20 48.1**	**+1.0**
UDBI	**Udbina**	**5.54**	**315**	*e*Pn	**Pn**	**06 20 51.8**	**+1.9**
UDBI				Sn	**Sn**	**06 21 53.7**	**-0.1**
DUGI	**Dugi Otok**	**5.63**	**307**	*e*Pn	**Pn**	**06 20 48.2**	**-2.8**
NVLJ	**Novalja**	**6.06**	**311**	*e*Pn	**Pn**	**06 20 56.5**	**-0.4**
BOJS	**Bojanci**	**6.48**	**319**	*e*Pn	**Pn**	**06 21 06.2**	**+3.5**
CRES	**Cresnjev**	**6.61**	**322**	*e*Pn	**Pn**	**06 21 04.7**	**+0.2**
CEY	**Cerknica**	**7.06**	**317**	*e*Pn	**Pn**	**06 21 11.1**	**+0.4**

MEX 05 06:24:10.7±0.9**, 18°.13N**×**103°.45W, h10**km**, MD3.5, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.18**	**33**	*i* P	Pg	06 24 14.2	-0.5
MMIG				*e*S	Sg	06 24 16.7	-0.7
COIG	**Colima**	**1.07**	**348**	*e*P	Pg	06 24 27.4	-3.8
COIG				*e*S	Sg	06 24 40.1	-5.0
R15V		**1.15**	**334**	*e*P	Pb	06 24 29.1	-3.7
R15V				*e*S	Sb	06 24 43.2	-4.5
EZ5V		**1.35**	**354**	*e*P	Pn	06 24 32.3	-3.6
EZ5V				*e*S	Sb	06 24 49.2	-4.4

*IDC **05** 06:24:54.8±1.2, 36°.90N×135°.15E, h367km±18km, mb2.6/2, mb1 3.0/6, mb1mx2.7/52, mbtmp3.6/6, Error ellipse: s-maj=29.7km s-min=21.0km az=50.0*
*JMA **05** 06:24:55.1±0.2, 36°.92N×135°.16E, h368km±3km, M2.8*
ISC 05 06:24:54.7±0.9**, 36°.88N**±0°.10×**135°.18E**±0°.09**, h372**km**, n19, σ0ˢ.55**/21**, Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JKG	**Kaga**	**1.11**	**123**	P	**Pn**	**06 25 43.5**	**+0.2**
JWT	**Wachi**	**1.61**	**174**	P	**Pn**	**06 25 46.1**	**+0.3**
JWT				*e*S	**S**	**06 26 25.7**	**-1.1**
JOI	**OKI**	**1.66**	**250**	P	**Pn**	**06 25 46.3**	**+0.3**
JYTA	**Yamagatataniai**	**1.80**	**135**	P	**Pn**	**06 25 47.2**	**+0.3**
JYTA				*e*S	**S**	**06 26 27.7**	**-1.1**
JSZ	**Suzu**	**1.83**	**71**	P	**Pn**	**06 25 47.4**	**+0.5**
MAT	**Matsushiro**	**2.46**	**97**	P	**Pn**	**06 25 51.6**	**+0.3**
MAT	**Matsushiro**	**2.46**	**97**	P	**Pn**	**06 25 51.6**	**+0.3**
MJAR	**Matsushiro Arr**	**2.46**	**97**	P	**Pn**	**06 25 51.3**	**-0.1**

	0.7nm,0.3s,baz=275,slow=8.2,SNR=51						
JHS	**Saijyo**	**2.52**	**222**	P	**Pn**	**06 25 51.9**	**0.0**
JSD	**Sado**	**2.71**	**64**	P	**Pn**	**06 25 53.6**	**+0.4**
JIE	**Ise**	**2.78**	**153**	P	**Pn**	**06 25 54.7**	**+0.7**
JRY	**Ryogami san**	**3.12**	**105**	P	**Pn**	**06 25 57.7**	**+0.8**
JMK	**Ichinoseki**	**5.20**	**65**	P	**Pn**	**06 26 17.7**	**+0.3**
BSO1	**Boso 1**	**5.21**	**114**	P	**Pn**	**06 26 16.6**	**-0.5**
KSRS	**Korea Array**	**5.82**	**278**	P	**Pn**	**06 26 24.3**	**0.0**
	0.5nm,0.3s,baz=94,slow=13,SNR=9.5						
USRK	**Ussuriysk Ar.**	**7.70**	**343**	P	**P**	**06 26 46.6**	**+0.1**
	baz=171,slow=14,SNR=8.1						
ASAJ	**Asahikawa**	**9.17**	**36**	P	**Pn**	**06 27 02.4**	**-0.3**
	3.8nm,0.3s,baz=229,slow=9.5,SNR=24						
MKAR	**Makanchi Array**	**39.95**	**301**	P	**P**	**06 31 54.0**	**-0.5**
	0.2nm,0.5s,baz=79,slow=7.5,SNR=2.0						
WRA	**Warramunga Arr**	**56.52**	**181**	P	**P**	**06 34 00.5**	**+0.7**
	0.4nm,0.6s,baz=354,slow=7.3,SNR=7.2						

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*IDC **05** 06:31:05.7±5.0, 3.°54S×103.°02E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/47, mbtmp3.6/4, MS4.0/1, Ms1 3.9/1, ms1mx2.9/43, Error ellipse: s-maj=273.6km s-min=26.4km az=51.0*

*DJA **05** 06:31:06.5±0.9, 4°S±2°×10°2E±°, h16km±8km, M4.0/7, MLv4.0/7*

ISC 05 06:31:04.0±1.2**, 4.°40S**±0.°05×**101.°9E**±0.°1**, h10km, n16, σ0.s89**/15**, mb3.7**/4**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UBSI	**University, Be**	**0.74**	**31**	P	**Pn**	**06 31 21.0**	**+0.5**
UBSI				S	**Sn**	**06 31 31.2**	**-0.6**
KSI	**Kapahiang**	**1.02**	**43**	P	**Pn**	**06 31 25.3**	**+0.9**
KSI				S	**Sn**	**06 31 39.3**	**+0.5**
EGSI	**Enggano, Bengk**	**1.02**	**158**	P	**Pn**	**06 31 25.4**	**+1.0**
EGSI				S	**Sn**	**06 31 39.6**	**+0.8**
MASI	**Maura Aman, Be**	**1.30**	**15**	P	**Pg**	**06 31 30.1**	**+1.2**
LHSI	**Lahat**	**1.72**	**71**	P	**Pb**	**06 31 35.4**	**-0.3**
LWLI	**Liwa**	**2.24**	**106**	P	**Pn**	**06 31 42.2**	**+0.9**
MDSI	**Maura Dua**	**2.28**	**92**	P	**Pn**	**06 31 42.5**	**+0.8**
FITZ	**Fitzroy Crossi**	**26.92**	**122**	P	**P**	**06 36 44.5**	**-1.2**
	1.8nm,0.9s,baz=321,slow=7.9,SNR=1.7						
H01W3	**Cape Leeuwin H**	**32.38**	**161**	T	T	07 11 30.3	
	baz=338,slow=76,SNR=14						
H01W2	**Cape Leeuwin H**	**32.40**	**161**	T	T	07 11 27.9	
	baz=338,slow=76,SNR=15						
H01W1	**Cape Leeuwin H**	**32.40**	**161**	T	T	07 11 30.0	
	baz=338,slow=76,SNR=13						
WRA	**Warramunga Arr**	**35.17**	**119**	P	**P**	**06 37 57.3**	**-1.2**
	0.5nm,0.6s,baz=300,slow=8.4,SNR=8.0						
ASAR	**Alice Springs**	**36.33**	**125**	P	**P**	**06 38 07.7**	**-0.7**
	0.6nm,0.8s,baz=295,slow=7.8,SNR=5.1						
STKA	**Stephens Creek**	**46.16**	**131**	LR	LR	07 02 44.3	
	comp=Z,168nm,19.4s,baz=22,slow=41						
MKAR	**Makanchi Array**	**53.84**	**343**	P	**P**	**06 40 27.1**	**-0.1**
	0.4nm,0.4s,baz=156,slow=9.0,SNR=5.6						
TXAR	**Lajitas Array**	**145.34**	**41**	PKP	**PKPab**	**06 50 42.8**	**-0.3**
	2.0nm,0.6s,baz=286,slow=0.7,SNR=37						

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*IDC **05** 06:32:56.1±0.6, 51.°54N×174.°39W, h0km, mb4.3/34, mb1 4.5/36, mb1mx4.4/68, mbtmp4.3/36, ML4.2/2, MS4.4/1, Ms1 4.5/1, ms1mx3.4/40, Error ellipse: s-maj=17.2km s-min=10.4km az=165.0*

*AEIC **05** 06:32:59±1.9, 51.°35N±0.°06×174.°38W±0.°07, h16km±4km, ML4.7, mb4.6/107(NEIC), Error ellipse: s-maj=8.9km s-min=6.2km az=161.0*

*NEIC **05** 06:33:01.9±1.3, 51.°45N±0.°06×174.°39W±0.°07, h37km±6km, Error ellipse: s-maj=8.9km s-min=6.2km az=157.0*

*BGR **05** 06:33:36.1±0.0, 55.°52N×174.°75W, h33km, mb4.7*

ISC 05 06:33:01.5±0.5**, 51.°40N**±0.°08×**174.°35W**±0.°04**, h38km, n384, σ0.s93**/385**, mb4.7**/110**, 3D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.81**	**7**		**Pn**	**06 33 15.8**	**-0.5**
ATKA	**Atka Island**	**0.81**	**7**		**Sn**	**06 33 28.1**	**+0.9**
KOFP	**Korovin Flat P**	**0.89**	**10**		**Pn**	**06 33 17.3**	**-0.2**
KOKL	**Mount Kliuchef**	**0.93**	**6**		**Pn**	**06 33 17.8**	**-0.3**
GSMY	**Great Sitkin M**	**1.24**	**302**		**Pn**	**06 33 21.3**	**-1.0**
GSTR	**Great Sitkin T**	**1.27**	**304**		**Pn**	**06 33 22.6**	**-0.1**
GSTD	**Great Sitkin T**	**1.30**	**301**		**Pn**	**06 33 22.4**	**-0.7**
ADK	**Adak**	**1.53**	**289**		**Sn**	**06 33 46.1**	**+1.2**
KIWB	**Kanaga Island**	**1.80**	**286**		**Pn**	**06 33 30.1**	**+0.1**
KIKV	**Kanaga Island**	**1.82**	**286**		**Pn**	**06 33 30.0**	**-0.3**
KIMD	**Kanaga Island**	**1.84**	**283**		**Pn**	**06 33 29.9**	**-0.5**
KICM	**Kanaga Island**	**1.85**	**287**		**Pn**	**06 33 30.5**	**-0.1**
TAFP	**Tanaga Falls P**	**2.32**	**284**		**Pn**	**06 33 37.4**	**+0.4**
TAFP					**Sn**	**06 34 06.3**	**+2.0**
TASE	**Tanaga Southea**	**2.34**	**282**		**Pn**	**06 33 37.9**	**+0.5**
GAEA	**Gareloi East**	**2.77**	**280**		**Pn**	**06 33 43.3**	**0.0**
NIKH	**Nikolski High**	**3.73**	**63**	Pn	**Pn**	**06 33 57.0**	**+0.5**
NIKH	**Nikolski High**	**3.73**	**63**	P	**Pn**	**06 33 56.3**	**-0.1**
	baz=247,SNR=23						
CESW	**Semis' Southwe**	**3.82**	**280**		**Pn**	**06 33 57.7**	**0.0**
AMKA	**Amchitka**	**3.98**	**272**	Pn	**Pn**	**06 33 59.6**	**-0.2**
OKWE	**Okmok W'ng Wal**	**4.28**	**59**		**Pn**	**06 34 04.6**	**+0.6**
OKNC	**Okmok New Cone**	**4.33**	**59**		**Pn**	**06 34 05.2**	**+0.5**
OKTU	**Okmok Mt. Tuli**	**4.35**	**60**		**Pn**	**06 34 06.5**	**+1.6**
LSPA	**Little Sitkin**	**4.44**	**280**		**Pn**	**06 34 07.0**	**+0.8**
LSNW	**Little Sitkin**	**4.48**	**280**		**Pn**	**06 34 07.1**	**+0.4**
LSSA	**Little Sitkin**	**4.48**	**280**		**Pn**	**06 34 07.2**	**+0.5**
MAPS	**Pakushin South**	**5.12**	**59**		**Pn**	**06 34 15.9**	**+0.4**
MREP	**Makushin Rep't**	**5.23**	**60**		**Pn**	**06 34 17.4**	**+0.3**
MSW	**Makushin Switc**	**5.25**	**58**		**Pn**	**06 34 17.9**	**+0.6**
MNAT	**Makushin Natee**	**5.29**	**59**		**Pn**	**06 34 18.3**	**+0.4**
UNV	**Unalaska Valle**	**5.37**	**60**	Pn	**Pn**	**06 34 19.8**	**+0.9**
UNV	**Unalaska Valle**	**5.37**	**60**	P	**Pn**	**06 34 20.1**	**+1.1**
	baz=246						
AKMO	**Akutan Morgan**	**5.74**	**59**		**Pn**	**06 34 25.4**	**+1.4**
AKBBA	**Akutan Broad B**	**5.78**	**59**		**Pn**	**06 34 26.2**	**+1.5**
AKLV	**Akutan Long Va**	**5.80**	**58**		**Pn**	**06 34 26.5**	**+1.6**
AKUT	**Akutan**	**5.88**	**59**		**Pn**	**06 34 26.5**	**+0.5**
AKSA	**Akutan Strait**	**5.92**	**59**		**Pn**	**06 34 28.5**	**+2.0**
SPIA	**Saint Paul Isl**	**6.27**	**21**	Pn	**Pn**	**06 34 33.7**	**+2.5**
SPIA	**Saint Paul Isl**	**6.27**	**21**	P	**Pn**	**06 34 34.3**	**+3.0**
	baz=204						
WECS	**Westdahl Cape**	**6.58**	**58**		**Pn**	**06 34 36.4**	**+0.8**
ISLZ	**Isanotski Laza**	**7.22**	**58**		**Pn**	**06 34 45.4**	**+0.9**
SMY	**Shemya**	**7.25**	**285**	Pn	**Pn**	**06 34 43.8**	**-0.8**
FALS	**False Pass**	**7.43**	**58**	Pn	**Pn**	**06 34 47.6**	**+0.4**
FALS	**False Pass**	**7.43**	**58**	P	**Pn**	**06 34 49.1**	**+1.9**
	baz=246						
SDPT	**Sand Point**	**9.19**	**59**		**Pn**	**06 35 11.0**	**-0.2**
SDPT	**Sand Point**	**9.19**	**59**	P	**Pn**	**06 35 11.3**	**+0.1**
	baz=250						
CNBA	**Chernabura Isl**	**9.51**	**63**	Pn	**Pn**	**06 35 14.3**	**-1.5**
CHNA	**Chernabura Isl**	**9.52**	**63**	P	**Pn**	**06 35 14.7**	**-1.1**
	baz=255						
CHGN	**Chignik**	**10.61**	**56**	Pn	**Pn**	**06 35 30.5**	**-0.2**
CHGN	**Chignik**	**10.61**	**56**	P	**Pn**	**06 35 30.4**	**-0.3**
	baz=249						
CHIR	**Chirikof Islan**	**11.96**	**61**	P	**Pn**	**06 35 47.6**	**-1.5**
	baz=256						
GAMB	**Gambell**	**12.49**	**5**	Pn	**Pn**	**06 35 57.4**	**+1.0**
GAMB	**Gambell**	**12.49**	**5**	P	**Pn**	**06 35 59.5**	**+3.1**
	baz=188						
OHAK	**Old Harbor**	**13.58**	**56**	P	**Pn**	**06 36 08.5**	**-2.7**
	baz=253						
O18K	**Koktuh Hills**	**13.69**	**44**	Pn	**Pn**	**06 36 13.5**	**+0.7**
O18K	**Koktuh Hills**	**13.69**	**44**	P	**Pn**	**06 36 15.3**	**+2.5**
	baz=240						
N18K	**Kilae Creek**	**13.84**	**41**	P	**Pn**	**06 36 17.5**	**+2.7**
	baz=236						
Q19K	**Cape Douglas,**	**13.99**	**49**	Pn	**Pn**	**06 36 15.4**	**-1.4**
Q19K	**Cape Douglas,**	**13.99**	**49**	P	**Pn**	**06 36 15.5**	**-1.3**
	baz=246						
KDAK	**Kodiak Island**	**14.11**	**55**	Pn	Pn	06 36 13.2	-5.2
	1.7nm,0.3s,baz=257,slow=3.5,SNR=32						
KDAK	**Kodiak Island**	**14.11**	**55**	P	**Pn**	**06 36 15.4**	**-3.0**
	baz=252						
SVW2	**Sparrevohn**	**14.20**	**40**		**Pn**	**06 36 20.3**	**+0.6**
P19K	**Oil Pt**	**14.48**	**47**		**Pn**	**06 36 23.7**	**+0.2**
N19K	**Bonanza Creek**	**14.49**	**42**	Pn	**Pn**	**06 36 23.6**	**-0.1**
N19K	**Bonanza Creek**	**14.49**	**42**	P	**Pn**	**06 36 24.9**	**+1.2**
	baz=238						
O20K	**Slope Mountain**	**14.95**	**46**	P	**Pn**	**06 36 31.5**	**+1.8**
	baz=244,SNR=5.3						
L19K	**White Mountain**	**15.12**	**37**	Pn	**Pn**	**06 36 31.8**	**-0.3**
L19K				IAmb	IAmb	06 36 38.7	
	comp=Z,19nm,0.8s						
L19K	**White Mountain**	**15.12**	**37**	P	**P**	**06 36 34.6**	**-2.1**
	baz=233,SNR=16						
M19K	**Big River Lodg**	**15.13**	**38**	Pn	**Pn**	**06 36 33.6**	**+1.4**
M19K	**Big River Lodg**	**15.13**	**38**	P	**P**	**06 36 35.1**	**-1.8**
	baz=235,SNR=5.1						
HOM	**Homer**	**15.22**	**48**	P	**Pn**	**06 36 34.2**	**+0.9**
	baz=247						
CNPM	**China Poot**	**15.36**	**49**	P	**Pn**	**06 36 36.7**	**+1.5**
CNPM				IAmb	IAmb	06 36 43.6	
	comp=Z,25nm,0.8s						
M20K	**Styx River**	**15.61**	**40**	Pn	**Pn**	**06 36 39.0**	**+0.5**
M20K	**Styx River**	**15.61**	**40**	P	**P**	**06 36 41.2**	**-1.1**
	baz=237,SNR=7.1						
L20K	**Farewell, AK**	**15.66**	**37**	P	**P**	**06 36 43.5**	**+0.8**
	baz=234,SNR=8.8						
BRSE	**Bradley Lake S**	**15.67**	**49**	P	**Pn**	**06 36 37.7**	**-1.6**
	baz=248						
K20K	**Telida**	**16.12**	**34**	Pn	**P**	**06 36 46.4**	**-1.4**
K20K	**Telida**	**16.12**	**34**	P	**P**	**06 36 47.0**	**-0.9**
	baz=231,SNR=16						
SKT	**Skwentna**	**16.31**	**41**	Pn	**Pn**	**06 36 48.1**	**+0.8**
SKT	**Skwentna**	**16.31**	**41**	P	**Pn**	**06 36 48.4**	**+1.0**
	baz=240						
SUA	**Susitna One**	**16.39**	**43**		**Pn**	**06 36 47.8**	**-0.7**
SUA	**Susitna One**	**16.39**	**43**	P	**Pn**	**06 36 47.6**	**-0.9**
	baz=243						
SEW	**Seward**	**16.41**	**48**	P	**Pn**	**06 36 45.2**	**-3.4**
	baz=249						
O22K	**Cooper Landing**	**16.43**	**47**		**Pn**	**06 36 48.7**	**-0.1**
O22K	**Cooper Landing**	**16.43**	**47**	P	**Pn**	**06 36 47.4**	**-1.4**
	baz=247						
PPLA	**Purkeypile**	**16.54**	**37**	P	**P**	**06 36 53.4**	**+0.8**
PPLA				IAmb	IAmb	06 37 01.1	
	comp=Z,44nm,1.3s						
PPLA	**Purkeypile**	**16.54**	**37**	P	**P**	**06 36 52.9**	**+0.3**
	baz=236						
J20K	**Nowinta River**	**16.62**	**32**	P	**P**	**06 36 54.0**	**+0.6**
J20K	**Nowinta River**	**16.62**	**32**	P	**P**	**06 36 52.8**	**-0.5**
	baz=229,SNR=9.4						
RC01	**Rabbit Creek A**	**16.66**	**45**	P	**Pn**	**06 36 50.6**	**-1.2**
	baz=245						
CHUM	**Lake Minchumin**	**17.07**	**34**	P	**P**	**06 36 58.7**	**+0.5**
	baz=233,SNR=12						
PMR	**Palmer**	**17.14**	**44**	P	**P**	**06 36 59.1**	**0.0**
PETK	**Petropavlovsk-**	**17.16**	**287**	P	**Pn**	**06 36 57.1**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=92,slow=12,SNR=6.9						
GHO	**Glory Hole Cre**	**17.31**	**43**	P	**Pn**	**06 37 00.0**	**+0.1**
GHO				IAmb	IAmb	06 37 00.6	
	comp=Z,15nm,0.5s						
KNK	**Knik Glacier**	**17.36**	**45**	P	**Pn**	**06 36 58.5**	**-2.0**
	baz=246,SNR=7.2						
KTH	**Kantishna Hill**	**17.38**	**37**	P	**Pn**	**06 37 01.3**	**+0.5**
TRF	**Thorofare Moun**	**17.57**	**37**	P	**P**	**06 37 03.6**	**-0.3**
TRF				IAmb	IAmb	06 37 11.6	
	comp=Z,39nm,1.3s						
TRF	**Thorofare Moun**	**17.57**	**37**	P	**P**	**06 37 03.7**	**-0.3**
	baz=238						
SML	**Sawmill**	**17.58**	**44**	P	**Pn**	**06 37 02.0**	**-1.3**
	baz=245						
BPAW	**Bear Paw Mtn.**	**17.67**	**35**	P	**P**	**06 37 05.3**	**+0.4**
BPAW				IAmb	IAmb	06 37 13.3	
	comp=Z,28nm,1.1s						
BPAW	**Bear Paw Mtn.**	**17.67**	**35**	P	**P**	**06 37 05.0**	**0.0**
	baz=235,SNR=13						
GLI	**Glacier Island**	**17.78**	**47**	P	**Pn**	**06 37 03.3**	**-2.4**
	baz=250						
WAT1	**Susitna Watana**	**17.94**	**40**	P	**Pn**	**06 37 06.5**	**-1.1**
	baz=242						
IMAR	**Indian Mountai**	**17.98**	**28**	P	**P**	**06 37 08.3**	**0.0**
I21K	**Tanana**	**17.98**	**31**	P	**P**	**06 37 08.8**	**+0.4**
I21K	**Tanana**	**17.98**	**31**	P	**P**	**06 37 09.3**	**+1.0**
	baz=230,SNR=15						
SCM	**Sheep Creek Mo**	**18.02**	**44**	P	**Pn**	**06 37 07.4**	**-1.3**
RND	**Reindeer**	**18.10**	**39**	P	**Pn**	**06 37 08.6**	**-1.0**
WAT6	**Susitna Watana**	**18.16**	**42**	P	**Pn**	**06 37 09.3**	**-1.2**
	baz=244						
MCK	**McKinley**	**18.23**	**38**	P	**P**	**06 37 10.3**	**-0.8**
MCK	**McKinley**	**18.23**	**38**	P	**P**	**06 37 10.1**	**-1.0**
	baz=239,SNR=8.7						
BWN	**Browne**	**18.26**	**36**	P	**P**	**06 37 11.3**	**-0.1**
BWN				IAmb	IAmb	06 37 30.7	
	comp=Z,42nm,1.1s						
MLY	**Manley**	**18.30**	**33**	P	**Pn**	**06 37 12.4**	**+0.2**
MLY	**Manley**	**18.30**	**33**	P	**Pn**	**06 37 12.3**	**+0.2**
	baz=233,SNR=24						
DIV	**Divide**	**18.47**	**47**	P	**Pn**	**06 37 14.2**	**0.0**
KLU	**Klutina**	**18.52**	**46**	P	**P**	**06 37 13.0**	**-1.4**
KLU				IAmb	IAmb	06 37 23.6	
	comp=Z,43nm,1.5s						
KLU	**Klutina**	**18.52**	**46**	P	**P**	**06 37 13.3**	**-1.1**
	baz=250						
M24K	**Tolsona, Glenn**	**18.63**	**44**	P	**P**	**06 37 15.7**	**+0.1**
M24K				IAmb	IAmb	06 37 20.5	
	comp=Z,29nm,0.6s						
M24K	**Tolsona, Glenn**	**18.63**	**44**	P	**P**	**06 37 14.7**	**-0.9**
	baz=248,SNR=8.1						
NEA2	**Nenana**	**18.64**	**35**	P	**P**	**06 37 14.5**	**-1.1**
NEA2	**Nenana**	**18.64**	**35**	P	**P**	**06 37 14.2**	**-1.4**
	baz=237,SNR=6.9						
I23K	**Minto, Yukon-K**	**18.85**	**34**	P	**P**	**06 37 18.2**	**+0.4**
I23K				IAmb	IAmb	06 37 21.6	
	comp=Z,31nm,0.8s						
I23K	**Minto, Yukon-K**	**18.85**	**34**	P	**P**	**06 37 18.1**	**+0.4**
	baz=235,SNR=27						
WRH	**Wood River Hil**	**18.93**	**36**	P	**Pn**	**06 37 19.4**	**-0.2**
BMRM	**Bremner River**	**18.96**	**48**	P	**P**	**06 37 19.3**	**+0.1**
BMRM				IAmb	IAmb	06 37 35.8	
	comp=Z,30nm,1.3s						
BMRM	**Bremner River**	**18.96**	**48**	P	**Pn**	**06 37 19.8**	**-0.2**
	baz=253						
N25K	**Chitina, Valde**	**19.16**	**46**	P	**P**	**06 37 20.2**	**-1.2**
N25K	**Chitina, Valde**	**19.16**	**46**	P	**P**	**06 37 20.4**	**-1.0**
	baz=251						
H23K	**Yukon River**	**19.18**	**32**	P	**Pn**	**06 37 23.5**	**+0.8**
	baz=233,SNR=9.9						
HARP	**HAARP**	**19.18**	**44**	P	**P**	**06 37 21.7**	**+0.1**
	baz=248						
PAX	**Paxson**	**19.27**	**42**	P	**P**	**06 37 22.7**	**+0.1**
PAX	**Paxson**	**19.27**	**42**	P	**P**	**06 37 22.4**	**-0.2**
	baz=246,SNR=6.1						
HDA	**Harding Lake**	**19.32**	**37**	P	**P**	**06 37 22.7**	**-0.4**
HDA				IAmb	IAmb	06 37 29.5	
	comp=Z,32nm,1.0s						
HDA	**Harding Lake**	**19.32**	**37**	P	**P**	**06 37 21.8**	**-1.3**
	baz=240,SNR=25						
GLB	**Gilahina Butte**	**19.47**	**47**	P	**P**	**06 37 24.7**	**0.0**
IL31		**19.53**	**36**	P	**P**	**06 37 24.7**	**-0.6**
IL31				IAmb	IAmb	06 37 26.2	
	comp=Z,16nm,0.5s						
ILAR	**Eielson Array**	**19.53**	**36**	P	**P**	**06 37 22.1**	**-3.2**
	comp=Z,4.3nm,0.3s,baz=237,slow=9.4,SNR=108						
ILAR	**Eielson Array**	**19.53**	**36**	P	**P**	**06 37 24.6**	**-0.7**
H24K	**Noodor Dome**	**19.75**	**33**	P	**P**	**06 37 27.7**	**0.0**
H24K				IAmb	IAmb	06 37 35.5	
	comp=Z,23nm,0.8s						
H24K	**Noodor Dome**	**19.75**	**33**	P	**P**	**06 37 28.0**	**+0.3**
	baz=236,SNR=20						
RIDG	**Independent Ri**	**19.84**	**40**	P	**P**	**06 37 27.5**	**-1.3**
RIDG				IAmb	IAmb	06 37 29.7	
	comp=Z,16nm,0.6s						
RIDG	**Independent Ri**	**19.84**	**40**	P	**P**	**06 37 27.3**	**-1.5**
	baz=245,SNR=14						
COLD	**Coldfoot**	**19.86**	**28**	P	**Pn**	**06 37 30.1**	**-0.7**
	baz=229,SNR=5.3						
MENT	**Mentasta**	**20.00**	**43**	P	**P**	**06 37 30.6**	**+0.1**
J25K	**Salcha River,**	**20.02**	**38**	P	**P**	**06 37 28.3**	**-2.5**
	baz=242,SNR=55						
DOT	**Dot Lake**	**20.12**	**41**	P	**P**	**06 37 30.6**	**-1.3**
DOT				IAmb	IAmb	06 37 41.5	
	comp=Z,16nm,1.0s						
M26K	**Nabesna, AK**	**20.13**	**45**	P	**P**	**06 37 32.2**	**+0.3**
M26K				IAmb	IAmb	06 37 33.8	
	comp=Z,15nm,0.6s						
M26K	**Nabesna, AK**	**20.13**	**45**	P	**P**	**06 37 32.4**	**+0.5**
	baz=251,SNR=18						
L26K	**Log Cabin Wild**	**20.19**	**43**	P	Pn	06 37 33.7	-1.0
L26K				IAmb	IAmb	06 37 34.8	
	comp=Z,13nm,0.5s						
L26K	**Log Cabin Wild**	**20.19**	**43**	P	**P**	**06 37 33.4**	**+0.9**
	baz=249,SNR=11						
SCRK	**Sand Creek**	**20.29**	**40**	P	**P**	**06 37 32.4**	**-1.3**
SCRK				IAmb	IAmb	06 37 40.0	
	comp=Z,32nm,0.6s						
SCRK	**Sand Creek**	**20.29**	**40**	P	**P**	**06 37 32.1**	**-1.6**
	baz=246,SNR=54						
PRP	**Porcupine Dome**	**20.40**	**35**	P	**P**	**06 37 35.2**	**+0.2**
PRP				IAmb	IAmb	06 37 41.7	
	comp=Z,20nm,1.3s						
CTG	**Chitna Glacier**	**20.50**	**49**	P	**P**	**06 37 35.1**	**-0.9**
	baz=257						
J26K	**Charley River,**	**20.61**	**39**	P	**P**	**06 37 35.4**	**-1.7**
	baz=245,SNR=50						
M27K	**Edge Creek, AK**	**20.61**	**45**	P	Pn	06 37 38.6	-1.0
M27K	**Edge Creek, AK**	**20.61**	**45**	P	Pn	06 37 39.1	-0.6
	baz=253,SNR=7.6						
L27K	**Beaver Creek,**	**20.85**	**43**	P	**P**	**06 37 40.8**	**+1.0**
L27K	**Beaver Creek,**	**20.85**	**43**	P	**P**	**06 37 38.9**	**-0.8**
	baz=251						
TOLK	**Toolik Lake Re**	**20.99**	**25**	P	**P**	**06 37 41.5**	**+0.4**
TOLK				IAmb	IAmb	06 37 47.9	
	comp=Z,32nm,0.7s						
TOLK	**Toolik Lake Re**	**20.99**	**25**	P	**P**	**06 37 41.3**	**+0.2**
	baz=227,SNR=12						
BVCY	**Beaver Creek**	**21.08**	**46**	P	**P**	**06 37 43.8**	**+1.6**
	baz=254,SNR=7.0						
K27K	**Chicken**	**21.09**	**41**	P	**P**	**06 37 42.0**	**-0.2**
K27K				IAmb	IAmb	06 37 52.0	
	comp=Z,17nm,0.9s						
K27K	**Chicken**	**21.09**	**41**	P	**P**	**06 37 41.2**	**-1.0**
	baz=248,SNR=14						
YUK3	**Moose Creek**	**21.10**	**47**	P	**P**	**06 37 40.6**	**-2.0**
	baz=256						
SEY	**Seymchan**	**21.14**	**316**	P	**P**	**06 37 41.2**	**-1.4**
	comp=Z,6.3nm,0.8s,baz=270,slow=20,SNR=3.5						
BMAR	**Burnt Mountain**	**21.73**	**31**	P	**P**	**06 37 50.2**	**+1.2**
EGAK	**Eagle**	**21.73**	**39**	P	**P**	**06 37 48.8**	**-0.3**
EGAK	**Eagle**	**21.73**	**39**	P	**P**	**06 37 48.0**	**-1.1**
	baz=248,SNR=62						
YUK6	**Outpost Mounta**	**21.92**	**50**	P	**P**	**06 37 50.9**	**-0.4**
	baz=260						
DAWY	**Dawson**	**22.21**	**42**	P	**P**	**06 37 53.6**	**-0.6**
DAWY				IAmb	IAmb	06 38 02.0	
	comp=Z,19nm,1.4s						
DAWY	**Dawson**	**22.21**	**42**	P	**P**	**06 37 53.0**	**-1.2**
	baz=252,SNR=7.6						
HYT	**Haines Junctio**	**22.31**	**51**	P	**P**	**06 37 56.3**	**+0.8**
	baz=262						
EPYK	**Eagle Plains**	**24.03**	**37**	P	**P**	**06 38 11.6**	**-0.9**
EPYK				IAmb	IAmb	06 38 19.1	
	comp=Z,15nm,0.9s						
EPYK	**Eagle Plains**	**24.03**	**37**	P	**P**	**06 38 11.8**	**-0.7**
	baz=250						
WRAK	**Wrangell Islan**	**24.94**	**62**	P	**P**	**06 38 23.3**	**+2.4**
	baz=276						
MMPY	**Sheldon Lake,**	**25.49**	**47**	P	**P**	**06 38 25.8**	**0.0**
	baz=264						
INK	**Inuvik**	**25.86**	**34**	P	**P**	**06 38 28.5**	**-0.6**
	comp=Z,2.8nm,0.5s,baz=218,slow=7.5,SNR=13						
INK	**Inuvik**	**25.86**	**34**	P	**P**	**06 38 29.2**	**+0.1**
INK				IAmb	IAmb	06 38 44.9	
	comp=Z,5.7nm,0.7s						
INK	**Inuvik**	**25.86**	**34**	P	**P**	**06 38 28.6**	**-0.4**
	baz=250						
DLBC	**Dease Lake**	**26.02**	**57**	P	**P**	**06 38 31.9**	**+1.2**
	comp=Z,9.7nm,0.8s,baz=265,slow=6.8,SNR=14						
YKA	**Yellowknife Ar**	**33.19**	**47**	P	**P**	**06 39 33.3**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=269,slow=8.0,SNR=2.9						
YKA	**Yellowknife Ar**	**33.19**	**47**	P	**P**	**06 39 33.5**	**-0.5**
KLR	**Kul'dur**	**33.84**	**288**	P	**P**	**06 39 39.5**	**-0.4**
	comp=Z,7.8nm,0.5s,baz=75,slow=7.0,SNR=32						
B08A	**Colville Reser**	**34.88**	**73**	P	**P**	**06 39 49.9**	**+0.9**
B08A				IAmb	IAmb	06 40 05.7	
	comp=Z,5.1nm,0.8s						
USA0B	**Ussuriysk Arra**	**36.05**	**280**	P	**P**	**06 39 58.9**	**0.0**
USA0B				IAmb	IAmb	06 39 59.5	
	comp=Z,11nm,0.7s						
USRK	**Ussuriysk Ar.**	**36.05**	**280**	P	**P**	**06 39 58.8**	**-0.2**
	comp=Z,9.8nm,0.5s,baz=54,slow=9.7,SNR=8.6						
J05D	**Fort Rock, OR**	**36.19**	**82**	P	**P**	**06 40 01.9**	**+1.5**
	baz=302						
NEW	**Newport**	**36.24**	**72**	P	**P**	**06 40 00.9**	**+0.2**
	comp=Z,1.7nm,0.5s,baz=282,slow=12,SNR=2.7						
NEW	**Newport**	**36.24**	**72**	P	**P**	**06 40 01.9**	**+1.2**
	baz=297						
EDM	**Edmonton**	**36.35**	**63**	P	**P**	**06 40 02.0**	**+0.6**
MJAR	**Matsushiro Arr**	**36.55**	**265**	P	**P**	**06 40 03.9**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=78,slow=7.2,SNR=6.0						
MAJO	**Matsushiro**	**36.55**	**265**	P	**P**	**06 40 04.3**	**+0.9**
MAJO				IAmb	IAmb	06 40 05.3	
	comp=Z,11nm,1.1s						
MDJ	**Mudanjiang**	**37.31**	**282**	P	**P**	**06 40 08.8**	**-0.9**
MDJ				pmax	pmax		
	comp=Z,13nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,250nm,10.5s						
WVOR	**Wild Horse Val**	**38.26**	**81**	P	**P**	**06 40 18.6**	**+0.7**
WVOR				IAmb	IAmb	06 40 30.2	
	comp=Z,5.9nm,0.9s						
CN2	**Changchun**	**40.27**	**284**	*e*P	**P**	**06 40 34.8**	**+0.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MCMT	**McKenzie Canyo**	**40.51**	**74**	P	**P**	**06 40 36.9**	**+0.1**
EGMT	**Eagleton**	**40.70**	**68**	P	**P**	**06 40 39.1**	**+1.0**
EGMT				IAmb	IAmb	06 40 55.8	
	comp=Z,18nm,1.4s						
EGMT	**Eagleton**	**40.70**	**68**	P	**P**	**06 40 38.9**	**+0.8**
	baz=300						
NVAR	**Mina Array Bea**	**40.77**	**86**	P	**P**	**06 40 40.1**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=288,slow=8.4,SNR=4.7						
NVAR	**Mina Array Bea**	**40.77**	**86**	P	**P**	**06 40 39.6**	**+0.6**
BOZ	**Bozeman (W)**	**40.83**	**73**	P	**P**	**06 40 39.7**	**+0.4**
BOZ	**Bozeman (W)**	**40.83**	**73**	P	**P**	**06 40 39.5**	**+0.2**
	baz=302						
YHH	**Holmes Hill**	**41.73**	**73**	P	**P**	**06 40 47.0**	**+0.2**
KSRS	**Korea Array**	**42.42**	**274**	P	**P**	**06 40 53.6**	**+1.5**
	comp=Z,2.5nm,0.6s,baz=54,slow=7.7,SNR=6.3						
DUG	**Dugway, Tooele**	**43.13**	**80**	P	**P**	**06 40 58.9**	**+0.7**
	baz=306						
PRN	**Pahroc Range**	**43.43**	**85**	P	**P**	**06 41 01.1**	**+0.5**
PD31	**Pinedale Array**	**43.63**	**75**	P	**P**	**06 41 02.4**	**+0.1**
PDAR	**Pinedale Array**	**43.63**	**75**	P	**P**	**06 41 02.5**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=308,slow=4.1,SNR=14						
PDAR	**Pinedale Array**	**43.63**	**75**	P	**P**	**06 41 02.4**	**+0.1**
RDMU	**Red Mountain**	**44.90**	**77**	P	**P**	**06 41 12.9**	**+0.5**
RDMU				IAmb	IAmb	06 41 30.2	
	comp=Z,11nm,1.0s						
U15A	**North Rim**	**45.77**	**84**	P	**P**	**06 41 19.9**	**+0.5**
U15A				IAmb	IAmb	06 41 37.1	
	comp=Z,5.4nm,1.1s						
NRIK	**Noril'sk**	**45.78**	**331**	P	**P**	**06 41 18.1**	**-0.5**
	comp=Z,1.6nm,0.3s,baz=92,slow=6.4,SNR=2.0						
O20A	**White River Ci**	**45.98**	**77**	P	**P**	**06 41 20.9**	**+0.1**
	baz=307						
PV17	**East Wray Mesa**	**46.67**	**80**	P	**P**	**06 41 26.4**	**0.0**
PV17				IAmb	IAmb	06 41 44.5	
	comp=Z,7.4nm,0.9s						
PV11	**David Mesa, Pa**	**46.71**	**80**	P	**P**	**06 41 26.8**	**+0.1**
PV11				IAmb	IAmb	06 41 50.8	
	comp=Z,7.1nm,0.6s						
PV03	**Paradox Valley**	**46.76**	**80**	P	**P**	**06 41 26.8**	**-0.2**
PV03				IAmb	IAmb	06 41 53.6	
	comp=Z,5.5nm,1.0s						
PV13	**Radium Mtn., P**	**46.83**	**80**	P	**P**	**06 41 27.5**	**-0.2**
PV13				IAmb	IAmb	06 41 42.7	
	comp=Z,8.5nm,0.8s						
PV15	**Paradox Valley**	**46.93**	**79**	P	**P**	**06 41 29.2**	**+0.8**
PV15				IAmb	IAmb	06 41 54.2	
	comp=Z,6.2nm,0.9s						
PV01	**Paradox Valley**	**47.00**	**80**	P	**P**	**06 41 28.9**	**-0.1**
PV01				IAmb	IAmb	06 41 52.1	
	comp=Z,5.6nm,0.9s						
ULM	**Lac du Bonnet**	**47.31**	**59**	P	**P**	**06 41 30.7**	**-0.3**
	comp=Z,4.5nm,0.4s,baz=305,slow=8.6,SNR=13						
ULM	**Lac du Bonnet**	**47.31**	**59**	P	**P**	**06 41 30.7**	**-0.3**
ULM				IAmb	IAmb	06 41 31.7	
	comp=Z,7.7nm,1.1s						
BJI	**Beijing**	**48.08**	**285**	P	**P**	**06 41 38.1**	**+1.1**
BJI				pmax	pmax		
	comp=Z,11nm,0.8s						
AGMN	**Agassiz Nation**	**48.42**	**61**	P	**P**	**06 41 39.2**	**-0.4**
	baz=305						
SONM	**Songino Array**	**49.10**	**299**	P	**P**	**06 41 45.3**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=54,slow=9.0,SNR=10						
HHC	**Hu-ho-hao-te**	**50.34**	**289**	*e*P	**P**	**06 41 54.8**	**+0.3**
HHC				pP	pP	06 42 02.3	-1.9
HHC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,140nm,5.7s						
SPITS	**Spitsbergen Ar**	**50.52**	**357**	P	**P**	**06 41 54.5**	**-0.7**
	comp=Z,3.1nm,0.6s,baz=43,slow=8.7,SNR=6.4						
ECSD	**EROS Data Cent**	**50.70**	**66**	P	**P**	**06 41 56.0**	**-1.0**
	baz=308						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FRB	**Frobisher Bay**	**51.52**	**33**	P	**P**	**06 42 01.6**	**-1.2**
	comp=Z,5.0nm,0.4s,baz=308,slow=9.7,SNR=8.5						
NJ2	**Nanjing**	**51.59**	**275**	*e*P	**P**	**06 42 04.2**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
E43A	**Lone Tree Farm**	**54.38**	**58**	P	**P**	**06 42 24.2**	**0.0**
E43A				IAmb	IAmb	06 42 42.7	
	comp=Z,8.9nm,0.8s						
TX31	**Lajitas Ar. Si**	**55.88**	**84**	P	**P**	**06 42 36.0**	**+0.6**
TX31				IAmb	IAmb	06 42 47.0	
	comp=Z,7.5nm,0.8s						
TXAR	**Lajitas Array**	**55.88**	**84**	P	**P**	**06 42 35.5**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=296,slow=5.9,SNR=8.5						
ZALV	**Zalesovo Beam**	**56.01**	**316**	P	**P**	**06 42 34.8**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=73,slow=4.8,SNR=2.5						
ZALV				PcP	**PcP**	**06 43 32.6**	**-1.1**
	comp=Z,1.7nm,0.6s,baz=48,slow=2.4,SNR=5.2						
XAN	**Xi'an**	**56.38**	**284**	P	**P**	**06 42 39.7**	**+0.9**
GTA	**Gaotai**	**58.12**	**295**	*e*P	**P**	**06 42 51.6**	**+0.5**
GTA				pP	pP	06 42 56.3	-4.6
GTA				sP	sP	06 42 59.1	-6.5
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SCHQ	**Schefferville**	**58.22**	**40**	P	**P**	**06 42 51.0**	**-0.4**
	comp=Z,5.3nm,0.8s,baz=333,slow=11,SNR=3.9						
MIAR	**Mount Ida**	**58.47**	**73**	P	**P**	**06 42 53.5**	**0.0**
	baz=314						
ARCES	**ARCESS Array B**	**58.51**	**352**	P	**P**	**06 42 51.9**	**-1.3**
	comp=Z,4.5nm,0.6s,baz=21,slow=8.2,SNR=31						
ARCES				PcP	**PcP**	**06 43 43.3**	**0.0**
	comp=Z,5.1nm,0.6s,baz=22,slow=4.5,SNR=10						
ARCES				LR	LR	07 11 11.6	
	comp=Z,318nm,18.1s,baz=10.0,slow=39						
P49A	**Miami Univ. Ec**	**60.18**	**63**	P	**P**	**06 43 04.1**	**-1.1**
	baz=314						
PLVO	**Plevna**	**60.43**	**54**	P	**P**	**06 43 07.0**	**+0.2**
DELO	**Deloro Mine**	**60.52**	**55**	P	**P**	**06 43 08.0**	**+0.6**
WVT	**Waverly**	**60.77**	**68**	P	**P**	**06 43 09.4**	**+0.1**
	baz=314						
OXF	**Oxford**	**60.97**	**70**	P	**P**	**06 43 11.0**	**+0.4**
OXF	**Oxford**	**60.97**	**70**	P	**P**	**06 43 10.5**	**-0.1**
	baz=315						
M54A	**Oil Creek Stat**	**61.56**	**58**	P	**P**	**06 43 14.7**	**+0.1**
	baz=315						
WMQ	**Urumqi**	**61.64**	**305**	*e*P	**P**	**06 43 15.8**	**+0.7**
WMQ				pmax	pmax		
	comp=Z,20nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,100nm,4.7s						
N54A	**Moraine State**	**61.77**	**59**	P	**P**	**06 43 16.1**	**+0.1**
	baz=315						
LONY	**Lake Ozonia**	**61.98**	**53**	P	**P**	**06 43 16.7**	**-0.6**
LONY	**Lake Ozonia**	**61.98**	**53**	P	**P**	**06 43 16.8**	**-0.6**
	baz=316						
J57A	**Williamstown**	**62.13**	**55**	P	**P**	**06 43 18.7**	**+0.3**
MK31	**Makanchi Array**	**62.17**	**311**	P	**P**	**06 43 17.9**	**-0.6**
MK31				IAmb	IAmb	06 43 31.7	
	comp=Z,2.3nm,0.8s						
MKAR	**Makanchi Array**	**62.17**	**311**	P	**P**	**06 43 18.1**	**-0.5**
	comp=Z,2.2nm,0.3s,baz=39,slow=5.3,SNR=57						
MKAR	**Makanchi Array**	**62.17**	**311**	P	**P**	**06 43 17.9**	**-0.6**
L56A	**Greenwood**	**62.23**	**57**	P	**P**	**06 43 19.3**	**+0.2**
K57A	**Scipio Center**	**62.35**	**55**	P	**P**	**06 43 20.5**	**+0.6**
J58A	**Remsen**	**62.53**	**54**	P	**P**	**06 43 21.0**	**0.0**
MOQ	**Mont Orford**	**62.63**	**51**	P	**P**	**06 43 21.3**	**-0.5**
D62A	**Allapoint, All**	**62.87**	**48**	P	**P**	**06 43 23.4**	**+0.2**
	baz=317						
BINY	**Binghamton**	**63.00**	**56**	P	**P**	**06 43 24.7**	**+0.5**
BINY	**Binghamton**	**63.00**	**56**	P	**P**	**06 43 24.9**	**+0.6**
	baz=316						
M57A	**Sunshine Farm,**	**63.03**	**57**	P	**P**	**06 43 24.5**	**+0.2**
SSPA	**Standing Stone**	**63.13**	**58**	P	**P**	**06 43 25.2**	**+0.2**
	baz=316						
I60A	**Shoreham**	**63.19**	**53**	P	**P**	**06 43 25.7**	**+0.4**
	baz=316						
S54A	**Dingess, Beckl**	**63.29**	**62**	P	**P**	**06 43 26.5**	**+0.3**
F62A	**Pittston Farm,**	**63.31**	**49**	P	**P**	**06 43 25.8**	**-0.3**
	baz=317						
L59A	**Walton**	**63.50**	**55**	P	**P**	**06 43 27.9**	**+0.4**
G62A	**West of Eustis**	**63.53**	**50**	P	**P**	**06 43 27.5**	**-0.1**
G62A	**West of Eustis**	**63.53**	**50**	P	**P**	**06 43 27.6**	**-0.1**
	baz=317						
E63A	**Oxbow**	**63.65**	**48**	P	**P**	**06 43 27.1**	**-1.2**
	baz=318						
F63A	**Nahmakanta, Br**	**63.86**	**49**	P	**P**	**06 43 29.4**	**-0.4**
	baz=318						
J61A	**Chester**	**63.92**	**53**	P	**P**	**06 43 30.2**	**0.0**
	baz=317						
N59A	**State Game Lan**	**64.04**	**56**	P	**P**	**06 43 31.4**	**+0.3**
	baz=316						
F64A	**Sherman**	**64.09**	**48**	P	**P**	**06 43 30.8**	**-0.5**
	baz=318						
I63A	**Otisfield**	**64.37**	**51**	P	**P**	**06 43 33.0**	**-0.1**
	baz=318						
J62A	**Henniker**	**64.37**	**52**	P	**P**	**06 43 33.2**	**0.0**
	baz=317						
H64A	**Troy**	**64.59**	**50**	P	**P**	**06 43 34.3**	**-0.3**
	baz=318						
K63A	**Dunstable**	**64.91**	**53**	P	**P**	**06 43 37.0**	**+0.3**
	baz=318						
G65A	**Princeton**	**64.96**	**48**	P	**P**	**06 43 36.4**	**-0.5**
	baz=319						
GOGA	**Godfrey**	**65.22**	**67**	P	**P**	**06 43 38.0**	**-0.8**
	baz=316						
FINES	**FINESS Array B**	**66.33**	**349**	P	**P**	**06 43 44.3**	**-1.2**
	comp=Z,4.1nm,0.8s,baz=19,slow=5.0,SNR=18						
FINES				PcP	**PcP**	**06 44 15.7**	**+0.5**
	comp=Z,1.7nm,0.5s,baz=44,slow=3.1,SNR=7.6						
NB2	**NORSAR Subarra**	**67.82**	**357**	P	**P**	**06 43 54.3**	**-0.8**
	comp=Z,4.1nm,0.7s,baz=7.3,slow=6.5						
NOA	**NORSAR Array B**	**67.82**	**357**	P	**P**	**06 43 54.2**	**-0.9**
	comp=Z,2.0nm,0.6s,baz=3.0,slow=7.2,SNR=9.8						
TARG	**Taragay, Kyrgy**	**68.09**	**310**	P	**P**	**06 43 58.0**	**+0.5**
TARG				IAmb	IAmb	06 44 00.2	
	comp=Z,4.9nm,0.5s						
HFS	**Hagfors**	**68.63**	**356**	P	**P**	**06 43 59.2**	**-0.9**
	comp=Z,5.2nm,0.4s,baz=31,slow=3.5,SNR=53						
AAK	**Ala-Archa**	**68.95**	**312**	P	**P**	**06 44 03.2**	**+0.6**
AAK				IAmb	IAmb	06 44 04.0	
	comp=Z,4.4nm,0.6s						
ABKAR	**Akbulak array**	**69.56**	**325**	P	**P**	**06 44 06.2**	**+0.2**
KK31	**Karatay Array**	**70.38**	**315**	P	**P**	**06 44 11.2**	**0.0**
KK31				IAmb	IAmb	06 44 12.0	
	comp=Z,6.4nm,0.5s						
KKAR	**Karatay Array**	**70.38**	**315**	P	**P**	**06 44 10.9**	**-0.3**
KKAR	**Karatay Array**	**70.38**	**315**	P	**P**	**06 44 11.2**	**0.0**
KKAR				IAmb	IAmb	06 44 12.0	
	comp=Z,6.4nm,0.5s						
KSH	**Kashi**	**70.68**	**309**	P	**P**	**06 44 17.5**	**+4.2**
KSH				sP	pwP	06 44 31.2	+1.8
KSH				pmax	pmax		
	comp=Z,15nm,0.6s						
KSH				LR	LR		
	comp=N,810nm,22.3s						
KSH				LR	LR		
	comp=E,540nm,19.9s						
KSH				LR	LR		
	comp=Z,350nm,18.0s						
EKA	**Eskdalemuir Ar**	**73.38**	**5**	P	**P**	**06 44 27.8**	**-1.1**
	comp=Z,1.6nm,0.6s,baz=348,slow=4.6,SNR=8.3						
GAR	**Garm**	**73.76**	**313**	P	**P**	**06 44 31.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**73.77**	**279**	P	**P**	**06 44 32.4**	**+0.5**
	comp=Z,2.0nm,0.2s,baz=26,slow=7.1,SNR=11						
TAPN	**Taplejung**	**73.79**	**293**	*e*P	**P**	**06 44 33.1**	**+0.9**
	comp=Z,69nm,0.8s						
GUN	**Gumba**	**74.40**	**295**	*e*P	**P**	**06 44 37.1**	**+1.3**
	comp=Z,143nm,0.4s						
JIRN	**Jiri**	**74.42**	**295**	*e*P	**P**	**06 44 37.1**	**+1.1**
	comp=Z,63nm,0.5s						
CHGR	**Chuyangaron**	**74.57**	**313**	P	**P**	**06 44 36.4**	**+0.1**
RAMN	**Ramite**	**74.73**	**294**	*e*P	**P**	**06 44 38.4**	**+0.8**
	comp=Z,44nm,0.4s						
KKN	**Kakani**	**74.83**	**295**	*e*P	**P**	**06 44 39.1**	**+0.9**
PKI	**Pulchoki**	**74.93**	**295**	*e*P	**P**	**06 44 39.4**	**+0.5**
PKIN	**Phulchoki**	**74.93**	**295**	*e*P	**P**	**06 44 39.2**	**+0.4**
BSEG	**Bad Segeberg**	**74.97**	**357**	*e*P	**P**	**06 44 38.6**	**+0.4**
	comp=Z,15nm,0.9s,baz=3.5,slow=5.8						
GKN	**Gorkha**	**75.03**	**296**	*e*P	**P**	**06 44 39.9**	**+0.6**
DMN	**Daman**	**75.07**	**295**	*e*P	**P**	**06 44 40.4**	**+0.8**
DANN	**Dangsing**	**75.26**	**297**	*e*P	**P**	**06 44 41.6**	**+0.9**
	comp=Z,101nm,0.8s						
KOLN	**Koldanda**	**75.80**	**297**	*e*P	**P**	**06 44 44.2**	**+0.5**
PYUN	**Piuthan**	**75.88**	**297**	*e*P	**P**	**06 44 45.1**	**+0.9**
AKASG	**Malin Array Be**	**76.32**	**345**	P	**P**	**06 44 44.8**	**-1.2**
	comp=Z,2.5nm,0.4s,baz=17,slow=5.8,SNR=17						
NRDL	**Niedersach Rie**	**76.41**	**357**	*e*P	**P**	**06 44 46.8**	**+0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,4.6nm,0.8s,baz=3.5,slow=5.8						
FLTG	**Flechtingen**	**76.54**	**356**	*e*P	**P**	**06 44 47.7**	**+0.5**
	comp=Z,6.0nm,0.7s,baz=3.5,slow=5.8						
IBBN	**Ibbenburen**	**76.65**	**359**	*e*P	**P**	**06 44 48.5**	**+0.6**
	comp=Z,12nm,0.8s,baz=3.5,slow=5.8						
NIL	**Nilore**	**76.66**	**308**	P	**P**	**06 44 49.1**	**+0.9**
ASSE	**Asse, Remlinge**	**76.76**	**357**	*e*P	**P**	**06 44 48.9**	**+0.5**
	comp=Z,4.3nm,1.0s,baz=3.5,slow=5.8						
CLZ	**Clausthal**	**77.06**	**357**	*e*P	**P**	**06 44 50.4**	**+0.2**
	comp=Z,11nm,0.8s,baz=3.5,slow=5.8						
GTTG	**Gottingen**	**77.37**	**357**	*e*P	**P**	**06 44 52.2**	**+0.3**
	comp=Z,7.9nm,0.8s,baz=3.5,slow=5.8						
CLL	**Collm**	**77.48**	**355**	*e*P	**P**	**06 44 52.0**	**-0.5**
	comp=Z,9.0nm,1.1s						
CLL	**Collm**	**77.48**	**355**	P	**P**	**06 44 52.2**	**-0.3**
CLL				IAmb	IAmb	06 44 53.1	
	comp=Z,5.9nm,0.6s						
CLL	**Collm**	**77.48**	**355**	*e*P	**P**	**06 44 52.7**	**+0.2**
	comp=Z,7.1nm,1.0s,baz=3.5,slow=5.8						
BUG	**Bochum--Univer**	**77.53**	**359**	*e*P	**P**	**06 44 53.1**	**+0.3**
	baz=3.5,slow=5.8						
NEUB	**Neuenburg**	**77.64**	**356**	*e*P	**P**	**06 44 53.6**	**+0.2**
	comp=Z,13nm,0.8s,baz=3.5,slow=5.8						
KASTN	**Kahler Asten**	**77.75**	**358**	*e*P	**P**	**06 44 54.1**	**+0.1**
	comp=Z,3.5nm,0.8s,baz=3.5,slow=5.8						
FBE	**Freiberg**	**77.85**	**355**	*e*P	**P**	**06 44 54.9**	**+0.4**
	comp=Z,6.7nm,0.9s,baz=3.5,slow=5.8						
BRG	**Berggiesshubel**	**77.86**	**355**	*e*P	**P**	**06 44 54.8**	**+0.2**
	comp=Z,4.9nm,0.8s,baz=3.5,slow=5.8						
BRG	**Berggiesshubel**	**77.86**	**355**	*e*P	**P**	**06 44 54.9**	**+0.2**
BRG				Amp		06 44 56.1	
	comp=Z,6.7nm,0.7s						
KBL	**Kabul**	**77.98**	**311**	P	**P**	**06 44 55.4**	**-0.5**
KBL				IAmb	IAmb	06 44 56.1	
	comp=Z,12nm,0.9s						
OSTC	**Ostas**	**78.03**	**353**	*e*P	**P**	**06 44 56.1**	**+0.5**
UBBA	**Unterbreizbach**	**78.09**	**357**	*e*P	**P**	**06 44 56.1**	**+0.3**
	comp=Z,1.9nm,0.9s,baz=3.5,slow=5.8						
MOX	**Moxa**	**78.21**	**356**	*e*P	**P**	**06 44 56.9**	**+0.3**
	comp=Z,4.1nm,0.8s,baz=3.5,slow=5.8						
DPC	**Dobruska-Polom**	**78.22**	**353**	*e*P	**P**	**06 44 56.7**	**-0.1**
MEM	**Membach**	**78.37**	**360**	*d*P	**P**	**06 44 57.8**	**+0.3**
TANN	**Tannenbergstha**	**78.40**	**356**	*e*P	**P**	**06 44 58.1**	**+0.3**
	comp=Z,3.2nm,1.0s,baz=3.5,slow=5.8						
AHRW	**Bad Neuenahr-A**	**78.43**	**359**	*e*P	**P**	**06 44 58.5**	**+0.7**
	comp=Z,9.1nm,0.8s,baz=3.5,slow=5.8						
GUNZ	**Gunzen**	**78.46**	**356**	*e*P	**P**	**06 44 58.4**	**+0.3**
	comp=Z,2.9nm,0.9s,baz=3.5,slow=5.8						
KRLC	**Kraliky**	**78.46**	**353**	*e*P	**P**	**06 44 58.2**	**+0.1**
WERN	**Wernitzgruen**	**78.53**	**356**	*e*P	**P**	**06 44 58.8**	**+0.4**
	comp=Z,8.2nm,0.9s,baz=3.5,slow=5.8						
NKC	**Novy Kostel**	**78.58**	**356**	*e*P	**P**	**06 44 59.2**	**+0.5**
BMRD	**Maredsous**	**78.67**	**1**	*d*P	**P**	**06 44 59.3**	**+0.2**
TNS	**Taunus Mts**	**78.73**	**358**	*e*P	**P**	**06 44 60.0**	**+0.4**
	comp=Z,10nm,0.8s,baz=3.5,slow=5.8						
MANZ	**Manzenberg**	**78.84**	**356**	*e*P	**P**	**06 45 00.4**	**+0.3**
	comp=Z,3.0nm,0.8s,baz=3.5,slow=5.8						
ROTZ	**Rotzenmuhle**	**79.06**	**356**	*e*P	**P**	**06 45 01.6**	**+0.3**
	comp=Z,3.5nm,0.9s,baz=3.5,slow=5.8						
MILB	**Miltenberg**	**79.10**	**358**	*e*P	**P**	**06 45 02.2**	**+0.6**
	comp=Z,10nm,0.8s,baz=3.5,slow=5.8						
CTA	**Charters Tower**	**79.11**	**217**	P	**P**	**06 45 02.0**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=30,slow=8.1,SNR=1.4						
LANS	**Liptovska Anna**	**79.14**	**351**	*e*P	**P**	**06 45 02.9**	**+1.1**
GRA1	**Grafenberg Arr**	**79.17**	**356**	P	**P**	**06 45 02.7**	**+0.7**
GRA1				IAmb	IAmb	06 45 03.4	
	comp=Z,13nm,0.8s						
GRF	**Grafenberg Arr**	**79.17**	**356**	*e*P	**P**	**06 45 02.5**	**+0.5**
	baz=3.5,slow=5.8						
GRFO	**Grafenberg**	**79.18**	**356**	P	**P**	**06 45 02.6**	**+0.6**
GRFO				IAmb	IAmb	06 45 03.4	
	comp=Z,11nm,0.8s						
VRAC	**Vranov**	**79.24**	**353**	*e*P	**P**	**06 45 02.3**	**0.0**
WLF	**Walferdange**	**79.31**	**360**	*d*P	**P**	**06 45 03.7**	**+1.0**
WLF	**Walferdange**	**79.31**	**360**	*e*P	**P**	**06 45 03.6**	**+1.0**
	baz=3.5,slow=5.8						
KRUC	**Moravsky**	**79.50**	**353**	*e*P	**P**	**06 45 03.5**	**-0.2**
JAVC	**Velka Javorina**	**79.59**	**352**	*e*P	**P**	**06 45 05.4**	**+1.1**
KHC	**Kasperske Hory**	**79.62**	**355**	*e*P	**P**	**06 45 05.0**	**+0.6**
WET	**Wettzell**	**79.64**	**355**	*e*P	**P**	**06 45 05.0**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=3.5,slow=5.8						
GEC2	**GERESS Array S**	**79.90**	**355**	*e*P	**P**	**06 45 06.3**	**+0.3**
	comp=Z,2.4nm,0.9s,baz=3.5,slow=5.8						
GERES	**GERESS Array B**	**79.90**	**355**	P	**P**	**06 45 06.4**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=20,slow=4.3,SNR=17						
GERES	**GERESS Array B**	**79.90**	**355**	P	**P**	**06 45 05.9**	**-0.1**
GEYT	**Alibeck**	**79.90**	**320**	P	**P**	**06 45 06.5**	**+0.3**
	comp=Z,3.8nm,0.8s,baz=23,slow=4.2,SNR=3.7						
STU	**Stuttgart**	**80.16**	**358**	*e*P	**P**	**06 45 07.7**	**+0.4**
	comp=Z,15nm,0.8s,baz=3.5,slow=5.8						
BFO	**Black Forest**	**80.62**	**358**	*e*P	**P**	**06 45 10.4**	**+0.6**
	comp=Z,3.8nm,0.7s,baz=3.5,slow=5.8						
CONA	**Conrad Observa**	**80.67**	**353**	*e*P	**P**	**06 45 10.9**	**+0.8**
	comp=Z,2.5nm,0.5s						
CLF	**Chambon-Foret**	**80.91**	**2**	P	**P**	**06 45 12.1**	**+0.8**
RJOB	**Jochberg**	**81.05**	**355**	*e*P	**P**	**06 45 13.0**	**+0.8**
	baz=3.5,slow=5.8						
HRA	**Herat**	**81.20**	**316**	P	**P**	**06 45 13.9**	**+0.5**
HRA				IAmb	IAmb	06 45 14.8	
	comp=Z,7.3nm,0.7s						
WATA	**Walderalm**	**81.51**	**356**	*i* P	**P**	**06 45 15.3**	**+0.5**
	comp=Z,8.4nm,1.2s						
WTTA	**Wattenberg**	**81.58**	**356**	*i* P	**P**	**06 45 15.9**	**+0.7**
	comp=Z,12nm,1.2s						
SQTA	**Sankt Quirin**	**81.64**	**356**	*e*P	**P**	**06 45 15.9**	**+0.5**
	comp=Z,6.8nm,1.1s						
KBA	**Koelnbreinsper**	**81.68**	**355**	*e*P	**P**	**06 45 16.4**	**+0.8**
	comp=Z,13nm,1.2s						
FETA	**Feichten**	**81.86**	**356**	*i* P	**P**	**06 45 17.7**	**+1.0**
	comp=Z,8.6nm,1.1s						
MLR	**Muntele Rosu**	**81.91**	**346**	P	**P**	**06 45 17.9**	**+1.0**
MLR				IAmb	IAmb	06 45 19.8	
	comp=Z,4.3nm,0.6s						
SOKA	**Soboth**	**81.97**	**353**	*e*P	**P**	**06 45 17.4**	**+0.4**
	comp=Z,8.2nm,1.1s						
TIRR	**Tirgusor**	**82.51**	**344**	P	**P**	**06 45 20.1**	**+0.3**
TEOL	**Teolo**	**83.48**	**356**	P	**P**	**06 45 25.4**	**+0.5**
BNI	**Bardonecchia**	**83.92**	**359**	P	**P**	**06 45 27.8**	**+0.5**
BNI				IAmb	IAmb	06 45 29.4	
	comp=Z,6.0nm,0.8s						
WRA	**Warramunga Arr**	**84.02**	**228**	P	**P**	**06 45 27.2**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=42,slow=4.7,SNR=6.3						
VTS	**Vitosha**	**85.12**	**347**	P	**P**	**06 45 33.4**	**0.0**
VTS				IAmb	IAmb	06 45 34.2	
	comp=Z,4.5nm,0.8s						
BRTR	**Keskin Array B**	**86.01**	**339**	P	**P**	**06 45 37.2**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=36,slow=2.3,SNR=7.4						
BRTR	**Keskin Array B**	**86.01**	**339**	P	**P**	**06 45 37.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**86.72**	**236**	P	**P**	**06 45 42.2**	**+0.9**
	comp=Z,2.4nm,0.6s,baz=5.7,slow=5.8,SNR=4.9						
ASAR	**Alice Springs**	**87.45**	**226**	P	**P**	**06 45 45.0**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=27,slow=4.5,SNR=8.3						
ESDC	**Sonseca Array**	**88.92**	**7**	P	**P**	**06 45 51.2**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=348,slow=4.6,SNR=12						
ESDC	**Sonseca Array**	**88.92**	**7**	P	**P**	**06 45 51.3**	**-0.4**
ESDC				IAmb	IAmb	06 45 52.3	
	comp=Z,2.1nm,0.9s						
TORD	**Torodi Ar. Bea**	**115.63**	**4**	PKP	**PKiKP**	**06 51 38.7**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=16,slow=2.4,SNR=4.2						
MAW	**Mawson**	**148.20**	**218**	PKPbc	**PKPbc**	**06 52 42.3**	**+0.6**
	comp=Z,1.9nm,0.9s,baz=70,slow=8.1,SNR=2.5						
BOSA	**Boshof**	**152.90**	**320**	PKPbc	**PKiKP**	**06 52 54.6**	**0.0**
	comp=Z,2.6nm,0.5s,baz=0.6,slow=3.5,SNR=10						
BOSA				PKPab	**PKPab**	**06 53 06.1**	**+0.5**
	comp=Z,7.3nm,0.6s,baz=28,slow=3.2,SNR=12						

BJI ***05*** *06:34:07.0±0.0, 51.°72N×174.°40W, h33km, mB5.3/34, mb5.1/65, Ms4.8/40, Ms7 4.7/40*
GCMT ***05*** *06:34:08.4±0.2, 51.°42N±0.°02×174.°33W±0.°03, h18km±1km, MW5.1/105, Moment Tensor Solution. s63,c90; s105,c155; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.38±.16; $M_{\theta\theta}$-3.20±.12; $M_{\phi\phi}$-0.18±.10; $M_{r\theta}$3.77±.34; $M_{\theta\phi}$-1.08±.07; $M_{\phi r}$2.35±.31; Best double couple: $M_0$5.63500×10^{16} NP1:ϕ_s264.00000°, δ20.00000°, λ111.00000°. NP2:ϕ_s61.00000°, δ71.00000°, λ82.00000°. Principal axes: T 5.6200, Plg63.0000°, Azm319.0000°; N 0.0250, Plg7.0000°, Azm63.0000°; P -5.6490, Plg26.0000°, Azm157.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
AEIC ***05*** *06:34:08±2.7, 51.°45N±0.°04×174.°48W±0.°07, h9km±3km Error ellipse: s-maj=6.3km s-min=6.0km az=144.0*
MOS ***05*** *06:34:09.0±0.9, 51.°62N×174.°49W, h41km, mb5.4/78, MS4.6/14, Error ellipse: s-maj=6.8km s-min=4.5km az=101.3*
IDC ***05*** *06:34:09.1±1.9, 51.°61N×174.°41W, h28km±12km, mb4.5/45, mb1 4.7/47, mb1mx4.6/68, mbtmp4.7/47, ML4.7/2, MS4.4/5, Ms1 4.5/5, ms1mx3.9/42, Error ellipse: s-maj=13.8km s-min=8.3km az=166.0*
NEIC ***05*** *06:34:11.4±2.0, 51.°51N±0.°06×174.°45W±0.°07, h48km±6km, mb5.2/181, Ms_20 4.6/75, ML5.0(AEIC), Error ellipse: s-maj=9.5km s-min=5.5km az=151.0*
BGR ***05*** *06:34:30.9±0.0, 53.°14N×175.°94W, h33km, mb5.2*
ISC 05 06:34:11.7±0.5**, 51.°67N**±0.°05×**174.°42W**±0.°03**, h49**km±3km**, h49**km**:pP-P, n918,** σ1.s30/899**, mb5.2**/293**, MS4.7**/62**, 34C-36D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.55**	**14**	Pn	**Pn**	**06 34 23.5**	**+0.1**
ATKA	**Atka Island**	**0.55**	**14**		**Sn**	**06 34 36.0**	**+4.0**
KOWE	**Korovin West**	**0.70**	**8**		**Pn**	**06 34 26.5**	**+1.0**
GSIG	**Igitkin Island**	**0.99**	**289**		**Pn**	**06 34 28.4**	**-0.8**
GSTR	**Great Sitkin T**	**1.10**	**293**	Pn	**Pn**	**06 34 30.5**	**-0.3**
GSTD	**Great Sitkin T**	**1.14**	**290**		**Pn**	**06 34 31.1**	**-0.2**
ETKA	**Kagalaska Isla**	**1.25**	**280**		**Pn**	**06 34 31.7**	**-1.0**
ETKA					**Sn**	**06 34 49.6**	**+1.1**
ADK	**Adak**	**1.42**	**279**	Pn	**Pn**	**06 34 34.2**	**-0.9**
ADK	**Adak**	**1.42**	**279**		**Sn**	**06 34 54.3**	**+1.6**
KIWB	**Kanaga Island**	**1.71**	**277**	Pn	**Pn**	**06 34 38.2**	**-0.8**
KIMD	**Kanaga Island**	**1.75**	**274**		**Pn**	**06 34 38.8**	**-0.8**
TASE	**Tanaga Southea**	**2.25**	**276**		**Pn**	**06 34 46.1**	**-0.4**
NIKH	**Nikolski High**	**3.65**	**67**	Pn	**Pn**	**06 35 04.8**	**-0.9**
NIKH	**Nikolski High**	**3.65**	**67**	P	**Pn**	**06 35 09.4**	**+3.7**
	baz=248						
CEAP	**Semis' Anvil P**	**3.74**	**277**		**Pn**	**06 35 06.7**	**-0.2**
OKWE	**Okmok W'ng Wal**	**4.18**	**62**		**Pn**	**06 35 15.4**	**+2.5**
OKCE	**Okmok Cone E**	**4.20**	**63**		**Pn**	**06 35 16.0**	**+2.7**
MCIR	**Makushin Cirqu**	**5.11**	**60**		**Pn**	**06 35 28.3**	**+2.7**
UNV	**Unalaska Valle**	**5.28**	**63**	Pn	**Pn**	**06 35 29.3**	**+1.4**
UNV	**Unalaska Valle**	**5.28**	**63**	P	**Pn**	**06 35 30.3**	**+2.5**
	baz=247,SNR=7.3						
AKRB	**Akutan Reef Bi**	**5.62**	**61**		**Pn**	**06 35 35.6**	**+3.0**
AKMO	**Akutan Morgan**	**5.64**	**61**		**Pn**	**06 35 35.0**	**+2.1**
AKBBA	**Akutan Broad B**	**5.68**	**61**		**Pn**	**06 35 35.6**	**+2.1**
AKLV	**Akutan Long Va**	**5.70**	**61**		**Pn**	**06 35 36.5**	**+2.8**
HSB	**Akutan Spr's B**	**5.73**	**61**		**Pn**	**06 35 36.9**	**+2.7**
AKUT	**Akutan**	**5.79**	**61**	Pn	**Pn**	**06 35 33.8**	**-1.1**
SPIA	**Saint Paul Isl**	**6.03**	**22**	Pn	**Pn**	**06 35 39.6**	**+1.4**
SPIA	**Saint Paul Isl**	**6.03**	**22**	P	**Pn**	**06 35 42.4**	**+4.2**
	baz=205,SNR=9.3						
WESP	**Westdahl Peak**	**6.49**	**60**		**Pn**	**06 35 46.1**	**+1.5**
ISLZ	**Isanotski Laza**	**7.12**	**60**		**Pn**	**06 35 54.9**	**+1.6**
SMY	**Shemya**	**7.14**	**283**	P	**Pn**	**06 35 52.9**	**-0.5**
SMY	**Shemya**	**7.14**	**283**	Pn	**Pn**	**06 35 52.9**	**-0.5**
FALS	**False Pass**	**7.33**	**60**	Pn	**Pn**	**06 35 56.9**	**+0.9**
FALS	**False Pass**	**7.33**	**60**	P	**Pn**	**06 35 59.6**	**+3.6**
	baz=247,SNR=8.9						
SDPT	**Sand Point**	**9.09**	**61**	Pn	**Pn**	**06 36 18.6**	**-1.4**
SDPT	**Sand Point**	**9.09**	**61**	P	**Pn**	**06 36 21.4**	**+1.3**
	baz=251						
CNBA	**Chernabura Isl**	**9.43**	**65**	Pn	**Pn**	**06 36 24.0**	**-0.8**
CHNA	**Chernabura Isl**	**9.44**	**65**	P	**Pn**	**06 36 24.8**	**0.0**
	baz=255						
CHGN	**Chignik**	**10.50**	**58**	Pn	**Pn**	**06 36 38.9**	**-0.4**
CHGN	**Chignik**	**10.50**	**58**	P	**Pn**	**06 36 40.4**	**+1.1**
	baz=250						
GAMB	**Gambell**	**12.22**	**6**	Pn	**Pn**	**06 37 05.7**	**+2.8**
GAMB	**Gambell**	**12.22**	**6**	P	**Pn**	**06 37 07.4**	**+4.6**
	baz=188						
OHAK	**Old Harbor**	**13.46**	**57**	Pn	**Pn**	**06 37 19.1**	**-0.7**
O18K	**Koktuh Hills**	**13.53**	**45**	Pn	**Pn**	**06 37 21.5**	**+0.8**
O18K	**Koktuh Hills**	**13.53**	**45**	P	**Pn**	**06 37 22.3**	**+1.6**
	baz=241						
N18K	**Kilae Creek**	**13.66**	**41**	Pn	**Pn**	**06 37 23.7**	**+1.2**
N18K	**Kilae Creek**	**13.66**	**41**	P	**P**	**06 37 27.5**	**-2.6**
	baz=236						
ANM	**Nome**	**13.76**	**17**	P	**Pn**	**06 37 24.8**	**+1.0**
ANM	**Nome**	**13.76**	**17**		**Pn**	**06 37 24.8**	**+1.0**
Q19K	**Cape Douglas,**	**13.84**	**50**	Pn	**Pn**	**06 37 24.3**	**-0.7**
Q19K	**Cape Douglas,**	**13.84**	**50**	P	**P**	**06 37 29.9**	**-2.2**
	baz=247						
KDAK	**Kodiak Island**	**13.98**	**56**	Pn	**Pn**	**06 37 23.3**	**-3.6**
	2.1nm,0.3s,baz=310,slow=12,SNR=1.8						
KDAK				Sn	**S**	**06 40 13.1**	**-6.8**
	0.7nm,0.3s,baz=119,slow=19,SNR=2.1						
KDAK	**Kodiak Island**	**13.98**	**56**	P	**Pn**	**06 37 26.2**	**-0.7**
KDAK	**Kodiak Island**	**13.98**	**56**	Pn	**Pn**	**06 37 26.1**	**-0.7**
KDAK	**Kodiak Island**	**13.98**	**56**	P	**P**	**06 37 33.2**	**-0.4**
	baz=253						
O19K	**Port Alsworth**	**14.08**	**45**	P	**P**	**06 37 35.1**	**+0.4**
	baz=241,SNR=10						
N19K	**Bonanza Creek**	**14.32**	**43**	Pn	**Pn**	**06 37 32.3**	**+0.9**
N19K	**Bonanza Creek**	**14.32**	**43**	P	**Pn**	**06 37 33.6**	**+2.2**
	baz=239,SNR=9.5						
TNA	**Tin City**	**14.32**	**11**	Pn	**P**	**06 37 34.5**	**-2.8**
TNA	**Tin City**	**14.32**	**11**	P	**P**	**06 37 35.2**	**-2.0**
	baz=196						
P19K	**Oil Pt**	**14.33**	**48**	Pn	**Pn**	**06 37 33.2**	**+1.6**
P19K	**Oil Pt**	**14.33**	**48**	P	**P**	**06 37 36.0**	**-1.5**
	baz=245,SNR=9.6						
O20K	**Slope Mountain**	**14.79**	**47**	P	**Pn**	**06 37 39.9**	**+2.3**
	baz=244,SNR=12						
L19K	**White Mountain**	**14.93**	**38**	P	**P**	**06 37 43.8**	**-0.3**
	baz=234,SNR=26						
M19K	**Big River Lodg**	**14.94**	**39**	P	**P**	**06 37 43.9**	**-0.3**
	baz=235,SNR=16						
HOM	**Homer**	**15.07**	**49**	P	**Pn**	**06 37 43.1**	**+1.9**
	baz=247,SNR=5.5						
CNPM	**China Poot**	**15.22**	**50**		**Pn**	**06 37 43.2**	**0.0**
M20K	**Styx River**	**15.43**	**40**	P	**P**	**06 37 50.0**	**+0.3**
	baz=238,SNR=15						
BRLK	**Bradley Lake**	**15.47**	**49**		**Pn**	**06 37 48.2**	**+1.8**
BRLK				IAmb	IAmb	06 37 49.8	
	comp=Z,112nm,1.1s						
L20K	**Farewell, AK**	**15.47**	**38**	P	**P**	**06 37 51.4**	**+1.3**
	baz=235,SNR=9.3						
BRSE	**Bradley Lake S**	**15.53**	**49**	P	**Pn**	**06 37 48.7**	**+1.5**
	baz=248,SNR=11						
CAPN	**Captain Cook N**	**15.74**	**46**	P	**P**	**06 37 54.0**	**+0.9**
	baz=244						
K20K	**Telida**	**15.92**	**35**	Pn	**P**	**06 37 53.8**	**-1.3**
K20K				IAmb	IAmb	06 38 04.1	
	comp=Z,112nm,1.0s						
K20K	**Telida**	**15.92**	**35**	P	**P**	**06 37 55.1**	**0.0**
	baz=232,SNR=18						
SKT	**Skwentna**	**16.13**	**41**	P	**P**	**06 37 58.0**	**+0.5**
	baz=240,SNR=9.5						
SUA	**Susitna One**	**16.22**	**44**		**P**	**06 37 57.3**	**-1.2**
SUA	**Susitna One**	**16.22**	**44**	P	**Pn**	**06 37 57.1**	**+1.0**
	baz=243						
SEW	**Seward**	**16.26**	**49**		**Pn**	**06 37 56.2**	**-0.2**
SEW				IAmb	IAmb	06 38 13.0	
	comp=Z,303nm,1.9s						
SEW	**Seward**	**16.26**	**49**	P	**Pn**	**06 37 55.0**	**-1.5**
	baz=249						
O22K	**Cooper Landing**	**16.27**	**48**	P	**P**	**06 37 58.2**	**-0.7**
	baz=248,SNR=6.9						
PPLA	**Purkeypile**	**16.35**	**38**		**P**	**06 37 58.9**	**-1.1**
PPLA				IAmb	IAmb	06 38 19.3	
	comp=Z,159nm,1.2s						
PPLA	**Purkeypile**	**16.35**	**38**	P	**P**	**06 38 03.1**	**+3.1**
	baz=236,SNR=6.4						
J20K	**Nowinta River**	**16.41**	**32**	Pn	**P**	**06 37 59.9**	**-0.6**
J20K	**Nowinta River**	**16.41**	**32**	P	**P**	**06 38 02.0**	**+1.5**
	baz=229						
PET	**Petropavlovsk**	**16.48**	**285**	*e*P	**Pn**	**06 37 59.9**	**+0.7**
PET				*e*S	**Sn**	**06 41 01.2**	**+0.3**
PET				pmax	pmax		
	comp=Z,300nm,10.1s						
PET				pmax	pmax		
	comp=Z,400nm,12.0s						
PET				pmax	pmax		
	comp=Z,49nm,1.5s						
PET				MLR	MLR		
	comp=Z,1μm,18.0s						
RC01	**Rabbit Creek A**	**16.50**	**46**		**Pn**	**06 38 00.1**	**+0.6**
RC01	**Rabbit Creek A**	**16.50**	**46**	P	**Pn**	**06 38 00.1**	**+0.6**
	baz=246						
CHUM	**Lake Minchumin**	**16.87**	**35**	P	**P**	**06 38 06.8**	**+1.3**
	baz=234,SNR=14						
PMR	**Palmer**	**16.98**	**44**	P	**P**	**06 38 06.3**	**-0.4**
PMR				pmax	pmax		
	comp=Z,29nm,1.0s						
PMR	**Palmer**	**16.98**	**44**	P	**P**	**06 38 06.3**	**-0.4**
PMR	**Palmer**	**16.98**	**44**	P	**Pn**	**06 38 05.3**	**-0.1**
	baz=245						

PEA0B Petropavlovsk- 17.04 286 *ce*P P **06 38 03.0 -3.3**
PEA0B Petropavlovsk- 17.04 286 P P **06 38 04.6 -1.7**
PETK Petropavlovsk- 17.04 286 Pn Pn **06 38 06.8 +0.5**
comp=Z,2.7nm,0.3s,baz=94,slow=12,SNR=13
PETK LR LR 06 44 46.1
comp=Z,394nm,20.1s,baz=97,slow=37
GHO Glory Hole Cre 17.14 44 P P **06 38 08.2 -0.5**
KNK Knik Glacier 17.20 45 P Pn **06 38 07.2 -1.0**
baz=247,SNR=10
RDOG Red Dog Mine 17.36 15 P P **06 38 17.4 +6.4**
baz=204,SNR=10.0
TRF Thorofare Moun 17.38 38 P P **06 38 12.1 +0.7**
baz=238,SNR=5.3
SML Sawmill 17.41 44 P Pn **06 38 10.5 -0.4**
baz=246,SNR=10
BPAW Bear Paw Mtn. 17.47 36 P P **06 38 12.0 -0.2**
BPAW IAmb IAmb 06 38 33.7
comp=Z,124nm,1.0s
BPAW Bear Paw Mtn. 17.47 36 P P **06 38 13.3 +1.1**
baz=235,SNR=20
GLI Glacier Island 17.62 48 P Pn **06 38 11.1 -2.4**
baz=250
IMAR Indian Mountai 17.76 28 P **06 38 16.9 +1.6**
WAT1 Susitna Watana 17.76 41 P Pn **06 38 14.4 -0.7**
baz=243
I21K Tanana 17.77 32 P P **06 38 17.5 +2.0**
baz=231,SNR=17
WAT6 Susitna Watana 17.98 42 P Pn **06 38 17.8 -0.2**
baz=244,SNR=6.6
MCK McKinley 18.04 38 P P **06 38 18.0 -0.5**
baz=240,SNR=12
BWN Browne 18.07 37 P Pn **06 38 19.7 +0.9**
BWN IAmb IAmb 06 38 41.1
comp=Z,230nm,1.1s
MLY Manley 18.10 33 P Pn **06 38 20.3 +1.0**
baz=233,SNR=17
EYAK Cordova Ski Ar 18.15 50 P P **06 38 18.8 -0.9**
baz=253
KLU Klutina 18.36 47 P P **06 38 21.8 -0.3**
KLU Klutina 18.36 47 P P **06 38 21.4 -0.7**
baz=250,SNR=12
NEA2 Nenana 18.44 36 P P **06 38 22.8 -0.1**
baz=237,SNR=7.8
SKR Severo-Kuril's 18.45 279 *e*P P **06 38 20.2 -2.8**
SKR *e*S S **06 41 51.9 +1.0**
SKR pmax pmax
comp=Z,100nm,3.2s
SKR pmax pmax
comp=Z,100nm,3.0s
SKR MLR MLR
comp=Z,700nm,16.0s
SKR MLR MLR
comp=Z,700nm,16.0s
M24K Tolsona, Glenn 18.47 45 P Pn **06 38 23.7 -0.1**
M24K IAmb IAmb 06 38 48.6
comp=Z,134nm,1.1s
M24K Tolsona, Glenn 18.47 45 P Pn **06 38 24.1 +0.3**
baz=248,SNR=14
I23K Minto, Yukon-K 18.64 34 P Pn **06 38 26.1 +0.3**
baz=235,SNR=27
BMRM Bremner River 18.81 49 P P **06 38 26.5 -0.5**
baz=253,SNR=5.2
BILL Bilibino 18.91 337 *c i*P Pn **06 38 30.6 +1.6**
BILL *e*S Sn **06 41 50.2 -9.3**
BILL pmax pmax
comp=Z,154nm,1.7s
BILL MLR MLR
comp=Z,959nm,18.0s
BILL Bilibino 18.91 337 P Pn **06 38 30.0 +1.0**
BILL IAmb IAmb 06 38 37.4
comp=Z,284nm,1.2s
H23K Yukon River 18.98 32 P Pn **06 38 32.1 +2.3**
baz=233,SNR=10
N25K Chitina, Valde 19.00 47 P P **06 38 28.5 -0.6**
baz=252,SNR=6.5
HARP HAARP 19.02 44 P P **06 38 29.0 -0.3**
baz=249,SNR=9.1
TCOL CIGO, UAF Yank 19.03 36 P Pn **06 38 30.5 +0.1**
TCOL CIGO, UAF Yank 19.03 36 P Pn **06 38 30.7 +0.3**
baz=238
COLA College 19.03 36 P Pn **06 38 30.7 +0.3**
COLA pmax pmax
comp=Z,84nm,1.2s
COLA College 19.03 36 P Pn **06 38 30.7 +0.3**
COLA College 19.03 36 P Pn **06 38 30.7 +0.3**
baz=238
PAX Paxson 19.10 43 P P **06 38 30.3 +0.2**
baz=247,SNR=8.4
HDA Harding Lake 19.14 38 P P **06 38 30.1 -0.4**
baz=241,SNR=28
POKR Poker Plat Res 19.31 35 P P **06 38 32.7 +0.3**
POKR Poker Plat Res 19.31 35 P P **06 38 32.5 +0.1**
baz=238
GLB Gilahina Butte 19.31 48 P P **06 38 32.4 -0.1**
ILAR Eielson Array 19.34 37 P P **06 38 31.0 -1.7**
comp=Z,12nm,0.3s,baz=232,slow=8.8,SNR=35
ILAR ScP **ScP** **06 46 24.9 +0.6**
baz=306,slow=3.7,SNR=4.4
ILAR LR LR 06 46 44.4
comp=Z,1μm,18.6s,baz=244,slow=39
VRDI Verde Repeater 19.42 48 P Pn **06 38 35.2 -0.1**
CRQM Cirque 19.45 50 P Pn **06 38 35.2 -0.4**
CRQE Cirque 19.47 50 P P **06 38 35.0 +0.7**
baz=256
WAX Waxell Ridge 19.52 51 P P **06 38 34.8 0.0**
WAX IAmb IAmb 06 38 55.0
comp=Z,89nm,0.9s
H24K Noodor Dome 19.54 33 P P **06 38 35.2 +0.2**
baz=236,SNR=17
COLD Coldfoot 19.64 28 P Pn **06 38 37.8 +0.1**
COLD IAmb IAmb 06 38 46.4
comp=Z,99nm,1.0s
COLD Coldfoot 19.64 28 P Pn **06 38 37.7 +0.1**
baz=229,SNR=7.4
MCARA McCarthy VSAT 19.66 48 P P **06 38 37.0 +0.8**
MCARA McCarthy VSAT 19.66 48 P P **06 38 36.1 -0.1**
baz=254
RIDG Independent Ri 19.66 41 P P **06 38 35.7 -0.6**
baz=246,SNR=15
ISLE Juniper Island 19.80 51 P Pn **06 38 39.7 0.0**
ISLE IAmb IAmb 06 39 01.7
comp=Z,139nm,1.2s
J25K Salcha River, 19.83 38 P P **06 38 37.2 -1.0**
baz=243
MESA MESA 19.90 52 IAMs_20 IAMs_20 06 47 28.6
comp=Z,3μm,20.0s
M26K Nabesna, AK 19.97 45 IAMs_20 IAMs_20 06 46 31.7
comp=Z,2μm,20.0s
M26K Nabesna, AK 19.97 45 P P **06 38 40.6 +1.0**
baz=252,SNR=24
L26K Log Cabin Wild 20.02 43 P Pn 06 38 42.0 -0.2
baz=250,SNR=14
YAH Yahtse 20.04 52 P Pn 06 38 42.4 -0.2
YAH IAmb IAmb 06 39 00.3
comp=Z,118nm,1.2s
YAH IAMs_20 IAMs_20 06 47 42.1
comp=Z,4μm,18.0s
GRNC Granite Creek 20.11 50 P Pn 06 38 42.8 -0.6
GRNC IAMs_20 IAMs_20 06 47 36.1
comp=Z,2μm,20.0s
SCRK Sand Creek 20.11 41 IAMs_20 IAMs_20 06 46 53.6
comp=Z,2μm,19.0s
SCRK Sand Creek 20.11 41 P P **06 38 40.4 -0.8**
baz=246,SNR=42
PRP Porcupine Dome 20.21 36 P P **06 38 42.4 +0.2**
PRP Porcupine Dome 20.21 36 P P **06 38 42.5 +0.2**
baz=240
BARN Barnard Glacie 20.22 50 P P **06 38 43.0 +0.4**
TABL Table Mountain 20.34 51 P P **06 38 43.3 -0.6**
TABL IAmb IAmb 06 39 03.9
comp=Z,88nm,1.0s
TABL IAMs_20 IAMs_20 06 47 52.4
comp=Z,3μm,18.0s
CTG Chitna Glacier 20.35 50 P P **06 38 43.7 -0.2**
baz=257,SNR=7.2
CTGM Chitina Glacie 20.36 50 P P **06 38 44.9 +0.9**
J26K Charley River, 20.42 39 P P **06 38 43.9 -0.7**
baz=245,SNR=22
M27K Edge Creek, AK 20.45 46 P Pn 06 38 46.5 -1.0
M27K IAMs_20 IAMs_20 06 46 47.5
comp=Z,2μm,20.0s
M27K Edge Creek, AK 20.45 46 P Pn 06 38 46.9 -0.6
baz=253,SNR=15
LOGN Logan Glacier 20.49 50 P P **06 38 46.5 +1.1**
L27K Beaver Creek, 20.69 44 IAMs_20 IAMs_20 06 47 27.7
comp=Z,2μm,18.0s
L27K Beaver Creek, 20.69 44 P Pn 06 38 49.3 -0.8
baz=251
PINM Pinnacle 20.72 53 P P **06 38 47.8 -0.1**
baz=261
TOLK Toolik Lake Re 20.76 26 IAMs_20 IAMs_20 06 47 32.4
comp=Z,4μm,19.0s
TOLK Toolik Lake Re 20.76 26 P Pn 06 38 49.6 -1.4
baz=227,SNR=12
FYU Fort Yukon 20.84 33 P Pn 06 38 50.7 -1.1
FYU IAmb IAmb 06 39 06.0
comp=Z,108nm,1.2s
K27K Chicken 20.91 41 P P **06 38 49.9 +0.2**
baz=249,SNR=16
SEY Seymchan 20.91 315 P P **06 38 50.8 +1.1**
comp=Z,19nm,0.9s,baz=110,slow=9.7,SNR=7.5
SEY Seymchan 20.91 315 *i*P P **06 38 48.8 -0.9**
BVCY Beaver Creek 20.92 46 P Pn 06 38 52.1 -0.9
baz=254,SNR=9.6
YUK3 Moose Creek 20.95 48 P Pn 06 38 52.8 -0.6
baz=256
MA2 Magadan 20.98 306 LR LR 06 46 56.8
comp=Z,1μm,18.8s,baz=108,slow=36
MA2 Magadan 20.98 306 *i*P P **06 38 50.2 -0.3**
MA2 pmax pmax
comp=Z,32nm,1.0s
A21K Barrow 21.29 16 IAMs_20 IAMs_20 06 48 03.5
comp=Z,2μm,19.0s
BMAR Burnt Mountain 21.52 32 P P **06 38 57.8 +1.6**
EGAK Eagle 21.55 40 P P **06 38 56.8 +0.2**
baz=248
YUK4 Talbot Arm 21.71 50 P P **06 39 00.7 +2.2**
baz=259
YUK6 Outpost Mounta 21.78 51 P P **06 38 59.7 +0.4**
baz=261
DAWY Dawson 22.03 42 P P **06 39 02.5 +0.7**
baz=252,SNR=7.8
HYT Haines Junctio 22.18 51 P P **06 39 04.0 +0.5**
HYT Haines Junctio 22.18 51 P P **06 39 03.6 +0.1**
baz=252
SKAG Skagway 23.14 55 P P **06 39 14.0 +0.6**
baz=267
SIT Sitka 23.16 61 P P **06 39 14.5 +0.9**
SIT pmax pmax
comp=Z,56nm,0.9s
SIT Sitka 23.16 61 P P **06 39 14.1 +0.5**
baz=273
EPYK Eagle Plains 23.84 38 P P **06 39 18.8 -1.2**
baz=250,SNR=9.4
CRAG Craig 24.55 65 P P **06 39 25.9 -0.6**
CRAG IAmb IAmb 06 39 43.3
comp=Z,107nm,1.2s
CRAG Craig 24.55 65 P P **06 39 28.7 +2.2**
baz=278
WRAK Wrangell Islan 24.86 62 P P **06 39 30.8 +1.5**
WRAK IAmb IAmb 06 39 44.7
comp=Z,82nm,1.0s
WRAK Wrangell Islan 24.86 62 P P **06 39 31.7 +2.5**
baz=276,SNR=14
MMPY Sheldon Lake, 25.34 48 P P **06 39 34.0 +0.3**
baz=264,SNR=6.2
DIB Dawson Inlet, 25.36 70 P P **06 39 34.9 +1.0**
DIB IAmb IAmb 06 39 53.0
comp=Z,45nm,0.9s
INK Inuvik 25.66 34 P P **06 39 35.6 -0.8**
comp=Z,4.9nm,0.3s,baz=227,slow=8.1,SNR=11
INK Inuvik 25.66 34 P P **06 39 36.2 -0.3**
baz=250,SNR=11
DLBC Dease Lake 25.91 57 P P **06 39 40.4 +1.5**
comp=Z,20nm,0.8s,baz=222,slow=8.4,SNR=11
DLBC Dease Lake 25.91 57 P P **06 39 40.2 +1.3**
RUBB Prince Rupert 26.39 67 P P **06 39 44.5 +1.4**
RUBB IAmb IAmb 06 40 01.0
comp=Z,69nm,1.1s
TYV Tymovskoe 26.59 285 *e*P P **06 39 44.7 -0.3**
TYV *e*S S **06 44 18.7 +2.6**
TYV pmax pmax
comp=Z,11nm,1.0s
TYV pmax pmax
comp=Z,200nm,3.3s
TYV smax smax
comp=N,9.0nm,1.3s
TYV smax smax
comp=E,11nm,1.3s
TYV smax smax
comp=E,400nm,6.8s
TYV smax smax
comp=N,400nm,6.2s
YSS Yuzh-Sakhalins 28.01 277 *e*P P **06 39 57.4 -0.4**
YSS *e*S S **06 44 39.7 +1.2**
YSS pmax pmax
comp=Z,40nm,1.2s
YSS pmax pmax
comp=Z,300nm,3.3s
YSS Yuzh-Sakhalins 28.01 277 IAMs_20 IAMs_20 06 50 26.3
comp=Z,1μm,20.0s
BBB Bella Bella 28.19 70 P P **06 40 00.6 +1.3**
comp=Z,8.2nm,1.1s,baz=282,slow=12,SNR=3.6
JKA Kamikawa-asahi 29.43 272 P P **06 40 11.2 +0.7**
JKA IAmb IAmb 06 40 22.8
comp=Z,26nm,0.8s
ASAJ Asahikawa 29.44 272 P P **06 40 11.5 +1.0**
comp=Z,19nm,0.9s,baz=47,slow=9.1,SNR=5.9
A36M Sachs Harbour 29.51 29 IAMs_20 IAMs_20 06 53 56.4
comp=Z,1μm,19.0s
GRNR Gornyy 30.34 288 ⇑ *i*P P **06 40 18.4 -0.1**
GRNR pmax pmax
comp=Z,10.0nm,1.0s
YAK Yakutsk 31.28 311 *e*P P **06 40 27.2 +0.6**
YAK *e**PP **pP** **06 40 39.4 +0.2**
YAK *e* 06 41 24.7
YAK *e* 06 43 16.4
YAK *e*S S **06 45 34.7 +5.2**
YAK *e**SS **sS** **06 45 51.7 +1.7**
YAK *e*SS **SnSn** **06 47 15.9 +0.2**
YAK *e* 06 50 55.0
YAK pmax pmax
comp=Z,21nm,0.9s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK pmax pmax
comp=Z,121nm,3.1s
YAK smax smax
comp=N,31nm,2.0s
YAK smax smax
comp=E,15nm,2.0s
YAK MLR MLR
comp=Z,2μm,20.0s
YAK MLR MLR
comp=E,1μm,18.0s
YAK MLR MLR
comp=N,564nm,16.0s
YAK Yakutsk 31.28 311 IAMs_20 IAMs_20 06 53 08.0
comp=Z,2μm,19.0s
TIXI Tiksi 31.75 330 P P **06 40 30.7 +0.2**
comp=Z,3.8nm,0.4s,baz=117,slow=12,SNR=2.1
TIXI PcP **PcP** **06 43 20.4 -0.3**
comp=Z,10nm,0.8s,baz=34,slow=3.6,SNR=3.0
YKA Yellowknife Ar 33.03 47 P P **06 40 41.1 -0.8**
comp=Z,0.6nm,0.3s,baz=279,slow=8.0,SNR=9.2
YKA PcP **PcP** **06 43 24.3 -0.1**
comp=Z,2.0nm,0.7s,baz=294,slow=1.9,SNR=4.6
B05A Bryant 33.23 75 P P **06 40 44.9 +1.0**
baz=296,SNR=5.4
B06A Marblemount 33.49 74 P P **06 40 47.2 +1.1**
B06A IAmb IAmb 06 41 03.4
comp=Z,27nm,1.2s
KLR Kul'dur 33.72 288 P P **06 40 47.8 -0.3**
comp=Z,17nm,0.5s,baz=69,slow=6.6,SNR=27
KLR Kul'dur 33.72 288 *ce*P P **06 40 47.4 -0.6**
KLR pmax pmax
comp=Z,11nm,0.5s
JMM Marumori 34.10 264 P P **06 40 50.7 -0.8**
JMM IAmb IAmb 06 40 52.1
comp=Z,44nm,1.1s
LTY Liberty 34.55 76 P P **06 40 56.3 +1.0**
ZEA Zeya 34.55 297 *e*P P **06 40 54.5 -0.7**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
ZEA MLR MLR
comp=E,300nm,16.0s
B08A Colville Reser 34.84 73 P P **06 40 58.5 +0.6**
B08A IAmb IAmb 06 41 15.3
comp=Z,30nm,0.9s
H04A Detroit Lake 34.88 80 P P **06 40 58.8 +0.6**
H04A IAmb IAmb 06 41 14.2
comp=Z,30nm,1.0s
H11N2 WAKE ISLAND Hy 35.09 212 T T 07 18 33.3
baz=22,SNR=274
H11N3 WAKE ISLAND Hy 35.09 212 T T 07 18 39.0
baz=22,slow=74,SNR=176
H11N1 WAKE ISLAND Hy 35.10 212 T T 07 18 36.2
baz=22,slow=74,SNR=94
I04A Tendick Farm, 35.20 82 P P **06 41 01.2 +0.2**
baz=301
JYT Yasato 35.51 262 P P **06 41 03.3 -0.3**
I05D Terrebonne, OR 35.57 80 P P **06 41 05.3 +1.1**
baz=301
HAWA Hanford 35.64 76 P P **06 41 05.3 +0.6**
HAWA IAmb IAmb 06 41 23.6
comp=Z,20nm,0.8s
F07A Phinny Hill Vi 35.65 77 P P **06 41 05.5 +0.8**
F07A IAmb IAmb 06 41 23.1
comp=Z,17nm,0.8s
USA0B Ussuriysk Arra 35.96 280 *i*P P **06 41 06.8 -0.6**
USA0B Ussuriysk Arra 35.96 280 P P **06 41 07.1 -0.3**
USA0B IAmb IAmb 06 41 09.3
comp=Z,47nm,1.0s
USRK Ussuriysk Ar. 35.96 280 P P **06 41 07.2 -0.2**
comp=Z,29nm,0.6s,baz=57,slow=9.6,SNR=41
USRK Ussuriysk Ar. 35.96 280 P P **06 41 07.0 -0.4**
PINE Pine Mountain 36.10 81 P P **06 41 09.8 +0.9**
PINE IAmb IAmb 06 41 24.9
comp=Z,35nm,1.1s
YBH Yreka Blue Hor 36.13 85 P P **06 41 09.8 +0.8**
comp=Z,2.5nm,0.8s,baz=240,slow=5.5,SNR=3.9
NEW Newport 36.20 72 P P **06 41 10.2 +0.7**
comp=Z,18nm,1.0s,baz=298,slow=4.8,SNR=8.4
NEW Newport 36.20 72 P P **06 41 10.2 +0.7**
NEW IAmb IAmb 06 41 26.7
comp=Z,45nm,1.2s
NEW Newport 36.20 72 P P **06 41 09.9 +0.4**
baz=297,SNR=10.0
EDM Edmonton 36.26 63 P P **06 41 10.5 +0.5**
EDM pmax pmax
comp=Z,247nm,1.2s
EDM Edmonton 36.26 63 P P **06 41 10.5 +0.5**
H11S1 WAKE ISLAND Hy 36.29 211 T T 07 20 25.1
baz=20,slow=76,SNR=267
H11S2 WAKE ISLAND Hy 36.31 211 T T 07 20 26.3
baz=20,slow=76,SNR=99
H11S3 WAKE ISLAND Hy 36.31 211 T T 07 20 24.7
baz=20,slow=76,SNR=36
MAJO Matsushiro 36.54 264 *i*P P **06 41 12.3 -0.2**
MAJO pmax pmax
comp=Z,25nm,1.0s
MAJO Matsushiro 36.54 264 P P **06 41 11.7 -0.8**
MAJO IAmb IAmb 06 41 28.0
comp=Z,59nm,1.4s
MAT Matsushiro 36.54 264 P P **06 41 11.6 -0.9**
MAT S S **06 46 57.0 +5.7**
MJAR Matsushiro Arr 36.54 264 P P **06 41 11.9 -0.6**
comp=Z,4.1nm,0.6s,baz=46,slow=7.4,SNR=13
MJAR Matsushiro Arr 36.54 264 P P **06 41 12.2 -0.3**
MJAR pmax pmax
comp=Z,6.0nm,1.0s
MJAR Matsushiro Arr 36.54 264 P P **06 41 12.2 -0.3**
VLA Vladivostok 36.60 278 *c i*P P **06 41 12.6 -0.2**
K05A Summer Lake 36.70 82 P P **06 41 15.3 +1.3**
K05A IAmb IAmb 06 41 29.5
comp=Z,36nm,0.9s
I07A Izee 36.83 80 P P **06 41 15.6 +0.5**
I07A IAmb IAmb 06 41 30.3
comp=Z,20nm,1.0s
O02D Mt. Diablo Mer 36.97 87 P P **06 41 16.9 +0.7**
baz=305,SNR=5.4
MDJ Mudanjiang 37.21 282 P P **06 41 17.4 -0.6**
MDJ S S **06 47 04.2 +2.9**
MDJ PcS **PcS** **06 47 22.6 -2.6**
MDJ pmax pmax
comp=Z,29nm,1.1s
MDJ pmax pmax
comp=Z,350nm,12.0s
MDJ LR LR
comp=Z,480nm,16.9s
MDJ LR LR
comp=Z,820nm,20.6s
MDJ LR LR
comp=Z,1μm,20.6s
MDJ Mudanjiang 37.21 282 IAMs_20 IAMs_20 06 56 22.1
comp=Z,1μm,20.0s
MSHR Mys Shultsa 37.34 278 *ce*P P **06 41 19.6 +0.5**
MSHR pmax pmax
comp=Z,61nm,1.7s
O03E Paynes Creek 37.51 86 P P **06 41 20.4 -0.4**
baz=305,SNR=6.7
JGF Kuroka 37.67 264 P P **06 41 21.8 -0.3**
JGF IAmb IAmb 06 41 37.8
comp=Z,75nm,1.6s
J08A Circle Bar Ran 37.85 80 P P **06 41 23.7 +0.1**
J08A IAmb IAmb 06 41 38.3
comp=Z,18nm,0.9s
WVOR Wild Horse Val 38.26 81 P P **06 41 27.9 +0.8**
WVOR pmax pmax
comp=Z,42nm,1.1s
RES Resolute Bay 38.34 25 P P **06 41 26.7 -0.4**
comp=Z,2.7nm,0.5s,baz=28,slow=15,SNR=0.9
MSO Missoula 38.78 73 P P **06 41 31.8 +0.4**
baz=300,SNR=7.9
BOD Bodaibo 39.98 308 *e*P P **06 41 40.6 -0.5**
BOD pmax pmax
comp=Z,21nm,1.3s
CN2 Changchun 40.16 283 *e*P P **06 41 42.2 -0.6**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 LR LR
comp=Z,800nm,19.0s
CN2 LR LR
comp=Z,800nm,19.0s
CN2 LR LR
comp=Z,1μm,23.0s
HLID Hailey 40.22 77 P P **06 41 43.5 +0.1**
baz=303
EGMT Eagleton 40.64 69 P P **06 41 47.5 +0.7**
baz=300
HIA Hailar 40.70 294 *c i*P P **06 41 46.1 -1.1**
HIA pmax pmax
comp=Z,17nm,1.0s
HIA Hailar 40.70 294 IAMs_20 IAMs_20 07 01 52.0
comp=Z,517nm,18.0s
LHV Little Huntoon 40.78 87 P P **06 41 47.7 -0.3**
LHV IAmb IAmb 06 42 03.9
comp=Z,31nm,1.1s
BOZ Bozeman (W) 40.79 73 P P **06 41 48.3 +0.1**
BOZ pmax pmax
comp=Z,18nm,0.9s
BOZ Bozeman (W) 40.79 73 P P **06 41 48.3 +0.1**
BOZ Bozeman (W) 40.79 73 P P **06 41 47.9 -0.3**
baz=302,SNR=9.3
NVAR Mina Array Bea 40.80 86 P P **06 41 48.9 +0.5**
comp=Z,2.2nm,0.8s,baz=296,slow=8.4,SNR=5.1
NVAR ScP **ScP** **06 47 35.1 +1.2**
comp=Z,1.5nm,0.9s,baz=283,slow=3.4,SNR=4.1
MDPB Devils Postpil 40.81 88 P P **06 41 48.9 +0.3**
MDPB IAmb IAmb 06 42 02.8
comp=Z,27nm,1.0s
ELK Elko 41.31 81 P P **06 41 52.5 -0.1**
ELK pmax pmax
comp=Z,11nm,0.9s
ELK Elko 41.31 81 P P **06 41 52.5 -0.1**
QLMT Earthquake Lak 41.32 74 P P **06 41 53.8 +1.1**
TPH Tonopah 41.69 86 P P **06 41 55.9 +0.2**
TPH pmax pmax
comp=Z,119nm,1.1s
TPH Tonopah 41.69 86 P P **06 41 55.9 +0.2**
YHH Holmes Hill 41.69 73 P P **06 41 56.3 +0.6**
YHH IAmb IAmb 06 42 23.5
comp=Z,28nm,0.9s
VES Vestal, Richgr 41.93 90 P P **06 41 56.7 -0.7**
baz=310
H17A Grant Village 42.07 74 P P **06 42 02.6 +3.8**
baz=303
YNE Yellowstone No 42.07 73 P P **06 41 59.9 +1.1**
YMP Mirror Lake Pl 42.13 73 P P **06 41 59.9 +0.6**
YMP IAmb IAmb 06 42 16.9
comp=Z,47nm,1.5s
FLWY Flagg Ranch 42.17 74 P P **06 42 01.1 +1.6**
HVU Hansel Valley 42.22 78 P P **06 42 00.0 +0.1**
HVU pmax pmax
comp=Z,11nm,0.8s
HVU Hansel Valley 42.22 78 P P **06 42 00.0 +0.1**
KSRS Korea Array 42.36 274 P P **06 42 01.0 +0.1**
comp=Z,6.4nm,0.6s,baz=61,slow=7.2,SNR=12
KSAR Wonju Array Be 42.39 274 P P **06 42 00.9 -0.3**
KSAR Wonju Array Be 42.39 274 P P **06 42 00.8 -0.3**

RLMT Red Lodge 42.45 72 P **P** 06 42 03.0 +1.2
RLMT IAmb IAmb 06 42 19.4
comp=Z,35nm,0.9s
RLMT Red Lodge 42.45 72 P **P** 06 42 03.6 +1.8
baz=303,SNR=13
REDW Red Top Meadow 42.48 75 P **P** 06 42 02.7 +0.6
R11A Troy Canyon, C 42.54 84 P **P** 06 42 02.0 -0.5
baz=308
AHID Auburn Hatcher 42.67 76 P **P** 06 42 04.7 +1.1
AHID IAMs_20 IAMs_20 07 01 04.7
comp=Z,557nm,18.0s
MPMC Manual Prospec 42.79 88 P **P** 06 42 06.7 +2.0
baz=310
HWUT Hardware Ranch 43.06 78 P **P** 06 42 07.3 +0.6
DUG Dugway, Tooele 43.13 80 P **P** 06 42 07.8 +0.5
DUG pmax pmax
comp=Z,64nm,1.2s
DUG Dugway, Tooele 43.13 80 P **P** 06 42 07.8 +0.5
DUG IAmb IAmb 06 42 23.0
comp=Z,64nm,1.2s
DUG Dugway, Tooele 43.13 80 P **P** 06 42 08.0 +0.7
baz=306,SNR=12
JNU Nakatsue 43.32 267 P **P** 06 42 09.0 +0.2
comp=Z,23nm,0.9s,baz=43,slow=8.7,SNR=7.0
JNU LR LR 07 02 48.7
comp=Z,527nm,19.4s,baz=248,slow=40
LAO LASA Array 43.38 69 P **P** 06 42 09.0 -0.2
baz=302
DGMT Dagmar 43.59 65 IAMs_20 IAMs_20 06 59 40.6
comp=Z,744nm,20.0s
DGMT Dagmar 43.59 65 P **P** 06 42 10.5 -0.3
baz=302
BW06 Boulder Array 43.60 75 P **P** 06 42 10.7 -0.5
baz=305,SNR=8.2
PD31 Pinedale Array 43.60 75 P **P** 06 42 10.6 -0.6
PDAR Pinedale Array 43.60 75 P **P** 06 42 10.8 -0.4
comp=Z,4.9nm,0.6s,baz=309,slow=3.1,SNR=12
MWC Mount Wilson 43.62 91 P **P** 06 42 11.3 -0.1
MWC pmax pmax
comp=Z,34nm,1.1s
MWC Mount Wilson 43.62 91 P **P** 06 42 11.2 -0.1
MWC IAmb IAmb 06 42 25.6
comp=Z,34nm,1.1s
GSC Goldstone, Bar 43.70 89 P **P** 06 42 11.5 -0.4
baz=310
NLU North Lily Min 43.73 80 P **P** 06 42 12.2 0.0
NLU IAmb IAmb 06 42 27.0
comp=Z,32nm,1.1s
BFSC Mount Baldy Ra 43.86 91 P **P** 06 42 13.1 -0.1
baz=311,SNR=5.4
HEC Hector,Ludlow 44.30 89 P **P** 06 42 18.6 +2.0
baz=311
CCUT Cedar City 44.41 84 P **P** 06 42 18.0 +0.3
MVU Marysvale 44.53 82 P **P** 06 42 18.3 -0.3
MVU IAmb IAmb 06 42 33.3
comp=Z,64nm,0.9s
MSU Marysvale 44.54 82 P **P** 06 42 18.4 -0.3
MSU Marysvale 44.54 82 P **P** 06 42 18.4 -0.3
MURC Murrieta 44.57 91 P **P** 06 42 19.0 +0.2
baz=312
TMUT Trail Mountain 44.66 80 P **P** 06 42 19.9 +0.1
TMUT IAmb IAmb 06 42 38.3
comp=Z,29nm,0.8s
GMRC Granite Mounta 44.75 88 P **P** 06 42 19.6 -0.8
baz=311
MTPU Mount Pierson 44.83 82 P **P** 06 42 21.4 +0.2
RDMU Red Mountain 44.89 78 P **P** 06 42 22.1 +0.6
RDMU IAmb IAmb 06 42 36.5
comp=Z,62nm,1.1s
Q16A Castle Valley 44.91 81 P **P** 06 42 21.9 +0.2
Q16A IAmb IAmb 06 42 36.9
comp=Z,35nm,1.0s
PFO Pinyon Flats O 45.02 90 P **P** 06 42 23.5 +1.0
comp=Z,1.7nm,0.7s,baz=279,slow=14,SNR=2.6
DL2 Dalian 45.35 280 P **P** 06 42 24.5 -0.4
DL2 S **S** 06 49 05.8 +3.7
DL2 pmax pmax
comp=Z,60nm,1.0s
DL2 LR LR
comp=Z,380nm,19.2s
DL2 LR LR
comp=Z,220nm,19.6s
DL2 LR LR
comp=Z,290nm,13.1s
K22A Casper 45.49 73 P **P** 06 42 27.3 +1.2
K22A Casper 45.49 73 P **P** 06 42 25.9 -0.3
baz=306
NRIK Noril'sk 45.52 330 P **P** 06 42 26.4 +0.5
comp=Z,5.6nm,0.7s,baz=108,slow=9.3,SNR=4.5
NRIK PcP **PcP** 06 44 03.4 -0.3
comp=Z,3.7nm,0.7s,baz=134,slow=3.8,SNR=3.8
NRIK PKPPKP **P'P'df** 07 14 08.2 +4.0
comp=Z,6.2nm,0.9s,baz=315,slow=1.4,SNR=4.4
NRIK Noril'sk 45.52 330*ce*P **P** 06 42 26.5 +0.7
NRIK pmax pmax
comp=Z,16nm,1.5s
O20A White River Ci 45.96 77 P **P** 06 42 29.1 -0.8
baz=307
PDMCI Parker Dam,Lak 46.01 88 P **P** 06 42 29.3 -0.9
baz=311
RSSD Black Hills 46.10 70 P **P** 06 42 32.1 +1.1
RSSD pmax pmax
comp=Z,13nm,0.9s
RSSD Black Hills 46.10 70 P **P** 06 42 32.1 +1.1
NEEM North Greenlan 46.48 15 *i* P **P** 06 42 33.5 -0.2
NEEM IAmb IAmb 06 42 35.1
comp=Z,22nm,0.7s
MDND Maddock 46.51 64 P **P** 06 42 33.8 -0.2
baz=304
E28A Huff 46.62 66 P **P** 06 42 36.0 +1.2
E28A IAmb IAmb 06 42 48.7
comp=Z,46nm,0.9s
N23A Red Feather La 46.88 75 P **P** 06 42 37.5 +0.3
baz=307
WUAZ Wupatki 46.94 84 P **P** 06 42 37.1 -0.5
baz=310
ULM Lac du Bonnet 47.21 59 P **P** 06 42 38.6 -0.7
comp=Z,14nm,0.5s,baz=307,slow=7.5,SNR=16
ISCO Idaho Springs 47.76 76 P **P** 06 42 44.1 0.0
ISCO pmax pmax
comp=Z,10.0nm,0.9s
ISCO Idaho Springs 47.76 76 P **P** 06 42 44.1 0.0
ISCO IAmb IAmb 06 42 58.6
comp=Z,9.7nm,0.9s
ISCO Idaho Springs 47.76 76 P **P** 06 42 44.4 +0.3
baz=308
BJI Beijing 47.97 285 P **P** 06 42 45.9 +0.6
BJI pP **pP** 06 42 53.5 -4.3
BJI sP **pwP** 06 42 59.6 -1.1
BJI pmax pmax
comp=Z,27nm,0.8s
BJT Baijiatuau 47.99 285 P **P** 06 42 46.1 +0.6
BJT pmax pmax
comp=Z,17nm,0.8s
BJT MLR MLR
comp=Z,900nm,20.0s
BJT Baijiatuau 47.99 285 P **P** 06 42 46.1 +0.6
BJT IAmb IAmb 06 42 47.0
comp=Z,17nm,0.8s
BJT Baijiatuau 47.99 285 IAMs_20 IAMs_20 07 03 16.5
comp=Z,869nm,20.0s
S22A 4UR Ranch, Cre 48.30 79 P **P** 06 42 48.3 0.0
baz=309
AGMN Agassiz Nation 48.32 61 P **P** 06 42 47.1 -0.8
baz=305,SNR=8.9
ULN Ulaanbaatar 48.56 298*ce*P **P** 06 42 49.6 -0.4
ULN pmax pmax
comp=Z,19nm,1.0s
ULN Ulaanbaatar 48.56 298 IAMs_20 IAMs_20 07 04 32.2
comp=Z,760nm,20.0s
ULN Ulaanbaatar 48.56 298 P **P** 06 42 50.3 +0.3
comp=Z,72nm,1.0s
SONM Songino Array 48.94 299 P **P** 06 42 53.2 +0.4
comp=Z,8.2nm,0.8s,baz=50,slow=8.9,SNR=25
SONM PcP **PcP** 06 44 16.4 0.0
comp=Z,4.1nm,0.8s,baz=52,slow=3.8,SNR=6.7
SONM ScP **ScP** 06 48 11.2 +4.1
comp=Z,1.5nm,0.8s,baz=73,slow=3.0,SNR=4.5
SDCO Great Sand Dun 49.12 78 P **P** 06 42 54.4 -0.2
baz=310
ZAK Zakamensk 49.12 303 *e*P **P** 06 42 53.8 -0.4
ZAK *e* 06 44 15.9
ZAK pmax pmax
comp=Z,45nm,1.2s
ZAK pmax pmax
comp=Z,24nm,1.5s

TUC Tucson 49.43 87 P **P** 06 42 55.8 -1.0
baz=313
MOY Mondy 49.55 305 *e*P **P** 06 42 58.1 +0.6
MOY pmax pmax
comp=Z,45nm,1.6s
KBS Kingsbay 49.61 358 *e*P **P** 06 42 58.8 +1.4
TIA Tai'an 49.82 280 ⇑P **P** 06 42 59.6 0.0
TIA pmax pmax
comp=Z,35nm,1.2s
KSCO Kaye Shedlock' 50.05 75 P **P** 06 43 01.1 -0.4
baz=309
T25A Trinidad 50.17 78 P **P** 06 43 03.5 +1.0
T25A Trinidad 50.17 78 P **P** 06 43 02.8 +0.3
baz=310
HHC Hu-ho-hao-te 50.22 288 *e*P **P** 06 43 03.7 +1.0
HHC pP pP 06 43 16.2 +1.0
HHC pmax pmax
comp=Z,14nm,1.0s
HHC pmax pmax
comp=Z,130nm,5.4s
SPA0 Spitsbergen Ar 50.25 357 *e*P **P** 06 43 03.3 +1.1
SPITS Spitsbergen Ar 50.25 357 P **P** 06 43 02.5 +0.3
comp=Z,1.4nm,0.3s,baz=52,slow=5.4,SNR=12
ANMO Albuquerque 50.35 81*ce*P **P** 06 43 04.0 +0.2
ANMO pmax pmax
comp=Z,16nm,1.2s
ECSD EROS Data Cent 50.63 66 IAMs_20 IAMs_20 07 01 59.6
comp=Z,663nm,21.0s
ECSD EROS Data Cent 50.63 66 P **P** 06 43 04.1 -1.5
baz=308
EYMN Ely 50.89 59 IAMs_20 IAMs_20 07 06 25.8
comp=Z,526nm,19.0s
EYMN Ely 50.89 59 P **P** 06 43 06.7 -0.9
baz=307,SNR=5.3
BTO Baotou 51.28 289 *e*P **P** 06 43 11.0 +0.3
FRB Frobisher Bay 51.31 33 P **P** 06 43 09.6 -0.8
comp=Z,7.3nm,0.3s,baz=309,slow=8.5,SNR=16
NJ2 Nanjing 51.53 275 *e*P **P** 06 43 11.7 -0.7
NJ2 pmax pmax
comp=Z,18nm,0.6s
TIY Taiyuan 51.70 285 *e*P **P** 06 43 15.3 +1.5
TIY pmax pmax
comp=Z,39nm,0.9s
TIY LR LR
comp=Z,93nm,7.1s
TIY LR LR
comp=Z,400nm,18.3s
TIY LR LR
comp=Z,540nm,19.5s
SPMN Marine on St. 51.85 63 P **P** 06 43 14.1 -0.7
baz=308
SUMG Summit 52.32 15 *i* P **P** 06 43 18.2 -0.2
SUMG IAmb IAmb 06 43 18.8
comp=Z,5.0nm,0.8s
SUMG Summit 52.32 15 *i* P **P** 06 43 18.1 -0.2
SUMG pmax pmax
comp=Z,5.0nm,0.8s
DBG Daneborg 53.11 9 *i* P **P** 06 43 22.8 -0.8
MNTX Cornudas Mount 53.20 84 P **P** 06 43 24.1 -0.8
baz=313,SNR=5.4
MSTX Muleshoe 53.26 80 P **P** 06 43 24.5 -0.9
baz=312
KAN17 Caldwell West 54.24 74 P **P** 06 43 32.5 +0.1
KAN17 IAmb IAmb 06 43 51.9
comp=Z,16nm,0.8s
KS20 Mayfield South 54.24 73 IAMs_20 IAMs_20 07 07 22.1
comp=Z,546nm,21.0s
E43A Lone Tree Farm 54.27 58 P **P** 06 43 31.4 -1.1
E43A IAmb IAmb 06 43 46.6
comp=Z,36nm,0.9s
JFWS Jewell Farm 54.74 64 P **P** 06 43 34.0 -1.9
JFWS pmax pmax
comp=Z,18nm,0.7s
JFWS Jewell Farm 54.74 64 P **P** 06 43 34.0 -1.9
JFWS IAmb IAmb 06 43 41.4
comp=Z,18nm,0.7s
JFWS Jewell Farm 54.74 64 P **P** 06 43 34.8 -1.1
baz=310,SNR=7.1
BLOK Blackwell 54.76 74 P **P** 06 43 36.0 -0.2
BLOK IAmb IAmb 06 43 50.3
comp=Z,41nm,1.2s
WMOK Wichita Mounta 55.18 76 P **P** 06 43 39.2 -0.1
WMOK pmax pmax
comp=Z,26nm,1.0s
WMOK Wichita Mounta 55.18 76 P **P** 06 43 39.2 -0.1
WMOK IAmb IAmb 06 43 53.8
comp=Z,26nm,1.0s
WMOK Wichita Mounta 55.18 76 P **P** 06 43 38.4 -0.8
baz=313
OK029 Liberty Lake 55.26 75 P **P** 06 43 39.8 0.0
OK029 IAmb IAmb 06 43 52.9
comp=Z,62nm,1.4s
WHN Wuhan 55.35 277 ⇑P **P** 06 43 40.1 -0.4
ZALV Zalesovo Beam 55.78 315 P **P** 06 43 42.5 -0.8
comp=Z,2.2nm,0.5s,baz=52,slow=6.9,SNR=4.9
ZALV PcP **PcP** 06 44 42.3 +0.5
comp=Z,6.2nm,0.9s,baz=34,slow=3.7,SNR=7.5
G45A Suttons Bay 55.85 59 P **P** 06 43 45.4 +1.4
G45A IAmb IAmb 06 44 00.8
comp=Z,44nm,1.1s
TXAR Lajitas Array 55.90 85 P **P** 06 43 43.7 -0.9
comp=Z,2.4nm,0.7s,baz=302,slow=5.2,SNR=3.8
TXAR ScP **ScP** 06 48 37.5 -0.1
comp=Z,1.3nm,1.1s,baz=318,slow=3.4,SNR=3.8
SSLB Suanglung 56.06 266 P **P** 06 43 44.8 -1.0
ABTX Abilene, Hawle 56.09 79 P **P** 06 43 46.0 +0.1
baz=314
YULB Yu-li 56.14 265 IAMs_20 IAMs_20 07 09 44.5
comp=Z,483nm,20.0s
TUL1 Leonard 56.18 73 P **P** 06 43 46.4 0.0
baz=313
GLMI Grayling 56.55 59 P **P** 06 43 48.7 -0.2
baz=312
HDIL Hopedale 56.83 65 P **P** 06 43 49.9 -1.1
baz=312
HAMF Hammerfest 57.30 353 *e*P **P** 06 43 53.9 +0.1
CCM Cathedral Cave 57.40 68 P **P** 06 43 53.0 -2.0
baz=313
DGZ Jazzator, Alta 57.47 310 *i* P **P** 06 43 56.0 +0.5
DGZ pmax pmax
comp=Z,9.0nm,0.9s
J47A Sunmer 57.50 60 P **P** 06 43 55.0 -0.7
J47A IAmb IAmb 06 44 09.3
comp=Z,28nm,0.9s
U40A Yellville 57.62 71 P **P** 06 43 55.6 -1.0
U40A IAmb IAmb 06 44 11.2
comp=Z,47nm,1.4s
U40A Yellville 57.62 71 P **P** 06 43 54.6 -2.0
baz=313
W39A Magazine 57.86 73 P **P** 06 43 58.2 -0.1
WHTX Lake Whitney, 57.87 78 P **P** 06 43 58.6 +0.2
WHTX Lake Whitney, 57.87 78 P **P** 06 43 58.9 +0.5
baz=314
KEV Kevo 57.88 351 P **P** 06 43 57.9 0.0
KEV pmax pmax
comp=Z,23nm,0.8s
LZH Lanzhou 57.91 289 *e*P **P** 06 44 00.0 +1.2
LZH pmax pmax
comp=Z,37nm,1.2s
LZH pmax pmax
comp=Z,150nm,5.4s
LZH LR LR
comp=Z,510nm,20.1s
LZH LR LR
comp=Z,700nm,20.6s
LZH LR LR
comp=Z,570nm,20.1s
GTA Gaotai 57.97 294 ⇓P **P** 06 43 59.2 0.0
GTA pP pP 06 44 11.5 -1.1
GTA sP sP 06 44 17.9 -0.2
GTA pmax pmax
comp=Z,20nm,1.1s
GTA pmax pmax
comp=Z,110nm,7.6s
GTA LR LR
comp=Z,450nm,15.9s
GTA LR LR
comp=Z,540nm,16.7s
GTA LR LR
comp=Z,530nm,17.9s
SCHQ Schefferville 58.04 41 P **P** 06 43 59.1 -0.2
comp=Z,12nm,0.9s,baz=329,slow=8.7,SNR=7.8
SCHQ LR LR 07 11 26.5
comp=Z,848nm,18.7s,baz=14,slow=38
Q44A Meyer Farm, Va 58.11 66 P **P** 06 43 59.4 -0.6
SFIN Lafayette 58.19 64 P **P** 06 43 59.3 -1.2

SFIN Lafayette 58.19 64 P **P** 06 43 60.0 -0.5
baz=313
ARCES ARCESS Array B 58.23 352 P **P** 06 43 59.8 -0.6
comp=Z,10nm,0.6s,baz=22,slow=8.1,SNR=17
ARCES PcP **PcP** 06 44 51.6 +0.4
comp=Z,18nm,0.7s,baz=15,slow=5.0,SNR=13
MIAR Mount Ida 58.44 73 P **P** 06 44 02.2 -0.1
MIAR pmax pmax
comp=Z,70nm,1.1s
MIAR Mount Ida 58.44 73 P **P** 06 44 02.2 -0.1
MIAR Mount Ida 58.44 73 P **P** 06 44 02.5 +0.2
baz=314
ENH Enshi 58.54 280 P **P** 06 44 02.7 -0.4
ENH IAmb IAmb 06 44 20.1
comp=Z,18nm,0.6s
L48A N Adams 58.59 61 P **P** 06 44 02.8 -0.5
L48A IAmb IAmb 06 44 19.9
comp=Z,29nm,0.9s
JETT Jettan, Norway 58.60 354 *e*P **P** 06 44 04.0 +1.0
TRO Tromso 58.62 355 *e*P **P** 06 44 03.3 +0.3
P46A Rosedale 58.65 65 P **P** 06 44 03.4 -0.3
P46A IAmb IAmb 06 44 17.5
comp=Z,26nm,0.8s
WHAR Wooly Hollow 58.68 72 P **P** 06 44 03.3 -0.8
WHAR IAmb IAmb 06 44 17.8
comp=Z,21nm,1.0s
OLIL Olney 58.75 66 P **P** 06 44 03.4 -1.1
PBMO Poplar Bluff 58.75 69 P **P** 06 44 03.5 -0.9
PBMO IAmb IAmb 06 44 19.3
comp=Z,44nm,1.4s
LVZ Lovozero 58.78 348*ce*P **P** 06 44 04.1 -0.2
LVZ pmax pmax
comp=Z,20nm,1.3s
W41B Gary Mavity, V 58.79 72 P **P** 06 44 03.2 -1.6
baz=314
SIUC Southern Illin 58.81 67 P **P** 06 44 04.4 -0.5
SIUC IAmb IAmb 06 44 15.6
comp=Z,12nm,0.7s
LCAR Lake Charles 58.81 70 P **P** 06 44 05.3 +0.4
X40A Basin Creek Fa 58.92 73 P **P** 06 44 04.6 -1.0
X40A IAmb IAmb 06 44 19.8
comp=Z,19nm,1.0s
X40A Basin Creek Fa 58.92 73 P **P** 06 44 04.6 -1.0
baz=314
KTK1 Kautokeino 58.93 353 *e*P **P** 06 44 06.0 +0.8
833A Chaparral WMA, 59.26 82 P **P** 06 44 10.7 +2.6
baz=316
APA Apatity 59.26 348 ⇓ *i* P **P** 06 44 11.9 +4.4
APA pmax pmax
comp=Z,9.0nm,1.1s
APA MLR MLR
comp=Z,800nm,16.0s
WLAR White Oak Lake 59.31 73 P **P** 06 44 07.5 -0.8
N49A Columbus Grove 59.43 62 P **P** 06 44 09.0 -0.1
N49A IAmb IAmb 06 44 22.8
comp=Z,34nm,1.1s
SADO Sadowa 59.45 55 P **P** 06 44 09.1 0.0
SADO IAmb IAmb 06 44 09.8
comp=Z,20nm,0.8s
P48A Milroy 59.75 64 P **P** 06 44 11.2 -0.2
CCAR Cane Creek 59.94 72 P **P** 06 44 13.6 +0.8
P49A Miami Univ. Ec 60.10 63 P **P** 06 44 13.0 -0.7
P49A IAmb IAmb 06 44 26.9
comp=Z,27nm,0.8s
P49A Miami Univ. Ec 60.10 63 P **P** 06 44 12.4 -1.3
baz=314
WCI Wyandotte Cave 60.12 65 P **P** 06 44 12.6 -1.3
WCI pmax pmax
comp=Z,28nm,0.8s
WCI MLR MLR
comp=Z,600nm,18.0s
WCI Wyandotte Cave 60.12 65 P **P** 06 44 12.6 -1.3
WCI IAmb IAmb 06 44 27.6
comp=Z,28nm,0.8s
WCI Wyandotte Cave 60.12 65 P **P** 06 44 12.8 -1.1
baz=314
SGF Sodankyl 60.17 351 P **P** 06 44 13.5 -0.3
SGF pmax pmax
comp=Z,25nm,1.4s
ZSN Zaisan 60.26 310 *e*P **P** 06 44 14.1 -0.6
baz=310
ZSN Zaisan 60.26 310 *e*P **P** 06 44 14.1 -0.6
HKT Hockley 60.29 78 *i* P **P** 06 44 15.4 +0.3
HKT pmax pmax
comp=Z,31nm,1.7s
PLVO Plevna 60.31 54 P **P** 06 44 15.2 +0.1
DELO Deloro Mine 60.40 55 P **P** 06 44 16.0 +0.3
STEI Steigen 60.50 356 *e*P **P** 06 44 16.1 +0.1
ACSO Alum Creek Sta 60.57 61 P **P** 06 44 16.6 -0.3
ACSO IAmb IAmb 06 44 31.9
comp=Z,17nm,0.8s
ACSO IAMs_20 IAMs_20 07 13 33.8
comp=Z,546nm,18.0s
W45A Hickory Valley 60.60 70 P **P** 06 44 15.8 -1.4
WVT Waverly 60.70 68 P **P** 06 44 16.7 -1.2
WVT pmax pmax
comp=Z,26nm,1.3s
WVT Waverly 60.70 68 P **P** 06 44 16.7 -1.2
baz=314
KURBB Kurchatov Arra 60.87 316 P **P** 06 44 18.4 -0.4
OXF Oxford 60.92 70 P **P** 06 44 19.2 -0.2
baz=315
M53A WI Miller and 60.97 59 P **P** 06 44 19.4 -0.2
baz=315
FAUS Fauske 61.05 356 *e*P **P** 06 44 20.1 +0.4
ALLY Alegheny Colle 61.10 59 P **P** 06 44 20.1 -0.4
PECO Prince Edward 61.13 55 P **P** 06 44 20.6 -0.1
R50A Paris 61.19 64 P **P** 06 44 20.4 -0.8
R50A IAmb IAmb 06 44 34.8
comp=Z,24nm,0.9s
N53A Lisbon 61.33 60 P **P** 06 44 21.4 -0.7
PLAL Pickwick Lake 61.37 69 IAMs_20 IAMs_20 07 11 01.8
comp=Z,344nm,20.0s
WMQ Urumqi 61.44 305 *e*P **P** 06 44 23.9 +1.0
WMQ pP pP 06 44 37.4 +1.1
WMQ pmax pmax
comp=Z,29nm,1.1s
WMQ pmax pmax
comp=Z,200nm,5.3s
WMQ LR LR
comp=Z,860nm,20.5s
WMQ LR LR
comp=Z,650nm,21.3s
WMQ LR LR
comp=Z,270nm,23.3s
P52A Corning 61.45 61 P **P** 06 44 23.1 +0.2
P52A IAMs_20 IAMs_20 07 11 18.2
comp=Z,533nm,19.0s
M54A Oil Creek Stat 61.46 58 P **P** 06 44 22.8 -0.3
M54A Oil Creek Stat 61.46 58 P **P** 06 44 22.7 -0.3
baz=315
O53A New Philadelph 61.52 60 P **P** 06 44 22.8 -0.5
baz=315
CD2 Chengdu 61.57 285 P **P** 06 44 24.5 +0.6
CD2 pmax pmax
comp=Z,70nm,0.8s
J56A Wolcott 61.67 55 P **P** 06 44 24.2 -0.1
N54A Moraine State 61.67 59 P **P** 06 44 24.2 -0.2
baz=315,SNR=6.6
LONY Lake Ozonia 61.85 53 P **P** 06 44 24.4 -1.2
LONY IAMs_20 IAMs_20 07 14 46.0
comp=Z,562nm,18.0s
LONY Lake Ozonia 61.85 53 P **P** 06 44 25.0 -0.6
baz=316,SNR=17
MK31 Makanchi Array 61.96 311 *i* P **P** 06 44 25.9 -0.4
MKAR Makanchi Array 61.96 311 P **P** 06 44 25.7 -0.6
comp=Z,4.9nm,0.3s,baz=38,slow=5.2,SNR=22
MKAR Makanchi Array 61.96 311 P **P** 06 44 25.8 -0.4
P53A Whipple 61.96 61 P **P** 06 44 25.4 -1.0
P53A IAmb IAmb 06 44 40.5
comp=Z,29nm,0.8s
M55A Ridgway 61.96 58 P **P** 06 44 25.9 -0.5
J57A Williamstown 62.01 55 P **P** 06 44 26.9 +0.3
O54A Avella 62.02 60 P **P** 06 44 26.2 -0.5
KONS Konsvik 62.02 357 *e*P **P** 06 44 26.6 +0.3
S51A Beattyville 62.05 64 P **P** 06 44 25.9 -1.1
S51A IAmb IAmb 06 44 40.4
comp=Z,22nm,0.8s
MAKZ Makanchi 62.09 311 P **P** 06 44 26.0 -1.2
L56A Greenwood 62.12 57 P **P** 06 44 26.8 -0.7
K57A Scipio Center 62.23 56 P **P** 06 44 27.5 -0.6
MOR8 Moi Rana 62.29 356 *e*P **P** 06 44 27.2 -1.0
BRVK Borovoye 62.41 322 *i* P **P** 06 44 29.3 +0.2
BRVK pmax pmax
comp=Z,5.0nm,0.8s

J58A Remsen 62.41 54 P P 06 44 29.0 -0.3
146A Union 62.45 72 P P 06 44 29.2 -0.6
R53A Hurricane 62.47 62 P P 06 44 29.3 -0.6
PRGR Permogore 62.63 340 *e*P P 06 44 29.5 -0.9
PRGR *e* 06 45 09.3
PRGR pmax pmax
comp=Z,63nm,1.3s
MCWV Mont Chateau 62.68 60 P P 06 44 31.1 0.0
baz=316
D62A Aliapoint, All 62.72 48 P P 06 44 31.1 -0.2
baz=317,SNR=12
E62A Clayton Lake 62.84 48 P P 06 44 31.6 -0.5
baz=317
TZTN Tazewell 62.85 65 P P 06 44 31.8 -0.6
baz=316
BINY Binghamton 62.89 56 P P 06 44 33.1 +0.6
baz=316,SNR=18
O56A Blue Knob Stat 62.92 59 P P 06 44 32.1 -0.7
baz=316
GYA Guiyang 63.00 279 ⇓P P 06 44 34.8 +1.2
GYA pP pP 06 44 47.4 +0.7
GYA pmax pmax
comp=Z,34nm,1.3s
GYA pmax pmax
comp=Z,180nm,3.6s
SSPA Standing Stone 63.02 58 P P 06 44 33.5 0.0
baz=316
I60A Shoreham 63.05 53 P P 06 44 32.6 -0.9
baz=317
F62A Pittston Farm, 63.16 49 P P 06 44 33.4 -0.9
baz=317,SNR=8.1
G62A West of Eustis 63.39 50 P P 06 44 35.1 -0.7
baz=317,SNR=13
LBNH Lisbon 63.44 52 P P 06 44 35.0 -1.2
baz=317,SNR=5.5
E63A Oxbow 63.49 48 P P 06 44 35.4 -1.1
baz=318,SNR=6.1
F63A Nahmakanta, Br 63.71 49 P P 06 44 37.3 -0.6
baz=318,SNR=9.3
ARU Arti 63.75 330 *c* iP P 06 44 37.5 -0.5
ARU 06 45 10.3
ARU S S 06 53 09.9 +1.2
ARU SS SS 06 57 13.2 -2.9
ARU pmax pmax
comp=Z,9.0nm,1.0s
ARU MLR MLR
comp=Z,517nm,17.0s
J61A Chester 63.78 53 P P 06 44 38.5 0.0
baz=317,SNR=8.7
BRZS Berezniki 63.83 319 *e*P P 06 44 37.2 -1.4
baz=318
BRZS Berezniki 63.83 319 *e*P P 06 44 37.2 -1.4
K61A Williamstown 63.92 54 P P 06 44 39.4 +0.1
baz=317,SNR=6.8
N59A State Game Lan 63.93 57 P P 06 44 39.7 +0.3
baz=317,SNR=7.1
F64A Sherman 63.94 48 P P 06 44 38.6 -0.8
baz=318,SNR=8.8
PKME Peaks-Kenny Pk 63.95 49 P P 06 44 38.7 -0.8
baz=318,SNR=7.2
I62A Tamworth 63.99 52 P P 06 44 39.5 -0.3
baz=318
NSS Namsos 64.03 357 *e*P P 06 44 40.3 +0.6
BLA Blacksburg 64.12 62 P P 06 44 40.9 +0.1
BLA pmax pmax
comp=Z,36nm,0.8s
BLA MLR MLR
comp=Z,600nm,20.0s
BLA Blacksburg 64.12 62 P P 06 44 40.9 +0.1
BLA IAmb IAmb 06 44 57.1
comp=Z,36nm,0.8s
BLA IAMs_20 IAMs_20 07 12 39.8
comp=Z,615nm,20.0s
I63A Otisfield 64.23 51 P P 06 44 41.2 -0.1
baz=318,SNR=6.5
J62A Henniker 64.24 52 P P 06 44 41.3 -0.1
baz=318,SNR=7.0
BG3 Lake Jocassee 64.32 66 P P 06 44 41.4 -0.7
BG3 IAmb IAmb 06 44 56.5
comp=Z,39nm,1.2s
L61B Northampton 64.38 53 P P 06 44 42.2 -0.1
baz=317
K62A Royalston 64.44 53 P P 06 44 42.9 +0.1
baz=318,SNR=7.8
H64A Troy 64.45 50 P P 06 44 42.0 -0.7
baz=318
KIRV Kirov 64.45 336 *ce*P P 06 44 43.4 +0.9
J63A Strafford 64.56 52 P P 06 44 42.6 -0.9
baz=318
250A Grady 64.57 70 P P 06 44 42.7 -1.0
KLMR Klimovskoe 64.57 342 *e*P P 06 44 40.8 -2.5
KLMR pmax pmax
comp=Z,25nm,1.9s
KLMR Klimovskoe 64.57 342 *e*P P 06 44 40.8 -2.5
KLMR AMP 06 44 50.3
comp=Z,25nm,1.9s
U56A King 64.77 63 P P 06 44 45.5 +0.6
U56A IAmb IAmb 06 44 59.0
comp=Z,30nm,1.0s
K63A Dunstable 64.78 53 P P 06 44 44.7 -0.2
baz=318,SNR=5.6
I64A Boothbay 64.79 51 P P 06 44 44.5 -0.4
baz=318
G65A Princeton 64.81 48 P P 06 44 44.3 -0.7
baz=319,SNR=5.5
PAL Palisades 64.82 55 P P 06 44 44.6 -0.6
PAL pmax pmax
comp=Z,60nm,0.9s
PAL Palisades 64.82 55 P P 06 44 44.6 -0.6
PAL Palisades 64.82 55 P P 06 44 45.0 -0.3
baz=317,SNR=8.6
HRV Adam Dziewonsk 64.90 53 P P 06 44 45.9 +0.2
HRV pmax pmax
comp=Z,31nm,1.0s
HRV Adam Dziewonsk 64.90 53 P P 06 44 45.6 -0.1
baz=318
T57A Hurt 64.92 62 P P 06 44 45.4 -0.5
T57A IAmb IAmb 06 45 00.3
comp=Z,17nm,0.8s
R58B Mineral 64.96 60 P P 06 44 45.7 -0.5
R58B IAmb IAmb 06 45 02.0
comp=Z,16nm,0.8s
KMSC Kings Mountain 65.11 64 P P 06 44 46.6 -0.7
KMSC Kings Mountain 65.11 64 P P 06 44 46.5 -0.7
baz=317
GOGA Godfrey 65.16 67 IAMs_20 IAMs_20 07 11 38.1
comp=Z,438nm,20.0s
GOGA Godfrey 65.16 67 P P 06 44 46.1 -1.4
baz=317
T59A Double "B" Far 65.86 61 P P 06 44 51.7 -0.3
T59A IAmb IAmb 06 45 06.5
comp=Z,30nm,0.8s
V58A Windy Hill, Pi 65.87 62 P P 06 44 51.8 -0.3
V58A IAmb IAmb 06 45 06.7
comp=Z,21nm,0.9s
FINES FINESS Array B 66.05 349 P P 06 44 52.5 -0.3
comp=Z,4.7nm,0.5s,baz=15,slow=6.1,SNR=11
KPKS Kokpek 66.14 310 *e*P P 06 44 53.9 0.0
comp=Z,8.8nm,0.4s,baz=310
KPKS Kokpek 66.14 310 *e*P P 06 44 53.8 0.0
KPKS pmax pmax
comp=Z,9.0nm,0.4s
UZB Uzunbulak 66.22 310 *e*P P 06 44 54.1 -0.3
comp=Z,14nm,1.5s,baz=310
UZB Uzunbulak 66.22 310 *e*P P 06 44 54.1 -0.3
UZB pmax pmax
comp=Z,14nm,1.5s
KMI Kunming 66.38 281 ⇑P P 06 44 56.1 +0.3
KMI sP pP 06 45 09.9 +1.0
KMI pmax pmax
comp=Z,21nm,1.2s
KMI pmax pmax
comp=Z,190nm,3.5s
QIZ Qiongzhong 66.50 271 P P 06 44 55.2 -1.1
QIZ S S 06 53 42.7 -0.7
QIZ pmax pmax
comp=Z,140nm,3.9s
SATY Saty 66.58 310 *e*P P 06 44 55.5 -1.2
baz=310
SATY Saty 66.58 310 *e*P P 06 44 55.5 -1.2
KUU Kurty 66.91 312 *e*P P 06 44 56.6 -2.0
baz=312
KUU Kurty 66.91 312 *e*P P 06 44 56.6 -2.0
RAF Rauma 66.91 352 *e*P P 06 44 58.0 -0.2
TAOE Nuku Hiva Isla 67.11 143 *e*LR LR 07 05 13.7
comp=Z,321nm,23.6s

TAOE Nuku Hiva Isla 67.11 143 *e*T T 07 58 22.3
comp=Z,21nm,0.2s
MDOK Medeo 67.14 311 *e*P P 06 44 59.5 -0.9
baz=311
MDOK Medeo 67.14 311 *e*P P 06 44 59.4 -0.9
MEF Metsahovi 67.44 350 *e*P P 06 45 01.4 -0.2
MTBS Maitube 67.45 312 *e*P P 06 45 01.7 -0.5
baz=311
NB2 NORSAR Subarra 67.55 357 P P 06 45 02.7 +0.3
comp=Z,3.6nm,0.7s,baz=5.5,slow=6.9
NB2 NORSAR Subarra 67.55 357 P P 06 45 02.7 +0.3
baz=5.5,slow=6.9
NOA NORSAR Array B 67.55 357 P P 06 45 02.6 +0.2
comp=Z,9.7nm,0.9s,baz=3.8,slow=6.4,SNR=15
NC602 NORSAR Array S 67.84 357 *e*P P 06 45 04.9 +0.6
TARG Taragay, Kyrgy 67.88 310 P P 06 45 05.7 +0.4
TARG IAmb IAmb 06 45 08.4
comp=Z,11nm,0.5s
AAL Aland 67.90 352 *e*P P 06 45 04.2 -0.3
456A Hiliard 67.95 68 P P 06 45 07.0 +1.6
SKAR Skarslia 67.98 359 *e*P P 06 45 06.0 +0.8
TKM2 Tokmak 2 68.00 312 P P 06 45 06.9 +1.1
SNR=5.2
SGDS Sogindy 68.03 313 *e*P P 06 45 05.0 -0.9
comp=Z,11nm,1.6s,baz=313
USP Ospenovka 68.24 313 P P 06 45 08.6 +1.5
SNR=8.6
BER Bergen 68.30 0 *e*P P 06 45 08.1 +1.1
HFS Hagfors 68.36 356 P P 06 45 07.4 -0.1
comp=Z,11nm,0.4s,baz=0.0,slow=2.1,SNR=35
SLVN Son La 68.47 277 P P 06 45 08.8 0.0
SLVN IAmb IAmb 06 45 24.0
comp=Z,34nm,1.3s
SLVN IAMs_20 IAMs_20 07 11 15.7
comp=Z,398nm,18.0s
OSL Oslo 68.67 357 *e*P P 06 45 10.5 +1.2
AAK Ala-Archa 68.73 312 P P 06 45 11.8 +1.4
SNR=7.7
AAK Ala-Archa 68.73 312 *ce*P P 06 45 11.3 +1.0
AAK pmax pmax
comp=Z,59nm,1.3s
AAK Ala-Archa 68.73 312 P P 06 45 10.1 -0.2
AAK IAmb IAmb 06 45 12.2
comp=Z,30nm,1.4s
AAK Ala-Archa 68.73 312 IAMs_20 IAMs_20 07 17 47.4
comp=Z,508nm,20.0s
KZA Kyzart 68.82 312 P P 06 45 12.7 +1.5
SNR=5.3
VSU Vasula 68.88 348 *e*P P 06 45 11.0 +0.3
VSU Vasula 68.88 348 *i* P P 06 45 09.8 -0.9
MTSE Matsula 68.97 350 *e*P P 06 45 10.9 -0.4
AKTO Aktyubinsk 68.98 327 *i* P P 06 45 10.2 -1.3
AKTO pmax pmax
comp=Z,8.0nm,0.6s
KONO Kongsberg 68.99 358 *e*P P 06 45 11.6 +0.2
EKS2 Erkin-Say 69.04 313 P P 06 45 13.8 +1.6
SNR=12
BLS5 Blasjo 69.26 360 *e*P P 06 45 13.6 +0.5
AB31 Akbulak array 69.31 325 *e*P P 06 45 13.7 +0.2
ABKAR Akbulak array 69.31 325 P P 06 45 13.6 +0.1
MOS Moscow 69.71 341 *e*P P 06 45 13.8 -2.1
LSA Lhasa 69.89 293 IAMs_20 IAMs_20 07 15 47.9
comp=Z,286nm,21.0s
KK31 Karatay Array 70.16 315 *e*P P 06 45 19.1 +0.2
SLIT Slitere, Latvi 70.20 351 *e*P P 06 45 18.7 -0.2
PMOR Pomariorio Ree 70.30 153 *e*T T 08 02 21.3
comp=Z,13nm,0.2s
HOMB Homborsund 70.39 358 *i* P P 06 45 20.1 +0.1
KSH Kashi 70.47 309 P P 06 45 25.4 +4.3
KSH pP sP 06 45 39.5 -0.6
KSH sP PcP 06 45 42.6 +0.4
KSH PcP pP 06 45 44.8 +10
KSH pmax pmax
comp=Z,33nm,0.6s
KSH LR LR
comp=Z,550nm,20.4s
KSH LR LR
comp=Z,570nm,25.6s
KSH LR LR
comp=Z,760nm,23.2s
OBN Obninsk 70.51 342 ⇑*e*P P 06 45 21.1 +0.3
OBN *e* 06 45 41.5
OBN *e* 06 48 02.3
OBN pmax pmax
comp=Z,7.0nm,0.4s
OBN MLR MLR
comp=Z,309nm,18.0s
BORU Boraas 70.90 356 *i* P P 06 45 23.3 +0.1
IUG Iuzhnay 71.13 315 *e*P P 06 45 23.9 -1.1
baz=315
IUG Iuzhnay 71.13 315 *e*P P 06 45 23.9 -1.1
ONAU Onsala 71.17 356 *i* P P 06 45 24.7 -0.1
FABU Falkenberg 71.53 356 *i* P P 06 45 26.6 -0.3
IIGN Ignalina 71.98 348 *e*P P 06 45 30.3 +0.6
DEL Delary 72.01 355 *i* P P 06 45 29.6 -0.2
BLEU Blekinge 72.06 354 *i* P P 06 45 29.9 -0.2
PABE Paberze 72.11 349 *e*P P 06 45 30.1 -0.3
PABE Paberze 72.11 349 P P 06 45 30.1 -0.3
PABE IAmb IAmb 06 45 31.2
comp=Z,49nm,0.9s
PPT2 Papeete2 72.30 155 *e*S S 06 54 53.8 +2.3
comp=Z,403nm,25.5s
PPT2 Papeete2 72.30 155 *e*LR LR 07 07 33.2
comp=Z,450nm,22.0s,baz=342
PPT2 Papeete2 72.30 155 *e*T T 08 04 51.6
comp=Z,6.5nm,0.3s
NACGM Naroch 72.34 347 *i* P P 06 45 31.6 -0.2
BJUU Bjuv 72.44 356 *i* P P 06 45 32.7 +0.3
BTK Batken 72.46 313 P P 06 45 33.3 +0.3
BTK pmax pmax
comp=Z,26nm,1.1s
BTK Batken 72.46 313 P P 06 45 33.3 +0.3
BTK IAmb IAmb 06 45 34.8
comp=Z,26nm,1.1s
SHL Shillong 72.57 289 P P 06 45 33.2 -0.7
SHL pmax pmax
comp=Z,119nm,1.1s
SHL Shillong 72.57 289 P P 06 45 33.2 -0.7
MNK Minsk 72.57 347 *i* P P 06 45 26.6 -6.6
comp=E,3.0nm,0.7s
MNK *i* P P 06 45 26.6 -6.6
comp=N,18nm,0.8s
MNK *i* P P 06 45 26.6 -6.6
comp=Z,12nm,0.8s,baz=195
MNK *i* PcP pP 06 45 43.8 -3.2
MNK *i* PP PP 06 48 07.9 -6.4
MNK *i* PPP PPP 06 49 52.4
MNK *i* S S 06 54 47.7 -6.1
MNK *i* SS SS 06 59 29.6 -2.5
MNK *i* SSS SSS 07 02 50.3
MNK *i* LQ LQ 07 11 53.8
MNK *i* LR LR 07 16 53.1
MNK *i* LRM MLR 07 19 20.7
comp=N,337nm,22.4s
MNK *i* LRM MLR 07 19 25.1
comp=Z,272nm,18.8s
MNK *i* LRM MLR 07 19 28.7
comp=E,48nm,21.0s
KHON Khomkaen 72.90 275 P P 06 45 38.6 +2.9
comp=E,55nm,0.8s
EKA Eskdalemuir Ar 73.12 5 P P 06 45 36.7 +0.3
comp=E,3.5nm,0.7s,baz=355,slow=4.9,SNR=6.7
BSD Bornholm Skovb 73.30 354 *e*P P 06 45 38.0 +0.5
BSD Bornholm Skovb 73.30 354 *e*P P 06 45 38.0 +0.5
CMMT Chiang Mai 73.42 279 P P 06 45 40.4 +1.6
comp=E,501nmcomp=E,13nm,1.5s
CHTO Chiang Mai 73.42 279 P P 06 45 37.9 -0.9
CHTO pmax pmax
comp=Z,65nm,1.9s
CHTO Chiang Mai 73.42 279 P P 06 45 40.3 +1.5
comp=Z,350nmcomp=Z,14nm,1.5s
CHTO Chiang Mai 73.42 279 P P 06 45 37.9 -0.9
CHTO IAmb IAmb 06 45 56.5
comp=Z,64nm,1.9s
CHTO Chiang Mai 73.42 279 P P 06 45 40.5 +1.7
comp=Z,198nmcomp=Z,7.8nm,1.5s
MRSI Marisa 73.56 249 P P 06 45 54.2 +15
TAPN Taplejung 73.64 293 *e*P P 06 45 41.1 +0.7
comp=Z,140nm,0.8s
SUW Suwalki 73.66 349 *e*P P 06 45 39.2 -0.4
SUW Suwalki 73.66 349 *e*P P 06 45 39.4 -0.3
CM09 Chiang Mai Arr 73.67 279 P P 06 45 43.2 +2.9
comp=Z,223nmcomp=Z,27nm,0.8s
CMAR Chiang Mai Arr 73.69 279 P P 06 45 40.9 +0.5
comp=Z,5.3nm,0.4s,baz=27,slow=6.4,SNR=15

CM02 Chiang Mai Arr 73.70 279 P P 06 45 42.9 +2.4
comp=Z,190nmcomp=Z,23nm,0.9s
CM15 Chiang Mai Arr 73.70 279 P P 06 45 43.8 +3.3
comp=Z,16nm,0.9s
CM01 Chiang Mai Arr 73.70 279 P P 06 45 43.3 +2.8
CM04 Chiang Mai Arr 73.71 279 P P 06 45 43.3 +2.8
comp=Z,21nm,1.0s
CM05 Chiang Mai Arr 73.73 279 P P 06 45 43.0 +2.4
comp=Z,139nmcomp=Z,15nm,1.0s
CM13 Chiang Mai Arr 73.74 279 P P 06 45 43.0 +2.3
comp=Z,162nmcomp=Z,20nm,0.8s
PHIT Phitsanulok 73.74 277 P P 06 45 51.3 +11
CHAI Chaiyaphum 73.75 275 P P 06 45 43.3 +2.6
comp=Z,16nm,1.2s
ODAN Odare 74.19 293 *e*P P 06 45 44.0 +0.4
GUN Gumba 74.25 295 *e*P P 06 45 44.9 +0.9
comp=Z,173nm,0.5s
JIRN Jiri 74.27 295 *e*P P 06 45 45.1 +1.0
comp=Z,213nm,0.7s
CHGR Chuyangaron 74.35 313 P P 06 45 44.4 +0.3
MHMT Maesarieng 74.52 280 P P 06 45 47.7 +2.5
comp=Z,2µmcomp=Z,81nm,0.6s
RAMN Ramite 74.58 294 *e*P P 06 45 46.4 +0.6
comp=Z,108nm,0.4s
KKN Kakani 74.68 295 *e*P P 06 45 47.0 +0.7
BSEG Bad Segeberg 74.69 357 *e*P P 06 45 46.9 +1.3
comp=Z,35nm,0.9s,baz=4.4,slow=5.6
PKI Pulchoki 74.78 295 *e*P P 06 45 47.5 +0.5
comp=Z,194nm,1.1s
PKIN Phulchoki 74.78 295 *e*P P 06 45 47.4 +0.4
comp=Z,170nm,1.1s
MPSI Mapaga 74.87 251 P P 06 45 46.8 -0.4
comp=Z,520nmcomp=Z,35nm,1.3s
GKN Gorkha 74.88 296 *e*P P 06 45 48.0 +0.6
BRDH Bariadhala 74.91 287 P P 06 45 48.8 +1.4
comp=Z,61nm,0.4s,baz=53,slow=8.4,SNR=5.3
DMN Daman 74.92 295 *e*P P 06 45 48.6 +0.8
GKP Gorka Klasztor 74.97 353 *e*P P 06 45 47.9 +0.6
DANN Dangsing 75.10 297 *e*P P 06 45 49.6 +0.8
comp=Z,286nm,0.8s
DZM Mont Dzumac 75.32 198 *e*LR LR 07 09 02.7
comp=Z,272nm,22.1s
UMPA Umpang Tak 75.45 278 P P 06 45 54.5 +3.9
comp=Z,2µmcomp=Z,51nm,0.9s
UTHA Uthaitani 75.58 277 P P 06 45 54.0 +2.6
comp=Z,305nmcomp=Z,27nm,1.1s
KOLN Koldanda 75.64 297 *e*P P 06 45 52.3 +0.5
comp=Z,174nm,1.1s
PYUN Piuthan 75.72 297 *e*P P 06 45 53.0 +0.7
RUE Ruedersdorf 75.99 355 *e*P P 06 45 54.1 +1.0
baz=4.4,slow=5.6
AKASG Malin Array Be 76.05 345 P P 06 45 53.0 -0.5
comp=Z,7.3nm,0.4s,baz=18,slow=6.1,SNR=21
AKBB Malin Array Si 76.05 345 *ce*P P 06 45 52.9 -0.6
NRDL Niedersach Rie 76.14 357 *e*P P 06 45 54.8 +0.9
comp=Z,11nm,0.9s,baz=4.4,slow=5.6
FLTG Flechtingen 76.26 356 *e*P P 06 45 55.5 +0.8
comp=Z,19nm,0.9s,baz=4.4,slow=5.6
IBBN Ibbenburen 76.38 359 *e*P P 06 45 56.6 +1.3
comp=Z,41nm,0.9s,baz=4.4,slow=5.6
NIL Nilore 76.46 307 P P 06 45 57.6 +1.4
NIL pmax pmax
comp=Z,104nm,1.1s
ASSE Asse, Remlinge 76.48 357 *e*P P 06 45 57.1 +1.3
baz=4.4,slow=5.6
SRDT SRDT 76.70 276 P P 06 45 59.8 +2.1
comp=Z,47nm,0.9s
SRDT SRDT 76.70 276 P P 06 45 59.2 +1.5
comp=Z,45nm,1.4s
CLZ Clausthal 76.78 357 *e*P P 06 45 58.9 +1.1
comp=Z,29nm,0.8s,baz=4.4,slow=5.6
GTTG Gottingen 77.09 357 *e*P P 06 46 00.6 +1.2
comp=Z,30nm,0.9s,baz=4.4,slow=5.6
CLL Collm 77.20 355 *i* P P 06 46 00.1 +0.1
comp=Z,22nm,1.0s
CLL *e*pP **pwP** 06 46 15.0 -0.6
CLL *e*sP **sP** 06 46 20.0 +1.2
CLL *e*SS SS 07 01 06.0 +24
CLL Collm 77.20 355 *i* P P 06 46 00.1 +0.1
CLL *e**PP **pwP** 06 46 15.0 -0.6
CLL pmax pmax
comp=Z,22nm,1.0s
CLL Collm 77.20 355 *e*P P 06 46 00.9 +0.9
comp=Z,14nm,0.9s,baz=4.4,slow=5.6
BUG Bochum--Univer 77.25 359 *e*P P 06 46 01.7 +1.4
comp=Z,12nm,0.9s,baz=4.4,slow=5.6
NEUB Neuenburg 77.36 356 *e*P P 06 46 01.9 +1.0
comp=Z,36nm,0.9s,baz=4.4,slow=5.6
KSP Ksiaz 77.46 353 *e*P P 06 46 02.1 +0.6
KASTN Kahler Asten 77.47 358 *e*P P 06 46 02.4 +0.9
comp=Z,10nm,0.9s,baz=4.4,slow=5.6
PHET Kaeng Krachan 77.49 275 P P 06 46 05.9 +3.7
FBE Freiberg 77.57 355 *e*P P 06 46 02.9 +0.8
comp=Z,20nm,0.9s,baz=4.4,slow=5.6
BRG Berggiesshubel 77.59 355 *e*P P 06 46 02.8 +0.7
comp=Z,21nm,1.0s,baz=4.4,slow=5.6
BRG Berggiesshubel 77.59 355 *i* P P 06 46 02.9 +0.7
BRG Amp 06 46 04.2
comp=Z,34nm,1.2s
BRG Berggiesshubel 77.59 355 P P 06 46 17.7 +16
BRG Amp 06 46 20.8
comp=Z,18nm,1.1s
BRG Amp 07 00 23.0
comp=Z,0.3nm,17.1s
TTSI Tana Toraja 77.64 249 P P 06 46 18.3 +15
CHVC Chvalec 77.73 353 *e*P P 06 46 03.4 +0.4
OSTC Ostas 77.75 353 *e*P P 06 46 03.6 +0.5
OSTC *e*P P 06 46 03.6 +0.5
KBL Kabul 77.76 311 P P 06 46 03.3 -0.4
KBL pmax pmax
comp=Z,32nm,0.9s
KBL Kabul 77.76 311 P P 06 46 03.3 -0.4
KBL IAmb IAmb 06 46 04.4
comp=Z,32nm,0.8s
OJC Ojcow 77.77 351 *e*P P 06 46 03.9 +0.6
UPC Upice 77.81 353 *e*P P 06 46 04.1 +0.6
UPC Upice 77.81 353 *e*P P 06 46 04.1 +0.6
UBBA Unterbreizbach 77.82 357 *e*P P 06 46 04.1 +0.8
comp=Z,5.2nm,0.9s,baz=4.4,slow=5.6
TBI Tubuai 77.85 157 *e*LR LR 07 10 12.0
comp=Z,429nm,24.0s,baz=337
TBI Tubuai 77.85 157 *e*T T 08 11 47.0
comp=Z,11nm,0.2s
PVCC Panska Ves 77.89 354 *e*P P 06 46 04.8 +0.9
PVCC Panska Ves 77.89 354 *e*P P 06 46 04.8 +0.9
BEBN Eben Emael 77.91 360 *d*P P 06 46 04.5 +0.5
MOX Moxa 77.93 356 *e*P P 06 46 05.0 +0.9
comp=Z,17nm,0.9s,baz=4.4,slow=5.6
DPC Dobruska-Polom 77.95 353 *e*P P 06 46 05.1 +0.8
DPC Dobruska-Polom 77.95 353 *e*P P 06 46 05.1 +0.8
MEM Membach 78.09 360 *b*P P 06 46 05.5 +0.4
comp=Z,22nm,1.1s
BTNL Ternell 78.12 360 *d*P P 06 46 05.7 +0.5
comp=Z,18nm,1.2s
BSTI Sart Tilman 78.12 0 *d*P P 06 46 05.7 +0.6
TANN Tannenbergstha 78.12 356 *e*P P 06 46 06.1 +0.9
comp=Z,9.2nm,1.0s,baz=4.4,slow=5.6
AHRW Bad Neuenahr-A 78.16 359 *e*P P 06 46 06.7 +1.4
comp=Z,26nm,1.0s,baz=4.4,slow=5.6
GUNZ Gunzen 78.18 356 *e*P P 06 46 05.1 +1.0
comp=Z,10nm,1.0s,baz=4.4,slow=5.6
KRLC Kraliky 78.18 353 *e*P P 06 46 06.3 +0.7
KRLC MLR MLR
comp=Z,400nm,18.8s
KRLC Kraliky 78.18 353 *e*P P 06 46 06.3 +0.7
KRLC AMS AMS 07 32 00.0
comp=Z,400nm,18.8s
SNF Seneffe 78.19 1 κP P 06 46 06.4 +0.8
WERN Wernitzgruen 78.25 356 *e*P P 06 46 06.9 +0.9
comp=Z,21nm,0.9s,baz=4.4,slow=5.6
BCLA Clavier 78.29 0 κP P 06 46 06.8 +0.7
comp=Z,20nm,1.2s
NKC Novy Kostel 78.31 356 *e*P P 06 46 07.0 +0.8
NKC Novy Kostel 78.31 356 *e*P P 06 46 07.0 +0.8
BGES Gesves 78.32 0 *b*P P 06 46 06.4 +0.1
comp=Z,18nm,1.2s
BHOU Houvegnez 78.35 360 *d*P P 06 46 05.8 -0.6
BMRD Maredsous 78.40 1 *d*P P 06 46 07.1 +0.4
comp=Z,28nm,1.0s
STHS Stebnicka Huta 78.41 350 *e*P P 06 46 06.0 -0.8
STHS Stebnicka Huta 78.41 350 *e*P P 06 46 06.0 -0.8
MORC Moravsky Berou 78.42 352 ⇓P P 06 46 07.3 +0.4
MORC Moravsky Berou 78.42 352 *e*P P 06 46 06.8 -0.1
PRU Pruhonice 78.43 354 *e*P P 06 46 07.4 +0.5
PRU MLR MLR
comp=Z,400nm,17.1s

PRU **Pruhonice** 78.43 354 *e*P P 06 46 07.4 +0.5
PRU AMS AMS 07 25 50.0
comp=Z,400nm,17.1s
TNS **Taunus Mts** 78.45 358 *e*P P 06 46 08.2 +1.1
comp=Z,26nm,0.8s,baz=4.4,slow=5.6
MANZ **Manzenberg** 78.57 356 *e*P P 06 46 08.6 +0.9
comp=Z,7.4nm,0.8s,baz=4.4,slow=5.6
GIVF **Givet** 78.60 0 *e*P P 06 46 08.1 +0.3
GIVF pmax pmax
comp=Z,38nm,1.1s
DOU **Dourbes** 78.61 1 *b*P P 06 46 08.0 +0.2
comp=Z,21nm,1.2s
BAIF **Baives** 78.64 1 *e*P P 06 46 08.4 +0.4
BAIF pmax pmax
comp=Z,29nm,1.0s
SORM **Soroca** 78.68 345 ⇑P P 06 46 07.9 -0.4
KOLS **Kolonicke sedl** 78.77 349 *e*P P 06 46 09.0 +0.2
KOLS **Kolonicke sedl** 78.77 349 *e*P P 06 46 09.0 +0.2
ROTZ **Rotzenmuhle** 78.78 356 *e*P P 06 46 09.7 +0.9
comp=Z,10nm,0.9s,baz=4.4,slow=5.6
MILB **Miltenberg** 78.83 358 *e*P P 06 46 10.3 +1.2
comp=Z,24nm,0.8s,baz=4.4,slow=5.6
LANS **Liptovska Anna** 78.86 351 *e*P P 06 46 10.9 +1.6
LANS pmax pmax
comp=Z,9.0nm,1.2s
LANS **Liptovska Anna** 78.86 351 *e*P P 06 46 10.9 +1.6
CRVS **Cervenica-Dubn** 78.89 349 *e*P P 06 46 09.7 +0.2
CRVS pmax pmax
comp=Z,12nm,1.1s
CRVS **Cervenica-Dubn** 78.89 349 *e*P P 06 46 09.7 +0.2
GRF **Grafenberg Arr** 78.90 356 *e*P P 06 46 10.4 +0.9
comp=Z,34nm,0.9s,baz=4.4,slow=5.6
VRAC **Vranov** 78.96 353 ⇓P P 06 46 10.9 +1.0
VRAC **Vranov** 78.96 353 *e*P P 06 46 10.4 +0.6
WLF **Walferdange** 79.04 360 *d*P P 06 46 11.1 +0.9
WLF **Walferdange** 79.04 360 *e*P P 06 46 11.7 +1.4
comp=Z,15nm,0.8s,baz=4.4,slow=5.6
UZH **Uzhgorod** 79.06 349 *e*P P 06 46 11.3 +1.0
UZH *e* 06 46 16.7
UZH *e* 06 46 25.3
KRUC **Moravsky** 79.22 353 *e*P P 06 46 11.5 +0.3
KAPI **Kappang** 79.28 248 IAMs_20 IAMs_20 07 14 21.9
comp=Z,217nm,19.0s
CTA **Charters Tower** 79.30 217 P P 06 46 10.7 -1.2
comp=Z,3.5nm,0.8s,baz=6.0,slow=6.9,SNR=4.9
BKSI **Bulukumba** 79.31 247 P P 06 46 17.4 +5.3
JAVC **Velka Javorina** 79.32 352 *e*P P 06 46 13.3 +1.5
KHC **Kasperske Hory** 79.34 355 *e*P P 06 46 12.7 +0.7
KHC *e* 06 46 26.0
KHC MLR MLR
comp=Z,400nm,18.1s
KHC **Kasperske Hory** 79.34 355 *e*P P 06 46 12.7 +0.7
KHC *e*pP pP 06 46 26.0 +0.5
KHC AMS AMS 07 27 40.0
comp=Z,400nm,18.1s
WET **Wettzell** 79.37 355 *e*P P 06 46 12.8 +0.7
comp=Z,4.1nm,0.8s,baz=4.4,slow=5.6
KIV **Kislovodsk** 79.48 334 *e*P P 06 46 12.8 -0.1
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,152nm,19.0s
CKRC **Cesky Krumlov** 79.61 354 *e*P P 06 46 13.8 +0.4
CKRC AMS AMS 07 26 30.0
comp=Z,300nm,19.3s
GEC2 **GERESS Array S** 79.62 355 P P 06 46 13.2 -0.4
GEC2 **GERESS Array S** 79.62 355 *e*P P 06 46 14.3 +0.8
comp=Z,7.8nm,0.9s,baz=4.4,slow=5.6
GERES **GERESS Array B** 79.62 355 P P 06 46 14.2 +0.6
comp=Z,7.0nm,0.8s,baz=23,slow=4.4,SNR=31
GERES **GERESS Array B** 79.62 355 P P 06 46 13.9 +0.4
KBZ **Khabaz** 79.64 333 P P 06 46 14.0 +0.4
comp=Z,2.3nm,0.7s,baz=143,slow=2.5,SNR=5.0
KBZ **Khabaz** 79.64 333 P P 06 46 14.0 +0.4
GEYT **Alibeck** 79.67 320 P P 06 46 15.3 +1.4
comp=Z,25nm,0.4s,baz=240,slow=7.9,SNR=9.5
BURAR **Bucovina Array** 79.67 347 ⇑P P 06 46 14.6 +0.8
BURAR **Bucovina Array** 79.67 347 P P 06 46 13.8 0.0
SMOL **Smolenice** 79.68 352 *e*P P 06 46 14.8 +1.0
SMOL pmax pmax
comp=Z,6.0nm,1.0s
SMOL **Smolenice** 79.68 352 *e*P P 06 46 14.8 +1.0
SHA1 **Shidzhatmaz** 79.69 334 *i*P P 06 46 14.8 +0.6
PRAR **RASCA** 79.77 346 ⇑P P 06 46 13.7 -0.5
FLN **La Foliniere** 79.81 4 *e*P P 06 46 14.3 -0.1
FLN pmax pmax
comp=Z,42nm,1.1s
STU **Stuttgart** 79.89 358 P P 06 46 16.7 +1.8
STU **Stuttgart** 79.89 358 *e*P P 06 46 15.9 +1.0
comp=Z,57nm,1.0s,baz=4.4,slow=5.6
LDF **La Druitiere** 80.00 4 *e*P P 06 46 15.1 -0.3
LDF pmax pmax
comp=Z,29nm,0.9s
ZST **Bratislava** 80.02 352 *e*P P 06 46 16.9 +1.3
ZST pmax pmax
comp=Z,44nm,1.2s
ZST **Bratislava** 80.02 352 *e*P P 06 46 16.9 +1.3
PSZ **Piszkesteto** 80.03 350 *e*P P 06 46 16.6 +0.8
PSZ **Piszkesteto** 80.03 350 P P 06 46 18.1 +2.3
ROSF **Rostrenen** 80.08 6 *e*P P 06 46 20.0 +4.1
ROSF pmax pmax
comp=Z,69nm,1.7s
GRR **Gorron** 80.17 4 *e*P P 06 46 16.4 0.0
GRR pmax pmax
comp=Z,31nm,1.0s
BIZ **Bicaz** 80.20 346 ⇓P P 06 46 17.5 +0.9
SGMF **Saint Gilles** 80.21 6 *e*P P 06 46 16.6 0.0
SGMF pmax pmax
comp=Z,36nm,1.2s
ZEI **Tsey** 80.22 332 *e*P P 06 46 16.5 -0.5
ZEI pmax pmax
comp=Z,3.0nm,1.0s
CDF **Champ du Feu** 80.28 359 *e*P P 06 46 17.3 +0.2
CDF pmax pmax
comp=Z,23nm,0.8s
ARCR **ARCALIA** 80.31 347 ⇓P P 06 46 18.7 +1.5
BFO **Black Forest** 80.35 358 P P 06 46 16.9 -0.5
BFO pmax pmax
comp=Z,15nm,0.9s
BFO **Black Forest** 80.35 358 P P 06 46 16.9 -0.5
BFO **Black Forest** 80.35 358 *e*P P 06 46 18.5 +1.1
comp=Z,9.4nm,0.8s,baz=4.4,slow=5.6
SURA **Surathani** 80.37 273 P P 06 46 21.3 +3.4
CONA **Conrad Observa** 80.39 353 *e*P P 06 46 18.9 +1.2
comp=Z,7.3nm,0.6s,SNR=5.8
SOC **Sochi** 80.62 336 *e*P P 06 46 17.6 -1.3
SOC *e* 06 49 19.4
SOC *e*PPP PPP 06 51 10.9
SOC *e*S S 06 56 22.8 +0.7
SOC *e*SS SS 07 01 45.6 +12
SOC pmax pmax
comp=Z,9.0nm,0.7s
SOC MLR MLR
comp=Z,456nm,18.0s
HAU **Haudompre** 80.70 359 *e*P P 06 46 19.5 +0.2
HAU pmax pmax
comp=Z,38nm,0.9s
RJOB **Jochberg** 80.78 355 *e*P P 06 46 20.7 +1.0
comp=Z,24nm,0.8s,baz=4.4,slow=5.6
DRGR 80.82 348 ⇓P P 06 46 20.2 +0.2
DRGR 80.82 348 P P 06 46 20.2 +0.2
HINF **Hinteralfeld** 80.89 359 *e*P P 06 46 20.5 +0.2
HINF pmax pmax
comp=Z,11nm,0.5s
HRA **Herat** 80.98 316 P P 06 46 21.5 +0.3
HRA IAmb IAmb 06 46 23.0
comp=Z,31nm,1.1s
SURT **Suratani** 81.05 273 P P 06 46 37.6 +16
ARSA **Arzberg** 81.09 353 *i*P P 06 46 22.6 +1.2
comp=Z,5.3nm,0.6s
RETA **Reutte** 81.12 356 *i*P P 06 46 22.6 +1.0
comp=Z,8.5nm,0.8s
VRI **Vrincioaia** 81.15 345 ⇑P P 06 46 21.1 -0.6
VRI **Vrincioaia** 81.15 345 P P 06 46 24.4 +2.7
PLOR **Plostina** 81.17 345 ⇓P P 06 46 22.9 +1.0
WATA **Walderalm** 81.24 356 *e*P P 06 46 23.4 +1.1
comp=Z,16nm,0.8s,SNR=7.1
SLCR **Slobozia Conac** 81.25 344 ⇑P P 06 46 24.0 +1.8
COVR **Voineasa-Covas** 81.25 346 ⇑P P 06 46 24.0 +1.7
MOTA **Moosalm** 81.25 356 *e*P P 06 46 23.3 +0.9
comp=Z,20nm,1.1s,SNR=6.6
DOPR **Dopca** 81.25 346 ⇓P P 06 46 24.0 +1.7
WTTA **Wattenberg** 81.31 356 *i*P P 06 46 24.0 +1.3
comp=Z,24nm,1.1s,SNR=5.9

DAVA **Damuels** 81.35 357 *i*P P 06 46 24.0 +1.1
comp=Z,11nm,1.1s
SQTA **Sankt Quirin** 81.37 356 *i*P P 06 46 24.1 +1.2
comp=Z,14nm,0.8s
KBA **Koelnbreinsper** 81.40 355 *e*P P 06 46 24.8 +1.6
comp=Z,46nm,1.2s,SNR=7.8
LOR **Lormes** 81.43 1 *e*P P 06 46 23.3 +0.1
LOR pmax pmax
comp=Z,31nm,0.8s
TLCR 81.46 344 ⇓P P 06 46 24.2 +1.0
SIRR **Siria** 81.46 349 ⇓P P 06 46 24.0 +0.6
CFR **Carcaliu** 81.58 344 ⇓P P 06 46 24.8 +0.9
FETA **Feichten** 81.59 356 *i*P P 06 46 25.5 +1.3
comp=Z,20nm,1.0s,SNR=7.7
MLR **Muntele Rosu** 81.64 346 ⇑P P 06 46 26.2 +1.7
MLR **Muntele Rosu** 81.64 346 P P 06 46 24.8 +0.4
MLR pmax pmax
comp=Z,10.0nm,0.7s
MLR **Muntele Rosu** 81.64 346 P P 06 46 24.8 +0.4
MLR IAmb IAmb 06 46 28.0
comp=Z,10nm,0.7s
NEHR **Nehoiu** 81.64 345 ⇑P P 06 46 25.3 +0.9
SOKA **Soboth** 81.69 353 *i*P P 06 46 25.7 +1.0
comp=Z,29nm,1.2s,SNR=6.3
ABTA **Abfaltersbach** 81.78 355 *e*P P 06 46 26.0 +0.9
comp=Z,18nm,1.2s,SNR=5.5
VOIR 81.82 346 ⇑P P 06 46 26.9 +1.6
TPGR **Topolog** 81.85 344 ⇑P P 06 46 25.3 -0.1
JURR **Jurilovca** 81.86 343 ⇓P P 06 46 26.3 +0.9
SMF **Signal de Mont** 82.05 1 *e*P P 06 46 26.6 +0.2
SMF pmax pmax
comp=Z,45nm,0.9s
HARR **Harsova** 82.09 344 ⇑P P 06 46 28.0 +1.4
CABF **La Chapelle** 82.10 360 *e*P P 06 46 27.4 +0.6
CABF pmax pmax
comp=Z,42nm,0.9s
BZS **Buzias** 82.11 349 ⇓P P 06 46 27.3 +0.5
BZS **Buzias** 82.11 349 P P 06 46 27.2 +0.5
BGF **Bois d'Agland** 82.12 2 *e*P P 06 46 27.0 +0.2
BGF pmax pmax
comp=Z,31nm,1.0s
GZR **Gura Zlata** 82.18 348 ⇓P P 06 46 27.8 +0.5
TIRR **Tirgusor** 82.23 344 ⇓P P 06 46 28.4 +1.0
TIRR **Tirgusor** 82.23 344 P P 06 46 27.5 +0.1
TIRR pmax pmax
comp=Z,65nm,0.9s
TIRR **Tirgusor** 82.23 344 P P 06 46 27.5 +0.1
HERR **Herculane** 82.73 348 ⇓P P 06 46 30.3 +0.3
FRGS **Fruska Gora** 82.77 350 ⇓P P 06 46 30.9 +0.6
MDVR **Moldovita** 82.92 348 ⇑P P 06 46 31.3 +0.2
LPL **La Plagne** 83.19 359 *e*P P 06 46 35.6 +3.0
LPL pmax pmax
comp=Z,13nm,1.1s
LPG **La Plagne** 83.21 359 *e*P P 06 46 35.1 +2.3
LPG pmax pmax
comp=Z,14nm,1.1s
VLAD **Vladila** 83.33 346 ⇓P P 06 46 33.7 +0.7
BNI **Bardonecchia** 83.65 359 P P 06 46 37.2 +2.3
BNI **Bardonecchia** 83.65 359 IAMs_20 IAMs_20 07 12 36.6
comp=Z,391nm,20.0s
CAF **Calviac** 83.73 3 *e*P P 06 46 35.7 +0.5
CAF pmax pmax
comp=Z,38nm,1.2s
ORIF **Oris-en-Rattie** 83.79 360 *e*P P 06 46 36.6 +1.0
ORIF pmax pmax
comp=Z,22nm,1.1s
DIVS **Divibare** 83.80 350 IAMs_20 IAMs_20 07 23 27.4
comp=Z,361nm,22.0s
VIVF **Saint-Julien-l** 83.85 1 *e*P P 06 46 35.6 -0.2
VIVF pmax pmax
comp=Z,24nm,1.1s
BOVS **Bovan** 84.05 348 ⇓P P 06 46 35.9 -0.9
WRA **Warramunga Arr** 84.18 228 P P 06 46 35.8 -1.8
comp=Z,2.0nm,0.6s,baz=37,slow=4.9,SNR=13
SBF **Sospel** 84.83 359 *e*P P 06 46 41.9 +1.1
SBF pmax pmax
comp=Z,44nm,0.9s
VTS **Vitosha** 84.85 347 ⇓P P 06 46 41.7 +0.7
PPBI **Pangkal Pinang** 85.14 260 P P 06 46 46.3 +3.6
FRF **La Foret Royal** 85.14 359 *e*P P 06 46 42.6 +0.3
FRF pmax pmax
comp=Z,33nm,1.0s
MTLF **Montolieu** 85.32 2 *e*P P 06 46 43.8 +0.6
MTLF pmax pmax
comp=Z,45nm,1.2s
LMR **La Mourre** 85.37 359 *e*P P 06 46 44.9 +1.5
LMR pmax pmax
comp=Z,42nm,1.1s
SJPF **Ste Jean** 85.41 5 *e*P P 06 46 44.4 +0.7
SJPF pmax pmax
comp=Z,12nm,1.0s
PDG **Podgorica** 85.53 350 ⇓P P 06 46 44.6 +0.3
EPF **Esparros** 85.57 4 *e*P P 06 46 44.1 -0.4
EPF pmax pmax
comp=Z,13nm,1.0s
ETSF **Etsaut** 85.66 5 *e*P P 06 46 45.6 +0.6
ETSF pmax pmax
comp=Z,15nm,0.9s
PSI **Prapat** 85.74 269 P P 06 46 45.4 -0.4
comp=Z,8.4nm,0.4s,baz=360,slow=5.5,SNR=6.4
PSI **Prapat** 85.74 269 P PcP 06 46 47.8 -0.8
comp=Z,12nm,0.7s,comp=Z,25nm,0.8s
PSI P P 06 46 45.9 +0.1
comp=Z,12nm,0.7s,comp=Z,25nm,0.8s
BRTR **Keskin Array B** 85.74 339 P P 06 46 46.1 +0.6
comp=Z,4.5nm,1.0s,baz=64,slow=2.9,SNR=15
BRTR PP PP 06 50 04.5 +0.2
comp=Z,1.0nm,0.7s,baz=36,slow=5.3,SNR=4.5
BRTR **Keskin Array B** 85.74 339 P P 06 46 45.1 -0.5
RPSI **Rantau Prapat** 85.82 269 P P 06 46 45.4 -0.7
BSI **Banda Aceh** 85.91 274 P P 06 46 53.8 +7.3
BNN **Bunyan** 86.05 337 P P 06 46 47.5 +0.4
PGF **Pioggiola** 86.11 357 *e*P P 06 46 48.4 +1.1
PGF pmax pmax
comp=Z,52nm,1.2s
MARD **Mardin** 86.18 333 P P 06 46 48.1 +0.4
MARD IAmb IAmb 06 46 49.8
comp=Z,31nm,1.1s
PBRG **Braganca** 86.29 9 *e*P P 06 46 48.5 +0.4
comp=Z,19nm,1.3s
CACAO **El Cacao, Vera** 86.50 83 *e*P P 06 47 02.7 +13
POLO **Lamas de Olo** 86.60 10 *e*P P 06 46 50.2 +0.5
comp=Z,18nm,1.9s
HYB **Hyderabad** 86.64 294 *i*P P 06 46 49.0 -1.1
HYB *es*P sP 06 47 09.5 +0.7
PVRL **Vila Real** 86.71 10 *e*P P 06 46 50.6 +0.4
comp=Z,23nm,1.6s
FITZ **Fitzroy Crossi** 86.84 236 P P 06 46 49.9 -1.0
comp=Z,6.5nm,0.8s,baz=51,slow=4.7,SNR=8.9
MVO **Moncorvo** 86.89 10 *e*P P 06 46 51.4 +0.3
comp=Z,26nm,1.1s
PVIS **Viseu** 87.24 10 *e*P P 06 46 52.9 +0.1
comp=Z,28nm,1.0s
MTE **Manteigas** 87.59 10 *e*P P 06 46 55.0 +0.5
comp=Z,31nm,1.3s
ASAR **Alice Springs** 87.61 226 P P 06 46 53.5 -1.0
comp=Z,3.6nm,0.8s,baz=28,slow=4.7,SNR=13
COI **Coimbra** 87.69 11 *e*P P 06 46 55.3 +0.5
comp=Z,47nm,1.2s
PCAS **Casmilo, Conde** 87.83 11 *e*P P 06 46 55.6 +0.1
comp=Z,51nm,1.8s
PCBR **Castelo Branco** 88.16 10 *e*P P 06 46 56.9 -0.2
comp=Z,19nm,1.2s
PSBE **So Bento** 88.33 11 *e*P P 06 46 57.8 -0.1
comp=Z,65nm,1.8s
POO **Poona** 88.37 298 *e*P P 06 46 55.0 -3.5
SMRT **St. Maarten** 88.55 62 IAMs_20 IAMs_20 07 26 21.8
comp=Z,316nm,22.0s
ESDC **Sonseca Array** 88.65 7 P P 06 46 59.2 -0.3
comp=Z,7.5nm,0.9s,baz=346,slow=4.8,SNR=26
PMAFR **Mafra** 88.82 12 *e*P P 06 46 59.9 -0.3
comp=Z,84nm,1.6s
PMST **Lisbon--Monsan** 89.05 11 *e*P P 06 47 00.4 -0.9
comp=Z,80nm,1.3s
SEUS **St. Eustatius** 89.05 63 IAMs_20 IAMs_20 07 15 26.2
comp=Z,272nm,18.0s
PESTR **Estremoz** 89.10 10 *e*P P 06 47 00.8 -0.8
comp=Z,23nm,1.2s
EVO **Evora** 89.39 11 *e*P P 06 47 02.3 -0.6
PBAR **Barrancos** 89.85 10 *e*P P 06 47 05.0 -0.1
comp=Z,19nm,1.6s
PCVE **Castro Verde** 90.27 11 *e*P P 06 47 05.2 -1.9
comp=Z,32nm,1.6s
OCAC **Ocana** 90.42 76 *e*P P 06 47 08.0 -0.3
CBOC **Ciudad Bolivar** 90.64 80 *e*P P 06 47 05.4 -3.9

CLTB **Caltabellotta** 90.87 354 IAMs_20 IAMs_20 07 28 02.6
comp=Z,298nm,21.0s
PTBC **PUERTO BERRIO, 91.06 78** *e*P P 06 47 10.2 -0.9
NORC **Norcasia** 91.58 79 *e*P P 06 47 12.4 -1.1
STKA **Stephens Creek** 91.72 216 P P 06 47 12.8 -0.8
comp=Z,2.1nm,0.7s,baz=338,slow=9.5,SNR=5.9
BARC **Barichara** 91.80 77 *e*P P 06 47 13.3 -1.4
SPBC **San Pablo de B** 91.99 78 *e*P P 06 47 14.2 -1.3
ORTC **Ortega, Tolima** 92.64 80 *e*P P 06 47 17.1 -1.3
PALK **Pallekele** 93.45 286 *i*P P 06 47 25.7 +3.6
TORD **Torodi Ar. Bea** 115.36 4 PKP PKiKP 06 52 47.1 -1.0
comp=Z,0.7nm,0.6s,baz=352,slow=2.5,SNR=4.1
CPUP **Villa Florida** 126.85 87 PKP PKiKP 06 53 10.6 +0.4
comp=Z,2.2nm,1.0s,baz=340,slow=4.5,SNR=3.0
PLCA **Paso Flores** 128.46 110 PKP PKPdf 06 53 11.3 -1.2
comp=Z,1.2nm,0.7s,baz=246,slow=3.6,SNR=4.3
PLCA SKP 06 56 46.5
comp=Z,1.1nm,0.7s,baz=352,slow=5.9,SNR=3.9
USHA **Ushuaia** 137.51 125 SKP 06 57 04.2
comp=Z,24nm,0.4s,baz=53,slow=1.7,SNR=3.7
QSPA **South Pole Qui** 141.43 180 PKhKP PKPpre 06 53 29.3
comp=Z,1.1nm,0.6s,baz=150,slow=1.0,SNR=2.1
QSPA PKP PKPdf 06 53 35.9 +0.1
comp=Z,2.3nm,0.7s,baz=216,slow=0.7,SNR=7.2
QSPA **South Pole Qui** 141.43 180 PKPdf 06 53 35.1 -0.7
MAW **Mawson** 148.39 218 PKPbc PKPbc 06 53 50.2 -1.0
comp=Z,2.3nm,0.7s,baz=94,slow=7.3,SNR=2.2
BOSA **Boshof** 152.66 320 PKPbc PKPbc 06 54 02.6 -0.2
comp=Z,5.4nm,0.4s,baz=24,slow=2.5,SNR=9.5
BOSA PKPab PKPab 06 54 13.9 +0.4
comp=Z,22nm,0.7s,baz=57,slow=4.0,SNR=13
SNAA **Sanae** 159.58 172 PKPab PKPab 06 54 39.8 -2.2
VNA2 **Neumayer--Watz** 159.79 168 PKPab PKPab 06 54 41.1 -1.8
VNA1 **Neumayer--Stat** 159.92 167 PKPab PKPab 06 54 41.4 -2.0

IDC ***05*** *06:34:16.6±0.7,49°.33S×8°.92W,h0km,mb3.9/6,mb1 4.1/6, mb1mx3.9/21,mbtmp3.9/6,MS3.5/2,Ms1 3.4/2, ms1mx3.0/25,Error ellipse: s-maj=19.3km s-min=16.7km az=2.0*

NEIC ***05*** *06:34:18.5±1.3,49°.32S±0°.05×8°.9W±0°.2,h10km±1km, mb4.5/16,Error ellipse: s-maj=20.8km s-min=7.5km az=104.0*

ISC 05 06:34:18.4±0.7,49°.2S±0°.1×9°.0W±0°.1,h10km,n34, σ1s30/30,mb4.2/12,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**17.70**	**243**	Pn	**Pn**	**06 38 22.6**	**-2.2**
VNA1	**Neumayer--Stat**	**21.48**	**179**	P	**P**	**06 39 10.0**	**+3.3**
VNA2	**Neumayer--Watz**	**21.76**	**179**	P	**P**	**06 39 12.0**	**+2.2**
VNA2	**Neumayer--Watz**	**21.76**	**179**	pP	pP	06 39 24.7	+13
VNA3	**Neumayer Olymp**	**22.07**	**181**	P	**P**	**06 39 15.1**	**+1.9**
SNAA	**Sanae**	**22.68**	**175**	P	**P**	**06 39 19.8**	**+0.1**
SNAA	**Sanae**	**22.68**	**175**	P	**P**	**06 39 17.8**	**-1.9**
SNAA				IAmb	IAmb	06 39 24.4	
comp=Z,11nm,1.4s							
SUR	**Sutherland**	**27.89**	**64**	P	**P**	**06 40 06.8**	**-1.8**
SUR				IAmb	IAmb	06 40 09.2	
comp=Z,14nm,1.1s							
BOSA	**Boshof**	**33.26**	**64**	LR	LR	06 52 05.3	
comp=Z,53nm,19.2s,baz=204,slow=32							
BOSA	**Boshof**	**33.26**	**64**	P	**P**	**06 40 55.1**	**-0.9**
BOSA				IAmb	IAmb	06 41 03.7	
comp=Z,12nm,1.4s							
PLTB	**Pedras Altas**	**37.54**	**281**	P	**P**	**06 41 33.4**	**+0.8**
PLTB				IAmb	IAmb	06 41 34.8	
comp=Z,22nm,1.4s							
TRQA	**Tornquist**	**39.20**	**266**	P	**P**	**06 41 46.7**	**+0.2**
TRQA				IAmb	IAmb	06 41 48.0	
comp=Z,6.4nm,1.4s							
QSPA	**South Pole Qui**	**41.01**	**180**	P	**P**	**06 42 01.2**	**-0.2**
comp=Z,0.7nm,0.7s,baz=247,slow=5.1,SNR=3.3							
PLCA	**Paso Flores**	**43.28**	**257**	P	**P**	**06 42 19.9**	**-0.2**
comp=Z,0.7nm,0.5s,baz=288,slow=9.6,SNR=5.5							
CPUP	**Villa Florida**	**43.61**	**284**	P	**P**	**06 42 23.2**	**+0.4**
comp=Z,2.8nm,0.7s,baz=121,slow=7.2,SNR=9.2							
CPUP	**Villa Florida**	**43.61**	**284**	IAmb	IAmb	06 42 23.8	
comp=Z,4.9nm,0.9s							
BDFB	**Brasilia**	**46.15**	**303**	P	**P**	**06 42 43.4**	**+0.2**
comp=Z,2.2nm,0.6s,baz=126,slow=7.7,SNR=5.7							
BDFB	**Brasilia**	**46.15**	**303**	P	**P**	**06 42 42.2**	**-1.0**
BDFB				IAmb	IAmb	06 42 42.9	
comp=Z,12nm,1.5s							
AQDB	**Aquidauana**	**46.85**	**291**	P	**P**	**06 42 48.6**	**0.0**
MT09	**Talagante**	**47.61**	**265**	P	**P**	**06 42 54.7**	**0.0**
AC02	**Maricunga**	**50.91**	**273**	P	**P**	**06 43 19.7**	**-0.6**
PB08	**IPOC Station P**	**55.62**	**279**	P	**P**	**06 43 56.0**	**+1.1**
LPAZ	**La Paz**	**57.78**	**283**	P	**P**	**06 44 09.9**	**-0.6**
comp=Z,1.0nm,0.7s,baz=150,slow=8.1,SNR=5.1							
LPAZ	**La Paz**	**57.78**	**283**	P	**P**	**06 44 10.3**	**-0.2**
TORD	**Torodi Ar. Bea**	**62.83**	**12**	P	**P**	**06 44 46.3**	**+2.0**
comp=Z,0.4nm,0.7s,baz=196,slow=7.7,SNR=2.9							
KOWA	**Kowa**	**63.61**	**5**	LR	LR	07 06 03.6	
comp=Z,41nm,18.4s,baz=182,slow=30							
PTGA	**Pitinga**	**65.04**	**301**	P	**P**	**06 44 59.4**	**+0.5**
PTGA				IAmb	IAmb	06 44 59.7	
comp=Z,2.1nm,0.7s							
PDAR	**Pinedale Array**	**126.85**	**295**	PKP	**PKPdf**	**06 53 20.3**	**-1.7**
comp=Z,0.2nm,0.6s,baz=145,slow=4.9,SNR=2.5							
DLBC	**Dease Lake**	**145.11**	**308**	PKPbc	**PKPdf**	**06 53 55.4**	**+0.4**
INK	**Inuvik**	**147.07**	**326**	PKPbc	**PKPbc**	**06 53 59.6**	**-0.5**
comp=Z,4.3nm,0.8s,baz=96,slow=3.6,SNR=9.6							
BCAR	**Beaver Creek A**	**151.08**	**316**	PKPbc	**PKPbc**	**06 54 10.3**	**-0.1**
K27K	**Chicken**	**151.09**	**318**	PKPbc	**PKPbc**	**06 54 10.4**	**+0.1**
BMAR	**Burnt Mountain**	**151.35**	**326**	PKPbc	**PKPbc**	**06 54 11.0**	**0.0**
ILAR	**Eielson Array**	**152.98**	**321**	PKPbc	**PKPbc**	**06 54 13.3**	**-1.3**
comp=Z,0.6nm,0.7s,baz=69,slow=0.8,SNR=6.3							

IDC ***05*** *06:40:29.5±1.3,64°.30S×174°.81E,h0km,mb4.0/4, mb1 4.2/5,mb1mx3.9/31,mbtmp4.0/5,ML3.5/1,MS3.8/6, Ms1 3.8/6,ms1mx3.5/22,Error ellipse: s-maj=54.5km s-min=24.4km az=64.0*

ISC 05 06:40:30.8±1.1,64°.3S±0°.2×174°.8E±0°.3,h10km,n14, σ0s63/8,mb4.0/4,MS3.7/5,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**13.84**	**192**	Pn	**Pn**	**06 43 46.2**	**-0.4**
0.2nm,0.3s,baz=27,slow=15,SNR=18							
VNDA				LR	LR	06 47 32.8	
comp=Z,274nm,21.1s,baz=38,slow=30							
QSPA	**South Pole Qui**	**25.76**	**180**	P	**P**	**06 46 02.4**	**+1.1**
1.7nm,0.6s,baz=64,slow=1.3,SNR=14							
QSPA				LR	LR	06 54 31.4	
comp=Z,207nm,20.6s,baz=50,slow=33							
MAW	**Mawson**	**39.72**	**214**	LR	LR	07 03 45.5	
comp=Z,77nm,18.8s,baz=50,slow=35							
SNAA	**Sanae**	**44.26**	**181**	LR	LR	07 06 26.5	
comp=Z,90nm,18.4s,baz=308,slow=35							
H01W1	**Cape Leeuwin H**	**46.52**	**279**	T	T	07 39 19.1	
baz=148,slow=76,SNR=33							
H01W2	**Cape Leeuwin H**	**46.52**	**279**	T	T	07 39 18.9	
baz=148,slow=76,SNR=33							
H01W3	**Cape Leeuwin H**	**46.53**	**279**	T	T	07 39 20.3	
baz=148,slow=76,SNR=36							
ASAR	**Alice Springs**	**48.61**	**307**	P	**P**	**06 49 14.8**	**+0.4**
2.0nm,0.9s,baz=158,slow=7.3,SNR=6.8							
WRA	**Warramunga Arr**	**51.90**	**309**	P	**P**	**06 49 39.4**	**+0.1**
2.6nm,0.9s,baz=163,slow=7.1,SNR=7.1							
WRA				LR	LR	07 08 00.5	
comp=Z,154nm,21.6s,baz=10.0,slow=32							
BATI	**Baumata**	**64.69**	**302**	LR	LR	07 16 53.1	
comp=Z,217nm,18.9s,baz=262,slow=34							
LPAZ	**La Paz**	**86.53**	**121**	P	**P**	**06 53 14.6**	**0.0**
0.6nm,0.7s,baz=207,slow=2.6,SNR=2.6							
ILAR	**Eielson Array**	**131.82**	**21**	PKP	**PKiKP**	**06 59 43.0**	**-0.3**
0.5nm,0.7s,baz=258,slow=2.7,SNR=4.1							
KBZ	**Khabaz**	**146.19**	**256**	PKPbc	**PKPdf**	**07 00 08.6**	**-0.4**
1.4nm,0.6s,baz=23,slow=1.5,SNR=4.0							
BRTR	**Keskin Array B**	**146.58**	**241**	PKPbc	**PKPbc**	**07 00 11.2**	**-0.4**
1.8nm,0.9s,baz=146,slow=6.9,SNR=10							

IDC 05 06:40:41.0±1.7,6°.44S×128°.47E,h254km±23km,mb3.1/1, mb1 3.6/6,mb1mx3.2/43,mbtmp4.2/6,Error ellipse: s-maj=25.8km s-min=17.4km az=107.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.05**	**231**	P	Pn	06 42 11.4	+1.4
10nm,0.3s,baz=121,slow=3.5,SNR=7.1							
BATI				S	S	06 43 20.1	-1.2
12nm,0.3s,baz=266,slow=22,SNR=6.7							

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SIJI	Sorong	6.20	27	P	Pn	06 42 11.6	-0.2
	7.3nm,0.3s,baz=348,slow=23,SNR=11						
FITZ	Fitzroy Crossi	11.91	193	P	Pn	06 43 24.9	+1.4
	0.6nm,0.3s,baz=26,slow=10,SNR=29						
WRA	Warramunga Arr	14.58	158	P	P	06 43 54.8	-1.3
	0.7nm,0.3s,baz=332,slow=13,SNR=38						
ASAR	Alice Springs	17.91	164	P	P	06 44 32.4	-0.2
	1.9nm,0.3s,baz=344,slow=11,SNR=195						
MKAR	Makanchi Array	66.94	327	P	P	06 51 06.3	-0.1
	0.3nm,0.4s,baz=135,slow=10.0,SNR=3.2						

*IDC **05** 06:57:40.9±3.2, 14°.03N×44°.00E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/46, mbtmp3.7/5, Error ellipse: s-maj=75.9km s-min=30.9km az=160.0*

ISC 05 06:57:43.9±1.8**, 14°.2N**±0°.2×**43°.9E**±0°.3**, h12km, n6,** σ1ˢ**37**/7**, mb3.5**/5**, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TEND	Ethiopian Broa	3.71	230	*e*P	Pn	06 58 42.4	+1.3
TEND				*e*S	Sb	06 59 33.3	-1.2
BRTR	Keskin Array B	26.98	342	P	P	07 03 27.4	+1.7
	0.8nm,0.9s,baz=149,slow=6.1,SNR=4.0						
TORD	Torodi Ar. Bea	40.99	274	P	P	07 05 26.9	-0.3
	0.7nm,0.7s,baz=83,slow=9.0,SNR=4.8						
GERES	GERESS Array B	42.54	331	P	P	07 05 38.8	-0.8
	0.4nm,0.5s,baz=123,slow=7.1,SNR=6.0						
MKAR	Makanchi Array	45.61	37	P	P	07 06 03.9	-0.2
	1.5nm,0.8s,baz=233,slow=7.9,SNR=9.2						
ZALV	Zalesovo Beam	50.95	30	P	P	07 06 44.3	-0.9
	0.7nm,0.5s,baz=248,slow=6.1,SNR=4.6						

*BJI **05** 06:59:57.0±0.0, 51°.69N×174°.36W, h5km, mB5.5/63, mb5.5/86, Ms5.5/89, Ms7 5.3/82*

*NEIC **05** 07:00:01.4±1.7, 51°.37N±0°.05×174°.34W±0°.05, h20km±1km, mb5.5/291, Ms_20 5.1/527, Mwb5.4/47, Mww5.5, ML5.0(AEIC), Mwc5.6(GCMT), Error ellipse: s-maj=8.9km s-min=4.5km az=159.0*

*NEIC **05** 07:00:01, 51°.44N×174°.37W, h15km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.18; $M_{\theta\theta}$-1.03; $M_{\phi\phi}$-0.15; $M_{r\theta}$0.90; $M_{\theta\phi}$-0.21; $M_{\phi r}$0.40; Fault plane solution: $M_0$1.51000×10^{17} NP1:ϕ_s263.35000°, δ24.96000°, λ101.96000°. NP2:ϕ_s70.20000°, δ65.62000°, λ84.49000°. Principal axes: T 1.5613, Plg69.0000°, Azm329.0000°; N -0.1197, Plg5.0000°, Azm72.0000°; P -1.4416, Plg20.0000°, Azm164.0000°;*

*MOS **05** 07:00:02.3±0.8, 51°.61N×174°.36W, h37km, mb5.7/59, MS5.1/31 Error ellipse: s-maj=6.4km s-min=4.8km az=108.7*

*AEIC **05** 07:00:02±1.7, 51°.32N±0°.05×174°.29W±0°.06, h26km±4km, Error ellipse: s-maj=8.0km s-min=5.1km az=159.0*

*IDC **05** 07:00:02.6±1.8, 51°.47N×174°.30W, h28km±11km, mb5.0/42, mb1 5.1/44, mb1mx5.1/50, mbtmp5.2/44, ML4.8/2, MS5.0/40, Ms1 5.0/40, ms1mx4.9/47, Error ellipse: s-maj=12.8km s-min=7.8km az=167.0*

*GCMT **05** 07:00:04.4±0.1, 51°.39N±0°.01×174°.27W±0°.01, h17km, MW5.5/144, Moment Tensor Solution. s130,c237; s144,c287; Duration: 1ˢ5 Moment tensor: Scale 10^{17} Nm; M_{rr}1.66±.03; $M_{\theta\theta}$-1.50±.02; $M_{\phi\phi}$-0.15±.02; $M_{r\theta}$1.72±.07; $M_{\theta\phi}$-0.70±.01; $M_{\phi r}$1.02±.06; Best double couple: $M_0$2.64500×10^{17} NP1:ϕ_s254.00000°, δ21.00000°, λ102.00000°. NP2:ϕ_s61.00000°, δ70.00000°, λ86.00000°. Principal axes: T 2.5850, Plg65.0000°, Azm324.0000°; N 0.1240, Plg4.0000°, Azm63.0000°; P -2.7050, Plg25.0000°, Azm154.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **05** 07:00:05, 51°.20N×174°.36W, h26km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.59; $M_{\theta\theta}$-1.32; $M_{\phi\phi}$-0.27; $M_{r\theta}$1.92; $M_{\theta\phi}$-0.40; $M_{\phi r}$0.59; Fault plane solution: $M_0$2.52000×10^{17} NP1:ϕ_s250.00000°, δ19.00000°, λ88.00000°. NP2:ϕ_s72.00000°, δ71.00000°, λ91.00000°. Principal axes: T 2.5851, Plg64.0000°, Azm344.0000°; N -0.1369, Plg1.0000°, Azm252.0000°; P -2.4482, Plg26.0000°, Azm162.0000°;*

*NEIC **05** 07:00:05, 51°.38N×174°.32W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.72; $M_{\theta\theta}$-1.56; $M_{\phi\phi}$-0.17; $M_{r\theta}$1.81; $M_{\theta\phi}$-0.65; $M_{\phi r}$1.17; Fault plane solution: $M_0$2.79000×10^{17} NP1:ϕ_s258.00000°, δ20.00000°, λ107.00000°. NP2:ϕ_s60.00000°, δ70.00000°, λ84.00000°. Principal axes: T 2.7645, Plg64.0000°, Azm319.0000°; N 0.0489, Plg6.0000°, Azm62.0000°; P -2.8134, Plg25.0000°, Azm155.0000°;*

*BGR **05** 07:00:07.4±0.0, 52°.24N×175°.82W, h33km, mb5.6, Ms5.1*

ISC 05 07:00:02.3±0.5**, 51°.45N**±0°.04×**174°.27W**±0°.03**, h27**km±2km**, h27km:pP-P, n1722,** σ1ˢ**30**/1530**, mb5.5**/439**, MS5.2**/356**, 97C-53D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATKA	Atka Island	0.76	3	Pn	Pn	07 00 18.1	+0.9
ATKA	Atka Island	0.76	3		Sn	07 00 30.6	+2.9
KOFP	Korovin Flat P	0.84	7		Pn	07 00 19.6	+1.3
KOKL	Mount Kliuchef	0.88	3		Pb	07 00 20.3	+1.3
GSMY	Great Sitkin M	1.26	299		Pn	07 00 24.2	0.0
GSTR	Great Sitkin T	1.29	301	Pn	Pn	07 00 25.0	+0.5
GSTD	Great Sitkin T	1.32	298		Pn	07 00 25.0	+0.1
ADAG	Mount Adagdak	1.55	291		Pn	07 00 28.8	+0.8
ADK	Adak	1.57	287	P	Pn	07 00 28.4	+0.1
ADK						07 00 48.8	
ADK	Adak	1.57	287	Pn	Pn	07 00 28.4	+0.1
KIWB	Kanaga Island	1.84	284	Pn	Pn	07 00 32.6	+0.5
KIKV	Kanaga Island	1.86	285		Pn	07 00 32.9	+0.5
KIMD	Kanaga Island	1.88	281		Pn	07 00 32.6	0.0
KICM	Kanaga Island	1.89	286		Pn	07 00 33.3	+0.7
TAFP	Tanaga Falls P	2.36	283		Pn	07 00 40.3	+1.1
TASE	Tanaga Southea	2.38	281		Pn	07 00 40.6	+1.0
GAEA	Gareloi East	2.81	279		Pn	07 00 46.4	+0.9
GALAA	Gareloi Lava P	2.83	278		Pn	07 00 46.7	+1.1
NIKH	Nikolski High	3.66	63	Pn	Pn	07 00 57.8	+0.7
NIKH	Nikolski High	3.66	63	P	Pn	07 00 57.9	+0.8
	baz=246,SNR=73						
CERAA	Semis' Rag'd T	3.79	279		Pn	07 00 59.3	+0.4
CESW	Semis' Southwe	3.87	279		Pn	07 01 00.6	+0.7
AMKA	Amchitka	4.03	272	Pn	Pn	07 01 01.8	-0.4
OKSP	Okmok Steeple	4.09	61		Pn	07 01 04.5	+1.5
OKCE	Okmok Cone E	4.23	60		Pn	07 01 07.2	+2.3
OKNC	Okmok New Cone	4.26	59		Pn	07 01 07.6	+2.2
OKTU	Okmok Mt. Tuli	4.28	61		Pn	07 01 07.6	+2.0
OKFG	Magazine Ridge	4.36	61		Pn	07 01 09.1	+2.5
LSPA	Little Sitkin	4.48	279		Pn	07 01 09.6	+1.2
LSNW	Little Sitkin	4.52	279		Pn	07 01 09.9	+1.0
LSSA	Little Sitkin	4.52	279		Pn	07 01 09.9	+1.0
MAPS	Pakushin South	5.05	59		Pn	07 01 18.1	+2.0
MSW	Makushin Switc	5.18	59		Pn	07 01 19.6	+1.6
MNAT	Makushin Natee	5.22	59		Pn	07 01 20.8	+2.3
MTBL	Makushin Table	5.26	58		Pn	07 01 21.0	+1.9
UNV	Unalaska Valle	5.30	60	Pn	Pn	07 01 20.3	+0.7
UNV	Unalaska Valle	5.30	60	P	Pn	07 01 21.5	+2.0
	baz=245,SNR=56						
AKMO	Akutan Morgan	5.67	59		Pn	07 01 27.3	+2.7
AKBBA	Akutan Broad B	5.71	59		Pn	07 01 27.8	+2.6
AKGG	Akutan Green G	5.72	58		Pn	07 01 27.7	+2.3
AKLV	Akutan Long Va	5.73	58		Pn	07 01 28.7	+3.2
HSB	Akutan Spr's B	5.76	58		Pn	07 01 29.1	+3.2
AKUT	Akutan	5.81	59	Pn	Pn	07 01 28.6	+1.9
AKSA	Akutan Strait	5.86	59		Pn	07 01 30.4	+3.2
SPIA	Saint Paul Isl	6.20	21	Pn	Pn	07 01 34.9	+2.9
SPIA	Saint Paul Isl	6.20	21	P	Pn	07 01 35.5	+3.6
	baz=204,SNR=23						
WECS	Westdahl Cape	6.51	58		Pn	07 01 40.0	+3.8
WESP	Westdahl Peak	6.52	58		Pn	07 01 39.3	+2.8
WEBT	Westdahl Beart	6.55	58		Pn	07 01 39.6	+2.9
SSLW	Shishaldin Wes	6.96	57		Pn	07 01 45.4	+3.1
ISLZ	Isanotski Laza	7.16	59		Pn	07 01 48.5	+3.5
ISNN	Isanotski Nort	7.16	58		Pn	07 01 49.1	+4.0
SMY	Shemya	7.29	285	P	Pn	07 01 46.9	+0.1
SMY	Shemya	7.29	285	Pn	Pn	07 01 46.9	+0.1
FALS	False Pass	7.36	58	Pn	Pn	07 01 49.2	+1.4
FALS	False Pass	7.36	58	P	Pn	07 01 50.6	+2.7
	baz=246,SNR=38						
DT1	Dutton Round H	8.06	58		Pn	07 01 59.6	+2.1
SDPT	Sand Point	9.12	59		Pn	07 02 12.4	+0.5
SDPT	Sand Point	9.12	59	P	Pn	07 02 12.8	+0.9
	baz=250						
CNBA	Chernabura Isl	9.45	63		Pn	07 02 16.2	-0.2
CHNA	Chernabura Isl	9.45	63	P	Pn	07 02 16.3	-0.1
	baz=254						
VNFG	Fog Glacier, M	9.94	55		Pn	07 02 27.0	+3.7
VNHG	Veniaminof 1	10.12	56		Pn	07 02 29.1	+3.4
CHGN	Chignik	10.54	56		Pn	07 02 31.8	+0.5
CHGN	Chignik	10.54	56	P	Pn	07 02 32.3	+1.0
	baz=249						
CHIR	Chirikof Islan	11.89	61	P	Pn	07 02 50.2	+0.3
	baz=256						
GAMB	Gambell	12.44	5		Pn	07 02 58.9	+1.6
GAMB	Gambell	12.44	5	P	Pn	07 03 01.3	+4.0
	baz=188,SNR=16						
SII	Sitkinak Islan	12.85	59		Pn	07 03 03.1	+0.1
SII	Sitkinak Islan	12.85	59	P	Pn	07 03 02.9	-0.1
	baz=255						
OHAK	Old Harbor	13.51	56		Pn	07 03 11.6	-0.3
OHAK	Old Harbor	13.51	56	P	Pn	07 03 10.4	-1.5
	baz=253						
O18K	Koktuh Hills	13.62	44		Pn	07 03 14.1	+0.6
O18K	Koktuh Hills	13.62	44	P	Pn	07 03 16.0	+2.6
	baz=240,SNR=11						
N18K	Kilae Creek	13.77	41		Pn	07 03 17.0	+1.5
N18K	Kilae Creek	13.77	41	P	Pn	07 03 19.2	+3.8
	baz=236,SNR=15						
Q19K	Cape Douglas,	13.92	49		Pn	07 03 17.2	-0.4
Q19K	Cape Douglas,	13.92	49	P	Pn	07 03 17.7	+0.2
	baz=246,SNR=9.9						
ANM	Nome	13.95	16	P	Pn	07 03 19.0	+1.1
ANM	Nome	13.95	16		Pn	07 03 19.0	+1.1
ANM	Nome	13.95	16	P	P	07 03 23.4	-2.2
	baz=204						
KDAK	Kodiak Island	14.04	55	Pn	Pn	07 03 16.2	-2.9
	2.5nm,0.3s,baz=244,slow=4.5,SNR=51						
KDAK				Sn	Sn	07 05 48.4	-5.3
	2.6nm,0.3s,baz=45,slow=24,SNR=2.8						
KDAK	Kodiak Island	14.04	55	P	Pn	07 03 19.5	+0.4
KDAK	Kodiak Island	14.04	55	Pn	Pn	07 03 19.5	+0.4
KDAK	Kodiak Island	14.04	55	P	Pn	07 03 17.8	-1.3
	baz=252						
SVW2	Sparrevohn	14.13	40		Pn	07 03 22.6	+2.2
O19K	Port Alsworth	14.18	44		Pn	07 03 21.7	+0.8
O19K	Port Alsworth	14.18	44	P	Pn	07 03 23.8	+2.8
	baz=240,SNR=18						
P19K	Oil Pt	14.41	47		Pn	07 03 25.2	+1.0
P19K	Oil Pt	14.41	47	P	P	07 03 29.5	-1.4
	baz=244,SNR=14						
N19K	Bonanza Creek	14.42	42		Pn	07 03 24.3	-0.2
N19K	Bonanza Creek	14.42	42	P	Pn	07 03 27.1	+2.7
	baz=238,SNR=35						
TNA	Tin City	14.53	11	P	P	07 03 29.9	-2.1
	baz=196						
O20K	Slope Mountain	14.87	46	P	Pn	07 03 33.0	+2.5
	baz=244,SNR=44						
RSO	Redoubt South	14.99	45		Pn	07 03 33.1	+0.9
L19K	White Mountain	15.05	37		Pn	07 03 35.2	+2.4
L19K				IAmb	IAmb	07 03 42.0	
	comp=Z,154nm,0.9s						
L19K	White Mountain	15.05	37	P	P	07 03 35.4	-2.5
	baz=233,SNR=92						
M19K	Big River Lodg	15.06	38	P	P	07 03 37.6	-0.5
	baz=235,SNR=52						
TTA	Tatalina	15.10	33	P	P	07 03 39.6	+1.0
	baz=229						
HOM	Homer	15.15	48		Pn	07 03 35.2	+1.1
HOM				IAmb	IAmb	07 04 15.7	
	comp=Z,279nm,1.0s						
HOM	Homer	15.15	48	P	P	07 03 37.3	-1.7
	baz=247,SNR=6.1						
CNPM	China Poot	15.29	49		Pn	07 03 34.5	-1.5
M20K	Styx River	15.54	40	P	P	07 03 42.6	-0.8
	baz=237,SNR=66						
BRLK	Bradley Lake	15.54	49		Pn	07 03 38.9	-0.5
BRLK				IAmb	IAmb	07 03 44.2	
	comp=Z,187nm,1.0s						
SPCR	Spurr Chakacha	15.57	43	P	P	07 03 43.0	-0.8
	baz=241,SNR=6.6						
L20K	Farewell, AK	15.59	37	P	P	07 03 43.3	-0.6
	baz=234,SNR=49						
BRSE	Bradley Lake S	15.60	49	P	Pn	07 03 41.2	+1.1
	baz=248,SNR=23						
CAPN	Captain Cook N	15.83	45	P	P	07 03 47.1	+0.6
	baz=244						
K20K	Telida	16.05	34	P	P	07 03 48.9	-0.1
	baz=231,SNR=110						
SKT	Skwentna	16.24	41	P	P	07 03 50.5	-0.6
	baz=240,SNR=27						
SUA	Susitna One	16.32	43	P	Pn	07 03 49.9	+0.5
	baz=242,SNR=14						
SEW	Seward	16.34	48	P	Pn	07 03 48.7	-0.8
	baz=249,SNR=17						
O22K	Cooper Landing	16.36	47	P	Pn	07 03 49.5	-0.1
	baz=247,SNR=35						
PPLA	Purkeypile	16.47	37	P	P	07 03 54.7	+1.0
	baz=236,SNR=48						
J20K	Nowinta River	16.55	32		P	07 03 53.8	-0.7
J20K	Nowinta River	16.55	32	P	P	07 03 53.6	-1.0
	baz=229,SNR=60						
RC01	Rabbit Creek A	16.59	45	P	Pn	07 03 52.7	-0.1
	baz=245,SNR=10						
PET	Petropavlovsk	16.63	286	*e*P	Pn	07 03 53.8	+0.6
PET				*e*S	Sn	07 06 55.0	-1.8
PET				pmax	pmax		
	comp=Z,1µm,10.2s						
PET				pmax	pmax		
	comp=Z,2µm,12.6s						
PET				pmax	pmax		
	comp=Z,160nm,1.0s						
PET				MLR	MLR		
	comp=Z,5µm,19.0s						
PET	Petropavlovsk	16.63	286		Pn	07 03 54.1	+0.9
CUT	Chulitna	16.97	40	P	P	07 03 59.6	+0.5
	baz=241,SNR=10						
CHUM	Lake Minchumin	17.00	34	P	P	07 03 59.1	-0.3
	baz=233,SNR=129						
PMR	Palmer	17.07	44	P	Pn	07 03 58.8	+0.1
	baz=245,SNR=16						
PWL	Port Wells	17.13	47	P	Pn	07 04 00.0	+0.5
PEA0B	Petropavlovsk-	17.20	287	*ce*P	Pn	07 03 59.2	-1.1
PEA0B	Petropavlovsk-	17.20	287	P	Pn	07 03 59.9	-0.4
PETK	Petropavlovsk-	17.20	287	P	Pn	07 04 00.8	+0.5
	comp=Z,4.3nm,0.3s,baz=100,slow=11,SNR=54						
PETK				LR	LR	07 10 20.5	
	comp=Z,4µm,21.8s,baz=96,slow=36						
PETK	Petropavlovsk-	17.20	287	P	Pn	07 03 59.7	-0.6
PETK	Petropavlovsk-	17.20	287	P	Pn	07 03 59.7	-0.6
GHO	Glory Hole Cre	17.24	43	P	Pn	07 04 00.7	-0.2
KNK	Knik Glacier	17.29	45	P	Pn	07 04 00.3	-1.1
	baz=246,SNR=42						
KTH	Kantishna Hill	17.31	37	P	P	07 04 02.9	-0.2
KTH				IAmb	IAmb	07 04 25.4	
	comp=Z,352nm,1.0s						
TRF	Thorofare Moun	17.50	37	P	P	07 04 04.9	-0.3
TRF				IAmb	IAmb	07 04 40.2	
	comp=Z,458nm,1.8s						
TRF	Thorofare Moun	17.50	37	P	P	07 04 05.7	+0.6
	baz=238,SNR=38						
SML	Sawmill	17.51	44	P	Pn	07 04 03.9	-0.3
	baz=245,SNR=25						
RDOG	Red Dog Mine	17.56	14	P	P	07 04 10.4	+4.7
	baz=204,SNR=24						
BPAW	Bear Paw Mtn.	17.60	35		P	07 04 06.2	+0.1
BPAW	Bear Paw Mtn.	17.60	35	P	P	07 04 06.8	+0.6
	baz=235,SNR=80						
GLI	Glacier Island	17.71	47	P	Pn	07 04 05.1	-1.5
	baz=250,SNR=14						
HIN	Hinchinbrook I	17.83	49	P	Pn	07 04 08.3	+0.2
WAT1	Susitna Watana	17.87	40	P	Pn	07 04 08.2	-0.4
	baz=242						
IMAR	Indian Mountai	17.91	28		P	07 04 10.2	+0.6
I21K	Tanana	17.91	31	P	P	07 04 10.4	+0.9
I21K	Tanana	17.91	31	P	P	07 04 10.9	+1.4
	baz=230,SNR=96						
FID	Port Fidalgo	17.95	48	P	Pn	07 04 08.5	-1.1
SCM	Sheep Creek Mo	17.95	44	P	Pn	07 04 09.6	-0.2
SCM				pmax	pmax		
	comp=Z,129nm,0.9s						
SCM	Sheep Creek Mo	17.95	44	P	Pn	07 04 09.6	-0.2
RND	Reindeer	18.03	39	P	Pn	07 04 09.9	-0.7
RND				pmax	pmax		
	comp=Z,115nm,0.9s						
RND	Reindeer	18.03	39	P	Pn	07 04 09.9	-0.7
WAT6	Susitna Watana	18.09	42	P	Pn	07 04 11.1	-0.4
	baz=244,SNR=17						
MCK	McKinley	18.16	38	P	Pn	07 04 11.7	-0.5
MCK				pmax	pmax		
	comp=Z,111nm,0.9s						
MCK	McKinley	18.16	38	P	Pn	07 04 11.7	-0.5
MCK	McKinley	18.16	38	P	Pn	07 04 12.2	0.0
	baz=239,SNR=58						
BWN	Browne	18.19	36	P	P	07 04 12.7	+0.1
BWN				IAmb	IAmb	07 04 23.4	
	comp=Z,196nm,0.9s						
EYAK	Cordova Ski Ar	18.23	49	P	Pn	07 04 11.0	-2.0
	baz=253						
MLY	Manley	18.24	33	P	P	07 04 14.4	+1.2
MLY	Manley	18.24	33	P	P	07 04 14.1	+1.0
	baz=233,SNR=152						
DIV	Divide	18.40	47	P	P	07 04 14.2	-0.8
KLU	Klutina	18.45	46	P	P	07 04 14.5	-1.1
KLU	Klutina	18.45	46	P	P	07 04 14.1	-1.5
	baz=250,SNR=37						
M24K	Tolsona, Glenn	18.56	44	P	P	07 04 16.7	-0.1
M24K	Tolsona, Glenn	18.56	44	P	P	07 04 16.7	-0.1
	baz=248,SNR=34						
NEA2	Nenana	18.57	35	P	Pn	07 04 17.1	0.0
NEA2	Nenana	18.57	35	P	P	07 04 16.1	-0.7
	baz=237,SNR=15						
SKR	Severo-Kuril's	18.58	279	*e*P	P	07 04 16.6	-0.3
SKR				*e*S	Sn	07 07 42.4	-1.6
SKR				pmax	pmax		
	comp=Z,900nm,4.0s						
SKR				pmax	pmax		
	comp=Z,85nm,0.9s						
SKR				pmax	pmax		
	comp=Z,200nm,3.5s						
SKR				MLR	MLR		
	comp=Z,3µm,14.0s						
SKR				MLR	MLR		
	comp=Z,3µm,14.0s						
I23K	Minto, Yukon-K	18.78	34	P	Pn	07 04 19.7	0.0
I23K				IAmb	IAmb	07 04 24.5	
	comp=Z,248nm,0.7s						
I23K	Minto, Yukon-K	18.78	34	P	Pn	07 04 19.9	+0.3
	baz=235,SNR=226						
HMT	Hamilton	18.88	50	P	P	07 04 20.3	+0.1
HMT				IAmb	IAmb	07 04 49.9	
	comp=Z,109nm,0.6s						
BMRM	Bremner River	18.89	48	P	P	07 04 20.5	+0.1
BMRM	Bremner River	18.89	48	P	P	07 04 20.5	+0.1
	baz=253,SNR=13						
N25K	Chitina, Valde	19.09	46	P	P	07 04 22.7	+0.1
N25K	Chitina, Valde	19.09	46	P	P	07 04 22.4	-0.2
	baz=251,SNR=17						
HARP	HAARP	19.11	44	P	P	07 04 23.1	+0.3
	baz=248,SNR=26						
H23K	Yukon River	19.11	32	P	Pn	07 04 23.6	-0.1
H23K	Yukon River	19.11	32	P	Pn	07 04 23.4	-0.3
	baz=233,SNR=77						
BILL	Bilibino	19.16	338	*de*P	Pn	07 04 24.2	0.0
BILL				pmax	pmax		
	comp=Z,556nm,1.3s						
BILL				MLR	MLR		
	comp=Z,4µm,19.0s						
BILL	Bilibino	19.16	338	P	Pn	07 04 24.6	+0.4
BILL				IAmb	IAmb	07 04 33.1	
	comp=Z,520nm,1.2s						
TCOL	CIGO, UAF Yank	19.16	35	P	P	07 04 22.6	-0.6
TCOL	CIGO, UAF Yank	19.16	35	P	P	07 04 21.7	-1.5
	baz=238,SNR=16						
COLA	College	19.16	35	P	P	07 04 23.1	-0.1
COLA				pmax	pmax		
	comp=Z,99nm,0.8s						
BERG	Berg Lake	19.16	50	P	P	07 04 23.4	+0.1
BERG				IAmb	IAmb	07 05 02.7	
	comp=Z,156nm,1.0s						
PAX	Paxson	19.20	42	P	P	07 04 24.2	+0.4
PAX				pmax	pmax		
	comp=Z,60nm,0.9s						
PAX	Paxson	19.20	42	P	P	07 04 24.2	+0.4
PAX	Paxson	19.20	42	P	P	07 04 22.4	-1.4
	baz=246,SNR=35						
HDA	Harding Lake	19.26	37	P	P	07 04 23.7	-0.6
HDA				IAmb	IAmb	07 04 44.7	
	comp=Z,176nm,1.0s						
HDA	Harding Lake	19.26	37	P	P	07 04 23.1	-1.2
	baz=240,SNR=140						
POKR	Poker Plat Res	19.44	35	P	P	07 04 26.7	+0.3
POKR	Poker Plat Res	19.44	35	P	P	07 04 25.7	-0.6
	baz=238,SNR=8.2						
ILAR	Eielson Array	19.46	36	P	P	07 04 25.1	-1.4
	comp=Z,12nm,0.3s,baz=239,slow=9.9,SNR=124						
ILAR				S	S	07 08 00.3	-4.3
	baz=225,slow=16,SNR=2.6						
ILAR				LR	LR	07 12 39.1	
	comp=Z,6µm,18.1s,baz=242,slow=39						
VRDI	Verde Repeater	19.50	48	P	Pn	07 04 28.1	-0.5
CRQM	Cirque	19.52	49	P	P	07 04 27.8	+0.4
CRQM				IAmb	IAmb	07 05 00.7	
	comp=Z,213nm,1.4s						
CRQE	Cirque	19.54	49	P	P	07 04 27.3	-0.3
	baz=255,SNR=9.1						
WAX	Waxell Ridge	19.59	50	P	P	07 04 28.5	+0.5
WAX				IAmb	IAmb	07 04 55.9	
	comp=Z,157nm,1.1s						
TGL	Tana Glacier	19.67	50	P	P	07 04 29.7	+0.7
H24K	Noodor Dome	19.68	33	P	P	07 04 29.3	+0.3
H24K				IAmb	IAmb	07 04 47.8	
	comp=Z,210nm,1.0s						
H24K	Noodor Dome	19.68	33	P	P	07 04 29.1	+0.2
	baz=236,SNR=136						
MCARA	McCarthy VSAT	19.74	48	P	P	07 04 30.2	+0.6
MCARA	McCarthy VSAT	19.74	48	P	Pn	07 04 31.2	-0.1
	baz=254,SNR=11						
RIDG	Independent Ri	19.77	40	P	P	07 04 30.2	+0.2
RIDG	Independent Ri	19.77	40	P	P	07 04 29.1	-1.0
	baz=245,SNR=84						
COLD	Coldfoot	19.80	28	P	Pn	07 04 31.1	-0.8
COLD				IAmb	IAmb	07 04 41.5	
	comp=Z,156nm,0.9s						
COLD	Coldfoot	19.80	28	P	Pn	07 04 31.5	-0.4
	baz=229,SNR=52						
MENT	Mentasta	19.93	43	P	Pn	07 04 32.8	-0.7
J25K	Salcha River,	19.95	38	P	P	07 04 29.7	-2.3
	baz=242,SNR=425						
MESA	MESA	19.96	51	IAMs_20	IAMs_20	07 13 14.3	
	comp=Z,10µm,20.0s						
MESA	MESA	19.96	51	P	Pn	07 04 33.9	-0.2
	baz=258						
M26K	Nabesna, AK	20.06	45	P	P	07 04 32.0	-1.2
	baz=251,SNR=103						
L26K	Log Cabin Wild	20.12	43	P	P	07 04 33.0	-0.7
	baz=249,SNR=55						
GRNC	Granite Creek	20.18	50	IAMs_20	IAMs_20	07 13 29.9	
	comp=Z,10µm,19.0s						
SCRK	Sand Creek	20.22	40	IAMs_20	IAMs_20	07 12 46.9	
	comp=Z,7µm,19.0s						
SCRK	Sand Creek	20.22	40	P	P	07 04 33.9	-1.1
	baz=246,SNR=282						
PRP	Porcupine Dome	20.33	35	IAMs_20	IAMs_20	07 13 12.9	
	comp=Z,8µm,18.0s						
PRP	Porcupine Dome	20.33	35	P	P	07 04 36.5	+0.3
	baz=240,SNR=29						
TABL	Table Mountain	20.41	51	IAMs_20	IAMs_20	07 13 47.1	
	comp=Z,12µm,18.0s						
CTG	Chitna Glacier	20.43	49	P	P	07 04 37.6	+0.4
	baz=257,SNR=17						
CTGM	Chitina Glacie	20.43	49	IAMs_20	IAMs_20	07 12 39.6	
	comp=Z,7µm,22.0s						
J26K	Charley River,	20.54	39	P	P	07 04 37.2	-1.2
	baz=245,SNR=467						
M27K	Edge Creek, AK	20.54	45	IAMs_20	IAMs_20	07 12 50.7	
	comp=Z,10µm,20.0s						
M27K	Edge Creek, AK	20.54	45	P	Pn	07 04 40.6	-0.2
	baz=253,SNR=39						
LOGN	Logan Glacier	20.56	50	IAMs_20	IAMs_20	07 13 42.0	
	comp=Z,8µm,19.0s						
L27K	Beaver Creek,	20.78	44	IAMs_20	IAMs_20	07 13 32.2	
	comp=Z,9µm,18.0s						
L27K	Beaver Creek,	20.78	44	P	P	07 04 41.5	+0.6
	baz=251,SNR=15						
PINM	Pinnacle	20.79	52	P	P	07 04 41.4	+0.4
	baz=260						
BCAR	Beaver Creek A	20.80	44	P	P	07 04 41.2	0.0
TOLK	Toolik Lake Re	20.93	25	P	P	07 04 43.5	+1.0
	baz=227,SNR=90						
FYU	Fort Yukon	20.98	33	P	P	07 04 43.6	+0.7
FYU				IAmb	IAmb	07 05 04.8	
	comp=Z,305nm,1.3s						
FYU				IAMs_20	IAMs_20	07 13 31.8	
	comp=Z,8µm,18.0s						

BVCY	**Beaver Creek**	**21.01**	**46**	P	**P**	**07 04 44.7**	**+1.2**
	baz=254,SNR=41						
K27K	**Chicken**	**21.02**	**41**	P	**P**	**07 04 43.1**	**-0.3**
	baz=248,SNR=81						
YUK3	**Moose Creek**	**21.03**	**47**	P	**P**	**07 04 43.7**	**-0.1**
	baz=256,SNR=10						
BCPM	**Bancas Point**	**21.07**	**53**	IAMs_20	IAMs_20	07 12 54.4	
	comp=Z,7μm,21.0s						
SEY	**Seymchan**	**21.14**	**316**	P	**P**	**07 04 45.2**	**+0.5**
	comp=Z,53nm,0.8s,baz=112,slow=11,SNR=22						
SEY				LR	LR	07 13 24.6	
	comp=Z,12μm,18.1s,baz=110,slow=38						
SEY	**Seymchan**	**21.14**	**316**	*i* P	**P**	**07 04 44.4**	**-0.3**
MA2	**Magadan**	**21.19**	**306**	P	**P**	**07 04 46.3**	**+1.1**
	comp=Z,30nm,0.9s,baz=86,slow=8.7,SNR=10.0						
MA2				LR	LR	07 12 42.2	
	comp=Z,6μm,19.7s,baz=110,slow=36						
MA2	**Magadan**	**21.19**	**306**	*i* P	**P**	**07 04 43.7**	**-1.6**
MA2				pmax	pmax		
	comp=Z,50nm,0.9s						
MA2	**Magadan**	**21.19**	**306**	IAMs_20	IAMs_20	07 12 30.8	
	comp=Z,7μm,20.0s						
A21K	**Barrow**	**21.48**	**15**	IAMs_20	IAMs_20	07 13 50.8	
	comp=Z,9μm,19.0s						
BMAR	**Burnt Mountain**	**21.66**	**31**	P	**P**	**07 04 51.2**	**+0.8**
EGAK	**Eagle**	**21.66**	**39**	P	**P**	**07 04 49.8**	**-0.6**
EGAK				IAMs_20	IAMs_20	07 13 49.1	
	comp=Z,9μm,18.0s						
EGAK	**Eagle**	**21.66**	**39**	P	**P**	**07 04 49.8**	**-0.6**
	baz=248,SNR=359						
YUK4	**Talbot Arm**	**21.78**	**49**	P	**P**	**07 04 53.2**	**+1.3**
	baz=259,SNR=12						
YUK6	**Outpost Mounta**	**21.85**	**50**	P	**P**	**07 04 52.6**	**0.0**
	baz=260						
DAWY	**Dawson**	**22.14**	**42**	P	**P**	**07 04 55.7**	**+0.2**
DAWY				IAmb	IAmb	07 05 12.4	
	comp=Z,130nm,1.1s						
DAWY				IAMs_20	IAMs_20	07 14 17.7	
	comp=Z,6μm,20.0s						
DAWY	**Dawson**	**22.14**	**42**	P	**P**	**07 04 54.7**	**-0.8**
	baz=252,SNR=73						
HYT	**Haines Junctio**	**22.24**	**51**	IAMs_20	IAMs_20	07 14 38.6	
	comp=Z,12μm,19.0s						
HYT	**Haines Junctio**	**22.24**	**51**	P	**P**	**07 04 56.7**	**-0.1**
	baz=262,SNR=12						
SIT	**Sitka**	**23.19**	**61**	P	**P**	**07 05 07.5**	**+1.0**
SIT				pmax	pmax		
	comp=Z,80nm,0.9s						
SIT				MLR	MLR		
	comp=Z,4μm,18.0s						
SIT	**Sitka**	**23.19**	**61**	P	**P**	**07 05 07.5**	**+1.0**
SIT				IAmb	IAmb	07 05 46.0	
	comp=Z,80nm,0.9s						
SIT	**Sitka**	**23.19**	**61**	P	**P**	**07 05 08.6**	**+2.1**
	baz=272,SNR=6.9						
SKAG	**Skagway**	**23.19**	**55**	P	**P**	**07 05 07.8**	**+1.3**
SKAG				IAMs_20	IAMs_20	07 15 32.7	
	comp=Z,6μm,19.0s						
SKAG	**Skagway**	**23.19**	**55**	P	**P**	**07 05 08.9**	**+2.4**
	baz=267,SNR=9.9						
BESE	**Bessie Mountai**	**23.41**	**57**	P	**P**	**07 05 09.1**	**+0.3**
BESE				IAmb	IAmb	07 06 00.6	
	comp=Z,263nm,1.6s						
WHY	**Whitehorse**	**23.50**	**52**	P	**P**	**07 05 11.8**	**+2.1**
	baz=264						
MAYO	**Mayo, Yukon**	**23.50**	**44**	P	**P**	**07 05 09.1**	**-0.6**
	baz=257						
JIS	**Juneau Island**	**23.66**	**58**	P	**P**	**07 05 11.1**	**0.0**
EPYK	**Eagle Plains**	**23.96**	**37**	P	**P**	**07 05 13.7**	**-0.3**
EPYK				IAmb	IAmb	07 05 33.7	
	comp=Z,194nm,1.4s						
EPYK				IAMs_20	IAMs_20	07 15 20.9	
	comp=Z,6μm,19.0s						
EPYK	**Eagle Plains**	**23.96**	**37**	P	**P**	**07 05 12.9**	**-1.1**
	baz=250,SNR=42						
FARO	**Faro, Yukon**	**24.41**	**48**	P	**P**	**07 05 18.6**	**+0.5**
	baz=263						
CRAG	**Craig**	**24.56**	**64**	P	**P**	**07 05 22.8**	**+3.3**
	baz=278						
WRAK	**Wrangell Islan**	**24.88**	**62**	P	**P**	**07 05 25.8**	**+3.5**
	baz=276,SNR=23						
DIB	**Dawson Inlet,**	**25.34**	**69**	P	**P**	**07 05 27.9**	**+1.3**
DIB				IAmb	IAmb	07 05 48.0	
	comp=Z,100nm,0.9s						
MMPY	**Sheldon Lake,**	**25.42**	**47**	P	**P**	**07 05 27.6**	**+0.3**
	baz=264,SNR=24						
MOBC	**Moresby Island**	**25.66**	**69**	IAMs_20	IAMs_20	07 15 43.9	
	comp=Z,4μm,18.0s						
KUR	**Kuril'sk**	**25.71**	**271** *c*	*i* P	**P**	**07 05 29.5**	**-0.5**
KUR				*i* S	**S**	**07 09 51.8**	**-5.0**
KUR				pmax	pmax		
	comp=Z,2μm,5.2s						
KUR				pmax	pmax		
	comp=Z,464nm,1.2s						
KUR				MLR	MLR		
	comp=Z,2μm,17.0s						
KUR				MLR	MLR		
	comp=E,1μm,15.0s						
KUR				MLR	MLR		
	comp=N,1μm,16.0s						
INK	**Inuvik**	**25.80**	**34**	P	**P**	**07 05 30.8**	**+0.2**
	comp=N,18nm,0.6s,baz=241,slow=8.7,SNR=66						
INK				LR	LR	07 16 37.2	
	comp=N,4μm,20.1s,baz=223,slow=39						
INK	**Inuvik**	**25.80**	**34**	P	**P**	**07 05 30.2**	**-0.4**
INK				IAmb	IAmb	07 05 45.6	
	comp=Z,175nm,1.6s						
INK	**Inuvik**	**25.80**	**34**	P	**P**	**07 05 30.1**	**-0.4**
	baz=250,SNR=22						
DLBC	**Dease Lake**	**25.95**	**57**	P	**P**	**07 05 33.8**	**+1.6**
	comp=Z,41nm,0.8s,baz=288,slow=9.2,SNR=63						
DLBC				LR	LR	07 16 10.2	
	comp=Z,3μm,19.6s,baz=286,slow=37						
RUBB	**Prince Rupert**	**26.39**	**66**	P	**P**	**07 05 37.4**	**+1.4**
RUBB				IAmb	IAmb	07 05 55.2	
	comp=Z,134nm,1.1s						
TYV	**Tymovskoe**	**26.74**	**286**	*e*P	**P**	**07 05 40.4**	**+1.1**
TYV				*e*S	**S**	**07 10 16.9**	**+3.8**
TYV				pmax	pmax		
	comp=Z,29nm,0.8s						
TYV				pmax	pmax		
	comp=Z,300nm,4.3s						
TYV				smax	smax		
	comp=N,200nm,6.1s						
TYV				smax	smax		
	comp=E,400nm,6.5s						
TGTN	**Hyland Airport**	**26.76**	**50**	P	**P**	**07 05 39.9**	**+0.5**
	baz=269,SNR=7.6						
YUK	**Yuzh-Kuril'sk**	**27.54**	**270**	*e*P	**P**	**07 05 45.8**	**-0.7**
YUK				*e*		07 06 30.3	
YUK				*e*S	**S**	**07 10 27.1**	**+1.3**
YUK				*e*SS	**SnSn**	**07 11 38.3**	**+1.2**
YUK				pmax	pmax		
	comp=Z,513nm,1.9s						
YUK				pmax	pmax		
	comp=Z,312nm,1.1s						
YUK				pmax	pmax		
	comp=E,343nm,0.8s						
YUK				pmax	pmax		
	comp=N,240nm,1.2s						
YUK				MLR	MLR		
	comp=E,2μm,19.0s						
YUK				MLR	MLR		
	comp=N,945nm,16.0s						
YUK				MLR	MLR		
	comp=Z,2μm,19.0s						
UGL	**Uglegorsk**	**27.71**	**282** ⇑	*i*P	**P**	**07 05 49.1**	**+1.1**
UGL				*e*S	**S**	**07 10 21.2**	**-7.1**
UGL				pmax	pmax		
	comp=Z,100nm,0.9s						
UGL				MLR	MLR		
	comp=N,3μm,16.0s						
UGL				MLR	MLR		
	comp=E,2μm,16.0s						
YSS	**Yuzh-Sakhalins**	**28.13**	**278** α	*e*P	**P**	**07 05 52.5**	**+0.7**
YSS				*e*		07 06 05.9	
YSS				*e*S	**S**	**07 10 34.3**	**-0.7**
YSS				*e*		07 12 16.2	
YSS				pmax	pmax		
	comp=N,40nm,1.0s						
YSS				pmax	pmax		
	comp=Z,130nm,1.0s						
YSS				pmax	pmax		
	comp=E,80nm,1.1s						
YSS				pmax	pmax		
	comp=Z,900nm,3.5s						
YSS				MLR	MLR		
	comp=N,2μm,16.0s						
YSS	**Yuzh-Sakhalins**	**28.13**	**278**	IAMs_20	IAMs_20	07 16 21.3	
	comp=Z,7μm,20.0s						
BBB	**Bella Bella**	**28.17**	**70**	P	**P**	**07 05 53.1**	**+1.0**
	comp=Z,4.9nm,0.8s,baz=287,slow=11,SNR=9.0						
BBB				LR	LR	07 15 30.2	
	comp=Z,2μm,20.1s,baz=291,slow=33						
WRGLY	**Wrigley**	**29.01**	**46**	P	**P**	**07 06 00.4**	**+0.9**
	baz=270,SNR=5.8						
JKA	**Kamikawa-asahi**	**29.54**	**273**	P	**P**	**07 06 04.7**	**+0.4**
JKA				IAmb	IAmb	07 06 09.5	
	comp=Z,88nm,0.9s						
ASAJ	**Asahikawa**	**29.54**	**273**	P	**P**	**07 06 04.9**	**+0.6**
	comp=Z,74nm,0.8s,baz=94,slow=3.4,SNR=27						
ASAJ				LR	LR	07 18 47.3	
	comp=Z,2μm,19.9s,baz=73,slow=38						
ASAJ	**Asahikawa**	**29.54**	**273**	P	**P**	**07 06 04.7**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,88nm,0.9s						
ASAJ				MLR	MLR		
	comp=Z,2μm,19.0s						
A36M	**Sachs Harbour**	**29.66**	**28**	P	**P**	**07 06 06.4**	**+1.3**
A36M				IAmb	IAmb	07 06 12.7	
	comp=Z,85nm,0.8s						
A36M				IAMs_20	IAMs_20	07 19 52.2	
	comp=Z,4μm,20.0s						
A36M	**Sachs Harbour**	**29.66**	**28**	P	**P**	**07 06 06.4**	**+1.3**
	baz=253						
GRNR	**Gornyy**	**30.50**	**288** ⇑	*i*P	**P**	**07 06 12.7**	**-0.1**
GRNR				*e*S	**S**	**07 11 14.0**	**+1.8**
GRNR				pmax	pmax		
	comp=Z,40nm,0.7s						
GRNR				smax	smax		
	comp=N,4.0nm,0.5s						
GRNR				MLR	MLR		
	comp=N,620nm,16.0s						
YAK	**Yakutsk**	**31.50**	**312**	LR	LR	07 19 23.8	
	comp=N,7μm,19.0s,baz=102,slow=37						
YAK	**Yakutsk**	**31.50**	**312**	*e*P	**P**	**07 06 20.2**	**-1.2**
YAK				*e**PP	**sP**	**07 06 30.7**	**-0.1**
YAK				*e*		07 07 24.4	
YAK				*e*		07 09 14.2	
YAK				*e*S	**S**	**07 11 25.7**	**-1.9**
YAK				*e**SS	**sS**	**07 11 43.2**	**+4.5**
YAK				*e*SS	**SnSn**	**07 13 15.2**	**+2.0**
YAK				*e*		07 16 49.7	
YAK				pmax	pmax		
	comp=Z,80nm,0.9s						
YAK				pmax	pmax		
	comp=E,23nm,1.2s						
YAK				pmax	pmax		
	comp=Z,152nm,2.8s						
YAK				pmax	pmax		
	comp=N,69nm,2.9s						
YAK				pmax	pmax		
	comp=E,99nm,2.5s						
YAK				smax	smax		
	comp=E,111nm,3.0s						
YAK				smax	smax		
	comp=N,40nm,2.2s						
YAK				MLR	MLR		
	comp=Z,8μm,20.0s						
YAK				MLR	MLR		
	comp=N,2μm,17.0s						
YAK				MLR	MLR		
	comp=E,6μm,19.0s						
YAK	**Yakutsk**	**31.50**	**312**	IAMs_20	IAMs_20	07 18 52.8	
	comp=Z,7μm,20.0s						
TIXI	**Tiksi**	**31.99**	**330**	P	**P**	**07 06 26.0**	**+0.4**
	comp=Z,7.0nm,0.6s,baz=106,slow=10,SNR=4.4						
TIXI				PcP	**PcP**	**07 09 14.9**	**+0.1**
	comp=Z,36nm,0.9s,baz=94,slow=1.3,SNR=9.4						
TIXI				ScP	**ScP**	**07 12 54.8**	**-1.3**
	comp=Z,4.3nm,0.5s,baz=118,slow=1.2,SNR=1.8						
TIXI	**Tiksi**	**31.99**	**330** *ce*	P	**P**	**07 06 26.2**	**+0.6**
JTM	**Tenmabayashi**	**32.27**	**269**	IAMs_20	IAMs_20	07 19 13.1	
	comp=Z,4μm,21.0s						
LLLB	**Lillooet**	**32.38**	**70**	P	**P**	**07 06 30.9**	**+1.6**
LLLB				IAmb	IAmb	07 07 00.0	
	comp=Z,35nm,0.9s						
TEY	**Ternei**	**32.82**	**278** ⇑	*e*P	**P**	**07 06 33.2**	**0.0**
TEY				*e*		07 06 47.1	
TEY				pmax	pmax		
	comp=E,40nm,0.7s						
TEY				pmax	pmax		
	comp=N,10.0nm,0.6s						
TEY				pmax	pmax		
	comp=Z,70nm,0.7s						
TEY				pmax	pmax		
	comp=E,100nm,2.5s						
TEY				pmax	pmax		
	comp=Z,100nm,4.3s						
TEY				pmax	pmax		
	comp=N,20nm,0.8s						
TEY				pmax	pmax		
	comp=E,50nm,0.8s						
TEY				pmax	pmax		
	comp=Z,90nm,0.8s						
E03A	**Lebam**	**33.07**	**78**	IAMs_20	IAMs_20	07 19 37.2	
	comp=Z,3μm,18.0s						
YKA	**Yellowknife Ar**	**33.12**	**47**	P	**P**	**07 06 35.2**	**-0.4**
	comp=Z,3.2nm,0.8s,baz=40,slow=5.4,SNR=13						
YKA				PcP	**PcP**	**07 09 18.5**	**+0.5**
	comp=Z,7.1nm,0.8s,baz=289,slow=1.8,SNR=7.9						
YKA				LR	LR	07 21 51.1	
	comp=Z,8μm,18.4s,baz=0.0,slow=40						
YKA	**Yellowknife Ar**	**33.12**	**47**	P	**P**	**07 06 36.3**	**+0.8**
YKA	**Yellowknife Ar**	**33.12**	**47**	P	**P**	**07 06 36.3**	**+0.8**
B05A	**Bryant**	**33.20**	**75**	P	**P**	**07 06 39.2**	**+2.8**
	baz=295						
E04D	**Cinebar**	**33.68**	**78**	P	**P**	**07 06 43.9**	**+3.2**
	baz=298,SNR=7.8						
KLR	**Kul'dur**	**33.88**	**288** *ce*	P	**P**	**07 06 40.2**	**-2.1**
KLR				pmax	pmax		
	comp=Z,57nm,0.8s						
F04A	**Amboy**	**34.06**	**78**	P	**P**	**07 06 44.4**	**+0.4**
I02D	**Swisshome**	**34.08**	**82**	P	**P**	**07 06 46.4**	**+2.2**
	baz=300						
JMM	**Marumori**	**34.17**	**264**	P	**P**	**07 06 44.3**	**-0.8**
JMM				IAmb	IAmb	07 06 47.1	
	comp=Z,107nm,1.0s						
KEBM	**Edson Butte**	**34.42**	**84**	IAMs_20	IAMs_20	07 22 24.9	
	comp=Z,3μm,18.0s						
LTY	**Liberty**	**34.51**	**75**	P	**P**	**07 06 48.3**	**+0.4**
H04D	**Lebanon**	**34.56**	**81**	P	**P**	**07 06 51.0**	**+2.7**
	baz=300						
I03D	**Drain, OR**	**34.60**	**82**	P	**P**	**07 06 52.2**	**+3.5**
	baz=301						
ZEA	**Zeya**	**34.74**	**297**	*e*P	P	07 06 42.0	-7.7
ZEA				pmax	pmax		
	comp=Z,200nm,4.9s						
ZEA				pmax	pmax		
	comp=Z,30nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,100nm,4.8s						
ZEA				MLR	MLR		
	comp=E,2μm,16.0s						
ZEA				MLR	MLR		
	comp=N,800nm,15.0s						
H04A	**Detroit Lake**	**34.82**	**80**	P	**P**	**07 06 51.3**	**+0.7**
H04A				IAmb	IAmb	07 07 04.3	
	comp=Z,53nm,1.0s						
B08A	**Colville Reser**	**34.82**	**73**	P	**P**	**07 06 51.5**	**+0.9**
B08A				IAmb	IAmb	07 07 12.3	
	comp=Z,43nm,0.8s						
B08A				IAMs_20	IAMs_20	07 20 48.3	
	comp=Z,3μm,19.0s						
H11N2	**WAKE ISLAND Hy**	**34.95**	**212**	T	T	07 44 38.7	
	baz=20,slow=76,SNR=309						
H11N3	**WAKE ISLAND Hy**	**34.95**	**212**	T	T	07 44 35.1	
	baz=20,slow=76,SNR=278						
H11N1	**WAKE ISLAND Hy**	**34.96**	**212**	T	T	07 44 37.4	
	baz=20,slow=76,SNR=218						
G05D	**Wamic, OR**	**35.08**	**79**	P	**P**	**07 06 55.7**	**+2.9**
	baz=300						
I04A	**Tendick Farm,**	**35.13**	**82**	P	**P**	**07 06 56.1**	**+2.8**
	baz=301,SNR=6.4						
L02E	**Cave Junction**	**35.26**	**85**	P	**P**	**07 06 57.8**	**+3.3**
	baz=303						
SBLHI	**Steaming Bluff**	**35.28**	**148**	IAMs_20	IAMs_20	07 15 57.2	
	comp=Z,3μm,20.0s						
I05D	**Terrebonne, OR**	**35.52**	**80**	P	**P**	**07 06 58.8**	**+2.2**
	baz=301,SNR=6.6						
JYT	**Yasato**	**35.58**	**263**	P	**P**	**07 06 56.8**	**-0.3**
F07A	**Phinny Hill Vi**	**35.60**	**77**	IAMs_20	IAMs_20	07 21 27.1	
	comp=Z,2μm,18.0s						
J04D	**Umpqua Nationa**	**35.61**	**82**	P	**P**	**07 07 00.6**	**+3.0**
	baz=302						
JSD	**Sado**	**35.65**	**267**	P	**P**	**07 06 57.5**	**-0.2**
JSD				IAmb	IAmb	07 07 31.6	
	comp=Z,72nm,1.1s						
D08A	**Wollman Farm,**	**35.66**	**75**	P	**P**	**07 06 58.0**	**+0.2**
D08A				IAmb	IAmb	07 07 31.0	
	comp=Z,37nm,1.1s						
C09A	**Chrisman Ranch**	**35.70**	**73**	P	**P**	**07 06 59.1**	**+0.9**
C09A				IAmb	IAmb	07 07 30.6	
	comp=Z,56nm,1.2s						
PINE	**Pine Mountain**	**36.04**	**81**	P	**P**	**07 07 01.5**	**+0.2**
PINE				IAmb	IAmb	07 07 21.7	
	comp=Z,70nm,1.2s						
YBH	**Yreka Blue Hor**	**36.05**	**85**	LR	LR	07 19 19.0	
	comp=Z,1μm,19.7s,baz=307,slow=32						
USA0B	**Ussuriysk Arra**	**36.09**	**280** *c*	*i*P	**P**	**07 07 01.0**	**-0.5**
USRK	**Ussuriysk Ar.**	**36.09**	**280**	P	**P**	**07 07 01.1**	**-0.3**
	comp=Z,202nm,0.9s,baz=57,slow=7.9,SNR=225						
USRK				PcP	**PcP**	**07 09 27.3**	**+0.4**
	comp=Z,8.0nm,0.8s,baz=98,slow=1.7,SNR=4.7						
USRK				LR	LR	07 21 01.9	
	comp=Z,3μm,21.2s,baz=52,slow=35						
USRK	**Ussuriysk Ar.**	**36.09**	**280**	P	**P**	**07 07 01.0**	**-0.5**
USRK	**Ussuriysk Ar.**	**36.09**	**280**	P	**P**	**07 07 01.0**	**-0.5**
J05D	**Fort Rock, OR**	**36.13**	**82**	P	**P**	**07 07 04.1**	**+2.1**
	baz=302,SNR=11						
H11S1	**WAKE ISLAND Hy**	**36.15**	**212**	T	T	07 46 07.4	
	baz=19,slow=76,SNR=1236						
M02C	**Callahan**	**36.15**	**86**	P	**P**	**07 07 04.7**	**+2.5**
	baz=304						
H11S2	**WAKE ISLAND Hy**	**36.16**	**212**	T	T	07 46 08.0	
	baz=19,slow=76,SNR=835						
H11S3	**WAKE ISLAND Hy**	**36.17**	**212**	T	T	07 46 08.1	
	baz=19,slow=76,SNR=322						
NEW	**Newport**	**36.18**	**72**	P	**P**	**07 07 03.2**	**+0.9**
	comp=Z,12nm,0.7s,baz=295,slow=6.7,SNR=21						
NEW				LR	LR	07 20 04.1	
	comp=Z,1μm,20.0s,baz=303,slow=33						
NEW	**Newport**	**36.18**	**72**	P	**P**	**07 07 03.2**	**+0.9**
NEW				IAmb	IAmb	07 07 23.6	
	comp=Z,37nm,0.8s						
NEW	**Newport**	**36.18**	**72**	IAMs_20	IAMs_20	07 22 56.3	
	comp=Z,2μm,18.0s						
NEW	**Newport**	**36.18**	**72**	P	**P**	**07 07 03.8**	**+1.5**
	baz=297,SNR=13						
EDM	**Edmonton**	**36.28**	**63**	IAMs_20	IAMs_20	07 21 19.7	
	comp=Z,3μm,20.0s						
KMRM	**Mail Ridge**	**36.28**	**88**	P	**P**	**07 07 03.4**	**+0.1**
KMRM				IAMs_20	IAMs_20	07 22 00.5	
	comp=Z,2μm,18.0s						
N02D	**Trinity Center**	**36.48**	**86**	P	**P**	**07 07 07.4**	**+2.5**
	baz=304						
M04C	**Macdoel**	**36.57**	**84**	P	**P**	**07 07 08.0**	**+2.2**
	baz=304,SNR=6.2						
MJAR	**Matsushiro Arr**	**36.61**	**265**	P	**P**	**07 07 06.6**	**+0.6**
	comp=Z,30nm,0.8s,baz=44,slow=7.4,SNR=67						
MJAR				PcP	**PcP**	**07 09 29.0**	**+0.3**
	comp=Z,6.1nm,1.1s,baz=74,slow=1.3,SNR=4.8						
MJAR				ScP	**ScP**	**07 13 13.2**	**0.0**
	comp=Z,0.7nm,0.3s,baz=13,slow=3.0,SNR=4.3						
MJAR				LR	LR	07 20 28.6	
	comp=Z,2μm,21.6s,baz=50,slow=34						
MJAR	**Matsushiro Arr**	**36.61**	**265**	P	**P**	**07 07 05.8**	**-0.2**
MJAR				pmax	pmax		
	comp=Z,49nm,1.0s						
MJAR	**Matsushiro Arr**	**36.61**	**265**	P	**P**	**07 07 05.8**	**-0.2**
MJAR				IAmb	IAmb	07 07 08.6	
	comp=Z,49nm,1.0s						
MAJO	**Matsushiro**	**36.61**	**265** *c*	*i*P	**P**	**07 07 05.6**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,130nm,1.0s						
MAJO	**Matsushiro**	**36.61**	**265**	IAMs_20	IAMs_20	07 20 49.5	
	comp=Z,3μm,20.0s						
MAT	**Matsushiro**	**36.61**	**265**	P	**P**	**07 07 06.3**	**+0.3**
MAT				S	**S**	**07 12 49.4**	**+2.3**
VLA	**Vladivostok**	**36.72**	**279** *c*	*i*P	**P**	**07 07 07.0**	**+0.1**
I07A	**Izee**	**36.78**	**79**	P	**P**	**07 07 07.9**	**+0.4**
O02D	**Mt. Diablo Mer**	**36.88**	**87**	P	**P**	**07 07 10.6**	**+2.2**
	baz=305,SNR=15						
F10A	**Beach Ranch, E**	**37.21**	**75**	P	**P**	**07 07 11.9**	**+0.8**
MDJ	**Mudanjiang**	**37.35**	**282**	P	**P**	**07 07 11.5**	**-0.7**
MDJ				sP	pP	07 07 15.1	-3.8
MDJ				S	**S**	**07 13 00.2**	**+2.1**
MDJ				ScP	**ScP**	**07 13 15.9**	**+0.1**
MDJ				PcS	**PcS**	**07 13 18.7**	**-0.4**
MDJ				ScS	**ScS**	**07 17 24.7**	**+1.0**
MDJ				pmax	pmax		
	comp=Z,160nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,710nm,6.4s						
MDJ				LR	LR		
	comp=Z,2μm,17.5s						
MDJ				LR	LR		
	comp=Z,5μm,19.6s						
MDJ				LR	LR		
	comp=Z,8μm,19.8s						
MDJ	**Mudanjiang**	**37.35**	**282**	P	**P**	**07 07 11.3**	**-0.8**
MDJ				IAmb	IAmb	07 07 13.7	
	comp=Z,116nm,0.9s						
O03E	**Paynes Creek**	**37.43**	**86**	P	**P**	**07 07 15.1**	**+2.0**
	baz=305,SNR=16						
MSHR	**Mys Shultsa**	**37.47**	**278** *ce*	P	**P**	**07 07 14.0**	**+0.8**
MSHR				pmax	pmax		
	comp=Z,92nm,0.7s						
GDXM	**Geysers**	**37.68**	**89**	IAMs_20	IAMs_20	07 19 15.3	
	comp=Z,3μm,20.0s						
WALA	**Waterton Lakes**	**37.71**	**69**	P	**P**	**07 07 16.2**	**+0.9**
WALA				IAmb	IAmb	07 07 32.1	
	comp=Z,78nm,1.2s						
WALA				IAMs_20	IAMs_20	07 22 58.7	
	comp=Z,3μm,19.0s						
JGF	**Kuroka**	**37.74**	**264**	P	**P**	**07 07 15.7**	**+0.1**
JGF				IAmb	IAmb	07 07 19.1	
	comp=Z,110nm,1.1s						
J08A	**Circle Bar Ran**	**37.80**	**80**	P	**P**	**07 07 17.5**	**+1.4**
J08A				IAmb	IAmb	07 07 35.7	
	comp=Z,39nm,0.9s						
JHJ	**Hachijo jima 2**	**37.88**	**259**	P	**P**	**07 07 17.1**	**+0.4**
	comp=Z,163nm,0.8s,baz=242,slow=13,SNR=3.9						
INU	**Inuyama**	**38.12**	**264**	P	**P**	**07 07 18.4**	**-0.4**
WVOR	**Wild Horse Val**	**38.20**	**81**	P	**P**	**07 07 20.3**	**+0.8**
WVOR				pmax	pmax		
	comp=Z,55nm,1.1s						
WVOR	**Wild Horse Val**	**38.20**	**81**	P	**P**	**07 07 20.3**	**+0.8**
WVOR				IAmb	IAmb	07 07 39.2	
	comp=Z,55nm,1.1s						
PLID	**Pearl Lake**	**38.40**	**76**	IAMs_20	IAMs_20	07 22 13.1	
	comp=Z,3μm,19.0s						
MSO	**Missoula**	**38.76**	**72**	P	**P**	**07 07 24.5**	**+0.3**
MSO	**Missoula**	**38.76**	**72**	P	**P**	**07 07 25.4**	**+1.2**
	baz=300,SNR=6.5						
JWT	**Wachi**	**39.17**	**266**	P	**P**	**07 07 27.3**	**-0.3**
JWT				IAmb	IAmb	07 07 30.3	
	comp=Z,90nm,1.0s						
JWT				IAMs_20	IAMs_20	07 21 40.1	
	comp=Z,3μm,21.0s						
PAHR	**Pah Rah Range**	**39.28**	**85**	P	**P**	**07 07 29.8**	**+1.1**
PAHR				IAmb	IAmb	07 07 48.3	
	comp=Z,62nm,1.1s						
VCNR	**Virginia City**	**39.36**	**86**	P	**P**	**07 07 30.2**	**+0.8**
MFID	**Camas Ranch**	**39.39**	**78**	P	**P**	**07 07 29.9**	**+0.4**
PNTR	**Pine Nut**	**39.51**	**86**	P	**P**	**07 07 30.6**	**-0.1**
PNTR				IAmb	IAmb	07 07 51.8	
	comp=Z,75nm,0.7s						
YERR	**Yerington**	**39.80**	**86**	P	**P**	**07 07 33.7**	**+0.6**
HRY	**Holter Researc**	**40.07**	**71**	P	**P**	**07 07 35.5**	**+0.3**
LRM	**Limekiln Ridge**	**40.16**	**73**	P	**P**	**07 07 36.4**	**+0.4**
HLID	**Hailey**	**40.17**	**77**	P	**P**	**07 07 36.7**	**+0.6**
HLID	**Hailey**	**40.17**	**77**	P	**P**	**07 07 38.0**	**+1.9**
	baz=303,SNR=17						
BOD	**Bodaibo**	**40.19**	**308**	*e*P	**P**	**07 07 34.9**	**-0.9**
BOD				pmax	pmax		
	comp=Z,72nm,1.2s						
BMN	**Battle Mountai**	**40.20**	**83**	P	**P**	**07 07 36.9**	**+0.5**
BMN				pmax	pmax		
	comp=Z,16nm,0.8s						
BMN	**Battle Mountai**	**40.20**	**83**	P	**P**	**07 07 36.9**	**+0.5**
CN2	**Changchun**	**40.31**	**284**	*e*P	**P**	**07 07 36.6**	**-0.4**
CN2				*e*S	**S**	**07 13 40.1**	**-2.6**
CN2				pmax	pmax		
	comp=Z,80nm,1.0s						
CN2				pmax	pmax		
	comp=Z,500nm,3.0s						
CN2				LR	LR		
	comp=Z,5μm,20.0s						
CN2				LR	LR		

comp=Z,4µm,20.0s
CN2 LR LR
comp=Z,6µm,20.0s
MCMT McKenzie Canyo 40.44 74 P P 07 07 38.7 +0.4
RYN Ryan 40.46 86 P P 07 07 39.0 +0.4
KVN Kaiserville 40.47 85 P P 07 07 39.3 +0.7
KVN pmax pmax
comp=Z,21nm,1.1s
KVN MLR MLR
comp=Z,2µm,18.0s
KVN Kaiserville 40.47 85 P P 07 07 39.3 +0.7
EGMT Eagleton 40.63 69 P P 07 07 40.2 +0.5
EGMT IAmb IAmb 07 07 56.1
comp=Z,267nm,1.5s
EGMT IAMs_20 IAMs_20 07 24 60.0
comp=Z,3µm,19.0s
EGMT Eagleton 40.63 69 P P 07 07 41.1 +1.4
baz=300,SNR=15
LHV Little Huntoon 40.70 86 IAMs_20 IAMs_20 07 21 34.2
comp=Z,2µm,19.0s
NVAR Mina Array Bea 40.72 86 P P 07 07 41.7 +1.0
comp=Z,11nm,0.8s,baz=290,slow=6.9,SNR=55
NVAR PcP **PcP 07 09 42.4 +0.6**
comp=Z,5.2nm,0.8s,baz=289,slow=2.8,SNR=3.0
NVAR ScP **ScP 07 13 29.2 +0.1**
comp=Z,2.2nm,0.8s,baz=280,slow=4.4,SNR=5.1
NVAR LR LR 07 22 12.1
comp=Z,1µm,18.7s,baz=300,slow=33
NVAR Mina Array Bea 40.72 86 P P 07 07 41.3 +0.6
MDPB Devils Postpil 40.72 88 IAMs_20 IAMs_20 07 20 33.7
comp=Z,2µm,20.0s
JCJ Chichijima 40.74 250 P P 07 07 40.9 +0.2
comp=Z,56nm,0.8s,baz=198,slow=3.2,SNR=3.2
JCJ LR LR 07 21 50.1
comp=Z,652nm,20.9s,baz=40,slow=32
BOZ Bozeman (W) 40.77 73 P P 07 07 41.9 +1.0
BOZ pmax pmax
comp=Z,38nm,1.0s
BOZ MLR MLR
comp=Z,2µm,19.0s
BOZ Bozeman (W) 40.77 73 P P 07 07 41.9 +1.0
BOZ Bozeman (W) 40.77 73 P P 07 07 41.4 +0.5
baz=302,SNR=26
MLAC Mammoth, Mammo 40.87 87 P P 07 07 46.0 +3.9
baz=308
HIA Hailar 40.88 294 *c i* **P P 07 07 40.7 -1.0**
HIA pmax pmax
comp=Z,64nm,0.9s
HIA Hailar 40.88 294 IAMs_20 IAMs_20 07 27 47.2
comp=Z,3µm,18.0s
PAGB Antelope Grade 41.18 91 P P 07 07 43.9 -0.4
PAGB IAmb IAmb 07 08 01.5
comp=Z,370nm,2.0s
QLMT Earthquake Lak 41.29 74 P P 07 07 46.0 +0.6
YHB Horse Butte 41.48 74 P P 07 07 46.1 -0.8
TIN Tinemaha, Big 41.61 88 P P 07 07 50.6 +2.6
baz=309,SNR=6.8
TPH Tonopah 41.61 86 P P 07 07 48.9 +0.9
TPH pmax pmax
comp=Z,168nm,1.1s
TPH Tonopah 41.61 86 P P 07 07 48.9 +0.9
TPH IAmb IAmb 07 08 06.9
comp=Z,168nm,1.1s
FFC Flin Flon 41.77 56 IAMs_20 IAMs_20 07 24 48.8
comp=Z,3µm,20.0s
YNR Norris Junctio 41.81 73 P P 07 07 50.2 +0.6
YNR IAmb IAmb 07 08 09.8
comp=Z,113nm,1.3s
GCMT Greycliff 41.83 71 P P 07 07 50.5 +0.8
VES Vestal, Richgr 41.84 90 P P 07 07 50.4 +0.7
baz=310,SNR=7.4
PKM Mcpherson Peak 41.99 91 P P 07 07 53.6 +2.4
baz=310
H17A Grant Village 42.04 74 P P 07 07 54.7 +3.2
baz=303
YNE Yellowstone No 42.05 73 P P 07 07 52.2 +0.6
CWC Cottonwood Cre 42.09 88 P P 07 07 53.4 +1.5
baz=309
FLWY Flagg Ranch 42.14 74 P P 07 07 53.4 +1.1
GRAC Grapevine Rang 42.19 87 P P 07 07 54.9 +2.4
baz=309
TPAW Teton Pass 42.32 75 P P 07 07 54.6 +0.8
ISA Isabella, Lake 42.34 89 P P 07 07 54.0 +0.2
ISA pmax pmax
comp=Z,37nm,1.1s
ISA Isabella, Lake 42.34 89 P P 07 07 54.0 +0.2
ISA Isabella, Lake 42.34 89 P P 07 07 55.3 +1.5
baz=310,SNR=7.4
RLMT Red Lodge 42.43 72 P P 07 07 55.3 +0.7
RLMT IAmb IAmb 07 08 13.4
comp=Z,79nm,1.1s
RLMT Red Lodge 42.43 72 P P 07 07 56.2 +1.5
baz=303,SNR=28
REDW Red Top Meadow 42.45 75 IAMs_20 IAMs_20 07 25 24.1
comp=Z,2µm,19.0s
R11A Troy Canyon, C 42.46 84 P P 07 07 55.7 +0.7
baz=308,SNR=19
KSRS Korea Array 42.47 274 P P 07 07 55.6 +0.8
comp=Z,44nm,1.1s,baz=54,slow=7.7,SNR=30
KSRS LR LR 07 25 03.4
comp=Z,1µm,20.3s,baz=56,slow=35
KS19 Wonju Array Si 42.48 274 P P 07 07 55.6 +0.8
KSAR Wonju Array Be 42.50 274 P P 07 07 55.2 +0.2
KSAR Wonju Array Be 42.50 274 P P 07 07 55.2 +0.2
SNY Shenyang 42.55 282 ⇑P **P 07 07 56.1 +0.7**
SNY pmax pmax
comp=Z,330nm,1.0s
SNY pmax pmax
comp=Z,1µm,2.7s
SNY LR LR
comp=Z,3µm,20.3s
SNY LR LR
comp=Z,2µm,20.4s
SNY LR LR
comp=Z,3µm,19.8s
AHID Auburn Hatcher 42.63 76 IAMs_20 IAMs_20 07 27 09.1
comp=Z,2µm,18.0s
MPMC Manual Prospec 42.70 88 P P 07 07 57.9 +1.0
baz=309,SNR=7.2
FURC Furnace Creek, 42.83 87 P P 07 07 59.1 +1.4
baz=309
TPNV Topopah Spring 42.91 86 IAMs_20 IAMs_20 07 22 32.7
comp=Z,2µm,20.0s
TPNV Topopah Spring 42.91 86 P P 07 07 59.7 +1.1
baz=309,SNR=18
DUG Dugway, Tooele 43.07 80 P P 07 08 01.1 +1.3
DUG pmax pmax
comp=Z,43nm,1.3s
DUG Dugway, Tooele 43.07 80 P P 07 08 00.9 +1.1
baz=306,SNR=13
EDW2 Edwards Air Fo 43.14 90 P P 07 08 01.9 +1.6
baz=310
INCN Inchon 43.26 275 P P 07 08 03.2 +2.0
PRN Pahroc Range 43.38 85 P P 07 08 03.2 +0.9
PRN IAmb IAmb 07 08 22.5
comp=Z,71nm,0.9s
PRN IAMs_20 IAMs_20 07 23 17.9
comp=Z,2µm,19.0s
LAO LASA Array 43.38 68 P P 07 08 02.6 +0.5
LAO IAmb IAmb 07 08 19.1
comp=Z,159nm,1.6s
LAO IAMs_20 IAMs_20 07 27 43.6
comp=Z,2µm,18.0s
LAO LASA Array 43.38 68 P P 07 08 03.5 +1.4
baz=302
TCUT Toone Canyon 43.39 78 P P 07 08 03.0 +0.5
JNU Nakatsue 43.41 267 P P 07 08 03.2 +0.8
comp=Z,93nm,0.9s,baz=42,slow=6.4,SNR=38
JNU Nakatsue 43.41 267 IAMs_20 IAMs_20 07 24 36.4
comp=Z,3µm,22.0s
JTU Tsushima 43.41 270 IAMs_20 IAMs_20 07 24 34.4
comp=Z,2µm,22.0s
PSUT Pine Spring 43.43 83 P P 07 08 03.2 +0.4
CTU Camp Tracy 43.43 79 P P 07 08 03.3 +0.5
TJN Taejon 43.49 273 *ce* **P P 07 08 03.3 +0.2**
MWC Mount Wilson 43.52 91 P P 07 08 03.4 -0.2
MWC pmax pmax
comp=Z,103nm,1.3s
MWC Mount Wilson 43.52 91 P P 07 08 03.4 -0.2
MWC IAmb IAmb 07 08 22.2
comp=Z,103nm,1.2s
SHOC Shoshone, Teco 43.56 88 P P 07 08 05.2 +1.6
baz=310
BW06 Boulder Array 43.57 75 P P 07 08 04.7 +0.8
BW06 IAmb IAmb 07 08 22.2
comp=Z,78nm,1.1s
BW06 IAMs_20 IAMs_20 07 26 19.7
comp=Z,2µm,18.0s
BW06 Boulder Array 43.57 75 P P 07 08 04.4 +0.5
baz=305,SNR=39
PD31 Pinedale Array 43.57 75 P P 07 08 04.9 +1.0
PD31 IAmb IAmb 07 08 22.2
comp=Z,71nm,1.1s
PDAR Pinedale Array 43.57 75 P P 07 08 04.2 +0.4
comp=Z,11nm,0.7s,baz=306,slow=3.9,SNR=86
PDAR LR LR 07 26 21.6
comp=Z,2µm,18.2s,baz=308,slow=36
PDAR Pinedale Array 43.57 75 P P 07 08 04.1 +0.2
DGMT Dagmar 43.60 65 IAMs_20 IAMs_20 07 28 45.5
comp=Z,4µm,19.0s
GSC Goldstone, Bar 43.61 89 P P 07 08 05.2 +1.1
baz=310,SNR=21
BFSC Mount Baldy Ra 43.77 90 P P 07 08 06.6 +1.2
baz=311,SNR=10
SHPR Sheep Range 43.87 86 IAMs_20 IAMs_20 07 23 04.1
comp=Z,2µm,19.0s
TULEG Thule 44.01 19 IAMs_20 IAMs_20 07 29 37.8
comp=Z,2µm,18.0s
HEC Hector,Ludlow 44.21 89 P P 07 08 10.3 +1.4
baz=310,SNR=8.4
TCRU Three Creeks R 44.25 82 P P 07 08 10.8 +1.3
TCRU IAmb IAmb 07 08 29.2
comp=Z,116nm,1.7s
MURC Murrieta 44.48 91 P P 07 08 11.9 +0.9
MSU Marysvale 44.48 82 P P 07 08 11.7 +0.4
MSU Marysvale 44.48 82 P P 07 08 11.7 +0.4
GMRC Granite Mounta 44.66 88 P P 07 08 13.9 +1.2
baz=310,SNR=8.5
JSU Suzuyama 44.76 266 IAMs_20 IAMs_20 07 25 08.2
comp=Z,2µm,22.0s
RDMU Red Mountain 44.84 78 P P 07 08 14.6 +0.5
RDMU IAmb IAmb 07 08 32.8
comp=Z,78nm,1.0s
PFO Pinyon Flats O 44.93 90 P P 07 08 15.3 +0.6
comp=Z,4.5nm,0.9s,baz=297,slow=8.0,SNR=6.1
PFO Pinyon Flats O 44.93 90 P P 07 08 15.3 +0.6
baz=311
TPFO Pinon Flats 44.93 90 P P 07 08 15.4 +0.6
baz=311
BELC Belle Mtn. Jos 44.96 89 P P 07 08 15.6 +0.6
baz=311
109C Camp Elliot, M 45.00 91 P P 07 08 16.7 +1.5
baz=312
SRU San Rafael Swe 45.13 80 P P 07 08 17.3 +0.9
SRU pmax pmax
comp=Z,41nm,1.0s
SRU San Rafael Swe 45.13 80 P P 07 08 17.3 +0.9
SRU IAmb IAmb 07 08 36.4
comp=Z,41nm,1.0s
IRM Iron Mountain 45.39 89 P P 07 08 19.9 +1.6
baz=311
BAR Barrett 45.41 91 P P 07 08 18.5 0.0
MONP2 Monument Peak 45.43 91 P P 07 08 20.2 +1.4
baz=312
K22A Casper 45.46 73 P P 07 08 19.7 +0.8
baz=306,SNR=7.1
DL2 Dalian 45.48 280 P P 07 08 19.0 +0.1
DL2 S **S 07 15 02.1 +3.4**
DL2 pmax pmax
comp=Z,200nm,1.0s
DL2 pmax pmax
comp=Z,510nm,9.2s
DL2 LR LR
comp=Z,2µm,19.8s
DL2 LR LR
comp=Z,970nm,19.4s
DL2 LR LR
comp=Z,1µm,16.5s
BC3 Big Chuckawall 45.53 89 P P 07 08 20.7 +1.2
baz=311
W13A Hualapai Mount 45.57 87 P P 07 08 20.0 +0.1
RWWY Rawlins 45.61 75 IAMs_20 IAMs_20 07 27 27.9
comp=Z,2µm,19.0s
CBX Cerro Bola 45.66 92 P P 07 08 20.5 -0.1
U15A North Rim 45.71 84 P P 07 08 21.6 +0.5
U15A IAmb IAmb 07 08 42.6
comp=Z,42nm,1.0s
NRIK Noril'sk 45.77 331 P P 07 08 20.4 -0.4
comp=Z,19nm,0.9s,baz=70,slow=7.9,SNR=17
NRIK PcP **PcP 07 09 58.4 +0.4**
comp=Z,18nm,0.9s,baz=79,slow=4.9,SNR=4.8
NRIK LR LR 07 29 46.1
comp=Z,1µm,18.1s,baz=56,slow=39
NRIK Noril'sk 45.77 331 *ce* **P P 07 08 20.3 -0.4**
NRIK pmax pmax
comp=Z,34nm,1.2s
IKP In-Ko-Pah, Jac 45.78 91 P P 07 08 22.9 +1.4
baz=312
O20A White River Ci 45.91 77 P P 07 08 22.9 +0.4
baz=307,SNR=25
PDMCI Parker Dam,Lak 45.92 88 P P 07 08 23.7 +1.2
baz=311
RSSD Black Hills 46.09 70 P P 07 08 23.4 -0.5
RSSD pmax pmax
comp=Z,96nm,1.6s
RSSD Black Hills 46.09 70 P P 07 08 23.4 -0.5
RSSD IAmb IAmb 07 08 39.7
comp=Z,96nm,1.6s
RSSD Black Hills 46.09 70 P P 07 08 24.7 +0.7
baz=305
PV21 Cone Mtn., Par 46.43 79 P P 07 08 26.7 0.0
PV21 IAmb IAmb 07 08 46.9
comp=Z,22nm,0.7s
PV23 Carpenter Ridg 46.47 80 P P 07 08 27.0 -0.1
PV23 IAmb IAmb 07 08 58.5
comp=Z,41nm,1.0s
PV10 Paradox Valley 46.50 80 P P 07 08 27.7 +0.4
PV10 IAmb IAmb 07 08 44.7
comp=Z,38nm,0.9s
PV14 Lion Creek, Pa 46.51 80 P P 07 08 27.6 +0.2
PV14 IAmb IAmb 07 09 03.0
comp=Z,24nm,0.8s
MDND Maddock 46.53 64 P P 07 08 27.7 +0.6
MDND Maddock 46.53 64 P P 07 08 28.0 +0.9
baz=304,SNR=7.5
PV22 Blue Mesa, Par 46.56 79 P P 07 08 27.7 0.0
PV22 IAmb IAmb 07 08 46.2
comp=Z,44nm,1.0s
PV19 Morning Glory 46.58 80 P P 07 08 28.1 +0.2
PV19 IAmb IAmb 07 08 42.9
comp=Z,97nm,1.6s
PV16 Nyswonger Mesa 46.62 80 P P 07 08 27.9 -0.2
PV16 IAmb IAmb 07 08 43.2
comp=Z,110nm,1.6s
E28A Huff 46.63 66 IAMs_20 IAMs_20 07 27 11.7
comp=Z,2µm,20.0s
NOR Nord 46.65 4 *eP* **P 07 08 24.7 -2.9**
NOR IAmb IAmb 07 08 29.4
comp=Z,13nm,1.0s
NOR Nord 46.65 4 *eP* **P 07 08 24.7 -2.9**
NOR pmax pmax
comp=Z,13nm,1.0s
PV18 Skein Mesa, Pa 46.66 80 P P 07 08 28.7 +0.2
PV18 IAmb IAmb 07 09 02.8
comp=Z,38nm,0.9s
NEEM North Greenlan 46.68 15⇑ *i* **P P 07 08 27.6 -0.6**
NEEM IAmb IAmb 07 08 30.4
comp=Z,60nm,0.8s
N23A Red Feather La 46.85 75 P P 07 08 31.3 +1.3
baz=307,SNR=10
WUAZ Wupatki 46.86 84 P P 07 08 30.5 +0.4
WUAZ IAmb IAmb 07 08 48.8
comp=Z,40nm,1.1s
WUAZ IAMs_20 IAMs_20 07 25 07.8
comp=Z,2µm,20.0s
WUAZ Wupatki 46.86 84 P P 07 08 31.8 +1.7
baz=310,SNR=7.3
Y14A Wickenburg 46.87 87 P P 07 08 30.7 +0.7
ULM Lac du Bonnet 47.24 59 P P 07 08 32.6 0.0
comp=Z,16nm,0.4s,baz=306,slow=7.8,SNR=47
ULM LR LR 07 27 53.0
comp=Z,2µm,20.4s,baz=316,slow=35
MVCO Mesa Verde 47.56 81 P P 07 08 35.5 -0.1
MVCO IAmb IAmb 07 09 48.6
comp=Z,26nm,1.0s
MVCO Mesa Verde 47.56 81 P P 07 08 36.6 +1.0
baz=309
ISCO Idaho Springs 47.72 76 IAMs_20 IAMs_20 07 28 37.8
comp=Z,2µm,20.0s
ISCO Idaho Springs 47.72 76 P P 07 08 39.0 +2.2
baz=308
IRK Irkutsk 47.76 305 *eP* **P 07 08 34.6 -2.0**
IRK pmax pmax
comp=Z,165nm,1.9s
BJI Beijing 48.12 285 P P 07 08 40.1 +0.6
BJI pP **pP 07 08 42.6 -3.8**
BJI PcP **PcP 07 10 07.5 +0.8**
BJI S **S 07 15 37.6 +1.3**
BJI ScS **ScS 07 18 31.3 +0.9**
BJI pmax pmax
comp=Z,120nm,0.8s
BJI pmax pmax
comp=Z,530nm,4.4s
BJI LR LR
comp=Z,3µm,20.6s
BJI LR LR
comp=Z,4µm,18.8s
BJI LR LR
comp=Z,6µm,21.0s
W18A Petrified Fore 48.14 84 IAMs_20 IAMs_20 07 26 02.2
comp=Z,2µm,20.0s
S22A 4UR Ranch, Cre 48.26 79 P P 07 08 41.8 +0.8
baz=309,SNR=17
AGMN Agassiz Nation 48.35 61 IAMs_20 IAMs_20 07 32 02.6
comp=Z,2µm,19.0s
AGMN Agassiz Nation 48.35 61 P P 07 08 40.9 -0.3
baz=305,SNR=27
D32A Dogwood Acres, 48.38 63 P P 07 08 40.9 -0.5
D32A IAmb IAmb 07 08 55.9
comp=Z,94nm,1.2s
D32A IAMs_20 IAMs_20 07 30 31.0
comp=Z,3µm,19.0s
X18A Snowflake 48.39 84 IAMs_20 IAMs_20 07 25 55.9
comp=Z,2µm,19.0s
Q24A Divide 48.52 76 P P 07 08 43.8 +0.8
baz=309
ULN Ulaanbaatar 48.75 299 *ce* **P P 07 08 42.7 -1.8**
ULN pmax pmax
comp=Z,63nm,1.0s
ULN Ulaanbaatar 48.75 299 P P 07 08 44.0 -0.5
ULN IAmb IAmb 07 08 46.7
comp=Z,50nm,0.8s
ULN Ulaanbaatar 48.75 299 IAMs_20 IAMs_20 07 31 55.5
comp=Z,3µm,20.0s
ULN Ulaanbaatar 48.75 299 P P 07 08 44.5 0.0
ULN Ulaanbaatar 48.75 299 P P 07 08 44.3 -0.2
comp=Z,3µmcomp=Z,274nm,1.0s
SUSD Miller 48.86 67 P P 07 08 45.7 +0.5
SUSD IAMs_20 IAMs_20 07 27 55.8
comp=Z,2µm,20.0s
UPNV Upernavik 48.95 20 *i* **P P 07 08 45.5 +0.1**
UPNV IAmb IAmb 07 08 46.5
comp=Z,35nm,0.8s
SDCO Great Sand Dun 49.07 78 P P 07 08 47.9 +0.6
SDCO IAmb IAmb 07 09 04.8
comp=Z,30nm,1.1s
SDCO Great Sand Dun 49.07 78 P P 07 08 48.8 +1.6
baz=309,SNR=18
SONM Songino Array 49.13 299 P P 07 08 47.6 +0.2
comp=Z,32nm,0.8s,baz=52,slow=8.9,SNR=98
SONM PcP **PcP 07 10 10.4 -0.1**
comp=Z,14nm,1.0s,baz=52,slow=4.3,SNR=5.3
SONM ScP **ScP 07 14 05.2 +1.7**
comp=Z,2.5nm,0.8s,baz=72,slow=4.7,SNR=4.3
SONM LR LR 07 30 51.6
comp=Z,4µm,19.4s,baz=56,slow=38
SONM Songino Array 49.13 299 P P 07 08 47.0 -0.4
SONM pmax pmax
comp=Z,47nm,1.0s
SONM Songino Array 49.13 299 P P 07 08 47.0 -0.4
SONM IAmb IAmb 07 08 49.3
comp=Z,47nm,1.0s
OGNE Ogallala 49.17 72 P P 07 08 50.0 +2.3
baz=308
ZAK Zakamensk 49.32 303 *e* **P P 07 08 48.7 -0.1**
ZAK *e* 07 10 10.0
ZAK pmax pmax
comp=Z,127nm,1.2s
ZAK pmax pmax
comp=Z,53nm,1.0s
TUC Tucson 49.34 87 P P 07 08 49.6 +0.4
TUC pmax pmax
comp=Z,19nm,1.0s
TUC MLR MLR
comp=Z,1µm,19.0s
TUC Tucson 49.34 87 P P 07 08 49.6 +0.4
TUC Tucson 49.34 87 P P 07 08 50.4 +1.2
baz=312
JOW Kunigami 49.39 263 P P 07 08 49.5 +0.1
comp=Z,34nm,0.9s,baz=344,slow=0.8,SNR=7.8
JOW Kunigami 49.39 263 P P 07 08 49.0 -0.4
JOW IAmb IAmb 07 08 51.5
comp=Z,54nm,1.0s
B35A Bob, Littlefor 49.48 60 P P 07 08 49.6 -0.2
B35A IAmb IAmb 07 08 52.4
comp=Z,38nm,0.8s
MOY Mondy 49.76 306 *e* **P P 07 08 52.5 +0.4**
MOY pmax pmax
comp=Z,103nm,1.3s
KBS Kingsbay 49.84 358 *i* **P P 07 08 52.7 +0.6**
KBS IAmb IAmb 07 08 55.5
comp=Z,57nm,0.8s
KBS Kingsbay 49.84 358 *ce* **P P 07 08 52.5 +0.3**
KBS pmax pmax
comp=Z,27nm,0.8s
KBS Kingsbay 49.84 358 IAMs_20 IAMs_20 07 29 52.6
comp=Z,2µm,19.0s
TIA Tai'an 49.96 280 ⇑P **P 07 08 53.7 0.0**
TIA S **S 07 16 05.4 +3.1**
TIA pmax pmax
comp=Z,88nm,0.9s
TIA LR LR
comp=Z,1µm,20.7s
TIA LR LR
comp=Z,1µm,18.3s
TIA LR LR
comp=Z,2µm,19.8s
KSCO Kaye Shedlock' 50.02 75 IAMs_20 IAMs_20 07 30 29.7
comp=Z,2µm,18.0s
KSCO Kaye Shedlock' 50.02 75 P P 07 08 55.2 +0.9
baz=309,SNR=6.7
GUMO Guam 50.04 236 P P 07 08 52.6 -1.8
comp=Z,79nm,0.7s,baz=168,slow=6.7,SNR=5.6
K31A O'Neill 50.07 69 IAMs_20 IAMs_20 07 31 51.0
comp=Z,2µm,18.0s
T25A Trinidad 50.12 78 P P 07 08 57.0 +1.8
baz=310,SNR=21
ANMO Albuquerque 50.29 81 *ce* **P P 07 08 58.0 +1.5**
ANMO pmax pmax
comp=Z,24nm,1.5s
ANMO Albuquerque 50.29 81 P P 07 08 57.9 +1.5
baz=311
HHC Hu-ho-hao-te 50.38 289 *eP* **P 07 08 57.3 +0.3**
HHC pP pP 07 09 01.9 -2.0
HHC S **S 07 16 07.7 -0.6**
HHC SS **SS 07 19 38.7 -3.0**
HHC pmax pmax
comp=Z,48nm,1.4s
HHC pmax pmax
comp=Z,230nm,5.5s
HHC LR LR
comp=Z,2µm,16.1s
HHC LR LR
comp=Z,2µm,18.4s
HHC LR LR
comp=Z,2µm,19.8s
SPA0 Spitsbergen Ar 50.48 357 *eP* **P 07 08 57.8 +0.7**
SPITS Spitsbergen Ar 50.48 357 P P 07 08 56.9 -0.2
comp=Z,26nm,0.9s,baz=50,slow=5.5,SNR=26
SPITS PcP **PcP 07 10 15.0 +0.3**
comp=Z,24nm,0.9s,baz=138,slow=10,SNR=3.6
Y22D IRIS PASSCAL I 50.58 83 IAMs_20 IAMs_20 07 27 44.6
comp=Z,3µm,21.0s
ECSD EROS Data Cent 50.63 66 IAMs_20 IAMs_20 07 32 20.7
comp=Z,2µm,18.0s
ECSD EROS Data Cent 50.63 66 P P 07 08 58.2 -0.5
baz=308,SNR=18
BNM Barren Site 50.71 82 P P 07 09 00.5 +0.8
SSE Sheshan 50.84 273 P P 07 09 01.1 +0.8
SSE S **S 07 16 18.2 +3.7**
SSE pmax pmax
comp=Z,79nm,0.9s
SSE pmax pmax
comp=Z,320nm,3.5s
SSE LR LR
comp=Z,310nm,19.0s
SSE LR LR
comp=Z,390nm,18.8s

319A Douglas 50.92 87 P P 07 09 01.1 -0.1
EYMN Ely 50.92 59 P P 07 09 01.3 +0.4
EYMN IAmb IAmb 07 09 08.2
comp=Z,44nm,0.8s
EYMN Ely 50.92 59 IAMs_20 IAMs_20 07 31 15.8
comp=Z,2µm,20.0s
EYMN Ely 50.92 59 P P 07 09 00.6 -0.2
baz=307,SNR=14
121A Cookes Peak, D 51.07 85 P P 07 09 03.3 +0.9
baz=312
TARA Tarawa 51.07 197 IAMs_20 IAMs_20 07 27 19.2
comp=Z,2µm,20.0s
F36A Milaca 51.08 62 IAMs_20 IAMs_20 07 29 50.4
comp=Z,3µm,20.0s
BGNE Belgrade 51.18 70 P P 07 09 03.5 +0.6
BGNE IAMs_20 IAMs_20 07 31 55.3
comp=Z,2µm,21.0s
BTO Baotou 51.45 289 eP P 07 09 05.0 0.0
BTO S S 07 16 23.3 +0.2
BTO LR LR
comp=Z,6µm,19.1s
BTO LR LR
comp=Z,6µm,21.6s
HSIG 51.50 90 P P 07 09 05.8 +0.5
NJ2 Nanjing 51.64 275 eP P 07 09 06.2 -0.2
NJ2 sP pP 07 09 13.1 -0.2
NJ2 S S 07 16 28.6 +2.9
NJ2 pmax pmax
comp=Z,80nm,0.9s
NJ2 pmax pmax
comp=Z,460nm,3.5s
NJ2 LR LR
comp=Z,1µm,17.9s
NJ2 LR LR
comp=Z,1µm,20.6s
NJ2 LR LR
comp=Z,1µm,20.0s
HSPB Hornsund (broa 51.67 357 eP P 07 09 05.8 -0.3
HSPB eL L 07 31 01.1
comp=Z,3µm,19.6s
HSPB Hornsund (broa 51.67 357 eP P 07 09 06.8 +0.7
TIY Taiyuan 51.85 285 ⇓P P 07 09 09.4 +1.4
TIY S S 07 16 22.3 -6.3
TIY pmax pmax
comp=Z,180nm,1.1s
TIY LR LR
comp=Z,820nm,17.5s
TIY LR LR
comp=Z,2µm,17.8s
TIY LR LR
comp=Z,3µm,21.1s
L34A Svendsen Farm, 51.86 68 P P 07 09 08.0 0.0
L34A IAMs_20 IAMs_20 07 31 43.4
comp=Z,2µm,20.0s
SPMN Marine on St. 51.87 63 P P 07 09 08.5 +0.6
SPMN IAmb IAmb 07 09 22.8
comp=Z,43nm,1.0s
SPMN IAMs_20 IAMs_20 07 30 25.3
comp=Z,3µm,20.0s
SPMN Marine on St. 51.87 63 P P 07 09 07.7 -0.2
baz=308
CBKS Cedar Bluff 51.88 73 P P 07 09 09.7 +1.5
baz=310
SRIG Santa Rosalia 51.88 93 IAMs_20 IAMs_20 07 26 11.5
comp=Z,2µm,20.0s
N33A J Bar K, Exete 52.01 70 IAMs_20 IAMs_20 07 32 31.3
comp=Z,2µm,21.0s
I37A Lemond, Waseca 52.28 64 P P 07 09 10.7 -0.4
SUMG Summit 52.52 15 iP P 07 09 12.1 -0.7
SUMG IAmb IAmb 07 09 13.2
comp=Z,8.7nm,0.6s
SUMG Summit 52.52 15 iP P 07 09 12.1 -0.7
SUMG pmax pmax
comp=Z,9.0nm,0.6s
SUMG Summit 52.52 15 IAMs_20 IAMs_20 07 34 40.5
comp=Z,1µm,19.0s
ILULI Ilulissat 52.67 22 IAMs_20 IAMs_20 07 33 22.2
comp=Z,3µm,20.0s
N35A Tabor 52.99 69 P P 07 09 16.2 -0.1
N35A IAmb IAmb 07 09 32.2
comp=Z,101nm,0.9s
N35A IAMs_20 IAMs_20 07 33 49.2
comp=Z,2µm,19.0s
D41A Chassel 53.04 59 P P 07 09 17.2 +0.7
D41A IAmb IAmb 07 09 24.4
comp=Z,68nm,1.1s
MNTX Cornudas Mount 53.13 84 P P 07 09 18.7 +1.3
MNTX Cornudas Mount 53.13 84 P P 07 09 18.0 +0.5
baz=313,SNR=14
MSTX Muleshoe 53.21 80 P P 07 09 18.7 +0.5
MSTX IAmb IAmb 07 09 48.0
comp=Z,52nm,1.0s
MSTX IAMs_20 IAMs_20 07 36 21.3
comp=Z,1µm,19.0s
MSTX Muleshoe 53.21 80 P P 07 09 19.3 +1.1
baz=312,SNR=8.1
AMTX Amarillo 53.27 78 P P 07 09 19.1 +0.6
AMTX Amarillo 53.27 78 P P 07 09 20.2 +1.6
baz=312
G40A Rib Lake 53.28 61 P P 07 09 18.0 -0.3
G40A IAmb IAmb 07 09 33.7
comp=Z,62nm,1.1s
DBG Daneborg 53.32 9 iP P 07 09 16.9 -1.4
DBG IAmb IAmb 07 09 17.9
comp=Z,11nm,0.8s
K38A Parkersburg 53.50 65 IAMs_20 IAMs_20 07 34 37.7
comp=Z,3µm,19.0s
KSU1 Kansas State U 53.56 71 P P 07 09 20.4 -0.1
KSU1 IAmb IAmb 07 09 47.7
comp=Z,50nm,0.8s
KSU1 Kansas State U 53.56 71 IAMs_20 IAMs_20 07 33 23.3
comp=Z,1µm,21.0s
KSU1 Kansas State U 53.56 71 P P 07 09 20.9 +0.4
baz=311,SNR=6.2
SCIA State Center 53.72 66 IAMs_20 IAMs_20 07 30 59.5
comp=Z,2µm,20.0s
SCIA State Center 53.72 66 P P 07 09 22.3 +0.7
baz=310
U32A Winter Ranch, 53.91 75 P P 07 09 23.9 +0.7
U32A IAmb IAmb 07 09 40.8
comp=Z,57nm,0.9s
BJO1 Bjornoya 54.02 356 eP P 07 09 23.8 +0.4
F42A Maple Grove Fa 54.09 60 P P 07 09 24.0 -0.3
F42A IAmb IAmb 07 09 41.2
comp=Z,73nm,1.1s
OK032 Salt Plains WL 54.10 74 P P 07 09 24.9 +0.3
OK032 IAmb IAmb 07 09 40.9
comp=Z,47nm,1.0s
OK032 IAMs_20 IAMs_20 07 36 09.9
comp=Z,2µm,18.0s
KS21 Milan North St 54.12 73 IAMs_20 IAMs_20 07 33 16.2
comp=Z,1µm,19.0s
KAN17 Caldwell West 54.22 74 P P 07 09 25.0 -0.4
KAN17 IAmb IAmb 07 09 41.4
comp=Z,88nm,1.3s
KAN13 South Haven SW 54.41 73 P P 07 09 26.4 -0.4
N38A Joes South For 54.43 67 P P 07 09 26.9 0.0
N38A IAMs_20 IAMs_20 07 36 25.3
comp=Z,2µm,18.0s
CROK Carrier 54.44 74 IAMs_20 IAMs_20 07 36 37.8
comp=Z,2µm,18.0s
SFJD Kangerlussuaq 54.48 24 IAMs_20 IAMs_20 07 34 44.1
comp=Z,2µm,21.0s
BLOK Blackwell 54.73 73 P P 07 09 29.4 +0.3
BLOK IAmb IAmb 07 09 45.3
comp=Z,122nm,1.3s
JFWS Jewell Farm 54.75 63 P P 07 09 28.1 -1.1
JFWS pmax pmax
comp=Z,89nm,1.1s
JFWS MLR MLR
comp=Z,4µm,18.0s
JFWS Jewell Farm 54.75 63 P P 07 09 28.1 -1.1
JFWS IAmb IAmb 07 09 43.9
comp=Z,89nm,1.1s
JFWS Jewell Farm 54.75 63 P P 07 09 29.9 +0.7
baz=310,SNR=9.6
L40A Anamosa 54.76 65 P P 07 09 29.3 +0.1
L40A IAmb IAmb 07 09 44.3
comp=Z,92nm,1.2s
I42A Draeger Farm, 54.86 62 P P 07 09 30.1 +0.1
I42A IAmb IAmb 07 09 45.3
comp=Z,77nm,1.1s
TATO Taipei 54.95 267 IAMs_20 IAMs_20 07 30 44.6
comp=Z,2µm,22.0s
P38A Dawn 55.02 68 IAMs_20 IAMs_20 07 33 33.0
comp=Z,2µm,20.0s
T35A Sooner Cattle 55.05 73 IAMs_20 IAMs_20 07 33 53.9
comp=Z,1µm,20.0s
H43A Windswept, Lux 55.12 61 P P 07 09 31.2 -0.5
H43A IAmb IAmb 07 09 47.9
comp=Z,54nm,0.7s
WMOK Wichita Mounta 55.14 76 IAMs_20 IAMs_20 07 33 44.3
comp=Z,2µm,19.0s
WMOK Wichita Mounta 55.14 76 P P 07 09 32.6 +0.5
baz=312,SNR=18
OK029 Liberty Lake 55.23 74 IAMs_20 IAMs_20 07 37 02.7
comp=Z,1µm,18.0s
ICESG Greenland Ices 55.24 18 iP P 07 09 31.5 -1.2
ICESG IAmb IAmb 07 09 34.6
comp=Z,19nm,0.9s
YHNB Yeheng 55.24 267 IAMs_20 IAMs_20 07 30 53.4
comp=Z,2µm,21.0s
NACB Ninganchiao 55.46 266 P P 07 09 33.7 -0.8
NACB IAmb IAmb 07 09 35.9
comp=Z,63nm,1.0s
WHN Wuhan 55.48 277 ⇑P P 07 09 34.3 -0.2
WHN S S 07 17 19.4 +1.7
WHN pmax pmax
comp=Z,130nm,0.9s
WHN pmax pmax
comp=Z,1µm,3.9s
WHN LR LR
comp=Z,3µm,17.0s
WHN LR LR
comp=Z,1µm,16.9s
WHN LR LR
comp=Z,3µm,17.7s
OK031 S. Brethren Rd 55.50 74 P P 07 09 34.7 +0.1
OK031 IAMs_20 IAMs_20 07 37 26.7
comp=Z,2µm,18.0s
L42A Oliver, Polo 55.67 64 P P 07 09 35.2 -0.6
L42A IAmb IAmb 07 09 50.4
comp=Z,87nm,1.1s
E46A Sault Ste Mari 55.73 57 P P 07 09 36.2 0.0
TX31 Lajitas Ar. Si 55.83 85 P P 07 09 36.9 -0.3
TX31 IAmb IAmb 07 10 04.4
comp=Z,106nm,1.2s
TX32 Lajitas Array 55.83 85 P P 07 09 36.9 -0.3
TX32 IAmb IAmb 07 10 04.4
comp=Z,36nm,1.2s
TXAR Lajitas Array 55.83 85 P P 07 09 37.2 0.0
comp=Z,4.7nm,0.8s,baz=297,slow=4.9,SNR=50
TXAR ScP ScP 07 14 32.0 -0.7
comp=Z,3.2nm,1.0s,baz=266,slow=3.3,SNR=4.6
TXAR LR LR 07 32 57.4
comp=Z,722nm,18.1s,baz=0.0,slow=35
TXAR Lajitas Array 55.83 85 P P 07 09 36.7 -0.5
N41A Harden Midland 55.85 66 IAMs_20 IAMs_20 07 32 04.9
comp=Z,3µm,22.0s
SLBS Sierra La Lagu 55.93 94 P P 07 09 37.8 -0.2
SLBS IAmb IAmb 07 09 56.1
comp=Z,111nm,1.7s
P40A Paris 55.95 68 IAMs_20 IAMs_20 07 35 25.4
comp=Z,2µm,18.0s
DY2G Dye2 55.97 22 iP P 07 09 37.1 -0.7
DY2G IAmb IAmb 07 09 38.5
comp=Z,9.6nm,0.5s
ZALV Zalesovo Beam 56.01 316 P P 07 09 37.5 -0.5
comp=Z,1.3nm,0.4s,baz=78,slow=7.7,SNR=8.0
ZALV PcP PcP 07 10 37.6 +1.6
comp=Z,20nm,0.9s,baz=46,slow=4.3,SNR=14
ZALV ScP ScP 07 14 31.3 -1.7
comp=Z,0.6nm,0.4s,baz=7.1,slow=4.6,SNR=1.9
ZALV LR LR 07 35 16.0
comp=Z,3µm,18.6s,baz=52,slow=38
ABTX Abilene, Hawle 56.05 79 P P 07 09 38.8 +0.2
ABTX IAmb IAmb 07 10 07.9
comp=Z,40nm,0.9s
ABTX IAMs_20 IAMs_20 07 31 25.4
comp=Z,2µm,20.0s
ABTX Abilene, Hawle 56.05 79 P P 07 09 40.1 +1.4
baz=313
SSLB Suanglung 56.15 266 P P 07 09 39.3 -0.2
SSLB IAMs_20 IAMs_20 07 31 35.3
comp=Z,1µm,22.0s
TUL1 Leonard 56.15 73 P P 07 09 40.0 +0.7
baz=312
HPIG 56.27 88 P P 07 09 40.5 0.0
XAN Xi'an 56.42 284 P P 07 09 41.4 +0.1
XAN pmax pmax
comp=Z,150nm,1.2s
XAN pmax pmax
comp=Z,670nm,9.3s
XAN LR LR
comp=Z,1µm,19.9s
XAN LR LR
comp=Z,1µm,21.3s
XAN LR LR
comp=Z,3µm,17.9s
XAN Xi'an 56.42 284 P P 07 09 41.4 +0.1
XAN Xi'an 56.42 284 P P 07 09 41.4 +0.1
S39A Bolivar 56.42 70 IAMs_20 IAMs_20 07 35 27.2
comp=Z,1µm,21.0s
L44A Lake County Fo 56.54 63 P P 07 09 42.1 +0.1
L44A Lake County Fo 56.54 63 P P 07 09 41.5 -0.5
baz=312
GLMI Grayling 56.59 58 P P 07 09 42.4 +0.2
GLMI IAMs_20 IAMs_20 07 34 58.5
comp=Z,2µm,20.0s
GLMI Grayling 56.59 58 P P 07 09 42.8 +0.5
baz=311,SNR=8.8
LOOK Love County 56.62 76 P P 07 09 42.9 +0.3
R40A Maddies Statio 56.64 69 IAMs_20 IAMs_20 07 34 31.9
comp=Z,2µm,19.0s
TPUB Ta-pu 56.70 266 IAMs_20 IAMs_20 07 31 44.1
comp=Z,2µm,21.0s
SCO Scoresbysund 56.75 11 IAMs_20 IAMs_20 07 38 05.1
comp=Z,2µm,18.0s
QZH Quanzhou 56.78 269 ⇑iP P 07 09 44.1 +0.2
QZH S S 07 17 39.3 +4.1
QZH pmax pmax
comp=Z,44nm,0.8s
QZH pmax pmax
comp=Z,390nm,5.5s
QZH LR LR
comp=Z,580nm,22.2s
QZH LR LR
comp=Z,320nm,15.5s
QZH LR LR
comp=Z,730nm,19.7s
HDIL Hopedale 56.84 65 P P 07 09 43.7 -0.4
baz=312,SNR=14
HHAR Hobbs 57.01 72 IAMs_20 IAMs_20 07 35 30.7
comp=Z,1µm,21.0s
Z35A Perchaven, San 57.02 77 IAMs_20 IAMs_20 07 38 20.2
comp=Z,2µm,18.0s
P43A Skaggs, Pawnee 57.32 66 IAMs_20 IAMs_20 07 33 00.8
comp=Z,2µm,21.0s
CCM Cathedral Cave 57.40 68 IAMs_20 IAMs_20 07 36 11.8
comp=Z,1µm,18.0s
CCM Cathedral Cave 57.40 68 P P 07 09 47.2 -0.9
baz=312
MGMO Mountain Grove 57.41 70 IAMs_20 IAMs_20 07 36 58.2
comp=Z,2µm,20.0s
JCT Junction City 57.43 81 IAMs_20 IAMs_20 07 34 07.1
comp=Z,1µm,19.0s
JCT Junction City 57.43 81 P P 07 09 50.5 +2.0
baz=314
HAMF Hammerfest 57.53 353 eP P 07 09 47.6 -1.0
U40A Yellville 57.60 71 IAMs_20 IAMs_20 07 35 54.4
comp=Z,2µm,19.0s
U40A Yellville 57.60 71 P P 07 09 48.3 -1.3
baz=313,SNR=14
DGZ Jazzator, Alta 57.69 311 c iP P 07 09 48.4 -1.8
WHTX Lake Whitney, 57.82 78 P P 07 09 51.3 +0.1
baz=314
W39A Magazine 57.84 73 IAMs_20 IAMs_20 07 35 47.7
comp=Z,2µm,21.0s
W39A Magazine 57.84 73 P P 07 09 51.0 -0.3
baz=313,SNR=6.7
LZH Lanzhou 58.07 289 ⇑P P 07 09 53.7 +0.6
LZH sP pP 07 10 00.8 +0.7
LZH pmax pmax
comp=Z,49nm,1.0s
LZH pmax pmax
comp=Z,830nm,4.3s
LZH LR LR
comp=Z,2µm,20.1s
LZH LR LR
comp=Z,4µm,19.5s
LZH LR LR
comp=Z,3µm,19.0s
Q44A Meyer Farm, Va 58.11 66 IAMs_20 IAMs_20 07 33 24.7
comp=Z,2µm,21.0s
KEV Kevo 58.12 351 P P 07 09 52.1 -0.6
KEV pmax pmax
comp=Z,68nm,1.2s
KEV Kevo 58.12 351 IAMs_20 IAMs_20 07 38 05.9
comp=Z,1µm,18.0s
SCHQ Schefferville 58.15 41 P P 07 09 53.3 +0.1
comp=Z,33nm,0.8s,baz=311,slow=8.4,SNR=22
SCHQ LR LR 07 37 20.6
comp=Z,4µm,18.3s,baz=318,slow=38
GTA Gaotai 58.15 295 ⇑P P 07 09 53.5 -0.1
GTA pP pP 07 09 58.1 -2.4
GTA sP sP 07 10 01.2 -2.1
GTA pmax pmax
comp=Z,33nm,0.6s
GTA pmax pmax
comp=Z,320nm,7.2s
GTA LR LR
comp=Z,2µm,16.3s
GTA LR LR
comp=Z,3µm,18.7s
GTA LR LR
comp=Z,3µm,17.5s
SFIN Lafayette 58.20 64 P P 07 09 53.8 +0.1
baz=313,SNR=9.5
FCAR Ozark Folk Cen 58.35 71 IAMs_20 IAMs_20 07 36 28.2
comp=Z,2µm,19.0s
MIAR Mount Ida 58.41 73 IAMs_20 IAMs_20 07 35 55.8
comp=Z,1µm,20.0s
MIAR Mount Ida 58.41 73 P P 07 09 55.2 -0.1
baz=314,SNR=35
Z38A Mt. Pleasant 58.45 75 IAMs_20 IAMs_20 07 35 33.9
comp=Z,1µm,19.0s
ARA0 ARCESS Array S 58.47 352 eP P 07 09 54.2 -0.9
ARCES ARCESS Array B 58.47 352 P P 07 09 54.2 -0.9
comp=Z,26nm,0.8s,baz=22,slow=7.5,SNR=78
ARCES PcP PcP 07 10 45.5 +0.1
comp=Z,52nm,0.8s,baz=15,slow=5.0,SNR=17
ARCES ScP ScP 07 14 45.2 +1.5
comp=Z,3.9nm,0.9s,baz=336,slow=2.0,SNR=2.8
ARCES LR LR 07 37 51.7
comp=Z,2µm,18.4s,baz=5.0,slow=39
ARCES ARCESS Array B 58.47 352 P P 07 09 54.3 -0.9
ARCES pmax pmax
comp=Z,55nm,0.9s
ARCES ARCESS Array B 58.47 352 P P 07 09 54.3 -0.9
ARCES IAmb IAmb 07 10 47.3
comp=Z,55nm,0.9s
435B Jarrell 58.58 79 IAMs_20 IAMs_20 07 34 03.6
comp=Z,1µm,20.0s
435B Jarrell 58.58 79 P P 07 09 58.6 +2.1
baz=314
WHAR Wooly Hollow 58.66 72 IAMs_20 IAMs_20 07 36 29.5
comp=Z,2µm,20.0s
OLIL Olney 58.75 66 IAMs_20 IAMs_20 07 38 16.6
comp=Z,2µm,18.0s
W41B Gary Mavity, V 58.77 72 P P 07 09 56.9 -0.9
baz=314,SNR=18
AAM Ann Arbor 58.80 60 IAMs_20 IAMs_20 07 35 48.1
comp=Z,2µm,20.0s
AAM Ann Arbor 58.80 60 P P 07 09 57.8 0.0
baz=313
S44A Carbondale 58.80 68 IAMs_20 IAMs_20 07 37 13.9
comp=Z,1µm,18.0s
LCAR Lake Charles 58.80 70 IAMs_20 IAMs_20 07 38 33.1
comp=Z,1µm,19.0s
SIUC Southern Illin 58.80 67 IAMs_20 IAMs_20 07 37 22.8
comp=Z,1µm,19.0s
237A Washetta, Mont 58.82 77 IAMs_20 IAMs_20 07 33 08.8
comp=Z,2µm,22.0s
JETT Jettan, Norway 58.83 354 eP P 07 09 58.6 +0.9
TRO Tromso 58.85 355 eP P 07 09 57.2 -0.6
X40A Basin Creek Fa 58.89 73 IAMs_20 IAMs_20 07 36 20.6
comp=Z,1µm,21.0s
X40A Basin Creek Fa 58.89 73 P P 07 09 58.7 +0.1
baz=314,SNR=11
LVZ Lovozero 59.02 348 ceP P 07 09 57.9 -1.2
LVZ pmax pmax
comp=Z,88nm,0.8s
KTK1 Kautokeino 59.16 353 eP P 07 09 59.2 -0.8
833A Chaparral WMA, 59.19 82 P P 07 10 01.6 +0.8
baz=315
PARMO Parma 59.21 69 IAMs_20 IAMs_20 07 36 01.0
comp=Z,1µm,19.0s
WLAR White Oak Lake 59.28 73 IAMs_20 IAMs_20 07 36 35.9
comp=Z,1µm,20.0s
HENM Henderson Moun 59.34 68 IAMs_20 IAMs_20 07 40 32.3
comp=Z,1µm,18.0s
PENMO Penman 59.43 69 IAMs_20 IAMs_20 07 37 13.8
comp=Z,1µm,20.0s
APA Apatity 59.50 348 ⇓iP P 07 09 59.0 -3.3
APA pmax pmax
comp=Z,15nm,0.9s
APA MLR MLR
comp=Z,2µm,15.0s
PEBM Pemiscott Bayo 59.53 69 IAMs_20 IAMs_20 07 38 31.3
comp=Z,1µm,19.0s
GNAR Gosnell 59.54 69 IAMs_20 IAMs_20 07 38 21.6
comp=Z,2µm,19.0s
HICK Hickman 59.60 68 IAMs_20 IAMs_20 07 40 40.3
comp=Z,1µm,18.0s
T45A Paducah 59.61 68 P P 07 10 03.3 -0.2
T45A IAMs_20 IAMs_20 07 37 47.5
comp=Z,2µm,18.0s
LPAR Lepanto 59.62 70 P P 07 10 02.9 -0.8
LPAR IAMs_20 IAMs_20 07 38 15.9
comp=Z,1µm,20.0s
NATX Nacogdoches 59.69 76 IAMs_20 IAMs_20 07 33 00.7
comp=Z,1µm,22.0s
M50A Fremont 59.74 61 P P 07 10 04.5 +0.1
M50A IAmb IAmb 07 10 20.6
comp=Z,39nm,0.9s
LNXT Lenox 59.75 69 IAMs_20 IAMs_20 07 36 18.3
comp=Z,1µm,20.0s
GLAT Glass 59.76 69 IAMs_20 IAMs_20 07 37 32.3
comp=Z,1µm,18.0s
735A Kenedy 59.80 81 IAMs_20 IAMs_20 07 38 33.9
comp=Z,2µm,18.0s
CCAR Cane Creek 59.92 72 IAMs_20 IAMs_20 07 37 11.8
comp=Z,2µm,19.0s
HALT Halls 59.97 69 IAMs_20 IAMs_20 07 36 34.1
comp=Z,1µm,19.0s
P49A Miami Univ. Ec 60.11 63 P P 07 10 06.2 -0.8
baz=314,SNR=14
WCI Wyandotte Cave 60.13 65 P P 07 10 07.5 +0.4
WCI pmax pmax
comp=Z,108nm,1.2s
WCI Wyandotte Cave 60.13 65 P P 07 10 06.9 -0.2
baz=314
MET Memphis--Engin 60.17 70 IAMs_20 IAMs_20 07 38 33.4
comp=Z,1µm,20.0s
HKT Hockley 60.24 78 iP P 07 10 10.0 +2.1
HKT pmax pmax
comp=Z,48nm,1.7s
HKT Hockley 60.24 78 IAMs_20 IAMs_20 07 38 08.2
comp=Z,1µm,18.0s
PLVO Plevna 60.36 54 P P 07 10 08.8 +0.2
ZSN Zaisan 60.48 310 eP P 07 10 08.9 -0.5
comp=Z,34nm,1.1s,baz=310
ZSN Zaisan 60.48 310 eP P 07 10 08.8 -0.5
ZSN pmax pmax
comp=Z,34nm,1.1s
M52A Chesterland 60.56 59 P P 07 10 10.6 +0.5
W45A Hickory Valley 60.59 70 IAMs_20 IAMs_20 07 38 54.4
comp=Z,1µm,19.0s
ACSO Alum Creek Sta 60.59 61 IAMs_20 IAMs_20 07 36 04.5
comp=Z,2µm,20.0s
ACSO Alum Creek Sta 60.59 61 P P 07 10 10.4 +0.1
baz=314
WVT Waverly 60.70 68 P P 07 10 11.7 +0.7
WVT pmax pmax
comp=Z,46nm,1.9s
WVT Waverly 60.70 68 IAMs_20 IAMs_20 07 38 12.3
comp=Z,2µm,18.0s
WVT Waverly 60.70 68 P P 07 10 11.0 0.0
baz=314
STEI Steigen 60.73 356 eP P 07 10 09.8 -0.9
ERPA Erie 60.89 58 IAMs_20 IAMs_20 07 38 03.6
comp=Z,2µm,18.0s
ERPA Erie 60.89 58 P P 07 10 12.7 +0.5
baz=314
OXF Oxford 60.91 70 IAMs_20 IAMs_20 07 36 44.8
comp=Z,1µm,20.0s
OXF Oxford 60.91 70 P P 07 10 12.5 +0.1
baz=314,SNR=21
143A Socs Landing, 60.99 73 IAMs_20 IAMs_20 07 37 59.1
comp=Z,2µm,20.0s

M53A **WI Miller and** 61.00 59 IAMs_20 IAMs_20 07 38 21.4
comp=Z,2µm,18.0s
M53A **WI Miller and** 61.00 59 P **P** **07 10 13.5 +0.5**
baz=314,SNR=5.7
KURBB **Kurchatov Arra** 61.09 316 P **P** **07 10 12.5 -1.0**
PECO **Prince Edward** 61.18 55 P **P** **07 10 14.8 +0.7**
R50A **Paris** 61.20 64 P **P** **07 10 13.9 -0.5**
ZAIG **Zacatecas** 61.22 89 IAMs_20 IAMs_20 07 31 30.6
comp=Z,1µm,22.0s
Q51A **Peebles** 61.23 63 P **P** **07 10 14.2 -0.4**
FAUS **Fauske** 61.28 356 *e*P **P** **07 10 13.9 -0.5**
Y45A **Yeager Farm, C** 61.28 71 IAMs_20 IAMs_20 07 39 20.8
comp=Z,1µm,18.0s
O52A **Adamsville** 61.30 61 P **P** **07 10 15.3 +0.3**
N53A **Lisbon** 61.36 60 P **P** **07 10 15.5 +0.1**
PLAL **Pickwick Lake** 61.36 69 P **P** **07 10 14.5 -1.0**
PLAL IAMs_20 IAMs_20 07 37 26.8
comp=Z,1µm,20.0s
342A **Flagon Creek P** 61.37 75 IAMs_20 IAMs_20 07 37 33.3
comp=Z,2µm,19.0s
P52A **Corning** 61.47 61 P **P** **07 10 15.8 -0.4**
P52A IAMs_20 IAMs_20 07 36 41.9
comp=Z,2µm,20.0s
P52A **Corning** 61.47 61 P **P** **07 10 15.6 -0.6**
baz=315
M54A **Oil Creek Stat** 61.49 58 P **P** **07 10 16.9 +0.5**
M54A **Oil Creek Stat** 61.49 58 P **P** **07 10 16.5 +0.2**
baz=315,SNR=8.9
O53A **New Philadelph** 61.55 60 P **P** **07 10 16.7 0.0**
baz=315,SNR=7.3
V48A **Smith Brothers** 61.56 68 P **P** **07 10 16.3 -0.5**
V48A IAmb IAmb 07 10 32.2
comp=Z,60nm,1.2s
V48A IAMs_20 IAMs_20 07 39 36.0
comp=Z,2µm,19.0s
MMNY **Mt. Morris Dam** 61.56 56 P **P** **07 10 16.9 +0.2**
MMNY IAmb IAmb 07 10 33.9
comp=Z,58nm,0.9s
CLTN **Cedars of Leba** 61.59 67 IAMs_20 IAMs_20 07 39 58.9
comp=Z,2µm,18.0s
U49A **Red Boiling Sp** 61.62 66 IAMs_20 IAMs_20 07 40 04.4
comp=Z,2µm,18.0s
WMQ **Urumqi** 61.65 305 *e*P **P** **07 10 18.1 +0.6**
WMQ sP sP 07 10 23.2 -1.4
WMQ sP sP 07 10 26.1 -1.1
WMQ pmax pmax
comp=Z,77nm,1.1s
WMQ pmax pmax
comp=Z,550nm,4.7s
WMQ LR LR
comp=Z,4µm,19.1s
WMQ LR LR
comp=Z,2µm,19.5s
WMQ LR LR
comp=Z,2µm,17.9s
WMQ **Urumqi** 61.65 305 P **P** **07 10 18.2 +0.8**
WMQ **Urumqi** 61.65 305 P **P** **07 10 18.2 +0.8**
N54A **Moraine State** 61.70 59 IAMs_20 IAMs_20 07 38 06.0
comp=Z,1µm,19.0s
N54A **Moraine State** 61.70 59 P **P** **07 10 17.9 +0.1**
baz=315,SNR=9.0
J56A **Wolcott** 61.72 55 P **P** **07 10 18.2 +0.4**
CD2 **Chengdu** 61.72 285 P **P** **07 10 18.4 +0.3**
CD2 S **S** **07 18 40.5 +1.4**
CD2 pmax pmax
comp=Z,230nm,0.8s
CD2 LR LR
comp=Z,1µm,19.6s
CD2 LR LR
comp=Z,3µm,18.4s
CD2 LR LR
comp=Z,3µm,19.1s
VBMS **Vicksburg** 61.86 73 IAMs_20 IAMs_20 07 40 58.2
comp=Z,2µm,18.0s
LONY **Lake Ozonia** 61.91 53 IAMs_20 IAMs_20 07 40 32.6
comp=Z,2µm,18.0s
LONY **Lake Ozonia** 61.91 53 P **P** **07 10 18.7 -0.4**
baz=316,SNR=56
MK31 **Makanchi Array** 62.18 311 *c i*P **P** **07 10 19.5 -1.4**
MK31 **Makanchi Array** 62.18 311 P **P** **07 10 20.5 -0.4**
MK31 IAmb IAmb 07 10 21.9
comp=Z,20nm,1.0s
MKAR **Makanchi Array** 62.18 311 P **P** **07 10 19.8 -1.1**
comp=Z,30nm,0.9s,baz=60,slow=5.8,SNR=82
MKAR LR LR 07 37 48.8
comp=Z,2µm,20.9s,baz=40,slow=36
MKAR **Makanchi Array** 62.18 311 P **P** **07 10 20.0 -0.9**
MKAR **Makanchi Array** 62.18 311 P **P** **07 10 20.0 -0.9**
KONS **Konsvik** 62.25 357 *e*P **P** **07 10 20.2 -0.8**
344A **Westbrook Farm** 62.27 74 P **P** **07 10 21.3 -0.4**
344A IAmb IAmb 07 10 38.9
comp=Z,68nm,1.0s
K57A **Scipio Center** 62.28 56 P **P** **07 10 21.8 +0.1**
MAKZ **Makanchi** 62.31 311 P **P** **07 10 21.0 -0.8**
MAKZ pmax pmax
comp=Z,20nm,0.8s
MAKZ MLR MLR
comp=Z,2µm,20.0s
MAKZ **Makanchi** 62.31 311 P **P** **07 10 21.0 -0.8**
MAKZ IAmb IAmb 07 10 36.0
comp=Z,20nm,0.8s
MAKZ IAMs_20 IAMs_20 07 37 51.5
comp=Z,2µm,20.0s
X48A **Hartselle** 62.34 69 IAMs_20 IAMs_20 07 37 47.6
comp=Z,1µm,19.0s
RABL **Rabaul** 62.39 218 IAMs_20 IAMs_20 07 33 13.7
comp=Z,1µm,20.0s
146A **Union** 62.44 72 P **P** **07 10 22.6 -0.2**
146A IAMs_20 IAMs_20 07 39 07.4
comp=Z,1µm,19.0s
SWET **Sewanee** 62.44 67 P **P** **07 10 22.5 -0.4**
SWET IAmb IAmb 07 10 37.9
comp=Z,54nm,1.1s
SWET IAMs_20 IAMs_20 07 40 36.3
comp=Z,2µm,18.0s
J58A **Remsen** 62.46 54 P **P** **07 10 22.3 -0.5**
R53A **Hurricane** 62.49 62 P **P** **07 10 23.1 0.0**
MOR8 **Moi Rana** 62.52 356 *e*P **P** **07 10 21.1 -1.7**
Z47A **Carrollton** 62.62 70 IAMs_20 IAMs_20 07 39 58.2
comp=Z,1µm,20.0s
BRVK **Borovoye** 62.64 322 *ce*P **P** **07 10 22.8 -1.1**
BRVK pmax pmax
comp=Z,26nm,0.8s
BRVK **Borovoye** 62.64 322 P **P** **07 10 23.8 0.0**
MCWV **Mont Chateau** 62.70 60 P **P** **07 10 24.8 +0.3**
baz=315,SNR=9.6
D62A **Allapoint, All** 62.80 48 P **P** **07 10 24.9 0.0**
baz=317,SNR=30
TZTN **Tazewell** 62.86 65 P **P** **07 10 25.7 +0.1**
baz=315,SNR=22
PRGR **Permogore** 62.87 340 *e*P **P** **07 10 24.0 -1.2**
PRGR *e* 07 11 02.9
PRGR pmax pmax
comp=Z,95nm,1.0s
E62A **Clayton Lake** 62.91 48 P **P** **07 10 25.2 -0.6**
baz=317,SNR=15
BINY **Binghamton** 62.93 56 IAMs_20 IAMs_20 07 39 11.6
comp=Z,2µm,19.0s
BINY **Binghamton** 62.93 56 P **P** **07 10 26.7 +0.7**
baz=316,SNR=36
O56A **Blue Knob Stat** 62.96 59 IAMs_20 IAMs_20 07 39 21.2
comp=Z,2µm,19.0s
O56A **Blue Knob Stat** 62.96 59 P **P** **07 10 26.3 +0.1**
baz=316,SNR=6.7
SVE **Sverdlovsk** 63.02 330 *e*P **P** **07 10 26.7 +0.4**
SVE pmax pmax
comp=Z,58nm,1.0s
SVE MLR MLR
comp=Z,3µm,19.0s
VT1 **Waterbury** 63.03 52 IAMs_20 IAMs_20 07 37 10.3
comp=Z,2µm,21.0s
SSPA **Standing Stone** 63.06 58 P **P** **07 10 27.2 +0.4**
baz=316
346A **Big Creek Wild** 63.08 73 IAMs_20 IAMs_20 07 41 45.5
comp=Z,2µm,18.0s
CPCT **Cooper Cave** 63.09 66 IAMs_20 IAMs_20 07 40 51.4
comp=Z,2µm,19.0s
FPAL **Fort Paine** 63.10 68 IAMs_20 IAMs_20 07 40 33.0
comp=Z,2µm,18.0s
I60A **Shoreham** 63.12 53 P **P** **07 10 26.9 -0.2**
baz=316,SNR=12
Y49A **Blount Mountai** 63.12 69 P **P** **07 10 27.2 -0.1**
Y49A IAMs_20 IAMs_20 07 38 22.5
comp=Z,1µm,20.0s
GYA **Guiyang** 63.13 279 ⇓ *i*P **P** **07 10 28.8 +1.2**
GYA PcP **PcP** **07 11 07.8 +2.7**
GYA S **S** **07 18 57.5 +0.5**
GYA pmax pmax
comp=Z,48nm,1.3s
GYA pmax pmax
comp=Z,580nm,3.5s
GYA LR LR
comp=Z,1µm,19.8s
GYA LR LR
comp=Z,690nm,20.1s
GYA LR LR
comp=Z,2µm,19.7s
S54A **Dingess, Beckl** 63.23 62 P **P** **07 10 28.4 +0.4**
F62A **Pittston Farm,** 63.24 49 P **P** **07 10 27.3 -0.7**
F62A **Pittston Farm,** 63.24 49 P **P** **07 10 27.6 -0.3**
baz=317,SNR=27
ACCN **Adirondack Com** 63.26 53 P **P** **07 10 27.9 -0.3**
LRAL **Lakeview Retre** 63.37 70 IAMs_20 IAMs_20 07 40 56.0
comp=Z,1µm,18.0s
LRAL **Lakeview Retre** 63.37 70 P **P** **07 10 28.4 -0.6**
baz=316,SNR=9.1
545A **Edgard** 63.42 75 IAMs_20 IAMs_20 07 39 56.7
comp=Z,2µm,19.0s
G62A **West of Eustis** 63.46 50 P **P** **07 10 29.5 0.0**
baz=317,SNR=36
LBNH **Lisbon** 63.50 52 IAMs_20 IAMs_20 07 37 35.6
comp=Z,2µm,21.0s
LBNH **Lisbon** 63.50 52 P **P** **07 10 29.7 0.0**
baz=317,SNR=15
Q56A **Snyder Ridge,** 63.50 60 P **P** **07 10 30.1 +0.3**
Q56A IAmb IAmb 07 10 45.3
comp=Z,63nm,1.1s
X51A **Calhoun** 63.52 67 P **P** **07 10 30.1 +0.1**
X51A IAMs_20 IAMs_20 07 41 09.0
comp=Z,2µm,18.0s
R55A **Marlinton** 63.54 61 P **P** **07 10 30.3 +0.2**
E63A **Oxbow** 63.57 48 P **P** **07 10 29.5 -0.7**
baz=318,SNR=26
HNH **Hanover** 63.72 52 P **P** **07 10 31.3 +0.2**
HNH IAmb IAmb 07 10 33.1
comp=Z,57nm,0.9s
TRY **Troy** 63.73 54 IAMs_20 IAMs_20 07 41 40.8
comp=Z,2µm,18.0s
F63A **Nahmakanta, Br** 63.79 49 P **P** **07 10 31.1 -0.4**
F63A **Nahmakanta, Br** 63.79 49 P **P** **07 10 31.3 -0.3**
baz=318,SNR=21
J61A **Chester** 63.84 53 P **P** **07 10 32.4 +0.4**
baz=317,SNR=33
U54A **Nelsons Funny** 63.85 64 P **P** **07 10 32.3 +0.1**
V53A **Saluda** 63.90 65 IAMs_20 IAMs_20 07 36 58.0
comp=Z,2µm,20.0s
N59A **State Game Lan** 63.97 57 P **P** **07 10 33.5 +0.6**
baz=316,SNR=16
K61A **Williamstown** 63.98 54 P **P** **07 10 33.5 +0.5**
baz=317,SNR=15
ARU **Arti** 63.99 330 *d i*P **P** **07 10 32.2 -0.5**
ARU 07 11 07.7
ARU S **S** **07 19 06.5 -0.2**
ARU SS **SS** **07 23 06.9 -7.6**
ARU pmax pmax
comp=Z,20nm,0.9s
ARU MLR MLR
comp=Z,3µm,19.0s
F64A **Sherman** 64.02 48 P **P** **07 10 32.8 -0.3**
baz=318,SNR=25
PKME **Peaks-Kenny Pk** 64.02 49 P **P** **07 10 32.8 -0.3**
baz=318,SNR=13
BRZS **Berezniki** 64.06 319 *e*P **P** **07 10 32.2 -1.1**
comp=Z,14nm,1.1s,baz=319
BRZS **Berezniki** 64.06 319 *e*P **P** **07 10 32.2 -1.1**
BRZS pmax pmax
comp=Z,14nm,1.1s
I62A **Tamworth** 64.06 52 P **P** **07 10 33.6 +0.3**
baz=317,SNR=9.5
BLA **Blacksburg** 64.14 62 P **P** **07 10 34.4 +0.3**
baz=316,SNR=20
Z51A **Franklin** 64.23 68 IAMs_20 IAMs_20 07 39 15.8
comp=Z,1µm,20.0s
NSS **Namsos** 64.26 357 *e*P **P** **07 10 33.3 -1.0**
I63A **Otisfield** 64.30 51 P **P** **07 10 35.3 +0.3**
baz=318,SNR=26
J62A **Henniker** 64.30 52 P **P** **07 10 35.5 +0.5**
baz=317,SNR=18
L61B **Northampton** 64.44 53 P **P** **07 10 36.2 +0.3**
baz=317,SNR=13
K62A **Royalston** 64.50 53 P **P** **07 10 36.7 +0.4**
baz=317,SNR=21
H64A **Troy** 64.52 50 P **P** **07 10 36.2 -0.2**
baz=318,SNR=8.8
HNR **Honiara** 64.60 208 IAMs_20 IAMs_20 07 32 39.6
comp=Z,1µm,22.0s
J63A **Strafford** 64.62 52 P **P** **07 10 37.3 +0.2**
baz=318,SNR=5.2
BRAL **Brewton** 64.67 71 IAMs_20 IAMs_20 07 39 48.6
comp=Z,1µm,21.0s
BRAL **Brewton** 64.67 71 P **P** **07 10 38.4 +0.9**
baz=316
KIRV **Kirov** 64.70 336 *i* P **P** **07 10 37.1 -0.2**
KLMR **Klimovskoe** 64.82 342 *e*P **P** **07 10 36.5 -1.5**
KLMR pmax pmax
comp=Z,46nm,1.3s
KLMR **Klimovskoe** 64.82 342 *e*P **P** **07 10 36.5 -1.5**
KLMR AMP 07 10 38.8
comp=Z,46nm,1.3s
K63A **Dunstable** 64.84 53 P **P** **07 10 38.8 +0.4**
baz=318,SNR=17
I64A **Boothbay** 64.86 51 P **P** **07 10 38.4 -0.1**
baz=318,SNR=9.5
PAL **Palisades** 64.87 55 P **P** **07 10 39.6 +0.9**
baz=317,SNR=16
G65A **Princeton** 64.89 48 P **P** **07 10 38.5 -0.2**
baz=319,SNR=15
HRV **Adam Dziewonsk** 64.96 53 P **P** **07 10 40.7 +1.4**
HRV pmax pmax
comp=Z,116nm,0.9s
HRV **Adam Dziewonsk** 64.96 53 P **P** **07 10 39.5 +0.2**
baz=318
152A **Waverly Hall** 64.96 69 IAMs_20 IAMs_20 07 41 45.2
comp=Z,2µm,18.0s
PAULI **Pauline** 65.08 65 P **P** **07 10 40.1 -0.1**
CBN **Corbin Frederi** 65.09 60 IAMs_20 IAMs_20 07 40 10.6
comp=Z,2µm,19.0s
CBN **Corbin Frederi** 65.09 60 P **P** **07 10 41.0 +0.8**
baz=317
KMSC **Kings Mountain** 65.12 64 P **P** **07 10 40.7 +0.2**
baz=316,SNR=14
UCCT **U. Connecticut** 65.15 54 P **P** **07 10 41.1 +0.6**
GOGA **Godfrey** 65.15 67 P **P** **07 10 40.6 -0.1**
GOGA pmax pmax
comp=Z,114nm,1.5s
GOGA MLR MLR
comp=Z,2µm,18.0s
GOGA **Godfrey** 65.15 67 P **P** **07 10 40.6 -0.1**
GOGA **Godfrey** 65.15 67 P **P** **07 10 39.5 -1.2**
baz=316,SNR=12
WES **Weston** 65.17 53 P **P** **07 10 40.1 -0.5**
WES pmax pmax
comp=Z,102nm,0.9s
WES MLR MLR
comp=Z,2µm,19.0s
WES **Weston** 65.17 53 P **P** **07 10 40.1 -0.5**
WES IAMs_20 IAMs_20 07 39 20.6
comp=Z,2µm,19.0s
HODGE **Hodges** 65.25 66 P **P** **07 10 40.8 -0.5**
HODGE IAmb IAmb 07 10 56.9
comp=Z,78nm,1.1s
BCX **Boston College** 65.28 53 IAMs_20 IAMs_20 07 42 33.6
comp=Z,2µm,18.0s
TDK **Taldyqorghan** 65.33 312 *e*P **P** **07 10 41.2 -0.4**
baz=312
TDK **Taldyqorghan** 65.33 312 *e*P **P** **07 10 41.2 -0.4**
BRYW **Bryant College** 65.40 53 IAMs_20 IAMs_20 07 40 15.0
comp=Z,2µm,18.0s
L63A **North Scituate** 65.41 53 P **P** **07 10 42.3 +0.1**
baz=318
OTUK **Ortayu** 65.54 318 P **P** **07 10 42.4 -0.6**
352A **Blakely** 65.70 70 IAMs_20 IAMs_20 07 39 42.8
comp=Z,1µm,21.0s
L64A **Middleborough** 65.74 53 IAMs_20 IAMs_20 07 43 11.8
comp=Z,2µm,19.0s
L64A **Middleborough** 65.74 53 P **P** **07 10 44.5 +0.2**
baz=318
M64A **Tiverton** 65.84 53 P **P** **07 10 45.3 +0.3**
baz=318
451A **Vernon** 65.85 71 IAMs_20 IAMs_20 07 44 00.6
comp=Z,1µm,19.0s
ARXS **Arharly** 66.19 312 *e*P **P** **07 10 47.2 -0.1**
FIA1 **FINESS Array S** 66.29 349 P **P** **07 10 46.9 -0.7**
FIA1 IAmb IAmb 07 10 48.4
comp=Z,48nm,1.1s
FINES **FINESS Array B** 66.29 349 P **P** **07 10 46.5 -1.1**
comp=Z,26nm,0.9s,baz=33,slow=7.3,SNR=38
FINES LR LR 07 42 49.4
comp=Z,1µm,19.4s,baz=15,slow=39
FINES **FINESS Array B** 66.29 349 P **P** **07 10 46.3 -1.3**
MOL **Molde** 66.32 359 *e*P **P** **07 10 47.6 -0.1**
KPKS **Kokpek** 66.36 311 *e*P **P** **07 10 47.7 -0.8**
comp=Z,63nm,1.3s,baz=310
KPKS **Kokpek** 66.36 311 *e*P **P** **07 10 47.6 -0.8**
KPKS pmax pmax
comp=Z,63nm,1.3s
UZB **Uzynbulak** 66.44 310 *e*P **P** **07 10 48.6 -0.5**
comp=Z,34nm,1.4s,baz=310
UZB **Uzynbulak** 66.44 310 *e*P **P** **07 10 48.5 -0.5**
UZB pmax pmax
comp=Z,34nm,1.4s
Y57A **Sumter** 66.47 65 P **P** **07 10 48.6 -0.5**
KMI **Kunming** 66.51 281 ⇑P **P** **07 10 50.2 +0.4**
KMI pP pP 07 10 54.2 -2.7
KMI PP **PP** **07 13 17.3 +1.1**
KMI SS SS 07 23 52.2 -3.5
KMI pmax pmax
comp=Z,31nm,0.9s
KMI pmax pmax
comp=Z,580nm,4.7s
KMI LR LR
comp=Z,1µm,22.2s
KMI LR LR
comp=Z,870nm,21.7s
KMI LR LR
comp=Z,430nm,21.2s
KMI **Kunming** 66.51 281 P **P** **07 10 51.9 +2.1**
KMI **Kunming** 66.51 281 P **P** **07 10 51.9 +2.1**
QIZ **Qiongzhong** 66.60 271 P **P** **07 10 49.7 -0.5**
QIZ PP **PP** **07 13 16.3 -0.5**
QIZ S **S** **07 19 40.8 +1.1**
QIZ sS **pS** **07 19 47.3 -1.1**
QIZ pmax pmax
comp=Z,400nm,6.1s
QIZ LR LR
comp=Z,530nm,22.4s
QIZ LR LR
comp=Z,1µm,18.4s
QIZ LR LR
comp=Z,560nm,22.0s
QIZ **Qiongzhong** 66.60 271 P **P** **07 10 49.6 -0.5**
QIZ IAmb IAmb 07 10 55.6
comp=Z,50nm,1.1s
AKN **Aaknes** 66.72 359 *e*P **P** **07 10 50.3 0.0**
SATY **Saty** 66.80 310 *e*P **P** **07 10 50.5 -0.8**
comp=Z,72nm,2.6s,baz=310
SATY **Saty** 66.80 310 *e*P **P** **07 10 50.5 -0.8**
SATY pmax pmax
comp=Z,72nm,2.6s
255A **Hazlehurst** 66.81 68 IAMs_20 IAMs_20 07 42 36.9
comp=Z,2µm,18.0s
CHKK **Chushkaly** 66.86 312 *e*P **P** **07 10 50.1 -1.5**
baz=312
TAOE **Nuku Hiva Isla** 66.88 143 *e*S **S** **07 19 45.1 +2.1**
comp=Z,3µm,25.8s
TAOE **Nuku Hiva Isla** 66.88 143 *e*LR LR 07 30 57.3
comp=Z,1µm,22.8s,baz=354
553A **Crawfordville** 66.93 70 IAMs_20 IAMs_20 07 44 53.4
comp=Z,1µm,18.0s
Y58A **Scranton** 66.96 64 P **P** **07 10 52.7 +0.4**
CNNC **Cliffs of the** 66.97 62 P **P** **07 10 52.3 0.0**
CNNC IAmb IAmb 07 11 08.0
comp=Z,45nm,1.0s
KUU **Kurty** 67.13 312 ⇑ *i*P **P** **07 10 51.7 -1.6**
comp=Z,123nm,3.0s,baz=312
KUU **Kurty** 67.13 312 *c i*P **P** **07 10 51.6 -1.6**
KUU pmax pmax
comp=Z,123nm,3.0s
RAF **Rauma** 67.15 352 *e*P **P** **07 10 52.4 -0.6**
NHSC **New Hope** 67.26 65 P **P** **07 10 53.8 -0.3**
NHSC **New Hope** 67.26 65 P **P** **07 10 56.1 +1.9**
baz=317
Y59A **Loris** 67.35 64 P **P** **07 10 55.1 +0.4**
MDOK **Medeo** 67.36 311 *e*P **P** **07 10 53.6 -1.4**
baz=311
MDOK **Medeo** 67.36 311 *e*P **P** **07 10 53.5 -1.4**
PUL **Pulkovo** 67.37 347 *i* P **P** **07 10 54.6 +0.2**
PUL pmax pmax
comp=Z,162nm,0.6s
AAA **Alma-Ata** 67.39 311 *e*P **P** **07 10 54.6 -0.3**
baz=311
AAA **Alma-Ata** 67.39 311 *e*P **P** **07 10 54.6 -0.3**
MTBS **Maitube** 67.67 312 *e*P **P** **07 10 55.5 -1.2**
baz=312
MEF **Metsahovi** 67.68 350 *e*P **P** **07 10 55.8 -0.5**
NB2 **NORSAR Subarra** 67.78 357 P **P** **07 10 56.5 -0.6**
comp=Z,55nm,1.0s,baz=0.5,slow=6.5
NB2 **NORSAR Subarra** 67.78 357 P **P** **07 10 56.5 -0.6**
baz=0.5,slow=6.5
NOA **NORSAR Array B** 67.78 357 P **P** **07 10 56.4 -0.7**
comp=Z,29nm,0.9s,baz=2.1,slow=6.3,SNR=64
NOA LR LR 07 41 25.8
comp=Z,673nm,18.8s,baz=355,slow=37
456A **Hilliard** 67.95 68 IAMs_20 IAMs_20 07 43 24.2
comp=Z,2µm,19.0s
NORES **NORESS Array B** 68.07 357 P **P** **07 10 58.6 -0.3**
TARG **Taragay, Kyrgy** 68.10 310 P **P** **07 11 00.0 +0.2**
TARG IAmb IAmb 07 11 43.9
comp=Z,26nm,0.9s
AAL **Aland** 68.14 352 *e*P **P** **07 10 58.7 -0.5**
SKAR **Skarslia** 68.21 359 *e*P **P** **07 10 59.8 0.0**
TKM2 **Tokmak 2** 68.22 312 P **P** **07 11 01.2 +0.8**
SNR=18
SGDS **Sogindy** 68.26 313 ⇑ *i*P **P** **07 10 59.8 -0.6**
comp=Z,34nm,1.5s,baz=313
SGDS **Sogindy** 68.26 313 *e*P **P** **07 11 00.0 -0.4**
BOOM **Boomskoye usch** 68.40 312 P **P** **07 11 01.7 +0.2**
BOOM pmax pmax
comp=Z,66nm,1.4s
BOOM **Boomskoye usch** 68.40 312 P **P** **07 11 01.7 +0.2**
BOOM IAmb IAmb 07 11 22.9
comp=Z,66nm,1.4s
USP **Ospenovka** 68.46 313 P **P** **07 11 01.7 0.0**
SNR=36
SANVU **Saraoutou** 68.55 199 IAMs_20 IAMs_20 07 38 13.3
comp=Z,1µm,19.0s
SLVN **Son La** 68.59 278 P **P** **07 11 02.5 -0.3**
SLVN IAmb IAmb 07 11 19.9
comp=Z,51nm,1.0s
SLVN IAMs_20 IAMs_20 07 41 51.9
comp=Z,1µm,21.0s
656A **Willston** 68.65 70 IAMs_20 IAMs_20 07 44 29.8
comp=Z,1µm,18.0s
KBK **Karagaybulak** 68.73 312 P **P** **07 11 04.4 +0.9**
SNR=7.6
AAK **Ala-Archa** 68.95 313 P **P** **07 11 05.2 +0.2**
SNR=22
AAK **Ala-Archa** 68.95 313 *ce*P **P** **07 11 05.7 +0.8**
AAK pmax pmax
comp=Z,184nm,1.3s
AAK **Ala-Archa** 68.95 313 P **P** **07 11 05.1 +0.2**
KZA **Kyzart** 69.04 312 P **P** **07 11 06.9 +1.1**
SNR=12
VSU **Vasula** 69.12 348 *e*P **P** **07 11 05.2 -0.2**
VSU **Vasula** 69.12 348 *i* P **P** **07 11 04.9 -0.5**
VSU pmax pmax
comp=Z,264nm,1.0s
MTSE **Matsula** 69.21 350 *e*P **P** **07 11 05.8 -0.1**
KONO **Kongsberg** 69.22 358 *i* P **P** **07 11 05.8 -0.2**
KONO pmax pmax
comp=Z,63nm,0.9s
KONO **Kongsberg** 69.22 358 *e*P **P** **07 11 06.1 +0.1**
AKTO **Aktyubinsk** 69.22 327 P **P** **07 11 05.7 -0.5**
EKS2 **Erkin-Say** 69.27 313 P **P** **07 11 07.9 +1.1**
SNR=32
SWI **Sorong** 69.39 240 P **P** **07 11 08.1 +0.4**
comp=Z,1µmcomp=Z,145nm,1.1s
SIJI **Sorong** 69.40 240 P **P** **07 11 07.2 -0.5**
comp=Z,6µmcomp=Z,74nm,1.0s
BLS5 **Blasjo** 69.49 360 *e*P **P** **07 11 07.7 0.0**
AB31 **Akbulak array** 69.55 325 *i* P **P** **07 11 07.9 -0.3**
ABKAR **Akbulak array** 69.55 325 P **P** **07 11 07.7 -0.5**
AML **Almayashu** 69.72 313 P **P** **07 11 11.4 +1.5**
SNR=20
STRU **Stroemstad** 69.79 357 *e*P **P** **07 11 09.2 -0.3**
MOS **Moscow** 69.96 341 *e*P **P** **07 11 08.3 -2.3**
MOS *e* 07 11 27.5
MOS pmax pmax
comp=Z,39nm,0.8s

PMOR	Pomariorio Ree	70.05 153	*e*T	T	08 27 19.9	
	comp=Z,11nm,0.2s					
LSA	Lhasa	70.06 293	IAMs_20	IAMs_20	07 44 43.0	
	comp=Z,1µm,20.0s					
DWPF	Disney Wildern	70.23 70	IAMs_20	IAMs_20	07 45 27.7	
	comp=Z,2µm,18.0s					
KK31	Karatay Array	70.38 315	*i* P	**P**	**07 11 12.9**	**-0.6**
KKAR	Karatay Array	70.38 315	P	**P**	**07 11 13.0**	**-0.5**
KKAR			pmax	pmax		
	comp=Z,29nm,0.9s					
KKAR	Karatay Array	70.38 315	P	**P**	**07 11 13.0**	**-0.5**
KKAR	Karatay Array	70.38 315	P	**P**	**07 11 13.1**	**-0.5**
KKAR			IAmb	IAmb	07 11 15.2	
	comp=Z,29nm,0.8s					
SLIT	Slitere, Latvi	70.44 351	*e*P	**P**	**07 11 13.7**	**+0.1**
ITAN	ITANAGAR	70.47 289	*e*P	**P**	**07 11 15.5**	**+1.3**
SNART	Snartemo	70.57 359	*i* P	**P**	**07 11 14.4**	**+0.1**
SNART	Snartemo	70.57 359	*e*P	**P**	**07 11 13.9**	**-0.5**
MOKO	MOKOCHONG	70.61 288	*e*P	**P**	**07 11 15.9**	**+0.6**
HOMB	Homborsund	70.62 358	*i* P	**P**	**07 11 13.3**	**-1.3**
HOMB	Homborsund	70.62 358	*e*P	**P**	**07 11 14.4**	**-0.2**
BELG	Belogornoye	70.68 334	*i* P	**P**	**07 11 14.5**	**-0.6**
BELG			pmax	pmax		
	comp=Z,13nm,1.0s					
KSH	Kashi	70.69 310	P	**P**	**07 11 19.1**	**+3.5**
KSH			sP	sP	07 11 26.1	+0.7
KSH			PcP	**PcP**	**07 11 40.0**	**+3.6**
KSH			PP	**PP**	**07 13 57.2**	**+5.4**
KSH			pmax	pmax		
	comp=Z,120nm,1.1s					
KSH			pmax	pmax		
	comp=Z,450nm,5.2s					
KSH			LR	LR		
	comp=Z,2µm,19.4s					
KSH			LR	LR		
	comp=Z,3µm,22.3s					
KSH			LR	LR		
	comp=Z,4µm,20.8s					
OBN	Obninsk	70.75 342*c*	*i*P	**P**	**07 11 14.4**	**-1.1**
OBN			*e*		07 11 37.0	
OBN			pmax	pmax		
	comp=Z,46nm,1.3s					
OBN			MLR	MLR		
	comp=Z,1µm,18.0s					
OBN	Obninsk	70.75 342	IAMs_20	IAMs_20	07 47 17.8	
	comp=Z,1µm,18.0s					
MCD	Coleburn Disti	71.08 5	*e*P	**P**	**07 11 16.0**	**-1.5**
BORU	Boraas	71.13 356	*i* P	**P**	**07 11 17.4**	**-0.3**
MDO	Dochfour	71.16 6	*e*P	**P**	**07 11 17.2**	**-0.7**
KPL	Plockton	71.17 6	*e*P	**P**	**07 11 17.4**	**-0.6**
KOHI	KOHIMA	71.30 288	*e*P	**P**	**07 11 20.2**	**+0.7**
KOHI			IAmb	IAmb	07 11 22.3	
	comp=Z,117nm,0.8s					
IUG	Iuzhnay	71.36 315⇑	*e*P	**P**	**07 11 19.3**	**-0.3**
	baz=315					
IUG	Iuzhnay	71.36 315*c*	*e*P	**P**	**07 11 19.3**	**-0.3**
ONAU	Onsala	71.40 356	*i* P	**P**	**07 11 18.7**	**-0.7**
NONG	Nongkai	71.51 276	P	**P**	**07 11 21.4**	**+0.8**
	comp=Z,88nm,1.0s					
NONG	Nongkai	71.51 276	P	**P**	**07 11 21.5**	**+0.8**
	comp=Z,89nm,1.0s					
060A	Indiantown	71.66 70	IAMs_20	IAMs_20	07 46 28.6	
	comp=Z,2µm,18.0s					
FABU	Falkenberg	71.76 356	*i* P	**P**	**07 11 21.3**	**-0.3**
SKNT	Sakolnakorn	71.81 274	P	**P**	**07 11 22.6**	**+0.2**
	comp=Z,62nm,0.9s					
GOET	G??ttrup	71.84 358	*e*P	**P**	**07 11 23.6**	**+1.6**
GOET			IAmb	IAmb	07 11 25.6	
	comp=Z,199nm,1.0s					
ISAL	Salakas	72.01 348	*e*P	**P**	**07 11 23.8**	**+0.7**
PPT	Papeete	72.04 155	LR	LR	07 38 16.1	
	comp=Z,2µm,18.4s,baz=316,slow=32					
PPT2	Papeete2	72.06 155	*e*S	**S**	**07 20 49.0**	**+5.2**
	comp=Z,2µm,27.0s					
PPT2	Papeete2	72.06 155	*e*LR	LR	07 33 24.8	
	comp=Z,2µm,21.0s,baz=344					
PPT2	Papeete2	72.06 155	*e*T	T	08 29 50.6	
	comp=Z,6.2nm,0.4s					
PBUR	Paburge	72.06 351	*e*P	**P**	**07 11 22.8**	**-0.5**
IMP	Imphal	72.06 287	*e*P	**P**	**07 11 22.9**	**-1.1**
IMP			IAmb	IAmb	07 11 26.6	
	comp=Z,81nm,1.0s					
IDID	Didziasalis	72.18 348	*e*P	**P**	**07 11 24.1**	**0.0**
IIGN	Ignalina	72.22 348	*e*P	**P**	**07 11 24.1**	**-0.3**
061Z	Ochoppi	72.22 71	IAMs_20	IAMs_20	07 49 05.4	
	comp=Z,818nm,18.0s					
DEL	Delary	72.24 355	*i* P	**P**	**07 11 24.4**	**-0.1**
BLEU	Blekinge	72.29 354	*i* P	**P**	**07 11 24.4**	**-0.4**
PABE	Paberze	72.34 349	*e*P	**P**	**07 11 25.0**	**0.0**
MUD	Monsted U'grnd	72.43 358	*i* P	**P**	**07 11 25.8**	**+0.3**
MUD			IAmb	IAmb	07 11 27.5	
	comp=Z,54nm,0.9s					
MUD	Monsted U'grnd	72.43 358	*i* P	**P**	**07 11 25.8**	**+0.3**
MUD			pmax	pmax		
	comp=Z,54nm,0.9s					
NACGM	Naroch	72.58 347	*i* P	**P**	**07 11 25.8**	**-0.6**
BJUU	Bjuv	72.68 356	*i* P	**P**	**07 11 27.1**	**0.0**
SHL	Shillong	72.73 289	P	**P**	**07 11 27.7**	**-0.4**
SHL			pmax	pmax		
	comp=Z,431nm,1.3s					
SHL	Shillong	72.73 289	P	**P**	**07 11 27.7**	**-0.4**
SHL	Shillong	72.73 289	*e*P	**P**	**07 11 27.9**	**-0.2**
SHL			IAmb	IAmb	07 11 30.3	
	comp=Z,142nm,1.2s					
SHL	Shillong	72.73 289	P	**P**	**07 11 28.2**	**+0.1**
	SNR=87					
PGBU	Glenifferbraes	72.77 6	*e*P	**P**	**07 11 27.7**	**0.0**
PGBU			IAmb	IAmb	07 11 29.1	
	comp=Z,48nm,1.0s					
MNK	Minsk	72.81 347	*i* P	**P**	**07 11 24.4**	**-3.5**
MNK			*i*		07 11 41.4	
MNK			*i*		07 14 06.0	
MNK			*i* PPP	PPP	07 15 50.7	
MNK			*i* S	**S**	**07 20 46.6**	**-5.0**
MNK			*i*		07 21 28.9	
MNK			*i* SS	**SS**	**07 25 28.6**	**-1.8**
MNK			pmax	pmax		
	comp=Z,72nm,1.0s					
MNK			pmax	pmax		
	comp=E,4.0nm,1.1s					
MNK			pmax	pmax		
	comp=N,42nm,1.0s					
MNK			MLR	MLR		
	comp=Z,844nm,19.0s					
MNK			MLR	MLR		
	comp=N,1µm,21.0s					
MNK	Minsk	72.81 347	*i* P	**P**	**07 11 24.4**	**-3.5**
	comp=E,4.0nm,1.1s					
MNK			*i* P	**P**	**07 11 24.4**	**-3.5**
	comp=N,42nm,1.0s					
MNK			*i* P	**P**	**07 11 24.4**	**-3.5**
	comp=Z,72nm,1.0s,baz=14					
MNK			*i* PcP	**pwP**	**07 11 41.5**	**+0.5**
MNK			*i* PP	**PP**	**07 14 06.1**	**-3.2**
MNK			*i* PPP	PPP	07 15 50.7	
MNK			*i* S	**S**	**07 20 46.6**	**-5.0**
MNK			*i* SS	**SS**	**07 25 28.6**	**-1.8**
MNK			*i* SSS	SSS	07 28 49.5	
MNK			*i* LQ	LQ	07 38 29.0	
MNK			*i* LR	LR	07 41 46.4	
MNK			*i* LRM	MLR	07 45 52.6	
	comp=E,69nm,17.2s					
MNK			*i* LRM	MLR	07 45 52.6	
	comp=N,1µm,20.8s					
MNK			*i* LRM	MLR	07 45 52.6	
	comp=Z,844nm,19.0s					
KRAI	Karang Ratu	73.00 242	P	**P**	**07 11 29.9**	**+0.4**
	comp=Z,22nm,1.2s					
KHON	Khomkaen	73.01 275	P	**P**	**07 11 30.5**	**+0.9**
	comp=Z,4µmcomp=Z,265nm,0.9s					
KHON	Khomkaen	73.01 275	P	**P**	**07 11 30.5**	**+0.9**
	comp=Z,914nmcomp=Z,66nm,0.9s					
COP	Copenhagen	73.09 356	*e*P	**P**	**07 11 29.9**	**+0.4**
COP			IAmb	IAmb	07 11 33.0	
	comp=Z,594nm,0.8s					
COP	Copenhagen	73.09 356	*e*P	**P**	**07 11 29.9**	**+0.4**
COP			pmax	pmax		
	comp=Z,590nm,0.8s					
VRH	Novokhopyorsk	73.28 337	*e*P	**P**	**07 11 30.0**	**-0.7**
VRH			pmax	pmax		
	comp=Z,40nm,0.8s					
VRH			MLR	MLR		
	comp=Z,2µm,19.0s					
SANI	Sanana	73.30 244	P	**P**	**07 11 30.8**	**-0.5**
	comp=Z,591nmcomp=Z,44nm,1.0s					
GTK	Tadong	73.33 293	*e*P	**P**	**07 11 32.2**	**+0.7**
GTK			IAmb	IAmb	07 11 34.7	
	comp=Z,159nm,1.0s					
EKA	Eskdalemuir Ar	73.33 5	P	**P**	**07 11 30.4**	**-0.5**
LAMP	Lampang	73.34 279	P	**P**	**07 11 34.2**	**+2.6**
	comp=Z,43nm,0.8s					
UTTA	Uttaradit	73.36 278	P	**P**	**07 11 32.1**	**+0.5**
	comp=Z,916nmcomp=Z,94nm,0.9s					
UTTA	Uttaradit	73.36 278	P	**P**	**07 11 32.2**	**+0.6**
	comp=Z,229nmcomp=Z,23nm,0.9s					
SPMM	Sapulut	73.48 256	P	**P**	**07 11 33.0**	**+0.6**
CM35	Chiang Mai Arr	73.52 279	P	**P**	**07 11 33.0**	**+0.4**
CMMT	Chiang Mai	73.55 280	P	**P**	**07 11 34.6**	**+1.8**
	comp=Z,781nmcomp=Z,41nm,1.3s					
CMMT	Chiang Mai	73.55 280	P	**P**	**07 11 34.7**	**+1.8**
	comp=Z,781nmcomp=Z,41nm,1.3s					
CMMT	Chiang Mai	73.55 280	P	**P**	**07 11 31.5**	**-1.3**
	comp=Z,753nmcomp=Z,39nm,1.3s					
CHTO	Chiang Mai	73.55 280	P	**P**	**07 11 33.2**	**+0.4**
CHTO			pmax	pmax		
	comp=Z,29nm,0.9s					
CHTO			MLR	MLR		
	comp=Z,1µm,20.0s					
CHTO	Chiang Mai	73.55 280	P	**P**	**07 11 34.7**	**+1.9**
	comp=Z,680nmcomp=Z,41nm,1.3s					
CHTO	Chiang Mai	73.55 280	P	**P**	**07 11 33.2**	**+0.4**
CHTO			IAmb	IAmb	07 11 48.6	
	comp=Z,29nm,0.9s					
CHTO	Chiang Mai	73.55 280	IAMs_20	IAMs_20	07 44 31.1	
	comp=Z,980nm,20.0s					
CHTO	Chiang Mai	73.55 280	P	**P**	**07 11 34.5**	**+1.7**
CHTO	Chiang Mai	73.55 280	P	**P**	**07 11 31.5**	**-1.3**
	comp=Z,381nmcomp=Z,23nm,1.3s					
MRSI	Marisa	73.57 249	P	**P**	**07 11 33.1**	**+0.2**
	comp=Z,1µmcomp=Z,92nm,1.1s					
LIFNC	LIFOU	73.72 198	IAMs_20	IAMs_20	07 40 43.5	
	comp=Z,2µm,20.0s					
TOLI2	Tolitoli	73.74 251	P	**P**	**07 11 33.6**	**-0.3**
TOLI2			IAmb	IAmb	07 11 35.2	
	comp=Z,55nm,1.0s					
CM09	Chiang Mai Arr	73.80 279	P	**P**	**07 11 35.9**	**+1.6**
	comp=Z,355nmcomp=Z,43nm,1.0s					
TAPN	Taplejung	73.81 293	*e*P	**P**	**07 11 35.4**	**+0.8**
	comp=Z,691nm,1.1s					
CM31	Chiang Mai Arr	73.82 279	P	**P**	**07 11 34.4**	**0.0**
CM31			IAmb	IAmb	07 11 51.2	
	comp=Z,50nm,1.1s					
CMAR	Chiang Mai Arr	73.82 279	P	**P**	**07 11 34.6**	**+0.2**
	comp=Z,35nm,0.9s,baz=28,slow=7.2,SNR=51					
CMAR			LR	LR	07 49 04.3	
	comp=Z,807nm,18.0s,baz=74,slow=40					
CMAR	Chiang Mai Arr	73.82 279	P	**P**	**07 11 34.4**	**0.0**
CMAR	Chiang Mai Arr	73.82 279	P	**P**	**07 11 34.4**	**0.0**
CM02	Chiang Mai Arr	73.83 279	P	**P**	**07 11 35.7**	**+1.2**
	comp=Z,519nmcomp=Z,71nm,0.9s					
CM15	Chiang Mai Arr	73.83 279	P	**P**	**07 11 36.2**	**+1.7**
	comp=Z,329nmcomp=Z,48nm,0.9s					
CM01	Chiang Mai Arr	73.84 279	P	**P**	**07 11 35.9**	**+1.4**
	comp=Z,517nmcomp=Z,71nm,0.9s					
CM01	Chiang Mai Arr	73.84 279	P	**P**	**07 11 36.0**	**+1.4**
	comp=Z,517nmcomp=Z,71nm,0.9s					
CM04	Chiang Mai Arr	73.84 279	P	**P**	**07 11 35.8**	**+1.3**
	comp=Z,502nmcomp=Z,75nm,0.9s					
CM04	Chiang Mai Arr	73.84 279	P	**P**	**07 11 35.8**	**+1.3**
	comp=Z,502nmcomp=Z,75nm,0.9s					
CM05	Chiang Mai Arr	73.86 279	P	**P**	**07 11 35.7**	**+1.1**
	comp=Z,434nmcomp=Z,58nm,1.0s					
CHAI	Chaiyaphum	73.86 275	P	**P**	**07 11 35.5**	**+0.9**
	comp=Z,997nmcomp=Z,45nm,1.0s					
CHAI	Chaiyaphum	73.86 275	P	**P**	**07 11 35.0**	**+0.4**
	comp=Z,248nmcomp=Z,11nm,1.0s					
PHIT	Phitsanulok	73.86 277	P	**P**	**07 11 36.4**	**+1.8**
	comp=Z,131nm,0.8s					
PHIT	Phitsanulok	73.86 277	P	**P**	**07 11 36.4**	**+1.8**
	comp=Z,33nm,0.8s					
CM13	Chiang Mai Arr	73.87 279	P	**P**	**07 11 35.7**	**+1.0**
	comp=Z,471nmcomp=Z,62nm,0.9s					
EDMD	Edmundbyers	73.90 5	*e*P	**P**	**07 11 34.2**	**-0.1**
SUW	Suwalki	73.90 349	*e*P	**P**	**07 11 33.1**	**-1.1**
SUW	Suwalki	73.90 349	*e*P	**P**	**07 11 34.1**	**-0.2**
SUW	Suwalki	73.90 349	P	**P**	**07 11 33.2**	**-1.1**
SUW			pmax	pmax		
	comp=Z,187nm,1.2s					
SUW			MLR	MLR		
	comp=Z,1µm,19.0s					
SUW	Suwalki	73.90 349	P	**P**	**07 11 33.2**	**-1.1**
SUW			IAMs_20	IAMs_20	07 47 19.2	
	comp=Z,1µm,19.0s					
VORD	Divnogorie	74.07 339	*e*P	**P**	**07 11 35.0**	**-0.3**
RGN	Rugen	74.19 355	IAMs_20	IAMs_20	07 45 15.8	
	comp=Z,1µm,19.0s					
ODAN	Odare	74.37 293	*e*P	**P**	**07 11 38.4**	**+0.6**
	comp=Z,252nm,1.1s					
GUN	Gumba	74.43 295	*e*P	**P**	**07 11 39.1**	**+0.8**
	comp=Z,1µm,1.0s					
JIRN	Jiri	74.45 295	*e*P	**P**	**07 11 39.4**	**+1.0**
	comp=Z,613nm,0.8s					
CHGR	Chuyangaron	74.57 313	P	**P**	**07 11 38.7**	**+0.1**
MHMT	Maesarieng	74.66 280	P	**P**	**07 11 41.1**	**+1.9**
	comp=Z,2µmcomp=Z,167nm,0.7s					
MHMT	Maesarieng	74.66 280	P	**P**	**07 11 41.2**	**+1.9**
	comp=Z,2µmcomp=Z,167nm,0.7s					
RAMN	Ramite	74.76 294	*e*P	**P**	**07 11 40.7**	**+0.6**
	comp=Z,543nm,0.8s					
KKN	Kakani	74.86 296	*e*P	**P**	**07 11 41.3**	**+0.7**
	comp=Z,317nm,0.9s					
MPSI	Mapaga	74.89 251	P	**P**	**07 11 40.3**	**-0.3**
	comp=Z,90nm,1.0s					
BSEG	Bad Segeberg	74.92 357	*e*P	**P**	**07 11 40.9**	**+0.7**
	comp=Z,110nm,0.9s,baz=4.4,slow=5.6					
PKI	Pulchoki	74.96 295	*e*P	**P**	**07 11 41.8**	**+0.5**
	comp=Z,612nm,1.1s					
PKIN	Phulchoki	74.96 295	*e*P	**P**	**07 11 41.6**	**+0.3**
	comp=Z,521nm,1.1s					
GKN	Gorkha	75.06 296	*e*P	**P**	**07 11 42.3**	**+0.6**
	comp=Z,656nm,1.1s					
DMN	Daman	75.10 296	*e*P	**P**	**07 11 42.8**	**+0.8**
	comp=Z,559nm,1.1s					
DZM	Mont Dzumac	75.14 198	*e*P	**P**	**07 11 44.9**	**+3.1**
	comp=Z,13nm,0.8s					
DZM	Mont Dzumac	75.14 198	*e*LR	LR	07 34 51.0	
	comp=Z,1µm,19.8s					
GKP	Gorka Klasztor	75.21 353	*e*P	**P**	**07 11 42.1**	**+0.3**
GKP			*e*L	L	07 43 03.5	
	comp=Z,2µm,23.6s					
GKP	Gorka Klasztor	75.21 353	*e*P	**P**	**07 11 42.0**	**+0.2**
DANN	Dangsing	75.28 297	*e*P	**P**	**07 11 43.9**	**+0.8**
	comp=Z,1µm,0.9s					
LBWR	Ladybower, Pea	75.34 5	*e*P	**P**	**07 11 42.3**	**-0.3**
LBWR			IAmb	IAmb	07 11 44.8	
	comp=Z,90nm,1.0s					
UMPA	Umpang Tak	75.58 278	P	**P**	**07 11 47.8**	**+3.2**
	comp=Z,162nm,0.9s					
UMPA	Umpang Tak	75.58 278	P	**P**	**07 11 47.9**	**+3.2**
	comp=Z,40nm,0.9s					
STNC	Stoke	75.62 5	*e*P	**P**	**07 11 44.6**	**+0.4**
STNC			IAmb	IAmb	07 11 46.3	
	comp=Z,110nm,0.9s					
UTHA	Uthaitani	75.70 277	P	**P**	**07 11 46.6**	**+1.3**
	comp=Z,794nmcomp=Z,102nm,0.9s					
UTHA	Uthaitani	75.70 277	P	**P**	**07 11 46.0**	**+0.7**
	comp=Z,197nmcomp=Z,25nm,0.9s					
MTO3	Montecristo	75.72 85	IAMs_20	IAMs_20	07 41 10.9	
	comp=Z,1µm,19.0s					
FOEL	Foel Wylfa	75.77 6	*e*P	**P**	**07 11 45.3**	**+0.1**
FOEL			IAmb	IAmb	07 11 47.0	
	comp=Z,91nm,1.0s					
KOLN	Koldanda	75.82 297	*e*P	**P**	**07 11 46.6**	**+0.5**
	comp=Z,560nm,1.0s					
PYUN	Piuthan	75.91 297	*e*P	**P**	**07 11 47.2**	**+0.6**
	comp=Z,1µm,0.9s					
CWF	Charnwood Fore	76.02 4	*e*P	**P**	**07 11 46.4**	**-0.2**
CWF			IAmb	IAmb	07 11 48.2	
	comp=Z,49nm,0.9s					
WACR	West Acre	76.11 3	*e*P	**P**	**07 11 45.6**	**-1.5**
WACR			IAmb	IAmb	07 11 49.0	
	comp=Z,332nm,0.9s					
HLM1	Long Mynd	76.16 5	*e*P	**P**	**07 11 46.9**	**-0.5**
HLM1			IAmb	IAmb	07 11 48.6	
	comp=Z,21nm,0.9s					
BBSR	BB Station	76.22 55	IAMs_20	IAMs_20	07 49 00.3	
	comp=Z,1µm,19.0s					
DHRM	DHARAMSHALA	76.25 305	*e*P	**P**	**07 11 49.0**	**+0.5**
AKASG	Malin Array Be	76.29 345	P	**P**	**07 11 47.0**	**-1.1**
	comp=Z,14nm,0.5s,baz=18,slow=6.0,SNR=50					
AKASG			LR	LR	07 49 54.9	
	comp=Z,1µm,19.3s,baz=0.0,slow=39					
AKASG	Malin Array Be	76.29 345	P	**P**	**07 11 46.8**	**-1.3**
AKASG			IAmb	IAmb	07 11 48.8	
	comp=Z,31nm,1.1s					
AKBB	Malin Array Si	76.29 345*c*	*e*P	**P**	**07 11 46.5**	**-1.6**
BEL	Belsk	76.31 350	*e*P	**P**	**07 11 47.9**	**-0.3**
BEL	Belsk	76.31 350	P	**P**	**07 11 50.4**	**+2.2**
SNET	Serv Nac Est T	76.35 85	IAMs_20	IAMs_20	07 41 01.4	
	comp=Z,1µm,20.0s					
NRDL	Niedersach Rie	76.37 357	*e*P	**P**	**07 11 48.9**	**+0.5**
	comp=Z,44nm,0.9s,baz=4.4,slow=5.6					
FLTG	Flechtingen	76.49 357	*e*P	**P**	**07 11 49.2**	**0.0**
	comp=Z,56nm,0.9s,baz=4.4,slow=5.6					
IBBN	Ibbenburen	76.61 359	*e*P	**P**	**07 11 50.6**	**+0.7**
	comp=Z,134nm,0.8s,baz=4.4,slow=5.6					
MCH1	Michaelchurch	76.67 6	*e*P	**P**	**07 11 50.2**	**0.0**
MCH1			IAmb	IAmb	07 11 51.8	
	comp=Z,59nm,0.9s					
NIL	Nilore	76.67 308	P	**P**	**07 11 51.1**	**+0.4**
NIL			pmax	pmax		
	comp=Z,251nm,1.0s					
NIL	Nilore	76.67 308	P	**P**	**07 11 51.0**	**+0.4**
NIL	Nilore	76.67 308	P	**P**	**07 11 51.8**	**+1.2**
SMLA	Simla	76.68 303	*e*P	**P**	**07 11 50.7**	**+0.1**
SMLA			IAmb	IAmb	07 11 51.7	
	comp=Z,129nm,1.2s					
ASSE	Asse, Remlinge	76.71 357	*e*P	**P**	**07 11 51.0**	**+0.6**
	comp=Z,34nm,1.0s,baz=4.4,slow=5.6					
SRDT	SRDT	76.83 276	P	**P**	**07 11 54.5**	**+2.8**
	comp=Z,67nm,0.9s					
SRDT	SRDT	76.83 276	P	**P**	**07 11 54.0**	**+2.3**
	comp=Z,67nm,0.9s					
SRDT	SRDT	76.83 276	P	**P**	**07 11 52.3**	**+0.6**
	comp=Z,64nm,0.9s					
PATY	Pattaya	76.83 274	P	**P**	**07 11 54.5**	**+2.8**
	comp=Z,4µmcomp=Z,102nm,0.8s					
PATY	Pattaya	76.83 274	P	**P**	**07 11 54.0**	**+2.3**
	comp=Z,1µmcomp=Z,26nm,0.8s					
DDI	Dehra Dun	76.85 302	*e*P	**P**	**07 11 52.1**	**+0.4**
DDI			IAmb	IAmb	07 11 54.0	
	comp=Z,169nm,1.2s					
STRD	Stroud	76.94 5	*e*P	**P**	**07 11 51.5**	**-0.3**
STRD			IAmb	IAmb	07 11 53.5	
	comp=Z,125nm,0.9s					
CLZ	Clausthal	77.01 357	*e*P	**P**	**07 11 53.1**	**+0.8**
	comp=Z,100nm,0.9s,baz=4.4,slow=5.6					
SWN1	Swindon	77.22 5	*e*P	**P**	**07 11 53.6**	**+0.3**
SWN1			IAmb	IAmb	07 11 55.4	
	comp=Z,91nm,0.8s					
TGUH	Tegucigalpa,Un	77.28 83	IAMs_20	IAMs_20	07 42 28.2	
	comp=Z,918nm,20.0s					
GTTG	Gottingen	77.32 357	*e*P	**P**	**07 11 54.8**	**+0.8**
	comp=Z,89nm,0.9s,baz=4.4,slow=5.6					
CLL	Collm	77.44 355⇑	*i*P	**P**	**07 11 54.3**	**-0.3**
	comp=Z,69nm,0.9s					
CLL			*e*sP	**PcP**	**07 12 05.0**	**+0.1**
CLL			*e*pPcP		07 12 13.0	
CLL			*e*PP	**PP**	**07 14 47.0**	**-1.4**
CLL			*e*S	**S**	**07 21 42.0**	**-1.1**
CLL			*e*SP	**SPn**	**07 22 24.0**	**+3.6**
CLL			*e*SS	**SS**	**07 26 49.0**	**+8.4**
CLL			*e*		07 32 00.0	
CLL			*e*		07 34 36.0	
CLL			Lm	MLR	07 51 00.0	
	comp=N,700nm,18.9s					
CLL			Lm	MLR	07 51 00.0	
	comp=E,400nm,18.5s					
CLL			Lm	MLR	07 51 00.0	
	comp=Z,1µm,19.3s					
CLL	Collm	77.44 355⇑	*i*P	**P**	**07 11 54.3**	**-0.3**
CLL			*e*S	S	07 21 33.0	-10
CLL			pmax	pmax		
	comp=Z,69nm,0.9s					
CLL			MLR	MLR		
	comp=Z,1µm,19.3s					
CLL	Collm	77.44 355	P	**P**	**07 11 54.1**	**-0.4**
CLL			IAmb	IAmb	07 11 56.2	
	comp=Z,64nm,0.9s					
CLL			IAMs_20	IAMs_20	07 51 55.8	
	comp=Z,1µm,20.0s					
CLL	Collm	77.44 355	*e*P	**P**	**07 11 54.5**	**-0.1**
	comp=Z,51nm,0.9s,baz=4.4,slow=5.6					
BUG	Bochum--Univer	77.48 359	*e*P	**P**	**07 11 55.4**	**+0.6**
	comp=Z,43nm,0.8s,baz=4.4,slow=5.6					
BOK	Bokaro	77.59 292	*e*P	**P**	**07 11 56.0**	**+0.1**
NEUB	Neuenburg	77.59 356	*e*P	**P**	**07 11 56.0**	**+0.5**
	comp=Z,136nm,0.9s,baz=4.4,slow=5.6					
TBI	Tubuai	77.60 157	*e*S	**S**	**07 21 47.3**	**+2.1**
	comp=Z,984nm,31.2s					
TBI	Tubuai	77.60 157	*e*LR	LR	07 35 53.0	
	comp=Z,2µm,24.0s,baz=344					
TBI	Tubuai	77.60 157	*e*T	T	08 36 45.5	
	comp=Z,9.6nm,0.3s					
PHET	Kaeng Krachan	77.61 275	P	**P**	**07 11 58.5**	**+2.5**
	comp=Z,814nmcomp=Z,91nm,0.9s					
PHET	Kaeng Krachan	77.61 275	P	**P**	**07 11 58.6**	**+2.5**
	comp=Z,210nmcomp=Z,23nm,0.9s					
TTSI	Tana Toraja	77.65 249	P	**P**	**07 11 56.5**	**+0.3**
	comp=Z,1µmcomp=Z,97nm,0.9s					
KSP	Ksiaz	77.69 353	*e*P	**P**	**07 11 56.2**	**+0.2**
KSP			*e*S	SKiKP	07 21 23.2	+17
KSP			*e*L	L	07 43 12.4	
	comp=Z,897nm,26.2s					
KSP	Ksiaz	77.69 353	P	**P**	**07 11 56.1**	**+0.1**
KASTN	Kahler Asten	77.70 358	*e*P	**P**	**07 11 56.7**	**+0.5**
	comp=Z,36nm,0.9s,baz=4.4,slow=5.6					
FBE	Freiberg	77.80 355	*e*P	**P**	**07 11 57.2**	**+0.6**
	comp=Z,69nm,0.9s,baz=4.4,slow=5.6					
BRG	Berggiesshubel	77.82 355	*e*P	**P**	**07 11 56.8**	**+0.1**
	comp=Z,52nm,0.9s,baz=4.4,slow=5.6					
BRG	Berggiesshubel	77.82 355	*i* P	**P**	**07 11 57.1**	**+0.3**
BRG			Amp		07 11 58.6	
	comp=Z,76nm,1.0s					
BRG	Berggiesshubel	77.82 355	P	P	07 12 11.2	+14
BRG			Amp		07 12 13.4	
	comp=Z,32nm,1.0s					
SBUM	Sibu	77.85 259	P	**P**	**07 11 58.0**	**+0.6**
LVV	L'vov	77.92 348	*e*P	**P**	**07 11 56.9**	**-0.4**
CHVC	Chvalec	77.97 353	*e*P	**P**	**07 11 57.7**	**+0.1**
KBL	Kabul	77.98 311	P	**P**	**07 11 57.8**	**-0.4**
KBL			pmax	pmax		
	comp=Z,151nm,1.0s					
KBL	Kabul	77.98 311	P	**P**	**07 11 57.7**	**-0.5**
	SNR=62					
OSTC	Ostas	77.98 353	*e*P	**P**	**07 11 57.9**	**+0.2**
OSTC			AMS	AMS	07 51 50.0	
	comp=Z,1µm,20.6s					
OJC	Ojcow	78.01 351	*e*P	**P**	**07 11 58.2**	**+0.4**
OJC			*e*L	L	07 46 33.9	
	comp=Z,2µm,22.4s					
OJC	Ojcow	78.01 351	P	**P**	**07 11 58.2**	**+0.4**
OJC	Ojcow	78.01 351	IAMs_20	IAMs_20	07 46 25.8	
	comp=Z,2µm,21.0s					
UBBA	Unterbreizbach	78.05 357	*e*P	**P**	**07 11 58.3**	**+0.5**
	comp=Z,9.1nm,0.8s,baz=4.4,slow=5.6					
UPC	Upice	78.05 353	AMS	AMS	07 51 50.0	
	comp=Z,1µm,20.1s					
PVCC	Panska Ves	78.12 354	*e*P	**P**	**07 11 59.5**	**+1.1**
PVCC			MLR	MLR		
	comp=Z,1µm,20.3s					
PVCC	Panska Ves	78.12 354	*e*P	**P**	**07 11 59.5**	**+1.1**
PVCC			AMS	AMS	07 52 00.0	
	comp=Z,1µm,20.3s					
UCC	Uccle	78.13 1	*d*P	**P**	**07 11 58.5**	**+0.1**
BEBN	Eben Emael	78.13 0	*d*P	**P**	**07 11 58.7**	**+0.2**
	comp=Z,61nm,1.1s					
MOX	Moxa	78.16 356	*e*P	**P**	**07 11 59.1**	**+0.4**
	comp=Z,56nm,0.9s,baz=4.4,slow=5.6					
MOX			*e*L	L	07 57 13.8	
	comp=Z,938nm,18.3s					
DPC	Dobruska-Polom	78.18 353	*e*P	**P**	**07 11 59.2**	**+0.4**
DPC			MLR	MLR		
	comp=Z,900nm,17.2s					
DPC	Dobruska-Polom	78.18 353	*e*P	**P**	**07 11 59.2**	**+0.4**
DPC			AMS	AMS	07 55 50.0	
	comp=Z,900nm,17.2s					
KWP	Kalwaria Pacla	78.27 349	*e*P	**P**	**07 11 59.7**	**+0.4**
KWP	Kalwaria Pacla	78.27 349	P	**P**	**07 11 58.9**	**-0.3**
KWP	Kalwaria Pacla	78.27 349	P	**P**	**07 11 58.9**	**-0.3**
MEM	Membach	78.32 360	*b*P	**P**	**07 11 59.6**	**+0.1**
	comp=Z,66nm,1.0s					
WERD	Werda	78.33 356	*e*P	**P**	**07 12 00.1**	**+0.5**
	comp=Z,29nm,0.9s,baz=4.4,slow=5.6					
BTNL	Ternell	78.34 360	*d*P	**P**	**07 11 59.0**	**-0.6**
	comp=Z,62nm,1.1s					
BSTI	Sart Tilman	78.35 0	*d*P	**P**	**07 12 00.1**	**+0.4**
	comp=Z,16nm,1.0s					

TANN Tannenbergstha 78.36 356 *e*P **P** 07 12 00.2 +0.4
comp=Z,24nm,1.0s,baz=4.4,slow=5.6
AHRW Bad Neuenahr-A 78.38 359 *e*P **P** 07 12 00.6 +0.8
comp=Z,72nm,0.9s,baz=4.4,slow=5.6
GUNZ Gunzen 78.41 356 *e*P **P** 07 12 00.6 +0.5
comp=Z,32nm,0.9s,baz=4.4,slow=5.6
SNF Seneffe 78.42 1 *d*P **P** 07 12 00.1 +0.1
comp=Z,62nm,1.0s
KRLC Kraliky 78.42 353 *e*P **P** 07 12 00.4 +0.3
KRLC MLR MLR
comp=Z,1µm,17.3s
KRLC Kraliky 78.42 353 *e*P **P** 07 12 00.4 +0.3
KRLC AMS AMS 07 56 30.0
comp=Z,1µm,17.3s
WERN Wernitzgruen 78.49 356 *e*P **P** 07 12 01.1 +0.6
comp=Z,72nm,0.9s,baz=4.4,slow=5.6
BCLA Clavier 78.51 0 *d*P **P** 07 12 00.7 +0.2
comp=Z,50nm,1.3s
NKC Novy Kostel 78.54 356 *e*P **P** 07 12 01.4 +0.6
NKC MLR MLR
comp=Z,900nm,17.3s
NKC Novy Kostel 78.54 356 *e*P **P** 07 12 01.4 +0.6
NKC AMS AMS 07 52 20.0
comp=Z,900nm,17.3s
OKC Ostrava-Krasne 78.54 352 *e*P **P** 07 12 01.4 +0.7
OKC MLR MLR
comp=Z,1µm,20.1s
OKC Ostrava-Krasne 78.54 352 *e*P **P** 07 12 01.4 +0.7
OKC AMS AMS 07 48 40.0
comp=Z,1µm,20.1s
BGES Gesves 78.55 0 *d*P **P** 07 12 00.3 -0.4
comp=Z,48nm,1.2s
BHOU Houvegnez 78.58 360 *d*P **P** 07 12 01.2 +0.2
comp=Z,35nm,1.0s
BNSI Bone 78.58 248 P **P** 07 12 01.8 +0.4
comp=Z,30nm,1.2s
GOF Gofitskoye 78.61 334⇑ *e*P **P** 07 12 02.0 +0.8
GOF pmax pmax
comp=Z,81nm,0.9s
BMRD Maredsous 78.62 1 *b*P **P** 07 12 01.2 0.0
comp=Z,80nm,1.1s
STHS Stebnicka Huta 78.65 350 *e*P **P** 07 12 02.3 +0.9
STHS Stebnicka Huta 78.65 350 *e*P **P** 07 12 02.3 +0.9
MORC Moravsky Berou 78.65 352 ⇓P **P** 07 12 01.8 +0.4
MORC Moravsky Berou 78.65 352 P **P** 07 12 01.1 -0.3
MORC pmax pmax
comp=Z,25nm,1.1s
MORC Moravsky Berou 78.65 352 P **P** 07 12 01.1 -0.3
MORC Moravsky Berou 78.65 352 *e*P **P** 07 12 01.1 -0.3
PRU Pruhonice 78.67 354 *e*P **P** 07 12 01.8 +0.4
PRU MLR MLR
comp=Z,1µm,22.0s
PRU Pruhonice 78.67 354 *e*P **P** 07 12 01.8 +0.4
PRU AMS AMS 07 52 20.0
comp=Z,1µm,22.0s
TNS Taunus Mts 78.68 358 *e*P **P** 07 12 02.1 +0.5
comp=Z,92nm,0.8s,baz=4.4,slow=5.6
NIE Niedzica 78.75 350 *e*P **P** 07 12 03.2 +1.2
NIE Niedzica 78.75 350 P **P** 07 12 03.8 +1.9
RCHB Rochefort 78.78 0 *d*P **P** 07 12 02.2 +0.2
comp=Z,58nm,1.0s
MANZ Manzenberg 78.80 356 *e*P **P** 07 12 02.5 +0.3
comp=Z,32nm,0.9s,baz=4.4,slow=5.6
GIVF Givet 78.83 1 *e*P **P** 07 12 03.1 +0.8
GIVF pmax pmax
comp=Z,91nm,1.0s
DOU Dourbes 78.83 1 *d*P **P** 07 12 01.7 -0.6
comp=Z,63nm,1.1s
MTKI Muara Teweh, K 78.89 254 P **P** 07 12 03.2 0.0
SORM Soroca 78.92 345 ⇓P **P** 07 12 02.6 -0.2
SORM Soroca 78.92 345 ⇓P **P** 07 12 02.6 -0.2
PBCC Pribram 79.00 355 *e*P **P** 07 12 03.5 +0.2
KOLS Kolonicke sedl 79.00 349 *e*P **P** 07 12 03.8 +0.5
KOLS pmax pmax
comp=Z,35nm,1.0s
KOLS Kolonicke sedl 79.00 349 *e*P **P** 07 12 03.8 +0.5
ROTZ Rotzenmuhle 79.01 356 *e*P **P** 07 12 03.9 +0.5
comp=Z,32nm,0.9s,baz=4.4,slow=5.6
MILB Miltenberg 79.06 358 *e*P **P** 07 12 04.1 +0.5
comp=Z,84nm,0.9s,baz=4.4,slow=5.6
LANS Liptovska Anna 79.10 351 *e*P **P** 07 12 05.1 +1.2
LANS pmax pmax
comp=Z,20nm,1.1s
LANS Liptovska Anna 79.10 351 *e*P **P** 07 12 05.0 +1.2
CRVS Cervenica-Dubn 79.13 350 *e*P **P** 07 12 04.1 +0.1
CRVS pmax pmax
comp=Z,24nm,1.1s
CRVS Cervenica-Dubn 79.13 350 *e*P **P** 07 12 04.1 +0.1
GRA1 Grafenberg Arr 79.13 356 P **P** 07 12 04.6 +0.6
GRF Grafenberg Arr 79.13 356 P **P** 07 12 04.6 +0.6
GRF pmax pmax
comp=Z,138nm,0.9s
GRF Grafenberg Arr 79.13 356 *e*P **P** 07 12 04.9 +0.8
comp=Z,106nm,0.9s,baz=4.4,slow=5.6
GRF *e*L L 07 57 41.8
comp=Z,656nm,20.1s
GRFO Grafenberg 79.13 356 P **P** 07 12 04.4 +0.4
GRFO pmax pmax
comp=Z,134nm,0.9s
GRFO Grafenberg 79.13 356 P **P** 07 12 04.4 +0.4
CTAO Charters Tower 79.18 217 P **P** 07 12 04.4 -0.1
CTAO pmax pmax
comp=Z,23nm,1.1s
VRAC Vranov 79.20 353 ⇓P **P** 07 12 04.9 +0.5
VRAC Vranov 79.20 353 ⇓P **P** 07 12 04.9 +0.5
VRAC Vranov 79.20 353 *e*P **P** 07 12 04.4 0.0
MAK Makhachkala 79.22 330 *e*P **P** 07 12 01.2 -3.4
MAK *e* 07 15 05.6
MAK *e*S **S** 07 21 57.9 -4.6
MAK *e*SS **SS** 07 27 08.9 +1.1
MAK pmax pmax
comp=Z,187nm,1.5s
WLF Walferdange 79.27 360 *d*P **P** 07 12 05.2 +0.5
comp=Z,68nm,1.0s
WLF Walferdange 79.27 360 P **P** 07 12 04.9 +0.2
WLF pmax pmax
comp=Z,80nm,0.9s
WLF Walferdange 79.27 360 P **P** 07 12 04.9 +0.2
WLF IAmb IAmb 07 12 07.3
comp=Z,80nm,0.9s
WLF IAMs_20 IAMs_20 07 54 08.3
comp=Z,943nm,20.0s
WLF Walferdange 79.27 360 *e*P **P** 07 12 05.5 +0.8
comp=Z,60nm,0.8s,baz=4.4,slow=5.6
TREC Trest 79.29 354 AMS AMS 07 58 00.0
comp=Z,900nm,17.2s
UZH Uzhgorod 79.30 349 *e*P **P** 07 12 05.8 +0.9
UZH *e* 07 12 14.2
UZH *e* 07 15 08.8
UZH *e* 07 16 53.3
UZH *e*S **S** 07 22 03.3 +0.1
UZH *e* 07 22 50.6
UZH *e* 07 30 24.0
BKSI Bulukumba 79.31 247 P **P** 07 12 05.2 -0.2
comp=Z,781nmcomp=Z,70nm,1.1s
KRUC Moravsky 79.46 353 *e*P **P** 07 12 05.6 -0.2
JSA Saint Aubin 79.52 5 *e*P **P** 07 12 05.7 -0.4
JSA IAmb IAmb 07 12 07.7
comp=Z,131nm,0.9s
PYA1 Pyatigorsk 79.52 334 *i* P **P** 07 12 06.4 +0.1
GROC Groznyy 79.53 331 *e*P **P** 07 12 07.3 +1.1
GROC *e*S **S** 07 22 12.3 +6.5
GROC pmax pmax
comp=Z,26nm,0.7s
JAVC Velka Javorina 79.55 352 *e*P **P** 07 12 07.2 +0.8
MTN Manton Dam 79.56 234 P **P** 07 12 05.6 -1.0
MTN IAmb IAmb 07 12 07.8
comp=Z,73nm,0.9s
KHC Kasperske Hory 79.58 355 *e*P **P** 07 12 07.2 +0.7
KHC *e* 07 12 20.0
KHC MLR MLR
comp=Z,1µm,20.1s
KHC Kasperske Hory 79.58 355 *e*P **P** 07 12 07.2 +0.7
KHC *e*x x 07 12 20.0
KHC AMS AMS 07 53 30.0
comp=Z,1µm,20.1s
WET Wettzell 79.60 355 *e*P **P** 07 12 07.0 +0.4
comp=Z,20nm,1.0s,baz=4.4,slow=5.6
KECS Kecovo 79.65 350 *e*P **P** 07 12 07.3 +0.4
KECS pmax pmax
comp=Z,9.0nm,1.0s
KECS Kecovo 79.65 350 *e*P **P** 07 12 07.3 +0.4
KIV Kislovodsk 79.73 334 *e*P **P** 07 12 07.6 +0.1
KIV pmax pmax
comp=Z,17nm,1.1s
KIV Kislovodsk 79.73 334 IAMs_20 IAMs_20 07 54 32.3
comp=Z,687nm,18.0s
TRPA Tarpa 79.76 349 *e*P **P** 07 12 10.3 +2.9
KOLL Kolacno 79.77 351 *e*P **P** 07 12 08.2 +0.7
KSM Kuching 79.78 259 P **P** 07 12 09.0 +1.0
VYHS Vyhne 79.81 351 *e*P **P** 07 12 08.4 +0.7
VYHS pmax pmax
comp=Z,29nm,1.1s
VYHS Vyhne 79.81 351 *e*P **P** 07 12 08.4 +0.7
CKRC Cesky Krumlov 79.84 354 *e*P **P** 07 12 08.2 +0.3
CKRC AMS AMS 07 53 10.0
comp=Z,1µm,18.6s
GEC2 GERESS Array S 79.86 355 *e*P **P** 07 12 08.3 +0.2
comp=Z,30nm,0.9s,baz=4.4,slow=5.6
GERES GERESS Array B 79.86 355 P **P** 07 12 08.0 -0.1
comp=Z,25nm,0.8s,baz=19,slow=4.5,SNR=121
GERES LR LR 07 49 12.9
comp=Z,678nm,19.3s,baz=14,slow=37
GERES GERESS Array B 79.86 355 P **P** 07 12 07.7 -0.4
GERES GERESS Array B 79.86 355 P **P** 07 12 07.7 -0.4
KBZ Khabaz 79.88 334 P **P** 07 12 08.1 0.0
comp=Z,9.5nm,0.9s,baz=50,slow=2.3,SNR=17
KBZ LR LR 07 51 53.0
comp=Z,1µm,20.3s,baz=27,slow=39
KBZ Khabaz 79.88 334 *i* P **P** 07 12 07.1 -1.0
KBZ pmax pmax
comp=Z,14nm,0.9s
BUR08 Bucovina Ar. S 79.89 347 P **P** 07 12 08.0 -0.3
BUR08 IAmb IAmb 07 12 10.0
comp=Z,35nm,1.1s
GEYT Alibeck 79.90 320 P **P** 07 12 09.4 +1.0
comp=Z,40nm,0.9s,baz=302,slow=2.8,SNR=38
GEYT LR LR 07 52 05.1
comp=Z,2µm,18.2s,baz=35,slow=39
BURAR Bucovina Array 79.91 347 ⇓P **P** 07 12 08.8 +0.3
BURAR Bucovina Array 79.91 347 P **P** 07 12 08.2 -0.2
BURAR IAmb IAmb 07 12 10.4
comp=Z,42nm,0.9s
SMOL Smolenice 79.92 352 *e*P **P** 07 12 09.6 +1.3
SMOL pmax pmax
comp=Z,18nm,0.9s
SMOL Smolenice 79.92 352 *e*P **P** 07 12 09.6 +1.3
SHA1 Shidzhatmaz 79.94 334 *i* P **P** 07 12 08.7 -0.1
KIS Kishinev 79.95 344 *e*P **P** 07 12 09.0 +0.5
KIS Kishinev 79.95 344 *e*PcP **PcP** 07 12 16.0 +0.1
KIS *e*L L 07 43 45.0
KIS LRM MLR 07 52 38.0
comp=Z,700nm,18.0s
KIS Kishinev 79.95 344 *e*P **P** 07 12 09.0 +0.5
KIS *e* 07 12 16.0
IAS Iasi 79.97 345 P **P** 07 12 09.6 +1.1
FLN La Foliniere 80.03 4 *e*P **P** 07 12 08.5 -0.4
FLN pmax pmax
comp=Z,79nm,1.0s
BMR Baia Mare 80.09 348 ⇑P **P** 07 12 09.9 +0.7
BMR Baia Mare 80.09 348 ⇑P **P** 07 12 09.9 +0.7
STU Stuttgart 80.12 358 P **P** 07 12 10.2 +0.8
STU pmax pmax
comp=Z,214nm,1.0s
STU Stuttgart 80.12 358 *e*P **P** 07 12 09.8 +0.4
comp=Z,127nm,0.8s,baz=4.4,slow=5.6
LDF La Druitiere 80.21 4 *e*P **P** 07 12 09.4 -0.5
LDF pmax pmax
comp=Z,79nm,0.9s
ZST Bratislava 80.26 352 *e*P **P** 07 12 11.0 +0.9
ZST pmax pmax
comp=Z,106nm,1.1s
ZST Bratislava 80.26 352 *e*P **P** 07 12 11.0 +0.9
PSZ Piszkesteto 80.27 350 ⇑P **P** 07 12 10.7 +0.4
PSZ Piszkesteto 80.27 350 *e*P **P** 07 12 09.7 -0.6
PSZ Piszkesteto 80.27 350 ⇑P **P** 07 12 10.7 +0.4
PSZ Piszkesteto 80.27 350 IAMs_20 IAMs_20 07 48 12.8
comp=Z,2µm,22.0s
ANN Anapa 80.29 338 *e*P **P** 07 12 09.5 -0.8
ANN *e*S **S** 07 22 08.0 -5.7
ROSF Rostrenen 80.30 6 *e*P **P** 07 12 10.1 -0.2
ROSF pmax pmax
comp=Z,38nm,1.0s
NEY Neytrino 80.37 334 *i* P **P** 07 12 10.8 -0.3
NEY pmax pmax
comp=Z,7.0nm,1.0s
GRR Gorron 80.39 4 *e*P **P** 07 12 10.6 -0.2
GRR pmax pmax
comp=Z,95nm,1.0s
BIZ Bicaz 80.44 346 ⇓P **P** 07 12 11.9 +0.8
ZEI Tsey 80.46 333 *e*P **P** 07 12 10.8 -0.8
ZEI pmax pmax
comp=Z,8.0nm,1.0s
VASR Vaslui 80.46 345 ⇓P **P** 07 12 11.8 +0.5
SURA Surathani 80.48 273 P **P** 07 12 13.0 +1.3
comp=Z,92nm,0.9s
SURA Surathani 80.48 273 P **P** 07 12 13.1 +1.3
comp=Z,91nm,0.9s
CDF Champ du Feu 80.51 359 *e*P **P** 07 12 11.5 -0.1
CDF pmax pmax
comp=Z,72nm,0.9s
SRO Srobarova 80.53 351 *e*P **P** 07 12 12.6 +1.0
SRO pmax pmax
comp=Z,19nm,1.0s
SRO Srobarova 80.53 351 *e*P **P** 07 12 12.6 +1.0
ARCR ARCALIA 80.55 347 ⇓P **P** 07 12 12.7 +0.9
LTVH Ltavrtes, Hu 80.57 349 *e*P **P** 07 12 11.7 -0.1
BFO Black Forest 80.58 358 P **P** 07 12 11.8 -0.1
BFO pmax pmax
comp=Z,56nm,1.0s
BFO MLR MLR
comp=Z,700nm,19.0s
BFO Black Forest 80.58 358 P **P** 07 12 11.8 -0.1
BFO IAmb IAmb 07 12 14.0
comp=Z,56nm,1.0s
BFO IAMs_20 IAMs_20 07 49 36.0
comp=Z,733nm,19.0s
BFO Black Forest 80.58 358 *e*P **P** 07 12 12.3 +0.4
comp=Z,36nm,0.9s,baz=4.4,slow=5.6
GUDG Gudauri 80.59 332 P **P** 07 12 11.1 -1.2
SOEI Soe 80.60 241 P **P** 07 12 11.8 -0.7
SOEI IAmb IAmb 07 13 24.2
comp=Z,83nm,1.2s
SOEI Soe 80.60 241 P **P** 07 12 11.0 -1.5
comp=Z,53nm,0.9s
CONA Conrad Observa 80.62 353 *i* P **P** 07 12 12.7 +0.4
comp=Z,48nm,1.2s,SNR=14
FUR Furstenfeldbru 80.65 356 *e*P **P** 07 12 12.7 +0.4
comp=Z,48nm,0.9s,baz=4.4,slow=5.6
ZKTA Zakatala 80.70 330 P **P** 07 12 13.9 +1.3
QUIF Quistinic 80.72 6 *e*P **P** 07 12 12.5 -0.1
QUIF pmax pmax
comp=Z,56nm,1.3s
ONI Oni 80.77 333 P **P** 07 12 13.6 +0.5
ONI pmax pmax
comp=Z,15nm,1.2s
ONI Oni 80.77 333 P **P** 07 12 13.6 +0.5
BUD Budapest 80.79 351 *e*P **P** 07 12 13.2 +0.2
BUD Budapest 80.79 351 P **P** 07 12 15.3 +2.3
MOA Molln 80.81 354 *i* P **P** 07 12 13.3 +0.1
comp=Z,11nm,0.8s
SOP Sopron 80.81 353 *e*P **P** 07 12 13.1 0.0
SOP Sopron 80.81 353 P **P** 07 12 14.8 +1.7
BSZH Besenyszg 80.84 350 *e*P **P** 07 12 12.1 -1.1
CLF Chambon-Foret 80.86 2 P **P** 07 12 13.8 +0.4
SOC Sochi 80.87 336 *e* iP **P** 07 12 11.8 -1.7
SOC *e* 07 15 11.9
SOC *e*PPP PPP 07 17 05.1
SOC *e*S **S** 07 22 18.7 -1.1
SOC *e*SS **SS** 07 27 37.0 +4.6
SOC *e*SSS SSS 07 30 59.2
SOC pmax pmax
comp=Z,17nm,0.7s
SOC MLR MLR
comp=Z,2µm,18.0s
SEKA Sheki 80.91 330 P **P** 07 12 14.9 +1.1
HAU Haudompre 80.93 360 *e*P **P** 07 12 13.8 0.0
HAU pmax pmax
comp=Z,122nm,1.0s
RJOB Jochberg 81.01 355 *e*P **P** 07 12 14.6 +0.3
comp=Z,100nm,0.8s,baz=4.4,slow=5.6
CJR Cluj-Napoca 81.02 348 P **P** 07 12 16.0 +1.7
DDFL Dedoflistskaro 81.03 330 P **P** 07 12 19.1 +4.6
DRGR 81.06 348 ⇓P **P** 07 12 14.5 0.0
DRGR 81.06 348 ⇓P **P** 07 12 14.5 0.0
HINF Hinteralfeld 81.11 359 *e*P **P** 07 12 14.5 -0.3
HINF pmax pmax
comp=Z,24nm,0.6s
SURT Suratani 81.16 273 P **P** 07 12 20.2 +4.8
comp=Z,39nmcomp=Z,3.6nm,1.2s
EDFI Ende, Flores 81.21 244 P **P** 07 12 14.8 -0.9
comp=Z,333nmcomp=Z,15nm,1.2s
MPLH Magyarpolny 81.24 352 *e*P **P** 07 12 15.1 -0.3
GRTK Grand Turk 81.26 67 IAMs_20 IAMs_20 07 54 37.7
comp=Z,1µm,19.0s
BATI Baumata 81.30 242 P **P** 07 12 16.4 +0.3
comp=Z,47nm,0.6s,baz=21,slow=8.6
OZUR 81.31 346 ⇑P **P** 07 12 17.1 +1.3
ARSA Arzberg 81.32 353 *i* P **P** 07 12 16.4 +0.5
comp=Z,29nm,1.0s,SNR=11
MNGR Mingechevir, A 81.34 330 P **P** 07 12 18.0 +2.0
RETA Reutte 81.35 357 *e*P **P** 07 12 16.4 +0.3
comp=Z,27nm,1.1s,SNR=8.3
VRI Vrincioaia 81.39 345 ⇓P **P** 07 12 16.7 +0.5
VRI Vrincioaia 81.39 345 ⇓P **P** 07 12 16.7 +0.5
SKLT Songkhla 81.40 271 P **P** 07 12 17.8 +1.1
comp=Z,739nmcomp=Z,42nm,0.9s
SKLT Songkhla 81.40 271 P **P** 07 12 17.8 +1.1
comp=Z,739nmcomp=Z,42nm,0.9s
PLOR Plostina 81.42 345 ⇓P **P** 07 12 17.2 +0.8
PLOR Plostina 81.42 345 ⇓P **P** 07 12 17.2 +0.8
TRTT Trang 81.46 272 P **P** 07 12 18.5 +1.5
comp=Z,2µmcomp=Z,47nm,1.0s
TRTT Trang 81.46 272 P **P** 07 12 18.5 +1.5
comp=Z,2µmcomp=Z,47nm,1.0s
WATA Walderalm 81.47 356 *i* P **P** 07 12 17.3 +0.5
comp=Z,57nm,1.1s,SNR=14
MOTA Moosalm 81.48 356 *e*P **P** 07 12 16.1 -0.8
comp=Z,57nm,1.1s,SNR=20
COVR Voineasa-Covas 81.49 346 ⇑P **P** 07 12 18.0 +1.1
DOPR Dopca 81.50 346 ⇓P **P** 07 12 17.9 +1.0
IZVR Izvoarele 81.53 345 ⇑P **P** 07 12 18.4 +1.4
WTTA Wattenberg 81.54 356 *i* P **P** 07 12 17.7 +0.4
comp=Z,60nm,1.0s,SNR=20
DGPR DIGLIPUR 81.56 280 *e*P **P** 07 12 17.6 +0.1
DAVA Damuels 81.58 357 *e*P **P** 07 12 17.6 +0.2
comp=Z,29nm,0.9s,SNR=9.8
SQTA Sankt Quirin 81.60 356 *e*P **P** 07 12 18.1 +0.6
comp=Z,34nm,0.9s,SNR=14
KBA Koelnbreinsper 81.64 355 *i* P **P** 07 12 18.6 +0.9
comp=Z,88nm,0.9s,SNR=23
LOR Lormes 81.65 1 *e*P **P** 07 12 17.6 0.0
LOR pmax pmax
comp=Z,92nm,0.9s
GANJ Ganja 81.69 330 P **P** 07 12 19.2 +1.2
BISRR Bisoca 81.70 345 ⇓P **P** 07 12 19.0 +1.1
TLCR 81.70 344 ⇑P **P** 07 12 18.8 +0.9
TLCR 81.70 344 ⇑P **P** 07 12 18.8 +0.9
SIRR Siria 81.70 349 ⇑P **P** 07 12 18.6 +0.7
FETA Feichten 81.82 357 *i* P **P** 07 12 19.3 +0.6
comp=Z,66nm,0.9s,SNR=29
GRER 81.82 345 ⇑P **P** 07 12 20.6 +2.1
CFR Carcaliu 81.83 344 ⇓P **P** 07 12 19.1 +0.6
CFR Carcaliu 81.83 344 ⇓P **P** 07 12 19.1 +0.6
AKH Akhalkalaki 81.85 332 ⇓P **P** 07 12 20.6 +1.7
AKH Akhalkalaki 81.85 332 P **P** 07 12 22.1 +3.1
SSF Saint Saulge 81.85 2 *e*P **P** 07 12 18.7 0.0
SSF pmax pmax
comp=Z,100nm,0.9s
MLR Muntele Rosu 81.88 346 ⇑P **P** 07 12 20.5 +1.5
MLR Muntele Rosu 81.88 346 ⇑P **P** 07 12 20.5 +1.5
MLR Muntele Rosu 81.88 346 IAMs_20 IAMs_20 07 53 56.2
comp=Z,1µm,20.0s
SOKA Soboth 81.93 354 *i* P **P** 07 12 19.6 +0.4
comp=Z,64nm,1.1s,SNR=25
PERS Pernice 81.97 353 *i* P **P** 07 12 19.5 +0.2
ABTA Abfaltersbach 82.01 355 *e*P **P** 07 12 19.8 +0.2
comp=Z,36nm,1.2s,SNR=15
VOIR 82.06 346 ⇑P **P** 07 12 21.1 +1.2
VOIR 82.06 346 ⇑P **P** 07 12 21.1 +1.2
MYKA Terra Mystica 82.07 355 *i* P **P** 07 12 21.5 +1.6
comp=Z,20nm,1.3s
TPGR Topolog 82.09 344 ⇓P **P** 07 12 20.7 +0.7
JURR Jurilovca 82.10 344 ⇓P **P** 07 12 20.6 +0.7
GROS Grobnik 82.11 353 *i* P **P** 07 12 20.0 -0.1
ISR Istrita 82.15 345 ⇑P **P** 07 12 21.0 +0.7
ISR Istrita 82.15 345 ⇑P **P** 07 12 21.0 +0.7
ZOU Zoufplan 82.18 355 P **P** 07 12 20.2 -0.4
ZOU IAmb IAmb 07 12 23.2
comp=Z,26nm,1.1s
ARR Arges 82.19 347 ⇓P **P** 07 12 21.5 +0.9
PKDT Phuket 82.27 273 P **P** 07 12 25.3 +4.0
PKDT Phuket 82.27 273 P **P** 07 12 25.4 +4.0
SMF Signal de Mont 82.28 1 *e*P **P** 07 12 20.9 0.0
SMF pmax pmax
comp=Z,134nm,1.0s
CABF La Chapelle 82.32 360 *e*P **P** 07 12 22.6 +1.4
CABF pmax pmax
comp=Z,130nm,1.0s
EIDS Eidsvold 82.33 211 IAMs_20 IAMs_20 07 43 13.3
comp=Z,1µm,21.0s
HARR Harsova 82.34 344 ⇑P **P** 07 12 21.9 +0.7
HARR Harsova 82.34 344 ⇑P **P** 07 12 21.9 +0.7
BGF Bois d'Agland 82.34 2 *e*P **P** 07 12 21.3 +0.1
BGF pmax pmax
comp=Z,81nm,1.0s
BCA Borcka 82.35 334 ⇓P **P** 07 12 25.2 +3.8
BZS Buzias 82.35 349 ⇑P **P** 07 12 21.0 -0.2
BZS Buzias 82.35 349 P **P** 07 12 21.2 -0.1
GZR Gura Zlata 82.42 348 ⇓P **P** 07 12 22.0 +0.2
GZR Gura Zlata 82.42 348 ⇓P **P** 07 12 22.0 +0.2
TLBR Topalu 82.46 344 ⇓P **P** 07 12 22.5 +0.7
TIRR Tirgusor 82.48 344 ⇑P **P** 07 12 22.3 +0.4
TIRR Tirgusor 82.48 344 P **P** 07 12 21.5 -0.4
TIRR pmax pmax
comp=Z,236nm,1.0s
TIRR MLR MLR
comp=Z,3µm,20.0s
TIRR Tirgusor 82.48 344 P **P** 07 12 21.5 -0.4
SENIN Lac Senin/Sane 82.56 359 P **P** 07 12 22.7 0.0
TCF Toulx Ste Croi 82.60 2 *e*P **P** 07 12 23.3 +0.7
TCF pmax pmax
comp=Z,55nm,0.8s
GNI Garni 82.64 331 *i* P **P** 07 12 23.5 +0.4
GNI pmax pmax
comp=Z,40nm,1.6s
LKRN Lenkeran, Azer 82.65 327 P **P** 07 12 24.2 +1.3
CRES Cresnjev 82.75 353⇑ *i*P **P** 07 12 22.1 -1.3
MFTR Murfatlar 82.75 344 ⇑P **P** 07 12 24.6 +1.3
CTI Castel Tesino 82.75 356 P **P** 07 12 22.8 -0.7
CTI pmax pmax
comp=Z,17nm,0.9s
CTI Castel Tesino 82.75 356 P **P** 07 12 22.8 -0.7
JRMM Jerantut 82.77 267 P **P** 07 12 25.0 +1.1
BHPL Bhopal 82.81 298 *e*P **P** 07 12 22.6 -1.5
PBA Port Blair 82.84 280 P **P** 07 12 26.1 +1.9
CEY Cerknica 82.91 354⇑ *i*P **P** 07 12 23.5 -0.7
HERR Herculane 82.97 348 ⇓P **P** 07 12 24.5 -0.1
FRGS Fruska Gora 83.01 350 ⇓P **P** 07 12 25.1 +0.4
FRGS Fruska Gora 83.01 350⇑ *i*P **P** 07 12 24.2 -0.6
BOJS Bojanci 83.08 353⇑ *i*P **P** 07 12 24.7 -0.4
BOJS Bojanci 83.08 353 *i* P **P** 07 12 24.7 -0.4
SKDS Skadanscina 83.12 354⇑ *i*P **P** 07 12 24.5 -0.8
SDDR Presa de Saban 83.15 68 IAMs_20 IAMs_20 07 51 57.0
comp=Z,1µm,19.0s
KNRA Kununurra 83.16 234 P **P** 07 12 24.3 -1.4
KNRA IAmb IAmb 07 12 26.9
comp=Z,22nm,0.9s
MDVR Moldovita 83.16 349 ⇑P **P** 07 12 26.0 +0.4
NAX Nakhchivan 83.30 330 P **P** 07 12 28.3 +1.9
LPL La Plagne 83.41 359 *e*P **P** 07 12 28.9 +1.8
LPL pmax pmax
comp=Z,37nm,1.2s
LPG La Plagne 83.43 359 *e*P **P** 07 12 28.4 +1.1
LPG pmax pmax
comp=Z,61nm,1.4s
MRAK Mrakovica 83.44 352⇑ *i*P **P** 07 12 26.4 -0.6
MYKOM Kota Tinggi 83.54 265 P **P** 07 12 30.0 +2.1
RJF Les Rejaudoux 83.56 3 *e*P **P** 07 12 26.4 -1.2
RJF pmax pmax
comp=Z,53nm,1.0s
TEKS Tekeris 83.64 350⇑ *i*P **P** 07 12 27.0 -1.0
BLY Banja Luka 83.67 352⇑ *i*P **P** 07 12 25.9 -2.2
DIKM Dikmen 83.78 338 ⇑P **P** 07 12 30.6 +1.8
BNI Bardonecchia 83.88 359 P **P** 07 12 31.1 +1.7
BNI Bardonecchia 83.88 359 IAMs_20 IAMs_20 07 55 12.3
comp=Z,936nm,19.0s
LFF La Frestale 83.90 4 *e*P **P** 07 12 29.5 +0.2
LFF pmax pmax
comp=Z,129nm,1.1s
CAF Calviac 83.96 3 *e*P **P** 07 12 29.9 +0.3
CAF pmax pmax

comp=Z,103nm,1.1s
KOPT Kop Dagi 83.99 334 P P 07 12 28.9 -1.3
KOPT IAmb IAmb 07 13 01.1
comp=Z,30nm,1.1s
ORIF Oris-en-Rattie 84.02 360 *eP* **P 07 12 31.9 +1.9**
ORIF pmax pmax
comp=Z,108nm,1.3s
WB5 Warramunga Arr 84.03 228 IAMs_20 IAMs_20 07 47 27.8
comp=Z,682nm,20.0s
DIVS Divibare 84.04 350⇑ *iP* **P 07 12 29.7 -0.4**
DIVS Divibare 84.04 350 IAMs_20 IAMs_20 07 50 41.3
comp=Z,1µm,22.0s
WC2 Warramunga Arr 84.07 228 IAMs_20 IAMs_20 07 47 20.9
comp=Z,757nm,21.0s
WB3 Warramunga Arr 84.07 228 IAMs_20 IAMs_20 07 47 09.0
comp=Z,904nm,20.0s
VIVF Saint-Julien-l 84.07 1 *eP* **P 07 12 30.7 +0.5**
VIVF pmax pmax
comp=Z,66nm,1.0s
WC1 Warramunga Arr 84.08 228 IAMs_20 IAMs_20 07 45 01.2
comp=Z,787nm,20.0s
WRAB Tennant Creek 84.08 228 IAMs_20 IAMs_20 07 47 14.2
comp=Z,777nm,19.0s
WB2 Warramunga Arr 84.09 228 IAMs_20 IAMs_20 07 47 13.5
comp=Z,811nm,19.0s
WRA Warramunga Arr 84.09 228 P **P 07 12 29.4 -1.1**
comp=Z,7.3nm,0.7s,baz=37,slow=5.0,SNR=57
WRA LR LR 07 46 53.7
comp=Z,478nm,20.3s,baz=20,slow=33
WRA Warramunga Arr 84.09 228 P **P 07 12 29.2 -1.3**
WRA pmax pmax
comp=Z,3.0nm,1.3s
WRA Warramunga Arr 84.09 228 P **P 07 12 29.2 -1.3**
KVT Kavak 84.14 337 P **P 07 12 32.0 +1.4**
MBDF Montbardon 84.20 359 *eP* **P 07 12 32.8 +1.7**
MBDF pmax pmax
comp=Z,77nm,1.2s
BOVS Bovan 84.29 348⇓ P **P 07 12 29.9 -1.4**
BBLS Lazići 84.33 350⇑ *iP* **P 07 12 31.7 +0.1**
SDD Santo Domingo 84.36 68 IAMs_20 IAMs_20 07 54 10.8
comp=Z,1µm,19.0s
DR12 Loma Pena Alta 84.41 67 P **P 07 12 32.4 0.0**
VLC Villacollemand 84.69 357 IAMs_20 IAMs_20 07 57 34.7
comp=Z,907nm,20.0s
PLE Pljevlja 84.86 350⇑ *iP* **P 07 12 34.7 +0.3**
GURO Guroymak-BITLI 84.92 332 P **P 07 12 35.9 +1.2**
GURO IAmb IAmb 07 12 38.3
comp=Z,53nm,1.5s
SBF Sospel 85.06 359 *eP* **P 07 12 36.1 +0.8**
SBF pmax pmax
comp=Z,160nm,0.9s
VTS Vitosha 85.09 347⇓ P **P 07 12 34.6 -1.0**
VTS Vitosha 85.09 347⇓ P **P 07 12 34.6 -1.0**
IVA Berane 85.26 350⇑ *iP* **P 07 12 36.1 -0.2**
EDRB Edirne 85.30 344 P **P 07 12 36.7 +0.3**
KOME Kolasin 85.32 350⇑ *iP* **P 07 12 36.1 -0.5**
FRF La Foret Royal 85.37 359 *eP* **P 07 12 37.8 +1.1**
FRF pmax pmax
comp=Z,86nm,1.0s
BRY Bratogost 85.38 351⇑ *iP* **P 07 12 35.9 -1.1**
BRY Bratogost 85.38 351⇑ *iP* **P 07 12 36.3 -0.7**
NKY Niksic 85.42 350⇑ *iP* **P 07 12 36.6 -0.5**
NKME Niksic 85.47 350⇑ *iP* **P 07 12 36.7 -0.6**
MURB Monte Urbino 85.49 355 P **P 07 12 37.8 +0.4**
STON Ston 85.49 351⇑ *iP* **P 07 12 36.3 -1.0**
MTLF Montolieu 85.54 3 *eP* **P 07 12 38.0 +0.4**
MTLF pmax pmax
comp=Z,94nm,1.0s
LMR La Mourre 85.60 359 *eP* **P 07 12 39.1 +1.2**
LMR pmax pmax
comp=Z,111nm,1.1s
SJPF Ste Jean 85.63 5 *eP* **P 07 12 38.7 +0.6**
SJPF pmax pmax
comp=Z,18nm,0.8s
ISK Istanbul-Kandi 85.65 343 P **P 07 12 37.8 -0.3**
CEME Cevo 85.69 350⇑ *iP* **P 07 12 37.7 -0.7**
PDG Podgorica 85.77 350⇓ P **P 07 12 38.8 +0.1**
PDG Podgorica 85.77 350⇑ *iP* **P 07 12 38.2 -0.5**
PDG Podgorica 85.77 350 P **P 07 12 37.6 -1.1**
PDG IAMs_20 IAMs_20 07 54 02.1
comp=Z,1µm,20.0s
TTG Podgorica 85.77 350⇑ *iP* **P 07 12 38.4 -0.3**
EPF Esparros 85.79 4 *eP* **P 07 12 39.2 +0.3**
EPF pmax pmax
comp=Z,39nm,1.0s
MDUB Mudurnu 85.80 341 P **P 07 12 39.1 0.0**
HCY Herceg Novi 85.83 351⇑ *iP* **P 07 12 37.2 -1.9**
HCY Herceg Novi 85.83 351⇑ *iP* **P 07 12 38.5 -0.6**
PSI Prapat 85.83 269 P **P 07 12 39.6 0.0**
comp=Z,40nm,0.8s,baz=2.4,slow=3.6
PSI Prapat 85.83 269 P **P 07 12 39.0 -0.6**
PSI pmax pmax
comp=Z,50nm,0.9s
PSI Prapat 85.83 269 P **P 07 12 39.7 +0.1**
comp=Z,492nmcomp=Z,27nm,0.8s,comp=Z,1µm,0.8s,
comp=Z,57nm,0.8s
PSI P **P 07 12 39.4 -0.2**
comp=Z,492nmcomp=Z,27nm,0.8s,comp=Z,1µm,0.8s,
comp=Z,57nm,0.8s
RPSI Rantau Prapat 85.92 269 P **P 07 12 39.0 -0.8**
RPSI IAmb IAmb 07 12 44.9
comp=Z,50nm,0.9s
BUM Brajici-Budva 85.93 350⇑ *iP* **P 07 12 39.7 0.0**
SKO Skopje 85.96 348 *iP* **P 07 12 40.3 +0.6**
BR131 Keskin Array S 85.99 339 P **P 07 12 39.5 -0.6**
BR131 pmax pmax
comp=Z,40nm,1.1s
BR131 Keskin Array S 85.99 339 P **P 07 12 39.5 -0.6**
BR131 IAmb IAmb 07 12 42.0
comp=Z,40nm,1.1s
BR131 Keskin Array S 85.99 339 P **P 07 12 40.2 +0.2**
SNR=25
BRTR Keskin Array B 85.99 339 P **P 07 12 40.0 -0.1**
comp=Z,19nm,1.0s,baz=43,slow=2.2,SNR=46
BRTR PP **PP 07 15 58.6 -0.6**
comp=Z,2.8nm,0.8s,baz=19,slow=4.6,SNR=4.4
BRTR LR LR 07 58 34.3
comp=Z,670nm,18.4s,baz=42,slow=41
BRTR Keskin Array B 85.99 339 P **P 07 12 39.9 -0.2**
DRME Dracevica, Mon 86.01 350⇑ *iP* **P 07 12 39.8 -0.2**
DRME Dracevica, Mon 86.01 350⇑ *iP* **P 07 12 39.8 -0.2**
ANTO Ankara 86.04 339 P **P 07 12 39.8 -0.4**
ANTO pmax pmax
comp=Z,52nm,1.3s
ANTO Ankara 86.04 339 P **P 07 12 39.8 -0.4**
ANTO IAmb IAmb 07 12 43.4
comp=Z,52nm,1.3s
STIP Stip 86.14 348 *iP* **P 07 12 40.1 -0.5**
PGAV Gavieira, Arco 86.17 10 *eP* **P 07 12 41.1 +0.2**
comp=Z,72nm,1.7s
PGAV Gavieira, Arco 86.17 10 *eLR* LR 07 47 58.9
comp=Z,760nm,18.0s
RDO Rodhopi 86.18 345 P **P 07 12 42.9 +2.1**
ULC Ulcinj 86.23 350⇑ *iP* **P 07 12 41.0 -0.1**
NVR Nevrokopi 86.24 346 P **P 07 12 40.2 -1.0**
AOPR Arecibo Observ 86.26 65 P **P 07 12 41.1 -0.4**
AOPR IAmb IAmb 07 13 06.8
comp=Z,30nm,0.9s
BNN Bunyan 86.30 337 P **P 07 12 41.5 -0.1**
AQU L'Aquila 86.34 354 P **P 07 12 42.6 +0.9**
AQU L'Aquila 86.34 354⇑ *iP* **P 07 12 41.5 -0.2**
AQU L'Aquila 86.34 354 IAMs_20 IAMs_20 07 58 20.4
comp=Z,744nm,20.0s
PGF Pioggiola 86.34 358 *eP* **P 07 12 42.5 +0.8**
PGF pmax pmax
comp=Z,132nm,1.1s
PHP Peshkopia 86.37 349 P **P 07 12 41.3 -0.5**
VAY Valandovo 86.45 347 *iP* **P 07 12 42.6 +0.5**
ENEZ Enez 86.48 345 P **P 07 12 42.3 0.0**
KAVA Kavala 86.49 346 P **P 07 12 42.1 -0.2**
PBRG Braganca 86.49 9 *eP* **P 07 12 42.3 -0.1**
comp=Z,34nm,1.8s
SRS Serrai 86.51 347 P **P 07 12 42.3 -0.1**
INTR Introdacqua 86.65 354 P **P 07 12 42.9 -0.4**
GCPR Guaynabo City 86.67 65 P **P 07 12 43.6 +0.1**
GCPR IAmb IAmb 07 13 00.4
comp=Z,33nm,0.9s
TIR Tirane 86.77 349 P **P 07 12 43.4 -0.3**
TIR pmax pmax
comp=Z,107nm,1.2s
TIR MLR MLR
comp=Z,2µm,22.0s
TIR Tirane 86.77 349 P **P 07 12 43.4 -0.3**
SJG San Juan 86.79 65 *eP* **P 07 12 43.3 -0.8**
POLO Lamas de Olo 86.81 10 *eP* **P 07 12 44.2 +0.2**
comp=Z,21nm,0.9s
HYB Hyderabad 86.82 294 *i* P **P 07 12 44.0 -0.3**
HYB *ep*P **pP 07 12 51.0 -0.6**
SOH Sokhos 86.83 347 P **P 07 12 43.8 -0.3**
THAS Thassos island 86.84 346 P **P 07 12 43.9 -0.1**
SMTH Samothraki Isl 86.84 345 P **P 07 12 43.4 -0.7**
ARMA Armidale 86.86 209 IAMs_20 IAMs_20 07 50 02.4
comp=Z,921nm,18.0s
OHR Ohrid 86.89 349 *iP* **P 07 12 44.6 +0.2**
PVRL Vila Real 86.92 10 *eP* **P 07 12 44.8 +0.3**
comp=Z,54nm,1.0s
HORT Hortiatis 87.09 347 P **P 07 12 44.4 -1.0**
MVO Moncorvo 87.10 10 *eP* **P 07 12 45.6 +0.2**
comp=Z,55nm,0.9s
MVO Moncorvo 87.10 10 *eLR* LR 07 46 22.8
comp=Z,710nm,20.0s
OUR Ouranopolis 87.22 346 P **P 07 12 45.3 -0.6**
STVI Saint Thomas 87.28 64 P **P 07 12 45.4 -1.1**
STVI IAmb IAmb 07 13 02.8
comp=Z,89nm,1.6s
EZN Ezine 87.34 344 P **P 07 12 46.2 -0.3**
KBN Korca 87.37 349 P **P 07 12 46.4 -0.3**
PVIS Viseu 87.45 10 *eP* **P 07 12 47.1 0.0**
comp=Z,67nm,1.0s
LIA Limnos Island 87.46 345 P **P 07 12 46.2 -0.8**
ASAR Alice Springs 87.52 226 P **P 07 12 47.0 -0.4**
comp=Z,18nm,0.8s,baz=31,slow=4.5,SNR=108
ASAR LR LR 07 48 34.2
comp=Z,638nm,19.8s,baz=24,slow=33
ASAR Alice Springs 87.52 226 P **P 07 12 47.0 -0.4**
NEST Nestorio 87.54 348 P **P 07 12 47.3 -0.3**
KZN Kozani 87.56 348 P **P 07 12 47.1 -0.5**
PAOL Paolisi 87.58 353 P **P 07 12 47.8 +0.1**
PAOL IAmb IAmb 07 12 49.6
comp=Z,31nm,1.0s
LIT Litokhoron 87.66 347 P **P 07 12 47.0 -1.1**
PAIG Paliouri 87.66 346 P **P 07 12 47.0 -1.0**
MTE Manteigas 87.80 10 *eP* **P 07 12 48.8 0.0**
comp=Z,64nm,1.0s
MTE Manteigas 87.80 10 *eLR* LR 07 42 32.6
comp=Z,479nm,18.0s
MTE Manteigas 87.80 10 P **P 07 12 48.0 -0.8**
MTE IAMs_20 IAMs_20 07 53 19.4
comp=Z,578nm,19.0s
LSK Leskovik 87.86 349 P **P 07 12 49.4 +0.3**
COI Coimbra 87.89 11 P **P 07 12 48.6 -0.5**
COI pmax pmax
comp=Z,78nm,0.9s
COI MLR MLR
comp=Z,800nm,20.0s
COI Coimbra 87.89 11 *eP* **P 07 12 49.6 +0.5**
comp=Z,113nm,1.0s
COI Coimbra 87.89 11 P **P 07 12 48.6 -0.5**
COI IAMs_20 IAMs_20 07 54 44.8
comp=Z,750nm,20.0s
PRK Paraskevi 87.91 344 P **P 07 12 49.6 +0.4**
SJCC San Jacinto, C 87.95 77 *eP* P 07 13 00.0 +10
KPRO Kipourio 87.96 348 P **P 07 12 49.1 -0.4**
SIGR SIGRI 88.02 344 P **P 07 12 48.8 -0.9**
PCAS Casmilo, Conde 88.03 11 *eP* **P 07 12 49.7 -0.1**
comp=Z,55nm,0.9s
SCTE Santa Cesarea 88.18 350 P **P 07 12 50.7 +0.2**
XOR Xorichti 88.28 347 P **P 07 12 50.0 -1.0**
JAN Janina 88.32 348 P **P 07 12 51.4 +0.2**
PCBR Castelo Branco 88.36 10 *eP* **P 07 12 51.1 -0.2**
comp=Z,42nm,1.1s
KEK Kerkira 88.39 349 P **P 07 12 50.8 -0.7**
URIC Uribia, Colomb 88.46 73 *eP* P 07 12 39.7 -12
ISP Isparta 88.49 341 IAMs_20 IAMs_20 07 55 52.7
comp=Z,754nm,21.0s
IGT Igoumenitsa 88.50 349 P **P 07 12 51.6 -0.5**
PSBE So Bento 88.53 11 *eP* **P 07 12 52.9 +0.7**
comp=Z,78nm,1.7s
SMRT St. Maarten 88.57 63 P **P 07 12 51.6 -1.1**
SMRT IAmb IAmb 07 13 10.5
comp=Z,40nm,0.8s
SMRT IAMs_20 IAMs_20 08 00 11.1
comp=Z,571nm,18.0s
AGG Agios Georgios 88.74 347 P **P 07 12 49.8 -3.4**
PMRV Marv??o 88.78 10 *eP* **P 07 12 54.0 +0.6**
comp=Z,30nm,1.1s
PMRV Marv??o 88.78 10 *eLR* LR 07 43 00.1
comp=Z,649nm,18.0s
MAKR Makrakomi, Fth 88.78 347 P **P 07 12 52.6 -0.8**
ESDC Sonseca Array 88.86 7 P **P 07 12 53.5 -0.3**
comp=Z,21nm,0.9s,baz=347,slow=4.5,SNR=76
ESDC Sonseca Array 88.86 7 P **P 07 12 53.4 -0.4**
ESDC IAmb IAmb 07 12 55.4
comp=Z,25nm,1.0s
EVR Evrytania 88.92 348 P **P 07 12 53.7 -0.4**
PAB San Pablo 88.96 8 IAMs_20 IAMs_20 07 57 17.9
comp=Z,885nm,19.0s
LKR Lokris 89.01 347 P **P 07 12 53.3 -1.1**
PMAFR Mafra 89.02 12 *eP* **P 07 12 54.4 -0.1**
comp=Z,87nm,1.4s
PMTG Montargil 89.04 11 *eP* **P 07 12 54.5 0.0**
comp=Z,22nm,1.0s
SEUS St. Eustatius 89.07 63 IAMs_20 IAMs_20 07 58 39.4
comp=Z,1µm,19.0s
TSLK Tsoukalenes, L 89.16 348 P **P 07 12 54.7 -0.4**
LKD2 Lefkada island 89.20 348 P **P 07 12 54.5 -0.8**
ANX Ano Chora 89.22 347 P **P 07 12 55.1 -0.5**
TIP Timpagrande 89.24 351 P **P 07 12 55.4 -0.2**
TIP IAmb IAmb 07 13 16.2
comp=Z,71nm,1.5s
TIP IAMs_20 IAMs_20 07 55 52.0
comp=Z,996nm,21.0s
PMST Lisbon--Monsan 89.25 12 *eP* **P 07 12 56.1 +0.6**
comp=Z,94nm,1.3s
PESTR Estremoz 89.31 10 *eP* **P 07 12 55.3 -0.6**
comp=Z,42nm,1.5s
PESTR Estremoz 89.31 10 P **P 07 12 54.8 -1.0**
VSL Villasalto 89.38 357 IAMs_20 IAMs_20 08 00 23.8
comp=Z,600nm,18.0s
SERG Sergoula 89.38 347 P **P 07 12 54.7 -1.5**
EFP Efpalio 89.39 347 P **P 07 12 56.0 -0.2**
UREC San Jos de Ur 89.41 78 *eP* **P 07 12 55.6 -1.0**
SMLC San Martn de 89.48 77 *eP* **P 07 12 55.6 -1.3**
FSK Fiskardo 89.53 348 P **P 07 12 56.2 -0.7**
LAKA Lakka 89.56 347 P **P 07 12 56.7 -0.4**
DBBC Dabeiba 89.56 79 *eP* **P 07 12 58.8 +1.3**
ANWB Willy Bob 89.59 62 IAMs_20 IAMs_20 07 53 44.5
comp=Z,1µm,20.0s
URZ Urewera 89.65 187 IAMs_20 IAMs_20 07 53 11.6
comp=Z,1µm,20.0s
KLV Kalavryta, Ach 89.73 347 P **P 07 12 56.9 -1.0**
KEF3 Kipouria, Keph 89.81 349 P **P 07 12 56.8 -1.4**
PSDA Pessada-Kefalo 89.87 348 P **P 07 12 57.9 -0.5**
DRO Drossia 89.88 347 P **P 07 12 58.4 -0.2**
HATO Hato, Curacao 89.89 71 IAMs_20 IAMs_20 08 01 33.5
comp=Z,949nm,19.0s
PNCL Nicolau / Gran 89.94 11 *eP* **P 07 12 59.2 +0.4**
comp=Z,41nm,1.7s
ZARC Zaragoza, Cauc 90.02 78 *eP* **P 07 12 57.2 -2.3**
PBAR Barrancos 90.05 10 *eP* **P 07 12 59.1 -0.2**
comp=Z,48nm,1.5s
PBEJ Beja 90.11 11 *eP* **P 07 12 59.1 -0.5**
comp=Z,40nm,1.9s
TRIP Tripoli 90.22 347 P **P 07 12 55.8 -4.4**
OCAC Ocana 90.38 76⇓ *eP* **P 07 12 59.6 -1.8**
PIZC Pizarro, Choco 90.45 82 *eP* P 07 13 13.9 +12
PTEO Sao Teotonio 90.48 11 *eP* **P 07 13 01.0 -0.3**
comp=Z,36nm,1.4s
CBOC Ciudad Bolivar 90.58 80 *eP* **P 07 13 02.5 +0.1**
BKZ Black Stump Fm 90.60 187 IAMs_20 IAMs_20 07 52 26.6
comp=Z,1µm,20.0s
CSS Mathiatis 90.61 338 P **P 07 13 01.5 -0.5**
CSS IAmb IAmb 07 13 04.0
comp=Z,51nm,1.1s
HELC Santa Helena 90.63 79 *eP* **P 07 13 04.0 +1.2**
PVAQ Vaqueiros 90.74 11 *eP* **P 07 13 03.1 +0.6**
comp=Z,58nm,1.8s
PVAQ Vaqueiros 90.74 11 *eS* **S 07 24 05.2 +8.4**
PVAQ Vaqueiros 90.74 11 *eLR* LR 07 44 40.1
comp=Z,755nm,20.0s
SANT Santorini 90.86 344 IAMs_20 IAMs_20 07 58 09.8
comp=Z,747nm,20.0s
PTBC PUERTO BERRIO, 91.01 78 *eP* **P 07 13 04.0 -0.2**
BRRC Barranca, Sant 91.03 77 *eP* P 07 13 09.3 +5.1
KARP Karpathos 91.35 343 IAMs_20 IAMs_20 08 01 53.0
comp=Z,816nm,18.0s
GUY2C Guyana, Caldas 91.48 80 *eP* **P 07 13 06.8 -0.1**
SDV Santo Domingo 91.49 74 IAMs_20 IAMs_20 08 02 21.3
comp=Z,920nm,19.0s
SDV Santo Domingo 91.49 74 *eP* P 07 13 21.3 +15
NORC Norcasia 91.52 79 *eP* **P 07 13 05.2 -1.4**
STKA Stephens Creek 91.59 216 P **P 07 13 06.5 +0.3**
comp=Z,8.5nm,0.8s,baz=335,slow=7.6,SNR=16
STKA LR LR 07 51 47.5
comp=Z,900nm,19.4s,baz=21,slow=34
STKA Stephens Creek 91.59 216 P **P 07 13 06.2 0.0**
STKA pmax pmax
comp=Z,5.0nm,1.2s
STKA Stephens Creek 91.59 216 P **P 07 13 06.2 0.0**
BARC Barichara 91.75 77⇓ *eP* P 07 13 02.5 -5.4
YOTC Yotoco, Valle 91.85 81 *eP* **P 07 13 08.0 -0.2**
SPBC San Pablo de B 91.94 79 *eP* **P 07 13 08.0 -0.6**
UOSS Minazif 91.97 316 IAMs_20 IAMs_20 08 01 42.7
comp=Z,846nm,20.0s
IMMV Iera Moni Meta 91.99 345 P **P 07 13 07.0 -1.4**
TOLC Tolima 92.01 80 *eP* **P 07 13 10.8 +1.6**
PTGL Punta Galera 92.04 86 *eP* P 07 13 19.9 +11
FDF Fort de France 92.33 63 IAMs_20 IAMs_20 07 57 56.7
comp=Z,1µm,20.0s
RUSC La Rusia 92.36 78 P **P 07 13 10.2 -0.7**
RUSC IAmb IAmb 07 13 36.4
comp=Z,22nm,1.0s
RUSC La Rusia 92.36 78 *eP* **P 07 13 10.8 -0.2**
WSAR Wadi Sarin 92.36 313 P **P 07 13 11.3 +1.0**
SNR=5.4
ROSC El Rosal 92.43 79 LR LR 07 56 15.6
comp=Z,210nm,19.9s,baz=1.0,slow=36
ILAM Ilet Lapin Mar 92.45 63 IAMs_20 IAMs_20 07 54 34.9
comp=Z,920nm,19.0s
ORTC Ortega, Tolima 92.58 81 *eP* **P 07 13 10.4 -1.1**
PSA00 Pilbara Seismi 92.70 238 P **P 07 13 10.7 -0.9**
PSA00 IAmb IAmb 07 13 12.5
comp=Z,17nm,1.1s
PSA00 Pilbara Seismi 92.70 238 IAMs_20 IAMs_20 07 56 08.5
comp=Z,980nm,20.0s
PSAB1 Pilbara Seismi 92.71 238 IAMs_20 IAMs_20 07 56 52.8
comp=Z,718nm,20.0s
PSAB3 Pilbara Seismi 92.72 238 IAMs_20 IAMs_20 07 47 05.8
comp=Z,941nm,20.0s
WBK Wadi Bani Khal 92.75 312 P **P 07 13 12.5 +0.4**
SNR=6.0
JLN Jalan Bani Buh 92.94 312 P **P 07 13 13.0 +0.1**
SNR=8.0
CHIC Chingaza 92.95 79 *eP* **P 07 13 12.2 -1.4**
PRAC Prado 92.96 80 *eP* **P 07 13 11.9 -1.2**
KEST Kesra 93.13 357 P **P 07 13 13.3 -0.4**
comp=Z,111nm,1.0s,baz=343,slow=3.2,SNR=7.5
KEST LR LR 07 57 44.9
comp=Z,326nm,19.8s,baz=336,slow=37
JMDO Jabal Madar 93.36 313 P **P 07 13 14.6 -0.3**
SNR=9.0
BETC Betania 93.42 81 *eP* **P 07 13 14.1 -1.2**
BSY Bisya 93.44 314 P **P 07 13 14.9 -0.4**
SNR=10
OTAV Otavalo 93.45 85 P **P 07 13 17.2 +1.3**
OTAV pmax pmax
comp=Z,7.0nm,1.0s
OTAV Otavalo 93.45 85 P **P 07 13 12.9 -3.0**
OTAV Otavalo 93.45 85 *eP* **P 07 13 15.5 -0.4**
SVB Belmont 93.46 64 IAMs_20 IAMs_20 08 00 30.7
comp=Z,1µm,21.0s
GHAJ Ghor Haditha 93.52 335 IAMs_20 IAMs_20 08 02 53.4
comp=Z,1µm,18.0s
PMOZ Porto Moniz, M 93.70 19 *eLR* LR 07 49 05.0
comp=Z,640nm,18.0s
FLOC Florencia 94.14 82 *eP* **P 07 13 16.7 -1.9**
GRGR Grenville 94.15 65 IAMs_20 IAMs_20 07 55 34.3
comp=Z,983nm,21.0s
MHTO MHTO 94.61 312 P **P 07 13 20.5 -0.2**
SNR=20
MACC Macarena, Meta 94.82 81 *eP* **P 07 13 17.5 -4.2**
TOO Toolangi 95.39 211 IAMs_20 IAMs_20 07 51 51.2
comp=Z,953nm,20.0s
ATD Arta Tunnel 109.53 321 IAMs_20 IAMs_20 08 10 45.6
comp=Z,748nm,20.0s
SAML Samuel 110.06 79 IAMs_20 IAMs_20 08 11 24.1
comp=Z,544nm,18.0s
TORD Torodi Ar. Bea 115.58 4 PKP **PKiKP 07 18 40.7 -1.3**
comp=Z,1.3nm,0.5s,baz=334,slow=2.4,SNR=9.3
TORD PKKPab **PKKPab 07 29 18.3 -4.3**
comp=Z,1.6nm,0.9s,baz=185,slow=3.0,SNR=5.7
TORD Torodi Ar. Bea 115.58 4 PKiKP 07 18 41.1 -0.9
SIV San Ignicio 116.78 82 PKP **PKPdf 07 18 43.0 -1.1**
comp=Z,0.7nm,0.6s,baz=230,slow=0.5,SNR=4.2
H03N2 Juan Fernandez 118.45 109 T T 09 28 43.7
baz=317,slow=78,SNR=13
H03N1 Juan Fernandez 118.47 109 T T 09 28 58.6
baz=317,slow=78,SNR=21
H03N3 Juan Fernandez 118.47 109 T T 09 28 50.5
baz=317,slow=78,SNR=15
SNDB Serra Nova Dou 119.61 71 *eP* PKiKP 07 19 02.3 +13
DBIC Dimbokro 121.40 12 PKP **PKPdf 07 18 51.8 -1.4**
comp=Z,3.7nm,0.8s,baz=240,slow=3.3,SNR=2.4
PEXB Peixe 121.47 68 *eP* PKiKP 07 19 05.9 +13
LIC Lamto 121.82 13 *ePKP1* PKiKP 07 19 08.8 +15
comp=Z,57nm,1.3s
PP1B Ponte de Pedra 121.82 78 *eP* PKiKP 07 19 06.7 +13
NBPA Parau_RN 122.29 53 *eP* PKiKP 07 19 05.6 +11
RCBR Riachuelo 122.96 52 *eP* PKiKP 07 19 07.2 +11
KMBO Kilima Mbogo 123.27 321 PKP **PKiKP 07 18 57.8 +0.4**
comp=Z,6.5nm,0.9s,baz=21,slow=4.0,SNR=9.9
AQDB Aquidauana 123.49 81 *eP* PKiKP 07 19 10.1 +13
NBLV Livramento - P 123.76 54 *eP* PKiKP 07 19 09.1 +11
NBPV Pedro Velho 123.77 52 *eP* PKiKP 07 19 08.3 +10
KIBK Kibwezi 124.06 320 IAMs_20 IAMs_20 08 19 49.4
comp=Z,685nm,19.0s
BDFB Brasilia 124.44 70 PKP **PKPdf 07 18 58.4 -0.5**
comp=Z,1.5nm,0.4s,baz=195,slow=14,SNR=2.7
NBPN Ponto Novo - B 124.99 59 *eP* PKiKP 07 19 11.8 +11
MBAR Mbarara 125.12 329 IAMs_20 IAMs_20 08 21 29.7
comp=Z,591nm,19.0s
NBAN Anadia - AL 126.06 55 *eP* PKiKP 07 19 14.1 +12
JANB Januaria 126.13 66 *eP* PKiKP 07 19 14.9 +12
IPMB Ipameri, GO 126.15 72 *eP* PKiKP 07 19 14.9 +12
ITRB Iturama 126.18 76 *eP* PKiKP 07 19 15.3 +13
NBLA Lagarto - SE 126.39 57 *eP* PKiKP 07 19 13.8 +11
CPUP Villa Florida 126.76 87 PKP **PKPdf 07 19 02.3 -0.7**
comp=Z,1.7nm,0.7s,baz=281,slow=4.4,SNR=5.6
CPUP Villa Florida 126.76 87 *eP* PKiKP 07 19 16.6 +13
MC01 Montes Claros 127.66 67 *eP* PKiKP 07 19 17.4 +12
GDU01 Guandu, BA 127.70 61 *eP* PKiKP 07 19 16.7 +11
PLCA Paso Flores 128.30 110 PKP **PKPdf 07 19 05.6 0.0**
comp=Z,4.1nm,0.9s,baz=278,slow=5.8,SNR=7.8
BB19B Bebedouro 128.32 75 *eP* PKiKP 07 19 19.9 +13
DIAM Diamantina, MG 129.07 68 *eP* PKiKP 07 19 20.1 +12
FRTB Fartura 129.40 78 *eP* PKiKP 07 19 20.6 +12
VNDA Vanda 129.56 187 PKP **PKPdf 07 19 07.1 +0.3**
comp=Z,1.0nm,0.8s,baz=26,slow=4.0,SNR=4.6
ITQB Itaqui 129.56 90 *eP* PKiKP 07 19 22.7 +14
RCLB Rio Claro- Sao 129.95 75 *eP* PKiKP 07 19 22.8 +13
SJMB Sao Joao De Ma 130.83 66 *eP* PKiKP 07 19 23.3 +11
TRQA Tornquist 131.77 102 *eP* PKiKP 07 19 25.4 +12
VAS01 Vassouras-RJ 132.29 71 *eP* PKiKP 07 19 26.2 +11
PLTB Pedras Altas 132.88 89 *eP* PKiKP 07 19 27.2 +12
CAM01 Campos-RJ 133.00 69 *eP* PKiKP 07 19 27.3 +11
PMSA Palmer Station 142.88 138 PKP **PKPdf 07 19 29.8 -1.9**
comp=Z,9.2nm,0.9s,baz=246,slow=6.5,SNR=1.8
TSUM Tsumeb 146.49 339 **PKPbc 07 19 40.4 -0.6**
MAW Mawson 148.27 218 PKPbc **PKPdf 07 19 41.4 +0.5**
comp=Z,14nm,0.9s,baz=72,slow=2.1,SNR=30
BOSA Boshof 152.90 320 PKPbc **PKPbc 07 19 56.5 -0.2**
comp=Z,9.9nm,0.6s,baz=19,slow=3.2,SNR=24
BOSA PKPab **PKPab 07 20 08.0 +0.1**
comp=Z,71nm,0.9s,baz=40,slow=3.8,SNR=26
BOSA Boshof 152.90 320 PKIKP **PKPbc 07 19 56.0 -0.7**
BOSA Boshof 152.90 320 **PKPbc 07 19 56.0 -0.7**
VNA3 Neumayer Olymp 158.94 166 PKPdf **PKPdf 07 19 54.2 -1.9**
SNAA Sanae 159.34 172 PKPdf **PKPdf 07 19 54.3 -2.2**
SNAA Sanae 159.34 172 PKP2 **PKPab 07 20 32.8 -1.5**
SNAA Sanae 159.34 172 **PKPab 07 20 32.8 -1.5**
VNA2 Neumayer--Watz 159.55 168 PKPdf **PKPdf 07 19 55.5 -1.2**
VNA1 Neumayer--Stat 159.68 167 PKPdf **PKPdf 07 19 56.9 +0.1**

TAP 05 07:04:37.8, 24°27N×121°83E, h13km, ML2.5, 1D, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village** baz=294	**0.09**	**294**	P	Pg	07 04 41.4	+0.7
EHP				S	Sg	07 04 43.5	+0.8
ENA	**Nanau** baz=334	**0.17**	**332**	P	Pb	07 04 42.4	-0.5

ENA				S	Sg	07 04 45.4	+0.8
	baz=334						
EWUT	**Wuta**	**0.18**	**345**	P	Pb	07 04 42.5	-0.4
	baz=344						
EWUT				S	Sg	07 04 45.6	+0.8
	baz=344						
ETL	**Fush Village**	**0.22**	**239**	P	Pb	07 04 43.4	-0.4
	baz=238						
ETL				S	Sb	07 04 47.2	-0.5
	baz=238						
NACB	**Ninganchiao**	**0.24**	**245**	⇓P	Pg	07 04 43.3	+0.4
	baz=245						
NACB				S	Sg	07 04 47.1	+0.8
	baz=245						
TWD	**Chiawan**	**0.29**	**228**	*i* P	Pb	07 04 44.4	-0.5
	baz=226						
ETLH	**Xiulin Townshi**	**0.33**	**258**	P	Pb	07 04 45.3	-0.3
	baz=258						
ETLH				S	Sb	07 04 50.7	0.0
	baz=258						
ETLH	**Xiulin Townshi**	**0.33**	**258**	P	Pb	07 04 45.3	-0.3
	baz=152						
TWC	**Suao**	**0.33**	**3**	*i* P	Pg	07 04 45.0	+0.4
	baz=4.0						
TWC				*e*S	Sg	07 04 49.7	+0.4
	baz=4.0						
HWA	**Hwalien**	**0.36**	**215**	*e*P	Pb	07 04 45.8	-0.3
	baz=213						
HWA				*e*S	Sb	07 04 51.5	-0.1
	baz=213						
NDS	**Dongshan**	**0.37**	**344**	P	Pb	07 04 46.3	0.0
	baz=343						
NDS				S	Sb	07 04 52.1	0.0
	baz=343						
ETM	**Tongmen**	**0.43**	**225**	P	Pb	07 04 47.1	-0.3
	baz=225						
ETM				*e*S	Sb	07 04 54.1	+0.3
	baz=225						
NDT	**Datong Townshi**	**0.44**	**319**	P	Pb	07 04 47.1	-0.3
	baz=318						
NDT				S	Sb	07 04 54.9	+1.0
	baz=318						
NDT	**Datong Townshi**	**0.44**	**319**	P	Pb	07 04 47.2	-0.3
	baz=27						
NNS	**Nan Shan**	**0.45**	**292**	P	Pg	07 04 47.0	+0.2
	baz=291						
NNS				S	Sb	07 04 54.0	-0.3
	baz=291						
TWE	**Neicheng**	**0.47**	**342**	*i* P	Pb	07 04 47.9	-0.1
	baz=343						
TWE				S	Sb	07 04 54.4	-0.4
	baz=343						
ILA	**Ilan**	**0.49**	**351**	P	Pb	07 04 48.4	0.0
	baz=352						
ILA				*e*S	Sb	07 04 55.3	-0.2
	baz=352						
WHF	**Hehuan Shan**	**0.53**	**256**	*i* P	Pb	07 04 49.1	-0.1
	baz=255						
WHF				*i* S	Sb	07 04 56.6	-0.4
	baz=255						
FUSS	**Fushou**	**0.54**	**267**	P	Pg	07 04 48.8	+0.4
	baz=267						
FUSS				S	Sb	07 04 57.1	+0.2
	baz=267						
FUSS	**Fushou**	**0.54**	**267**	*i* S	Pg	07 04 48.7	+0.2
	baz=225						
YHNB	**Yeheng**	**0.57**	**314**	P	Pb	07 04 50.5	+0.7
	baz=313						
YHNB				S	Sb	07 04 59.1	+1.3
	baz=313						
NTC	**Toucheng**	**0.58**	**360**	P	Pg	07 04 49.4	+0.3
	baz=359						
NTC				*e*S	Sb	07 04 58.1	+0.1
	baz=359						
ESL	**Shilin**	**0.58**	**218**	P	Pb	07 04 50.8	+0.9
	baz=217						
ESL				S	Sb	07 04 58.5	+0.4
	baz=217						
NSK	**Sanguang**	**0.59**	**313**	P	Pb	07 04 50.5	+0.5
	baz=313						
NSK				S	Sb	07 04 58.7	+0.4
	baz=313						
TWT	**Tachien**	**0.60**	**268**	*e*P	Pb	07 04 50.2	-0.1
	baz=267						
TWT				S	Sb	07 04 59.5	+0.8
	baz=267						
TDCB	**Techi**	**0.61**	**268**	*e*P	Pb	07 04 50.4	-0.2
	baz=267						
TDCB				S	Sb	07 04 59.4	+0.3
	baz=267						
CHGB	**Renai**	**0.64**	**251**	P	Pb	07 04 51.4	+0.4
	baz=250						
CHGB				S	Sb	07 05 00.2	+0.4
	baz=250						
OWD	**Renai**	**0.68**	**242**	*e*S	Sb	07 05 01.1	+0.2
	baz=241						
TIPB	**Shuangxi**	**0.69**	**360**	P	Pb	07 04 52.0	+0.2
	baz=359						
TIPB				S	Sb	07 05 01.4	0.0
	baz=359						
TWA	**Mucha**	**0.74**	**342**	*e*P	Pb	07 04 53.0	+0.4
	baz=342						
TWA				*e*S	Sb	07 05 03.2	+0.6
	baz=342						
NHDH	**Xindian Distri**	**0.74**	**338**	*e*P	Pb	07 04 52.5	-0.1
	baz=337						
NHDH				*e*S	Sb	07 05 02.8	+0.2
	baz=337						
NWF	**Wu-fen Shan**	**0.80**	**357**	*e*P	Pb	07 04 53.9	+0.3
	baz=356						
NWF				S	Sb	07 05 05.2	+0.9
	baz=356						
WHP	**Taichung City**	**0.81**	**270**	*e*P	Pb	07 04 54.3	+0.5
	baz=270						
WHP				S	Sn	07 05 06.0	-0.9
	baz=270						
TAP	**Taipei**	**0.82**	**339**	*e*P	Pb	07 04 53.9	0.0
	baz=339						
TAP				*e*S	Sb	07 05 05.8	+1.0
	baz=339						
LIOB	**Emei**	**0.83**	**297**	*e*P	Pb	07 04 54.1	-0.1
	baz=296						
LIOB				*e*S	Sb	07 05 05.7	+0.5
	baz=296						
NSTT	**Nanjuang**	**0.83**	**295**	*e*P	Pb	07 04 54.3	+0.1
	baz=295						
NSTT				*e*S	Sb	07 05 06.1	+0.7
	baz=295						
HGSD	**Ruisui**	**0.86**	**206**	*e*P	Pg	07 04 54.4	-0.1
	baz=205						
HGSD				*e*S	Sb	07 05 07.0	+0.8
	baz=205						
WCS	**Beigang Elemen**	**0.87**	**256**	*e*S	Sb	07 05 07.2	+0.9
	baz=255						
YM01	**YM01**	**0.90**	**345**	*e*P	Pn	07 04 56.6	+0.4
	baz=344						
YM01				*e*S	Sn	07 05 08.5	-0.7
	baz=344						
NCU	**National Centr**	**0.91**	**320**	*e*P	Pb	07 04 55.9	+0.4
	baz=320						
NCU				*e*S	Sg	07 05 06.9	-0.3
	baz=320						
HSN	**Hsinchu**	**0.94**	**304**	*e*S	Sb	07 05 09.0	+0.5
	baz=306						

TAP 05 07:04:40.7, 24°.38N×121°.39E, h11^{km}, ML1.9, 1C-1D, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNS	**Nan Shan**	**0.07**	**349**	⇓*i*P	Pg	07 04 43.8	+0.6
	baz=355						
NNS				*i* S	Sg	07 04 45.1	+0.2
	baz=355						
FUSS	**Fushou**	**0.18**	**226**	*i* P	Pb	07 04 45.7	-0.6
	baz=225						
TWT	**Tachien**	**0.23**	**238**	*e*P	Pb	07 04 46.5	-0.5
	baz=238						
TDCB	**Techi**	**0.24**	**240**	P	Pg	07 04 46.4	+0.6
	baz=239						
TDCB				S	Sg	07 04 51.2	+2.0
	baz=239						
NDT	**Datong Townshi**	**0.25**	**27**	S	Sb	07 04 50.9	-0.9
	baz=27						
WHF	**Hehuan Shan**	**0.26**	**206**	⇑*i*P	Pb	07 04 47.1	-0.5
	baz=204						
WHF				S	Sg	07 04 51.0	+1.2
	baz=204						
YHNB	**Yeheng**	**0.29**	**358**	P	Pb	07 04 47.6	-0.5
	baz=358						
YHNB				S	Sb	07 04 52.3	-0.7
	baz=358						
NSK	**Sanguang**	**0.30**	**355**	P	Pb	07 04 47.7	-0.5
	baz=356						
NSK				S	Sb	07 04 53.2	0.0
	baz=356						
TWD	**Chiawan**	**0.35**	**147**	*e*P	Pb	07 04 49.0	0.0
	baz=145						
TWD				*e*S	Sb	07 04 54.4	-0.2
	baz=145						
TWD	**Chiawan**	**0.35**	**147**	S	Pb	07 04 49.0	0.0
	baz=226						
EWUT	**Wuta**	**0.36**	**79**	*e*P	Pb	07 04 49.2	0.0
	baz=79						
EWUT				*e*S	Sb	07 04 54.6	-0.4
	baz=79						
CHGB	**Renai**	**0.37**	**212**	P	Pb	07 04 49.0	-0.5
	baz=211						
CHGB				*e*S	Sb	07 04 54.9	-0.4
	baz=211						
NDS	**Dongshan**	**0.39**	**49**	*e*P	Pb	07 04 49.6	-0.1
	baz=49						
NDS				*e*S	Sb	07 04 56.1	+0.2
	baz=49						
WHP	**Taichung City**	**0.41**	**256**	*e*P	Pb	07 04 49.7	-0.4
	baz=256						
WHP				*e*S	Sb	07 04 56.6	+0.1
	baz=256						
ETM	**Tongmen**	**0.42**	**167**	*e*P	Pb	07 04 50.0	-0.1
	baz=166						
TWE	**Neicheng**	**0.43**	**37**	P	Pb	07 04 50.1	-0.2
	baz=38						
TWE				S	Sb	07 04 56.9	+0.1
	baz=38						
LIOB	**Emei**	**0.43**	**309**	P	Pg	07 04 49.8	+0.6
	baz=308						
LIOB				*e*S	Sb	07 04 56.7	-0.2
	baz=308						
HWA	**Hwalien**	**0.44**	**153**	*e*P	Pb	07 04 50.5	-0.1
	baz=152						
WCS	**Beigang Elemen**	**0.54**	**234**	*e*P	Pb	07 04 51.9	-0.3
	baz=233						
WCS				*e*S	Sb	07 05 00.7	+0.7
	baz=233						
SBCB	**Hsinchu**	**0.55**	**319**	*e*P	Pb	07 04 52.2	-0.3
	baz=318						
ESL	**Shilin**	**0.56**	**176**	*e*P	Pb	07 04 52.2	-0.4
	baz=174						
ESL				*e*S	Sb	07 05 01.6	+1.0
	baz=174						

*AEIC **05** 07:07:43±2.7, 51°.37N±0°.05×174°.35W±0°.05, h24^{km}±7^{km}, ML3.1/19, mb4.1/18(NEIC), Error ellipse: s-maj=7.5km s-min=4.1km az=180.0*

*NEIC **05** 07:07:44.2±1.7, 51°.36N±0°.04×174°.28W±0°.07, h43^{km}±16^{km}, Error ellipse: s-maj=6.8km s-min=5.9km az=59.0*

ISC 05 07:07:44.7±0.9**, 51°.4N**±0°.1×**174°.24W**±0°.05**, h35^{km}, n45, σ1s.01**/47**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.83**	**2**	Pn	**Pn**	**07 07 59.0**	**-0.9**
ATKA	**Atka Island**	**0.83**	**2**		**Sn**	**07 08 11.9**	**+1.1**
KOFP	**Korovin Flat P**	**0.91**	**6**		**Pn**	**07 08 00.8**	**-0.2**
KOKL	**Mount Kliuchef**	**0.95**	**2**		**Pn**	**07 08 01.3**	**-0.3**
GSIG	**Igitkin Island**	**1.22**	**301**		**Sn**	**07 08 20.4**	**0.0**
GSMY	**Great Sitkin M**	**1.31**	**301**		**Pn**	**07 08 05.2**	**-1.3**
GSTR	**Great Sitkin T**	**1.34**	**303**	Pn	**Pn**	**07 08 05.7**	**-1.2**
GSTD	**Great Sitkin T**	**1.37**	**301**		**Pn**	**07 08 06.2**	**-1.1**
GSTD					**Sn**	**07 08 24.8**	**+0.6**
ETKA	**Kagalaska Isla**	**1.44**	**291**		**Pn**	**07 08 06.9**	**-1.2**
ADK	**Adak**	**1.61**	**290**	Pn	**Pn**	**07 08 09.2**	**-1.3**
ADK	**Adak**	**1.61**	**290**		**Sn**	**07 08 30.0**	**0.0**
KIWB	**Kanaga Island**	**1.88**	**286**	Pn	**Pn**	**07 08 13.7**	**-0.5**
KIKV	**Kanaga Island**	**1.90**	**287**		**Pn**	**07 08 13.9**	**-0.6**
KIMD	**Kanaga Island**	**1.91**	**283**		**Pn**	**07 08 13.9**	**-0.8**
KICM	**Kanaga Island**	**1.92**	**288**		**Pn**	**07 08 14.7**	**-0.2**
TAFP	**Tanaga Falls P**	**2.39**	**284**		**Pn**	**07 08 21.2**	**-0.2**
TAFP					**Sn**	**07 08 49.9**	**+0.5**
TASE	**Tanaga Southea**	**2.41**	**283**		**Pn**	**07 08 21.4**	**-0.2**
NIKH	**Nikolski High**	**3.68**	**62**	Pn	**Pn**	**07 08 39.5**	**+0.5**
AMKA	**Amchitka**	**4.05**	**273**	Pn	**Pn**	**07 08 42.9**	**-1.1**
UNV	**Unalaska Valle**	**5.32**	**59**	Pn	**Pn**	**07 09 00.9**	**-0.7**
CNBA	**Chernabura Isl**	**9.46**	**63**	Pn	**Pn**	**07 09 58.4**	**+0.1**
CHGN	**Chignik**	**10.57**	**56**	Pn	**Pn**	**07 10 13.8**	**+0.4**
CNPM	**China Poot**	**15.33**	**49**	Pn	**Pn**	**07 11 19.9**	**+1.8**
SEW	**Seward**	**16.38**	**48**	Pn	**Pn**	**07 11 29.6**	**-1.9**
SEW				IAmb	IAmb	07 11 45.8	
	comp=Z,16nm,1.3s						
GHO	**Glory Hole Cre**	**17.28**	**43**	P	**Pn**	**07 11 43.2**	**+0.2**
KNK	**Knik Glacier**	**17.33**	**45**	P	**Pn**	**07 11 42.0**	**-1.6**
KNK				IAmb	IAmb	07 11 56.6	
	comp=Z,16nm,1.3s						
SML	**Sawmill**	**17.55**	**43**		**Pn**	**07 11 45.2**	**-1.1**
SCM	**Sheep Creek Mo**	**18.00**	**44**	P	**Pn**	**07 11 51.2**	**-0.6**
SCM				IAmb	IAmb	07 12 12.6	
	comp=Z,28nm,1.4s						
KLU	**Klutina**	**18.49**	**46**	P	**P**	**07 11 57.5**	**0.0**
KLU				IAmb	IAmb	07 12 23.3	
	comp=Z,21nm,1.3s						
CCB	**Clear Creek Bu**	**19.11**	**36**	P	**P**	**07 12 03.0**	**-1.1**
CCB				IAmb	IAmb	07 12 19.9	
	comp=Z,22nm,1.4s						
MDM	**Murphy Dome**	**19.12**	**35**	P	**P**	**07 12 03.4**	**-1.0**
HDA	**Harding Lake**	**19.30**	**37**	P	**P**	**07 12 05.2**	**-1.1**
HDA				IAmb	IAmb	07 12 21.0	
	comp=Z,17nm,1.3s						
IL31		**19.51**	**36**	P	**P**	**07 12 07.5**	**-0.9**
IL31				IAmb	IAmb	07 12 20.9	
	comp=Z,17nm,1.4s						
ILAR	**Eielson Array**	**19.51**	**36**	P	**P**	**07 12 08.3**	**-0.2**
H24K	**Noodor Dome**	**19.73**	**33**	P	**P**	**07 12 11.2**	**+0.2**
RIDG	**Independent Ri**	**19.82**	**40**	P	**P**	**07 12 10.7**	**-1.3**
RIDG				IAmb	IAmb	07 12 22.8	
	comp=Z,16nm,1.2s						
DOT	**Dot Lake**	**20.10**	**41**	P	**P**	**07 12 13.8**	**-1.2**
DOT				IAmb	IAmb	07 12 23.6	
	comp=Z,16nm,1.1s						
SCRK	**Sand Creek**	**20.26**	**40**	P	**P**	**07 12 15.7**	**-1.2**
SCRK				IAmb	IAmb	07 12 26.0	
	comp=Z,7.3nm,1.0s						
BCAR	**Beaver Creek A**	**20.84**	**43**		**P**	**07 12 22.7**	**-0.4**
EGAK	**Eagle**	**21.71**	**39**	P	**P**	**07 12 32.1**	**-0.2**
JTM	**Tenmabayashi**	**32.29**	**269**	P	**P**	**07 14 10.6**	**+0.7**
D05A	**Enumclaw**	**33.74**	**76**	P	**P**	**07 14 21.8**	**-0.8**
CN2	**Changchun**	**40.34**	**284**	*e*P	**P**	**07 15 21.4**	**+2.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**50.42**	**289**	*e*P	**P**	**07 16 37.4**	**-1.2**
HHC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,170nm,5.6s						
WMQ	**Urumqi**	**61.71**	**306**	*e*P	**P**	**07 17 59.7**	**+0.6**

*BJI **05** 07:08:44.1±0.0, 51°.69N×174°.52W, h5^{km}, mB5.2/26, mb5.0/57, Ms5.3/23, Ms7 5.1/23*

*IDC **05** 07:08:44.6±0.5, 51°.52N×174°.33W, h0^{km}, mb4.5/37, mb1 4.6/39, mb1mx4.6/53, mbtmp4.5/39, ML4.3/2, MS4.7/3, Ms1 4.7/3, ms1mx3.9/49, Error ellipse: s-maj=16.3km s-min=9.2km az=175.0*

*AEIC **05** 07:08:47±1.7, 51°.32N±0°.05×174°.25W±0°.06, h20^{km}±3^{km}, ML4.6, mb5.0/118(NEIC), Error ellipse: s-maj=8.2km s-min=5.3km az=157.0*

*NEIC **05** 07:08:47.2±1.7, 51°.39N±0°.06×174°.27W±0°.06, h19^{km}±2^{km}, Error ellipse: s-maj=8.9km s-min=5.7km az=173.0*

*MOS **05** 07:08:48.8±0.9, 51°.63N×174°.26W, h39^{km}, mb5.2/55, Error ellipse: s-maj=7.6km s-min=7.1km az=115.3*

*GCMT **05** 07:08:51.0±0.4, 51°.35N±0°.03×174°.16W±0°.04, h30^{km}±1^{km}, MW5.1/96, Moment Tensor Solution. s16,c18; s96,c139; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.79±.40; $M_{\theta\theta}$-3.74±.24; $M_{\phi\phi}$-1.06±.21; $M_{r\theta}$2.77±.23; $M_{\theta\phi}$-1.22±.08; $M_{\phi r}$1.56±.22; Best double couple: $M_0$5.50900×10^{16} NP1:ϕ_s252.00000°, δ28.00000°, λ97.00000°. NP2: ϕ_s64.00000°, δ63.00000°, λ86.00000°. Principal axes: T 5.8100, Plg72.0000°, Azm326.0000°; N -0.6130, Plg3.0000°, Azm66.0000°; P -5.2070, Plg18.0000°, Azm157.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **05** 07:08:59.5±0.0, 52°.78N×176°.70W, h33^{km}, mb5.0*

ISC 05 07:08:50.1±0.4**, 51°.49N**±0°.06×**174°.26W**±0°.03**, h38^{km}, n652, σ1s.09**/659**, mb5.0**/207**, MS5.1**/10**, 18C-23D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.71**	**3**	Pn	**Pn**	**07 09 03.7**	**0.0**
ATKA	**Atka Island**	**0.71**	**3**		**Sn**	**07 09 16.4**	**+3.1**
KOFP	**Korovin Flat P**	**0.79**	**7**		**Pn**	**07 09 05.4**	**+0.6**
KOKL	**Mount Kliuchef**	**0.83**	**2**		**Pn**	**07 09 06.2**	**+0.8**
KOSE	**Korovin Southe**	**0.86**	**8**		**Pn**	**07 09 06.8**	**+1.0**
KONE	**Korovin Northe**	**0.91**	**5**		**Pn**	**07 09 07.4**	**+1.1**
GSTR	**Great Sitkin T**	**1.27**	**299**	Pn	**Pn**	**07 09 11.1**	**-0.3**
GSTD	**Great Sitkin T**	**1.30**	**296**		**Pn**	**07 09 11.5**	**-0.3**
GSSP	**Great Sitkin S**	**1.33**	**297**		**Pn**	**07 09 12.1**	**-0.1**
ETKA	**Kagalaska Isla**	**1.39**	**286**		**Pn**	**07 09 12.5**	**-0.4**
ADAG	**Mount Adagdak**	**1.54**	**289**		**Pn**	**07 09 14.7**	**-0.3**
ADK	**Adak**	**1.56**	**285**	P	**Pn**	**07 09 14.4**	**-0.9**
ADK	**Adak**	**1.56**	**285**	Pn	**Pn**	**07 09 14.4**	**-0.9**
ADK	**Adak**	**1.56**	**285**		**Sn**	**07 09 35.2**	**+0.9**
KIWB	**Kanaga Island**	**1.84**	**282**	Pn	**Pn**	**07 09 18.0**	**-1.1**
KIKV	**Kanaga Island**	**1.85**	**283**		**Pn**	**07 09 19.2**	**-0.1**
KIMD	**Kanaga Island**	**1.88**	**279**		**Pn**	**07 09 19.0**	**-0.6**
KICM	**Kanaga Island**	**1.88**	**284**		**Pn**	**07 09 20.1**	**+0.4**
TAFP	**Tanaga Falls P**	**2.35**	**281**		**Pn**	**07 09 26.6**	**+0.4**
GAEA	**Gareloi East**	**2.81**	**278**		**Pn**	**07 09 32.8**	**+0.3**
GALAA	**Gareloi Lava P**	**2.83**	**277**		**Pn**	**07 09 33.1**	**+0.4**
GALAA					**Sn**	**07 10 07.9**	**+2.4**
NIKH	**Nikolski High**	**3.64**	**64**	Pn	**Pn**	**07 09 43.2**	**-0.6**
NIKH	**Nikolski High**	**3.64**	**64**	P	**Pn**	**07 09 43.8**	**0.0**
	baz=245						
AMKA	**Amchitka**	**4.03**	**271**	Pn	**Pn**	**07 09 46.6**	**-2.6**
OKSP	**Okmok Steeple**	**4.06**	**62**		**Pn**	**07 09 50.8**	**+1.1**
OKCE	**Okmok Cone E**	**4.20**	**60**		**Pn**	**07 09 53.2**	**+1.6**
OKTU	**Okmok Mt. Tuli**	**4.25**	**61**		**Pn**	**07 09 53.1**	**+0.9**
LSPA	**Little Sitkin**	**4.48**	**279**		**Pn**	**07 09 55.4**	**-0.1**
LSNW	**Little Sitkin**	**4.52**	**279**		**Pn**	**07 09 56.0**	**+0.1**
LSSA	**Little Sitkin**	**4.52**	**279**		**Pn**	**07 09 55.6**	**-0.3**
MAPS	**Pakushin South**	**5.02**	**60**		**Pn**	**07 10 03.8**	**+1.0**
MSW	**Makushin Switc**	**5.15**	**59**		**Pn**	**07 10 06.1**	**+1.5**
MNAT	**Makushin Natee**	**5.19**	**60**		**Pn**	**07 10 06.2**	**+1.1**
UNV	**Unalaska Valle**	**5.27**	**60**	Pn	**Pn**	**07 10 05.7**	**-0.5**
UNV	**Unalaska Valle**	**5.27**	**60**	P	**Pn**	**07 10 07.9**	**+1.7**
	baz=245,SNR=16						
AKMO	**Akutan Morgan**	**5.64**	**59**		**Pn**	**07 10 12.4**	**+1.1**
AKBBA	**Akutan Broad B**	**5.68**	**59**		**Pn**	**07 10 12.9**	**+1.0**
AKGG	**Akutan Green G**	**5.69**	**58**		**Pn**	**07 10 12.7**	**+0.6**
AKUT	**Akutan**	**5.79**	**59**	Pn	**Pn**	**07 10 13.3**	**0.0**
AKSA	**Akutan Strait**	**5.83**	**60**		**Pn**	**07 10 15.0**	**+1.1**
SPIA	**Saint Paul Isl**	**6.16**	**21**		**Pn**	**07 10 19.4**	**+1.1**
WECS	**Westdahl Cape**	**6.48**	**58**		**Pn**	**07 10 23.8**	**+1.0**
WESP	**Westdahl Peak**	**6.49**	**59**		**Pn**	**07 10 24.1**	**+1.0**
SMY	**Shemya**	**7.28**	**284**	P	**Pn**	**07 10 33.1**	**-0.7**
SMY	**Shemya**	**7.28**	**284**	Pn	**Pn**	**07 10 33.1**	**-0.7**
FALS	**False Pass**	**7.33**	**58**	Pn	**Pn**	**07 10 35.2**	**+0.8**
FALS	**False Pass**	**7.33**	**58**	P	**Pn**	**07 10 36.4**	**+1.9**
	baz=246						
SDPT	**Sand Point**	**9.09**	**59**	Pn	**Pn**	**07 10 57.8**	**-0.8**
SDPT	**Sand Point**	**9.09**	**59**	P	**Pn**	**07 10 58.8**	**+0.3**
	baz=249						
CNBA	**Chernabura Isl**	**9.42**	**64**	Pn	**Pn**	**07 11 02.0**	**-1.0**
CHNA	**Chernabura Isl**	**9.42**	**63**	P	**Pn**	**07 11 03.1**	**0.0**
	baz=254						
CHGN	**Chignik**	**10.51**	**57**	Pn	**Pn**	**07 11 18.1**	**+0.1**
CHGN	**Chignik**	**10.51**	**57**	P	**Pn**	**07 11 18.4**	**+0.5**
	baz=248						
GAMB	**Gambell**	**12.39**	**5**	P	**Pn**	**07 11 47.2**	**+3.6**
	baz=187						
SII	**Sitkinak Islan**	**12.82**	**59**	Pn	**Pn**	**07 11 48.2**	**-1.4**
OHAK	**Old Harbor**	**13.48**	**57**	P	**Pn**	**07 11 56.2**	**-2.3**
	baz=253						
O18K	**Koktuh Hills**	**13.58**	**45**		**Pn**	**07 12 00.8**	**+0.8**
O18K	**Koktuh Hills**	**13.58**	**45**	P	**Pn**	**07 12 00.3**	**+0.4**
	baz=240						
N18K	**Kilae Creek**	**13.73**	**41**		**Pn**	**07 12 03.1**	**+1.2**
Q19K	**Cape Douglas,**	**13.88**	**50**		**Pn**	**07 12 02.2**	**-1.9**
Q19K	**Cape Douglas,**	**13.88**	**50**	P	**Pn**	**07 12 03.6**	**-0.5**
	baz=246						
KDAK	**Kodiak Island**	**14.00**	**55**	Pn	**Pn**	**07 12 03.0**	**-2.7**
	1.7nm,0.3s,baz=289,slow=8.5,SNR=8.2						
KDAK				Sn	**Sn**	**07 14 35.5**	**-4.1**
	baz=289,slow=12,SNR=1.0						
KDAK	**Kodiak Island**	**14.00**	**55**	P	**Pn**	**07 12 04.6**	**-1.1**
KDAK	**Kodiak Island**	**14.00**	**55**		**Pn**	**07 12 04.6**	**-1.1**
KDAK	**Kodiak Island**	**14.00**	**55**	P	**Pn**	**07 12 06.1**	**+0.4**
	baz=252						
SVW2	**Sparrevohn**	**14.09**	**40**		**Pn**	**07 12 06.9**	**+0.1**
N19K	**Bonanza Creek**	**14.38**	**42**		**Pn**	**07 12 09.8**	**-1.1**
N19K	**Bonanza Creek**	**14.38**	**42**	P	**Pn**	**07 12 12.7**	**+1.8**
	baz=238						
TNA	**Tin City**	**14.48**	**11**	P	**Pn**	**07 12 14.6**	**+2.5**
	baz=196						
O20K	**Slope Mountain**	**14.84**	**46**	P	**P**	**07 12 19.7**	**-2.6**
	baz=244						
RSO	**Redoubt South**	**14.95**	**45**		**Pn**	**07 12 18.6**	**-0.1**
L19K	**White Mountain**	**15.01**	**37**	P	**P**	**07 12 23.0**	**-1.1**
	baz=233						
M19K	**Big River Lodg**	**15.02**	**38**		**Pn**	**07 12 17.9**	**-1.5**
M19K				IAmb	IAmb	07 12 41.5	
	comp=Z,97nm,1.4s						
M19K	**Big River Lodg**	**15.02**	**38**	P	**P**	**07 12 22.4**	**-1.9**
	baz=235						
CNPM	**China Poot**	**15.25**	**49**		**Pn**	**07 12 21.1**	**-1.3**
CNPM				IAmb	IAmb	07 12 49.2	
	comp=Z,41nm,0.8s						
M20K	**Styx River**	**15.50**	**40**		**Pn**	**07 12 26.9**	**+1.2**
M20K	**Styx River**	**15.50**	**40**	P	**P**	**07 12 29.5**	**-0.2**
	baz=237,SNR=16						
BRLK	**Bradley Lake**	**15.51**	**49**		**Pn**	**07 12 25.9**	**+0.1**
L20K	**Farewell, AK**	**15.55**	**37**	P	**P**	**07 12 29.2**	**-1.0**
	baz=234						
BRSE	**Bradley Lake S**	**15.57**	**49**	P	**Pn**	**07 12 25.8**	**-0.8**
	baz=248						
K20K	**Telida**	**16.01**	**34**		**Pn**	**07 12 32.7**	**+0.5**
K20K	**Telida**	**16.01**	**34**	P	**P**	**07 12 35.2**	**-0.1**
	baz=231,SNR=14						
SKT	**Skwentna**	**16.20**	**41**	P	**P**	**07 12 36.2**	**-1.1**
SKT				IAmb	IAmb	07 12 48.3	
	comp=Z,138nm,1.8s						
SKT	**Skwentna**	**16.20**	**41**	P	**P**	**07 12 36.6**	**-0.7**
	baz=239						
SEW	**Seward**	**16.30**	**48**	P	**Pn**	**07 12 33.2**	**-2.7**
	baz=248						
J20K	**Nowinta River**	**16.51**	**32**	P	**Pn**	**07 12 39.2**	**+0.7**
J20K	**Nowinta River**	**16.51**	**32**	P	**P**	**07 12 41.6**	**+0.8**
	baz=229						
RC01	**Rabbit Creek A**	**16.56**	**45**	P	**Pn**	**07 12 38.6**	**-0.5**
	baz=245						
CHUM	**Lake Minchumin**	**16.95**	**35**	P	**P**	**07 12 46.3**	**+0.7**
	baz=233,SNR=15						
PEA0B	**Petropavlovsk-**	**17.19**	**286**	*i* P	**P**	**07 12 48.2**	**-0.1**
PETK	**Petropavlovsk-**	**17.19**	**286**	P	**Pn**	**07 12 47.3**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=91,slow=13,SNR=12						
PETK				LR	LR	07 18 56.8	
	comp=Z,1μm,19.9s,baz=87,slow=36						
GHO	**Glory Hole Cre**	**17.20**	**43**	P	**Pn**	**07 12 46.3**	**-0.9**
KNK	**Knik Glacier**	**17.25**	**45**	P	**Pn**	**07 12 47.1**	**-0.7**
KNK				IAmb	IAmb	07 13 03.9	
	comp=Z,36nm,0.6s						
KNK	**Knik Glacier**	**17.25**	**45**	P	**Pn**	**07 12 46.5**	**-1.3**
	baz=246						
KTH	**Kantishna Hill**	**17.27**	**37**	P	**P**	**07 12 49.5**	**+0.3**
KTH				IAmb	IAmb	07 13 00.7	
	comp=Z,74nm,1.1s						
TRF	**Thorofare Moun**	**17.45**	**37**	P	**Pn**	**07 12 50.9**	**+0.4**
TRF				IAmb	IAmb	07 13 17.2	
	comp=Z,117nm,1.5s						
TRF	**Thorofare Moun**	**17.45**	**37**	P	**P**	**07 12 52.3**	**+1.0**
	baz=237						
SML	**Sawmill**	**17.47**	**44**	P	**Pn**	**07 12 50.1**	**-0.4**
	baz=245,SNR=5.4						
BPAW	**Bear Paw Mtn.**	**17.56**	**35**	P	**Pn**	**07 12 51.8**	**+0.2**
BPAW				IAmb	IAmb	07 13 15.8	
	comp=Z,107nm,1.4s						
BPAW	**Bear Paw Mtn.**	**17.56**	**35**	P	**P**	**07 12 53.0**	**+0.7**
	baz=235,SNR=12						
GLI	**Glacier Island**	**17.67**	**47**	P	**Pn**	**07 12 52.4**	**-0.5**
	baz=250						
WAT1	**Susitna Watana**	**17.83**	**41**	P	**Pn**	**07 12 54.1**	**-0.8**

baz=242
I21K **Tanana** 17.87 31 P P 07 12 55.6 -0.2
I21K **Tanana** 17.87 31 P P 07 12 57.5 +1.7
baz=230,SNR=6.4
FID **Port Fidalgo** 17.91 48 P Pn 07 12 53.6 -2.4
RND **Reindeer** 17.98 39 P Pn 07 12 56.7 -0.2
RND pmax pmax
comp=Z,28nm,0.8s
RND **Reindeer** 17.98 39 P Pn 07 12 56.7 -0.2
WAT6 **Susitna Watana** 18.05 42 P Pn 07 12 57.8 0.0
baz=244
MCK **McKinley** 18.12 38 P Pn 07 12 57.0 -1.5
MCK pmax pmax
comp=Z,41nm,1.0s
MCK **McKinley** 18.12 38 P Pn 07 12 57.0 -1.5
MCK **McKinley** 18.12 38 P Pn 07 12 57.3 -1.1
baz=239,SNR=9.1
BWN **Browne** 18.15 36 P Pn 07 12 58.6 -0.3
BWN IAmb IAmb 07 13 08.6
comp=Z,194nm,1.5s
MLY **Manley** 18.19 33 P Pn 07 13 00.6 +1.2
baz=233,SNR=14
KLU **Klutina** 18.41 46 P P 07 13 00.3 -1.5
KLU **Klutina** 18.41 46 P P 07 13 01.3 -0.5
baz=250
M24K **Tolsona, Glenn** 18.52 44 P P 07 13 02.3 -0.8
M24K IAmb IAmb 07 13 20.9
comp=Z,187nm,1.4s
M24K **Tolsona, Glenn** 18.52 44 P Pn 07 13 04.4 +1.0
baz=247,SNR=8.6
NEA2 **Nenana** 18.52 35 P P 07 13 02.7 -0.3
baz=236
SKR **Severo-Kuril's** 18.58 279 eP Pn 07 13 03.9 -0.2
SKR eS S 07 16 32.7 -0.5
SKR pmax pmax
comp=Z,24nm,0.8s
SKR MLR MLR
comp=Z,1µm,16.0s
SKR MLR MLR
comp=Z,800nm,15.0s
I23K **Minto, Yukon-K** 18.73 34 P Pn 07 13 05.7 -0.1
I23K IAmb IAmb 07 13 13.6
comp=Z,295nm,1.6s
I23K **Minto, Yukon-K** 18.73 34 P Pn 07 13 06.3 +0.4
baz=235,SNR=38
WRH **Wood River Hil** 18.82 36 P P 07 13 05.9 -0.3
BMRM **Bremner River** 18.85 48 P P 07 13 06.5 -0.2
BMRM IAmb IAmb 07 13 24.4
comp=Z,110nm,1.4s
BMRM **Bremner River** 18.85 48 P P 07 13 06.7 0.0
baz=253
MDM **Murphy Dome** 19.03 35 P P 07 13 08.5 0.0
N25K **Chitina, Valde** 19.05 46 P P 07 13 08.2 -0.6
N25K **Chitina, Valde** 19.05 46 P P 07 13 07.9 -0.9
baz=251
H23K **Yukon River** 19.07 32 P Pn 07 13 12.7 +2.7
baz=233,SNR=13
HARP **HAARP** 19.07 44 P P 07 13 09.4 +0.4
baz=248
BILL **Bilibino** 19.11 337 ceP Pn 07 13 11.1 +0.7
BILL eS Sn 07 16 43.0 -0.2
BILL pmax pmax
comp=Z,186nm,1.4s
BILL MLR MLR
comp=Z,1µm,15.0s
TCOL **CIGO, UAF Yank** 19.11 35 P P 07 13 09.6 +0.2
COLA **College** 19.12 35 P P 07 13 09.2 -0.2
COLA pmax pmax
comp=Z,45nm,1.1s
COLA **College** 19.12 35 P P 07 13 09.2 -0.2
COLA **College** 19.12 35 P Pn 07 13 10.6 +0.1
baz=238
PAX **Paxson** 19.16 42 P P 07 13 10.0 0.0
PAX pmax pmax
comp=Z,16nm,0.8s
PAX **Paxson** 19.16 42 P P 07 13 10.0 0.0
PAX **Paxson** 19.16 42 P P 07 13 10.6 +0.5
baz=246,SNR=7.0
HDA **Harding Lake** 19.21 37 P P 07 13 09.8 -0.7
HDA IAmb IAmb 07 13 12.6
comp=Z,77nm,1.1s
HDA **Harding Lake** 19.21 37 P P 07 13 10.1 -0.4
baz=240,SNR=22
POKR **Poker Flat Res** 19.40 35 P Pn 07 13 14.0 +0.1
baz=238
ILAR **Eielson Array** 19.42 36 P P 07 13 10.8 -1.9
comp=Z,3.6nm,0.3s,baz=235,slow=8.6,SNR=64
ILAR **Eielson Array** 19.42 36 P P 07 13 12.5 -0.3
ILAR **Eielson Array** 19.42 36 P P 07 13 12.5 -0.3
CRQM **Cirque** 19.49 50 P P 07 13 13.3 -0.4
CRQM IAmb IAmb 07 13 38.6
comp=Z,35nm,0.7s
H24K **Noodor Dome** 19.64 33 P P 07 13 14.7 -0.5
H24K IAmb IAmb 07 13 39.6
comp=Z,54nm,0.9s
H24K **Noodor Dome** 19.64 33 P P 07 13 15.7 +0.5
baz=235,SNR=27
RIDG **Independent Ri** 19.73 40 P P 07 13 15.3 -0.9
baz=245,SNR=14
COLD **Coldfoot** 19.75 28 P P 07 13 16.3 -0.1
COLD **Coldfoot** 19.75 28 P Pn 07 13 17.2 -0.8
baz=229
MENT **Mentasta** 19.89 43 P Pn 07 13 20.0 +0.3
J25K **Salcha River,** 19.91 38 P P 07 13 17.1 -1.1
baz=242,SNR=42
DOT **Dot Lake** 20.02 41 P P 07 13 17.9 -1.3
DOT IAmb IAmb 07 13 41.4
comp=Z,34nm,0.7s
M26K **Nabesna, AK** 20.02 45 P P 07 13 19.3 -0.1
M26K IAmb IAmb 07 13 35.4
comp=Z,34nm,0.5s
M26K **Nabesna, AK** 20.02 45 P Pn 07 13 20.6 -0.8
baz=251,SNR=20
L26K **Log Cabin Wild** 20.08 43 P P 07 13 19.1 -0.9
L26K IAmb IAmb 07 13 39.1
comp=Z,24nm,0.5s
L26K **Log Cabin Wild** 20.08 43 P Pn 07 13 21.8 -0.2
baz=249,SNR=14
SCRK **Sand Creek** 20.18 40 P P 07 13 20.0 -1.2
SCRK IAmb IAmb 07 13 36.0
comp=Z,56nm,0.7s
SCRK **Sand Creek** 20.18 40 P P 07 13 20.0 -1.2
baz=246,SNR=47
BARN **Barnard Glacie** 20.26 49 P P 07 13 22.4 +0.3
PRP **Porcupine Dome** 20.29 35 P P 07 13 22.2 -0.1
PRP **Porcupine Dome** 20.29 35 P P 07 13 22.4 0.0
baz=240,SNR=7.1
CTG **Chitna Glacier** 20.39 50 P P 07 13 24.5 +1.0
baz=257
CTGM **Chitina Glacie** 20.39 50 P P 07 13 21.9 -1.7
CTGM IAmb IAmb 07 13 44.1
comp=Z,34nm,0.7s
J26K **Charley River,** 20.50 39 P P 07 13 23.7 -0.9
baz=244,SNR=42
M27K **Edge Creek, AK** 20.50 45 P P 07 13 23.9 -0.9
M27K **Edge Creek, AK** 20.50 45 P Pn 07 13 26.5 -0.5
baz=252,SNR=10.0
L27K **Beaver Creek,** 20.74 44 P P 07 13 25.8 -1.4
L27K IAmb IAmb 07 13 47.0
comp=Z,16nm,0.7s
L27K **Beaver Creek,** 20.74 44 P Pn 07 13 28.8 -0.9
baz=251
PINM **Pinnacle** 20.75 52 P P 07 13 27.8 +0.5
baz=260
TOLK **Toolik Lake Re** 20.88 25 P P 07 13 28.8 +0.2
TOLK IAmb IAmb 07 13 36.0
comp=Z,62nm,0.8s
TOLK **Toolik Lake Re** 20.88 25 P P 07 13 29.4 +0.7
baz=227,SNR=14
BVCY **Beaver Creek** 20.97 46 P Pn 07 13 32.2 -0.2
baz=254,SNR=7.6
K27K **Chicken** 20.98 41 P P 07 13 29.1 -0.6
K27K IAmb IAmb 07 13 39.5
comp=Z,35nm,0.8s
K27K **Chicken** 20.98 41 P P 07 13 29.6 0.0
baz=248
YUK3 **Moose Creek** 20.99 48 P P 07 13 29.8 -0.2
baz=256
SEY **Seymchan** 21.11 316 P P 07 13 30.0 -1.0
comp=Z,9.4nm,0.9s,baz=148,slow=23,SNR=2.3
SEY **Seymchan** 21.11 316 i P P 07 13 31.7 +0.6
MA2 **Magadan** 21.16 306 P P 07 13 29.5 -2.1
comp=Z,5.0nm,0.7s,baz=262,slow=22,SNR=1.0
MA2 LR LR 07 21 15.4
comp=Z,5µm,18.3s,baz=112,slow=36
BMAR **Burnt Mountain** 21.62 31 P P 07 13 35.7 -0.8
EGAK **Eagle** 21.62 39 P P 07 13 35.1 -1.4
EGAK **Eagle** 21.62 39 P P 07 13 36.6 0.0
baz=248,SNR=57
YUK4 **Talbot Arm** 21.75 49 P P 07 13 40.2 +2.1
baz=259
YUK6 **Outpost Mounta** 21.81 50 P P 07 13 40.0 +1.1
baz=260
DAWY **Dawson** 22.10 42 P P 07 13 41.8 0.0
DAWY **Dawson** 22.10 42 P P 07 13 42.3 +0.6
baz=251,SNR=11
HYT **Haines Junctio** 22.21 51 P P 07 13 43.7 +0.6
baz=261
SIT **Sitka** 23.16 61 P P 07 13 53.9 +1.0
baz=272
BESE **Bessie Mountai** 23.38 57 P P 07 13 55.4 +0.3
BESE IAmb IAmb 07 14 29.2
comp=Z,114nm,1.7s
EPYK **Eagle Plains** 23.92 37 P P 07 13 59.8 -0.3
baz=250
CRAG **Craig** 24.53 64 P P 07 14 08.7 +2.9
baz=278
WRAK **Wrangell Islan** 24.85 62 P P 07 14 11.5 +2.9
baz=276,SNR=7.1
MMPY **Sheldon Lake,** 25.38 47 P P 07 14 13.8 +0.4
baz=264
INK **Inuvik** 25.75 34 P P 07 14 16.1 -0.5
comp=Z,3.7nm,0.6s,baz=248,slow=7.3,SNR=15
INK **Inuvik** 25.75 34 P P 07 14 16.3 -0.4
baz=250
DLBC **Dease Lake** 25.92 57 P P 07 14 20.3 +1.9
comp=Z,13nm,0.9s,baz=280,slow=8.0,SNR=14
YSS **Yuzh-Sakhalins** 28.13 278 eP P 07 14 38.7 +0.4
YSS pmax pmax
comp=Z,20nm,0.9s
BBB **Bella Bella** 28.15 70 P P 07 14 40.1 +1.8
comp=Z,5.3nm,0.9s,baz=295,slow=13,SNR=4.0
ASAJ **Asahikawa** 29.55 273 P P 07 14 52.0 +1.2
comp=Z,15nm,0.8s,baz=78,slow=1.2,SNR=8.8
YAK **Yakutsk** 31.48 311 i P P 07 15 07.6 -0.1
YAK pmax pmax
comp=Z,18nm,0.6s
TIXI **Tiksi** 31.95 330 PcP PcP 07 18 01.0 0.0
comp=Z,6.5nm,0.7s,baz=0.0,slow=2.0,SNR=2.4
YKA **Yellowknife Ar** 33.08 47 P P 07 15 22.1 +0.4
comp=Z,0.5nm,0.4s,baz=281,slow=6.9,SNR=5.6
YKA PcP PcP 07 18 04.3 +0.1
comp=Z,1.1nm,0.7s,baz=290,slow=2.3,SNR=3.6
B05A **Bryant** 33.18 75 P P 07 15 25.6 +2.8
baz=295
KLR **Kul'dur** 33.87 288 P P 07 15 28.2 -0.5
comp=Z,14nm,0.6s,baz=72,slow=8.2,SNR=41
KLR **Kul'dur** 33.87 288 i P P 07 15 28.1 -0.7
KLR pmax pmax
comp=Z,11nm,0.6s
ZEA **Zeya** 34.72 297 eP P 07 15 37.0 +0.9
H11N2 **WAKE ISLAND Hy** 34.99 212 T T 07 52 44.2
baz=19,slow=76,SNR=14
H11N3 **WAKE ISLAND Hy** 35.00 212 T T 07 52 55.7
baz=19,slow=76,SNR=19
H11N1 **WAKE ISLAND Hy** 35.01 212 T T 07 53 01.9
baz=19,slow=76,SNR=27
L02E **Cave Junction** 35.25 85 P P 07 15 42.3 +1.5
baz=303
I05D **Terrebonne, OR** 35.50 80 P P 07 15 44.3 +1.3
baz=301
HAWA **Hanford** 35.59 76 P P 07 15 42.9 -0.8
HAWA IAmb IAmb 07 16 13.1
comp=Z,18nm,1.1s
YBH **Yreka Blue Hor** 36.04 85 P P 07 15 49.5 +1.8
comp=Z,2.8nm,0.9s,baz=299,slow=4.0,SNR=4.5
USA0B **Ussuriysk Arra** 36.09 280 i P P 07 15 47.1 -0.8
USA0B **Ussuriysk Arra** 36.09 280 P P 07 15 46.6 -1.3
USA0B IAmb IAmb 07 15 48.9
comp=Z,26nm,0.7s
USRK **Ussuriysk Ar.** 36.09 280 P P 07 15 47.5 -0.4
comp=Z,26nm,0.6s,baz=56,slow=8.0,SNR=50
J05D **Fort Rock, OR** 36.12 82 P P 07 15 49.9 +1.6
baz=302
M02C **Callahan** 36.14 86 P P 07 15 50.4 +1.9
baz=304
NEW **Newport** 36.16 72 P P 07 15 49.6 +1.0
comp=Z,14nm,1.1s,baz=298,slow=6.3,SNR=8.3
NEW **Newport** 36.16 72 P P 07 15 48.3 -0.3
NEW IAmb IAmb 07 16 10.6
comp=Z,14nm,0.9s
NEW **Newport** 36.16 72 P P 07 15 49.0 +0.4
baz=297
H11S1 **WAKE ISLAND Hy** 36.19 212 T T 07 54 54.4
baz=19,slow=76,SNR=15
H11S2 **WAKE ISLAND Hy** 36.21 212 T T 07 54 59.6
baz=19,slow=76,SNR=16
H11S3 **WAKE ISLAND Hy** 36.21 212 T T 07 54 52.6
baz=19,slow=76,SNR=7.9
EDM **Edmonton** 36.25 63 P P 07 15 49.6 +0.3
EDM pmax pmax
comp=Z,65nm,0.7s
EDM **Edmonton** 36.25 63 P P 07 15 49.6 +0.3
N02D **Trinity Center** 36.47 86 P P 07 15 51.6 +0.2
baz=304
M04C **Macdoel** 36.56 84 P P 07 15 53.4 +1.3
baz=304
VLA **Vladivostok** 36.72 279 i P P 07 15 53.8 +0.5
VLA pmax pmax
comp=Z,60nm,1.0s
O02D **Mt. Diablo Mer** 36.88 87 P P 07 15 56.4 +1.6
baz=305
MDJ **Mudanjiang** 37.34 282 P P 07 15 56.5 -2.1
MDJ pmax pmax
comp=Z,13nm,1.1s
MDJ pmax pmax
comp=Z,480nm,11.0s
O03E **Paynes Creek** 37.42 86 P P 07 16 00.2 +0.7
baz=305
MSHR **Mys Shultsa** 37.46 278 i P P 07 16 00.1 +0.5
MSHR pmax pmax
comp=Z,24nm,0.9s
WVOR **Wild Horse Val** 38.18 81 P P 07 16 05.3 -0.6
WVOR pmax pmax
comp=Z,11nm,0.9s
WVOR **Wild Horse Val** 38.18 81 P P 07 16 05.2 -0.6
MSO **Missoula** 38.74 72 P P 07 16 10.2 -0.3
MSO IAmb IAmb 07 16 29.6
comp=Z,22nm,1.1s
MSO **Missoula** 38.74 72 P P 07 16 11.9 +1.4
baz=300
HLID **Hailey** 40.16 77 P P 07 16 23.0 +0.6
baz=303
CN2 **Changchun** 40.30 284 eP P 07 16 24.4 +1.0
CN2 pmax pmax
comp=Z,10.0nm,0.6s
KVN **Kaiserville** 40.46 85 P P 07 16 26.8 +1.8
EGMT **Eagleton** 40.61 69 P P 07 16 26.8 +0.8
baz=300
NVAR **Mina Array Bea** 40.71 86 P P 07 16 27.9 +0.8
comp=Z,1.8nm,0.8s,baz=289,slow=9.0,SNR=9.1
NVAR PcP PcP 07 18 28.7 +0.7
comp=Z,1.3nm,0.7s,baz=277,slow=2.5,SNR=3.7
BOZ **Bozeman (W)** 40.75 73 P P 07 16 27.6 +0.3
BOZ pmax pmax
comp=Z,9.0nm,0.7s
BOZ **Bozeman (W)** 40.75 73 P P 07 16 27.4 +0.1
baz=302
ELK **Elko** 41.24 81 P P 07 16 32.3 +0.8
ELK pmax pmax
comp=Z,5.0nm,0.8s
TPH **Tonopah** 41.60 86 P P 07 16 34.2 -0.2
TPH pmax pmax
comp=Z,49nm,1.0s
TPH **Tonopah** 41.60 86 P P 07 16 34.2 -0.2
TPH IAmb IAmb 07 16 51.2
comp=Z,49nm,1.0s
FFC **Flin Flon** 41.74 56 P P 07 16 35.4 +0.3
FFC pmax pmax
comp=Z,13nm,0.9s
RLMT **Red Lodge** 42.41 72 P P 07 16 42.9 +2.0
baz=303,SNR=16
KSRS **Korea Array** 42.47 274 P P 07 16 42.5 +1.3
comp=Z,4.4nm,0.8s,baz=43,slow=8.0,SNR=10
KSAR **Wonju Array Be** 42.51 274 P P 07 16 43.4 +1.9
MPMC **Manual Prospec** 42.69 88 P P 07 16 43.7 +0.4
baz=309
TPNV **Topopah Spring** 42.90 86 P P 07 16 46.1 +1.1
baz=309
DUG **Dugway, Tooele** 43.06 80 P P 07 16 45.1 -1.1
DUG pmax pmax
comp=Z,15nm,1.0s
DUG **Dugway, Tooele** 43.06 80 P P 07 16 45.1 -1.1
DUG IAmb IAmb 07 17 02.9
comp=Z,15nm,0.9s
DUG **Dugway, Tooele** 43.06 80 P P 07 16 46.5 +0.3
baz=306
PRN **Pahroc Range** 43.37 85 P P 07 16 48.6 -0.1
PRN IAmb IAmb 07 17 06.0
comp=Z,29nm,1.0s
PSUT **Pine Spring** 43.41 83 P P 07 16 48.6 -0.6
JNU **Nakatsue** 43.42 267 P P 07 16 48.4 -0.6
comp=Z,1.1nm,0.8s,baz=63,slow=6.5,SNR=5.9
BW06 **Boulder Array** 43.55 75 P P 07 16 50.5 +0.3
baz=305,SNR=10
PD31 **Pinedale Array** 43.55 75 P P 07 16 50.1 -0.1
PDAR **Pinedale Array** 43.55 75 P P 07 16 50.2 0.0
comp=Z,3.1nm,0.8s,baz=303,slow=3.6,SNR=15
PDAR **Pinedale Array** 43.55 75 P P 07 16 49.9 -0.4
GSC **Goldstone, Bar** 43.60 89 P P 07 16 49.7 -0.8
GSC pmax pmax
comp=Z,24nm,1.0s
GSC **Goldstone, Bar** 43.60 89 P P 07 16 49.7 -0.8
GSC IAmb IAmb 07 17 07.1
comp=Z,24nm,1.0s
GSC **Goldstone, Bar** 43.60 89 P P 07 16 51.2 +0.7
baz=310
BFSC **Mount Baldy Ra** 43.76 90 P P 07 16 52.3 +0.4
baz=311
MVU **Marysvale** 44.45 82 P P 07 16 56.2 -1.3
MVU IAmb IAmb 07 17 14.8
comp=Z,37nm,1.0s
GMRC **Granite Mounta** 44.65 88 P P 07 16 59.4 +0.4
baz=310
RDMU **Red Mountain** 44.82 78 P P 07 16 59.8 -0.7
RDMU IAmb IAmb 07 17 19.9
comp=Z,25nm,1.1s
PFO **Pinyon Flats O** 44.92 90 P P 07 17 01.1 0.0
comp=Z,1.1nm,0.5s,baz=297,slow=6.4,SNR=2.4
DL2 **Dalian** 45.48 280 P P 07 17 06.4 +1.0
DL2 S S 07 23 49.0 +4.8
DL2 pmax pmax
comp=Z,25nm,0.8s
DL2 LR LR
comp=Z,2µm,19.6s
DL2 LR LR
comp=Z,1µm,19.6s
DL2 LR LR
comp=Z,1µm,19.4s
NRIK **Noril'sk** 45.73 331 P P 07 17 06.2 -0.7
comp=Z,2.6nm,0.6s,baz=55,slow=13,SNR=2.0
NRIK PcP PcP 07 18 44.7 +0.6
comp=Z,2.3nm,0.3s,baz=62,slow=5.2,SNR=3.9
O20A **White River Ci** 45.90 77 P P 07 17 08.5 -0.4
baz=307
RSSD **Black Hills** 46.06 70 P P 07 17 11.1 +0.9
RSSD pmax pmax
comp=Z,13nm,1.1s
RSSD **Black Hills** 46.06 70 P P 07 17 10.2 0.0
baz=305
NEEM **North Greenlan** 46.63 15 i P P 07 17 13.5 -0.8
NEEM IAmb IAmb 07 17 15.9
comp=Z,17nm,0.8s
PV02 **Paradox Valley** 46.78 80 P P 07 17 14.0 -1.9
PV02 IAmb IAmb 07 17 31.4
comp=Z,21nm,0.9s
N23A **Red Feather La** 46.83 75 P P 07 17 17.0 +0.7
baz=307
ULM **Lac du Bonnet** 47.22 59 P P 07 17 18.6 -0.3
comp=Z,8.9nm,0.6s,baz=303,slow=8.0,SNR=20
ISCO **Idaho Springs** 47.70 76 P P 07 17 24.0 +0.9
baz=308
BJI **Beijing** 48.11 285 P P 07 17 26.6 +0.7
BJI S S 07 24 26.4 +4.6
BJI pmax pmax
comp=Z,23nm,0.7s
BJT **Baijiatuan** 48.13 285 P P 07 17 26.0 0.0
BJT pmax pmax
comp=Z,14nm,0.8s
BJT **Baijiatuan** 48.13 285 P P 07 17 26.0 0.0
BJT IAmb IAmb 07 17 28.0
comp=Z,14nm,0.8s
S22A **4UR Ranch, Cre** 48.24 79 P P 07 17 27.9 +0.6
baz=309
AGMN **Agassiz Nation** 48.32 61 P P 07 17 26.6 -0.8
AGMN IAmb IAmb 07 17 43.8
comp=Z,24nm,0.9s
AGMN **Agassiz Nation** 48.32 61 P P 07 17 26.9 -0.5
baz=305,SNR=9.2
ULN **Ulaanbaatar** 48.73 299 P P 07 17 30.3 -0.5
ULN pmax pmax
comp=Z,9.0nm,1.0s
ULN **Ulaanbaatar** 48.73 299 P P 07 17 30.3 -0.5
ULN IAmb IAmb 07 17 32.6
comp=Z,9.3nm,0.9s
SDCO **Great Sand Dun** 49.05 78 P P 07 17 33.0 -0.5
SDCO **Great Sand Dun** 49.05 78 P P 07 17 33.6 +0.1
baz=309
SONM **Songino Array** 49.11 299 P P 07 17 34.0 +0.3
comp=Z,3.5nm,0.7s,baz=50,slow=9.0,SNR=9.2
ZAK **Zakamensk** 49.30 303 eP P 07 17 34.0 -1.1
ZAK e 07 18 57.1
ZAK pmax pmax
comp=Z,15nm,1.3s
ZAK pmax pmax
comp=Z,8.0nm,1.2s
TUC **Tucson** 49.34 87 P P 07 17 36.3 +0.8
TUC pmax pmax
comp=Z,9.0nm,1.0s
TUC **Tucson** 49.34 87 P P 07 17 35.7 +0.1
baz=312
TIA **Tai'an** 49.95 280 ↓P P 07 17 40.6 +0.5
TIA pmax pmax
comp=Z,15nm,0.8s
KSCO **Kaye Shedlock'** 50.00 75 P P 07 17 40.1 -0.5
KSCO IAmb IAmb 07 18 00.8
comp=Z,38nm,1.2s
T25A **Trinidad** 50.11 78 P P 07 17 40.8 -0.7
T25A IAmb IAmb 07 18 01.2
comp=Z,34nm,1.1s
T25A **Trinidad** 50.11 78 P P 07 17 42.6 +1.1
baz=310
ANMO **Albuquerque** 50.27 81 i P P 07 17 43.0 +0.3
ANMO pmax pmax
comp=Z,8.0nm,1.3s
ANMO **Albuquerque** 50.27 81 P P 07 17 41.8 -1.0
ANMO **Albuquerque** 50.27 81 P P 07 17 43.0 +0.3
baz=311
HHC **Hu-ho-hao-te** 50.37 289 eP P 07 17 43.7 +0.4
HHC pmax pmax
comp=Z,14nm,1.2s
HHC pmax pmax
comp=Z,150nm,5.8s
SPITS **Spitsbergen Ar** 50.43 357 P P 07 17 43.2 0.0
comp=Z,2.7nm,0.6s,baz=47,slow=6.1,SNR=9.9
ECSD **EROS Data Cent** 50.61 66 P P 07 17 43.7 -1.2
ECSD IAmb IAmb 07 18 00.3
comp=Z,26nm,1.2s
ECSD **EROS Data Cent** 50.61 66 P P 07 17 44.0 -1.0
baz=308
EYMN **Ely** 50.90 59 P P 07 17 46.8 -0.2
baz=307,SNR=5.4
NJ2 **Nanjing** 51.64 275 eP P 07 17 53.2 +0.4
NJ2 pmax pmax
comp=Z,19nm,0.5s
SPMN **Marine on St.** 51.84 63 P P 07 17 54.0 -0.1
baz=306
SUMG **Summit** 52.47 15 eP P 07 17 58.2 -0.7
SUMG **Summit** 52.47 15 eP P 07 17 58.2 -0.7
MNTX **Cornudas Mount** 53.12 84 P P 07 18 04.1 +0.3
baz=313
MSTX **Muleshoe** 53.20 80 P P 07 18 05.0 +0.5
baz=312
F42A **Maple Grove Fa** 54.06 60 P P 07 18 10.2 -0.3
E43A **Lone Tree Farm** 54.28 58 P P 07 18 11.1 -1.0
N38A **Joes South For** 54.41 67 P P 07 18 12.1 -1.0
JFWS **Jewell Farm** 54.73 64 P P 07 18 14.3 -1.1
baz=310
WMOK **Wichita Mounta** 55.12 76 P P 07 18 18.2 -0.2
WMOK pmax pmax
comp=Z,9.0nm,1.1s
WHN **Wuhan** 55.48 277 ↓P P 07 18 21.0 +0.1
L42A **Oliver, Polo** 55.65 64 P P 07 18 20.9 -1.1
L42A IAmb IAmb 07 18 37.1
comp=Z,14nm,0.9s
E46A **Sault Ste Mari** 55.70 57 P P 07 18 21.6 -0.7
TX31 **Lajitas Ar. Si** 55.82 85 P P 07 18 22.8 -0.7
TX31 IAmb IAmb 07 18 40.5
comp=Z,31nm,1.1s

TX32 Lajitas Array 55.82 85 P P 07 18 22.8 -0.7
TX32 IAmb IAmb 07 18 40.5
comp=Z,11nm,1.1s
TXAR Lajitas Array 55.82 85 P P 07 18 23.2 -0.4
comp=Z,1.9nm,0.7s,baz=298,slow=5.6,SNR=10
TXAR Lajitas Array 55.82 85 P P 07 18 22.8 -0.7
ZALV Zalesovo Beam 55.98 316 P P 07 18 25.5 +1.3
comp=Z,0.6nm,0.3s,baz=160,slow=29,SNR=1.6
ZALV PcP PcP 07 19 22.4 +0.1
comp=Z,2.0nm,0.5s,baz=45,slow=4.4,SNR=4.9
ABTX Abilene, Hawle 56.03 79 P P 07 18 25.6 +0.6
baz=313
XAN Xi'an 56.41 284 P P 07 18 27.3 -0.4
XAN pmax pmax
comp=Z,21nm,1.0s
GLMI Grayling 56.55 59 P P 07 18 28.7 +0.2
baz=311
HDIL Hopedale 56.82 65 P P 07 18 29.9 -0.5
baz=312
U40A Yellville 57.58 71 P P 07 18 34.5 -1.4
baz=313
DGZ Jazzator, Alta 57.66 310 *i* P P 07 18 36.9 +0.5
DGZ pmax pmax
comp=Z,3.0nm,0.6s
LZH Lanzhou 58.06 289 ⇑P P 07 18 41.2 +1.8
LZH pmax pmax
comp=Z,15nm,1.0s
SCHQ Schefferville 58.11 41 P P 07 18 39.0 -0.3
comp=Z,7.9nm,0.8s,baz=316,slow=9.0,SNR=6.1
GTA Gaotai 58.14 295 ⇓P P 07 18 39.8 -0.1
GTA pP pP 07 18 43.9 -5.8
GTA sP sP 07 18 47.1 -7.7
GTA pmax pmax
comp=Z,9.0nm,0.8s
GTA pmax pmax
comp=Z,210nm,6.0s
GTA LR LR
comp=Z,2µm,17.1s
GTA LR LR
comp=Z,2µm,16.7s
GTA LR LR
comp=Z,3µm,17.1s
SFIN Lafayette 58.17 64 P P 07 18 39.7 -0.2
SFIN IAmb IAmb 07 18 55.4
comp=Z,20nm,0.8s
SFIN Lafayette 58.17 64 P P 07 18 40.0 +0.1
baz=313
MIAR Mount Ida 58.39 73 P P 07 18 40.8 -0.7
MIAR pmax pmax
comp=Z,25nm,0.9s
MIAR Mount Ida 58.39 73 P P 07 18 40.8 -0.7
MIAR Mount Ida 58.39 73 P P 07 18 41.6 +0.1
baz=314
ARCES ARCESS Array B 58.42 352 P P 07 18 40.9 -0.4
comp=Z,6.3nm,0.7s,baz=21,slow=7.8,SNR=11
ARCES PcP PcP 07 19 31.8 +0.2
comp=Z,12nm,0.7s,baz=1.4,slow=4.9,SNR=12
W41B Gary Mavity, V 58.75 72 P P 07 18 43.0 -1.0
baz=314
APA Apatity 59.45 348 ⇓*i*P P 07 18 45.0 -3.4
APA pmax pmax
comp=Z,4.0nm,1.0s
P49A Miami Univ. Ec 60.09 63 P P 07 18 52.3 -0.9
baz=314
WCI Wyandotte Cave 60.10 65 P P 07 18 53.1 -0.2
WCI pmax pmax
comp=Z,26nm,0.9s
WCI Wyandotte Cave 60.10 65 P P 07 18 53.0 -0.3
baz=314
PLVO Plevna 60.33 54 P P 07 18 54.5 -0.2
DELO Deloro Mine 60.42 55 P P 07 18 55.6 +0.2
ZSN Zaisan 60.45 310 *e*P P 07 18 55.1 -0.6
baz=310
ZSN Zaisan 60.45 310 *e*P P 07 18 55.0 -0.6
T47A Sharon Grove 60.50 67 P P 07 18 54.8 -1.3
WVT Waverly 60.68 68 P P 07 18 57.4 +0.1
WVT pmax pmax
comp=Z,16nm,1.1s
WVT Waverly 60.68 68 P P 07 18 57.4 +0.1
baz=314
ERPA Erie 60.86 58 P P 07 18 58.7 +0.2
baz=314
OXF Oxford 60.88 70 P P 07 18 58.3 -0.4
baz=314
M53A WI Miller and 60.97 59 P P 07 18 59.3 +0.1
baz=314
ALLY Alegheny Colle 61.11 59 P P 07 18 60.0 -0.2
O52A Adamsville 61.27 61 P P 07 19 00.6 -0.7
P52A Corning 61.45 61 P P 07 19 03.4 +0.9
baz=315
M54A Oil Creek Stat 61.46 58 P P 07 19 03.6 +1.0
baz=315
O53A New Philadelph 61.52 60 P P 07 19 03.4 +0.5
baz=315
WMQ Urumqi 61.63 305 *e*P P 07 19 07.1 +3.4
WMQ pmax pmax
comp=Z,23nm,0.7s
WMQ pmax pmax
comp=Z,110nm,4.5s
WMQ LR LR
comp=Z,560nm,17.7s
WMQ LR LR
comp=Z,2µm,17.7s
WMQ LR LR
comp=Z,1µm,17.3s
N54A Moraine State 61.67 59 P P 07 19 04.0 0.0
baz=315
J56A Wolcott 61.68 55 P P 07 19 03.7 -0.2
CD2 Chengdu 61.72 285 P P 07 19 05.2 +0.8
LONY Lake Ozonia 61.88 53 P P 07 19 04.6 -0.7
baz=316,SNR=12
J57A Williamstown 62.03 55 P P 07 19 05.8 -0.5
MK31 Makanchi Array 62.15 311 *i* P P 07 19 06.4 -0.7
MKAR Makanchi Array 62.15 311 P P 07 19 06.4 -0.7
comp=Z,3.9nm,0.7s,baz=60,slow=5.2,SNR=14
MKAR Makanchi Array 62.15 311 P P 07 19 05.8 -1.3
J58A Remsen 62.43 54 P P 07 19 08.7 -0.3
MOQ Mont Orford 62.53 51 P P 07 19 08.8 -0.9
BRVK Borovoye 62.61 322 *i* P P 07 19 10.8 +0.8
BRVK pmax pmax
comp=Z,5.0nm,0.7s
MCWV Mont Chateau 62.68 60 P P 07 19 11.0 +0.3
baz=315
D62A Allapoint, All 62.76 48 P P 07 19 11.1 0.0
baz=317,SNR=7.4
PRGR Permogore 62.83 340 *e*P P 07 19 08.3 -3.0
PRGR pmax pmax
comp=Z,53nm,1.4s
E62A Clayton Lake 62.88 48 P P 07 19 12.0 +0.1
E62A IAmb IAmb 07 19 12.4
comp=Z,10nm,0.8s
E62A Clayton Lake 62.88 48 P P 07 19 11.5 -0.4
baz=317
BINY Binghamton 62.90 56 P P 07 19 13.3 +1.1
baz=316,SNR=8.1
O56A Blue Knob Stat 62.93 59 P P 07 19 11.9 -0.6
baz=316
SSPA Standing Stone 63.03 58 P P 07 19 13.1 +0.1
SSPA Standing Stone 63.03 58 P P 07 19 13.3 +0.3
baz=316
FPAL Fort Paine 63.08 68 P P 07 19 13.2 -0.3
I60A Shoreham 63.08 53 P P 07 19 12.4 -0.9
baz=316
GYA Guiyang 63.12 279 ⇑P P 07 19 15.1 +1.1
GYA pmax pmax
comp=Z,17nm,0.5s
S54A Dingess, Beckl 63.20 62 P P 07 19 14.3 +0.1
F62A Pittston Farm, 63.20 49 P P 07 19 13.8 -0.2
baz=317,SNR=6.4
V52A Sevierville 63.31 65 P P 07 19 14.6 -0.4
L59A Walton 63.39 55 P P 07 19 16.1 +0.6
G62A West of Eustis 63.43 50 P P 07 19 15.2 -0.4
baz=317,SNR=10
LBNH Lisbon 63.47 52 P P 07 19 15.8 -0.1
baz=317
E63A Oxbow 63.54 48 P P 07 19 16.0 -0.3
E63A IAmb IAmb 07 19 17.2
comp=Z,17nm,0.8s
E63A Oxbow 63.54 48 P P 07 19 15.6 -0.7
baz=318,SNR=6.4
PQI Presque Isle 63.54 48 P P 07 19 16.3 0.0
PQI IAmb IAmb 07 19 17.7
comp=Z,11nm,0.8s
H62A Milan 63.60 51 P P 07 19 17.0 +0.3
F63A Nahmakanta, Br 63.75 49 P P 07 19 17.4 -0.3
F63A IAmb IAmb 07 19 19.1
comp=Z,14nm,0.8s
F63A Nahmakanta, Br 63.75 49 P P 07 19 17.5 -0.2
baz=318
J61A Chester 63.81 53 P P 07 19 18.6 +0.5
baz=317,SNR=7.5
N59A State Game Lan 63.94 57 P P 07 19 19.5 +0.4
N59A State Game Lan 63.94 57 P P 07 19 19.7 +0.6
baz=316
K61A Williamstown 63.95 54 P P 07 19 19.2 +0.1
baz=317
ARU Arti 63.96 330 *d i*P P 07 19 18.8 -0.1
ARU 07 19 53.9
ARU 07 21 35.9
ARU S S 07 27 50.4 -1.3
ARU SS SS 07 31 52.9 -6.6
ARU pmax pmax
comp=Z,4.0nm,0.6s
F64A Sherman 63.99 48 P P 07 19 19.2 -0.1
F64A IAmb IAmb 07 19 19.8
comp=Z,22nm,1.0s
F64A Sherman 63.99 48 P P 07 19 19.0 -0.2
baz=318,SNR=5.1
PKME Peaks-Kenny Pk 63.99 49 P P 07 19 18.7 -0.5
baz=318
BRZS Berezniki 64.03 319 *e*P P 07 19 18.5 -1.0
baz=319
BRZS Berezniki 64.03 319 *e*P P 07 19 18.5 -1.0
BLA Blacksburg 64.11 62 P P 07 19 20.6 +0.3
BLA pmax pmax
comp=Z,20nm,0.8s
BLA Blacksburg 64.11 62 P P 07 19 20.6 +0.3
I63A Otisfield 64.27 51 P P 07 19 21.2 +0.1
baz=318
J62A Henniker 64.27 52 P P 07 19 21.1 0.0
baz=317,SNR=6.1
L61B Northampton 64.41 54 P P 07 19 21.9 -0.1
baz=317
K62A Royalston 64.47 53 P P 07 19 22.4 -0.1
baz=317
H64A Troy 64.48 50 P P 07 19 22.1 -0.4
baz=318
S57A Dark Hollow, R 64.52 61 P P 07 19 22.4 -0.5
S57A IAmb IAmb 07 19 41.5
comp=Z,11nm,0.9s
KIRV Kirov 64.66 336 *i* P P 07 19 23.6 +0.2
K63A Dunstable 64.80 53 P P 07 19 24.7 0.0
baz=318
I64A Boothbay 64.82 51 P P 07 19 24.6 -0.1
baz=318
PAL Palisades 64.84 55 P P 07 19 24.1 -0.8
PAL pmax pmax
comp=Z,44nm,0.9s
PAL Palisades 64.84 55 P P 07 19 24.1 -0.8
PAL Palisades 64.84 55 P P 07 19 25.8 +0.9
baz=317,SNR=5.5
G65A Princeton 64.85 48 P P 07 19 24.8 -0.1
baz=318,SNR=5.0
KMSC Kings Mountain 65.09 64 P P 07 19 26.7 0.0
baz=316
GOGA Godfrey 65.13 67 P P 07 19 26.1 -0.8
GOGA pmax pmax
comp=Z,20nm,1.1s
GOGA Godfrey 65.13 67 P P 07 19 25.9 -1.0
baz=316
LMN Caledonia Moun 65.62 46 P P 07 19 29.4 -0.6
FINES FINESS Array B 66.25 349 P P 07 19 32.6 -1.0
comp=Z,5.4nm,0.8s,baz=25,slow=4.8,SNR=12
FINES FINESS Array B 66.25 349 *e*P P 07 19 36.4 +2.8
FINES pmax pmax
comp=Z,3.0nm,0.7s
KPKS Kokpek 66.33 311 *e*P P 07 19 33.7 -0.9
baz=310
KPKS Kokpek 66.33 311 *e*P P 07 19 33.7 -0.9
UZB Uzynbulak 66.41 310 *e*P P 07 19 35.0 -0.3
baz=310
UZB Uzynbulak 66.41 310 *e*P P 07 19 34.9 -0.3
KMI Kunming 66.51 281 ⇑P P 07 19 37.9 +1.7
KMI pP pP 07 19 45.6 -0.7
KMI pmax pmax
comp=Z,10.0nm,0.5s
KMI LR LR
comp=Z,1µm,19.0s
KMI LR LR
comp=Z,540nm,17.5s
KMI LR LR
comp=Z,1µm,17.3s
QIZ Qiongzhong 66.61 271 P P 07 19 35.9 -0.7
QIZ S S 07 28 25.8 +0.7
SATY Saty 66.77 310 *e*P P 07 19 37.0 -0.6
baz=310
SATY Saty 66.77 310 *e*P P 07 19 36.9 -0.6
MDOK Medeo 67.33 311 *e*P P 07 19 40.5 -0.6
baz=311
MDOK Medeo 67.33 311 *e*P P 07 19 40.5 -0.6
MTBS Maitube 67.65 312 *e*P P 07 19 42.5 -0.5
baz=312
NB2 NORSAR Subarra 67.73 357 P P 07 19 42.5 -0.6
comp=Z,6.7nm,0.9s,baz=2.9,slow=6.5
NOA NORSAR Array B 67.73 357 P P 07 19 42.5 -0.6
comp=Z,4.7nm,0.8s,baz=2.0,slow=6.3,SNR=17
SGDS Sogindy 68.23 313 *e*P P 07 19 46.0 -0.6
baz=313
SLVN Son La 68.59 278 P P 07 19 49.2 +0.1
SLVN IAmb IAmb 07 19 55.3
comp=Z,9.2nm,1.1s
AAK Ala-Archa 68.93 313 *i* P P 07 19 51.6 +0.5
AAK pmax pmax
comp=Z,17nm,0.7s
AAK Ala-Archa 68.93 313 P P 07 19 51.2 +0.1
AAK IAmb IAmb 07 19 57.7
comp=Z,5.9nm,0.7s
VSU Vasula 69.07 348 *i* P P 07 19 51.1 -0.4
VSU pmax pmax
comp=Z,34nm,0.7s
ABKAR Akbulak array 69.51 325 P P 07 19 54.5 +0.1
ABKAR IAmb IAmb 07 20 19.6
comp=Z,9.0nm,0.9s
LSA Lhasa 70.05 293 P P 07 19 59.0 +0.4
LSA pmax pmax
comp=Z,28nm,0.7s
LSA Lhasa 70.05 293 P P 07 19 59.0 +0.4
KKAR Karatay Array 70.35 315 P P 07 19 59.5 -0.2
KKAR Karatay Array 70.35 315 P P 07 19 59.5 -0.2
BELG Belogornoye 70.64 334 *i* P P 07 20 00.9 -0.3
BELG pmax pmax
comp=Z,2.0nm,0.8s
KSH Kashi 70.67 310 P P 07 20 05.9 +4.1
KSH pmax pmax
comp=Z,16nm,0.6s
KSH LR LR
comp=Z,2µm,17.5s
KSH LR LR
comp=Z,830nm,14.4s
KSH LR LR
comp=Z,2µm,20.8s
OBN Obninsk 70.71 342⇓*e*P P 07 20 04.8 +3.2
OBN *e* 07 20 21.0
OBN *e* 07 22 34.9
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,985nm,17.0s
IUG Iuzhnay 71.33 315 *e*P P 07 20 05.8 0.0
baz=315
IUG Iuzhnay 71.33 315 *e*P P 07 20 05.7 0.0
SKNT Sakolnakorn 71.81 274 P P 07 20 11.1 +2.3
comp=Z,11nm,0.6s
SHL Shillong 72.72 289 P P 07 20 14.2 -0.2
SHL pmax pmax
comp=Z,34nm,0.9s
SHL Shillong 72.72 289 P P 07 20 14.2 -0.2
MNK Minsk 72.77 347 *i* P P 07 20 11.7 -2.3
MNK *i* 07 20 29.2
MNK *i* 07 22 52.6
MNK *i* PPP PPP 07 24 37.0
MNK *i* S S 07 29 33.6 -2.9
MNK *i* 07 30 15.6
MNK *i* SS SS 07 34 13.2 -2.2
MNK *i* SSS SSS 07 37 33.8
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=Z,14nm,0.7s
MNK pmax pmax
comp=N,29nm,0.7s
MNK MLR MLR
comp=Z,968nm,18.0s
MNK MLR MLR
comp=N,714nm,20.0s
MNK MLR MLR
comp=E,117nm,20.0s
MNK Minsk 72.77 347 *i* P P 07 20 11.7 -2.3
comp=E,3.0nm,0.9s
MNK *i* P P 07 20 11.7 -2.3
comp=N,29nm,0.7s
MNK *i* P P 07 20 11.7 -2.3
comp=Z,14nm,0.7s,baz=194
MNK *i* PcP pwP 07 20 29.2 0.0
MNK *i* PP PP 07 22 52.6 -2.8
MNK *i* PPP PPP 07 24 37.0
MNK *i* S S 07 29 33.6 -2.9
MNK *i* SS SS 07 34 13.2 -2.1
MNK *i* SSS SSS 07 37 33.8
MNK *i* LQ LQ 07 47 08.8
MNK *i* LR LR 07 51 43.6
MNK *i* LRM MLR 07 53 35.8
comp=Z,968nm,18.1s
MNK *i* LRM MLR 07 53 37.2
comp=N,714nm,19.6s
MNK *i* LRM MLR 07 54 46.0
comp=E,117nm,19.5s
GAR Garm 73.74 313 P P 07 20 20.4 +0.3
GAR IAmb IAmb 07 20 37.0
comp=Z,20nm,0.8s
CMAR Chiang Mai Arr 73.82 279 P P 07 20 21.4 +0.7
comp=Z,4.2nm,0.8s,baz=26,slow=7.5,SNR=9.0
CMAR Chiang Mai Arr 73.82 279 *e*P P 07 20 22.3 +1.6
CMAR pmax pmax
comp=Z,4.0nm,0.8s
ODAN Odare 74.36 293 *e*P P 07 20 24.3 +0.2
comp=Z,37nm,0.9s
GUN Gumba 74.42 295 *e*P P 07 20 25.6 +1.0
comp=Z,68nm,0.5s
JIRN Jiri 74.43 295 *e*P P 07 20 25.3 +0.6
comp=Z,126nm,0.7s
CHGR Chuyangaron 74.55 313 P P 07 20 24.9 +0.1
RAMN Ramite 74.74 294 *e*P P 07 20 27.0 +0.7
comp=Z,66nm,0.5s
KKN Kakani 74.85 295 *e*P P 07 20 27.4 +0.5
comp=Z,48nm,0.7s
BSEG Bad Segeberg 74.87 357 *e*P P 07 20 27.3 +1.1
comp=Z,22nm,0.8s,baz=4.9,slow=5.6
PKI Pulchoki 74.94 295 *e*P P 07 20 27.7 +0.1
comp=Z,58nm,1.0s
PKIN Phulchoki 74.95 295 *e*P P 07 20 27.6 +0.1
comp=Z,30nm,0.6s
GKN Gorkha 75.05 296 *e*P P 07 20 28.1 +0.1
comp=Z,54nm,0.7s
DMN Daman 75.08 296 *e*P P 07 20 29.0 +0.7
DANN Dangsing 75.27 297 *e*P P 07 20 29.9 +0.5
comp=Z,169nm,0.8s
UMPA Umpang Tak 75.57 278 P P 07 20 36.0 +5.1
comp=Z,31nm,0.6s
UTHA Uthaitani 75.70 277 P P 07 20 36.4 +4.8
comp=Z,13nm,0.7s
KOLN Koldanda 75.81 297 *e*P P 07 20 32.5 +0.1
comp=Z,46nm,0.8s
PYUN Piuthan 75.89 297 *e*P P 07 20 33.2 +0.3
AKASG Malin Array Be 76.25 345 P P 07 20 33.4 -0.9
comp=Z,1.6nm,0.4s,baz=19,slow=5.9,SNR=10
NRDL Niedersach Rie 76.32 357 *e*P P 07 20 35.3 +0.7
comp=Z,6.9nm,0.8s,baz=4.9,slow=5.6
FLTG Flechtingen 76.45 357 *e*P P 07 20 35.8 +0.5
comp=Z,13nm,0.8s,baz=4.9,slow=5.6
IBBN Ibbenburen 76.56 359 *e*P P 07 20 37.1 +1.1
comp=Z,31nm,0.8s,baz=4.9,slow=5.6
NIL Nilore 76.65 308 P P 07 20 38.2 +1.3
NIL pmax pmax
comp=Z,33nm,0.8s
ASSE Asse, Remlinge 76.67 357 *e*P P 07 20 37.5 +1.0
comp=Z,4.4nm,0.7s,baz=4.9,slow=5.6
CLZ Clausthal 76.97 357 *e*P P 07 20 39.2 +0.9
comp=Z,23nm,0.8s,baz=4.9,slow=5.6
GTTG Gottingen 77.28 357 *e*P P 07 20 40.9 +0.8
comp=Z,15nm,0.9s,baz=4.9,slow=5.6
CLL Collm 77.39 355 *i* P P 07 20 39.2 -1.5
comp=Z,3.0nm,0.8s
CLL *i* Pmax 07 20 40.3
comp=Z,12nm,0.8s
CLL *e*PP PP 07 23 38.0 +3.5
CLL Collm 77.39 355 *i* P P 07 20 40.3 -0.4
CLL pmax pmax
comp=Z,12nm,0.8s
CLL Collm 77.39 355 *e*P P 07 20 41.0 +0.4
comp=Z,10nm,0.8s,baz=4.9,slow=5.6
BUG Bochum--Univer 77.43 359 *e*P P 07 20 41.7 +0.9
comp=Z,7.4nm,0.9s,baz=4.9,slow=5.6
NEUB Neuenburg 77.55 356 *e*P P 07 20 42.2 +0.7
comp=Z,21nm,0.8s,baz=4.9,slow=5.6
KASTN Kahler Asten 77.66 358 *e*P P 07 20 42.9 +0.7
comp=Z,5.9nm,0.8s,baz=4.9,slow=5.6
FBE Freiberg 77.76 355 *e*P P 07 20 43.3 +0.6
comp=Z,13nm,0.8s,baz=4.9,slow=5.6
BRG Berggiesshubel 77.77 355 *e*P P 07 20 43.2 +0.4
comp=Z,9.7nm,0.8s,baz=4.9,slow=5.6
BRG Berggiesshubel 77.77 355 *e*P P 07 20 42.7 -0.1
BRG Amp 07 20 44.2
comp=Z,11nm,0.8s
BRG Berggiesshubel 77.77 355 P P 07 20 57.9 +15
BRG Amp 07 20 58.4
comp=Z,7.1nm,0.8s
OSTC Ostas 77.94 353 *e*P P 07 20 44.7 +0.9
KBL Kabul 77.96 311 P P 07 20 44.1 -0.3
KBL pmax pmax
comp=Z,14nm,0.8s
UBBA Unterbreizbach 78.00 357 *e*P P 07 20 44.4 +0.5
comp=Z,2.8nm,0.7s,baz=4.9,slow=5.6
UPC Upice 78.00 353 *e*P P 07 20 44.9 +0.8
UPC Upice 78.00 353 *e*P P 07 20 44.9 +0.8
MOX Moxa 78.12 356 *e*P P 07 20 45.2 +0.4
comp=Z,11nm,0.8s,baz=4.9,slow=5.6
DPC Dobruska-Polom 78.14 353 *e*P P 07 20 45.3 +0.4
DPC Dobruska-Polom 78.14 353 *e*P P 07 20 45.3 +0.4
MEM Membach 78.27 360 *d*P P 07 20 45.6 0.0
comp=Z,12nm,0.9s
WERD Werda 78.28 356 *e*P P 07 20 46.3 +0.6
comp=Z,5.3nm,0.8s,baz=4.9,slow=5.6
BSTI Sart Tilman 78.30 0 *d*P P 07 20 46.0 +0.3
TANN Tannenbergstha 78.31 356 *e*P P 07 20 46.4 +0.6
comp=Z,2.9nm,0.7s,baz=4.9,slow=5.6
AHRW Bad Neuenahr-A 78.34 359 *e*P P 07 20 47.1 +1.2
comp=Z,14nm,0.8s,baz=4.9,slow=5.6
GUNZ Gunzen 78.37 356 *e*P P 07 20 46.6 +0.4
comp=Z,5.9nm,0.8s,baz=4.9,slow=5.6
SNF Seneffe 78.37 1 *d*P P 07 20 47.0 +0.9
comp=Z,16nm,0.9s
KRLC Kraliky 78.37 353 *e*P P 07 20 46.4 +0.2
KRLC Kraliky 78.37 353 *e*P P 07 20 46.4 +0.2
WERN Wernitzgruen 78.44 356 *e*P P 07 20 47.4 +0.9
comp=Z,14nm,0.8s,baz=4.9,slow=5.6
BCLA Clavier 78.46 0 *d*P P 07 20 46.9 +0.2
NKC Novy Kostel 78.49 356 *e*P P 07 20 47.7 +0.9
NKC Novy Kostel 78.49 356 *e*P P 07 20 47.7 +0.9
BGES Gesves 78.50 0 *d*P P 07 20 47.2 +0.4
BHOU Houvegnez 78.53 360 *d*P P 07 20 47.5 +0.4
BMRD Maredsous 78.58 1 *d*P P 07 20 46.9 -0.3
comp=Z,14nm,0.9s
MORC Moravsky Berou 78.61 352 *e*P P 07 20 47.5 0.0
PRU Pruhonice 78.62 354 *e*P P 07 20 48.0 +0.5
PRU Pruhonice 78.62 354 *e*P P 07 20 48.0 +0.5
TNS Taunus Mts 78.64 358 *e*P P 07 20 48.4 +0.7
comp=Z,21nm,0.8s,baz=4.9,slow=5.6
MANZ Manzenberg 78.75 356 *e*P P 07 20 49.0 +0.7
comp=Z,4.2nm,0.8s,baz=4.9,slow=5.6
GIVF Givet 78.78 1 *e*P P 07 20 49.4 +1.0
GIVF pmax pmax
comp=Z,18nm,1.0s
DOU Dourbes 78.78 1 *d*P P 07 20 48.6 +0.2
BAIF Baives 78.82 1 *e*P P 07 20 49.8 +1.2
BAIF pmax pmax
comp=Z,13nm,0.8s
SORM Soroca 78.88 345 ⇓P P 07 20 48.6 -0.4
SORM Soroca 78.88 345 ⇓P P 07 20 48.6 -0.4
PBCC Pribram 78.95 355 *e*P P 07 20 49.9 +0.5
KOLS Kolonicke sedl 78.96 349 *e*P P 07 20 50.6 +1.2
KOLS Kolonicke sedl 78.96 349 *e*P P 07 20 50.6 +1.2
ROTZ Rotzenmuhle 78.97 356 *e*P P 07 20 50.0 +0.6
comp=Z,5.8nm,0.8s,baz=4.9,slow=5.6
MILB Miltenberg 79.01 358 *e*P P 07 20 50.4 +0.7
comp=Z,18nm,0.8s,baz=4.9,slow=5.6
LANS Liptovska Anna 79.05 351 *e*P P 07 20 51.2 +1.2
LANS Liptovska Anna 79.05 351 *e*P P 07 20 51.2 +1.2

CRVS Cervenica-Dubn 79.08 350 eP P 07 20 51.3 +1.2
CRVS Cervenica-Dubn 79.08 350 eP P 07 20 51.3 +1.2
GRF Grafenberg Arr 79.08 356 eP P 07 20 51.0 +0.9
comp=Z,24nm,0.8s,baz=4.9,slow=5.6
GRFO Grafenberg 79.08 356 P P 07 20 51.5 +1.4
GRFO pmax pmax
comp=Z,26nm,0.8s
VRAC Vranov 79.15 353 ⇑P P 07 20 51.2 +0.7
VRAC Vranov 79.15 353 ⇑P P 07 20 51.2 +0.7
VRAC Vranov 79.15 353 eP P 07 20 50.4 -0.1
WLF Walferdange 79.22 360 dP P 07 20 51.8 +1.0
comp=Z,16nm,0.8s
WLF Walferdange 79.22 360 eP P 07 20 52.2 +1.4
comp=Z,16nm,0.7s,baz=4.9,slow=5.6
KRUC Moravsky 79.41 353 eP P 07 20 51.7 -0.2
JAVC Velka Javorina 79.51 352 eP P 07 20 53.3 +0.8
KHC Kasperske Hory 79.53 355 eP P 07 20 53.2 +0.6
KHC e 07 21 08.0
KHC Kasperske Hory 79.53 355 eP P 07 20 53.2 +0.6
KHC ex x 07 21 08.0
WET Wettzell 79.56 355 eP P 07 20 53.4 +0.7
comp=Z,2.4nm,0.8s,baz=4.9,slow=5.6
KIV Kislovodsk 79.69 334 eP P 07 20 54.3 +0.7
KIV pmax pmax
comp=Z,9.0nm,1.1s
VYHS Vyhne 79.76 351 eP P 07 20 54.1 +0.3
VYHS Vyhne 79.76 351 eP P 07 20 54.1 +0.3
CKRC Cesky Krumlov 79.80 354 eP P 07 20 54.0 0.0
GEC2 GERESS Array S 79.81 355 eP P 07 20 54.5 +0.2
comp=Z,5.9nm,0.8s,baz=4.9,slow=5.6
GERES GERESS Array B 79.81 355 P P 07 20 54.4 +0.2
comp=Z,5.7nm,0.8s,baz=20,slow=4.7,SNR=33
KBZ Khabaz 79.84 334 P P 07 20 54.9 +0.6
comp=Z,3.2nm,0.8s,baz=241,slow=1.9,SNR=4.9
KBZ Khabaz 79.84 334 eP P 07 20 54.7 +0.4
KBZ pmax pmax
comp=Z,6.0nm,1.1s
BURAR Bucovina Array 79.87 347 ⇑P P 07 20 54.9 +0.4
BURAR Bucovina Array 79.87 347 ⇑P P 07 20 54.9 +0.4
GEYT Alibeck 79.87 320 P P 07 20 55.1 +0.5
comp=Z,150nm,0.9s,baz=298,slow=3.2,SNR=5.3
FLN La Foliniere 79.98 4 eP P 07 20 54.8 -0.2
FLN pmax pmax
comp=Z,21nm,1.1s
STU Stuttgart 80.07 358 eP P 07 20 56.5 +1.1
comp=Z,27nm,0.8s,baz=4.9,slow=5.6
LDF La Druitiere 80.17 4 eP P 07 20 55.7 -0.3
LDF pmax pmax
comp=Z,13nm,0.8s
GRR Gorron 80.34 4 eP P 07 20 56.9 0.0
GRR pmax pmax
comp=Z,13nm,0.8s
SGMF Saint Gilles 80.38 6 eP P 07 20 57.9 +0.8
SGMF pmax pmax
comp=Z,28nm,1.3s
BIZ Bicaz 80.40 346 ⇑P P 07 20 58.2 +0.9
CDF Champ du Feu 80.47 359 eP P 07 20 57.8 +0.1
CDF pmax pmax
comp=Z,16nm,0.8s
BFO Black Forest 80.53 358 i P P 07 20 56.5 -1.5
BFO Black Forest 80.53 358 eP P 07 20 58.8 +0.8
comp=Z,7.2nm,0.8s,baz=4.9,slow=5.6
CONA Conrad Observa 80.58 353 eP P 07 20 58.7 +0.4
comp=Z,4.5nm,0.8s,SNR=6.6
HAU Haudompre 80.88 360 eP P 07 21 00.0 +0.1
HAU pmax pmax
comp=Z,17nm,0.8s
RJOB Jochberg 80.96 355 eP P 07 21 01.3 +1.0
comp=Z,24nm,0.8s,baz=4.9,slow=5.6
DRGR 81.01 348 ⇓P P 07 21 00.5 -0.1
DRGR 81.01 348 ⇓P P 07 21 00.5 -0.1
HINF Hinteralfeld 81.06 359 eP P 07 21 00.0 -0.9
HINF pmax pmax
comp=Z,8.0nm,0.7s
HRA Herat 81.17 316 P P 07 21 01.8 -0.1
HRA IAmb IAmb 07 21 04.5
comp=Z,12nm,0.9s
ARSA Arzberg 81.28 353 i P P 07 21 01.6 -0.4
comp=Z,3.6nm,0.7s
BATI Baumata 81.33 242 LR LR 07 55 57.1
comp=Z,229nm,18.7s,baz=1.5,slow=35
WATA Walderalm 81.42 356 i P P 07 21 03.3 +0.4
comp=Z,13nm,1.1s
MOTA Moosalm 81.43 356 i P P 07 21 02.8 -0.2
comp=Z,5.9nm,0.8s
COVR Voineasa-Covas 81.45 346 ⇑P P 07 21 04.3 +1.4
WTTA Wattenberg 81.49 356 eP P 07 21 04.5 +1.2
comp=Z,12nm,0.9s
SQTA Sankt Quirin 81.55 356 eP P 07 21 03.8 +0.2
comp=Z,5.5nm,0.6s
KBA Koelnbreinsper 81.59 355 eP P 07 21 05.4 +1.5
comp=Z,19nm,0.8s
LOR Lormes 81.61 1 eP P 07 21 03.9 +0.2
LOR pmax pmax
comp=Z,17nm,0.8s
FETA Feichten 81.77 357 i P P 07 21 05.6 +0.8
comp=Z,10.0nm,0.9s
CFR Carcaliu 81.78 344 ⇑P P 07 21 05.6 +1.0
CFR Carcaliu 81.78 344 ⇑P P 07 21 05.6 +1.0
SSF Saint Saulge 81.81 2 eP P 07 21 05.0 +0.3
SSF pmax pmax
comp=Z,20nm,0.8s
MLR Muntele Rosu 81.83 346 P P 07 21 05.5 +0.4
MLR pmax pmax
comp=Z,10.0nm,1.0s
MLR Muntele Rosu 81.83 346 P P 07 21 05.5 +0.4
MLR IAmb IAmb 07 21 08.1
comp=Z,10nm,1.0s
SOKA Soboth 81.88 354 eP P 07 21 06.3 +1.0
comp=Z,11nm,0.9s,SNR=6.3
ABTA Abfaltersbach 81.97 355 eP P 07 21 05.4 -0.4
comp=Z,5.6nm,1.1s
VOIR 82.02 346 ⇑P P 07 21 07.3 +1.3
VOIR 82.02 346 ⇑P P 07 21 07.3 +1.3
TPGR Topolog 82.05 344 ⇓P P 07 21 06.5 +0.5
JURR Jurilovca 82.05 344 ⇑P P 07 21 07.0 +1.0
ARR Arges 82.15 347 ⇑P P 07 21 08.8 +2.1
MFF Saint Martin d 82.15 4 eP P 07 21 06.9 +0.3
MFF pmax pmax
comp=Z,20nm,0.8s
SMF Signal de Mont 82.23 1 eP P 07 21 07.2 +0.2
SMF pmax pmax
comp=Z,23nm,0.8s
HARR Harsova 82.29 344 ⇓P P 07 21 08.0 +0.7
HARR Harsova 82.29 344 ⇓P P 07 21 08.0 +0.7
BGF Bois d'Agland 82.30 2 eP P 07 21 07.6 +0.3
BGF pmax pmax
comp=Z,14nm,1.0s
GZR Gura Zlata 82.38 348 ⇑P P 07 21 08.4 +0.6
GZR Gura Zlata 82.38 348 ⇑P P 07 21 08.4 +0.6
TIRR Tirgusor 82.43 344 ⇓P P 07 21 08.9 +0.8
TIRR Tirgusor 82.43 344 P P 07 21 07.7 -0.3
TIRR pmax pmax
comp=Z,33nm,0.8s
TIRR Tirgusor 82.43 344 P P 07 21 07.7 -0.3
TCF Toulx Ste Croi 82.55 2 eP P 07 21 09.6 +0.9
TCF pmax pmax
comp=Z,14nm,0.9s
LPL La Plagne 83.37 359 eP P 07 21 16.1 +2.9
LPL pmax pmax
comp=Z,14nm,1.4s
RJF Les Rejaudoux 83.51 3 eP P 07 21 13.5 -0.2
RJF pmax pmax
comp=Z,9.0nm,0.9s
BNI Bardonecchia 83.83 359 P P 07 21 15.9 +0.4
BNI pmax pmax
comp=Z,11nm,0.8s
BNI Bardonecchia 83.83 359 P P 07 21 15.9 +0.4
BNI IAmb IAmb 07 21 19.9
comp=Z,11nm,0.8s
LFF La Frestale 83.85 4 eP P 07 21 15.9 +0.5
LFF pmax pmax
comp=Z,15nm,0.9s
CAF Calviac 83.91 3 eP P 07 21 16.3 +0.6
CAF pmax pmax
comp=Z,14nm,1.0s
ORIF Oris-en-Rattie 83.97 360 eP P 07 21 19.0 +2.9
ORIF pmax pmax
comp=Z,12nm,1.0s
VIVF Saint-Julien-l 84.03 1 eP P 07 21 18.3 +2.0
VIVF pmax pmax
comp=Z,8.0nm,0.8s
WRA Warramunga Arr 84.13 228 P P 07 21 15.6 -1.4
comp=Z,1.5nm,0.6s,baz=36,slow=5.0,SNR=8.5
WRA Warramunga Arr 84.13 228 eP P 07 21 16.6 -0.4
WRA pmax pmax
comp=Z,2.0nm,0.6s
MBDF Montbardon 84.16 359 eP P 07 21 18.2 +1.1
MBDF pmax pmax
comp=Z,8.0nm,0.7s
SBF Sospel 85.01 359 eP P 07 21 22.4 +1.0
SBF pmax pmax
comp=Z,22nm,0.8s
FRF La Foret Royal 85.32 359 eP P 07 21 23.2 +0.4
FRF pmax pmax
comp=Z,13nm,0.8s
MTLF Montolieu 85.50 3 eP P 07 21 25.2 +1.5
MTLF pmax pmax
comp=Z,10.0nm,0.8s
LMR La Mourre 85.55 359 eP P 07 21 24.5 +0.5
LMR pmax pmax
comp=Z,14nm,0.9s
SJPF Ste Jean 85.58 5 eP P 07 21 25.8 +1.7
SJPF pmax pmax
comp=Z,41nm,1.8s
ETSF Etsaut 85.83 5 eP P 07 21 26.2 +0.7
ETSF pmax pmax
comp=Z,12nm,0.9s
PSI Prapat 85.84 269 P P 07 21 26.3 +0.3
comp=Z,5.0nm,0.4s,baz=18,slow=3.7,SNR=2.3
BRTR Keskin Array B 85.94 339 P P 07 21 26.4 +0.3
comp=Z,1.8nm,0.8s,baz=41,slow=3.5,SNR=7.6
MARD Mardin 86.39 333 P P 07 21 28.6 +0.1
MARD IAmb IAmb 07 21 31.2
comp=Z,19nm,1.2s
HYB Hyderabad 86.80 294 i P P 07 21 29.0 -1.6
AS31 Alice Springs 87.56 226 P P 07 21 33.1 -0.8
ASAR Alice Springs 87.56 226 P P 07 21 33.4 -0.5
comp=Z,3.6nm,0.8s,baz=30,slow=4.5,SNR=23
ASAR Alice Springs 87.56 226 P P 07 21 32.4 -1.5
ASAR Alice Springs 87.56 226 P P 07 21 32.4 -1.5
POO Poona 88.55 298 eP P 07 21 36.0 -2.9
ESDC Sonseca Array 88.81 7 P P 07 21 39.8 -0.1
comp=Z,4.2nm,0.8s,baz=348,slow=4.3,SNR=23
PTBC PUERTO BERRIO, 91.00 78 eP P 07 21 49.7 -0.7
GUY2C Guyana, Caldas 91.47 80 eP P 07 21 52.4 -0.7
STKA Stephens Creek 91.64 216 P P 07 21 51.6 -1.1
comp=Z,1.8nm,0.3s,baz=37,slow=22,SNR=3.0
SPBC San Pablo de B 91.93 79 eP P 07 21 53.0 -1.8
TOLC Tolima 92.00 80 eP P 07 21 55.4 0.0
ORTC Ortega, Tolima 92.57 81 eP P 07 21 55.9 -1.8
TORD Torodi Ar. Bea 115.53 4 PKP PKiKP 07 27 28.0 -0.1
comp=Z,0.7nm,0.7s,baz=344,slow=1.8,SNR=5.3
H03N2 Juan Fernandez 118.46 109 T T 09 37 57.4
baz=318,slow=78,SNR=6.6
H03N1 Juan Fernandez 118.48 109 T T 09 38 06.2
baz=318,slow=78,SNR=6.1
H03N3 Juan Fernandez 118.48 109 T T 09 38 03.5
baz=318,slow=78,SNR=6.8
PLCA Paso Flores 128.31 110 PKP PKPdf 07 27 51.9 0.0
comp=Z,1.4nm,0.8s,baz=252,slow=3.5,SNR=5.5
MAW Mawson 148.31 218 PKPbc PKPbc 07 28 30.6 0.0
comp=Z,3.9nm,0.9s,baz=258,slow=0.8,SNR=8.7
BOSA Boshof 152.87 320 PKPbc PKPbc 07 28 43.0 0.0
comp=Z,5.1nm,0.7s,baz=12,slow=2.2,SNR=9.2
BOSA PKPab PKPab 07 28 53.8 -0.2
comp=Z,12nm,0.7s,baz=66,slow=4.4,SNR=11

ISK ***05*** *07:10:51.4, 37°.11N×28°.76E, h5km, ML2.4/13*
DDA 05 07:10:51.6, 37°.14N×28°.74E, h7km±3km, ML2.2, Turkey

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
DALY Dalyan (Mula) 0.33 193 i P Pg 07 10 57.0 -1.0
DALY i S Sg 07 11 03.7 +1.3
DALY IAML 07 11 05.0
comp=E,166nm,0.9s
DALY IAML 07 11 07.0
comp=N,210nm,0.4s
DALY Dalyan (Mula) 0.33 193 PG Pg 07 10 57.6 -0.4
DALY SG Sg 07 11 02.9 +0.5
TAVA DENIZLI_Tavas 0.35 23 i P Pg 07 10 58.2 -0.4
TAVA i S Sg 07 11 03.5 +0.2
TAVA IAML 07 11 05.0
comp=N,372nm,0.3s
TAVA IAML 07 11 06.0
comp=E,233nm,0.2s
MULA Mugla, Merkez- 0.36 289 i P Pg 07 10 59.2 +0.6
MULA i S Sb 07 11 04.9 -1.3
MULA IAML 07 11 08.0
comp=E,292nm,0.5s
YER Yerkesik 0.37 269 PG Pg 07 10 59.3 +0.5
YER SG Sb 07 11 05.2 -1.3
CAEL Denizli, Camel 0.46 92 i P Pg 07 11 00.8 +0.2
CAEL i S Sb 07 11 08.2 -1.1
CAEL IAML 07 11 11.0
comp=E,265nm,0.5s
CAME Cameli-Denizli 0.49 113 PG Pg 07 11 01.1 0.0
CAME SG Sg 07 11 07.9 +0.4
TURN Turunc 0.54 228 i P Pg 07 11 00.3 -1.7
TURN Turunc 0.54 228 PG Pg 07 11 02.1 +0.1
GOLH Golhisar 0.66 81 i P Pg 07 10 58.2 -6.1
GOLH i S Sg 07 11 08.0 -4.9
MLSB Milas 0.79 282 PG Pb 07 11 07.5 -0.1
AYDN Tasoluk 0.86 307 i P Pg 07 11 08.2 0.0
ELL Elmali 1.01 112 PG Pg 07 11 10.9 -0.1
DAT Datca 1.02 247 PG Pg 07 11 11.4 +0.2
BDRM Kayabasi 1.04 266 i P Pn 07 11 12.4 -0.2
BDRM i S Sb 07 11 26.4 +0.6
BDRM IAML 07 11 28.0
comp=N,56nm,0.5s
ARG Arkhangelos 1.05 208 PG Pg 07 11 11.7 0.0
AYDB Zeytinkoy-Aydi 1.05 320 PN Pn 07 11 12.7 -0.2
AKAS Kas 1.14 142 i P Pn 07 11 15.3 +1.3
AKAS i S Sn 07 11 32.4 +2.3
AKAS Kas 1.14 142 PN Pg 07 11 13.1 -0.4
BODT Bodrum 1.15 267 PN Pn 07 11 14.1 0.0
BRDR BURDUR-Merkez 1.19 62 i P Pn 07 11 15.6 +0.9
KORT Korkueli 1.29 96 i P Pg 07 11 19.0 +2.6
KORT i S Sn 07 11 35.9 +2.0
KORT Korkueli 1.29 96 PN Pg 07 11 16.4 0.0
GCAM G?zelcaml? 1.33 295 i P Pb 07 11 16.8 0.0
GCAM G?zelcaml? 1.33 295 PN Pg 07 11 17.5 +0.5
PASA Karahalli, USA 1.34 26 i P Pg 07 11 17.3 0.0
PASA i S Sn 07 11 35.5 +0.4
KULA Kula-Manisa 1.38 357 PN Pg 07 11 18.5 +0.5
KARP Karpathos 2.04 219 PN Pn 07 11 27.1 +0.7

IDC ***05*** *07:11:32.8±2.3, 51°.87N×174°.63W, h0km, mb4.1/10, mb1 4.2/11, mb1mx3.9/49, mbtmp4.0/11, ML4.3/1, Error ellipse: s-maj=63.2km s-min=22.1km az=172.0*
AEIC ***05*** *07:11:36±2.4, 51°.47N±0°.10×174°.48W±0°.09, h18km±7km, ML3.6/20, mb4.1/20(NEIC), Error ellipse: s-maj=14.5km s-min=8.0km az=174.0*
NEIC ***05*** *07:11:37.0±1.6, 51°.44N±0°.06×174°.42W±0°.08, h42km±13km, Error ellipse: s-maj=11.4km s-min=3.3km az=141.0*
ISC 05 07:11:36.6±0.9**, 51°.4N**±0°.1×**174°.35W**±0°.05**, h38km, n59, σ1s.13**/60**, mb4.2**/12**, Andreanof Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
ATKA Atka Island 0.80 7 Pn 07 11 50.8 -0.6
ATKA Atka Island 0.80 7 Sn 07 12 03.1 +1.0
KOFP Korovin Flat P 0.88 10 Pn 07 11 52.6 0.0
KOKL Mount Kliuchef 0.92 6 Pn 07 11 53.1 0.0
KOSE Korovin Southe 0.96 11 Pn 07 11 53.8 +0.2
GSIG Igitkin Island 1.14 301 Pn 07 11 55.3 -0.8
GSTR Great Sitkin T 1.27 303 Pn Pn 07 11 57.6 -0.2
GSTD Great Sitkin T 1.29 301 Pn 07 11 57.9 -0.3
GSTD Sn 07 12 14.9 +0.6
GSSP Great Sitkin S 1.33 302 Pn 07 11 58.4 -0.2
ETKA Kagalaska Isla 1.36 290 Pn 07 11 58.5 -0.5
ADAG Mount Adagdak 1.52 293 Pn 07 12 01.4 +0.2
ADK Adak 1.53 289 Pn Pn 07 12 00.9 -0.5
ADK Adak 1.53 289 Sn 07 12 21.0 +1.0
KIWB Kanaga Island 1.80 285 Pn Pn 07 12 04.9 -0.3
KIMD Kanaga Island 1.84 282 Pn 07 12 05.6 0.0
TAFP Tanaga Falls P 2.32 284 Pn 07 12 12.6 +0.4
TAFP Sn 07 12 41.8 +2.3
GALAA Gareloi Lava P 2.78 279 Pn 07 12 19.0 +0.4
NIKH Nikolski High 3.72 63 Pn Pn 07 12 31.4 -0.1
AMKA Amchitka 3.98 272 Pn Pn 07 12 34.4 -0.6
UNV Unalaska Valle 5.36 60 Pn Pn 07 12 53.6 -0.4
SDPT Sand Point 9.18 59 Pn Pn 07 13 46.3 0.0
OHAK Old Harbor 13.57 56 Pn Pn 07 14 48.0 +1.7
KDAK Kodiak Island 14.10 55 Pn Pn 07 14 51.3 -2.2
0.5nm,0.3s,baz=234,slow=14,SNR=2.3
KDAK Sn Sn 07 17 20.7 -7.6
0.2nm,0.3s,baz=328,slow=20,SNR=1.7
KDAK Kodiak Island 14.10 55 Pn 07 14 55.1 +1.7
M20K Styx River 15.60 40 Pn 07 15 14.5 +0.9
BRLK Bradley Lake 15.61 48 Pn 07 15 14.6 +1.0
SEW Seward 16.40 48 Pn Pn 07 15 24.9 +1.2
SEW IAmb IAmb 07 15 33.2
comp=Z,22nm,1.2s
PWL Port Wells 17.19 47 P P 07 15 36.5 +1.6
PWL IAmb IAmb 07 15 39.6
comp=Z,21nm,1.4s
GHO Glory Hole Cre 17.30 43 P Pn 07 15 35.0 0.0
KNK Knik Glacier 17.35 45 P Pn 07 15 35.8 +0.2
KNK IAmb IAmb 07 16 02.9
comp=Z,29nm,1.3s
KTH Kantishna Hill 17.37 37 P Pn 07 15 37.3 +1.4
KTH IAmb IAmb 07 15 46.2
comp=Z,20nm,1.4s
SML Sawmill 17.57 44 P Pn 07 15 38.1 -0.2
SML IAmb IAmb 07 16 06.7
comp=Z,17nm,1.2s
FID Port Fidalgo 18.01 48 P Pn 07 15 44.3 +0.6
M24K Tolsona, Glenn 18.62 44 P Pn 07 15 52.7 +1.5
I23K Minto, Yukon-K 18.84 34 P P 07 15 53.3 +0.4
PAX Paxson 19.26 42 P P 07 15 58.4 +0.7
PAX IAmb IAmb 07 16 09.4
comp=Z,17nm,1.5s
HDA Harding Lake 19.32 37 P P 07 15 57.7 -0.5
HDA IAmb IAmb 07 16 04.9
comp=Z,8.7nm,0.8s
IL31 19.52 36 P P 07 16 00.1 -0.2
IL31 IAmb IAmb 07 16 04.6
comp=Z,6.2nm,0.5s
ILAR Eielson Array 19.52 36 P P 07 15 59.7 -0.7
comp=Z,0.9nm,0.3s,baz=232,slow=8.7,SNR=5.0
ILAR Eielson Array 19.52 36 P P 07 16 00.7 +0.4
H24K Noodor Dome 19.74 33 P P 07 16 03.4 +0.6
RIDG Independent Ri 19.83 40 P P 07 16 03.4 -0.4
DOT Dot Lake 20.12 41 P P 07 16 06.0 -0.9
SCRK Sand Creek 20.28 40 P P 07 16 08.2 -0.5
SCRK IAmb IAmb 07 16 15.0
comp=Z,9.8nm,0.7s
EGAK Eagle 21.73 39 P P 07 16 24.0 -0.1
DLBC Dease Lake 26.01 57 P P 07 17 08.2 +2.4
comp=Z,2.2nm,0.6s,baz=270,slow=6.1,SNR=1.8
DLBC Dease Lake 26.01 57 IAmb IAmb 07 17 15.2
comp=Z,7.9nm,1.2s
KLR Kul'dur 33.84 288 P P 07 18 14.5 -0.5
comp=Z,1.6nm,0.4s,baz=71,slow=7.5,SNR=3.5
USRK Ussuriysk Ar. 36.05 280 P P 07 18 33.8 -0.3
comp=Z,2.5nm,0.6s,baz=57,slow=8.5,SNR=4.0
PDAR Pinedale Array 43.62 75 P P 07 19 38.1 +0.8
comp=Z,0.6nm,0.6s,baz=327,slow=6.5,SNR=1.6
HHC Hu-ho-hao-te 50.34 289 eP P 07 20 29.4 -0.2
HHC pP pP 07 20 42.1 +2.8
HHC pmax pmax
comp=Z,11nm,1.2s
HHC pmax pmax
comp=Z,95nm,5.6s
ARCES ARCESS Array B 58.49 352 P P 07 21 26.1 -2.2
comp=Z,0.9nm,0.5s,baz=39,slow=7.8,SNR=1.4
WMQ Urumqi 61.63 305 eP P 07 21 51.7 +1.5
MKAR Makanchi Array 62.16 311 P P 07 21 52.9 -0.8
comp=Z,0.8nm,0.3s,baz=34,slow=5.6,SNR=9.3
FINES FINESS Array B 66.32 349 P P 07 22 19.1 -1.5
comp=Z,2.5nm,0.9s,baz=15,slow=5.8,SNR=1.9
NOA NORSAR Array B 67.81 357 P P 07 22 29.1 -1.1
comp=Z,1.3nm,0.9s,baz=3.6,slow=5.8,SNR=3.1
KSH Kashi 70.68 309 P P 07 22 52.4 +4.0
KSH pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 76.31 345 P P 07 23 19.7 -1.4
comp=Z,0.6nm,0.4s,baz=18,slow=6.0,SNR=2.4
GERES GERESS Array B 79.89 355 P P 07 23 40.1 -1.0
comp=Z,0.6nm,0.6s,baz=16,slow=8.6,SNR=3.2

IDC ***05*** *07:12:38.4±1.9, 5°.87N×125°.74E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/41, mbtmp4.0/3, Error ellipse: s-maj=199.8km s-min=16.0km az=79.0*
DJA ***05*** *07:12:44.8±1.6, 6°N±13°×12°5E±°, h82km±28km, M4.8/6, mB5.0/5, mb5.0/6, MLv4.8/6, Mw(mB)4.3/5*
MAN ***05*** *07:12:44.3, 6°.29N×125°.38E, h69km, mb4.9, ML3.8, MS3.8*
ISC 05 07:12:44.8±0.9**, 6°.27N**±0°.07×**125°.4E**±0°.1**, h100km, n15, σ1s.11**/19**, mb3.7**/3**, 3C, Mindanao**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
KCP Kidapawan 0.78 340 ⇑iP Pn 07 13 01.4 -1.7
KCP i S Sn 07 13 16.3 -0.5
DAV Davao City (W) 0.83 16 Pn Pn 07 13 03.1 -0.4
862nm,0.3s,baz=113,slow=1.7,SNR=29
DAV Sn Sn 07 13 18.6 +1.2
2μm,0.3s,baz=90,slow=22,SNR=12
DAV Davao City (W) 0.83 16 P Pn 07 13 03.3 -0.2
DAV S Sn 07 13 16.9 -0.6
BIPH Bislig 2.15 28 ⇑eP Pn 07 13 18.7 -0.6
BIPH eS Sn 07 13 44.2 -1.5
SGSI Sangihe 2.57 176 P Pn 07 13 23.7 -1.2
TNTI Ternate 5.81 160 P Pn 07 14 08.3 -0.3
0.4nm50nm,0.5s
RCP Roxas 5.86 334 ⇑eP Pn 07 14 10.9 +1.7
GTOI Gorontalo 6.06 203 P Pn 07 14 11.0 -1.0
0.6nm2μm155nm,0.7s
MRSI Marisa 6.68 211 P Pn 07 14 20.7 +0.3
1.0nm3μm284nm,0.7s
APSI Ampana 8.03 208 P Pn 07 14 39.9 +1.1
0.4nm1μm96nm,0.6s
SANI Sanana 8.28 176 P Pn 07 14 40.1 -2.1
1μm92nm,0.8s
KRAI Karang Ratu 9.99 162 P Pn 07 15 05.3 -0.2
60nm,0.6s
WRA Warramunga Arr 27.50 161 P P 07 18 22.5 +0.5
0.7nm,0.5s,baz=344,slow=9.8,SNR=11
ASAR Alice Springs 30.90 165 P P 07 18 52.6 +0.5
0.7nm,0.5s,baz=341,slow=7.0,SNR=14
STKA Stephens Creek 40.97 159 P P 07 20 18.5 +0.6
3.1nm,0.6s,baz=330,slow=9.0,SNR=5.7

MAN 05 07:14:20.1, 12°.80N×121°.24E, h1km, mb3.7, ML2.4, MS1.9, Mindoro

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IDC ***05*** *07:19:55.5±0.6, 51°.46N×174°.40W, h0km, mb4.3/27, mb1 4.5/29, mb1mx4.4/39, mbtmp4.3/29, ML3.9/2, MS4.4/4, Ms1 4.4/4, ms1mx3.7/51, Error ellipse: s-maj=19.8km s-min=11.1km az=170.0*
AEIC ***05*** *07:19:58±1.5, 51°.34N±0°.06×174°.36W±0°.07, h16km±4km, ML4.4, mb4.7/95(NEIC), Error ellipse: s-maj=9.3km s-min=6.4km az=160.0*
MOS ***05*** *07:19:59.0±0.9, 51°.46N×174°.34W, h35km, mb5.1/53, Error ellipse: s-maj=8.2km s-min=6.0km az=98.5*
NEIC ***05*** *07:20:01.0±1.2, 51°.42N±0°.06×174°.39W±0°.07, h38km±6km, Error ellipse: s-maj=9.6km s-min=5.5km az=149.0*
GCMT ***05*** *07:20:03.0±0.4, 51°.47N±0°.03×174°.34W±0°.05, h19km±2km, MW4.9/79, Moment Tensor Solution. s12,c13; s79,c104; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.04±.27; Mθθ-1.89±.16; Mφφ-0.14±.14; Mrθ1.74±.30; Mθφ-0.62±.06; Mφr1.54±.38; Best double couple: M0 3.10500×10^16 NP1:φs267.00000°, δ24.00000°, λ120.00000°. NP2: φs55.00000°, δ70.00000°, λ78.00000°. Principal axes: T 3.1800, Plg63.0000°, Azm306.0000°; N -0.1470, Plg11.0000°, Azm59.0000°; P -3.0300, Plg24.0000°, Azm155.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR ***05*** *07:20:08.7±0.0, 52°.53N×176°.34W, h33km, mb4.8*
ISC 05 07:20:01.1±0.4**, 51°.46N**±0°.06×**174°.33W**±0°.04**, h38km, n441, σ1s.07**/443**, mb4.8**/155**, MS4.7**/8**, 4C-8D, Andreanof Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
ATKA Atka Island 0.75 6 Pg Pn 07 20 14.8 -0.3
ATKA Atka Island 0.75 6 Sn 07 20 27.6 +2.3
KOFP Korovin Flat P 0.83 10 Pn 07 20 16.5 +0.2

KOKL Mount Kliuchef 0.87 5 Pn 07 20 17.0 +0.1
KONE Korovin Northe 0.95 8 Pn 07 20 18.2 +0.3
GSMY Great Sitkin M 1.22 299 Pn 07 20 20.6 -1.0
GSTR Great Sitkin T 1.25 301 Pn 07 20 21.1 -0.8
GSTD Great Sitkin T 1.28 299 Pn 07 20 21.6 -0.8
GSSP Great Sitkin S 1.31 300 Sn 07 20 42.5 +3.4
ETKA Kagalaska Isla 1.35 288 Pn 07 20 22.5 -0.9
ADAG Mount Adagdak 1.51 291 Pn 07 20 25.6 +0.1
ADK Adak 1.53 287 P **Pn 07 20 24.4 -1.3**
ADK 07 20 45.6
ADK Adak 1.53 287 Pn 07 20 24.4 -1.3
KIWB Kanaga Island 1.80 284 Pn **Pn 07 20 28.9 -0.6**
KIKV Kanaga Island 1.82 285 Pn 07 20 29.2 -0.5
KIMD Kanaga Island 1.83 281 Pn 07 20 29.0 -0.9
KICM Kanaga Island 1.84 286 Pn 07 20 29.9 -0.2
TAFP Tanaga Falls P 2.32 283 Pn 07 20 36.8 +0.2
TASE Tanaga Southea 2.34 281 Pn 07 20 36.9 0.0
GAEA Gareloi East 2.77 279 Pn 07 20 42.6 -0.2
GALAA Gareloi Lava P 2.78 278 Pn 07 20 42.8 -0.3
NIKH Nikolski High 3.70 64 Pn **Pn 07 20 56.2 +0.7**
NIKH Nikolski High 3.70 64 P **Pn 07 20 55.9 +0.4**
baz=246,SNR=21
CESW Semis' Southwe 3.83 279 Pn 07 20 57.0 -0.3
AMKA Amchitka 3.98 271 Pn **Pn 07 20 58.4 -1.1**
OKSP Okmok Steeple 4.12 62 Pn 07 21 02.4 +1.0
OKTU Okmok Mt. Tuli 4.31 61 Pn 07 21 04.8 +0.8
OKFG Magazine Ridge 4.39 61 Pn 07 21 05.7 +0.6
LSPA Little Sitkin 4.44 279 Pn 07 21 06.0 +0.2
LSNW Little Sitkin 4.48 279 Pn 07 21 06.1 -0.1
LSSA Little Sitkin 4.48 279 Pn 07 21 06.0 -0.3
MSW Makushin Switc 5.21 59 Pn 07 21 17.1 +0.7
MNAT Makushin Natee 5.25 59 Pn 07 21 18.1 +1.2
UNV Unalaska Valle 5.33 60 Pn **Pn 07 21 18.6 +0.6**
UNV Unalaska Valle 5.33 60 P **Pn 07 21 21.0 +3.0**
baz=245,SNR=21
AKMO Akutan Morgan 5.70 59 Pn 07 21 23.7 +0.7
AKBBA Akutan Broad B 5.74 59 Pn 07 21 24.6 +0.9
AKUT Akutan 5.84 59 Pn **Pn 07 21 25.6 +0.6**
AKSA Akutan Strait 5.89 60 Pn 07 21 26.8 +1.2
SPIA Saint Paul Isl 6.21 21 Pn **Pn 07 21 30.1 0.0**
SMY Shemya 7.24 285 P **Pn 07 21 43.5 -0.7**
SMY Shemya 7.24 285 Pn **Pn 07 21 43.5 -0.7**
FALS False Pass 7.39 58 Pn **Pn 07 21 46.3 +0.1**
SDPT Sand Point 9.15 59 Pn **Pn 07 22 10.5 +0.2**
SDPT Sand Point 9.15 59 P **Pn 07 22 11.2 +1.0**
baz=250
CNBA Chernabura Isl 9.48 63 Pn **Pn 07 22 14.7 -0.1**
CHNA Chernabura Isl 9.48 63 P **Pn 07 22 15.6 +0.8**
baz=254
CHGN Chignik 10.57 56 Pn **Pn 07 22 30.0 +0.3**
CHGN Chignik 10.57 56 P **Pn 07 22 31.8 +2.1**
baz=249
GAMB Gambell 12.43 5 Pn **Pn 07 22 56.3 +1.1**
OHAK Old Harbor 13.54 57 P **Pn 07 23 08.3 -2.0**
baz=253
O18K Koktuh Hills 13.64 45 Pn **Pn 07 23 13.8 +2.1**
N18K Kilae Creek 13.79 41 Pn **Pn 07 23 15.2 +1.5**
KDAK Kodiak Island 14.06 55 Pn **Pn 07 23 15.2 -2.2**
0.4nm,0.3s,baz=285,slow=14,SNR=17
KDAK Sn **Sn 07 25 49.9 -2.1**
0.1nm,0.3s,baz=331,slow=18,SNR=1.3
KDAK Kodiak Island 14.06 55 P **Pn 07 23 16.9 -0.5**
KDAK Kodiak Island 14.06 55 Pn 07 23 16.9 -0.5
SVW2 Sparrevohn 14.15 40 Pn 07 23 20.4 +1.8
N19K Bonanza Creek 14.44 42 Pn 07 23 23.8 +1.2
N19K Bonanza Creek 14.44 42 P **P 07 23 26.0 -2.9**
baz=238
O20K Slope Mountain 14.90 46 P **P 07 23 31.6 -2.3**
baz=244
L19K White Mountain 15.06 37 P **P 07 23 35.0 -0.7**
baz=233
M19K Big River Lodg 15.08 38 P **P 07 23 34.6 -1.2**
baz=235
M20K Styx River 15.56 40 Pn 07 23 38.3 +0.9
M20K Styx River 15.56 40 P **P 07 23 40.3 -1.0**
baz=237,SNR=9.2
BRLK Bradley Lake 15.57 49 Pn 07 23 35.8 -1.7
BRLK IAmb IAmb 07 24 04.9
comp=Z,102nm,1.7s
L20K Farewell, AK 15.61 37 P **P 07 23 41.2 -0.5**
baz=234,SNR=8.2
BRSE Bradley Lake S 15.63 49 P **P 07 23 40.6 -1.3**
baz=248
K20K Telida 16.07 34 P **P 07 23 47.2 +0.4**
K20K IAmb IAmb 07 23 51.5
comp=Z,53nm,1.4s
K20K Telida 16.07 34 P **P 07 23 47.1 +0.3**
baz=231,SNR=17
SKT Skwentna 16.26 41 P 07 23 49.4 +0.4
SKT Skwentna 16.26 41 P **P 07 23 49.1 +0.1**
baz=240
SEW Seward 16.37 48 P **Pn 07 23 47.2 -0.4**
baz=249
O22K Cooper Landing 16.38 47 P **P 07 23 49.6 -0.6**
baz=247
PPLA Purkeypile 16.49 37 P **P 07 23 52.7 +1.1**
baz=236
J20K Nowinta River 16.57 32 P **P 07 23 52.8 +0.5**
J20K Nowinta River 16.57 32 P **P 07 23 53.3 +1.0**
baz=229,SNR=8.6
PET Petropavlovsk 16.59 286 *i* P **Pn 07 23 51.3 +0.9**
CHUM Lake Minchumin 17.01 35 P **P 07 23 58.0 +0.8**
baz=233,SNR=11
PEA0B Petropavlovsk- 17.15 287 *i* P **P 07 23 59.3 +0.5**
PETK Petropavlovsk- 17.15 287 P **Pn 07 23 57.5 -0.1**
comp=Z,0.5nm,0.3s,baz=94,slow=15,SNR=9.4
PETK LR LR 07 30 03.5
comp=Z,696nm,19.6s,baz=81,slow=36
GHO Glory Hole Cre 17.26 43 P **P 07 24 00.4 +0.4**
KNK Knik Glacier 17.31 45 P **Pn 07 23 58.8 -0.7**
baz=246
KTH Kantishna Hill 17.33 37 P **P 07 24 01.5 +0.7**
KTH IAmb IAmb 07 24 26.8
comp=Z,168nm,1.9s
TRF Thorofare Moun 17.51 37 P **Pn 07 24 02.3 +0.2**
TRF IAmb IAmb 07 24 10.4
comp=Z,86nm,1.8s
TRF Thorofare Moun 17.51 37 P **P 07 24 07.3 +4.3**
baz=238
SML Sawmill 17.53 44 P **Pn 07 24 02.1 -0.2**
baz=245
BPAW Bear Paw Mtn. 17.61 35 P **P 07 24 04.8 +0.9**
BPAW IAmb IAmb 07 24 19.6
comp=Z,76nm,1.7s
BPAW Bear Paw Mtn. 17.61 35 P **P 07 24 04.5 +0.6**
baz=235,SNR=12
WAT1 Susitna Watana 17.89 41 P **P 07 24 07.9 +0.9**
baz=242
IMAR Indian Mountai 17.92 28 P **P 07 24 07.8 +0.5**
I21K Tanana 17.93 31 P **P 07 24 07.8 +0.5**
I21K Tanana 17.93 31 P **P 07 24 08.6 +1.3**
baz=230,SNR=11
SCM Sheep Creek Mo 17.98 44 P **Pn 07 24 06.8 -0.9**
SCM pmax pmax
comp=Z,28nm,1.0s
SCM Sheep Creek Mo 17.98 44 P **Pn 07 24 06.8 -0.9**
RND Reindeer 18.04 39 P **Pn 07 24 07.4 -1.2**
RND pmax pmax
comp=Z,26nm,1.2s
RND Reindeer 18.04 39 P **Pn 07 24 07.4 -1.2**
WAT6 Susitna Watana 18.11 42 P **Pn 07 24 09.4 0.0**
baz=244
MCK McKinley 18.18 38 P **P 07 24 09.6 -0.5**
MCK pmax pmax
comp=Z,26nm,1.1s
MCK McKinley 18.18 38 P **P 07 24 09.6 -0.5**
MCK McKinley 18.18 38 P **P 07 24 09.7 -0.4**
baz=239,SNR=7.8
MLY Manley 18.25 33 P **P 07 24 10.0 -1.0**
MLY Manley 18.25 33 P **Pn 07 24 14.0 +2.9**
baz=233,SNR=18
KLU Klutina 18.47 46 P **P 07 24 13.2 -0.2**
KLU IAmb IAmb 07 24 33.7
comp=Z,63nm,1.8s
KLU Klutina 18.47 46 P **P 07 24 12.9 -0.6**
baz=250
M24K Tolsona, Glenn 18.58 44 P **P 07 24 13.8 -0.9**
M24K IAmb IAmb 07 24 46.0
comp=Z,133nm,1.9s
M24K Tolsona, Glenn 18.58 44 P **Pn 07 24 15.9 +0.8**
baz=248
I23K Minto, Yukon-K 18.79 34 P **P 07 24 17.1 +0.3**
I23K IAmb IAmb 07 24 39.8
comp=Z,80nm,1.4s
I23K Minto, Yukon-K 18.79 34 P **Pn 07 24 18.1 +0.6**
baz=235,SNR=21
BMRM Bremner River 18.91 48 P **Pn 07 24 19.0 -0.1**
baz=253
MDM Murphy Dome 19.09 35 P **Pn 07 24 21.7 +0.6**
N25K Chitina, Valde 19.11 46 P **P 07 24 20.1 -0.3**
baz=251
BILL Bilibino 19.13 338 *de*P **Pn 07 24 21.5 -0.1**
BILL pmax pmax
comp=Z,123nm,1.4s
BILL MLR MLR
comp=Z,1µm,16.0s
H23K Yukon River 19.13 32 P **Pn 07 24 22.7 +1.1**
baz=233
HARP HAARP 19.14 44 P **Pn 07 24 21.5 -0.2**
baz=248
TCOL CIGO, UAF Yank 19.17 35 P **P 07 24 20.5 -0.4**
COLA College 19.18 35 P **P 07 24 21.2 +0.2**
COLA pmax pmax
comp=Z,11nm,0.9s
COLA College 19.18 35 P **P 07 24 21.2 +0.2**
PAX Paxson 19.22 42 P **P 07 24 21.9 +0.3**
PAX pmax pmax
comp=Z,18nm,1.3s
PAX Paxson 19.22 42 P **P 07 24 21.9 +0.3**
PAX Paxson 19.22 42 P **Pn 07 24 22.6 -0.2**
baz=246
HDA Harding Lake 19.27 37 P **P 07 24 22.1 0.0**
baz=240,SNR=18
IL31 19.48 36 P **Pn 07 24 25.0 -0.7**
ILAR Eielson Array 19.48 36 P **P 07 24 24.1 -0.2**
comp=Z,1.4nm,0.3s,baz=229,slow=8.3,SNR=44
ILAR S **S 07 28 00.5 -1.6**
comp=Z,0.2nm,0.3s,baz=229,slow=9.0,SNR=4.1
H24K Noodor Dome 19.69 33 P **P 07 24 26.7 0.0**
H24K IAmb IAmb 07 24 37.0
comp=Z,28nm,0.9s
H24K Noodor Dome 19.69 33 P **Pn 07 24 27.6 -0.8**
baz=236,SNR=22
MCARA McCarthy VSAT 19.77 48 P **Pn 07 24 29.9 +0.7**
baz=254
RIDG Independent Ri 19.79 40 P **Pn 07 24 28.8 -0.8**
baz=245,SNR=6.7
COLD Coldfoot 19.81 28 P **Pn 07 24 28.9 -0.7**
COLD IAmb IAmb 07 24 48.3
comp=Z,29nm,1.1s
COLD Coldfoot 19.81 28 P **P 07 24 29.3 -0.3**
baz=229
J25K Saicha River, 19.97 38 P **P 07 24 28.8 -0.9**
baz=242,SNR=51
M26K Nabesna, AK 20.08 45 P Pn 07 24 32.2 -0.8
baz=251,SNR=8.6
L26K Log Cabin Wild 20.14 43 P **P 07 24 32.4 +0.8**
L26K Log Cabin Wild 20.14 43 P Pn 07 24 33.4 -0.2
baz=249,SNR=8.5
SCRK Sand Creek 20.24 40 P **P 07 24 32.1 -0.7**
baz=246,SNR=29
PRP Porcupine Dome 20.35 35 P **P 07 24 34.3 +0.4**
PRP Porcupine Dome 20.35 35 P **P 07 24 34.7 +0.8**
baz=240
CTG Chitna Glacier 20.45 49 P Pn 07 24 37.1 -0.3
baz=257
J26K Charley River, 20.56 39 P **P 07 24 35.2 -1.0**
baz=245,SNR=32
M27K Edge Creek, AK 20.57 45 P Pn 07 24 39.0 +0.3
baz=253
L27K Beaver Creek, 20.80 44 P **P 07 24 38.2 -0.6**
L27K Beaver Creek, 20.80 44 P Pn 07 24 41.1 -0.3
baz=251
TOLK Toolik Lake Re 20.93 25 P **P 07 24 39.6 -0.6**
TOLK IAmb IAmb 07 24 59.9
comp=Z,27nm,1.1s
TOLK Toolik Lake Re 20.93 25 P **P 07 24 41.0 +0.8**
baz=227,SNR=8.5
BVCY Beaver Creek 21.04 46 P **P 07 24 44.0 +2.8**
baz=254
K27K Chicken 21.04 41 P **P 07 24 41.0 -0.2**
K27K Chicken 21.04 41 P **P 07 24 41.7 +0.5**
baz=248
YUK3 Moose Creek 21.05 48 P **P 07 24 44.1 +2.5**
baz=256
SEY Seymchan 21.10 316 P **P 07 24 41.7 -0.2**
comp=Z,10nm,1.1s,baz=123,slow=13,SNR=6.2
SEY LR LR 07 33 20.9
comp=Z,1µm,18.3s,baz=91,slow=38
SEY Seymchan 21.10 316 *i* P **P 07 24 42.4 +0.5**
MA2 Magadan 21.15 306 P **P 07 24 42.2 -0.2**
comp=Z,3.6nm,0.3s,baz=359,slow=18,SNR=4.8
BMAR Burnt Mountain 21.67 31 P **P 07 24 48.1 +0.1**
EGAK Eagle 21.68 39 P **P 07 24 47.8 -0.3**
baz=248,SNR=35
DAWY Dawson 22.16 42 P **P 07 24 54.2 +0.9**
baz=252,SNR=8.0
EPYK Eagle Plains 23.98 37 P **P 07 25 10.7 -0.9**
baz=250,SNR=5.5
WRAK Wrangell Islan 24.91 62 P **P 07 25 20.3 +0.3**
WRAK IAmb IAmb 07 25 36.2
comp=Z,28nm,1.1s
WRAK Wrangell Islan 24.91 62 P **P 07 25 22.6 +2.6**
baz=276
MMPY Sheldon Lake, 25.44 47 P **P 07 25 24.8 -0.2**
baz=264
INK Inuvik 25.81 34 P **P 07 25 28.6 +0.5**
comp=Z,3.4nm,0.8s,baz=234,slow=4.9,SNR=6.3
INK Inuvik 25.81 34 P **P 07 25 28.9 +0.8**
baz=250
DLBC Dease Lake 25.98 57 P **P 07 25 31.2 +1.4**
comp=Z,8.4nm,1.0s,baz=293,slow=6.2,SNR=8.5
YSS Yuzh-Sakhalins 28.09 278 *eP* **P 07 25 49.3 +0.5**
YSS *e* 07 26 02.5
YSS pmax pmax
comp=Z,30nm,1.0s
JKA Kamikawa-asahi 29.50 273 P **P 07 26 01.3 -0.1**
JKA IAmb IAmb 07 26 05.9
comp=Z,23nm,1.1s
ASAJ Asahikawa 29.50 273 P **P 07 26 01.6 +0.3**
comp=Z,12nm,0.9s,baz=2.0,slow=10,SNR=5.8
ASAJ Asahikawa 29.50 273 P **P 07 26 01.3 -0.1**
ASAJ pmax pmax
comp=Z,23nm,1.1s
YAK Yakutsk 31.46 312 *i* P **P 07 26 18.6 +0.1**
YAK pmax pmax
comp=Z,17nm,0.8s
YKA Yellowknife Ar 33.14 47 LR LR 07 40 45.0
comp=Z,965nm,18.9s,baz=0.0,slow=38
KLR Kul'dur 33.83 288 *i* P **P 07 26 38.8 -0.6**
KLR pmax pmax
comp=Z,11nm,0.8s
ZEA Zeya 34.70 297 *e*P **P 07 26 46.0 -0.8**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
B08A Colville Reser 34.86 73 P **P 07 26 48.3 0.0**
B08A IAmb IAmb 07 27 07.3
comp=Z,7.6nm,0.9s
H11N2 WAKE ISLAND Hy 34.93 212 T T 08 03 56.1
baz=16,slow=76
H11N3 WAKE ISLAND Hy 34.94 212 T T 08 03 57.5
baz=16,slow=76
H11N1 WAKE ISLAND Hy 34.95 212 T T 08 03 55.0
baz=16,slow=76
USRK Ussuriysk Ar. 36.05 280 P **P 07 26 58.0 -0.5**
comp=Z,21nm,0.9s,baz=56,slow=8.0,SNR=27
YBH Yreka Blue Hor 36.09 85 LR LR 07 39 35.1
comp=Z,440nm,18.7s,baz=319,slow=33
H11S1 WAKE ISLAND Hy 36.14 212 T T 08 06 10.1
baz=15
H11S2 WAKE ISLAND Hy 36.15 212 T T 08 06 13.4
baz=15
H11S3 WAKE ISLAND Hy 36.15 212 T T 08 06 01.6
baz=15
NEW Newport 36.22 72 P **P 07 27 00.9 +0.9**
comp=Z,1.9nm,0.7s,baz=299,slow=13,SNR=1.9
NEW Newport 36.22 72 IAmb IAmb 07 27 19.4
comp=Z,7.4nm,0.8s
EDM Edmonton 36.31 63 P **P 07 27 01.4 +0.7**
EDM pmax pmax
comp=Z,22nm,0.8s
EDM Edmonton 36.31 63 P **P 07 27 01.4 +0.7**
MJA0 Matsu Arr-Jizo 36.55 265 *eP* **P 07 27 01.7 -1.2**
MJA0 pmax pmax
comp=Z,4.0nm,0.8s
MJAR Matsushiro Arr 36.57 265 P **P 07 27 02.6 -0.5**
comp=Z,4.0nm,0.8s,baz=49,slow=7.4,SNR=15
MJAR Matsushiro Arr 36.57 265 *eP* **P 07 27 01.6 -1.5**
MJAR pmax pmax
comp=Z,4.0nm,0.8s
MJAR Matsushiro Arr 36.57 265 P **P 07 27 02.8 -0.3**
MJAR IAmb IAmb 07 27 04.5
comp=Z,16nm,1.6s
MAJO Matsushiro 36.57 265 P **P 07 27 02.8 -0.3**
MAJO pmax pmax
comp=Z,25nm,1.1s
MAJO Matsushiro 36.57 265 P **P 07 27 02.8 -0.3**
MAJO IAmb IAmb 07 27 04.5
comp=Z,25nm,1.1s
MAT Matsushiro 36.57 265 P **P 07 27 02.7 -0.4**
MDJ Mudanjiang 37.30 282 P **P 07 27 07.7 -1.5**
MDJ pmax pmax
comp=Z,22nm,1.0s
MDJ pmax pmax
comp=Z,65nm,3.5s
MDJ Mudanjiang 37.30 282 P **P 07 27 07.7 -1.5**
MDJ IAmb IAmb 07 27 09.5
comp=Z,20nm,1.0s
JGF Kuroka 37.70 264 P **P 07 27 12.6 -0.1**
JGF IAmb IAmb 07 27 14.4
comp=Z,20nm,1.1s
WVOR Wild Horse Val 38.24 81 P **P 07 27 17.4 +0.2**
WVOR pmax pmax
comp=Z,6.0nm,1.0s
WVOR Wild Horse Val 38.24 81 P **P 07 27 17.4 +0.2**
PAHR Pah Rah Range 39.32 85 P **P 07 27 27.1 +0.7**
LRM Limekiln Ridge 40.20 73 P **P 07 27 34.9 +1.1**
HLID Hailey 40.21 77 P **P 07 27 36.5 +2.7**
baz=303
CN2 Changchun 40.27 284 *e*P **P 07 27 33.3 -0.7**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 LR LR
comp=N,600nm,14.0s
CN2 LR LR
comp=E,700nm,14.0s
CN2 LR LR
comp=Z,700nm,14.0s
MCMT McKenzie Canyo 40.48 74 P **P 07 27 36.5 +0.4**
NVAR Mina Array Bea 40.76 86 P **P 07 27 39.8 +1.3**
comp=Z,0.4nm,0.7s,baz=289,slow=5.6,SNR=5.0
BOZ Bozeman (W) 40.80 73 P **P 07 27 39.6 +0.9**
baz=302
ELK Elko 41.29 81 P **P 07 27 42.4 -0.4**
ELK pmax pmax
comp=Z,3.0nm,0.8s
ELK Elko 41.29 81 P **P 07 27 42.4 -0.4**
YHH Holmes Hill 41.70 73 P **P 07 27 45.9 -0.3**
YHH IAmb IAmb 07 28 05.4
comp=Z,6.4nm,0.7s
KSRS Korea Array 42.43 274 P **P 07 27 52.2 +0.5**
comp=Z,4.8nm,0.9s,baz=61,slow=8.2,SNR=10.0
KSRS Korea Array 42.43 274 *eP* **P 07 27 53.1 +1.3**
KSRS pmax pmax
comp=Z,5.0nm,0.9s
KSAR Wonju Array Be 42.46 274 P **P 07 27 51.6 -0.5**
KSAR Wonju Array Be 42.46 274 P **P 07 27 51.6 -0.5**
RLMT Red Lodge 42.47 72 P **P 07 27 52.6 +0.3**
RLMT IAmb IAmb 07 28 10.1
comp=Z,9.8nm,0.9s
RLMT Red Lodge 42.47 72 P **P 07 27 53.7 +1.4**
baz=303
DUG Dugway, Tooele 43.11 80 P **P 07 27 57.3 -0.3**
DUG pmax pmax
comp=Z,9.0nm,1.1s
DUG Dugway, Tooele 43.11 80 P **P 07 27 57.2 -0.3**
DUG IAmb IAmb 07 28 14.1
comp=Z,9.1nm,1.1s
DUG Dugway, Tooele 43.11 80 P **P 07 28 01.8 +4.2**
baz=306
PRN Pahroc Range 43.42 85 P **P 07 28 00.8 +0.8**
PRN IAmb IAmb 07 28 21.2
comp=Z,13nm,0.9s
BW06 Boulder Array 43.60 75 P **P 07 28 00.8 -0.7**
BW06 IAmb IAmb 07 28 19.6
comp=Z,7.6nm,0.8s
BW06 Boulder Array 43.60 75 P **P 07 28 04.2 +2.7**
baz=305
PD31 Pinedale Array 43.60 75 P **P 07 28 02.0 +0.4**
PD31 IAmb IAmb 07 28 19.6
comp=Z,6.7nm,0.8s
PDAR Pinedale Array 43.60 75 P **P 07 28 02.3 +0.7**
comp=Z,1.6nm,0.5s,baz=319,slow=4.3,SNR=10
PDAR Pinedale Array 43.60 75 P **P 07 28 01.3 -0.3**
GSC Goldstone, Bar 43.65 89 P **P 07 28 01.5 -0.4**
GSC pmax pmax
comp=Z,7.0nm,0.9s
GSC Goldstone, Bar 43.65 89 P **P 07 28 01.5 -0.4**
GSC IAmb IAmb 07 28 19.9
comp=Z,7.1nm,0.8s
GSC Goldstone, Bar 43.65 89 P **P 07 28 05.1 +3.3**
baz=310
LCMT Little Creek M 44.79 84 P **P 07 28 10.9 -0.1**
RDMU Red Mountain 44.88 78 P **P 07 28 11.0 -0.8**
RDMU IAmb IAmb 07 28 28.7
comp=Z,14nm,1.2s
SRU San Rafael Swe 45.17 80 P **P 07 28 13.3 -0.8**
SRU pmax pmax
comp=Z,6.0nm,1.0s
SRU San Rafael Swe 45.17 80 P **P 07 28 13.3 -0.8**
SRU IAmb IAmb 07 28 31.8
comp=Z,6.0nm,1.0s
DL2 Dalian 45.44 280 P **P 07 28 15.5 -0.5**
DL2 pmax pmax
comp=Z,37nm,1.0s
NRIK Noril'sk 45.74 331 *i* P **P 07 28 16.9 -1.0**
NRIK pmax pmax
comp=Z,10.0nm,1.3s
MDND Maddock 46.56 63 P **P 07 28 24.5 -0.2**
PV17 East Wray Mesa 46.65 80 P **P 07 28 25.0 -0.8**
PV17 IAmb IAmb 07 28 57.3
comp=Z,7.9nm,0.8s
NEEM North Greenlan 46.68 15 *i* P **P 07 28 25.0 -0.6**
NEEM IAmb IAmb 07 28 27.3
comp=Z,6.4nm,0.8s
PV03 Paradox Valley 46.73 80 P **P 07 28 26.5 +0.1**
PV03 IAmb IAmb 07 28 41.7
comp=Z,8.7nm,1.1s
PV13 Radium Mtn., P 46.81 80 P **P 07 28 26.7 -0.4**
PV13 IAmb IAmb 07 28 43.4
comp=Z,17nm,1.0s
PV02 Paradox Valley 46.83 80 P **P 07 28 26.4 -0.8**
PV02 IAmb IAmb 07 28 59.7
comp=Z,9.0nm,0.9s
PV01 Paradox Valley 46.98 80 P **P 07 28 28.2 -0.2**
ULM Lac du Bonnet 47.27 59 P **P 07 28 29.8 -0.4**
comp=Z,3.7nm,0.7s,baz=317,slow=7.2,SNR=4.5
BJI Beijing 48.08 285 P **P 07 28 36.5 0.0**
BJI S **S 07 35 38.7 +6.5**
BJI pmax pmax
comp=Z,20nm,1.0s
BJI LR LR
comp=N,260nm,14.5s
BJI LR LR
comp=E,1µm,15.1s
BJI LR LR
comp=Z,1µm,16.5s
BJT Baijiatuau 48.09 285 P **P 07 28 36.0 -0.7**
BJT pmax pmax
comp=Z,16nm,1.0s
BJT Baijiatuau 48.09 285 P **P 07 28 36.0 -0.7**
BJT IAmb IAmb 07 28 38.0
comp=Z,16nm,1.0s
AGMN Agassiz Nation 48.38 61 P **P 07 28 38.7 -0.1**
baz=305
ULN Ulaanbaatar 48.71 299 *i* P **P 07 28 41.1 -0.4**
ULN pmax pmax
comp=Z,9.0nm,1.1s
ULN Ulaanbaatar 48.71 299 P **P 07 28 41.0 -0.6**
ULN IAmb IAmb 07 28 42.1
comp=Z,10nm,1.1s
SONM Songino Array 49.09 299 P **P 07 28 44.5 +0.1**
comp=Z,5.4nm,1.0s,baz=58,slow=8.9,SNR=22
SONM PcP **PcP 07 30 06.6 -0.9**
comp=Z,3.9nm,1.1s,baz=79,slow=2.0,SNR=6.2
SONM Songino Array 49.09 299 P **P 07 28 44.1 -0.3**
SONM IAmb IAmb 07 28 45.2
comp=Z,8.7nm,1.1s
SDCO Great Sand Dun 49.11 78 P **P 07 28 46.0 +1.1**
baz=309
ZAK Zakamensk 49.28 303 *eP* **P 07 28 44.7 -1.1**
ZAK pmax pmax
comp=Z,30nm,1.3s
TIA Tai'an 49.91 280 ||P **P 07 28 51.0 +0.3**
TIA pmax pmax
comp=Z,21nm,1.2s
ANMO Albuquerque 50.33 81 *i* P **P 07 28 55.7 +1.6**

ANMO pmax pmax
comp=Z,16nm,3.5s
HHC Hu-ho-hao-te 50.34 289 *e*P **P 07 28 54.8 +0.8**
HHC pmax pmax
comp=Z,21nm,1.1s
HHC pmax pmax
comp=Z,520nm,5.4s
ECSD EROS Data Cent 50.66 66 P **P 07 28 56.9 +0.6**
ECSD IAmb IAmb 07 29 09.8
comp=Z,5.3nm,1.0s
NJ2 Nanjing 51.60 275 *e*P **P 07 29 02.4 -1.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
TIY Taiyuan 51.81 285 *e*P **P 07 29 06.3 +1.3**
TIY pmax pmax
comp=Z,44nm,1.0s
E43A Lone Tree Farm 54.34 58 P **P 07 29 23.1 -0.3**
E43A IAmb IAmb 07 29 37.4
comp=Z,9.0nm,0.8s
WHN Wuhan 55.43 277 ⇑P **P 07 29 30.8 -0.7**
E46A Sault Ste Mari 55.77 57 P **P 07 29 33.6 -0.1**
TX31 Lajitas Ar. Si 55.87 84 P **P 07 29 34.9 +0.1**
TX32 Lajitas Array 55.87 84 P **P 07 29 34.5 -0.3**
TX32 IAmb IAmb 07 29 53.0
comp=Z,18nm,1.6s
TXAR Lajitas Array 55.87 84 P **P 07 29 34.6 -0.2**
comp=Z,0.9nm,0.9s,baz=300,slow=5.0,SNR=8.0
ZALV Zalesovo Beam 55.97 316 P **P 07 29 36.6 +1.5**
comp=Z,0.5nm,0.3s,baz=64,slow=6.6,SNR=1.3
ZALV PcP **PcP 07 30 33.6 +0.5**
comp=Z,1.3nm,0.3s,baz=62,slow=3.5,SNR=7.2
SSLB Suanglung 56.10 266 P **P 07 29 35.3 -1.1**
XAN Xi'an 56.37 284 P **P 07 29 37.7 -0.6**
XAN pP pP 07 29 45.0 -3.1
XAN sP sP 07 29 51.7 -1.4
XAN pmax pmax
comp=Z,31nm,1.3s
XAN Xi'an 56.37 284 P **P 07 29 38.5 +0.2**
XAN Xi'an 56.37 284 P **P 07 29 38.5 +0.2**
DGZ Jazzator, Alta 57.65 310 *i* P **P 07 29 47.2 -0.1**
DGZ pmax pmax
comp=Z,6.0nm,1.0s
LZH Lanzhou 58.03 289 ⇓P **P 07 29 50.8 +0.7**
LZH pP sP 07 30 04.2 -0.4
LZH sP pwP 07 30 14.0 +8.6
LZH pmax pmax
comp=Z,24nm,1.0s
GTA Gaotai 58.11 294 ⇓P **P 07 29 50.4 -0.2**
GTA pP pP 07 29 55.2 -5.4
GTA sP pwP 07 29 58.2 -7.8
GTA pmax pmax
comp=Z,11nm,1.2s
ARCES ARCESS Array B 58.45 352 P **P 07 29 51.3 -1.1**
comp=Z,2.5nm,0.7s,baz=32,slow=7.1,SNR=7.2
ARCES PcP **PcP 07 30 42.7 +0.1**
comp=Z,7.9nm,0.8s,baz=12,slow=6.2,SNR=8.7
PLVO Plevna 60.39 54 P **P 07 30 06.2 +0.1**
DELO Deloro Mine 60.48 55 P **P 07 30 07.1 +0.4**
PECO Prince Edward 61.21 55 P **P 07 30 11.6 0.0**
WMQ Urumqi 61.61 305 *e*P **P 07 30 17.3 +2.8**
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ pmax pmax
comp=Z,210nm,4.7s
LONY Lake Ozonia 61.94 53 P **P 07 30 16.5 -0.1**
baz=316
J57A Williamstown 62.09 55 P **P 07 30 18.0 +0.4**
MK31 Makanchi Array 62.14 311 *i* P **P 07 30 20.3 +2.4**
MK31 Makanchi Array 62.14 311 P **P 07 30 16.8 -1.1**
MK31 IAmb IAmb 07 30 18.0
comp=Z,2.9nm,0.8s
MKAR Makanchi Array 62.14 311 P **P 07 30 17.1 -0.9**
comp=Z,1.4nm,0.3s,baz=37,slow=5.5,SNR=46
MKAR Makanchi Array 62.14 311 P **P 07 30 17.6 -0.4**
L56A Greenwood 62.19 57 P **P 07 30 19.1 +0.7**
MOQ Mont Orford 62.59 51 P **P 07 30 20.5 -0.6**
D62A Allapoint, All 62.82 48 P **P 07 30 22.5 +0.1**
baz=317
PRGR Permogore 62.85 340 *e*P **P 07 30 18.8 -3.5**
PRGR pmax pmax
comp=Z,21nm,1.3s
BINY Binghamton 62.96 56 P **P 07 30 23.4 -0.1**
BINY Binghamton 62.96 56 P **P 07 30 24.4 +0.9**
baz=316,SNR=6.1
F62A Pittston Farm, 63.26 49 P **P 07 30 24.9 -0.5**
baz=317
G62A West of Eustis 63.49 50 P **P 07 30 26.7 -0.2**
baz=317
N58A Sunbury 63.56 57 P **P 07 30 27.8 +0.3**
E63A Oxbow 63.60 48 P **P 07 30 27.0 -0.6**
baz=318
F63A Nahmakanta, Br 63.81 49 P **P 07 30 28.1 -0.9**
baz=318
ARU Arti 63.96 330*c i*P **P 07 30 29.8 0.0**
ARU 07 32 48.9
ARU S **S 07 39 02.7 0.0**
ARU SS **SS 07 43 07.7 -2.9**
ARU pmax pmax
comp=Z,8.0nm,1.1s
F64A Sherman 64.05 48 P **P 07 30 30.2 -0.4**
baz=318
GOGA Godfrey 65.19 67 P P 07 30 43.2 +5.0
GOGA pmax pmax
comp=Z,7.0nm,0.9s
FINES FINESS Array B 66.27 349 P **P 07 30 43.7 -1.0**
comp=Z,5.3nm,0.9s,baz=40,slow=3.2,SNR=6.9
KMI Kunming 66.47 281 ⇑P **P 07 30 48.6 +1.8**
KMI pP sP 07 31 01.6 +0.6
KMI pmax pmax
comp=Z,18nm,0.8s
NB2 NORSAR Subarra 67.77 357 P **P 07 30 53.7 -0.6**
comp=Z,2.5nm,1.0s,baz=5.1,slow=6.9
NOA NORSAR Array B 67.77 357 P **P 07 30 53.5 -0.8**
comp=Z,4.3nm,0.9s,baz=3.3,slow=6.5,SNR=9.0
NOA NORSAR Array B 67.77 357 *e*P **P 07 30 54.0 -0.3**
NOA pmax pmax
comp=Z,4.0nm,0.9s
SLVN Son La 68.55 278 P **P 07 30 59.1 -0.7**
SLVN IAmb IAmb 07 31 15.8
comp=Z,11nm,1.1s
AAK Ala-Archa 68.92 312 *i* P **P 07 31 02.6 +0.6**
AAK pmax pmax
comp=Z,28nm,1.1s
AAK Ala-Archa 68.92 312 P **P 07 31 02.0 +0.1**
AAK IAmb IAmb 07 31 03.3
comp=Z,8.7nm,1.1s
ABKAR Akbulak array 69.52 325 P **P 07 31 05.4 +0.1**
ABKAR Akbulak array 69.52 325 P **P 07 31 05.2 -0.2**
ABKAR IAmb IAmb 07 31 29.4
comp=Z,4.7nm,0.8s
LSA Lhasa 70.02 293 P **P 07 31 09.6 +0.3**
LSA pmax pmax
comp=Z,36nm,1.0s
LSA Lhasa 70.02 293 P **P 07 31 09.6 +0.3**
KK31 Karatay Array 70.35 315 P **P 07 31 09.7 -0.9**
KK31 pmax pmax
comp=Z,5.0nm,0.8s
KK31 Karatay Array 70.35 315 P **P 07 31 09.7 -0.9**
KK31 IAmb IAmb 07 31 11.3
comp=Z,4.5nm,0.8s
KKAR Karatay Array 70.35 315 P **P 07 31 09.9 -0.7**
KKAR pmax pmax
comp=Z,5.0nm,0.8s
KKAR Karatay Array 70.35 315 P **P 07 31 10.2 -0.4**
KKAR IAmb IAmb 07 31 11.3
comp=Z,4.5nm,0.8s
KKAR Karatay Array 70.35 315 P **P 07 31 09.9 -0.7**
KSH Kashi 70.65 309 P **P 07 31 16.8 +4.2**
KSH pP pwP 07 31 29.1 +0.7
KSH sP PcP 07 31 34.3 +0.8
KSH pmax pmax
comp=Z,25nm,1.3s
KSH LR LR
comp=N,590nm,12.6s
KSH LR LR
comp=E,430nm,12.3s
KSH LR LR
comp=Z,890nm,15.6s
OBN Obninsk 70.73 342⇑ *e*P **P 07 31 15.8 +3.2**
OBN *e* 07 31 33.2
OBN *e* 07 33 48.2
OBN *e*S **SKiKP 07 40 51.3 -0.5**
OBN pmax pmax
comp=Z,4.0nm,0.8s
BTK Batken 72.65 313 P **P 07 31 24.5 -0.1**
BTK pmax pmax
comp=Z,17nm,1.2s
BTK Batken 72.65 313 P **P 07 31 24.5 -0.1**
BTK IAmb IAmb 07 31 25.9
comp=Z,17nm,1.1s
SHL Shillong 72.69 289 P **P 07 31 24.8 -0.4**
SHL pmax pmax
comp=Z,68nm,1.1s
SHL Shillong 72.69 289 P **P 07 31 24.8 -0.4**
MNK Minsk 72.79 347 *i* P **P 07 31 25.0 0.0**
MNK *i* 07 31 42.7
MNK *i* 07 34 05.6
MNK *i* PPP PPP 07 35 49.9
MNK *i* S **S 07 40 46.2 -1.5**
MNK *i* 07 41 28.7
MNK *i* SS **SS 07 45 25.4 -1.3**
MNK *i* SSS SSS 07 48 45.9
MNK pmax pmax
comp=N,23nm,0.9s
MNK pmax pmax
comp=Z,15nm,0.9s
MNK pmax pmax
comp=E,4.0nm,1.0s
MNK MLR MLR
comp=Z,456nm,21.0s
MNK MLR MLR
comp=N,340nm,17.0s
MNK Minsk 72.79 347 *i* P **P 07 31 25.0 0.0**
comp=E,4.0nm,1.0s
MNK *i* P **P 07 31 25.0 0.0**
comp=N,23nm,0.8s
MNK *i* P **P 07 31 25.0 0.0**
comp=Z,15nm,0.9s,baz=194
MNK *i* PcP **PcP 07 31 42.8 +0.7**
MNK *i* PP **PP 07 34 05.6 -0.9**
MNK *i* PPP PPP 07 35 50.0
MNK *i* S **S 07 40 46.3 -1.4**
MNK *i* SS **SS 07 45 25.4 -1.2**
MNK *i* SSS SSS 07 48 45.9
MNK *i* LQ LQ 07 57 57.5
MNK *i* LR LR 08 03 03.9
MNK *i* LRM MLR 08 06 02.0
comp=Z,456nm,21.0s
MNK *i* LRM MLR 08 06 12.8
comp=N,340nm,17.4s
MNK *i* LRM MLR 08 06 15.7
comp=E,44nm,23.1s
GAR Garm 73.73 313 P **P 07 31 31.1 +0.1**
TAPN Taplejung 73.77 293 *e*P **P 07 31 32.3 +0.6**
comp=E,128nm,1.0s
CMAR Chiang Mai Arr 73.77 279 P **P 07 31 32.1 +0.7**
comp=E,2.4nm,0.8s,baz=31,slow=6.6,SNR=9.6
CMAR Chiang Mai Arr 73.77 279 *e*P **P 07 31 33.3 +1.9**
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 73.77 279 P **P 07 31 31.0 -0.4**
ODAN Odare 74.33 293 *e*P **P 07 31 35.2 +0.4**
GUN Gumba 74.39 295 *e*P **P 07 31 35.9 +0.6**
CHGR Chuyangaron 74.54 313 P **P 07 31 35.1 -0.6**
KKN Kakani 74.82 295 *e*P **P 07 31 38.1 +0.4**
BSEG Bad Segeberg 74.91 357 P **P 07 31 38.4 +1.0**
BSEG pmax pmax
comp=Z,17nm,1.4s
BSEG Bad Segeberg 74.91 357 *e*P **P 07 31 38.5 +1.0**
comp=Z,12nm,0.8s,baz=4.7,slow=5.6
PKI Pulchoki 74.92 295 *e*P **P 07 31 38.6 +0.3**
comp=Z,117nm,1.1s
PKIN Phulchoki 74.92 295 *e*P **P 07 31 38.2 -0.1**
comp=Z,96nm,1.1s
GKN Gorkha 75.02 296 *e*P **P 07 31 39.0 +0.3**
DMN Daman 75.06 295 *e*P **P 07 31 39.6 +0.5**
DANN Dangsing 75.24 297 *e*P **P 07 31 40.6 +0.4**
comp=Z,171nm,0.9s
AKASG Malin Array Be 76.27 345 P **P 07 31 43.9 -1.4**
comp=Z,2.1nm,0.6s,baz=19,slow=5.9,SNR=9.5
AKASG Malin Array Be 76.27 345 *e*P **P 07 31 48.5 +3.2**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
KIEV Kiev 76.28 345 P **P 07 31 47.0 +1.7**
FLTG Flechtingen 76.48 356 *e*P **P 07 31 46.8 +0.4**
comp=Z,8.3nm,0.8s,baz=4.7,slow=5.6
IBBN Ibbenburen 76.60 359 *e*P **P 07 31 48.2 +1.2**
comp=Z,22nm,0.9s,baz=4.7,slow=5.6
NIL Nilore 76.63 308 P **P 07 31 48.2 +0.5**
NIL pmax pmax
comp=Z,49nm,1.1s
NIL Nilore 76.63 308 P **P 07 31 48.1 +0.5**
CLZ Clausthal 77.00 357 *e*P **P 07 31 50.0 +0.6**
comp=Z,12nm,0.9s,baz=4.7,slow=5.6
GTTG Gottingen 77.31 357 *e*P **P 07 31 51.7 +0.5**
comp=Z,13nm,0.9s,baz=4.7,slow=5.6
CLL Collm 77.42 355 *i* P **P 07 31 51.3 -0.5**
comp=Z,10.0nm,1.1s
CLL *e*pPcP 07 32 09.0
CLL *i* 07 32 13.8
CLL Collm 77.42 355 *i* P **P 07 31 51.3 -0.5**
CLL pmax pmax
comp=Z,10.0nm,1.1s
CLL Collm 77.42 355 *e*P **P 07 31 52.1 +0.4**
comp=Z,5.6nm,0.8s,baz=4.7,slow=5.6
NEUB Neuenburg 77.58 356 *e*P **P 07 31 53.3 +0.7**
comp=Z,26nm,0.9s,baz=4.7,slow=5.6
KASTN Kahler Asten 77.69 358 *e*P **P 07 31 54.1 +0.7**
comp=Z,6.1nm,0.9s,baz=4.7,slow=5.6
FBE Freiberg 77.79 355 *e*P **P 07 31 54.4 +0.6**
comp=Z,11nm,1.1s,baz=4.7,slow=5.6
BRG Berggiesshubel 77.81 355 P **P 07 31 53.8 -0.1**
BRG pmax pmax
comp=Z,11nm,1.0s
BRG Berggiesshubel 77.81 355 *e*P **P 07 31 54.3 +0.4**
comp=Z,6.6nm,0.9s,baz=4.7,slow=5.6
BRG Berggiesshubel 77.81 355 *e*P **P 07 31 54.1 +0.2**
BRG Amp 07 31 55.4
comp=Z,12nm,1.0s
BRG Berggiesshubel 77.81 355 P P 07 32 09.0 +15
BRG Amp 07 32 09.7
comp=Z,5.6nm,1.0s
BRG Amp 07 52 34.0
comp=N,0.7nm,17.3s
BRG Amp 07 52 39.0
comp=E,0.6nm,20.7s
BRG Amp 07 52 49.0
comp=Z,0.9nm,17.1s
KBL Kabul 77.95 311 P **P 07 31 54.5 -0.8**
KBL pmax pmax
comp=Z,21nm,0.9s
KBL Kabul 77.95 311 P **P 07 31 54.5 -0.8**
OSTC Ostas 77.97 353 *e*P **P 07 31 56.0 +1.1**
UBBA Unterbreizbach 78.03 357 *e*P **P 07 31 55.4 +0.3**
comp=Z,4.7nm,1.0s,baz=4.7,slow=5.6
MOX Moxa 78.15 356 P **P 07 31 56.4 +0.5**
MOX Moxa 78.15 356 *e*P **P 07 31 56.2 +0.4**
comp=Z,6.8nm,0.9s,baz=4.7,slow=5.6
DPC Dobruska-Polom 78.17 353 *e*P **P 07 31 56.0 0.0**
DPC *e* 07 32 13.4
DPC Dobruska-Polom 78.17 353 *e*P **P 07 31 56.0 0.0**
DPC *es*P **pwP 07 32 13.4 +1.3**
MEM Membach 78.31 360 *d*P **P 07 31 57.0 +0.3**
comp=Z,13nm,1.2s
BTNL Ternell 78.33 360 *d*P **P 07 31 57.1 +0.3**
comp=Z,10nm,1.0s
TANN Tannenbergstha 78.34 356 *e*P **P 07 31 57.5 +0.5**
comp=Z,3.8nm,1.0s,baz=4.7,slow=5.6
AHRW Bad Neuenahr-A 78.37 359 *e*P **P 07 31 58.1 +1.0**
comp=Z,12nm,0.9s,baz=4.7,slow=5.6
GUNZ Gunzen 78.40 356 *e*P **P 07 31 57.8 +0.5**
comp=Z,5.7nm,1.0s,baz=4.7,slow=5.6
WERN Wernitzgruen 78.47 356 *e*P **P 07 31 58.2 +0.5**
comp=Z,8.7nm,0.9s,baz=4.7,slow=5.6
NKC Novy Kostel 78.52 356 *e*P **P 07 31 58.8 +0.8**
NKC Novy Kostel 78.52 356 *e*P **P 07 31 58.8 +0.8**
BMRD Maredsous 78.62 1 *d*P **P 07 31 58.8 +0.4**
comp=Z,15nm,1.3s
MORC Moravsky Berou 78.64 352 *e*P **P 07 31 58.0 -0.6**
TNS Taunus Mts 78.67 358 *e*P **P 07 31 59.5 +0.7**
comp=Z,11nm,0.9s,baz=4.7,slow=5.6
KMPD K-Podol'skiy 78.78 346 P **P 07 31 59.0 -0.3**
MANZ Manzenberg 78.79 356 *e*P **P 07 31 59.8 +0.4**
comp=Z,3.7nm,0.9s,baz=4.7,slow=5.6
GIVF Givet 78.82 1 *e*P **P 07 32 00.2 +0.7**
GIVF pmax pmax
comp=Z,24nm,1.2s
BAIF Baives 78.86 1 *e*P **P 07 31 59.7 0.0**
BAIF pmax pmax
comp=Z,27nm,1.2s
PBCC Pribram 78.99 354 *e*P **P 07 32 01.3 +0.8**
ROTZ Rotzenmuhle 79.00 356 *e*P **P 07 32 01.0 +0.5**
comp=Z,4.4nm,0.9s,baz=4.7,slow=5.6
MILB Miltenberg 79.05 358 *e*P **P 07 32 01.5 +0.7**
comp=Z,12nm,0.9s,baz=4.7,slow=5.6
GRF Grafenberg Arr 79.12 356 P **P 07 32 02.0 +0.8**
GRF pmax pmax
comp=Z,22nm,0.9s
GRF Grafenberg Arr 79.12 356 *e*P **P 07 32 01.7 +0.5**
baz=4.7,slow=5.6
VRAC Vranov 79.18 353 *e*P **P 07 32 01.4 -0.2**
WLF Walferdange 79.26 360 *d*P **P 07 32 02.9 +0.9**
WLF Walferdange 79.26 360 *e*P **P 07 32 03.2 +1.3**
comp=Z,7.2nm,0.8s,baz=4.7,slow=5.6
KRUC Moravsky 79.44 353 *e*P **P 07 32 02.3 -0.7**
JAVC Velka Javorina 79.54 352 *e*P **P 07 32 03.9 +0.3**
KHC Kasperske Hory 79.56 355 *e*P **P 07 32 04.2 +0.5**
KHC *e* 07 32 18.7
KHC Kasperske Hory 79.56 355 *e*P **P 07 32 04.2 +0.5**
KHC *e*pP **sP 07 32 18.7 -0.9**
WET Wettzell 79.59 355 *e*P **P 07 32 04.2 +0.4**
comp=Z,6.8nm,1.2s,baz=4.7,slow=5.6
KIV Kislovodsk 79.70 334 *e*P **P 07 32 07.4 +2.8**
KIV pmax pmax
comp=Z,6.0nm,0.9s
CKRC Cesky Krumlov 79.83 354 *e*P **P 07 32 05.3 +0.2**
GEC2 GERESS Array S 79.84 355 *e*P **P 07 32 05.7 +0.4**
comp=Z,2.8nm,0.9s,baz=4.7,slow=5.6
GERES GERESS Array B 79.84 355 P **P 07 32 05.9 +0.6**
comp=Z,2.0nm,0.7s,baz=35,slow=4.9,SNR=17
GERES GERESS Array B 79.84 355 P **P 07 32 05.1 -0.1**
KBZ Khabaz 79.85 334 P **P 07 32 06.0 +0.8**
comp=Z,1.5nm,0.6s,baz=120,slow=10,SNR=2.2
KBZ Khabaz 79.85 334 *e*P **P 07 32 05.8 +0.6**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
GEYT Alibeck 79.86 320 P **P 07 32 06.4 +0.9**
comp=Z,4.5nm,0.8s,baz=233,slow=6.9,SNR=8.3
FLN La Foliniere 80.02 4 *e*P **P 07 32 05.5 -0.6**
FLN pmax pmax
comp=Z,31nm,1.4s
LDF La Druitiere 80.21 4 *e*P **P 07 32 06.4 -0.7**
LDF pmax pmax
comp=Z,21nm,1.1s
GRR Gorron 80.38 4 *e*P **P 07 32 07.6 -0.4**
GRR pmax pmax
comp=Z,24nm,1.2s
CDF Champ du Feu 80.50 359 *e*P **P 07 32 08.5 -0.3**
CDF pmax pmax
comp=Z,20nm,1.2s
BFO Black Forest 80.57 358 *e*P **P 07 32 10.0 +0.9**
comp=Z,2.9nm,0.8s,baz=4.7,slow=5.6
CONA Conrad Observa 80.61 353 *e*P **P 07 32 10.6 +1.2**
comp=Z,6.4nm,1.4s
HAU Haudompre 80.92 360 *e*P **P 07 32 10.7 -0.3**
HAU pmax pmax
comp=Z,24nm,1.1s
RJOB Jochberg 81.00 355 *e*P **P 07 32 12.1 +0.6**
comp=Z,15nm,0.9s,baz=4.7,slow=5.6
HINF Hinteralfeld 81.10 359 *e*P **P 07 32 11.5 -0.5**
HINF pmax pmax
comp=Z,7.0nm,1.0s
HRA Herat 81.17 316 P **P 07 32 12.2 -0.6**
HRA IAmb IAmb 07 32 14.2
comp=Z,18nm,1.1s
ARSA Arzberg 81.31 353 *e*P **P 07 32 14.4 +1.3**
comp=Z,4.8nm,1.1s
WATA Walderalm 81.46 356 *i* P **P 07 32 15.0 +1.0**
comp=Z,10nm,1.2s
MOTA Moosalm 81.47 356 *e*P **P 07 32 15.0 +1.0**
comp=Z,12nm,1.2s
WTTA Wattenberg 81.53 356 *i* P **P 07 32 15.7 +1.3**
comp=Z,10nm,1.1s
DAVA Damuels 81.57 357 *i* P **P 07 32 15.7 +1.0**
comp=Z,9.2nm,1.4s
SQTA Sankt Quirin 81.59 356 *i* P **P 07 32 15.8 +1.1**
comp=Z,8.5nm,1.2s
KBA Koelnbreinsper 81.62 355 *i* P **P 07 32 16.4 +1.5**
comp=Z,18nm,1.4s
LOR Lormes 81.64 1 *e*P **P 07 32 14.6 -0.2**
LOR pmax pmax
comp=Z,20nm,1.0s
FETA Feichten 81.81 357 *e*P **P 07 32 17.1 +1.2**
comp=Z,7.1nm,1.0s
SOKA Soboth 81.91 354 *e*P **P 07 32 17.4 +1.0**
comp=Z,12nm,1.1s
ABTA Abfaltersbach 82.00 355 *e*P **P 07 32 17.6 +0.8**
comp=Z,8.1nm,1.3s
TIRR Tirgusor 82.46 344 P **P 07 32 18.7 -0.4**
TIRR pmax pmax
comp=Z,32nm,0.9s
TIRR Tirgusor 82.46 344 P **P 07 32 18.7 -0.4**
TCF Toulx Ste Croi 82.59 2 *e*P **P 07 32 20.4 +0.6**
TCF pmax pmax
comp=Z,11nm,1.0s
RJF Les Rejaudoux 83.55 3 *e*P **P 07 32 25.2 +0.4**
RJF pmax pmax
comp=Z,18nm,1.4s
BNI Bardonecchia 83.87 359 P **P 07 32 27.4 +0.8**
BNI pmax pmax
comp=Z,12nm,1.0s
BNI Bardonecchia 83.87 359 P **P 07 32 27.4 +0.8**
BNI IAmb IAmb 07 32 29.3
comp=Z,12nm,1.0s
LFF La Frestale 83.89 4 *e*P **P 07 32 26.7 +0.2**
LFF pmax pmax
comp=Z,27nm,1.1s
CAF Calviac 83.95 3 *e*P **P 07 32 27.0 +0.1**
CAF pmax pmax
comp=Z,32nm,1.5s
ORIF Oris-en-Rattie 84.01 360 *e*P **P 07 32 27.9 +0.7**
ORIF pmax pmax
comp=Z,18nm,1.3s
VIVF Saint-Julien-l 84.06 1 *e*P **P 07 32 29.0 +1.6**
VIVF pmax pmax
comp=Z,16nm,1.3s
WRA Warramunga Arr 84.07 228 P **P 07 32 26.1 -1.5**
comp=Z,2.0nm,0.9s,baz=37,slow=4.7,SNR=8.8
WRA Warramunga Arr 84.07 228 IAmb IAmb 07 32 27.2
comp=Z,0.9nm,1.4s
VTS Vitosha 85.07 347 P **P 07 32 31.9 -0.8**
VTS pmax pmax
comp=Z,6.0nm,0.9s
VTS Vitosha 85.07 347 P **P 07 32 31.9 -0.8**
VTS IAmb IAmb 07 32 33.6
comp=Z,5.7nm,0.9s
PSI Prapat 85.79 269 P **P 07 32 39.7 +3.1**
ETSF Etsaut 85.87 5 *e*P **P 07 32 37.0 +0.4**
ETSF pmax pmax
comp=Z,17nm,1.4s
BRTR Keskin Array B 85.96 339 P **P 07 32 37.4 +0.1**
comp=Z,1.9nm,0.9s,baz=66,slow=3.0,SNR=8.9
BRTR Keskin Array B 85.96 339 P **P 07 32 36.0 -1.1**
ASAR Alice Springs 87.50 226 P **P 07 32 44.2 -0.3**
comp=Z,3.0nm,0.9s,baz=27,slow=4.8,SNR=22
POO Poona 88.52 298 *e*P **P 07 32 47.0 -2.7**
ESDC Sonseca Array 88.86 7 P **P 07 32 50.7 -0.3**
comp=Z,4.2nm,1.0s,baz=347,slow=4.7,SNR=15
MAW Mawson 148.25 218 PKPbc **PKPbc 07 39 41.9 +0.5**
comp=Z,2.5nm,0.9s,baz=55,slow=4.0,SNR=4.7
MAW Mawson 148.25 218 **PKPbc 07 39 40.7 -0.7**
LBTB Lobatse 149.51 322 PKP2 **PKPbc 07 39 45.5 -0.6**
LBTB Lobatse 149.51 322 PKPbc **PKPbc 07 39 45.5 -0.6**
BOSA Boshof 152.86 320 PKPbc **PKPbc 07 39 53.4 -0.4**
comp=Z,2.6nm,0.8s,baz=101,slow=1.2,SNR=5.2

NEIC ***05*** *07:23:35.1±1.2, 51.°34N±0.°04×174.°25W±0.°05, h25km±11km, Error ellipse: s-maj=6.8km s-min=1.6km az=218.0*
AEIC ***05*** *07:23:35±1.7, 51.°33N±0.°04×174.°29W±0.°05, h30km±7km, ML3.1/23, mb3.9/12(NEIC), Error ellipse: s-maj=6.5km s-min=4.3km az=198.0*
ISC 05 07:23:36.7±1.4, 51.°4N±0.°1×174.°25W±0.°05, h38km, n33, σ0.°74/36, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.84**	**2**	Pn	**Pn**	**07 23 50.8**	**-1.1**
ATKA	**Atka Island**	**0.84**	**2**		**Sn**	**07 24 03.8**	**+0.8**
KOFP	**Korovin Flat P**	**0.91**	**6**		**Pn**	**07 23 52.9**	**-0.2**
KOKL	**Mount Kliuchef**	**0.96**	**2**		**Pn**	**07 23 53.4**	**-0.3**
KOSE	**Korovin Southe**	**0.98**	**7**		**Pn**	**07 23 53.9**	**-0.1**
GSIG	**Igitkin Island**	**1.21**	**301**		**Pn**	**07 23 55.7**	**-1.3**
GSIG					**Sn**	**07 24 13.2**	**+1.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSMY	Great Sitkin M	1.31	302		Pn	07 23 57.6	-0.8
GSTR	Great Sitkin T	1.34	304	Pn	Pn	07 23 58.1	-0.7
GSTD	Great Sitkin T	1.36	301		Pn	07 23 58.4	-0.8
GSTD					Sn	07 24 16.7	+0.7
GSSP	Great Sitkin S	1.40	302		Pn	07 23 59.0	-0.6
ADAG	Mount Adagdak	1.58	294		Pn	07 24 02.1	0.0
ADK	Adak	1.60	290	Pn	Pn	07 24 01.4	-1.0
ADK	Adak	1.60	290		Sn	07 24 22.2	+0.5
KIWB	Kanaga Island	1.87	286	Pn	Pn	07 24 05.8	-0.3
KIMD	Kanaga Island	1.90	283		Pn	07 24 06.0	-0.5
TAFP	Tanaga Falls P	2.38	284		Pn	07 24 13.5	+0.4
TAFP					Sn	07 24 41.9	+0.7
TASE	Tanaga Southea	2.41	283		Pn	07 24 14.0	+0.5
GAEA	Gareloi East	2.83	280		Pn	07 24 20.0	+0.6
NIKH	Nikolski High	3.69	62	Pn	Pn	07 24 30.4	-0.7
AMKA	Amchitka	4.04	273	Pn	Pn	07 24 34.9	-0.9
UNV	Unalaska Valle	5.33	59	Pn	Pn	07 24 54.3	+0.7
GHO	Glory Hole Cre	17.29	43	P	Pn	07 27 34.7	-0.2
GHO				IAmb	IAmb	07 27 42.8	
	comp=Z,12nm,1.2s						
BPAW	Bear Paw Mtn.	17.66	35	P	P	07 27 41.5	+1.5
BPAW				IAmb	IAmb	07 27 49.6	
	comp=Z,14nm,1.5s						
FID	Port Fidalgo	17.99	48	P	Pn	07 27 43.3	-0.2
SCM	Sheep Creek Mo	18.00	44	P	P	07 27 43.6	-0.2
RND	Reindeer	18.08	38	P	P	07 27 44.6	-0.1
RND				IAmb	IAmb	07 27 45.8	
	comp=Z,14nm,1.4s						
M24K	Tolsona, Glenn	18.61	44	P	P	07 27 49.8	-0.7
IL31		19.52	36	P	P	07 27 59.8	-0.5
H24K	Noodor Dome	19.74	33	P	P	07 28 02.8	0.0
RIDG	Independent Ri	19.83	40	P	P	07 28 03.0	-0.8
RIDG				IAmb	IAmb	07 28 31.2	
	comp=Z,14nm,1.4s						
DOT	Dot Lake	20.11	41	P	P	07 28 06.4	-0.5
M26K	Nabesna, AK	20.11	45	P	P	07 28 07.7	+0.8
M26K				IAmb	IAmb	07 28 25.1	
	comp=Z,6.9nm,1.1s						
SCRK	Sand Creek	20.27	40	P	P	07 28 07.5	-1.2
SCRK				IAmb	IAmb	07 28 29.9	
	comp=Z,9.9nm,1.5s						

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*IDC **05** 07:32:18.4±0.8, 51°.48N×174°.47W, h0km, mb4.0/20, mb1 4.2/22, mb1mx4.1/46, mbtmp4.0/22, ML3.6/2, MS4.1/4, Ms1 4.1/4, ms1mx3.6/45, Error ellipse: s-maj=24.4km s-min=14.1km az=173.0*

*AEIC **05** 07:32:21±2.0, 51°.33N±0°.07×174°.35W±0°.07, h16km±5km, ML3.9, mb4.1/67(NEIC), Error ellipse: s-maj=10.4km s-min=6.6km az=170.0*

*NEIC **05** 07:32:24.9±1.4, 51°.50N±0°.06×174°.42W±0°.08, h45km±7km, Error ellipse: s-maj=9.3km s-min=6.0km az=148.0*

ISC 05 07:32:23.6±0.6**, 51°.37N**±0°.09×**174°.35W**±0°.04**, h38**km**, n211, σ1s.07**/203**, mb4.1**/28**, MS4.0**/3**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.84	6	Pg	Pn	07 32 38.2	-0.7
ATKA	Atka Island	0.84	6		Sn	07 32 51.6	+1.5
KOFP	Korovin Flat P	0.92	10		Pn	07 32 39.9	-0.2
KOKL	Mount Kliuchef	0.96	5		Pn	07 32 40.4	-0.2
GSMY	Great Sitkin M	1.26	303		Pn	07 32 44.2	-0.5
GSTR	Great Sitkin T	1.29	305	Pn	Pn	07 32 44.6	-0.4
GSTD	Great Sitkin T	1.31	302		Pn	07 32 45.1	-0.4
GSTD					Sn	07 33 03.8	+2.1
ETKA	Kagalaska Isla	1.37	292		Pn	07 32 45.9	-0.4
ADK	Adak	1.54	290	Pn	Pn	07 32 48.1	-0.5
ADK	Adak	1.54	290		Sn	07 33 09.1	+1.8
KIWB	Kanaga Island	1.81	287		Pn	07 32 52.3	0.0
KIKV	Kanaga Island	1.83	287		Pn	07 32 52.9	+0.4
KIMD	Kanaga Island	1.84	283		Pn	07 32 52.5	-0.2
KICM	Kanaga Island	1.86	288		Pn	07 32 53.3	+0.4
TAFP	Tanaga Falls P	2.33	285		Pn	07 33 00.2	+0.8
TAFP					Sn	07 33 29.0	+2.3
TASE	Tanaga Southea	2.35	283		Pn	07 33 00.5	+0.8
GAEA	Gareloi East	2.77	280		Pn	07 33 06.5	+1.1
GALAA	Gareloi Lava P	2.79	280		Pn	07 33 06.7	+1.0
NIKH	Nikolski High	3.74	62	Pn	Pn	07 33 18.9	+0.1
NIKH	Nikolski High	3.74	62	P	Pn	07 33 18.8	+0.1
	baz=246						
AMKA	Amchitka	3.98	273	Pn	Pn	07 33 21.9	-0.1
OKTU	Okmok Mt. Tuli	4.36	60		Pn	07 33 28.5	+1.2
LSPA	Little Sitkin	4.45	280		Pn	07 33 29.3	+0.9
LSNW	Little Sitkin	4.48	280		Pn	07 33 29.6	+0.7
LSSA	Little Sitkin	4.48	280		Pn	07 33 29.7	+0.7
MAPS	Pakushin South	5.13	59		Pn	07 33 38.5	+0.6
MSW	Makushin Switc	5.26	58		Pn	07 33 40.7	+1.0
MNAT	Makushin Natee	5.30	59		Pn	07 33 41.2	+1.0
UNV	Unalaska Valle	5.38	60	Pn	Pn	07 33 42.4	+1.2
UNV	Unalaska Valle	5.38	60	P	Pn	07 33 42.7	+1.4
	baz=245,SNR=6.0						
AKUT	Akutan	5.90	59	Pn	Pn	07 33 49.0	+0.7
SPIA	Saint Paul Isl	6.29	21	Pn	Pn	07 33 53.9	+0.1
SPIA	Saint Paul Isl	6.29	21	P	Pn	07 33 57.0	+3.2
	baz=204						
WECS	Westdahl Cape	6.59	58		Pn	07 33 59.1	+1.2
FALS	False Pass	7.45	58	Pn	Pn	07 34 10.5	+1.0
FALS	False Pass	7.45	58	P	Pn	07 34 12.5	+2.9
	baz=246						
SDPT	Sand Point	9.20	59	Pn	Pn	07 34 34.1	+0.5
SDPT	Sand Point	9.20	59	P	Pn	07 34 34.4	+0.8
	baz=250						
CNBA	Chernabura Isl	9.53	63	Pn	Pn	07 34 37.7	-0.3
CHNA	Chernabura Isl	9.53	63	P	Pn	07 34 39.1	+1.1
	baz=254						
CHGN	Chignik	10.62	56	Pn	Pn	07 34 53.2	+0.2
CHGN	Chignik	10.62	56	P	Pn	07 34 54.4	+1.3
	baz=249						
GAMB	Gambell	12.52	5	Pn	Pn	07 35 18.9	0.0
GAMB	Gambell	12.52	5	P	Pn	07 35 22.3	+3.4
	baz=188						
OHAK	Old Harbor	13.59	56	Pn	Pn	07 35 32.6	-1.0
OHAK	Old Harbor	13.59	56	P	Pn	07 35 31.7	-1.9
	baz=253						
O18K	Koktuh Hills	13.71	44	Pn	Pn	07 35 34.6	-0.6
KDAK	Kodiak Island	14.12	55	Pn	Pn	07 35 38.3	-2.5
	0.5nm,0.3s,baz=255,slow=5.0,SNR=23						
KDAK				Sn	Sn	07 38 11.4	-4.6
	0.1nm,0.3s,baz=327,slow=18,SNR=1.6						
SVW2	Sparrevohn	14.22	40	Pn	Pn	07 35 42.7	+0.6
O19K	Port Alsworth	14.27	44	Pn	Pn	07 35 41.0	-1.7
N19K	Bonanza Creek	14.51	42		Pn	07 35 46.0	-0.1
N19K	Bonanza Creek	14.51	42	P	Pn	07 35 48.3	+2.2
	baz=238						
L19K	White Mountain	15.14	37		Pn	07 35 53.1	-1.3
L19K				IAmb	IAmb	07 36 02.1	
	comp=Z,10.0nm,0.8s						
L19K	White Mountain	15.14	37	P	P	07 36 00.6	+1.5
	baz=233,SNR=7.7						
M19K	Big River Lodg	15.15	38	P	P	07 35 58.6	-0.6
	baz=235						
M20K	Styx River	15.63	40	P	P	07 36 04.4	-0.3
	baz=237						
L20K	Farewell, AK	15.68	37	P	P	07 36 06.4	+1.3
	baz=234						
K20K	Telida	16.15	34	P	P	07 36 09.8	-0.4
K20K				IAmb	IAmb	07 36 24.3	
	comp=Z,14nm,0.9s						
K20K	Telida	16.15	34	P	P	07 36 10.1	-0.2
	baz=231,SNR=11						
SKT	Skwentna	16.33	41		Pn	07 36 08.6	-1.2
SKT	Skwentna	16.33	41	P	P	07 36 13.0	+0.7
	baz=240						
SUA	Susitna One	16.41	43		Pn	07 36 09.9	-1.0
SUA	Susitna One	16.41	43	P	Pn	07 36 11.0	+0.1
	baz=243						
SEW	Seward	16.43	48		Pn	07 36 10.8	-0.2
SEW				IAmb	IAmb	07 36 26.4	
	comp=Z,15nm,0.9s						
SEW	Seward	16.43	48	P	Pn	07 36 08.9	-2.1
	baz=249						
O22K	Cooper Landing	16.45	47		Pn	07 36 10.9	-0.3
O22K	Cooper Landing	16.45	47	P	P	07 36 12.5	-1.0
	baz=247						
PPLA	Purkeypile	16.56	37		Pn	07 36 12.5	-0.3
PPLA				IAmb	IAmb	07 36 24.6	
	comp=Z,18nm,1.2s						
PPLA	Purkeypile	16.56	37	P	P	07 36 16.1	+1.1
	baz=236						
J20K	Nowinta River	16.65	32	P	P	07 36 15.1	-0.7
J20K	Nowinta River	16.65	32	P	P	07 36 15.3	-0.5
	baz=229						
RC01	Rabbit Creek A	16.68	45	P	P	07 36 15.1	-1.1
RC01				IAmb	IAmb	07 36 39.4	
	comp=Z,14nm,1.0s						
CHUM	Lake Minchumin	17.09	34	P	P	07 36 21.3	+0.7
	baz=233,SNR=6.5						
PETK	Petropavlovsk-	17.17	287	P	Pn	07 36 18.6	-1.8
	comp=Z,0.2nm,0.3s,baz=93,slow=15,SNR=1.8						
PETK				LR	LR	07 42 39.6	
	comp=Z,345nm,19.1s,baz=109,slow=36						
KNK	Knik Glacier	17.38	45	P	Pn	07 36 23.0	0.0
KNK				IAmb	IAmb	07 36 28.3	
	comp=Z,10nm,0.6s						
KNK	Knik Glacier	17.38	45	P	Pn	07 36 22.0	-0.9
	baz=246						
KTH	Kantishna Hill	17.41	37	P	P	07 36 24.8	+0.6
KTH				IAmb	IAmb	07 36 46.0	
	comp=Z,21nm,1.2s						
TRF	Thorofare Moun	17.59	37	P	P	07 36 26.7	+0.3
TRF	Thorofare Moun	17.59	37	P	P	07 36 29.2	+2.8
	baz=238						
SML	Sawmill	17.60	44	P	P	07 36 26.0	-0.3
SML				IAmb	IAmb	07 36 52.9	
	comp=Z,23nm,1.2s						
SML	Sawmill	17.60	44	P	Pn	07 36 25.0	-0.7
	baz=245						
BPAW	Bear Paw Mtn.	17.69	35	P	P	07 36 26.9	-0.4
BPAW				IAmb	IAmb	07 36 49.4	
	comp=Z,18nm,1.1s						
BPAW	Bear Paw Mtn.	17.69	35	P	P	07 36 28.5	+1.2
	baz=235,SNR=15						
WAT1	Susitna Watana	17.96	40	P	P	07 36 31.4	+1.1
	baz=242						
I21K	Tanana	18.01	31	P	Pn	07 36 30.3	-0.2
I21K	Tanana	18.01	31	P	P	07 36 32.5	+1.7
	baz=230						
SCM	Sheep Creek Mo	18.05	44	P	Pn	07 36 30.5	-0.6
SCM				IAmb	IAmb	07 36 33.0	
	comp=Z,17nm,0.8s						
RND	Reindeer	18.12	39	P	Pn	07 36 31.2	-0.8
WAT6	Susitna Watana	18.18	42	P	Pn	07 36 32.5	-0.4
	baz=244						
MCK	McKinley	18.25	38	P	P	07 36 33.3	-0.2
MCK				IAmb	IAmb	07 36 53.0	
	comp=Z,13nm,1.0s						
MCK	McKinley	18.25	38	P	Pn	07 36 33.9	+0.3
	baz=239						
BWN	Browne	18.29	36	P	Pn	07 36 34.1	+0.2
BWN				IAmb	IAmb	07 36 56.9	
	comp=Z,24nm,0.9s						
MLY	Manley	18.33	33	P	Pn	07 36 35.0	+0.4
MLY				IAmb	IAmb	07 36 39.3	
	comp=Z,12nm,1.0s						
MLY	Manley	18.33	33	P	Pn	07 36 35.5	+1.0
	baz=233,SNR=8.0						
KLU	Klutina	18.54	46	P	Pn	07 36 36.9	-0.3
KLU	Klutina	18.54	46	P	P	07 36 36.2	-0.6
	baz=250						
M24K	Tolsona, Glenn	18.65	44	P	P	07 36 37.7	-0.3
M24K	Tolsona, Glenn	18.65	44	P	Pn	07 36 38.7	+0.2
	baz=248						
NEA2	Nenana	18.66	35	P	P	07 36 37.4	-0.6
NEA2	Nenana	18.66	35	P	P	07 36 37.3	-0.6
	baz=237						
I23K	Minto, Yukon-K	18.87	34	P	Pn	07 36 40.8	-0.3
I23K	Minto, Yukon-K	18.87	34	P	Pn	07 36 40.9	-0.1
	baz=235,SNR=18						
WRH	Wood River Hil	18.95	36	P	P	07 36 41.0	-0.1
CCB	Clear Creek Bu	19.15	36	P	P	07 36 42.4	-0.9
MDM	Murphy Dome	19.16	35	P	P	07 36 42.2	-1.2
N25K	Chitina, Valde	19.18	46	P	P	07 36 43.6	-0.1
N25K	Chitina, Valde	19.18	46	P	P	07 36 43.0	-0.7
	baz=251						
HARP	HAARP	19.20	44	P	Pn	07 36 46.1	+0.9
	baz=248						
H23K	Yukon River	19.21	32	P	P	07 36 43.1	-0.9
H23K	Yukon River	19.21	32	P	Pn	07 36 46.5	+1.4
	baz=233						
TCOL	CIGO, UAF Yank	19.25	35	P	P	07 36 43.3	-1.0
TCOL	CIGO, UAF Yank	19.25	35	P	Pn	07 36 45.8	+0.2
	baz=238						
BERG	Berg Lake	19.25	50	P	P	07 36 44.7	+0.3
COLA	College	19.25	35	P	Pn	07 36 45.1	-0.5
COLA				IAmb	IAmb	07 36 53.6	
	comp=Z,12nm,1.2s						
COLA	College	19.25	35	P	Pn	07 36 45.8	+0.2
	baz=238						
PAX	Paxson	19.29	42	P	P	07 36 45.0	+0.1
PAX	Paxson	19.29	42	P	Pn	07 36 45.5	-0.7
	baz=246						
HDA	Harding Lake	19.35	37	P	P	07 36 44.9	-0.6
HDA	Harding Lake	19.35	37	P	P	07 36 44.8	-0.6
	baz=240,SNR=9.6						
GLB	Gilahina Butte	19.48	47	P	P	07 36 47.4	+0.4
GLB				IAmb	IAmb	07 37 10.7	
	comp=Z,23nm,1.4s						
IL31		19.55	36	P	P	07 36 45.9	-1.8
IL31				IAmb	IAmb	07 36 56.3	
	comp=Z,11nm,1.2s						
ILAR	Eielson Array	19.55	36	P	P	07 36 45.7	-2.0
	comp=Z,1.0nm,0.3s,baz=235,slow=8.0,SNR=57						
ILAR	Eielson Array	19.55	36	P	P	07 36 47.6	-0.1
VRDI	Verde Repeater	19.59	48	P	P	07 36 48.6	+0.2
VRDI				IAmb	IAmb	07 36 55.6	
	comp=Z,22nm,1.5s						
WAX	Waxell Ridge	19.67	50	P	P	07 36 49.3	+0.1
TGL	Tana Glacier	19.76	49	P	Pn	07 36 51.3	-0.5
TGL				IAmb	IAmb	07 37 16.6	
	comp=Z,14nm,1.0s						
H24K	Noodor Dome	19.77	33	P	P	07 36 50.8	+0.6
H24K				IAmb	IAmb	07 36 58.7	
	comp=Z,12nm,0.8s						
H24K	Noodor Dome	19.77	33	P	P	07 36 50.8	+0.6
	baz=236,SNR=12						
RIDG	Independent Ri	19.86	40	P	P	07 36 51.6	+0.4
RIDG				IAmb	IAmb	07 37 07.7	
	comp=Z,14nm,1.2s						
RIDG	Independent Ri	19.86	40	P	P	07 36 51.0	-0.1
	baz=245						
MENT	Mentasta	20.02	43	P	P	07 36 53.5	+0.7
MENT				IAmb	IAmb	07 37 12.4	
	comp=Z,8.2nm,0.9s						
J25K	Salcha River,	20.05	38	P	P	07 36 51.6	-1.6
	baz=242,SNR=32						
DOT	Dot Lake	20.15	41	P	P	07 36 53.8	-0.5
DOT				IAmb	IAmb	07 36 56.2	
	comp=Z,6.2nm,0.6s						
M26K	Nabesna, AK	20.15	45	P	P	07 36 54.9	+0.6
M26K	Nabesna, AK	20.15	45	P	P	07 36 55.0	+0.7
	baz=251,SNR=9.5						
YAH	Yahtse	20.19	51	P	P	07 36 54.9	0.0
L26K	Log Cabin Wild	20.21	43	P	P	07 36 55.0	+0.1
L26K				IAmb	IAmb	07 37 02.0	
	comp=Z,16nm,1.4s						
L26K	Log Cabin Wild	20.21	43	P	P	07 36 55.0	+0.1
	baz=249						
SCRK	Sand Creek	20.31	40	P	P	07 36 55.2	-0.9
SCRK	Sand Creek	20.31	40	P	P	07 36 54.7	-1.3
	baz=246,SNR=23						
PRP	Porcupine Dome	20.43	35	P	P	07 36 57.1	-0.2
PRP				IAmb	IAmb	07 37 05.5	
	comp=Z,6.9nm,0.8s						
PRP	Porcupine Dome	20.43	35	P	P	07 36 57.2	-0.2
	baz=240						
J26K	Charley River,	20.63	39	P	P	07 36 58.3	-1.2
	baz=245,SNR=22						
M27K	Edge Creek, AK	20.63	45	P	P	07 36 58.7	-0.9
M27K				IAmb	IAmb	07 37 03.6	
	comp=Z,8.7nm,0.9s						
M27K	Edge Creek, AK	20.63	45	P	Pn	07 37 01.8	-0.2
	baz=253						
L27K	Beaver Creek,	20.87	43	P	P	07 37 00.9	-1.2
L27K	Beaver Creek,	20.87	43	P	Pn	07 37 03.7	-1.0
	baz=251						
TOLK	Toolik Lake Re	21.02	25	P	P	07 37 03.6	0.0
TOLK				IAmb	IAmb	07 37 11.6	
	comp=Z,13nm,0.9s						
TOLK	Toolik Lake Re	21.02	25	P	P	07 37 04.2	+0.6
	baz=227						
K27K	Chicken	21.11	41	P	P	07 37 04.8	+0.3
K27K	Chicken	21.11	41	P	P	07 37 05.1	+0.6
	baz=248						
SEY	Seymchan	21.16	316	P	P	07 37 05.2	+0.1
	comp=Z,1.8nm,0.2s,baz=176,slow=23,SNR=5.1						
SEY				LR	LR	07 45 34.5	
	comp=Z,632nm,18.2s,baz=124,slow=38						
BMAR	Burnt Mountain	21.75	31	P	P	07 37 11.5	0.0
EGAK	Eagle	21.76	39	P	P	07 37 10.9	-0.6
EGAK	Eagle	21.76	39	P	P	07 37 11.1	-0.4
	baz=248,SNR=24						
DAWY	Dawson	22.23	42	P	P	07 37 16.1	-0.6
DAWY				IAmb	IAmb	07 37 25.2	
	comp=Z,13nm,1.4s						
DAWY	Dawson	22.23	42	P	P	07 37 15.9	-0.8
	baz=252						
EPYK	Eagle Plains	24.05	37	P	P	07 37 34.3	-0.6
	baz=250						
INK	Inuvik	25.89	34	P	P	07 37 51.5	+0.1
	comp=Z,1.9nm,0.6s,baz=269,slow=8.0,SNR=7.8						
INK	Inuvik	25.89	34	P	P	07 37 50.6	-0.8
INK				IAmb	IAmb	07 38 06.7	
	comp=Z,8.3nm,1.2s						
INK	Inuvik	25.89	34	P	P	07 37 51.7	+0.3
	baz=250						
DLBC	Dease Lake	26.03	57	P	P	07 37 54.7	+1.8
	comp=Z,4.0nm,0.7s,baz=307,slow=6.1,SNR=8.4						
DLBC	Dease Lake	26.03	57	P	P	07 37 53.9	+1.0
DLBC				IAmb	IAmb	07 38 12.9	
	comp=Z,8.9nm,1.2s						
YKA	Yellowknife Ar	33.20	47	LR	LR	07 52 47.8	
	comp=Z,520nm,19.4s,baz=0.0,slow=37						
KLR	Kul'dur	33.85	288	LR	LR	07 52 04.9	
	comp=Z,336nm,20.7s,baz=56,slow=35						
H11N2	WAKE ISLAND Hy	34.85	212	T	T	08 16 54.9	
	baz=20,slow=76						
H11N3	WAKE ISLAND Hy	34.86	212	T	T	08 16 54.0	
	baz=20,slow=76						
H11N1	WAKE ISLAND Hy	34.87	212	T	T	08 16 54.7	
	baz=20,slow=76						
USRK	Ussuriysk Ar.	36.05	280	P	P	07 39 21.3	+0.1
	comp=Z,5.5nm,0.7s,baz=66,slow=4.8,SNR=13						
USRK	Ussuriysk Ar.	36.05	280	P	P	07 39 19.8	-1.3
H11S1	WAKE ISLAND Hy	36.06	212	T	T	08 18 31.4	
	baz=18,slow=76						
H11S2	WAKE ISLAND Hy	36.07	212	T	T	08 18 32.7	
	baz=18,slow=76						
H11S3	WAKE ISLAND Hy	36.07	212	T	T	08 18 28.0	
	baz=18,slow=76						
EDM	Edmonton	36.36	63	P	P	07 39 24.5	+0.7
MCMT	McKenzie Canyo	40.51	74	P	P	07 40 00.0	+1.1
NVAR	Mina Array Bea	40.78	86	P	P	07 40 03.2	+2.0
	comp=Z,0.5nm,0.9s,baz=305,slow=6.5,SNR=2.5						
BOZ	Bozeman (W)	40.84	73	P	P	07 40 01.8	+0.2
BOZ				IAmb	IAmb	07 40 18.9	
	comp=Z,2.9nm,0.8s						
TPH	Tonopah	41.67	86	P	P	07 40 08.1	-0.3
BW06	Boulder Array	43.64	75	P	P	07 40 24.9	+0.5
BW06				IAmb	IAmb	07 40 38.7	
	comp=Z,4.1nm,1.1s						
PD31	Pinedale Array	43.64	75	P	P	07 40 24.6	+0.2
PD31				IAmb	IAmb	07 40 38.7	
	comp=Z,4.5nm,1.2s						
PDAR	Pinedale Array	43.64	75	P	P	07 40 24.6	+0.2
	comp=Z,1.0nm,0.7s,baz=319,slow=3.3,SNR=8.5						
PDAR	Pinedale Array	43.64	75	P	P	07 40 25.1	+0.7
ULM	Lac du Bonnet	47.33	59	P	P	07 40 53.4	+0.1
	comp=Z,2.5nm,0.6s,baz=321,slow=9.9,SNR=4.7						
ULM	Lac du Bonnet	47.33	59	IAmb	IAmb	07 40 54.5	
	comp=Z,3.9nm,0.8s						
SONM	Songino Array	49.12	299	P	P	07 41 07.6	+0.4
	comp=Z,1.0nm,0.8s,baz=46,slow=8.6,SNR=4.7						
SONM	Songino Array	49.12	299	IAmb	IAmb	07 41 09.6	
	comp=Z,1.8nm,1.0s						
HHC	Hu-ho-hao-te	50.35	289	*e*P	P	07 41 15.8	-0.9
HHC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,97nm,5.4s						
E43A	Lone Tree Farm	54.39	58	P	P	07 41 46.2	-0.2
TXAR	Lajitas Array	55.89	84	P	P	07 41 58.5	+1.0
	comp=Z,0.6nm,0.8s,baz=294,slow=4.6,SNR=5.2						
ARCES	ARCESS Array B	58.53	352	P	P	07 42 14.7	-0.8
	comp=Z,3.3nm,0.8s,baz=21,slow=8.3,SNR=6.4						
ARCES				PcP	PcP	07 43 06.3	+0.7
	comp=Z,3.0nm,0.7s,baz=15,slow=5.0,SNR=5.8						
ARCES	ARCESS Array B	58.53	352	IAmb	IAmb	07 42 20.2	
	comp=Z,3.9nm,1.0s						
WMQ	Urumqi	61.65	305	*e*P	P	07 42 39.7	+2.3
MK31	Makanchi Array	62.19	311	P	P	07 42 40.3	-0.5
MK31				IAmb	IAmb	07 42 54.1	
	comp=Z,1.2nm,0.9s						
MKAR	Makanchi Array	62.19	311	P	P	07 42 40.3	-0.5
	comp=Z,0.8nm,0.3s,baz=34,slow=5.7,SNR=33						
MKAR	Makanchi Array	62.19	311	P	P	07 42 39.9	-1.0
G62A	West of Eustis	63.55	50	P	P	07 42 50.3	+0.3
	baz=317						
E63A	Oxbow	63.66	48	P	P	07 42 50.4	-0.2
	baz=318						
FINES	FINESS Array B	66.36	349	P	P	07 43 06.7	-1.1
	comp=Z,1.8nm,0.9s,baz=27,slow=6.4,SNR=2.0						
FINES				PcP	PcP	07 43 37.5	0.0
	comp=Z,3.0nm,0.7s,baz=35,slow=3.4,SNR=5.2						
NB2	NORSAR Subarra	67.85	357	P	P	07 43 16.8	-0.6
	comp=Z,1.8nm,0.9s,baz=3.6,slow=6.5						
NOA	NORSAR Array B	67.85	357	P	P	07 43 16.2	-1.2
	comp=Z,1.2nm,0.8s,baz=3.9,slow=6.5,SNR=3.8						
KSH	Kashi	70.70	309	P	P	07 43 40.0	+4.5
KSH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CMAR	Chiang Mai Arr	73.78	279	P	P	07 43 54.3	+0.3
	comp=Z,1.0nm,0.3s,baz=14,slow=4.6,SNR=2.0						
AKASG	Malin Array Be	76.35	345	P	P	07 44 07.1	-1.2
	comp=Z,0.9nm,0.4s,baz=18,slow=6.0,SNR=4.0						
CLL	Collm	77.51	355	*e*P	P	07 44 15.0	+0.2
	comp=Z,5.0nm,1.0s						
GERES	GERESS Array B	79.93	355	P	P	07 44 28.0	-0.3
	comp=Z,1.6nm,0.8s,baz=32,slow=5.3,SNR=9.3						
WRA	Warramunga Arr	84.00	228	P	P	07 44 49.4	-0.4
	comp=Z,0.3nm,0.7s,baz=36,slow=5.0,SNR=1.6						
BRTR	Keskin Array B	86.04	339	P	P	07 45 01.1	+0.9
	comp=Z,0.3nm,0.4s,baz=59,slow=3.6,SNR=3.9						
ASAR	Alice Springs	87.43	226	P	P	07 45 07.2	+0.4
	comp=Z,0.9nm,0.8s,baz=21,slow=5.0,SNR=9.6						
ESDC	Sonseca Array	88.94	7	P	P	07 45 13.7	-0.3
	comp=Z,1.0nm,0.7s,baz=346,slow=4.8,SNR=7.0						
ESDC	Sonseca Array	88.94	7	IAmb	IAmb	07 45 15.8	
	comp=Z,1.1nm,0.8s						
BOSA	Boshof	152.92	320	PKPbc	PKPbc	07 52 16.7	+0.1
	comp=Z,1.3nm,0.4s,baz=104,slow=4.4,SNR=3.8						
BOSA				PKPab	PKPab	07 52 27.8	0.0
	comp=Z,2.5nm,0.7s,baz=349,slow=4.5,SNR=5.3						

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*VAO **05** 07:37:03.7±0.5, 15°.44S×70°.61W, h197km±4km, mb3.9*

*NEIC **05** 07:37:04.6±1.6, 15°.54S±0°.07×70°.5W±0°.1, h198km±9km, mb4.6/14, Error ellipse: s-maj=15.4km s-min=9.8km az=99.0*

*IDC **05** 07:37:04.9±0.9, 15°.47S×70°.44W, h204km±10km, mb3.3/4, mb1 3.7/10, mb1mx3.4/39, mbtmp4.2/10, Error ellipse: s-maj=24.7km s-min=11.6km az=26.0*

ISC 05 07:37:03.3±0.5**, 15°.59S**±0°.04×**70°.58W**±0°.06**, h193**km**, n106, σ1s.79**/122**, mb4.3**/8**, 4C-2D, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	2.46	107	P	Pn	07 37 49.5	+2.6
	146nm,0.3s,baz=292,slow=9.5,SNR=7058						
LPAZ				S	Sn	07 38 22.8	+2.0
	9.9nm,0.3s,baz=314,slow=7.4,SNR=4.7						
LPAZ	La Paz	2.46	107	⇓*i*P	Pn	07 37 49.5	+2.6
LPAZ				*e*S	Sn	07 38 21.5	+0.6
LPAZ	La Paz	2.46	107	Pn	Pn	07 37 49.3	+2.4
LPAZ				Sn	Sn	07 38 21.8	+0.9
LPAZ	La Paz	2.46	107	*e*P	Pn	07 37 49.7	+2.7
LPAZ				*e*S	Sn	07 38 22.3	+1.5
AP01	Chacalluta	2.78	175	⇑*i*P	Pn	07 37 52.6	+2.6
AP01	Chacalluta	2.78	175		Pn	07 37 52.5	+2.5
PSGC	Pisagua	4.01	174	⇑*i*P	Pn	07 38 06.3	+1.2
PSGC				*i* S	Sn	07 38 51.9	-1.8
PSGCX	Pisagua	4.01	174		Pn	07 38 06.5	+1.4
PB11	IPOC Station P	4.25	168	Pn	Pn	07 38 09.9	+1.8
TA02	Huaiquique	4.68	175	*e*P	Pn	07 38 14.4	+1.0
TA02				*e*S	Sn	07 39 06.1	-2.7
TA02	Huaiquique	4.68	175		Pn	07 38 13.5	+0.1
HMBC	Humberstone	4.71	172	⇓*i*P	Pn	07 38 14.8	+0.8
HMBC				*e*S	Sn	07 39 07.4	-2.3
PB08	IPOC Station P	4.73	164	⇑*i*P	Pn	07 38 16.6	+2.1
PB08				*i* S	Sn	07 39 09.9	-0.6
PB08	IPOC Station P	4.73	164		Pn	07 38 16.6	+2.1
TA01	Diego Aracena	4.97	176	⇑*i*P	Pn	07 38 18.0	+0.9
TA01				*i* S	Sn	07 39 11.9	-3.5
TA01	Diego Aracena	4.97	176	Pn	Pn	07 38 18.1	+0.9

PB01	IPOC Station P	5.53	169	eP	Pn	07 38 25.3	+0.9
PB01				eS	Sn	07 39 25.1	-3.4
PB01	IPOC Station P	5.53	169		Pn	07 38 25.3	+0.9
PB02	IPOC Station P	5.74	174	i P	Pn	07 38 28.6	+1.4
PB02				eS	Sn	07 39 30.8	-2.7
PB07	IPOC Station P	6.14	174	i P	Pn	07 38 33.4	+0.9
PB07				eS	Sn	07 39 38.5	-4.6
PB07	IPOC Station P	6.14	174		Pn	07 38 34.1	+1.6
PB09	IPOC Station P	6.31	169		Pn	07 38 36.4	+1.8
PB04	IPOC Station P	6.72	177	eP	Pn	07 38 41.3	+1.2
PB04				eS	Sn	07 39 53.0	-3.7
PB04	IPOC Station P	6.72	177		Pn	07 38 40.5	+0.4
NNA	Nana	7.05	300	P	Pn	07 38 46.4	+2.1
	6.7nm,0.3s,baz=130,slow=11,SNR=12						
NNA				S	Sn	07 40 07.1	+2.7
	3.1nm,0.3s,baz=184,slow=9.9,SNR=1.9						
ETMB	Extrema	7.14	37	eP	Pn	07 38 45.1	-0.4
ETMB				eS	Sn	07 40 05.0	-1.5
PB06	IPOC Station P	7.15	172		Pn	07 38 47.0	+1.4
LVC	Limon Verde	7.16	168	P	Pn	07 38 47.5	+1.6
	17nm,0.3s,baz=10,slow=9.7,SNR=142						
LVC				S	Sn	07 40 04.3	-3.1
	29nm,0.3s,baz=122,slow=21,SNR=15						
LVC	Limon Verde	7.16	168	Pn	Pn	07 38 47.1	+1.1
LVC	Limon Verde	7.16	168	eP	Pn	07 38 47.6	+1.6
PB15	IPOC Station P	7.66	172		Pn	07 38 53.8	+1.6
AF01	San Pedro de A	7.67	163		Pn	07 38 54.3	+1.7
CZSB	Cruzeiro do Su	8.08	345	eP	Pn	07 38 55.5	-2.3
PB14	IPOC Station P	9.00	179	Pn	Pn	07 39 10.8	+1.0
SIV	San Ignacio	9.16	94	P	Pn	07 39 10.3	-1.6
	3.1nm,0.3s,baz=289,slow=11,SNR=40						
SAML	Samuel	9.78	48	Pn	Pn	07 39 18.5	-1.4
SAML	Samuel	9.78	48	eP	Pn	07 39 18.3	-1.6
VILB	Vilhena	10.40	77	eP	Pn	07 39 26.4	-1.6
AC02	Maricunga	11.28	173	Pn	Pn	07 39 41.4	+1.8
ATAH	Atahualpa	11.36	317	P	Pn	07 39 42.1	+1.4
	0.3nm,0.3s,baz=332,slow=12,SNR=4.4						
AC04	Llanos de Chal	12.57	182	Pn	Pn	07 39 56.6	+1.0
SALV	Santo Antonio	14.34	93	eP	P	07 40 18.6	-0.9
AQDB	Aquidauana	14.96	111	eP	P	07 40 26.0	-0.4
CLDB	Colider	15.13	74	eP	P	07 40 28.3	0.0
CO03	El Pedregal	15.18	180	P	P	07 40 31.1	+2.4
CO03				IAmb	IAmb	07 41 08.5	
	comp=Z,56nm,1.9s						
PP1B	Ponte de Pedra	15.18	100	eP	P	07 40 29.2	+0.4
MACA	Manacapuru-AM	15.73	39	eP	Pn	07 40 33.4	-1.4
PTLC	Puerto Leguiza	16.20	345	eP	P	07 40 35.3	-4.8
CPUP	Villa Florida	16.34	133	P	Pn	07 40 42.5	+0.4
	comp=Z,0.4nm,0.3s,baz=330,slow=10,SNR=13						
CPUP	Villa Florida	16.34	133	P	Pn	07 40 42.3	+0.2
CPUP	Villa Florida	16.34	133	eP	Pn	07 40 42.9	+0.8
VA03	San Esteban	17.10	180	P	P	07 40 50.5	+0.6
VA03				IAmb	IAmb	07 41 22.9	
	comp=Z,42nm,1.7s						
NPGB	Novo Progresso	17.16	62	eP	P	07 40 50.7	+0.1
OTAV	Otavalo	17.54	333	eP	Pn	07 40 60.0	+3.1
OTAV	Otavalo	17.54	333	eP	P	07 40 53.0	-2.2
TULM	Tulcn-Chalpat	17.69	336	eP	Pn	07 41 01.4	+2.7
PAC1	Pacto, Paraso	17.72	332	eP	Pn	07 41 02.9	+4.2
FLOC	Florencia	17.78	343	eP	P	07 40 56.7	-0.7
PTGA	Pitinga	18.10	36	P	P	07 40 59.7	-1.1
	comp=Z,4.7nm,0.3s,baz=198,slow=13,SNR=43						
PTGA	Pitinga	18.10	36		P	07 41 00.3	-0.6
PTGA				IAmb	IAmb	07 41 03.4	
	comp=Z,16nm,0.5s						
PTGA	Pitinga	18.10	36	eP	P	07 40 59.8	-1.1
ITTB	Itaituba	18.37	54	eP	P	07 41 03.1	-0.7
SOTA	Rioblanco	18.59	341	eP	Pn	07 41 08.7	-0.5
BBAC	Balboa, Cauca	18.70	339	eP	Pn	07 41 09.3	-0.9
POPC	Popayan, Colom	18.99	341	eP	P	07 41 11.6	+0.9
ITQB	Itaqui	19.01	140	P	P	07 41 11.8	+1.3
ITQB				IAmb	IAmb	07 41 13.3	
	comp=Z,14nm,0.8s						
ITQB	Itaqui	19.01	140	eP	P	07 41 12.0	+1.4
SNDB	Serra Nova Dou	19.07	82	eP	P	07 41 11.2	-0.2
PCMB	Pacaembu	19.26	111	eP	P	07 41 13.9	+0.5
PTGB	Pitanga	19.59	121	eP	P	07 41 16.8	-0.2
ITRB	Iturama	19.70	105	eP	P	07 41 18.8	+0.7
PTGC	Puerto Gaitan,	19.72	355	eP	P	07 41 16.3	-2.0
ORTC	Ortega, Tolima	19.91	346	eP	P	07 41 18.6	-1.9
YOTC	Yotoco, Valle	20.26	343	eP	P	07 41 21.6	-2.7
BOAV	Boa Vista	20.45	30	eP	P	07 41 25.9	-0.3
MALB	Monte Alegre	21.09	51	eP	P	07 41 32.2	-0.8
GUY2C	Guyana, Caldas	21.21	347	eP	P	07 41 34.6	-0.1
FRTB	Fartura	21.25	115	eP	P	07 41 35.0	+0.4
SPBC	San Pablo de B	21.38	350	eP	P	07 41 35.0	-1.1
RUSC	La Rusia	21.48	353	P	P	07 41 36.4	-1.2
RUSC				IAmb	IAmb	07 41 40.5	
	comp=Z,10nm,0.4s						
RUSC	La Rusia	21.48	353	eP	P	07 41 37.1	-0.5
CPSB	Cacapava Do Su	21.56	136	eP	P	07 41 39.2	+1.5
PEXB	Peixe	21.91	84	eP	P	07 41 41.9	+0.5
PTBC	PUERTO BERRIO,	22.32	350	eP	P	07 41 40.9	-4.3
PLTB	Pedras Altas	22.34	139	P	P	07 41 44.9	-0.4
PLTB	Pedras Altas	22.34	139	eP	P	07 41 46.8	+1.4
PRPB	Parauapebas	22.41	68	eP	P	07 41 45.7	-0.5
CNLB	Canela	22.74	130	eP	P	07 41 50.4	+1.3
SPB	Sao Paulo	23.20	114	eP	P	07 41 53.8	+0.7
SMTB	Santa Maria do	23.43	76	eP	P	07 41 55.4	0.0
VAO	Valinhos	23.46	112	eP	P	07 41 56.4	+0.7
TRQA	Tornquist	23.64	163	P	P	07 41 59.1	+2.1
TRQA				IAmb	IAmb	07 42 14.4	
	comp=Z,22nm,1.8s						
TRQA	Tornquist	23.64	163	eP	P	07 41 58.4	+1.4
MCPB	Macapa, AP	23.73	52	eP	P	07 41 58.0	-0.1
SDV	Santo Domingo	24.31	360	eP	P	07 42 02.0	-1.5
SMLC	San Martn de	24.48	352	eP	P	07 42 00.6	-4.2
SJCC	San Jacinto, C	25.72	350	P	P	07 42 16.7	+0.5
SJCC				IAmb	IAmb	07 42 28.9	
	comp=Z,18nm,1.3s						
SVB	Belmont	30.12	18	P	P	07 42 54.5	-0.7
TXAR	Lajitas Array	54.91	324	P	P	07 46 15.1	+0.8
	comp=Z,0.2nm,0.5s,baz=160,slow=10,SNR=4.9						
OK031	S. Brethren Rd	56.97	335	P	P	07 46 28.8	+0.2
OK031				IAmb	IAmb	07 46 29.5	
	comp=Z,9.1nm,0.7s						
OK029	Liberty Lake	57.09	334	P	P	07 46 29.4	-0.1
BNM	Barren Site	60.20	326	P	P	07 46 49.8	-1.5
PDAR	Pinedale Array	68.22	330	P	P	07 47 44.6	+1.3
	comp=Z,0.4nm,0.4s,baz=123,slow=9.2,SNR=5.9						
ULM	Lac du Bonnet	69.23	343	P	P	07 47 47.9	-1.2
	comp=Z,1.9nm,0.5s,baz=159,slow=4.1,SNR=7.3						
TORD	Torodi Ar. Bea	76.97	72	P	P	07 48 33.7	-1.5
	comp=Z,1.0nm,0.6s,baz=266,slow=4.5,SNR=6.4						
SONM	Songino Array	147.75	4	PKPbc	PKPbc	07 56 26.5	+1.1
	comp=Z,0.9nm,0.4s,baz=308,slow=2.1,SNR=4.3						

AEIC 05 07:42:21±0.5, 51°.4N±0°.1×174°.4W±0°.1, h13km±9km, mb3.6/2(NEIC), Error ellipse: s-maj=18.4km s-min=6.8km az=148.0

NEIC 05 07:42:21.0±0.3, 51°.3N±0°.2×174°.3W±0°.2, h22km±28km, Error ellipse: s-maj=30.2km s-min=7.8km az=150.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOFP	Korovin Flat P	0.99	7		Pb	07 42 39.6	0.0
KOKL	Mount Kliuchef	1.04	3		Pb	07 42 40.3	0.0
KOKL					Sn	07 42 54.1	0.0
KOSE	Korovin Southe	1.07	8		Pb	07 42 40.9	0.0
KOWE	Korovin West	1.08	1		Pb	07 42 41.0	0.0
KONE	Korovin Northe	1.11	5		Sn	07 42 56.4	+0.5
GSMY	Great Sitkin M	1.33	305		Pn	07 42 44.2	-0.1
GSTR	Great Sitkin T	1.37	307		Pn	07 42 44.7	0.0
GSTD	Great Sitkin T	1.39	304		Pn	07 42 45.0	-0.1
ADK	Adak	1.61	293		Pn	07 42 48.0	0.0
KINC	Kanaga Island	1.88	291		Pn	07 42 51.7	-0.2
KICM	Kanaga Island	1.92	290		Pn	07 42 52.3	0.0
TAFP	Tanaga Falls P	2.38	286		Pn	07 42 58.9	+0.2
GALAA	Gareloi Lava P	2.84	281		Pn	07 43 04.9	-0.1
AMKA	Amchitka	4.02	274		Pn	07 43 21.9	+0.7
M19K	Big River Lodg	15.19	38	Pn	Pn	07 45 50.9	-3.1
M19K				IAmb	IAmb	07 46 01.8	
	comp=Z,1.0nm,0.9s						
K20K	Telida	16.19	34	Pn	Pn	07 46 04.7	-2.2
GHO	Glory Hole Cre	17.36	43	Pn	Pn	07 46 21.5	-0.2
GHO				IAmb	IAmb	07 46 39.7	
	comp=Z,6.2nm,0.6s						

IDC 05 07:42:35.3±0.7, 51°.48N×174°.20W, h0km, mb4.3/26, mb1 4.4/29, mb1mx4.3/55, mbtmp4.3/29, ML3.8/3, MS3.9/2, Ms1 3.9/2, ms1mx3.3/40, Error ellipse: s-maj=20.7km s-min=11.2km az=166.0

NEIC 05 07:42:37.3±2.0, 51°.37N±0°.05×174°.23W±0°.08, h11km±4km, Error ellipse: s-maj=8.0km s-min=7.6km az=158.0

AEIC 05 07:42:38±2.0, 51°.31N±0°.07×174°.23W±0°.08, h17km±4km, ML4.0, mb4.3/45(NEIC), Error ellipse: s-maj=10.8km s-min=7.6km az=171.0

MOS 05 07:42:39.7±1.0, 51°.56N×174°.31W, h36km, mb5.0/23, Error ellipse: s-maj=11.4km s-min=7.3km az=97.1

ISC 05 07:42:40.4±0.5, 51°.42N±0°.07×174°.21W±0°.04, h35km, n253, σ1.10/252, mb4.6/67, MS4.4/5, 7C-1D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATKA	Atka Island	0.78	1	Pg	Pn	07 42 54.5	-0.4
ATKA	Atka Island	0.78	1		Sn	07 43 08.8	+3.4
KOKL	Mount Kliuchef	0.90	0		Pn	07 42 57.0	+0.3
GSIG	Igitkin Island	1.21	298		Pn	07 43 00.3	-0.5
GSIG					Sn	07 43 17.9	+1.9
GSTR	Great Sitkin T	1.33	301		Pn	07 43 02.0	-0.5
GSTD	Great Sitkin T	1.36	299		Pn	07 43 02.7	-0.3
GSTD					Sn	07 43 21.8	+2.0
GSSP	Great Sitkin S	1.39	300		Pn	07 43 03.0	-0.3
ADAG	Mount Adagdak	1.59	291		Pn	07 43 06.6	+0.5
ADK	Adak	1.61	288	P	Pn	07 43 05.5	-0.8
ADK	Adak	1.61	288		Pn	07 43 05.5	-0.8
ADK	Adak	1.61	288		Sn	07 43 26.0	+0.2
KIWB	Kanaga Island	1.88	284		Pn	07 43 08.9	-1.2
KIKV	Kanaga Island	1.90	285		Pn	07 43 10.9	+0.6
KIMD	Kanaga Island	1.92	281		Pn	07 43 10.6	0.0
KICM	Kanaga Island	1.92	286		Pn	07 43 11.1	+0.4
TAFP	Tanaga Falls P	2.40	283		Pn	07 43 17.8	+0.6
TAFP					Sn	07 43 47.2	+1.8
TASE	Tanaga Southea	2.42	281		Pn	07 43 17.8	+0.3
GAEA	Gareloi East	2.85	279		Pn	07 43 24.9	+1.4
GALAA	Gareloi Lava P	2.87	279		Pn	07 43 24.0	+0.4
AMKA	Amchitka	4.06	272	Pn	Pn	07 43 38.6	-1.5
LSNW	Little Sitkin	4.56	280		Pn	07 43 47.2	+0.4
UNV	Unalaska Valle	5.28	60		Pn	07 43 56.5	-0.2
SPIA	Saint Paul Isl	6.21	20		Pn	07 44 09.2	-0.3
WECS	Westdahl Cape	6.49	58		Pn	07 44 15.2	+1.8
SMY	Shemya	7.33	285	P	Pn	07 44 22.9	-1.9
SMY	Shemya	7.33	285	Pn	Pn	07 44 22.9	-1.9
FALS	False Pass	7.34	58	Pn	Pn	07 44 24.8	-0.3
SDPT	Sand Point	9.10	59	Pn	Pn	07 44 49.6	+0.5
CHGN	Chignik	10.52	56	Pn	Pn	07 45 09.1	+0.6
CHGN	Chignik	10.52	56	P	Pn	07 45 09.5	+0.9
	baz=248						
GAMB	Gambell	12.46	5	Pn	Pn	07 45 34.6	-0.3
OHAK	Old Harbor	13.49	56	Pn	Pn	07 45 47.5	-1.6
KDAK	Kodiak Island	14.02	55	Pn	Pn	07 45 55.6	-0.7
	0.5nm,0.3s,baz=282,slow=6.9,SNR=9.0						
KDAK				Sn	Sn	07 48 30.5	0.0
	0.1nm,0.3s,baz=128,slow=22,SNR=1.9						
KDAK	Kodiak Island	14.02	55	P	P	07 46 03.8	+0.1
	baz=252						
N19K	Bonanza Creek	14.41	42	P	Pn	07 46 03.5	+1.8
	baz=238,SNR=6.7						
O20K	Slope Mountain	14.86	46	P	P	07 46 10.6	-2.6
	baz=244						
L19K	White Mountain	15.04	37	Pn	Pn	07 46 11.3	+1.2
L19K				IAmb	IAmb	07 46 18.3	
	comp=Z,14nm,0.9s						
L19K	White Mountain	15.04	37	P	P	07 46 16.4	+1.3
	baz=233,SNR=11						
M19K	Big River Lodg	15.05	38		Pn	07 46 09.5	-0.8
M19K				IAmb	IAmb	07 46 18.0	
	comp=Z,14nm,1.0s						
M19K	Big River Lodg	15.05	38	P	P	07 46 16.4	+1.2
	baz=234						
CNPM	China Poot	15.28	49	Pn	Pn	07 46 13.2	-0.1
M20K	Styx River	15.54	39	Pn	Pn	07 46 16.0	-0.7
M20K				IAmb	IAmb	07 46 40.8	
	comp=Z,16nm,1.2s						
M20K	Styx River	15.54	39	P	P	07 46 20.8	+0.1
	baz=237						
L20K	Farewell, AK	15.59	37	P	P	07 46 22.2	+1.1
	baz=234						
BRSE	Bradley Lake S	15.59	49	P	P	07 46 20.0	-1.2
	baz=248						
K20K	Telida	16.05	34	P	P	07 46 26.4	+0.2
	baz=231,SNR=10						
SKT	Skwentna	16.23	41	P	P	07 46 28.2	-0.1
SKT				IAmb	IAmb	07 46 43.0	
	comp=Z,59nm,2.0s						
SUA	Susitna One	16.31	43	P	P	07 46 28.8	-0.5
	baz=242						
SEW	Seward	16.33	48	P	Pn	07 46 25.5	-1.2
	baz=249						
O22K	Cooper Landing	16.34	47		P	07 46 28.9	-0.6
O22K	Cooper Landing	16.34	47	P	P	07 46 28.5	-1.0
	baz=247						
PPLA	Purkeypile	16.46	37	P	P	07 46 33.8	+2.8
	baz=236						
J20K	Nowinta River	16.55	32	P	P	07 46 32.0	+0.3
J20K	Nowinta River	16.55	32	P	P	07 46 32.7	+0.9
	baz=229						
RC01	Rabbit Creek A	16.59	45	P	Pn	07 46 30.8	+0.8
	baz=245						
CHUM	Lake Minchumin	17.00	34	P	P	07 46 37.7	+1.0
	baz=233,SNR=14						
PETK	Petropavlovsk-	17.23	287	P	Pn	07 46 38.5	+0.3
	comp=Z,0.4nm,0.3s,baz=96,slow=14,SNR=9.9						
KNK	Knik Glacier	17.28	45	P	Pn	07 46 38.2	-0.5
	baz=246						
KTH	Kantishna Hill	17.31	37	P	P	07 46 40.9	+0.7
KTH				IAmb	IAmb	07 46 51.2	
	comp=Z,14nm,0.9s						
TRF	Thorofare Moun	17.49	37	P	P	07 46 42.9	+0.6
TRF	Thorofare Moun	17.49	37	P	P	07 46 46.6	+4.2
	baz=237						
SML	Sawmill	17.50	44	P	Pn	07 46 41.3	-0.1
	baz=245						
BPAW	Bear Paw Mtn.	17.60	35	P	P	07 46 45.2	+1.8
BPAW	Bear Paw Mtn.	17.60	35	P	P	07 46 44.1	+0.8
	baz=234,SNR=9.4						
GLI	Glacier Island	17.70	47	P	Pn	07 46 42.9	-0.8
	baz=250						
IMAR	Indian Mountai	17.91	28	P	P	07 46 48.0	+1.2
I21K	Tanana	17.92	31	P	P	07 46 48.0	+1.1
I21K	Tanana	17.92	31	P	P	07 46 48.3	+1.5
	baz=230,SNR=9.0						
RND	Reindeer	18.02	39	P	Pn	07 46 47.4	-0.5
RND				pmax	pmax		
	comp=Z,8.0nm,0.8s						
RND	Reindeer	18.02	39	P	Pn	07 46 47.4	-0.5
WAT6	Susitna Watana	18.08	42	P	P	07 46 48.9	0.0
	baz=244						
MCK	McKinley	18.16	38	P	P	07 46 49.5	0.0
MCK				pmax	pmax		
	comp=Z,14nm,1.0s						
MCK	McKinley	18.16	38	P	P	07 46 49.5	0.0
MCK	McKinley	18.16	38	P	Pn	07 46 48.8	-0.7
	baz=239,SNR=5.6						
MLY	Manley	18.23	33	P	Pn	07 46 51.8	+1.3
MLY				IAmb	IAmb	07 46 55.4	
	comp=Z,20nm,1.1s						
MLY	Manley	18.23	33	P	Pn	07 46 51.8	+1.3
	baz=233,SNR=13						
KLU	Klutina	18.44	46	P	P	07 46 52.5	-0.3
	baz=250						
M24K	Tolsona, Glenn	18.55	44	P	Pn	07 46 54.1	-0.2
M24K				IAmb	IAmb	07 46 59.0	
	comp=Z,42nm,1.3s						
M24K	Tolsona, Glenn	18.55	44	P	Pn	07 46 54.2	-0.1
	baz=247						
NEA2	Nenana	18.57	35	P	P	07 46 54.0	0.0
	baz=236						
SKR	Severo-Kuril's	18.62	279	i P	P	07 46 54.4	-0.2
I23K	Minto, Yukon-K	18.78	33	P	P	07 46 56.5	+0.2
I23K				IAmb	IAmb	07 47 00.7	
	comp=Z,22nm,0.8s						
I23K	Minto, Yukon-K	18.78	33	P	Pn	07 46 57.6	+0.7
	baz=235,SNR=16						
CCB	Clear Creek Bu	19.05	36	P	P	07 46 58.3	-1.0
CCB				IAmb	IAmb	07 47 02.3	
	comp=Z,15nm,1.2s						
H23K	Yukon River	19.11	32	P	Pn	07 47 00.9	-0.1
H23K	Yukon River	19.11	32	P	Pn	07 47 01.3	+0.3
	baz=233,SNR=8.1						
TCOL	CIGO, UAF Yank	19.15	35	P	P	07 47 00.6	+0.2
BILL	Bilibino	19.19	338	deP	P	07 47 00.2	-0.6
BILL				pmax	pmax		
	comp=Z,55nm,1.4s						
BILL				MLR	MLR		
	comp=Z,405nm,16.0s						
PAX	Paxson	19.19	42	P	P	07 47 00.9	0.0
PAX				pmax	pmax		
	comp=Z,22nm,1.6s						
PAX	Paxson	19.19	42	P	P	07 47 00.9	0.0
PAX				IAmb	IAmb	07 47 12.0	
	comp=Z,22nm,1.6s						
PAX	Paxson	19.19	42	P	P	07 47 01.0	+0.1
	baz=246						
HDA	Harding Lake	19.25	37	P	P	07 47 00.9	-0.6
	baz=240,SNR=11						
ILAR	Eielson Array	19.46	36	P	P	07 47 01.9	-1.9
	comp=Z,1.0nm,0.3s,baz=243,slow=10,SNR=34						
H24K	Noodor Dome	19.68	33	P	P	07 47 06.4	+0.2
H24K				IAmb	IAmb	07 47 24.2	
	comp=Z,13nm,0.8s						
H24K	Noodor Dome	19.68	33	P	P	07 47 06.4	+0.2
	baz=235,SNR=13						
RIDG	Independent Ri	19.77	40	P	P	07 47 07.4	+0.3
	baz=245,SNR=5.1						
COLD	Coldfoot	19.80	28		Pn	07 47 08.6	-0.5
COLD	Coldfoot	19.80	28	P	Pn	07 47 08.4	-0.8
	baz=229						
J25K	Salcha River,	19.95	38	P	P	07 47 08.3	-0.9
	baz=242,SNR=30						
DOT	Dot Lake	20.05	41	P	P	07 47 10.0	-0.2
DOT				IAmb	IAmb	07 47 15.8	
	comp=Z,9.3nm,0.6s						
M26K	Nabesna, AK	20.05	45	P	P	07 47 10.7	+0.4
M26K				IAmb	IAmb	07 47 13.1	
	comp=Z,16nm,1.3s						
M26K	Nabesna, AK	20.05	45	P	Pn	07 47 11.5	-0.7
	baz=251,SNR=6.9						
L26K	Log Cabin Wild	20.11	43	P	Pn	07 47 12.3	-0.6
L26K	Log Cabin Wild	20.11	43	P	Pn	07 47 13.3	+0.4
	baz=249,SNR=6.0						
SCRK	Sand Creek	20.21	40	P	P	07 47 11.1	-1.0
	baz=246,SNR=18						
PRP	Porcupine Dome	20.33	35	P	P	07 47 13.9	+0.5
PRP				IAmb	IAmb	07 47 29.0	
	comp=Z,8.7nm,1.0s						
M27K	Edge Creek, AK	20.53	45	P	Pn	07 47 17.8	-0.1
	baz=252						
J26K	Charley River,	20.54	39	P	P	07 47 14.4	-1.2
	baz=244,SNR=30						
L27K	Beaver Creek,	20.77	43	P	Pn	07 47 20.6	0.0
	baz=251						
TOLK	Toolik Lake Re	20.93	25	P	P	07 47 19.6	-0.2
TOLK				IAmb	IAmb	07 47 21.5	
	comp=Z,15nm,0.8s						
TOLK	Toolik Lake Re	20.93	25	P	P	07 47 20.2	+0.5
	baz=227,SNR=7.7						
BVCY	Beaver Creek	21.00	46	P		07 47 23.5	
	baz=254						
K27K	Chicken	21.01	41	P	P	07 47 20.2	-0.3
K27K				IAmb	IAmb	07 47 38.1	
	comp=Z,10nm,0.8s						
K27K	Chicken	21.01	41	P	P	07 47 20.9	+0.3
	baz=248						
SEY	Seymchan	21.18	316	P	P	07 47 22.8	+0.4
	comp=Z,12nm,1.0s,baz=105,slow=7.3,SNR=7.9						
SEY				LR	LR	07 56 01.9	
	comp=Z,294nm,19.2s,baz=101,slow=38						
MA2	Magadan	21.23	306	LR	LR	07 55 29.7	
	comp=Z,302nm,18.4s,baz=100,slow=36						
EGAK	Eagle	21.66	39	P	P	07 47 27.2	-0.2
EGAK	Eagle	21.66	39	P	P	07 47 27.3	-0.2
	baz=248,SNR=34						
BMAR	Burnt Mountain	21.66	31	P	P	07 47 27.1	-0.4
DAWY	Dawson	22.13	42	P	P	07 47 33.6	+1.0
DAWY	Dawson	22.13	42	P	P	07 47 33.8	+1.2
	baz=251,SNR=5.6						
EPYK	Eagle Plains	23.96	37	P	P	07 47 50.5	-0.6
	baz=250						
INK	Inuvik	25.79	34	P	P	07 48 07.8	+0.2
	comp=Z,1.7nm,0.5s,baz=258,slow=7.7,SNR=7.2						
INK	Inuvik	25.79	34	P	P	07 48 06.3	-1.4
	baz=250						
DLBC	Dease Lake	25.93	57	P	P	07 48 10.4	+1.3
	comp=Z,5.0nm,0.9s,baz=286,slow=7.6,SNR=5.4						
KLR	Kul'dur	33.92	288	P	P	07 49 19.5	-0.3
	comp=Z,5.1nm,0.5s,baz=72,slow=7.1,SNR=24						
H11N2	WAKE ISLAND Hy	34.95	212	T	T	08 27 11.8	
	baz=21,slow=74						
H11N3	WAKE ISLAND Hy	34.95	212	T	T	08 27 10.2	
	baz=21,slow=74						
H11N1	WAKE ISLAND Hy	34.96	212	T	T	08 27 05.5	
	baz=21						
USRK	Ussuriysk Ar.	36.13	280	P	P	07 49 38.8	-0.2
	comp=Z,11nm,0.7s,baz=58,slow=7.6,SNR=22						
USRK	Ussuriysk Ar.	36.13	280	P	P	07 49 38.6	-0.3
USRK	Ussuriysk Ar.	36.13	280	P	P	07 49 38.6	-0.3
H11S1	WAKE ISLAND Hy	36.15	212	T	T	08 28 37.2	
	baz=19,slow=76,SNR=5.4						
H11S2	WAKE ISLAND Hy	36.16	212	T	T	08 28 36.7	
	baz=19,slow=76,SNR=5.1						
H11S3	WAKE ISLAND Hy	36.17	212	T	T	08 28 38.2	
	baz=19,slow=76,SNR=3.6						
EDM	Edmonton	36.26	63	P	P	07 49 40.3	+0.3
EDM				pmax	pmax		
	comp=Z,12nm,0.8s						
EDM	Edmonton	36.26	63	P	P	07 49 40.3	+0.3
MJAR	Matsushiro Arr	36.64	265	P	P	07 49 43.1	-0.3
	comp=Z,2.4nm,0.8s,baz=41,slow=6.8,SNR=7.9						
MJAR	Matsushiro Arr	36.64	265	IAmb	IAmb	07 50 34.9	
	comp=Z,6.0nm,1.6s						
MSHR	Mys Shultsa	37.50	278	ceP	P	07 49 52.3	+1.7
MSHR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CN2	Changchun	40.35	284	eP	P	07 50 14.0	-0.4
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NVAR	Mina Array Bea	40.69	86	P	P	07 50 16.5	-1.0
	comp=Z,0.5nm,0.8s,baz=295,slow=8.0,SNR=3.9						
YHH	Holmes Hill	41.64	73	P	P	07 50 25.9	+0.5
YHH				IAmb	IAmb	07 50 40.2	
	comp=Z,7.9nm,1.4s						
KSRS	Korea Array	42.51	274	P	P	07 50 32.6	+0.5
	comp=Z,2.1nm,0.5s,baz=49,slow=10.0,SNR=5.5						
PRN	Pahroc Range	43.34	85	P	P	07 50 40.0	+0.9
PRN				IAmb	IAmb	07 51 00.5	
	comp=Z,4.9nm,0.8s						
JNU	Nakatsue	43.44	267	P	P	07 50 40.7	+0.8
	comp=Z,15nm,0.8s,baz=31,slow=5.9,SNR=8.5						
PD31	Pinedale Array	43.54	75	P	P	07 50 41.0	+0.2
PD31				IAmb	IAmb	07 50 58.5	
	comp=Z,2.9nm,0.8s						
PDAR	Pinedale Array	43.54	75	P	P	07 50 41.5	+0.8
	comp=Z,1.4nm,0.9s,baz=308,slow=4.9,SNR=9.9						
PDAR	Pinedale Array	43.54	75	P	P	07 50 40.5	-0.2
NRIK	Noril'sk	45.80	331	P	P	07 50 57.2	-0.9
	comp=Z,1.5nm,0.5s,baz=42,slow=6.2,SNR=2.2						
AGMN	Agassiz Nation	48.33	61	P	P	07 51 18.5	+0.4
	baz=305						
ULN	Ulaanbaatar	48.79	299	ceP	P	07 51 22.3	+0.4
ULN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ULN	Ulaanbaatar	48.79	299	P	P	07 51 21.2	-0.7
SONM	Songino Array	49.17	299	P	P	07 51 24.9	+0.2
	comp=Z,3.1nm,0.8s,baz=49,slow=9.0,SNR=11						
SONM	Songino Array	49.17	299	P	P	07 51 24.5	-0.3
SONM				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM	Songino Array	49.17	299	P	P	07 51 24.5	-0.3
SONM				IAmb	IAmb	07 51 25.7	
	comp=Z,3.5nm,1.0s						
ZAK	Zakamensk	49.37	303	eP	P	07 51 25.7	-0.5
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HHC	Hu-ho-hao-te	50.42	289	eP	P	07 51 34.1	-0.2
HHC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,320nm,5.6s						
LENM	Lemitar	50.45	83	P	P	07 51 34.4	-0.3
ECSD	EROS Data Cent	50.61	66	P	P	07 51 35.4	-0.2
	baz=308						
H43A	Windswept, Lux	55.10	61	P	P	07 52 09.2	+0.6
TXAR	Lajitas Array	55.80	85	P	P	07 52 14.2	+0.2
	comp=Z,0.8nm,0.8s,baz=282,slow=4.5,SNR=7.7						
XAN	Xi'an	56.46	284	P	P	07 52 18.2	-0.4
XAN				pP	sP	07 52 31.7	+0.4

XAN sP pwP 07 52 36.2 +2.4
XAN pmax pmax
comp=Z,13nm,1.3s
SCHQ Schefferville 58.14 41 P P 07 52 30.8 +0.6
comp=Z,4.6nm,0.8s,baz=262,slow=7.0,SNR=3.7
ARCES ARCESS Array B 58.49 352 P P 07 52 31.2 -1.2
comp=Z,1.4nm,0.5s,baz=24,slow=7.8,SNR=15
ARCES PcP PcP 07 53 21.9 -0.7
comp=Z,5.2nm,0.8s,baz=7.1,slow=4.9,SNR=7.5
WMQ Urumqi 61.69 306 eP P 07 52 57.6 +2.8
LONY Lake Ozonia 61.90 53 P P 07 52 56.1 0.0
baz=316
MK31 Makanchi Array 62.22 311 i P P 07 52 57.9 -0.3
MK31 Makanchi Array 62.22 311 P P 07 52 57.7 -0.5
MK31 IAmb IAmb 07 52 58.2
comp=Z,2.0nm,1.0s
MKAR Makanchi Array 62.22 311 P P 07 52 57.6 -0.6
comp=Z,1.8nm,0.7s,baz=53,slow=4.8,SNR=13
MKAR Makanchi Array 62.22 311 P P 07 52 57.9 -0.4
BRVK Borovoye 62.68 322 ceP P 07 53 02.3 +1.1
BRVK pmax pmax
comp=Z,2.0nm,1.3s
D62A Allapoint, All 62.78 48 P P 07 53 02.5 +0.6
baz=317
E62A Clayton Lake 62.90 48 P P 07 53 02.3 -0.4
baz=317
F62A Pittston Farm, 63.22 49 P P 07 53 04.6 -0.3
baz=317
G62A West of Eustis 63.45 50 P P 07 53 07.0 +0.6
baz=317
E63A Oxbow 63.56 48 P P 07 53 06.6 -0.5
baz=318
F63A Nahmakanta, Br 63.77 49 P P 07 53 08.4 -0.1
baz=318
J61A Chester 63.83 53 P P 07 53 09.4 +0.5
baz=317
F64A Sherman 64.01 48 P P 07 53 09.7 -0.4
baz=318
ARU Arti 64.03 331 c iP P 07 53 08.7 -1.3
ARU 07 53 44.4
ARU S S 08 01 39.0 -4.5
ARU pmax pmax
comp=Z,13nm,2.3s
I63A Otisfield 64.29 51 P P 07 53 12.8 +0.9
baz=318
FINES FINESS Array B 66.32 350 P P 07 53 23.9 -0.8
comp=Z,3.2nm,0.9s,baz=337,slow=9.1,SNR=6.4
FINES PcP PcP 07 53 54.2 -0.2
comp=Z,1.3nm,0.7s,baz=354,slow=1.9,SNR=5.9
NB2 NORSAR Subarra 67.80 357 P P 07 53 33.5 -0.8
comp=Z,1.8nm,1.0s,baz=2.2,slow=6.2
NOA NORSAR Array B 67.80 357 P P 07 53 34.1 -0.2
comp=Z,2.6nm,0.9s,baz=2.2,slow=6.2,SNR=6.5
AAK Ala-Archa 69.00 313 i P P 07 53 42.8 +0.6
AAK pmax pmax
comp=Z,9.0nm,0.6s
KSH Kashi 70.73 310 P P 07 53 56.6 +3.7
KSH sP PcP 07 54 11.7 -1.9
KSH pmax pmax
comp=Z,16nm,0.8s
OBN Obninsk 70.78 342⇑eP P 07 53 51.7 -1.0
OBN e 07 54 16.4
OBN e 07 56 30.2
OBN eS S 08 03 05.6 +1.1
OBN pmax pmax
comp=Z,6.0nm,0.8s
OBN MLR MLR
comp=Z,174nm,16.0s
MNK Minsk 72.84 347 i P P 07 54 05.9 +0.8
MNK i 07 54 23.8
MNK i PPP PPP 07 58 30.4
MNK i S S 08 03 26.4 -1.9
MNK i 08 04 09.3
MNK i SS SS 08 08 05.1 -2.2
MNK i SSS SSS 08 11 25.4
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK pmax pmax
comp=N,16nm,0.7s
MNK pmax pmax
comp=Z,14nm,0.8s
MNK MLR MLR
comp=E,43nm,22.0s
MNK MLR MLR
comp=Z,237nm,19.0s
MNK MLR MLR
comp=N,146nm,20.0s
MNK Minsk 72.84 347 i P P 07 54 05.9 +0.8
comp=E,2.0nm,0.7s
MNK i P P 07 54 05.9 +0.8
comp=N,16nm,0.7s
MNK i P P 07 54 05.9 +0.8
comp=Z,14nm,0.8s,baz=14
MNK i PcP PcP 07 54 23.8 +1.7
MNK i PP PP 07 57 03.4 +17
MNK i PPP PPP 07 58 30.4
MNK i S S 08 03 26.5 -1.8
MNK i SS SS 08 08 05.2 -2.2
MNK i SSS SSS 08 11 25.5
MNK i LQ LQ 08 19 24.4
MNK i LR LR 08 25 00.1
MNK i LRM MLR 08 28 41.6
comp=E,43nm,21.7s
MNK i LRM MLR 08 28 57.5
comp=Z,237nm,18.8s
MNK i LRM MLR 08 29 29.3
comp=N,146nm,20.3s
CMAR Chiang Mai Arr 73.86 279 P P 07 54 12.5 +0.8
comp=N,1.6nm,0.4s,baz=27,slow=7.1,SNR=9.9
TAPN Taplejung 73.86 294 eP P 07 54 12.9 +1.0
comp=N,45nm,0.9s
CM02 Chiang Mai Arr 73.87 279 P P 07 54 28.3 +17
CM01 Chiang Mai Arr 73.87 279 P P 07 54 16.0 +4.3
comp=N,5.0nm,0.6s
CM04 Chiang Mai Arr 73.88 279 P P 07 54 15.5 +3.7
comp=N,9.5nm,1.0s
CM05 Chiang Mai Arr 73.90 279 P P 07 54 15.5 +3.6
comp=N,4.1nm,0.8s
ODAN Odare 74.41 293 eP P 07 54 16.0 +0.9
GUN Gumba 74.47 295 eP P 07 54 15.9 +0.4
JIRN Jiri 74.49 295 eP P 07 54 16.6 +0.9
comp=N,69nm,0.8s
RAMN Ramite 74.80 294 eP P 07 54 17.9 +0.6
comp=N,14nm,0.4s
KKN Kakani 74.90 296 eP P 07 54 19.0 +1.1
PKI Pulchoki 75.00 295 eP P 07 54 19.1 +0.5
PKIN Phulchoki 75.00 295 eP P 07 54 18.8 +0.3
GKN Gorkha 75.10 296 eP P 07 54 19.8 +0.8
DMN Daman 75.14 296 eP P 07 54 20.4 +1.1
DANN Dangsing 75.33 297 eP P 07 54 21.5 +1.1
comp=N,81nm,0.8s
KOLN Koldanda 75.86 297 eP P 07 54 24.0 +0.6
PYUN Piuthan 75.95 297 eP P 07 54 24.9 +1.0
AKASG Malin Array Be 76.32 345 P P 07 54 24.6 -0.7
comp=N,2.7nm,0.7s,baz=17,slow=5.8,SNR=8.9
AKASG Malin Array Be 76.32 345 IAmb IAmb 07 54 31.1
comp=Z,4.1nm,1.5s
AKBB Malin Array Si 76.32 345 ceP P 07 54 25.0 -0.3
CLL Collm 77.46 355 i P 07 54 54.4 +23
CLL Collm 77.46 355 i P P 07 54 31.6 -0.1
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL Collm 77.46 355 i P P 07 54 31.6 -0.1
comp=Z,7.0nm,0.8s
BRG Berggiesshubel 77.84 355 eP P 07 54 34.3 +0.4
BRG Amp 07 54 35.1
comp=Z,7.9nm,0.9s
OSTC Ostas 78.01 353 eP P 07 54 35.1 +0.2
DPC Dobruska-Polom 78.21 353 eP P 07 54 36.7 +0.7
DPC Dobruska-Polom 78.21 353 eP P 07 54 36.7 +0.7
KRLC Kraliky 78.45 353 eP P 07 54 37.9 +0.6
KRLC Kraliky 78.45 353 eP P 07 54 37.9 +0.6
NKC Novy Kostel 78.56 356 eP P 07 54 38.4 +0.5
NKC Novy Kostel 78.56 356 eP P 07 54 38.4 +0.5
PRU Pruhonice 78.69 354 eP P 07 54 38.8 +0.2
PRU Pruhonice 78.69 354 eP P 07 54 38.8 +0.2
GIVF Givet 78.85 1 eP P 07 54 40.6 +1.2
GIVF pmax pmax
comp=Z,2.0nm,0.3s
BAIF Baives 78.89 1 eP P 07 54 40.1 +0.5
BAIF pmax pmax
comp=Z,127nm,2.6s
PBCC Pribram 79.03 355 eP P 07 54 41.1 +0.6
KHC Kasperske Hory 79.60 355 eP P 07 54 44.4 +0.8
KHC Kasperske Hory 79.60 355 eP P 07 54 44.4 +0.8
KIV Kislovodsk 79.76 334 eP P 07 54 47.0 +2.3
KIV pmax pmax
comp=Z,5.0nm,0.9s
CKRC Cesky Krumlov 79.87 354 eP P 07 54 45.1 0.0
GERES GERESS Array B 79.88 355 P P 07 54 46.0 +0.8
comp=Z,2.0nm,0.7s,baz=20,slow=4.3,SNR=11
GEYT Alibeck 79.94 321 P P 07 54 46.4 +0.8
comp=Z,16nm,0.6s,baz=20,slow=4.6,SNR=5.7
LDF La Druitiere 80.23 4 eP P 07 54 46.8 -0.2
LDF pmax pmax
comp=Z,13nm,1.0s
CDF Champ du Feu 80.53 359 eP P 07 54 48.9 +0.1
CDF pmax pmax
comp=Z,7.0nm,0.8s
HAU Haudompre 80.95 360 eP P 07 54 51.2 +0.3
HAU pmax pmax
comp=Z,10.0nm,0.8s
HINF Hinteralfeld 81.14 359 eP P 07 54 51.9 0.0
HINF pmax pmax
comp=Z,7.0nm,1.1s
KRAB Krabi 81.51 272 P P 07 54 51.3 -3.0
LOR Lormes 81.67 1 eP P 07 54 55.0 +0.3
LOR pmax pmax
comp=Z,7.0nm,0.8s
MFF Saint Martin d 82.22 4 eP P 07 54 58.0 +0.4
MFF pmax pmax
comp=Z,10.0nm,0.8s
CABF La Chapelle 82.34 360 eP P 07 54 59.2 +0.8
CABF pmax pmax
comp=Z,20nm,1.1s
TCF Toulx Ste Croi 82.62 3 eP P 07 54 59.9 +0.2
TCF pmax pmax
comp=Z,4.0nm,0.6s
CAF Calviac 83.98 3 eP P 07 55 07.3 +0.5
CAF pmax pmax
comp=Z,12nm,1.1s
SBF Sospel 85.08 359 eP P 07 55 13.6 +1.2
SBF pmax pmax
comp=Z,10.0nm,0.7s
MTLF Montolieu 85.56 3 eP P 07 55 15.4 +0.7
MTLF pmax pmax
comp=Z,13nm,1.0s
ETSF Etsaut 85.89 5 eP P 07 55 15.7 -0.8
ETSF pmax pmax
comp=Z,6.0nm,0.9s
BRTR Keskin Array B 86.02 339 P P 07 55 16.7 -0.5
comp=Z,1.4nm,0.9s,baz=43,slow=2.2,SNR=6.5
BRTR Keskin Array B 86.02 339 ceP P 07 55 17.7 +0.5
BRTR pmax pmax
comp=Z,1.0nm,0.8s
FITZ Fitzroy Crossi 86.81 236 P P 07 55 20.9 -0.1
comp=Z,2.8nm,0.8s,baz=37,slow=5.5,SNR=5.9
ASAR Alice Springs 87.53 226 P P 07 55 24.3 -0.2
comp=Z,1.4nm,0.8s,baz=24,slow=4.1,SNR=14
ESDC Sonseca Array 88.88 8 P P 07 55 30.5 -0.4
comp=Z,1.5nm,0.8s,baz=343,slow=4.9,SNR=10
MAW Mawson 148.28 218 PKPbc PKPbc 08 02 20.7 -0.6
comp=Z,1.9nm,0.9s,baz=224,slow=2.7,SNR=3.8
BOSA Boshof 152.94 320 PKPbc PKPbc 08 02 33.6 -0.1
comp=Z,1.5nm,0.6s,baz=352,slow=7.5,SNR=4.1
BOSA PKPab PKPab 08 02 45.7 +0.7
comp=Z,5.7nm,0.7s,baz=3.8,slow=1.8,SNR=10

*IDC **05** 07:46:56.0±2.2, 22°.90N×143°.50E, h220km±17km, mb3.2/7, mb1 3.4/8, mb1mx3.1/45, mbtmp3.8/8, Error ellipse: s-maj=42.1km s-min=17.4km az=84.0*
ISC 05 07:46:54.0±1.1, **22°.8N**±0°.1×**143°.5E**±0°.3, **h200**km, **n8**, σ**1$.42**/9, **mb3.4**/7, **Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	4.46	344	P	Pn	07 48 00.8	-0.7
	16nm,0.3s,baz=293,slow=24,SNR=46						
JCJ				S	Sn	07 48 57.0	+2.3
	21nm,0.3s,baz=284,slow=22,SNR=7.8						
WRA	Warramunga Arr	43.41	193	P	P	07 54 37.8	+0.7
	0.3nm,0.3s,baz=6.4,slow=9.1,SNR=4.7						
ASAR	Alice Springs	47.12	192	P	P	07 55 07.4	+1.3
	0.1nm,0.5s,baz=15,slow=6.6,SNR=2.0						
ZALV	Zalesovo Beam	53.56	321	P	P	07 55 54.2	+0.1
	0.8nm,0.4s,baz=91,slow=5.7,SNR=2.5						
MKAR	Makanchi Array	54.20	312	P	P	07 55 58.1	-0.8
	0.4nm,0.5s,baz=91,slow=7.9,SNR=5.3						
ARCES	ARCESS Array B	77.99	341	P	P	07 58 29.3	-0.5
	2.2nm,0.9s,baz=70,slow=8.2,SNR=8.5						
NVAR	Mina Array Bea	82.22	52	P	P	07 58 53.4	+0.2
	0.3nm,0.6s,baz=270,slow=4.5,SNR=2.2						
FINES	FINESS Array B	82.34	335	P	P	07 58 51.3	-1.8
	0.8nm,0.3s,baz=58,slow=4.8,SNR=14						

RSNC 05 07:52:03.6±1.3, **6°.82N**×**73°.13W**, **h144**km±4km, **ML3.3, Mw3.7, 8C-8D, Fault plane solution: NP1:**ϕs39.00000°, δ52.00000°, λ-142.00000°., **Northern Colombia**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BARC Barichara 0.23 192⇓iP Pn 07 52 23.4 -0.1
BARC eS Sn 07 52 37.9 -0.8
BARC i 07 52 39.4
comp=Z,348nm,0.2s
BRRC Barranca, Sant 0.64 296⇓iP Pn 07 52 25.3 +0.2
BRRC eS Sn 07 52 41.6 +0.2
BRRC i 07 52 43.0
comp=Z,266nm,0.3s
PAMC Pamplona, Colo 0.67 40⇓iP Pn 07 52 26.3 +0.4
PAMC i 07 52 26.5
comp=Z,738nm,0.2s
PAMC eS Sn 07 52 43.0 +0.3
RUSC La Rusia 0.92 177⇑eP Pn 07 52 27.4 -0.4
RUSC eS Sn 07 52 45.4 -0.7
RUSC i 07 52 46.7
comp=Z,138nm,0.2s
PTBC PUERTO BERRIO, 1.34 258 eP Pn 07 52 29.9 -1.2
PTBC eS Sn 07 52 51.0 -1.1
PTBC i 07 52 53.4
comp=Z,268nm,0.1s
TAMC Tame, Arauca 1.39 106 i Pn 07 52 31.7 +0.2
comp=Z,132nm,0.2s
TAMC ⇓iP Pn 07 52 31.8 +0.2
TAMC eS Sn 07 52 52.7 -0.2
OCAC Ocana 1.42 353⇑eP Pn 07 52 31.8 -0.3
OCAC eS Sn 07 52 53.8 0.0
OCAC i 07 52 56.7
comp=Z,433nm,0.5s
SPBC San Pablo de B 1.49 219 eP Pn 07 52 32.4 -0.4
SPBC eS Sn 07 52 54.7 -0.3
SPBC i 07 53 01.2
comp=Z,177nm,0.3s
ZARC Zaragoza, Cauc 1.84 291 eP Pn 07 52 36.1 -0.4
ZARC eS Sn 07 53 01.2 -0.5
ZARC i 07 53 07.9
comp=Z,289nm,0.4s
NORC Norcasia 2.13 234⇑iP Pn 07 52 40.0 -0.1
NORC eS Sn 07 53 06.8 -1.2
NORC i 07 53 09.7
comp=Z,77nm,0.2s
SMLC San Martn de 2.18 335 eP Pn 07 52 39.8 -0.7
SMLC eS Sn 07 53 08.0 -0.9
SMLC i 07 53 14.8
comp=Z,181nm,0.2s
CHIC Chingaza 2.26 195 eP Pn 07 52 41.5 -0.4
CHIC eS Sn 07 53 10.2 -1.1
CHIC i 07 53 16.7
comp=Z,60nm,0.4s
ROSC El Rosal 2.29 211⇑eP Pn 07 52 43.0 +0.7
ROSC eS Sn 07 53 12.1 +0.1
ROSC i 07 53 19.2
comp=Z,115nm,0.6s
HELC Santa Helena 2.46 255 eP Pn 07 52 44.8 +0.4
HELC eS Sn 07 53 15.5 -0.1
HELC i 07 53 22.7
comp=Z,90nm,0.5s
UREC San Jos de Ur 2.56 291 eP Pn 07 52 43.7 -1.5
UREC eS Sn 07 53 14.7 -2.4
UREC i 07 53 26.7
comp=Z,112nm,0.3s
SOCV Socops 2.69 57 eP Pn 07 52 45.2 -1.6
GUY2C Guyana, Caldas 2.73 235 eP Pn 07 52 47.8 0.0
GUY2C eS Sn 07 53 21.8 +0.1
GUY2C i 07 53 29.9
comp=Z,94nm,0.5s
VILC Villavicencio, 2.75 192 eP Pn 07 52 46.8 -0.9
VILC eS Sn 07 53 20.7 -1.1
VILC i 07 53 26.0
comp=Z,91nm,0.3s
PTGC Puerto Gaitan, 2.79 159⇑iP Pn 07 52 46.5 -1.6
PTGC i 07 52 47.0
comp=Z,128nm,0.3s
PTGC eS Sn 07 53 19.7 -2.7
CBOC Ciudad Bolivar 3.02 252⇓eP Pn 07 52 51.3 +0.2
CBOC eS Sn 07 53 24.9 -2.9
CBOC i 07 53 29.2
comp=Z,29nm,0.4s
DBBC Dabeiba 3.06 274⇑eP Pn 07 52 51.2 -0.4
DBBC i 07 53 31.6
comp=Z,316nm,0.5s
TOLC Tolima 3.11 225 eP Pn 07 52 52.7 +0.2
TOLC eS Sn 07 53 29.8 -0.5
TOLC i 07 53 36.3
comp=Z,64nm,0.3s
ARGC Ariguani, Magd 3.21 340⇓eP Pn 07 52 54.0 +0.5
ARGC i 07 52 56.7
comp=Z,32nm,0.4s
ARGC eS Sn 07 53 31.1 -1.0
SDV Santo Domingo 3.22 50 eP Pn 07 52 53.2 -0.5
SDV i 07 52 53.8
comp=Z,54nm,0.2s
SDV eS Sn 07 53 30.5 -1.9
PRAC Prado 3.55 210 eP Pn 07 52 56.7 -1.2
PRAC eS Sn 07 53 39.2 -0.7
PRAC i 07 53 45.0
comp=Z,103nm,0.2s
ORTC Ortega, Tolima 3.58 216⇓eP Pn 07 52 57.7 -0.5
ORTC eS Sn 07 53 41.4 +0.8
ORTC i 07 53 46.4
comp=Z,65nm,0.4s
ELOV Elorza 3.63 87⇓iP Pn 07 52 57.7 -1.1
ELOV eS Sn 07 53 38.6 -3.0
SJCC San Jacinto, C 3.67 327⇑eP Pn 07 52 57.5 -1.9
SJCC i 07 52 58.0
comp=Z,40nm,0.3s
SJCC eS Sn 07 53 38.8 -4.0
CRJC Cerrejon, Guaj 4.18 3 eP Pn 07 53 03.9 -2.3
CRJC eS Sn 07 53 51.1 -3.8
CRJC i 07 54 08.8
comp=Z,27nm,0.2s
GUVC San Jose del G 4.28 173 eP Pn 07 53 05.0 -2.4
GUVC eS Sn 07 53 53.5 -3.5
GUVC i 07 54 02.3
comp=Z,42nm,0.3s
SMRC Santa Marta, M 4.45 346 eP Pn 07 53 08.3 -1.4
SMRC i 07 53 10.4
comp=Z,28nm,0.2s
SMRC eS Sn 07 53 55.8 -5.3
MACC Macarena, Meta 4.70 189⇑eP Pn 07 53 10.4 -2.6
MACC i 07 53 11.1
comp=Z,28nm,0.4s
MACC eS Sn 07 54 01.9 -5.1
DABV Dabajuro 4.76 31 eP Pn 07 53 13.1 -0.7
DABV eS Sn 07 54 03.5 -5.1
GARC Garzon, Huila 5.17 207 eP Pn 07 53 17.4 -2.1
GARC i 07 53 21.2
comp=Z,25nm,0.2s
GARC eS Sn 07 54 13.7 -4.9

*IDC **05** 07:52:16.6±1.2, 51°.48N×174°.36W, h0km, mb3.6/7, mb1 3.9/9, mb1mx3.7/38, mbtmp3.6/9, ML3.4/2, Error ellipse: s-maj=38.0km s-min=22.3km az=175.0*
*AEIC **05** 07:52:20±2.0, 51°.32N±0°.07×174°.37W±0°.08, h13km±6km, ML3.4/24, mb3.8/22(NEIC), Error ellipse: s-maj=10.7km s-min=7.4km az=172.0*
*NEIC **05** 07:52:23.3±1.6, 51°.46N±0°.05×174°.42W±0°.06, h51km±10km, Error ellipse: s-maj=8.0km s-min=5.6km az=189.0*
ISC 05 07:52:21.8±0.7, **51°.36N**±0°.09×**174°.29W**±0°.04, **h38**km, **n59**, σ**0$.90**/63, **mb3.8**/8, **Andreanof Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ATKA Atka Island 0.85 4 Pn 07 52 36.9 -0.3
ATKA Atka Island 0.85 4 Sn 07 52 50.3 +1.8
KOFP Korovin Flat P 0.93 7 Pn 07 52 38.6 +0.3
KOKL Mount Kliuchef 0.97 3 Pn 07 52 39.2 +0.2
KOSE Korovin Southe 1.00 9 Pn 07 52 39.9 +0.5
GSIG Igitkin Island 1.20 302 Pn 07 52 41.6 -0.4
GSMY Great Sitkin M 1.30 303 Pn 07 52 43.1 -0.3
GSTR Great Sitkin T 1.32 305 Pn 07 52 43.6 -0.2
GSTR Sn Sn 07 52 59.7 -0.5
GSTD Great Sitkin T 1.35 302 Pn 07 52 43.9 -0.2
GSTD Sn 07 53 03.0 +2.1
ETKA Kagalaska Isla 1.41 292 Pn 07 52 44.9 0.0
ADK Adak 1.58 290 Pn 07 52 46.8 -0.5
ADK Adak 1.58 290 Sn Sn 07 53 07.2 +0.7
KIWB Kanaga Island 1.85 287 Pn 07 52 51.1 +0.1
KIKV Kanaga Island 1.87 287 Pn 07 52 51.4 +0.2
KIMD Kanaga Island 1.88 284 Pn 07 52 51.3 -0.1
KICM Kanaga Island 1.90 288 Pn 07 52 52.0 +0.4
TAFP Tanaga Falls P 2.36 285 Pn 07 52 58.8 +0.8
TAFP Sn 07 53 28.0 +2.2
TASE Tanaga Southea 2.38 283 Pn 07 52 59.2 +0.9
GALAA Gareloi Lava P 2.83 280 Pn 07 53 05.2 +0.8
NIKH Nikolski High 3.72 62 Pn Pn 07 53 16.9 +0.3
AMKA Amchitka 4.01 273 Pn Pn 07 53 20.5 -0.2
LSNW Little Sitkin 4.52 281 Pn 07 53 27.5 -0.2
UNV Unalaska Valle 5.36 59 Pn Pn 07 53 41.8 +2.6
KDAK Kodiak Island 14.10 54 Pn Pn 07 55 36.1 -2.6
0.2nm,0.3s,baz=248,slow=11,SNR=17
KDAK Sn Sn 07 58 12.4 -1.3
0.1nm,0.3s,baz=335,slow=19,SNR=2.7
L19K White Mountain 15.13 37 P P 07 55 58.0 +0.8
L19K IAmb IAmb 07 56 06.5
comp=Z,3.1nm,0.8s
K20K Telida 16.14 34 P P 07 56 08.3 0.0
SKT Skwentna 16.32 41 P P 07 56 10.9 +0.6
SKT IAmb IAmb 07 56 25.7
comp=Z,7.3nm,1.3s
SUA Susitna One 16.40 43 P P 07 56 10.7 -0.7
PETK Petropavlovsk- 17.20 287 P Pn 07 56 18.7 -0.3
comp=Z,0.1nm,0.3s,baz=90,slow=15,SNR=5.1
MLY Manley 18.32 33 P Pn 07 56 33.7 +1.1
M24K Tolsona, Glenn 18.64 44 P P 07 56 35.8 -0.2
M24K IAmb IAmb 07 56 53.6
comp=Z,14nm,1.2s
I23K Minto, Yukon-K 18.86 33 P Pn 07 56 39.3 +0.2
CCB Clear Creek Bu 19.14 36 P P 07 56 41.0 -0.4
CCB IAmb IAmb 07 56 43.7
comp=Z,2.7nm,0.6s
MDM Murphy Dome 19.15 35 P P 07 56 42.2 +0.6
N25K Chitina, Valde 19.16 46 P P 07 56 41.4 -0.3
N25K IAmb IAmb 07 57 01.7
comp=Z,5.5nm,1.1s
HDA Harding Lake 19.34 37 P P 07 56 43.6 0.0
HDA IAmb IAmb 07 56 45.1
comp=Z,4.9nm,0.8s
IL31 19.54 36 P P 07 56 46.1 +0.4
IL31 IAmb IAmb 07 56 48.0
comp=Z,7.3nm,1.3s
ILAR Eielson Array 19.54 36 P P 07 56 45.7 -0.1
comp=Z,0.5nm,0.3s,baz=234,slow=8.6,SNR=31
ILAR Eielson Array 19.54 36 P P 07 56 46.7 +0.9
H24K Noodor Dome 19.76 33 P P 07 56 49.1 +0.9
H24K IAmb IAmb 07 56 54.4
comp=Z,4.7nm,1.1s
RIDG Independent Ri 19.85 40 P P 07 56 48.2 -1.1
RIDG IAmb IAmb 07 57 04.0
comp=Z,5.9nm,1.2s
DOT Dot Lake 20.13 41 P P 07 56 52.0 -0.2
M26K Nabesna, AK 20.13 45 P P 07 56 51.9 -0.4
M26K IAmb IAmb 07 56 54.4
comp=Z,2.5nm,0.6s
SCRK Sand Creek 20.30 40 P P 07 56 53.5 -0.6
SCRK IAmb IAmb 07 56 54.9
comp=Z,5.1nm,0.8s
BCAR Beaver Creek A 20.88 43 P P 07 57 01.9 +1.5
K27K Chicken 21.09 41 P P 07 57 02.8 +0.2
K27K IAmb IAmb 07 57 07.7
comp=Z,3.1nm,0.8s
EGAK Eagle 21.74 39 P P 07 57 09.9 +0.4
HYT Haines Junctio 22.31 51 P P 07 57 16.2 +0.4
EPYK Eagle Plains 24.04 37 P P 07 57 32.4 -0.6
USRK Ussuriysk Ar. 36.09 280 P P 07 59 20.0 +0.3
comp=Z,1.4nm,0.6s,baz=61,slow=12,SNR=1.9
PDAR Pinedale Array 43.60 75 P P 08 00 23.0 +0.6
comp=Z,0.2nm,0.5s,baz=304,slow=2.9,SNR=3.4

TXAR	**Lajitas Array**	**55.85**	**84**	P	**P**	**08 01 55.7**	**+0.2**
	comp=Z,0.1nm,0.6s,baz=281,slow=6.1,SNR=1.6						
ARCES	**ARCESS Array B**	**58.55**	**352**	P	**P**	**08 02 11.9**	**-1.9**
	comp=Z,2.8nm,0.9s,baz=0.0,slow=4.9,SNR=4.7						
ARCES				PcP	**PcP**	**08 03 03.4**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=20,slow=3.9,SNR=4.0						
ARCES	**ARCESS Array B**	**58.55**	**352**	IAmb	IAmb	08 02 20.3	
	comp=Z,14nm,1.4s						
MKAR	**Makanchi Array**	**62.22**	**311**	P	**P**	**08 02 38.7**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=35,slow=5.5,SNR=9.5						
FINES	**FINESS Array B**	**66.38**	**349**	PcP	**PcP**	**08 03 35.5**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=354,slow=7.0,SNR=4.0						
GERES	**GERESS Array B**	**79.94**	**355**	P	**P**	**08 04 26.8**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=359,slow=8.0,SNR=3.4						
ASAR	**Alice Springs**	**87.45**	**226**	P	**P**	**08 05 05.2**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=54,slow=2.2,SNR=4.2						
BOSA	**Boshof**	**152.96**	**320**	PKPbc	**PKiKP**	**08 12 16.5**	**+1.5**
	comp=Z,0.9nm,0.6s,baz=315,slow=1.4,SNR=1.4						

VIE 05 07:53:17.1±0.3**, 47°.55N×14°.96E, h0^{km}, mb0.9**/1**, ml1.2**/4**, Error ellipse: s-maj=4.9km s-min=1.9km az=39.0 5 km NE of Erzberg Suspected Mining explosion., Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSA	**Arzberg**	**0.49**	**127**	*e*Pg	Pg	07 53 26.3	0.0
	0.9nm,0.1s						
ARSA				*e*Sg	Sg	07 53 32.9	+0.2
	1.6nm,0.2s						
MOA	**Molln**	**0.56**	**303**	*e*Pg	Pg	07 53 28.2	+0.5
	0.8nm,0.1s						
MOA				*e*Sg	Sg	07 53 36.1	+1.3
	1.0nm,0.1s						
CONA	**Conrad Observa**	**0.72**	**58**	*e*Pg	Pb	07 53 31.7	-0.8
	0.2nm,0.1s						
KRUC	**Moravsky**	**1.79**	**32**	*e*PN	Pn	07 53 48.7	-0.6
KRUC				*e*SG	Sb	07 54 13.7	-0.1

*IDC **05** 08:12:02.2±3.1, 50°.83N×173°.77W, h0^{km}, mb3.4/3, mb1 3.7/6, mb1mx3.5/44, mbtmp3.5/6, ML3.4/3, Error ellipse: s-maj=75.7km s-min=26.2km az=175.0*

*AEIC **05** 08:12:10±2.1, 51°.29N±0°.04×174°.28W±0°.05, h24^{km}±4^{km}, ML3.4/27, mb3.8/16(NEIC), Error ellipse: s-maj=6.5km s-min=3.8km az=200.0*

*NEIC **05** 08:12:12.8±1.8, 51°.40N±0°.07×174°.35W±0°.09, h46^{km}±11^{km}, Error ellipse: s-maj=11.5km s-min=6.4km az=154.0*

ISC 05 08:12:11.8±1.2**, 51°.3N**±0°.1×**174°.28W**±0°.06**, h40**^{km}±11^{km}**, n50, σ0^s.96**/53**, mb3.7**/3**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.89**	**3**		**Pn**	**08 12 27.2**	**-0.6**
ATKA				Sn	**Sn**	**08 12 39.5**	**0.0**
KOFP	**Korovin Flat P**	**0.97**	**7**		**Pn**	**08 12 28.6**	**-0.3**
KOKL	**Mount Kliuchef**	**1.01**	**3**		**Pn**	**08 12 29.3**	**-0.2**
KOKL					**Sn**	**08 12 43.1**	**+0.5**
GSIG	**Igitkin Island**	**1.23**	**304**		**Pn**	**08 12 31.6**	**-0.9**
GSMY	**Great Sitkin M**	**1.33**	**304**		**Pn**	**08 12 33.2**	**-0.6**
GSTR	**Great Sitkin T**	**1.36**	**306**		**Pn**	**08 12 33.9**	**-0.4**
GSTD	**Great Sitkin T**	**1.38**	**303**		**Pn**	**08 12 34.2**	**-0.4**
GSTD					**Sn**	**08 12 52.7**	**+1.1**
ADK	**Adak**	**1.61**	**292**		**Pn**	**08 12 37.4**	**-0.2**
ADK				Sn	**Sn**	**08 12 56.2**	**-0.9**
KIWB	**Kanaga Island**	**1.87**	**288**		**Pn**	**08 12 41.5**	**+0.3**
KIKV	**Kanaga Island**	**1.89**	**289**		**Pn**	**08 12 41.9**	**+0.4**
KIMD	**Kanaga Island**	**1.90**	**285**		**Pn**	**08 12 41.6**	**-0.1**
KICM	**Kanaga Island**	**1.92**	**290**		**Pn**	**08 12 42.3**	**+0.4**
TAFP	**Tanaga Falls P**	**2.38**	**286**		**Pn**	**08 12 49.2**	**+0.9**
TAFP					**Sn**	**08 13 17.7**	**+1.4**
TASE	**Tanaga Southea**	**2.40**	**284**		**Pn**	**08 12 49.5**	**+0.9**
GAEA	**Gareloi East**	**2.83**	**281**		**Pn**	**08 12 55.8**	**+1.3**
GALAA	**Gareloi Lava P**	**2.84**	**281**		**Pn**	**08 12 55.6**	**+1.0**
NIKH	**Nikolski High**	**3.73**	**61**		**Pn**	**08 13 07.3**	**+0.5**
AMKA	**Amchitka**	**4.03**	**273**	Pn	**Pn**	**08 13 10.5**	**-0.3**
OKSP	**Okmok Steeple**	**4.16**	**60**		**Pn**	**08 13 13.6**	**+0.9**
LSSE	**Little Sitkin**	**4.50**	**281**		**Pn**	**08 13 16.8**	**-0.6**
MAPS	**Pakushin South**	**5.13**	**58**		**Pn**	**08 13 26.3**	**+0.4**
UNV	**Unalaska Valle**	**5.38**	**59**	Pn	**Pn**	**08 13 30.5**	**+1.2**
AKUT	**Akutan**	**5.89**	**58**	Pn	**Pn**	**08 13 37.8**	**+1.4**
SPIA	**Saint Paul Isl**	**6.33**	**20**		**Pn**	**08 13 44.3**	**+1.9**
CHGN	**Chignik**	**10.62**	**56**	Pn	**Pn**	**08 14 41.7**	**+0.6**
KDAK	**Kodiak Island**	**14.12**	**54**	Pn	**Pn**	**08 15 26.1**	**-2.8**
	0.2nm,0.3s,baz=225,slow=4.1,SNR=16						
SVW2	**Sparrevohn**	**14.24**	**39**	Pn	**Pn**	**08 15 32.5**	**+2.0**
L19K	**White Mountain**	**15.16**	**37**	Pn	**Pn**	**08 15 44.6**	**+1.8**
L19K				IAmb	IAmb	08 15 53.1	
	comp=Z,6.3nm,1.2s						
SEW	**Seward**	**16.43**	**48**		**Pn**	**08 15 58.3**	**-0.9**
SEW				IAmb	IAmb	08 16 09.4	
	comp=Z,14nm,1.4s						
RC01	**Rabbit Creek A**	**16.69**	**45**		**Pn**	**08 16 02.6**	**+0.1**
RC01				IAmb	IAmb	08 16 19.6	
	comp=Z,8.1nm,0.9s						
PETK	**Petropavlovsk-**	**17.23**	**287**	P	**P**	**08 16 10.3**	**0.0**
	comp=Z,0.1nm,0.3s,baz=92,slow=13,SNR=1.1						
BPAW	**Bear Paw Mtn.**	**17.71**	**35**	P	**P**	**08 16 16.9**	**+1.3**
BPAW				IAmb	IAmb	08 16 41.4	
	comp=Z,10nm,1.4s						
GLI	**Glacier Island**	**17.80**	**47**	P	**Pn**	**08 16 15.9**	**-0.3**
RND	**Reindeer**	**18.14**	**38**	P	**P**	**08 16 19.4**	**-0.9**
MLY	**Manley**	**18.35**	**33**	P	**Pn**	**08 16 24.4**	**+1.5**
CCB	**Clear Creek Bu**	**19.17**	**36**	P	**P**	**08 16 30.8**	**-0.7**
N25K	**Chitina, Valde**	**19.18**	**46**	P	**Pn**	**08 16 32.4**	**-0.6**
IL31		**19.57**	**36**	P	**P**	**08 16 35.9**	**0.0**
IL31				IAmb	IAmb	08 16 38.9	
	comp=Z,3.0nm,0.5s						
ILAR	**Eielson Array**	**19.57**	**36**	P	**P**	**08 16 35.6**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=234,slow=8.9,SNR=38						
ILAR	**Eielson Array**	**19.57**	**36**	P	**Pn**	**08 16 36.6**	**-0.9**
H24K	**Noodor Dome**	**19.80**	**33**	P	**P**	**08 16 38.5**	**+0.1**
H24K				IAmb	IAmb	08 16 56.0	
	comp=Z,10nm,1.5s						
RIDG	**Independent Ri**	**19.88**	**40**	P	**P**	**08 16 38.6**	**-0.8**
RIDG				IAmb	IAmb	08 16 46.1	
	comp=Z,4.1nm,0.9s						
DOT	**Dot Lake**	**20.16**	**41**	P	**P**	**08 16 42.9**	**+0.5**
SCRK	**Sand Creek**	**20.32**	**40**	P	**P**	**08 16 43.8**	**-0.5**
SCRK				IAmb	IAmb	08 16 44.2	
	comp=Z,8.7nm,1.3s						
EGAK	**Eagle**	**21.77**	**39**	P	**P**	**08 16 60.0**	**+0.3**
BMAR	**Burnt Mountain**	**21.78**	**31**	P	**P**	**08 17 00.8**	**+1.1**
PDAR	**Pinedale Array**	**43.61**	**75**	P	P	08 20 06.7	-5.4
	comp=Z,0.1nm,0.5s,baz=305,slow=3.2,SNR=1.3						
ARCES	**ARCESS Array B**	**58.60**	**352**	P	**P**	**08 22 03.1**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=24,slow=9.4,SNR=4.8						
ARCES	**ARCESS Array B**	**58.60**	**352**	IAmb	IAmb	08 22 03.7	
	comp=Z,7.0nm,1.4s						
MKAR	**Makanchi Array**	**62.26**	**311**	P	**P**	**08 22 29.3**	**0.0**
	comp=Z,0.2nm,0.3s,baz=55,slow=5.2,SNR=4.3						

*TUL **05** 08:21:07.2±0.4, 36°.87N±0°.02×98°.83W±0°.04, h5^{km}±2^{km}, ML2.6, mb_Lg2.5/24(NEIC), Error ellipse: s-maj=5.7km s-min=3.0km az=122.0*

NEIC 05 08:21:07.1±0.4**, 36°.88N**±0°.02×**98°.83W**±0°.03**, h5**^{km}±2^{km}**, Error ellipse: s-maj=5.2km s-min=3.0km az=129.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.51**	**99**		Pg	08 21 17.0	+0.1
U32A	**Winter Ranch,**	**0.52**	**195**		Pg	08 21 17.1	0.0
KAN10	**Anthony SW Sta**	**0.64**	**68**		Pg	08 21 19.5	+0.1
KAN14	**Manchester OK**	**0.70**	**84**		Pg	08 21 20.6	0.0
KAN08	**Anthony NE Sta**	**0.77**	**63**	Pg	Pg	08 21 21.9	0.0
CROK	**Carrier**	**0.78**	**119**		Pg	08 21 21.9	-0.2
CROK				Sg	Sg	08 21 32.3	+0.1
GC02	**Grant County #**	**0.78**	**92**		Pg	08 21 22.0	-0.1
KAN12	**Harper NE Stat**	**0.79**	**58**	Pg	Pg	08 21 22.2	0.0
KAN05	**Bluff City Nor**	**0.80**	**73**		Pg	08 21 22.6	0.0
KAN17	**Caldwell West**	**0.87**	**79**		Pg	08 21 23.7	-0.2
KS20	**Mayfield South**	**1.08**	**71**	Pg	Pg	08 21 27.5	-0.3
KAN13	**South Haven SW**	**1.09**	**83**		Pg	08 21 27.6	-0.5
BLOK	**Blackwell**	**1.30**	**95**		Pn	08 21 31.3	-0.7
R32A	**Long Quarter,**	**1.54**	**4**		Pb	08 21 35.9	-0.3
OK029	**Liberty Lake**	**1.55**	**134**		Pn	08 21 35.4	-0.1
CBKS	**Cedar Bluff**	**2.06**	**340**	IAmb_Lg		08 22 18.1	
	comp=Z,17nm,0.8s						
KSU1	**Kansas State U**	**2.83**	**38**	IAmb_Lg		08 22 42.2	
	comp=Z,16nm,0.8s						
AMTX	**Amarillo**	**3.05**	**230**	IAmb_Lg		08 22 51.7	
	comp=Z,10nm,1.0s						
X37A	**Clayton**	**3.63**	**128**	IAmb_Lg		08 23 06.0	
	comp=Z,19nm,1.2s						
KSCO	**Kaye Shedlock'**	**3.67**	**306**	IAmb_Lg		08 23 12.8	
	comp=Z,8.5nm,0.8s						
T25A	**Trinidad**	**4.47**	**275**	IAmb_Lg		08 23 32.8	
	comp=Z,14nm,0.9s						
OGNE	**Ogallala**	**4.76**	**329**	IAmb_Lg		08 23 47.5	
	comp=Z,14nm,0.8s						
X40A	**Basin Creek Fa**	**5.44**	**114**	IAmb_Lg		08 24 03.4	
	comp=Z,7.9nm,0.9s						
CCM	**Cathedral Cave**	**6.15**	**77**	IAmb_Lg		08 24 36.2	
	comp=Z,5.0nm,0.7s						
JCT	**Junction City**	**6.44**	**187**	IAmb_Lg		08 24 41.0	
	comp=Z,5.2nm,0.7s						
PBMO	**Poplar Bluff**	**6.74**	**88**	IAmb_Lg		08 24 51.1	
	comp=Z,4.4nm,0.8s						
K38A	**Parkersburg**	**7.41**	**37**	IAmb_Lg		08 25 21.4	
	comp=Z,5.9nm,0.7s						

MEX 05 08:24:21.7±0.9**, 16°.89N×100°.79W, h10^{km}, MD4.0, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.96**	**318**	*e*P	Pg	08 24 36.8	-3.4
ZIIG				*e*S	Sg	08 24 50.0	-2.7
DAIG	**Los Arroyos**	**1.10**	**83**	*e*P	Pb	08 24 39.0	-3.8
DAIG				*e*S	Sg	08 24 53.7	-3.4
MEIG	**Mezcala**	**1.52**	**47**	*e*P	Pn	08 24 45.2	-3.9
MEIG				*e*S	Sn	08 25 03.5	-5.4
PLIG	**Platanillo**	**1.93**	**39**	*e*P	Pn	08 24 51.1	-3.7
PLIG				*e*S	Sn	08 25 14.5	-4.7
MGIG	**Malinaltepec**	**2.09**	**80**	*e*P	Pn	08 24 55.8	-1.2
MGIG				*e*S	Sn	08 25 23.1	0.0
TLIG	**Tlapa**	**2.23**	**72**	*e*P	Pn	08 24 58.6	-0.2
TLIG				*e*S	Sn	08 25 25.9	-0.6
HLIG	**Huajuapan de L**	**3.00**	**71**	*e*P	Pn	08 25 04.8	-4.8
HLIG				*e*S	Sn	08 25 48.7	+2.9

*IDC **05** 08:24:30.0±0.6, 51°.47N×174°.31W, h0^{km}, mb4.3/29, mb1 4.4/31, mb1mx4.3/58, mbtmp4.3/31, ML3.8/2, MS4.0/32, Ms1 4.0/32, ms1mx3.9/59, Error ellipse: s-maj=19.6km s-min=11.4km az=172.0*

*AEIC **05** 08:24:33±2.0, 51°.31N±0°.06×174°.31W±0°.06, h26^{km}±4^{km}, ML4.3, mb4.6/75(NEIC), Error ellipse: s-maj=9.6km s-min=3.0km az=150.0*

*MOS **05** 08:24:33.6±1.0, 51°.46N×174°.36W, h34^{km}, mb5.1/25, Error ellipse: s-maj=9.8km s-min=6.9km az=109.5*

*GCMT **05** 08:24:35.0±0.4, 51°.20N±0°.03×174°.28W±0°.05, h32^{km}±1^{km}, MW5.0/69, Moment Tensor Solution. s26,c27; s69,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.64±.36; $M_{\theta\theta}$-3.02±.20; $M_{\phi\phi}$-1.62±.20; $M_{r\theta}$2.20±.16; $M_{\theta\phi}$-0.56±.07; $M_{\phi r}$0.56±.20; Best double couple: $M_0$4.53600×10^{16} NP1:ϕ_s250.00000°, δ30.00000°, λ88.00000°. NP2: ϕ_s73.00000°, δ60.00000°, λ91.00000°. Principal axes: T 5.2510, Plg75.0000°, Azm347.0000°; N -1.4290, Plg1.0000°, Azm252.0000°; P -3.8220, Plg15.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **05** 08:24:35.7±1.8, 51°.40N±0°.06×174°.35W±0°.07, h36^{km}±6^{km} Error ellipse: s-maj=9.8km s-min=5.6km az=153.0*

ISC 05 08:24:35.4±0.4**, 51°.39N**±0°.06×**174°.34W**±0°.04**, h38**^{km}**, n397, σ1^s.15**/385**, mb4.7**/102**, MS4.1**/37**, 21C-5D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.81**	**6**		**Pn**	**08 24 49.7**	**-0.6**
ATKA	**Atka Island**	**0.81**	**6**		**Sn**	**08 25 03.2**	**+2.0**
KOFP	**Korovin Flat P**	**0.90**	**10**		**Pn**	**08 24 51.5**	**0.0**
KOKL	**Mount Kliuchef**	**0.94**	**5**		**Pn**	**08 24 51.9**	**-0.1**
KOSE	**Korovin Southe**	**0.97**	**11**		**Pn**	**08 24 52.9**	**+0.5**
KOWE	**Korovin West**	**0.97**	**3**		**Pn**	**08 24 52.7**	**+0.1**
GSIG	**Igitkin Island**	**1.15**	**302**		**Pn**	**08 24 54.3**	**-0.7**
GSIG					**Sn**	**08 25 10.4**	**+1.0**
GSMY	**Great Sitkin M**	**1.25**	**302**		**Pn**	**08 24 56.0**	**-0.2**
GSTR	**Great Sitkin T**	**1.28**	**304**		**Pn**	**08 24 56.3**	**-0.4**
GSTD	**Great Sitkin T**	**1.30**	**301**		**Pn**	**08 24 56.6**	**-0.5**
GSSP	**Great Sitkin S**	**1.34**	**302**		**Pn**	**08 24 57.7**	**+0.2**
ETKA	**Kagalaska Isla**	**1.37**	**291**		**Pn**	**08 24 57.5**	**-0.4**
ADK	**Adak**	**1.54**	**289**	P	**Pn**	**08 24 59.8**	**-0.4**
ADK	**Adak**	**1.54**	**289**		**Pn**	**08 24 59.8**	**-0.4**
ADK	**Adak**	**1.54**	**289**		**Sn**	**08 25 20.9**	**+2.0**
KIWB	**Kanaga Island**	**1.81**	**286**		**Pn**	**08 25 03.8**	**-0.2**
KIKV	**Kanaga Island**	**1.83**	**287**		**Pn**	**08 25 04.2**	**0.0**
KIMD	**Kanaga Island**	**1.84**	**283**		**Pn**	**08 25 04.1**	**-0.3**
KICM	**Kanaga Island**	**1.85**	**288**		**Pn**	**08 25 04.9**	**+0.4**
TAFP	**Tanaga Falls P**	**2.32**	**284**		**Pn**	**08 25 11.8**	**+0.8**
TASE	**Tanaga Southea**	**2.34**	**282**		**Pn**	**08 25 12.0**	**+0.7**
GAEA	**Gareloi East**	**2.77**	**280**		**Pn**	**08 25 18.1**	**+0.9**
GALAA	**Gareloi Lava P**	**2.79**	**279**		**Pn**	**08 25 18.2**	**+0.8**
NIKH	**Nikolski High**	**3.73**	**63**	Pn	**Pn**	**08 25 30.0**	**-0.3**
NIKH	**Nikolski High**	**3.73**	**63**	P	**Pn**	**08 25 30.2**	**-0.1**
	baz=246,SNR=15						
AMKA	**Amchitka**	**3.98**	**272**		**Pn**	**08 25 33.2**	**-0.6**
LSPA	**Little Sitkin**	**4.45**	**280**		**Pn**	**08 25 41.1**	**+0.9**
LSNW	**Little Sitkin**	**4.48**	**280**		**Pn**	**08 25 41.3**	**+0.6**
LSSA	**Little Sitkin**	**4.48**	**280**		**Pn**	**08 25 41.3**	**+0.6**
MAPS	**Pakushin South**	**5.12**	**59**		**Pn**	**08 25 49.4**	**0.0**
MSW	**Makushin Switc**	**5.25**	**58**		**Pn**	**08 25 51.6**	**+0.4**
MNAT	**Makushin Natee**	**5.29**	**59**		**Pn**	**08 25 51.9**	**+0.2**
UNV	**Unalaska Valle**	**5.37**	**60**	Pn	**Pn**	**08 25 52.7**	**-0.1**
UNV	**Unalaska Valle**	**5.37**	**60**	P	**Pn**	**08 25 54.7**	**+1.9**
	baz=245,SNR=12						
AKRB	**Akutan Reef Bi**	**5.72**	**58**		**Pn**	**08 25 58.4**	**+0.7**
AKMO	**Akutan Morgan**	**5.74**	**59**		**Pn**	**08 25 58.5**	**+0.7**
AKLV	**Akutan Long Va**	**5.80**	**58**		**Pn**	**08 25 59.6**	**+0.9**
AKUT	**Akutan**	**5.88**	**59**	Pn	**Pn**	**08 25 57.7**	**-2.2**
SPIA	**Saint Paul Isl**	**6.27**	**21**	P	**Pn**	**08 26 08.4**	**+3.3**
	baz=204						
WECS	**Westdahl Cape**	**6.58**	**58**		**Pn**	**08 26 10.9**	**+1.4**
ISLZ	**Isanotski Laza**	**7.22**	**58**		**Pn**	**08 26 20.2**	**+1.9**
SMY	**Shemya**	**7.25**	**285**	P	**Pn**	**08 26 17.5**	**-1.1**
SMY	**Shemya**	**7.25**	**285**		**Pn**	**08 26 17.5**	**-1.1**
FALS	**False Pass**	**7.43**	**58**	Pn	**Pn**	**08 26 19.5**	**-1.5**
FALS	**False Pass**	**7.43**	**58**	P	**Pn**	**08 26 24.0**	**+2.9**
	baz=246,SNR=6.3						
SDPT	**Sand Point**	**9.18**	**59**		**Pn**	**08 26 45.7**	**+0.6**
SDPT	**Sand Point**	**9.18**	**59**	P	**Pn**	**08 26 46.2**	**+1.1**
	baz=250						
CNBA	**Chernabura Isl**	**9.51**	**63**	Pn	**Pn**	**08 26 50.4**	**+0.8**
CHNA	**Chernabura Isl**	**9.52**	**63**	P	**Pn**	**08 26 50.4**	**+0.8**
	baz=254						
CHGN	**Chignik**	**10.61**	**56**	Pn	**Pn**	**08 27 05.1**	**+0.5**
GAMB	**Gambell**	**12.49**	**5**	P	**Pn**	**08 27 33.8**	**+3.5**
	baz=188						
OHAK	**Old Harbor**	**13.58**	**56**	P	**Pn**	**08 27 42.1**	**-3.0**
	baz=253						
O18K	**Koktuh Hills**	**13.69**	**44**	Pn	**Pn**	**08 27 47.4**	**+0.7**
N18K	**Kilae Creek**	**13.84**	**41**	Pn	**Pn**	**08 27 50.0**	**+1.2**
Q19K	**Cape Douglas,**	**13.99**	**49**	Pn	**Pn**	**08 27 49.6**	**-1.2**
KDAK	**Kodiak Island**	**14.11**	**55**	Pn	**Pn**	**08 27 49.4**	**-2.9**
	0.4nm,0.3s,baz=204,slow=0.9,SNR=34						
KDAK				Sn	**Sn**	**08 30 23.4**	**-3.9**
	baz=198,slow=13,SNR=1.4						
KDAK				LR	LR	08 33 29.2	
	comp=Z,1µm,21.6s,baz=263,slow=38						
KDAK	**Kodiak Island**	**14.11**	**55**	P	**Pn**	**08 27 51.7**	**-0.6**
KDAK	**Kodiak Island**	**14.11**	**55**	Pn	**Pn**	**08 27 51.7**	**-0.6**
KDAK	**Kodiak Island**	**14.11**	**55**	P	**P**	**08 27 59.5**	**+0.1**
	baz=252						
SVW2	**Sparrevohn**	**14.20**	**40**		**Pn**	**08 27 54.7**	**+1.1**
O19K	**Port Alsworth**	**14.25**	**44**	P	**P**	**08 28 00.5**	**-0.4**
	baz=240						
N19K	**Bonanza Creek**	**14.49**	**42**	Pn	**Pn**	**08 27 58.8**	**+1.1**
N19K	**Bonanza Creek**	**14.49**	**42**	P	**Pn**	**08 27 59.2**	**+1.5**
	baz=238,SNR=6.2						
O20K	**Slope Mountain**	**14.95**	**46**	P	**P**	**08 28 06.1**	**-2.7**
	baz=244						
L19K	**White Mountain**	**15.12**	**37**	P	**P**	**08 28 08.2**	**-2.4**
	baz=233,SNR=16						
M19K	**Big River Lodg**	**15.13**	**38**	P	**P**	**08 28 11.1**	**+0.3**
	baz=235						
M20K	**Styx River**	**15.61**	**40**	Pn	**Pn**	**08 28 12.3**	**-0.1**
M20K	**Styx River**	**15.61**	**40**	P	**P**	**08 28 16.3**	**+0.1**
	baz=237,SNR=11						
L20K	**Farewell, AK**	**15.66**	**37**	P	**P**	**08 28 17.3**	**+0.6**
	baz=234,SNR=9.5						
BRSE	**Bradley Lake S**	**15.67**	**49**	P	**Pn**	**08 28 14.3**	**+1.2**
	baz=248						
K20K	**Telida**	**16.12**	**34**		**P**	**08 28 20.8**	**-0.9**
K20K	**Telida**	**16.12**	**34**	P	**P**	**08 28 21.1**	**-0.7**
	baz=231,SNR=19						
SKT	**Skwentna**	**16.31**	**41**		**P**	**08 28 22.9**	**-1.0**
SKT	**Skwentna**	**16.31**	**41**	P	**P**	**08 28 23.3**	**-0.5**
	baz=240						
SUA	**Susitna One**	**16.39**	**43**	P	**Pn**	**08 28 22.0**	**-0.4**
	baz=242						
SEW	**Seward**	**16.41**	**48**	P	**Pn**	**08 28 20.7**	**-1.8**
	baz=249						
O22K	**Cooper Landing**	**16.43**	**47**	P	**Pn**	**08 28 23.5**	**+0.8**
O22K				IAmb	IAmb	08 28 35.4	
	comp=Z,71nm,0.7s						
O22K	**Cooper Landing**	**16.43**	**47**	P	**P**	**08 28 23.9**	**-1.2**
	baz=247						
PPLA	**Purkeypile**	**16.54**	**37**	P	**P**	**08 28 27.8**	**+1.3**
PPLA				IAmb	IAmb	08 29 18.4	
	comp=Z,33nm,1.2s						
PPLA	**Purkeypile**	**16.54**	**37**	P	**P**	**08 28 27.0**	**+0.5**
	baz=236,SNR=7.5						
PET	**Petropavlovsk**	**16.60**	**286**	*e*P	**Pn**	**08 28 24.1**	**-0.8**
PET				*e*S	**Sn**	**08 31 26.4**	**-1.5**
PET				pmax	pmax		
	comp=Z,300nm,11.3s						
PET				MLR	MLR		
	comp=Z,400nm,17.0s						
PET				MLR	MLR		
	comp=Z,300nm,15.0s						
J20K	**Nowinta River**	**16.62**	**32**	P	**P**	**08 28 29.0**	**+1.7**
J20K	**Nowinta River**	**16.62**	**32**	P	**P**	**08 28 27.5**	**+0.3**
	baz=229						
RC01	**Rabbit Creek A**	**16.66**	**45**	P	**P**	**08 28 26.6**	**-1.1**
	baz=245						
CHUM	**Lake Minchumin**	**17.07**	**34**	P	**P**	**08 28 32.3**	**+0.1**
	baz=233,SNR=16						
PETK	**Petropavlovsk-**	**17.16**	**287**	P	**Pn**	**08 28 32.1**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=90,slow=14,SNR=11						
PETK				LR	LR	08 34 51.8	
	comp=Z,434nm,21.6s,baz=93,slow=36						
GHO	**Glory Hole Cre**	**17.31**	**43**	P	**Pn**	**08 28 33.1**	**-0.8**
KNK	**Knik Glacier**	**17.36**	**45**	P	**Pn**	**08 28 33.1**	**-1.3**
	baz=246						
KTH	**Kantishna Hill**	**17.38**	**37**	P	**P**	**08 28 36.1**	**+0.3**
KTH				IAmb	IAmb	08 28 59.0	
	comp=Z,86nm,1.6s						
TRF	**Thorofare Moun**	**17.57**	**37**	P	**P**	**08 28 37.9**	**+0.1**
	baz=238						
SML	**Sawmill**	**17.58**	**44**	P	**Pn**	**08 28 36.2**	**-1.0**
	baz=245						
BPAW	**Bear Paw Mtn.**	**17.67**	**35**	P	**P**	**08 28 39.0**	**+0.2**
	baz=235,SNR=12						
GLI	**Glacier Island**	**17.78**	**47**	P	**Pn**	**08 28 37.8**	**-1.8**
	baz=250						
WAT1	**Susitna Watana**	**17.94**	**40**	P	**Pn**	**08 28 40.8**	**-0.8**
	baz=242						
IMAR	**Indian Mountai**	**17.98**	**28**	P	**P**	**08 28 43.4**	**+1.2**
I21K	**Tanana**	**17.98**	**31**	P	**P**	**08 28 43.4**	**+1.2**
I21K	**Tanana**	**17.98**	**31**	P	**P**	**08 28 43.2**	**+0.9**
	baz=230,SNR=11						
RND	**Reindeer**	**18.10**	**39**	P	**Pn**	**08 28 41.9**	**-1.6**
RND				pmax	pmax		
	comp=Z,15nm,1.0s						
RND	**Reindeer**	**18.10**	**39**	P	**Pn**	**08 28 41.9**	**-1.6**
WAT6	**Susitna Watana**	**18.16**	**42**	P	**Pn**	**08 28 43.6**	**-0.8**
	baz=244						
MCK	**McKinley**	**18.23**	**38**	P	**P**	**08 28 44.4**	**-0.6**
	baz=239,SNR=9.6						
MLY	**Manley**	**18.30**	**33**	P	**Pn**	**08 28 46.4**	**+0.4**
	baz=233,SNR=17						
KLU	**Klutina**	**18.52**	**46**	P	**P**	**08 28 47.3**	**-1.0**
KLU	**Klutina**	**18.52**	**46**	P	**P**	**08 28 46.6**	**-1.7**
	baz=250						
M24K	**Tolsona, Glenn**	**18.63**	**44**	P	**P**	**08 28 49.3**	**-0.2**
M24K				IAmb	IAmb	08 29 05.5	
	comp=Z,36nm,0.9s						
M24K	**Tolsona, Glenn**	**18.63**	**44**	P	**P**	**08 28 48.7**	**-0.8**
	baz=248						
NEA2	**Nenana**	**18.64**	**35**	P	**P**	**08 28 48.3**	**-1.2**
	baz=237						
I23K	**Minto, Yukon-K**	**18.85**	**34**	P	**Pn**	**08 28 52.5**	**0.0**
I23K				IAmb	IAmb	08 28 59.0	
	comp=Z,32nm,0.8s						
I23K	**Minto, Yukon-K**	**18.85**	**34**	P	**Pn**	**08 28 52.3**	**-0.2**
	baz=235,SNR=28						
N25K	**Chitina, Valde**	**19.16**	**46**	P	**P**	**08 28 54.7**	**-0.6**
N25K				IAmb	IAmb	08 28 57.8	
	comp=Z,55nm,1.8s						
N25K	**Chitina, Valde**	**19.16**	**46**	P	**P**	**08 28 54.6**	**-0.7**
	baz=251						
BILL	**Bilibino**	**19.18**	**338**	*ce*P	**Pn**	**08 28 56.6**	**+0.1**
BILL				*e*S	**Sn**	**08 32 26.4**	**-3.8**
BILL				pmax	pmax		
	comp=Z,89nm,1.7s						
BILL				MLR	MLR		
	comp=Z,459nm,20.0s						
HARP	**HAARP**	**19.18**	**44**	P	**P**	**08 28 55.7**	**+0.2**
	baz=248						
H23K	**Yukon River**	**19.18**	**32**	P	**Pn**	**08 28 57.4**	**+0.8**
H23K	**Yukon River**	**19.18**	**32**	P	**Pn**	**08 28 58.1**	**+1.5**
	baz=233,SNR=12						
TCOL	**CIGO, UAF Yank**	**19.23**	**35**	P	**Pn**	**08 28 56.7**	**-0.4**
	baz=238						
PAX	**Paxson**	**19.27**	**42**	P	**P**	**08 28 56.9**	**+0.4**
	baz=246,SNR=9.6						
HDA	**Harding Lake**	**19.33**	**37**	P	**P**	**08 28 56.6**	**-0.4**
	baz=240,SNR=18						
IL31		**19.53**	**36**	P	**P**	**08 28 58.6**	**-0.6**
ILAR	**Eielson Array**	**19.53**	**36**	P	**P**	**08 28 56.6**	**-2.6**
	comp=Z,1.1nm,0.3s,baz=242,slow=10.0,SNR=52						
ILAR				LR	LR	08 37 02.6	
	comp=Z,411nm,19.1s,baz=251,slow=39						
H24K	**Noodor Dome**	**19.75**	**33**	P	**P**	**08 29 02.0**	**+0.3**
H24K				IAmb	IAmb	08 29 07.5	
	comp=Z,26nm,1.0s						
H24K	**Noodor Dome**	**19.75**	**33**	P	**P**	**08 29 01.8**	**+0.1**
	baz=236,SNR=29						
MCARA	**McCarthy VSAT**	**19.81**	**48**	P	**Pn**	**08 29 04.0**	**-0.1**
	baz=254						
RIDG	**Independent Ri**	**19.84**	**40**	P	**P**	**08 29 02.0**	**-0.7**
	baz=245,SNR=8.4						
COLD	**Coldfoot**	**19.87**	**28**	P	**P**	**08 29 03.3**	**+0.4**
	baz=229						
MENT	**Mentasta**	**20.00**	**43**	P	**Pn**	**08 29 05.5**	**-0.8**
J25K	**Salcha River,**	**20.02**	**38**	P	**P**	**08 29 02.9**	**-1.8**
	baz=242,SNR=59						
M26K	**Nabesna, AK**	**20.13**	**45**	P	Pn	08 29 06.9	-1.0
M26K				IAmb	IAmb	08 30 03.2	
	comp=Z,45nm,1.7s						
M26K	**Nabesna, AK**	**20.13**	**45**	P	**P**	**08 29 06.4**	**+0.6**
	baz=251,SNR=8.4						
L26K	**Log Cabin Wild**	**20.19**	**43**	P	**P**	**08 29 07.2**	**+0.7**
	baz=249						
SCRK	**Sand Creek**	**20.29**	**40**	P	**P**	**08 29 05.6**	**-2.0**
SCRK				IAmb	IAmb	08 29 08.1	
	comp=Z,23nm,0.6s						
SCRK	**Sand Creek**	**20.29**	**40**	P	**P**	**08 29 06.1**	**-1.5**
	baz=246,SNR=32						
PRP	**Porcupine Dome**	**20.40**	**35**	P	**P**	**08 29 08.3**	**-0.5**
	baz=240,SNR=11						
CTG	**Chitna Glacier**	**20.50**	**49**	P	Pn	08 29 10.9	-1.3
	baz=257						
CTGM	**Chitina Glacie**	**20.50**	**49**	P	Pn	08 29 11.3	-1.0
CTGM				IAmb	IAmb	08 29 16.2	
	comp=Z,94nm,2.0s						
J26K	**Charley River,**	**20.61**	**39**	P	**P**	**08 29 09.6**	**-1.4**
	baz=244,SNR=49						
M27K	**Edge Creek, AK**	**20.61**	**45**	P	**P**	**08 29 10.4**	**-0.7**
M27K				IAmb	IAmb	08 29 15.0	
	comp=Z,15nm,0.8s						
M27K	**Edge Creek, AK**	**20.61**	**45**	P	**P**	**08 29 12.1**	**+1.0**
	baz=252,SNR=8.6						
TOLK	**Toolik Lake Re**	**20.99**	**25**	P	**P**	**08 29 15.3**	**+0.2**
	baz=227,SNR=9.3						
K27K	**Chicken**	**21.09**	**41**	P	**P**	**08 29 15.6**	**-0.5**
K27K				IAmb	IAmb	08 29 56.9	
	comp=Z,16nm,0.9s						
K27K	**Chicken**	**21.09**	**41**	P	**P**	**08 29 16.1**	**+0.1**
	baz=248						
SEY	**Seymchan**	**21.14**	**316**	P	**P**	**08 29 17.1**	**+0.5**
	comp=Z,3.8nm,0.7s,baz=113,slow=9.0,SNR=8.2						
SEY				LR	LR	08 37 46.4	
	comp=Z,862nm,18.5s,baz=104,slow=38						
SEY	**Seymchan**	**21.14**	**316**	*i* P	**P**	**08 29 18.1**	**+1.4**

MA2 Magadan 21.18 306 LR LR 08 37 32.4
comp=Z,466nm,18.5s,baz=112,slow=37
BMAR Burnt Mountain 21.73 31 P **P** **08 29 24.5 +1.6**
EGAK Eagle 21.73 39 P **P** **08 29 22.0 -1.0**
EGAK Eagle 21.73 39 P **P** **08 29 22.7 -0.3**
baz=248,SNR=66
YUK4 Talbot Arm 21.85 49 P **P** **08 29 25.8 +1.2**
baz=259
DAWY Dawson 22.21 42 P **P** **08 29 27.3 -0.9**
DAWY IAmb IAmb 08 30 05.2
comp=Z,26nm,1.4s
DAWY Dawson 22.21 42 P **P** **08 29 28.6 +0.4**
baz=252,SNR=8.1
EPYK Eagle Plains 24.03 37 P **P** **08 29 46.2 -0.2**
EPYK IAmb IAmb 08 29 53.3
comp=Z,15nm,0.9s
EPYK Eagle Plains 24.03 37 P **P** **08 29 45.8 -0.6**
baz=250
WRAK Wrangell Islan 24.94 62 P **P** **08 29 57.9 +3.2**
baz=276
INK Inuvik 25.87 34 P **P** **08 30 02.9 0.0**
comp=Z,3.0nm,0.6s,baz=246,slow=10.0,SNR=7.9
INK LR LR 08 40 59.4
comp=Z,360nm,20.2s,baz=208,slow=38
INK Inuvik 25.87 34 P **P** **08 30 02.7 -0.3**
INK Inuvik 25.87 34 P **P** **08 30 02.5 -0.5**
baz=250
DLBC Dease Lake 26.02 57 P **P** **08 30 05.5 +1.0**
comp=Z,7.0nm,0.8s,baz=297,slow=11,SNR=12
DLBC Dease Lake 26.02 57 P **P** **08 30 04.7 +0.1**
DLBC IAmb IAmb 08 30 45.5
comp=Z,56nm,1.9s
YSS Yuzh-Sakhalins 28.09 278 *e*P **P** **08 30 22.3 -0.9**
YSS *e*S **S** **08 34 59.2 -6.1**
YSS pmax pmax
comp=Z,200nm,2.6s
YSS pmax pmax
comp=Z,20nm,1.4s
YSS MLR MLR
comp=Z,500nm,14.0s
BBB Bella Bella 28.24 70 LR LR 08 40 11.8
comp=Z,184nm,18.5s,baz=292,slow=33
JKA Kamikawa-asahi 29.50 273 P **P** **08 30 37.5 +1.9**
JKA Kamikawa-asahi 29.50 273 IAmb IAmb 08 31 11.2
comp=Z,18nm,1.1s
ASAJ Asahikawa 29.50 273 P **P** **08 30 37.5 +1.9**
comp=Z,4.8nm,0.8s,baz=100,slow=11,SNR=2.7
ASAJ LR LR 08 43 16.8
comp=Z,213nm,19.3s,baz=41,slow=38
YAK Yakutsk 31.50 312 LR LR 08 43 54.6
comp=Z,470nm,19.1s,baz=90,slow=37
YAK Yakutsk 31.50 312 *i* P **P** **08 30 53.6 +0.4**
YAK pmax pmax
comp=Z,10.0nm,0.4s
TIXI Tiksi 32.01 330 LR LR 08 44 44.3
comp=Z,168nm,18.5s,baz=142,slow=38
YKA Yellowknife Ar 33.19 47 LR LR 08 46 14.4
comp=Z,663nm,18.5s,baz=0.0,slow=39
KLR Kul'dur 33.85 288 LR LR 08 44 49.8
comp=Z,258nm,20.7s,baz=69,slow=36
KLR Kul'dur 33.85 288*ce*P **P** **08 31 13.4 -0.4**
KLR pmax pmax
comp=Z,7.0nm,0.8s
H11N2 WAKE ISLAND Hy 34.88 212 T T 09 09 07.9
baz=20,slow=75
B08A Colville Reser 34.88 73 P **P** **08 31 22.2 -0.6**
B08A IAmb IAmb 08 31 42.6
comp=Z,5.5nm,0.8s
H11N3 WAKE ISLAND Hy 34.88 212 T T 09 09 05.2
baz=20,slow=75
H11N1 WAKE ISLAND Hy 34.89 212 T T 09 09 06.7
baz=20,slow=75
USA0B Ussuriysk Arra 36.05 280 *i* P **P** **08 31 32.5 -0.4**
USRK Ussuriysk Ar. 36.05 280 P **P** **08 31 32.6 -0.3**
comp=Z,7.5nm,0.6s,baz=57,slow=8.0,SNR=21
USRK LR LR 08 47 25.9
comp=Z,195nm,20.2s,baz=29,slow=38
H11S1 WAKE ISLAND Hy 36.08 212 T T 09 10 39.0
baz=18
H11S2 WAKE ISLAND Hy 36.09 212 T T 09 10 41.0
baz=18,slow=74
H11S3 WAKE ISLAND Hy 36.10 212 T T 09 10 40.4
baz=18,slow=74
YBH Yreka Blue Hor 36.10 85 LR LR 08 43 29.2
comp=Z,177nm,18.2s,baz=305,slow=32
NEW Newport 36.24 72 LR LR 08 44 04.9
comp=Z,154nm,19.4s,baz=312,slow=32
NEW Newport 36.24 72 P **P** **08 31 35.2 +0.6**
baz=297
EDM Edmonton 36.35 63 P **P** **08 31 36.4 +1.0**
EDM pmax pmax
comp=Z,23nm,0.8s
EDM Edmonton 36.35 63 P **P** **08 31 36.4 +1.0**
MJA0 Matsu Arr-Jizo 36.53 265 *e*P **P** **08 31 38.3 +1.2**
MJA0 pmax pmax
comp=Z,1.0nm,0.6s
MJAR Matsushiro Arr 36.56 265 P **P** **08 31 37.7 +0.4**
comp=Z,1.4nm,0.8s,baz=51,slow=6.9,SNR=5.5
MJAR LR LR 08 44 58.3
comp=Z,182nm,21.7s,baz=110,slow=34
MAJO Matsushiro 36.56 265 *i* P **P** **08 31 37.9 +0.6**
VLA Vladivostok 36.68 279 *i* P **P** **08 31 38.5 +0.2**
VLA pmax pmax
comp=Z,67nm,1.3s
I07A Izee 36.84 79 P **P** **08 31 39.4 -0.3**
MSHR Mys Shultsa 37.42 278*ce*P **P** **08 31 46.0 +1.4**
MSHR pmax pmax
comp=Z,22nm,1.7s
JHJ Hachijo jima 2 37.82 259 LR LR 08 44 54.2
comp=Z,126nm,21.4s,baz=87,slow=32
CN2 Changchun 40.27 284 *e*P **P** **08 32 07.9 -0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=N,400nm,19.0s
CN2 LR LR
comp=E,400nm,19.0s
CN2 LR LR
comp=Z,500nm,19.0s
MCMT McKenzie Canyo 40.50 74 P **P** **08 32 11.8 +1.2**
EGMT Eagleton 40.70 68 P **P** **08 32 12.8 +0.8**
EGMT IAmb IAmb 08 32 35.1
comp=Z,16nm,1.2s
EGMT Eagleton 40.70 68 P **P** **08 32 13.7 +1.7**
baz=300
NVAR Mina Array Bea 40.77 86 P **P** **08 32 14.2 +1.3**
comp=Z,1.2nm,0.9s,baz=291,slow=9.5,SNR=5.6
NVAR LR LR 08 46 45.1
comp=Z,119nm,18.2s,baz=284,slow=33
BOZ Bozeman (W) 40.83 73 P **P** **08 32 13.3 +0.1**
baz=302
ELK Elko 41.31 81 P **P** **08 32 18.0 +0.7**
ELK pmax pmax
comp=Z,3.0nm,0.9s
ELK Elko 41.31 81 P **P** **08 32 18.0 +0.7**
YHH Holmes Hill 41.73 73 P **P** **08 32 20.3 -0.4**
YHH IAmb IAmb 08 32 55.6
comp=Z,8.4nm,1.1s
FFC Flin Flon 41.84 56 P **P** **08 32 21.2 0.0**
FFC pmax pmax
comp=Z,9.0nm,0.9s
FFC Flin Flon 41.84 56 P **P** **08 32 21.2 0.0**
FFC IAmb IAmb 08 32 22.9
comp=Z,9.0nm,0.8s
IMW Indian Meadow 42.16 74 P **P** **08 32 25.2 +1.0**
IMW IAmb IAmb 08 33 08.8
comp=Z,12nm,1.1s
KSRS Korea Array 42.43 274 P **P** **08 32 27.8 +1.7**
comp=Z,2.6nm,0.7s,baz=54,slow=9.3,SNR=5.5
KSRS LR LR 08 48 11.9
comp=Z,90nm,21.5s,baz=44,slow=34
KSRS Korea Array 42.43 274 *e*P **P** **08 32 29.4 +3.3**
KSRS pmax pmax
comp=Z,2.0nm,0.7s
RLMT Red Lodge 42.49 72 P **P** **08 32 27.3 +0.4**
RLMT IAmb IAmb 08 32 56.4
comp=Z,7.9nm,1.0s
RLMT Red Lodge 42.49 72 P **P** **08 32 27.4 +0.6**
baz=303
PRN Pahroc Range 43.43 85 P **P** **08 32 35.0 +0.5**
PRN IAmb IAmb 08 32 56.7
comp=Z,8.8nm,0.9s
PD31 Pinedale Array 43.63 75 P **P** **08 32 35.7 -0.4**
PD31 IAmb IAmb 08 32 49.4
comp=Z,11nm,1.4s
PDAR Pinedale Array 43.63 75 P **P** **08 32 36.1 0.0**
comp=Z,3.6nm,1.0s,baz=302,slow=3.9,SNR=17
PDAR LR LR 08 51 21.4
comp=Z,133nm,18.2s,baz=330,slow=37
PDAR Pinedale Array 43.63 75 P **P** **08 32 35.7 -0.4**
GSC Goldstone, Bar 43.66 88 P **P** **08 32 36.3 0.0**
GSC pmax pmax
comp=Z,11nm,1.1s
GSC Goldstone, Bar 43.66 88 P **P** **08 32 36.3 0.0**
GSC IAmb IAmb 08 32 52.7
comp=Z,11nm,1.1s
GSC Goldstone, Bar 43.66 88 P **P** **08 32 37.4 +1.1**
baz=310
MPU Maple Canyon 43.96 79 P **P** **08 32 39.1 +0.3**
TMUT Trail Mountain 44.66 80 P **P** **08 32 45.1 +0.6**
TMUT IAmb IAmb 08 33 05.5
comp=Z,8.3nm,1.0s
RDMU Red Mountain 44.90 77 P **P** **08 32 46.4 +0.1**
RDMU IAmb IAmb 08 33 35.8
comp=Z,6.1nm,0.8s
SRU San Rafael Swe 45.19 80 P **P** **08 32 48.7 +0.1**
SRU pmax pmax
comp=Z,6.0nm,1.0s
SRU San Rafael Swe 45.19 80 P **P** **08 32 48.7 +0.1**
SRU IAmb IAmb 08 33 34.9
comp=Z,5.6nm,1.0s
NRIK Noril'sk 45.79 331 *i* P **P** **08 32 55.6 +3.0**
NRIK pmax pmax
comp=Z,6.0nm,1.2s
O20A White River Ci 45.97 77 P **P** **08 32 54.9 +0.1**
O20A IAmb IAmb 08 33 41.8
comp=Z,12nm,1.0s
O20A White River Ci 45.97 77 P **P** **08 32 54.7 -0.1**
baz=307
PV17 East Wray Mesa 46.67 80 P **P** **08 32 59.8 -0.4**
PV17 IAmb IAmb 08 33 19.2
comp=Z,5.6nm,0.7s
NEEM North Greenlan 46.74 15 *i* P **P** **08 32 59.0 -1.4**
NEEM IAmb IAmb 08 33 01.7
comp=Z,12nm,1.0s
PV13 Radium Mtn., P 46.83 80 P **P** **08 33 02.0 +0.5**
PV13 IAmb IAmb 08 33 20.6
comp=Z,6.4nm,0.7s
N23A Red Feather La 46.91 75 P **P** **08 33 01.9 -0.3**
baz=307
PV01 Paradox Valley 47.00 80 P **P** **08 33 03.6 +0.8**
PV01 IAmb IAmb 08 33 22.2
comp=Z,4.5nm,0.9s
ULM Lac du Bonnet 47.31 59 P **P** **08 33 04.2 -0.6**
comp=Z,4.2nm,0.8s,baz=301,slow=7.8,SNR=4.1
ULM LR LR 08 55 00.6
comp=Z,208nm,18.9s,baz=319,slow=39
ULM Lac du Bonnet 47.31 59 IAmb IAmb 08 33 52.8
comp=Z,16nm,1.4s
BJI Beijing 48.09 285 P **P** **08 33 11.9 +1.0**
BJI pP **pP** **08 33 18.2 -2.4**
BJI sP **sP** **08 33 23.8 -1.1**
BJI pmax pmax
comp=Z,10.0nm,0.8s
AGMN Agassiz Nation 48.42 61 P **P** **08 33 13.0 -0.5**
baz=305
ULN Ulaanbaatar 48.73 299*ce*P **P** **08 33 16.6 +0.5**
ULN pmax pmax
comp=Z,9.0nm,2.5s
SONM Songino Array 49.11 299 P **P** **08 33 19.4 +0.4**
comp=Z,2.0nm,0.8s,baz=46,slow=8.9,SNR=12
SONM LR LR 08 55 21.5
comp=Z,312nm,19.4s,baz=54,slow=38
ZAK Zakamensk 49.31 303 *e*P **P** **08 33 18.6 -1.8**
ZAK pmax pmax
comp=Z,16nm,1.4s
B35A Bob, Littlefor 49.54 60 P **P** **08 33 22.2 +0.1**
B35A IAmb IAmb 08 33 36.2
comp=Z,6.1nm,0.7s
KBS Kingsbay 49.89 358 P **P** **08 33 24.7 +0.5**
KBS pmax pmax
comp=Z,20nm,0.7s
KBS Kingsbay 49.89 358 P **P** **08 33 24.7 +0.5**
T25A Trinidad 50.18 78 P **P** **08 33 28.2 +0.9**
baz=310
HHC Hu-ho-hao-te 50.35 289 *e*P **P** **08 33 29.6 +1.2**
HHC sP sP 08 33 43.5 +0.2
HHC pmax pmax
comp=Z,12nm,1.1s
HHC pmax pmax
comp=Z,69nm,5.6s
SPITS Spitsbergen Ar 50.53 357 LR LR 08 55 20.4
comp=Z,207nm,18.8s,baz=10.0,slow=37
NJ2 Nanjing 51.60 275 *e*P **P** **08 33 37.4 -0.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
E43A Lone Tree Farm 54.38 58 P **P** **08 33 58.5 +0.4**
E43A IAmb IAmb 08 34 14.9
comp=Z,10nm,0.9s
I42A Draeger Farm, 54.93 62 P **P** **08 34 02.6 +0.5**
TX31 Lajitas Ar. Si 55.88 84 P **P** **08 34 08.9 -0.4**
TX31 IAmb IAmb 08 34 50.5
comp=Z,18nm,1.2s
TXAR Lajitas Array 55.88 84 P **P** **08 34 09.1 -0.1**
comp=Z,1.1nm,0.8s,baz=300,slow=4.2,SNR=9.5
TXAR Lajitas Array 55.88 84 P **P** **08 34 09.3 0.0**
TXAR Lajitas Array 55.88 84 P **P** **08 34 09.2 0.0**
ZALV Zalesovo Beam 56.01 316 LR LR 08 59 46.8
comp=Z,239nm,18.8s,baz=60,slow=38
XAN Xi'an 56.38 284 P **P** **08 34 12.7 0.0**
XAN pP pP 08 34 23.1 +0.6
XAN sP pwP 08 34 28.5 0.0
XAN pmax pmax
comp=Z,16nm,1.5s
XAN Xi'an 56.38 284 P **P** **08 34 13.3 +0.6**
XAN Xi'an 56.38 284 P **P** **08 34 13.3 +0.6**
HDIL Hopedale 56.91 65 P **P** **08 34 16.0 -0.2**
baz=312
DGZ Jazzator, Alta 57.69 311 *i* P **P** **08 34 21.5 -0.3**
DGZ pmax pmax
comp=Z,5.0nm,1.6s
LZH Lanzhou 58.04 289 ⇓P **P** **08 34 25.7 +1.2**
LZH pP sP 08 34 39.2 +0.7
LZH sP pwP 08 34 43.9 +3.5
LZH pmax pmax
comp=Z,23nm,1.0s
GTA Gaotai 58.13 295 *e*P **P** **08 34 25.0 -0.1**
GTA pP pP 08 34 35.5 +0.6
GTA sP pwP 08 34 40.8 -0.2
GTA pmax pmax
comp=Z,9.0nm,1.1s
KEV Kevo 58.16 351 P **P** **08 34 24.2 -0.4**
KEV pmax pmax
comp=Z,72nm,1.7s
KEV Kevo 58.16 351 P **P** **08 34 24.2 -0.4**
SCHQ Schefferville 58.22 40 P **P** **08 34 23.0 -2.3**
comp=Z,4.9nm,0.8s,baz=312,slow=9.5,SNR=3.9
SCHQ LR LR 09 01 44.2
comp=Z,281nm,19.2s,baz=11,slow=38
SFIN Lafayette 58.27 64 P **P** **08 34 25.6 -0.2**
baz=313
MIAR Mount Ida 58.47 73 P **P** **08 34 28.1 +0.8**
MIAR pmax pmax
comp=Z,7.0nm,1.0s
MIAR Mount Ida 58.47 73 P **P** **08 34 28.1 +0.8**
MIAR IAmb IAmb 08 34 59.1
comp=Z,7.4nm,1.0s
MIAR Mount Ida 58.47 73 P **P** **08 34 27.0 -0.3**
baz=314
ARCES ARCESS Array B 58.51 352 P **P** **08 34 25.8 -1.3**
comp=Z,1.5nm,0.5s,baz=32,slow=8.0,SNR=13
ARCES PcP **PcP** **08 35 16.8 -0.4**
comp=Z,4.8nm,0.6s,baz=23,slow=4.9,SNR=8.8
ARCES LR LR 09 02 23.1
comp=Z,143nm,18.1s,baz=330,slow=39
ARCES ARCESS Array B 58.51 352 *e*P **P** **08 34 26.8 -0.3**
ARCES pmax pmax
comp=Z,1.0nm,0.5s
P49A Miami Univ. Ec 60.18 63 P **P** **08 34 38.0 -1.1**
baz=314
WCI Wyandotte Cave 60.19 65 P **P** **08 34 38.6 -0.6**
baz=314
PLVO Plevna 60.43 54 P **P** **08 34 41.1 +0.4**
DELO Deloro Mine 60.52 55 P **P** **08 34 42.4 +1.1**
OXF Oxford 60.97 70 P **P** **08 34 43.1 -1.4**
baz=314
KURK Kurchatov 60.99 316 P **P** **08 34 45.0 +0.6**
KURK 08 35 29.2
KURK Kurchatov 60.99 316 P **P** **08 34 45.0 +0.6**
KURBB Kurchatov Arra 61.10 316 P **P** **08 34 45.0 -0.2**
comp=Z,2.0nm,0.5s,baz=45,slow=6.6,SNR=9.7
KURBB PcP **PcP** **08 35 29.1 +1.3**
comp=Z,2.7nm,0.7s,baz=44,slow=6.7,SNR=5.9
WMQ Urumqi 61.64 305 *e*P **P** **08 34 52.1 +3.0**
WMQ pmax pmax
comp=Z,29nm,0.7s
WMQ pmax pmax
comp=Z,220nm,4.3s
WMQ LR LR
comp=E,570nm,18.3s
WMQ LR LR
comp=Z,310nm,19.7s
LONY Lake Ozonia 61.98 53 P **P** **08 34 50.9 -0.4**
baz=316
J57A Williamstown 62.13 55 P **P** **08 34 53.0 +0.7**
MK31 Makanchi Array 62.17 311 P **P** **08 34 52.2 -0.3**
MK31 pmax pmax
comp=Z,2.0nm,0.9s
MK31 Makanchi Array 62.17 311 P **P** **08 34 52.2 -0.3**
MKAR Makanchi Array 62.17 311 P **P** **08 34 51.9 -0.5**
comp=Z,1.1nm,0.2s,baz=40,slow=6.6,SNR=45
MKAR LR LR 09 02 19.8
comp=Z,162nm,20.5s,baz=38,slow=36
MKAR Makanchi Array 62.17 311 P **P** **08 34 52.0 -0.5**
MKAR Makanchi Array 62.17 311 P **P** **08 34 52.0 -0.5**
K57A Scipio Center 62.35 55 P **P** **08 34 54.5 +0.8**
MOQ Mont Orford 62.63 51 P **P** **08 34 55.9 +0.2**
BVAR Borovoye Array 62.64 322 P **P** **08 34 55.7 +0.2**
comp=Z,3.8nm,0.6s,baz=158,slow=1.6,SNR=17
BVAR PcP **PcP** **08 35 34.8 +0.7**
comp=Z,5.0nm,0.6s,baz=198,slow=4.2,SNR=9.3
J59A Piesco 62.85 54 P **P** **08 34 57.5 +0.4**
D62A Allapoint, All 62.87 48 P **P** **08 34 57.0 0.0**
baz=317
BINY Binghamton 63.00 56 P **P** **08 34 58.6 +0.5**
baz=316
SSPA Standing Stone 63.13 58 P **P** **08 34 58.9 0.0**
baz=316
F62A Pittston Farm, 63.31 49 P **P** **08 34 59.8 -0.2**
baz=317
ACCN Adirondack Com 63.33 53 P **P** **08 35 00.5 +0.3**
L59A Walton 63.50 55 P **P** **08 35 02.9 +1.5**
G62A West of Eustis 63.53 50 P **P** **08 35 01.6 0.0**
baz=317,SNR=5.7
E63A Oxbow 63.65 48 P **P** **08 34 59.6 -2.7**
baz=318
F63A Nahmakanta, Br 63.86 49 P **P** **08 35 03.2 -0.5**
baz=318
J61A Chester 63.91 53 P **P** **08 35 04.4 +0.3**
baz=317
ARU Arti 64.02 330 P **P** **08 35 03.3 -1.2**
comp=Z,1.9nm,0.2s,baz=274,slow=15,SNR=1.1
ARU LR LR 09 06 22.8
comp=Z,244nm,20.3s,baz=55,slow=39
K61A Williamstown 64.05 54 P **P** **08 35 04.9 -0.1**
baz=317
F64A Sherman 64.09 48 P **P** **08 35 04.6 -0.6**
baz=318
I63A Otisfield 64.37 51 P **P** **08 35 07.2 +0.2**
baz=318
J62A Henniker 64.37 52 P **P** **08 35 06.3 -0.8**
baz=317
K62A Royalston 64.57 53 P **P** **08 35 08.8 +0.4**
baz=317
G65A Princeton 64.96 48 P **P** **08 35 10.7 -0.1**
baz=318
EMMW East Machias 65.38 49 P **P** **08 35 13.7 +0.2**
FINES FINESS Array B 66.33 349 P **P** **08 35 18.4 -1.0**
comp=Z,2.6nm,0.8s,baz=48,slow=2.8,SNR=7.5
FINES PcP **PcP** **08 35 49.0 0.0**
comp=Z,2.7nm,0.6s,baz=45,slow=4.7,SNR=8.3
FINES LR LR 09 08 36.0
comp=Z,128nm,18.4s,baz=32,slow=40
KMI Kunming 66.48 281 ⇑P **P** **08 35 21.3 +0.1**
KMI pP sP 08 35 36.0 +0.9
KMI pmax pmax
comp=Z,14nm,0.5s
TAOE Nuku Hiva Isla 66.86 143 *e*LR LR 08 55 44.8
comp=Z,98nm,22.7s
NB2 NORSAR Subarra 67.83 357 P **P** **08 35 28.4 -0.6**
comp=Z,4.3nm,0.9s,baz=2.9,slow=6.2
NOA NORSAR Array B 67.83 357 P **P** **08 35 28.7 -0.3**
comp=Z,3.0nm,0.9s,baz=2.7,slow=6.3,SNR=8.3
NOA LR LR 09 05 38.4
comp=Z,51nm,19.2s,baz=350,slow=36
BOOM Boomskoye usch 68.40 312 P **P** **08 35 34.3 +1.2**
BOOM pmax pmax
comp=Z,12nm,1.0s
BOOM Boomskoye usch 68.40 312 P **P** **08 35 34.3 +1.2**
BOOM IAmb IAmb 08 36 06.5
comp=Z,12nm,1.0s
AAK Ala-Archa 68.95 312 P **P** **08 35 37.1 +0.6**
comp=Z,3.9nm,0.7s,baz=118,slow=2.0,SNR=7.9
AAK Ala-Archa 68.95 312*ce*P **P** **08 35 37.7 +1.2**
AAK pmax pmax
comp=Z,13nm,0.7s
AKTO Aktyubinsk 69.24 327 P **P** **08 35 38.3 +0.4**
comp=Z,4.4nm,0.7s,baz=1.0,slow=6.4,SNR=14
ABKAR Akbulak array 69.56 325 P **P** **08 35 40.2 +0.3**
LSA Lhasa 70.04 293 P **P** **08 35 44.5 +0.7**
LSA pmax pmax
comp=Z,16nm,0.8s
LSA Lhasa 70.04 293 P **P** **08 35 44.5 +0.7**
KKAR Karatay Array 70.39 315 P **P** **08 35 45.7 +0.6**
KKAR Karatay Array 70.39 315 P **P** **08 35 45.7 +0.6**
KSH Kashi 70.69 309 P **P** **08 35 51.3 +4.1**
KSH sP pwP 08 36 04.2 +0.8
KSH pmax pmax
comp=Z,14nm,1.0s
PPT2 Papeete2 72.03 155 *e*LR LR 08 58 04.5
comp=Z,173nm,21.2s
MNK Minsk 72.85 347 *i* P **P** **08 35 57.7 -2.0**
MNK *i* 08 36 14.6
MNK *i* 08 38 39.5
MNK *i* PPP PPP 08 40 24.1
MNK *i* S **S** **08 45 19.6 -3.1**
MNK *i* 08 46 02.3
MNK *i* SS **SS** **08 50 02.4 +0.5**
MNK pmax pmax
comp=N,17nm,0.8s
MNK pmax pmax
comp=Z,15nm,0.8s
MNK pmax pmax
comp=E,4.0nm,1.1s
MNK MLR MLR
comp=N,194nm,23.0s
MNK MLR MLR
comp=Z,388nm,21.0s
MNK Minsk 72.85 347 *i* P **P** **08 35 57.7 -2.0**
comp=E,4.0nm,1.1s
MNK *i* P **P** **08 35 57.7 -2.0**
comp=N,17nm,0.8s
MNK *i* P **P** **08 35 57.7 -2.0**
comp=Z,15nm,0.8s,baz=15
MNK *i* PcP **sP** **08 36 14.7 -0.4**
MNK *i* PP **PP** **08 38 39.5 -1.8**
MNK *i* PPP PPP 08 40 24.1
MNK *i* S **S** **08 45 19.6 -3.1**
MNK *i* SS **SS** **08 50 02.4 +0.5**
MNK *i* SSS SSS 08 53 23.3
MNK *i* LQ LQ 09 03 03.6
MNK *i* LR LR 09 08 35.9
MNK *i* LRM MLR 09 10 17.5
comp=N,194nm,23.1s
MNK *i* LRM MLR 09 10 29.8
comp=E,23nm,17.4s
MNK *i* LRM MLR 09 10 54.4
comp=Z,388nm,21.0s
CMAR Chiang Mai Arr 73.78 279 P **P** **08 36 05.5 -0.2**
comp=Z,1.2nm,0.3s,baz=18,slow=6.6,SNR=2.1
CMAR LR LR 09 08 48.1
comp=Z,61nm,21.8s,baz=30,slow=36
TAPN Taplejung 73.79 293 *e*P **P** **08 36 07.1 +1.0**
CM04 Chiang Mai Arr 73.80 279 P P 08 36 21.4 +16
CM05 Chiang Mai Arr 73.82 279 P P 08 36 13.6 +7.6
comp=Z,5.3nm,1.1s
PHIT Phitsanulok 73.82 277 P P 08 36 23.7 +18
ODAN Odare 74.35 293 *e*P **P** **08 36 10.1 +0.8**
GUN Gumba 74.41 295 *e*P **P** **08 36 10.7 +0.9**
comp=Z,61nm,0.7s
JIRN Jiri 74.42 295 *e*P **P** **08 36 11.0 +1.1**
comp=Z,41nm,0.5s
CHGR Chuyangaron 74.57 313 P **P** **08 36 11.1 +0.9**
RAMN Ramite 74.73 294 *e*P **P** **08 36 12.2 +0.7**
comp=Z,23nm,0.5s
KKN Kakani 74.84 295 *e*P **P** **08 36 12.8 +0.7**
PKI Pulchoki 74.94 295 *e*P **P** **08 36 13.3 +0.5**
PKIN Phulchoki 74.94 295 *e*P **P** **08 36 13.2 +0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GKN	Gorkha	75.04	296	eP	P	08 36 14.2	+1.0
DMN	Daman	75.08	295	eP	P	08 36 14.4	+0.9
DANN	Dangsing	75.27	297	eP	P	08 36 15.6	+1.0
	comp=Z,88nm,0.9s						
KOLN	Koldanda	75.80	297	eP	P	08 36 18.2	+0.6
	comp=Z,40nm,1.0s						
PYUN	Piuthan	75.89	297	eP	P	08 36 19.2	+1.1
AKASG	Malin Array Be	76.33	345	P	P	08 36 19.1	-0.8
	comp=Z,2.7nm,0.6s,baz=12,slow=5.8,SNR=4.1						
AKASG				LR	LR	09 14 26.3	
	comp=Z,92nm,19.1s,baz=20,slow=39						
AKASG	Malin Array Be	76.33	345	ceP	P	08 36 19.5	-0.4
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKASG	Malin Array Be	76.33	345	IAmb	IAmb	08 36 21.6	
	comp=Z,2.1nm,1.3s						
AKBB	Malin Array Si	76.33	345	ceP	P	08 36 19.8	-0.1
NIL	Nilore	76.66	308	P	P	08 36 22.5	+0.3
NIL				pmax	pmax		
	comp=Z,17nm,0.7s						
NIL	Nilore	76.66	308	P	P	08 36 22.5	+0.3
CLL	Collm	77.48	355	i P	P	08 36 26.2	-0.2
	comp=Z,8.0nm,0.8s						
CLL				e		08 36 58.0	
CLL				ePP	PP	08 39 24.0	+3.5
CLL	Collm	77.48	355	i P	P	08 36 26.2	-0.2
CLL				pmax	pmax		
	comp=Z,8.0nm,0.8s						
TBI	Tubuai	77.57	157	eLR	LR	09 00 39.7	
	comp=Z,138nm,26.0s						
BRG	Berggiesshubel	77.87	355	eP	P	08 36 28.9	+0.3
BRG				Amp		08 36 30.6	
	comp=Z,5.2nm,0.8s						
OSTC	Ostas	78.03	353	eP	P	08 36 30.2	+0.7
DPC	Dobruska-Polom	78.23	353	eP	P	08 36 31.1	+0.4
DPC	Dobruska-Polom	78.23	353	eP	P	08 36 31.1	+0.4
NKC	Novy Kostel	78.58	356	eP	P	08 36 33.5	+0.9
NKC	Novy Kostel	78.58	356	eP	P	08 36 33.5	+0.9
BMRD	Maredsous	78.68	1	dP	P	08 36 33.6	+0.5
	comp=Z,9.2nm,0.9s						
BAIF	Baives	78.92	1	eP	P	08 36 35.4	+1.0
BAIF				pmax	pmax		
	comp=Z,56nm,2.0s						
KHC	Kasperske Hory	79.62	355	eP	P	08 36 38.9	+0.6
KHC	Kasperske Hory	79.62	355	eP	P	08 36 38.9	+0.6
GERES	GERESS Array B	79.90	355	P	P	08 36 40.1	+0.2
	comp=Z,2.0nm,0.7s,baz=34,slow=5.0,SNR=12						
GEYT	Alibeck	79.91	320	P	P	08 36 41.2	+1.2
	comp=Z,2.3nm,0.5s,baz=289,slow=4.5,SNR=4.6						
BURAR	Bucovina Array	79.95	347	⇑P	P	08 36 40.0	-0.2
BURAR	Bucovina Array	79.95	347	⇑P	P	08 36 40.0	-0.2
BURAR	Bucovina Array	79.95	347	P	P	08 36 41.0	+0.8
BURAR				IAmb	IAmb	08 36 41.2	
	comp=Z,2.9nm,0.7s						
LDF	La Druitiere	80.27	4	eP	P	08 36 41.3	-0.5
LDF				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GRR	Gorron	80.44	4	eP	P	08 36 42.6	-0.1
GRR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BIZ	Bicaz	80.48	346	⇑P	P	08 36 43.3	+0.3
MESR	Meseseni	80.72	348	⇑P	P	08 36 36.2	-8.0
HAU	Haudompre	80.98	360	eP	P	08 36 45.7	+0.1
HAU				pmax	pmax		
	comp=Z,7.0nm,0.7s						
COVR	Voineasa-Covas	81.53	346	⇑P	P	08 36 49.3	+0.7
LOR	Lormes	81.70	1	eP	P	08 36 49.5	0.0
LOR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VOIR		82.10	346	⇓P	P	08 36 51.5	-0.2
TPGR	Topolog	82.13	344	⇑P	P	08 36 51.5	-0.3
ARR	Arges	82.23	347	⇑P	P	08 36 55.6	+3.2
HARR	Harsova	82.37	344	⇑P	P	08 36 53.9	+0.9
HARR	Harsova	82.37	344	⇑P	P	08 36 53.9	+0.9
CABF	La Chapelle	82.37	360	eP	P	08 36 53.6	+0.5
CABF				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GZR	Gura Zlata	82.46	348	⇑P	P	08 36 52.8	-0.8
GZR	Gura Zlata	82.46	348	⇑P	P	08 36 52.8	-0.8
TIRR	Tirgusor	82.51	344	⇑P	P	08 36 52.8	-0.9
TIRR	Tirgusor	82.51	344	⇑P	P	08 36 52.8	-0.9
WRA	Warramunga Arr	84.02	228	P	P	08 37 00.8	-0.9
	comp=Z,0.7nm,0.7s,baz=36,slow=4.5,SNR=6.4						
ORIF	Oris-en-Rattie	84.07	360	eP	P	08 37 03.7	+1.8
ORIF				pmax	pmax		
	comp=Z,14nm,1.4s						
VIVF	Saint-Julien-l	84.13	1	eP	P	08 37 04.8	+2.7
VIVF				pmax	pmax		
	comp=Z,13nm,1.2s						
VTS	Vitosha	85.13	347	⇓P	P	08 37 06.9	-0.4
VTS	Vitosha	85.13	347	⇓P	P	08 37 06.9	-0.4
MTLF	Montolieu	85.60	3	eP	P	08 37 09.9	+0.4
MTLF				pmax	pmax		
	comp=Z,8.0nm,0.9s						
EPF	Esparros	85.84	4	eP	P	08 37 11.1	+0.3
EPF				pmax	pmax		
	comp=Z,11nm,1.4s						
ETSF	Etsaut	85.93	5	eP	P	08 37 12.6	+1.4
ETSF				pmax	pmax		
	comp=Z,11nm,1.2s						
BRTR	Keskin Array B	86.02	339	P	P	08 37 11.7	-0.1
	comp=Z,0.8nm,0.5s,baz=48,slow=1.8,SNR=6.5						
BRTR	Keskin Array B	86.02	339	eP	P	08 37 12.1	+0.3
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	Alice Springs	87.45	226	P	P	08 37 18.8	+0.1
	comp=Z,1.5nm,0.8s,baz=34,slow=4.5,SNR=14						
ESDC	Sonseca Array	88.92	7	P	P	08 37 25.3	-0.3
	comp=Z,1.9nm,0.9s,baz=27,slow=2.8,SNR=7.9						
STKA	Stephens Creek	91.52	216	eP	P	08 37 44.9	+7.4
STKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MATP	Matopo	144.28	321	PKP	PKPbc	08 44 06.2	+0.5
	comp=Z,5.8nm,0.8s,baz=2.6,slow=4.5,SNR=9.8						
TSUM	Tsumeb	146.53	339	PKPbc	PKPbc	08 44 13.0	+0.3
	comp=Z,7.5nm,0.9s,baz=35,slow=9.6,SNR=7.0						
TSUM	Tsumeb	146.53	339		PKPbc	08 44 12.0	-0.6
MAW	Mawson	148.20	218	PKPbc	PKPbc	08 44 15.4	-0.2
	comp=Z,2.7nm,0.9s,baz=357,slow=4.7,SNR=6.0						
MAW	Mawson	148.20	218		PKPbc	08 44 15.7	+0.1

IDC 05 08:28:07.0±5.4, 18°.23S×178°.42W, h562km±27km, mb2.8/2, mb1 2.9/3, mb1mx2.6/41, mbtmp3.6/3, Error ellipse: s-maj=172.6km s-min=35.9km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.39	278	P	P	08 29 25.9	+0.3
	0.5nm,0.3s,baz=154,slow=20,SNR=4.6						
WRA	Warramunga Arr	44.56	260	P	P	08 35 29.3	-0.7
	0.6nm,0.9s,baz=94,slow=7.5,SNR=8.2						
ASAR	Alice Springs	44.69	255	P	P	08 35 30.8	-0.1
	2.1nm,0.6s,baz=89,slow=8.2,SNR=46						
ASAR				PcP	PcP	08 37 01.7	+0.4
	0.3nm,0.4s,baz=106,slow=3.9,SNR=4.7						
BRTR	Keskin Array B	145.00	314	PKPbc	PKPdf	08 46 41.0	-0.1
	0.5nm,0.5s,baz=63,slow=1.2,SNR=3.7						
GERES	GERESS Array B	147.92	345	PKPbc	PKPbc	08 46 48.9	-0.7
	0.3nm,0.5s,baz=0.0,slow=2.9,SNR=4.0						

*JMA **05** 08:28:29.8±0.1, 24°.24N×121°.86E, h0km, M2.9*
*TAP **05** 08:28:30.4, 24°.27N×121°.85E, h11km, ML3.4, C*
ISC 05 08:28:30.3±0.9, 24°.25N±0°.02×121°.89E±0°.02, h8km±7km, n84, σ0s.70/138, 9C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	Heping Village	0.14	294	P	Pg	08 28 33.4	0.0
	baz=295						
EHP				S	Sg	08 28 35.8	+0.2
	baz=295						
EWUT	Wuta	0.22	333	⇑iP	Pg	08 28 34.9	+0.2
	baz=338						
EWUT				S	Sg	08 28 37.6	-0.2
	baz=338						
ENA	Nanau	0.22	323	⇑iP	Pg	08 28 34.8	0.0
	baz=328						
ENA				i S	Sg	08 28 37.8	-0.1
	baz=328						
ETL	Fush Village	0.26	249	P	Pg	08 28 35.5	0.0
	baz=246						
ETL				S	Sg	08 28 39.0	0.0
	baz=246						
NACB	Ninganchiao	0.28	254	⇓iP	Pg	08 28 35.7	-0.1
	baz=252						
NACB				i S	Sg	08 28 39.5	0.0
	baz=252						
TWD	Chiawan	0.31	237	⇓iP	Pg	08 28 36.5	0.0
	baz=238						
TWD				S	Sg	08 28 41.0	+0.3
	baz=238						
TWC	Suao	0.36	355	⇑iP	Pg	08 28 37.5	+0.1
TWC				i S	Sg	08 28 42.4	+0.3
ETLH	Xiulin Townshi	0.37	263	P	Pg	08 28 37.6	-0.1
	baz=262						
ETLH				S	Sg	08 28 42.2	-0.4
	baz=262						
HWA	Hwalien	0.37	223	eP	Pb	08 28 38.9	-0.3
	baz=231						
NDS	Dongshan	0.41	338	⇑iP	Pg	08 28 38.6	+0.2
	baz=340						
NDS				S	Sg	08 28 44.3	+0.5
	baz=340						
ETM	Tongmen	0.46	232	P	Pg	08 28 39.3	+0.1
	baz=234						
NDT	Datong Townshi	0.49	316	⇑iP	Pb	08 28 40.1	-1.0
	baz=317						
NDT				S	Sg	08 28 46.4	+0.1
	baz=317						
NNS	Nan Shan	0.50	292	⇑iP	Pg	08 28 40.1	-0.1
	baz=292						
NNS				S	Sg	08 28 46.6	-0.2
	baz=292						
TWE	Neicheng	0.51	337	⇑iP	Pg	08 28 40.5	+0.2
	baz=339						
TWE				S	Sg	08 28 47.0	+0.1
	baz=339						
ILA	Ilan	0.53	346	eP	Pb	08 28 41.6	-0.2
	baz=342						
ILA				S	Sb	08 28 48.6	-1.0
	baz=342						
WHF	Hehuan Shan	0.58	260	⇓iP	Pg	08 28 41.4	-0.2
	baz=259						
WHF				i S	Sg	08 28 48.9	-0.3
	baz=259						
FUSS	Fushou	0.58	270	P	Pb	08 28 42.0	-0.9
	baz=270						
FUSS				S	Sg	08 28 49.5	0.0
	baz=270						
EGS		0.59	4	eP	Pb	08 28 42.4	-0.5
	baz=6.0						
EGS				S	Sg	08 28 49.8	+0.2
	baz=6.0						
ESL	Shilin	0.60	224	eP	Pb	08 28 42.1	-0.9
	baz=230						
ESL				eS	Sb	08 28 51.5	-0.2
	baz=230						
NTC	Toucheng	0.60	355	P	Pg	08 28 42.3	+0.3
	baz=356						
NTC				eS	Sg	08 28 50.3	+0.4
	baz=356						
YHNB	Yeheng	0.62	312	⇑iP	Pb	08 28 42.7	-0.8
	baz=312						
YHNB				S	Sg	08 28 50.7	0.0
	baz=312						
TEGC	Jichi Village	0.62	210	eP	Pb	08 28 43.8	+0.3
	baz=209						
NSK	Sanguang	0.64	311	⇑iP	Pb	08 28 42.9	-0.9
	baz=312						
NSK				S	Sg	08 28 50.8	-0.3
	baz=312						
TWT	Tachien	0.65	270	eS	Sb	08 28 51.5	-1.7
	baz=270						
TDCB	Techi	0.66	270	eP	Pb	08 28 43.5	-0.7
	baz=270						
TDCB				eS	Sg	08 28 51.4	-0.5
	baz=270						
CHGB	Renai	0.68	254	eP	Pb	08 28 43.5	-1.0
	baz=247						
CHGB				eS	Sg	08 28 52.2	-0.2
	baz=247						
OWD	Renai	0.71	246	eP	Pg	08 28 44.0	-0.1
	baz=246						
EGFH	Guangfu	0.71	216	P	Pb	08 28 44.8	-0.2
	baz=233						
EGFH				eS	Sn	08 28 56.9	-0.9
	baz=233						
TIPB	Shuangxi	0.72	356	P	Pg	08 28 44.5	+0.2
	baz=356						
TIPB				S	Sg	08 28 53.4	-0.2
	baz=356						
TWB1	Santiao Chiao	0.76	7	eP	Pg	08 28 45.2	+0.2
	baz=8.0						
TWB1				eS	Sg	08 28 54.8	-0.1
	baz=8.0						
TWA	Mucha	0.78	339	P	Pb	08 28 45.7	-0.4
	baz=340						
TWA				S	Sg	08 28 55.5	+0.1
	baz=340						
NHDH	Xindian Distri	0.78	335	eP	Pb	08 28 45.9	-0.3
	baz=335						
NHDH				eS	Sg	08 28 55.8	+0.2
	baz=335						
NWF	Wu-fen Shan	0.82	353	P	Pb	08 28 46.7	-0.2
	baz=344						
NWF				S	Sg	08 28 57.2	+0.3
	baz=344						
WHP	Taichung City	0.86	272	P	Pb	08 28 47.5	0.0
	baz=272						
WHP				S	Sb	08 28 58.1	-1.0
	baz=272						
HGSD	Ruisui	0.86	209	eP	Pn	08 28 48.4	-0.3
	baz=200						
LIOB	Emei	0.89	297	P	Pb	08 28 48.0	+0.1
	baz=297						
LIOB				S	Sb	08 28 59.2	-0.6
	baz=297						
NSTT	Nanjuang	0.89	295	P	Pb	08 28 47.9	-0.1
	baz=296						
NSTT				S	Sg	08 28 58.6	-0.4
	baz=296						
EHY	Hungye	0.90	215	eP	Pb	08 28 47.7	-0.5
	baz=228						
WCS	Beigang Elemen	0.91	258	P	Pb	08 28 48.4	0.0
	baz=259						
WCS				S	Sb	08 28 59.4	-1.2
	baz=259						
YM01	YM01	0.94	342	P	Pb	08 28 49.1	+0.3
	baz=342						
YM01				S	Sg	08 29 00.2	-0.3
	baz=342						
TWS1	Kuangyinshan	0.95	333	P	Pb	08 28 48.8	-0.2
	baz=333						
TWS1				S	Sb	08 29 02.4	+0.7
	baz=333						
NCUH	Zhongli	0.96	318	eP	Pn	08 28 49.7	-0.3
	baz=318						
SSLB	Suanglung	0.97	242	P	Pg	08 28 48.6	-0.4
	baz=251						
SSLB				S	Sg	08 29 00.9	-0.6
	baz=251						
SMLT	Sun Moon Lake	0.97	248	P	Pb	08 28 49.1	-0.3
	baz=249						
SMLT				S	Sb	08 29 03.0	+0.5
	baz=249						
JYNG	Yonagunijimaku	0.99	78	P	Pb	08 28 49.9	+0.3
JYNG				eS	Sb	08 29 03.3	+0.5
ANP	Anpu	0.99	340	eP	Pb	08 28 49.6	-0.2
	baz=339						
NTST	Danshui	0.99	337	eP	Pn	08 28 50.7	+0.2
	baz=336						
NTST				eS	Sn	08 29 04.6	0.0
	baz=336						
TYC	Yuchr	1.00	250	P	Pb	08 28 49.9	+0.1
	baz=243						
TYC				eS	Sg	08 29 01.2	-1.4
	baz=243						
YULB	Yu-li	1.01	212	P	Pg	08 28 49.2	-0.6
	baz=225						
TWQ1	Liyutan	1.02	276	eP	Pn	08 28 51.5	+0.6
	baz=276						
NMLH	Miaoli	1.04	286	eP	Pn	08 28 52.3	+1.2
	baz=286						
EYUL	Yuli	1.04	210	eP	Pn	08 28 52.2	+1.0
	baz=223						
NSY	Sanyi	1.04	279	P	Pn	08 28 51.4	+0.2
	baz=279						
YOJ	Yonaguni jima	1.05	78	P	Pg	08 28 50.8	+0.3
YOJ				eS	Sb	08 29 05.1	+0.6
YOJ	Yonaguni jima	1.05	78	P	Pg	08 28 50.5	0.0
	baz=64						
TWY	Chenhua	1.05	346	eP	Pn	08 28 51.5	+0.2
	baz=345						
TWY				eS	Sn	08 29 05.6	-0.6
	baz=345						
WHYT	Xinyi Township	1.09	240	P	Pn	08 28 52.5	+0.5
	baz=248						
WHYT				eS	Sb	08 29 06.1	+0.2
	baz=248						
WDJ	Dajia District	1.14	275	eP	Pn	08 28 53.8	+1.3
	baz=275						
WNT	Mingjian	1.16	252	eP	Pn	08 28 54.4	+1.6
	baz=249						
WNT				eS	Sn	08 29 10.6	+1.8
	baz=249						
FULB	Fuli	1.18	207	eP	Pb	08 28 52.7	-0.2
	baz=226						
WCHH	Zhanghua	1.22	262	eP	Pn	08 28 55.9	+2.2
	baz=263						
ALS	Alishan	1.23	234	eP	Pb	08 28 53.8	-0.2
	baz=243						
CHKT	Chengkung	1.24	203	eP	Pg	08 28 53.0	-1.2
	baz=187						
CHKT				eS	Sn	08 29 12.4	+1.6
	baz=187						
CHN5	Tsauling	1.28	240	eP	Pn	08 28 56.0	+1.4
	baz=243						
CHN5				eS	Sn	08 29 14.0	+2.0
	baz=243						
ELDTW	Lidau	1.32	217	eP	Pn	08 28 54.5	-0.7
	baz=206						
EDH	Donghe	1.38	203	eP	Pg	08 28 56.5	-0.4
	baz=192						
STYH	Taoyuan	1.48	224	eP	Pg	08 28 58.1	-0.7
	baz=214						
CHN4	Tsaushan	1.48	233	P	Pn	08 28 56.6	-0.7
	baz=237						
CHN4				eS	Sg	08 29 18.4	+0.4
	baz=237						
TPUB	Ta-pu	1.49	231	eP	Pg	08 28 58.8	-0.1
	baz=235						
TPUB				eS	Sg	08 29 18.9	+0.6
	baz=235						
WTP	Ta-pu	1.54	230	eP	Pg	08 29 00.1	+0.3
	baz=234						
TWG	Pinlang	1.61	208	eP	Pb	08 29 00.3	0.0
	baz=213						
TWK	Hsinying	1.61	233	eP	Pg	08 29 00.5	-0.8
	baz=237						
TWK				eS	Sg	08 29 23.4	+1.2
	baz=237						
CHN1	Nanshi	1.64	230	eP	Pg	08 29 01.5	-0.2
	baz=234						
CHN1				eS	Sg	08 29 25.0	+2.1
	baz=234						
IRIF	Iriomote-Funau	1.69	87	P	Pn	08 29 00.1	+0.1
IRIF				S	Sn	08 29 21.5	-0.3
SLGT	Liugui	1.69	222	eP	Pg	08 29 02.2	-0.5
	baz=215						
HATJ	Hateruma jima	1.76	96	eS	Sn	08 29 23.1	-0.6
SSD	Sandimen	1.89	218	eP	Pb	08 29 04.8	-0.2
	baz=211						
TSMG	Majia	1.91	217	eP	Pb	08 29 05.0	-0.4
	baz=211						
JKRS	Kuro-shima	1.94	90	P	Pn	08 29 04.0	+0.5
JKRS				S	Sn	08 29 28.7	+0.7
MASBT	Mashibuluo	2.00	215	eP	Pb	08 29 06.3	-0.6
	baz=211						
JIJ	Ishigaki jima	2.06	86	P	Pn	08 29 05.1	-0.1
JIJ				eS	Sn	08 29 30.6	-0.5
JISG	Ishigakijimahi	2.24	81	P	Pn	08 29 07.1	-0.5
JISG				S	Sn	08 29 34.7	-0.7
PHUB	P'eng-hu	2.24	251	eP	Pn	08 29 09.1	+1.4
	baz=256						
JTJ	Tarama	2.60	81	P	Pn	08 29 13.3	+0.7
JTJ				eS	Sn	08 29 42.5	-1.8

*IDC **05** 08:30:17.1±0.7, 51°.73N×174°.33W, h0km, mb4.1/28, mb1 4.3/31, mb1mx4.1/65, mbtmp4.1/31, ML3.8/3, Error ellipse: s-maj=22.1km s-min=11.1km az=169.0*
*AEIC **05** 08:30:19±2.3, 51°.37N±0°.05×174°.32W±0°.08, h16km±3km, ML3.9, mb4.2/44(NEIC), Error ellipse: s-maj=8.2km s-min=5.4km az=45.0*
*NEIC **05** 08:30:21.9±2.0, 51°.44N±0°.06×174°.32W±0°.07, h38km±3km, Error ellipse: s-maj=10.1km s-min=5.7km az=154.0*
ISC 05 08:30:21.7±0.5, 51°.42N±0°.07×174°.23W±0°.04, h38km, n133, σ1s.24/132, mb4.2/34, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.78	1		Pn	08 30 35.5	-0.7
ATKA	Atka Island	0.78	1		Sn	08 30 48.9	+2.2
KOFP	Korovin Flat P	0.86	5		Pn	08 30 37.4	+0.2
KOKL	Mount Kliuchef	0.90	1		Pn	08 30 38.0	+0.1
GSIG	Igitkin Island	1.20	299		Pn	08 30 40.8	-1.1
GSIG					Sn	08 30 57.6	+0.7
GSMY	Great Sitkin M	1.30	299		Pn	08 30 42.2	-1.0
GSTR	Great Sitkin T	1.32	301	Pn	Pn	08 30 43.1	-0.5
GSTD	Great Sitkin T	1.35	299		Pn	08 30 43.2	-0.8
GSTD					Sn	08 31 01.5	+0.8
ETKA	Kagalaska Isla	1.43	289		Pn	08 30 43.9	-1.1
ADK	Adak	1.60	288	Pn	Pn	08 30 46.5	-0.8
ADK	Adak	1.60	288		Sn	08 31 07.7	+1.0
KIWB	Kanaga Island	1.87	284	Pn	Pn	08 30 50.5	-0.7
KIKV	Kanaga Island	1.89	285		Pn	08 30 50.9	-0.5
KIMD	Kanaga Island	1.91	281		Pn	08 30 50.7	-0.9
KICM	Kanaga Island	1.91	286		Pn	08 30 51.4	-0.3
TAFP	Tanaga Falls P	2.39	283		Pn	08 30 58.2	0.0
TAFP					Sn	08 31 27.6	+1.4
TASE	Tanaga Southea	2.41	281		Pn	08 30 58.7	+0.1
GAEA	Gareloi East	2.84	279		Pn	08 31 04.8	+0.4
GALAA	Gareloi Lava P	2.85	279		Pn	08 31 05.0	+0.3
NIKH	Nikolski High	3.65	63	Pn	Pn	08 31 15.8	+0.3
AMKA	Amchitka	4.05	272	Pn	Pn	08 31 19.7	-1.4
LSPA	Little Sitkin	4.51	280		Pn	08 31 27.7	+0.3
LSNW	Little Sitkin	4.55	280		Pn	08 31 27.9	0.0
MAPS	Pakushin South	5.04	59		Pn	08 31 34.5	-0.1
UNV	Unalaska Valle	5.29	60	Pn	Pn	08 31 39.6	+1.5
AKUT	Akutan	5.80	59	Pn	Pn	08 31 47.4	+2.4
SPIA	Saint Paul Isl	6.22	20	Pn	Pn	08 31 51.0	+0.3
WECS	Westdahl Cape	6.50	58		Pn	08 31 57.1	+2.4
SDPT	Sand Point	9.11	59	Pn	Pn	08 32 31.7	+1.3
CHGN	Chignik	10.53	56	Pn	Pn	08 32 50.1	+0.3
GAMB	Gambell	12.46	5	Pn	Pn	08 33 16.9	+0.8
KDAK	Kodiak Island	14.03	55	Pn	Pn	08 33 36.1	-1.5
	0.7nm,0.3s,baz=264,slow=2.1,SNR=13						
KDAK				Sn	Sn	08 36 05.1	-6.6
	0.2nm,0.3s,baz=254,slow=5.1,SNR=1.3						
SVW2	Sparrevohn	14.13	40		Pn	08 33 40.9	+1.9
N19K	Bonanza Creek	14.42	42	Pn	Pn	08 33 44.9	+1.9
L19K	White Mountain	15.05	37		Pn	08 33 52.4	+1.1
L19K				IAmb	IAmb	08 33 58.8	
	comp=Z,9.2nm,0.8s						
M19K	Big River Lodg	15.06	38	P	P	08 33 56.2	0.0
M19K				IAmb	IAmb	08 34 08.9	
	comp=Z,16nm,1.4s						
BRLK	Bradley Lake	15.54	48	Pn	Pn	08 33 58.9	+1.2
K20K	Telida	16.06	34		Pn	08 34 06.2	+1.9
SKT	Skwentna	16.24	41		Pn	08 34 07.7	+1.0
SUA	Susitna One	16.32	43	Pn	Pn	08 34 08.2	+0.4
J20K	Nowinta River	16.56	32		Pn	08 34 11.9	+1.3
J20K				IAmb	IAmb	08 34 41.4	
	comp=Z,32nm,1.9s						
RC01	Rabbit Creek A	16.59	45	Pn	Pn	08 34 10.5	-0.6
PETK	Petropavlovsk-	17.23	287	P	Pn	08 34 18.8	-0.3
	comp=Z,0.5nm,0.3s,baz=95,slow=12,SNR=10						
KTH	Kantishna Hill	17.32	37	P	P	08 34 22.4	+1.1
KTH				IAmb	IAmb	08 34 30.6	
	comp=Z,23nm,1.4s						
SML	Sawmill	17.51	44	P	Pn	08 34 22.0	-0.6
SML				IAmb	IAmb	08 35 12.8	
	comp=Z,26nm,1.2s						
BPAW	Bear Paw Mtn.	17.60	35		P	08 34 25.1	+0.7
I21K	Tanana	17.92	31	P	P	08 34 28.8	+0.9
RND	Reindeer	18.03	39	P	Pn	08 34 29.1	+0.1
MLY	Manley	18.24	33	P	Pn	08 34 32.5	+1.0
M24K	Tolsona, Glenn	18.56	44	P	P	08 34 35.5	+0.5
I23K	Minto, Yukon-K	18.78	33	P	P	08 34 38.1	+0.8
I23K				IAmb	IAmb	08 34 41.2	
	comp=Z,18nm,0.9s						
WRH	Wood River Hil	18.86	36	P	P	08 34 38.0	-0.3
WRH				IAmb	IAmb	08 35 08.4	
	comp=Z,24nm,1.6s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCB	**Clear Creek Bu**	**19.06**	**36**	P	**P**	**08 34 39.6**	**-0.8**
CCB				IAmb	IAmb	08 34 41.7	
	comp=Z,21nm,1.6s						
MDM	**Murphy Dome**	**19.07**	**35**	P	**P**	**08 34 39.9**	**-0.7**
PAX	**Paxson**	**19.20**	**42**	P	**P**	**08 34 42.1**	**+0.1**
PAX				IAmb	IAmb	08 35 00.7	
	comp=Z,32nm,2.0s						
HDA	**Harding Lake**	**19.26**	**37**	P	**P**	**08 34 42.9**	**+0.3**
HDA				IAmb	IAmb	08 34 48.1	
	comp=Z,10nm,0.6s						
ILAR	**Eielson Array**	**19.46**	**36**	P	**P**	**08 34 42.4**	**-2.4**
	comp=Z,0.9nm,0.3s,baz=239,slow=10,SNR=47						
ILAR	**Eielson Array**	**19.46**	**36**	P	**P**	**08 34 45.1**	**+0.3**
H24K	**Noodor Dome**	**19.68**	**33**	P	**P**	**08 34 48.1**	**+0.8**
H24K				IAmb	IAmb	08 34 52.2	
	comp=Z,9.1nm,0.7s						
RIDG	**Independent Ri**	**19.77**	**40**	P	**P**	**08 34 48.2**	**0.0**
RIDG				IAmb	IAmb	08 34 56.2	
	comp=Z,7.7nm,0.6s						
M26K	**Nabesna, AK**	**20.06**	**45**	P	**P**	**08 34 52.4**	**+1.1**
M26K				IAmb	IAmb	08 34 54.2	
	comp=Z,8.4nm,0.5s						
L26K	**Log Cabin Wild**	**20.12**	**43**	P	**P**	**08 34 53.3**	**+1.4**
L26K				IAmb	IAmb	08 35 19.1	
	comp=Z,29nm,1.8s						
SCRK	**Sand Creek**	**20.22**	**40**	P	**P**	**08 34 52.0**	**-1.1**
PRP	**Porcupine Dome**	**20.34**	**35**	P	**P**	**08 34 53.7**	**-0.8**
PRP				IAmb	IAmb	08 35 39.6	
	comp=Z,22nm,1.6s						
M27K	**Edge Creek, AK**	**20.54**	**45**	P	**P**	**08 34 57.9**	**+1.2**
M27K				IAmb	IAmb	08 35 00.5	
	comp=Z,7.7nm,0.8s						
L27K	**Beaver Creek,**	**20.78**	**43**	P	**P**	**08 35 01.2**	**+2.0**
TOLK	**Toolik Lake Re**	**20.94**	**25**	P	**P**	**08 35 01.1**	**+0.4**
K27K	**Chicken**	**21.02**	**41**	P	**P**	**08 35 01.6**	**0.0**
K27K				IAmb	IAmb	08 35 19.0	
	comp=Z,7.0nm,0.7s						
SEY	**Seymchan**	**21.17**	**316**	P	**P**	**08 35 01.1**	**-2.1**
	comp=Z,2.3nm,0.8s,baz=29,slow=23,SNR=2.4						
EGAK	**Eagle**	**21.67**	**39**	P	**P**	**08 35 08.6**	**0.0**
DAWY	**Dawson**	**22.14**	**42**	P	**P**	**08 35 12.9**	**-0.8**
EPYK	**Eagle Plains**	**23.97**	**37**	P	**P**	**08 35 31.3**	**-0.8**
INK	**Inuvik**	**25.80**	**34**	P	**P**	**08 35 48.6**	**0.0**
	comp=Z,2.1nm,0.7s,baz=249,slow=7.6,SNR=5.7						
INK				PcP	**PcP**	**08 39 17.5**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=120,slow=0.7,SNR=1.8						
INK	**Inuvik**	**25.80**	**34**	P	**P**	**08 35 48.7**	**0.0**
INK				IAmb	IAmb	08 35 57.2	
	comp=Z,4.0nm,0.8s						
DLBC	**Dease Lake**	**25.94**	**57**	P	**P**	**08 35 51.1**	**+0.9**
	comp=Z,2.9nm,0.8s,baz=277,slow=9.3,SNR=5.7						
DLBC	**Dease Lake**	**25.94**	**57**	IAmb	IAmb	08 36 08.1	
	comp=Z,7.9nm,1.1s						
JKA	**Kamikawa-asahi**	**29.57**	**273**	P	**P**	**08 36 24.1**	**+1.5**
ASAJ	**Asahikawa**	**29.57**	**273**	P	**P**	**08 36 24.1**	**+1.5**
	comp=Z,4.8nm,0.9s,baz=0.0,slow=7.1,SNR=2.8						
WMR	**Waimanalo Ridg**	**32.70**	**151**	P	**P**	**08 36 47.9**	**-2.5**
KLR	**Kul'dur**	**33.91**	**288**	P	**P**	**08 36 60.0**	**-0.7**
	comp=Z,4.5nm,0.5s,baz=69,slow=7.7,SNR=22						
H11N2	**WAKE ISLAND Hy**	**34.94**	**212**	T	T	09 14 59.8	
	baz=20						
H11N3	**WAKE ISLAND Hy**	**34.95**	**212**	T	T	09 14 50.9	
	baz=20						
H11N1	**WAKE ISLAND Hy**	**34.96**	**212**	T	T	09 14 56.7	
	baz=20						
USA0B	**Ussuriysk Arra**	**36.12**	**280**	P	**P**	**08 37 18.6**	**-1.1**
USRK	**Ussuriysk Ar.**	**36.12**	**280**	P	**P**	**08 37 19.2**	**-0.5**
	comp=Z,8.7nm,0.6s,baz=56,slow=7.7,SNR=18						
H11S1	**WAKE ISLAND Hy**	**36.14**	**212**	T	T	09 16 24.6	
	baz=20,slow=76						
H11S2	**WAKE ISLAND Hy**	**36.16**	**212**	T	T	09 16 25.3	
	baz=20,slow=76						
H11S3	**WAKE ISLAND Hy**	**36.16**	**212**	T	T	09 16 20.3	
	baz=20,slow=76						
EDM	**Edmonton**	**36.27**	**63**	P	**P**	**08 37 22.0**	**+1.0**
MJAR	**Matsushiro Arr**	**36.63**	**265**	P	**P**	**08 37 24.2**	**0.0**
	comp=Z,1.7nm,0.9s,baz=326,slow=25,SNR=5.3						
MJAR	**Matsushiro Arr**	**36.63**	**265**	IAmb	IAmb	08 37 25.6	
	comp=Z,8.5nm,1.9s						
NVAR	**Mina Array Bea**	**40.70**	**86**	P	**P**	**08 38 00.8**	**+2.3**
	comp=Z,0.4nm,0.7s,baz=309,slow=8.8,SNR=2.9						
KSRS	**Korea Array**	**42.50**	**274**	P	**P**	**08 38 12.6**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=55,slow=7.5,SNR=5.2						
PSUT	**Pine Spring**	**43.41**	**83**	P	**P**	**08 38 19.9**	**-0.7**
PSUT				IAmb	IAmb	08 38 20.3	
	comp=Z,4.2nm,0.8s						
JNU	**Nakatsue**	**43.43**	**267**	P	**P**	**08 38 21.4**	**+0.8**
	comp=Z,6.2nm,0.5s,baz=19,slow=1.4,SNR=7.2						
PDAR	**Pinedale Array**	**43.55**	**75**	P	**P**	**08 38 22.8**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=320,slow=3.6,SNR=6.2						
PDAR	**Pinedale Array**	**43.55**	**75**	P	**P**	**08 38 21.9**	**+0.1**
NRIK	**Noril'sk**	**45.80**	**331**	PcP	**PcP**	**08 40 16.9**	**+1.0**
	comp=Z,2.8nm,0.4s,baz=37,slow=5.1,SNR=5.0						
ULM	**Lac du Bonnet**	**47.23**	**59**	P	**P**	**08 38 49.6**	**-0.9**
	comp=Z,1.9nm,0.6s,baz=340,slow=8.6,SNR=3.0						
SONM	**Songino Array**	**49.16**	**299**	P	**P**	**08 39 05.3**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=43,slow=8.6,SNR=7.4						
SONM	**Songino Array**	**49.16**	**299**	IAmb	IAmb	08 39 06.2	
	comp=Z,2.3nm,0.8s						
HHC	**Hu-ho-hao-te**	**50.41**	**289**	*e*P	**P**	**08 39 13.4**	**-1.8**
HHC				sP	pwP	08 39 31.1	+0.2
HHC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,50nm,5.4s						
TXAR	**Lajitas Array**	**55.81**	**85**	P	**P**	**08 39 56.8**	**+1.8**
	comp=Z,0.4nm,0.7s,baz=305,slow=5.2,SNR=5.2						
ARCES	**ARCESS Array B**	**58.49**	**352**	P	**P**	**08 40 12.3**	**-0.9**
	comp=Z,3.2nm,0.8s,baz=26,slow=7.5,SNR=17						
ARCES				PcP	**PcP**	**08 41 03.6**	**+0.2**
	comp=Z,4.4nm,0.8s,baz=14,slow=5.4,SNR=6.3						
KURBB	**Kurchatov Arra**	**61.13**	**316**	P	**P**	**08 40 30.7**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=43,slow=6.6,SNR=15						
KURBB				PcP	**PcP**	**08 41 14.9**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=39,slow=5.7,SNR=6.1						
WMQ	**Urumqi**	**61.69**	**306**	*e*P	**P**	**08 40 37.4**	**+1.8**
MKAR	**Makanchi Array**	**62.21**	**311**	P	**P**	**08 40 38.1**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=47,slow=6.3,SNR=13						
BVAR	**Borovoye Array**	**62.66**	**322**	P	**P**	**08 40 41.6**	**-0.3**
	comp=Z,2.1nm,0.5s,baz=128,slow=2.4,SNR=9.9						
BVAR				PcP	**PcP**	**08 41 20.5**	**+0.1**
	comp=Z,3.1nm,0.6s,baz=208,slow=5.0,SNR=7.3						
FINES	**FINESS Array B**	**66.32**	**350**	P	**P**	**08 41 04.2**	**-1.4**
	comp=Z,1.7nm,0.9s,baz=40,slow=15,SNR=5.4						
NB2	**NORSAR Subarra**	**67.80**	**357**	P	**P**	**08 41 14.7**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=5.5,slow=6.9						
NOA	**NORSAR Array B**	**67.80**	**357**	P	**P**	**08 41 14.8**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=3.7,slow=6.3,SNR=5.2						
AAK	**Ala-Archa**	**68.99**	**313**	P	**P**	**08 41 23.2**	**+0.2**
	comp=Z,2.4nm,0.5s,baz=166,slow=4.6,SNR=4.5						
AKTO	**Aktyubinsk**	**69.25**	**327**	P	**P**	**08 41 24.1**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=61,slow=8.2,SNR=7.5						
KSH	**Kashi**	**70.73**	**310**	P	**P**	**08 41 37.8**	**+4.1**
KSH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**73.84**	**279**	P	**P**	**08 41 54.4**	**+2.0**
	comp=Z,0.8nm,0.4s,baz=21,slow=7.1,SNR=6.5						
AKASG	**Malin Array Be**	**76.32**	**345**	P	**P**	**08 42 04.8**	**-1.4**
	comp=Z,2.1nm,0.6s,baz=19,slow=6.3,SNR=3.1						
CLL	**Collm**	**77.46**	**355**	*i* P	**P**	**08 42 12.4**	**-0.2**
	comp=Z,6.0nm,0.7s						
BRG	**Berggiesshubel**	**77.84**	**355**	*e*P	**P**	**08 42 15.2**	**+0.5**
BRG				Amp		08 42 16.0	
	comp=Z,4.5nm,0.8s						
DPC	**Dobruska-Polom**	**78.21**	**353**	*e*P	**P**	**08 42 17.0**	**+0.1**
KHC	**Kasperske Hory**	**79.60**	**355**	*e*P	**P**	**08 42 24.9**	**+0.4**
CKRC	**Cesky Krumlov**	**79.87**	**354**	*e*P	**P**	**08 42 25.1**	**-0.8**
GERES	**GERESS Array B**	**79.88**	**355**	P	**P**	**08 42 24.1**	**-2.0**
	comp=Z,1.9nm,0.8s,baz=15,slow=5.5,SNR=11						
WRA	**Warramunga Arr**	**84.10**	**228**	P	**P**	**08 42 47.2**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=32,slow=6.0,SNR=4.9						
BRTR	**Keskin Array B**	**86.02**	**339**	P	**P**	**08 42 57.6**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=74,slow=5.3,SNR=5.8						
ASAR	**Alice Springs**	**87.52**	**226**	P	**P**	**08 43 05.4**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=26,slow=5.6,SNR=6.9						
ESDC	**Sonseca Array**	**88.88**	**8**	P	**P**	**08 43 11.1**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=349,slow=4.9,SNR=6.3						
QSPA	**South Pole Qui**	**141.18**	**180**	PKP	**PKPdf**	**08 49 47.5**	**+1.0**
	comp=Z,1.3nm,1.1s,baz=194,slow=11,SNR=2.0						
MATP	**Matopo**	**144.31**	**322**	PKP	**PKPab**	**08 49 52.1**	**+0.5**
	comp=Z,4.4nm,0.9s,baz=18,slow=6.7,SNR=6.1						
TSUM	**Tsumeb**	**146.52**	**339**	PKPbc	**PKPbc**	**08 49 58.9**	**0.0**
	comp=Z,7.0nm,0.8s,baz=349,slow=6.4,SNR=5.8						
TSUM	**Tsumeb**	**146.52**	**339**		**PKPdf**	**08 49 58.1**	**+0.6**
MAW	**Mawson**	**148.27**	**218**	PKPbc	**PKiKP**	**08 50 04.5**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=336,slow=7.5,SNR=2.7						
LBTB	**Lobatse**	**149.57**	**323**	PKPbc	**PKPbc**	**08 50 07.2**	**+0.3**
	comp=Z,4.3nm,0.8s,baz=32,slow=11,SNR=3.5						
BOSA	**Boshof**	**152.93**	**320**	PKPbc	**PKPbc**	**08 50 14.3**	**-0.3**
	comp=Z,3.1nm,1.0s,baz=57,slow=20,SNR=2.0						

WEL 05 08:38:18.8±0.7**, 32°S**±6°×**18°0E**±1°4**, h337**km±11km**, M4.1**/20**, mB4.3**/6**, ML4.6**/19**, MLv4.5**/20**, Mw(mB)3.4**/6**,**
Error ellipse: s-maj=0.0km s-min=0.0km az=108.8,
Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.19**	**35**	P	Pn	08 39 17.3	-1.7
GLKZ				S	S	08 40 05.9	-1.4
MXZ	**Matakaoa Point**	**5.81**	**193**	P	Pn	08 39 49.8	+2.9
MXZ				S	S	08 40 59.9	+1.7
KUZ	**Kuaotunu**	**5.99**	**215**	P	Pn	08 39 50.9	+2.0
WMGZ	**Waiomatatini S**	**6.04**	**192**	P	Pn	08 39 50.5	+1.0
WMGZ				S	S	08 41 05.9	+2.8
HAZ	**Te Kaha**	**6.12**	**197**	P	Pn	08 39 51.2	+0.9
HAZ				S	S	08 41 04.9	+0.4
PKGZ	**Pakihiroa**	**6.17**	**194**	P	Pn	08 39 53.0	+1.9
PKGZ				S	S	08 41 06.7	+0.7
WCZ	**Waipu Caves**	**6.19**	**228**	P	Pn	08 39 52.8	+1.5
OUZ	**Omahuta**	**6.28**	**237**	P	Pn	08 39 53.5	+1.1
PUZ	**Puketiti**	**6.32**	**193**	P	Pn	08 39 53.5	+0.7
PUZ				S	S	08 41 09.5	+0.5
RUGZ	**Raukumara Rang**	**6.34**	**197**	P	Pn	08 39 53.5	+0.4
RUGZ				S	S	08 41 09.3	-0.3
TWGZ	**Tauwhareparae**	**6.47**	**194**	P	Pn	08 39 57.5	+2.9
TWGZ				S	S	08 41 14.8	+2.4
CNGZ	**Carnagh Statio**	**6.73**	**192**	P	Pn	08 39 59.4	+1.9
MWZ	**Matawai**	**6.73**	**197**	P	Pn	08 39 58.2	+0.6
MWZ				S	S	08 41 17.3	-0.4
TKGZ	**Te Karaka**	**6.75**	**195**	P	Pn	08 39 58.8	+1.0
TKGZ				S	S	08 41 18.6	+0.4
URZ	**Urewera**	**6.77**	**200**	P	Pn	08 39 57.4	-0.5
URZ				S	S	08 41 18.5	0.0
RIGZ	**Rimuhau**	**7.03**	**194**	P	Pn	08 40 01.6	+0.4
RIGZ				S	S	08 41 24.5	+0.3
RTZ	**Ruatahuna**	**7.14**	**199**	P	Pn	08 40 03.2	+0.7
SNGZ	**Shannon Statio**	**7.20**	**197**	P	Pn	08 40 03.5	+0.4
SNGZ				S	S	08 41 28.1	+0.3
RAHZ	**Arahi**	**7.39**	**198**	P	Pn	08 40 06.9	+1.5
MTHZ	**Maungataniwha**	**7.40**	**200**	P	Pn	08 40 05.9	+0.4
MHGZ	**Mahia Peninsul**	**7.43**	**193**	P	Pn	08 40 07.6	+1.7
MHGZ				S	S	08 41 34.8	+1.9
MRHZ	**Matea Rd**	**7.51**	**202**	P	Pn	08 40 06.3	-0.5
NMHZ	**Naumai**	**7.63**	**199**	P	Pn	08 40 09.2	+0.9
NMHZ				S	S	08 41 38.3	+0.8
ARHZ	**Aropaoanui**	**7.74**	**198**	P	Pn	08 40 08.6	-0.9
ARHZ				S	S	08 41 39.5	-0.1
BKZ	**Black Stump Fm**	**7.79**	**201**	P	Pn	08 40 08.1	-2.0
BKZ				S	S	08 41 40.5	-0.2
HIZ	**Hauiti**	**7.82**	**211**	P	Pn	08 40 12.8	+2.3
MCHZ	**McNeill Hill**	**7.99**	**199**	P	Pn	08 40 12.4	0.0
TUVZ	**Tukino**	**8.15**	**204**	P	Pn	08 40 11.9	-2.7
BHHZ	**Black Hill Sta**	**8.22**	**202**	P	Pn	08 40 13.3	-2.0
BHHZ				S	S	08 41 47.6	-2.6
WNVZ	**Wahianoa**	**8.23**	**205**	P	Pn	08 40 14.7	-0.8
KRHZ	**Kereru**	**8.27**	**200**	P	Pn	08 40 14.8	-1.0
KRHZ				S	S	08 41 48.1	-3.1
KAHZ	**Kahuranaki**	**8.27**	**197**	P	Pn	08 40 15.2	-0.7
KAHZ				S	S	08 41 50.4	-0.9
PNHZ	**Pukenui**	**8.56**	**200**	P	Pn	08 40 16.8	-2.6
PNHZ				S	S	08 41 56.0	-1.8

MEX 05 08:39:30.0±1.2**, 15°.66N**×**92°.83W, h187**km±12km**, MD3.7,**
Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.38**	**277**	*e*P	Pn	08 39 54.2	-0.9
PCIG				*e*S	Sn	08 40 11.6	-2.8
CMIG	**Matias Romero**	**2.43**	**306**	*e*P	Pn	08 40 11.5	-0.8
CMIG				*e*S	Sn	08 40 40.4	-4.9

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*IDC **05** 08:40:00.5±4.6, 50°.34N×173°.48W, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.7/60, mbtmp3.9/11, ML3.5/1, Error ellipse: s-maj=108.0km s-min=22.1km az=163.0*
*AEIC **05** 08:40:12±2.0, 51°.30N±0°.08×174°.34W±0°.08, h35km±6km, ML3.4/23, mb3.8/18(NEIC), Error ellipse: s-maj=12.4km s-min=5.4km az=157.0*
*NEIC **05** 08:40:14.5±1.6, 51°.45N±0°.06×174°.34W±0°.09, h43km±7km, Error ellipse: s-maj=11.3km s-min=4.3km az=138.0*
ISC 05 08:40:13.6±1.0**, 51°.4N**±0°.1×**174°.27W**±0°.05**, h38**km**, n52,**
σ**1s.48**/53**, mb3.8**/9**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.82**	**3**		**Pn**	**08 40 28.5**	**-0.1**
ATKA				Sn	**Sn**	**08 40 38.7**	**-0.8**
KOFP	**Korovin Flat P**	**0.90**	**7**		**Pn**	**08 40 30.1**	**+0.3**
KOKL	**Mount Kliuchef**	**0.94**	**3**		**Pn**	**08 40 30.7**	**+0.4**
KOSE	**Korovin Southe**	**0.97**	**8**		**Pn**	**08 40 31.6**	**+0.9**
KOWE	**Korovin West**	**0.98**	**1**		**Pn**	**08 40 31.7**	**+0.9**
GSMY	**Great Sitkin M**	**1.29**	**301**		**Pn**	**08 40 35.0**	**-0.1**
GSTR	**Great Sitkin T**	**1.32**	**303**		**Pn**	**08 40 35.5**	**0.0**
GSTD	**Great Sitkin T**	**1.34**	**301**		**Pn**	**08 40 35.8**	**-0.1**
ADK	**Adak**	**1.58**	**289**		**Pn**	**08 40 38.9**	**-0.2**
ADK	**Adak**	**1.58**	**289**	Sn	**Sn**	**08 40 57.0**	**-1.3**
KIWB	**Kanaga Island**	**1.86**	**286**		**Pn**	**08 40 42.9**	**+0.1**
KIKV	**Kanaga Island**	**1.87**	**286**		**Pn**	**08 40 43.3**	**+0.2**
KIMD	**Kanaga Island**	**1.89**	**283**		**Pn**	**08 40 43.2**	**-0.1**
KICM	**Kanaga Island**	**1.90**	**287**		**Pn**	**08 40 44.0**	**+0.6**
TAFP	**Tanaga Falls P**	**2.37**	**284**		**Pn**	**08 40 50.8**	**+0.9**
TASE	**Tanaga Southea**	**2.39**	**282**		**Pn**	**08 40 51.1**	**+0.9**
NIKH	**Nikolski High**	**3.69**	**62**		**Pn**	**08 41 08.5**	**+0.4**
AMKA	**Amchitka**	**4.03**	**272**	Pn	**Pn**	**08 41 12.6**	**-0.1**
MAPS	**Pakushin South**	**5.08**	**59**		**Pn**	**08 41 27.8**	**+0.7**
MSW	**Makushin Switc**	**5.21**	**58**		**Pn**	**08 41 30.4**	**+1.4**
UNV	**Unalaska Valle**	**5.33**	**59**	Pn	**Pn**	**08 41 32.1**	**+1.6**
KDAK	**Kodiak Island**	**14.07**	**55**	Pn	**Pn**	**08 43 28.1**	**-2.0**
	0.2nm,0.3s,baz=35,slow=0.3,SNR=8.7						
KDAK				Sn	**Sn**	**08 45 59.1**	**-5.6**
	0.1nm,0.3s,baz=321,slow=22,SNR=1.8						
L19K	**White Mountain**	**15.09**	**37**	P	**P**	**08 43 49.2**	**+0.6**
CNPM	**China Poot**	**15.33**	**49**	P	**Pn**	**08 43 49.5**	**+2.5**
K20K	**Telida**	**16.10**	**34**		**Pn**	**08 43 59.6**	**+2.8**
SUA	**Susitna One**	**16.36**	**43**	P	**Pn**	**08 44 01.3**	**+1.1**
SUA				IAmb	IAmb	08 44 12.7	
	comp=Z,7.9nm,1.2s						
BPAW	**Bear Paw Mtn.**	**17.65**	**35**	P	**P**	**08 44 18.7**	**+1.9**
MLY	**Manley**	**18.29**	**33**	P	**P**	**08 44 25.1**	**+1.3**
I23K	**Minto, Yukon-K**	**18.83**	**33**	P	**P**	**08 44 30.5**	**+0.8**
I23K				IAmb	IAmb	08 44 33.8	
	comp=Z,5.2nm,0.7s						
CCB	**Clear Creek Bu**	**19.11**	**36**	P	**P**	**08 44 31.6**	**-1.2**
CCB				IAmb	IAmb	08 44 35.9	
	comp=Z,8.5nm,1.5s						
HDA	**Harding Lake**	**19.30**	**37**	P	**P**	**08 44 34.7**	**-0.3**
HDA				IAmb	IAmb	08 44 37.2	
	comp=Z,3.9nm,0.8s						
IL31		**19.51**	**36**	P	**P**	**08 44 36.6**	**-0.6**
IL31				IAmb	IAmb	08 44 38.8	
	comp=Z,3.3nm,0.8s						
ILAR	**Eielson Array**	**19.51**	**36**	P	**P**	**08 44 36.1**	**-1.0**
	comp=Z,1.5nm,0.5s,baz=235,slow=8.6,SNR=27						
ILAR	**Eielson Array**	**19.51**	**36**	P	**P**	**08 44 37.9**	**+0.7**
H24K	**Noodor Dome**	**19.73**	**33**		**P**	**08 44 40.4**	**+0.7**
H24K				IAmb	IAmb	08 44 57.7	
	comp=Z,4.2nm,1.0s						
RIDG	**Independent Ri**	**19.82**	**40**	P	**P**	**08 44 40.8**	**+0.2**
RIDG				IAmb	IAmb	08 44 56.6	
	comp=Z,12nm,1.3s						
M26K	**Nabesna, AK**	**20.10**	**45**	P	**P**	**08 44 44.9**	**+1.2**
SCRK	**Sand Creek**	**20.26**	**40**	P	**P**	**08 44 45.2**	**-0.3**
SCRK				IAmb	IAmb	08 44 45.4	
	comp=Z,4.3nm,0.6s						
TOLK	**Toolik Lake Re**	**20.98**	**25**	P	**P**	**08 44 54.0**	**+0.8**
TOLK				IAmb	IAmb	08 44 55.5	
	comp=Z,7.2nm,1.1s						
SEY	**Seymchan**	**21.18**	**316**	P	**P**	**08 45 00.4**	**+5.1**
	comp=Z,3.1nm,0.8s,baz=94,slow=17,SNR=2.1						
EGAK	**Eagle**	**21.71**	**39**	P	**P**	**08 45 01.4**	**+0.4**
EPYK	**Eagle Plains**	**24.01**	**37**	P	**P**	**08 45 23.7**	**-0.7**
INK	**Inuvik**	**25.84**	**34**	P	**P**	**08 45 39.0**	**-1.9**
	comp=Z,1.7nm,0.9s,baz=261,slow=13,SNR=1.3						
KLR	**Kul'dur**	**33.89**	**288**	P	**P**	**08 46 51.8**	**-0.6**
	comp=Z,1.5nm,0.5s,baz=66,slow=6.7,SNR=8.0						
SONM	**Songino Array**	**49.16**	**299**	P	**P**	**08 48 57.6**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=52,slow=9.3,SNR=3.6						
SONM	**Songino Array**	**49.16**	**299**	IAmb	IAmb	08 48 58.7	
	comp=Z,1.6nm,1.3s						
ARCES	**ARCESS Array B**	**58.52**	**352**	P	**P**	**08 50 03.9**	**-1.5**
	comp=Z,2.0nm,0.8s,baz=24,slow=9.3,SNR=6.0						
KURK	**Kurchatov**	**61.03**	**316**	P	**P**	**08 50 23.7**	**+0.8**
KURBB	**Kurchatov Arra**	**61.13**	**316**	P	**P**	**08 50 23.7**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=44,slow=6.7,SNR=5.3						
MKAR	**Makanchi Array**	**62.21**	**311**	P	**P**	**08 50 30.6**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=48,slow=6.4,SNR=6.0						
BVAR	**Borovoye Array**	**62.67**	**322**	P	**P**	**08 50 34.2**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=20,slow=4.6,SNR=3.0						
GERES	**GERESS Array B**	**79.91**	**355**	P	**P**	**08 52 17.0**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=8.7,slow=7.1,SNR=4.4						

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*NEIC **05** 08:42:24.0±0.8, 36°.440N±0°.005×97°.12W±0°.02, h2km±8km, Error ellipse: s-maj=2.4km s-min=0.5km az=74.0*
*ANF **05** 08:42:24.3±0.2, 36°.44N×97°.12W, h5km, ML3.5/14, Error ellipse: s-maj=2.6km s-min=2.3km az=154.0*
*TUL **05** 08:42:24±0.5, 36°.45N±0°.01×97°.12W±0°.02, h5km±1km, ML2.9, mb_Lg3.1/84(NEIC), Error ellipse: s-maj=2.8km s-min=2.7km az=289.0*
ISC 05 08:42:24.1±1.2**, 36°.44N**±0°.02×**97°.12W**±0°.02**, h4**km±11km**,**
n78, σ**0s.55**/48**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLOK	**Blackwell**	**0.33**	**347**		**Pg**	**08 42 30.6**	**+0.1**
QUOK	**Quay**	**0.43**	**128**		**Pg**	**08 42 32.6**	**+0.2**
QUOK				Sg	**Sg**	**08 42 38.2**	**+0.2**
OK031	**S. Brethren Rd**	**0.54**	**155**		**Pg**	**08 42 34.7**	**+0.2**
OK031				Sg	**Sg**	**08 42 41.9**	**+0.5**
KAN13	**South Haven SW**	**0.64**	**334**		**Pg**	**08 42 36.4**	**0.0**
T35A	**Sooner Cattle**	**0.68**	**46**		**Pg**	**08 42 37.1**	**-0.2**
T35A				Sg	**Sg**	**08 42 46.1**	**-0.1**
T35B	**Sooner Cattle**	**0.68**	**46**	P	**Pg**	**08 42 37.0**	**-0.3**
	baz=226,SNR=112						
T35B				S	**Sg**	**08 42 46.1**	**-0.1**
	baz=226						
OK029	**Liberty Lake**	**0.69**	**203**		**Pg**	**08 42 37.5**	**+0.1**
OK029				Sg	**Sg**	**08 42 46.9**	**+0.4**
CROK	**Carrier**	**0.70**	**276**		**Pg**	**08 42 37.5**	**0.0**
GC02	**Grant County #**	**0.72**	**305**		**Pg**	**08 42 37.9**	**-0.1**
KAN17	**Caldwell West**	**0.79**	**320**		**Pg**	**08 42 39.2**	**-0.2**
KAN14	**Manchester OK**	**0.85**	**308**		**Pg**	**08 42 40.2**	**-0.2**
KS20	**Mayfield South**	**0.86**	**336**		**Pg**	**08 42 40.4**	**-0.2**
OK025	**Westminster Rd**	**0.87**	**192**		**Pg**	**08 42 40.8**	**-0.1**
KAN05	**Bluff City Nor**	**0.90**	**318**		**Pg**	**08 42 41.1**	**-0.3**
OK032	**Salt Plains WL**	**0.95**	**293**		**Pg**	**08 42 42.1**	**-0.2**
KAN10	**Anthony SW Sta**	**1.04**	**311**		**Pg**	**08 42 43.6**	**-0.4**
KAN08	**Anthony NE Sta**	**1.04**	**319**		**Pg**	**08 42 43.6**	**-0.4**
OKCFA	**Oklahoma City**	**1.06**	**195**		**Pg**	**08 42 44.0**	**-0.3**
OKCFA	**Oklahoma City**	**1.06**	**195**	P	**Pg**	**08 42 44.1**	**-0.3**
	baz=15,SNR=27						
OKCFA				S	**Sb**	**08 42 58.6**	**-0.6**
	baz=15						
OKCSW	**OKLAHOMA CITY**	**1.06**	**194**		**Pg**	**08 42 44.1**	**-0.4**
KAN12	**Harper NE Stat**	**1.11**	**321**		**Pg**	**08 42 44.8**	**-0.5**
TUL1	**Leonard**	**1.20**	**116**	P	**Pg**	**08 42 46.2**	**-0.9**
	baz=297,SNR=276						
TUL1				S	**Sb**	**08 43 02.8**	**-0.4**
	baz=297						
FNO	**Franklin**	**1.20**	**191**		**Pg**	**08 42 46.3**	**-0.8**
U32A	**Winter Ranch,**	**1.52**	**268**		**Pn**	**08 42 51.9**	**-0.2**
U32A	**Winter Ranch,**	**1.52**	**268**	P	**Pn**	**08 42 52.1**	**0.0**
	baz=87,SNR=49						
U32A				S	**Sb**	**08 43 12.4**	**0.0**
	baz=87						
X34A	**Smith Ranch, M**	**1.92**	**198**	IAmb_Lg		08 43 29.2	
	comp=Z,111nm,0.9s						
WMOK	**Wichita Mounta**	**2.17**	**219**	P	**Pn**	**08 43 01.6**	**+0.6**
	baz=38,SNR=44						
WMOK				S	**Sb**	**08 43 30.2**	**-1.0**
	baz=38						
U38A	**Gravette**	**2.21**	**89**	P	**Pn**	**08 43 02.2**	**+0.7**
	baz=271,SNR=235						
X37A	**Clayton**	**2.33**	**142**	IAmb_Lg		08 43 38.6	
	comp=Z,72nm,0.7s						
X37A	**Clayton**	**2.33**	**142**	P	**Pn**	**08 43 04.3**	**+1.0**
	baz=323,SNR=94						
X37A				S	**Sb**	**08 43 33.9**	**-2.0**
	baz=323						
R32A	**Long Quarter,**	**2.35**	**328**	P	**Pn**	**08 43 04.0**	**+0.5**
	baz=147						
HHAR	**Hobbs**	**2.58**	**93**	P	**Pn**	**08 43 07.4**	**+0.8**
	baz=275						
W39A	**Magazine**	**2.98**	**114**	IAmb_Lg		08 44 02.1	
	comp=Z,46nm,0.8s						
W39A	**Magazine**	**2.98**	**114**	P	**Pn**	**08 43 12.7**	**+0.5**
	baz=296						
CBKS	**Cedar Bluff**	**3.15**	**320**	S	**Sn**	**08 43 53.2**	**+0.6**
	baz=138						
S39A	**Bolivar**	**3.29**	**67**	P	**Pn**	**08 43 16.9**	**+0.5**
	baz=249,SNR=21						
U40A	**Yellville**	**3.45**	**90**	P	**Pn**	**08 43 19.0**	**+0.4**
	baz=273,SNR=28						
MIAR	**Mount Ida**	**3.46**	**122**	IAmb_Lg		08 44 21.3	
	comp=Z,32nm,0.8s						
MIAR	**Mount Ida**	**3.46**	**122**	P	**Pn**	**08 43 19.2**	**+0.5**
	baz=304,SNR=25						
MIAR				S	**Sn**	**08 44 00.4**	**+0.3**
	baz=304						
X40A	**Basin Creek Fa**	**4.01**	**118**	IAmb_Lg		08 44 35.5	
	comp=Z,44nm,0.8s						
X40A	**Basin Creek Fa**	**4.01**	**118**	P	**Pn**	**08 43 26.8**	**+0.5**
	baz=301,SNR=11						
WHAR	**Wooly Hollow**	**4.09**	**105**	IAmb_Lg		08 44 33.8	
	comp=Z,48nm,1.1s						
WLAR	**White Oak Lake**	**4.29**	**129**	IAmb_Lg		08 44 50.5	
	comp=Z,22nm,0.8s						
R40A	**Maddies Statio**	**4.29**	**63**	IAmb_Lg		08 44 41.6	
	comp=Z,22nm,0.8s						
R40A	**Maddies Statio**	**4.29**	**63**	P	**Pn**	**08 43 30.4**	**+0.2**
	baz=246,SNR=27						
N33A	**J Bar K, Exete**	**4.30**	**357**	IAmb_Lg		08 44 48.6	
	comp=Z,26nm,0.9s						
LCAR	**Lake Charles**	**4.84**	**93**	IAmb_Lg		08 44 53.7	
	comp=Z,22nm,0.8s						
CCM	**Cathedral Cave**	**4.96**	**69**	IAmb_Lg		08 44 58.0	
	comp=Z,46nm,0.8s						
CCAR	**Cane Creek**	**5.05**	**118**	IAmb_Lg		08 45 11.5	
	comp=Z,28nm,0.8s						
P40A	**Paris**	**5.06**	**51**	IAmb_Lg		08 45 03.3	
	comp=Z,30nm,0.9s						
KSCO	**Kaye Shedlock'**	**5.06**	**302**	IAmb_Lg		08 45 18.8	
	comp=Z,26nm,0.8s						
PBMO	**Poplar Bluff**	**5.40**	**84**	IAmb_Lg		08 45 21.4	
	comp=Z,24nm,0.8s						
L34A	**Svendsen Farm,**	**5.55**	**6**	IAmb_Lg		08 45 26.9	
	comp=Z,37nm,0.7s						
435B	**Jarrell**	**5.66**	**184**	IAmb_Lg		08 45 31.4	
	comp=Z,21nm,1.0s						
GNAR	**Gosnell**	**5.77**	**93**	IAmb_Lg		08 45 29.2	
	comp=Z,40nm,0.9s						
PEBM	**Pemiscott Bayo**	**5.88**	**91**	IAmb_Lg		08 45 42.9	
	comp=Z,37nm,0.9s						
T25A	**Trinidad**	**5.89**	**279**	IAmb_Lg		08 45 35.8	
	comp=Z,30nm,0.9s						
K31A	**O'Neill**	**6.30**	**349**	IAmb_Lg		08 45 49.0	
	comp=Z,31nm,0.9s						
GLAT	**Glass**	**6.33**	**89**	IAmb_Lg		08 45 50.3	
	comp=Z,29nm,0.8s						
JCT	**Junction City**	**6.35**	**201**	IAmb_Lg		08 45 54.5	
	comp=Z,35nm,1.2s						
S44A	**Carbondale**	**6.42**	**76**	IAmb_Lg		08 45 47.3	
	comp=Z,33nm,0.9s						
W45A	**Hickory Valley**	**6.58**	**99**	IAmb_Lg		08 45 51.3	
	comp=Z,26nm,0.9s						
OXF	**Oxford**	**6.58**	**105**	IAmb_Lg		08 45 54.7	
	comp=Z,27nm,0.9s						
UTMT	**University of**	**6.66**	**88**	IAmb_Lg		08 46 06.0	
	comp=Z,31nm,0.8s						
Y45A	**Yeager Farm, C**	**6.72**	**110**	IAmb_Lg		08 46 10.4	
	comp=Z,19nm,0.9s						
L40A	**Anamosa**	**7.24**	**37**	IAmb_Lg		08 46 14.2	
	comp=Z,26nm,0.8s						
O44A	**Mansfield**	**7.75**	**59**	IAmb_Lg		08 46 29.2	
	comp=Z,20nm,0.7s						
L42A	**Oliver, Polo**	**8.02**	**44**	IAmb_Lg		08 46 48.8	
	comp=Z,24nm,1.0s						
T47A	**Sharon Grove**	**8.06**	**83**	IAmb_Lg		08 46 51.8	
	comp=Z,22nm,1.1s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JFWS	Jewell Farm	8.36	37	IAmb_Lg		08 46 50.2	
	comp=Z,23nm,1.1s						
P46A	Rosedale	8.44	65	IAmb_Lg		08 46 56.2	
	comp=Z,17nm,0.8s						
M44A	Midewin, Midew	8.63	52	IAmb_Lg		08 46 56.1	
	comp=Z,22nm,1.0s						
SFIN	Lafayette	8.80	60	IAmb_Lg		08 47 09.8	
	comp=Z,12nm,0.8s						
K43A	Burlington	9.23	45	IAmb_Lg		08 47 22.3	
	comp=Z,21nm,1.0s						
K22A	Casper	9.54	313	IAmb_Lg		08 47 38.1	
	comp=Z,19nm,1.2s						
W50A	Signal Mountai	9.67	94	IAmb_Lg		08 47 35.4	
	comp=Z,13nm,1.1s						
P48A	Milroy	9.72	68	IAmb_Lg		08 47 38.4	
	comp=Z,13nm,0.7s						
I42A	Draeger Farm,	9.73	38	IAmb_Lg		08 47 34.7	
	comp=Z,14nm,1.2s						

*IDC **05** 08:44:09.4±10.0,49°.98N×173°.36W,h0km,mb3.4/3, mb1 3.7/5,mb1mx3.4/57,mbtmp3.6/5,ML2.8/2,Error ellipse: s-maj=253.7km s-min=27.2km az=162.0*

*NEIC **05** 08:44:22.4±1.0,51°.30N±0°.04×174°.31W±0°.05, h21km±11km,Error ellipse: s-maj=6.4km s-min=1.7km az=220.0*

*AEIC **05** 08:44:24±1.3,51°.38N±0°.06×174°.36W±0°.08,h42km±9km, ML3.1/22,mb3.7/7(NEIC),Error ellipse: s-maj=9.1km s-min=6.6km az=152.0*

ISC 05 08:44:23.8±1.1**,51°.3N**±0°.1×**174°.26W**±0°.05**,h38**km**,n32, σ0.90**/36**,mb4.0**/3**,Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATKA	Atka Island	0.89	2		Pn	08 44 39.1	-0.7
ATKA					Sn	08 44 52.4	+0.9
KOFP	Korovin Flat P	0.97	6		Pn	08 44 40.8	-0.1
KOKL	Mount Kliuchef	1.01	2		Pn	08 44 41.4	-0.2
KOSE	Korovin Southe	1.04	7		Pn	08 44 42.1	+0.2
GSIG	Igitkin Island	1.24	304		Pn	08 44 43.9	-0.7
GSIG					Sn	08 44 59.8	-0.3
GSMY	Great Sitkin M	1.34	304		Pn	08 44 45.2	-0.8
GSTR	Great Sitkin T	1.37	306		Pn	08 44 45.7	-0.6
GSTD	Great Sitkin T	1.39	303		Pn	08 44 46.2	-0.5
GSTD					Sn	08 45 04.8	+1.0
ADK	Adak	1.62	292		Pn	08 44 49.3	-0.5
ADK	Adak	1.62	292	Sn	Sn	08 45 09.6	+0.3
KIWB	Kanaga Island	1.89	288		Pn	08 44 53.6	+0.2
KIKV	Kanaga Island	1.90	288		Pn	08 44 53.9	+0.2
KIMD	Kanaga Island	1.91	285		Pn	08 44 53.5	-0.4
KICM	Kanaga Island	1.93	289		Pn	08 44 54.6	+0.5
TAFP	Tanaga Falls P	2.40	286		Pn	08 45 01.0	+0.5
TAFP					Sn	08 45 28.0	-0.6
TASE	Tanaga Southea	2.42	284		Pn	08 45 01.4	+0.5
GALAA	Gareloi Lava P	2.85	281		Pn	08 45 07.6	+0.8
NIKH	Nikolski High	3.72	61	Pn	Pn	08 45 18.9	+0.2
AMKA	Amchitka	4.04	273	Pn	Pn	08 45 22.6	-0.5
KDAK	Kodiak Island	14.11	54	Pn	Pn	08 47 37.8	-3.0
	0.1nm,0.3s,baz=293,slow=13,SNR=1.4						
KDAK	Kodiak Island	14.11	54	P	P	08 47 48.7	+0.9
CNPM	China Poot	15.37	49	P	Pn	08 48 00.4	+2.7
CNPM				IAmb	IAmb	08 48 09.6	
	comp=Z,15nm,1.2s						
PETK	Petropavlovsk-	17.24	287	P	P	08 48 23.7	+1.1
	comp=Z,0.1nm,0.3s,baz=85,slow=16,SNR=1.9						
FID	Port Fidalgo	18.03	48	P	Pn	08 48 30.8	-0.3
CCB	Clear Creek Bu	19.16	36	P	Pn	08 48 45.1	+0.4
IL31		19.56	36	P	P	08 48 48.3	+0.3
IL31				IAmb	IAmb	08 48 52.5	
	comp=Z,3.8nm,1.4s						
ILAR	Eielson Array	19.56	36	P	P	08 48 47.9	-0.2
	comp=Z,0.7nm,0.5s,baz=234,slow=8.5,SNR=12						
H24K	Noodor Dome	19.79	33	P	P	08 48 51.5	+0.9
H24K				IAmb	IAmb	08 48 55.8	
	comp=Z,2.3nm,0.8s						
SCRK	Sand Creek	20.32	40	P	P	08 48 55.9	-0.5
SCRK				IAmb	IAmb	08 49 08.8	
	comp=Z,2.0nm,0.9s						
EGAK	Eagle	21.76	39	P	P	08 49 12.0	+0.2
EGAK				IAmb	IAmb	08 49 32.2	
	comp=Z,7.6nm,1.1s						
KLR	Kul'dur	33.92	288	P	P	08 51 02.6	-0.3
	comp=Z,0.8nm,0.5s,baz=45,slow=7.1,SNR=2.3						
MKAR	Makanchi Array	62.27	311	P	P	08 54 41.1	-0.5
	comp=Z,0.2nm,0.4s,baz=57,slow=5.3,SNR=3.7						

*AEIC **05** 08:53:20±1.7,51°.33N±0°.04×177°.54W±0°.05,h19km±3km, ML5.0,mb5.3/167(NEIC),Error ellipse: s-maj=6.2km s-min=3.1km az=149.0*

*BJI **05** 08:53:21.1±0.0,51°.40N×177°.81W,h39km,mB5.0/30, mb5.0/56,Ms4.5/24,Ms7 4.2/24*

*MOS **05** 08:53:21.5±0.9,51°.59N×177°.57W,h39km,mb5.1/39, Error ellipse: s-maj=7.0km s-min=6.0km az=85.8*

*NEIC **05** 08:53:22.9±1.8,51°.47N±0°.06×177°.58W±0°.05,h36km±5km, Error ellipse: s-maj=8.1km s-min=5.0km az=180.0*

*IDC **05** 08:53:22.6±2.3,51°.58N×177°.58W,h33km±16km,mb4.4/37, mb1 4.5/39,mb1mx4.4/53,mbtmp4.6/39,ML4.2/2,MS3.9/34, Ms1 3.9/34,ms1mx3.8/54,Error ellipse: s-maj=12.9km s-min=8.7km az=166.0*

*GCMT **05** 08:53:24.0±0.3,51°.46N±0°.03×177°.47W±0°.03,h30km, MW4.9/76,Moment Tensor Solution. s42,c54; s76,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.02±.17; $M_{\theta\theta}$-0.41±.13; $M_{\phi\phi}$2.43±.11; $M_{r\theta}$0.54±.21; $M_{\theta\phi}$-1.05±.08; $M_{\phi r}$0.87±.12; Best double couple: $M_0$2.66600×10^{16} NP1:ϕ_s318.00000°,δ43.00000°,λ-127.00000°. NP2: ϕ_s184.00000°,δ57.00000°,λ-61.00000°. Principal axes: T 2.8680, Plg8.0000°, Azm253.0000°; N -0.4030, Plg24.0000°, Azm347.0000°; P -2.4630, Plg65.0000°, Azm146.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 08:53:24.0±0.7**,51°.61N**±0°.06×**177°.60W**±0°.03**,h47**km±5km**, n736,**σ**1.25**/722**,mb5.1**/168**,MS4.1**/43**,156C-152D,Fault plane solution: NP1:**ϕ_s191.16046°**,**δ88.51826°**,** λ-53.51944°. **NP2:**ϕ_s283.16330°**,**δ36.50646°**,** λ-177.50880°. **Principal axes:** T Plg33.3725°**,** Azm250.9341°**;** N Plg36.4664°**,** Azm10.0651°**;** P Plg35.9196°**,** Azm132.4342°**; Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIMD	Kanaga Island	0.27	56		Pn	08 53 30.6	-2.0
TASE	Tanaga Southea	0.35	310		Pn	08 53 32.6	-0.8
KIWB	Kanaga Island	0.37	49		Pn	08 53 32.1	-1.4
TAFP	Tanaga Falls P	0.38	321		Pn	08 53 33.0	-0.7
KIKV	Kanaga Island	0.38	44		Pn	08 53 32.5	-1.2
KICM	Kanaga Island	0.40	39		Pn	08 53 33.0	-0.8
TANO	Tanaga North	0.45	314		Pn	08 53 34.1	-0.3
TANO					Sn	08 53 44.2	+2.3
ADK	Adak	0.63	64	P	Pn	08 53 35.2	-1.5
ADK						08 53 45.7	
ADK	Adak	0.63	64		Pn	08 53 35.2	-1.5
ADAG	Mount Adagdak	0.72	59		Pn	08 53 37.2	-0.7
GAEA	Gareloi East	0.73	284		Pn	08 53 37.3	-0.8
GALAA	Gareloi Lava P	0.75	282		Pn	08 53 37.3	-0.9
ETKA	Kagalaska Isla	0.78	71		Pn	08 53 37.0	-1.8
GSTD	Great Sitkin T	1.01	63		Pn	08 53 40.9	-0.9
GSMY	Great Sitkin M	1.05	65		Pn	08 53 41.4	-1.0
GSTR	Great Sitkin T	1.07	62		Pn	08 53 42.2	-0.5
GSIG	Igitkin Island	1.11	69		Pn	08 53 41.8	-1.3
CERAA	Semis' Rag'd T	1.71	281		Pn	08 53 50.8	-0.6
CESW	Semis' Southwe	1.79	281		Pn	08 53 51.7	-0.7
CEAP	Semis' Anvil P	1.80	284		Pn	08 53 52.3	-0.2
AMKA	Amchitka	1.95	264		Pn	08 53 52.3	-2.3
ATKA	Atka Island	2.19	73		Sn	08 54 24.3	+0.6
ATKA	Atka Island	2.19	73		Pn	08 53 56.2	-1.7
KOKL	Mount Kliuchef	2.22	70		Pn	08 53 58.2	-0.2
KOFP	Korovin Flat P	2.27	72		Pn	08 53 58.6	-0.4
LSPA	Little Sitkin	2.40	280		Pn	08 54 00.4	-0.4
LSSE	Little Sitkin	2.40	279		Pn	08 54 00.6	-0.3
LSNW	Little Sitkin	2.44	280		Pn	08 54 00.6	-0.7
LSSA	Little Sitkin	2.44	280		Pn	08 54 00.8	-0.5
SMY	Shemya	5.23	286	P	Pn	08 54 38.5	-1.1
SMY	Shemya	5.23	286	Pn	Pn	08 54 38.5	-1.1
NIKH	Nikolski High	5.54	72	Pn	Pn	08 54 43.6	-0.2
NIKH	Nikolski High	5.54	72	P	Pn	08 54 44.3	+0.5
	baz=256,SNR=58						
OKSP	Okmok Steeple	5.93	70		Pn	08 54 50.3	+1.1
OKSO	Okmok South	6.03	69		Pn	08 54 52.1	+1.6
OKTU	Okmok Mt. Tuli	6.10	69		Pn	08 54 52.8	+1.2
MAPS	Pakushin South	6.84	67		Pn	08 55 02.8	+1.2
MSW	Makushin Switc	6.96	66		Pn	08 55 04.8	+1.5
MTBL	Makushin Table	7.03	66		Pn	08 55 05.7	+1.4
SPIA	Saint Paul Isl	7.04	35	Pn	Pn	08 55 05.6	+1.3
SPIA	Saint Paul Isl	7.04	35	P	Pn	08 55 05.6	+1.3
	baz=219,SNR=14						
UNV	Unalaska Valle	7.10	67	Pn	Pn	08 55 05.4	+0.2
UNV	Unalaska Valle	7.10	67	P	Pn	08 55 06.4	+1.2
	baz=254,SNR=60						
AKRB	Akutan Reef Bi	7.42	66		Pn	08 55 11.7	+2.1
AKMO	Akutan Morgan	7.44	66		Pn	08 55 12.1	+2.1
AKGG	Akutan Green G	7.48	65		Pn	08 55 11.9	+1.4
AKBBA	Akutan Broad B	7.49	66		Pn	08 55 12.6	+2.0
AKLV	Akutan Long Va	7.49	65		Pn	08 55 11.8	+1.1
HSB	Akutan Spr's B	7.53	65		Pn	08 55 12.2	+1.1
AKSA	Akutan Strait	7.63	66		Pn	08 55 13.6	+1.1
WECS	Westdahl Cape	8.26	64		Pn	08 55 22.9	+1.8
WTUG	Tugumak	8.56	63		Pn	08 55 27.0	+1.7
ISLZ	Isanotski Laza	8.91	64		Pn	08 55 31.6	+1.6
FALS	False Pass	9.11	64	P	Pn	08 55 35.4	+2.8
	baz=253,SNR=19						
DT1	Dutton Round H	9.80	63		Pn	08 55 43.8	+1.6
SDPT	Sand Point	10.86	63	P	Pn	08 55 56.6	-0.1
	baz=256,SNR=9.6						
CNBA	Chernabura Isl	11.26	66		Pn	08 56 00.5	-1.6
CHNA	Chernabura Isl	11.26	66	P	Pn	08 56 00.3	-1.9
	baz=259						
CHGN	Chignik	12.22	60	Pn	Pn	08 56 14.4	-0.8
CHGN	Chignik	12.22	60	P	Pn	08 56 14.6	-0.6
	baz=254						
GAMB	Gambell	12.59	12	P	Pn	08 56 24.0	+3.8
	baz=197,SNR=9.0						
SII	Sitkinak Islan	14.57	61		Pn	08 56 45.7	-1.4
SII	Sitkinak Islan	14.57	61	P	Pn	08 56 45.6	-1.5
	baz=259						
PET	Petropavlovsk	14.58	285	*e*P	Pn	08 56 47.1	-0.1
PET				*e*S	Sn	08 59 26.8	-0.5
PET				MLR	MLR		
	comp=Z,400nm,15.0s						
PET				MLR	MLR		
	comp=Z,500nm,16.0s						
O18K	Koktuh Hills	15.01	48		Pn	08 56 54.5	+1.7
O18K				IAmb	IAmb	08 57 13.0	
	comp=Z,76nm,1.1s						
O18K	Koktuh Hills	15.01	48	P	P	08 56 56.4	-1.0
	baz=246,SNR=18						
N18K	Kilae Creek	15.06	44	P	P	08 56 57.1	-0.9
	baz=242,SNR=23						
PEA0B	Petropavlovsk-	15.15	285	*i* P	Pn	08 56 55.0	+0.3
PETK	Petropavlovsk-	15.15	285	Pn	P	08 56 58.7	-0.3
	comp=Z,0.2nm,0.3s,baz=52,slow=41,SNR=4.0						
PETK				LR	LR	09 02 21.9	
	comp=Z,646nm,21.7s,baz=104,slow=36						
PETK	Petropavlovsk-	15.15	285	P	Pn	08 56 53.0	-1.7
PETK	Petropavlovsk-	15.15	285	Pn	Pn	08 56 53.0	-1.7
OHAK	Old Harbor	15.18	59	P	Pn	08 56 52.1	-2.9
	baz=258,SNR=16						
Q19K	Cape Douglas,	15.43	52	P	Pn	08 56 59.2	+0.9
	baz=251,SNR=10						
O19K	Port Alsworth	15.55	47	P	P	08 57 03.7	+0.2
	baz=246,SNR=17						
KDAK	Kodiak Island	15.67	57	Pn	Pn	08 56 58.9	-2.4
	comp=Z,1.0nm,0.3s,baz=280,slow=7.6,SNR=37						
KDAK				Sn	Sn	08 59 44.6	-9.1
	comp=Z,1.4nm,0.3s,baz=37,slow=12,SNR=2.6						
KDAK	Kodiak Island	15.67	57	P	Pn	08 56 59.2	-2.2
	baz=256						
N19K	Bonanza Creek	15.74	45	P	P	08 57 05.8	+0.2
N19K	Bonanza Creek	15.74	45	P	P	08 57 05.6	0.0
	baz=244,SNR=46						
P19K	Oil Pt	15.87	50	P	P	08 57 05.8	-1.1
P19K				IAmb	IAmb	08 57 19.3	
	comp=Z,70nm,0.5s						
P19K	Oil Pt	15.87	50	P	P	08 57 09.9	+3.0
	baz=249						
L19K	White Mountain	16.22	40	P	P	08 57 11.4	+0.5
	baz=239,SNR=91						
M19K	Big River Lodg	16.27	42	P	P	08 57 11.4	0.0
M19K	Big River Lodg	16.27	42	P	P	08 57 12.2	+0.7
	baz=240						
O20K	Slope Mountain	16.30	49	P	P	08 57 12.0	+0.2
	baz=249,SNR=9.2						
SKR	Severo-Kuril's	16.49	277	*ce*P	Pn	08 57 12.5	+0.7
HOM	Homer	16.63	51	P	P	08 57 15.6	+0.2
	baz=252						
L20K	Farewell, AK	16.77	40	P	P	08 57 18.3	+1.4
	baz=240,SNR=38						
M20K	Styx River	16.79	43	P	P	08 57 19.3	+2.0
	baz=243,SNR=18						
SPCR	Spurr Chakacha	16.91	46	P	P	08 57 20.6	+2.1
	baz=246,SNR=20						
BRSE	Bradley Lake S	17.09	51	P	Pn	08 57 19.4	+0.1
	baz=253						
K20K	Telida	17.14	38	P	P	08 57 23.1	+2.0
	baz=237,SNR=27						
SKT	Skwentna	17.52	44	P	P	08 57 27.3	+2.1
	baz=245,SNR=72						
J20K	Nowinta River	17.57	35	P	P	08 57 27.0	+1.2
J20K	Nowinta River	17.57	35	P	P	08 57 28.0	+2.3
	baz=235,SNR=29						
PPLA	Purkeypile	17.65	40	P	P	08 57 28.1	+1.3
PPLA				IAmb	IAmb	08 57 44.0	
	comp=Z,167nm,1.4s						
PPLA	Purkeypile	17.65	40	P	P	08 57 29.3	+2.5
	baz=241,SNR=11						
SUA	Susitna One	17.66	46	P	P	08 57 28.1	+1.2
	baz=247,SNR=18						
O22K	Cooper Landing	17.80	49	P	P	08 57 28.6	+0.4
O22K				IAmb	IAmb	08 57 42.5	
	comp=Z,210nm,0.7s						
O22K	Cooper Landing	17.80	49	P	P	08 57 28.5	+0.3
	baz=252,SNR=11						
SEW	Seward	17.82	51	P	P	08 57 28.1	-0.3
	baz=253,SNR=18						
RDOG	Red Dog Mine	17.98	18	P	P	08 57 35.1	+4.8
	baz=210,SNR=11						
RC01	Rabbit Creek A	17.98	47	P	P	08 57 31.6	+1.3
RC01	Rabbit Creek A	17.98	47	P	P	08 57 32.0	+1.7
	baz=250						
CHUM	Lake Minchumin	18.09	38	P	Pn	08 57 34.1	+2.6
	baz=238,SNR=25						
CUT	Chulitna	18.23	43	P	P	08 57 32.5	-0.5
	baz=246,SNR=6.0						
BILL	Bilibino	18.26	341	*de*P	Pn	08 57 34.8	+1.3
BILL				pmax	pmax		
	comp=Z,12nm,0.4s						
BILL				MLR	MLR		
	comp=Z,313nm,17.0s						
PMR	Palmer	18.43	46	P	Pn	08 57 35.8	+0.2
PMR				pmax	pmax		
	comp=Z,24nm,1.2s						
PMR	Palmer	18.43	46	P	Pn	08 57 35.8	+0.2
PMR	Palmer	18.43	46	P	Pn	08 57 37.2	+1.6
	baz=249						
KTH	Kantishna Hill	18.47	39	P	Pn	08 57 37.4	+1.2
KTH				IAmb	IAmb	08 57 39.0	
	comp=Z,115nm,0.7s						
GHO	Glory Hole Cre	18.58	46	P	Pn	08 57 37.2	-0.4
TRF	Thorofare Moun	18.67	40	P	Pn	08 57 39.6	+0.8
TRF				IAmb	IAmb	08 57 57.7	
	comp=Z,87nm,1.0s						
TRF	Thorofare Moun	18.67	40	P	Pn	08 57 39.3	+0.5
	baz=243,SNR=28						
KNK	Knik Glacier	18.67	47	P	P	08 57 37.9	0.0
KNK	Knik Glacier	18.67	47	P	Pn	08 57 38.1	-0.5
	baz=251,SNR=7.1						
BPAW	Bear Paw Mtn.	18.70	38	P	Pn	08 57 40.6	+1.6
	baz=240,SNR=32						
IMAR	Indian Mountai	18.79	31		Pn	08 57 41.2	+1.2
SML	Sawmill	18.86	46	P	Pn	08 57 42.7	+1.8
	baz=250						
I21K	Tanana	18.91	34	P	Pn	08 57 42.2	+0.8
I21K	Tanana	18.91	34	P	Pn	08 57 43.2	+1.9
	baz=236,SNR=43						
WAT1	Susitna Watana	19.13	43	P	Pn	08 57 43.4	-0.7
	baz=247						
GLI	Glacier Island	19.15	49	P	Pn	08 57 44.6	+0.3
GLI	Glacier Island	19.15	49	P	Pn	08 57 44.3	0.0
	baz=254						
RND	Reindeer	19.23	41	P	P	08 57 44.3	+0.2
RND				pmax	pmax		
	comp=Z,42nm,0.8s						
RND	Reindeer	19.23	41	P	P	08 57 44.3	+0.2
MLY	Manley	19.27	36	P	Pn	08 57 46.4	+0.6
MLY	Manley	19.27	36	P	Pn	08 57 46.8	+1.0
	baz=238,SNR=69						
HIN	Hinchinbrook I	19.32	51	P	P	08 57 44.6	-0.3
HIN				IAmb	IAmb	08 57 50.1	
	comp=Z,93nm,1.2s						
SCM	Sheep Creek Mo	19.32	46	P	Pn	08 57 45.6	-0.8
SCM				pmax	pmax		
	comp=Z,41nm,0.7s						
SCM	Sheep Creek Mo	19.32	46	P	Pn	08 57 45.6	-0.8
BWN	Browne	19.33	39	P	Pn	08 57 47.2	+0.8
BWN				IAmb	IAmb	08 57 58.3	
	comp=Z,117nm,0.9s						
MCK	McKinley	19.34	40	P	Pn	08 57 46.3	-0.3
MCK				pmax	pmax		
	comp=Z,40nm,0.7s						
MCK	McKinley	19.34	40	P	Pn	08 57 46.3	-0.3
MCK	McKinley	19.34	40	P	P	08 57 45.6	+0.4
	baz=244,SNR=18						
WAT6	Susitna Watana	19.39	44	P	P	08 57 46.1	+0.2
	baz=249,SNR=17						
FID	Port Fidalgo	19.41	50	P	P	08 57 45.7	-0.3
MA2	Magadan	19.41	307	LR	LR	09 05 01.2	
	comp=Z,330nm,18.2s,baz=111,slow=36						
SEY	Seymchan	19.58	317	P	Pn	08 57 49.5	0.0
	comp=Z,0.6nm,0.3s,baz=116,slow=12,SNR=9.7						
SEY				LR	LR	09 04 52.4	
	comp=Z,557nm,21.3s,baz=110,slow=35						
SEY	Seymchan	19.58	317	*i* P	Pn	08 57 49.3	-0.1
NEA2	Nenana	19.68	38	P	Pn	08 57 50.2	-0.3
NEA2	Nenana	19.68	38	P	Pn	08 57 50.0	-0.5
	baz=242,SNR=31						
EYAK	Cordova Ski Ar	19.71	51	P	Pn	08 57 50.3	-0.7
	baz=257						
I23K	Minto, Yukon-K	19.83	36	P	Pn	08 57 52.3	-0.1
I23K	Minto, Yukon-K	19.83	36	P	Pn	08 57 52.2	-0.1
	baz=240,SNR=38						
KLU	Klutina	19.86	48	P	Pn	08 57 53.3	+0.5
	baz=254,SNR=17						
M24K	Tolsona, Glenn	19.92	46	P	Pn	08 57 54.6	+1.1
	baz=252,SNR=9.7						
H23K	Yukon River	20.11	34	P	Pn	08 57 55.5	-0.3
H23K	Yukon River	20.11	34	P	Pn	08 57 55.8	+0.1
	baz=238,SNR=37						
MDM	Murphy Dome	20.16	37	P	P	08 57 54.9	+0.8
CCB	Clear Creek Bu	20.18	38	P	P	08 57 55.0	+0.7
TCOL	CIGO, UAF Yank	20.27	38	P	Pn	08 57 57.0	-0.4
	baz=243						
COLA	College	20.27	38	P	Pn	08 57 56.7	-0.8
COLA				pmax	pmax		
	comp=Z,63nm,0.9s						
BMRM	Bremner River	20.35	50	P	Pn	08 57 58.6	0.0
	baz=257						
HDA	Harding Lake	20.42	39	P	P	08 57 57.7	+0.8
	baz=245,SNR=20						
HARP	HAARP	20.46	46	P	Pn	08 58 00.6	+0.7
	baz=252,SNR=7.1						
PAX	Paxson	20.50	44	P	Pn	08 57 59.7	-0.7
	baz=251,SNR=17						
N25K	Chitina, Valde	20.50	48	P	Pn	08 58 01.0	+0.5
	baz=255,SNR=12						
POKR	Poker Plat Res	20.54	37	P	Pn	08 58 00.3	-0.5
	baz=243,SNR=5.1						
ILAR	Eielson Array	20.59	38	P	P	08 57 57.6	-1.2
	comp=Z,6.4nm,0.8s,baz=230,slow=8.6,SNR=38						
ILAR				S	S	09 01 46.7	+0.6
	comp=Z,0.7nm,0.7s,baz=246,slow=20,SNR=2.3						
ILAR				PcP	PcP	09 02 07.0	-0.6
	comp=Z,3.2nm,0.5s,baz=271,slow=3.2,SNR=11						
ILAR				ScP	ScP	09 05 42.3	+2.3
	comp=Z,1.0nm,0.8s,baz=287,slow=2.9,SNR=4.9						
COLD	Coldfoot	20.67	30	P	Pn	08 58 01.7	-0.6
COLD	Coldfoot	20.67	30	P	Pn	08 58 01.8	-0.5
	baz=234,SNR=39						
H24K	Noodor Dome	20.71	35	P	Pn	08 58 02.3	-0.6
H24K	Noodor Dome	20.71	35	P	Pn	08 58 01.9	-0.9
	baz=240,SNR=19						
GLB	Gilahina Butte	20.83	49	P	P	08 58 02.3	+0.9
GLB				IAmb	IAmb	08 58 15.0	
	comp=Z,73nm,1.2s						
RIDG	Independent Ri	21.02	42	P	P	08 58 03.6	+0.1
RIDG				IAmb	IAmb	08 58 32.4	
	comp=Z,42nm,0.6s						
RIDG	Independent Ri	21.02	42	P	P	08 58 03.5	+0.1
	baz=250,SNR=17						
J25K	Salcha River,	21.13	40	P	P	08 58 03.7	-0.8
	baz=247,SNR=16						
DOT	Dot Lake	21.32	43	P	P	08 58 06.6	0.0
DOT				IAmb	IAmb	08 58 09.6	
	comp=Z,51nm,0.7s						
ISLE	Juniper Island	21.38	51	P	P	08 58 10.0	+2.6
M26K	Nabesna, AK	21.43	46	P	P	08 58 10.1	+2.3
	baz=255,SNR=11						
PRP	Porcupine Dome	21.43	37	P	P	08 58 07.8	-0.2
	baz=244,SNR=11						
L26K	Log Cabin Wild	21.44	45	P	P	08 58 09.1	+1.2
L26K				IAmb	IAmb	08 58 24.5	
	comp=Z,48nm,0.8s						
L26K	Log Cabin Wild	21.44	45	P	P	08 58 08.9	+1.0
	baz=253,SNR=35						
SCRK	Sand Creek	21.46	42	P	P	08 58 08.6	+0.3
SCRK	Sand Creek	21.46	42	P	P	08 58 07.8	-0.4
	baz=250,SNR=23						
TOLK	Toolik Lake Re	21.71	28	P	P	08 58 12.7	+1.9
	baz=232,SNR=17						
J26K	Charley River,	21.74	40	P	P	08 58 10.9	-0.2
	baz=249,SNR=31						
CTG	Chitna Glacier	21.92	51	P	P	08 58 14.1	+0.9
	baz=260						
M27K	Edge Creek, AK	21.93	47	P	P	08 58 15.6	+2.3
M27K	Edge Creek, AK	21.93	47	P	P	08 58 15.4	+2.2
	baz=256,SNR=17						
FYU	Fort Yukon	22.00	35	P	P	08 58 15.1	+1.2
L27K	Beaver Creek,	22.12	45	P	P	08 58 16.1	+0.9
	baz=255,SNR=20						
K27K	Chicken	22.28	42	P	P	08 58 17.2	+0.4
K27K	Chicken	22.28	42	P	P	08 58 17.4	+0.5
	baz=252						
BVCY	Beaver Creek	22.40	47	P	P	08 58 19.1	+0.8
	baz=258,SNR=13						
YUK3	Moose Creek	22.47	49	P	P	08 58 19.4	+0.3
	baz=260,SNR=5.6						
EGAK	Eagle	22.88	41	P	P	08 58 23.9	+0.7
EGAK	Eagle	22.88	41	P	P	08 58 23.4	+0.2
	baz=252,SNR=21						
YUK4	Talbot Arm	23.26	50	P	P	08 58 27.8	+0.5
	baz=262						
YUK6	Outpost Mounta	23.36	51	P	P	08 58 27.0	-1.2
	baz=264						
DAWY	Dawson	23.43	43	P	P	08 58 28.7	+0.1
DAWY	Dawson	23.43	43	P	P	08 58 28.6	0.0
	baz=255,SNR=22						
HYT	Haines Junctio	23.76	52	P	P	08 58 31.4	-0.6
HYT	Haines Junctio	23.76	52	P	P	08 58 31.7	-0.3
	baz=265						
TYV	Tymovskoe	24.69	284	*e*P	P	08 58 49.6	+9.3
TYV				pmax	pmax		
	comp=Z,17nm,1.3s						
TYV				pmax	pmax		
	comp=Z,100nm,3.9s						
EPYK	Eagle Plains	25.11	38	P	P	08 58 43.3	-0.7
	baz=254						
FARO	Faro, Yukon	25.85	49	P	P	08 58 50.8	-0.1
	baz=266						
YSS	Yuzh-Sakhalins	26.05	275⥣	*e*P	P	08 58 51.7	-0.9
YSS				*e*		08 59 02.4	
YSS				*e*S	S	09 03 15.6	-4.6
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS				pmax	pmax		
	comp=Z,100nm,5.2s						
YSS				MLR	MLR		
	comp=N,200nm,13.0s						
INK	Inuvik	26.84	35	P	P	08 58 59.5	0.0
	comp=N,6.7nm,0.3s,baz=237,slow=7.6,SNR=99						
INK				PcP	PcP	09 02 21.4	+0.6
	comp=N,17nm,0.9s,baz=264,slow=4.2,SNR=11						
INK				ScP	ScP	09 05 58.8	+2.0
	comp=N,1.6nm,0.7s,baz=46,slow=3.4,SNR=7.4						
INK				LR	LR	09 10 30.0	
	comp=N,322nm,20.1s,baz=243,slow=38						
INK	Inuvik	26.84	35	P	P	08 58 59.7	+0.1
	baz=254,SNR=8.8						
MMPY	Sheldon Lake,	26.84	48	P	P	08 59 00.5	+0.7
	baz=267,SNR=6.6						
DIB	Dawson Inlet,	27.23	69	P	P	08 59 05.1	+1.9

DIB IAmb IAmb 08 59 08.1
comp=Z,33nm,0.8s
ASAJ Asahikawa 27.46 270 P **P** **08 59 06.0 +0.6**
comp=Z,8.2nm,0.8s,baz=6.4,slow=8.6,SNR=6.8
ASAJ LR LR 09 12 16.2
comp=Z,134nm,18.0s,baz=30,slow=41
MOBC Moresby Island 27.54 69 P **P** **08 59 07.2 +1.1**
MOBC IAmb IAmb 08 59 11.6
comp=Z,34nm,0.9s
DLBC Dease Lake 27.61 57 P **P** **08 59 06.8 +0.1**
comp=Z,1.6nm,0.5s,baz=285,slow=14,SNR=2.7
DLBC PcP **PcP** **09 02 23.9 +0.9**
comp=Z,3.2nm,0.8s,baz=102,slow=6.1,SNR=3.7
DLBC LR LR 09 11 13.4
comp=Z,371nm,19.1s,baz=278,slow=39
YAK Yakutsk 29.83 311 PcP **PcP** **09 02 28.5 +0.2**
comp=Z,19nm,0.6s,baz=284,slow=1.1,SNR=6.2
YAK LR LR 09 11 60.0
comp=Z,370nm,18.2s,baz=91,slow=37
YAK Yakutsk 29.83 311 *i* P **P** **08 59 26.8 +0.5**
YAK pmax pmax
comp=Z,6.0nm,0.8s
BBB Bella Bella 30.07 69 P **P** **08 59 30.4 +1.9**
comp=Z,39nm,0.8s,baz=293,slow=8.9,SNR=49
BBB LR LR 09 11 17.7
comp=Z,169nm,18.3s,baz=255,slow=36
WRGLY Wrigley 30.41 46 P **P** **08 59 31.9 +0.5**
baz=273
TIXI Tiksi 30.81 330 PcP **PcP** **09 02 30.8 +0.1**
comp=Z,14nm,0.5s,baz=110,slow=2.5,SNR=12
KLR Kulʲdur 31.84 286*ce*P **P** **08 59 44.0 -0.1**
KLR pmax pmax
comp=Z,18nm,1.5s
ZEA Zeya 32.80 296 *e*P P 09 00 03.9 +11
ZEA MLR MLR
comp=Z,100nm,16.0s
USA0B Ussuriysk Arra 34.01 278 *i* P **P** **09 00 02.6 -0.5**
USRK Ussuriysk Ar. 34.01 278 P **P** **09 00 02.5 -0.7**
comp=Z,4.7nm,0.6s,baz=59,slow=10,SNR=14
USRK PcP **PcP** **09 02 41.0 +1.0**
comp=Z,3.9nm,0.8s,baz=5.5,slow=0.6,SNR=7.6
H11N2 WAKE ISLAND Hy 34.06 207 T T 09 36 18.4
baz=18,slow=76
H11N3 WAKE ISLAND Hy 34.07 207 T T 09 36 27.7
baz=18,slow=76
H11N1 WAKE ISLAND Hy 34.08 207 T T 09 36 22.9
baz=18,slow=76
LLLB Lilooet 34.28 69 P **P** **09 00 07.1 +1.7**
LLLB IAmb IAmb 09 00 08.0
comp=Z,36nm,0.6s
YKA Yellowknife Ar 34.53 47 P **P** **09 00 06.8 -0.5**
comp=Z,9.7nm,0.8s,baz=292,slow=7.1,SNR=22
YKA PcP **PcP** **09 02 42.0 +0.9**
comp=Z,12nm,0.8s,baz=291,slow=1.7,SNR=17
YKA LR LR 09 14 45.6
comp=Z,346nm,21.5s,baz=0.0,slow=37
YKA Yellowknife Ar 34.53 47⇑ *e*P **P** **09 00 06.9 -0.5**
YKA pmax pmax
comp=Z,9.0nm,0.5s
MJAR Matsushiro Arr 34.56 262 P **P** **09 00 08.3 +0.4**
comp=Z,1.1nm,0.8s,baz=58,slow=8.2,SNR=6.3
MJAR PcP **PcP** **09 02 42.1 +0.4**
comp=Z,2.0nm,0.7s,baz=84,slow=3.7,SNR=5.6
MJAR LR LR 09 12 00.4
comp=Z,173nm,21.8s,baz=40,slow=32
MJAR Matsushiro Arr 34.56 262 P **P** **09 00 08.4 +0.4**
MAJO Matsushiro 34.56 262 *i* P **P** **09 00 08.9 +0.9**
MAJO Matsushiro 34.56 262 P **P** **09 00 09.0 +1.0**
MAJO IAmb IAmb 09 00 24.3
comp=Z,22nm,1.1s
MAT Matsushiro 34.56 262 P **P** **09 00 07.9 -0.1**
MAT *e*S **S** **09 05 34.0 +0.3**
VLA Vladivostok 34.64 276 *i* P **P** **09 00 08.7 +0.2**
VLA pmax pmax
comp=Z,11nm,0.6s
E03A Lebam 35.07 76 P **P** **09 00 14.3 +2.1**
E03A IAmb IAmb 09 00 15.1
comp=Z,60nm,0.9s
B05A Bryant 35.15 73 P **P** **09 00 15.0 +2.1**
baz=296,SNR=48
D04E Lakebay 35.25 75 P **P** **09 00 16.6 +2.8**
baz=298
H11S1 WAKE ISLAND Hy 35.28 206 T T 09 38 00.6
baz=17,slow=76
H11S2 WAKE ISLAND Hy 35.30 206 T T 09 37 50.8
baz=17,slow=76,SNR=5494
H11S3 WAKE ISLAND Hy 35.30 206 T T 09 38 04.5
baz=17,slow=76,SNR=6269
MSHR Mys Shultsa 35.38 276*ce*P **P** **09 00 15.6 +0.7**
MSHR pmax pmax
comp=Z,10.0nm,1.0s
F04D Rainier, OR 35.63 77 P **P** **09 00 19.2 +2.1**
baz=299,SNR=6.5
E04D Cinebar 35.67 76 P **P** **09 00 19.9 +2.5**
baz=298,SNR=48
D05A Enumclaw 35.72 75 P **P** **09 00 20.4 +2.6**
G03D McMinnville, O 35.91 78 P **P** **09 00 21.4 +1.9**
baz=300
C06D Leavenworth 36.03 73 P **P** **09 00 22.2 +1.7**
baz=297,SNR=6.6
LON Longmire 36.03 75 P **P** **09 00 22.4 +1.8**
LON pmax pmax
comp=Z,25nm,0.8s
LON Longmire 36.03 75 P **P** **09 00 22.4 +1.8**
LON IAmb IAmb 09 00 26.1
comp=Z,25nm,0.8s
F04A Amboy 36.06 77 P **P** **09 00 22.7 +2.0**
F04A IAmb IAmb 09 00 23.2
comp=Z,49nm,0.8s
I02D Swisshome 36.12 80 P **P** **09 00 23.2 +1.9**
baz=301
COR Corvallis 36.20 79 P **P** **09 00 21.3 -0.7**
COR pmax pmax
comp=Z,188nm,1.9s
COR Corvallis 36.20 79 P **P** **09 00 21.3 -0.7**
LTY Liberty 36.47 74 P **P** **09 00 25.6 +1.2**
LTY IAmb IAmb 09 00 26.4
comp=Z,98nm,1.6s
J01E Myrtle Point 36.56 82 P **P** **09 00 26.9 +1.8**
baz=302
H04D Lebanon 36.58 79 P **P** **09 00 27.4 +2.2**
baz=301,SNR=9.7
I03D Drain, OR 36.64 81 P **P** **09 00 27.5 +1.8**
baz=302
F05D White Salmon 36.67 76 P **P** **09 00 27.5 +1.5**
baz=300,SNR=7.9
K02D Willamette Mer 36.98 82 P **P** **09 00 30.4 +1.6**
baz=303,SNR=5.2
G05D Wamic, OR 37.08 77 P **P** **09 00 31.1 +1.6**
baz=300,SNR=15
I04A Tendick Farm, 37.16 80 P **P** **09 00 31.9 +1.7**
baz=302,SNR=29
E07A Sunnyside 37.30 74 P **P** **09 00 32.7 +1.4**
E07A IAmb IAmb 09 00 33.6
comp=Z,131nm,1.8s
L02E Cave Junction 37.31 83 P **P** **09 00 32.9 +1.4**
baz=303,SNR=5.9
I05D Terrebonne, OR 37.53 78 P **P** **09 00 34.9 +1.5**
baz=301,SNR=23
HAWA Hanford 37.58 74 P **P** **09 00 34.9 +1.3**
D08A Wollman Farm, 37.62 73 P **P** **09 00 35.0 +1.0**
D08A IAmb IAmb 09 00 35.8
comp=Z,39nm,0.8s
C09A Chrisman Ranch 37.64 72 P **P** **09 00 35.5 +1.3**
J04D Umpqua Nationa 37.64 80 P **P** **09 00 36.5 +2.0**
baz=302,SNR=20
L04D Klamath Falls 38.08 82 P **P** **09 00 39.8 +1.7**
baz=303,SNR=6.9
NEW Newport 38.10 70 P **P** **09 00 39.3 +1.2**
NEW pmax pmax
comp=Z,112nm,0.7s
NEW Newport 38.10 70 P **P** **09 00 39.3 +1.2**
NEW Newport 38.10 70 P **P** **09 00 39.1 +1.0**
baz=298,SNR=33
J05D Fort Rock, OR 38.16 80 P **P** **09 00 40.8 +2.0**
baz=302,SNR=37
K04D Chiloquin, OR 38.20 81 P **P** **09 00 40.8 +1.8**
baz=303,SNR=7.3
M02C Callahan 38.21 83 P **P** **09 00 40.7 +1.6**
baz=304,SNR=7.5
N02D Trinity Center 38.54 84 P **P** **09 00 43.6 +1.7**
baz=305,SNR=8.0
M04C Macdoel 38.62 82 P **P** **09 00 44.3 +1.7**
baz=304,SNR=19
I07A Izee 38.79 78 P **P** **09 00 45.7 +1.7**
I07A IAmb IAmb 09 00 46.4
comp=Z,42nm,0.8s

JCJ Chichijima 38.86 247 P **P** **09 00 43.9 -0.7**
comp=Z,23nm,0.6s,baz=264,slow=17,SNR=1.6
JCJ LR LR 09 13 47.9
comp=Z,195nm,20.4s,baz=31,slow=32
O02D Mt. Diablo Mer 38.95 85 P **P** **09 00 47.4 +2.0**
baz=306,SNR=9.3
RES Resolute Bay 39.22 25 LR LR 09 19 25.2
comp=Z,258nm,20.6s,baz=251,slow=40
O03E Paynes Creek 39.49 84 P **P** **09 00 50.7 +0.8**
baz=306,SNR=16
BMO Blue Mountains 39.71 75 P **P** **09 00 52.6 +0.9**
BMO pmax pmax
comp=Z,25nm,1.1s
BMO Blue Mountains 39.71 75 P **P** **09 00 52.5 +0.9**
JTMT Jette 40.02 70 P **P** **09 00 55.4 +1.2**
JTMT IAmb IAmb 09 00 55.8
comp=Z,42nm,0.7s
WVOR Wild Horse Val 40.22 79 P **P** **09 00 57.7 +1.7**
WVOR pmax pmax
comp=Z,35nm,0.9s
WVOR Wild Horse Val 40.22 79 P **P** **09 00 57.6 +1.7**
WVOR IAmb IAmb 09 00 58.2
comp=Z,35nm,0.8s
PLID Pearl Lake 40.37 74 P **P** **09 00 58.2 +0.9**
KSRS Korea Array 40.38 271 P **P** **09 00 58.0 +0.9**
comp=Z,3.3nm,0.7s,baz=56,slow=8.3,SNR=10
KSRS LR LR 09 16 54.1
comp=Z,76nm,20.9s,baz=62,slow=35
MSO Missoula 40.68 71 P **P** **09 01 00.4 +0.7**
baz=301,SNR=65
PNTR Pine Nut 41.57 84 P **P** **09 01 08.2 +0.9**
PNTR IAmb IAmb 09 01 18.2
comp=Z,47nm,0.7s
HLID Hailey 42.16 75 P **P** **09 01 12.8 +0.9**
baz=304,SNR=49
EGMT Eagleton 42.50 67 P **P** **09 01 14.6 +0.1**
baz=301,SNR=13
BOZ Bozeman (W) 42.70 71 P **P** **09 01 17.2 +1.0**
BOZ pmax pmax
comp=Z,86nm,0.7s
BOZ Bozeman (W) 42.70 71 P **P** **09 01 17.2 +1.0**
BOZ Bozeman (W) 42.70 71 P **P** **09 01 16.7 +0.5**
baz=302,SNR=148
NVAR Mina Array Bea 42.78 84 P **P** **09 01 18.2 +1.1**
comp=Z,13nm,0.8s,baz=291,slow=8.3,SNR=34
NVAR PcP **PcP** **09 03 08.6 +0.9**
comp=Z,4.2nm,0.8s,baz=281,slow=2.4,SNR=7.1
NVAR LR LR 09 15 39.5
comp=Z,150nm,20.6s,baz=280,slow=31
MLAC Mammoth, Mammo 42.94 85 P **P** **09 01 21.0 +2.6**
baz=308
PAGB Antelope Grade 43.26 88 P **P** **09 01 20.8 0.0**
PAGB IAmb IAmb 09 01 22.7
comp=Z,35nm,1.0s
ELK Elko 43.27 79 P **P** **09 01 21.5 +0.4**
ELK pmax pmax
comp=Z,16nm,0.8s
ELK Elko 43.27 79 P **P** **09 01 21.5 +0.4**
DL2 Dalian 43.40 278 P **P** **09 01 23.7 +1.9**
DL2 pmax pmax
comp=Z,20nm,1.1s
YHB Horse Butte 43.42 72 P **P** **09 01 22.0 -0.2**
YHB IAmb IAmb 09 01 24.2
comp=Z,89nm,0.9s
YMR Madison River 43.60 72 P **P** **09 01 23.5 -0.1**
YMR IAmb IAmb 09 01 25.8
comp=Z,77nm,0.9s
YHH Holmes Hill 43.60 72 P **P** **09 01 23.5 -0.2**
TPH Tonopah 43.67 84 P **P** **09 01 24.0 -0.2**
TPH pmax pmax
comp=Z,119nm,1.0s
TPH Tonopah 43.67 84 P **P** **09 01 24.0 -0.2**
TIN Tinemaha, Big 43.68 85 P **P** **09 01 25.8 +1.6**
baz=309,SNR=12
GCMT Greycliff 43.74 70 P **P** **09 01 25.2 +0.5**
YNR Norris Junctio 43.74 72 P **P** **09 01 25.6 +0.8**
YNR IAmb IAmb 09 01 27.5
comp=Z,91nm,1.0s
YUF Upper Falls 43.84 71 P **P** **09 01 25.9 +0.3**
YUF IAmb IAmb 09 01 27.5
comp=Z,35nm,1.0s
VES Vestal, Richgr 43.92 87 P **P** **09 01 26.4 +0.4**
baz=310,SNR=12
YPP Pitchstone Pla 43.92 72 P **P** **09 01 26.9 +0.7**
YNE Yellowstone No 43.98 71 P **P** **09 01 26.8 +0.1**
YNE IAmb IAmb 09 01 28.0
comp=Z,41nm,0.8s
H17A Grant Village 43.98 72 P **P** **09 01 28.2 +1.4**
H17A Grant Village 43.98 72 P **P** **09 01 28.7 +1.9**
baz=304,SNR=22
PKM Mcpherson Peak 44.08 89 P **P** **09 01 28.6 +1.1**
baz=310
CWC Cottonwood Cre 44.16 86 P **P** **09 01 29.1 +1.0**
baz=309
GRAC Grapevine Rang 44.25 85 P **P** **09 01 30.0 +1.3**
baz=309
RLMT Red Lodge 44.35 70 P **P** **09 01 30.4 +0.8**
baz=304,SNR=86
ISA Isabella, Lake 44.41 87 P **P** **09 01 30.3 +0.3**
baz=310,SNR=13
R11A Troy Canyon, C 44.51 82 P **P** **09 01 31.4 +0.5**
baz=308,SNR=30
NRIK Noril'sk 44.59 330 P **P** **09 01 31.5 +0.6**
comp=Z,4.7nm,0.8s,baz=88,slow=8.1,SNR=5.4
NRIK LR LR 09 20 19.9
comp=Z,106nm,21.7s,baz=49,slow=36
NRIK Noril'sk 44.59 330*ce*P **P** **09 01 31.2 +0.3**
NRIK pmax pmax
comp=Z,10.0nm,1.3s
MPMC Manual Prospec 44.77 86 P **P** **09 01 33.5 +0.5**
baz=310,SNR=13
FURC Turnurn Creek, 44.90 85 P **P** **09 01 35.0 +1.2**
baz=309,SNR=5.9
TPNV Topopah Spring 44.98 84 P **P** **09 01 34.0 -0.6**
TPNV pmax pmax
comp=Z,38nm,0.9s
TPNV Topopah Spring 44.98 84 P **P** **09 01 34.0 -0.6**
TPNV IAmb IAmb 09 01 36.4
comp=Z,38nm,0.8s
TPNV Topopah Spring 44.98 84 P **P** **09 01 35.4 +0.8**
baz=309,SNR=28
HWUT Hardware Ranch 45.00 76 P **P** **09 01 34.3 -0.5**
HWUT IAmb IAmb 09 01 47.3
comp=Z,15nm,0.8s
DUG Dugway, Tooele 45.09 78 P **P** **09 01 36.5 +1.0**
baz=307,SNR=44
EDW2 Edwards Air Fo 45.22 88 P **P** **09 01 36.8 +0.3**
baz=310,SNR=8.8
LAO LASA Array 45.24 67 P **P** **09 01 36.6 +0.1**
LAO IAmb IAmb 09 01 38.1
comp=Z,42nm,0.7s
LAO LASA Array 45.24 67 P **P** **09 01 37.0 +0.5**
baz=303,SNR=11
DECC Green Verdugo 45.41 89 P **P** **09 01 38.6 +0.6**
baz=311
PRN Pahroc Range 45.43 83 P **P** **09 01 38.1 -0.1**
PRN IAmb IAmb 09 01 40.2
comp=Z,60nm,0.9s
CTU Camp Tracy 45.43 77 P **P** **09 01 38.4 +0.2**
CTU IAmb IAmb 09 01 39.9
comp=Z,14nm,0.8s
PSUT Pine Spring 45.46 81 P **P** **09 01 38.0 -0.5**
PSUT IAmb IAmb 09 01 40.2
comp=Z,20nm,0.8s
BW06 Boulder Array 45.52 73 P **P** **09 01 39.5 +0.5**
baz=306,SNR=35
PDAR Pinedale Array 45.52 73 P **P** **09 01 39.3 +0.3**
comp=Z,42nm,0.7s,baz=309,slow=3.7,SNR=395
PDAR LR LR 09 18 20.8
comp=Z,114nm,19.8s,baz=330,slow=33
PDAR Pinedale Array 45.52 73 P **P** **09 01 39.0 0.0**
SHOC Shoshone, Teco 45.63 85 P **P** **09 01 40.6 +1.0**
baz=310,SNR=15
GSC Goldstone, Bar 45.68 86 P **P** **09 01 40.8 +0.6**
baz=310,SNR=37
BFSC Mount Baldy Ra 45.84 88 P **P** **09 01 41.9 +0.4**
baz=311,SNR=12
BJI Beijing 46.06 283 P **P** **09 01 43.9 +1.0**
BJI sP **pP** **09 01 54.4 -1.2**
BJI S **S** **09 08 29.5 +4.7**
BJI pmax pmax
comp=Z,26nm,0.8s
BJI LR LR
comp=Z,210nm,15.6s
BJI LR LR
comp=Z,180nm,19.7s

BJI LR LR
comp=Z,420nm,22.1s
TUQ Turquoise Moun 46.14 85 P **P** **09 01 44.4 +0.6**
baz=310
TCRU Three Creeks R 46.28 80 P **P** **09 01 45.4 +0.4**
TCRU IAmb IAmb 09 01 47.2
comp=Z,22nm,0.8s
HEC Hector,Ludlow 46.28 86 P **P** **09 01 45.5 +0.6**
baz=311,SNR=8.0
MURC Murrieta 46.55 88 P **P** **09 01 47.2 +0.2**
baz=311
GMRC Granite Mounta 46.73 86 P **P** **09 01 48.9 +0.4**
baz=311,SNR=16
P17A Butcher Ranch, 46.79 78 P **P** **09 01 48.8 -0.1**
P17A IAmb IAmb 09 01 50.8
comp=Z,88nm,1.6s
RDMU Red Mountain 46.83 76 P **P** **09 01 49.4 +0.2**
ULN Ulaanbaatar 46.83 297*ce*P **P** **09 01 50.7 +1.6**
ULN pmax pmax
comp=Z,5.0nm,1.0s
Q16A Castle Valley 46.87 78 P **P** **09 01 49.6 +0.1**
Q16A IAmb IAmb 09 01 51.7
comp=Z,81nm,1.5s
PFO Pinyon Flats O 47.01 88 P **P** **09 01 50.5 -0.1**
comp=Z,5.6nm,1.0s,baz=307,slow=5.6,SNR=5.7
PFO Pinyon Flats O 47.01 88 P **P** **09 01 51.0 +0.3**
baz=311
TPFO Pinon Flats 47.01 88 P **P** **09 01 51.0 +0.3**
baz=311
NEEM North Greenlan 47.03 14 *i* P **P** **09 01 50.5 +0.1**
NEEM IAmb IAmb 09 01 52.6
comp=Z,14nm,0.6s
BELC Belle Mtn. Jos 47.04 87 P **P** **09 01 50.9 0.0**
baz=311,SNR=6.2
KNB Kanab 47.05 82 P **P** **09 01 50.2 -0.8**
KNB pmax pmax
comp=Z,26nm,0.9s
KNB Kanab 47.05 82 P **P** **09 01 50.2 -0.8**
KNB IAmb IAmb 09 01 53.2
comp=Z,26nm,0.9s
109C Camp Elliot, M 47.09 89 P **P** **09 01 51.7 +0.7**
baz=312
SRU San Rafael Swe 47.15 78 P **P** **09 01 51.8 +0.1**
SRU pmax pmax
comp=Z,42nm,1.0s
SRU San Rafael Swe 47.15 78 P **P** **09 01 51.8 +0.1**
SRU IAmb IAmb 09 01 54.4
comp=Z,42nm,1.0s
SONM Songino Array 47.21 297 P **P** **09 01 53.3 +1.3**
comp=Z,2.7nm,0.6s,baz=43,slow=9.8,SNR=8.2
SONM PcP **PcP** **09 03 23.3 +0.5**
comp=Z,8.3nm,0.5s,baz=60,slow=2.2,SNR=17
SONM ScP **ScP** **09 07 11.2 -1.3**
comp=Z,2.4nm,0.7s,baz=45,slow=2.3,SNR=4.5
SONM LR LR 09 22 59.0
comp=Z,175nm,18.1s,baz=52,slow=38
SONM Songino Array 47.21 297 IAmb IAmb 09 03 23.8
comp=Z,12nm,0.7s
NEE2 Needles Airpor 47.39 85 P **P** **09 01 53.7 +0.3**
baz=311
K22A Casper 47.40 71 P **P** **09 01 53.5 -0.1**
baz=306,SNR=35
IRM Iron Mountain 47.46 86 P **P** **09 01 54.4 +0.3**
baz=311,SNR=6.9
ZAK Zakamensk 47.48 301 *e*P **P** **09 01 51.9 -2.1**
ZAK pmax pmax
comp=Z,7.0nm,1.4s
MONP2 Monument Peak 47.51 88 P **P** **09 01 55.2 +0.6**
baz=312,SNR=7.4
IKP In-Ko-Pah, Jac 47.87 88 P **P** **09 01 57.6 +0.3**
baz=312,SNR=6.6
TIA Tai'an 47.88 278 ⇑P **P** **09 01 57.6 +0.4**
TIA pmax pmax
comp=Z,17nm,0.8s
O20A White River Ci 47.90 75 P **P** **09 01 57.8 +0.3**
baz=308,SNR=37
RSSD Black Hills 47.98 68 P **P** **09 01 58.0 -0.1**
RSSD pmax pmax
comp=Z,45nm,0.9s
RSSD Black Hills 47.98 68 P **P** **09 01 58.2 +0.1**
baz=306
PDMCI Parker Dam,Lak 47.99 85 P **P** **09 01 58.6 +0.6**
baz=311,SNR=10
MDND Maddock 48.30 62 P **P** **09 02 00.2 -0.1**
baz=305
HHC Hu-ho-hao-te 48.34 286 *e*P **P** **09 02 02.2 +1.3**
HHC sP sP 09 02 16.1 -3.0
HHC pmax pmax
comp=Z,22nm,1.0s
HHC pmax pmax
comp=Z,70nm,5.1s
GLA Glamis 48.40 87 P **P** **09 02 00.5 -0.8**
GLA pmax pmax
comp=Z,25nm,1.0s
GLA Glamis 48.40 87 P **P** **09 02 00.5 -0.8**
GLA IAmb IAmb 09 02 02.6
comp=Z,25nm,0.9s
GLA Glamis 48.40 87 P **P** **09 02 01.8 +0.6**
baz=312,SNR=5.6
PV21 Cone Mtn., Par 48.43 77 P **P** **09 02 01.1 -0.6**
PV21 IAmb IAmb 09 02 12.7
comp=Z,32nm,0.6s
GUMO Guam 48.44 232 LR LR 09 19 33.0
comp=Z,65nm,21.4s,baz=92,slow=32
PV23 Carpenter Ridg 48.48 77 P **P** **09 02 01.5 -0.7**
PV23 IAmb IAmb 09 02 17.1
comp=Z,28nm,0.7s
N23A Red Feather La 48.81 73 P **P** **09 02 05.3 +0.7**
baz=308,SNR=28
WUAZ Wupatki 48.91 82 P **P** **09 02 06.4 +1.0**
baz=310,SNR=28
ULM Lac du Bonnet 48.93 57 P **P** **09 02 03.8 -1.3**
comp=Z,4.7nm,0.7s,baz=316,slow=7.0,SNR=6.0
ULM PcP **PcP** **09 03 28.1 -0.6**
comp=Z,3.4nm,0.8s,baz=288,slow=6.4,SNR=2.8
ULM LR LR 09 22 58.2
comp=Z,247nm,20.5s,baz=294,slow=36
NJ2 Nanjing 49.55 273 *e*P **P** **09 02 10.2 +0.1**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
MVCO Mesa Verde 49.58 78 P **P** **09 02 11.0 +0.4**
baz=310,SNR=19
ISCO Idaho Springs 49.69 74 P **P** **09 02 12.0 +0.6**
ISCO pmax pmax
comp=Z,15nm,1.3s
ISCO Idaho Springs 49.69 74 P **P** **09 02 12.1 +0.8**
baz=309,SNR=23
TIY Taiyuan 49.79 283 *e*P **P** **09 02 13.6 +1.7**
TIY pmax pmax
comp=Z,43nm,0.4s
AGMN Agassiz Nation 50.08 60 P **P** **09 02 12.6 -1.3**
baz=306
W18A Petrified Fore 50.18 81 P **P** **09 02 16.1 +1.0**
baz=311,SNR=8.5
SPA0 Spitsbergen Ar 50.20 356 *e*P **P** **09 02 13.9 -0.5**
SPITS Spitsbergen Ar 50.20 356 P **P** **09 02 14.0 -0.3**
comp=Z,4.1nm,0.5s,baz=44,slow=6.1,SNR=14
S22A 4UR Ranch, Cre 50.26 77 P **P** **09 02 16.6 +0.9**
baz=310,SNR=33
214A Organ Pipe Nat 50.39 87 P **P** **09 02 16.9 +0.4**
baz=313,SNR=5.5
X18A Snowflake 50.44 82 P **P** **09 02 16.5 -0.5**
X18A IAmb IAmb 09 02 18.9
comp=Z,22nm,0.9s
Q24A Divide 50.49 74 P **P** **09 02 18.0 +0.5**
baz=309
SUSD Miller 50.69 65 P **P** **09 02 18.1 -0.5**
SUSD IAmb IAmb 09 02 19.3
comp=Z,44nm,0.7s
SUSD Miller 50.69 65 P **P** **09 02 18.7 +0.1**
baz=308
SDCO Great Sand Dun 51.06 76 P **P** **09 02 21.9 +0.1**
SDCO IAmb IAmb 09 02 24.5
comp=Z,16nm,0.9s
SDCO Great Sand Dun 51.06 76 P **P** **09 02 22.7 +0.9**
baz=310,SNR=27
OGNE Ogallala 51.09 71 P **P** **09 02 21.6 -0.1**
OGNE Ogallala 51.09 71 P **P** **09 02 22.6 +0.8**
baz=309,SNR=8.0
TUC Tucson 51.41 85 P **P** **09 02 23.7 -0.5**
TUC pmax pmax
comp=Z,23nm,1.0s
TUC Tucson 51.41 85 P **P** **09 02 23.7 -0.5**
TUC IAmb IAmb 09 02 25.7
comp=Z,23nm,0.9s
TUC Tucson 51.41 85 P **P** **09 02 24.9 +0.7**
baz=313

K31A O'Neill 51.94 67 P P 09 02 27.6 -0.4
K31A IAmb IAmb 09 02 31.0
comp=Z,47nm,1.0s
KSCO Kaye Shedlock' 51.97 73 P P 09 02 29.5 +1.2
baz=310,SNR=21
T25A Trinidad 52.11 76 P P 09 02 30.7 +1.1
baz=311,SNR=26
ANMO Albuquerque 52.31 79 ceP P 09 02 31.6 +0.6
ANMO pmax pmax
comp=Z,20nm,1.3s
ANMO Albuquerque 52.31 79 P P 09 02 31.8 +0.7
baz=312
ECSD EROS Data Cent 52.46 65 P P 09 02 30.6 -1.2
baz=309,SNR=8.5
Y22D IRIS PASSCAL I 52.61 80 P P 09 02 34.5 +1.3
baz=312,SNR=7.1
EYMN Ely 52.61 58 P P 09 02 31.8 -1.0
baz=308
BNM Barren Site 52.74 80 P P 09 02 34.2 0.0
SUMG Summit 52.89 14 i P P 09 02 35.8 +0.8
SUMG Summit 52.89 14 i P P 09 02 35.8 +0.8
319A Douglas 52.98 85 P P 09 02 35.4 -0.6
319A IAmb IAmb 09 02 38.1
comp=Z,24nm,1.1s
BGNE Belgrade 53.06 68 P P 09 02 36.4 +0.1
baz=310,SNR=9.1
121A Cookes Peak, D 53.12 82 P P 09 02 37.8 +0.8
baz=313,SNR=10.0
WHN Wuhan 53.39 275 ⇑P P 09 02 38.8 +0.1
HSIG 53.58 88 P P 09 02 38.9 -1.2
SPMN Marine on St. 53.62 61 P P 09 02 40.0 -0.3
baz=309
CBKS Cedar Bluff 53.81 71 P P 09 02 41.7 -0.1
CBKS pmax pmax
comp=Z,93nm,0.8s
CBKS Cedar Bluff 53.81 71 P P 09 02 41.7 -0.1
CBKS Cedar Bluff 53.81 71 P P 09 02 42.5 +0.6
baz=311,SNR=13
XAN Xi'an 54.35 282 P P 09 02 45.8 0.0
XAN pP pP 09 02 53.9 -4.9
XAN sP sP 09 02 59.5 -4.6
XAN pmax pmax
comp=Z,32nm,0.9s
ZALV Zalesovo Beam 54.41 314 PcP PcP 09 03 49.4 +0.4
comp=Z,6.9nm,0.7s,baz=32,slow=4.3,SNR=17
ZALV LR LR 09 28 08.2
comp=Z,90nm,18.3s,baz=54,slow=38
MNTX Cornudas Mount 55.17 81 P P 09 02 52.3 +0.6
baz=314,SNR=73
MSTX Muleshoe 55.22 78 P P 09 02 51.7 -0.5
MSTX Muleshoe 55.22 78 P P 09 02 52.4 +0.2
baz=313,SNR=26
AMTX Amarillo 55.26 76 P P 09 02 52.1 -0.4
AMTX IAmb IAmb 09 02 53.8
comp=Z,37nm,1.4s
AMTX Amarillo 55.26 76 P P 09 02 52.8 +0.3
baz=312
KSU1 Kansas State U 55.46 69 P P 09 02 52.6 -1.1
KSU1 Kansas State U 55.46 69 P P 09 02 53.5 -0.2
baz=311,SNR=22
SCIA State Center 55.55 64 P P 09 02 53.6 -0.7
SCIA IAmb IAmb 09 02 54.9
comp=Z,23nm,0.8s
SCIA State Center 55.55 64 P P 09 02 54.4 +0.1
baz=311
ICESG Greenland Ices 55.71 17 i P P 09 02 55.3 -0.2
U32A Winter Ranch, 55.86 73 P P 09 02 56.5 -0.2
U32A IAmb IAmb 09 02 58.3
comp=Z,19nm,0.8s
KAN08 Anthony NE Sta 55.91 71 P P 09 02 56.4 -0.5
KAN08 IAmb IAmb 09 02 59.0
comp=Z,22nm,0.6s
DGZ Jazzator, Alta 55.98 309 i P P 09 02 59.4 +1.9
DGZ pmax pmax
comp=Z,2.0nm,0.8s
LZH Lanzhou 56.04 287 ⇑P P 09 02 59.5 +1.4
LZH pP pP 09 03 09.5 -1.7
LZH sP sP 09 03 13.9 -2.6
LZH pmax pmax
comp=Z,42nm,1.0s
LZH pmax pmax
comp=Z,74nm,4.3s
LZH LR LR
comp=Z,270nm,18.4s
LZH LR LR
comp=Z,300nm,17.4s
LZH LR LR
comp=Z,250nm,17.3s
KAN14 Manchester OK 56.09 72 P P 09 02 57.7 -0.6
KAN14 IAmb IAmb 09 02 58.6
comp=Z,16nm,1.0s
GTA Gaotai 56.17 292 eP P 09 03 00.0 +1.0
GTA pP pP 09 03 10.8 -1.3
GTA sP sP 09 03 15.9 -1.5
GTA PcP PcP 09 03 56.8 +0.5
GTA pmax pmax
comp=Z,7.0nm,0.7s
GTA LR LR
comp=Z,190nm,17.5s
GTA LR LR
comp=Z,210nm,19.5s
GTA LR LR
comp=Z,250nm,18.3s
JFWS Jewell Farm 56.53 62 P P 09 03 00.3 -1.0
baz=312,SNR=8.5
HAMF Hammerfest 57.09 352 eP P 09 03 05.9 +1.1
WMOK Wichita Mounta 57.11 74 P P 09 03 06.0 +0.5
baz=313,SNR=8.9
LPIG La Paz 57.49 92 LR LR 09 21 07.7
comp=Z,110nm,21.5s,baz=316,slow=29
TXAR Lajitas Array 57.88 82 P P 09 03 10.8 -0.3
comp=Z,19nm,0.9s,baz=300,slow=4.8,SNR=168
TXAR PcP PcP 09 04 03.6 +0.6
comp=Z,6.7nm,1.0s,baz=270,slow=2.5,SNR=4.1
TXAR LR LR 09 26 30.7
comp=Z,56nm,19.9s,baz=0.0,slow=34
ARCES ARCESS Array B 57.99 351 P P 09 03 11.6 +0.4
comp=Z,2.1nm,0.4s,baz=23,slow=8.4,SNR=30
ARCES ARCESS Array B 57.99 351 IAmb IAmb 09 04 21.9
comp=Z,73nm,1.9s
ABTX Abilene, Hawle 58.05 77 P P 09 03 12.5 +0.3
baz=314,SNR=9.3
TUL1 Leonard 58.09 71 P P 09 03 12.4 +0.1
baz=313,SNR=19
L44A Lake County Fo 58.30 61 P P 09 03 13.5 -0.2
baz=313
JETT Jettan, Norway 58.43 353 eP P 09 03 15.8 +1.5
TRO Tromso 58.47 353 eP P 09 03 15.6 +1.1
LOOK Love County 58.58 74 P P 09 03 15.9 +0.1
LOOK IAmb IAmb 09 03 18.2
comp=Z,40nm,1.0s
HDIL Hopedale 58.64 63 P P 09 03 14.8 -1.3
HDIL Hopedale 58.64 63 P P 09 03 15.7 -0.5
baz=313,SNR=13
KTK1 Kautokeino 58.72 351 eP P 09 03 17.1 +0.8
APA Apatity 58.88 347 ⇓iP P 09 03 19.5 +2.1
APA pmax pmax
comp=Z,5.0nm,1.2s
Z35A Perchaven, San 59.00 74 P P 09 03 18.3 -0.4
Z35A IAmb IAmb 09 03 19.7
comp=Z,20nm,0.9s
X37A Clayton 59.25 72 P P 09 03 19.9 -0.6
CCM Cathedral Cave 59.26 66 P P 09 03 19.4 -1.0
baz=313
SCHQ Schefferville 59.35 39 P P 09 03 19.6 -1.3
comp=Z,3.4nm,0.7s,baz=10,slow=8.8,SNR=4.2
SCHQ LR LR 09 29 30.6
comp=Z,174nm,20.1s,baz=269,slow=36
KURK Kurchatov 59.40 314 P P 09 03 21.0 -0.3
KURK 09 04 09.0
JCT Junction City 59.45 78 P P 09 03 20.8 -1.1
JCT pmax pmax
comp=Z,15nm,0.7s
JCT Junction City 59.45 78 P P 09 03 20.8 -1.1
JCT IAmb IAmb 09 04 10.3
comp=Z,15nm,0.7s
JCT Junction City 59.45 78 P P 09 03 21.4 -0.5
baz=315,SNR=10
U40A Yellville 59.50 69 P P 09 03 21.5 -0.7
baz=314,SNR=63
KURBB Kurchatov Arra 59.51 314 P P 09 03 21.0 -1.0
comp=Z,3.8nm,0.5s,baz=42,slow=6.5,SNR=79
KURBB PcP PcP 09 04 09.0 -0.1
comp=Z,2.8nm,0.8s,baz=48,slow=4.1,SNR=7.9
CD2 Chengdu 59.66 282 P P 09 03 23.9 +0.5
CD2 pmax pmax
comp=Z,50nm,0.6s
W39A Magazine 59.76 70 P P 09 03 23.5 -0.5
W39A Magazine 59.76 70 P P 09 03 24.0 0.0
baz=314,SNR=24
WHTX Lake Whitney, 59.81 76 P P 09 03 23.9 -0.5
WHTX IAmb IAmb 09 03 25.7
comp=Z,53nm,1.2s
WHTX Lake Whitney, 59.81 76 P P 09 03 24.8 +0.4
baz=314,SNR=9.2
WMQ Urumqi 59.84 303 eP P 09 03 28.0 +3.5
WMQ pmax pmax
comp=Z,20nm,0.7s
WMQ pmax pmax
comp=Z,250nm,4.3s
SFIN Lafayette 59.98 62 P P 09 03 24.4 -1.1
SFIN Lafayette 59.98 62 P P 09 03 25.8 +0.4
baz=314,SNR=11
MIAR Mount Ida 60.34 71 P P 09 03 27.7 -0.3
MIAR pmax pmax
comp=Z,75nm,1.2s
MIAR Mount Ida 60.34 71 P P 09 03 27.7 -0.3
MIAR Mount Ida 60.34 71 P P 09 03 28.3 +0.4
baz=314,SNR=48
STEI Steigen 60.40 354 eP P 09 03 28.4 +0.6
MK31 Makanchi Array 60.48 309 i P P 09 03 30.5 +1.7
MKAR Makanchi Array 60.48 309 P P 09 03 28.5 -0.2
comp=Z,1.1nm,0.6s,baz=51,slow=5.3,SNR=13
MKAR LR LR 09 30 58.4
comp=Z,93nm,19.0s,baz=10.0,slow=37
AAM Ann Arbor 60.50 58 P P 09 03 29.3 +0.4
baz=314
OLIL Olney 60.57 64 P P 09 03 28.5 -0.9
WHAR Wooly Hollow 60.57 69 P P 09 03 28.6 -0.9
WHAR IAmb IAmb 09 03 29.7
comp=Z,54nm,1.2s
435B Jarrell 60.58 77 P P 09 03 29.4 -0.3
435B IAmb IAmb 09 03 31.1
comp=Z,32nm,1.1s
435B Jarrell 60.58 77 P P 09 03 30.2 +0.6
baz=315
S44A Carbondale 60.64 65 P P 09 03 29.0 -1.0
S44A IAmb IAmb 09 03 30.1
comp=Z,32nm,0.8s
SIUC Southern Illin 60.65 65 P P 09 03 29.0 -1.0
SIUC IAmb IAmb 09 03 30.1
comp=Z,33nm,0.8s
W41B Gary Mavity, V 60.68 69 P P 09 03 29.7 -0.5
baz=314,SNR=42
X40A Basin Creek Fa 60.81 70 P P 09 03 30.2 -0.9
X40A IAmb IAmb 09 03 32.0
comp=Z,26nm,0.9s
X40A Basin Creek Fa 60.81 70 P P 09 03 31.3 +0.1
baz=314,SNR=27
GYA Guiyang 61.04 277 ⇑P P 09 03 33.1 +0.1
GYA pP pP 09 03 47.9 +1.8
GYA pmax pmax
comp=Z,19nm,1.0s
PARMO Parma 61.08 67 P P 09 03 32.1 -0.8
BRVK Borovoye 61.21 320 ceP P 09 03 35.5 +1.9
BRVK pmax pmax
comp=Z,3.0nm,0.7s
833A Chaparral WMA, 61.23 80 P P 09 03 34.5 +0.4
baz=316,SNR=5.1
NATX Nacogdoches 61.65 74 P P 09 03 37.4 +0.5
baz=315
Z41A Richland Creek 61.70 71 P P 09 03 37.2 0.0
baz=315
P49A Miami Univ. Ec 61.88 61 P P 09 03 37.8 -0.5
baz=315,SNR=13
WCI Wyandotte Cave 61.93 63 P P 09 03 38.5 -0.2
WCI pmax pmax
comp=Z,39nm,0.9s
WCI Wyandotte Cave 61.93 63 P P 09 03 38.3 -0.4
baz=315
PRGR Permogore 61.97 338 eP P 09 03 38.9 +0.3
PRGR pmax pmax
comp=Z,89nm,1.5s
MOR8 Moi Rana 62.19 355 eP P 09 03 39.7 -0.3
HKT Hockley 62.24 76 i P P 09 03 41.6 +0.9
HKT pmax pmax
comp=Z,26nm,1.6s
T47A Sharon Grove 62.35 65 P P 09 03 40.8 -0.7
W45A Hickory Valley 62.47 67 P P 09 03 41.9 -0.4
WVT Waverly 62.55 66 P P 09 03 42.1 -0.8
WVT pmax pmax
comp=Z,19nm,0.9s
WVT Waverly 62.55 66 P P 09 03 42.1 -0.8
WVT IAmb IAmb 09 03 43.7
comp=Z,19nm,0.8s
WVT Waverly 62.55 66 P P 09 03 42.8 0.0
baz=315
ERPA Erie 62.55 56 P P 09 03 43.1 +0.3
baz=316
M53A WI Miller and 62.68 57 P P 09 03 43.9 +0.2
baz=316,SNR=8.3
OXF Oxford 62.80 68 P P 09 03 44.1 -0.4
OXF Oxford 62.80 68 P P 09 03 44.1 -0.4
OXF Oxford 62.80 68 P P 09 03 44.6 +0.1
baz=315,SNR=60
ARU Arti 62.80 329 P P 09 03 44.9 +0.8
comp=Z,2.3nm,0.3s,baz=351,slow=0.9,SNR=6.2
ARU LR LR 09 33 28.0
comp=Z,133nm,19.0s,baz=47,slow=38
ARU Arti 62.80 329 ciP P 09 03 44.8 +0.6
ARU 09 04 18.3
ARU S S 09 12 12.4 +2.9
ARU SS SS 09 16 11.8 -2.1
ARU pmax pmax
comp=Z,20nm,2.7s
R50A Paris 62.98 62 P P 09 03 45.5 -0.2
R50A IAmb IAmb 09 03 46.7
comp=Z,26nm,0.8s
O52A Adamsville 63.02 59 P P 09 03 45.4 -0.5
M54A Oil Creek Stat 63.16 56 P P 09 03 46.9 +0.1
baz=316
P52A Corning 63.20 59 P P 09 03 47.0 -0.2
baz=316,SNR=9.7
O53A New Philadelph 63.25 58 P P 09 03 47.4 -0.1
baz=316
N54A Moraine State 63.39 57 P P 09 03 47.9 -0.4
baz=316,SNR=7.7
KIRV Kirov 63.69 335 LR LR 09 34 38.5
comp=Z,136nm,19.2s,baz=31,slow=39
VBMS Vicksburg 63.79 71 P P 09 03 51.4 +0.4
baz=316,SNR=5.4
NSS Namsos 63.96 355 eP P 09 03 52.8 +1.1
KLMR Klimovskoe 64.01 341 eP P 09 03 48.2 -3.8
KLMR pmax pmax
comp=Z,10.0nm,1.2s
KLMR Klimovskoe 64.01 341 eP P 09 03 48.3 -3.8
KLMR AMP 09 03 59.9
comp=Z,10.0nm,1.2s
D62A Allapoint, All 64.20 46 P P 09 03 53.2 -0.4
baz=319
DAV Davao City (W) 64.26 247 LR LR 09 27 35.0
comp=Z,135nm,20.5s,baz=1.5,slow=32
E62A Clayton Lake 64.34 47 P P 09 03 53.6 -0.9
baz=319
146A Union 64.34 69 P P 09 03 54.7 0.0
MCWV Mont Chateau 64.41 58 P P 09 03 54.1 -1.0
MCWV IAmb IAmb 09 04 30.7
comp=Z,20nm,0.8s
MCWV Mont Chateau 64.41 58 P P 09 03 55.4 +0.3
baz=317,SNR=7.1
KMI Kunming 64.44 279 ⇓P P 09 03 55.9 +0.2
KMI sP sP 09 04 11.1 -3.2
KMI pmax pmax
comp=Z,15nm,0.6s
Z47A Carrollton 64.51 68 P P 09 03 55.4 -0.4
QIZ Qiongzhong 64.52 269 P P 09 03 56.5 +0.4
QIZ S S 09 12 32.5 +0.6
QIZ LR LR
comp=Z,76nm,5.5s
QIZ LR LR
comp=Z,96nm,5.1s
QIZ LR LR
comp=Z,140nm,17.5s
BINY Binghamton 64.54 54 P P 09 03 56.2 +0.3
baz=317
O56A Blue Knob Stat 64.63 57 P P 09 03 56.4 -0.2
baz=317
TZTN Tazewell 64.66 63 P P 09 03 56.5 -0.2
TZTN IAmb IAmb 09 03 57.9
comp=Z,24nm,0.9s
TZTN Tazewell 64.66 63 P P 09 03 57.3 +0.5
baz=316,SNR=10
SSPA Standing Stone 64.72 56 P P 09 03 57.1 0.0
baz=317
CPCT Cooper Cave 64.91 64 P P 09 03 57.2 -1.2
CPCT IAmb IAmb 09 03 59.7
comp=Z,18nm,0.8s
G62A West of Eustis 64.93 48 P P 09 03 57.5 -0.9
baz=319
FPAL Fort Paine 64.95 66 P P 09 03 57.9 -0.8
S54A Dingess, Beckl 64.97 60 P P 09 03 59.1 +0.3
S54A IAmb IAmb 09 04 00.1
comp=Z,28nm,0.7s
V52A Sevierville 65.14 63 P P 09 03 59.4 -0.5
V52A IAmb IAmb 09 04 00.9
comp=Z,39nm,1.1s
LRAL Lakeview Retre 65.25 68 P P 09 04 00.1 -0.6
baz=316,SNR=32
F64A Sherman 65.44 46 P P 09 04 00.9 -0.8
baz=320
PKME Peaks-Kenny Pk 65.47 47 P P 09 04 02.3 +0.4
baz=319
W52A Murphy 65.50 64 P P 09 04 01.7 -0.6
N59A State Game Lan 65.59 55 P P 09 04 02.6 -0.2
baz=318
U54A Nelsons Funny 65.63 62 P P 09 04 03.3 +0.2
FINES FINESS Array B 65.72 348 P P 09 04 03.3 +0.1
comp=Z,3.0nm,0.6s,baz=22,slow=8.5,SNR=22
FINES LR LR 09 36 26.5
comp=Z,100nm,18.8s,baz=354,slow=39
BLA Blacksburg 65.89 60 P P 09 04 05.3 +0.5
baz=317,SNR=6.4
BG3 Lake Jocassee 66.13 63 P P 09 04 06.5 +0.2
Y52A Lilburn 66.32 65 P P 09 04 07.3 -0.2
U56A King 66.54 61 P P 09 04 08.8 -0.2
RAF Rauma 66.65 350 eP P 09 04 09.7 +0.5
T57A Hurt 66.67 60 P P 09 04 08.9 -0.8
T57A IAmb IAmb 09 04 10.6
comp=Z,18nm,0.6s
KMSC Kings Mountain 66.91 62 P P 09 04 11.0 -0.2
KMSC Kings Mountain 66.91 62 P P 09 04 11.8 +0.5
baz=318,SNR=24
GOGA Godfrey 66.99 65 P P 09 04 11.6 -0.2
baz=317,SNR=36
HODGE Hodges 67.07 64 P P 09 04 11.5 -0.7
MEF Metsahovi 67.12 348 eP P 09 04 12.5 +0.3
AAK Ala-Archa 67.29 310 P P 09 04 14.7 +1.0
comp=Z,3.0nm,0.6s,baz=160,slow=9.3,SNR=5.9
AAK Ala-Archa 67.29 310 i P P 09 04 15.2 +1.4
AAK pmax pmax
comp=Z,12nm,0.8s
NB2 NORSAR Subarra 67.48 355 P P 09 04 14.6 +0.1
comp=Z,1.2nm,0.5s,baz=7.2,slow=6.5
NB2 NORSAR Subarra 67.48 355 P P 09 04 14.6 +0.1
baz=7.2,slow=6.5
NOA NORSAR Array B 67.48 355 P P 09 04 15.2 +0.7
comp=Z,0.3nm,0.4s,baz=15,slow=20,SNR=13
NOA LR LR 09 32 04.4
comp=Z,57nm,22.0s,baz=0.0,slow=34
352A Blakely 67.58 67 P P 09 04 14.7 -0.9
JSC Jenkinsville 67.58 63 P P 09 04 15.8 +0.2
JSC pmax pmax
comp=Z,48nm,0.6s
JSC Jenkinsville 67.58 63 P P 09 04 15.8 +0.2
AAL Aland 67.67 351 eP P 09 04 15.8 +0.2
NC602 NORSAR Array S 67.77 355 eP P 09 04 16.8 +0.5
NORES NORESS Array B 67.77 355 P P 09 04 16.6 +0.3
154A Montrose 67.78 65 P P 09 04 16.0 -0.8
AKTO Aktyubinsk 67.93 325 LR LR 09 38 18.1
comp=Z,153nm,19.2s,baz=27,slow=40
SKAR Skarslia 67.96 357 eP P 09 04 18.1 +0.6
LSA Lhasa 68.07 290 P P 09 04 19.6 +0.3
LSA pmax pmax
comp=Z,16nm,0.9s
LSA Lhasa 68.07 290 P P 09 04 19.6 +0.3
LSA IAmb IAmb 09 04 21.9
comp=Z,16nm,0.9s
TAOE Nuku Hiva Isla 68.30 140 eLR LR 09 24 29.5
comp=Z,217nm,23.1s
TAOE Nuku Hiva Isla 68.30 140 eT T 10 18 30.6
comp=Z,69nm,0.3s
TIGA Tifton 68.38 67 P P 09 04 20.5 -0.1
baz=318
KSH Kashi 68.96 307 P P 09 04 27.4 +3.2
KSH pP pP 09 04 37.9 +0.3
KSH sP sP 09 04 43.2 +0.3
KSH PcP PcP 09 04 52.4 +4.1
KSH pmax pmax
comp=Z,7.0nm,0.6s
NHSC New Hope 69.06 63 P P 09 04 25.9 +1.1
baz=318,SNR=9.4
OBN Obninsk 69.92 340 LR LR 09 39 43.0
comp=Z,29nm,18.2s,baz=56,slow=40
OBN Obninsk 69.92 340 ⇓eP P 09 04 30.9 +1.3
OBN e 09 04 47.9
OBN e 09 07 01.7
OBN pmax pmax
comp=Z,45nm,2.5s
SHL Shillong 70.70 287 P P 09 04 34.9 -0.3
SHL pmax pmax
comp=Z,73nm,0.7s
SHL Shillong 70.70 287 P P 09 04 34.9 -0.3
PMOR Pomariorio Ree 71.20 150 eT T 10 22 11.5
comp=Z,24nm,0.2s
CMAR Chiang Mai Arr 71.73 277 P P 09 04 41.9 +0.6
comp=Z,2.8nm,0.7s,baz=22,slow=6.4,SNR=8.2
CMAR Chiang Mai Arr 71.73 277 ceP P 09 04 43.5 +2.2
CMAR pmax pmax
comp=Z,3.0nm,0.7s
CMAR Chiang Mai Arr 71.73 277 P P 09 04 40.9 -0.4
DWPF Disney Wildern 72.11 67 P P 09 04 44.3 +0.9
baz=319
MNK Minsk 72.14 345 i P P 09 04 37.4 -5.8
MNK i 09 04 55.3
MNK i PPP PPP 09 09 01.9
MNK i S S 09 13 56.1 -5.4
MNK i 09 14 40.8
MNK i SS SS 09 18 36.6 -1.6
MNK i SSS SSS 09 21 49.1
MNK pmax pmax
comp=Z,11nm,0.6s
MNK pmax pmax
comp=N,42nm,0.9s
MNK pmax pmax
comp=E,5.0nm,0.8s
MNK MLR MLR
comp=N,308nm,24.0s
MNK MLR MLR
comp=E,30nm,24.0s
MNK MLR MLR
comp=Z,122nm,20.0s
MNK Minsk 72.14 345 i P P 09 04 37.4 -5.7
comp=E,5.0nm,0.8s
MNK i P P 09 04 37.4 -5.7
comp=N,42nm,0.9s
MNK i P P 09 04 37.4 -5.7
comp=Z,11nm,0.6s,baz=196
MNK i PcP pP 09 04 55.4 -1.3
MNK i PP PP 09 07 15.7 -7.4
MNK i PPP PPP 09 09 01.9
MNK i S S 09 13 56.1 -5.4
MNK i SS SS 09 18 36.6 -1.5
MNK i SSS SSS 09 21 49.1
MNK i LQ LQ 09 30 46.5
MNK i LR LR 09 36 32.0
MNK i LRM MLR 09 38 53.1
comp=N,308nm,23.9s
MNK i LRM MLR 09 38 58.2
comp=E,30nm,23.9s
MNK i LRM MLR 09 39 25.7
comp=Z,122nm,19.5s
VRH Novokhopyorsk 72.29 335 eP P 09 04 43.9 -0.2
VRH pmax pmax
comp=Z,20nm,0.8s
GUN Gumba 72.46 293 eP P 09 04 46.7 +0.7
comp=Z,77nm,0.4s
JIRN Jiri 72.47 292 eP P 09 04 46.9 +0.8
comp=Z,49nm,0.6s
RAMN Ramite 72.77 292 eP P 09 04 48.2 +0.5
comp=Z,66nm,0.5s
KKN Kakani 72.90 293 eP P 09 04 49.2 +0.8
comp=Z,18nm,0.2s
CHGR Chuyangaron 72.92 311 P P 09 04 47.9 -0.3
CHGR IAmb IAmb 09 05 03.7
comp=Z,11nm,0.6s
PKI Pulchoki 72.99 293 eP P 09 04 49.4 +0.3
comp=Z,15nm,0.5s

PKIN	Phulchoki	72.99	293	*e*P	P	09 04 49.5	+0.5
	comp=Z,14nm,0.4s						
BRDH	Bariadhala	73.02	285	P	P	09 04 50.4	+1.5
	comp=Z,111nm,0.4s,baz=58,slow=12,SNR=4.7						
GKN	Gorkha	73.10	294	*e*P	P	09 04 49.8	+0.2
PPT2	Papeete2	73.13	152	*e*LR	LR	09 26 47.0	
	comp=Z,175nm,24.0s						
PPT2	Papeete2	73.13	152	*e*T	T	10 24 37.7	
	comp=Z,9.0nm,0.3s						
DMN	Daman	73.14	293	*e*P	P	09 04 50.5	+0.6
TIAR	Tiarei	73.16	152	*e*T	T	10 24 39.8	
	comp=Z,1.3nm,0.3s						
PAE	Paea	73.19	152	*e*T	T	10 24 42.1	
	comp=Z,2.6nm,0.3s						
EKA	Eskdalemuir Ar	73.33	3	P	P	09 04 50.2	0.0
DANN	Dangsing	73.34	295	*e*P	P	09 04 51.8	+0.7
	comp=Z,33nm,0.6s						
KOLN	Koldanda	73.87	294	*e*P	P	09 04 55.0	+0.9
DZM	Mont Dzumac	74.69	195	*e*LR	LR	09 27 22.5	
	comp=Z,221nm,23.8s						
DZM	Mont Dzumac	74.69	195	P	P	09 04 58.2	-0.3
	comp=Z,9.4nm,1.0s,baz=54,slow=15,SNR=4.7						
DZM	Mont Dzumac	74.69	195	IAmb	IAmb	09 07 14.7	
	comp=Z,56nm,1.7s						
SOR	Soroa	75.22	72	P	P	09 05 01.6	-0.2
SOR				pmax	pmax		
	comp=Z,18nm,0.9s						
SOR	Soroa	75.22	72	P	P	09 05 01.6	-0.2
SOR				IAmb	IAmb	09 05 04.2	
	comp=Z,18nm,0.9s						
AKASG	Malin Array Be	75.56	343	P	P	09 05 03.6	+0.4
	comp=Z,3.8nm,0.5s,baz=21,slow=6.0,SNR=13						
AKASG				LR	LR	09 42 36.8	
	comp=Z,80nm,18.1s,baz=20,slow=39						
AKBB	Malin Array Si	75.56	343	*ce*P	P	09 05 03.0	-0.2
KIEV	Kiev	75.56	343	P	P	09 05 05.0	+1.8
MTO3	Montecristo	77.78	82	P	P	09 05 16.0	-0.6
CTA	Charters Tower	78.09	215	P	P	09 05 16.8	-0.9
	comp=Z,6.3nm,0.8s,baz=352,slow=7.5,SNR=6.8						
KMPD	K-Podol'skiy	78.11	344	P	P	09 05 17.0	-0.6
BSTI	Sart Tilman	78.15	358	*d*P	P	09 05 18.0	+0.2
SORM	Soroca	78.18	343	⇑P	P	09 05 18.0	0.0
SORM	Soroca	78.18	343	⇑P	P	09 05 18.0	0.0
GEYT	Alibeck	78.42	318	LR	LR	09 43 14.7	
	comp=Z,242nm,20.0s,baz=345,slow=38						
BMRD	Maredsous	78.44	358	*d*P	P	09 05 19.5	+0.1
CRVS	Cervenica-Dubn	78.55	347	*e*P	P	09 05 20.3	+0.2
CRVS	Cervenica-Dubn	78.55	347	*e*P	P	09 05 20.3	+0.2
TBI	Tubuai	78.62	154	*e*LR	LR	09 29 19.0	
	comp=Z,138nm,28.2s						
TBI	Tubuai	78.62	154	*e*T	T	10 31 28.4	
	comp=Z,7.5nm,0.3s						
KIV	Kislovodsk	78.63	332	*e*P	P	09 05 22.9	+2.2
KIV				pmax	pmax		
	comp=Z,8.0nm,0.9s						
VRAC	Vranov	78.73	351	⇑P	P	09 05 25.4	+4.3
VRAC	Vranov	78.73	351	⇑P	P	09 05 25.4	+4.3
KBZ	Khabaz	78.77	331	P	P	09 05 22.4	+1.1
	comp=Z,4.2nm,0.8s,baz=59,slow=4.4,SNR=9.2						
KBZ	Khabaz	78.77	331	*ce*P	P	09 05 22.1	+0.8
KBZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SHA1	Shidzhatmaz	78.83	331	*i* P	P	09 05 23.8	+1.8
KHC	Kasperske Hory	79.19	353	*e*P	P	09 05 21.0	-2.6
KHC	Kasperske Hory	79.19	353	*e*P	P	09 05 21.0	-2.6
BURAR	Bucovina Array	79.24	345	⇑P	P	09 05 24.2	+0.2
BURAR	Bucovina Array	79.24	345	⇑P	P	09 05 24.2	+0.2
BURAR	Bucovina Array	79.24	345	P	P	09 05 23.7	-0.3
VYHS	Vyhne	79.29	349	*e*P	P	09 05 24.2	0.0
VYHS	Vyhne	79.29	349	*e*P	P	09 05 24.1	-0.1
ZEI	Tsey	79.32	330	*e*P	P	09 05 24.0	-0.7
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
TGUH	Tegucigalpa,Un	79.33	81	P	P	09 05 24.8	-0.2
TGUH	Tegucigalpa,Un	79.33	81	*e*P	P	09 05 25.0	+0.1
GERES	GERESS Array B	79.46	352	P	P	09 05 25.4	+0.2
	comp=Z,1.3nm,0.9s,baz=46,slow=5.6,SNR=4.0						
GERES				LR	LR	09 43 03.0	
	comp=Z,82nm,19.0s,baz=352,slow=38						
HRA	Herat	79.61	313	P	P	09 05 26.5	+0.1
BIZ	Bicaz	79.74	344	⇑P	P	09 05 26.9	+0.3
ARCR	ARCALIA	79.89	345	⇑P	P	09 05 29.0	+1.6
TESR	Tescani	80.06	343	⇑P	P	09 05 26.7	-1.7
CONA	Conrad Observa	80.17	351	*e*P	P	09 05 29.2	+0.1
	comp=Z,2.9nm,0.9s						
DRGR		80.43	346	⇓P	P	09 05 27.3	-3.2
DRGR		80.43	346	⇓P	P	09 05 27.3	-3.2
VRI	Vrincioaia	80.66	343	⇑P	P	09 05 31.0	-0.6
VRI	Vrincioaia	80.66	343	⇑P	P	09 05 31.0	-0.6
PLOR	Plostina	80.69	343	⇓P	P	09 05 31.5	-0.3
PLOR	Plostina	80.69	343	⇓P	P	09 05 31.5	-0.3
MLR	Muntele Rosu	81.17	343	⇑P	P	09 05 33.6	-0.9
MLR	Muntele Rosu	81.17	343	⇑P	P	09 05 33.6	-0.9
KBA	Koelnbreinsper	81.24	352	*e*P	P	09 05 35.4	+0.5
	comp=Z,8.5nm,0.6s						
TPGR	Topolog	81.32	342	⇑P	P	09 05 32.2	-2.9
VOIR		81.38	344	⇑P	P	09 05 36.8	+1.3
VOIR		81.38	344	⇑P	P	09 05 36.8	+1.3
FETA	Feichten	81.49	354	*e*P	P	09 05 37.0	+0.8
	comp=Z,2.9nm,0.9s						
SOKA	Soboth	81.49	351	*e*P	P	09 05 36.9	+0.8
	comp=Z,4.3nm,0.7s						
ARR	Arges	81.51	344	⇓P	P	09 05 37.4	+1.2
HARR	Harsova	81.57	342	⇑P	P	09 05 35.5	-0.9
HARR	Harsova	81.57	342	⇑P	P	09 05 35.5	-0.9
ABTA	Abfaltersbach	81.64	353	*e*P	P	09 05 36.8	-0.1
	comp=Z,6.7nm,1.2s						
MYKA	Terra Mystica	81.66	352	*e*P	P	09 05 38.4	+1.4
	comp=Z,2.8nm,0.5s						
GZR	Gura Zlata	81.79	346	⇑P	P	09 05 37.6	-0.1
GZR	Gura Zlata	81.79	346	⇑P	P	09 05 37.6	-0.1
WRAB	Tennant Creek	82.69	225	*ce*P	P	09 05 42.2	-0.3
WRAB				pmax	pmax		
	comp=Z,10.0nm,1.3s						
WRA	Warramunga Arr	82.70	225	P	P	09 05 41.4	-1.1
	comp=Z,3.7nm,0.8s,baz=40,slow=5.5,SNR=23						
DUNO	Dulce Nombre,	83.49	82	P	P	09 05 46.8	0.0
BOVS	Bovan	83.67	346	⇑P	P	09 05 46.4	-0.9
PSI	Prapat	83.76	267	P	P	09 05 48.5	+0.1
	comp=Z,14nm,0.7s,baz=7.6,slow=2.3,SNR=7.9						
BR131	Keskin Array S	85.04	336	P	P	09 05 54.0	-0.6
BR131				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BR131	Keskin Array S	85.04	336	P	P	09 05 54.0	-0.6
BRTR	Keskin Array B	85.04	336	P	P	09 05 54.5	0.0
	comp=Z,4.0nm,0.7s,baz=43,slow=1.8,SNR=22						
BRTR	Keskin Array B	85.04	336	P	P	09 05 54.4	-0.2
MARD	Mardin	85.29	330	P	P	09 05 56.3	+0.5
MARD				IAmb	IAmb	09 05 57.9	
	comp=Z,18nm,1.0s						
ASAR	Alice Springs	86.17	223	P	P	09 05 59.7	-0.3
	comp=Z,6.4nm,0.8s,baz=25,slow=5.9,SNR=54						
ASAR	Alice Springs	86.17	223	P	P	09 05 59.0	-1.1
AZU	Azuero	88.48	79	*e*P	P	09 06 11.6	+0.1
ESDC	Sonseca Array	88.92	5	P	P	09 06 12.5	-0.8
	comp=Z,1.7nm,0.8s,baz=356,slow=4.6,SNR=7.9						
SJCC	San Jacinto, C	89.92	74	*e*P	P	09 06 16.7	-1.7
URIC	Uribia, Colomb	90.39	71	*e*P	P	09 06 21.2	+0.8
STKA	Stephens Creek	90.53	214	P	P	09 06 20.8	+0.3
	comp=Z,8.1nm,0.7s,baz=355,slow=5.3,SNR=24						
SMLC	San Martn de	91.45	74	*e*P	P	09 06 25.7	+0.3
DBBC	Dabeiba	91.57	77	*e*P	P	09 06 26.7	+0.7
ZARC	Zaragoza, Cauc	92.01	75	*e*P	P	09 06 26.7	-1.3
OCAC	Ocana	92.35	74	*e*P	P	09 06 29.9	+0.2
CBOC	Ciudad Bolivar	92.59	77	*e*P	P	09 06 31.7	+0.8
PTBC	PUERTO BERRIO,	93.00	76	*e*P	P	09 06 32.7	+0.1
GUY2C	Guyana, Caldas	93.49	77	*e*P	P	09 06 35.2	-0.2
BARC	Barichara	93.73	75	*e*P	P	09 06 35.7	-0.5
YOTC	Yotoco, Valle	93.87	79	*e*P	P	09 06 37.2	+0.5
SPBC	San Pablo de B	93.94	76	*e*P	P	09 06 36.2	-0.8
TOLC	Tolima	94.02	78	*e*P	P	09 06 38.2	+0.6
RUSC	La Rusia	94.34	75	P	P	09 06 38.0	-1.3
RUSC				IAmb	IAmb	09 06 40.2	
	comp=Z,7.2nm,0.9s						
RUSC	La Rusia	94.34	75	*e*P	P	09 06 38.7	-0.6
ORTC	Ortega, Tolima	94.60	78	*e*P	P	09 06 39.7	-0.2
POPC	Popayan, Colom	94.80	80	*e*P	P	09 06 39.7	-1.4
CHIC	Chingaza	94.95	76	*e*P	P	09 06 39.7	-2.3
PRAC	Prado	94.97	78	*e*P	P	09 06 41.2	-0.4
OTAV	Otavalo	95.50	83	*e*P	P	09 06 42.2	-2.4
TORD	Torodi Ar. Bea	115.51	1	PKP	PKiKP	09 12 00.3	-0.6
	comp=Z,3.8nm,0.4s,baz=351,slow=2.4,SNR=40						
TORD				PKKPbc	PKKPbc	09 22 32.5	+0.4
	comp=Z,1.8nm,0.9s,baz=196,slow=1.4,SNR=6.5						
H03N2	Juan Fernandez	120.49	106	T	T	11 24 08.2	
	baz=317,slow=77,SNR=1051						
H03N1	Juan Fernandez	120.50	106	T	T	11 24 09.6	
	baz=317,slow=77,SNR=1123						
H03N3	Juan Fernandez	120.50	106	T	T	11 24 08.8	
	baz=317,slow=77,SNR=876						
DBIC	Dimbokro	121.62	8	PKP	PKPdf	09 12 12.1	-0.6
	comp=Z,4.0nm,0.4s,baz=22,slow=2.6,SNR=11						
TIC	Toumodi	121.63	9	*e*PKP1	PKiKP	09 12 13.2	+0.3
KMBO	Kilima Mbogo	121.80	318	PKP	PKiKP	09 12 13.6	+0.1
	comp=Z,1.4nm,0.4s,baz=10,slow=6.2,SNR=5.4						
KMBO	Kilima Mbogo	121.80	318	*c i*PKIKP	PKiKP	09 12 14.6	+1.1
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KIC	Kosan Boka	121.94	8	*e*PKP1	PKiKP	09 12 13.8	+0.3
	comp=Z,16nm,0.7s						
LIC	Lamto	122.04	9	*e*PKP1	PKPdf	09 12 13.0	-0.5
	comp=Z,90nm,1.8s						
CPUP	Villa Florida	128.83	84	PKP	PKPdf	09 12 25.4	-0.6
	comp=Z,2.1nm,0.9s,baz=249,slow=6.7,SNR=4.5						
VNDA	Vanda	129.50	186	PKP	PKPdf	09 12 25.6	-0.2
	comp=Z,1.3nm,1.0s,baz=9.5,slow=3.2,SNR=3.5						
PLCA	Paso Flores	130.32	108	PKP	PKPdf	09 12 28.5	-0.1
	comp=Z,3.8nm,1.0s,baz=107,slow=1.9,SNR=5.3						
TSUM	Tsumeb	145.52	334		PKPdf	09 12 56.2	-0.8
MAW	Mawson	147.12	218	PKPbc	PKPbc	09 13 00.3	0.0
	comp=Z,20nm,0.8s,baz=100,slow=3.2,SNR=48						
MAW	Mawson	147.12	218		PKPbc	09 12 59.8	-0.5
LBTB	Lobatse	148.08	317	PKP2	PKPbc	09 13 03.5	-0.9
LBTB	Lobatse	148.08	317		PKPbc	09 13 03.5	-0.9
BOSA	Boshof	151.36	315	PKP	PKPdf	09 13 07.8	+1.5
	comp=Z,22nm,0.6s,baz=53,slow=1.2,SNR=4.0						
BOSA				PKPbc	PKPbc	09 13 12.4	+0.1
	comp=Z,42nm,0.7s,baz=30,slow=2.0,SNR=42						
SYO	Syowa Base	155.26	211	⇓*e*PKPdf	PKPdf	09 13 11.0	+0.6
VNA3	Neumayer Olymp	159.55	169	PKPab	PKPab	09 13 52.9	-1.4
VNA3	Neumayer Olymp	159.55	169	PKPdf	PKPdf	09 13 15.4	-0.4
SNAA	Sanae	159.73	175	PKPab	PKPab	09 13 53.5	-1.7
SNAA	Sanae	159.73	175	PKPdf	PKPdf	09 13 14.4	-1.7
VNA2	Neumayer--Watz	160.11	171	PKPab	PKPab	09 13 55.8	-1.0
	baz=207,slow=2.8						
VNA1	Neumayer--Stat	160.27	169	PKPab	PKPab	09 13 56.4	-1.1

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*IDC **05** 08:58:33.5±1.5, 25°.81N×97°.43E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/52, mbtmp3.7/3, MS3.8/1, Ms1 3.8/1, ms1mx2.7/54 Error ellipse: s-maj=81.6km s-min=21.7km az=68.0*

ISC 05 08:58:34.3±1.4**, 25°.3N**±0°.1×**96°.6E**±0°.1**, h10km, n17,** σ**1s.24**/16**, mb3.7**/3**, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.18	162	Pg	Pg	09 00 49.2	-2.5
	baz=340,slow=17,SNR=9.5						
CMAR				Lg	Lg	09 02 31.3	
	0.6nm,0.3s,baz=323,slow=28,SNR=4.8						
CM02	Chiang Mai Arr	7.20	162	P	Pg	09 00 52.5	+0.3
	9.5nm,0.8s						
CM13	Chiang Mai Arr	7.20	162	P	Pg	09 00 51.6	-0.6
	6.1nm,1.0s						
CM01	Chiang Mai Arr	7.22	162	P	Pg	09 00 54.3	+1.8
	7.7nm,0.9s						
CM05	Chiang Mai Arr	7.23	162	P	Pg	09 00 52.5	-0.3
	7.2nm,0.7s						
CM04	Chiang Mai Arr	7.24	162	P	Pg	09 00 54.3	+1.3
	8.9nm,0.8s						
TAPN	Taplejung	8.20	286	*e*P	Pn	09 00 34.4	+0.8
	13nm,0.3s						
TAPN				*e*S	Sn	09 01 59.8	-6.8
ODAN	Odare	8.39	283	*e*P	Pn	09 00 37.8	+1.6
	27nm,0.5s						
ODAN				*e*S	Sn	09 02 09.9	-1.3
RAMN	Ramite	9.11	282	*e*P	Pn	09 00 47.7	+1.7
	19nm,0.5s						
JIRN	Jiri	9.59	286	*e*P	Pn	09 00 52.7	0.0
	16nm,0.5s						
PKI	Pulchoki	10.25	285	*e*P	Pn	09 01 01.5	-0.3
	5.2nm,0.4s						
PKIN	Phulchoki	10.26	285	*e*P	Pn	09 01 01.9	0.0
SRDT	SRDT	11.18	167	P	Pn	09 01 20.1	+5.9
	12μm54nm,2.8s						
MKAR	Makanchi Array	24.27	336	P	P	09 03 51.6	+0.1
	1.1nm,0.5s,baz=142,slow=8.9,SNR=8.6						
JNU	Nakatsue	30.83	67	LR	LR	09 16 30.0	
	comp=Z,204nm,21.2s,baz=96,slow=36						
WRA	Warramunga Arr	58.07	137	P	P	09 08 27.3	-0.6
	0.6nm,0.8s,baz=337,slow=8.2,SNR=5.2						
ASAR	Alice Springs	60.66	140	P	P	09 08 45.9	0.0
	0.5nm,0.8s,baz=325,slow=6.9,SNR=4.7						

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*NOU **05** 09:03:41.5, 14°.66S×167°.75E, h145km, mb3.9/11, Vanuatu Islands*

*IDC **05** 09:03:41.7±4.2, 14°.78S×167°.04E, h67km±31km, mb3.5/3, mb1 3.9/5, mb1mx3.5/36, mbtmp4.1/5, ML4.5/2, Error ellipse: s-maj=50.8km s-min=24.3km az=74.0*

ISC 05 09:03:43.6±1.8**, 14°.9S**±0°.1×**167°.4E**±0°.2**, h100km, n15,** σ**1s.74**/14**, mb3.6**/3**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SANVU	Saraoutou	0.60	199	P	Pn	09 04 05.5	+5.3
DVP	Devils Point	2.93	165	P	Pn	09 04 29.5	+1.1
RTV	Rentapao	3.06	161	P	Pn	09 04 31.5	+1.3
KOUNC	Koumac, New Ca	6.38	207	P	Pn	09 05 17.9	+2.9
YATNC	Mamie plateau,	7.16	184	P	Pn	09 05 25.3	-0.4
DZM	Mont Dzumac	7.22	187	P	Pn	09 05 27.0	+0.5
	2.1nm,0.3s,baz=80,slow=8.8,SNR=69						
DZM				S	Sn	09 06 45.1	-1.8
	0.4nm,0.3s,baz=113,slow=18,SNR=1.9						
DZM	Mont Dzumac	7.22	187	P	Pn	09 05 28.2	+1.7
NOUC	Port Laguerre	7.26	188	P	Pn	09 05 28.4	+1.4
ONTNC	Ouen Toro	7.45	187	P	Pn	09 05 31.3	+1.7
OUENC	Ouen Island, N	7.52	184	P	Pn	09 05 32.3	+1.7
HNR	Honiara	9.07	306	P	Pn	09 05 45.1	-6.6
	24nm,0.3s,baz=174,slow=19,SNR=6.8						
STKA	Stephens Creek	29.00	230	P	P	09 09 34.1	+0.2
	1.2nm,0.7s,baz=80,slow=11,SNR=4.1						
WRA	Warramunga Arr	31.91	256	P	P	09 09 57.4	-2.4
	0.3nm,0.5s,baz=84,slow=8.4,SNR=1.8						
ASAR	Alice Springs	32.74	249	P	P	09 10 06.3	-0.8
	0.7nm,0.4s,baz=74,slow=9.4,SNR=17						
FINES	FINESS Array B	125.90	338	PKP	PKiKP	09 22 34.7	+0.9
	1.6nm,0.8s,baz=56,slow=5.2,SNR=3.7						

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*OSPL **05** 09:08:36.2±2.9, 20°.02N×65°.07W, h31km±247km, ML3.0*

*NEIC **05** 09:08:42.2±1.2, 19°.63N±0°.09×65°.60W±0°.06, h36km±42km, Error ellipse: s-maj=13.2km s-min=7.9km az=198.0*

*RSPR **05** 09:08:42.1, 19°.72N×65°.62W, h44km±23km, MD3.5/5*

ISC 05 09:08:39.8±1.4**, 19°.67N**±0°.07×**65°.60W**±0°.04**, h16km, n50,** σ**1s.00**/53**, 14C, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CUPR	Culebra, Puert	1.38	167	⇑*e*P	Pn	09 09 04.5	0.0
CUPR	Culebra, Puert	1.38	167	*e*S	Sb	09 09 22.8	0.0
CUPR	Culebra, Puert	1.38	167		Pn	09 09 04.4	0.0
CUPR				IAML		09 09 22.8	
	comp=N,115nm,0.8s						
CUPR					Sb	09 09 22.9	+0.2
CUPR				IAML		09 09 27.7	
	comp=E,121nm,0.8s						
CBYP	Canovanas	1.41	190	⇑*e*P	Pn	09 09 05.4	+0.5
CBYP	Canovanas	1.41	190	*e*S	Sn	09 09 22.4	-0.7
CBYP	Canovanas	1.41	190		Pn	09 09 04.3	-0.5
GCPR	Guaynabo City	1.43	199	⇑*e*P	Pn	09 09 04.6	-0.4
GCPR	Guaynabo City	1.43	199	*e*S	Sn	09 09 22.7	-0.7
GCPR	Guaynabo City	1.43	199		Pn	09 09 04.4	-0.6
STVI	Saint Thomas	1.44	155	⇑*e*P	Pn	09 09 05.6	+0.3
STVI	Saint Thomas	1.44	155	*e*S	Sn	09 09 24.0	+0.1
STVI	Saint Thomas	1.44	155	Pn	Pn	09 09 05.0	-0.2
STVI				IAML		09 09 35.0	
	comp=E,114nm,1.1s						
STVI				IAML		09 09 38.5	
	comp=N,114nm,1.0s						
EMPR	Esperanza - Ma	1.47	217	⇑*e*P	Pn	09 09 06.6	+0.9
EMPR	Esperanza - Ma	1.47	217		Pn	09 09 06.0	+0.4
EMPR				IAML		09 09 41.8	
	comp=E,217nm,0.7s						
EMPR				IAML		09 09 53.6	
	comp=N,146nm,1.0s						
ABV	Anegada	1.52	128	⇑*e*P	Pn	09 09 06.0	-0.3
ABV	Anegada	1.52	128	*e*S	Sn	09 09 25.0	-0.7
ABVI	Anegada Island	1.52	128		Pn	09 09 06.0	-0.3
ABVI				IAML		09 09 44.1	
	comp=N,166nm,1.1s						
HUMP	Col San Antoni	1.53	189	⇑*e*P	Pn	09 09 07.0	+0.5
HUMP	Col San Antoni	1.53	189	*e*S	Sn	09 09 26.1	-0.1
HUMP	Col San Antoni	1.53	189		Pn	09 09 06.0	-0.5
HUMP				IAML		09 09 35.9	
	comp=N,105nm,0.6s						
TBVI	Tortola	1.55	143	⇑*e*P	Pn	09 09 07.1	+0.4
TBVI	Tortola	1.55	143	*e*S	Sn	09 09 26.2	-0.4
MTP	Monte Pirata	1.56	178	⇑*e*P	Pn	09 09 06.9	0.0
MTP	Monte Pirata	1.56	178	*e*S	Sn	09 09 26.9	+0.1
MTP	Monte Pirata	1.56	178		Pn	09 09 06.9	0.0
MTP				IAML		09 09 30.0	
	comp=N,98nm,0.7s						
MTP				IAML		09 09 33.0	
	comp=E,119nm,1.1s						
VGBI	Virgin Gorda,	1.63	136	⇑*e*P	Pn	09 09 08.3	+0.5
VGBI	Virgin Gorda,	1.63	136	*e*S	Sn	09 09 28.7	+0.2
VGBI	Virgin Gorda,	1.63	136		Pn	09 09 08.3	+0.5
VGBI					Sn	09 09 28.7	+0.2
SJG	San Juan	1.63	199	Pn	Pn	09 09 07.9	0.0
SJG				IAML		09 09 35.2	
	comp=E,98nm,0.8s						
SJG				IAML		09 09 39.1	
	comp=E,87nm,0.7s						
AOPR	Arecibo Observ	1.71	220		Pn	09 09 08.7	-0.3
IGPR	InterUniversit	1.76	196	⇑*e*P	Pn	09 09 09.5	-0.1
IGPR	InterUniversit	1.76	196	*e*S	Sn	09 09 31.4	-0.3
CELP	Cerrillos	1.83	211	⇑*e*P	Pn	09 09 11.0	+0.4
CELP	Cerrillos	1.83	211		Pn	09 09 11.0	+0.4
AGPR	Aguadilla, PR	1.86	230	⇑*e*P	Pb	09 09 13.1	-0.3
AGPR	Aguadilla, PR	1.86	230	Pn	Pn	09 09 11.1	+0.1
OBIP	Obispado Ponce	1.87	211	⇑*e*P	Pn	09 09 10.5	-0.7
OBIP	Obispado Ponce	1.87	211	*e*S	Sn	09 09 32.8	-1.7
OBIP	Obispado Ponce	1.87	211		Pn	09 09 10.4	-0.8
OBIP				IAML		09 09 59.3	
	comp=N,70nm,1.4s						
ICMP	Isla Caja de M	1.98	207	Pn	Pn	09 09 13.3	+0.8
ICMP				IAML		09 09 50.4	
	comp=N,72nm,1.2s						
ICMP				IAML		09 09 52.5	
	comp=E,82nm,0.9s						
CDVI	St. Croix	2.06	157		Pn	09 09 15.5	+1.8
MLPR	Magueyes Islan	2.17	219		Pn	09 09 15.4	+0.1
CRPR	Cabo Rojo, PR	2.18	221	*i* P	Pn	09 09 16.4	+1.0
CRPR				IAML		09 10 00.2	
	comp=Z,54nm,0.8s						
PCDR	Punta Cana, DR	2.87	247	Pn	Pn	09 09 25.8	+0.9
PCDR				IAML		09 10 11.3	
	comp=E,38nm,1.2s						
PCDR	Punta Cana, DR	2.87	247	*i* P	Pn	09 09 25.7	+0.8
DR12	Loma Pena Alta	3.68	257	Pn	Pn	09 09 36.4	+0.3
SDDR	Presa de Saban	5.41	264		Pn	09 10 01.7	+1.8
SDDR	Presa de Saban	5.41	264	*i* P	Pn	09 10 01.9	+1.9
SDDR				*e*S	Sn	09 11 03.7	+1.7
GRTK	Grand Turk	5.50	290	*e*S	Sn	09 10 59.5	-4.5
LONE2	Loma La Sidra	5.66	260	*i* P	Pn	09 10 05.4	+2.0

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*IDC **05** 09:10:52.4±4.4, 35°.74N×141°.31E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/50, mbtmp3.6/4, ML3.3/2, Error ellipse: s-maj=119.0km s-min=28.0km az=56.0*

*JMA **05** 09:10:58.6±0.2, 35°.73N×140°.98E, h35km±1km, M3.2*

ISC 05 09:10:57.3±1.3**, 35°.73N**±0°.09×**141°.15E**±0°.09**, h33km, n18,** σ**0s.80**/14**, 2D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	Chosi	0.24	263	P	Pb	09 11 04.4	+0.1
CHOJ				S	Sn	09 11 08.5	+0.6
JIHU	Itakohorinouch	0.56	295	⇓P	Pb	09 11 08.8	0.0
JSMT	Sammumatsuo	0.58	262	P	Pn	09 11 08.5	-0.6
JCN	Nagara	0.83	248	P	Pn	09 11 12.9	+0.2
JYT	Yasato	0.92	303	P	Pn	09 11 13.2	-0.7
BSO4	Boso 4	0.99	222	P	Pn	09 11 14.8	0.0
JHO	Hitachi	1.00	332	⇓P	Pn	09 11 15.3	+0.3
MJAR	Matsushiro Arr	2.52	290	Pn	Pn	09 11 36.0	+0.2
	0.9nm,0.3s,baz=89,slow=8.3,SNR=45						
MAT	Matsushiro	2.52	290	P	Pn	09 11 36.5	+0.6
MAT				S	Sn	09 12 03.5	-1.9
JCJ	Chichijima	8.65	174	Pn	Pn	09 12 59.1	-1.0
	2.5nm,0.3s,baz=251,slow=18,SNR=1.5						
H11N2	WAKE ISLAND Hy	27.69	118	T	T	09 45 39.5	
	baz=311,slow=75,SNR=14						
H11N1	WAKE ISLAND Hy	27.70	118	T	T	09 45 40.0	
	baz=311,slow=75,SNR=20						
H11N3	WAKE ISLAND Hy	27.71	118	T	T	09 45 42.4	
	baz=311,slow=75,SNR=20						
H11S1	WAKE ISLAND Hy	28.36	120	T	T	09 46 30.3	
	baz=312,slow=76,SNR=13						
H11S3	WAKE ISLAND Hy	28.36	121	T	T	09 46 28.3	
	baz=312,slow=76,SNR=14						
H11S2	WAKE ISLAND Hy	28.37	121	T	T	09 46 29.6	
	baz=312,slow=76,SNR=12						
MKAR	Makanchi Array	44.64	303	P	P	09 19 07.3	+0.7
	0.3nm,0.6s,baz=84,slow=9.5,SNR=3.7						
WRA	Warramunga Arr	55.74	188	P	P	09 20 31.0	+0.2
	0.5nm,0.8s,baz=3.0,slow=8.0,SNR=4.7						

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*IDC **05** 09:11:15.7±1.0, 51°.56N×174°.32W, h0km, mb3.8/11, mb1 3.9/13, mb1mx3.7/62, mbtmp3.8/13, ML3.5/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/48, Error ellipse: s-maj=30.7km s-min=18.7km az=172.0*

*NEIC **05** 09:11:17.3±2.1, 51°.33N±0°.05×174°.26W±0°.09, h14km±7km, Error ellipse: s-maj=10.0km s-min=4.2km az=129.0*

*AEIC **05** 09:11:18±2.7, 51°.34N±0°.07×174°.32W±0°.09, h16km±6km, ML3.4/26, mb4.2/38(NEIC), Error ellipse: s-maj=10.8km s-min=7.2km az=154.0*

ISC 05 09:11:20.3±0.7**, 51°.33N**±0°.09×**174°.25W**±0°.05**, h38km, n91,** σ**1s.11**/92**, mb4.0**/16**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATKA	Atka Island	0.87	2		Pn	09 11 35.0	-1.0
ATKA				Sn	Sn	09 11 48.4	+0.9
KOFP	Korovin Flat P	0.95	6		Pn	09 11 36.7	-0.4
KOKL	Mount Kliuchef	0.99	2		Pn	09 11 37.3	-0.4
KOSE	Korovin Southe	1.02	7		Pn	09 11 37.9	-0.2
GSTR	Great Sitkin T	1.36	305		Pn	09 11 41.9	-0.9
GSTD	Great Sitkin T	1.38	302		Pn	09 11 42.2	-0.9
GSTD					Sn	09 12 00.8	+0.6
GSSP	Great Sitkin S	1.42	303		Pn	09 11 42.8	-0.7
ETKA	Kagalaska Isla	1.45	292		Pn	09 11 43.0	-0.9
ADAG	Mount Adagdak	1.60	295		Pn	09 11 45.9	-0.2
ADK	Adak	1.61	291		Pn	09 11 45.2	-1.0
KIRH	Kanaga Island	1.86	289		Pn	09 11 49.3	-0.3
KIWB	Kanaga Island	1.88	287		Pn	09 11 48.0	-1.9
KIKV	Kanaga Island	1.90	288		Pn	09 11 49.9	-0.3
KIMD	Kanaga Island	1.91	284		Pn	09 11 49.6	-0.7
KICM	Kanaga Island	1.93	289		Pn	09 11 50.4	-0.1
TAFP	Tanaga Falls P	2.40	285		Pn	09 11 57.2	+0.2
TAFP					Sn	09 12 25.8	+0.8
TASE	Tanaga Southea	2.42	283		Pn	09 11 57.5	+0.3
GAEA	Gareloi East	2.84	281		Pn	09 12 03.6	+0.5
GALAA	Gareloi Lava P	2.86	280		Pn	09 12 03.6	+0.3
NIKH	Nikolski High	3.71	62		Pn	09 12 14.7	-0.3
AMKA	Amchitka	4.04	273	Pn	Pn	09 12 17.8	-1.8
LSNW	Little Sitkin	4.55	281		Pn	09 12 26.2	-0.3
MSW	Makushin Switc	5.23	57		Pn	09 12 36.5	+0.7
UNV	Unalaska Valle	5.35	59		Pn	09 12 39.2	+1.7
SPIA	Saint Paul Isl	6.31	20	Pn	Pn	09 12 52.8	+2.2
SDPT	Sand Point	9.16	59	Pn	Pn	09 13 30.0	+0.3
CNBA	Chernabura Isl	9.49	63	Pn	Pn	09 13 33.9	-0.3
CHGN	Chignik	10.59	56	Pn	Pn	09 13 49.9	+0.6
OHAK	Old Harbor	13.56	56	Pn	Pn	09 14 27.2	-2.6
KDAK	Kodiak Island	14.09	54	Pn	Pn	09 14 34.4	-2.7
	0.3nm,0.3s,baz=308,slow=3.6,SNR=12						
KDAK	Kodiak Island	14.09	54	Pn	Pn	09 14 35.7	-1.3
CNPM	China Poot	15.36	49	Pn	Pn	09 14 53.9	0.0
SKT	Skwentna	16.32	40	Pn	Pn	09 15 05.7	-0.6
SUA	Susitna One	16.39	43	Pn	Pn	09 15 07.2	-0.2
SEW	Seward	16.41	48	Pn	Pn	09 15 05.2	-2.2
O22K	Cooper Landing	16.43	47	Pn	Pn	09 15 04.6	-3.0
O22K				IAmb	IAmb	09 15 44.4	
	comp=Z,20nm,0.8s						
PPLA	Purkeypile	16.55	37	Pn	Pn	09 15 09.7	+0.3
PPLA				IAmb	IAmb	09 15 37.9	
	comp=Z,40nm,1.9s						

J20K	Nowinta River	16.64	32	Pn	Pn	09 15 10.4	+0.1
RC01	Rabbit Creek A	16.67	45	Pn	Pn	09 15 09.8	-0.8
RC01				IAmb	IAmb	09 15 47.8	
	comp=Z,43nm,1.8s						
PETK	Petropavlovsk-	17.24	287	P	Pn	09 15 18.2	+0.4
	comp=Z,0.2nm,0.3s,baz=97,slow=12,SNR=3.4						
GHO	Glory Hole Cre	17.31	43	P	Pn	09 15 17.9	-0.9
GHO				IAmb	IAmb	09 15 40.6	
	comp=Z,33nm,1.6s						
SML	Sawmill	17.58	43	P	Pn	09 15 20.3	-1.8
IMAR	Indian Mountai	18.00	28	P	Pn	09 15 25.9	-1.3
FID	Port Fidalgo	18.02	48	P	Pn	09 15 24.4	-3.0
SCM	Sheep Creek Mo	18.03	44	P	Pn	09 15 25.7	-1.9
SCM				IAmb	IAmb	09 15 40.8	
	comp=Z,28nm,1.3s						
RND	Reindeer	18.11	38	P	Pn	09 15 27.6	-1.0
RND				IAmb	IAmb	09 15 50.5	
	comp=Z,27nm,2.0s						
MLY	Manley	18.32	33	P	P	09 15 30.0	-1.0
KLU	Klutina	18.52	46	P	P	09 15 31.4	-1.8
KLU				IAmb	IAmb	09 15 32.9	
	comp=Z,26nm,1.5s						
I23K	Minto, Yukon-K	18.86	33	P	P	09 15 36.4	-0.4
BMRM	Bremner River	18.95	48	P	P	09 15 37.8	-0.1
BMRM				IAmb	IAmb	09 16 36.8	
	comp=Z,42nm,1.6s						
CCB	Clear Creek Bu	19.14	36	P	P	09 15 38.5	-1.4
CCB				IAmb	IAmb	09 15 54.9	
	comp=Z,16nm,1.6s						
MDM	Murphy Dome	19.16	35	P	P	09 15 39.9	-0.2
MDM				IAmb	IAmb	09 16 24.3	
	comp=Z,16nm,1.6s						
N25K	Chitina, Valde	19.16	46	P	P	09 15 39.1	-1.1
N25K				IAmb	IAmb	09 16 19.2	
	comp=Z,36nm,1.8s						
BERG	Berg Lake	19.23	50	P	P	09 15 40.3	-0.6
GLB	Gilahina Butte	19.46	47	P	P	09 15 43.3	-0.2
IL31		19.54	36	P	P	09 15 43.9	-0.3
ILAR	Eielson Array	19.54	36	P	P	09 15 43.5	-0.8
	comp=Z,0.6nm,0.3s,baz=233,slow=8.6,SNR=26						
ILAR	Eielson Array	19.54	36	P	P	09 15 44.3	0.0
H24K	Noodor Dome	19.77	33	P	P	09 15 46.7	-0.1
RIDG	Independent Ri	19.85	40	P	P	09 15 46.3	-1.4
RIDG				IAmb	IAmb	09 16 44.6	
	comp=Z,18nm,1.6s						
M26K	Nabesna, AK	20.13	45	P	Pn	09 15 51.9	-0.9
M26K				IAmb	IAmb	09 15 52.1	
	comp=Z,11nm,1.4s						
DOT	Dot Lake	20.13	41	P	P	09 15 49.8	-1.0
DOT				IAmb	IAmb	09 16 08.4	
	comp=Z,14nm,1.6s						
GRNC	Granite Creek	20.24	50	P	P	09 15 51.8	-0.4
SCRK	Sand Creek	20.30	40	P	P	09 15 51.0	-1.6
PRP	Porcupine Dome	20.42	35	P	P	09 15 53.0	-1.0
BCAR	Beaver Creek A	20.88	43	P	Pn	09 16 00.5	-1.0
TOLK	Toolik Lake Re	21.02	25	P	P	09 16 00.5	+0.2
K27K	Chicken	21.09	41	P	P	09 16 00.9	-0.2
K27K				IAmb	IAmb	09 16 35.3	
	comp=Z,21nm,1.7s						
MA2	Magadan	21.26	306	LR	LR	09 24 15.7	
	comp=Z,56nm,18.9s,baz=355,slow=37						
EGAK	Eagle	21.75	39	P	P	09 16 07.7	-0.3
EGAK				IAmb	IAmb	09 16 09.6	
	comp=Z,9.6nm,0.6s						
BMAR	Burnt Mountain	21.75	31	P	P	09 16 08.8	+0.6
DAWY	Dawson	22.21	42	P	P	09 16 12.8	-0.3
DAWY				IAmb	IAmb	09 16 33.4	
	comp=Z,12nm,1.6s						
EPYK	Eagle Plains	24.05	37	P	P	09 16 30.8	-0.6
INK	Inuvik	25.88	34	P	P	09 16 47.0	-1.0
	comp=Z,1.8nm,0.9s,baz=233,slow=5.1,SNR=2.4						
INK	Inuvik	25.88	34	P	P	09 16 46.8	-1.2
INK				IAmb	IAmb	09 16 49.1	
	comp=Z,4.7nm,1.2s						
USRK	Ussuriysk Ar.	36.12	280	P	P	09 18 18.4	0.0
	comp=Z,3.7nm,0.7s,baz=57,slow=8.6,SNR=6.0						
EDM	Edmonton	36.32	62	P	P	09 18 21.0	+0.9
EDM				IAmb	IAmb	09 18 22.6	
	comp=Z,5.5nm,0.8s						
PDAR	Pinedale Array	43.59	75	P	P	09 19 21.4	+0.8
	comp=Z,0.3nm,0.5s,baz=309,slow=2.8,SNR=4.8						
PDAR	Pinedale Array	43.59	75	P	P	09 19 20.7	0.0
SONM	Songino Array	49.19	299	P	P	09 20 04.9	+0.4
	comp=Z,0.5nm,0.5s,baz=68,slow=9.4,SNR=4.4						
SONM	Songino Array	49.19	299	P	P	09 20 04.8	+0.4
SONM				IAmb	IAmb	09 20 05.2	
	comp=Z,3.0nm,1.3s						
HHC	Hu-ho-hao-te	50.43	289	*e*P	P	09 20 11.5	-2.4
HHC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,120nm,5.6s						
TXAR	Lajitas Array	55.83	84	P	P	09 20 55.1	+1.3
	comp=Z,0.2nm,0.8s,baz=316,slow=5.1,SNR=2.5						
ARCES	ARCESS Array B	58.58	352	P	P	09 21 11.4	-1.1
	comp=Z,1.3nm,0.7s,baz=26,slow=8.5,SNR=6.1						
ARCES				PcP	PcP	09 22 02.4	0.0
	comp=Z,1.7nm,0.7s,baz=5.6,slow=5.0,SNR=4.2						
KURK	Kurchatov	61.08	316	P	P	09 21 30.1	+0.2
KURBB	Kurchatov Arra	61.18	316	P	P	09 21 30.1	-0.5
	comp=Z,0.4nm,0.4s,baz=42,slow=7.2,SNR=7.3						
WMQ	Urumqi	61.73	306	*e*P	P	09 21 35.2	+0.7
MKAR	Makanchi Array	62.26	311	P	P	09 21 37.3	-0.7
	comp=Z,0.3nm,0.3s,baz=45,slow=6.2,SNR=9.0						
BVAR	Borovoye Array	62.72	322	P	P	09 21 40.6	-0.4
	comp=Z,1.0nm,0.5s,baz=344,slow=4.8,SNR=3.9						
WRA	Warramunga Arr	84.03	228	P	P	09 23 49.0	+2.3
	comp=Z,1.1nm,1.2s,baz=39,slow=5.4,SNR=2.1						
ASAR	Alice Springs	87.45	226	P	P	09 24 04.5	+0.9
	comp=Z,0.3nm,0.7s,baz=14,slow=4.8,SNR=2.8						

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*TUL **05** 09:13:22.2±1.0, 36°.82N±0°.01×97°.62W±0°.01, h5km±7km, ML2.5, mb_Lg2.1/10(NEIC), Error ellipse: s-maj=1.7km s-min=1.4km az=154.0*

NEIC 05 09:13:22.5±0.6**, 36°.80N**±0°.01×**97°.61W**±0°.02**, h5**km±7km**, Error ellipse: s-maj=2.1km s-min=1.6km az=82.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GC02	Grant County #	0.21	283		Pg	09 13 26.4	-0.1
GC02				Sg	Sg	09 13 29.5	+0.2
KAN13	South Haven SW	0.23	27		Pg	09 13 27.1	+0.1
KAN13				Sg	Sg	09 13 30.5	+0.4
KAN17	Caldwell West	0.27	332		Pg	09 13 27.7	0.0
KAN17				Sg	Sg	09 13 31.5	+0.2
BLOK	Blackwell	0.32	98		Pg	09 13 28.8	+0.1
KAN14	Manchester OK	0.32	298		Pg	09 13 28.6	-0.1
KAN14				Sg	Sg	09 13 33.0	0.0
KAN05	Bluff City Nor	0.37	325	Pg	Pg	09 13 29.5	-0.2
KAN05				Sg	Sg	09 13 34.5	0.0
CROK	Carrier	0.42	225		Pg	09 13 30.7	0.0
CROK				Sg	Sg	09 13 36.6	+0.4
KS20	Mayfield South	0.43	6	Pg	Pg	09 13 30.6	-0.1
OK032	Salt Plains WL	0.48	270		Pg	09 13 31.6	-0.2
KAN10	Anthony SW Sta	0.50	309	Pg	Pg	09 13 32.0	-0.2
KAN10				Sg	Sg	09 13 38.9	+0.2
KAN08	Anthony NE Sta	0.51	325	Pg	Pg	09 13 30.8	-1.5
KAN12	Harper NE Stat	0.58	328	Pg	Pg	09 13 33.5	-0.2
T35A	Sooner Cattle	0.89	82		Pg	09 13 39.2	-0.3
QUOK	Quay	0.96	131	Pg	Pg	09 13 40.6	-0.3
OK029	Liberty Lake	1.01	173		Pg	09 13 41.5	-0.4
OK031	S. Brethren Rd	1.05	144		Pg	09 13 42.4	-0.3
OK031				Sg	Sg	09 13 56.4	+0.1
OK025	Westminster Rd	1.24	170		Pg	09 13 45.7	-0.5
OKCFA	Oklahoma City	1.39	175		Pn	09 13 48.3	-0.3
OKCFA				IAmb_Lg		09 14 05.9	
	comp=Z,7.8nm,1.1s						
OKCSW	OKLAHOMA CITY	1.40	174		Pn	09 13 48.6	-0.2
FNO	Franklin	1.55	174	Pn	Pn	09 13 51.0	+0.3
X34A	Smith Ranch, M	2.21	185		Pn	09 13 59.9	+0.1
WMOK	Wichita Mounta	2.27	205	Pn	Pn	09 14 01.5	+0.8
KSU1	Kansas State U	2.42	19	Pn	Pn	09 14 02.9	+0.1
U38A	Gravette	2.62	97		Pn	09 14 06.0	+0.6
HHAR	Hobbs	3.00	99		Pn	09 14 11.2	+0.5
HHAR				IAmb_Lg		09 15 02.6	
	comp=Z,6.6nm,0.9s						
S39A	Bolivar	3.53	74		Pn	09 14 18.8	+0.8
MIAR	Mount Ida	3.98	123	IAmb_Lg		09 15 31.2	
	comp=Z,3.7nm,0.7s						
P38A	Dawn	4.27	48	IAmb_Lg		09 15 40.1	
	comp=Z,4.9nm,0.7s						
MGMO	Mountain Grove	4.29	84	IAmb_Lg		09 15 39.4	
	comp=Z,6.8nm,1.0s						
P40A	Paris	5.16	56	IAmb_Lg		09 16 07.1	
	comp=Z,4.9nm,0.8s						

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*IDC **05** 09:19:48.1±2.8, 51°.60N×174°.30W, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.4/55, mbtmp3.7/5, ML3.5/2, Error ellipse: s-maj=81.3km s-min=24.4km az=172.0*

*NEIC **05** 09:19:50.9±1.6, 51°.29N±0°.05×174°.49W±0°.08, h4km±10km, Error ellipse: s-maj=8.8km s-min=4.7km az=133.0*

*AEIC **05** 09:19:51±1.1, 51°.36N±0°.05×174°.42W±0°.05, h7km±7km, ML3.1/19, Error ellipse: s-maj=7.3km s-min=4.0km az=162.0*

ISC 05 09:19:48.6±1.1**, 51°.27N**±0°.10×**174°.30W**±0°.06**, h10**km**, n20, σ0s.94**/22**, mb3.6**/3**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATKA	Atka Island	0.94	4		Pn	09 20 08.0	+0.1
ATKA	Atka Island	0.94	4		Sn	09 20 21.2	-0.1
KOKL	Mount Kliuchef	1.06	3		Pn	09 20 10.6	+1.0
KOSE	Korovin Southe	1.09	8		Pn	09 20 11.4	+1.4
GSMY	Great Sitkin M	1.34	306		Pg	09 20 14.3	-0.1
GSTR	Great Sitkin T	1.38	308		Pg	09 20 15.0	0.0
GSTD	Great Sitkin T	1.40	305		Pg	09 20 15.1	-0.3
GSTD					Sg	09 20 34.3	+0.8
GSSP	Great Sitkin S	1.43	306		Pb	09 20 15.5	+0.1
ADK	Adak	1.61	293		Pb	09 20 18.4	-0.1
KIWB	Kanaga Island	1.88	289	Pn	Pb	09 20 22.1	-0.9
KIKV	Kanaga Island	1.90	290		Pb	09 20 23.1	-0.2
KIMD	Kanaga Island	1.90	286		Pb	09 20 22.9	-0.5
TAFP	Tanaga Falls P	2.39	287		Pb	09 20 30.2	-1.5
TAFP					Sb	09 21 00.6	-0.6
TASE	Tanaga Southea	2.40	285		Pb	09 20 30.8	-1.2
AMKA	Amchitka	4.02	274		Pn	09 20 51.9	+1.8
KDAK	Kodiak Island	14.16	54	Pn	Pn	09 23 09.7	+0.8
	0.2nm,0.3s,baz=201,slow=0.6,SNR=6.3						
ILAR	Eielson Array	19.62	36	P	P	09 24 14.7	-2.1
	0.2nm,0.3s,baz=235,slow=9.0,SNR=16						
KLR	Kul'dur	33.91	288	P	P	09 26 31.2	-0.2
	1.1nm,0.5s,baz=80,slow=5.7,SNR=4.2						
PDAR	Pinedale Array	43.63	75	P	P	09 27 53.5	+0.2
	0.3nm,0.7s,baz=308,slow=3.0,SNR=3.8						
MKAR	Makanchi Array	62.28	311	P	P	09 30 10.5	-0.1
	0.2nm,0.5s,baz=32,slow=8.5,SNR=3.2						

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*IDC **05** 09:56:47.4±5.2, 37°.38N×75°.77E, h35km±40km, mb3.6/10, mb1 3.8/15, mb1mx3.6/66, mbtmp3.9/15, ML3.6/5, Error ellipse: s-maj=31.8km s-min=17.2km az=22.0*

*NNC **05** 09:56:57.1±4.3, 37°.98N×75°.22E, h0km±19km, mb4.2, mpv3.9, Error ellipse: s-maj=36.5km s-min=27.1km az=133.0*

ISC 05 09:56:46.1±0.6**, 37°.84N**±0°.04×**75°.81E**±0°.09**, h10**km**, n42, σ2s.57**/46**, mb3.9**/10**, 5C-5D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	Kashi	1.68	4	Pn	Pg	09 57 24.4	+5.9
KSH				Sn	Sg	09 57 45.4	+5.1
KSH				pmax	pmax		
	comp=Z,1μm,0.4s						
KSH				smax	smax		
	comp=N,5μm,0.8s						
KSH				smax	smax		
	comp=E,4μm,0.5s						
KZA	Kyzart	4.26	354	P	Pb	09 58 01.7	+0.3
	SNR=15						
AML	Almayashu	4.59	340	P	Pb	09 58 06.1	-0.9
	SNR=15						
CHCP	Chirah Chowk	4.66	207	P	Pb	09 58 06.0	-1.9
KBK	Karagaybulak	4.86	352	P	Pb	09 58 10.3	-1.2
	SNR=14						
AAK	Ala-Archa	4.90	349	Pn	Pb	09 58 10.9	-1.3
	comp=E,3.1nm,0.3s,baz=159,slow=6.6,SNR=15						
AAK				Pg	Pg	09 58 22.2	+2.2
	comp=E,6.4nm,0.3s,baz=178,slow=16,SNR=14						
AAK				Sn	Sb	09 59 06.4	-4.8
	comp=E,4.5nm,0.3s,baz=29,slow=18,SNR=9.0						
AAK				Lg	Lg	09 59 29.0	
	comp=E,1.4nm,0.3s,baz=319,slow=19,SNR=1.0						
AAK	Ala-Archa	4.90	349	P	Pb	09 58 10.8	-1.3
	SNR=10						
AAK	Ala-Archa	4.90	349	Pn	Pb	09 58 10.3	-1.8
	comp=E,6.3nm,0.5s						
AAK				Pg	Pg	09 58 22.6	+2.6
	comp=E,16nm,0.7s						
AAK				Sn	Sb	09 59 06.9	-4.3
	comp=E,67nm,0.9s						
AAK				Lg	Lg	09 59 29.8	
	comp=E,50nm,1.1s						
EKS2	Erkin-Say	5.07	343	P	Pb	09 58 12.8	-2.2
	SNR=11						
TKM2	Tokmak 2	5.08	358	P	Pb	09 58 13.3	-2.0
	SNR=34						
TKM2	Tokmak 2	5.08	358	⇓Pn	Pb	09 58 12.3	-3.0
	comp=E,21nm,0.5s						
TKM2				⇓Pg	Pg	09 58 25.3	+1.8
	comp=E,16nm,0.6s						
TKM2				⇑Sn	Sb	09 59 10.6	-5.8
	comp=E,25nm,0.6s						
TKM2				⇑Lg	Lg	09 59 32.6	
	comp=E,20nm,0.7s						
CHMS	Chumysh	5.22	351	P	Pb	09 58 14.8	-2.7
	SNR=7.6						
THN	Thein Dam	5.39	181	*e*P	Pb	09 58 16.0	-4.4
THN				*e*S	Sn	09 59 09.5	+0.8
KK31	Karatay Array	6.63	324	⇓Pn	Pb	09 58 33.0	-8.5
	comp=E,1.2nm,0.3s,baz=130,slow=11,SNR=56						
KK31				⇑Sn	Sn	09 59 44.0	+4.6
	comp=E,5.3nm,0.4s,baz=129,slow=22,SNR=10						
MKAR	Makanchi Array	10.15	26	Pn	Pn	09 59 19.1	+7.2
	comp=E,0.2nm,0.3s,baz=206,slow=14,SNR=8.2						
WMQ	Urumqi	10.80	53	*e*P	Pn	09 59 28.0	+7.1
WMQ				smax	smax		
	comp=N,27nm,0.7s						
WMQ				smax	smax		
	comp=E,28nm,0.7s						
PYUN	Piuthan	11.42	146	*e*P	Pn	09 59 31.9	+2.3
	comp=E,44nm,0.3s						
DANN	Dangsing	11.56	143	*e*P	Pn	09 59 33.1	+1.5
	comp=E,40nm,0.4s						
KOLN	Koldanda	11.98	145	*e*P	Pn	09 59 39.6	+2.4
	comp=E,20nm,0.4s						
GKN	Gorkha	12.28	140	*e*P	Pn	09 59 43.4	+2.1
	comp=E,19nm,0.3s						
KKN	Kakani	12.79	139	*e*P	Pn	09 59 50.2	+2.0
	comp=E,12nm,0.4s						
KURBB	Kurchatov Arra	12.93	8	Pn	Pn	09 59 55.0	+5.2
	comp=E,0.1nm,0.3s,baz=193,slow=12,SNR=15						
KURBB				Lg	Lg	10 03 46.9	
	baz=187,slow=27,SNR=4.4						
PKIN	Phulchoki	13.02	139	*e*P	Pn	09 59 52.5	+1.1
	comp=E,16nm,0.4s						
PKI	Pulchoki	13.03	139	*e*P	Pn	09 59 52.5	+0.8
	comp=E,17nm,0.5s						
JIRN	Jiri	13.38	136	*e*P	Pn	09 59 57.9	+1.5
	comp=E,15nm,0.4s						
RAMN	Ramite	14.16	137	*e*P	Pn	10 00 06.2	-0.8
	comp=E,10nm,0.3s						
BVAR	Borovoye Array	15.65	348	Pn	P	10 00 30.7	-0.2
	comp=E,0.4nm,0.3s,baz=174,slow=16,SNR=6.5						
AB31	Akbulak array	16.17	320	⇓Pn	P	10 00 39.5	+2.9
	comp=E,0.8nm,0.5s,baz=125,slow=13,SNR=25						
AB31				⇑Sn	Sn	10 03 34.2	+1.5
	comp=E,0.6nm,0.6s						
ZALV	Zalesovo Beam	17.27	18	P	P	10 00 50.3	+1.6
	comp=E,0.5nm,0.3s,baz=207,slow=9.5,SNR=6.1						
AKTO	Aktyubinsk	17.88	320	P	P	10 00 58.5	+3.0
	comp=E,1.5nm,0.3s,baz=112,slow=11,SNR=29						
AKTO	Aktyubinsk	17.88	320	⇓Pn	P	10 00 58.6	+3.1
	comp=E,5.2nm,0.5s						
AKTO				⇑Sn	S	10 04 16.3	-4.4
	comp=E,2.1nm,1.4s						
ARU	Arti	21.88	334	P	P	10 01 41.4	+2.5
	comp=E,0.6nm,0.3s,baz=104,slow=9.5,SNR=3.7						
SONM	Songino Array	24.41	56	P	P	10 02 05.3	+0.5
	comp=E,1.6nm,0.8s,baz=250,slow=10,SNR=8.1						
BRTR	Keskin Array B	32.72	287	P	P	10 03 19.6	+0.6
	comp=E,0.8nm,0.4s,baz=92,slow=7.2,SNR=5.1						
AKASG	Malin Array Be	35.17	307	P	P	10 03 39.5	-0.5
	comp=E,0.9nm,0.5s,baz=76,slow=7.7,SNR=2.8						
FINES	FINESS Array B	38.59	324	P	P	10 04 09.0	0.0
	comp=E,2.5nm,0.5s,baz=113,slow=9.8,SNR=25						
ARCES	ARCESS Array B	41.44	336	P	P	10 04 32.6	0.0
	comp=E,2.7nm,0.9s,baz=97,slow=8.7,SNR=3.5						
NB2	NORSAR Subarra	45.66	322	P	P	10 05 05.7	-1.0
	comp=Z,0.8nm,0.5s,baz=90,slow=7.9						
NOA	NORSAR Array B	45.66	322	P	P	10 05 06.1	-0.6
	comp=Z,1.3nm,0.7s,baz=91,slow=7.6,SNR=5.3						
TORD	Torodi Ar. Bea	69.57	271	P	P	10 07 52.7	-2.9
	comp=Z,0.7nm,0.5s,baz=42,slow=5.8,SNR=7.7						
WRA	Warramunga Arr	79.53	125	P	P	10 08 49.7	-3.6
	comp=Z,0.3nm,0.5s,baz=324,slow=4.8,SNR=8.6						
ASAR	Alice Springs	81.96	128	P	P	10 09 02.1	-4.2
	comp=Z,0.4nm,0.6s,baz=315,slow=4.6,SNR=8.3						

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*IDC **05** 09:58:38.9±0.7, 51°.47N×174°.26W, h0km, mb4.1/25, mb1 4.3/27, mb1mx4.2/61, mbtmp4.1/27, ML3.5/2, MS3.9/26, Ms1 3.9/26, ms1mx3.7/57, Error ellipse: s-maj=21.0km s-min=12.1km az=166.0*

*AEIC **05** 09:58:41±1.8, 51°.29N±0°.07×174°.27W±0°.07, h14km±4km, ML3.9, mb4.4/98(NEIC), Error ellipse: s-maj=9.5km s-min=6.5km az=169.0*

*NEIC **05** 09:58:44.3±1.7, 51°.41N±0°.03×174°.28W±0°.07, h35km±2km, Error ellipse: s-maj=8.9km s-min=3.0km az=121.0*

ISC 05 09:58:43.9±0.5**, 51°.32N**±0°.08×**174°.23W**±0°.04**, h35**km**, n284, σ1s.02**/267**, mb4.4**/51**, MS3.9**/29**, 2D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATKA	Atka Island	0.89	1	Pg	Pn	09 58 58.8	-1.1
ATKA				Sg	Sn	09 59 11.0	-0.5
KOFP	Korovin Flat P	0.96	5		Pn	09 59 00.5	-0.4
KOKL	Mount Kliuchef	1.01	1		Pn	09 59 01.1	-0.5
KOSE	Korovin Southe	1.04	6		Pn	09 59 02.0	0.0
GSMY	Great Sitkin M	1.35	303		Pn	09 59 05.2	-1.1
GSTR	Great Sitkin T	1.38	305	Pn	Pn	09 59 05.7	-1.0
GSTD	Great Sitkin T	1.40	303		Pn	09 59 06.1	-0.9
GSTD					Sn	09 59 26.1	+1.8
GSSP	Great Sitkin S	1.44	303		Pn	09 59 06.6	-0.8
ADK	Adak	1.63	291	Pn	Pn	09 59 09.0	-1.1
ADK				Sn	Sn	09 59 29.9	+0.1
KIWB	Kanaga Island	1.90	288		Pn	09 59 13.2	-0.6
KIKV	Kanaga Island	1.92	288		Pn	09 59 13.5	-0.5
KIMD	Kanaga Island	1.93	285		Pn	09 59 13.4	-0.7
KICM	Kanaga Island	1.94	289		Pn	09 59 14.0	-0.4
TAFP	Tanaga Falls P	2.41	285		Pn	09 59 20.9	+0.1
TAFP					Sn	09 59 51.2	+2.1
TASE	Tanaga Southea	2.43	284		Pn	09 59 21.3	+0.2
GAEA	Gareloi East	2.86	281		Pn	09 59 27.5	+0.6
GALAA	Gareloi Lava P	2.87	281		Pn	09 59 27.6	+0.5
NIKH	Nikolski High	3.70	61	Pn	Pn	09 59 38.2	-0.3
NIKH	Nikolski High	3.70	61	P	Pn	09 59 38.6	+0.1
	baz=245,SNR=21						
AMKA	Amchitka	4.05	273		Pn	09 59 42.5	-0.9
MAPS	Pakushin South	5.10	58		Pn	09 59 58.3	+0.6
MSW	Makushin Switc	5.23	57		Pn	10 00 00.9	+1.4
MNAT	Makushin Natee	5.27	58		Pn	10 00 01.4	+1.4
UNV	Unalaska Valle	5.35	59	Pn	Pn	10 00 01.5	+0.4
UNV	Unalaska Valle	5.35	59	P	Pn	10 00 02.7	+1.6
	baz=244						
SPIA	Saint Paul Isl	6.32	20	P	Pn	10 00 17.1	+2.7
	baz=203						
SMY	Shemya	7.34	286	Pn	Pn	10 00 27.3	-1.1
FALS	False Pass	7.41	57		Pn	10 00 29.7	+0.3
SDPT	Sand Point	9.16	59	Pn	Pn	10 00 52.7	-0.7
SDPT	Sand Point	9.16	59	P	Pn	10 00 53.7	+0.3
	baz=249						
CNBA	Chernabura Isl	9.48	63	Pn	Pn	10 00 57.0	-0.9
CHNA	Chernabura Isl	9.49	63	P	Pn	10 00 57.2	-0.7
	baz=254						
CHGN	Chignik	10.59	56	Pn	Pn	10 01 12.7	-0.3
CHGN	Chignik	10.59	56	P	Pn	10 01 12.1	-0.8
	baz=248						
CHIR	Chirikof Islan	11.94	61	Pn	Pn	10 01 30.7	-0.6
SII	Sitkinak Islan	12.90	58	Pn	Pn	10 01 44.0	-0.6
OHAK	Old Harbor	13.56	56	Pn	Pn	10 01 51.4	-2.1
OHAK	Old Harbor	13.56	56	P	Pn	10 01 51.0	-2.5
	baz=253						
N18K	Kilae Creek	13.85	40		Pn	10 01 57.6	+0.2
KDAK	Kodiak Island	14.09	54	Pn	Pn	10 01 57.8	-2.9
	1.0nm,0.3s,baz=234,slow=4.1,SNR=25						
KDAK	Kodiak Island	14.09	54	Pn	Pn	10 01 59.8	-0.9
KDAK	Kodiak Island	14.09	54	P	Pn	10 01 59.7	-1.1
	baz=252						
SVW2	Sparrevohn	14.21	39	Pn	Pn	10 02 05.1	+2.7
N19K	Bonanza Creek	14.50	41		Pn	10 02 06.1	-0.3
N19K	Bonanza Creek	14.50	41	P	Pn	10 02 08.9	+2.5
	baz=238,SNR=6.2						
TNA	Tin City	14.65	10	Pn	Pn	10 02 08.4	+0.2
O20K	Slope Mountain	14.95	46	P	P	10 02 16.9	-0.6
	baz=244						
L19K	White Mountain	15.14	37		P	10 02 19.4	-0.2
L19K				IAmb	IAmb	10 02 23.5	
	comp=Z,15nm,0.9s						
L19K	White Mountain	15.14	37	P	P	10 02 20.9	+1.3
	baz=233,SNR=13						
M19K	Big River Lodg	15.15	38		P	10 02 19.5	-0.2
M19K				IAmb	IAmb	10 02 22.7	
	comp=Z,16nm,1.1s						
M19K	Big River Lodg	15.15	38	P	P	10 02 19.5	-0.2
	baz=234,SNR=11						
HOM	Homer	15.22	48	Pn	Pn	10 02 14.5	-1.4
CNPM	China Poot	15.36	49	Pn	Pn	10 02 17.1	-0.7
CNPM				IAmb	IAmb	10 02 37.5	
	comp=Z,56nm,1.4s						
BRLK	Bradley Lake	15.61	48	Pn	Pn	10 02 19.8	-1.2
BRLK				IAmb	IAmb	10 02 26.0	
	comp=Z,17nm,0.8s						
M20K	Styx River	15.63	39		P	10 02 25.4	+0.3
M20K	Styx River	15.63	39	P	P	10 02 26.1	+1.0
	baz=237						
BRSE	Bradley Lake S	15.67	48	P	Pn	10 02 20.3	-1.5
	baz=248						
L20K	Farewell, AK	15.68	37	P	P	10 02 25.5	-0.1
	baz=234,SNR=7.3						
K20K	Telida	16.15	34		P	10 02 29.6	-1.2
K20K				IAmb	IAmb	10 02 33.3	
	comp=Z,27nm,1.1s						
K20K	Telida	16.15	34	P	P	10 02 31.0	+0.2
	baz=231,SNR=17						
SKT	Skwentna	16.32	40		P	10 02 32.6	-0.1
SKT	Skwentna	16.32	40	P	P	10 02 33.1	+0.4
	baz=239						
SUA	Susitna One	16.40	43		Pn	10 02 32.2	+1.0
SUA	Susitna One	16.40	43	P	P	10 02 32.3	-1.4
	baz=242						
SEW	Seward	16.41	48	P	Pn	10 02 29.1	-2.1
	baz=248						
O22K	Cooper Landing	16.43	47	Pn	Pn	10 02 30.4	-1.0
O22K	Cooper Landing	16.43	47	P	Pn	10 02 31.7	+0.3
	baz=247						
PPLA	Purkeypile	16.56	37		P	10 02 36.0	+0.6
PPLA				IAmb	IAmb	10 02 49.8	
	comp=Z,29nm,1.0s						
PPLA	Purkeypile	16.56	37	P	P	10 02 35.5	+0.1
	baz=236						
J20K	Nowinta River	16.65	32		P	10 02 36.2	-0.2
J20K	Nowinta River	16.65	32	P	P	10 02 36.9	+0.5
	baz=229						
RC01	Rabbit Creek A	16.67	45	Pn	Pn	10 02 33.9	-0.6
RC01				IAmb	IAmb	10 02 38.3	
	comp=Z,24nm,1.3s						
CHUM	Lake Minchumin	17.09	34	P	P	10 02 42.6	+1.4
	baz=233,SNR=12						
PMR	Palmer	17.15	43	Pn	Pn	10 02 39.4	-1.1
PWL	Port Wells	17.21	46	P	Pn	10 02 39.8	-1.5
PWL				IAmb	IAmb	10 03 06.9	
	comp=Z,24nm,1.2s						
PETK	Petropavlovsk-	17.25	287	Pn	Pn	10 02 39.9	-1.9
	comp=Z,0.2nm,0.3s,baz=83,slow=16,SNR=2.5						
PETK				LR	LR	10 09 00.8	
	comp=Z,242nm,21.5s,baz=95,slow=36						
PETK	Petropavlovsk-	17.25	287	P	Pn	10 02 38.4	-3.4
GHO	Glory Hole Cre	17.32	43	P	Pn	10 02 41.7	-0.9
KNK	Knik Glacier	17.37	44	P	Pn	10 02 41.4	-1.8
KNK				IAmb	IAmb	10 02 49.1	
	comp=Z,12nm,0.6s						
KNK	Knik Glacier	17.37	44	P	Pn	10 02 43.2	0.0
	baz=246						
KTH	Kantishna Hill	17.40	36	P	P	10 02 44.7	-0.1
KTH				IAmb	IAmb	10 03 06.7	
	comp=Z,54nm,1.3s						
TRF	Thorofare Moun	17.59	37	P	Pn	10 02 46.1	+0.1

TRF	Thorofare Moun	17.59	37	P	P	10 02 47.7	+0.9
	baz=237						
SML	Sawmill	17.59	43	P	Pn	10 02 44.7	-1.3
SML	Sawmill	17.59	43	P	Pn	10 02 45.6	-0.4
	baz=245						
BPAW	Bear Paw Mtn.	17.69	35	P	P	10 02 48.8	+0.9
BPAW				IAmb	IAmb	10 03 12.6	
	comp=Z,38nm,1.3s						
BPAW	Bear Paw Mtn.	17.69	35	P	P	10 02 47.7	-0.2
	baz=234,SNR=13						
WAT1	Susitna Watana	17.95	40	P	Pn	10 02 50.1	-0.3
	baz=242						
I21K	Tanana	18.02	31	P	P	10 02 51.2	-0.2
I21K	Tanana	18.02	31	P	P	10 02 52.4	+1.1
	baz=230,SNR=8.7						
IMAR	Indian Mountai	18.02	28	P	Pn	10 02 50.7	-0.4
FID	Port Fidalgo	18.02	48	P	Pn	10 02 47.8	-3.5
FID				IAmb	IAmb	10 02 53.0	
	comp=Z,52nm,1.4s						
SCM	Sheep Creek Mo	18.03	44	P	Pn	10 02 49.9	-1.5
SCM				IAmb	IAmb	10 03 05.2	
	comp=Z,25nm,1.0s						
RND	Reindeer	18.11	38	P	Pn	10 02 52.2	-0.2
WAT6	Susitna Watana	18.17	41	P	P	10 02 53.9	+0.7
	baz=244						
MCK	McKinley	18.25	37	P	P	10 02 52.8	-1.2
MCK	McKinley	18.25	37	P	P	10 02 52.7	-1.2
	baz=239,SNR=7.6						
MLY	Manley	18.33	33	P	Pn	10 02 55.4	+0.3
MLY				IAmb	IAmb	10 02 59.2	
	comp=Z,19nm,1.1s						
MLY	Manley	18.33	33	P	Pn	10 02 55.4	+0.3
	baz=233,SNR=23						
KLU	Klutina	18.53	46	P	P	10 02 56.5	-0.6
KLU	Klutina	18.53	46	P	Pn	10 02 57.4	0.0
	baz=249						
M24K	Tolsona, Glenn	18.64	44	P	P	10 02 58.2	-0.2
M24K				IAmb	IAmb	10 03 00.3	
	comp=Z,34nm,1.1s						
M24K	Tolsona, Glenn	18.64	44	P	Pn	10 02 58.9	+0.1
	baz=247						
NEA2	Nenana	18.66	35	P	Pn	10 02 59.0	0.0
	baz=236						
I23K	Minto, Yukon-K	18.87	33	P	Pn	10 03 01.1	-0.4
I23K				IAmb	IAmb	10 03 04.6	
	comp=Z,39nm,1.1s						
I23K	Minto, Yukon-K	18.87	33	P	Pn	10 03 01.2	-0.4
	baz=235,SNR=32						
WRH	Wood River Hil	18.95	36	P	P	10 02 59.9	-1.8
BMRM	Bremner River	18.96	48	P	P	10 03 01.6	-0.3
BMRM				IAmb	IAmb	10 03 19.9	
	comp=Z,19nm,1.1s						
BMRM	Bremner River	18.96	48	P	Pn	10 03 03.1	+0.4
	baz=253						
CCB	Clear Creek Bu	19.15	36	P	P	10 03 01.9	-1.9
N25K	Chitina, Valde	19.16	46	P	P	10 03 03.1	-0.9
N25K				IAmb	IAmb	10 03 07.2	
	comp=Z,31nm,1.5s						
N25K	Chitina, Valde	19.16	46	P	P	10 03 03.0	-1.0
	baz=251						
MDM	Murphy Dome	19.16	35	P	P	10 03 03.1	-0.9
HARP	HAARP	19.19	44	P	Pn	10 03 04.9	-0.6
	baz=248						
H23K	Yukon River	19.21	32	P	P	10 03 04.9	+0.3
H23K				IAmb	IAmb	10 03 30.7	
	comp=Z,17nm,1.0s						
H23K	Yukon River	19.21	32	P	Pn	10 03 05.2	-0.5
	baz=233,SNR=7.4						
BERG	Berg Lake	19.23	50	P	P	10 03 04.5	-0.2
BERG				IAmb	IAmb	10 03 14.8	
	comp=Z,23nm,0.8s						
PAX	Paxson	19.28	42	P	P	10 03 04.9	-0.4
PAX	Paxson	19.28	42	P	Pn	10 03 05.9	-0.7
	baz=246						
HDA	Harding Lake	19.35	37	P	P	10 03 04.6	-1.4
HDA				IAmb	IAmb	10 03 07.1	
	comp=Z,20nm,1.0s						
HDA	Harding Lake	19.35	37	P	P	10 03 05.2	-0.8
	baz=240,SNR=16						
GLB	Gilahina Butte	19.47	47	P	P	10 03 06.0	-1.3
IL31		19.55	36	P	P	10 03 07.8	-0.3
IL31				IAmb	IAmb	10 03 10.8	
	comp=Z,7.7nm,0.5s						
ILAR	Eielson Array	19.55	36	P	P	10 03 05.2	-3.0
	comp=Z,0.7nm,0.3s,baz=239,slow=8.8,SNR=42						
ILAR				LR	LR	10 11 19.9	
	comp=Z,314nm,18.1s,baz=242,slow=39						
ILAR	Eielson Array	19.55	36	P	Pn	10 03 08.9	-0.8
CRQM	Cirque	19.59	49	P	P	10 03 08.7	-0.2
CRQM				IAmb	IAmb	10 03 23.2	
	comp=Z,36nm,1.2s						
WAX	Waxell Ridge	19.65	50	P	P	10 03 08.9	-0.5
WAX				IAmb	IAmb	10 03 33.0	
	comp=Z,42nm,1.0s						
H24K	Noodor Dome	19.78	33	P	P	10 03 10.8	+0.1
H24K				IAmb	IAmb	10 03 16.5	
	comp=Z,24nm,1.1s						
H24K	Noodor Dome	19.78	33	P	P	10 03 10.4	-0.3
	baz=235,SNR=26						
RIDG	Independent Ri	19.86	40	P	P	10 03 10.7	-0.9
RIDG				IAmb	IAmb	10 03 29.2	
	comp=Z,9.8nm,0.6s						
RIDG	Independent Ri	19.86	40	P	P	10 03 11.1	-0.5
	baz=245,SNR=8.5						
COLD	Coldfoot	19.90	28	P	Pn	10 03 12.9	-1.0
	baz=229						
MENT	Mentasta	20.01	43	P	P	10 03 13.7	+0.4
J25K	Salcha River,	20.04	37	P	P	10 03 12.1	-1.5
	baz=242,SNR=50						
M26K	Nabesna, AK	20.14	45	P	P	10 03 15.2	+0.6
M26K				IAmb	IAmb	10 03 18.1	
	comp=Z,12nm,0.5s						
M26K	Nabesna, AK	20.14	45	P	P	10 03 14.9	+0.3
	baz=251,SNR=11						
DOT	Dot Lake	20.14	41	P	P	10 03 13.4	-1.2
L26K	Log Cabin Wild	20.20	43	P	P	10 03 16.2	+0.9
L26K				IAmb	IAmb	10 03 36.0	
	comp=Z,8.7nm,0.7s						
L26K	Log Cabin Wild	20.20	43	P	Pn	10 03 16.8	-0.6
	baz=249,SNR=8.0						
GRNC	Granite Creek	20.24	50	P	P	10 03 15.9	-0.1
GRNC				IAmb	IAmb	10 03 38.5	
	comp=Z,25nm,1.0s						
SCRK	Sand Creek	20.30	40	P	P	10 03 15.2	-1.4
SCRK				IAmb	IAmb	10 03 18.1	
	comp=Z,27nm,1.1s						
SCRK	Sand Creek	20.30	40	P	P	10 03 15.0	-1.5
	baz=246,SNR=31						
PRP	Porcupine Dome	20.43	35	P	P	10 03 17.1	-0.8
PRP	Porcupine Dome	20.43	35	P	P	10 03 16.8	-1.0
	baz=240						
CTG	Chitna Glacier	20.49	49	P	Pn	10 03 20.1	-0.9
	baz=257						
CTGM	Chitina Glacie	20.50	49	P	P	10 03 19.0	+0.3
CTGM				IAmb	IAmb	10 03 45.4	
	comp=Z,16nm,1.0s						
M27K	Edge Creek, AK	20.62	45	P	Pn	10 03 21.8	-0.6
	baz=252						
LOGN	Logan Glacier	20.62	50	P	P	10 03 19.0	-1.1
LOGN				IAmb	IAmb	10 03 43.8	
	comp=Z,16nm,0.9s						
J26K	Charley River,	20.63	38	P	P	10 03 18.8	-1.2
	baz=244,SNR=47						
L27K	Beaver Creek,	20.86	43	P	Pn	10 03 23.7	-1.4
L27K	Beaver Creek,	20.86	43	P	Pn	10 03 24.0	-1.1
	baz=251						
BCAR	Beaver Creek A	20.88	43	P	P	10 03 23.8	+1.1
TOLK	Toolik Lake Re	21.03	25	P	P	10 03 24.4	+0.1
TOLK				IAmb	IAmb	10 03 49.6	
	comp=Z,22nm,0.9s						
TOLK	Toolik Lake Re	21.03	25	P	P	10 03 24.3	0.0
	baz=227,SNR=8.6						
FYU	Fort Yukon	21.08	33		P	10 03 25.6	+0.9
FYU				IAmb	IAmb	10 03 53.6	
	comp=Z,20nm,1.1s						
BVCY	Beaver Creek	21.09	45	P	P	10 03 27.6	+2.7
	baz=254						
K27K	Chicken	21.10	41	P	P	10 03 24.7	-0.3
K27K				IAmb	IAmb	10 03 43.1	
	comp=Z,12nm,0.9s						
K27K	Chicken	21.10	41	P	P	10 03 24.8	-0.2
	baz=248						
YUK3	Moose Creek	21.10	47	P	P	10 03 24.3	-0.9
	baz=256						
BCPM	Bancas Point	21.13	52	P	P	10 03 24.5	-0.9
BCPM				IAmb	IAmb	10 03 33.3	
	comp=Z,58nm,1.4s						
SEY	Seymchan	21.25	316	P	P	10 03 27.8	+1.3
	comp=Z,6.5nm,0.9s,baz=118,slow=9.6,SNR=6.1						
SEY				LR	LR	10 12 05.7	
	comp=Z,599nm,18.1s,baz=112,slow=38						
MA2	Magadan	21.28	306	LR	LR	10 11 33.3	
	comp=Z,338nm,19.3s,baz=111,slow=37						
EGAK	Eagle	21.75	39	P	P	10 03 31.0	-1.0
EGAK	Eagle	21.75	39	P	P	10 03 31.5	-0.5
	baz=248,SNR=52						
BMAR	Burnt Mountain	21.76	31	P	P	10 03 33.5	+1.4
DAWY	Dawson	22.22	42	P	P	10 03 36.9	-0.1
DAWY				IAmb	IAmb	10 04 02.6	
	comp=Z,8.0nm,0.9s						
DAWY	Dawson	22.22	42	P	P	10 03 37.1	0.0
	baz=251,SNR=6.1						
HYT	Haines Junctio	22.31	51	P	P	10 03 37.9	-0.2
EPYK	Eagle Plains	24.05	37	P	P	10 03 54.2	-1.2
EPYK				IAmb	IAmb	10 04 16.1	
	comp=Z,24nm,1.4s						
EPYK	Eagle Plains	24.05	37	P	P	10 03 54.3	-1.2
	baz=250						
MMPY	Sheldon Lake,	25.49	47	P	P	10 04 09.9	+1.4
	baz=264						
INK	Inuvik	25.89	34	P	P	10 04 11.6	-0.4
	comp=Z,2.3nm,0.5s,baz=200,slow=9.8,SNR=8.1						
INK	Inuvik	25.89	34	P	P	10 04 11.3	-0.6
INK				IAmb	IAmb	10 04 28.7	
	comp=Z,5.9nm,0.8s						
DLBC	Dease Lake	26.00	57	P	P	10 04 13.3	+0.1
	comp=Z,5.9nm,0.9s,baz=271,slow=7.7,SNR=8.2						
DLBC				LR	LR	10 14 12.6	
	comp=Z,177nm,18.9s,baz=277,slow=36						
DLBC	Dease Lake	26.00	57	P	P	10 04 13.8	+0.6
DLBC				IAmb	IAmb	10 04 42.0	
	comp=Z,8.8nm,1.1s						
YAK	Yakutsk	31.61	312	LR	LR	10 18 05.0	
	comp=Z,366nm,19.0s,baz=90,slow=37						
YKA	Yellowknife Ar	33.19	47	LR	LR	10 20 32.0	
	comp=Z,431nm,18.5s,baz=0.0,slow=40						
KLR	Kul'dur	33.94	288	P	P	10 05 22.6	-0.9
	comp=Z,3.8nm,0.6s,baz=73,slow=8.2,SNR=14						
B08A	Colville Reser	34.84	73	P	P	10 05 32.9	+1.6
B08A				IAmb	IAmb	10 05 46.9	
	comp=Z,6.5nm,1.0s						
H11N2	WAKE ISLAND Hy	34.85	212	T	T	10 43 10.0	
	baz=20,slow=76,SNR=10						
H11N3	WAKE ISLAND Hy	34.85	212	T	T	10 43 07.8	
	baz=20,slow=76,SNR=14						
H11N1	WAKE ISLAND Hy	34.87	212	T	T	10 43 12.3	
	baz=20,slow=76,SNR=9.6						
YBH	Yreka Blue Hor	36.04	85	LR	LR	10 17 40.1	
	comp=Z,131nm,20.0s,baz=310,slow=32						
H11S1	WAKE ISLAND Hy	36.05	212	T	T	10 44 50.7	
	baz=20,slow=76,SNR=26						
H11S2	WAKE ISLAND Hy	36.06	212	T	T	10 44 53.8	
	baz=20,slow=76,SNR=19						
H11S3	WAKE ISLAND Hy	36.07	212	T	T	10 44 54.4	
	baz=20,slow=76,SNR=8.0						
USA0B	Ussuriysk Arra	36.14	280	P	P	10 05 42.0	-0.4
USA0B				IAmb	IAmb	10 05 45.1	
	comp=Z,7.7nm,0.8s						
USRK	Ussuriysk Ar.	36.14	280	P	P	10 05 42.4	0.0
	comp=Z,8.0nm,0.7s,baz=53,slow=8.3,SNR=16						
NEW	Newport	36.20	72	LR	LR	10 18 45.1	
	comp=Z,122nm,18.6s,baz=304,slow=33						
EDM	Edmonton	36.32	62	P	P	10 05 45.0	+1.0
MJAR	Matsushiro Arr	36.62	265	P	P	10 05 46.8	+0.1
	comp=Z,1.9nm,0.8s,baz=40,slow=7.7,SNR=7.1						
MJAR				LR	LR	10 19 08.8	
	comp=Z,101nm,21.4s,baz=50,slow=34						
I07A	Izee	36.78	79	P	P	10 05 47.8	-0.3
CN2	Changchun	40.36	284	*e*P	P	10 06 20.1	+2.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=N,300nm,18.0s						
CN2				LR	LR		
	comp=E,300nm,18.0s						
CN2				LR	LR		
	comp=Z,300nm,19.0s						
EGMT	Eagleton	40.66	68	P	P	10 06 21.5	+1.0
	baz=300						
NVAR	Mina Array Bea	40.71	86	P	P	10 06 21.8	+0.6
	comp=Z,0.6nm,0.8s,baz=282,slow=7.1,SNR=3.7						
NVAR				PcP	PcP	10 08 25.1	+2.9
	comp=Z,0.2nm,0.4s,baz=279,slow=4.6,SNR=3.5						
BOZ	Bozeman (W)	40.79	73	P	P	10 06 23.2	+1.6
	baz=302						
KSRS	Korea Array	42.50	274	P	P	10 06 36.1	+0.6
	comp=Z,2.0nm,0.8s,baz=53,slow=7.8,SNR=5.8						
KSRS				LR	LR	10 24 14.6	
	comp=Z,82nm,19.6s,baz=50,slow=36						
KS19	Wonju Array Si	42.51	274	P	P	10 06 35.4	-0.2
KS19				IAmb	IAmb	10 07 01.5	
	comp=Z,32nm,1.4s						
JNU	Nakatsue	43.42	267	P	P	10 06 42.7	-0.4
	comp=Z,4.5nm,0.8s,baz=190,slow=6.1,SNR=2.3						
PDAR	Pinedale Array	43.58	75	P	P	10 06 44.4	-0.1
	comp=Z,1.4nm,0.7s,baz=298,slow=3.2,SNR=14						
PDAR				LR	LR	10 24 53.4	
	comp=Z,85nm,18.3s,baz=306,slow=36						
PDAR	Pinedale Array	43.58	75	P	P	10 06 45.2	+0.7
ULM	Lac du Bonnet	47.29	59	P	P	10 07 13.7	+0.2
ULM				IAmb	IAmb	10 07 30.8	
	comp=Z,7.0nm,1.1s						
BJI	Beijing	48.17	285	P	P	10 07 21.1	+0.7
BJI				pP	pP	10 07 30.4	+1.0
BJI				sP	sP	10 07 33.4	+0.4
BJI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
AGMN	Agassiz Nation	48.39	61	P	P	10 07 23.3	+1.3
	baz=305						
SONM	Songino Array	49.21	299	P	P	10 07 28.7	+0.2
	comp=Z,3.1nm,0.8s,baz=58,slow=9.1,SNR=9.7						
SONM				LR	LR	10 29 32.5	
	comp=Z,213nm,19.8s,baz=61,slow=38						
HHC	Hu-ho-hao-te	50.44	289	*e*P	P	10 07 37.6	-0.3
HHC				pmax	pmax		
	comp=Z,13nm,1.1s						
HHC				pmax	pmax		
	comp=Z,77nm,5.5s						
NJ2	Nanjing	51.67	275	*e*P	P	10 07 46.3	-0.8
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
E43A	Lone Tree Farm	54.36	58	P	P	10 08 07.2	+0.5
E43A				IAmb	IAmb	10 08 22.3	
	comp=Z,5.9nm,0.7s						
WHN	Wuhan	55.51	277	⇓P	P	10 08 21.6	+6.3
TXAR	Lajitas Array	55.82	84	P	P	10 08 16.8	-0.8
	comp=Z,0.4nm,0.6s,baz=291,slow=4.7,SNR=5.9						
ZALV	Zalesovo Beam	56.12	316	LR	LR	10 34 49.5	
	comp=Z,123nm,18.2s,baz=54,slow=39						
LZH	Lanzhou	58.13	289	⇓P	P	10 08 35.4	+1.4
LZH				pP	pP	10 08 44.8	+1.7
LZH				sP	pwP	10 08 49.6	+0.3
LZH				pmax	pmax		
	comp=Z,22nm,1.0s						
LZH				pmax	pmax		
	comp=Z,91nm,4.9s						
LZH				LR	LR		
	comp=N,170nm,17.3s						
LZH				LR	LR		
	comp=E,250nm,17.8s						
LZH				LR	LR		
	comp=Z,170nm,18.4s						
GTA	Gaotai	58.22	295	*e*P	P	10 08 34.2	-0.4
GTA				pP	pP	10 08 44.4	+0.7
GTA				sP	pwP	10 08 48.9	-0.9
GTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,47nm,7.6s						
GTA				LR	LR		
	comp=N,130nm,14.3s						
GTA				LR	LR		
	comp=E,180nm,20.3s						
GTA				LR	LR		
	comp=Z,130nm,17.9s						
SCHQ	Schefferville	58.23	40	LR	LR	10 35 52.3	
	comp=Z,249nm,18.5s,baz=96,slow=38						
ARCES	ARCESS Array B	58.60	352	P	P	10 08 35.2	-1.3
	comp=Z,2.2nm,0.8s,baz=18,slow=7.8,SNR=6.4						
ARCES				LR	LR	10 36 32.4	
	comp=Z,84nm,18.5s,baz=5.0,slow=39						
ARCES	ARCESS Array B	58.60	352	P	P	10 08 35.5	-1.0
PLVO	Plevna	60.42	54	P	P	10 08 50.1	+0.6
DELO	Deloro Mine	60.51	55	P	P	10 08 51.3	+1.2
WMQ	Urumqi	61.74	306	*e*P	P	10 09 00.0	+1.4
LONY	Lake Ozonia	61.97	53	P	P	10 08 59.6	-0.5
LONY	Lake Ozonia	61.97	53	P	P	10 08 59.3	-0.7
	baz=316						
L56A	Greenwood	62.21	57	P	P	10 09 02.5	+0.8
MK31	Makanchi Array	62.28	311	P	P	10 09 01.1	-1.0
MKAR	Makanchi Array	62.28	311	P	P	10 09 01.2	-0.9
	comp=Z,0.7nm,0.4s,baz=45,slow=6.7,SNR=17						
MKAR				LR	LR	10 38 56.7	
	comp=Z,100nm,18.0s,baz=38,slow=39						
MKAR	Makanchi Array	62.28	311	P	P	10 09 01.5	-0.6
FRNY	Flat Rock	62.31	52	P	P	10 09 01.4	-0.8
J58A	Remsen	62.52	54	P	P	10 09 03.5	-0.2
MOQ	Mont Orford	62.63	51	P	P	10 09 04.6	+0.2
BVAR	Borovoye Array	62.74	322	P	P	10 09 04.1	-1.0
	comp=Z,2.5nm,0.7s,baz=184,slow=12,SNR=8.5						
J59A	Piesco	62.84	54	P	P	10 09 05.9	0.0
D62A	Allapoint, All	62.87	48	P	P	10 09 05.9	0.0
D62A	Allapoint, All	62.87	48	P	P	10 09 06.5	+0.6
	baz=317						
ACCN	Adirondack Com	63.32	53	P	P	10 09 09.3	+0.3
G62A	West of Eustis	63.53	50	P	P	10 09 10.5	+0.1
G62A	West of Eustis	63.53	50	P	P	10 09 10.2	-0.2
	baz=317						
H62A	Milan	63.70	51	P	P	10 09 11.6	+0.1
J61A	Chester	63.91	53	P	P	10 09 14.0	+1.1
	baz=317						
F64A	Sherman	64.09	48	P	P	10 09 14.1	+0.1
F64A	Sherman	64.09	48	P	P	10 09 14.5	+0.5
	baz=318						
EMMW	East Machias	65.37	49	P	P	10 09 22.5	+0.2
LMN	Caledonia Moun	65.74	46	P	P	10 09 24.9	+0.1
FINES	FINESS Array B	66.42	350	P	P	10 09 26.7	-2.1
	comp=Z,2.3nm,0.8s,baz=94,slow=4.6,SNR=2.7						
FINES				LR	LR	10 41 29.9	
	comp=Z,84nm,18.8s,baz=12,slow=39						
TAOE	Nuku Hiva Isla	66.76	143	*e*LR	LR	10 29 34.8	
	comp=Z,64nm,21.2s						
NB2	NORSAR Subarra	67.91	357	P	P	10 09 37.6	-0.8
	comp=Z,0.2nm,0.3s,baz=7.1,slow=6.5						
NOA	NORSAR Array B	67.91	357	P	P	10 09 37.4	-1.0
	comp=Z,2.1nm,0.8s,baz=1.4,slow=6.3,SNR=6.9						
NOA				LR	LR	10 39 47.9	
	comp=Z,33nm,19.2s,baz=275,slow=36						
AAK	Ala-Archa	69.06	313	P	P	10 09 46.2	+0.2
AAK				IAmb	IAmb	10 09 48.7	
	comp=Z,3.1nm,0.6s						
AKTO	Aktyubinsk	69.34	327	P	P	10 09 46.6	-0.8
	comp=Z,1.6nm,0.6s,baz=44,slow=8.3,SNR=7.5						
ABKAR	Akbulak array	69.67	325	P	P	10 09 48.9	-0.5
PMOR	Pomariorio Ree	69.93	153	*e*T	T	11 25 58.3	
	comp=Z,2.9nm,0.2s						
LSA	Lhasa	70.13	293	P	P	10 09 52.0	-1.2
KK31	Karatay Array	70.49	315	P	P	10 09 54.6	0.0
KK31				IAmb	IAmb	10 09 57.2	
	comp=Z,3.0nm,0.8s						
KKAR	Karatay Array	70.49	315	P	P	10 09 54.6	0.0
KKAR				IAmb	IAmb	10 09 57.2	
	comp=Z,3.0nm,0.8s						
KKAR	Karatay Array	70.49	315	P	P	10 09 54.5	-0.1
KSH	Kashi	70.79	310	P	P	10 09 58.4	+1.7
KSH				sP	pwP	10 10 12.9	+0.7
PPT2	Papeete2	71.93	155	*e*LR	LR	10 32 05.9	
	comp=Z,104nm,21.0s						
SHL	Shillong	72.80	289	P	P	10 10 08.4	-0.6
CMAR	Chiang Mai Arr	73.86	279	P	P	10 10 16.7	+1.6
	comp=Z,1.5nm,0.7s,baz=34,slow=7.0,SNR=10.0						
CMAR				LR	LR	10 47 46.1	
	comp=Z,56nm,18.0s,baz=196,slow=40						
GUN	Gumba	74.51	295	*e*P	P	10 10 20.1	+0.9
JIRN	Jiri	74.52	295	*e*P	P	10 10 20.0	+0.7
	comp=Z,54nm,0.8s						
RAMN	Ramite	74.83	294	*e*P	P	10 10 21.6	+0.7
	comp=Z,13nm,0.5s						
GKN	Gorkha	75.14	296	*e*P	P	10 10 22.9	+0.3
DANN	Dangsing	75.36	297	*e*P	P	10 10 25.0	+0.9
	comp=Z,72nm,0.8s						
KOLN	Koldanda	75.90	297	*e*P	P	10 10 27.2	+0.2
AKASG	Malin Array Be	76.42	345	P	P	10 10 28.2	-1.2
	comp=Z,1.7nm,0.6s,baz=19,slow=6.0,SNR=7.3						
AKASG				LR	LR	10 48 36.0	
	comp=Z,50nm,19.1s,baz=20,slow=39						
NIL	Nilore	76.77	308	P	P	10 10 31.8	+0.2
CLL	Collm	77.57	355	*i* P	P	10 10 37.1	+1.3
	comp=Z,7.0nm,1.0s						
BRG	Berggiesshubel	77.95	355	*e*P	P	10 10 38.6	+0.7
BRG				Amp		10 10 40.9	
	comp=Z,6.6nm,0.9s						
KBL	Kabul	78.09	311	P	P	10 10 38.3	-0.9
KBL				IAmb	IAmb	10 10 41.2	
	comp=Z,7.7nm,0.8s						
DPC	Dobruska-Polom	78.31	353	*e*P	P	10 10 41.1	+1.1
KHC	Kasperske Hory	79.71	355	*e*P	P	10 10 47.8	+0.1
CKRC	Cesky Krumlov	79.97	354	*e*P	P	10 10 50.2	+1.1
GERES	GERESS Array B	79.99	355	P	P	10 10 48.5	-0.8
	comp=Z,1.9nm,0.8s,baz=21,slow=5.7,SNR=13						
GERES				LR	LR	10 47 43.4	
	comp=Z,47nm,19.2s,baz=346,slow=37						
GERES	GERESS Array B	79.99	355	P	P	10 10 48.8	-0.5
KBZ	Khabaz	80.00	334	LR	LR	10 50 23.8	
	comp=Z,50nm,20.4s,baz=40,slow=39						
GEYT	Alibeck	80.01	321	LR	LR	10 50 45.9	
	comp=Z,107nm,18.3s,baz=235,slow=39						
WRA	Warramunga Arr	84.02	228	P	P	10 11 09.8	-0.7
	comp=Z,0.6nm,0.7s,baz=35,slow=5.1,SNR=5.6						
BRTR	Keskin Array B	86.12	339	P	P	10 11 22.6	+1.5
	comp=Z,0.8nm,0.7s,baz=108,slow=2.7,SNR=5.5						
BRTR				LR	LR	10 52 42.1	
	comp=Z,37nm,21.5s,baz=43,slow=38						
FITZ	Fitzroy Crossi	86.74	236	P	P	10 11 24.2	+0.1
	comp=Z,2.7nm,0.9s,baz=40,slow=8.5,SNR=5.8						
FITZ	Fitzroy Crossi	86.74	236	P	P	10 11 24.4	+0.3
FITZ				IAmb	IAmb	10 11 35.5	
	comp=Z,5.7nm,1.2s						
TIR	Tirane	86.90	349	P	P	10 11 24.1	-0.6
ASAR	Alice Springs	87.44	226	P	P	10 11 27.5	0.0
	comp=Z,1.0nm,0.8s,baz=31,slow=3.7,SNR=8.8						
ESDC	Sonseca Array	88.99	7	P	P	10 11 33.7	-1.2
	comp=Z,1.4nm,0.8s,baz=348,slow=4.2,SNR=7.9						
STKA	Stephens Creek	91.50	216	LR	LR	10 51 26.2	
	comp=Z,63nm,20.3s,baz=200,slow=35						
BOSA	Boshof	153.01	320	PKPbc	PKiKP	10 18 38.1	+0.6
	comp=Z,0.9nm,0.4s,baz=40,slow=4.0,SNR=2.3						
BOSA				PKPab	sPKPbc	10 18 50.6	0.0
	comp=Z,4.6nm,0.8s,baz=21,slow=3.9,SNR=5.3						

*ISK **05** 10:00:12.8, 41°.07N×38°.49E, h6km, ML3.0/9*
*DDA **05** 10:00:13.5, 41°.02N×38°.33E, h3km±3km, ML2.9*
ISC 05 10:00:12.6±1.5**, 41°.08N**±0°.05×**38°.45E**±0°.03**, h3**km±11km**,**
n25, σ0s.52/36**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ORDU	Ordu-Boztepe	0.46	259	*i* P	Pg	10 00 21.4	0.0
ALUC	Giresun/Alucra	0.77	162	*i* P	Pb	10 00 28.6	-0.2
ALUC				*i* S	Sb	10 00 39.9	+0.2
ALUC				IAML		10 00 41.0	
	comp=N,1µm,0.4s						
ALUC				IAML		10 00 42.0	
	comp=E,468nm,0.5s						
SUSE	Susehri	0.89	192	*i* P	Pb	10 00 30.4	-0.3
SUSE				*i* S	Sb	10 00 42.4	-0.6
GUMT	Gumushane	0.99	128	PG	Pb	10 00 32.1	-0.5
GUMT				SG	Sg	10 00 45.1	+0.5
KTUT	Trabzon	1.00	95	PG	Pg	10 00 31.8	0.0
KTUT				SG	Sb	10 00 46.1	0.0
RSDY	Resadiye-TOKAT	1.09	232	PN	Pb	10 00 34.1	0.0
KELT	Kelkit	1.11	146	*i* P	Pb	10 00 34.5	0.0
KELT				*i* S	Sg	10 00 48.7	+0.4
KELT				IAML		10 00 50.0	
	comp=E,697nm,0.5s						
KELT				IAML		10 00 50.0	
	comp=N,664nm,0.2s						
CUZAR	Zara_SIVAS	1.29	204	*i* P	Pg	10 00 36.9	-0.6
CUZAR				*i* S	Sg	10 00 53.7	-0.5
CUZAR				IAML		10 00 56.0	
	comp=E,234nm,0.2s						
CUZAR				IAML		10 00 57.0	
	comp=N,205nm,0.2s						
BAYT	Aydıntepe-Bayb	1.45	117	PN	Pg	10 00 40.1	-0.4
SCER	sogukcermik	1.58	220	*i* P	Pn	10 00 41.5	-0.1
SCER				*i* S	Sn	10 01 02.7	+0.1
SCER				IAML		10 01 05.0	

comp=N,125nm,0.3s
BAYB BAYBURT 1.60 120 *i* P Pb 10 00 42.9 -0.1
BAYB *i* S Sn 10 01 01.8 -1.4
BAYB IAML 10 01 06.0
comp=N,256nm,0.3s
BAYB IAML 10 01 06.0
comp=E,209nm,0.3s
ILIC ilic-Erzincan 1.62 177 PN Pn 10 00 42.8 +0.6
REFA Refahiye_ERZN 1.70 172 *i* P Pn 10 00 35.8 -7.4
REFA *i* S Sn 10 00 49.7 -16
REFA IAML 10 00 53.0
comp=N,208nm,0.3s
CHOM Cayeli-Rize 1.75 89 PN Pn 10 00 43.8 0.0
CHOM SN Sn 10 01 06.5 -0.1
ERZN Erzincan 1.78 146 PN Pn 10 00 44.7 +0.4
KEMA Kemaliye 1.81 179 *i* P Pb 10 00 46.7 +0.4
KEMA *i* S Sg 10 01 11.4 +0.7
KOPT Kop Dagi 1.88 123 *i* P Pg 10 00 48.9 +0.1
KOPT *i* S Sg 10 01 12.9 -0.3
KOPT IAML 10 01 15.0
comp=E,78nm,0.6s
KOPT IAML 10 01 17.0
comp=N,117nm,0.5s
CUKAN kangal_SIVAS 1.91 204 *i* P Pn 10 00 46.5 +0.3
CUKAN *i* S Sb 10 01 13.6 +1.0
ARPR Arapgir-MALATY 1.98 183 PN Pn 10 00 47.7 +0.5
HEKM Malatya_Hekimh 2.23 190 *i* P Pg 10 00 54.7 -0.6
CUAYA Sivas-Altinyay 2.23 216 *i* P Pg 10 01 02.3 +6.9
CUAYA *i* S Sg 10 01 34.3 +10
YEDI Yedisu-Bingol 2.29 135 PN Pn 10 00 51.7 +0.3
BCA Borcka 2.42 80 PN Pn 10 00 53.4 +0.3
KOVA Elazig, Kovanc 2.59 156 *i* P Pb 10 01 00.5 +0.8
ELZG Elazig 2.61 171 *i* P Pb 10 01 00.8 +0.7
ELZG *i* S Sg 10 01 35.8 -0.6
ELZG IAML 10 01 39.0
comp=E,35nm,0.4s

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*JMA **05** 10:00:44.8±0.1, 24°.01N×122°.44E, h20km±3km, M2.2*
*TAP **05** 10:00:45.4, 24°.13N×122°.43E, h35km, ML2.9, D*
ISC 05 10:00:44.9±1.0**, 24°.06N**±0°.02×**122°.42E**±0°.02**, h27**km±11km**,**
n86, σ0s.67/167**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.61	51	P	Pb	10 00 57.0	-0.1
JYNG				*e*S	Sb	10 01 05.2	-0.2
YOJ	Yonaguni jima	0.67	53	P	Pb	10 00 58.0	0.0
YOJ				*e*S	Sb	10 01 06.8	-0.1
YOJ	Yonaguni jima baz=64	0.67	53	P	Pb	10 00 58.0	0.0
YOJ	baz=64			*e*S	Sb	10 01 06.6	-0.3
EHP	Heping Village baz=286	0.67	292	*e*P	Pb	10 00 58.4	+0.3
EWUT	Wuta baz=298	0.70	303	*e*P	Pb	10 00 57.9	-0.7
EWUT	baz=298			*e*S	Sb	10 01 08.3	+0.3
ENA	Nanau baz=304	0.72	301	*e*P	Pb	10 00 58.7	-0.2
ENA	baz=304			*e*S	Sb	10 01 08.7	+0.1
ETL	Fush Village baz=258	0.74	278	*e*P	Pb	10 00 59.2	0.0
ETL	baz=258			*e*S	Sn	10 01 10.1	0.0
HWA	Hwalien baz=258	0.75	264	*e*P	Pn	10 01 00.0	+0.2
HWA	baz=258			*e*S	Sn	10 01 10.6	+0.3
TWD	Chiawan baz=266	0.76	272	*e*P	Pb	10 00 59.6	+0.1
TWD	baz=266			*e*S	Sb	10 01 09.7	+0.2
TWC	Suao baz=304	0.76	316	P	Pb	10 00 59.0	-0.5
TWC	baz=304			*e*S	Sb	10 01 08.3	-1.1
NACB	Ninganchiao baz=261	0.77	279	*e*P	Pb	10 00 59.4	-0.2
NACB	baz=261			*e*S	Sb	10 01 10.2	+0.5
ETM	Tongmen baz=259	0.86	264	*e*P	Pn	10 01 01.3	0.0
ETM	baz=259			*e*S	Sb	10 01 12.7	+0.4
NDS	Dongshan baz=308	0.86	312	P	Pn	10 01 01.3	0.0
NDS	baz=308			*e*S	Sb	10 01 12.1	-0.4
ETLH	Xiulin Townshi baz=275	0.87	280	*e*P	Pn	10 01 01.3	-0.3
ETLH	baz=275			*e*S	Sb	10 01 13.2	+0.3
EGS	baz=317	0.90	330	*e*P	Pb	10 01 02.3	+0.4
EGS	baz=317			*e*S	Sb	10 01 13.1	-0.4
ILA	Ilan baz=316	0.94	319	*e*P	Pb	10 01 02.7	+0.2
ILA	baz=316			*e*S	Sb	10 01 14.7	+0.1
ESL	Shilin baz=242	0.94	255	*e*P	Pn	10 01 02.1	-0.3
ESL	baz=242			*e*S	Sb	10 01 14.7	+0.1
TWE	Neicheng baz=311	0.95	314	P	Pb	10 01 03.1	+0.2
TWE	baz=311			*e*S	Sb	10 01 14.9	-0.2
NTC	Toucheng baz=323	0.96	326	P	Pb	10 01 03.0	0.0
NTC	baz=323			*e*S	Sb	10 01 14.6	-0.6
EGFH	Guangfu baz=243	0.99	247	*e*P	Pn	10 01 03.1	0.0
EGFH	baz=243			*e*S	Sn	10 01 16.1	-0.1
NDT	Datong Townshi baz=287	0.99	303	*e*P	Pb	10 01 03.9	+0.4
NDT	baz=287			*e*S	Sb	10 01 16.4	+0.3
TWB1	Santiao Chiao baz=350	1.02	337	*e*P	Pn	10 01 03.2	-0.4
TWB1	baz=350			*e*S	Sn	10 01 15.8	-1.2
NNS	Nan Shan baz=287	1.03	292	*e*P	Pn	10 01 03.9	+0.2
NNS	baz=287			*e*S	Sn	10 01 17.2	-0.2
WHF	Hehuan Shan baz=259	1.06	275	*e*P	Pn	10 01 04.0	-0.5
WHF	baz=259			*e*S	Sn	10 01 18.5	-0.1
HGSD	Ruisui baz=235	1.08	239	*e*P	Pn	10 01 04.6	+0.3
HGSD	baz=235			*e*S	Sn	10 01 17.7	-0.7
FUSS	Fushou baz=276	1.09	280	*e*P	Pn	10 01 04.8	0.0
FUSS	baz=276			*e*S	Sn	10 01 19.0	-0.1
YHNB	Yeheng baz=285	1.13	303	P	Pb	10 01 05.7	-0.2
YHNB	baz=285			*e*S	Sb	10 01 20.3	+0.1
CHGB	Renai baz=255	1.14	270	*e*P	Pn	10 01 05.2	-0.1
CHGB	baz=255			*e*S	Sn	10 01 20.6	+0.3
OWD	Renai baz=261	1.15	265	P	Pn	10 01 05.7	+0.3
OWD	baz=261			*e*S	Sn	10 01 19.9	-0.3
EHY	Hungye baz=251	1.15	242	*e*P	Pn	10 01 05.6	+0.3
EHY	baz=251			*e*S	Sn	10 01 20.5	+0.3
NSK	Sanguang baz=285	1.15	302	P	Pn	10 01 05.7	+0.4
NSK	baz=285			*e*S	Sb	10 01 20.8	0.0
TWT	Tachien baz=266	1.16	280	*e*P	Pb	10 01 06.5	+0.1
ECBN	Changbin baz=227	1.16	231	*e*P	Pn	10 01 05.2	-0.2
ECBN	baz=227			*e*S	Sn	10 01 20.0	-0.3
NWF	Wu-fen Shan baz=328	1.17	330	*e*P	Pn	10 01 05.5	-0.1
NWF	baz=328			*e*S	Sb	10 01 21.1	-0.1
WFSB	Wu-fen Shan baz=328	1.17	330	*e*P	Pn	10 01 05.8	+0.3
WFSB	baz=328			*e*S	Sb	10 01 20.9	-0.2
TDCB	Techi baz=264	1.17	280	*e*P	Pn	10 01 05.9	+0.2
TDCB	baz=264			*e*S	Sn	10 01 21.5	+0.6
TWA	Mucha baz=334	1.19	320	*e*P	Pn	10 01 06.2	+0.3
TWA	baz=334			*e*S	Sb	10 01 21.9	-0.1
NHDH	Xindian Distri baz=330	1.22	318	P	Pb	10 01 07.4	+0.1
NHDH	baz=330			*e*S	Sb	10 01 22.5	-0.1
IRIF	Iriomote-Funau	1.22	77	P	Pb	10 01 07.1	-0.3
IRIF				*e*S	Sb	10 01 23.5	+0.7
YULB	Yu-li baz=248	1.23	237	*e*P	Pn	10 01 06.3	0.0
YULB	baz=248			*e*S	Sn	10 01 21.6	-0.5
EYUL	Yuli baz=222	1.24	235	*e*P	Pn	10 01 05.7	-0.8
EYUL	baz=222			*e*S	Sn	10 01 22.4	+0.1
TNOU	National Taiwa baz=329	1.24	331	*e*P	Pn	10 01 05.5	-1.0
TNOU	baz=329			*e*S	Sn	10 01 21.6	-0.7
TATO	Taipei baz=329	1.25	317	*e*P	Pb	10 01 07.5	-0.3
TATO	baz=329			*e*S	Sb	10 01 24.0	+0.5
TWF1	Yuli baz=222	1.25	236	*e*P	Pn	10 01 06.7	0.0
TWF1	baz=222			*e*S	Sn	10 01 22.9	+0.2
HATJ	Hateruma jima	1.26	90	P	Pb	10 01 07.7	-0.3
HATJ				*e*S	Sb	10 01 24.1	+0.2
TAP1	Taipei baz=332	1.27	320	*e*P	Pn	10 01 07.4	+0.4
TAP1	baz=332			*e*S	Sb	10 01 23.9	-0.4
TAP	Taipei baz=332	1.28	320	*e*P	Pn	10 01 06.9	-0.2
TAP	baz=332			*e*S	Sn	10 01 23.7	+0.2
YM01	YM01 baz=322	1.33	324	*e*P	Pn	10 01 08.6	+0.8
YM01	baz=322			*e*S	Sn	10 01 23.7	-1.1
NWRT	Kuosheng baz=326	1.33	329	*e*P	Pn	10 01 07.2	-0.6
FULB	Fuli baz=228	1.34	231	*e*P	Pn	10 01 07.9	-0.1
FULB	baz=228			*e*S	Sn	10 01 25.4	+0.3
WHP	Taichung City baz=266	1.37	279	*e*P	Pb	10 01 09.7	-0.2
WHP	baz=266			*e*S	Sb	10 01 27.3	+0.3
SSLB	Suanglung baz=255	1.37	259	*e*P	Pn	10 01 09.3	+0.9
SSLB	baz=255			*e*S	Sb	10 01 26.9	-0.3
WCS	Beigang Elemen baz=260	1.38	270	*e*P	Pn	10 01 08.0	-0.5
WCS	baz=260			*e*S	Sn	10 01 26.4	+0.5
TWS1	Kuangyinshan baz=332	1.38	319	*e*P	Pn	10 01 08.7	+0.2
TWS1	baz=332			*e*S	Sb	10 01 27.7	+0.3
SMLT	Sun Moon Lake baz=251	1.41	263	*e*P	Pb	10 01 10.6	+0.1
SMLT	baz=251			*e*S	Sn	10 01 26.9	+0.3
LIOB	Emei baz=291	1.41	295	*e*P	Pb	10 01 10.4	-0.2
LIOB	baz=291			*e*S	Sb	10 01 28.7	+0.5
NSTT	Nanjuang baz=290	1.42	294	*e*P	Pb	10 01 10.2	-0.5
NSTT	baz=290			*e*S	Sn	10 01 27.5	+0.7
TWY	Chenhua baz=327	1.43	328	*e*P	Pn	10 01 09.0	0.0
TWY	baz=327			*e*S	Sn	10 01 26.7	-0.2
TYC	Yuchr baz=261	1.44	264	*e*P	Pb	10 01 10.7	-0.5
TYC	baz=261			*e*S	Sn	10 01 27.5	+0.1
JKRS	Kuro-shima	1.46	83	P	Pn	10 01 10.4	+0.9
JKRS				*e*S	Sb	10 01 30.1	+0.6
WHYT	Xinyi Township baz=243	1.48	256	*e*P	Pn	10 01 10.1	+0.2
WHYT	baz=243			*e*S	Sn	10 01 29.5	+1.0
EDH	Donghe baz=213	1.49	224	*e*P	Pn	10 01 09.0	-1.0
EDH	baz=213			*e*S	Sn	10 01 26.5	-2.1
TWQ1	Liyutan baz=277	1.54	281	*e*P	Pn	10 01 11.6	+1.0
TWQ1	baz=277			*e*S	Sb	10 01 31.5	-0.2
NJN	Zhunan baz=290	1.55	294	*e*P	Pb	10 01 12.1	-0.8
NSY	Sanyi baz=279	1.56	283	*e*P	Pn	10 01 11.6	+0.7
NSY	baz=279			*e*S	Sb	10 01 32.5	+0.1
ALS	Alishan baz=247	1.58	250	*e*P	Pn	10 01 12.8	+1.3
ALS	baz=247			*e*S	Sb	10 01 32.9	-0.4
PCYT	Pengchaiyu baz=348	1.60	348	*e*P	Pn	10 01 10.4	-1.0
PCYT	baz=348			*e*S	Sn	10 01 31.2	+0.1
JIJ	Ishigaki jima	1.60	79	P	Pn	10 01 11.8	+0.4
JIJ				*e*S	Sn	10 01 32.0	+0.8
WNT	Mingjian baz=260	1.60	264	*e*P	Pn	10 01 12.9	+1.4
WNT	baz=260			*e*S	Sb	10 01 33.2	-0.5
WNT1	Nantou City baz=261	1.60	265	*e*P	Pb	10 01 14.3	+0.5
WNT1	baz=261			*e*S	Sb	10 01 34.8	+1.1
LDUT	Ludao baz=210	1.64	213	*e*P	Pn	10 01 11.1	-0.8
LDUT	baz=210			*e*S	Sn	10 01 30.0	-2.1
LONT	Longtian baz=236	1.65	226	*e*P	Pn	10 01 11.4	-0.8
LONT	baz=236			*e*S	Sn	10 01 32.1	-0.4
CHN5	Tsauling baz=251	1.66	254	*e*P	Pn	10 01 13.6	+1.1
CHN5	baz=251			*e*S	Sb	10 01 34.8	-0.8
WGK	Gukeng baz=255	1.75	258	*e*P	Pb	10 01 15.7	-0.5
WGK	baz=255			*e*S	Sb	10 01 37.7	0.0
TWGBT	Beinan baz=234	1.75	225	*e*P	Pn	10 01 12.3	-1.2
TWGBT	baz=234			*e*S	Sn	10 01 34.7	-0.2
JISG	Ishigakijimahi	1.80	73	P	Pn	10 01 14.4	+0.2
JISG				*e*S	Sn	10 01 35.3	-0.9
TPUB	Ta-pu baz=243	1.81	246	*e*P	Pb	10 01 16.2	-1.2
TPUB	baz=243			*e*S	Sb	10 01 39.2	-0.5
CHN4	Tsaushan baz=245	1.82	248	*e*P	Pn	10 01 15.4	+0.9
CHN4	baz=245			*e*S	Sn	10 01 37.9	+1.2
WTP	Ta-pu baz=242	1.85	244	*e*P	Pn	10 01 16.6	+1.7
WTP	baz=242			*e*S	Sb	10 01 40.5	-0.3
TWK	Hsinying baz=244	1.94	246	*e*P	Pb	10 01 18.6	-1.1
TWK	baz=244			*e*S	Sb	10 01 43.3	-0.2
CHN1	Nanshi baz=241	1.94	244	*e*P	Pb	10 01 18.6	-1.1
CHN1	baz=241			*e*S	Sb	10 01 43.6	0.0
SLGT	Liugui baz=227	1.95	237	*e*P	Pn	10 01 18.1	+1.8
SLGT	baz=227			*e*S	Sb	10 01 42.9	-0.7
SSD	Sandimen baz=224	2.10	232	*e*P	Pn	10 01 19.2	+0.9
SSD	baz=224			*e*S	Sn	10 01 45.2	+1.5
TSMG	Majia baz=224	2.12	231	*e*P	Pn	10 01 19.8	+1.2
TSMG	baz=224			*e*S	Sn	10 01 46.0	+1.9
JTJ	Tarama	2.16	74	S	Sn	10 01 45.6	+0.6
MASBT	Mashibuluo baz=223	2.19	229	*e*P	Pn	10 01 21.2	+1.6
MASBT	baz=223			*e*S	Sn	10 01 47.4	+1.6

IDC 05 10:06:20.9±1.3**, 27°.79N**×**142°.19E, h88**km±9km**, mb3.4**/4**,**
mb1 3.6/4**, mb1mx3.2**/46**, mbtmp3.8**/4**, MS3.7**/1**, Ms1 3.7**/1**,**
ms1mx2.6/42**, Error ellipse: s-maj=40.5km**
s-min=21.1km az=83.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima 63nm,0.3s,baz=2.2,slow=17,SNR=142	0.69	181	P	Pn	10 06 38.4	+1.3
JCJ	316nm,0.3s,baz=288,slow=20,SNR=62			S	Sn	10 06 50.4	+1.2
KLR	Kul'dur 1.3nm,0.7s,baz=160,slow=16,SNR=4.2	22.87	342	P	P	10 11 17.2	+0.3
WRA	Warramunga Arr 1.7nm,0.5s,baz=7.9,slow=7.9,SNR=80	48.05	190	P	P	10 14 51.6	0.0
PSI	Prapat comp=Z,77nm,18.6s,baz=93,slow=35	48.17	247	LR	LR	10 34 32.8	
ASAR	Alice Springs 0.2nm,0.4s,baz=10.0,slow=6.7,SNR=5.9	51.77	190	P	P	10 15 19.6	-0.1
FINES	FINESS Array B 0.4nm,0.3s,baz=44,slow=4.2,SNR=3.9	77.33	334	P	P	10 18 05.2	-0.5

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*IDC **05** 10:09:04.0±6.6, 54°.12N×158°.80W, h0km, mb3.8/2,*
mb1 3.6/5, mb1mx3.3/48, mbtmp3.6/5, ML3.2/3, Error
ellipse: s-maj=152.7km s-min=28.4km az=151.0
*AEIC **05** 10:09:13±1.2, 54°.82N±0°.07×159°.07W±0°.06, h13km±6km,*
ML3.2, ML3.5/14(NEIC), Error ellipse: s-maj=10.8km
s-min=5.2km az=175.0
*NEIC **05** 10:09:13.0±1.3, 54°.85N±0°.08×159°.07W±0°.09,*
h21km±12km, Error ellipse: s-maj=11.7km s-min=6.6km
az=161.0
ISC 05 10:09:12.3±1.2**, 54°.87N**±0°.06×**159°.02W**±0°.05**, h23**km±9km**,**
n95, σ1s.28/95**, South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNA	Chernabura Isl baz=92	0.33	263	P	Pb	10 09 19.5	-0.2
CHNA	baz=92			S	Sb	10 09 24.4	-0.2
CNBA	Chernabura Isl	0.33	261		Pb	10 09 19.4	-0.2
CNBA					Sb	10 09 24.5	-0.2
CNBA	comp=E,7μm,0.4s			IAML		10 09 24.6	
CNBA	comp=N,5μm,0.3s			IAML		10 09 25.0	
SDPT	Sand Point	0.96	300		Pb	10 09 29.1	-1.2
SDPT	comp=N,852nm,0.7s			IAML		10 09 48.1	
SDPT	Sand Point baz=123	0.96	300	P	Pb	10 09 29.1	-1.2
SDPT	baz=123			S	Sb	10 09 42.0	-0.5
VNSG	Veniaminof 6	1.26	358		Pn	10 09 34.7	+0.2
VNHG	Veniaminof 1	1.35	357		Pb	10 09 36.6	-0.4
VNFG	Fog Glacier, M	1.45	348		Pb	10 09 38.6	0.0
VNFG	Fog Glacier, M baz=169	1.45	348	P	Pb	10 09 38.6	0.0
CHGN	Chignik baz=194	1.47	13	P	Pn	10 09 38.1	+0.7
CHGN	baz=194			S	Sb	10 09 57.7	+0.5
PVV	Pavlof Volcano	1.67	289		Pn	10 09 40.1	0.0
PS4A	Pavlof South-4	1.70	287		Pn	10 09 40.6	+0.1
HAG	Hague Volcano	1.72	286		Pn	10 09 40.9	+0.1
PN6	Pavlof North-6	1.76	290		Pn	10 09 42.0	+0.5
PN6					Sn	10 10 03.6	+0.4
DT1	Dutton Round H	1.89	278		Pn	10 09 42.8	-0.4
BLHA	Black Hill	1.93	297		Pn	10 09 43.8	+0.1
BLHA	Black Hill baz=116	1.93	297	P	Pn	10 09 43.8	+0.1
ANPB	Aniakchak Plen	1.98	12		Pn	10 09 45.5	+1.1
ANPK	Aniakchak Peak	2.04	14		Pn	10 09 46.6	+1.4
ANNE	Aniakchak Nort	2.12	14		Pn	10 09 47.9	+1.6
CHIR	Chirikof Islan	2.16	63		Pn	10 09 47.8	+1.0
CHIR	comp=E,232nm,1.2s			IAML		10 10 27.9	
CHIR	comp=N,195nm,1.7s			IAML		10 10 31.1	
CHIR	Chirikof Islan baz=244	2.16	63	P	Pn	10 09 47.8	+1.0
FALS	False Pass	2.54	271		Pn	10 09 52.3	+0.3
FALS	False Pass	2.54	271		Sn	10 10 24.3	+2.1
FALS	False Pass baz=89	2.54	271	P	Pn	10 09 52.3	+0.3
FALS	baz=89			S	Sn	10 10 24.3	+2.1
ISLZ	Isanotski Laza	2.72	269		Pn	10 09 54.7	+0.2
WESE	West Dahl East	3.26	265		Pn	10 10 02.4	+0.4
WESP	Westdahl Peak	3.33	266		Pn	10 10 03.8	+0.8
WECS	Westdahl Cape	3.36	266		Pn	10 10 04.0	+0.7
AKSA	Akutan Strait	3.96	262		Pn	10 10 12.6	+1.0
OHAK	Old Harbor	3.98	51		Pn	10 10 12.3	+0.4
OHAK	comp=E,72nm,3.0s			IAML		10 11 12.9	
OHAK	comp=N,93nm,3.3s			IAML		10 11 50.8	
OHAK	Old Harbor baz=236	3.98	51	P	Pn	10 10 12.3	+0.4
AKUT	Akutan	4.00	262	Pn	Pn	10 10 13.0	+0.9
AKLV	Akutan Long Va	4.10	263		Pn	10 10 13.5	0.0
UNV	Unalaska Valle	4.50	260		Pn	10 10 18.8	-0.1
UNV	Unalaska Valle baz=74	4.50	260	P	Pn	10 10 18.7	-0.3
MTBL	Makushin Table	4.56	262		Pn	10 10 20.2	+0.3
MNAT	Makushin Natee	4.59	261		Pn	10 10 20.1	-0.1
KDAK	Kodiak Island comp=N,0.6nm,0.3s,baz=209,slow=6.0,SNR=28	4.62	48	Pn	Pn	10 10 20.8	+0.2
KDAK	comp=N,0.9nm,0.3s,baz=306,slow=14,SNR=1.6			Sn	Sn	10 11 11.2	-2.2
KDAK	Kodiak Island	4.62	48		Pn	10 10 21.0	+0.4
KDAK	Kodiak Island comp=N,49nm,3.5s	4.62	48	IAML		10 12 08.5	
KDAK	Kodiak Island baz=233	4.62	48	P	Pn	10 10 21.1	+0.4
MSW	Makushin Switc	4.64	261		Pn	10 10 20.8	-0.1
MREP	Makushin Rep't	4.64	260		Pn	10 10 20.9	-0.2
MAPS	Pakushin South	4.75	260		Pn	10 10 22.3	-0.2
Q19K	Cape Douglas,	5.02	34		Pn	10 10 28.2	+2.0
Q19K	Cape Douglas, baz=218	5.02	34	P	Pn	10 10 28.0	+1.8
O18K	Koktuh Hills	5.40	21		Pn	10 10 33.2	+1.8
O18K	Koktuh Hills baz=204	5.40	21	P	Pn	10 10 33.3	+1.9
OKNC	Okmok New Cone	5.53	259		Pn	10 10 33.2	0.0
N18K	Kilae Creek	6.06	15		Pn	10 10 42.0	+1.6
N18K	Kilae Creek baz=198	6.06	15	P	Pn	10 10 41.9	+1.5
CNPM	China Poot	6.29	39	Pn	Pn	10 10 45.4	+1.8
N19K	Bonanza Creek	6.43	20		Pn	10 10 47.5	+2.0
N19K	Bonanza Creek baz=204	6.43	20	P	Pn	10 10 47.0	+1.4

SVW2	Sparrevohn	6.50	15	Pn	Pn	10 10 48.7	+2.2
SPIA	Saint Paul Isl	6.70	295		Pn	10 10 50.0	+0.8
SPIA	Saint Paul Isl	6.70	295	P	Pn	10 10 49.7	+0.5
	baz=106						
SEW	Seward	7.35	41	Pn	Pn	10 10 59.5	+1.4
SLKM	Skilak Lake	7.36	36		Pn	10 10 59.8	+1.6
M19K	Big River Lodg	7.46	17		Pn	10 11 01.6	+2.1
M19K	Big River Lodg	7.46	17	P	Pn	10 11 01.5	+1.9
	baz=201						
L19K	White Mountain	7.65	15		Pn	10 11 03.5	+1.4
L19K	White Mountain	7.65	15	P	Pn	10 11 03.6	+1.4
	baz=198						
M20K	Styx River	7.68	21		Pn	10 11 06.0	+3.4
M20K	Styx River	7.68	21	P	Pn	10 11 04.1	+1.4
	baz=206						
SUA	Susitna One	7.92	30		Pn	10 11 06.6	+0.6
SUA	Susitna One	7.92	30	P	Pn	10 11 07.2	+1.3
	baz=217						
RC01	Rabbit Creek A	7.94	35	Pn	Pn	10 11 08.4	+2.2
SKT	Skwentna	8.13	26	Pn	Pn	10 11 10.5	+1.7
TT01	Tatalina	8.21	10		Pn	10 11 10.7	+0.9
PWL	Port Wells	8.27	39		Pn	10 11 11.9	+1.3
KNK	Knik Glacier	8.61	36	P	Pn	10 11 16.4	+1.1
	baz=225						
GHO	Glory Hole Cre	8.71	33	Pn	Pn	10 11 18.6	+1.8
PPLA	Purkeypile	8.78	21	Pn	Pn	10 11 20.2	+2.4
FID	Port Fidalgo	8.91	44		Pn	10 11 19.7	+0.3
SML	Sawmill	8.93	35	Pn	Pn	10 11 20.5	+0.7
EYAK	Cordova Ski Ar	9.09	46	Pn	Pn	10 11 22.5	+0.6
SCM	Sheep Creek Mo	9.29	37	Pn	Pn	10 11 25.9	+1.2
KLU	Klutina	9.57	41	Pn	Pn	10 11 29.0	+0.4
M24K	Tolsona, Glenn	9.87	38	Pn	Pn	10 11 35.3	+2.6
RIDG	Independent Ri	11.44	33	Pn	Pn	10 11 55.2	+1.1
L26K	Log Cabin Wild	11.47	38	Pn	Pn	10 11 56.6	+2.1
ILAR	Eielson Array	11.63	27	Pn	Pn	10 11 54.0	-2.6
	comp=N,0.1nm,0.3s,baz=217,slow=13,SNR=6.2						
BCAR	Beaver Creek A	12.06	40	Pn	Pn	10 12 04.2	+1.6
DAWY	Dawson	13.52	39	Pn	Pn	10 12 23.5	+1.1
BESE	Bessie Mountai	13.75	65	Pn	Pn	10 12 27.8	+2.2
INK	Inuvik	17.91	31	P	Pn	10 13 19.4	-0.1
	comp=N,0.1nm,0.3s,baz=217,slow=10,SNR=5.0						
PETK	Petropavlovsk-	25.21	284	P	P	10 14 34.4	-1.6
	comp=N,1.4nm,0.9s,baz=82,slow=11,SNR=4.3						
H11N2	WAKE ISLAND Hy	43.55	230	T	T	11 03 26.9	
	baz=28						
H11N3	WAKE ISLAND Hy	43.55	230	T	T	11 03 26.7	
	baz=28						
H11N1	WAKE ISLAND Hy	43.56	230	T	T	11 03 27.7	
	baz=28						
H11S1	WAKE ISLAND Hy	44.71	229	T	T	11 04 52.7	
	baz=28,slow=74,SNR=6.2						
H11S2	WAKE ISLAND Hy	44.72	229	T	T	11 04 53.8	
	baz=28,slow=74,SNR=6.2						
H11S3	WAKE ISLAND Hy	44.73	229	T	T	11 04 54.3	
	baz=28						
AKASG	Malin Array Be	74.57	355	P	P	10 20 48.2	-0.7
	comp=N,0.6nm,0.4s,baz=8.8,slow=5.8,SNR=2.9						

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*NEIC **05** 10:12:45.8±1.1, 18°.57N±0°.10×145°.8E±0°.2, h145km±6km, mb4.3/24, Error ellipse: s-maj=26.0km s-min=9.6km az=114.0*

*IDC **05** 10:12:46.7±2.4, 18°.58N×145°.70E, h160km±22km, mb3.6/9, mb1 3.7/11, mb1mx3.4/43, mbtmp4.0/11, MS3.9/1, Ms1 3.9/1, ms1mx2.8/48, Error ellipse: s-maj=30.8km s-min=14.0km az=91.0*

ISC 05 10:12:45.1±0.6**, 18°.63N**±0°.07×**145°.8E**±0°.2**, h145**km**, n43, σ0s.88**/41**, mb4.2**/21**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANA2	Anatahan	2.27	181		Pn	10 13 23.5	+0.3
GUMO	Guam	5.08	190	P	Pn	10 14 00.7	+1.2
	7.8nm,0.3s,baz=1.1,slow=5.0,SNR=5.7						
GUMO				S	Sn	10 14 58.2	+0.6
	11nm,0.3s,baz=41,slow=20,SNR=1.9						
GUMO	Guam	5.08	190		Pn	10 13 59.0	-0.5
MJAR	Matsushiro Arr	19.05	341	P	Pn	10 16 58.4	-0.1
	0.0nm,0.3s,baz=163,slow=11,SNR=2.4						
H11S3	WAKE ISLAND Hy	19.84	87	T	T	10 37 56.9	
	baz=274,slow=75,SNR=2.8						
H11S1	WAKE ISLAND Hy	19.85	87	T	T	10 37 57.6	
	baz=274,slow=75,SNR=4.3						
H11S2	WAKE ISLAND Hy	19.85	87	T	T	10 37 58.4	
	baz=274,slow=75,SNR=3.4						
COEN	Coen	32.48	185	P	P	10 19 01.5	-0.4
COEN				IAmb	IAmb	10 19 15.2	
	comp=Z,11nm,1.3s						
MTN	Manton Dam	34.44	206	P	P	10 19 18.5	-0.4
KNRA	Kununurra	37.98	207	P	P	10 19 49.1	+0.1
KNRA				IAmb	IAmb	10 19 49.7	
	comp=Z,10nm,0.7s						
WR0	Warramunga Arr	39.90	197	P	P	10 20 04.5	-0.4
WR0				IAmb	IAmb	10 20 05.0	
	comp=Z,6.2nm,1.2s						
WRAB	Tennant Creek	39.92	197	P	P	10 20 05.0	-0.2
WRAB				IAmb	IAmb	10 20 08.0	
	comp=Z,4.8nm,0.8s						
WB2	Warramunga Arr	39.93	197	P	P	10 20 04.9	-0.3
WB2				IAmb	IAmb	10 20 05.4	
	comp=Z,5.2nm,0.8s						
WRA	Warramunga Arr	39.94	197	P	P	10 20 04.9	-0.4
	comp=Z,2.0nm,0.4s,baz=14,slow=7.6,SNR=81						
WRA				PcP	PcP	10 22 07.3	-0.7
	comp=Z,0.4nm,0.4s,baz=17,slow=3.4,SNR=4.7						
WRA	Warramunga Arr	39.94	197	IAmb	IAmb	10 20 05.2	
	comp=Z,0.5nm,1.2s						
FITZ	Fitzroy Crossi	41.51	210	P	P	10 20 17.5	-0.7
FITZ				IAmb	IAmb	10 20 19.2	
	comp=Z,4.9nm,0.8s						
AS31	Alice Springs	43.60	196	P	P	10 20 34.5	-0.6
ASAR	Alice Springs	43.60	196	P	P	10 20 34.8	-0.3
	comp=Z,0.7nm,0.4s,baz=15,slow=6.5,SNR=22						
ASAR	Alice Springs	43.60	196	P	P	10 20 33.9	-1.1
EIDS	Eidsvold	44.03	173	P	P	10 20 37.3	-1.1
EIDS				IAmb	IAmb	10 21 04.4	
	comp=Z,11nm,1.3s						
DZM	Mont Dzumac	45.22	153	P	P	10 20 48.1	0.0
	comp=Z,9.3nm,1.2s,baz=299,slow=13,SNR=2.4						
DZM				LR	LR	10 39 50.4	
	comp=Z,130nm,19.1s,baz=26,slow=36						
PSA00	Pilbara Seismi	47.33	214	P	P	10 21 04.8	+0.4
PSA00				IAmb	IAmb	10 21 13.2	
	comp=Z,12nm,1.4s						
ARMA	Armidale	49.09	173	P	P	10 21 17.2	-0.7
GSI	Gunungsitoli	50.27	256	P	P	10 21 28.7	+1.6
STKA	Stephens Creek	50.37	185	P	P	10 21 27.0	-0.4
	comp=Z,0.5nm,0.3s,baz=7.5,slow=8.7,SNR=3.8						
STKA	Stephens Creek	50.37	185	P	P	10 21 27.2	-0.2
BBOO	Buckleboo	51.98	190	P	P	10 21 40.5	+1.1
BBOO				IAmb	IAmb	10 22 07.3	
	comp=Z,5.2nm,1.1s						
MORW	Morawa	55.43	212	P	P	10 22 04.5	0.0
MKAR	Makanchi Array	58.56	314	P	P	10 22 27.2	+0.7
	comp=Z,0.4nm,0.5s,baz=84,slow=7.1,SNR=3.2						
K20K	Telida	60.26	27	P	P	10 22 39.8	+2.0
K20K				IAmb	IAmb	10 22 55.9	
	comp=Z,3.7nm,1.4s						
CNPM	China Poot	60.49	31	P	P	10 22 39.9	+0.4
SKT	Skwentna	60.97	29	P	P	10 22 42.9	+0.2
SKT				IAmb	IAmb	10 23 03.0	
	comp=Z,5.8nm,1.4s						
GHO	Glory Hole Cre	62.12	29	P	P	10 22 51.1	+0.7
MLY	Manley	62.16	25	P	P	10 22 51.7	+1.1
I23K	Minto, Yukon-K	62.75	25	P	P	10 22 55.7	+1.2
I23K				IAmb	IAmb	10 23 10.7	
	comp=Z,5.3nm,1.4s						
ILAR	Eielson Array	63.68	26	P	P	10 23 00.3	-0.4
	comp=Z,0.5nm,0.8s,baz=247,slow=4.8,SNR=6.2						
DOT	Dot Lake	64.68	28	P	P	10 23 07.8	+0.6
ABKAR	Akbulak array	73.44	317	P	P	10 24 00.0	-1.5
ARCES	ARCESS Array B	82.58	342	P	P	10 24 51.3	-0.2
	comp=Z,11nm,1.4s,baz=55,slow=6.8,SNR=4.9						
NVAR	Mina Array Bea	83.13	52	P	P	10 24 56.4	+1.1
	comp=Z,0.7nm,0.6s,baz=264,slow=6.0,SNR=6.6						
FINES	FINESS Array B	86.98	335	P	P	10 25 11.8	-1.9
	comp=Z,1.0nm,0.6s,baz=34,slow=4.8,SNR=6.9						
FINES	FINESS Array B	86.98	335	P	P	10 25 12.0	-1.6
LPAZ	La Paz	147.61	91	PKPbc	PKPbc	10 32 13.8	-0.2
	comp=Z,0.8nm,0.7s,baz=333,slow=6.8,SNR=3.5						

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*VAO **05** 10:17:51.2±0.5, 38°.05S×74°.59W, h10km, mb4.7*

*NEIC **05** 10:17:54.3±2.1, 37°.87S±0°.05×73°.73W±0°.09, h17km±3km, Error ellipse: s-maj=10.2km s-min=7.5km az=77.0*

*NEIC **05** 10:17:56.2, 37°.87S×73°.60W, h19km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-4.21; $M_{\theta\theta}$-0.21; $M_{\phi\phi}$4.42; $M_{r\theta}$-0.59; $M_{\theta\phi}$-0.80; $M_{\phi r}$-7.45; Fault plane solution: $M_0$8.67000×10^{15} NP1:ϕ_s157.39000°, δ16.39000°, λ-114.38000°. NP2:ϕ_s2.67000°, δ75.11000°, λ-83.08000°. Principal axes: T 8.7283, Plg30.0000°, Azm87.0000°; N -0.1245, Plg7.0000°, Azm181.0000°; P -8.6038, Plg59.0000°, Azm282.0000°;*

*IDC **05** 10:17:57.8±0.7, 37°.93S×73°.29W, h22km±3km, mb4.1/10, mb1 4.3/11, mb1mx4.2/21, mbtmp4.2/11, ML4.2/1, MS3.9/14, Ms1 3.9/14, ms1mx3.8/27 Error ellipse: s-maj=24.4km s-min=17.7km az=85.0*

*GUC **05** 10:17:57.6±0.7, 37°.91S×73°.61W, h38km±5km, ML5.0, MW5.1*

ISC 05 10:17:55.6±0.4**, 37°.89S**±0°.04×**73°.78W**±0°.06**, h18**km**, n192, σ1s.78**/194**, mb4.8**/41**, MS4.1**/15**, 3C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCSP	San Pedro de C	1.17	27	eP	Pb	10 18 17.4	+0.2
CCSP				iS	Sb	10 18 31.5	-0.5
CCSP				IAML		10 18 39.2	
	comp=E,66µm,0.5s						
LC01	Cunco	1.80	125	⇑iP	Pn	10 18 25.3	-0.5
LC01				iS	Sn	10 18 46.0	-2.2
LC01				IAML		10 18 52.6	
	comp=N,17µm,0.6s						
LC01	Cunco	1.80	125	Pn	Pn	10 18 25.1	-0.6
LC01				Sn	Sn	10 18 46.4	-1.8
ML02	Panimavida	2.84	42	eP	Pn	10 18 40.2	+0.2
ML02				iS	Sn	10 19 13.0	-0.8
ML02				IAML		10 19 31.3	
	comp=E,5µm,0.6s						
ML02	Panimavida	2.84	42		Pn	10 18 40.2	+0.2
LL04	Puerto Octay	3.20	161	eP	Pn	10 18 44.3	-0.7
LL04	Puerto Octay	3.20	161		Pn	10 18 44.4	-0.6
GO05	Huala	3.23	28	eP	Pn	10 18 45.6	+0.1
GO05				iS	Sn	10 19 22.8	-0.8
GO05	Huala	3.23	28	Pn	Pn	10 18 46.0	+0.6
LL03	Petrohue	3.42	162	IAML		10 19 45.8	
	comp=N,6µm,0.3s						
LL03	Petrohue	3.42	162		Pn	10 18 48.7	+0.7
LL05	Los Muermos	3.52	176		Pn	10 18 49.6	+0.2
BO03	Pichilemu	3.69	24	⇓iP	Pn	10 18 51.3	-0.3
PLCA	Paso Flores	3.79	140	Pn	Pn	10 18 53.9	+0.7
	comp=N,2.2nm,0.3s,baz=316,slow=10,SNR=82						
PLCA				Pg	Pb	10 19 00.7	-1.3
	comp=N,18nm,0.3s,baz=311,slow=15,SNR=28						
PLCA				Lg	Lg	10 19 50.3	
	comp=N,37nm,0.3s,baz=233,slow=20,SNR=8.8						
PLCA				LR	LR	10 20 03.3	
	comp=N,348nm,18.5s,baz=320,slow=36						
PLCA	Paso Flores	3.79	140	iP	Pn	10 18 53.8	+0.7
PLCA	Paso Flores	3.79	140	eP	Pn	10 18 53.7	+0.6
BO02	Sierra Bellavi	3.92	39	eP	Pn	10 18 54.9	0.0
BO02	Sierra Bellavi	3.92	39		Pn	10 18 54.9	0.0
BO01	Tunca	4.11	33	⇓iP	Pn	10 18 57.2	-0.3
BO01	Tunca	4.11	33		Pn	10 18 57.1	-0.3
MT01	Popeta	4.50	28	⇑iP	Pn	10 19 02.6	-0.4
MT01	Popeta	4.50	28	Pn	Pn	10 19 02.1	-0.9
VA05	Santo Domingo	4.57	23	eP	Pn	10 19 02.6	-1.2
VA05	Santo Domingo	4.57	23		Pn	10 19 02.6	-1.2
LL01	San Ignacio de	4.61	167		Pn	10 19 04.5	+0.2
MT09	Talagante	4.68	30	eP	Pn	10 19 05.2	-0.3
MT09	Talagante	4.68	30		Pn	10 19 05.4	-0.1
LL07	Hotel Espejo d	4.95	177		Pn	10 19 09.1	+0.1
MT05	Renca	5.12	30		Pn	10 19 11.6	+0.2
VA01	Torpederas	5.15	20	⇑iP	Pn	10 19 11.3	-0.5
VA01	Torpederas	5.15	20		Pn	10 19 11.3	-0.5
GO07	Milladeo Hill,	5.22	179	Pn	Pn	10 19 12.0	-0.8
LL02	Futaleuf	5.50	165		Pn	10 19 17.6	+1.0
VA03	San Esteban	5.75	28		Pn	10 19 19.8	-0.4
H03S1	Juan Fernandez	5.80	313	T	T	10 25 24.3	
	baz=133,slow=75,SNR=3973						
H03S3	Juan Fernandez	5.81	313	T	T	10 25 26.9	
	baz=133,slow=75,SNR=3372						
H03S2	Juan Fernandez	5.81	312	T	T	10 25 25.2	
	baz=133,slow=75,SNR=3823						
VA04	Juan Fernndez	5.90	314	eP	Pn	10 19 24.1	+2.1
VA04	Juan Fernndez	5.90	314		Pn	10 19 24.2	+2.1
CO02	Combarbal	7.05	20		Pn	10 19 37.1	-0.8
CO06	Fray Jorge	7.41	14	Pn	Pn	10 19 40.9	-2.0
GO04	Tololo Observa	8.08	19	Pn	Pn	10 19 51.2	-1.1
CO05	La Serena	8.22	16		Pn	10 19 53.0	-1.0
LCO	Las Campanas	9.21	17	Pn	Pn	10 20 06.6	-1.3
TRQA	Tornquist	9.32	95	Pn	Pn	10 20 07.1	-1.9
AC04	Llanos de Chal	9.91	14	Pn	Pn	10 20 15.6	-1.6
GO03	Copiap	10.69	17	Pn	Pn	10 20 26.7	-1.1
AC02	Maricunga	11.69	21	Pn	Pn	10 20 40.5	-1.5
PB14	IPOC Station P	13.53	13	Pn	Pn	10 21 04.2	-2.7
LVC	Limon Verde	15.79	17	Pn	P	10 21 42.5	+1.3
	comp=N,0.5nm,0.3s,baz=166,slow=4.2,SNR=2.7						
LVC				LR	LR	10 28 17.7	
	comp=N,190nm,21.6s,baz=202,slow=39						
ITQB	Itaqui	16.43	65	eP	P	10 21 50.0	+2.1
PB07	IPOC Station P	16.45	13	Pn	Pn	10 21 44.3	-1.4
PB01	IPOC Station P	17.19	14	P	Pn	10 21 53.2	-1.8
PLTB	Pedras Altas	17.64	76		Pn	10 21 57.8	-2.6
CPUP	Villa Florida	18.05	55	P	Pn	10 22 05.0	-0.5
	comp=N,0.2nm,0.3s,baz=255,slow=10,SNR=5.8						
CPUP				LR	LR	10 29 37.4	
	comp=N,965nm,19.1s,baz=229,slow=39						
CPUP	Villa Florida	18.05	55	P	Pn	10 22 03.2	-2.3
CPSB	Cacapava Do Su	18.39	72	eP	Pn	10 22 14.8	+5.2
AP01	Chacalluta	19.67	10	P	P	10 22 21.6	-2.0
LPAZ	La Paz	22.08	15	P	P	10 22 51.9	+1.5
	comp=N,2.7nm,0.7s,baz=187,slow=8.8,SNR=12						
LPAZ	La Paz	22.08	15	P	P	10 22 48.1	-2.3
LPAZ	La Paz	22.08	15	eP	P	10 22 49.2	-1.2
AQDB	Aquidauana	23.38	47	P	P	10 23 01.2	-2.1
TRCB	Terra Rica	23.57	56	P	P	10 23 03.2	-2.0
TIJ01	Guaruva-PR	24.45	66	eP	P	10 23 17.0	+3.5
SIV	San Ignacio	24.52	31	P	P	10 23 13.9	-0.2
	comp=N,2.6nm,0.8s,baz=219,slow=9.2,SNR=13						
SIV				LR	LR	10 34 21.0	
	comp=N,304nm,20.2s,baz=206,slow=40						
FRTB	Fartura	25.28	62	eP	P	10 23 21.3	+0.3
PTLB	Pontes e Lacer	25.83	34	eP	P	10 23 26.3	+0.4
NNA	Nana	25.93	353	LR	LR	10 31 42.2	
	comp=N,209nm,18.1s,baz=184,slow=32						
PET01	Itanhaem-SP	26.32	67	eP	P	10 23 33.4	+3.0
SPB	Sao Paulo	26.64	65	eP	P	10 23 36.7	+3.4
SALV	Santo Antonio	27.10	41	eP	P	10 23 37.6	+0.3
ITRB	Iturama	27.25	55	eP	P	10 23 41.1	+2.3
RCLB	Rio Claro- Sao	27.31	63	eP	P	10 23 41.4	+2.1
VAO	Valinhos	27.34	65	eP	P	10 23 42.5	+2.9
BB19B	Bebedouro	27.51	60	eP	P	10 23 43.9	+2.7
VILB	Vilhena	27.62	30	eP	P	10 23 43.7	+1.5
ETMB	Extrema	28.76	16	eP	P	10 23 53.5	+1.2
ESAR	Angra dos Reis	29.16	68	eP	P	10 23 58.6	+2.8
SAML	Samuel	30.36	21	P	P	10 24 03.1	-3.3
SAML	Samuel	30.36	21	eP	P	10 24 06.9	+0.5
BDFB	Brasilia	31.75	53	P	P	10 24 23.2	+4.4
	comp=N,2.3nm,0.5s,baz=224,slow=12,SNR=3.0						
DIAM	Diamantina, MG	32.74	62	eP	P	10 24 30.7	+3.1
TBTG	Tabatinga, AM	33.73	7	eP	P	10 24 35.2	-0.8
SJMB	Sao Joao De Ma	34.23	65	eP	P	10 24 44.1	+3.7
PEXB	Peixe	34.30	48	eP	P	10 24 43.7	+2.6
BSFB	Barra de Sao F	34.39	66	eP	P	10 24 44.6	+2.9
RIB01	Linhares ES	34.41	67	eP	P	10 24 43.0	+1.0
JANB	Januaria	34.57	57	eP	P	10 24 45.4	+2.0
NPGB	Novo Progresso	34.95	33	eP	P	10 24 46.0	-0.7
NAN01	Guarapari, ES	35.55	65	eP	P	10 24 54.5	+2.7
SDBA	SAO DESIDERIO	36.15	53	eP	P	10 24 59.8	+2.8
ITTB	Itaituba	37.21	31	eP	P	10 25 05.9	-0.1
SMTB	Santa Maria do	37.32	46	eP	P	10 25 07.0	+0.1
CMC01	Camacan, BA	37.64	63	eP	P	10 25 12.5	+2.9
OTAV	Otavalo	38.18	352	eP	P	10 25 12.7	-2.0
PTGA	Pitinga	39.10	22	P	P	10 25 19.7	-2.2
NBLA	Lagarto - SE	41.88	60	eP	P	10 25 48.3	+3.4
BOAV	Boa Vista	41.92	20	eP	P	10 25 45.5	+0.3
MCPB	Macapa, AP	42.36	33	eP	P	10 25 49.5	+0.6
TMAB	Tom-Au,PA,Br	42.47	40	eP	P	10 25 50.6	+0.9
ROSC	El Rosal	42.51	359	LR	LR	10 43 30.6	
	comp=N,252nm,18.7s,baz=238,slow=36						
NBPS	Pedro II - PI	44.51	50	eP	P	10 26 07.6	+1.4
NBPB	Pedra_Branca-C	44.75	53	eP	P	10 26 09.3	+1.2
VNA3	Neumayer Olymp	46.34	156	P	P	10 26 21.3	+1.3
SDV	Santo Domingo	46.62	4	eP	P	10 26 21.6	-1.4
VNA1	Neumayer--Stat	46.70	155	P	P	10 26 24.6	+1.8
VNA2	Neumayer--Watz	47.02	156	P	P	10 26 26.7	+1.3
	baz=285,slow=9.5						
SNAA	Sanae	48.56	156	P	P	10 26 38.8	+1.4
QSPA	South Pole Qui	52.36	180	P	P	10 27 07.8	+1.6
QSPA				IAmb	IAmb	10 27 09.2	
	comp=Z,9.6nm,0.9s						
VNDA	Vanda	60.02	192	P	P	10 28 03.0	+2.4
	comp=Z,1.4nm,0.9s,baz=118,slow=5.1,SNR=6.0						
VNDA				LR	LR	10 50 51.4	
	comp=Z,43nm,18.7s,baz=214,slow=33						
VNDA	Vanda	60.02	192	P	P	10 27 58.4	-2.3
VNDA				IAmb	IAmb	10 28 11.8	
	comp=Z,8.3nm,1.3s						
TBI	Tubuai	65.12	259	eLR	LR	10 48 12.2	
	comp=Z,194nm,25.0s						
TAOE	Nuku Hiva Isla	65.99	278	eS	S	10 37 44.0	+16
	comp=Z,335nm,31.0s						
TAOE	Nuku Hiva Isla	65.99	278	eLR	LR	10 48 54.2	
	comp=Z,202nm,23.0s						
MEH	Mehetia	67.01	265	eT	T	11 41 40.6	
	comp=Z,17nm,0.2s						
TIAR	Tiarei	68.19	264	eT	T	11 43 07.8	
	comp=Z,1.7nm,0.2s						
PPT2	Papeete2	68.36	264	eLR	LR	10 49 55.7	
	comp=Z,137nm,23.8s,baz=120						
PPT	Papeete	68.37	264	LR	LR	10 50 56.9	
	comp=Z,147nm,18.1s,baz=112,slow=29						
MAW	Mawson	69.86	164	P	P	10 29 05.0	+0.4
	comp=Z,9.0nm,1.0s,baz=248,slow=11,SNR=14						
MAW				LR	LR	10 58 50.3	
	comp=Z,177nm,20.4s,baz=240,slow=35						
MAW	Mawson	69.86	164	P	P	10 29 02.9	-1.8
346A	Big Creek Wild	70.46	346	P	P	10 29 07.5	-1.2
346A				IAmb	IAmb	10 29 57.9	
	comp=Z,11nm,0.8s						
HPIG		71.08	330	P	P	10 29 10.7	-2.2
HPIG				IAmb	IAmb	10 29 16.7	
	comp=Z,6.3nm,1.0s						
LRAL	Lakeview Retre	71.62	348	P	P	10 29 13.0	-2.7
LRAL				IAmb	IAmb	10 29 17.9	
	comp=Z,10nm,1.1s						
Z47A	Carrollton	71.96	347	P	P	10 29 16.2	-1.6
Y52A	Lilburn	72.02	351	P	P	10 29 16.9	-1.2
Y52A				IAmb	IAmb	10 29 20.4	
	comp=Z,9.8nm,0.9s						
TXAR	Lajitas Array	72.49	333	P	P	10 29 23.9	+2.7
	comp=Z,3.1nm,0.9s,baz=154,slow=9.1,SNR=29						
TXAR				LR	LR	10 55 19.0	
	comp=Z,99nm,20.8s,baz=0.0,slow=31						
TX31	Lajitas Ar. Si	72.49	333	P	P	10 29 19.8	-1.4
TX31				IAmb	IAmb	10 29 24.7	
	comp=Z,14nm,1.1s						
PAULI	Pauline	72.72	353		P	10 29 20.1	-2.2
PAULI				IAmb	IAmb	10 29 24.6	
	comp=Z,10.0nm,0.9s						
X51A	Calhoun	72.82	350	P	P	10 29 21.5	-1.4
CNNC	Cliffs of the	72.86	356	P	P	10 29 20.6	-2.5
Y45A	Yeager Farm, C	72.88	346	P	P	10 29 21.1	-2.1
FPAL	Fort Paine	72.89	350	P	P	10 29 21.7	-1.7
FPAL				IAmb	IAmb	10 29 25.7	
	comp=Z,12nm,1.1s						
W57A	Gilead	72.90	355	P	P	10 29 21.4	-1.9
W57A				IAmb	IAmb	10 29 25.2	
	comp=Z,9.7nm,1.0s						
BG3	Lake Jocassee	73.01	352	P	P	10 29 21.9	-2.1
BG3				IAmb	IAmb	10 29 25.9	
	comp=Z,7.9nm,0.9s						
X48A	Hartselle	73.02	349	P	P	10 29 22.6	-1.5
X48A				IAmb	IAmb	10 29 26.7	
	comp=Z,15nm,1.0s						
OXF	Oxford	73.48	347	P	P	10 29 24.6	-2.1
OXF				IAmb	IAmb	10 29 28.8	
	comp=Z,15nm,1.0s						
W50A	Signal Mountai	73.50	350	P	P	10 29 25.1	-1.8
PLAL	Pickwick Lake	73.71	348	P	P	10 29 26.4	-1.7
TKL	Tuckaleechee C	73.76	352	P	P	10 29 26.8	-1.6
V52A	Sevierville	73.92	352	P	P	10 29 27.7	-1.6
V52A				IAmb	IAmb	10 29 31.1	
	comp=Z,8.2nm,1.1s						
ABTX	Abilene, Hawle	74.17	338	P	P	10 29 29.5	-1.4
WVT	Waverly	74.79	348	P	P	10 29 33.9	-0.5
WVT				IAmb	IAmb	10 29 36.5	
	comp=Z,15nm,1.0s						
U49A	Red Boiling Sp	74.86	350	P	P	10 29 33.3	-1.5
U49A				IAmb	IAmb	10 29 36.9	
	comp=Z,14nm,1.5s						
MNTX	Cornudas Mount	75.25	332	P	P	10 29 34.8	-2.4
LCAR	Lake Charles	75.33	346	P	P	10 29 36.3	-1.1
LCAR				IAmb	IAmb	10 29 39.5	
	comp=Z,9.1nm,0.8s						
FCAR	Ozark Folk Cen	75.35	345	P	P	10 29 35.2	-2.4
FCAR				IAmb	IAmb	10 29 39.7	
	comp=Z,7.6nm,0.9s						
PBMO	Poplar Bluff	75.87	346	P	P	10 29 39.0	-1.5
PBMO				IAmb	IAmb	10 29 42.2	
	comp=Z,9.0nm,0.9s						
WMOK	Wichita Mounta	75.90	339	P	P	10 29 39.0	-1.8
HHAR	Hobbs	76.12	343	P	P	10 29 40.1	-2.0
R49A	Shelbyville	76.53	351	P	P	10 29 42.4	-1.9
R49A				IAmb	IAmb	10 29 46.0	
	comp=Z,12nm,1.1s						
QUOK	Quay	76.69	341	P	P	10 29 42.4	-2.9
CCM	Cathedral Cave	77.27	346	P	P	10 29 46.6	-1.8
LIC	Lamto	77.33	72	eP	P	10 29 49.1	-0.3
	comp=Z,66nm,1.6s						
P52A	Corning	77.52	353	P	P	10 29 48.3	-1.6
TIC	Toumodi	77.61	71	eP	P	10 29 52.6	+1.6
KIC	Kosan Boka	77.64	72	eP	P	10 29 52.2	+1.0
	comp=Z,25nm,0.8s						
P48A	Milroy	77.71	351	P	P	10 29 49.6	-1.3
P48A				IAmb	IAmb	10 29 52.3	
	comp=Z,11nm,1.0s						
DBIC	Dimbokro	77.75	72	P	P	10 29 51.5	-0.2
	comp=Z,5.4nm,0.7s,baz=224,slow=3.6,SNR=6.1						
O44A	Mansfield	78.82	349	P	P	10 29 55.6	-1.4
O44A				IAmb	IAmb	10 29 58.6	
	comp=Z,9.9nm,0.8s						
N47A	Urbana	79.14	351	P	P	10 29 57.7	-1.1
N47A				IAmb	IAmb	10 30 00.1	
	comp=Z,15nm,1.1s						
BOSA	Boshof	79.51	118	P	P	10 30 01.7	+0.2
	comp=Z,5.4nm,0.9s,baz=252,slow=3.9,SNR=6.3						
BOSA				LR	LR	11 00 58.0	
	comp=Z,74nm,19.3s,baz=202,slow=33						
BOSA	Boshof	79.51	118	P	P	10 29 57.7	-3.8
BOSA				IAmb	IAmb	10 30 09.6	
	comp=Z,11nm,1.0s						
KSCO	Kaye Shedlock'	80.99	338	P	P	10 30 07.6	-1.4
KSCO				IAmb	IAmb	10 30 12.8	
	comp=Z,13nm,1.2s						
MVCO	Mesa Verde	81.32	333	P	P	10 30 08.2	-2.7
MVCO				IAmb	IAmb	10 30 14.8	
	comp=Z,8.8nm,1.1s						
LBTB	Lobatse	81.94	115	LR	LR	11 06 38.2	
	comp=Z,101nm,18.1s,baz=218,slow=36						
PV14	Lion Creek, Pa	82.54	333	P	P	10 30 15.3	-2.1
PV14				IAmb	IAmb	10 30 20.9	
	comp=Z,6.1nm,1.0s						
SMCO	Snowmass	82.54	335	P	P	10 30 15.2	-2.3
SMCO				IAmb	IAmb	10 30 21.7	
	comp=Z,11nm,1.2s						
ISCO	Idaho Springs	82.65	336	P	P	10 30 16.1	-1.9
ISCO				IAmb	IAmb	10 30 22.4	
	comp=Z,13nm,1.9s						
PV21	Cone Mtn., Par	82.69	333	P	P	10 30 16.6	-1.5
KNB	Kanab	82.80	329	P	P	10 30 16.0	-2.7
KNB				IAmb	IAmb	10 30 23.1	
	comp=Z,13nm,1.1s						
NVAR	Mina Array Bea	86.30	327	P	P	10 30 39.7	+3.3
	comp=Z,1.2nm,0.8s,baz=166,slow=5.9,SNR=9.4						
NVAR				pP	pP	10 30 47.3	+5.0
	comp=Z,0.9nm,0.8s,baz=159,slow=5.8,SNR=5.6						
NVAR				LR	LR	11 04 14.5	
	comp=Z,64nm,19.3s,baz=250,slow=32						
HWUT	Hardware Ranch	86.31	333	P	P	10 30 34.7	-1.5
PDAR	Pinedale Array	86.62	334	P	P	10 30 39.9	+2.0
	comp=Z,1.5nm,0.9s,baz=144,slow=5.3,SNR=12						
PDAR				pP	pP	10 30 47.3	+3.5
	comp=Z,1.3nm,0.8s,baz=170,slow=4.5,SNR=6.7						
TORD	Torodi Ar. Bea	86.84	71	P	P	10 30 39.6	+0.3
	comp=Z,1.9nm,1.0s,baz=229,slow=5.1,SNR=4.7						
TORD				pP	pP	10 30 45.5	+0.3
	comp=Z,1.4nm,0.8s,baz=239,slow=5.4,SNR=4.4						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TORD				LR	LR	11 06 19.0	
	comp=Z,41nm,20.9s,baz=260,slow=34						
DZM	**Mont Dzumac**	**97.82**	**234**	*e*LR	LR	11 03 34.2	
	comp=Z,118nm,23.5s						
GERES	**GERESS Array B**	**115.85**	**47**	PKP	**PKPdf**	**10 36 35.7**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=316,slow=3.7,SNR=5.7						
GERES	**GERESS Array B**	**115.85**	**47**	PKPdf	**PKPdf**	**10 36 33.1**	**-3.5**
VYHS	**Vyhne**	**118.72**	**49**	*e*PKP	**PKPdf**	**10 36 41.8**	**-0.3**
BRTR	**Keskin Array B**	**124.88**	**64**	PKP	**PKiKP**	**10 36 54.9**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=194,slow=4.5,SNR=9.6						
BRTR				pPKP	**sPKPdf**	**10 37 03.0**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=183,slow=7.3,SNR=4.5						
AKASG	**Malin Array Be**	**125.81**	**50**	PKP	**PKPdf**	**10 36 55.5**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=261,slow=1.9,SNR=4.5						
AKASG				pPKP	**sPKPdf**	**10 37 03.3**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=258,slow=2.5,SNR=2.8						
PSI	**Prapat**	**144.45**	**167**	PKP	PKPbc	10 37 30.2	+0.3
	comp=Z,17nm,0.8s,baz=182,slow=2.8,SNR=15						
NRIK	**Noril'sk**	**146.90**	**12**	PKPbc	**PKiKP**	**10 37 37.9**	**-0.4**
	comp=Z,1.2nm,0.4s,baz=250,slow=2.5,SNR=3.8						
NRIK	**Noril'sk**	**146.90**	**12**	PKPbc	**PKPbc**	**10 37 34.8**	**-0.9**
AAK	**Ala-Archa**	**155.41**	**69**	PKP	**PKPdf**	**10 37 49.7**	**+1.9**
	comp=Z,1.8nm,0.6s,baz=187,slow=5.9,SNR=4.2						
KSH	**Kashi**	**156.38**	**77**	PKP	**PKPdf**	**10 37 50.6**	**+1.4**
KSH				pmax	pmax		
	comp=Z,11nm,0.8s						
KURBB	**Kurchatov Arra**	**156.59**	**48**	PKP	**PKPdf**	**10 37 50.1**	**+1.3**
	comp=Z,1.8nm,1.2s,baz=295,slow=1.9,SNR=7.9						
KURBB				pPKP	**sPKPdf**	**10 37 57.9**	**+0.8**
	comp=Z,1.8nm,0.9s,baz=298,slow=2.6,SNR=8.2						
KURBB				PKPab	**PKPab**	**10 38 17.5**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=292,slow=4.5,SNR=6.0						
KURK	**Kurchatov**	**156.60**	**48**		**PKPab**	**10 38 17.5**	**-0.5**
ZALV	**Zalesovo Beam**	**158.23**	**36**	PKP	**PKPdf**	**10 37 51.1**	**+0.3**
	comp=Z,2.9nm,0.9s,baz=278,slow=4.3,SNR=6.3						
ZALV				pPKP	**sPKPdf**	**10 37 59.1**	**0.0**
	comp=Z,1.9nm,0.7s,baz=318,slow=2.0,SNR=4.2						
ZALV				PKPab	**PKPab**	**10 38 26.5**	**+1.5**
	comp=Z,0.7nm,0.5s,baz=298,slow=6.1,SNR=4.2						
ZALV	**Zalesovo Beam**	**158.23**	**36**	PKPdf	**PKPdf**	**10 37 50.9**	**+0.1**
ZALV				PKPab	**PKPab**	**10 38 25.9**	**+1.0**
CMAR	**Chiang Mai Arr**	**159.62**	**160**	PKP	**PKPdf**	**10 37 54.4**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=194,slow=1.9,SNR=5.0						
MKAR	**Makanchi Array**	**160.25**	**56**	PKP	**PKPdf**	**10 37 54.1**	**+0.6**
	comp=Z,2.3nm,1.1s,baz=338,slow=1.3,SNR=9.4						
MKAR				PKPab	**PKPab**	**10 38 34.1**	**0.0**
	comp=Z,1.1nm,0.8s,baz=289,slow=3.7,SNR=6.0						
MKAR	**Makanchi Array**	**160.25**	**56**	PKPdf	**PKPdf**	**10 37 53.8**	**+0.3**
MKAR				PKPab	**PKPab**	**10 38 34.1**	**0.0**

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*IDC **05** 10:21:32.1±1.8, 36°.03N×141°.35E, h0^{km}, mb3.6/5, mb1 3.8/6, mb1mx3.5/52, mbtmp3.6/6, ML2.4/1, Error ellipse: s-maj=55.8km s-min=23.0km az=65.0*

*JMA **05** 10:21:39.2±0.2, 35°.87N×140°.89E, h40^{km}±2^{km}, M3.1*

ISC 05 10:21:37.9±1.2**, 35°.91N**±0°.06×**141°.05E**±0°.09**, h31**^{km}**, n21,** σ1^{s}**03**/17**, mb3.7**/5**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.26**	**217**	P	**Pb**	**10 21 46.0**	**+1.0**
JIHU	**Itakohorinouch**	**0.43**	**277**	P	**Pb**	**10 21 48.0**	**+0.7**
JSMT	**Sammumatsuo**	**0.56**	**241**	P	**Pb**	**10 21 49.5**	**+0.1**
JHYU	**Hitachinakayam**	**0.57**	**318**	P	**Pb**	**10 21 50.6**	**+1.1**
JYT	**Yasato**	**0.76**	**294**	P	**Pn**	**10 21 52.0**	**-0.6**
JYT				S	**Sb**	**10 22 01.4**	**-1.4**
JHO	**Hitachi**	**0.80**	**331**	P	**Pn**	**10 21 53.8**	**+0.7**
BSO4	**Boso 4**	**1.09**	**213**	P	**Pn**	**10 21 57.6**	**+0.6**
BSO3	**Boso 3**	**1.20**	**202**	P	**Pn**	**10 21 58.5**	**+0.2**
MJAR	**Matsushiro Arr**	**2.38**	**286**	Pn	**Pn**	**10 22 15.4**	**+0.5**
	0.7nm,0.3s,baz=102,slow=13,SNR=34						
MAT	**Matsushiro**	**2.39**	**286**	P	**Pn**	**10 22 16.1**	**+1.2**
MAT				S	**Sn**	**10 22 44.3**	**+1.2**
H11N2	**WAKE ISLAND Hy**	**27.85**	**118**	T	T	10 56 36.1	
	baz=311,slow=75,SNR=6.8						
H11N1	**WAKE ISLAND Hy**	**27.85**	**119**	T	T	10 56 36.7	
	baz=311,slow=75,SNR=6.8						
H11N3	**WAKE ISLAND Hy**	**27.86**	**118**	T	T	10 56 38.9	
	baz=311,slow=75,SNR=4.7						
H11S1	**WAKE ISLAND Hy**	**28.52**	**121**	T	T	10 57 21.6	
	baz=312,slow=75,SNR=11						
H11S3	**WAKE ISLAND Hy**	**28.52**	**121**	T	T	10 57 27.2	
	baz=312,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy**	**28.53**	**121**	T	T	10 57 24.9	
	baz=312,slow=75,SNR=8.6						
MKAR	**Makanchi Array**	**44.48**	**303**	P	**P**	**10 29 46.7**	**+0.5**
	0.3nm,0.6s,baz=88,slow=7.6,SNR=4.2						
KURBB	**Kurchatov Arra**	**46.47**	**309**	P	**P**	**10 30 01.8**	**0.0**
	0.4nm,0.5s,baz=83,slow=7.7,SNR=6.9						
WRA	**Warramunga Arr**	**55.91**	**188**	P	**P**	**10 31 12.2**	**-0.8**
	0.5nm,0.4s,baz=0.8,slow=7.6,SNR=26						
ASAR	**Alice Springs**	**59.64**	**188**	P	**P**	**10 31 40.1**	**+1.0**
	0.2nm,0.6s,baz=18,slow=12,SNR=2.8						
FINES	**FINESS Array B**	**69.67**	**332**	P	**P**	**10 32 42.0**	**-2.0**
	2.9nm,1.1s,baz=64,slow=9.4,SNR=4.2						

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*IDC **05** 10:25:54.2±1.4, 51°.63N×174°.35W, h0^{km}, mb3.7/8, mb1 3.9/10, mb1mx3.7/60, mbtmp3.7/10, ML3.5/2, Error ellipse: s-maj=43.8km s-min=17.4km az=172.0*

*AEIC **05** 10:25:57±2.0, 51°.32N±0°.07×174°.34W±0°.05, h26^{km}±6^{km}, ML3.5/28, mb4.2/48(NEIC), Error ellipse: s-maj=10.4km s-min=3.5km az=163.0*

*NEIC **05** 10:25:58.4±1.4, 51°.34N±0°.06×174°.30W±0°.09, h40^{km}±11^{km}, Error ellipse: s-maj=10.3km s-min=6.4km az=146.0*

ISC 05 10:25:58.6±0.7**, 51°.34N**±0°.09×**174°.27W**±0°.05**, h38**^{km}**, n100,** σ1^{s}**16**/104**, mb3.9**/12**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.86**	**3**		**Pn**	**10 26 13.7**	**-0.4**
ATKA				Sn	**Sn**	**10 26 26.7**	**+1.1**
KOFP	**Korovin Flat P**	**0.94**	**7**		**Pn**	**10 26 15.3**	**+0.1**
KOKL	**Mount Kliuchef**	**0.98**	**3**		**Pn**	**10 26 16.1**	**+0.3**
KOSE	**Korovin Southe**	**1.01**	**8**		**Pn**	**10 26 16.7**	**+0.4**
KOWE	**Korovin West**	**1.02**	**1**		**Pn**	**10 26 16.7**	**+0.3**
KONE	**Korovin Northe**	**1.06**	**5**		**Pn**	**10 26 17.2**	**+0.3**
GSIG	**Igitkin Island**	**1.21**	**303**		**Pn**	**10 26 18.2**	**-0.7**
GSMY	**Great Sitkin M**	**1.31**	**303**		**Pn**	**10 26 19.9**	**-0.4**
GSTR	**Great Sitkin T**	**1.34**	**305**		**Pn**	**10 26 20.5**	**-0.3**
GSTD	**Great Sitkin T**	**1.37**	**302**		**Pn**	**10 26 20.6**	**-0.5**
GSTD					**Sn**	**10 26 39.5**	**+1.5**
ETKA	**Kagalaska Isla**	**1.43**	**292**		**Pn**	**10 26 21.5**	**-0.4**
ADK	**Adak**	**1.60**	**291**		**Pn**	**10 26 23.7**	**-0.5**
KIWB	**Kanaga Island**	**1.86**	**287**	Pn	**Pn**	**10 26 27.8**	**-0.1**
KIKV	**Kanaga Island**	**1.88**	**288**		**Pn**	**10 26 28.2**	**0.0**
KIMD	**Kanaga Island**	**1.90**	**284**		**Pn**	**10 26 28.1**	**-0.2**
KICM	**Kanaga Island**	**1.91**	**289**		**Pn**	**10 26 28.9**	**+0.4**
TAFP	**Tanaga Falls P**	**2.38**	**285**		**Pn**	**10 26 35.8**	**+0.8**
TAFP					**Sn**	**10 27 04.3**	**+1.5**
TASE	**Tanaga Southea**	**2.40**	**283**		**Pn**	**10 26 36.0**	**+0.8**
GAEA	**Gareloi East**	**2.83**	**281**		**Pn**	**10 26 42.1**	**+1.0**
GALAA	**Gareloi Lava P**	**2.84**	**280**		**Pn**	**10 26 42.3**	**+1.0**
NIKH	**Nikolski High**	**3.71**	**62**		**Pn**	**10 26 53.5**	**+0.2**
AMKA	**Amchitka**	**4.03**	**273**	Pn	**Pn**	**10 26 56.1**	**-1.5**
MSW	**Makushin Switc**	**5.24**	**58**		**Pn**	**10 27 15.8**	**+1.5**
MNAT	**Makushin Natee**	**5.28**	**58**		**Pn**	**10 27 16.3**	**+1.5**
UNV	**Unalaska Valle**	**5.36**	**59**	Pn	**Pn**	**10 27 15.5**	**-0.3**
AKUT	**Akutan**	**5.87**	**58**	Pn	**Pn**	**10 27 23.3**	**+0.4**
SPIA	**Saint Paul Isl**	**6.30**	**20**	Pn	**Pn**	**10 27 28.9**	**+0.1**
SDPT	**Sand Point**	**9.17**	**59**	Pn	**Pn**	**10 28 08.2**	**0.0**
CNBA	**Chernabura Isl**	**9.50**	**63**	Pn	**Pn**	**10 28 12.8**	**+0.2**
CHGN	**Chignik**	**10.60**	**56**	Pn	**Pn**	**10 28 27.4**	**-0.3**
OHAK	**Old Harbor**	**13.57**	**56**	Pn	**Pn**	**10 29 04.7**	**-3.5**
Q19K	**Cape Douglas,**	**13.99**	**49**	Pn	**Pn**	**10 29 13.8**	**-0.1**
KDAK	**Kodiak Island**	**14.10**	**54**	Pn	**Pn**	**10 29 12.0**	**-3.4**
	0.3nm,0.3s,baz=214,slow=5.1,SNR=22						
KDAK	**Kodiak Island**	**14.10**	**54**	Pn	**Pn**	**10 29 12.9**	**-2.5**
SVW2	**Sparrevohn**	**14.21**	**39**	Pn	**Pn**	**10 29 17.7**	**+0.8**
P19K	**Oil Pt**	**14.48**	**47**	Pn	**Pn**	**10 29 21.0**	**+0.3**
N19K	**Bonanza Creek**	**14.50**	**42**	Pn	**Pn**	**10 29 20.9**	**0.0**
CNPM	**China Poot**	**15.36**	**49**	Pn	**Pn**	**10 29 31.8**	**-0.5**
BRLK	**Bradley Lake**	**15.62**	**48**	Pn	**Pn**	**10 29 35.5**	**-0.1**
BRLK				IAmb	IAmb	10 29 38.8	
	comp=Z,18nm,1.1s						
K20K	**Telida**	**16.14**	**34**	Pn	**Pn**	**10 29 41.6**	**-0.7**
SUA	**Susitna One**	**16.40**	**43**	Pn	**Pn**	**10 29 45.9**	**+0.3**
SUA				IAmb	IAmb	10 30 31.5	
	comp=Z,56nm,2.0s						
SEW	**Seward**	**16.41**	**48**	Pn	**Pn**	**10 29 42.7**	**-3.0**
O22K	**Cooper Landing**	**16.43**	**47**	Pn	**Pn**	**10 29 44.9**	**-1.0**
O22K				IAmb	IAmb	10 30 34.5	
	comp=Z,38nm,1.2s						
RC01	**Rabbit Creek A**	**16.67**	**45**	Pn	**Pn**	**10 29 48.2**	**-0.7**
RC01				IAmb	IAmb	10 30 16.9	
	comp=Z,28nm,1.5s						
PWL	**Port Wells**	**17.21**	**46**		**Pn**	**10 29 53.8**	**-1.9**
PWL				IAmb	IAmb	10 30 45.8	
	comp=Z,48nm,1.7s						
PETK	**Petropavlovsk-**	**17.22**	**287**	P	**P**	**10 29 56.0**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=96,slow=14,SNR=5.7						
GHO	**Glory Hole Cre**	**17.32**	**43**	P	**Pn**	**10 29 56.6**	**-0.5**
GHO				IAmb	IAmb	10 30 17.1	
	comp=Z,51nm,1.9s						
KNK	**Knik Glacier**	**17.37**	**45**	P	**P**	**10 29 58.3**	**-0.4**
KNK				IAmb	IAmb	10 30 08.7	
	comp=Z,40nm,1.6s						
KTH	**Kantishna Hill**	**17.40**	**36**	P	**P**	**10 29 58.6**	**-0.5**
KTH				IAmb	IAmb	10 30 24.9	
	comp=Z,26nm,1.7s						
SML	**Sawmill**	**17.59**	**43**	P	**Pn**	**10 29 59.6**	**-0.8**
SML				IAmb	IAmb	10 30 02.7	
	comp=Z,21nm,1.4s						
GLI	**Glacier Island**	**17.78**	**47**	P	**Pn**	**10 30 01.5**	**-1.3**
IMAR	**Indian Mountai**	**18.00**	**28**	Pn	**Pn**	**10 30 03.0**	**-2.4**
I21K	**Tanana**	**18.01**	**31**	P	**P**	**10 30 06.3**	**+0.6**
FID	**Port Fidalgo**	**18.02**	**48**	P	**Pn**	**10 30 02.6**	**-3.2**
SCM	**Sheep Creek Mo**	**18.03**	**44**	P	**Pn**	**10 30 05.0**	**-0.9**
SCM				IAmb	IAmb	10 30 20.0	
	comp=Z,65nm,1.8s						
RND	**Reindeer**	**18.11**	**38**	P	**Pn**	**10 30 06.1**	**-0.7**
MLY	**Manley**	**18.32**	**33**	P	**Pn**	**10 30 10.2**	**+0.7**
KLU	**Klutina**	**18.53**	**46**	P	**P**	**10 30 10.8**	**-0.7**
KLU				IAmb	IAmb	10 31 08.3	
	comp=Z,36nm,1.7s						
M24K	**Tolsona, Glenn**	**18.64**	**44**	P	**P**	**10 30 12.9**	**+0.2**
M24K				IAmb	IAmb	10 30 48.8	
	comp=Z,30nm,1.4s						
NEA2	**Nenana**	**18.65**	**35**	P	**P**	**10 30 12.2**	**-0.6**
NEA2				IAmb	IAmb	10 30 38.1	
	comp=Z,20nm,1.8s						
I23K	**Minto, Yukon-K**	**18.87**	**33**	P	**Pn**	**10 30 15.9**	**0.0**
I23K				IAmb	IAmb	10 30 19.1	
	comp=Z,8.7nm,0.9s						
WRH	**Wood River Hil**	**18.95**	**36**	P	**P**	**10 30 14.9**	**-1.1**
WRH				IAmb	IAmb	10 30 26.5	
	comp=Z,22nm,2.0s						
CCB	**Clear Creek Bu**	**19.14**	**36**	P	**P**	**10 30 16.8**	**-1.4**
MDM	**Murphy Dome**	**19.16**	**35**	P	**P**	**10 30 17.9**	**-0.4**
MDM				IAmb	IAmb	10 31 06.1	
	comp=Z,19nm,1.8s						
N25K	**Chitina, Valde**	**19.16**	**46**	P	**P**	**10 30 17.9**	**-0.6**
N25K				IAmb	IAmb	10 31 01.8	
	comp=Z,33nm,1.7s						
PAX	**Paxson**	**19.28**	**42**	P	**P**	**10 30 19.4**	**-0.4**
HDA	**Harding Lake**	**19.34**	**37**	P	**P**	**10 30 20.1**	**-0.2**
HDA				IAmb	IAmb	10 30 35.2	
	comp=Z,44nm,2.0s						
GLB	**Gilahina Butte**	**19.47**	**47**	P	**P**	**10 30 21.9**	**+0.1**
IL31		**19.55**	**36**	P	**P**	**10 30 22.3**	**-0.2**
IL31				IAmb	IAmb	10 30 25.7	
	comp=Z,4.0nm,0.5s						
ILAR	**Eielson Array**	**19.55**	**36**	P	**P**	**10 30 20.4**	**-2.1**
	comp=Z,0.7nm,0.3s,baz=238,slow=9.7,SNR=42						
ILAR	**Eielson Array**	**19.55**	**36**	P	**P**	**10 30 23.0**	**+0.4**
VRDI	**Verde Repeater**	**19.57**	**48**	P	**P**	**10 30 22.2**	**-0.9**
CRQM	**Cirque**	**19.59**	**49**	P	**P**	**10 30 20.3**	**-3.0**
WAX	**Waxell Ridge**	**19.65**	**50**	P	**P**	**10 30 24.4**	**+0.6**
H24K	**Noodor Dome**	**19.77**	**33**	P	**P**	**10 30 25.6**	**+0.6**
RIDG	**Independent Ri**	**19.86**	**40**	P	**P**	**10 30 24.9**	**-1.1**
MENT	**Mentasta**	**20.01**	**43**	P	**P**	**10 30 27.7**	**+0.1**
MENT				IAmb	IAmb	10 30 36.1	
	comp=Z,18nm,1.8s						
DOT	**Dot Lake**	**20.14**	**41**	P	**P**	**10 30 28.4**	**-0.6**
SCRK	**Sand Creek**	**20.30**	**40**	P	**P**	**10 30 29.4**	**-1.5**
SCRK				IAmb	IAmb	10 30 31.6	
	comp=Z,6.3nm,0.6s						
BARN	**Barnard Glacie**	**20.37**	**49**	P	**P**	**10 30 31.1**	**-0.7**
PRP	**Porcupine Dome**	**20.42**	**35**	P	**P**	**10 30 30.9**	**-1.3**
TABL	**Table Mountain**	**20.48**	**51**	P	**P**	**10 30 32.5**	**-0.4**
CTGM	**Chitina Glacie**	**20.50**	**49**	P	**P**	**10 30 32.6**	**-0.5**
TOLK	**Toolik Lake Re**	**21.02**	**25**	P	**P**	**10 30 39.0**	**+0.4**
TOLK				IAmb	IAmb	10 31 02.6	
	comp=Z,8.2nm,0.9s						
K27K	**Chicken**	**21.10**	**41**	P	**P**	**10 30 39.1**	**-0.2**
EGAK	**Eagle**	**21.75**	**39**	P	**P**	**10 30 46.0**	**-0.3**
EGAK				IAmb	IAmb	10 30 47.9	
	comp=Z,12nm,0.7s						
DAWY	**Dawson**	**22.22**	**42**	P	**P**	**10 30 51.7**	**+0.3**
EPYK	**Eagle Plains**	**24.05**	**37**	P	**P**	**10 31 07.0**	**-2.8**
EPYK				IAmb	IAmb	10 31 28.4	
	comp=Z,24nm,1.8s						
INK	**Inuvik**	**25.88**	**34**	P	**P**	**10 31 26.2**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=230,slow=2.3,SNR=4.3						
KLR	**Kul'dur**	**33.90**	**288**	P	**P**	**10 32 37.2**	**-0.3**
	baz=83,slow=18						
USRK	**Ussuriysk Ar.**	**36.10**	**280**	P	**P**	**10 32 56.8**	**+0.3**
	comp=Z,2.1nm,0.6s,baz=50,slow=8.1,SNR=12						
EDM	**Edmonton**	**36.33**	**62**	P	**P**	**10 32 59.6**	**+1.1**
MJAR	**Matsushiro Arr**	**36.60**	**265**	P	**P**	**10 33 02.2**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=41,slow=6.4,SNR=2.3						
PDAR	**Pinedale Array**	**43.60**	**75**	P	**P**	**10 34 00.5**	**+1.5**
	comp=Z,0.7nm,0.8s,baz=291,slow=5.9,SNR=4.6						
HHC	**Hu-ho-hao-te**	**50.41**	**289**	*e*P	**P**	**10 34 50.4**	**-1.6**
HHC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,110nm,5.3s						
TXAR	**Lajitas Array**	**55.84**	**84**	P	**P**	**10 35 32.5**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=283,slow=4.5,SNR=2.2						
ARCES	**ARCESS Array B**	**58.57**	**352**	P	**P**	**10 35 49.9**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=27,slow=8.1,SNR=5.8						
ARCES				PcP	**PcP**	**10 36 41.0**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=32,slow=4.7,SNR=3.8						
KURBB	**Kurchatov Arra**	**61.16**	**316**	P	**P**	**10 36 09.1**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=45,slow=6.7,SNR=5.7						
WMQ	**Urumqi**	**61.71**	**306**	*e*P	**P**	**10 36 14.0**	**+1.3**
MKAR	**Makanchi Array**	**62.24**	**311**	P	**P**	**10 36 14.5**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=50,slow=6.5,SNR=8.7						

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*IDC **05** 10:35:02.3±2.8, 35°.80N×140°.92E, h38^{km}±24^{km}, mb3.7/8, mb1 3.9/12, mb1mx3.6/56, mbtmp4.0/12, ML3.6/3, MS2.9/3, Ms1 2.9/3, ms1mx2.6/53, Error ellipse: s-maj=29.4km s-min=14.8km az=79.0*

*JMA **05** 10:35:02.5±0.2, 35°.88N×140°.89E, h39^{km}±2^{km}, M3.6*

JMA Felt I J1.

*NIED **05** 10:35:02.5, 35°.88N×140°.89E, h39^{km}, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.79; $M_{\theta\theta}$0.12; $M_{\phi\phi}$-0.91; $M_{r\theta}$-0.31; $M_{\theta\phi}$-0.44; $M_{\phi r}$0.98; Fault plane solution: $M_0$1.41000×10^{15} NP1: ϕ_s353.00000°, δ71.00000°, λ66.00000°. NP2: ϕ_s227.00000°, δ31.00000°, λ140.00000°.*

ISC 05 10:35:02.2±1.8**, 35°.88N**±0°.05×**140°.9E**±0°.1**, h32**^{km}±12^{km}**, n29,** σ1^{s}**41**/26**, mb4.1**/8**, 4C-3D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.17**	**189**	⇑P	**Pn**	**10 35 09.2**	**+0.6**
CHOJ				*e*S	**Sn**	**10 35 14.5**	**+1.9**
JIHU	**Itakohorinouch**	**0.31**	**287**	⇓P	**Pn**	**10 35 11.2**	**+0.7**
JSMT	**Sammumatsuo**	**0.43**	**237**	⇓P	**Pn**	**10 35 12.8**	**+0.7**
JYT	**Yasato**	**0.67**	**302**	⇓P	**Pb**	**10 35 15.1**	**-0.3**
JYT				S	**Sb**	**10 35 23.7**	**-0.7**
JCN	**Nagara**	**0.72**	**231**	⇑P	**Pb**	**10 35 17.5**	**+1.2**
JHO	**Hitachi**	**0.78**	**341**	⇑P	**Pn**	**10 35 17.1**	**+0.1**
BSO4	**Boso 4**	**0.99**	**207**	P	**Pb**	**10 35 20.9**	**+0.1**
BSO3	**Boso 3**	**1.12**	**196**	⇑P	**Pn**	**10 35 21.7**	**+0.4**
MJAR	**Matsushiro Arr**	**2.27**	**288**	Pn	**Pn**	**10 35 38.3**	**+0.8**
	2.4nm,0.3s,baz=157,slow=9.5,SNR=109						
MJAR				LR	LR	10 36 38.8	
	comp=Z,252nm,19.3s,baz=110,slow=42						
MAT	**Matsushiro**	**2.27**	**288**	P	**Pn**	**10 35 39.1**	**+1.6**
MAT				S	**Sb**	**10 36 07.5**	**-2.7**
JHJ	**Hachijo jima 2**	**2.90**	**199**	Pn	**Pn**	**10 35 45.8**	**-0.3**
	25nm,0.3s,baz=306,slow=22,SNR=28						
JHJ				Sn	**Sn**	**10 36 19.9**	**0.0**
	51nm,0.3s,baz=160,slow=18,SNR=11						
ASAJ	**Asahikawa**	**8.33**	**9**	Pn	**Pn**	**10 36 59.9**	**-0.8**
	2.0nm,0.3s,baz=228,slow=16,SNR=16						
JCJ	**Chichijima**	**8.82**	**172**	Pn	**Pn**	**10 37 04.5**	**-3.0**
	26nm,0.3s,baz=288,slow=23,SNR=28						
JCJ				Sn	Sn	10 38 35.5	-10
	7.5nm,0.3s,baz=284,slow=19,SNR=2.4						
JCJ				LR	LR	10 40 25.8	
	comp=Z,83nm,19.9s,baz=356,slow=37						
KSRS	**Korea Array**	**10.54**	**282**	LR	LR	10 40 51.5	
	comp=Z,60nm,19.4s,baz=102,slow=33						
USRK	**Ussuriysk Ar.**	**10.75**	**323**	Pn	**Pn**	**10 37 37.1**	**+3.3**
	baz=118,slow=12,SNR=6.3						
H11N2	**WAKE ISLAND Hy**	**27.95**	**118**	T	T	11 09 46.8	
	baz=311,slow=75,SNR=22						
H11N1	**WAKE ISLAND Hy**	**27.95**	**118**	T	T	11 09 50.3	
	baz=311,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**27.96**	**118**	T	T	11 09 53.3	
	baz=311,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**28.61**	**120**	T	T	11 10 44.5	
	baz=313,slow=75,SNR=41						
H11S3	**WAKE ISLAND Hy**	**28.61**	**120**	T	T	11 10 47.0	
	baz=313,slow=75,SNR=29						
H11S2	**WAKE ISLAND Hy**	**28.63**	**120**	T	T	11 10 47.9	
	baz=313,slow=75,SNR=22						
ZALV	**Zalesovo Beam**	**42.39**	**313**	P	**P**	**10 42 52.6**	**-0.7**
	1.3nm,0.4s,baz=75,slow=17,SNR=4.0						
MKAR	**Makanchi Array**	**44.39**	**303**	P	**P**	**10 43 09.4**	**-0.2**
	2.0nm,0.6s,baz=89,slow=10,SNR=22						
KURBB	**Kurchatov Arra**	**46.39**	**309**	P	**P**	**10 43 24.9**	**-0.5**
	2.2nm,0.5s,baz=82,slow=7.4,SNR=18						
ILAR	**Eielson Array**	**50.70**	**32**	P	**P**	**10 43 59.2**	**+0.9**
	0.6nm,0.7s,baz=276,slow=5.8,SNR=4.1						
WRA	**Warramunga Arr**	**55.86**	**187**	P	**P**	**10 44 35.1**	**-1.6**
	1.4nm,0.4s,baz=2.2,slow=7.4,SNR=38						
ASAR	**Alice Springs**	**59.59**	**187**	P	**P**	**10 45 01.8**	**-1.1**
	0.6nm,0.7s,baz=15,slow=8.8,SNR=7.8						
FINES	**FINESS Array B**	**69.64**	**332**	P	**P**	**10 46 07.7**	**-0.4**
	0.8nm,0.7s,baz=39,slow=9.0,SNR=1.1						
AKASG	**Malin Array Be**	**74.95**	**322**	P	**P**	**10 46 39.6**	**-0.3**
	1.3nm,0.6s,baz=45,slow=6.6,SNR=4.8						

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*IDC **05** 10:36:39.5±0.8, 51°.54N×174°.30W, h0^{km}, mb3.9/20, mb1 4.1/22, mb1mx4.0/52, mbtmp3.9/22, ML3.7/2, MS3.7/4, Ms1 3.6/4, ms1mx3.0/44, Error ellipse: s-maj=27.6km s-min=13.5km az=165.0*

*NEIC **05** 10:36:40.6±2.8, 51°.31N±0°.06×174°.19W±0°.07, h12^{km}±5^{km}, Error ellipse: s-maj=9.5km s-min=5.8km az=164.0*

*AEIC **05** 10:36:41±2.3, 51°.18N±0°.06×174°.16W±0°.07, h26^{km}±5^{km}, ML3.7/30, mb4.3/31(NEIC), Error ellipse: s-maj=9.2km s-min=6.0km az=167.0*

ISC 05 10:36:43.7±0.5**, 51°.28N**±0°.08×**174°.21W**±0°.04**, h35**^{km}**, n135,** σ1^{s}**31**/133**, mb4.0**/25**, MS4.1**/3**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.92**	**1**		**Pn**	**10 36 59.0**	**-1.1**
ATKA				Sn	**Sn**	**10 37 11.5**	**-0.6**
KOFP	**Korovin Flat P**	**1.00**	**4**		**Pn**	**10 37 00.7**	**-0.5**
KOKL	**Mount Kliuchef**	**1.04**	**0**		**Pn**	**10 37 01.4**	**-0.5**
KOKL					**Sn**	**10 37 17.5**	**+2.2**
KOSE	**Korovin Southe**	**1.07**	**5**		**Pn**	**10 37 02.1**	**-0.1**
KOWE	**Korovin West**	**1.09**	**359**		**Pn**	**10 37 02.2**	**-0.2**
GSIG	**Igitkin Island**	**1.28**	**304**		**Pn**	**10 37 03.7**	**-1.4**
GSMY	**Great Sitkin M**	**1.38**	**304**		**Pn**	**10 37 05.2**	**-1.2**
GSTR	**Great Sitkin T**	**1.41**	**306**	Pn	**Pn**	**10 37 05.7**	**-1.1**
GSTD	**Great Sitkin T**	**1.43**	**304**		**Sn**	**10 37 26.0**	**+1.1**
ADK	**Adak**	**1.66**	**292**	Pn	**Pn**	**10 37 09.1**	**-1.1**
KIWB	**Kanaga Island**	**1.92**	**289**	Pn	**Pn**	**10 37 13.4**	**-0.4**
KIKV	**Kanaga Island**	**1.94**	**289**		**Pn**	**10 37 13.9**	**-0.2**
KIMD	**Kanaga Island**	**1.95**	**286**		**Pn**	**10 37 13.6**	**-0.6**
KICM	**Kanaga Island**	**1.97**	**290**		**Pn**	**10 37 14.2**	**-0.2**
TAFP	**Tanaga Falls P**	**2.43**	**286**		**Pn**	**10 37 21.1**	**+0.2**
TAFP					**Sn**	**10 37 50.2**	**+0.8**
TASE	**Tanaga Southea**	**2.45**	**285**		**Pn**	**10 37 21.5**	**+0.4**
GAEA	**Gareloi East**	**2.88**	**282**		**Pn**	**10 37 27.2**	**+0.2**
GALAA	**Gareloi Lava P**	**2.89**	**281**		**Pn**	**10 37 27.6**	**+0.4**
NIKH	**Nikolski High**	**3.71**	**61**	Pn	**Pn**	**10 37 38.6**	**+0.2**
NIKH	**Nikolski High**	**3.71**	**61**		**Sn**	**10 38 20.6**	**-0.2**
NIKH	**Nikolski High**	**3.71**	**61**	P	**Pn**	**10 37 39.4**	**+1.0**
	baz=243						
AMKA	**Amchitka**	**4.07**	**274**	Pn	**Pn**	**10 37 42.3**	**-1.0**
LSPA	**Little Sitkin**	**4.55**	**281**		**Pn**	**10 37 50.8**	**+0.9**
MAPS	**Pakushin South**	**5.11**	**57**		**Pn**	**10 37 58.4**	**+0.8**
MSW	**Makushin Switc**	**5.24**	**57**		**Pn**	**10 37 59.9**	**+0.4**
MNAT	**Makushin Natee**	**5.28**	**57**		**Pn**	**10 38 01.1**	**+1.1**
UNV	**Unalaska Valle**	**5.36**	**58**		**Pn**	**10 37 59.3**	**-1.7**
UNV	**Unalaska Valle**	**5.36**	**58**	P	**Pn**	**10 38 03.4**	**+2.4**
	baz=243						
SPIA	**Saint Paul Isl**	**6.35**	**20**	P	**Pn**	**10 38 17.7**	**+3.1**
	baz=202						
SDPT	**Sand Point**	**9.17**	**58**	Pn	**Pn**	**10 38 53.5**	**+0.2**
CHGN	**Chignik**	**10.60**	**56**	Pn	**Pn**	**10 39 11.7**	**-1.2**
OHAK	**Old Harbor**	**13.57**	**56**	Pn	**Pn**	**10 39 51.2**	**-2.2**
KDAK	**Kodiak Island**	**14.11**	**54**	Pn	**Pn**	**10 39 57.7**	**-3.0**
	0.2nm,0.3s,baz=247,slow=2.6,SNR=16						
KDAK				LR	LR	10 45 15.2	
	comp=Z,105nm,19.1s,baz=252,slow=37						
KDAK	**Kodiak Island**	**14.11**	**54**	Pn	**Pn**	**10 39 58.9**	**-1.8**
KDAK	**Kodiak Island**	**14.11**	**54**	P	**P**	**10 40 08.5**	**+0.6**
	baz=251						
O20K	**Slope Mountain**	**14.96**	**46**	P	**P**	**10 40 17.7**	**+0.2**
	baz=243						
L19K	**White Mountain**	**15.16**	**36**	P	**P**	**10 40 21.2**	**+1.6**
	baz=232,SNR=5.8						
M19K	**Big River Lodg**	**15.17**	**38**	P	**P**	**10 40 20.5**	**+0.8**
	baz=234						
CNPM	**China Poot**	**15.37**	**49**	Pn	**Pn**	**10 40 17.7**	**0.0**
M20K	**Styx River**	**15.65**	**39**	Pn	**Pn**	**10 40 20.5**	**-0.8**
M20K	**Styx River**	**15.65**	**39**	P	**P**	**10 40 25.0**	**-0.1**
	baz=236						
BRSE	**Bradley Lake S**	**15.69**	**48**	P	**P**	**10 40 23.7**	**-1.8**
	baz=247						
L20K	**Farewell, AK**	**15.70**	**37**	P	**P**	**10 40 26.0**	**+0.4**
	baz=233						
K20K	**Telida**	**16.17**	**34**	P	**P**	**10 40 30.8**	**0.0**
	baz=231						
SKT	**Skwentna**	**16.34**	**40**	P	**P**	**10 40 33.1**	**+0.3**
	baz=239						
SUA	**Susitna One**	**16.42**	**43**	Pn	**Pn**	**10 40 28.9**	**-2.3**
SEW	**Seward**	**16.43**	**48**	Pn	**Pn**	**10 40 28.9**	**-2.2**
SEW				IAmb	IAmb	10 41 25.2	
	comp=Z,30nm,1.3s						
SEW	**Seward**	**16.43**	**48**	P	**Pn**	**10 40 29.1**	**-2.0**
	baz=248						
RC01	**Rabbit Creek A**	**16.69**	**45**		**Pn**	**10 40 33.9**	**-0.6**
RC01				IAmb	IAmb	10 41 07.1	
	comp=Z,39nm,1.8s						
PWL	**Port Wells**	**17.22**	**46**	P	**Pn**	**10 40 38.2**	**-3.0**
PWL				IAmb	IAmb	10 40 45.8	
	comp=Z,56nm,1.7s						
PETK	**Petropavlovsk-**	**17.27**	**287**	P	**Pn**	**10 40 39.9**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=92,slow=13,SNR=9.9						
KNK	**Knik Glacier**	**17.39**	**44**	P	**Pn**	**10 40 42.4**	**-0.9**
KNK				IAmb	IAmb	10 40 59.7	
	comp=Z,66nm,1.9s						
SML	**Sawmill**	**17.61**	**43**	P	**Pn**	**10 40 44.9**	**-1.0**
SML				IAmb	IAmb	10 40 46.7	
	comp=Z,23nm,1.4s						
GLI	**Glacier Island**	**17.79**	**47**	P	**Pn**	**10 40 47.0**	**-1.2**
GLI				IAmb	IAmb	10 41 06.8	
	comp=Z,23nm,1.4s						
HIN	**Hinchinbrook I**	**17.91**	**49**	P	**Pn**	**10 40 48.4**	**-1.3**
FID	**Port Fidalgo**	**18.04**	**48**	P	**Pn**	**10 40 48.8**	**-2.4**
I21K	**Tanana**	**18.04**	**31**	P	**P**	**10 40 52.6**	**+1.2**
	baz=230						
SCM	**Sheep Creek Mo**	**18.05**	**44**	P	**Pn**	**10 40 49.3**	**-2.1**
MCK	**McKinley**	**18.27**	**37**	P	**P**	**10 40 53.1**	**-0.9**
	baz=238						
KLU	**Klutina**	**18.54**	**46**	P	**P**	**10 40 56.4**	**-0.7**
KLU				IAmb	IAmb	10 41 03.4	
	comp=Z,64nm,2.0s						
M24K	**Tolsona, Glenn**	**18.66**	**44**	P	**Pn**	**10 40 58.7**	**-0.1**
	baz=247						
I23K	**Minto, Yukon-K**	**18.90**	**33**	P	**Pn**	**10 41 01.1**	**-0.4**
	baz=234,SNR=15						
WRH	**Wood River Hil**	**18.97**	**36**	P	**P**	**10 40 59.8**	**-1.8**
WRH				IAmb	IAmb	10 41 31.4	
	comp=Z,23nm,1.8s						
CCB	**Clear Creek Bu**	**19.17**	**36**	P	**P**	**10 41 02.1**	**-1.7**
N25K	**Chitina, Valde**	**19.18**	**46**	P	**P**	**10 41 03.5**	**-0.5**
N25K				IAmb	IAmb	10 41 29.1	
	comp=Z,37nm,1.9s						
H23K	**Yukon River**	**19.24**	**31**	P	**Pn**	**10 41 08.0**	**+2.3**
	baz=232						
PAX	**Paxson**	**19.30**	**42**	P	**P**	**10 41 04.4**	**-1.0**
PAX	**Paxson**	**19.30**	**42**	P	**Pn**	**10 41 05.8**	**-0.8**
	baz=246						
HDA	**Harding Lake**	**19.37**	**37**	P	**P**	**10 41 04.5**	**-1.5**
HDA				IAmb	IAmb	10 41 07.4	

	comp=Z,13nm,1.1s						
HDA	**Harding Lake**	**19.37**	**37**	P	**P**	**10 41 05.7**	**-0.3**
	baz=240,SNR=7.9						
IL31		**19.57**	**36**	P	**P**	**10 41 07.0**	**-1.1**
ILAR	**Eielson Array**	**19.57**	**36**	P	**P**	**10 41 06.0**	**-2.3**
	comp=Z,1.0nm,0.3s,baz=231,slow=8.6,SNR=42						
H24K	**Noodor Dome**	**19.80**	**33**	P	**P**	**10 41 10.9**	**+0.2**
	baz=235,SNR=9.0						
RIDG	**Independent Ri**	**19.88**	**40**	P	**P**	**10 41 10.7**	**-0.9**
RIDG				IAmb	IAmb	10 41 47.1	
	comp=Z,23nm,1.6s						
RIDG	**Independent Ri**	**19.88**	**40**	P	**P**	**10 41 11.4**	**-0.2**
	baz=245						
COLD	**Coldfoot**	**19.93**	**28**	P	**Pn**	**10 41 12.6**	**-1.3**
	baz=228						
J25K	**Salcha River,**	**20.07**	**37**	P	**P**	**10 41 12.4**	**-1.2**
	baz=242,SNR=23						
M26K	**Nabesna, AK**	**20.15**	**44**	P	Pn	10 41 15.5	-1.1
	baz=251,SNR=6.3						
L26K	**Log Cabin Wild**	**20.22**	**43**	P	Pn	10 41 17.0	-0.4
	baz=248						
SCRK	**Sand Creek**	**20.32**	**40**	P	**P**	**10 41 14.8**	**-1.7**
SCRK				IAmb	IAmb	10 41 16.6	
	comp=Z,21nm,1.3s						
SCRK	**Sand Creek**	**20.32**	**40**	P	**P**	**10 41 15.2**	**-1.3**
	baz=245,SNR=18						
PRP	**Porcupine Dome**	**20.45**	**35**	P	**P**	**10 41 15.8**	**-2.1**
PRP				IAmb	IAmb	10 41 59.5	
	comp=Z,25nm,2.0s						
PRP	**Porcupine Dome**	**20.45**	**35**	P	**P**	**10 41 17.4**	**-0.5**
	baz=239						
M27K	**Edge Creek, AK**	**20.63**	**45**	P	Pn	10 41 21.5	-0.9
	baz=252						
J26K	**Charley River,**	**20.65**	**38**	P	**P**	**10 41 18.8**	**-1.2**
	baz=244,SNR=22						
TOLK	**Toolik Lake Re**	**21.06**	**25**	P	**P**	**10 41 24.6**	**+0.3**
	baz=226						
BVCY	**Beaver Creek**	**21.10**	**45**	P	**P**	**10 41 27.4**	**+2.5**
	baz=253						
K27K	**Chicken**	**21.12**	**41**	P	**P**	**10 41 24.8**	**-0.2**
K27K	**Chicken**	**21.12**	**41**	P	**P**	**10 41 24.8**	**-0.1**
	baz=248						
EGAK	**Eagle**	**21.77**	**39**	P	**P**	**10 41 31.0**	**-0.9**
EGAK	**Eagle**	**21.77**	**39**	P	**P**	**10 41 31.9**	**-0.1**
	baz=247,SNR=24						
DAWY	**Dawson**	**22.24**	**42**	P	**P**	**10 41 35.3**	**-1.8**
DAWY				IAmb	IAmb	10 42 13.8	
	comp=Z,22nm,1.8s						
DAWY	**Dawson**	**22.24**	**42**	P	**P**	**10 41 38.0**	**+0.9**
	baz=251						
HYT	**Haines Junctio**	**22.32**	**50**	P	**P**	**10 41 36.5**	**-1.6**
HYT				IAmb	IAmb	10 42 33.0	
	comp=Z,15nm,1.4s						
EPYK	**Eagle Plains**	**24.07**	**37**	P	**P**	**10 41 54.4**	**-0.9**
EPYK				IAmb	IAmb	10 42 01.1	
	comp=Z,19nm,1.5s						
INK	**Inuvik**	**25.91**	**34**	P	**P**	**10 42 11.8**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=221,slow=6.7,SNR=5.5						
INK	**Inuvik**	**25.91**	**34**	P	**P**	**10 42 10.9**	**-1.0**
INK				IAmb	IAmb	10 42 29.2	
	comp=Z,11nm,1.3s						
DLBC	**Dease Lake**	**26.01**	**57**	P	**P**	**10 42 14.8**	**+1.7**
	comp=Z,2.8nm,0.8s,baz=286,slow=5.9,SNR=4.9						
YKA	**Yellowknife Ar**	**33.20**	**47**	LR	LR	10 58 23.2	
	comp=Z,66nm,19.2s,baz=0.0,slow=39						
KLR	**Kul'dur**	**33.96**	**288**	P	**P**	**10 43 22.9**	**-0.5**
	comp=Z,2.9nm,0.5s,baz=72,slow=7.4,SNR=18						
H11S1	**WAKE ISLAND Hy**	**36.03**	**212**	T	T	11 23 03.3	
	baz=20,slow=75,SNR=5.9						
H11S2	**WAKE ISLAND Hy**	**36.04**	**212**	T	T	11 23 03.3	
	baz=20,slow=75,SNR=5.2						
H11S3	**WAKE ISLAND Hy**	**36.04**	**212**	T	T	11 23 03.5	
	baz=20,slow=75,SNR=3.3						
USA0B	**Ussuriysk Arra**	**36.15**	**280**	P	**P**	**10 43 42.3**	**0.0**
USRK	**Ussuriysk Ar.**	**36.15**	**280**	P	**P**	**10 43 42.6**	**+0.3**
	comp=Z,3.9nm,0.6s,baz=58,slow=7.1,SNR=17						
EDM	**Edmonton**	**36.33**	**62**	P	**P**	**10 43 45.3**	**+1.5**
MJAR	**Matsushiro Arr**	**36.63**	**265**	P	**P**	**10 43 47.9**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=42,slow=7.1,SNR=4.3						
KSRS	**Korea Array**	**42.52**	**274**	P	**P**	**10 44 37.6**	**+2.2**
	comp=Z,1.1nm,0.8s,baz=56,slow=8.1,SNR=2.7						
PDAR	**Pinedale Array**	**43.58**	**75**	P	**P**	**10 44 45.4**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=297,slow=4.2,SNR=6.1						
PDAR	**Pinedale Array**	**43.58**	**75**	P	**P**	**10 44 41.8**	**-2.5**
ULM	**Lac du Bonnet**	**47.30**	**59**	P	**P**	**10 45 13.7**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=319,slow=9.3,SNR=2.0						
ULM	**Lac du Bonnet**	**47.30**	**59**	P	**P**	**10 45 12.1**	**-1.2**
SONM	**Songino Array**	**49.24**	**299**	P	**P**	**10 45 28.3**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=52,slow=10,SNR=5.5						
HHC	**Hu-ho-hao-te**	**50.47**	**289**	*e*P	**P**	**10 45 38.6**	**+0.7**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,96nm,5.5s						
TXAR	**Lajitas Array**	**55.81**	**84**	P	**P**	**10 46 18.2**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=287,slow=6.5,SNR=2.3						
ARCES	**ARCESS Array B**	**58.63**	**352**	P	**P**	**10 46 35.0**	**-1.6**
	comp=Z,2.4nm,0.7s,baz=22,slow=7.8,SNR=9.9						
ARCES				PcP	**PcP**	**10 47 26.6**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=31,slow=5.0,SNR=4.7						
WMQ	**Urumqi**	**61.78**	**306**	*e*P	**P**	**10 47 00.3**	**+1.7**
MKAR	**Makanchi Array**	**62.31**	**311**	P	**P**	**10 47 00.8**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=48,slow=5.8,SNR=14						
NOA	**NORSAR Array B**	**67.95**	**357**	P	**P**	**10 47 37.8**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=23,slow=10,SNR=3.6						
KSH	**Kashi**	**70.82**	**310**	P	**P**	**10 48 00.8**	**+4.2**
KSH				pP	pwP	10 48 10.8	-1.3
KSH				pmax	pmax		
	comp=Z,6.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**73.88**	**279**	P	**P**	**10 48 17.4**	**+2.4**
	comp=Z,0.7nm,0.7s,baz=30,slow=7.5,SNR=4.3						
CMAR	**Chiang Mai Arr**	**73.88**	**279**	P	**P**	**10 48 13.5**	**-1.5**
AKASG	**Malin Array Be**	**76.46**	**345**	P	**P**	**10 48 28.3**	**-1.1**
	comp=Z,1.3nm,0.6s,baz=13,slow=5.0,SNR=3.2						
CLL	**Collm**	**77.61**	**355**	*e*P	**P**	**10 48 35.0**	**-0.8**
DPC	**Dobruska-Polom**	**78.35**	**353**	*e*P	**P**	**10 48 40.2**	**+0.2**
KHC	**Kasperske Hory**	**79.75**	**355**	*e*P	**P**	**10 48 48.0**	**+0.4**
GERES	**GERESS Array B**	**80.02**	**355**	P	**P**	**10 48 49.3**	**0.0**
	comp=Z,0.9nm,0.8s,baz=17,slow=7.0,SNR=4.9						
GERES				LR	LR	11 26 37.0	
	comp=Z,76nm,19.1s,baz=278,slow=38						
WRA	**Warramunga Arr**	**84.01**	**228**	P	**P**	**10 49 10.4**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=41,slow=4.8,SNR=1.5						
BRTR	**Keskin Array B**	**86.15**	**339**	P	**P**	**10 49 20.7**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=31,slow=3.4,SNR=2.7						
BRTR				LR	LR	11 35 07.9	
	comp=Z,72nm,18.3s,baz=302,slow=41						
ASAR	**Alice Springs**	**87.43**	**226**	P	**P**	**10 49 28.1**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=19,slow=4.5,SNR=5.3						
ESDC	**Sonseca Array**	**89.02**	**8**	P	**P**	**10 49 34.1**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=348,slow=4.7,SNR=5.7						
TSUM	**Tsumeb**	**146.66**	**339**	PKPbc	**PKPab**	**10 56 22.4**	**-0.5**
	comp=Z,2.3nm,0.6s,baz=14,slow=8.7,SNR=5.5						
LBTB	**Lobatse**	**149.69**	**322**	PKPbc	**PKiKP**	**10 56 30.3**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=336,slow=6.7,SNR=4.2						
BOSA	**Boshof**	**153.05**	**320**	PKPbc	**PKiKP**	**10 56 37.5**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=51,slow=6.5,SNR=3.8						
BOSA				PKPab	**PKPab**	**10 56 49.5**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=340,slow=2.7,SNR=4.1						
BOSA	**Boshof**	**153.05**	**320**		**PKiKP**	**10 56 37.8**	**+0.3**

*NNC **05** 10:40:36.5±3.3, 40.°94N×70.°46E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=26.6km s-min=14.0km az=36.0*
*KRNET **05** 10:40:36.4±0.1, 41.°11N×70.°22E, mb2.2*
ISC 05 10:40:37.1±2.6**, 41.°04N**±0.°07×**70.°39E**±0.°09**, h2**km±19km**, n7, σ0.s93**/12**, 10C-2D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**0.75**	**49**	⇑*i*P	**Pg**	**10 40 51.7**	**+0.3**
	baz=64						
TRKS				⇑*i*S	**Sb**	**10 41 03.7**	**0.0**
	baz=64						
BTK	**Batken**	**1.03**	**161**	⇓*i*P	**Pn**	**10 40 58.5**	**-0.2**
	baz=56						
BTK				⇓*i*S	**Sn**	**10 41 14.6**	**+0.8**
	baz=56						
KK31	**Karatay Array**	**2.06**	**2**	⇑Pn	**Pb**	**10 41 14.3**	**-1.0**
	2.9nm,0.5s,baz=192,slow=19,SNR=22						
KK31				⇑Sn	**Sb**	**10 41 42.2**	**+0.8**
	2.1nm,0.3s,baz=193,slow=27,SNR=7.8						
MNAS	**Manas**	**2.14**	**47**	⇑*i*P	**Pb**	**10 41 16.6**	**-0.1**
	baz=50						
MNAS				⇑*i*S	**Sg**	**10 41 46.3**	**+0.4**
	baz=50						
AML	**Almayashu**	**2.71**	**65**	⇑*i*P	**Pb**	**10 41 24.7**	**-1.8**
	baz=67						
AML				⇑*i*S	**Sb**	**10 41 59.6**	**-0.7**
	baz=67						
AAK	**Ala-Archa**	**3.46**	**61**	Pg	**Pb**	**10 41 38.8**	**-0.3**
	2.5nm,1.0s						
AAK				Lg	Lg	10 42 27.6	
	1.5nm,0.6s						
TKM2	**Tokmak 2**	**4.31**	**62**	⇑Pg	**Pb**	**10 41 54.6**	**+0.8**
	5.1nm,1.1s						
TKM2				⇑Lg	Lg	10 42 55.1	
	1.8nm,0.6s						

MEX 05 10:49:49.8±1.1**, 19.°23N**×**104.°09W, h22**km±9km**, MD3.7, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
R15V		**0.11**	**119**	*e*P	Pb	10 49 52.9	-1.7
R15V				*e*S	Sb	10 49 56.4	-1.6
COIG	**Colima**	**0.38**	**97**	*e*P	Pb	10 49 55.7	-2.3
COIG				*e*S	Sb	10 50 01.4	-2.1
EZ5V		**0.52**	**61**	*e*P	Pb	10 49 58.8	-1.7
EZ5V				*e*S	Sb	10 50 06.6	-1.2
MMIG	**Aquila**	**1.17**	**143**	*e*P	Pn	10 50 08.9	-1.9
MMIG				*e*S	Sb	10 50 22.4	-3.6

*IDC **05** 10:54:27.1±0.9, 51.°48N×174.°38W, h0km, mb3.9/20, mb1 4.0/22, mb1mx3.9/63, mbtmp3.9/22, ML4.3/1, MS3.4/4, Ms1 3.5/4, ms1mx2.9/50, Error ellipse: s-maj=26.3km s-min=15.3km az=165.0*
*NEIC **05** 10:54:30.7±2.0, 51.°32N±0.°09×174.°29W±0.°09, h30km±8km, Error ellipse: s-maj=13.7km s-min=7.2km az=163.0*
*AEIC **05** 10:54:30±2.2, 51.°30N±0.°09×174.°31W±0.°08, h29km±6km, ML3.7, mb4.2/44(NEIC), Error ellipse: s-maj=13.0km s-min=6.8km az=166.0*
ISC 05 10:54:31.9±0.6**, 51.°33N**±0.°08×**174.°29W**±0.°05**, h38**km**, n122, σ1.s29**/118**, mb4.0**/26**, MS3.4**/4**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.87**	**4**	Pn	**Pn**	**10 54 47.1**	**-0.6**
ATKA				Sn	**Sn**	**10 55 00.1**	**+0.9**
KOFP	**Korovin Flat P**	**0.95**	**7**		**Pn**	**10 54 48.9**	**0.0**
KOKL	**Mount Kliuchef**	**0.99**	**3**		**Pn**	**10 54 49.5**	**+0.1**
KOSE	**Korovin Southe**	**1.02**	**8**		**Pn**	**10 54 50.1**	**+0.3**
KOWE	**Korovin West**	**1.03**	**1**		**Pn**	**10 54 50.1**	**+0.2**
GSIG	**Igitkin Island**	**1.21**	**303**		**Pn**	**10 54 51.8**	**-0.6**
GSMY	**Great Sitkin M**	**1.31**	**304**		**Pn**	**10 54 53.5**	**-0.3**
GSTR	**Great Sitkin T**	**1.34**	**305**	Pn	**Pn**	**10 54 53.8**	**-0.3**
GSTD	**Great Sitkin T**	**1.36**	**303**		**Pn**	**10 54 54.3**	**-0.2**
GSTD					**Sn**	**10 55 13.0**	**+1.6**
ETKA	**Kagalaska Isla**	**1.42**	**293**		**Pn**	**10 54 54.8**	**-0.4**
ADAG	**Mount Adagdak**	**1.58**	**295**		**Pn**	**10 54 57.4**	**0.0**
ADK	**Adak**	**1.59**	**291**	Pn	**Pn**	**10 54 57.1**	**-0.4**
ADK	**Adak**	**1.59**	**291**		**Sn**	**10 55 17.8**	**+0.9**
KIWB	**Kanaga Island**	**1.86**	**287**	Pn	**Pn**	**10 55 01.4**	**+0.2**
KIKV	**Kanaga Island**	**1.88**	**288**		**Pn**	**10 55 01.5**	**0.0**
KICM	**Kanaga Island**	**1.91**	**289**		**Pn**	**10 55 02.2**	**+0.4**
NIKH	**Nikolski High**	**3.73**	**62**	Pn	**Pn**	**10 55 25.8**	**-1.1**
AMKA	**Amchitka**	**4.02**	**273**		**Pn**	**10 55 30.5**	**-0.3**
LSPA	**Little Sitkin**	**4.49**	**281**		**Pn**	**10 55 38.3**	**+1.0**
LSNW	**Little Sitkin**	**4.53**	**281**		**Pn**	**10 55 38.6**	**+0.8**
MAPS	**Pakushin South**	**5.12**	**58**		**Pn**	**10 55 47.3**	**+1.3**
MSW	**Makushin Switc**	**5.25**	**58**		**Pn**	**10 55 49.4**	**+1.6**
MNAT	**Makushin Natee**	**5.29**	**58**		**Pn**	**10 55 49.8**	**+1.5**
UNV	**Unalaska Valle**	**5.37**	**59**	Pn	**Pn**	**10 55 47.4**	**-2.0**
AKUT	**Akutan**	**5.88**	**58**	Pn	**Pn**	**10 55 55.1**	**-1.3**
SPIA	**Saint Paul Isl**	**6.32**	**20**	Pn	**Pn**	**10 56 02.1**	**-0.2**
WECS	**Westdahl Cape**	**6.58**	**57**		**Pn**	**10 56 08.4**	**+2.3**
SMY	**Shemya**	**7.30**	**286**	Pn	**Pn**	**10 56 13.7**	**-2.2**
SDPT	**Sand Point**	**9.19**	**59**	Pn	**Pn**	**10 56 40.7**	**-1.0**
CNBA	**Chernabura Isl**	**9.51**	**63**	Pn	**Pn**	**10 56 46.0**	**-0.1**
CHGN	**Chignik**	**10.61**	**56**	Pn	**Pn**	**10 56 59.7**	**-1.5**
GAMB	**Gambell**	**12.55**	**5**	Pn	**Pn**	**10 57 26.7**	**-1.0**
OHAK	**Old Harbor**	**13.58**	**56**	Pn	**Pn**	**10 57 38.6**	**-3.1**
Q19K	**Cape Douglas,**	**14.00**	**49**	Pn	**Pn**	**10 57 46.6**	**-0.9**
KDAK	**Kodiak Island**	**14.11**	**54**	Pn	**Pn**	**10 57 45.7**	**-3.2**
	0.4nm,0.3s,baz=288,slow=2.7,SNR=14						
KDAK	**Kodiak Island**	**14.11**	**54**		**Pn**	**10 57 46.8**	**-2.2**
SVW2	**Sparrevohn**	**14.22**	**39**	Pn	**Pn**	**10 57 49.4**	**-1.1**
HOM	**Homer**	**15.23**	**48**	Pn	**Pn**	**10 58 05.0**	**+1.0**
CNPM	**China Poot**	**15.37**	**49**	Pn	**Pn**	**10 58 05.5**	**-0.3**
BRLK	**Bradley Lake**	**15.63**	**48**	Pn	**Pn**	**10 58 08.5**	**-0.6**
BRLK				IAmb	IAmb	10 58 59.3	
	comp=Z,58nm,1.7s						
K20K	**Telida**	**16.16**	**34**	Pn	**Pn**	**10 58 14.8**	**-1.0**
SKT	**Skwentna**	**16.34**	**40**	Pn	**Pn**	**10 58 17.1**	**-1.1**
SUA	**Susitna One**	**16.41**	**43**	Pn	**Pn**	**10 58 16.8**	**-2.4**
SUA				IAmb	IAmb	10 58 40.7	
	comp=Z,43nm,2.0s						
SEW	**Seward**	**16.43**	**48**	Pn	**Pn**	**10 58 16.0**	**-3.2**
J20K	**Nowinta River**	**16.66**	**32**	Pn	**Pn**	**10 58 21.1**	**-1.1**
RC01	**Rabbit Creek A**	**16.68**	**45**	Pn	**Pn**	**10 58 20.8**	**-1.7**
RC01				IAmb	IAmb	10 58 23.0	
	comp=Z,58nm,2.0s						
PEA0B	**Petropavlovsk-**	**17.21**	**287**	P	**Pn**	**10 58 25.4**	**-3.8**
PEA0B				IAmb	IAmb	10 59 17.0	
	comp=Z,23nm,1.1s						
PETK	**Petropavlovsk-**	**17.21**	**287**	P	**Pn**	**10 58 25.6**	**-3.7**
	baz=116,slow=13,SNR=2.1						
PWL	**Port Wells**	**17.22**	**46**	P	**Pn**	**10 58 26.3**	**-3.0**
GHO	**Glory Hole Cre**	**17.33**	**43**	P	**Pn**	**10 58 30.2**	**-0.4**
KTH	**Kantishna Hill**	**17.41**	**36**	P	**P**	**10 58 31.5**	**-1.1**
KTH				IAmb	IAmb	10 59 12.6	
	comp=Z,48nm,2.0s						
SML	**Sawmill**	**17.60**	**43**	P	**Pn**	**10 58 33.1**	**-0.9**
SML				IAmb	IAmb	10 59 19.7	
	comp=Z,55nm,1.9s						
BPAW	**Bear Paw Mtn.**	**17.70**	**35**	P	**P**	**10 58 36.1**	**+0.4**
I21K	**Tanana**	**18.02**	**31**	P	**P**	**10 58 40.7**	**+1.5**
SCM	**Sheep Creek Mo**	**18.05**	**44**	P	**Pn**	**10 58 38.0**	**-1.5**
RND	**Reindeer**	**18.12**	**38**	P	**Pn**	**10 58 39.0**	**-1.4**
RND				IAmb	IAmb	10 59 20.3	
	comp=Z,33nm,1.8s						
MLY	**Manley**	**18.34**	**33**	P	**Pn**	**10 58 43.5**	**+0.5**
KLU	**Klutina**	**18.54**	**46**	P	**P**	**10 58 44.4**	**-0.7**
KLU				IAmb	IAmb	10 58 46.5	
	comp=Z,34nm,1.5s						
M24K	**Tolsona, Glenn**	**18.65**	**44**	P	**Pn**	**10 58 46.2**	**-0.6**
NEA2	**Nenana**	**18.67**	**35**	P	**P**	**10 58 45.7**	**-0.6**
I23K	**Minto, Yukon-K**	**18.88**	**33**	P	**Pn**	**10 58 49.0**	**-0.4**
I23K				IAmb	IAmb	10 58 52.6	
	comp=Z,10nm,0.8s						
WRH	**Wood River Hil**	**18.96**	**36**	P	**P**	**10 58 48.0**	**-1.5**
CCB	**Clear Creek Bu**	**19.16**	**36**	P	**P**	**10 58 50.1**	**-1.6**
CCB				IAmb	IAmb	10 58 53.8	
	comp=Z,4.8nm,0.4s						
HDA	**Harding Lake**	**19.36**	**37**	P	**P**	**10 58 52.8**	**-1.0**
HDA				IAmb	IAmb	10 58 55.1	
	comp=Z,7.2nm,0.8s						
GLB	**Gilahina Butte**	**19.48**	**47**	P	**P**	**10 58 54.2**	**-1.1**
IL31		**19.56**	**36**	P	**P**	**10 58 54.3**	**-1.7**
ILAR	**Eielson Array**	**19.56**	**36**	P	**P**	**10 58 53.6**	**-2.4**
	comp=Z,0.9nm,0.3s,baz=234,slow=8.6,SNR=34						
ILAR	**Eielson Array**	**19.56**	**36**	P	**P**	**10 58 55.6**	**-0.5**
H24K	**Noodor Dome**	**19.78**	**33**	P	**Pn**	**10 58 59.0**	**-1.3**
RIDG	**Independent Ri**	**19.87**	**40**	P	**P**	**10 58 58.6**	**-1.0**
RIDG				IAmb	IAmb	10 59 37.8	
	comp=Z,20nm,1.7s						
MENT	**Mentasta**	**20.02**	**43**	P	**P**	**10 59 01.0**	**-0.1**
MENT				IAmb	IAmb	10 59 09.6	
	comp=Z,42nm,2.0s						
M26K	**Nabesna, AK**	**20.15**	**45**	P	Pn	10 59 03.8	-0.9
M26K				IAmb	IAmb	10 59 06.0	
	comp=Z,12nm,1.3s						
DOT	**Dot Lake**	**20.15**	**41**	P	**P**	**10 59 01.7**	**-0.8**
DOT				IAmb	IAmb	10 59 25.6	
	comp=Z,17nm,1.6s						
SCRK	**Sand Creek**	**20.31**	**40**	P	**P**	**10 59 03.1**	**-1.3**
SCRK				IAmb	IAmb	10 59 05.0	
	comp=Z,8.5nm,0.7s						
PRP	**Porcupine Dome**	**20.43**	**35**	P	**P**	**10 59 04.9**	**-0.9**
CTGM	**Chitina Glacie**	**20.51**	**49**	P	**P**	**10 59 06.1**	**-0.6**
L27K	**Beaver Creek,**	**20.87**	**43**	P	**P**	**10 59 10.0**	**-0.4**
L27K				IAmb	IAmb	10 59 59.8	
	comp=Z,12nm,1.8s						
TOLK	**Toolik Lake Re**	**21.03**	**25**		**P**	**10 59 12.3**	**+0.2**
TOLK	**Toolik Lake Re**	**21.03**	**25**	P	**P**	**10 59 12.2**	**+0.1**
TOLK				IAmb	IAmb	10 59 37.0	
	comp=Z,25nm,1.5s						
K27K	**Chicken**	**21.11**	**41**	P	**P**	**10 59 12.8**	**-0.1**
K27K				IAmb	IAmb	10 59 18.1	
	comp=Z,7.5nm,1.1s						
EGAK	**Eagle**	**21.76**	**39**	P	**P**	**10 59 19.0**	**-0.8**
BMAR	**Burnt Mountain**	**21.76**	**31**	P	**P**	**10 59 19.5**	**-0.4**
DAWY	**Dawson**	**22.23**	**42**	P	**P**	**10 59 24.0**	**-1.0**
DAWY				IAmb	IAmb	11 00 02.0	
	comp=Z,12nm,1.6s						
EPYK	**Eagle Plains**	**24.06**	**37**	P	**P**	**10 59 42.3**	**-1.0**
EPYK				IAmb	IAmb	11 00 07.5	
	comp=Z,22nm,1.6s						
INK	**Inuvik**	**25.90**	**34**	P	**P**	**11 00 00.0**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=238,slow=5.9,SNR=5.4						
INK	**Inuvik**	**25.90**	**34**	P	**P**	**10 59 59.8**	**0.0**
INK				IAmb	IAmb	11 00 16.6	
	comp=Z,14nm,1.6s						
DLBC	**Dease Lake**	**26.02**	**57**	P	**P**	**11 00 03.0**	**+1.9**
	comp=Z,2.6nm,0.8s,baz=274,slow=4.6,SNR=4.7						
YKA	**Yellowknife Ar**	**33.20**	**47**	LR	LR	11 16 29.0	
	comp=Z,56nm,18.4s,baz=0.0,slow=40						
KLR	**Kul'dur**	**33.90**	**288**	LR	LR	11 14 12.2	
	comp=Z,37nm,19.9s,baz=125,slow=35						
H11N2	**WAKE ISLAND Hy**	**34.84**	**212**	T	T	11 39 12.2	
	baz=22,slow=76,SNR=7.6						
H11N1	**WAKE ISLAND Hy**	**34.86**	**212**	T	T	11 39 12.5	
	baz=12,slow=76,SNR=4.0						
H11S1	**WAKE ISLAND Hy**	**36.05**	**212**	T	T	11 40 47.0	
	baz=20,slow=76,SNR=27						
H11S2	**WAKE ISLAND Hy**	**36.06**	**212**	T	T	11 40 47.9	
	baz=20,slow=76,SNR=9.5						
H11S3	**WAKE ISLAND Hy**	**36.06**	**212**	T	T	11 40 46.2	
	baz=20,slow=76,SNR=6.6						
USRK	**Ussuriysk Ar.**	**36.10**	**280**	P	**P**	**11 01 29.9**	**+0.1**
	comp=Z,2.7nm,0.6s,baz=51,slow=4.6,SNR=11						
MJAR	**Matsushiro Arr**	**36.59**	**265**	P	**P**	**11 01 35.9**	**+1.8**
	comp=Z,0.8nm,0.8s,baz=40,slow=5.8,SNR=2.9						
PDAR	**Pinedale Array**	**43.61**	**75**	P	**P**	**11 02 33.5**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=305,slow=3.2,SNR=4.6						
SONM	**Songino Array**	**49.17**	**299**	P	**P**	**11 03 16.8**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=52,slow=8.5,SNR=4.8						
HHC	**Hu-ho-hao-te**	**50.40**	**289**	*e*P	**P**	**11 03 25.6**	**+0.2**
HHC				pmax	pmax		
	comp=Z,16nm,1.1s						
HHC				pmax	pmax		
	comp=Z,77nm,5.4s						
TXAR	**Lajitas Array**	**55.85**	**84**	P	**P**	**11 04 06.4**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=305,slow=3.2,SNR=2.7						
ARCES	**ARCESS Array B**	**58.58**	**352**	P	**P**	**11 04 22.6**	**-1.6**
	comp=Z,2.7nm,0.9s,baz=32,slow=8.6,SNR=8.0						
ARCES				PcP	**PcP**	**11 05 14.1**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=10,slow=5.5,SNR=2.3						
ARCES				LR	LR	11 31 45.4	
	comp=Z,33nm,20.4s,baz=190,slow=38						
ARCES	**ARCESS Array B**	**58.58**	**352**	P	**P**	**11 04 22.5**	**-1.6**
KURK	**Kurchatov**	**61.06**	**316**	P	**P**	**11 04 41.0**	**-0.4**
KURBB	**Kurchatov Arra**	**61.17**	**316**	P	**P**	**11 04 41.0**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=43,slow=6.8,SNR=7.5						
WMQ	**Urumqi**	**61.71**	**306**	*e*P	**P**	**11 04 48.7**	**+2.7**
MKAR	**Makanchi Array**	**62.24**	**311**	P	**P**	**11 04 49.0**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=44,slow=6.4,SNR=12						
MKAR	**Makanchi Array**	**62.24**	**311**	P	**P**	**11 04 49.0**	**-0.5**
BVAR	**Borovoye Array**	**62.71**	**322**	P	**P**	**11 04 52.8**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=113,slow=3.4,SNR=7.8						
BVAR				PcP	**PcP**	**11 05 32.3**	**+1.4**
	comp=Z,2.0nm,0.7s,baz=199,slow=4.1,SNR=6.6						
FINES	**FINESS Array B**	**66.40**	**349**	P	**P**	**11 05 15.2**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=345,slow=4.3,SNR=1.6						
FINES				PcP	**PcP**	**11 05 46.2**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=37,slow=3.5,SNR=6.2						
FINES	**FINESS Array B**	**66.40**	**349**	P	**P**	**11 05 15.6**	**-0.8**
NOA	**NORSAR Array B**	**67.89**	**357**	P	**P**	**11 05 25.9**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=4.2,slow=6.3,SNR=1.6						
AKTO	**Aktyubinsk**	**69.31**	**327**	P	**P**	**11 05 35.2**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=50,slow=13,SNR=4.6						
KSH	**Kashi**	**70.75**	**310**	P	P	11 05 48.0	+3.9
KSH				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**73.82**	**279**	P	**P**	**11 06 04.2**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=30,slow=7.3,SNR=2.2						
CMAR				LR	LR	11 41 05.2	
	comp=Z,47nm,19.6s,baz=220,slow=38						
AKASG	**Malin Array Be**	**76.40**	**345**	P	**P**	**11 06 16.1**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=17,slow=6.0,SNR=3.2						
CLL	**Collm**	**77.55**	**355**	*e*P	**P**	**11 06 24.0**	**+0.6**
GERES	**GERESS Array B**	**79.97**	**355**	P	**P**	**11 06 37.5**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=12,slow=6.8,SNR=4.3						
WRA	**Warramunga Arr**	**84.01**	**228**	P	**P**	**11 06 57.9**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=37,slow=5.6,SNR=2.1						
ASAR	**Alice Springs**	**87.43**	**226**	P	**P**	**11 07 14.5**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=17,slow=4.7,SNR=4.8						
ESDC	**Sonseca Array**	**88.98**	**7**	P	**P**	**11 07 22.8**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=350,slow=5.0,SNR=4.5						
LBTB	**Lobatse**	**149.62**	**322**	PKPbc	**PKiKP**	**11 14 18.6**	**+0.2**
	baz=54,slow=2.4						
BOSA	**Boshof**	**152.98**	**320**	PKPbc	**PKiKP**	**11 14 25.5**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=72,slow=6.4,SNR=1.6						

RSNC 05 10:59:39.9±1.2**, 0.°06S**×**73.°97W, h4**km±9km**, ML3.4, Mw3.6, 1D, Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTLC	**Puerto Leguiza**	**0.86**	**286**	⇓*i*P	Pg	10 59 54.6	-1.8
PTLC				*e*S	Sg	11 00 05.7	-1.9
PTLC				*i*		11 00 07.1	
	comp=Z,822nm,0.1s						
MACC	**Macarena, Meta**	**2.20**	**3**	*e*P	Pn	11 00 14.9	-2.3
MACC				*e*S	Sn	11 00 43.5	-1.4
MACC				*i*		11 00 49.3	
	comp=Z,419nm,0.6s						
FLOC	**Florencia**	**2.35**	**314**	*e*P	Pn	11 00 18.1	-1.2
FLOC				*e*Pg	Pb	11 00 20.1	-2.7
FLOC				*e*S	Sn	11 00 48.5	0.0
FLOC				*e*Sg	Sb	11 00 50.2	-2.0
FLOC				*i*		11 00 51.3	
	comp=Z,218nm,0.2s						
GARC	**Garzon, Huila**	**2.71**	**326**	*e*P	Pn	11 00 23.7	-0.7
GARC				*e*S	Sn	11 00 57.3	-0.4
GUVC	**San Jose del G**	**2.92**	**27**	*e*P	Pn	11 00 25.6	-1.6
GUVC				*e*S	Sn	11 01 05.5	+2.9
GUVC				*i*		11 01 19.0	
	comp=Z,178nm,0.2s						
BETC	**Betania**	**3.10**	**332**	*e*P	Pn	11 00 32.5	+2.8
BETC				*e*S	Sb	11 01 12.4	-1.4
BETC				*i*		11 01 19.1	
	comp=Z,120nm,0.6s						
CRUC	**La Cruz**	**3.39**	**299**	*e*P	Pn	11 00 33.8	-0.2
CRUC				*i*		11 01 33.3	
	comp=Z,63nm,0.5s						
PCON	**Cinco Dias**	**3.40**	**314**	*e*P	Pb	11 00 39.6	-1.4
PCON				*e*S	Sb	11 01 21.8	-1.1
PCON				*i*		11 01 32.5	
	comp=Z,58nm,0.3s						
SOTA	**Rioblanco**	**3.42**	**310**	*e*P	Pn	11 00 35.4	+0.8
SOTA				*e*S	Sb	11 01 20.1	-3.5
SOTA				*i*		11 01 27.8	
	comp=Z,52nm,0.6s						
MARP	**Paez Belalcaza**	**3.50**	**325**	*e*P	Pb	11 00 40.0	-2.6
MARP				*e*S	Sb	11 01 22.4	-3.3
POPC	**Popayan, Colom**	**3.74**	**314**	*e*P	Pn	11 00 41.0	+2.3
POPC				*e*S	Sb	11 01 30.7	-1.9
POPC				*i*		11 01 36.7	
	comp=N,38nm,0.3s						
PRAC	**Prado**	**3.86**	**346**	*e*P	Pn	11 00 42.0	+1.9
PRAC				*e*S	Sb	11 01 34.0	-1.8
PRAC				*i*		11 01 38.9	
	comp=Z,61nm,0.7s						
BBAC	**Balboa, Cauca**	**3.88**	**302**	*e*P	Pn	11 00 41.4	+0.9
BBAC				*e*S	Sb	11 01 36.4	0.0
BBAC				*i*		11 01 41.9	
	comp=Z,26nm,0.3s						
ORTC	**Ortega, Tolima**	**4.15**	**342**	*e*P	Pn	11 00 44.4	+0.3
ORTC				*e*S	Sn	11 01 37.6	+4.5
ORTC				*i*		11 01 49.7	
	comp=Z,94nm,0.4s						
VILC	**Villavicencio,**	**4.16**	**4**	*e*P	Pn	11 00 45.8	+1.5
VILC				*e*S	Sb	11 01 44.9	+0.6
OTAV	**Otavalo**	**4.49**	**274**	*e*P	Pn	11 00 49.4	+0.2
OTAV				*e*S	Sn	11 01 43.3	+1.2
PTGC	**Puerto Gaitan,**	**4.61**	**23**	*e*P	Pb	11 00 57.2	-4.2
PTGC				*e*S	Sb	11 01 58.5	+1.1
CHIC	**Chingaza**	**4.67**	**3**	*e*P	Pn	11 00 49.6	-2.0
CHIC				*e*S	Sb	11 01 59.9	+0.6
CHIC				*i*		11 02 08.3	
	comp=Z,48nm,0.5s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOTC	**Yotoco, Valle**	**4.67**	**329**	*e*P	Pn	11 00 52.3	+1.0
YOTC				*e*S	Sb	11 01 57.7	-1.5
YOTC				*i*		11 02 03.0	
	comp=Z,30nm,0.5s						
TOLC	**Tolima**	**4.81**	**344**	*e*P	Pb	11 01 01.8	-3.2
TOLC				*e*S	Sb	11 02 03.2	-0.3
TOLC				*i*		11 02 09.8	
	comp=Z,102nm,0.4s						
PAC1	**Pacto, Paraso**	**4.83**	**274**	*e*P	Pn	11 00 52.5	-1.2
PAC1				*e*S	Sb	11 02 02.5	-1.4
PAC1				*i*		11 02 09.3	
	comp=Z,64nm,0.3s						
ROSC	**El Rosal**	**4.88**	**356**	*e*P	Pb	11 01 04.4	-1.9
ROSC				*e*S	Sb	11 02 08.8	+3.2
ROSC				*i*		11 02 17.4	
	comp=Z,56nm,0.4s						
GUY2C	**Guyana, Caldas**	**5.43**	**345**	*e*P	Pb	11 01 11.9	-3.8
GUY2C				*e*S	Sb	11 02 20.8	-0.6
GUY2C				*i*		11 02 30.1	
	comp=Z,17nm,0.5s						
NORC	**Norcasia**	**5.66**	**351**	*e*S	Sb	11 02 26.6	-1.0
NORC				*i*		11 02 33.3	
	comp=Z,10nm,0.4s						
TBTG	**Tabatinga, AM**	**5.76**	**135**	*e*S	Sg	11 02 39.7	-5.5
RUSC	**La Rusia**	**5.98**	**8**	*e*P	Pn	11 01 07.6	-2.1
RUSC				*e*S	Sb	11 02 41.1	+3.9
RUSC				*i*		11 02 52.9	
	comp=Z,29nm,0.8s						

*NEIC **05** 11:04:37.2±1.3, 51°.28N±0°.06×174°.27W±0°.06, h12km±9km, mb3.6/8, ML3.3/24(AEIC), Error ellipse: s-maj=9.5km s-min=2.9km az=151.0*

AEIC 05 11:04:38±2.7**, 51°.29N**±0°.05×**174°.25W**±0°.09**, h38**km±9km**, Error ellipse: s-maj=9.4km s-min=6.3km az=133.0, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.92**	**2**		Pn	11 04 55.0	+0.6
ATKA					Sn	11 05 08.5	+2.3
KOFP	**Korovin Flat P**	**0.99**	**5**		Pn	11 04 56.6	+1.1
KOKL	**Mount Kliuchef**	**1.04**	**2**		Pn	11 04 57.3	+1.3
KOSE	**Korovin Southe**	**1.06**	**7**		Pn	11 04 57.9	+1.4
GSMY	**Great Sitkin M**	**1.35**	**305**		Pn	11 05 01.2	+0.9
GSTR	**Great Sitkin T**	**1.39**	**306**		Pn	11 05 02.2	+1.4
GSTD	**Great Sitkin T**	**1.41**	**304**		Pn	11 05 02.2	+1.1
GSTD					Sn	11 05 21.6	+3.1
GSSP	**Great Sitkin S**	**1.44**	**305**		Pn	11 05 02.9	+1.3
ADK	**Adak**	**1.63**	**292**		Pn	11 05 05.5	+1.4
ADK					Sn	11 05 26.3	+2.5
KIWB	**Kanaga Island**	**1.90**	**288**		Pn	11 05 09.6	+1.8
KIKV	**Kanaga Island**	**1.92**	**289**		Pn	11 05 09.9	+1.9
KIMD	**Kanaga Island**	**1.92**	**285**		Pn	11 05 09.9	+1.8
KICM	**Kanaga Island**	**1.94**	**290**		Pn	11 05 10.9	+2.5
TAFP	**Tanaga Falls P**	**2.41**	**286**		Pn	11 05 17.4	+2.6
TAFP					Sn	11 05 45.8	+2.8
TASE	**Tanaga Southea**	**2.43**	**285**		Pn	11 05 17.8	+2.7
GAEA	**Gareloi East**	**2.85**	**282**		Pn	11 05 23.4	+2.5
GALAA	**Gareloi Lava P**	**2.86**	**281**		Pn	11 05 24.1	+3.0
NIKH	**Nikolski High**	**3.73**	**61**		Pn	11 05 35.2	+2.3
AMKA	**Amchitka**	**4.04**	**274**		Pn	11 05 38.8	+1.5
MNAT	**Makushin Natee**	**5.29**	**58**		Pn	11 05 58.1	+3.7
UNV	**Unalaska Valle**	**5.37**	**59**		Pn	11 05 59.0	+3.5
AKUT	**Akutan**	**5.89**	**58**	Pn	Pn	11 06 05.2	+2.6
SPIA	**Saint Paul Isl**	**6.35**	**20**	Pn	Pn	11 06 10.9	+2.0
SDPT	**Sand Point**	**9.19**	**58**	Pn	Pn	11 06 49.6	+1.8
CHGN	**Chignik**	**10.62**	**56**	Pn	Pn	11 07 08.9	+1.6
SII	**Sitkinak Islan**	**12.93**	**58**	Pn	Pn	11 07 39.1	+0.1
N18K	**Kilae Creek**	**13.88**	**40**	Pn	Pn	11 07 52.1	+0.2
KDAK	**Kodiak Island**	**14.12**	**54**	Pn	Pn	11 07 55.3	+0.2
SVW2	**Sparrevohn**	**14.24**	**39**	Pn	Pn	11 07 57.0	+0.2
L19K	**White Mountain**	**15.17**	**37**	Pn	Pn	11 08 10.2	+1.0
L19K				IAmb	IAmb	11 08 33.1	
	comp=Z,6.1nm,1.4s						
CNPM	**China Poot**	**15.39**	**49**	Pn	Pn	11 08 13.6	+1.5
K20K	**Telida**	**16.18**	**34**	Pn	P	11 08 24.2	-0.8
K20K				IAmb	IAmb	11 08 28.9	
	comp=Z,3.5nm,1.1s						
SKT	**Skwentna**	**16.35**	**40**	Pn	Pn	11 08 25.3	+0.9
SUA	**Susitna One**	**16.43**	**43**	Pn	Pn	11 08 26.6	+1.1
SUA				IAmb	IAmb	11 08 39.6	
	comp=Z,6.8nm,1.3s						
O22K	**Cooper Landing**	**16.46**	**47**	Pn	Pn	11 08 26.1	+0.4
PPLA	**Purkeypile**	**16.59**	**37**	Pn	P	11 08 29.6	0.0
PPLA				IAmb	IAmb	11 08 56.8	
	comp=Z,8.2nm,1.2s						
J20K	**Nowinta River**	**16.68**	**32**	Pn	P	11 08 30.5	0.0

MAN 05 11:07:57.2, 17°.92N×122°.73E, h45km, mb4.0, ML2.8, MS2.3, Luzon

*JMA **05** 11:11:12.0±0.3, 32°.26N×141°.85E, h2km, M3.6*
*IDC **05** 11:11:12.6±3.3, 31°.74N×141°.24E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.5/34, mbtmp3.7/5, ML3.2/2, Error ellipse: s-maj=121.4km s-min=15.4km az=67.0*

ISC 05 11:11:10.5±1.1**, 32°.05N**±0°.06×**142°.0E**±0°.1**, h10**km**, n14,** σ**1s.75**/19**, mb3.7**/3**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.92**	**283**	P	**Pn**	**11 11 44.0**	**+0.7**
JHJ2	**Mitsune**	**2.11**	**301**	P	**Pn**	**11 11 46.1**	**+0.2**
JHJ	**Hachijo jima 2**	**2.14**	**301**	Pn	**Pn**	**11 11 46.2**	**-0.1**
	13nm,0.3s,baz=99,slow=22,SNR=28						
JHJ				Sn	**Sn**	**11 12 09.7**	**-3.2**
	24nm,0.3s,baz=76,slow=22,SNR=4.5						
JMKN	**Mikurajimanish**	**2.72**	**313**	*e*S	**Sn**	**11 12 25.4**	**-1.9**
BSO1	**Boso 1**	**2.73**	**343**	P	**Pn**	**11 11 54.7**	**+0.7**
JOD2	**Odawara 2**	**4.01**	**324**	P	**Pn**	**11 12 12.5**	**+0.4**
JRY	**Ryogami san**	**4.71**	**328**	P	**Pn**	**11 12 23.3**	**+1.6**
JAG	**Ashikaga**	**4.84**	**335**	P	**Pn**	**11 12 24.4**	**+0.9**
JAG				S	**Sn**	**11 13 18.7**	**-0.9**
JCJ	**Chichijima**	**4.94**	**178**	Pn	**Pn**	**11 12 25.6**	**+0.8**
	6.3nm,0.3s,baz=93,slow=20,SNR=6.4						
JCJ				Sn	**Sn**	**11 13 19.1**	**-2.8**
	7.3nm,0.3s,baz=284,slow=23,SNR=1.6						
MJAR	**Matsushiro Arr**	**5.46**	**326**	Pn	**Pn**	**11 12 33.4**	**+1.4**
	0.1nm,0.3s,baz=155,slow=13,SNR=11						
MJAR				Sn	**Sn**	**11 13 36.1**	**+1.2**
	0.1nm,0.3s,baz=135,slow=11,SNR=4.6						
JFT	**Otama**	**5.62**	**347**	P	**Pn**	**11 12 34.4**	**+0.2**
JFT				S	**Sn**	**11 13 34.9**	**-4.0**
MKAR	**Makanchi Array**	**47.30**	**306**	P	**P**	**11 19 45.3**	**+1.1**
	0.7nm,0.5s,baz=87,slow=9.4,SNR=16						
WRA	**Warramunga Arr**	**52.21**	**189**	P	**P**	**11 20 22.1**	**+0.4**
	0.5nm,0.5s,baz=6.6,slow=7.4,SNR=12						
ASAR	**Alice Springs**	**55.93**	**189**	P	**P**	**11 20 49.8**	**+0.9**
	0.2nm,0.5s,baz=2.4,slow=7.0,SNR=9.1						

*IDC **05** 11:24:08.4±0.8, 21°.96N×120°.34E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/48, mbtmp3.8/8, MS3.1/1, Ms1 3.1/1, ms1mx2.5/35, Error ellipse: s-maj=63.5km s-min=16.6km az=67.0*
*TAP **05** 11:24:11.5, 22°.11N×120°.41E, h47km, ML4.0, D*
*JMA **05** 11:24:12.5±0.1, 22°.04N×120°.51E, h54km±2km, M3.8*
*NIED **05** 11:24:12.6, 22°.04N×120°.51E, h54km, MW3.8, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}-7.00; $M_{\theta\theta}$1.42; $M_{\phi\phi}$5.58; $M_{r\theta}$0.71; $M_{\theta\phi}$-1.65; $M_{\phi r}$-0.90; Fault plane solution: $M_0$6.67000×10^{14} NP1: ϕ_s338.00000°, δ50.00000°, λ-93.00000°. NP2: ϕ_s163.00000°, δ40.00000°, λ-86.00000°.*

ISC 05 11:24:12.0±1.1**, 22°.09N**±0°.03×**120°.34E**±0°.03**, h27**km±8km**, n97,** σ**1s.24**/161**, mb3.7**/8**, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWP	**Hsiaoliuchiu**	**0.26**	**4**	*i* P	**Pn**	**11 24 20.0**	**0.0**
	baz=352						
TWP				*i* S	**Sn**	**11 24 27.1**	**+1.9**
	baz=352						
WLCH	**Liuqiu**	**0.27**	**8**	*i* P	**Pn**	**11 24 20.2**	**0.0**
	baz=354						
WLCH				S	**Sn**	**11 24 26.8**	**+1.5**
	baz=354						
HEN	**Hengchun**	**0.38**	**102**	*i* P	**Pn**	**11 24 20.9**	**-0.7**
	baz=107						
HEN				*i* S	**Sn**	**11 24 27.9**	**-0.2**
	baz=107						
SCZT	**Fangliau**	**0.38**	**42**	*i* P	**Pb**	**11 24 20.6**	**+0.1**
	baz=38						
SCZT				*i* S	**Sb**	**11 24 27.2**	**+1.0**
	baz=38						
SLIU	**Shizi**	**0.44**	**73**	*i* P	**Pb**	**11 24 21.3**	**-0.2**
	baz=73						
SLIU				*i* S	**Sb**	**11 24 28.8**	**+1.0**
	baz=73						
TWK1	**Hengchun**	**0.45**	**108**	*i* P	**Pb**	**11 24 21.9**	**+0.3**
	baz=113						
TWK1				*i* S	**Sn**	**11 24 29.8**	**-0.2**
	baz=113						
TWKBT	**Hengchun**	**0.46**	**108**	*i* P	**Pb**	**11 24 22.0**	**+0.3**
	baz=113						
TWKBT				*i* S	**Sn**	**11 24 29.6**	**-0.6**
	baz=113						
KAU	**Kaohsiung**	**0.48**	**356**	P	**Pn**	**11 24 23.1**	**0.0**
	baz=349						
KAU				*e*S	**Sn**	**11 24 32.0**	**+1.3**
	baz=349						
TSEB	**Hengchuen, Pin**	**0.55**	**110**	*i* P	**Pb**	**11 24 22.7**	**-0.4**
	baz=115						
TSEB				S	**Sn**	**11 24 31.7**	**-0.6**
	baz=115						
EAST	**Anshuo**	**0.56**	**58**	*i* P	**Pb**	**11 24 23.3**	**0.0**
	baz=56						
EAST				S	**Sb**	**11 24 31.3**	**+0.3**
	baz=56						
TAW	**Tawu**	**0.58**	**62**	*i* P	**Pb**	**11 24 23.9**	**+0.2**
	baz=61						
TAW				S	**Sn**	**11 24 32.9**	**-0.2**
	baz=61						
MASBT	**Mashibuluo**	**0.59**	**27**	*i* P	**Pb**	**11 24 23.4**	**-0.4**
	baz=22						
MASBT				*i* S	**Sb**	**11 24 31.6**	**-0.3**
	baz=22						
TSPT	**Pingtung City**	**0.60**	**14**	P	**Pb**	**11 24 24.2**	**+0.1**
	baz=7.0						
TSPT				*e*S	**Sn**	**11 24 33.6**	**-0.1**
	baz=7.0						
SGLT	**Jiouru**	**0.65**	**12**	*i* P	**Pn**	**11 24 25.4**	**0.0**
	baz=8.0						
SGLT				*e*S	**Sn**	**11 24 34.9**	**+0.1**
	baz=8.0						
SNJT	**Kaohsiung City**	**0.66**	**360**	*i* P	**Pb**	**11 24 25.2**	**+0.1**
	baz=354						
SNJT				S	**Sn**	**11 24 34.9**	**-0.3**
	baz=354						
TSMG	**Majia**	**0.68**	**25**	*i* P	**Pb**	**11 24 24.6**	**-0.7**
	baz=20						
TSMG				S	**Sb**	**11 24 33.5**	**-0.9**
	baz=20						
SSD	**Sandimen**	**0.71**	**22**	*i* P	**Pb**	**11 24 25.2**	**-0.6**
	baz=18						
SSD				S	**Sb**	**11 24 35.3**	**+0.1**
	baz=18						
ECL	**Taimali**	**0.76**	**48**	*i* P	**Pb**	**11 24 25.8**	**-0.9**
	baz=46						
ECL				S	**Sn**	**11 24 37.5**	**-0.1**
	baz=46						
SCST	**Cishan**	**0.81**	**10**	P	**Pb**	**11 24 27.1**	**-0.4**
	baz=6.0						
SCST				*e*S	**Sn**	**11 24 38.7**	**0.0**
	baz=6.0						
TWG	**Pinlang**	**1.00**	**43**	P	**Pn**	**11 24 29.9**	**-0.3**
	baz=41						
TWG				*e*S	**Sb**	**11 24 43.0**	**-0.4**
	baz=41						
TTN	**Taitung**	**1.00**	**48**	P	**Pn**	**11 24 29.3**	**-0.9**
	baz=47						
TWGBT	**Beinan**	**1.00**	**43**	P	**Pn**	**11 24 29.9**	**-0.4**
	baz=41						
TWGBT				*e*S	**Sb**	**11 24 42.2**	**-1.3**
	baz=41						
SGST	**Jiashian**	**1.02**	**13**	P	**Pn**	**11 24 29.1**	**-1.4**
	baz=10.0						
SGST				*e*S	**Sb**	**11 24 43.4**	**-0.6**
	baz=10.0						
SCLT	**Jiali**	**1.09**	**353**	P	**Pn**	**11 24 30.7**	**-0.8**
	baz=350						
SCLT				*e*S	**Sb**	**11 24 45.6**	**-0.6**
	baz=350						
LONT	**Longtian**	**1.09**	**42**	P	**Pn**	**11 24 30.9**	**-0.7**
	baz=40						
LONT				*e*S	**Sb**	**11 24 44.0**	**-2.3**
	baz=40						
CHN1	**Nanshi**	**1.11**	**9**	*e*P	**Pn**	**11 24 30.7**	**-1.1**
	baz=6.0						
CHN1				*e*S	**Sb**	**11 24 45.6**	**-1.0**
	baz=6.0						
LAY	**Lan-yu**	**1.12**	**92**	*e*P	**Pn**	**11 24 29.8**	**-2.2**
	baz=93						
LAY				*e*S	**Sn**	**11 24 44.4**	**-2.1**
	baz=93						
SNST	**Tainan City**	**1.14**	**7**	*e*P	**Pn**	**11 24 31.6**	**-0.5**
	baz=4.0						
STYT	**Tauyuan**	**1.14**	**20**	*e*P	**Pn**	**11 24 31.7**	**-0.5**
	baz=17						
STYT				*e*S	**Sn**	**11 24 46.0**	**-1.0**
	baz=17						
STYH	**Taoyuan**	**1.15**	**20**	*e*P	**Pn**	**11 24 32.4**	**0.0**
	baz=17						
WTP	**Ta-pu**	**1.18**	**12**	*e*P	**Pn**	**11 24 31.2**	**-1.6**
	baz=10.0						
WTP				*e*S	**Sn**	**11 24 47.3**	**-0.7**
	baz=10.0						
TWK	**Hsinying**	**1.18**	**7**	*e*P	**Pn**	**11 24 31.8**	**-1.0**
	baz=4.0						
TWK				*e*S	**Sn**	**11 24 47.4**	**-0.6**
	baz=4.0						
LDUT	**Ludao**	**1.20**	**61**	P	**Pn**	**11 24 31.8**	**-1.2**
	baz=60						
LDUT				*e*S	**Sn**	**11 24 46.6**	**-1.7**
	baz=60						
EDH	**Donghe**	**1.25**	**45**	P	**Pn**	**11 24 32.8**	**-0.9**
	baz=43						
EDH				*e*S	**Sn**	**11 24 48.0**	**-1.8**
	baz=43						
ELDTW	**Lidau**	**1.26**	**30**	*e*P	**Pn**	**11 24 32.2**	**-1.8**
	baz=28						
ICHU	**Yijhu**	**1.27**	**357**	*e*P	**Pn**	**11 24 32.8**	**-1.1**
	baz=354						
ICHU				*e*S	**Sn**	**11 24 50.1**	**0.0**
	baz=354						
CHN4	**Tsaushan**	**1.28**	**10**	*e*P	**Pn**	**11 24 30.9**	**-3.2**
	baz=8.0						
CHN4				*e*S	**Sn**	**11 24 49.7**	**-0.7**
	baz=8.0						
WDGT	**Dungji**	**1.33**	**332**	*e*P	**Pn**	**11 24 33.2**	**-1.6**
	baz=329						
WDGT				*e*S	**Sn**	**11 24 49.8**	**-1.7**
	baz=329						
CHKT	**Chengkung**	**1.38**	**43**	*e*P	**Pn**	**11 24 35.6**	**+0.1**
	baz=42						
CHKT				*e*S	**Sn**	**11 24 52.7**	**-0.2**
	baz=42						
VCHM	**Qimei**	**1.40**	**323**	P	**Pn**	**11 24 34.1**	**-1.6**
	baz=320						
VCHM				*e*S	**Sn**	**11 24 51.5**	**-1.8**
	baz=320						
CHY	**Chiayi**	**1.41**	**3**	*e*P	**Pn**	**11 24 35.3**	**-0.5**
	baz=1.0						
FULB	**Fuli**	**1.41**	**38**	*e*P	**Pn**	**11 24 35.3**	**-0.7**
	baz=37						
FULB				*e*S	**Sn**	**11 24 52.4**	**-1.3**
	baz=37						
ALS	**Alishan**	**1.48**	**17**	*e*P	**Pn**	**11 24 36.0**	**-1.2**
	baz=15						
CHN5	**Tsauling**	**1.54**	**12**	*e*P	**Pn**	**11 24 36.5**	**-1.3**
	baz=9.0						
CHN5				*e*S	**Sn**	**11 24 55.9**	**-0.9**
	baz=9.0						
TWF1	**Yuli**	**1.54**	**35**	*e*P	**Pn**	**11 24 37.5**	**-0.2**
	baz=33						
TWF1				*e*S	**Sn**	**11 24 56.3**	**-0.5**
	baz=33						
EYUL	**Yuli**	**1.55**	**36**	*e*P	**Pn**	**11 24 37.7**	**0.0**
	baz=34						
EYUL				*e*S	**Sn**	**11 24 55.7**	**-1.3**
	baz=34						
WSF	**Szhu**	**1.55**	**356**	*e*P	**Pn**	**11 24 36.5**	**-1.3**
	baz=353						
WSF				*e*S	**Sn**	**11 24 56.0**	**-1.0**
	baz=353						
YULB	**Yu-li**	**1.57**	**34**	*e*P	**Pn**	**11 24 37.8**	**-0.4**
	baz=32						
YULB				*e*S	**Sn**	**11 24 56.4**	**-1.2**
	baz=32						
PHUB	**P'eng-hu**	**1.59**	**334**	*i* P	**Pn**	**11 24 36.4**	**-2.0**
	baz=331						
PHUB				S	**Sn**	**11 24 55.2**	**-2.8**
	baz=331						
WTK	**Tuku**	**1.59**	**2**	*e*P	**Pn**	**11 24 36.9**	**-1.6**
	baz=359						
WTK				*e*S	**Sn**	**11 24 56.4**	**-1.8**
	baz=359						
ECBN	**Changbin**	**1.60**	**40**	*e*P	**Pn**	**11 24 37.7**	**-0.7**
	baz=38						
ECBN				*e*S	**Sn**	**11 24 56.9**	**-1.3**
	baz=38						
WGK	**Gukeng**	**1.60**	**7**	*e*S	**Sn**	**11 24 58.0**	**-0.5**
	baz=5.0						
PNG	**Penghu**	**1.64**	**334**	*e*P	**Pn**	**11 24 37.5**	**-1.6**
	baz=331						
PNG				*e*S	**Sn**	**11 24 57.7**	**-1.6**
	baz=331						
EHY	**Hungye**	**1.68**	**32**	*e*P	**Pn**	**11 24 39.0**	**-0.7**
	baz=31						
EHY				*e*S	**Sn**	**11 24 58.9**	**-1.3**
	baz=31						
HGSD	**Ruisui**	**1.72**	**35**	*e*P	**Pn**	**11 24 40.4**	**+0.2**
	baz=34						
HGSD				*e*S	**Sn**	**11 25 00.2**	**-1.0**
	baz=34						
SSLB	**Suanglung**	**1.79**	**18**	*e*P	**Pn**	**11 24 40.0**	**-1.1**
	baz=16						
WRL	**Guolierlin Hig**	**1.81**	**1**	P	**Pn**	**11 24 40.1**	**-1.2**
	baz=359						
WRL				*e*S	**Sn**	**11 25 01.5**	**-1.9**
	baz=359						
SMLT	**Sun Moon Lake**	**1.86**	**16**	*e*P	**Pn**	**11 24 40.0**	**-2.3**
	baz=14						
TYC	**Yuchr**	**1.87**	**15**	*e*P	**Pn**	**11 24 41.6**	**-0.7**
	baz=13						
TYC				*e*S	**Sn**	**11 25 04.0**	**-1.0**
	baz=13						
WWF	**Wufeng**	**1.98**	**10**	*e*P	**Pn**	**11 24 41.6**	**-2.1**
	baz=7.0						
WWF				*e*S	**Sn**	**11 25 07.3**	**-0.3**
	baz=7.0						
ESL	**Shilin**	**1.99**	**30**	*e*P	**Pn**	**11 24 43.9**	**0.0**
	baz=29						
ESL				*e*S	**Sn**	**11 25 06.9**	**-1.1**
	baz=29						
WHP	**Taichung City**	**2.25**	**14**	*e*P	**Pn**	**11 24 46.9**	**-0.7**
	baz=12						
WHP				*e*S	**Sn**	**11 25 12.8**	**-1.7**
	baz=12						
FUSS	**Fushou**	**2.31**	**21**	*e*P	**Pn**	**11 24 47.6**	**-0.8**
	baz=19						
ETLH	**Xiulin Townshi**	**2.36**	**26**	*e*P	**Pn**	**11 24 48.4**	**-0.6**
	baz=25						
ETLH				*e*S	**Sn**	**11 25 15.2**	**-1.9**
	baz=25						
NACB	**Ninganchiao**	**2.38**	**29**	*e*P	**Pn**	**11 24 49.6**	**+0.4**
	baz=28						
NNS	**Nan Shan**	**2.53**	**22**	*e*P	**Pn**	**11 24 50.6**	**-0.8**
	baz=21						
NNS				*e*S	**Sn**	**11 25 19.6**	**-1.8**
	baz=21						
NSTT	**Nanjuang**	**2.60**	**13**	*e*P	**Pn**	**11 24 50.8**	**-1.6**
	baz=12						
NSTT				*e*S	**Sn**	**11 25 21.5**	**-1.6**
	baz=12						
LIOB	**Emei**	**2.62**	**14**	*e*P	**Pn**	**11 24 52.2**	**-0.4**
	baz=12						
ENA	**Nanau**	**2.66**	**29**	*e*P	**Pn**	**11 24 54.9**	**+1.7**
	baz=28						
NDT	**Datong Townshi**	**2.73**	**23**	*e*P	**Pn**	**11 24 53.6**	**-0.4**
	baz=22						
NDT				*e*S	**Sn**	**11 25 24.3**	**-1.8**
	baz=22						
NSK	**Sanguang**	**2.74**	**20**	*e*P	**Pn**	**11 24 53.0**	**-1.2**
	baz=19						
NSK				*e*S	**Sn**	**11 25 24.7**	**-1.9**
	baz=19						
NDS	**Dongshan**	**2.83**	**26**	*e*P	**Pn**	**11 24 55.5**	**0.0**
	baz=25						
NDS				*e*S	**Sn**	**11 25 27.2**	**-1.5**
	baz=25						
JYNG	**Yonagunijimaku**	**3.36**	**45**	P	**Pn**	**11 25 03.6**	**+0.9**
JYNG				*e*S	**Sn**	**11 25 41.2**	**-0.5**
YOJ	**Yonaguni jima**	**3.41**	**46**	P	**Pn**	**11 25 04.4**	**+1.0**
YOJ				S	**Sn**	**11 25 42.6**	**-0.3**
HATJ	**Hateruma jima**	**3.75**	**58**	P	**Pn**	**11 25 07.8**	**-0.2**
HATJ				*e*S	**Sn**	**11 25 48.7**	**-2.5**
IRIF	**Iriomote-Funau**	**3.84**	**54**	P	**Pn**	**11 25 09.6**	**+0.3**
IRIF				*e*S	**Sn**	**11 25 53.1**	**-0.4**
JKRS	**Kuro-shima**	**4.00**	**57**	P	**Pn**	**11 25 11.6**	**+0.1**
JKRS				S	**Sn**	**11 25 56.1**	**-1.4**
JIJ	**Ishigaki jima**	**4.17**	**56**	P	**Pn**	**11 25 13.5**	**-0.3**
JIJ				*e*S	**Sn**	**11 25 58.6**	**-3.1**
JISG	**Ishigakijimahi**	**4.42**	**55**	P	**Pn**	**11 25 16.7**	**-0.5**
JISG				*e*S	**Sn**	**11 26 04.1**	**-3.7**
JTJ	**Tarama**	**4.75**	**57**	P	**Pn**	**11 25 21.5**	**-0.3**
JTJ				*e*S	**Sn**	**11 26 13.9**	**-2.0**
JIRB	**Irabujima**	**5.21**	**57**	P	**Pn**	**11 25 28.1**	**0.0**
JIRB				*e*S	**Sn**	**11 26 23.2**	**-4.1**
JMJ2	**Miyako jima3**	**5.29**	**59**	P	**Pn**	**11 25 29.3**	**+0.1**
JMJ2				*e*S	**Sn**	**11 26 27.2**	**-2.1**
KSRS	**Korea Array**	**16.66**	**21**	LR	LR	11 35 29.9	
	comp=Z,54nm,18.0s,baz=205,slow=41						
SONM	**Songino Array**	**28.03**	**340**	P	**P**	**11 30 02.3**	**+1.4**
	0.2nm,0.3s,baz=160,slow=11,SNR=4.2						
MKAR	**Makanchi Array**	**39.34**	**318**	P	**P**	**11 31 40.6**	**+1.7**
	0.9nm,0.5s,baz=113,slow=9.1,SNR=11						
ZALV	**Zalesovo Beam**	**41.60**	**329**	P	**P**	**11 31 57.9**	**+0.4**
	1.0nm,0.8s,baz=131,slow=15,SNR=2.5						
H11N1	**WAKE ISLAND Hy**	**43.42**	**84**	T	T	12 18 05.8	
	baz=284						
H11N2	**WAKE ISLAND Hy**	**43.43**	**84**	T	T	12 18 05.8	
	baz=284						
H11N3	**WAKE ISLAND Hy**	**43.44**	**84**	T	T	12 18 07.0	
	baz=284						
H11S3	**WAKE ISLAND Hy**	**43.49**	**86**	T	T	12 18 10.6	
	baz=283,slow=74,SNR=6.4						
H11S1	**WAKE ISLAND Hy**	**43.50**	**86**	T	T	12 18 11.0	
	baz=283,slow=74,SNR=6.3						
H11S2	**WAKE ISLAND Hy**	**43.51**	**86**	T	T	12 18 10.6	
	baz=283,slow=74,SNR=4.7						
WRA	**Warramunga Arr**	**43.95**	**161**	P	**P**	**11 32 16.0**	**-0.9**
	1.0nm,0.8s,baz=334,slow=11,SNR=9.4						
WRA				PcP	**PcP**	**11 34 02.9**	**+0.3**
	0.3nm,0.9s,baz=249,slow=1.7,SNR=1.4						
ASAR	**Alice Springs**	**47.35**	**163**	P	**P**	**11 32 43.9**	**+0.2**
	0.4nm,0.5s,baz=348,slow=7.7,SNR=22						
ASAR				PcP	**PcP**	**11 34 14.9**	**+0.6**
	0.9nm,1.1s,baz=333,slow=3.3,SNR=4.1						
STKA	**Stephens Creek**	**57.39**	**159**	P	**P**	**11 33 56.9**	**-1.1**
	0.6nm,0.4s,baz=323,slow=15,SNR=1.8						
ILAR	**Eielson Array**	**71.42**	**27**	P	**P**	**11 35 31.3**	**+1.8**
	0.2nm,0.6s,baz=282,slow=5.8,SNR=1.8						
FINES	**FINESS Array B**	**72.86**	**330**	P	**P**	**11 35 39.1**	**+1.0**
	3.5nm,1.1s,baz=145,slow=7.0,SNR=4.0						

*IDC **05** 11:36:48.7±3.8, 25°.87S×64°.69W, h35km±29km, mb3.4/3, mb1 3.8/8, mb1mx3.6/24, mbtmp3.7/8, ML3.7/5, MS2.9/2, Ms1 2.9/2, ms1mx2.7/11, Error ellipse: s-maj=29.5km s-min=18.6km az=31.0*

ISC 05 11:36:48.9±0.8**, 25°.91S**±0°.08×**64°.73W**±0°.08**, h35**km**, n11,** σ**0s.87**/14**, mb3.6**/3**, Salta Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**5.04**	**310**	Pn	**Pn**	**11 38 02.7**	**+0.4**
	0.7nm,0.3s,baz=102,slow=6.7,SNR=3.6						
LVC				LR	LR	11 39 59.2	
	comp=Z,108nm,18.9s,baz=156,slow=38						
CPUP	**Villa Florida**	**6.66**	**95**	Pn	**Pn**	**11 38 23.9**	**-0.3**
	3.3nm,0.3s,baz=265,slow=11,SNR=15						
CPUP				Sn	**Sn**	**11 39 40.1**	**+1.1**
	baz=301,slow=13,SNR=1.3						
CPUP				Lg	Lg	11 40 18.6	
	12nm,0.3s,baz=192,slow=17,SNR=5.5						
CPUP				LR	LR	11 41 21.5	
	comp=Z,134nm,21.6s,baz=268,slow=41						
LPAZ	**La Paz**	**10.09**	**341**	Pn	**Pn**	**11 39 11.3**	**-0.5**
	0.3nm,0.3s,baz=194,slow=8.3,SNR=4.8						
LPAZ				Sn	**Sn**	**11 41 04.9**	**+0.8**
	0.1nm,0.3s,baz=273,slow=9.8,SNR=2.4						
SIV	**San Ignacio**	**10.44**	**20**	Pn	**Pn**	**11 39 16.7**	**+0.5**
	1.1nm,0.3s,baz=245,slow=6.5,SNR=11						
SIV				Sn	**Sn**	**11 41 11.3**	**-0.7**
	0.2nm,0.3s,baz=278,slow=22,SNR=1.0						

PLCA	Paso Flores	15.56	197	Pn	Pn	11 40 25.8	+0.1
	0.0nm,0.3s,baz=329,slow=17,SNR=0.9						
TXAR	Lajitas Array	66.43	323	P	P	11 47 33.3	-1.5
	0.4nm,0.7s,baz=157,slow=8.1,SNR=6.9						
TORD	Torodi Ar. Bea	75.36	67	P	P	11 48 28.3	-0.9
	1.1nm,0.6s,baz=262,slow=5.5,SNR=5.5						
PDAR	Pinedale Array	79.84	328	P	P	11 48 55.3	+1.3
	0.3nm,0.8s,baz=203,slow=6.5,SNR=1.9						
ASAR	Alice Springs	127.52	202	PKP	PKiKP	11 55 51.8	+0.3
	0.3nm,0.7s,baz=132,slow=1.6,SNR=4.6						
WRA	Warramunga Arr	130.80	204	PKP	PKPdf	11 55 56.7	-0.5
	0.9nm,1.2s,baz=170,slow=3.8,SNR=1.8						
MKAR	Makanchi Array	146.60	43	PKPbc	PKPdf	11 56 25.0	-0.1
	0.5nm,0.8s,baz=259,slow=3.2,SNR=3.9						

*ATH **05** 11:43:35.4, 36.°62N×20.°27E, h16km±3km, ML2.6/4, Error ellipse: s-maj=11.7km s-min=2.8km az=54.0*
*THE **05** 11:43:37.1, 36.°69N×20.°26E, h2km±1km, ML2.8/3, Error ellipse: s-maj=2.3km s-min=0.7km az=310.0*
ISC 05 11:43:35.6±2.3**, 36.°7N**±0.°1×**20.°19E**±0.°08**, h10km, n28, σ1.s37**/34**, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	1.17	26	P	Pb	11 43 58.1	+0.3
LTHK				S	Sn	11 44 14.4	+0.5
	360nm,0.8s						
LTHK	Lithakia	1.17	26	P	Pb	11 43 58.1	+0.3
LTHK				AML	AML	11 44 30.0	
	comp=E,789µm,0.6s						
LTHK				AML	AML	11 44 33.7	
	comp=N,813µm,0.4s						
VLMS	Volimes, Zakyn	1.27	17	P	Pn	11 43 59.9	+0.4
VLMS				S	Sn	11 44 17.9	+1.3
	comp=N,420nm,0.5s						
VLMS	Volimes, Zakyn	1.27	17	P	Pn	11 43 59.8	+0.4
VLMS				S	Sn	11 44 18.1	+1.5
VLMS				AML	AML	11 44 28.9	
	comp=N,977µm,0.6s						
VLMS				AML	AML	11 44 32.2	
	comp=E,464µm,0.4s						
ITM	Ithomi	1.48	69	P	Pn	11 44 02.6	+0.2
ITM	Ithomi	1.48	69	P	Pn	11 44 02.0	-0.3
ITM				AML	AML	11 44 36.1	
	comp=N,237µm,0.5s						
ITM				AML	AML	11 44 37.7	
	comp=E,253µm,0.7s						
RLS	Riolos of Patr	1.73	36	P	Pn	11 44 06.4	+0.8
RLS	Riolos of Patr	1.73	36	P	Pn	11 44 06.7	+1.0
RLS				AML	AML	11 44 45.8	
	comp=N,196µm,0.5s						
RLS				AML	AML	11 44 46.0	
	comp=E,266µm,0.9s						
DRO	Drossia	1.77	43	P	Pn	11 44 07.2	+0.9
DRO	Drossia	1.77	43	P	Pn	11 44 07.2	+0.9
FSK	Fiskardo	1.82	9	P	Pn	11 44 08.2	+1.3
FSK	Fiskardo	1.82	9	P	Pn	11 44 08.1	+1.1
VLX	Vlachokerasia	1.89	67	P	Pn	11 44 08.9	+0.9
VLX				S	Sb	11 44 33.4	-0.5
	comp=E,200nm,0.7s						
VLX	Vlachokerasia	1.89	67	P	Pn	11 44 07.8	-0.2
KLV	Kalavryta, Ach	2.08	48	P	Pn	11 44 11.5	+0.9
KLV	Kalavryta, Ach	2.08	48	P	Pn	11 44 11.5	+0.9
LAKA	Lakka	2.12	42	P	Pn	11 44 12.1	+0.9
LAKA	Lakka	2.12	42	P	Pb	11 44 13.0	-1.2
VLI	Veliai	2.21	88	P	Pn	11 44 13.7	+1.4
VLI	Veliai	2.21	88	P	Pn	11 44 13.7	+1.4
EFP	Efpalio	2.23	37	P	Pn	11 44 13.9	+1.3
EFP	Efpalio	2.23	37	P	Pn	11 44 14.3	+1.7
KTHA	Kythira Island	2.35	99	P	Pn	11 44 15.0	+0.8
ANX	Ano Chora	2.37	35	P	Pn	11 44 16.1	+1.5
ANX	Ano Chora	2.37	35	P	Pb	11 44 16.9	-1.5
STON	Ston	6.49	344	*e*Pn	Pn	11 45 12.1	+1.0
STON				Sn	Sn	11 46 21.0	-4.2
RICI	Ricice	7.22	342	*e*Pn	Pn	11 45 22.9	+1.8
RICI				Sn	Sn	11 46 41.3	-1.8
ZIRJ	Zirje	7.80	335	*e*Pn	Pn	11 45 30.8	+1.7

IDC 05 11:46:44.0±2.0**, 2.°23S**×**66.°61E, h0km, mb3.6**/4**, mb1 3.8**/4**, mb1mx3.5**/30**, mbtmp3.6**/4**, MS3.0**/1**, Ms1 3.0**/1**, ms1mx2.5**/41**, Error ellipse: s-maj=92.5km s-min=28.8km az=48.0, South Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	Pallekele	16.93	56	LR	LR	11 54 57.1	
	comp=Z,54nm,21.7s,baz=309,slow=29						
MKAR	Makanchi Array	50.73	14	P	P	11 55 45.4	-0.3
	0.5nm,0.8s,baz=193,slow=5.9,SNR=2.9						
BRTR	Keskin Array B	51.54	328	P	P	11 55 52.2	+0.2
	0.2nm,0.3s,baz=168,slow=6.5,SNR=2.0						
WRA	Warramunga Arr	68.32	110	P	P	11 57 48.1	+0.3
	0.9nm,0.7s,baz=262,slow=5.8,SNR=8.4						
ASAR	Alice Springs	68.34	114	P	P	11 57 47.6	-0.2
	0.5nm,0.7s,baz=282,slow=6.1,SNR=7.5						
TXAR	Lajitas Array	151.50	342	PKPbc	PKPbc	12 06 40.5	-0.5
	0.4nm,0.9s,baz=129,slow=1.8,SNR=3.9						

MEX 05 11:56:51.2±0.4**, 17.°46N**×**96.°35W, h86km**±21km**, MD4.1, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	Vista Hermosa	0.54	224	*i* P	Pn	11 57 04.6	-1.5
VHO				*i* S	Sn	11 57 15.4	-1.7
PEIG	Puerto Escondi	1.65	208	*i* P	Pn	11 57 17.6	-1.1
PEIG				*i* S	Sn	11 57 37.6	-1.8

*IDC **05** 12:56:48.0±1.1, 52.°76N×169.°03W, h0km, mb3.9/14, mb1 4.2/15, mb1mx3.8/46, mbtmp3.9/15, ML3.6/1, MS3.2/2, Ms1 3.3/2, ms1mx2.8/55, Error ellipse: s-maj=26.6km s-min=19.6km az=8.0*
*AEIC **05** 12:56:52±2.5, 52.°56N±0.°06×168.°76W±0.°08, h26km±6km, Error ellipse: s-maj=9.2km s-min=6.6km az=155.0*
*NEIC **05** 12:56:54.8±1.6, 52.°77N±0.°09×168.°93W±0.°09, h45km±9km, mb4.1/83, ML3.9/43(AEIC), Error ellipse: s-maj=14.6km s-min=4.9km az=154.0*
ISC 05 12:56:54.5±1.1**, 52.°68N**±0.°09×**168.°79W**±0.°05**, h42km**±9km**, n277, σ1.s23**/273**, mb4.2**/36**, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.29	352		Pn	12 57 02.2	-0.6
NIKH					Sn	12 57 09.2	+0.5
NIKH	Nikolski High	0.29	352	P	Pn	12 57 02.3	-0.5
	baz=172,SNR=1000						
OKSO	Okmok South	0.78	29		Pn	12 57 08.5	-0.5
OKSO					Sn	12 57 20.1	+0.6
OKTU	Okmok Mt. Tuli	0.83	33		Pn	12 57 09.7	-0.1
OKCE	Okmok Cone E	0.84	27		Pn	12 57 09.7	-0.1
OKCE					Sn	12 57 24.0	+3.0
OKWE	Okmok W'ng Wal	0.86	23		Pn	12 57 10.1	0.0
OKNC	Okmok New Cone	0.87	27		Pn	12 57 10.5	+0.1
OKFG	Magazine Ridge	0.90	36		Pn	12 57 10.5	-0.2
OKFG					Sn	12 57 24.5	+2.0
MAPS	Pakushin South	1.58	44		Pn	12 57 19.7	-0.3
MAPS					Sn	12 57 41.0	+1.7
MSW	Makushin Switc	1.73	44		Pn	12 57 21.8	-0.1
MSW					Sn	12 57 46.7	+3.9
MNAT	Makushin Natee	1.75	46		Pn	12 57 22.1	-0.1
UNV	Unalaska Valle	1.80	49	Pn	Pn	12 57 22.8	-0.1
UNV	Unalaska Valle	1.80	49	P	Pn	12 57 22.9	0.0
	baz=227,SNR=306						
MTBL	Makushin Table	1.81	44		Pn	12 57 23.6	+0.4
AKRB	Akutan Reef Bi	2.18	47		Pn	12 57 29.3	+1.1
AKMO	Akutan Morgan	2.18	49		Pn	12 57 29.1	+0.9
AKBBA	Akutan Broad B	2.22	49		Pn	12 57 29.5	+0.7
AKLV	Akutan Long Va	2.25	48		Pn	12 57 30.4	+1.1
AKGG	Akutan Green G	2.26	47		Pn	12 57 30.4	+1.1
HSB	Akutan Spr's B	2.29	48		Pn	12 57 31.1	+1.4
AKUT	Akutan	2.32	50	Pn	Pn	12 57 30.6	+0.5
WEBT	Westdahl Beart	3.07	50		Pn	12 57 41.9	+1.5
KOFP	Korovin Flat P	3.27	265		Pn	12 57 43.6	+0.4
KOKL	Mount Kliuchef	3.33	266		Pn	12 57 44.5	+0.5
ATKA	Atka Island	3.34	264	Pn	Pn	12 57 43.9	-0.3
WTUG	Tugumak	3.40	49		Pn	12 57 46.0	+1.1
ISLZ	Isanotski Laza	3.65	54		Pn	12 57 49.4	+1.1
FALS	False Pass	3.86	54	Pn	Pn	12 57 52.8	+1.6
FALS	False Pass	3.86	54	P	Pn	12 57 53.6	+2.4
	baz=236,SNR=14						
GSTR	Great Sitkin T	4.49	265	Pn	Pn	12 57 59.9	0.0
GSMY	Great Sitkin M	4.50	265		Pn	12 58 00.3	+0.3
GSTD	Great Sitkin T	4.55	265		Pn	12 58 01.1	+0.2
SPIA	Saint Paul Isl	4.58	350	Pn	Pn	12 58 00.8	-0.3
SPIA	Saint Paul Isl	4.58	350	P	Pn	12 58 03.0	+1.8
	baz=169,SNR=8.2						
ADK	Adak	4.91	264	Pn	Pn	12 58 05.3	-0.4
KIWB	Kanaga Island	5.20	264	Pn	Pn	12 58 08.6	-1.0
KIMD	Kanaga Island	5.27	263		Pn	12 58 11.3	+0.6
SDPT	Sand Point	5.58	58		Pn	12 58 15.3	+0.5
SDPT	Sand Point	5.58	58	P	Pn	12 58 15.9	+1.1
	baz=244						
CNBA	Chernabura Isl	5.86	65	Pn	Pn	12 58 18.7	0.0
CHNA	Chernabura Isl	5.87	65	P	Pn	12 58 19.6	+0.8
	baz=251						
VNHG	Veniaminof 1	6.64	54		Pn	12 58 31.4	+2.0
CHGN	Chignik	7.05	55	Pn	Pn	12 58 35.0	0.0
CHGN	Chignik	7.05	55	P	Pn	12 58 36.1	+1.1
	baz=242,SNR=7.0						
AMKA	Amchitka	7.46	265	Pn	Pn	12 58 39.2	-1.4
CHIR	Chirikof Islan	8.33	63	Pn	Pn	12 58 52.7	+0.2
CHIR	Chirikof Islan	8.33	63	P	Pn	12 58 53.4	+0.9
	baz=252						
SII	Sitkinak Islan	9.32	60	Pn	Pn	12 59 06.6	+0.6
SII	Sitkinak Islan	9.32	60	P	Pn	12 59 07.0	+0.9
	baz=251						
OHAK	Old Harbor	10.00	57	Pn	Pn	12 59 15.3	-0.1
OHAK	Old Harbor	10.00	57	P	Pn	12 59 14.1	-1.3
	baz=249						
O18K	Koktuh Hills	10.41	41	Pn	Pn	12 59 20.6	-0.4
O18K	Koktuh Hills	10.41	41	P	Pn	12 59 23.9	+2.9
	baz=232						
Q19K	Cape Douglas,	10.56	48	Pn	Pn	12 59 22.8	-0.3
Q19K	Cape Douglas,	10.56	48	P	Pn	12 59 24.3	+1.3
	baz=240						
KDAK	Kodiak Island	10.56	55	Pn	Pn	12 59 20.7	-2.3
	1.6nm,0.3s,baz=202,slow=3.9,SNR=55						
KDAK				Sn	Sn	13 01 14.6	-5.2
	0.1nm,0.3s,baz=228,slow=6.5,SNR=2.2						
KDAK	Kodiak Island	10.56	55	Pn	Pn	12 59 22.4	-0.6
KDAK	Kodiak Island	10.56	55	P	Pn	12 59 21.5	-1.6
	baz=247						
N18K	Kilae Creek	10.69	36	Pn	Pn	12 59 24.7	0.0
N18K	Kilae Creek	10.69	36	P	Pn	12 59 26.6	+1.9
	baz=227						
O19K	Port Alsworth	10.97	41	Pn	Pn	12 59 29.4	+0.7
SVW2	Sparrevohn	11.08	35	Pn	Pn	12 59 29.8	-0.3
GAMB	Gambell	11.23	353	Pn	Pn	12 59 31.3	-0.8
GAMB	Gambell	11.23	353	P	Pn	12 59 35.5	+3.4
	baz=171						
N19K	Bonanza Creek	11.29	38	Pn	Pn	12 59 33.0	-0.1
N19K	Bonanza Creek	11.29	38	P	Pn	12 59 37.4	+4.3
	baz=230						
O20K	Slope Mountain	11.60	44	P	Pn	12 59 40.1	+2.8
	baz=237						
CNPM	China Poot	11.93	48	Pn	Pn	12 59 41.8	0.0
M19K	Big River Lodg	12.05	34		Pn	12 59 42.9	-0.6
M19K	Big River Lodg	12.05	34	P	Pn	12 59 47.2	+3.8
	baz=226						
L19K	White Mountain	12.09	33	Pn	Pn	12 59 44.1	+0.2
L19K	White Mountain	12.09	33	P	Pn	12 59 46.1	+2.1
	baz=224						
BRLK	Bradley Lake	12.20	47	Pn	Pn	12 59 45.4	0.0
BRSE	Bradley Lake S	12.26	48	P	Pn	12 59 46.5	+0.3
	baz=242						
M20K	Styx River	12.48	36		Pn	12 59 48.9	-0.5
M20K	Styx River	12.48	36	P	Pn	12 59 53.4	+4.0
	baz=229						
L20K	Farewell, AK	12.63	33	P	Pn	12 59 54.3	+3.1
	baz=225						
SEW	Seward	13.00	48		Pn	12 59 56.0	-0.2
SEW	Seward	13.00	48	P	Pn	12 59 55.5	-0.8
	baz=243						
O22K	Cooper Landing	13.05	46		Pn	12 59 56.9	-0.1
O22K	Cooper Landing	13.05	46	P	Pn	12 59 56.7	-0.4
	baz=241,SNR=6.7						
SKT	Skwentna	13.13	38	Pn	Pn	12 59 58.2	+0.1
SKT	Skwentna	13.13	38	P	Pn	13 00 01.7	+3.5
	baz=232						
SUA	Susitna One	13.13	41		Pn	12 59 57.4	-0.8
SUA	Susitna One	13.13	41	P	Pn	12 59 59.5	+1.3
	baz=236						
K20K	Telida	13.20	30	Pn	Pn	12 59 59.2	+0.2
K20K	Telida	13.20	30	P	Pn	13 00 02.1	+3.1
	baz=222						
RC01	Rabbit Creek A	13.35	43	Pn	Pn	13 00 00.6	-0.5
RC01	Rabbit Creek A	13.35	43	P	Pn	13 00 00.4	-0.7
	baz=239						
PPLA	Purkeypile	13.48	34	P	P	13 00 07.6	-3.8
	baz=228						
J20K	Nowinta River	13.79	28	Pn	Pn	13 00 05.8	-1.3
J20K	Nowinta River	13.79	28	P	Pn	13 00 09.6	+2.5
	baz=220						
PWL	Port Wells	13.83	46	Pn	Pn	13 00 06.3	-1.4
PMR	Palmer	13.86	42	Pn	Pn	13 00 08.2	+0.2
PMR	Palmer	13.86	42	P	Pn	13 00 09.4	+1.5
	baz=238						
GHO	Glory Hole Cre	14.04	42	Pn	Pn	13 00 10.0	-0.5
KNK	Knik Glacier	14.04	44	Pn	Pn	13 00 10.1	-0.5
KNK	Knik Glacier	14.04	44	P	Pn	13 00 10.6	0.0
	baz=240						
CHUM	Lake Minchumin	14.12	31	P	P	13 00 17.8	-0.6
	baz=225						
SML	Sawmill	14.29	42	Pn	Pn	13 00 13.5	-0.5
SML	Sawmill	14.29	42	P	Pn	13 00 13.8	-0.2
	baz=239						
KTH	Kantishna Hill	14.35	34		Pn	13 00 13.6	-1.2
GLI	Glacier Island	14.39	47	Pn	Pn	13 00 16.3	+1.1
HIN	Hinchinbrook I	14.46	49	Pn	Pn	13 00 16.5	+0.3
FID	Port Fidalgo	14.61	48		Pn	13 00 16.6	-1.6
BPAW	Bear Paw Mtn.	14.70	32	Pn	Pn	13 00 18.2	-1.0
BPAW	Bear Paw Mtn.	14.70	32	P	P	13 00 22.9	-1.9
	baz=227,SNR=7.9						
SCM	Sheep Creek Mo	14.72	43		Pn	13 00 19.7	0.0
EYAK	Cordova Ski Ar	14.86	49	Pn	Pn	13 00 20.5	-0.9
WAT6	Susitna Watana	14.93	40	P	Pn	13 00 22.2	-0.4
	baz=238						
RND	Reindeer	14.98	36	Pn	Pn	13 00 22.9	-0.2
DIV	Divide	15.08	47	Pn	Pn	13 00 23.3	-1.1
DIV				IAmb	IAmb	13 00 23.5	
	comp=Z,17nm,1.2s						
I21K	Tanana	15.16	28		Pn	13 00 25.1	-0.3
I21K				IAmb	IAmb	13 00 42.7	
	comp=Z,6.0nm,0.9s						
I21K	Tanana	15.16	28	P	P	13 00 29.2	-0.6
	baz=222						
KLU	Klutina	15.16	45	Pn	Pn	13 00 24.3	-1.3
KLU	Klutina	15.16	45	P	Pn	13 00 23.6	-2.0
	baz=244,SNR=5.4						
KAIM	Kayak Island	15.28	52	Pn	Pn	13 00 25.6	-1.3
IMAR	Indian Mountai	15.32	24	Pn	Pn	13 00 25.9	-1.5
M24K	Tolsona, Glenn	15.33	43		Pn	13 00 27.0	-0.7
M24K	Tolsona, Glenn	15.33	43	P	Pn	13 00 27.1	-0.6
	baz=242						
MLY	Manley	15.42	30		Pn	13 00 28.2	-0.6
MLY				IAmb	IAmb	13 00 37.2	
	comp=Z,10nm,0.7s						
MLY	Manley	15.42	30	P	P	13 00 31.9	-0.9
	baz=225,SNR=19						
HMT	Hamilton	15.48	51	Pn	Pn	13 00 29.2	-0.5
BMRM	Bremner River	15.54	48	Pn	Pn	13 00 30.0	-0.4
NEA2	Nenana	15.65	33		Pn	13 00 31.6	-0.1
NEA2	Nenana	15.65	33	P	Pn	13 00 31.7	-0.1
	baz=229						
BERG	Berg Lake	15.76	51	Pn	Pn	13 00 32.9	-0.3
N25K	Chitina, Valde	15.79	46	Pn	Pn	13 00 32.9	-0.7
N25K				IAmb	IAmb	13 00 38.0	
	comp=Z,7.5nm,0.8s						
N25K	Chitina, Valde	15.79	46	P	Pn	13 00 32.7	-0.9
	baz=246						
HARP	HAARP	15.89	43	P	Pn	13 00 35.8	+0.9
	baz=243						
WRH	Wood River Hil	15.90	34	Pn	Pn	13 00 34.2	-0.7
I23K	Minto, Yukon-K	15.92	31		Pn	13 00 35.3	+0.1
I23K				IAmb	IAmb	13 00 39.6	
	comp=Z,10nm,1.2s						
I23K	Minto, Yukon-K	15.92	31	P	Pn	13 00 36.4	+1.2
	baz=227,SNR=9.7						
PAX	Paxson	16.03	41	Pn	Pn	13 00 35.8	-0.9
PAX	Paxson	16.03	41	P	Pn	13 00 36.1	-0.6
	baz=240						
GLB	Gilahina Butte	16.07	47	Pn	Pn	13 00 36.7	-0.5
GLB				IAmb	IAmb	13 00 43.0	
	comp=Z,16nm,1.3s						
CCB	Clear Creek Bu	16.10	34	Pn	Pn	13 00 36.9	-0.6
VRDI	Verde Repeater	16.16	48	Pn	Pn	13 00 38.1	-0.3
VRDI				IAmb	IAmb	13 01 03.5	
	comp=Z,24nm,1.4s						
MDM	Murphy Dome	16.16	32	Pn	Pn	13 00 38.2	-0.1
WAX	Waxell Ridge	16.18	51		Pn	13 00 37.6	-1.1
HDA	Harding Lake	16.25	35	Pn	Pn	13 00 39.0	-0.4
H23K	Yukon River	16.34	29		Pn	13 00 40.3	-0.2
H23K				IAmb	IAmb	13 00 49.1	
	comp=Z,8.7nm,1.1s						
H23K	Yukon River	16.34	29	P	P	13 00 42.2	-0.7
	baz=225						
MCARA	McCarthy VSAT	16.41	48	Pn	Pn	13 00 41.1	-0.3
MCARA				IAmb	IAmb	13 00 58.4	
	comp=Z,21nm,1.2s						
ISLE	Juniper Island	16.47	51	Pn	Pn	13 00 41.8	-0.5
ISLE				IAmb	IAmb	13 00 43.0	
	comp=Z,18nm,0.8s						
IL31		16.49	34	Pn	Pn	13 00 41.7	-0.7
ILAR	Eielson Array	16.49	34	Pn	Pn	13 00 40.2	-2.2
	comp=Z,0.2nm,0.3s,baz=223,slow=11,SNR=13						
ILAR				LR	LR	13 07 22.6	
	comp=Z,87nm,18.4s,baz=204,slow=38						
ILAR	Eielson Array	16.49	34		Pn	13 00 41.5	-0.9
RIDG	Independent Ri	16.66	39	Pn	Pn	13 00 44.6	0.0
RIDG	Independent Ri	16.66	39	P	Pn	13 00 45.3	+0.6
	baz=239						
YAH	Yahtse	16.69	52		Pn	13 00 44.9	-0.3
MENT	Mentasta	16.73	42		Pn	13 00 45.0	-0.4
GRNC	Granite Creek	16.78	51		Pn	13 00 46.0	-0.4
GRNC				IAmb	IAmb	13 00 49.7	
	comp=Z,28nm,1.3s						
M26K	Nabesna, AK	16.80	45	Pn	Pn	13 00 46.1	-0.4
M26K				IAmb	IAmb	13 00 48.8	
	comp=Z,24nm,1.5s						
M26K	Nabesna, AK	16.80	45	P	Pn	13 00 46.0	-0.4
	baz=246,SNR=7.0						
H24K	Noodor Dome	16.85	30	Pn	Pn	13 00 46.8	-0.1
H24K	Noodor Dome	16.85	30	P	P	13 00 48.0	-0.6
	baz=228,SNR=6.1						
L26K	Log Cabin Wild	16.92	42	P	Pn	13 00 48.2	+0.4
L26K	Log Cabin Wild	16.92	42	P	Pn	13 00 47.9	+0.1
	baz=244						
DOT	Dot Lake	16.92	40		Pn	13 00 47.7	-0.1
BARN	Barnard Glacie	16.92	50		Pn	13 00 48.4	+0.3
BARN				IAmb	IAmb	13 01 06.4	
	comp=Z,36nm,1.5s						
J25K	Salcha River,	16.93	36	P	Pn	13 00 47.3	-0.7
	baz=236,SNR=8.2						
TABL	Table Mountain	17.00	52		Pn	13 00 49.4	+0.4
TABL				IAmb	IAmb	13 00 57.1	
	comp=Z,21nm,0.8s						
CTG	Chitna Glacier	17.05	50	P	P	13 00 50.3	-0.7
	baz=253						
CTGM	Chitina Glacie	17.05	50		Pn	13 00 49.9	+0.3
CTGM				IAmb	IAmb	13 01 16.2	
	comp=Z,25nm,1.4s						
SCRK	Sand Creek	17.11	39	Pn	Pn	13 00 49.8	-0.5
SCRK	Sand Creek	17.11	39	P	Pn	13 00 49.3	-1.0
	baz=240						
COLD	Coldfoot	17.18	25	P	Pn	13 00 51.1	0.0
M27K	Edge Creek, AK	17.26	45		Pn	13 00 52.1	-0.2
M27K				IAmb	IAmb	13 00 57.1	
	comp=Z,12nm,1.1s						
M27K	Edge Creek, AK	17.26	45	P	Pn	13 00 52.3	0.0
	baz=248						
PCA	Pinnacle	17.34	53	Pn	Pn	13 00 52.9	-0.3
PRP	Porcupine Dome	17.40	33	Pn	Pn	13 00 53.0	-1.0
PRP	Porcupine Dome	17.40	33	P	Pn	13 00 52.9	-1.0
	baz=233						
J26K	Charley River,	17.48	37	P	Pn	13 00 53.9	-1.0
	baz=239,SNR=8.2						
L27K	Beaver Creek,	17.56	43		Pn	13 00 55.3	-0.5
L27K	Beaver Creek,	17.56	43	P	Pn	13 00 55.0	-0.8
	baz=246						
BCAR	Beaver Creek A	17.58	43		Pn	13 00 55.7	-0.3
YUK3	Moose Creek	17.69	48	P	Pn	13 00 57.2	-0.5
	baz=252						
K27K	Chicken	17.88	40		P	13 00 59.6	-0.3
FYU	Fort Yukon	18.14	31		P	13 01 02.3	-0.4
EGAK	Eagle	18.57	39	P	P	13 01 07.5	-0.1
EGAK	Eagle	18.57	39	P	Pn	13 01 08.4	+0.3
	baz=242						
HYT	Haines Junctio	18.83	52	P	P	13 01 10.6	+0.1
HYT				IAmb	IAmb	13 01 15.3	
	comp=Z,16nm,0.6s						
HYT	Haines Junctio	18.83	52	P	Pn	13 01 12.3	+1.0
	baz=258,SNR=12						
BMAR	Burnt Mountain	18.88	29	P	Pn	13 01 11.4	-0.5
DAWY	Dawson	18.96	42	P	Pn	13 01 12.6	-0.2
DAWY	Dawson	18.96	42	P	P	13 01 11.4	-0.5
	baz=247						
SKAG	Skagway	19.70	57	P	P	13 01 19.4	-0.5
SKAG	Skagway	19.70	57	P	Pn	13 01 21.6	-0.1
	baz=264						
BESE	Bessie Mountai	19.89	59	P	P	13 01 22.5	+0.5
BESE				IAmb	IAmb	13 01 43.7	
	comp=Z,18nm,1.2s						
WHY	Whitehorse	20.07	53		P	13 01 23.1	-0.9
WHY				IAmb	IAmb	13 01 28.9	
	comp=Z,14nm,0.8s						
WHY	Whitehorse	20.07	53	P	Pn	13 01 27.6	+1.5
	baz=261,SNR=6.5						
PETK	Petropavlovsk-	20.12	285	P	P	13 01 24.2	-0.3
	comp=Z,0.1nm,0.3s,baz=84,slow=14,SNR=4.8						
PETK	Petropavlovsk-	20.12	285	P	P	13 01 23.4	-1.2
JIS	Juneau Island	20.13	60	P	P	13 01 23.4	-1.1
EPYK	Eagle Plains	20.94	37	P	P	13 01 31.9	-1.4
EPYK				IAmb	IAmb	13 01 36.5	
	comp=Z,18nm,1.1s						
EPYK	Eagle Plains	20.94	37	P	P	13 01 31.2	-2.1
	baz=244,SNR=9.6						
FARO	Faro, Yukon	21.05	49	P	P	13 01 35.3	+0.7
	baz=259						
MMPY	Sheldon Lake,	22.08	49	P	P	13 01 47.7	+2.1
	baz=260						
INK	Inuvik	22.89	33	P	P	13 01 51.3	-2.7
	comp=Z,2.2nm,0.7s,baz=229,slow=8.6,SNR=7.3						
INK	Inuvik	22.89	33	P	P	13 01 52.5	-1.6
INK				IAmb	IAmb	13 02 03.6	
	comp=Z,5.6nm,1.1s						
INK	Inuvik	22.89	33	P	P	13 01 51.9	-2.1
	baz=244						
YKA	Yellowknife Ar	29.77	49	P	P	13 02 56.0	-0.6
	comp=Z,1.1nm,0.6s,baz=274,slow=7.5,SNR=1.7						
YKA	Yellowknife Ar	29.77	49	P	P	13 02 57.0	+0.4
D05A	Enumclaw	30.19	81	P	P	13 03 02.2	+1.7
B08A	Colville Reser	31.24	78	P	P	13 03 10.3	+0.5
B08A				IAmb	IAmb	13 03 11.4	
	comp=Z,2.7nm,0.7s						
H04A	Detroit Lake	31.31	86	P	P	13 03 11.6	+1.1
H04A				IAmb	IAmb	13 03 15.6	
	comp=Z,3.5nm,0.8s						
HAWA	Hanford	32.05	81	P	P	13 03 17.1	+0.3
HAWA				IAmb	IAmb	13 03 19.6	
	comp=Z,6.0nm,1.0s						
NEW	Newport	32.59	77	P	P	13 03 22.5	+0.9
	comp=Z,5.5nm,0.8s,baz=290,slow=5.7,SNR=10						
NEW	Newport	32.59	77	P	P	13 03 22.1	+0.5
NEW	Newport	32.59	77	P	P	13 03 22.8	+1.1
	baz=297,SNR=7.1						
YBH	Yreka Blue Hor	32.63	91	LR	LR	13 12 32.8	
	comp=Z,44nm,21.8s,baz=286,slow=29						
J05D	Fort Rock, OR	32.65	87	P	P	13 03 24.4	+2.0
	baz=304						
K05A	Summer Lake	33.17	88	P	P	13 03 29.0	+2.0
K05A				IAmb	IAmb	13 03 48.6	
	comp=Z,5.7nm,1.3s						
WALA	Waterton Lakes	34.11	74	P	P	13 03 35.7	+0.7
WALA				IAmb	IAmb	13 03 46.6	
	comp=Z,3.3nm,0.8s						
JTMT	Jette	34.52	76	P	P	13 03 39.2	+0.7
WVOR	Wild Horse Val	34.70	87	P	P	13 03 41.6	+1.4
WVOR				IAmb	IAmb	13 03 42.7	
	comp=Z,2.7nm,1.0s						
HLID	Hailey	36.63	82	P	P	13 03 57.7	+1.0
	baz=304						
MCMT	McKenzie Canyo	36.87	79	P	P	13 03 59.4	+0.6
EGMT	Eagleton	37.03	73	P	P	13 04 00.5	+0.4
EGMT	Eagleton	37.03	73	P	P	13 04 01.1	+1.0
	baz=300,SNR=6.6						
BOZ	Bozeman (W)	37.18	77	P	P	13 04 01.6	+0.2
BOZ				IAmb	IAmb	13 04 02.6	
	comp=Z,4.9nm,1.2s						
BOZ	Bozeman (W)	37.18	77	P	P	13 04 02.0	+0.6

	baz=302						
NVAR	**Mina Array Bea**	**37.32**	**92**	P	**P**	**13 04 03.4**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=294,slow=8.8,SNR=1.5						
ELK	**Elko**	**37.76**	**86**	P	**P**	**13 04 07.8**	**+1.3**
ELK				IAmb	IAmb	13 04 09.2	
	comp=Z,1.6nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**37.92**	**219**	T	T	13 44 38.1	
	baz=24,slow=76,SNR=40						
H11N3	**WAKE ISLAND Hy**	**37.93**	**219**	T	T	13 44 35.0	
	baz=24,slow=76,SNR=57						
H11N1	**WAKE ISLAND Hy**	**37.94**	**219**	T	T	13 44 35.7	
	baz=24,slow=76,SNR=46						
YHH	**Holmes Hill**	**38.08**	**78**	P	**P**	**13 04 10.1**	**+0.8**
YHH				IAmb	IAmb	13 04 11.1	
	comp=Z,4.1nm,0.8s						
IMW	**Indian Meadow**	**38.53**	**79**	P	**P**	**13 04 13.9**	**+1.0**
IMW				IAmb	IAmb	13 04 16.4	
	comp=Z,2.7nm,1.1s						
RLMT	**Red Lodge**	**38.84**	**77**	P	**P**	**13 04 16.6**	**+1.1**
RLMT				IAmb	IAmb	13 04 18.5	
	comp=Z,5.2nm,0.9s						
RLMT	**Red Lodge**	**38.84**	**77**	P	**P**	**13 04 16.5**	**+1.0**
	baz=303,SNR=5.2						
R11A	**Troy Canyon, C**	**39.02**	**90**	P	**P**	**13 04 16.5**	**-0.5**
R11A				IAmb	IAmb	13 04 19.9	
	comp=Z,3.9nm,0.9s						
R11A	**Troy Canyon, C**	**39.02**	**90**	P	**P**	**13 04 18.4**	**+1.4**
	baz=309,SNR=5.8						
H11S1	**WAKE ISLAND Hy**	**39.11**	**219**	T	T	13 46 07.9	
	baz=23,slow=76,SNR=452						
H11S2	**WAKE ISLAND Hy**	**39.12**	**219**	T	T	13 46 06.9	
	baz=23,slow=76,SNR=295						
H11S3	**WAKE ISLAND Hy**	**39.12**	**219**	T	T	13 45 56.8	
	baz=23,slow=76,SNR=218						
BW06	**Boulder Array**	**40.00**	**80**	P	**P**	**13 04 24.3**	**-0.9**
BW06				IAmb	IAmb	13 04 27.0	
	comp=Z,3.4nm,0.8s						
PD31	**Pinedale Array**	**40.00**	**80**	P	**P**	**13 04 25.9**	**+0.6**
PD31				IAmb	IAmb	13 04 26.5	
	comp=Z,2.8nm,1.1s						
PDAR	**Pinedale Array**	**40.00**	**80**	P	**P**	**13 04 25.8**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=315,slow=3.4,SNR=18						
PDAR	**Pinedale Array**	**40.00**	**80**	P	**P**	**13 04 25.9**	**+0.7**
TMUT	**Trail Mountain**	**41.09**	**85**	P	**P**	**13 04 34.6**	**+0.3**
TMUT				IAmb	IAmb	13 04 36.3	
	comp=Z,4.0nm,0.9s						
RDMU	**Red Mountain**	**41.30**	**83**	P	**P**	**13 04 36.9**	**+1.0**
RDMU				IAmb	IAmb	13 04 37.7	
	comp=Z,6.3nm,1.2s						
LCMT	**Little Creek M**	**41.30**	**90**	P	**P**	**13 04 37.5**	**+1.7**
LCMT				IAmb	IAmb	13 04 38.0	
	comp=Z,2.3nm,1.0s						
Q16A	**Castle Valley**	**41.35**	**86**	P	**P**	**13 04 37.8**	**+1.5**
Q16A				IAmb	IAmb	13 04 38.5	
	comp=Z,3.8nm,0.8s						
PFO	**Pinyon Flats O**	**41.62**	**96**	P	**P**	**13 04 38.7**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=328,slow=9.5,SNR=2.0						
U15A	**North Rim**	**42.27**	**89**	P	**P**	**13 04 44.9**	**+1.0**
U15A				IAmb	IAmb	13 04 45.9	
	comp=Z,7.5nm,1.2s						
O20A	**White River Ci**	**42.37**	**82**	P	**P**	**13 04 44.9**	**+0.3**
O20A	**White River Ci**	**42.37**	**82**	P	**P**	**13 04 44.7**	**+0.1**
	baz=308						
PV21	**Cone Mtn., Par**	**42.91**	**85**	P	**P**	**13 04 49.8**	**+0.8**
PV21				IAmb	IAmb	13 04 52.3	
	comp=Z,4.1nm,1.1s						
WUAZ	**Wupatki**	**43.42**	**90**	P	**P**	**13 04 54.4**	**+1.3**
WUAZ				IAmb	IAmb	13 04 55.5	
	comp=Z,3.4nm,0.8s						
WUAZ	**Wupatki**	**43.42**	**90**	P	**P**	**13 04 54.2**	**+1.1**
	baz=312						
ULM	**Lac du Bonnet**	**43.69**	**63**	P	**P**	**13 04 54.3**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=303,slow=16,SNR=2.1						
X16A	**Lo Mia Camp, P**	**44.12**	**91**	P	**P**	**13 05 00.6**	**+1.8**
X16A				IAmb	IAmb	13 05 01.3	
	comp=Z,1.3nm,0.7s						
S22A	**4UR Ranch, Cre**	**44.73**	**84**	P	**P**	**13 05 04.8**	**+1.1**
	baz=310						
SDCO	**Great Sand Dun**	**45.53**	**83**	P	**P**	**13 05 10.9**	**+0.9**
	baz=310						
B35A	**Bob, Littlefor**	**45.91**	**64**	P	**P**	**13 05 12.2**	**-0.4**
TUC	**Tucson**	**45.96**	**93**	P	**P**	**13 05 14.5**	**+1.2**
	baz=314						
T25A	**Trinidad**	**46.58**	**83**	P	**P**	**13 05 19.3**	**+1.0**
	baz=311						
121A	**Cookes Peak, D**	**47.63**	**90**	P	**P**	**13 05 27.6**	**+1.1**
	baz=314						
SPITS	**Spitsbergen Ar**	**49.36**	**359**	P	**P**	**13 05 38.0**	**-1.0**
	comp=Z,3.7nm,1.0s,baz=7.0,slow=7.6,SNR=5.2						
MNTX	**Cornudas Mount**	**49.67**	**89**	P	**P**	**13 05 43.0**	**+1.1**
	baz=314,SNR=6.3						
P40A	**Paris**	**52.35**	**72**	P	**P**	**13 06 01.1**	**-0.8**
TX31	**Lajitas Ar. Si**	**52.39**	**90**	P	**P**	**13 06 02.9**	**+0.5**
TX32	**Lajitas Array**	**52.39**	**90**	P	**P**	**13 06 02.7**	**+0.3**
TXAR	**Lajitas Array**	**52.39**	**90**	P	**P**	**13 06 02.8**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=304,slow=5.7,SNR=46						
TXAR	**Lajitas Array**	**52.39**	**90**	P	**P**	**13 06 03.2**	**+0.7**
HHC	**Hu-ho-hao-te**	**53.14**	**291**	*e*P	**P**	**13 06 09.7**	**+1.8**
HHC				pmax	pmax		
	comp=Z,11nm,1.1s						
HHC				pmax	pmax		
	comp=Z,110nm,5.6s						
WMQ	**Urumqi**	**63.62**	**308**	*e*P	**P**	**13 07 23.7**	**+2.9**
FINES	**FINESS Array B**	**65.61**	**352**	P	**P**	**13 07 32.2**	**-1.2**
	comp=Z,1.7nm,0.8s,baz=20,slow=6.1,SNR=5.4						
AKASG	**Malin Array Be**	**75.87**	**348**	P	**P**	**13 08 34.6**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=313,slow=21,SNR=1.9						
CMAR	**Chiang Mai Arr**	**76.89**	**283**	P	**P**	**13 08 41.9**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=24,slow=7.8,SNR=3.3						
ESDC	**Sonseca Array**	**87.08**	**12**	P	**P**	**13 09 35.4**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=345,slow=4.6,SNR=2.7						
ASAR	**Alice Springs**	**90.87**	**231**	P	**P**	**13 09 52.9**	**-0.4**
	comp=Z,0.4nm,0.9s,baz=23,slow=5.9,SNR=2.8						
H03N2	**Juan Fernandez**	**115.71**	**112**	T	T	15 22 02.2	
	baz=322,slow=78,SNR=7.9						
H03N1	**Juan Fernandez**	**115.73**	**112**	T	T	15 22 04.7	
	baz=322,slow=78,SNR=10						
H03N3	**Juan Fernandez**	**115.73**	**112**	T	T	15 22 00.6	
	baz=322,slow=78,SNR=9.8						

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*NEIC **05** 13:04:32.1±2.9, 50.°82N±0.°09×174.°7W±0.°1, h26km±5km, mb4.5/70, ML4.4(AEIC), Error ellipse: s-maj=13.4km s-min=12.3km az=51.0*

*IDC **05** 13:04:35.8±0.6, 51.°64N×174.°31W, h0km, mb4.2/29, mb1 4.4/31, mb1mx4.4/40, mbtmp4.2/31, ML4.2/2, MS3.8/3, Ms1 3.8/3, ms1mx3.5/47, Error ellipse: s-maj=18.4km s-min=10.1km az=173.0*

*AEIC **05** 13:04:38±2.1, 51.°29N±0.°08×174.°21W±0.°08, h26km±6km, Error ellipse: s-maj=12.1km s-min=6.9km az=169.0*

*BGR **05** 13:04:39.8±0.0, 51.°61N×176.°84W, h33km, mb4.8*

ISC 05 13:04:42.6±1.1**, 51.°51N**±0.°09×**174.°26W**±0.°04**, h58**km±9km**, n275, σ1s60**/243**, mb4.4**/58**, MS3.7**/4**, 6C-4D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.69**	**3**		**Pn**	**13 04 55.0**	**-1.6**
KOFP	**Korovin Flat P**	**0.77**	**8**		**Pn**	**13 04 56.4**	**-1.2**
KOKL	**Mount Kliuchef**	**0.81**	**3**		**Pn**	**13 04 57.2**	**-1.0**
KOSE	**Korovin Southe**	**0.84**	**9**		**Pn**	**13 04 57.9**	**-0.7**
KONE	**Korovin Northe**	**0.89**	**6**		**Pn**	**13 04 58.5**	**-0.6**
GSMY	**Great Sitkin M**	**1.23**	**296**		**Pn**	**13 05 01.4**	**-2.2**
GSTR	**Great Sitkin T**	**1.26**	**298**		**Pn**	**13 05 02.1**	**-1.9**
GSTD	**Great Sitkin T**	**1.29**	**296**		**Pn**	**13 05 02.2**	**-2.2**
GSTD					**Sn**	**13 05 20.5**	**-0.3**
GSSP	**Great Sitkin S**	**1.32**	**297**		**Pn**	**13 05 02.9**	**-1.9**
ETKA	**Kagalaska Isla**	**1.38**	**285**		**Pn**	**13 05 03.2**	**-2.4**
ADAG	**Mount Adagdak**	**1.53**	**289**		**Pn**	**13 05 06.1**	**-1.4**
ADK	**Adak**	**1.55**	**285**	Pn	**Pn**	**13 05 05.4**	**-2.5**
KIWB	**Kanaga Island**	**1.83**	**282**		**Pn**	**13 05 09.6**	**-2.0**
KIKV	**Kanaga Island**	**1.85**	**283**		**Pn**	**13 05 10.0**	**-1.9**
KICM	**Kanaga Island**	**1.87**	**284**		**Pn**	**13 05 10.5**	**-1.7**
KIMD	**Kanaga Island**	**1.87**	**279**		**Pn**	**13 05 09.9**	**-2.3**
KIMD					**Sn**	**13 05 34.4**	**-0.3**
TAFP	**Tanaga Falls P**	**2.35**	**281**		**Pn**	**13 05 17.4**	**-1.3**
TAFP					**Sn**	**13 05 48.6**	**+2.2**
TASE	**Tanaga Southea**	**2.37**	**279**		**Pn**	**13 05 17.8**	**-1.3**
GAEA	**Gareloi East**	**2.81**	**277**		**Pn**	**13 05 24.1**	**-0.9**
NIKH	**Nikolski High**	**3.63**	**64**	Pn	**Pn**	**13 05 35.1**	**-1.1**
NIKH	**Nikolski High**	**3.63**	**64**		**Sn**	**13 06 17.6**	**-0.2**
NIKH	**Nikolski High**	**3.63**	**64**	P	**Pn**	**13 05 35.1**	**-1.1**
	baz=246,SNR=26						
CERAA	**Semis' Rag'd T**	**3.79**	**278**		**Pn**	**13 05 36.4**	**-2.0**
CEAP	**Semis' Anvil P**	**3.86**	**280**		**Pn**	**13 05 38.9**	**-0.5**
OKSO	**Okmok South**	**4.17**	**61**		**Pn**	**13 05 43.2**	**-0.4**
OKCE	**Okmok Cone E**	**4.19**	**60**		**Pn**	**13 05 44.8**	**+0.9**
OKNC	**Okmok New Cone**	**4.23**	**60**		**Pn**	**13 05 44.7**	**+0.3**
OKTU	**Okmok Mt. Tuli**	**4.24**	**61**		**Pn**	**13 05 44.2**	**-0.5**
LSPA	**Little Sitkin**	**4.47**	**278**		**Pn**	**13 05 47.6**	**-0.2**
LSNW	**Little Sitkin**	**4.51**	**279**		**Pn**	**13 05 47.9**	**-0.4**
LSSA	**Little Sitkin**	**4.51**	**278**		**Pn**	**13 05 48.6**	**+0.2**
MAPS	**Pakushin South**	**5.01**	**60**		**Pn**	**13 05 55.2**	**0.0**
MREP	**Makushin Rep't**	**5.12**	**60**		**Pn**	**13 05 57.1**	**+0.3**
MSW	**Makushin Switc**	**5.14**	**59**		**Pn**	**13 05 56.9**	**-0.1**
MNAT	**Makushin Natee**	**5.18**	**60**		**Pn**	**13 05 57.6**	**+0.1**
MTBL	**Makushin Table**	**5.22**	**59**		**Pn**	**13 05 58.3**	**+0.2**
UNV	**Unalaska Valle**	**5.26**	**61**	Pn	**Pn**	**13 05 58.9**	**+0.3**
UNV	**Unalaska Valle**	**5.26**	**61**	P	**Pn**	**13 05 58.7**	**+0.1**
	baz=245,SNR=18						
AKMO	**Akutan Morgan**	**5.63**	**59**		**Pn**	**13 06 04.2**	**+0.6**
AKBBA	**Akutan Broad B**	**5.68**	**60**		**Pn**	**13 06 04.4**	**+0.2**
AKGG	**Akutan Green G**	**5.69**	**59**		**Pn**	**13 06 04.6**	**+0.2**
AKLV	**Akutan Long Va**	**5.69**	**59**		**Pn**	**13 06 04.5**	**0.0**
AKSA	**Akutan Strait**	**5.82**	**60**		**Pn**	**13 06 06.8**	**+0.6**
SPIA	**Saint Paul Isl**	**6.14**	**21**	Pn	**Pn**	**13 06 13.1**	**+2.6**
SPIA	**Saint Paul Isl**	**6.14**	**21**	P	**Pn**	**13 06 13.1**	**+2.6**
	baz=203						
FALS	**False Pass**	**7.33**	**59**	P	**Pn**	**13 06 29.0**	**+2.2**
	baz=246						
SDPT	**Sand Point**	**9.08**	**60**		**Pn**	**13 06 49.9**	**-0.9**
SDPT	**Sand Point**	**9.08**	**60**	P	**Pn**	**13 06 49.8**	**-0.9**
	baz=250						
CNBA	**Chernabura Isl**	**9.41**	**64**	Pn	**Pn**	**13 06 53.0**	**-2.3**
CHNA	**Chernabura Isl**	**9.42**	**64**	P	**Pn**	**13 06 53.2**	**-2.1**
	baz=254						
CHGN	**Chignik**	**10.50**	**57**		**Pn**	**13 07 08.0**	**-2.2**
CHGN	**Chignik**	**10.50**	**57**	P	**Pn**	**13 07 08.3**	**-1.8**
	baz=248						
GAMB	**Gambell**	**12.37**	**5**		**Pn**	**13 07 37.4**	**+1.8**
GAMB	**Gambell**	**12.37**	**5**	P	**Pn**	**13 07 38.3**	**+2.6**
	baz=187						
OHAK	**Old Harbor**	**13.47**	**57**		**Pn**	**13 07 47.4**	**-3.2**
OHAK	**Old Harbor**	**13.47**	**57**	P	**Pn**	**13 07 47.4**	**-3.2**
	baz=253						
O18K	**Koktuh Hills**	**13.57**	**45**		**Pn**	**13 07 53.3**	**+1.3**
O18K	**Koktuh Hills**	**13.57**	**45**	P	**Pn**	**13 07 53.5**	**+1.5**
	baz=240						
Q19K	**Cape Douglas,**	**13.87**	**50**		**Pn**	**13 07 55.1**	**-1.0**
Q19K	**Cape Douglas,**	**13.87**	**50**	P	**Pn**	**13 07 55.4**	**-0.7**
	baz=246						
KDAK	**Kodiak Island**	**13.99**	**55**	Pn	Pn	13 07 52.4	-5.3
	0.7nm,0.3s,baz=209,slow=3.9,SNR=32						
KDAK				Sn	**Sn**	**13 10 27.7**	**-3.6**
	baz=178,slow=20,SNR=1.2						
KDAK	**Kodiak Island**	**13.99**	**55**		Pn	13 07 52.8	-4.9
KDAK	**Kodiak Island**	**13.99**	**55**	P	**Pn**	**13 07 54.6**	**-3.1**
	baz=252						
SVW2	**Sparrevohn**	**14.07**	**40**		**Pn**	**13 07 59.7**	**+0.9**
P19K	**Oil Pt**	**14.36**	**47**	P	**P**	**13 08 07.3**	**-0.7**
	baz=244						
N19K	**Bonanza Creek**	**14.37**	**42**	P	**P**	**13 08 05.2**	**-3.0**
	baz=238,SNR=11						
TNA	**Tin City**	**14.46**	**11**	P	**P**	**13 08 08.1**	**-1.0**
TNA				IAmb	IAmb	13 08 36.5	
	comp=Z,40nm,1.5s						
O20K	**Slope Mountain**	**14.82**	**46**	P	**P**	**13 08 11.1**	**-2.1**
	baz=244,SNR=6.8						
RSO	**Redoubt South**	**14.94**	**45**		**Pn**	**13 08 11.6**	**+1.3**
L19K	**White Mountain**	**14.99**	**37**	P	**P**	**13 08 15.8**	**+0.8**
L19K	**White Mountain**	**14.99**	**37**	P	**P**	**13 08 15.2**	**+0.2**
	baz=233,SNR=24						
M19K	**Big River Lodg**	**15.01**	**38**	P	**P**	**13 08 15.1**	**-0.1**
	baz=234						
CNPM	**China Poot**	**15.24**	**49**		**Pn**	**13 08 11.9**	**-2.1**
M20K	**Styx River**	**15.49**	**40**	P	**P**	**13 08 21.6**	**+0.9**
	baz=237,SNR=15						
BRLK	**Bradley Lake**	**15.50**	**49**		**Pn**	**13 08 15.7**	**-1.6**
BRLK				IAmb	IAmb	13 08 21.2	
	comp=Z,29nm,0.9s						
L20K	**Farewell, AK**	**15.53**	**37**	P	**P**	**13 08 21.8**	**+0.7**
	baz=234,SNR=16						
BRSE	**Bradley Lake S**	**15.56**	**49**	P	**Pn**	**13 08 16.3**	**-1.7**
	baz=248						
K20K	**Telida**	**16.00**	**34**		**Pn**	**13 08 24.0**	**+0.4**
K20K				IAmb	IAmb	13 08 30.7	
	comp=Z,62nm,1.2s						
K20K	**Telida**	**16.00**	**34**	P	**P**	**13 08 26.2**	**+0.1**
	baz=231,SNR=28						
SKT	**Skwentna**	**16.19**	**41**	P	**P**	**13 08 27.0**	**-1.3**
SKT	**Skwentna**	**16.19**	**41**	P	**P**	**13 08 27.7**	**-0.6**
	baz=239,SNR=7.1						
SUA	**Susitna One**	**16.27**	**43**	Pn	**Pn**	**13 08 26.9**	**-0.2**
SUA	**Susitna One**	**16.27**	**43**	P	**Pn**	**13 08 27.3**	**+0.2**
	baz=242						
SEW	**Seward**	**16.29**	**49**		**Pn**	**13 08 24.4**	**-2.9**
SEW				IAmb	IAmb	13 08 57.0	
	comp=Z,77nm,1.6s						
SEW	**Seward**	**16.29**	**49**	P	**Pn**	**13 08 24.5**	**-2.8**
	baz=249						
O22K	**Cooper Landing**	**16.31**	**47**		**Pn**	**13 08 25.2**	**-2.3**
O22K	**Cooper Landing**	**16.31**	**47**	P	**Pn**	**13 08 27.6**	**+0.1**
	baz=247,SNR=12						
PPLA	**Purkeypile**	**16.41**	**38**	P	**P**	**13 08 32.0**	**+1.1**
	baz=236						
J20K	**Nowinta River**	**16.50**	**32**	P	**P**	**13 08 32.0**	**+0.4**
	baz=229,SNR=8.6						
RC01	**Rabbit Creek A**	**16.54**	**45**		**Pn**	**13 08 28.9**	**-1.6**
RC01	**Rabbit Creek A**	**16.54**	**45**	P	**Pn**	**13 08 29.8**	**-0.7**
	baz=245,SNR=6.0						
CHUM	**Lake Minchumin**	**16.94**	**35**	P	**P**	**13 08 37.9**	**+1.4**
	baz=233,SNR=23						
PMR	**Palmer**	**17.02**	**44**	P	**Pn**	**13 08 36.1**	**-0.3**
PMR	**Palmer**	**17.02**	**44**	P	**Pn**	**13 08 35.9**	**-0.4**
	baz=244						
PWL	**Port Wells**	**17.08**	**47**	P	**Pn**	**13 08 34.2**	**-3.0**
PETK	**Petropavlovsk-**	**17.18**	**286**	P	**Pn**	**13 08 38.0**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=97,slow=14,SNR=17						
GHO	**Glory Hole Cre**	**17.19**	**44**		**Pn**	**13 08 37.3**	**-1.2**
GHO				IAmb	IAmb	13 08 56.5	
	comp=Z,54nm,1.6s						
KNK	**Knik Glacier**	**17.24**	**45**	Pn	**Pn**	**13 08 38.0**	**-1.2**
KNK				IAmb	IAmb	13 08 42.2	
	comp=Z,22nm,0.6s						
KNK	**Knik Glacier**	**17.24**	**45**	P	**Pn**	**13 08 37.6**	**-1.6**
	baz=246,SNR=7.1						
KTH	**Kantishna Hill**	**17.26**	**37**	IAmb	IAmb	13 08 58.7	
	comp=Z,37nm,0.9s						
TRF	**Thorofare Moun**	**17.44**	**38**	P	**P**	**13 08 43.1**	**+0.8**
	baz=237						
SML	**Sawmill**	**17.46**	**44**		**Pn**	**13 08 41.2**	**-0.6**
SML				IAmb	IAmb	13 08 44.1	
	comp=Z,53nm,1.4s						
SML	**Sawmill**	**17.46**	**44**	P	**Pn**	**13 08 41.4**	**-0.4**
	baz=245,SNR=6.0						
BPAW	**Bear Paw Mtn.**	**17.54**	**35**	IAmb	IAmb	13 08 52.7	
	comp=Z,52nm,1.3s						
BPAW	**Bear Paw Mtn.**	**17.54**	**35**	P	**P**	**13 08 44.5**	**+1.3**
	baz=234,SNR=25						
GLI	**Glacier Island**	**17.66**	**47**	P	**Pn**	**13 08 41.8**	**-2.4**
GLI	**Glacier Island**	**17.66**	**47**	P	**Pn**	**13 08 41.9**	**-2.4**
	baz=250						
WAT1	**Susitna Watana**	**17.81**	**41**	P	**Pn**	**13 08 45.4**	**-0.8**
	baz=242						
I21K	**Tanana**	**17.86**	**31**	P	**P**	**13 08 48.8**	**+2.2**
	baz=230,SNR=14						
SCM	**Sheep Creek Mo**	**17.90**	**44**	P	**Pn**	**13 08 46.2**	**-1.2**
SCM				IAmb	IAmb	13 08 49.5	
	comp=Z,29nm,0.8s						
WAT6	**Susitna Watana**	**18.04**	**42**	P	**Pn**	**13 08 48.6**	**-0.4**
	baz=244						
MCK	**McKinley**	**18.10**	**38**	P	**Pn**	**13 08 49.1**	**-0.6**
MCK				IAmb	IAmb	13 08 51.6	
	comp=Z,31nm,1.0s						
MCK	**McKinley**	**18.10**	**38**	P	**Pn**	**13 08 49.3**	**-0.4**
	baz=239,SNR=11						
BWN	**Browne**	**18.14**	**36**	P	**Pn**	**13 08 49.3**	**-0.7**
BWN				IAmb	IAmb	13 09 01.6	
	comp=Z,32nm,0.7s						
MLY	**Manley**	**18.18**	**33**	IAmb	IAmb	13 08 56.0	
	comp=Z,35nm,1.0s						
MLY	**Manley**	**18.18**	**33**	P	**Pn**	**13 08 51.4**	**+0.9**
	baz=233,SNR=55						
EYAK	**Cordova Ski Ar**	**18.18**	**49**	P	**P**	**13 08 48.6**	**-1.6**
	baz=252						
DIV	**Divide**	**18.35**	**47**	P	**P**	**13 08 49.6**	**-2.6**
KLU	**Klutina**	**18.40**	**46**	P	**P**	**13 08 51.5**	**-1.2**
KLU				IAmb	IAmb	13 09 18.3	
	comp=Z,48nm,1.6s						
KLU	**Klutina**	**18.40**	**46**	P	**P**	**13 08 52.3**	**-0.5**
	baz=250,SNR=5.1						
NEA2	**Nenana**	**18.51**	**35**	P	**P**	**13 08 53.1**	**-0.7**
NEA2	**Nenana**	**18.51**	**35**	P	**P**	**13 08 53.2**	**-0.7**
	baz=236,SNR=11						
M24K	**Tolsona, Glenn**	**18.51**	**44**	P	**P**	**13 08 53.8**	**-0.2**
M24K	**Tolsona, Glenn**	**18.51**	**44**	P	**P**	**13 08 53.8**	**-0.2**
	baz=247,SNR=5.2						
I23K	**Minto, Yukon-K**	**18.72**	**34**	P	**Pn**	**13 08 57.3**	**+0.3**
	baz=235,SNR=71						
WRH	**Wood River Hil**	**18.80**	**36**	IAmb	IAmb	13 09 15.1	
	comp=Z,38nm,1.4s						
BMRM	**Bremner River**	**18.84**	**48**	P	**P**	**13 08 57.6**	**0.0**
	baz=253						
CCB	**Clear Creek Bu**	**19.00**	**36**	IAmb	IAmb	13 09 03.1	
	comp=Z,17nm,0.6s						
MDM	**Murphy Dome**	**19.01**	**35**	IAmb	IAmb	13 09 07.5	
	comp=Z,32nm,1.4s						
N25K	**Chitina, Valde**	**19.04**	**46**	P	**P**	**13 08 59.5**	**-0.3**
	baz=251						
H23K	**Yukon River**	**19.06**	**32**	P	**Pn**	**13 09 00.9**	**-0.2**
H23K				IAmb	IAmb	13 09 08.8	
	comp=Z,47nm,1.4s						
H23K	**Yukon River**	**19.06**	**32**	P	**Pn**	**13 09 02.5**	**+1.4**
	baz=233,SNR=15						
HARP	**HAARP**	**19.06**	**44**	P	**P**	**13 09 00.5**	**+0.6**
	baz=248						
TCOL	**CIGO, UAF Yank**	**19.10**	**35**	P	**P**	**13 09 00.0**	**-0.2**
	baz=238						
COLA	**College**	**19.10**	**35**	P	**P**	**13 08 59.2**	**-1.1**
PAX	**Paxson**	**19.15**	**42**	P	**P**	**13 09 00.7**	**-0.3**
PAX				IAmb	IAmb	13 09 20.8	
	comp=Z,35nm,1.6s						
PAX	**Paxson**	**19.15**	**42**	P	**Pn**	**13 09 01.9**	**-0.4**
	baz=246,SNR=8.3						
HDA	**Harding Lake**	**19.20**	**37**	P	**P**	**13 09 01.8**	**+0.4**
	baz=240,SNR=36						
GLB	**Gilahina Butte**	**19.35**	**47**	P	**P**	**13 09 02.4**	**-0.7**
GLB				IAmb	IAmb	13 09 08.9	
	comp=Z,33nm,1.5s						
POKR	**Poker Plat Res**	**19.38**	**35**	P	**Pn**	**13 09 05.8**	**+0.8**
	baz=238						
ILAR	**Eielson Array**	**19.40**	**36**	P	**P**	**13 09 01.6**	**-2.1**
	comp=Z,4.9nm,0.3s,baz=237,slow=9.3,SNR=109						
ILAR				S	**S**	**13 12 34.7**	**-5.0**
	baz=120,slow=7.0,SNR=1.1						
ILAR	**Eielson Array**	**19.40**	**36**	P	**P**	**13 09 02.0**	**-1.6**
H24K	**Noodor Dome**	**19.62**	**33**	IAmb	IAmb	13 09 12.4	
	comp=Z,47nm,1.2s						
H24K	**Noodor Dome**	**19.62**	**33**	P	**P**	**13 09 06.9**	**+0.8**
	baz=235,SNR=50						
RIDG	**Independent Ri**	**19.72**	**40**	IAmb	IAmb	13 09 17.5	
	comp=Z,18nm,0.6s						
RIDG	**Independent Ri**	**19.72**	**40**	P	**P**	**13 09 06.5**	**-0.7**
	baz=245,SNR=22						
COLD	**Coldfoot**	**19.74**	**28**	P	**Pn**	**13 09 09.3**	**+0.2**
	baz=229,SNR=14						
MENT	**Mentasta**	**19.88**	**43**	P	**P**	**13 09 08.9**	**+0.1**
MENT				IAmb	IAmb	13 09 33.2	
	comp=Z,16nm,0.5s						
J25K	**Salcha River,**	**19.90**	**38**	P	**P**	**13 09 07.7**	**-1.3**
	baz=242,SNR=69						
DOT	**Dot Lake**	**20.00**	**41**	IAmb	IAmb	13 09 18.6	
	comp=Z,15nm,0.8s						
M26K	**Nabesna, AK**	**20.01**	**45**		Pn	13 09 11.8	-0.6
M26K				IAmb	IAmb	13 09 15.8	
	comp=Z,27nm,1.2s						
M26K	**Nabesna, AK**	**20.01**	**45**	P	Pn	13 09 11.7	-0.7
	baz=251,SNR=19						
L26K	**Log Cabin Wild**	**20.07**	**43**	IAmb	IAmb	13 09 20.9	
	comp=Z,12nm,0.6s						
L26K	**Log Cabin Wild**	**20.07**	**43**	P	**P**	**13 09 11.4**	**+0.6**
	baz=249,SNR=14						
SCRK	**Sand Creek**	**20.16**	**40**	P	**P**	**13 09 11.4**	**-0.6**
SCRK	**Sand Creek**	**20.16**	**40**	P	**P**	**13 09 11.4**	**-0.6**
	baz=246,SNR=80						
PRP	**Porcupine Dome**	**20.28**	**35**	IAmb	IAmb	13 09 44.9	
	comp=Z,11nm,0.6s						
PRP	**Porcupine Dome**	**20.28**	**35**	P	**P**	**13 09 12.8**	**-0.5**
	baz=240,SNR=13						
CTG	**Chitna Glacier**	**20.38**	**50**	P	**P**	**13 09 13.5**	**-0.9**
	baz=257						
J26K	**Charley River,**	**20.48**	**39**	P	**P**	**13 09 14.7**	**-0.7**
	baz=244,SNR=119						
M27K	**Edge Creek, AK**	**20.49**	**46**	P	Pn	13 09 17.7	-0.5
	baz=252,SNR=8.3						
L27K	**Beaver Creek,**	**20.73**	**44**	P	**P**	**13 09 18.4**	**+0.3**
L27K	**Beaver Creek,**	**20.73**	**44**	P	**P**	**13 09 18.4**	**+0.3**
	baz=251						
PINM	**Pinnacle**	**20.74**	**52**	P	**P**	**13 09 18.2**	**0.0**
	baz=260						
BCAR	**Beaver Creek A**	**20.75**	**44**	P	**P**	**13 09 18.5**	**+0.2**
TOLK	**Toolik Lake Re**	**20.86**	**25**	P	**P**	**13 09 20.3**	**+0.9**
TOLK	**Toolik Lake Re**	**20.86**	**25**	P	**P**	**13 09 20.6**	**+1.2**
	baz=227,SNR=17						
FYU	**Fort Yukon**	**20.92**	**33**	P	**P**	**13 09 19.3**	**-0.7**
FYU				IAmb	IAmb	13 09 56.4	
	comp=Z,17nm,0.9s						
K27K	**Chicken**	**20.96**	**41**	IAmb	IAmb	13 09 27.4	
	comp=Z,17nm,0.7s						
K27K	**Chicken**	**20.96**	**41**	P	**P**	**13 09 20.7**	**+0.2**
	baz=248						
BVCY	**Beaver Creek**	**20.96**	**46**	P	**P**	**13 09 23.5**	**+3.0**
	baz=254,SNR=9.7						
YUK3	**Moose Creek**	**20.98**	**48**	P	**P**	**13 09 20.1**	**-0.9**
	baz=256						
SEY	**Seymchan**	**21.09**	**316**	P	**P**	**13 09 21.9**	**+0.1**
	comp=Z,2.9nm,0.8s,baz=3.6,slow=21,SNR=3.1						
BMAR	**Burnt Mountain**	**21.60**	**31**	P	**P**	**13 09 28.5**	**+1.2**
EGAK	**Eagle**	**21.61**	**39**	P	**P**	**13 09 27.1**	**-0.3**
	baz=248,SNR=74						
YUK6	**Outpost Mounta**	**21.80**	**50**	P	**P**	**13 09 30.8**	**+1.1**
	baz=260						
DAWY	**Dawson**	**22.09**	**42**	IAmb	IAmb	13 09 50.0	
	comp=Z,40nm,1.5s						
DAWY	**Dawson**	**22.09**	**42**	P	**P**	**13 09 32.2**	**-0.4**
	baz=251,SNR=11						
EPYK	**Eagle Plains**	**23.91**	**37**	IAmb	IAmb	13 09 58.5	
	comp=Z,15nm,0.7s						
EPYK	**Eagle Plains**	**23.91**	**37**	P	**P**	**13 09 50.5**	**-0.2**
	baz=250,SNR=12						
INK	**Inuvik**	**25.74**	**34**	P	**P**	**13 10 07.0**	**-0.2**
	comp=Z,4.6nm,0.5s,baz=212,slow=6.9,SNR=22						
INK				LR	LR	13 21 21.6	
	comp=Z,300nm,18.0s,baz=251,slow=39						
INK	**Inuvik**	**25.74**	**34**	IAmb	IAmb	13 10 10.0	
	comp=Z,24nm,1.4s						
INK	**Inuvik**	**25.74**	**34**	P	**P**	**13 10 08.1**	**+0.9**
	baz=250,SNR=5.5						
DLBC	**Dease Lake**	**25.91**	**57**	P	**P**	**13 10 09.3**	**+0.3**
	comp=Z,5.6nm,0.6s,baz=250,slow=6.4,SNR=15						
DLBC				LR	LR	13 19 20.0	
	comp=Z,168nm,21.8s,baz=276,slow=34						
DLBC	**Dease Lake**	**25.91**	**57**	IAmb	IAmb	13 10 45.5	
	comp=Z,14nm,1.1s						
BBB	**Bella Bella**	**28.15**	**70**	P	**P**	**13 10 30.0**	**+1.0**
	comp=Z,8.3nm,1.0s,baz=123,slow=9.1,SNR=2.7						
BBB				LR	LR	13 19 58.4	
	comp=Z,140nm,18.2s,baz=296,slow=33						
ASAJ	**Asahikawa**	**29.54**	**273**	P	**P**	**13 10 42.1**	**+0.6**
	comp=Z,3.9nm,0.8s,baz=77,slow=5.5,SNR=2.9						
TIXI	**Tiksi**	**31.93**	**330**	P	**P**	**13 11 01.6**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=118,slow=6.4,SNR=2.0						
TIXI				PcP	**PcP**	**13 13 50.5**	**-0.5**
	comp=Z,3.4nm,0.7s,baz=182,slow=1.8,SNR=2.4						
DHH	**Diamond Head**	**32.81**	**151**	P	P	13 10 58.9	-12
YKA	**Yellowknife Ar**	**33.07**	**47**	P	**P**	**13 11 12.0**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=273,slow=11,SNR=6.9						
H11N2	**WAKE ISLAND Hy**	**35.00**	**212**	T	T	13 49 20.1	
	baz=21,slow=74						
H11N3	**WAKE ISLAND Hy**	**35.01**	**212**	T	T	13 49 24.8	
	baz=21,slow=74						
H11N1	**WAKE ISLAND Hy**	**35.02**	**212**	T	T	13 49 20.3	
	baz=21						
AIN	**Ainahou**	**35.33**	**148**	P	P	13 11 21.6	-11
YBH	**Yreka Blue Hor**	**36.04**	**85**	P	**P**	**13 11 39.1**	**+0.8**
	comp=Z,2.3nm,0.9s,baz=90,slow=1.4,SNR=3.8						
USRK	**Ussuriysk Ar.**	**36.08**	**280**	P	**P**	**13 11 38.9**	**+0.4**
	comp=Z,7.4nm,0.5s,baz=56,slow=9.0,SNR=20						
NEW	**Newport**	**36.16**	**72**	P	**P**	**13 11 40.5**	**+1.3**
	comp=Z,2.6nm,0.7s,baz=295,slow=7.5,SNR=6.2						
H11S1	**WAKE ISLAND Hy**	**36.21**	**212**	T	T	13 50 57.2	
	baz=17,slow=76						
H11S2	**WAKE ISLAND Hy**	**36.22**	**212**	T	T	13 50 56.8	
	baz=17,slow=76						
H11S3	**WAKE ISLAND Hy**	**36.23**	**212**	T	T	13 50 56.7	
	baz=17,slow=76						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MJAR	Matsushiro Arr	36.62	265	P	P	13 11 44.3	+1.1
	comp=Z,1.2nm,0.6s,baz=43,slow=7.4,SNR=6.3						
MDJ	Mudanjiang	37.34	282	P	P	13 11 41.6	-7.5
MDJ				sP	pP	13 11 55.6	-6.7
MDJ				S	S	13 17 29.9	-2.7
MDJ				ScP	ScP	13 17 42.7	-6.4
MDJ				sS	sS	13 17 48.7	-6.3
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,76nm,5.3s						
MDJ				LR	LR		
	comp=N,4μm,14.8s						
MDJ				LR	LR		
	comp=E,6μm,15.8s						
MDJ				LR	LR		
	comp=Z,11μm,15.5s						
PAHR	Pah Rah Range	39.27	85	P	P	13 11 58.8	-6.9
PAHR				IAmb	IAmb	13 12 22.8	
	comp=Z,7.4nm,0.9s						
NVAR	Mina Array Bea	40.71	86	P	P	13 12 19.4	+1.7
	comp=Z,2.7nm,1.0s,baz=294,slow=8.8,SNR=10						
NVAR				PcP	PcP	13 14 20.3	+2.2
	comp=Z,0.8nm,0.8s,baz=298,slow=2.7,SNR=2.8						
KSRS	Korea Array	42.47	274	P	P	13 12 33.9	+2.1
	comp=Z,1.7nm,0.5s,baz=53,slow=7.7,SNR=9.5						
DUG	Dugway, Tooele	43.06	80	P	P	13 12 33.5	-3.2
DUG				IAmb	IAmb	13 12 53.6	
	comp=Z,9.6nm,0.9s						
PDAR	Pinedale Array	43.55	75	P	P	13 12 41.9	+1.2
	comp=Z,1.7nm,0.6s,baz=308,slow=4.1,SNR=16						
NRIK	Noril'sk	45.71	331	P	P	13 12 56.5	-0.7
	comp=Z,3.1nm,0.6s,baz=93,slow=5.5,SNR=1.7						
ULM	Lac du Bonnet	47.21	59	P	P	13 13 09.2	0.0
	comp=Z,5.6nm,0.5s,baz=307,slow=7.6,SNR=17						
BJI	Beijing	48.10	285	P	P	13 13 15.3	-1.0
BJI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SONM	Songino Array	49.10	299	P	P	13 13 24.0	0.0
	comp=Z,1.1nm,0.5s,baz=52,slow=8.0,SNR=9.9						
SONM				PcP	PcP	13 14 48.1	+1.3
	comp=Z,0.3nm,0.4s,baz=105,slow=2.3,SNR=4.0						
SONM	Songino Array	49.10	299	P	P	13 13 18.9	-5.2
HHC	Hu-ho-hao-te	50.36	289	eP	P	13 13 32.5	-1.2
HHC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,70nm,5.7s						
NJ2	Nanjing	51.64	275	eP	P	13 13 37.3	-5.9
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
G40A	Rib Lake	53.24	61	P	P	13 13 53.2	-1.8
G40A				IAmb	IAmb	13 13 56.9	
	comp=Z,12nm,1.1s						
I42A	Draeger Farm,	54.83	62	P	P	13 14 04.8	-1.7
TXAR	Lajitas Array	55.82	85	P	P	13 14 14.3	+0.3
	comp=Z,1.7nm,1.0s,baz=295,slow=3.8,SNR=10						
XAN	Xi'an	56.40	284	P	P	13 14 20.2	+2.2
XAN				pP	pP	13 14 26.5	-5.5
XAN				sP	sP	13 14 31.5	-6.4
XAN				pmax	pmax		
	comp=Z,9.0nm,1.2s						
GTA	Gaotai	58.12	294	⇓P	P	13 14 31.0	+0.8
GTA				pP	pP	13 14 40.5	-4.2
GTA				sP	pwP	13 14 44.6	-4.0
GTA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ARCES	ARCESS Array B	58.40	352	P	P	13 14 30.1	-1.4
	comp=Z,2.4nm,0.6s,baz=26,slow=7.0,SNR=19						
ARCES				PcP	PcP	13 15 21.8	+0.2
	comp=Z,4.3nm,0.7s,baz=20,slow=3.9,SNR=5.9						
ARCES	ARCESS Array B	58.40	352	P	P	13 14 29.6	-1.8
WMQ	Urumqi	61.61	305	eP	P	13 14 53.5	-0.5
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
MKAR	Makanchi Array	62.13	311	P	P	13 14 57.8	+0.4
	comp=Z,0.7nm,0.3s,baz=46,slow=6.6,SNR=22						
FINES	FINESS Array B	66.22	349	P	P	13 15 23.6	-0.3
	comp=Z,2.2nm,0.6s,baz=13,slow=7.3,SNR=19						
FINES				PcP	PcP	13 15 52.5	-1.1
	comp=Z,1.3nm,0.6s,baz=21,slow=5.9,SNR=4.5						
FINES	FINESS Array B	66.22	349	P	P	13 15 23.2	-0.6
GBN	Guysborough	67.42	45	P	P	13 15 29.2	-2.5
NC405	NORSAR Array S	67.62	357	P	P	13 15 31.8	-0.9
NB2	NORSAR Subarra	67.71	357	P	P	13 15 33.9	+0.5
	comp=Z,1.9nm,0.9s,baz=2.2,slow=6.5						
NOA	NORSAR Array B	67.71	357	P	P	13 15 33.8	+0.4
	comp=Z,2.1nm,0.8s,baz=2.7,slow=7.2,SNR=7.5						
BOOM	Boomskoye usch	68.35	312	P	P	13 15 34.4	-3.5
KSH	Kashi	70.65	310	P	P	13 15 57.7	+5.7
KSH				sP	sP	13 16 04.7	-8.0
KSH				PcP	PcP	13 16 19.0	+6.3
KSH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CMAR	Chiang Mai Arr	73.81	279	P	P	13 16 12.5	+1.6
	comp=Z,1.1nm,0.5s,baz=22,slow=6.8,SNR=9.8						
CM02	Chiang Mai Arr	73.82	279	P	P	13 16 21.6	+11
	comp=Z,5.4nm,0.8s						
CM15	Chiang Mai Arr	73.82	279	P	P	13 16 17.0	+5.9
	comp=Z,123nmcomp=Z,7.9nm,0.5s						
CM01	Chiang Mai Arr	73.83	279	P	P	13 16 28.8	+18
CM04	Chiang Mai Arr	73.83	279	P	P	13 16 20.7	+10
	comp=Z,4.6nm,0.9s						
CM05	Chiang Mai Arr	73.85	279	P	P	13 16 22.3	+11
	comp=Z,5.8nm,1.0s						
CM13	Chiang Mai Arr	73.86	279	P	P	13 16 21.5	+10
	comp=Z,5.9nm,0.9s						
AKASG	Malin Array Be	76.23	345	P	P	13 16 24.0	-0.3
	comp=Z,1.7nm,0.3s,baz=18,slow=6.2,SNR=6.9						
CLL	Collm	77.37	355	i P	P	13 16 33.0	+2.2
	comp=Z,10.0nm,1.0s						
BRG	Berggiesshubel	77.75	355	eP	P	13 16 34.3	+1.3
BRG				Amp		13 16 36.3	
	comp=Z,6.1nm,0.8s						
OSTC	Ostas	77.92	353	eP	P	13 16 36.3	+2.4
SORM	Soroca	78.86	345	⇓P	P	13 16 39.4	+0.3
GRF	Grafenberg Arr	79.06	356	eP	P	13 16 42.6	+2.4
	comp=Z,10nm,1.0s,baz=3.3,slow=4.7						
VRAC	Vranov	79.13	353	⇓P	P	13 16 42.1	+1.5
CTAO	Charters Tower	79.24	217	P	P	13 16 29.3	-12
KHC	Kasperske Hory	79.51	355	eP	P	13 16 40.5	-2.2
KHC				ex	x	13 16 44.3	
GERES	GERESS Array B	79.79	355	P	P	13 16 45.5	+1.2
	comp=Z,1.6nm,0.7s,baz=35,slow=4.9,SNR=9.5						
BURAR	Bucovina Array	79.84	347	⇑P	P	13 16 45.5	+0.8
BIZ	Bicaz	80.37	346	⇓P	P	13 16 48.8	+1.4
CONA	Conrad Observa	80.56	353	i P	P	13 16 51.6	+3.1
	comp=Z,5.7nm,1.0s						
MOA	Molln	80.75	354	i P	P	13 16 51.8	+2.4
	comp=Z,6.3nm,1.4s						
DRGR		80.99	348	⇑P	P	13 16 52.0	+1.2
WATA	Walderalm	81.40	356	eP	P	13 16 55.6	+2.5
	comp=Z,4.0nm,0.6s						
WTTA	Wattenberg	81.47	356	i P	P	13 16 56.2	+2.8
	comp=Z,6.2nm,0.9s						
SQTA	Sankt Quirin	81.53	356	i P	P	13 16 56.5	+2.8
	comp=Z,6.9nm,1.0s						
KBA	Koelnbreinsper	81.57	355	i P	P	13 16 56.4	+2.4
	comp=Z,18nm,1.3s						
FETA	Feichten	81.75	357	i P	P	13 16 57.8	+2.9
	comp=Z,5.3nm,0.8s						
CFR	Carcaliu	81.76	344	⇑P	P	13 16 54.4	-0.3
SOKA	Soboth	81.86	354	i P	P	13 16 58.4	+3.0
	comp=Z,10nm,1.2s						
ABTA	Abfaltersbach	81.94	355	eP	P	13 16 58.4	+2.6
	comp=Z,5.1nm,1.0s						
VOIR		82.00	346	⇑P	P	13 16 58.6	+2.4
ARR	Arges	82.13	347	⇑P	P	13 16 59.4	+2.6
GZR	Gura Zlata	82.36	348	⇑P	P	13 16 59.4	+1.5
WRA	Warramunga Arr	84.14	228	P	P	13 17 07.0	-0.3
	comp=Z,0.8nm,0.6s,baz=36,slow=5.0,SNR=14						
BRTR	Keskin Array B	85.92	339	P	P	13 17 17.0	+0.7
	comp=Z,0.8nm,0.8s,baz=76,slow=5.2,SNR=6.1						
FITZ	Fitzroy Crossi	86.83	236	P	P	13 17 08.5	-12
ASAR	Alice Springs	87.57	226	P	P	13 17 24.6	+0.4
	comp=Z,2.0nm,0.9s,baz=32,slow=4.5,SNR=15						
ESDC	Sonseca Array	88.79	7	P	P	13 17 30.4	+0.3
	comp=Z,2.1nm,0.9s,baz=344,slow=4.1,SNR=12						
TORD	Torodi Ar. Bea	115.52	4	PKP	PKiKP	13 23 18.8	+0.7
	comp=Z,0.2nm,0.4s,baz=339,slow=2.9,SNR=1.9						
H03N2	Juan Fernandez	118.47	109	T	T	15 33 26.2	
	baz=317,slow=77,SNR=8.5						
H03N1	Juan Fernandez	118.49	109	T	T	15 33 27.0	
	baz=317,slow=77,SNR=8.1						
H03N3	Juan Fernandez	118.49	109	T	T	15 33 06.5	
	baz=317,slow=77,SNR=7.3						
MAW	Mawson	148.33	218	PKPbc	PKiKP	13 24 22.8	+0.4
	comp=Z,1.8nm,0.8s,baz=54,slow=5.7,SNR=4.8						
BOSA	Boshof	152.85	320	PKPbc	PKiKP	13 24 34.1	+1.0
	comp=Z,1.9nm,0.5s,baz=65,slow=0.9,SNR=11						

*NEIC **05** 13:05:38.5±0.2, 51°.3N±0°.1×174°.2W±0°.1, h21km±25km, Error ellipse: s-maj=22.3km s-min=5.0km az=148.0*

AEIC 05 13:05:39±1.1, 51°.3N±0°.1×174°.3W±0°.1, h20km±2km, ML3.6, Error ellipse: s-maj=19.0km s-min=10.6km az=163.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.92	5		Pb	13 05 56.3	0.0
KOKL	Mount Kliuchef	1.04	4		Pb	13 05 58.3	-0.1
KOWE	Korovin West	1.08	2		Pb	13 05 59.2	+0.1
GSTR	Great Sitkin T	1.35	308		Pb	13 06 03.8	+0.1
GSTD	Great Sitkin T	1.37	305		Pn	13 06 03.5	+0.4
ADK	Adak	1.59	293		Pn	13 06 06.5	+0.5
UNV	Unalaska Valle	5.42	59	Pn	Pn	13 06 56.9	-1.6

*KRSC **05** 13:16:05.0±3.4, 49°.17N×156°.26E, h20km±35km, ML6.1*

*NEIC **05** 13:16:08.9±2.6, 49°.36N±0°.08×155°.7E±0°.1, h38km±1km, mb5.7/358, Ms_20 5.3/744, Mwb5.8/96, Mww5.8, Mwc5.8(GCMT), Error ellipse: s-maj=14.3km s-min=10.8km az=138.0*

*BJI **05** 13:16:08.0±0.0, 49°.55N×155°.66E, h64km, mB5.5/65, mb5.5/92, Ms5.6/95, Ms7 5.5/90*

*NEIC **05** 13:16:09.5, 49°.38N×155°.73E, h41km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}7.11; $M_{\theta\theta}$-3.87; $M_{\phi\phi}$-3.25; $M_{r\theta}$1.72; $M_{\theta\phi}$-2.87; $M_{\phi r}$2.52; Fault plane solution: $M_0$7.45000×10^{17} NP1:ϕ_s232.50000°, δ33.35000°, λ98.03000°. NP2:ϕ_s42.91000°, δ57.02000°, λ84.75000°. Principal axes: T 7.7931, Plg77.0000°, Azm296.0000°; N -0.7311, Plg4.0000°, Azm46.0000°; P -7.0620, Plg12.0000°, Azm137.0000°;*

*IDC **05** 13:16:09.7±1.1, 49°.45N×155°.45E, h48km±10km, mb5.1/30, mb1 5.2/36, mb1mx5.2/38, mbtmp5.4/36, ML4.1/5, MS5.3/39, Ms1 5.3/39, ms1mx5.3/41 Error ellipse: s-maj=9.6km s-min=6.9km az=127.0*

*MOS **05** 13:16:09.0±1.1, 49°.38N×155°.46E, h56km, mb5.8/117, MS5.4/53, Error ellipse: s-maj=5.2km s-min=2.5km az=81.7*

MOS Felt (II) at Severo-Kuril'sk.

*GCMT **05** 13:16:10.9±0.1, 49°.34N×155°.98E, h46km, MW5.8/155, Moment Tensor Solution. s155,c344; s153,c497; Duration: 2s1 Moment tensor: Scale 10^{17}Nm; M_{rr}6.85±.06; $M_{\theta\theta}$-2.07±.04; $M_{\phi\phi}$-4.77±.04; $M_{r\theta}$1.22±.04; $M_{\theta\phi}$-3.36±.03; $M_{\phi r}$2.52±.04; Best double couple: $M_0$7.48900×10^{17} NP1:ϕ_s217.00000°, δ34.00000°, λ95.00000°. NP2:ϕ_s31.00000°, δ56.00000°, λ86.00000°. Principal axes: T 7.4040, Plg79.0000°, Azm288.0000°; N 0.1800, Plg3.0000°, Azm33.0000°; P -7.5740, Plg11.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **05** 13:16:12, 49°.29N×156°.06E, h49km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}6.61; $M_{\theta\theta}$-1.90; $M_{\phi\phi}$-4.71; $M_{r\theta}$1.08; $M_{\theta\phi}$-3.58; $M_{\phi r}$2.52; Fault plane solution: $M_0$7.42000×10^{17} NP1:ϕ_s219.00000°, δ35.00000°, λ98.00000°. NP2:ϕ_s30.00000°, δ56.00000°, λ85.00000°. Principal axes: T 7.1579, Plg78.0000°, Azm281.0000°; N 0.5014, Plg4.0000°, Azm33.0000°; P -7.6593, Plg11.0000°, Azm124.0000°;*

*NEIC **05** 13:16:13, 49°.25N×155°.94E, h50km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}5.41; $M_{\theta\theta}$-1.79; $M_{\phi\phi}$-3.61; $M_{r\theta}$1.34; $M_{\theta\phi}$-2.57; $M_{\phi r}$3.04; Fault plane solution: $M_0$6.36000×10^{17} NP1:ϕ_s221.00000°, δ30.00000°, λ100.00000°. NP2:ϕ_s29.00000°, δ61.00000°, λ84.00000°. Principal axes: T 6.3724, Plg74.0000°, Azm285.0000°; N -0.0336, Plg5.0000°, Azm32.0000°; P -6.3388, Plg16.0000°, Azm124.0000°;*

*BGR **05** 13:16:16.7±0.0, 50°.10N×153°.91E, h70km±1km, mb5.7, mB_BB6.2*

ISC 05 13:16:11.1±0.3**, 49°.40N**±0°.03×**155°.42E**±0°.03**, h57**km±1km**, h57km:pP-P, n2256, σ1s63**/2151**, mb5.7**/487**, MS5.4**/471**, 604C-184D, Fault plane solution: NP1:**ϕ_s154.33971°, δ34.84801°, λ46.09171°. **NP2:**ϕ_s23.89027°, δ65.69043°, λ115.77412°. **Principal axes:** T Plg60.6210°, Azm332.7001°; N Plg23.3452°, Azm192.6477°; P Plg16.8106°, Azm95.1552°; **Fault plane solution: NP1:**ϕ_s34.51996°, δ59.81197°, λ70.63256°. **NP2:** ϕ_s249.47598°, δ35.36657°, λ119.68586°. **Principal axes:** T Plg68.7776°, Azm264.1444°; N Plg16.6575°, Azm44.5438°; P Plg12.7713°, Azm138.4326°; **Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.36	19c	iPN	Pn	13 16 32.2	-1.7
SKR				eS	Sn	13 16 48.8	-2.1
SKR				pmax	pmax		
	comp=Z,23μm,4.6s						
SKR				pmax	pmax		
	comp=Z,5μm,0.9s						
SKR				pmax	pmax		
	comp=Z,560nm,5.3s						
SKR				smax	smax		
	comp=E,41μm,0.6s						
SKR				smax	smax		
	comp=N,47μm,0.6s						
SKR				MLR	MLR		
	comp=Z,11μm,14.0s						
SKR				MLR	MLR		
	comp=Z,13μm,14.0s						
SKR	Severo-Kuril's	1.36	19	eP	Pn	13 16 32.2	-1.7
SKR				eS	Sn	13 16 49.6	-1.3
ALID	Alaid	1.48	3	PN	Pn	13 16 35.7	+0.2
ALID	Alaid	1.48	3	eP	Pn	13 16 35.7	+0.2
PAU	Pauzhetka	2.25	23	PN	Pn	13 16 44.9	-1.1
PAU				S	Sn	13 17 12.0	-0.6
PAU	Pauzhetka	2.25	23	eP	Pn	13 16 44.9	-1.1
PAU				eS	Sn	13 17 12.0	-0.6
KDTR	Khodutka, Kamc	2.95	34	PN	Pn	13 16 52.5	-2.9
KDTR				S	Sn	13 17 26.7	-2.9
KDTR	Khodutka, Kamc	2.95	34	eP	Pn	13 16 52.5	-2.9
KDTR				eS	Sn	13 17 26.7	-2.9
MIPR	Malaya Ipel'ka	3.00	16	PN	Pn	13 16 55.6	-0.6
MIPR	Malaya Ipel'ka	3.00	16	eP	Pn	13 16 55.6	-0.6
ASAK	Asacha	3.38	27	PN	Pn	13 17 00.5	-0.9
ASAK	Asacha	3.38	27	eP	Pn	13 17 00.5	-0.9
MTVR	Mutnovka	3.55	28	PN	Pn	13 17 02.7	-1.1
MTVR	Mutnovka	3.55	28	eP	Pn	13 17 02.7	-1.1
GRL	Gorelyy	3.58	27	PN	Pn	13 17 04.0	-0.2
GRL	Gorelyy	3.58	27	eP	Pn	13 17 04.0	-0.2
RUS	Russkaya	3.62	32	PN	Pn	13 17 01.8	-2.8
RUS	Russkaya	3.62	32	eP	Pn	13 17 01.8	-2.8
APC	Apacha	3.70	17	PN	Pn	13 17 05.4	-0.3
APC	Apacha	3.70	17	eP	Pn	13 17 05.4	-0.3
KRMR	Karymshinskiy	3.84	25	PN	Pn	13 17 09.5	+1.9
KRMR				S	Sn	13 17 57.8	+6.4
KRMR	Karymshinskiy	3.84	25	eP	Pn	13 17 09.5	+1.9
KRMR				eS	Sn	13 17 57.8	+6.4
PEA0B	Petropavlovsk-	3.98	20d	ePN	Pn	13 17 09.5	-0.1
PEA0B	Petropavlovsk-	3.98	20	Pn	Pn	13 17 09.6	-0.1
PETK	Petropavlovsk-	3.98	20	P	Pn	13 17 08.6	-1.0
	comp=Z,56nm,0.3s,baz=176,slow=11,SNR=627						
PETK				S	Sn	13 17 53.6	-1.4
	comp=Z,55nm,0.3s,baz=188,slow=20,SNR=5.4						
PETK				LR	LR	13 19 00.8	
	comp=Z,74μm,20.1s,baz=201,slow=44						
PETK	Petropavlovsk-	3.98	20	Pn	Pn	13 17 08.4	-1.2
I44RU	PETROPAVLOVSK-	3.98	20	P	Pn	13 17 05.0	-4.6
	baz=160,slow=15,SNR=2.5						
PET	Petropavlovsk	4.16	28	ePN	Pn	13 17 11.0	-1.0
PET				i S	Sn	13 18 00.0	+0.7
PET				pmax	pmax		
	comp=Z,1μm,0.8s						
PET				smax	smax		
	comp=E,9μm,0.7s						
PET				smax	smax		
	comp=N,11μm,0.8s						
PET				MLR	MLR		
	comp=Z,33μm,13.0s						
PET				MLR	MLR		
	comp=Z,17μm,10.0s						
PET	Petropavlovsk	4.16	28	eP	Pn	13 17 11.1	-1.0
PET	Petropavlovsk	4.16	28		Pn	13 17 11.0	-1.0
DALK	Dalny	4.20	29	PN	Pn	13 17 11.8	-0.7
DALK				S	Sn	13 18 00.2	0.0
DALK	Dalny	4.20	29	eP	Pn	13 17 11.8	-0.7
DALK				eS	Sn	13 18 00.2	0.0
UGLR	Uglovaya	4.37	28	PN	Pn	13 17 14.9	-0.2
UGLR	Uglovaya	4.37	28	eP	Pn	13 17 14.9	-0.2
KOK	Koryaka	4.39	26	PN	Pn	13 17 16.0	+0.7
KOK				S	Sn	13 18 09.5	+4.4
KOK	Koryaka	4.39	26	eP	Pn	13 17 16.0	+0.7
KOK				eS	Sn	13 18 09.5	+4.4
AVH	Avacha	4.40	27	PN	Pn	13 17 16.2	+0.9
AVH	Avacha	4.40	27	eP	Pn	13 17 16.2	+0.9
SMAR	Somma	4.41	27	PN	Pn	13 17 17.0	+1.3
SMAR				S	Sn	13 18 08.8	+2.9
SMAR	Somma	4.41	27	eP	Pn	13 17 17.0	+1.3
SMAR				eS	Sn	13 18 08.8	+2.9
KRER	Koryakskii	4.43	27	PN	Pn	13 17 16.1	+0.1
KRER				S	Sn	13 18 07.9	+1.6
KRER	Koryakskii	4.43	27	eP	Pn	13 17 16.1	+0.1
KRER				eS	Sn	13 18 07.9	+1.6
SDLR	Sedlovina	4.45	28	PN	Pn	13 17 15.2	-0.9
SDLR	Sedlovina	4.45	28	eP	Pn	13 17 15.2	-0.9
KRX	Arik	4.45	26	eP	Pn	13 17 05.9	-10
NLC	Nalytchevo	4.51	32	PN	Pn	13 17 14.0	-2.8
NLC	Nalytchevo	4.51	32	eP	Pn	13 17 14.0	-2.8
NLC				eS	Sn	13 18 04.4	-3.5
GNL	Ganaly	4.58	19	PN	Pn	13 17 18.3	+0.4
GNL	Ganaly	4.58	19	eP	Pn	13 17 18.3	+0.4
SPN	Mys Shipunski	4.70	36	PN	Pn	13 17 17.1	-2.3
SPN	Mys Shipunski	4.70	36	eP	Pn	13 17 17.1	-2.3
KII	Karymskiy	5.28	27	PN	Pn	13 17 28.1	+0.7
KII	Karymskiy	5.28	27	eP	Pn	13 17 28.1	+0.7
KZV	Kizimen	6.46	26	PN	Pn	13 17 44.1	+0.5
KZV	Kizimen	6.46	26	eP	Pn	13 17 44.1	+0.5
MKZ	Mys Kozlova	6.47	35	PN	Pn	13 17 40.1	-3.5
MKZ	Mys Kozlova	6.47	35	eP	Pn	13 17 40.1	-3.5
TUMR	Tumrok	6.57	24	PN	Pn	13 17 46.4	+1.3
TUMR	Tumrok	6.57	24	eP	Pn	13 17 46.4	+1.3
KUR	Kuril'sk	6.61	234d	iPN	Pn	13 17 47.7	+2.1
KUR				i S	Sn	13 19 04.8	+5.3
KUR				pmax	pmax		
	comp=N,736nm,0.5s						
KUR				pmax	pmax		
	comp=Z,2μm,0.5s						
KUR				pmax	pmax		
	comp=E,554nm,0.4s						
KUR				pmax	pmax		
	comp=Z,17μm,3.1s						
KUR				pmax	pmax		
	comp=N,14μm,3.4s						
KUR				pmax	pmax		
	comp=E,23μm,3.6s						
KUR				smax	smax		
	comp=N,65μm,2.4s						
KUR				smax	smax		
	comp=E,59μm,2.1s						
KUR				smax	smax		
	comp=N,5μm,0.8s						
KUR				smax	smax		
	comp=E,3μm,0.7s						
KUR				MLR	MLR		
	comp=Z,36μm,11.0s						
KUR				MLR	MLR		
	comp=N,28μm,12.0s						
KUR				MLR	MLR		
	comp=E,37μm,15.0s						
ESO	Esso	6.83	16	PN	Pn	13 17 51.7	+3.0
ESO	Esso	6.83	16	eP	Pn	13 17 51.7	+3.0
KMNR	Kamenistaya	7.01	23	PN	Pn	13 17 52.5	+1.4
KMNR	Kamenistaya	7.01	23	eP	Pn	13 17 52.5	+1.4
KPT	Kopyto	7.20	22	PN	Pn	13 17 54.3	+0.6
KPT	Kopyto	7.20	22	eP	Pn	13 17 54.3	+0.6
KIRR	Kirishev	7.21	23	PN	Pn	13 17 54.6	+0.6
KIRR	Kirishev	7.21	23	eP	Pn	13 17 54.6	+0.6
BZMR	Bezymyannaya	7.24	23	PN	Pn	13 17 55.1	+0.8
BZMR	Bezymyannaya	7.24	23	eP	Pn	13 17 55.1	+0.8
BZWR	Bezymyannyi-We	7.26	23	PN	Pn	13 17 55.6	+0.9
BZWR	Bezymyannyi-We	7.26	23	eP	Pn	13 17 55.6	+0.9
ZLN	Zelenaya	7.39	24	PN	Pn	13 17 57.7	+1.4
ZLN	Zelenaya	7.39	24	eP	Pn	13 17 57.7	+1.4
LGNR	Loginova	7.42	24	PN	Pn	13 17 59.0	+2.1
LGNR	Loginova	7.42	24	eP	Pn	13 17 59.0	+2.1
CIRR	Tsirk	7.46	24	PN	Pn	13 17 59.1	+1.7
CIRR	Tsirk	7.46	24	eP	Pn	13 17 59.1	+1.7
KRSR	Krestovskiy	7.51	23	PN	Pn	13 17 58.5	+0.6
KRSR	Krestovskiy	7.51	23	eP	Pn	13 17 58.5	+0.6
KLY	Klyuchi	7.61	23	PN	Pn	13 18 00.0	+0.7
KLY	Klyuchi	7.61	23	eP	Pn	13 18 00.0	+0.7
BDR	Baidarnaya	7.98	24	PN	Pn	13 18 04.4	0.0
BDR	Baidarnaya	7.98	24	eP	Pn	13 18 04.4	0.0
SRKR	Sorokina	8.05	23	PN	Pn	13 18 05.7	+0.4
SRKR	Sorokina	8.05	23	eP	Pn	13 18 05.7	+0.4
SMKR	Semkarok	8.06	25	PN	Pn	13 18 06.4	+0.9
SMKR	Semkarok	8.06	25	eP	Pn	13 18 06.4	+0.9
KBTR	Krutoberegovo	8.16	30	PN	Pn	13 18 03.7	-3.0
KBTR	Krutoberegovo	8.16	30	eP	Pn	13 18 03.7	-3.0
KBG	Krutoberegovo	8.16	30	PN	Pn	13 18 05.6	-1.1
KBG	Krutoberegovo	8.16	30	eP	Pn	13 18 05.6	-1.1
TYV	Tymovskoe	8.33	285	ePN	Pn	13 18 14.8	+5.7
TYV				eS	Sn	13 19 49.8	+8.1
TYV				pmax	pmax		
	comp=Z,891nm,1.5s						
TYV				pmax	pmax		
	comp=Z,7μm,3.1s						
TYV				smax	smax		
	comp=N,96nm,1.8s						
TYV				smax	smax		
	comp=N,3μm,11.3s						
TYV				smax	smax		
	comp=E,2μm,8.4s						
YUK	Yuzh-Kuril'sk	8.47	234c	iPN	Pn	13 18 11.9	+0.8
YUK				eS	Sn	13 19 47.8	+2.6
YUK				pmax	pmax		
	comp=Z,4μm,0.5s						
YUK				pmax	pmax		
	comp=N,362nm,0.4s						
YUK				pmax	pmax		
	comp=E,2μm,0.4s						
YUK				pmax	pmax		
	comp=Z,5μm,1.4s						
YUK				smax	smax		
	comp=N,10μm,1.7s						
YUK				smax	smax		
	comp=E,8μm,1.7s						
GRPR	Tuman	8.55	234c	iPN	Pn	13 18 13.1	+0.9
GRPR				i S	Sn	13 19 50.1	+3.0
GRPR				pmax	pmax		
	comp=N,1μm,0.4s						
GRPR				pmax	pmax		
	comp=E,2μm,0.4s						
GRPR				pmax	pmax		
	comp=Z,2μm,0.4s						
GRPR				pmax	pmax		
	comp=Z,3μm,1.4s						
GRPR				smax	smax		
	comp=N,5μm,1.1s						
GRPR				smax	smax		
	comp=E,4μm,0.9s						
UGL	Uglegorsk	8.74	273⇓	iPN	Pn	13 18 20.4	+5.6
UGL				eS	Sn	13 19 56.9	+5.1
UGL				pmax	pmax		
	comp=Z,2μm,1.5s						
UGL				pmax	pmax		
	comp=E,8μm,2.3s						
UGL				pmax	pmax		
	comp=N,2μm,1.5s						
UGL				pmax	pmax		
	comp=Z,11μm,1.9s						
UGL				smax	smax		
	comp=E,340nm,0.5s						
UGL				smax	smax		
	comp=N,1μm,0.8s						
UGL				MLR	MLR		
	comp=Z,33μm,16.0s						
UGL				MLR	MLR		
	comp=N,21μm,15.0s						
UGL				MLR	MLR		
	comp=E,33μm,15.0s						
RUSJ	Misakicho	8.76	237	ePN	Pn	13 18 17.4	+2.4

RUSJ eS **Sn** **13 19 59.1 +6.9**
YSS Yuzh-Sakhalins 8.81 259 *ke*PN **Pn** **13 18 20.0 +4.3**
YSS eS Sn 13 20 04.8 +11
YSS pmax pmax
comp=Z,5μm,3.5s
YSS pmax pmax
comp=N,3μm,4.6s
YSS pmax pmax
comp=E,5μm,2.0s
YSS smax smax
comp=E,3μm,9.7s
OKH Okha 8.83 303 *d i*PN **Pn** **13 18 19.8 +3.9**
OKH eS Sn 13 20 03.8 +10
OKH pmax pmax
comp=Z,3μm,12.2s
OKH smax smax
comp=E,4μm,10.7s
OKH smax smax
comp=N,5μm,9.9s
NMR Nemuro--Hokkai 9.01 232 *e*PN **Pn** **13 18 16.2 -2.2**
NKL Nikolayevsk 9.97 298 *e*PN **Pn** **13 18 34.0 +2.5**
NKL pmax pmax
comp=E,4.0nm,0.8s
NKL pmax pmax
comp=N,542nm,1.0s
NKL pmax pmax
comp=Z,1μm,1.5s
NKL MLR MLR
comp=N,9μm,19.0s
NKL MLR MLR
comp=Z,17μm,20.0s
JKA Kamikawa-asahi 10.26 244 Pn **Pn** **13 18 33.9 -1.6**
ASAJ Asahikawa 10.26 244 P **Pn** **13 18 38.8 +3.3**
comp=Z,49nm,0.3s,baz=74,slow=13,SNR=300
ASAJ S **Sn** **13 20 31.5 +2.7**
comp=Z,6.5nm,0.3s,baz=11,slow=26,SNR=0.8
ASAJ LR LR 13 22 09.7
comp=Z,28μm,21.8s,baz=66,slow=35
ASAJ Asahikawa 10.26 244 PN **Pn** **13 18 33.9 -1.6**
MA2 Magadan 10.55 347 P **Pn** **13 18 40.1 +0.8**
comp=Z,29nm,0.3s,baz=159,slow=10,SNR=102
MA2 S **Sn** **13 20 33.4 -2.3**
comp=Z,4.5nm,0.3s,baz=219,slow=19,SNR=1.6
MA2 LR LR 13 23 06.5
comp=Z,20μm,19.9s,baz=180,slow=40
MA2 Magadan 10.55 347 *ce*PN **Pn** **13 18 40.2 +0.8**
MA2 pmax pmax
comp=Z,552nm,1.7s
MA2 MLR MLR
comp=Z,17μm,15.0s
MA2 Magadan 10.55 347 Pn **Pn** **13 18 40.5 +1.1**
JEW Eniwo 11.69 241 Pn **Pn** **13 18 57.0 +1.9**
SMY Shemya 12.21 67 PN Pn 13 18 56.7 -5.4
SMY Shemya 12.21 67 Pn 13 18 56.7 -5.4
GRNR Gornyy 12.28 284⇓ *i*PN P 13 19 08.6 -4.9
GRNR eS S 13 21 32.0 -12
GRNR pmax pmax
comp=E,150nm,0.8s
GRNR pmax pmax
comp=Z,130nm,0.8s
GRNR smax smax
comp=N,10.0nm,0.9s
GRNR MLR MLR
comp=N,7μm,15.0s
TILK Tilichiki 12.65 25 PN **Pn** **13 19 07.3 -0.7**
TILK Tilichiki 12.65 25 *e*P **Pn** **13 19 07.3 -0.7**
JTM Tenmabayashi 13.28 235 Pn **Pn** **13 19 12.1 -4.7**
TEY Ternei 13.51 258⇑ *i*P **P** **13 19 24.2 -2.9**
TEY eS **Sn** **13 21 56.6 +8.6**
TEY pmax pmax
comp=E,150nm,1.4s
TEY pmax pmax
comp=N,50nm,1.2s
TEY pmax pmax
comp=Z,140nm,1.3s
TEY smax smax
comp=E,2μm,5.7s
TEY smax smax
comp=N,5μm,6.6s
TEY MLR MLR
comp=N,3μm,13.0s
TEY MLR MLR
comp=Z,6μm,14.0s
SEY Seymchan 13.67 354 P **Pn** **13 19 21.6 -0.2**
comp=Z,4.0nm,0.3s,baz=175,slow=15,SNR=56
SEY S **Sn** **13 21 54.5 +2.6**
comp=Z,1.0nm,0.3s,baz=239,slow=12,SNR=1.3
SEY LR LR 13 25 44.6
comp=Z,16μm,18.0s,baz=165,slow=42
SEY Seymchan 13.67 354 *c i*P **Pn** **13 19 22.2 +0.3**
KLR Kul'dur 15.43 278 P **Pn** **13 19 46.0 +1.1**
comp=Z,1.1nm,0.3s,baz=75,slow=13,SNR=108
KLR S **S** **13 22 41.7 -6.1**
comp=Z,0.6nm,0.3s,baz=100,slow=16,SNR=1.6
KLR LR LR 13 26 07.6
comp=Z,24μm,20.2s,baz=80,slow=39
KLR Kul'dur 15.43 278 *ce*P **P** **13 19 48.1 -0.4**
KLR pmax pmax
comp=Z,395nm,1.5s
KLR MLR MLR
comp=Z,20μm,16.0s
JMM Marumori 15.62 228 **Pn** **13 19 42.8 -4.7**
JSD Sado 16.77 234 **Pn** **13 19 58.7 -3.3**
JSD IAmb IAmb 13 20 09.2
comp=Z,1μm,1.5s
USA0B Ussuriysk Arra 16.84 261 *c i*P **Pn** **13 20 02.6 -0.2**
USA0B Ussuriysk Arra 16.84 261 Pn **Pn** **13 20 02.8 0.0**
USA0B IAmb IAmb 13 20 19.1
comp=Z,1μm,1.9s
USRK Ussuriysk Ar. 16.84 261 P **P** **13 20 04.2 +0.1**
baz=64,slow=11,SNR=90
USRK S **Sn** **13 23 08.3 -0.5**
baz=277,slow=37,SNR=0.7
USRK LR LR 13 26 20.7
comp=Z,10μm,20.2s,baz=53,slow=36
USRK Ussuriysk Ar. 16.84 261 **P** **13 20 04.0 -0.1**
JYT Yasato 17.22 226 **Pn** **13 20 05.3 -2.2**
JYT IAmb IAmb 13 20 11.1
comp=Z,1μm,1.8s
VLA Vladivostok 17.41 258 *c i*P **Pn** **13 20 08.5 -1.3**
VLA pmax pmax
comp=Z,241nm,1.2s
VLA MLR MLR
comp=Z,8μm,16.0s
MJB9 Matsu-Tunnel 17.93 231 P Pn **13 20 17.6 +1.2**
MAJO Matsushiro 17.94 231 *d i*P **P** **13 20 14.8 -1.5**
MAJO pmax pmax
comp=Z,289nm,1.4s
MAJO Matsushiro 17.94 231 **P** **13 20 15.5 -0.8**
MAT Matsushiro 17.94 231 P **P** **13 20 14.1 -2.2**
MAT S **S** **13 23 37.6 -1.3**
MJAR Matsushiro Arr 17.94 231 P **P** **13 20 14.7 -1.7**
comp=Z,0.4nm,0.3s,baz=35,slow=11,SNR=73
MJAR S **Sn** **13 23 35.8 +0.2**
comp=Z,0.0nm,0.3s,baz=131,slow=39,SNR=1.4
MJAR LR LR 13 27 47.2
comp=Z,12μm,20.5s,baz=70,slow=39
MJAR Matsushiro Arr 17.94 231 P **P** **13 20 14.6 -1.7**
ZEA Zeya 17.98 295 *ce*P **Pn** **13 20 18.4 +1.6**
ZEA eS **Sn** **13 23 30.4 -6.0**
ZEA pmax pmax
comp=N,50nm,1.0s
ZEA pmax pmax
comp=E,70nm,1.0s
ZEA pmax pmax
comp=Z,100nm,1.0s
ZEA pmax pmax
comp=E,2μm,4.1s
ZEA pmax pmax
comp=N,500nm,5.3s
ZEA pmax pmax
comp=Z,2μm,4.6s
ZEA smax smax
comp=E,2μm,6.4s
ZEA smax smax
comp=N,3μm,7.5s
MSHR Mys Shultsa 18.14 257 *i* P **P** **13 20 17.2 -1.3**
MSHR pmax pmax
comp=Z,97nm,1.0s
MSHR MLR MLR
comp=Z,7μm,21.0s
MDJ Mudanjiang 18.21 265 P **P** **13 20 19.1 -0.2**
MDJ pP pP 13 20 26.8 -4.9
MDJ sP sP 13 20 34.9 -4.1
MDJ S **Sn** **13 23 42.3 +0.3**
MDJ sS sS 13 23 55.8 -8.8
MDJ ScS **ScS** **13 32 01.4 +1.0**
MDJ pmax pmax
comp=Z,170nm,1.0s
MDJ pmax pmax
comp=Z,2μm,3.6s
MDJ LR LR
comp=Z,8μm,17.8s
MDJ LR LR
comp=Z,14μm,20.4s
MDJ LR LR
comp=Z,24μm,21.1s
MDJ Mudanjiang 18.21 265 P **P** **13 20 18.9 -0.3**
MDJ IAmb IAmb 13 20 27.1
comp=Z,850nm,1.3s
YAK Yakutsk 19.07 321 P **P** **13 20 28.6 +0.1**
comp=Z,1.2nm,0.3s,baz=100,slow=3.9,SNR=48
YAK S **Sn** **13 24 02.5 0.0**
baz=159,slow=24,SNR=0.9
YAK LR LR 13 27 50.1
comp=Z,16μm,21.1s,baz=132,slow=37
YAK Yakutsk 19.07 321 *e*P Pn 13 20 42.1 +12
YAK *e*S **Sn** **13 24 03.8 +1.4**
YAK pmax pmax
comp=Z,3μm,2.8s
YAK pmax pmax
comp=N,1μm,2.6s
YAK pmax pmax
comp=E,2μm,3.0s
YAK smax smax
comp=N,2μm,1.9s
YAK smax smax
comp=E,753nm,1.8s
YAK MLR MLR
comp=Z,17μm,20.0s
YAK MLR MLR
comp=N,5μm,19.0s
YAK MLR MLR
comp=E,8μm,19.0s
YAK Yakutsk 19.07 321 P **Pn** **13 20 29.5 -0.3**
YAK IAmb IAmb 13 20 35.8
comp=Z,500nm,1.0s
JGF Kuroka 19.10 231 P **Pn** **13 20 30.0 -0.4**
ATKA Atka Island 19.34 70 P **P** **13 20 27.9 -3.6**
JSG Sagara 19.43 227 P **P** **13 20 33.1 +0.4**
JSG IAmb IAmb 13 20 53.5
comp=Z,451nm,0.8s
BILL Bilibino 19.47 12 *de*P **P** **13 20 31.3 -1.5**
BILL pmax pmax
comp=Z,171nm,1.3s
BILL MLR MLR
comp=Z,11μm,17.0s
INU Inuyama 19.47 231 P **Pn** **13 20 34.3 -0.5**
INU IAmb IAmb 13 20 39.6
comp=Z,391nm,0.9s
JHJ2 Mitsune 19.99 221 P **P** **13 20 38.5 -0.3**
JHJ Hachijo jima 2 20.00 221 P **P** **13 20 38.7 -0.1**
comp=Z,585nm,0.9s,baz=128,slow=1.5,SNR=17
JHJ S **S** **13 24 12.3 -8.3**
comp=Z,40nm,0.6s,baz=73,slow=21,SNR=2.5
JHJ LR LR 13 29 47.2
comp=Z,2μm,19.9s,baz=32,slow=41
JWT Wachi 20.36 234 P **P** **13 20 43.5 +0.8**
JWT IAmb IAmb 13 20 45.9
comp=Z,835nm,1.9s
JWT IAMs_20 IAMs_20 13 28 08.9
comp=Z,16μm,22.0s
CN2 Changchun 21.25 266 *e*P **P** **13 20 50.1 -2.2**
CN2 *e*S **S** **13 24 38.1 -7.1**
CN2 pmax pmax
comp=Z,50nm,1.0s
CN2 pmax pmax
comp=Z,2μm,10.0s
CN2 LR LR
comp=Z,9μm,19.0s
CN2 LR LR
comp=Z,10μm,19.0s
CN2 LR LR
comp=Z,11μm,21.0s
SPIA Saint Paul Isl 21.76 56 P **P** **13 20 58.6 +1.0**
baz=264
SPIA S **S** **13 24 56.9 +2.1**
baz=264
JHS Saijyo 21.80 237 P **P** **13 20 59.6 +1.3**
KSSKC Sokcho 22.23 250 P **P** **13 21 04.0 +1.1**
SNR=14
KSJMJ Jumunjin 22.34 249 P **P** **13 21 04.3 +0.3**
SNR=33
KSJMJ Jumunjin 22.34 249 P **P** **13 21 04.3 +0.3**
SNR=33
JMN Monobe 22.35 234 P **P** **13 21 05.5 +1.3**
JMN IAMs_20 IAMs_20 13 29 19.8
comp=Z,15μm,22.0s
OKEB Okgye-meyeon 22.38 248 P **P** **13 21 05.0 +0.6**
SNR=16
OKEB Okgye-meyeon 22.38 248 P **P** **13 21 05.0 +0.6**
SNR=16
IMWB Imwonan-gil 22.41 247 P **P** **13 21 06.1 +1.4**
SNR=11
IMWB Imwonan-gil 22.41 247 P **P** **13 21 06.1 +1.4**
SNR=11
SEHB SEOHWA 22.41 251 P **P** **13 21 05.3 +0.5**
SNR=14
SEHB SEOHWA 22.41 251 P **P** **13 21 05.3 +0.5**
SNR=14
KSDGY Daegwallycong 22.52 249 P **P** **13 21 06.4 +0.4**
SNR=38
KSDGY Daegwallycong 22.52 249 P **P** **13 21 06.4 +0.4**
SNR=38
UJN ULJIN 22.52 246 P **P** **13 21 06.6 +0.6**
SNR=18
UJN ULJIN 22.52 246 P **P** **13 21 06.6 +0.6**
SNR=18
NIKH Nikolski High 22.53 67 P **P** **13 21 04.1 -1.8**
baz=275
KSIJA INJE 22.67 250 P **P** **13 21 08.5 +0.9**
SNR=11
KSIJA INJE 22.67 250 P **P** **13 21 08.6 +1.0**
SNR=32
KSTBA Taebaek 22.72 247 P **P** **13 21 09.3 +1.1**
SNR=41
KSTBA Taebaek 22.72 247 P **P** **13 21 09.3 +1.1**
SNR=41
KSULJ Uljin 22.72 246 P **P** **13 21 09.0 +0.9**
SNR=58
KSULJ Uljin 22.72 246 P **P** **13 21 09.0 +0.9**
SNR=9.8
GAMB Gambell 22.78 39 P **P** **13 21 07.2 -1.1**
GAMB Gambell 22.78 39 P **P** **13 21 06.5 -1.9**
baz=246,SNR=32
GAMB S **S** **13 25 13.1 +0.4**
baz=246
HWCB Hwacheon 22.80 251 P **P** **13 21 10.0 +1.1**
SNR=54
HWCB Hwacheon 22.80 251 P **P** **13 21 10.0 +1.1**
SNR=54
HWCB Hwacheon 22.80 251 P **P** **13 21 12.0 +3.1**
SNR=9.3
KSCWO Cheorwon 22.98 251 P **P** **13 21 11.8 +1.0**
SNR=68
KSCWO Cheorwon 22.98 251 P **P** **13 21 11.9 +1.2**
SNR=36
KSCWO Cheorwon 22.98 251 P **P** **13 21 11.8 +1.0**
SNR=68
KSYOW Yeongwol 22.98 248 P **P** **13 21 11.7 +0.9**
SNR=15
KSYOW Yeongwol 22.98 248 P **P** **13 21 11.4 +0.6**
SNR=25
KSCHC Chuncheon 22.99 250 P **P** **13 21 12.2 +1.4**
SNR=30
KSCHC Chuncheon 22.99 250 P **P** **13 21 13.0 +2.2**
SNR=5.8
KSWJU Wonju 23.08 249 P **P** **13 21 13.0 +1.2**
SNR=39
KSWJU Wonju 23.08 249 P **P** **13 21 15.0 +3.2**
SNR=9.1
KSPHA Pohang 23.09 245 P **P** **13 21 14.0 +2.2**
SNR=19
KSPHA Pohang 23.09 245 P **P** **13 21 14.0 +2.2**
SNR=19
HIA Hailar 23.12 283 IAMs_20 IAMs_20 13 30 46.1
comp=Z,15μm,20.0s
KSRS Korea Array 23.13 249 P **P** **13 21 12.4 +0.3**
comp=Z,227nm,1.1s,baz=54,slow=7.8,SNR=94
KSRS PcP **PcP** **13 25 00.1 +1.1**
comp=Z,16nm,1.1s,baz=53,slow=2.6,SNR=5.6
KSRS S **S** **13 25 19.0 +0.1**
comp=Z,5.4nm,0.9s,baz=348,slow=2.3,SNR=0.7
KSRS LR LR 13 29 41.5
comp=Z,9μm,20.1s,baz=56,slow=35
KS19 Wonju Array Si 23.13 249 P **P** **13 21 13.5 +1.3**
KS19 IAmb IAmb 13 21 15.6
comp=Z,418nm,1.2s
KSAR Wonju Array Be 23.16 249 P **P** **13 21 12.5 0.0**
KSAR Wonju Array Be 23.16 249 P **P** **13 21 12.5 0.0**
KSADO Andong 23.19 246 P **P** **13 21 15.0 +2.2**
SNR=20
KSADO Andong 23.19 246 P **P** **13 21 15.0 +2.2**
SNR=20
YNCB YEONCHEON 23.37 252 P **P** **13 21 16.6 +2.1**
SNR=16
YNCB YEONCHEON 23.37 252 P **P** **13 21 16.6 +2.1**
SNR=16
KSDDC Dongducheon 23.38 251 P **P** **13 21 16.8 +2.3**
SNR=6.0
KSDDC Dongducheon 23.38 251 P **P** **13 21 17.7 +3.2**
SNR=12
KSDDC Dongducheon 23.38 251 P **P** **13 21 16.8 +2.3**
SNR=6.0
KSEUS ULSEONG 23.39 246 P **P** **13 21 15.7 +1.0**
SNR=40
KSEUS ULSEONG 23.39 246 P **P** **13 21 15.7 +1.0**
SNR=40
SNY Shenyang 23.39 263⇑ P **P** **13 21 14.6 -0.1**
SNY S **S** **13 25 18.8 -4.4**
SNY pmax pmax
comp=Z,90nm,1.2s
SNY LR LR
comp=Z,8μm,19.1s
SNY LR LR
comp=Z,6μm,18.9s
SNY LR LR
comp=Z,8μm,21.8s
KSCHJ Chungju 23.47 248 P **P** **13 21 17.1 +1.6**
SNR=33
KSCHJ Chungju 23.47 248 P **P** **13 21 19.0 +3.5**
SNR=7.3
KSCHJ Chungju 23.47 248 P **P** **13 21 19.0 +3.5**
SNR=7.3
KSYOC YEONGCHEON 23.49 245 P **P** **13 21 16.3 +0.7**
SNR=16
KSYOC YEONGCHEON 23.49 245 P **P** **13 21 20.0 +4.4**
SNR=5.6
KSYOC YEONGCHEON 23.49 245 P **P** **13 21 16.3 +0.7**
SNR=16
KSYOC YEONGCHEON 23.49 245 P **P** **13 21 20.0 +4.4**
SNR=5.6
KSICN Icheon 23.54 250 P **P** **13 21 17.0 +0.9**
SNR=34
KSICN Icheon 23.54 250 P **P** **13 21 17.0 +0.9**
SNR=34
KSMGY Mungyeong 23.56 248 P **P** **13 21 17.4 +1.1**
SNR=55
KSMGY Mungyeong 23.56 248 P **P** **13 21 18.9 +2.6**
SNR=15
KSMGY Mungyeong 23.56 248 P **P** **13 21 17.4 +1.1**
SNR=55
KSMUS Musan 23.57 252 P **P** **13 21 18.7 +2.4**
SNR=7.3
KSMUS Musan 23.57 252 P **P** **13 21 18.7 +2.4**
SNR=7.3
KSUSN Ulsan 23.57 244 P **P** **13 21 17.4 +1.0**
SNR=10
KSUSN Ulsan 23.57 244 P **P** **13 21 17.4 +1.0**
SNR=10
KSSOD Songwoldong 23.64 251 P **P** **13 21 20.8 +3.9**
SNR=8.0
KSSOD Songwoldong 23.64 251 P **P** **13 21 20.8 +3.9**
SNR=8.0
KSDAG Daegu 23.66 245 P **P** **13 21 19.0 +1.8**
SNR=17
KSDAG Daegu 23.66 245 P **P** **13 21 19.0 +1.8**
SNR=17
KSSAJ Sangju 23.67 247 P **P** **13 21 18.4 +1.1**
SNR=54
KSSAJ Sangju 23.67 247 P **P** **13 21 18.4 +1.1**
SNR=54
KSSEO Seoul 23.72 251 P **P** **13 21 20.1 +2.4**
SNR=6.8
KSSEO Seoul 23.72 251 P **P** **13 21 20.0 +2.2**
SNR=16
KSSEO Seoul 23.72 251 P **P** **13 21 20.1 +2.4**
SNR=6.8
KSSEO Seoul 23.72 251 P **P** **13 21 20.0 +2.2**
SNR=16
KSBON Boeun 23.82 248 P **P** **13 21 20.6 +1.9**
SNR=73
KSBON Boeun 23.82 248 P **P** **13 21 20.6 +1.9**
SNR=73
KSSWO Suwon 23.83 250 P **P** **13 21 20.1 +1.4**
SNR=28
KSSWO Suwon 23.83 250 P **P** **13 21 20.1 +1.4**
SNR=18
UNV Unalaska Valle 23.85 65 P **P** **13 21 15.9 -2.9**
UNV Unalaska Valle 23.85 65 P **P** **13 21 17.9 -0.8**
baz=275
UNV S **S** **13 25 31.2 +0.7**
baz=275
KSGAH Ganghwa 23.88 252 P **P** **13 21 24.3 +5.1**
SNR=5.6
KSBUS Busan 23.89 244 P **P** **13 21 22.0 +2.7**
SNR=6.6
KSBUS Busan 23.89 244 P **P** **13 21 22.0 +2.7**
SNR=6.6
INCN Inchon 23.90 251 P **P** **13 21 20.2 +0.8**
INCN P **P** **13 21 20.2 +0.8**
KSCPR CHUPUNGNYEONG 23.90 247 P **P** **13 21 21.4 +2.0**
SNR=66
KSCPR CHUPUNGNYEONG 23.90 247 P **P** **13 21 21.4 +2.0**
SNR=66
KSGIC Gimchen 23.92 246 P **P** **13 21 21.8 +2.2**
SNR=18
KSGIC Gimchen 23.92 246 P **P** **13 21 21.4 +1.9**
SNR=14
PYTK Pyeongtaek 23.93 249 P **P** **13 21 22.1 +2.5**
SNR=12
PYTK Pyeongtaek 23.93 249 P **P** **13 21 22.1 +2.5**
SNR=12
OKCB Cheongsan-myeo 23.93 247 P **P** **13 21 22.0 +2.3**
SNR=16
OKCB Cheongsan-myeo 23.93 247 P **P** **13 21 22.0 +2.3**
SNR=16
MIYA Miryang-si 23.94 245 P **P** **13 21 22.0 +2.2**
SNR=6.4
MIYA Miryang-si 23.94 245 P **P** **13 21 22.0 +2.2**
SNR=6.4
KSCEA Cheonan 23.94 249 P **P** **13 21 21.8 +2.0**
SNR=13
SHHB Siheung-si 23.94 251 P **P** **13 21 23.0 +3.3**
SNR=6.6
SHHB Siheung-si 23.94 251 P **P** **13 21 23.0 +3.3**
SNR=6.6
KSBSA Busan_acc 24.04 243 P **P** **13 21 23.1 +2.4**
SNR=11
HAWB Hwaseong-si 24.07 250 P **P** **13 21 24.0 +3.1**
SNR=8.8
HAWB Hwaseong-si 24.07 250 P **P** **13 21 24.0 +3.1**
SNR=8.8
TJN Taejon 24.17 248 *ce*P **P** **13 21 22.8 +1.0**
JTU Tsushima 24.23 242 P **P** **13 21 24.0 +1.6**
JTU IAmb IAmb 13 21 24.8
comp=Z,446nm,1.4s
KOJ2 Gongju-si 24.24 248 P **P** **13 21 25.0 +2.5**
SNR=49
KOJ2 Gongju-si 24.24 248 P **P** **13 21 25.0 +2.5**
SNR=49
AKUT Akutan 24.26 64 P **P** **13 21 19.5 -3.0**
EURB Uiryeong-eup 24.32 245 P **P** **13 21 27.0 +3.7**
SNR=6.2
EURB Uiryeong-eup 24.32 245 P **P** **13 21 27.0 +3.7**
SNR=6.2
KSKCH Geochang 24.34 246 P **P** **13 21 26.6 +3.1**
SNR=9.6
JNU Nakatsue 24.43 237 P **P** **13 21 24.2 -0.1**
comp=Z,275nm,0.9s,baz=44,slow=7.9,SNR=74
JNU S **S** **13 25 41.0 +0.8**
comp=Z,6.0nm,0.8s,baz=266,slow=21,SNR=1.2
JNU LR LR 13 31 55.4
comp=Z,3μm,20.7s,baz=44,slow=39
JNU Nakatsue 24.43 237 P **P** **13 21 25.5 +1.2**
KSJEO Jeonju 24.50 247 P **P** **13 21 27.0 +2.1**
SNR=12
JCJ Chichijima 24.50 209 P **P** **13 21 24.5 -0.4**
comp=Z,192nm,1.0s,baz=51,slow=3.6,SNR=8.7
JCJ S **S** **13 25 41.5 +0.3**
comp=Z,38nm,0.8s,baz=98,slow=23,SNR=2.4

TNA	Tin City	24.97	36	P	P	13 21 29.7	+0.8
TNA				IAmb	IAmb	13 21 31.8	
	comp=Z,377nm,1.2s						
TNA	Tin City	24.97	36	P	P	13 21 29.6	+0.7
	baz=247,SNR=25						
TNA				S	S	13 25 48.7	+0.5
	baz=247						
KSJEU	Jeongeup	25.02	247	P	P	13 21 31.9	+2.4
	SNR=8.9						
KSKWJ	Gwangju	25.21	246	P	P	13 21 32.9	+1.6
	SNR=9.4						
BOSB	Boseong-gun	25.35	245	P	P	13 21 34.3	+1.8
	SNR=32						
KOHB	KOHEUNG	25.41	245	P	P	13 21 34.9	+1.8
	SNR=22						
TIXI	Tiksi	25.42	341	P	P	13 21 31.0	-1.9
	comp=Z,37nm,0.5s,baz=130,slow=9.7,SNR=30						
TIXI				S	S	13 25 56.1	+1.0
	comp=Z,5.9nm,0.9s,baz=310,slow=18,SNR=1.4						
TIXI				ScS	ScS	13 32 26.6	+0.8
	comp=Z,1.9nm,0.7s,baz=283,slow=13,SNR=1.5						
TIXI				LR	LR	13 32 32.8	
	comp=Z,7µm,20.4s,baz=129,slow=39						
TIXI	Tiksi	25.42	341	*ce*P	P	13 21 30.8	-2.0
TIXI	Tiksi	25.42	341	P	P	13 21 31.6	-1.2
TIXI				IAMs_20	IAMs_20	13 32 00.2	
	comp=Z,8µm,21.0s						
FALS	False Pass	25.57	62	P	P	13 21 35.1	+0.7
	baz=275,SNR=6.4						
BOD	Bodaibo	25.61	305	*e*P	P	13 21 35.6	+0.9
BOD				pmax	pmax		
	comp=Z,187nm,1.9s						
ANM	Nome	25.65	39	P	P	13 21 34.5	-0.5
ANM				pmax	pmax		
	comp=Z,495nm,1.5s						
ANM	Nome	25.65	39	P	P	13 21 34.5	-0.5
ANM				IAmb	IAmb	13 21 38.7	
	comp=Z,495nm,1.5s						
ANM	Nome	25.65	39	P	P	13 21 35.0	-0.1
	baz=252,SNR=18						
ANM				S	S	13 26 01.7	+2.7
	baz=252						
JSU	Suzuyama	25.89	236	P	P	13 21 38.6	+1.1
JSU				IAmb	IAmb	13 21 41.7	
	comp=Z,486nm,1.3s						
DL2	Dalian	26.21	259	P	P	13 21 40.0	-0.3
DL2				S	S	13 26 12.1	+3.9
DL2				pmax	pmax		
	comp=Z,130nm,1.1s						
DL2				pmax	pmax		
	comp=Z,970nm,7.2s						
DL2				LR	LR		
	comp=Z,5µm,18.2s						
DL2				LR	LR		
	comp=Z,5µm,21.2s						
DL2				LR	LR		
	comp=Z,7µm,23.5s						
CIT	Chita	26.38	292	*e*P	P	13 21 42.5	+0.7
CIT				*e*		13 21 57.5	
CIT				*e*		13 22 31.1	
CIT				*e*		13 22 39.1	
RDOG	Red Dog Mine	27.75	32	P	P	13 21 54.6	+0.7
	baz=249,SNR=23						
RDOG				S	S	13 26 34.3	+2.3
	baz=249						
CNBA	Chernabura Isl	27.77	61	IAMs_20	IAMs_20	13 34 16.0	
	comp=Z,9µm,21.0s						
CHGN	Chignik	28.27	58	P	P	13 21 55.9	-2.6
CHGN	Chignik	28.27	58	P	P	13 21 56.6	-2.0
	baz=275						
BJI	Beijing	29.12	266	P	P	13 22 05.9	-0.4
BJI				pP	pP	13 22 20.1	-0.5
BJI				S	S	13 26 59.9	+5.8
BJI				pmax	pmax		
	comp=Z,40nm,1.2s						
BJI				LR	LR		
	comp=Z,5µm,18.1s						
BJI				LR	LR		
	comp=Z,6µm,19.1s						
BJI				LR	LR		
	comp=Z,10µm,20.6s						
BJT	Baijiatuau	29.14	266	IAMs_20	IAMs_20	13 33 36.6	
	comp=Z,8µm,22.0s						
N18K	Kilae Creek	29.39	49	P	P	13 22 08.6	0.0
N18K	Kilae Creek	29.39	49	P	P	13 22 07.9	-0.6
	baz=269,SNR=37						
N18K				S	S	13 27 01.5	+3.4
	baz=269						
TTA	Tatalina	29.43	44	S	S	13 26 59.2	+0.6
	baz=265						
MIDW	Midway	29.68	125	IAMs_20	IAMs_20	13 29 50.0	
	comp=Z,6µm,20.0s						
O18K	Koktuh Hills	29.74	51	P	P	13 22 11.0	-0.7
	baz=272,SNR=7.0						
O18K				S	S	13 27 05.5	+2.0
	baz=272						
CHIR	Chirikof Islan	29.88	59	IAMs_20	IAMs_20	13 35 31.8	
	comp=Z,8µm,20.0s						
L19K	White Mountain	29.92	46	P	P	13 22 12.4	-0.8
	baz=268,SNR=36						
N19K	Bonanza Creek	30.08	49	P	P	13 22 14.0	-0.7
	baz=270,SNR=18						
N19K				S	S	13 27 11.5	+2.6
	baz=270						
M19K	Big River Lodg	30.13	46	P	P	13 22 14.5	-0.6
	baz=269						
M19K				S	S	13 27 11.0	+1.4
	baz=269						
O19K	Port Alsworth	30.18	50	P	P	13 22 15.5	+0.1
	baz=272						
O19K				S	S	13 27 11.7	+1.5
	baz=272						
K20K	Telida	30.34	44	P	P	13 22 16.1	-0.8
	baz=266,SNR=87						
K20K				S	S	13 27 15.2	+2.4
	baz=266						
J20K	Nowinta River	30.36	42	IAmb	IAmb	13 22 18.9	
	comp=Z,107nm,1.0s						
J20K	Nowinta River	30.36	42	P	P	13 22 16.2	-0.9
	baz=265,SNR=92						
J20K				S	S	13 27 14.5	+1.4
	baz=265						
L20K	Farewell, AK	30.38	45	P	P	13 22 16.4	-1.0
	baz=268,SNR=39						
L20K				S	S	13 27 16.3	+2.7
	baz=268						
SII	Sitkinak Islan	30.57	57	IAMs_20	IAMs_20	13 35 11.1	
	comp=Z,9µm,21.0s						
TIA	Tai'an	30.69	259	⇑P	P	13 22 20.5	+0.3
TIA				sP	sP	13 22 46.5	+5.3
TIA				S	S	13 27 16.0	-2.7
TIA				pmax	pmax		
	comp=Z,47nm,1.1s						
TIA				pmax	pmax		
	comp=Z,650nm,5.9s						
TIA				LR	LR		
	comp=Z,4µm,17.5s						
TIA				LR	LR		
	comp=Z,3µm,16.1s						
TIA				LR	LR		
	comp=Z,3µm,19.4s						
IMAR	Indian Mountai	30.72	38	P	P	13 22 18.8	-1.4
M20K	Styx River	30.73	46	P	P	13 22 19.9	-0.6
	baz=270,SNR=21						
M20K				S	S	13 27 21.2	+2.2
	baz=270						
JOW	Kunigami	30.75	233	P	P	13 22 21.1	+0.2
	comp=Z,87nm,0.9s,baz=32,slow=7.8,SNR=25						
JOW	Kunigami	30.75	233	IAMs_20	IAMs_20	13 34 39.2	
	comp=Z,7µm,22.0s						
A21K	Barrow	30.95	28	IAMs_20	IAMs_20	13 35 42.6	
	comp=Z,6µm,21.0s						
OHAK	Old Harbor	30.96	56	P	P	13 22 20.5	-1.9
OHAK				IAMs_20	IAMs_20	13 33 46.6	
	comp=Z,8µm,22.0s						
OHAK	Old Harbor	30.96	56	P	P	13 22 20.1	-2.4
	baz=278,SNR=7.0						
H11N2	WAKE ISLAND Hy	31.00	159	T	T	13 55 08.6	
	baz=346,slow=76,SNR=450						
H11N1	WAKE ISLAND Hy	31.01	159	T	T	13 55 12.8	
	baz=346,slow=76,SNR=730						
H11N3	WAKE ISLAND Hy	31.01	159	T	T	13 55 11.7	
	baz=346,slow=76,SNR=427						
O20K	Slope Mountain	31.03	50	P	P	13 22 21.6	-1.5
	baz=273,SNR=11						
CHUM	Lake Minchumin	31.15	43	P	P	13 22 23.5	-0.5
	baz=267,SNR=29						
CHUM				S	S	13 27 27.7	+2.3
	baz=267						
PPLA	Purkeypile	31.17	45	P	P	13 22 24.3	-0.1
	baz=269,SNR=32						
PPLA				S	S	13 27 28.8	+2.7
	baz=269						
SPCR	Spurr Chakacha	31.18	48	P	P	13 22 24.8	+0.4
	baz=272,SNR=12						
SPCR				S	S	13 27 28.5	+2.4
	baz=272						
KDAK	Kodiak Island	31.27	54	P	P	13 22 23.2	-1.9
KDAK				pmax	pmax		
	comp=Z,56nm,0.9s						
KDAK				MLR	MLR		
	comp=Z,8µm,21.0s						
KDAK	Kodiak Island	31.27	54	P	P	13 22 23.2	-1.9
KDAK	Kodiak Island	31.27	54	IAMs_20	IAMs_20	13 37 13.7	
	comp=Z,8µm,21.0s						
KDAK	Kodiak Island	31.27	54	P	P	13 22 22.8	-2.3
	baz=277						
I21K	Tanana	31.37	40	P	P	13 22 25.3	-0.7
	baz=265,SNR=63						
I21K				S	S	13 27 29.3	+0.5
	baz=265						
WAKE	Wake Island	31.37	159	IAMs_20	IAMs_20	13 31 41.6	
	comp=Z,11µm,22.0s						
SKT	Skwentna	31.48	46	P	P	13 22 26.8	-0.2
SKT	Skwentna	31.48	46	P	P	13 22 26.1	-0.9
	baz=271,SNR=28						
SSE	Sheshan	31.52	247	P	P	13 22 28.8	+1.2
SSE				sP	sP	13 22 53.4	+4.8
SSE				S	S	13 27 34.6	+2.8
SSE				sS	sS	13 27 56.9	+0.8
SSE				pmax	pmax		
	comp=Z,130nm,1.1s						
SSE				pmax	pmax		
	comp=Z,840nm,3.9s						
SSE				LR	LR		
	comp=Z,2µm,18.9s						
ULN	Ulaanbaatar	31.57	286	*ce*P	P	13 22 26.2	-1.9
ULN				pmax	pmax		
	comp=Z,11nm,1.3s						
ULN	Ulaanbaatar	31.57	286	P	P	13 22 27.0	-1.0
ULN				P	P	13 22 27.0	-1.0
CAPN	Captain Cook N	31.71	49	IAMs_20	IAMs_20	13 34 25.8	
	comp=Z,5µm,19.0s						
HHC	Hu-ho-hao-te	31.71	271	⇑*i*P	P	13 22 29.2	-0.2
HHC				pP	pP	13 22 41.2	-2.5
HHC				sP	sP	13 22 46.6	-3.9
HHC				PP	PnPn	13 23 35.6	+0.5
HHC				S	S	13 27 35.1	+0.2
HHC				pmax	pmax		
	comp=Z,82nm,1.4s						
HHC				pmax	pmax		
	comp=Z,390nm,5.9s						
HHC				LR	LR		
	comp=Z,9µm,17.4s						
HHC				LR	LR		
	comp=Z,8µm,21.7s						
HHC				LR	LR		
	comp=Z,11µm,22.0s						
BPAW	Bear Paw Mtn.	31.74	42	IAmb	IAmb	13 22 30.4	
	comp=Z,93nm,1.0s						
BPAW	Bear Paw Mtn.	31.74	42	P	P	13 22 28.5	-0.7
	baz=268,SNR=67						
CNPM	China Poot	31.77	51	IAmb	IAmb	13 22 30.5	
	comp=Z,363nm,2.0s						
SUA	Susitna One	31.87	47	P	P	13 22 29.2	-1.3
SUA					PcP	13 25 20.2	+0.5
SUA	Susitna One	31.87	47	P	P	13 22 28.8	-1.7
	baz=272,SNR=20						
MLY	Manley	31.89	40	P	P	13 22 30.1	-0.4
MLY	Manley	31.89	40	P	P	13 22 29.8	-0.7
	baz=267,SNR=77						
MLY				S	S	13 27 38.1	+1.1
	baz=267						
IRK	Irkutsk	31.89	295	*e*P	P	13 22 30.7	0.0
IRK				pmax	pmax		
	comp=Z,144nm,2.3s						
SONM	Songino Array	31.99	286	P	P	13 22 30.9	-0.9
	comp=Z,2.7nm,0.8s,baz=71,slow=8.0,SNR=11						
SONM				PcP	PcP	13 25 21.0	+0.5
	comp=Z,12nm,1.1s,baz=25,slow=4.9,SNR=5.6						
SONM				S	S	13 27 39.0	-0.2
	comp=Z,0.7nm,0.5s,baz=237,slow=6.6,SNR=1.0						
SONM				ScP	ScP	13 29 00.3	+1.6
	comp=Z,4.3nm,1.2s,baz=102,slow=3.4,SNR=2.2						
SONM				LR	LR	13 37 02.7	
	comp=Z,11µm,18.5s,baz=86,slow=39						
SONM				P3KPbc		13 54 01.5	
	comp=Z,1.1nm,0.9s,baz=219,slow=3.7,SNR=6.0						
SONM	Songino Array	31.99	286	P	P	13 22 31.3	-0.5
SONM					PcP	13 25 20.9	+0.5
BRSE	Bradley Lake S	32.00	50	P	P	13 22 29.2	-2.4
	baz=275,SNR=9.7						
TRF	Thorofare Moun	32.04	43	IAmb	IAmb	13 22 33.0	
	comp=Z,109nm,0.9s						
TRF	Thorofare Moun	32.04	43	P	P	13 22 31.0	-1.0
	baz=270,SNR=47						
CUT	Chulitna	32.06	45	P	P	13 22 30.6	-1.4
	baz=271,SNR=7.2						
H11S1	WAKE ISLAND Hy	32.13	160	T	T	13 56 20.4	
	baz=346,slow=76,SNR=5368						
H11S3	WAKE ISLAND Hy	32.14	160	T	T	13 56 19.2	
	baz=346,slow=76,SNR=6698						
H11S2	WAKE ISLAND Hy	32.15	160	T	T	13 56 18.5	
	baz=346,slow=76,SNR=6468						
COLD	Coldfoot	32.28	36	IAmb	IAmb	13 22 35.0	
	comp=Z,92nm,0.8s						
COLD	Coldfoot	32.28	36	P	P	13 22 33.2	-0.7
	baz=264,SNR=88						
COLD				S	S	13 27 42.6	-0.3
	baz=264						
NJ2	Nanjing	32.28	251	⇑*i*P	P	13 22 35.0	+0.7
NJ2				pP	pP	13 22 48.9	+0.4
NJ2				sP	sP	13 22 52.4	-2.9
NJ2				PP	PnPn	13 23 43.5	+1.2
NJ2				PcP	PcP	13 25 21.2	0.0
NJ2				S	S	13 27 44.4	+0.8
NJ2				pmax	pmax		
	comp=Z,110nm,1.3s						
NJ2				pmax	pmax		
	comp=Z,910nm,4.9s						
NJ2				LR	LR		
	comp=Z,4µm,20.8s						
NJ2				LR	LR		
	comp=Z,7µm,20.3s						
NJ2				LR	LR		
	comp=Z,8µm,21.0s						
RC01	Rabbit Creek A	32.38	48	P	P	13 22 34.0	-0.8
RC01					PcP	13 25 21.3	+0.3
RC01				IAMs_20	IAMs_20	13 37 57.5	
	comp=Z,5µm,22.0s						
RC01	Rabbit Creek A	32.38	48	P	P	13 22 33.5	-1.4
	baz=274,SNR=15						
H23K	Yukon River	32.43	39	P	P	13 22 35.0	-0.2
H23K				IAmb	IAmb	13 22 36.8	
	comp=Z,93nm,1.0s						
H23K	Yukon River	32.43	39	P	P	13 22 34.8	-0.4
	baz=267,SNR=64						
H23K				S	S	13 27 46.9	+1.5
	baz=267						
O22K	Cooper Landing	32.44	49	IAMs_20	IAMs_20	13 37 15.9	
	comp=Z,5µm,20.0s						
O22K	Cooper Landing	32.44	49	P	P	13 22 33.5	-1.8
	baz=275						
I23K	Minto, Yukon-K	32.47	40	IAmb	IAmb	13 22 36.9	
	comp=Z,229nm,1.6s						
I23K	Minto, Yukon-K	32.47	40	P	P	13 22 34.9	-0.7
	baz=268,SNR=78						
I23K				S	S	13 27 46.9	+1.0
	baz=268						
NEA2	Nenana	32.58	41	IAmb	IAmb	13 22 38.5	
	comp=Z,124nm,0.9s						
NEA2	Nenana	32.58	41	P	P	13 22 35.8	-0.8
	baz=269,SNR=172						
NEA2				S	S	13 27 47.1	-0.7
	baz=269						
SEW	Seward	32.61	50	P	P	13 22 35.0	-1.9
	baz=276,SNR=10						
PMR	Palmer	32.64	47	P	P	13 22 35.4	-1.7
PMR				pmax	pmax		
	comp=Z,44nm,1.0s						
PMR				MLR	MLR		
	comp=Z,3µm,20.0s						
PMR	Palmer	32.64	47	P	P	13 22 35.4	-1.7
PMR	Palmer	32.64	47	P	P	13 22 37.1	0.0
	baz=274,SNR=15						
MCK	McKinley	32.64	43	IAmb	IAmb	13 22 38.5	
	comp=Z,159nm,1.0s						
MCK	McKinley	32.64	43	P	P	13 22 36.0	-1.2
	baz=270,SNR=79						
TOLK	Toolik Lake Re	32.68	34	IAmb	IAmb	13 22 38.6	
	comp=Z,162nm,1.2s						
TOLK	Toolik Lake Re	32.68	34	P	P	13 22 36.8	-0.6
	baz=262,SNR=48						
TOLK				S	S	13 27 49.2	-0.1
	baz=262						
RND	Reindeer	32.69	44	IAMs_20	IAMs_20	13 37 29.6	
	comp=Z,5µm,19.0s						
GHO	Glory Hole Cre	32.73	47	IAmb	IAmb	13 22 56.6	
	comp=Z,212nm,1.6s						
TIY	Taiyuan	32.84	266	*e*P	P	13 22 40.9	+1.7
TIY				pP	sP	13 22 57.4	-2.9
TIY				S	S	13 27 53.1	+0.7
TIY				pmax	pmax		
	comp=Z,200nm,1.2s						
TIY				LR	LR		
	comp=Z,3µm,16.4s						
TIY				LR	LR		
	comp=Z,4µm,16.7s						
WAT1	Susitna Watana	32.84	45	P	P	13 22 37.1	-1.8
	baz=272						
BTO	Baotou	32.85	272	*e*P	P	13 22 38.7	-0.6
BTO				S	S	13 27 47.7	-4.9
BTO				LR	LR		
	comp=Z,34µm,15.5s						
BTO				LR	LR		
	comp=Z,22µm,22.4s						
MDM	Murphy Dome	32.95	41	IAmb	IAmb	13 22 41.6	
	comp=Z,112nm,0.9s						
KNK	Knik Glacier	32.97	47	P	P	13 22 38.6	-1.4
	baz=274,SNR=57						
SML	Sawmill	33.00	46	P	P	13 22 39.4	-1.0
SML	Sawmill	33.00	46	P	P	13 22 39.1	-1.3
	baz=274,SNR=98						
SML				S	S	13 27 54.8	+0.4
	baz=274						
WRH	Wood River Hil	33.01	42	IAmb	IAmb	13 22 42.1	
	comp=Z,211nm,1.1s						
ZAK	Zakamensk	33.04	292	*e*P	P	13 22 40.1	-0.8
ZAK				pmax	pmax		
	comp=Z,47nm,1.2s						
PWL	Port Wells	33.08	48	IAmb	IAmb	13 22 40.9	
	comp=Z,108nm,1.1s						
PWL				IAMs_20	IAMs_20	13 37 59.0	
	comp=Z,5µm,21.0s						
TCOL	CIGO, UAF Yank	33.10	41	P	P	13 22 40.6	-0.5
	baz=270,SNR=76						
TCOL				S	S	13 27 56.9	+1.1
	baz=270						
COLA	College	33.11	41	P	P	13 22 40.9	-0.2
COLA				pmax	pmax		
	comp=Z,263nm,0.9s						
COLA				MLR	MLR		
	comp=Z,4µm,22.0s						
COLA	College	33.11	41	P	P	13 22 40.9	-0.2
H24K	Noodor Dome	33.11	39	IAmb	IAmb	13 22 42.8	
	comp=Z,82nm,1.0s						
H24K	Noodor Dome	33.11	39	P	P	13 22 41.0	-0.2
	baz=268,SNR=84						
H24K				S	S	13 27 58.2	+2.1
	baz=268						
CCB	Clear Creek Bu	33.13	41	IAmb	IAmb	13 22 42.3	
	comp=Z,154nm,1.0s						
WAT6	Susitna Watana	33.23	45	P	P	13 22 41.0	-1.5
	baz=273,SNR=23						
POKR	Poker Plat Res	33.29	40	P	P	13 22 42.5	-0.3
	baz=270,SNR=36						
POKR				S	S	13 27 58.4	-0.3
	baz=270						
HDA	Harding Lake	33.50	42	IAmb	IAmb	13 22 45.7	
	comp=Z,76nm,0.6s						
HDA	Harding Lake	33.50	42	P	P	13 22 43.1	-1.5
	baz=271,SNR=68						
IL31		33.52	41	IAmb	IAmb	13 22 45.4	
	comp=Z,105nm,0.9s						
ILAR	Eielson Array	33.52	41	P	P	13 22 43.3	-1.5
	comp=Z,59nm,0.8s,baz=255,slow=7.1,SNR=254						
ILAR				S	S	13 28 00.6	-1.7
	comp=Z,0.4nm,0.6s,baz=322,slow=34,SNR=1.2						
ILAR				LR	LR	13 37 38.2	
	comp=Z,3µm,19.7s,baz=258,slow=38						
ILAR	Eielson Array	33.52	41	P	P	13 22 43.8	-1.0
ILAR	Eielson Array	33.52	41	P	P	13 22 43.8	-1.0
GLI	Glacier Island	33.69	48	P	P	13 22 44.3	-1.9
GLI				IAmb	IAmb	13 22 46.2	
	comp=Z,75nm,0.9s						
GLI					PcP	13 25 24.2	-0.5
GLI	Glacier Island	33.69	48	P	P	13 22 44.5	-1.8
	baz=276,SNR=16						
M24K	Tolsona, Glenn	33.99	46	IAmb	IAmb	13 22 50.3	
	comp=Z,168nm,1.1s						
M24K	Tolsona, Glenn	33.99	46	P	P	13 22 48.4	-0.6
	baz=275,SNR=22						
MOY	Mondy	34.00	295	*e*P	P	13 22 49.5	+0.3
MOY				pmax	pmax		
	comp=Z,60nm,1.4s						
FID	Port Fidalgo	34.00	48	P	P	13 22 46.8	-2.2
FID				IAmb	IAmb	13 22 49.5	
	comp=Z,65nm,0.8s						
HIN	Hinchinbrook I	34.04	49	IAmb	IAmb	13 22 50.3	
	comp=Z,188nm,1.2s						
PRP	Porcupine Dome	34.09	40	P	P	13 22 48.8	-1.0
	baz=271,SNR=270						
PRP				S	S	13 28 11.2	-0.1
	baz=271						
KLU	Klutina	34.18	47	IAmb	IAmb	13 23 03.7	
	comp=Z,88nm,1.0s						
KLU	Klutina	34.18	47	P	P	13 22 49.5	-1.2
	baz=276,SNR=27						
KLU				S	S	13 28 13.0	+0.4
	baz=276						
J25K	Salcha River,	34.18	41	P	P	13 22 48.4	-2.1
	baz=272,SNR=100						
J25K				S	S	13 28 10.0	-2.6
	baz=272						
PAX	Paxson	34.24	44	P	P	13 22 50.5	-0.7
	baz=275,SNR=29						
PAX				S	S	13 28 13.2	-0.4
	baz=275						
DIV	Divide	34.30	47	IAmb	IAmb	13 22 52.3	
	comp=Z,88nm,0.8s						
DIV				IAMs_20	IAMs_20	13 38 49.0	
	comp=Z,5µm,20.0s						
EYAK	Cordova Ski Ar	34.38	48	IAMs_20	IAMs_20	13 37 08.4	
	comp=Z,5µm,21.0s						
EYAK	Cordova Ski Ar	34.38	48	P	P	13 22 51.3	-1.0
	baz=278,SNR=6.7						
HARP	HAARP	34.44	45	P	P	13 22 52.5	-0.3
	baz=276,SNR=17						
RIDG	Independent Ri	34.46	43	P	P	13 22 51.7	-1.3
RIDG	Independent Ri	34.46	43	P	P	13 22 51.2	-1.8
	baz=274,SNR=77						
RIDG				S	S	13 28 13.5	-3.5
	baz=274						
BMAR	Burnt Mountain	34.46	36	P	P	13 22 52.9	-0.1
N25K	Chitina, Valde	34.79	46	IAmb	IAmb	13 22 57.0	
	comp=Z,63nm,0.8s						
N25K				IAMs_20	IAMs_20	13 38 59.0	
	comp=Z,5µm,21.0s						
N25K	Chitina, Valde	34.79	46	P	P	13 22 55.2	-0.7
	baz=277,SNR=21						
N25K				S	S	13 28 23.3	+1.1
	baz=277						
DOT	Dot Lake	34.81	43	IAmb	IAmb	13 22 55.9	
	comp=Z,71nm,0.8s						
SCRK	Sand Creek	34.82	42	P	P	13 22 54.4	-1.7
	baz=274,SNR=134						
J26K	Charley River,	34.86	41	P	P	13 22 55.5	-1.0
	baz=274,SNR=35						
BMRM	Bremner River	34.88	48	IAmb	IAmb	13 22 58.2	
	comp=Z,129nm,1.0s						
BMRM				IAMs_20	IAMs_20	13 39 34.5	
	comp=Z,5µm,21.0s						
BMRM	Bremner River	34.88	48	P	P	13 22 55.5	-1.2
	baz=278,SNR=30						
BMRM				S	S	13 28 24.4	+1.0
	baz=278						
RAGM	Ragged Mountai	34.94	49	IAmb	IAmb	13 22 59.1	
	comp=Z,79nm,0.9s						
KAIM	Kayak Island	35.14	49	P	P	13 22 58.2	-0.6
	baz=280						
HMT	Hamilton	35.15	49	IAmb	IAmb	13 23 00.1	
	comp=Z,136nm,1.2s						

HMT IAMs_20 IAMs_20 13 39 47.5
comp=Z,5μm,21.0s
GLB Gilahina Butte 35.19 47 P **P** **13 22 58.7 -0.6**
GLB IAmb IAmb 13 23 00.5
comp=Z,103nm,1.4s
GLB IAMs_20 IAMs_20 13 39 17.7
comp=Z,5μm,21.0s
L26K Log Cabin Wild 35.20 44 IAMs_20 IAMs_20 13 39 42.9
comp=Z,4μm,19.0s
L26K Log Cabin Wild 35.20 44 P **P** **13 22 58.8 -0.6**
baz=276,SNR=32
L26K S **S** **13 28 30.3 +2.0**
baz=276
VRDI Verde Repeater 35.39 47 IAMs_20 IAMs_20 13 38 51.1
comp=Z,5μm,22.0s
BERG Berg Lake 35.41 48 P **P** **13 23 01.1 0.0**
BERG IAmb IAmb 13 23 02.5
comp=Z,134nm,1.3s
BERG IAMs_20 IAMs_20 13 38 18.5
comp=Z,5μm,22.0s
SUCK Suckling Hills 35.43 49 IAMs_20 IAMs_20 13 38 11.7
comp=Z,6μm,21.0s
M26K Nabesna, AK 35.44 45 IAmb IAmb 13 23 03.4
comp=Z,140nm,0.9s
M26K Nabesna, AK 35.44 45 P **P** **13 23 01.4 0.0**
baz=278,SNR=92
M26K S **S** **13 28 34.6 +2.6**
baz=278
YOJ Yonaguni jima 35.47 237 P **P** **13 23 00.6 -1.4**
YOJ pmax pmax
comp=Z,87nm,1.2s
YOJ MLR MLR
comp=Z,4μm,20.0s
YOJ Yonaguni jima 35.47 237 P **P** **13 23 00.6 -1.4**
YOJ IAmb IAmb 13 23 04.4
comp=Z,87nm,1.2s
MCARA McCarthy VSAT 35.57 47 P **P** **13 23 02.0 -0.5**
baz=279,SNR=11
MCARA S **S** **13 28 36.1 +2.1**
baz=279
CRQM Cirque 35.62 48 IAMs_20 IAMs_20 13 37 57.7
comp=Z,7μm,22.0s
CRQE Cirque 35.65 48 P **P** **13 23 02.6 -0.7**
baz=280,SNR=41
K27K Chicken 35.65 42 P **P** **13 23 02.7 -0.5**
baz=276
K27K S **S** **13 28 35.5 +0.4**
baz=276
TGL Tana Glacier 35.77 48 IAmb IAmb 13 23 05.6
comp=Z,118nm,1.0s
TGL IAMs_20 IAMs_20 13 37 50.1
comp=Z,6μm,22.0s
WAX Waxell Ridge 35.81 48 IAmb IAmb 13 23 06.2
comp=Z,101nm,0.8s
L27K Beaver Creek, 35.88 44 IAMs_20 IAMs_20 13 40 13.2
comp=Z,5μm,19.0s
L27K Beaver Creek, 35.88 44 P **P** **13 23 05.2 +0.1**
baz=278,SNR=251
L27K S **S** **13 28 41.1 +2.3**
baz=278
BCAR Beaver Creek A 35.90 44 P **P** **13 23 05.2 -0.1**
TATO Taipei 35.92 240 IAMs_20 IAMs_20 13 40 06.2
comp=Z,6μm,18.0s
TATO Taipei 35.92 240 P **P** **13 23 05.1 -0.7**
TATO P **P** **13 23 05.1 -0.7**
M27K Edge Creek, AK 35.96 45 IAmb IAmb 13 23 08.6
comp=Z,121nm,1.1s
M27K Edge Creek, AK 35.96 45 P **P** **13 23 06.0 0.0**
baz=278,SNR=56
M27K S **S** **13 28 42.3 +2.2**
baz=278
EGAK Eagle 35.97 41 P **P** **13 23 04.5 -1.3**
baz=276,SNR=138
EGAK S **S** **13 28 39.2 -0.7**
baz=276
ISLE Juniper Island 36.04 48 IAmb IAmb 13 23 07.8
comp=Z,144nm,1.2s
ISLE IAMs_20 IAMs_20 13 38 52.8
comp=Z,5μm,22.0s
WHN Wuhan 36.12 254 ⇑P **P** **13 23 07.6 +0.1**
WHN S **S** **13 28 38.7 -4.2**
WHN pmax pmax
comp=Z,230nm,0.7s
WHN LR LR
comp=Z,9μm,17.9s
WHN LR LR
comp=Z,4μm,14.5s
WHN LR LR
comp=Z,8μm,22.5s
YHNB Yeheng 36.22 240 IAmb IAmb 13 23 14.2
comp=Z,124nm,1.2s
YHNB IAMs_20 IAMs_20 13 37 50.6
comp=Z,5μm,20.0s
BARN Barnard Glacie 36.28 47 IAmb IAmb 13 23 10.4
comp=Z,122nm,0.9s
GRNC Granite Creek 36.30 48 IAmb IAmb 13 23 10.4
comp=Z,122nm,1.0s
GRNC IAMs_20 IAMs_20 13 39 01.6
comp=Z,5μm,22.0s
MESA MESA 36.31 49 IAmb IAmb 13 23 10.7
comp=Z,134nm,1.0s
MESA MESA 36.31 49 P **P** **13 23 08.8 -0.2**
baz=281,SNR=8.8
YAH Yahtse 36.37 48 IAmb IAmb 13 23 11.2
comp=Z,156nm,0.9s
YAH IAMs_20 IAMs_20 13 40 42.6
comp=Z,4μm,19.0s
BVCY Beaver Creek 36.42 45 P **P** **13 23 09.7 -0.1**
baz=279,SNR=63
BVCY S **S** **13 28 48.9 +1.9**
baz=279
CTG Chitna Glacier 36.45 47 P **P** **13 23 09.9 -0.3**
baz=281,SNR=37
CTG S **S** **13 28 49.4 +1.8**
baz=281
CTGM Chitina Glacie 36.45 47 IAmb IAmb 13 23 11.7
comp=Z,135nm,0.8s
NACB Ninganchiao 36.48 239 P **P** **13 23 09.8 -0.9**
NACB IAMs_20 IAMs_20 13 40 00.6
comp=Z,5μm,18.0s
LOGN Logan Glacier 36.64 47 IAmb IAmb 13 23 13.1
comp=Z,73nm,0.9s
LOGN IAMs_20 IAMs_20 13 39 12.7
comp=Z,4μm,22.0s
TABL Table Mountain 36.65 48 P **P** **13 23 10.4 -1.5**
TABL IAmb IAmb 13 23 26.1
comp=Z,103nm,0.9s
YUK3 Moose Creek 36.72 46 P **P** **13 23 11.9 -0.6**
baz=280,SNR=45
YUK3 S **S** **13 28 53.0 +1.2**
baz=280
DAWY Dawson 36.82 42 P **P** **13 23 12.5 -0.7**
baz=278,SNR=35
DAWY S **S** **13 28 54.0 +0.9**
baz=278
SSLB Suanglung 37.15 239 IAmb IAmb 13 23 22.9
comp=Z,198nm,1.3s
SSLB IAMs_20 IAMs_20 13 37 52.2
comp=Z,7μm,21.0s
PCA Pinnacle 37.15 48 IAmb IAmb 13 23 30.2
comp=Z,144nm,0.8s
PINM Pinnacle 37.16 48 P **P** **13 23 15.4 -0.7**
baz=283,SNR=7.9
YULB Yu-li 37.27 238 IAmb IAmb 13 23 22.7
comp=Z,196nm,1.6s
XAN Xi'an 37.32 263 P **P** **13 23 16.7 -1.0**
XAN PP **PnPn** **13 24 51.2 +6.5**
XAN pmax pmax
comp=Z,50nm,1.2s
XAN LR LR
comp=Z,8μm,17.9s
XAN LR LR
comp=Z,7μm,17.9s
XAN LR LR
comp=Z,8μm,18.5s
NRIK Noril'sk 37.33 327 P **P** **13 23 15.2 -2.2**
comp=Z,8.1nm,0.6s,baz=97,slow=8.0,SNR=17
NRIK PP **PnPn** **13 24 46.4 +2.2**
comp=Z,36nm,1.1s,baz=77,slow=13,SNR=4.0
NRIK PcP **PcP** **13 25 35.4 +0.2**
comp=Z,13nm,0.5s,baz=95,slow=3.0,SNR=6.5
NRIK S **S** **13 28 58.8 -1.7**
comp=Z,2.3nm,0.5s,baz=286,slow=14,SNR=1.2
NRIK LR LR 13 40 07.2
comp=Z,6μm,18.4s,baz=77,slow=38
NRIK Noril'sk 37.33 327*ce*P **P** **13 23 15.9 -1.4**
NRIK pmax pmax
comp=Z,51nm,1.4s
NRIK MLR MLR
comp=Z,10μm,15.0s
BCPM Bancas Point 37.49 49 IAmb IAmb 13 23 19.9
comp=Z,74nm,0.8s
BCPM IAMs_20 IAMs_20 13 38 46.2
comp=Z,4μm,21.0s
QZH Quanzhou 37.60 243⇑*i*P **P** **13 23 21.5 +1.4**
QZH S **S** **13 29 07.4 +1.9**
QZH pmax pmax
comp=Z,230nm,1.2s
QZH pmax pmax
comp=Z,1μm,3.9s
QZH LR LR
comp=Z,2μm,16.7s
QZH LR LR
comp=Z,1μm,15.7s
QZH LR LR
comp=Z,3μm,17.6s
EPYK Eagle Plains 37.62 38 P **P** **13 23 19.7 -0.2**
EPYK Eagle Plains 37.62 38 P **P** **13 23 19.8 -0.2**
baz=277,SNR=75
EPYK S **S** **13 29 07.4 +2.3**
baz=277
YUK4 Talbot Arm 37.65 46 P **P** **13 23 20.0 -0.4**
baz=282,SNR=18
YUK4 S **S** **13 29 08.1 +2.0**
baz=282
TPUB Ta-pu 37.71 239 P **P** **13 23 21.1 -0.1**
TPUB IAmb IAmb 13 23 35.1
comp=Z,135nm,0.9s
TPUB IAMs_20 IAMs_20 13 38 31.4
comp=Z,7μm,21.0s
YUK6 Outpost Mounta 37.88 47 P **P** **13 23 22.6 +0.2**
baz=283,SNR=6.7
HYT Haines Junctio 38.31 47 IAmb IAmb 13 23 27.9
comp=Z,115nm,1.0s
HYT Haines Junctio 38.31 47 P **P** **13 23 26.0 +0.1**
baz=284,SNR=44
HYT S **S** **13 29 18.6 +2.8**
baz=284
MAYO Mayo, Yukon 38.43 42 P **P** **13 23 27.0 +0.2**
baz=282,SNR=82
MAYO S **S** **13 29 19.0 +1.7**
baz=282
INK Inuvik 38.59 34 IAmb IAmb 13 23 29.7
comp=Z,115nm,0.9s
INK Inuvik 38.59 34 P **P** **13 23 27.8 -0.1**
baz=278,SNR=69
INK S **S** **13 29 20.8 +1.3**
baz=278
LZH Lanzhou 39.39 270 *e*P **P** **13 23 36.0 +0.8**
LZH pP pP 13 23 49.6 -0.2
LZH sP sP 13 23 55.8 -0.6
LZH S **S** **13 29 30.2 -2.4**
LZH sS sS 13 29 57.3 -0.1
LZH SS **SS** **13 32 24.8 -3.3**
LZH pmax pmax
comp=Z,130nm,1.1s
LZH pmax pmax
comp=Z,420nm,5.4s
LZH LR LR
comp=Z,6μm,17.9s
LZH LR LR
comp=Z,6μm,17.3s
LZH LR LR
comp=Z,6μm,18.4s
ENH Enshi 39.39 258 P **P** **13 23 36.1 +1.0**
WHY Whitehorse 39.60 46 P **P** **13 23 37.0 +0.4**
baz=286,SNR=23
WHY S **S** **13 29 40.5 +5.3**
baz=286
SKAG Skagway 39.73 48 P **P** **13 23 38.2 +0.7**
baz=287,SNR=12
SKAG S **S** **13 29 42.9 +6.1**
baz=287
FARO Faro, Yukon 39.88 44 P **P** **13 23 39.0 +0.1**
baz=285,SNR=30
FARO S **S** **13 29 40.6 +1.4**
baz=285
GTA Gaotai 40.12 277 ⇑P **P** **13 23 41.2 -0.1**
GTA pP pP 13 23 53.1 -2.8
GTA sP sP 13 23 59.0 -3.5
GTA PP **PnPn** **13 25 19.0 +0.8**
GTA S **S** **13 29 38.1 -5.4**
GTA pmax pmax
comp=Z,25nm,1.6s
GTA pmax pmax
comp=Z,570nm,8.8s
GTA LR LR
comp=Z,4μm,17.5s
GTA LR LR
comp=Z,11μm,17.9s
GTA LR LR
comp=Z,14μm,17.1s
BESE Bessie Mountai 40.23 50 P **P** **13 23 42.5 +0.7**
BESE IAmb IAmb 13 23 43.9
comp=Z,174nm,1.5s
SIT Sitka 40.49 52 P **P** **13 23 44.7 +0.8**
baz=290
SIT S **S** **13 29 53.1 +4.8**
baz=290
MMPY Sheldon Lake, 40.71 43 P **P** **13 23 46.2 +0.5**
baz=286,SNR=42
MMPY S **S** **13 29 53.4 +1.8**
baz=286
A36M Sachs Harbour 40.79 28 IAmb IAmb 13 23 48.0
comp=Z,188nm,0.8s
A36M Sachs Harbour 40.79 28 P **P** **13 23 46.2 0.0**
baz=280,SNR=11
A36M S **S** **13 29 53.6 +1.2**
baz=280
KWAJ Kwajalein Atol 41.73 162 IAMs_20 IAMs_20 13 37 29.2
comp=Z,6μm,21.0s
CRAG Craig 42.21 53 IAMs_20 IAMs_20 13 39 12.8
comp=Z,4μm,22.0s
CRAG Craig 42.21 53 P **P** **13 23 58.4 +0.4**
baz=293
CRAG S **S** **13 30 19.0 +5.2**
baz=293
WRAK Wrangell Islan 42.25 52 P **P** **13 23 59.0 +0.7**
baz=292,SNR=9.0
WRAK S **S** **13 30 20.3 +6.0**
baz=292
ZAA0 Zalesovo Array 42.36 304 P **P** **13 23 58.2 -1.0**
ZAA0 IAMs_20 IAMs_20 13 42 10.7
comp=Z,6μm,20.0s
ZALV Zalesovo Beam 42.36 304 P **P** **13 23 57.9 -1.3**
comp=Z,7.5nm,0.4s,baz=56,slow=6.4,SNR=30
ZALV PcP **PcP** **13 25 52.1 +0.5**
comp=Z,21nm,0.4s,baz=76,slow=3.3,SNR=21
ZALV ScP **ScP** **13 29 37.7 +0.7**
comp=Z,1.2nm,0.4s,baz=103,slow=3.1,SNR=1.6
ZALV ScS **ScS** **13 33 55.9 +0.8**
comp=Z,0.8nm,0.5s,baz=91,slow=5.9,SNR=4.4
ZALV LR LR 13 42 31.6
comp=Z,6μm,19.5s,baz=66,slow=37
ZALV Zalesovo Beam 42.36 304 *i*P **P** **13 23 57.9 -1.3**
ZALV pmax pmax
comp=Z,7.0nm,0.4s
TGTN Hyland Airport 42.39 44 P **P** **13 23 59.9 +0.4**
baz=290,SNR=18
TGTN S **S** **13 30 20.9 +4.4**
baz=290
WTLY Watson Lake, Y 42.64 46 P **P** **13 24 01.9 +0.4**
baz=291
WTLY S **S** **13 30 23.5 +3.4**
baz=291
DLBC Dease Lake 42.66 48 P **P** **13 24 00.2 -1.6**
CD2 Chengdu 42.67 264 P **P** **13 24 02.2 +0.1**
CD2 sP pP 13 24 19.8 +3.0
CD2 S **S** **13 30 20.7 -0.5**
CD2 sS sS 13 30 47.8 +1.7
CD2 pmax pmax
comp=Z,120nm,1.0s
CD2 pmax pmax
comp=Z,1μm,5.1s
CD2 LR LR
comp=Z,7μm,18.1s
CD2 LR LR
comp=Z,7μm,24.5s
CD2 LR LR
comp=Z,8μm,21.1s
DGZ Jazzator, Alta 42.71 297*c i*P **P** **13 24 02.4 0.0**
DGZ pmax pmax
comp=Z,22nm,1.1s
GYA Guiyang 43.81 257⇑*i*P **P** **13 24 11.8 +0.4**
GYA pP pP 13 24 26.4 +0.2
GYA sP sP 13 24 34.2 +1.4
GYA PP **PcP** **13 25 55.8 -1.3**
GYA S **S** **13 30 35.5 -2.6**
GYA sS sS 13 31 04.0 +0.9
GYA pmax pmax
comp=Z,120nm,1.5s
GYA pmax pmax
comp=Z,1μm,3.5s
GYA LR LR
comp=Z,2μm,18.2s
GYA LR LR
comp=Z,2μm,16.9s
GYA LR LR
comp=Z,4μm,22.3s
WRGLY Wrigley 43.89 40 P **P** **13 24 12.1 +0.6**
baz=291,SNR=10
WRGLY S **S** **13 30 40.2 +2.0**
baz=291
ZSN Zaisan 45.28 296 *e*P **P** **13 24 24.5 +1.6**
baz=296
ZSN Zaisan 45.28 296 *e*P **P** **13 24 24.4 +1.6**
WMQ Urumqi 45.44 290 *e*P **P** **13 24 26.0 +1.8**
WMQ pP pP 13 24 38.6 -0.4
WMQ PcP **PcP** **13 26 03.3 +0.9**
WMQ pmax pmax
comp=Z,41nm,0.9s
WMQ pmax pmax
comp=Z,630nm,7.3s
WMQ LR LR
comp=Z,5μm,14.3s
WMQ LR LR
comp=Z,5μm,13.5s
WMQ LR LR
comp=Z,4μm,21.3s
EUNU Eureka 46.22 12 P **P** **13 24 30.1 +0.3**
EUNU IAMs_20 IAMs_20 13 47 22.3
comp=Z,4μm,19.0s
BBB Bella Bella 46.31 56 IAmb IAmb 13 24 32.6
comp=Z,82nm,1.1s
ALE Alert 46.94 6 IAMs_20 IAMs_20 13 46 49.6
comp=Z,3μm,19.0s
MK31 Makanchi Array 47.13 296*c i*P **P** **13 24 35.7 -1.6**
MK31 Makanchi Array 47.13 296 P **P** **13 24 36.9 -0.4**
MKAR Makanchi Array 47.13 296 P **P** **13 24 36.4 -1.0**
comp=Z,16nm,0.8s,baz=68,slow=6.7,SNR=47
MKAR PcP **PcP** **13 26 08.9 +0.7**
comp=Z,15nm,0.9s,baz=85,slow=3.0,SNR=4.0
MKAR ScP **ScP** **13 29 57.6 +0.7**
comp=Z,1.0nm,0.7s,baz=64,slow=6.6,SNR=1.9
MKAR S **S** **13 31 24.6 -0.7**
comp=Z,1.3nm,1.0s,baz=85,slow=5.4,SNR=1.3
MKAR ScS **ScS** **13 34 26.1 +0.2**
comp=Z,3.3nm,1.0s,baz=56,slow=9.0,SNR=4.2
MKAR LR LR 13 45 42.0
comp=Z,19μm,19.9s,baz=42,slow=38
KMI Kunming 47.26 259 ⇑P **P** **13 24 39.3 +0.5**
KMI pP pP 13 24 53.7 0.0
KMI PcP **PcP** **13 26 10.6 +1.4**
KMI PP **PP** **13 26 29.0 -1.2**
KMI PcS **PcS** **13 30 05.7 +0.8**
KMI S **S** **13 31 25.9 -2.1**
KMI pmax pmax
comp=Z,100nm,1.5s
KMI pmax pmax
comp=Z,1μm,4.5s
KMI LR LR
comp=Z,2μm,21.2s
KMI LR LR
comp=Z,2μm,18.9s
KMI LR LR
comp=Z,3μm,25.0s
MAKZ Makanchi 47.30 296 P **P** **13 24 38.0 -0.7**
MAKZ pmax pmax
comp=Z,58nm,1.4s
MAKZ MLR MLR
comp=Z,19μm,20.0s
MAKZ Makanchi 47.30 296 P **P** **13 24 38.0 -0.7**
KURBB Kurchatov Arra 47.31 302 ScP **ScP** **13 29 58.6 +1.1**
comp=Z,1.1nm,0.7s,baz=56,slow=4.9,SNR=1.9
QIZ Qiongzhong 47.31 247 P **P** **13 24 40.8 +1.8**
QIZ PP **PP** **13 26 32.3 +1.8**
QIZ S **S** **13 31 32.5 +4.1**
QIZ pmax pmax
comp=Z,170nm,1.1s
QIZ LR LR
comp=Z,2μm,20.4s
QIZ LR LR
comp=Z,2μm,18.0s
QIZ LR LR
comp=Z,2μm,18.0s
QIZ Qiongzhong 47.31 247 IAMs_20 IAMs_20 13 44 42.8
comp=Z,3μm,20.0s
RES Resolute Bay 47.83 20 P **P** **13 24 41.9 -0.4**
RES pmax pmax
comp=Z,71nm,1.2s
RES MLR MLR
comp=Z,4μm,22.0s
RES Resolute Bay 47.83 20 P **P** **13 24 41.9 -0.4**
RES IAmb IAmb 13 24 43.6
comp=Z,71nm,1.2s
RES IAMs_20 IAMs_20 13 46 00.2
comp=Z,4μm,22.0s
YKA Yellowknife Ar 47.88 39 P **P** **13 24 42.4 -0.5**
comp=Z,32nm,1.0s,baz=300,slow=6.7,SNR=29
YKA LR LR 13 46 20.1
comp=Z,2μm,21.6s,baz=0.0,slow=38
YKA Yellowknife Ar 47.88 39 *i* P **P** **13 24 42.4 -0.5**
YKA pmax pmax
comp=Z,36nm,1.0s
DAV Davao City (W) 49.08 221 P **P** **13 24 53.4 +0.8**
MLH Mauna Loa 49.16 109 P **P** **13 24 49.9 -3.6**
SLVN Son La 49.24 254 P **P** **13 24 55.7 +1.8**
SLVN IAMs_20 IAMs_20 13 45 42.1
comp=Z,4μm,20.0s
KBS Kingsbay 50.11 351 IAMs_20 IAMs_20 13 45 56.4
comp=Z,3μm,20.0s
LKP Lekhapani 50.20 267 *e*P **P** **13 25 04.9 +3.8**
LKP IAmb IAmb 13 25 06.0
comp=Z,188nm,1.0s
SPA0 Spitsbergen Ar 50.28 350 *e*P **P** **13 25 01.6 +0.5**
SPITS Spitsbergen Ar 50.28 350 P **P** **13 24 59.0 -2.0**
SPITS pmax pmax
comp=Z,96nm,1.2s
SPB2 Spitsbergen Ar 50.28 350 P **P** **13 24 58.7 -2.3**
SPB2 **PcP** **13 26 19.7 +0.7**
SPB2 IAmb IAmb 13 26 20.0
comp=Z,173nm,1.6s
TDK Taldygorghan 50.38 296 *e*P **P** **13 25 00.8 -1.5**
comp=Z,147nm,1.4s,baz=296
TDK *e*S **S** **13 32 11.6 +0.6**
baz=296
TDK *e*LR LR 13 46 22.5
comp=Z,15μm,19.5s,baz=296
TDK Taldyqorghan 50.38 296 *e*P **P** **13 25 00.7 -1.5**
TDK *e*S **S** **13 32 11.6 +0.6**
TDK pmax pmax
comp=Z,147nm,1.4s
TDK MLR MLR
comp=Z,15μm,20.0s
BVAR Borovoye Array 50.39 309 ScP **ScP** **13 30 11.5 +0.9**
comp=Z,0.8nm,0.5s,baz=116,slow=3.4,SNR=1.5
BVAR ScS **ScS** **13 34 48.2 +0.6**
comp=Z,0.5nm,0.4s,baz=205,slow=2.4,SNR=2.5
BRVK Borovoye 50.43 309*ce*P **P** **13 25 01.6 -0.9**
BRVK pmax pmax
comp=Z,68nm,1.3s
BRVK Borovoye 50.43 309 P **P** **13 25 02.3 -0.2**
BRVK IAmb IAmb 13 26 21.6
comp=Z,80nm,1.2s
BRVK Borovoye 50.43 309 P **P** **13 25 01.1 -1.4**
BRVK P **P** **13 25 01.1 -1.4**
LLLB Lillooet 50.48 55 IAmb IAmb 13 25 04.5
comp=Z,76nm,1.0s
PGC Sidney 50.69 58 P **P** **13 25 03.4 -1.1**
DIBR DIBRUGARH 50.72 268 *e*P **P** **13 25 04.8 -0.1**
BRZS Berezniki 50.84 304 *e*P **P** **13 25 04.1 -1.5**
comp=Z,50nm,1.5s,baz=304
BRZS *e*S **S** **13 32 13.3 -4.0**
baz=304
BRZS Berezniki 50.84 304 *e*P **P** **13 25 04.1 -1.5**
BRZS *e*S **S** **13 32 13.2 -4.0**
BRZS pmax pmax
comp=Z,50nm,1.5s
UZB Uzynbulak 51.07 294 *e*P **P** **13 25 06.2 -1.5**
baz=294
UZB Uzynbulak 51.07 294 *e*P **P** **13 25 06.2 -1.5**

KPKS **Kokpek** 51.09 294 *e*P P 13 25 05.7 -2.1
comp=Z,87nm,2.3s,baz=294
KPKS **Kokpek** 51.09 294 *e*P P 13 25 05.6 -2.1
KPKS pmax pmax
comp=Z,87nm,2.3s
NLWA **Neilton Lookou** 51.16 59 P P 13 25 07.9 -0.2
NLWA IAmb IAmb 13 25 10.3
comp=Z,71nm,1.0s
TULEG **Thule** 51.22 12 *i* P P 13 25 07.1 -1.0
TULEG IAmb IAmb 13 25 08.6
comp=Z,63nm,1.0s
TULEG **Thule** 51.22 12 P P 13 25 06.7 -1.4
TULEG IAmb IAmb 13 26 41.6
comp=Z,164nm,1.4s
TULEG IAMs_20 IAMs_20 13 48 57.1
comp=Z,4µm,20.0s
SATY **Saty** 51.49 294 *e*P P 13 25 10.4 -0.4
baz=294
SATY **Saty** 51.49 294 *e*P P 13 25 10.4 -0.4
B05A **Bryant** 51.66 58 P P 13 25 11.2 -0.6
baz=304,SNR=20
B05A S S 13 32 29.8 +1.3
baz=304
LSA **Lhasa** 51.68 273 *i* P P 13 25 13.5 +0.7
SNR=7.8
ITAN **ITANAGAR** 51.71 268 *e*P P 13 25 16.9 +4.4
MOKO **MOKOCHONG** 51.76 267 *e*P P 13 25 16.6 +3.6
MOKO IAmb IAmb 13 25 18.9
comp=Z,148nm,1.0s
CHKK **Chushkaly** 51.87 296 *e*P P 13 25 11.9 -1.5
baz=296
D04E **Lakebay** 51.90 59 P P 13 25 13.7 +0.2
baz=305,SNR=6.9
NONG **Nongkai** 52.15 252 P P 13 25 17.2 +1.5
comp=Z,7µmcomp=Z,610nm,1.3s
NONG **Nongkai** 52.15 252 P P 13 25 17.3 +1.5
comp=Z,7µmcomp=Z,616nm,1.3s
SGSI **Sangihe** 52.15 219 P P 13 25 15.6 -0.2
comp=Z,61nm,0.9s
KUU **Kurty** 52.23 296 *e*P P 13 25 14.1 -2.0
comp=Z,108nm,2.5s,baz=296
KUU **Kurty** 52.23 296 *e*P P 13 25 14.1 -2.0
KUU pmax pmax
comp=Z,108nm,2.5s
MDOK **Medeo** 52.23 295 *e*P P 13 25 15.8 -0.5
baz=295
MDOK *e*LR LR 13 47 31.8
comp=Z,8µm,19.4s,baz=295
MDOK **Medeo** 52.23 295 *e*P P 13 25 15.8 -0.5
MDOK MLR MLR
comp=Z,8µm,19.0s
AAA **Alma-Ata** 52.29 295 *e*P P 13 25 15.0 -1.7
baz=295
AAA *e*LR LR 13 47 59.1
comp=Z,19µm,20.9s,baz=295
AAA **Alma-Ata** 52.29 295 *e*P P 13 25 14.9 -1.7
AAA MLR MLR
comp=Z,19µm,21.0s
D05A **Enumclaw** 52.33 59 P P 13 25 16.0 -0.8
D05A IAmb IAmb 13 25 18.5
comp=Z,86nm,1.1s
NEEM **North Greenlan** 52.35 7⇑ *i*P P 13 25 15.5 -1.4
NEEM IAmb IAmb 13 25 16.9
comp=Z,161nm,1.1s
NEEM IAMs_20 IAMs_20 13 52 56.8
comp=Z,3µm,16.5s
E04D **Cinebar** 52.37 60 P P 13 25 17.0 -0.1
baz=305,SNR=30
E04D S S 13 32 39.7 +1.4
baz=305
F04D **Rainier, OR** 52.39 60 P P 13 25 16.6 -0.7
baz=305
KOHI **KOHIMA** 52.43 267 *e*P P 13 25 21.1 +3.1
KOHI IAmb IAmb 13 25 22.5
comp=Z,187nm,1.0s
SKNT **Sakolnakorn** 52.45 251 P P 13 25 19.3 +1.3
comp=Z,8µmcomp=Z,578nm,1.2s
SKNT **Sakolnakorn** 52.45 251 P P 13 25 19.3 +1.3
comp=Z,8µmcomp=Z,578nm,1.2s
C06D **Leavenworth** 52.52 57 P P 13 25 17.7 -0.5
baz=305,SNR=6.6
C06D S S 13 32 40.8 +0.4
baz=305
MTBS **Maitube** 52.62 295 *e*P P 13 25 17.7 -1.4
baz=295
LON **Longmire** 52.68 59 P P 13 25 18.6 -0.9
LON pmax pmax
comp=Z,32nm,1.2s
LON MLR MLR
comp=Z,1µm,21.0s
LON **Longmire** 52.68 59 P P 13 25 18.6 -0.9
G03D **McMinnville, O** 52.76 61 P P 13 25 19.3 -0.7
baz=306
G03D S S 13 32 46.5 +2.9
baz=306
BTLS **Baital** 52.88 298 *e*P P 13 25 19.1 -1.9
comp=Z,50nm,3.4s,baz=298
BTLS **Baital** 52.88 298 *e*P P 13 25 19.0 -1.9
BTLS pmax pmax
comp=Z,51nm,3.4s
SVE **Sverdlovsk** 52.95 317 *de*P P 13 25 20.4 -0.8
SVE *e* 13 27 21.7
SVE *eS* S 13 32 42.6 -3.4
SVE *e* 13 36 22.3
SVE *e* 13 38 09.0
SVE pmax pmax
comp=Z,239nm,1.1s
SVE MLR MLR
comp=Z,4µm,20.0s
LTY **Liberty** 53.02 58 P P 13 25 21.7 -0.3
I02D **Swisshome** 53.07 63 P P 13 25 22.5 +0.3
baz=306
B08A **Colville Reser** 53.12 56 P P 13 25 22.0 -0.6
B08A IAmb IAmb 13 25 23.7
comp=Z,84nm,1.1s
PAYA **Payao** 53.24 256 P P 13 25 25.7 +1.9
comp=Z,3µmcomp=Z,413nm,1.0s
PAYA **Payao** 53.24 256 P P 13 25 25.7 +1.9
comp=Z,798nmcomp=Z,103nm,1.0s
BOOM **Boomskoye usch** 53.29 295 P P 13 25 24.2 0.0
BOOM pmax pmax
comp=Z,89nm,1.4s
BOOM MLR MLR
comp=Z,20µm,20.0s
BOOM **Boomskoye usch** 53.29 295 P P 13 25 24.2 0.0
BOOM IAmb IAmb 13 26 32.6
comp=Z,89nm,1.4s
EDM **Edmonton** 53.38 49 P P 13 25 23.7 -0.8
EDM pmax pmax
comp=Z,331nm,1.2s
EDM **Edmonton** 53.38 49 P P 13 25 23.7 -0.8
EDM IAMs_20 IAMs_20 13 46 32.7
comp=Z,3µm,21.0s
F05D **White Salmon** 53.39 60 P P 13 25 24.3 -0.3
baz=306,SNR=6.3
F05D S S 13 32 54.2 +1.9
baz=306
RABL **Rabaul** 53.45 184 IAMs_20 IAMs_20 13 43 57.3
comp=Z,3µm,22.0s
H04D **Lebanon** 53.46 62 P P 13 25 25.1 -0.1
baz=306,SNR=8.5
H04D S S 13 32 55.3 +2.0
baz=306
SGDS **Sogindy** 53.49 297⇑ *i*P P 13 25 23.5 -2.0
comp=Z,64nm,2.8s,baz=297
J01E **Myrtle Point** 53.58 64 P P 13 25 26.2 +0.2
baz=307,SNR=5.5
I03D **Drain, OR** 53.60 63 P P 13 25 26.3 +0.1
baz=307,SNR=6.2
H04A **Detroit Lake** 53.68 61 P P 13 25 25.4 -1.4
G05D **Wamic, OR** 53.85 60 P P 13 25 28.5 +0.4
baz=306,SNR=19
SHL **Shillong** 53.99 268 P P 13 25 30.0 +0.5
SHL pmax pmax
comp=Z,154nm,1.0s
SHL **Shillong** 53.99 268 *e*P P 13 25 30.5 +1.0
SHL IAmb IAmb 13 25 33.2
comp=Z,100nm,0.7s
UTTA **Uttaradit** 54.01 254 P P 13 25 31.0 +1.6
comp=Z,3µmcomp=Z,353nm,1.1s
UTTA **Uttaradit** 54.01 254 P P 13 25 31.0 +1.6
comp=Z,762nmcomp=Z,88nm,1.1s
LAMP **Lampang** 54.01 256 P P 13 25 31.3 +1.9
comp=Z,5µmcomp=Z,649nm,1.0s
LAMP **Lampang** 54.01 256 P P 13 25 31.4 +1.9
comp=Z,1µmcomp=Z,162nm,1.0s
K02D **Willamette Mer** 54.02 64 P P 13 25 30.5 +1.2
baz=307,SNR=6.6
AAK **Ala-Archa** 54.05 296 *i* P P 13 25 29.3 -0.4
SNR=6.7
AAK **Ala-Archa** 54.05 296 *ce*P P 13 25 29.4 -0.4
AAK pmax pmax
comp=Z,62nm,1.5s
AAK **Ala-Archa** 54.05 296 P P 13 25 29.6 -0.2
AAK **Ala-Archa** 54.05 296 P P 13 25 28.7 -1.0
AAK P P 13 25 28.7 -1.0
CM34 **Chiang Mai Arr** 54.08 257 P P 13 25 31.0 +1.1
I04A **Tendick Farm,** 54.09 62 P P 13 25 29.3 -0.5
baz=307,SNR=16
ARU **Arti** 54.11 317 S S 13 33 01.0 -0.8
comp=Z,0.6nm,0.3s,baz=80,slow=21,SNR=1.2
ARU ScS ScS 13 35 12.3 -1.0
comp=Z,0.5nm,0.3s,baz=114,slow=21,SNR=1.6
ARU **Arti** 54.11 317 *c i*P P 13 25 28.6 -1.1
ARU *PP pP 13 25 42.3 -2.5
ARU 13 26 30.8
ARU 13 27 29.8
ARU S S 13 33 04.1 +2.4
ARU 13 35 11.8
ARU SS SS 13 36 40.2 -3.0
ARU SSS SSS 13 38 48.1
ARU pmax pmax
comp=Z,289nm,1.0s
ARU MLR MLR
comp=Z,5µm,20.0s
ARU **Arti** 54.11 317 P P 13 25 28.6 -1.1
HAWA **Hanford** 54.16 58 P P 13 25 29.9 -0.4
CM35 **Chiang Mai Arr** 54.20 256 P P 13 25 32.0 +1.1
SWI **Sorong** 54.22 210 P P 13 25 31.5 +0.6
SWI pmax pmax
comp=Z,192nm,1.7s
CM33 **Chiang Mai Arr** 54.23 257 P P 13 25 32.0 +0.9
CMMT **Chiang Mai** 54.23 257 P P 13 25 32.2 +1.1
comp=Z,6µmcomp=Z,588nm,1.1s
CMMT **Chiang Mai** 54.23 257 P P 13 25 32.3 +1.1
comp=Z,6µmcomp=Z,588nm,1.1s
CMMT **Chiang Mai** 54.23 257 P P 13 25 32.2 +1.1
comp=Z,6µmcomp=Z,561nm,1.1s
CHTO **Chiang Mai** 54.23 257 P P 13 25 31.0 -0.1
CHTO pmax pmax
comp=Z,662nm,1.1s
CHTO MLR MLR
comp=Z,2µm,20.0s
CHTO **Chiang Mai** 54.23 257 P P 13 25 32.3 +1.2
comp=Z,4µmcomp=Z,6µmcomp=Z,594nm,1.3s
CHTO **Chiang Mai** 54.23 257 P P 13 25 30.9 -0.1
CHTO **Chiang Mai** 54.23 257 IAMs_20 IAMs_20 13 49 01.2
comp=Z,3µm,20.0s
CHTO **Chiang Mai** 54.23 257 P P 13 25 32.9 +1.8
CHTO P P 13 25 32.9 +1.8
CHTO **Chiang Mai** 54.23 257 P P 13 25 32.3 +1.2
comp=Z,2µmcomp=Z,3µmcomp=Z,334nm,1.3s
CM36 **Chiang Mai Arr** 54.35 256 P P 13 25 33.0 +1.0
NEW **Newport** 54.37 55 P P 13 25 30.7 -1.1
NEW pmax pmax
comp=Z,78nm,1.3s
NEW **Newport** 54.37 55 P P 13 25 30.7 -1.1
NEW IAmb IAmb 13 25 32.7
comp=Z,78nm,1.2s
NEW **Newport** 54.37 55 P P 13 25 31.1 -0.6
baz=306,SNR=29
I05D **Terrebonne, OR** 54.38 61 P P 13 25 31.4 -0.5
baz=307,SNR=11
L02E **Cave Junction** 54.38 65 P P 13 25 31.1 -0.8
baz=307,SNR=11
CM32 **Chiang Mai Arr** 54.41 257 P P 13 25 34.0 +1.6
MNI **Manado** 54.46 219 P P 13 25 33.0 +0.3
MNI pmax pmax
comp=Z,200nm,1.3s
MNI **Manado** 54.46 219 P P 13 25 32.5 -0.2
comp=Z,200nm,1.4s
CM09 **Chiang Mai Arr** 54.48 256 P P 13 25 34.7 +1.9
comp=Z,3µmcomp=Z,322nm,1.1s
CM09 **Chiang Mai Arr** 54.48 256 P P 13 25 34.8 +1.9
comp=Z,3µmcomp=Z,322nm,1.1s
CM31 **Chiang Mai Arr** 54.50 256 P P 13 25 35.0 +1.9
comp=Z,64µmcomp=Z,8µm,1.1s
CMAR **Chiang Mai Arr** 54.50 256 P P 13 25 34.5 +1.5
comp=Z,222nm,0.9s,baz=29,slow=7.3,SNR=520
CMAR ScP ScP 13 30 28.9 -0.1
comp=Z,1.0nm,0.3s,baz=14,slow=4.6,SNR=4.5
CMAR **Chiang Mai Arr** 54.50 256 *i* P P 13 25 34.7 +1.7
CMAR pmax pmax
comp=Z,229nm,0.9s
CMAR **Chiang Mai Arr** 54.50 256 P P 13 25 34.9 +1.9
CHAI **Chaiyaphum** 54.50 252 P P 13 25 34.2 +1.2
comp=Z,4µmcomp=Z,481nm,0.9s
CHAI **Chaiyaphum** 54.50 252 P P 13 25 34.2 +1.2
comp=Z,979nmcomp=Z,120nm,0.9s
PHIT **Phitsanulok** 54.51 254 P P 13 25 34.8 +1.8
comp=Z,7µmcomp=Z,714nm,1.1s
PHIT **Phitsanulok** 54.51 254 P P 13 25 34.9 +1.8
comp=Z,2µmcomp=Z,177nm,1.1s
CM02 **Chiang Mai Arr** 54.51 256 P P 13 25 34.9 +1.8
comp=Z,3µmcomp=Z,395nm,1.1s
CM02 **Chiang Mai Arr** 54.51 256 P P 13 25 35.0 +1.8
comp=Z,3µmcomp=Z,395nm,1.1s
CM15 **Chiang Mai Arr** 54.51 256 P P 13 25 34.9 +1.8
comp=Z,2µmcomp=Z,317nm,1.1s
CM15 **Chiang Mai Arr** 54.51 256 P P 13 25 35.0 +1.8
comp=Z,2µmcomp=Z,317nm,1.1s
CM01 **Chiang Mai Arr** 54.51 256 P P 13 25 35.0 +1.9
comp=Z,3µmcomp=Z,351nm,1.1s
CM01 **Chiang Mai Arr** 54.51 256 P P 13 25 35.1 +1.9
comp=Z,3µmcomp=Z,351nm,1.1s
CM04 **Chiang Mai Arr** 54.52 256 P P 13 25 35.1 +1.9
comp=Z,3µmcomp=Z,335nm,1.2s
CM04 **Chiang Mai Arr** 54.52 256 P P 13 25 35.0 +1.9
comp=Z,3µmcomp=Z,335nm,1.2s
CM05 **Chiang Mai Arr** 54.54 256 P P 13 25 35.1 +1.8
comp=Z,2µmcomp=Z,279nm,1.1s
CM05 **Chiang Mai Arr** 54.54 256 P P 13 25 35.1 +1.8
comp=Z,2µmcomp=Z,279nm,1.1s
CM13 **Chiang Mai Arr** 54.55 256 P P 13 25 35.1 +1.7
comp=Z,139nmcomp=Z,2µmcomp=Z,284nm,1.1s
CM13 **Chiang Mai Arr** 54.55 256 P P 13 25 35.2 +1.8
comp=Z,139nmcomp=Z,2µmcomp=Z,284nm,1.1s
J04D **Umpqua Nationa** 54.60 63 P P 13 25 33.7 0.0
baz=307,SNR=17
PBKT **Sadao Pong** 54.63 253 P P 13 25 36.5 +2.6
comp=Z,79nm,1.6s
PBKT **Sadao Pong** 54.63 253 P P 13 25 36.0 +2.1
comp=Z,79nm,1.6s
PBKT **Sadao Pong** 54.63 253 P P 13 25 34.4 +0.5
PBKT IAmb IAmb 13 25 36.8
comp=Z,168nm,1.5s
PBKT **Sadao Pong** 54.63 253 P P 13 25 34.6 +0.7
comp=Z,75nm,1.6s
PINE **Pine Mountain** 54.94 62 P P 13 25 35.1 -1.0
PINE IAmb IAmb 13 25 38.3
comp=Z,106nm,1.2s
LVZ **Lovozero** 54.95 337 *ce*P P 13 25 34.3 -1.4
LVZ pmax pmax
comp=Z,58nm,1.3s
LVZ MLR MLR
comp=Z,8µm,20.0s
LVZ **Lovozero** 54.95 337 P P 13 25 34.5 -1.2
J05D **Fort Rock, OR** 55.08 62 P P 13 25 37.3 +0.2
baz=308,SNR=60
KSH **Kashi** 55.08 292 P P 13 25 40.3 +3.1
KSH sP sP 13 25 58.4 -0.5
KSH PcP PcP 13 26 40.8 +2.8
KSH ScS ScS 13 35 19.2 -1.9
KSH pmax pmax
comp=Z,25nm,1.5s
KSH pmax pmax
comp=Z,670nm,7.2s
KSH LR LR
comp=Z,5µm,21.8s
KSH LR LR
comp=Z,4µm,15.6s
KSH LR LR
comp=Z,6µm,17.5s
L04D **Klamath Falls** 55.11 64 P P 13 25 37.1 -0.2
baz=308,SNR=27
M02C **Callahan** 55.29 65 P P 13 25 38.9 +0.3
baz=308,SNR=17
M02C S S 13 33 22.5 +4.4
baz=308
HAMF **Hammerfest** 55.34 342 *e*P P 13 25 37.3 -1.1
MHMT **Maesarieng** 55.35 257 P P 13 25 41.2 +2.1
comp=Z,6µmcomp=Z,576nm,1.4s
MHMT **Maesarieng** 55.35 257 P P 13 25 41.0 +1.9
comp=Z,6µmcomp=Z,576nm,1.4s
SPMM **Sapulut** 55.38 230 P P 13 25 40.0 +0.6
APA **Apatity** 55.51 337⇑ *i*P P 13 25 35.1 -4.6
APA *i* 13 27 46.0
APA *i* S S 13 33 12.0 -8.2
APA pmax pmax
comp=Z,11nm,1.1s
AGT **Agartala** 55.57 267 *e*P P 13 25 41.5 +0.8
AGT IAmb IAmb 13 25 46.1
comp=Z,192nm,1.4s
AGT *i* x x 13 26 09.0
WALA **Waterton Lakes** 55.58 53 IAmb IAmb 13 25 41.8
comp=Z,111nm,1.1s
WALA IAMs_20 IAMs_20 13 48 47.9
comp=Z,3µm,22.0s
N02D **Trinity Center** 55.64 65 P P 13 25 40.7 -0.4
baz=308,SNR=18
N02D S S 13 33 27.7 +4.9
baz=308
M04C **Macdoel** 55.65 64 P P 13 25 41.0 -0.3
baz=308,SNR=23
DZA **Taraz** 55.74 298 *e*P P 13 25 39.3 -2.5
baz=298
DZA **Taraz** 55.74 298 *e*P P 13 25 39.2 -2.5
FAKI **Fak Fak** 55.84 208 P P 13 25 43.0 +0.4
FAKI IAMs_20 IAMs_20 13 45 18.3
comp=Z,2µm,21.0s
ARA0 **ARCESS Array S** 55.85 341 *e*P P 13 25 42.2 0.0
ARCES **ARCESS Array B** 55.85 341 P P 13 25 40.3 -1.8
comp=Z,6.1nm,0.8s,baz=24,slow=5.8,SNR=16
ARCES PcP PcP 13 26 40.5 +0.2
comp=Z,7.6nm,0.6s,baz=21,slow=3.9,SNR=7.9
ARCES LR LR 13 53 11.9
comp=Z,5µm,21.1s,baz=30,slow=40
GTOI **Gorontalo** 55.95 220 P P 13 25 42.8 -0.6
comp=Z,913nmcomp=Z,38nm,1.4s
PRGR **Permogore** 55.98 327 *e*P P 13 25 42.0 -1.0
PRGR *e* 13 26 38.5
PRGR pmax pmax
comp=Z,202nm,1.5s
ODAN **Odare** 56.04 273 *e*P P 13 25 45.4 +1.1
KKAR **Karatay Array** 56.09 298 P P 13 25 43.0 -1.2
KKAR **Karatay Array** 56.09 298 P P 13 25 43.0 -1.2
O02D **Mt. Diablo Mer** 56.09 66 P P 13 25 44.5 +0.2
baz=309,SNR=11
O02D S S 13 33 33.8 +5.1
baz=309
JTMT **Jette** 56.20 54 P P 13 25 44.5 -0.5
JTMT IAmb IAmb 13 25 46.5
comp=Z,70nm,1.0s
UMPA **Umpang Tak** 56.23 255 P P 13 25 48.6 +3.2
comp=Z,4µmcomp=Z,399nm,1.2s
UMPA **Umpang Tak** 56.23 255 P P 13 25 48.7 +3.2
comp=Z,994nmcomp=Z,99nm,1.2s
JIRN **Jiri** 56.28 274 *e*P P 13 25 46.7 +0.5
comp=Z,51nm,0.5s
RAMN **Ramite** 56.49 273 *e*P P 13 25 48.5 +0.9
comp=Z,80nm,0.4s
TOLI2 **Tolitoli** 56.49 223 P P 13 25 46.5 -0.8
BRLS **Borolday** 56.52 299 *e*S S 13 33 38.4 +4.1
baz=299
DBG **Daneborg** 56.55 359 *i* P P 13 25 45.3 -1.7
DBG IAmb IAmb 13 25 48.0
comp=Z,15nm,1.0s
DBG IAMs_20 IAMs_20 13 53 15.1
comp=Z,3µm,16.8s
MRSI **Marisa** 56.55 221 P P 13 25 47.7 0.0
comp=Z,3µmcomp=Z,3µmcomp=Z,81nm,1.4s
KIRV **Kirov** 56.59 323 ScS ScS 13 35 30.1 -0.9
comp=Z,5.0nm,0.5s,baz=186,slow=9.9,SNR=1.7
KIRV **Kirov** 56.59 323 *c i*P P 13 25 46.3 -1.2
O03E **Paynes Creek** 56.60 65 P P 13 25 46.8 -1.2
baz=309,SNR=31
KTK1 **Kautokeino** 56.76 341 *e*P P 13 25 47.3 -1.2
KKN **Kakani** 56.78 275 *e*P P 13 25 50.2 +0.6
comp=Z,103nm,0.8s
PKI **Pulchoki** 56.85 275 *e*P P 13 25 50.6 +0.4
comp=Z,95nm,1.0s
PKIN **Phulchoki** 56.85 275 *e*P P 13 25 50.4 +0.3
JETT **Jettan, Norway** 56.87 343 *e*P P 13 25 50.0 +0.6
PLID **Pearl Lake** 56.92 58 P P 13 25 50.3 -0.1
PLID IAmb IAmb 13 25 52.3
comp=Z,105nm,0.9s
GDXM **Geysers** 56.95 67 IAMs_20 IAMs_20 13 45 39.9
comp=Z,3µm,20.0s
MSO **Missoula** 56.95 55 IAmb IAmb 13 25 52.3
comp=Z,108nm,1.2s
MSO **Missoula** 56.95 55 P P 13 25 49.6 -0.8
baz=309,SNR=60
MSO S S 13 33 41.6 +1.5
baz=309
IUG **Iuzhnay** 56.96 298 *e*P P 13 25 49.5 -1.1
baz=298
IUG **Iuzhnay** 56.96 298 *e*P P 13 25 49.4 -1.1
DMN **Daman** 57.02 275 *e*P P 13 25 52.0 +0.7
GKN **Gorkha** 57.06 276 *e*P P 13 25 52.1 +0.6
TRO **Tromso** 57.09 343 *e*P P 13 25 50.3 -0.5
SANI **Sanana** 57.20 216 P P 13 25 51.3 -1.0
comp=Z,2µmcomp=Z,2µmcomp=Z,146nm,1.4s
MSAI **Masohi** 57.33 212 P P 13 25 53.9 +0.7
comp=Z,292nmcomp=Z,15nm,1.3s
DANN **Dangsing** 57.40 277 *e*P P 13 25 54.7 +0.7
comp=Z,116nm,0.6s
KHLT **Khaolaem Dam** 57.46 254 P P 13 25 56.7 +2.5
comp=Z,2µmcomp=Z,126nm,1.3s
KHLT **Khaolaem Dam** 57.46 254 P P 13 25 56.7 +2.5
comp=Z,2µmcomp=Z,126nm,1.3s
SRDT **SRDT** 57.47 253 P P 13 25 56.2 +2.0
comp=Z,5µmcomp=Z,169nm,1.6s
SRDT **SRDT** 57.47 253 P P 13 25 56.0 +1.8
comp=Z,5µmcomp=Z,169nm,1.6s
SRDT **SRDT** 57.47 253 P P 13 25 55.1 +0.9
comp=Z,5µmcomp=Z,161nm,1.6s
PATY **Pattaya** 57.48 250 P P 13 25 56.7 +2.4
comp=Z,193nm,1.1s
PATY **Pattaya** 57.48 250 P P 13 25 56.7 +2.4
comp=Z,50nm,1.1s
KRAI **Karang Ratu** 57.49 213 P P 13 25 54.9 +0.6
comp=Z,2µmcomp=Z,99nm,1.7s
MPSI **Mapaga** 57.58 223 P P 13 25 53.7 -1.3
FFC **Flin Flon** 57.72 42 P P 13 25 55.3 -0.2
FFC pmax pmax
comp=Z,92nm,1.2s
FFC MLR MLR
comp=Z,3µm,22.0s
FFC **Flin Flon** 57.72 42 P P 13 25 55.3 -0.2
FFC IAmb IAmb 13 25 57.0
comp=Z,92nm,1.1s
FFC **Flin Flon** 57.72 42 IAMs_20 IAMs_20 13 50 45.7
comp=Z,3µm,22.0s
BTK **Batken** 57.83 295 P P 13 25 56.8 +0.2
BTK pmax pmax
comp=Z,91nm,1.6s
BTK MLR MLR
comp=Z,14µm,19.0s
BTK **Batken** 57.83 295 P P 13 25 56.8 +0.2
BTK IAmb IAmb 13 26 49.5
comp=Z,91nm,1.6s
KOLN **Koldanda** 57.89 276 *e*P P 13 25 57.9 +0.5
comp=Z,37nm,0.5s
MSF **Maaselka** 57.90 337 P P 13 25 55.9 -0.8
MSF pmax pmax
comp=Z,25nm,1.6s
ABKAR **Akbulak array** 57.92 310 P P 13 25 56.7 -0.3
ABKAR **Akbulak array** 57.92 310 IAmb IAmb 13 25 58.3
comp=Z,53nm,0.6s
APSI **Ampana** 57.92 221 P P 13 25 57.3 -0.1
comp=Z,1µmcomp=Z,1µmcomp=Z,107nm,1.4s
SUMG **Summit** 57.94 5⇑ *i*P P 13 25 56.8 -0.5
SUMG IAmb IAmb 13 25 58.6
comp=Z,121nm,1.1s
SUMG IAMs_20 IAMs_20 13 54 38.2
comp=Z,2µm,19.3s
SUMG **Summit** 57.94 5⇑ *i*P P 13 25 56.8 -0.5
SUMG pmax pmax
comp=Z,120nm,1.1s
SUMG MLR MLR
comp=Z,2µm,19.0s
SUMG **Summit** 57.94 5 IAMs_20 IAMs_20 13 54 43.2
comp=Z,2µm,18.0s
PYUN **Piuthan** 58.06 277 *e*P P 13 25 59.8 +1.2
AKTO **Aktyubinsk** 58.11 312 ScP ScP 13 30 45.3 +0.9
comp=Z,1.8nm,0.6s,baz=30,slow=3.9,SNR=1.1
AKTO ScS ScS 13 35 40.7 -1.8
comp=Z,0.7nm,0.3s,baz=56,slow=12,SNR=1.7
FCC **Fort Churchill** 58.20 35 P P 13 25 58.4 -0.4

FCC pmax pmax
comp=Z,213nm,1.6s
FCC MLR MLR
comp=Z,2µm,19.0s
FCC Fort Churchill 58.20 35 P **P** **13 25 58.4 -0.4**
FCC IAMs_20 IAMs_20 13 55 04.5
comp=Z,2µm,19.0s
PHET Kaeng Krachan 58.25 251 P **P** **13 26 02.3 +2.6**
comp=Z,2µmcomp=Z,293nm,1.1s
PHET Kaeng Krachan 58.25 251 P **P** **13 26 02.0 +2.3**
comp=Z,623nmcomp=Z,75nm,1.1s
EGMT Eagleton 58.38 52 IAmb IAmb 13 26 02.3
comp=Z,119nm,1.1s
EGMT IAMs_20 IAMs_20 13 50 49.0
comp=Z,2µm,20.0s
EGMT Eagleton 58.38 52 P **P** **13 25 59.7 -0.7**
baz=310,SNR=34
EGMT S **S** **13 34 00.9 +2.1**
baz=310
LRM Limekiln Ridge 58.38 55 P **P** **13 26 00.8 +0.1**
PAHR Pah Rah Range 58.40 64 IAmb IAmb 13 26 02.1
comp=Z,60nm,1.2s
DLMT Dillon 58.60 56 IAmb IAmb 13 26 03.6
comp=Z,108nm,1.4s
KLMR Klimovskoe 58.64 329*c iP* **P** **13 26 00.3 -1.5**
KLMR *e* 13 26 49.1
KLMR S **S** **13 34 01.9 +0.6**
KLMR pmax pmax
comp=Z,136nm,1.2s
KLMR MLR MLR
comp=Z,3µm,17.0s
KLMR Klimovskoe 58.64 329⇑ *iP* **P** **13 26 00.3 -1.5**
KLMR *eP* **P** **13 26 00.3 -1.5**
KLMR *eP* **P** **13 26 00.3 -1.5**
KLMR AMP 13 26 03.4
comp=Z,136nm,1.2s
KLMR *e*PcP **PcP** **13 26 49.1 -2.2**
KLMR S **S** **13 34 02.0 +0.6**
KLMR S **S** **13 34 02.0 +0.6**
KLMR LQ LQ 13 45 41.1
KLMR LR LR 13 47 26.1
KLMR AMP 13 56 06.3
comp=Z,3µm,17.1s
PNTR Pine Nut 58.67 65 IAmb IAmb 13 26 04.3
comp=Z,47nm,0.9s
HNR Honiara 58.71 175 IAMs_20 IAMs_20 13 48 40.4
comp=Z,3µm,20.0s
HLID Hailey 58.77 58 IAmb IAmb 13 26 05.1
comp=Z,88nm,1.4s
HLID Hailey 58.77 58 P **P** **13 26 03.1 -0.2**
baz=310,SNR=74
HLID S **S** **13 34 06.9 +2.8**
baz=310
YERR Yerington 58.95 65 IAmb IAmb 13 26 06.1
comp=Z,63nm,1.1s
BOZ Bozeman (W) 58.97 55 P **P** **13 26 04.2 -0.4**
baz=310,SNR=153
BOZ S **S** **13 34 08.2 +1.7**
baz=310
BOK Bokaro 59.14 271 *eP* **P** **13 26 07.8 +2.0**
BOK *i* x x 13 26 32.2
BOK *ex* x 13 26 54.0
BMN Battle Mountai 59.20 63 IAmb IAmb 13 26 08.0
comp=Z,68nm,1.1s
OUL Oulu 59.36 338 P **P** **13 26 04.5 -2.2**
OUL pmax pmax
comp=Z,17nm,1.2s
LOF Lofoten 59.38 344 *eP* **P** **13 26 06.8 0.0**
SBUM Sibu 59.47 233 P **P** **13 26 10.0 +1.8**
KVN Kaiserville 59.59 64 IAmb IAmb 13 26 10.5
comp=Z,65nm,1.1s
CHGR Chuyangaron 59.71 295 IAmb IAmb 13 26 22.2
comp=Z,62nm,0.8s
FAUS Fauske 59.72 343 *eP* **P** **13 26 08.5 -0.7**
SMLA Simla 59.77 284 *eP* **P** **13 26 10.1 +0.1**
SMLA IAmb IAmb 13 26 13.7
comp=Z,156nm,1.4s
LHV Little Huntoon 59.87 65 IAmb IAmb 13 26 12.8
comp=Z,86nm,1.1s
NVAR Mina Array Bea 59.87 65 P **P** **13 26 10.5 -0.5**
comp=Z,23nm,0.9s,baz=292,slow=6.6,SNR=85
NVAR LR LR 13 47 34.7
comp=Z,1µm,21.9s,baz=297,slow=32
NVAR PKP2bc 13 55 47.0
comp=Z,0.2nm,0.3s,baz=152,slow=5.9,SNR=4.9
NVAR Mina Array Bea 59.87 65 P **P** **13 26 10.1 -0.9**
YHH Holmes Hill 59.92 55 IAmb IAmb 13 26 13.2
comp=Z,81nm,0.9s
MDPB Devils Postpil 59.93 66 IAMs_20 IAMs_20 13 46 56.0
comp=Z,2µm,21.0s
BHK Bhakra 60.05 284 *ex* **P** **13 26 08.2 -3.8**
MLAC Mammoth, Mammo 60.08 66 P **P** **13 26 12.6 +0.1**
baz=311
ILULI Ilulissat 60.10 11 *i* P **P** **13 26 10.7 -1.1**
ILULI IAmb IAmb 13 26 11.6
comp=Z,110nm,1.1s
ILULI IAMs_20 IAMs_20 13 53 39.9
comp=Z,4µm,21.9s
ILULI Ilulissat 60.10 11 *i* P **P** **13 26 10.6 -1.1**
ILULI pmax pmax
comp=Z,110nm,1.1s
ILULI MLR MLR
comp=Z,4µm,22.0s
ILULI Ilulissat 60.10 11 IAmb IAmb 13 26 11.9
comp=Z,113nm,1.1s
ELK Elko 60.14 61 P **P** **13 26 11.9 -0.9**
ELK pmax pmax
comp=Z,27nm,1.0s
ELK Elko 60.14 61 P **P** **13 26 11.9 -0.9**
ELK IAMs_20 IAMs_20 13 47 55.4
comp=Z,2µm,21.0s
H17A Grant Village 60.32 55 P **P** **13 26 15.7 +1.6**
baz=311,SNR=48
H17A S **S** **13 34 32.0 +7.8**
baz=311
SCO Scoresbysund 60.41 359 IAMs_20 IAMs_20 13 53 21.0
comp=Z,2µm,20.0s
NIL Nilore 60.54 288 P **P** **13 26 15.8 +0.4**
NIL pmax pmax
comp=Z,75nm,0.9s
NIL MLR MLR
comp=Z,7µm,20.0s
NIL Nilore 60.54 288 P **P** **13 26 15.8 +0.4**
NIL IAmb IAmb 13 27 01.5
comp=Z,75nm,0.9s
NIL Nilore 60.54 288 P **P** **13 26 15.3 -0.1**
RLMT Red Lodge 60.54 54 P **P** **13 26 15.8 +0.4**
baz=312,SNR=62
RLMT S **S** **13 34 30.6 +3.7**
baz=312
FXWY Fox Creek 60.58 56 IAmb IAmb 13 26 18.1
comp=Z,49nm,1.0s
TTSI Tana Toraja 60.62 222 P **P** **13 26 15.1 -0.9**
comp=Z,2µmcomp=Z,9.9nm,1.1s
MOOW Moose Ponds 60.66 56 IAmb IAmb 13 26 18.6
comp=Z,79nm,1.2s
TIN Tinemaha, Big 60.82 66 P **P** **13 26 17.0 -0.4**
baz=312,SNR=7.7
TIN S **S** **13 34 34.6 +4.1**
baz=312
KKSI Kolaka, Sulawe 60.86 219 P **P** **13 26 18.2 +0.6**
comp=Z,2µmcomp=Z,56nm,1.0s
DGMT Dagmar 60.88 49 IAMs_20 IAMs_20 13 52 28.0
comp=Z,3µm,21.0s
DGMT Dagmar 60.88 49 P **P** **13 26 17.0 -0.5**
baz=313,SNR=16
DGMT S **S** **13 34 34.8 +4.1**
baz=313
MOR8 Moi Rana 60.95 343 *eP* **P** **13 26 16.6 -1.0**
MTKI Muara Teweh, K 61.04 228 P **P** **13 26 19.5 +0.6**
comp=Z,2µmcomp=Z,108nm,1.2s
LAO LASA Array 61.07 51 P **P** **13 26 17.6 -1.2**
LAO IAMs_20 IAMs_20 13 52 25.0
comp=Z,3µm,21.0s
LAO LASA Array 61.07 51 P **P** **13 26 19.0 +0.1**
baz=312,SNR=47
LAO S **S** **13 34 37.8 +4.5**
baz=312
VES Vestal, Richgr 61.12 68 P **P** **13 26 17.9 -1.3**
baz=312,SNR=6.3
SURA Surathani 61.15 249 P **P** **13 26 22.1 +2.5**
comp=Z,134nm,1.2s
SURA Surathani 61.15 249 P **P** **13 26 22.2 +2.6**
comp=Z,133nm,1.2s
BGU Big Grassy Mou 61.27 60 P **P** **13 26 19.7 -0.7**
KSM Kuching 61.30 234 P **P** **13 26 23.0 +2.4**

ICESG Greenland Ices 61.30 6⇑ *iP* **P** **13 26 20.0 -0.4**
ICESG IAmb IAmb 13 26 22.1
comp=Z,68nm,0.9s
CWC Cottonwood Cre 61.32 67 P **P** **13 26 20.0 -0.8**
baz=312
CWC S **S** **13 34 40.0 +3.0**
baz=312
GRAC Grapevine Rang 61.38 66 P **P** **13 26 20.6 -0.4**
baz=312,SNR=26
GRAC S **S** **13 34 41.3 +3.9**
baz=312
R11A Troy Canyon, C 61.52 63 P **P** **13 26 21.4 -0.8**
baz=312,SNR=69
R11A S **S** **13 34 41.6 +2.1**
baz=312
BELG Belogornoye 61.58 318 ScS **ScS** **13 36 07.5 -0.7**
comp=Z,3.3nm,0.4s,baz=102,slow=22,SNR=1.0
BELG Belogornoye 61.58 318*c iP* **P** **13 26 21.1 -0.9**
BELG pmax pmax
comp=Z,37nm,1.0s
BELG MLR MLR
comp=Z,541nm,20.0s
ISA Isabella, Lake 61.60 67 P **P** **13 26 20.7 -1.9**
baz=312,SNR=9.8
BNSI Bone 61.72 221 P **P** **13 26 24.4 +1.0**
comp=Z,2µmcomp=Z,110nm,1.2s
BNSI pP **pP** **13 26 35.3 -3.5**
comp=Z,2µmcomp=Z,110nm,1.2s
SPR3 Spring Creek 3 61.82 62 IAmb IAmb 13 26 41.2
comp=Z,132nm,1.4s
SPR3 IAMs_20 IAMs_20 13 48 54.8
comp=Z,2µm,22.0s
SURT Suratani 61.82 249 P **P** **13 26 27.5 +3.3**
comp=Z,44nmcomp=Z,3.5nm,1.2s
SURT Suratani 61.82 249 P **P** **13 26 27.5 +3.3**
comp=Z,44nmcomp=Z,3.5nm,1.2s
DUG Dugway, Tooele 61.88 60 P **P** **13 26 24.6 +0.1**
DUG pmax pmax
comp=Z,78nm,1.3s
DUG Dugway, Tooele 61.88 60 IAmb IAmb 13 26 26.3
comp=Z,79nm,1.1s
DUG Dugway, Tooele 61.88 60 P **P** **13 26 24.3 -0.3**
baz=312,SNR=31
DUG S **S** **13 34 47.0 +3.0**
baz=312
MPMC Manual Prospec 61.93 67 P **P** **13 26 24.1 -0.9**
baz=312,SNR=31
BW06 Boulder Array 61.96 56 P **P** **13 26 24.6 -0.5**
baz=312,SNR=83
BW06 S **S** **13 34 48.1 +3.1**
baz=312
PD31 Pinedale Array 61.96 56 IAmb IAmb 13 26 27.3
comp=Z,105nm,1.1s
PDAR Pinedale Array 61.96 56 P **P** **13 26 24.8 -0.4**
comp=Z,70nm,0.9s,baz=310,slow=2.0,SNR=142
PDAR LR LR 13 49 24.6
comp=Z,678nm,21.8s,baz=341,slow=32
PDAR PKP2bc 13 55 45.5
comp=Z,0.5nm,0.6s,baz=123,slow=4.4,SNR=4.1
PDAR Pinedale Array 61.96 56 P **P** **13 26 24.3 -0.8**
SCZ2 Santa Cruz Isl 62.02 70 P **P** **13 26 25.7 +0.3**
baz=313
FURC Furnace Creek, 62.03 66 P **P** **13 26 24.9 -0.4**
baz=312,SNR=26
TPNV Topopah Spring 62.07 65 IAmb IAmb 13 26 27.2
comp=Z,78nm,1.1s
TPNV IAMs_20 IAMs_20 13 48 35.6
comp=Z,3µm,22.0s
TPNV Topopah Spring 62.07 65 P **P** **13 26 25.3 -0.5**
baz=312,SNR=43
TPNV S **S** **13 34 49.6 +3.2**
baz=312
SKLT Songkhla 62.12 247 P **P** **13 26 28.2 +2.0**
comp=Z,4µmcomp=Z,173nm,1.5s
SKLT Songkhla 62.12 247 P **P** **13 26 28.3 +2.0**
comp=Z,4µmcomp=Z,173nm,1.5s
TRTT Trang 62.16 248 P **P** **13 26 28.3 +1.9**
comp=Z,2µmcomp=Z,115nm,1.4s
TRTT Trang 62.16 248 P **P** **13 26 28.3 +1.9**
comp=Z,2µmcomp=Z,115nm,1.4s
OSI Osito Audit: C 62.16 68 IAMs_20 IAMs_20 13 47 47.9
comp=Z,2µm,20.0s
OSI Osito Audit: C 62.16 68 P **P** **13 26 26.6 +0.2**
baz=313
LRMC Laurel Mtn Rad 62.21 67 P **P** **13 26 26.4 -0.4**
baz=312
SFJD Kangerlussuaq 62.26 11 *i* P **P** **13 26 25.3 -1.1**
SFJD IAMs_20 IAMs_20 13 57 59.9
comp=Z,2µm,19.6s
SFJD Kangerlussuaq 62.26 11 *i* P **P** **13 26 25.3 -1.1**
SFJD MLR MLR
comp=Z,2µm,20.0s
SFJD Kangerlussuaq 62.26 11 P **P** **13 26 25.4 -1.0**
SFJD IAmb IAmb 13 26 26.7
comp=Z,98nm,1.2s
DGPR DIGLIPUR 62.26 257 *eP* **P** **13 26 28.9 +1.8**
FINES FINESS Array B 62.29 335 P **P** **13 26 24.7 -2.0**
comp=Z,15nm,0.4s,baz=32,slow=8.1,SNR=89
FINES PcP **PcP** **13 27 05.9 -0.1**
comp=Z,9.1nm,0.5s,baz=58,slow=4.8,SNR=5.9
FINES LR LR 13 56 29.6
comp=Z,8µm,20.2s,baz=29,slow=39
FINES FINESS Array B 62.29 335 P **P** **13 26 25.5 -1.2**
FINES FINESS Array B 62.29 335 P **P** **13 26 25.5 -1.2**
EDW2 Edwards Air Fo 62.42 68 P **P** **13 26 27.3 -0.8**
baz=313,SNR=26
PRN Pahroc Range 62.47 64 IAMs_20 IAMs_20 13 49 29.3
comp=Z,3µm,21.0s
KBKI Kotabaru 62.50 225 P **P** **13 26 29.1 +0.5**
comp=Z,2µmcomp=Z,141nm,1.3s
KBL Kabul 62.52 292 P **P** **13 26 28.2 -0.8**
KBL pmax pmax
comp=Z,25nm,1.1s
BKSI Bukumba 62.53 220 P **P** **13 26 29.3 +0.4**
comp=Z,2µmcomp=Z,1µmcomp=Z,40nm,1.4s
PKKI Palangkaraya 62.62 228 P **P** **13 26 30.9 +1.4**
comp=Z,4µmcomp=Z,175nm,1.6s
DECC Green Verdugo 62.64 69 P **P** **13 26 29.5 -0.1**
baz=313
SHOC Shoshone, Teco 62.77 66 P **P** **13 26 31.1 +0.7**
baz=313,SNR=6.2
PASC Pasadena Art C 62.79 69 IAMs_20 IAMs_20 13 48 16.5
comp=Z,2µm,22.0s
MWC Mount Wilson 62.83 68 IAMs_20 IAMs_20 13 48 19.6
comp=Z,3µm,22.0s
GSC Goldstone, Bar 62.85 67 P **P** **13 26 29.4 -1.6**
GSC pmax pmax
comp=Z,38nm,1.1s
GSC Goldstone, Bar 62.85 67 P **P** **13 26 29.4 -1.6**
GSC Goldstone, Bar 62.85 67 P **P** **13 26 30.5 -0.5**
baz=313,SNR=20
PKDT Phuket 62.94 249 P **P** **13 26 34.0 +2.4**
comp=Z,3µmcomp=Z,171nm,1.4s
PKDT Phuket 62.94 249 P **P** **13 26 34.1 +2.4**
SHPR Sheep Range 63.02 65 IAMs_20 IAMs_20 13 49 16.6
comp=Z,3µm,22.0s
BFSC Mount Baldy Ra 63.06 68 P **P** **13 26 32.1 -0.4**
baz=313,SNR=10
BSSI Bau Bau, Buton 63.12 220 P **P** **13 26 34.4 +1.6**
comp=Z,2µmcomp=Z,1µmcomp=Z,66nm,1.5s
MOS Moscow 63.12 326 *eP* **P** **13 26 30.3 -2.0**
MOS *e* 13 27 07.2
MOS *eS* **S** **13 35 02.0 +3.4**
MOS *e* 13 36 21.7
MOS pmax pmax
comp=Z,85nm,1.1s
MOS MLR MLR
comp=Z,5µm,20.0s
MOS MLR MLR
comp=E,4µm,19.0s
BBKI Banjar Baru 63.26 227 P **P** **13 26 34.3 +0.6**
comp=E,5µmcomp=E,306nm,1.4s
DY2G Dye2 63.27 10⇑ *iP* **P** **13 26 32.5 -1.0**
DY2G IAmb IAmb 13 26 34.2
comp=Z,73nm,0.9s
DY2G IAMs_20 IAMs_20 13 53 48.1
comp=Z,4µm,25.1s
TUQ Turquoise Moun 63.29 66 P **P** **13 26 33.4 -0.5**
baz=313,SNR=25
CCUT Cedar City 63.36 63 P **P** **13 26 32.0 -2.5**
TMUT Trail Mountain 63.40 60 IAmb IAmb 13 26 36.5
comp=Z,55nm,1.0s
JBP Jabalpur 63.42 275 *eP* **P** **13 26 34.2 -0.6**
JBP *eS* **S** **13 35 02.1 -1.2**
HEC Hector,Ludlow 63.46 67 P **P** **13 26 35.1 +0.1**
baz=313,SNR=16
BBRC Big Bear Solar 63.49 68 P **P** **13 26 35.2 -0.2**
baz=313
ULM Lac du Bonnet 63.52 43 P **P** **13 26 33.2 -1.8**
comp=Z,23nm,0.9s,baz=315,slow=7.0,SNR=23
ULM LR LR 13 57 27.3
comp=Z,2µm,18.5s,baz=332,slow=39
ULM Lac du Bonnet 63.52 43 IAmb IAmb 13 26 35.9
comp=Z,59nm,1.1s
ULM IAMs_20 IAMs_20 13 57 07.9
comp=Z,3µm,19.0s
MDND Maddock 63.52 47 IAMs_20 IAMs_20 13 56 19.0
comp=Z,2µm,20.0s
MDND Maddock 63.52 47 P **P** **13 26 35.2 +0.1**
baz=315,SNR=13
MDND S **S** **13 35 07.4 +3.4**
baz=315
PBA Port Blair 63.53 256 *eP* P 13 26 36.7 +1.2
KULM Kulim 63.60 245 P **P** **13 26 38.0 +2.0**
JRMM Jerantut 63.65 243 P **P** **13 26 38.0 +1.6**
K22A Casper 63.67 55 P **P** **13 26 36.1 -0.4**
baz=314,SNR=27
K22A S **S** **13 35 09.4 +3.1**
baz=314
MURC Murrieta 63.78 68 P **P** **13 26 35.8 -1.3**
baz=313,SNR=8.6
MURC S **S** **13 35 07.9 +0.4**
baz=313
RAF Rauma 63.79 337 *eP* **P** **13 26 36.2 -0.4**
LCMT Little Creek M 63.80 63 P **P** **13 26 36.2 -1.1**
LCMT IAmb IAmb 13 26 39.0
comp=Z,75nm,1.1s
GMRC Granite Mounta 63.89 66 P **P** **13 26 37.0 -0.9**
baz=313,SNR=29
GMRC S **S** **13 35 10.0 +0.8**
baz=313
SRU San Rafael Swe 63.92 60 IAmb IAmb 13 26 39.6
comp=Z,99nm,1.0s
RSSD Black Hills 63.95 52 P **P** **13 26 37.8 -0.5**
RSSD pmax pmax
comp=Z,186nm,1.1s
RSSD Black Hills 63.95 52 P **P** **13 26 37.8 -0.5**
RSSD Black Hills 63.95 52 IAMs_20 IAMs_20 13 53 33.3
comp=Z,2µm,22.0s
RSSD Black Hills 63.95 52 P **P** **13 26 37.6 -0.6**
baz=314
RSSD S **S** **13 35 11.9 +2.0**
baz=314
OBN Obninsk 63.99 326*c iP* **P** **13 26 36.4 -1.6**
OBN *e* 13 27 10.9
OBN *e* 13 29 04.6
OBN *eS* **S** **13 35 03.6 -5.8**
OBN pmax pmax
comp=Z,89nm,1.5s
OBN MLR MLR
comp=Z,4µm,18.0s
COEN Coen 64.00 193 IAmb IAmb 13 26 40.0
comp=Z,108nm,1.4s
IPM Ipoh 64.03 244 P **P** **13 26 40.0 +1.2**
KNB Kanab 64.04 63 IAmb IAmb 13 26 40.9
comp=Z,101nm,1.2s
PBKI Pangkalan Bun 64.16 230 P **P** **13 26 41.1 +1.5**
comp=Z,5µmcomp=Z,440nm,1.2s
PFO Pinyon Flats O 64.22 68 IAMs_20 IAMs_20 13 49 00.4
comp=Z,3µm,21.0s
PFO Pinyon Flats O 64.22 68 P **P** **13 26 38.9 -1.2**
baz=314,SNR=6.2
TPFO Pinon Flats 64.22 68 P **P** **13 26 38.6 -1.5**
baz=314,SNR=7.7
BELC Belle Mtn. Jos 64.23 67 P **P** **13 26 38.6 -1.6**
baz=314,SNR=12
O20A White River Ci 64.48 58 IAmb IAmb 13 26 43.1
comp=Z,134nm,1.4s
O20A White River Ci 64.48 58 P **P** **13 26 41.0 -0.8**
baz=314,SNR=36
O20A S **S** **13 35 19.4 +2.9**
baz=314
NEE2 Needles Airpor 64.53 66 P **P** **13 26 41.3 -0.6**
baz=314
VSU Vasula 64.57 333 *eP* **P** **13 26 41.7 -0.1**
VSU Vasula 64.57 333*c iP* **P** **13 26 40.5 -1.2**
VSU pmax pmax
comp=Z,87nm,0.6s
VSU MLR MLR
comp=Z,21µm,18.0s
IRM Iron Mountain 64.63 67 P **P** **13 26 41.9 -0.8**
baz=314,SNR=38
MMRI Maumere 64.68 217 P **P** **13 26 43.0 0.0**
comp=Z,3µmcomp=Z,4µmcomp=Z,234nm,1.5s
U15A Berth Rim 64.75 63 IAMs_20 IAMs_20 13 50 24.5
comp=Z,2µm,22.0s
BC3 Big Chuckawall 64.79 67 P **P** **13 26 42.8 -1.0**
baz=314,SNR=12
ISOG Isortoq, Green 64.85 7 *i* P **P** **13 26 42.5 -0.9**
ISOG IAmb IAmb 13 26 43.5
comp=Z,65nm,0.7s
ANGG Ammassalik, Gr 64.88 6 *i* P **P** **13 26 42.5 -1.1**
ANGG IAmb IAmb 13 26 44.6
comp=Z,43nm,0.7s
SOEI Soe 64.93 214 P **P** **13 26 45.5 +0.7**
SOEI Soe 64.93 214 P **P** **13 26 44.7 -0.1**
comp=Z,5µmcomp=Z,3µmcomp=Z,145nm,1.2s
SOEI pP **pP** **13 26 56.5 -3.8**
comp=Z,5µmcomp=Z,3µmcomp=Z,145nm,1.2s
AGMN Agassiz Nation 64.94 44 IAMs_20 IAMs_20 13 56 45.6
comp=Z,2µm,22.0s
AGMN Agassiz Nation 64.94 44 P **P** **13 26 43.7 -0.7**
baz=317,SNR=24
AGMN S **S** **13 35 22.6 +1.1**
baz=317
VRH Novokhopyorsk 64.96 321 *eP* **P** **13 26 43.1 -1.3**
VRH pmax pmax
comp=Z,60nm,0.5s
BTDF Bukit Timah Da 64.97 240 P **P** **13 26 45.8 +0.8**
comp=Z,2µmcomp=Z,2µmcomp=Z,94nm,1.5s
AAL Aland 64.97 337 *eP* **P** **13 26 43.4 -0.9**
EDFI Ende, Flores 65.00 217 P **P** **13 26 44.0 -1.2**
comp=Z,1µmcomp=Z,1µmcomp=Z,64nm,1.4s
BHPL Bhopal 65.03 277⇑ *iP* **P** **13 26 44.6 -0.8**
BHPL IAmb IAmb 13 26 49.6
comp=Z,183nm,1.7s
BHPL *i* x x 13 27 11.8
SWSC Sam W. Stewart 65.07 68 P **P** **13 26 44.8 -0.7**
baz=314
IKP In-Ko-Pah, Jac 65.09 68 P **P** **13 26 45.0 -0.7**
baz=314,SNR=5.7
PDMCI Parker Dam,Lak 65.13 66 P **P** **13 26 45.2 -0.6**
baz=314,SNR=18
PDMCI S **S** **13 35 28.0 +3.8**
baz=314
RMX La Rumorosa 65.14 68 IAMs_20 IAMs_20 13 49 13.6
comp=Z,2µm,21.0s
PV21 Cone Mtn., Par 65.17 59 IAmb IAmb 13 26 47.8
comp=Z,77nm,1.0s
MTSE Matsula 65.20 335 *eP* **P** **13 26 44.9 -0.9**
N23A Red Feather La 65.21 56 P **P** **13 26 46.6 0.0**
baz=315,SNR=45
N23A S **S** **13 35 28.7 +3.2**
baz=315
PV22 Blue Mesa, Par 65.29 59 IAmb IAmb 13 26 48.5
comp=Z,104nm,1.1s
PV11 David Mesa, Pa 65.41 59 IAMs_20 IAMs_20 13 51 32.9
comp=Z,2µm,20.0s
PV07 Paradox Valley 65.44 59 IAMs_20 IAMs_20 13 49 56.6
comp=Z,2µm,22.0s
UABX UABC, Campus M 65.51 68 IAMs_20 IAMs_20 13 49 46.5
comp=Z,1µm,19.0s
BATI Baumata 65.57 215 P **P** **13 26 46.7 -2.1**
comp=Z,2µmcomp=Z,922nmcomp=Z,46nm,1.3s
GLA Glamis 65.59 67 IAMs_20 IAMs_20 13 49 45.9
comp=Z,2µm,21.0s
GLA Glamis 65.59 67 P **P** **13 26 48.4 -0.4**
baz=314,SNR=14
PV01 Paradox Valley 65.69 59 P **P** **13 26 49.9 +0.1**
PV01 IAmb IAmb 13 26 51.2
comp=Z,104nm,1.4s
UPP Uppsala 65.83 338 *eP* **P** **13 26 50.0 0.0**
SMCO Snowmass 65.85 58 P **P** **13 26 50.5 -0.4**
SMCO IAmb IAmb 13 26 52.4
comp=Z,56nm,0.9s
SMCO IAMs_20 IAMs_20 13 55 26.6
comp=Z,2µm,21.0s
B35A Bob, Littlefor 65.86 43 IAMs_20 IAMs_20 13 58 26.9
comp=Z,2µm,20.0s
WUAZ Wupatki 65.92 63 IAMs_20 IAMs_20 13 50 35.4
comp=Z,3µm,22.0s
WUAZ Wupatki 65.92 63 P **P** **13 26 51.2 +0.1**
baz=314,SNR=33
WUAZ S **S** **13 35 39.3 +5.2**

baz=314
AKN Aaknes 65.95 344 *e*P **P 13 26 49.8 -0.9**
NC303 NORSAR Array S 66.00 342 P **P 13 26 50.0 -1.1**
NC303 IAmb IAmb 13 26 51.4
comp=Z,92nm,1.6s
NC204 NORSAR Array S 66.08 342 P **P 13 26 50.8 -0.8**
NC204 IAmb IAmb 13 26 52.1
comp=Z,49nm,0.8s
VORD Divnogorie 66.13 322 *e*P **P 13 26 50.9 -1.1**
VORD pmax pmax
comp=Z,70nm,1.1s
ISCO Idaho Springs 66.16 56 P **P 13 26 52.9 +0.1**
ISCO pmax pmax
comp=Z,103nm,1.2s
ISCO Idaho Springs 66.16 56 P **P 13 26 52.9 +0.1**
baz=315,SNR=111
ISCO S **S 13 35 41.7 +4.5**
baz=315
NB201 NORSAR Array S 66.18 342 *e*P **P 13 26 51.9 -0.4**
NB2 NORSAR Subarra 66.20 342 P **P 13 26 51.5 -0.9**
comp=Z,11nm,0.7s,baz=24,slow=6.9
NB2 NORSAR Subarra 66.20 342 P **P 13 26 51.5 -0.9**
baz=24,slow=6.9
NOA NORSAR Array B 66.20 342 P **P 13 26 50.8 -1.6**
comp=Z,6.2nm,0.5s,baz=24,slow=6.4,SNR=34
NOA LR LR 14 00 14.9
comp=Z,5μm,20.0s,baz=25,slow=40
TSI Tuntungan 66.27 246 P **P 13 26 54.7 +1.4**
comp=Z,4μmcomp=Z,199nm,1.4s
TPI Tanjungpandan 66.27 234 P **P 13 26 53.8 +0.5**
comp=Z,2μmcomp=Z,109nm,1.6s
SUSD Miller 66.28 49 IAMs_20 IAMs_20 13 55 58.0
comp=Z,3μm,21.0s
SUSD Miller 66.28 49 P **P 13 26 52.2 -0.9**
baz=317
SUSD S **S 13 35 38.5 +0.5**
baz=317
MVCO Mesa Verde 66.38 60 IAMs_20 IAMs_20 13 55 54.7
comp=Z,2μm,22.0s
MVCO Mesa Verde 66.38 60 P **P 13 26 53.8 -0.4**
baz=315,SNR=32
MVCO S **S 13 35 41.6 +1.7**
baz=315
NORES NORESS Array B 66.42 342 P **P 13 26 54.2 +0.5**
NORES pmax pmax
comp=Z,2.0nm,0.4s
GEYT Alibeck 66.56 301 P **P 13 26 54.9 -0.2**
comp=Z,13nm,0.7s,baz=16,slow=2.6,SNR=16
GEYT LR LR 13 57 52.8
comp=Z,6μm,21.4s,baz=45,slow=38
PPBI Pangkal Pinang 66.58 236 P **P 13 26 57.0 +1.7**
comp=Z,239nm,1.4s
PSI Prapat 66.61 245 LR LR 13 57 07.0
comp=Z,793nm,21.2s,baz=86,slow=37
PSI Prapat 66.61 245 P **P 13 26 56.7 +1.0**
PSI pmax pmax
comp=Z,74nm,1.1s
PSI MLR MLR
comp=Z,1μm,21.0s
PSI Prapat 66.61 245 P **P 13 26 56.5 +0.9**
comp=Z,2μmcomp=Z,951nmcomp=Z,44nm,1.2s,comp=Z,4μm,1.2s,
comp=Z,2μm,1.2s,comp=Z,92nm,1.2s
PSI P **P 13 26 56.6 +0.9**
comp=Z,2μmcomp=Z,951nmcomp=Z,44nm,1.2s,comp=Z,4μm,1.2s,
comp=Z,2μm,1.2s,comp=Z,92nm,1.2s
PLAI Plampang 66.68 221 P **P 13 26 55.0 -0.9**
comp=Z,3μmcomp=Z,2μmcomp=Z,125nm,1.5s
RPSI Rantau Prapat 66.70 245 P **P 13 26 56.7 +0.6**
RPSI IAmb IAmb 13 26 57.4
comp=Z,74nm,1.1s
WBSI Waikabubak, Su 66.73 219 P **P 13 26 53.5 -2.8**
comp=Z,2μmcomp=Z,88nm,1.8s
KMMI Kalianget 66.81 226 P **P 13 26 56.4 -0.3**
comp=Z,4μmcomp=Z,4μmcomp=Z,160nm,1.5s
S22A 4UR Ranch, Cre 66.94 59 P **P 13 26 57.9 +0.1**
baz=315,SNR=92
S22A S **S 13 35 51.1 +4.3**
baz=315
TWSI Taliwang, Sumb 66.99 222 P **P 13 26 57.7 -0.1**
comp=Z,1μmcomp=Z,851nmcomp=Z,46nm,1.1s
Q24A Divide 67.00 57 P **P 13 26 58.0 -0.2**
baz=316,SNR=34
Q24A S **S 13 35 50.8 +3.3**
baz=316
HYA Hoyanger 67.04 344 *e*P **P 13 26 57.2 -0.4**
KLNI Mataram 67.05 223 P **P 13 26 58.5 +0.2**
comp=Z,1μmcomp=Z,56nm,1.4s
W18A Petrified Fore 67.15 62 IAMs_20 IAMs_20 13 52 14.0
comp=Z,2μm,22.0s
W18A Petrified Fore 67.15 62 P **P 13 26 58.8 -0.2**
baz=315,SNR=6.2
W18A S **S 13 35 54.4 +5.3**
baz=315
SRBI Singaraja 67.15 224 P **P 13 27 00.0 +1.1**
comp=Z,3μmcomp=Z,4μmcomp=Z,233nm,1.5s
EYMN Ely 67.16 42 IAmb IAmb 13 26 59.9
comp=Z,66nm,0.9s
EYMN Ely 67.16 42 P **P 13 26 57.5 -1.2**
baz=319,SNR=24
EYMN S **S 13 35 47.4 -1.0**
baz=319
ISAL Salakas 67.16 332 *e*P **P 13 26 58.3 -0.2**
IDID Didziasalis 67.18 331 *e*P **P 13 26 58.3 -0.3**
OGNE Ogallala 67.25 53 IAMs_20 IAMs_20 13 58 36.6
comp=Z,2μm,20.0s
OGNE Ogallala 67.25 53 P **P 13 26 59.1 -0.4**
baz=316,SNR=15
OGNE S **S 13 35 53.0 +3.0**
baz=316
IIGN Ignalina 67.32 331 *e*P **P 13 26 58.9 -0.5**
MNK Minsk 67.49 330 *i*P **P 13 26 56.3 -4.3**
comp=E,4.0nm,0.8s
MNK *i*P **P 13 26 56.3 -4.3**
comp=N,24nm,0.7s
MNK *i*P **P 13 26 56.3 -4.3**
comp=Z,77nm,0.8s,baz=214
MNK *i*pP **pP 13 27 09.2 -6.9**
MNK *i*PcP **PcP 13 27 25.4 -2.1**
MNK *i*PP **PP 13 29 24.9 -4.3**
MNK *i*PPP PPP 13 31 02.1
MNK *i*S **S 13 35 47.4 -4.7**
MNK *i*sS **pS 13 36 12.7 +2.0**
MNK *i*SS **SS 13 40 10.0 -2.2**
MNK *i*SSS SSS 13 43 23.9
MNK *i*LQ LQ 13 51 45.7
MNK *i*LR LR 13 54 44.6
MNK *i*LRM MLR 13 59 03.0
comp=E,320nm,24.4s
MNK *i*LRM MLR 13 59 03.0
comp=N,3μm,28.5s
MNK *i*LRM MLR 13 59 03.0
comp=Z,5μm,25.8s
NACGM Naroch 67.51 331 *i*P **P 13 27 00.0 -0.7**
214A Organ Pipe Nat 67.57 67 P **P 13 27 01.0 -0.5**
baz=315,SNR=12
214A S **S 13 35 55.8 +2.0**
baz=315
SDCO Great Sand Dun 67.68 58 P **P 13 27 01.5 -1.0**
SDCO IAmb IAmb 13 27 04.0
comp=Z,71nm,1.3s
SDCO Great Sand Dun 67.68 58 P **P 13 27 02.3 -0.1**
baz=316,SNR=68
SDCO S **S 13 35 58.4 +2.8**
baz=316
KONO Kongsberg 67.81 342 P **P 13 27 02.0 -0.5**
KONO pmax pmax
comp=Z,91nm,1.5s
KONO MLR MLR
comp=Z,7μm,20.0s
KONO Kongsberg 67.81 342 P **P 13 27 02.0 -0.5**
KONO IAmb IAmb 13 27 04.9
comp=Z,91nm,1.5s
F36A Milaca 67.82 45 IAMs_20 IAMs_20 13 59 25.7
comp=Z,2μm,20.0s
MNSI Mandailing Nat 67.84 243 P **P 13 27 03.8 +0.5**
comp=Z,49nm,0.4s
PABE Paberze 67.88 333 *e*P **P 13 27 02.5 -0.5**
ECSD EROS Data Cent 67.95 48 IAmb IAmb 13 27 05.0
comp=Z,95nm,1.1s
ECSD EROS Data Cent 67.95 48 IAMs_20 IAMs_20 13 58 48.1
comp=Z,2μm,19.0s
ECSD EROS Data Cent 67.95 48 P **P 13 27 02.6 -1.1**
baz=318,SNR=73
ECSD S **S 13 35 58.3 +0.3**
baz=318
PBUR Paburge 68.03 334 *e*P **P 13 27 04.0 +0.1**
STRU Stroemstad 68.04 341 *i*P **P 13 27 04.3 +0.4**
E38A The Farm, Brul 68.15 43 IAMs_20 IAMs_20 14 00 06.5
comp=Z,2μm,20.0s
KSCO Kaye Shedlock' 68.33 55 P **P 13 27 05.7 -0.7**
baz=316,SNR=8.9
KSCO S **S 13 36 05.4 +2.4**
baz=316
SJI Sawahan 68.45 227 P **P 13 27 07.1 -0.1**
comp=Z,4μmcomp=Z,176nm,1.7s
HYB Hyderabad 68.47 272 *e*P **P 13 27 08.2 +0.9**
HYB *i*pP **PcP 13 27 32.7 +0.4**
HYB Hyderabad 68.47 272 *i*P **P 13 27 08.0 +0.7**
HYB *e*pP **pP 13 27 21.0 -2.0**
HYB *e*PcP **PcP 13 27 32.0 -0.3**
HYB *e*S **S 13 36 08.0 +3.1**
MAK Makhachkala 68.49 311 *e*P **P 13 27 08.6 +1.5**
MAK *e**PP **pP 13 27 21.9 -0.8**
MAK *e**SP **sP 13 27 27.1 -1.9**
MAK *e*PPP PPP 13 31 16.9
MAK *e*S **S 13 36 08.7 +4.3**
MAK *e**SS **sS 13 36 28.3 -2.3**
MAK *e*SS **SS 13 40 29.5 +1.3**
MAK pmax pmax
comp=Z,72nm,0.4s
MAK MLR MLR
comp=Z,2μm,17.0s
KRKI Karangkates 68.50 226 P **P 13 27 07.5 +0.2**
comp=Z,15μmcomp=Z,246nm,0.9s
TUC Tucson 68.53 65 P **P 13 27 07.1 -0.5**
TUC pmax pmax
comp=Z,27nm,1.8s
TUC Tucson 68.53 65 P **P 13 27 07.2 -0.4**
baz=316
GSI Gunungsitoli 68.61 245 IAMs_20 IAMs_20 13 53 31.2
comp=Z,2μm,21.0s
GSI Gunungsitoli 68.61 245 P **P 13 27 09.3 +1.2**
comp=Z,4μmcomp=Z,126nm,0.8s
BLS5 Blasjo 68.62 344 *e*P **P 13 27 06.0 -1.7**
SPMN Marine on St. 68.63 45 IAMs_20 IAMs_20 14 00 01.2
comp=Z,2μm,20.0s
SPMN Marine on St. 68.63 45 P **P 13 27 06.9 -1.0**
baz=319,SNR=20
SPMN S **S 13 36 06.9 +0.8**
baz=319
PWJI Pagerwojo 68.69 227 P **P 13 27 07.2 -1.3**
comp=Z,5μmcomp=Z,380nm,1.7s
T25A Trinidad 68.72 58 P **P 13 27 07.5 -1.4**
T25A IAmb IAmb 13 27 10.2
comp=Z,104nm,1.2s
T25A Trinidad 68.72 58 P **P 13 27 08.5 -0.4**
baz=316,SNR=41
T25A S **S 13 36 12.5 +4.6**
baz=316
BGNE Belgrade 68.91 51 IAMs_20 IAMs_20 13 57 52.5
comp=Z,3μm,21.0s
BGNE Belgrade 68.91 51 P **P 13 27 08.4 -1.4**
baz=318
BGNE S **S 13 36 10.0 +0.4**
baz=318
BORU Boraas 68.97 340 *i*P **P 13 27 09.4 -0.3**
GOF Gofitskoye 69.03 315⇓*e*P **P 13 27 10.4 0.0**
GOF *e*S **S 13 36 16.5 +5.7**
GOF pmax pmax
comp=Z,150nm,0.8s
GOF smax smax
comp=E,49nm,0.6s
CTJI Waduk Cacaban 69.09 230 P **P 13 27 10.9 -0.2**
comp=E,2μmcomp=E,76nm,1.3s
GROC Groznyy 69.14 313 *e*P **P 13 27 11.6 +0.5**
GROC *e**PP **pP 13 27 27.4 +0.7**
GROC *e* 13 27 36.3
GROC *e* 13 29 45.9
GROC *e*S **S 13 36 15.2 +3.0**
GROC *e**SS **sS 13 36 44.6 +6.2**
GROC pmax pmax
comp=Z,32nm,0.7s
ANMO Albuquerque 69.15 60*ce*P **P 13 27 11.2 -0.4**
ANMO pmax pmax
comp=Z,68nm,1.7s
ANMO Albuquerque 69.15 60 P **P 13 27 11.4 -0.2**
ANMO Albuquerque 69.15 60 P **P 13 27 11.2 -0.4**
baz=316
ANMO S **S 13 36 17.5 +4.5**
baz=316
UGM Wanagama 69.21 228 P **P 13 27 11.0 -0.8**
comp=Z,233nm,1.5s
HOMB Hombarsund 69.30 342 *i*P **P 13 27 11.4 -0.4**
ONAU Onsala 69.38 340 *i*P **P 13 27 11.8 -0.5**
L34A Svendsen Farm, 69.38 49 IAMs_20 IAMs_20 13 57 40.0
comp=Z,2μm,21.0s
LHSI Lahat 69.39 237 P **P 13 27 12.7 -0.2**
comp=Z,4μmcomp=Z,192nm,1.6s
BLEU Blekinge 69.44 337 *i*P **P 13 27 11.8 -0.9**
SNART Snartemo 69.49 343 *i*P **P 13 27 13.6 +0.6**
KPJI Karang Pucung 69.50 230 P **P 13 27 10.1 -3.5**
comp=Z,2μmcomp=Z,64nm,2.0s
Y22D IRIS PASSCAL I 69.52 61 P **P 13 27 14.3 +0.5**
baz=316
Y22D S **S 13 36 22.7 +5.6**
baz=316
MASI Maura Aman, Be 69.53 239 P **P 13 27 14.8 +0.9**
comp=Z,6μmcomp=Z,582nm,1.2s
FABU Falkenberg 69.55 339 *i*P **P 13 27 13.1 -0.3**
MDSI Maura Dua 69.58 236 P **P 13 27 13.7 -0.4**
comp=Z,2μmcomp=Z,1μmcomp=Z,60nm,1.2s
CTA Charters Tower 69.65 189 P **P 13 27 14.2 -0.2**
CTA pmax pmax
comp=Z,31nm,1.2s
CTAO Charters Tower 69.65 189 P **P 13 27 14.1 -0.2**
CTAO pmax pmax
comp=Z,126nm,1.7s
CTAO Charters Tower 69.65 189 P **P 13 27 14.1 -0.2**
CTAO IAmb IAmb 13 27 15.3
comp=Z,126nm,1.6s
LEM Lembang 69.73 232 LR LR 13 59 33.3
comp=Z,447nm,20.6s,baz=30,slow=37
LEM Lembang 69.73 232 P **P 13 27 15.2 0.0**
LEM pmax pmax
comp=Z,118nm,1.4s
N33A J Bar K, Exete 69.76 51 IAMs_20 IAMs_20 13 58 28.1
comp=Z,2μm,21.0s
DEL Delary 69.76 338 *i*P **P 13 27 14.6 -0.1**
PYA1 Pyatigorsk 69.77 315 *i*P **P 13 27 15.1 +0.1**
G40A Rib Lake 69.78 43 IAMs_20 IAMs_20 13 57 43.6
comp=Z,2μm,22.0s
MSVF Nonsavu 69.79 157 P **P 13 27 15.9 +0.6**
MSVF pmax pmax
comp=Z,37nm,1.4s
SBJI Serang 69.91 233 P **P 13 27 15.4 -0.7**
comp=Z,93nm,0.4s
DBJI Dramaga 69.95 233 P **P 13 27 16.3 -0.1**
comp=Z,19μmcomp=Z,148nm,1.4s
CBKS Cedar Bluff 70.01 53 P **P 13 27 15.2 -1.4**
baz=318,SNR=6.0
CBKS S **S 13 36 22.7 +0.1**
baz=318
KIV Kislovodsk 70.04 315⇑*i*P **P 13 27 17.4 +0.6**
KIV Kislovodsk 70.04 315 *i*P **P 13 27 16.6 -0.1**
SNR=20
KIV Kislovodsk 70.04 315 *e*P **P 13 27 16.9 +0.2**
KIV Kislovodsk 70.04 315 *e*P **P 13 27 17.0 +0.2**
KIV *e* 13 29 52.0
KIV *e*S **S 13 36 24.8 +1.9**
KIV *e*SS **SS 13 40 56.5 +4.3**
KIV pmax pmax
comp=Z,289nm,4.2s
KIV pmax pmax
comp=Z,73nm,1.1s
KIV MLR MLR
comp=Z,2μm,18.0s
KIV Kislovodsk 70.04 315 IAMs_20 IAMs_20 14 01 14.5
comp=Z,1μm,19.0s
KIV Kislovodsk 70.04 315 P **P 13 27 16.7 -0.1**
LWLI Liwa 70.08 236 P **P 13 27 16.7 -0.6**
comp=Z,188nm,1.2s
KBZ Khabaz 70.12 315 P **P 13 27 17.3 +0.2**
comp=Z,37nm,0.8s,baz=82,slow=4.4,SNR=72
KBZ PKP2bc 13 55 13.9
comp=Z,0.8nm,0.4s,baz=238,slow=3.4,SNR=5.3
KBZ LR LR 14 03 18.1
comp=Z,4μm,18.9s,baz=27,slow=40
KBZ Khabaz 70.12 315*ce*P **P 13 27 16.9 -0.2**
KBZ pmax pmax
comp=Z,95nm,1.4s
KBZ MLR MLR
comp=Z,4μm,25.0s
121A Cookes Peak, D 70.13 63 P **P 13 27 17.7 +0.1**
baz=316,SNR=22
121A S **S 13 36 29.2 +4.7**
baz=316
AKASG Malin Array Be 70.19 327 P **P 13 27 15.8 -1.6**
comp=Z,15nm,0.4s,baz=33,slow=6.5,SNR=86
AKASG LR LR 14 00 23.0
comp=Z,5μm,21.3s,baz=25,slow=38
AKASG Malin Array Be 70.19 327 P **P 13 27 16.2 -1.2**
AKASG pmax pmax
comp=Z,18nm,0.8s
AKASG Malin Array Be 70.19 327 P **P 13 27 16.2 -1.2**
AKBB Malin Array Si 70.19 327*ce*P **P 13 27 15.6 -1.8**
SHA1 Shidzhatmaz 70.22 315 *i*P **P 13 27 18.3 +0.2**
SCHQ Schefferville 70.26 24 P **P 13 27 17.1 -0.7**
comp=Z,43nm,0.8s,baz=332,slow=5.0,SNR=29
SCHQ LR LR 14 00 32.3
comp=Z,1μm,21.7s,baz=328,slow=38
SCHQ Schefferville 70.26 24 P **P 13 27 17.3 -0.5**
SCHQ IAmb IAmb 13 27 18.9
comp=Z,108nm,1.2s
SCHQ IAMs_20 IAMs_20 14 00 07.8
comp=Z,2μm,22.0s
KASI Kota Agung 70.27 235 P **P 13 27 17.8 -0.5**
comp=Z,1μmcomp=Z,102nm,1.2s
DDFL Dedoflistskaro 70.31 311 P **P 13 27 20.3 +1.9**
F42A Maple Grove Fa 70.31 42 IAMs_20 IAMs_20 13 56 31.7
comp=Z,2μm,22.0s
BJUU Bjuv 70.33 339 *i*P **P 13 27 18.2 +0.1**
GUDG Gudauri 70.34 313 P **P 13 27 16.9 -1.9**
ZEI Tsey 70.36 313 *e*P **P 13 27 19.1 +0.2**
ZEI pmax pmax
comp=Z,15nm,1.0s
CNJI Cibinong 70.39 232 P **P 13 27 19.5 +0.4**
comp=Z,120nm,1.2s
N35A Tabor 70.58 50 IAMs_20 IAMs_20 14 01 04.6
comp=Z,2μm,19.0s
K38A Parkersburg 70.61 47 IAMs_20 IAMs_20 13 57 01.6
comp=Z,2μm,22.0s
I40A Norwalk 70.66 44 IAMs_20 IAMs_20 14 00 30.8
comp=Z,2μm,19.0s
SEAG Tbilisi Sea 70.71 312 P **P 13 27 23.9 +3.1**
ONI Oni 70.73 313 P **P 13 27 21.7 +0.7**
ONI Oni 70.73 313 IAmb IAmb 13 27 24.6
comp=Z,104nm,1.4s
POO Poona 70.73 276⇓*i*P **P 13 27 19.5 -1.7**
comp=Z,360nm,1.2s
POO *e*P **P 13 27 22.5 +1.2**
BSD Bornholm Skovb 70.73 337 *i*P **P 13 27 20.3 -0.3**
BSD IAMs_20 IAMs_20 13 58 48.1
comp=Z,4μm,25.4s
BSD Bornholm Skovb 70.73 337 *i*P **P 13 27 20.3 -0.3**
BSD MLR MLR
comp=Z,4μm,25.0s
MUD Monsted U'grnd 70.84 341 *e*P P 13 27 12.6 -8.7
SCIA State Center 70.97 47 IAMs_20 IAMs_20 13 58 32.0
comp=Z,2μm,21.0s
SCIA State Center 70.97 47 P **P 13 27 21.6 -0.7**
baz=320,SNR=8.7
SCIA S **S 13 36 34.1 +0.6**
baz=320
KZRT Kazreti 71.20 312 P **P 13 27 24.5 +0.7**
CHVG Ch'k'valeri 71.27 314⇑P **P 13 27 25.1 +0.9**
KSU1 Kansas State U 71.42 51 IAMs_20 IAMs_20 13 58 59.9
comp=Z,2μm,21.0s
KSU1 Kansas State U 71.42 51 P **P 13 27 23.1 -2.0**
baz=319,SNR=8.9
I42A Draeger Farm, 71.43 43 IAmb IAmb 13 27 25.6
comp=Z,106nm,1.4s
I42A IAMs_20 IAMs_20 13 56 50.3
comp=Z,2μm,22.0s
E46A Sault Ste Mari 71.45 39 IAMs_20 IAMs_20 14 02 04.9
comp=Z,2μm,20.0s
WR0 Warramunga Arr 71.50 201 IAmb IAmb 13 27 26.7
comp=Z,250nm,1.9s
WR0 IAMs_20 IAMs_20 13 54 38.9
comp=Z,2μm,20.0s
WR9 Warramunga Arr 71.50 201 IAMs_20 IAMs_20 13 55 15.0
comp=Z,2μm,21.0s
WR8 Warramunga Arr 71.51 201 IAMs_20 IAMs_20 13 55 39.0
comp=Z,2μm,22.0s
WR7 Warramunga Arr 71.51 201 IAMs_20 IAMs_20 13 54 41.2
comp=Z,2μm,19.0s
WRAB Tennant Creek 71.52 201*ce*P **P 13 27 25.4 -0.3**
WRAB pmax pmax
comp=Z,163nm,1.7s
WRAB Tennant Creek 71.52 201 P **P 13 27 25.4 -0.3**
WRAB Tennant Creek 71.52 201 IAMs_20 IAMs_20 13 59 06.4
comp=Z,1μm,20.0s
WR4 Warramunga Arr 71.52 201 IAMs_20 IAMs_20 13 55 29.5
comp=Z,2μm,21.0s
WR3 Warramunga Arr 71.53 201 IAMs_20 IAMs_20 13 54 53.6
comp=Z,2μm,22.0s
WB2 Warramunga Arr 71.53 201 P **P 13 27 25.3 -0.5**
WB2 IAmb IAmb 13 27 26.9
comp=Z,226nm,1.6s
WB2 IAMs_20 IAMs_20 13 59 05.6
comp=Z,1μm,20.0s
WR2 Warramunga Arr 71.53 201 IAMs_20 IAMs_20 13 54 42.7
comp=Z,2μm,22.0s
WRA Warramunga Arr 71.53 201 P **P 13 27 25.1 -0.7**
comp=Z,43nm,1.0s,baz=19,slow=6.1,SNR=66
WRA LR LR 13 58 49.5
comp=Z,693nm,20.0s,baz=25,slow=36
WRA Warramunga Arr 71.53 201 P **P 13 27 24.9 -0.9**
WC3 Warramunga Arr 71.54 201 IAMs_20 IAMs_20 13 54 37.9
comp=Z,3μm,22.0s
JFWS Jewell Farm 71.59 45 IAMs_20 IAMs_20 13 57 58.4
comp=Z,3μm,21.0s
JFWS Jewell Farm 71.59 45 P **P 13 27 24.4 -1.6**
baz=321,SNR=6.2
JFWS S **S 13 36 38.8 -1.8**
baz=321
AKH Akhalkalaki 71.62 313⇑P **P 13 27 27.7 +1.3**
AKH Akhalkalaki 71.62 313 *e*P **P 13 27 27.2 +0.7**
AKH Akhalkalaki 71.62 313 P **P 13 27 27.6 +1.1**
SOC Sochi 71.69 316*c i*P **P 13 27 26.0 -0.6**
SOC *e**PP **pP 13 27 39.8 -2.5**
SOC *e**SP **PcP 13 27 44.3 -1.2**
SOC *e* 13 30 02.4
SOC *e*PPP PPP 13 31 45.8
SOC *e*S **S 13 36 44.5 +2.7**
SOC *e**SS **sS 13 37 04.6 -3.4**
SOC pmax pmax
comp=Z,39nm,0.5s
SOC MLR MLR
comp=Z,2μm,17.0s
ANN Anapa 71.73 319 *e*P **P 13 27 26.5 -0.4**
ANN *e*S **S 13 36 44.7 +2.5**
GKP Gorka Klasztor 71.77 335 *e*P **P 13 27 26.7 -0.2**
GKP *e*L L 14 01 44.3
comp=Z,8μm,20.6s
L40A Anamosa 71.79 46 IAMs_20 IAMs_20 13 58 00.9
comp=Z,3μm,22.0s
DZM Mont Dzumac 71.82 169 *e*P **P 13 27 29.6 +2.0**
comp=Z,152nm,1.4s
DZM *e*S **S 13 36 43.5 -0.2**
comp=Z,944nm,26.5s
DZM Mont Dzumac 71.82 169 *e*LR LR 13 49 17.9
comp=Z,5μm,26.5s
DZM Mont Dzumac 71.82 169 IAMs_20 IAMs_20 13 53 40.1
comp=Z,1μm,19.0s
AMTX Amarillo 71.87 57 P **P 13 27 27.5 -0.5**
baz=318
AMTX S **S 13 36 46.3 +1.9**
baz=318
MSTX Muleshoe 71.94 59 P **P 13 27 27.7 -0.8**
baz=318,SNR=15
MSTX S **S 13 36 48.1 +2.8**
baz=318
G45A Suttons Bay 71.95 41 IAMs_20 IAMs_20 14 02 55.0
comp=Z,2μm,19.0s
GNI Garni 71.97 311 P **P 13 27 29.6 +0.9**
GNI Garni 71.97 311 *e*P **P 13 27 29.7 +1.1**
GNI Garni 71.97 311*ce*P **P 13 27 29.6 +0.9**
GNI pmax pmax
comp=Z,130nm,1.7s
GNI Garni 71.97 311 P **P 13 27 28.8 +0.2**
BEL Belsk 72.00 332 *e*P **P 13 27 28.7 +0.3**
BEL *e*L L 14 01 24.4
comp=Z,9μm,21.6s
BEL Belsk 72.00 332 P **P 13 27 28.7 +0.3**
BEL pmax pmax
comp=Z,199nm,0.6s
MNTX Cornudas Mount 72.13 62 P **P 13 27 29.6 +0.1**
MNTX Cornudas Mount 72.13 62 P **P 13 27 29.3 -0.2**
baz=317,SNR=68

MNTX S **S** **13 36 51.5 +4.2**
baz=317
FITZ **Fitzroy Crossi** **72.21 210** LR LR 13 57 06.7
comp=Z,341nm,21.9s,baz=36,slow=34
FITZ **Fitzroy Crossi** **72.21 210** P **P** **13 27 30.5 +0.7**
FITZ IAmb IAmb 13 27 32.1
comp=Z,114nm,1.2s
MDO **Dochfour** **72.22 349** *e*P **P** **13 27 29.0 -0.5**
KAC **Achnashellach** **72.28 349** *e*P **P** **13 27 30.7 +0.7**
BATM **Batumi** **72.32 314** ⇑P **P** **13 27 31.1 +0.6**
BATM **Batumi** **72.32 314** *e*P **P** **13 27 30.3 -0.2**
BATM **Batumi** **72.32 314** P **P** **13 27 32.0 +1.5**
TASB **TASBURUN-IGDIR** **72.35 311** *e*P **P** **13 27 31.3 +0.5**
KARS **Kars** **72.42 312** *e*P **P** **13 27 31.9 +0.7**
KARS **Kars** **72.42 312** P **P** **13 27 34.1 +2.9**
BCA **Borcka** **72.48 314** ⇓P **P** **13 27 31.7 +0.3**
BCA **Borcka** **72.48 314** *e*P **P** **13 27 30.5 -0.9**
I45A **Fountain** **72.50 42** IAMs_20 IAMs_20 13 59 30.7
comp=Z,2µm,22.0s
GLMI **Grayling** **72.56 40** IAMs_20 IAMs_20 14 03 23.2
comp=Z,2µm,21.0s
GLMI **Grayling** **72.56 40** P **P** **13 27 31.1 -0.8**
baz=324
P38A **Dawn** **72.56 49** IAMs_20 IAMs_20 14 01 44.2
comp=Z,2µm,21.0s
LVV **L'vov** **72.72 329** *e*P **P** **13 27 31.4 -1.3**
LVV *e*S **S** **13 36 47.7 -5.7**
LVV MLR MLR
comp=N,2µm,19.0s
LVV MLR MLR
comp=E,1µm,19.0s
LVV MLR MLR
comp=Z,3µm,19.0s
SENK **Senkaya-Erzuru** **72.82 313** *e*P **P** **13 27 34.4 +0.7**
GOA **Goa** **72.96 274** *e*P **P** **13 27 35.8 +1.2**
GOA *i* pP **sP** **13 27 59.6 +2.9**
N41A **Harden Midland** **73.02 47** IAMs_20 IAMs_20 14 04 18.4
comp=Z,1µm,20.0s
T35A **Sooner Cattle** **73.12 53** IAMs_20 IAMs_20 13 59 12.0
comp=Z,2µm,22.0s
CLDR **Caldiran** **73.16 311** *e*P **P** **13 27 36.7 +1.0**
L44A **Lake County Fo** **73.23 44** IAMs_20 IAMs_20 13 58 41.0
comp=Z,2µm,22.0s
L44A **Lake County Fo** **73.23 44** P **P** **13 27 34.5 -1.3**
baz=322
AGRB **Hanur-Agry** **73.27 312** *e*P **P** **13 27 37.6 +1.2**
KWP **Kalwaria Pacla** **73.32 330** *e*P **P** **13 27 36.2 0.0**
KWP *e*S S 13 36 49.7 -11
KWP **Kalwaria Pacla** **73.32 330** P **P** **13 27 36.1 -0.1**
KWP pmax pmax
comp=Z,154nm,1.4s
P40A **Paris** **73.36 48** P **P** **13 27 34.8 -1.8**
P40A IAmb IAmb 13 27 38.0
comp=Z,125nm,1.1s
KIS **Kishinev** **73.42 325** *e*P **P** **13 27 36.0 -0.9**
comp=Z,510nm,4.3s
KIS **Kishinev** **73.42 325** *e*PP PP 13 30 16.0 -4.4
KIS *e*S **S** **13 37 00.0 -1.4**
KIS *e*LR LR 13 56 12.0
comp=Z,1µm,21.0s
KIS **Kishinev** **73.42 325** *e*P **P** **13 27 36.0 -0.9**
KIS *e* 13 30 16.0
KIS *e*S **S** **13 37 00.0 -1.4**
KIS pmax pmax
comp=Z,510nm,4.3s
EAB **Aberfoyle** **73.44 348** *e*P **P** **13 27 37.3 +0.5**
KOPR **Koprukoy-ERZUR** **73.50 313** *e*P **P** **13 27 38.4 +0.7**
WMOK **Wichita Mounta** **73.56 56** P **P** **13 27 37.2 -0.8**
WMOK pmax pmax
comp=Z,65nm,0.9s
WMOK **Wichita Mounta** **73.56 56** P **P** **13 27 37.1 -0.8**
baz=319,SNR=38
WMOK S **S** **13 37 05.2 +1.7**
baz=319
KTUT **Trabzon** **73.71 315** ⇑P **P** **13 27 38.2 -0.4**
KTUT **Trabzon** **73.71 315** *e*P **P** **13 27 38.1 -0.5**
OJC **Ojcow** **73.72 332** *e*P **P** **13 27 38.2 -0.4**
OJC *e*S **SKiKP** **13 37 03.5 +1.1**
OJC *e*L L 14 02 17.3
comp=Z,7µm,22.0s
J47A **Sunmer** **73.75 41** IAMs_20 IAMs_20 14 05 19.8
comp=Z,2µm,20.0s
M44A **Midewin, Midew** **73.80 45** IAMs_20 IAMs_20 13 59 38.9
comp=Z,2µm,22.0s
MLAZ **Malazgirt-MUS** **73.83 312** *e*P **P** **13 27 40.1 +0.5**
VANB **Van** **73.84 311** *e*P **P** **13 27 40.7 +1.1**
HDIL **Hopedale** **73.88 46** IAMs_20 IAMs_20 13 59 03.0
comp=Z,3µm,22.0s
HDIL **Hopedale** **73.88 46** P **P** **13 27 38.5 -1.1**
baz=322,SNR=14
HDIL S **S** **13 37 05.7 -1.1**
baz=322
STHS **Stebnicka Huta** **73.98 331** *e*P **P** **13 27 39.8 -0.3**
STHS **Stebnicka Huta** **73.98 331** *e*P **P** **13 27 39.8 -0.3**
I49A **Point Hope** **74.03 40** IAMs_20 IAMs_20 14 01 18.1
comp=Z,2µm,20.0s
KOLS **Kolonicke sedl** **74.07 330** *e*P **P** **13 27 40.8 +0.2**
KOLS pmax pmax
comp=Z,133nm,1.6s
KOLS **Kolonicke sedl** **74.07 330** *e*P **P** **13 27 40.8 +0.2**
EKA **Eskdalemuir Ar** **74.11 347** P **P** **13 27 40.0 -0.7**
S39A **Bolivar** **74.16 50** IAMs_20 IAMs_20 14 01 41.4
comp=Z,2µm,21.0s
FLTG **Flechtingen** **74.18 338** *e*P **P** **13 27 40.5 -0.7**
comp=Z,66nm,1.4s,baz=24,slow=5.8
KSP **Ksiaz** **74.20 334** *e*P **P** **13 27 41.0 -0.4**
KSP *e*S **S** **13 37 10.0 -0.1**
KSP *e*L L 14 03 18.8
comp=Z,7µm,20.7s
KSP **Ksiaz** **74.20 334** P **P** **13 27 41.5 +0.1**
KSP pmax pmax
comp=Z,40nm,2.0s
BURAR **Bucovina Array** **74.20 328** ⇓P **P** **13 27 41.3 -0.3**
BURAR **Bucovina Array** **74.20 328** P **P** **13 27 40.7 -0.9**
BURAR IAmb IAmb 13 27 42.2
comp=Z,40nm,0.5s
R40A **Maddies Statio** **74.22 49** IAmb IAmb 13 27 42.0
comp=Z,108nm,1.1s
R40A IAMs_20 IAMs_20 14 03 16.0
comp=Z,2µm,20.0s
TUL1 **Leonard** **74.26 53** P **P** **13 27 41.0 -1.0**
baz=320,SNR=17
TUL1 S **S** **13 37 10.6 -0.7**
baz=320
NIE **Niedzica** **74.27 331** *e*P **P** **13 27 42.6 +0.7**
NIE *e*S **S** **13 37 11.5 +0.5**
NIE *e*L L 14 02 27.9
comp=Z,4µm,22.9s
NIE **Niedzica** **74.27 331** P **P** **13 27 42.7 +0.8**
NIE pmax pmax
comp=Z,21nm,1.3s
NRDL **Niedersach Rie** **74.30 339** *e*P **P** **13 27 41.6 -0.1**
comp=Z,62nm,1.4s,baz=24,slow=5.8
UZH **Uzhgorod** **74.32 330** ⇑*e*P **P** **13 27 41.6 -0.5**
UZH *e* 13 27 56.0
UZH *e* 13 30 30.3
UZH *e* 13 32 09.1
UZH *e*S **S** **13 37 09.4 -2.1**
UZH *e* 13 37 43.2
VRTB **Varto-Mus** **74.34 312** *e*P **P** **13 27 44.8 +2.2**
CRVS **Cervenica-Dubn** **74.36 330** *e*P **P** **13 27 42.4 +0.1**
CRVS pmax pmax
comp=Z,69nm,1.1s
CRVS **Cervenica-Dubn** **74.36 330** *e*P **P** **13 27 42.4 +0.1**
BIZ **Bicaz** **74.47 327** ⇑P **P** **13 27 42.9 -0.1**
OSTC **Ostas** **74.48 334** *e*P **P** **13 27 43.0 0.0**
OSTC AMS AMS 14 03 40.0
comp=Z,7µm,20.0s
P43A **Skaggs, Pawnee** **74.49 47** IAMs_20 IAMs_20 14 02 23.2
comp=Z,2µm,21.0s
CHVC **Chvalec** **74.50 334** *e*P **P** **13 27 43.2 +0.1**
CHVC AMS AMS 14 03 20.0
comp=Z,7µm,20.1s
ASSE **Asse, Remlinge** **74.50 338** *e*P **P** **13 27 42.6 -0.3**
baz=24,slow=5.8
EIDS **Eidsvold** **74.53 184** P **P** **13 27 44.6 +1.2**
EIDS IAmb IAmb 13 27 45.5
comp=Z,77nm,1.2s
GURO **Guroymak-BITLI** **74.54 312** *e*P **P** **13 27 44.5 +0.8**
OKC **Ostrava-Krasne** **74.56 333** *e*S **S** **13 37 12.7 -1.4**
OKC AMS AMS 14 03 10.0
comp=Z,6µm,20.0s
YEDI **Yedisu-Bingol** **74.56 313** *e*P **P** **13 27 44.5 +0.6**
PALK **Pallekele** **74.57 263** P **P** **13 27 44.9 +0.8**
PALK pmax pmax
comp=Z,215nm,1.3s
PALK MLR MLR
comp=Z,900nm,21.0s
PALK **Pallekele** **74.57 263** P **P** **13 27 44.9 +0.8**
PALK **Pallekele** **74.57 263** P **P** **13 27 45.0 +1.0**
UPC **Upice** **74.58 334** *e*P **P** **13 27 44.9 +1.3**
UPC *e*S **S** **13 37 12.7 -1.7**
UPC MLR MLR
comp=Z,8µm,20.4s
UPC **Upice** **74.58 334** *e*P **P** **13 27 44.9 +1.3**
UPC *e*S **S** **13 37 12.7 -1.7**
UPC AMS AMS 14 03 30.0
comp=Z,8µm,20.4s
O44A **Mansfield** **74.58 46** IAMs_20 IAMs_20 13 59 47.7
comp=Z,2µm,22.0s
U38A **Gravette** **74.58 52** IAMs_20 IAMs_20 14 01 52.7
comp=Z,2µm,21.0s
TESR **Tescani** **74.63 326** ⇑P **P** **13 27 43.4 -0.6**
CLL **Collm** **74.67 337** ⇑*i*P **P** **13 27 43.0 -1.1**
comp=Z,109nm,1.3s
CLL *e*Pmax 13 27 45.0
CLL *i* sP **pP** **13 28 00.0 +0.2**
CLL *e* 13 30 12.0
CLL *e*PP **PP** **13 30 30.0 -0.8**
CLL *e* 13 32 42.0
CLL *e*S **S** **13 37 11.0 -4.3**
CLL *e*PS **PnS** **13 38 00.0 +4.1**
CLL *e* 13 38 14.0
CLL *e*SS SS 13 42 18.0 +16
CLL *e* 13 46 12.0
CLL *e*(SSSS) 13 47 30.0
CLL LmH 14 02 00.0
comp=N,3µm,21.6s
CLL LmH 14 02 00.0
comp=E,3µm,21.2s
CLL Lmax 14 04 00.0
CLL Lm MLR 14 05 00.0
comp=Z,4µm,19.1s
CLL **Collm** **74.67 337** ⇑*i*P **P** **13 27 43.0 -1.1**
CLL *i* *PP **pP** **13 28 00.0 +0.2**
CLL *e*S **S** **13 37 11.0 -4.3**
CLL pmax pmax
comp=Z,109nm,1.3s
CLL MLR MLR
comp=Z,4µm,19.1s
CLL **Collm** **74.67 337** *e*P **P** **13 27 43.6 -0.4**
comp=Z,109nm,1.3s,baz=24,slow=5.8
TRPA **Tarpa** **74.68 329** ⇑P **P** **13 27 44.8 +0.6**
TRPA **Tarpa** **74.68 329** *e*P **P** **13 27 44.1 -0.1**
ABTX **Abilene, Hawle** **74.69 58** IAMs_20 IAMs_20 13 57 59.5
comp=Z,1µm,21.0s
ABTX **Abilene, Hawle** **74.69 58** P **P** **13 27 43.8 -0.7**
baz=319,SNR=18
ABTX S **S** **13 37 16.4 +0.3**
baz=319
KRLC **Kraliky** **74.75 334** *e*P **P** **13 27 44.8 +0.2**
KRLC MLR MLR
comp=Z,6µm,19.8s
KRLC **Kraliky** **74.75 334** *e*P **P** **13 27 44.8 +0.2**
KRLC AMS AMS 14 03 50.0
comp=Z,6µm,19.8s
BMR **Baia Mare** **74.75 329** ⇓P **P** **13 27 44.9 +0.3**
LANS **Liptovska Anna** **74.77 332** *e*P **P** **13 27 45.8 +1.1**
LANS pmax pmax
comp=Z,42nm,0.8s
LANS **Liptovska Anna** **74.77 332** *e*P **P** **13 27 45.8 +1.1**
MORC **Moravsky Berou** **74.79 333** ⇓P **P** **13 27 45.0 +0.1**
MORC **Moravsky Berou** **74.79 333** P **P** **13 27 45.0 +0.1**
MORC pmax pmax
comp=Z,80nm,1.2s
MORC **Moravsky Berou** **74.79 333** IAmb IAmb 13 27 46.4
comp=Z,226nm,1.6s
MORC **Moravsky Berou** **74.79 333** ⇑*i*P **P** **13 27 44.5 -0.4**
NIUE **Niue** **74.79 146** P **P** **13 27 42.6 -2.4**
BRG **Berggiesshubel** **74.82 336** P **P** **13 27 44.2 -0.7**
BRG pmax pmax
comp=Z,29nm,1.2s
BRG **Berggiesshubel** **74.82 336** *e*P **P** **13 27 44.6 -0.3**
baz=24,slow=5.8
BRG **Berggiesshubel** **74.82 336** *e*P **P** **13 27 45.0 +0.1**
BRG Amp 13 27 46.7
comp=Z,38nm,1.3s
BRG **Berggiesshubel** **74.82 336** S **S** **13 37 19.0 +2.0**
ERZN **Erzincan** **74.83 314** *e*P **P** **13 27 46.3 +0.9**
CLZ **Clausthal** **74.84 338** *e*P **P** **13 27 44.8 -0.2**
comp=Z,109nm,1.3s,baz=24,slow=5.8
SADO **Sadowa** **74.84 37** IAMs_20 IAMs_20 14 04 39.6
comp=Z,2µm,19.0s
BNGB **Bingl** **74.85 313** *e*P **P** **13 27 46.2 +0.7**
TX32 **Lajitas Array** **74.87 63** IAmb IAmb 13 27 47.0
comp=Z,70nm,1.0s
TXAR **Lajitas Array** **74.87 63** P **P** **13 27 45.0 -0.7**
comp=Z,38nm,0.8s,baz=299,slow=3.9,SNR=230
TXAR **Lajitas Array** **74.87 63** P **P** **13 27 44.8 -1.0**
CCM **Cathedral Cave** **74.90 49** P **P** **13 27 44.4 -1.3**
CCM pmax pmax
comp=Z,102nm,1.3s
CCM MLR MLR
comp=Z,2µm,22.0s
CCM **Cathedral Cave** **74.90 49** P **P** **13 27 44.4 -1.3**
CCM IAmb IAmb 13 27 46.1
comp=Z,102nm,1.3s
CCM **Cathedral Cave** **74.90 49** IAMs_20 IAMs_20 14 00 55.2
comp=Z,2µm,22.0s
CCM **Cathedral Cave** **74.90 49** P **P** **13 27 44.4 -1.3**
baz=322
CCM S **S** **13 37 17.3 -1.1**
baz=322
FBE **Freiberg** **74.93 336** *e*P **P** **13 27 45.6 0.0**
baz=24,slow=5.8
HHAR **Hobbs** **74.93 52** IAMs_20 IAMs_20 14 02 12.9
comp=Z,2µm,21.0s
SNOP **Sinop** **74.93 318** *e*P **P** **13 27 45.6 -0.2**
TLCR **74.94 324** ⇑P **P** **13 27 45.7 0.0**
PVCC **Panska Ves** **74.96 335** *e*P **P** **13 27 46.1 +0.3**
PVCC MLR MLR
comp=Z,8µm,20.3s
PVCC **Panska Ves** **74.96 335** *e*P **P** **13 27 46.1 +0.3**
PVCC AMS AMS 14 04 00.0
comp=Z,8µm,20.3s
ARCR **ARCALIA** **74.96 328** ⇑P **P** **13 27 46.7 +0.9**
L48A **N Adams** **74.97 42** IAMs_20 IAMs_20 14 05 28.9
comp=Z,2µm,20.0s
IBBN **Ibbenburen** **75.01 340** *e*P **P** **13 27 46.1 +0.1**
comp=Z,91nm,1.3s,baz=24,slow=5.8
AAM **Ann Arbor** **75.01 41** IAMs_20 IAMs_20 14 04 41.1
comp=Z,2µm,20.0s
AAM **Ann Arbor** **75.01 41** P **P** **13 27 45.5 -0.7**
baz=324
SFIN **Lafayette** **75.03 45** IAMs_20 IAMs_20 14 00 04.7
comp=Z,2µm,21.0s
SFIN **Lafayette** **75.03 45** P **P** **13 27 45.0 -1.4**
baz=323,SNR=7.1
KECS **Kecovo** **75.04 331** *e*P **P** **13 27 46.5 +0.3**
KECS pmax pmax
comp=Z,36nm,1.2s
KECS **Kecovo** **75.04 331** *e*P **P** **13 27 46.5 +0.3**
IZVR **Izvoarele** **75.04 325** ⇓P **P** **13 27 46.6 +0.4**
K50A **Casco** **75.07 40** IAMs_20 IAMs_20 14 01 52.6
comp=Z,2µm,21.0s
NEUB **Neuenburg** **75.07 337** *e*P **P** **13 27 46.0 -0.4**
baz=24,slow=5.8
MGMO **Mountain Grove** **75.10 50** P **P** **13 27 44.9 -1.9**
MGMO IAmb IAmb 13 27 46.9
comp=Z,92nm,1.4s
MGMO IAMs_20 IAMs_20 14 03 26.4
comp=Z,2µm,21.0s
VRI **Vrincioaia** **75.15 326** ⇓P **P** **13 27 47.3 +0.3**
VRI **Vrincioaia** **75.15 326** P **P** **13 27 46.9 -0.1**
VRI pmax pmax
comp=Z,36nm,1.3s
PLOR **Plostina** **75.19 326** ⇓P **P** **13 27 47.8 +0.5**
CFR **Carcaliu** **75.21 324** ⇓P **P** **13 27 47.4 +0.2**
CFR **Carcaliu** **75.21 324** P **P** **13 27 46.7 -0.6**
CFR pmax pmax
comp=Z,44nm,1.4s
GTTG **Gottingen** **75.21 339** *e*P **P** **13 27 47.4 +0.2**
comp=Z,92nm,1.5s,baz=24,slow=5.8
DIKM **Dikmen** **75.21 318** ⇑P **P** **13 27 47.6 +0.2**
DIKM **Dikmen** **75.21 318** *e*P **P** **13 27 48.0 +0.6**
HPK **Haverah Park** **75.21 346** *e*P **P** **13 27 47.0 -0.2**
HPK IAmb IAmb 13 27 48.2
comp=Z,96nm,1.0s
AS31 **Alice Springs** **75.22 200** P **P** **13 27 48.3 +0.8**
ASAR **Alice Springs** **75.22 200** P **P** **13 27 47.8 +0.3**
comp=Z,23nm,0.6s,baz=14,slow=5.5,SNR=157
ASAR PKPPKP **P'P'df** **13 55 08.4 +1.6**
comp=Z,0.9nm,1.0s,baz=197,slow=2.9,SNR=4.7
ASAR LR LR 13 58 39.0
comp=Z,888nm,22.0s,baz=16,slow=34
N47A **Urbana** **75.27 43** IAMs_20 IAMs_20 13 59 54.9
comp=Z,2µm,22.0s
SLBS **Sierra La Lagu** **75.29 71** P **P** **13 27 45.1 -3.1**
SLBS IAmb IAmb 13 27 49.8
comp=Z,105nm,1.5s
RSDY **Resadiye-TOKAT** **75.30 316** *e*P **P** **13 27 48.5 +0.6**
KVT **Kavak** **75.32 317** *e*P **P** **13 27 48.6 +0.5**
KVT **Kavak** **75.32 317** P **P** **13 27 49.7 +1.6**
COVR **Voineasa-Covas** **75.36 326** ⇓P **P** **13 27 48.5 +0.2**
TPGR **Topolog** **75.37 324** ⇑P **P** **13 27 48.5 +0.2**
MESR **Meseseni** **75.39 329** ⇓P **P** **13 27 48.3 0.0**
PLVO **Plevna** **75.41 36** IAMs_20 IAMs_20 14 03 57.7
comp=Z,1µm,20.0s
PRA **Prague** **75.41 335** *e*P **P** **13 27 48.9 +0.5**
PRA MLR MLR
comp=Z,9µm,21.1s
PRA **Prague** **75.41 335** *e*P **P** **13 27 48.9 +0.5**
PRA AMS AMS 14 04 10.0
comp=Z,9µm,21.1s
U40A **Yellville** **75.43 51** IAmb IAmb 13 27 49.6
comp=Z,113nm,1.1s
U40A IAMs_20 IAMs_20 14 02 23.1
comp=Z,2µm,20.0s
U40A **Yellville** **75.43 51** P **P** **13 27 47.2 -1.5**
baz=321,SNR=74
U40A S **S** **13 37 22.0 -2.3**
baz=321
BISRR **Bisoca** **75.43 325** ⇑P **P** **13 27 49.4 +0.8**
Z35A **Perchaven, San** **75.46 56** IAMs_20 IAMs_20 13 57 28.8
comp=Z,1µm,21.0s
PRU **Pruhonice** **75.46 335** *e*P **P** **13 27 49.1 +0.5**
PRU MLR MLR
comp=Z,10µm,20.8s
PRU **Pruhonice** **75.46 335** *e*P **P** **13 27 49.1 +0.5**
PRU AMS AMS 14 04 00.0
comp=Z,10µm,20.8s
WIM **Isle of Man** **75.47 348** *e*P **P** **13 27 48.3 -0.3**
GRER **75.47 325** ⇑P **P** **13 27 48.3 -0.5**
HPIG **75.48 66** IAMs_20 IAMs_20 13 55 01.6
comp=Z,1µm,21.0s
ILIC **ilic-Erzincan** **75.48 314** *e*P **P** **13 27 50.1 +1.0**
VRAC **Vranov** **75.49 334** ⇑P **P** **13 27 49.6 +0.8**
VRAC **Vranov** **75.49 334** P **P** **13 27 48.9 0.0**
VRAC pmax pmax
comp=Z,88nm,1.2s
VRAC **Vranov** **75.49 334** ⇑*i*P **P** **13 27 48.9 0.0**
X37A **Clayton** **75.49 54** IAMs_20 IAMs_20 14 01 13.8
comp=Z,2µm,22.0s
BZK **Bozkurt** **75.50 319** ⇑P **P** **13 27 50.0 +1.0**
BZK **Bozkurt** **75.50 319** *e*P **P** **13 27 48.9 -0.1**
PTK **Pertek** **75.54 314** *e*P **P** 13 28 01.2 +12
VYHS **Vyhne** **75.54 332** *e*P **P** **13 27 49.6 +0.4**
VYHS pmax pmax
comp=Z,121nm,1.5s
VYHS **Vyhne** **75.54 332** *e*P **P** **13 27 49.6 +0.4**
CJR **Cluj-Napoca** **75.55 328** P **P** **13 27 50.5 +1.2**
JAVC **Velka Javorina** **75.57 333** ⇑*i*P **P** **13 27 50.2 +0.8**
TANN **Tannenbergstha** **75.62 337** *e*P **P** **13 27 49.5 -0.1**
baz=24,slow=5.8
MOX **Moxa** **75.63 337** P **P** **13 27 50.0 +0.4**
MOX pmax pmax
comp=Z,47nm,1.3s
MOX **Moxa** **75.63 337** *e*P **P** **13 27 49.1 -0.5**
comp=Z,66nm,1.3s,baz=24,slow=5.8
WERD **Werda** **75.64 337** *e*P **P** **13 27 49.5 -0.2**
comp=Z,85nm,1.3s,baz=24,slow=5.8
LMQ **La Malbaie** **75.64 30** IAmb IAmb 13 27 50.7
comp=Z,181nm,1.5s
LMQ IAMs_20 IAMs_20 14 04 02.9
comp=Z,2µm,20.0s
PLN **Plauen** **75.64 337** *e*P **P** **13 27 49.5 -0.2**
comp=Z,107nm,1.7s,baz=24,slow=5.8
HARR **Harsova** **75.70 324** ⇓P **P** **13 27 50.1 +0.1**
GUNZ **Gunzen** **75.71 337** *e*P **P** **13 27 49.9 -0.3**
comp=Z,69nm,1.3s,baz=24,slow=5.8
TIRR **Tirgusor** **75.71 324** ⇓P **P** **13 27 49.9 -0.3**
TIRR **Tirgusor** **75.71 324** P **P** **13 27 51.1 +1.0**
TIRR pmax pmax
comp=Z,99nm,0.9s
TOKT **Tokat** **75.71 316** *e*P **P** **13 27 50.9 +0.6**
PSZ **Piszkesteto** **75.72 331** ⇓P **P** **13 27 51.4 +1.1**
PSZ **Piszkesteto** **75.72 331** *e*P **P** **13 27 50.0 -0.3**
MLR **Muntele Rosu** **75.76 326** ⇑P **P** **13 27 51.4 +0.8**
MLR **Muntele Rosu** **75.76 326** P **P** **13 27 50.3 -0.3**
MLR pmax pmax
comp=Z,76nm,1.9s
MLR **Muntele Rosu** **75.76 326** IAmb IAmb 13 27 52.0
comp=Z,117nm,1.3s
MDB **Medias** **75.76 327** ⇑P **P** **13 27 51.5 +1.0**
WERN **Wernitzgruen** **75.76 337** *e*P **P** **13 27 50.3 -0.1**
comp=Z,73nm,1.3s,baz=24,slow=5.8
LBWR **Ladybower, Pea** **75.77 346** *e*P **P** **13 27 50.0 -0.4**
LBWR IAmb IAmb 13 27 51.3
comp=Z,220nm,1.4s
KRUC **Moravsky** **75.77 334** P **P** **13 27 50.5 +0.1**
KRUC pmax pmax
comp=Z,85nm,1.3s
KRUC **Moravsky** **75.77 334** ⇑*i*P **P** **13 27 50.2 -0.2**
TLBR **Topalu** **75.78 324** ⇓P **P** **13 27 50.4 -0.1**
DRGR **75.78 329** ⇓P **P** **13 27 50.4 -0.2**
DRGR **75.78 329** P **P** **13 27 50.2 -0.4**
DRGR pmax pmax
comp=Z,43nm,1.3s
NKC **Novy Kostel** **75.80 336** *e*P **P** **13 27 50.7 +0.1**
NKC MLR MLR
comp=Z,5µm,19.0s
NKC **Novy Kostel** **75.80 336** *e*P **P** **13 27 50.7 +0.1**
NKC AMS AMS 14 05 50.0
comp=Z,5µm,19.0s
TREC **Trest** **75.82 334** AMS AMS 14 04 00.0
comp=Z,6µm,19.1s
SVSK **Karacayir** **75.83 316** *e*P **P** **13 27 51.6 +0.7**
W39A **Magazine** **75.85 52** IAMs_20 IAMs_20 14 02 44.3
comp=Z,2µm,21.0s
W39A **Magazine** **75.85 52** P **P** **13 27 50.0 -1.1**
baz=321,SNR=28
W39A S **S** **13 37 27.4 -1.6**
baz=321
ISR **Istrita** **75.86 325** ⇑P **P** **13 27 52.2 +1.1**
ISR **Istrita** **75.86 325** P **P** **13 27 51.8 +0.7**
ISR pmax pmax
comp=Z,136nm,1.3s
UBBA **Unterbreizbach** **75.87 338** *e*P **P** **13 27 50.9 +0.1**
comp=Z,118nm,1.6s,baz=24,slow=5.8
UBBA *es*P **sP** **13 28 17.5 +4.5**
ARPR **Arapgir-MALATY** **75.88 314** *e*P **P** **13 27 52.2 +0.8**
PBCC **Pribram** **75.88 335** *e*P **P** **13 27 51.2 +0.1**
PBCC AMS AMS 14 04 50.0
comp=Z,4µm,19.5s
KASTN **Kahler Asten** **75.89 339** *e*P **P** **13 27 51.2 0.0**
comp=Z,94nm,1.2s,baz=24,slow=5.8
N49A **Columbus Grove** **75.91 42** IAmb IAmb 13 27 52.0
comp=Z,119nm,1.6s
N49A IAMs_20 IAMs_20 14 05 40.8
comp=Z,1µm,19.0s
BUG **Bochum--Univer** **75.93 340** P **P** **13 27 51.9 +0.6**
BUG pmax pmax
comp=Z,60nm,1.6s
BUG **Bochum--Univer** **75.93 340** *e*P **P** **13 27 51.7 +0.4**
comp=Z,126nm,1.4s,baz=24,slow=5.8
BUG *es*P **sP** **13 28 18.1 +4.7**
MFTR **Murfatlar** **75.94 324** ⇑P **P** **13 27 51.8 +0.3**
SMOL **Smolenice** **75.95 333** *e*P **P** **13 27 52.5 +1.0**
SMOL pmax pmax
comp=Z,66nm,1.5s
SMOL **Smolenice** **75.95 333** *e*P **P** **13 27 52.5 +1.0**
SVRC **Sivrice-ELAZID** **75.99 313** *e*P **P** **13 27 53.2 +1.1**
M50A **Fremont** **76.01 41** IAMs_20 IAMs_20 14 01 39.5
comp=Z,2µm,21.0s
TRD **Trivandrum** **76.08 267** *e*P **P** **13 27 53.6 +1.0**
TRD *i* pP **sP** **13 28 19.7 +4.8**
MANZ **Manzenberg** **76.11 337** *e*P **P** **13 27 52.0 -0.4**
comp=Z,78nm,1.5s,baz=24,slow=5.8
MANZ *es*P **sP** **13 28 18.7 +4.2**
MARD **Mardin** **76.12 312** P **P** **13 27 53.2 +0.4**
VOIR **76.13 326** ⇑P **P** **13 27 53.3 +0.7**
VOIR **76.13 326** P **P** **13 27 52.7 0.0**
VOIR pmax pmax
comp=Z,73nm,1.2s
KURC **Kurucasile-Bar** **76.13 320** *e*P **P** **13 27 50.7 -1.9**

WME	**Myndd Eilian**	**76.15**	**348**	eP	**P**	**13 27 51.6**	**-0.9**
S44A	**Carbondale**	**76.16**	**48**	IAMs_20	IAMs_20	14 01 53.4	
	comp=Z,3µm,22.0s						
SIUC	**Southern Illin**	**76.16**	**48**	IAMs_20	IAMs_20	14 01 54.2	
	comp=Z,3µm,22.0s						
FCAR	**Ozark Folk Cen**	**76.16**	**51**	IAmb	IAmb	13 27 53.0	
	comp=Z,92nm,1.2s						
FCAR				IAMs_20	IAMs_20	14 04 03.4	
	comp=Z,2µm,21.0s						
JCT	**Junction City**	**76.22**	**59**	P	**P**	**13 27 52.4**	**-1.0**
JCT				pmax	pmax		
	comp=Z,68nm,1.0s						
JCT	**Junction City**	**76.22**	**59**	P	**P**	**13 27 52.4**	**-1.0**
JCT				IAmb	IAmb	13 27 54.2	
	comp=Z,68nm,1.0s						
JCT				IAMs_20	IAMs_20	13 58 52.1	
	comp=Z,2µm,22.0s						
JCT	**Junction City**	**76.22**	**59**	P	**P**	**13 27 52.5**	**-0.8**
	baz=319,SNR=22						
JCT				S	**S**	**13 37 34.2**	**+1.0**
	baz=319						
ICOR	**Ion Corvin**	**76.23**	**324**	⇑P	**P**	**13 27 53.2**	**0.0**
BLO	**Bloomington**	**76.27**	**45**	IAMs_20	IAMs_20	14 00 50.3	
	comp=Z,2µm,22.0s						
WLF1	**Llynfaes**	**76.27**	**348**	eP	**P**	**13 27 53.2**	**+0.1**
WLF1				IAmb	IAmb	13 27 53.6	
	comp=Z,764nm,2.3s						
ROTZ	**Rotzenmuhle**	**76.28**	**336**	eP	**P**	**13 27 53.5**	**+0.2**
	comp=Z,88nm,1.4s,baz=24,slow=5.8						
J54A	**Appleton**	**76.29**	**37**	IAMs_20	IAMs_20	14 03 11.9	
	comp=Z,1µm,21.0s						
PBMO	**Poplar Bluff**	**76.31**	**49**	IAMs_20	IAMs_20	14 01 37.3	
	comp=Z,2µm,22.0s						
SRO	**Srobarova**	**76.31**	**332**	eP	**P**	**13 27 54.4**	**+0.9**
SRO				pmax	pmax		
	comp=Z,70nm,1.0s						
SRO	**Srobarova**	**76.31**	**332**	eP	**P**	**13 27 54.4**	**+0.9**
SRO2	**Moca**	**76.33**	**332**	eP	**P**	**13 27 53.5**	**-0.1**
SRO2				pmax	pmax		
	comp=Z,69nm,1.2s						
SRO2	**Moca**	**76.33**	**332**	eP	**P**	**13 27 53.5**	**-0.1**
ZST	**Bratislava**	**76.34**	**333**	eP	**P**	**13 27 54.7**	**+1.0**
ZST				pmax	pmax		
	comp=Z,238nm,1.3s						
ZST	**Bratislava**	**76.34**	**333**	eP	**P**	**13 27 54.7**	**+1.0**
SULR		**76.34**	**325**	⇓P	**P**	**13 27 54.1**	**+0.4**
CWF	**Charnwood Fore**	**76.34**	**346**	eP	**P**	**13 27 53.2**	**-0.4**
CWF				IAmb	IAmb	13 27 54.4	
	comp=Z,356nm,1.8s						
ARR	**Arges**	**76.34**	**327**	⇓P	**P**	**13 27 55.0**	**+1.2**
BANOM	**Banah**	**76.35**	**294**	P	**P**	**13 27 54.0**	**-0.2**
BANOM	**Banah**	**76.35**	**294**	P	**P**	**13 27 54.0**	**-0.2**
SHME	**Shamm**	**76.35**	**294**	P	**P**	**13 27 53.2**	**-0.9**
SHME	**Shamm**	**76.35**	**294**	P	**P**	**13 27 52.6**	**-1.5**
WHTX	**Lake Whitney,**	**76.37**	**57**	IAMs_20	IAMs_20	13 59 07.0	
	comp=Z,2µm,21.0s						
WHTX	**Lake Whitney,**	**76.37**	**57**	P	**P**	**13 27 53.3**	**-0.9**
	baz=320,SNR=11						
WHTX				S	**S**	**13 37 34.7**	**0.0**
	baz=320						
BUD	**Budapest**	**76.38**	**331**	P	**P**	**13 27 55.0**	**+1.1**
BUD				pmax	pmax		
	comp=Z,85nm,1.4s						
O49A	**Covington**	**76.44**	**43**	IAMs_20	IAMs_20	14 01 37.8	
	comp=Z,2µm,21.0s						
MEDO	**Medina**	**76.45**	**37**	IAMs_20	IAMs_20	14 03 03.3	
	comp=Z,1µm,20.0s						
D62A	**Allapoint, All**	**76.46**	**29**	IAMs_20	IAMs_20	14 03 43.7	
	comp=Z,2µm,21.0s						
D62A	**Allapoint, All**	**76.46**	**29**	P	**P**	**13 27 53.9**	**-0.5**
	baz=332,SNR=10						
MIAR	**Mount Ida**	**76.47**	**52**	P	**P**	**13 27 53.8**	**-0.9**
MIAR				pmax	pmax		
	comp=Z,75nm,1.7s						
MIAR	**Mount Ida**	**76.47**	**52**	IAmb	IAmb	13 27 55.5	
	comp=Z,77nm,1.1s						
MIAR				IAMs_20	IAMs_20	14 02 54.5	
	comp=Z,2µm,22.0s						
MIAR	**Mount Ida**	**76.47**	**52**	P	**P**	**13 27 53.7**	**-0.9**
	baz=321,SNR=57						
MIAR				S	**S**	**13 37 35.5**	**-0.2**
	baz=321						
KHC	**Kasperske Hory**	**76.50**	**335**	eP	**P**	**13 27 55.2**	**+0.6**
KHC				e		13 28 08.5	
KHC				MLR	MLR		
	comp=Z,10µm,20.1s						
KHC	**Kasperske Hory**	**76.50**	**335**	eP	**P**	**13 27 55.2**	**+0.6**
KHC				ex	x	13 28 08.5	
KHC				AMS	AMS	14 04 50.0	
	comp=Z,10µm,20.1s						
DEV	**Deva**	**76.50**	**328**	P	**P**	**13 27 55.1**	**+0.4**
DEV				pmax	pmax		
	comp=Z,65nm,1.3s						
LCAR	**Lake Charles**	**76.51**	**50**	IAMs_20	IAMs_20	14 04 29.6	
	comp=Z,2µm,20.0s						
P48A	**Milroy**	**76.54**	**44**	IAMs_20	IAMs_20	14 00 53.4	
	comp=Z,2µm,22.0s						
WHAR	**Wooly Hollow**	**76.55**	**51**	IAMs_20	IAMs_20	14 04 18.6	
	comp=Z,1µm,21.0s						
CKRC	**Cesky Krumlov**	**76.58**	**335**	eP	**P**	**13 27 55.4**	**+0.3**
CKRC				eS	**S**	**13 37 35.2**	**-1.4**
CKRC				AMS	AMS	14 04 50.0	
	comp=Z,10µm,20.2s						
SIRR	**Siria**	**76.59**	**329**	⇓P	**P**	**13 27 55.7**	**+0.5**
GRA1	**Grafenberg Arr**	**76.61**	**337**	P	**P**	**13 27 54.7**	**-0.5**
GRF	**Grafenberg Arr**	**76.61**	**337**	P	**P**	**13 27 54.7**	**-0.5**
GRF				pmax	pmax		
	comp=Z,358nm,1.7s						
GRF				MLR	MLR		
	comp=Z,4µm,19.0s						
GRF	**Grafenberg Arr**	**76.61**	**337**	eP	**P**	**13 27 55.3**	**+0.1**
	comp=Z,162nm,1.2s,baz=24,slow=5.8						
GRFO	**Grafenberg**	**76.61**	**337**	P	**P**	**13 27 54.7**	**-0.5**
GRFO				pmax	pmax		
	comp=Z,331nm,1.7s						
GRFO				MLR	MLR		
	comp=Z,4µm,19.0s						
GRFO	**Grafenberg**	**76.61**	**337**	P	**P**	**13 27 54.7**	**-0.5**
M52A	**Chesterland**	**76.62**	**40**	IAMs_20	IAMs_20	14 02 48.6	
	comp=Z,2µm,21.0s						
J55A	**Hilton**	**76.62**	**37**	IAMs_20	IAMs_20	14 05 22.7	
	comp=Z,2µm,19.0s						
W41B	**Gary Mavity, V**	**76.66**	**51**	P	**P**	**13 27 54.5**	**-1.2**
	baz=322,SNR=50						
W41B				S	**S**	**13 37 36.6**	**-1.2**
	baz=322						
WET	**Wettzell**	**76.68**	**336**	P	**P**	**13 27 55.8**	**+0.2**
WET				pmax	pmax		
	comp=Z,72nm,1.6s						
WET	**Wettzell**	**76.68**	**336**	eP	**P**	**13 27 55.4**	**-0.2**
	comp=Z,102nm,1.2s,baz=24,slow=5.8						
CORM	**Corum**	**76.68**	**317**	eP	**P**	**13 27 56.7**	**+0.8**
DARE	**Darende-Malaty**	**76.69**	**315**	eP	**P**	**13 27 57.0**	**+1.0**
N51A	**Ashland**	**76.70**	**41**	IAMs_20	IAMs_20	14 02 33.7	
	comp=Z,2µm,21.0s						
LONY	**Lake Ozonia**	**76.70**	**34**	P	**P**	**13 27 53.9**	**-2.0**
	baz=329,SNR=8.5						
ERPA	**Erie**	**76.71**	**39**	IAMs_20	IAMs_20	14 01 13.0	
	comp=Z,2µm,22.0s						
ERPA	**Erie**	**76.71**	**39**	P	**P**	**13 27 54.7**	**-1.2**
	baz=326,SNR=5.7						
E62A	**Clayton Lake**	**76.72**	**30**	IAMs_20	IAMs_20	14 04 27.4	
	comp=Z,2µm,21.0s						
E62A	**Clayton Lake**	**76.72**	**30**	P	**P**	**13 27 55.0**	**-0.8**
	baz=332,SNR=11						
GEC2	**GERESS Array S**	**76.73**	**335**	eP	**P**	**13 27 55.3**	**-0.7**
	comp=Z,92nm,1.5s,baz=24,slow=5.8						
GERES	**GERESS Array B**	**76.73**	**335**	P	**P**	**13 27 56.0**	**0.0**
	comp=Z,12nm,0.6s,baz=43,slow=6.0,SNR=54						
GERES				LR	LR	14 05 40.4	
	comp=Z,11µm,20.4s,baz=24,slow=39						
GERES	**GERESS Array B**	**76.73**	**335**	P	**P**	**13 27 55.8**	**-0.2**
GRB1	**Grafenberg Arr**	**76.77**	**337**	P	**P**	**13 27 56.5**	**+0.4**
GRB1				pmax	pmax		
	comp=Z,84nm,1.3s						
CANT	**Cankiri**	**76.78**	**318**	eP	**P**	**13 27 57.1**	**+0.7**
TNS	**Taunus Mts**	**76.80**	**339**	P	**P**	**13 27 56.5**	**+0.2**
TNS				pmax	pmax		
	comp=Z,61nm,1.5s						
TNS	**Taunus Mts**	**76.80**	**339**	eP	**P**	**13 27 56.3**	**-0.1**
	comp=Z,33nm,0.6s,baz=24,slow=5.8						
P49A	**Miami Univ. Ec**	**76.80**	**44**	IAMs_20	IAMs_20	14 00 51.3	
	comp=Z,2µm,22.0s						
P49A	**Miami Univ. Ec**	**76.80**	**44**	P	**P**	**13 27 55.1**	**-1.4**
	baz=324,SNR=12						
P49A				S	**S**	**13 37 36.9**	**-2.2**

	baz=324						
AHRW	**Bad Neuenahr-A**	**76.81**	**340**	eP	**P**	**13 27 56.3**	**0.0**
	comp=Z,129nm,1.3s,baz=24,slow=5.8						
YOZ	**Yozgat**	**76.81**	**317**	eP	**P**	**13 27 56.8**	**+0.1**
MDH	**Madha**	**76.82**	**293**	P	**P**	**13 27 55.5**	**-1.2**
MDH	**Madha**	**76.82**	**293**	P	**P**	**13 27 55.7**	**-1.0**
AMBH	**Ambrzfalva**	**76.83**	**330**	eP	P	13 27 48.0	-8.5
MASF	**Masafi**	**76.85**	**294**	P	**P**	**13 27 56.5**	**-0.5**
MSFE	**Esma-Masafi**	**76.86**	**294**	P	**P**	**13 27 56.8**	**-0.2**
BEBN	**Eben Emael**	**76.88**	**341**	dP	**P**	**13 27 56.4**	**-0.3**
BEBN				dx	x	13 28 01.3	
BEBN				dx	x	13 28 22.7	
X40A	**Basin Creek Fa**	**76.89**	**52**	IAMs_20	IAMs_20	14 03 14.9	
	comp=Z,2µm,21.0s						
X40A	**Basin Creek Fa**	**76.89**	**52**	P	**P**	**13 27 55.8**	**-1.3**
	baz=322,SNR=22						
X40A				S	**S**	**13 37 39.9**	**-0.5**
	baz=322						
WSAR	**Wadi Sarin**	**76.94**	**290**	P	**P**	**13 27 58.1**	**+0.6**
CONA	**Conrad Observa**	**76.94**	**333**	i P	**P**	**13 27 57.6**	**+0.4**
	comp=Z,83nm,0.9s,SNR=37						
SOP	**Sopron**	**76.96**	**333**	eP	**P**	**13 27 57.0**	**-0.2**
SOP	**Sopron**	**76.96**	**333**	P	**P**	**13 27 58.5**	**+1.3**
SOP				pmax	pmax		
	comp=Z,101nm,1.4s						
MILB	**Miltenberg**	**76.96**	**338**	eP	**P**	**13 27 57.2**	**0.0**
	comp=Z,132nm,1.3s,baz=24,slow=5.8						
EGYH	**Egyhazaskeszo**	**76.96**	**332**	eP	**P**	**13 27 52.6**	**-4.6**
URFA	**Urfa**	**76.97**	**313**	eP	**P**	**13 27 58.7**	**+1.2**
GZR	**Gura Zlata**	**76.97**	**328**	⇑P	**P**	**13 27 57.1**	**-0.3**
BTNL	**Ternell**	**76.98**	**340**	dP	**P**	**13 27 57.0**	**-0.3**
	comp=Z,85nm,1.7s						
BTNL				dx	x	13 28 24.2	
J56A	**Wolcott**	**76.99**	**36**	IAMs_20	IAMs_20	14 03 41.4	
	comp=Z,2µm,22.0s						
MEM	**Membach**	**76.99**	**341**	dP	**P**	**13 27 56.8**	**-0.4**
	comp=Z,83nm,1.4s						
MEM				dx	x	13 28 01.8	
MEM				dx	x	13 28 23.1	
MEM	**Membach**	**76.99**	**341**	P	**P**	**13 27 57.8**	**+0.5**
MEM				pmax	pmax		
	comp=Z,112nm,1.5s						
T45A	**Paducah**	**76.99**	**48**	IAMs_20	IAMs_20	14 02 29.5	
	comp=Z,2µm,21.0s						
M53A	**WI Miller and**	**76.99**	**40**	IAMs_20	IAMs_20	14 02 59.4	
	comp=Z,1µm,20.0s						
M53A	**WI Miller and**	**76.99**	**40**	P	**P**	**13 27 56.8**	**-0.7**
	baz=326,SNR=7.2						
ACSO	**Alum Creek Sta**	**77.00**	**42**	IAMs_20	IAMs_20	14 06 59.6	
	comp=Z,2µm,20.0s						
ACSO	**Alum Creek Sta**	**77.00**	**42**	P	**P**	**13 27 56.6**	**-0.9**
	baz=325						
ACSO				S	**S**	**13 37 39.7**	**-1.6**
	baz=325						
MMNY	**Mt. Morris Dam**	**77.03**	**37**	IAMs_20	IAMs_20	14 05 35.7	
	comp=Z,2µm,21.0s						
BIDO	**Bidbid**	**77.04**	**291**	P	**P**	**13 27 58.4**	**+0.4**
BSTI	**Sart Tilman**	**77.11**	**341**	dP	**P**	**13 27 57.8**	**-0.2**
	comp=Z,37nm,1.5s						
BSTI				dx	x	13 28 04.1	
BSTI				dx	x	13 28 24.1	
PEBM	**Pemiscott Bayo**	**77.11**	**49**	IAMs_20	IAMs_20	14 05 12.7	
	comp=Z,1µm,20.0s						
WCI	**Wyandotte Cave**	**77.13**	**45**	P	**P**	**13 27 57.3**	**-1.0**
WCI				pmax	pmax		
	comp=Z,140nm,1.3s						
WCI				MLR	MLR		
	comp=Z,2µm,19.0s						
WCI	**Wyandotte Cave**	**77.13**	**45**	P	**P**	**13 27 57.3**	**-1.0**
WCI				IAmb	IAmb	13 27 59.2	
	comp=Z,140nm,1.3s						
WCI	**Wyandotte Cave**	**77.13**	**45**	IAMs_20	IAMs_20	14 05 33.2	
	comp=Z,2µm,19.0s						
WCI	**Wyandotte Cave**	**77.13**	**45**	P	**P**	**13 27 57.4**	**-1.0**
	baz=324						
WCI				S	**S**	**13 37 42.1**	**-0.7**
	baz=324						
UOSS	**Minazif**	**77.14**	**293**	i P	**P**	**13 27 57.9**	**-0.7**
	SNR=5.9						
UOSS	**Minazif**	**77.14**	**293**	P	**P**	**13 27 58.1**	**-0.5**
UOSS				IAmb	IAmb	13 27 59.9	
	comp=Z,176nm,1.6s						
UOSS	**Minazif**	**77.14**	**293**	IAMs_20	IAMs_20	14 05 39.4	
	comp=Z,2µm,21.0s						
UOSS	**Minazif**	**77.14**	**293**	P	**P**	**13 27 57.9**	**-0.7**
GNAR	**Gosnell**	**77.15**	**49**	IAMs_20	IAMs_20	14 05 15.7	
	comp=Z,1µm,20.0s						
PQI	**Presque Isle**	**77.16**	**29**	IAMs_20	IAMs_20	14 03 19.0	
	comp=Z,2µm,22.0s						
HBAR	**Harrisburg**	**77.16**	**50**	IAMs_20	IAMs_20	14 04 59.9	
	comp=Z,1µm,20.0s						
BZS	**Buzias**	**77.18**	**329**	⇓P	**P**	**13 27 58.1**	**-0.3**
BZS	**Buzias**	**77.18**	**329**	P	**P**	**13 27 57.9**	**-0.6**
BZS				pmax	pmax		
	comp=Z,98nm,1.2s						
COPA	**Copaceanca**	**77.19**	**326**	⇓P	**P**	**13 27 58.3**	**-0.2**
RAZG	**Razgrad**	**77.19**	**325**	⇓P	**P**	**13 27 58.6**	**0.0**
WBK	**Wadi Bani Khal**	**77.20**	**290**	P	**P**	**13 27 59.3**	**+0.4**
	SNR=7.5						
J57A	**Williamstown**	**77.20**	**36**	IAMs_20	IAMs_20	14 05 00.1	
	comp=Z,1µm,21.0s						
F62A	**Pittston Farm,**	**77.21**	**31**	P	**P**	**13 27 58.5**	**-0.2**
F62A				IAmb	IAmb	13 27 59.8	
	comp=Z,69nm,1.1s						
F62A	**Pittston Farm,**	**77.21**	**31**	P	**P**	**13 27 58.0**	**-0.7**
	baz=331,SNR=12						
BNN	**Bunyan**	**77.22**	**316**	eP	**P**	**13 27 59.2**	**+0.2**
435B	**Jarrell**	**77.22**	**58**	IAMs_20	IAMs_20	14 08 08.6	
	comp=Z,1µm,19.0s						
435B	**Jarrell**	**77.22**	**58**	P	**P**	**13 27 58.0**	**-0.9**
	baz=320						
435B				S	**S**	**13 37 45.4**	**+1.4**
	baz=320						
BHOU	**Houvegnez**	**77.23**	**340**	dP	**P**	**13 27 58.0**	**-0.7**
	comp=Z,102nm,1.7s						
BHOU				dx	x	13 28 25.7	
E63A	**Oxbow**	**77.25**	**29**	IAmb	IAmb	13 27 58.4	
	comp=Z,141nm,1.9s						
E63A	**Oxbow**	**77.25**	**29**	P	**P**	**13 27 57.6**	**-1.2**
	baz=332,SNR=6.8						
TIH	**Tihany**	**77.25**	**332**	eP	**P**	**13 27 57.6**	**-1.2**
237A	**Washetta, Mont**	**77.25**	**56**	IAMs_20	IAMs_20	14 04 57.4	
	comp=Z,1µm,19.0s						
JLN	**Jalan Bani Buh**	**77.27**	**289**	P	**P**	**13 28 00.3**	**+1.0**
	SNR=7.2						
HATD	**Hatta, Dubai**	**77.27**	**293**	i P	**P**	**13 27 58.8**	**-0.5**
	SNR=8.3						
LPAR	**Lepanto**	**77.30**	**50**	IAMs_20	IAMs_20	14 01 13.6	
	comp=Z,2µm,22.0s						
LNXT	**Lenox**	**77.31**	**49**	IAMs_20	IAMs_20	14 02 17.8	
	comp=Z,2µm,21.0s						
BCLA	**Clavier**	**77.32**	**341**	dP	**P**	**13 27 59.0**	**-0.1**
	comp=Z,84nm,1.6s						
BCLA				dx	x	13 28 25.5	
SARI	**SarD1z-Kayseri**	**77.32**	**315**	eP	**P**	**13 28 00.3**	**+0.7**
MCH1	**Michaelchurch**	**77.32**	**347**	eP	**P**	**13 27 58.8**	**-0.4**
MCH1				IAmb	IAmb	13 28 00.1	
	comp=Z,302nm,1.9s						
M54A	**Oil Creek Stat**	**77.35**	**39**	IAMs_20	IAMs_20	14 03 19.0	
	comp=Z,1µm,21.0s						
M54A	**Oil Creek Stat**	**77.35**	**39**	P	**P**	**13 27 58.4**	**-1.2**
	baz=327,SNR=10						
M54A				S	**S**	**13 37 42.7**	**-2.5**
	baz=327						
WLAR	**White Oak Lake**	**77.37**	**53**	IAMs_20	IAMs_20	14 03 33.6	
	comp=Z,2µm,21.0s						
BGES	**Gesves**	**77.39**	**341**	dP	**P**	**13 27 59.5**	**-0.1**
	comp=Z,78nm,1.6s						
STRD	**Stroud**	**77.41**	**346**	eP	**P**	**13 27 59.4**	**-0.2**
STRD				IAmb	IAmb	13 28 00.6	
	comp=Z,417nm,1.4s						
PSA00	**Pilbara Seismi**	**77.42**	**214**	P	**P**	**13 27 59.8**	**-0.2**
PSA00				IAmb	IAmb	13 28 01.6	
	comp=Z,179nm,1.6s						
ASHO	**Ashiyiah**	**77.42**	**293**	i P	**P**	**13 27 59.9**	**-0.4**
	SNR=5.9						
ASHO	**Ashiyiah**	**77.42**	**293**	P	**P**	**13 28 00.4**	**+0.2**
	SNR=7.7						
PSAB1	**Pilbara Seismi**	**77.42**	**214**	IAMs_20	IAMs_20	13 57 08.6	
	comp=Z,2µm,21.0s						
PSAA1	**Pilbara Seismi**	**77.42**	**214**	IAMs_20	IAMs_20	14 04 04.6	
	comp=Z,1µm,19.0s						
SMDO	**Samad**	**77.43**	**291**	P	**P**	**13 28 00.3**	**-0.1**
	SNR=6.7						
NAZ	**Nazwa, Dubai**	**77.43**	**294**	i P	**P**	**13 27 59.9**	**-0.3**
	SNR=6.2						

NAZ	**Nazwa, Dubai**	**77.43**	**294**	P	**P**	**13 28 00.1**	**-0.1**
	SNR=5.3						
N53A	**Lisbon**	**77.44**	**40**	IAMs_20	IAMs_20	14 04 43.5	
	comp=Z,1µm,21.0s						
SNF	**Seneffe**	**77.45**	**342**	dP	**P**	**13 27 59.9**	**0.0**
SNF				dx	x	13 28 26.2	
SRE	**Strehaia**	**77.46**	**327**	⇑P	**P**	**13 28 00.1**	**0.0**
MOA	**Molln**	**77.47**	**334**	i P	**P**	**13 28 00.2**	**0.0**
	comp=Z,35nm,0.9s,SNR=16						
IWEX	**Carrickbyrne,**	**77.48**	**349**	eP	**P**	**13 27 59.6**	**-0.4**
BR131	**Keskin Array S**	**77.49**	**318**	IAmb	IAmb	13 28 02.2	
	comp=Z,122nm,1.2s						
BR131	**Keskin Array S**	**77.49**	**318**	P	**P**	**13 28 01.1**	**+0.6**
	SNR=64						
BRTR	**Keskin Array B**	**77.49**	**318**	P	**P**	**13 28 00.5**	**-0.1**
	comp=Z,47nm,1.1s,baz=62,slow=2.9,SNR=107						
BRTR				LR	LR	14 05 10.8	
	comp=Z,2µm,22.0s,baz=30,slow=38						
BRTR	**Keskin Array B**	**77.49**	**318**	eP	**P**	**13 28 00.4**	**-0.1**
BRTR	**Keskin Array B**	**77.49**	**318**	P	**P**	**13 28 00.8**	**+0.3**
BRTR	**Keskin Array B**	**77.49**	**318**	P	**P**	**13 28 00.8**	**+0.3**
HALT	**Halls**	**77.53**	**49**	IAMs_20	IAMs_20	14 02 34.7	
	comp=Z,2µm,21.0s						
BMRD	**Maredsous**	**77.54**	**341**	dP	**P**	**13 28 00.2**	**-0.2**
	comp=Z,117nm,1.5s						
BMRD				dx	x	13 28 26.1	
HERR	**Herculane**	**77.55**	**328**	⇓P	**P**	**13 28 00.3**	**-0.3**
SOHO	**SOHO**	**77.55**	**292**	i P	**P**	**13 28 00.0**	**-0.8**
	SNR=7.9						
SOHO	**SOHO**	**77.55**	**292**	P	**P**	**13 28 00.1**	**-0.8**
P51A	**Williamsport**	**77.58**	**42**	IAMs_20	IAMs_20	14 06 60.0	
	comp=Z,2µm,20.0s						
K57A	**Scipio Center**	**77.58**	**36**	IAMs_20	IAMs_20	14 04 11.1	
	comp=Z,2µm,22.0s						
RCHB	**Rochefort**	**77.58**	**341**	dP	**P**	**13 28 00.3**	**-0.3**
	comp=Z,80nm,1.4s						
O52A	**Adamsville**	**77.59**	**41**	IAMs_20	IAMs_20	14 02 49.3	
	comp=Z,2µm,22.0s						
R49A	**Shelbyville**	**77.60**	**45**	IAMs_20	IAMs_20	14 01 33.5	
	comp=Z,2µm,22.0s						
SWN1	**Swindon**	**77.60**	**346**	eP	**P**	**13 28 01.0**	**+0.3**
SWN1				IAmb	IAmb	13 28 02.1	
	comp=Z,358nm,1.1s						
VT1	**Waterbury**	**77.61**	**33**	IAMs_20	IAMs_20	14 05 37.2	
	comp=Z,2µm,20.0s						
G62A	**West of Eustis**	**77.61**	**31**	P	**P**	**13 27 59.7**	**-1.2**
G62A				IAmb	IAmb	13 28 02.4	
	comp=Z,92nm,1.1s						
G62A				IAMs_20	IAMs_20	14 05 48.0	
	comp=Z,2µm,20.0s						
G62A	**West of Eustis**	**77.61**	**31**	P	**P**	**13 28 00.6**	**-0.3**
	baz=331,SNR=18						
ARSA	**Arzberg**	**77.65**	**333**	i P	**P**	**13 28 01.3**	**+0.2**
	comp=Z,103nm,1.3s,SNR=38						
FAQ	**Al Faqa, Dubai**	**77.66**	**293**	i P	**P**	**13 28 00.8**	**-0.7**
	SNR=7.2						
FAQ	**Al Faqa, Dubai**	**77.66**	**293**	P	**P**	**13 28 01.1**	**-0.4**
F63A	**Nahmakanta, Br**	**77.66**	**30**	IAMs_20	IAMs_20	14 04 56.4	
	comp=Z,2µm,21.0s						
F63A	**Nahmakanta, Br**	**77.66**	**30**	P	**P**	**13 28 00.7**	**-0.5**
	baz=332,SNR=6.7						
N54A	**Moraine State**	**77.67**	**40**	IAMs_20	IAMs_20	14 01 32.5	
	comp=Z,2µm,22.0s						
N54A	**Moraine State**	**77.67**	**40**	P	**P**	**13 28 00.6**	**-0.8**
	baz=327,SNR=8.8						
N54A				S	**S**	**13 37 46.4**	**-2.2**
	baz=327						
L56A	**Greenwood**	**77.67**	**37**	IAMs_20	IAMs_20	14 03 55.6	
	comp=Z,1µm,21.0s						
GIVF	**Givet**	**77.72**	**341**	eP	**P**	**13 28 00.4**	**-1.0**
GIVF				pmax	pmax		
	comp=Z,154nm,1.4s						
J59A	**Piesco**	**77.72**	**35**	IAMs_20	IAMs_20	14 06 44.8	
	comp=Z,2µm,19.0s						
LOD	**Lodumlu**	**77.74**	**318**	eP	**P**	**13 28 01.9**	**+0.1**
ANTO	**Ankara**	**77.74**	**318**	eP	**P**	**13 28 02.0**	**+0.2**
ANTO	**Ankara**	**77.74**	**318**	P	**P**	**13 28 00.7**	**-1.1**
ANTO				pmax	pmax		
	comp=Z,190nm,1.4s						
ANTO	**Ankara**	**77.74**	**318**	P	**P**	**13 28 00.7**	**-1.1**
O53A	**New Philadelph**	**77.75**	**41**	IAMs_20	IAMs_20	14 03 26.5	
	comp=Z,2µm,22.0s						
O53A	**New Philadelph**	**77.75**	**41**	P	**P**	**13 28 00.5**	**-1.2**
	baz=326,SNR=5.7						
O53A				S	**S**	**13 37 47.9**	**-1.6**
	baz=326						
T47A	**Sharon Grove**	**77.75**	**47**	IAMs_20	IAMs_20	14 07 21.5	
	comp=Z,1µm,19.0s						
M55A	**Ridgway**	**77.75**	**39**	IAMs_20	IAMs_20	14 00 59.6	
	comp=Z,2µm,22.0s						
F64A	**Sherman**	**77.77**	**30**	IAMs_20	IAMs_20	14 05 17.2	
	comp=Z,2µm,21.0s						
F64A	**Sherman**	**77.77**	**30**	P	**P**	**13 28 00.9**	**-0.8**
	baz=332,SNR=9.5						
DOU	**Dourbes**	**77.77**	**341**	dP	**P**	**13 28 01.2**	**-0.5**
	comp=Z,72nm,1.5s						
DOU				dx	x	13 28 27.2	
DOU	**Dourbes**	**77.77**	**341**	P	**P**	**13 28 01.6**	**-0.1**
DOU				pmax	pmax		
	comp=Z,71nm,1.5s						
YUVA	**Yuva-Kibriscik**	**77.78**	**319**	eP	**P**	**13 28 02.3**	**+0.2**
KMRS	**Kahramanmaras**	**77.82**	**314**	eP	**P**	**13 28 02.9**	**+0.6**
Q51A	**Peebles**	**77.83**	**43**	IAMs_20	IAMs_20	14 01 34.5	
	comp=Z,2µm,22.0s						
I60A	**Shoreham**	**77.84**	**34**	P	**P**	**13 28 01.1**	**-1.0**
	baz=330						
WLF	**Walferdange**	**77.84**	**340**	dP	**P**	**13 28 02.6**	**+0.5**
WLF				dx	x	13 28 30.0	
WLF	**Walferdange**	**77.84**	**340**	eP	**P**	**13 28 02.3**	**+0.2**
	comp=Z,148nm,1.8s,baz=24,slow=5.8						
WLF				esP	**sP**	**13 28 29.7**	**+5.4**
P52A	**Corning**	**77.86**	**42**	IAMs_20	IAMs_20	14 05 46.5	
	comp=Z,2µm,20.0s						
P52A	**Corning**	**77.86**	**42**	P	**P**	**13 28 00.8**	**-1.6**
	baz=326						
MET	**Memphis--Engin**	**77.86**	**50**	IAMs_20	IAMs_20	14 01 40.5	
	comp=Z,2µm,21.0s						
Z41A	**Richland Creek**	**77.87**	**53**	P	**P**	**13 28 01.8**	**-0.7**
	baz=322						
MDVR	**Moldovita**	**77.88**	**328**	⇑P	**P**	**13 28 02.2**	**-0.2**
CCAR	**Cane Creek**	**77.89**	**52**	IAMs_20	IAMs_20	14 06 00.1	
	comp=Z,2µm,19.0s						
BAIF	**Baives**	**77.89**	**341**	eP	**P**	**13 28 01.6**	**-0.7**
BAIF				pmax	pmax		
	comp=Z,167nm,1.5s						
PUNG	**Punghina**	**77.89**	**327**	⇑P	**P**	**13 28 02.1**	**-0.3**
ASUD	**Al Ashush, Dub**	**77.90**	**294**	i P	**P**	**13 28 02.9**	**0.0**
	SNR=7.0						
ASUD	**Al Ashush, Dub**	**77.90**	**294**	P	**P**	**13 28 03.1**	**+0.2**
JMDO	**Jabal Madar**	**77.91**	**290**	P	**P**	**13 28 03.0**	**+0.1**
	SNR=10						
MDUB	**Mudurnu**	**77.92**	**320**	eP	**P**	**13 28 02.9**	**0.0**
GAZ	**Gaziantep**	**77.94**	**314**	eP	**P**	**13 28 03.0**	**0.0**
H62A	**Milan**	**77.96**	**32**	IAmb	IAmb	13 28 04.2	
	comp=Z,82nm,1.0s						
STU	**Stuttgart**	**77.97**	**338**	P	**P**	**13 28 03.3**	**+0.5**
STU				pmax	pmax		
	comp=Z,158nm,1.3s						
STU	**Stuttgart**	**77.97**	**338**	eP	**P**	**13 28 02.4**	**-0.4**
	comp=Z,202nm,1.1s,baz=24,slow=5.8						
AFSR	**Afar-Bala (An**	**77.97**	**318**	eP	**P**	**13 28 03.1**	**0.0**
BEHE	**Becsehely**	**77.98**	**332**	⇑iP	**P**	**13 28 02.9**	**0.0**
LBNH	**Lisbon**	**77.98**	**33**	IAMs_20	IAMs_20	14 03 53.9	
	comp=Z,2µm,22.0s						
LBNH	**Lisbon**	**77.98**	**33**	P	**P**	**13 28 02.6**	**-0.4**
	baz=330						
RJOB	**Jochberg**	**77.98**	**335**	eP	**P**	**13 28 02.8**	**-0.2**
	comp=Z,404nm,1.5s,baz=24,slow=5.8						
PKME	**Peaks-Kenny Pk**	**77.99**	**31**	P	**P**	**13 28 02.5**	**-0.4**
	baz=332,SNR=6.4						
R50A	**Paris**	**77.99**	**44**	IAMs_20	IAMs_20	14 01 48.0	
	comp=Z,2µm,21.0s						
FUR	**Furstenfeldbru**	**78.00**	**336**	eP	**P**	**13 28 02.9**	**-0.2**
	comp=Z,198nm,1.4s,baz=24,slow=5.8						
SILT	**Sile**	**78.00**	**321**	eP	**P**	**13 28 03.0**	**-0.1**
NATX	**Nacogdoches**	**78.06**	**55**	P	**P**	**13 28 03.2**	**-0.3**
	baz=321,SNR=14						
NATX				S	**S**	**13 37 53.7**	**+0.7**
	baz=321						
SAUV	**Serdivan-Sakar**	**78.06**	**321**	eP	**P**	**13 28 03.1**	**-0.4**
ALNE	**Al Ain**	**78.08**	**293**	i P	**P**	**13 28 03.7**	**-0.1**
	SNR=9.3						
ALNE	**Al Ain**	**78.08**	**293**	P	**P**	**13 28 03.8**	**0.0**
	SNR=9.1						
833A	**Chaparral WMA,**	**78.09**	**60**	P	**P**	**13 28 03.4**	**-0.4**
	baz=320						

WVT	Waverly	78.09	48	P	P	13 28 03.1	-0.6
WVT				pmax	pmax		
	comp=Z,83nm,1.5s						
WVT				MLR	MLR		
	comp=Z,2µm,22.0s						
WVT	Waverly	78.09	48	P	P	13 28 03.1	-0.6
WVT				IAmb	IAmb	13 28 04.7	
	comp=Z,83nm,1.4s						
WVT	Waverly	78.09	48	IAMs_20	IAMs_20	14 03 02.6	
	comp=Z,2µm,22.0s						
WVT	Waverly	78.09	48	P	P	13 28 02.9	-0.8
	baz=323						
WVT				S	S	13 37 54.4	+1.2
	baz=323						
AJN	Ajban	78.16	294	P	P	13 28 03.7	-0.5
AJN	Ajban	78.16	294	P	P	13 28 04.2	-0.1
O54A	Avella	78.16	40	IAMs_20	IAMs_20	14 05 15.4	
	comp=Z,2µm,21.0s						
KLYT	Kilyos	78.16	322	eP	P	13 28 03.5	-0.5
SERE	Sereflikochisa	78.16	317	eP	P	13 28 04.6	+0.4
FRGS	Fruska Gora	78.19	330	⇓P	P	13 28 04.4	+0.2
FRGS	Fruska Gora	78.19	330	⇑iP	P	13 28 03.5	-0.6
BINY	Binghamton	78.24	36	IAMs_20	IAMs_20	14 04 51.5	
	comp=Z,2µm,22.0s						
BINY	Binghamton	78.24	36	P	P	13 28 03.4	-1.1
	baz=328,SNR=5.9						
GULT	Gulveren	78.24	320	eP	P	13 28 04.7	+0.1
HRT	Hereke	78.27	321	eP	P	13 28 04.5	-0.2
BEO	Beograd	78.27	329	P	P	13 28 03.5	-1.0
CTYL	Yalikoy Yolu	78.28	322	eP	P	13 28 04.3	-0.3
P53A	Whipple	78.30	41	IAMs_20	IAMs_20	14 06 51.2	
	comp=Z,2µm,19.0s						
ISK	Istanbul-Kandi	78.31	322	eP	P	13 28 04.3	-0.5
KAVV	Kandilli-Istan	78.31	322	eP	P	13 28 05.8	+1.0
SOKA	Soboth	78.31	333	iP	P	13 28 04.8	0.0
	comp=Z,144nm,1.0s,SNR=57						
HNH	Hanover	78.32	33	IAMs_20	IAMs_20	14 05 58.8	
	comp=Z,2µm,20.0s						
KULU	Kulu	78.33	318	eP	P	13 28 05.6	+0.5
Q52A	Bidwell	78.36	42	IAMs_20	IAMs_20	14 07 31.6	
	comp=Z,2µm,20.0s						
KALN	Kalnik	78.38	332	iP	P	13 28 05.0	-0.2
CTKS	Kestanelik-??a	78.39	322	eP	P	13 28 04.8	-0.4
KBA	Koelnbreinsper	78.44	335	iP	P	13 28 06.2	+0.6
	comp=Z,229nm,0.8s,SNR=119						
KBA	Koelnbreinsper	78.44	335	P	P	13 28 06.3	+0.6
KBA				pmax	pmax		
	comp=Z,288nm,0.9s						
PHSR	Pinarhisar	78.45	323	eP	P	13 28 05.8	+0.2
WVL	Waterville	78.48	31	IAMs_20	IAMs_20	14 06 25.1	
	comp=Z,2µm,20.0s						
I62A	Tamworth	78.51	33	IAMs_20	IAMs_20	14 07 30.8	
	comp=Z,2µm,20.0s						
I62A	Tamworth	78.51	33	P	P	13 28 05.5	-0.4
	baz=331						
SLVT	Silivri	78.52	322	eP	P	13 28 05.9	-0.1
HTL	Hartland	78.52	347	eP	P	13 28 05.6	-0.2
M57A	Sunshine Farm,	78.52	38	IAMs_20	IAMs_20	14 03 58.0	
	comp=Z,2µm,22.0s						
SRCK	Saricakaya, Es	78.52	320	eP	P	13 28 05.7	-0.3
J61A	Chester	78.54	34	P	P	13 28 05.1	-0.9
	baz=330,SNR=6.0						
UMR	Umm Al-Rimmam	78.56	302	eP	P	13 28 05.8	-0.5
H64A	Troy	78.56	31	P	P	13 28 05.9	-0.3
	baz=332,SNR=7.8						
ADVT	Abdulvahap	78.56	321	eP	P	13 28 06.1	-0.1
EDRB	Edirne	78.57	323	eP	P	13 28 05.9	-0.3
MIB	Mutribah	78.57	303	eP	P	13 28 05.4	-1.1
735A	Kenedy	78.57	59	IAMs_20	IAMs_20	14 01 18.5	
	comp=Z,2µm,20.0s						
CMRD	Camardi-Nigde	78.58	316	eP	P	13 28 07.2	+0.7
BFO	Black Forest	78.59	338	P	P	13 28 06.2	-0.1
BFO				pmax	pmax		
	comp=Z,62nm,1.0s						
BFO				MLR	MLR		
	comp=Z,3µm,21.0s						
BFO	Black Forest	78.59	338	P	P	13 28 06.2	-0.1
BFO				IAmb	IAmb	13 28 07.6	
	comp=Z,62nm,1.0s						
BFO	Black Forest	78.59	338	eP	P	13 28 05.9	-0.4
	comp=Z,85nm,1.1s,baz=24,slow=5.8						
YLV	Yalova	78.60	321	eP	P	13 28 06.0	-0.6
OXF	Oxford	78.61	50	IAMs_20	IAMs_20	14 02 02.3	
	comp=Z,2µm,21.0s						
OXF	Oxford	78.61	50	P	P	13 28 05.4	-1.2
	baz=323,SNR=16						
OXF				S	S	13 37 59.4	+0.6
	baz=323						
G65A	Princeton	78.61	29	IAMs_20	IAMs_20	14 04 39.5	
	comp=Z,1µm,21.0s						
G65A	Princeton	78.61	29	P	P	13 28 05.8	-0.6
	baz=333,SNR=7.8						
L59A	Walton	78.61	36	IAMs_20	IAMs_20	14 05 53.4	
	comp=Z,2µm,22.0s						
I63A	Otisfield	78.62	32	IAMs_20	IAMs_20	14 05 06.7	
	comp=Z,1µm,20.0s						
I63A	Otisfield	78.62	32	P	P	13 28 06.3	-0.2
	baz=331,SNR=9.5						
I63A				S	S	13 37 58.6	0.0
	baz=331						
AUSIV	SIVRIHISAR	78.64	319	eP	P	13 28 06.2	-0.6
SVRH	Sivrihisar-ESK	78.64	319	eP	P	13 28 05.8	-1.0
TRML	Termal-Yalova	78.65	321	eP	P	13 28 06.6	-0.1
TRY	Troy	78.66	35	IAMs_20	IAMs_20	14 08 08.8	
	comp=Z,1µm,20.0s						
WATA	Walderalm	78.68	336	iP	P	13 28 07.3	+0.3
	comp=Z,268nm,1.3s,SNR=87						
BORA	Eskisehir	78.73	320	eP	P	13 28 06.9	-0.4
WTTA	Wattenberg	78.73	336	iP	P	13 28 07.8	+0.5
	comp=Z,289nm,1.3s,SNR=74						
WTTA	Wattenberg	78.73	336	P	P	13 28 07.8	+0.5
WTTA				pmax	pmax		
	comp=Z,201nm,1.6s						
PTJ	Puntijarka	78.73	332	P	P	13 28 06.8	-0.4
UBR	Ueberruh	78.75	337	eP	P	13 28 07.2	0.0
	comp=Z,175nm,1.6s,baz=24,slow=5.8						
FFD	Franklin Falls	78.75	33	IAMs_20	IAMs_20	14 06 13.2	
	comp=Z,2µm,20.0s						
RETA	Reutte	78.76	336	iP	P	13 28 07.3	0.0
	comp=Z,53nm,1.0s,SNR=22						
U49A	Red Boiling Sp	78.76	46	IAMs_20	IAMs_20	14 03 34.2	
	comp=Z,2µm,21.0s						
CEYT	Ceyhan	78.76	315	eP	P	13 28 08.5	+1.1
MYKA	Terra Mystica	78.76	334	iP	P	13 28 07.1	-0.3
	comp=Z,98nm,1.1s,SNR=25						
GEMT	Gemlik	78.79	321	eP	P	13 28 07.2	-0.3
ZAG	Zagreb	78.80	332	P	P	13 28 07.5	+0.1
MOTA	Moosalm	78.80	336	iP	P	13 28 07.7	0.0
	comp=Z,244nm,1.2s,SNR=81						
SULT	Sultanhani-AKS	78.80	317	eP	P	13 28 07.9	+0.2
SSPA	Standing Stone	78.81	38	IAMs_20	IAMs_20	14 01 32.6	
	comp=Z,1µm,22.0s						
SSPA	Standing Stone	78.81	38	P	P	13 28 06.7	-0.9
	baz=328						
SSPA				S	S	13 37 58.6	-2.2
	baz=328						
ARMT	Armutlu	78.81	321	eP	P	13 28 07.1	-0.5
TEKS	Tekeris	78.82	330	⇑iP	P	13 28 06.0	-1.6
MCWV	Mont Chateau	78.82	40	IAMs_20	IAMs_20	14 05 55.9	
	comp=Z,2µm,19.0s						
MCWV	Mont Chateau	78.82	40	P	P	13 28 07.2	-0.5
	baz=327,SNR=6.0						
MCWV				S	S	13 38 01.0	0.0
	baz=327						
CLTN	Cedars of Leba	78.84	47	IAmb	IAmb	13 28 08.8	
	comp=Z,86nm,1.3s						
CLTN				IAMs_20	IAMs_20	14 07 55.4	
	comp=Z,1µm,20.0s						
O56A	Blue Knob Stat	78.84	39	IAMs_20	IAMs_20	14 04 15.5	
	comp=Z,1µm,20.0s						
O56A	Blue Knob Stat	78.84	39	P	P	13 28 06.5	-1.4
	baz=327,SNR=8.7						
KBD	Kabd	78.86	302	eP	P	13 28 06.7	-1.3
K61A	Williamstown	78.86	34	P	P	13 28 06.5	-1.4
	baz=330,SNR=6.0						
KSPA	Keystone Colle	78.87	37	IAMs_20	IAMs_20	14 05 11.3	
	comp=Z,2µm,21.0s						
AUBOZ	BOZOYUK	78.88	320	eP	P	13 28 08.1	0.0
LMN	Caledonia Moun	78.88	27	IAMs_20	IAMs_20	14 09 19.7	
	comp=Z,2µm,19.0s						
BOVS	Bovan	78.88	328	⇓P	P	13 28 07.1	-0.8
SQTA	Sankt Quirin	78.89	336	iP	P	13 28 08.4	+0.3
	comp=Z,254nm,1.4s,SNR=64						
V48A	Smith Brothers	78.89	47	IAMs_20	IAMs_20	14 06 15.7	
	comp=Z,2µm,20.0s						
PLAL	Pickwick Lake	78.89	48	IAMs_20	IAMs_20	14 03 15.7	
	comp=Z,2µm,22.0s						
CIFT	Cifteler, Eski	78.91	319	eP	P	13 28 07.6	-0.7
J62A	Henniker	78.91	33	P	P	13 28 07.5	-0.6
	baz=331						
KIZT	Kizilcal	78.96	318	eP	P	13 28 08.4	-0.2
CRES	Cresnjev	78.96	333	⇑iP	P	13 28 07.8	-0.6
Q54A	Coxs Mills	78.96	41	IAMs_20	IAMs_20	14 07 10.6	
	comp=Z,2µm,19.0s						
ABTA	Abfaltersbach	78.97	335	iP	P	13 28 08.2	-0.3
	comp=Z,129nm,1.4s,SNR=52						
MDNY	Mudanya-Bursa	78.97	321	eP	P	13 28 08.5	0.0
DYA	Yadsworthy	78.98	347	eP	P	13 28 08.1	-0.3
DYA				IAmb	IAmb	13 28 09.2	
	comp=Z,266nm,1.2s						
RST	Umm Al-Ruwaisa	78.99	303	eP	P	13 28 07.4	-1.4
R53A	Hurricane	79.02	42	IAMs_20	IAMs_20	14 08 03.0	
	comp=Z,2µm,20.0s						
ZOU	Zoufplan	79.02	335	IAmb	IAmb	13 28 09.9	
	comp=Z,190nm,1.7s						
MHTO	MHTO	79.02	289	P	P	13 28 09.5	+0.5
	SNR=26						
143A	Socs Landing,	79.03	52	IAMs_20	IAMs_20	14 04 42.4	
	comp=Z,2µm,20.0s						
LJU	Ljubljana	79.04	333	⇑iP	P	13 28 07.9	-0.8
LJU	Ljubljana	79.04	333	iP	P	13 28 08.0	-0.8
LJU				epP	sP	13 28 35.2	+4.2
YESY	Yesilyurt	79.04	317	eP	P	13 28 09.4	+0.3
Y45A	Yeager Farm, C	79.06	50	IAMs_20	IAMs_20	14 06 07.1	
	comp=Z,1µm,20.0s						
I64A	Boothbay	79.06	31	P	P	13 28 08.5	-0.4
	baz=332						
I64A				S	S	13 38 02.9	-0.4
	baz=332						
DIVS	Divibare	79.06	329	⇑iP	P	13 28 08.3	-0.7
DIVS	Divibare	79.06	329	IAmb	IAmb	13 28 13.4	
	comp=Z,113nm,1.0s						
QRN	Al-Qurain	79.06	301	eP	P	13 28 08.5	-0.7
TAHT	Tahtakopru-Hat	79.07	314	eP	P	13 28 10.0	+0.9
SLE	Schleitheim	79.08	338	P	P	13 28 08.5	-0.5
SLE				pmax	pmax		
	comp=Z,49nm,1.2s						
EMMW	East Machias	79.08	30	IAMs_20	IAMs_20	14 06 42.0	
	comp=Z,1µm,20.0s						
J63A	Strafford	79.12	33	P	P	13 28 08.8	-0.4
	baz=331						
PLD	Plovdiv	79.13	325	eP	P	13 28 08.6	-0.7
RDF	Al-Radifah	79.13	302	eP	P	13 28 08.9	-0.6
OZLJ	Ozalj	79.15	333	iP	P	13 28 08.9	-0.4
DAVA	Damuels	79.17	337	iP	P	13 28 09.6	-0.1
	comp=Z,106nm,1.2s,SNR=30						
FETA	Feichten	79.20	336	iP	P	13 28 10.2	+0.3
	comp=Z,129nm,1.3s,SNR=75						
VTS	Vitosha	79.22	326	⇓P	P	13 28 10.4	+0.4
K62A	Royalston	79.25	34	IAMs_20	IAMs_20	14 08 35.2	
	comp=Z,2µm,19.0s						
K62A	Royalston	79.25	34	P	P	13 28 09.4	-0.6
	baz=330						
MRAK	Mrakovica	79.25	331	⇑iP	P	13 28 09.2	-0.8
MAR4	Marsite Statio	79.25	323	eP	P	13 28 09.9	-0.2
L61B	Northampton	79.27	34	P	P	13 28 09.0	-1.0
	baz=330						
KCTX	Karacabey (Bur	79.27	322	eP	P	13 28 10.2	0.0
GZKV	Gazikoy-Tekird	79.28	323	eP	P	13 28 10.2	+0.1
KRTS	Karatas	79.29	315	eP	P	13 28 11.5	+1.2
MRMT	Marmara Adasi	79.29	322	eP	P	13 28 09.9	-0.4
LADK	Ladik-KONYA	79.31	318	eP	P	13 28 10.2	-0.3
BOJS	Bojanci	79.31	333	⇑iP	P	13 28 09.9	-0.4
CEY	Cerknica	79.34	333	⇑iP	P	13 28 09.7	-0.8
YAYL	Yayladag	79.39	314	eP	P	13 28 11.4	+0.4
RKY	Sarkoy-Tekirda	79.39	323	eP	P	13 28 10.6	-0.2
BLY	Banja Luka	79.40	331	⇑iP	P	13 28 09.9	-0.8
EDC	Edincik	79.40	322	eP	P	13 28 10.9	+0.1
N59A	State Game Lan	79.42	37	IAMs_20	IAMs_20	14 05 18.7	
	comp=Z,2µm,22.0s						
N59A	State Game Lan	79.42	37	P	P	13 28 09.9	-1.1
	baz=329,SNR=5.9						
MERS	Mersin	79.44	316	eP	P	13 28 11.3	+0.1
UMZA	Um Al Zommool	79.44	292	P	P	13 28 11.3	0.0
BBLS	Lazići	79.47	329	⇑iP	P	13 28 10.9	-0.3
K63A	Dunstable	79.48	33	IAMs_20	IAMs_20	14 04 27.4	
	comp=Z,2µm,22.0s						
K63A	Dunstable	79.48	33	P	P	13 28 10.9	-0.3
	baz=331						
TVSB	Tavsanli	79.51	320	eP	P	13 28 11.2	-0.4
KONT	Konya--Tatoy	79.52	318	eP	P	13 28 11.6	0.0
ARMA	Armidale	79.53	183	IAMs_20	IAMs_20	13 59 35.3	
	comp=Z,2µm,20.0s						
KVTX	Kingsville	79.53	60	IAMs_20	IAMs_20	14 00 00.8	
	comp=Z,2µm,21.0s						
QUA2	Belchertown	79.54	34	IAMs_20	IAMs_20	14 06 33.0	
	comp=Z,1µm,20.0s						
SHMA	Al-Shehemyia	79.55	297	P	P	13 28 11.8	-0.1
342A	Flagon Creek P	79.60	54	IAMs_20	IAMs_20	14 02 05.5	
	comp=Z,2µm,21.0s						
KSCT	Kent School, K	79.60	35	IAMs_20	IAMs_20	14 04 50.5	
	comp=Z,2µm,21.0s						
Q56A	Snyder Ridge,	79.62	40	IAMs_20	IAMs_20	14 04 33.9	
	comp=Z,2µm,21.0s						
HRV	Adam Dziewonsk	79.63	33	IAMs_20	IAMs_20	14 04 31.3	
	comp=Z,2µm,22.0s						
HRV	Adam Dziewonsk	79.63	33	P	P	13 28 11.5	-0.5
	baz=331						
RDO	Rodhopi	79.64	324	eP	P	13 28 11.9	-0.2
SKDS	Skadanscina	79.64	334	⇑iP	P	13 28 11.0	-1.1
ERIK	Erikli-Kesan	79.66	323	eP	P	13 28 12.1	-0.1
RUDO	Rudo	79.70	329	⇑iP	P	13 28 12.0	-0.4
MGRS	Mrkonjic Grad	79.73	331	⇑iP	P	13 28 12.4	-0.2
ODNJ	Ogdensburg	79.73	36	IAMs_20	IAMs_20	14 08 16.9	
	comp=Z,2µm,20.0s						
P57A	Homestead Farm	79.73	39	IAMs_20	IAMs_20	14 04 43.0	
	comp=Z,1µm,20.0s						
S54A	Dingess, Beckl	79.74	42	IAMs_20	IAMs_20	14 08 34.1	
	comp=Z,2µm,20.0s						
SWET	Sewanee	79.74	47	IAMs_20	IAMs_20	14 07 10.2	
	comp=Z,1µm,19.0s						
ENEZ	Enez	79.75	323	P	P	13 28 12.6	-0.1
ENEZ	Enez	79.75	323	eP	P	13 28 12.7	0.0
TZTN	Tazewell	79.77	45	P	P	13 28 11.2	-1.7
TZTN	Tazewell	79.77	45	P	P	13 28 12.0	-1.0
	baz=325,SNR=8.6						
TZTN				S	S	13 38 11.5	+0.4
	baz=325						
SHUT	Suhut-Afyon	79.80	319	eP	P	13 28 13.6	+0.4
WES	Weston	79.82	33	IAMs_20	IAMs_20	14 06 52.4	
	comp=Z,2µm,20.0s						
TRNY	Table Rock, Ra	79.82	36	IAMs_20	IAMs_20	14 08 45.4	
	comp=Z,1µm,19.0s						
LPK	Lapseki	79.82	323	eP	P	13 28 13.2	+0.1
LUPA	Lehigh Univers	79.85	37	IAMs_20	IAMs_20	14 07 22.1	
	comp=Z,2µm,20.0s						
CTI	Castel Tesino	79.85	335	IAmb	IAmb	13 28 14.0	
	comp=Z,99nm,1.0s						
JLP	Les Platons	79.85	345	eP	P	13 28 12.9	-0.2
R55A	Marlinton	79.85	41	IAmb	IAmb	13 28 14.5	
	comp=Z,128nm,1.4s						
R55A				IAMs_20	IAMs_20	14 04 31.2	
	comp=Z,2µm,22.0s						
GHWR	Ruwais	79.86	295	P	P	13 28 13.1	-0.5
VBMS	Vicksburg	79.87	52	IAMs_20	IAMs_20	14 06 45.7	
	comp=Z,2µm,20.0s						
VBMS	Vicksburg	79.87	52	P	P	13 28 13.3	-0.2
	baz=323						
GEDZ	Gediz	79.87	320	eP	P	13 28 13.6	+0.1
JQE	Queens East	79.88	345	eP	P	13 28 13.1	-0.1
GELI	Tayfur-Gelibol	79.91	323	eP	P	13 28 13.4	-0.2
JSA	Saint Aubin	79.92	345	eP	P	13 28 13.1	-0.3
JSA				IAmb	IAmb	13 28 14.6	
	comp=Z,244nm,1.1s						
BCX	Boston College	79.92	33	IAMs_20	IAMs_20	14 06 25.0	
	comp=Z,2µm,22.0s						
KIZK	Mersin	79.93	316	eP	P	13 28 13.4	-0.4
BALB	Balikesir	80.00	322	eP	P	13 28 14.0	-0.1
BALB	Balikesir	80.00	322	P	P	13 28 13.6	-0.4
BALB				IAMs_20	IAMs_20	14 07 38.3	
	comp=Z,1µm,20.0s						
V51A	Loudon	80.00	45	IAMs_20	IAMs_20	14 04 34.2	
	comp=Z,2µm,21.0s						
UCCT	U. Connecticut	80.01	34	IAMs_20	IAMs_20	14 06 37.3	
	comp=Z,1µm,20.0s						
SIMA	Simav-Kutahya	80.02	321	eP	P	13 28 13.9	-0.4
UDBI	Udbina	80.04	332	iP	P	13 28 13.8	-0.6
W50A	Signal Mountai	80.05	46	IAMs_20	IAMs_20	14 08 42.3	
	comp=Z,1µm,19.0s						
PAL	Palisades	80.06	36	IAMs_20	IAMs_20	14 08 50.8	
	comp=Z,1µm,20.0s						
PAL	Palisades	80.06	36	P	P	13 28 13.2	-1.2
	baz=330						
NVR	Nevrokopi	80.10	325	P	P	13 28 14.0	-0.6
SILI	Silifke-Mersin	80.12	316	eP	P	13 28 14.6	-0.2
WSPT	Westport, CT	80.14	35	IAMs_20	IAMs_20	14 05 16.8	
	comp=Z,2µm,22.0s						
BRYW	Bryant College	80.15	34	IAMs_20	IAMs_20	14 06 54.1	
	comp=Z,1µm,20.0s						
KEBE	Keben-Mersin	80.16	316	eP	P	13 28 14.8	-0.3
KAVA	Kavala	80.16	325	P	P	13 28 14.9	0.0
L63A	North Scituate	80.17	34	IAMs_20	IAMs_20	14 09 21.7	
	comp=Z,1µm,19.0s						
L63A	North Scituate	80.17	34	P	P	13 28 14.1	-0.9
	baz=331						
SEYD	Seydisehir-KON	80.20	318	eP	P	13 28 15.5	+0.1
CPCT	Cooper Cave	80.22	46	IAMs_20	IAMs_20	14 04 28.8	
	comp=Z,2µm,22.0s						
SMTH	Samothraki Isl	80.22	324	P	P	13 28 14.4	-0.9
UPM	Unac-Piva	80.22	329	⇑iP	P	13 28 16.5	+1.0
TRNA	Turayna	80.25	297	P	P	13 28 14.9	-0.8
NVLJ	Novalja	80.28	333	iP	P	13 28 14.6	-0.8
146A	Union	80.28	51	IAMs_20	IAMs_20	14 08 59.5	
	comp=Z,1µm,20.0s						
N62A	Caumsett State	80.29	35	IAMs_20	IAMs_20	14 09 12.9	
	comp=Z,1µm,20.0s						
BRJN	Brijuni	80.30	333	iP	P	13 28 14.2	-1.3
KIJV	Kijevo	80.31	331	iP	P	13 28 15.2	-0.5
GADA	Gvkgeada	80.32	323	eP	P	13 28 15.1	-0.7
V52A	Sevierville	80.32	45	IAMs_20	IAMs_20	14 03 19.7	
	comp=Z,2µm,22.0s						
Z47A	Carrollton	80.32	50	IAMs_20	IAMs_20	14 07 01.7	
	comp=Z,1µm,19.0s						
IKL	Isikli	80.34	316	eP	P	13 28 15.6	-0.4
344A	Westbrook Farm	80.37	52	IAMs_20	IAMs_20	14 08 33.8	
	comp=Z,2µm,19.0s						
L64A	Middleborough	80.38	33	IAMs_20	IAMs_20	14 07 19.4	
	comp=Z,2µm,19.0s						
L64A	Middleborough	80.38	33	P	P	13 28 15.5	-0.6
	baz=331						
SRS	Serrai	80.40	325	P	P	13 28 15.8	-0.4
M63A	Gales Ferry	80.41	34	IAMs_20	IAMs_20	14 09 21.1	
	comp=Z,1µm,20.0s						
STIP	Stip	80.41	326	iP	P	13 28 15.1	-1.1
THAS	Thassos island	80.42	324	P	P	13 28 15.7	-0.6
P60A	Greenville	80.42	37	IAMs_20	IAMs_20	14 06 02.2	
	comp=Z,2µm,21.0s						
P60A	Greenville	80.42	37	P	P	13 28 14.9	-1.4
	baz=329						
ISP	Isparta	80.42	319	eP	P	13 28 15.9	-0.7
ISP	Isparta	80.42	319	P	P	13 28 16.6	0.0
ISP				pmax	pmax		
	comp=Z,99nm,1.1s						
ISP	Isparta	80.42	319	IAmb	IAmb	13 28 18.0	
	comp=Z,65nm,0.6s						
SKO	Skopje	80.44	327	iP	P	13 28 16.4	0.0
FPAL	Fort Paine	80.44	47	P	P	13 28 14.9	-1.7
FPAL				IAmb	IAmb	13 28 17.2	
	comp=Z,89nm,1.3s						
FPAL				IAMs_20	IAMs_20	14 07 22.8	
	comp=Z,1µm,19.0s						
EZN	Ezine	80.46	323	P	P	13 28 16.3	-0.2
AKKU	Akkuyu-Mersin	80.47	316	eP	P	13 28 16.2	-0.4
SLWR	Sila	80.48	296	P	P	13 28 16.8	-0.1
RICI	Ricice	80.54	331	iP	P	13 28 15.8	-1.2
BOZC	Bozcaada	80.56	323	eP	P	13 28 16.2	-0.9
U54A	Nelsons Funny	80.57	43	IAMs_20	IAMs_20	14 03 10.2	
	comp=Z,2µm,22.0s						
M64A	Tiverton	80.59	34	IAMs_20	IAMs_20	14 07 15.8	
	comp=Z,2µm,20.0s						
M64A	Tiverton	80.59	34	P	P	13 28 16.3	-0.9
	baz=331						
VAY	Valandovo	80.60	326	iP	P	13 28 17.3	+0.1
BRY	Bratogost	80.61	329	⇑iP	P	13 28 16.0	-1.5
BLA	Blacksburg	80.62	42	IAMs_20	IAMs_20	14 04 09.5	
	comp=Z,2µm,21.0s						
BLA	Blacksburg	80.62	42	P	P	13 28 16.6	-0.9
	baz=327,SNR=7.3						
LHI	Lord Howe Isla	80.62	177	IAMs_20	IAMs_20	13 57 40.8	
	comp=Z,2µm,22.0s						
TAOE	Nuku Hiva Isla	80.63	115	eLR	LR	13 53 34.2	
	comp=Z,10µm,23.8s,baz=330						
KULA	Kula-Manisa	80.63	320	P	P	13 28 17.2	-0.4
KULA	Kula-Manisa	80.63	320	eP	P	13 28 17.4	-0.2
MORI	Morici	80.66	332	iP	P	13 28 16.6	-0.9
SENIN	Lac Senin/Sane	80.68	338	P	P	13 28 18.4	+0.5
SENIN				IAmb	IAmb	13 28 19.6	
	comp=Z,134nm,1.4s						
TEKE	Tekeli-Mersin	80.68	316	eP	P	13 28 17.1	-0.7
EREN	Erenkoy	80.70	315	eP	P	13 28 17.9	0.0
DUGI	Dugi Otok	80.74	332	iP	P	13 28 17.1	-0.9
SOH	Sokhos	80.74	325	P	P	13 28 17.1	-1.0
MAKA	Makarska	80.76	331	iP	P	13 28 16.7	-1.3
X51A	Calhoun	80.78	47	IAMs_20	IAMs_20	14 09 23.7	
	comp=Z,1µm,20.0s						
M65A	Busby, Falmout	80.78	33	IAMs_20	IAMs_20	14 07 30.9	
	comp=Z,2µm,19.0s						
M65A	Busby, Falmout	80.78	33	P	P	13 28 17.2	-1.0
	baz=332						
PDG	Podgorica	80.79	329	⇓P	P	13 28 18.0	-0.3
PDG	Podgorica	80.79	329	P	P	13 28 17.9	-0.4
S57A	Dark Hollow, R	80.79	41	IAMs_20	IAMs_20	14 05 11.0	
	comp=Z,2µm,21.0s						
V53A	Saluda	80.83	45	IAMs_20	IAMs_20	14 03 35.0	
	comp=Z,2µm,22.0s						
LIA	Limnos Island	80.85	323	P	P	13 28 18.0	-0.6
ZIRJ	Zirje	80.87	332	iP	P	13 28 17.9	-0.8
P61A	Hammonton	80.87	37	IAMs_20	IAMs_20	14 07 51.1	
	comp=Z,2µm,21.0s						
STON	Ston	80.92	330	⇑iP	P	13 28 16.7	-2.2
STON	Ston	80.92	330	iP	P	13 28 17.2	-1.7
OUR	Ouranopolis	80.93	325	P	P	13 28 18.5	-0.5
OUR	Ouranopolis	80.93	325	eP	P	13 28 18.5	-0.5
GAZI	Gazipasa	80.96	317	eP	P	13 28 18.0	-1.3
GRG	Griva	80.98	326	P	P	13 28 18.7	-0.7
PRK	Paraskevi	80.98	322	P	P	13 28 19.9	+0.6
LRAL	Lakeview Retre	80.99	49	P	P	13 28 18.1	-1.4
	baz=324,SNR=11						
DRME	Dracevica, Mon	81.03	329	⇑iP	P	13 28 18.8	-0.8
HCY	Herceg Novi	81.03	329	⇑iP	P	13 28 18.1	-1.5
HORT	Hortiatis	81.03	325	P	P	13 28 18.7	-1.0
HORT	Hortiatis	81.03	325	eP	P	13 28 18.6	-1.1
THE	Thessaloniki	81.05	325	P	P	13 28 18.7	-1.0
THE				pmax	pmax		
	comp=Z,36nm,1.5s						
346A	Big Creek Wild	81.07	52	IAMs_20	IAMs_20	14 07 20.5	
	comp=Z,2µm,20.0s						
R58B	Mineral	81.07	40	IAMs_20	IAMs_20	14 07 32.5	
	comp=Z,1µm,19.0s						
CBN	Corbin Frederi	81.08	39	P	P	13 28 18.8	-1.1
	baz=328						
PLG	Polygyros	81.10	325	P	P	13 28 19.3	-0.7
SIGR	SIGRI	81.17	323	P	P	13 28 19.8	-0.6
SIGR	SIGRI	81.17	323	eP	P	13 28 19.6	-0.8
KORT	Korkueli	81.19	318	eP	P	13 28 19.9	-0.8
LFK	Lefkose	81.20	315	eP	P	13 28 20.5	-0.2
PMOR	Pomariorio Ree	81.26	125	eP	P	13 28 24.0	+3.1
	comp=Z,171nm,1.2s						
PMOR	Pomariorio Ree	81.26	125	eT	T	14 57 08.0	
	comp=Z,13nm,0.2s						
T57A	Hurt	81.30	41	P	P	13 28 19.1	-2.0
T57A				IAmb	IAmb	13 28 22.0	
	comp=Z,103nm,1.6s						
T57A				IAMs_20	IAMs_20	14 05 27.6	
	comp=Z,2µm,22.0s						
QUIF	Quistinic	81.31	346	eP	P	13 28 20.2	-0.7
QUIF				pmax	pmax		
	comp=Z,111nm,1.1s						
BHL	Bhannes	81.34	313	eP	P	13 28 21.4	0.0
U56A	King	81.36	42	IAMs_20	IAMs_20	14 07 55.0	
	comp=Z,2µm,20.0s						
PAIG	Paliouri	81.40	325	P	P	13 28 20.7	-0.8
PAIG	Paliouri	81.40	325	P	P	13 28 20.8	-0.8
PAIG				pmax	pmax		
	comp=Z,142nm,1.2s						
BLCB	Balcova	81.41	321	P	P	13 28 20.8	-0.8
OHR	Ohrid	81.42	327	iP	P	13 28 20.9	-0.8
AYDB	Zeytinkoy-Aydi	81.43	321	eP	P	13 28 21.6	-0.3
DQRL	Deir Qamar	81.54	313	eP	P	13 28 23.1	+0.6
TIR	Tirane	81.54	328	⇓P	P	13 28 22.0	-0.3
TIR	Tirane	81.54	328	P	P	13 28 21.9	-0.3
TIR	Tirane	81.54	328	P	P	13 28 21.5	-0.8
TIR				MLR	MLR		
	comp=Z,5µm,22.0s						
TIR	Tirane	81.54	328	P	P	13 28 21.4	-0.8

CSS Mathiatis 81.56 315 *e*P P 13 28 22.5 0.0
RCY Rachaya 81.58 313 *e*P P 13 28 23.0 +0.1
ELL Elmali 81.59 319 *e*P P 13 28 22.5 -0.3
VAH Vaihoa 81.60 125 *e*P P 13 28 25.2 +2.5
comp=Z,113nm,1.3s
ZCCA Zocca 81.60 335 P P 13 28 24.4 +1.8
LPL La Plagne 81.61 338 *e*P P 13 28 22.4 -0.5
LPL pmax pmax
comp=Z,105nm,0.6s
URLA Izmir 81.61 322 *e*P P 13 28 22.1 -0.6
LPG La Plagne 81.62 338 *e*P P 13 28 23.1 +0.1
LPG pmax pmax
comp=Z,153nm,0.7s
LEF Lefka 81.63 316 ⇑P P 13 28 22.2 -0.6
LEF Lefka 81.63 316 *e*P P 13 28 22.4 -0.4
LIT Litokhoron 81.69 325 P P 13 28 21.6 -1.6
Y52A Lilburn 81.73 46 IAMs_20 IAMs_20 14 08 30.9
comp=Z,1µm,19.0s
CHOS Chios island 81.80 322 P P 13 28 23.3 -0.5
CHOS Chios island 81.80 322 *e*P P 13 28 23.3 -0.5
STKA Stephens Creek 81.85 192 P P 13 28 23.6 -0.1
comp=Z,19nm,1.0s,baz=343,slow=7.4,SNR=19
STKA LR LR 14 03 17.9
comp=Z,2µm,21.4s,baz=14,slow=34
STKA Stephens Creek 81.85 192 P P 13 28 24.1 +0.4
STKA pmax pmax
comp=Z,23nm,1.5s
STKA Stephens Creek 81.85 192 P P 13 28 24.1 +0.4
KBN Korca 81.86 327 P P 13 28 23.4 -0.7
GCAM G?zelcaml? 81.91 321 *e*P P 13 28 23.9 -0.4
KMSC Kings Mountain 81.94 44 P P 13 28 23.4 -1.1
baz=326,SNR=7.7
NEST Nestorio 81.95 327 P P 13 28 23.9 -0.7
YER Yerkesik 81.96 320 P P 13 28 24.8 +0.2
YER Yerkesik 81.96 320 *e*P P 13 28 24.9 +0.3
SKY Skiros Island 81.97 323 P P 13 28 23.8 -0.8
PAULI Pauline 81.98 44 IAMs_20 IAMs_20 14 04 12.6
comp=Z,2µm,22.0s
MLSB Milas 82.03 320 *e*P P 13 28 25.1 +0.1
FETY Fethiye 82.04 319 P P 13 28 24.3 -0.7
FETY Fethiye 82.04 319 *e*P P 13 28 24.6 -0.4
T59A Double "B" Far 82.05 40 IAMs_20 IAMs_20 14 07 55.4
comp=Z,2µm,20.0s
BNI Bardonecchia 82.06 338 P P 13 28 26.0 +0.9
BNI pmax pmax
comp=Z,110nm,1.5s
DALY Dalyan (Mula) 82.07 320 *e*P P 13 28 25.1 0.0
XOR Xorichti 82.07 325 P P 13 28 23.8 -1.4
PENT Pentalofos 82.11 326 P P 13 28 24.6 -0.8
NEO Neokhori 82.11 325 P P 13 28 24.0 -1.4
AKAS Kas 82.16 319 *e*P P 13 28 24.9 -0.9
AKAS Kas 82.16 319 IAmb IAmb 13 28 26.4
comp=Z,107nm,1.4s
AKAS IAMs_20 IAMs_20 14 11 50.8
comp=Z,1µm,20.0s
MURB Monte Urbino 82.16 334 IAMs_20 IAMs_20 14 10 45.3
comp=Z,2µm,18.0s
250A Grady 82.20 49 IAMs_20 IAMs_20 14 04 57.4
comp=Z,2µm,22.0s
KPRO Kipourio 82.24 326 P P 13 28 24.8 -1.3
T60A Surry 82.25 40 IAMs_20 IAMs_20 14 09 09.7
comp=Z,1µm,21.0s
TURN Turunc 82.28 320 *e*P P 13 28 26.4 +0.2
LSK Leskovik 82.34 327 P P 13 28 26.4 -0.2
SSB Saint Sauveur 82.34 340 P P 13 28 27.0 +0.5
SSB pmax pmax
comp=Z,81nm,0.8s
SSB Saint Sauveur 82.34 340 P P 13 28 27.0 +0.5
SSB IAmb IAmb 13 28 28.4
comp=Z,81nm,0.8s
KYMI Kymi, Euboea I 82.36 324 P P 13 28 25.6 -1.0
V58A Windy Hill, Pi 82.38 42 IAMs_20 IAMs_20 14 05 37.0
comp=Z,2µm,22.0s
NRCA Norcia 82.38 333 P P 13 28 27.4 +0.6
GOGA Godfrey 82.38 46 P P 13 28 26.0 -0.8
GOGA Godfrey 82.38 46 IAMs_20 IAMs_20 14 10 05.2
comp=Z,1µm,19.0s
GOGA Godfrey 82.38 46 P P 13 28 25.8 -1.0
baz=326,SNR=8.1
BODT Bodrum 82.42 321 P P 13 28 26.0 -1.0
BODT Bodrum 82.42 321 *e*P P 13 28 26.3 -0.7
BRAL Brewton 82.47 50 IAMs_20 IAMs_20 14 08 22.5
comp=Z,1µm,20.0s
BRAL Brewton 82.47 50 P P 13 28 27.4 +0.1
baz=324
U59A Littleton 82.47 41 IAMs_20 IAMs_20 14 06 21.6
comp=Z,2µm,21.0s
PPT Papeete 82.51 128 LR LR 14 01 22.0
comp=Z,560nm,18.1s,baz=324,slow=33
W57A Gilead 82.53 43 IAMs_20 IAMs_20 14 05 06.0
comp=Z,2µm,22.0s
PPT2 Papeete2 82.53 128 *e*P P 13 28 30.5 +2.8
comp=Z,92nm,1.5s
PPT2 Papeete2 82.53 128 *e*S S 13 38 41.9 +1.8
comp=Z,4µm,29.0s
PPT2 Papeete2 82.53 128 *e*LR LR 13 54 15.5
comp=Z,1µm,24.2s
PPT2 Papeete2 82.53 128 *e*T T 14 58 42.3
comp=Z,7.0nm,0.3s
SGRT San Giovanni R 82.55 331 IAmb IAmb 13 28 28.3
comp=Z,98nm,0.8s
PAE Paea 82.59 128 *e*P P 13 28 30.6 +2.7
comp=Z,16nm,1.3s
PAE Paea 82.59 128 *e*T T 14 58 45.8
comp=Z,2.0nm,0.3s
DAT Datca 82.60 320 P P 13 28 26.5 -1.6
DAT Datca 82.60 320 *e*P P 13 28 26.9 -1.1
TIAR Tiarei 82.62 128 *e*P P 13 28 30.8 +2.7
comp=Z,13nm,1.3s
TIAR Tiarei 82.62 128 *e*T T 14 58 48.0
comp=Z,1.9nm,0.2s
MMLI Mount Malkishu 82.65 312 *e*P P 13 28 29.1 +0.8
JAN Janina 82.69 326 P P 13 28 28.0 -0.4
JSC Jenkinsville 82.69 44 IAMs_20 IAMs_20 14 04 34.2
comp=Z,2µm,21.0s
AGG Agios Georgios 82.70 325 P P 13 28 25.6 -2.8
AGG Agios Georgios 82.70 325 *e*P P 13 28 25.7 -2.7
SHAO Shalim 82.70 289 P P 13 28 29.1 +0.4
AQU L'Aquila 82.73 333 P P 13 28 29.2 +0.6
AQU pmax pmax
comp=Z,153nm,1.1s
AQU L'Aquila 82.73 333 ⇑*e*P P 13 28 28.6 0.0
KARY Karystos 82.75 323 P P 13 28 27.5 -1.2
LKR Lokris 82.77 324 P P 13 28 27.2 -1.6
SRN Sarande 82.79 327 P P 13 28 28.0 -0.8
ARG Arkhangelos 82.80 320 P P 13 28 28.6 -0.4
ARG Arkhangelos 82.80 320 *e*P P 13 28 28.6 -0.4
NIS1 Nisyros Isl. 82.87 320 *e*P P 13 28 28.2 -1.2
DION Dionisos Attik 82.91 323 P P 13 28 27.9 -1.6
PTL Penteli 82.96 323 P P 13 28 27.8 -2.0
EVR Evrytania 82.98 325 P P 13 28 28.5 -1.5
KEK Kerkira 83.01 327 P P 13 28 28.9 -1.1
ATHU Athens Univers 83.06 323 P P 13 28 28.4 -1.9
VILL Villia 83.07 324 P P 13 28 28.4 -2.0
ATH Athens Observa 83.08 324 P P 13 28 28.6 -1.8
APE Apeiranthos 83.15 322 ⇓P P 13 28 30.2 -0.6
APE Apeiranthos 83.15 322 P P 13 28 29.2 -1.6
APE Apeiranthos 83.15 322 *e*P P 13 28 29.5 -1.3
APE Apeiranthos 83.15 322 P P 13 28 31.1 +0.3
APE pmax pmax
comp=Z,61nm,0.9s
VLY Voula,Athens 83.16 323 P P 13 28 29.1 -1.7
DOK Doka 83.17 291 P P 13 28 31.0 -0.1
SNR=9.4
154A Montrose 83.21 46 IAMs_20 IAMs_20 14 09 16.1
comp=Z,1µm,19.0s
X58A Rowland 83.32 43 IAMs_20 IAMs_20 14 05 40.1
comp=Z,2µm,22.0s
LTK Loutraki 83.33 324 P P 13 28 29.0 -2.7
DMTO DMTO 83.35 289 P P 13 28 32.0 -0.1
LOUT Loutraki 83.36 324 P P 13 28 29.6 -2.2
CNNC Cliffs of the 83.38 41 P P 13 28 31.2 -0.8
baz=328
EFP Efpalio 83.38 325 P P 13 28 31.0 -0.9
V61A Roper 83.47 40 IAMs_20 IAMs_20 14 09 14.9
comp=Z,2µm,19.0s
LAKA Lakka 83.52 325 P P 13 28 31.4 -1.3
LKD2 Lefkada island 83.52 326 P P 13 28 31.5 -1.2
MEH Mehetia 83.55 127 *e*T T 14 59 58.7
comp=Z,19nm,0.3s
451A Vernon 83.57 49 IAMs_20 IAMs_20 14 06 04.6
comp=Z,1µm,22.0s
KLV Kalavryta, Ach 83.62 325 P P 13 28 31.7 -1.6
EPID Epidavros 83.63 324 P P 13 28 30.9 -2.3

SANT Santorini 83.78 322 *e*P P 13 28 31.2 -2.8
KARP Karpathos 83.78 320 P P 13 28 32.7 -1.4
KARP Karpathos 83.78 320 *e*P P 13 28 32.7 -1.4
KRND KRANIDI 83.82 324 P P 13 28 31.3 -2.9
FSK Fiskardo 83.85 326 P P 13 28 33.4 -0.9
RLS Riolos of Patr 83.87 325 P P 13 28 33.6 -0.8
DRO Drossia 83.87 325 P P 13 28 34.0 -0.5
WHFO Wadi Hawf 83.92 290 P P 13 28 34.7 -0.3
SNR=8.9
TIGA Tifton 83.95 47 IAMs_20 IAMs_20 14 06 44.7
comp=Z,2µm,21.0s
TIGA Tifton 83.95 47 P P 13 28 34.5 -0.4
baz=326,SNR=7.9
RBK Rabkut 83.97 290 P P 13 28 35.1 -0.2
Y59A Loris 84.00 43 IAMs_20 IAMs_20 14 06 00.1
comp=Z,2µm,22.0s
TRIP Tripoli 84.03 324 P P 13 28 30.5 -4.8
KEF5 Kardakata, Kep 84.04 326 P P 13 28 34.2 -1.1
KEF4 Livadi, Kephal 84.08 326 P P 13 28 34.4 -1.0
255A Hazlehurst 84.08 46 IAMs_20 IAMs_20 14 11 35.1
comp=Z,1µm,20.0s
VLS Valsamata 84.09 326 P P 13 28 34.4 -1.2
VLX Vlachokerasia 84.12 324 P P 13 28 33.9 -2.0
PSDA Pessada-Kefalo 84.14 326 P P 13 28 34.3 -1.5
KEF3 Kipouria, Keph 84.15 326 P P 13 28 34.1 -1.7
NHSC New Hope 84.16 44 P P 13 28 35.6 -0.3
baz=327
Y60A Bolivia 84.28 42 IAMs_20 IAMs_20 14 07 06.4
comp=Z,2µm,22.0s
VLMS Volimes, Zakyn 84.33 326 P P 13 28 35.3 -1.5
ITM Ithomi 84.47 324 P P 13 28 36.2 -1.3
ITM Ithomi 84.47 324 *e*P P 13 28 36.2 -1.3
ITM Ithomi 84.47 324 IAMs_20 IAMs_20 14 09 07.3
comp=Z,2µm,22.0s
VLI Velial 84.48 323 P P 13 28 34.8 -2.8
STIA Sitia Lasithi 84.53 320 P P 13 28 36.5 -1.3
CAN Canberra 84.54 185 IAMs_20 IAMs_20 14 02 18.1
comp=Z,2µm,21.0s
TIP Timpagrande 84.54 329 ⇑P P 13 28 37.9 0.0
ZKR Zakros 84.55 320 P P 13 28 36.8 -1.1
ZKR Zakros 84.55 320 *e*P P 13 28 37.3 -0.6
553A Crawfordville 84.57 49 IAMs_20 IAMs_20 14 06 31.0
comp=Z,2µm,22.0s
ABTO Aybut 84.64 290 P P 13 28 38.6 -0.1
SNR=7.2
NPS Neapolis 84.67 321 P P 13 28 36.4 -2.2
257A Skiaway Islan 84.72 45 IAMs_20 IAMs_20 14 08 11.0
comp=Z,2µm,20.0s
HRFI Mount Harif 84.81 311 *e*P P 13 28 39.6 +0.3
FRMA Ierapetra Chan 84.83 321 P P 13 28 38.5 -0.8
KTHA Kythira Island 84.83 323 P P 13 28 37.4 -1.9
KTHA Kythira Island 84.83 323 *e*P P 13 28 37.5 -1.9
IDI Anoyia 84.94 321 P P 13 28 37.6 -2.4
VAM Vamos 85.12 322 P P 13 28 39.0 -1.8
EIL Elat 85.15 311 *e*P P 13 28 41.4 +0.4
IMMV Iera Moni Meta 85.16 322 P P 13 28 39.3 -1.7
IMMV Iera Moni Meta 85.16 322 *e*P P 13 28 39.3 -1.7
456A Hilliard 85.29 47 IAMs_20 IAMs_20 14 10 31.2
comp=Z,2µm,19.0s
MORW Morawa 85.63 214 P P 13 28 42.9 -0.3
GVD Gavdos 85.66 322 P P 13 28 41.9 -1.6
GVD Gavdhos 85.66 322 *e*P P 13 28 42.3 -1.2
VSL Villasalto 86.54 334 P P 13 28 47.1 -0.6
TOO Toolangi 87.04 188 P P 13 28 51.2 +1.3
TOO pmax pmax
comp=Z,56nm,2.1s
TBI Tubuai 87.42 131 *e*S S 13 39 29.4 +1.3
comp=Z,837nm,27.0s
TBI Tubuai 87.42 131 *e*LR LR 13 56 32.6
comp=Z,5µm,30.0s,baz=329
TBI Tubuai 87.42 131 *e*T T 15 04 46.5
comp=Z,8.0nm,0.2s
DWPF Disney Wildern 87.75 48 IAMs_20 IAMs_20 14 09 01.3
comp=Z,2µm,21.0s
DWPF Disney Wildern 87.75 48 P P 13 28 53.6 -0.2
baz=327
DWPF S S 13 39 34.8 +3.3
baz=327
PBRG Braganca 87.83 347 *e*P P 13 28 52.2 -1.8
comp=Z,50nm,1.9s
PGAV Gavieira, Arco 87.89 348 *e*P P 13 28 53.0 -1.4
comp=Z,53nm,1.9s
PGAV Gavieira, Arco 87.89 348 *e*SKSac SKSac 13 39 20.8 +3.1
PGAV Gavieira, Arco 87.89 348 *e*LR LR 13 59 17.7
comp=Z,1µm,18.0s
PCAB Cabril 88.11 348 *e*P P 13 28 54.9 -0.4
comp=Z,63nm,1.7s
SOCY Socotra 88.15 286 P P 13 28 54.7 -1.3
POLO Lamas de Olo 88.41 347 *e*P P 13 28 55.5 -1.3
comp=Z,34nm,1.3s
POLO Lamas de Olo 88.41 347 *e*SKSac SKSac 13 39 23.3 +2.5
PVRL Vila Real 88.49 347 *e*P P 13 28 56.1 -1.1
comp=Z,76nm,1.3s
MVO Moncorvo 88.50 347 *e*P P 13 28 56.1 -1.1
comp=Z,65nm,1.4s
MVO Moncorvo 88.50 347 *e*SKSac SKSac 13 39 21.7 +0.4
MVO Moncorvo 88.50 347 *e*LR LR 13 59 35.7
comp=Z,2µm,20.0s
UCM Universidad Co 88.71 344 P P 13 28 57.0 -1.1
UCM S SKSac 13 39 26.2 +3.7
NWAO Narrogin (SRO) 88.72 211 P P 13 28 58.6 +0.6
NWAO pmax pmax
comp=Z,107nm,1.8s
PVIS Viseu 89.07 347 *e*P P 13 28 58.7 -1.2
comp=Z,70nm,1.6s
060A Indiantown 89.16 48 IAMs_20 IAMs_20 14 09 45.8
comp=Z,2µm,21.0s
MTE Manteigas 89.33 347 *e*P P 13 29 00.0 -1.1
comp=Z,63nm,1.4s
MTE Manteigas 89.33 347 *e*SKSac SKSac 13 39 28.8 +2.6
MTE Manteigas 89.33 347 *e*LR LR 13 59 53.8
comp=Z,1µm,18.0s
MTE Manteigas 89.33 347 P P 13 28 59.4 -1.8
MTE IAmb IAmb 13 29 10.0
comp=Z,28nm,0.9s
MTE IAMs_20 IAMs_20 14 16 00.6
comp=Z,2µm,18.0s
ESBB Sonseca Array 89.45 344 IAmb IAmb 13 29 02.2
comp=Z,48nm,1.3s
ESDC Sonseca Array 89.46 344 P P 13 29 00.6 -1.1
comp=Z,6.9nm,0.6s,baz=0.0,slow=3.7,SNR=55
ESDC LR LR 14 14 22.0
comp=Z,3µm,20.7s,baz=345,slow=39
ESDC Sonseca Array 89.46 344 P P 13 29 00.4 -1.3
ESDC IAmb IAmb 13 29 02.2
comp=Z,44nm,1.3s
COI Coimbra 89.64 348 *e*P P 13 29 03.0 +0.5
comp=Z,50nm,1.6s
COI Coimbra 89.64 348 IAMs_20 IAMs_20 14 16 43.8
comp=Z,2µm,19.0s
PAB San Pablo 89.65 344 P P 13 29 01.5 -1.1
PAB pmax pmax
comp=Z,107nm,2.0s
PAB San Pablo 89.65 344 P P 13 29 01.5 -1.1
PAB IAmb IAmb 13 29 04.7
comp=Z,107nm,1.9s
CMAH Djebel Manchou 89.77 335 P P 13 29 02.8 -0.5
PCAS Casmilo, Conde 89.80 348 *e*P P 13 29 02.3 -1.0
comp=Z,63nm,1.6s
PCBR Castelo Branco 89.87 347 *e*P P 13 29 02.5 -1.0
comp=Z,47nm,1.5s
KEST Kesra 90.05 333 P P 13 29 04.0 -0.6
comp=Z,36nm,0.6s,baz=325,slow=1.6,SNR=28
KEST LR LR 14 13 25.6
comp=Z,7µm,21.6s,baz=334,slow=38
KEST Kesra 90.05 333 IAmb IAmb 13 29 07.1
comp=Z,44nm,0.7s
KEST Kesra 90.05 333 P P 13 29 04.3 -0.3
ABSA Djebel Ababsia 90.08 335 P P 13 29 03.9 -0.9
CKFL Kef-Lekhel 90.17 335 P P 13 29 06.4 +1.2
PMRV Marv??o 90.26 347 *e*P P 13 29 04.0 -1.4
comp=Z,50nm,1.6s
PMRV Marv??o 90.26 347 *e*SKSac SKSac 13 39 35.0 +3.4
PSBE So Bento 90.37 348 *e*P P 13 29 04.2 -1.8
comp=Z,83nm,2.2s
PSBE So Bento 90.37 348 *e*SKSac SKSac 13 39 35.1 +2.8
PESTR Estremoz 90.84 347 *e*P P 13 29 06.7 -1.4
comp=Z,34nm,1.5s
PESTR Estremoz 90.84 347 *e*SKSac SKSac 13 39 37.9 +3.0
CKHR Kef el Ahmar 90.86 336 P P 13 29 07.6 -0.8
CART Cartagena 90.91 341 P P 13 29 06.7 -1.7
CART S S 13 40 02.2 +1.6
CART Cartagena 90.91 341 IAMs_20 IAMs_20 14 14 35.0
comp=Z,1µm,21.0s
PMAFR Mafra 90.99 348 *e*SKSac SKSac 13 39 39.4 +3.6

LIS Lisbon 91.21 348 *e*P P 13 29 08.8 -1.0
LIS IAmb IAmb 13 29 09.2
comp=Z,57nm,1.0s
LIS Lisbon 91.21 348 *e*P P 13 29 08.7 -1.0
EVO Evora 91.23 347 *e*P P 13 29 08.3 -1.6
comp=Z,42nm,1.8s
SOR Soroa 91.38 52 IAMs_20 IAMs_20 14 14 03.5
comp=Z,1µm,21.0s
PBAR Barrancos 91.43 346 *e*SKSac SKSac 13 39 41.9 +3.6
PBEJ Beja 91.70 347 *e*P P 13 29 10.8 -1.3
comp=Z,46nm,1.6s
PNCL Nicolau / Gran 91.71 347 *e*P P 13 29 10.8 -1.3
comp=Z,26nm,2.2s
PNCL Nicolau / Gran 91.71 347 *e*SKSac SKSac 13 39 43.1 +3.2
PNCL *e*SKSac SKSac 13 39 44.0 +4.1
MESJ Messejana 91.94 347 *e*P P 13 29 12.1 -1.2
MESJ IAmb IAmb 13 29 12.6
comp=Z,30nm,1.4s
MESJ *e*SKSac SKSac 13 39 41.3 +0.2
MESJ Messejana 91.94 347 *e*P P 13 29 12.0 -1.2
MESJ *e* 13 39 41.2
MESJ Messejana 91.94 347 *e*P P 13 29 12.0 -1.2
comp=Z,46nm,1.6s
PCVE Castro Verde 92.11 347 *e*P P 13 29 12.8 -1.2
comp=Z,52nm,1.6s
PCVE Castro Verde 92.11 347 *e*SKSac SKSac 13 39 45.1 +2.9
PVAQ Vaqueiros 92.29 347 *e*P P 13 29 13.2 -1.6
comp=Z,42nm,1.7s
PVAQ Vaqueiros 92.29 347 *e*SKSac SKSac 13 39 46.1 +3.0
PVAQ Vaqueiros 92.29 347 *e*LR LR 14 01 10.6
comp=Z,2µm,20.0s
PVAQ Vaqueiros 92.29 347 IAMs_20 IAMs_20 14 15 04.1
comp=Z,1µm,22.0s
PTEO Sao Teotonio 92.30 347 *e*P P 13 29 06.7 -8.2
EMAL Malaga-Limoner 92.37 344 P P 13 29 13.4 -1.8
EMAL S SKSac 13 39 43.5 -0.1
LIJA Lijar 92.40 345 P P 13 29 15.0 -0.5
ARNO Arenosillo 92.44 346 P P 13 29 14.6 -0.9
ARNO S SKSac 13 39 45.0 +1.0
PBDV Barranco-do-Ve 92.48 347 *e*P P 13 29 12.9 -2.9
PBDV Barranco-do-Ve 92.48 347 *e*SKSac SKSac 13 39 48.0 +3.7
MORF Marmelete 92.52 347 *e*P P 13 29 14.9 -1.1
MORF IAmb IAmb 13 29 16.1
comp=Z,44nm,1.3s
MORF *e*SKSac SKSac 13 39 44.8 +0.2
MORF Marmelete 92.52 347 *e*P P 13 29 14.8 -1.1
MORF *e* 13 39 44.7
MORF Marmelete 92.52 347 *e*P P 13 29 15.0 -1.0
comp=Z,80nm,1.7s
MORF Marmelete 92.52 347 *e*SKSac SKSac 13 39 49.9 +5.3
PFVI Vila Bisbo 92.72 347 *e*P P 13 29 19.0 +2.2
PFVI Vila Bisbo 92.72 347 *e*SKSac SKSac 13 39 48.1 +2.6
MTO3 Montecristo 94.74 62 IAMs_20 IAMs_20 14 07 44.1
comp=Z,933nm,21.0s
IFR Ifrane 95.65 344 P P 13 29 29.0 -1.6
IFR S SKSac 13 40 04.1 +2.2
TGUH Tegucigalpa,Un 96.21 60 IAMs_20 IAMs_20 14 07 51.7
comp=Z,1µm,21.0s
AVE Averroes 96.26 346 P P 13 29 18.6 -15
AVE Averroes 96.26 346 P P 13 29 32.2 -0.9
AVE S SKSac 13 40 07.6 +2.8
GTBY Guantanamo Bay 97.72 47 IAMs_20 IAMs_20 14 18 42.3
comp=Z,1µm,19.0s
CNGN Cerro Negro 97.79 61 IAMs_20 IAMs_20 14 05 40.6
comp=Z,1µm,21.0s
PMOZ Porto Moniz, M 97.88 354 *e*SKSac SKSac 13 40 25.9 +13
MTDJ Mount Denham 97.97 50 IAMs_20 IAMs_20 14 20 13.2
comp=Z,788nm,20.0s
SC01 Santiago de lo 100.19 44 IAMs_20 IAMs_20 14 16 26.8
comp=Z,1µm,21.0s
ORTG Ortega, Santa 100.23 61 IAMs_20 IAMs_20 14 16 19.4
comp=Z,847nm,21.0s
SDDR Presa de Saban 100.32 44 IAMs_20 IAMs_20 14 24 26.4
comp=Z,1µm,20.0s
JTS Las Juntas de 100.57 60 IAMs_20 IAMs_20 14 11 04.5
comp=Z,952nm,22.0s
HDC Heredia 101.28 60 IAMs_20 IAMs_20 14 07 50.4
comp=Z,792nm,20.0s
SDD Santo Domingo 101.40 44 IAMs_20 IAMs_20 14 14 36.9
comp=Z,1µm,22.0s
PEZE Perez Zeledon, 102.03 60 IAMs_20 IAMs_20 14 23 53.2
comp=Z,853nm,20.0s
CDITO Canoas 103.15 60 IAMs_20 IAMs_20 14 08 12.7
comp=Z,894nm,20.0s
SJG San Juan 103.35 40 IAMs_20 IAMs_20 14 23 37.7
comp=Z,721nm,20.0s
SMRT St. Maarten 104.67 38 IAMs_20 IAMs_20 14 18 43.6
comp=Z,978nm,22.0s
SEUS St. Eustatius 105.22 38 IAMs_20 IAMs_20 14 20 46.9
comp=Z,1µm,21.0s
ANWB Willy Bob 105.53 37 IAMs_20 IAMs_20 14 21 53.2
comp=Z,790nm,21.0s
HATO Hato, Curacao 107.33 46 IAMs_20 IAMs_20 14 23 17.1
comp=Z,1µm,21.0s
SVN Savane Anatole 108.34 37 IAMs_20 IAMs_20 14 19 39.6
comp=Z,1µm,22.0s
ILAM Ilet Lapin Mar 108.51 37 IAMs_20 IAMs_20 14 19 33.3
comp=Z,1µm,22.0s
BIM Bigot 108.67 37 IAMs_20 IAMs_20 14 23 27.5
comp=Z,825nm,20.0s
MPOM Morne Pois Mar 108.82 37 IAMs_20 IAMs_20 14 22 38.3
comp=Z,814nm,22.0s
SDV Santo Domingo 109.38 49 IAMs_20 IAMs_20 14 24 04.6
comp=Z,861nm,21.0s
SVB Belmont 109.72 38 IAMs_20 IAMs_20 14 25 24.4
comp=Z,831nm,20.0s
GRGR Grenville 110.59 39 IAMs_20 IAMs_20 14 26 28.3
comp=Z,829nm,20.0s
ROSC El Rosal 110.93 55 IAMs_20 IAMs_20 14 24 45.7
comp=Z,873nm,20.0s
TORD Torodi Ar. Bea 113.55 332 PKiKP **PKiKP** 13 34 42.4 -0.6
comp=Z,1.6nm,0.5s,baz=14,slow=2.3,SNR=7.2
TORD PP **PP** 13 35 31.6 -2.7
comp=Z,1.8nm,0.7s,baz=8.7,slow=6.7,SNR=5.0
TORD PKKPbc **PKKPbc** 13 45 24.1 -0.7
comp=Z,1.5nm,0.9s,baz=277,slow=2.2,SNR=6.0
DBIC Dimbokro 121.57 337 PKP **PKPdf** 13 34 57.4 -1.0
comp=Z,5.3nm,0.7s,baz=350,slow=3.0,SNR=6.6
DBIC Dimbokro 121.57 337 PKiKP **PKPdf** 13 34 58.1 -0.3
DBIC Dimbokro 121.57 337 PKPdf **PKPdf** 13 34 58.1 -0.3
TIC Toumodi 121.63 337 *e*PKP1 **PKiKP** 13 34 59.5 +0.7
KIC Kosan Boka 121.83 337 *e*PKP1 **PKPdf** 13 34 59.0 0.0
comp=Z,40nm,1.3s
LIC Lamto 122.04 337 *e*PKP1 **PKPdf** 13 34 58.6 -0.8
comp=Z,81nm,1.5s
CZSB Cruzeiro do Su 122.23 61 *e*P **PKPdf** 13 34 59.0 -0.7
MACA Manacapuru-AM 124.65 46 *e*P **PKPdf** 13 35 04.1 -0.2
MCPB Macapa, AP 125.76 35 *e*P **PKPdf** 13 35 05.6 -0.9
MALB Monte Alegre 126.27 38 *e*P **PKPdf** 13 35 05.2 -2.3
VNDA Vanda 126.71 178 PKP **PKPdf** 13 35 05.4 -1.0
comp=Z,7.2nm,1.2s,baz=323,slow=4.7,SNR=12
SBA Scott Base 127.17 177 IAMs_20 IAMs_20 14 20 45.3
comp=Z,979nm,22.0s
ETMB Extrema 127.55 56 *e*P **PKPdf** 13 35 09.1 -0.8
ITTB Itaituba 127.94 41 *e*P **PKPdf** 13 35 10.5 -0.1
SAML Samuel 128.42 52 *e*P **PKPdf** 13 35 11.2 -0.3
TMAB Tom-Au,PA,Br 129.03 31 *e*P **PKPdf** 13 35 12.3 -0.4
NPGB Novo Progresso 130.50 42 *e*P **PKPdf** 13 35 15.1 -0.4
ROSB Rosrio 130.76 26 *e*P **PKPdf** 13 35 16.1 +0.1
LPAZ La Paz 131.74 62 PKP **PKPdf** 13 35 18.2 -0.3
comp=Z,5.2nm,1.0s,baz=3.9,slow=5.6,SNR=17
LPAZ La Paz 131.74 62 *e*P **PKPdf** 13 35 16.8 -1.7
PRPB Parauapebas 131.95 35 *e*P **PKPdf** 13 35 18.0 -0.2
NBMO Morrinhos-CE 132.23 21 *e*P **PKPdf** 13 35 17.7 -1.1
NBPS Pedro II - PI 132.92 23 *e*P **PKPdf** 13 35 20.1 -0.1
VILB Vilhena 133.34 51 *e*P **PKPdf** 13 35 20.6 -0.2
NBCL Cascavel-CE 133.50 19 *e*P **PKPdf** 13 35 20.1 -1.1
CLDB Colider 133.69 45 *e*P **PKPdf** 13 35 21.2 -0.3
NBPB Pedra_Branca-C 134.49 21 *e*P **PKPdf** 13 35 22.9 -0.2
NBPA Parau_RN 135.23 18 *e*P **PKPdf** 13 35 24.3 -0.1
SMTB Santa Maria do 135.25 33 *e*P **PKPdf** 13 35 24.8 +0.3
MAW Mawson 135.27 213 PKP **PKPdf** 13 35 23.0 +0.3
comp=Z,7.9nm,1.1s,baz=98,slow=3.4,SNR=11
MAW PP **PP** 13 38 00.3 0.0
comp=Z,7.2nm,1.2s,baz=56,slow=5.8,SNR=4.6
RCBR Riachuelo 135.54 16 *e*P **PKPdf** 13 35 25.0 0.0
PTLB Pontes e Lacer 136.00 52 *e*P **PKPdf** 13 35 25.4 -0.2
LVC Limon Verde 136.16 69 *e*P **PKPdf** 13 35 25.5 -0.8
NBPV Pedro Velho 136.22 15 *e*P **PKPdf** 13 35 26.2 -0.1
NBMA Muriti-CE 136.44 21 *e*P **PKPdf** 13 35 26.5 -0.2
SNDB Serra Nova Dou 136.65 40 *e*P **PKPdf** 13 35 26.8 -0.2
NBLV Livramento - P 136.83 18 *e*P **PKPdf** 13 35 27.5 0.0
BOSA Boshof 136.98 280 PKhKP PKPpre 13 35 15.3
comp=Z,1.6nm,0.6s,baz=42,slow=3.0,SNR=4.4
BOSA PKP **PKPdf** 13 35 27.7 +0.4

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,2.8nm,0.5s,baz=26,slow=4.2,SNR=7.0						
BOSA				PP	PP	13 38 12.3	+0.5
	comp=Z,5.2nm,1.1s,baz=66,slow=6.8,SNR=3.4						
PEXB	Peixe	137.97	36	eP	PKPdf	13 35 29.7	+0.3
SALV	Santo Antonio	138.10	48	eP	PKPdf	13 35 29.7	+0.1
NBRF	Rio Formoso -	138.46	16	eP	PKPdf	13 35 30.3	-0.1
QSPA	South Pole Qui	139.14	180	IAMs_20	IAMs_20	14 38 25.7	
	comp=Z,537nm,19.0s						
NBAN	Anadia - AL	139.21	18	eP	PKPdf	13 35 31.7	-0.1
NBPN	Ponto Novo - B	139.43	24	eP	PKPdf	13 35 31.5	-0.7
SDBA	SAO DESIDERIO	139.48	31	eP	PKPdf	13 35 32.3	0.0
ARAG	Araguaiana, MT	139.74	43	eP	PKPdf	13 35 32.2	-0.4
PP1B	Ponte de Pedra	139.96	48	eP	PKPdf	13 35 32.8	-0.2
BDFB	Brasilia	141.29	38	PKhKP	PKPpre	13 35 28.8	
	comp=Z,2.0nm,0.4s,baz=338,slow=1.3,SNR=2.3						
AQDB	Aquidauana	141.97	52	eP	PKPdf	13 35 36.5	0.0
JANB	Januaria	142.15	32	eP	PKPdf	13 35 37.1	+0.1
GDU01	Guandu, BA	142.35	24	eP	PKPdf	13 35 37.3	0.0
IPMB	Ipameri, GO	143.32	40	eP	PKPdf	13 35 39.1	0.0
MC01	Montes Claros	143.80	33	eP	PKPbc	13 35 38.5	+0.9
ITRB	Iturama	143.90	44	eP	PKPdf	13 35 39.9	-0.1
SYO	Syowa Base	143.98	213	⇑iPKPdf	PKPab	13 35 36.0	0.0
SYO	Syowa Base	143.98	213	⇓ePKiKP	PKiKP	13 35 42.0	0.0
LC01	Cunco	145.01	91	PKPdf	PKPbc	13 35 40.3	-0.5
GUA01	Guaratinga, BA	145.01	26	eP	PKPbc	13 35 40.8	-0.5
PCMB	Pacaembu	145.12	47	eP	PKPbc	13 35 40.3	-1.4
DIAM	Diamantina, MG	145.37	33	eP	PKPbc	13 35 41.6	-1.1
TRCB	Terra Rica	145.46	50	eP	PKPdf	13 35 41.2	-1.4
CPUP	Villa Florida	145.80	60	PKPbc	PKPdf	13 35 42.6	-0.4
	comp=Z,57nm,1.0s,baz=325,slow=2.7,SNR=51						
CPUP	Villa Florida	145.80	60	PKPdf	PKPbc	13 35 43.6	-0.1
CPUP	Villa Florida	145.80	60	eP	PKPdf	13 35 42.7	-0.4
BB19B	Bebedouro	145.91	43	eP	PKPdf	13 35 42.8	-0.6
SJMB	Sao Joao De Ma	146.59	29	eP	PKPdf	13 35 44.0	-0.5
BSFB	Barra de Sao F	146.82	29	eP	PKPdf	13 35 45.3	+0.3
PLCA	Paso Flores	146.84	93	PKPbc	PKPdf	13 35 45.4	+0.9
	comp=Z,45nm,1.1s,baz=287,slow=2.7,SNR=40						
PLCA	Paso Flores	146.84	93		PKPbc	13 35 45.7	-0.7
PLCA	Paso Flores	146.84	93	eP	PKPdf	13 35 44.2	-0.3
PTGB	Pitanga	147.34	51	eP	PKPdf	13 35 45.8	0.0
RIB01	Linhares ES	147.41	29	eP	PKPdf	13 35 46.3	+0.3
FRTB	Fartura	147.41	46	eP	PKPdf	13 35 46.0	+0.1
BSCB	Bom Sucesso	147.42	37	eP	PKPdf	13 35 46.1	+0.1
RCLB	Rio Claro- Sao	147.54	42	eP	PKPdf	13 35 46.0	-0.2
VAO	Valinhos	148.30	42	eP	PKPdf	13 35 47.8	+0.3
ALF01	Guarapari-ES	148.53	30	eP	PKPdf	13 35 48.1	+0.4
SPB	Sao Paulo	148.61	43	eP	PKPdf	13 35 47.9	+0.1
ITQB	Itaqui	148.74	63	eP	PKPdf	13 35 48.2	+0.4
VAS01	Vassouras-RJ	149.09	36	eP	PKPdf	13 35 48.9	+0.2
PARB	Paraibuna	149.17	40	eP	PKPdf	13 35 49.1	+0.3
PET01	Itanhaem-SP	149.28	44	eP	PKPdf	13 35 49.0	+0.1
DUB01	Friburgo-RJ	149.31	34	eP	PKPdf	13 35 49.7	+0.7
CAM01	Campos-RJ	149.33	32	eP	PKPdf	13 35 49.6	+0.6
ESAR	Angra dos Reis	149.37	38	eP	PKPdf	13 35 49.1	+0.1
TRQA	Tornquist	150.98	81	PKIKP	PKPbc	13 35 56.3	-0.6
TRQA	Tornquist	150.98	81		PKPbc	13 35 56.3	-0.6
TRQA	Tornquist	150.98	81	eP	PKPdf	13 35 51.5	+0.3
CPSB	Cacapava Do Su	151.12	60	eP	PKPdf	13 35 52.0	+0.4
BELA	Belgrano 2	151.16	176		PKPbc	13 35 54.9	-1.2
CNLB	Canela	151.69	55	eP	PKPdf	13 35 52.9	+0.3
TER01	Tubaro-SC	151.96	51	eP	PKPdf	13 35 53.3	+0.4
PLTB	Pedras Altas	152.03	62	eP	PKPdf	13 35 53.5	+0.6
PMSA	Palmer Station	154.18	141	eP	PKPdf	13 35 55.8	+0.9
SNAA	Sanae	155.53	196	PKPab	PKPab	13 36 23.0	0.0
SNAA	Sanae	155.53	196	PKPdf	PKPdf	13 35 56.9	+0.2
VNA2	Neumayer--Watz	156.96	194	PKPab	PKPab	13 36 29.6	+0.6
	baz=140,slow=2.8						
VNA2	Neumayer--Watz	156.96	194	PKPdf	PKPdf	13 36 00.5	+2.0
VNA3	Neumayer Olymp	157.01	192	PKPab	PKPab	13 36 28.5	-0.8
VNA3	Neumayer Olymp	157.01	192	PKPdf	PKPdf	13 36 00.7	+2.1
VNA1	Neumayer--Stat	157.34	194	PKPab	PKPab	13 36 30.3	-0.3

ROM 05 13:26:57.5±0.1, 42°.698N±0°.003×13°.133E±0°.005, h16km±1km, ML1.2/2, 3C Error ellipse: s-maj=0.3km s-min=0.3km az=296.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LNSS	Leonessa	0.12	216	⇑P	Pg	13 27 01.2	+0.1
LNSS				S	Sb	13 27 03.9	-0.1
LNSS				AML	AML		
	comp=E,182μm,0.1s						
LNSS				AML	AML		
	comp=N,192μm,0.1s						
NRCA	Norcia	0.14	354	⇑P	Pg	13 27 01.5	+0.2
NRCA				S	Sb	13 27 04.4	-0.2
NRCA				AML	AML		
	comp=N,78μm,0.1s						
NRCA				AML	AML		
	comp=E,78μm,1.2s						
RM33	Pellescritta (	0.20	162	P	Pg	13 27 02.4	+0.2
RM33				S	Sb	13 27 06.1	-0.3
TERO	Teramo	0.36	102	P	Pg	13 27 04.8	0.0
TERO				S	Sb	13 27 10.6	-0.3
MMUR	Monte Murano	0.75	352	P	Pg	13 27 07.3	-4.8
ATTE	AVT- Monte Tez	0.76	311	P	Pg	13 27 04.3	-8.0
ATTE				AML	AML		
	comp=E,193μm,1.2s						
ATTE				AML	AML		
	comp=N,164μm,1.5s						
PE3	Peglio	1.10	335	S	Sb	13 27 25.0	-7.3
PAOL	Paolisi	1.98	147	⇑P	Pn	13 27 26.1	-4.3
PAOL				AML	AML		
	comp=E,82μm,0.8s						
PAOL				AML	AML		
	comp=N,101μm,0.6s						
GORR	Gorreto	3.38	306	AML	AML		
	comp=E,205μm,1.5s						
GORR				AML	AML		
	comp=N,279μm,0.9s						

RSNC 05 13:28:04.9±1.0, 10°.72N×75°.55W, h32km±5km, ML3.5, Mw3.5

ISC 05 13:28:02.5±2.1, 10°.72N±0°.07×75°.55W±0°.07, h25km±16km, n14, $\sigma 1^{s}28$/28, 2C-1D, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJCC	San Jacinto, C	0.90	156	⇓iP	Pn	13 28 19.9	+0.3
SJCC				eS	Sn	13 28 31.9	+0.1
SJCC				i		13 28 32.9	
	comp=Z,2μm,0.6s						
SMRC	Santa Marta, M	1.37	71	eP	Pb	13 28 27.0	-0.4
SMRC				eS	Sn	13 28 43.8	+0.4
ARGC	Ariguani, Magd	1.54	124	⇑eP	Pb	13 28 29.8	-0.6
ARGC				eS	Sb	13 28 49.9	+0.5
ARGC				i		13 28 53.6	
	comp=Z,192nm,0.5s						
LCBC	Los crdobas,	2.02	204	eP	Pn	13 28 35.9	+0.8
LCBC				eS	Sn	13 29 00.5	+0.9
LCBC				i		13 29 05.0	
	comp=Z,78nm,0.4s						
CVALL	Valledupar, Ce	2.26	95	⇑eP	Pn	13 28 38.5	+0.2
CVALL				eS	Sn	13 29 04.2	-1.3
CVALL				i		13 29 05.6	
	comp=Z,475nm,0.3s						
LL1C	La Loma 1 Cana	2.28	121	eP	Pn	13 28 40.4	+1.7
LL1C				eS	Sn	13 29 07.3	+1.3
LL1C				i		13 29 16.6	
	comp=Z,374nm,0.4s						
LL2C	La Loma 2 Cana	2.38	119	eP	Pn	13 28 41.7	+1.8
LL2C				eS	Sn	13 29 08.6	+0.3
LL2C				i		13 29 12.2	
	comp=Z,171nm,0.3s						
SMLC	San Martn de	2.40	143	eP	Pn	13 28 40.9	+0.6
SMLC				eS	Sn	13 29 09.7	+0.8
SMLC				i		13 29 13.6	
	comp=Z,244nm,0.4s						
CRJC	Cerrejon, Guaj	2.63	83	eP	Pn	13 28 43.4	-0.2
CRJC				eS	Sn	13 29 13.9	-0.8
CRJC				i		13 29 14.9	
	comp=Z,428nm,0.2s						
ZARC	Zaragoza, Cauc	3.28	168	eP	Pn	13 28 52.8	+0.5
ZARC				eS	Sn	13 29 27.8	-2.9
ZARC				i		13 29 40.5	
	comp=Z,120nm,0.3s						
OCAC	Ocana	3.30	138	eP	Pn	13 28 53.2	+0.4
OCAC				eS	Sn	13 29 29.9	-1.5
OCAC				i		13 29 41.3	
	comp=Z,234nm,0.3s						
PTBC	PUERTO BERRIO,	4.29	165	eP	Pn	13 29 06.9	+0.5
PTBC				eS	Sn	13 29 52.9	-2.8
PTBC				i		13 29 59.1	
	comp=Z,33nm,0.2s						
PAMC	Pamplona, Colo	4.38	140	eP	Pn	13 29 09.6	+1.6
PAMC				eS	Sn	13 29 59.3	+0.8
PAMC				i		13 30 25.0	
	comp=Z,38nm,0.4s						
SDV	Santo Domingo	5.17	110	eP	Pn	13 29 19.3	+0.7
SDV				eS	Sn	13 30 16.0	-1.7
SDV				i		13 30 19.8	
	comp=Z,48nm,0.5s						

MAN 05 13:49:25.8, 9°.16N×123°.71E, h11km, mb4.8, ML3.7, MS3.6

NEIC 05 13:49:31.7±2.3, 8°.99N±0°.09×123°.56E±0°.10, h64km±8km, mb4.6/29, Error ellipse: s-maj=14.6km s-min=11.8km az=58.0

IDC 05 13:49:38.6±2.3, 9°.02N×123°.72E, h139km±23km, mb3.8/18, mb1 3.9/21, mb1mx3.7/48, mbtmp4.3/21, Error ellipse: s-maj=18.5km s-min=10.1km az=78.0

ISC 05 13:49:25.4±1.1, 9°.09N±0°.03×123°.77E±0°.04, h19km±4km, n66, $\sigma 1^{s}40$/70, mb4.5/31, 2C-5D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNPH	Sibulan	0.58	295	⇓iP	Pg	13 49 36.9	-0.2
SNPH				i S	Sg	13 49 43.8	-1.2
DCPH	Dipolog City	0.65	219	⇓iP	Pn	13 49 38.9	-0.7
DCPH				i S	Sb	13 49 47.7	+1.0
LLP	Lapu-Lapu	1.23	9	⇓iP	Pg	13 49 48.4	-0.9
LLP				i S	Sg	13 50 05.4	-0.1
SCPH	Surigao	1.83	68	eP	Pb	13 49 57.4	-0.9
SCPH				eS	Sn	13 50 13.4	-5.1
JAP	San Jose, Anti	2.44	313	⇓eP	Pn	13 50 05.8	+1.6
KCP	Kidapawan	2.45	148	⇑eP	Pg	13 50 10.9	-1.5
KCP				i S	Sg	13 50 47.4	+3.1
RCP	Roxas	2.65	338	⇓eP	Pn	13 50 08.2	+1.1
DAV	Davao City (W)	2.69	138	P	Pg	13 50 22.8	+5.7
	31nm,0.3s,baz=261,slow=18,SNR=1.9						
DAV	Davao City (W)	2.69	138	Pn	Pb	13 50 12.0	-0.9
ZCP	Zamboanga City	2.72	218	⇑eP	Pg	13 50 15.5	-2.2
ZCP				eS	Pg	13 50 15.5	-2.2
TOLI2	Tolitoli	8.47	201	Pn	Pn	13 51 26.6	-0.5
YULB	Yu-li	14.42	351	Pn	P	13 52 53.6	-1.8
JOW	Kunigami	18.16	13	P	P	13 53 40.9	+4.2
	0.6nm,0.3s,baz=198,slow=3.2,SNR=4.5						
BATI	Baumata	19.17	180	P	Pn	13 53 50.6	+1.6
	3.5nm,0.3s,baz=261,slow=0.4,SNR=15						
JAGI	Jajag, Banyuwa	19.90	209	P	Pn	13 53 57.9	+0.2
JAGI				IAmb	IAmb	13 54 15.8	
	comp=Z,52nm,1.1s						
ANA2	Anatahan	22.57	69	P	P	13 54 32.7	+7.9
MTN	Manton Dam	22.99	161	P	P	13 54 30.7	+1.6
MTN				IAmb	IAmb	13 54 31.2	
	comp=Z,7.6nm,0.7s						
KNRA	Kununurra	25.10	169	P	P	13 54 49.1	+0.1
KNRA				IAmb	IAmb	13 55 07.0	
	comp=Z,8.8nm,0.8s						
PSI	Prapat	25.48	257	P	P	13 54 54.0	+1.3
	comp=Z,15nm,1.0s,baz=4.7,slow=2.2,SNR=14						
RPSI	Rantau Prapat	25.50	257	P	P	13 54 53.5	+0.6
RPSI				IAmb	IAmb	13 54 54.7	
	comp=Z,12nm,0.8s						
CMAR	Chiang Mai Arr	25.82	294	P	P	13 54 57.2	+1.6
	comp=Z,2.6nm,0.9s,baz=110,slow=7.4,SNR=14						
CMAR	Chiang Mai Arr	25.82	294	P	P	13 54 56.0	+0.3
FITZ	Fitzroy Crossi	27.08	176	P	P	13 55 07.3	+0.3
	comp=Z,2.4nm,0.6s,baz=358,slow=7.9,SNR=15						
FITZ	Fitzroy Crossi	27.08	176	P	P	13 55 06.1	-0.9
KSRS	Korea Array	28.49	7	P	P	13 55 20.9	+1.5
	comp=Z,1.1nm,0.6s,baz=186,slow=9.5,SNR=5.0						
WRAB	Tennant Creek	30.66	160	P	P	13 55 38.7	-0.2
WRA	Warramunga Arr	30.67	160	P	P	13 55 38.6	-0.4
	comp=Z,1.2nm,0.5s,baz=331,slow=11,SNR=23						
WRA	Warramunga Arr	30.67	160	P	P	13 55 38.6	-0.4
WB2	Warramunga Arr	30.67	160	P	P	13 55 38.6	-0.4
WR0	Warramunga Arr	30.75	160	P	P	13 55 39.3	-0.5
WR0				IAmb	IAmb	13 55 42.2	
	comp=Z,10nm,1.4s						
JYT	Yasato	30.87	26	P	P	13 55 41.8	+1.2
JYT				IAmb	IAmb	13 55 42.9	
	comp=Z,22nm,1.1s						
AS31	Alice Springs	34.03	163	P	P	13 56 09.5	+1.1
ASAR	Alice Springs	34.03	163	P	P	13 56 09.0	+0.6
	comp=Z,4.7nm,0.8s,baz=335,slow=6.4,SNR=67						
ASAR	Alice Springs	34.03	163	P	P	13 56 09.8	+1.3
SHL	Shillong	34.43	302	P	P	13 56 12.5	+0.3
USRK	Ussuriysk Ar.	35.70	10	P	P	13 56 24.9	+2.4
	comp=Z,1.9nm,0.6s,baz=207,slow=8.5,SNR=6.3						
LSA	Lhasa	36.76	308	P	P	13 56 32.9	+0.4
LSA				IAmb	IAmb	13 56 35.0	
	comp=Z,8.2nm,0.6s						
MORW	Morawa	38.66	191	P	P	13 56 47.7	-0.2
MORW				IAmb	IAmb	13 56 51.3	
	comp=Z,14nm,1.1s						
FORT	Forrest	39.85	174	P	P	13 56 55.6	-2.2
ULN	Ulaanbaatar	41.15	343	P	P	13 57 07.7	-1.0
SONM	Songino Array	41.32	342	P	P	13 57 09.9	0.0
	comp=Z,0.8nm,0.5s,baz=152,slow=10,SNR=6.9						
BBOO	Buckleboo	43.28	165	P	P	13 57 26.8	+0.8
BBOO				IAmb	IAmb	13 57 27.5	
	comp=Z,15nm,0.6s						
STKA	Stephens Creek	44.16	158	P	P	13 57 33.7	+0.7
	comp=Z,3.4nm,0.6s,baz=336,slow=10,SNR=9.6						
STKA	Stephens Creek	44.16	158	P	P	13 57 34.2	+1.2
MK31	Makanchi Array	51.51	324	P	P	13 58 29.8	-0.1
MK31				IAmb	IAmb	13 58 31.4	
	comp=Z,2.7nm,0.8s						
MKAR	Makanchi Array	51.51	324	P	P	13 58 30.6	+0.8
	comp=Z,2.1nm,0.8s,baz=126,slow=8.6,SNR=16						
MKAR				PcP	PcP	13 59 42.8	-1.1
	comp=Z,1.5nm,0.8s,baz=117,slow=4.2,SNR=5.1						
MKAR	Makanchi Array	51.51	324	P	P	13 58 30.0	+0.1
PETK	Petropavlovsk-	51.74	25	P	P	13 58 32.0	+0.5
	comp=Z,1.2nm,0.9s,baz=201,slow=7.2,SNR=5.4						
BOOM	Boomskoye usch	53.41	317	P	P	13 58 41.9	-2.4
BOOM				IAmb	IAmb	13 59 00.4	
	comp=Z,8.8nm,1.1s						
ZALV	Zalesovo Beam	54.51	333	P	P	13 58 50.3	-1.5
	comp=Z,1.2nm,0.4s,baz=137,slow=7.8,SNR=5.3						
BTK	Batken	56.13	312	P	P	13 59 03.5	-0.4
GAR	Garm	56.18	311	P	P	13 59 04.0	-0.3
KK31	Karatay Array	57.34	316	P	P	13 59 13.1	+0.7
KK31				IAmb	IAmb	13 59 13.6	
	comp=Z,5.8nm,0.7s						
KKAR	Karatay Array	57.34	316	P	P	13 59 13.0	+0.6
KKAR				IAmb	IAmb	13 59 13.6	
	comp=Z,5.8nm,0.7s						
KKAR	Karatay Array	57.34	316	P	P	13 59 12.9	+0.6
BRVK	Borovoye	61.33	326	P	P	13 59 38.0	-1.7
NRIK	Noril'sk	64.56	347	P	P	14 00 00.7	-0.2
	comp=Z,2.3nm,0.5s,baz=231,slow=7.1,SNR=4.0						
ABKAR	Akbulak array	66.17	320	P	P	14 00 11.5	-0.2
ABKAR	Akbulak array	66.17	320	P	P	14 00 11.3	-0.4
ABKAR				IAmb	IAmb	14 00 12.4	
	comp=Z,7.3nm,0.7s						
ILAR	Eielson Array	81.57	26	P	P	14 01 41.9	+0.3
	comp=Z,0.4nm,0.8s,baz=260,slow=5.4,SNR=3.1						
BRTR	Keskin Array B	84.36	309	P	P	14 01 56.3	-0.6
	comp=Z,1.4nm,0.8s,baz=103,slow=5.3,SNR=8.9						
ARCES	ARCESS Array B	84.43	340	P	P	14 01 56.5	0.0
	comp=Z,3.5nm,1.1s,baz=79,slow=6.3,SNR=6.0						
ARCES	ARCESS Array B	84.43	340	IAmb	IAmb	14 02 15.4	
	comp=Z,12nm,1.3s						
FINES	FINESS Array B	85.75	331	P	P	14 02 02.4	-0.7
	comp=Z,3.4nm,1.0s,baz=93,slow=5.6,SNR=4.9						
AKASG	Malin Array Be	85.91	321	P	P	14 02 02.8	-1.4
	comp=Z,4.3nm,0.7s,baz=66,slow=4.9,SNR=13						
TORD	Torodi Ar. Bea	118.39	290	PKP	PKPdf	14 08 11.7	-1.0
	comp=Z,0.8nm,0.9s,baz=24,slow=2.6,SNR=3.0						

IDC 05 13:51:32.3±3.5, 51°.37N×174°.58W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.4/44, mbtmp3.5/3, ML3.8/1, MS3.7/1, Ms1 3.7/1, ms1mx3.1/45, Error ellipse: s-maj=93.3km s-min=39.0km az=0.0

AEIC 05 13:51:37±1.9, 51°.3N±0°.1×174°.28W±0°.09, h41km±8km, ML3.1, Error ellipse: s-maj=14.5km s-min=8.4km az=177.0

NEIC 05 13:51:39.4±1.4, 51°.5N±0°.1×174°.35W±0°.05, h51km±15km, Error ellipse: s-maj=17.2km s-min=2.0km az=166.0

ISC 05 13:51:38.7±1.2, 51°.4N±0°.1×174°.29W±0°.05, h38km, n24, $\sigma 0^{s}97$/25, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATKA	Atka Island	0.81	4	Pn	Pn	13 51 53.3	-0.2
KOFP	Korovin Flat P	0.89	8		Pn	13 51 55.0	+0.4
KOKL	Mount Kliuchef	0.93	3		Pn	13 51 55.7	+0.4
KOSE	Korovin Southe	0.96	9		Pn	13 51 56.4	+0.7
GSMY	Great Sitkin M	1.27	301		Pn	13 51 59.5	-0.5
GSTR	Great Sitkin T	1.30	303	Pn	Pn	13 51 60.0	-0.3
GSTD	Great Sitkin T	1.33	301		Pn	13 52 00.3	-0.4
GSTD					Sn	13 52 19.0	+1.9
GSSP	Great Sitkin S	1.36	301		Pn	13 52 01.1	0.0
ADK	Adak	1.57	289	Pn	Pn	13 52 03.4	-0.5
ADK	Adak	1.57	289	Sn	Sn	13 52 24.1	+1.1
KIWB	Kanaga Island	1.84	285	Pn	Pn	13 52 07.4	-0.2
KIKV	Kanaga Island	1.86	286		Pn	13 52 08.0	+0.1
KIMD	Kanaga Island	1.87	282		Pn	13 52 07.9	-0.2
KICM	Kanaga Island	1.88	287		Pn	13 52 08.9	+0.7
TAFP	Tanaga Falls P	2.35	284		Pn	13 52 15.2	+0.4
TAFP					Sn	13 52 44.0	+1.6
TASE	Tanaga Southea	2.38	282		Pn	13 52 15.8	+0.8
GAEA	Gareloi East	2.81	280		Pn	13 52 22.1	+1.2
NIKH	Nikolski High	3.70	63		Pn	13 52 33.8	+0.6
UNV	Unalaska Valle	5.34	60		Pn	13 52 57.0	+1.3
KDAK	Kodiak Island	14.08	55	Pn	Pn	13 54 53.1	-2.1
	0.1nm,0.3s,baz=297,slow=9.0,SNR=1.9						
ILAR	Eielson Array	19.51	36	P	P	13 56 02.1	-0.2
	0.3nm,0.3s,baz=234,slow=8.5,SNR=18						
ASAJ	Asahikawa	29.53	273	LR	LR	14 10 52.1	
	comp=Z,146nm,19.5s,baz=78,slow=40						
PDAR	Pinedale Array	43.59	75	P	P	13 59 39.6	+0.5
	0.2nm,0.3s,baz=309,slow=5.7,SNR=1.6						
MKAR	Makanchi Array	62.20	311	P	P	14 01 54.5	-1.4
	0.5nm,0.8s,baz=49,slow=6.7,SNR=2.2						

IDC 05 13:54:22.4±1.5, 51°.68N×174°.33W, h0km, mb3.9/12, mb1 4.0/14, mb1mx3.8/46, mbtmp3.8/14, ML3.2/2, MS4.0/1, Ms1 4.0/1, ms1mx3.2/50, Error ellipse: s-maj=47.4km s-min=17.1km az=175.0

NEIC 05 13:54:23.0±2.9, 51°.34N±0°.05×174°.28W±0°.08, h10km±2km, mb4.0/32, ML3.5/24(AEIC), Error ellipse: s-maj=9.8km s-min=6.9km az=132.0

AEIC 05 13:54:24±3.5, 51°.30N±0°.09×174°.33W±0°.08, h13km±6km, Error ellipse: s-maj=12.8km s-min=7.1km az=164.0

ISC 05 13:54:22.3±0.8, 51°.29N±0°.09×174°.39W±0°.04, h10km, n109, $\sigma 1^{s}45$/107, mb4.0/16, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATKA	Atka Island	0.93	7		Pn	13 54 41.3	-0.1
ATKA	Atka Island	0.93	7		Sn	13 54 54.6	-0.1
KOFP	Korovin Flat P	1.01	10		Pn	13 54 42.8	+0.3
KOKL	Mount Kliuchef	1.04	6		Pn	13 54 43.8	+0.7
KOSE	Korovin Southe	1.08	11		Pn	13 54 44.5	+0.9
GSIG	Igitkin Island	1.19	307		Pg	13 54 45.9	+0.7
GSIG					Sn	13 55 03.4	+2.1
GSTR	Great Sitkin T	1.32	309		Pg	13 54 48.4	+0.8
GSSP	Great Sitkin S	1.38	307		Pg	13 54 49.2	+0.4
ADK	Adak	1.55	294		Pg	13 54 51.6	-0.5
ADK				Sn	Sn	13 55 10.3	+0.1
KIWB	Kanaga Island	1.82	289		Pb	13 54 55.7	0.0
KIKV	Kanaga Island	1.84	290		Pb	13 54 56.2	+0.2
KIMD	Kanaga Island	1.84	286		Pb	13 54 56.1	0.0
KICM	Kanaga Island	1.86	291		Pb	13 54 56.9	+0.5
TAFP	Tanaga Falls P	2.33	287		Pb	13 55 03.2	-1.1
TAFP					Sb	13 55 32.5	-0.6
TASE	Tanaga Southea	2.34	285		Pb	13 55 03.9	-0.8
GAEA	Gareloi East	2.77	282		Pb	13 55 09.7	-2.2
GALAA	Gareloi Lava P	2.78	282		Pb	13 55 09.9	-2.2
NIKH	Nikolski High	3.80	61		Pn	13 55 21.0	+0.1
NIKH	Nikolski High	3.80	61	P	Pn	13 55 22.8	+1.9
	baz=246						
AMKA	Amchitka	3.96	274		Pn	13 55 24.9	+1.8
MAPS	Pakushin South	5.20	58		Pn	13 55 40.7	+0.6
MSW	Makushin Switc	5.33	57		Pn	13 55 44.5	+2.7
UNV	Unalaska Valle	5.45	59		Pn	13 55 45.1	+1.7
FALS	False Pass	7.51	57	Pn	Pn	13 56 14.5	+2.7
SDPT	Sand Point	9.26	59	Pn	Pn	13 56 36.6	+0.8
CHGN	Chignik	10.69	56	Pn	Pn	13 56 55.7	+0.4
OHAK	Old Harbor	13.66	56	Pn	Pn	13 57 34.7	-1.2
KDAK	Kodiak Island	14.19	54	Pn	Pn	13 57 40.1	-3.0
	0.2nm,0.3s,baz=251,slow=3.9,SNR=14						
KDAK	Kodiak Island	14.19	54	Pn	Pn	13 57 42.5	-0.6
N19K	Bonanza Creek	14.59	41	Pn	Pn	13 57 45.6	-3.0
L19K	White Mountain	15.22	37		Pn	13 57 56.1	-1.0
L19K				IAmb	IAmb	13 58 04.9	
	comp=Z,7.7nm,1.0s						
L19K	White Mountain	15.22	37	P	P	13 58 03.7	+1.6
	baz=233,SNR=5.6						
M19K	Big River Lodg	15.23	38	P	P	13 58 02.5	+0.3
	baz=235						
HOM	Homer	15.31	48	Pn	Pn	13 57 51.0	-7.2
M20K	Styx River	15.71	39	P	P	13 58 06.6	-1.0
	baz=237						
K20K	Telida	16.23	34	P	P	13 58 12.7	-0.5
	baz=231,SNR=6.0						
SUA	Susitna One	16.49	43	Pn	Pn	13 58 12.8	-0.7
SEW	Seward	16.50	48	Pn	Pn	13 58 11.3	-2.3
PPLA	Purkeypile	16.64	37	P	P	13 58 18.2	+0.2
	baz=236						
RC01	Rabbit Creek A	16.76	45	Pn	Pn	13 58 15.5	-1.4
RC01				IAmb	IAmb	13 58 19.8	
	comp=Z,13nm,1.4s						
PETK	Petropavlovsk-	17.17	287	P	P	13 58 24.2	+0.5
	comp=Z,0.1nm,0.3s,baz=93,slow=14,SNR=4.3						
CHUM	Lake Minchumin	17.17	34	P	P	13 58 24.4	+0.8
	baz=233						
PWL	Port Wells	17.30	46	Pn	Pn	13 58 22.4	-1.2
PWL				IAmb	IAmb	13 58 30.2	
	comp=Z,13nm,1.4s						
SML	Sawmill	17.68	43	Pn	Pn	13 58 27.3	-1.1
SML				IAmb	IAmb	13 58 36.8	
	comp=Z,18nm,1.4s						
BPAW	Bear Paw Mtn.	17.77	35		Pn	13 58 25.5	-4.1
BPAW				IAmb	IAmb	13 58 38.7	
	comp=Z,9.5nm,1.2s						
BPAW	Bear Paw Mtn.	17.77	35	P	P	13 58 30.2	-0.1
	baz=235						
GLI	Glacier Island	17.87	47		P	13 58 30.7	-0.7
GLI				IAmb	IAmb	13 58 32.4	
	comp=Z,8.7nm,1.1s						
HIN	Hinchinbrook I	17.99	49		Pn	13 58 31.5	-0.8
I21K	Tanana	18.09	31	P	Pn	13 58 31.9	-1.6
I21K	Tanana	18.09	31	P	P	13 58 34.7	+0.9
	baz=230						
FID	Port Fidalgo	18.11	48	Pn	Pn	13 58 30.3	-3.4
FID				IAmb	IAmb	13 58 35.1	
	comp=Z,9.8nm,1.2s						
SCM	Sheep Creek Mo	18.12	44	P	Pn	13 58 32.5	-1.5
SCM				IAmb	IAmb	13 58 35.1	
	comp=Z,18nm,1.2s						
RND	Reindeer	18.20	38	P	Pn	13 58 33.4	-1.4
MLY	Manley	18.41	33	P	Pn	13 58 38.3	+0.9
MLY	Manley	18.41	33	P	Pn	13 58 39.9	+2.5
	baz=233,SNR=9.5						
M24K	Tolsona, Glenn	18.73	44	P	Pn	13 58 41.2	-0.1
I23K	Minto, Yukon-K	18.95	33	P	Pn	13 58 43.4	-0.5
I23K				IAmb	IAmb	13 58 47.0	
	comp=Z,15nm,1.1s						
I23K	Minto, Yukon-K	18.95	33	P	Pn	13 58 43.9	0.0
	baz=235,SNR=12						
WRH	Wood River Hil	19.03	36	P	P	13 58 42.7	-1.4
CCB	Clear Creek Bu	19.23	36	P	P	13 58 43.7	-2.6
N25K	Chitina, Valde	19.25	46	P	P	13 58 45.4	-1.3
H23K	Yukon River	19.29	32	P	Pn	13 58 50.6	+2.6
	baz=233						
PAX	Paxson	19.37	42	P	P	13 58 46.4	-1.6
	baz=246						
HDA	Harding Lake	19.43	37	P	P	13 58 47.5	-1.0
HDA				IAmb	IAmb	13 58 55.6	
	comp=Z,8.4nm,1.0s						
HDA	Harding Lake	19.43	37	P	P	13 58 47.7	-0.8
	baz=240,SNR=6.8						
IL31		19.63	36	P	P	13 58 49.9	-0.8
IL31				IAmb	IAmb	13 58 51.7	
	comp=Z,11nm,1.5s						
ILAR	Eielson Array	19.63	36	P	P	13 58 48.6	-2.1
	comp=Z,0.4nm,0.3s,baz=234,slow=9.1,SNR=19						
ILAR	Eielson Array	19.63	36	P	P	13 58 50.0	-0.7
H24K	Noodor Dome	19.86	33	P	P	13 58 52.5	-0.7
H24K				IAmb	IAmb	13 58 58.9	
	comp=Z,9.2nm,1.0s						

H24K	Noodor Dome	19.86	33	P	P	13 58 53.0	-0.2
	baz=236						
RIDG	Independent Ri	19.94	40	P	P	13 58 53.3	-0.9
RIDG				IAmb	IAmb	13 58 58.4	
	comp=Z,11nm,1.4s						
RIDG	Independent Ri	19.94	40	P	P	13 58 52.8	-1.4
	baz=245						
J25K	Salcha River,	20.13	37	P	P	13 58 54.5	-1.7
	baz=242,SNR=22						
DOT	Dot Lake	20.23	41	P	P	13 58 55.8	-1.4
DOT				IAmb	IAmb	13 59 04.1	
	comp=Z,9.0nm,1.2s						
SCRK	Sand Creek	20.39	40	P	P	13 58 57.6	-1.5
SCRK				IAmb	IAmb	13 58 60.0	
	comp=Z,9.8nm,1.1s						
SCRK	Sand Creek	20.39	40	P	P	13 58 57.8	-1.3
	baz=246,SNR=10						
PRP	Porcupine Dome	20.51	35	P	P	13 58 56.9	-3.5
PRP	Porcupine Dome	20.51	35	P	P	13 58 58.9	-1.5
	baz=240						
J26K	Charley River,	20.71	38	P	P	13 59 01.1	-1.5
	baz=245,SNR=18						
BCAR	Beaver Creek A	20.97	43	P	Pn	13 59 06.7	-1.2
TOLK	Toolik Lake Re	21.10	25	P	P	13 59 05.9	-0.8
TOLK	Toolik Lake Re	21.10	25	P	P	13 59 06.9	+0.2
	baz=227						
YKU2	Yakutat	21.15	54	P	P	13 59 04.6	-2.5
K27K	Chicken	21.18	41	P	P	13 59 07.9	+0.4
K27K				IAmb	IAmb	13 59 13.0	
	comp=Z,7.2nm,0.9s						
K27K	Chicken	21.18	41	P	P	13 59 08.0	+0.4
	baz=248						
SEY	Seymchan	21.20	316	P	P	13 59 09.7	+2.0
	comp=Z,4.3nm,0.9s,baz=114,slow=14,SNR=2.9						
EGAK	Eagle	21.84	39	P	P	13 59 13.3	-1.2
EGAK	Eagle	21.84	39	P	P	13 59 14.2	-0.4
	baz=248,SNR=16						
DAWY	Dawson	22.31	42	P	P	13 59 19.9	+0.2
	baz=252						
DLBC	Dease Lake	26.10	57	P	P	13 59 57.0	+0.9
	comp=Z,3.6nm,0.9s,baz=229,slow=10,SNR=4.5						
DLBC	Dease Lake	26.10	57	P	P	13 59 52.7	-3.3
KLR	Kul'dur	33.85	288	P	P	14 01 05.2	+0.5
	comp=Z,1.4nm,0.6s,baz=99,slow=5.8,SNR=5.4						
USRK	Ussuriysk Ar.	36.05	280	P	P	14 01 24.5	+0.9
	comp=Z,4.3nm,0.8s,baz=56,slow=5.4,SNR=7.5						
USRK	Ussuriysk Ar.	36.05	280	P	P	14 01 21.8	-1.8
JCJ	Chichijima	40.61	250	LR	LR	14 17 16.7	
	comp=Z,196nm,19.7s,baz=98,slow=34						
PDAR	Pinedale Array	43.68	75	P	P	14 02 27.6	+0.3
	comp=Z,0.2nm,0.3s,baz=338,slow=1.9,SNR=2.4						
SONM	Songino Array	49.14	299	P	P	14 03 10.7	+0.7
	comp=Z,1.0nm,0.7s,baz=51,slow=9.6,SNR=5.8						
HHC	Hu-ho-hao-te	50.36	289	eP	P	14 03 18.8	-0.6
HHC				pmax	pmax		
	comp=Z,17nm,1.1s						
HHC				pmax	pmax		
	comp=Z,77nm,5.6s						
TXAR	Lajitas Array	55.92	84	P	P	14 04 00.6	+0.1
	comp=Z,0.3nm,0.8s,baz=298,slow=3.8,SNR=3.7						
ARCES	ARCESS Array B	58.61	352	P	P	14 04 17.4	-1.5
	comp=Z,2.2nm,0.9s,baz=12,slow=9.4,SNR=1.6						
WMQ	Urumqi	61.68	305	eP	P	14 04 40.8	+0.4
MKAR	Makanchi Array	62.22	311	P	P	14 04 43.4	-0.5
	comp=Z,1.1nm,0.9s,baz=45,slow=5.9,SNR=6.3						
KSH	Kashi	70.74	309	P	P	14 05 43.2	+4.6
KSH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CMAR	Chiang Mai Arr	73.77	279	P	P	14 05 59.2	+2.4
	comp=Z,1.1nm,0.9s,baz=29,slow=6.5,SNR=5.6						
AKASG	Malin Array Be	76.43	345	P	P	14 06 10.6	-1.1
	comp=Z,0.3nm,0.4s,baz=12,slow=5.0,SNR=4.2						
CLL	Collm	77.59	355	i P	P	14 06 18.3	+0.1
CLL				e		14 06 38.0	
BRG	Berggiesshubel	77.97	355	eP	P	14 06 33.5	+13
BRG				Amp		14 06 36.6	
	comp=Z,6.6nm,1.4s						
GERES	GERESS Array B	80.01	355	P	P	14 06 31.4	-0.3
	comp=Z,1.2nm,0.8s,baz=25,slow=7.3,SNR=5.6						
BRTR	Keskin Array B	86.11	339	P	P	14 07 03.3	-0.1
	comp=Z,0.2nm,0.3s,baz=32,slow=7.3,SNR=3.7						

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*BGR **05** 14:00:28.3±0.0, 49°.05N×158°.65E, h33^{km}, mb5.1*
*KRSC **05** 14:00:33.6±2.4, 49°.16N×156°.08E, h39^{km}±25^{km}, ML5.4*
*BJI **05** 14:00:34.7±0.0, 49°.47N×156°.06E, h62^{km}, mB5.0/23, mb4.7/56, Ms4.6/12, Ms7 4.3/13*
*MOS **05** 14:00:38.3±1.1, 49°.42N×155°.63E, h66^{km}, mb5.1/43, Error ellipse: s-maj=6.8km s-min=2.8km az=76.4*
*IDC **05** 14:00:39.1±2.2, 49°.49N×155°.49E, h59^{km}±19^{km}, mb4.3/31, mb1 4.5/37, mb1mx4.4/45, mbtmp4.6/37, ML4.1/5, MS4.0/9, Ms1 4.0/9, ms1mx3.7/48, Error ellipse: s-maj=13.0km s-min=8.9km az=141.0*
*NEIC **05** 14:00:39.0±2.0, 49°.49N±0°.09×155°.6E±0°.1, h55^{km}±5^{km}, mb4.9/167, Error ellipse: s-maj=14.4km s-min=9.5km az=136.0*

ISC 05 14:00:39.0±0.7**, 49°.37N**±0°.05×**155°.75E**±0°.04**, h63**^{km}±6^{km}**, n653,** σ1^{s}.**47**/639**, mb4.9**/198**, 47C-11D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.33	10⇑	i PN	Pn	14 00 59.8	-1.7
SKR				eS	Sn	14 01 14.9	-3.5
SKR				pmax	pmax		
	comp=Z,5μm,0.5s						
SKR				pmax	pmax		
	comp=Z,500nm,1.7s						
SKR				smax	smax		
	comp=E,32μm,0.5s						
SKR				smax	smax		
	comp=N,45μm,0.6s						
SKR	Severo-Kuril's	1.33	10	eP	Pn	14 01 00.1	-1.4
SKR				eS	Sn	14 01 17.2	-1.2
ALID	Alaid	1.50	355	PN	Pn	14 01 03.6	-0.4
ALID				S	Sn	14 01 24.7	+2.0
ALID	Alaid	1.50	355	eP	Pn	14 01 03.6	-0.4
ALID				eS	Sn	14 01 24.7	+2.0
PAU	Pauzhetka	2.20	17	PN	Pn	14 01 12.3	-1.0
PAU	Pauzhetka	2.20	17	eP	Pn	14 01 12.3	-1.0
KDTR	Khodutka, Kamc	2.85	30	PN	Pn	14 01 21.2	-0.9
KDTR	Khodutka, Kamc	2.85	30	eP	Pn	14 01 21.2	-0.9
MIPR	Malaya Ipel'ka	2.98	12	PN	Pn	14 01 23.7	-0.1
MIPR	Malaya Ipel'ka	2.98	12	eP	Pn	14 01 23.7	-0.1
ASAK	Asacha	3.31	23	PN	Pn	14 01 28.3	-0.1
ASAK	Asacha	3.31	23	eP	Pn	14 01 28.3	-0.1
MTVR	Mutnovka	3.47	25	PN	Pn	14 01 31.1	+0.4
MTVR				S	Sn	14 02 11.0	+0.4
MTVR	Mutnovka	3.47	25	eP	Pn	14 01 31.1	+0.4
MTVR				eS	Sn	14 02 11.0	+0.4
GRL	Gorelyy	3.51	24	PN	Pn	14 01 32.2	+1.1
GRL	Gorelyy	3.51	24	eP	Pn	14 01 32.2	+1.1
RUS	Russkaya	3.53	29	PN	Pn	14 01 30.6	-0.7
RUS	Russkaya	3.53	29	eP	Pn	14 01 30.6	-0.7
APC	Apacha	3.67	13	PN	Pn	14 01 35.5	+2.3
APC	Apacha	3.67	13	eP	Pn	14 01 35.5	+2.3
KRMR	Karymshinskiy	3.77	22	PN	Pn	14 01 37.5	+2.9
KRMR	Karymshinskiy	3.77	22	eP	Pn	14 01 37.5	+2.9
PEA0B	Petropavlovsk-	3.94	17	cePN	Pn	14 01 37.8	+0.9
PEA0B	Petropavlovsk-	3.94	17	Pn	Pn	14 01 37.3	+0.4
PETK	Petropavlovsk-	3.94	17	P	Pn	14 01 36.8	-0.1
	comp=N,17nm,0.3s,baz=182,slow=11,SNR=285						
PETK				S	Sn	14 02 27.9	+6.1
	comp=N,7.5nm,0.3s,baz=297,slow=20,SNR=1.6						
PETK				LR	LR	14 03 17.5	
	comp=N,2μm,19.0s,baz=190,slow=41						
PETK	Petropavlovsk-	3.94	17	Pn	Pn	14 01 36.5	-0.4
PET	Petropavlovsk	4.09	25⇓	i PN	Pn	14 01 39.4	+0.5
PET				i S	Sn	14 02 26.9	+1.5
PET				pmax	pmax		
	comp=Z,177nm,0.5s						
PET				smax	smax		
	comp=E,1μm,0.5s						
PET				smax	smax		
	comp=N,2μm,0.6s						
PET				MLR	MLR		
	comp=Z,1μm,11.0s						
PET				MLR	MLR		
	comp=Z,2μm,12.0s						
PET	Petropavlovsk	4.09	25	eP	Pn	14 01 39.3	+0.4
PET	Petropavlovsk	4.09	25		Pn	14 01 39.1	+0.2
DALK	Dalny	4.12	26	PN	Pn	14 01 39.7	+0.3
DALK	Dalny	4.12	26	eP	Pn	14 01 39.7	+0.3
UGLR	Uglovaya	4.30	25	PN	Pn	14 01 43.0	+1.1
UGLR	Uglovaya	4.30	25	eP	Pn	14 01 43.0	+1.1
KOK	Koryaka	4.32	24	PN	Pn	14 01 43.9	+1.6
KOK	Koryaka	4.32	24	eP	Pn	14 01 43.9	+1.6
AVH	Avacha	4.32	24	PN	Pn	14 01 43.6	+1.3
AVH	Avacha	4.32	24	eP	Pn	14 01 43.6	+1.3
SMAR	Somma	4.34	25	PN	Pn	14 01 44.5	+1.9
SMAR	Somma	4.34	25	eP	Pn	14 01 44.5	+1.9
KRER	Koryakskii	4.36	24	PN	Pn	14 01 44.2	+1.3
KRER	Koryakskii	4.36	24	eP	Pn	14 01 44.2	+1.3
SDLR	Sedlovina	4.38	25	PN	Pn	14 01 43.6	+0.6
SDLR	Sedlovina	4.38	25	eP	Pn	14 01 43.6	+0.6
KRX	Arik	4.38	23	PN	Pn	14 01 44.5	+1.3
KRX	Arik	4.38	23	eP	Pn	14 01 44.5	+1.3
NLC	Nalytchevo	4.42	29	PN	Pn	14 01 42.7	-0.8
NLC	Nalytchevo	4.42	29	eP	Pn	14 01 42.7	-0.8
GNL	Ganaly	4.54	17	PN	Pn	14 01 46.4	+1.1
GNL	Ganaly	4.54	17	eP	Pn	14 01 46.4	+1.1
SPN	Mys Shipunski	4.59	34	PN	Pn	14 01 45.1	-0.8
SPN	Mys Shipunski	4.59	34	eP	Pn	14 01 45.1	-0.8
KII	Karymskiy	5.21	25	PN	Pn	14 01 56.7	+2.4
KII	Karymskiy	5.21	25	eP	Pn	14 01 56.7	+2.4
MKZ	Mys Kozlova	6.37	33	PN	Pn	14 02 08.1	-2.0
MKZ	Mys Kozlova	6.37	33	eP	Pn	14 02 08.1	-2.0
KZV	Kizimen	6.39	24	PN	Pn	14 02 12.6	+2.0
KZV	Kizimen	6.39	24	eP	Pn	14 02 12.6	+2.0
TUMR	Tumrok	6.50	23	PN	Pn	14 02 14.1	+2.0
TUMR	Tumrok	6.50	23	eP	Pn	14 02 14.1	+2.0
KUR	Kuril'sk	6.77	235d	i PN	Pn	14 02 17.1	+1.4
KUR				i S	Sn	14 03 33.5	+2.1
KUR				pmax	pmax		
	comp=N,55nm,0.5s						
KUR				pmax	pmax		
	comp=Z,249nm,0.5s						
KUR				pmax	pmax		
	comp=E,47nm,0.6s						
KUR				smax	smax		
	comp=N,2μm,1.7s						
KUR				smax	smax		
	comp=E,1μm,1.8s						
KUR				smax	smax		
	comp=E,217nm,0.8s						
KUR				smax	smax		
	comp=N,126nm,1.1s						
KUR				MLR	MLR		
	comp=Z,2μm,12.0s						
ESO	Esso	6.80	14	PN	Pn	14 02 19.9	+3.8
ESO	Esso	6.80	14	eP	Pn	14 02 19.9	+3.8
KMNR	Kamenistaya	6.95	21	PN	Pn	14 02 20.8	+2.6
KMNR	Kamenistaya	6.95	21	eP	Pn	14 02 20.8	+2.6
KPT	Kopyto	7.14	21	PN	Pn	14 02 21.4	+0.6
KPT	Kopyto	7.14	21	eP	Pn	14 02 21.4	+0.6
KIRR	Kirishev	7.16	21	PN	Pn	14 02 22.9	+1.8
KIRR	Kirishev	7.16	21	eP	Pn	14 02 22.9	+1.8
BZMR	Bezymyannaya	7.18	22	PN	Pn	14 02 22.5	+1.2
BZMR	Bezymyannaya	7.18	22	eP	Pn	14 02 22.5	+1.2
BZWR	Bezymyannyi-We	7.20	22	PN	Pn	14 02 23.2	+1.5
BZWR	Bezymyannyi-We	7.20	22	eP	Pn	14 02 23.2	+1.5
ZLN	Zelenaya	7.33	23	PN	Pn	14 02 25.6	+2.2
ZLN	Zelenaya	7.33	23	eP	Pn	14 02 25.6	+2.2
KRSR	Krestovskiy	7.45	21	PN	Pn	14 02 26.4	+1.4
KRSR	Krestovskiy	7.45	21	eP	Pn	14 02 26.4	+1.4
KLY	Klyuchi	7.56	21	PN	Pn	14 02 28.2	+1.8
KLY	Klyuchi	7.56	21	eP	Pn	14 02 28.2	+1.8
SRKR	Sorokina	7.99	22	PN	Pn	14 02 33.0	+0.6
SRKR	Sorokina	7.99	22	eP	Pn	14 02 33.0	+0.6
KBTR	Krutoberegovo	8.07	29	PN	Pn	14 02 32.3	-1.1
KBTR	Krutoberegovo	8.07	29	eP	Pn	14 02 32.3	-1.1
TYV	Tymovskoe	8.55	285	ePN	Pn	14 02 42.9	+2.9
TYV				eS	Sn	14 04 21.7	+6.8
TYV				pmax	pmax		
	comp=Z,15nm,0.5s						
TYV				pmax	pmax		
	comp=Z,200nm,5.2s						
TYV				smax	smax		
	comp=N,14nm,1.2s						
TYV				smax	smax		
	comp=E,8.0nm,1.2s						
TYV				smax	smax		
	comp=E,800nm,7.4s						
TYV				smax	smax		
	comp=N,300nm,6.8s						
BKI	Bering	8.56	43	PN	Pn	14 02 37.7	-2.4
BKI	Bering	8.56	43	eP	Pn	14 02 37.7	-2.4
YUK	Yuzh-Kuril'sk	8.64	236d	i PN	Pn	14 02 40.3	-0.9
YUK				pmax	pmax		
	comp=E,152nm,0.4s						
YUK				pmax	pmax		
	comp=Z,605nm,0.4s						
YUK				pmax	pmax		
	comp=N,42nm,0.2s						
YUK				MLR	MLR		
	comp=Z,755nm,17.0s						
YUK				MLR	MLR		
	comp=E,658nm,13.0s						
GRPR	Tuman	8.72	236⇓	i PN	Pn	14 02 42.1	-0.2
GRPR				pmax	pmax		
	comp=N,190nm,0.4s						
GRPR				pmax	pmax		
	comp=E,214nm,0.4s						
GRPR				pmax	pmax		
	comp=Z,290nm,0.4s						
GRPR				MLR	MLR		
	comp=Z,695nm,14.0s						
RUSJ	Misakicho	8.93	238	ePN	Pn	14 02 45.4	+0.2
RUSJ				eS	Sn	14 04 27.4	+3.2
UGL	Uglegorsk	8.97	273⇑	i PN	Pn	14 02 48.9	+3.2
UGL				pmax	pmax		
	comp=Z,190nm,0.8s						
YSS	Yuzh-Sakhalins	9.02	259	ePN	Pn	14 02 48.6	+2.2
YSS				eS	Sn	14 04 33.6	+7.2
YSS				pmax	pmax		
	comp=Z,50nm,0.6s						
YSS	Yuzh-Sakhalins	9.02	259	Pn	Pn	14 02 48.5	+2.0
NMR	Nemuro--Hokkai	9.16	233⇓	i PN	Pn	14 02 44.7	-3.7
JKA	Kamikawa-asahi	10.44	245	Pn	Pn	14 03 07.3	+1.4
ASAJ	Asahikawa	10.44	245	P	Pn	14 03 07.4	+1.5
	comp=Z,7.1nm,0.3s,baz=65,slow=12,SNR=101						
ASAJ				S	Sn	14 05 06.9	+5.7
	baz=100,slow=21,SNR=1.0						
ASAJ	Asahikawa	10.44	245	PN	Pn	14 03 07.3	+1.4
MA2	Magadan	10.62	346	P	Pn	14 03 07.8	-0.5
	comp=Z,5.2nm,0.3s,baz=156,slow=11,SNR=32						
MA2				LR	LR	14 06 38.4	
	comp=Z,609nm,21.1s,baz=180,slow=34						
MA2	Magadan	10.62	346	cePN	Pn	14 03 08.6	+0.3
MA2				pmax	pmax		
	comp=Z,82nm,1.7s						
MA2				MLR	MLR		
	comp=Z,552nm,16.0s						
MA2	Magadan	10.62	346	Pn	Pn	14 03 08.3	+0.1
JEW	Eniwo	11.88	242	Pn	Pn	14 03 25.3	-0.1
SMY	Shemya	12.02	67	PN	Pn	14 03 24.8	-2.5
SMY	Shemya	12.02	67	Pn	Pn	14 03 24.8	-2.5
SEY	Seymchan	13.72	353	P	Pn	14 03 48.6	-1.7
	comp=Z,0.9nm,0.3s,baz=9.4,slow=20,SNR=18						
SEY				LR	LR	14 08 49.4	
	comp=Z,631nm,20.5s,baz=188,slow=36						
SEY	Seymchan	13.72	353	i P	Pn	14 03 48.3	-2.0
KLR	Kul'dur	15.65	279	P	P	14 04 17.7	-0.7
	comp=Z,0.6nm,0.3s,baz=82,slow=11,SNR=15						
KLR				LR	LR	14 10 03.5	
	comp=Z,564nm,18.8s,baz=68,slow=36						
KLR	Kul'dur	15.65	279	ceP	Pn	14 04 13.0	-2.5
KLR				pmax	pmax		
	comp=Z,13nm,0.8s						
KLR				MLR	MLR		
	comp=Z,465nm,14.0s						
JMM	Marumori	15.77	229	Pn	Pn	14 04 11.0	-6.0
JSD	Sado	16.93	235	Pn	Pn	14 04 27.9	-3.8
USA0B	Ussuriysk Arra	17.05	261	i P	Pn	14 04 31.9	-1.1
USA0B	Ussuriysk Arra	17.05	261		Pn	14 04 32.2	-0.8
USRK	Ussuriysk Ar.	17.05	261	P	Pn	14 04 32.5	-0.6
	baz=69,slow=12,SNR=19						
USRK	Ussuriysk Ar.	17.05	261		Pn	14 04 30.8	-2.3
VLA	Vladivostok	17.61	258	i P	Pn	14 04 38.4	-1.6
VLA				pmax	pmax		
	comp=Z,13nm,1.0s						
GSTR	Great Sitkin T	18.00	71	P	Pn	14 04 44.6	-0.1
MAJO	Matsushiro	18.09	231	i P	P	14 04 45.3	-0.2
MAJO				pmax	pmax		
	comp=Z,16nm,0.7s						
MAJO	Matsushiro	18.09	231	P	P	14 04 44.0	-1.5
MAJO				IAmb	IAmb	14 04 54.0	
	comp=Z,47nm,0.8s						
MJAR	Matsushiro Arr	18.09	231	P	P	14 04 43.3	-2.2
	comp=Z,0.2nm,0.3s,baz=23,slow=10,SNR=32						
MJAR	Matsushiro Arr	18.09	231	P	P	14 04 45.0	-0.5
MJAR				pmax	pmax		
	comp=Z,11nm,0.8s						
MJAR	Matsushiro Arr	18.09	231	P	P	14 04 45.0	-0.5
MAT	Matsushiro	18.09	231	P	P	14 04 43.3	-2.2
ZEA	Zeya	18.19	295	eP	Pn	14 04 48.5	+1.6
ZEA				pmax	pmax		
	comp=E,10.0nm,0.7s						
ZEA				pmax	pmax		
	comp=N,10.0nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MSHR	Mys Shultsa	18.35	258	ceP	P	14 04 48.3	0.0
MSHR				pmax	pmax		
	comp=Z,12nm,1.3s						
MSHR				MLR	MLR		
	comp=Z,190nm,13.0s						
MDJ	Mudanjiang	18.43	265	P	P	14 04 48.2	-0.9
MDJ				S	Sn	14 08 04.8	-10
MDJ				pmax	pmax		
	comp=Z,20nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,150nm,5.7s						
MDJ				LR	LR		
	comp=Z,410nm,15.1s						
MDJ				LR	LR		
	comp=Z,540nm,15.8s						
MDJ				LR	LR		
	comp=Z,790nm,18.1s						
MDJ	Mudanjiang	18.43	265	P	P	14 04 45.7	-3.4
YAK	Yakutsk	19.23	321	P	P	14 04 57.2	-0.6
	comp=Z,0.1nm,0.3s,baz=306,slow=3.6,SNR=13						
YAK				S	S	14 08 32.3	+0.3
	comp=Z,0.1nm,0.3s,baz=188,slow=3.0,SNR=1.3						
YAK				LR	LR	14 13 34.4	
	comp=Z,469nm,18.9s,baz=84,slow=41						
YAK	Yakutsk	19.23	321	eP	P	14 04 57.0	-0.7
YAK				eS	S	14 08 32.7	+0.7
YAK				pmax	pmax		
	comp=Z,54nm,0.9s						
YAK				pmax	pmax		
	comp=E,18nm,1.1s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.0s						
YAK				smax	smax		
	comp=E,85nm,2.2s						
YAK				smax	smax		
	comp=N,76nm,1.6s						
YAK	Yakutsk	19.23	321	P	P	14 04 54.9	-2.9
YAK				IAmb	IAmb	14 05 02.9	
	comp=Z,50nm,0.9s						
JGF	Kuroka	19.25	231	P	P	14 04 57.9	-0.4
BILL	Bilibino	19.45	12	ceP	P	14 04 59.1	-1.0
BILL				pmax	pmax		
	comp=Z,19nm,0.6s						
BILL				MLR	MLR		
	comp=Z,303nm,16.0s						
BILL	Bilibino	19.45	12	P	P	14 04 59.4	-0.7
INU	Inuyama	19.62	231	P	P	14 05 02.2	0.0
INU				IAmb	IAmb	14 05 03.6	
	comp=Z,47nm,0.9s						
JHJ	Hachijo jima 2	20.13	222	P	P	14 05 07.5	-0.3
	comp=Z,52nm,0.7s,baz=178,slow=2.1,SNR=4.6						
JWT	Wachi	20.52	234	P	P	14 05 11.6	-0.4
CN2	Changchun	21.47	267	eP	P	14 05 22.1	0.0
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
JHS	Saijyo	21.97	238	P	P	14 05 27.8	+0.2
JHS				IAmb	IAmb	14 05 28.9	
	comp=Z,59nm,1.0s						
GAMB	Gambell	22.66	38	P	P	14 05 31.6	-3.0
GAMB	Gambell	22.66	38	P	P	14 05 34.5	-0.2
	baz=246						
KSRS	Korea Array	23.32	250	P	P	14 05 41.0	-0.5
	comp=Z,15nm,0.8s,baz=54,slow=8.9,SNR=32						
KSRS				PcP	PcP	14 09 27.9	+1.4
	comp=Z,1.4nm,0.7s,baz=17,slow=2.7,SNR=4.3						
KSRS				LR	LR	14 14 10.1	
	comp=Z,238nm,18.3s,baz=80,slow=35						
KS19	Wonju Array Si	23.33	250	P	P	14 05 40.7	-0.9
KS19				IAmb	IAmb	14 05 45.3	
	comp=Z,56nm,1.2s						
HIA	Hailar	23.34	284	i P	P	14 05 41.6	-0.1
HIA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KSAR	Wonju Array Be	23.35	250	P	P	14 05 39.9	-1.9
KSAR	Wonju Array Be	23.35	250	P	P	14 05 39.9	-1.9
TJN	Taejon	24.36	248	ceP	P	14 05 50.9	-0.1
JTU	Tsushima	24.42	242	P	P	14 05 50.2	-1.3
JTU				IAmb	IAmb	14 06 07.6	
	comp=Z,78nm,1.3s						
JNU	Nakatsue	24.60	238	P	P	14 05 53.5	+0.2
	comp=Z,47nm,0.9s,baz=54,slow=5.6,SNR=21						
JNU	Nakatsue	24.60	238	P	P	14 05 53.1	-0.1
JNU				IAmb	IAmb	14 05 55.8	
	comp=Z,66nm,1.0s						
TNA	Tin City	24.87	36	P	P	14 05 57.4	+2.1
	baz=247						
TIXI	Tiksi	25.51	341	P	P	14 05 59.1	-2.0
	comp=Z,7.1nm,0.6s,baz=126,slow=9.2,SNR=9.7						
TIXI	Tiksi	25.51	341	ceP	P	14 06 00.6	-0.5
TIXI	Tiksi	25.51	341	P	P	14 05 59.4	-1.7
BOD	Bodaibo	25.81	305	eP	P	14 06 05.2	+1.3
BOD				pmax	pmax		
	comp=Z,140nm,1.6s						
JSU	Suzuyama	26.06	236	P	P	14 06 06.7	+0.2
JSU				IAmb	IAmb	14 06 07.3	
	comp=Z,23nm,0.8s						
RDOG	Red Dog Mine	27.65	32	P	P	14 06 22.9	+2.4
	baz=249						
CHGN	Chignik	28.09	58	P	P	14 06 23.9	-0.6
N18K	Kilae Creek	29.24	49	P	P	14 06 36.3	+1.6
N18K	Kilae Creek	29.24	49	P	P	14 06 36.5	+1.8
	baz=270,SNR=5.8						
L19K	White Mountain	29.78	46	P	P	14 06 40.4	+1.0
L19K	White Mountain	29.78	46	P	P	14 06 40.5	+1.1
	baz=268						
N19K	Bonanza Creek	29.93	49	P	P	14 06 42.0	+1.2
	baz=271						
M19K	Big River Lodg	29.99	46	P	P	14 06 42.6	+1.4
	baz=269						
K20K	Telida	30.20	43	P	P	14 06 44.3	+1.2
	baz=267,SNR=12						
J20K	Nowinta River	30.23	42	IAmb	IAmb	14 06 45.2	
	comp=Z,24nm,1.3s						
J20K	Nowinta River	30.23	42	P	P	14 06 44.2	+0.9
	baz=265,SNR=17						
L20K	Farewell, AK	30.25	45	P	P	14 06 44.5	+0.9
	baz=268,SNR=7.9						
M20K	Styx River	30.59	46	P	P	14 06 48.1	+1.5
	baz=270,SNR=5.7						
O20K	Slope Mountain	30.88	50	P	P	14 06 50.0	+0.9
	baz=273						
H11N2	WAKE ISLAND Hy	30.89	159	T	T	14 39 16.0	
	baz=346,slow=76,SNR=57						
H11N1	WAKE ISLAND Hy	30.91	159	T	T	14 39 17.6	
	baz=346,slow=76,SNR=25						
H11N3	WAKE ISLAND Hy	30.91	159	T	T	14 39 19.9	
	baz=346,slow=76,SNR=43						
JOW	Kunigami	30.91	233	LR	LR	14 19 54.0	
	comp=Z,273nm,20.4s,baz=310,slow=37						
JOW	Kunigami	30.91	233	P	P	14 06 49.8	+0.1
JOW				IAmb	IAmb	14 06 50.5	
	comp=Z,26nm,0.9s						
CHUM	Lake Minchumin	31.02	43	P	P	14 06 51.2	+0.9
	baz=267						
SPCR	Spurr Chakacha	31.04	48	P	P	14 06 53.0	+2.4
	baz=272						
PPLA	Purkeypile	31.04	44	P	P	14 06 50.2	-0.4
PPLA	Purkeypile	31.04	44	P	P	14 06 52.4	+1.8
	baz=269						
KDAK	Kodiak Island	31.10	54	P	P	14 06 50.6	-0.4
	comp=Z,10nm,0.8s,baz=296,slow=5.8,SNR=7.3						
KDAK	Kodiak Island	31.10	54	P	P	14 06 50.6	-0.4
KDAK				IAmb	IAmb	14 06 58.3	
	comp=Z,40nm,1.4s						
I21K	Tanana	31.25	40	IAmb	IAmb	14 06 54.3	
	comp=Z,12nm,0.7s						
I21K	Tanana	31.25	40	P	P	14 06 53.5	+1.2
	baz=266,SNR=12						
SKT	Skwentna	31.34	46	P	P	14 06 54.1	+1.0
	baz=271,SNR=6.4						
CAPN	Captain Cook N	31.57	49	P	P	14 06 55.7	+0.6
BPAW	Bear Paw Mtn.	31.61	42	IAmb	IAmb	14 06 57.5	

comp=Z,12nm,0.8s
BPAW Bear Paw Mtn. 31.61 42 P **P** **14 06 56.7 +1.1**
baz=268,SNR=10
CNPM China Poot 31.62 51 P **P** **14 06 56.2 +0.5**
SUA Susitna One 31.73 47 P **P** **14 06 57.0 +0.3**
baz=273,SNR=5.3
MLY Manley 31.76 40 P **P** **14 06 58.1 +1.2**
baz=267,SNR=14
BRLK Bradley Lake 31.77 50 P **P** **14 06 56.9 -0.1**
BRLK IAmb IAmb 14 07 04.3
comp=Z,27nm,1.5s
BRSE Bradley Lake S 31.85 50 P **P** **14 06 58.2 +0.5**
baz=276
TRF Thorofare Moun 31.91 43 IAmb IAmb 14 07 01.3
comp=Z,16nm,0.9s
TRF Thorofare Moun 31.91 43 P **P** **14 06 59.1 +0.8**
baz=270,SNR=11
CUT Chulitna 31.93 45 P **P** **14 06 59.1 +0.8**
CUT IAmb IAmb 14 06 59.3
comp=Z,16nm,0.7s
CUT Chulitna 31.93 45 P **P** **14 06 59.1 +0.8**
baz=272
HHC Hu-ho-hao-te 31.94 272 *e*P **P** **14 06 59.6 +0.9**
HHC pmax pmax
comp=Z,10.0nm,1.1s
HHC pmax pmax
comp=Z,83nm,5.3s
H11S1 WAKE ISLAND Hy 32.03 160 T T 14 40 49.3
baz=346,slow=75,SNR=1527
H11S3 WAKE ISLAND Hy 32.04 160 T T 14 40 49.6
baz=346,slow=75,SNR=3131
H11S2 WAKE ISLAND Hy 32.05 160 T T 14 40 44.4
baz=346,slow=75,SNR=1780
COLD Coldfoot 32.17 36 IAmb IAmb 14 07 02.0
comp=Z,15nm,0.6s
COLD Coldfoot 32.17 36 P **P** **14 07 01.2 +0.9**
baz=264,SNR=21
SONM Songino Array 32.21 286 P **P** **14 06 59.3 -1.8**
comp=Z,0.7nm,0.7s,baz=77,slow=9.3,SNR=4.7
SONM PcP **PcP** **14 09 48.5 +0.3**
comp=Z,2.6nm,0.9s,baz=84,slow=1.5,SNR=7.5
RC01 Rabbit Creek A 32.24 48 IAmb IAmb 14 07 02.5
comp=Z,8.6nm,0.6s
RC01 Rabbit Creek A 32.24 48 P **P** **14 07 01.9 +0.9**
baz=274
O22K Cooper Landing 32.29 49 P **P** **14 07 01.6 +0.1**
baz=275
H23K Yukon River 32.31 39 IAmb IAmb 14 07 03.9
comp=Z,14nm,0.7s
H23K Yukon River 32.31 39 P **P** **14 07 02.9 +1.3**
baz=267,SNR=20
I23K Minto, Yukon-K 32.35 40 IAmb IAmb 14 07 03.5
comp=Z,8.7nm,0.7s
I23K Minto, Yukon-K 32.35 40 P **P** **14 07 03.1 +1.2**
baz=268,SNR=13
NEA2 Nenana 32.46 41 P **P** **14 07 03.8 +0.9**
baz=269,SNR=41
SEW Seward 32.46 50 P **P** **14 07 03.1 +0.2**
SEW IAmb IAmb 14 07 17.0
comp=Z,38nm,1.5s
SEW Seward 32.46 50 P **P** **14 07 03.0 +0.1**
baz=276
NJ2 Nanjing 32.48 252 *e*P **P** **14 07 02.6 -0.8**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
PMR Palmer 32.50 47 P **P** **14 07 03.4 +0.1**
PMR Palmer 32.50 47 P **P** **14 07 03.4 +0.1**
PMR Palmer 32.50 47 P **P** **14 07 04.7 +1.4**
baz=274
MCK McKinley 32.51 43 P **P** **14 07 03.9 +0.4**
MCK pmax pmax
comp=Z,23nm,0.9s
MCK McKinley 32.51 43 P **P** **14 07 03.9 +0.4**
MCK IAmb IAmb 14 07 05.0
comp=Z,23nm,0.9s
MCK McKinley 32.51 43 P **P** **14 07 04.2 +0.8**
baz=271,SNR=12
RND Reindeer 32.55 44 IAmb IAmb 14 07 05.0
comp=Z,29nm,0.8s
TOLK Toolik Lake Re 32.58 34 IAmb IAmb 14 07 05.5
comp=Z,19nm,0.6s
TOLK Toolik Lake Re 32.58 34 P **P** **14 07 04.9 +0.9**
baz=262,SNR=15
GHO Glory Hole Cre 32.58 47 IAmb IAmb 14 07 24.1
comp=Z,11nm,0.7s
WAT1 Susitna Watana 32.71 45 P **P** **14 07 05.1 0.0**
baz=272
MDM Murphy Dome 32.83 41 IAmb IAmb 14 07 08.6
comp=Z,19nm,0.8s
KNK Knik Glacier 32.83 47 P **P** **14 07 06.8 +0.6**
baz=275,SNR=12
SML Sawmill 32.86 46 P **P** **14 07 07.2 +0.7**
baz=274,SNR=28
WRH Wood River Hil 32.88 42 IAmb IAmb 14 07 09.5
comp=Z,14nm,0.6s
TCOL CIGO, UAF Yank 32.98 41 P **P** **14 07 08.6 +1.2**
baz=270,SNR=24
COLA College 32.99 41 P **P** **14 07 08.6 +1.1**
COLA pmax pmax
comp=Z,51nm,0.7s
COLA College 32.99 41 P **P** **14 07 08.6 +1.1**
H24K Noodor Dome 32.99 39 P **P** **14 07 08.8 +1.2**
H24K IAmb IAmb 14 07 09.8
comp=Z,9.7nm,0.7s
H24K Noodor Dome 32.99 39 P **P** **14 07 08.9 +1.3**
baz=268,SNR=13
CCB Clear Creek Bu 33.01 41 IAmb IAmb 14 07 09.4
comp=Z,19nm,0.9s
WAT6 Susitna Watana 33.09 45 P **P** **14 07 09.3 +0.6**
baz=274
POKR Poker Plat Res 33.16 40 P **P** **14 07 10.7 +1.6**
POKR Poker Plat Res 33.16 40 P **P** **14 07 10.4 +1.3**
baz=270,SNR=7.7
ZAK Zakamensk 33.25 292 *e*P **P** **14 07 07.4 -2.7**
ZAK pmax pmax
comp=Z,4.0nm,1.5s
SCM Sheep Creek Mo 33.34 46 P **P** **14 07 11.0 +0.3**
SCM pmax pmax
comp=Z,29nm,0.9s
SCM Sheep Creek Mo 33.34 46 P **P** **14 07 10.9 +0.3**
SCM IAmb IAmb 14 07 14.2
comp=Z,29nm,0.9s
HDA Harding Lake 33.38 42 P **P** **14 07 11.2 +0.2**
baz=271,SNR=23
IL31 33.40 41 IAmb IAmb 14 07 12.4
comp=Z,16nm,0.8s
ILAR Eielson Array 33.40 41 P **P** **14 07 11.3 +0.2**
comp=Z,10nm,0.8s,baz=254,slow=7.1,SNR=106
GLI Glacier Island 33.54 48 P **P** **14 07 12.9 +0.5**
GLI IAmb IAmb 14 07 13.6
comp=Z,16nm,0.7s
GLI Glacier Island 33.54 48 P **P** **14 07 12.0 -0.3**
baz=277
FID Port Fidalgo 33.85 48 P **P** **14 07 15.3 +0.2**
M24K Tolsona, Glenn 33.85 46 P **P** **14 07 16.5 +1.4**
M24K IAmb IAmb 14 07 19.0
comp=Z,23nm,0.8s
M24K Tolsona, Glenn 33.85 46 P **P** **14 07 16.4 +1.2**
baz=276
HIN Hinchinbrook I 33.89 49 P **P** **14 07 16.0 +0.6**
PRP Porcupine Dome 33.97 40 P **P** **14 07 17.0 +0.8**
baz=271,SNR=48
KLU Klutina 34.04 47 IAmb IAmb 14 07 18.5
comp=Z,16nm,1.1s
KLU Klutina 34.04 47 P **P** **14 07 16.9 +0.1**
baz=277
J25K Salcha River, 34.05 41 P **P** **14 07 16.2 -0.7**
baz=272,SNR=42
FYU Fort Yukon 34.08 38 P **P** **14 07 18.6 +1.6**
PAX Paxson 34.11 44 P **P** **14 07 19.6 +2.2**
PAX pmax pmax
comp=Z,7.0nm,0.8s
PAX Paxson 34.11 44 P **P** **14 07 19.6 +2.2**
PAX Paxson 34.11 44 P **P** **14 07 18.1 +0.8**
baz=275
EYAK Cordova Ski Ar 34.24 48 P **P** **14 07 19.4 +1.0**
EYAK IAmb IAmb 14 07 23.0
comp=Z,12nm,0.9s
EYAK Cordova Ski Ar 34.24 48 P **P** **14 07 19.4 +1.0**
baz=278
HARP HAARP 34.30 45 P **P** **14 07 20.3 +1.3**
baz=276
RIDG Independent Ri 34.33 43 P **P** **14 07 19.4 +0.2**
baz=274,SNR=22
N25K Chitina, Valde 34.65 47 IAmb IAmb 14 07 24.0
comp=Z,13nm,0.6s
N25K Chitina, Valde 34.65 47 P **P** **14 07 23.4 +1.3**
baz=278,SNR=6.8
DOT Dot Lake 34.69 43 IAmb IAmb 14 07 23.7
comp=Z,16nm,0.6s
SCRK Sand Creek 34.69 42 IAmb IAmb 14 07 24.0
comp=Z,17nm,0.9s
SCRK Sand Creek 34.69 42 P **P** **14 07 22.6 +0.2**
baz=275,SNR=20
J26K Charley River, 34.73 41 P **P** **14 07 22.9 +0.1**
baz=274,SNR=8.8
BMRM Bremner River 34.73 48 IAmb IAmb 14 07 25.6
comp=Z,25nm,1.1s
BMRM Bremner River 34.73 48 P **P** **14 07 23.6 +0.8**
baz=278
RAGM Ragged Mountai 34.79 49 P **P** **14 07 24.6 +1.4**
MENT Mentasta 34.91 44 IAmb IAmb 14 07 26.2
comp=Z,8.3nm,0.7s
HMT Hamilton 35.00 49 P **P** **14 07 25.9 +0.8**
GLB Gilahina Butte 35.05 47 P **P** **14 07 26.1 +0.7**
L26K Log Cabin Wild 35.07 44 IAmb IAmb 14 07 28.9
comp=Z,7.1nm,0.7s
L26K Log Cabin Wild 35.07 44 P **P** **14 07 26.8 +1.2**
baz=276,SNR=9.4
VRDI Verde Repeater 35.25 47 P **P** **14 07 28.3 +0.9**
VRDI IAmb IAmb 14 07 29.3
comp=Z,8.7nm,0.6s
BERG Berg Lake 35.26 48 P **P** **14 07 28.3 +1.0**
BERG IAmb IAmb 14 07 32.3
comp=Z,21nm,1.0s
M26K Nabesna, AK 35.30 45 P **P** **14 07 29.8 +2.1**
M26K IAmb IAmb 14 07 30.9
comp=Z,23nm,1.0s
M26K Nabesna, AK 35.30 45 P **P** **14 07 29.6 +2.0**
baz=278,SNR=13
CRQM Cirque 35.48 48 P **P** **14 07 30.8 +1.5**
CRQE Cirque 35.50 48 P **P** **14 07 31.0 +1.6**
baz=280,SNR=6.3
K27K Chicken 35.53 42 P **P** **14 07 30.8 +1.3**
K27C Chicken 35.53 42 P **P** **14 07 30.6 +1.1**
baz=276
TGL Tana Glacier 35.63 48 P **P** **14 07 31.2 +0.7**
TGL IAmb IAmb 14 07 32.6
comp=Z,27nm,1.0s
WAX Waxell Ridge 35.67 48 P **P** **14 07 32.1 +1.3**
L27K Beaver Creek, 35.75 44 P **P** **14 07 33.3 +1.9**
baz=278,SNR=47
M27K Edge Creek, AK 35.82 45 P **P** **14 07 33.9 +1.7**
M27K IAmb IAmb 14 07 35.5
comp=Z,16nm,0.9s
M27K Edge Creek, AK 35.82 45 P **P** **14 07 34.1 +1.8**
baz=279,SNR=10
EGAK Eagle 35.85 41 P **P** **14 07 32.5 +0.2**
baz=276,SNR=33
ISLE Juniper Island 35.89 48 P **P** **14 07 34.0 +1.2**
GRNC Granite Creek 36.15 48 IAmb IAmb 14 07 37.0
comp=Z,16nm,0.6s
BVCY Beaver Creek 36.28 45 P **P** **14 07 37.7 +1.7**
baz=279,SNR=10
CTG Chitna Glacier 36.31 47 P **P** **14 07 37.8 +1.5**
baz=281,SNR=10
WHN Wuhan 36.33 254 ⇓P **P** **14 07 36.2 -0.4**
LOGN Logan Glacier 36.49 47 P **P** **14 07 39.2 +1.2**
LOGN IAmb IAmb 14 07 57.2
comp=Z,18nm,1.0s
TABL Table Mountain 36.50 48 P **P** **14 07 39.4 +1.3**
TABL IAmb IAmb 14 07 42.1
comp=Z,20nm,0.8s
YUK3 Moose Creek 36.58 46 P **P** **14 07 39.9 +1.2**
baz=280,SNR=7.0
DAWY Dawson 36.70 42 P **P** **14 07 40.4 +0.9**
baz=278,SNR=6.8
GUMO Guam 36.79 198 LR LR 14 19 40.4
comp=Z,124nm,21.6s,baz=47,slow=31
PCA Pinnacle 37.01 48 P **P** **14 07 42.7 +0.4**
PINM Pinnacle 37.01 48 P **P** **14 07 43.5 +1.3**
baz=283
BCPM Bancas Point 37.34 49 P **P** **14 07 46.0 +1.0**
NRIK Noril'sk 37.47 327 *i* P **P** **14 07 45.9 0.0**
NRIK pmax pmax
comp=Z,8.0nm,2.1s
NRIK MLR MLR
comp=Z,364nm,14.0s
EPYK Eagle Plains 37.51 38 P **P** **14 07 47.8 +1.5**
EPYK IAmb IAmb 14 07 48.7
comp=Z,23nm,0.8s
EPYK Eagle Plains 37.51 38 P **P** **14 07 47.8 +1.5**
baz=278,SNR=12
YUK4 Talbot Arm 37.51 46 P **P** **14 07 48.1 +1.5**
baz=282
YUK6 Outpost Mounta 37.73 47 P **P** **14 07 50.0 +1.5**
baz=283
QZH Quanzhou 37.79 244 P **P** **14 07 52.1 +3.0**
TPUB Ta-pu 37.89 239 P **P** **14 07 48.2 -1.8**
TPUB IAmb IAmb 14 08 07.1
comp=Z,13nm,0.8s
HYT Haines Junctio 38.17 47 P **P** **14 07 53.9 +1.8**
HYT IAmb IAmb 14 07 54.9
comp=Z,16nm,0.9s
HYT Haines Junctio 38.17 47 P **P** **14 07 54.1 +2.0**
baz=284,SNR=5.7
MAYO Mayo, Yukon 38.30 42 P **P** **14 07 55.3 +2.3**
baz=282
INK Inuvik 38.48 34 P **P** **14 07 55.8 +1.3**
comp=Z,15nm,0.6s,baz=288,slow=7.0,SNR=31
INK Inuvik 38.48 34 P **P** **14 07 55.8 +1.3**
INK IAmb IAmb 14 07 56.7
comp=Z,15nm,0.7s
INK Inuvik 38.48 34 P **P** **14 07 55.9 +1.4**
baz=278,SNR=13
WHY Whitehorse 39.46 46 P **P** **14 08 05.0 +2.1**
baz=286
LZH Lanzhou 39.61 270 *e*P **P** **14 08 05.7 +1.2**
LZH pP pP 14 08 20.3 +0.3
LZH sP sP 14 08 31.7 +4.5
LZH pmax pmax
comp=Z,26nm,1.2s
FARO Faro, Yukon 39.75 44 P **P** **14 08 07.2 +2.0**
baz=285,SNR=5.1
GTA Gaotai 40.35 278 *e*P **P** **14 08 10.5 0.0**
GTA pmax pmax
comp=Z,3.0nm,0.7s
JIS Juneau Island 40.41 50 P **P** **14 08 11.5 +0.9**
JIS IAmb IAmb 14 08 13.8
comp=Z,13nm,0.8s
MMPY Sheldon Lake, 40.58 43 P **P** **14 08 14.4 +2.3**
baz=286,SNR=5.1
WRAK Wrangell Islan 42.09 52 P **P** **14 08 27.3 +2.9**
baz=292
TGTN Hyland Airport 42.26 44 P **P** **14 08 28.5 +2.7**
baz=290
DLBC Dease Lake 42.51 49 P **P** **14 08 28.6 +0.7**
comp=Z,8.1nm,0.8s,baz=275,slow=5.0,SNR=16
DLBC Dease Lake 42.51 49 P **P** **14 08 28.8 +0.9**
ZALV Zalesovo Beam 42.55 304 P **P** **14 08 26.1 -2.1**
comp=Z,2.0nm,0.7s,baz=64,slow=7.3,SNR=6.9
ZALV PcP **PcP** **14 10 20.0 +0.5**
comp=Z,4.7nm,0.5s,baz=56,slow=2.7,SNR=18
CD2 Chengdu 42.88 264 *e*P **P** **14 08 30.0 -1.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
DGZ Jazzator, Alta 42.92 298 *i* P **P** **14 08 31.3 -0.1**
DGZ pmax pmax
comp=Z,3.0nm,0.8s
GYA Guiyang 44.02 257 ⇑P **P** **14 08 40.9 +0.4**
GYA pP pP 14 08 59.3 +3.0
GYA pmax pmax
comp=Z,20nm,0.6s
WMQ Urumqi 45.66 290 *e*P **P** **14 08 54.4 +1.1**
EUNU Eureka 46.20 12 P **P** **14 08 57.5 +0.4**
MK31 Makanchi Array 47.34 296 P **P** **14 09 03.9 -2.4**
MK31 pmax pmax
comp=Z,3.0nm,0.8s
MK31 Makanchi Array 47.34 296 P **P** **14 09 03.9 -2.4**
MKAR Makanchi Array 47.34 296 P **P** **14 09 04.5 -1.8**
comp=Z,4.0nm,0.7s,baz=65,slow=7.6,SNR=26
MKAR PcP **PcP** **14 10 36.1 -0.1**
comp=Z,3.3nm,0.9s,baz=56,slow=4.5,SNR=5.2
MKAR LR LR 14 30 27.7
comp=Z,456nm,18.3s,baz=310,slow=38
KMI Kunming 47.47 259 ⇑P **P** **14 09 07.7 -0.1**
KMI pP pP 14 09 22.1 -1.7
KMI pmax pmax
comp=Z,11nm,0.6s
QIZ Qiongzhong 47.51 247 P **P** **14 09 08.7 +0.8**
QIZ S **S** **14 15 58.7 +0.6**
QIZ pmax pmax
comp=Z,16nm,0.7s
QIZ Qiongzhong 47.51 247 P **P** **14 09 08.2 +0.4**
QIZ IAmb IAmb 14 09 10.3
comp=Z,17nm,0.9s
MAKZ Makanchi 47.51 297 P **P** **14 09 05.8 -1.9**
MAKZ pmax pmax
comp=Z,2.0nm,0.7s
MAKZ Makanchi 47.51 297 P **P** **14 09 05.8 -1.9**
YKA Yellowknife Ar 47.77 39 P **P** **14 09 10.6 +1.2**
comp=Z,2.6nm,0.7s,baz=301,slow=5.6,SNR=4.7
YKA Yellowknife Ar 47.77 39⇑*e*P **P** **14 09 10.6 +1.2**
YKA pmax pmax
comp=Z,2.0nm,0.5s
RES Resolute Bay 47.78 20 P **P** **14 09 08.3 -1.0**
RES pmax pmax
comp=Z,22nm,1.1s
RES Resolute Bay 47.78 20 P **P** **14 09 08.3 -1.0**
RES IAmb IAmb 14 09 22.6
comp=Z,22nm,1.1s
SLVN Son La 49.45 255 P **P** **14 09 22.0 -0.9**
SPITS Spitsbergen Ar 50.34 350 P **P** **14 09 26.7 -2.2**
SPITS pmax pmax
comp=Z,21nm,1.3s
BRVK Borovoye 50.62 309*ce*P **P** **14 09 30.7 -0.5**
BRVK pmax pmax
comp=Z,10.0nm,1.7s
BRVK Borovoye 50.62 309 P **P** **14 09 30.0 -1.3**
BRVK IAmb IAmb 14 09 31.0
comp=Z,5.5nm,0.7s
NLWA Neilton Lookou 50.98 60 P **P** **14 09 35.3 +1.1**
NLWA IAmb IAmb 14 09 37.3
comp=Z,8.1nm,0.8s
B05A Bryant 51.49 58 P **P** **14 09 39.1 +1.3**
baz=304
E04D Cinebar 52.19 60 P **P** **14 09 44.8 +1.7**
baz=305
NONG Nongkai 52.35 253 P **P** **14 09 45.7 +1.1**
comp=Z,60nm,1.0s
NONG Nongkai 52.35 253 P **P** **14 09 45.8 +1.1**
NEEM North Greenlan 52.35 7⇑*i*P **P** **14 09 43.2 -1.1**
NEEM IAmb IAmb 14 09 44.1
comp=Z,20nm,0.9s
SKNT Sakolnakorn 52.65 251 P **P** **14 09 47.6 +0.8**
comp=Z,66nm,0.9s
SKNT Sakolnakorn 52.65 251 P **P** **14 09 47.7 +0.8**
comp=Z,66nm,0.9s
SVE Sverdlovsk 53.12 317 *e*P **P** **14 09 49.3 -0.5**
SVE pmax pmax
comp=Z,17nm,0.6s
PAYA Payao 53.45 257 P **P** **14 09 54.1 +1.4**
comp=Z,366nmcomp=Z,41nm,0.9s
PAYA Payao 53.45 257 P **P** **14 09 54.1 +1.4**
comp=Z,91nmcomp=Z,10nm,0.9s
I04A Tendick Farm, 53.90 63 P **P** **14 09 57.3 +1.5**
baz=307
SHL Shillong 54.21 269 P **P** **14 09 58.4 0.0**
UTTA Uttaradit 54.21 255 P **P** **14 09 59.3 +1.0**
comp=Z,427nmcomp=Z,40nm,0.8s
UTTA Uttaradit 54.21 255 P **P** **14 09 59.4 +1.1**
comp=Z,107nmcomp=Z,9.9nm,0.8s
LAMP Lampang 54.22 256 P **P** **14 09 59.7 +1.4**
comp=Z,448nmcomp=Z,58nm,1.1s
LAMP Lampang 54.22 256 P **P** **14 09 59.0 +0.7**
comp=Z,112nmcomp=Z,14nm,1.1s
ARU Arti 54.28 317*c i*P **P** **14 09 57.3 -1.0**
ARU *PP **pP** **14 10 11.7 -2.8**
ARU 14 11 00.6
ARU S **S** **14 17 30.6 -0.3**
ARU SS **SS** **14 21 09.8 -3.1**
ARU pmax pmax
comp=Z,20nm,0.6s
ARU Arti 54.28 317 P **P** **14 09 56.7 -1.6**
CM34 Chiang Mai Arr 54.28 257 P **P** **14 09 59.0 +0.2**
KRMB Red Mountain 54.40 66 P **P** **14 10 01.2 +1.7**
KRMB IAmb IAmb 14 10 02.1
comp=Z,21nm,1.3s
CM35 Chiang Mai Arr 54.41 257 P **P** **14 10 00.0 +0.3**
J04D Umpqua Nationa 54.41 63 P **P** **14 10 01.6 +1.9**
baz=308
CM33 Chiang Mai Arr 54.44 257 P **P** **14 10 00.0 +0.1**
CMMT Chiang Mai 54.44 257 P **P** **14 10 00.5 +0.5**
comp=Z,45nm,1.1s
CMMT Chiang Mai 54.44 257 P **P** **14 10 00.0 0.0**
comp=Z,45nm,1.1s
CHTO Chiang Mai 54.44 257 P **P** **14 10 00.7 +0.7**
CHTO pmax pmax
comp=Z,26nm,1.1s
CHTO Chiang Mai 54.44 257 P **P** **14 10 00.6 +0.6**
comp=Z,46nm,1.1s
CM36 Chiang Mai Arr 54.56 257 P **P** **14 10 01.0 +0.2**
CM32 Chiang Mai Arr 54.62 257 P **P** **14 10 02.0 +0.7**
CM09 Chiang Mai Arr 54.68 257 P **P** **14 10 03.1 +1.3**
comp=Z,192nmcomp=Z,27nm,0.9s
CM09 Chiang Mai Arr 54.68 257 P **P** **14 10 03.0 +1.3**
comp=Z,192nmcomp=Z,27nm,0.9s
CHAI Chaiyaphum 54.70 252 P **P** **14 10 02.4 +0.6**
comp=Z,448nmcomp=Z,59nm,0.8s
CHAI Chaiyaphum 54.70 252 P **P** **14 10 02.5 +0.6**
comp=Z,112nmcomp=Z,15nm,0.8s
CM31 Chiang Mai Arr 54.70 257 P **P** **14 10 03.3 +1.4**
comp=Z,677nm,0.9s
CMAR Chiang Mai Arr 54.70 257 P **P** **14 10 02.9 +1.1**
comp=Z,23nm,0.9s,baz=30,slow=7.1,SNR=93
CMAR PcP **PcP** **14 11 05.2 +1.2**
comp=Z,1.9nm,0.6s,baz=24,slow=3.2,SNR=4.5
CMAR Chiang Mai Arr 54.70 257 P **P** **14 10 03.0 +1.1**
CMAR 14 11 05.5
CMAR Chiang Mai Arr 54.70 257 P **P** **14 10 03.0 +1.1**
CMAR **PcP** **14 11 05.5 +1.6**
PHIT Phitsanulok 54.72 254 P **P** **14 10 03.1 +1.2**
comp=Z,84nm,0.9s
PHIT Phitsanulok 54.72 254 P **P** **14 10 03.2 +1.2**
comp=Z,21nm,0.9s
CM02 Chiang Mai Arr 54.72 257 P **P** **14 10 03.2 +1.3**
comp=Z,248nmcomp=Z,35nm,1.0s
CM02 Chiang Mai Arr 54.72 257 P **P** **14 10 03.3 +1.3**
comp=Z,248nmcomp=Z,35nm,1.0s
CM15 Chiang Mai Arr 54.72 257 P **P** **14 10 03.3 +1.3**
comp=Z,219nmcomp=Z,30nm,1.0s
CM15 Chiang Mai Arr 54.72 257 P **P** **14 10 03.0 +1.0**
comp=Z,219nmcomp=Z,30nm,1.0s
CM01 Chiang Mai Arr 54.72 257 P **P** **14 10 03.3 +1.3**
comp=Z,230nmcomp=Z,30nm,1.0s
CM01 Chiang Mai Arr 54.72 257 P **P** **14 10 03.4 +1.3**
comp=Z,230nmcomp=Z,30nm,1.0s
CM04 Chiang Mai Arr 54.73 257 P **P** **14 10 03.4 +1.4**
comp=Z,218nmcomp=Z,30nm,0.9s
CM04 Chiang Mai Arr 54.73 257 P **P** **14 10 03.4 +1.4**
comp=Z,218nmcomp=Z,30nm,0.9s
CM05 Chiang Mai Arr 54.74 257 P **P** **14 10 03.5 +1.4**
comp=Z,161nmcomp=Z,23nm,0.9s
CM05 Chiang Mai Arr 54.74 257 P **P** **14 10 03.5 +1.4**
comp=Z,161nmcomp=Z,23nm,0.9s
CM13 Chiang Mai Arr 54.76 257 P **P** **14 10 03.5 +1.3**
comp=Z,193nmcomp=Z,27nm,0.9s
CM13 Chiang Mai Arr 54.76 257 P **P** **14 10 03.5 +1.3**
comp=Z,193nmcomp=Z,27nm,0.9s
PINE Pine Mountain 54.76 62 P **P** **14 10 02.8 +0.6**
J05D Fort Rock, OR 54.89 62 P **P** **14 10 05.5 +2.4**
baz=308,SNR=7.3
L04D Klamath Falls 54.92 64 P **P** **14 10 05.4 +2.0**
baz=308
KSH Kashi 55.30 292 P P 14 10 12.6 +6.5
KSH pmax pmax
comp=Z,8.0nm,1.0s
KSH LR LR
comp=Z,370nm,22.3s
KSH LR LR
comp=Z,330nm,19.9s
KSH LR LR
comp=Z,390nm,10.9s
K05A Summer Lake 55.43 63 P **P** **14 10 07.5 +0.5**
K05A IAmb IAmb 14 10 10.3
comp=Z,8.0nm,0.8s
N02D Trinity Center 55.45 65 P **P** **14 10 09.6 +2.5**
baz=309
M04C Macdoel 55.46 64 P **P** **14 10 09.3 +2.1**
baz=308
MHMT Maesarieng 55.56 257 P **P** **14 10 10.1 +2.1**
comp=Z,715nmcomp=Z,61nm,0.7s
MHMT Maesarieng 55.56 257 P **P** **14 10 10.0 +2.1**
comp=Z,715nmcomp=Z,61nm,0.7s
ARCES ARCESS Array B 55.95 341 P **P** **14 10 08.2 -2.0**
comp=Z,2.7nm,0.9s,baz=37,slow=6.1,SNR=5.8
ARCES PcP **PcP** **14 11 08.2 +0.3**
comp=Z,1.7nm,0.6s,baz=338,slow=5.2,SNR=5.5
JTMT Jette 56.03 54 P **P** **14 10 11.7 +0.5**

JTMT IAmb IAmb 14 10 31.1
comp=Z,16nm,1.1s
O03E Paynes Creek 56.41 66 P P 14 10 15.4 +1.4
baz=309
UMPA Umpang Tak 56.43 255 P P 14 10 17.3 +3.0
comp=Z,38nm,1.1s
UMPA Umpang Tak 56.43 255 P P 14 10 17.4 +3.0
comp=Z,9.4nm,1.1s
TOLI2 Tolitoli 56.62 223 P P 14 10 15.6 0.0
TOLI2 IAmb IAmb 14 10 16.4
comp=Z,8.0nm,0.8s
RAMN Ramite 56.72 274 *eP* **P 14 10 16.3 -0.2**
comp=Z,8.7nm,0.4s
MSO Missoula 56.78 55 P P 14 10 18.0 +1.5
baz=309,SNR=6.3
WVOR Wild Horse Val 56.92 62 P P 14 10 19.5 +1.9
WVOR pmax pmax
comp=Z,7.0nm,1.0s
KKN Kakani 57.01 275 *eP* **P 14 10 19.7 +1.2**
comp=Z,13nm,0.5s
PKI Pulchoki 57.07 275 *eP* **P 14 10 18.8 -0.3**
PKIN Phulchoki 57.08 275 *eP* **P 14 10 18.8 -0.3**
comp=Z,6.1nm,0.4s
DMN Daman 57.24 275 *eP* **P 14 10 20.9 +0.7**
comp=Z,19nm,0.7s
GKN Gorkha 57.28 276 *eP* **P 14 10 21.1 +0.7**
comp=Z,12nm,0.5s
BEKR Beckworth 57.54 65 P P 14 10 23.3 +1.3
FFC Flin Flon 57.60 42 P P 14 10 23.9 +1.9
FFC pmax pmax
comp=Z,7.0nm,0.8s
FFC Flin Flon 57.60 42 P P 14 10 23.9 +1.9
FFC IAmb IAmb 14 10 24.1
comp=Z,6.5nm,0.8s
DANN Dangsing 57.62 277 *eP* **P 14 10 23.9 +1.0**
comp=Z,20nm,0.5s
SUMG Summit 57.95 5 *i P* **P 14 10 24.9 +0.2**
SUMG IAmb IAmb 14 10 25.8
comp=Z,16nm,0.7s
SUMG Summit 57.95 5 *i P* **P 14 10 24.9 +0.2**
SUMG pmax pmax
comp=Z,16nm,0.7s
SUMG Summit 57.95 5 P P 14 10 24.2 -0.4
SUMG IAmb IAmb 14 10 25.1
comp=Z,11nm,0.7s
FCC Fort Churchill 58.10 35 P P 14 10 25.7 +0.3
FCC pmax pmax
comp=Z,42nm,1.2s
FCC Fort Churchill 58.10 35 P P 14 10 25.7 +0.3
ABKAR Akbulak array 58.11 310 IAmb IAmb 14 10 25.4
comp=Z,9.1nm,0.6s
KOLN Koldanda 58.11 277 *eP* **P 14 10 27.1 +0.8**
PAHR Pah Rah Range 58.22 65 P P 14 10 28.0 +1.2
LRM Limekiln Ridge 58.22 55 P P 14 10 28.2 +1.3
EGMT Eagleton 58.23 52 P P 14 10 27.6 +1.0
baz=310
PHET Kaeng Krachan 58.45 252 P P 14 10 31.2 +2.8
comp=Z,36nm,1.1s
PHET Kaeng Krachan 58.45 252 P P 14 10 31.2 +2.8
PNTR Pine Nut 58.49 65 P P 14 10 30.1 +1.4
PNTR IAmb IAmb 14 10 31.6
comp=Z,7.3nm,0.7s
HLID Hailey 58.59 58 P P 14 10 31.0 +1.6
baz=310,SNR=8.7
BOZ Bozeman (W) 58.81 55 IAmb IAmb 14 10 33.4
comp=Z,12nm,0.8s
BOZ Bozeman (W) 58.81 55 P P 14 10 32.5 +1.8
baz=310,SNR=24
KVN Kaiserville 59.40 65 P P 14 10 35.1 +0.1
KVN pmax pmax
comp=Z,5.0nm,0.8s
KVN Kaiserville 59.40 65 P P 14 10 35.1 +0.1
SBUM Sibu 59.63 233 P P 14 10 38.0 +1.4
LHV Little Huntoon 59.68 65 P P 14 10 37.0 +0.3
LHV IAmb IAmb 14 10 39.9
comp=Z,5.9nm,0.8s
NVAR Mina Array Bea 59.68 65 P P 14 10 38.6 +1.5
comp=Z,3.0nm,0.6s,baz=297,slow=7.5,SNR=29
YHH Holmes Hill 59.75 55 IAmb IAmb 14 10 40.2
comp=Z,12nm,0.8s
H17A Grant Village 60.16 56 P P 14 10 43.7 +3.4
baz=312,SNR=5.8
RLMT Red Lodge 60.38 54 P P 14 10 43.2 +1.6
RLMT IAmb IAmb 14 10 45.4
comp=Z,13nm,0.8s
RLMT Red Lodge 60.38 54 P P 14 10 43.8 +2.1
baz=312,SNR=14
FXWY Fox Creek 60.41 56 P P 14 10 42.7 +0.7
LAO LASA Array 60.91 51 P P 14 10 47.3 +2.2
baz=312,SNR=9.6
CWC Cottonwood Cre 61.13 67 P P 14 10 47.9 +1.0
baz=312
ICESG Greenland Ices 61.31 6⇑ *i P* **P 14 10 47.6 -0.2**
ICESG IAmb IAmb 14 10 48.3
comp=Z,14nm,0.7s
R11A Troy Canyon, C 61.34 64 P P 14 10 49.4 +1.2
baz=312,SNR=6.7
KSM Kuching 61.46 234 P P 14 10 51.0 +1.9
DUG Dugway, Tooele 61.71 60 P P 14 10 51.8 +1.1
DUG pmax pmax
comp=Z,7.0nm,1.1s
DUG Dugway, Tooele 61.71 60 P P 14 10 51.8 +1.1
DUG IAmb IAmb 14 10 53.4
comp=Z,7.2nm,1.1s
MPMC Manual Prospec 61.74 67 P P 14 10 52.4 +1.4
baz=312
BW06 Boulder Array 61.79 56 P P 14 10 53.0 +1.7
baz=313,SNR=11
PDAR Pinedale Array 61.79 56 P P 14 10 52.8 +1.5
comp=Z,8.9nm,0.9s,baz=323,slow=2.2,SNR=43
FURC Furnace Creek, 61.84 66 P P 14 10 53.3 +1.9
baz=312,SNR=6.1
TPNV Topopah Spring 61.88 65 P P 14 10 53.3 +1.3
baz=312
EDW2 Edwards Air Fo 62.23 68 P P 14 10 55.1 +0.9
baz=313
FINES FINESS Array B 62.41 335 P P 14 10 53.0 -1.9
comp=Z,2.0nm,0.5s,baz=32,slow=8.8,SNR=2.7
FINES PcP **PcP 14 11 33.1 -0.6**
comp=Z,2.3nm,0.7s,baz=19,slow=6.5,SNR=4.5
FINES FINESS Array B 62.41 335 *i P* P
FINES pmax pmax 14 11 01.7 +6.9
comp=Z,1.0nm,0.7s
GSC Goldstone, Bar 62.66 67 P P 14 10 58.5 +1.4
baz=313
TUQ Turquoise Moun 63.10 66 P P 14 11 01.5 +1.5
baz=313
RDMU Red Mountain 63.28 58 P P 14 11 02.3 +1.0
ULM Lac du Bonnet 63.39 43 P P 14 11 01.8 +0.3
comp=Z,5.5nm,1.0s,baz=324,slow=4.2,SNR=4.1
K22A Casper 63.51 55 P P 14 11 04.3 +1.6
baz=314
GMRC Granite Mounta 63.70 67 P P 14 11 05.3 +1.3
baz=314
SRU San Rafael Swe 63.74 60 P P 14 11 05.6 +1.3
SRU pmax pmax
comp=Z,11nm,0.8s
SRU San Rafael Swe 63.74 60 P P 14 11 05.6 +1.3
SRU IAmb IAmb 14 11 06.6
comp=Z,11nm,0.8s
KULM Kulim 63.79 246 P P 14 11 06.0 +1.4
RSSD Black Hills 63.80 52 P P 14 11 05.7 +1.1
RSSD pmax pmax
comp=Z,20nm,0.9s
RSSD Black Hills 63.80 52 P P 14 11 05.7 +1.1
RSSD Black Hills 63.80 52 P P 14 11 06.0 +1.4
baz=314
JRMM Jerantut 63.84 243 P P 14 11 06.0 +1.1
OBN Obninsk 64.13 326⇓ *eP* **P 14 11 05.5 -0.8**
OBN *e* 14 11 40.7
OBN *e* 14 13 24.6
OBN *eS* **S 14 19 35.5 -2.6**
OBN pmax pmax
comp=Z,8.0nm,1.2s
OBN MLR MLR
comp=Z,172nm,18.0s
IPM Ipoh 64.21 245 P P 14 11 08.0 +0.6
IRM Iron Mountain 64.44 67 P P 14 11 09.9 +1.2
baz=314
MYKOM Kota Tinggi 64.75 240 P P 14 11 12.0 +1.1
AGMN Agassiz Nation 64.81 44 P P 14 11 11.7 +0.8
baz=317
N23A Red Feather La 65.04 56 P P 14 11 14.5 +1.7
baz=315,SNR=5.8
PV17 East Wray Mesa 65.20 60 IAmb IAmb 14 11 16.1
comp=Z,14nm,0.8s

WUAZ Wupatki 65.73 63 P P 14 11 19.3 +2.0
baz=315
ISCO Idaho Springs 65.99 56 P P 14 11 19.8 +0.8
ISCO pmax pmax
comp=Z,12nm,1.0s
ISCO Idaho Springs 65.99 56 P P 14 11 19.8 +0.8
ISCO IAmb IAmb 14 11 21.8
comp=Z,12nm,1.0s
ISCO Idaho Springs 65.99 56 P P 14 11 21.1 +2.1
baz=315,SNR=14
NB2 NORSAR Subarra 66.30 342 P P 14 11 19.5 -0.8
comp=Z,0.7nm,0.5s,baz=26,slow=6.5
NOA NORSAR Array B 66.30 342 P P 14 11 19.6 -0.7
comp=Z,1.0nm,0.6s,baz=25,slow=6.4,SNR=4.9
GEYT Alibeck 66.76 301 P P 14 11 22.2 -1.5
comp=Z,15nm,0.5s,baz=0.0,slow=1.9,SNR=5.5
S22A 4UR Ranch, Cre 66.77 59 P P 14 11 26.2 +2.1
baz=315,SNR=11
EYMN Ely 67.03 42 P P 14 11 25.5 +0.4
baz=319
SDCO Great Sand Dun 67.51 58 P P 14 11 30.3 +1.6
baz=316,SNR=6.7
ECSD EROS Data Cent 67.80 48 P P 14 11 29.9 -0.2
ECSD IAmb IAmb 14 11 31.5
comp=Z,10nm,0.8s
ECSD EROS Data Cent 67.80 48 P P 14 11 30.5 +0.4
baz=318,SNR=9.7
SPMN Marine on St. 68.50 45 P P 14 11 35.4 +1.0
baz=319
T25A Trinidad 68.55 58 P P 14 11 36.6 +1.5
baz=316
ANMO Albuquerque 68.98 61 *ceP* **P 14 11 39.6 +1.8**
ANMO pmax pmax
comp=Z,6.0nm,1.7s
ANMO Albuquerque 68.98 61 P P 14 11 39.3 +1.5
baz=316
CTA Charters Tower 69.66 190 P P 14 11 42.1 +0.4
comp=Z,4.9nm,0.9s,baz=351,slow=5.6,SNR=4.0
SCHQ Schefferville 70.19 25 P P 14 11 44.7 0.0
comp=Z,5.6nm,0.6s,baz=327,slow=3.5,SNR=12
SCHQ Schefferville 70.19 25 IAmb IAmb 14 11 47.7
comp=Z,14nm,1.1s
KIV Kislovodsk 70.22 315 *eP* **P 14 11 46.0 +0.8**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KBZ Khabaz 70.29 315 P P 14 11 45.4 -0.1
comp=Z,7.9nm,0.8s,baz=84,slow=2.8,SNR=13
KBZ Khabaz 70.29 315 *ceP* **P 14 11 45.8 +0.3**
KBZ pmax pmax
comp=Z,9.0nm,0.8s
AKASG Malin Array Be 70.33 327 P P 14 11 43.8 -1.8
comp=Z,1.9nm,0.4s,baz=33,slow=6.2,SNR=11
AKBB Malin Array Si 70.33 327 *ceP* **P 14 11 43.6 -2.0**
AKBB Malin Array Si 70.33 327 P P 14 11 44.0 -1.5
SHA1 Shidzhatmaz 70.40 315 *i P* **P 14 11 46.6 +0.2**
DDFL Dedoflistskaro 70.50 311 P P 14 11 48.8 +1.9
GUDG Gudauri 70.52 313 P P 14 11 45.4 -1.8
ONI Oni 70.91 314 P P 14 11 51.8 +2.4
WR0 Warramunga Arr 71.55 201 P P 14 11 53.2 -0.1
WR0 IAmb IAmb 14 11 54.2
comp=Z,12nm,0.9s
WRAB Tennant Creek 71.57 201 *ceP* **P 14 11 53.6 +0.2**
WRAB pmax pmax
comp=Z,16nm,1.3s
WRA Warramunga Arr 71.58 201 P P 14 11 53.4 -0.1
comp=Z,9.6nm,0.9s,baz=20,slow=5.5,SNR=31
AKH Akhalkalaki 71.80 313 P P 14 11 57.4 +2.5
MNTX Cornudas Mount 71.95 62 P P 14 11 57.0 +1.3
baz=318,SNR=5.8
GNI Garni 72.16 311 *i P* **P 14 11 57.8 +0.7**
GNI pmax pmax
comp=Z,16nm,1.6s
FITZ Fitzroy Crossi 72.29 210 P P 14 11 58.5 +0.8
FITZ IAmb IAmb 14 11 59.5
comp=Z,9.2nm,0.8s
WMOK Wichita Mounta 73.40 56 P P 14 12 05.0 +0.7
baz=319,SNR=11
TUL1 Leonard 74.10 53 P P 14 12 09.0 +0.7
baz=320
KOLS Kolonicke sedl 74.20 330 *eP* **P 14 12 08.6 -0.2**
KOLS Kolonicke sedl 74.20 330 *eP* **P 14 12 08.5 -0.2**
BURAR Bucovina Array 74.35 328⇑ **P P 14 12 09.3 -0.4**
BURAR Bucovina Array 74.35 328⇑ **P P 14 12 09.3 -0.4**
CRVS Cervenica-Dubn 74.49 331 *eP* **P 14 12 10.3 -0.1**
CRVS Cervenica-Dubn 74.49 331 *eP* **P 14 12 10.3 -0.1**
TX31 Lajitas Ar. Si 74.69 63 P P 14 12 13.2 +1.2
TX31 IAmb IAmb 14 12 14.2
comp=Z,30nm,1.1s
TX32 Lajitas Array 74.69 63 P P 14 12 13.3 +1.3
TXAR Lajitas Array 74.69 63 P P 14 12 13.2 +1.1
comp=Z,4.8nm,0.7s,baz=297,slow=4.7,SNR=74
DPC Dobruska-Polom 74.75 334 *eP* **P 14 12 13.0 +1.0**
DPC MLR MLR
comp=Z,300nm,18.4s
DPC Dobruska-Polom 74.75 334 *eP* **P 14 12 13.0 +1.0**
DPC AMS AMS 14 48 50.0
comp=Z,300nm,18.4s
CLL Collm 74.78 337 *eP* **P 14 12 12.0 0.0**
comp=Z,8.0nm,1.1s
CLL Collm 74.78 337 *eP* **P 14 12 12.0 0.0**
CLL pmax pmax
comp=Z,8.0nm,1.1s
LANS Liptovska Anna 74.89 332 *eP* **P 14 12 13.8 +1.0**
LANS pmax pmax
comp=Z,6.0nm,0.9s
LANS Liptovska Anna 74.89 332 *eP* **P 14 12 13.8 +1.0**
MORC Moravsky Berou 74.92 333⇑ **P P 14 12 13.2 +0.3**
MORC Moravsky Berou 74.92 333⇑ **P P 14 12 13.2 +0.3**
MORC Moravsky Berou 74.92 333 *eP* **P 14 12 12.5 -0.4**
AS31 Alice Springs 75.27 201 P P 14 12 16.2 +1.1
ASAR Alice Springs 75.27 201 P P 14 12 15.9 +0.8
comp=Z,7.2nm,0.8s,baz=14,slow=5.3,SNR=81
U40A Yellville 75.27 51 P P 14 12 15.1 0.0
baz=321,SNR=6.9
CFR Carcaliu 75.36 325⇑ **P P 14 12 15.4 0.0**
CFR Carcaliu 75.36 325⇑ **P P 14 12 15.4 0.0**
COVR Voineasa-Covas 75.51 326⇑ **P P 14 12 17.1 +0.7**
PRU Prunicie 75.57 335 AMS AMS 14 48 50.0
comp=Z,400nm,18.4s
VRAC Vranov 75.61 334⇑ **P P 14 12 15.8 -1.1**
VRAC Vranov 75.61 334⇑ **P P 14 12 15.8 -1.1**
VRAC Vranov 75.61 334 *eP* **P 14 12 17.1 +0.2**
VYHS Vyhne 75.67 332 *eP* **P 14 12 17.1 -0.1**
VYHS pmax pmax
comp=Z,6.0nm,0.7s
VYHS Vyhne 75.67 332 *eP* **P 14 12 17.1 -0.1**
W39A Magazine 75.69 52 P P 14 12 18.0 +0.5
baz=321
JAVC Velka Javorina 75.70 333 *eP* **P 14 12 18.0 +0.6**
KRUC Moravsky 75.89 334 *eP* **P 14 12 18.1 -0.3**
MLR Muntele Rosu 75.91 326⇑ **P P 14 12 18.4 -0.4**
MLR Muntele Rosu 75.91 326⇑ **P P 14 12 18.4 -0.4**
DRGR 75.92 329⇑ **P P 14 12 18.6 -0.2**
DRGR 75.92 329⇑ **P P 14 12 18.6 -0.2**
PBCC Pribram 76.00 336 *eP* **P 14 12 19.0 -0.1**
JCT Junction City 76.04 59 P P 14 12 20.6 +0.9
baz=320
VOIR 76.28 327⇑ **P P 14 12 21.1 +0.3**
VOIR 76.28 327⇑ **P P 14 12 21.1 +0.3**
MIAR Mount Ida 76.31 53 P P 14 12 21.2 +0.2
MIAR pmax pmax
comp=Z,9.0nm,0.9s
MIAR Mount Ida 76.31 53 P P 14 12 21.2 +0.2
MIAR IAmb IAmb 14 12 22.6
comp=Z,8.6nm,0.9s
MIAR Mount Ida 76.31 53 P P 14 12 21.7 +0.6
baz=321,SNR=8.9
D62A Allapoint, All 76.38 30 P P 14 12 21.7 +0.5
baz=332
ARR Arges 76.48 327⇑ **P P 14 12 22.3 +0.3**
W41B Gary Mavity, V 76.50 51 P P 14 12 23.1 +0.9
baz=322,SNR=6.4
KHC Kasperske Hory 76.62 336 *eP* **P 14 12 23.1 +0.5**
KHC MLR MLR
comp=Z,400nm,18.0s
KHC Kasperske Hory 76.62 336 *eP* **P 14 12 23.1 +0.5**
KHC AMS AMS 14 49 10.0
comp=Z,400nm,18.0s
E62A Clayton Lake 76.63 30 P P 14 12 23.2 +0.6
baz=332
CKRC Cesky Krumlov 76.70 335 *eP* **P 14 12 23.1 0.0**
GRF Grafenberg Arr 76.72 337 *eP* **P 14 12 23.7 +0.5**
comp=Z,19nm,1.1s,baz=23,slow=4.9
X40A Basin Creek Fa 76.74 52 P P 14 12 24.3 +0.8
baz=322

MOQ Mont Orford 76.84 33 P P 14 12 24.1 +0.1
GERES GERESS Array B 76.84 335 P P 14 12 24.1 +0.1
comp=Z,2.4nm,0.7s,baz=38,slow=5.0,SNR=17
GERES GERESS Array B 76.84 335 P P 14 12 22.9 -1.1
WCI Wyandotte Cave 76.99 46 P P 14 12 25.7 +0.8
baz=324
CONA Conrad Observa 77.07 334 *i P* **P 14 12 26.2 +1.0**
comp=Z,7.5nm,0.8s
MEM Membach 77.08 341 *dP* **P 14 12 25.0 -0.1**
GZR Gura Zlata 77.11 328⇑ **P P 14 12 25.2 -0.3**
GZR Gura Zlata 77.11 328⇑ **P P 14 12 25.2 -0.3**
BZS Buzias 77.31 329⇑ **P P 14 12 26.7 +0.2**
BZS Buzias 77.31 329⇑ **P P 14 12 26.7 +0.2**
G62A West of Eustis 77.52 32 P P 14 12 28.0 +0.3
baz=331
MOA Molln 77.59 335 *i P* **P 14 12 28.7 +0.6**
comp=Z,6.1nm,0.8s
BMRD Maredsous 77.64 341 *dP* **P 14 12 27.4 -0.9**
BMRD *d*PcP **PcP 14 12 37.1 -1.1**
BRTR Keskin Array B 77.66 318 P P 14 12 27.2 -1.6
comp=Z,3.5nm,0.9s,baz=45,slow=3.7,SNR=16
BRTR Keskin Array B 77.66 318 *ceP* **P 14 12 28.8 0.0**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
HERR Herculane 77.69 328⇑ **P P 14 12 28.1 -0.6**
ARSA Arzberg 77.78 334 *i P* **P 14 12 29.9 +0.8**
comp=Z,7.8nm,1.1s
WVT Waverly 77.95 48 P P 14 12 30.4 +0.2
baz=324
MDVR Moldovita 78.02 328⇑ **P P 14 12 30.0 -0.6**
FRGS Fruska Gora 78.32 330⇑ **P P 14 12 31.5 -0.6**
SOKA Soboth 78.44 334 *eP* **P 14 12 33.4 +0.6**
comp=Z,13nm,0.8s,SNR=7.2
KBA Koelnbreinsper 78.55 335 *i P* **P 14 12 34.8 +1.2**
comp=Z,33nm,0.7s,SNR=7.2
WATA Walderalm 78.80 336 *i P* **P 14 12 35.7 +0.8**
comp=Z,18nm,1.3s
WTTA Wattenberg 78.85 336 *i P* **P 14 12 36.2 +1.0**
comp=Z,21nm,1.0s,SNR=6.3
CDF Champ du Feu 78.87 339 *eP* **P 14 12 34.6 -0.6**
CDF pmax pmax
comp=Z,13nm,1.0s
RETA Reutte 78.87 337 *i P* **P 14 12 35.8 +0.6**
comp=Z,5.2nm,0.9s
MYKA Terra Mystica 78.88 334 *i P* **P 14 12 35.3 0.0**
comp=Z,7.5nm,0.9s
MOTA Moosalm 78.91 336 *i P* **P 14 12 36.2 +0.7**
comp=Z,16nm,1.0s,SNR=6.3
SQTA Sankt Quirin 79.00 336 *eP* **P 14 12 36.9 +0.9**
comp=Z,14nm,1.1s,SNR=7.3
BOVS Bovan 79.02 328⇑ **P P 14 12 34.8 -1.2**
ABTA Abfaltersbach 79.09 335 *i P* **P 14 12 36.9 +0.5**
comp=Z,11nm,1.0s
DIVS Divibare 79.20 329 IAmb IAmb 14 12 40.3
comp=Z,13nm,0.8s
DAVA Damuels 79.28 337 *i P* **P 14 12 38.1 +0.5**
comp=Z,10nm,1.1s
FETA Feichten 79.31 336 *i P* **P 14 12 38.5 +0.8**
comp=Z,7.5nm,0.9s
VTS Vitosha 79.37 326⇑ **P P 14 12 37.3 -0.8**
VTS Vitosha 79.37 326⇑ **P P 14 12 37.3 -0.8**
VTS Vitosha 79.37 326 IAmb IAmb 14 12 39.0
comp=Z,16nm,0.7s
HAU Haudompre 79.46 340 *eP* **P 14 12 37.7 -0.7**
HAU pmax pmax
comp=Z,15nm,1.0s
HINF Hinteralfeld 79.52 339 *eP* **P 14 12 37.9 -0.8**
HINF pmax pmax
comp=Z,9.0nm,1.2s
FLN La Foliniere 80.12 344 *eP* **P 14 12 41.4 -0.5**
FLN pmax pmax
comp=Z,16nm,0.9s
GRR Gorron 80.55 344 *eP* **P 14 12 43.9 -0.3**
GRR pmax pmax
comp=Z,42nm,1.0s
EZN Ezine 80.62 323 P P 14 12 44.4 -0.3
LOR Lormes 80.71 341 *eP* **P 14 12 44.5 -0.6**
LOR pmax pmax
comp=Z,14nm,0.9s
PDG Podgorica 80.93 329⇓ **P P 14 12 45.2 -1.1**
SGMF Saint Gilles 80.97 346 *eP* **P 14 12 46.2 -0.2**
SGMF pmax pmax
comp=Z,20nm,0.7s
ROSF Rostrenen 81.00 346 *eP* **P 14 12 46.5 -0.1**
ROSF pmax pmax
comp=Z,35nm,0.9s
QUIF Quistinic 81.39 346 *eP* **P 14 12 48.3 -0.4**
QUIF pmax pmax
comp=Z,13nm,0.9s
BGF Bois d'Agland 81.60 341 *eP* **P 14 12 50.7 +0.9**
BGF pmax pmax
comp=Z,18nm,1.4s
LPL La Plagne 81.72 339 *eP* **P 14 12 51.0 +0.3**
LPL pmax pmax
comp=Z,15nm,0.7s
LPG La Plagne 81.73 339 *eP* **P 14 12 51.2 +0.3**
LPG pmax pmax
comp=Z,16nm,0.7s
CSS Mathiatis 81.73 316 P P 14 12 50.6 -0.1
ELL Elmali 81.76 319 P P 14 12 51.1 +0.1
STKA Stephens Creek 81.86 192 P P 14 12 51.2 +0.1
comp=Z,1.7nm,0.6s,baz=352,slow=5.6,SNR=5.0
SSB Saint Sauveur 82.45 340 P P 14 12 53.5 -0.8
SSB pmax pmax
comp=Z,11nm,0.9s
SSB Saint Sauveur 82.45 340 P P 14 12 53.5 -0.8
SSB IAmb IAmb 14 12 55.8
comp=Z,11nm,0.9s
ORIF Oris-en-Rattie 82.48 339 *eP* **P 14 12 55.0 +0.4**
ORIF pmax pmax
comp=Z,8.0nm,0.6s
RJF Les Rejaudoux 83.07 342 *eP* **P 14 12 57.4 -0.1**
RJF pmax pmax
comp=Z,18nm,1.1s
CAF Calviac 83.32 342 *eP* **P 14 12 59.2 +0.4**
CAF pmax pmax
comp=Z,15nm,1.0s
FORT Forrest 83.52 204 P P 14 13 00.8 +1.1
LMR La Mourre 83.82 338 *eP* **P 14 13 01.1 -0.3**
LMR pmax pmax
comp=Z,42nm,1.2s
ITM Ithomi 84.61 325 P P 14 13 04.0 -1.6
ITM IAmb IAmb 14 13 07.2
comp=Z,14nm,0.9s
EPF Esparros 85.49 342 *eP* **P 14 13 09.5 -0.4**
EPF pmax pmax
comp=Z,3.0nm,0.8s
ETSF Etsaut 85.79 343 *eP* **P 14 13 12.4 +1.0**
ETSF pmax pmax
comp=Z,4.0nm,0.8s
ESDC Sonseca Array 89.54 344 P P 14 13 28.2 -1.2
comp=Z,1.6nm,0.8s,baz=7.0,slow=4.2,SNR=13
KEST Kesra 90.17 333 P P 14 13 32.7 +0.2
comp=Z,4.0nm,0.6s,baz=335,slow=2.3,SNR=8.0
TORD Torodi Ar. Bea 113.67 332 PKiKP **PKiKP 14 19 10.4 -0.2**
comp=Z,0.6nm,0.8s,baz=13,slow=2.4,SNR=3.2
DBIC Dimbokro 121.68 337 PKP **PKPdf 14 19 25.7 -0.2**
comp=Z,2.7nm,0.8s,baz=219,slow=5.0,SNR=1.7
VNDA Vanda 126.67 178 PKP **PKiKP 14 19 34.0 0.0**
comp=Z,0.7nm,0.8s,baz=270,slow=2.0,SNR=3.2
MAW Mawson 135.37 213 PKP **PKiKP 14 19 51.5 -0.2**
comp=Z,1.1nm,0.6s,baz=101,slow=7.1,SNR=7.1
H03N2 Juan Fernandez 136.97 89 T T 16 52 17.4
baz=312,slow=77,SNR=29
H03N1 Juan Fernandez 136.99 89 T T 16 52 15.8
baz=312,slow=77,SNR=180
H03N3 Juan Fernandez 136.99 89 T T 16 52 15.2
baz=312,slow=77,SNR=43
CPUP Villa Florida 145.63 60 PKPbc **PKPab 14 20 10.8 0.0**
comp=Z,7.1nm,0.9s,baz=325,slow=3.4,SNR=13
PLCA Paso Flores 146.62 93 PKPbc **PKPbc 14 20 12.7 -0.4**
comp=Z,5.8nm,1.0s,baz=295,slow=2.9,SNR=12
PLCA Paso Flores 146.62 93 PKPab 14 20 14.1 -0.2
SNAA Sanae 155.57 196 PKPab **PKPab 14 20 50.5 +0.1**
VNA2 Neumayer--Watz 156.98 194 PKPab **PKPab 14 20 56.9 +0.4**
VNA3 Neumayer Olymp 157.03 192 PKPab **PKPab 14 20 56.4 -0.2**
VNA1 Neumayer--Stat 157.36 194 PKPab **PKPab 14 20 58.1 +0.1**

NEIC ***05*** *14:05:47.6±1.1, 19°39'N±0'.09×64°.88W±0'.05, h36km±54km,*
Error ellipse: s-maj=13.8km s-min=4.2km az=205.0
RSPR ***05*** *14:05:49.4, 19°.36N×64°.91W, h30km±18km, MD3.4/10*
OSPL ***05*** *14:05:50.2±2.8, 19°.40N×64°.91W, h28km±237km, ML3.2*
ISC 05 14:05:45.9±1.5, 19°.43N±0'.07×64°.90W±0'.06, h23km, n61,

σ1§10/67, 13C-4D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABVI	**Anegada Island**	**0.88**	**142**		**Pb**	**14 06 03.7**	**+1.2**
ABVI				IAML		14 06 23.7	
	comp=E,620nm,0.9s						
TBVI	**Tortola**	**1.04**	**165**	⇓eP	**Pn**	**14 06 05.2**	**+0.1**
TBVI	**Tortola**	**1.04**	**165**	eS	**Sb**	**14 06 17.9**	**-0.7**
VGBI	**Virgin Gorda,**	**1.05**	**153**	⇑eP	**Pn**	**14 06 05.6**	**+0.4**
VGBI	**Virgin Gorda,**	**1.05**	**153**	eS	**Sb**	**14 06 18.3**	**-0.4**
VGBI	**Virgin Gorda,**	**1.05**	**153**		**Pn**	**14 06 05.6**	**+0.4**
VGBI					**Sb**	**14 06 18.3**	**-0.4**
STVI	**Saint Thomas**	**1.07**	**183**	⇑eP	**Pn**	**14 06 05.2**	**-0.3**
STVI	**Saint Thomas**	**1.07**	**183**	eS	**Sb**	**14 06 18.1**	**-1.3**
STVI	**Saint Thomas**	**1.07**	**183**		**Pn**	**14 06 05.2**	**-0.3**
STVI					**Sb**	**14 06 18.1**	**-1.3**
STVI	**Saint Thomas**	**1.07**	**183**	IAML		14 06 19.9	
	comp=E,431nm,0.5s						
STVI				IAML		14 06 20.2	
	comp=N,502nm,0.2s						
CUPR	**Culebra, Puert**	**1.17**	**198**	⇑eP	**Pn**	**14 06 06.7**	**-0.3**
CUPR	**Culebra, Puert**	**1.17**	**198**		**Pn**	**14 06 06.7**	**-0.3**
CUPR	**Culebra, Puert**	**1.17**	**198**	IAML		14 06 24.7	
	comp=E,706nm,0.6s						
CUPR				IAML		14 06 24.9	
	comp=N,572nm,0.4s						
MTP	**Monte Pirata**	**1.46**	**205**	⇑eP	**Pn**	**14 06 11.5**	**+0.6**
MTP	**Monte Pirata**	**1.46**	**205**	eS	**Sn**	**14 06 28.5**	**-0.8**
MTP	**Monte Pirata**	**1.46**	**205**		**Pn**	**14 06 11.5**	**+0.6**
MTP					**Sn**	**14 06 28.5**	**-0.8**
MTP	**Monte Pirata**	**1.46**	**205**	IAML		14 06 31.2	
	comp=N,367nm,0.5s						
MTP				IAML		14 06 34.5	
	comp=E,499nm,0.2s						
CBYP	**Canovanas**	**1.46**	**218**	⇑eP	**Pn**	**14 06 11.4**	**+0.5**
CBYP	**Canovanas**	**1.46**	**218**	eS	**Sn**	**14 06 28.7**	**-0.8**
CBYP	**Canovanas**	**1.46**	**218**		**Pn**	**14 06 11.4**	**+0.5**
CBYP					**Sn**	**14 06 28.7**	**-0.8**
HUMP	**Col San Antoni**	**1.56**	**215**	⇑eP	**Pn**	**14 06 12.4**	**+0.1**
HUMP	**Col San Antoni**	**1.56**	**215**	eS	**Sn**	**14 06 30.8**	**-1.1**
HUMP	**Col San Antoni**	**1.56**	**215**		**Pn**	**14 06 12.4**	**+0.1**
HUMP					**Sn**	**14 06 30.8**	**-1.1**
HUMP	**Col San Antoni**	**1.56**	**215**	IAML		14 06 32.7	
	comp=N,353nm,0.6s						
HUMP				IAML		14 06 33.1	
	comp=E,301nm,0.2s						
GCPR	**Guaynabo City**	**1.58**	**225**	⇑eP	**Pn**	**14 06 12.8**	**+0.3**
GCPR	**Guaynabo City**	**1.58**	**225**		**Pn**	**14 06 12.8**	**+0.3**
CDVI	**St. Croix**	**1.67**	**176**		**Pn**	**14 06 15.4**	**+1.6**
PDPR	**Patillas Dam,**	**1.76**	**217**		**Pn**	**14 06 14.7**	**-0.3**
PDPR				IAML		14 06 44.6	
	comp=E,170nm,0.7s						
SJG	**San Juan**	**1.76**	**222**	Pn	**Pn**	**14 06 15.0**	**-0.1**
SJG				IAML		14 06 41.2	
	comp=E,234nm,0.5s						
EMPR	**Esperanza - Ma**	**1.81**	**239**	⇓eP	**Pn**	**14 06 16.8**	**+1.1**
EMPR	**Esperanza - Ma**	**1.81**	**239**	eS	**Sn**	**14 06 37.5**	**-0.4**
EMPR	**Esperanza - Ma**	**1.81**	**239**		**Pn**	**14 06 16.7**	**+1.1**
EMPR				IAML		14 06 44.8	
	comp=N,422nm,0.6s						
EMPR	**Esperanza - Ma**	**1.81**	**239**		**Sn**	**14 06 37.5**	**-0.4**
IGPR	**InterUniversit**	**1.85**	**218**	⇑eP	**Pn**	**14 06 17.0**	**+0.7**
IGPR	**InterUniversit**	**1.85**	**218**	eS	**Sn**	**14 06 38.4**	**-0.5**
AOPR	**Arecibo Observ**	**2.06**	**239**	⇑eP	**Pn**	**14 06 20.2**	**+1.1**
AOPR	**Arecibo Observ**	**2.06**	**239**	eS	**Sn**	**14 06 43.6**	**-0.5**
AOPR	**Arecibo Observ**	**2.06**	**239**		**Pn**	**14 06 20.2**	**+1.1**
AOPR					**Sn**	**14 06 43.6**	**-0.5**
CELP	**Cerrillos**	**2.08**	**230**	⇑eP	**Pn**	**14 06 20.4**	**+0.9**
CELP	**Cerrillos**	**2.08**	**230**	eS	**Sn**	**14 06 44.2**	**-0.5**
CELP	**Cerrillos**	**2.08**	**230**		**Pn**	**14 06 20.4**	**+0.9**
CELP					**Sn**	**14 06 44.2**	**-0.5**
OBIP	**Obispado Ponce**	**2.12**	**230**	⇑eP	**Pn**	**14 06 20.4**	**+0.4**
OBIP	**Obispado Ponce**	**2.12**	**230**	eS	**Sn**	**14 06 45.0**	**-0.6**
OBIP	**Obispado Ponce**	**2.12**	**230**		**Pn**	**14 06 20.4**	**+0.4**
OBIP					**Sn**	**14 06 45.0**	**-0.6**
OBIP	**Obispado Ponce**	**2.12**	**230**	IAML		14 06 54.6	
	comp=E,166nm,0.6s						
ICMP	**Isla Caja de M**	**2.17**	**225**	⇑eP	**Pn**	**14 06 21.6**	**+0.9**
ICMP	**Isla Caja de M**	**2.17**	**225**	eS	**Sn**	**14 06 46.8**	**-0.1**
ICMP	**Isla Caja de M**	**2.17**	**225**		**Pn**	**14 06 21.6**	**+0.9**
ICMP					**Sn**	**14 06 46.8**	**-0.1**
ICMP	**Isla Caja de M**	**2.17**	**225**	IAML		14 06 54.9	
	comp=E,232nm,0.9s						
ICMP				IAML		14 06 56.4	
	comp=N,148nm,0.7s						
AGPR	**Aguadilla, PR**	**2.30**	**246**		**Pn**	**14 06 22.5**	**+0.1**
AGPR				IAML		14 07 01.2	
	comp=N,98nm,0.9s						
AGPR				IAML		14 07 05.1	
	comp=E,126nm,0.8s						
AGPR	**Aguadilla, PR**	**2.30**	**246**	iP	**Pn**	**14 06 23.5**	**+1.1**
AGPR				eS	**Sn**	**14 06 50.0**	**-0.1**
AGPR				IAML		14 06 58.4	
	comp=Z,49nm,0.9s						
LSP	**Las Mesas**	**2.42**	**239**	⇓eP	**Pn**	**14 06 25.4**	**+1.3**
MLPR	**Magueyes Islan**	**2.50**	**235**		**Pn**	**14 06 26.1**	**+0.9**
CRPR	**Cabo Rojo, PR**	**2.52**	**236**	⇑eP	**Pn**	**14 06 26.9**	**+1.3**
CRPR	**Cabo Rojo, PR**	**2.52**	**236**		**Pn**	**14 06 26.3**	**+0.8**
CRPR				IAML		14 07 03.9	
	comp=E,96nm,0.8s						
CRPR	**Cabo Rojo, PR**	**2.52**	**236**	iP	**Pn**	**14 06 27.6**	**+2.0**
CRPR				eS	**Sn**	**14 06 55.4**	**-0.2**
CRPR				IAML		14 07 16.2	
	comp=Z,82nm,0.8s						
IDE	**Isla Desecheo**	**2.65**	**247**	⇓eP	**Pn**	**14 06 28.3**	**+1.1**
SDDR	**Presa de Saban**	**6.05**	**267**		**Pn**	**14 07 14.8**	**+0.7**
SDDR	**Presa de Saban**	**6.05**	**267**	iP	**Pn**	**14 07 17.7**	**+3.6**
SDDR				eS	**Sn**	**14 08 20.7**	**-2.0**
SDDR				IAML		14 08 25.8	
	comp=Z,12nm,2.1s						
GRTK	**Grand Turk**	**6.20**	**291**	Pn	**Pn**	**14 07 16.4**	**+0.4**
GRTK	**Grand Turk**	**6.20**	**291**	eS	**Sn**	**14 08 21.6**	**-4.7**
GRTK				IAML		14 08 37.0	
	comp=Z,21nm,2.4s						

*IDC **05** 14:17:48.2±2.9, 35°.75N×140°.95E, h43km±27km, mb3.0/2, mb1 3.2/5, mb1mx3.0/49, mbtmp3.3/5, ML2.8/3, Error ellipse: s-maj=46.6km s-min=23.6km az=82.0*

*JMA **05** 14:17:49.5±0.2, 35°.72N×140°.69E, h51km±2km, M2.8*

ISC 05 14:17:48.8±1.3**, 35°.69N**±0°.05×**140°.9E**±0°.1**, h53**km±8km**,**
n13, σ1§24/19, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.01**	**6**	P	**Pn**	**14 17 57.4**	**+0.6**
JSMT	**Sammumatsuo**	**0.34**	**262**	P	**Pn**	**14 17 58.2**	**-0.3**
JSMT				S	**Sn**	**14 18 05.3**	**-0.1**
JIHU	**Itakohorinouch**	**0.39**	**316**	P	**Pn**	**14 17 59.1**	**+0.2**
JIHU				S	**Sn**	**14 18 06.3**	**+0.1**
JCN	**Nagara**	**0.60**	**243**	P	**Pn**	**14 18 01.4**	**0.0**
JCN				S	**Sn**	**14 18 10.2**	**-0.3**
JYT	**Yasato**	**0.76**	**315**	P	**Pn**	**14 18 02.6**	**-0.8**
JYT				S	**Sn**	**14 18 11.8**	**-2.2**
BSO4	**Boso 4**	**0.82**	**211**	P	**Pn**	**14 18 04.6**	**+0.5**
BSO4				X		14 18 16.0	
BSO3	**Boso 3**	**0.93**	**198**	P	**Pn**	**14 18 06.2**	**+0.8**
MJAR	**Matsushiro Arr**	**2.31**	**292**	P	**Pn**	**14 18 24.5**	**+0.2**
	0.5nm,0.3s,baz=98,slow=16,SNR=56						
MAT	**Matsushiro**	**2.31**	**292**	P	**Pn**	**14 18 25.0**	**+0.6**
MAT				S	**Sn**	**14 18 52.0**	**+0.4**
JHJ	**Hachijo jima 2**	**2.71**	**199**	P	**Pn**	**14 18 29.8**	**-0.1**
	8.6nm,0.3s,baz=134,slow=23,SNR=11						
JHJ				S	**Sn**	**14 18 58.1**	**-3.4**
	9.2nm,0.3s,baz=96,slow=23,SNR=2.1						
ASAJ	**Asahikawa**	**8.52**	**8**	P	**Pn**	**14 19 47.9**	**-1.6**
	0.2nm,0.3s,baz=258,slow=28,SNR=2.0						
MKAR	**Makanchi Array**	**44.46**	**303**	P	**P**	**14 25 55.3**	**+0.7**
	0.2nm,0.5s,baz=98,slow=6.4,SNR=2.1						
WRA	**Warramunga Arr**	**55.67**	**187**	P	**P**	**14 27 20.4**	**+0.8**
	0.1nm,0.3s,baz=0.6,slow=7.3,SNR=8.7						

*SKO **05** 14:31:39.2, 40°.76N×22°.08E, h15km*

*BEO **05** 14:31:40.9±0.7, 40°.69N×22°.04E, h18km±3km, ML2.3/7*

*SOF **05** 14:31:41.3, 40°.99N×21°.80E, h8km, MD2.6*

*THE **05** 14:31:41.8, 40°.72N×22°.11E, h6km, ML2.4/5, Error ellipse: s-maj=0.8km s-min=0.4km az=5.0*

*ATH **05** 14:31:42.0, 40°.69N×22°.13E, h16km±3km, ML2.5/14, Error ellipse: s-maj=3.6km s-min=1.1km az=140.0*

ISC 05 14:31:41.1±1.0**, 40°.73N**±0°.02×**22°.08E**±0°.02**, h14**km±8km**,**
n62, σ0§59/83, 1C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GRG	**Griva**	**0.33**	**46**	P	**Pg**	**14 31 48.2**	**+0.2**
GRG				S	**Sg**	**14 31 52.8**	**+0.1**
	2μm,0.3s						
GRG	**Griva**	**0.33**	**46**	⇑iPg	**Pg**	**14 31 48.2**	**+0.2**
GRG				iSg	**Sb**	**14 31 53.9**	**-0.2**
KTI	**Kastanea**	**0.34**	**175**	P	**Pg**	**14 31 48.3**	**+0.2**
THE	**Thessaloniki**	**0.68**	**98**	P	**Pg**	**14 31 54.3**	**-0.1**
THE				S	**Sb**	**14 32 04.0**	**0.0**
	162nm,0.3s						
THE	**Thessaloniki**	**0.68**	**98**	P	**Pg**	**14 31 54.3**	**-0.1**
THE				S	**Sg**	**14 32 03.2**	**-0.1**
THE				AML	AML	14 32 07.4	
	comp=N,402μm,0.4s						
THE				AML	AML	14 32 08.5	
	comp=E,356μm,0.5s						
THE	**Thessaloniki**	**0.68**	**98**	⇓iPg	**Pg**	**14 31 54.3**	**-0.1**
THE				iSg	**Sb**	**14 32 04.7**	**+0.8**
LIT	**Litokhoron**	**0.70**	**153**	P	**Pg**	**14 31 54.7**	**-0.1**
LIT				S	**Sb**	**14 32 04.7**	**+0.1**
	comp=E,610nm,0.3s						
LIT	**Litokhoron**	**0.70**	**153**	P	**Pg**	**14 31 54.7**	**-0.1**
LIT				S	**Sg**	**14 32 03.6**	**-0.4**
LIT				AML	AML	14 32 07.0	
	comp=E,1431μm,0.2s						
LIT				AML	AML	14 32 09.7	
	comp=N,1004μm,0.4s						
LIT	**Litokhoron**	**0.70**	**153**	iPg	**Pg**	**14 31 54.5**	**-0.3**
VAY	**Valandovo**	**0.70**	**32**	ePg	**Pg**	**14 31 54.6**	**-0.2**
VAY				eSg	**Sn**	**14 32 06.3**	**-0.9**
VAY	**Valandovo**	**0.70**	**32**	iPg	**Pg**	**14 31 54.5**	**-0.2**
VAY				iSg	**Sb**	**14 32 04.8**	**+0.2**
VAY				eLg	Lg	14 32 04.9	
	comp=N,66nm,0.4s						
VAY				eLg	Lg	14 32 05.8	
	comp=E,66nm,0.3s						
HORT	**Hortiatis**	**0.79**	**99**	P	**Pg**	**14 31 56.0**	**-0.4**
HORT				S	**Sb**	**14 32 07.6**	**+0.5**
	comp=E,178nm,0.3s						
HORT	**Hortiatis**	**0.79**	**99**	P	**Pg**	**14 31 56.1**	**-0.4**
HORT				AML	AML	14 32 11.4	
	comp=N,358μm,0.3s						
HORT				AML	AML	14 32 12.3	
	comp=E,359μm,0.4s						
NEST	**Nestorio**	**0.85**	**249**	P	**Pb**	**14 31 57.8**	**+0.2**
NEST	**Nestorio**	**0.85**	**249**	P	**Pb**	**14 31 57.8**	**+0.2**
NEST				AML	AML	14 32 15.0	
	comp=N,989μm,0.8s						
NEST				AML	AML	14 32 16.3	
	comp=E,611μm,0.3s						
PENT	**Pentalofos**	**0.89**	**234**	P	**Pg**	**14 31 58.9**	**+0.4**
PENT	**Pentalofos**	**0.89**	**234**	P	**Pg**	**14 31 58.9**	**+0.4**
PENT				AML	AML	14 32 17.2	
	comp=E,712μm,0.5s						
PENT				AML	AML	14 32 20.3	
	comp=N,626μm,0.5s						
KPRO	**Kipourio**	**0.95**	**216**	P	**Pg**	**14 31 59.6**	**+0.1**
KPRO	**Kipourio**	**0.95**	**216**	P	**Pg**	**14 31 59.6**	**+0.1**
KPRO				AML	AML	14 32 18.3	
	comp=N,527μm,0.3s						
KPRO				AML	AML	14 32 21.3	
	comp=E,767μm,0.5s						
STIP	**Stip**	**0.97**	**5**	⇓iPg	**Pn**	**14 32 00.6**	**+0.3**
STIP				iSg	**Sn**	**14 32 15.5**	**+1.6**
SOH	**Sokhos**	**0.97**	**84**	P	**Pb**	**14 31 59.6**	**-0.1**
SOH	**Sokhos**	**0.97**	**84**	P	**Pb**	**14 31 59.6**	**-0.1**
SOH				AML	AML	14 32 16.1	
	comp=N,724μm,0.3s						
SOH				AML	AML	14 32 16.9	
	comp=E,934μm,0.4s						
SOH	**Sokhos**	**0.97**	**84**	iPg	**Pb**	**14 31 60.0**	**+0.2**
SOH				iSg	**Sn**	**14 32 13.7**	**-0.2**
OHR	**Ohrid**	**1.04**	**292**	iPg	**Pb**	**14 32 00.1**	**-0.9**
OHR				iSg	**Sn**	**14 32 15.9**	**+0.1**
OHR				eLg	Lg	14 32 16.1	
	comp=N,118nm,0.4s						
OHR				eLg	Lg	14 32 17.2	
	comp=E,130nm,0.4s						
PLG	**Polygyros**	**1.10**	**108**	P	**Pb**	**14 32 01.6**	**-0.3**
PLG	**Polygyros**	**1.10**	**108**	P	**Pb**	**14 32 01.6**	**-0.3**
PLG				AML	AML	14 32 21.2	
	comp=E,380μm,0.3s						
PLG				AML	AML	14 32 22.3	
	comp=N,464μm,0.3s						
SRS	**Serrai**	**1.21**	**71**	ePg	**Pn**	**14 32 03.4**	**-0.2**
SRS				eSg	**Sn**	**14 32 19.7**	**-0.1**
SRS	**Serrai**	**1.21**	**71**	P	**Pn**	**14 32 03.3**	**-0.4**
SRS	**Serrai**	**1.21**	**71**	iPg	**Pn**	**14 32 03.4**	**-0.2**
SKO	**Skopje**	**1.33**	**339**	iPg	**Pb**	**14 32 06.2**	**+0.3**
SKO				iSg	**Sn**	**14 32 22.6**	**-0.2**
KKB	**Krupnik**	**1.37**	**33**	iP	**Pb**	**14 32 06.5**	**0.0**
PAIG	**Paliouri**	**1.46**	**123**	P	**Pn**	**14 32 07.2**	**+0.2**
PAIG	**Paliouri**	**1.46**	**123**	P	**Pn**	**14 32 06.9**	**-0.1**
PAIG				AML	AML	14 32 29.5	
	comp=N,226μm,0.6s						
PAIG				AML	AML	14 32 31.5	
	comp=E,198μm,0.4s						
NVR	**Nevrokopi**	**1.48**	**65**	P	**Pb**	**14 32 08.2**	**-0.3**
NVR	**Nevrokopi**	**1.48**	**65**	P	**Pb**	**14 32 08.3**	**-0.3**
NVR				AML	AML	14 32 35.9	
	comp=N,91μm,0.4s						
NVR				AML	AML	14 32 40.0	
	comp=E,78μm,0.7s						
OUR	**Ouranopolis**	**1.50**	**105**	P	**Pb**	**14 32 08.3**	**-0.4**
OUR	**Ouranopolis**	**1.50**	**105**	P	**Pb**	**14 32 08.4**	**-0.4**
MMB	**Musomiste**	**1.51**	**55**	iP	**Pg**	**14 32 11.6**	**+1.4**
XOR	**Xorichti**	**1.60**	**148**	P	**Pn**	**14 32 09.5**	**+0.5**
XOR	**Xorichti**	**1.60**	**148**	P	**Pn**	**14 32 09.5**	**+0.5**
NEO	**Neokhori**	**1.67**	**148**	P	**Pn**	**14 32 10.5**	**+0.6**
NEO	**Neokhori**	**1.67**	**148**	P	**Pn**	**14 32 10.3**	**+0.3**
NEO				AML	AML	14 32 40.5	
	comp=E,208μm,0.3s						
NEO				AML	AML	14 32 41.0	
	comp=N,204μm,0.5s						
MAKR	**Makrakomi, Fth**	**1.71**	**179**	P	**Pb**	**14 32 11.6**	**-0.8**
MAKR	**Makrakomi, Fth**	**1.71**	**179**	P	**Pb**	**14 32 12.0**	**-0.4**
MAKR				AML	AML	14 32 44.4	
	comp=N,227μm,0.7s						
MAKR				AML	AML	14 32 45.3	
	comp=E,257μm,0.4s						
AGG	**Agios Georgios**	**1.71**	**173**	P	**Pn**	**14 32 11.2**	**+0.6**
AGG				S	**Sb**	**14 32 34.4**	**+0.6**
	comp=E,98nm,0.5s						
AGG	**Agios Georgios**	**1.71**	**173**	P	**Pn**	**14 32 11.2**	**+0.6**
AGG				AML	AML	14 32 44.1	
	comp=N,190μm,0.5s						
AGG				AML	AML	14 32 48.7	
	comp=E,200μm,0.4s						
PRVS	**Prvonek**	**1.78**	**360**	ePn	**Pn**	**14 32 11.4**	**-0.1**
PRVS				eSn	**Sn**	**14 32 33.7**	**-0.2**
BOSS	**Bosilegrad**	**1.79**	**9**	ePn	**Pn**	**14 32 12.0**	**+0.3**
BOSS				eSn	**Sn**	**14 32 35.1**	**+0.9**
VTS	**Vitosha**	**2.08**	**24**	ePn	**Pn**	**14 32 16.4**	**+0.7**
VTS				eSn	**Sn**	**14 32 40.6**	**-0.8**
VTS	**Vitosha**	**2.08**	**24**	iP	**Pn**	**14 32 16.4**	**+0.7**
BARS	**Barje**	**2.10**	**355**	ePn	**Pn**	**14 32 14.3**	**-1.5**
BARS				eSn	**Sn**	**14 32 41.5**	**-0.2**
BARS	**Barje**	**2.10**	**355**	iPn	**Pn**	**14 32 13.1**	**-2.8**
ANX	**Ano Chora**	**2.13**	**183**	P	**Pb**	**14 32 19.3**	**-0.3**
ANX				AML	AML	14 32 57.1	
	comp=N,279μm,0.5s						
ANX				AML	AML	14 33 00.1	
	comp=E,270μm,1.1s						
TSLK	**Tsoukalades, L**	**2.19**	**211**	P	**Pb**	**14 32 20.1**	**-0.4**
RZN	**Rozhen**	**2.21**	**63**	iP	**Pb**	**14 32 21.5**	**+0.6**
LAKA	**Lakka**	**2.48**	**182**	P	**Pb**	**14 32 24.8**	**-0.8**
ZAPS	**Zavoj**	**2.58**	**9**	ePn	**Pn**	**14 32 22.7**	**+0.2**
ZAPS				eSn	**Sn**	**14 32 53.2**	**-0.4**
SELS	**Selova**	**2.59**	**344**	ePn	**Pn**	**14 32 23.0**	**+0.4**
BOVS	**Bovan**	**2.92**	**355**	ePn	**Pn**	**14 32 26.7**	**-0.4**
IVAS	**Ivanjica**	**3.19**	**334**	ePn	**Pn**	**14 32 30.4**	**-0.5**
GRUS	**Gruza**	**3.32**	**343**	ePn	**Pn**	**14 32 32.3**	**-0.3**
BBLS	**Lazići**	**3.71**	**329**	ePn	**Pn**	**14 32 37.5**	**-0.6**

*JMA **05** 14:31:58.7±0.1, 24°.63N×122°.58E, h99km±2km, M2.8*

*TAP **05** 14:31:59.1, 24°.68N×122°.61E, h94km, ML3.7, C*

ISC 05 14:31:59.8±1.2**, 24°.66N**±0°.03×**122°.60E**±0°.02**, h92**km±6km**,**
n114, σ0§66/223, 1C-4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.37**	**123**	P	**Pn**	**14 32 13.7**	**-0.1**
JYNG				S	**Sn**	**14 32 24.9**	**+0.6**
YOJ	**Yonaguni jima**	**0.42**	**117**	P	**Pn**	**14 32 14.0**	**-0.1**
YOJ				S	**Sn**	**14 32 25.4**	**+0.6**
YOJ	**Yonaguni jima**	**0.42**	**117**	⇑iP	**Pn**	**14 32 14.0**	**-0.1**
	baz=127						
YOJ				iS	**Sn**	**14 32 25.0**	**+0.2**
	baz=127						
EGS		**0.64**	**287**	P	**Pn**	**14 32 16.4**	**+0.5**
	baz=276						
EGS				S	**Sn**	**14 32 27.9**	**0.0**
	baz=276						
TWB1	**Santiao Chiao**	**0.66**	**302**	P	**Pn**	**14 32 16.0**	**-0.1**
	baz=298						
TWB1				S	**Sn**	**14 32 28.0**	**-0.3**
	baz=298						
TWC	**Suao**	**0.69**	**266**	P	**Pn**	**14 32 16.1**	**-0.2**
	baz=262						
TWC				S	**Sn**	**14 32 27.7**	**-1.0**
	baz=262						
NTC	**Toucheng**	**0.73**	**286**	eP	**Pn**	**14 32 16.4**	**-0.3**
	baz=280						
NTC				S	**Sn**	**14 32 29.7**	**+0.3**
	baz=280						
EWUT	**Wuta**	**0.78**	**255**	P	**Pn**	**14 32 17.5**	**+0.2**
	baz=249						
EWUT				S	**Sn**	**14 32 30.2**	**0.0**
	baz=249						
ILA	**Ilan**	**0.79**	**278**	eP	**Pn**	**14 32 17.5**	**+0.2**
	baz=273						
ILA				eS	**Sn**	**14 32 30.7**	**+0.3**
	baz=273						
NDS	**Dongshan**	**0.81**	**269**	P	**Pn**	**14 32 17.5**	**0.0**
	baz=267						
NDS				S	**Sn**	**14 32 30.1**	**-0.7**
	baz=267						
ENA	**Nanau**	**0.82**	**254**	eS	**Sn**	**14 32 31.4**	**+0.4**
	baz=249						
NWF	**Wu-fen Shan**	**0.85**	**299**	⇓P	**Pn**	**14 32 17.7**	**-0.4**
	baz=291						
NWF				S	**Sn**	**14 32 31.4**	**-0.5**
	baz=291						
TWE	**Neicheng**	**0.85**	**275**	eP	**Pn**	**14 32 17.8**	**-0.2**
	baz=271						
TWE				eS	**Sn**	**14 32 29.6**	**-2.1**
	baz=271						
TWA	**Mucha**	**0.98**	**289**	eP	**Pn**	**14 32 18.5**	**-0.9**
	baz=281						
TWA				eS	**Sn**	**14 32 33.0**	**-1.2**
	baz=281						
NDT	**Datong Townshi**	**0.99**	**267**	P	**Pn**	**14 32 19.9**	**+0.4**
	baz=264						
NDT				eS	**Sn**	**14 32 35.1**	**+0.7**
	baz=264						
NHDH	**Xindian Distri**	**1.03**	**288**	eP	**Pn**	**14 32 19.0**	**-0.9**
	baz=277						
NHDH				eS	**Sn**	**14 32 34.0**	**-1.0**
	baz=277						
NACB	**Ninganchiao**	**1.04**	**243**	eP	**Pn**	**14 32 19.6**	**-0.4**
	baz=242						
NACB				S	**Sn**	**14 32 34.3**	**-0.9**
	baz=242						
YM01	**YM01**	**1.06**	**298**	eP	**Pn**	**14 32 20.4**	**+0.1**
	baz=290						
YM01				eS	**Sn**	**14 32 35.8**	**+0.1**
	baz=290						
TAP	**Taipei**	**1.07**	**291**	eP	**Pn**	**14 32 20.8**	**+0.4**
	baz=280						
TAP				eS	**Sn**	**14 32 36.3**	**+0.4**
	baz=280						
IRIF	**Iriomote-Funau**	**1.07**	**107**	P	**Pn**	**14 32 20.1**	**-0.3**
IRIF				S	**Sn**	**14 32 36.1**	**+0.1**
TWD	**Chiawan**	**1.08**	**238**	eP	**Pn**	**14 32 21.1**	**+0.5**
	baz=231						
TWD				S	**Sn**	**14 32 35.7**	**-0.5**
	baz=231						
PCYT	**Pengchaiyu**	**1.08**	**334**	eP	**Pn**	**14 32 20.9**	**+0.4**
	baz=324						
PCYT				eS	**Sn**	**14 32 36.7**	**+0.5**
	baz=324						
TWY	**Chenhua**	**1.10**	**304**	P	**Pn**	**14 32 20.3**	**-0.4**
	baz=302						
TWY				S	**Sn**	**14 32 37.5**	**+1.0**
	baz=302						
ETLH	**Xiulin Townshi**	**1.11**	**247**	eP	**Pn**	**14 32 20.8**	**-0.3**
	baz=246						
ETLH				S	**Sn**	**14 32 36.8**	**-0.2**
	baz=246						
YHNB	**Yeheng**	**1.12**	**271**	⇓iP	**Pn**	**14 32 21.0**	**0.0**
	baz=276						
YHNB				iS	**Sn**	**14 32 36.6**	**-0.4**
	baz=276						
HWA	**Hwalien**	**1.13**	**234**	eP	**Pn**	**14 32 21.8**	**+0.7**
	baz=227						
HWA				S	**Sn**	**14 32 37.3**	**+0.1**
	baz=227						
NSK	**Sanguang**	**1.13**	**271**	⇓P	**Pn**	**14 32 21.1**	**-0.1**
	baz=276						
NSK				S	**Sn**	**14 32 36.9**	**-0.4**
	baz=276						
NNS	**Nan Shan**	**1.14**	**259**	⇓P	**Pn**	**14 32 21.3**	**-0.1**
	baz=251						
NNS				S	**Sn**	**14 32 37.1**	**-0.5**
	baz=251						
NTST	**Danshui**	**1.16**	**296**	eP	**Pn**	**14 32 22.1**	**+0.6**
	baz=294						
NTST				eS	**Sn**	**14 32 39.0**	**+1.1**
	baz=294						
ETM	**Tongmen**	**1.22**	**236**	eP	**Pn**	**14 32 21.7**	**-0.5**
	baz=229						
ETM				eS	**Sn**	**14 32 38.1**	**-1.1**
	baz=229						
HATJ	**Hateruma jima**	**1.25**	**118**	P	**Pn**	**14 32 22.9**	**+0.4**
HATJ				S	**Sn**	**14 32 40.0**	**+0.4**
FUSS	**Fushou**	**1.30**	**252**	eP	**Pn**	**14 32 23.6**	**+0.2**
	baz=246						
FUSS				eS	**Sn**	**14 32 41.1**	**-0.2**
	baz=246						
NCU	**National Centr**	**1.32**	**284**	eP	**Pn**	**14 32 24.5**	**+1.1**
	baz=291						
NCU				eS	**Sn**	**14 32 41.4**	**+0.1**
	baz=291						
NCUH	**Zhongli**	**1.33**	**284**	eP	**Pn**	**14 32 23.3**	**-0.1**
	baz=291						
NCUH				eS	**Sn**	**14 32 41.8**	**+0.5**
	baz=291						
JKRS	**Kuro-shima**	**1.35**	**108**	P	**Pn**	**14 32 23.7**	**0.0**
JKRS				S	**Sn**	**14 32 42.5**	**+0.7**
TEGC	**Jichi Village**	**1.35**	**226**	P	**Pn**	**14 32 23.6**	**-0.2**
	baz=233						
TEGC				eS	**Sn**	**14 32 42.0**	**+0.1**
	baz=233						
ESL	**Shilin**	**1.36**	**232**	P	**Pn**	**14 32 24.3**	**+0.4**
	baz=226						
ESL				eS	**Sn**	**14 32 41.9**	**-0.2**
	baz=226						
TWT	**Tachien**	**1.36**	**253**	eP	**Pn**	**14 32 25.1**	**+1.1**
	baz=247						
TWT				eS	**Sn**	**14 32 42.3**	**-0.1**
	baz=247						
TDCB	**Techi**	**1.38**	**253**	P	**Pn**	**14 32 24.6**	**+0.3**
	baz=247						
TDCB				S	**Sn**	**14 32 42.3**	**-0.4**
	baz=247						
CHGB	**Renai**	**1.43**	**246**	P	**Pn**	**14 32 25.5**	**+0.5**
	baz=239						
CHGB				S	**Sn**	**14 32 43.9**	**-0.1**
	baz=239						
JIJ	**Ishigaki jima**	**1.43**	**101**	P	**Pn**	**14 32 24.3**	**-0.5**
JIJ				S	**Sn**	**14 32 43.4**	**-0.3**
LIOB	**Emei**	**1.45**	**270**	P	**Pn**	**14 32 25.3**	**+0.4**
	baz=269						
LIOB				S	**Sn**	**14 32 44.1**	**+0.1**
	baz=269						
EGFH	**Guangfu**	**1.46**	**228**	eP	**Pn**	**14 32 25.6**	**+0.6**
	baz=223						
EGFH				eS	**Sn**	**14 32 43.8**	**-0.4**
	baz=223						
NSTT	**Nanjuang**	**1.46**	**269**	P	**Pn**	**14 32 25.5**	**+0.4**
	baz=268						
NSTT				S	**Sn**	**14 32 44.2**	**-0.1**
	baz=268						
OWD	**Renai**	**1.48**	**242**	P	**Pn**	**14 32 25.9**	**+0.4**
	baz=236						
OWD				S	**Sn**	**14 32 44.8**	**-0.2**
	baz=236						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SBCB	**Hsinchu** baz=274	**1.48**	**276**	*e*P	**Pn**	**14 32 25.7**	**+0.4**
SBCB	baz=274			*e*S	**Sn**	**14 32 44.2**	**-0.4**
JISG	**Ishigakijimahi**	**1.56**	**92**	P	**Pn**	**14 32 25.6**	**-0.7**
JISG				*e*S	**Sn**	**14 32 45.8**	**-0.6**
WHP	**Taichung City** baz=253	**1.56**	**256**	P	**Pn**	**14 32 27.1**	**+0.6**
WHP	baz=253			S	**Sn**	**14 32 46.8**	**+0.2**
HGSD	**Ruisui** baz=221	**1.58**	**223**	*e*P	**Pn**	**14 32 27.1**	**+0.4**
HGSD	baz=221			*e*S	**Sn**	**14 32 47.1**	**+0.1**
EHY	**Hungye** baz=226	**1.64**	**226**	*e*P	**Pn**	**14 32 28.0**	**+0.6**
EHY	baz=226			*e*S	**Sn**	**14 32 48.0**	**-0.3**
NMLH	**Miaoli** baz=265	**1.65**	**266**	*e*P	**Pn**	**14 32 28.0**	**+0.4**
NMLH	baz=265			*e*S	**Sn**	**14 32 49.1**	**+0.4**
WCS	**Beigang Elemen** baz=249	**1.65**	**249**	*e*P	**Pn**	**14 32 28.0**	**+0.4**
WCS	baz=249			*e*S	**Sn**	**14 32 49.1**	**+0.4**
NSY	**Sanyi** baz=261	**1.69**	**262**	P	**Pn**	**14 32 28.2**	**+0.1**
NSY	baz=261			S	**Sn**	**14 32 49.6**	**-0.1**
TWQ1	**Liyutan** baz=259	**1.69**	**260**	P	**Pn**	**14 32 28.1**	**0.0**
TWQ1	baz=259			S	**Sn**	**14 32 49.4**	**-0.3**
SMLT	**Sun Moon Lake** baz=237	**1.73**	**244**	P	**Pn**	**14 32 29.8**	**+1.1**
SMLT	baz=237			*e*S	**Sn**	**14 32 51.2**	**+0.5**
YULB	**Yu-li** baz=231	**1.73**	**224**	*e*P	**Pn**	**14 32 29.1**	**+0.4**
YULB	baz=231			*e*S	**Sn**	**14 32 50.4**	**-0.1**
SSLB	**Suanglung** baz=237	**1.74**	**241**	P	**Pn**	**14 32 29.6**	**+1.0**
SSLB	baz=237			S	**Sn**	**14 32 50.9**	**+0.3**
EYUL	**Yuli** baz=230	**1.75**	**222**	*e*P	**Pn**	**14 32 28.9**	**0.0**
EYUL	baz=230			*e*S	**Sn**	**14 32 51.2**	**+0.2**
TYC	**Yuchr** baz=239	**1.76**	**245**	P	**Pn**	**14 32 29.4**	**+0.4**
TYC	baz=239			*e*S	**Sn**	**14 32 51.5**	**+0.4**
WDJ	**Dajia District** baz=260	**1.81**	**261**	*e*P	**Pn**	**14 32 30.9**	**+1.2**
WDJ	baz=260			*e*S	**Sn**	**14 32 52.2**	**-0.1**
WHYT	**Xinyi Township** baz=238	**1.86**	**240**	*e*P	**Pn**	**14 32 31.3**	**+1.0**
WHYT	baz=238			*e*S	**Sn**	**14 32 53.7**	**+0.2**
FULB	**Fuli** baz=213	**1.88**	**220**	P	**Pn**	**14 32 31.3**	**+0.7**
FULB	baz=213			*e*S	**Sn**	**14 32 53.7**	**-0.2**
JTJ	**Tarama**	**1.91**	**90**	P	**Pn**	**14 32 30.6**	**-0.3**
JTJ				*e*S	**Sn**	**14 32 54.3**	**-0.2**
WNT	**Mingjian** baz=246	**1.92**	**247**	*e*P	**Pn**	**14 32 32.1**	**+1.1**
WNT	baz=246			*e*S	**Sn**	**14 32 54.3**	**-0.3**
CHKT	**Chengkung** baz=211	**1.92**	**216**	P	**Pn**	**14 32 31.2**	**+0.2**
CHKT	baz=211			*e*S	**Sn**	**14 32 54.5**	**-0.3**
WCHH	**Zhanghua** baz=253	**1.95**	**253**	*e*P	**Pn**	**14 32 31.9**	**+0.5**
WCHH	baz=253			*e*S	**Sn**	**14 32 55.2**	**-0.3**
ALS	**Alishan** baz=230	**2.00**	**236**	*e*P	**Pn**	**14 32 33.3**	**+0.9**
ALS	baz=230			*e*S	**Sn**	**14 32 56.8**	**-0.4**
CHN5	**Tsauling** baz=232	**2.05**	**239**	*e*P	**Pn**	**14 32 34.0**	**+1.2**
CHN5	baz=232			*e*S	**Sn**	**14 32 58.4**	**+0.4**
EDH	**Donghe** baz=212	**2.05**	**216**	*e*P	**Pn**	**14 32 33.4**	**+0.6**
EDH	baz=212			*e*S	**Sn**	**14 32 57.5**	**-0.5**
ELDTW	**Lidau** baz=223	**2.06**	**225**	*e*P	**Pn**	**14 32 33.9**	**+0.9**
ELDTW	baz=223			*e*S	**Sn**	**14 32 57.2**	**-1.0**
WDLH	**Douliu** baz=254	**2.12**	**243**	*e*P	**Pn**	**14 32 34.0**	**+0.4**
WDLH	baz=254			*e*S	**Sn**	**14 32 59.3**	**-0.1**
WRL	**Guolierlin Hig** baz=258	**2.17**	**250**	*e*P	**Pn**	**14 32 35.2**	**+1.0**
WRL	baz=258			*e*S	**Sn**	**14 32 59.8**	**-0.8**
LONT	**Longtian** baz=225	**2.20**	**218**	*e*P	**Pn**	**14 32 35.5**	**+0.8**
LONT	baz=225			*e*S	**Sn**	**14 33 01.1**	**-0.4**
LDUT	**Ludao** baz=206	**2.23**	**208**	*e*P	**Pn**	**14 32 35.8**	**+0.7**
LDUT	baz=206			*e*S	**Sn**	**14 33 01.7**	**-0.4**
STYH	**Taoyuan** baz=229	**2.23**	**229**	*e*P	**Pn**	**14 32 36.0**	**+0.9**
STYH	baz=229			*e*S	**Sn**	**14 33 01.9**	**-0.3**
WTK	**Tuku** baz=245	**2.24**	**245**	*e*P	**Pn**	**14 32 36.0**	**+0.8**
WTK	baz=245			*e*S	**Sn**	**14 33 01.9**	**-0.5**
CHN2	**Minshiung** baz=251	**2.24**	**241**	*e*P	**Pn**	**14 32 36.1**	**+0.9**
CHN2	baz=251			*e*S	**Sn**	**14 33 02.8**	**+0.4**
TPUB	**Ta-pu** baz=227	**2.25**	**234**	*e*P	**Pn**	**14 32 36.9**	**+1.5**
TPUB	baz=227			*e*S	**Sn**	**14 33 02.6**	**-0.1**
WTP	**Ta-pu** baz=233	**2.30**	**233**	*e*P	**Pn**	**14 32 37.2**	**+1.1**
WTP	baz=233			*e*S	**Sn**	**14 33 03.4**	**-0.4**
CHY	**Chiayi** baz=251	**2.30**	**240**	*e*P	**Pn**	**14 32 36.3**	**+0.3**
CHY	baz=251			*e*S	**Sn**	**14 33 03.5**	**-0.2**
TWGBT	**Beinan** baz=223	**2.30**	**218**	*e*P	**Pn**	**14 32 35.4**	**-0.6**
TWGBT	baz=223			S	**Sn**	**14 33 03.0**	**-0.8**
TWG	**Pinlang** baz=223	**2.30**	**218**	*e*P	**Pn**	**14 32 37.0**	**+1.0**
TWG	baz=223			*e*S	**Sn**	**14 33 03.4**	**-0.5**
TTN	**Taitung** baz=211	**2.32**	**215**	*e*P	**Pn**	**14 32 36.3**	**0.0**
TTN	baz=211			*e*S	**Sn**	**14 33 04.4**	**+0.3**
JIRB	**Irabujima**	**2.34**	**85**	P	**Pn**	**14 32 36.6**	**0.0**
JIRB				*e*S	**Sn**	**14 33 03.7**	**-1.0**
TWK	**Hsinying** baz=235	**2.38**	**235**	*e*P	**Pn**	**14 32 38.1**	**+1.0**
TWK	baz=235			*e*S	**Sn**	**14 33 05.6**	**-0.1**
CHN1	**Nanshi** baz=233	**2.40**	**233**	*e*P	**Pn**	**14 32 38.1**	**+0.7**
CHN1	baz=233			*e*S	**Sn**	**14 33 06.1**	**0.0**
SNST	**Tainan City** baz=234	**2.40**	**234**	*e*P	**Pn**	**14 32 38.4**	**+1.1**
SNST	baz=234			*e*S	**Sn**	**14 33 06.2**	**+0.1**
WSF	**Szhu** baz=245	**2.40**	**246**	*e*P	**Pn**	**14 32 38.1**	**+0.8**
WSF	baz=245			*e*S	**Sn**	**14 33 06.1**	**0.0**
SGST	**Jiashian** baz=230	**2.42**	**230**	*e*P	**Pn**	**14 32 38.5**	**+0.9**
SGST	baz=230			*e*S	**Sn**	**14 33 06.2**	**-0.5**
SLGT	**Liugui** baz=228	**2.44**	**228**	*e*P	**Pn**	**14 32 39.3**	**+1.4**
SLGT	baz=228			*e*S	**Sn**	**14 33 05.9**	**-1.1**
JMJ2	**Miyako jima3**	**2.48**	**87**	P	**Pn**	**14 32 38.5**	**+0.1**
ICHU	**Yijhu** baz=230	**2.48**	**239**	*e*P	**Pn**	**14 32 39.3**	**+0.8**
ICHU	baz=230			*e*S	**Sn**	**14 33 07.9**	**-0.2**
ECL	**Taimali** baz=217	**2.55**	**217**	*e*P	**Pn**	**14 32 40.2**	**+0.9**
ECL	baz=217			*e*S	**Sn**	**14 33 09.2**	**-0.4**
JOGS	**Gusukube**	**2.55**	**87**	P	**Pn**	**14 32 39.5**	**+0.2**
JOGS				*e*S	**Sn**	**14 33 10.2**	**+0.5**
SCST	**Cishan** baz=236	**2.62**	**228**	*e*P	**Pn**	**14 32 41.4**	**+1.2**
SCST	baz=236			*e*S	**Sn**	**14 33 11.1**	**-0.2**
TSMG	**Majia** baz=223	**2.64**	**223**	*e*P	**Pn**	**14 32 41.4**	**+0.8**
TSMG	baz=223			*e*S	**Sn**	**14 33 11.1**	**-0.9**
SCLT	**Jiali** baz=228	**2.65**	**237**	*e*P	**Pn**	**14 32 41.4**	**+0.7**
SCLT	baz=228			*e*S	**Sn**	**14 33 11.2**	**-0.9**
MASBT	**Mashibuluo** baz=222	**2.72**	**222**	P	**Pn**	**14 32 42.3**	**+0.7**
MASBT	baz=222			S	**Sn**	**14 33 13.4**	**-0.3**
TAW	**Tawu** baz=215	**2.77**	**215**	*e*P	**Pn**	**14 32 43.2**	**+0.9**
TAW	baz=215			*e*S	**Sn**	**14 33 14.4**	**-0.6**
EAST	**Anshuo** baz=216	**2.78**	**216**	*e*P	**Pn**	**14 32 43.0**	**+0.6**
EAST	baz=216			*e*S	**Sn**	**14 33 14.2**	**-1.0**
MATB	**Ma-tsu** baz=300	**2.83**	**302**	*e*P	**Pn**	**14 32 43.6**	**+0.6**
VWUC	**VWUC** baz=276	**2.88**	**277**	*e*P	**Pn**	**14 32 44.2**	**+0.5**
VWUC	baz=276			*e*S	**Sn**	**14 33 16.8**	**-0.9**
SCZT	**Fangliau** baz=231	**2.91**	**219**	*e*P	**Pn**	**14 32 44.6**	**+0.4**
SCZT	baz=231			*e*S	**Sn**	**14 33 17.8**	**-0.5**
SLIU	**Shizi** baz=215	**2.94**	**215**	*e*P	**Pn**	**14 32 45.5**	**+0.9**
SLIU	baz=215			*e*S	**Sn**	**14 33 18.1**	**-0.9**
PNG	**Penghu** baz=249	**2.99**	**249**	*e*P	**Pn**	**14 32 45.6**	**+0.4**
PNG	baz=249			*e*S	**Sn**	**14 33 19.6**	**-0.5**
PHUB	**P'eng-hu** baz=248	**2.99**	**248**	*e*P	**Pn**	**14 32 46.1**	**+0.8**
PHUB	baz=248			*e*S	**Sn**	**14 33 19.5**	**-0.8**
WDGT	**Dungji** baz=243	**3.03**	**243**	*e*P	**Pn**	**14 32 46.2**	**+0.5**
WDGT	baz=243			*e*S	**Sn**	**14 33 20.1**	**-1.1**
XPSS	**Dashiqiu** baz=315	**3.14**	**317**	*e*P	**Pn**	**14 32 48.5**	**+1.2**
TWKBT	**Hengchun** baz=212	**3.16**	**212**	*e*P	**Pn**	**14 32 48.0**	**+0.4**
TWKBT	baz=212			*e*S	**Sn**	**14 33 24.1**	**-0.3**
LYJJ	**Jianjiangzhen** baz=305	**3.19**	**307**	*e*P	**Pn**	**14 32 48.9**	**+1.1**
PTMZ	**Houxiangcun** baz=277	**3.19**	**278**	*e*P	**Pn**	**14 32 48.3**	**+0.5**
PTMZ	baz=277			*e*S	**Sn**	**14 33 24.1**	**-0.8**
VCHM	**Qimei** baz=244	**3.24**	**244**	*e*P	**Pn**	**14 32 49.5**	**+0.9**
VCHM	baz=244			S	**Sn**	**14 33 24.3**	**-2.0**
KNMB	**Chin-men Tao** baz=267	**3.84**	**268**	*e*P	**Pn**	**14 32 56.8**	**0.0**
KNMB	baz=267			*e*S	**Sn**	**14 33 39.0**	**-1.8**
AXDP	**Jialang** baz=273	**4.22**	**274**	*e*P	**Pn**	**14 33 01.7**	**-0.1**
AXDP	baz=273			*e*S	**Sn**	**14 33 47.5**	**-2.5**

*TUL **05** 14:49:33.7±0.6, 36°.33N±0°.02×97°.82W±0°.02, h7km±7km, ML2.5, mb_Lg2.4/19(NEIC), Error ellipse: s-maj=2.5km s-min=2.3km az=56.0*

NEIC 05 14:49:33.6±0.6**, 36°.33N**±0°.02×**97°.81W**±0°.02**, h3**km±7km**, Error ellipse: s-maj=2.5km s-min=1.6km az=141.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.23**	**321**	Pg	Pg	14 49 38.4	+0.5
CROK				Sg	Sg	14 49 41.8	+0.9
GC02	**Grant County #**	**0.52**	**355**	Pg	Pg	14 49 43.9	+0.2
OK032	**Salt Plains WL**	**0.57**	**326**	Pg	Pg	14 49 44.7	+0.1
OK032				Sg	Sg	14 49 52.7	+0.6
OK029	**Liberty Lake**	**0.60**	**152**		Pg	14 49 45.2	+0.1
KAN14	**Manchester OK**	**0.64**	**349**	Pg	Pg	14 49 45.8	0.0
KAN14				Sg	Sg	14 49 54.7	+0.6
BLOK	**Blackwell**	**0.64**	**48**	Pg	Pg	14 49 46.1	+0.2
KAN17	**Caldwell West**	**0.71**	**3**	Pg	Pg	14 49 47.2	-0.1
KAN13	**South Haven SW**	**0.73**	**21**	Pg	Pg	14 49 47.7	0.0
KAN05	**Bluff City Nor**	**0.78**	**356**	Pg	Pg	14 49 48.6	+0.1
KAN10	**Anthony SW Sta**	**0.83**	**344**	Pg	Pg	14 49 49.2	-0.2
OK025	**Westminster Rd**	**0.84**	**153**	Pg	Pg	14 49 49.6	0.0
OK031	**S. Brethren Rd**	**0.87**	**115**	Pg	Pg	14 49 50.2	0.0
QUOK	**Quay**	**0.90**	**100**		Pg	14 49 50.9	0.0
KS20	**Mayfield South**	**0.92**	**13**	Pg	Pg	14 49 51.2	-0.1
OKCFA	**Oklahoma City**	**0.96**	**162**	Pg	Pg	14 49 51.8	-0.2
U32A	**Winter Ranch,**	**0.96**	**273**		Pg	14 49 52.1	0.0
OKCSW	**OKLAHOMA CITY**	**0.97**	**162**	Pg	Pg	14 49 51.9	-0.2
KAN12	**Harper NE Stat**	**0.98**	**351**	Pg	Pg	14 49 52.0	-0.3
FNO	**Franklin**	**1.12**	**163**		Pg	14 49 54.5	-0.5
T35A	**Sooner Cattle**	**1.20**	**60**		Pg	14 49 56.2	-0.3
X34A	**Smith Ranch, M**	**1.72**	**181**	Pn	Pb	14 50 05.3	-0.6
WMOK	**Wichita Mounta**	**1.77**	**207**	Pn	Pn	14 50 04.8	-0.4
KSU1	**Kansas State U** comp=Z,6.7nm,0.7s	**2.93**	**19**	IAmb_Lg		14 51 09.6	
W39A	**Magazine** comp=Z,7.1nm,0.9s	**3.46**	**108**	IAmb_Lg		14 51 27.8	
S39A	**Bolivar** comp=Z,6.1nm,0.8s	**3.84**	**68**	IAmb_Lg		14 51 36.2	
MIAR	**Mount Ida** comp=Z,14nm,1.2s	**3.89**	**116**	IAmb_Lg		14 51 43.1	
U40A	**Yellville** comp=Z,10nm,0.7s	**4.00**	**88**	IAmb_Lg		14 51 39.3	
P38A	**Dawn** comp=Z,5.3nm,0.8s	**4.72**	**44**	IAmb_Lg		14 52 01.8	
CCM	**Cathedral Cave** comp=Z,5.9nm,1.1s	**5.52**	**70**	IAmb_Lg		14 52 41.3	
P40A	**Paris** comp=Z,6.7nm,0.8s	**5.56**	**53**	IAmb_Lg		14 52 42.4	
PBMO	**Poplar Bluff** comp=Z,5.7nm,0.8s	**5.96**	**83**	IAmb_Lg		14 52 43.5	
JCT	**Junction City** comp=Z,12nm,1.2s	**6.07**	**197**	IAmb_Lg		14 52 52.4	
ISCO	**Idaho Springs** comp=Z,2.5nm,1.1s	**7.07**	**302**	IAmb_Lg		14 53 36.7	

*IDC **05** 14:55:34.7±0.9, 17°.30S×176°.27E, h0km, mb4.0/6, mb1 4.3/6, mb1mx3.9/33, mbtmp4.0/6, MS3.6/4, Ms1 3.6/4, ms1mx3.3/25, Error ellipse: s-maj=40.5km s-min=17.5km az=176.0*

ISC 05 14:55:39.9±0.8**, 17°.3S**±0°.2×**176°.29E**±0°.09**, h35**km**, n12, σ1s13**/10**, mb4.2**/6**, MS3.3**/3**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu** 66nm,0.3s,baz=264,slow=16,SNR=540	**1.73**	**104**	Pn	**Pn**	**14 56 06.1**	**-1.4**
MSVF	78nm,0.3s,baz=204,slow=18,SNR=6.2			Sn	**Sn**	**14 56 29.4**	**+1.0**
MSVF	comp=Z,366nm,20.1s,baz=312,slow=32			LR	LR	14 56 31.2	

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara** comp=Z,178nm,21.2s,baz=78,slow=32	**17.72**	**294**	LR	LR	15 05 03.3	
RAR	**Rarotonga** comp=Z,126nm,21.4s,baz=311,slow=30	**22.92**	**104**	LR	LR	15 07 02.5	
PPT	**Papeete** comp=Z,56nm,20.8s,baz=296,slow=31	**32.54**	**96**	LR	LR	15 12 16.3	
STKA	**Stephens Creek** 3.6nm,0.8s,baz=73,slow=9.5,SNR=6.1	**34.54**	**239**	P	**P**	**15 02 26.3**	**+1.1**
WRA	**Warramunga Arr** 2.7nm,0.7s,baz=95,slow=9.1,SNR=20	**39.77**	**259**	P	**P**	**15 03 08.3**	**-1.4**
ASAR	**Alice Springs** 5.3nm,0.9s,baz=82,slow=9.2,SNR=46	**40.09**	**254**	P	**P**	**15 03 12.1**	**-0.3**
ASAR	0.4nm,0.7s,baz=68,slow=5.1,SNR=3.0			PcP	**PcP**	**15 05 16.5**	**-0.3**
MAW	**Mawson** comp=Z,117nm,21.7s,baz=30,slow=31	**82.66**	**201**	LR	LR	15 38 24.8	
CMAR	**Chiang Mai Arr** 1.6nm,0.8s,baz=125,slow=3.8,SNR=9.2	**83.94**	**291**	P	**P**	**15 08 07.0**	**+0.1**
ILAR	**Eielson Array** 0.2nm,0.8s,baz=208,slow=7.1,SNR=2.0	**86.54**	**15**	P	**P**	**15 08 18.4**	**-0.5**
TXAR	**Lajitas Array** 0.7nm,0.9s,baz=216,slow=6.2,SNR=5.8	**90.00**	**59**	P	**P**	**15 08 37.8**	**+1.5**
GERES	**GERESS Array B** 0.9nm,0.8s,baz=35,slow=3.3,SNR=4.3	**145.51**	**340**	PKPbc	**PKPab**	**15 15 14.9**	**+0.1**

*IDC **05** 15:02:32.2±1.2, 44°.01N×105°.62W, h0km, mb1 3.4/5, mb1mx3.3/54, mbtmp3.1/5, ML2.9/5, Error ellipse: s-maj=23.4km s-min=10.0km az=150.0*

*NEIC **05** 15:02:39.1±2.6, 43°.36N±0°.04×105°.86W±0°.08, h0km±2km, ML2.8/24, Error ellipse: s-maj=11.4km s-min=3.1km az=301.0*

ISC 05 15:02:29.5±0.9**, 43°.77N**±0°.05×**105°.33W**±0°.06**, h0**km**, n20, σ2s97**/20**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
K22A	**Casper**	**1.42**	**218**		**Pg**	**15 02 55.6**	**-1.1**
K22A	comp=N,223nm,1.1s			IAML		15 03 21.2	
PHWY	**Pilot Hill**	**2.47**	**182**		**Pb**	**15 03 13.6**	**-1.4**
RWWY	**Rawlins**	**2.50**	**214**	Pn	**Pn**	**15 03 12.6**	**+0.9**
PD31	**Pinedale Array**	**3.25**	**253**		**Pb**	**15 03 26.2**	**-2.0**
PDAR	**Pinedale Array** comp=N,1.2nm,0.3s,baz=71,slow=16,SNR=15	**3.25**	**253**	Pn	**Pb**	**15 03 26.3**	**-1.9**
PDAR	comp=N,3.2nm,0.3s,baz=69,slow=34,SNR=5.9			Lg	Lg	15 04 09.7	
PDAR	**Pinedale Array**	**3.25**	**253**		**Pn**	**15 03 24.8**	**+2.9**
LOHW	**Long Hollow**	**3.83**	**269**		**Pb**	**15 03 35.7**	**-2.4**
LOHW	comp=N,17nm,0.9s			IAML		15 04 43.0	
LOHW	comp=N,13nm,0.9s			IAML		15 04 49.0	
MOOW	**Moose Ponds**	**3.92**	**271**	Pn	**Pb**	**15 03 36.3**	**-3.3**
ISCO	**Idaho Springs**	**3.98**	**183**	Pn	**Pb**	**15 03 37.2**	**-3.4**
ISCO	comp=N,17nm,0.8s			IAML		15 04 41.2	
ISCO	comp=N,9.9nm,1.0s			IAML		15 04 48.3	
IMW	**Indian Meadow**	**4.06**	**274**		**Pb**	**15 03 37.9**	**-4.1**
IMW	comp=N,16nm,0.7s			IAML		15 04 48.7	
IMW	comp=N,16nm,0.8s			IAML		15 04 54.3	
TPAW	**Teton Pass**	**4.09**	**268**		**Pn**	**15 03 37.2**	**+3.6**
TPAW	comp=N,20nm,1.2s			IAML		15 05 00.5	
TPAW	comp=N,16nm,1.1s			IAML		15 05 02.4	
YHH	**Holmes Hill**	**4.09**	**286**		**Pb**	**15 03 39.6**	**-3.0**
YHH	comp=N,12nm,1.1s			IAML		15 04 54.1	
FXWY	**Fox Creek**	**4.13**	**270**		**Pn**	**15 03 37.6**	**+3.5**
O20A	**White River Ci**	**4.23**	**212**		**Pn**	**15 03 38.6**	**+3.1**
DGMT	**Dagmar**	**4.76**	**9**		**Pg**	**15 03 59.9**	**-0.8**
BOZ	**Bozeman (W)**	**4.85**	**294**	Pn	**Pn**	**15 03 47.3**	**+3.5**
BOZ	comp=N,7.8nm,0.8s			IAML		15 05 10.3	
BOZ	comp=N,11nm,1.1s			IAML		15 05 14.4	
ELK	**Elko** comp=N,0.1nm,0.3s,baz=58,slow=9.2,SNR=5.2	**7.95**	**251**	Pn	**Pn**	**15 04 30.3**	**+3.9**
ULM	**Lac du Bonnet** comp=N,0.2nm,0.3s,baz=232,slow=14,SNR=2.8	**9.14**	**42**	Pn	**Pn**	**15 04 42.8**	**+0.2**
ULM	comp=N,0.1nm,0.3s,baz=131,slow=19,SNR=1.5			Lg	Lg	15 07 12.6	
NVAR	**Mina Array Bea** comp=N,0.1nm,0.3s,baz=67,slow=11,SNR=4.6	**11.14**	**246**	Pn	**Pn**	**15 05 13.8**	**+3.5**
TXAR	**Lajitas Array** comp=N,0.0nm,0.3s,baz=357,slow=10,SNR=2.9	**14.47**	**174**	Pn	**P**	**15 06 02.7**	**0.0**
TXAR	comp=N,0.0nm,0.3s,baz=349,slow=34,SNR=3.4			Lg	Lg	15 10 09.7	

*IDC **05** 15:05:43.6±0.5, 37°.31S×78°.25E, h0km, mb4.4/23, mb1 4.5/23, mb1mx4.4/34, mbtmp4.4/23, MS4.8/24, Ms1 4.8/24, ms1mx4.7/29, Error ellipse: s-maj=15.8km s-min=13.5km az=158.0*

*BJI **05** 15:05:43.2±0.0, 37°.26S×77°.87E, h10km, mB5.2/39, mb4.9/58, Ms5.1/51, Ms7 4.9/51*

*NEIC **05** 15:05:45.0±2.0, 37°.34S±0°.06×78°.17E±0°.04, h10km±1km, mb5.3/44, Error ellipse: s-maj=10.1km s-min=5.7km az=179.0*

*GCMT **05** 15:05:48.0±0.1, 37°.13S±0°.01×78°.34E±0°.01, h12km, MW5.4/142, Moment Tensor Solution. s114,c170; s142,c270; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; Mrr-0.17±.02; Mθθ-0.96±.02; Mϕϕ1.14±.02; Mrθ-0.07±.04; Mθϕ-1.16±.02; Mϕr0.73±.05; Best double couple: M0 1.70900×10^{17} NP1:ϕs289.00000°, δ69.00000°, λ174.00000°. NP2:ϕs22.00000°, δ84.00000°, λ21.00000°. Principal axes: T 1.8940, Plg19.0000°, Azm247.0000°; N -0.3680, Plg68.0000°, Azm35.0000°; P -1.5230, Plg11.0000°, Azm154.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 15:05:45.6±0.3**, 37°.37S**±0°.06×**78°.01E**±0°.07**, h13**km**, n140, σ2s10**/145**, mb5.1**/62**, MS4.9**/38**, 4C-1D, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**0.55**	**219**		**Pb**	**15 05 57.8**	**+0.6**
H01W2	**Cape Leeuwin H** baz=254,slow=75,SNR=1176	**29.17**	**96**	T	T	15 41 55.1	
H01W3	**Cape Leeuwin H** baz=254,slow=75,SNR=1072	**29.18**	**96**	T	T	15 41 52.0	
H01W1	**Cape Leeuwin H** baz=254,slow=75,SNR=1057	**29.19**	**96**	T	T	15 41 52.8	
H08S2	**Diego Garcia H** baz=170,slow=76,SNR=1235	**30.01**	**349**	T	T	15 43 06.1	
H08S1	**Diego Carcia H** baz=170,slow=76,SNR=745	**30.01**	**349**	T	T	15 43 06.3	
H08S3	**Diego Garcia H** baz=170,slow=76,SNR=2269	**30.03**	**349**	T	T	15 43 05.1	
MAW	**Mawson** 1.4nm,0.7s,baz=38,slow=12,SNR=3.1	**31.47**	**191**	P	**P**	**15 12 07.7**	**+1.2**
MAW	comp=Z,1μm,19.4s,baz=18,slow=32			LR	LR	15 22 36.8	
MAW	**Mawson**	**31.47**	**191**	P	**P**	**15 12 05.8**	**-0.8**
MORW	**Morawa**	**32.70**	**87**	P	**P**	**15 12 15.8**	**-2.0**
MORW	comp=Z,32nm,1.2s			IAmb	IAmb	15 12 21.4	
OPO	**Ambohidratompo** comp=Z,7.4nm,1.1s,baz=146,slow=14,SNR=2.4	**32.83**	**296**	P	**P**	**15 12 21.0**	**+1.8**
CASY	**Casey**	**34.47**	**157**	P	**P**	**15 12 33.1**	**+0.3**
LEM	**Lembang** comp=Z,15nm,0.4s,baz=207,slow=9.7,SNR=11	**40.60**	**49**	P	**P**	**15 13 25.6**	**+0.1**
PSI	**Prapat** comp=Z,1.8nm,0.4s,baz=192,slow=12,SNR=4.7	**44.44**	**31**	P	**P**	**15 13 54.9**	**-1.6**
BOSA	**Boshof** comp=Z,4.4nm,0.8s,baz=105,slow=6.8,SNR=7.5	**44.61**	**265**	P	**P**	**15 13 59.3**	**+1.4**
BOSA	comp=Z,1μm,21.4s,baz=114,slow=30			LR	LR	15 28 32.0	
BOSA	**Boshof**	**44.61**	**265**	P	**P**	**15 13 58.5**	**+0.6**
FITZ	**Fitzroy Crossi**	**45.79**	**79**	P	**P**	**15 14 04.8**	**-2.4**
FITZ	comp=Z,45nm,1.9s			IAmb	IAmb	15 14 07.7	
LBTB	**Lobatse** comp=Z,2.8nm,0.6s,baz=134,slow=9.1,SNR=5.4	**45.97**	**270**	P	**P**	**15 14 09.3**	**+0.6**
WBSI	**Waikabubak, Su** comp=Z,48nm,1.4s	**46.37**	**64**	P	P	15 14 05.1	-6.7
SUR	**Sutherland** comp=Z,9.1nm,0.9s,baz=117,slow=14,SNR=12	**46.58**	**258**	P	**P**	**15 14 15.6**	**+2.1**
SUR	**Sutherland**	**46.58**	**258**	P	**P**	**15 14 15.5**	**+1.9**

IPM	Ipoh	46.83	32	P	P	15 14 16.0	+0.7
BBOO	Buckleboo	47.08	103	P	P	15 14 15.9	-1.3
BBOO				IAmb	IAmb	15 14 53.3	
	comp=Z,42nm,1.5s						
KULM	Kulim	47.40	31	P	P	15 14 20.0	+0.3
EDFI	Ende, Flores	48.63	65	P	P	15 14 27.4	-2.1
	comp=Z,607nmcomp=Z,27nm,1.6s						
ASAR	Alice Springs	49.40	91	P	P	15 14 33.4	-1.8
	comp=Z,7.9nm,1.1s,baz=240,slow=6.4,SNR=21						
ASAR				LR	LR	15 32 53.4	
	comp=Z,2µm,19.4s,baz=250,slow=33						
ASAR	Alice Springs	49.40	91	P	P	15 14 32.9	-2.3
AS31	Alice Springs	49.40	91	P	P	15 14 33.0	-2.2
KNRA	Kununurra	49.62	78	P	P	15 14 35.1	-1.8
KNRA				IAmb	IAmb	15 14 37.1	
	comp=Z,46nm,1.2s						
SOEI	Soe	49.85	69	P	P	15 14 38.8	-0.1
SOEI				IAmb	IAmb	15 15 27.3	
	comp=Z,49nm,1.2s						
BKSI	Bulukumba	49.89	61	P	P	15 14 36.1	-2.9
	comp=Z,515nmcomp=Z,12nm,1.4s						
SBUM	Sibu	50.76	46	P	P	15 14 47.0	+1.5
WRA	Warramunga Arr	51.65	87	P	P	15 14 50.4	-1.9
	comp=Z,4.8nm,1.0s,baz=225,slow=8.3,SNR=19						
WRA				LR	LR	15 34 17.3	
	comp=Z,2µm,20.2s,baz=245,slow=33						
WRA	Warramunga Arr	51.65	87	P	P	15 14 51.4	-0.9
WB2	Warramunga Arr	51.66	87	P	P	15 14 51.1	-1.2
WB2				IAmb	IAmb	15 14 59.2	
	comp=Z,106nm,1.9s						
WRAB	Tennant Creek	51.66	87	P	P	15 14 51.8	-0.6
STKA	Stephens Creek	51.75	104	P	P	15 14 51.4	-1.4
	comp=Z,11nm,1.0s,baz=252,slow=6.1,SNR=9.1						
STKA				LR	LR	15 32 40.9	
	comp=Z,1µm,20.9s,baz=237,slow=31						
STKA	Stephens Creek	51.75	104	P	P	15 14 51.2	-1.7
WR0	Warramunga Arr	51.80	87	P	P	15 14 51.7	-1.7
WR0				IAmb	IAmb	15 15 15.8	
	comp=Z,29nm,1.2s						
KMBO	Kilima Mbogo	52.03	304	P	P	15 14 56.3	+0.9
	comp=Z,1.0nm,0.6s,baz=116,slow=6.6,SNR=4.8						
KMBO				LR	LR	15 31 38.0	
	comp=Z,568nm,21.5s,baz=109,slow=30						
SNAA	Sanae	52.17	203	P	P	15 14 56.5	+1.0
SNAA	Sanae	52.17	203	P	P	15 14 56.7	+1.2
	comp=Z,1.8nm,0.8s,baz=92,slow=6.7,SNR=4.6						
SNAA	Sanae	52.17	203	P	P	15 14 55.1	-0.3
TOO	Toolangi	52.45	112	P	P	15 14 58.2	+0.1
TOO				IAmb	IAmb	15 15 03.6	
	comp=Z,82nm,1.7s						
VNDA	Vanda	52.52	164	P	P	15 14 58.0	0.0
	comp=Z,2.8nm,1.1s,baz=283,slow=6.9,SNR=6.5						
VNDA				LR	LR	15 35 10.6	
	comp=Z,3µm,19.7s,baz=248,slow=34						
VNDA	Vanda	52.52	164	P	P	15 14 58.5	+0.5
QSPA	South Pole Qui	52.79	180	P	P	15 15 00.6	+0.3
	comp=Z,4.9nm,0.8s,baz=274,slow=1.1,SNR=22						
QSPA	South Pole Qui	52.79	180	P	P	15 15 00.7	+0.4
QSPA				IAmb	IAmb	15 15 15.4	
	comp=Z,45nm,1.2s						
VNA2	Neumayer--Watz	53.72	204	P	P	15 15 08.5	+1.6
	baz=99,slow=8.8						
VNA1	Neumayer--Stat	54.05	204	P	P	15 15 11.1	+1.8
VNA3	Neumayer Olymp	54.39	203	P	P	15 15 13.2	+1.4
SPMM	Sapulut	55.07	49	P	P	15 15 17.0	-0.4
POO	Poona	55.73	355	*e*x	P	15 15 21.0	-1.0
SANI	Sanana	56.33	63	P	P	15 15 24.0	-2.4
	comp=Z,709nmcomp=Z,31nm,1.4s						
LODK	Lodwar	56.69	306	P	P	15 15 29.1	+0.1
LODK				IAmb	IAmb	15 15 33.5	
	comp=Z,37nm,1.8s						
BELA	Belgrano 2	58.27	193	P	P	15 15 40.1	+0.7
BELA				IAmb	IAmb	15 15 48.5	
	comp=Z,37nm,1.5s						
CMAR	Chiang Mai Arr	58.92	23	P	P	15 15 43.1	-1.4
	comp=Z,1.9nm,0.8s,baz=212,slow=6.7,SNR=9.5						
CMAR				LR	LR	15 38 35.5	
	comp=Z,149nm,18.0s,baz=190,slow=34						
CMAR	Chiang Mai Arr	58.92	23	P	P	15 15 41.8	-2.7
GAMI	Galela, Maluku	60.33	61	P	P	15 15 53.4	-1.0
	comp=Z,68nm,1.4s						
SIJI	Sorong	60.94	66	P	P	15 15 57.6	-1.0
	comp=Z,19nm,1.3s						
QIZ	Qiongzhong	63.61	34	P	P	15 16 15.3	-1.0
QIZ				S	S	15 24 51.5	+1.6
QIZ				sS	sS	15 24 58.0	+2.2
QIZ				LR	LR		
	comp=Z,510nm,20.4s						
QIZ				LR	LR		
	comp=Z,510nm,20.0s						
QIZ				LR	LR		
	comp=Z,620nm,23.5s						
SHL	Shillong	63.95	14	P	P	15 16 17.5	-1.1
SHL				IAmb	IAmb	15 16 26.1	
	comp=Z,24nm,1.1s						
KMI	Kunming	66.37	24	⇑P	P	15 16 37.8	+3.4
KMI				pP	pwP	15 16 41.1	+0.5
KMI				PP	PP	15 19 04.1	+3.2
KMI				S	S	15 25 28.8	+4.6
KMI				SS	SS	15 29 45.4	+4.1
KMI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,170nm,5.5s						
GYA	Guiyang	68.97	27	⇓P	P	15 16 52.3	+1.7
GYA				S	S	15 25 56.5	+1.5
GYA				pmax	pmax		
	comp=Z,18nm,1.5s						
GYA				pmax	pmax		
	comp=Z,190nm,3.5s						
GYA				LR	LR		
	comp=Z,370nm,18.3s						
GYA				LR	LR		
	comp=Z,400nm,18.8s						
GYA				LR	LR		
	comp=Z,510nm,18.4s						
NIL	Nilore	70.79	356	P	P	15 17 01.2	-0.4
NIL				IAmb	IAmb	15 17 06.2	
	comp=Z,46nm,1.4s						
KBL	Kabul	72.03	352	P	P	15 17 08.2	-1.1
CD2	Chengdu	72.07	23	P	P	15 17 10.0	+0.6
CD2				S	S	15 26 31.0	+0.1
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				LR	LR		
	comp=Z,380nm,19.1s						
CD2				LR	LR		
	comp=Z,340nm,17.2s						
CD2				LR	LR		
	comp=Z,560nm,16.7s						
ENH	Enshi	73.46	28	IAmb	IAmb	15 17 33.2	
	comp=Z,21nm,1.2s						
URZ	Urewera	74.13	126	LR	LR	15 44 41.4	
	comp=Z,436nm,18.4s,baz=211,slow=32						
WHN	Wuhan	75.64	32	⇑P	P	15 17 33.2	+3.0
WHN				S	S	15 27 09.4	-1.6
WHN				LR	LR		
	comp=Z,690nm,9.4s						
WHN				LR	LR		
	comp=Z,360nm,8.8s						
WHN				LR	LR		
	comp=Z,1µm,17.7s						
DZM	Mont Dzumac	75.76	107	LR	LR	15 46 41.5	
	comp=Z,399nm,18.8s,baz=239,slow=32						
CHGR	Chuyangaron	76.09	353	P	P	15 17 31.1	-1.7
KSH	Kashi	76.53	358	P	P	15 17 35.0	-0.3
KSH				pP	sP	15 17 39.9	-0.3
KSH				ScS	SKSac	15 27 48.0	+1.6
KSH				pmax	pmax		
	comp=Z,17nm,1.6s						
KSH				LR	LR		
	comp=Z,1µm,20.8s						
KSH				LR	LR		
	comp=Z,800nm,19.9s						
KSH				LR	LR		
	comp=Z,1µm,25.1s						
XAN	Xi'an	76.65	26	P	P	15 17 34.8	-1.2
XAN				pP	pwP	15 17 43.3	+0.9
XAN				S	S	15 27 22.0	-0.2
XAN				SS	SS	15 32 23.2	+4.7
XAN				pmax	pmax		
	comp=Z,48nm,0.9s						
XAN				pmax	pmax		
	comp=Z,200nm,8.3s						
XAN				LR	LR		
	comp=Z,460nm,22.2s						
XAN				LR	LR		
	comp=Z,680nm,19.2s						
XAN				LR	LR		
	comp=Z,800nm,20.5s						
LZH	Lanzhou	76.91	21	⇑P	P	15 17 44.8	+7.2
LZH				sP	PcP	15 17 54.2	+5.6
LZH				S	S	15 27 24.9	-0.3
LZH				sS	SKSac	15 27 42.8	-6.7
LZH	Lanzhou	76.91	21	SS	SS	15 32 34.8	+12
LZH				pmax	pmax		
	comp=Z,29nm,1.0s						
LZH				pmax	pmax		
	comp=Z,170nm,4.9s						
LZH				LR	LR		
	comp=N,340nm,16.8s						
LZH				LR	LR		
	comp=E,260nm,17.9s						
LZH				LR	LR		
	comp=Z,330nm,19.0s						
GEYT	Alibeck	77.14	344	P	P	15 17 39.8	+1.1
	comp=Z,1.2nm,0.5s,baz=194,slow=12,SNR=2.0						
GEYT				LR	LR	15 47 54.9	
	comp=Z,617nm,19.0s,baz=65,slow=33						
GEYT	Alibeck	77.14	344	P	P	15 17 37.9	-0.8
HNR	Honiara	77.96	93	LR	LR	15 49 00.0	
	comp=Z,1µm,20.7s,baz=254,slow=33						
NJ2	Nanjing	78.89	34	*e*P	P	15 17 50.1	+1.6
NJ2				sP	PcP	15 17 58.2	+1.1
NJ2				S	S	15 27 53.6	+7.2
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
NJ2				LR	LR		
	comp=Z,850nm,20.5s						
NJ2				LR	LR		
	comp=Z,470nm,19.0s						
NJ2				LR	LR		
	comp=Z,1µm,19.1s						
GTA	Gaotai	78.99	17	*e*P	P	15 17 49.5	+0.5
GTA				pP	sP	15 17 53.7	-0.3
GTA				sP	PcP	15 17 56.8	-0.7
GTA				S	S	15 27 47.6	+0.1
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,150nm,5.6s						
GTA				LR	LR		
	comp=Z,200nm,17.5s						
GTA				LR	LR		
	comp=Z,280nm,17.1s						
GTA				LR	LR		
	comp=Z,340nm,19.1s						
AAK	Ala-Archa	79.69	357	P	P	15 17 51.8	-1.1
AAK				IAmb	IAmb	15 17 58.8	
	comp=Z,38nm,1.6s						
KK31	Karatay Array	80.38	354	P	P	15 17 55.8	-0.6
KK31				IAmb	IAmb	15 18 02.4	
	comp=Z,81nm,1.6s						
KKAR	Karatay Array	80.38	354	P	P	15 17 55.4	-1.0
KKAR	Karatay Array	80.38	354	P	P	15 17 55.8	-0.6
KKAR				IAmb	IAmb	15 18 02.4	
	comp=Z,81nm,1.6s						
WMQ	Urumqi	81.29	7	⇑P	P	15 18 02.1	+0.9
WMQ				S	S	15 28 13.1	+1.8
WMQ				pmax	pmax		
	comp=Z,26nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,220nm,4.7s						
WMQ				LR	LR		
	comp=Z,520nm,15.5s						
WMQ				LR	LR		
	comp=Z,450nm,19.3s						
WMQ				LR	LR		
	comp=Z,490nm,20.5s						
BTO	Baotou	82.96	24	*e*P	P	15 18 08.7	-1.4
GNI	Garni	82.97	335	P	P	15 18 10.7	+0.5
HHC	Hu-ho-hao-te	83.69	25	*e*P	P	15 18 15.2	+1.3
HHC				SS	SS	15 34 06.6	+2.8
HHC				pmax	pmax		
	comp=Z,15nm,1.1s						
HHC				pmax	pmax		
	comp=Z,71nm,5.2s						
HHC				LR	LR		
	comp=Z,560nm,16.9s						
HHC				LR	LR		
	comp=Z,220nm,17.8s						
HHC				LR	LR		
	comp=Z,450nm,16.1s						
MK31	Makanchi Array	83.87	3	P	P	15 18 12.3	-2.3
MK31				IAmb	IAmb	15 18 19.0	
	comp=Z,36nm,1.6s						
MKAR	Makanchi Array	83.87	3	P	P	15 18 13.7	-0.9
	comp=Z,9.1nm,1.1s,baz=168,slow=6.2,SNR=17						
MKAR				LR	LR	15 52 56.2	
	comp=Z,936nm,20.7s,baz=188,slow=34						
MKAR	Makanchi Array	83.87	3	P	P	15 18 13.1	-1.5
MAKZ	Makanchi	83.87	3	P	P	15 18 13.5	-1.1
MAKZ				IAmb	IAmb	15 18 19.1	
	comp=Z,38nm,1.6s						
KOPT	Kop Dagi	84.36	332	P	P	15 18 19.0	+1.5
BJI	Beijing	84.63	28	P	P	15 18 17.7	-0.8
BJI				S	S	15 28 45.8	+0.6
BJI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BJI				LR	LR		
	comp=Z,200nm,17.5s						
BJI				LR	LR		
	comp=Z,310nm,21.4s						
BJI				LR	LR		
	comp=Z,210nm,25.9s						
JNU	Nakatsue	85.70	42	P	P	15 18 23.3	-0.9
	comp=Z,13nm,0.9s,baz=111,slow=4.2,SNR=4.1						
JNU	Nakatsue	85.70	42	P	P	15 18 23.2	-1.0
DL2	Dalian	85.87	33	P	P	15 18 27.0	+2.2
DL2				S	S	15 29 01.7	+4.1
DL2				pmax	pmax		
	comp=Z,29nm,2.1s						
DL2				LR	LR		
	comp=Z,550nm,18.0s						
DL2				LR	LR		
	comp=Z,310nm,21.9s						
DL2				LR	LR		
	comp=Z,680nm,19.8s						
KBZ	Khabaz	86.78	335	LR	LR	15 54 12.8	
	comp=Z,552nm,20.8s,baz=154,slow=34						
BR131	Keskin Array S	86.87	327	P	P	15 18 29.5	-0.4
BRTR	Keskin Array B	86.87	327	P	P	15 18 29.9	0.0
	comp=Z,1.4nm,0.8s,baz=164,slow=5.0,SNR=9.6						
BRTR				LR	LR	15 54 22.7	
	comp=Z,465nm,19.0s,baz=153,slow=34						
BRTR	Keskin Array B	86.87	327	P	P	15 18 29.6	-0.3
TORD	Torodi Ar. Bea	87.31	289	P	P	15 18 33.2	+0.7
	comp=Z,0.7nm,0.7s,baz=102,slow=4.1,SNR=3.7						
TORD				LR	LR	15 54 24.8	
	comp=Z,461nm,20.6s,baz=145,slow=33						
KSRS	Korea Array	87.57	38	LR	LR	15 55 23.0	
	comp=Z,129nm,20.3s,baz=214,slow=34						
ABKAR	Akbulak array	87.72	348	P	P	15 18 33.3	-0.3
DBIC	Dimbokro	88.36	280	LR	LR	15 55 05.5	
	comp=Z,560nm,18.4s,baz=138,slow=34						
SONM	Songino Array	88.53	19	P	P	15 18 37.4	-0.2
	comp=Z,1.8nm,0.6s,baz=207,slow=4.6,SNR=11						
SONM	Songino Array	88.53	19	P	P	15 18 37.6	0.0
ULN	Ulaanbaatar	88.73	19	P	P	15 18 37.2	-1.4
ULN				IAmb	IAmb	15 18 44.4	
	comp=Z,19nm,1.6s						
ULN	Ulaanbaatar	88.73	19	P	P	15 18 40.9	+2.3
ZAA0	Zalesovo Array	91.14	4	P	P	15 18 49.8	+0.3
ZALV	Zalesovo Beam	91.14	4	P	P	15 18 49.5	0.0
	comp=Z,0.3nm,0.2s,baz=191,slow=4.4,SNR=1.7						
ZALV				LR	LR	15 57 27.8	
	comp=Z,742nm,20.4s,baz=198,slow=34						
MAT	Matsushiro	92.26	44	P	P	15 18 53.4	-1.8
MAJO	Matsushiro	92.26	44	P	P	15 18 53.1	-2.1
MAJO				IAmb	IAmb	15 18 55.2	
	comp=Z,17nm,1.4s						
MJAR	Matsushiro Arr	92.26	44	P	P	15 18 53.6	-1.5
	comp=Z,4.0nm,1.1s,baz=202,slow=5.7,SNR=8.5						
MJAR				LR	LR	15 57 09.8	
	comp=Z,242nm,21.0s,baz=220,slow=34						
MJAR	Matsushiro Arr	92.26	44	P	P	15 18 53.4	-1.8
USRK	Ussuriysk Ar.	94.75	36	LR	LR	15 58 42.0	
	comp=Z,302nm,21.8s,baz=214,slow=34						
MLR	Muntele Rosu	94.88	326	P	P	15 19 06.9	-0.2
KEST	Kesra	96.63	310	P	P	15 19 15.8	+0.4
	comp=Z,3.0nm,0.7s,baz=168,slow=9.3,SNR=2.6						
KEST				LR	LR	16 03 21.4	
	comp=Z,358nm,18.1s,baz=154,slow=36						
AKASG	Malin Array Be	97.62	331	LR	LR	16 00 44.7	
	comp=Z,203nm,20.5s,baz=200,slow=34						
ASAJ	Asahikawa	99.96	41	LR	LR	16 00 40.9	
	comp=Z,223nm,21.9s,baz=198,slow=33						
MNK	Minsk	101.13	333	*i* P	Pdif	15 19 29.1	-5.7
	comp=E,2.0nm,0.8s						
MNK				*i* P	Pdif	15 19 29.1	-5.7
	comp=N,8.0nm,0.8s						
MNK				*i* P	Pdif	15 19 29.1	-5.7
	comp=Z,5.0nm,0.7s,baz=140						
MNK				*i* PP	PP	15 23 38.3	-5.9
MNK				*i* PPP	PPP	15 25 44.8	
MNK				*i* S	SKSac	15 30 08.3	-4.9
MNK				*i* PS	PS	15 32 39.3	-6.9
MNK				*i* SS	SS	15 38 06.3	-7.3
MNK				*i* SSS	SSS	15 41 57.3	
MNK				*i* LQ	LQ	15 58 11.5	
MNK				*i* LR	LR	16 01 20.4	
MNK				*i* LRM	MLR	16 05 29.0	
	comp=E,44nm,21.7s						
MNK				*i* LRM	MLR	16 05 29.0	
	comp=N,456nm,28.9s						
MNK				*i* LRM	MLR	16 06 09.8	
	comp=Z,318nm,24.6s						
CLL	Collm	105.02	324	*e*Pdif	Pdif	15 19 52.0	-0.2
CLL				*i*		15 19 55.8	
ILAR	Eielson Array	141.99	29	PKP	PKPdf	15 25 15.2	-1.1
	comp=Z,0.3nm,0.4s,baz=266,slow=2.7,SNR=3.2						
L26K	Log Cabin Wild	144.15	31	PKPdf	PKPdf	15 25 21.9	+1.7
L26K	Log Cabin Wild	144.15	31	P	PKPdf	15 25 20.4	+0.2
	baz=296						
EGAK	Eagle	144.17	28	P	PKiKP	15 25 22.6	-1.1
	baz=301						
K27K	Chicken	144.19	29	P	PKiKP	15 25 22.3	-1.5
	baz=299						
INK	Inuvik	144.44	20	PKP	PKPbc	15 25 19.5	+0.5
	comp=Z,5.1nm,1.1s,baz=153,slow=4.5,SNR=4.3						
M26K	Nabesna, AK	144.57	32		PKPdf	15 25 20.5	-0.5
BCAR	Beaver Creek A	144.77	30		PKPdf	15 25 21.1	-0.2
EPYK	Eagle Plains	144.79	23	P	PKPdf	15 25 22.7	+1.4
	baz=308						
DAWY	Dawson	145.19	28	P	PKPdf	15 25 23.6	+1.6
	baz=302						
CTG	Chitna Glacier	145.90	33	P	PKiKP	15 25 26.3	-1.3
	baz=296						
YUK3	Moose Creek	145.92	32	P	PKPab	15 25 25.9	+1.1
	baz=298						
HYT	Haines Junctio	147.63	32	P	PKiKP	15 25 31.1	-0.1
	baz=300						
GBN	Guysborough	148.85	298		PKiKP	15 25 34.2	+0.3
NVAR	Mina Array Bea	167.07	80	PKP	PKPdf	15 25 52.9	+1.6
	comp=Z,0.3nm,0.8s,baz=29,slow=2.1,SNR=1.7						
NVAR				PKPab	PKPab	15 26 54.8	-0.7
	comp=Z,1.4nm,0.9s,baz=262,slow=5.1,SNR=5.4						
TXAR	Lajitas Array	171.87	170	PKP	PKPdf	15 25 53.2	-1.1
	comp=Z,0.2nm,0.5s,baz=116,slow=2.9,SNR=4.0						
PDAR	Pinedale Array	172.08	45	PKP	PKPdf	15 25 54.7	+0.5
	comp=Z,0.1nm,0.4s,baz=318,slow=1.2,SNR=1.6						

MEX 05 15:18:30.3±0.7, 15°.02N×96°.32W, h11km±77km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEIG	Puerto Escondi	1.26	321	*i* P	Pn	15 18 49.9	-4.0
PEIG				*i* S	Sb	15 19 05.8	-4.6
OXBJ	Oaxaca	2.08	349	*i* P	Pn	15 19 01.4	-3.9
OXBJ				*i* S	Sn	15 19 27.3	-4.0
VHO	Vista Hermosa	2.08	349	*i* P	Pn	15 19 01.9	-3.5
VHO				*i* S	Sn	15 19 27.0	-4.5
YOIG	Yosondua	2.18	327	*e*P	Pn	15 19 04.9	-1.8
YOIG				*e*S	Sn	15 19 30.8	-3.0
PNIG	Pinotepa	2.21	308	*e*P	Pn	15 19 04.4	-2.6
PNIG				*i* S	Sn	15 19 29.7	-4.8
MGIG	Malinaltepec	3.13	315	*e*P	Pn	15 19 19.2	-0.6
MGIG				*i* S	Sn	15 19 53.8	-3.5
HLIG	Huajuapan de L	3.14	333	*i* P	Pn	15 19 19.6	-0.4
HLIG				*i* S	Sn	15 19 55.5	-2.1
TOIG	Toxpalan	3.15	347	*i* P	Pn	15 19 19.6	-0.3
TOIG				*i* S	Sn	15 19 53.6	-3.9

NEIC 05 15:28:37.6±1.4, 18°.3N±0°.2×68°.64W±0°.04, h148km±6km, ML2.2/6, Md3.6/19(RSPR), Error ellipse: s-maj=23.4km s-min=3.4km az=189.0
OSPL 05 15:28:37.9±0.3, 17°.82N×68°.81W, h134km±12km, ML2.6
RSPR 05 15:28:39.1, 17°.87N×68°.33W, h170km±1km, MD3.6/6
ISC 05 15:28:38.5±1.9, 17°.6N±0°.1×68°.66W±0°.06, h95km, n45, σ1s.59/46, 8C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.96	16	IAML		15 28 52.5	
	comp=N,36nm,2.3s						
PCDR				Pn	Pn	15 28 58.4	+0.3
PCDR				Sn	Sn	15 29 13.6	+0.8
PCDR	Punta Cana, DR	0.96	16	*i* P	Pn	15 28 58.4	+0.3
PCDR				*e*S	Sn	15 29 13.6	+0.8
PCDR				IAML		15 29 19.1	
	comp=Z,86nm,0.7s						
DR12	Loma Pena Alta	1.37	330	Pn	Pn	15 29 00.8	-2.2
CRPR	Cabo Rojo, PR	1.53	74	⇑*e*P	Pn	15 29 06.7	+1.8
CRPR	Cabo Rojo, PR	1.53	74	*e*S	Sn	15 29 28.4	+3.5
CRPR	Cabo Rojo, PR	1.53	74	Pn	Pn	15 29 06.6	+1.6
CRPR				Sn	Sn	15 29 27.5	+2.5
CRPR				IAML		15 29 30.6	
	comp=N,37nm,0.2s						
CRPR				IAML		15 29 31.6	
	comp=E,34nm,0.2s						
CRPR	Cabo Rojo, PR	1.53	74	⇑*i*P	Pn	15 29 06.5	+1.6
CRPR				IAML		15 29 28.3	
	comp=Z,40nm,0.2s						
MLPR	Magueyes Islan	1.58	76	⇓*e*P	Pn	15 29 07.7	+2.1
MLPR	Magueyes Islan	1.58	76	Pn	Pn	15 29 06.7	+1.2
LSP	Las Mesas	1.61	69	⇑*e*P	Pn	15 29 07.8	+1.9
LSP	Las Mesas	1.61	69	*e*S	Sn	15 29 30.4	+3.7
AGPR	Aguadilla, PR	1.71	59	⇑*e*P	Pn	15 29 08.0	+0.8
AGPR	Aguadilla, PR	1.71	59	*e*S	Sn	15 29 30.8	+1.8
AGPR	Aguadilla, PR	1.71	59		Pn	15 29 07.0	-0.3
AGPR	Aguadilla, PR	1.71	59		Sn	15 29 30.8	+1.8
AGPR	Aguadilla, PR	1.71	59	IAML		15 29 31.9	
	comp=N,139nm,0.5s						
AGPR				IAML		15 29 35.3	
	comp=E,124nm,0.5s						
AGPR	Aguadilla, PR	1.71	59	*i* P	Pn	15 29 07.7	+0.5
AGPR				IAML		15 29 35.5	
	comp=Z,46nm,0.1s						
BANI	BANI	1.80	297	Pn	Pn	15 29 09.4	+0.9
AOPR	Arecibo Observ	1.96	67	⇑*e*P	Pn	15 29 10.8	+0.3
AOPR	Arecibo Observ	1.96	67	*e*S	Sn	15 29 36.1	+1.2
AOPR	Arecibo Observ	1.96	67		Pn	15 29 10.1	-0.4
AOPR	Arecibo Observ	1.96	67		Sn	15 29 36.1	+1.2
OBIP	Obispado Ponce	2.01	77	Pn	Pn	15 29 10.9	-0.1
CELP	Cerrillos	2.04	76	⇓*e*P	Pn	15 29 12.5	+1.1
CELP	Cerrillos	2.04	76		Pn	15 29 12.5	+1.1
EMPR	Esperanza - Ma	2.21	66	⇑*e*P	Pn	15 29 13.6	-0.1
EMPR	Esperanza - Ma	2.21	66	*e*S	Sn	15 29 40.9	+0.3
EMPR	Esperanza - Ma	2.21	66	Pn	Pn	15 29 12.7	-1.0
EMPR	Esperanza - Ma	2.21	66		Sn	15 29 40.9	+0.3
IGPR	InterUniversit	2.46	81	⇑*e*P	Pn	15 29 17.1	+0.2
HUMP	Col San Antoni	2.73	78	⇓*e*P	Pn	15 29 20.2	-0.4
HUMP	Col San Antoni	2.73	78	*e*S	Sn	15 29 52.1	-0.8
HUMP	Col San Antoni	2.73	78	Pn	Pn	15 29 20.4	-0.2
HUMP	Col San Antoni	2.73	78		Sn	15 29 52.1	-0.8
MTP	Monte Pirata	3.00	80	Pn	Pn	15 29 24.5	+0.3
CUPR	Culebra, Puert	3.29	77	⇑*e*P	Pn	15 29 27.2	-0.9
CUPR	Culebra, Puert	3.29	77	*e*S	Sn	15 30 04.2	-2.2
CUPR	Culebra, Puert	3.29	77	Pn	Pn	15 29 26.9	-1.3
CUPR	Culebra, Puert	3.29	77		Sn	15 30 04.2	-2.2
VGBI	Virgin Gorda,	4.15	77	⇓*e*P	Pn	15 29 38.0	-1.7
VGBI	Virgin Gorda,	4.15	77	*e*S	Sn	15 30 23.5	-3.7
VGBI	Virgin Gorda,	4.15	77		Pn	15 29 38.0	-1.7
ABVI	Anegada Island	4.27	74	Pn	Pn	15 29 39.2	-2.1
GRTK	Grand Turk	4.54	330	Pn	Pn	15 29 36.4	-8.6
ANWB	Willy Bob	6.56	88	Pn	Pn	15 30 11.4	-1.0

IDC 05 15:33:47.5±55.0, 22°.38S×176°.24W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/19, mbtmp3.7/3, Error ellipse: s-maj=1012.0km s-min=170.5km az=86.0, South of Fiji

Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.50**	**247**	P	P	15 41 11.2	-0.5
	0.8nm,0.7s,baz=98,slow=7.1,SNR=1.2						
ASAR	**Alice Springs**	**45.71**	**258**	P	P	15 42 10.5	-0.2
	0.4nm,0.5s,baz=96,slow=7.1,SNR=20						
WRA	**Warramunga Arr**	**45.99**	**263**	P	P	15 42 13.1	+0.2
	0.7nm,0.4s,baz=101,slow=8.3,SNR=21						

*NEIC **05** 15:48:53.6±1.0, 51°.29N±0°.09×174°.29W±0°.09, h16km±15km, Error ellipse: s-maj=15.0km s-min=5.6km az=153.0*

*AEIC **05** 15:48:54±1.4, 51°.28N±0°.04×174°.34W±0°.06, h21km±5km, ML3.1/24, Error ellipse: s-maj=6.9km s-min=4.5km az=205.0*

*IDC **05** 15:49:00.3±1.9, 52°.94N×175°.67W, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.5/46, mbtmp3.7/5, ML4.0/2, Error ellipse: s-maj=60.4km s-min=24.0km az=158.0*

ISC 05 15:48:52.2±1.3**, 51°.28N**±0°.09×**174°.28W**±0°.05**, h10km, n28, σ0s.65**/28**, mb3.7**/3**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.92**	**3**		**Pb**	**15 49 10.8**	**+0.5**
ATKA					**Sn**	**15 49 24.7**	**+0.2**
KOFP	**Korovin Flat P**	**1.00**	**7**		**Pn**	**15 49 12.6**	**+0.2**
KOKL	**Mount Kliuchef**	**1.04**	**3**		**Pn**	**15 49 13.1**	**+0.1**
KOSE	**Korovin Southe**	**1.07**	**8**		**Pn**	**15 49 13.9**	**+0.6**
KONE	**Korovin Northe**	**1.12**	**5**		**Pn**	**15 49 14.6**	**+0.7**
GSIG	**Igitkin Island**	**1.24**	**305**		**Pn**	**15 49 15.6**	**-0.1**
GSIG					**Sg**	**15 49 32.5**	**+0.3**
GSMY	**Great Sitkin M**	**1.34**	**305**		**Pn**	**15 49 16.9**	**-0.1**
GSTR	**Great Sitkin T**	**1.37**	**307**		**Pn**	**15 49 17.6**	**+0.1**
GSTD	**Great Sitkin T**	**1.39**	**304**		**Pn**	**15 49 17.9**	**+0.1**
GSTD					**Sn**	**15 49 36.8**	**+0.6**
GSSP	**Great Sitkin S**	**1.43**	**305**		**Pn**	**15 49 18.6**	**+0.4**
ADK	**Adak**	**1.61**	**293**		**Pn**	**15 49 20.8**	**+0.1**
ADK	**Adak**	**1.61**	**293**		**Sn**	**15 49 41.5**	**-0.1**
KIWB	**Kanaga Island**	**1.88**	**289**		**Pn**	**15 49 25.1**	**+0.7**
KIKV	**Kanaga Island**	**1.90**	**289**		**Pn**	**15 49 25.1**	**+0.5**
KIMD	**Kanaga Island**	**1.91**	**286**		**Pn**	**15 49 24.9**	**+0.2**
KICM	**Kanaga Island**	**1.92**	**290**		**Pn**	**15 49 25.9**	**+0.9**
TAPA	**Tanaga Point A**	**2.27**	**285**		**Pn**	**15 49 30.6**	**+0.9**
TAFP	**Tanaga Falls P**	**2.39**	**286**		**Pn**	**15 49 32.4**	**+1.0**
TAFP					**Sn**	**15 50 01.2**	**+0.5**
TASE	**Tanaga Southea**	**2.41**	**285**		**Pn**	**15 49 32.9**	**+1.2**
NIKH	**Nikolski High**	**3.75**	**61**		**Pn**	**15 49 50.9**	**+0.9**
KDAK	**Kodiak Island**	**14.14**	**54**	Pn	**P**	**15 52 20.0**	**+0.1**
	1.1nm,0.3s,baz=267,slow=5.3,SNR=12						
ILAR	**Eielson Array**	**19.60**	**36**	P	**P**	**15 53 19.6**	**-0.7**
	0.4nm,0.3s,baz=231,slow=9.0,SNR=22						
H11S1	**WAKE ISLAND Hy**	**36.01**	**212**	T	T	16 35 13.4	
	baz=19,slow=77						
H11S2	**WAKE ISLAND Hy**	**36.02**	**212**	T	T	16 35 13.9	
	baz=19,slow=77						
H11S3	**WAKE ISLAND Hy**	**36.02**	**212**	T	T	16 35 15.7	
	baz=19,slow=77						
USRK	**Ussuriysk Ar.**	**36.11**	**280**	P	**P**	**15 55 53.9**	**-0.2**
	1.5nm,0.8s,baz=53,slow=6.9,SNR=4.1						
MKAR	**Makanchi Array**	**62.27**	**311**	P	**P**	**15 59 12.6**	**-1.5**
	0.2nm,0.4s,baz=46,slow=6.1,SNR=5.4						
ASAR	**Alice Springs**	**87.40**	**226**	P	P	16 01 51.7	+12
	0.2nm,0.7s,baz=21,slow=5.3,SNR=1.8						

IDC 05 15:52:36.4±2.0**, 3°.83S**×**152°.04E, h0km, mb3.3**/3**, mb1 3.7**/3**, mb1mx3.4**/34**, mbtmp3.4**/3**, MS3.7**/1**, Ms1 3.7**/1**, ms1mx2.9**/16**, Error ellipse: s-maj=148.3km s-min=29.0km az=126.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**9.62**	**126**	LR	LR	15 58 43.3	
	comp=Z,391nm,19.3s,baz=248,slow=38						
WRA	**Warramunga Arr**	**23.54**	**226**	P	P	15 57 48.5	-0.2
	1.0nm,0.8s,baz=50,slow=9.8,SNR=8.8						
ASAR	**Alice Springs**	**26.38**	**220**	P	P	15 58 15.1	+0.4
	0.3nm,0.8s,baz=56,slow=8.5,SNR=4.3						
ILAR	**Eielson Array**	**81.55**	**22**	P	P	16 04 55.6	-0.2
	0.4nm,0.7s,baz=258,slow=5.0,SNR=5.7						

MEX 05 15:53:54.7±1.3**, 17°.88N**×**101°.36W, h10km, MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.29**	**200**	*i* P	Pg	15 53 59.3	-1.2
ZIIG				*i* S	Sg	15 54 04.7	+0.3
UON	**La Union**	**0.44**	**282**	*i* S	Sg	15 54 09.6	+0.3
ARIG	**Puente Sto Nin**	**1.04**	**67**	*e*P	Pg	15 54 11.2	-3.5
ARIG				*i* S	Sg	15 54 25.8	-2.6

*IDC **05** 16:12:23.7±3.3, 22°.67N×12°.51W, h0km, mb3.9/7, mb1 3.9/11, mb1mx3.6/56, mbtmp3.8/11, ML3.6/4, Error ellipse: s-maj=69.6km s-min=27.1km az=71.0*

ISC 05 16:12:24.4±1.8**, 22°.55N**±0°.10×**12°.5W**±0°.2**, h10km, n11, σ2s.11**/14**, mb4.0**/7**, Mauritania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOWA	**Kowa**	**11.35**	**133**	Pn	**Pn**	**16 15 08.1**	**+1.3**
	0.6nm,0.3s,baz=325,slow=10,SNR=7.3						
KOWA				Sn	**Sn**	**16 17 08.6**	**-5.2**
	0.3nm,0.3s,baz=168,slow=14,SNR=5.0						
MDT	**Midelt**	**12.39**	**33**	Pn	**Pn**	**16 15 20.9**	**-0.1**
	0.1nm,0.3s,baz=229,slow=9.3,SNR=1.8						
MDT				Sn	**Sn**	**16 17 38.8**	**-0.4**
	0.1nm,0.3s,baz=120,slow=20,SNR=1.8						
MDT				Lg	Lg	16 18 42.7	
	0.1nm,0.3s,baz=315,slow=19,SNR=1.8						
TORD	**Torodi Ar. Bea**	**16.42**	**122**	Pn	**Pn**	**16 16 16.3**	**+1.2**
	0.2nm,0.3s,baz=310,slow=12,SNR=8.9						
TORD				Sn	**Sn**	**16 19 21.5**	**+4.0**
	0.1nm,0.3s,baz=304,slow=24,SNR=3.3						
ESDC	**Sonseca Array**	**18.56**	**21**	P	**P**	**16 16 40.3**	**-1.2**
	0.1nm,0.3s,baz=200,slow=11,SNR=4.3						
GERES	**GERESS Array B**	**33.47**	**32**	P	**P**	**16 19 03.3**	**-0.6**
	0.7nm,0.7s,baz=246,slow=9.5,SNR=5.1						
MLR	**Muntele Rosu**	**38.72**	**44**	P	**P**	**16 19 49.4**	**+0.6**
	2.4nm,0.8s,baz=217,slow=10,SNR=4.6						
HFS	**Hagfors**	**41.82**	**19**	P	**P**	**16 20 13.7**	**-0.5**
	3.2nm,0.9s,baz=210,slow=8.1,SNR=4.1						
AKASG	**Malin Array Be**	**42.86**	**38**	P	**P**	**16 20 22.2**	**-0.6**
	0.3nm,0.4s,baz=238,slow=8.7,SNR=1.7						
FINES	**FINESS Array B**	**47.03**	**24**	P	**P**	**16 20 55.6**	**-0.1**
	1.2nm,0.8s,baz=203,slow=6.0,SNR=5.1						
AKTO	**Aktyubinsk**	**60.64**	**44**	P	**P**	**16 22 35.9**	**+0.3**
	0.9nm,0.5s,baz=280,slow=6.1,SNR=2.4						
MKAR	**Makanchi Array**	**77.06**	**45**	P	**P**	**16 24 18.8**	**+0.9**
	0.4nm,0.5s,baz=299,slow=5.0,SNR=7.1						

*IDC **05** 16:23:06.4±1.6, 7°.43S×128°.65E, h141km±16km, mb3.4/7, mb1 3.5/12, mb1mx3.3/39, mbtmp3.9/12, Error ellipse: s-maj=19.4km s-min=13.0km az=109.0*

ISC 05 16:23:05.0±0.7**, 7°.57S**±0°.05×**128°.81E**±0°.09**, h131km, n12, σ2s.39**/17**, mb3.6**/7**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.72**	**242**	P	**Pn**	**16 24 29.6**	**+1.7**
	20nm,0.3s,baz=126,slow=3.2,SNR=28						
BATI				S	**Sn**	**16 25 32.8**	**+0.3**
	23nm,0.3s,baz=92,slow=19,SNR=12						
SIJI	**Sorong**	**7.09**	**20**	P	**Pn**	**16 24 46.6**	**+0.3**
	1.7nm,0.3s,baz=120,slow=20,SNR=6.5						
SIJI				S	**Sn**	**16 26 06.0**	**+0.3**
	1.4nm,0.3s,baz=96,slow=19,SNR=1.6						
FITZ	**Fitzroy Crossi**	**10.91**	**196**	P	**Pn**	**16 25 38.4**	**+0.9**
	0.4nm,0.3s,baz=5.9,slow=10,SNR=18						
FITZ				S	**Sn**	**16 27 35.0**	**-3.0**
	0.9nm,0.3s,baz=288,slow=21,SNR=6.0						
WRA	**Warramunga Arr**	**13.42**	**157**	P	**Pn**	**16 26 12.2**	**+1.8**
	0.5nm,0.3s,baz=334,slow=13,SNR=36						
WRA				S	**Sn**	**16 28 34.5**	**-4.1**
	1.3nm,0.3s,baz=338,slow=21,SNR=11						
ASAR	**Alice Springs**	**16.73**	**164**	P	**P**	**16 26 56.3**	**+4.4**
	0.3nm,0.3s,baz=338,slow=10.0,SNR=23						
ASAR				S	**Sn**	**16 29 55.1**	**-3.3**
	0.3nm,0.3s,baz=345,slow=25,SNR=6.4						
STKA	**Stephens Creek**	**26.96**	**155**	P	**P**	**16 28 36.9**	**+2.5**
	0.9nm,0.5s,baz=355,slow=12,SNR=1.6						
CMAR	**Chiang Mai Arr**	**39.21**	**312**	P	**P**	**16 30 18.4**	**-2.3**
	0.2nm,0.5s,baz=140,slow=7.1,SNR=2.0						
USRK	**Ussuriysk Ar.**	**51.61**	**3**	P	**P**	**16 31 57.1**	**-0.8**
	0.5nm,0.5s,baz=184,slow=8.8,SNR=4.9						
SONM	**Songino Array**	**58.62**	**342**	P	**P**	**16 32 48.6**	**+0.2**
	0.4nm,0.5s,baz=150,slow=6.0,SNR=3.8						
MKAR	**Makanchi Array**	**68.06**	**327**	P	**P**	**16 33 49.8**	**-0.7**
	0.8nm,0.4s,baz=118,slow=8.2,SNR=24						
ZALV	**Zalesovo Beam**	**71.58**	**334**	P	**P**	**16 34 10.1**	**-1.7**
	1.3nm,0.5s,baz=133,slow=4.5,SNR=7.3						
BVAR	**Borovoye Array**	**77.92**	**328**	P	**P**	**16 34 47.5**	**-0.9**
	0.5nm,0.4s,baz=146,slow=8.7,SNR=6.0						

*IDC **05** 16:27:05.4±0.8, 17°.45S×176°.24E, h0km, mb4.1/9, mb1 4.4/9, mb1mx4.1/31, mbtmp4.1/9, MS3.5/6, Ms1 3.5/6, ms1mx3.2/38, Error ellipse: s-maj=32.5km s-min=16.1km az=174.0*

*NEIC **05** 16:27:09.2±1.1, 17°.6S±0°.2×176°.37E±0°.08, h28km±2km, mb4.6/13, Error ellipse: s-maj=23.4km s-min=10.7km az=171.0*

ISC 05 16:27:10.2±0.6**, 17°.6S**±0°.1×**176°.26E**±0°.06**, h35km, n39, σ1s.34**/29**, mb4.3**/16**, MS3.5**/6**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.71**	**96**	Pn	**Pn**	**16 27 36.2**	**-1.4**
	85nm,0.3s,baz=283,slow=16,SNR=226						
MSVF				Sn	**Sn**	**16 28 01.0**	**+2.7**
	218nm,0.3s,baz=270,slow=20,SNR=6.3						
MSVF				LR	LR	16 28 20.0	
	comp=Z,861nm,21.8s,baz=338,slow=43						
MSVF	**Nonsavu**	**1.71**	**96**		**Pn**	**16 27 35.8**	**-1.8**
DZM	**Mont Dzumac**	**10.27**	**243**	*e*LR	LR	16 32 07.9	
	comp=Z,426nm,26.5s						
DZM	**Mont Dzumac**	**10.27**	**243**	LR	LR	16 32 52.5	
	comp=Z,329nm,21.1s,baz=22,slow=34						
DZM	**Mont Dzumac**	**10.27**	**243**	Pn	**Pn**	**16 29 34.2**	**-1.0**
RAO	**Raoul Island**	**12.80**	**156**	Pn	**Pn**	**16 30 08.1**	**-1.6**
HNR	**Honiara**	**17.79**	**295**	LR	LR	16 37 46.9	
	comp=Z,98nm,19.2s,baz=153,slow=36						
RAR	**Rarotonga**	**22.89**	**103**	LR	LR	16 39 30.6	
	comp=Z,57nm,21.1s,baz=272,slow=32						
CTA	**Charters Tower**	**28.50**	**260**	P	**P**	**16 33 04.0**	**+1.6**
	5.2nm,0.9s,baz=62,slow=12,SNR=5.0						
PPT2	**Papeete2**	**32.54**	**95**	*e*LR	LR	16 42 26.6	
	comp=Z,218nm,25.2s						
PPT	**Papeete**	**32.55**	**95**	LR	LR	16 43 33.6	
	comp=Z,71nm,20.7s,baz=292,slow=30						
TBI	**Tubuai**	**32.58**	**106**	*e*LR	LR	16 42 21.4	
	comp=Z,118nm,30.2s						
STKA	**Stephens Creek**	**34.40**	**239**	P	**P**	**16 33 54.9**	**+0.7**
	5.4nm,1.0s,baz=72,slow=10,SNR=5.8						
STKA				LR	LR	16 46 35.6	
	comp=Z,105nm,19.7s,baz=211,slow=34						
STKA	**Stephens Creek**	**34.40**	**239**	P	**P**	**16 33 54.3**	**+0.1**
H11S2	**WAKE ISLAND Hy**	**37.04**	**345**	T	T	17 13 07.3	
	baz=166						
H11S3	**WAKE ISLAND Hy**	**37.05**	**345**	T	T	17 13 07.3	
	baz=166						
H11S1	**WAKE ISLAND Hy**	**37.06**	**345**	T	T	17 13 06.1	
	baz=166						
JAY	**Jayapura**	**37.96**	**289**	LR	LR	16 49 30.9	
	comp=Z,110nm,19.5s,baz=134,slow=36						
BBOO	**Buckleboo**	**39.17**	**239**	P	**P**	**16 34 36.3**	**+1.5**
BBOO				IAmb	IAmb	16 34 37.8	
	comp=Z,19nm,0.9s						
WR0	**Warramunga Arr**	**39.51**	**260**	P	**P**	**16 34 36.3**	**-1.5**
WR0				IAmb	IAmb	16 34 40.4	
	comp=Z,5.7nm,1.1s						
WB2	**Warramunga Arr**	**39.69**	**260**	P	**P**	**16 34 38.6**	**-0.7**
WB2				IAmb	IAmb	16 34 40.1	
	comp=Z,7.4nm,1.1s						
WRA	**Warramunga Arr**	**39.70**	**260**	P	**P**	**16 34 38.5**	**-0.9**
	comp=Z,3.8nm,0.8s,baz=92,slow=8.9,SNR=15						
WRA	**Warramunga Arr**	**39.70**	**260**	P	**P**	**16 34 38.5**	**-0.9**
AS31	**Alice Springs**	**40.00**	**254**	P	**P**	**16 34 42.0**	**+0.1**
ASAR	**Alice Springs**	**40.00**	**254**	P	**P**	**16 34 41.9**	**0.0**
	comp=Z,7.2nm,0.9s,baz=82,slow=8.8,SNR=40						
TAOE	**Nuku Hiva Isla**	**43.22**	**84**	P	**P**	**16 35 06.4**	**-2.0**
KNRA	**Kununurra**	**45.46**	**265**	P	**P**	**16 35 26.0**	**-0.2**
KNRA				IAmb	IAmb	16 35 26.5	
	comp=Z,13nm,0.9s						
FITZ	**Fitzroy Crossi**	**48.07**	**261**	P	**P**	**16 35 46.2**	**-0.4**
FITZ				IAmb	IAmb	16 35 49.7	
	comp=Z,8.8nm,1.1s						
MORW	**Morawa**	**55.96**	**246**	P	**P**	**16 36 43.3**	**-2.0**
MORW				IAmb	IAmb	16 36 43.7	
	comp=Z,7.4nm,1.1s						
VNDA	**Vanda**	**60.42**	**184**	P	**P**	**16 37 17.6**	**+1.9**
	comp=Z,0.5nm,0.8s,baz=41,slow=5.2,SNR=3.7						
JHS	**Saijyo**	**66.41**	**322**	P	**P**	**16 37 55.5**	**-0.4**
JNU	**Nakatsue**	**66.47**	**319**	P	**P**	**16 37 55.9**	**-0.4**
QSPA	**South Pole Qui**	**72.49**	**180**	P	**P**	**16 38 35.4**	**+2.2**
QSPA				IAmb	IAmb	16 38 47.9	
	comp=Z,8.8nm,1.4s						
NVAR	**Mina Array Bea**	**82.77**	**46**	P	**P**	**16 39 31.6**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=240,slow=8.9,SNR=4.1						
CMAR	**Chiang Mai Arr**	**84.01**	**291**	P	**P**	**16 39 38.4**	**+0.9**
	comp=Z,1.9nm,0.9s,baz=125,slow=3.6,SNR=11						
SONM	**Songino Array**	**90.02**	**321**	P	**P**	**16 40 06.2**	**0.0**
	comp=Z,1.2nm,1.1s,baz=116,slow=6.6,SNR=3.8						
TXAR	**Lajitas Array**	**90.15**	**59**	P	**P**	**16 40 08.4**	**+1.2**
	comp=Z,0.6nm,0.9s,baz=227,slow=4.8,SNR=5.8						
CLL	**Collm**	**143.79**	**342**	*e*PKiKP	**PKiKP**	**16 46 44.0**	**-1.0**
GERES	**GERESS Array B**	**145.73**	**339**	PKPbc	**PKPdf**	**16 46 45.1**	**0.0**
	comp=Z,1.6nm,0.9s,baz=40,slow=1.7,SNR=8.1						

*IDC **05** 16:31:47.3±1.9, 17°.08N×147°.74E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.7/42, mbtmp3.8/9, ML4.0/1, Error ellipse: s-maj=61.8km s-min=19.3km az=90.0*

*NEIC **05** 16:31:53.0±1.2, 17°.0N±0°.1×147°.6E±0°.1, h52km±13km, mb4.4/8, Error ellipse: s-maj=17.9km s-min=16.6km az=212.0*

ISC 05 16:31:52.3±0.8**, 16°.99N**±0°.07×**147°.6E**±0°.1**, h41km, n21, σ1s.46**/22**, mb4.1**/12**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**1.94**	**251**		**Pn**	**16 32 23.9**	**+1.0**
GUMO	**Guam**	**4.30**	**219**	Pn	**Pn**	**16 32 56.7**	**+1.4**
	7.0nm,0.3s,baz=352,slow=2.8,SNR=6.8						
GUMO				Sn	**Sn**	**16 33 43.5**	**-0.7**
	7.1nm,0.3s,baz=18,slow=20,SNR=2.5						
GUMO	**Guam**	**4.30**	**219**		**Pn**	**16 32 56.0**	**+0.7**
PATS	**Pohnpei**	**14.52**	**133**	Pn	**Pn**	**16 35 14.8**	**-0.5**
MJAR	**Matsushiro Arr**	**21.19**	**339**	P	**P**	**16 36 34.8**	**+0.4**
	1.0nm,0.5s,baz=167,slow=9.9,SNR=9.4						
MJAR	**Matsushiro Arr**	**21.19**	**339**	P	**P**	**16 36 33.3**	**-1.1**
MAT	**Matsushiro**	**21.19**	**339**	P	**P**	**16 36 35.6**	**+1.2**
JNU	**Nakatsue**	**22.04**	**320**	P	**P**	**16 36 40.8**	**-2.8**
JNU				IAmb	IAmb	16 36 59.1	
	comp=Z,28nm,1.5s						
NACB	**Ninganchiao**	**25.37**	**291**	P	**P**	**16 37 13.1**	**-2.8**
NACB				IAmb	IAmb	16 37 22.6	
	comp=Z,11nm,0.9s						
YHNB	**Yeheng**	**25.66**	**292**	P	**P**	**16 37 16.9**	**-1.7**
USA0B	**Ussuriysk Arra**	**30.17**	**337**	P	**P**	**16 37 57.6**	**-1.0**
COEN	**Coen**	**31.06**	**188**	P	**P**	**16 38 04.7**	**-2.0**
WR0	**Warramunga Arr**	**38.90**	**200**	P	**P**	**16 39 13.9**	**-0.3**
WR0				IAmb	IAmb	16 39 24.1	
	comp=Z,10.0nm,1.4s						
WB2	**Warramunga Arr**	**38.95**	**200**	P	**P**	**16 39 15.0**	**+0.4**
WB2				IAmb	IAmb	16 39 23.5	
	comp=Z,4.0nm,1.1s						
WRA	**Warramunga Arr**	**38.95**	**200**	P	**P**	**16 39 15.8**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=16,slow=8.1,SNR=16						
ASAR	**Alice Springs**	**42.57**	**199**	P	**P**	**16 39 46.5**	**+2.1**
	comp=Z,0.3nm,0.8s,baz=13,slow=9.4,SNR=6.2						
CMAR	**Chiang Mai Arr**	**46.28**	**279**	P	**P**	**16 40 15.7**	**+1.4**
	comp=Z,1.2nm,0.9s,baz=65,slow=6.2,SNR=6.9						
ZALV	**Zalesovo Beam**	**60.48**	**323**	P	**P**	**16 41 58.6**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=96,slow=7.6,SNR=3.0						
MKAR	**Makanchi Array**	**60.96**	**314**	P	**P**	**16 42 02.1**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=93,slow=9.1,SNR=5.9						
NRIK	**Noril'sk**	**63.84**	**340**	P	**P**	**16 42 20.9**	**+0.7**
	comp=Z,1.0nm,0.4s,baz=106,slow=7.4,SNR=2.3						
FINES	**FINESS Array B**	**89.19**	**336**	P	**P**	**16 44 44.7**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=49,slow=6.4,SNR=4.4						

MEX 05 16:33:37.0±0.6**, 14°.11N**×**93°.25W, h40km, MD3.8, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.24**	**50**	*e*P	Pn	16 33 56.9	-1.0
THIG				*e*S	Sn	16 34 11.8	-1.7
PCIG		**1.59**	**1**	*e*P	Pn	16 34 00.9	-1.8
PCIG				*i* S	Sn	16 34 19.6	-2.3
CCIG	**Comitan**	**2.42**	**26**	*e*P	Pn	16 34 09.9	-4.3
CCIG				*e*S	Sn	16 34 40.6	-2.0
TGIG		**2.66**	**3**	*e*P	Pn	16 34 16.4	-1.0
TGIG				*i* S	Sn	16 34 48.4	-0.1

*KRNET **05** 16:38:04.9±0.1, 40°.81N×78°.13E, mb3.3*

*SOME **05** 16:38:06.0, 40°.88N×78°.07E, h5km*

*NNC **05** 16:38:07.4±1.2, 40°.93N×78°.13E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=8.3km s-min=5.4km az=171.0*

ISC 05 16:38:04.5±2.2**, 40°.81N**±0°.08×**78°.41E**±0°.06**, h3km**±13km**, n57, σ1s.02**/90**, 22C-8D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**1.62**	**325**	⇓*i*P	**Pn**	**16 38 33.2**	**-0.9**
	baz=32						
KDJ				⇓*i*S	**Sn**	**16 38 53.8**	**-1.8**
	baz=32						
PRZ	**Przheval'sk**	**1.68**	**360**	⇓*i*P	**Pg**	**16 38 37.3**	**+0.7**
	baz=7.0						
PRZ				⇓*i*S	**Sg**	**16 39 00.6**	**+2.2**
	baz=7.0						
ANVS	**Anan'yevo**	**2.05**	**345**	⇑*i*P	**Pb**	**16 38 42.2**	**-0.4**
	baz=50						
ANVS				⇑*i*S	**Sb**	**16 39 09.2**	**+0.6**
	baz=50						
ULHL	**Ulahol**	**2.17**	**312**	⇑*i*P	**Pn**	**16 38 42.4**	**+0.6**
	baz=16						
ULHL				⇑*i*S	**Sn**	**16 39 10.1**	**+0.7**
	baz=16						
SATY	**Saty**	**2.25**	**360**	*e*P	**Pg**	**16 38 48.0**	**+0.4**
	16nm,0.6s						
SATY				*e*S	**Sg**	**16 39 17.7**	**+0.8**
	19nm,0.4s						
SATY	**Saty**	**2.25**	**360**	Pg	**Pg**	**16 38 48.0**	**+0.4**
	16nm,0.6s						
SATY				Lg	Lg	16 39 18.8	
	19nm,0.4s						
UZB	**Uzynbulak**	**2.38**	**11**	*e*P	**Pb**	**16 38 49.1**	**+0.9**
	7.7nm,0.6s						
UZB				*e*S	**Sg**	**16 39 19.8**	**-1.2**
	23nm,0.7s						
UZB	**Uzynbulak**	**2.38**	**11**	Pg	**Pb**	**16 38 48.7**	**+0.5**
	7.7nm,0.6s						
UZB				Lg	Lg	16 39 20.5	
	23nm,0.7s						
TNSS	**Tian-Shan**	**2.48**	**334**	Pg	**Pb**	**16 38 50.1**	**+0.1**
	11nm,0.4s						
TNSS				Lg	Lg	16 39 22.9	
	14nm,0.3s						
BOOM	**Boomskoye usch**	**2.50**	**313**	⇑*i*P	**Pn**	**16 38 46.8**	**+0.5**
	baz=16						
BOOM				⇑*i*S	**Sn**	**16 39 17.2**	**-0.3**
	baz=16						
MDOK	**Medeo**	**2.57**	**337**	*e*P	**Pb**	**16 38 51.1**	**-0.1**
	18nm,0.4s						
MDOK				*e*S	**Sb**	**16 39 23.2**	**-0.1**
	20nm,0.6s						
MDOK	**Medeo**	**2.57**	**337**	Pg	**Pb**	**16 38 50.4**	**-0.9**
	13nm,0.5s						
MDOK				Lg	Lg	16 39 24.3	
	12nm,0.4s						
MDOK	**Medeo**	**2.57**	**337**	Pg	**Pb**	**16 38 50.8**	**-0.5**
	18nm,0.4s						
MDOK				Lg	Lg	16 39 22.9	
	20nm,0.6s						
IZV	**Izvestkoviy**	**2.60**	**330**	*e*P	**Pb**	**16 38 51.0**	**-0.8**
	18nm,0.4s						
IZV				*e*S	**Sb**	**16 39 23.5**	**-0.8**
	12nm,0.2s						
IZV	**Izvestkoviy**	**2.60**	**330**	Pg	**Pb**	**16 38 51.0**	**-0.8**
	18nm,0.4s						
IZV				Lg	Lg	16 39 23.3	
	12nm,0.2s						
KOTS	**Kotyrbulak**	**2.61**	**339**	*e*P	**Pb**	**16 38 51.5**	**-0.6**
	27nm,0.2s						
KOTS				*e*S	**Sb**	**16 39 23.4**	**-1.3**
	24nm,0.4s						
KOTS	**Kotyrbulak**	**2.61**	**339**	Pg	**Pb**	**16 38 51.5**	**-0.6**
	27nm,0.2s						
KOTS				Lg	Lg	16 39 23.4	
	24nm,0.4s						
PDGK	**Podgornoye**	**2.65**	**17**	Pg	**Pg**	**16 38 54.8**	**-0.4**
	4.0nm,0.4s						
PDGK				Lg	Lg	16 39 29.4	
	12nm,0.7s						
PDGK	**Podgornoye**	**2.65**	**17**	⇑Pg	**Pg**	**16 38 55.3**	**+0.1**
	4.4nm,0.6s						
PDGK				⇑Lg	Lg	16 39 29.7	
	22nm,0.7s						
KPKS	**Kokpek**	**2.67**	**4**	*e*P	**Pg**	**16 38 54.9**	**-0.7**
	15nm,0.3s						
KPKS				*e*S	**Sg**	**16 39 30.4**	**+0.2**
	40nm,0.4s						
KURS	**Kuram**	**2.69**	**356**	*e*P	**Pg**	**16 38 54.9**	**-1.0**
	9.5nm,0.6s						
KURS				*e*S	**Sg**	**16 39 29.5**	**-1.3**
	20nm,0.7s						
KZA	**Kyzart**	**2.70**	**299**	⇑*i*P	**Pn**	**16 38 49.0**	**-0.2**
	baz=1.0						
KZA				⇑*i*S	**Sn**	**16 39 21.4**	**-1.1**
	baz=1.0						
MTBS	**Maitube**	**2.75**	**328**	*e*P	**Pb**	**16 38 54.1**	**-0.3**
	8.5nm,0.3s						
MTBS				*e*S	**Sb**	**16 39 27.9**	**-0.7**
	11nm,0.3s						
MTBS	**Maitube**	**2.75**	**328**	Pg	**Pb**	**16 38 54.1**	**-0.3**
	8.5nm,0.3s						
MTBS				Lg	Lg	16 39 27.6	
	11nm,0.3s						
KST	**Kastek**	**2.89**	**322**	*e*P	**Pb**	**16 38 55.7**	**-1.0**
	15nm,1.3s						
KST				*e*S	**Sb**	**16 39 31.4**	**-1.1**
	6.6nm,1.0s						
KST	**Kastek**	**2.89**	**322**	Pg	**Pb**	**16 38 55.7**	**-1.0**
	15nm,1.3s						
KST				Lg	Lg	16 39 31.4	
	6.6nm,1.0s						
TKM2	**Tokmak 2**	**2.98**	**316**	⇑*i*P	**Pn**	**16 38 53.5**	**+0.6**
	baz=19						
TKM2				⇑*i*S	**Sn**	**16 39 29.5**	**+0.2**
	baz=19						
TKM2	**Tokmak 2**	**2.98**	**316**	⇑Pg	**Pb**	**16 38 57.0**	**-1.4**
	3.2nm,0.6s						
TKM2				⇑Lg	Lg	16 39 33.8	
	7.6nm,0.6s						
KTMS	**Ketmen**	**3.01**	**28**	*e*P	**Pg**	**16 39 01.9**	**-0.3**
	0.3nm,0.0s						
KTMS				*e*S	**Sg**	**16 39 42.0**	**+0.9**
	21nm,0.6s						
KTMS	**Ketmen**	**3.01**	**28**	Pg	**Pg**	**16 39 01.9**	**-0.3**
	0.3nm,0.0s						
KTMS				Lg	Lg	16 39 42.0	
	21nm,0.6s						
DGS	**Degeres**	**3.13**	**322**	*e*P	**Pb**	**16 39 00.5**	**-0.3**
	13nm,0.6s						
DGS				*e*S	**Sb**	**16 39 39.9**	**+0.4**
	22nm,0.5s						
DGS	**Degeres**	**3.13**	**322**	Pg	**Pb**	**16 39 00.5**	**-0.3**
	13nm,0.6s						
DGS				Lg	Lg	16 39 39.9	
	22nm,0.5s						
KTBS	**Karatobe**	**3.18**	**337**	*e*P	**Pb**	**16 39 01.5**	**-0.1**
	7.6nm,0.6s						
KTBS				*e*S	**Sb**	**16 39 41.5**	**+0.8**
	6.8nm,0.6s						
KTBS	**Karatobe**	**3.18**	**337**	Pg	**Pb**	**16 39 01.5**	**-0.1**
	7.6nm,0.6s						
KTBS				Lg	Lg	16 39 41.5	
	6.8nm,0.6s						
KBK	**Karagaybulak**	**3.19**	**307**	⇑*i*P	**Pn**	**16 38 56.6**	**+0.9**
	baz=9.0						
KBK				⇑*i*S	**Sn**	**16 39 33.2**	**-1.1**
	baz=9.0						
CHKK	**Chushkaly**	**3.23**	**341**	*e*P	**Pb**	**16 39 02.2**	**-0.2**
	11nm,0.4s						
CHKK				*e*S	**Sb**	**16 39 42.3**	**+0.2**
	9.6nm,0.3s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHKK	Chushkaly	3.23	341	Pg	Pb	16 39 02.2	-0.2
	11nm,0.4s						
CHKK				Lg	Lg	16 39 42.3	
	9.6nm,0.3s						
ARXS	Arharly	3.43	353	eP	Pb	16 39 06.3	+0.3
	8.9nm,0.6s						
ARXS				eS	Sb	16 39 49.5	+1.3
	7.8nm,0.4s						
ARXS	Arharly	3.43	353	Pg	Pb	16 39 06.3	+0.3
	8.9nm,0.6s						
ARXS				Lg	Lg	16 39 49.5	
	7.8nm,0.4s						
KUU	Kurty	3.45	334	eP	Pb	16 39 05.5	-0.7
	2.5nm,0.4s						
KUU				eS	Sb	16 39 48.4	-0.2
	5.3nm,0.2s						
KUU	Kurty	3.45	334	Pg	Pb	16 39 05.6	-0.7
	2.5nm,0.4s						
KUU				Lg	Lg	16 39 48.4	
	5.3nm,0.2s						
AAK	Ala-Archa	3.46	303	⇑iP	Pn	16 38 59.7	+0.3
	baz=5.0						
AAK				⇑iS	Sn	16 39 40.1	-0.9
	baz=5.0						
AAK	Ala-Archa	3.46	303	Pg	Pb	16 39 05.7	-0.8
	2.1nm,0.6s						
AAK				Lg	Lg	16 39 47.8	
	13nm,0.8s						
CHMS	Chumysh	3.50	310	⇓iP	Pn	16 39 00.8	+0.9
	baz=12						
CHMS				⇓iS	Sn	16 39 41.4	-0.5
	baz=12						
KRBS	Karabastau	3.53	326	eP	Pb	16 39 07.4	-0.3
	4.5nm,0.5s						
KRBS				eS	Sb	16 39 51.6	+0.6
	7.5nm,0.4s						
KRBS	Karabastau	3.53	326	Pg	Pb	16 39 07.4	-0.3
	4.5nm,0.5s						
KRBS				Lg	Lg	16 39 51.6	
	7.5nm,0.4s						
DJR	Jarkent	3.67	16	eP	Pg	16 39 12.8	-2.0
	0.3nm,0.3s						
DJR				eS	Sg	16 40 00.6	-1.7
	2.0nm,0.4s						
DJR	Jarkent	3.67	16	Pg	Pg	16 39 12.8	-2.0
	0.3nm,0.3s						
DJR				Lg	Lg	16 40 00.6	
	2.0nm,0.4s						
AML	Almayashu	3.78	292	⇑iP	Pn	16 39 03.9	-0.2
	baz=93						
AML				⇑iS	Sn	16 39 47.2	-2.2
	baz=93						
USP	Ospenovka	3.81	311	⇑iP	Pn	16 39 05.1	+0.9
	baz=13						
USP				⇑iS	Sn	16 39 49.3	-0.3
	baz=13						
SGDS	Sogindy	3.86	314	Pg	Pb	16 39 16.3	+3.1
	2.4nm,0.6s						
SGDS				Lg	Lg	16 40 07.8	
	7.8nm,1.6s						
EKS2	Erkin-Say	3.93	300	⇓iP	Pn	16 39 07.0	+1.1
	baz=1.0						
EKS2				⇓iS	Sn	16 39 53.6	+1.0
	baz=1.0						
MRKS	Merke	4.33	298	eP	Pb	16 39 21.6	+0.2
	1.7nm,0.6s						
MRKS				eS	Sb	16 40 15.3	+1.2
	5.1nm,0.4s						
KAPS	Kapalarasan	4.53	8	eP	Pg	16 39 30.5	-0.8
	0.3nm,0.9s						
KAPS				eS	Sg	16 40 30.9	+0.9
	0.9nm,0.4s						
KAPS	Kapalarasan	4.53	8	Pg	Pg	16 39 30.5	-0.8
	0.3nm,0.9s						
KAPS				Lg	Lg	16 40 30.9	
	0.9nm,0.4s						
BTLS	Baital	5.31	324	eP	Pb	16 39 39.2	+1.3
	1.6nm,0.4s						
BTLS				eS	Sb	16 40 45.7	+3.7
	1.3nm,0.3s						
BTLS	Baital	5.31	324	Pg	Pb	16 39 39.2	+1.3
	1.6nm,0.4s						
BTLS				Lg	Lg	16 40 45.7	
	1.3nm,0.3s						

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*JMA **05** 16:44:05.3±0.1, 34°.52N×136°.57E, h361km±2km, M3.7*
*IDC **05** 16:44:05.2±0.6, 34°.39N×136°.71E, h355km±7km, mb3.1/8, mb1 3.3/15, mb1mx3.1/42, mbtmp3.8/15, Error ellipse: s-maj=15.2km s-min=10.4km az=69.0*
ISC 05 16:44:05.4±0.7, **34°.45N**±0°.07×**136°.62E**±0°.06, **h357**km±6km, **n32**, σ**0s.68**/44, **mb3.3**/8, **11C, Western Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIE	Ise	0.09	127	⇑P	Pn	16 44 50.7	+0.7
JIE				S	S	16 45 25.8	+0.1
TSUJ	Tsu 2	0.31	328	⇑P	Pn	16 44 50.8	+0.8
TSUJ				S	S	16 45 25.7	-0.2
JWY	Kouya	0.88	255	⇑P	Pn	16 44 52.1	+0.6
JWY				S	S	16 45 28.1	-0.5
JTNC	Tanabenakahech	1.04	234	⇑P	Pn	16 44 52.5	+0.4
TK02	Tokai 2	1.06	117	⇑P	Pn	16 44 53.1	+1.2
JYTA	Yamagatataniai	1.15	5	⇑P	Pn	16 44 53.0	+0.6
JYTA				S	S	16 45 30.1	-0.1
JWT	Wachi	1.30	310	⇑P	Pn	16 44 53.4	+0.3
JWT				S	S	16 45 30.7	-0.8
JKG	Kaga	1.84	353	⇑P	Pn	16 44 56.4	+0.3
JYN	Shimob	1.90	56	P	Pn	16 44 57.0	+0.4
JAI	Aioi	1.91	251	⇑P	Pn	16 44 57.0	+0.3
JMN	Monobe	2.38	253	P	Pn	16 45 00.5	+0.3
JRY	Ryogami san	2.44	49	⇑P	Pn	16 45 01.0	+0.5
JRY				S	S	16 45 44.0	-0.9
MAT	Matsushiro	2.46	31	P	Pn	16 45 00.8	+0.1
MAT				S	S	16 45 44.7	-0.5
MAT	Matsushiro	2.46	31	P	Pn	16 45 00.8	+0.1
MAT				S	S	16 45 44.6	-0.6
MJAR	Matsushiro Arr	2.46	31	P	Pn	16 45 00.3	-0.4
	0.9nm,0.3s,baz=204,slow=8.6,SNR=140						
MJAR				S	S	16 45 44.8	-0.4
	0.1nm,0.3s,baz=206,slow=8.3,SNR=5.1						
JHS	Saijyo	2.94	282	⇑P	Pn	16 45 05.1	+0.4
JHS				eS	S	16 45 51.3	-1.2
JHJ	Hachijo jima 2	2.95	116	P	Pn	16 45 05.2	+0.4
	8.3nm,0.3s,baz=52,slow=19,SNR=3.0						
JHJ				S	S	16 45 52.0	-0.7
	5.7nm,0.3s,baz=52,slow=19,SNR=1.4						
JTO	Tosashimizu	3.56	245	P	Pn	16 45 10.6	+0.2
JNU	Nakatsue	4.96	256	P	Pn	16 45 25.2	+0.3
	1.4nm,0.3s,baz=45,slow=4.3,SNR=8.8						
KSRS	Korea Array	7.67	296	P	P	16 45 56.5	-0.2
	1.0nm,0.3s,baz=107,slow=13,SNR=39						
JCJ	Chichijima	8.75	145	P	Pn	16 46 02.6	-6.0
	8.2nm,0.3s,baz=290,slow=23,SNR=16						
JCJ				S	S	16 47 38.7	-11
	8.1nm,0.3s,baz=274,slow=18,SNR=2.0						
USRK	Ussuriysk Ar.	10.38	341	P	P	16 46 28.0	-0.5
	baz=150,slow=11,SNR=57						
ASAJ	Asahikawa	10.71	24	P	Pn	16 46 30.8	-0.8
	0.5nm,0.3s,baz=222,slow=14,SNR=8.2						
KLR	Kul'dur	15.21	348	P	P	16 47 21.0	-0.7
	0.3nm,0.3s,baz=168,slow=12,SNR=7.2						
SONM	Songino Array	26.21	310	P	P	16 49 10.1	+1.2
	1.1nm,0.6s,baz=116,slow=8.8,SNR=7.2						
ZALV	Zalesovo Beam	40.87	315	P	P	16 51 15.7	+2.2
	0.6nm,0.5s,baz=96,slow=10,SNR=2.3						
ZALV				PcP	PcP	16 53 05.8	-0.6
	1.3nm,0.7s,baz=48,slow=4.3,SNR=5.6						
MKAR	Makanchi Array	42.25	304	P	P	16 51 25.2	+0.4
	0.5nm,0.5s,baz=85,slow=8.8,SNR=6.6						
ILAR	Eielson Array	53.74	31	P	P	16 52 51.6	0.0
	0.6nm,0.6s,baz=262,slow=5.6,SNR=5.2						
WRA	Warramunga Arr	54.13	183	P	P	16 52 54.0	-0.9
	1.1nm,0.3s,baz=0.1,slow=7.2,SNR=66						
WRA				PcP	PcP	16 53 54.2	-0.2
	0.2nm,0.5s,baz=348,slow=3.0,SNR=1.6						
ASAR	Alice Springs	57.85	183	P	P	16 53 20.2	-0.6
	0.4nm,0.4s,baz=357,slow=5.3,SNR=30						
NVAR	Mina Array Bea	79.65	50	P	P	16 55 34.4	+0.1
	0.4nm,0.7s,baz=285,slow=4.6,SNR=2.7						
TXAR	Lajitas Array	94.78	50	P	P	16 56 47.4	0.0
	0.2nm,0.5s,baz=240,slow=3.4,SNR=3.8						

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*NIC **05** 17:05:58.9±0.0, 34°.13N×26°.15E, h15km±1km, Ml3.1/5*
*ISK **05** 17:06:00.7, 34°.23N×26°.26E, h12km, ML3.2/14*
*HLW **05** 17:06:01.6, 34°.23N×26°.21E, h10km±11km, Md3.6, Ml3.6*
*ATH **05** 17:06:01.0, 34°.21N×26°.11E, h10km±7km, ML3.0/7, Error ellipse: s-maj=9.3km s-min=2.2km az=352.0*
*IDC **05** 17:06:02.7±2.5, 34°.31N×26°.12E, h34km±20km, mb3.6/9, mb1 3.6/14, mb1mx3.5/56, mbtmp3.7/14, ML3.4/5, Error ellipse: s-maj=22.1km s-min=15.5km az=5.0*
*DDA **05** 17:06:03.3, 34°.52N×26°.48E, h7km±2km, ML2.5*
*THE **05** 17:06:03.6, 34°.39N×26°.16E, h0km±1km, ML2.8/3, Error ellipse: s-maj=2.8km s-min=0.6km az=142.0*
ISC 05 17:06:00.8±1.3, **34°.17N**±0°.04×**26°.19E**±0°.03, **h25**km±10km, **n79**, σ**1s.45**/99, **mb3.6**/9, **Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZKR	Zakros	0.94	1	P	Pb	17 06 18.0	-0.5
ZKR				S	Sb	17 06 29.7	-1.0
	882nm,0.5s						
ZKR	Zakros	0.94	1	P	Pb	17 06 18.1	-0.5
ZKR				S	Sb	17 06 30.4	-0.3
ZKR				AML	AML	17 06 37.6	
	comp=N,920μm,0.3s						
ZKR				AML	AML	17 06 41.5	
	comp=E,2028μm,0.6s						
ZKR	Zakros	0.94	1	PG	Pb	17 06 18.3	-0.3
ZKR				SG	Sb	17 06 30.6	-0.1
ZKR	Zakros	0.94	1	P	Pb	17 06 18.0	-0.5
ZKR				S	Sn	17 06 31.7	+0.5
ZKR				AML	AML	17 06 34.8	
	comp=E,2.0nm,0.5s						
ZKR				AML	AML	17 06 34.8	
	comp=E,2.0nm,0.5s						
ZKR				AML	AML	17 06 39.0	
	comp=E,1.1nm,0.5s						
ZKR				AML	AML	17 06 39.0	
	comp=E,1.1nm,0.5s						
STIA	Sitia Lasithi	1.03	355	P	Pn	17 06 19.7	0.0
STIA				S	Sb	17 06 32.5	-0.7
NPS	Neapolis	1.19	337	P	Pn	17 06 22.6	+0.7
NPS				S	Sn	17 06 37.4	+0.1
	comp=E,705nm,0.6s						
NPS	Neapolis	1.19	337	P	Pn	17 06 22.1	+0.2
NPS				AML	AML	17 06 46.8	
	comp=N,1350μm,0.5s						
NPS				AML	AML	17 06 49.3	
	comp=E,1534μm,0.7s						
SIVA	Sivas	1.42	307	P	Pb	17 06 27.2	+0.6
HRKL	Herakleio	1.45	322	PN	Pb	17 06 27.3	+0.1
IDI	Anoyia	1.55	317	Pg	Pb	17 06 29.3	+0.5
	comp=E,8.6nm,0.3s,baz=139,slow=15,SNR=104						
IDI				Lg	Lg	17 06 44.5	
	comp=E,9.7nm,0.3s,baz=159,slow=21,SNR=9.4						
IDI	Anoyia	1.55	317	P	Pb	17 06 28.9	0.0
IDI				S	Sb	17 06 48.7	+0.7
	comp=E,218nm,0.6s						
IDI	Anoyia	1.55	317	P	Pn	17 06 27.9	+1.1
IDI				AML	AML	17 07 03.9	
	comp=N,356μm,0.5s						
IDI				AML	AML	17 07 11.8	
	comp=E,465μm,0.8s						
KARP	Karpathos	1.59	30	P	Pb	17 06 29.6	0.0
KARP	Karpathos	1.59	30	P	Pb	17 06 29.7	+0.2
KARP				AML	AML	17 07 12.5	
	comp=N,878μm,0.7s						
KARP				AML	AML	17 07 14.7	
	comp=E,614μm,0.5s						
KARP	Karpathos	1.59	30	P	Pb	17 06 28.8	-0.8
KARP				S	Sb	17 06 48.6	-0.6
KARP				AML	AML	17 06 54.5	
	comp=E,0.8nm,0.5s						
KARP				AML	AML	17 06 54.5	
	comp=E,0.8nm,0.5s						
KARP				AML	AML	17 06 57.1	
	comp=E,0.7nm,0.6s						
KARP				AML	AML	17 06 57.1	
	comp=E,0.7nm,0.6s						
GVD	Gavdhos	1.86	292	P	Pb	17 06 34.0	-0.2
GVD	Gavdhos	1.86	292	P	Pb	17 06 33.4	-0.8
GVD				AML	AML	17 06 58.5	
	comp=N,800μm,0.4s						
GVD				AML	AML	17 07 18.8	
	comp=E,655μm,0.4s						
GVD	Gavdhos	1.86	292	PN	Pb	17 06 33.5	-0.7
GVD				SN	Sb	17 06 56.9	-0.1
VAM	Vamos	2.05	308	P	Pn	17 06 35.9	+2.2
VAM	Vamos	2.05	308	P	Pb	17 06 36.2	-1.2
VAM				AML	AML	17 07 24.4	
	comp=E,576μm,0.6s						
VAM				AML	AML	17 07 26.5	
	comp=N,440μm,0.6s						
IMMV	Iera Moni Meta	2.23	306	P	Pn	17 06 38.7	+2.6
IMMV	Iera Moni Meta	2.23	306	P	Pn	17 06 38.8	+2.6
IMMV				AML	AML	17 07 34.6	
	comp=N,395μm,0.6s						
IMMV				AML	AML	17 07 39.2	
	comp=E,504μm,0.9s						
IMMV	Iera Moni Meta	2.23	306	PN	Pn	17 06 38.8	+2.6
SNT5	Nea Kammeni, S	2.32	344	P	Pn	17 06 38.1	+0.6
NIS1	Nisyros Isl.	2.56	18	PN	Pn	17 06 42.1	+1.4
ARG	Arkhangelos	2.58	37	PN	Pn	17 06 42.5	+1.4
ARG	Arkhangelos	2.58	37	P	Pn	17 06 42.6	+1.5
ARG				S	Sn	17 07 14.3	+2.6
DAT	Datca	2.79	24	P	Pn	17 06 45.3	+1.2
DAT	Datca	2.79	24	iP	Pn	17 06 45.8	+1.7
DAT				iS	Sn	17 07 16.6	-0.4
DAT				IAML		17 07 21.0	
	comp=N,16nm,0.3s						
DAT	Datca	2.79	24	PN	Pn	17 06 45.8	+1.7
SLUM	Salum	2.79	197	S	Sn	17 07 17.1	+0.3
	baz=198						
SLUM				AMP		17 07 00.0	
	baz=198						
APE	Apeiranthos	2.94	350	PN	Pn	17 06 48.4	+2.4
APE	Apeiranthos	2.94	350	P	Pn	17 06 45.8	-0.3
BODT	Bodrum	3.03	17	PN	Pn	17 06 48.8	+1.6
BDRM	Kayabasi	3.06	19	iP	Pn	17 06 49.6	+1.9
BDRM				iS	Sn	17 07 23.5	-0.1
BDRM				IAML		17 07 24.0	
	comp=N,50nm,0.5s						
BDRM				IAML		17 07 25.0	
	comp=E,13nm,0.5s						
TURN	Turunc	3.09	32	iP	Pn	17 06 49.4	+1.3
TURN				iS	Sn	17 07 22.7	-1.5
TURN				IAML		17 07 31.0	
	comp=E,28nm,0.3s						
TURN				IAML		17 07 41.0	
	comp=N,26nm,0.2s						
TURN	Turunc	3.09	32	PN	Pn	17 06 49.7	+1.7
DALY	Dalyan (Mula)	3.32	37	iP	Pn	17 06 53.0	+1.8
DALY	Dalyan (Mula)	3.32	37	PN	Pn	17 06 53.1	+2.0
FETY	Fethiye	3.41	43	P	Pn	17 06 53.9	+1.4
FETY	Fethiye	3.41	43	iP	Pn	17 06 53.8	+1.3
FETY				iS	Sn	17 07 32.8	+0.6
FETY				IAML		17 07 33.0	
	comp=E,11nm,0.4s						
FETY				IAML		17 07 36.0	
	comp=N,9.2nm,0.8s						
FETY	Fethiye	3.41	43	PN	Pn	17 06 53.9	+1.4
YER	Yerkesik	3.41	29	PN	Pn	17 06 54.1	+1.6
AKAS	Kas	3.47	53	iP	Pn	17 06 54.5	+1.1
AKAS				iS	Sn	17 07 34.0	+0.2
AKAS				IAML		17 07 39.0	
	comp=E,28nm,0.3s						
AKAS				IAML		17 07 42.0	
	comp=N,32nm,0.6s						
AKAS	Kas	3.47	53	PN	Pn	17 06 54.9	+1.5
VLI	Veliai	3.68	315	P	Pn	17 06 56.6	+0.5
CAME	Cameli-Denizli	3.75	42	PN	Pn	17 06 59.0	+1.7
TAVA	DENIZLI_Tavas	3.96	33	iP	Pn	17 07 01.7	+1.6
TAVA				iS	Sn	17 07 45.4	-0.4
TAVA				IAML		17 07 48.0	
	comp=N,16nm,0.5s						
TAVA				IAML		17 07 51.0	
	comp=E,17nm,0.4s						
AYDB	Zeytinkoy-Aydi	4.01	20	PN	Pn	17 07 02.8	+2.0
GOLH	Golhisar	4.11	41	iP	Pn	17 06 59.2	-3.0
GOLH				iS	Sn	17 07 45.8	-3.7
OSC1	CSNet OBS 1	4.29	98	P	Pn	17 07 04.2	-0.3
SWA2		4.95	187	P	Pn	17 07 15.5	+1.9
	baz=188						
SWA2				AMP		17 08 00.0	
	baz=188						
SWA2				S	Sn	17 08 09.4	-0.7
	baz=188						
AKMS	Akamas	5.14	79	P	Pn	17 07 16.8	+0.6
AKMS				AML	AML	17 08 10.1	
	comp=E,0.1nm,0.2s						
AKMS				AML	AML	17 08 10.6	
	comp=E,0.2nm,0.2s						
NATA	Nata	5.30	82	P	Pn	17 07 18.9	+0.4
ALFC	Alefka	5.37	78	P	Pn	17 07 20.1	+0.6
ALFC				AML	AML	17 08 16.3	
	comp=E,0.1nm,0.4s						
ALFC				AML	AML	17 08 17.0	
	comp=E,0.2nm,0.2s						
SZAC	Souni	5.56	82	P	Pn	17 07 22.7	+0.7
SZAC				AML	AML	17 08 24.5	
	comp=E,0.2nm,0.4s						
SZAC				AML	AML	17 08 25.2	
	comp=E,0.1nm,0.2s						
ASGA	Asgata	5.86	82	P	Pn	17 07 26.6	+0.5
CSS	Mathiatis	5.94	80	P	Pn	17 07 27.8	+0.5
RYAN	Fayoum	6.15	144	P	Pn	17 07 32.4	+2.2
	baz=144						
MVOU	Mavrovouni	6.20	80	P	Pn	17 07 31.9	+1.2
GLL	Jalalah	6.56	133	P	Pn	17 07 36.8	+1.1
	baz=133						
SUZ	Suez	7.10	126	P	Pn	17 07 44.2	+1.1
	baz=126						
BRTR	Keskin Array B	8.14	45	Pn	Pn	17 07 59.9	+2.4
	comp=E,0.1nm,0.3s,baz=224,slow=14,SNR=2.6						
TR2	Tor 2	8.65	130	P	Pn	17 08 04.2	-0.2
	baz=130						
EIL	Elat	8.69	119	Pn	Pn	17 08 06.4	+1.4
	comp=E,0.2nm,0.3s,baz=230,slow=5.7,SNR=8.7						
EIL				Sn	Sn	17 09 37.4	-4.8
	comp=E,0.9nm,0.3s,baz=189,slow=6.2,SNR=5.9						
HDK1	Dakhla	9.04	161	P	Pn	17 08 11.8	+2.0
	baz=161						
ASF	Jabal al Asfar	9.19	100	Pn	Pn	17 08 12.9	+0.9
	comp=E,0.4nm,0.3s,baz=10,slow=7.3,SNR=2.4						
ASF				Sn	Sn	17 09 56.6	+2.0
	comp=E,0.3nm,0.3s,baz=0.0,slow=20,SNR=1.8						
VAE	Valguarnera	10.12	292	Sn	Sn	17 10 15.3	-1.9
	comp=E,0.6nm,0.3s,baz=355,slow=19,SNR=1.3						
AKASG	Malin Array Be	16.67	7	Pn	Pn	17 09 52.7	+0.1
	comp=E,1.0nm,0.3s,baz=194,slow=10,SNR=7.8						
GERES	GERESS Array B	17.36	331	P	Pn	17 10 01.4	+0.1
	comp=E,0.1nm,0.3s,baz=147,slow=12,SNR=4.1						
ESDC	Sonseca Array	24.66	292	P	P	17 11 18.9	-0.6
	comp=E,0.9nm,0.7s,baz=80,slow=9.2,SNR=8.3						
FINES	FINESS Array B	27.29	360	P	P	17 11 41.5	-1.5
	comp=E,0.5nm,0.4s,baz=168,slow=11,SNR=6.5						
AKTO	Aktyubinsk	28.32	45	P	P	17 11 51.5	-0.9
	comp=E,0.6nm,0.5s,baz=249,slow=6.1,SNR=3.6						
EKA	Eskdalemuir Ar	29.34	325	P	P	17 12 00.1	-1.3
	comp=E,1.0nm,0.6s,baz=124,slow=9.5,SNR=1.6						
TORD	Torodi Ar. Bea	30.53	233	P	P	17 12 14.0	+1.7
	comp=E,0.3nm,0.3s,baz=25,slow=8.1,SNR=6.6						
ARCES	ARCESS Array B	35.42	360	P	P	17 12 52.6	-1.8
	comp=E,0.3nm,0.3s,baz=155,slow=9.0,SNR=6.5						
MKAR	Makanchi Array	43.62	56	P	P	17 14 04.7	+1.6
	comp=E,1.1nm,0.6s,baz=274,slow=6.2,SNR=11						
ZALV	Zalesovo Beam	45.08	45	P	P	17 14 15.3	+0.7
	comp=E,0.8nm,0.3s,baz=270,slow=8.6,SNR=4.8						
SONM	Songino Array	59.46	50	P	P	17 16 02.5	+0.9
	comp=E,0.4nm,0.4s,baz=297,slow=8.0,SNR=3.1						

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*JMA **05** 17:06:12.3±0.3, 31°.33N×141°.90E, h12km, M4.2*
*NIED **05** 17:06:12.3, 31°.33N×141°.90E, h12km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}2.15; $M_{\theta\theta}$-0.36; $M_{\phi\phi}$-1.79; $M_{r\theta}$-0.66; $M_{\theta\phi}$0.57; $M_{\phi r}$1.10; Fault plane solution: $M_0$2.43000×10^{15} NP1: ϕ_s335.00000°, δ61.00000°, λ85.00000°. NP2: ϕ_s166.00000°, δ30.00000°, λ99.00000°.*
*IDC **05** 17:06:12.1±0.6, 31°.28N×141°.84E, h0km, mb4.0/16, mb1 4.1/20, mb1mx4.0/42, mbtmp3.9/20, ML3.4/5, MS3.1/4, Ms1 3.1/4, ms1mx2.8/46 Error ellipse: s-maj=19.8km s-min=14.8km az=73.0*
*NEIC **05** 17:06:13.8±1.5, 31°.35N±0°.06×142°.0E±0°.1, h10km±1km, mb4.6/45, Error ellipse: s-maj=14.8km s-min=10.0km az=76.0*
ISC 05 17:06:12.9±0.5, **31°.31N**±0°.05×**141°.98E**±0°.07, **h10**km, **n101**, σ**1s.50**/107, **mb4.5**/41, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHCJ	Hachijojimakas	2.55	314	P	Pn	17 06 53.2	-1.1
JHJ2	Mitsune	2.57	315	P	Pn	17 06 54.1	-0.4
JHJ	Hachijo jima 2	2.59	315	Pn	Pn	17 06 54.1	-0.8
	9.0nm,0.3s,baz=345,slow=22,SNR=17						
JHJ				Sn	Sn	17 07 23.9	-2.6
	23nm,0.3s,baz=61,slow=23,SNR=4.3						
JHJ				LR	LR	17 07 55.4	
	comp=Z,342nm,18.4s,baz=138,slow=41						
JMKN	Mikurajimanish	3.27	322	eS	Sn	17 07 42.3	-0.9
BSO1	Boso 1	3.44	346	P	Pn	17 07 06.2	+0.2
BSO3	Boso 3	3.69	341	P	Pn	17 07 12.1	+2.3
CBIJ	Chichi jima	4.21	178	P	Pn	17 07 18.3	+1.2
CBIJ				eS	Sn	17 08 01.6	-4.7
JCJ	Chichijima	4.21	178	Pn	Pn	17 07 17.8	+0.7
	9.6nm,0.3s,baz=95,slow=23,SNR=26						
JCJ				Sn	Sn	17 08 02.3	-4.0
	6.0nm,0.3s,baz=285,slow=21,SNR=1.6						
JCJ				LR	LR	17 08 42.8	
	comp=Z,123nm,19.1s,baz=60,slow=36						
JOD2	Odawara 2	4.63	329	P	Pn	17 07 24.5	+1.6
JYN	Shimob	5.07	326	P	Pn	17 07 31.7	+2.7
JYT	Yasato	5.12	344		Pn	17 07 28.4	-1.3
JRY	Ryogami san	5.35	332	P	Pn	17 07 33.9	+1.1
JRY				eS	Sn	17 08 33.1	-1.4
JAG	Ashikaga	5.52	338	P	Pn	17 07 35.0	-0.1
JAG				eS	Sn	17 08 35.2	-3.4
JGF	Kuroka	5.76	319	Pn	Pn	17 07 37.3	-1.2
INU	Inuyama	5.79	315		Pn	17 07 38.3	-0.5
MJAR	Matsushiro Arr	6.09	330	Pn	Pn	17 07 43.8	+0.9
	0.4nm,0.3s,baz=156,slow=12,SNR=30						
MJAR				LR	LR	17 10 21.9	
	comp=Z,169nm,18.3s,baz=150,slow=42						
MAJO	Matsushiro	6.09	330		Pn	17 07 44.3	+1.4
MAT	Matsushiro	6.09	330	P	Pn	17 07 44.3	+1.3
MAT				S	Sn	17 08 41.6	-11
JMM	Marumori	6.61	352		Pn	17 07 48.4	-1.8
JWT	Wachi	6.79	307	Pn	Pn	17 07 57.3	+4.8
JSD	Sado	7.38	336	Pn	Pn	17 08 00.3	-0.3
JMK	Ichinoseki	7.65	356	eS	Sn	17 09 23.0	-8.0
JTM	Tenmabayashi	9.48	356	Pn	Pn	17 08 29.3	-0.2
JNU	Nakatsue	9.58	284	Pn	Pn	17 08 30.9	0.0
ASAJ	Asahikawa	12.79	2	Pn	Pn	17 09 11.9	-2.9
	0.5nm,0.3s,baz=206,slow=11,SNR=8.2						
ASAJ				Sn	Sn	17 11 27.4	-10
	0.1nm,0.3s,baz=53,slow=20,SNR=1.4						
JKA	Kamikawa-asahi	12.79	2	Pn	Pn	17 09 10.8	-3.9
KSRS	Korea Array	13.12	302	Pn	Pn	17 09 19.6	+0.3
	0.2nm,0.3s,baz=119,slow=14,SNR=1.5						
KSRS				LR	LR	17 14 18.7	
	comp=Z,107nm,18.3s,baz=86,slow=37						
KSAR	Wonju Array Be	13.15	302	Pn	Pn	17 09 19.2	-0.5
YOJ	Yonaguni jima	18.10	253		P	17 10 26.0	+1.2
YHNB	Yeheng	19.35	255	P	P	17 10 37.7	-1.0
YHNB				IAmb	IAmb	17 10 43.8	
	comp=Z,40nm,1.4s						
NACB	Ninganchiao	19.38	254	P	P	17 10 37.2	-1.7
KLR	Kul'dur	19.49	340	P	P	17 10 39.3	-0.7
	comp=Z,0.1nm,0.3s,baz=155,slow=19,SNR=1.9						
NJ2	Nanjing	19.70	278	eP	Pn	17 10 43.8	0.0
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
YULB	Yu-li	19.98	252	P	P	17 10 45.6	+0.1
SSLB	Suanglung	20.08	253		P	17 10 47.0	+0.4
SSLB				IAmb	IAmb	17 10 48.8	
	comp=Z,29nm,1.0s						
TPUB	Ta-pu	20.56	252	P	P	17 10 52.3	+0.4
BJI	Beijing	22.64	300	P	P	17 11 13.5	-0.6
BJI				pmax	pmax		
	comp=Z,8.0nm,1.2s						
HHC	Hu-ho-hao-te	26.25	300	eP	P	17 11 50.3	+2.0
HHC				pmax	pmax		
	comp=Z,13nm,1.1s						
HHC				pmax	pmax		
	comp=Z,45nm,5.5s						
HHC				LR	LR		
	comp=N,100nm,11.2s						
HHC				LR	LR		
	comp=E,190nm,11.9s						
HHC				LR	LR		
	comp=Z,160nm,12.2s						
XAN	Xi'an	27.90	284	P	P	17 12 02.0	-1.1

XAN				pP	pwP	17 12 11.6	-1.7
XAN				sP	sP	17 12 15.9	+11
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ULN	**Ulaanbaatar**	**31.26**	**312**	P	**P**	**17 12 33.9**	**+1.0**
SONM	**Songino Array**	**31.67**	**312**	P	**P**	**17 12 36.8**	**+0.3**
	comp=Z,3.8nm,1.0s,baz=117,slow=8.6,SNR=19						
SONM	**Songino Array**	**31.67**	**312**	P	**P**	**17 12 36.7**	**+0.3**
SEY	**Seymchan**	**32.33**	**9**	P	**P**	**17 12 43.5**	**+1.5**
	comp=Z,2.1nm,0.7s,baz=169,slow=6.8,SNR=4.3						
CD2	**Chengdu**	**32.62**	**279**	*e*P	**P**	**17 12 45.0**	**0.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**40.84**	**262**	P	**P**	**17 13 54.2**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=66,slow=22,SNR=4.1						
WMQ	**Urumqi**	**44.07**	**302**	*e*P	**P**	**17 14 21.9**	**+0.7**
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
COEN	**Coen**	**45.02**	**178**	P	**P**	**17 14 30.7**	**+1.9**
ZALV	**Zalesovo Beam**	**46.25**	**317**	P	**P**	**17 14 38.4**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=100,slow=8.0,SNR=5.3						
MK31	**Makanchi Array**	**47.74**	**307**	P	**P**	**17 14 50.3**	**+0.3**
MKAR	**Makanchi Array**	**47.74**	**307**	P	**P**	**17 14 50.2**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=86,slow=9.9,SNR=12						
MAKZ	**Makanchi**	**47.95**	**307**	P	**P**	**17 14 52.2**	**+0.6**
MAKZ				IAmb	IAmb	17 14 53.3	
	comp=Z,8.1nm,1.4s						
WR0	**Warramunga Arr**	**51.48**	**189**	P	**P**	**17 15 19.0**	**+0.3**
WR0				IAmb	IAmb	17 15 30.1	
	comp=Z,10nm,1.2s						
WRAB	**Tennant Creek**	**51.48**	**189**	P	**P**	**17 15 19.1**	**+0.4**
WRAB				IAmb	IAmb	17 15 25.5	
	comp=Z,5.7nm,0.9s						
WB2	**Warramunga Arr**	**51.49**	**189**	P	**P**	**17 15 18.4**	**-0.3**
WB2				IAmb	IAmb	17 15 31.2	
	comp=Z,5.8nm,0.9s						
WRA	**Warramunga Arr**	**51.49**	**189**	P	**P**	**17 15 19.0**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=6.7,slow=7.5,SNR=82						
WRA	**Warramunga Arr**	**51.49**	**189**	P	**P**	**17 15 18.7**	**0.0**
WRA				PcP	**PcP**	**17 16 33.5**	**+0.6**
FITZ	**Fitzroy Crossi**	**51.58**	**200**	P	**P**	**17 15 19.8**	**+0.5**
FITZ				IAmb	IAmb	17 15 23.0	
	comp=Z,9.1nm,1.4s						
PPLA	**Purkeypile**	**51.66**	**32**	P	**P**	**17 15 20.3**	**+0.5**
PPLA				IAmb	IAmb	17 15 30.9	
	comp=Z,15nm,1.6s						
SUA	**Susitna One**	**52.23**	**34**	P	**P**	**17 15 24.1**	**+0.1**
SCM	**Sheep Creek Mo**	**53.88**	**34**	P	**P**	**17 15 37.0**	**+0.9**
SCM				IAmb	IAmb	17 15 40.5	
	comp=Z,12nm,1.2s						
ILAR	**Eielson Array**	**54.13**	**30**	P	**P**	**17 15 39.0**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=258,slow=6.1,SNR=7.1						
AS31	**Alice Springs**	**55.21**	**189**	P	**P**	**17 15 46.5**	**+0.4**
ASAR	**Alice Springs**	**55.21**	**189**	P	**P**	**17 15 46.0**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=4.8,slow=5.0,SNR=36						
ASAR	**Alice Springs**	**55.21**	**189**	P	**P**	**17 15 46.4**	**+0.3**
HMT	**Hamilton**	**55.41**	**35**	P	**P**	**17 15 46.6**	**-0.6**
KK31	**Karatay Array**	**56.54**	**304**	P	**P**	**17 15 55.7**	**+0.2**
KKAR	**Karatay Array**	**56.54**	**304**	P	**P**	**17 15 55.9**	**+0.3**
KKAR	**Karatay Array**	**56.54**	**304**	P	**P**	**17 15 56.0**	**+0.5**
KKAR				IAmb	IAmb	17 15 57.2	
	comp=Z,14nm,1.2s						
GAR	**Garm**	**57.73**	**299**	P	**P**	**17 16 03.9**	**-0.2**
GAR				IAmb	IAmb	17 16 05.7	
	comp=Z,12nm,1.2s						
CHGR	**Chuyangaron**	**58.70**	**299**	P	**P**	**17 16 11.2**	**+0.4**
ARU	**Arti**	**61.02**	**321**	P	**P**	**17 16 25.5**	**-1.0**
ABKAR	**Akbulak array**	**62.07**	**313**	P	**P**	**17 16 33.7**	**+0.1**
ABKAR				IAmb	IAmb	17 16 35.1	
	comp=Z,5.7nm,1.4s						
ABKAR	**Akbulak array**	**62.07**	**313**	P	**P**	**17 16 33.5**	**-0.2**
FIA1	**FINESS Array S**	**74.10**	**333**	P	**P**	**17 17 49.9**	**+1.0**
FINES	**FINESS Array B**	**74.11**	**333**	P	**P**	**17 17 49.5**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=18,slow=2.4,SNR=6.5						
KBZ	**Khabaz**	**75.03**	**312**	P	**P**	**17 17 55.5**	**+0.8**
	comp=Z,1.2nm,0.5s,baz=120,slow=6.0,SNR=3.7						
LRM	**Limekiln Ridge**	**77.93**	**44**	P	**P**	**17 18 13.1**	**+1.7**
NVAR	**Mina Array Bea**	**78.07**	**52**	P	**P**	**17 18 14.3**	**+2.0**
	comp=Z,1.0nm,0.8s,baz=289,slow=4.6,SNR=4.3						
NVAR	**Mina Array Bea**	**78.07**	**52**	P	**P**	**17 18 13.5**	**+1.2**
AKASG	**Malin Array Be**	**79.13**	**323**	P	**P**	**17 18 17.6**	**0.0**
	comp=Z,0.2nm,0.3s,baz=50,slow=5.5,SNR=2.2						
NOA	**NORSAR Array B**	**79.64**	**338**	P	**P**	**17 18 20.6**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=42,slow=5.3,SNR=1.8						
PDAR	**Pinedale Array**	**81.35**	**45**	P	**P**	**17 18 30.5**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=276,slow=4.3,SNR=5.4						
P17A	**Butcher Ranch,**	**82.49**	**48**	P	**P**	**17 18 36.5**	**+0.4**
P17A				IAmb	IAmb	17 18 39.9	
	comp=Z,4.0nm,1.0s						
SRU	**San Rafael Swe**	**82.83**	**48**	P	**P**	**17 18 39.2**	**+1.3**
BRTR	**Keskin Array B**	**83.02**	**312**	P	**P**	**17 18 39.9**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=114,slow=3.0,SNR=7.5						
OJC	**Ojcow**	**84.06**	**327**	P	**P**	**17 18 43.7**	**0.0**
OJC				IAmb	IAmb	17 18 47.4	
	comp=Z,6.7nm,1.1s						
PV21	**Cone Mtn., Par**	**84.14**	**48**	P	**P**	**17 18 43.9**	**-0.8**
PV21				IAmb	IAmb	17 18 48.9	
	comp=Z,4.8nm,1.0s						
PV23	**Carpenter Ridg**	**84.18**	**48**	P	**P**	**17 18 44.6**	**-0.3**
PV14	**Lion Creek, Pa**	**84.22**	**48**	P	**P**	**17 18 44.8**	**-0.2**
PV14				IAmb	IAmb	17 18 49.2	
	comp=Z,7.0nm,1.1s						
WUAZ	**Wupatki**	**84.31**	**52**	P	**P**	**17 18 46.1**	**+0.6**
WUAZ				IAmb	IAmb	17 18 49.4	
	comp=Z,6.3nm,1.3s						
PV17	**East Wray Mesa**	**84.31**	**48**	P	**P**	**17 18 45.6**	**+0.1**
PV11	**David Mesa, Pa**	**84.36**	**48**	P	**P**	**17 18 46.8**	**+1.0**
PV11				IAmb	IAmb	17 18 50.5	
	comp=Z,5.3nm,0.8s						
PV18	**Skein Mesa, Pa**	**84.36**	**48**	P	**P**	**17 18 46.2**	**+0.5**
PV18				IAmb	IAmb	17 18 49.9	
	comp=Z,4.8nm,0.9s						
PV03	**Paradox Valley**	**84.40**	**48**	P	**P**	**17 18 46.1**	**+0.2**
PV03				IAmb	IAmb	17 18 50.2	
	comp=Z,5.6nm,1.1s						
PV13	**Radium Mtn., P**	**84.47**	**48**	P	**P**	**17 18 46.2**	**-0.1**
PV13				IAmb	IAmb	17 18 49.5	
	comp=Z,3.1nm,0.8s						
PV01	**Paradox Valley**	**84.64**	**48**	P	**P**	**17 18 48.5**	**+1.3**
PV01				IAmb	IAmb	17 18 51.8	
	comp=Z,2.6nm,0.9s						
CLL	**Collm**	**86.29**	**331**	*i* P	**P**	**17 18 55.6**	**+0.7**
CLL				*e*sP	**pwP**	**17 19 02.0**	**-2.7**
TX31	**Lajitas Ar. Si**	**93.21**	**53**	P	**P**	**17 19 28.8**	**+0.8**
TX32	**Lajitas Array**	**93.21**	**53**	P	**P**	**17 19 28.5**	**+0.5**
TX32				IAmb	IAmb	17 19 32.5	
	comp=Z,2.7nm,0.9s						
TXAR	**Lajitas Array**	**93.21**	**53**	P	**P**	**17 19 29.8**	**+1.8**
	comp=Z,1.6nm,0.8s,baz=301,slow=2.9,SNR=18						
LPAZ	**La Paz**	**148.78**	**68**	PKPbc	**PKiKP**	**17 26 03.5**	**0.0**
	comp=Z,1.0nm,0.7s,baz=341,slow=1.3,SNR=5.2						

*JMA **05** 17:12:49.2±0.1, 24°.40N×121°.73E, h51km±2km, M2.3*
*TAP **05** 17:12:49.7, 24°.44N×121°.76E, h43km, ML3.1, B*
ISC 05 17:12:50.9±1.0**, 24°.44N**±0°.02×**121°.79E**±0°.02**, h34**km±2km**,**
n76, σ**0s.88**/131**, 5C-7D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.01**	**305**	P	**Pb**	**17 12 56.8**	**+0.3**
	baz=63						
EWUT				S	**Sb**	**17 13 01.9**	**+1.7**
	baz=63						
ENA	**Nanau**	**0.05**	**258**	⇑*i*P	**Pb**	**17 12 56.8**	**+0.2**
	baz=227						
ENA				*i* S	**Sb**	**17 13 01.9**	**+1.5**
	baz=227						
TWC	**Suao**	**0.18**	**17**	⇑*i*P	**Pb**	**17 12 57.5**	**+0.1**
	baz=21						
TWC				*i* S	**Sb**	**17 13 03.4**	**+1.6**
	baz=21						
NDS	**Dongshan**	**0.21**	**341**	⇑*i*P	**Pb**	**17 12 57.8**	**+0.1**
	baz=341						
NDS				S	**Sb**	**17 13 03.2**	**+0.9**
	baz=341						
NDT	**Datong Townshi**	**0.30**	**303**	⇓*i*P	**Pb**	**17 12 58.5**	**-0.3**
	baz=310						
NDT				S	**Sn**	**17 13 04.3**	**+0.7**
	baz=310						
TWE	**Neicheng**	**0.30**	**338**	⇓*i*P	**Pb**	**17 12 58.7**	**-0.1**
	baz=340						
TWE				*e*S	**Sb**	**17 13 04.9**	**+0.8**
	baz=340						
ETL	**Fush Village**	**0.32**	**209**	*e*P	**Pb**	**17 12 58.3**	**-0.7**
	baz=213						
NACB	**Ninganchiao**	**0.32**	**214**	⇓*i*P	**Pb**	**17 12 58.2**	**-0.8**
	baz=210						
NACB				*i* S	**Sn**	**17 13 04.4**	**+0.3**
	baz=210						
ILA	**Ilan**	**0.33**	**353**	*e*P	**Pn**	**17 13 00.1**	**+0.7**
	baz=354						
ILA				*e*S	**Sb**	**17 13 06.4**	**+1.7**
	baz=354						
ETLH	**Xiulin Townshi**	**0.36**	**231**	⇑*i*P	**Pb**	**17 12 59.0**	**-0.7**
	baz=235						
ETLH				S	**Sn**	**17 13 05.2**	**-0.4**
	baz=235						
NNS	**Nan Shan**	**0.38**	**270**	⇓*i*P	**Pb**	**17 12 59.3**	**-0.6**
	baz=266						
NNS				*i* S	**Sn**	**17 13 05.9**	**-0.3**
	baz=266						
TWD	**Chiawan**	**0.40**	**207**	⇑*i*P	**Pb**	**17 12 59.4**	**-0.7**
	baz=211						
TWD				*e*S	**Sb**	**17 13 06.8**	**+0.5**
	baz=211						
NTC	**Toucheng**	**0.42**	**5**	P	**Pb**	**17 13 00.2**	**-0.1**
	baz=7.0						
NTC				S	**Sb**	**17 13 07.0**	**+0.3**
	baz=7.0						
EGS		**0.43**	**18**	P	**Pb**	**17 13 00.7**	**+0.2**
	baz=28						
EGS				S	**Sn**	**17 13 08.0**	**+0.7**
	baz=28						
YHNB	**Yeheng**	**0.44**	**302**	⇓*i*P	**Pb**	**17 13 00.2**	**-0.6**
	baz=302						
YHNB				S	**Sb**	**17 13 06.9**	**-0.6**
	baz=302						
NSK	**Sanguang**	**0.46**	**301**	⇓*i*P	**Pb**	**17 13 00.3**	**-0.7**
	baz=294						
NSK				S	**Sb**	**17 13 07.2**	**-0.7**
	baz=294						
HWA	**Hwalien**	**0.49**	**200**	*e*P	**Pb**	**17 13 01.3**	**-0.1**
	baz=209						
HWA				*e*S	**Sn**	**17 13 10.4**	**+1.5**
	baz=209						
FUSS	**Fushou**	**0.53**	**249**	*e*P	**Pn**	**17 13 01.5**	**-0.9**
	baz=245						
FUSS				*e*S	**Sb**	**17 13 09.7**	**-0.4**
	baz=245						
ETM	**Tongmen**	**0.54**	**210**	*e*P	**Pn**	**17 13 00.8**	**-1.5**
	baz=208						
WHF	**Hehuan Shan**	**0.56**	**239**	P	**Pn**	**17 13 01.9**	**-1.0**
	baz=237						
WHF				S	**Sb**	**17 13 10.1**	**-1.0**
	baz=237						
TWA	**Mucha**	**0.57**	**341**	P	**Pn**	**17 13 02.2**	**-0.5**
	baz=343						
TWA				S	**Sn**	**17 13 10.9**	**-0.1**
	baz=343						
NHDH	**Xindian Distri**	**0.58**	**335**	P	**Pn**	**17 13 02.1**	**-0.6**
	baz=330						
NHDH				S	**Sn**	**17 13 10.4**	**-0.6**
	baz=330						
TWT	**Tachien**	**0.59**	**252**	*e*P	**Pn**	**17 13 03.0**	**-0.1**
	baz=249						
TWT				*e*S	**Sn**	**17 13 11.3**	**-0.3**
	baz=249						
TWB1	**Santiao Chiao**	**0.60**	**17**	*e*P	**Pn**	**17 13 02.9**	**-0.1**
	baz=25						
TWB1				*e*S	**Sn**	**17 13 11.6**	**0.0**
	baz=25						
TDCB	**Techi**	**0.60**	**252**	P	**Pn**	**17 13 02.6**	**-0.6**
	baz=249						
TDCB				S	**Sn**	**17 13 10.8**	**-1.2**
	baz=249						
NWF	**Wu-fen Shan**	**0.63**	**359**	⇓*i*P	**Pn**	**17 13 03.4**	**-0.1**
	baz=352						
NWF				*i* S	**Sb**	**17 13 12.8**	**+0.4**
	baz=352						
TAP	**Taipei**	**0.65**	**337**	*e*S	**Sn**	**17 13 13.1**	**+0.2**
	baz=330						
CHGB	**Renai**	**0.68**	**236**	P	**Pn**	**17 13 03.6**	**-0.7**
	baz=235						
CHGB				*e*S	**Sn**	**17 13 12.8**	**-1.0**
	baz=235						
ESL	**Shilin**	**0.70**	**208**	*e*P	**Pn**	**17 13 02.4**	**-2.1**
	baz=205						
YM01	**YM01**	**0.73**	**344**	P	**Pn**	**17 13 04.0**	**-1.0**
	baz=333						
YM01				*e*S	**Sn**	**17 13 14.3**	**-0.8**
	baz=333						
LIOB	**Emei**	**0.74**	**287**	P	**Pn**	**17 13 04.8**	**-0.2**
	baz=287						
LIOB				*e*S	**Sn**	**17 13 15.4**	**+0.3**
	baz=287						
OWD	**Renai**	**0.74**	**230**	*e*P	**Pn**	**17 13 04.2**	**-1.0**
	baz=222						
TWS1	**Kuangyinshan**	**0.74**	**333**	P	**Pn**	**17 13 03.4**	**-1.7**
	baz=334						
TWS1				S	**Sn**	**17 13 14.5**	**-0.7**
	baz=334						
NSTT	**Nanjuang**	**0.74**	**285**	P	**Pn**	**17 13 04.7**	**-0.4**
	baz=285						
NSTT				S	**Sn**	**17 13 15.8**	**+0.5**
	baz=285						
TEGC	**Jichi Village**	**0.76**	**198**	*e*P	**Pb**	**17 13 06.0**	**+0.2**
	baz=207						
NCU	**National Centr**	**0.76**	**314**	*e*P	**Pn**	**17 13 04.9**	**-0.5**
	baz=314						
NCU				*e*S	**Sn**	**17 13 16.1**	**+0.4**
	baz=314						
NCUH	**Zhongli**	**0.76**	**314**	*e*P	**Pn**	**17 13 04.4**	**-1.0**
	baz=314						
NCUH				*e*S	**Sn**	**17 13 15.7**	**0.0**
	baz=314						
ANP	**Anpu**	**0.79**	**342**	*e*P	**Pn**	**17 13 04.5**	**-1.2**
	baz=343						
ANP				*e*S	**Sn**	**17 13 15.5**	**-0.9**
	baz=343						
WHP	**Taichung City**	**0.79**	**259**	P	**Pn**	**17 13 05.7**	**0.0**
	baz=254						
WHP				*e*S	**Sn**	**17 13 16.3**	**-0.1**
	baz=254						
HSN	**Hsinchu**	**0.83**	**296**	*e*P	**Pn**	**17 13 05.6**	**-0.6**
	baz=311						
EGFH	**Guangfu**	**0.83**	**204**	*e*P	**Pn**	**17 13 04.1**	**-2.2**
	baz=209						
TWY	**Chenhua**	**0.85**	**348**	*e*P	**Pn**	**17 13 06.0**	**-0.5**
	baz=349						
TWY				*e*S	**Sn**	**17 13 18.2**	**+0.3**
	baz=349						
WCS	**Beigang Elemen**	**0.89**	**245**	*e*P	**Pn**	**17 13 06.8**	**-0.2**
	baz=241						
WCS				*e*S	**Sn**	**17 13 19.4**	**+0.7**
	baz=241						
NMLH	**Miaoli**	**0.92**	**276**	*e*P	**Pn**	**17 13 07.7**	**+0.2**
	baz=276						
NMLH				*e*S	**Sb**	**17 13 20.5**	**+0.2**
	baz=276						
TWQ1	**Liyutan**	**0.93**	**265**	*e*P	**Pn**	**17 13 08.6**	**+0.9**
	baz=264						
TWQ1				*e*S	**Sb**	**17 13 21.0**	**+0.2**
	baz=264						
SMLT	**Sun Moon Lake**	**0.98**	**236**	*e*P	**Pn**	**17 13 08.7**	**+0.2**
	baz=232						
HGSD	**Ruisui**	**1.00**	**200**	*e*P	**Pn**	**17 13 08.0**	**-0.6**
	baz=209						
SSLB	**Suanglung**	**1.00**	**230**	*e*P	**Pn**	**17 13 08.5**	**-0.2**
	baz=224						
SSLB				*e*S	**Sb**	**17 13 24.1**	**+1.3**
	baz=224						
TYC	**Yuchr**	**1.00**	**238**	P	**Pn**	**17 13 08.7**	**0.0**
	baz=234						
EHY	**Hungye**	**1.02**	**205**	*e*P	**Pn**	**17 13 07.6**	**-1.3**
	baz=204						
JYNG	**Yonagunijimaku**	**1.05**	**89**	P	**Pn**	**17 13 08.7**	**-0.6**
YOJ	**Yonaguni jima**	**1.11**	**89**	P	**Pn**	**17 13 09.4**	**-0.7**
YOJ				*e*S	**Sn**	**17 13 24.1**	**-0.2**
WHYT	**Xinyi Township**	**1.13**	**229**	*e*P	**Pn**	**17 13 11.2**	**+0.7**
	baz=229						
WHYT				*e*S	**Sb**	**17 13 27.2**	**+0.8**
	baz=229						
YULB	**Yu-li**	**1.13**	**204**	*e*P	**Pn**	**17 13 08.3**	**-2.2**
	baz=202						
WNT	**Mingjian**	**1.15**	**241**	*e*P	**Pn**	**17 13 11.5**	**+0.8**
	baz=241						
WNT				*e*S	**Sb**	**17 13 26.9**	**-0.2**
	baz=241						
EYUL	**Yuli**	**1.17**	**202**	*e*P	**Pn**	**17 13 11.8**	**+0.8**
	baz=209						
ALS	**Alishan**	**1.29**	**225**	P	**Pn**	**17 13 13.9**	**+1.1**
	baz=214						
ALS				S	**Sb**	**17 13 31.1**	**-0.1**
	baz=214						
FULB	**Fuli**	**1.31**	**200**	*e*P	**Pn**	**17 13 12.8**	**-0.1**
	baz=208						
CHN5	**Tsauling**	**1.32**	**231**	P	**Pn**	**17 13 13.9**	**+0.9**
	baz=231						
CHN5				S	**Sb**	**17 13 31.8**	**0.0**
	baz=231						
WDLH	**Douliu**	**1.37**	**237**	*e*P	**Pn**	**17 13 14.7**	**+1.0**
	baz=251						
CHKT	**Chengkung**	**1.39**	**196**	*e*P	**Pn**	**17 13 13.4**	**-0.5**
	baz=205						
CHKT				*e*S	**Sn**	**17 13 30.4**	**-0.7**
	baz=205						
WRL	**Guolierlin Hig**	**1.40**	**248**	*e*P	**Pn**	**17 13 13.3**	**-0.8**
	baz=260						
WRL				*e*S	**Sn**	**17 13 31.3**	**-0.1**
	baz=260						
ELDTW	**Lidau**	**1.43**	**210**	*e*P	**Pn**	**17 13 14.7**	**0.0**
	baz=200						
WTK	**Tuku**	**1.48**	**240**	*e*P	**Pn**	**17 13 15.2**	**-0.1**
	baz=240						
WTK				*e*S	**Sn**	**17 13 34.3**	**+0.9**
	baz=240						
EDH	**Donghe**	**1.52**	**197**	*e*P	**Pn**	**17 13 15.1**	**-0.8**
	baz=197						
CHN4	**Tsaushan**	**1.54**	**226**	P	**Pn**	**17 13 14.8**	**-1.2**
	baz=226						
CHN4				S	**Sn**	**17 13 35.5**	**+0.7**
	baz=226						
TPUB	**Ta-pu**	**1.55**	**223**	*e*P	**Pn**	**17 13 17.4**	**+1.1**
	baz=213						
TPUB				*e*S	**Sn**	**17 13 37.3**	**+2.0**
	baz=213						
WTP	**Ta-pu**	**1.60**	**222**	*e*P	**Pn**	**17 13 17.8**	**+0.9**
	baz=212						
WTP				*e*S	**Sn**	**17 13 38.6**	**+2.1**
	baz=212						
TWK	**Hsinying**	**1.67**	**226**	*e*P	**Pn**	**17 13 18.9**	**+1.1**
	baz=226						
TWK				*e*S	**Sn**	**17 13 40.3**	**+2.2**
	baz=226						
CHN1	**Nanshi**	**1.70**	**223**	*e*P	**Pn**	**17 13 19.3**	**+1.0**
	baz=215						
CHN1				*e*S	**Sn**	**17 13 41.1**	**+2.2**
	baz=215						
SGST	**Jiashian**	**1.75**	**220**	*e*S	**Sn**	**17 13 41.4**	**+1.5**
	baz=212						
IRIF	**Iriomote-Funau**	**1.77**	**93**	P	**Pn**	**17 13 18.4**	**-0.8**
IRIF				*e*S	**Sn**	**17 13 40.7**	**+0.1**
HATJ	**Hateruma jima**	**1.88**	**101**	*e*S	**Sn**	**17 13 42.7**	**-0.5**
JKRS	**Kuro-shima**	**2.03**	**95**	P	**Pn**	**17 13 22.6**	**-0.2**
JKRS				*e*S	**Sn**	**17 13 47.4**	**+0.4**
JIJ	**Ishigaki jima**	**2.15**	**91**	P	**Pn**	**17 13 23.3**	**-1.1**
JIJ				*e*S	**Sn**	**17 13 49.9**	**+0.1**
JISG	**Ishigakijimahi**	**2.30**	**86**	P	**Pn**	**17 13 25.6**	**-0.9**
JISG				*e*S	**Sn**	**17 13 53.2**	**-0.4**

*ATH **05** 17:17:47.8, 34°.68N×22°.14E, h10km±31km, ML2.6/4, Error ellipse: s-maj=31.6km s-min=3.0km az=0.0*
*THE **05** 17:17:55.1, 34°.90N×22°.28E, h31km±24km, ML2.6/3, Error ellipse: s-maj=24.0km s-min=1.1km az=158.0*
ISC 05 17:17:49.0±3.5**, 34°.9N**±0°.1×**22°.2E**±0°.2**, h10**km**, n14,**
σ**0s.96**/18**, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KTHA	**Kythira Island**	**1.52**	**27**	P	**Pg**	**17 18 19.3**	**+1.1**
KTHA	**Kythira Island**	**1.52**	**27**	P	**Pg**	**17 18 19.0**	**+0.8**
GVD	**Gavdhos**	**1.55**	**92**	P	**Pg**	**17 18 19.0**	**+0.3**
GVD				S	**Sg**	**17 18 38.0**	**-0.9**
	288nm,0.3s						
GVD	**Gavdhos**	**1.55**	**92**	P	**Pb**	**17 18 16.7**	**-1.1**
GVD				S	**Sg**	**17 18 38.0**	**-0.9**
GVD				AML	AML	17 18 41.3	
	comp=E,570μm,0.3s						
GVD				AML	AML	17 18 41.9	
	comp=N,566μm,0.4s						
IMMV	**Iera Moni Meta**	**1.56**	**69**	P	**Pg**	**17 18 19.5**	**+0.6**
IMMV	**Iera Moni Meta**	**1.56**	**69**	P	**Pg**	**17 18 18.7**	**-0.2**
IMMV				AML	AML	17 18 40.1	
	comp=E,214μm,0.7s						
IMMV				AML	AML	17 18 45.6	
	comp=N,346μm,0.4s						
VAM	**Vamos**	**1.71**	**72**	P	**Pg**	**17 18 21.6**	**-0.2**
VAM	**Vamos**	**1.71**	**72**	P	**Pg**	**17 18 21.1**	**-0.8**
VAM				AML	AML	17 18 49.8	
	comp=E,148μm,0.2s						
VAM				AML	AML	17 18 57.5	
	comp=N,249μm,0.7s						
VLI	**Veliai**	**1.91**	**18**	P	**Pg**	**17 18 25.1**	**-0.5**
VLI				S	**Sb**	**17 18 48.0**	**+0.2**
	comp=N,65nm,0.3s						
VLI	**Veliai**	**1.91**	**18**	P	**Pg**	**17 18 25.5**	**-0.1**
IDI	**Anoyia**	**2.24**	**79**	P	**Pb**	**17 18 28.8**	**-0.7**
IDI				S	**Sn**	**17 18 54.9**	**+1.0**
	comp=N,55nm,0.4s						
IDI	**Anoyia**	**2.24**	**79**	P	**Pb**	**17 18 28.9**	**-0.6**
IDI				AML	AML	17 19 00.0	
	comp=E,108μm,0.2s						
IDI				AML	AML	17 19 03.5	
	comp=N,105μm,0.4s						
KRND	**KRANIDI**	**2.59**	**17**	P	**Pb**	**17 18 33.7**	**-1.9**
SNT5	**Nea Kammeni, S**	**3.00**	**59**	P	**Pn**	**17 18 38.2**	**+1.6**

IDC 05 17:22:14.5±3.0**, 31°.03N**×**141°.09E, h0**km**, mb3.3**/2**,**
mb1 3.3/5**, mb1mx3.1**/57**, mbtmp3.3**/5**, ML2.7**/3**, Error ellipse: s-maj=143.1km s-min=22.8km az=74.0,**
Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.36**	**332**	Pn	Pn	17 22 54.7	+0.3
	3.0nm,0.3s,baz=102,slow=20,SNR=1.5						
JHJ				Sn	Sn	17 23 19.8	-4.3
	2.2nm,0.3s,baz=85,slow=23,SNR=1.7						
JCJ	**Chichijima**	**4.04**	**166**	Pn	Pn	17 23 18.2	+0.7
	2.0nm,0.3s,baz=348,slow=20,SNR=1.9						
JCJ				Sn	Sn	17 24 01.4	-4.2
	1.7nm,0.3s,baz=288,slow=20,SNR=1.0						
MJAR	**Matsushiro Arr**	**6.00**	**337**	Pn	Pn	17 23 43.7	-0.7
	0.1nm,0.3s,baz=154,slow=13,SNR=3.2						
WRA	**Warramunga Arr**	**51.09**	**188**	P	P	17 31 18.5	-0.4
	0.2nm,0.3s,baz=6.8,slow=7.7,SNR=14						
ASAR	**Alice Springs**	**54.82**	**188**	P	P	17 31 46.4	0.0
	0.3nm,0.8s,baz=1.7,slow=5.8,SNR=5.1						

*LJU **05** 17:32:12.8, 46°.06N×16°.02E, h18km, ML2.0*
*VIE **05** 17:32:13.1±0.5, 46°.09N×16°.03E, h10km, mb1.9/4, ml2.2/6, Error ellipse: s-maj=3.3km s-min=1.9km az=107.0 32 km N of Zagreb*
*KRSZO **05** 17:32:13.1±0.9, 46°.06N×16°.03E, h4km±6km, ML2.5/4, Error ellipse: s-maj=2.6km s-min=2.4km az=119.0*
*RHSSO **05** 17:32:14.6±0.3, 46°.05N×16°.00E, h6km±4km, ML2.3/7*
ISC 05 17:32:13.4±0.9**, 46°.06N**±0°.02×**16°.01E**±0°.02**, h12**km±7km**,**
n49, σ**0s.69**/81**, 7C, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTJ	**Puntijarka**	**0.15**	**192**	*i* Pg	**Pg**	**17 32 16.8**	**-0.2**
PTJ	**Puntijarka**	**0.15**	**192**	Pg	**Pg**	**17 32 16.8**	**-0.2**
	comp=Z,2.9nm,SNR=93						
PTJ				Lg	Lg	17 32 18.1	
ZAG	**Zagreb**	**0.23**	**185**	*e*Pg	**Pg**	**17 32 19.0**	**+0.8**
ZAG				Sg	**Sg**	**17 32 21.6**	**+0.1**
KALN	**Kalnik**	**0.32**	**76**	*e*Pg	**Pg**	**17 32 19.4**	**-0.4**
GCIS	**Gornji Cirnik**	**0.33**	**235**	⇑*i*Pg	**Pg**	**17 32 19.9**	**-0.2**
GCIS				*i* Sg	**Sg**	**17 32 24.6**	**+0.1**
GCIS				IAML		17 32 26.3	
	comp=Z,70nm,0.1s						
DOBS	**Dobrina**	**0.39**	**284**	*i* Pg	**Pg**	**17 32 21.1**	**-0.1**
DOBS				*i* Sg	**Sg**	**17 32 26.9**	**+0.5**
DOBS				IAML		17 32 27.3	
	comp=Z,114nm,0.2s						
CESS	**Cesta pri Krsk**	**0.39**	**258**	⇑*i*Pg	**Pg**	**17 32 21.4**	**+0.2**
CESS				*i* Sg	**Sb**	**17 32 27.5**	**-0.8**
CESS				IAML		17 32 30.3	
	comp=Z,128nm,0.2s						
KOGS	**Kog**	**0.42**	**23**	*i* Pg	**Pb**	**17 32 22.1**	**-0.8**
KOGS				*i* Sg	**Sb**	**17 32 28.4**	**-0.9**
KOGS				IAML		17 32 29.4	
	comp=Z,52nm,0.1s						

KOGS	Kog	0.42	23	Pg	Pb	17 32 22.0	-0.8
	comp=Z,3.1nm,SNR=24						
KOGS				Lg	Lg	17 32 28.4	
LEGS	Legarje	0.50	258⇑	iPg	Pg	17 32 23.2	+0.1
LEGS				eSg	Sg	17 32 30.5	+0.8
GROS	Grobnik	0.54	319	i Pg	Pg	17 32 23.6	-0.3
OZLJ	Ozalj	0.58	221	i Pg	Pg	17 32 24.7	-0.1
OZLJ				Sg	Sg	17 32 32.6	+0.1
BEHE	Becsehely	0.67	52	eP	Pb	17 32 26.9	-0.2
BEHE				eS	Sb	17 32 36.6	+0.3
BEHE	Becsehely	0.67	52⇑	iPg	Pb	17 32 26.8	-0.2
BEHE				eSg	Sb	17 32 37.2	+0.9
BEHE	Becsehely	0.67	52	Pg	Pb	17 32 26.9	-0.2
	comp=Z,0.9nm,SNR=15						
BEHE				Sg	Sb	17 32 36.6	+0.3
MOSL	Moslavina	0.68	130	ePg	Pb	17 32 26.9	-0.3
MOSL				Sg	Sb	17 32 36.0	-0.6
PDKS	Podkum	0.71	271⇑	iPg	Pg	17 32 27.0	-0.1
PDKS				eSg	Sb	17 32 37.3	-0.1
PDKS				IAML		17 32 40.6	
	comp=Z,24nm,0.2s						
BOJS	Bojanci	0.77	224	ePg	Pg	17 32 27.4	-0.8
BOJS				eSg	Sg	17 32 38.5	+0.2
BOJS	Bojanci	0.77	224	ePg	Pg	17 32 27.8	-0.4
BOJS				eSg	Sb	17 32 39.0	-0.1
BOJS				IAML		17 32 42.0	
	comp=Z,43nm,0.3s						
PERS	Pernice	0.85	313	ePg	Pg	17 32 29.2	-0.6
PERS				IAML		17 32 44.9	
	comp=Z,37nm,0.2s						
VISS	Visnje	0.86	253	i Pg	Pg	17 32 29.5	-0.4
VISS				eSg	Sb	17 32 42.6	+0.9
VISS				IAML		17 32 47.1	
	comp=Z,70nm,0.3s						
VNDS	Vrh nad Dolski	0.92	273⇑	iPg	Pg	17 32 30.7	-0.3
VNDS				eSg	Sn	17 32 45.0	-0.2
VNDS				IAML		17 32 48.6	
	comp=Z,58nm,0.3s						
SOKA	Soboth	0.92	313	ePg	Pg	17 32 30.4	-0.7
	comp=Z,5.4nm,0.2s,SNR=30						
SOKA				eSg	Sg	17 32 43.0	-0.2
	comp=Z,25nm,0.3s						
GBRS	Gornja Briga	0.99	238	i Pg	Pg	17 32 32.4	-0.1
GBRS				i		17 32 33.5	
GBRS				eSg	Sn	17 32 47.6	+0.4
GBRS				IAML		17 32 49.5	
	comp=Z,29nm,0.2s						
LJU	Ljubljana	1.03	270⇑	iPg	Pg	17 32 32.6	-0.7
LJU				eSg	Sb	17 32 47.4	+0.6
LJU	Ljubljana	1.03	270	i Pg	Pg	17 32 32.7	-0.6
MOZS	Mozjanca	1.12	283	ePg	Pb	17 32 34.2	-0.4
MOZS				eSg	Sn	17 32 50.0	-0.2
MOZS				IAML		17 32 53.9	
	comp=Z,14nm,0.2s						
CEY	Cerknica	1.15	255	ePg	Pb	17 32 35.0	-0.3
CEY				eSg	Sn	17 32 51.6	+0.5
PRIJ	Prijedor	1.19	155	eSg	Sn	17 32 52.5	+0.6
MRAK	Mrakovica	1.22	149	ePg	Pb	17 32 36.1	-0.3
MRAK				eSg	Sn	17 32 53.5	+0.8
ARSA	Arzberg	1.24	344	ePg	Pg	17 32 36.8	-0.4
	comp=Z,3.7nm,0.2s,SNR=10						
ARSA				eSg	Sb	17 32 52.8	0.0
	comp=Z,9.7nm,0.3s						
ARSA	Arzberg	1.24	344	Pg	Pg	17 32 36.8	-0.4
	comp=Z,0.1nm,SNR=3.9						
ARSA				Lg	Lg	17 32 55.2	
SKDS	Skadanscina	1.49	251	ePg	Pb	17 32 40.8	-0.2
SKDS				eSg	Sg	17 33 01.4	+0.1
MPLH	Magyarpolny	1.53	43	eP	Pg	17 32 42.6	-0.2
MPLH				eS	Sg	17 33 03.4	+0.8
MPLH	Magyarpolny	1.53	43	Pg	Pg	17 32 42.6	-0.2
MPLH				Lg	Lg	17 33 03.4	
UDBI	Udbina	1.54	187	ePn	Pb	17 32 41.5	-0.3
BLY	Banja Luka	1.55	147	ePn	Pb	17 32 42.1	+0.2
BLY				eSg	Sg	17 33 03.9	+0.8
NVLJ	Novalja	1.70	209	ePn	Pb	17 32 44.6	+0.1
MYKA	Terra Mystica	1.74	290	Pg	Pg	17 32 46.9	+0.2
	comp=Z,4.0nm,0.3s						
MYKA				Sg	Sg	17 33 11.0	+1.7
	comp=Z,4.8nm,0.3s						
MGRS	Mrkonjic Grad	1.81	155	ePn	Pb	17 32 45.7	-0.7
MGRS				eSn	Sb	17 33 09.9	+0.9
CONA	Conrad Observa	1.88	357	ePn	Pn	17 32 45.5	+0.1
	comp=Z,1.4nm,0.3s,SNR=4.6						
CONA				Sn	Sb	17 33 10.1	-1.0
	comp=Z,5.3nm,0.4s						
BRJN	Brijuni	1.96	235	ePn	Pb	17 32 49.5	+0.4
KIJV	Kijevo	2.07	172	ePn	Pb	17 32 50.3	-0.6
MOA	Molln	2.16	327	Pn	Pn	17 32 49.7	+0.5
	comp=Z,0.4nm,0.2s						
MOA				Sn	Sn	17 33 17.2	+1.3
	comp=Z,2.5nm,0.4s						
DUGI	Dugi Otok	2.17	199	ePn	Pb	17 32 52.1	-0.5
MORI	Morici	2.20	186	ePn	Pb	17 32 51.8	-1.3
ZIRJ	Zirje	2.42	186	ePn	Pb	17 32 54.9	-1.9
ZIRJ				Sn	Sb	17 33 24.9	-1.6
ABTA	Abfaltersbach	2.52	287	ePg	Pg	17 33 00.4	-1.2
	comp=Z,3.1nm,0.4s						
ABTA				Sg	Sg	17 33 35.0	+0.7
	comp=Z,1.5nm,0.3s						
MAKA	Makarska	2.86	165	ePn	Pb	17 33 02.2	-2.1

*MAN **05** 17:41:54.1, 9°.41N×122°.53E, h22km, mb4.7, ML3.5, MS3.4*
*NEIC **05** 17:41:57.0±2.0, 9°.36N±0°.07×122°.65E±0°.10, h36km±7km, mb4.4/30, Error ellipse: s-maj=14.0km s-min=10.5km az=79.0*
*IDC **05** 17:42:00.1±5.8, 9°.37N×122°.74E, h75km±54km, mb3.7/14, mb1 3.8/15, mb1mx3.6/43, mbtmp4.0/15, ML4.6/1, MS3.1/4, Ms1 3.1/4, ms1mx2.7/58, Error ellipse: s-maj=35.5km s-min=12.3km az=70.0*
ISC 05 17:41:55.2±0.4, **9°.33N**±0°.05×**122°.62E**±0°.05, **h29**km, **n64**, σ0ˢ.92/66, **mb4.3**/31, **MS3.0**/3, **3C-2D, Negros**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.61	89⇑	iP	Pb	17 42 07.4	0.0
SNPH				i S	Sb	17 42 16.2	+0.4
DCPH	Dipolog City	1.04	136⇓	iP	Pn	17 42 14.3	+0.5
DCPH				i S	Sn	17 42 28.6	+1.3
JAP	San Jose, Anti	1.56	335⇓	eP	Pn	17 42 22.3	+1.3
LLP	Lapu-Lapu	1.65	53⇑	eP	Pn	17 42 22.6	+0.4
LLP				eS	Sb	17 42 44.0	-1.4
RCP	Roxas	2.22	3⇑	eP	Pn	17 42 29.7	-0.4
RCP				eS	Sn	17 42 59.0	+2.4
DAV	Davao City (W)	3.69	127	Pn	Pn	17 42 52.1	+1.7
TOLI2	Tolitoli	8.37	193	Pn	Pn	17 43 54.3	-0.3
SIJI	Sorong	13.30	139	LR	LR	17 49 54.0	
	comp=Z,54nm,18.6s,baz=2.5,slow=36						
NACB	Ninganchiao	14.79	356	Pn	Pn	17 45 21.8	-0.7
BATI	Baumata	19.44	177	P	Pn	17 46 21.9	+1.0
	1.7nm,0.3s,baz=91,slow=2.4,SNR=4.3						
GUMO	Guam	22.21	77	P	P	17 46 48.9	-0.6
CISI	Cisompet, Garu	22.34	222	P	P	17 46 49.6	-1.3
CISI				IAmb	IAmb	17 47 14.5	
	comp=Z,15nm,1.1s						
MTN	Manton Dam	23.60	159	P	P	17 47 04.4	+0.6
MTN				IAmb	IAmb	17 47 06.8	
	comp=Z,14nm,1.4s						
CMAR	Chiang Mai Arr	24.68	294	P	P	17 47 14.8	+0.9
	comp=Z,0.5nm,0.4s,baz=127,slow=9.5,SNR=7.0						
CMAR				LR	LR	17 56 15.7	
	comp=Z,71nm,18.9s,baz=60,slow=34						
JCJ	Chichijima	25.58	44	LR	LR	17 59 12.9	
	comp=Z,41nm,18.1s,baz=175,slow=41						
KNRA	Kununurra	25.58	166	P	P	17 47 24.1	+2.1
KNRA				IAmb	IAmb	17 47 31.2	
	comp=Z,20nm,1.4s						
FITZ	Fitzroy Crossi	27.42	174	P	P	17 47 39.0	+0.5
	comp=Z,2.0nm,0.9s,baz=11,slow=5.2,SNR=2.7						
FITZ	Fitzroy Crossi	27.42	174	P	P	17 47 36.1	-2.5
KSRS	Korea Array	28.41	9	LR	LR	17 59 54.9	
	comp=Z,22nm,19.1s,baz=315,slow=38						
WRA	Warramunga Arr	31.29	158	P	P	17 48 12.3	-0.7
	comp=Z,1.8nm,0.9s,baz=330,slow=11,SNR=27						
WRA				PcP	PcP	17 51 05.8	-1.2
	comp=Z,0.3nm,0.7s,baz=326,slow=1.7,SNR=1.6						
WRA	Warramunga Arr	31.29	158	PcP	PcP	17 51 06.2	-0.8
WB2	Warramunga Arr	31.30	158	P	P	17 48 12.1	-1.0
WB2				IAmb	IAmb	17 48 13.9	
	comp=Z,5.7nm,1.1s						
WR0	Warramunga Arr	31.38	158	P	P	17 48 13.2	-0.6
WR0				IAmb	IAmb	17 48 13.3	
	comp=Z,4.4nm,1.1s						
SHL	Shillong	33.35	303	P	P	17 48 29.7	-1.5
SHL				IAmb	IAmb	17 48 33.9	
	comp=Z,6.2nm,1.0s						
AS31	Alice Springs	34.60	162	P	P	17 48 42.7	+0.8
ASAR	Alice Springs	34.60	162	P	P	17 48 42.5	+0.6
	comp=Z,2.8nm,0.7s,baz=342,slow=7.5,SNR=66						
ASAR				PcP	PcP	17 51 14.8	-1.4
	comp=Z,0.4nm,0.5s,baz=342,slow=2.9,SNR=5.6						
USA0B	Ussuriysk Arra	35.68	12	P	P	17 48 50.6	-0.3
USA0B				IAmb	IAmb	17 49 02.2	
	comp=Z,3.2nm,0.8s						
USRK	Ussuriysk Ar.	35.68	12	P	P	17 48 51.2	+0.3
	comp=Z,1.0nm,0.7s,baz=194,slow=5.7,SNR=2.0						
MORW	Morawa	38.70	189	P	P	17 49 17.4	+0.7
JIRN	Jiri	38.85	303	eP	P	17 49 19.2	+0.6
	comp=Z,20nm,0.7s						
PKI	Pulchoki	39.47	302	eP	P	17 49 23.9	+0.2
	comp=Z,8.6nm,0.7s						
PKIN	Phulchoki	39.49	302	eP	P	17 49 23.7	0.0
KKN	Kakani	39.66	303	eP	P	17 49 25.4	+0.3
DMN	Daman	39.74	302	eP	P	17 49 26.2	+0.4
	comp=Z,16nm,0.9s						
GKN	Gorkha	40.26	303	eP	P	17 49 30.3	+0.2
KLR	Kul'dur	40.50	9	P	P	17 49 30.2	-1.3
	comp=Z,1.0nm,0.6s,baz=259,slow=5.5,SNR=2.2						
SONM	Songino Array	40.76	343	P	P	17 49 33.7	-0.1
	comp=Z,0.4nm,0.6s,baz=156,slow=11,SNR=2.8						
KOLN	Koldanda	41.05	302	eP	P	17 49 37.3	+0.7
	comp=Z,24nm,0.7s						
PYUN	Piuthan	41.67	302	eP	P	17 49 42.5	+0.8
	comp=Z,30nm,0.8s						
NWAO	Narrogin (SRO)	42.33	187	P	P	17 49 46.3	-0.4
BBOO	Buckleboo	43.82	164	P	P	17 49 59.3	+0.5
STKA	Stephens Creek	44.82	157	P	P	17 50 06.8	+0.1
	comp=Z,1.4nm,0.3s,baz=340,slow=14,SNR=3.6						
MK31	Makanchi Array	50.66	325	P	P	17 50 52.6	+0.7
MKAR	Makanchi Array	50.66	325	P	P	17 50 52.3	+0.4
	comp=Z,1.2nm,0.7s,baz=127,slow=8.8,SNR=11						
MKAR	Makanchi Array	50.66	325	P	P	17 50 52.7	+0.7
CAN	Canberra	50.93	152	P	P	17 50 54.8	+0.7
CAN				IAmb	IAmb	17 50 55.7	
	comp=Z,8.6nm,0.9s						
TOO	Toolangi	51.34	157	P	P	17 50 57.4	+0.3
PEA0B	Petropavlovsk-	52.02	26	P	P	17 51 02.1	+0.1
PETK	Petropavlovsk-	52.02	26	P	P	17 51 01.9	0.0
ZALV	Zalesovo Beam	53.78	333	P	P	17 51 14.9	-0.1
	comp=Z,1.0nm,0.6s,baz=138,slow=14,SNR=5.1						
GAR	Garm	55.16	311	P	P	17 51 26.5	+1.0
CHGR	Chuyangaron	55.93	311	P	P	17 51 31.2	+0.3
CHGR				IAmb	IAmb	17 51 32.9	
	comp=Z,6.3nm,1.0s						
KK31	Karatay Array	56.38	316	P	P	17 51 34.1	+0.1
KK31				IAmb	IAmb	17 51 41.6	
	comp=Z,6.5nm,1.4s						
KKAR	Karatay Array	56.38	316	P	P	17 51 34.6	+0.6
KKAR	Karatay Array	56.38	316	P	P	17 51 34.3	+0.3
KKAR				IAmb	IAmb	17 51 41.6	
	comp=Z,6.5nm,1.4s						
TIXI	Tiksi	62.38	2	P	P	17 52 13.9	-1.0
TIXI				IAmb	IAmb	17 52 16.2	
	comp=Z,5.5nm,1.0s						
ABKAR	Akbulak array	65.26	320	P	P	17 52 33.9	-0.3
ABKAR	Akbulak array	65.26	320	P	P	17 52 33.8	-0.4
O18K	Koktuh Hills	78.06	31	P	P	17 53 53.0	+1.9
BRTR	Keskin Array B	83.33	309	P	P	17 54 19.6	-0.4
	comp=Z,0.5nm,0.8s,baz=90,slow=5.8,SNR=4.2						
ARCES	ARCESS Array B	83.81	339	P	P	17 54 20.9	-0.7
	comp=Z,4.9nm,1.1s,baz=74,slow=6.7,SNR=3.2						
FINES	FINESS Array B	85.00	331	P	P	17 54 27.4	-0.3
	comp=Z,2.4nm,0.9s,baz=119,slow=2.4,SNR=5.8						
VNDA	Vanda	89.48	172	P	P	17 54 48.3	-0.7
	comp=Z,0.6nm,0.7s,baz=304,slow=6.2,SNR=4.6						
VNDA	Vanda	89.48	172	IAmb	IAmb	17 54 51.0	
	comp=Z,2.9nm,1.2s						

*IDC **05** 17:47:54.2±2.5, 9°.42S×119°.94E, h81km±22km, mb3.4/5, mb1 3.6/10, mb1mx3.4/40, mbtmp3.8/10, Error ellipse: s-maj=52.6km s-min=15.0km az=61.0*
*NEIC **05** 17:47:54.4±2.3, 9°.43S±0°.06×120°.04E±0°.04, h81km±9km, mb4.1/17, Error ellipse: s-maj=10.3km s-min=1.2km az=211.0*
*DJA **05** 17:47:55.9±0.3, 9°S±4°×12°0E±°, h62km±7km, M4.3/13, mb4.5/7, mB5.1/2, MLv4.2/13, Mw(mB)4.5/2*
ISC 05 17:47:54.7±0.5, **9°.47S**±0°.04×**120°.12E**±0°.05, **h100**km, **n58**, σ**2ˢ.20**/67, **mb3.8**/8, **Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	Waingapu	0.27	139	P	Pn	17 48 08.4	-0.7
WBSI	Waikabubak, Su	0.74	256	P	Pn	17 48 11.8	-0.7
EDFI	Ende, Flores	1.71	65	P	Pn	17 48 22.8	-0.8
MMRI	Maumere	2.25	69		Pn	17 48 30.9	+0.4
MMRI				Sn	Sn	17 48 57.0	-0.9
MMRI	Maumere	2.25	69	P	Pn	17 48 31.1	+0.6
PLAI	Plampang	2.40	285	P	Pn	17 48 33.2	+0.7
TWSI	Taliwang, Sumb	3.28	283	P	Pn	17 48 46.1	+1.9
BSSI	Bau Bau, Buton	3.32	6	P	Pn	17 48 43.4	-1.4
BATI	Baumata	3.57	102	P	Pn	17 48 50.6	+2.5
	19nm,0.3s,baz=311,slow=2.5,SNR=35						
BATI				S	Sn	17 49 31.1	+1.7
	15nm,0.3s,baz=37,slow=20,SNR=2.2						
BATI	Baumata	3.57	102	P	Pn	17 48 50.7	+2.6
SOEI	Soe	4.10	94		Pn	17 48 58.1	+2.8
SOEI	Soe	4.10	94	P	Pn	17 48 58.1	+2.8
BKSI	Bulukumba	4.12	0	P	Pn	17 48 55.0	-0.5
MKS	Makassar	4.27	351	P	Pn	17 48 57.4	-0.2
KAPI	Kappang	4.44	355	P	Pn	17 48 59.5	-0.3
	11nm,0.3s,baz=190,slow=9.6,SNR=41						
KAPI				S	Sn	17 49 45.4	-5.1
	8.5nm,0.3s,baz=294,slow=23,SNR=9.4						
KAPI	Kappang	4.44	355		Pn	17 48 59.4	-0.5
KAPI					Sn	17 49 45.9	-4.5
KAPI	Kappang	4.44	355	P	Pn	17 48 59.4	-0.5
KHKI	Kahang-Kahang	4.59	283	P	Pn	17 49 02.6	+0.7
BNSI	Bone	5.03	360	P	Pn	17 49 09.7	+1.8
	0.3nm78nm,0.6s						
KKSI	Kolaka, Sulawe	5.48	16	P	Pn	17 49 14.4	+0.5
	0.2nm43nm,0.7s						
JAGI	Jajag, Banyuwa	5.98	279		Pn	17 49 19.2	-1.5
JAGI				Sn	Sn	17 50 24.5	-3.4
JAGI	Jajag, Banyuwa	5.98	279	P	Pn	17 49 19.5	-1.3
	0.3nm1μm37nm,0.5s						
TTSI	Tana Toraja	6.39	357	P	Pn	17 49 28.8	+2.5
	0.1nm2μm29nm,0.8s						
PWJI	Pagerwojo	8.35	279	P	Pn	17 49 55.2	+2.3
	18nm,1.9s						
BKB	Balikpapan	8.76	338	Pn	Pn	17 49 58.1	-0.5
PCJI	Pacitan	8.93	277	P	Pn	17 50 02.4	+1.5
	27nm,1.0s						
UGM	Wanagama	9.61	279	Pn	Pn	17 50 07.5	-2.7
FITZ	Fitzroy Crossi	10.11	149	P	Pn	17 50 17.1	+0.2
	0.3nm,0.3s,baz=331,slow=12,SNR=22						
FITZ				S	Sn	17 52 03.9	-4.7
	2.4nm,0.3s,baz=192,slow=20,SNR=14						
KNRA	Kununurra	10.45	127		Pn	17 50 22.3	+0.7
KNRA				Sn	Sn	17 52 12.6	-4.2
SAUI	Saumlaki	11.15	83	Pn	Pn	17 50 32.2	+1.1
MTN	Manton Dam	11.31	108		Pn	17 50 32.4	-0.8
MTN					Sn	17 52 30.3	-7.5
PSA00	Pilbara Seismi	12.04	181	Pn	Pn	17 50 42.8	-0.1
PSA00					Sn	17 52 50.2	-5.2
PSA00	Pilbara Seismi	12.04	181	Pn	Pn	17 50 43.0	+0.1
CISI	Cisompet, Garu	12.32	278	Pn	Pn	17 50 45.0	-1.8
FAKI	Fak Fak	13.69	62	Pn	Pn	17 51 04.5	-0.2
GIRL	Giralia	14.27	203	P	P	17 51 14.7	-1.6
WRA	Warramunga Arr	17.23	129	P	Pn	17 51 50.9	+1.6
	0.4nm,0.3s,baz=290,slow=12,SNR=28						
WRA				S	Sn	17 54 48.5	-13
	0.2nm,0.3s,baz=293,slow=17,SNR=2.5						
WRA	Warramunga Arr	17.23	129	P	Pn	17 51 50.7	+1.4
WRAB	Tennant Creek	17.24	129	P	Pn	17 51 51.6	+2.3
WRAB				IAmb	IAmb	17 52 34.0	
	comp=Z,13nm,1.6s						
WB2	Warramunga Arr	17.24	129	P	Pn	17 51 50.4	+1.0
WR0	Warramunga Arr	17.40	128	P	Pn	17 51 53.5	+2.2
WR0				IAmb	IAmb	17 51 58.0	
	comp=Z,6.5nm,1.1s						
AS31	Alice Springs	19.31	139	P	Pn	17 52 16.2	+2.1
ASAR	Alice Springs	19.31	139	P	Pn	17 52 14.9	+0.9
	comp=Z,0.2nm,0.3s,baz=320,slow=11,SNR=23						
ASAR				S	S	17 55 42.3	-3.1
	comp=Z,0.1nm,0.3s,baz=314,slow=23,SNR=5.3						
ASAR				ScP	ScP	18 00 02.4	+4.6
	baz=344,slow=2.4,SNR=4.6						
ASAR	Alice Springs	19.31	139	P	Pn	17 52 16.9	+2.8
MORW	Morawa	19.87	191	P	Pn	17 52 25.0	+4.5
MORW				IAmb	IAmb	17 52 32.1	
	comp=Z,46nm,1.6s						
COEN	Coen	23.00	103	P	P	17 52 53.1	+1.8
COEN				IAmb	IAmb	17 53 13.0	
	comp=Z,21nm,1.4s						
CMAR	Chiang Mai Arr	34.74	323	P	P	17 54 36.6	+1.1
	comp=Z,0.3nm,0.4s,baz=162,slow=7.6,SNR=4.5						
PINNC	Pines Island,	47.12	112	P	P	17 56 15.6	-1.6
MJB9	Matsu-Tunnel	48.83	19	P	P	17 56 28.7	-1.3
SONM	Songino Array	58.34	349	P	P	17 57 39.9	+0.5
	comp=Z,0.9nm,0.6s,baz=168,slow=9.3,SNR=5.3						
SONM	Songino Array	58.34	349	IAmb	IAmb	17 57 41.4	
	comp=Z,0.7nm,0.7s						
MK31	Makanchi Array	65.38	332	P	P	17 58 27.6	+1.1
MK31				IAmb	IAmb	17 59 06.6	
	comp=Z,2.4nm,1.2s						
MKAR	Makanchi Array	65.38	332	P	P	17 58 27.0	+0.5
	comp=Z,1.0nm,0.7s,baz=151,slow=7.3,SNR=12						
ZALV	Zalesovo Beam	69.87	339	P	P	17 58 54.8	+0.3
	comp=Z,0.4nm,0.4s,baz=134,slow=3.3,SNR=2.0						
VNDA	Vanda	71.36	171	P	P	17 59 06.0	+2.7
	comp=Z,0.6nm,1.0s,baz=338,slow=6.2,SNR=5.7						
VNDA	Vanda	71.36	171	P	P	17 59 05.4	+2.1
VNDA				IAmb	IAmb	17 59 27.2	
	comp=Z,3.2nm,1.5s						
ABKAR	Akbulak array	78.58	325	P	P	17 59 47.1	+1.8
ABKAR	Akbulak array	78.58	325	P	P	17 59 46.7	+1.5
ABKAR				IAmb	IAmb	18 00 31.9	
	comp=Z,1.3nm,1.1s						

TAP 05 17:54:08.7, 23°.39N×120°.96E, h9km±1km, ML1.0, 1C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALS	Alishan	0.19	311	P	Pg	17 54 12.6	-0.2
	baz=312						
ALS				S	Sg	17 54 15.5	-0.2
	baz=312						
ELDTW	Lidau	0.20	165	⇑P	Pg	17 54 13.2	+0.2
	baz=162						
ELDTW				S	Sg	17 54 16.0	+0.1
	baz=162						
STYH	Taoyuan	0.27	218	P	Pg	17 54 14.0	-0.2
	baz=217						
STYH				eS	Sg	17 54 17.4	-0.5
	baz=217						
STYT	Tauyuan	0.29	220	P	Pg	17 54 14.6	0.0
	baz=218						
YULB	Yu-li	0.31	89	S	Sg	17 54 19.6	+0.5
	baz=88						
YULB	Yu-li	0.31	89	P	Pn	17 54 19.7	+0.2
TPUB	Ta-pu	0.31	254	P	Pg	17 54 14.9	-0.1
	baz=254						
TPUB				eS	Sg	17 54 19.8	+0.6
	baz=254						
TPUB	Ta-pu	0.31	254	P	Pn	17 54 18.1	-1.4
WHYT	Xinyi Township	0.32	343	P	Pg	17 54 15.1	-0.1
	baz=342						
WHYT				S	Sg	17 54 19.6	+0.1
	baz=342						
CHN5	Tsauling	0.33	309	eS	Sg	17 54 20.2	+0.4
	baz=309						
CHN4	Tsaushan	0.34	264	eS	Sg	17 54 18.5	-1.4
	baz=264						
WTP	Ta-pu	0.35	246	eP	Pg	17 54 15.6	0.0
	baz=245						
WTP				eS	Sg	17 54 20.6	+0.3
	baz=245						
EHY	Hungye	0.35	70	eS	Sg	17 54 21.0	+0.5
	baz=71						
SSLB	Suanglung	0.40	359	P	Pn	17 54 22.3	+1.6
HGSD	Ruisui	0.44	76	eS	Sg	17 54 23.6	+0.5
	baz=76						
TWK	Hsinying	0.45	255	eP	Pg	17 54 17.4	-0.1
	baz=253						
TWK				eS	Sg	17 54 23.4	0.0
	baz=253						
SNST	Tainan City	0.46	249	eS	Sg	17 54 23.9	+0.3
	baz=248						

*NEIC **05** 18:07:32.0±1.6, 51°.30N±0°.09×174°.26W±0°.09, h21km±14km, Error ellipse: s-maj=13.9km s-min=5.9km az=154.0*
AEIC 05 18:07:32±3.0, **51°.32N**±0°.05×**174°.37W**±0°.05, **h12**km±6km, **ML2.8**/20, **mb3.8**/26(NEIC), **Error ellipse: s-maj=8.9km s-min=2.9km az=151.0, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.90	7		Pg	18 07 48.8	-0.5
ATKA					Sb	18 08 02.2	+0.8
KOFP	Korovin Flat P	0.98	10		Pg	18 07 50.6	-0.3
KOKL	Mount Kliuchef	1.02	6		Pb	18 07 51.5	-0.1
KOSE	Korovin Southe	1.05	11		Pb	18 07 52.1	0.0
KOWE	Korovin West	1.06	4		Pb	18 07 52.2	0.0
KONE	Korovin Northe	1.09	8		Pb	18 07 51.5	-1.3
GSIG	Igitkin Island	1.18	305		Pb	18 07 53.4	-0.9
GSMY	Great Sitkin M	1.28	305		Pn	18 07 55.2	-0.4
GSTR	Great Sitkin T	1.31	307		Pn	18 07 55.5	-0.6
GSTD	Great Sitkin T	1.33	305		Pn	18 07 55.8	-0.7
GSTD					Sg	18 08 15.0	+0.2
ADK	Adak	1.55	292		Pn	18 07 58.7	-0.6
ADK					Sn	18 08 19.7	+0.3
KIRH	Kanaga Island	1.79	290		Pn	18 08 03.2	+0.5
KIWB	Kanaga Island	1.82	288		Pn	18 08 02.7	-0.3
KIKV	Kanaga Island	1.83	289		Pn	18 08 03.2	-0.1
KIMD	Kanaga Island	1.84	285		Pn	18 08 03.1	-0.3
KICM	Kanaga Island	1.86	290		Pn	18 08 04.3	+0.6
TAFP	Tanaga Falls P	2.33	286		Pn	18 08 10.5	+0.4
TASE	Tanaga Southea	2.35	284		Pn	18 08 10.9	+0.6
NIKH	Nikolski High	3.78	62	Pn	Pn	18 08 29.1	-0.9
AMKA	Amchitka	3.97	273	Pn	Pn	18 08 33.0	+0.4
UNV	Unalaska Valle	5.42	59	Pn	Pn	18 08 50.7	-1.8
AKUT	Akutan	5.94	58	Pn	Pn	18 08 57.8	-1.8
SPIA	Saint Paul Isl	6.35	21	Pn	Pn	18 09 03.4	-1.9
SMY	Shemya	7.25	286	Pn	Pn	18 09 18.8	+1.1
SDPT	Sand Point	9.24	59	Pn	Pn	18 09 44.2	-0.7
CNBA	Chernabura Isl	9.56	63	Pn	Pn	18 09 46.8	-2.5
CHGN	Chignik	10.67	56		Pn	18 10 01.4	-3.0
KDAK	Kodiak Island	14.17	54	Pn	Pn	18 10 50.6	-1.6
CNPM	China Poot	15.43	49	Pn	Pn	18 11 05.0	-4.2
CAPN	Captain Cook N	15.97	45	Pn	Pn	18 11 15.9	-0.3
SKT	Skwentna	16.38	41	Pn	Pn	18 11 19.7	-1.8
SKT				IAmb	IAmb	18 11 20.5	
	comp=Z,8.3nm,1.5s						
SUA	Susitna One	16.46	43	Pn	Pn	18 11 20.9	-1.7
SUA				IAmb	IAmb	18 11 54.4	
	comp=Z,6.9nm,1.4s						
SEW	Seward	16.48	48	Pn	Pn	18 11 19.9	-2.8
GHO	Glory Hole Cre	17.38	43	P	Pn	18 11 30.8	-3.4
GHO				IAmb	IAmb	18 11 34.8	
	comp=Z,14nm,1.5s						
SML	Sawmill	17.65	43	P	Pn	18 11 34.8	-2.7
RDOG	Red Dog Mine	17.70	14	P	Pn	18 11 34.9	-3.1
RDOG				IAmb	IAmb	18 11 38.9	
	comp=Z,5.2nm,0.5s						
BPAW	Bear Paw Mtn.	17.74	35	P	Pn	18 11 37.8	-0.8
GLI	Glacier Island	17.84	47	P	Pn	18 11 36.9	-2.9
GLI				IAmb	IAmb	18 12 02.7	
	comp=Z,8.6nm,1.1s						
HIN	Hinchinbrook I	17.96	49	P	Pn	18 11 39.2	-2.1
FID	Port Fidalgo	18.09	48	P	Pn	18 11 38.0	-4.8
SCM	Sheep Creek Mo	18.09	44	P	Pn	18 11 39.5	-3.5
SCM				IAmb	IAmb	18 12 04.6	
	comp=Z,14nm,1.4s						
RND	Reindeer	18.17	38	P	Pn	18 11 41.6	-2.3
MLY	Manley	18.38	33	P	Pn	18 11 43.7	-2.8
KLU	Klutina	18.59	46	P	P	18 11 46.9	-1.9
KLU				IAmb	IAmb	18 12 00.3	
	comp=Z,9.7nm,1.6s						
M24K	Tolsona, Glenn	18.70	44	P	P	18 11 48.3	-1.7
I23K	Minto, Yukon-K	18.92	33	P	P	18 11 49.5	-2.8
CCB	Clear Creek Bu	19.20	36	P	P	18 11 52.6	-2.7
CCB				IAmb	IAmb	18 11 55.8	
	comp=Z,6.5nm,1.6s						
IL31		19.61	36	P	P	18 11 56.9	-2.9
H24K	Noodor Dome	19.83	33	P	P	18 12 00.9	-1.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H24K				IAmb	IAmb	18 12 12.1	
	comp=Z,4.1nm,1.2s						
RIDG	Independent Ri	19.92	40	P	P	18 12 00.2	-3.1
RIDG				IAmb	IAmb	18 12 08.9	
	comp=Z,4.0nm,1.2s						
DOT	Dot Lake	20.20	41	P	P	18 12 02.3	-3.9
DOT				IAmb	IAmb	18 12 30.6	
	comp=Z,6.3nm,1.5s						
SCRK	Sand Creek	20.36	40	P	P	18 12 04.4	-3.7
SCRK				IAmb	IAmb	18 12 05.5	
	comp=Z,6.7nm,1.6s						
K27K	Chicken	21.16	41	P	P	18 12 14.2	-2.4
K27K				IAmb	IAmb	18 12 16.7	
	comp=Z,8.9nm,1.6s						
EGAK	Eagle	21.81	39	P	P	18 12 21.8	-1.7
EGAK				IAmb	IAmb	18 12 23.5	
	comp=Z,3.7nm,0.8s						

*NEIC **05** 18:10:50.6±1.3, 51°.26N±0°.05×174°.20W±0°.05, h22^{km}±4^{km}, mb3.7/1, ML2.8/21(AEIC), Error ellipse: s-maj=7.0km s-min=4.5km az=202.0*

AEIC 05 18:10:51±1.2, 51°.26N±0°.05×174°.25W±0°.04, h26^{km}±8^{km}, Error ellipse: s-maj=6.9km s-min=2.9km az=192.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.94	2		Pn	18 11 07.9	-0.6
ATKA					Sn	18 11 21.6	+0.4
KOFP	Korovin Flat P	1.02	5		Pn	18 11 09.6	-0.1
KOKL	Mount Kliuchef	1.06	1		Pn	18 11 10.3	0.0
KOSE	Korovin Southe	1.09	6		Pb	18 11 11.0	-0.2
KOWE	Korovin West	1.11	360		Pb	18 11 11.2	-0.3
KONE	Korovin Northe	1.14	4		Pn	18 11 11.6	+0.4
GSIG	Igitkin Island	1.27	305		Pn	18 11 13.0	-0.2
GSMY	Great Sitkin M	1.37	305		Pn	18 11 14.4	-0.1
GSTR	Great Sitkin T	1.40	307		Pn	18 11 15.2	+0.3
GSTD	Great Sitkin T	1.43	305		Pn	18 11 15.2	-0.1
GSTD					Sb	18 11 34.9	+0.2
ADK	Adak	1.64	293		Pn	18 11 18.4	+0.2
ADK					Sn	18 11 39.1	+0.6
KIWB	Kanaga Island	1.91	289		Pn	18 11 22.4	+0.6
KIKV	Kanaga Island	1.93	290		Pn	18 11 23.0	+0.8
KIMD	Kanaga Island	1.93	286		Pn	18 11 22.9	+0.7
KICM	Kanaga Island	1.95	291		Pn	18 11 23.9	+1.5
TAFP	Tanaga Falls P	2.42	287		Pn	18 11 30.2	+1.4
TAFP					Sn	18 11 59.0	+1.4
TASE	Tanaga Southea	2.44	285		Pn	18 11 30.6	+1.4
NIKH	Nikolski High	3.74	61		Pn	18 11 47.9	+1.0
AMKA	Amchitka	4.05	274	Pn	Pn	18 11 51.3	+0.1
UNV	Unalaska Valle	5.38	58	Pn	Pn	18 12 07.7	-1.8
CHGN	Chignik	10.63	56	Pn	Pn	18 13 21.0	-0.4
Q19K	Cape Douglas,	14.03	49	P	P	18 14 13.2	-2.3
KDAK	Kodiak Island	14.13	54	P	P	18 14 15.8	-0.9
SKT	Skwentna	16.37	40	P	Pn	18 14 38.9	+0.1
SKT				IAmb	IAmb	18 14 48.6	
	comp=Z,10nm,1.6s						

*IDC **05** 18:15:16.2±0.4, 37°.94S×75°.28W, h0^{km}, mb4.6/14, mb1 4.7/17, mb1mx4.6/26, mbtmp4.5/17, ML4.1/3, MS3.8/16, Ms1 3.7/16, ms1mx3.7/20, Error ellipse: s-maj=17.9km s-min=12.8km az=87.0*

*NEIC **05** 18:15:17.6±2.2, 37°.93S±0°.04×75°.36W±0°.08, h10^{km}±1^{km}, mb5.0/216, Mww4.9, ML5.0(GUC), Error ellipse: s-maj=12.1km s-min=4.2km az=239.0*

*GCMT **05** 18:15:18.6±0.3, 38°.04S±0°.03×75°.56W±0°.02, h19^{km}, MW4.9/97, Moment Tensor Solution. s33,c40; s97,c120; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.28±.16; $M_{\theta\theta}$0.40±.09; $M_{\phi\phi}$2.88±.11; $M_{r\theta}$0.10±.23; $M_{\theta\phi}$0.24±.06; $M_{\phi r}$-0.14±.19; Best double couple: $M_0$3.09600×10^{16} NP1:ϕ_s187.00000°, δ44.00000°, λ-88.00000°. NP2: ϕ_s4.00000°, δ46.00000°, λ-92.00000°. Principal axes: T 2.9060, Plg1.0000°, Azm95.0000°; N 0.3780, Plg2.0000°, Azm5.0000°; P -3.2860, Plg88.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*VAO **05** 18:15:20.7±0.5, 37°.83S×75°.10W, h10^{km}, mb4.7*

*NEIC **05** 18:15:20, 37°.93S×75°.35W, h12^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-2.41; $M_{\theta\theta}$0.02; $M_{\phi\phi}$2.39; $M_{r\theta}$0.30; $M_{\theta\phi}$0.26; $M_{\phi r}$-0.82; Fault plane solution: $M_0$2.57000×10^{16} NP1:ϕ_s195.00000°, δ37.00000°, λ-76.00000°. NP2:ϕ_s358.00000°, δ55.00000°, λ-100.00000°. Principal axes: T 2.5461, Plg9.0000°, Azm95.0000°; N 0.0434, Plg8.0000°, Azm4.0000°; P -2.5895, Plg78.0000°, Azm232.0000°;*

*GUC **05** 18:15:20.6±0.5, 37°.98S×74°.94W, h7^{km}±12^{km}, ML5.0*

ISC 05 18:15:21.6±0.3, 37°.94S±0°.04×75°.21W±0°.05, h35^{km}, n372, σ1^{s}53/305, mb4.9/114, MS3.8/16, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	2.00	58	iS	Sn	18 16 15.2	-1.5
CCSP				IAML		18 16 20.1	
	comp=N,12µm,0.5s						
LC01	Cunco	2.79	111	eP	Pn	18 16 03.1	-0.7
LC01				iS	Sn	18 16 35.3	-0.9
LC01	Cunco	2.79	111	Pn	Pn	18 16 03.4	-0.4
LC01				Sn	Sn	18 16 35.2	-1.1
LL04	Puerto Octay	3.68	145	eP	Pn	18 16 14.5	-1.5
LL04				eS	Sn	18 16 51.5	-6.6
LL04				IAML		18 16 58.9	
	comp=N,3µm,0.2s						
LL04	Puerto Octay	3.68	145		Pn	18 16 14.4	-1.5
LL04				Sn	Sn	18 16 53.7	-4.4
LL05	Los Muermos	3.71	159		Pn	18 16 14.7	-1.8
ML02	Panimavida	3.74	56	eP	Pn	18 16 16.9	+0.1
ML02				iS	Sn	18 17 00.1	+0.5
ML02				IAML		18 17 06.7	
	comp=E,3µm,0.7s						
ML02	Panimavida	3.74	56		Pn	18 16 16.1	-0.7
LL03	Petrohue	3.87	147	eP	Pn	18 16 17.5	-1.1
LL03				iS	Sn	18 17 02.2	-0.4
LL03	Petrohue	3.87	147	Pn	Pn	18 16 17.2	-1.3
GO05	Huala	3.94	43	Pn	Pn	18 16 17.8	-1.8
BO03	Pichilemu	4.33	38	⇑iP	Pn	18 16 22.4	-2.4
BO03				eS	Sn	18 17 10.0	-4.0
PLCA	Paso Flores	4.57	129	Pn	Pn	18 16 27.4	-0.9
	comp=E,1.4nm,0.3s,baz=297,slow=11,SNR=8.1						
PLCA				Sn	Sn	18 17 24.3	+4.2
	comp=E,13nm,0.3s,baz=9.1,slow=22,SNR=9.9						
PLCA				LR	LR	18 18 26.9	
	comp=E,2µm,20.4s,baz=318,slow=41						
PLCA	Paso Flores	4.57	129	Pn	Pn	18 16 27.9	-0.4
PLCA	Paso Flores	4.57	129	eP	Pn	18 16 28.9	+0.7
BO02	Sierra Bellavi	4.76	50		Pn	18 16 29.6	-1.3
BO01	Tunca	4.87	45		Pn	18 16 30.9	-1.4
LL01	San Ignacio de	4.93	155	eP	Pn	18 16 32.1	-1.0
LL01				iS	Sn	18 17 24.3	-4.6
LL01	San Ignacio de	4.93	155		Pn	18 16 31.8	-1.3
H03S1	Juan Fernandez	5.07	323	T	T	18 21 43.4	
	baz=144,slow=71						
LL07	Hotel Espejo d	5.07	165	Pn	Pn	18 16 33.0	-2.0
H03S2	Juan Fernandez	5.08	323	T	T	18 21 39.4	
	baz=144,slow=71						
H03S3	Juan Fernandez	5.08	323	T	T	18 21 38.9	
	baz=144,slow=71						
VA05	Santo Domingo	5.18	35		Pn	18 16 34.4	-2.1
MT01	Popeta	5.18	40	eP	Pn	18 16 35.0	-1.6
MT01				eS	Sn	18 17 32.2	-3.0
MT01	Popeta	5.18	40	Pn	Pn	18 16 34.0	-2.7
VA04	Juan Fernndez	5.20	324	Pn	Pn	18 16 32.6	-4.2
GO07	Milladeo Hill,	5.30	168		Pn	18 16 36.2	-2.1
MT09	Talagante	5.39	41		Pn	18 16 37.8	-1.8
VA01	Torpederas	5.70	32	Pn	Pn	18 16 40.4	-3.3
MT05	Renca	5.82	40	⇓iP	Pn	18 16 43.8	-1.6
MT05				eS	Sn	18 17 50.1	-0.8
MT05	Renca	5.82	40	Pn	Pn	18 16 44.2	-1.2
LL02	Futaleuf	5.84	155		Pn	18 16 44.5	-1.2
ROCH	El Roble	6.03	36	eP	Pn	18 16 46.4	-2.0
VA03	San Esteban	6.42	38		Pn	18 16 51.7	-2.0
CO02	Combarbal	7.56	29		Pn	18 17 07.1	-2.4
CO06	Fray Jorge	7.83	23	Pn	Pn	18 17 09.3	-3.7
CO03	El Pedregal	8.01	29		Pn	18 17 13.7	-1.9
ZON	Zonda	8.34	42		Pn	18 17 18.9	-1.2
GO04	Tololo Observa	8.57	27		Pn	18 17 21.0	-2.3
CO05	La Serena	8.65	24	Pn	Pn	18 17 20.3	-4.0
LCO	Las Campanas	9.66	24	Pn	Pn	18 17 36.2	-2.3
AC04	Llanos de Chal	10.31	21	Pn	Pn	18 17 44.1	-2.9
TRQA	Tornquist	10.45	95		Pn	18 17 47.5	-1.4
TRQA	Tornquist	10.45	95	eP	Pn	18 17 49.6	+0.8
GO03	Copiap	11.13	24	Pn	Pn	18 17 55.0	-3.3
AC02	Maricunga	12.20	27		Pn	18 18 10.1	-3.3
LPA	La Plata	14.24	83	eP	Pn	18 18 33.6	-7.1
LPA				pP	P	18 18 43.7	-3.8
LPA				PPP	PPP	18 18 57.9	
LPA				S	Sn	18 21 19.0	+1.7
LPA				SS	S	18 21 34.0	-3.1
LPA				SSS	SSS	18 21 49.2	
LPA				SSS	SSS	18 22 33.0	
LPA				PCP	PcP	18 23 46.9	-10
LPA				SCS	ScS	18 31 08.2	+2.8
LPA				PKIKP		18 35 24.7	
LPA				SKIKS		18 38 51.8	
PB15	IPOC Station P	15.49	20		Pn	18 18 57.0	-0.6
PB06	IPOC Station P	15.94	19	Pn	Pn	18 19 03.5	+0.2
AF01	San Pedro de A	16.11	24		Pn	18 19 07.0	+1.2
AF01				IAmb	IAmb	18 19 19.4	
	comp=Z,58nm,0.8s						
PB04	IPOC Station P	16.15	17	P	P	18 19 09.2	+0.2
LVC	Limon Verde	16.21	21	Pn	Pn	18 19 05.9	-1.1
	comp=Z,0.3nm,0.3s,baz=190,slow=11,SNR=4.8						
LVC				LR	LR	18 25 18.6	
	comp=Z,143nm,18.0s,baz=212,slow=37						
LVC	Limon Verde	16.21	21	P	Pn	18 19 06.1	-1.0
LVC	Limon Verde	16.21	21	eP	Pn	18 19 08.1	+1.1
PB07	IPOC Station P	16.80	17	P	Pn	18 19 10.6	-3.7
PB09	IPOC Station P	16.89	19	P	Pn	18 19 13.6	-1.9
ITQB	Itaqui	17.49	67	P	Pn	18 19 20.1	-2.6
ITQB	Itaqui	17.49	67	eP	Pn	18 19 22.1	-0.6
PB01	IPOC Station P	17.55	18	P	Pn	18 19 22.8	-0.8
EFI	East Falkland	18.29	144	P	P	18 19 29.2	-3.0
PB08	IPOC Station P	18.50	18	P	P	18 19 34.9	-0.3
PB11	IPOC Station P	18.75	16	P	Pn	18 19 38.2	-0.1
PLTB	Pedras Altas	18.76	77	P	P	18 19 35.4	-2.2
PSGCX	Pisagua	18.80	15	P	P	18 19 38.4	+0.2
CPUP	Villa Florida	19.02	58	P	Pn	18 19 41.3	-0.1
	comp=Z,0.5nm,0.3s,baz=239,slow=11,SNR=10						
CPUP				LR	LR	18 27 50.2	
	comp=Z,437nm,18.6s,baz=236,slow=40						
CPUP	Villa Florida	19.02	58	P	P	18 19 39.5	-1.0
CPSB	Cacapava Do Su	19.49	74	eP	Pn	18 19 46.6	-0.5
CNLB	Canela	21.99	74	eP	P	18 20 13.7	+1.0
LPAZ	La Paz	22.45	18	P	P	18 20 18.4	+0.1
	comp=Z,18nm,1.0s,baz=167,slow=6.9,SNR=24						
LPAZ	La Paz	22.45	18	P	P	18 20 18.1	-0.2
LPAZ	La Paz	22.45	18	eP	P	18 20 19.7	+1.4
TER01	Tubaro-SC	23.68	74	eP	P	18 20 32.7	+2.7
PTGB	Pitanga	23.69	63	eP	P	18 20 31.8	+1.6
AQDB	Aquidauana	24.27	50	P	P	18 20 35.3	-0.2
AQDB				IAmb	IAmb	18 20 43.9	
	comp=Z,40nm,1.2s						
AQDB	Aquidauana	24.27	50	eP	P	18 20 36.7	+1.2
TRCB	Terra Rica	24.55	59	P	P	18 20 37.4	-0.8
TRCB	Terra Rica	24.55	59	eP	P	18 20 39.8	+1.6
SIV	San Ignacio	25.17	34	P	P	18 20 44.4	+0.6
	comp=Z,4.5nm,0.8s,baz=230,slow=7.8,SNR=20						
SIV				LR	LR	18 32 20.8	
	comp=Z,120nm,18.1s,baz=244,slow=41						
NNA	Nana	25.88	356	LR	LR	18 28 42.2	
	comp=Z,91nm,20.7s,baz=188,slow=31						
PCMB	Pacaembu	26.29	59	eP	P	18 20 54.0	+0.1
FRTB	Fartura	26.32	64	eP	P	18 20 57.5	+3.3
PTLB	Pontes e Lacer	26.53	37	eP	P	18 20 56.5	+0.5
PP1B	Ponte de Pedra	26.98	47	eP	P	18 21 00.6	+0.4
PMSA	Palmer Station	27.68	170	LR	LR	18 29 52.5	
	comp=Z,108nm,19.9s,baz=308,slow=32						
PMSA	Palmer Station	27.68	170	eP	P	18 21 10.6	+4.7
SALV	Santo Antonio	27.90	43	eP	P	18 21 09.4	+1.0
ITRB	Iturama	28.22	57	eP	P	18 21 13.6	+2.4
RCLB	Rio Claro- Sao	28.35	65	eP	P	18 21 14.9	+2.5
BB19B	Bebedouro	28.53	61	eP	P	18 21 14.3	+0.3
ETMB	Extrema	29.15	18	eP	P	18 21 20.2	+0.7
SAML	Samuel	30.84	24	P	P	18 21 34.8	+0.4
SAML	Samuel	30.84	24	eP	P	18 21 35.8	+1.4
BDFB	Brasilia	32.69	55	P	P	18 21 50.3	-0.6
	comp=Z,2.8nm,0.9s,baz=194,slow=8.9,SNR=2.5						
BDFB				LR	LR	18 34 37.5	
	comp=Z,334nm,20.7s,baz=222,slow=36						
BDFB	Brasilia	32.69	55	P	P	18 21 51.1	+0.3
BDFB				IAmb	IAmb	18 22 16.3	
	comp=Z,30nm,1.7s						
TBTG	Tabatinga, AM	33.94	10	eP	P	18 22 02.6	+1.0
ALF01	Guarapari-ES	34.43	70	eP	P	18 22 06.5	+0.7
MC01	Montes Claros	34.66	61	eP	P	18 22 08.3	+0.4
PEXB	Peixe	35.20	50	eP	P	18 22 13.3	+0.8
JANB	Januaria	35.56	59	eP	P	18 22 16.4	+0.7
NPGB	Novo Progresso	35.64	35	eP	P	18 22 16.7	+0.4
SDBA	SAO DESIDERIO	37.10	55	eP	P	18 22 29.6	+0.7
ITTB	Itaituba	37.85	33	eP	P	18 22 35.4	+0.3
OTAV	Otavalo	38.10	355	P	P	18 22 36.4	-1.3
OTAV	Otavalo	38.10	355	eP	P	18 22 39.1	+1.4
SMTB	Santa Maria do	38.19	48	eP	P	18 22 38.9	+0.9
CMC01	Camacan, BA	38.68	64	eP	P	18 22 43.4	+1.3
PTGA	Pitinga	39.60	24	P	P	18 22 49.1	-0.7
GDU01	Guandu, BA	39.76	62	eP	P	18 22 53.2	+2.1
NBPN	Ponto Novo - B	41.36	59	eP	P	18 23 05.1	+0.8
BOAV	Boa Vista	42.38	22	eP	P	18 23 13.3	+0.7
ROSC	El Rosal	42.57	1	LR	LR	18 40 19.8	
	comp=Z,68nm,18.5s,baz=147,slow=35						
NBLA	Lagarto - SE	42.90	61	eP	P	18 23 19.5	+2.6
MCPB	Macapa, AP	43.05	35	eP	P	18 23 19.0	+1.0
TMAB	Tom-Au,PA,Br	43.26	42	eP	P	18 23 21.5	+1.8
RUSC	La Rusia	43.65	3	P	P	18 23 23.3	-0.1
RUSC				IAmb	IAmb	18 23 25.8	
	comp=Z,28nm,1.1s						
NBMA	Muriti-CE	44.86	57	eP	P	18 23 33.9	+1.2
NBAN	Anadia - AL	44.88	61	eP	P	18 23 35.0	+2.1
ROSB	Rosrio	45.01	47	eP	P	18 23 35.4	+1.5
NBPS	Pedro II - PI	45.41	51	eP	P	18 23 39.4	+2.3
NBPB	Pedra_Branca-C	45.70	54	eP	P	18 23 41.0	+1.7
VNA3	Neumayer Olymp	46.75	156	P	P	18 23 47.9	+1.0
VNA3	Neumayer Olymp	46.75	156	PcP	PcP	18 25 20.0	+0.3
VNA1	Neumayer--Stat	47.12	155	P	P	18 23 51.0	+1.2
VNA1	Neumayer--Stat	47.12	155	PcP	PcP	18 25 21.5	+0.5
VNA2	Neumayer--Watz	47.44	156	P	P	18 23 53.2	+0.9
	baz=279,slow=8.2						
VNA2	Neumayer--Watz	47.44	156	PcP	PcP	18 25 22.4	+0.2
NBPV	Pedro Velho	47.89	59	eP	P	18 23 58.3	+1.9
RCBR	Riachuelo	47.90	58	eP	P	18 23 59.7	+3.1
SNAA	Sanae	48.97	156	P	P	18 24 04.8	+0.7
SNAA	Sanae	48.97	156	PcP	PcP	18 25 27.8	+0.1
SNAA	Sanae	48.97	156	P	P	18 24 04.7	+0.6
	comp=Z,17nm,0.9s,baz=268,slow=6.8,SNR=60						
SNAA				PcP	PcP	18 25 27.8	+0.1
	comp=Z,1.9nm,1.0s,baz=250,slow=5.5,SNR=5.4						
SNAA	Sanae	48.97	156	P	P	18 24 04.2	0.0
QSPA	South Pole Qui	52.30	180	P	P	18 24 29.9	+0.4
	comp=Z,17nm,0.8s,baz=144,slow=2.3,SNR=72						
QSPA				PcP	PcP	18 25 40.7	+0.4
	comp=Z,3.4nm,0.7s,baz=120,slow=3.1,SNR=2.1						
QSPA	South Pole Qui	52.30	180	P	P	18 24 29.4	-0.1
QSPA				IAmb	IAmb	18 24 31.1	
	comp=Z,20nm,0.8s						
SBA	Scott Base	58.69	193	P	P	18 25 16.0	+1.0
VNDA	Vanda	59.73	192	P	P	18 25 22.6	+0.4
	comp=Z,2.7nm,0.9s,baz=140,slow=5.7,SNR=13						
VNDA	Vanda	59.73	192	P	P	18 25 22.6	+0.4
SOR	Soroa	60.85	352	P	P	18 25 29.9	-0.5
SOR				IAmb	IAmb	18 25 33.2	
	comp=Z,11nm,1.0s						
TBI	Tubuai	63.99	260	eLR	LR	18 44 57.0	
	comp=Z,395nm,27.0s,baz=136						
TAOE	Nuku Hiva Isla	64.87	279	eLR	LR	18 45 24.3	
	comp=Z,398nm,25.7s						
PPT2	Papeete2	67.22	265	eLR	LR	18 46 27.0	
	comp=Z,354nm,26.8s						
PPT	Papeete	67.23	265	LR	LR	18 47 23.0	
	comp=Z,218nm,19.3s,baz=166,slow=29						
MAW	Mawson	70.12	164	P	P	18 26 30.2	+0.4
	comp=Z,6.5nm,0.7s,baz=201,slow=6.7,SNR=24						
MAW				LR	LR	18 55 44.7	
	comp=Z,49nm,19.4s,baz=239,slow=35						
MAW	Mawson	70.12	164	P	P	18 26 29.4	-0.4
GOGA	Godfrey	71.40	353	P	P	18 26 36.9	-1.0
GOGA				IAmb	IAmb	18 26 39.0	
	comp=Z,17nm,1.5s						
GOGA	Godfrey	71.40	353	P	P	18 26 38.3	+0.3
	baz=173						
LRAL	Lakeview Retre	71.46	350	IAmb	IAmb	18 26 39.8	
	comp=Z,14nm,1.2s						
LRAL	Lakeview Retre	71.46	350	P	P	18 26 38.9	+0.7
	baz=170						
Z47A	Carrollton	71.78	349	P	P	18 26 39.1	-1.1
JCT	Junction City	71.84	338	IAmb	IAmb	18 26 42.5	
	comp=Z,21nm,1.3s						
JCT	Junction City	71.84	338	P	P	18 26 41.9	+1.2
	baz=160						
Y52A	Lilburn	71.91	352	IAmb	IAmb	18 26 42.2	
	comp=Z,11nm,1.1s						
TX31	Lajitas Ar. Si	72.03	334	P	P	18 26 41.2	-0.7
TXAR	Lajitas Array	72.03	334	P	P	18 26 42.7	+0.8
	comp=Z,4.1nm,0.7s,baz=153,slow=8.6,SNR=52						
TXAR				LR	LR	18 54 40.9	
	comp=Z,33nm,18.6s,baz=0.0,slow=33						
TXAR	Lajitas Array	72.03	334	P	P	18 26 41.2	-0.7
PAULI	Pauline	72.65	354	IAmb	IAmb	18 26 46.1	
	comp=Z,9.6nm,0.9s						
X51A	Calhoun	72.69	352	IAmb	IAmb	18 26 46.6	
	comp=Z,15nm,0.9s						
FPAL	Fort Paine	72.76	351	IAmb	IAmb	18 26 49.1	
	comp=Z,8.8nm,1.1s						
X48A	Hartselle	72.86	350	P	P	18 26 45.3	-1.3
X48A				IAmb	IAmb	18 26 48.2	
	comp=Z,16nm,1.1s						
BG3	Lake Jocassee	72.92	353	IAmb	IAmb	18 26 48.5	
	comp=Z,24nm,1.5s						
KMSC	Kings Mountain	72.93	355	P	P	18 26 47.6	+0.5
	baz=175						
W52A	Murphy	73.11	353	IAmb	IAmb	18 26 49.1	
	comp=Z,14nm,1.0s						
SWET	Sewanee	73.46	351	P	P	18 26 49.7	-0.5
CPCT	Cooper Cave	73.53	352	IAmb	IAmb	18 26 51.3	
	comp=Z,11nm,0.8s						
V53A	Saluda	73.58	354	P	P	18 26 50.1	-0.8
V53A				IAmb	IAmb	18 26 52.0	
	comp=Z,27nm,1.4s						
V55A	Taylorsville	73.63	355	IAmb	IAmb	18 26 52.2	
	comp=Z,14nm,0.8s						
TKL	Tuckaleechee C	73.66	353	IAmb	IAmb	18 26 52.1	
	comp=Z,19nm,1.2s						
ABTX	Abilene, Hawle	73.80	339	P	P	18 26 51.3	-1.0
ABTX				IAmb	IAmb	18 26 53.8	
	comp=Z,13nm,1.0s						
ABTX	Abilene, Hawle	73.80	339	P	P	18 26 52.8	+0.5
	baz=160						
V52A	Sevierville	73.82	353	IAmb	IAmb	18 26 52.6	
	comp=Z,9.8nm,0.9s						
V51A	Loudon	73.86	352	IAmb	IAmb	18 26 53.4	
	comp=Z,17nm,1.4s						
MIAR	Mount Ida	74.11	344	P	P	18 26 54.5	+0.5
	baz=165						
U54A	Nelsons Funny	74.34	354	IAmb	IAmb	18 26 58.1	
	comp=Z,11nm,0.8s						
CLTN	Cedars of Leba	74.38	351	P	P	18 26 55.5	0.0
CLTN				IAmb	IAmb	18 26 58.0	
	comp=Z,19nm,1.1s						
W41B	Gary Mavity, V	74.44	346	P	P	18 26 56.8	+1.0
	baz=166						
TZTN	Tazewell	74.51	353	IAmb	IAmb	18 26 57.4	
	comp=Z,30nm,1.5s						
TZTN	Tazewell	74.51	353	P	P	18 26 56.4	+0.1
	baz=173						
WHAR	Wooly Hollow	74.56	346	IAmb	IAmb	18 26 58.0	
	comp=Z,18nm,0.9s						
WVT	Waverly	74.62	349	P	P	18 26 56.5	-0.5
WVT				IAmb	IAmb	18 26 57.9	
	comp=Z,16nm,1.2s						
WVT	Waverly	74.62	349	P	P	18 26 57.1	+0.2
	baz=170						
U49A	Red Boiling Sp	74.72	351	IAmb	IAmb	18 26 58.8	
	comp=Z,20nm,1.6s						
W39A	Magazine	74.78	344	IAmb	IAmb	18 26 59.8	
	comp=Z,22nm,1.1s						
W39A	Magazine	74.78	344	P	P	18 26 59.0	+1.1
	baz=165						
MNTX	Cornudas Mount	74.78	334	P	P	18 26 58.0	0.0
	baz=156						
LCAR	Lake Charles	75.10	347	P	P	18 26 59.2	-0.5
LCAR				IAmb	IAmb	18 27 00.6	
	comp=Z,14nm,0.8s						
FCAR	Ozark Folk Cen	75.11	346	IAmb	IAmb	18 27 02.5	
	comp=Z,11nm,0.9s						
T47A	Sharon Grove	75.36	350	IAmb	IAmb	18 27 01.9	
	comp=Z,23nm,1.3s						
S57A	Dark Hollow, R	75.40	357	IAmb	IAmb	18 27 05.6	
	comp=Z,7.7nm,0.8s						
WMOK	Wichita Mounta	75.55	340	P	P	18 27 03.1	+0.7
	baz=161						
S51A	Beattyville	75.60	353	IAmb	IAmb	18 27 03.5	
	comp=Z,9.0nm,0.8s						
PBMO	Poplar Bluff	75.67	347	IAmb	IAmb	18 27 03.8	
	comp=Z,14nm,1.0s						
U40A	Yellville	75.71	345	IAmb	IAmb	18 27 04.2	
	comp=Z,9.7nm,0.9s						
U40A	Yellville	75.71	345	P	P	18 27 03.4	+0.3
	baz=166						
HHAR	Hobbs	75.86	344	IAmb	IAmb	18 27 05.1	
	comp=Z,9.2nm,1.0s						
TUL1	Leonard	75.91	343	P	P	18 27 04.9	+0.5
	baz=164						
MSTX	Muleshoe	75.99	337	P	P	18 27 06.4	+1.4
	baz=158						
CASY	Casey	76.02	182	P	P	18 27 04.6	-0.1
CASY				IAmb	IAmb	18 27 06.3	
	comp=Z,14nm,0.8s						
MGMO	Mountain Grove	76.36	346	IAmb	IAmb	18 27 09.8	
	comp=Z,8.4nm,0.9s						
121A	Cookes Peak, D	76.40	332	P	P	18 27 09.2	+1.8
	baz=154						
R49A	Shelbyville	76.41	352	P	P	18 27 06.8	-0.4
AMTX	Amarillo	76.51	338	IAmb	IAmb	18 27 09.6	
	comp=Z,13nm,1.0s						
AMTX	Amarillo	76.51	338	P	P	18 27 08.8	+1.0
	baz=159						
Q52A	Bidwell	76.80	354	IAmb	IAmb	18 27 10.3	
	comp=Z,16nm,0.8s						
CCM	Cathedral Cave	77.05	347	P	P	18 27 10.1	-0.7
CCM	Cathedral Cave	77.05	347	P	P	18 27 11.4	+0.6
	baz=167						
S39A	Bolivar	77.09	345	IAmb	IAmb	18 27 13.9	
	comp=Z,11nm,0.9s						
P53A	Whipple	77.26	355	IAmb	IAmb	18 27 14.8	
	comp=Z,9.0nm,0.8s						
TUC	Tucson	77.35	330	P	P	18 27 13.2	+0.5
TUC	Tucson	77.35	330	P	P	18 27 14.5	+1.8
	baz=152						
P52A	Corning	77.46	355	P	P	18 27 12.4	-0.6
P52A	Corning	77.46	355	P	P	18 27 13.4	+0.4
	baz=174						
R40A	Maddies Statio	77.47	346	IAmb	IAmb	18 27 15.3	
	comp=Z,9.5nm,1.1s						
P49A	Miami Univ. Ec	77.59	352	P	P	18 27 13.5	-0.3
	baz=172						
214A	Organ Pipe Nat	77.87	328	IAmb	IAmb	18 27 17.8	
	comp=Z,8.6nm,0.9s						
ANMO	Albuquerque	78.10	334	P	P	18 27 16.6	-0.3
ANMO				IAmb	IAmb	18 27 21.2	
	comp=Z,8.4nm,1.0s						
ANMO	Albuquerque	78.10	334	P	P	18 27 18.6	+1.6
	baz=155						
ACSO	Alum Creek Sta	78.12	354	P	P	18 27 17.0	+0.4
	baz=174						
SSPA	Standing Stone	78.23	358	P	P	18 27 18.1	+0.8
	baz=178						
LIC	Lamto	78.43	73	eP	P	18 27 19.6	+0.5
	comp=Z,33nm,0.9s						
N53A	Lisbon	78.54	356	IAmb	IAmb	18 27 20.7	
	comp=Z,23nm,1.1s						
P40A	Paris	78.63	347	P	P	18 27 19.1	-0.4
N54A	Moraine State	78.64	356	IAmb	IAmb	18 27 20.2	
	comp=Z,13nm,0.9s						
N54A	Moraine State	78.64	356	P	P	18 27 20.0	+0.4
	baz=176						
O44A	Mansfield	78.66	350	IAmb	IAmb	18 27 20.1	
	comp=Z,17nm,0.8s						
TIC	Toumodi	78.71	72	eP	P	18 27 22.4	+1.8
KIC	Kosan Boka	78.74	73	eP	P	18 27 22.5	+1.7
	comp=Z,15nm,0.6s						
DBIC	Dimbokro	78.85	72	P	P	18 27 22.3	+0.9
	comp=Z,9.6nm,0.8s,baz=216,slow=2.1,SNR=8.9						
DBIC				LR	LR	19 00 55.2	
	comp=Z,43nm,18.1s,baz=216,slow=35						
DBIC	Dimbokro	78.85	72	P	P	18 27 21.1	-0.2
DBIC				IAmb	IAmb	18 27 25.2	

	comp=Z,30nm,1.4s						
N49A	**Columbus Grove**	**78.91**	**353**	IAmb	IAmb	18 27 21.8	
	comp=Z,20nm,0.9s						
P38A	**Dawn**	**79.00**	**346**	P	**P**	**18 27 21.1**	**-0.4**
P38A				IAmb	IAmb	18 27 21.9	
	comp=Z,13nm,0.7s						
M54A	**Oil Creek Stat**	**79.17**	**357**	P	**P**	**18 27 22.6**	**+0.1**
	baz=176						
HDIL	**Hopedale**	**79.17**	**349**	P	**P**	**18 27 22.3**	**-0.1**
	baz=169						
T25A	**Trinidad**	**79.43**	**337**	IAmb	IAmb	18 27 26.9	
	comp=Z,26nm,1.4s						
T25A	**Trinidad**	**79.43**	**337**	P	**P**	**18 27 26.1**	**+1.9**
	baz=157						
Y14A	**Wickenburg**	**79.67**	**329**	P	**P**	**18 27 25.1**	**-0.4**
L56A	**Greenwood**	**79.72**	**358**	IAmb	IAmb	18 27 28.9	
	comp=Z,22nm,1.1s						
N38A	**Joes South For**	**80.07**	**346**	P	**P**	**18 27 27.4**	**+0.1**
SDCO	**Great Sand Dun**	**80.33**	**336**	P	**P**	**18 27 30.6**	**+1.5**
	baz=156						
WUAZ	**Wupatki**	**80.41**	**331**	IAmb	IAmb	18 27 32.4	
	comp=Z,12nm,1.1s						
WUAZ	**Wupatki**	**80.41**	**331**	P	**P**	**18 27 31.5**	**+2.0**
	baz=152						
BC3	**Big Chuckawall**	**80.46**	**327**	P	**P**	**18 27 31.7**	**+2.0**
	baz=149						
BOSA	**Boshof**	**80.48**	**119**	P	**P**	**18 27 30.2**	**0.0**
	comp=Z,5.9nm,0.8s,baz=228,slow=5.8,SNR=10.0						
BOSA				LR	LR	19 00 50.5	
	comp=Z,57nm,19.9s,baz=200,slow=34						
BOSA	**Boshof**	**80.48**	**119**	P	**P**	**18 27 30.8**	**+0.5**
BOSA				IAmb	IAmb	18 27 33.6	
	comp=Z,14nm,1.2s						
L42A	**Oliver, Polo**	**80.65**	**349**	IAmb	IAmb	18 27 31.1	
	comp=Z,14nm,0.8s						
S22A	**4UR Ranch, Cre**	**80.76**	**335**	P	**P**	**18 27 33.3**	**+1.8**
	baz=155						
MVCO	**Mesa Verde**	**80.85**	**334**	P	**P**	**18 27 33.6**	**+1.6**
	baz=154						
TPFO	**Pinon Flats**	**80.86**	**326**	P	**P**	**18 27 33.8**	**+1.9**
	baz=148						
PFO	**Pinyon Flats O**	**80.86**	**326**	P	**P**	**18 27 31.3**	**-0.6**
PFO				IAmb	IAmb	18 27 34.9	
	comp=Z,13nm,1.1s						
PFO	**Pinyon Flats O**	**80.86**	**326**	P	**P**	**18 27 34.1**	**+2.1**
	baz=148						
L40A	**Anamosa**	**80.95**	**348**	IAmb	IAmb	18 27 32.7	
	comp=Z,20nm,1.1s						
Q24A	**Divide**	**81.33**	**337**	P	**P**	**18 27 36.1**	**+1.6**
	baz=157						
I60A	**Shoreham**	**81.42**	**1**	P	**P**	**18 27 35.7**	**+1.3**
	baz=182						
GMRC	**Granite Mounta**	**81.51**	**327**	P	**P**	**18 27 37.7**	**+2.3**
	baz=149						
JFWS	**Jewell Farm**	**81.63**	**349**	IAmb	IAmb	18 27 37.9	
	comp=Z,12nm,0.8s						
JFWS	**Jewell Farm**	**81.63**	**349**	P	**P**	**18 27 36.1**	**+0.5**
	baz=168						
PV13	**Radium Mtn., P**	**81.81**	**334**	P	**P**	**18 27 37.7**	**+0.7**
BFSC	**Mount Baldy Ra**	**81.92**	**326**	P	**P**	**18 27 39.6**	**+2.1**
	baz=148						
PV04	**Paradox Valley**	**82.05**	**334**	IAmb	IAmb	18 27 40.7	
	comp=Z,16nm,1.4s						
DELO	**Deloro Mine**	**82.11**	**358**	IAmb	IAmb	18 27 41.2	
	comp=Z,12nm,1.0s						
SMCO	**Snowmass**	**82.11**	**336**	P	**P**	**18 27 39.0**	**+0.2**
SMCO				IAmb	IAmb	18 27 43.3	
	comp=Z,18nm,1.2s						
LONY	**Lake Ozonia**	**82.18**	**0**	P	**P**	**18 27 38.6**	**+0.2**
LONY	**Lake Ozonia**	**82.18**	**0**	P	**P**	**18 27 39.6**	**+1.1**
	baz=181						
TUQ	**Turquoise Moun**	**82.18**	**327**	P	**P**	**18 27 41.2**	**+2.3**
	baz=149						
ISCO	**Idaho Springs**	**82.24**	**337**	P	**P**	**18 27 38.4**	**-0.9**
ISCO	**Idaho Springs**	**82.24**	**337**	P	**P**	**18 27 40.8**	**+1.5**
	baz=156						
KNB	**Kanab**	**82.28**	**330**	IAmb	IAmb	18 27 44.1	
	comp=Z,12nm,0.9s						
SADO	**Sadowa**	**82.41**	**357**	IAmb	IAmb	18 27 42.6	
	comp=Z,14nm,0.8s						
FRNY	**Flat Rock**	**82.41**	**1**	P	**P**	**18 27 38.5**	**-1.1**
FRNY				IAmb	IAmb	18 27 41.4	
	comp=Z,13nm,0.9s						
GSC	**Goldstone, Bar**	**82.45**	**327**	P	**P**	**18 27 42.1**	**+1.9**
	baz=148						
EDW2	**Edwards Air Fo**	**82.61**	**326**	P	**P**	**18 27 42.8**	**+1.7**
	baz=147						
PLVO	**Plevna**	**82.61**	**359**	IAmb	IAmb	18 27 44.2	
	comp=Z,11nm,0.8s						
SHPR	**Sheep Range**	**82.78**	**329**	IAmb	IAmb	18 27 45.1	
	comp=Z,19nm,1.6s						
G62A	**West of Eustis**	**82.89**	**3**	P	**P**	**18 27 43.5**	**+1.4**
	baz=184						
LBTB	**Lobatse**	**82.94**	**116**	P	**P**	**18 27 42.2**	**-1.1**
CCUT	**Cedar City**	**82.96**	**330**	IAmb	IAmb	18 27 45.7	
	comp=Z,6.8nm,0.9s						
K31A	**O'Neill**	**83.00**	**343**	P	**P**	**18 27 42.4**	**-0.4**
Q16A	**Castle Valley**	**83.33**	**333**	IAmb	IAmb	18 27 47.5	
	comp=Z,20nm,1.5s						
N23A	**Red Feather La**	**83.34**	**337**	P	**P**	**18 27 46.7**	**+1.7**
	baz=156						
MPMC	**Manual Prospec**	**83.38**	**327**	P	**P**	**18 27 46.8**	**+1.6**
	baz=148						
O20A	**White River Ci**	**83.39**	**335**	P	**P**	**18 27 46.8**	**+1.6**
	baz=154						
PKM	**Mcpherson Peak**	**83.44**	**324**	P	**P**	**18 27 47.5**	**+2.0**
	baz=146						
ISA	**Isabella, Lake**	**83.48**	**326**	IAmb	IAmb	18 27 48.5	
	comp=Z,7.5nm,0.8s						
ISA	**Isabella, Lake**	**83.48**	**326**	P	**P**	**18 27 47.9**	**+2.3**
	baz=147						
PRN	**Pahroc Range**	**83.50**	**329**	IAmb	IAmb	18 27 50.7	
	comp=Z,8.4nm,1.0s						
ECSD	**EROS Data Cent**	**83.58**	**345**	P	**P**	**18 27 45.5**	**-0.3**
ECSD	**EROS Data Cent**	**83.58**	**345**	P	**P**	**18 27 46.4**	**+0.7**
	baz=163						
F62A	**Pittston Farm,**	**83.59**	**4**	P	**P**	**18 27 47.4**	**+1.7**
	baz=184						
P17A	**Butcher Ranch,**	**83.66**	**333**	IAmb	IAmb	18 27 48.7	
	comp=Z,14nm,1.3s						
TMUT	**Trail Mountain**	**83.67**	**333**	IAmb	IAmb	18 28 03.2	
	comp=Z,4.8nm,0.8s						
G40A	**Rib Lake**	**83.92**	**349**	IAmb	IAmb	18 27 50.4	
	comp=Z,6.1nm,0.8s						
CWC	**Cottonwood Cre**	**83.96**	**327**	P	**P**	**18 27 50.0**	**+1.9**
	baz=147						
PSUT	**Pine Spring**	**84.00**	**330**	IAmb	IAmb	18 27 59.8	
	comp=Z,5.7nm,0.9s						
E63A	**Oxbow**	**84.20**	**5**	P	**P**	**18 27 50.3**	**+1.5**
	baz=185						
RDMU	**Red Mountain**	**84.23**	**334**	P	**P**	**18 27 49.6**	**+0.2**
RDMU				IAmb	IAmb	18 27 51.4	
	comp=Z,12nm,0.9s						
SPMN	**Marine on St.**	**84.29**	**348**	P	**P**	**18 27 49.8**	**+0.4**
	baz=166						
E62A	**Clayton Lake**	**84.33**	**4**	P	**P**	**18 27 51.1**	**+1.6**
	baz=185						
MPU	**Maple Canyon**	**84.46**	**333**	IAmb	IAmb	18 27 54.8	
	comp=Z,7.1nm,0.9s						
R11A	**Troy Canyon, C**	**84.53**	**329**	P	**P**	**18 27 53.0**	**+2.1**
	baz=149						
NLU	**North Lily Min**	**84.57**	**332**	P	**P**	**18 27 51.4**	**+0.2**
NLU				IAmb	IAmb	18 27 54.0	
	comp=Z,20nm,1.6s						
KOWA	**Kowa**	**84.58**	**67**	P	**P**	**18 27 51.7**	**+0.2**
KOWA				IAmb	IAmb	18 27 55.3	
	comp=Z,11nm,0.8s						
SPR3	**Spring Creek 3**	**84.59**	**330**	IAmb	IAmb	18 27 53.8	
	comp=Z,15nm,1.2s						
D62A	**Allapoint, All**	**84.82**	**4**	P	**P**	**18 27 52.3**	**+0.3**
D62A	**Allapoint, All**	**84.82**	**4**	P	**P**	**18 27 53.1**	**+1.2**
	baz=185						
DUG	**Dugway, Tooele**	**85.05**	**332**	P	**P**	**18 27 55.3**	**+1.8**
	baz=151						
K22A	**Casper**	**85.12**	**337**	P	**P**	**18 27 55.1**	**+1.3**
	baz=156						
F33A	**5 Mile Ranch,**	**85.53**	**345**	IAmb	IAmb	18 27 58.2	
	comp=Z,8.3nm,0.8s						
LHV	**Little Huntoon**	**85.66**	**327**	IAmb	IAmb	18 27 59.1	
	comp=Z,6.1nm,1.0s						
NVAR	**Mina Array Bea**	**85.72**	**327**	P	**P**	**18 27 57.7**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=154,slow=5.8,SNR=12						
NVAR				LR	LR	19 00 54.7	
	comp=Z,33nm,18.2s,baz=296,slow=32						
RSSD	**Black Hills**	**85.75**	**340**	P	**P**	**18 27 55.8**	**-1.1**
RSSD				IAmb	IAmb	18 27 58.3	
	comp=Z,7.0nm,0.9s						
RSSD	**Black Hills**	**85.75**	**340**	P	**P**	**18 27 57.7**	**+0.8**
	baz=158						
RYN	**Ryan**	**85.98**	**327**	IAmb	IAmb	18 28 01.2	
	comp=Z,15nm,1.6s						
KVN	**Kaiserville**	**86.16**	**328**	P	**P**	**18 27 58.6**	**-0.5**
KVN				IAmb	IAmb	18 28 01.4	
	comp=Z,10nm,1.5s						
PD31	**Pinedale Array**	**86.19**	**335**	IAmb	IAmb	18 28 02.1	
	comp=Z,7.0nm,1.1s						
PDAR	**Pinedale Array**	**86.19**	**335**	P	**P**	**18 27 59.1**	**0.0**
	comp=Z,7.1nm,1.0s,baz=145,slow=5.4,SNR=24						
PDAR				LR	LR	18 59 56.2	
	comp=Z,35nm,21.7s,baz=186,slow=31						
HVU	**Hansel Valley**	**86.42**	**333**	IAmb	IAmb	18 28 01.6	
	comp=Z,8.1nm,0.9s						
AHID	**Auburn Hatcher**	**86.70**	**334**	P	**P**	**18 28 01.3**	**-0.4**
AHID				IAmb	IAmb	18 28 03.6	
	comp=Z,20nm,1.5s						
PNTR	**Pine Nut**	**86.83**	**327**	IAmb	IAmb	18 28 07.2	
	comp=Z,7.5nm,0.8s						
REDW	**Red Top Meadow**	**87.15**	**335**	IAmb	IAmb	18 28 21.6	
	comp=Z,8.1nm,1.0s						
LOHW	**Long Hollow**	**87.28**	**335**	IAmb	IAmb	18 28 08.1	
	comp=Z,5.5nm,0.8s						
TPAW	**Teton Pass**	**87.29**	**335**	P	**P**	**18 28 04.2**	**-0.4**
TPAW				IAmb	IAmb	18 28 05.5	
	comp=Z,11nm,1.1s						
FXWY	**Fox Creek**	**87.45**	**335**	IAmb	IAmb	18 28 09.7	
	comp=Z,18nm,1.6s						
IMW	**Indian Meadow**	**87.65**	**335**	IAmb	IAmb	18 28 08.3	
	comp=Z,13nm,1.2s						
AGMN	**Agassiz Nation**	**87.80**	**346**	P	**P**	**18 28 07.2**	**+0.6**
	baz=164						
BEKR	**Beckworth**	**87.80**	**327**	P	**P**	**18 28 07.4**	**+0.4**
TORD	**Torodi Ar. Bea**	**87.93**	**72**	P	**P**	**18 28 07.6**	**-0.4**
	comp=Z,3.1nm,0.9s,baz=225,slow=4.3,SNR=10.0						
TORD				LR	LR	19 06 20.2	
	comp=Z,50nm,18.3s,baz=230,slow=35						
TORD	**Torodi Ar. Bea**	**87.93**	**72**	P	**P**	**18 28 07.1**	**-0.9**
RLMT	**Red Lodge**	**88.20**	**337**	IAmb	IAmb	18 28 10.6	
	comp=Z,6.5nm,0.8s						
RLMT	**Red Lodge**	**88.20**	**337**	P	**P**	**18 28 09.9**	**+1.1**
	baz=154						
YHH	**Holmes Hill**	**88.41**	**335**	P	**P**	**18 28 10.4**	**+0.4**
YHH				IAmb	IAmb	18 28 12.3	
	comp=Z,8.9nm,0.9s						
HLID	**Hailey**	**88.57**	**333**	IAmb	IAmb	18 28 12.7	
	comp=Z,4.6nm,0.8s						
HLID	**Hailey**	**88.57**	**333**	P	**P**	**18 28 12.6**	**+2.0**
	baz=150						
MFID	**Camas Ranch**	**88.96**	**332**	IAmb	IAmb	18 28 14.0	
	comp=Z,5.5nm,1.0s						
BOZ	**Bozeman (W)**	**89.38**	**335**	P	**P**	**18 28 15.1**	**+0.8**
	baz=152						
DLMT	**Dillon**	**89.50**	**335**	IAmb	IAmb	18 28 17.6	
	comp=Z,22nm,1.6s						
ULM	**Lac du Bonnet**	**89.68**	**347**	P	**P**	**18 28 14.2**	**-1.1**
	comp=Z,6.7nm,0.7s,baz=176,slow=3.4,SNR=9.8						
ULM	**Lac du Bonnet**	**89.68**	**347**	IAmb	IAmb	18 28 16.4	
	comp=Z,10nm,0.8s						
MSO	**Missoula**	**91.24**	**335**	IAmb	IAmb	18 28 25.4	
	comp=Z,11nm,1.5s						
G08A	**Pilot Rock**	**91.75**	**331**	P	**P**	**18 28 24.0**	**-1.3**
G08A				IAmb	IAmb	18 28 27.1	
	comp=Z,7.1nm,1.5s						
WALA	**Waterton Lakes**	**93.17**	**336**	IAmb	IAmb	18 28 33.4	
	comp=Z,8.9nm,0.9s						
WRA	**Warramunga Arr**	**116.07**	**211**	PKP	**PKiKP**	**18 34 00.1**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=179,slow=2.1,SNR=6.3						
ILAR	**Eielson Array**	**116.53**	**333**	PKP	**PKPdf**	**18 33 59.5**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=157,slow=1.3,SNR=5.3						
GERES	**GERESS Array B**	**116.73**	**48**	PKP	**PKPdf**	**18 34 01.4**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=219,slow=1.7,SNR=6.3						
NOA	**NORSAR Array B**	**120.72**	**34**	PKP	**PKPdf**	**18 34 08.9**	**0.0**
	comp=Z,0.7nm,0.7s,baz=248,slow=2.3,SNR=1.5						
HFS	**Hagfors**	**121.50**	**36**	PKP	**PKPdf**	**18 34 09.7**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=163,slow=7.5,SNR=1.8						
MLR	**Muntele Rosu**	**122.87**	**55**	PKP	**PKPdf**	**18 34 13.2**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=246,slow=9.6,SNR=3.6						
MMAI	**Mount Meron Ar**	**124.47**	**73**	PKP	**PKPdf**	**18 34 16.6**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=48,slow=2.1,SNR=1.9						
BRTR	**Keskin Array B**	**125.93**	**64**	PKP	**PKPdf**	**18 34 19.4**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=148,slow=2.8,SNR=8.3						
AKASG	**Malin Array Be**	**126.72**	**50**	PKP	**PKPdf**	**18 34 20.1**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=251,slow=3.3,SNR=4.3						
PETK	**Petropavlovsk-**	**140.89**	**310**	PKP	**PKPdf**	**18 34 46.2**	**-0.9**
	comp=Z,4.0nm,0.9s,baz=118,slow=1.5,SNR=4.8						
SEY	**Seymchan**	**142.03**	**327**	PKP	**PKPdf**	**18 34 47.5**	**-1.4**
	comp=Z,2.5nm,1.0s,baz=0.0,slow=9.1,SNR=2.5						
GEYT	**Alibeck**	**143.50**	**75**	PKP	PKPbc	18 34 50.2	+0.4
	comp=Z,29nm,0.8s,baz=236,slow=11,SNR=5.2						
ARU	**Arti**	**144.39**	**44**	PKP	PKPbc	18 34 52.5	+0.7
	comp=Z,1.8nm,0.6s,baz=343,slow=3.2,SNR=12						
AKTO	**Aktyubinsk**	**144.79**	**54**	PKP	PKPbc	18 34 53.2	0.0
	comp=Z,6.1nm,0.9s,baz=269,slow=3.3,SNR=15						
NRIK	**Noril'sk**	**147.18**	**11**	PKPbc	**PKPbc**	**18 34 60.0**	**0.0**
	comp=Z,5.9nm,0.7s,baz=334,slow=3.1,SNR=5.9						
HYB	**Hyderabad**	**149.23**	**124**	*i* PKP	**PKPbc**	**18 35 06.0**	**-0.9**
ASAJ	**Asahikawa**	**151.00**	**294**	PKPbc	**PKPbc**	**18 35 10.4**	**+0.1**
	comp=Z,14nm,0.9s,baz=192,slow=3.2,SNR=14						
YAK	**Yakutsk**	**151.41**	**336**	PKPbc	**PKPbc**	**18 35 10.7**	**0.0**
	comp=Z,28nm,0.6s,baz=118,slow=0.2,SNR=42						
BVAR	**Borovoye Array**	**151.88**	**46**	PKPbc	**PKiKP**	**18 35 13.1**	**+0.6**
	comp=Z,5.0nm,0.5s,baz=258,slow=7.4,SNR=39						
MJAR	**Matsushiro Arr**	**153.43**	**277**	PKPbc	**PKPbc**	**18 35 15.5**	**-0.6**
	comp=Z,2.3nm,1.2s,baz=137,slow=5.1,SNR=3.7						
MJAR				PKPab	**PKPab**	**18 35 28.6**	**+0.2**
	comp=Z,3.3nm,0.8s,baz=132,slow=3.0,SNR=6.5						
KURBB	**Kurchatov Arra**	**157.46**	**47**	PKP	**PKPdf**	**18 35 14.0**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=313,slow=2.2,SNR=5.6						
KURBB				PKPab	**PKPab**	**18 35 45.4**	**+0.1**
	comp=Z,1.1nm,0.9s,baz=293,slow=4.9,SNR=5.4						
KURK	**Kurchatov**	**157.48**	**47**		**PKPab**	**18 35 45.4**	**+0.1**
ZALV	**Zalesovo Beam**	**158.92**	**34**	PKP	**PKPdf**	**18 35 13.8**	**-1.3**
	comp=Z,2.2nm,1.0s,baz=143,slow=3.2,SNR=5.9						
ZALV				PKPab	**PKPab**	**18 35 52.6**	**+1.2**
	comp=Z,3.6nm,0.6s,baz=296,slow=5.2,SNR=13						
ZALV	**Zalesovo Beam**	**158.92**	**34**	PKPdf	**PKPdf**	**18 35 14.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**159.93**	**164**	PKPab	**PKPab**	**18 35 56.4**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=237,slow=6.6,SNR=5.4						
MKAR	**Makanchi Array**	**161.22**	**55**	PKP	**PKPdf**	**18 35 18.2**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=280,slow=2.2,SNR=5.9						
MKAR				PKPab	**PKPab**	**18 36 01.7**	**-0.1**
	comp=Z,1.4nm,0.9s,baz=275,slow=1.6,SNR=5.4						
KSRS	**Korea Array**	**161.69**	**276**	PKPab	**PKPab**	**18 36 04.3**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=90,slow=5.0,SNR=6.4						
WMQ	**Urumqi**	**165.81**	**60**	*e*P	**PKPdf**	**18 35 21.4**	**-1.0**
NJ2	**Nanjing**	**167.06**	**247**	*e*P	**PKPdf**	**18 35 22.8**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SONM	**Songino Array**	**170.04**	**354**	PKP	**PKPdf**	**18 35 24.8**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=145,slow=3.5,SNR=2.5						
SONM				PKPab	**PKPab**	**18 36 40.6**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=20,slow=4.9,SNR=6.4						
HHC	**Hu-ho-hao-te**	**174.00**	**301**	*e*P	**PKPdf**	**18 35 22.8**	**-4.5**
GTA	**Gaotai**	**175.84**	**68**	PKPbc	**PKPdf**	**18 35 28.7**	**+0.8**

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*IDC **05** 18:18:37.0±1.4, 17.°34S×176.°22E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/34, mbtmp4.0/4, MS3.6/2, Ms1 3.6/2, ms1mx2.8/36, Error ellipse: s-maj=57.0km s-min=19.5km az=3.0*

*NEIC **05** 18:18:38.8±2.2, 17.°6S±0.°3×176.°26E±0.°10, h6km±5km, mb4.1/5, Error ellipse: s-maj=42.5km s-min=13.2km az=182.0*

ISC 05 18:18:38.5±1.3**, 17.°3S**±0.°4×**176.°26E**±0.°09**, h10**km**, n12, σ0.s95**/12**, mb4.0**/6**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.76**	**104**	Pn	**Pn**	**18 19 08.7**	**-0.4**
	29nm,0.3s,baz=282,slow=16,SNR=78						
MSVF				Sn	**Sg**	**18 19 35.5**	**+0.4**
	88nm,0.3s,baz=105,slow=23,SNR=6.5						
MSVF				LR	LR	18 19 53.1	
	comp=Z,279nm,21.7s,baz=320,slow=42						
MSVF	**Nonsavu**	**1.76**	**104**		**Pn**	**18 19 08.1**	**-1.1**
MSVF				Sn	**Sb**	**18 19 33.7**	**+0.6**
DZM	**Mont Dzumac**	**10.38**	**241**	LR	LR	18 24 25.3	
	comp=Z,172nm,18.0s,baz=326,slow=34						
STKA	**Stephens Creek**	**34.52**	**239**	P	**P**	**18 25 28.1**	**+0.9**
	3.2nm,0.9s,baz=13,slow=9.7,SNR=3.2						
STKA	**Stephens Creek**	**34.52**	**239**	IAmb	IAmb	18 25 31.4	
	comp=Z,1.7nm,1.2s						
WR0	**Warramunga Arr**	**39.55**	**259**	P	**P**	**18 26 09.3**	**-0.7**
WR0				IAmb	IAmb	18 26 25.8	
	comp=Z,7.9nm,1.5s						
WB2	**Warramunga Arr**	**39.72**	**259**	P	**P**	**18 26 11.1**	**-0.4**
WB2				IAmb	IAmb	18 26 16.8	
	comp=Z,9.4nm,1.4s						
WRA	**Warramunga Arr**	**39.74**	**259**	P	**P**	**18 26 10.5**	**-1.2**
	comp=Z,1.4nm,0.8s,baz=92,slow=8.7,SNR=7.4						
ASAR	**Alice Springs**	**40.06**	**254**	P	**P**	**18 26 13.8**	**-0.6**
	comp=Z,2.6nm,0.8s,baz=84,slow=9.5,SNR=22						
ASAR				PcP	**PcP**	**18 28 18.0**	**-1.2**
	comp=Z,0.5nm,0.9s,baz=116,slow=4.3,SNR=3.1						
KNRA	**Kununurra**	**45.48**	**265**	P	**P**	**18 26 58.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**48.10**	**261**	LR	LR	18 45 34.3	
	comp=Z,108nm,19.0s,baz=215,slow=34						
CMAR	**Chiang Mai Arr**	**83.92**	**291**	P	**P**	**18 31 10.4**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=128,slow=3.9,SNR=2.7						

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*IDC **05** 18:26:42.9±1.8, 36.°83N×140.°54E, h98km±18km, mb3.4/9, mb1 3.6/11, mb1mx3.3/64, mbtmp3.8/11, Error ellipse: s-maj=20.7km s-min=11.0km az=60.0*

*JMA **05** 18:26:43.9±0.1, 36.°90N×140.°61E, h100km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs230.00000°, δ50.00000°, λ-135.00000°. NP2: φs107.00000°, δ57.00000°, λ-50.00000°. Principal axes: T Plg4.0000°, Azm170.0000°; N Plg33.0000°, Azm263.0000°; P Plg57.0000°, Azm74.0000°;*

JMA Felt II J1.

*NIED **05** 18:26:44.0, 36.°90N×140.°61E, h100km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-4.17; $M_{\theta\theta}$5.25; $M_{\phi\phi}$-1.08; $M_{r\theta}$0.15; $M_{\theta\phi}$3.23; $M_{\phi r}$2.38; Fault plane solution: $M_0$6.19000×10^{14} NP1: φs219.00000°, δ59.00000°, λ-129.00000°. NP2: φs97.00000°, δ49.00000°, λ-44.00000°.*

ISC 05 18:26:42.2±0.7**, 36.°83N**±0.°04×**140.°72E**±0.°06**, h105**km±6km**, n34, σ1.s63**/43**, mb3.6**/9**, 4C-7D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.25**	**209**	⇓P	**Pn**	**18 26 58.6**	**+1.4**
JHO				S	**Sn**	**18 27 09.3**	**+1.0**
ONAJ	**Iwakimizuishiy**	**0.28**	**13**	⇓P	**Pn**	**18 26 58.5**	**+1.1**
ONAJ				S	**Sn**	**18 27 09.2**	**+0.5**
JFFD	**Fukushimafurud**	**0.29**	**334**	⇓P	**Pn**	**18 26 58.3**	**+0.9**
JFFD				S	**Sn**	**18 27 08.7**	**0.0**
JFK	**Kawauchi**	**0.55**	**13**	⇓P	**Pn**	**18 26 59.8**	**+0.9**
JFK				S	**Sn**	**18 27 11.4**	**-0.1**
JFT	**Otama**	**0.75**	**336**	⇑P	**Pn**	**18 27 01.1**	**+0.5**
JFT				S	**Sn**	**18 27 13.8**	**-0.6**
JFY	**Yanaizu**	**1.00**	**306**	⇓P	**Pn**	**18 27 03.3**	**+0.3**
JFY				S	**Sn**	**18 27 17.9**	**-0.7**
JMM	**Marumori**	**1.04**	**3**	⇑P	**Pn**	**18 27 03.7**	**+0.3**
JMM				S	**Sn**	**18 27 18.2**	**-1.1**
JAG	**Ashikaga**	**1.09**	**249**	⇓P	**Pn**	**18 27 05.1**	**+1.1**
JKT	**Katashina**	**1.18**	**267**	⇓P	**Pn**	**18 27 06.1**	**+1.0**
JYS	**Shirataka**	**1.48**	**340**	⇑P	**Pn**	**18 27 09.2**	**+0.6**
JYS				S	**Sn**	**18 27 28.0**	**-0.5**
JNS	**Sasagawa**	**1.49**	**312**	P	**Pn**	**18 27 08.5**	**-0.1**
JNS				S	**Sn**	**18 27 27.4**	**-1.2**
JOU	**Okura**	**1.54**	**358**	⇑P	**Pn**	**18 27 09.7**	**+0.5**
JOU				S	**Sn**	**18 27 29.4**	**-0.2**
MJAR	**Matsushiro Arr**	**2.04**	**263**	P	**Pn**	**18 27 15.2**	**-0.3**
	2.1nm,0.3s,baz=78,slow=16,SNR=280						
MJAR				S	**Sn**	**18 27 37.4**	**-3.5**
	3.3nm,0.3s,baz=99,slow=17,SNR=10						
MAT	**Matsushiro**	**2.04**	**263**	P	**Pn**	**18 27 16.6**	**+1.1**
MAT				S	**Sn**	**18 27 42.3**	**+1.4**
JHJ	**Hachijo jima 2**	**3.78**	**192**	P	**Pn**	**18 27 39.2**	**+0.7**
	91nm,0.3s,baz=326,slow=20,SNR=100						
JHJ				S	**Sn**	**18 28 21.8**	**-0.3**
	33nm,0.3s,baz=56,slow=23,SNR=9.6						
ASAJ	**Asahikawa**	**7.42**	**11**	P	**Pn**	**18 28 24.9**	**-2.9**
	4.1nm,0.3s,baz=233,slow=9.3,SNR=53						
ASAJ				S	**Sn**	**18 29 46.5**	**-3.8**
	0.8nm,0.3s,baz=83,slow=19,SNR=1.8						
JCJ	**Chichijima**	**9.78**	**172**	P	**Pn**	**18 28 58.2**	**-1.7**
	21nm,0.3s,baz=77,slow=4.5,SNR=26						
JCJ				S	**Sn**	**18 30 42.1**	**-5.8**
	1.9nm,0.3s,baz=288,slow=20,SNR=1.1						
USRK	**Ussuriysk Ar.**	**9.91**	**321**	P	**Pn**	**18 29 01.1**	**-0.5**
	baz=130,slow=13,SNR=9.9						
SEY	**Seymchan**	**27.10**	**12**	P	**P**	**18 32 16.8**	**+1.9**
	1.2nm,0.6s,baz=195,slow=19,SNR=1.5						
SONM	**Songino Array**	**27.44**	**304**	P	**P**	**18 32 18.6**	**+0.4**
	1.1nm,0.7s,baz=103,slow=9.3,SNR=7.3						
H11N2	**WAKE ISLAND Hy**	**28.53**	**120**	T	T	19 02 45.8	
	baz=314,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.53**	**120**	T	T	19 02 56.0	
	baz=314,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.54**	**120**	T	T	19 03 17.0	
	baz=314,slow=75						
H11S1	**WAKE ISLAND Hy**	**29.22**	**122**	T	T	19 03 36.9	
	baz=314,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.22**	**122**	T	T	19 03 36.9	
	baz=314,slow=76						
H11S2	**WAKE ISLAND Hy**	**29.24**	**122**	T	T	19 03 38.1	
	baz=314,slow=76						
ZALV	**Zalesovo Beam**	**41.64**	**313**	P	**P**	**18 34 20.2**	**+0.2**
	0.4nm,0.4s,baz=90,slow=8.3,SNR=2.3						
MKAR	**Makanchi Array**	**43.76**	**302**	P	**P**	**18 34 37.4**	**+0.2**
	0.2nm,0.5s,baz=88,slow=10,SNR=5.4						
KURBB	**Kurchatov Arra**	**45.69**	**308**	P	**P**	**18 34 52.4**	**-0.1**
	1.2nm,0.5s,baz=85,slow=8.2,SNR=8.6						
ILAR	**Eielson Array**	**49.97**	**32**	P	**P**	**18 35 25.6**	**+0.4**
	0.6nm,0.8s,baz=277,slow=7.0,SNR=5.9						
WRA	**Warramunga Arr**	**56.78**	**187**	P	**P**	**18 36 16.8**	**+1.3**
	0.3nm,0.4s,baz=1.9,slow=7.4,SNR=8.5						
NVAR	**Mina Array Bea**	**75.56**	**53**	P	**P**	**18 38 18.1**	**+2.4**
	0.7nm,0.7s,baz=316,slow=6.2,SNR=5.3						
PDAR	**Pinedale Array**	**78.21**	**45**	P	**P**	**18 38 32.4**	**+1.8**
	0.5nm,0.7s,baz=284,slow=3.6,SNR=1.8						
LPAZ	**La Paz**	**147.28**	**59**	PKPbc	**PKiKP**	**18 46 17.4**	**+0.4**
	1.0nm,0.8s,baz=78,slow=0.8,SNR=4.2						

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*INET **05** 18:33:42.4, 10.°94N×86.°80W, h23km, MW3.6*

*IDC **05** 18:33:43.8±8.0, 11.°37N×86.°10W, h0km, mb3.5/2, mb1 4.0/2, mb1mx3.6/25, mbtmp3.5/2, Error ellipse: s-maj=584.5km s-min=74.6km az=61.0*

*UCR **05** 18:33:59.0±1.2, 10.°60N×85.°96W, h40km±18km, MW3.6*

ISC 05 18:33:49.4±1.1**, 10.°9N**±0.°1×**86.°7W**±0.°1**, h35**km**, n18, σ0.s87**/19**, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HZTE	**Horizontes, Gu**	**1.11**	**97**	*e*P	**Pn**	**18 34 08.1**	**-0.3**
GBS3	**Finca Las Img**	**1.24**	**93**	*i* P	**Pn**	**18 34 09.6**	**-0.6**
LAPC	**Finca la Perla**	**1.26**	**94**	*i* P	**Pn**	**18 34 09.8**	**-0.7**
SAJU	**San Juanillo,**	**1.26**	**129**	*e*P	**Pn**	**18 34 10.0**	**-0.5**
SAJU				*e*S	**Sn**	**18 34 25.8**	**-0.4**
BUEV	**Buena Vista**	**1.28**	**93**	*e*P	**Pn**	**18 34 10.6**	**-0.3**
BUEV				*i* S	Sn	18 34 17.5	-9.5
GB1A	**Borinquen Arri**	**1.29**	**92**	*i* P	**Pn**	**18 34 10.8**	**-0.2**
GUAI	**GUAI**	**1.32**	**116**	*i* P	**Pn**	**18 34 10.9**	**-0.4**
BUAI	**Buenos Aires**	**1.35**	**89**	*i* P	**Pn**	**18 34 12.1**	**+0.2**
GRZA	**Playa Garza**	**1.41**	**131**	*e*P	**Pn**	**18 34 12.4**	**-0.2**
COLC	**Colonia**	**1.49**	**97**	*i* P	**Pn**	**18 34 13.5**	**-0.3**
COLC				*i* S	Sn	18 34 23.3	-8.8
CUI	**Cuipilapa**	**1.53**	**97**	*e*P	**Pn**	**18 34 14.3**	**0.0**
INDI	**Punta indio, G**	**1.55**	**130**	*e*P	**Pn**	**18 34 14.1**	**-0.3**
LAFE	**Finca La Fe, P**	**2.06**	**120**	*e*P	**Pn**	**18 34 20.9**	**-0.6**
CDM	**Cerro de Muert**	**3.18**	**114**	*e*P	**Pn**	**18 34 39.9**	**+2.5**
TXAR	**Lajitas Array**	**24.26**	**322**	P	**P**	**18 39 01.9**	**-1.5**
	0.9nm,0.6s,baz=133,slow=10,SNR=15						
NVAR	**Mina Array Bea**	**39.37**	**320**	P	**P**	**18 41 16.8**	**+0.9**
	0.3nm,0.5s,baz=137,slow=6.8,SNR=2.7						
ASAR	**Alice Springs**	**139.32**	**246**	PKP	**PKPdf**	**18 53 14.1**	**+0.3**
	0.3nm,0.6s,baz=115,slow=1.1,SNR=5.9						
WRA	**Warramunga Arr**	**139.50**	**252**	PKP	**PKPdf**	**18 53 14.3**	**+0.2**
	0.3nm,0.6s,baz=126,slow=2.7,SNR=6.2						

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*IDC **05** 18:34:52.3±4.9, 4.°72S×147.°52E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.4/30, mbtmp3.7/3, ML4.3/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/20, Error ellipse: s-maj=151.2km s-min=50.9km az=109.0*

*NEIC **05** 18:35:16.4±0.8, 5.°6S±0.°2×148.°0E±0.°2, h227km±26km, mb4.1/8, Error ellipse: s-maj=32.3km s-min=16.2km az=123.0*

ISC 05 18:35:19.1±2.0**, 5.°5S**±0.°2×**147.°1E**±0.°5**, h200**km**, n16, σ0.s93**/15**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.44**	**5**	Pn	**Pn**	**18 36 14.3**	**+0.3**
COEN	**Coen**	**9.25**	**204**	Pn	**Pn**	**18 37 29.1**	**+0.3**
COEN				Sn	**Sn**	**18 39 12.0**	**-0.5**
MTN	**Manton Dam**	**17.35**	**244**	P	**P**	**18 39 08.5**	**+0.5**
MTN				IAmb	IAmb	18 40 06.6	
	comp=Z,13nm,1.2s						
WR0	**Warramunga Arr**	**18.86**	**219**	P	**P**	**18 39 24.6**	**+0.2**
WR0				IAmb	IAmb	18 39 51.5	
	comp=Z,6.5nm,1.2s						
WRAB	**Tennant Creek**	**18.96**	**220**	P	**P**	**18 39 25.6**	**+0.2**
WRAB				IAmb	IAmb	18 39 33.3	
	comp=Z,11nm,1.4s						
WB2	**Warramunga Arr**	**18.97**	**220**	P	**P**	**18 39 25.5**	**0.0**
WB2				IAmb	IAmb	18 39 34.1	
	comp=Z,7.3nm,1.2s						
WRA	**Warramunga Arr**	**18.98**	**220**	P	**P**	**18 39 26.0**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=39,slow=11,SNR=70						
WRA	**Warramunga Arr**	**18.98**	**220**	P	**P**	**18 39 24.2**	**-1.4**
KNRA	**Kununurra**	**20.64**	**239**	P	**P**	**18 39 44.6**	**+1.2**
AS31	**Alice Springs**	**22.08**	**214**	P	**P**	**18 39 59.9**	**+1.6**
ASAR	**Alice Springs**	**22.09**	**214**	P	**P**	**18 39 57.9**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=46,slow=9.2,SNR=18						
ASAR	**Alice Springs**	**22.09**	**214**	P	**P**	**18 39 59.4**	**+1.2**
FITZ	**Fitzroy Crossi**	**24.41**	**237**	P	**P**	**18 40 19.7**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=58,slow=8.5,SNR=9.0						
DAV	**Davao City (W)**	**24.82**	**300**	LR	LR	18 48 29.8	
	comp=Z,20nm,20.7s,baz=170,slow=33						
ARMA	**Armidale**	**25.16**	**171**	P	P	18 40 17.6	-8.7
TORD	**Torodi Ar. Bea**	**145.04**	**285**	PKPbc	**PKPbc**	**18 54 32.1**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=64,slow=4.2,SNR=2.0						

IGIL ***05*** *19:06:49.7, 37.°03N×4.°46W, h0km, ML1.6*
MDD ***05*** *19:06:50.1±0.3, 37.°02N×4.°56W, h0km, mbLg2.1/23, Error ellipse: s-maj=2.8km s-min=2.3km az=180.0, PRXIMO*
MDD EMS: II INTENSIDAD MAXIMA.
INMG ***05*** *19:06:50.2±1.5, 37.°01N×4.°58W, h0km±3km, ML2.1, Error ellipse: s-maj=2.7km s-min=2.2km az=17.0*
CNRM ***05*** *19:06:59.6, 36.°06N×4.°45W, h0km, ml1.1*
ISC 05 19:06:49.2±0.9**, 36.°95N**±0.°03×**4.°48W**±0.°02**, h17**km±7km**, n41,** σ**1.°82**/71**, 1C-1D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAL	**Malaga-Limoner**	**0.19**	**168**	Pg	**Pg**	**19 06 55.3**	**+1.4**
EMAL				Lg	Lg	19 06 59.2	
EMAL	**Malaga-Limoner**	**0.19**	**168**	P	**Pg**	**19 06 55.3**	**+1.4**
EMAL				S	**Sb**	**19 06 59.2**	**+1.6**
EGOR	**Sierra Gorda,**	**0.34**	**62**	⇑Pg	**Pg**	**19 06 56.5**	**+0.1**
	8.6nm,0.1s,SNR=18						
EGOR				Lg	Lg	19 07 03.0	
	72nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**0.45**	**212**	Pg	**Pg**	**19 06 58.7**	**+0.4**
	1.5nm,0.1s,SNR=41						
EMIJ				Lg	Lg	19 07 05.4	
	58nm,0.3s,SNR=7.9						
ELGU	**Los Guajares,**	**0.69**	**97**	Pg	**Pg**	**19 07 03.1**	**+0.4**
	2.7nm,0.1s,SNR=7.9						
ELGU				Lg	Lg	19 07 15.5	
	85nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**0.87**	**73**	Pg	**Pb**	**19 07 06.7**	**+0.8**
	1.6nm,0.2s,SNR=17						
EQUE				Lg	Lg	19 07 19.3	
	15nm,0.4s,SNR=7.0						
ESPR	**Espera**	**1.11**	**266**	Pg	**Pg**	**19 07 13.2**	**+2.6**
	1.8nm,0.1s,SNR=11						
ESPR				Lg	Lg	19 07 28.3	
	17nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**1.22**	**356**	Pg	**Pn**	**19 07 10.8**	**-0.6**
	1.3nm,0.1s,SNR=108						
EADA				Lg	Lg	19 07 26.3	
	23nm,0.1s,SNR=11						
EBER	**Berja**	**1.27**	**92**	Pg	**Pg**	**19 07 15.3**	**+1.5**
	0.5nm,0.2s,SNR=7.9						
EBER				Lg	Lg	19 07 33.3	
	8.6nm,0.3s,SNR=6.2						
ECAB	**El Cabril**	**1.35**	**327**	Pg	**Pb**	**19 07 13.4**	**-0.6**
	0.3nm,0.2s,SNR=7.9						
ECAB				Lg	Lg	19 07 30.3	
	18nm,0.2s,SNR=6.2						
EQES	**Quesada**	**1.41**	**52**	Pn	**Pg**	**19 07 16.7**	**+0.4**
	2.0nm,0.1s,SNR=13						
EQES				Lg	Lg	19 07 37.3	
	10nm,0.3s,SNR=8.4						
SMIR	**Smir Dam**	**1.46**	**210**	P	**Pn**	**19 07 14.6**	**-0.1**
SMIR				S	**Sn**	**19 07 28.4**	**-5.1**
EMIN	**Mina Concepcio**	**1.93**	**296**	Pn	**Pn**	**19 07 21.3**	**+0.1**
	1.7nm,0.1s,SNR=12						
EMIN				Lg	Lg	19 07 48.1	
	6.3nm,0.2s,SNR=14						
SESP	**Santiago Espad**	**1.93**	**52**	Pn	**Pb**	**19 07 23.6**	**-0.3**
	0.6nm,0.2s,SNR=7.9						
SESP				Sn	**Sb**	**19 07 48.3**	**+0.5**
	8.5nm,0.2s,SNR=7.9						
SESP				Lg	Lg	19 07 53.1	
	13nm,0.2s,SNR=7.9						
GOG	**Mont Gurugu**	**2.10**	**145**	P	**Pb**	**19 07 27.5**	**+0.6**
GOG				S	**Sn**	**19 07 45.8**	**-3.6**
PBAR	**Barrancos**	**2.37**	**302**	Pn	**Pn**	**19 07 27.5**	**+0.2**
PBAR				Lg	Lg	19 08 03.0	
	6.7nm,0.3s						
PBAR	**Barrancos**	**2.37**	**302**	*e*Pn	**Pn**	**19 07 27.5**	**+0.2**
PBAR				*e*Sg	**Sg**	**19 08 03.0**	**-2.5**
PBAR				A	A	19 08 09.1	
	6.7nm,0.3s						
EGRO	**El Granado**	**2.47**	**285**	Pn	**Pn**	**19 07 28.8**	**+0.2**
	0.4nm,0.1s,SNR=6.6						
EGRO				Sn	**Sn**	**19 07 58.4**	**+0.2**
	1.5nm,0.1s,SNR=7.9						
EGRO				Lg	Lg	19 08 05.7	
	3.8nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**2.59**	**2**	Pn	**Pn**	**19 07 32.3**	**+1.9**
	0.4nm,0.1s,SNR=7.9						
PAB				Lg	Lg	19 08 09.4	
	3.9nm,0.3s,SNR=7.9						
PVAQ	**Vaqueiros**	**2.63**	**281**	Pn	**Pn**	**19 07 31.2**	**+0.5**
PVAQ				Sn	**Sn**	**19 08 03.0**	**+0.8**
	4.0nm,0.8s						
PVAQ	**Vaqueiros**	**2.63**	**281**	*e*Pn	**Pn**	**19 07 31.2**	**+0.5**
PVAQ				*e*Sn	**Sn**	**19 08 03.0**	**+0.8**
PVAQ				A	A	19 08 15.9	
	4.0nm,0.8s						
EBAD	**Badajoz**	**2.70**	**313**	Pn	**Pn**	**19 07 31.6**	**-0.2**
	0.4nm,0.1s,SNR=7.9						
EBAD				Sn	**Sn**	**19 08 02.4**	**-1.5**
	5.3nm,0.2s,SNR=7.9						
EBAD				Lg	Lg	19 08 13.0	
	17nm,0.2s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**2.77**	**277**	Pn	**Pn**	**19 07 33.8**	**+1.0**
PBDV				Sn	**Sn**	**19 08 07.5**	**+1.5**
	3.6nm,0.6s						
PBDV	**Barranco-do-Ve**	**2.77**	**277**	*e*Pn	**Pn**	**19 07 33.8**	**+1.0**
PBDV				*e*Sn	**Sn**	**19 08 07.5**	**+1.5**
PBDV				A	A	19 08 23.8	
	3.6nm,0.6s						
ETOB	**Tobarra**	**2.87**	**53**	Pn	**Pn**	**19 07 36.3**	**+2.1**
	0.2nm,0.1s,SNR=4.0						
ETOB				Sn	**Sn**	**19 08 09.8**	**+1.4**
	1.6nm,0.2s,SNR=7.9						
ETOB				Lg	Lg	19 08 23.6	
	1.7nm,0.3s,SNR=7.9						
PCVE	**Castro Verde**	**2.92**	**285**	Pn	**Pn**	**19 07 35.4**	**+0.6**
PCVE				Sn	**Sn**	**19 08 09.6**	**+0.1**
PCVE				Lg	Lg	19 08 21.9	
	4.4nm,0.7s						
PCVE	**Castro Verde**	**2.92**	**285**	*e*Pn	**Pn**	**19 07 35.4**	**+0.6**
PCVE				*e*Sn	**Sn**	**19 08 09.6**	**+0.1**
PCVE				*e*Sg	**Sg**	**19 08 21.9**	**-1.1**
PCVE				A	A	19 08 27.8	
	4.4nm,0.7s						
JBK	**JBK**	**3.04**	**149**	P	**Pn**	**19 07 40.3**	**+3.7**
JBK				S	**Sn**	**19 08 07.8**	**-4.9**
MESJ	**Messejana**	**3.11**	**288**	*e*P	**Pn**	**19 07 37.7**	**+0.3**
MESJ				*e*S	**Sn**	**19 08 13.4**	**-0.7**
MESJ				IAML		19 08 15.0	
	comp=E,1.9nm,0.3s						
MESJ	**Messejana**	**3.11**	**288**	Pn	**Pn**	**19 07 37.9**	**+0.5**
MESJ				Sn	**Sn**	**19 08 14.2**	**+0.1**
MESJ				Lg	Lg	19 08 26.7	
	comp=E,3.7nm,0.4s						
MESJ	**Messejana**	**3.11**	**288**	*e*Pn	**Pn**	**19 07 37.9**	**+0.5**
MESJ				*e*Sn	**Sn**	**19 08 14.2**	**+0.1**
MESJ				*e*Sg	**Sg**	**19 08 26.7**	**-2.3**
MESJ				A	A	19 08 35.6	
	comp=E,3.7nm,0.4s						
PESTR	**Estremoz**	**3.12**	**309**	*e*Sn	**Sn**	**19 08 13.2**	**-1.2**
PESTR				*e*Sg	**Sg**	**19 08 26.7**	**-2.6**
PESTR				A	A	19 08 29.4	
	comp=E,5.2nm,0.4s						
MORF	**Marmelete**	**3.35**	**277**	Sn	**Sn**	**19 08 21.3**	**+1.1**
MORF				Lg	Lg	19 08 34.9	
	comp=E,1.7nm,0.2s						
MORF	**Marmelete**	**3.35**	**277**	*e*Sn	**Sn**	**19 08 21.3**	**+1.1**
MORF				*e*Sg	**Sg**	**19 08 34.9**	**-2.0**
MORF				A	A	19 08 47.8	
	comp=E,1.7nm,0.2s						
PMRV	**Marv??o**	**3.37**	**318**	Pn	**Pn**	**19 07 41.3**	**+0.2**
PMRV				Sn	**Sn**	**19 08 19.4**	**-1.3**
PMRV				Lg	Lg	19 08 34.5	
	comp=E,4.4nm,0.8s						
PMRV	**Marv??o**	**3.37**	**318**	*e*Pn	**Pn**	**19 07 41.3**	**+0.2**
PMRV				*e*Sn	**Sn**	**19 08 19.4**	**-1.3**
PMRV				*e*Sg	**Sg**	**19 08 34.5**	**-3.0**
PMRV				A	A	19 08 40.5	
	comp=E,4.4nm,0.8s						
PNCL	**Nicolau / Gran**	**3.42**	**291**	Pn	**Pn**	**19 07 42.2**	**+0.5**
PNCL				Sn	**Sn**	**19 08 22.6**	**+0.8**
PNCL				Lg	Lg	19 08 35.7	
	comp=E,2.9nm,0.6s						
PNCL	**Nicolau / Gran**	**3.42**	**291**	⇓*e*Pn	**Pn**	**19 07 42.2**	**+0.5**
PNCL				*e*Sn	**Sn**	**19 08 22.6**	**+0.8**
PNCL				*e*Sg	**Sg**	**19 08 35.7**	**-3.3**
PNCL				A	A	19 08 39.4	
	comp=E,2.9nm,0.6s						
PTEO	**Sao Teotonio**	**3.44**	**281**	Sn	**Sn**	**19 08 23.4**	**+1.1**
PTEO				Lg	Lg	19 08 37.9	
	comp=E,3.0nm,0.4s						
PTEO	**Sao Teotonio**	**3.44**	**281**	*e*Sn	**Sn**	**19 08 23.4**	**+1.1**
PTEO				*e*Sg	**Sg**	**19 08 37.9**	**-1.7**
PTEO				A	A	19 08 45.5	
	comp=E,6.0nm,0.4s						
MD31	**MD31**	**4.08**	**183**	P	**Pn**	**19 07 54.0**	**+3.2**
MD31				S	**Sn**	**19 08 32.3**	**-6.0**

DJA ***05*** *19:13:04.7±0.4, 5°S±3°×14°7E±°, h170km±5km, M4.8/13, mB4.9/5, mb4.7/13, MLv5.1/4, Mw(mB)4.2/5*
NEIC ***05*** *19:13:05.5±1.2, 5.°46S±0.°04×147.°12E±0.°07, h183km±5km, mb4.5/78, Error ellipse: s-maj=11.7km s-min=3.2km az=119.0*
IDC ***05*** *19:13:05.7±1.9, 5.°47S×147.°08E, h196km±17km, mb4.0/20, mb1 4.1/24, mb1mx4.0/31, mbtmp4.5/24, Error ellipse: s-maj=11.4km s-min=7.7km az=98.0*
ISC 05 19:13:05.9±0.3**, 5.°45S**±0.°05×**147.°04E**±0.°06**, h195**km**, n130,** σ**0.°97**/133**, mb4.4**/53**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.40**	**5**		**Pn**	**19 13 59.6**	**-0.5**
RABL	**Rabaul**	**5.26**	**76**		**Pn**	**19 14 20.7**	**-2.8**
RABL	**Rabaul**	**5.26**	**76**	P	**Pn**	**19 14 21.4**	**-2.1**
	386nm,0.9s						
JAY	**Jayapura**	**6.96**	**295**	P	**Pn**	**19 14 44.5**	**-1.1**
	3.9nm,0.3s,baz=147,slow=6.6,SNR=43						
JAY				S	**Sn**	**19 15 59.3**	**-5.5**
	1.6nm,0.3s,baz=264,slow=7.2,SNR=2.4						
GENI	**Genyem**	**7.42**	**292**	P	**Pn**	**19 14 50.0**	**-1.6**
	0.4nm39nm,0.8s						
COEN	**Coen**	**9.27**	**204**	Pn	**Pn**	**19 15 15.9**	**+0.1**
CTA	**Charters Tower**	**14.57**	**183**	P	**Pn**	**19 16 21.9**	**-1.2**
	0.2nm,0.3s,baz=4.2,slow=15,SNR=4.7						
CTAO	**Charters Tower**	**14.57**	**183**	Pn	**Pn**	**19 16 22.3**	**-0.8**
SIJI	**Sorong**	**16.39**	**286**	P	**Pn**	**19 16 45.6**	**+0.3**
	0.7nm,0.3s,baz=133,slow=22,SNR=2.0						
MTN	**Manton Dam**	**17.33**	**244**	P	**P**	**19 16 55.4**	**+0.6**
WR0	**Warramunga Arr**	**18.86**	**219**	P	**P**	**19 17 12.3**	**+0.8**
WRA	**Warramunga Arr**	**18.98**	**220**	P	**P**	**19 17 13.4**	**+0.6**
	7.3nm,0.3s,baz=40,slow=11,SNR=480						
WRA				S	**S**	**19 20 36.2**	**-1.8**
	0.8nm,0.3s,baz=44,slow=19,SNR=14						
WRA	**Warramunga Arr**	**18.98**	**220**	P	**P**	**19 17 12.3**	**-0.4**
EIDS	**Eidsvold**	**20.18**	**169**	P	**P**	**19 17 25.5**	**-0.1**
EIDS				IAmb	IAmb	19 17 28.1	
	comp=Z,18nm,1.2s						
KNRA	**Kununurra**	**20.62**	**239**	P	**P**	**19 17 30.4**	**+0.1**
AS31	**Alice Springs**	**22.09**	**214**	P	**P**	**19 17 46.4**	**+0.9**
AS31				IAmb	IAmb	19 17 50.8	
	comp=Z,16nm,0.7s						
ASAR	**Alice Springs**	**22.09**	**214**	P	**P**	**19 17 46.4**	**+0.8**
	comp=Z,42nm,0.8s,baz=34,slow=12,SNR=186						
ASAR				S	**S**	**19 21 35.7**	**+0.8**
	comp=Z,15nm,1.2s,baz=37,slow=19,SNR=5.3						
SANVU	**Saraoutou**	**22.15**	**118**	P	**P**	**19 17 44.9**	**-1.2**
SOEI	**Soe**	**22.97**	**258**	P	**P**	**19 17 55.7**	**+2.0**
SOEI				IAmb	IAmb	19 18 21.1	
	comp=Z,15nm,0.9s						
BATI	**Baumata**	**23.63**	**257**	P	**P**	**19 18 00.5**	**+0.8**
	comp=Z,8.1nm,0.5s,baz=99,slow=19,SNR=2.4						
FITZ	**Fitzroy Crossi**	**24.39**	**237**	P	**P**	**19 18 07.2**	**+0.8**
	comp=Z,17nm,0.6s,baz=53,slow=12,SNR=62						
FITZ	**Fitzroy Crossi**	**24.39**	**237**	P	**P**	**19 18 07.1**	**+0.7**
FITZ				IAmb	IAmb	19 18 12.3	
	comp=Z,16nm,0.7s						
MMRI	**Maumere**	**24.82**	**261**	P	**P**	**19 18 09.8**	**-0.5**
MMRI				IAmb	IAmb	19 18 10.1	
	comp=Z,18nm,0.8s						
LIFNC	**LIFOU**	**24.83**	**130**	P	**P**	**19 18 09.3**	**-1.1**
DZM	**Mont Dzumac**	**25.01**	**133**	P	**P**	**19 18 10.4**	**-1.7**
	comp=Z,7.9nm,0.6s,baz=252,slow=12,SNR=12						
DZM	**Mont Dzumac**	**25.01**	**133**	P	**P**	**19 18 10.8**	**-1.2**
DZM				IAmb	IAmb	19 18 13.8	
	comp=Z,29nm,1.3s						
ARMA	**Armidale**	**25.21**	**171**	P	**P**	**19 18 14.2**	**+0.4**
ARMA				IAmb	IAmb	19 18 15.1	
	comp=Z,19nm,0.9s						
OUENC	**Ouen Island, N**	**25.51**	**133**	P	**P**	**19 18 16.2**	**-0.3**
OUENC				IAmb	IAmb	19 18 30.9	
	comp=Z,12nm,1.1s						
STKA	**Stephens Creek**	**26.78**	**190**	P	**P**	**19 18 27.7**	**-0.1**
	comp=Z,2.1nm,0.6s,baz=342,slow=9.7,SNR=6.0						
STKA	**Stephens Creek**	**26.78**	**190**	P	**P**	**19 18 27.7**	**-0.1**
BBOO	**Buckleboo**	**29.08**	**199**	P	**P**	**19 18 48.0**	**-0.2**
BBOO				IAmb	IAmb	19 18 58.5	
	comp=Z,10nm,1.1s						
CAN	**Canberra**	**29.78**	**177**	P	**P**	**19 18 54.5**	**+0.1**
PSA00	**Pilbara Seismi**	**30.83**	**236**	P	**P**	**19 19 03.8**	**0.0**
PSA00	**Pilbara Seismi**	**30.83**	**236**	P	**P**	**19 19 03.8**	**0.0**
PSA00				IAmb	IAmb	19 19 04.5	
	comp=Z,16nm,1.1s						
FORT	**Forrest**	**30.88**	**213**	P	**P**	**19 19 04.7**	**+0.7**
TOO	**Toolangi**	**32.00**	**182**	P	**P**	**19 19 14.4**	**+0.5**
TOO				IAmb	IAmb	19 19 14.9	
	comp=Z,7.6nm,0.9s						
MSVF	**Nonsavu**	**32.67**	**115**	P	**P**	**19 19 19.4**	**-0.6**
	comp=Z,5.1nm,0.9s,baz=108,slow=24,SNR=2.3						
JCJ	**Chichijima**	**32.70**	**352**	P	**P**	**19 19 19.6**	**-0.3**
GIRL	**Giralia**	**35.99**	**238**	P	**P**	**19 19 50.1**	**+1.8**
MORW	**Morawa**	**37.57**	**228**	P	**P**	**19 20 02.0**	**+0.4**
MORW				IAmb	IAmb	19 20 02.6	
	comp=Z,12nm,1.0s						
TWG	**Pinlang**	**37.87**	**319**	P	**P**	**19 20 03.9**	**-0.3**
TWG				IAmb	IAmb	19 20 32.4	
	comp=Z,8.8nm,0.8s						
YULB	**Yu-li**	**38.13**	**320**	P	**P**	**19 20 06.3**	**0.0**
TPUB	**Ta-pu**	**38.50**	**319**	P	**P**	**19 20 09.3**	**-0.2**
YHNB	**Yeheng**	**39.00**	**321**	P	**P**	**19 20 15.0**	**+1.3**
TATO	**Taipei**	**39.15**	**322**	P	**P**	**19 20 15.8**	**+1.0**
URZ	**Urewera**	**42.57**	**144**	P	**P**	**19 20 42.5**	**-0.1**
	comp=Z,3.5nm,0.3s,baz=295,slow=11,SNR=7.3						
MJAR	**Matsushiro Arr**	**42.59**	**349**	P	**P**	**19 20 42.0**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=167,slow=10,SNR=8.8						
MJAR	**Matsushiro Arr**	**42.59**	**349**	P	**P**	**19 20 43.2**	**+0.5**
MAJO	**Matsushiro**	**42.59**	**349**	P	**P**	**19 20 42.9**	**+0.2**
MAT	**Matsushiro**	**42.59**	**349**	PKP	**P**	**19 20 42.7**	**0.0**
JSD	**Sado**	**44.03**	**350**	P	**P**	**19 20 55.2**	**+1.0**
KSRS	**Korea Array**	**46.26**	**339**	P	**P**	**19 21 11.5**	**-0.2**
	comp=Z,2.2nm,1.0s,baz=149,slow=8.8,SNR=3.1						
JTM	**Tenmabayashi**	**46.34**	**354**	P	**P**	**19 21 13.3**	**+1.0**
JTM				IAmb	IAmb	19 21 16.8	
	comp=Z,32nm,1.5s						
ENH	**Enshi**	**50.55**	**317**	P	**P**	**19 21 45.5**	**+0.8**
ENH				IAmb	IAmb	19 21 46.5	
	comp=Z,7.8nm,0.8s						
USA0B	**Ussuriysk Arra**	**51.25**	**346**	P	**P**	**19 21 50.9**	**+1.2**
USRK	**Ussuriysk Ar.**	**51.25**	**346**	P	**P**	**19 21 49.8**	**+0.1**
	comp=Z,2.3nm,0.9s,baz=174,slow=8.1,SNR=6.2						
USRK	**Ussuriysk Ar.**	**51.25**	**346**	P	**P**	**19 21 50.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**53.03**	**298**	P	**P**	**19 22 03.9**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=126,slow=6.4,SNR=7.4						
PEA0B	**Petropavlovsk-**	**59.03**	**7**	P	**P**	**19 22 45.7**	**+0.6**
PEA0B				IAmb	IAmb	19 22 53.0	
	comp=Z,17nm,1.2s						
PETK	**Petropavlovsk-**	**59.03**	**7**	P	**P**	**19 22 44.7**	**-0.4**
	comp=Z,4.5nm,0.8s,baz=159,slow=6.3,SNR=9.5						
PETK				pP	**pP**	**19 23 28.9**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=189,slow=7.3,SNR=3.8						
PETK	**Petropavlovsk-**	**59.03**	**7**	P	**P**	**19 22 45.7**	**+0.5**
SHL	**Shillong**	**61.76**	**303**	P	**P**	**19 23 04.1**	**-0.2**
SHL				IAmb	IAmb	19 23 05.5	
	comp=Z,3.0nm,0.7s						
ULN	**Ulaanbaatar**	**63.65**	**331**	P	**P**	**19 23 17.2**	**+0.8**
ULN				IAmb	IAmb	19 23 18.8	
	comp=Z,9.2nm,0.8s						
ULN	**Ulaanbaatar**	**63.65**	**331**	P	**P**	**19 23 17.9**	**+1.5**
	comp=Z,49nm,0.8s						
SONM	**Songino Array**	**63.95**	**331**	P	**P**	**19 23 18.6**	**+0.3**
	comp=Z,4.0nm,0.7s,baz=154,slow=6.0,SNR=20						
SONM	**Songino Array**	**63.95**	**331**	P	**P**	**19 23 19.3**	**+0.9**
SONM				IAmb	IAmb	19 23 21.6	
	comp=Z,4.3nm,0.8s						
KIWB	**Kanaga Island**	**64.74**	**24**	P	**P**	**19 23 23.6**	**+0.4**
CASY	**Casey**	**65.79**	**195**	P	**P**	**19 23 29.5**	**-0.2**
CASY				IAmb	IAmb	19 23 30.3	
	comp=Z,7.4nm,1.0s						
YAK	**Yakutsk**	**68.61**	**351**	P	**P**	**19 23 48.0**	**+0.6**
YAK				IAmb	IAmb	19 23 50.3	
	comp=Z,10nm,0.9s						
UNV	**Unalaska Valle**	**70.71**	**27**	P	**P**	**19 24 00.8**	**+0.4**
UNV				IAmb	IAmb	19 24 02.6	
	comp=Z,17nm,1.4s						
VNDA	**Vanda**	**72.45**	**177**	P	**P**	**19 24 10.9**	**+0.4**
	comp=Z,5.1nm,0.6s,baz=331,slow=6.8,SNR=54						
VNDA	**Vanda**	**72.45**	**177**	P	**P**	**19 24 10.9**	**+0.4**
VNDA				IAmb	IAmb	19 24 11.7	
	comp=Z,5.9nm,0.7s						
SBA	**Scott Base**	**73.10**	**176**	P	**P**	**19 24 15.5**	**+1.2**
SDPT	**Sand Point**	**74.41**	**28**	P	**P**	**19 24 22.8**	**+0.6**
CHGN	**Chignik**	**75.91**	**28**	P	**P**	**19 24 31.0**	**+0.3**
CHGN				IAmb	IAmb	19 24 46.5	
	comp=Z,12nm,1.1s						
MK31	**Makanchi Array**	**77.10**	**320**	P	**P**	**19 24 38.5**	**+0.7**
MKAR	**Makanchi Array**	**77.10**	**320**	P	**P**	**19 24 38.2**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=98,slow=8.0,SNR=26						
MKAR	**Makanchi Array**	**77.10**	**320**	P	**P**	**19 24 38.1**	**+0.3**
MAKZ	**Makanchi**	**77.31**	**320**	P	**P**	**19 24 39.3**	**+0.4**
TARG	**Taragay, Kyrgy**	**78.37**	**314**	P	**P**	**19 24 46.6**	**+1.3**
ZAA0	**Zalesovo Array**	**78.57**	**328**	P	**P**	**19 24 45.5**	**-0.1**
ZAA0				IAmb	IAmb	19 24 45.8	
	comp=Z,4.3nm,0.7s						
ZALV	**Zalesovo Beam**	**78.57**	**328**	P	**P**	**19 24 45.0**	**-0.7**
	comp=Z,4.4nm,0.6s,baz=108,slow=5.6,SNR=21						
ZALV	**Zalesovo Beam**	**78.57**	**328**	P	**P**	**19 24 45.3**	**-0.4**
KDAK	**Kodiak Island**	**79.40**	**28**	P	**P**	**19 24 51.2**	**+1.1**
KDAK				IAmb	IAmb	19 25 16.1	
	comp=Z,18nm,1.4s						
Q19K	**Cape Douglas,**	**79.47**	**27**	P	**P**	**19 24 51.3**	**+0.8**
SVW2	**Sparrevohn**	**79.73**	**25**	P	**P**	**19 24 53.0**	**+1.2**
BOOM	**Boomskoye usch**	**79.92**	**315**	P	**P**	**19 24 54.2**	**+0.7**
P19K	**Oil Pt**	**80.01**	**26**	P	**P**	**19 24 53.5**	**+0.2**
CNPM	**China Poot**	**80.84**	**27**	P	**P**	**19 24 58.0**	**+0.3**
AAK	**Ala-Archa**	**80.99**	**315**	P	**P**	**19 25 00.1**	**+1.0**
AAK				IAmb	IAmb	19 25 03.0	
	comp=Z,6.8nm,1.1s						
M20K	**Styx River**	**81.14**	**24**	P	**P**	**19 25 00.7**	**+1.3**
K20K	**Telida**	**81.51**	**23**	P	**P**	**19 25 02.6**	**+1.4**
MAW	**Mawson**	**82.77**	**203**	P	**P**	**19 25 07.4**	**-0.2**
	comp=Z,2.5nm,0.6s,baz=81,slow=4.5,SNR=15						
MAW	**Mawson**	**82.77**	**203**	P	**P**	**19 25 07.7**	**+0.1**
IMAR	**Indian Mountai**	**82.97**	**21**	P	**P**	**19 25 09.5**	**+0.8**
I21K	**Tanana**	**83.21**	**22**	P	**P**	**19 25 11.8**	**+1.9**
MLY	**Manley**	**83.60**	**22**	P	**P**	**19 25 12.7**	**+0.7**
MLY				IAmb	IAmb	19 25 13.8	
	comp=Z,5.9nm,0.9s						
RND	**Reindeer**	**83.61**	**24**	P	**P**	**19 25 12.6**	**+0.5**
RND				IAmb	IAmb	19 25 12.7	
	comp=Z,6.0nm,0.8s						
KK31	**Karatay Array**	**83.94**	**314**	P	**P**	**19 25 15.1**	**+0.9**
KKAR	**Karatay Array**	**83.94**	**314**	P	**P**	**19 25 14.8**	**+0.6**
CHGR	**Chuyangaron**	**83.98**	**310**	P	**P**	**19 25 15.0**	**+0.4**
CHGR				IAmb	IAmb	19 25 15.3	
	comp=Z,6.3nm,0.7s						
KLU	**Klutina**	**84.06**	**26**	P	**P**	**19 25 15.6**	**+1.1**
WRH	**Wood River Hil**	**84.37**	**23**	P	**P**	**19 25 16.0**	**+0.1**
WRH				IAmb	IAmb	19 25 16.8	
	comp=Z,5.9nm,1.0s						
H23K	**Yukon River**	**84.41**	**22**	P	**P**	**19 25 16.8**	**+0.8**
QSPA	**South Pole Qui**	**84.51**	**180**	P	**P**	**19 25 16.5**	**-0.3**
QSPA				IAmb	IAmb	19 25 16.8	
	comp=Z,6.1nm,0.6s						
CCB	**Clear Creek Bu**	**84.55**	**23**	P	**P**	**19 25 16.7**	**0.0**
CCB				IAmb	IAmb	19 25 17.3	
	comp=Z,5.0nm,0.9s						
NRIK	**Noril'sk**	**84.77**	**342**	P	**P**	**19 25 18.2**	**+0.5**
	comp=Z,4.4nm,0.8s,baz=137,slow=3.7,SNR=3.8						
NRIK	**Noril'sk**	**84.77**	**342**	P	**P**	**19 25 18.1**	**+0.3**
NRIK				IAmb	IAmb	19 25 18.9	
	comp=Z,5.1nm,0.8s						
COLD	**Coldfoot**	**84.81**	**20**	P	**P**	**19 25 19.6**	**+1.6**
IL31		**84.97**	**23**	P	**P**	**19 25 18.4**	**-0.3**
IL31				IAmb	IAmb	19 25 19.0	
	comp=Z,5.2nm,0.7s						
ILAR	**Eielson Array**	**84.97**	**23**	P	**P**	**19 25 17.9**	**-1.0**
	comp=Z,5.0nm,0.8s,baz=253,slow=5.1,SNR=43						
ILAR				pP	**pP**	**19 26 04.8**	**-1.2**
	comp=Z,1.6nm,0.9s,baz=247,slow=5.3,SNR=5.0						
ILAR	**Eielson Array**	**84.97**	**23**	P	**P**	**19 25 18.3**	**-0.5**
VRDI	**Verde Repeater**	**85.06**	**27**	P	**P**	**19 25 20.0**	**+0.4**
VRDI				IAmb	IAmb	19 25 40.9	
	comp=Z,14nm,1.4s						
DOT	**Dot Lake**	**85.67**	**25**	P	**P**	**19 25 22.8**	**+0.4**
DOT				IAmb	IAmb	19 25 24.1	
	comp=Z,4.8nm,0.8s						
BARN	**Barnard Glacie**	**85.83**	**28**	P	**P**	**19 25 24.5**	**+1.1**
BARN				IAmb	IAmb	19 25 25.4	
	comp=Z,7.8nm,0.7s						
M27K	**Edge Creek, AK**	**86.16**	**26**	P	**P**	**19 25 26.1**	**+1.1**
M27K				IAmb	IAmb	19 25 26.9	
	comp=Z,6.2nm,0.8s						
BCAR	**Beaver Creek A**	**86.43**	**26**	P	**P**	**19 25 26.9**	**+0.7**
BMAR	**Burnt Mountain**	**86.87**	**21**	P	**P**	**19 25 29.8**	**+1.6**
NVAR	**Mina Array Bea**	**97.00**	**52**	P	**P**	**19 26 15.8**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=253,slow=6.7,SNR=6.3						
PDAR	**Pinedale Array**	**103.52**	**47**	Pdiff	**Pdif**	**19 26 44.4**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=238,slow=2.8,SNR=4.1						
GERES	**GERESS Array B**	**121.48**	**326**	PKP	**PKPdf**	**19 31 35.6**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=72,slow=2.2,SNR=14						
GERES	**GERESS Array B**	**121.48**	**326**		**PKPdf**	**19 31 35.9**	**-0.4**
MOTA	**Moosalm**	**123.76**	**325**	*e*P	**PKPdf**	**19 31 40.1**	**-0.7**
	comp=Z,5.2nm,0.7s						
SQTA	**Sankt Quirin**	**123.77**	**325**	*i* P	**PKPdf**	**19 31 40.6**	**-0.2**
	comp=Z,2.4nm,0.8s						
FETA	**Feichten**	**124.15**	**325**	*i* P	**PKPdf**	**19 31 41.3**	**-0.3**
	comp=Z,4.7nm,1.0s						
TORD	**Torodi Ar. Bea**	**144.99**	**285**	PKPbc	PKPbc	19 32 19.6	-1.0
	comp=Z,3.7nm,0.6s,baz=65,slow=3.6,SNR=31						
TORD	**Torodi Ar. Bea**	**144.99**	**285**		PKPbc	19 32 19.8	-0.8
DBIC	**Dimbokro**	**152.03**	**274**	PKPbc	**PKiKP**	**19 32 39.5**	**+0.1**
	comp=Z,3.9nm,0.9s,baz=129,slow=2.9,SNR=4.1						
DBIC	**Dimbokro**	**152.03**	**274**		**PKPbc**	**19 32 39.2**	**+0.1**
BDFB	**Brasilia**	**154.28**	**145**	PKPbc	**PKPbc**	**19 32 43.7**	**-0.3**
	comp=Z,2.2nm,0.4s,baz=110,slow=3.9,SNR=4.6						

IDC 05 19:22:01.1±3.8**, 26.°98S**×**175.°76W, h0**km**, mb3.6**/3**, mb1 3.9**/4**, mb1mx3.6**/25**, mbtmp3.9**/4**, ML4.7**/1**, Error ellipse: s-maj=85.3km s-min=43.1km az=123.0, South of Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**10.84**	**327**	Pn	Pn	19 24 39.6	+1.9
	0.2nm,0.3s,baz=138,slow=15,SNR=13						
ASAR	**Alice Springs**	**45.38**	**263**	P	P	19 30 22.0	+0.3
	0.4nm,0.7s,baz=98,slow=7.7,SNR=10.0						
WRA	**Warramunga Arr**	**46.07**	**268**	P	P	19 30 26.1	-1.0
	0.4nm,0.5s,baz=100,slow=7.6,SNR=8.6						
H03S2	**Juan Fernandez**	**80.69**	**123**	T	T	21 03 00.8	
	baz=242,slow=74,SNR=5.3						
H03S1	**Juan Fernandez**	**80.70**	**123**	T	T	21 03 01.7	
	baz=242,slow=74,SNR=7.2						
H03S3	**Juan Fernandez**	**80.71**	**123**	T	T	21 03 01.4	
	baz=242,slow=74,SNR=5.4						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	83.03	344	P	P	19 34 28.0	0.0
	0.9nm,0.6s,baz=110,slow=7.6,SNR=5.7						

*IDC **05** 19:33:58.8±7.2, 19°.45N×146°.68E, h82km±47km, mb3.2/4, mb1 3.4/6, mb1mx3.2/32, mbtmp3.5/6, ML3.4/2, Error ellipse: s-maj=122.2km s-min=19.2km az=84.0*

ISC 05 19:33:54.4±2.9**, 19°.54N**±0°.09×**147°.1E**±0°.6**, h50km, n9, σ1s.21/7, mb3.5/4, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	6.29	200	P	Pn	19 35 25.9	+1.2
	4.0nm,0.3s,baz=228,slow=17,SNR=1.9						
GUMO				S	Sn	19 36 34.8	-0.5
	1.4nm,0.3s,baz=159,slow=16,SNR=2.2						
H11S3	WAKE ISLAND Hy	18.55	90	T	T	19 56 51.9	
	baz=277						
H11S1	WAKE ISLAND Hy	18.56	90	T	T	19 56 46.8	
	baz=277						
H11S2	WAKE ISLAND Hy	18.57	90	T	T	19 56 49.7	
	baz=277						
MJAR	Matsushiro Arr	18.65	337	P	Pn	19 38 10.4	+1.5
	0.0nm,0.3s,baz=158,slow=11,SNR=2.4						
KSRS	Korea Array	24.46	321	P	P	19 39 08.3	-0.4
	1.0nm,0.7s,baz=130,slow=9.3,SNR=3.1						
WRA	Warramunga Arr	41.18	198	P	P	19 41 34.0	-0.3
	0.4nm,0.4s,baz=23,slow=8.1,SNR=7.9						
ASAR	Alice Springs	44.83	197	P	P	19 42 03.1	-0.7
	0.4nm,0.8s,baz=22,slow=9.1,SNR=5.9						
MKAR	Makanchi Array	58.84	313	P	P	19 43 46.9	-1.1
	0.3nm,0.7s,baz=95,slow=8.4,SNR=1.9						

*BYKL **05** 19:55:29.5±0.2, 56°.75N×115°.71E, h6km±3km*

*IDC **05** 19:55:36.0±6.3, 56°.79N×114°.35E, h0km, mb2.9/1, mb1 3.3/3, mb1mx3.1/37, mbtmp3.3/3, ML3.1/2, MS2.5/1, Ms1 2.5/1, ms1mx2.1/11, Error ellipse: s-maj=69.0km s-min=45.9km az=80.0*

ISC 05 19:55:30.0±1.0**, 56°.68N**±0°.03×**115°.61E**±0°.02**, h11**km±7km**, n33, σ2s.75/86, 2C-2D, East of Lake Baykal**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NLYR	Nelyaty	0.19	164	⇑iPg	Pg	19 55 34.3	+0.2
NLYR				eSg	Sg	19 55 37.5	+0.6
NLYR				Pmax			
	6μm,0.3s						
NLYR				Smax			
	31μm,0.6s						
SVKR	Severomuysk	1.27	245	ePg	Pb	19 55 54.0	+0.1
SVKR				eSg	Sg	19 56 11.9	+1.1
SVKR				eSb	Sn	19 56 14.4	+3.7
SVKR				Pmax			
	590nm,0.2s						
SVKR				max			
	3μm,0.5s						
BOD	Bodaibo	1.44	323	⇑iPg	Pn	19 55 54.9	-1.1
BOD				e		19 55 55.6	
BOD				e		19 55 58.7	
BOD				eSg	Sn	19 56 13.4	-1.5
BOD				eSb	Sg	19 56 15.6	-0.7
BOD				max			
	435nm,0.3s						
BOD				max			
	2μm,0.3s						
CRS	Chara	1.48	80	ePg	Pn	19 55 55.5	-1.1
CRS				e		19 55 57.3	
CRS				e		19 56 00.3	
CRS				eSg	Sn	19 56 14.5	-1.5
CRS				e		19 56 17.6	
CRS				max			
	288nm,0.5s						
CRS				max			
	1μm,0.5s						
UKT	Uakit	1.63	224	ePn	Pn	19 55 59.5	+0.9
UKT				ePg	Pb	19 56 00.4	+0.4
UKT				eSg	Sg	19 56 22.4	+0.2
UKT				Pmax			
	131nm,0.5s						
UKT				Smax			
	451nm,0.3s						
YOA	Uoyan	2.23	257	ePn	Pn	19 56 08.0	+1.2
YOA				ePg	Pb	19 56 11.0	+0.8
YOA				e		19 56 13.9	
YOA				eSn	Sn	19 56 34.9	+0.6
YOA				eSg	Sg	19 56 41.4	0.0
YOA				e		19 56 43.7	
YOA				max			
	403nm,0.3s						
YOA				max			
	3μm,0.4s						
KMO	Kumora	2.58	254	⇓iPn	Pn	19 56 13.0	+1.3
KMO				e		19 56 15.6	
KMO				ePg	Pb	19 56 17.6	+1.4
KMO				e		19 56 24.7	
KMO				eSn	Sn	19 56 44.2	+1.2
KMO				eSg	Sg	19 56 51.5	-1.3
KMO				Pmax			
	126nm,0.4s						
KMO				Smax			
	449nm,1.2s						
YLYR	Ulyunkhan	3.09	236	⇓iPn	Pn	19 56 20.0	+1.3
YLYR				ePg	Pb	19 56 26.1	+1.2
YLYR				eSn	Sn	19 56 56.8	+1.2
YLYR				eSg	Sg	19 57 07.3	-1.8
YLYR				Pmax			
	27nm,0.5s						
YLYR				Smax			
	164nm,0.2s						
VTMR	Vitim	3.21	331	ePn	Pn	19 56 19.8	-0.5
VTMR				ePg	Pb	19 56 26.7	-0.3
VTMR				eSn	Sn	19 56 57.1	-1.5
VTMR				eSg	Sb	19 57 06.8	+0.7
YKLR	Yuktali	3.34	89	ePn	Pn	19 56 22.1	0.0
YKLR				ePg	Pb	19 56 27.4	-1.8
YKLR				eSn	Sn	19 56 59.1	-2.7
YKLR				eSg	Sb	19 57 10.1	+0.3
TUP	Tupik	3.34	131	ePn	Pn	19 56 22.2	0.0
TUP				e		19 56 26.5	
TUP				ePg	Pb	19 56 28.9	-0.4
TUP				ePgPg	Pg	19 56 31.5	-2.5
TUP				eSn	Sn	19 57 01.7	-0.2
TUP				eSg	Sb	19 57 12.9	+3.0
TUP				e		19 57 19.8	
TUP				max			
	65nm,0.3s						
TUP				max			
	240nm,0.5s						
NIZ	Nizh Angarsk	3.50	258	ePn	Pn	19 56 26.5	+2.1
NIZ				ePg	Pb	19 56 32.8	+0.8
NIZ				e		19 56 41.6	
NIZ				eSn	Sn	19 57 05.9	+0.1
NIZ				eSg	Sg	19 57 19.1	-3.3
NIZ				max			
	42nm,0.4s						
NIZ				Smax			
	358nm,0.6s						
SYVR	Suvo	4.41	229	ePn	Pn	19 56 37.9	+1.1
SYVR				ePg	Pb	19 56 50.3	+2.9
SYVR				eSn	Sn	19 57 28.2	0.0
SYVR				eSg	Sg	19 57 48.5	-3.0
SYVR				e		19 57 55.7	
SYVR				Pmax			
	28nm,0.7s						
SYVR				max			
	171nm,1.5s						
CIT	Chita	4.82	195	ePg	Pb	19 56 57.4	+3.1
CIT				eSn	Sn	19 57 38.3	+0.1
CIT				eSg	Sg	19 58 00.5	-4.0
CIT				Pmax			
	37nm,0.3s						
CIT				Smax			
	332nm,0.4s						
CLNS	Chul'man	5.11	84	ePn	Pn	19 56 47.9	+1.4
CLNS				ePg	Pb	19 56 59.9	+0.5
CLNS				e		19 57 10.3	
CLNS				eSn	Sn	19 57 43.0	-2.5
CLNS				eSg	Sb	19 58 06.1	+5.3
CLNS				e		19 58 08.4	
IENR	Iengra	5.15	91	ePn	Pn	19 56 47.0	0.0
IENR				ePg	Pb	19 57 01.3	+1.2
IENR				eSn	Sn	19 57 43.7	-2.8
IENR				eSg	Sb	19 58 07.4	+5.5
MXMB	Maximikha	5.22	232	ePg	Pb	19 57 05.3	+4.0
MXMB				eSn	Sn	19 57 48.8	+0.6
MXMB				eSg	Sg	19 58 13.9	-3.6
OGRR	Ongureny	5.50	240	ePn	Pn	19 56 55.5	+3.7
OGRR				ePg	Pb	19 57 09.5	+3.5
OGRR				e		19 57 21.1	
OGRR				eSn	Sn	19 57 54.6	-0.5
OGRR				eSg	Sg	19 58 22.6	-3.9
OGRR				max			
	27nm,1.0s						
OGRR				Smax			
	69nm,1.4s						
KELR	Kotokel	5.86	231	ePg	Pb	19 57 16.1	+3.9
KELR				eSn	Sn	19 58 04.4	+0.5
KELR				eSg	Sg	19 58 33.7	-4.3
TRG	Tyrgan	6.64	238	ePg	Pb	19 57 31.1	+5.7
TRG				eSn	Sn	19 58 23.3	+0.2
TRG				eSg	Sg	19 58 57.9	-5.1
TRG				Pmax			
	7.0nm,0.6s						
TRG				Smax			
	55nm,1.3s						
UUDB	Ulan-Yde	6.69	227	eSn	Sn	19 58 25.0	+0.6
UUDB				eSg	Sg	19 58 59.8	-4.8
UUDB				Smax			
	74nm,1.3s						
HRMR	Khuramsha	7.16	229	ePn	Pn	19 57 16.4	+1.8
HRMR				ePg	Pb	19 57 40.4	+6.1
HRMR				eSn	Sn	19 58 35.0	-1.0
HRMR				eSg	Sg	19 59 14.6	-5.1
HRMR				Pmax			
	17nm,0.6s						
HRMR				Smax			
	156nm,0.8s						
KPC	Khapcheranga	7.25	197	e	Pn	19 57 15.0	-0.8
KPC				ePg	Pb	19 57 41.2	+5.5
KPC				e		19 58 31.6	
KPC				eSn	Sn	19 58 36.1	-2.0
KPC				eSg	Sg	19 59 16.2	-6.2
KPC				Pmax			
	5.0nm,0.8s						
KPC				Smax			
	97nm,1.3s						
BGT	Bolshoye Golou	7.55	236	eSg	Sg	19 59 25.2	-6.7
LSTR	Listvyanka	7.93	237	eSg	Sg	19 59 37.1	-7.1
LSTR				Smax			
	22nm,0.7s						
IVK	Ivanovka	8.17	238	eSg	Sg	19 59 44.4	-7.5
IVK				Smax			
	55nm,2.7s						
ZAK	Zakamensk	9.66	234	ePg	Pn	19 58 26.1	+37
ZAK				eSn	Sn	19 59 35.6	-1.9
ZAK				eSg		20 00 32.2	
ZAK				e		20 00 41.8	
ZAK				Pmax			
	4.0nm,1.2s						
ZAK				max			
	33nm,1.6s						
MOY	Mondy	9.92	246	eSg	Sn	20 00 39.8	+56
MOY				Smax			
	37nm,1.7s						
ORL	Orlik	10.05	252	ePn	Pn	19 57 55.7	+1.4
ORL				Pg		19 58 33.1	
ORL				eSn	Sn	19 59 43.7	-3.3
ORL				eSg		20 00 42.6	
ORL				Pmax			
	7.0nm,1.0s						
ORL				Smax			
	32nm,1.1s						
SONM	Songino Array	10.49	216	Pn	Pn	19 58 04.5	+4.2
	0.3nm,0.3s,baz=28,slow=12,SNR=4.3						
SONM				Lg	Lg	20 00 59.4	
	1.0nm,0.3s,baz=28,slow=27,SNR=10.0						
ZALV	Zalesovo Beam	17.66	274	Pn	Pn	19 59 35.5	-0.2
	0.1nm,0.3s,baz=61,slow=10.0,SNR=2.1						
ZALV				Lg	Lg	20 04 34.7	
	0.1nm,0.3s,baz=62,slow=33,SNR=1.2						
MKAR	Makanchi Array	22.66	258	P	P	20 00 30.9	-0.1
	0.3nm,0.7s,baz=63,slow=10,SNR=2.2						
MJAR	Matsushiro Arr	25.22	133	LR	LR	20 11 35.8	
	comp=Z,12nm,21.8s,baz=195,slow=37						

*IDC **05** 20:09:55.5±1.3, 23°.66S×66°.88W, h218km±16km, mb3.2/1, mb1 3.4/6, mb1mx3.2/21, mbtmp3.9/6, Error ellipse: s-maj=25.8km s-min=16.6km az=131.0*

ISC 05 20:09:54.3±0.9**, 23°.79S**±0°.10×**66°.8W**±0°.1**, h200km, n9, σ0s.92/11, Jujuy Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.31	300	P	Pn	20 10 37.3	+0.8
	9.6nm,0.3s,baz=123,slow=7.4,SNR=151						
LVC				S	Sn	20 11 09.8	+0.5
	25nm,0.3s,baz=281,slow=21,SNR=70						
LPAZ	La Paz	7.58	350	P	Pn	20 11 42.2	-0.5
	0.5nm,0.3s,baz=178,slow=7.0,SNR=6.2						
LPAZ				S	Sn	20 13 08.4	-0.4
	0.1nm,0.3s,baz=254,slow=12,SNR=1.4						
SIV	San Ignacio	9.42	36	P	Pn	20 12 07.5	+1.3
	0.9nm,0.3s,baz=226,slow=12,SNR=13						
PLCA	Paso Flores	17.19	190	P	Pn	20 13 43.0	+0.1
	0.3nm,0.3s,baz=351,slow=12,SNR=5.9						
BDFB	Brasilia	19.40	69	P	P	20 14 05.5	0.0
	0.9nm,0.3s,baz=229,slow=11,SNR=9.0						
TORD	Torodi Ar. Bea	76.28	69	P	P	20 21 21.3	-0.2
	0.4nm,0.5s,baz=262,slow=5.2,SNR=10						
ASAR	Alice Springs	128.74	204	PKP	PKPdf	20 28 37.4	-1.1
	0.5nm,0.9s,baz=173,slow=1.5,SNR=2.8						
WRA	Warramunga Arr	131.91	207	PKP	PKPdf	20 28 43.6	-1.0
	0.5nm,0.8s,baz=162,slow=2.0,SNR=8.9						
MKAR	Makanchi Array	146.22	39	PKPbc	PKPdf	20 29 08.5	-1.2
	0.5nm,0.6s,baz=326,slow=3.3,SNR=6.1						

*FUNV **05** 20:18:31.8, 9°.09N×70°.14W, h5km, MW3.2*

ISC 05 20:18:30.5±1.4**, 9°.13N**±0°.03×**70°.08W**±0°.04**, h2**km±13km**, n24, σ1s.41/35, Venezuela**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SDV	Santo Domingo	0.59	246	eP	Pg	20 18 42.2	+0.3
SDV	Santo Domingo	0.59	246	eP	Pg	20 18 41.9	0.0
SDV				eS	Sg	20 18 49.8	+0.2
SOCV	Socops	1.13	222	eP	Pn	20 18 53.2	-0.2
SOCV	Socops	1.13	222	eP	Pg	20 18 52.3	+0.1
SOCV				eS	Sg	20 19 07.2	+0.3
SIQV	Siquisique	1.54	10	eP	Pn	20 18 58.4	-0.5
SIQV				eS	Sg	20 19 21.2	+1.3
DABV	Dabajuro	1.86	343	eP	Pb	20 19 04.3	-0.9
DABV	Dabajuro	1.86	343	eP	Pb	20 19 04.4	-0.8
DABV				eS	Sb	20 19 28.7	-0.3
BAUV	El Baul	2.03	95	eP	Pn	20 19 05.4	-0.2
BAUV				eS	Sn	20 19 32.2	+0.7
ELOV	Elorza	2.19	164	eP	Pb	20 19 09.8	-1.0
JACV	Jacura	2.31	32	eP	Pn	20 19 10.6	+1.1
JACV				eS	Sb	20 19 40.7	-1.1
TURV	Turiamo	2.57	59	eP	Pn	20 19 14.6	+1.4
TURV				eS	Sn	20 19 46.5	+1.4
BENV	Beln	2.59	71	eP	Pn	20 19 14.1	+0.7
BENV				eS	Sn	20 19 46.4	+0.9
MONV	Montecano	2.81	2	eP	Pn	20 19 16.8	+0.3
MONV				eS	Sn	20 19 49.6	-1.3
PAMC	Pamplona, Colo	3.14	236	eP	Pb	20 19 25.4	-1.9
URIC	Uribia, Colomb	3.17	324	eP	Pb	20 19 26.8	-0.8
TACV	Tcata	3.18	71	eP	Pn	20 19 21.7	+0.2
TACV				eS	Sn	20 19 59.4	-0.7
OCAC	Ocana	3.32	255	eP	Pb	20 19 27.1	-3.1
CRJC	Cerrejon, Guaj	3.34	305	eP	Pn	20 19 23.4	-0.3
LL2C	La Loma 2 Cana	3.34	278	eP	Pn	20 19 25.5	+1.9
SMLC	San Martn de	3.95	266	eP	Pn	20 19 33.6	+1.5
BIRV	Birongo	3.99	70	eP	Pn	20 19 33.9	+1.2
BIRV				eS	Sn	20 20 19.5	-0.5
ZARC	Zaragoza, Cauc	5.00	251	eP	Pn	20 19 48.4	+1.9
CHIC	Chingaza	5.75	219	eP	Pn	20 20 00.6	+3.3
GUY2C	Guyana, Caldas	6.52	234	eP	Pn	20 20 11.1	+3.2

*IDC **05** 20:18:54.1±0.6, 18°.15S×71°.40W, h0km, mb4.4/13, mb1 4.5/16, mb1mx4.4/30, mbtmp4.4/16, ML3.8/3, MS3.7/12, Ms1 3.7/12, ms1mx3.5/24, Error ellipse: s-maj=21.5km s-min=15.2km az=54.0*

*VAO **05** 20:18:56.4±0.4, 18°.17S×71°.48W, h10km, mb4.6*

*NEIC **05** 20:18:57.2, 18°.29S×71°.59W, h23km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.01; $M_{\theta\theta}$-4.08; $M_{\phi\phi}$1.07; $M_{r\theta}$1.15; $M_{\theta\phi}$2.46; $M_{\phi r}$-4.18; Fault plane solution: $M_0$6.19000×10^{15} NP1:ϕ_s259.82000°, δ39.26000°, λ29.59000°. NP2:ϕ_s146.09000°, δ71.79000°, λ125.41000°. Principal axes: T 6.3716, Plg50.0000°, Azm96.0000°; N -0.3915, Plg33.0000°, Azm314.0000°; P -5.9801, Plg19.0000°, Azm210.0000°;*

*NEIC **05** 20:18:57.5±1.9, 18°.26S±0°.05×71°.58W±0°.06, h18km±3km, mb4.8/70, Mwr4.5/35, ML4.4(ARE), ML4.3(GUC) Error ellipse: s-maj=8.4km s-min=7.3km az=53.0*

*GUC **05** 20:19:03.9±0.7, 18°.49S×71°.30W, h32km±16km, ML4.3*

*ARE **05** 20:19:08±1.6, 18°.19S±0°.10×71°.6W±0°.1, h25km±4km, Error ellipse: s-maj=15.3km s-min=12.3km az=224.0*

ISC 05 20:18:57.4±1.9**, 18°.24S**±0°.04×**71°.59W**±0°.05**, h22**km±14km**, n234, σ1s.37/227, mb4.7/41, MS3.8/9, 3C, Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AP01	Chacalluta	1.19	97	eP	Pn	20 19 18.9	+0.2
AP01				eS	Sn	20 19 32.1	-2.0
AP01				IAML		20 19 44.1	
	comp=N,22μm,0.4s						
AP01	Chacalluta	1.19	97		Pn	20 19 19.1	+0.5
AP01				Sn	Sb	20 19 35.7	+1.5
PSGC	Pisagua	1.93	135	⇑iP	Pn	20 19 29.6	+0.6
PSGC				eS	Sn	20 19 49.4	-3.3
PSGCX	Pisagua	1.93	135	Pn	Pn	20 19 29.6	+0.6
PSGCX				Sn	Sn	20 19 51.4	-1.3
PB11	IPOC Station P	2.37	130	⇑iP	Pn	20 19 36.1	+1.0
PB11				eS	Sn	20 20 00.7	-2.9
PB11				IAML		20 20 16.2	
	comp=N,3μm,0.6s						
PB11	IPOC Station P	2.37	130	Pn	Pn	20 19 36.1	+1.0
TA02	Huaiquique	2.44	146	eP	Pn	20 19 36.7	+0.7
TA02				eS	Sn	20 20 02.2	-2.9
TA02				IAML		20 20 16.6	
	comp=N,2μm,0.5s						
TA02	Huaiquique	2.44	146		Pn	20 19 36.5	+0.6
TA01	Diego Aracena	2.67	150	eP	Pn	20 19 39.1	+0.2
TA01				eS	Sn	20 20 07.9	-2.7
TA01	Diego Aracena	2.67	150		Pn	20 19 39.0	0.0
PB08	IPOC Station P	2.98	130	⇑iP	Pn	20 19 44.7	+1.1
PB08				eS	Sn	20 20 16.5	-2.3
PB08				IAML		20 20 44.7	
	comp=N,787nm,0.6s						
PB08	IPOC Station P	2.98	130		Pn	20 19 44.7	+1.1
PB01	IPOC Station P	3.42	145	Pn	Pn	20 19 49.8	+0.4
PB07	IPOC Station P	3.82	156	eP	Pn	20 19 55.2	+0.2
PB07				eS	Sn	20 20 34.4	-4.9
PB07				IAML		20 20 41.5	
	comp=N,902nm,0.7s						
PB07	IPOC Station P	3.82	156		Pn	20 19 55.2	+0.2
LPAZ	La Paz	3.83	60	Pn	Pn	20 20 00.1	+4.6
	comp=N,3.2nm,0.3s,baz=240,slow=8.8,SNR=54						
LPAZ				Lg	Lg	20 20 54.0	
	comp=N,8.4nm,0.3s,baz=232,slow=14,SNR=3.7						
LPAZ				LR	LR	20 21 16.6	
	comp=N,550nm,20.3s,baz=252,slow=39						
LPAZ	La Paz	3.83	60	Pn	Pn	20 19 59.2	+3.6
LPAZ	La Paz	3.83	60	eP	Pn	20 20 00.1	+4.6
PB09	IPOC Station P	4.17	148		Pn	20 20 00.7	+0.9
PB04	IPOC Station P	4.29	162	Pn	Pn	20 20 00.6	-0.9
PB06	IPOC Station P	4.83	157		Pn	20 20 08.8	0.0
LVC	Limon Verde	5.02	150	Pn	Pn	20 20 12.9	+1.2
	comp=N,8.4nm,0.3s,baz=332,slow=9.5,SNR=44						
LVC				Sn	Sn	20 21 08.7	-0.5
	comp=N,19nm,0.3s,baz=302,slow=23,SNR=14						
LVC				Lg	Lg	20 21 38.6	
	comp=N,17nm,0.3s,baz=145,slow=23,SNR=4.6						
LVC				LR	LR	20 22 07.0	
	comp=N,430nm,19.1s,baz=328,slow=38						
LVC	Limon Verde	5.02	150	Pn	Pn	20 20 12.5	+0.8
LVC	Limon Verde	5.02	150	eP	Pn	20 20 13.0	+1.3
PB15	IPOC Station P	5.33	159		Pn	20 20 15.1	-0.7
AF01	San Pedro de A	5.67	146	Pn	Pn	20 20 21.3	+0.7
PB14	IPOC Station P	6.45	170	Pn	Pn	20 20 29.8	-1.5
NNA	Nana	8.02	320	Pn	Pn	20 20 52.5	-0.2
	comp=N,1.2nm,0.3s,baz=150,slow=9.6,SNR=1.7						
NNA				Sn	Sn	20 22 18.5	-4.4
	comp=N,2.6nm,0.3s,baz=259,slow=16,SNR=1.4						
NNA				LR	LR	20 24 27.1	
	comp=N,269nm,20.2s,baz=166,slow=41						
NNA	Nana	8.02	320	Pn	Pn	20 20 54.2	+1.4
AC02	Maricunga	8.85	166	Pn	Pn	20 21 04.3	-0.1
ETMB	Extrema	9.86	33	eP	Pn	20 21 17.8	0.0
SIV	San Ignacio	10.30	79	Pn	Pn	20 21 25.9	+2.0
	baz=269,slow=14,SNR=7.9						
SIV				Sn	Sn	20 23 15.1	-3.6
	comp=N,0.3nm,0.3s,baz=349,slow=18,SNR=1.2						
SIV				Lg	Lg	20 24 18.8	
	comp=N,0.5nm,0.3s,baz=39,slow=18,SNR=1.2						
CZSB	Cruzeiro do Su	10.50	354	eP	Pn	20 21 26.8	+0.1
VILB	Vilhena	12.16	66	eP	Pn	20 21 49.3	-0.1
PTLB	Pontes e Lacer	12.24	79	eP	Pn	20 21 50.1	-0.3
SAML	Samuel	12.32	43	Pn	Pn	20 21 50.8	-0.8
SAML	Samuel	12.32	43	eP	Pn	20 21 52.6	+1.0
SAML	Samuel	12.32	43	eP	Pn	20 21 51.6	0.0
AQDB	Aquidauana	15.16	101	Pn	Pn	20 22 29.3	-0.9
AQDB	Aquidauana	15.16	101	eP	Pn	20 22 29.8	-0.4
SALV	Santo Antonio	15.37	84	eP	Pn	20 22 33.3	+0.3
CPUP	Villa Florida	15.45	124	Pn	Pn	20 22 31.6	-2.3
	comp=N,0.1nm,0.3s,baz=312,slow=14,SNR=1.3						
CPUP	Villa Florida	15.45	124	eP	Pn	20 22 33.5	-0.5
BO02	Sierra Bellavi	16.50	178	P	Pn	20 22 49.5	+1.9
H03N1	Juan Fernandez	16.50	202	Pn	Pn	20 22 47.5	+0.3
	baz=110,slow=14,SNR=8.6						
H03N1				T	T	20 39 53.3	
	baz=26,slow=73,SNR=687						
H03N2	Juan Fernandez	16.51	202	Pn	Pn	20 22 46.0	-1.3
	baz=110,slow=14,SNR=8.3						
H03N2				T	T	20 40 04.5	
	baz=26,slow=73,SNR=612						
H03N3	Juan Fernandez	16.52	202	Pn	Pn	20 22 45.8	-1.6
	baz=110,slow=14,SNR=9.3						
H03N3				T	T	20 39 59.3	
	baz=26,slow=73,SNR=625						
H03S3	Juan Fernandez	16.85	201	Pn	Pn	20 22 51.2	-0.4
	baz=16,slow=20,SNR=6.2						
H03S1	Juan Fernandez	16.86	201	Pn	Pn	20 22 50.4	-1.3
	baz=16,slow=20,SNR=7.1						
H03S2	Juan Fernandez	16.87	202	Pn	Pn	20 22 51.1	-0.7
	baz=16,slow=20,SNR=10						
CLDB	Colider	16.94	67	eP	Pn	20 22 53.1	0.0
ITQB	Itaqui	17.77	133	P	Pn	20 23 04.1	+0.7
TRCB	Terra Rica	18.32	108	Pn	P	20 23 08.3	-1.9
TRCB				IAmb	IAmb	20 23 10.2	
	comp=Z,30nm,0.5s						
TRCB	Terra Rica	18.32	108	eP	P	20 23 09.4	-0.8
MACA	Manacapuru-AM	18.40	37	eP	P	20 23 10.2	-0.9
ARAG	Araguaiana, MT	19.08	85	eP	P	20 23 17.3	-1.2
PTGB	Pitanga	19.27	113	eP	P	20 23 21.0	+0.4
NPGB	Novo Progresso	19.33	57	eP	P	20 23 20.2	-1.1
PCMB	Pacaembu	19.40	103	eP	P	20 23 22.8	+0.7
OTAV	Otavalo	19.56	339	P	Pn	20 23 26.4	+0.7
OTAV	Otavalo	19.56	339	eP	Pn	20 23 37.7	+12
OTAV	Otavalo	19.56	339	eP	P	20 23 24.7	+0.3
TULM	Tulcn-Chalpat	19.80	341	eP	P	20 23 24.2	-2.7
FLOC	Florencia	20.10	348	P	Pn	20 23 31.9	+0.2
FLOC	Florencia	20.10	348	eP	Pn	20 23 31.9	+0.3
ITRB	Iturama	20.13	98	eP	P	20 23 30.3	+0.3
CRUC	La Cruz	20.38	344	eP	Pn	20 23 40.3	+5.0
CPSB	Cacapava Do Su	20.46	130	eP	P	20 23 33.7	+0.2
SNDB	Serra Nova Dou	20.55	75	eP	P	20 23 33.4	-1.2
ITTB	Itaituba	20.75	50	eP	P	20 23 35.5	-1.2
PTGA	Pitinga	20.81	35	P	P	20 23 35.7	-1.7
	comp=Z,28nm,0.5s,baz=204,slow=12,SNR=53						
PTGA	Pitinga	20.81	35	P	P	20 23 36.0	-1.4
PTGA				IAmb	IAmb	20 23 37.0	
	comp=Z,29nm,0.6s						
PTGA	Pitinga	20.81	35	eP	P	20 23 35.5	-1.9
SOTA	Rioblanco	20.84	346	eP	Pn	20 23 40.3	-0.5
BBAC	Balboa, Cauca	20.89	344	eP	Pn	20 23 40.5	-0.5
PCON	Cinco Dias	20.98	346	eP	Pn	20 23 46.4	+3.9
PLTB	Pedras Altas	21.10	133	P	P	20 23 39.6	-0.8
PLTB				IAmb	IAmb	20 23 42.2	
	comp=Z,34nm,1.3s						
PLTB	Pedras Altas	21.10	133	eP	P	20 23 40.3	-0.1
FRTB	Fartura	21.20	108	eP	P	20 23 41.3	-0.3
POPC	Popayan, Colom	21.25	346	eP	P	20 23 43.7	+1.4

MARP Paez Belalcaza 21.39 348 eP P 20 23 45.0 +1.1
TRQA Tornquist 21.46 159 P P 20 23 45.0 +0.8
TRQA IAmb IAmb 20 23 55.0
comp=Z,36nm,1.4s
TRQA Tornquist 21.46 159 eP P 20 23 45.9 +1.7
BB19B Bebedouro 21.89 101 eP P 20 23 48.4 -0.7
CNLB Canela 21.91 124 eP P 20 23 49.7 +0.5
PRAC Prado 22.06 351 eP P 20 23 54.1 +3.3
TIJ01 Guaruva-PR 22.10 113 eP P 20 23 52.1 +0.7
IPMB Ipameri, GO 22.22 93 eP P 20 23 50.6 -2.0
ORTC Ortega, Tolima 22.30 350 eP P 20 23 55.1 +1.6
PLCA Paso Flores 22.43 178 P P 20 23 54.7 -0.1
comp=Z,4.9nm,0.9s,baz=357,slow=12,SNR=8.8
PLCA Paso Flores 22.43 178 P P 20 23 56.9 +2.1
PLCA Paso Flores 22.43 178 eP P 20 23 56.9 +2.1
YOTC Yotoco, Valle 22.57 348 eP P 20 23 59.1 +2.6
BDFB Brasilia 22.69 87 P P 20 23 54.4 -3.4
comp=Z,10nm,0.7s,baz=269,slow=11,SNR=14
BDFB Brasilia 22.69 87 P P 20 23 56.8 -1.0
BDFB IAmb IAmb 20 24 10.2
comp=Z,20nm,0.7s
CHIC Chingaza 22.82 354 eP P 20 24 01.1 +1.7
RCLB Rio Claro- Sao 22.93 104 eP P 20 24 00.4 +0.3
TOLC Tolima 22.98 350 eP P 20 24 02.3 +1.4
TER01 Tubaro-SC 22.98 121 eP P 20 24 01.8 +1.2
ROSC El Rosal 23.09 353 P P 20 24 01.4 -0.7
ROSC IAmb IAmb 20 24 10.8
comp=Z,9.8nm,0.6s
SPB Sao Paulo 23.17 107 eP P 20 24 03.0 +0.5
BOAV Boa Vista 23.22 29 eP P 20 24 02.2 -0.8
PEXB Peixe 23.27 78 eP P 20 24 02.2 -1.4
PET01 Itanhaem-SP 23.42 109 eP P 20 24 06.2 +1.2
MALB Monte Alegre 23.54 48 eP P 20 24 05.8 -0.4
GUY2C Guyana, Caldas 23.61 351 eP P 20 24 08.9 +1.5
SPBC San Pablo de B 23.87 354 eP P 20 24 10.1 +0.6
NORC Norcasia 23.87 352 eP P 20 24 10.2 +0.7
RUSC La Rusia 24.02 356 P P 20 24 10.8 -0.6
RUSC IAmb IAmb 20 24 22.8
comp=Z,24nm,0.7s
RUSC La Rusia 24.02 356 eP P 20 24 12.0 +0.7
CBOC Ciudad Bolivar 24.34 349 eP P 20 24 15.7 +1.7
PRPB Parauapebas 24.39 63 eP P 20 24 13.4 -0.8
HELC Santa Helena 24.59 351 eP P 20 24 17.1 +0.8
BARC Barichara 24.72 356 eP P 20 24 17.3 -0.2
PARB Paraibuna 24.78 106 eP P 20 24 17.3 -0.5
PTBC PUERTO BERRIO, 24.78 353 eP P 20 24 16.0 -1.8
SMTB Santa Maria do 25.09 71 eP P 20 24 20.6 -0.1
ELOV Elorza 25.17 5 eP P 20 24 19.8 -1.4
BSCB Bom Sucesso 25.39 101 eP P 20 24 23.2 -0.2
PAMC Pamplona, Colo 25.44 357 eP P 20 24 23.6 -0.7
DBBC Dabeiba 25.51 349 eP P 20 24 25.9 +1.4
ZARC Zaragoza, Cauc 25.77 353 eP P 20 24 26.1 -0.6
UREC San Jos de Ur 26.12 351 eP P 20 24 30.1 +0.3
MCPB Macapa, AP 26.15 49 eP P 20 24 30.8 +0.5
JANB Januaria 26.31 87 eP P 20 24 30.8 -1.0
SDBA SAO DESIDERIO 26.36 81 eP P 20 24 30.4 +0.8
SOCV Socops 26.36 2 eP P 20 24 30.4 -1.7
MC01 Montes Claros 26.40 91 eP P 20 24 31.9 -0.7
DIAM Diamantina, MG 26.50 95 eP P 20 24 33.5 0.0
VAS01 Vassouras-RJ 26.69 103 eP P 20 24 35.6 +0.6
SDV Santo Domingo 26.97 2 P P 20 24 37.3 -0.5
SDV IAmb IAmb 20 24 56.3
comp=Z,13nm,1.0s
SMLC San Martn de 26.98 355 eP P 20 24 35.9 -1.7
SJCC San Jacinto, C 28.18 352 P P 20 24 48.5 0.0
SJCC San Jacinto, C 28.18 352 eP P 20 24 48.8 +0.3
BSFB Barra de Sao F 29.13 96 eP P 20 24 56.4 -0.6
RIB01 Linhares ES 29.53 97 eP P 20 24 60.0 -0.5
MDP Montagnes des 29.78 41 P P 20 25 01.4 -1.3
comp=Z,2.8nm,0.5s,baz=248,slow=5.4,SNR=1.8
GUA01 Guaratinga, BA 30.35 92 eP P 20 25 07.2 -0.5
CMC01 Camacan, BA 30.81 90 eP P 20 25 12.3 +0.5
GDU01 Guandu, BA 31.07 86 eP P 20 25 12.8 -1.4
NBPN Ponto Novo - B 31.22 81 eP P 20 25 14.5 -1.0
NBPB Pedra_Branca-C 33.69 72 eP P 20 25 36.6 -0.5
MLPR Magueyes Islan 36.26 7 P P 20 25 57.0 -2.0
OBIP Obispado Ponce 36.39 8 P P 20 25 59.3 -0.9
OBIP IAmb IAmb 20 26 01.1
comp=Z,12nm,0.8s
MTP Monte Pirata 36.59 10 P P 20 25 59.5 -2.4
MTP IAmb IAmb 20 26 00.1
comp=Z,12nm,0.8s
CBYP Canovanas 36.72 9 P P 20 26 00.9 -2.2
GCPR Guaynabo City 36.72 9 P P 20 26 00.9 -2.1
SMRT St. Maarten 37.02 14 P P 20 26 02.6 -3.0
PMSA Palmer Station 46.78 176 eP P 20 27 25.4 +0.6
Y60A Bolivia 52.34 353 P P 20 28 07.8 +0.3
BIRD Birdtown, Kers 53.26 351 P P 20 28 14.7 +0.3
BIRD IAmb IAmb 20 28 25.1
comp=Z,10nm,1.1s
V52A Sevierville 54.98 348 P P 20 28 26.6 -0.3
T59A Double "B" Far 55.20 354 P P 20 28 28.7 +0.3
T57A Hurt 55.41 353 P P 20 28 30.3 +0.3
T57A IAmb IAmb 20 28 41.0
comp=Z,12nm,1.1s
WLAR White Oak Lake 55.57 338 P P 20 28 31.0 -0.2
R58B Mineral 56.22 354 P P 20 28 36.0 +0.3
R58B IAmb IAmb 20 28 37.0
comp=Z,5.8nm,0.7s
MIAR Mount Ida 56.51 338 P P 20 28 38.0 +0.1
MIAR IAmb IAmb 20 28 53.1
comp=Z,5.9nm,1.1s
TXAR Lajitas Array 56.53 326 P P 20 28 37.7 -0.5
comp=Z,0.7nm,0.8s,baz=146,slow=9.5,SNR=6.3
TXAR Lajitas Array 56.53 326 P P 20 28 38.2 -0.1
X37A Clayton 57.20 337 P P 20 28 43.5 +0.7
X37A IAmb IAmb 20 28 53.6
comp=Z,8.9nm,0.9s
Q56A Snyder Ridge, 57.42 353 P P 20 28 45.0 +0.7
WUPA West Chester U 57.99 356 P P 20 28 48.4 +0.2
WUPA IAmb IAmb 20 28 52.6
comp=Z,9.3nm,1.4s
S44A Carbondale 58.07 344 P P 20 28 48.4 -0.5
SIUC Southern Illin 58.08 344 P P 20 28 47.9 -1.0
SIUC IAmb IAmb 20 29 01.3
comp=Z,13nm,0.9s
O56A Blue Knob Stat 58.57 354 P P 20 28 52.6 +0.3
O56A IAmb IAmb 20 28 55.4
comp=Z,7.2nm,0.9s
M55A Ridgway 59.77 354 P P 20 29 01.1 +0.4
M55A IAmb IAmb 20 29 01.8
comp=Z,6.5nm,0.7s
J57A Williamstown 61.48 356 P P 20 29 12.6 +0.4
J57A IAmb IAmb 20 29 26.5
comp=Z,8.6nm,1.0s
BELA Belgrano 2 62.31 172 P P 20 29 18.8 +1.3
ANMO Albuquerque 62.41 328 LR LR 20 56 52.5
comp=Z,54nm,18.5s,baz=183,slow=36
G62A West of Eustis 63.16 1 P P 20 29 24.2 +0.8
G65A Princeton 63.24 3 P P 20 29 24.4 +0.5
G65A IAmb IAmb 20 29 28.2
comp=Z,10nm,0.9s
VNA3 Neumayer Olymp 63.95 161 P P 20 29 30.4 +1.9
VNA3 Neumayer Olymp 63.95 161 sP sP 20 29 40.0 +2.4
SDCO Great Sand Dun 64.18 331 P P 20 29 31.2 +0.5
VNA1 Neumayer--Stat 64.18 161 P P 20 29 32.0 +2.2
VNA1 Neumayer--Stat 64.18 161 sP sP 20 29 42.0 +2.9
VNA2 Neumayer--Watz 64.54 161 P P 20 29 33.7 +1.4
VNA2 Neumayer--Watz 64.54 161 sP sP 20 29 43.9 +2.4
baz=274,slow=6.7
E62A Clayton Lake 64.58 2 P P 20 29 33.5 +0.8
X16A Lo Mia Camp, P 64.65 324 P P 20 29 35.4 +1.7
BATG Bathurst New B 65.40 4 P P 20 29 38.4 +0.4
BATG IAmb IAmb 20 29 39.3
comp=Z,8.1nm,0.8s
SNAA Sanae 66.17 161 pP P 20 29 44.3 +1.4
SNAA Sanae 66.17 161 sP sP 20 29 54.3 +2.2
SNAA Sanae 66.17 161 P P 20 29 44.1 +1.2
SNAA IAmb IAmb 20 29 55.4
comp=Z,11nm,1.2s
CCUT Cedar City 68.01 325 P P 20 29 56.4 +1.2
CCUT IAmb IAmb 20 29 58.6
comp=Z,4.2nm,0.9s
SHPR Sheep Range 68.25 323 P P 20 29 57.6 +0.9
SHPR IAmb IAmb 20 29 59.5
comp=Z,3.5nm,0.7s
PDAR Pinedale Array 70.05 331 P P 20 30 08.3 +0.5
comp=Z,0.4nm,0.6s,baz=105,slow=6.0,SNR=2.4
PDAR LR LR 21 03 13.7
comp=Z,44nm,18.2s,baz=142,slow=38
DBIC Dimbokro 70.30 76 P P 20 30 08.8 -0.9
comp=Z,5.9nm,0.8s,baz=218,slow=5.9,SNR=5.8
DBIC LR LR 21 00 11.6
comp=Z,48nm,18.3s,baz=293,slow=35
DBIC Dimbokro 70.30 76 P P 20 30 08.6 -1.0
TPH Tonopah 70.53 323 P P 20 30 11.5 +0.7
LHV Little Huntoon 71.38 323 P P 20 30 16.7 +1.0
LHV IAmb IAmb 20 30 43.5
comp=Z,6.2nm,0.9s
NVAR Mina Array Bea 71.39 323 P P 20 30 17.0 +0.9
comp=Z,1.7nm,0.7s,baz=147,slow=5.6,SNR=12
NVAR Mina Array Bea 71.39 323 P P 20 30 17.3 +1.3
ULM Lac du Bonnet 71.48 344 P P 20 30 14.7 -1.4
comp=Z,3.0nm,0.6s,baz=153,slow=4.0,SNR=5.9
QSPA South Pole Qui 71.93 180 P P 20 30 20.2 +1.4
QSPA IAmb IAmb 20 30 32.4
comp=Z,8.1nm,1.1s
KOWA Kowa 74.11 69 P P 20 30 32.7 +0.3
I07A Izee 75.92 327 P P 20 30 43.7 +1.3
I07A IAmb IAmb 20 30 44.8
comp=Z,5.9nm,1.1s
PINE Pine Mountain 76.48 326 P P 20 30 47.1 +1.4
PINE IAmb IAmb 20 30 48.8
comp=Z,5.8nm,0.8s
TORD Torodi Ar. Bea 78.69 72 P P 20 30 57.4 -1.1
comp=Z,6.5nm,1.0s,baz=257,slow=5.0,SNR=20
TORD LR LR 21 04 44.9
comp=Z,200nm,18.6s,baz=195,slow=35
TORD Torodi Ar. Bea 78.69 72 P P 20 30 57.6 -0.8
TORD IAmb IAmb 20 30 57.9
comp=Z,5.5nm,0.8s
VNDA Vanda 79.60 190 LR LR 21 02 13.3
comp=Z,26nm,19.8s,baz=334,slow=33
VNDA Vanda 79.60 190 P P 20 31 02.7 +0.3
EDM Edmonton 79.77 336 P P 20 31 03.7 +0.2
MESJ Messejana 81.53 46 eP P 20 31 14.1 +0.8
MESJ IAmb IAmb 20 31 15.7
comp=Z,4.5nm,0.8s
PVAQ Vaqueiros 81.65 46 P P 20 31 14.4 +0.5
SUR Sutherland 82.41 121 P P 20 31 19.0 +0.6
SUR IAmb IAmb 20 31 21.2
comp=Z,8.5nm,1.1s
PESTR Estremoz 82.48 45 P P 20 31 18.6 +0.4
TSUM Tsumeb 83.41 108 P P 20 31 24.9 +1.2
TSUM IAmb IAmb 20 31 26.0
comp=Z,8.3nm,0.9s
PAB San Pablo 85.01 46 P P 20 31 32.3 +1.0
ESDC Sonseca Array 85.33 46 P P 20 31 33.3 +0.5
comp=Z,7.1nm,0.9s,baz=251,slow=5.5,SNR=33
ESDC LR LR 21 07 14.8
comp=Z,47nm,20.0s,baz=265,slow=34
ESDC Sonseca Array 85.33 46 P P 20 31 33.8 +0.9
ESDC IAmb IAmb 20 31 34.9
comp=Z,8.6nm,1.1s
ESBB Sonseca Array 85.33 46 P P 20 31 34.1 +1.2
BOSA Boshof 87.21 119 LR LR 21 10 13.9
comp=Z,42nm,19.6s,baz=192,slow=35
YKA Yellowknife Ar 87.30 342 P P 20 31 42.1 +0.2
comp=Z,10nm,0.8s,baz=131,slow=5.5,SNR=14
YKA LR LR 21 13 20.4
comp=Z,40nm,20.6s,baz=0.0,slow=37
YKA Yellowknife Ar 87.30 342 P P 20 31 42.4 +0.5
MAW Mawson 88.15 164 P P 20 31 47.1 +1.0
comp=Z,2.0nm,0.6s,baz=164,slow=5.5,SNR=9.3
MAW Mawson 88.15 164 P P 20 31 47.5 +1.4
KEST Kesra 93.38 54 LR LR 21 14 56.4
comp=Z,46nm,19.8s,baz=260,slow=36
H11S2 WAKE ISLAND Hy 24.90 280 T T 22 55 17.6
baz=100,slow=75,SNR=108
H11N3 WAKE ISLAND Hy 24.91 282 T T 22 55 18.4
baz=98,slow=75,SNR=6.5
H11S1 WAKE ISLAND Hy 24.91 280 T T 22 55 15.8
baz=100,slow=75,SNR=131
H11S3 WAKE ISLAND Hy 24.92 280 T T 22 55 17.7
baz=100,slow=75,SNR=100
H11N2 WAKE ISLAND Hy 24.92 282 T T 22 55 20.1
baz=98,slow=75,SNR=6.4
H11N1 WAKE ISLAND Hy 24.92 282 T T 22 55 19.0
baz=98,slow=75,SNR=5.8
ASAR Alice Springs 131.48 212 PKP PKPdf 20 38 09.1 +0.1
comp=Z,0.4nm,0.9s,baz=149,slow=2.2,SNR=2.0
WRA Warramunga Arr 134.32 215 PKP PKPdf 20 38 14.7 +0.3
comp=Z,0.8nm,1.0s,baz=151,slow=1.9,SNR=2.1
USRK Ussuriysk Ar. 147.42 328 PKPbc PKPbc 20 38 40.3 +0.7
comp=Z,2.0nm,0.7s,baz=30,slow=3.0,SNR=6.3
USRK Ussuriysk Ar. 147.42 328 PKPdf 20 38 38.2 +1.2
MJAR Matsushiro Arr 148.06 311 PKPbc PKPbc 20 38 41.0 -0.6
comp=Z,1.9nm,0.7s,baz=100,slow=3.5,SNR=8.8
MJAR Matsushiro Arr 148.06 311 PKPdf 20 38 39.6 +1.2
SONM Songino Array 150.44 3 PKPbc PKiKP 20 38 48.4 +0.3
comp=Z,2.0nm,0.7s,baz=329,slow=2.0,SNR=9.5
SONM PKPab PKPab 20 38 53.6 -0.1
comp=Z,2.6nm,0.7s,baz=328,slow=3.6,SNR=9.5
CMAR Chiang Mai Arr 171.00 87 PKPab PKPab 20 40 23.5 -0.3
comp=Z,1.3nm,0.8s,baz=270,slow=3.6,SNR=8.2
CMAR Chiang Mai Arr 171.00 87 PKPdf PKPdf 20 39 04.1 -0.6
CMAR PKPab 20 40 22.4 -1.4
CMAR Chiang Mai Arr 171.00 87 *i* P PKPab 20 40 22.3 -1.5

*IDC **05** 20:24:14.8±0.6,25°.55N×142°.86E,h0km,mb4.2/23, mb1 4.3/25,mb1mx4.2/52,mbtmp4.2/25,ML3.1/2,MS3.1/3, Ms1 3.1/3,ms1mx2.7/38,Error ellipse: s-maj=23.7km s-min=13.4km az=74.0*
*JMA **05** 20:24:15.5±0.1,25°.57N×143°.32E,h12km±1km,M4.2*
*MOS **05** 20:24:19.9±1.2,25°.57N×142°.65E,h37km,mb4.8/17, Error ellipse: s-maj=15.3km s-min=6.1km az=114.9*
*NEIC **05** 20:24:22.1±1.1,25°.61N±0°.08×142°.7E±0°.1,h38km±6km, mb4.5/41,Error ellipse: s-maj=15.8km s-min=11.2km az=89.0*

ISC 05 20:24:21.5±0.5,25°.54N±0°.06×142°.85E±0°.09,h40km,n156, σ1s30/164,mb4.5/57,MS3.9/5,15C-1D,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	Haha-jima-NKT2	1.24	331	P	Pn	20 24 41.9	-0.4
CBIJ	Chichi jima	1.66	339	P	Pn	20 24 47.2	-0.8
CBIJ				S	Sn	20 25 10.5	+2.4
JCJ	Chichijima	1.66	339	Pn	Pn	20 24 46.9	-1.1
	406nm,0.3s,baz=181,slow=4.7,SNR=312						
JCJ				Sn	Sn	20 25 11.3	+3.2
	166nm,0.3s,baz=290,slow=21,SNR=4.7						
JCJ	Chichijima	1.66	339		Pn	20 24 47.5	-0.6
JHU	Hanno	10.72	344	P	Pn	20 26 51.1	-1.3
INU	Inuyama	10.99	334	Pn	Pn	20 26 56.8	+0.7
JHO	Hitachi	11.20	351	P	Pn	20 26 56.1	-2.9
JAG	Ashikaga	11.23	346	P	Pn	20 26 56.5	-2.9
JWT	Wachi	11.63	328	Pn	Pn	20 27 04.5	-0.5
MJAR	Matsushiro Arr	11.66	341	Pn	Pn	20 27 02.2	-3.0
	0.1nm,0.3s,baz=150,slow=12,SNR=11						
MJAR	Matsushiro Arr	11.66	341	P	Pn	20 27 03.8	-1.5
MJAR	Matsushiro Arr	11.66	341		Pn	20 27 03.8	-1.5
MAJO	Matsushiro	11.66	341	*i* P	Pn	20 27 04.8	-0.5
MAJO	Matsushiro	11.66	341	Pn	Pn	20 27 03.6	-1.7
JMM	Marumori	12.41	352		Pn	20 27 12.1	-3.3
JNU	Nakatsue	12.88	309	LR	LR	20 31 36.4	
	comp=Z,151nm,19.2s,baz=268,slow=34						
JTM	Tenmabayashi	15.28	355	Pn	Pn	20 27 51.4	-2.8
JTM				IAmb	IAmb	20 28 01.1	
	comp=Z,27nm,1.3s						
KSRS	Korea Array	17.38	317	P	Pn	20 28 20.6	-0.3
	comp=Z,0.1nm,0.3s,baz=129,slow=12,SNR=6.3						
KSRS				LR	LR	20 34 56.8	
	comp=Z,67nm,18.5s,baz=140,slow=37						
SSLB	Suanglung	19.97	270		P	20 28 51.0	+0.6
USA0B	Ussuriysk Arra	20.60	337	P	P	20 28 55.4	-1.7
USA0B				pmax	pmax		
	comp=Z,6.0nm,0.7s						
USA0B	Ussuriysk Arra	20.60	337		P	20 28 55.4	-1.7
USRK	Ussuriysk Ar.	20.60	337	P	P	20 28 55.6	-1.4
	comp=Z,3.4nm,0.7s,baz=147,slow=11,SNR=11						
USRK	Ussuriysk Ar.	20.60	337	P	P	20 28 55.9	-1.1
USRK	Ussuriysk Ar.	20.60	337		P	20 28 55.9	-1.1
MDJ	Mudanjiang	21.85	334	P	P	20 29 11.6	+1.1
MDJ				S	S	20 33 12.2	+2.4
MDJ				sS	sS	20 33 31.0	+6.6
MDJ				pmax	pmax		
	comp=Z,15nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,170nm,3.5s						
MDJ	Mudanjiang	21.85	334	P	P	20 29 08.5	-2.0
MDJ				IAmb	IAmb	20 29 14.0	
	comp=Z,15nm,1.0s						
NJ2	Nanjing	21.98	293	eP	P	20 29 10.5	-1.5
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						

H11N2 WAKE ISLAND Hy 22.92 100 T T 20 52 56.3
baz=290,slow=75,SNR=10
H11N1 WAKE ISLAND Hy 22.93 100 T T 20 52 53.6
baz=290,slow=75,SNR=15
H11N3 WAKE ISLAND Hy 22.94 100 T T 20 52 55.3
baz=290,slow=75,SNR=16
H11S3 WAKE ISLAND Hy 23.17 103 T T 20 53 10.0
baz=292,slow=74
H11S1 WAKE ISLAND Hy 23.18 103 T T 20 53 14.9
baz=292,slow=74
H11S2 WAKE ISLAND Hy 23.19 103 T T 20 53 17.2
baz=292
KLR Kul'dur 25.18 343 P P 20 29 41.8 -1.3
comp=Z,5.1nm,0.5s,baz=150,slow=8.4,SNR=17
KLR Kul'dur 25.18 343 *ce*P P 20 29 43.7 +0.7
KLR pmax pmax
comp=Z,15nm,1.3s
BJI Beijing 26.55 310 P P 20 29 59.0 +3.5
BJI pmax pmax
comp=Z,6.0nm,1.1s
PETK Petropavlovsk- 29.71 18 LR LR 20 41 03.3
comp=Z,25nm,21.4s,baz=127,slow=34
HIA Hailar 29.73 329 P P 20 30 23.2 -0.7
HIA pmax pmax
comp=Z,11nm,1.2s
HIA Hailar 29.73 329 P P 20 30 23.1 -0.7
HIA IAmb IAmb 20 30 24.7
comp=Z,11nm,1.2s
ENH Enshi 29.79 287 P P 20 30 23.4 -1.2
ENH IAmb IAmb 20 30 31.6
comp=Z,7.0nm,1.0s
HHC Hu-ho-hao-te 30.11 308 eP P 20 30 29.7 +2.3
HHC pmax pmax
comp=Z,7.0nm,1.1s
HHC pmax pmax
comp=Z,56nm,5.3s
ZEA Zeya 30.47 342 eP P 20 30 30.9 +0.6
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ULN Ulaanbaatar 35.86 318 *ce*P P 20 31 17.7 +0.2
ULN pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 35.86 318 P P 20 31 16.8 -0.7
KMI Kunming 36.16 278 ⇓P P 20 31 21.0 +0.6
KMI pP pwP 20 31 32.4 -1.2
KMI pmax pmax
comp=Z,9.0nm,1.0s
SONM Songino Array 36.25 317 P P 20 31 18.1 -2.7
comp=Z,1.7nm,0.6s,baz=132,slow=8.7,SNR=8.7
YAK Yakutsk 37.54 350 *ce*P P 20 31 31.7 +0.3
YAK pmax pmax
comp=Z,7.0nm,0.7s
YAK Yakutsk 37.54 350 P P 20 31 30.8 -0.7
YAK IAmb IAmb 20 31 33.9
comp=Z,11nm,0.9s
GTA Gaotai 38.49 302 eP P 20 31 40.9 +1.0
GTA pP pP 20 31 50.2 -0.3
GTA sP sP 20 31 54.6 -0.4
GTA pmax pmax
comp=Z,2.0nm,0.8s
MTN Manton Dam 39.83 198 P P 20 31 50.0 -1.1
MTN IAmb IAmb 20 32 04.0
comp=Z,9.1nm,1.1s
CMAR Chiang Mai Arr 41.17 269 P P 20 32 01.2 -1.1
comp=Z,0.9nm,0.8s,baz=68,slow=7.1,SNR=7.6
CMAR Chiang Mai Arr 41.17 269 *ce*P P 20 32 03.7 +1.4
CMAR pmax pmax
comp=Z,1.0nm,0.6s
KNRA Kununurra 43.21 200 P P 20 32 18.3 -0.4
KNRA IAmb IAmb 20 32 42.0
comp=Z,21nm,1.4s
BILL Bilibino 44.84 12⇑ eP P 20 32 33.9 +2.6
BILL *e* 20 34 15.5
BILL *eS* S 20 39 22.3 +17
BILL pmax pmax
comp=Z,4.0nm,0.5s
BILL MLR MLR
comp=Z,80nm,18.0s
CTAO Charters Tower 45.48 176 P P 20 32 37.8 +0.9
CTAO pmax pmax
comp=Z,10.0nm,1.2s
CTAO Charters Tower 45.48 176 P P 20 32 37.8 +0.9
CTAO IAmb IAmb 20 32 53.7
comp=Z,10nm,1.2s
SHL Shillong 45.73 282 P P 20 32 38.1 -1.1
SHL pmax pmax
comp=Z,10.0nm,0.7s
SHL Shillong 45.73 282 P P 20 32 38.1 -1.1
WR0 Warramunga Arr 45.95 191 P P 20 32 40.4 -0.2
WR0 IAmb IAmb 20 33 05.4
comp=Z,6.1nm,1.2s
WRAB Tennant Creek 45.95 191 *ce*P P 20 32 41.0 +0.4
WRAB pmax pmax
comp=Z,19nm,1.8s
WRA Warramunga Arr 45.96 191 P P 20 32 40.2 -0.5
comp=Z,5.3nm,0.7s,baz=12,slow=8.0,SNR=58
WRA Warramunga Arr 45.96 191 *i* P P 20 32 39.5 -1.2
WRA pmax pmax
comp=Z,5.0nm,0.7s
WRA Warramunga Arr 45.96 191 P P 20 32 40.2 -0.5
FITZ Fitzroy Crossi 46.50 203 P P 20 32 44.6 -0.3
FITZ IAmb IAmb 20 32 47.4
comp=Z,16nm,1.4s
WMQ Urumqi 47.97 307 eP P 20 32 58.3 +2.0
DGZ Jazzator, Alta 48.77 315 *i* P P 20 33 02.7 +0.2
DGZ pmax pmax
comp=Z,4.0nm,0.6s
AS31 Alice Springs 49.68 191 P P 20 33 10.3 +0.8
ASAR Alice Springs 49.68 191 P P 20 33 08.4 -1.1
comp=Z,0.6nm,0.7s,baz=17,slow=9.2,SNR=9.0
ASAR Alice Springs 49.68 191 P P 20 33 10.2 +0.7
ASAR Alice Springs 49.68 191 P P 20 33 10.2 +0.7
ZAA0 Zalesovo Array 51.05 320 P P 20 33 18.8 -0.8
ZALV Zalesovo Beam 51.05 320 P P 20 33 18.3 -1.2
comp=Z,1.5nm,0.5s,baz=110,slow=8.1,SNR=8.2
ZALV PcP PcP 20 34 34.7 -0.3
comp=Z,2.4nm,0.6s,baz=106,slow=4.1,SNR=9.1
ZALV Zalesovo Beam 51.05 320 *i* P P 20 33 19.0 -0.5
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 51.05 320 P P 20 33 19.0 -0.5
MK31 Makanchi Array 51.92 311 P P 20 33 25.8 -0.5
MK31 pmax pmax
comp=Z,3.0nm,1.1s
MK31 Makanchi Array 51.92 311 P P 20 33 25.8 -0.5
MKAR Makanchi Array 51.92 311 P P 20 33 24.7 -1.5
comp=Z,2.3nm,0.7s,baz=89,slow=9.0,SNR=27
MKAR PcP PcP 20 34 38.3 -0.2
comp=Z,1.2nm,0.7s,baz=73,slow=4.9,SNR=5.6
MKAR Makanchi Array 51.92 311 *ce*P P 20 33 25.8 -0.5
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 51.92 311 P P 20 33 25.5 -0.8
MAKZ Makanchi 52.14 311 P P 20 33 26.7 -1.2
MAKZ pmax pmax
comp=Z,3.0nm,0.7s
MAKZ Makanchi 52.14 311 P P 20 33 26.7 -1.2
MAKZ IAmb IAmb 20 33 28.0
comp=Z,2.9nm,0.7s
NRIK Noril'sk 54.30 339 P P 20 33 43.0 -0.4
comp=Z,5.3nm,0.7s,baz=106,slow=11,SNR=7.7
NRIK Noril'sk 54.30 339 *ce*P P 20 33 44.7 +1.3
NRIK pmax pmax
comp=Z,6.0nm,0.9s
NRIK Noril'sk 54.30 339 P P 20 33 43.3 -0.1
NRIK IAmb IAmb 20 33 45.2
comp=Z,6.2nm,0.8s
KURK Kurchatov 54.50 315 P P 20 33 44.6 -0.4
KURK Kurchatov 54.50 315 P P 20 33 44.6 -0.4
KURBB Kurchatov Arra 54.55 315 P P 20 33 44.6 -0.8
comp=Z,9.5nm,0.6s,baz=92,slow=7.8,SNR=16
J20K Nowinta River 55.59 28 P P 20 33 53.4 +0.7
J20K IAmb IAmb 20 33 57.8
comp=Z,5.5nm,1.1s
IMAR Indian Mountai 56.17 26 P P 20 33 56.8 0.0
STKA Stephens Creek 57.11 181 P P 20 34 03.5 -0.4
comp=Z,1.7nm,0.7s,baz=0.0,slow=9.1,SNR=2.5
STKA Stephens Creek 57.11 181 P P 20 34 04.7 +0.8
STKA pmax pmax
comp=Z,1.0nm,1.0s
STKA Stephens Creek 57.11 181 P P 20 34 04.7 +0.8
SCM Sheep Creek Mo 58.31 32 P P 20 34 11.7 -0.5
SCM pmax pmax
comp=Z,10.0nm,1.2s
SCM Sheep Creek Mo 58.31 32 P P 20 34 11.7 -0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ILAR	Eielson Array	58.79	28	P	P	20 34 14.4	-1.0
	comp=Z,1.1nm,1.0s,baz=264,slow=5.6,SNR=6.1						
ILAR	Eielson Array	58.79	28	P	P	20 34 16.7	+1.3
ILAR	Eielson Array	58.79	28	P	P	20 34 16.7	+1.3
BVAR	Borovoye Array	59.59	318	P	P	20 34 20.5	-0.5
	comp=Z,8.6nm,0.6s,baz=142,slow=5.1,SNR=66						
BRVK	Borovoye	59.65	318	ceP	P	20 34 21.1	-0.4
BRVK				pmax	pmax		
	comp=Z,11nm,1.0s						
BRVK	Borovoye	59.65	318	P	P	20 34 21.0	-0.4
BMAR	Burnt Mountain	60.00	25	P	P	20 34 25.8	+2.1
KK31	Karatay Array	60.48	307	P	P	20 34 27.0	-0.3
KK31				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KK31	Karatay Array	60.48	307	P	P	20 34 27.0	-0.3
KK31				IAmb	IAmb	20 34 27.7	
	comp=Z,3.7nm,0.7s						
KKAR	Karatay Array	60.48	307	P	P	20 34 27.1	-0.3
KKAR	Karatay Array	60.48	307	P	P	20 34 27.1	-0.3
CAN	Canberra	60.81	174	P	P	20 34 30.8	+1.2
CAN				pmax	pmax		
	comp=Z,24nm,1.5s						
CAN	Canberra	60.81	174	P	P	20 34 30.8	+1.2
GAR	Garm	61.31	302	P	P	20 34 33.0	-0.2
GAR				IAmb	IAmb	20 34 37.4	
	comp=Z,4.2nm,0.6s						
CHGR	Chuyangaron	62.26	302	P	P	20 34 38.8	-0.7
KBL	Kabul	63.25	297	P	P	20 34 44.9	-1.5
KBL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KBL	Kabul	63.25	297	P	P	20 34 44.9	-1.5
ARU	Arti	66.01	323	P	P	20 35 02.9	-0.8
	comp=Z,1.6nm,0.7s,baz=142,slow=2.0,SNR=9.2						
ARU	Arti	66.01	323	c iP	P	20 35 03.9	+0.2
ARU						20 35 32.6	
ARU				S	S	20 43 49.5	+0.9
ARU				SS	SS	20 48 02.0	-1.8
ARU				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ARU	Arti	66.01	323	P	P	20 35 02.1	-1.6
ARU				IAmb	IAmb	20 35 04.1	
	comp=Z,7.4nm,0.9s						
ABKAR	Akbulak array	66.60	315	P	P	20 35 06.7	-1.0
ABKAR	Akbulak array	66.60	315	P	P	20 35 06.7	-1.0
ABKAR				IAmb	IAmb	20 35 07.7	
	comp=Z,6.2nm,0.8s						
AKTO	Aktyubinsk	67.56	316	P	P	20 35 13.2	-0.6
	comp=Z,2.9nm,0.7s,baz=91,slow=6.5,SNR=11						
HRA	Herat	68.71	299	P	P	20 35 20.8	-0.7
HRA				IAmb	IAmb	20 35 22.2	
	comp=Z,3.3nm,0.8s						
BELG	Belogornoye	73.23	320	P	P	20 35 47.5	-0.8
	comp=Z,5.1nm,0.9s,baz=217,slow=3.7,SNR=4.3						
ARCES	ARCESS Array B	75.19	341	P	P	20 35 59.4	0.0
	comp=Z,3.5nm,0.9s,baz=60,slow=6.0,SNR=6.8						
ARCES	ARCESS Array B	75.19	341	P	P	20 35 59.2	-0.3
OBN	Obninsk	78.14	326	⇑eP	P	20 36 18.5	+2.2
OBN				e		20 39 11.2	
OBN				eS	SKSac	20 46 28.2	+0.9
OBN				pmax	pmax		
	comp=Z,48nm,3.0s						
OBN				MLR	MLR		
	comp=Z,74nm,20.0s						
KBZ	Khabaz	79.50	313	P	P	20 36 24.3	+0.4
	comp=Z,1.4nm,0.6s,baz=259,slow=0.8,SNR=5.8						
KBZ	Khabaz	79.50	313	ceP	P	20 36 25.2	+1.2
FIA1	FINESS Array S	79.59	334	P	P	20 36 23.8	-0.3
FINES	FINESS Array B	79.60	334	P	P	20 36 23.9	-0.2
	comp=Z,4.3nm,0.6s,baz=66,slow=5.2,SNR=46						
FINES	FINESS Array B	79.60	334	ceP	P	20 36 23.8	-0.4
FINES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ONI	Oni	79.61	312	P	P	20 36 24.4	-0.4
ONI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ONI	Oni	79.61	312	P	P	20 36 24.4	-0.4
ONI				IAmb	IAmb	20 36 30.3	
	comp=Z,3.9nm,0.9s						
NVAR	Mina Array Bea	81.01	52	P	P	20 36 31.4	-1.2
	comp=Z,0.5nm,0.7s,baz=273,slow=5.8,SNR=4.6						
MNK	Minsk	82.76	328	i P	P	20 36 39.8	-1.3
MNK				i		20 39 48.7	
MNK				i PPP	PPP	20 41 40.5	
MNK				i S	S	20 46 55.2	-0.9
MNK				i SS	SS	20 52 17.9	-0.2
MNK				i SSS	SSS	20 55 46.7	
MNK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MNK				pmax	pmax		
	comp=N,14nm,0.9s						
MNK				pmax	pmax		
	comp=E,1.0nm,0.9s						
MNK				MLR	MLR		
	comp=N,44nm,17.0s						
MNK				MLR	MLR		
	comp=Z,258nm,24.0s						
MNK				MLR	MLR		
	comp=E,7.0nm,20.0s						
MNK	Minsk	82.76	328	i P	P	20 36 39.8	-1.3
	comp=E,1.0nm,0.9s						
MNK				i P	P	20 36 39.8	-1.3
	comp=N,14nm,0.9s						
MNK				i P	P	20 36 39.8	-1.3
	comp=Z,7.0nm,0.8s,baz=236						
MNK				i PcP	PcP	20 36 44.5	-1.4
MNK				i PP	PP	20 39 48.8	-2.1
MNK				i PPP	PPP	20 41 40.5	
MNK				i S	S	20 46 55.2	-0.9
MNK				i SS	SS	20 52 17.9	-0.1
MNK				i SSS	SSS	20 55 46.8	
MNK				i LR	LR	21 13 58.8	
MNK				i LRM	MLR	21 15 00.5	
	comp=N,44nm,17.0s						
MNK				i LRM	MLR	21 15 22.9	
	comp=Z,258nm,23.8s						
MNK				i LRM	MLR	21 15 33.8	
	comp=E,7.0nm,19.7s						
AKASG	Malin Array Be	84.22	324	P	P	20 36 47.8	-0.8
	comp=E,0.9nm,0.5s,baz=51,slow=5.4,SNR=8.0						
AKASG	Malin Array Be	84.22	324	P	P	20 36 47.7	-0.9
AKBB	Malin Array Si	84.22	324	ceP	P	20 36 48.9	+0.2
NC405	NORSAR Array S	85.05	338	P	P	20 36 52.1	-0.6
NB2	NORSAR Subarra	85.27	339	P	P	20 36 53.1	-0.7
	comp=Z,1.3nm,0.6s,baz=44,slow=5.1						
NOA	NORSAR Array B	85.27	339	P	P	20 36 53.4	-0.5
	comp=Z,1.7nm,0.7s,baz=48,slow=4.6,SNR=4.9						
BR131	Keskin Array S	87.49	313	P	P	20 37 04.2	-1.1
BR131				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BR131	Keskin Array S	87.49	313	P	P	20 37 04.2	-1.1
BR131				IAmb	IAmb	20 37 05.3	
	comp=Z,1.7nm,0.8s						
BRTR	Keskin Array B	87.49	313	P	P	20 37 03.7	-1.6
	comp=Z,0.8nm,0.7s,baz=93,slow=5.4,SNR=6.8						
BRTR	Keskin Array B	87.49	313	P	P	20 37 04.3	-1.1
BRTR	Keskin Array B	87.49	313	P	P	20 37 04.3	-1.1
BURAR	Bucovina Array	88.15	323	P	P	20 37 08.1	-0.1
BURAR	Bucovina Array	88.15	323	P	P	20 37 08.1	-0.1
LANS	Liptovska Anna	90.16	327	eP	P	20 37 19.5	+1.9
LANS	Liptovska Anna	90.16	327	eP	P	20 37 19.5	+1.9
VYHS	Vyhne	90.91	327	eP	P	20 37 24.4	+3.3
VYHS	Vyhne	90.91	327	eP	P	20 37 24.4	+3.3
ANMO	Albuquerque	91.02	50	ceP	P	20 37 24.2	+2.1
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.3s						
TORD	Torodi Ar. Bea	126.05	311	PKP	PKPdf	20 43 19.9	-0.3
	comp=Z,0.7nm,0.8s,baz=50,slow=1.6,SNR=3.6						
PLCA	Paso Flores	148.42	127	PKPbc	PKPbc	20 44 03.1	-0.8
	comp=Z,2.5nm,0.8s,baz=222,slow=5.6,SNR=4.9						
PLCA	Paso Flores	148.42	127	PKP2	PKPbc	20 44 02.7	-1.2
PLCA	Paso Flores	148.42	127		PKPbc	20 44 02.7	-1.2
LPAZ	La Paz	149.70	78	PKPbc	PKPbc	20 44 07.2	-1.3
	comp=Z,2.0nm,0.8s,baz=288,slow=2.2,SNR=8.1						
LPAZ	La Paz	149.70	78		PKPbc	20 44 08.7	+0.3

*IDC **05** 20:34:10.1±0.9, 41.10N×75.55E, h0km, mb4.0/10, mb1 4.0/16, mb1mx3.7/67, mbtmp3.8/16, ML2.9/6, MS3.1/5, Ms1 3.1/5, ms1mx2.6/47, Error ellipse: s-maj=14.6km s-min=12.2km az=57.0*

*BJI **05** 20:34:11.9±0.0, 41.42N×75.60E, h16km, mB4.2/5, mb4.1/11, ML4.1/8, Ms3.8/1*

*KRNET **05** 20:34:12.1±0.1, 41.30N×75.68E, h15km, mb4.3*

*SOME **05** 20:34:12.0, 41.30N×75.70E, h5km, MS3.4*

*KNET **05** 20:34:13.2±0.6, 41.37N×75.62E, h4km±4km, ml3.9, Error ellipse: s-maj=4.2km s-min=2.7km az=142.0*

*NNC **05** 20:34:13.3±1.0, 41.27N×75.63E, h0km, mb5.0, mpv4.6, Error ellipse: s-maj=6.9km s-min=4.2km az=179.0*

*NEIC **05** 20:34:13.7±2.4, 41.33N±0.04×75.69E±0.05, h10km±1km, mb4.4/14, Error ellipse: s-maj=7.1km s-min=6.2km az=179.0*

*MOS **05** 20:34:15.4±1.4, 41.13N×75.60E, h14km, mb4.3/10, Error ellipse: s-maj=6.9km s-min=3.7km az=78.8*

ISC 05 20:34:12.6±1.1**, 41.30N**±0.02×**75.62E**±0.02**, h0**km±7km**,**
n229, σ1.47/310**, mb4.2**/21**, MS3.0**/6**, 44C-34D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	Kyzart	0.83	341	⇑iP	Pg	20 34 28.3	-0.2
	baz=38						
KZA				⇑iS	Sg	20 34 39.6	+0.3
	baz=38						
KZA	Kyzart	0.83	341	P	Pg	20 34 28.6	+0.1
	790nm,0.2s,SNR=1128						
KZA				⇑S	Sg	20 34 39.3	0.0
	1µm,0.1s						
ULHL	Ulahol	1.06	26	⇑iP	Pg	20 34 31.9	-1.0
	baz=24						
ULHL				⇑iS	Sg	20 34 45.9	-0.7
	baz=24						
ULHL	Ulahol	1.06	26	P	Pg	20 34 32.0	-0.9
	302nm,0.2s,SNR=1233						
ULHL				⇑S	Sg	20 34 46.4	-0.2
	2µm,0.3s						
ARLS	Aral	1.13	301	⇓iP	Pg	20 34 33.5	-0.7
	baz=99						
ARLS				⇓iS	Sg	20 34 49.1	+0.3
	baz=99						
BOOM	Boomskoye usch	1.22	11	⇑iP	Pg	20 34 35.0	-1.0
	baz=9.0						
BOOM				⇑iS	Sg	20 34 51.5	-0.3
	baz=9.0						
BOOM	Boomskoye usch	1.22	11	P	Pg	20 34 35.3	-0.7
BOOM						20 34 52.4	
BOOM	Boomskoye usch	1.22	11		Pg	20 34 35.3	-0.7
BOOM				Sn	Sg	20 34 52.4	+0.6
KDJ	Kajisay	1.44	54	⇑iP	Pn	20 34 38.3	-1.7
	baz=53						
KDJ				⇑iS	Sg	20 34 57.2	-1.5
	baz=53						
KDJ	Kajisay	1.44	54	PN	Pn	20 34 38.3	-1.7
KDJ	Kajisay	1.44	54	Pn	Pn	20 34 38.4	-1.7
KDJ				Sn	Sg	20 34 56.9	-1.8
KBK	Karagaybulak	1.45	340	⇑iP	Pn	20 34 39.5	-0.8
	baz=38						
KBK				⇑iS	Sg	20 34 59.4	+0.2
	baz=38						
KBK	Karagaybulak	1.45	340	P	Pn	20 34 40.1	-0.2
	328nm,0.1s,SNR=389						
KBK				⇓S	Sn	20 35 00.6	+0.6
	1µm,0.2s						
AAK	Ala-Archa	1.58	328	Pg	Pn	20 34 42.4	+0.2
	138nm,0.3s,baz=141,slow=9.9,SNR=724						
AAK				LR	LR	20 34 57.5	
	comp=Z,60nm,19.0s,baz=234,slow=27						
AAK				Lg	Lg	20 35 04.1	
	194nm,0.3s,baz=150,slow=17,SNR=9.1						
AAK	Ala-Archa	1.58	328	⇓iP	Pn	20 34 42.2	+0.1
	baz=27						
AAK				⇓iS	Sg	20 35 03.8	+0.3
	baz=27						
AAK	Ala-Archa	1.58	328	⇓P	Pn	20 34 42.3	+0.2
	273nm,0.2s,SNR=310						
AAK				⇑S	Sg	20 35 04.3	+0.8
	732nm,0.2s						
AAK	Ala-Archa	1.58	328	⇓P	Pn	20 34 42.2	+0.1
	344nm,0.8s						
AAK				⇓S	Sg	20 35 04.8	+1.3
	1µm,0.6s						
AAK	Ala-Archa	1.58	328	i PN	Pn	20 34 42.2	+0.1
AAK				pmax	pmax		
	comp=Z,286nm,0.4s						
AAK	Ala-Archa	1.58	328	Pn	Pn	20 34 42.3	+0.2
AAK				Sn	Sg	20 35 04.6	+1.1
TKM2	Tokmak 2	1.62	359	⇓iP	Pn	20 34 42.2	-0.5
	baz=58						
TKM2				⇓iS	Sn	20 35 03.8	-0.6
	baz=58						
TKM2	Tokmak 2	1.62	359	⇓P	Pn	20 34 42.9	+0.2
	comp=Z,311nm,0.2s,SNR=441						
TKM2				⇓S	Sg	20 35 05.3	+0.5
	comp=Z,2µm,0.2s						
TKM2	Tokmak 2	1.62	359	⇑P	Pn	20 34 42.8	+0.2
	comp=Z,119nm,0.3s						
TKM2				⇑S	Sg	20 35 05.2	+0.4
	comp=Z,643nm,0.3s						
TKM2	Tokmak 2	1.62	359	i PN	Pn	20 34 42.6	-0.1
TKM2				pmax	pmax		
	comp=Z,119nm,0.3s						
AML	Almayashu	1.67	301	⇓iP	Pn	20 34 43.6	+0.2
	baz=0.0						
AML				⇓iS	Sg	20 35 06.8	+0.6
	baz=0.0						
AML	Almayashu	1.67	301	P	Pn	20 34 43.6	+0.2
	comp=Z,327nm,0.2s,SNR=367						
AML				⇓S	Sg	20 35 07.2	+1.0
	comp=Z,2µm,0.5s						
FRU1	Bishkek	1.68	334	⇑iP	Pb	20 34 44.0	-0.5
	baz=33						
FRU1				⇑iS	Sg	20 35 07.3	+0.6
	baz=33						
FRU1	Bishkek	1.68	334	PN	Pg	20 34 44.7	-0.2
FRU1	Bishkek	1.68	334		Pg	20 34 44.7	-0.2
TARG	Taragay, Kyrgy	1.70	74		Pn	20 34 42.3	-1.5
KST	Kastek	1.77	8	eP	Pb	20 34 45.5	-0.4
	comp=Z,835nm,0.5s						
KST				eS	Sg	20 35 10.1	+0.8
	comp=Z,2µm,0.5s						
KST	Kastek	1.77	8	P	Pb	20 34 45.5	-0.4
	comp=Z,835nm,0.5s						
KST				S	Sg	20 35 10.1	+0.8
	comp=Z,2µm,0.5s						
KST	Kastek	1.77	8	ePN	Pb	20 34 45.5	-0.4
KST				eS	Sg	20 35 10.1	+0.8
KSH	Kashi	1.80	171	Pn	Pg	20 34 51.1	+4.0
KSH				Sn	Sg	20 35 20.5	+10
KSH				smax	smax		
	comp=Z,2µm,0.8s						
KSH				smax	smax		
	comp=Z,2µm,1.2s						
CHMS	Chumysh	1.82	339	⇓iP	Pb	20 34 46.0	-0.8
	baz=38						
CHMS				⇓iS	Sb	20 35 10.4	+0.2
	baz=38						
CHMS	Chumysh	1.82	339	⇓P	Pb	20 34 46.5	-0.4
	comp=Z,304nm,0.3s,SNR=199						
CHMS				⇑S	Sg	20 35 11.4	+0.2
	comp=Z,926nm,0.2s						
IZV	Izvestkoviy	1.89	23	eP	Pb	20 34 47.5	-0.6
	comp=Z,256nm,0.5s						
IZV				eS	Sg	20 35 12.9	-0.5
	comp=Z,1µm,0.5s						
IZV	Izvestkoviy	1.89	23	P	Pb	20 34 47.5	-0.6
	comp=Z,256nm,0.5s						
IZV				S	Sg	20 35 12.9	-0.5
	comp=Z,1µm,0.5s						
IZV	Izvestkoviy	1.89	23	ePN	Pb	20 34 47.5	-0.6
IZV				eS	Sg	20 35 12.9	-0.5
MTBS	Maitube	1.93	18	eP	Pb	20 34 49.0	+0.3
	comp=Z,329nm,0.5s						
MTBS				eS	Sg	20 35 15.4	+0.8
	comp=Z,1µm,0.2s						
MTBS	Maitube	1.93	18	Pg	Pb	20 34 49.0	+0.3
	comp=Z,329nm,0.5s						
MTBS				Lg	Lg	20 35 15.4	
	comp=Z,1µm,0.2s						
MTBS	Maitube	1.93	18	ePN	Pb	20 34 49.0	+0.3
MTBS				eS	Sg	20 35 15.4	+0.8
EKS2	Erkin-Say	1.94	315	⇑iP	Pb	20 34 48.3	-0.6
	baz=15						
EKS2				⇑iS	Sg	20 35 14.5	-0.4
	baz=15						
EKS2	Erkin-Say	1.94	315	⇓P	Pb	20 34 48.5	-0.4
	comp=Z,345nm,0.4s,SNR=320						
EKS2				⇑S	Sg	20 35 15.7	+0.9
	comp=Z,530nm,0.4s						
DGS	Degeres	1.95	3	eP	Pg	20 34 49.5	-0.5
	comp=Z,838nm,0.6s						
DGS				eS	Sg	20 35 16.3	+1.1
	comp=Z,1µm,0.5s						
DGS	Degeres	1.95	3	Pg	Pg	20 34 49.5	-0.5
	comp=Z,838nm,0.6s						
DGS				Lg	Lg	20 35 16.3	
	comp=Z,1µm,0.5s						
DGS	Degeres	1.95	3	ePN	Pg	20 34 49.5	-0.5
DGS				eS	Sg	20 35 16.3	+1.1
TNSS	Tian-Shan	2.00	29	Pg	Pb	20 34 49.7	-0.4
	comp=Z,239nm,0.5s						
TNSS				Lg	Lg	20 35 18.0	
	comp=Z,2µm,0.6s						
SFK	Sufi-Kurgan	2.06	232	⇑iP	Pb	20 34 49.7	-1.3
	baz=33						
SFK				⇑iS	Sb	20 35 17.4	+0.2
	baz=33						
ANVS	Anan'yevo	2.13	45	⇑iP	Pn	20 34 49.9	+0.3
	baz=44						
ANVS				⇑iS	Sn	20 35 17.8	+1.0
	baz=44						
USP	Ospenovka	2.14	337	⇑iP	Pn	20 34 50.8	+1.2
	baz=36						
USP				⇑iS	Sb	20 35 18.7	-0.6
	baz=36						
USP	Ospenovka	2.14	337	⇑P	Pb	20 34 51.8	-0.4
	comp=Z,573nm,0.3s,SNR=207						
USP				⇑S	Sg	20 35 21.3	-0.1
	comp=Z,292nm,0.1s						
AAA	Alma-Ata	2.14	26	eP	Pb	20 34 52.5	+0.2
	comp=Z,361nm,0.4s						
AAA				eS	Sg	20 35 21.8	+0.4
	comp=Z,108nm,0.3s						
AAA	Alma-Ata	2.14	26	Pg	Pb	20 34 52.5	+0.2
	comp=Z,361nm,0.4s						
AAA				Lg	Lg	20 35 21.8	
	comp=Z,108nm,0.3s						
AAA	Alma-Ata	2.14	26	ePN	Pb	20 34 52.5	+0.2
AAA				eS	Sg	20 35 21.8	+0.4
MDOK	Medeo	2.15	29	eP	Pb	20 34 51.9	-0.5
	comp=Z,279nm,0.5s						
MDOK				eS	Sg	20 35 21.4	-0.2
	comp=Z,1µm,0.5s						
MDOK	Medeo	2.15	29	Pn	Pb	20 34 51.7	-0.8
	comp=Z,224nm,0.5s						
MDOK				Sn	Sg	20 35 21.3	-0.2
	comp=Z,963nm,0.5s						
MDOK	Medeo	2.15	29	Pg	Pb	20 34 51.9	-0.5
	comp=Z,279nm,0.5s						
MDOK				Lg	Lg	20 35 21.4	
	comp=Z,1µm,0.5s						
MDOK	Medeo	2.15	29	ePN	Pb	20 34 51.9	-0.5
MDOK				eS	Sg	20 35 21.4	-0.2
KNDC	Almaty	2.16	27	⇑Pn	Pb	20 34 52.4	-0.3
	comp=Z,551nm,0.6s						
KNDC				⇑Sn	Sg	20 35 22.5	+0.3
	comp=Z,1µm,0.4s						
KNDC	Almaty	2.16	27	PN	Pb	20 34 52.4	-0.3
KNDC				S	Sg	20 35 22.4	+0.3
KOTS	Kotyrbulak	2.23	29	eP	Pb	20 34 53.8	-0.1
	comp=Z,249nm,0.5s						
KOTS				eS	Sg	20 35 24.3	0.0
	comp=Z,3µm,0.6s						
KOTS	Kotyrbulak	2.23	29	Pg	Pb	20 34 53.8	-0.1
	comp=Z,249nm,0.5s						
KOTS				Lg	Lg	20 35 24.3	
	comp=Z,3µm,0.6s						
KOTS	Kotyrbulak	2.23	29	ePN	Pb	20 34 53.8	-0.1
KOTS				eS	Sg	20 35 24.3	0.0
SGDS	Sogindy	2.28	342	Pg	Pb	20 34 55.0	+0.3
	comp=Z,1µm,0.6s						
SGDS				Lg	Lg	20 35 26.1	
	comp=Z,1µm,0.3s						
SGDS	Sogindy	2.28	342	ePN	Pb	20 34 54.8	+0.2
OHH	Osh	2.28	251	⇑iP	Pn	20 34 52.8	+1.2
	baz=52						
OHH				⇑iS	Sb	20 35 22.7	-0.8
	baz=52						
MRKS	Merke	2.30	310	eP	Pb	20 34 55.0	0.0
	comp=Z,423nm,0.6s						
MRKS				eS	Sg	20 35 25.8	-0.7
	comp=Z,803nm,0.5s						
MRKS	Merke	2.30	310	Pg	Pb	20 34 55.0	0.0
	comp=Z,423nm,0.6s						
MRKS				Lg	Lg	20 35 25.8	
	comp=Z,803nm,0.5s						
MRKS	Merke	2.30	310	ePN	Pb	20 34 55.0	0.0
MRKS				eS	Sg	20 35 25.8	-0.7
PRZ	Przheval'sk	2.39	59	⇓iP	Pn	20 34 53.6	+0.4
	baz=59						
PRZ				⇓iS	Sn	20 35 23.7	+0.4
	baz=59						
PRZ	Przheval'sk	2.39	59	PN	Pb	20 34 55.0	-1.6
PRZ	Przheval'sk	2.39	59		Pb	20 34 55.0	-1.6
KRBS	Karabastau	2.40	1	eP	Pb	20 34 57.4	+0.7
	comp=Z,663nm,0.6s						
KRBS				eS	Sg	20 35 29.9	+0.2
	comp=Z,2µm,0.6s						
KRBS	Karabastau	2.40	1	Pg	Pb	20 34 57.4	+0.7
	comp=Z,663nm,0.6s						
KRBS				Lg	Lg	20 35 29.9	
	comp=Z,2µm,0.6s						
KRBS	Karabastau	2.40	1	ePN	Pb	20 34 57.4	+0.7
KRBS				eS	Sg	20 35 29.9	+0.2
KTBS	Karatobe	2.54	18	eP	Pb	20 34 59.9	+0.8
	comp=Z,375nm,0.5s						
KTBS				eS	Sg	20 35 34.2	0.0
	comp=Z,3µm,0.6s						
KTBS	Karatobe	2.54	18	Pg	Pb	20 34 59.9	+0.8
	comp=Z,375nm,0.5s						
KTBS				Lg	Lg	20 35 34.2	
	comp=Z,3µm,0.6s						
KTBS	Karatobe	2.54	18	ePN	Pb	20 34 59.9	+0.8
KTBS				eS	Sg	20 35 34.2	0.0
KUU	Kurty	2.65	11	eP	Pb	20 35 01.2	+0.3
	comp=Z,198nm,0.5s						
KUU				eS	Sg	20 35 37.0	-0.7
	comp=Z,1µm,0.4s						
KUU	Kurty	2.65	11	Pg	Pb	20 35 01.2	+0.3
	comp=Z,198nm,0.5s						
KUU				Lg	Lg	20 35 37.0	
	comp=Z,1µm,0.4s						
KUU	Kurty	2.65	11	ePN	Pb	20 35 01.2	+0.3
KUU				eS	Sg	20 35 37.1	-0.7
SATY	Saty	2.72	49	eP	Pb	20 35 02.2	0.0
	comp=Z,256nm,0.8s						
SATY				eS	Sb	20 35 38.0	+1.9
	comp=Z,894nm,0.4s						
SATY	Saty	2.72	49	Pg	Pb	20 35 02.2	0.0
	comp=Z,256nm,0.8s						
SATY				Lg	Lg	20 35 38.0	
	comp=Z,894nm,0.4s						
SATY	Saty	2.72	49	ePN	Pb	20 35 02.2	0.0
SATY				eS	Sb	20 35 38.0	+1.9
CHKK	Chushkaly	2.75	21	eP	Pb	20 35 03.2	+0.5
	comp=Z,228nm,0.4s						
CHKK				eS	Sg	20 35 40.2	-0.8
	comp=Z,1µm,0.3s						
CHKK	Chushkaly	2.75	21	Pg	Pb	20 35 03.2	+0.5
	comp=Z,228nm,0.4s						
CHKK				Lg	Lg	20 35 40.2	
	comp=Z,1µm,0.3s						
CHKK	Chushkaly	2.75	21	ePN	Pb	20 35 03.2	+0.5
CHKK				eS	Sg	20 35 40.2	-0.8
ZHN	Zhinishke	2.81	47	eP	Pb	20 35 03.4	-0.3
	comp=Z,128nm,0.4s						
ZHN				eS	Sb	20 35 40.0	+1.4
	comp=Z,125nm,0.2s						
ZHN	Zhinishke	2.81	47	Pg	Pb	20 35 03.4	-0.3
	comp=Z,128nm,0.4s						
ZHN				Lg	Lg	20 35 40.0	
	comp=Z,125nm,0.2s						
ZHN	Zhinishke	2.81	47	ePN	Pb	20 35 03.4	-0.3
ZHN				eS	Sb	20 35 40.0	+1.4
KURS	Kuram	2.89	40	eP	Pb	20 35 05.3	+0.2
	comp=Z,137nm,0.6s						
KURS				eS	Sb	20 35 43.3	+2.3
	comp=Z,516nm,1.0s						
KURS	Kuram	2.89	40	Pg	Pb	20 35 05.3	+0.2
	comp=Z,137nm,0.6s						
KURS				Lg	Lg	20 35 43.3	
	comp=Z,516nm,1.0s						
KURS	Kuram	2.89	40	ePN	Pb	20 35 05.3	+0.2
KURS				eS	Sb	20 35 43.3	+2.3
UZB	Uzynbulak	3.13	53	eP	Pb	20 35 08.7	-0.5
	comp=Z,82nm,0.6s						
UZB				eS	Sb	20 35 49.2	+1.2
	comp=Z,312nm,0.6s						
UZB	Uzynbulak	3.13	53	Pg	Pb	20 35 08.7	-0.5

comp=Z,82nm,0.6s
UZB Lg Lg 20 35 49.2
comp=Z,312nm,0.6s
UZB Uzynbulak 3.13 53 *e*PN **Pn 20 35 04.5 +1.2**
KPKS Kokpek 3.14 45 *e*P **Pb 20 35 09.1 -0.2**
comp=Z,187nm,0.4s
KPKS *e*S **Sb 20 35 49.8 +1.6**
comp=Z,641nm,0.4s
KPKS Kokpek 3.14 45 *e*PN **Pb 20 35 09.1 -0.2**
KPKS *e*S **Sb 20 35 49.8 +1.6**
ARXS Arharly 3.34 28 *e*P **Pb 20 35 12.7 0.0**
comp=Z,364nm,0.5s
ARXS *e*S **Sg 20 35 57.3 -2.6**
comp=Z,971nm,0.6s
ARXS Arharly 3.34 28 Pg **Pb 20 35 12.7 0.0**
comp=Z,364nm,0.5s
ARXS Lg Lg 20 35 57.3
comp=Z,971nm,0.6s
ARXS Arharly 3.34 28 *e*PN **Pb 20 35 12.7 0.0**
ARXS *e*S **Sg 20 35 57.3 -2.6**
TRKS Terek-Say 3.38 275⇑*i*P **Pn 20 35 07.8 +1.1**
baz=74
TRKS ⇑*i*S **Sn 20 35 48.4 +0.8**
baz=74
DRK Karamyk 3.44 239⇓*i*P **Pn 20 35 09.3 +1.6**
baz=40
DRK ⇓*i*S **Sn 20 35 50.8 +1.6**
baz=40
DRK Karamyk 3.44 239 Pn 20 35 08.7 +1.0
PDGK Podgornoye 3.52 53 Pg **Pb 20 35 15.6 -0.1**
comp=Z,86nm,0.5s
PDGK Lg Lg 20 36 01.0
comp=Z,221nm,0.8s
PDGK Podgornoye 3.52 53⇑Pn **Pn 20 35 09.3 +0.7**
comp=Z,125nm,0.6s
PDGK ⇓Lg Lg 20 36 04.6
comp=Z,543nm,0.8s
PDGK Podgornoye 3.52 53 PN **Pn 20 35 09.3 +0.7**
DZA Taraz 3.57 298 *e*P **Pb 20 35 18.6 +1.9**
comp=Z,176nm,0.5s
DZA *e*S **Sg 20 36 06.5 -0.8**
comp=Z,814nm,0.3s
DZA Taraz 3.57 298 Pg **Pb 20 35 18.6 +1.9**
comp=Z,176nm,0.5s
DZA Lg Lg 20 36 06.5
comp=Z,814nm,0.3s
BTK Batken 3.86 253⇑*i*P **Pn 20 35 14.3 +1.1**
baz=53
BTK ⇑*i*S **Sn 20 36 00.8 +1.5**
baz=53
BTK Batken 3.86 253 PN **Pn 20 35 13.2 0.0**
BTK Batken 3.86 253 Pn **Pn 20 35 13.2 0.0**
BTLS Baital 3.92 343 *e*P **Pb 20 35 23.8 +1.2**
comp=Z,62nm,0.6s
BTLS *e*S **Sg 20 36 15.2 -3.3**
comp=Z,516nm,0.7s
BTLS Baital 3.92 343 Pg **Pb 20 35 23.8 +1.2**
comp=Z,62nm,0.6s
BTLS Lg Lg 20 36 15.2
comp=Z,516nm,0.7s
BTLS Baital 3.92 343 *e*PN **Pb 20 35 23.7 +1.2**
KTMS Ketmen 4.11 57 *e*P **Pb 20 35 26.9 +0.9**
comp=Z,0.2nm,0.1s
KTMS *e*S **Sb 20 36 20.2 +4.0**
comp=Z,160nm,0.5s
KTMS Ketmen 4.11 57 Pg **Pb 20 35 26.9 +0.9**
comp=Z,0.2nm,0.1s
KTMS Lg Lg 20 36 20.2
comp=Z,160nm,0.5s
KK31 Karatay Array 4.20 297⇓Pg **Pb 20 35 29.0 +1.6**
comp=Z,32nm,0.5s,baz=115,slow=15,SNR=92
KK31 ⇑Lg Lg 20 36 24.8
comp=Z,291nm,0.8s,baz=114,slow=33,SNR=12
KK31 Karatay Array 4.20 297 PN **Pn 20 35 19.2 +1.2**
KK31 Karatay Array 4.20 297 Pn **Pn 20 35 19.2 +1.2**
KKAR Karatay Array 4.20 297 PN **Pn 20 35 18.7 +0.8**
KKAR Karatay Array 4.20 297 Pn 20 35 18.7 +0.8
KKAR Karatay Array 4.20 297 Pn **Pn 20 35 18.9 +1.0**
TDK Taldyqorghan 4.23 28 *e*P **Pb 20 35 28.9 +1.1**
comp=Z,289nm,0.5s
TDK *e*S **Sb 20 36 23.8 +4.4**
comp=Z,512nm,0.4s
TDK Taldyqorghan 4.23 28 Pg **Pb 20 35 28.9 +1.1**
comp=Z,289nm,0.5s
TDK Lg Lg 20 36 23.8
comp=Z,512nm,0.4s
IUG luzhnay 4.27 283 *e*P **Pg 20 35 32.3 -2.2**
comp=Z,4μm,0.8s
IUG *e*S **Sg 20 36 29.6 -0.2**
comp=Z,433nm,1.2s
IUG luzhnay 4.27 283 Pg **Pg 20 35 32.3 -2.2**
comp=Z,4μm,0.8s
IUG Lg Lg 20 36 29.6
comp=Z,433nm,1.2s
IUG luzhnay 4.27 283 *e*PN **Pn 20 35 20.3 +1.4**
DJR Jarkent 4.31 44 *e*P **Pb 20 35 30.6 +1.2**
comp=Z,39nm,0.5s
DJR *e*S **Sg 20 36 26.7 -4.5**
comp=Z,136nm,0.6s
DJR Jarkent 4.31 44 Pg **Pb 20 35 30.6 +1.2**
comp=Z,39nm,0.5s
DJR Lg Lg 20 36 26.7
comp=Z,136nm,0.6s
CHM Chimkent 4.61 285 *e*P **Pg 20 35 39.6 -1.4**
comp=Z,6.8nm,0.7s
CHM *e*S **Sg 20 36 42.2 +1.4**
comp=Z,392nm,0.7s
BRLS Borolday 4.64 294 *e*P **Pg 20 35 39.5 -2.0**
comp=Z,29nm,0.9s
BRLS *e*S **Sg 20 36 42.4 +0.8**
comp=Z,162nm,0.5s
BRLS Borolday 4.64 294 Pg **Pg 20 35 39.5 -2.0**
comp=Z,29nm,0.9s
BRLS Lg Lg 20 36 42.4
comp=Z,162nm,0.5s
GAR Garm 4.67 242 Pn 20 35 25.6 +1.2
TAS Tashkent 4.76 272 PN **Pn 20 35 27.4 +1.7**
TAS Tashkent 4.76 272 Pn 20 35 27.4 +1.7
KAPS Kapalarasan 4.83 33 *e*P **Pb 20 35 39.1 +0.9**
comp=Z,46nm,0.6s
KAPS *e*S **Sb 20 36 41.2 +4.4**
comp=Z,120nm,0.5s
KAPS Kapalarasan 4.83 33 Pg **Pb 20 35 39.1 +0.9**
comp=Z,46nm,0.6s
KAPS Lg Lg 20 36 41.2
comp=Z,120nm,0.5s
CHGR Chuyangaron 5.62 244 Pn **Pn 20 35 37.9 +0.4**
MAKZ Makanchi 7.16 38⇓Pn Pn 20 36 03.4 +4.8
comp=Z,4.3nm,0.5s
MAKZ ⇓Lg Lg 20 38 00.8
comp=Z,58nm,1.1s
MAKZ Makanchi 7.16 38 P **Pn 20 35 59.4 +0.8**
MAKZ Makanchi 7.16 38 Pn 20 35 59.4 +0.8
MK31 Makanchi Array 7.30 39⇓Pn Pn 20 36 06.4 +5.9
comp=Z,3.9nm,0.5s,baz=214,slow=15,SNR=31
MK31 ⇓Lg Lg 20 38 08.2
comp=Z,15nm,0.6s,baz=220,slow=27,SNR=6.2
MK31 Makanchi Array 7.30 39 *i*P **Pn 20 36 03.4 +2.9**
MK31 Makanchi Array 7.30 39 Pn **Pn 20 36 00.8 +0.3**
MKAR Makanchi Array 7.30 39 Pn **Pn 20 36 01.8 +1.3**
comp=Z,0.3nm,0.3s,baz=213,slow=14,SNR=14
MKAR Lg Lg 20 37 57.6
comp=Z,2.9nm,0.3s,baz=226,slow=29,SNR=4.4
MKAR Makanchi Array 7.30 39 Pn **Pn 20 36 00.8 +0.3**
CHCP Chirah Chowk 7.85 195 P **Pn 20 36 10.7 +2.6**
NIL Nilore 7.86 195 P **Pn 20 36 09.3 +1.1**
NIL Nilore 7.86 195 Pn **Pn 20 36 09.3 +1.1**
CEP Cherat 8.02 203 P **Pn 20 36 13.1 +2.6**
CEP S **Sn 20 37 42.0 +0.1**
KBL Kabul 8.51 220 P **Pn 20 36 19.4 +2.1**
KBL Kabul 8.51 220 Pn **Pn 20 36 19.4 +2.1**
BRZS Berezniki 8.93 348 *e*P Pg 20 36 55.8 -7.7
comp=Z,4.5nm,0.7s
BRZS *e*S **Sg 20 38 53.1 -6.0**
comp=Z,60nm,0.9s
BRZS Berezniki 8.93 348 Pg Pg 20 36 55.8 -7.7
comp=Z,4.5nm,0.7s
BRZS Lg Lg 20 38 53.1
comp=Z,60nm,0.9s
THW Thamme Wali 9.03 201 P **Pn 20 36 25.2 +0.9**
ZSN Zaisan 9.03 44 *e*P Pn 20 36 52.6 +28
comp=Z,7.3nm,0.7s
ZSN *e*S Sn 20 38 49.8 +43
comp=Z,7.9nm,0.9s
ZSN Zaisan 9.03 44 Pg Pn 20 36 52.6 +28
comp=Z,7.3nm,0.7s
ZSN Lg Lg 20 38 44.6

WMQ Urumqi 9.26 70 *e*P Pn 20 36 32.6 +5.2
WMQ smax smax
comp=Z,30nm,1.3s
WMQ smax smax
comp=Z,26nm,0.9s
KURBB Kurchatov Arra 9.54 11 Pn **Pn 20 36 30.8 -0.4**
comp=Z,0.1nm,0.3s,baz=204,slow=12,SNR=3.7
KURBB Lg Lg 20 39 10.1
comp=Z,1.1nm,0.3s,baz=200,slow=28,SNR=11
KURBB Kurchatov Arra 9.54 11⇓Pn **Pn 20 36 35.5 +4.3**
comp=Z,6.7nm,0.6s
KURBB ⇑Lg Lg 20 39 18.2
comp=Z,219nm,0.7s
KURBB Kurchatov Arra 9.54 11 P **Pn 20 36 35.5 +4.3**
KURK Kurchatov 9.65 11 P **Pn 20 36 30.8 -1.8**
KURK Kurchatov 9.65 11 Pn 20 36 30.8 -1.8
DGZ Jazzator, Alta 11.79 41 *i*P **Pn 20 37 02.6 +0.5**
BVAR Borovoye Array 12.26 345 Pn **Pn 20 37 07.3 -1.0**
comp=Z,0.2nm,0.3s,baz=165,slow=16,SNR=4.3
BVAR Sn Sn 20 39 15.3 -10
comp=Z,0.4nm,0.3s,baz=182,slow=21,SNR=3.5
BVAR Lg Lg 20 40 37.8
comp=Z,2.0nm,0.3s,baz=314,slow=45,SNR=5.3
BRVK Borovoye 12.31 345 *i*P **Pn 20 37 10.5 +1.5**
BRVK Borovoye 12.31 345 Pn **Pn 20 37 09.4 +0.4**
HRA Herat 12.62 241 Pn **Pn 20 37 14.5 +1.0**
AB31 Akbulak array 13.59 311⇑Pn **Pn 20 37 30.6 +4.1**
comp=Z,7.8nm,0.7s,baz=116,slow=13,SNR=47
AB31 ⇑Sn **Sn 20 40 00.6 +2.4**
comp=Z,8.0nm,0.9s,baz=115,slow=24,SNR=4.8
AB31 Akbulak array 13.59 311 P **Pn 20 37 30.6 +4.1**
AB31 S **Sn 20 40 00.6 +2.4**
ABKAR Akbulak array 13.59 311 Pn **Pn 20 37 26.3 -0.2**
ABKAR Akbulak array 13.59 311 Pn 20 37 26.3 -0.2
ZAA0 Zalesovo Array 14.08 23 Pn **Pn 20 37 32.9 -0.3**
ZALV Zalesovo Beam 14.08 23 Pn **Pn 20 37 33.7 +0.6**
comp=Z,0.5nm,0.3s,baz=210,slow=12,SNR=15
ZALV Sn **Sn 20 40 16.4 +6.4**
comp=Z,0.2nm,0.3s,baz=219,slow=21,SNR=2.1
ZALV Lg Lg 20 41 39.6
comp=Z,0.2nm,0.3s,baz=198,slow=23,SNR=3.5
ZALV Zalesovo Beam 14.08 23 Pn **Pn 20 37 33.4 +0.3**
AKTO Aktyubinsk 15.26 313 Pn **Pn 20 37 43.8 -5.4**
comp=Z,0.2nm,0.3s,baz=120,slow=14,SNR=2.3
AKTO Lg Lg 20 42 21.6
comp=Z,0.1nm,0.3s,baz=359,slow=19,SNR=1.0
AKTO LR LR 20 44 26.5
comp=Z,27nm,19.1s,baz=68,slow=40
AKTO Aktyubinsk 15.26 313⇓Pn **Pn 20 37 51.3 +2.1**
comp=Z,30nm,0.9s
AKTO ⇓Sn **Sn 20 40 42.2 +3.4**
comp=Z,9.9nm,0.9s
AKTO Aktyubinsk 15.26 313 P **Pn 20 37 51.3 +2.1**
AKTO S **Sn 20 40 42.2 +3.4**
GTA Gaotai 18.52 88⇓P **P 20 38 30.1 -0.5**
GTA pP Pn 20 38 35.0 +4.3
GTA sP 20 38 38.1
GTA pmax pmax
comp=Z,3.0nm,0.8s
ARU Arti 18.77 330 P **P 20 38 32.0 -1.0**
comp=Z,0.0nm,0.3s,baz=141,slow=3.9,SNR=4.6
ARU Lg Lg 20 44 09.3
comp=Z,0.0nm,0.3s,baz=62,slow=14,SNR=5.5
ARU LR LR 20 45 48.7
comp=Z,32nm,18.4s,baz=112,slow=37
ARU Arti 18.77 330*d i*P **Pn 20 38 33.1 -0.3**
ARU S **S 20 42 05.6 -1.6**
ARU pmax pmax
comp=Z,2.0nm,0.8s
ARU Arti 18.77 330 **P 20 38 31.8 -1.2**
SHL Shillong 20.69 134 P **P 20 38 54.3 -0.1**
SHL pmax pmax
comp=Z,8.0nm,1.2s
SHL Shillong 20.69 134 P **P 20 38 54.2 -0.1**
BELG Belogornoye 21.99 310 *i*P **P 20 39 07.5 -0.5**
BELG pmax pmax
comp=Z,7.0nm,1.1s
KVAR Kislovodsk Arr 24.28 287 LR LR 20 50 03.0
comp=Z,58nm,21.0s,baz=308,slow=39
KIV Kislovodsk 24.29 287 *e*P **P 20 39 30.8 -0.9**
KIV pmax pmax
comp=Z,3.0nm,1.1s
KIV MLR MLR
comp=Z,21nm,15.0s
HHC Hu-ho-hao-te 26.98 79 *e*P **P 20 39 56.0 -0.1**
HHC pmax pmax
comp=Z,15nm,1.2s
HHC pmax pmax
comp=Z,27nm,5.5s
OBN Obninsk 29.04 312⇑*e*P **P 20 40 13.7 -0.4**
OBN *e* 20 41 10.1
OBN pmax pmax
comp=Z,4.0nm,1.0s
OBN MLR MLR
comp=Z,31nm,15.0s
BR131 Keskin Array S 31.74 281 P **P 20 40 37.3 -1.0**
BR131 pmax pmax
comp=Z,3.0nm,0.8s
BR131 Keskin Array S 31.74 281 P **P 20 40 37.3 -1.0**
BR131 IAmb IAmb 20 40 38.7
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 31.74 281 P **P 20 40 36.8 -1.5**
comp=Z,1.7nm,0.7s,baz=90,slow=8.8,SNR=12
BRTR Keskin Array B 31.74 281 *e*P **P 20 40 38.0 -0.3**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 31.74 281 P **P 20 40 37.5 -0.8**
FIA1 FINESS Array S 35.76 321 P **P 20 41 13.2 +0.4**
FIA1 IAmb IAmb 20 41 40.0
comp=Z,13nm,1.2s
FINES FINESS Array B 35.76 321 P **P 20 41 11.9 -0.9**
comp=Z,1.6nm,0.8s,baz=134,slow=11,SNR=4.0
FINES FINESS Array B 35.76 321 *e*P **P 20 41 13.3 +0.5**
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 35.76 321 P **P 20 41 12.1 -0.8**
YAK Yakutsk 37.97 38 *i*P **P 20 41 33.1 +1.4**
YAK pmax pmax
comp=Z,4.0nm,0.9s
ARCES ARCESS Array B 38.24 334 P **P 20 41 32.9 -1.0**
comp=Z,2.7nm,0.8s,baz=99,slow=7.5,SNR=8.3
ARCES ARCESS Array B 38.24 334 *e*P **P 20 41 33.4 -0.6**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 38.24 334 P **P 20 41 33.3 -0.6**
VYHS Vyhne 40.05 300 *e*P P 20 41 56.2 +6.9
KSRS Korea Array 40.11 78 LR LR 21 01 49.9
comp=Z,22nm,18.5s,baz=150,slow=41
GERES GERESS Array B 43.29 302 P **P 20 42 14.8 -1.1**
comp=Z,0.5nm,0.5s,baz=79,slow=6.9,SNR=6.3
GERES GERESS Array B 43.29 302 *e*P **P 20 42 16.7 +0.7**
GERES GERESS Array B 43.29 302 P **P 20 42 15.9 -0.1**
VLC Villacollemand 46.87 296 P **P 20 42 44.4 0.0**
BILL Bilibino 52.70 28*ce*P **P 20 43 30.5 +2.1**
BILL *e* 20 44 32.3
BILL *e* 20 45 25.0
BILL pmax pmax
comp=Z,6.0nm,0.4s
BILL MLR MLR
comp=Z,118nm,17.0s
ESDC Sonseca Array 58.45 297 P **P 20 44 08.0 -2.2**
comp=Z,0.6nm,0.6s,baz=56,slow=7.0,SNR=8.0
ESDC Sonseca Array 58.45 297 P **P 20 44 08.2 -2.1**
ESDC IAmb IAmb 20 44 15.9
comp=Z,2.3nm,1.5s
IMAR Indian Mountai 66.48 20 P **P 20 45 01.7 -1.7**
BMAR Burnt Mountain 67.40 16 P **P 20 45 08.3 -1.0**
J20K Nowinta River 67.80 21 P **P 20 45 11.0 -0.8**
J20K IAmb IAmb 20 45 12.8
comp=Z,1.4nm,0.9s
INK Inuvik 68.55 11 P **P 20 45 14.9 -1.5**
comp=Z,1.4nm,0.7s,baz=310,slow=22,SNR=7.6
INK Inuvik 68.55 11 P **P 20 45 15.0 -1.5**
ILAR Eielson Array 69.15 18 P **P 20 45 18.1 -2.1**
comp=Z,0.8nm,0.8s,baz=323,slow=5.3,SNR=7.2
ILAR LR LR 21 18 50.1
comp=Z,35nm,21.6s,baz=119,slow=39
ILAR Eielson Array 69.15 18 P **P 20 45 17.9 -2.4**
TORD Torodi Ar. Bea 69.40 270 P **P 20 45 19.6 -3.0**
comp=Z,1.7nm,0.7s,baz=47,slow=5.4,SNR=15
TORD Torodi Ar. Bea 69.40 270 P **P 20 45 19.9 -2.7**
SKT Skwentna 70.27 22 P **P 20 45 25.3 -2.0**
SKT IAmb IAmb 20 45 50.9
comp=Z,6.0nm,1.5s
RIDG Independent Ri 70.50 18 P **P 20 45 26.6 -2.1**
RIDG IAmb IAmb 20 45 27.3
comp=Z,4.6nm,0.9s
BCAR Beaver Creek A 71.78 17 P **P 20 45 35.2 -1.2**
KDAK Kodiak Island 73.37 25 P **P 20 45 43.6 -2.3**
comp=Z,2.1nm,0.5s,baz=267,slow=3.4,SNR=5.9
KDAK Kodiak Island 73.37 25 P **P 20 45 44.2 -1.7**
KDAK pmax pmax
comp=Z,13nm,1.5s
KDAK Kodiak Island 73.37 25 P **P 20 45 44.2 -1.7**
HYT Haines Junctio 74.70 16 P **P 20 45 52.6 -1.2**
HYT IAmb IAmb 20 46 14.2
comp=Z,11nm,1.4s
WRA Warramunga Arr 81.65 126 P **P 20 46 28.8 -3.9**
comp=Z,0.8nm,1.0s,baz=330,slow=5.0,SNR=2.7

MEX 05 21:00:32.1±0.5, **17°.32N**×**95°.05W, h124**km±7km, **MD3.8, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
CMIG	**Matias Romero**	**0.28**	**145**	*i* P		Pn	21 00 48.1	-1.4
CMIG				*i* S		Sn	21 01 00.8	-1.8
VHO	**Vista Hermosa**	**1.62**	**261**	*e*P		Pn	21 00 60.0	-1.5
VHO				*e*S		Sn	21 01 21.0	-2.8
TOIG	**Toxpalan**	**2.07**	**292**	*i* P		Pn	21 01 06.0	-0.8
TOIG				*i* S		Sn	21 01 31.3	-1.9

MEX 05 21:14:44.4±0.6, **15°.67N**×**97°.37W, h5**km, **MD3.5, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PEIG	**Puerto Escondi**	**0.39**	**33**	*i* P		Pg	21 14 51.3	-0.6
PEIG				*i* S		Sg	21 14 56.9	-0.1
PNIG	**Pinotepa**	**1.02**	**314**	*e*P		Pg	21 15 01.4	-2.7
PNIG				*i* S		Sg	21 15 13.6	-3.8
YOIG	**Yosondua**	**1.19**	**352**	*e*P		Pg	21 15 04.6	-2.7
YOIG				*i* S		Sg	21 15 20.1	-2.7
MGIG	**Malinaltepec**	**1.97**	**322**	*e*P		Pn	21 15 13.7	-4.9
MGIG				*i* S		Sn	21 15 38.4	-5.5

*IDC **05** 21:24:09.9±4.8, 9°.43S×119°.80E, h109km±46km, mb3.2/2, mb1 3.2/6, mb1mx3.0/39, mbtmp3.5/6, Error ellipse: s-maj=62.3km s-min=11.7km az=53.0*

ISC 05 21:24:09.2±1.4, **9°.5S**±0°.1×**119°.7E**±0°.1, **h100**km, **n6,** σ**0°41/8, Sumba region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
BATI	**Baumata**	**3.94**	**101**	P		Pn	**21 25 07.7**	**+0.1**
	21nm,0.3s,baz=297,slow=5.4,SNR=27							
BATI				S		Sn	**21 25 52.9**	**0.0**
	5.4nm,0.3s,baz=61,slow=22,SNR=10							
KAPI	**Kappang**	**4.43**	**0**	P		Pn	**21 25 14.2**	**-0.1**
	1.4nm,0.3s,baz=210,slow=6.0,SNR=8.1							
KAPI				S		Sn	**21 26 05.0**	**+0.1**
	2.1nm,0.3s,baz=279,slow=23,SNR=6.1							
WRA	**Warramunga Arr**	**17.53**	**128**	P		P	**21 28 06.8**	**-0.3**
	0.1nm,0.3s,baz=298,slow=12,SNR=1.9							
WRA				S		Sn	21 31 08.1	-15
	0.1nm,0.3s,baz=285,slow=22,SNR=4.6							
ASAR	**Alice Springs**	**19.56**	**138**	P		P	**21 28 29.4**	**+0.2**
	0.1nm,0.3s,baz=314,slow=9.3,SNR=3.3							
CMAR	**Chiang Mai Arr**	**34.52**	**324**	P		P	**21 30 48.7**	**+0.6**
	0.4nm,0.4s,baz=152,slow=7.3,SNR=1.9							
MKAR	**Makanchi Array**	**65.21**	**333**	P		P	**21 34 39.3**	**-0.6**
	0.2nm,0.4s,baz=156,slow=7.5,SNR=6.6							

MEX 05 21:32:06.8±1.2, **15°.93N**×**98°.98W, h10**km±999km, **MD3.5, Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PNIG	**Pinotepa**	**0.94**	**60**	*e*P		Pg	21 32 20.4	-4.7
PNIG				*e*S		Sg	21 32 30.0	-7.3
MGIG	**Malinaltepec**	**1.34**	**14**	*e*P		Pn	21 32 27.9	-4.0
MGIG				*i* S		Sb	21 32 43.2	-6.3
YOIG	**Yosondua**	**1.66**	**56**	*e*P		Pn	21 32 32.4	-3.9
YOIG				*i* S		Sn	21 32 53.4	-4.5
TLIG	**Tlapa**	**1.68**	**14**	*e*P		Pn	21 32 34.9	-1.5
TLIG				*i* S		Sn	21 32 53.3	-4.7
HLIG	**Huajuapan de L**	**2.21**	**31**	*e*P		Pn	21 32 44.0	+0.3
HLIG				*i* S		Sn	21 33 11.2	0.0
TOIG	**Toxpalan**	**2.83**	**40**	*e*P		Pb	21 32 56.4	-1.2
TOIG				*e*S		Sb	21 33 35.0	+2.6

*IDC **05** 21:57:39.3±1.3, 32°.04N×88°.80E, h0km, mb3.4/7, mb1 3.6/8, mb1mx3.4/52, mbtmp3.5/8, ML3.4/1, MS3.0/3, Ms1 3.0/3, ms1mx2.6/42, Error ellipse: s-maj=36.6km s-min=25.3km az=54.0*

ISC 05 21:57:45.4±0.8, **32°.23N**±0°.09×**88°.8E**±0°.1, **h35**km, **n19,** σ**1°25/18, mb3.5/5, Xizang**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KKN	**Kakani**	**5.39**	**216**	*e*P		Pn	**21 59 05.3**	**+1.8**
	12nm,0.5s							
PKI	**Pulchoki**	**5.51**	**214**	*e*P		Pn	**21 59 07.2**	**+1.9**
	17nm,0.4s							
PKIN	**Phulchoki**	**5.51**	**214**	*e*P		Pn	**21 59 07.0**	**+1.8**
	22nm,0.5s							
GKN	**Gorkha**	**5.56**	**222**	*e*P		Pn	**21 59 07.0**	**+1.2**
	32nm,0.4s							
RAMN	**Ramite**	**5.61**	**201**	*e*P		Pn	**21 59 06.1**	**-0.4**
	44nm,0.4s							
DANN	**Dangsing**	**5.85**	**230**	*e*P		Pn	**21 59 10.7**	**+0.9**
	25nm,0.4s							
KOLN	**Koldanda**	**6.35**	**227**	*e*P		Pn	**21 59 16.7**	**0.0**
PYUN	**Piuthan**	**6.52**	**232**	*e*P		Pn	**21 59 17.8**	**-1.2**
	19nm,0.4s							
MKAR	**Makanchi Array**	**15.39**	**343**	Pn		Pn	**22 01 20.6**	**+0.8**
	0.0nm,0.3s,baz=151,slow=14,SNR=3.1							
AAK	**Ala-Archa**	**15.39**	**316**	Pn		Pn	**22 01 19.9**	**-0.1**
	0.2nm,0.3s,baz=126,slow=8.5,SNR=1.7							
AAK				LR		LR	22 08 48.4	
	comp=Z,32nm,21.2s,baz=108,slow=43							
CMAR	**Chiang Mai Arr**	**16.46**	**144**	Pn		Pn	**22 01 33.8**	**0.0**
	0.1nm,0.3s,baz=328,slow=15,SNR=4.9							
KURBB	**Kurchatov Arra**	**19.90**	**340**	P		P	**22 02 12.4**	**-1.2**
	1.1nm,0.7s,baz=154,slow=11,SNR=2.5							
SONM	**Songino Array**	**20.51**	**35**	P		P	**22 02 21.7**	**+1.2**
	0.4nm,0.4s,baz=224,slow=12,SNR=2.2							
ZALV	**Zalesovo Beam**	**21.90**	**354**	P		P	**22 02 35.5**	**+0.4**
	0.8nm,0.5s,baz=165,slow=12,SNR=2.9							
ZALV				LR		LR	22 12 09.0	
	comp=Z,30nm,20.1s,baz=133,slow=39							
BVAR	**Borovoye Array**	**24.68**	**333**	P		P	**22 03 03.1**	**+0.3**
	0.6nm,0.5s,baz=161,slow=14,SNR=6.7							
BRTR	**Keskin Array B**	**44.69**	**296**	P		P	**22 05 56.1**	**+1.0**
	0.4nm,0.7s,baz=79,slow=7.8,SNR=4.1							
SEY	**Seymchan**	**49.86**	**32**	LR		LR	22 31 09.3	
	comp=Z,38nm,19.0s,baz=64,slow=40							
WRA	**Warramunga Arr**	**67.74**	**134**	P		P	**22 08 38.3**	**-1.2**
	0.7nm,0.9s,baz=318,slow=5.9,SNR=4.5							
TORD	**Torodi Ar. Bea**	**80.73**	**280**	P		P	**22 09 53.7**	**-1.8**
	0.7nm,0.9s,baz=45,slow=3.9,SNR=3.1							

*GUC **05** 22:00:15.6±0.6, 19°.25S×69°.30W, h110km±4km, ML3.3*
*IDC **05** 22:00:16.2±2.0, 19°.32S×69°.01W, h114km±16km, mb3.4/2, mb1 3.2/5, mb1mx3.1/30, mbtmp3.6/5, MS4.3/1, Ms1 4.3/1, ms1mx2.9/15, Error ellipse: s-maj=52.4km s-min=9.1km az=98.0*

ISC 05 22:00:14.7±1.1, **19°.27S**±0°.05×**69°.4W**±0°.1, **h117**km±10km, **n13,** σ**0°62/19, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PB11	**IPOC Station P**	**0.54**	**206**	*e*P		Pn	**22 00 32.6**	**-0.1**
PB11				*i* S		Sn	**22 00 46.3**	**-0.2**
PB11				IAML			22 00 47.0	
	comp=E,2μm,0.2s							
PSGC	**Pisagua**	**0.75**	**245**	*e*P		Pn	**22 00 34.5**	**+0.2**
PSGC				*i* S		Sn	**22 00 49.4**	**+0.3**
PB08	**IPOC Station P**	**0.90**	**165**	*e*P		Pn	**22 00 35.9**	**0.0**
PB08				*i* S		Sn	**22 00 51.8**	**-0.1**
PB08				IAML			22 00 52.8	
	comp=E,1μm,0.2s							
HMBC	**Humberstone**	**1.10**	**204**	*i* S		Sn	**22 00 55.5**	**+0.5**
TA01	**Diego Aracena**	**1.48**	**210**	*e*P		Pn	**22 00 42.0**	**+0.3**

TA01 *i* S Sn 22 01 02.2 0.0
TA01 IAML 22 01 03.7
comp=E,426nm,0.2s
PB01 IPOC Station P 1.76 183 *e*P **Pn 22 00 45.5 +0.3**
PB01 *i* S **Sn 22 01 09.0 +0.5**
PB01 IAML 22 01 10.9
comp=E,327nm,0.2s
PB07 IPOC Station P 2.48 190 *e*P **Pn 22 00 55.1 +0.8**
PB07 *e*S **Sn 22 01 23.5 -1.3**
PB07 IAML 22 01 32.8
comp=E,121nm,0.3s
LPAZ La Paz 3.21 22 P **Pn 22 01 04.8 +0.6**
comp=E,1.0nm,0.3s,baz=194,slow=10.0,SNR=28
LPAZ S **Sn 22 01 42.5 +0.2**
comp=E,0.3nm,0.3s,baz=237,slow=23,SNR=1.9
LVC Limon Verde 3.35 172 P **Pn 22 01 07.2 +1.3**
comp=E,1.5nm,0.3s,baz=3.8,slow=14,SNR=10
LVC S **Sn 22 01 45.1 -0.3**
comp=E,5.7nm,0.3s,baz=15,slow=6.0,SNR=16
SIV San Ignacio 8.59 69 P Pn 22 02 11.3 -4.9
comp=E,0.3nm,0.3s,baz=265,slow=14,SNR=7.1
ATAH Atahualpa 14.90 323 LR LR 22 10 08.9
comp=E,1μm,20.8s,baz=312,slow=39
BDFB Brasilia 20.72 83 P **P 22 04 45.8 -0.3**
comp=E,2.0nm,0.5s,baz=239,slow=5.9,SNR=4.8
TORD Torodi Ar. Bea 77.06 71 P **P 22 11 55.0 -0.5**
comp=E,0.7nm,0.6s,baz=261,slow=4.7,SNR=5.7

MEX 05 22:06:09.4±0.6**,15°.79N**×**94°.50W,h14**km±11km**,MD3.7,**
Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.24**	**94**	*e*P	Pn	22 06 28.4	-3.9
PCIG				*i* S	Sb	22 06 43.7	-4.6
CMIG	**Matias Romero**	**1.34**	**344**	*e*P	Pn	22 06 29.9	-3.8
CMIG				*i* S	Sn	22 06 46.5	-5.0

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*MOS **05** 22:13:45.5±1.2, 25°.73S×64°.65W, h8km, mb5.1/13, Error ellipse: s-maj=11.3km s-min=6.5km az=105.9*
*NEIC **05** 22:13:46.8±1.8, 25°.78S±0°.06×64°.69W±0°.07, h6km±3km, mb5.2/141, Md4.8(SJA), Error ellipse: s-maj=8.8km s-min=8.1km az=86.0*
*SJA **05** 22:13:47±2.6, 25°.92S±0°.06×64°.91W±0°.07, h31km±3km, Error ellipse: s-maj=8.7km s-min=8.0km az=80.0*
*VAO **05** 22:13:47.7±0.3, 25°.91S×64°.71W, h10km, mb4.7*
*IDC **05** 22:13:50.9±2.4, 25°.78S×64°.72W, h35km±18km, mb4.4/18, mb1 4.5/25, mb1mx4.5/37, mbtmp4.6/25, ML4.2/6, MS4.0/16, Ms1 4.0/16, ms1mx3.9/23, Error ellipse: s-maj=14.8km s-min=11.6km az=57.0*
*BJI **05** 22:13:53.0±0.0, 25°.90S×64°.70W, h40km, mB5.0/4, Ms5.2/1, Ms7 4.9/1*
ISC 05 22:13:46.8±0.3**, 25°.86S**±0°.03×**64°.77W**±0°.04**, h10**km**, n537,** σ**1s.37**/538**, mb5.2**/103**, MS4.0**/14**, 9C, Salta Province**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AHML Horco Molle 1.05 208 *e*P Pg 22 14 00.0 -7.1
AHML *e*S Pg 22 14 00.0 -7.1
AHML *e*P **Pb 22 14 03.5 -3.7**
AHML IAML 22 14 26.1
comp=Z,21μm,0.8s
FSA Cafayete 1.12 257 *e*P **Pb 22 14 06.2 -2.2**
FSA *e*S **Sg 22 14 22.0 -0.8**
SLA San Lorenzo 1.31 329 *e*P **Pn 22 14 11.5 +0.2**
SLA *e*S **Sb 22 14 28.8 +0.3**
SLA IAML 22 14 34.1
comp=Z,15μm,0.5s
HJA Humahuaca 2.70 347 *e*P **Pn 22 14 33.0 +2.4**
HJA *e*S **Sb 22 15 08.5 -0.2**
HJA IAML 22 15 18.9
comp=Z,3μm,0.5s
YJA Yavi 3.73 349 *e*P **Pn 22 14 48.2 +3.4**
YJA *e*S **Sg 22 15 47.5 +1.0**
AC02 Maricunga 4.03 255 Pn **Pn 22 14 53.5 +4.5**
AC02 Sn **Sn 22 15 37.9 +1.4**
ACLC CERRO LA CRUZ 4.05 208 *e*P **Pn 22 14 49.5 +0.5**
ACLC *e*S **Sb 22 15 48.5 +1.1**
ACLC IAML 22 16 14.7
comp=Z,1μm,0.8s
AF01 San Pedro de A 4.24 312 Pn **Pn 22 14 52.7 +0.9**
APLL PUNTA DE LOS L 4.78 199 *e*P **Pn 22 14 59.0 0.0**
LVC Limon Verde 4.97 310 Pn **Pn 22 15 04.9 +3.1**
comp=Z,4.8nm,0.3s,baz=121,slow=7.4,SNR=36
LVC Pg **Pg 22 15 20.3 -1.7**
comp=Z,3.8nm,0.3s,baz=122,slow=18,SNR=7.8
LVC Limon Verde 4.97 310 P **Pn 22 15 04.9 +3.1**
LVC 22 15 57.5
LVC Limon Verde 4.97 310 Pn **Pn 22 15 04.9 +3.1**
LVC Sn **Sn 22 15 57.5 -2.1**
LVC Limon Verde 4.97 310 *e*P **Pn 22 15 00.0 -1.8**
LVC *e*P Pb 22 15 05.3 -8.8
PB15 IPOC Station P 5.03 301 Pn 22 15 05.4 +3.0
PB15 IPOC Station P 5.03 301 *e*P **Pn 22 15 06.7 +4.2**
GO03 Copiap 5.18 249 Pn **Pn 22 15 08.0 +3.5**
PB14 IPOC Station P 5.25 282 Pn **Pn 22 15 08.2 +2.6**
PB14 IPOC Station P 5.25 282 *e*P **Pn 22 15 08.4 +2.9**
PB14 IAML 22 16 38.9
comp=Z,200nm,1.9s
AVFE Valle Fertil 5.34 206 *e*P **Pn 22 15 06.9 +0.3**
AVFE IAML 22 17 03.3
comp=Z,544nm,1.3s
PB06 IPOC Station P 5.39 305 Pn 22 15 10.9 +3.5
ACHE Chepes 5.54 197 *e*P **Pn 22 15 09.7 +0.2**
PB09 IPOC Station P 5.75 314 Pn 22 15 16.1 +3.7
PB04 IPOC Station P 6.04 304 Pn **Pn 22 15 19.7 +3.4**
AC04 Llanos de Chal 6.09 246 Pn **Pn 22 15 19.6 +2.7**
AC04 Llanos de Chal 6.09 246 *e*P **Pn 22 15 20.8 +3.9**
AC04 IAML 22 17 15.0
comp=Z,196nm,2.0s
PB07 IPOC Station P 6.23 310 Pn 22 15 21.4 +2.4
PB01 IPOC Station P 6.46 317 Pn **Pn 22 15 25.0 +3.0**
MRA San Martin 6.59 187 *e*P **Pn 22 15 23.4 -0.6**
MRA IAML 22 17 32.9
comp=Z,764nm,0.8s
ZON Zonda 6.63 210 P **Pn 22 15 25.7 +1.4**
ZON Zonda 6.63 210 Pn 22 15 25.7 +1.4
CPUP Villa Florida 6.71 96 Pn **Pn 22 15 26.0 +0.6**
comp=Z,23nm,0.3s,baz=270,slow=11,SNR=83
CPUP Pg **Pg 22 15 54.5 -0.8**
comp=Z,21nm,0.3s,baz=275,slow=17,SNR=8.2
CPUP Lg Lg 22 17 16.6
comp=Z,25nm,0.3s,baz=288,slow=11,SNR=3.1
CPUP Villa Florida 6.71 96 P **Pn 22 15 25.9 +0.6**
CPUP Villa Florida 6.71 96 Pn **Pn 22 15 25.9 +0.6**
CPUP Villa Florida 6.71 96 *e*P **Pn 22 15 25.9 +0.6**
CPUP Villa Florida 6.71 96 *e*P **Pn 22 15 25.9 +0.6**
GO04 Tololo Observa 6.85 230 Pn 22 15 28.9 +1.4
GO04 Tololo Observa 6.85 230 *e*P **Pn 22 15 29.7 +2.2**
PB08 IPOC Station P 6.97 324 Pn 22 15 32.2 +2.8
PB08 IPOC Station P 6.97 324 *e*P Pn 22 15 34.3 +4.9
CO05 La Serena 7.01 233 Pn **Pn 22 15 28.3 -1.2**
RTLS Leoncito 7.13 213 *e*P **Pn 22 15 32.7 +1.3**
RTLS IAML 22 17 51.7
comp=Z,296nm,1.0s
CO03 El Pedregal 7.20 225 Pn 22 15 33.8 +1.6
CO03 El Pedregal 7.20 225 *e*P **Pn 22 15 34.3 +2.1**
CO03 IAML 22 17 38.1
comp=Z,306nm,1.4s
TA01 Diego Aracena 7.24 316 Pn **Pn 22 15 32.1 -0.6**
YCA YACYRETA 7.41 104 *e*P **Pn 22 15 36.5 +1.5**
TA02 Huaiquique 7.43 317 Pn 22 15 34.0 -1.3
AUSP Uspallata 7.52 211 *e*P **Pn 22 15 37.9 +1.0**
PB11 IPOC Station P 7.55 322 Pn **Pn 22 15 39.0 +1.9**
PB11 IPOC Station P 7.55 322 *e*P **Pn 22 15 40.2 +3.1**
ASAL Salagasta 7.59 207 *e*P **Pn 22 15 38.0 +0.4**
CO02 Combarbal 7.64 224 Pn 22 15 38.5 +0.1
CO02 Combarbal 7.64 224 *e*P **Pn 22 15 40.7 +2.4**
PSGCX Pisagua 7.95 321 Pn **Pn 22 15 43.0 +0.5**
AAGR Agrelo 8.03 205 *e*P **Pn 22 15 44.8 +1.3**
ITQB Itaqui 8.16 120 Pn **Pn 22 15 45.8 +0.5**
VA03 San Esteban 8.53 215 Pn 22 15 52.5 +1.9
MT05 Renca 9.13 213 Pn **Pn 22 15 59.9 +1.2**
RFA San Rafael 9.44 199 *e*P **Pn 22 16 01.9 -1.0**
MT01 Popeta 9.76 214 *e*P **Pn 22 16 09.0 +1.7**
VA05 Santo Domingo 9.79 216 Pn 22 16 09.5 +1.9
AQDB Aquidauana 9.91 59 Pn **Pn 22 16 08.5 -0.9**
AQDB Aquidauana 9.91 59 *e*P **Pn 22 16 09.5 +0.1**
LPAZ La Paz 10.02 341 Pn **Pn 22 16 12.0 +0.6**
comp=Z,0.6nm,0.3s,baz=138,slow=11,SNR=20
LPAZ Sn **Sn 22 18 05.1 +0.8**
comp=Z,0.5nm,0.3s,baz=288,slow=13,SNR=2.6
LPAZ LR LR 22 21 25.0
comp=Z,387nm,20.9s,baz=179,slow=46
LPAZ La Paz 10.02 341 *e*P **Pn 22 16 13.7 +2.3**
LPAZ pmax pmax
comp=Z,1.0nm,0.3s
LPAZ La Paz 10.02 341 *e*P **Pn 22 16 13.0 +1.6**
BO02 Sierra Bellavi 10.31 209 Pn 22 16 16.1 +1.2
SIV San Ignacio 10.40 20 Pn **Pn 22 16 15.5 -0.7**
comp=Z,1.7nm,0.3s,baz=240,slow=8.5,SNR=28
SIV Sn **Sn 22 18 12.5 -0.4**
comp=Z,3.3nm,0.3s,baz=290,slow=7.9,SNR=3.2
SIV LR LR 22 21 08.9
comp=Z,293nm,20.6s,baz=215,slow=42
LPA La Plata 10.78 148 *e*P **Pn 22 16 20.3 -0.9**
LPA PP **PnPn 22 16 29.0 -0.1**
LPA PPP PPP 22 16 36.5
LPA PPP PPP 22 16 59.8
LPA pPP 22 17 13.2
LPA S Pg 22 17 18.0
LPA SS Sn 22 17 34.3 -48
LPA SSS SSS 22 17 47.1
LPA SCS **ScS 22 29 21.3 -8.9**
LPA PKIKP PKiKP 22 30 12.9 -8.6
LPA SKIKP 22 33 59.0
LPA SKIKS 22 37 24.6
CPSB Cacapava Do Su 10.98 117 *e*P **Pn 22 16 23.1 -0.9**
GO05 Huala 11.01 212 Pn 22 16 24.8 +0.4
ML02 Panimavida 11.40 208 Pn 22 16 31.8 +2.0
PLTB Pedras Altas 11.42 124 Pn **Pn 22 16 29.8 -0.2**
PLTB Pedras Altas 11.42 124 *e*P **Pn 22 16 29.9 -0.2**
TRCB Terra Rica 11.48 77 Pn 22 16 30.0 -0.9
PTGB Pitanga 11.55 87 *e*P **Pn 22 16 33.0 +1.1**
PTLB Pontes e Lacer 11.62 28 *e*P **Pn 22 16 33.2 +0.5**
PP1B Ponte de Pedra 12.32 50 *e*P **Pn 22 16 41.4 -1.0**
TRQA Tornquist 12.39 170 P **Pn 22 16 43.0 -0.3**
TRQA pmax pmax
comp=Z,35nm,0.9s
TRQA Tornquist 12.39 170 Pn **Pn 22 16 41.5 -1.9**
TRQA Tornquist 12.39 170 *e*P **Pn 22 16 41.4 -1.9**
CNLB Canela 12.82 109 *e*P **Pn 22 16 45.7 -3.5**
PCMB Pacaembu 13.07 74 *e*P **Pn 22 16 52.0 -0.7**
VILB Vilhena 13.54 19 *e*P **Pn 22 17 00.1 +1.1**
FRTB Fartura 14.06 83 *e*P **Pn 22 17 05.9 -0.2**
TER01 Tubaro-SC 14.18 104 *e*P **Pn 22 17 08.2 +0.5**
LC01 Cunco 14.31 203 Pn **Pn 22 17 09.2 -0.4**
ITRB Iturama 14.63 68 *e*P **Pn 22 17 13.6 -0.3**
PLCA Paso Flores 15.60 197 Pn **Pn 22 17 27.7 +0.9**
comp=Z,0.5nm,0.3s,baz=21,slow=11,SNR=29
PLCA Lg Lg 22 22 11.4
comp=Z,0.1nm,0.3s,baz=292,slow=12,SNR=4.3
PLCA LR LR 22 23 31.8
comp=Z,380nm,21.1s,baz=346,slow=37
PLCA Paso Flores 15.60 197 *e*P **P 22 17 31.2 +0.1**
PLCA pmax pmax
comp=Z,1.0nm,0.3s
PLCA Paso Flores 15.60 197 Pn **Pn 22 17 28.8 +2.0**
PLCA Paso Flores 15.60 197 *e*P **Pn 22 17 28.0 +1.2**
BB19B Bebedouro 15.65 76 *e*P **Pn 22 17 27.4 -0.1**
ARAG Araguaiana, MT 15.76 53 *e*P **Pn 22 17 28.6 -0.4**
SAML Samuel 16.88 5 P **Pn 22 17 42.0 -1.3**
SAML pmax pmax
comp=Z,24nm,0.8s
SAML Samuel 16.88 5 Pn 22 17 42.0 -1.3
CLDB Colider 17.15 31 *e*P **P 22 17 48.3 -0.1**
IPMB Ipameri, GO 17.23 66 *e*P **Pn 22 17 47.3 -0.5**
LL01 San Ignacio de 17.64 199 Pn **Pn 22 17 52.4 -0.2**
NNA Nana 17.89 318 P **Pn 22 17 56.3 +0.4**
comp=Z,0.7nm,0.3s,baz=180,slow=9.1,SNR=2.6
NNA Nana 17.89 318 *ce*P **P 22 17 57.8 +1.3**
NNA pmax pmax
comp=Z,89nm,2.5s
NNA Nana 17.89 318 Pn 22 17 54.5 -1.4
LL02 Futaleuf 18.24 197 Pn 22 17 59.3 -0.7
BDFB Brasilia 18.66 60 P **Pn 22 18 06.0 +0.6**
comp=Z,0.4nm,0.3s,baz=241,slow=19,SNR=11
BDFB Lg Lg 22 23 44.2
comp=Z,0.6nm,0.3s,baz=173,slow=13,SNR=2.4
BDFB LR LR 22 26 04.5
comp=Z,1μm,18.7s,baz=230,slow=40
BDFB Brasilia 18.66 60 P **P 22 18 04.0 -1.1**
BDFB pmax pmax
comp=Z,46nm,1.5s
BDFB Brasilia 18.66 60 P 22 18 04.0 -1.1
GO07 Milladeo Hill, 18.69 201 P **P 22 18 04.2 -1.0**
SNDB Serra Nova Dou 18.77 45 *e*P **Pn 22 18 08.1 +1.4**
BSCB Bom Sucesso 18.97 79 *e*P **Pn 22 18 09.1 -0.1**
VAS01 Vassouras-RJ 19.80 84 *e*P **Pn 22 18 19.0 0.0**
PEXB Peixe 20.69 52 *e*P Pn 22 18 28.4 -1.2
NPGB Novo Progresso 20.75 27 *e*P **P 22 18 28.4 +0.5**
DUB01 Friburgo-RJ 20.80 84 *e*P Pn 22 18 30.0 -0.9
DIAM Diamantina, MG 20.93 73 *e*P **P 22 18 31.0 +1.0**
MC01 Montes Claros 21.41 69 *e*P **P 22 18 36.0 +0.9**
JANB Januaria 21.94 65 *e*P **P 22 18 42.3 +1.6**
TBTG Tabatinga, AM 22.10 346 *e*P **P 22 18 42.8 +0.4**
TBTG Tabatinga, AM 22.10 346 *e*P **P 22 18 43.1 +0.8**
ATAH Atahualpa 22.70 323 P **P 22 18 50.7 +1.4**
comp=Z,4.1nm,0.7s,baz=141,slow=8.6,SNR=4.3
ATAH LR LR 22 29 18.8
comp=Z,145nm,21.9s,baz=157,slow=41
MACA Manacapuru-AM 22.90 11 *e*P **P 22 18 51.7 +0.8**
SJMB Sao Joao De Ma 22.94 77 *e*P **P 22 18 53.1 +1.8**
SDBA SAO DESIDERIO 23.00 58 *e*P **P 22 18 53.3 +1.2**
ITTB Itaituba 23.06 24 *e*P **P 22 18 52.9 +0.4**
RIB01 Linhares ES 23.41 79 *e*P **P 22 18 57.7 +1.6**
SMTB Santa Maria do 23.50 47 *e*P **P 22 18 58.7 +1.6**
NAN01 Guarapari, ES 24.20 76 *e*P **P 22 19 05.0 +1.4**
PRPB Parauapebas 24.23 39 *e*P **P 22 19 05.6 +1.6**
GUA01 Guaratinga, BA 25.00 73 *e*P **P 22 19 12.7 +1.8**
PTGA Pitinga 25.40 11 P **P 22 19 14.0 -0.5**
comp=Z,10nm,0.9s,baz=197,slow=12,SNR=7.0
PTGA LR LR 22 29 44.3
comp=Z,128nm,18.4s,baz=185,slow=38
PTGA Pitinga 25.40 11 P **P 22 19 12.8 -1.8**
CMC01 Camacan, BA 25.79 71 *e*P **P 22 19 18.3 +0.1**
MALB Monte Alegre 25.92 25 *e*P **P 22 19 19.7 +0.4**
EFI East Falkland 26.29 171 *i* P **P 22 19 23.4 +1.1**
EFI pmax pmax
comp=Z,42nm,1.1s
EFI East Falkland 26.29 171 P **P 22 19 21.3 -1.0**
GDU01 Guandu, BA 26.55 68 *e*P **P 22 19 25.9 +0.9**
MG02 Cerro Sombrero 27.10 186 P **P 22 19 27.9 -1.7**
NBPN Ponto Novo - B 27.61 62 *e*P **P 22 19 36.5 +1.9**
MCPB Macapa, AP 28.16 28 *e*P **P 22 19 40.3 +0.8**
OTAV Otavalo 29.11 331 P **P 22 19 48.1 -0.3**
OTAV pmax pmax
comp=Z,5.0nm,0.9s
OTAV Otavalo 29.11 331 P **P 22 19 48.1 -0.3**
OTAV Otavalo 29.11 331 *e*P **P 22 19 50.2 +1.8**
OTAV Otavalo 29.11 331 *e*P **P 22 19 49.9 +1.5**
MG01 Puerto William 29.12 183 P **P 22 19 48.0 +0.4**
FLOC Florencia 29.24 337 P **P 22 19 46.9 -2.1**
FLOC Florencia 29.24 337 *e*P **P 22 19 46.2 -2.8**
GARC Garzon, Huila 29.75 338 *e*P **P 22 19 52.9 -0.9**
SOTA Rioblanco 30.09 336 *e*P **P 22 19 57.5 +0.3**
BBAC Balboa, Cauca 30.23 335 *e*P **P 22 19 58.2 +0.1**
ROSB Rosrio 30.25 44 *e*P **P 22 19 59.9 +1.9**
POPC Popayan, Colom 30.49 336 *e*P **P 22 20 00.6 +0.2**
NBMA Muriti-CE 30.86 58 *e*P **P 22 20 04.6 +1.1**
ORTC Ortega, Tolima 31.28 340 *e*P **P 22 20 06.0 -1.1**
CHIC Chingaza 31.52 343 *e*P **P 22 20 08.4 -1.3**
ROSC El Rosal 31.89 342 LR LR 22 34 10.0
comp=Z,409nm,20.9s,baz=196,slow=38
GUY2C Guyana, Caldas 32.56 340 *e*P **P 22 20 17.4 -1.4**
RUSC La Rusia 32.57 345 P **P 22 20 17.7 -1.3**
RUSC La Rusia 32.57 345 *e*P **P 22 20 17.4 -1.6**
SPBC San Pablo de B 32.59 343 *e*P **P 22 20 18.3 -0.4**
NBMO Morrinhos-CE 32.65 51 *e*P **P 22 20 18.8 -0.4**
NORC Norcasia 32.73 341 *e*P **P 22 20 17.6 -2.3**
ELOV Elorza 32.98 351 *e*P **P 22 20 20.7 -1.3**
CBOC Ciudad Bolivar 33.37 339 *e*P **P 22 20 23.7 -1.9**
PTBC PUERTO BERRIO, 33.55 342 *e*P **P 22 20 23.1 -3.9**
PAMC Pamplona, Colo 33.88 346 *e*P **P 22 20 28.6 -1.9**
RCBR Riachuelo 34.03 59 *e*P **P 22 20 32.0 +0.7**
SOCV Socops 34.45 349 *e*P **P 22 20 31.8 -3.0**
ZARC Zaragoza, Cauc 34.57 342 *e*P **P 22 20 32.8 -3.0**
SDV Santo Domingo 35.00 350 P **P 22 20 37.1 -2.6**
SMLC San Martn de 35.62 344 *e*P **P 22 20 41.1 -3.8**
LL2C La Loma 2 Cana 36.19 345 *e*P P 22 20 38.1 -12
ARGC Ariguani, Magd 36.67 344 *e*P **P 22 20 51.0 -2.9**
SJCC San Jacinto, C 36.95 343 *e*P **P 22 20 53.5 -2.8**
SRBA San Rafael, Bu 39.29 330 P **P 22 21 16.6 +0.5**
JTS Las Juntas de 40.95 329 *i* P **P 22 21 30.5 +0.7**
JTS pmax pmax
comp=Z,16nm,1.1s
COVE Coope Vega, Sa 41.07 330 P **P 22 21 31.0 +0.2**
COVE IAmb IAmb 22 21 33.5
comp=Z,34nm,1.0s
ICMP Isla Caja de M 43.51 358 P **P 22 21 48.6 -2.0**
ICMP IAmb IAmb 22 21 50.9
comp=Z,76nm,1.0s
MLPR Magueyes Islan 43.62 357 P **P 22 21 49.4 -2.1**
MLPR IAmb IAmb 22 21 52.2
comp=Z,50nm,1.0s
PDPR Patillas Dam, 43.63 358 P **P 22 21 48.8 -2.7**
PDPR IAmb IAmb 22 21 50.8
comp=Z,60nm,1.4s
SJG San Juan 43.72 358 P **P 22 21 49.7 -2.6**
SJG pmax pmax
comp=Z,71nm,1.2s
SJG San Juan 43.72 358 P **P 22 21 49.7 -2.6**
SJG IAmb IAmb 22 21 50.9
comp=Z,70nm,1.1s
SJG San Juan 43.72 358 *e*P **P 22 21 48.9 -3.4**
CBYP Canovanas 43.87 359 P **P 22 21 51.2 -2.4**
CBYP IAmb IAmb 22 21 52.0
comp=Z,75nm,1.6s
GCPR Guaynabo City 43.92 358 P **P 22 21 51.3 -2.6**
GCPR IAmb IAmb 22 21 52.9
comp=Z,28nm,0.8s
AOPR Arecibo Observ 43.98 357 P **P 22 21 52.3 -2.1**
AOPR IAmb IAmb 22 21 52.8
comp=Z,25nm,0.8s
TGUH Tegucigalpa,Un 45.32 329 P **P 22 22 04.8 -0.5**
TGUH IAmb IAmb 22 22 06.2
comp=Z,24nm,0.9s
MTO3 Montecristo 46.63 326 P **P 22 22 15.2 -0.5**
MTO3 IAmb IAmb 22 22 16.9
comp=Z,20nm,1.0s
PETF Flores 49.03 327 P **P 22 22 34.1 0.0**
PETF IAmb IAmb 22 22 35.0
comp=Z,20nm,1.0s
CCIG Comitan 49.63 325 P **P 22 22 38.5 -0.4**
CCIG IAmb IAmb 22 22 39.1
comp=Z,16nm,0.9s
SOR Soroa 51.49 338 P **P 22 22 52.0 -0.6**
SOR pmax pmax
comp=Z,40nm,0.9s
SOR Soroa 51.49 338 P **P 22 22 52.0 -0.6**
SOR IAmb IAmb 22 22 53.3
comp=Z,40nm,0.9s
TLIG Tlapa 54.25 319 P **P 22 23 12.7 -0.6**
TLIG IAmb IAmb 22 23 16.0
comp=Z,33nm,1.3s
VNA3 Neumayer Olymp 54.75 161 P **P 22 23 15.5 -0.6**
VNA1 Neumayer--Stat 54.92 160 P **P 22 23 17.6 +0.2**
VNA2 Neumayer--Watz 55.30 160 P **P 22 23 20.0 -0.1**
baz=283,slow=7.2
SNAA Sanae 56.94 161 P **P 22 23 31.1 -0.8**
SNAA Sanae 56.94 161 *ce*P **P 22 23 32.0 +0.1**
SNAA pmax pmax
comp=Z,7.0nm,1.0s
SNAA Sanae 56.94 161 P **P 22 23 31.8 -0.1**
456A Hilliard 58.63 343 P **P 22 23 44.1 0.0**
553A Crawfordville 58.82 340 P **P 22 23 45.6 +0.1**
TIGA Tifton 59.74 341 P **P 22 23 51.3 -0.5**
TIGA Tifton 59.74 341 P **P 22 23 51.7 -0.1**
baz=160
255A Hazlehurst 59.89 343 P **P 22 23 52.5 -0.3**
352A Blakely 60.18 340 P **P 22 23 54.5 -0.3**
BRAL Brewton 60.57 338 P **P 22 23 57.0 -0.5**
BRAL Brewton 60.57 338 P **P 22 23 57.5 0.0**
baz=157
ZAIG Zacatecas 60.64 320 P **P 22 23 57.6 -0.9**
ZAIG IAmb IAmb 22 24 01.1
comp=Z,29nm,1.2s
154A Montrose 60.71 342 P **P 22 23 57.1 -1.3**
250A Grady 61.06 339 P **P 22 23 59.9 -0.9**
152A Waverly Hall 61.22 341 P **P 22 24 01.2 -0.7**
152A IAmb IAmb 22 24 02.1
comp=Z,26nm,0.9s
GOGA Godfrey 61.56 342 P **P 22 24 03.8 -0.4**
baz=161,SNR=13
JSC Jenkinsville 61.82 345 P **P 22 24 05.6 -0.3**
JSC pmax pmax
comp=Z,32nm,1.2s
JSC Jenkinsville 61.82 345 P **P 22 24 05.6 -0.3**
JSC IAmb IAmb 22 24 07.0
comp=Z,32nm,1.2s
Z51A Franklin 61.96 341 P **P 22 24 06.4 -0.5**
BIRD Birdtown, Kers 61.98 345 P **P 22 24 06.7 -0.3**
BIRD IAmb IAmb 22 24 08.0
comp=Z,43nm,1.7s
HODGE Hodges 62.02 344 P **P 22 24 07.0 -0.3**
HODGE IAmb IAmb 22 24 08.2
comp=Z,18nm,1.1s
Y52A Lilburn 62.15 342 P **P 22 24 07.7 -0.5**
Y52A IAmb IAmb 22 24 08.6
comp=Z,28nm,1.1s
LRAL Lakeview Retre 62.27 339 P **P 22 24 07.9 -1.0**
LRAL IAmb IAmb 22 24 09.2
comp=Z,31nm,1.2s
LRAL Lakeview Retre 62.27 339 P **P 22 24 08.2 -0.7**
baz=157,SNR=13
146A Union 62.60 337 P **P 22 24 10.9 -0.3**
KMSC Kings Mountain 62.66 345 P **P 22 24 11.4 -0.1**
baz=163,SNR=5.3
Y49A Blount Mountai 62.84 340 P **P 22 24 11.9 -0.9**
Y49A IAmb IAmb 22 24 13.0
comp=Z,26nm,0.8s
HKT Hockley 62.97 330 *i* P **P 22 24 14.6 +1.0**
HKT pmax pmax
comp=Z,18nm,1.3s
HKT Hockley 62.97 330 P **P 22 24 13.8 +0.2**
HKT IAmb IAmb 22 24 15.2
comp=Z,20nm,1.4s
FPAL Fort Paine 63.23 341 P **P 22 24 14.6 -0.8**
W52A Murphy 63.27 342 P **P 22 24 15.2 -0.4**
W52A IAmb IAmb 22 24 16.3
comp=Z,19nm,1.1s
833A Chaparral WMA, 63.32 326 P **P 22 24 16.4 +0.3**
baz=145,SNR=9.6
V53A Saluda 63.52 344 P **P 22 24 16.6 -0.7**
V53A IAmb IAmb 22 24 18.0
comp=Z,18nm,1.0s
X48A Hartselle 63.59 340 P **P 22 24 17.2 -0.5**
TKL Tuckaleechee C 63.76 343 P **P 22 24 17.7 -1.2**
TKL pmax pmax
comp=Z,23nm,1.0s
TKL Tuckaleechee C 63.76 343 P **P 22 24 17.7 -1.2**
TKL IAmb IAmb 22 24 19.1
comp=Z,23nm,1.0s
NATX Nacogdoches 64.01 332 P **P 22 24 20.8 +0.2**
NATX Nacogdoches 64.01 332 P **P 22 24 21.6 +1.0**
baz=150
V51A Loudon 64.06 342 P **P 22 24 20.0 -0.8**
U54A Nelsons Funny 64.09 345 P **P 22 24 20.3 -0.8**
QSPA South Pole Qui 64.36 180 P **P 22 24 22.8 +0.2**
comp=Z,9.4nm,0.9s,baz=143,slow=4.1,SNR=27
QSPA South Pole Qui 64.36 180 P **P 22 24 23.1 +0.4**
QSPA IAmb IAmb 22 24 26.1
comp=Z,10nm,0.9s
PLAL Pickwick Lake 64.41 339 P **P 22 24 22.2 -0.9**
PLAL IAmb IAmb 22 24 23.0
comp=Z,29nm,1.1s
OXF Oxford 64.42 338 P **P 22 24 21.7 -1.5**
OXF pmax pmax
comp=Z,43nm,0.9s
OXF Oxford 64.42 338 P **P 22 24 21.7 -1.5**
OXF Oxford 64.42 338 P **P 22 24 22.1 -1.1**
baz=155,SNR=8.1
TZTN Tazewell 64.54 343 P **P 22 24 23.3 -0.6**
baz=161
WLAR White Oak Lake 65.05 334 P **P 22 24 27.2 -0.1**
U49A Red Boiling Sp 65.12 341 P **P 22 24 26.4 -1.3**
U49A IAmb IAmb 22 24 27.7
comp=Z,16nm,0.9s
S54A Dingess, Beckl 65.20 346 P **P 22 24 27.9 -0.4**
S54A IAmb IAmb 22 24 29.1
comp=Z,21nm,0.9s
JCT Junction City 65.29 327 P **P 22 24 28.6 -0.4**
JCT pmax pmax
comp=Z,21nm,0.9s
JCT Junction City 65.29 327 P **P 22 24 28.6 -0.4**
JCT IAmb IAmb 22 24 30.1
comp=Z,21nm,0.9s

JCT Junction City 65.29 327 P P 22 24 29.4 +0.4
baz=145,SNR=6.8
WVT Waverly 65.38 340 P P 22 24 28.2 -1.2
WVT pmax pmax
comp=Z,89nm,1.0s
WVT Waverly 65.38 340 P P 22 24 28.7 -0.7
baz=157
HPIG 65.63 320 P P 22 24 31.8 +0.3
HPIG IAmb IAmb 22 24 33.3
comp=Z,19nm,1.2s
LIC Lamto 66.13 70 ePKP1 P 22 24 37.0 +2.2
comp=Z,107nm,2.0s
P57A Homestead Farm 66.17 349 P P 22 24 34.5 +0.1
P57A IAmb IAmb 22 24 37.7
comp=Z,13nm,1.0s
PENMO Penman 66.26 338 P P 22 24 35.0 0.0
TIC Toumodi 66.36 70 ePKP1 P 22 24 37.2 +1.0
TXAR Lajitas Array 66.36 323 P P 22 24 36.2 +0.1
comp=Z,3.3nm,0.7s,baz=151,slow=8.5,SNR=50
TX32 Lajitas Array 66.36 323 P P 22 24 35.7 -0.4
R50A Paris 66.38 343 P P 22 24 35.1 -0.7
R50A IAmb IAmb 22 24 40.8
comp=Z,25nm,1.4s
KIC Kosan Boka 66.44 70 ePKP1 P 22 24 37.8 +1.0
comp=Z,27nm,0.7s
Z35A Perchaven, San 66.47 331 P P 22 24 36.5 -0.1
DBIC Dimbokro 66.51 70 P P 22 24 36.9 -0.3
comp=Z,11nm,0.7s,baz=239,slow=6.5,SNR=11
DBIC LR LR 22 51 45.5
comp=Z,253nm,19.1s,baz=227,slow=34
DBIC Dimbokro 66.51 70 P P 22 24 36.4 -0.8
DBIC pmax pmax
comp=Z,21nm,1.0s
DBIC Dimbokro 66.51 70 P P 22 24 36.4 -0.8
DBIC IAmb IAmb 22 24 40.4
comp=Z,21nm,0.9s
W39A Magazine 66.64 334 P P 22 24 38.2 +0.7
baz=152
WCI Wyandotte Cave 66.87 342 P P 22 24 38.0 -0.9
WCI pmax pmax
comp=Z,25nm,0.9s
WCI Wyandotte Cave 66.87 342 P P 22 24 37.9 -1.0
baz=159
ABTX Abilene, Hawle 66.98 328 P P 22 24 39.8 0.0
ABTX IAmb IAmb 22 24 41.6
comp=Z,26nm,1.2s
P52A Corning 67.14 346 P P 22 24 40.3 -0.3
baz=163,SNR=5.2
N59A State Game Lan 67.21 351 P P 22 24 41.4 +0.3
baz=169
SSPA Standing Stone 67.27 349 P P 22 24 41.7 +0.3
baz=167
HHAR Hobbs 67.65 335 P P 22 24 43.0 -1.0
HHAR IAmb IAmb 22 24 44.7
comp=Z,26nm,1.0s
P49A Miami Univ. Ec 67.66 343 P P 22 24 42.8 -1.1
P49A IAmb IAmb 22 24 43.9
comp=Z,24nm,0.9s
P49A Miami Univ. Ec 67.66 343 P P 22 24 42.8 -1.1
baz=161,SNR=6.5
L63A North Scituate 67.67 354 P P 22 24 44.2 +0.3
L63A North Scituate 67.67 354 P P 22 24 44.4 +0.4
baz=173
BLO Bloomington 67.81 342 P P 22 24 43.7 -1.2
BLO pmax pmax
comp=Z,29nm,1.1s
BLO Bloomington 67.81 342 P P 22 24 43.7 -1.2
BLO IAmb IAmb 22 24 44.8
comp=Z,29nm,1.1s
ACSO Alum Creek Sta 67.90 345 P P 22 24 45.1 -0.3
baz=162,SNR=5.6
CCM Cathedral Cave 68.25 338 P P 22 24 47.0 -0.7
CCM pmax pmax
comp=Z,54nm,1.1s
CCM Cathedral Cave 68.25 338 P P 22 24 47.0 -0.7
CCM Cathedral Cave 68.25 338 P P 22 24 47.1 -0.6
baz=154
HRV Adam Dziewonsk 68.31 355 P P 22 24 48.5 +0.6
baz=173
L61B Northampton 68.35 354 P P 22 24 48.3 +0.1
baz=172
M54A Oil Creek Stat 68.43 348 P P 22 24 48.8 +0.1
baz=166
BINY Binghamton 68.50 351 P P 22 24 49.6 +0.4
baz=169
OK031 S. Brethren Rd 68.53 332 P P 22 24 49.5 0.0
ERPA Erie 69.08 348 P P 22 24 52.6 -0.1
ERPA Erie 69.08 348 P P 22 24 52.9 +0.1
baz=165
SFIN Lafayette 69.09 342 P P 22 24 51.6 -1.2
SFIN Lafayette 69.09 342 P P 22 24 51.8 -1.0
baz=158
MNTX Cornudas Mount 69.13 324 P P 22 24 52.8 -0.6
MNTX IAmb IAmb 22 24 54.0
comp=Z,16nm,1.1s
MNTX Cornudas Mount 69.13 324 P P 22 24 53.0 -0.4
baz=141,SNR=22
MMNY Mt. Morris Dam 69.31 350 P P 22 24 54.1 -0.1
MMNY IAmb IAmb 22 24 55.3
comp=Z,19nm,1.0s
J59A Piesco 69.56 352 P P 22 24 55.6 -0.1
J59A IAmb IAmb 22 24 57.1
comp=Z,29nm,1.1s
MSTX Muleshoe 69.58 327 P P 22 24 56.5 +0.3
baz=144,SNR=10
I63A Otisfield 69.77 356 P P 22 24 57.7 +0.7
baz=174
AMTX Amarillo 69.80 328 P P 22 24 57.7 +0.2
baz=145
I60A Shoreham 69.80 353 P P 22 24 57.3 +0.2
baz=172
P40A Paris 69.85 338 P P 22 24 57.3 -0.3
LBNH Lisbon 70.06 355 P P 22 24 59.4 +0.6
baz=173
HSIG 70.30 318 P P 22 25 00.9 +0.3
HSIG IAmb IAmb 22 25 02.7
comp=Z,19nm,1.1s
LONY Lake Ozonia 70.70 353 P P 22 25 02.7 0.0
baz=171
G65A Princeton 70.76 358 P P 22 25 03.1 +0.1
baz=177
PKME Peaks-Kenny Pk 70.90 357 P P 22 25 04.1 +0.3
baz=176
G62A West of Eustis 70.92 356 P P 22 25 04.3 +0.3
G62A IAmb IAmb 22 25 05.4
comp=Z,22nm,1.1s
G62A West of Eustis 70.92 356 P P 22 25 04.7 +0.6
baz=174,SNR=6.3
319A Douglas 71.04 321 P P 22 25 06.2 +1.0
319A IAmb IAmb 22 25 07.6
comp=Z,22nm,1.0s
121A Cookes Peak, D 71.07 322 P P 22 25 06.1 +0.6
121A IAmb IAmb 22 25 08.1
comp=Z,28nm,1.1s
121A Cookes Peak, D 71.07 322 P P 22 25 07.2 +1.8
baz=140,SNR=16
SYO Syowa Base 71.09 158ĥ eP P 22 25 03.6 -1.3
KSU1 Kansas State U 71.14 334 P P 22 25 05.3 -0.3
KSU1 IAmb IAmb 22 25 06.2
comp=Z,29nm,0.9s
KSU1 Kansas State U 71.14 334 P P 22 25 05.4 -0.1
baz=150
F63A Nahmakanta, Br 71.32 357 P P 22 25 06.4 -0.1
baz=176
LMN Caledonia Moun 71.36 360 P P 22 25 06.3 -0.4
KOWA Kowa 71.43 63 P P 22 25 07.5 -0.2
KOWA IAmb IAmb 22 25 15.9
comp=Z,37nm,1.5s
F64A Sherman 71.45 357 P P 22 25 07.0 -0.1
F64A IAmb IAmb 22 25 08.3
comp=Z,16nm,0.9s
F64A Sherman 71.45 357 P P 22 25 07.2 +0.1
baz=176
F62A Pittston Farm, 71.56 356 P P 22 25 08.3 +0.4
baz=175
ANMO Albuquerque 72.21 325ce P P 22 25 13.6 +1.3
ANMO pmax pmax
comp=Z,26nm,1.3s
ANMO Albuquerque 72.21 325 P P 22 25 13.2 +0.9
ANMO IAmb IAmb 22 25 14.6
comp=Z,22nm,1.1s
ANMO Albuquerque 72.21 325 P P 22 25 13.2 +0.9
baz=141
SBA Scott Base 72.23 190 P P 22 25 12.9 +1.3
SBA pmax pmax
comp=Z,11nm,1.4s
SBA Scott Base 72.23 190 P P 22 25 12.9 +1.3
E62A Clayton Lake 72.26 357 P P 22 25 12.5 +0.5
baz=175,SNR=5.8
JFWS Jewell Farm 72.34 341 P P 22 25 12.6 0.0
baz=156
TUC Tucson 72.59 320 P P 22 25 15.3 +0.8
TUC pmax pmax
comp=Z,20nm,1.4s
TUC Tucson 72.59 320 P P 22 25 15.3 +0.8
TUC IAmb IAmb 22 25 16.8
comp=Z,20nm,1.4s
TUC Tucson 72.59 320 P P 22 25 16.1 +1.6
baz=137
D62A Allapoint, All 72.70 357 P P 22 25 14.6 -0.1
D62A IAmb IAmb 22 25 15.7
comp=Z,22nm,1.0s
D62A Allapoint, All 72.70 357 P P 22 25 14.5 -0.1
baz=176,SNR=5.3
T25A Trinidad 72.92 328 P P 22 25 17.9 +1.4
baz=143
SUR Sutherland 73.15 118 P P 22 25 17.8 -0.3
VNDA Vanda 73.22 190 P P 22 25 18.8 +1.3
comp=Z,3.3nm,0.8s,baz=128,slow=3.5,SNR=16
VNDA Vanda 73.22 190 P P 22 25 18.5 +1.0
VNDA pmax pmax
comp=Z,4.0nm,1.1s
VNDA Vanda 73.22 190 P P 22 25 18.5 +1.0
214A Organ Pipe Nat 73.52 319 P P 22 25 20.7 +0.8
214A IAmb IAmb 22 25 22.6
comp=Z,31nm,1.4s
214A Organ Pipe Nat 73.52 319 P P 22 25 21.3 +1.4
baz=136,SNR=6.3
BGNE Belgrade 73.73 334 P P 22 25 20.6 -0.3
SDCO Great Sand Dun 73.92 327 P P 22 25 22.7 +0.2
SDCO IAmb IAmb 22 25 24.8
comp=Z,28nm,1.5s
SDCO Great Sand Dun 73.92 327 P P 22 25 23.9 +1.4
baz=142,SNR=9.3
W18A Petrified Fore 74.08 323 P P 22 25 24.9 +1.5
baz=139,SNR=7.9
S22A 4UR Ranch, Ce 74.58 327 P P 22 25 27.4 +1.1
baz=141,SNR=6.4
113A Mohawk Valley, 74.67 319 P P 22 25 27.2 +0.7
Q24A Divide 74.72 328 P P 22 25 28.7 +1.5
baz=143
MVCO Mesa Verde 75.01 325 P P 22 25 29.9 +1.2
baz=140,SNR=11
ECSD EROS Data Cent 75.16 337 P P 22 25 29.1 -0.1
baz=150,SNR=14
SPMN Marine on St. 75.21 340 P P 22 25 29.0 -0.4
baz=154
TSUM Tsumeb 75.22 104 P P 22 25 29.6 -0.8
WUAZ Wupatki 75.28 322 P P 22 25 31.8 +1.5
baz=137,SNR=8.4
TORD Torodi Ar. Bea 75.38 67 P P 22 25 31.1 0.0
comp=Z,18nm,0.9s,baz=255,slow=5.6,SNR=58
TORD LR LR 22 58 39.1
comp=Z,212nm,18.1s,baz=245,slow=36
TORD Torodi Ar. Bea 75.38 67 P P 22 25 30.9 -0.2
TORD IAmb IAmb 22 25 32.1
comp=Z,20nm,0.9s
GLA Glamis 75.50 318 P P 22 25 31.7 +0.3
GLA pmax pmax
comp=Z,12nm,0.9s
GLA Glamis 75.50 318 P P 22 25 31.7 +0.3
GLA Glamis 75.50 318 P P 22 25 32.8 +1.4
baz=134
ISCO Idaho Springs 75.60 329 P P 22 25 33.6 +1.4
baz=142,SNR=11
D41A Chassel 75.69 343 P P 22 25 32.3 +0.2
D41A IAmb IAmb 22 25 35.1
comp=Z,23nm,0.8s
SMCO Snowmass 75.76 327 P P 22 25 34.2 +0.9
SMCO IAmb IAmb 22 25 40.5
comp=Z,53nm,1.6s
PV15 Paradox Valley 75.86 326 P P 22 25 34.5 +0.9
PV15 IAmb IAmb 22 25 41.0
comp=Z,34nm,1.2s
IKP In-Ko-Pah, Jac 76.00 317 P P 22 25 35.9 +1.6
baz=134
SWSC Sam W. Stewart 76.01 318 P P 22 25 36.2 +1.9
baz=134
BC3 Big Chuckawall 76.29 318 P P 22 25 37.6 +1.5
baz=134
IRM Iron Mountain 76.46 319 P P 22 25 38.5 +1.7
baz=134,SNR=11
N23A Red Feather La 76.62 329 P P 22 25 39.4 +1.5
baz=142,SNR=6.0
BELC Belle Mtn. Jos 76.86 318 P P 22 25 40.9 +1.6
baz=134
PFO Pinyon Flats O 76.87 318 P P 22 25 39.8 +0.5
comp=Z,5.8nm,0.9s,baz=127,slow=6.9,SNR=5.7
PFO Pinyon Flats O 76.87 318 P P 22 25 40.0 +0.7
PFO pmax pmax
comp=Z,14nm,1.2s
PFO Pinyon Flats O 76.87 318 P P 22 25 40.0 +0.7
PFO Pinyon Flats O 76.87 318 P P 22 25 40.6 +1.3
baz=134
O20A White River Ci 77.12 327 P P 22 25 42.2 +1.5
baz=140,SNR=13
KNB Kanab 77.17 322 P P 22 25 42.4 +1.4
KNB pmax pmax
comp=Z,56nm,1.2s
KNB Kanab 77.17 322 P P 22 25 42.4 +1.4
GMRC Granite Mounta 77.20 319 P P 22 25 43.0 +1.8
baz=134,SNR=16
HEC Hector,Ludlow 77.63 319 P P 22 25 45.5 +2.0
baz=134,SNR=10
TUQ Turquoise Moun 77.81 319 P P 22 25 46.2 +1.6
baz=134
MVU Marevale 77.92 324 P P 22 25 46.4 +1.1
BOSA Boshof 78.10 116 P P 22 25 46.1 -0.3
comp=Z,3.8nm,0.8s,baz=233,slow=6.3,SNR=6.3
BOSA LR LR 22 57 21.9
comp=Z,183nm,18.1s,baz=186,slow=33
BOSA Boshof 78.10 116 P P 22 25 45.9 -0.6
BOSA pmax pmax
comp=Z,27nm,1.6s
BOSA Boshof 78.10 116 P P 22 25 45.9 -0.6
BOSA IAmb IAmb 22 26 22.1
comp=Z,27nm,1.6s
GSC Goldstone, Bar 78.24 319 P P 22 25 48.5 +1.6
baz=134,SNR=8.4
K22A Casper 78.28 330 P P 22 25 48.5 +1.5
baz=142
RSSD Black Hills 78.37 332 P P 22 25 47.6 0.0
RSSD pmax pmax
comp=Z,7.0nm,1.0s
RSSD Black Hills 78.37 332 P P 22 25 47.5 0.0
RSSD Black Hills 78.37 332 P P 22 25 48.7 +1.1
baz=144
EDW2 Edwards Air Fo 78.66 318 P P 22 25 50.2 +1.0
baz=133
AGMN Agassiz Nation 78.91 339 P P 22 25 50.3 +0.1
baz=152
TPNV Topopah Spring 79.05 320 P P 22 25 53.2 +1.8
baz=134
MAW Mawson 79.06 162 P P 22 25 50.5 -0.3
comp=Z,3.7nm,1.0s,baz=247,slow=4.3,SNR=5.1
MAW Mawson 79.06 162 P P 22 25 51.0 +0.1
MAW pmax pmax
comp=Z,3.0nm,1.6s
MAW Mawson 79.06 162 P P 22 25 51.0 +0.1
FURC Furnace Creek, 79.07 320 P P 22 25 52.9 +1.7
baz=134,SNR=7.0
MPMC Manual Prospec 79.16 319 P P 22 25 52.5 +0.4
baz=133,SNR=6.6
DUG Dugway, Tooele 79.48 325 P P 22 25 54.2 +0.5
DUG pmax pmax
comp=Z,12nm,1.1s
DUG Dugway, Tooele 79.48 325 P P 22 25 54.2 +0.5
DUG Dugway, Tooele 79.48 325 P P 22 25 55.0 +1.3
baz=137,SNR=10.0
ISA Isabella, Lake 79.48 318 P P 22 25 54.9 +1.3
baz=132,SNR=6.4
R11A Troy Canyon, C 79.65 322 P P 22 25 56.3 +1.6
baz=135,SNR=10
CWC Cottonwood Cre 79.77 319 P P 22 25 56.8 +1.4
baz=133
MDND Medock 79.77 337 P P 22 25 55.7 +0.8
baz=148
PD31 Pinedale Array 79.78 328 P P 22 25 55.5 +0.2
PDAR Pinedale Array 79.78 328 P P 22 25 55.7 +0.4
comp=Z,13nm,1.2s,baz=134,slow=5.2,SNR=21
PDAR LR LR 23 03 51.2
comp=Z,29nm,20.9s,baz=82,slow=38
PDAR Pinedale Array 79.78 328 P P 22 25 55.5 +0.2
PKM Mcpherson Peak 79.78 317 P P 22 25 56.9 +1.4
baz=131
LBTB Lobatse 79.80 113 P P 22 25 55.9 +0.1
LBTB pmax pmax
comp=Z,36nm,1.9s
LBTB Lobatse 79.80 113 P P 22 25 55.9 +0.1
LBTB IAmb IAmb 22 26 09.8
comp=Z,36nm,1.9s
VES Vestal, Richgr 79.97 318 P P 22 25 57.6 +1.4
baz=132
TIN Tinemaha, Big 80.27 319 P P 22 26 00.2 +2.2
baz=133
SCHQ Schefferville 80.37 359 P P 22 25 56.8 -1.1
comp=Z,5.0nm,0.8s,baz=202,slow=3.4,SNR=3.6
SCHQ LR LR 23 03 49.0
comp=Z,48nm,18.9s,baz=138,slow=37
ULM Lac du Bonnet 80.63 340 P P 22 25 58.6 -0.8
comp=Z,3.8nm,0.6s,baz=166,slow=3.2,SNR=6.0
ULM LR LR 23 04 55.9
comp=Z,64nm,19.4s,baz=127,slow=38
ULM Lac du Bonnet 80.63 340 eP P 22 25 59.3 -0.1
ULM pmax pmax
comp=Z,4.0nm,0.6s
NV11 Mina Array Sit 81.16 320 P P 22 26 03.1 +0.3
NVAR Mina Array Bea 81.25 320 P P 22 26 04.2 +0.8
comp=Z,4.3nm,1.0s,baz=149,slow=5.6,SNR=18
NVAR Mina Array Bea 81.25 320 P P 22 26 03.6 +0.3
LAO LASA Array 81.35 333 P P 22 26 03.8 +0.3
LAO LASA Array 81.35 333 P P 22 26 04.1 +0.6
baz=143
RLMT Red Lodge 81.45 330 P P 22 26 05.0 +0.8
baz=140,SNR=6.8
KVN Kaiserville 81.55 321 P P 22 26 05.4 +0.5
KVN pmax pmax
comp=Z,17nm,1.0s
KVN Kaiserville 81.55 321 P P 22 26 05.4 +0.5
KVN IAmb IAmb 22 26 06.7
comp=Z,17nm,1.0s
DGMT Dagmar 81.98 335 P P 22 26 07.4 +0.7
DGMT IAmb IAmb 22 26 08.7
comp=Z,36nm,1.1s
DGMT Dagmar 81.98 335 P P 22 26 07.8 +1.1
baz=145,SNR=8.1
MORF Marmelete 82.02 42 eP P 22 26 07.6 +0.3
MORF IAmb IAmb 22 26 08.8
comp=Z,18nm,1.4s
MORF Marmelete 82.02 42 eP P 22 26 07.5 +0.3
PBDV Barranco-do-Ve 82.42 42 eP P 22 26 10.4 +1.1
PNTR Pine Nut 82.44 320 P P 22 26 10.5 +0.9
PNTR IAmb IAmb 22 26 12.0
comp=Z,20nm,0.9s
PCVE Castro Verde 82.61 42 eP P 22 26 10.6 +0.4
PNCL Nicolau / Gran 82.62 41 eP P 22 26 11.1 +0.8
comp=Z,14nm,2.2s
MESJ Messejana 82.63 42 eP P 22 26 10.6 +0.3
MESJ IAmb IAmb 22 26 12.4
comp=Z,14nm,1.2s
MESJ Messejana 82.63 42 eP P 22 26 10.6 +0.3
MESJ Messejana 82.63 42 eP P 22 26 11.3 +1.0
PVAQ Vaqueiros 82.65 42 eLR LR 22 57 08.5
comp=Z,134nm,18.0s
HLID Hailey 82.74 326 P P 22 26 12.2 +1.1
HLID IAmb IAmb 22 26 13.6
comp=Z,30nm,1.1s
HLID Hailey 82.74 326 P P 22 26 12.7 +1.6
baz=136,SNR=29
MCMT McKenzie Canyo 82.90 328 P P 22 26 13.1 +1.2
EVO Evora 83.21 41 eP P 22 26 14.0 +0.7
comp=Z,13nm,2.1s
LRM Limekiln Ridge 83.44 329 P P 22 26 15.2 +0.5
HRY Holter Researc 83.82 330 P P 22 26 16.9 +0.5
EGMT Eagleton 83.89 331 P P 22 26 17.2 +0.5
baz=140
PMRV Marv??o 84.16 41 eLR LR 22 58 08.1
comp=Z,112nm,20.0s
O03E Paynes Creek 84.51 320 P P 22 26 19.9 -0.1
baz=131
MTE Manteigas 84.69 40 eLR LR 22 56 49.1
comp=Z,137nm,22.0s
J08A Circle Bar Ran 84.70 324 P P 22 26 21.4 +0.5
J08A IAmb IAmb 22 26 23.1
comp=Z,22nm,1.1s
MSO Missoula 84.88 329 P P 22 26 22.8 +1.0
baz=137
BMO Blue Mountains 85.12 325 P P 22 26 23.2 +0.1
BMO pmax pmax
comp=Z,12nm,1.2s
BMO Blue Mountains 85.12 325 P P 22 26 23.2 +0.1
BMO IAmb IAmb 22 26 25.7
comp=Z,12nm,1.2s
PVRL Vila Real 85.16 39 eP P 22 26 24.1 +0.8
comp=Z,20nm,1.4s
PGAV Gavieira, Arco 85.30 39 eLR LR 22 58 26.8
comp=Z,88nm,20.0s
N02D Trinity Center 85.47 320 P P 22 26 25.6 +0.8
baz=130
MVO Moncorvo 85.49 40 eP P 22 26 25.0 +0.1
comp=Z,24nm,1.6s
MVO Moncorvo 85.49 40 eLR LR 22 58 51.1
comp=Z,126nm,18.0s
M04C Macdoel 85.50 321 P P 22 26 25.7 +0.7
baz=131
K05A Summer Lake 85.59 322 P P 22 26 26.3 +0.8
YBH Yreka Blue Hor 85.97 321 P P 22 26 26.4 -0.9
comp=Z,3.8nm,0.9s,baz=133,slow=6.2,SNR=8.1
L04D Klamath Falls 86.05 321 P P 22 26 28.1 +0.4
baz=130
PAB San Pablo 86.05 42 P P 22 26 28.3 +0.5
PAB pmax pmax
comp=Z,14nm,1.1s
PAB San Pablo 86.05 42 P P 22 26 28.3 +0.5
PAB IAmb IAmb 22 26 31.7
comp=Z,14nm,1.1s
J05D Fort Rock, OR 86.15 322 P P 22 26 29.3 +1.1
baz=131,SNR=11
G08A Pilot Rock 86.28 325 P P 22 26 29.4 +0.6
ESDC Sonseca Array 86.37 42 P P 22 26 29.1 -0.2
comp=Z,4.3nm,1.0s,baz=236,slow=4.5,SNR=20
ESDC LR LR 23 04 28.5
comp=Z,114nm,18.1s,baz=240,slow=35
ESDC Sonseca Array 86.37 42 P P 22 26 29.4 +0.2
J04D Umpqua Nationa 86.60 322 P P 22 26 31.6 +1.1
baz=130
L02E Cave Junction 86.75 320 P P 22 26 32.0 +1.0
baz=129
I05D Terrebonne, OR 86.90 323 P P 22 26 33.2 +1.5
baz=131,SNR=6.9
K02D Willamette Mer 87.13 321 P P 22 26 34.3 +1.3
baz=129,SNR=8.2
I04A Tendick Farm, 87.13 322 P P 22 26 33.1 +0.2
baz=130
HAWA Hanford 87.32 326 P P 22 26 34.2 +0.5
HAWA IAmb IAmb 22 26 35.4
comp=Z,14nm,0.9s
NEW Newport 87.42 328 P P 22 26 34.4 +0.2
baz=134
D08A Wollman Farm, 87.46 326 P P 22 26 35.0 +0.6
D08A IAmb IAmb 22 26 36.1
comp=Z,20nm,1.1s
G05D Wamic, OR 87.48 324 P P 22 26 36.0 +1.5
baz=131
J01E Myrtle Point 87.57 321 P P 22 26 36.3 +1.3
baz=129
I03D Drain, OR 87.58 322 P P 22 26 35.7 +0.7
baz=130
EDM Edmonton 89.32 333 P P 22 26 42.3 -0.7
EDM pmax pmax
comp=Z,17nm,0.9s
EDM Edmonton 89.32 333 P P 22 26 42.3 -0.7
EDM IAmb IAmb 22 26 43.4
comp=Z,17nm,0.9s
KEST Kesra 92.95 52 P P 22 27 00.8 +0.3
comp=Z,2.2nm,0.8s,baz=297,slow=2.3,SNR=1.9
KEST LR LR 23 09 58.9
comp=Z,251nm,20.1s,baz=198,slow=36
YKA Yellowknife Ar 96.56 339 P P 22 27 15.9 -0.3
comp=Z,1.5nm,0.8s,baz=118,slow=6.0,SNR=3.8
YKA LR LR 23 16 52.9
comp=Z,45nm,18.1s,baz=0.0,slow=39
YKA Yellowknife Ar 96.56 339 eP P 22 27 18.6 +2.4
YKA pmax pmax
comp=Z,2.0nm,0.8s
CLL Collm 102.58 39 ePdif Pdif 22 27 41.0 -2.4
CLL LmV 23 12 00.0
comp=Z,100nm,19.4s
CLL Collm 102.58 39 eP Pdif 22 27 41.0 -2.4

OBN	**Obninsk**	**117.18**	**39**⇑	*e*PKIKP	**PKiKP**	**22 32 32.3**	**+0.5**
OBN				*e*		22 33 37.9	
OBN				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KIV	**Kislovodsk**	**119.68**	**52**	*i* PKIKP	**PKPdf**	**22 32 36.9**	**-0.2**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,37nm,22.0s						
BELG	**Belogornoye**	**123.58**	**43**	*i* PKIKP	**PKPdf**	**22 32 43.2**	**-1.0**
BELG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CTA	**Charters Tower**	**125.29**	**216**	PKP	**PKiKP**	**22 32 50.1**	**+1.2**
	comp=Z,3.8nm,0.8s,baz=117,slow=4.5,SNR=4.4						
ASAR	**Alice Springs**	**127.56**	**202**	PKP	**PKPdf**	**22 32 52.6**	**-0.2**
	comp=Z,4.4nm,0.8s,baz=143,slow=1.9,SNR=24						
ASAR	**Alice Springs**	**127.56**	**202**	PKIKP	**PKPdf**	**22 32 52.0**	**-0.9**
ASAR	**Alice Springs**	**127.56**	**202**	PKPdf	**PKPdf**	**22 32 52.0**	**-0.9**
AS31	**Alice Springs**	**127.56**	**202**		**PKiKP**	**22 32 54.0**	**+0.5**
BILL	**Bilibino**	**127.95**	**338**⇑	*e*PKIKP	**PKiKP**	**22 32 52.9**	**+0.2**
BILL				*e*		22 34 52.9	
BILL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,159nm,20.0s						
ARU	**Arti**	**129.47**	**37**	*i* PKIKP	**PKPdf**	**22 32 55.7**	**+0.4**
ARU						22 35 04.0	
AKTO	**Aktyubinsk**	**130.20**	**45**	PKP	**PKPdf**	**22 32 56.9**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=275,slow=5.2,SNR=2.8						
WB2	**Warramunga Arr**	**130.83**	**204**		**PKPdf**	**22 32 59.0**	**-0.1**
WRA	**Warramunga Arr**	**130.84**	**204**	PKP	**PKPdf**	**22 32 59.1**	**-0.1**
	comp=Z,7.8nm,1.0s,baz=169,slow=1.9,SNR=16						
WRA	**Warramunga Arr**	**130.84**	**204**	*e*PKIKP	**PKPdf**	**22 32 59.4**	**+0.2**
WRA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
WRA	**Warramunga Arr**	**130.84**	**204**		**PKPdf**	**22 32 59.0**	**-0.1**
WRAB	**Tennant Creek**	**130.84**	**204***c*	*i*PKIKP	**PKiKP**	**22 33 01.7**	**+1.6**
WRAB				pmax	pmax		
	comp=Z,11nm,1.7s						
ABKAR	**Akbulak array**	**131.59**	**46**		**PKPdf**	**22 33 00.1**	**+0.5**
ABKAR	**Akbulak array**	**131.59**	**46**	PKPdf	**PKiKP**	**22 33 00.3**	**-0.3**
WAKE	**Wake Island**	**132.31**	**273**		**PKPdf**	**22 33 01.9**	**+0.1**
GAR	**Garm**	**140.27**	**59**		**PKPdf**	**22 33 16.9**	**+0.7**
AAK	**Ala-Archa**	**142.80**	**53***c*	*i*PKIKP	**PKPdf**	**22 33 18.6**	**-2.1**
AAK				pmax	pmax		
	comp=Z,17nm,1.3s						
ZALV	**Zalesovo Beam**	**144.01**	**31**	PKP	PKPbc	22 33 20.4	+0.2
	comp=Z,5.4nm,0.9s,baz=297,slow=4.2,SNR=16						
ZALV	**Zalesovo Beam**	**144.01**	**31**	*e*PKIKP	PKPbc	22 33 20.5	+0.4
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KSH	**Kashi**	**144.54**	**58**	PKP	**PKPab**	**22 33 22.0**	**-0.3**
KDJ	**Kajisay**	**144.85**	**53**	PKIKP	**PKPab**	**22 33 23.4**	**0.0**
KDJ	**Kajisay**	**144.85**	**53**		**PKPab**	**22 33 23.4**	**0.0**
MMRI	**Maumere**	**145.05**	**192**		**PKPbc**	**22 33 23.8**	**-0.8**
TARG	**Taragay, Kyrgy**	**145.41**	**53**		**PKPbc**	**22 33 25.5**	**-0.1**
MAKZ	**Makanchi**	**146.39**	**43**	PKP2	**PKPdf**	**22 33 26.9**	**+0.3**
MAKZ	**Makanchi**	**146.39**	**43**		**PKPdf**	**22 33 26.9**	**+0.3**
MK31	**Makanchi Array**	**146.59**	**43**	PKP2	**PKPdf**	**22 33 27.1**	**+0.1**
MK31	**Makanchi Array**	**146.59**	**43**	PKPdf	**PKPdf**	**22 33 27.1**	**+0.1**
MKAR	**Makanchi Array**	**146.59**	**43**	PKPbc	**PKPdf**	**22 33 27.6**	**+0.7**
	comp=Z,16nm,1.1s,baz=302,slow=2.7,SNR=32						
MKAR	**Makanchi Array**	**146.59**	**43**	PKPdf	**PKPdf**	**22 33 26.8**	**-0.1**
LEM	**Lembang**	**146.68**	**166**	PKPbc	**PKPab**	**22 33 31.0**	**+0.1**
	comp=Z,44nm,0.6s,baz=139,slow=9.3,SNR=9.3						
BOD	**Bodaibo**	**148.05**	**1**	*e*PKIKP	**PKPdf**	**22 33 28.6**	**-0.4**
BOD				pmax	pmax		
	comp=Z,21nm,1.4s						
YSS	**Yuzh-Sakhalins**	**149.69**	**321***c*	*i*PKHKP	PKPpre	22 33 31.8	
YSS				pmax	pmax		
	comp=Z,41nm,1.7s						
ZEA	**Zeya**	**150.74**	**345**	*e*PKIKP	**PKPbc**	**22 33 39.3**	**+0.3**
WMQ	**Urumqi**	**151.35**	**44**	*e*PKPbc	**PKPdf**	**22 33 34.6**	**-0.2**
MOY	**Mondy**	**152.04**	**19**	*e*PKIKP	**PKiKP**	**22 33 43.3**	**+0.8**
MOY				pmax	pmax		
	comp=Z,22nm,1.4s						
SONM	**Songino Array**	**156.98**	**15**	PKP	**PKPdf**	**22 33 42.7**	**0.0**
	comp=Z,1.3nm,0.8s,baz=346,slow=2.4,SNR=4.4						
MJAR	**Matsushiro Arr**	**157.69**	**304**	PKPab	**PKPab**	**22 34 14.8**	**-1.3**
	comp=Z,4.5nm,0.9s,baz=71,slow=1.8,SNR=11						
MJAR	**Matsushiro Arr**	**157.69**	**304**	PKP2	**PKPab**	**22 34 16.4**	**+0.3**
MJAR	**Matsushiro Arr**	**157.69**	**304**		**PKPab**	**22 34 16.4**	**+0.3**
GTA	**Gaotai**	**161.30**	**40**	*e*PKP	**PKPdf**	**22 33 49.0**	**+1.0**
MHMT	**Maesarieng**	**162.25**	**112**	PKP	**PKPdf**	**22 33 52.7**	**+3.3**
CM05	**Chiang Mai Arr**	**163.20**	**113**	PKP	**PKPdf**	**22 33 53.7**	**+3.4**
CM02	**Chiang Mai Arr**	**163.22**	**113**	PKP	**PKPdf**	**22 33 54.9**	**+4.6**
CMAR	**Chiang Mai Arr**	**163.22**	**113**	PKP	**PKPdf**	**22 33 50.9**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=255,slow=2.6,SNR=13						
CMAR				PKPab	**PKPab**	**22 34 40.6**	**0.0**
	comp=Z,1.4nm,0.9s,baz=253,slow=4.3,SNR=5.1						
CMAR	**Chiang Mai Arr**	**163.22**	**113**	PKIKP	**PKPdf**	**22 33 49.7**	**-0.6**
CMAR	**Chiang Mai Arr**	**163.22**	**113**		**PKPdf**	**22 33 49.7**	**-0.6**
CHTO	**Chiang Mai**	**163.39**	**112**	PKIKP	**PKPdf**	**22 33 50.3**	**-0.2**
CHTO	**Chiang Mai**	**163.39**	**112**	PKP	**PKPdf**	**22 33 52.5**	**+2.0**
CHTO	**Chiang Mai**	**163.39**	**112**		**PKPdf**	**22 33 50.3**	**-0.2**
CMMT	**Chiang Mai**	**163.40**	**112**	PKP	**PKPdf**	**22 33 52.4**	**+1.9**
PHIT	**Phitsanulok**	**163.75**	**119**	PKP	**PKPdf**	**22 33 54.8**	**+4.0**
KSRS	**Korea Array**	**164.19**	**320**	PKPab	**PKPab**	**22 34 43.7**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=47,slow=7.1,SNR=3.2						
HHC	**Hu-ho-hao-te**	**164.74**	**11**	*e*PKP	**PKPdf**	**22 33 50.0**	**-1.2**
LZH	**Lanzhou**	**165.89**	**41**	*e*PKP	**PKPdf**	**22 33 54.0**	**+1.6**
SKNT	**Sakolnakorn**	**166.31**	**128**	PKP	**PKPdf**	**22 33 58.0**	**+5.0**
CD2	**Chengdu**	**168.72**	**61**	PKP	**PKPdf**	**22 33 53.4**	**-1.1**
XAN	**Xi'an**	**170.18**	**32**	PKP	**PKPdf**	**22 33 56.4**	**+1.1**
XAN				pPKP	sPKPdf	22 34 05.5	+5.2
XAN				sPKP		22 34 13.2	
NJ2	**Nanjing**	**173.06**	**334**	*e*PKP	**PKPdf**	**22 33 58.6**	**+2.0**

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*IDC **05** 22:18:21.2±24.0, 23°.77S×179°.71W, h507km±227km, mb3.2/3, mb1 3.3/3, mb1mx2.9/37, mbtmp4.1/3, Error ellipse: s-maj=190.6km s-min=106.8km az=131.0*

ISC 05 22:18:19.2±2.9**, 24°S**±1°×**179°.4W**±0°.4**, h512**km**, n8,** σ**0s.48**/8**, mb4.0**/3**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.02**	**270**	P	**P**	**22 24 03.2**	**-0.1**
	2.0nm,0.5s,baz=94,slow=8.5,SNR=2.7						
ASAR	**Alice Springs**	**42.56**	**261**	P	**P**	**22 25 29.9**	**0.0**
	0.5nm,0.4s,baz=96,slow=7.2,SNR=15						
WRA	**Warramunga Arr**	**42.94**	**266**	P	**P**	**22 25 33.2**	**+0.3**
	1.7nm,0.3s,baz=101,slow=8.0,SNR=64						
FINES	**FINESS Array B**	**138.69**	**342**	PKP	**PKiKP**	**22 36 47.6**	**-0.8**
	2.1nm,0.8s,baz=45,slow=0.8,SNR=3.4						
HFS	**Hagfors**	**142.73**	**349**	PKhKP	PKPpre	22 36 48.4	
	4.5nm,1.0s,baz=57,slow=5.3,SNR=4.3						
HFS				PKP	**PKPdf**	**22 36 53.9**	**+0.5**
	3.4nm,0.9s,baz=96,slow=6.5,SNR=6.3						
AKASG	**Malin Array Be**	**145.33**	**328**	PKPbc	**PKPab**	**22 37 00.4**	**0.0**
	1.1nm,0.5s,baz=41,slow=4.2,SNR=7.1						
MMAI	**Mount Meron Ar**	**148.23**	**294**	PKPbc	**PKiKP**	**22 37 08.8**	**-0.2**
	0.6nm,0.5s,baz=74,slow=6.2,SNR=1.5						
EKA	**Eskdalemuir Ar**	**148.56**	**4**	PKPbc	**PKiKP**	**22 37 09.3**	**+0.4**
	1.9nm,0.8s,baz=340,slow=2.6,SNR=5.1						

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*NEIC **05** 22:19:23.3±1.9, 7°.35N±0°.04×91°.2E±0°.1, h10km±1km, mb4.2/8, Error ellipse: s-maj=17.1km s-min=5.9km az=263.0*

*IDC **05** 22:19:24.4±1.4, 7°.63N×91°.02E, h0km, mb3.6/5, mb1 3.9/7, mb1mx3.5/55, mbtmp3.7/7, ML4.4/1, MS3.9/1, Ms1 4.0/1, ms1mx2.7/35, Error ellipse: s-maj=38.0km s-min=23.2km az=59.0*

ISC 05 22:19:22.7±0.8**, 7°.3N**±0°.1×**91°.2E**±0°.1**, h10**km**, n27,** σ**0s.66**/19**, mb4.1**/9**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBA	**Port Blair**	**4.58**	**20**	Pn	Pn	22 20 31.2	-0.9
PBA	**Port Blair**	**4.58**	**20**	*e*P	Pn	22 20 30.8	-1.3
PBA				*e*S	Sn	22 21 24.5	-1.0
GSI	**Gunungsitoli**	**8.75**	**133**	Pn	**Pn**	**22 21 28.7**	**-0.7**
PALK	**Pallekele**	**10.38**	**270**	Pn	**Pn**	**22 21 52.4**	**+0.5**
	3.0nm,0.3s,baz=189,slow=14,SNR=19						
PALK				Sn	Sn	22 23 37.1	-11
	1.3nm,0.3s,baz=280,slow=20,SNR=9.9						
PALK				LR	LR	22 25 04.9	
	comp=Z,35nm,22.0s,baz=197,slow=33						
PALK	**Pallekele**	**10.38**	**270**	Pn	**Pn**	**22 21 51.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**13.41**	**34**	Pn	**Pn**	**22 22 33.5**	**+0.3**
	baz=230,slow=14,SNR=5.1						
SHL	**Shillong**	**18.16**	**2**	P	**Pn**	**22 23 34.4**	**-0.9**
LSA	**Lhasa**	**22.26**	**360**	P	**P**	**22 24 20.5**	**-0.1**
LSA				IAmb	IAmb	22 24 25.2	
	comp=Z,7.7nm,0.9s						
H08S3	**Diego Garcia H**	**23.82**	**232**	T	T	22 49 02.4	
	baz=50						
H08S2	**Diego Garcia H**	**23.82**	**232**	T	T	22 49 08.7	
	baz=50						
H08S1	**Diego Carcia H**	**23.84**	**232**	T	T	22 49 00.7	
	baz=50						
NIL	**Nilore**	**31.00**	**330**	P	**P**	**22 25 39.8**	**-0.9**
NIL				IAmb	IAmb	22 25 43.0	
	comp=Z,3.3nm,0.8s						
MKAR	**Makanchi Array**	**40.06**	**351**	P	**P**	**22 26 58.9**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=173,slow=9.5,SNR=4.2						
MKAR	**Makanchi Array**	**40.06**	**351**	P	**P**	**22 26 58.3**	**0.0**
SONM	**Songino Array**	**42.41**	**15**	P	**P**	**22 27 18.0**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=207,slow=9.2,SNR=2.3						
KNRA	**Kununurra**	**43.69**	**122**	P	**P**	**22 27 27.6**	**-0.7**
ZAA0	**Zalesovo Array**	**46.78**	**355**	P	**P**	**22 27 52.0**	**-0.2**
ZAA0				IAmb	IAmb	22 27 55.1	
	comp=Z,1.6nm,0.8s						
ZALV	**Zalesovo Beam**	**46.78**	**355**	P	**P**	**22 27 53.1**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=176,slow=7.4,SNR=7.2						
ZALV	**Zalesovo Beam**	**46.78**	**355**	P	**P**	**22 27 52.1**	**-0.1**
BRVK	**Borovoye**	**48.68**	**343**	P	**P**	**22 28 06.9**	**-0.1**
ABKAR	**Akbulak array**	**49.35**	**333**	P	**P**	**22 28 12.8**	**+0.5**
WRA	**Warramunga Arr**	**50.38**	**123**	P	P	22 28 26.2	+5.6
	comp=Z,0.8nm,0.9s,baz=296,slow=8.2,SNR=5.2						
WR0	**Warramunga Arr**	**50.56**	**123**	P	**P**	**22 28 22.8**	**+0.9**
WR0				IAmb	IAmb	22 28 31.1	
	comp=Z,2.4nm,1.1s						
ASAR	**Alice Springs**	**51.87**	**128**	P	P	22 28 36.9	+5.2
	comp=Z,0.4nm,0.7s,baz=304,slow=8.1,SNR=5.2						
ASAR	**Alice Springs**	**51.87**	**128**	P	**P**	**22 28 32.8**	**+1.1**
AS31	**Alice Springs**	**51.87**	**128**	P	**P**	**22 28 32.1**	**+0.4**
ILAR	**Eielson Array**	**96.35**	**21**	LR	LR	23 20 22.9	
	comp=Z,54nm,18.8s,baz=122,slow=38						

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*TUL **05** 22:22:07.7±0.8, 36°.84N±0°.01×97°.51W±0°.01, h5km±7km, ML2.5, mb_Lg2.7/13(NEIC), Error ellipse: s-maj=2.0km s-min=1.2km az=203.0*

NEIC 05 22:22:07.9±0.5**, 36°.82N**±0°.01×**97°.50W**±0°.01**, h2**km±7km**, Error ellipse: s-maj=1.8km s-min=1.4km az=199.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.19**	**5**	Pg	Pg	22 22 11.9	+0.2
KAN13				Sg	Sg	22 22 14.7	+0.5
BLOK	**Blackwell**	**0.24**	**105**		Pg	22 22 12.9	+0.4
BLOK				Sg	Sg	22 22 16.4	+0.9
GC02	**Grant County #**	**0.29**	**276**		Pg	22 22 13.6	+0.1
GC02				Sg	Sg	22 22 17.7	+0.5
KAN17	**Caldwell West**	**0.31**	**317**	Pg	Pg	22 22 13.9	+0.1
KAN17				Sg	Sg	22 22 18.1	+0.3
KAN14	**Manchester OK**	**0.40**	**290**	Pg	Pg	22 22 15.5	0.0
KAN14				Sg	Sg	22 22 20.8	+0.2
KS20	**Mayfield South**	**0.41**	**354**	Pg	Pg	22 22 15.8	0.0
KS20				Sg	Sg	22 22 21.5	+0.3
KAN05	**Bluff City Nor**	**0.41**	**314**	Pg	Pg	22 22 15.8	0.0
KAN05				Sg	Sg	22 22 21.5	+0.2
CROK	**Carrier**	**0.50**	**231**		Pg	22 22 17.7	+0.2
CROK				Sg	Sg	22 22 24.6	+0.6
KAN08	**Anthony NE Sta**	**0.55**	**317**		Pg	22 22 18.5	0.0
KAN10	**Anthony SW Sta**	**0.56**	**303**		Pg	22 22 18.7	0.0
OK032	**Salt Plains WL**	**0.57**	**269**		Pg	22 22 18.8	0.0
KAN12	**Harper NE Stat**	**0.62**	**320**		Pg	22 22 19.7	-0.1
T35A	**Sooner Cattle**	**0.80**	**83**		Pg	22 22 23.1	-0.1
QUOK	**Quay**	**0.91**	**135**		Pg	22 22 25.3	0.0
OK031	**S. Brethren Rd**	**1.02**	**148**		Pg	22 22 27.3	-0.1
OK029	**Liberty Lake**	**1.02**	**178**		Pg	22 22 27.4	-0.1
OK025	**Westminster Rd**	**1.24**	**174**		Pg	22 22 31.4	-0.3
U32A	**Winter Ranch,**	**1.29**	**250**		Pg	22 22 31.8	-0.8
OKCFA	**Oklahoma City**	**1.40**	**178**		Pn	22 22 34.2	-0.4
OKCSW	**OKLAHOMA CITY**	**1.41**	**178**		Pn	22 22 34.3	-0.4
FNO	**Franklin**	**1.56**	**177**		Pn	22 22 36.7	-0.1
R32A	**Long Quarter,**	**1.87**	**329**		Pn	22 22 41.7	+0.7
X34A	**Smith Ranch, M**	**2.23**	**187**		Pn	22 22 46.7	+0.7
WMOK	**Wichita Mounta**	**2.32**	**207**		Pn	22 22 47.2	0.0
KSU1	**Kansas State U**	**2.38**	**17**	Pn	Pn	22 22 48.1	+0.1
CBKS	**Cedar Bluff**	**2.67**	**319**	IAmb_Lg		22 23 31.6	
	comp=Z,25nm,0.8s						
X37A	**Clayton**	**2.82**	**141**		Pn	22 22 54.4	+0.3
HHAR	**Hobbs**	**2.92**	**100**	Pn	Pn	22 22 55.4	0.0
S39A	**Bolivar**	**3.44**	**74**	Pn	Pn	22 23 02.1	-0.5
U40A	**Yellville**	**3.77**	**96**	Pn	Pn	22 23 07.3	+0.2
N35A	**Tabor**	**4.29**	**19**	IAmb_Lg		22 24 34.8	
	comp=Z,23nm,0.8s						
ABTX	**Abilene, Hawle**	**4.54**	**203**	IAmb_Lg		22 24 30.5	
	comp=Z,6.8nm,1.1s						
WLAR	**White Oak Lake**	**4.76**	**130**	IAmb_Lg		22 24 35.9	
	comp=Z,20nm,1.1s						
CCM	**Cathedral Cave**	**5.13**	**74**	IAmb_Lg		22 24 50.3	
	comp=Z,35nm,0.9s						
CCM				IAmb_Lg		22 24 50.4	
	comp=Z,35nm,0.8s						
PBMO	**Poplar Bluff**	**5.67**	**88**	IAmb_Lg		22 25 13.9	
	comp=Z,17nm,1.1s						
OXF	**Oxford**	**6.98**	**107**	IAmb_Lg		22 25 47.1	
	comp=Z,9.6nm,0.8s						

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*SLM **05** 22:23:25.6±2.1, 38°.43N±0°.02×90°.49W±0°.02, h8km±6km, Md2.7/6, mb_Lg2.5/36(NEIC), Error ellipse: s-maj=3.8km s-min=2.1km az=147.0*

NEIC 05 22:23:25.0±1.9**, 38°.39N**±0°.02×**90°.46W**±0°.02**, h1**km±7km**, Error ellipse: s-maj=3.0km s-min=2.0km az=132.0, Missouri-Illinois border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SLM	**Saint Louis**	**0.30**	**36**	Pg	Pg	22 23 30.9	+0.1
SLM				Sg	Sg	22 23 34.7	0.0
CCM	**Cathedral Cave**	**0.70**	**241**	Pg	Pg	22 23 38.3	-0.1
CCM				Sg	Sg	22 23 47.8	+0.2
S44A	**Carbondale**	**1.18**	**126**	Pn	Pg	22 23 47.5	-0.2
SIUC	**Southern Illin**	**1.19**	**124**	Pn	Pg	22 23 47.6	-0.3
SIUC				Sg	Sg	22 24 03.2	-0.2
Q44A	**Meyer Farm, Va**	**1.24**	**65**		Pg	22 23 47.9	-1.0
Q44A				Sg	Sg	22 24 04.1	-0.8
Q44A				IAmb_Lg		22 24 07.6	
	comp=Z,47nm,1.3s						
CGM3	**Cape Girardeau**	**1.27**	**150**		Pg	22 23 49.2	-0.1
R40A	**Maddies Statio**	**1.42**	**266**	Pn	Pn	22 23 51.2	-0.9
R40A					Sg	22 24 09.3	-1.5
P43A	**Skaggs, Pawnee**	**1.45**	**30**		Pn	22 23 51.4	-0.9
P43A				IAmb_Lg		22 24 13.1	
	comp=Z,47nm,0.9s						
PBMO	**Poplar Bluff**	**1.61**	**179**		Pn	22 23 55.0	+0.4
PBMO				IAmb_Lg		22 24 18.6	
	comp=Z,23nm,0.7s						
P40A	**Paris**	**1.68**	**313**		Pn	22 23 55.2	-0.3
PARMO	**Parma**	**1.82**	**162**	Pn	Pn	22 23 58.0	+0.6
PARMO				IAmb_Lg		22 24 26.8	
	comp=Z,31nm,0.8s						
MGMO	**Mountain Grove**	**1.89**	**230**		Pn	22 23 59.4	+0.9
T45A	**Paducah**	**1.99**	**133**	IAmb_Lg		22 24 30.0	
	comp=Z,24nm,1.0s						
PENMO	**Penman**	**2.05**	**161**	IAmb_Lg		22 24 35.9	
	comp=Z,195nm,1.1s						
HICK	**Hickman**	**2.09**	**152**	Pn	Pn	22 24 02.1	+0.9
GLAT	**Glass**	**2.32**	**156**	Pn	Pn	22 24 03.6	-0.7
PEBM	**Pemiscott Bayo**	**2.33**	**168**	Pn	Pn	22 24 05.6	+1.1
N41A	**Harden Midland**	**2.33**	**353**	Pn	Pn	22 24 05.1	+0.6
N41A				IAmb_Lg		22 24 39.9	
	comp=Z,13nm,0.8s						
HDIL	**Hopedale**	**2.34**	**22**	Pn	Pn	22 24 03.7	-1.0
HDIL				IAmb_Lg		22 24 42.5	
	comp=Z,27nm,0.9s						
O44A	**Mansfield**	**2.34**	**41**		Pn	22 24 04.9	+0.2
O44A				IAmb_Lg		22 24 42.3	
	comp=Z,20nm,0.7s						
LCAR	**Lake Charles**	**2.38**	**194**		Pn	22 24 04.7	-0.5
LCAR				IAmb_Lg		22 24 41.2	
	comp=Z,16nm,1.1s						
GNAR	**Gosnell**	**2.45**	**172**	Pn	Pn	22 24 07.2	+1.1
P38A	**Dawn**	**2.69**	**298**		Pn	22 24 09.4	-0.1
P46A	**Rosedale**	**2.82**	**63**	IAmb_Lg		22 24 55.0	
	comp=Z,14nm,0.8s						
W45A	**Hickory Valley**	**3.39**	**162**		Pn	22 24 18.8	-0.2
L42A	**Oliver, Polo**	**3.66**	**9**	IAmb_Lg		22 25 22.4	
	comp=Z,9.6nm,0.8s						
U38A	**Gravette**	**3.68**	**239**	IAmb_Lg		22 25 21.1	
	comp=Z,8.7nm,0.8s						
L40A	**Anamosa**	**3.71**	**351**	IAmb_Lg		22 25 29.6	
	comp=Z,9.6nm,1.1s						
SCIA	**State Center**	**4.09**	**330**	IAmb_Lg		22 25 40.1	
	comp=Z,12nm,0.8s						
JFWS	**Jewell Farm**	**4.52**	**2**	IAmb_Lg		22 25 48.8	
	comp=Z,10nm,0.9s						
T35A	**Sooner Cattle**	**5.02**	**255**	IAmb_Lg		22 26 04.5	
	comp=Z,10nm,0.9s						
OK031	**S. Brethren Rd**	**5.64**	**246**	IAmb_Lg		22 26 33.9	
	comp=Z,12nm,1.1s						
KAN12	**Harper NE Stat**	**6.06**	**262**	IAmb_Lg		22 26 36.0	
	comp=Z,12nm,0.9s						

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*IDC **05** 22:23:54.0±5.3, 26°.16N×126°.09E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.4/69, mbtmp3.6/5, ML2.3/1, Error ellipse: s-maj=116.6km s-min=45.2km az=170.0*

*JMA **05** 22:24:08.1±0.2, 26°.16N×125°.87E, h108km±3km, M3.2*

ISC 05 22:24:07.4±0.8**, 26°.2N**±0°.1×**125°.86E**±0°.08**, h112**km±12km**, n25,** σ**1s.12**/44**, mb3.6**/4**, Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.84**	**81**	P	**Pn**	**22 24 27.9**	**+0.7**
JKE				S	**Sn**	**22 24 42.1**	**0.0**
JAGN	**Aguni-jima**	**1.30**	**72**	P	**Pn**	**22 24 32.8**	**+0.8**
JAGN				*e*S	**Sn**	**22 24 50.5**	**-0.1**
JIKM	**Ikemajima**	**1.38**	**204**	P	**Pn**	**22 24 33.7**	**+0.8**
JIKM				S	**Sn**	**22 24 52.0**	**-0.3**
JOGS	**Gusukube**	**1.49**	**196**	P	**Pn**	**22 24 34.8**	**+0.6**
JOGS				S	**Sn**	**22 24 54.4**	**-0.1**
JIRB	**Irabujima**	**1.50**	**205**	P	**Pn**	**22 24 34.6**	**+0.3**
JIRB				S	**Sn**	**22 24 53.4**	**-1.3**
JMJ2	**Miyako jima3**	**1.53**	**198**	P	**Pn**	**22 24 35.3**	**+0.7**
JMJ2				S	**Sn**	**22 24 55.0**	**-0.3**
JJT3	**Tamagusuku3**	**1.73**	**91**	P	**Pn**	**22 24 38.3**	**+1.2**
JJT3				*e*S	**Sn**	**22 25 00.7**	**+0.9**
JTJ	**Tarama**	**1.87**	**214**	P	**Pn**	**22 24 39.4**	**+0.6**
JTJ				*e*S	**Sn**	**22 25 01.6**	**-1.2**
JNTH	**Nagotoyohara**	**1.97**	**80**	P	**Pn**	**22 24 40.9**	**+0.9**
JNTH				*e*S	**Sn**	**22 25 03.7**	**-1.3**
JIH	**Iheya**	**2.06**	**66**	P	**Pn**	**22 24 42.6**	**+1.3**
JIH				S	**Sn**	**22 25 06.8**	**-0.4**
JISG	**Ishigakijimahi**	**2.13**	**221**	P	**Pn**	**22 24 42.8**	**+0.7**
JISG				*e*S	**Sn**	**22 25 07.5**	**-1.1**
JOW	**Kunigami**	**2.26**	**73**	P	**Pn**	**22 24 44.4**	**+0.7**
JOW				*e*S	**Sn**	**22 25 09.8**	**-1.8**
JIJ	**Ishigaki jima**	**2.40**	**221**	P	**Pn**	**22 24 45.6**	**+0.1**
JIJ				*e*S	**Sn**	**22 25 12.1**	**-2.7**
JYRO	**Yoronjima**	**2.46**	**70**	P	**Pn**	**22 24 46.9**	**+0.5**
JYRO				*e*S	**Sn**	**22 25 14.9**	**-1.4**
JKRS	**Kuro-shima**	**2.57**	**221**	P	**Pn**	**22 24 47.9**	**+0.1**
JKRS				*e*S	**Sn**	**22 25 17.6**	**-1.2**
IRIF	**Iriomote-Funau**	**2.67**	**227**	P	**Pn**	**22 24 49.9**	**+0.8**
IRIF				S	**Sn**	**22 25 21.5**	**+0.3**
JOKE	**Okinoerabujima**	**2.69**	**64**	P	**Pn**	**22 24 50.2**	**+0.9**
JOKE				*e*S	**Sn**	**22 25 20.1**	**-1.5**
YOJ	**Yonaguni jima**	**3.10**	**237**	P	**Pn**	**22 24 55.7**	**+0.9**
YOJ				*e*S	**Sn**	**22 25 32.3**	**+1.0**
JTK	**Tokunoshima**	**3.18**	**59**	P	**Pn**	**22 24 56.5**	**+0.7**
JTK				S	**Sn**	**22 25 32.5**	**-0.7**
JAMN	**Amaminishikomi**	**3.59**	**55**	P	**Pn**	**22 25 01.8**	**+0.6**
USRK	**Ussuriysk Ar.**	**18.64**	**14**	P	**P**	**22 28 12.8**	**-3.4**
	baz=211,slow=11,SNR=1.8						
MKAR	**Makanchi Array**	**39.98**	**313**	P	**P**	**22 31 31.9**	**+1.0**
	0.5nm,0.4s,baz=98,slow=9.9,SNR=15						
ZALV	**Zalesovo Beam**	**41.00**	**324**	P	**P**	**22 31 39.8**	**+0.6**
	0.4nm,0.3s,baz=106,slow=9.1,SNR=2.3						
ILAR	**Eielson Array**	**65.47**	**28**	P	**P**	**22 34 38.4**	**+0.2**
	0.3nm,0.6s,baz=294,slow=6.8,SNR=2.0						
FINES	**FINESS Array B**	**71.84**	**330**	P	**P**	**22 35 18.6**	**+1.0**
	1.8nm,0.9s,baz=72,slow=6.0,SNR=7.8						

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*UPA **05** 23:14:48.7±3.4, 3°.71N×76°.55W, h10km±76km, MW4.7*

*VAO **05** 23:14:52.9±0.5, 3°.95N×76°.29W, h146km±5km, mb4.6*

*IDC **05** 23:14:53.5±0.5, 3°.90N×76°.34W, h150km±4km, mb3.9/27, mb1 4.1/34, mb1mx4.1/41, mbtmp4.5/34, MS3.4/3, Ms1 3.4/3, ms1mx2.9/31, Error ellipse: s-maj=9.7km s-min=7.4km az=40.0*

*RSNC **05** 23:14:53.7±0.8, 4°.00N×76°.41W, h136km±2km, ML4.5, Mw4.9, Fault plane solution: NP1:φs88.00000°, δ33.00000°, λ97.00000°.*

*NEIC **05** 23:14:53.5±2.2, 3°.95N±0°.05×76°.36W±0°.06, h135km±4km, mb4.6/138, Error ellipse: s-maj=8.8km s-min=7.6km az=94.0*

ISC 05 23:14:53.2±0.4**, 3°.99N**±0°.02×**76°.36W**±0°.03**, h146**km±3km**, n488,** σ**1s.49**/581**, mb4.5**/86**, 27C-49D, Fault plane solution: NP1:**φs274.49976°**,** δ60.52715°**,** λ83.03835°. **NP2:**φs108.43759°**,** δ30.21188°**,** λ102.10464°. **Principal axes:** T Plg73.5294°**,** Azm166.9049°**;** N Plg6.0571°**,** Azm277.9378°**;** P Plg15.2574°**,** Azm9.5964°**; Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOTC	**Yotoco, Valle**	**0.01**	**105**⇑	*i*P	**Pn**	**23 15 11.8**	**-1.1**
YOTC				*e*S	**Sn**	**23 15 25.7**	**-2.1**
YOTC				*i*		23 15 28.8	
	comp=Z,4μm,0.1s						
RAC02	**Cali,SGC**	**0.64**	**196**	*e*P	**Pn**	**23 15 14.1**	**-0.9**
RAC02				*e*S	**Sn**	**23 15 30.3**	**-1.3**
MALC	**Bahia Malaga**	**0.97**	**272**⇑	*i*P	**Pn**	**23 15 17.7**	**+0.3**
MALC				*e*S	**Sn**	**23 15 36.0**	**+0.2**
MALC				*i*		23 15 42.4	
	comp=Z,7μm,0.3s						
ORTC	**Ortega, Tolima**	**1.11**	**94**⇑	*i*P	**Pn**	**23 15 18.3**	**-0.3**
ORTC				*e*S	**Sn**	**23 15 37.4**	**-0.6**
ORTC				*i*		23 15 40.8	
	comp=Z,7μm,0.6s						
TOLC	**Tolima**	**1.19**	**60**⇑	*i*P	**Pn**	**23 15 19.1**	**-0.6**
TOLC				*e*S	**Sn**	**23 15 38.8**	**-1.1**
TOLC				*i*		23 15 46.7	
	comp=Z,4μm,0.4s						
MARP	**Paez Belalcaza**	**1.21**	**160**⇓	*i*P	**Pn**	**23 15 19.9**	**+0.1**
MARP				*e*S	**Sn**	**23 15 39.5**	**-0.5**
MARP				*i*		23 15 42.0	
	comp=Z,2μm,0.3s						
CIBA1	**Ibague, SGC**	**1.21**	**68**	*e*P	**Pn**	**23 15 20.5**	**+0.8**
CIBA1				*e*S	**Sn**	**23 15 40.3**	**+0.5**
CMAN1	**Manizales, Cal**	**1.36**	**38**	*e*P	**Pn**	**23 15 22.1**	**+0.7**
CMAN1				*e*S	**Sn**	**23 15 43.6**	**+0.8**
PIZC	**Pizarro, Choco**	**1.39**	**314**⇑	*i*P	**Pn**	**23 15 21.6**	**+0.2**
PIZC				*e*S	**Sn**	**23 15 42.6**	**-0.3**
PIZC				*i*		23 15 53.7	
	comp=Z,5μm,0.4s						
POPC	**Popayan, Colom**	**1.47**	**192**⇓	*i*P	**Pn**	**23 15 21.4**	**-1.0**
POPC				*e*S	**Sn**	**23 15 42.4**	**-2.4**
POPC				*i*		23 15 43.4	
	comp=Z,5μm,0.3s						
PRAC	**Prado**	**1.49**	**100**⇑	*i*P	**Pn**	**23 15 22.6**	**+0.2**
PRAC				*e*S	**Sn**	**23 15 44.4**	**-0.3**
GUY2C	**Guyana, Caldas**	**1.58**	**39**⇑	*i*P	**Pn**	**23 15 23.6**	**-0.2**
GUY2C				*e*S	**Sn**	**23 15 46.2**	**-0.9**
GUY2C				*i*		23 15 49.5	
	comp=Z,8μm,0.7s						
BETC	**Betania**	**1.59**	**145**⇓	*i*P	**Pn**	**23 15 23.4**	**-0.1**
BETC				*e*S	**Sn**	**23 15 46.0**	**-0.6**
BETC				*i*		23 15 47.3	
	comp=Z,10μm,0.6s						
PCON	**Cinco Dias**	**1.65**	**181**⇓	*i*P	**Pn**	**23 15 25.1**	**+0.4**
PCON				*e*S	**Sn**	**23 15 48.5**	**-0.3**
PCON				*i*		23 15 53.1	
	comp=Z,5μm,0.4s						
SOTA	**Rioblanco**	**1.86**	**188**⇓	*i*P	**Pn**	**23 15 26.8**	**-0.2**
SOTA				*e*S	**Sn**	**23 15 52.0**	**-0.8**
SOTA				*i*		23 15 53.8	
	comp=Z,3μm,0.6s						
CBOC	**Ciudad Bolivar**	**1.90**	**10**⇓	*i*P	**Pn**	**23 15 26.6**	**-0.5**
CBOC				*e*S	**Sn**	**23 15 52.1**	**-0.9**
CBOC				*i*		23 16 02.8	
	comp=Z,2μm,0.3s						
GARC	**Garzon, Huila**	**1.99**	**154**⇓	*i*P	**Pn**	**23 15 27.9**	**-0.4**
GARC				*e*S	**Sn**	**23 15 54.1**	**-0.9**
GARC				*i*		23 15 59.0	
	comp=Z,4μm,0.3s						
GR1C	**Gorgona, Isla**	**2.05**	**242**⇓	*i*P	**Pn**	**23 15 27.0**	**-1.8**
GR1C				*e*S	**Sn**	**23 15 53.4**	**-2.6**
BBAC	**Balboa, Cauca**	**2.15**	**204**⇓	*i*P	**Pn**	**23 15 29.1**	**-0.9**
BBAC				*e*S	**Sn**	**23 15 56.4**	**-1.9**

BBAC i 23 16 06.5
comp=Z,2µm,0.3s
NORC Norcasia 2.16 43↑ eP Pn 23 15 30.1 +0.1
NORC eS Sn **23 15 57.6 -0.7**
NORC i 23 15 59.9
comp=Z,2µm,0.4s
ROSC El Rosal 2.20 67 P Pn 23 15 32.3 +1.5
comp=Z,485nm,0.3s,baz=168,slow=4.1,SNR=303
ROSC S Sn **23 16 02.9 +3.1**
comp=Z,531nm,0.3s,baz=184,slow=23,SNR=4.6
ROSC LR LR 23 16 27.7
comp=Z,2µm,19.2s,baz=307,slow=42
ROSC El Rosal 2.20 67 Pn 23 15 32.2 +1.3
ROSC Sn Sn **23 16 02.5 +2.8**
ROSC El Rosal 2.20 67↑ iP Pn 23 15 32.4 +1.5
ROSC eS Sn **23 16 02.9 +3.1**
ROSC i 23 16 06.5
comp=Z,1µm,0.4s
HELC Santa Helena 2.34 21↓ iP Pn 23 15 32.3 -0.3
HELC eS Sn **23 16 00.9 -1.9**
HELC Santa Helena 2.34 21↓ iP Pn 23 15 32.2 -0.3
HELC eS Sn **23 16 02.1 -0.7**
HELC i 23 16 05.0
comp=Z,2µm,0.5s
SOLC Bahia Solano 2.46 335↓ eP Pn 23 15 32.7 -0.9
SOLC eS Sn **23 16 02.7 -2.1**
SOLC i 23 16 04.1
comp=Z,2µm,0.3s
CRUC La Cruz 2.48 194↓ eP Pn 23 15 33.7 -0.5
CRUC eS Sn **23 16 04.3 -1.5**
CRUC i 23 16 07.3
comp=Z,1µm,0.4s
FLOC Florencia 2.49 164 Pn 23 15 34.1 0.0
FLOC Florencia 2.49 164↓ iP Pn 23 15 34.1 0.0
FLOC eS Sn **23 16 04.9 -0.7**
FLOC i 23 16 06.7
comp=Z,2µm,0.5s
VILC Villavicencio, 2.66 87↑ eP Pn 23 15 37.3 +1.0
VILC eS Sn **23 16 11.6 +2.1**
VILC i 23 16 14.0
comp=Z,4µm,0.5s
CHIC Chingaza 2.70 76↑ eP Pn 23 15 37.7 +0.7
CHIC eS Sn **23 16 10.8 +0.2**
CHIC i 23 16 16.9
comp=Z,1µm,0.6s
SPBC San Pablo de B 2.81 54↓ iP Pn 23 15 39.0 +0.8
SPBC eS Sn **23 16 13.2 +0.3**
SPBC i 23 16 16.8
comp=Z,502nm,0.5s
CPAS1 Pasto 2.94 199 eP Pn 23 15 40.4 +0.2
CPAS1 eS Sn **23 16 16.3 0.0**
DBBC Dabeiba 3.01 3↓ eP Pn 23 15 40.4 -0.3
DBBC eS Sn **23 16 16.1 -1.4**
DBBC i 23 16 22.1
comp=Z,4µm,0.6s
MACC Macarena, Meta 3.10 126↓ eP Pn 23 15 41.6 -0.2
MACC eS Sn **23 16 14.2 -5.2**
MACC i 23 16 17.9
comp=Z,969nm,0.5s
PTBC PUERTO BERRIO, 3.17 37↓ eP Pn 23 15 42.1 -0.5
PTBC eS Sn **23 16 18.5 -2.3**
PTBC i 23 16 21.8
comp=Z,1µm,0.4s
TUMC Tumaco 3.20 228 Pn 23 15 41.2 -1.7
TUMC Tumaco 3.20 228↓ eP Pn 23 15 41.2 -1.7
TUMC eS Sn **23 16 20.3 -1.1**
TUMC i 23 16 22.9
comp=Z,638nm,0.4s
CMBC Cumbal 3.36 206 eP Pn 23 15 45.9 +0.4
CMBC eS Sn **23 16 26.8 +0.9**
PTAC Punta Ardita, 3.46 335↓ iP Pn 23 15 45.8 -0.5
PTAC eS Sn **23 16 24.6 -2.8**
TULM Tulcn-Chalpat 3.55 204↓ eP Pn 23 15 47.8 -0.2
TULM eS Sn **23 16 24.9 -5.4**
TULM i 23 16 31.9
comp=Z,256nm,0.7s
RUSC La Rusia 3.77 60 Pn Pn 23 15 51.6 +0.8
RUSC La Rusia 3.77 60↓ iP Pn 23 15 51.7 +0.8
RUSC eS Sn **23 16 36.7 +1.2**
RUSC i 23 16 41.3
comp=Z,229nm,0.6s
ZARC Zaragoza, Cauc 3.79 23 eP Pn 23 15 50.1 -0.6
ZARC eS Sn **23 16 33.2 -2.1**
ZARC i 23 16 39.7
comp=Z,1µm,0.4s
UREC San Jos de Ur 3.83 12 eP Pn 23 15 50.9 -0.3
UREC eS Sn **23 16 35.2 -1.0**
UREC i 23 16 41.9
comp=Z,407nm,0.7s
GUVC San Jose del G 3.99 111 eP Pn 23 15 53.6 +0.3
BRRC Barranca, Sant 4.07 40↓ eP Pn 23 15 53.4 -0.9
BRRC eS Sn **23 16 39.9 -1.8**
BRRC i 23 16 45.6
comp=Z,425nm,0.4s
BARC Barichara 4.09 51↓ eP Pn 23 15 54.9 +0.1
BARC eS Sn **23 16 42.8 +0.3**
BARC i 23 16 45.3
comp=Z,412nm,0.5s
PTLC Puerto Leguiza 4.10 158↓ iP Pn 23 15 59.2 +4.4
PTLC eS Sn **23 16 49.5 +6.9**
PTLC i 23 17 31.3
comp=Z,308nm,0.6s
CUSE Cuicocha Este 4.19 209 eP Pn 23 15 55.5 -0.8
CUSE eS Sn **23 16 45.0 -0.2**
CUSE i 23 16 53.6
comp=Z,764nm,0.3s
PTGC Puerto Gaitan, 4.22 87↓ eP Pn 23 15 56.4 +0.1
OTAV Otavalo 4.27 209 Pn 23 15 56.1 -1.2
OTAV Otavalo 4.27 209↓ eP Pn 23 15 56.2 -1.2
OTAV eS Sn **23 15 45.9 -1.3**
OTAV Otavalo 4.27 209 eP Pn 23 15 56.2 -1.2
PAC1 Pacto, Paraso 4.42 213 eP Pn 23 15 56.2 -3.0
PAC1 eS Sn **23 16 45.2 -5.2**
PAC1 i 23 16 52.4
comp=Z,686nm,0.3s
CAPC Capurgana 4.72 348↑ eP Pn 23 16 02.7 -0.2
CAPC eS Sn **23 16 55.1 -2.1**
CAPC i 23 17 02.2
comp=Z,280nm,0.8s
UPD2 Meteti 4.82 340↓ iP Pn 23 16 05.0 +0.8
UPD2 eS Sn **23 16 59.1 -0.5**
UPD2 Meteti 4.82 340↓ eP Pn 23 16 05.0 +0.8
UPD2 eS Sn **23 16 59.1 -0.5**
LCBC Los crdobas, 4.84 360↑ iP Pn 23 16 05.7 +1.2
LCBC eS Sn **23 17 00.6 +0.6**
PTGL Punta Galera 4.86 229 eP Pn 23 16 01.1 -3.7
PTGL eS Sn **23 16 56.2 -4.2**
PTGL i 23 16 58.0
comp=Z,690nm,0.3s
PAMC Pamplona, Colo 4.93 47 eP Pn 23 16 05.5 -0.7
PAMC eS Sn **23 17 02.2 -0.7**
PAMC i 23 17 37.2
comp=Z,170nm,0.7s
TAMC Tame, Arauca 5.16 62↓ eP Pn 23 16 08.6 -0.2
TAMC eS Sn **23 17 07.2 -0.4**
TAMC i 23 17 13.7
comp=Z,127nm,0.5s
OCAC Ocana 5.19 35↓ eP Pn 23 16 08.4 -0.9
OCAC eS Sn **23 17 06.4 -2.2**
OCAC i 23 17 15.9
comp=Z,696nm,0.4s
SMLC San Martn de 5.29 25 eP Pn 23 16 09.0 -1.5
SMLC eS Sn **23 17 06.7 -4.1**
SMLC i 23 17 13.2
comp=Z,259nm,0.6s
AZU Azuero 5.43 314 eP Pn 23 16 11.2 -1.1
AZU eS Sn **23 17 12.8 -1.2**
AZU Azuero 5.43 314↓ eP Pn 23 16 12.0 -0.3
AZU eS Sn **23 17 13.4 -0.6**
AZU i 23 17 16.9
comp=Z,495nm,0.5s
CACAO El Cacao, Vera 5.59 307 eS Sn 23 17 16.1 -1.7
TABO3 Taboga, Panama 5.74 327 eP Pn 23 16 14.8 -1.6
TABO3 eS Sn **23 17 21.1 -0.3**
CHPO Chepo, Panama 5.83 332 eP Pn 23 16 16.6 -1.1
CHPO eS Sn **23 17 22.7 -1.0**
UPA Univ. de Panam 5.88 328 eP Pn 23 16 16.4 -1.9
UPA eS Sn **23 17 23.3 -1.5**
UPA Univ. de Panam 5.88 328 eP Pn 23 16 17.7 -0.6
UPA eS Sn **23 17 24.5 -0.4**
UPA i 23 17 30.5
comp=Z,110nm,0.4s
VTON El Valle, Cocl 5.92 321↑ iP Pn 23 16 19.2 +0.3
VTON eS Sn **23 17 26.6 +0.7**
SJCC San Jacinto, C 5.99 11 eP Pn 23 16 19.2 -0.6
SJCC eS Sn 23 17 48.5 +21
SJCC San Jacinto, C 5.99 11 Pn Pn 23 16 19.5 -0.4
SJCC San Jacinto, C 5.99 11 eP Pn 23 16 19.4 -0.4
SJCC eS Sn **23 17 27.3 -0.2**
SJCC i 23 18 01.3
comp=Z,69nm,0.7s
LL1C La Loma 1 Cana 6.18 27 eP Pn 23 16 23.4 +1.0
LL1C eS Sn **23 17 30.8 -1.3**
ARGC Ariguani, Magd 6.20 20 eP Pn 23 16 23.3 +0.7
ARGC eS Sn **23 17 32.6 +0.1**
ARGC i 23 18 07.8
comp=Z,65nm,0.5s
BCIP Isla Barro Col 6.20 326 eP Pn 23 16 22.1 -0.5
BCIP eS Sn **23 17 32.2 -0.3**
BCIP Isla Barro Col 6.20 326 Pn 23 16 22.6 +0.1
BCIP Isla Barro Col 6.20 326 eP Pn 23 16 22.9 +0.3
BCIP eS Sn **23 17 32.8 +0.3**
BCIP i 23 17 49.7
comp=Z,189nm,0.7s
LL2C La Loma 2 Cana 6.25 28 eP Pn 23 16 22.8 -0.4
LL2C eS Sn **23 17 31.2 -2.4**
LL2C i 23 17 37.6
comp=Z,335nm,0.5s
CVALL Valledupar, Ce 7.17 25 eP Pn 23 16 34.5 -1.1
CVALL eS Sn **23 17 49.7 -6.2**
CVALL i 23 17 56.7
comp=Z,102nm,0.6s
SMRC Santa Marta, M 7.44 16 eP Pn 23 16 39.5 +0.3
ELOV Elorza 7.47 66 eP Pn 23 16 37.8 -1.8
ELOV eS Sn **23 17 57.8 -5.3**
SDV Santo Domingo 7.49 49 P Pn 23 16 39.5 -0.5
comp=Z,16nm,0.3s,baz=218,slow=12,SNR=32
SDV S Sn **23 17 58.1 -5.7**
comp=Z,22nm,0.3s,baz=55,slow=23,SNR=6.3
SDV Santo Domingo 7.49 49 Pn Pn 23 16 39.7 -0.3
SDV Santo Domingo 7.49 49 eP Pn 23 16 39.5 -0.5
SDV eS Sn **23 17 57.8 -5.9**
SDV i 23 18 07.6
comp=Z,68nm,0.5s
SDV Santo Domingo 7.49 49 eP Pn 23 16 39.1 -0.9
CRJC Cerrejon, Guaj 7.79 26 eP Pn 23 16 42.4 -1.6
CRJC eS Sn **23 18 03.5 -7.5**
CRJC i 23 18 15.4
comp=Z,154nm,0.3s
SRBA San Rafael, Bu 8.69 307 Pn 23 16 55.0 -1.1
URIC Uribia, Colomb 8.80 29 Pn 23 16 55.0 -2.4
URIC Uribia, Colomb 8.80 29 eP Pn 23 16 55.5 -1.9
URIC eS Sn 23 18 26.1 -9.1
URIC i 23 18 34.9
comp=Z,45nm,0.7s
RIMA Rio Macho 9.40 308 Pn Pn 23 17 05.3 -0.3
BAUV El Baul 9.62 59 eP Pn 23 17 04.7 -3.6
BAUV El Baul 9.62 59 eS Sn 23 18 46.3 -8.6
TBTG Tabatinga, AM 10.37 141 eP Pn 23 17 17.3 -0.9
JTS Las Juntas de 10.58 307 P Pn 23 17 25.7 +4.6
comp=Z,0.3nm,0.3s,baz=71,slow=23,SNR=3.2
HATO Hato, Curacao 10.95 42 Pn Pn 23 17 23.2 -2.7
ATAH Atahualpa 11.23 190 P Pn 23 17 30.2 +0.1
comp=Z,2.2nm,0.3s,baz=14,slow=7.6,SNR=12
CZSB Cruzeiro do Su 12.20 163 eP Pn 23 17 39.7 -2.6
PCRV Puerto La Cruz 13.15 62 P Pn 23 17 54.8 +0.1
comp=Z,2.7nm,0.3s,baz=212,slow=7.0,SNR=6.0
MTDJ Mount Denham 14.20 355 Pn Pn 23 18 08.7 +0.6
JAKH Jacmel 14.65 15 Pn P 23 18 14.9 -1.1
LGNH Logne 14.89 14 Pn P 23 18 17.9 -0.8
BANI BANI 15.47 22 P 23 18 25.1 -0.1
SDDR Presa de Saban 15.71 18 P P 23 18 28.8 +1.1
SDDR IAmb IAmb 23 18 32.0
comp=Z,49nm,0.9s
NNA Nana 15.88 182 P Pn 23 18 29.2 +0.3
comp=Z,3.7nm,0.3s,baz=3.2,slow=11,SNR=8.6
NNA Nana 15.88 182 P P 23 18 30.5 +0.9
NNA IAmb IAmb 23 18 33.0
comp=Z,36nm,1.0s
BOAV Boa Vista 15.89 95 eP Pn 23 18 28.1 -1.0
GTBY Guantanamo Bay 15.89 4 P 23 18 29.7 0.0
CBCY The Bluff, Cay 16.00 348 Pn 23 18 30.5 +0.2
DR12 Loma Pena Alta 16.21 24 P Pn 23 18 33.0 0.0
TRN Trinidad (W) 16.24 65 eP Pn 23 18 31.7 -1.5
SC01 Santiago de lo 16.30 19 P P 23 18 35.4 +1.2
PCDR Punta Cana, DR 16.41 28 P 23 18 36.3 +0.9
GRFF Grenada Fort F 16.54 60 eP P 23 18 39.7 +2.8
CRPR Cabo Rojo, PR 16.62 32 P P 23 18 36.1 -1.6
CRPR IAmb IAmb 23 18 47.4
comp=Z,38nm,0.7s
MLPR Magueyes Islan 16.62 33 P 23 18 37.2 -0.6
MLPR IAmb IAmb 23 18 49.6
comp=Z,32nm,0.9s
GRGR Grenville 16.65 60 eP P 23 18 37.5 -0.6
GRGR Grenville 16.65 60 eP Pn 23 18 38.7 +0.4
GRGR Grenville 16.65 60 P P 23 18 37.6 -0.6
OBIP Obispado Ponce 16.92 34 P P 23 18 39.9 -1.1
AGPR Aguadilla, PR 17.00 31 P P 23 18 41.0 -0.9
GCMP Grenada, Carri 17.01 59 eP Pn 23 18 42.8 +0.2
ETMB Extrema 17.04 144 eP P 23 18 42.4 +0.1
PTGA Pitinga 17.04 106 P P 23 18 42.0 -0.4
comp=Z,2.0nm,0.3s,baz=317,slow=22,SNR=14
PTGA LR LR 23 25 47.2
comp=Z,74nm,20.5s,baz=298,slow=38
PTGA Pitinga 17.04 106 P 23 18 42.3 -0.2
AOPR Arecibo Observ 17.09 33 eP Pn 23 18 44.9 +1.4
AOPR Arecibo Observ 17.09 33 P P 23 18 42.6 -0.3
MACA Manacapuru-AM 17.20 114 eP P 23 18 43.3 -0.9
PDPR Patillas Dam, 17.23 35 P P 23 18 44.5 +0.1
PDPR IAmb IAmb 23 18 48.5
comp=Z,27nm,1.1s
SJG San Juan 17.23 35 P P 23 18 44.8 +0.3
comp=Z,6.5nm,0.3s,baz=209,slow=9.6,SNR=19
SJG San Juan 17.23 35 P P 23 18 44.6 +0.1
TOSP Speyside 17.27 64 eP P 23 18 44.1 -0.9
TOSP Speyside 17.27 64 eP P 23 18 45.1 +0.1
TOSP Speyside 17.27 64 P P 23 18 44.9 -0.1
TOSP IAmb IAmb 23 18 47.3
comp=Z,28nm,0.6s
EMPR Esperanza - Ma 17.32 33 Pn 23 18 46.1 -0.1
CBYP Canovanas 17.53 35 P Pn 23 18 48.6 -0.2
SVB Belmont 17.54 57 eP Pn 23 18 48.6 -0.4
SVB Belmont 17.54 57 P 23 18 48.3 +0.4
CUPR Culebra, Puert 17.89 36 Pn 23 18 52.8 -0.3
CUPR IAmb IAmb 23 18 54.8
comp=Z,44nm,0.8s
SLB Belfond 18.00 56 eP P 23 18 53.7 +0.7
MCLT Moule a Chique 18.02 57 eP P 23 18 51.5 -1.7
STVI Saint Thomas 18.12 37 Pn 23 18 55.2 -0.6
GRTK Grand Turk 18.14 16 P 23 18 55.2 +0.7
SLBI Saint Lucia, B 18.16 56 eP P 23 18 54.4 -0.3
SLBI Saint Lucia, B 18.16 54 eP P 23 18 54.7 0.0
BIM Bigot 18.34 54 eP P 23 18 56.3 -0.5
BIM Bigot 18.34 54 eP P 23 18 57.1 +0.4
BIM Bigot 18.34 54 P P 23 18 56.5 -0.3
TRMF Trois Ilets 18.37 54 eP P 23 18 56.9 -0.1
SAML Samuel 18.38 134 P P 23 18 56.8 -0.3
SAML IAmb IAmb 23 19 02.6
comp=Z,22nm,0.7s
SAML Samuel 18.38 134 eP P 23 18 56.5 -0.5
FDF Fort de France 18.40 54 eP Pn 23 18 58.9 -0.3
FDF Fort de France 18.40 54 eP Pn 23 18 59.1 0.0
FDF Fort de France 18.40 54 P P 23 18 57.1 -0.3
ZAM Aeronautique 18.41 54 eP P 23 18 58.3 +0.9
CXM Morne La Croix 18.43 53 eP Pn 23 19 00.4 +0.8
BAMF Morne Balai 18.45 53 eP Pn 23 18 59.2 -0.6
LPMF Morne Lapointe 18.46 54 eP P 23 18 58.6 +0.6
MPOM Morne Pois Mar 18.48 55 eP P 23 18 57.6 -0.5
MPOM Morne Pois Mar 18.48 55 eP P 23 18 58.1 0.0
MPOM Morne Pois Mar 18.48 55 P P 23 18 57.6 -0.5
MVM Montagne Vaucl 18.51 54 eP P 23 18 59.1 +0.6
DSLB Salisbury 18.59 51 eP P 23 18 58.2 -1.2
ILAM Ilet Lapin Mar 18.64 54 eP P 23 19 00.2 +0.2
ILAM Ilet Lapin Mar 18.64 54 eP P 23 19 00.5 +0.5
ILAM Ilet Lapin Mar 18.64 54 P P 23 19 00.1 +0.1
MDCT Cottage Hill, 18.66 51 eP Pn 23 19 06.6 +4.4
ABVI Anegada Island 18.79 38 P P 23 19 02.1 +0.6
CBE Ff, Capester 18.82 49 eP Pn 23 19 03.1 -1.1
MAGL Barre de l'ile 19.00 50 eP P 23 19 03.4 -0.5
SMRT St. Maarten 19.09 42 eP P 23 19 04.4 -0.5
SMRT St. Maarten 19.09 42 P P 23 19 04.2 -0.6
ABD La Joyeuse, An 19.16 49 eP P 23 18 59.9 -5.7
ANOC Antigua Open C 19.32 46 eP P 23 19 06.9 -0.4
ANBD Bethesda, Anti 19.32 47 eP P 23 19 07.0 -0.4
ANWB Willy Bob 19.72 45 eP P 23 19 08.6 -2.9
ANWB Willy Bob 19.72 45 P P 23 19 10.3 -1.2
SOR Soroa 19.77 342 P Pn 23 19 14.1 -1.1
SOR IAmb IAmb 23 19 15.2
comp=Z,11nm,0.7s
LPAZ La Paz 21.73 158 P P 23 19 31.5 -2.2
comp=Z,3.9nm,0.5s,baz=334,slow=5.0,SNR=17
LPAZ La Paz 21.73 158 P P 23 19 31.7 -2.1
LPAZ La Paz 21.73 158 eP P 23 19 32.3 -1.5
ITTB Itaituba 22.21 112 eP P 23 19 36.3 -1.8
CMIG Matias Romero 22.36 307 P P 23 19 39.4 -0.1
comp=Z,3.7nm,0.8s,baz=175,slow=18,SNR=4.4
MALB Monte Alegre 22.83 104 eP P 23 19 42.4 -1.7
VILB Vilhena 23.25 137 eP P 23 19 48.1 +0.2
NPGB Novo Progresso 23.65 118 eP P 23 19 49.9 -1.8
MDP Montagnes des 23.67 86 P P 23 19 50.4 -1.3
comp=Z,13nm,0.8s,baz=258,slow=5.6,SNR=27
PSGCX Pisagua 24.23 166 P P 23 19 56.5 -0.3
PSGCX IAmb IAmb 23 19 58.1
comp=Z,18nm,0.7s
PB11 IPOC Station P 24.50 165 P P 23 19 59.5 +0.1
PB11 IAmb IAmb 23 20 01.4
comp=Z,37nm,1.0s
MCPB Macapa, AP 24.66 100 eP P 23 19 58.9 -1.9
TA02 Huaiquique 24.87 166 P P 23 20 03.2 +0.7
SIV San Ignacio 24.95 143 P P 23 20 02.6 -0.8
comp=Z,10.0nm,0.6s,baz=329,slow=9.1,SNR=56
SIV PcP PcP **23 23 35.1 0.0**
comp=Z,2.4nm,0.7s,baz=305,slow=5.9,SNR=3.1
PB08 IPOC Station P 25.00 164 P P 23 20 03.9 -0.2
CLDB Colider 25.23 126 eP P 23 20 05.1 -0.9
PTLB Pontes e Lacer 25.76 139 eP P 23 20 09.7 -0.9
PB01 IPOC Station P 25.77 165 P P 23 20 11.3 +0.6
PB01 IAmb IAmb 23 20 12.5
comp=Z,28nm,0.9s
PB09 IPOC Station P 26.55 165 P P 23 20 19.2 +1.3
PB09 IAmb IAmb 23 20 21.0
comp=Z,25nm,1.2s
LVC Limon Verde 27.42 165 P P 23 20 26.7 +0.9
comp=Z,7.5nm,0.5s,baz=309,slow=4.6,SNR=3.8
LVC Limon Verde 27.42 165 P P 23 20 26.5 +0.7
LVC IAmb IAmb 23 20 32.4
comp=Z,8.5nm,0.7s
LVC Limon Verde 27.42 165 eP P 23 20 26.3 +0.5
PRPB Parauapebas 28.36 111 eP P 23 20 32.9 -1.1
SALV Santo Antonio 28.43 135 eP P 23 20 34.0 -0.6
TMAB Tom-Au,PA,Br 28.94 102 eP P 23 20 38.3 -0.8
PB14 IPOC Station P 29.02 169 P P 23 20 41.2 +1.2
SNDB Serra Nova Dou 29.54 123 eP P 23 20 43.7 -0.7
PP1B Ponte de Pedra 30.16 136 eP P 23 20 49.5 -0.3
LRAL Lakeview Retre 30.56 342 P P 23 20 54.8 +1.7
LRAL IAmb IAmb 23 20 55.2
comp=Z,5.1nm,0.4s
LRAL Lakeview Retre 30.56 342 P P 23 20 54.9 +1.8
baz=159
HODGE Hodges 30.59 350 P P 23 20 55.0 +1.7
HODGE IAmb IAmb 23 20 56.0
comp=Z,5.0nm,0.7s
BIRD Birdtown, Kers 30.74 353 P P 23 20 56.3 +1.6
Y49A Blount Mountai 31.16 344 P P 23 20 59.3 +0.9
ARAG Araguaiana, MT 31.19 129 eP P 23 20 57.6 -1.3
SMTB Santa Maria do 31.39 114 eP P 23 20 59.9 -0.9
AC02 Maricunga 31.43 168 P P 23 21 02.7 +1.3
AC02 IAmb IAmb 23 21 04.4
comp=Z,20nm,1.0s
BG3 Lake Jocassee 31.45 350 P P 23 21 02.2 +1.2
BG3 IAmb IAmb 23 21 03.6
comp=Z,5.4nm,0.6s
FPAL Fort Paine 31.59 345 P P 23 21 03.3 +1.1
FPAL IAmb IAmb 23 21 04.1
comp=Z,6.7nm,0.6s
AQDB Aquidauana 31.66 141 P P 23 21 01.8 -1.1
AQDB Aquidauana 31.66 141 eP P 23 21 02.2 -0.8
X48A Hartselle 31.90 343 P P 23 21 05.6 +0.7
X48A IAmb IAmb 23 21 06.7
comp=Z,4.4nm,0.7s
V53A Saluda 32.09 350 P P 23 21 08.2 +1.6
V53A IAmb IAmb 23 21 09.2
comp=Z,4.0nm,0.6s
PEXB Peixe 32.15 120 eP P 23 21 06.5 -0.9
CPCT Cooper Cave 32.21 347 P P 23 21 08.6 +1.0
CPCT IAmb IAmb 23 21 14.1
comp=Z,7.2nm,1.2s
AC04 Llanos de Chal 32.41 171 P P 23 21 10.5 +1.1
AC04 IAmb IAmb 23 21 11.2
comp=Z,15nm,1.1s
V51A Loudon 32.51 348 P P 23 21 11.6 +1.4
V51A IAmb IAmb 23 21 34.3
comp=Z,13nm,1.4s
ROSB Rosrio 32.93 102 eP P 23 21 12.9 -1.2
V48A Smith Brothers 33.04 344 P P 23 21 16.3 +1.5
TZTN Tazewell 33.07 349 P P 23 21 16.6 +1.5
WVT Waverly 33.69 343 P P 23 21 20.6 +0.2
WVT Waverly 33.69 343 P P 23 21 20.6 +0.2
baz=159
BDFB Brasilia 34.17 125 P P 23 21 24.5 -0.4
comp=Z,10nm,0.8s,baz=290,slow=10,SNR=15
BDFB PcP PcP **23 23 58.7 -0.2**
comp=Z,0.9nm,0.4s,baz=206,slow=0.4,SNR=3.5
BDFB Brasilia 34.17 125 P P 23 21 24.5 -0.4
BDFB IAmb IAmb 23 21 25.9
comp=Z,15nm,1.1s
T47A Sharon Grove 34.30 345 P P 23 21 26.5 +0.8
T47A IAmb IAmb 23 21 27.2
comp=Z,6.2nm,0.7s
ITRB Iturama 34.75 134 eP P 23 21 28.8 -1.0
CO03 El Pedregal 35.05 171 P P 23 21 33.4 +1.1
CO03 IAmb IAmb 23 21 35.4
comp=Z,16nm,1.1s
SDBA SAO DESIDERIO 35.25 118 eP P 23 21 32.8 -1.4
TRCB Terra Rica 35.29 140 eP P 23 21 33.7 -0.8
IPMB Ipameri, GO 35.31 129 eP P 23 21 33.5 -1.2
CPUP Villa Florida 35.32 150 P P 23 21 31.9 -2.8
comp=Z,1.0nm,0.4s,baz=332,slow=5.4,SNR=4.8
CPUP PcP PcP **23 24 00.6 -1.3**
comp=Z,1.9nm,0.6s,baz=296,slow=3.2,SNR=3.7
CPUP Villa Florida 35.32 150 P P 23 21 32.2 -2.4
CPUP Villa Florida 35.32 150 eP P 23 21 32.3 -2.4
PCMB Pacaembu 35.37 137 eP P 23 21 33.4 -1.8
P53A Whipple 35.63 353 P P 23 21 38.7 +1.6
P53A IAmb IAmb 23 21 40.0
comp=Z,6.5nm,0.7s
NBPS Pedro II - PI 35.86 103 eP P 23 21 38.4 -1.1
P52A Corning 35.87 352 P P 23 21 40.9 +1.8
P52A IAmb IAmb 23 21 41.5
comp=Z,10nm,0.8s
P52A Corning 35.87 352 P P 23 21 41.0 +1.9
baz=170
ZON Zonda 36.09 169 P P 23 21 42.1 +1.0
TXAR Lajitas Array 36.13 317 P P 23 21 43.2 +1.5
comp=Z,0.8nm,0.6s,baz=137,slow=8.6,SNR=12
TXAR PcP PcP **23 24 05.8 +1.4**
comp=Z,2.5nm,0.7s,baz=146,slow=6.4,SNR=16
TXAR Lajitas Array 36.13 317 P P 23 21 42.8 +1.1
TXAR PcP **23 24 05.8 +1.4**
TX32 Lajitas Array 36.13 317 P P 23 21 42.9 +1.2
TX32 PcP **23 24 05.6 +1.2**
N59A State Game Lan 36.77 1 P P 23 21 48.5 +1.7
N59A IAmb IAmb 23 21 59.9
comp=Z,11nm,1.4s
BB19B Bebedouro 36.94 133 eP P 23 21 47.2 -1.3
JANB Janaria 36.96 121 eP P 23 21 47.7 -1.0
VA03 San Esteban 36.96 172 P P 23 21 49.9 +1.3
NBMO Morrinhos-CE 37.01 101 eP P 23 21 47.5 -1.7
PTGB Pitanga 37.04 142 eP P 23 21 47.0 -2.4
TRNY Table Rock, Ra 37.04 3 P P 23 21 50.8 +1.7
TRNY IAmb IAmb 23 21 51.7
comp=Z,13nm,0.8s
M54A Oil Creek Stat 37.47 356 P P 23 21 54.7 +2.0
M54A IAmb IAmb 23 21 59.5
comp=Z,6.4nm,0.9s
KSCT Kent School, K 37.66 4 P P 23 21 55.9 +1.7
KSCT IAmb IAmb 23 22 06.4
comp=Z,18nm,1.2s
FRTB Fartura 37.70 137 eP P 23 21 53.2 -1.7
SLBS Sierra La Lagu 37.86 304 P P 23 21 58.8 +2.5
NBPB Pedra_Branca-C 37.93 104 eP P 23 21 55.2 -1.7
MC01 Montes Claros 38.06 124 eP P 23 21 57.4 -0.6
ITQB Itaqui 38.44 152 eP P 23 21 58.1 -2.9
RCLB Rio Claro- Sao 38.51 134 eP P 23 22 00.6 -1.1
MSTX Muleshoe 38.65 324 P P 23 22 03.2 +0.4
baz=135
MNTX Cornudas Mount 38.77 319 P P 23 22 04.7 +1.0
MNTX Cornudas Mount 38.77 319 P P 23 22 05.1 +1.4
baz=130

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NBPN	Ponto Novo - B	38.89	113	eP	P	23 22 03.4	-1.6
BO02	Sierra Bellavi	38.93	173	P	P	23 22 06.2	+1.2
BO02				IAmb	IAmb	23 22 08.0	
	comp=Z,8.3nm,0.6s						
DIAM	Diamantina, MG	39.09	126	eP	P	23 22 06.0	-0.7
J56A	Wolcott	39.13	359	P	P	23 22 07.9	+1.5
J56A				IAmb	IAmb	23 22 24.4	
	comp=Z,6.8nm,0.8s						
NBMA	Muriti-CE	39.17	107	eP	P	23 22 06.2	-1.2
J58A	Remsen	39.22	1	P	P	23 22 09.2	+1.9
J58A				IAmb	IAmb	23 22 10.0	
	comp=Z,8.1nm,0.9s						
VAO	Valinhos	39.28	134	eP	P	23 22 06.4	-1.8
SPB	Sao Paulo	39.33	136	eP	P	23 22 07.1	-1.3
TIJ01	Guaruva-PR	39.42	139	eP	P	23 22 08.7	-0.6
BSCB	Bom Sucesso	39.69	130	eP	P	23 22 10.3	-1.3
PET01	Itanhaem-SP	39.89	136	eP	P	23 22 11.1	-2.0
LBNH	Lisbon	40.28	5	P	P	23 22 17.7	+1.7
NBPA	Parau_RN	40.37	104	eP	P	23 22 15.3	-1.9
PARB	Paraibuna	40.45	134	eP	P	23 22 16.8	-1.0
LONY	Lake Ozonia	40.50	2	P	P	23 22 19.3	+1.5
GDU01	Guandu, BA	40.52	116	eP	P	23 22 17.3	-1.1
CPSB	Cacapava Do Su	40.62	149	eP	P	23 22 15.6	-3.4
121A	Cookes Peak, D	40.88	318	P	P	23 22 23.5	+2.1
121A				IAmb	IAmb	23 22 24.9	
	comp=Z,12nm,0.9s						
121A	Cookes Peak, D	40.88	318	P	P	23 22 24.1	+2.8
	baz=128						
NBLV	Livramento - P	40.94	106	eP	P	23 22 20.5	-1.5
NBLA	Lagarto - SE	41.17	112	eP	P	23 22 22.4	-1.4
CMC01	Camacan, BA	41.23	119	eP	P	23 22 23.2	-1.0
EMMW	East Machias	41.30	10	P	P	23 22 26.0	+1.7
EMMW				IAmb	IAmb	23 22 44.9	
	comp=Z,14nm,1.2s						
SJMB	Sao Joao De Ma	41.33	124	eP	P	23 22 24.1	-0.8
G62A	West of Eustis	41.38	6	P	P	23 22 27.4	+2.3
	baz=189						
VAS01	Vassouras-RJ	41.44	130	eP	P	23 22 24.9	-1.0
GUA01	Guaratinga, BA	41.51	120	eP	P	23 22 25.4	-1.1
ANMO	Albuquerque	41.55	322	P	P	23 22 28.1	+1.3
ANMO	Albuquerque	41.55	322	P	P	23 22 28.6	+1.8
	baz=131						
RCBR	Riachuelo	41.56	103	eP	P	23 22 25.6	-1.4
TER01	Tubaro-SC	41.61	143	eP	P	23 22 26.4	-0.7
PLTB	Pedras Altas	41.63	150	P	P	23 22 24.3	-2.9
PLTB				IAmb	IAmb	23 22 24.6	
	comp=Z,6.3nm,0.7s						
PLTB	Pedras Altas	41.63	150	eP	P	23 22 24.5	-2.7
BSFB	Barra de Sao F	41.67	124	eP	P	23 22 26.8	-1.0
T25A	Trinidad	41.84	326	P	P	23 22 31.0	+1.9
	baz=135						
DUB01	Friburgo-RJ	42.15	129	eP	P	23 22 30.3	-1.3
NBAN	Anadia - AL	42.18	109	eP	P	23 22 30.3	-1.7
RIB01	Linhares ES	42.28	124	eP	P	23 22 31.7	-1.0
CAM01	Campos-RJ	42.56	129	eP	P	23 22 34.0	-0.9
ALF01	Guarapari-ES	42.66	126	eP	P	23 22 34.9	-0.9
TUC	Tucson	42.82	315	P	P	23 22 38.6	+1.6
TUC	Tucson	42.82	315	P	P	23 22 38.8	+1.8
	baz=124						
E63A	Oxbow	42.83	8	P	P	23 22 38.8	+2.1
	baz=192						
SDCO	Great Sand Dun	42.88	325	P	P	23 22 39.2	+1.6
SDCO	Great Sand Dun	42.88	325	P	P	23 22 39.6	+1.9
	baz=134						
E62A	Clayton Lake	42.88	7	P	P	23 22 39.6	+2.5
	baz=190						
LMN	Caledonia Moun	42.90	12	P	P	23 22 38.6	+1.3
LMN				IAmb	IAmb	23 22 39.1	
	comp=Z,10nm,0.9s						
NBRF	Rio Formoso -	42.99	107	eP	P	23 22 37.2	-1.3
D62A	Allapoint, All	43.39	7	P	P	23 22 43.4	+2.2
	baz=191						
S22A	4UR Ranch, Cre	43.64	324	P	P	23 22 45.5	+1.7
	baz=133						
W18A	Petrified Fore	43.74	319	P	P	23 22 46.4	+1.9
	baz=128						
TRQA	Tornquist	43.91	164	P	P	23 22 45.4	-0.1
TRQA				IAmb	IAmb	23 22 46.0	
	comp=Z,7.5nm,0.9s						
TRQA	Tornquist	43.91	164	eP	P	23 22 45.5	0.0
214A	Organ Pipe Nat	44.07	313	P	P	23 22 49.1	+2.1
	baz=122						
ISCO	Idaho Springs	44.39	327	P	P	23 22 51.2	+1.4
ISCO	Idaho Springs	44.39	327	P	P	23 22 51.4	+1.6
	baz=136						
PLCA	Paso Flores	44.82	174	P	P	23 22 52.9	+0.1
	comp=Z,12nm,0.8s,baz=349,slow=8.5,SNR=24						
PLCA	Paso Flores	44.82	174	P	P	23 22 53.4	+0.6
PLCA				IAmb	IAmb	23 22 54.5	
	comp=Z,13nm,0.9s						
PLCA	Paso Flores	44.82	174	eP	P	23 22 52.6	-0.2
RSSD	Black Hills	46.83	333	P	P	23 23 10.1	+1.4
RSSD				IAmb	IAmb	23 23 10.8	
	comp=Z,7.2nm,0.9s						
RSSD	Black Hills	46.83	333	P	P	23 23 10.2	+1.4
	baz=141						
BELC	Belle Mtn. Jos	47.42	314	P	P	23 23 15.7	+2.3
	baz=120						
MPU	Maple Canyon	47.95	323	P	P	23 23 18.6	+1.1
HEC	Hector,Ludlow	48.08	315	P	P	23 23 20.3	+2.0
	baz=121						
TCUT	Toone Canyon	48.52	325	P	P	23 23 23.2	+1.3
TCUT				IAmb	IAmb	23 23 24.0	
	comp=Z,11nm,0.6s						
PDAR	Pinedale Array	48.59	327	P	P	23 23 23.3	+0.9
	comp=Z,0.9nm,0.5s,baz=125,slow=8.2,SNR=8.0						
PDAR				pP	pP	23 23 57.2	+1.7
	comp=Z,1.0nm,0.6s,baz=134,slow=13,SNR=3.7						
DUG	Dugway, Tooele	48.77	323	P	P	23 23 25.0	+1.4
DUG				IAmb	IAmb	23 23 26.0	
	comp=Z,4.6nm,0.8s						
DUG	Dugway, Tooele	48.77	323	P	P	23 23 25.3	+1.6
	baz=128						
ULM	Lac du Bonnet	48.96	343	P	P	23 23 23.8	-0.9
	comp=Z,1.4nm,0.4s,baz=134,slow=12,SNR=2.1						
ULM				pP	pP	23 23 59.0	+1.1
	comp=Z,1.8nm,0.5s,baz=149,slow=14,SNR=2.5						
ULM				PcP	PcP	23 24 46.1	-0.5
	comp=Z,0.9nm,0.4s,baz=142,slow=2.4,SNR=4.1						
REDW	Red Top Meadow	49.69	327	P	P	23 23 31.7	+1.0
REDW				IAmb	IAmb	23 23 32.6	
	comp=Z,7.1nm,0.9s						
DGMT	Dagmar	50.31	336	P	P	23 23 35.6	+0.6
	baz=143						
TPH	Tonopah	50.37	318	P	P	23 23 37.4	+1.5
ELK	Elko	50.58	322	P	P	23 23 38.3	+0.8
	comp=Z,1.0nm,0.6s,baz=164,slow=2.5,SNR=3.0						
ELK				PcP	PcP	23 24 53.9	+0.8
	comp=Z,1.0nm,0.7s,baz=171,slow=2.1,SNR=4.4						
NV11	Mina Array Sit	51.18	318	P	P	23 23 43.1	+1.2
SCHQ	Schefferville	51.28	7	P	P	23 23 42.4	+0.3
	comp=Z,6.2nm,0.9s,baz=271,slow=5.3,SNR=2.2						
NVAR	Mina Array Bea	51.28	318	P	P	23 23 44.3	+1.6
	comp=Z,4.7nm,0.7s,baz=127,slow=7.1,SNR=31						
NVAR				pP	pP	23 24 17.8	+1.6
	comp=Z,2.0nm,0.7s,baz=126,slow=7.2,SNR=4.3						
NVAR				PcP	PcP	23 24 56.8	+1.0
	comp=Z,2.4nm,0.5s,baz=125,slow=4.2,SNR=7.6						
NVAR	Mina Array Bea	51.28	318	P	P	23 23 44.0	+1.3
NVAR				PcP	PcP	23 24 56.7	+0.9
KVN	Kaiserville	51.47	318	P	P	23 23 45.2	+1.1
BOZ	Bozeman (W)	51.61	329	P	P	23 23 45.9	+1.0
BOZ	Bozeman (W)	51.61	329	P	P	23 23 46.1	+1.1
	baz=133						
HLID	Hailey	51.80	325	P	P	23 23 47.6	+1.2
HLID	Hailey	51.80	325	P	P	23 23 47.8	+1.4
	baz=129						
WVOR	Wild Horse Val	53.64	322	P	P	23 24 00.3	+0.4
WVOR				IAmb	IAmb	23 24 01.9	
	comp=Z,8.7nm,0.9s						
G08A	Pilot Rock	55.44	325	P	P	23 24 13.9	+1.1
G08A				IAmb	IAmb	23 24 14.8	
	comp=Z,7.9nm,1.0s						
J05D	Fort Rock, OR	55.71	321	P	P	23 24 16.1	+1.3
	baz=122						
PINE	Pine Mountain	55.79	322	P	P	23 24 16.6	+1.1
PINE				IAmb	IAmb	23 24 17.4	
	comp=Z,5.7nm,0.8s						
L04D	Klamath Falls	55.84	320	P	P	23 24 16.2	+0.4
	baz=120						
YBH	Yreka Blue Hor	55.86	319	P	P	23 24 15.2	-0.6
	comp=Z,1.0nm,0.4s,baz=124,slow=3.4,SNR=6.9						
NEW	Newport	56.20	328	P	P	23 24 18.7	+0.5
	comp=Z,2.6nm,0.6s,baz=130,slow=8.2,SNR=6.5						
NEW	Newport	56.20	328	P	P	23 24 18.8	+0.7
	baz=128						
J04D	Umpqua Nationa	56.23	321	P	P	23 24 19.5	+0.9
	baz=121						
K02D	Willamette Mer	56.95	320	P	P	23 24 24.3	+0.8
	baz=119						
J01E	Myrtle Point	57.35	320	P	P	23 24 27.8	+1.6
	baz=119						
EFI	East Falkland	57.60	167	P	P	23 24 27.7	-0.1
I02D	Swisshome	57.76	321	P	P	23 24 30.7	+1.7
	baz=120						
YKA	Yellowknife Ar	64.85	341	P	P	23 25 15.3	-1.2
	comp=Z,2.2nm,0.7s,baz=130,slow=7.3,SNR=5.9						
DLBC	Dease Lake	68.31	333	P	P	23 25 39.5	+0.9
	comp=Z,3.9nm,0.8s,baz=56,slow=1.3,SNR=6.4						
DLBC				pP	pP	23 26 15.7	+1.8
	comp=Z,3.7nm,0.8s,baz=116,slow=6.3,SNR=3.9						
DLBC	Dease Lake	68.31	333	P	P	23 25 39.8	+1.3
DLBC				IAmb	IAmb	23 25 40.7	
	comp=Z,11nm,1.1s						
PESTR	Estremoz	71.02	50	P	P	23 25 56.1	+0.5
TIC	Toumodi	71.03	84	eP	P	23 25 55.8	-0.2
LIC	Lamto	71.04	85	eP	P	23 25 55.2	-0.9
	comp=Z,20nm,0.6s						
DBIC	Dimbokro	71.19	84	P	P	23 25 56.4	-0.6
	comp=Z,6.1nm,0.6s,baz=288,slow=6.8,SNR=15						
DBIC	Dimbokro	71.19	84	P	P	23 25 56.4	-0.6
DBIC				IAmb	IAmb	23 25 57.1	
	comp=Z,8.2nm,0.7s						
KIC	Kosan Boka	71.32	85	eP	P	23 25 57.8	+0.1
	comp=Z,14nm,0.7s						
KOWA	Kowa	71.92	76	P	P	23 26 01.5	+0.1
KOWA				IAmb	IAmb	23 26 02.1	
	comp=Z,9.0nm,0.8s						
SUMG	Summit	72.36	11	iP	P	23 26 03.9	+0.6
SUMG				IAmb	IAmb	23 26 04.8	
	comp=Z,7.8nm,0.9s						
SUMG	Summit	72.36	11	P	P	23 26 03.9	+0.6
SUMG				IAmb	IAmb	23 26 30.7	
	comp=Z,8.3nm,1.2s						
PAB	San Pablo	73.62	50	P	P	23 26 11.6	+0.6
ESDC	Sonseca Array	73.93	50	P	P	23 26 13.3	+0.5
	comp=Z,1.7nm,0.5s,baz=272,slow=6.0,SNR=40						
ESDC	Sonseca Array	73.93	50	P	P	23 26 13.7	+0.9
ESBB	Sonseca Array	73.93	50	P	P	23 26 13.3	+0.5
YUK3	Moose Creek	74.46	334	P	P	23 26 16.8	+1.2
	baz=111						
INK	Inuvik	74.62	341	P	P	23 26 15.6	-0.5
	comp=Z,2.2nm,0.5s,baz=116,slow=5.3,SNR=8.6						
NEEM	North Greenlan	74.65	6	iP	P	23 26 17.0	+0.5
NEEM				IAmb	IAmb	23 26 18.1	
	comp=Z,9.9nm,0.8s						
EPYK	Eagle Plains	74.81	339	P	P	23 26 17.8	+0.5
	baz=116						
L27K	Beaver Creek,	75.52	335	P	P	23 26 22.8	+1.4
L27K	Beaver Creek,	75.52	335	P	P	23 26 22.7	+1.3
	baz=110,SNR=5.2						
EGAK	Eagle	75.85	336	P	P	23 26 24.1	+0.9
EGAK				IAmb	IAmb	23 26 24.9	
	comp=Z,7.0nm,0.9s						
EGAK	Eagle	75.85	336	P	P	23 26 24.4	+1.2
	baz=111						
K27K	Chicken	75.96	336	P	P	23 26 25.6	+1.7
	baz=110						
BMRM	Bremner River	76.08	332	P	P	23 26 25.9	+1.3
	baz=107						
DOT	Dot Lake	76.66	335	P	P	23 26 28.8	+1.0
DOT				IAmb	IAmb	23 26 29.6	
	comp=Z,8.4nm,1.0s						
SCRK	Sand Creek	76.73	335	P	P	23 26 29.1	+0.8
SCRK	Sand Creek	76.73	335	P	P	23 26 29.2	+0.8
	baz=109						
J26K	Charley River,	76.85	336	P	P	23 26 29.6	+0.6
	baz=109,SNR=5.8						
RIDG	Independent Ri	77.02	335	P	P	23 26 30.8	+0.9
RIDG				IAmb	IAmb	23 26 31.7	
	comp=Z,9.4nm,1.1s						
RIDG	Independent Ri	77.02	335	P	P	23 26 30.8	+0.9
	baz=108,SNR=5.3						
TORD	Torodi Ar. Bea	77.48	77	P	P	23 26 32.5	-0.8
	comp=Z,2.7nm,0.5s,baz=282,slow=6.5,SNR=43						
TORD	Torodi Ar. Bea	77.48	77	P	P	23 26 32.4	-1.0
J25K	Salcha River,	77.50	336	P	P	23 26 33.2	+0.6
	baz=107,SNR=6.8						
WAT6	Susitna Watana	77.96	333	P	P	23 26 35.6	+0.3
	baz=105						
BMAR	Burnt Mountain	78.08	339	P	P	23 26 36.2	+0.5
HDA	Harding Lake	78.10	335	P	P	23 26 36.1	+0.3
HDA				IAmb	IAmb	23 26 36.8	
	comp=Z,11nm,0.8s						
HDA	Harding Lake	78.10	335	P	P	23 26 36.1	+0.3
	baz=106,SNR=9.9						
IL31		78.17	336	P	P	23 26 36.4	+0.2
ILAR	Eielson Array	78.17	336	P	P	23 26 36.1	-0.1
	comp=Z,2.6nm,0.7s,baz=117,slow=4.1,SNR=19						
ILAR				pP	pP	23 27 11.7	-0.6
	comp=Z,1.5nm,0.7s,baz=116,slow=4.3,SNR=6.9						
RND	Reindeer	78.65	334	P	P	23 26 39.3	+0.4
MDM	Murphy Dome	78.78	336	P	P	23 26 39.9	+0.3
H24K	Noodor Dome	78.87	337	P	P	23 26 40.7	+0.6
	baz=105						
NEA2	Nenana	79.03	335	P	P	23 26 41.2	+0.3
	baz=104,SNR=5.9						
SUA	Susitna One	79.08	332	P	P	23 26 41.9	+0.5
	baz=102						
I23K	Minto, Yukon-K	79.29	336	P	P	23 26 42.6	+0.4
	baz=104,SNR=5.8						
TRF	Thorofare Moun	79.29	334	P	P	23 26 42.6	0.0
	baz=103						
KDAK	Kodiak Island	79.31	328	P	P	23 26 42.3	-0.2
	comp=Z,2.8nm,0.7s,baz=153,slow=7.5,SNR=2.2						
KDAK	Kodiak Island	79.31	328	P	P	23 26 42.5	0.0
KDAK				IAmb	IAmb	23 27 02.3	
	comp=Z,22nm,1.5s						
CLF	Chambon-Foret	79.44	42	P	P	23 26 44.1	+0.7
H23K	Yukon River	79.53	336	P	P	23 26 44.0	+0.4
	baz=104						
SKT	Skwentna	79.55	332	P	P	23 26 43.7	-0.1
	baz=101						
BPAW	Bear Paw Mtn.	79.74	335	P	P	23 26 45.0	+0.2
BPAW				IAmb	IAmb	23 26 45.3	
	comp=Z,5.7nm,0.6s						
BPAW	Bear Paw Mtn.	79.74	335	P	P	23 26 44.8	+0.1
	baz=102,SNR=7.7						
MLY	Manley	79.83	335	P	P	23 26 45.4	+0.1
MLY	Manley	79.83	335	P	P	23 26 45.2	-0.1
	baz=102,SNR=5.3						
P19K	Oil Pt	79.95	330	P	P	23 26 46.0	0.0
	baz=99						
PPLA	Purkeypile	80.02	333	P	P	23 26 46.3	-0.2
	baz=101						
Q19K	Cape Douglas,	80.04	329	P	P	23 26 46.8	+0.3
	baz=99						
CHUM	Lake Minchumin	80.27	334	P	P	23 26 47.4	-0.2
	baz=101						
M20K	Styx River	80.27	332	P	P	23 26 47.4	-0.3
	baz=100						
I21K	Tanana	80.38	335	P	P	23 26 48.1	-0.1
	baz=101						
L20K	Farewell, AK	80.72	333	P	P	23 26 49.5	-0.5
	baz=99						
N19K	Bonanza Creek	80.75	331	P	P	23 26 49.7	-0.6
	baz=98						
SSB	Saint Sauveur	80.78	45	P	P	23 26 51.6	+0.8
SSB				IAmb	IAmb	23 26 54.9	
	comp=Z,11nm,1.3s						
K20K	Telida	80.95	334	P	P	23 26 50.9	-0.4
	baz=99						
O18K	Koktuh Hills	80.97	330	P	P	23 26 51.4	0.0
	baz=98						
J20K	Nowinta River	81.11	334	P	P	23 26 52.1	0.0
J20K	Nowinta River	81.11	334	P	P	23 26 51.9	-0.2
	baz=99						
L19K	White Mountain	81.12	332	P	P	23 26 51.8	-0.4
	baz=98						
SVW2	Sparrevohn	81.31	331	P	P	23 26 52.7	-0.5
SVW2				IAmb	IAmb	23 26 53.5	
	comp=Z,6.1nm,0.7s						
WLF	Walferdange	82.13	41	P	P	23 26 58.0	+0.3
WLF				IAmb	IAmb	23 27 15.8	
	comp=Z,6.9nm,0.9s						
SENIN	Lac Senin/Sane	82.75	44	P	P	23 27 02.7	+1.3
SENIN				IAmb	IAmb	23 27 15.2	
	comp=Z,6.9nm,1.2s						
VSL	Villasalto	84.19	51	P	P	23 27 09.7	+1.1
KEST	Kesra	84.21	55	P	P	23 27 09.9	+1.0
	comp=Z,2.5nm,0.8s,baz=307,slow=7.2,SNR=4.2						
KEST	Kesra	84.21	55	P	P	23 27 09.6	+0.8
KEST				IAmb	IAmb	23 27 24.6	
	comp=Z,13nm,1.2s						
BELA	Belgrano 2	84.84	172	P	P	23 27 11.1	+0.1
BELA				IAmb	IAmb	23 27 12.2	
	comp=Z,9.5nm,1.4s						
FETA	Feichten	85.12	43	iP	P	23 27 14.4	+1.2
	comp=Z,0.7nm,0.4s						
MOTA	Moosalm	85.37	43	iP	P	23 27 15.3	+0.8
	comp=Z,0.4nm,0.3s						
SQTA	Sankt Quirin	85.45	43	iP	P	23 27 15.1	+0.3
	comp=Z,0.7nm,0.3s						
ABTA	Abfaltersbach	86.35	44	iP	P	23 27 19.6	+0.4
	comp=Z,2.3nm,0.7s						
VNA3	Neumayer Olymp	86.42	163	P	P	23 27 19.3	+0.3
VNA1	Neumayer--Stat	86.62	162	P	P	23 27 20.7	+0.8
VNA2	Neumayer--Watz	86.99	162	P	P	23 27 22.0	+0.4
	baz=307,slow=6.1						
GERES	GERESS Array B	87.07	41	P	P	23 27 23.2	+0.6
	comp=Z,0.9nm,0.7s,baz=285,slow=3.9,SNR=3.8						
GERES	GERESS Array B	87.07	41	P	P	23 27 22.7	+0.1
MYKA	Terra Mystica	87.13	44	iP	P	23 27 23.3	+0.3
	comp=Z,3.0nm,0.5s						
CONA	Conrad Observa	88.56	42	iP	P	23 27 30.4	+0.6
	comp=Z,0.6nm,0.4s						
SNAA	Sanae	88.62	162	P	P	23 27 29.8	+0.4
SNAA	Sanae	88.62	162	P	P	23 27 29.9	+0.4
SNAA				IAmb	IAmb	23 27 30.7	
	comp=Z,7.8nm,0.9s						
ARCES	ARCESS Array B	90.43	20	LR	LR	00 05 27.6	
	comp=Z,19nm,19.8s,baz=125,slow=34						
FINES	FINESS Array B	92.44	28	P	P	23 27 47.2	-0.1
	comp=Z,2.1nm,0.8s,baz=283,slow=7.0,SNR=3.7						
QSPA	South Pole Qui	94.02	180	P	P	23 27 55.5	+0.9
ZAA0	Zalesovo Array	120.16	13	PKPdf	PKPdf	23 33 26.2	-0.7
ZALV	Zalesovo Beam	120.16	13	PKP	PKPdf	23 33 26.2	-0.6
	comp=Z,1.7nm,0.4s,baz=275,slow=1.9,SNR=12						
ZALV	Zalesovo Beam	120.16	13		PKPdf	23 33 26.4	-0.5
ABPO	Ambohimpanom	122.99	110	PKPdf	PKiKP	23 33 33.7	-0.1
USRK	Ussuriysk Ar.	125.70	335	PKP	PKPdf	23 33 36.3	-1.5
	comp=Z,2.8nm,0.8s,baz=2.9,slow=2.9,SNR=4.8						
MAKZ	Makanchi	125.92	18	PKPdf	PKPdf	23 33 37.4	-0.8
MK31	Makanchi Array	126.03	18	PKPdf	PKPdf	23 33 37.5	-0.9
MKAR	Makanchi Array	126.03	18	PKP	PKPdf	23 33 37.7	-0.7
	comp=Z,1.4nm,0.6s,baz=306,slow=2.9,SNR=16						
MKAR	Makanchi Array	126.03	18		PKPdf	23 33 37.9	-0.5
SONM	Songino Array	128.34	358	PKP	PKPdf	23 33 42.6	-0.4
	comp=Z,1.5nm,0.8s,baz=266,slow=0.6,SNR=4.7						
SONM	Songino Array	128.34	358	PKPdf	PKPdf	23 33 42.7	-0.2
MJAR	Matsushiro Arr	128.36	324	PKP	PKPdf	23 33 42.8	-0.4
	comp=Z,0.9nm,0.5s,baz=85,slow=4.4,SNR=4.3						
MJAR	Matsushiro Arr	128.36	324		PKPdf	23 33 43.0	-0.2
KSRS	Korea Array	132.99	333	PKP	PKPdf	23 33 51.3	-0.6
	comp=Z,1.6nm,0.6s,baz=18,slow=1.6,SNR=4.4						
KSAR	Wonju Array Be	133.02	333	PKPdf	PKPdf	23 33 52.0	+0.1
STKA	Stephens Creek	134.87	228	PKP	PKPdf	23 33 54.4	-1.1
	comp=Z,0.8nm,0.4s,baz=332,slow=3.7,SNR=4.7						
STKA	Stephens Creek	134.87	228	PKPdf	PKPdf	23 33 55.6	0.0
FORT	Forrest	144.78	218	PKPbc	PKPab	23 34 12.0	-0.8
AS31	Alice Springs	144.85	233	PKPbc	PKPab	23 34 12.5	-0.8
ASAR	Alice Springs	144.85	233	PKP	PKPab	23 34 12.6	-0.7
	comp=Z,17nm,0.8s,baz=119,slow=3.9,SNR=176						
ENH	Enshi	145.48	351	PKPdf	PKPdf	23 34 14.6	-0.2
WR0	Warramunga Arr	145.96	240	PKPdf	PKPdf	23 34 16.1	+0.3
WRA	Warramunga Arr	146.14	240	PKPbc	PKPdf	23 34 15.9	-0.3
	comp=Z,13nm,0.8s,baz=132,slow=2.7,SNR=81						
WRA				pPKPbc	pPKPdf	23 34 54.5	-0.9
	comp=Z,1.4nm,0.6s,baz=122,slow=2.8,SNR=1.5						
WRA	Warramunga Arr	146.14	240	PKPdf	PKPdf	23 34 15.7	-0.4
FAKI	Fak Fak	151.43	271	PKPbc	PKPbc	23 34 30.7	-0.4
MTN	Manton Dam	151.45	250	PKPbc	PKPbc	23 34 30.6	-0.4
KNRA	Kununurra	152.70	243	PKPbc	PKPbc	23 34 33.0	-0.8
KNRA				PKPab	PKPab	23 34 46.1	+1.1
FITZ	Fitzroy Crossi	154.30	235	PKPbc	PKPbc	23 34 36.7	-0.6
FITZ				PKPab	PKPab	23 34 52.1	+0.3
CMAR	Chiang Mai Arr	157.22	12	PKP	PKPdf	23 34 33.5	+0.7
	comp=Z,1.3nm,0.8s,baz=309,slow=2.5,SNR=9.6						
CMAR				PKPab	PKPab	23 35 03.4	-0.7
	comp=Z,1.1nm,0.7s,baz=326,slow=5.4,SNR=4.8						
CMAR	Chiang Mai Arr	157.22	12		PKPdf	23 34 33.0	+0.2

MEX 05 23:40:44.5±0.8, 18°.30N×102°.54W, h26km±40km, MD3.7, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.77	270	eP	Pb	23 40 56.2	-3.0
MMIG				iS	Sb	23 41 06.8	-2.5
ZIIG	Zihuatanejo	1.23	124	eP	Pn	23 41 03.2	-2.9
ZIIG				iS	Sn	23 41 19.9	-1.9
COIG	Colima	1.40	309	eP	Pn	23 41 05.4	-3.1
COIG				iS	Sn	23 41 23.1	-3.1
R15V		1.62	303	eP	Pn	23 41 08.9	-2.6
R15V				iS	Sn	23 41 29.7	-1.8
ARIG	Puente Sto Nin	2.08	90	eP	Pn	23 41 16.3	-1.5
ARIG				iS	Sn	23 41 38.5	-4.4
CJM	Chamela	2.66	297	eP	Pn	23 41 23.9	-1.8
CJM				eS	Sb	23 42 00.4	-3.2
PLIG	Platanillo	2.89	88	eP	Pn	23 41 27.2	-1.7
PLIG				eS	Sb	23 42 08.3	-2.0

*TUL **05** 23:46:43.4±0.7, 35°.54N±0°.02×96°.76W±0°.03, h7km±7km, ML2.7, mb_Lg2.6/28(NEIC), Error ellipse: s-maj=3.9km s-min=2.2km az=137.0*

*NEIC **05** 23:46:44.0±0.8, 35°.545N±0°.009×96°.76W±0°.03, h8km±7km, Error ellipse: s-maj=3.0km s-min=1.3km az=98.0*

*ANF **05** 23:46:43.4±0.4, 35°.56N×96°.75W, h4km±3km, ML3.1/12, Error ellipse: s-maj=3.0km s-min=2.1km az=164.0*

ISC 05 23:46:43.9±1.0, 35°.55N±0°.02×96°.77W±0°.02, h7km±8km, n56, σ0s.49/60, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK011	Prague	0.09	135		Pg	23 46 45.7	-0.3
OK011				Sg	Sg	23 46 47.3	-0.1
OK005	Luther M Schoo	0.36	287	Pg	Pg	23 46 51.1	+0.1
OK005				Sg	Sg	23 46 56.4	+0.7
OK031	S. Brethren Rd	0.41	352		Pg	23 46 52.0	+0.2
OK031				Sg	Sg	23 46 57.9	+0.8
OK025	Westminster Rd	0.47	274		Pg	23 46 52.6	-0.3
OK025				Sg	Sg	23 46 59.6	+0.6
OKCSW	OKLAHOMA CITY	0.57	255		Pg	23 46 54.4	-0.4
OKCSW				Sg	Sg	23 47 02.4	+0.2
OKCFA	Oklahoma City	0.58	257		Pg	23 46 54.6	-0.4
OKCFA				Sg	Sg	23 47 02.8	+0.3
OKCFA	Oklahoma City	0.58	257	P	Pg	23 46 54.5	-0.4
	baz=78,SNR=30						
OKCFA				S	Sg	23 47 02.7	+0.3
	baz=78						
FNO	Franklin	0.60	241		Pg	23 46 54.9	-0.5
FNO				Sg	Sg	23 47 03.3	+0.1
OK029	Liberty Lake	0.61	294		Pg	23 46 55.6	-0.1
OK029				Sg	Sg	23 47 04.2	+0.5
QUOK	Quay	0.62	4		Pg	23 46 55.7	-0.2
QUOK				Sg	Sg	23 47 04.5	+0.5
TUL1	Leonard	0.87	65	P	Pg	23 46 59.9	-0.7
	baz=245,SNR=38						
TUL1				S	Sg	23 47 11.8	-0.1
	baz=245						
BLOK	Blackwell	1.26	343		Pn	23 47 06.8	-1.2
X34A	Smith Ranch, M	1.29	223		Pn	23 47 07.6	-0.8
CROK	Carrier	1.37	314		Pn	23 47 08.9	-0.6
T35A	Sooner Cattle	1.38	8		Pn	23 47 08.6	-1.0
T35B	Sooner Cattle	1.38	8	P	Pn	23 47 08.6	-1.0
	baz=188,SNR=35						
T35B				S	Sb	23 47 27.6	-0.2
	baz=188						
X37A	Clayton	1.49	130		Pn	23 47 10.8	-0.3
X37A	Clayton	1.49	130	P	Pn	23 47 10.9	-0.3
	baz=310,SNR=17						
X37A				S	Sb	23 47 30.8	-0.3
	baz=310						
KAN13	South Haven SW	1.57	339	Pn	Pn	23 47 12.0	-0.2
GC02	Grant County #	1.57	326		Pn	23 47 12.1	-0.1
LOOK	Love County	1.59	192		Pn	23 47 12.4	-0.1
OK032	Salt Plains WL	1.71	317	Pn	Pn	23 47 14.6	+0.4
WMOK	Wichita Mounta	1.84	244		Pn	23 47 15.6	-0.3
WMOK	Wichita Mounta	1.84	244	P	Pn	23 47 15.9	0.0
	baz=64,SNR=77						
WMOK				S	Sb	23 47 41.0	-0.2
	baz=64						
U32A	Winter Ranch,	1.99	295	Pn	Pn	23 47 18.0	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
U32A				IAmb_Lg		23 47 48.0	
	comp=Z,34nm,0.8s						
U32A	Winter Ranch,	1.99	295	S	Sb	23 47 45.0	-0.6
	baz=114						
U38A	Gravette	2.12	65		Pn	23 47 19.7	-0.1
U38A	Gravette	2.12	65	P	Pn	23 47 20.1	+0.3
	baz=246,SNR=29						
Z35A	Perchaven, San	2.25	190	Pn	Pn	23 47 21.9	+0.3
Z35A	Perchaven, San	2.25	190	P	Pn	23 47 22.2	+0.6
	baz=10						
HHAR	Hobbs	2.41	72		Pn	23 47 23.7	-0.1
W39A	Magazine	2.46	97		Pn	23 47 24.4	-0.1
Z38A	Mt. Pleasant	2.72	147	Sb	Sb	23 48 07.5	+1.1
	baz=328						
MIAR	Mount Ida	2.80	110		Pn	23 47 29.8	+0.7
MIAR	Mount Ida	2.80	110	P	Pn	23 47 29.9	+0.7
	baz=292,SNR=18						
U40A	Yellville	3.27	75		Pn	23 47 35.5	-0.2
U40A	Yellville	3.27	75	P	Pn	23 47 35.5	-0.2
	baz=257,SNR=6.5						
S39A	Bolivar	3.50	51	Pn	Pn	23 47 39.1	+0.4
S39A				IAmb_Lg		23 48 39.3	
	comp=Z,10nm,0.8s						
S39A	Bolivar	3.50	51	P	Pn	23 47 39.3	+0.6
	baz=233						
WLAR	White Oak Lake	3.54	121	IAmb_Lg		23 48 43.7	
	comp=Z,13nm,1.1s						
KSU1	Kansas State U	3.54	2		Pn	23 47 39.6	+0.2
KSU1				IAmb_Lg		23 48 45.4	
	comp=Z,11nm,0.7s						
WHTX	Lake Whitney,	3.60	189	Pn	Pn	23 47 39.9	-0.2
WHAR	Wooly Hollow	3.67	93		Pn	23 47 41.0	-0.1
W41B	Gary Mavity, V	3.71	95	P	Pn	23 47 42.0	+0.3
	baz=277,SNR=6.7						
FCAR	Ozark Folk Cen	3.79	84		Pn	23 47 42.2	-0.5
MGMO	Mountain Grove	3.97	65	IAmb_Lg		23 48 59.0	
	comp=Z,16nm,0.9s						
CBKS	Cedar Bluff	4.03	325	IAmb_Lg		23 48 53.6	
	comp=Z,13nm,0.8s						
AMTX	Amarillo	4.08	262	Pn	Pn	23 47 47.1	+0.3
R40A	Maddies Statio	4.52	51	Pn	Pn	23 47 52.9	+0.1
R40A				IAmb_Lg		23 49 05.2	
	comp=Z,11nm,0.8s						
435B	Jarrell	4.81	188	IAmb_Lg		23 49 17.3	
	comp=Z,9.1nm,1.0s						
CCM	Cathedral Cave	5.09	59	IAmb_Lg		23 49 33.1	
	comp=Z,9.9nm,0.7s						
PBMO	Poplar Bluff	5.27	75	IAmb_Lg		23 49 33.7	
	comp=Z,7.4nm,0.8s						
P40A	Paris	5.46	42	IAmb_Lg		23 49 43.8	
	comp=Z,12nm,0.7s						
JCT	Junction City	5.66	208	IAmb_Lg		23 49 50.4	
	comp=Z,14nm,0.9s						
T25A	Trinidad	6.37	287	IAmb_Lg		23 50 08.4	
	comp=Z,10nm,0.8s						
L40A	Anamosa	7.81	32	IAmb_Lg		23 50 49.8	
	comp=Z,5.9nm,0.8s						

*IDC **05** 23:53:08.2±0.6, 36°.99N×140°.47E, h0^{km}, mb3.9/18, mb1 4.0/20, mb1mx3.9/61, mbtmp3.9/20, ML3.7/2, Error ellipse: s-maj=15.0km s-min=12.1km az=143.0*

*NEIC **05** 23:53:09.7±1.5, 36°.96N±0°.02×140°.60E±0°.07, h10^{km}±1^{km}, mb4.3/15, Error ellipse: s-maj=10.5km s-min=2.8km az=106.0*

*JMA **05** 23:53:10.0, 36°.96N×140°.54E, h8^{km}±1^{km}, M4.0 Broadband fault plane solution: P waves. NP1: ϕ_s301.00000°, δ38.00000°, λ-96.00000°. NP2: ϕ_s130.00000°, δ52.00000°, λ-85.00000°. Principal axes: T Plg7.0000°, Azm216.0000°; N Plg4.0000°, Azm306.0000°; P Plg82.0000°, Azm66.0000°;*

JMA Felt II J1.

*NIED **05** 23:53:10.0, 36°.96N×140°.54E, h8^{km}, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-4.25; $M_{\theta\theta}$2.80; $M_{\phi\phi}$1.45; $M_{r\theta}$-2.78; $M_{\theta\phi}$-1.08; $M_{\phi r}$2.69; Fault plane solution: $M_0$5.43000×10^{14} NP1: ϕ_s129.00000°, δ68.00000°, λ-84.00000°. NP2: ϕ_s295.00000°, δ23.00000°, λ-103.00000°.*

ISC 05 23:53:09.7±0.9**, 36°.95N**±0°.02×**140°.54E**±0°.03**, h11**^{km}±5^{km}**, n80,** σ1^s**.01**/84**, mb4.0**/25**, 8C-1D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFFD	Fukushimafurud	0.14	7	⇑P	Pg	23 53 13.0	-0.1
JFFD				S	Sg	23 53 15.0	-0.5
ONAJ	Iwakimizuishiy	0.26	53	⇑P	Pg	23 53 15.1	0.0
ONAJ				S	Sg	23 53 18.9	+0.2
JHO	Hitachi	0.34	176	⇑P	Pg	23 53 16.8	+0.4
JHO				S	Sg	23 53 21.4	+0.4
JSB	Shiboa	0.50	273	⇑P	Pb	23 53 20.3	-0.1
JSB				S	Sb	23 53 27.3	-0.4
JFK	Kawauchi	0.50	33	⇑P	Pg	23 53 19.3	-0.1
JFK				S	Sg	23 53 25.8	-0.2
JFT	Otama	0.59	344	⇑P	Pg	23 53 21.3	+0.1
JFT				S	Sg	23 53 29.1	0.0
JYT	Yasato	0.77	201		Pg	23 53 24.5	0.0
JYT					Sg	23 53 35.0	+0.4
JFY	Yanaizu	0.81	305	⇓P	Pg	23 53 25.3	0.0
JFY				S	Sg	23 53 35.7	-0.2
JMM	Marumori	0.94	12	⇑P	Pg	23 53 26.9	-0.9
JMM				S	Sg	23 53 39.4	-0.6
JMM	Marumori	0.94	12		Pg	23 53 26.9	-0.9
JMM					Sg	23 53 39.0	-1.0
JAG	Ashikaga	1.02	239	⇑P	Pg	23 53 28.7	-0.6
JAG				S	Sg	23 53 42.5	0.0
MJAR	Matsushiro Arr	1.92	258	Pg	Pn	23 53 43.0	+0.8
	7.0nm,0.3s,baz=75,slow=15,SNR=281						
MJAR				LR	LR	23 54 06.7	
	comp=Z,22nm,18.3s,baz=270,slow=32						
MJAR				Lg	Lg	23 54 07.7	
	8.3nm,0.3s,baz=78,slow=21,SNR=10						
MAJO	Matsushiro	1.92	259		Pn	23 53 43.4	+1.1
MAJO				Sn	Sn	23 54 07.8	+1.4
MAT	Matsushiro	1.92	259	P	Pn	23 53 43.6	+1.3
MAT				S	Sn	23 54 07.4	+1.0
JSD	Sado	2.11	302		Pn	23 53 45.2	+0.3
JGF	Kuroka	2.90	243	Pn	Pn	23 53 58.0	+2.2
JSG	Sagara	2.97	221	Pn	Pn	23 53 57.4	+0.7
INU	Inuyama	3.27	242	Pn	Pn	23 54 02.5	+1.7
JTM	Tenmabayashi	3.86	6	Pn	Pn	23 54 11.7	+2.8
JHJ	Hachijo jima 2	3.87	189	Pn	Pn	23 54 09.3	+0.2
	8.5nm,0.3s,baz=282,slow=22,SNR=2.4						
JHJ				Sn	Sn	23 54 51.8	-2.7
	11nm,0.3s,baz=72,slow=20,SNR=1.6						
JHJ2	Mitsune	3.87	189	Pn	Pn	23 54 09.2	0.0
JWT	Wachi	4.48	250		Pn	23 54 20.0	+2.5
JEW	Eniwo	5.93	7		Pn	23 54 38.7	+1.3
JHS	Saijyo	6.33	254		Pn	23 54 46.3	+3.4
ASAJ	Asahikawa	7.33	12	Pn	Pn	23 54 57.6	+0.9
	1.9nm,0.3s,baz=238,slow=9.4,SNR=17						
ASAJ				Sn	Sn	23 56 22.6	+2.8
	0.4nm,0.3s,baz=253,slow=14,SNR=1.7						
JKA	Kamikawa-asahi	7.33	12	Pn	Pn	23 54 56.5	-0.1
USRK	Ussuriysk Ar.	9.73	321	Pn	Pn	23 55 35.6	+6.1
	baz=139,slow=11,SNR=6.1						
JCJ	Chichijima	9.92	171	Pn	Pn	23 55 31.0	-1.2
KSRS	Korea Array	10.08	277	Pn	Pn	23 55 42.3	+8.0
	0.1nm,0.3s,baz=103,slow=14,SNR=5.3						
BJT	Baijiatuau	19.31	287	P	P	23 57 34.5	-0.2
SONM	Songino Array	27.25	304	P	P	23 58 54.2	+0.3
	1.6nm,0.7s,baz=103,slow=8.6,SNR=5.7						
SONM	Songino Array	27.25	304	P	P	23 58 53.6	-0.3
H11N2	WAKE ISLAND Hy	28.71	119	T	T	00 28 56.3	
	baz=313,slow=75,SNR=80						
H11N1	WAKE ISLAND Hy	28.72	120	T	T	00 28 57.0	
	baz=313,slow=75,SNR=72						
H11N3	WAKE ISLAND Hy	28.73	119	T	T	00 28 57.8	
	baz=313,slow=75,SNR=59						
H11S1	WAKE ISLAND Hy	29.41	122	T	T	00 29 46.3	
	baz=314,slow=76,SNR=265						
H11S3	WAKE ISLAND Hy	29.41	122	T	T	00 29 46.3	
	baz=314,slow=76,SNR=213						
H11S2	WAKE ISLAND Hy	29.42	122	T	T	00 29 47.4	
	baz=314,slow=76,SNR=112						
ZAA0	Zalesovo Array	41.45	312	P	P	00 00 56.2	0.0
ZAA0				IAmb	IAmb	00 00 58.1	
	comp=Z,2.2nm,0.9s						
ZALV	Zalesovo Beam	41.45	312	P	P	00 00 55.7	-0.5
	comp=Z,1.3nm,0.6s,baz=86,slow=7.4,SNR=4.9						
ZALV	Zalesovo Beam	41.45	312	P	P	00 00 55.5	-0.7
MKAR	Makanchi Array	43.57	302	P	P	00 01 13.9	+0.4
	comp=Z,0.7nm,0.8s,baz=92,slow=12,SNR=4.4						
MKAR	Makanchi Array	43.57	302	P	P	00 01 13.5	0.0
KURK	Kurchatov	45.43	308	P	P	00 01 28.6	+0.2
KURBB	Kurchatov Arra	45.50	308	P	P	00 01 28.6	-0.3
	comp=Z,1.6nm,0.6s,baz=81,slow=7.6,SNR=8.6						
KDAK	Kodiak Island	47.63	42	P	P	00 01 46.6	+1.1
	comp=Z,1.5nm,0.7s,baz=146,slow=21,SNR=1.2						
ILAR	Eielson Array	49.94	32	P	P	00 02 03.6	+0.5
	comp=Z,0.3nm,0.6s,baz=277,slow=6.2,SNR=4.7						
SCM	Sheep Creek Mo	49.95	36	P	P	00 02 03.5	+0.2
SCM				IAmb	IAmb	00 02 17.8	
	comp=Z,7.8nm,1.2s						
COEN	Coen	50.69	177	P	P	00 02 09.8	+0.5
BMAR	Burnt Mountain	50.74	29	P	P	00 02 08.8	-0.4
SCRK	Sand Creek	51.26	33	P	P	00 02 13.8	+0.5
SCRK				IAmb	IAmb	00 02 18.9	
	comp=Z,1.5nm,1.0s						
GAR	Garm	54.10	295	P	P	00 02 34.3	-0.4
GAR				IAmb	IAmb	00 02 39.5	
	comp=Z,10nm,1.4s						
CHGR	Chuyangaron	55.07	295	P	P	00 02 41.8	+0.2
ARU	Arti	55.96	318	P	P	00 02 46.4	-1.3
	comp=Z,0.6nm,0.5s,baz=114,slow=5.1,SNR=3.7						
FITZ	Fitzroy Crossi	56.53	197	P	P	00 02 53.3	+1.3
	comp=Z,1.1nm,0.6s,baz=15,slow=10.0,SNR=6.5						
FITZ	Fitzroy Crossi	56.53	197	P	P	00 02 52.5	+0.5
WR0	Warramunga Arr	56.88	187	P	P	00 02 54.0	-0.6
WR0				IAmb	IAmb	00 03 03.0	
	comp=Z,10.0nm,1.5s						
WRA	Warramunga Arr	56.88	187	P	P	00 02 54.1	-0.5
	comp=Z,1.9nm,0.7s,baz=2.6,slow=7.1,SNR=24						
WRA	Warramunga Arr	56.88	187	P	P	00 02 53.9	-0.7
ABKAR	Akbulak array	57.46	310	P	P	00 02 57.8	-0.6
ABKAR	Akbulak array	57.46	310	P	P	00 02 57.9	-0.6
ABKAR				IAmb	IAmb	00 03 01.3	
	comp=Z,2.2nm,0.8s						
AS31	Alice Springs	60.61	187	P	P	00 03 21.1	+0.6
AS31				IAmb	IAmb	00 03 39.3	
	comp=Z,2.0nm,1.3s						
ASAR	Alice Springs	60.61	187	P	P	00 03 21.3	+0.9
	comp=Z,1.0nm,0.6s,baz=11,slow=7.4,SNR=13						
ASAR	Alice Springs	60.61	187	P	P	00 03 20.8	+0.3
ARCES	ARCESS Array B	63.83	339	P	P	00 03 41.1	-0.5
	comp=Z,1.6nm,0.9s,baz=51,slow=8.7,SNR=3.9						
ARCES	ARCESS Array B	63.83	339	P	P	00 03 40.8	-0.8
FINES	FINESS Array B	68.56	332	P	P	00 04 11.4	-0.6
	comp=Z,2.8nm,1.0s,baz=45,slow=6.7,SNR=5.4						
FINES	FINESS Array B	68.56	332	P	P	00 04 11.8	-0.2
KBZ	Khabaz	70.42	310	P	P	00 04 23.9	+0.1
	comp=Z,1.3nm,0.8s,baz=199,slow=20,SNR=2.4						
AKASG	Malin Array Be	73.94	322	P	P	00 04 43.4	-1.3
	comp=Z,0.5nm,0.5s,baz=47,slow=5.9,SNR=2.4						
NVAR	Mina Array Bea	75.60	53	P	P	00 04 56.5	+1.6
	comp=Z,0.2nm,0.4s,baz=302,slow=4.1,SNR=2.9						
BRTR	Keskin Array B	78.38	311	P	P	00 05 09.7	-0.7
	comp=Z,0.3nm,0.6s,baz=111,slow=5.6,SNR=3.6						
BRTR	Keskin Array B	78.38	311	P	P	00 05 09.9	-0.5
GERES	GERESS Array B	82.41	328	P	P	00 05 31.6	-0.3
	comp=Z,0.5nm,0.6s,baz=18,slow=4.6,SNR=4.6						
TXAR	Lajitas Array	90.73	52	P	P	00 06 13.7	+0.7
	comp=Z,0.4nm,1.0s,baz=321,slow=3.2,SNR=4.8						
TXAR	Lajitas Array	90.73	52	P	P	00 06 12.8	-0.2
LPAZ	La Paz	147.34	59	PKPbc	PKPbc	00 12 54.2	-0.4
	comp=Z,0.6nm,0.5s,baz=205,slow=10,SNR=2.3						
H03N2	Juan Fernandez	147.71	96	T	T	02 57 43.7	
	baz=291,slow=76,SNR=24						
H03N3	Juan Fernandez	147.72	96	T	T	02 57 44.8	
	baz=291,slow=76,SNR=36						
H03N1	Juan Fernandez	147.73	96	T	T	02 57 45.0	
	baz=291,slow=76,SNR=34						

*NNC **05** 23:53:46.5±3.4, 37°.98N×70°.24E, h0^{km}, mb4.2, mpv4.0, Error ellipse: s-maj=27.0km s-min=18.8km az=173.0*

*IDC **05** 23:53:58.9±1.7, 38°.93N×71°.21E, h0^{km}, mb3.7/6, mb1 3.7/11, mb1mx3.5/60, mbtmp3.6/11, ML3.2/6, Error ellipse: s-maj=28.8km s-min=14.8km az=146.0*

*KRNET **05** 23:54:01.7±0.1, 39°.20N×71°.05E, h17^{km}, mb3.8*

*SOME **05** 23:54:02.4, 39°.23N×71°.20E, h10^{km}*

ISC 05 23:54:04.1±1.2**, 39°.09N**±0°.04×**70°.93E**±0°.03**, h25**^{km}±9^{km}**, n51,** σ2^s**.23**/78**, mb3.6**/6**, 21C-24D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	Garm	0.49	259	⇑iP	Pb	23 54 13.4	-0.8
	baz=51						
GAR				⇑iS	Sb	23 54 21.2	+0.2
	baz=51						
DRK	Karamyk	0.78	60	⇑iP	Pb	23 54 13.9	-5.2
	baz=64						
DRK				⇑iS	Sb	23 54 23.0	-6.4
	baz=64						
BTK	Batken	0.97	355	⇓iP	Pn	23 54 18.4	-3.8
	baz=48						
BTK				⇓iS	Sn	23 54 30.1	-5.2
	baz=48						
CHGR	Chuyangaron	1.45	253	⇓iP	Pb	23 54 30.7	+0.2
	baz=51						
CHGR				⇓iS	Sb	23 54 51.1	+2.5
	baz=51						
OHH	Osh	2.02	44	⇑iP	Pn	23 54 36.3	-0.4
	baz=45						
OHH				⇑iS	Sn	23 55 00.7	-0.5
	baz=45						
SFK	Sufi-Kurgan	2.19	64	⇓iP	Pn	23 54 38.4	-0.7
	baz=66						
SFK				⇓iS	Sn	23 55 04.8	-0.8
	baz=66						
TRKS	Terek-Say	2.44	4	⇓iP	Pn	23 54 41.4	-1.1
	baz=2.0						
TRKS				⇓iS	Sn	23 55 10.1	-1.6
	baz=2.0						
TAS	Tashkent	2.56	331	⇓iP	Pn	23 54 44.3	+0.3
	baz=28						
TAS				⇓iS	Sn	23 55 16.8	+2.4
	baz=28						
IUG	Iuzhnay	3.13	348	eP	Pb	23 54 58.6	-0.5
	2μm,0.5s						
IUG				eS	Sb	23 55 38.2	+1.4
	295nm,0.3s						
CHM	Chimkent	3.38	343	eP	Pb	23 55 04.3	+1.1
	1.1nm,0.7s						
CHM				eS	Sb	23 55 48.0	+4.1
	203nm,0.3s						
AML	Almayashu	3.69	34	⇓iP	Pn	23 54 59.6	-0.3
	baz=34						
AML				⇓iS	Sn	23 55 41.3	-1.6
	baz=34						
AML	Almayashu	3.69	34	P	Pn	23 55 01.1	+1.2
	SNR=19						
ARLS	Aral	3.79	42	⇑iP	Pn	23 55 00.6	-0.4
	baz=42						
ARLS				⇑iS	Sn	23 55 43.4	-1.4
	baz=42						
KK31	Karatay Array	4.02	356	⇑P	Pn	23 55 05.0	+0.9
	9.1nm,0.3s,baz=181,slow=13,SNR=117						
KK31				S	Sb	23 56 05.4	+3.0
	44nm,0.5s,baz=171,slow=30,SNR=12						
BRLS	Borolday	4.02	348	eP	Pb	23 55 10.6	-3.6
	2.1nm,0.5s						
BRLS				eS	Sb	23 55 59.3	-3.1
	52nm,0.3s						
MRKS	Merke	4.04	25	eP	Pb	23 55 13.9	-0.7
	12nm,0.3s						
MRKS				eS	Sb	23 56 04.8	+1.7
	83nm,0.5s						
EKS2	Erkin-Say	4.17	30	⇑eP	Pn	23 55 05.9	-0.3
	baz=30						
EKS2				⇑iS	Sn	23 55 52.4	-1.8
	baz=30						
KZA	Kyzart	4.44	46	⇑iP	Pn	23 55 10.2	0.0
	baz=47						
KZA				⇑iS	Sn	23 55 59.8	-1.5
	baz=47						
KZA	Kyzart	4.44	46	P	Pn	23 55 13.6	+3.4
	SNR=9.1						
AAK	Ala-Archa	4.45	36	Pn	Pn	23 55 11.7	+1.6
	3.2nm,0.3s,baz=170,slow=6.8,SNR=13						
AAK				Lg	Lg	23 56 16.9	
	4.1nm,0.3s,baz=338,slow=17,SNR=4.6						
AAK	Ala-Archa	4.45	36	⇓iP	Pn	23 55 10.0	-0.2
	baz=36						
AAK				⇓iS	Sn	23 55 59.5	-1.8
	baz=36						
AAK	Ala-Archa	4.45	36	P	Pn	23 55 11.8	+1.6
	SNR=12						
AAK	Ala-Archa	4.45	36	⇓P	Pn	23 55 11.5	+1.3
	7.9nm,0.7s						
AAK				⇓S	Sb	23 56 17.4	+2.4
	27nm,0.5s						
FRU1	Bishkek	4.65	36	⇓iP	Pn	23 55 12.9	+0.1
	baz=35						
FRU1				⇓iS	Sn	23 56 03.8	-2.2
	baz=35						
KBK	Karagaybulak	4.68	39	⇓iP	Pn	23 55 13.5	+0.1
	baz=39						
KBK				⇓iS	Sn	23 56 04.9	-2.1
	baz=39						
KBK	Karagaybulak	4.68	39	P	Pn	23 55 16.0	+2.7
	SNR=12						
CHMS	Chumysh	4.85	35	⇑iP	Pn	23 55 15.6	0.0
	baz=35						
CHMS				⇑iS	Sn	23 56 08.5	-2.5
	baz=35						
CHMS	Chumysh	4.85	35	P	Pn	23 55 16.8	+1.3
	SNR=10						
USP	Ospenovka	4.96	32	⇓iP	Pn	23 55 16.6	-0.5
	baz=32						
USP				⇓iS	Sn	23 56 11.5	-2.2
	baz=32						
USP	Ospenovka	4.96	32	P	Pn	23 55 18.0	+1.0
	SNR=17						
BOOM	Boomskoye usch	5.09	47	⇑iP	Pn	23 55 19.0	0.0
	baz=47						
BOOM				⇑iS	Sn	23 56 14.4	-2.7
	baz=47						
TKM2	Tokmak 2	5.20	41	⇑iP	Pn	23 55 20.3	-0.2
	baz=41						
TKM2				⇑iS	Sn	23 56 17.2	-2.6
	baz=41						
TKM2	Tokmak 2	5.20	41	P	Pn	23 55 22.4	+1.9
	SNR=8.1						
TKM2	Tokmak 2	5.20	41	⇑P	Pn	23 55 22.0	+1.5
	9.9nm,0.5s						
TKM2				⇓S	Sb	23 56 40.2	+3.6
	32nm,1.1s						
KST	Kastek	5.48	42	eP	Pb	23 55 40.0	+0.9
	1.5nm,0.4s						
KST				eS	Sb	23 56 49.0	+4.6
	9.8nm,0.7s						
DGS	Degeres	5.52	40	eP	Pb	23 55 40.9	+1.0
	8.2nm,0.7s						
DGS				eS	Sb	23 56 50.5	+4.8
	21nm,0.6s						
KRBS	Karabastau	5.82	36	eP	Pb	23 55 45.7	+0.8
	2.6nm,0.4s						
KRBS				eS	Sb	23 56 58.6	+4.5
	12nm,0.7s						
GEYT	Alibeck	10.11	267	Pn	Pn	23 56 27.2	-0.5
	0.3nm,0.3s,baz=87,slow=12,SNR=1.2						
GEYT				Sn	Sn	23 58 20.9	+0.6
	0.5nm,0.3s,baz=307,slow=15,SNR=2.0						
GEYT				Lg	Lg	23 59 33.1	
	0.4nm,0.3s,baz=151,slow=46,SNR=2.0						
MKAR	Makanchi Array	11.33	44	Pn	Pn	23 56 49.3	+5.0
	0.1nm,0.3s,baz=232,slow=16,SNR=1.9						
MKAR				Lg	Lg	23 59 46.5	
	0.1nm,0.3s,baz=196,slow=8.3,SNR=2.9						
KURBB	Kurchatov Arra	12.72	22	Pn	Pn	23 56 59.6	-3.6
	0.0nm,0.3s,baz=217,slow=13,SNR=4.3						
KURBB				Lg	Lg	00 00 32.2	
	0.0nm,0.3s,baz=57,slow=44,SNR=2.5						
AB31	Akbulak array	12.85	326	P	Pn	23 56 59.5	-5.5
	0.8nm,0.4s,baz=154,slow=10,SNR=35						
AB31				⇑S	Sn	23 59 30.9	+3.7
	4.1nm,0.7s,baz=148,slow=23,SNR=12						
BVAR	Borovoye Array	13.94	359	Pn	Pn	23 57 18.1	-1.8
	0.2nm,0.3s,baz=254,slow=41,SNR=1.3						
AKTO	Aktyubinsk	14.56	325	Pn	Pn	23 57 26.8	-1.6
	0.2nm,0.3s,baz=110,slow=16,SNR=2.4						
AKTO				Sn	Sn	00 00 04.5	-4.4
	0.2nm,0.3s,baz=5.9,slow=16,SNR=4.0						
AKTO	Aktyubinsk	14.56	325	⇓P	Pn	23 57 22.6	-5.8
	1.0nm,0.8s						
ZALV	Zalesovo Beam	17.62	28	P	Pn	23 58 07.8	+0.2
	0.2nm,0.3s,baz=218,slow=9.4,SNR=3.8						
KBZ	Khabaz	21.48	291	P	P	23 58 51.8	+1.1
	1.0nm,0.7s,baz=123,slow=5.2,SNR=3.6						
BRTR	Keskin Array B	28.69	283	P	P	00 00 00.0	+0.8
	0.3nm,0.4s,baz=94,slow=7.5,SNR=5.3						
FINES	FINESS Array B	35.33	324	P	P	00 00 57.4	+0.4
	4.4nm,1.0s,baz=123,slow=10,SNR=3.8						
ARCES	ARCESS Array B	38.74	336	P	P	00 01 26.5	+0.6
	1.2nm,0.7s,baz=101,slow=9.3,SNR=1.4						
ESDC	Sonseca Array	56.23	296	P	P	00 03 42.4	+0.2
	0.2nm,0.5s,baz=54,slow=7.2,SNR=2.0						
TORD	Torodi Ar. Bea	65.75	267	P	P	00 04 47.4	+0.2
	0.5nm,0.7s,baz=55,slow=4.9,SNR=8.2						

*SEA **05** 23:55:02.0±1.1, 47°.68N±0°.01×120°.32W±0°.01, h1^{km}±6^{km}, ML2.0/9, ML1.8/24(NEIC), Error ellipse: s-maj=1.8km s-min=0.9km az=198.0*

NEIC 05 23:55:01.6±1.0**, 47°.69N**±0°.01×**120°.31W**±0°.01**, h4**^{km}±6^{km}**, Error ellipse: s-maj=1.9km s-min=0.8km az=214.0, Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETW	Entiat	0.08	192		Pg	23 55 03.3	-0.1
SLFW	Sugar Loaf	0.17	296		Pg	23 55 05.1	+0.2
SLFW					Sg	23 55 07.8	+0.7
CBSW	Chelan Butte S	0.21	57		Pg	23 55 06.1	+0.3
CBSW					Sg	23 55 09.2	+0.6
WTV	Waterville	0.24	87		Pg	23 55 06.5	+0.3
WTV					Sg	23 55 09.8	+0.5
NLW	Nelson Butte	0.39	357		Pg	23 55 09.3	+0.1
WRW	Wenatchee Ridg	0.42	294		Pg	23 55 09.8	0.0
C06D	Leavenworth	0.46	301		Pg	23 55 10.2	-0.3
C06D					Sg	23 55 16.7	+0.2
DHW2	Dyer Hill 2	0.47	50		Pg	23 55 10.7	+0.1
LTY	Liberty	0.50	210		Pg	23 55 11.0	-0.1
LTY	Liberty	0.50	210		Sg	23 55 17.4	-0.1
EPH	Ephrata	0.58	124		Pg	23 55 12.2	-0.6
GPW	Glacier Peak	0.71	308		Pg	23 55 14.8	-0.4
FHE	Frenchman Hill	0.92	143		Pb	23 55 19.8	-0.4
BVW	Beverly	0.92	162		Pg	23 55 19.5	+0.2
B08A	Colville Reser	0.94	44		Pg	23 55 19.1	-0.4
B08A				IAML		23 55 33.7	
	comp=E,25nm,0.2s						
B08A				IAML		23 55 34.2	
	comp=N,25nm,0.2s						
RATT	Rattlesnake La	1.05	256		Pg	23 55 21.9	+0.2
RATT					Pn	23 55 23.9	+0.8
MXC	Moxie City	1.11	180		Pg	23 55 23.0	+0.1
GSM	Grass Mountain	1.12	245		Pn	23 55 24.5	+0.2
OD2	Odessa Site #2	1.12	105		Pg	23 55 22.6	-0.5
D08A	Wollman Farm,	1.13	123		Pg	23 55 22.7	-0.6
D08A	Wollman Farm,	1.13	123	IAML		23 55 39.4	
	comp=N,24nm,0.1s						
D08A				IAML		23 55 39.8	
	comp=E,24nm,0.1s						
B06A	Marblemount	1.15	317		Pg	23 55 22.8	-0.8
E07A	Sunnyside	1.17	165	Pg	Pg	23 55 23.7	-0.3
E07A				IAML		23 55 41.5	
	comp=N,15nm,0.3s						
E07A				IAML		23 55 43.5	
	comp=E,21nm,0.4s						
GBB	Gable Butte	1.18	157		Pg	23 55 23.8	-0.3
PANH	Panhandle Gap,	1.23	228		Pn	23 55 25.8	-0.1
D05A	Enumclaw	1.25	247	Pg	Pn	23 55 26.1	+0.2
D05A				IAML		23 55 44.5	
	comp=E,12nm,4.8s						
C09A	Chrisman Ranch	1.38	85		Pn	23 55 27.2	-0.5
RSW	Rattlesnake Hi	1.38	159		Pn	23 55 27.4	-0.4
LON	Longmire	1.39	228	Pn	Pn	23 55 27.8	-0.1
HAWA	Hanford	1.40	158		Pn	23 55 27.4	-0.5
HAWA				IAML		23 55 49.1	
	comp=E,13nm,0.5s						
E08A	Dider Farm, El	1.47	144	Pn	Pn	23 55 28.8	-0.1
E08A				IAML		23 55 48.8	
	comp=N,12nm,0.3s						
E08A				IAML		23 55 49.1	
	comp=E,16nm,0.3s						
SHUK	Shuksan-Mt. Ba	1.48	322		Pb	23 55 29.9	0.0
REDWA	Red Mountain	1.51	157		Pn	23 55 29.3	-0.2
MBW	Mount Baker	1.53	316		Pn	23 55 30.1	+0.2
PNT	Penticton	1.69	15		Pn	23 55 32.4	+0.3
E09A	Wood Farm, Sta	1.89	128	Pn	Pb	23 55 35.8	-0.8
JLK	June Lake	1.99	220		Pg	23 55 39.4	-0.4
NEW	Newport	2.21	74	Pn	Pn	23 55 38.0	-1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NEW				IAML		23 55 59.0	
	comp=E,5.5nm,3.7s						
NEW				IAML		23 56 51.5	
	comp=E,4.4nm,3.7s						
B926	Mesachie Lake	2.80	295		Pb	23 55 51.9	-0.3

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*IDC **06** 00:09:58.6±8.2, 18°.81S×168°.73E, h100km±79km, mb3.4/3, mb1 3.6/4, mb1mx3.3/43, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=109.5km s-min=60.0km az=139.0*

*NOU **06** 00:10:04.8, 19°.37S×168°.98E, h36km, MLv4.1/12, Vanuatu Islands*

ISC 06 00:10:00.2±2.0**, 19°.34S**±0°.07×**169°.3E**±0°.2**, h100km, n16, σ2ˢ.19**/14**, mb3.6**/3**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RTV	Rentapao	1.73	332	P	Pn	00 10 31.7	+2.3
DVP	Devils Point	1.91	327	P	Pn	00 10 33.5	+1.9
LIFNC	LIFOU	2.39	233	P	Pn	00 10 38.4	+0.5
MARNC	Mare, Loyalty	2.43	209	P	Pn	00 10 40.2	+1.8
YATNC	Mamie plateau,	3.51	219	P	Pn	00 10 53.0	+0.2
PINNC	Pines Island,	3.68	207	P	Pn	00 10 57.1	+2.0
DZM	Mont Dzumac	3.80	224	P	Pn	00 10 58.2	+1.4
	4.3nm,0.3s,baz=113,slow=18,SNR=99						
DZM				S	Sn	00 11 40.8	+0.2
	8.9nm,0.3s,baz=301,slow=23,SNR=12						
DZM	Mont Dzumac	3.80	224	P	Pn	00 10 58.1	+1.3
OUENC	Ouen Island, N	3.82	216	P	Pn	00 10 59.3	+2.3
NOUC	Port Laguerre	3.91	225	P	Pn	00 10 59.9	+1.7
ONTNC	Ouen Toro	3.96	221	P	Pn	00 11 01.0	+2.1
KOUNC	Koumac, New Ca	4.85	255	P	Pn	00 11 11.5	+0.6
WRA	Warramunga Arr	32.88	263	P	P	00 16 19.1	-5.8
	0.6nm,0.8s,baz=84,slow=8.7,SNR=4.8						
ASAR	Alice Springs	33.14	256	P	P	00 16 22.4	-4.9
	0.9nm,0.4s,baz=85,slow=8.9,SNR=17						
FITZ	Fitzroy Crossi	41.27	264	P	P	00 17 31.7	-4.2
	0.9nm,0.9s,baz=112,slow=11,SNR=1.3						
GERES	GERESS Array B	144.59	332	PKP	PKPab	00 29 19.4	-4.5
	0.1nm,0.3s,baz=28,slow=4.4,SNR=4.4						

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*GCMT **06** 00:20:04.4±0.4, 1°.12S±0°.02×121°.02E±0°.03, h18km±2km, MW4.8/70, Moment Tensor Solution. s14,c15; s70,c94; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.07±.12; $M_{\theta\theta}$1.50±.09; $M_{\phi\phi}$-1.57±.10; $M_{r\theta}$0.81±.24; $M_{\theta\phi}$-0.55±.08; $M_{\phi r}$-0.25±.25; Best double couple: $M_0$1.82100×10^{16} NP1:ϕ_s52.00000°, δ70.00000°, λ165.00000°. NP2: ϕ_s147.00000°, δ76.00000°, λ20.00000°. Principal axes: T 1.9700, Plg24.0000°, Azm11.0000°; N -0.3030, Plg66.0000°, Azm180.0000°; P -1.6720, Plg4.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **06** 00:20:05.8±0.4, 1°S±2°×12°1E±°, h15km±3km, M4.8/19, mb4.7/12, mB5.2/4, MLv5.0/19, Mw(mB)4.6/4, MwMwp5.6/1, Mwp5.7/1*

*NEIC **06** 00:20:09.4±2.3, 1°.24S±0°.05×120°.94E±0°.05, h38km±8km, mb4.6/40, Error ellipse: s-maj=8.3km s-min=7.3km az=222.0*

*IDC **06** 00:20:10.1±2.0, 1°.42S×120°.70E, h52km±21km, mb3.8/16, mb1 4.0/20, mb1mx3.8/49, mbtmp4.2/20, ML3.9/3, MS3.6/29, Ms1 3.7/29, ms1mx3.6/39, Error ellipse: s-maj=18.6km s-min=10.9km az=87.0*

ISC 06 00:20:08.5±0.4**, 1°.33S**±0°.04×**120°.90E**±0°.05**, h35km, n127, σ1ˢ.67**/116**, mb4.5**/40**, MS3.6**/23**, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
APSI	Ampana	0.85	61	P	Pn	00 20 21.4	-2.6
APSI				S	Sn	00 20 32.5	-2.7
LUWI	Luwuk	1.89	81		Pn	00 20 37.2	-1.0
LUWI				Sn	Sn	00 21 03.6	+2.7
MPSI	Mapaga	1.93	329	P	Pn	00 20 34.6	-4.3
TTSI	Tana Toraja	2.02	212	P	Pn	00 20 41.0	+0.9
MRSI	Marisa	2.07	30	P	Pn	00 20 37.7	-3.0
MRSI				S	Sn	00 21 03.6	-1.7
TOLI2	Tolitoli	2.42	357	Pn	Pn	00 20 43.0	-2.6
TOLI2				Sn	Sn	00 21 15.4	+1.4
GTOI	Gorontalo	2.87	47	P	Pn	00 20 50.4	-1.3
KKSI	Kolaka, Sulawe	2.92	165	P	Pn	00 20 52.6	+0.1
PMSI	Majene	2.94	223	P	Pn	00 20 54.1	+1.4
BNSI	Bone	3.16	195	P	Pn	00 20 56.9	+1.2
KAPI	Kappang	3.84	197	P	Pn	00 21 05.7	+0.6
	28nm,0.3s,baz=24,slow=8.2,SNR=54						
KAPI				S	Sn	00 21 46.2	-2.9
	21nm,0.3s,baz=72,slow=20,SNR=3.6						
KAPI				LR	LR	00 22 55.1	
	comp=Z,2μm,19.4s,baz=28,slow=45						
KAPI	Kappang	3.84	197	Pn	Pn	00 21 05.4	+0.2
KAPI	Kappang	3.84	197	P	Pn	00 21 05.9	+0.8
BKB	Balikpapan	4.01	271	Pn	Pn	00 21 08.5	+1.1
BKB	Balikpapan	4.01	271	P	Pn	00 21 08.8	+1.4
BKSI	Bulukumba	4.05	191	P	Pn	00 21 08.4	+0.4
MKS	Makassar	4.12	200	P	Pn	00 21 10.1	+1.1
MNI	Manado	4.80	55	P	Pn	00 21 19.0	+0.6
BSSI	Bau Bau, Buton	4.80	185	P	Pn	00 21 18.3	-0.1
KBKI	Kotabaru	5.12	247	P	Pn	00 21 23.6	+0.8
	3.1nm4μm367nm,0.7s						
SANI	Sanana	5.13	98	P	Pn	00 21 20.1	-2.8
	0.4nm1μm50nm,0.7s						
MTKI	Muara Teweh, K	6.02	274	P	Pn	00 21 34.3	-0.8
	2.2nm234nm,0.7s						
BBKI	Banjar Baru	6.42	251	P	Pn	00 21 40.8	+0.2
	0.8nm114nm,0.9s						
PKKI	Palangkaraya	6.99	262	P	Pn	00 21 48.9	+0.5
	1.5nm3μm282nm,0.8s						
MMRI	Maumere	7.38	170	Pn	Pn	00 21 54.0	+0.1
EDFI	Ende, Flores	7.42	174	P	Pn	00 21 53.7	-0.7
	0.0nm8.6nm,1.0s						
KRAI	Karang Ratu	7.74	105	P	Pn	00 21 56.3	-2.5
	0.2nm56nm,1.0s						
PLAI	Plampang	8.08	203	P	Pn	00 22 03.3	-0.1
	42nm,0.9s						
TWSI	Taliwang, Sumb	8.38	208	P	Pn	00 22 04.8	-2.8
	21nm,0.9s						
WBSI	Waikabubak, Su	8.40	190	P	Pn	00 22 09.3	+1.5
	815nm86nm,0.9s						
KLNI	Mataram	8.52	214	P	Pn	00 22 10.4	+0.9
	35nm,1.2s						
SOEI	Soe	9.02	158	Pn	Pn	00 22 18.4	+2.0
BATI	Baumata	9.24	163	P	Pn	00 22 22.1	+2.7
	2.2nm,0.3s,baz=163,slow=6.1,SNR=11						
BATI				LR	LR	00 26 09.3	
	comp=Z,1μm,20.3s,baz=44,slow=39						
BATI	Baumata	9.24	163	P	Pn	00 22 22.4	+3.0
	38nm,1.4s						
STKI	Sintang	9.53	278	P	Pn	00 22 22.2	-1.1
	23μm28nm,0.5s						
DAV	Davao City (W)	9.55	29	P	Pn	00 22 29.2	+5.6
	23nm,0.3s,baz=230,slow=17,SNR=1.4						
DAV				S	Sn	00 24 15.5	+5.7
	33nm,0.3s,baz=287,slow=19,SNR=1.8						
DAV				LR	LR	00 26 21.8	
	comp=Z,633nm,19.4s,baz=165,slow=38						
JAGI	Jajag, Banyuwa	9.78	223		Pn	00 22 29.4	+2.7
SIJI	Sorong	10.37	88	LR	LR	00 27 23.8	
	comp=Z,267nm,21.8s,baz=294,slow=41						
FAKI	Fak Fak	11.45	98	Pn	Pn	00 22 47.8	-1.8
LEM	Lembang	14.33	247	LR	LR	00 30 38.5	
	comp=Z,554nm,18.0s,baz=152,slow=44						
MTN	Manton Dam	15.29	139	Pn	Pn	00 23 42.5	+0.7
MTN				IAmb	IAmb	00 24 01.8	
	comp=Z,46nm,1.5s						
KNRA	Kununurra	16.23	152	Pn	Pn	00 23 54.5	+0.6
FITZ	Fitzroy Crossi	17.31	165	P	P	00 24 09.2	+0.6
	comp=Z,0.1nm,0.3s,baz=356,slow=9.7,SNR=7.5						
FITZ				LR	LR	00 32 20.4	
	comp=Z,194nm,19.2s,baz=350,slow=42						
FITZ	Fitzroy Crossi	17.31	165		P	00 24 08.7	+0.1
JAY	Jayapura	19.82	94	LR	LR	00 34 39.1	
	comp=Z,146nm,21.8s,baz=240,slow=43						
PSA00	Pilbara Seismi	20.15	183	P	Pn	00 24 42.2	+0.3
RPSI	Rantau Prapat	22.33	280	P	P	00 25 03.9	+0.4
RPSI				IAmb	IAmb	00 25 09.3	
	comp=Z,15nm,0.8s						
RPSI	Rantau Prapat	22.33	280	P	P	00 25 03.1	-0.4
PSI	Prapat	22.35	281	P	P	00 25 03.1	-0.7
	comp=Z,12nm,0.9s,baz=1.9,slow=2.6,SNR=6.0						
PSI				LR	LR	00 34 54.2	
	comp=Z,297nm,19.1s,baz=89,slow=40						
PSI	Prapat	22.35	281	P	P	00 25 03.5	-0.3
PSI				pP	pP	00 25 07.2	-5.9
WRAB	Tennant Creek	22.70	145	P	P	00 25 06.8	-0.4
WRAB				IAmb	IAmb	00 25 27.4	
	comp=Z,16nm,0.9s						
WRA	Warramunga Arr	22.70	145	P	P	00 25 06.5	-0.8
	comp=Z,5.1nm,0.8s,baz=327,slow=9.2,SNR=27						
WRA				LR	LR	00 34 37.0	
	comp=Z,229nm,21.4s,baz=245,slow=38						
WRA	Warramunga Arr	22.70	145	P	P	00 25 06.8	-0.4
WB2	Warramunga Arr	22.70	145	P	P	00 25 06.9	-0.4
WB2				IAmb	IAmb	00 25 17.0	
	comp=Z,17nm,1.0s						
WR0	Warramunga Arr	22.82	145	P	P	00 25 08.1	-0.5
WR0				IAmb	IAmb	00 25 24.5	
	comp=Z,38nm,1.4s						
GSI	Gunungsitoli	23.47	276	P	P	00 25 15.0	-0.2
GSI				IAmb	IAmb	00 25 21.2	
	comp=Z,30nm,1.1s						
TPUB	Ta-pu	24.48	359	P	P	00 25 23.8	-0.6
YULB	Yu-li	24.57	1	P	P	00 25 24.4	-0.9
SSLB	Suanglung	24.96	0	P	P	00 25 27.6	-1.3
SSLB				IAmb	IAmb	00 25 33.6	
	comp=Z,30nm,1.1s						
COEN	Coen	25.35	121	P	P	00 25 31.5	-1.0
COEN				IAmb	IAmb	00 25 59.9	
	comp=Z,14nm,1.1s						
AS31	Alice Springs	25.54	151	P	P	00 25 35.2	+1.1
ASAR	Alice Springs	25.54	151	P	P	00 25 35.0	+0.9
	comp=Z,2.2nm,0.7s,baz=330,slow=8.3,SNR=14						
ASAR	Alice Springs	25.54	151	P	P	00 25 35.0	+0.9
GUMO	Guam	28.00	57	LR	LR	00 36 43.6	
	comp=Z,67nm,22.0s,baz=232,slow=35						
JOW	Kunigami	28.88	14	LR	LR	00 37 12.8	
	comp=Z,106nm,20.3s,baz=310,slow=35						
CMAR	Chiang Mai Arr	29.21	313	P	P	00 26 07.4	+0.4
	comp=Z,0.7nm,0.3s,baz=140,slow=7.5,SNR=2.7						
CMAR				LR	LR	00 40 06.3	
	comp=Z,98nm,19.6s,baz=175,slow=41						
CMAR	Chiang Mai Arr	29.21	313	P	P	00 26 06.9	-0.2
CHTO	Chiang Mai	29.44	314	P	P	00 26 09.6	+0.5
NJ2	Nanjing	33.25	357	*e*P	P	00 26 43.6	+1.1
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
ENH	Enshi	33.25	342	P	P	00 26 41.6	-0.9
ENH				IAmb	IAmb	00 26 46.8	
	comp=Z,9.2nm,0.7s						
JCJ	Chichijima	34.91	34	LR	LR	00 43 28.9	
	comp=Z,54nm,18.8s,baz=174,slow=40						
CD2	Chengdu	35.97	334	*e*P	P	00 27 07.0	+0.9
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
STKA	Stephens Creek	36.12	149	P	P	00 27 07.5	+0.1
	comp=Z,2.2nm,0.7s,baz=354,slow=5.7,SNR=3.6						
STKA	Stephens Creek	36.12	149	P	P	00 27 06.8	-0.5
XAN	Xi'an	36.94	343	P	P	00 27 18.4	+4.1
XAN				pP	pP	00 27 22.2	-2.0
XAN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SHL	Shillong	38.76	316	P	P	00 27 30.4	+0.3
KSAR	Wonju Array Be	39.11	9	P	P	00 27 32.3	-0.3
KSRS	Korea Array	39.13	9	P	P	00 27 33.6	+1.0
	comp=Z,2.9nm,0.8s,baz=192,slow=10,SNR=5.7						
KSRS				LR	LR	00 43 16.8	
	comp=Z,82nm,21.0s,baz=194,slow=35						
MAT	Matsushiro	40.97	21	P	P	00 27 47.7	-0.3
MAT				*e*S	S	00 33 54.2	-3.6
MJAR	Matsushiro Arr	40.97	21	P	P	00 27 49.0	+0.9
	comp=Z,2.6nm,0.7s,baz=192,slow=8.9,SNR=9.9						
MJAR				LR	LR	00 43 43.9	
	comp=Z,45nm,20.2s,baz=210,slow=34						
MJAR	Matsushiro Arr	40.97	21	P	P	00 27 49.4	+1.4
BJT	Baijiatuau	41.37	354	P	P	00 27 53.2	+2.0
BJT				IAmb	IAmb	00 27 55.5	
	comp=Z,7.4nm,0.7s						
BJI	Beijing	41.39	355	P	P	00 27 55.0	+3.6
BJI				pmax	pmax		
	comp=Z,13nm,0.7s						
LSA	Lhasa	41.94	320	P	P	00 27 58.1	+1.5
LSA				IAmb	IAmb	00 28 03.4	
	comp=Z,5.2nm,0.6s						
CAN	Canberra	42.74	145	P	P	00 28 02.8	+0.2
CAN				IAmb	IAmb	00 28 07.0	
	comp=Z,27nm,1.4s						
HHC	Hu-ho-hao-te	42.83	350	*e*P	P	00 28 05.7	+2.5
HHC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,85nm,5.7s						
GTA	Gaotai	44.92	337	*e*P	P	00 28 21.8	+1.7
GTA				pP	pP	00 28 29.4	-1.0
GTA				sP	sP	00 28 33.8	-0.7
GTA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,57nm,4.7s						
GTA				LR	LR		
	comp=N,69nm,14.9s						
GTA				LR	LR		
	comp=E,110nm,16.7s						
GTA				LR	LR		
	comp=Z,100nm,16.7s						
USRK	Ussuriysk Ar.	46.39	11	LR	LR	00 46 52.6	
	comp=Z,63nm,21.6s,baz=209,slow=34						
ASAJ	Asahikawa	49.22	21	P	P	00 28 54.2	+0.8
	comp=Z,2.9nm,0.8s,baz=213,slow=17,SNR=1.8						
ULN	Ulaanbaatar	50.46	348	P	P	00 29 02.2	-0.8
ULN				IAmb	IAmb	00 29 08.7	
	comp=Z,4.2nm,0.8s						
SONM	Songino Array	50.57	347	P	P	00 29 02.8	-1.0
	comp=Z,0.9nm,0.5s,baz=162,slow=6.1,SNR=3.8						
SONM				LR	LR	00 52 50.5	
	comp=Z,45nm,18.1s,baz=146,slow=39						
SONM	Songino Array	50.57	347	P	P	00 29 02.7	-1.0
KLR	Kul'dur	51.22	9	P	P	00 29 08.7	+0.2
	comp=Z,0.7nm,0.4s,baz=203,slow=17,SNR=2.3						
WMQ	Urumqi	53.87	331	*e*P	P	00 29 29.9	+1.6
KSH	Kashi	57.80	320	P	P	00 30 01.5	+4.9
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MK31	Makanchi Array	58.67	330	P	P	00 30 01.8	-0.6
MK31				IAmb	IAmb	00 30 12.5	
	comp=Z,5.0nm,1.2s						
MKAR	Makanchi Array	58.67	330	P	P	00 30 01.7	-0.7
	comp=Z,1.0nm,0.5s,baz=122,slow=9.3,SNR=12						
MKAR	Makanchi Array	58.67	330	P	P	00 30 01.4	-1.0
MAKZ	Makanchi	58.83	330	P	P	00 30 03.4	-0.2
MAKZ				IAmb	IAmb	00 30 11.6	
	comp=Z,7.2nm,1.3s						
KBL	Kabul	60.22	312	P	P	00 30 13.4	-0.2
AAK	Ala-Archa	60.45	322	P	P	00 30 15.3	+0.4
	comp=Z,0.7nm,0.3s,baz=169,slow=5.2,SNR=2.3						
GAR	Garm	61.30	317	P	P	00 30 20.8	0.0
BTK	Batken	61.47	318	P	P	00 30 21.9	0.0
BTK				IAmb	IAmb	00 30 27.3	
	comp=Z,12nm,1.5s						
CHGR	Chuyangaron	61.94	316	P	P	00 30 25.5	+0.4
PETK	Petropavlovsk-	62.33	24	P	P	00 30 29.2	+1.9
	comp=Z,2.7nm,0.9s,baz=224,slow=4.0,SNR=2.1						
PETK				LR	LR	00 56 18.6	
	comp=Z,48nm,21.7s,baz=174,slow=35						
ZAA0	Zalesovo Array	62.67	337	P	P	00 30 27.6	-2.0
ZAA0				IAmb	IAmb	00 30 34.1	
	comp=Z,7.0nm,1.1s						
ZALV	Zalesovo Beam	62.67	337	P	P	00 30 27.6	-1.9
	comp=Z,1.0nm,0.5s,baz=131,slow=6.5,SNR=5.7						
ZALV				LR	LR	00 57 53.5	
	comp=Z,33nm,21.2s,baz=118,slow=36						
ZALV	Zalesovo Beam	62.67	337	P	P	00 30 26.9	-2.7
KK31	Karatay Array	63.18	321	P	P	00 30 32.0	-1.2
KK31				IAmb	IAmb	00 30 46.1	
	comp=Z,4.0nm,1.3s						
KKAR	Karatay Array	63.18	321	P	P	00 30 32.3	-0.9
BRVK	Borovoye	68.62	330	P	P	00 31 08.0	0.0
GEYT	Alibeck	69.67	311	LR	LR	01 07 02.9	
	comp=Z,43nm,19.0s,baz=0.0,slow=40						
ABKAR	Akbulak array	72.51	323	P	P	00 31 30.3	-1.4
ABKAR	Akbulak array	72.51	323	P	P	00 31 30.7	-1.0
ABKAR				IAmb	IAmb	00 31 49.3	
	comp=Z,3.7nm,1.2s						
NRIK	Noril'sk	74.04	348	P	P	00 31 40.0	-0.3
	comp=Z,1.0nm,0.5s,baz=141,slow=6.0,SNR=1.1						
MAW	Mawson	77.05	199	LR	LR	01 00 35.6	
	comp=Z,81nm,21.1s,baz=60,slow=32						
VNDA	Vanda	79.24	172	P	P	00 32 10.0	+0.4
	comp=Z,0.9nm,1.0s,baz=312,slow=4.0,SNR=4.4						
VNDA				LR	LR	01 08 49.4	
	comp=Z,45nm,19.5s,baz=321,slow=37						
VNDA	Vanda	79.24	172	P	P	00 32 10.0	+0.4
KMBO	Kilima Mbogo	83.63	269	LR	LR	01 07 13.4	
	comp=Z,62nm,18.5s,baz=122,slow=34						
QSPA	South Pole Qui	88.62	180	P	P	00 32 57.3	-0.5
BRTR	Keskin Array B	88.73	310	LR	LR	01 18 44.5	
	comp=Z,18nm,21.2s,baz=122,slow=40						
PPT	Papeete	89.15	107	LR	LR	01 14 02.4	
	comp=Z,17nm,18.2s,baz=186,slow=36						
AKASG	Malin Array Be	92.08	321	LR	LR	01 19 13.2	
	comp=Z,26nm,21.6s,baz=100,slow=38						
ARCES	ARCESS Array B	93.13	339	LR	LR	01 19 36.9	
	comp=Z,26nm,18.5s,baz=70,slow=38						
BOSA	Boshof	94.33	241	LR	LR	01 09 29.2	
	comp=Z,60nm,20.1s,baz=164,slow=31						
INK	Inuvik	96.95	21	LR	LR	01 18 49.0	
	comp=Z,34nm,18.4s,baz=44,slow=36						
LPAZ	La Paz	160.36	153	PKPab	PKPab	00 40 46.4	-0.4
	comp=Z,0.6nm,0.7s,baz=225,slow=5.7,SNR=2.1						

NEIC 06 00:24:11.0±0.7**, 37°.05N**±0°.02×**97°.52W**±0°.02**, h7km**±4km**, Error ellipse: s-maj=2.8km s-min=1.5km az=214.0, Kansas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAN13	South Haven SW	0.05	139	Pg	Pg	00 24 12.5	-0.1
KAN13				Sg	Sg	00 24 13.7	-0.1
KS20	Mayfield South	0.18	351		Pg	00 24 14.4	-0.2
KS20				Sg	Sg	00 24 17.1	0.0
KAN17	Caldwell West	0.20	267		Pg	00 24 14.7	-0.2
KAN17				Sg	Sg	00 24 17.5	-0.1
KS21	Milan North St	0.26	334		Pg	00 24 16.0	-0.2
KS21					Sg	00 24 19.6	0.0
KAN05	Bluff City Nor	0.29	281		Pg	00 24 16.4	-0.3
KAN06	Argonia West S	0.33	306		Pg	00 24 17.3	-0.3
KAN06					Sg	00 24 21.9	0.0
GC02	Grant County #	0.34	234		Pg	00 24 17.4	-0.2
KAN14	Manchester OK	0.37	255		Pg	00 24 17.9	-0.2
BLOK	Blackwell	0.38	140	Pg	Pg	00 24 18.5	+0.1
KAN08	Anthony NE Sta	0.40	296		Pg	00 24 18.5	-0.3
KAN08	Anthony NE Sta	0.40	296		Sg	00 24 24.1	0.0
KAN12	Harper NE Stat	0.45	303		Pg	00 24 19.6	-0.2
KAN12	Harper NE Stat	0.45	303		Sg	00 24 25.7	0.0
KAN10	Anthony SW Sta	0.47	279		Pg	00 24 19.7	-0.3
KAN10	Anthony SW Sta	0.47	279		Sg	00 24 26.1	0.0
OK032	Salt Plains WL	0.61	246		Pg	00 24 22.3	-0.4
OK032	Salt Plains WL	0.61	246		Sg	00 24 30.6	0.0
CROK	Carrier	0.66	214		Pg	00 24 23.5	-0.2
T35A	Sooner Cattle	0.82	99		Pg	00 24 26.5	-0.2
QUOK	Quay	1.10	143	Pg	Pg	00 24 31.8	-0.3
OK031	S. Brethren Rd	1.23	153		Pb	00 24 34.0	-0.6
OK029	Liberty Lake	1.25	178		Pn	00 24 34.4	-0.6
U32A	Winter Ranch,	1.37	241		Pn	00 24 35.9	-0.7
OK025	Westminster Rd	1.48	174		Pn	00 24 38.1	+0.1
OKCFA	Oklahoma City	1.64	178		Pn	00 24 40.6	+0.4
OKCSW	OKLAHOMA CITY	1.65	178		Pn	00 24 40.9	+0.5
R32A	Long Quarter,	1.66	326	Pn	Pn	00 24 41.0	+0.4
FNO	Franklin	1.79	177		Pn	00 24 43.0	+0.5
KSU1	Kansas State U	2.17	19	Pn	Pn	00 24 47.8	+0.2
X34A	Smith Ranch, M	2.46	186		Pn	00 24 51.9	+0.3
CBKS	Cedar Bluff	2.48	316	Pn	Pn	00 24 52.3	+0.4
WMOK	Wichita Mounta	2.53	204		Pn	00 24 52.6	+0.1
U38A	Gravette	2.59	103		Pn	00 24 54.3	+0.9
HHAR	Hobbs	2.98	104	Pn	Pn	00 24 59.3	+0.6
X37A	Clayton	3.02	144		Pn	00 25 00.5	+1.3
LOOK	Love County	3.07	175	Pn	Pn	00 25 01.1	+1.2
S39A	Bolivar	3.40	78		Pn	00 25 05.0	+0.4
W39A	Magazine	3.55	120	IAmb_Lg		00 26 07.1	
	comp=Z,15nm,0.8s						
N33A	J Bar K, Exete	3.68	1	Pn	Pn	00 25 08.2	-0.1
U40A	Yellville	3.81	99		Pn	00 25 10.8	+0.6
AMTX	Amarillo	4.01	239	IAmb_Lg		00 26 21.0	
	comp=Z,11nm,0.7s						
P38A	Dawn	4.05	49		Pn	00 25 13.6	+0.2
P38A				IAmb_Lg		00 26 29.9	
	comp=Z,10.0nm,0.7s						
MIAR	Mount Ida	4.07	127		Pn	00 25 13.8	+0.1
N35A	Tabor	4.08	20	IAmb_Lg		00 26 29.7	
	comp=Z,8.6nm,0.7s						
MGMO	Mountain Grove	4.20	87	Pn	Pn	00 25 16.5	+1.0
MGMO				IAmb_Lg		00 26 28.3	
	comp=Z,8.4nm,0.9s						
R40A	Maddies Statio	4.35	72	IAmb_Lg		00 26 34.1	
	comp=Z,7.9nm,0.8s						
FCAR	Ozark Folk Cen	4.50	103	IAmb_Lg		00 26 35.4	
	comp=Z,10nm,1.0s						
WHAR	Wooly Hollow	4.58	111		Pn	00 25 21.3	+0.6
P40A	Paris	4.96	58	IAmb_Lg		00 26 50.7	
	comp=Z,10nm,0.8s						
OGNE	Ogallala	5.24	319	IAmb_Lg		00 27 04.5	
	comp=Z,11nm,0.8s						
PBMO	Poplar Bluff	5.69	91	IAmb_Lg		00 27 12.4	
	comp=Z,7.8nm,0.7s						
WVT	Waverly	7.85	94	IAmb_Lg		00 28 34.2	
	comp=Z,5.6nm,1.3s						
U49A	Red Boiling Sp	9.44	90	IAmb_Lg		00 29 12.4	
	comp=Z,2.8nm,1.1s						

IDC 06 00:27:39.9±1.9**, 3°.17N**×**129°.06E, h0km, mb3.6**/5**, mb1 3.8**/5**, mb1mx3.5**/37**, mbtmp3.6**/5**, Error ellipse: s-maj=98.4km s-min=24.3km az=70.0, North of Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.40	189	P	P	00 32 29.8	+0.3
	0.9nm,0.8s,baz=20,slow=9.9,SNR=6.4						
WRA	Warramunga Arr	23.55	167	P	P	00 32 52.4	+0.3
	0.4nm,0.4s,baz=347,slow=11,SNR=15						
ASAR	Alice Springs	27.09	170	P	P	00 33 23.7	-0.9
	0.3nm,0.3s,baz=350,slow=7.5,SNR=5.2						
STKA	Stephens Creek	36.84	162	P	P	00 34 50.2	+0.2
	2.6nm,0.9s,baz=345,slow=12,SNR=1.8						
MKAR	Makanchi Array	59.35	324	P	P	00 37 44.0	+0.1
	0.3nm,0.5s,baz=127,slow=8.1,SNR=5.1						

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*KRNET **06** 00:59:42.8±0.1, 43°.42N×78°.30E, h21km, mb2.5*

*NNC **06** 00:59:42.3±0.4, 43°.37N×78°.29E, h0km, mb2.5, mpv2.6, Error ellipse: s-maj=6.3km s-min=2.2km az=179.0*

*SOME **06** 00:59:43.2, 43°.42N×78°.27E, h15km*

ISC 06 00:59:42.5±1.0**, 43°.41N**±0°.02×**78°.30E**±0°.02**, h12km**±11km**, n45, σ0ˢ.56**/89**, 16C-8D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KURS	Kuram	0.12	310	*e*P	Pb	00 59 47.1	+0.2
	baz=6.0						
KURS				*e*S	Sb	00 59 49.9	+2.0
	baz=6.0						
KURS	Kuram	0.12	310	*e*P	Pb	00 59 47.1	+0.2
	4.4nm,0.1s						
KURS				*e*S	Sb	00 59 49.9	+2.0
	16nm,0.2s						
KURS	Kuram	0.12	310	P	Pb	00 59 47.1	+0.2
	4.4nm,0.1s						
KURS				S	Sb	00 59 49.9	+2.0
	16nm,0.2s						
KPKS	Kokpek	0.29	79⇑	*e*P	Pb	00 59 49.2	-0.5
	baz=81						
KPKS			⇑	*e*S	Sb	00 59 53.8	-0.7
	baz=81						
KPKS	Kokpek	0.29	79⇑	*e*P	Pb	00 59 49.2	-0.5
	25nm,0.1s						
KPKS				*e*S	Sb	00 59 53.8	-0.7
	42nm,0.1s						
SATY	Saty	0.36	167⇓	*e*P	Pb	00 59 50.6	-0.3
	baz=68						
SATY			⇓	*e*S	Sb	00 59 56.0	-0.6
	baz=68						
SATY	Saty	0.36	167⇓	*e*P	Pb	00 59 50.6	-0.3
	7.9nm,0.1s						
SATY				*e*S	Sb	00 59 56.0	-0.6
	34nm,0.1s						
SATY	Saty	0.36	167	P	Pb	00 59 50.6	-0.3
	13nm,0.1s						
SATY				S	Sb	00 59 56.1	-0.6
	34nm,0.1s						
UZB	Uzynbulak	0.59	116	*e*P	Pg	00 59 54.2	+0.2
	baz=17						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
UZB				eS	Sg	01 00 02.2	+0.4
	baz=17						
UZB	Uzynbulak	0.59	116	eP	Pg	00 59 54.2	+0.2
	2.2nm,0.1s						
UZB				eS	Sg	01 00 02.2	+0.4
	38nm,0.1s						
UZB	Uzynbulak	0.59	116	P	Pg	00 59 54.2	+0.2
	2.2nm,0.1s						
UZB				S	Sg	01 00 02.2	+0.4
	38nm,0.1s						
ANVS	Anan'yevo	0.78	217	⇓iP	Pg	00 59 57.7	+0.1
	baz=16						
ANVS				⇓iS	Sb	01 00 08.6	-0.1
	baz=16						
ARXS	Arharly	0.87	337	eP	Pg	00 59 58.8	-0.5
	1.0nm,0.1s						
ARXS				eS	Sg	01 00 10.1	-0.6
	3.6nm,0.1s						
PDGK	Podgornoye	0.87	95	P	Pg	00 59 59.2	-0.2
	0.5nm,0.1s						
PDGK				S	Sg	01 00 10.6	-0.2
	2.5nm,0.2s						
PDGK	Podgornoye	0.87	95	⇓P	Pg	00 59 59.6	+0.3
	3.9nm,1.2s						
PDGK				⇑S	Sg	01 00 10.4	-0.3
	1.9nm,0.4s						
KOTS	Kotyrbulak	0.88	259	eP	Pg	00 59 59.7	+0.2
	baz=58						
KOTS				eS	Sb	01 00 11.5	-0.2
	baz=58						
KOTS	Kotyrbulak	0.88	259	eP	Pg	00 59 59.7	+0.2
	2.7nm,0.2s						
KOTS				eS	Sb	01 00 11.5	-0.2
	8.7nm,0.3s						
KOTS	Kotyrbulak	0.88	259	P	Pg	00 59 59.7	+0.2
	2.7nm,0.2s						
KOTS				S	Sb	01 00 11.5	-0.2
	8.7nm,0.3s						
PRZ	Przheval'sk	0.93	175	⇑iP	Pb	01 00 00.0	-0.7
	baz=75						
PRZ				⇑iS	Sg	01 00 12.7	+0.2
	baz=75						
MDOK	Medeo	0.95	255	⇓P	Pb	01 00 00.2	-0.8
	5.4nm,1.0s						
MDOK				⇓S	Sb	01 00 13.0	-0.5
	2.9nm,0.6s						
TNSS	Tian-Shan	1.06	250	P	Pb	01 00 02.7	-0.3
TNSS				S	Sb	01 00 16.7	-0.2
KTBS	Karatobe	1.21	285	eP	Pn	01 00 04.9	-0.5
	baz=85						
KTBS				eS	Sb	01 00 20.8	-0.4
	baz=85						
KTBS	Karatobe	1.21	285	eP	Pn	01 00 04.8	-0.5
	0.9nm,0.2s						
KTBS				eS	Sb	01 00 20.7	-0.4
	11nm,0.2s						
KTBS	Karatobe	1.21	285	P	Pn	01 00 04.8	-0.5
	0.9nm,0.2s						
KTBS				S	Sb	01 00 20.7	-0.4
	11nm,0.2s						
MTBS	Maitube	1.39	259	eP	Pb	01 00 08.8	+0.2
	baz=59						
MTBS				eS	Sg	01 00 27.0	-0.4
	baz=59						
MTBS	Maitube	1.39	259	eP	Pb	01 00 08.8	+0.2
	2.4nm,0.2s						
MTBS				eS	Sg	01 00 27.0	-0.4
	3.8nm,0.2s						
MTBS	Maitube	1.39	259	P	Pb	01 00 08.8	+0.2
	2.4nm,0.2s						
MTBS				S	Sg	01 00 27.0	-0.4
	3.8nm,0.2s						
KTMS	Ketmen	1.50	88	eP	Pb	01 00 10.4	+0.1
	baz=88						
KTMS				eS	Sb	01 00 30.0	+0.7
	baz=88						
KTMS	Ketmen	1.50	88	eP	Pb	01 00 10.4	+0.1
	0.1nm,0.0s						
KTMS				eS	Sb	01 00 30.0	+0.7
	4.3nm,0.2s						
KTMS	Ketmen	1.50	88	P	Pb	01 00 10.4	+0.1
	0.1nm,0.0s						
KTMS				S	Sb	01 00 30.0	+0.7
	4.3nm,0.2s						
KUU	Kurty	1.50	289	eP	Pb	01 00 10.3	-0.1
	baz=89						
KUU				eS	Sb	01 00 29.4	0.0
	baz=89						
KUU	Kurty	1.50	289	eP	Pb	01 00 10.3	-0.1
	0.9nm,0.3s						
KUU				eS	Sb	01 00 29.4	0.0
	4.5nm,0.3s						
KUU	Kurty	1.50	289	P	Pb	01 00 10.3	-0.1
	0.9nm,0.3s						
KUU				S	Sb	01 00 29.4	0.0
	4.5nm,0.3s						
KDJ	Kajisay	1.52	213	⇑iP	Pb	01 00 10.7	-0.1
	baz=13						
KDJ				⇑eS	Sb	01 00 30.6	+0.5
	baz=13						
TARG	Taragay, Kyrgy	1.72	192	⇑iP	Pb	01 00 14.7	+0.4
	baz=92						
TARG				⇑iS	Sb	01 00 37.0	+1.0
	baz=92						
DGS	Degeres	1.85	266	eP	Pb	01 00 16.2	-0.2
	baz=65						
DGS				eS	Sb	01 00 40.2	+0.7
	baz=65						
DGS	Degeres	1.85	266	eP	Pb	01 00 16.2	-0.2
	1.1nm,0.2s						
DGS				eS	Sb	01 00 40.2	+0.7
	3.4nm,0.5s						
DGS	Degeres	1.85	266	P	Pb	01 00 16.2	-0.2
	1.1nm,0.2s						
DGS				S	Sb	01 00 40.2	+0.7
	3.4nm,0.5s						
ULHL	Ulahol	1.91	233	⇑iP	Pb	01 00 17.0	-0.4
	baz=33						
ULHL				⇑iS	Sb	01 00 41.2	-0.1
	baz=33						
KRBS	Karabastau	1.93	279	eP	Pb	01 00 17.7	0.0
	baz=79						
KRBS				eS	Sb	01 00 42.4	+0.7
	baz=79						
KRBS	Karabastau	1.93	279	eP	Pb	01 00 17.7	0.0
	0.5nm,0.2s						
KRBS				eS	Sb	01 00 42.4	+0.7
	2.6nm,0.2s						
KRBS	Karabastau	1.93	279	P	Pb	01 00 17.7	0.0
	0.5nm,0.2s						
KRBS				S	Sb	01 00 42.4	+0.7
	2.6nm,0.2s						
BOOM	Boomskoye usch	1.96	243	⇑iP	Pb	01 00 18.7	+0.5
	baz=43						
BOOM				⇑iS	Sg	01 00 45.1	-0.4
	baz=43						
KAPS	Kapalarasan	2.02	22	eP	Pb	01 00 19.2	0.0
	0.9nm,0.2s						
KAPS				eS	Sb	01 00 45.1	+0.6
	2.0nm,0.2s						
TKM2	Tokmak 2	2.04	257	⇑Pg	Pn	01 00 17.7	+0.9
	3.7nm,1.4s						
TKM2				⇑Lg	Lg	01 00 44.3	
	0.9nm,0.5s						

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*DJA **06** 01:44:02.7±0.3, 6°S±2°×13°1E±°, h69^{km}±4^{km}, M5.0/21, mB5.4/11, mb4.9/21, MLv5.2/6, Mw(mB)4.8/11*

*IDC **06** 01:44:03.2±2.1, 6.°34S×131.°09E, h64^{km}±19^{km}, mb4.0/15, mb1 4.1/17, mb1mx3.9/34, mbtmp4.3/17, MS3.4/3, Ms1 3.4/3, ms1mx2.9/29, Error ellipse: s-maj=16.9km s-min=10.9km az=65.0*

*NEIC **06** 01:44:04.2±1.4, 6.°31S±0.°06×131.°07E±0.°04, h70^{km}±7^{km}, mb4.6/30, Error ellipse: s-maj=9.5km s-min=1.3km az=147.0*

ISC 06 01:44:02.4±0.4, **6.°42S**±0.°04×**131.°15E**±0.°05, **h62**^{km}, **n129**, σ1§**57**/123, **mb4.7**/47, **1C, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.56	174	Pn	Pn	01 44 32.3	+4.3
BNDI	Bandanaira	2.25	327	P	Pn	01 44 39.7	+2.3
BNDI				S	Sn	01 45 04.4	+0.3
FAKI	Fak Fak	3.65	18	Pn	Pn	01 44 57.2	+0.7
FAKI	Fak Fak	3.65	18	P	Pn	01 44 57.3	+0.9
MSAI	Masohi	3.77	324	P	Pn	01 45 00.2	+2.1
KRAI	Karang Ratu	4.12	318	P	Pn	01 45 05.7	+2.7
KRAI				S	Sn	01 45 50.2	+0.2
SIJI	Sorong	5.51	1	P	Pn	01 45 21.4	-0.7
	68nm,0.3s,baz=199,slow=19,SNR=14						
SIJI				S	Sn	01 46 17.7	-6.5
	87nm,0.3s,baz=90,slow=20,SNR=21						
SWI	Sorong	5.52	1	P	Pn	01 45 21.5	-0.6
	4.3nm18µm144nm,0.8s						
KDU	Kakadu	6.36	168	P	Pn	01 45 34.4	+0.7
	baz=6.3,SNR=99						
KDU				S	Sn	01 46 41.7	-3.2
	baz=6.3						
MTN	Manton Dam	6.38	180	P	Pn	01 45 35.0	+1.1
	baz=6.4,SNR=277						
MTN				S	Sn	01 46 44.3	-1.2
	baz=6.4						
MTN	Manton Dam	6.38	180	Pn	Pn	01 45 35.2	+1.3
SANI	Sanana	6.73	310	P	Pn	01 45 41.1	+2.4
	0.7nm2µm182nm,0.6s						
SOEI	Soe	7.57	244	Pn	Pn	01 45 50.6	+0.2
SOEI	Soe	7.57	244	P	Pn	01 45 51.7	+1.3
	1.5nm2µm163nm,0.7s						
BATI	Baumata	8.30	243	P	Pn	01 46 01.7	+1.4
	46nm,0.3s,baz=128,slow=5.4,SNR=16						
BATI				S	Sn	01 47 28.6	-4.1
	46nm,0.3s,baz=134,slow=23,SNR=9.6						
BATI				LR	LR	01 49 08.8	
	comp=Z,138nm,18.4s,baz=296,slow=37						
BATI	Baumata	8.30	243	P	Pn	01 46 02.2	+1.9
	1µm69nm,0.6s						
MMRI	Maumere	9.10	255	Pn	Pn	01 46 10.5	-0.7
KNRA	Kununurra	9.49	194	P	Pn	01 46 15.8	-0.6
	baz=9.5,SNR=401						
KNRA	Kununurra	9.49	194	Pn	Pn	01 46 15.9	-0.6
EDFI	Ende, Flores	9.65	256	P	Pn	01 46 19.2	+0.4
	9.4nm,0.7s						
GENI	Genyem	9.76	67	P	Pn	01 46 27.0	+6.8
JAY	Jayapura	10.29	68	P	Pn	01 46 28.6	+1.2
	0.6nm,0.3s,baz=211,slow=5.9,SNR=3.5						
JAY				S	Sn	01 48 16.6	-4.7
	0.7nm,0.3s,baz=287,slow=19,SNR=1.3						
KAPI	Kappang	11.42	276	P	Pn	01 46 41.1	-1.8
	0.2nm,0.3s,baz=178,slow=7.7,SNR=1.5						
MRSI	Marisa	11.46	306	P	Pn	01 46 45.7	+2.3
	1µm69nm,0.8s						
TTSI	Tana Toraja	11.78	286	P	Pn	01 46 47.3	-0.4
	1µm22nm,1.0s						
FITZ	Fitzroy Crossi	12.79	204	P	Pn	01 46 57.8	-3.7
	baz=13,SNR=406						
FITZ	Fitzroy Crossi	12.79	204	P	Pn	01 46 58.4	-3.1
	12nm,0.3s,baz=31,slow=11,SNR=227						
FITZ				S	Sn	01 49 12.0	-10
	13nm,0.3s,baz=83,slow=17,SNR=10.0						
FITZ	Fitzroy Crossi	12.79	204	Pn	Pn	01 46 59.4	-2.1
MPSI	Mapaga	13.08	300	P	Pn	01 47 07.9	+2.4
	11nm,1.0s						
WRAB	Tennant Creek	13.79	167		Pn	01 47 11.6	-3.4
WRA	Warramunga Arr	13.80	167	P	Pn	01 47 11.6	-3.6
	2.9nm,0.3s,baz=341,slow=14,SNR=98						
WRA				S	Sn	01 49 36.1	-11
	17nm,0.3s,baz=342,slow=21,SNR=15						
WB2	Warramunga Arr	13.80	167	Pn	Pn	01 47 11.9	-3.2
WR0	Warramunga Arr	13.86	167	Pn	Pn	01 47 12.9	-3.1
COEN	Coen	14.00	123	Pn	Pn	01 47 14.1	-3.9
KBKI	Kotabaru	15.24	281	P	P	01 47 36.1	-1.6
	1µm53nm,0.9s						
QIS	Mount Isa	16.27	151	P	Pn	01 47 45.5	-1.6
	baz=16,SNR=12						
BBKI	Banjar Baru	16.51	279	P	P	01 47 52.8	+1.0
	4µm103nm,1.1s						
MTSU	Mount Surprise	17.34	133	P	Pn	01 48 01.0	+0.6
	baz=17,SNR=25						
AS31	Alice Springs	17.35	171	Pn	Pn	01 47 57.8	-2.8
AS31				IAmb	IAmb	01 48 05.0	
	comp=Z,16nm,0.7s						
ASAR	Alice Springs	17.35	171	P	Pn	01 47 58.6	-1.9
	comp=Z,2.8nm,0.3s,baz=345,slow=14,SNR=80						
ASAR				S	Sn	01 51 01.2	-12
	comp=Z,3.3nm,0.3s,baz=346,slow=25,SNR=8.0						
ASAR	Alice Springs	17.35	171	Pn	Pn	01 47 57.8	-2.8
ASPA	Alice Springs	17.35	172	P	Pn	01 47 59.2	-1.3
	baz=17						
PSA00	Pilbara Seismi	18.61	215		P	01 48 13.2	-1.8
PSA00				IAmb	IAmb	01 48 17.1	
	comp=Z,53nm,0.8s						
WRKA	Warakurna	18.71	188	P	P	01 48 15.9	-0.2
	baz=19,SNR=126						
CTA	Charters Tower	19.99	134	P	Pn	01 48 33.2	+0.9
	comp=Z,1.6nm,0.5s,baz=255,slow=15,SNR=1.9						
CTA				S	S	01 52 15.2	+3.4
	comp=Z,3.4nm,0.7s,baz=20,slow=14,SNR=1.9						
PTKI	Pontianak	22.57	285	P	P	01 49 12.8	+15
CISI	Cisompet, Garu	23.18	266	P	P	01 49 03.9	-0.3
CISI				IAmb	IAmb	01 49 05.0	
	comp=Z,31nm,0.7s						
MEEK	Meekatharra	23.39	209	P	P	01 49 05.9	0.0
	baz=24,SNR=5.9						
QLP	Quilpie	23.61	150	P	P	01 49 09.7	+1.7
	baz=24,SNR=3.9						
CNJI	Cibinong	23.86	266	P	P	01 49 06.7	-3.7
	comp=Z,2µmcomp=Z,177nm,1.0s						
FORT	Forrest	24.41	186	P	P	01 49 16.0	+0.9
	baz=24,SNR=23						
FORT	Forrest	24.41	186	P	P	01 49 14.8	-0.3
BBOO	Buckleboo	26.65	171	P	P	01 49 36.3	+0.8
	baz=27,SNR=12						
MORW	Morawa	26.67	211	P	P	01 49 36.3	+0.6
	baz=27,SNR=5.7						
STKA	Stephens Creek	27.14	160	P	P	01 49 41.1	+1.2
	comp=Z,2.3nm,0.6s,baz=345,slow=9.7,SNR=5.8						
BLDU	Ballidu	27.63	208	P	P	01 49 45.6	+1.4
	baz=28,SNR=6.6						
NWAO	Narrogin (SRO)	29.38	204	P	P	01 50 00.6	+0.8
	comp=Z,4.7nm,0.5s,baz=20,slow=9.1,SNR=6.9						
NWAO	Narrogin (SRO)	29.38	204	IAmb	IAmb	01 50 08.8	
	comp=Z,33nm,1.4s						
RPSI	Rantau Prapat	33.42	285	P	P	01 50 35.6	+0.1
PSI	Prapat	33.45	285	P	P	01 50 35.6	-0.3
	comp=Z,5.5nm,0.5s,baz=187,slow=8.4,SNR=6.0						
TOO	Toolangi	33.65	159	P	P	01 50 38.6	+1.3
TOO				IAmb	IAmb	01 50 51.9	
	comp=Z,14nm,1.3s						
CHAI	Chaiyaphum	36.41	308	P	P	01 51 00.9	-0.4
	comp=Z,22nm,0.8s						
UTHA	Uthaitani	38.25	305	P	P	01 51 16.7	-0.2
	comp=Z,244nmcomp=Z,20nm,0.9s						
PHIT	Phitsanulok	38.38	308	P	P	01 51 18.2	+0.3
	comp=Z,66nm,1.0s						
NJ2	Nanjing	40.01	344	eP	P	01 51 33.3	+2.0
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
CM04	Chiang Mai Arr	40.19	308	P	P	01 51 33.9	+0.8
	comp=Z,7.7nm,1.0s						
CM09	Chiang Mai Arr	40.20	308	P	P	01 51 34.2	+1.0
	comp=Z,77nmcomp=Z,9.8nm,1.0s						
CM01	Chiang Mai Arr	40.22	308	P	P	01 51 34.0	+0.7
	comp=Z,10.0nm,1.0s						
CM05	Chiang Mai Arr	40.22	308	P	P	01 51 34.1	+0.8
	comp=Z,67nmcomp=Z,6.8nm,1.0s						
CM02	Chiang Mai Arr	40.23	308	P	P	01 51 34.3	+0.9
	comp=Z,66nmcomp=Z,7.4nm,1.1s						
CM31	Chiang Mai Arr	40.25	308	P	P	01 51 32.7	-0.9
CM31				IAmb	IAmb	01 51 35.0	
	comp=Z,9.3nm,1.1s						
CMAR	Chiang Mai Arr	40.25	308	P	P	01 51 33.5	-0.1
	comp=Z,2.9nm,0.3s,baz=138,slow=7.8,SNR=25						
CMAR	Chiang Mai Arr	40.25	308	P	P	01 51 33.0	-0.6
CM13	Chiang Mai Arr	40.26	308	P	P	01 51 34.2	+0.6
	comp=Z,142nmcomp=Z,7.2nm,1.0s						
CMMT	Chiang Mai	40.45	309	P	P	01 51 35.2	0.0
	comp=Z,16nm,1.1s						
CMMT	Chiang Mai	40.45	309	P	P	01 51 35.2	0.0
	comp=Z,15nm,1.1s						
CHTO	Chiang Mai	40.45	309	P	P	01 51 35.2	0.0
	comp=Z,16nm,1.1s						
CHTO	Chiang Mai	40.45	309	P	P	01 51 34.6	-0.6
CHTO				IAmb	IAmb	01 51 36.5	
	comp=Z,11nm,0.9s						
CHTO	Chiang Mai	40.45	309	P	P	01 51 35.2	0.0
	comp=Z,8.9nm,1.1s						
KMI	Kunming	41.80	320	⇑P	P	01 51 46.5	+0.1
KMI				pmax	pmax		
	comp=Z,15nm,0.9s						
MJAR	Matsushiro Arr	43.24	8	P	P	01 51 56.7	-1.1
	comp=Z,1.2nm,0.8s,baz=183,slow=8.8,SNR=4.1						
MJAR	Matsushiro Arr	43.24	8	IAmb	IAmb	01 52 03.8	
	comp=Z,2.6nm,1.4s						
XAN	Xi'an	45.41	334	P	P	01 52 14.4	-0.7
XAN				pP	pP	01 52 24.9	-3.9
XAN				pmax	pmax		
	comp=Z,11nm,1.0s						
BRDH	Bariadhala	48.27	308	LR	LR	02 15 33.9	
	comp=Z,47nm,20.6s,baz=54,slow=39						
HHC	Hu-ho-hao-te	50.36	341	eP	P	01 52 55.8	+2.4
HHC				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,84nm,6.6s						
GTA	Gaotai	54.03	330	eP	P	01 53 21.5	+0.8
GTA				pP	pP	01 53 37.1	+2.4
GTA				sP	pwP	01 53 46.8	+2.9
GTA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,31nm,4.4s						
GTA				LR	LR		
	comp=N,120nm,16.0s						
GTA				LR	LR		
	comp=E,77nm,15.6s						
GTA				LR	LR		
	comp=Z,80nm,17.4s						
RAMN	Ramite	54.40	310	eP	P	01 53 23.6	-0.1
	comp=Z,76nm,0.5s						
JIRN	Jiri	55.08	310	eP	P	01 53 28.2	-0.6
	comp=Z,32nm,0.6s						
PKI	Pulchoki	55.62	310	eP	P	01 53 31.7	-1.0
	comp=Z,18nm,0.6s						
PKIN	Phulchoki	55.64	310	eP	P	01 53 31.4	-1.3
DMN	Daman	55.88	309	eP	P	01 53 33.8	-0.6
GKN	Gorkha	56.43	310	eP	P	01 53 37.7	-0.6
KOLN	Koldanda	57.12	309	eP	P	01 53 42.8	-0.4
	comp=Z,32nm,0.8s						
DANN	Dangsing	57.28	310	eP	P	01 53 43.8	-0.6
	comp=Z,25nm,0.7s						
PYUN	Piuthan	57.75	309	eP	P	01 53 47.3	-0.3
	comp=Z,55nm,0.8s						
ULN	Ulaanbaatar	58.08	341	P	P	01 53 48.9	-0.6
ULN				IAmb	IAmb	01 53 51.9	
	comp=Z,3.5nm,0.9s						
SONM	Songino Array	58.27	341	P	P	01 53 51.3	+0.6
	comp=Z,1.5nm,0.5s,baz=163,slow=7.1,SNR=10						
SONM	Songino Array	58.27	341	P	P	01 53 51.5	+0.8
SONM				IAmb	IAmb	01 53 52.9	
	comp=Z,1.3nm,0.6s						
PETK	Petropavlovsk-	63.43	18	P	P	01 54 26.0	+0.4
	comp=Z,1.5nm,0.6s,baz=153,slow=4.5,SNR=4.1						
WMQ	Urumqi	63.54	326	eP	P	01 54 27.8	+1.2
WMQ				pmax	pmax		
	comp=Z,19nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,140nm,4.1s						
NIL	Nilore	67.71	310	P	P	01 54 52.5	-1.2
NIL				IAmb	IAmb	01 54 54.1	
	comp=Z,5.7nm,0.8s						
YAK	Yakutsk	68.26	359	P	P	01 54 56.1	-0.2
	baz=190,slow=3.3						
YAK	Yakutsk	68.26	359	P	P	01 54 56.0	-0.4
KSH	Kashi	68.37	317	P	P	01 54 59.1	+1.4
KSH				PcP	PcP	01 55 26.8	+3.9
KSH				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MK31	Makanchi Array	68.37	326	P	P	01 54 57.4	-0.1
MK31				IAmb	IAmb	01 54 59.0	
	comp=Z,4.7nm,0.6s						
MKAR	Makanchi Array	68.37	326	P	P	01 54 57.9	+0.4
	comp=Z,7.3nm,0.4s,baz=115,slow=8.8,SNR=89						
MKAR	Makanchi Array	68.37	326	P	P	01 54 57.1	-0.4
MAKZ	Makanchi	68.56	326	P	P	01 54 58.9	+0.2
AAK	Ala-Archa	70.84	319	P	P	01 55 13.5	+0.5
	comp=Z,1.5nm,0.5s,baz=107,slow=6.0,SNR=4.1						
AAK	Ala-Archa	70.84	319	IAmb	IAmb	01 55 14.9	
	comp=Z,8.4nm,1.4s						
SEY	Seymchan	71.03	10	P	P	01 55 13.8	+0.3
	comp=Z,1.6nm,0.5s,baz=104,slow=12,SNR=2.1						
KBL	Kabul	71.27	310	P	P	01 55 15.5	-0.3
KBL				IAmb	IAmb	01 55 17.0	
	comp=Z,6.5nm,0.9s						
ZAA0	Zalesovo Array	71.58	333	P	P	01 55 16.4	-0.5
ZALV	Zalesovo Beam	71.58	333	P	P	01 55 16.3	-0.6
	comp=Z,1.5nm,0.5s,baz=125,slow=4.9,SNR=6.3						
ZALV	Zalesovo Beam	71.58	333	P	P	01 55 16.1	-0.8
BTK	Batken	72.16	316	P	P	01 55 20.3	-0.6
BTK				IAmb	IAmb	01 55 23.1	
	comp=Z,3.8nm,0.6s						
CHGR	Chuyangaron	72.76	314	P	P	01 55 24.6	+0.2
VNDA	Vanda	72.89	173	P	P	01 55 25.6	+1.2
	comp=Z,0.7nm,0.6s,baz=309,slow=12,SNR=7.2						
VNDA	Vanda	72.89	173	IAmb	IAmb	01 55 26.6	
	comp=Z,2.3nm,1.1s						
KK31	Karatay Array	73.66	318	P	P	01 55 29.4	-0.2
KKAR	Karatay Array	73.66	318	P	P	01 55 30.2	+0.6
MAW	Mawson	75.90	202	P	P	01 55 43.2	+1.1
	comp=Z,1.2nm,0.5s,baz=111,slow=13,SNR=3.0						
MAW				LR	LR	02 26 12.9	
	comp=Z,44nm,20.5s,baz=60,slow=33						
MAW	Mawson	75.90	202	IAmb	IAmb	01 55 43.7	
	comp=Z,0.8nm,1.2s						
BRVK	Borovoye	78.26	327	P	P	01 55 54.6	-0.9
NRIK	Noril'sk	81.28	346	P	P	01 56 11.8	+0.3
	comp=Z,4.2nm,0.7s,baz=143,slow=7.2,SNR=6.7						
NRIK	Noril'sk	81.28	346	P	P	01 56 11.1	-0.5
NRIK				IAmb	IAmb	01 56 14.3	
	comp=Z,4.7nm,0.8s						
TORD	Torodi Ar. Bea	129.81	282	PKP	PKPdf	02 03 05.9	+0.1
	comp=Z,0.7nm,0.6s,baz=76,slow=2.0,SNR=5.5						
TORD	Torodi Ar. Bea	129.81	282		PKPdf	02 03 05.5	-0.4
LPAZ	La Paz	150.45	140	PKPbc	PKPbc	02 03 48.1	-0.8
	comp=Z,1.3nm,0.4s,baz=218,slow=6.9,SNR=10						

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*JMA **06** 02:00:10.3, 39.°64N×142.°11E, h49^{km}±1^{km}, M3.6*
JMA Felt I J1.

*NIED **06** 02:00:10.4, 39.°64N×142.°11E, h48^{km}, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}3.01; $M_{\theta\theta}$-0.83; $M_{\phi\phi}$-2.19; $M_{r\theta}$0.99; $M_{\theta\phi}$-0.78; $M_{\phi r}$3.25; Fault plane solution: $M_0$4.39000×10^{14} NP1:ϕ_s19.00000°, δ70.00000°, λ87.00000°. NP2:ϕ_s208.00000°, δ20.00000°, λ98.00000°.*

*IDC **06** 02:00:12.8±2.5, 39.°61N×142.°10E, h74^{km}±21^{km}, mb3.3/5, mb1 3.5/9, mb1mx3.2/53, mbtmp3.6/9, MS3.2/1, Ms1 3.2/1, ms1mx2.2/25 Error ellipse: s-maj=31.5km s-min=15.8km az=113.0*

ISC 06 02:00:10.8±1.1, **39.°63N**±0.°04×**142.°12E**±0.°08, **h45**^{km}±8^{km}, **n29**, σ1§**44**/32, **mb3.6**/5, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	0.24	257	P	Pn	02 00 18.8	-0.1
MIYJ				S	Sn	02 00 24.5	-0.2
JTH	Tanohata	0.36	327	P	Pn	02 00 19.9	-0.3
JTH				eS	Sn	02 00 26.4	-0.4
JKEN	Kujiedanarisaw	0.65	331	P	Pn	02 00 23.1	-0.6
JKEN				eS	Sn	02 00 32.5	-0.6
OFUJ	Ofunato	0.65	213	P	Pn	02 00 23.2	-0.5
OFUJ				eS	Sn	02 00 32.5	-0.6
JOM	Ohasama	0.66	256	P	Pn	02 00 23.6	-0.2
JOM				S	Sn	02 00 33.2	0.0
JKZ	Kuzumaki	0.70	300	P	Pn	02 00 24.1	-0.4
JKZ				S	Sn	02 00 33.9	-0.4
JANG	Nango	0.87	328	P	Pn	02 00 26.0	-0.7
JANG				S	Sn	02 00 37.5	-0.8
JMK	Ichinoseki	0.98	226	P	Pn	02 00 27.7	-0.4
JMK				eS	Sn	02 00 40.4	-0.3
JRG	Rokugo	1.18	259	P	Pn	02 00 30.4	-0.4
JAH	Hinai	1.27	296	P	Pn	02 00 31.9	-0.2
JIO	Ouri	1.32	207	P	Pn	02 00 32.4	-0.4
JTM	Tenmabayashi	1.41	325	P	Pn	02 00 33.8	-0.2
MJAR	Matsushiro Arr	4.36	226	P	Pn	02 01 15.9	+1.3
	0.2nm,0.3s,baz=36,slow=13,SNR=19						
MAT	Matsushiro	4.37	226	P	Pn	02 01 17.2	+2.6
MAT				eS	Sn	02 02 07.2	+3.0
ASAJ	Asahikawa	4.49	4	P	Pn	02 01 17.2	+0.9
	0.7nm,0.3s,baz=133,slow=25,SNR=2.8						
ASAJ				S	Sn	02 02 10.8	+3.5
	0.1nm,0.3s,baz=37,slow=33,SNR=1.9						
USRK	Ussuriysk Ar.	8.82	304	P	Pn	02 02 17.8	+2.1
	baz=108,slow=13,SNR=5.7						
KSRS	Korea Array	11.33	263	P	Pn	02 02 53.6	+3.6
	0.3nm,0.3s,baz=69,slow=14,SNR=2.4						
H11N2	WAKE ISLAND Hy	29.11	126	T	T	02 36 35.9	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=318,slow=76,SNR=87						
H11N1	**WAKE ISLAND Hy**	**29.12**	**126**	T	T	02 36 39.1	
	baz=318,slow=76,SNR=104						
H11N3	**WAKE ISLAND Hy**	**29.12**	**126**	T	T	02 36 39.7	
	baz=318,slow=76,SNR=66						
H11S1	**WAKE ISLAND Hy**	**29.90**	**128**	T	T	02 37 48.8	
	baz=319,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**29.91**	**128**	T	T	02 37 48.7	
	baz=319,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**29.92**	**128**	T	T	02 37 49.5	
	baz=319,slow=76,SNR=14						
DAV	**Davao City (W)**	**35.67**	**209**	LR	LR	02 20 44.8	
	comp=Z,40nm,20.6s,baz=104,slow=35						
ZALV	**Zalesovo Beam**	**40.62**	**310**	P	**P**	**02 07 45.1**	**-0.9**
	0.8nm,0.5s,baz=81,slow=9.6,SNR=5.3						
MKAR	**Makanchi Array**	**43.26**	**300**	P	**P**	**02 08 06.7**	**-1.0**
	0.7nm,0.7s,baz=80,slow=9.1,SNR=6.8						
ILAR	**Eielson Array**	**47.01**	**34**	P	**P**	**02 08 37.3**	**+0.1**
	0.3nm,0.7s,baz=264,slow=6.4,SNR=4.3						
WRA	**Warramunga Arr**	**59.71**	**188**	P	**P**	**02 10 09.4**	**-1.3**
	0.5nm,0.9s,baz=8.0,slow=8.4,SNR=1.7						
FINES	**FINESS Array B**	**66.78**	**332**	P	**P**	**02 10 55.6**	**-1.5**
	1.2nm,0.9s,baz=46,slow=6.0,SNR=4.7						

IDC ***06*** *02:02:20.8±1.3, 13°.62N×90°.35W, h0^{km}, mb3.9/6, mb1 4.1/9, mb1mx3.8/47, mbtmp3.8/9, ML3.6/3, MS3.2/1, Ms1 3.2/1, ms1mx2.5/28, Error ellipse: s-maj=47.7km s-min=17.6km az=40.0*
SNET ***06*** *02:02:21.2±1.4, 13°.45N×90°.80W, h17^{km}±6^{km}, ML3.5*
NEIC ***06*** *02:02:26.7±2.0, 13°.48N±0°.09×90°.53W±0°.07, h34^{km}±6^{km}, mb4.2/38, Error ellipse: s-maj=14.1km s-min=7.5km az=209.0*
GCG ***06*** *02:02:29.3±0.3, 13°.87N×90°.85W, h75^{km}±26^{km}, MD4.0*
ISC 06 02:02:25.1±0.9, **13°.33N**±0°.07×**90°.65W**±0°.06, **h38**^{km}±2^{km}, **n68**, σ1^s**35**/72, **mb4.2**/19, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**1.05**	**2**	eP	**Pn**	**02 02 44.2**	**+0.6**
SLOZ	**Alcaldia de Sa**	**1.09**	**51**	eP	**Pn**	**02 02 42.3**	**-1.5**
SLOZ				eS	**Sn**	**02 02 58.0**	**+0.3**
SLOZ				IAML		02 03 09.4	
	comp=Z,638nm,0.5s						
CEVE	**Cerro Verde**	**1.11**	**64**	eP	**Pn**	**02 02 42.7**	**-1.6**
CEVE				eS	**Sn**	**02 03 00.2**	**+1.6**
CEVE				IAML		02 03 06.4	
	comp=Z,4µm,0.7s						
SBLS	**San Blas**	**1.12**	**63**	eP	**Pn**	**02 02 42.6**	**-1.9**
FUG	**Fuego 3**	**1.12**	**350**	eP	**Pn**	**02 02 44.0**	**-0.5**
RTR	**El Retiro**	**1.12**	**60**	eP	**Pn**	**02 02 43.2**	**-1.2**
NBG	**Las Nubes**	**1.28**	**13**	eP	**Pn**	**02 02 47.5**	**+0.8**
BOQS	**Boqueron**	**1.39**	**73**	eP	**Pn**	**02 02 47.7**	**-0.5**
SNET	**Serv Nac Est T**	**1.42**	**75**	eP	**Pn**	**02 02 48.3**	**-0.2**
SNET				eS	**Sn**	**02 03 09.2**	**+3.2**
SNET				IAML		02 03 16.4	
	comp=Z,431nm,0.3s						
SNET	**Serv Nac Est T**	**1.42**	**75**	Pn	**Pn**	**02 02 46.4**	**-2.1**
UEES	**Universidad Ev**	**1.42**	**74**	eP	**Pn**	**02 02 48.4**	**-0.1**
UEES				IAML		02 03 15.1	
	comp=Z,514nm,0.3s						
LFRS	**El Faro**	**1.57**	**79**	eP	**Pn**	**02 02 49.9**	**-0.6**
SJTE	**Alcalda de S**	**1.62**	**80**	eP	**Pn**	**02 02 50.1**	**-1.1**
MTO3	**Montecristo**	**1.64**	**50**	eP	**Pn**	**02 02 51.1**	**-0.5**
MTO3				eS	**Sn**	**02 03 12.3**	**+0.7**
MTO3	**Montecristo**	**1.64**	**50**	Pn	**Pn**	**02 02 50.0**	**-1.6**
PAVA	**Las Pavas**	**1.71**	**77**	eP	**Pn**	**02 02 52.3**	**-0.1**
COEG	**Centro de Oper**	**1.74**	**80**	eP	**Pn**	**02 02 51.7**	**-1.2**
COEG				eS	**Sn**	**02 03 17.3**	**+3.3**
COEG				IAML		02 03 22.2	
	comp=Z,449nm,0.4s						
MRL	**Marmol**	**1.97**	**28**	eP	**Pn**	**02 02 57.4**	**+1.2**
COEB	**Comit de Eme**	**2.07**	**85**	eP	**Pn**	**02 02 57.8**	**+0.4**
CCIG	**Comitan**	**3.27**	**334**	Pn	**Pn**	**02 03 15.0**	**+1.0**
TGUH	**Tegucigalpa,Un**	**3.36**	**77**		**Pn**	**02 03 14.3**	**-0.9**
CRIN	**San Cristobal**	**3.56**	**100**	Pn	**Pn**	**02 03 15.8**	**-2.1**
CNGN	**Cerro Negro**	**3.94**	**102**	Pn	**Pn**	**02 03 21.9**	**-1.1**
CMIG	**Matias Romero**	**5.54**	**313**	Pn	**Pn**	**02 03 43.5**	**-1.5**
	comp=Z,0.9nm,0.3s,baz=119,slow=7.9,SNR=1.9						
CMIG				Sn	**Sn**	**02 04 45.5**	**-2.0**
	baz=236,slow=22,SNR=1.7						
CMIG				Lg	Lg	02 05 10.5	
	comp=Z,4.1nm,0.3s,baz=91,slow=22,SNR=5.0						
ORTG	**Ortega, Santa**	**5.87**	**120**	Pn	**Pn**	**02 03 50.1**	**+0.4**
JTS	**Las Juntas de**	**6.34**	**118**	Pn	**Pn**	**02 03 54.8**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=303,slow=23,SNR=1.6						
JTS				Sn	**Sn**	**02 05 08.2**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=40,slow=10,SNR=2.0						
JTS				Lg	Lg	02 05 39.0	
	comp=Z,0.3nm,0.3s,baz=223,slow=11,SNR=3.7						
RIMA	**Rio Macho**	**7.53**	**117**		**Pn**	**02 04 12.1**	**-0.5**
FSCY	**Frank Sound, G**	**10.86**	**56**	Pn	**Pn**	**02 04 56.1**	**-1.8**
ZAIG	**Zacatecas**	**14.71**	**311**	Pn	**Pn**	**02 05 51.9**	**+1.1**
Z47A	**Carrollton**	**19.92**	**6**	P	**P**	**02 06 52.7**	**-0.8**
Z47A				IAmb	IAmb	02 07 01.3	
	comp=Z,13nm,1.1s						
TXAR	**Lajitas Array**	**19.98**	**325**	P	**Pn**	**02 06 56.2**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=142,slow=11,SNR=18						
TXAR				PcP	**PcP**	**02 11 11.9**	**+1.9**
	comp=Z,0.0nm,0.3s,baz=167,slow=4.5,SNR=4.6						
TXAR	**Lajitas Array**	**19.98**	**325**	P	**P**	**02 06 55.4**	**+0.9**
TX31	**Lajitas Ar. Si**	**19.99**	**325**	P	**Pn**	**02 06 55.9**	**-0.5**
TX31				IAmb	IAmb	02 07 01.0	
	comp=Z,10nm,0.8s						
TX32	**Lajitas Array**	**19.99**	**325**		**Pn**	**02 06 56.4**	**0.0**
WLAR	**White Oak Lake**	**20.39**	**354**	P	**P**	**02 06 58.8**	**+0.2**
WLAR				IAmb	IAmb	02 07 19.4	
	comp=Z,8.3nm,0.8s						
X48A	**Hartselle**	**21.28**	**8**	P	**P**	**02 07 08.4**	**+0.1**
FPAL	**Fort Paine**	**21.60**	**11**	P	**P**	**02 07 11.0**	**-0.8**
WMOK	**Wichita Mounta**	**22.55**	**342**	P	**P**	**02 07 23.6**	**+1.7**
MNTX	**Cornudas Mount**	**22.74**	**326**	P	**P**	**02 07 23.8**	**-0.3**
MNTX				IAmb	IAmb	02 07 26.2	
	comp=Z,7.8nm,0.8s						
TKL	**Tuckaleechee C**	**23.08**	**14**	P	**P**	**02 07 26.0**	**-1.4**
	comp=Z,3.7nm,0.8s,baz=196,slow=12,SNR=4.5						
TKL				LR	LR	02 16 53.6	
	comp=Z,65nm,19.3s,baz=174,slow=38						
U49A	**Red Boiling Sp**	**23.49**	**10**	P	**P**	**02 07 30.9**	**-0.6**
U49A				IAmb	IAmb	02 07 33.8	
	comp=Z,10nm,1.2s						
S39A	**Bolivar**	**24.38**	**355**	P	**P**	**02 07 39.4**	**-0.3**
S39A				IAmb	IAmb	02 07 41.1	
	comp=Z,3.9nm,0.7s						
121A	**Cookes Peak, D**	**24.72**	**323**	P	**P**	**02 07 45.3**	**+2.2**
BNM	**Barren Site**	**25.30**	**328**	P	**P**	**02 07 50.1**	**+1.7**
LENM	**Lemitar**	**25.49**	**327**	P	**P**	**02 07 52.2**	**+2.1**
ANMO	**Albuquerque**	**25.84**	**329**	P	**P**	**02 07 54.4**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=165,slow=14,SNR=4.0						
MVCO	**Mesa Verde**	**28.64**	**329**	P	**P**	**02 08 19.7**	**+1.3**
PV12	**Saucer Basin,**	**29.65**	**330**	P	**P**	**02 08 28.4**	**+1.0**
MTPU	**Mount Pierson**	**31.18**	**326**	IAmb	IAmb	02 08 44.8	
	comp=Z,4.7nm,0.7s						
CCUT	**Cedar City**	**31.49**	**324**	P	**P**	**02 08 44.9**	**+1.2**
CCUT				IAmb	IAmb	02 08 47.3	
	comp=Z,6.2nm,1.4s						
P17A	**Butcher Ranch,**	**31.50**	**329**	IAmb	IAmb	02 08 45.9	
	comp=Z,3.5nm,0.8s						
SPR3	**Spring Creek 3**	**33.05**	**325**	P	**P**	**02 08 58.3**	**+0.9**
SPR3				IAmb	IAmb	02 08 60.0	
	comp=Z,5.2nm,1.3s						
PDAR	**Pinedale Array**	**33.58**	**334**	P	**P**	**02 09 01.7**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=133,slow=10,SNR=2.5						
PDAR				PcP	**PcP**	**02 11 41.6**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=130,slow=4.9,SNR=3.2						
REDW	**Red Top Meadow**	**34.61**	**334**	IAmb	IAmb	02 09 12.4	
	comp=Z,3.5nm,0.8s						
ELK	**Elko**	**34.77**	**326**	P	**P**	**02 09 12.7**	**+0.5**
NVAR	**Mina Array Bea**	**35.02**	**321**	P	**P**	**02 09 16.3**	**+1.9**
	comp=Z,1.3nm,0.6s,baz=138,slow=8.6,SNR=11						
NVAR				PcP	**PcP**	**02 11 48.0**	**+2.0**
	comp=Z,1.5nm,0.8s,baz=130,slow=3.9,SNR=7.9						
NVAR	**Mina Array Bea**	**35.02**	**321**	P	**P**	**02 09 15.5**	**+1.2**
NVAR				PcP	**PcP**	**02 11 47.1**	**+1.1**
KVN	**Kaiserville**	**35.28**	**322**	IAmb	IAmb	02 09 20.9	
	comp=Z,2.1nm,0.8s						
PAHR	**Pah Rah Range**	**36.46**	**321**	P	**P**	**02 09 27.7**	**+1.0**
PAHR				IAmb	IAmb	02 09 32.3	
	comp=Z,4.7nm,1.3s						
ULM	**Lac du Bonnet**	**37.06**	**354**	P	**P**	**02 09 28.4**	**-3.0**
	comp=Z,5.2nm,1.1s,baz=235,slow=5.4,SNR=3.7						
ULM	**Lac du Bonnet**	**37.06**	**354**	IAmb	IAmb	02 09 31.9	
	comp=Z,5.5nm,0.9s						
BEKR	**Beckworth**	**37.16**	**321**	IAmb	IAmb	02 09 36.5	
	comp=Z,3.5nm,1.1s						
I07A	**Izee**	**39.35**	**327**	IAmb	IAmb	02 09 53.0	
	comp=Z,3.4nm,1.0s						
PINE	**Pine Mountain**	**39.94**	**325**	P	**P**	**02 09 56.8**	**+0.8**
PINE				IAmb	IAmb	02 09 57.6	
	comp=Z,6.1nm,0.8s						
H04A	**Detroit Lake**	**41.20**	**325**	P	**P**	**02 10 06.7**	**+0.5**
ILAR	**Eielson Array**	**63.97**	**337**	P	**P**	**02 12 53.1**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=133,slow=4.3,SNR=7.2						
CMAR	**Chiang Mai Arr**	**147.03**	**343**	PKPbc	**PKPbc**	**02 22 04.7**	**0.0**
	comp=Z,2.0nm,0.7s,baz=335,slow=3.8,SNR=12						
CMAR	**Chiang Mai Arr**	**147.03**	**343**		**PKPdf**	**02 22 04.3**	**+1.6**

OSPL ***06*** *02:03:33.3±1.1, 18°.89N×67°.47W, h0^{km}±999^{km}, ML1.5*
NEIC ***06*** *02:03:34.7±2.0, 18°.73N±0°.06×67°.53W±0°.05, h27^{km}±9^{km}, Error ellipse: s-maj=10.1km s-min=3.0km az=218.0*
RSPR ***06*** *02:03:37.0, 18°.67N×67°.47W, h10^{km}±1^{km}, MD2.6/4*
ISC 06 02:03:34.3±1.8, **18°.7N**±0°.1×**67°.54W**±0°.06, **h27**^{km}, **n23**, σ0^s**84**/24, **3C-2D**, **Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.34**	**170**	⇑eP	**Pb**	**02 03 42.3**	**+0.2**
AGPR	**Aguadilla, PR**	**0.48**	**123**	⇑eP	**Pb**	**02 03 45.2**	**+0.9**
AGPR	**Aguadilla, PR**	**0.48**	**123**	eS	**Sb**	**02 03 50.6**	**-0.4**
AGPR	**Aguadilla, PR**	**0.48**	**123**		**Pb**	**02 03 45.2**	**+0.9**
AGPR				IAML		02 03 50.7	
	comp=E,28nm,0.2s						
AGPR	**Aguadilla, PR**	**0.48**	**123**		**Sb**	**02 03 50.6**	**-0.4**
AGPR	**Aguadilla, PR**	**0.48**	**123**	IAML		02 03 47.0	
	comp=N,30nm,2.2s						
AGPR	**Aguadilla, PR**	**0.48**	**123**	i P	**Pb**	**02 03 42.8**	**-1.4**
AGPR				eS	**Sb**	**02 03 49.8**	**-1.2**
AGPR				IAML		02 03 52.1	
	comp=Z,23nm,0.2s						
CRPR	**Cabo Rojo, PR**	**0.82**	**150**	⇓eP	**Pb**	**02 03 50.7**	**+0.7**
CRPR	**Cabo Rojo, PR**	**0.82**	**150**	eS	**Sb**	**02 04 00.8**	**+0.1**
CRPR	**Cabo Rojo, PR**	**0.82**	**150**		**Pb**	**02 03 50.7**	**+0.7**
CRPR					**Sb**	**02 04 00.8**	**+0.1**
CRPR	**Cabo Rojo, PR**	**0.82**	**150**	IAML		02 04 02.3	
	comp=E,11nm,2.4s						
CRPR				IAML		02 04 09.1	
	comp=N,12nm,1.1s						
CRPR	**Cabo Rojo, PR**	**0.82**	**150**	i P	**Pb**	**02 03 51.0**	**+1.0**
CRPR				IAML		02 04 05.8	
	comp=Z,19nm,1.4s						
PCDR	**Punta Cana, DR**	**0.83**	**255**	i P	**Pn**	**02 03 50.0**	**-0.1**
AOPR	**Arecibo Observ**	**0.83**	**117**	⇑eP	**Pb**	**02 03 50.5**	**+0.3**
AOPR	**Arecibo Observ**	**0.83**	**117**	eS	**Sb**	**02 04 00.5**	**-0.6**
AOPR	**Arecibo Observ**	**0.83**	**117**		**Pb**	**02 03 50.5**	**+0.3**
AOPR					**Sb**	**02 04 00.5**	**-0.6**
AOPR	**Arecibo Observ**	**0.83**	**117**	IAML		02 04 09.1	
	comp=N,15nm,0.4s						
MLPR	**Magueyes Islan**	**0.89**	**148**		**Pb**	**02 03 51.8**	**+0.7**
OBIP	**Obispado Ponce**	**1.12**	**127**	Pg	**Pb**	**02 03 56.1**	**+1.1**
CELP	**Cerrillos**	**1.12**	**125**	⇓eP	**Pn**	**02 03 53.9**	**-0.3**
CELP	**Cerrillos**	**1.12**	**125**	eS	**Sn**	**02 04 07.9**	**-0.8**
CELP	**Cerrillos**	**1.12**	**125**		**Pn**	**02 03 53.9**	**-0.3**
CELP					**Sn**	**02 04 07.9**	**-0.8**
GCPR	**Guaynabo City**	**1.44**	**107**	Pn	**Pn**	**02 04 00.3**	**+1.7**
GCPR				IAML		02 04 34.9	
	comp=N,5.2nm,3.3s						

IDC ***06*** *02:04:27.4±0.8, 36°.31N×136°.33E, h0^{km}, mb3.7/9, mb1 3.9/13, mb1mx3.7/53, mbtmp3.8/13, ML3.7/4, MS3.1/12, Ms1 3.1/12, ms1mx3.0/38, Error ellipse: s-maj=18.6km s-min=15.3km az=154.0*
NEIC ***06*** *02:04:28.6±2.3, 36°.42N±0°.04×136°.17E±0°.05, h9^{km}±5^{km}, mb4.0/9, Error ellipse: s-maj=5.7km s-min=5.0km az=71.0*
JMA ***06*** *02:04:28.1, 36°.45N×136°.20E, h17^{km}, M4.3 Broadband fault plane solution: P waves. NP1:ϕ_s340.00000°, δ64.00000°, λ-26.00000°. NP2:ϕ_s82.00000°, δ67.00000°, λ-152.00000°. Principal axes: T Plg2.0000°, Azm211.0000°; N Plg54.0000°, Azm118.0000°; P Plg36.0000°, Azm302.0000°;*
JMA Felt III J1.
NIED ***06*** *02:04:28.1, 36°.45N×136°.20E, h17^{km}, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.09; $M_{\theta\theta}$0.19; $M_{\phi\phi}$-0.27; $M_{r\theta}$-0.03; $M_{\theta\phi}$-1.41; $M_{\phi r}$-0.60; Fault plane solution: $M_0$1.55000×10^{15} NP1: ϕ_s356.00000°, δ90.00000°, λ-22.00000°. NP2:ϕ_s86.00000°, δ68.00000°, λ-180.00000°.*
ISC 06 02:04:28.5±1.1, **36°.42N**±0°.05×**136°.21E**±0°.04, **h10**^{km}±8^{km}, **n55**, σ1^s**43**/54, **mb4.0**/13, **MS3.0**/6, **1C-2D**, **Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKG	**Kaga**	**0.18**	**146**	⇓P	**Pg**	**02 04 32.8**	**+0.5**
JKG				S	**Sg**	**02 04 36.0**	**+1.1**
JGN	**Niukaw**	**0.92**	**102**	⇓P	**Pg**	**02 04 45.2**	**-1.0**
JGN				S	**Sg**	**02 04 57.5**	**-0.6**
JTT	**Ttatey**	**0.93**	**78**	P	**Pg**	**02 04 45.4**	**-0.9**
JTT				S	**Sg**	**02 04 58.1**	**-0.3**
JYTA	**Yamagatataniai**	**0.93**	**153**	⇑P	**Pg**	**02 04 46.1**	**-0.3**
JYTA				S	**Sb**	**02 04 58.9**	**-0.2**
JGF	**Kuroka**	**1.24**	**131**		**Pn**	**02 04 51.6**	**-0.3**
INU	**Inuyama**	**1.26**	**148**		**Pn**	**02 04 51.9**	**-0.1**
JWT	**Wachi**	**1.31**	**210**		**Pn**	**02 04 52.3**	**-0.5**
MJB9	**Matsu-Tunnel**	**1.61**	**85**		**Pn**	**02 04 57.3**	**+0.3**
MAJO	**Matsushiro**	**1.62**	**85**		**Pn**	**02 04 56.9**	**-0.1**
MAT	**Matsushiro**	**1.62**	**85**	P	**Pn**	**02 04 56.8**	**-0.2**
MAT				S	**Sn**	**02 05 18.4**	**+0.5**
MJAR	**Matsushiro Arr**	**1.62**	**85**	Pg	**Pn**	**02 04 56.3**	**-0.8**
	16nm,0.3s,baz=278,slow=16,SNR=284						
MJAR				Lg	Lg	02 05 21.6	
	34nm,0.3s,baz=344,slow=42,SNR=4.6						
MJAR				LR	LR	02 05 45.6	
	comp=Z,324nm,18.6s,baz=265,slow=50						
MJAR	**Matsushiro Arr**	**1.62**	**85**	Pn	**Pn**	**02 04 56.6**	**-0.5**
JSD	**Sado**	**2.30**	**45**		**Pn**	**02 05 07.3**	**+1.0**
JSG	**Sagara**	**2.38**	**137**		**Pb**	**02 05 09.3**	**-2.0**
JHS	**Saijyo**	**2.89**	**241**		**Pn**	**02 05 14.6**	**0.0**
JYT	**Yasato**	**3.23**	**92**		**Pn**	**02 05 21.0**	**+1.9**
JMN	**Monobe**	**3.30**	**216**		**Pn**	**02 05 21.5**	**+1.3**
JMM	**Marumori**	**3.94**	**67**		**Pn**	**02 05 28.9**	**0.0**
JHJ	**Hachijo jima 2**	**4.42**	**137**	Pn	**Pn**	**02 05 36.5**	**+0.9**
	5.3nm,0.3s,baz=92,slow=20,SNR=1.7						
JNU	**Nakatsue**	**5.48**	**235**	Pn	**Pn**	**02 05 51.3**	**+1.1**
	5.2nm,0.3s,baz=37,slow=2.2,SNR=18						
JNU				Lg	Lg	02 07 20.9	
	0.1nm,0.3s,baz=160,slow=21,SNR=3.6						
JNU	**Nakatsue**	**5.48**	**235**		**Pn**	**02 05 51.5**	**+1.2**
JTM	**Tenmabayashi**	**5.78**	**40**		**Pn**	**02 05 52.0**	**-2.2**
KSRS	**Korea Array**	**6.71**	**281**	Pn	**Pn**	**02 06 07.2**	**+0.2**
	2.8nm,0.3s,baz=97,slow=14,SNR=21						
KSRS				Sn	**Sn**	**02 07 21.1**	**-2.5**
	1.8nm,0.3s,baz=93,slow=25,SNR=10.0						
KSRS				LR	LR	02 08 36.0	
	comp=Z,178nm,19.1s,baz=102,slow=36						
KS19	**Wonju Array Si**	**6.76**	**282**		**Pn**	**02 06 06.8**	**-1.0**
JEW	**Eniwo**	**7.58**	**31**	Pn	**Pn**	**02 06 19.0**	**+0.1**
USRK	**Ussuriysk Ar.**	**8.41**	**339**	Pn	**Pn**	**02 06 28.9**	**-1.3**
	baz=163,slow=14,SNR=7.2						
USRK				LR	LR	02 09 23.5	
	comp=Z,111nm,21.1s,baz=140,slow=35						
ASAJ	**Asahikawa**	**9.10**	**30**	Pn	**Pn**	**02 06 41.7**	**+1.9**
	0.4nm,0.3s,baz=227,slow=19,SNR=3.6						
ASAJ				LR	LR	02 10 04.4	
	comp=Z,156nm,18.2s,baz=315,slow=37						
JKA	**Kamikawa-asahi**	**9.10**	**30**		**Pn**	**02 06 41.7**	**+1.9**
MDJ	**Mudanjiang**	**9.61**	**330**	Pn	**Pn**	**02 06 45.9**	**-0.8**
JCJ	**Chichijima**	**10.60**	**150**	LR	LR	02 11 18.1	
	comp=Z,78nm,19.1s,baz=100,slow=39						
JOW	**Kunigami**	**11.70**	**217**	LR	LR	02 12 17.5	
	comp=Z,98nm,19.4s,baz=317,slow=40						
KLR	**Kul'dur**	**13.21**	**347**	Pn	**Pn**	**02 07 39.6**	**+3.7**
	0.1nm,0.3s,baz=286,slow=13,SNR=1.6						
KLR				LR	LR	02 12 12.4	
	comp=Z,74nm,19.9s,baz=166,slow=35						
BJT	**Baijiatuau**	**16.15**	**289**	Pn	**Pn**	**02 08 12.4**	**-3.0**
BJT				IAmb	IAmb	02 08 35.8	
	comp=Z,16nm,1.5s						
GUMO	**Guam**	**24.03**	**159**	LR	LR	02 17 48.8	
	comp=Z,36nm,20.1s,baz=258,slow=34						
ULN	**Ulaanbaatar**	**24.31**	**307**	P	**P**	**02 09 44.4**	**-1.8**
ULN				IAmb	IAmb	02 10 34.6	
	comp=Z,5.3nm,1.2s						
SONM	**Songino Array**	**24.72**	**307**	P	**P**	**02 09 52.0**	**+2.1**
	comp=Z,0.8nm,0.6s,baz=90,slow=7.4,SNR=3.9						
SONM	**Songino Array**	**24.72**	**307**	P	**P**	**02 09 48.0**	**-2.0**
MA2	**Magadan**	**25.02**	**18**	LR	LR	02 19 57.8	
	comp=Z,32nm,18.8s,baz=263,slow=37						
YAK	**Yakutsk**	**25.96**	**353**	LR	LR	02 20 13.6	
	comp=Z,65nm,18.4s,baz=82,slow=36						
SEY	**Seymchan**	**28.35**	**16**	LR	LR	02 23 55.1	
	comp=Z,21nm,18.0s,baz=26,slow=41						
CMAR	**Chiang Mai Arr**	**37.31**	**251**	LR	LR	02 26 26.8	
	comp=Z,56nm,18.1s,baz=210,slow=35						
MKAR	**Makanchi Array**	**40.90**	**302**	P	**P**	**02 12 12.8**	**+2.2**
	comp=Z,0.2nm,0.6s,baz=92,slow=10,SNR=2.0						
MAKZ	**Makanchi**	**41.11**	**302**	P	**P**	**02 12 12.5**	**+0.1**
MAKZ				IAmb	IAmb	02 13 32.3	
	comp=Z,5.0nm,1.5s						
KK31	**Karatay Array**	**49.79**	**299**	P	**P**	**02 13 20.0**	**-1.3**
KK31				IAmb	IAmb	02 13 59.2	
	comp=Z,1.5nm,0.9s						
KKAR	**Karatay Array**	**49.79**	**299**	P	**P**	**02 13 19.2**	**-2.1**
KKAR				IAmb	IAmb	02 13 59.2	
	comp=Z,1.5nm,0.9s						
ILAR	**Eielson Array**	**52.23**	**32**	P	**P**	**02 13 38.1**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=276,slow=5.7,SNR=3.6						
ABKAR	**Akbulak array**	**55.10**	**309**	P	**P**	**02 14 00.5**	**0.0**
WB2	**Warramunga Arr**	**56.09**	**182**	P	**P**	**02 14 08.1**	**+0.2**
WRA	**Warramunga Arr**	**56.09**	**182**	P	**P**	**02 14 06.5**	**-1.3**
	comp=Z,1.3nm,0.5s,baz=357,slow=7.3,SNR=7.6						
ASAR	**Alice Springs**	**59.80**	**182**	P	**P**	**02 14 35.0**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=13,slow=13,SNR=6.6						
FINES	**FINESS Array B**	**67.35**	**331**	P	**P**	**02 15 25.4**	**+2.1**
	comp=Z,1.8nm,0.7s,baz=75,slow=7.4,SNR=7.7						
AKASG	**Malin Array Be**	**72.16**	**320**	P	**P**	**02 15 54.3**	**+1.2**
	comp=Z,0.3nm,0.2s,baz=48,slow=6.3,SNR=5.2						
NOA	**NORSAR Array B**	**73.06**	**335**	P	**P**	**02 16 00.4**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=42,slow=6.0,SNR=2.6						
NOA				LR	LR	02 49 34.2	
	comp=Z,9.6nm,18.4s,baz=220,slow=37						
CLL	**Collm**	**79.46**	**328**	eP	**P**	**02 16 36.0**	**+1.2**
TXAR	**Lajitas Array**	**93.75**	**49**	P	**P**	**02 17 45.2**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=305,slow=5.4,SNR=2.6						

RSPR ***06*** *02:26:33.6, 19°.05N×68°.74W, h48^{km}±6^{km}, MD3.3/4*
NEIC ***06*** *02:26:34.2±1.2, 18°.8N±0°.3×68°.70W±0°.08, h64^{km}±14^{km}, Error ellipse: s-maj=44.3km s-min=8.7km az=188.0*
OSPL ***06*** *02:26:34.1±0.6, 18°.96N×68°.64W, h64^{km}±17^{km}, ML2.1*
ISC 06 02:26:31.1±1.7, **19°.03N**±0°.09×**68°.64W**±0°.06, **h10**^{km}, **n35**, σ0^s**73**/35, **3C-6D**, **North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.57**	**154**	⇓eP	**Pn**	**02 26 45.5**	**+0.2**
PCDR	**Punta Cana, DR**	**0.57**	**154**	eS	**Sn**	**02 26 54.8**	**+0.1**
PCDR	**Punta Cana, DR**	**0.57**	**154**		**Pn**	**02 26 45.5**	**+0.2**
PCDR					**Sn**	**02 26 54.8**	**+0.1**
PCDR	**Punta Cana, DR**	**0.57**	**154**	IAML		02 26 55.2	
	comp=N,112nm,1.1s						
PCDR	**Punta Cana, DR**	**0.57**	**154**	i P	**Pn**	**02 26 45.5**	**+0.2**
PCDR				IAML		02 26 54.6	
	comp=Z,65nm,0.4s						
PCDR				eS	**Sn**	**02 26 54.6**	**0.0**
AGPR	**Aguadilla, PR**	**1.56**	**111**	⇑eP	**Pn**	**02 26 59.0**	**+0.1**
AGPR	**Aguadilla, PR**	**1.56**	**111**		**Pn**	**02 26 59.0**	**+0.1**
AGPR	**Aguadilla, PR**	**1.56**	**111**	IAML		02 27 24.9	
	comp=N,38nm,0.3s						
AGPR				IAML		02 27 25.1	
	comp=E,41nm,0.2s						
AGPR	**Aguadilla, PR**	**1.56**	**111**	i P	**Pn**	**02 26 58.6**	**-0.3**
AGPR				eS	**Sn**	**02 27 16.1**	**-3.0**
AGPR				IAML		02 27 23.9	
	comp=Z,26nm,0.2s						
CRPR	**Cabo Rojo, PR**	**1.77**	**125**	⇓eP	**Pn**	**02 27 01.8**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.77**	**125**	eS	**Sn**	**02 27 24.3**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.77**	**125**		**Pn**	**02 27 01.8**	**-0.1**
CRPR					**Sn**	**02 27 24.3**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.77**	**125**	IAML		02 27 31.5	
	comp=N,25nm,0.6s						
CRPR	**Cabo Rojo, PR**	**1.77**	**125**	i P	**Pn**	**02 27 01.1**	**-0.8**
CRPR				IAML		02 27 32.1	
	comp=Z,19nm,0.6s						
MLPR	**Magueyes Islan**	**1.85**	**124**	Pn	**Pn**	**02 27 03.2**	**+0.4**
MLPR				IAML		02 27 28.8	
	comp=E,27nm,0.6s						
AOPR	**Arecibo Observ**	**1.92**	**110**	⇓eP	**Pn**	**02 27 03.9**	**0.0**
AOPR	**Arecibo Observ**	**1.92**	**110**	eS	**Sn**	**02 27 27.7**	**-0.3**
AOPR	**Arecibo Observ**	**1.92**	**110**		**Pn**	**02 27 03.9**	**0.0**
AOPR					**Sn**	**02 27 27.7**	**-0.3**
AOPR	**Arecibo Observ**	**1.92**	**110**	IAML		02 27 33.5	
	comp=N,46nm,0.3s						
EMPR	**Esperanza - Ma**	**2.08**	**105**	⇑eP	**Pn**	**02 27 06.7**	**+0.6**
EMPR	**Esperanza - Ma**	**2.08**	**105**		**Pn**	**02 27 06.7**	**+0.6**
OBIP	**Obispado Ponce**	**2.17**	**117**	Pn	**Pn**	**02 27 06.3**	**-0.9**
OBIP				IAML		02 27 37.8	
	comp=N,29nm,0.6s						
OBIP				IAML		02 27 38.9	
	comp=E,20nm,1.0s						
CELP	**Cerrillos**	**2.18**	**115**	⇑eP	**Pn**	**02 27 08.1**	**+0.7**
CELP	**Cerrillos**	**2.18**	**115**	eS	**Sn**	**02 27 34.9**	**+0.4**
CELP	**Cerrillos**	**2.18**	**115**		**Pn**	**02 27 08.1**	**+0.7**
CELP					**Sn**	**02 27 34.9**	**+0.4**
SDDR	**Presa de Saban**	**2.50**	**269**	Pn	**Pn**	**02 27 11.9**	**0.0**
SDDR				IAML		02 28 07.6	
	comp=E,21nm,0.7s						
SDDR				IAML		02 28 08.2	
	comp=E,20nm,0.7s						
GCPR	**Guaynabo City**	**2.53**	**106**	Pn	**Pn**	**02 27 13.5**	**+1.2**
CBYP	**Canovanas**	**2.75**	**105**	⇓eP	**Pn**	**02 27 16.0**	**+0.6**
CBYP	**Canovanas**	**2.75**	**105**		**Pn**	**02 27 16.0**	**+0.6**
HUMP	**Col San Antoni**	**2.79**	**108**	⇓eP	**Pn**	**02 27 16.4**	**+0.5**
HUMP	**Col San Antoni**	**2.79**	**108**		**Pn**	**02 27 16.4**	**+0.5**
HUMP	**Col San Antoni**	**2.79**	**108**	IAML		02 27 53.8	
	comp=E,14nm,0.2s						
HUMP				IAML		02 27 54.6	
	comp=N,14nm,0.3s						
MTP	**Monte Pirata**	**3.08**	**107**	⇓eP	**Pn**	**02 27 20.4**	**+0.7**
MTP	**Monte Pirata**	**3.08**	**107**		**Pn**	**02 27 20.4**	**+0.7**
MTP	**Monte Pirata**	**3.08**	**107**	IAML		02 28 12.4	
	comp=N,8.2nm,2.2s						

MEX 06 02:33:06.0±0.9, **16°.69N**×**99°.73W**, **h5**^{km}, **MD3.7**, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAIG	**Los Arroyos**	**0.34**	**13**	i P	Pg	02 33 11.4	-1.2
DAIG				i S	Sg	02 33 17.0	+0.1
MGIG	**Malinaltepec**	**1.18**	**63**	eP	Pg	02 33 25.5	-3.2
MGIG				i S	Sg	02 33 41.4	-2.7
MEIG	**Mezcala**	**1.23**	**5**	eP	Pg	02 33 25.8	-3.9
MEIG				eS	Sg	02 33 42.6	-3.0
TLIG	**Tlapa**	**1.41**	**52**	eP	Pn	02 33 28.8	-3.6
TLIG				eS	Sb	02 33 49.6	-1.6
ARIG	**Puente Sto Nin**	**1.68**	**340**	eP	Pn	02 33 32.9	-3.2
ARIG				i S	Sn	02 33 54.8	-3.3
PLIG	**Platanillo**	**1.70**	**7**	eP	Pn	02 33 34.1	-2.4
PLIG				eS	Sn	02 33 57.0	-1.8
ZIIG	**Zihuatanejo**	**1.89**	**299**	eP	Pn	02 33 36.8	-2.1
ZIIG				eS	Sn	02 34 00.3	-2.9

IDC ***06*** *02:50:12.0±0.8, 15°.06N×147°.02E, h0^{km}, mb4.1/17, mb1 4.2/18, mb1mx4.1/41, mbtmp4.1/18, ML4.1/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/36, Error ellipse: s-maj=24.5km s-min=13.6km az=111.0*
NEIC ***06*** *02:50:16.3±1.5, 14°.92N±0°.06×147°.19E±0°.08, h32^{km}±5^{km}, mb4.5/23, Error ellipse: s-maj=12.4km s-min=8.2km az=110.0*
ISC 06 02:50:15.8±0.6, **14°.92N**±0°.07×**147°.15E**±0°.09, **h32**^{km}, **n47**, σ1^s**20**/43, **mb4.4**/28, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**1.98**	**316**		**Pn**	**02 50 47.4**	**+0.2**
GUMO	**Guam**	**2.58**	**239**	Pn	**Pn**	**02 50 54.9**	**-0.5**
	37nm,0.3s,baz=41,slow=2.8,SNR=22						
GUMO				Sn	**Sn**	**02 51 26.8**	**+1.1**
	48nm,0.3s,baz=13,slow=22,SNR=11						
GUMO	**Guam**	**2.58**	**239**		**Pn**	**02 50 55.4**	**+0.1**
PATS	**Pohnpei**	**13.58**	**125**	Pn	**Pn**	**02 53 24.2**	**-2.2**
H11S3	**WAKE ISLAND Hy**	**19.05**	**77**	T	T	03 14 09.8	
	baz=262,slow=74,SNR=8.1						
H11S1	**WAKE ISLAND Hy**	**19.06**	**76**	T	T	03 14 08.3	
	baz=262,slow=74,SNR=4.5						

H11S2	**WAKE ISLAND Hy**	**19.06**	**77**	T	T	03 14 21.8	
	baz=262,slow=74,SNR=3.3						
SIJI	**Sorong**	**22.20**	**226**	P	**P**	**02 55 11.7**	**+1.9**
	24nm,0.9s,baz=29,slow=10,SNR=6.5						
MJAR	**Matsushiro Arr**	**22.96**	**341**	P	**P**	**02 55 14.2**	**-3.4**
	0.5nm,0.4s,baz=136,slow=40,SNR=2.6						
TNTI	**Ternate**	**24.08**	**236**	P	**P**	**02 55 27.3**	**-1.3**
KSRS	**Korea Array**	**28.20**	**326**	P	**P**	**02 56 03.4**	**-2.1**
	1.4nm,0.7s,baz=138,slow=8.3,SNR=3.3						
ASAJ	**Asahikawa**	**29.36**	**353**	P	**P**	**02 56 15.5**	**-0.3**
	3.9nm,0.7s,baz=294,slow=4.7,SNR=4.2						
JKA	**Kamikawa-asahi**	**29.36**	**353**	P	**P**	**02 56 15.5**	**-0.3**
JKA	**Kamikawa-asahi**	**29.36**	**353**	IAmb	IAmb	02 56 38.9	
	comp=Z,14nm,1.2s						
USRK	**Ussuriysk Ar.**	**31.91**	**339**	P	**P**	**02 56 37.6**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=144,slow=46,SNR=2.6						
USRK				LR	LR	03 09 16.8	
	comp=Z,43nm,20.9s,baz=51,slow=36						
WR0	**Warramunga Arr**	**36.81**	**200**	P	**P**	**02 57 21.8**	**+0.7**
WR0				IAmb	IAmb	02 57 22.9	
	comp=Z,9.4nm,1.1s						
WRAB	**Tennant Creek**	**36.85**	**200**	P	**P**	**02 57 21.6**	**+0.2**
WRAB				IAmb	IAmb	02 57 23.2	
	comp=Z,9.5nm,0.9s						
WB2	**Warramunga Arr**	**36.86**	**200**	P	**P**	**02 57 21.9**	**+0.5**
WB2				IAmb	IAmb	02 57 23.7	
	comp=Z,7.7nm,0.8s						
WRA	**Warramunga Arr**	**36.87**	**200**	P	**P**	**02 57 22.4**	**+0.9**
	comp=Z,7.1nm,0.8s,baz=22,slow=9.8,SNR=39						
ENH	**Enshi**	**37.78**	**300**	P	**P**	**02 57 28.0**	**-1.3**
ENH				IAmb	IAmb	02 57 29.9	
	comp=Z,9.4nm,1.0s						
AS31	**Alice Springs**	**40.48**	**199**	P	**P**	**02 57 51.5**	**-0.3**
ASAR	**Alice Springs**	**40.48**	**199**	P	**P**	**02 57 52.9**	**+1.0**
	comp=Z,1.7nm,0.7s,baz=20,slow=6.9,SNR=21						
CMAR	**Chiang Mai Arr**	**46.21**	**281**	P	**P**	**02 58 39.0**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=76,slow=6.0,SNR=7.7						
ULN	**Ulaanbaatar**	**46.60**	**323**	P	**P**	**02 58 40.6**	**-0.5**
SONM	**Songino Array**	**46.97**	**323**	P	**P**	**02 58 44.3**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=126,slow=6.7,SNR=6.9						
SONM				LR	LR	03 18 34.1	
	comp=Z,28nm,18.6s,baz=36,slow=36						
SEY	**Seymchan**	**48.09**	**3**	P	**P**	**02 58 54.0**	**+1.8**
	comp=Z,1.5nm,0.6s,baz=343,slow=5.2,SNR=3.7						
SHL	**Shillong**	**52.61**	**291**	P	**P**	**02 59 26.6**	**-0.6**
KDAK	**Kodiak Island**	**61.78**	**32**	P	**P**	**03 00 32.3**	**+1.1**
	comp=Z,4.1nm,0.9s,baz=282,slow=4.9,SNR=5.4						
ZALV	**Zalesovo Beam**	**61.85**	**324**	P	**P**	**03 00 31.5**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=95,slow=6.1,SNR=3.8						
ZALV	**Zalesovo Beam**	**61.85**	**324**	P	**P**	**03 00 30.9**	**-0.9**
MK31	**Makanchi Array**	**62.09**	**315**	P	**P**	**03 00 34.0**	**+0.4**
MK31				IAmb	IAmb	03 00 37.3	
	comp=Z,2.3nm,0.8s						
MKAR	**Makanchi Array**	**62.09**	**315**	P	**P**	**03 00 34.0**	**+0.3**
	comp=Z,2.6nm,0.7s,baz=96,slow=8.8,SNR=26						
MKAR	**Makanchi Array**	**62.09**	**315**	P	**P**	**03 00 33.7**	**0.0**
MAKZ	**Makanchi**	**62.31**	**315**	P	**P**	**03 00 35.0**	**-0.1**
MAKZ				IAmb	IAmb	03 00 36.4	
	comp=Z,6.0nm,0.9s						
IL31		**66.43**	**25**	P	**P**	**03 01 03.4**	**+1.8**
IL31				IAmb	IAmb	03 01 15.4	
	comp=Z,5.4nm,1.3s						
ILAR	**Eielson Array**	**66.43**	**25**	P	**P**	**03 01 01.9**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=252,slow=5.5,SNR=7.0						
NIL	**Nilore**	**68.61**	**301**	P	**P**	**03 01 15.8**	**-0.2**
KK31	**Karatay Array**	**70.26**	**311**	IAmb	IAmb	03 01 27.2	
	comp=Z,4.4nm,0.9s						
KKAR	**Karatay Array**	**70.26**	**311**	P	**P**	**03 01 25.9**	**-0.2**
BRVK	**Borovoye**	**70.33**	**321**	P	**P**	**03 01 26.5**	**+0.2**
BRVK				IAmb	IAmb	03 01 38.3	
	comp=Z,2.7nm,0.8s						
CHGR	**Chuyangaron**	**71.54**	**306**	P	**P**	**03 01 34.6**	**+0.6**
ARU	**Arti**	**76.94**	**325**	P	**P**	**03 02 05.8**	**+0.8**
ARU				IAmb	IAmb	03 02 32.0	
	comp=Z,4.1nm,1.0s						
ABKAR	**Akbulak array**	**77.05**	**318**	P	**P**	**03 02 05.5**	**-0.3**
NVAR	**Mina Array Bea**	**84.36**	**52**	P	**P**	**03 02 48.5**	**+3.0**
	comp=Z,0.7nm,0.7s,baz=267,slow=6.2,SNR=3.8						
ARCES	**ARCESS Array B**	**86.50**	**343**	P	**P**	**03 02 53.9**	**-1.3**
	comp=Z,2.4nm,1.0s,baz=46,slow=6.4,SNR=4.4						
FINES	**FINESS Array B**	**90.88**	**336**	P	**P**	**03 03 14.8**	**-1.3**
	comp=Z,1.4nm,1.0s,baz=64,slow=4.4,SNR=6.1						
DBIC	**Dimbokro**	**144.92**	**306**	PKP	**PKPdf**	**03 09 50.2**	**-0.6**
	comp=Z,3.0nm,0.7s,baz=90,slow=4.9,SNR=4.5						

INET 06 02:53:24.5, 12.31N×87.13W, h99km, MW3.5, Near coast of Nicaragua

MEX 06 03:14:58.6±1.0**, 17.34N×101.33W, h2km**±7km**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.30**	**333**	*e*P	Pg	03 15 04.2	-0.2
ZIIG				*e*S	Sg	03 15 08.6	+0.4
UON	**La Union**	**0.78**	**323**	*i* P	Pg	03 15 12.2	-1.5
UON				*i* S	Sg	03 15 23.7	-0.1
ARIG	**Puente Sto Nin**	**1.32**	**45**	*e*P	Pg	03 15 19.3	-4.7
ARIG				*i* S	Sg	03 15 35.6	-5.5
DAIG	**Los Arroyos**	**1.63**	**101**	*e*P	Pn	03 15 25.1	-3.3
DAIG				*i* S	Sn	03 15 45.5	-4.4
MEIG	**Mezcala**	**1.73**	**70**	*e*P	Pn	03 15 26.1	-3.7
MEIG				*e*S	Sn	03 15 47.5	-4.9
PLIG	**Platanillo**	**2.03**	**59**	*e*P	Pn	03 15 31.4	-2.5
PLIG				*e*S	Sn	03 15 57.2	-2.7
MGIG	**Malinaltepec**	**2.57**	**92**	*e*P	Pn	03 15 40.1	-1.4
MGIG				*i* S	Sn	03 16 12.4	-1.0
TLIG	**Tlapa**	**2.64**	**85**	*e*P	Pn	03 15 38.9	-3.5
TLIG				*e*S	Sn	03 16 09.6	-5.4

*IDC **06** 03:21:27.1±0.9, 35.63N×78.32E, h0km, mb4.0/16, mb1 4.1/21, mb1mx3.9/56, mbtmp4.0/21, ML4.4/3, Error ellipse: s-maj=18.8km s-min=18.2km az=29.0*
*NNC **06** 03:21:35.4±3.0, 36.07N×78.31E, h0km, mb4.4, mpv4.5, Error ellipse: s-maj=27.2km s-min=21.9km az=123.0*
*MOS **06** 03:21:37.4±1.1, 35.90N×78.22E, h82km, mb4.3/10, Error ellipse: s-maj=9.3km s-min=4.5km az=101.6*
*NEIC **06** 03:21:38.4±2.5, 35.95N±0.09×78.3E±0.1, h73km±12km, mb4.1/8, Error ellipse: s-maj=13.9km s-min=12.5km az=120.0*
*BJI **06** 03:21:39.6±0.0, 36.00N×78.41E, h26km, mb4.2/4, ML4.4/7*
ISC 06 03:21:39.9±0.5**, 35.93N**±0.04×**78.33E**±0.06**, h100km, n118,** σ**2s01**/136**, mb3.8**/22**, 8C-9D, Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**4.04**	**333**	Pn	**Pn**	**03 22 39.7**	**0.0**
KSH				Sn	**Sn**	**03 23 19.3**	**-6.7**
KSH				smax	smax		
	comp=N,2μm,0.7s						
KSH				smax	smax		
	comp=E,1μm,0.8s						
DHRM	**DHARAMSHALA**	**4.04**	**205**	*e*P	**Pn**	**03 22 41.7**	**+1.8**
DHRM				*e*S	**Sn**	**03 23 24.7**	**-1.6**
DHRM				IAML		03 23 28.6	
	comp=E,493nm,0.2s						
DHRM				IAML		03 23 28.8	
	comp=N,374nm,0.4s						
THN	**Thein Dam**	**4.11**	**213**	*e*P	**Pn**	**03 22 41.5**	**+1.0**
THN				*e*S	**Sn**	**03 23 27.5**	**0.0**
CHCP	**Chirah Chowk**	**4.74**	**243**	P	**Pn**	**03 22 49.6**	**+0.4**
NIL	**Nilore**	**4.76**	**243**	P	**Pn**	**03 22 48.5**	**-0.9**
NIL	**Nilore**	**4.76**	**243**		**Pn**	**03 22 48.5**	**-0.9**
SMLA	**Simla**	**4.89**	**192**	*e*P	**Pn**	**03 22 51.7**	**+0.5**
SMLA				*e*S	**Sn**	**03 23 43.3**	**-3.2**
SMLA				IAML		03 23 46.5	
	comp=E,322nm,0.1s						
SMLA				IAML		03 23 46.9	
	comp=N,260nm,0.3s						
DDI	**Dehra Dun**	**5.60**	**182**	*e*P	**Pn**	**03 23 02.9**	**+2.1**
DDI				*e*S	**Sn**	**03 24 00.5**	**-3.4**
DDI				IAML		03 24 04.1	
	comp=E,616nm,0.1s						
DDI				IAML		03 24 05.8	
	comp=N,476nm,0.1s						
TARG	**Taragay, Kyrgy**	**5.80**	**356**	Pn	**Pn**	**03 23 05.5**	**+1.6**
KDJ	**Kajisay**	**6.25**	**352**	P	**Pn**	**03 23 09.0**	**-0.8**
KDJ	**Kajisay**	**6.25**	**352**	Pn	**Pn**	**03 23 09.0**	**-0.8**
ULHL	**Ulahol**	**6.51**	**346**	P	**Pn**	**03 23 15.9**	**+2.6**
	SNR=5.4						
KZA	**Kyzart**	**6.59**	**340**	P	**Pn**	**03 23 16.1**	**+1.5**
	SNR=8.8						
BOOM	**Boomskoye usch**	**6.80**	**345**	P	**Pn**	**03 23 17.3**	**0.0**
BOOM	**Boomskoye usch**	**6.80**	**345**		**Pn**	**03 23 17.3**	**0.0**
GAR	**Garm**	**7.07**	**298**	Pn	**Pn**	**03 23 17.2**	**-3.6**
AML	**Almayashu**	**7.16**	**331**	P	**Pn**	**03 23 23.4**	**+1.1**
	SNR=20						
KBK	**Karagaybulak**	**7.21**	**340**	P	**Pn**	**03 23 25.7**	**+2.9**
	SNR=8.2						
BTK	**Batken**	**7.22**	**307**	P	**Pn**	**03 23 20.9**	**-1.9**
BTK	**Batken**	**7.22**	**307**		**Pn**	**03 23 20.9**	**-1.9**
UZB	**Uzynbulak**	**7.22**	**4**	*e*P	**Pn**	**03 23 24.2**	**+1.2**
SHLS	**Shalkode**	**7.27**	**7**	*e*P	**Pn**	**03 23 25.9**	**+2.4**
MDOK	**Medeo**	**7.29**	**353**	⇓Pn	**Pn**	**03 23 22.8**	**-1.0**
	comp=N,12nm,0.7s						
MDOK				⇓Sn	**Sn**	**03 24 46.3**	**+1.3**
	comp=N,49nm,0.8s						
MDOK	**Medeo**	**7.29**	**353**	P	**Pn**	**03 23 22.8**	**-1.0**
MDOK				S	**Sn**	**03 24 46.3**	**+1.3**
TKM2	**Tokmak 2**	**7.29**	**344**	P	**Pn**	**03 23 26.8**	**+2.8**
	SNR=10						
TKM2	**Tokmak 2**	**7.29**	**344**	⇓Pn	**Pn**	**03 23 23.7**	**-0.2**
	comp=N,8.4nm,0.5s						
TKM2				⇑Sn	**Sn**	**03 24 45.1**	**-0.1**
	comp=N,15nm,0.6s						
TKM2	**Tokmak 2**	**7.29**	**344**	P	**Pn**	**03 23 23.7**	**-0.2**
TKM2				S	**Sn**	**03 24 45.6**	**+0.4**
AAK	**Ala-Archa**	**7.33**	**337**	Pn	**Pn**	**03 23 25.7**	**+1.3**
	comp=N,9.6nm,0.3s,baz=173,slow=8.9,SNR=42						
AAK				Sn	**Sn**	**03 24 46.5**	**+0.6**
	comp=N,3.7nm,0.3s,baz=3.5,slow=11,SNR=4.7						
AAK	**Ala-Archa**	**7.33**	**337**	P	**Pn**	**03 23 26.4**	**+2.1**
	SNR=31						
AAK	**Ala-Archa**	**7.33**	**337**	⇓Pn	**Pn**	**03 23 23.4**	**-0.9**
	comp=N,39nm,0.8s						
AAK				⇑Sn	**Sn**	**03 24 45.6**	**-0.3**
	comp=N,20nm,0.9s						
AAK	**Ala-Archa**	**7.33**	**337**	P	**Pn**	**03 23 23.4**	**-0.9**
AAK				S	**Sn**	**03 24 45.6**	**-0.3**
AAK	**Ala-Archa**	**7.33**	**337**		**Pn**	**03 23 22.7**	**-1.6**
FRU1	**Bishkek**	**7.44**	**338**	P	**Pn**	**03 23 25.6**	**-0.2**
FRU1	**Bishkek**	**7.44**	**338**		**Pn**	**03 23 25.6**	**-0.2**
PDGK	**Podgornoye**	**7.44**	**7**	⇑Pn	**Pn**	**03 23 24.3**	**-1.6**
	comp=N,39nm,0.5s						
PDGK				⇑Sn	**Sn**	**03 24 46.9**	**-1.8**
	comp=N,127nm,0.6s						
PDGK	**Podgornoye**	**7.44**	**7**	P	**Pn**	**03 23 24.3**	**-1.6**
PDGK				S	**Sn**	**03 24 46.9**	**-1.8**
KPKS	**Kokpek**	**7.53**	**2**	*e*P	**Pn**	**03 23 28.8**	**+1.8**
CHMS	**Chumysh**	**7.58**	**340**	P	Pn	03 23 31.6	+4.0
	SNR=7.6						
EKS2	**Erkin-Say**	**7.59**	**334**	P	**Pn**	**03 23 30.7**	**+2.8**
	SNR=9.8						
KBL	**Kabul**	**7.72**	**262**	P	**Pn**	**03 23 25.9**	**-3.9**
KBL	**Kabul**	**7.72**	**262**	Pn	**Pn**	**03 23 25.9**	**-3.9**
CHGR	**Chuyangaron**	**7.80**	**293**		**Pn**	**03 23 28.2**	**-2.5**
USP	**Ospenovka**	**7.90**	**339**	P	**Pn**	**03 23 34.0**	**+2.0**
	SNR=9.4						
SGDS	**Sogindy**	**8.03**	**340**	*e*P	Pn	03 23 21.1	-13
ARXS	**Arharly**	**8.28**	**357**	*e*P	**Pn**	**03 23 38.7**	**+1.5**
IUG	**Iuzhnay**	**8.95**	**316**	*e*P	**Pn**	**03 23 44.4**	**-2.0**
IUG				pmax	pmax		
	comp=Z,11nm,0.2s						
KK31	**Karatay Array**	**9.36**	**322**	⇓Pn	**Pn**	**03 23 51.0**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=129,slow=12,SNR=32						
KK31				⇑Sn	**Sn**	**03 25 33.7**	**-1.6**
	comp=Z,1.9nm,0.3s,baz=151,slow=26,SNR=5.3						
KK31	**Karatay Array**	**9.36**	**322**	P	**Pn**	**03 23 50.4**	**-1.5**
KK31	**Karatay Array**	**9.36**	**322**	Pn	**Pn**	**03 23 50.4**	**-1.5**
KKAR	**Karatay Array**	**9.36**	**322**	P	**Pn**	**03 23 49.9**	**-2.0**
KKAR	**Karatay Array**	**9.36**	**322**	Pn	**Pn**	**03 23 49.3**	**-2.6**
KKAR	**Karatay Array**	**9.36**	**322**		**Pn**	**03 23 49.9**	**-2.0**
WMQ	**Urumqi**	**10.66**	**40**	*e*P	**Pn**	**03 24 12.4**	**+2.8**
MAKZ	**Makanchi**	**11.20**	**13**	⇓Pn	**Pn**	**03 24 15.6**	**-1.3**
	comp=Z,5.1nm,0.5s						
MAKZ				⇑Sn	**Sn**	**03 26 18.7**	**-1.3**
	comp=Z,21nm,1.1s						
MAKZ	**Makanchi**	**11.20**	**13**	P	**Pn**	**03 24 15.6**	**-1.3**
MAKZ				S	**Sn**	**03 26 18.7**	**-1.3**
MAKZ	**Makanchi**	**11.20**	**13**		**Pn**	**03 24 13.9**	**-2.9**
MK31	**Makanchi Array**	**11.25**	**14**	⇓Pn	**Pn**	**03 24 16.2**	**-1.3**
	comp=Z,2.4nm,0.3s,baz=196,slow=13,SNR=165						
MK31				Sn	**Sn**	**03 26 19.6**	**-1.5**
	comp=Z,25nm,0.7s,baz=193,slow=25,SNR=50						
MK31	**Makanchi Array**	**11.25**	**14**	*d i*P	**Pn**	**03 24 16.2**	**-1.3**
MK31	**Makanchi Array**	**11.25**	**14**	Pn	**Pn**	**03 24 16.6**	**-0.9**
MKAR	**Makanchi Array**	**11.25**	**14**	Pn	**Pn**	**03 24 16.7**	**-0.8**
	comp=Z,3.1nm,0.3s,baz=204,slow=14,SNR=75						
MKAR				Sn	**Sn**	**03 26 15.1**	**-6.1**
	comp=Z,3.9nm,0.3s,baz=197,slow=18,SNR=15						
MKAR	**Makanchi Array**	**11.25**	**14**	*i* P	**Pn**	**03 24 16.2**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MKAR	**Makanchi Array**	**11.25**	**14**	Pn	**Pn**	**03 24 16.3**	**-1.2**
BHPL	**Bhopal**	**12.67**	**184**	*e*P	**Pn**	**03 24 33.5**	**-3.1**
BHPL				*e*S	Sn	03 26 42.9	-13
BHPL				IAML		03 26 50.3	
	comp=E,24nm,0.2s						
KURBB	**Kurchatov Arra**	**14.68**	**1**	Pn	**Pn**	**03 25 00.6**	**-1.9**
	comp=E,0.0nm,0.3s,baz=187,slow=12,SNR=7.1						
KURK	**Kurchatov**	**14.78**	**1**	P	**Pn**	**03 25 00.6**	**-3.1**
KURK	**Kurchatov**	**14.78**	**1**		**Pn**	**03 25 00.6**	**-3.1**
DGZ	**Jazzator, Alta**	**15.28**	**23**	*i* P	**P**	**03 25 10.4**	**-2.3**
DGZ				pmax	pmax		
	comp=Z,2.0nm,0.2s						
BVAR	**Borovoye Array**	**17.98**	**344**	P	**Pn**	**03 25 42.9**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=182,slow=16,SNR=7.5						
BRVK	**Borovoye**	**18.04**	**344**	*i* P	**Pn**	**03 25 44.2**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRVK	**Borovoye**	**18.04**	**344**	P	**Pn**	**03 25 43.0**	**-0.9**
BRVK				IAmb	IAmb	03 26 20.2	
	comp=Z,12nm,1.4s						
ZALV	**Zalesovo Beam**	**18.58**	**12**	P	**Pn**	**03 25 48.2**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=198,slow=14,SNR=5.4						
ZALV	**Zalesovo Beam**	**18.58**	**12**	*i* P	**Pn**	**03 25 49.9**	**-0.4**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**18.58**	**12**	P	**P**	**03 25 47.5**	**-1.4**
AB31	**Akbulak array**	**18.92**	**320**	⇑Pn	**Pn**	**03 25 54.3**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=119,slow=8.9,SNR=29						
AB31	**Akbulak array**	**18.92**	**320**	P	**Pn**	**03 25 54.3**	**-0.1**
ABKAR	**Akbulak array**	**18.92**	**320**	P	**Pn**	**03 25 53.5**	**-0.9**
AKTO	**Aktyubinsk**	**20.63**	**321**	P	**P**	**03 26 10.6**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=131,slow=6.3,SNR=8.4						
AKTO	**Aktyubinsk**	**20.63**	**321**	⇑Pn	Pn	03 26 15.6	+1.3
	comp=Z,2.7nm,0.7s						
SONM	**Songino Array**	**23.90**	**51**	P	**P**	**03 26 46.3**	**+1.9**
	comp=Z,1.2nm,0.7s,baz=242,slow=9.3,SNR=6.0						
ULN	**Ulaanbaatar**	**24.33**	**52**	*i* P	**P**	**03 26 50.8**	**+2.4**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARU	**Arti**	**24.48**	**333**	P	**P**	**03 26 50.4**	**+0.9**
	comp=Z,1.3nm,0.5s,baz=123,slow=7.9,SNR=9.8						
ARU	**Arti**	**24.48**	**333**	*d i*P	**P**	**03 26 51.0**	**+1.6**
ARU				*PP	**pP**	**03 27 05.7**	**-7.0**
ARU						03 27 22.6	
ARU				S	**S**	**03 31 09.7**	**+7.4**
ARU				SS	**SnSn**	**03 32 01.2**	**+3.2**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ARU	**Arti**	**24.48**	**333**	P	**P**	**03 26 50.3**	**+0.9**
ARU				IAmb	IAmb	03 26 50.9	
	comp=Z,4.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**25.19**	**128**	P	**P**	**03 26 58.1**	**+1.8**
	comp=Z,1.3nm,0.4s,baz=313,slow=10,SNR=7.1						
CMAR	**Chiang Mai Arr**	**25.19**	**128**	*i* P	**P**	**03 26 57.7**	**+1.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
HHC	**Hu-ho-hao-te**	**26.41**	**69**	*e*P	**P**	**03 27 07.8**	**+0.6**
HHC				pmax	pmax		
	comp=Z,12nm,0.7s						
HHC				pmax	pmax		
	comp=Z,88nm,5.7s						
GNI	**Garni**	**26.69**	**289**	*i* P	**P**	**03 27 12.0**	**+2.2**
GNI				pmax	pmax		
	comp=Z,11nm,1.3s						
BELG	**Belogornoye**	**27.21**	**317**	*i* P	**P**	**03 27 16.7**	**+2.6**
BELG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KBZ	**Khabaz**	**28.14**	**297**	*i* P	**P**	**03 27 25.5**	**+3.1**
KBZ				pmax	pmax		
	comp=Z,3.0nm,1.4s						
KIV	**Kislovodsk**	**28.30**	**297**	*e*P	**P**	**03 27 25.8**	**+1.7**
KIV				pmax	pmax		
	comp=Z,3.0nm,1.0s						
OBN	**Obninsk**	**34.31**	**317**	*e*P	**P**	**03 28 15.8**	**-0.7**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.5s						
BR131	**Keskin Array S**	**35.23**	**290**	P	**P**	**03 28 25.0**	**+0.2**
BR131				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BR131	**Keskin Array S**	**35.23**	**290**	P	**P**	**03 28 25.0**	**+0.2**
BR131				IAmb	IAmb	03 28 26.7	
	comp=Z,2.7nm,0.9s						
BRTR	**Keskin Array B**	**35.23**	**290**	P	**P**	**03 28 25.6**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=104,slow=7.8,SNR=11						
BRTR	**Keskin Array B**	**35.23**	**290**	*i* P	**P**	**03 28 26.0**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	**35.23**	**290**	P	**P**	**03 28 24.8**	**0.0**
AKASG	**Malin Array Be**	**37.93**	**309**	P	**P**	**03 28 47.5**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=84,slow=7.9,SNR=14						
AKASG	**Malin Array Be**	**37.93**	**309**	IAmb	IAmb	03 28 49.4	
	comp=Z,4.4nm,1.9s						
MLR	**Muntele Rosu**	**40.21**	**300**	P	**P**	**03 29 08.5**	**+1.9**
MLR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MLR	**Muntele Rosu**	**40.21**	**300**	P	**P**	**03 29 08.5**	**+1.9**
FINES	**FINESS Array B**	**41.31**	**325**	P	**P**	**03 29 16.1**	**+0.8**
	comp=Z,3.7nm,0.4s,baz=113,slow=9.0,SNR=72						
MEF	**Metsahovi**	**41.86**	**323**	*e*P	**P**	**03 29 20.6**	**+0.8**
MTSE	**Matsula**	**41.91**	**320**	*e*P	**P**	**03 29 21.0**	**+0.8**
RAF	**Rauma**	**43.28**	**324**	*e*P	**P**	**03 29 31.9**	**+0.7**
ARCES	**ARCESS Array B**	**43.99**	**336**	P	**P**	**03 29 38.1**	**+1.2**
	comp=Z,2.8nm,0.6s,baz=105,slow=8.9,SNR=17						
AAL	**Aland**	**44.03**	**322**	*e*P	**P**	**03 29 37.3**	**0.0**
GERES	**GERESS Array B**	**48.06**	**307**	P	**P**	**03 30 09.4**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=82,slow=9.6,SNR=4.1						
NORES	**NORESS Array B**	**48.24**	**323**	P	**P**	**03 30 10.4**	**+0.1**
NB2	**NORSAR Subarra**	**48.39**	**323**	P	**P**	**03 30 11.6**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=90,slow=7.9						
NOA	**NORSAR Array B**	**48.39**	**323**	P	**P**	**03 30 11.0**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=113,slow=6.7,SNR=9.6						
EKA	**Eskdalemuir Ar**	**56.76**	**317**	P	**P**	**03 31 12.8**	**-0.4**
ESDC	**Sonseca Array**	**62.90**	**301**	P	**P**	**03 31 55.6**	**0.0**
	comp=Z,0.3nm,0.6s,baz=49,slow=6.5,SNR=4.6						
TORD	**Torodi Ar. Bea**	**71.65**	**273**	P	**P**	**03 32 50.7**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=50,slow=5.3,SNR=13						
ILAR	**Eielson Array**	**73.57**	**18**	P	**P**	**03 33 02.1**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=316,slow=5.1,SNR=9.5						
KDAK	**Kodiak Island**	**77.34**	**25**	P	**P**	**03 33 24.2**	**+0.9**
	comp=Z,1.7nm,0.6s,baz=34,slow=4.1,SNR=7.8						
ASAR	**Alice Springs**	**79.20**	**130**	P	**P**	**03 33 33.9**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=315,slow=5.5,SNR=8.0						
BOSA	**Boshof**	**81.35**	**225**	P	**P**	**03 33 45.5**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=186,slow=0.9,SNR=4.0						
YKA	**Yellowknife Ar**	**81.36**	**6**	P	**P**	**03 33 45.5**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=313,slow=10,SNR=9.8						

MEX 06 03:25:29.0±0.7**, 17.57N×101.55W, h46km**±4km**, MD3.6, 1D, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.09**	**62**	*e*P	Pn	03 25 34.6	-1.6
ZIIG				*i* S	Sn	03 25 39.5	-1.9
ARIG	**Puente Sto Nin**	**1.34**	**58**	⇓*i*P	Pn	03 25 49.8	-1.6
ARIG				*i* S	Sn	03 26 05.9	-2.2
MEIG	**Mezcala**	**1.87**	**79**	*e*P	Pn	03 25 56.9	-1.7
MEIG				*i* S	Sn	03 26 19.2	-1.8

*BJI **06** 03:25:49.8±0.0, 17.17N×147.25E, h38km, mB5.0/33, mb4.9/55, Ms4.5/30, Ms7 4.2/31*
*IDC **06** 03:25:50.4±2.5, 17.05N×147.30E, h33km±18km, mb4.5/39, mb1 4.6/42, mb1mx4.6/48, mbtmp4.8/42, ML5.2/3, MS4.0/28, Ms1 4.0/28, ms1mx3.9/36, Error ellipse: s-maj=14.1km s-min=9.0km az=89.0*
*MOS **06** 03:25:50.7±1.0, 17.06N×147.11E, h48km, mb5.2/41, Error ellipse: s-maj=9.4km s-min=5.0km az=114.2*
*NEIC **06** 03:25:50.8±2.0, 17.10N±0.06×147.27E±0.09, h28km±4km, mb5.0/209, Error ellipse: s-maj=12.9km s-min=7.9km az=100.0*
*GCMT **06** 03:25:54.8±0.4, 16.78N±0.04×147.49E±0.02, h18km±1km, MW4.8/69, Moment Tensor Solution. s17,c19; s69,c86; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.57±.14; $M_{\theta\theta}$0.01±.08; $M_{\phi\phi}$-1.58±.10; $M_{r\theta}$1.24±.28; $M_{\theta\phi}$0.12±.06; $M_{\phi r}$0.58±.18; Best double couple: $M_0$2.01300×10^{16} NP1:ϕ_s155.00000°, δ41.00000°, λ46.00000°. NP2: ϕ_s26.00000°, δ62.00000°, λ121.00000°. Principal axes: T 2.3360, Plg61.0000°, Azm343.0000°; N -0.6500, Plg27.0000°, Azm190.0000°; P -1.6900, Plg12.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 03:25:53.6±0.6**, 17.08N**±0.04×**147.14E**±0.06**, h57km**±5km**, n533,** σ**1s31**/467**, mb5.0**/214**, MS4.1**/41**, 55C-15D, Fault plane solution: NP1:**ϕ_s160.68675°**,** δ56.70461°**,** λ40.61452°. **NP2:**ϕ_s45.47790°**,** δ57.03604°**,** λ139.13437°. **Principal axes:** T Plg50.6164°, Azm12.9119°**;** N Plg39.3829°, Azm193.3121°**;** P Plg0.1963°, Azm103.1509°**; Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**1.35**	**254**	P	**Pn**	**03 26 18.4**	**+2.1**
ANA2	**Anatahan**	**1.55**	**242**		**Pn**	**03 26 20.5**	**+1.6**
ANA2	**Anatahan**	**1.55**	**242**	P	**Pn**	**03 26 21.2**	**+2.3**
GUMO	**Guam**	**4.10**	**213**	Pn	**Pn**	**03 26 52.8**	**-1.0**
	171nm,0.3s,baz=82,slow=2.6,SNR=53						
GUMO				Sn	**Sn**	**03 27 40.4**	**-0.1**
	102nm,0.3s,baz=1.5,slow=22,SNR=4.0						
GUMO				LR	LR	03 28 31.3	
	comp=Z,1μm,19.4s,baz=29,slow=39						
GUMO	**Guam**	**4.10**	**213**	Pn	**Pn**	**03 26 52.7**	**-1.1**
GUMO	**Guam**	**4.10**	**213**	P	**Pn**	**03 26 52.8**	**-1.0**
JCJ	**Chichijima**	**10.97**	**336**	Pn	**Pn**	**03 28 25.3**	**-2.6**
	36nm,0.3s,baz=95,slow=14,SNR=24						
JCJ				Sn	**Sn**	**03 30 23.2**	**-5.9**
	0.8nm,0.3s,baz=285,slow=21,SNR=2.7						
JCJ	**Chichijima**	**10.97**	**336**	Pn	**Pn**	**03 28 24.5**	**-3.4**
JHJ2	**Mitsune**	**17.28**	**339**		**P**	**03 29 51.3**	**-0.3**
JHJ2				IAmb	IAmb	03 30 20.5	
	comp=Z,124nm,0.9s						
JHJ	**Hachijo jima 2**	**17.30**	**339**	P	**P**	**03 29 51.5**	**-0.4**
	comp=Z,12nm,0.3s,baz=59,slow=24,SNR=3.0						
H11S3	**WAKE ISLAND Hy**	**18.67**	**83**	T	T	03 48 47.6	
	baz=269,slow=75,SNR=7.2						
H11S1	**WAKE ISLAND Hy**	**18.68**	**83**	T	T	03 48 46.4	
	baz=269,slow=75,SNR=7.0						
H11S2	**WAKE ISLAND Hy**	**18.69**	**83**	T	T	03 48 51.1	
	baz=269,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hy**	**18.93**	**79**	T	T	03 49 09.0	
	baz=265,slow=74,SNR=11						
H11N2	**WAKE ISLAND Hy**	**18.93**	**79**	T	T	03 49 08.8	
	baz=265,slow=74,SNR=9.6						
H11N3	**WAKE ISLAND Hy**	**18.95**	**79**	T	T	03 49 07.2	
	baz=265,slow=74,SNR=11						
JOW	**Kunigami**	**19.98**	**302**	P	**Pn**	**03 30 23.3**	**-0.3**
	comp=Z,27nm,0.7s,baz=106,slow=4.7,SNR=3.8						
JOW				LR	LR	03 37 42.2	
	comp=Z,583nm,18.0s,baz=260,slow=35						
JOW	**Kunigami**	**19.98**	**302**	IAmb	IAmb	03 30 42.2	
	comp=Z,108nm,1.4s						
JYT	**Yasato**	**20.05**	**343**	P	**P**	**03 30 21.2**	**-0.8**
JYT				IAmb	IAmb	03 30 28.7	
	comp=Z,62nm,0.6s						
INU	**Inuyama**	**20.31**	**336**	P	**P**	**03 30 25.2**	**+0.3**
INU				IAmb	IAmb	03 30 29.6	
	comp=Z,72nm,0.8s						
JGF	**Kuroka**	**20.40**	**337**	P	**P**	**03 30 25.8**	**-0.1**
JAY	**Jayapura**	**20.48**	**199**	P	**P**	**03 30 26.9**	**0.0**
	comp=Z,14nm,0.6s,baz=327,slow=5.2,SNR=9.8						
JAY				LR	LR	03 38 52.9	
	comp=Z,250nm,19.7s,baz=360,slow=38						
JAY	**Jayapura**	**20.48**	**199**	P	**P**	**03 30 25.3**	**-1.6**
	comp=Z,21nm,0.9s						
GENI	**Genyem**	**20.72**	**200**	P	**P**	**03 30 29.3**	**-0.1**
	comp=Z,2μmcomp=Z,68nm,0.9s						
JWT	**Wachi**	**20.94**	**332**	P	**P**	**03 30 31.8**	**+0.1**
JWT				IAmb	IAmb	03 30 51.2	
	comp=Z,68nm,1.4s						
MJAR	**Matsushiro Arr**	**20.94**	**340**	P	**P**	**03 30 30.6**	**-1.1**
	comp=Z,26nm,0.5s,baz=176,slow=10.0,SNR=103						
MJAR	**Matsushiro Arr**	**20.94**	**340**	P	**P**	**03 30 30.8**	**-0.9**

MJAR pmax pmax
comp=Z,34nm,0.8s
MJAR Matsushiro Arr 20.94 340 P **P** **03 30 30.8 -0.9**
MAJO Matsushiro 20.94 340 P **P** **03 30 30.8 -0.9**
MAJO pmax pmax
comp=Z,58nm,0.8s
MAJO Matsushiro 20.94 340 P **P** **03 30 30.8 -0.9**
MAJO lAmb lAmb 03 30 42.7
comp=Z,58nm,0.8s
MAT Matsushiro 20.94 340 S **S** **03 34 24.6 +2.6**
MAT Matsushiro 20.94 340 P **P** **03 30 30.3 -1.4**
JMM Marumori 21.45 346 P **P** **03 30 37.6 +0.5**
JMM lAmb lAmb 03 30 50.9
comp=Z,55nm,0.8s
JNU Nakatsue 21.68 321 P **P** **03 30 41.1 +1.5**
comp=Z,11nm,0.8s,baz=144,slow=5.9,SNR=5.1
JSD Sado 22.29 341 P **P** **03 30 45.4 -0.8**
WAMI Wamena 22.43 203 P **P** **03 30 48.5 +0.7**
comp=Z,103nm,0.6s
DAV Davao City (W) 23.28 247 P **P** **03 30 56.7 +0.1**
SWI Sorong 23.72 223 P **P** **03 31 01.4 +0.8**
SWI pmax pmax
comp=Z,78nm,1.0s
SWI Sorong 23.72 223 P **P** **03 31 00.6 0.0**
comp=Z,1µmcomp=Z,79nm,1.0s
SIJI Sorong 23.72 223 P **P** **03 30 59.5 -1.2**
comp=Z,28nm,0.5s,baz=58,slow=10,SNR=6.2
SIJI Sorong 23.72 223 P **P** **03 30 59.8 -0.9**
comp=Z,50nm,1.1s
JTM Tenmabayashi 24.20 349 P **P** **03 31 04.8 0.0**
YULB Yu-li 25.02 289 P **P** **03 31 12.8 +0.3**
TWG Pinlang 25.14 287 P **P** **03 31 13.1 -0.4**
YHNB Yeheng 25.20 292 P **P** **03 31 13.7 -0.5**
SSLB Suanglung 25.40 290 lAmb lAmb 03 31 21.2
comp=Z,35nm,0.6s
KSRS Korea Array 26.43 324 P **P** **03 31 24.1 -1.0**
comp=Z,5.0nm,0.5s,baz=143,slow=8.9,SNR=24
KSRS LR LR 03 42 01.7
comp=Z,404nm,18.2s,baz=130,slow=37
ASAJ Asahikawa 27.23 353 P **P** **03 31 32.3 +0.1**
comp=Z,21nm,0.8s,baz=204,slow=9.2,SNR=15
ASAJ LR LR 03 42 03.0
comp=Z,141nm,20.0s,baz=184,slow=36
JKA Kamikawa-asahi 27.23 353 lAmb lAmb 03 31 35.7
comp=Z,24nm,0.8s
KRAI Karang Ratu 27.44 224 P **P** **03 31 34.5 +0.1**
KRAI pP **pP** **03 31 44.9 -2.5**
TEY Ternei 29.25 345 *eP* **P** **03 31 50.3 +0.2**
NJ2 Nanjing 29.61 305 *eP* **P** **03 31 54.6 +1.1**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
USRK Ussuriysk Ar. 29.91 338 P **P** **03 31 56.4 +0.3**
comp=Z,3.7nm,0.6s,baz=132,slow=9.5,SNR=14
YSS Yuzh-Sakhalins 30.01 354 *eP* P 03 31 51.9 -5.0
YSS *e* 03 32 58.2
YSS pmax pmax
comp=Z,200nm,5.8s
YSS MLR MLR
comp=Z,400nm,13.0s
YSS MLR MLR
comp=N,200nm,14.0s
YSS Yuzh-Sakhalins 30.01 354 P **P** **03 31 54.7 -2.1**
YSS lAmb lAmb 03 32 03.8
comp=Z,34nm,1.2s
SPMM Sapulut 32.47 251 P **P** **03 32 20.0 +1.1**
MTN Manton Dam 33.67 209 P **P** **03 32 28.2 -1.1**
MTN lAmb lAmb 03 32 34.9
comp=Z,17nm,0.8s
KLR Kul'dur 34.42 342 P **P** **03 32 35.5 0.0**
comp=Z,17nm,0.5s,baz=161,slow=7.0,SNR=67
KLR Kul'dur 34.42 342 *ceP* **P** **03 32 34.8 -0.7**
KLR pmax pmax
comp=Z,45nm,1.5s
GRNR Gornyy 34.69 348 ⇓ *iP* **P** **03 32 38.8 +1.0**
GRNR pmax pmax
comp=Z,9.0nm,0.7s
GRNR MLR MLR
comp=Z,160nm,14.0s
SOEI Soe 34.96 222 P **P** **03 32 41.0 +0.4**
QIZ Qiongzhong 35.47 279 P **P** **03 32 44.2 -0.7**
QIZ S **S** **03 38 18.5 +2.2**
QIZ LR LR
comp=Z,180nm,13.5s
QIZ LR LR
comp=Z,200nm,11.4s
QIZ LR LR
comp=Z,140nm,15.7s
ENH Enshi 36.72 298 P **P** **03 32 55.1 -0.5**
ENH lAmb lAmb 03 32 57.7
comp=Z,9.8nm,0.5s
PETK Petropavlovsk- 36.90 11 P **P** **03 32 56.3 -0.4**
comp=Z,7.2nm,1.0s,baz=179,slow=7.4,SNR=5.8
PETK LR LR 03 50 26.7
comp=Z,225nm,18.1s,baz=193,slow=40
PETK Petropavlovsk- 36.90 11 P **P** **03 32 56.8 +0.2**
PETK Petropavlovsk- 36.90 11 P **P** **03 32 56.8 +0.2**
CTA Charters Tower 36.94 181 P **P** **03 32 56.0 -1.4**
comp=Z,2.2nm,0.7s,baz=316,slow=5.0,SNR=3.1
KNRA Kununurra 37.25 210 P **P** **03 32 59.6 -0.4**
KNRA lAmb lAmb 03 33 14.7
comp=Z,18nm,0.8s
SBUM Sibu 37.25 251 P **P** **03 33 02.0 +1.9**
GYA Guiyang 38.59 291 ⇓ P **P** **03 33 13.1 +1.6**
GYA pP pP 03 33 23.8 -1.0
GYA pmax pmax
comp=Z,16nm,0.7s
HHC Hu-ho-hao-te 38.71 315 *eP* **P** **03 33 14.0 +1.7**
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,110nm,6.6s
HHC LR LR
comp=Z,250nm,17.1s
HHC LR LR
comp=Z,220nm,16.0s
HHC LR LR
comp=Z,250nm,17.3s
WR0 Warramunga Arr 38.83 199 P **P** **03 33 12.4 -0.9**
WRAB Tennant Creek 38.86 199 *i* P **P** **03 33 12.4 -1.2**
WRAB pmax pmax
comp=Z,25nm,0.9s
WB2 Warramunga Arr 38.87 199 P **P** **03 33 12.8 -0.9**
WB2 lAmb lAmb 03 33 26.1
comp=Z,22nm,0.8s
WRA Warramunga Arr 38.88 199 P **P** **03 33 12.8 -0.9**
comp=Z,12nm,0.4s,baz=27,slow=9.9,SNR=360
WRA PcP **PcP** **03 35 24.3 +0.5**
comp=Z,1.5nm,0.4s,baz=22,slow=2.7,SNR=5.5
WRA LR LR 03 51 21.1
comp=Z,206nm,18.0s,baz=340,slow=39
WRA Warramunga Arr 38.88 199 P **P** **03 33 12.7 -0.9**
HIA Hailar 39.03 331 *i* P **P** **03 33 15.4 +0.7**
HIA pmax pmax
comp=Z,15nm,0.7s
HIA Hailar 39.03 331 P **P** **03 33 15.2 +0.5**
HIA lAmb lAmb 03 33 18.3
comp=Z,15nm,0.6s
TWSI Taliwang, Sumb 39.41 232 P **P** **03 33 17.4 -0.8**
comp=Z,29nm,0.9s
ZEA Zeya 39.73 342 *eP* **P** **03 33 20.3 -0.1**
ZEA pmax pmax
comp=N,10.0nm,1.3s
ZEA pmax pmax
comp=Z,200nm,1.1s
ZEA MLR MLR
comp=E,200nm,13.0s
ZEA MLR MLR
comp=Z,200nm,16.0s
KLNI Mataram 39.80 233 P **P** **03 33 21.0 -0.5**
comp=Z,2µmcomp=Z,30nm,0.9s
FITZ Fitzroy Crossi 40.86 212 P **P** **03 33 29.6 -0.5**
SLVN Son La 40.95 283 P **P** **03 33 31.0 -0.1**
SKNT Sakolnakorn 41.20 276 P P 03 33 38.1 +5.0
comp=Z,15nm,1.0s
SKNT Sakolnakorn 41.20 276 P P 03 33 38.1 +5.1
comp=Z,15nm,1.0s
CD2 Chengdu 41.70 297 P **P** **03 33 36.8 -0.2**
CD2 pmax pmax
comp=Z,20nm,0.4s
CD2 Chengdu 41.70 297 P **P** **03 33 37.1 +0.1**
CD2 pmax pmax
comp=Z,20nm,0.4s
NONG Nongkai 41.88 278 P **P** **03 33 41.0 +2.4**
comp=Z,5µmcomp=Z,14nm,0.9s
NONG Nongkai 41.88 278 P **P** **03 33 41.0 +2.4**
comp=Z,5µmcomp=Z,14nm,0.9s

KMI Kunming 42.04 289 ⇓ P **P** **03 33 40.6 +0.5**
KMI pmax pmax
comp=Z,9.0nm,1.6s
AS31 Alice Springs 42.51 198 P **P** **03 33 42.5 -1.1**
ASAR Alice Springs 42.51 198 P **P** **03 33 42.7 -0.9**
comp=Z,3.2nm,0.4s,baz=19,slow=8.2,SNR=63
ASAR LR LR 03 51 44.8
comp=Z,146nm,21.1s,baz=3.5,slow=36
ASAR Alice Springs 42.51 198 P **P** **03 33 42.4 -1.2**
MA2 Magadan 42.52 3 P **P** **03 33 44.2 +0.9**
comp=Z,8.5nm,0.7s,baz=246,slow=22,SNR=1.7
MA2 Magadan 42.52 3 lAmb lAmb 03 33 54.5
comp=Z,42nm,1.2s
LZH Lanzhou 42.69 305 *eP* **P** **03 33 47.8 +2.6**
LZH pP pP 03 34 00.3 +1.6
LZH pmax pmax
comp=Z,30nm,1.1s
LZH pmax pmax
comp=Z,64nm,4.9s
LZH LR LR
comp=Z,240nm,16.8s
LZH LR LR
comp=Z,370nm,17.9s
LZH LR LR
comp=Z,250nm,16.3s
SJI Sawahan 42.78 238 P **P** **03 33 45.2 -0.9**
comp=Z,25nm,0.7s
PWJI Pagerwojo 42.92 237 P **P** **03 33 47.1 0.0**
comp=Z,2µmcomp=Z,67nm,0.7s
CHAI Chaiyaphum 43.24 275 P **P** **03 33 50.9 +1.3**
comp=Z,631nmcomp=Z,42nm,0.6s
CHAI Chaiyaphum 43.24 275 P **P** **03 33 51.0 +1.3**
comp=Z,157nmcomp=Z,10nm,0.6s
DZM Mont Dzumac 43.26 153 *eP* **P** **03 33 50.7 +0.9**
comp=Z,52nm,1.2s
DZM Mont Dzumac 43.26 153 *e* LR LR 03 45 42.2
comp=Z,266nm,24.4s
DZM Mont Dzumac 43.26 153 P **P** **03 33 49.3 -0.5**
DZM lAmb lAmb 03 33 52.0
comp=Z,24nm,1.1s
SRAK Srakaew 43.48 273 P **P** **03 33 49.4 -2.2**
comp=Z,3µmcomp=Z,330nm,1.2s
UTTA Uttaradit 44.37 278 P **P** **03 34 00.3 +1.6**
comp=Z,448nmcomp=Z,37nm,0.7s
UTTA Uttaradit 44.37 278 P **P** **03 34 00.3 +1.6**
comp=Z,112nmcomp=Z,9.3nm,0.7s
PHIT Phitsanulok 44.56 277 P **P** **03 34 02.0 +1.8**
comp=Z,127nm,0.8s
PHIT Phitsanulok 44.56 277 P **P** **03 34 02.1 +1.8**
comp=Z,32nm,0.8s
PAYA Payao 44.85 280 P **P** **03 34 04.5 +1.9**
comp=Z,26nm,0.9s
PAYA Payao 44.85 280 P **P** **03 34 04.6 +1.9**
comp=Z,6.4nm,0.9s
ULN Ulaanbaatar 44.88 322 *ceP* **P** **03 34 03.0 +0.4**
ULN pmax pmax
comp=Z,8.0nm,0.7s
ULN Ulaanbaatar 44.88 322 P **P** **03 34 03.3 +0.6**
SONM Songino Array 45.26 322 P **P** **03 34 05.5 -0.1**
comp=Z,8.0nm,0.6s,baz=140,slow=8.4,SNR=36
SONM PcP **PcP** **03 35 45.4 +0.7**
comp=Z,2.9nm,0.6s,baz=138,slow=3.9,SNR=5.2
SONM Songino Array 45.26 322 P **P** **03 34 04.8 -0.7**
SONM lAmb lAmb 03 34 07.8
comp=Z,9.3nm,0.6s
CM34 Chiang Mai Arr 45.58 280 P **P** **03 34 09.9 +1.6**
CM35 Chiang Mai Arr 45.59 280 P **P** **03 34 09.0 +0.6**
CM36 Chiang Mai Arr 45.66 279 P **P** **03 34 10.0 +1.0**
UTHA Uthaitani 45.71 275 P **P** **03 34 11.4 +2.0**
comp=Z,387nmcomp=Z,47nm,0.8s
UTHA Uthaitani 45.71 275 P **P** **03 34 11.4 +2.0**
comp=Z,96nmcomp=Z,12nm,0.8s
CM09 Chiang Mai Arr 45.77 279 P **P** **03 34 12.0 +2.2**
comp=Z,236nmcomp=Z,27nm,0.9s
CM09 Chiang Mai Arr 45.77 279 P **P** **03 34 12.1 +2.2**
comp=Z,236nmcomp=Z,27nm,0.9s
CM33 Chiang Mai Arr 45.77 280 P **P** **03 34 11.0 +1.1**
CMMT Chiang Mai 45.77 280 P **P** **03 34 11.1 +1.2**
comp=Z,16nm,1.3s
CMMT Chiang Mai 45.77 280 P **P** **03 34 11.2 +1.2**
comp=Z,16nm,1.3s
CHTO Chiang Mai 45.77 280 P **P** **03 34 09.7 -0.2**
CHTO pmax pmax
comp=Z,10.0nm,0.8s
CHTO Chiang Mai 45.77 280 P **P** **03 34 11.2 +1.3**
comp=Z,16nm,1.4s
CHTO Chiang Mai 45.77 280 P **P** **03 34 09.7 -0.2**
CHTO Chiang Mai 45.77 280 P **P** **03 34 10.6 +0.7**
comp=Z,9.0nm,1.4s
CM04 Chiang Mai Arr 45.78 279 P **P** **03 34 11.9 +1.9**
comp=Z,272nmcomp=Z,32nm,0.9s
CM04 Chiang Mai Arr 45.78 279 P **P** **03 34 11.9 +1.9**
comp=Z,272nmcomp=Z,32nm,0.9s
CM01 Chiang Mai Arr 45.80 279 P **P** **03 34 12.1 +1.9**
comp=Z,278nmcomp=Z,29nm,0.9s
CM01 Chiang Mai Arr 45.80 279 P **P** **03 34 12.0 +1.9**
comp=Z,278nmcomp=Z,29nm,0.9s
CM02 Chiang Mai Arr 45.81 279 P **P** **03 34 12.1 +1.9**
comp=Z,253nmcomp=Z,33nm,1.0s
CM02 Chiang Mai Arr 45.81 279 P **P** **03 34 12.0 +1.9**
comp=Z,253nmcomp=Z,33nm,1.0s
CM31 Chiang Mai Arr 45.81 279 P P 03 34 17.1 +7.0
comp=Z,943nm,0.5s
CMAR Chiang Mai Arr 45.81 279 P **P** **03 34 11.7 +1.5**
comp=Z,30nm,1.0s,baz=72,slow=6.6,SNR=74
CMAR Chiang Mai Arr 45.81 279 *ceP* **P** **03 34 12.3 +2.1**
CMAR pmax pmax
comp=Z,19nm,0.8s
CMAR Chiang Mai Arr 45.81 279 P **P** **03 34 11.1 +0.9**
CM05 Chiang Mai Arr 45.81 279 P **P** **03 34 12.0 +1.8**
comp=Z,274nmcomp=Z,27nm,0.9s
CM05 Chiang Mai Arr 45.81 279 P **P** **03 34 12.1 +1.8**
comp=Z,274nmcomp=Z,27nm,0.9s
CM15 Chiang Mai Arr 45.83 279 P **P** **03 34 12.4 +2.1**
comp=Z,35nm,0.5s
CM15 Chiang Mai Arr 45.83 279 P **P** **03 34 12.0 +1.7**
comp=Z,35nm,0.5s
CM13 Chiang Mai Arr 45.85 279 P **P** **03 34 12.3 +1.8**
comp=Z,311nmcomp=Z,32nm,1.0s
CM13 Chiang Mai Arr 45.85 279 P **P** **03 34 12.3 +1.8**
comp=Z,311nmcomp=Z,32nm,1.0s
CM32 Chiang Mai Arr 45.88 280 P P 03 34 26.0 +15
SEY Seymchan 45.95 3 P **P** **03 34 10.9 +0.3**
comp=Z,4.5nm,0.6s,baz=193,slow=10,SNR=6.7
SEY Seymchan 45.95 3 *i* P **P** **03 34 11.8 +1.2**
PHET Kaeng Krachan 45.99 272 P **P** **03 34 14.2 +2.6**
comp=Z,39nm,0.8s
PHET Kaeng Krachan 45.99 272 P **P** **03 34 14.0 +2.4**
comp=Z,10nm,0.8s
MSVF Nonsavu 46.07 137 P **P** **03 34 09.9 -2.3**
comp=Z,7.5nm,0.7s,baz=303,slow=9.3,SNR=6.9
MSVF Nonsavu 46.07 137 lAmb lAmb 03 34 13.4
comp=Z,12nm,0.8s
UMPA Umpang Tak 46.17 276 P **P** **03 34 15.8 +2.7**
comp=Z,8µmcomp=Z,50nm,0.9s
UMPA Umpang Tak 46.17 276 P **P** **03 34 15.0 +1.9**
comp=Z,2µmcomp=Z,12nm,0.9s
SKLT Songkhla 46.43 264 P **P** **03 34 17.8 +2.8**
comp=Z,564nmcomp=Z,44nm,0.9s
SKLT Songkhla 46.43 264 P **P** **03 34 17.8 +2.8**
comp=Z,564nmcomp=Z,44nm,0.9s
YAK Yakutsk 46.56 349 P **P** **03 34 13.8 -1.6**
comp=Z,14nm,0.5s,baz=322,slow=1.8,SNR=3.5
YAK Yakutsk 46.56 349 *eP* **P** **03 34 15.4 0.0**
YAK pmax pmax
comp=Z,15nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK Yakutsk 46.56 349 P **P** **03 34 15.4 0.0**
GTA Gaotai 46.62 308 *eP* **P** **03 34 17.5 +1.1**
GTA pP pP 03 34 28.0 -2.1
GTA sP pwP 03 34 32.7 -2.4
GTA PcP **PcP** **03 35 50.8 +1.1**
GTA ScP **ScP** **03 39 43.1 +4.6**
GTA pmax pmax
comp=E,6.0nm,0.9s
GTA pmax pmax
comp=E,46nm,6.2s
GTA LR LR
comp=E,130nm,16.4s
GTA LR LR
comp=E,250nm,15.3s
GTA LR LR
comp=E,310nm,17.1s
MHMT Maesarieng 46.80 279 P **P** **03 34 20.0 +2.1**
comp=E,752nmcomp=E,40nm,0.9s
MHMT Maesarieng 46.80 279 P **P** **03 34 20.1 +2.1**
comp=E,752nmcomp=E,40nm,0.9s
PSA00 Pilbara Seismi 46.80 216 P **P** **03 34 16.9 -1.0**
SURA Surathani 46.83 267 P **P** **03 34 21.1 +2.9**
comp=E,65nm,0.9s
SURA Surathani 46.83 267 P **P** **03 34 21.2 +2.9**
comp=E,64nm,0.9s
TRTT Trang 47.12 265 P **P** **03 34 23.1 +2.6**
comp=E,34nm,1.0s
TRTT Trang 47.12 265 P **P** **03 34 23.2 +2.6**
comp=E,34nm,1.0s
KRAB Krabi 47.49 266 P **P** **03 34 26.4 +3.0**
comp=E,19µmcomp=E,872nm,0.6s
KRAB Krabi 47.49 266 P **P** **03 34 26.4 +3.0**
comp=E,5µmcomp=E,218nm,0.6s
BOD Bodaibo 47.53 337 *eP* **P** **03 34 22.5 -0.6**
BOD pmax pmax
comp=Z,25nm,1.7s
SURT Suratani 47.68 267 P **P** **03 34 28.2 +3.4**
comp=Z,34nmcomp=Z,3.3nm,1.1s
SURT Suratani 47.68 267 P **P** **03 34 28.3 +3.4**
ZAK Zakamensk 48.26 324 *eP* **P** **03 34 28.0 -1.0**
ZAK *e* 03 35 55.9
ZAK pmax pmax
comp=Z,9.0nm,1.1s
STKA Stephens Creek 48.96 186 P **P** **03 34 32.5 -1.8**
comp=Z,3.8nm,0.7s,baz=2.7,slow=7.4,SNR=6.8
STKA LR LR 03 56 35.6
comp=Z,142nm,19.6s,baz=241,slow=38
LHMI Lhok Sumawe 50.48 263 P **P** **03 34 46.6 +0.3**
GSI Gunungsitoli 51.18 258 P **P** **03 34 52.1 +0.5**
SHL Shillong 51.86 289 P **P** **03 34 56.5 -0.2**
SHL pmax pmax
comp=Z,31nm,0.4s
SHL Shillong 51.86 289 P **P** **03 34 56.5 -0.2**
SHL Shillong 51.86 289 *eP* **P** **03 34 57.0 +0.3**
BILL Bilibino 52.39 9 ⇓ *eP* **P** **03 35 01.8 +2.1**
BILL pmax pmax
comp=Z,23nm,1.3s
BILL MLR MLR
comp=Z,137nm,18.0s
BILL Bilibino 52.39 9 P **P** **03 35 01.0 +1.3**
LSA Lhasa 52.46 295 P **P** **03 35 02.3 +0.9**
LSA pmax pmax
comp=Z,23nm,0.5s
LSA Lhasa 52.46 295 P **P** **03 35 02.3 +0.9**
SDPT Sand Point 55.04 34 P **P** **03 35 18.8 -0.5**
TAPN Taplejung 55.52 292 *eP* **P** **03 35 24.8 +1.2**
comp=Z,19nm,0.4s
TIXI Tiksi 55.63 353 P **P** **03 35 23.0 -0.3**
comp=Z,4.9nm,0.6s,baz=133,slow=6.8,SNR=7.3
TIXI Tiksi 55.63 353 *ceP* **P** **03 35 24.3 +1.0**
TIXI Tiksi 55.63 353 P **P** **03 35 23.7 +0.4**
TIXI lAmb lAmb 03 35 34.4
comp=Z,8.4nm,0.6s
ODAN Odare 55.83 291 *eP* **P** **03 35 26.6 +0.8**
comp=Z,27nm,0.5s
WMQ Urumqi 56.40 312 *eP* **P** **03 35 30.9 +1.5**
WMQ pmax pmax
comp=Z,52nm,1.5s
WMQ pmax pmax
comp=Z,120nm,4.1s
WMQ LR LR
comp=Z,240nm,18.9s
WMQ LR LR
comp=Z,150nm,22.7s
RAMN Ramite 56.53 291 *eP* **P** **03 35 32.1 +1.3**
comp=Z,11nm,0.4s
JIRN Jiri 56.85 292 *eP* **P** **03 35 34.3 +1.1**
comp=Z,52nm,0.6s
GUN Gumba 57.12 292 *eP* **P** **03 35 36.9 +1.8**
comp=Z,24nm,0.4s
PKI Pulchoki 57.55 292 *eP* **P** **03 35 39.1 +1.0**
comp=Z,20nm,0.4s
PKIN Phulchoki 57.56 292 *eP* **P** **03 35 39.3 +1.2**
comp=Z,32nm,0.4s
DGZ Jazzator, Alta 57.64 318 *i* P **P** **03 35 38.4 +0.3**
DGZ pmax pmax
comp=Z,17nm,0.6s
DMN Daman 57.82 292 *eP* **P** **03 35 41.4 +1.5**
comp=Z,35nm,0.5s
DANN Dangsing 58.96 293 *eP* **P** **03 35 48.8 +0.9**
comp=Z,109nm,0.5s
KOLN Koldanda 59.14 292 *eP* **P** **03 35 49.6 +0.6**
O18K Koktuh Hills 59.32 30 lAmb lAmb 03 35 52.4
comp=Z,21nm,1.3s
O18K Koktuh Hills 59.32 30 P **P** **03 35 50.3 +0.8**
baz=250
SVW2 Sparrevohn 59.59 28 P **P** **03 35 52.1 +0.8**
SVW2 lAmb lAmb 03 35 54.0
comp=Z,14nm,1.3s
PYUN Piuthan 59.66 293 *eP* **P** **03 35 53.9 +1.3**
comp=Z,33nm,0.5s
KDAK Kodiak Island 59.97 33 P **P** **03 35 52.2 -1.8**
comp=Z,6.4nm,0.8s,baz=294,slow=5.0,SNR=9.7
N19K Bonanza Creek 59.99 29 P **P** **03 35 54.9 +0.7**
N19K lAmb lAmb 03 36 04.5
comp=Z,8.0nm,0.9s
N19K Bonanza Creek 59.99 29 P **P** **03 35 54.9 +0.7**
baz=250
ZAA0 Zalesovo Array 60.13 323 P **P** **03 35 54.4 -0.7**
ZALV Zalesovo Beam 60.13 323 P **P** **03 35 54.3 -0.8**
comp=Z,9.7nm,0.4s,baz=114,slow=9.4,SNR=38
ZALV PcP **PcP** **03 36 40.3 0.0**
comp=Z,6.1nm,0.5s,baz=111,slow=3.1,SNR=5.5
ZALV LR LR 04 02 12.1
comp=Z,110nm,19.2s,baz=87,slow=36
ZALV Zalesovo Beam 60.13 323 P **P** **03 35 53.9 -1.2**
P19K Oil Pt 60.20 30 P **P** **03 35 56.3 +0.8**
baz=252
L19K White Mountain 60.30 27 P **P** **03 35 57.1 +1.0**
baz=249
MK31 Makanchi Array 60.57 314 *i* P **P** **03 35 58.3 0.0**
MK31 pmax pmax
comp=Z,7.0nm,0.5s
MK31 Makanchi Array 60.57 314 P **P** **03 35 58.0 -0.3**
MK31 lAmb lAmb 03 35 59.5
comp=Z,17nm,1.4s
MKAR Makanchi Array 60.57 314 P **P** **03 35 58.4 +0.1**
comp=Z,10nm,0.5s,baz=91,slow=7.6,SNR=183
MKAR LR LR 04 03 00.6
comp=Z,82nm,20.3s,baz=78,slow=37
O20K Slope Mountain 60.62 30 P **P** **03 35 59.0 +0.5**
baz=252
MAKZ Makanchi 60.78 314 P **P** **03 35 59.5 -0.3**
MAKZ pmax pmax
comp=Z,19nm,0.5s
MAKZ Makanchi 60.78 314 P **P** **03 35 59.5 -0.3**
K20K Telida 61.06 26 P **P** **03 36 02.2 +0.9**
K20K lAmb lAmb 03 36 11.8
comp=Z,13nm,1.2s
J20K Nowinta River 61.32 25 P **P** **03 36 04.9 +1.8**
baz=249
PDGK Podgornoye 62.29 310 P **P** **03 36 09.7 -0.4**
SHLS Shalkode 62.30 310 *eP* **P** **03 36 08.5 -1.7**
baz=310
SHLS Shalkode 62.30 310 *eP* **P** **03 36 08.5 -1.7**
I21K Tanana 62.55 25 lAmb lAmb 03 36 14.5
comp=Z,18nm,1.1s
I21K Tanana 62.55 25 P **P** **03 36 13.0 +1.8**
baz=250,SNR=9.1
BPAW Bear Paw Mtn. 62.60 26 P **P** **03 36 12.4 +0.7**
baz=252
UZB Uzynbulak 62.62 310 *eP* **P** **03 36 12.0 -0.4**
comp=Z,5.4nm,0.7s,baz=310
UZB Uzynbulak 62.62 310 *eP* **P** **03 36 11.9 -0.4**
UZB pmax pmax
comp=Z,5.0nm,0.7s
KPKS Kokpek 62.88 310 *eP* **P** **03 36 13.4 -0.6**
baz=310
KPKS Kokpek 62.88 310 *eP* **P** **03 36 13.4 -0.6**
MLY Manley 62.99 25 lAmb lAmb 03 36 25.0
comp=Z,18nm,1.0s
MLY Manley 62.99 25 P **P** **03 36 15.6 +1.3**
baz=252,SNR=18
SATY Saty 63.07 310 ⇑ *iP* **P** **03 36 15.4 +0.1**
comp=Z,3.3nm,0.4s,baz=310
SATY Saty 63.07 310 *c iP* **P** **03 36 15.4 +0.1**
SATY pmax pmax
comp=Z,3.0nm,0.4s
SML Sawmill 63.12 29 P **P** **03 36 15.7 +0.5**
baz=255
WAT1 Susitna Watana 63.28 28 P **P** **03 36 16.9 +0.7**
baz=255
KURK Kurchatov 63.39 319 P **P** **03 36 17.1 0.0**

KURK **Kurchatov** 63.39 319 P P 03 36 17.1 0.0
KURBB **Kurchatov Arra** 63.44 318 P P 03 36 17.1 -0.3
comp=Z,18nm,0.5s,baz=93,slow=7.3,SNR=384
KURBB **Kurchatov Arra** 63.44 318 P P 03 36 16.5 -0.9
TARG **Taragay, Kyrgy** 63.50 309 IAmb IAmb 03 36 39.3
comp=Z,12nm,1.0s
I23K **Minto, Yukon-K** 63.59 25 IAmb IAmb 03 36 28.4
comp=Z,16nm,1.1s
I23K **Minto, Yukon-K** 63.59 25 P P 03 36 19.6 +1.4
baz=253,SNR=8.3
NRIK **Noril'sk** 63.59 340 P P 03 36 18.3 +0.1
comp=Z,30nm,0.9s,baz=111,slow=8.4,SNR=20
NRIK **Noril'sk** 63.59 340 *ce*P P 03 36 18.2 +0.1
NRIK pmax pmax
comp=Z,64nm,1.5s
NRIK **Noril'sk** 63.59 340 P P 03 36 18.6 +0.5
H23K **Yukon River** 63.72 24 IAmb IAmb 03 36 22.1
comp=Z,15nm,1.2s
H23K **Yukon River** 63.72 24 P P 03 36 20.5 +1.4
baz=252
COLD **Coldfoot** 63.91 23 P P 03 36 21.3 +1.1
baz=251
WRH **Wood River Hil** 63.92 26 IAmb IAmb 03 36 29.8
comp=Z,14nm,1.2s
MDM **Murphy Dome** 63.99 25 IAmb IAmb 03 36 31.5
comp=Z,17nm,1.4s
MDOK **Medeo** 64.07 310 *e*P P 03 36 21.5 -0.5
baz=310
MDOK **Medeo** 64.07 310 *e*P P 03 36 21.4 -0.5
CCB **Clear Creek Bu** 64.08 26 IAmb IAmb 03 36 26.6
comp=Z,16nm,1.5s
TCOL **CIGO, UAF Yank** 64.12 25 P P 03 36 22.9 +1.2
TCOL IAmb IAmb 03 36 32.1
comp=Z,8.3nm,0.7s
CHKK **Chushkaly** 64.12 311 *e*P P 03 36 20.9 -1.2
baz=311
H24K **Noodor Dome** 64.38 24 P P 03 36 23.8 +0.4
H24K IAmb IAmb 03 36 34.3
comp=Z,17nm,1.2s
H24K **Noodor Dome** 64.38 24 P P 03 36 24.5 +1.1
baz=254,SNR=11
ILAR **Eielson Array** 64.50 26 P P 03 36 23.0 -1.1
comp=Z,9.5nm,1.1s,baz=255,slow=5.1,SNR=28
ILAR LR LR 04 02 33.4
comp=Z,78nm,20.7s,baz=265,slow=34
ILAR **Eielson Array** 64.50 26 P P 03 36 23.0 -1.1
MTBS **Maitube** 64.52 310 *e*P P 03 36 23.1 -1.7
baz=310
KUU **Kurty** 64.59 311⇑ *i*P P 03 36 25.0 -0.2
comp=Z,18nm,0.6s,baz=311
KUU **Kurty** 64.59 311 *c i*P P 03 36 24.9 -0.2
KUU pmax pmax
comp=Z,18nm,0.6s
TOLK **Toolik Lake Re** 64.59 21 P P 03 36 25.5 +0.7
TOLK IAmb IAmb 03 36 51.5
comp=Z,11nm,1.1s
PAX **Paxson** 64.69 28 IAmb IAmb 03 36 35.1
comp=Z,19nm,1.4s
KSH **Kashi** 64.92 306 P P 03 36 31.1 +3.6
KSH pP pP 03 36 41.5 -0.2
KSH pmax pmax
comp=Z,20nm,1.0s
J25K **Salcha River,** 65.09 26 P P 03 36 28.3 +0.3
baz=257
RIDG **Independent Ri** 65.12 27 P P 03 36 27.1 -1.2
baz=258
TKM2 **Tokmak 2** 65.13 310 P P 03 36 29.5 +0.5
SNR=8.7
TKM2 **Tokmak 2** 65.13 310 *i*P P 03 36 29.1 +0.1
TKM2 pmax pmax
comp=Z,9.0nm,0.7s
KZA **Kyzart** 65.40 309 P P 03 36 32.3 +1.3
SNR=16
DOT **Dot Lake** 65.45 27 IAmb IAmb 03 36 40.4
comp=Z,24nm,1.3s
SCRK **Sand Creek** 65.55 27 P P 03 36 31.4 +0.2
SCRK IAmb IAmb 03 36 40.6
comp=Z,22nm,1.3s
SCRK **Sand Creek** 65.55 27 P P 03 36 32.3 +1.2
baz=259,SNR=6.9
KBK **Karagaybulak** 65.61 310 P P 03 36 32.7 +0.6
SNR=5.0
L26K **Log Cabin Wild** 65.65 28 P P 03 36 32.7 +1.0
baz=259
J26K **Charley River,** 65.74 26 P P 03 36 32.0 -0.4
baz=258,SNR=19
FRU1 **Bishkek** 65.85 310 P P 03 36 33.8 +0.4
FRU1 pmax pmax
comp=Z,49nm,0.4s
FRU1 **Bishkek** 65.85 310 P P 03 36 33.8 +0.4
USP **Ospenovka** 65.93 310 P P 03 36 35.5 +1.6
SNR=5.3
AAK **Ala-Archa** 65.95 310 P P 03 36 34.4 +0.3
comp=Z,3.7nm,0.4s,baz=116,slow=5.9,SNR=7.3
AAK **Ala-Archa** 65.95 310 P P 03 36 33.9 -0.3
AAK IAmb IAmb 03 36 39.0
comp=Z,14nm,1.4s
BTLS **Baital** 66.23 312⇑ *i*P P 03 36 35.7 -0.1
comp=Z,3.7nm,0.4s,baz=312
BTLS **Baital** 66.23 312 *c i*P P 03 36 35.6 -0.1
BTLS pmax pmax
comp=Z,4.0nm,0.4s
L27K **Beaver Creek,** 66.33 28 IAmb IAmb 03 36 46.1
comp=Z,16nm,1.4s
L27K **Beaver Creek,** 66.33 28 P P 03 36 36.7 +0.6
baz=261
K27K **Chicken** 66.38 27 IAmb IAmb 03 36 47.4
comp=Z,11nm,1.0s
K27K **Chicken** 66.38 27 P P 03 36 38.3 +1.9
baz=260
AML **Almayashu** 66.56 309 P P 03 36 39.2 +0.8
SNR=8.4
EGAK **Eagle** 66.90 26 IAmb IAmb 03 36 42.1
comp=Z,12nm,1.1s
EGAK **Eagle** 66.90 26 P P 03 36 40.8 +1.2
baz=261,SNR=7.1
BRZS **Berezniki** 67.15 318 *e*P P 03 36 40.1 -1.5
baz=318
BRZS **Berezniki** 67.15 318 *e*P P 03 36 40.0 -1.5
NIL **Nilore** 67.52 300 P P 03 36 44.5 +0.4
NIL pmax pmax
comp=Z,62nm,0.9s
NIL **Nilore** 67.52 300 P P 03 36 44.5 +0.4
DAWY **Dawson** 67.56 27 P P 03 36 44.8 +0.9
baz=263,SNR=7.2
YUK4 **Talbot Arm** 67.60 30 P P 03 36 45.6 +1.3
baz=264
HYT **Haines Junctio** 68.11 31 IAmb IAmb 03 37 03.0
comp=Z,12nm,0.8s
HYT **Haines Junctio** 68.11 31 P P 03 36 49.0 +1.6
baz=266
BRVK **Borovoye** 68.66 321 *ce*P P 03 36 50.8 -0.1
BRVK pmax pmax
comp=Z,33nm,1.0s
BRVK **Borovoye** 68.66 321 P P 03 36 50.9 +0.1
KK31 **Karatay Array** 68.85 310 P P 03 36 52.2 -0.1
KK31 **Karatay Array** 68.85 310 P P 03 36 51.5 -0.8
KK31 IAmb IAmb 03 36 54.5
comp=Z,24nm,1.4s
KKAR **Karatay Array** 68.85 310 P P 03 36 52.0 -0.3
KKAR **Karatay Array** 68.85 310 P P 03 36 52.0 -0.3
BTK **Batken** 68.86 307 P P 03 36 52.8 +0.3
BTK pmax pmax
comp=Z,8.0nm,1.2s
BTK **Batken** 68.86 307 P P 03 36 52.8 +0.3
EPYK **Eagle Plains** 68.94 25 IAmb IAmb 03 37 03.9
comp=Z,8.7nm,0.8s
EPYK **Eagle Plains** 68.94 25 P P 03 36 52.8 +0.3
baz=264
IUG **luzhnay** 69.28 309⇑ *e*P P 03 36 54.2 -0.9
baz=309
IUG **luzhnay** 69.28 309 *ce*P P 03 36 54.1 -0.9
INK **Inuvik** 70.32 23 P P 03 37 00.1 -0.7
comp=Z,6.6nm,1.0s,baz=242,slow=5.0,SNR=4.7
INK **Inuvik** 70.32 23 IAmb IAmb 03 37 11.1
comp=Z,9.5nm,0.9s
INK **Inuvik** 70.32 23 P P 03 37 01.3 +0.5
baz=266
KBL **Kabul** 70.88 301 P P 03 37 05.2 +0.1
KBL pmax pmax
comp=Z,28nm,0.9s
KBL **Kabul** 70.88 301 P P 03 37 05.2 +0.1
PPT **Papeete** 71.18 116 LR LR 04 03 48.3
comp=Z,130nm,20.6s,baz=306,slow=32
PPT2 **Papeete2** 71.19 116 *e*S S 03 46 23.4 +3.1
comp=Z,60nm,22.2s
PPT2 **Papeete2** 71.19 116 *e*LR LR 03 58 22.8
comp=Z,243nm,27.2s
DLBC **Dease Lake** 71.88 33 IAmb IAmb 03 37 13.8
comp=Z,14nm,1.2s
TBI **Tubuai** 73.83 121 *e*LR LR 03 59 03.3
comp=Z,59nm,34.2s
SVE **Sverdlovsk** 73.98 325 *e*P P 03 37 23.3 +0.4
SVE pmax pmax
comp=Z,25nm,1.3s
ARU **Arti** 75.17 325 LR LR 04 11 20.2
comp=Z,80nm,19.0s,baz=62,slow=36
ARU **Arti** 75.17 325 *c i*P P 03 37 29.5 -0.3
ARU *PP PcP 03 37 43.1 0.0
ARU S S 03 47 04.6 +0.5
ARU SS SS 03 51 51.1 -2.8
ARU pmax pmax
comp=Z,22nm,0.7s
ARU MLR MLR
comp=Z,119nm,19.0s
ARU **Arti** 75.17 325 P P 03 37 29.6 -0.3
AB31 **Akbulak array** 75.45 317 P P 03 37 30.7 -0.9
ABKAR **Akbulak array** 75.45 317 P P 03 37 30.9 -0.7
HRA **Herat** 76.44 302 IAmb IAmb 03 37 39.1
comp=Z,14nm,0.7s
AKTO **Aktyubinsk** 76.48 319 LR LR 04 12 44.8
comp=Z,32nm,18.9s,baz=73,slow=37
NLWA **Neilton Lookou** 76.97 44 IAmb IAmb 03 37 42.2
comp=Z,18nm,1.4s
K02D **Willamette Mer** 78.05 49 P P 03 37 47.9 +1.4
baz=282
I03D **Drain, OR** 78.07 48 P P 03 37 48.4 +2.0
baz=282
L02E **Cave Junction** 78.21 49 P P 03 37 49.3 +2.0
baz=282
H04D **Lebanon** 78.32 47 P P 03 37 49.8 +2.0
baz=282
H04A **Detroit Lake** 78.67 47 IAmb IAmb 03 37 52.1
comp=Z,13nm,1.0s
I04A **Tendick Farm,** 78.71 48 P P 03 37 51.3 +1.2
baz=283
YKA **Yellowknife Ar** 78.77 28 P P 03 37 48.5 -1.4
comp=Z,3.2nm,0.8s,baz=288,slow=4.2,SNR=7.7
YKA LR LR 04 13 00.4
comp=Z,135nm,19.5s,baz=0.0,slow=36
YKA **Yellowknife Ar** 78.77 28 *ce*P P 03 37 51.2 +1.3
YKA pmax pmax
comp=Z,6.0nm,1.0s
M02C **Callahan** 78.92 50 P P 03 37 53.4 +2.1
baz=283
GEYT **Allbeck** 78.95 306 P P 03 37 52.0 +0.5
comp=Z,259nm,0.8s,baz=62,slow=3.4,SNR=5.7
GEYT LR LR 04 17 03.5
comp=Z,81nm,18.4s,baz=85,slow=39
LTY **Liberty** 79.12 44 P P 03 37 52.5 +0.2
L04D **Klamath Falls** 79.14 49 P P 03 37 54.0 +1.4
baz=283
KIRV **Kirov** 79.55 328 *ce*P P 03 37 55.3 +1.1
J05D **Fort Rock, OR** 79.66 48 P P 03 37 54.6 -0.8
baz=284
PINE **Pine Mountain** 79.75 47 IAmb IAmb 03 37 58.9
comp=Z,22nm,1.0s
O03E **Paynes Creek** 79.95 51 P P 03 37 57.5 +0.5
baz=284
HAWA **Hanford** 80.08 45 P P 03 37 57.9 +0.4
PRGR **Permogore** 80.49 332 *e*P P 03 37 58.4 -0.8
PRGR *e* 03 38 07.4
PRGR pmax pmax
comp=Z,42nm,0.6s
G08A **Pilot Rock** 80.75 46 P P 03 38 00.6 -0.6
SPA0 **Spitsbergen Ar** 80.98 351 *e*P P 03 38 03.4 +1.7
SPB2 **Spitsbergen Ar** 80.98 351 IAmb IAmb 03 38 29.4
comp=Z,20nm,1.2s
KBS **Kingsbay** 81.08 352 *e*P P 03 38 02.3 +0.2
NEW **Newport** 81.19 42 IAmb IAmb 03 38 05.8
comp=Z,12nm,1.0s
NEW **Newport** 81.19 42 P P 03 38 04.3 +0.9
baz=286
PAHR **Pah Rah Range** 81.90 51 P P 03 38 07.0 -0.4
PNTR **Pine Nut** 81.90 52 IAmb IAmb 03 38 10.2
comp=Z,11nm,0.8s
HSPB **Hornsund (broa** 81.92 350 *e*P P 03 38 08.1 +1.5
BMO **Blue Mountains** 82.00 46 IAmb IAmb 03 38 10.2
comp=Z,13nm,1.1s
EDM **Edmonton** 82.06 37 IAmb IAmb 03 38 10.4
comp=Z,15nm,1.0s
YERR **Yerington** 82.20 52 IAmb IAmb 03 38 11.6
comp=Z,11nm,1.0s
PAGB **Antelope Grade** 82.29 55 IAmb IAmb 03 38 12.1
comp=Z,16nm,0.9s
BELG **Belogornoye** 82.31 322 *i*P P 03 38 09.5 +0.4
BELG pmax pmax
comp=Z,8.0nm,1.0s
RYN **Ryan** 82.83 52 P P 03 38 11.3 -1.1
PKM **Mcpherson Peak** 82.86 56 P P 03 38 13.7 +1.1
baz=286
WALA **Waterton Lakes** 83.00 41 IAmb IAmb 03 38 16.1
comp=Z,17nm,1.4s
KVN **Kaiserville** 83.03 51 IAmb IAmb 03 38 15.8
comp=Z,9.7nm,0.9s
NVAR **Mina Array Bea** 83.05 52 P P 03 38 12.6 -1.0
comp=Z,5.7nm,0.8s,baz=264,slow=6.4,SNR=26
NVAR LR LR 04 17 08.6
comp=Z,67nm,18.2s,baz=271,slow=37
VES **Vestal, Richgr** 83.17 55 P P 03 38 14.1 +0.2
baz=286
MFID **Camas Ranch** 83.42 47 P P 03 38 14.2 -1.0
MFID IAmb IAmb 03 38 17.8
comp=Z,15nm,1.1s
TIN **Tinemaha, Big** 83.49 53 P P 03 38 17.3 +1.6
baz=286
KLMR **Klimovskoe** 83.53 332 *e*P P 03 38 13.3 -1.9
KLMR pmax pmax
comp=Z,57nm,0.9s
KLMR **Klimovskoe** 83.53 332 *e*P P 03 38 13.4 -1.8
KLMR AMP 03 38 26.1
comp=Z,57nm,0.9s
ISA **Isabella, Lake** 83.70 55 P P 03 38 17.4 +0.7
baz=286
CWC **Cottonwood Cre** 83.78 54 P P 03 38 17.3 0.0
baz=286
UOSS **Minazif** 83.78 294 P P 03 38 17.7 +0.4
GRAC **Grapevine Rang** 84.17 53 P P 03 38 19.3 +0.2
baz=287
EDW2 **Edwards Air Fo** 84.30 55 P P 03 38 19.9 +0.2
baz=287
HAMF **Hammerfest** 84.30 344 *e*P P 03 38 19.5 +0.5
MPMC **Manual Prospec** 84.35 54 P P 03 38 19.2 -1.0
baz=287,SNR=14
HLID **Hailey** 84.36 46 P P 03 38 20.8 +0.7
baz=288,SNR=7.2
MWC **Mount Wilson** 84.43 56 IAmb IAmb 03 38 24.0
comp=Z,14nm,1.1s
ARA0 **ARCESS Array S** 84.45 342 *e*P P 03 38 20.4 +0.6
ARCES **ARCESS Array B** 84.45 342 P P 03 38 20.2 +0.4
comp=Z,6.8nm,0.6s,baz=69,slow=7.1,SNR=64
ARCES LR LR 04 22 52.1
comp=Z,78nm,19.5s,baz=115,slow=40
ELK **Elko** 84.64 49 IAmb IAmb 03 38 24.2
comp=Z,9.9nm,0.9s
FURC **Furnace Creek,** 84.72 54 P P 03 38 23.3 +1.6
baz=287,SNR=5.2
TPNV **Topopah Spring** 85.04 53 P P 03 38 22.7 -0.9
TPNV pmax pmax
comp=Z,7.0nm,1.0s
TPNV **Topopah Spring** 85.04 53 P P 03 38 22.7 -0.9
TPNV **Topopah Spring** 85.04 53 P P 03 38 22.3 -1.3
baz=288,SNR=6.8
NEEM **North Greenlan** 85.07 4 *i*P P 03 38 25.0 +1.9
NEEM IAmb IAmb 03 38 26.9
comp=Z,23nm,1.1s
GSC **Goldstone, Bar** 85.10 55 IAmb IAmb 03 38 26.2
comp=Z,7.0nm,0.8s
GSC **Goldstone, Bar** 85.10 55 P P 03 38 24.1 +0.2
baz=287,SNR=6.1
R11A **Troy Canyon, C** 85.12 52 P P 03 38 24.6 +0.6
baz=288,SNR=8.1
SHOC **Shoshone, Teco** 85.34 54 P P 03 38 26.2 +1.2
baz=288
MAK **Makhachkala** 85.37 313 *e*P P 03 38 26.0 +1.1
MAK *e* 03 48 47.8
MAK pmax pmax
comp=Z,182nm,1.6s
MAK MLR MLR
comp=Z,211nm,16.0s
KTK1 **Kautokeino** 85.41 343 *e*P P 03 38 24.5 -0.1
BOZ **Bozeman (W)** 85.58 44 P P 03 38 26.8 +0.6
baz=290,SNR=8.7
109C **Camp Elliot, M** 85.58 57 IAmb IAmb 03 38 28.2
comp=Z,12nm,0.8s
109C **Camp Elliot, M** 85.58 57 P P 03 38 27.7 +1.5
baz=287
TUQ **Turquoise Moun** 85.75 54 P P 03 38 29.0 +1.8
baz=288,SNR=5.4
PRN **Pahroc Range** 85.81 52 IAmb IAmb 03 38 30.7
comp=Z,8.0nm,1.1s
SPR3 **Spring Creek 3** 85.85 51 IAmb IAmb 03 38 30.7
comp=Z,12nm,1.0s
JETT **Jettan, Norway** 85.86 344 *e*P P 03 38 27.6 +0.8
PFO **Pinyon Flats O** 85.88 56 P P 03 38 27.6 -0.3
PFO pmax pmax
comp=Z,8.0nm,1.1s
PFO **Pinyon Flats O** 85.88 56 P P 03 38 27.6 -0.3
PFO IAmb IAmb 03 38 29.9
comp=Z,8.1nm,1.1s
PFO **Pinyon Flats O** 85.88 56 P P 03 38 29.3 +1.4
baz=288
TPFO **Pinon Flats** 85.89 56 P P 03 38 28.0 +0.1
baz=288
EGMT **Eagleton** 85.95 41 IAmb IAmb 03 38 30.3
comp=Z,14nm,1.2s
EGMT **Eagleton** 85.95 41 P P 03 38 28.4 +0.6
baz=291
HVU **Hansel Valley** 86.08 48 IAmb IAmb 03 38 31.6
comp=Z,10nm,1.0s
MONP2 **Monument Peak** 86.13 57 P P 03 38 29.5 +0.3
baz=288
GMRC **Granite Mounta** 86.16 55 P P 03 38 27.9 -1.2
baz=288,SNR=5.1
TRO **Tromso** 86.20 344 *e*P P 03 38 28.1 -0.4
PSUT **Pine Spring** 86.35 51 P P 03 38 28.7 -1.5
YHH **Holmes Hill** 86.38 44 IAmb IAmb 03 38 34.3
comp=Z,15nm,1.2s
IKP **In-Ko-Pah, Jac** 86.46 57 P P 03 38 31.1 +0.4
baz=288
YNR **Norris Junctio** 86.52 44 IAmb IAmb 03 38 35.0
comp=Z,14nm,1.0s
MOS **Moscow** 86.56 328 *e*P P 03 38 29.1 -1.4
MOS pmax pmax
comp=Z,35nm,0.7s
DUG **Dugway, Tooele** 86.57 49 IAmb IAmb 03 38 33.7
comp=Z,10nm,0.9s
DUG **Dugway, Tooele** 86.57 49 P P 03 38 30.5 -0.7
baz=289,SNR=8.5
IMW **Indian Meadow** 86.63 45 IAmb IAmb 03 38 34.7
comp=Z,8.4nm,0.8s
FXWY **Fox Creek** 86.66 45 IAmb IAmb 03 38 35.2
comp=Z,12nm,1.3s
IRM **Iron Mountain** 86.76 55 P P 03 38 32.0 0.0
baz=288
TPAW **Teton Pass** 86.76 46 P P 03 38 31.6 -0.6
TPAW IAmb IAmb 03 38 40.7
comp=Z,12nm,1.3s
REDW **Red Top Meadow** 86.88 46 IAmb IAmb 03 39 00.3
comp=Z,14nm,1.4s
AHID **Auburn Hatcher** 86.91 46 IAmb IAmb 03 38 35.4
comp=Z,9.9nm,0.8s
HWUT **Hardware Ranch** 86.99 47 IAmb IAmb 03 38 35.7
comp=Z,9.0nm,0.9s
CCUT **Cedar City** 87.04 52 P P 03 38 33.2 -0.4
CCUT IAmb IAmb 03 38 36.6
comp=Z,11nm,1.1s
CTU **Camp Tracy** 87.17 48 IAmb IAmb 03 38 36.4
comp=Z,7.0nm,0.9s
NLU **North Lily Min** 87.19 49 IAmb IAmb 03 38 36.7
comp=Z,8.3nm,0.9s
TCUT **Toone Canyon** 87.27 48 IAmb IAmb 03 38 36.9
comp=Z,6.4nm,0.7s
RLMT **Red Lodge** 87.31 44 P P 03 38 35.3 +0.6
RLMT IAmb IAmb 03 38 38.2
comp=Z,9.2nm,0.9s
RLMT **Red Lodge** 87.31 44 P P 03 38 36.4 +1.7
baz=291
OBN **Obninsk** 87.37 327 *ce*P P 03 38 33.7 -0.7
OBN *e* 03 41 58.3
OBN *eS* S 03 49 07.8 -2.7
OBN pmax pmax
comp=Z,32nm,1.7s
OBN MLR MLR
comp=Z,119nm,20.0s
JLU **Jordanelle** 87.42 48 IAmb IAmb 03 38 37.9
comp=Z,10nm,0.9s
KNB **Kanab** 87.62 52 IAmb IAmb 03 38 39.4
comp=Z,13nm,1.0s
ZEI **Tsey** 87.92 314 *e*P P 03 38 35.1 -2.5
ZEI pmax pmax
comp=Z,3.0nm,1.0s
PD31 **Pinedale Array** 87.97 46 P P 03 38 37.6 -0.4
PDAR **Pinedale Array** 87.97 46 P P 03 38 36.6 -1.4
comp=Z,0.6nm,0.4s,baz=217,slow=2.2,SNR=14
PDAR LR LR 04 18 08.0
comp=Z,41nm,18.8s,baz=316,slow=36
TMUT **Trail Mountain** 88.04 50 IAmb IAmb 03 38 40.9
comp=Z,6.7nm,1.0s
U15A **North Rim** 88.22 52 IAmb IAmb 03 38 42.2
comp=Z,8.4nm,0.9s
KBZ **Khabaz** 88.25 315 P P 03 38 38.5 -0.4
comp=Z,5.1nm,0.9s,baz=215,slow=3.5,SNR=11
KBZ LR LR 04 21 30.1
comp=Z,72nm,19.6s,baz=51,slow=38
KBZ **Khabaz** 88.25 315 *ce*P P 03 38 38.9 0.0
KBZ pmax pmax
comp=Z,7.0nm,1.0s
ONI **Oni** 88.30 314 IAmb IAmb 03 38 58.7
comp=Z,7.5nm,0.9s
KIV **Kislovodsk** 88.31 316 *e*P P 03 38 39.9 +0.6
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV **Kislovodsk** 88.31 316 P P 03 38 39.6 +0.3
KIV IAmb IAmb 03 38 52.4
comp=Z,9.0nm,0.9s
P17A **Butcher Ranch,** 88.32 49 IAmb IAmb 03 38 42.2
comp=Z,8.8nm,1.2s
SHA1 **Shidzhatmaz** 88.41 315 *i*P P 03 38 40.7 +0.7
Y14A **Wickenburg** 88.51 55 IAmb IAmb 03 38 43.0
comp=Z,6.1nm,0.8s
SRU **San Rafael Swe** 88.61 49 IAmb IAmb 03 38 43.2
comp=Z,9.6nm,0.9s
FAUS **Fauske** 88.72 343 *e*P P 03 38 40.9 +0.3
FIA1 **FINESS Array S** 88.92 336 P P 03 38 41.3 -0.3
FINES **FINESS Array B** 88.92 336 P P 03 38 40.7 -1.0
comp=Z,4.8nm,0.4s,baz=67,slow=4.8,SNR=83
FINES LR LR 04 21 04.2
comp=Z,85nm,20.6s,baz=49,slow=37
WUAZ **Wupatki** 89.23 53 P P 03 38 44.0 0.0
baz=290
214A **Organ Pipe Nat** 89.32 57 P P 03 38 45.4 +1.1
baz=290
MOR8 **Moi Rana** 89.82 343 *e*P P 03 38 45.0 -0.8
O20A **White River Ci** 89.87 48 IAmb IAmb 03 38 49.3
comp=Z,9.0nm,0.9s
O20A **White River Ci** 89.87 48 P P 03 38 47.6 +0.7
baz=292
PV21 **Cone Mtn., Par** 89.93 50 P P 03 38 46.7 -0.6
PV21 IAmb IAmb 03 38 49.8
comp=Z,11nm,0.9s
MEF **Metsahovi** 90.31 335 *e*P P 03 38 48.0 -0.1
VSU **Vasula** 90.35 333 *e*P P 03 38 48.0 -0.4
VSU **Vasula** 90.35 333 *i*P P 03 38 47.9 -0.5
SUMG **Summit** 90.49 2 *e*P P 03 38 57.1 +7.8
SUMG **Summit** 90.49 2 *e*P P 03 38 57.0 +7.7
W18A **Petrified Fore** 90.63 53 IAmb IAmb 03 38 54.4
comp=Z,11nm,1.1s
W18A **Petrified Fore** 90.63 53 P P 03 38 50.9 +0.4
baz=291
X18A **Snowflake** 90.68 54 IAmb IAmb 03 38 53.9
comp=Z,9.4nm,1.2s
MVCO **Mesa Verde** 90.78 51 IAmb IAmb 03 39 00.1
comp=Z,9.4nm,1.2s
MVCO **Mesa Verde** 90.78 51 P P 03 38 51.2 0.0
baz=292
TUC **Tucson** 90.82 56 P P 03 38 52.1 +0.8
TUC pmax pmax
comp=Z,5.0nm,1.0s
TUC **Tucson** 90.82 56 P P 03 38 52.1 +0.8
TUC **Tucson** 90.82 56 P P 03 38 52.7 +1.4
baz=291
RAF **Rauma** 90.84 337 *e*P P 03 38 50.1 -0.6
RSSD **Black Hills** 91.14 43 P P 03 38 53.1 +0.4
RSSD pmax pmax
comp=Z,11nm,1.5s
RSSD **Black Hills** 91.14 43 P P 03 38 53.1 +0.4
RSSD IAmb IAmb 03 38 55.1
comp=Z,11nm,1.4s
SMCO **Snowmass** 91.14 48 IAmb IAmb 03 39 04.6
comp=Z,10nm,1.2s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
N23A	Red Feather La	91.19	47	P	P	03 38 54.5	+1.4
	baz=294						
KOPT	Kop Dagi	91.34	313	P	P	03 38 52.8	-1.1
KOPT				IAmb	IAmb	03 39 16.0	
	comp=Z,6.5nm,1.1s						
MTSE	Matsula	91.45	334	eP	P	03 38 53.0	-0.5
NSS	Namsos	91.73	342	eP	P	03 38 54.7	0.0
S22A	4UR Ranch, Cre	91.81	50	P	P	03 38 56.5	+0.4
	baz=293						
HSIG		91.84	59	P	P	03 38 56.1	+0.1
HSIG				IAmb	IAmb	03 38 58.6	
	comp=Z,4.9nm,0.7s						
ISCO	Idaho Springs	91.86	47	IAmb	IAmb	03 39 07.4	
	comp=Z,8.7nm,1.4s						
ISCO	Idaho Springs	91.86	47	P	P	03 38 57.2	+1.0
	baz=294						
MNK	Minsk	92.04	329	i P	P	03 38 54.0	-2.3
MNK				i *PP	pP	03 39 11.0	-0.2
MNK				i		03 42 34.3	
MNK				i PPP	PPP	03 44 33.4	
MNK				i S	SKSac	03 49 20.9	-3.7
MNK				i *SS	S	03 49 51.8	-2.0
MNK				i SP	SP	03 50 59.3	-3.9
MNK				i SS	SS	03 56 03.1	+0.3
MNK				pmax	pmax		
	comp=Z,14nm,1.0s						
MNK				pmax	pmax		
	comp=E,2.0nm,1.0s						
MNK				pmax	pmax		
	comp=N,21nm,1.0s						
MNK	Minsk	92.04	329	i P	P	03 38 54.1	-2.2
	comp=E,2.0nm,1.0s						
MNK				i P	P	03 38 54.1	-2.2
	comp=N,21nm,1.1s						
MNK				i P	P	03 38 54.1	-2.2
	comp=Z,14nm,1.0s,baz=237						
MNK				i pP	pP	03 39 11.1	-0.1
MNK				i sP	pwP	03 39 21.3	+4.4
MNK				i PP	PP	03 42 34.3	-1.7
MNK				i PPP	PPP	03 44 33.4	
MNK				i S	SKSac	03 49 20.9	-3.6
MNK				i sS	S	03 49 51.8	-2.0
MNK				i SP	SP	03 50 59.3	-3.9
MNK				i PS	PnS	03 51 20.6	+8.7
MNK				i SS	SS	03 56 03.1	+0.3
MNK				i SSS	SSS	03 58 42.4	
MNK				i LQ	LQ	04 11 15.2	
MNK				i LR	LR	04 14 36.6	
MNK				i LRM	MLR	04 24 30.2	
	comp=E,19nm,19.3s						
MNK				i LRM	MLR	04 24 51.5	
	comp=N,182nm,20.6s						
MNK				i LRM	MLR	04 25 24.4	
	comp=Z,290nm,19.6s						
IDID	Didziasalis	92.13	330	eP	P	03 38 56.8	0.0
ISAL	Salakas	92.27	331	eP	P	03 38 57.5	0.0
NACGM	Naroch	92.34	330	i P	P	03 38 55.5	-2.2
IIGN	Ignalina	92.36	331	eP	P	03 38 57.8	0.0
ULM	Lac du Bonnet	93.15	35	LR	LR	04 20 11.7	
	comp=Z,96nm,18.4s,baz=331,slow=35						
ANMO	Albuquerque	93.18	52	ceP	P	03 39 01.8	-0.5
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ANMO	Albuquerque	93.18	52	P	P	03 39 02.8	+0.5
ANMO	Albuquerque	93.18	52	P	P	03 39 03.2	+0.9
	baz=293						
PABE	Paberze	93.31	332	eP	P	03 39 01.4	-0.8
PABE	Paberze	93.31	332	P	P	03 39 01.5	-0.6
AKASG	Malin Array Be	93.41	326	P	P	03 39 00.8	-1.9
	comp=Z,0.6nm,0.5s,baz=39,slow=4.7,SNR=4.2						
AKASG				LR	LR	04 23 18.2	
	comp=Z,76nm,20.4s,baz=45,slow=37						
ICESG	Greenland Ices	93.93	2	eP	P	03 39 11.6	+6.3
KSCO	Kaye Shedlock'	94.29	47	P	P	03 39 08.1	+0.8
	baz=296						
NB2	NORSAR Subarra	94.56	340	P	P	03 39 06.5	-1.4
	comp=Z,0.6nm,0.5s,baz=42,slow=5.1						
NOA	NORSAR Array B	94.56	340	P	P	03 39 06.9	-1.0
	comp=Z,0.2nm,0.4s,baz=54,slow=6.7,SNR=5.1						
NOA				LR	LR	04 26 39.0	
	comp=Z,47nm,20.2s,baz=30,slow=39						
NC602	NORSAR Array S	94.68	340	eP	P	03 39 08.7	+0.3
VNDA	Vanda	94.80	177	LR	LR	04 19 34.9	
	comp=Z,42nm,19.3s,baz=346,slow=34						
OSL	Oslo	95.55	340	eP	P	03 39 11.8	-0.5
BR131	Keskin Array S	96.22	315	P	P	03 39 15.2	-0.8
BR131				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BR131	Keskin Array S	96.22	315	P	P	03 39 15.2	-0.8
BR131				IAmb	IAmb	03 39 27.0	
	comp=Z,5.4nm,1.0s						
BRTR	Keskin Array B	96.22	315	P	P	03 39 15.4	-0.6
	comp=Z,3.0nm,1.0s,baz=107,slow=3.0,SNR=12						
BRTR				LR	LR	04 29 00.7	
	comp=Z,63nm,18.1s,baz=51,slow=39						
BRTR	Keskin Array B	96.22	315	ceP	P	03 39 15.3	-0.8
BRTR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TXAR	Lajitas Array	97.61	56	P	Pdif	03 39 22.9	+0.3
	comp=Z,0.5nm,0.8s,baz=243,slow=3.8,SNR=5.3						
TXAR				LR	LR	04 22 23.8	
	comp=Z,137nm,18.0s,baz=0.0,slow=35						
TXAR	Lajitas Array	97.61	56	P	P	03 39 22.4	0.0
SNAA	Sanae	122.61	191	PKPdf	PKPdf	03 44 41.8	-0.4
VNA2	Neumayer--Watz	124.02	190	PKPdf	PKPdf	03 44 45.1	+0.2
VNA3	Neumayer Olymp	124.09	189	PKPdf	PKPdf	03 44 45.0	-0.1
VNA1	Neumayer--Stat	124.40	190	PKPdf	PKiKP	03 44 46.1	+0.3
BOSA	Boshof	125.67	247	PKP	PKiKP	03 44 49.9	0.0
	comp=Z,2.3nm,0.7s,baz=97,slow=10,SNR=4.3						
TORD	Torodi Ar. Bea	134.54	309	PKP	PKiKP	03 45 07.3	-0.6
	comp=Z,1.8nm,0.6s,baz=55,slow=0.8,SNR=36						
TORD				SKPbc	SKPab	03 48 33.9	-1.2
	comp=Z,2.3nm,1.1s,baz=54,slow=3.2,SNR=4.7						
PLCA	Paso Flores	139.90	134	PKP	PKPdf	03 45 14.3	-1.5
	comp=Z,1.2nm,0.9s,baz=241,slow=6.6,SNR=2.1						
DBIC	Dimbokro	143.62	308	PKP	PKPbc	03 45 20.6	0.0
	comp=Z,6.3nm,0.4s,baz=54,slow=3.4,SNR=54						
DBIC	Dimbokro	143.62	308	PKIKP	PKPdf	03 45 22.7	-0.4
DBIC	Dimbokro	143.62	308	PKPdf	PKPdf	03 45 22.7	-0.4
KIC	Kosan Boka	143.74	308	ePKP2	PKPdf	03 45 22.4	-0.9
	comp=Z,16nm,0.9s						
TIC	Toumodi	143.76	308	ePKP2	PKPdf	03 45 23.0	-0.4
GO03	Copiap	144.01	114	PKPdf	PKPdf	03 45 23.3	-0.2
LIC	Lamto	144.04	308	ePKP2	PKPab	03 45 21.0	-0.3
	comp=Z,83nm,1.3s						
ZON	Zonda	144.50	121	PKIKP	PKPdf	03 45 24.4	+0.2
ZON	Zonda	144.50	121	PKPdf	PKPdf	03 45 24.4	+0.2
PB07	IPOC Station P	144.83	104	PKPdf	PKPdf	03 45 24.9	-0.2
PB06	IPOC Station P	145.09	105	PKPbc	PKPab	03 45 25.4	+0.2
AC02	Maricunga	145.10	113	PKPbc	PKPdf	03 45 25.9	0.0
PB08	IPOC Station P	145.51	101	PKPbc	PKPab	03 45 27.7	+0.5
LVC	Limon Verde	145.71	105	PKP2	PKPab	03 45 28.8	+1.1
LVC	Limon Verde	145.71	105	PKPbc	PKPab	03 45 28.8	+1.1
LPAZ	La Paz	146.24	94	PKPbc	PKPbc	03 45 29.4	-0.1
	comp=Z,4.3nm,0.4s,baz=329,slow=2.3,SNR=52						
LPAZ	La Paz	146.24	94	PKPbc	PKPab	03 45 30.0	-0.2
PTGA	Pitinga	148.77	61	PKPbc	PKPbc	03 45 35.5	-0.2
CPUP	Villa Florida	155.51	116	PKPab	PKPab	03 46 06.6	-0.8
	comp=Z,3.9nm,1.0s,baz=216,slow=6.7,SNR=4.7						

JMA 06 03:28:36.2±0.3, 30°.62N×131°.57E, h45km±4km, M1.8, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	Tanegashima 3	0.51	274	P	Pn	03 28 47.2	-0.1
JTN				S	Sn	03 28 55.1	-0.1
JMTN	Minamitane	0.62	249	eS	Sn	03 28 59.0	+1.3
JTSR	Tashiro 2	0.78	315	P	Pn	03 28 50.7	-0.2
JTSR				eS	Sn	03 29 02.0	+0.5
JNKG	Nichinankitago	1.05	351	eS	Sn	03 29 09.4	+1.4
JSU	Suzuyama	1.30	313	P	Pn	03 28 58.3	+0.3
JSU				eS	Sn	03 29 15.3	+1.1
JTZ	Takazaki	1.34	342	P	Pn	03 28 59.2	+0.7
JTZ				eS	Sn	03 29 16.4	+1.2

IDC 06 03:29:46.9±0.8, 30°.34N×138°.80E, h386km±10km, mb3.4/13, mb1 3.5/16, mb1mx3.3/40, mbtmp4.2/16, Error ellipse: s-maj=25.7km s-min=10.9km az=68.0
NEIC 06 03:29:47.8±0.9, 30°.4N±0°.1×138°.9E±0°.2, h401km±9km, mb4.2/17, Error ellipse: s-maj=22.8km s-min=13.4km az=69.0
JMA 06 03:29:47.3±0.2, 30°.51N×139°.26E, h405km±2km, M3.9
ISC 06 03:29:48.0±0.6, 30°.45N±0°.07×139°.1E±0°.1, h411km, n42, σ1.45/45, mb4.0/21, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.72	13	Pn	P	03 30 49.3	-0.4
JHJ	Hachijo jima 2	2.73	12	P	P	03 30 49.5	-0.2
	14nm,0.3s,baz=161,slow=15,SNR=1.4						
JHJ				S	S	03 31 37.8	-2.2
	22nm,0.3s,baz=352,slow=21,SNR=5.9						
CBIJ	Chichi jima	4.29	140	P	P	03 31 02.5	-1.0
CBIJ				S	S	03 32 01.4	-3.6
JCJ	Chichijima	4.29	140	P	P	03 31 02.8	-0.7
	42nm,0.3s,baz=30,slow=7.2,SNR=69						
JCJ				S	S	03 32 01.8	-3.1
	63nm,0.3s,baz=177,slow=20,SNR=16						
JYT	Yasato	5.84	9	P	P	03 31 18.1	-0.8
JYT				S	S	03 32 29.6	-3.8
JYT	Yasato	5.84	9	Pn	P	03 31 18.5	-0.4
JAG	Ashikaga	5.97	3	P	P	03 31 19.1	-1.2
JHO	Hitachi	6.27	11	P	P	03 31 22.8	-0.7
KSRS	Korea Array	11.62	310	P	P	03 32 23.1	0.0
	0.7nm,0.3s,baz=122,slow=9.8,SNR=9.2						
ULN	Ulaanbaatar	30.05	314	P	P	03 35 21.2	-0.2
ULN				IAmb	IAmb	03 35 48.0	
	comp=Z,13nm,1.2s						
SONM	Songino Array	30.44	314	P	P	03 35 24.7	-0.2
	comp=Z,1.6nm,0.6s,baz=118,slow=8.8,SNR=1.4						
ZALV	Zalesovo Beam	45.20	317	P	P	03 37 26.5	+0.4
	comp=Z,1.2nm,0.6s,baz=85,slow=1.7,SNR=1.0						
MK31	Makanchi Array	46.28	307	P	P	03 37 33.5	-1.1
MKAR	Makanchi Array	46.28	307	P	P	03 37 34.3	-0.3
	comp=Z,2.3nm,0.7s,baz=89,slow=9.4,SNR=2.6						
MKAR	Makanchi Array	46.28	307	P	P	03 37 33.8	-0.8
KURBB	Kurchatov Arra	48.78	312	P	P	03 37 52.8	-0.6
	comp=Z,2.9nm,0.5s,baz=92,slow=9.0,SNR=5.8						
WRA	Warramunga Arr	50.31	186	P	P	03 38 05.2	+0.1
	comp=Z,0.7nm,0.7s,baz=2.4,slow=7.4,SNR=2.7						
WRA	Warramunga Arr	50.31	186	IAmb	IAmb	03 38 09.3	
	comp=Z,2.1nm,2.0s						
O19K	Port Alsworth	52.53	35	P	P	03 38 22.4	+1.6
KDAK	Kodiak Island	53.36	38	P	P	03 38 29.7	+2.9
	comp=Z,1.8nm,0.8s,baz=169,slow=16,SNR=1.2						
ASAR	Alice Springs	54.04	186	P	P	03 38 32.6	+0.5
	comp=Z,0.3nm,0.4s,baz=2.9,slow=7.4,SNR=1.7						
KK31	Karatay Array	54.96	304	P	P	03 38 38.0	-0.6
KK31				IAmb	IAmb	03 38 39.1	
	comp=Z,5.0nm,0.7s						
KKAR	Karatay Array	54.96	304	P	P	03 38 38.0	-0.6
KKAR				IAmb	IAmb	03 38 39.1	
	comp=Z,5.0nm,0.7s						
BTK	Batken	55.36	300	P	P	03 38 39.1	-2.4
BTK				IAmb	IAmb	03 39 06.3	
	comp=Z,7.1nm,0.6s						
CHGR	Chuyangaron	56.95	299	P	P	03 38 51.7	-0.8
ARU	Arti	60.13	321	P	P	03 39 13.3	-0.5
ARU				IAmb	IAmb	03 39 14.4	
	comp=Z,6.9nm,0.7s						
ABKAR	Akbulak array	60.84	313	P	P	03 39 18.6	-0.1
ARCES	ARCESS Array B	69.49	340	P	P	03 40 14.2	+1.1
	comp=Z,1.7nm,0.7s,baz=67,slow=7.1,SNR=4.7						
FIA1	FINESS Array S	73.75	333	P	P	03 40 38.4	+0.1
FINES	FINESS Array B	73.75	333	P	P	03 40 39.0	+0.7
	comp=Z,2.1nm,0.5s,baz=64,slow=5.3,SNR=5.5						
KBZ	Khabaz	73.77	311	P	P	03 40 39.4	+0.7
	comp=Z,4.6nm,0.8s,baz=86,slow=7.9,SNR=5.0						
MARD	Mardin	78.19	306	P	P	03 41 03.4	-0.4
MARD				IAmb	IAmb	03 41 04.8	
	comp=Z,6.7nm,0.8s						
AKASG	Malin Array Be	78.33	322	P	P	03 41 04.2	+0.2
	comp=Z,2.2nm,0.5s,baz=53,slow=5.6,SNR=7.5						
NB2	NORSAR Subarra	79.50	337	P	P	03 41 10.7	+0.5
	comp=Z,0.7nm,0.7s,baz=43,slow=5.3						
NOA	NORSAR Array B	79.50	337	P	P	03 41 10.5	+0.3
	comp=Z,1.0nm,0.8s,baz=44,slow=5.3,SNR=3.9						
DLMT	Dillon	80.42	43	P	P	03 41 16.6	+1.1
DLMT				IAmb	IAmb	03 41 18.0	
	comp=Z,4.3nm,1.0s						
BR131	Keskin Array S	81.76	311	P	P	03 41 22.4	-0.2
BR131				IAmb	IAmb	03 41 23.9	
	comp=Z,4.5nm,0.8s						
BRTR	Keskin Array B	81.76	311	P	P	03 41 23.1	+0.5
	comp=Z,2.7nm,0.8s,baz=101,slow=4.6,SNR=10						
BRTR	Keskin Array B	81.76	311	P	P	03 41 22.4	-0.2
ISA	Isabella, Lake	81.87	53	P	P	03 41 23.5	+0.3
ISA				IAmb	IAmb	03 41 24.7	
	comp=Z,17nm,1.9s						
BURAR	Bucovina Array	82.26	321	P	P	03 41 25.2	+0.3
LPAZ	La Paz	151.39	67	PKPbc	PKiKP	03 48 59.9	+4.1
	comp=Z,0.5nm,0.3s,baz=240,slow=11,SNR=2.7						

IPEC 06 03:54:06.6±0.3, 51°.48N×16°.29E, h0km, ML2.3/3, Error ellipse: s-maj=1.9km s-min=1.5km az=39.0
VIE 06 03:54:07.8±0.6, 51°.40N×16°.22E, h0km, mb2.4/3, ml2.7/4, Error ellipse: s-maj=7.1km s-min=4.2km az=64.0 65 km WNW of Wroclaw Suspected Mining induced.
IDC 06 03:54:07.6±0.8, 51°.44N×16°.20E, h0km, mb1 3.3/7, mb1mx3.1/42, mbtmp3.2/7, ML2.5/7, Error ellipse: s-maj=17.1km s-min=7.6km az=102.0
PRU 06 03:54:08.3±0.0, 51°.40N×16°.19E, h0km
ISC 06 03:54:05.5±0.7, 51°.54N±0°.03×16°.25E±0°.03, h0km, n39, σ0.91/74, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.70	178	ePg	Pg	03 54 19.1	+0.2
KSP				eSg	Sg	03 54 27.1	-0.9
CHVC	Chvalec	0.96	187	ePG	Pg	03 54 24.2	+0.2
CHVC				eSG	Sg	03 54 35.3	-1.2
	comp=Z,36nm,0.5s						
OSTC	Ostas	0.99	181	ePG	Pg	03 54 24.5	+0.1
OSTC				eSG	Sg	03 54 36.1	-1.1
	comp=Z,49nm,1.0s						
UPC	Upice	1.05	188	ePG	Pg	03 54 25.4	-0.2
UPC				eSG	Sg	03 54 38.0	-1.2
	comp=Z,97nm,0.4s						
DPC	Dobruska-Polom	1.20	178	ePG	Pg	03 54 28.0	-0.4
DPC				eSG	Sg	03 54 41.8	-2.1
	comp=Z,34nm,0.5s						
PVCC	Panska Ves	1.47	227	ePG	Pg	03 54 33.6	-0.1
PVCC				eSG	Sg	03 54 51.7	-1.0
	comp=Z,152nm,0.3s						
KRLC	Kraliky	1.51	167	ePG	Pn	03 54 33.7	-0.1
KRLC				eSG	Sg	03 54 52.3	-1.6
	comp=Z,22nm,0.5s						
BRG	Berggiesshubel	1.60	246	Pn	Pn	03 54 34.9	-0.1
BRG				Pg	Pg	03 54 36.9	+0.7
BRG				Sg	Sg	03 54 57.1	+0.2
BRG				Amp		03 54 57.9	
	comp=Z,33nm,0.4s						
PRA	Prague	1.87	219	ePG	Pn	03 54 39.4	+0.6
PRA				eSG	Sb	03 55 03.9	-0.6
	comp=Z,19nm,0.7s						
PRU	Pruhonice	1.90	216	ePG	Pb	03 54 40.7	-0.3
PRU				eSG	Sn	03 55 04.2	+0.5
	comp=Z,20nm,0.5s						
MORC	Moravsky Berou	1.95	155	ePn	Pn	03 54 39.9	0.0
	baz=335						
MORC				eSg	Sn	03 55 05.4	+0.3
	comp=Z,16nm,0.4s,baz=335						
MORC	Moravsky Berou	1.95	155	ePN	Pn	03 54 40.0	0.0
MORC				eSG	Sn	03 55 05.5	+0.3
CLL	Collm	2.05	265	ePg	Pg	03 54 45.0	+0.3
CLL				e		03 55 00.0	
CLL				eSg	Sg	03 55 12.0	+0.8
	comp=Z,13nm,0.7s						
OKC	Ostrava-Krasne	2.09	144	ePG	Pb	03 54 44.6	+0.3
OKC				eSG	Sb	03 55 10.9	+0.1
	comp=Z,22nm,0.6s						
VRAC	Vranov	2.25	174	Pn	Pn	03 54 44.1	+0.1
	comp=Z,1.4nm,0.3s,baz=342,slow=17,SNR=13						
VRAC				Lg	Lg	03 55 15.2	
	comp=Z,3.1nm,0.3s,baz=77,slow=23,SNR=8.0						
VRAC	Vranov	2.25	174	ePn	Pn	03 54 44.1	+0.1
	baz=355						
VRAC				eSg	Sb	03 55 14.7	-0.7
	comp=Z,16nm,0.6s,baz=355						
VRAC	Vranov	2.25	174	ePN	Pn	03 54 44.2	+0.1
VRAC				eSG	Sb	03 55 14.7	-0.7
PBCC	Pribram	2.35	219	ePG	Pb	03 54 49.0	+0.3
PBCC				eSG	Sb	03 55 18.3	0.0
KRUC	Moravsky	2.49	178	ePn	Pn	03 54 47.5	+0.3
	baz=358						
KRUC				eSg	Sb	03 55 22.6	+0.4
	comp=Z,14nm,0.7s,baz=358						
KRUC	Moravsky	2.49	178	ePN	Pn	03 54 47.5	+0.3
KRUC				eSG	Sb	03 55 22.7	+0.5
OJC	Ojcow	2.61	119	ePg	Pg	03 54 56.2	+0.7
OJC				eSg	Sg	03 55 30.5	+1.2
NKC	Novy Kostel	2.74	243	ePN	Pn	03 54 51.6	+0.8
NKC				eSG	Sg	03 55 33.1	-0.5
	comp=Z,23nm,0.3s						
JAVC	Velka Javorina	2.84	161	ePN	Pn	03 54 52.9	+0.8
KHC	Kasperske Hory	2.96	216	ePN	Pn	03 54 54.0	+0.2
KHC				ePG	Pb	03 54 59.9	+0.8
KHC				eSG	Sb	03 55 38.0	+2.1
	comp=Z,9.0nm,0.4s						
CKRC	Cesky Krumlov	3.00	205	ePN	Pn	03 54 54.7	+0.4
CKRC				ePG	Pb	03 54 59.8	0.0
CKRC				eSG	Sb	03 55 38.5	+1.6
GERES	GERESS Array B	3.16	212	Pn	Pn	03 54 57.3	+0.7
	comp=Z,0.5nm,0.3s,baz=34,slow=13,SNR=16						
GERES				Pg	Pb	03 55 03.7	+1.2
	comp=Z,4.3nm,0.3s,baz=29,slow=18,SNR=72						
GERES				Lg	Lg	03 55 42.6	
	comp=Z,4.0nm,0.3s,baz=30,slow=27,SNR=9.4						
LANS	Liptovska Anna	3.16	138	ePN	Pn	03 54 57.6	+1.1
LANS				ePG	Pg	03 55 06.7	+0.6
LANS				eSG	Sg	03 55 47.4	+0.4
CONA	Conrad Observa	3.63	184	ePn	Pn	03 55 03.9	+0.9
	comp=Z,0.5nm,0.3s						
CONA				Sg	Sg	03 56 00.9	-1.2
	comp=Z,4.7nm,0.4s						
MOA	Molln	3.92	200	ePn	Pn	03 55 07.4	+0.5
	comp=Z,1.3nm,0.3s						
MOA				Sg	Sg	03 56 13.1	+1.9
	comp=Z,7.3nm,0.5s						
ARSA	Arzberg	4.32	187	ePn	Pn	03 55 14.8	+2.3
	comp=Z,0.5nm,0.2s						
ARSA				Sg	Sg	03 56 23.8	-0.5
	comp=Z,3.2nm,0.5s						
BLEU	Blekinge	4.78	357	i P	Pn	03 55 20.4	+1.7
BLEU				eS	Sn	03 56 13.4	-1.2
BJUU	Bjuv	4.92	338	i P	Pn	03 55 22.1	+1.4
BJUU				eS	Sn	03 56 17.6	-0.7
DEL	Delary	5.13	345	e	Pn	03 55 22.8	-0.7
	baz=161,slow=12						
DEL				i P	Pn	03 55 24.8	+1.2
DEL				IAML		03 56 25.5	
	comp=Z,1.3nm,0.4s						
DAVOX	Davos/Dischmat	6.34	224	Pn	Pn	03 55 41.0	+0.7
	comp=Z,0.2nm,0.3s,baz=161,slow=16,SNR=1.6						
DAVOX				Lg	Lg	03 57 26.2	
	comp=Z,0.2nm,0.3s,baz=343,slow=23,SNR=1.9						
HFS	Hagfors	8.73	352	Pn	Pn	03 56 13.8	+0.9
	comp=Z,0.1nm,0.3s,baz=154,slow=14,SNR=2.0						
NOA	NORSAR Array B	9.92	346	Pn	Pn	03 56 28.6	-0.6
	comp=Z,0.0nm,0.3s,baz=159,slow=12,SNR=1.8						
FINES	FINESS Array B	11.29	25	Pn	Pn	03 56 48.1	+0.1
	comp=Z,0.1nm,0.3s,baz=207,slow=12,SNR=5.4						
EKA	Eskdalemuir Ar	12.17	296	Pn	Pn	03 56 58.7	-1.2
	baz=96,slow=14,SNR=1.2						
ARCES	ARCESS Array B	18.57	10	Pn	P	03 58 21.9	-1.8
	baz=197,slow=12,SNR=6.4						

KRNET 06 04:29:14.7±0.1, 41°.94N×78°.68E, h11km, mb2.7
SOME 06 04:29:14.8, 41°.97N×78°.65E, h10km
NNC 06 04:29:15.8±0.6, 42°.03N×78°.72E, h0km, mb3.5, mpv3.5, Error ellipse: s-maj=4.4km s-min=1.9km az=163.0
ISC 06 04:29:15.7±1.3, 41°.97N±0°.04×78°.61E±0°.03, h12km±10km, n52, σ1.11/89, 18C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	Przheval'sk	0.54	343	⇓iP	Pg	04 29 25.9	-0.4
	baz=40						
PRZ				⇓iS	Sb	04 29 34.3	-0.7
	baz=40						
TARG	Taragay, Kyrgy	0.65	248	⇓iP	Pg	04 29 27.8	-0.7
	baz=52						
TARG				⇓iS	Sg	04 29 37.7	+0.6
	baz=52						
ANVS	Anan'yevo	1.07	319	⇑iP	Pn	04 29 36.4	-0.4
	baz=19						
ANVS				⇑iS	Sn	04 29 52.5	+0.7
	baz=19						
KDJ	Kajisay	1.08	279	⇓iP	Pg	04 29 36.0	-0.5
	baz=80						
KDJ				⇓iS	Sb	04 29 51.5	+0.9
	baz=80						
UZB	Uzynbulak	1.21	14	eP	Pb	04 29 37.0	-1.8
	15nm,0.1s						
UZB				eS	Sb	04 29 53.1	-1.4
	18nm,0.2s						
UZB	Uzynbulak	1.21	14	P	Pb	04 29 37.0	-1.8
	15nm,0.1s						
UZB				S	Sb	04 29 53.1	-1.4
	18nm,0.2s						
SHLS	Shalkode	1.34	28	eP	Pg	04 29 42.8	+1.3
	14nm,0.2s						
SHLS				eS	Sg	04 30 02.5	+3.6
	29nm,0.2s						
SHLS	Shalkode	1.34	28	P	Pg	04 29 42.5	+1.0
	14nm,0.2s						
SHLS				S	Sg	04 30 02.5	+3.6
	42nm,0.2s						
KPKS	Kokpek	1.49	2	eP	Pb	04 29 42.6	-0.9
	65nm,0.1s						
KPKS				eS	Sg	04 30 02.8	-1.0
	28nm,0.2s						
PDGK	Podgornoye	1.50	25	P	Pn	04 29 41.9	-0.8
	3.1nm,0.2s						
PDGK				S	Sb	04 30 01.5	-1.3
	19nm,0.5s						
PDGK	Podgornoye	1.50	25	⇑P	Pn	04 29 41.8	-0.8
	2.4nm,0.2s						
PDGK				⇑S	Sn	04 30 01.4	-0.9
	18nm,0.5s						
KURS	Kuram	1.55	348	eP	Pb	04 29 44.3	-0.1
	5.7nm,0.3s						
KURS				eS	Sg	04 30 05.2	-0.4
	7.0nm,0.0s						
KURS	Kuram	1.55	348	P	Pb	04 29 44.2	-0.3
	6.8nm,0.2s						
KURS				S	Sg	04 30 05.2	-0.4
	12nm,0.5s						
TNSS	Tian-Shan	1.63	311	P	Pb	04 29 46.3	+0.3
	11nm,0.1s						
TNSS				S	Sg	04 30 09.2	+1.0
	27nm,0.4s						
MDOK	Medeo	1.66	316	eP	Pb	04 29 46.5	+0.1
	35nm,0.2s						
MDOK				eS	Sg	04 30 09.2	+0.1
	43nm,0.4s						
MDOK	Medeo	1.66	316	⇓P	Pb	04 29 46.4	+0.1
	7.8nm,0.2s						
MDOK				S	Sg	04 30 09.2	+0.1
	19nm,0.4s						
MDOK	Medeo	1.66	316	Pg	Pb	04 29 46.5	+0.1
	35nm,0.2s						
MDOK				Lg	Lg	04 30 09.2	
	43nm,0.4s						
KOTS	Kotyrbulak	1.68	319	eP	Pg	04 29 47.1	-0.9
	60nm,0.1s						
KOTS				eS	Sg	04 30 10.3	+0.5
	39nm,0.2s						
KOTS	Kotyrbulak	1.68	319	P	Pg	04 29 47.1	-0.9
	60nm,0.1s						
KOTS				S	Sg	04 30 10.3	+0.5
	39nm,0.2s						
ULHL	Ulahol	1.79	280	⇑iP	Pb	04 29 49.1	+0.6
	baz=80						
ULHL				⇑iS	Sg	04 30 13.5	+0.3
	baz=80						
IZV	Izvestkoviy	1.82	306	eP	Pb	04 29 49.8	+0.6
	24nm,0.2s						
IZV				eS	Sg	04 30 14.9	+0.6
	70nm,0.3s						
IZV	Izvestkoviy	1.82	306	P	Pb	04 29 49.8	+0.6
	24nm,0.2s						
IZV				S	Sg	04 30 14.9	+0.6
	70nm,0.3s						
KTMS	Ketmen	1.95	40	eP	Pb	04 29 50.0	-1.4
	6.0nm,0.2s						
KTMS				eS	Sb	04 30 15.0	-0.8
	29nm,0.1s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	1.95	40	P	Pb	04 29 50.0	-1.4
KTMS				S	Sb	04 30 14.9	-0.8
MTBS	Maitube	1.99	306	eP	Pb	04 29 52.5	+0.6
	11nm,0.2s						
MTBS				eS	Sg	04 30 19.5	-0.1
	42nm,0.3s						
MTBS	Maitube	1.99	306	Pg	Pb	04 29 52.5	+0.6
	11nm,0.1s						
MTBS				Lg	Lg	04 30 19.5	
	42nm,0.3s						
BOOM	Boomskoye usch	2.05	286	⇑iP	Pb	04 29 53.4	+0.3
	baz=86						
BOOM				⇑iS	Sg	04 30 21.2	-0.5
	baz=86						
CHKK	Chushkaly	2.23	328	eP	Pb	04 29 56.3	+0.4
	28nm,0.3s						
CHKK				eS	Sg	04 30 26.2	-1.1
	73nm,0.3s						
CHKK	Chushkaly	2.23	328	Pg	Pb	04 29 56.3	+0.4
	28nm,0.3s						
CHKK				Lg	Lg	04 30 26.3	
	73nm,0.3s						
KST	Kastek	2.23	300	eP	Pb	04 29 56.7	+0.6
	7.8nm,0.2s						
KST				eS	Sg	04 30 26.9	-0.6
	34nm,0.4s						
KST	Kastek	2.23	300	Pg	Pb	04 29 56.7	+0.6
	7.8nm,0.2s						
KST				Lg	Lg	04 30 26.9	
	34nm,0.4s						
KTBS	Karatobe	2.25	321	eP	Pb	04 29 56.8	+0.5
	15nm,0.3s						
KTBS				eS	Sg	04 30 27.1	-0.8
	42nm,0.4s						
KTBS	Karatobe	2.25	321	Pg	Pb	04 29 56.8	+0.5
	15nm,0.3s						
KTBS				Lg	Lg	04 30 27.1	
	42nm,0.4s						
ARXS	Arharly	2.31	346	eP	Pb	04 29 57.2	-0.3
	24nm,0.4s						
ARXS				eS	Sb	04 30 27.5	+1.5
	25nm,0.5s						
ARXS	Arharly	2.31	346	Pg	Pb	04 29 57.2	-0.3
	24nm,0.4s						
ARXS				Lg	Lg	04 30 27.5	
	25nm,0.5s						
TKM2	Tokmak 2	2.42	294	⇑eP	Pb	04 29 58.6	-0.9
	baz=94						
TKM2				⇑iS	Sb	04 30 30.4	+1.0
	baz=94						
TKM2	Tokmak 2	2.42	294	⇓Pg	Pb	04 29 59.9	+0.5
	3.1nm,0.5s						
TKM2				⇑Lg	Lg	04 30 32.7	
	14nm,0.4s						
DGS	Degeres	2.45	302	eP	Pb	04 30 00.2	+0.3
	5.4nm,0.2s						
DGS				eS	Sg	04 30 33.1	-1.4
	18nm,0.5s						
DGS	Degeres	2.45	302	Pg	Pb	04 30 00.2	+0.3
	5.4nm,0.2s						
DGS				Lg	Lg	04 30 33.1	
	18nm,0.5s						
KZA	Kyzart	2.51	274	⇑eP	Pb	04 29 59.5	-1.5
	baz=74						
KZA				⇑iS	Sb	04 30 32.2	+0.2
	baz=74						
DJR	Jarkent	2.51	20	eP	Pb	04 29 59.8	-1.0
	6.2nm,0.1s						
DJR				eS	Sb	04 30 32.4	+0.7
	41nm,0.3s						
DJR	Jarkent	2.51	20	Pg	Pb	04 29 59.8	-1.0
	6.2nm,0.1s						
DJR				Lg	Lg	04 30 32.4	
	41nm,0.3s						
KUU	Kurty	2.54	320	eP	Pb	04 30 01.9	+0.5
	3.5nm,0.3s						
KUU				eS	Sg	04 30 35.9	-1.6
	24nm,0.5s						
KUU	Kurty	2.54	320	Pg	Pb	04 30 01.9	+0.5
	3.5nm,0.3s						
KUU				Lg	Lg	04 30 35.9	
	24nm,0.5s						
KRBS	Karabastau	2.76	310	eP	Pb	04 30 05.7	+0.6
	3.6nm,0.3s						
KRBS				eS	Sg	04 30 42.6	-1.9
	21nm,0.3s						
KRBS	Karabastau	2.76	310	Pg	Pb	04 30 05.7	+0.6
	3.6nm,0.3s						
KRBS				Lg	Lg	04 30 42.6	
	21nm,0.3s						
CHMS	Chumysh	3.04	291	⇑iP	Pn	04 30 06.5	+2.8
	baz=91						
CHMS				⇑iS	Sb	04 30 44.5	-2.3
	baz=91						
AAK	Ala-Archa	3.13	284	Pg	Pg	04 30 14.1	-1.6
	1.0nm,0.4s						
AAK				Lg	Lg	04 30 57.5	
	4.4nm,0.6s						
KAPS	Kapalarasan	3.35	9	eP	Pb	04 30 14.7	-0.5
	2.4nm,0.3s						
KAPS				eS	Sb	04 30 58.1	+2.0
	6.1nm,0.3s						
KAPS	Kapalarasan	3.35	9	Pg	Pb	04 30 14.7	-0.5
	2.4nm,0.3s						
KAPS				Lg	Lg	04 30 58.1	
	6.1nm,0.3s						
MK31	Makanchi Array	5.49	27	Pn	Pn	04 30 38.8	+1.4
	0.2nm,0.3s,baz=207,slow=12,SNR=12						
MK31				Sn	Sn	04 31 41.3	+0.8
	0.6nm,0.6s,baz=206,slow=22,SNR=5.5						
MK31				⇑Lg	Lg	04 32 09.3	
	0.5nm,0.5s						
KK31	Karatay Array	6.09	283	⇑Pg	Pb	04 31 06.9	+5.1
	0.2nm,0.5s						
KK31				⇑Lg	Lg	04 32 33.0	
	0.5nm,0.4s,baz=90,slow=27,SNR=3.7						

*IDC **06** 04:38:03.1±0.7, 24°.26S×176°.54W, h0km, mb4.4/12, mb1 4.6/13, mb1mx4.5/24, mbtmp4.4/13, ML3.8/1, MS3.3/3, Ms1 3.3/3, ms1mx3.0/44, Error ellipse: s-maj=28.0km s-min=20.8km az=139.0*

*NEIC **06** 04:38:14.2±2.1, 24°.2S±0°.1×176°.47W±0°.03, h78km±5km, mb4.5/33, Error ellipse: s-maj=18.4km s-min=2.3km az=170.0*

ISC 06 04:38:15.7±0.5**, 24°.30S**±0°.10×**176°.57W**±0°.08**, h100**km**,** **n98,** σ1^{s}**25**/75**, mb4.3**/28**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	8.08	51		Pn	04 39 56.6	-14
MSVF	Nonsavu	8.24	321	Pn	Pn	04 40 13.2	+0.6
	15nm,0.3s,baz=156,slow=12,SNR=92						
MSVF				LR	LR	04 43 08.8	
	comp=Z,404nm,20.2s,baz=178,slow=37						
MSVF	Nonsavu	8.24	321	Pn	Pn	04 40 12.1	-0.5
AFI	Afiamalu	11.29	25	Pn	Pn	04 40 41.0	-13
	3.5nm,0.3s,baz=155,slow=19,SNR=2.7						
AFI				Sn	Sn	04 42 36.9	-21
	4.4nm,0.3s,baz=299,slow=22,SNR=1.9						
MARNC	Mare, Loyalty	14.46	278		P	04 41 41.4	+1.9
PINNC	Pines Island,	14.76	273	Pn	Pn	04 41 37.9	-1.6
URZ	Urewera	14.92	200	Pn	Pn	04 41 37.1	-4.1
	0.4nm,0.3s,baz=347,slow=22,SNR=1.5						
URZ				Sn	Sn	04 44 08.5	-17
	0.4nm,0.3s,baz=165,slow=13,SNR=0.9						
DZM	Mont Dzumac	15.77	275	ePn	P	04 41 57.3	+3.2
	58nm,1.3s						
DZM				eLR	LR	04 45 41.8	
	comp=Z,251nm,26.1s						
DZM	Mont Dzumac	15.77	275	Pn	Pn	04 41 52.6	+0.3
	0.1nm,0.3s,baz=110,slow=17,SNR=1.6						
DZM				LR	LR	04 45 34.6	
	comp=Z,72nm,19.6s,baz=39,slow=29						
DZM	Mont Dzumac	15.77	275		Pn	04 41 50.9	-1.4
RAR	Rarotonga	15.80	82	Pn	Pn	04 41 40.9	-12
	3.7nm,0.3s,baz=272,slow=7.1,SNR=15						
RAR				LR	LR	04 46 44.5	
	comp=Z,108nm,20.3s,baz=262,slow=33						
RAR	Rarotonga	15.80	82		Pn	04 41 42.5	-10
RAR				IAmb	IAmb	04 42 03.5	
	comp=Z,43nm,0.8s						
SANVU	Saraoutou	17.61	297		P	04 42 12.9	-1.4
TBI	Tubuai	24.81	93	eS	S	04 47 46.3	+2.3
	comp=Z,94nm,27.8s						
TBI				eLR	LR	04 49 30.9	
	comp=Z,182nm,25.8s						
TBI	Tubuai	24.81	93	eT	T	05 08 36.3	
	comp=Z,17nm,0.3s						
PAE	Paea	26.03	80	eT	T	05 10 04.4	
	comp=Z,19nm,0.3s						
PPT2	Papeete2	26.05	80	eLR	LR	04 50 02.6	
	comp=Z,252nm,25.5s						
PPT2	Papeete2	26.05	80	eT	T	05 10 06.0	
	comp=Z,11nm,0.3s						
TIAR	Tiarei	26.27	80	eT	T	05 10 21.4	
	comp=Z,1.2nm,0.3s						
MEH	Mehetia	27.32	82	eT	T	05 11 41.0	
	comp=Z,47nm,0.2s						
VAH	Vaihoa	28.65	77	eT	T	05 13 18.0	
	comp=Z,7.5nm,0.3s						
EIDS	Eidsvold	29.34	261	P	P	04 44 12.3	+3.2
EIDS				IAmb	IAmb	04 44 13.4	
	comp=Z,6.1nm,0.8s						
CTAO	Charters Tower	34.60	269	P	P	04 44 55.9	+0.6
AS31	Alice Springs	45.05	260	P	P	04 46 22.6	+0.8
ASAR	Alice Springs	45.05	260	P	P	04 46 21.4	-0.5
	comp=Z,6.6nm,0.8s,baz=99,slow=8.0,SNR=31						
ASAR				PcP	PcP	04 48 01.4	+0.3
	comp=Z,0.6nm,0.8s,baz=102,slow=4.8,SNR=1.9						
WB2	Warramunga Arr	45.49	265	P	P	04 46 25.1	-0.1
WRA	Warramunga Arr	45.50	265	P	P	04 46 24.4	-1.0
	comp=Z,2.1nm,0.4s,baz=102,slow=8.4,SNR=19						
WRA	Warramunga Arr	45.50	265	P	P	04 46 24.3	-1.0
QSPA	South Pole Qui	65.78	180	P	P	04 48 51.1	+1.1
QSPA				IAmb	IAmb	04 48 52.5	
	comp=Z,9.0nm,1.4s						
MJAR	Matsushiro Arr	74.04	324	P	P	04 49 39.1	-1.5
	comp=Z,1.9nm,0.8s,baz=163,slow=4.3,SNR=5.6						
MJAR	Matsushiro Arr	74.04	324	IAmb	IAmb	04 49 41.4	
	comp=Z,1.4nm,0.8s						
MAW	Mawson	78.45	200	P	P	04 50 05.7	+0.6
	comp=Z,4.0nm,0.9s,baz=118,slow=7.0,SNR=7.4						
MAW	Mawson	78.45	200	P	P	04 50 06.8	+1.7
PETK	Petropavlovsk-	80.27	345	P	P	04 50 15.4	+0.4
	comp=Z,8.1nm,0.9s,baz=145,slow=8.1,SNR=7.4						
PETK	Petropavlovsk-	80.27	345	P	P	04 50 14.7	-0.4
KSRS	Korea Array	80.60	318	P	P	04 50 18.6	+1.5
	comp=Z,1.2nm,0.7s,baz=121,slow=4.7,SNR=2.6						
H03S2	Juan Fernandez	82.78	124	T	T	06 21 30.1	
	baz=244,slow=75,SNR=648						
H03S1	Juan Fernandez	82.79	124	T	T	06 21 31.2	
	baz=244,slow=75,SNR=805						
H03S3	Juan Fernandez	82.79	124	T	T	06 21 33.8	
	baz=244,slow=75,SNR=727						
USRK	Ussuriysk Ar.	82.83	325	P	P	04 50 30.0	+1.2
	comp=Z,5.4nm,0.9s,baz=115,slow=2.8,SNR=8.4						
NVAR	Mina Array Bea	82.90	42	P	P	04 50 29.9	+0.3
	comp=Z,1.1nm,0.7s,baz=228,slow=8.2,SNR=9.5						
NVAR	Mina Array Bea	82.90	42	P	P	04 50 30.1	+0.5
H03N2	Juan Fernandez	82.93	123	T	T	06 21 39.1	
	baz=250,slow=73,SNR=212						
H03N3	Juan Fernandez	82.93	123	T	T	06 21 39.4	
	baz=250,slow=73,SNR=370						
H03N1	Juan Fernandez	82.95	123	T	T	06 21 41.9	
	baz=250,slow=73,SNR=185						
TPH	Tonopah	83.35	43	P	P	04 50 32.1	+0.2
KVN	Kaiserville	83.42	42	P	P	04 50 31.7	-0.5
K05A	Summer Lake	84.12	38	P	P	04 50 36.8	+1.1
SNAA	Sanae	84.19	178	P	P	04 50 35.3	-0.2
SNAA	Sanae	84.19	178	P	P	04 50 35.4	-0.2
SNAA				IAmb	IAmb	04 50 51.5	
	comp=Z,4.0nm,1.0s						
VNA3	Neumayer Olymp	84.27	176	P	P	04 50 35.8	-0.1
PRN	Pahroc Range	84.33	45	IAmb	IAmb	04 50 39.9	
	comp=Z,6.5nm,1.3s						
VNA2	Neumayer--Watz	84.73	176	P	P	04 50 38.5	+0.3
PINE	Pine Mountain	84.79	37	IAmb	IAmb	04 50 40.7	
	comp=Z,9.4nm,1.4s						
BMN	Battle Mountai	84.80	41	IAmb	IAmb	04 50 41.4	
	comp=Z,8.0nm,1.4s						
VNA1	Neumayer--Stat	84.95	176	P	P	04 50 38.9	-0.3
WVOR	Wild Horse Val	85.22	39	IAmb	IAmb	04 50 43.4	
	comp=Z,4.1nm,1.1s						
LCMT	Little Creek M	85.27	46	IAmb	IAmb	04 50 43.6	
	comp=Z,4.3nm,1.0s						
KNB	Kanab	85.55	46	P	P	04 50 43.2	+0.2
KNB				IAmb	IAmb	04 50 45.3	
	comp=Z,7.5nm,1.3s						
U15A	North Rim	85.56	47	IAmb	IAmb	04 50 45.6	
	comp=Z,3.3nm,0.9s						
PKCU	Pink Cliffs	86.13	46	IAmb	IAmb	04 50 49.0	
	comp=Z,6.2nm,1.1s						
MTPU	Mount Pierson	86.55	46	P	P	04 50 48.9	+0.8
MTPU				IAmb	IAmb	04 50 51.0	
	comp=Z,3.4nm,1.0s						
TXAR	Lajitas Array	88.01	57	P	P	04 50 55.9	+0.9
	comp=Z,1.1nm,1.0s,baz=215,slow=6.1,SNR=7.9						
TXAR	Lajitas Array	88.01	57	P	P	04 50 54.1	-0.9
SRU	San Rafael Swe	88.22	45	P	P	04 50 55.4	-0.5
SRU				IAmb	IAmb	04 50 58.0	
	comp=Z,4.9nm,1.2s						
ANMO	Albuquerque	88.77	51	P	P	04 50 58.5	-0.1
ANMO				IAmb	IAmb	04 51 00.5	
	comp=Z,2.7nm,0.9s						
ENH	Enshi	89.25	304	P	P	04 51 01.8	+1.1
MCMT	McKenzie Canyo	90.01	40	P	P	04 51 03.8	-0.5
RND	Reindeer	90.11	12	P	P	04 51 04.0	0.0
RND				IAmb	IAmb	04 51 06.4	
	comp=Z,5.4nm,1.0s						
PDAR	Pinedale Array	90.83	43	P	P	04 51 07.9	-0.2
	comp=Z,1.4nm,0.9s,baz=204,slow=3.3,SNR=7.8						
PDAR	Pinedale Array	90.83	43	P	P	04 51 07.6	-0.5
BOZ	Bozeman (W)	91.15	40	IAmb	IAmb	04 51 11.2	
	comp=Z,3.1nm,0.8s						
WRH	Wood River Hil	91.22	12	P	P	04 51 09.7	+0.7
HRY	Holter Researc	91.67	39	P	P	04 51 12.0	+0.3
ILAR	Eielson Array	91.72	12	P	P	04 51 11.5	+0.1
	comp=Z,1.0nm,1.0s,baz=212,slow=5.1,SNR=5.2						
CMAR	Chiang Mai Arr	92.61	289	P	P	04 51 18.5	+1.9
	comp=Z,2.6nm,0.7s,baz=136,slow=3.4,SNR=5.7						
CMAR	Chiang Mai Arr	92.61	289	P	P	04 51 16.2	-0.4
CHTO	Chiang Mai	92.76	289	P	P	04 51 18.2	+0.9
RSSD	Black Hills	94.98	44	P	P	04 51 27.0	-0.2
MKAR	Makanchi Array	114.74	312	PKP	PKiKP	04 56 43.8	-0.5
	comp=Z,0.5nm,0.8s,baz=86,slow=4.5,SNR=4.6						
KK31	Karatay Array	122.61	307	PKPdf	PKiKP	04 57 00.7	+0.9
KKAR	Karatay Array	122.61	307	PKPdf	PKiKP	04 56 59.6	-0.2
ARCES	ARCESS Array B	132.88	350	PKP	PKiKP	04 57 18.4	-1.2
	comp=Z,0.8nm,0.5s,baz=0.0,slow=1.2,SNR=8.0						
FINES	FINESS Array B	139.78	343	PKhKP	PKPpre	04 57 22.8	
	comp=Z,1.6nm,0.8s,baz=48,slow=5.7,SNR=3.9						
NOA	NORSAR Array B	142.89	354	PKhKP	PKPpre	04 57 33.6	
	comp=Z,1.2nm,0.8s,baz=15,slow=4.4,SNR=3.3						
KOPT	Kop Dagi	145.21	306		PKPab	04 57 41.0	-1.0
PABE	Paberze	145.35	339	PKPbc	PKPab	04 57 41.2	-0.5
MARD	Mardin	145.62	301	PKPbc	PKPab	04 57 43.2	-0.3
AKASG	Malin Array Be	146.96	330	PKPbc	PKPab	04 57 46.5	-1.5
	comp=Z,4.2nm,0.4s,baz=44,slow=4.2,SNR=18						
AKASG	Malin Array Be	146.96	330		PKPab	04 57 45.8	-2.2
AKBB	Malin Array Si	146.96	330	PKPbc	PKiKP	04 57 47.2	-1.6
GAZ	Gaziantep	148.43	302	PKPbc	PKiKP	04 57 51.0	-1.4
BNN	Bunyan	148.99	306	PKPbc	PKiKP	04 57 52.5	-1.2
BRTR	Keskin Array B	150.30	308	PKPbc	PKiKP	04 57 56.0	-0.3
	comp=Z,2.3nm,0.9s,baz=117,slow=3.1,SNR=12						
BRTR				PKPab	PKPab	04 58 03.0	+0.9
	comp=Z,1.8nm,0.5s,baz=60,slow=3.0,SNR=11						
BRTR	Keskin Array B	150.30	308	PKPdf	PKPdf	04 57 48.9	-1.3
BRTR					PKiKP	04 57 55.3	-1.0
BRTR				PKPab	PKPab	04 58 03.0	+0.9
CLL	Collm	152.05	347	e(PKPdf)	PKPbc	04 57 56.0	-3.0
CLL				i PKPbc	PKiKP	04 58 00.0	+0.7
	comp=Z,6.0nm,0.9s						
GERES	GERESS Array B	154.20	344	PKPbc	PKiKP	04 58 05.9	+1.9
	comp=Z,0.3nm,0.8s,baz=338,slow=2.3,SNR=3.6						
TORD	Torodi Ar. Bea	168.78	171	PKPab	PKPab	04 59 22.6	+0.4
	comp=Z,1.8nm,1.0s,baz=187,slow=4.0,SNR=5.8						

*BJI **06** 04:52:53.8±0.0, 24°.85S×179°.72W, h495km, mB5.3/50, mb5.4/68*

*MOS **06** 04:52:54.1±0.9, 25°.02S×179°.81E, h487km, mb5.4/29, Error ellipse: s-maj=9.1km s-min=7.1km az=124.8*

*NOU **06** 04:52:55.3, 24°.96S×179°.92W, h502km, ML5.4/121, South of Fiji Islands*

*IDC **06** 04:52:55.7±0.4, 25°.01S×179°.89E, h496km±4km, mb4.9/30, mb1 4.9/33, mb1mx4.9/33, mbtmp5.7/33, Error ellipse: s-maj=8.1km s-min=7.0km az=25.0*

*NEIC **06** 04:52:56.9±2.1, 25°.03S±0°.08×179°.87E±0°.09, h508km±5km, mb5.1/329, Error ellipse: s-maj=12.3km s-min=11.7km az=124.0*

*GCMT **06** 04:52:57.9±0.2, 24°.99S±0°.02×179°.93E±0°.02, h492km±1km, MW5.5/121, Moment Tensor Solution. s121,c194; Duration: 1^{s}4 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.55±.03; $M_{\theta\theta}$0.37±.05; $M_{\phi\phi}$0.17±.04; $M_{r\theta}$0.03±.05; $M_{\theta\phi}$-1.19±.04; $M_{\phi r}$-1.78±.04; Best double couple: $M_0$2.19500×10^{17} NP1:ϕ_s95.00000°, δ34.00000°, λ-164.00000°. NP2:ϕ_s352.00000°, δ81.00000°, λ-57.00000°. Principal axes: T 2.1650, Plg29.0000°, Azm56.0000°; N 0.0600, Plg32.0000°, Azm166.0000°; P -2.2250, Plg44.0000°, Azm294.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

*BGR **06** 04:52:59.2±0.0, 23°.66S×177°.79E, h492km*

ISC 06 04:52:55.0±0.3**, 25°.04S**±0°.03×**179°.96E**±0°.03**, h496**km±2km**, h497**km**:pP-P, n1282,** σ1^{s}**36**/1366**, mb5.3**/337**, 119C-193D, Fault plane solution: NP1:**ϕ_s338.98398°**,** δ80.88545°, λ-75.06746°. **NP2:**ϕ_s99.69370°**,** δ17.44027°, λ-148.09331°. **Principal axes:** T Plg34.2350°, Azm56.2518°**;** N Plg14.7397°**,** Azm156.5649°**;** P Plg51.8701°, Azm266.1475°**; Fault plane solution: NP1:**ϕ_s324.57498°**,** δ73.86532°**,** λ-41.56015°. **NP2:** ϕ_s68.41596°**,** δ50.41107°**,** λ-158.86258°. **Principal axes:** T Plg14.7214°**,** Azm21.4096°**;** N Plg45.9544°, Azm127.1719°**;** P Plg40.3251°, Azm278.5230°**; Fault plane solution: NP1:**ϕ_s192.68495°**,** δ86.37963°, λ48.07591°. **NP2:**ϕ_s98.66270°**,** δ42.05126°**,** λ174.59038°. **Principal axes:** T Plg34.7300°, Azm67.5948°**;** N Plg41.8215°, Azm195.9304°**;** P Plg28.7121°, Azm315.2791°**; South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	4.60	156	P	P	04 54 19.0	+0.9
	2µm,0.3s,baz=186,slow=0.9,SNR=56						
RAO				S	S	04 55 24.4	-1.6
	1µm,0.3s,baz=246,slow=21,SNR=4.4						
RAO	Raoul Island	4.60	156	P	P	04 54 18.7	+0.6
RAO	Raoul Island	4.60	156	P	P	04 54 19.3	+1.2
MSVF	Nonsavu	7.49	346	P	P	04 54 46.5	+0.3
	20nm,0.3s,baz=140,slow=12,SNR=110						
MSVF				S	S	04 56 17.1	-0.2
	1.0nm,0.3s,baz=185,slow=22,SNR=11						
MSVF	Nonsavu	7.49	346	i P	P	04 54 45.5	-0.7
MSVF	Nonsavu	7.49	346	P	P	04 54 45.7	-0.5
MSVF	Nonsavu	7.49	346	P	P	04 54 46.7	+0.5
NIUE	Niue	11.10	60	P	P	04 55 23.6	-0.5
	baz=11						
NIUE				S	S	04 57 24.8	-1.9
	baz=11						
NIUE	Niue	11.10	60	P	P	04 55 23.2	-0.9
NIUE	Niue	11.10	60	P	P	04 55 23.4	-0.7
NFK	Norfolk Island	11.43	247	P	P	04 55 30.1	+2.6
MARNC	Mare, Loyalty	11.52	285	P	P	04 55 29.3	+0.8
MARNC	Mare, Loyalty	11.52	285	P	P	04 55 29.6	+1.0
PINNC	Pines Island,	11.71	279	P	P	04 55 31.8	+1.3
PINNC	Pines Island,	11.71	279	P	P	04 55 32.5	+2.0
OUENC	Ouen Island, N	12.30	280	P	P	04 55 38.1	+1.3
OUENC	Ouen Island, N	12.30	280	P	P	04 55 39.0	+2.2
YATNC	Mamie plateau,	12.35	281	P	P	04 55 38.9	+1.5
LIFNC	LIFOU	12.46	287	P	P	04 55 37.9	-0.7
LIFNC	LIFOU	12.46	287	P	P	04 55 39.0	+0.4
ONTNC	Ouen Toro	12.67	280	P	P	04 55 42.1	+1.3
ONTNC	Ouen Toro	12.67	280	P	P	04 55 42.9	+2.1
DZM	Mont Dzumac	12.74	281	eP	P	04 55 43.4	+1.8
	821nm,1.0s						
DZM	Mont Dzumac	12.74	281	P	P	04 55 43.4	+1.8
	14nm,0.3s,baz=94,slow=16,SNR=123						
DZM				S	S	04 58 02.6	+3.6
	baz=2.8,slow=19,SNR=5.7						
DZM				ScP	ScP	05 03 23.6	+1.8
	0.4nm,0.3s,baz=99,slow=5.4,SNR=5.3						
DZM	Mont Dzumac	12.74	281	P	P	04 55 43.1	+1.4
DZM	Mont Dzumac	12.74	281	P	P	04 55 43.6	+2.0
NOUC	Port Laguerre	12.86	280	P	P	04 55 44.7	+1.9
RTV	Rentapao	12.93	302	P	P	04 55 45.5	+1.9
	384µm,0.9s						
WHRZ	Whale Island	13.03	191	P	P	04 55 47.2	+2.9
OPRZ	Ohinepanea	13.09	192	P	P	04 55 45.3	+0.4
DVP	Devils Point	13.16	301	P	P	04 55 48.4	+2.5
	575µm,0.9s						
TWGZ	Tauwhareparae	13.20	187	P	P	04 55 44.6	-1.6
TWGZ				S	S	04 58 05.6	-1.9
EDRZ	Edgecumbe	13.31	191	P	P	04 55 48.5	+1.1
KARZ	Kaharoa	13.32	193	P	P	04 55 48.2	+0.8
OMRZ	Omania	13.38	192	P	P	04 55 50.3	+2.2
URZ	Urewera	13.40	190	P	P	04 55 44.7	-3.5
	29nm,0.3s,baz=41,slow=2.2,SNR=95						
URZ				S	S	04 58 07.2	-3.9
	4.2nm,0.3s,baz=62,slow=23,SNR=19						
URZ	Urewera	13.40	190	P	P	04 55 44.9	-3.3
URZ				S	S	04 58 08.6	-2.5
MWZ	Matawai	13.41	188	P	P	04 55 47.0	-1.5
MWZ				S	S	04 58 09.7	-1.7
TARZ	Mount Tarawera	13.48	192	P	P	04 55 50.5	+1.3
TKGZ	Te Karaka	13.48	187	P	P	04 55 49.4	+0.3
UTU	Utuhina	13.48	193	P	P	04 55 51.5	+2.3
CNGZ	Carnagh Statio	13.48	186	P	P	04 55 47.1	-2.1
AFI	Afiamalu	13.53	37	P	P	04 55 46.0	-4.0
	57nm,0.3s,baz=112,slow=1.4,SNR=63						
AFI				S	S	04 58 03.8	-11
	29nm,0.3s,baz=195,slow=22,SNR=6.2						
AFI	Afiamalu	13.53	37	P	P	04 55 46.4	-3.7
AFI				pmax	pmax		
	comp=Z,2µm,1.0s						
AFI	Afiamalu	13.53	37	P	P	04 55 46.0	-4.0
AFI	Afiamalu	13.53	37	P	P	04 55 46.1	-4.0
RRRZ	Republican Roa	13.58	192	P	P	04 55 51.0	+0.9
RAGZ	Rawiri	13.59	189	P	P	04 55 48.6	-1.7
HSRZ	Hossack Road	13.60	193	P	P	04 55 52.3	+1.9
GRRZ	Galatos Road	13.66	193	P	P	04 55 52.9	+1.8
MUGZ	Murupara	13.67	191	P	P	04 55 49.7	-1.4
MUGZ				S	S	04 58 17.8	+1.5
HRRZ	Handcock Road	13.67	192	P	P	04 55 52.2	+1.0
RIGZ	Rimuhau	13.75	187	P	P	04 55 50.2	-1.8
RIGZ				S	S	04 58 17.4	-0.6
RTZ	Ruatahuna	13.77	190	P	P	04 55 49.9	-2.3
RTZ				S	S	04 58 18.7	+0.3
TLZ	Tolley Road	13.77	195	P	P	04 55 52.9	+0.7
WPRZ	Whakapapatarin	13.82	193	P	P	04 55 53.7	+1.0
KUTZ	Kaahu Road	13.86	194	P	P	04 55 55.3	+2.2
SNGZ	Shannon Statio	13.88	189	P	P	04 55 51.4	-1.9
SNGZ				S	S	04 58 21.8	+1.4
PRGZ	Paritu Road	13.95	187	P	P	04 55 54.3	+0.2
PRGZ				S	S	04 58 22.0	+0.2
WHTZ	Whakaora	14.00	193	P	P	04 55 55.9	+1.3
MTHZ	Maungataniwha	14.02	190	P	P	04 55 53.3	-1.5
RAHZ	Arahi	14.05	189	P	P	04 55 52.9	-2.2
KNZ	Kokohu	14.07	187	P	P	04 55 53.7	-1.6
KNZ				S	S	04 58 22.4	-1.6
MRHZ	Matea Rd	14.07	191	P	P	04 55 54.8	-0.7
WATZ	Wairara	14.09	194	P	P	04 55 56.8	+1.2
HIZ	Hauiti	14.11	197	P	P	04 55 57.0	+1.2
MHGZ	Mahia Peninsul	14.18	187	P	P	04 55 55.7	-0.8
WHHZ	Waihua	14.18	189	P	P	04 55 56.4	-0.1
RITZ	Rihia Road	14.32	193	P	P	04 55 58.4	+0.4
KATZ	Kakaramea	14.35	194	P	P	04 55 59.3	+0.9
BKZ	Black Stump Fm	14.38	191	P	P	04 55 55.7	-3.0
ARHZ	Aropaoanui	14.40	189	P	P	04 55 56.6	-2.2
NTVZ	North Tongarir	14.48	193	P	P	04 55 59.2	-0.6
KRVZ	Karewarewa	14.48	194	P	P	04 55 59.2	-0.5
TMVZ	Te Maari	14.49	193	P	P	04 55 58.2	-1.7
TWVZ	Taurewa	14.50	194	P	P	04 55 59.7	-0.2
WTVZ	West Tongariro	14.51	194	P	P	04 55 59.6	-0.5
NNVZ	North Ngauruho	14.52	194	P	P	04 55 59.7	-0.5
OTVZ	Oturere	14.54	193	P	P	04 55 60.0	-0.5
NGZ	Ngauruhoe	14.57	194	P	P	04 56 00.1	-0.6
MCHZ	McNeill Hill	14.62	190	P	P	04 55 59.3	-1.9
KWHZ	Kaweka Forest	14.65	191	P	P	04 55 59.0	-2.5
FWVZ	Far West T-bar	14.65	194	P	P	04 56 00.9	-0.8
DRZ	Dome Shelter	14.67	194	P	P	04 56 01.4	-0.6
WHVZ	Whangaehu Hut	14.67	194	P	P	04 56 00.4	-1.5
TRVZ	Turoa	14.70	194	P	P	04 56 00.8	-1.4
WNVZ	Wahianoa	14.71	193	P	P	04 56 00.6	-1.7
VRZ	Vera Road	14.71	196	P	P	04 56 02.6	+0.6
PKVZ	Pokaka	14.73	194	P	P	04 56 01.2	-1.2
MOVZ	Moawhango	14.76	193	P	P	04 56 00.4	-2.2
BHHZ	Black Hill Sta	14.78	192	P	P	04 56 00.7	-2.2
CKHZ	Cape Kidnapper	14.78	189	P	P	04 56 00.8	-1.9
MTVZ	Mangateitei	14.79	194	P	P	04 56 02.5	-0.5

KRHZ **Kereru** 14.87 191 P P 04 55 59.9 -3.8
KAHZ **Kahuranaki** 14.94 189 P P 04 56 02.5 -2.0
PKE **Pukeiti** 14.98 198 P P 04 56 08.4 +3.4
NEZ **North Egmont** 15.03 198 P P 04 56 08.4 +3.0
KHEZ **Kahui Hut** 15.07 198 P P 04 56 08.9 +3.0
NBEZ **Newall Road No** 15.09 198 P P 04 56 08.3 +2.3
LREZ **Lake Rotokare** 15.12 197 P P 04 56 07.2 +0.8
KOUNC **Koumac, New Ca** 15.13 284 P P 04 56 08.2 +1.5
PNHZ **Pukenui** 15.16 191 P P 04 56 04.3 -2.5
PXZ **Pawanui** 15.17 189 P P 04 56 04.2 -2.7
NMEZ **Manu Road** 15.22 198 P P 04 56 10.3 +3.0
WAZ **Wanganui** 15.26 195 P P 04 56 06.8 -1.0
WPHZ **Waipukurau** 15.27 190 P P 04 56 05.6 -2.3
SANVU **Saraoutou** 15.30 306 P P 04 56 06.4 -2.2
SANVU **Saraoutou** 15.30 306 P P 04 56 07.6 -0.9
TSZ **Takapari Road** 15.35 192 P P 04 56 06.3 -2.5
DVHZ **Dannevirke** 15.54 191 P P 04 56 08.6 -2.2
OHWZ **Ohakea** 15.62 193 P P 04 56 10.1 -1.4
ANWZ **Angora Road** 15.65 190 P P 04 56 09.7 -2.1
POWZ **Post Office Ro** 15.71 192 P P 04 56 09.8 -2.6
PRWZ **Pori Road** 15.83 191 P P 04 56 12.0 -1.7
BFZ **Birch Farm** 15.90 190 P P 04 56 10.0 -4.5
MRZ **Mangatainoka R** 16.00 192 P P 04 56 10.6 -4.9
TIWZ **Tintock** 16.06 191 P P 04 56 14.0 -2.2
CPWZ **Castlepoint** 16.13 190 P P 04 56 15.2 -1.7
OGWZ **Otaki Gorge** 16.23 193 P P 04 56 13.6 -4.4
HOWZ **Holdsworth Sta** 16.24 192 P P 04 56 15.1 -3.0
KIW **Kapiti Island** 16.33 194 P P 04 56 15.0 -4.1
TMWZ **Te Maipa** 16.38 191 P P 04 56 17.1 -2.5
FUNA **Funafuti** 16.44 357 P P 04 56 19.0 -1.5
FUNA **Funafuti** 16.44 357 P P 04 56 21.2 +0.7
comp=Z,151nm,0.9s
MTW **Mount Morrison** 16.50 192 P P 04 56 17.6 -3.2
CAW **Cannon Point** 16.53 193 P P 04 56 17.8 -3.4
SNZO **South Karori** 16.80 194 P P 04 56 21.2 -2.7
RAR **Rarotonga** 19.02 83 P P 04 56 44.9 -0.2
comp=Z,8.7nm,0.3s,baz=241,slow=7.8,SNR=49
RAR **Rarotonga** 19.02 83 P P 04 56 43.7 -1.4
RAR **Rarotonga** 19.02 83 P P 04 56 44.8 -0.2
LHI **Lord Howe Isla** 19.49 246 P P 04 56 51.6 +2.4
baz=20
LHI **Lord Howe Isla** 19.49 246 P P 04 56 50.3 +1.1
LHI **Lord Howe Isla** 19.49 246 P P 04 56 51.4 +2.2
HNR **Honiara** 24.57 306 P P 04 57 34.5 -0.6
comp=Z,2µm,0.7s,baz=154,slow=2.7,SNR=26
HNR **Honiara** 24.57 306 P P 04 57 33.8 -1.3
HNR **Honiara** 24.57 306 P P 04 57 34.3 -0.8
ARMA **Armidale** 25.61 252 P P 04 57 45.1 +0.8
ARMA IAmb IAmb 04 57 46.9
comp=Z,114nm,1.0s
EIDS **Eidsvold** 26.11 263 P P 04 57 49.3 +0.6
TARA **Tarawa** 27.11 344 P P 04 57 56.8 -0.7
TARA **Tarawa** 27.11 344 P P 04 57 57.7 +0.2
comp=Z,570nm,1.2s
TBI **Tubuai** 27.92 93⇑*eP* P 04 58 05.4 +0.8
comp=Z,257nm,0.8s
CAN **Canberra** 28.55 242 P P 04 58 10.3 +0.2
CAN pmax pmax
comp=Z,46nm,0.6s
CAN **Canberra** 28.55 242 P P 04 58 10.3 +0.2
CAN IAmb IAmb 04 58 12.3
comp=Z,46nm,0.6s
PAE **Paea** 29.26 81⇑*eP* P 04 58 16.6 +0.3
comp=Z,55nm,1.0s
PPT2 **Papeete2** 29.29 81⇑*eP* P 04 58 17.2 +0.5
comp=Z,264nm,1.2s
PPT **Papeete** 29.29 81 P P 04 58 17.5 +0.8
comp=Z,228nm,0.9s,baz=246,slow=1.7,SNR=23
PPTF **Pamatai, Papee** 29.30 81 P P 04 58 16.4 -0.4
TIAR **Tiarei** 29.50 81⇑*eP* P 04 58 19.0 +0.5
comp=Z,71nm,1.0s
MEH **Mehetia** 30.55 83⇑*eP* P 04 58 28.0 +0.5
comp=Z,107nm,1.2s
CTA **Charters Tower** 31.46 272 P P 04 58 36.3 +0.9
comp=Z,250nm,0.3s,baz=95,slow=11,SNR=1053
CTA S S 05 03 07.2 -0.8
comp=Z,14nm,0.8s,baz=192,slow=20,SNR=12
CTA ScP ScP 05 04 12.0 +2.3
comp=Z,25nm,1.1s,baz=173,slow=4.9,SNR=5.6
CTAO **Charters Tower** 31.46 272 P P 04 58 35.4 0.0
CTAO pmax pmax
comp=Z,495nm,0.9s
CTAO **Charters Tower** 31.46 272 P P 04 58 35.4 0.0
PMOR **Pomariorio Ree** 31.74 78⇑*eP* P 04 58 38.1 +0.4
comp=Z,389nm,1.0s
TOO **Toolangi** 31.81 239 P P 04 58 37.9 -0.3
TOO pmax pmax
comp=Z,153nm,1.3s
TOO **Toolangi** 31.81 239 P P 04 58 37.9 -0.3
TOO IAmb IAmb 04 58 40.0
comp=Z,153nm,1.3s
VAH **Vaihoa** 31.88 78⇑*eP* P 04 58 39.0 0.0
comp=Z,365nm,1.2s
TAU **Tasmania Unive** 32.14 228 P P 04 58 41.5 +0.7
TAU pmax pmax
comp=Z,61nm,0.6s
TAU **Tasmania Unive** 32.14 228 P P 04 58 41.5 +0.7
TAU IAmb IAmb 04 58 43.7
comp=Z,61nm,0.6s
RABL **Rabaul** 33.81 303 P P 04 58 54.6 -0.8
RABL **Rabaul** 33.81 303 P P 04 58 55.0 -0.5
STKA **Stephens Creek** 34.28 250 P P 04 58 59.6 +0.4
comp=Z,46nm,0.4s,baz=95,slow=11,SNR=251
STKA pP pP 05 00 26.6 +2.2
comp=Z,21nm,0.7s,baz=85,slow=11,SNR=3.2
STKA PcP PcP 05 01 22.4 +0.8
comp=Z,30nm,0.7s,baz=84,slow=6.0,SNR=4.2
STKA S S 05 03 49.0 -1.5
comp=Z,5.5nm,0.7s,baz=210,slow=15,SNR=1.9
STKA PKiKP PKiKP 05 08 42.3 -1.5
comp=Z,1.9nm,0.5s,baz=293,slow=7.9,SNR=2.8
STKA **Stephens Creek** 34.28 250 P P 04 58 58.6 -0.6
STKA *PP pP 05 00 26.6 +2.2
STKA S S 05 03 49.1 -1.5
STKA pmax pmax
comp=Z,16nm,0.6s
STKA **Stephens Creek** 34.28 250 P P 04 58 58.6 -0.6
XMAS **Kiritimati** 34.71 42 P P 04 59 03.3 +0.3
XMAS **Kiritimati** 34.71 42 P P 04 59 03.8 +0.8
KWAJ **Kwajalein Atol** 35.73 339 P P 04 59 11.0 -0.4
KWAJ pmax pmax
comp=Z,358nm,1.1s
KWAJ **Kwajalein Atol** 35.73 339 P P 04 59 10.9 -0.4
COEN **Coen** 36.27 281 P P 04 59 16.7 +0.7
BBOO **Buckleboo** 38.98 248 P P 04 59 37.7 -0.2
baz=39,SNR=5.1
BBOO **Buckleboo** 38.98 248 P P 04 59 37.1 -0.9
MMPI **Merauke** 41.13 287 P P 04 59 55.1 -0.4
comp=Z,11µmcomp=Z,865nm,0.7s
TAOE **Nuku Hiva Isla** 41.22 74⇑*eP* P 04 59 56.9 +0.6
comp=Z,994nm,1.0s
TAOE **Nuku Hiva Isla** 41.22 74 P P 04 59 57.1 +0.7
AS31 **Alice Springs** 41.82 262 P P 05 00 00.4 -0.5
AS31 IAmb IAmb 05 00 01.9
comp=Z,57nm,0.5s
ASAR **Alice Springs** 41.83 262 P P 05 00 00.9 -0.1
comp=Z,78nm,0.4s,baz=92,slow=7.3,SNR=1293
ASAR pP pP 05 01 31.9 +1.7
comp=Z,36nm,0.9s,baz=96,slow=8.9,SNR=5.4
ASAR PcP PcP 05 01 46.1 +0.4
comp=Z,24nm,0.9s,baz=100,slow=3.8,SNR=2.9
ASAR ScP ScP 05 04 50.2 +1.7
comp=Z,6.6nm,0.9s,baz=104,slow=4.4,SNR=2.5
ASAR S S 05 05 37.0 -5.5
comp=Z,8.9nm,0.8s,baz=97,slow=14,SNR=2.6
ASAR PKiKP PKiKP 05 08 48.9 -1.4
comp=Z,0.8nm,0.5s,baz=66,slow=1.0,SNR=2.1
ASAR **Alice Springs** 41.83 262 P P 05 00 00.7 -0.3
WRAB **Tennant Creek** 42.30 267 *i P* P 05 00 03.7 -1.0
WRAB pmax pmax
comp=Z,188nm,0.8s
WRA **Warramunga Arr** 42.30 267 P P 05 00 04.0 -0.8
comp=Z,205nm,0.4s,baz=102,slow=7.9,SNR=697
WRA PcP PcP 05 01 47.6 +0.3
comp=Z,33nm,1.0s,baz=116,slow=3.7,SNR=6.0
WRA ScP ScP 05 04 51.8 +1.4
comp=Z,23nm,1.0s,baz=105,slow=4.3,SNR=12
WRA S S 05 05 43.5 -6.0
comp=Z,88nm,1.0s,baz=98,slow=14,SNR=18
WRA PKiKP PKiKP 05 08 49.6 -1.3
comp=Z,1.0nm,0.4s,baz=34,slow=0.6,SNR=1.9
WRA P4KPbc 05 37 58.7
comp=Z,1.7nm,0.7s,baz=103,slow=4.3,SNR=21
WRA **Warramunga Arr** 42.30 267 IAmb IAmb 05 00 04.8
comp=Z,33nm,0.6s

JAY **Jayapura** 43.94 294 P P 05 00 17.3 -0.4
comp=Z,141nm,0.8s,baz=140,slow=3.5,SNR=21
JAY **Jayapura** 43.94 294 P P 05 00 17.2 -0.4
GENI **Genyem** 44.34 294 P P 05 00 20.5 -0.2
comp=Z,6µmcomp=Z,613nm,1.2s
FORT **Forrest** 45.89 251 P P 05 00 31.6 -0.8
baz=46,SNR=51
FORT **Forrest** 45.89 251 P P 05 00 31.5 -0.9
WAKE **Wake Island** 45.92 342 P P 05 00 32.1 -0.6
KDU **Kakadu** 46.37 276 P P 05 00 35.5 -0.7
baz=46,SNR=23
WRKA **Warakurna** 46.56 258 P P 05 00 36.9 -0.8
baz=47,SNR=990
MTN **Manton Dam** 47.52 275 P P 05 00 44.1 -0.8
baz=48,SNR=12
MTN **Manton Dam** 47.52 275 P P 05 00 43.5 -1.4
MTN IAmb IAmb 05 00 47.8
comp=Z,78nm,0.6s
SRPI **Serui, Papua** 48.02 292 P P 05 00 48.5 -0.3
comp=Z,1µm,0.8s
BAKI **Biak** 48.49 292 P P 05 00 53.0 +0.7
comp=Z,8µmcomp=Z,846nm,1.1s
KNRA **Kununurra** 48.66 271 P P 05 00 53.6 +0.1
baz=49,SNR=450
KNRA **Kununurra** 48.66 271 P P 05 00 52.6 -0.9
SAUI **Saumlaki** 49.34 281 P P 05 00 58.8 +0.2
KHLU **Kahalu`u** 50.20 30 P P 05 01 05.0 +0.1
HUH **Hualalai** 50.31 30 IAmb IAmb 05 01 07.3
comp=Z,131nm,0.8s
MLH **Mauna Loa** 50.35 31 P P 05 01 06.3 +0.2
POHA **Pohakuloa** 50.51 30 P P 05 01 07.0 -0.3
POHA IAmb IAmb 05 01 17.6
comp=Z,132nm,0.9s
FITZ **Fitzroy Crossi** 50.71 267 P P 05 01 08.6 0.0
baz=51,SNR=371
FITZ **Fitzroy Crossi** 50.71 267 P P 05 01 08.0 -0.6
FITZ S 05 07 44.3 -2.4
FAKI **Fak Fak** 50.88 288 P P 05 01 09.3 -0.7
comp=Z,3µmcomp=Z,229nm,1.2s
OPA **Opana** 51.14 27 IAmb IAmb 05 01 13.4
comp=Z,126nm,0.9s
GUMO **Guam** 51.43 314 P P 05 01 13.5 -0.3
comp=Z,320nm,0.7s,baz=155,slow=9.4,SNR=28
GUMO **Guam** 51.43 314 P P 05 01 13.5 -0.3
GUMO **Guam** 51.43 314 P P 05 01 13.5 -0.3
BNDI **Bandanaira** 52.15 285 P P 05 01 19.1 0.0
comp=Z,7µmcomp=Z,526nm,1.3s
SIJI **Sorong** 52.77 289 P P 05 01 22.5 -1.1
comp=Z,405nm,0.5s,baz=69,slow=6.2,SNR=83
SIJI **Sorong** 52.77 289 P P 05 01 22.2 -1.4
comp=Z,5µmcomp=Z,442nm,0.9s
SWI **Sorong** 52.78 289 P P 05 01 23.2 -0.4
comp=Z,10µmcomp=Z,1µm,1.0s
ANA2 **Anatahan** 52.97 317 P P 05 01 24.6 -0.3
SARN **Sarigan** 53.21 318 P P 05 01 25.4 -1.2
SBA **Scott Base** 53.24 183 P P 05 01 27.5 +1.5
SBA pmax pmax
comp=Z,45nm,1.0s
SBA **Scott Base** 53.24 183 P P 05 01 27.4 +1.5
VNDA **Vanda** 53.24 185 P P 05 01 27.3 +1.3
comp=Z,5.2nm,0.7s,baz=352,slow=7.4,SNR=34
VNDA PcP PcP 05 02 26.8 +1.0
comp=Z,9.5nm,0.8s,baz=348,slow=3.7,SNR=6.6
VNDA ScP ScP 05 05 36.7 +1.0
comp=Z,7.5nm,0.7s,baz=324,slow=3.7,SNR=7.3
VNDA **Vanda** 53.24 185 P P 05 01 25.5 -0.5
MSAI **Masohi** 53.56 285 P P 05 01 28.6 -0.7
comp=Z,1µmcomp=Z,44nm,0.6s
KRAI **Karang Ratu** 54.05 285 P P 05 01 32.1 -0.6
comp=Z,5µmcomp=Z,360nm,1.1s
NWAO **Narrogin (SRO)** 54.74 246 P P 05 01 36.5 -0.8
baz=55,SNR=22
NWAO **Narrogin (SRO)** 54.74 246 P P 05 01 35.8 -1.5
NWAO pmax pmax
comp=Z,113nm,1.3s
NWAO **Narrogin (SRO)** 54.74 246 P P 05 01 35.8 -1.5
NWAO IAmb IAmb 05 01 37.7
comp=Z,113nm,1.3s
MEEK **Meekatharra** 54.76 254 P P 05 01 36.4 -1.2
baz=55,SNR=31
SOEI **Soe** 54.91 276 P P 05 01 39.9 +1.0
comp=Z,5µmcomp=Z,557nm,1.0s
BATI **Baumata** 55.28 275 P P 05 01 42.4 +1.0
comp=Z,2µmcomp=Z,242nm,0.8s
BLDU **Ballidu** 55.58 249 P P 05 01 42.4 -0.8
baz=56,SNR=228
MUN **Mundaring** 55.75 247 P P 05 01 44.0 -0.4
baz=56,SNR=22
MORW **Morawa** 56.46 251 P P 05 01 48.6 -0.7
baz=56,SNR=122
MORW **Morawa** 56.46 251 IAmb IAmb 05 01 49.2
comp=Z,104nm,0.6s
SANI **Sanana** 56.76 285 P P 05 01 50.7 -0.9
comp=Z,4µmcomp=Z,412nm,0.8s
TNTI **Ternate** 56.95 289 P P 05 01 52.7 -0.2
comp=Z,5µmcomp=Z,160nm,1.4s
GAMI **Galela, Maluku** 57.14 290 P P 05 01 52.7 -1.5
comp=Z,4µmcomp=Z,322nm,0.9s
MMRI **Maumere** 57.20 276 P P 05 01 53.9 -0.7
comp=Z,4µmcomp=Z,408nm,1.1s
EDFI **Ende, Flores** 57.64 276 P P 05 01 56.9 -0.9
comp=Z,3µmcomp=Z,227nm,1.1s
WSI **Waingapu** 58.53 274 P P 05 02 03.6 -0.1
KDI **Kendari** 58.85 281 P P 05 02 05.2 -0.7
CASY **Casey** 59.07 206 P P 05 02 05.7 -0.8
CASY IAmb IAmb 05 02 07.2
comp=Z,89nm,0.9s
WBSI **Waikabubak, Su** 59.37 274 P P 05 02 09.2 -0.2
comp=Z,3µmcomp=Z,352nm,1.1s
MNI **Manado** 59.47 288 P P 05 02 09.2 -0.8
GIRL **Giralia** 59.63 257 P P 05 02 11.7 +0.8
baz=60,SNR=34
BSSI **Bau Bau, Buton** 59.80 278 P P 05 02 11.4 -0.9
comp=Z,1µmcomp=Z,135nm,1.4s
SGSI **Sangihe** 60.02 290 P P 05 02 12.9 -0.8
comp=Z,5µmcomp=Z,141nm,0.5s
LUWI **Luwuk** 60.06 284 P P 05 02 13.1 -0.9
LUWI **Luwuk** 60.06 284 P P 05 02 13.1 -0.9
comp=Z,11µmcomp=Z,465nm,0.9s
BKSI **Bulukumba** 60.49 278 P P 05 02 16.3 -0.5
comp=Z,4µmcomp=Z,518nm,0.8s
BNSI **Bone** 60.90 279 P P 05 02 19.4 -0.1
comp=Z,3µmcomp=Z,240nm,1.3s
KAPI **Kappang** 60.95 279 P P 05 02 19.7 -0.2
comp=Z,36nm,0.5s,baz=144,slow=2.5,SNR=30
KAPI **Kappang** 60.95 279 P P 05 02 19.0 -0.9
KAPI IAmb IAmb 05 02 21.0
comp=Z,215nm,1.4s
KAPI **Kappang** 60.95 279 P P 05 02 20.1 +0.2
comp=Z,2µmcomp=Z,98nm,0.9s
APSI **Ampana** 61.11 284 P P 05 02 21.1 +0.2
comp=Z,3µmcomp=Z,285nm,1.0s
MKS **Makassar** 61.12 278 P P 05 02 21.1 +0.1
comp=Z,3µmcomp=Z,299nm,1.1s
PLAI **Plampang** 61.15 274 P P 05 02 20.4 -0.8
comp=Z,10µmcomp=Z,874nm,0.9s
MRSI **Marisa** 61.52 285 P P 05 02 22.3 -1.3
comp=Z,1µmcomp=Z,144nm,0.9s
TTSI **Tana Toraja** 61.76 281 P P 05 02 24.5 -0.7
comp=Z,92nm,1.6s
DAV **Davao City (W)** 61.78 294 P P 05 02 24.8 -0.6
comp=Z,182nm,0.5s,baz=51,slow=4.5,SNR=11
DAV **Davao City (W)** 61.78 294 P P 05 02 24.7 -0.6
DAV **Davao City (W)** 61.78 294 P P 05 02 25.5 +0.2
comp=Z,5µmcomp=Z,345nm,0.7s
TWSI **Taliwang, Sumb** 61.99 273 P P 05 02 26.2 -0.5
comp=Z,2µmcomp=Z,235nm,1.2s
PMSI **Majene** 62.36 280 P P 05 02 29.4 +0.2
comp=Z,3µmcomp=Z,245nm,1.3s
RPN **Rapa Nui** 62.74 109 P P 05 02 33.1 +1.7
comp=Z,118nm,0.8s,baz=300,slow=3.0,SNR=4.9
TOLI2 **Tolitoli** 62.83 285 P P 05 02 30.9 -1.3
MPSI **Mapaga** 63.24 284 P P 05 02 33.8 -1.0
comp=Z,2µmcomp=Z,143nm,0.5s
KHKI **Kahang-Kahang** 63.30 273 P P 05 02 34.1 -1.1
JCJ **Chichijima** 63.35 322 P P 05 02 34.9 -0.3
comp=Z,137nm,0.5s,baz=261,slow=7.2,SNR=18
DNP **Denpasar** 63.53 273 P P 05 02 36.8 +0.1
comp=Z,303nm,0.6s
SRBI **Singaraja** 63.77 273 P P 05 02 37.8 -0.4
comp=Z,4µmcomp=Z,331nm,1.2s
JAGI **Jajag, Banyuwa** 64.58 272 P P 05 02 42.3 -1.0
comp=Z,4µmcomp=Z,360nm,1.1s
KBKI **Kotabaru** 64.91 278 P P 05 02 45.6 +0.1
comp=Z,2µmcomp=Z,114nm,1.0s
QSPA **South Pole Qui** 65.05 180 P P 05 02 46.8 +1.2
comp=Z,72nm,1.0s,baz=20,slow=1.0,SNR=175

QSPA **South Pole Qui** 65.05 180 P P 05 02 46.1 +0.5
QSPA IAmb IAmb 05 02 47.9
comp=Z,93nm,1.1s
SMKI **Samarinda** 65.26 282 P P 05 02 47.6 0.0
comp=Z,293nm,1.2s
KMMI **Kalianget** 65.31 274 P P 05 02 47.8 -0.2
comp=Z,5µmcomp=Z,392nm,1.2s
BBKI **Banjar Baru** 66.03 278 P P 05 02 52.9 +0.4
comp=Z,3µmcomp=Z,180nm,1.2s
KRKI **Karangkates** 66.24 272 P P 05 02 54.1 +0.3
comp=Z,406nm,0.8s
GRJI **Gresik** 66.72 273 P P 05 02 57.4 +0.6
comp=Z,7µmcomp=Z,753nm,0.7s
PWJI **Pagerwojo** 66.88 272 P P 05 02 57.2 -0.6
comp=Z,3µmcomp=Z,266nm,0.8s
SJI **Sawahan** 67.03 272 P P 05 02 58.5 -0.3
comp=Z,6µmcomp=Z,161nm,0.9s
MTKI **Muara Teweh, K** 67.09 280 P P 05 02 58.8 -0.3
comp=Z,5µmcomp=Z,121nm,0.9s
PKKI **Palangkaraya** 67.34 278 P P 05 03 01.0 +0.4
comp=Z,9µmcomp=Z,950nm,0.9s
PCJI **Pacitan** 67.38 271 P P 05 03 00.7 -0.2
comp=Z,5µmcomp=Z,652nm,0.9s
UGM **Wanagama** 68.09 271 P P 05 03 05.6 +0.4
comp=Z,321nm,1.5s
YOGI **Yogyakarta** 68.33 271 P P 05 03 07.2 +0.5
comp=Z,197nm,0.9s
SPMM **Sapulut** 68.34 286 P P 05 03 07.0 +0.3
SMRI **Semarang** 68.51 272 P P 05 03 08.2 +0.4
comp=Z,157nm,0.9s
CTJI **Waduk Cacaban** 69.67 272 P P 05 03 14.6 -0.1
comp=Z,2µmcomp=Z,162nm,1.0s
KPJI **Karang Pucung** 69.76 271 P P 05 03 14.8 -0.5
comp=Z,2µmcomp=Z,184nm,1.3s
CMJI **Cimerak** 70.02 271 P P 05 03 16.0 -0.8
comp=Z,976nmcomp=Z,125nm,1.0s
STKI **Sintang** 70.60 279 P P 05 03 20.6 +0.3
comp=Z,7µmcomp=Z,214nm,1.0s
CISI **Cisompet, Garu** 70.69 271 P P 05 03 19.6 -1.3
comp=Z,2µmcomp=Z,155nm,1.2s
JCJI **Jatiwangi** 70.70 272 P P 05 03 20.2 -0.7
comp=Z,575nm,0.9s
SBUM **Sibu** 71.01 282 P P 05 03 23.0 +0.3
LEM **Lembang** 71.16 271 P P 05 03 24.1 +0.2
comp=Z,375nm,0.7s,baz=101,slow=4.7,SNR=35
LEM **Lembang** 71.16 271 P P 05 03 24.2 +0.4
comp=Z,1µmcomp=Z,318nm,0.9s
CNJI **Cibinong** 71.41 271 P P 05 03 24.3 -0.8
comp=Z,4µmcomp=Z,559nm,1.1s
XMIS **Christmas Isla** 71.50 267 P P 05 03 24.4 -1.2
XMIS **Christmas Isla** 71.50 267 P P 05 03 26.8 +1.2
comp=Z,285nm,1.0s
JYT **Yasato** 71.57 327 IAmb IAmb 05 03 27.0
comp=Z,126nm,1.0s
SKJI **Sukabumi** 72.05 271 P P 05 03 28.3 -0.5
comp=Z,5µmcomp=Z,554nm,1.0s
DBJI **Dramaga** 72.06 271 P P 05 03 28.2 -0.7
comp=Z,410nm,1.1s
KSM **Kuching** 72.27 280 P P 05 03 30.0 -0.1
INU **Inuyama** 72.52 324 IAmb IAmb 05 03 32.6
comp=Z,144nm,1.2s
JGF **Kuroka** 72.53 325 IAmb IAmb 05 03 31.8
comp=Z,31nm,0.7s
SBJI **Serang** 72.80 271 P P 05 03 33.1 0.0
comp=Z,366nm,1.2s
TPI **Tanjungpandan** 72.81 275 P P 05 03 33.3 +0.1
comp=Z,1µmcomp=Z,88nm,1.3s
MJAR **Matsushiro Arr** 72.81 326 P P 05 03 32.0 -0.7
comp=Z,80nm,0.9s,baz=162,slow=5.4,SNR=161
MJAR **Matsushiro Arr** 72.81 326 IAmb IAmb 05 03 33.9
comp=Z,96nm,1.0s
MAJO **Matsushiro** 72.82 326 *i* P P 05 03 32.3 -0.4
MAJO pmax pmax
comp=Z,143nm,1.0s
MAJO **Matsushiro** 72.82 326 P P 05 03 32.1 -0.6
MAT **Matsushiro** 72.82 326 P P 05 03 32.6 -0.1
MAT S S 05 12 18.0 -0.5
JWT **Wachi** 73.34 323 IAmb IAmb 05 03 36.9
comp=Z,98nm,0.8s
BLSI **Bandar Lampung** 73.91 272 P P 05 03 38.3 -1.2
comp=Z,274nm,1.1s
JSD **Sado** 73.95 327 IAmb IAmb 05 03 40.8
comp=Z,80nm,0.8s
TWG **Pinlang** 74.33 305 P P 05 03 39.1 -2.6
PPBI **Pangkal Pinang** 74.44 275 P P 05 03 42.6 +0.1
comp=Z,28µmcomp=Z,181nm,1.2s
YULB **Yu-li** 74.50 305 IAmb IAmb 05 03 42.0
comp=Z,39nm,0.6s
KASI **Kota Agung** 74.52 271 P P 05 03 41.6 -1.4
comp=Z,4µmcomp=Z,392nm,1.0s
JTM **Tenmabayashi** 74.80 330 IAmb IAmb 05 03 45.9
comp=Z,127nm,0.9s
LWLI **Liwa** 75.12 271 P P 05 03 45.4 -1.1
comp=Z,406nm,0.8s
YHNB **Yeheng** 75.20 307 IAmb IAmb 05 03 47.8
comp=Z,134nm,1.0s
MDSI **Maura Dua** 75.24 272 P P 05 03 45.2 -1.8
comp=Z,2µmcomp=Z,240nm,0.8s
TATO **Taipei** 75.30 307 P P 05 03 46.6 -0.4
BELA **Belgrano 2** 75.31 173 P P 05 03 45.9 -0.4
BELA IAmb IAmb 05 03 46.9
comp=Z,38nm,0.6s
PMBI **Palembang** 75.35 274 P P 05 03 46.8 -0.8
YUK **Yuzh-Kuril'sk** 75.51 335 *eP* P 05 03 46.7 -1.1
YUK *eS* S 05 12 42.2 -5.4
YUK pmax pmax
comp=Z,176nm,0.9s
YUK pmax pmax
comp=E,118nm,0.8s
YUK pmax pmax
comp=N,70nm,0.6s
KUR **Kuril'sk** 75.81 337 *d iP* P 05 03 50.5 +1.1
KUR *eS* S 05 12 58.5 +7.8
KUR pmax pmax
comp=Z,134nm,1.3s
LHSI **Lahat** 76.10 272 P P 05 03 51.0 -0.8
comp=Z,3µmcomp=Z,179nm,1.0s
DSRI **Dabo** 76.56 276 P P 05 03 54.7 +0.3
comp=Z,1µmcomp=Z,86nm,1.2s
EGSI **Enggano, Bengk** 76.60 270 P P 05 03 55.2 +0.6
comp=Z,161nm,0.9s
ADK **Adak** 76.65 2 P P 05 03 54.0 +0.1
ADK pmax pmax
comp=Z,90nm,0.8s
ADK **Adak** 76.65 2 P P 05 03 54.0 +0.1
ADK IAmb IAmb 05 03 54.9
comp=Z,90nm,0.8s
MAW **Mawson** 76.67 201 P P 05 03 54.6 +0.7
baz=77,SNR=79
MAW **Mawson** 76.67 201 P P 05 03 54.7 +0.7
comp=Z,47nm,0.7s,baz=130,slow=6.3,SNR=165
MAW **Mawson** 76.67 201 P P 05 03 54.2 +0.2
JKA **Kamikawa-asahi** 76.86 333 P P 05 03 56.4 +1.2
JKA IAmb IAmb 05 03 58.5
comp=Z,101nm,0.9s
ASAJ **Asahikawa** 76.86 333 P P 05 03 57.4 +2.1
comp=Z,74nm,0.8s,baz=15,slow=8.4,SNR=66
KSI **Kapahiang** 77.02 272 P P 05 03 56.2 -0.8
ATKA **Atka Island** 77.08 4 IAmb IAmb 05 03 57.1
comp=Z,95nm,0.9s
UBSI **University, Be** 77.27 272 P P 05 03 57.3 -0.9
comp=Z,225nm,0.5s
QZH **Quanzhou** 77.41 305⇑*iP* P 05 03 59.7 +1.0
QZH S S 05 13 06.8 -1.8
QZH pmax pmax
comp=Z,66nm,0.9s
MASI **Maura Aman, Be** 77.55 272 P P 05 03 59.0 -0.8
comp=Z,7µmcomp=Z,911nm,1.0s
PMSA **Palmer Station** 77.88 157 P P 05 04 01.4 +0.8
comp=Z,16nm,0.9s,baz=277,slow=7.1,SNR=6.9
PMSA **Palmer Station** 77.88 157 IAmb IAmb 05 04 03.1
comp=Z,17nm,0.8s
PMSA **Palmer Station** 77.88 157 *eP* P 05 04 01.8 +1.3
BTDF **Bukit Timah Da** 78.08 277 P P 05 04 02.7 +0.1
comp=Z,1µmcomp=Z,92nm,1.1s
SKR **Severo-Kuril's** 78.29 345 *ceP* P 05 04 04.3 +1.5
NIKH **Nikolski High** 78.29 7 P P 05 04 03.1 +0.3
baz=190,SNR=17
RGRI **Rengat** 78.64 275 P P 05 04 04.0 -1.7
comp=Z,501nm,0.4s
TJN **Taejon** 78.69 319 *ceP* P 05 04 05.7 +0.4
KRJI **Kerinci** 78.70 273 P P 05 04 05.1 -1.0
comp=Z,341nm,1.0s
COCO **West Island** 78.78 262 *ceP* P 05 04 04.3 -2.1
KSRS **Korea Array** 79.10 320 P P 05 04 08.6 +1.1
comp=Z,37nm,0.7s,baz=135,slow=5.7,SNR=86
KSRS PP PP 05 07 15.8 -0.1

comp=Z,6.0nm,0.8s,baz=144,slow=8.4,SNR=6.5
KSAR Wonju Array Be 79.11 320 P **P** **05 04 08.0 +0.5**
KSAR Wonju Array Be 79.11 320 P **P** **05 04 08.0 +0.5**
YSS Yuzh-Sakhalins 79.15 335 *ce*P **P** **05 04 08.9 +1.4**
YSS pmax pmax
comp=Z,183nm,1.0s
YSS Yuzh-Sakhalins 79.15 335 P **P** **05 04 08.5 +1.0**
KS19 Wonju Array Si 79.16 320 IAmb IAmb 05 04 09.2
comp=Z,62nm,0.9s
UNV Unalaska Valle 79.43 8 P **P** **05 04 08.7 -0.1**
baz=192,SNR=5.6
INCN Inchon 79.87 320 P **P** **05 04 11.5 -0.1**
INCN pmax pmax
comp=Z,65nm,1.0s
INCN Inchon 79.87 320 P **P** **05 04 11.5 -0.1**
INCN IAmb IAmb 05 04 13.7
comp=Z,65nm,1.0s
PET Petropavlovsk 79.92 347 *e*P **P** **05 04 11.7 +0.3**
PET *e* 05 07 25.3
PET *e*S **S** **05 13 35.4 +1.8**
PET *e*SS **SS** **05 18 58.7 +0.9**
PET pmax pmax
comp=Z,104nm,0.6s
PDSI Padang 80.10 274 P **P** **05 04 11.6 -1.8**
comp=Z,50nm,1.3s
TEY Ternei 80.17 330⇑ *e*P **P** **05 04 13.6 +0.7**
TEY pmax pmax
comp=Z,10.0nm,1.4s
PEA0B Petropavlovsk- 80.20 347 *ce*P **P** **05 04 13.9 +1.0**
PETK Petropavlovsk- 80.20 347 P **P** **05 04 12.7 -0.2**
comp=Z,104nm,0.9s,baz=131,slow=6.7,SNR=91
PETK PKiKP **PKiKP** **05 09 36.6 -0.8**
comp=Z,1.1nm,0.5s,baz=112,slow=5.5,SNR=5.3
PETK Petropavlovsk- 80.20 347 P **P** **05 04 12.1 -0.8**
JRMM Jerantut 80.34 279 P **P** **05 04 15.0 +0.4**
MSHR Mys Shultsa 80.94 326 *de*P **P** **05 04 18.2 +1.2**
MSHR pmax pmax
comp=Z,48nm,1.0s
VLA Vladivostok 80.96 327 *i*P **P** **05 04 17.5 +0.4**
VLA pmax pmax
comp=Z,39nm,0.9s
QIZ Qiongzhong 81.06 296 P **P** **05 04 18.2 0.0**
QIZ sP **sP** **05 06 56.7 +1.4**
QIZ S **S** **05 13 47.2 +0.5**
QIZ pmax pmax
comp=Z,30nm,1.2s
QIZ pmax pmax
comp=Z,200nm,3.7s
QIZ Qiongzhong 81.06 296 IAmb IAmb 05 04 19.2
comp=Z,24nm,0.7s
NJ2 Nanjing 81.38 311⇓ *i*P **P** **05 04 20.5 +0.9**
NJ2 PcP **PcP** **05 04 26.5 +2.5**
NJ2 PP **PP** **05 07 36.6 +2.0**
NJ2 S **S** **05 13 54.7 +5.3**
NJ2 pmax pmax
comp=Z,90nm,0.8s
MNSI Mandailing Nat 81.62 275 P **P** **05 04 19.5 -1.7**
comp=Z,1µmcomp=Z,100nm,0.9s
USA0B Ussuriysk Arra 81.70 327 *d i*P **P** **05 04 22.0 +1.1**
USRK Ussuriysk Ar. 81.70 327 P **P** **05 04 22.1 +1.1**
comp=Z,43nm,0.6s,baz=136,slow=4.1,SNR=114
SDPT Sand Point 81.80 11 P **P** **05 04 21.5 +0.4**
baz=198
SYO Syowa Base 81.90 193⇓ *e*P **P** **05 04 21.2 -0.4**
IPM Ipoh 81.90 279 P **P** **05 04 23.0 +0.3**
TYV Tymovskoe 82.44 337 *e*P **P** **05 04 26.0 +1.5**
TYV *e*S **S** **05 13 54.9 -4.3**
TYV pmax pmax
comp=Z,73nm,1.1s
TYV pmax pmax
comp=Z,400nm,6.5s
TYV smax smax
comp=N,100nm,7.0s
TYV smax smax
comp=E,200nm,7.0s
PKM Mcpherson Peak 82.50 46 P **P** **05 04 27.7 +2.2**
baz=232,SNR=5.6
KULM Kulim 82.59 279 P **P** **05 04 26.0 -0.2**
SMMC Simmler 82.64 46 P **P** **05 04 28.3 +2.4**
baz=232,SNR=5.5
PMPB Monarch Peak 82.67 44 IAmb IAmb 05 04 29.4
comp=Z,87nm,1.3s
CCX Cicese 82.84 50 P **P** **05 04 27.8 +0.8**
CCX IAmb IAmb 05 04 30.1
comp=Z,42nm,1.2s
RPSI Rantau Prapat 83.02 276 IAmb IAmb 05 04 28.6
comp=Z,103nm,1.1s
OSI Osito Audit: C 83.05 47 IAmb IAmb 05 04 31.1
comp=Z,56nm,1.2s
OSI Osito Audit: C 83.05 47 P **P** **05 04 30.2 +2.1**
baz=233,SNR=5.3
PSI Prapat 83.06 276 P **P** **05 04 27.2 -1.5**
comp=Z,607nmcomp=Z,53nm,1.1s
CHGN Chignik 83.08 12 IAmb IAmb 05 04 28.9
comp=Z,29nm,0.8s
CHGN Chignik 83.08 12 P **P** **05 04 28.1 +0.5**
baz=200
DECC Green Verdugo 83.09 47 P **P** **05 04 29.5 +1.3**
baz=234
CBX Cerro Bola 83.09 50 P **P** **05 04 29.8 +1.3**
109C Camp Elliot, M 83.12 49 IAmb IAmb 05 04 31.3
comp=Z,55nm,1.2s
109C Camp Elliot, M 83.12 49 P **P** **05 04 30.2 +1.8**
baz=234,SNR=7.8
CHIR Chirikof Islan 83.19 14 P **P** **05 04 29.0 +0.8**
baz=202
MDJ Mudanjiang 83.19 326 P **P** **05 04 29.6 +1.1**
MDJ pmax pmax
comp=Z,99nm,1.2s
MDJ pmax pmax
comp=Z,460nm,4.6s
MDJ Mudanjiang 83.19 326 P **P** **05 04 28.9 +0.5**
MDJ IAmb IAmb 05 04 30.8
comp=Z,78nm,0.9s
MWC Mount Wilson 83.26 47 IAmb IAmb 05 04 31.9
comp=Z,46nm,1.2s
TKX Tecate 83.28 50 IAmb IAmb 05 04 32.3
comp=Z,92nm,1.4s
ARVC Arvin 83.28 46 P **P** **05 04 31.1 +1.9**
baz=233,SNR=9.1
BAR Barrett 83.30 49 IAmb IAmb 05 04 32.4
comp=Z,50nm,1.4s
SLBS Sierra La Lagu 83.40 60 P **P** **05 04 31.1 +1.0**
SLBS IAmb IAmb 05 04 32.6
comp=Z,42nm,0.8s
SKLT Songkhla 83.44 281 P **P** **05 04 31.1 +0.7**
comp=Z,2µmcomp=Z,105nm,1.1s
KMRM Mail Ridge 83.44 40 IAmb IAmb 05 04 33.4
comp=Z,87nm,1.1s
MURC Murrieta 83.47 48 P **P** **05 04 32.0 +1.8**
baz=234,SNR=16
SRIG Santa Rosalia 83.53 56 P **P** **05 04 30.8 +0.2**
SRIG IAmb IAmb 05 04 33.5
comp=Z,90nm,1.2s
SNAA Sanae 83.53 179 P **P** **05 04 29.5 -0.4**
SNAA S **S** **05 14 08.9 -1.0**
SNAA Sanae 83.53 179 *ce*P **P** **05 04 29.7 -0.3**
SNAA pmax pmax
comp=Z,37nm,1.3s
SNAA Sanae 83.53 179 P **P** **05 04 29.6 -0.4**
SNAA IAmb IAmb 05 04 30.8
comp=Z,46nm,1.3s
BFSC Mount Baldy Ra 83.53 48 P **P** **05 04 32.0 +1.4**
baz=234,SNR=13
VES Vestal, Richgr 83.55 46 P **P** **05 04 31.8 +1.4**
baz=233,SNR=20
MONP2 Monument Peak 83.59 49 P **P** **05 04 33.1 +2.1**
baz=235,SNR=29
GSI Gunungsitoli 83.65 274 P **P** **05 04 32.1 +0.6**
comp=Z,3µmcomp=Z,203nm,1.4s
RMX La Rumorosa 83.66 50 IAmb IAmb 05 04 34.6
comp=Z,93nm,1.3s
WHN Wuhan 83.67 308⇓ *i*P **P** **05 04 32.1 +0.9**
WHN pmax pmax
comp=Z,220nm,0.9s
WHN pmax pmax
comp=Z,1µm,4.4s
IKP In-Ko-Pah, Jac 83.67 50 P **P** **05 04 33.3 +2.1**
baz=235,SNR=21
EDW2 Edwards Air Fo 83.69 47 P **P** **05 04 33.0 +1.7**
baz=234,SNR=24
TSI Tuntungan 83.69 277 P **P** **05 04 31.4 -0.3**
comp=Z,113nm,1.0s
VNA3 Neumayer Olymp 83.74 177 P **P** **05 04 30.5 -0.4**
VNA3 S **S** **05 14 12.7 +0.8**
VNA3 Neumayer Olymp 83.74 177 pP pP 05 06 21.5 +2.6

ISA Isabella, Lake 83.84 46 IAmb IAmb 05 04 35.0
comp=Z,71nm,1.1s
ISA Isabella, Lake 83.84 46 P **P** **05 04 33.7 +1.7**
baz=233,SNR=37
KHMM Horse Mountain 83.85 39 IAmb IAmb 05 04 35.5
comp=Z,39nm,1.3s
O02D Mt. Diablo Mer 83.95 40 P **P** **05 04 35.0 +2.5**
baz=230,SNR=25
PFO Pinyon Flats O 83.98 49 P **P** **05 04 33.2 +0.4**
PFO pmax pmax
comp=Z,45nm,1.2s
PFO Pinyon Flats O 83.98 49 P **P** **05 04 33.2 +0.4**
PFO IAmb IAmb 05 04 35.8
comp=Z,45nm,1.2s
PFO Pinyon Flats O 83.98 49 P **P** **05 04 34.6 +1.7**
baz=235,SNR=20
BBRC Big Bear Solar 84.04 48 P **P** **05 04 35.2 +1.9**
baz=234
SWSC Sam W. Stewart 84.05 50 P **P** **05 04 35.0 +2.0**
baz=235,SNR=21
VNA2 Neumayer--Watz 84.16 178 P **P** **05 04 32.9 -0.1**
baz=184,slow=4.3
VNA2 S **S** **05 14 16.5 +0.6**
VNA2 Neumayer--Watz 84.16 178 pP pP 05 06 22.1 +1.1
SII Sitkinak Islan 84.18 14 P **P** **05 04 34.1 +1.0**
baz=204
GUVIX Guadalupe Vict 84.19 50 P **P** **05 04 34.2 +0.5**
GUVIX IAmb IAmb 05 04 37.0
comp=Z,80nm,0.9s
LRMC Laurel Mtn Rad 84.25 47 P **P** **05 04 35.6 +1.5**
baz=234,SNR=13
RRX Edison Barstow 84.35 47 P **P** **05 04 36.1 +1.6**
baz=234
VNA1 Neumayer--Stat 84.40 177 P **P** **05 04 34.0 -0.1**
VNA1 S **S** **05 14 18.9 +0.7**
VNA1 Neumayer--Stat 84.40 177 pP pP 05 06 23.4 +1.2
N02D Trinity Center 84.51 40 P **P** **05 04 37.4 +2.2**
baz=230,SNR=12
SNY Shenyang 84.51 321⇓ P **P** **05 04 35.4 +0.4**
SNY S **S** **05 14 23.6 +3.6**
SNY pmax pmax
comp=Z,44nm,1.0s
BELC Belle Mtn. Jos 84.52 49 P **P** **05 04 37.4 +1.9**
baz=235,SNR=42
CWC Cottonwood Cre 84.55 46 P **P** **05 04 37.1 +1.5**
baz=234
TRTT Trang 84.55 281 P **P** **05 04 36.9 +0.9**
comp=Z,4µmcomp=Z,116nm,1.2s
O03E Paynes Creek 84.60 41 P **P** **05 04 37.0 +1.3**
baz=231,SNR=15
M02C Callahan 84.69 39 P **P** **05 04 38.3 +2.3**
baz=230,SNR=14
BC3 Big Chuckawall 84.69 49 P **P** **05 04 38.5 +2.1**
baz=235,SNR=25
GRNR Gornyy 84.70 334⇓ *i*P **P** **05 04 37.6 +1.8**
GRNR pmax pmax
comp=N,20nm,1.0s
GRNR pmax pmax
comp=Z,70nm,1.2s
GRNR MLR MLR
comp=N,410nm,16.0s
GRNR MLR MLR
comp=Z,170nm,16.0s
MPMC Manual Prospec 84.71 46 P **P** **05 04 38.0 +1.5**
baz=234,SNR=20
GSC Goldstone, Bar 84.72 47 IAmb IAmb 05 04 39.2
comp=Z,59nm,1.2s
GSC Goldstone, Bar 84.72 47 P **P** **05 04 38.1 +1.6**
baz=234,SNR=32
HEC Hector,Ludlow 84.77 48 P **P** **05 04 38.2 +1.6**
baz=235,SNR=52
MLAC Mammoth, Mammo 84.78 44 P **P** **05 04 39.3 +2.4**
baz=233
CN2 Changchun 84.78 324 *e*P **P** **05 04 36.9 +0.5**
CN2 *e*S **S** **05 14 26.4 +3.8**
CN2 pmax pmax
comp=Z,100nm,1.0s
CN2 pmax pmax
comp=Z,100nm,3.0s
GLA Glamis 84.78 50 P **P** **05 04 38.2 +1.5**
GLA *PP **pwP** **05 06 27.4 -0.8**
GLA pmax pmax
comp=Z,92nm,1.1s
GLA Glamis 84.78 50 P **P** **05 04 38.2 +1.5**
GLA IAmb IAmb 05 04 40.3
comp=Z,92nm,1.1s
GLA pP **pwP** **05 06 27.4 -0.8**
GLA Glamis 84.78 50 P **P** **05 04 39.1 +2.4**
baz=236,SNR=21
KEBM Edon Butte 84.81 38 IAmb IAmb 05 04 40.1
comp=Z,61nm,1.2s
TIN Tinemaha, Big 84.82 45 P **P** **05 04 38.3 +1.4**
baz=233,SNR=8.8
TPTI 84.83 276 P **P** **05 04 37.2 -0.1**
comp=Z,590nmcomp=Z,72nm,1.1s
SKNT Sakolnakorn 84.94 291 P **P** **05 04 38.3 +0.5**
comp=Z,4µmcomp=Z,396nm,0.9s
OHAK Old Harbor 84.99 14 IAmb IAmb 05 04 38.8
comp=Z,50nm,1.1s
OHAK Old Harbor 84.99 14 P **P** **05 04 37.4 +0.4**
baz=204
TIA Tai'an 84.99 314 P **P** **05 04 38.7 +1.1**
TIA pmax pmax
comp=Z,140nm,0.9s
K02D Willamette Mer 85.07 38 P **P** **05 04 40.0 +2.1**
baz=229,SNR=8.7
KRAB Krabi 85.16 281 P **P** **05 04 40.4 +1.5**
comp=Z,15µmcomp=Z,903nm,0.9s
PNTR Pine Nut 85.19 43 P **P** **05 04 39.7 +1.0**
PNTR IAmb IAmb 05 04 40.9
comp=Z,26nm,1.0s
IRM Iron Mountain 85.19 49 P **P** **05 04 40.6 +1.9**
baz=235,SNR=38
SURA Surathani 85.19 282 P **P** **05 04 40.4 +1.4**
comp=Z,109nm,0.9s
GMRC Granite Mounta 85.19 48 P **P** **05 04 40.5 +1.7**
baz=235,SNR=17
BEKR Beckworth 85.20 42 P **P** **05 04 39.2 +0.5**
BEKR pP **pP** **05 06 28.9 +1.2**
J01E Myrtle Point 85.23 38 P **P** **05 04 40.6 +2.1**
baz=229,SNR=5.2
SRAK Srakaew 85.24 288 P **P** **05 04 37.8 -1.4**
comp=Z,5µmcomp=Z,464nm,1.0s
GRAC Grapevine Rang 85.34 46 P **P** **05 04 40.9 +1.5**
baz=234,SNR=17
FURC Furnace Creek, 85.36 46 P **P** **05 04 40.8 +1.5**
baz=234,SNR=8.3
113A Mohawk Valley, 85.37 51 IAmb IAmb 05 04 42.8
comp=Z,43nm,1.1s
TUQ Turquoise Moun 85.39 47 P **P** **05 04 41.4 +1.7**
baz=235,SNR=10
HSIG 85.39 55 P **P** **05 04 40.2 +0.5**
HSIG IAmb IAmb 05 04 42.5
comp=Z,42nm,0.9s
LL02 Futaleuf 85.42 136 P **P** **05 04 40.6 +0.9**
LL02 pP **pwP** **05 06 30.2 -1.2**
SHOC Shoshone, Teco 85.42 47 P **P** **05 04 41.4 +1.7**
baz=235,SNR=14
KLR Kul'dur 85.50 331 *ce*P **P** **05 04 40.9 +1.2**
KLR pmax pmax
comp=Z,145nm,2.0s
M04C Macdoel 85.52 40 P **P** **05 04 41.6 +1.4**
baz=231,SNR=7.3
L04D Klamath Falls 85.53 39 P **P** **05 04 41.8 +1.5**
baz=230,SNR=7.1
NVAR Mina Array Bea 85.60 44 P **P** **05 04 42.1 +1.3**
comp=Z,8.2nm,0.8s,baz=222,slow=8.4,SNR=56
NVAR pP **pwP** **05 06 32.7 +0.5**
comp=Z,6.3nm,1.0s,baz=223,slow=6.2,SNR=6.5
NVAR PKPPKP **P'P'df** **05 30 48.2 +2.3**
comp=Z,3.6nm,1.1s,baz=48,slow=1.3,SNR=9.7
214A Organ Pipe Nat 85.60 52 IAmb IAmb 05 04 44.2
comp=Z,46nm,1.2s
214A Organ Pipe Nat 85.60 52 P **P** **05 04 42.6 +1.9**
baz=237,SNR=16
KHON Khomkaen 85.63 290 P **P** **05 04 42.6 +1.5**
comp=Z,4µmcomp=Z,132nm,1.2s
KDAK Kodiak Island 85.66 14 P **P** **05 04 40.8 +0.6**
comp=Z,9.2nm,0.7s,baz=206,slow=2.6,SNR=9.2
KDAK Kodiak Island 85.66 14 IAmb IAmb 05 04 45.3
comp=Z,11nm,0.9s
KDAK Kodiak Island 85.66 14 P **P** **05 04 40.8 +0.6**
baz=205
NV11 Mina Array Sit 85.69 44 pP 05 06 33.4 +3.3
PATY Pattaya 85.77 286 P **P** **05 04 43.8 +2.0**
comp=Z,179nm,0.9s
PKDT Phuket 85.79 281 P **P** **05 04 43.2 +1.3**

comp=Z,17nm,0.8s
SURT Suratani 85.84 282 P **P** **05 04 44.3 +2.1**
comp=Z,34nmcomp=Z,3.6nm,1.1s
LHMI Lhok Sumawe 85.88 278 P **P** **05 04 41.5 -0.9**
I03D Drain, OR 85.90 37 P **P** **05 04 43.6 +1.9**
baz=229,SNR=9.8
PDMCI Parker Dam,Lak 85.96 49 P **P** **05 04 44.2 +2.0**
baz=236,SNR=8.2
MLSI Meulaboh, Aceh 85.96 277 P **P** **05 04 42.3 -0.5**
TPNV Topopah Spring 86.04 46 IAmb IAmb 05 04 45.0
comp=Z,16nm,0.8s
TPNV Topopah Spring 86.04 46 P **P** **05 04 44.4 +1.6**
baz=235,SNR=28
TPH Tonopah 86.07 45 pP 05 06 35.5 +3.4
KVN Kaiserville 86.09 44 IAmb IAmb 05 04 45.4
comp=Z,27nm,1.3s
K04D Chiloquin, OR 86.11 39 P **P** **05 04 45.0 +2.1**
baz=231
CHAI Chaiyaphum 86.14 289 P **P** **05 04 44.1 +0.5**
comp=Z,1µmcomp=Z,114nm,0.8s
J04D Umpqua Nationa 86.30 38 P **P** **05 04 45.9 +1.9**
baz=230,SNR=8.7
BUCK Buck Mountain 86.42 37 IAmb IAmb 05 04 47.7
comp=Z,88nm,1.4s
Q19K Cape Douglas, 86.47 13 IAmb IAmb 05 04 45.3
comp=Z,54nm,0.9s
Q19K Cape Douglas, 86.47 13 P **P** **05 04 44.6 +0.4**
baz=204,SNR=12
I04A Tendick Farm, 86.48 38 P **P** **05 04 46.1 +1.5**
baz=230,SNR=14
COR Corvallis 86.50 37 P **P** **05 04 47.0 +2.4**
COR pmax pmax
comp=Z,39nm,1.3s
COR Corvallis 86.50 37 P **P** **05 04 47.0 +2.4**
COR IAmb IAmb 05 04 47.3
comp=Z,39nm,1.2s
K05A Summer Lake 86.66 39 IAmb IAmb 05 04 49.0
comp=Z,64nm,1.3s
H04D Lebanon 86.77 37 P **P** **05 04 48.0 +2.1**
baz=230,SNR=10
J05D Fort Rock, OR 86.82 39 P **P** **05 04 48.3 +1.9**
baz=231,SNR=26
PHET Kaeng Krachan 86.84 286 P **P** **05 04 48.7 +1.8**
comp=Z,3µmcomp=Z,353nm,0.8s
G03D McMinnville, O 86.93 36 P **P** **05 04 48.6 +2.0**
baz=229,SNR=6.4
O18K Koktuh Hills 87.01 12 IAmb IAmb 05 04 47.8
comp=Z,53nm,0.8s
O18K Koktuh Hills 87.01 12 P **P** **05 04 47.0 +0.3**
baz=202,SNR=43
SLVN Son La 87.04 295 IAmb IAmb 05 04 49.8
comp=Z,25nm,0.8s
ENH Enshi 87.07 305 P **P** **05 04 47.2 -0.5**
PRN Pahroc Range 87.09 46 IAmb IAmb 05 04 51.0
comp=Z,40nm,1.2s
H04A Detroit Lake 87.17 37 IAmb IAmb 05 04 50.4
comp=Z,54nm,1.3s
P19K Oil Pt 87.22 13 IAmb IAmb 05 04 48.9
comp=Z,49nm,0.8s
P19K Oil Pt 87.22 13 P **P** **05 04 47.9 +0.2**
baz=204,SNR=15
TUC Tucson 87.24 52 P **P** **05 04 51.0 +2.5**
TUC pmax pmax
comp=Z,81nm,1.3s
TUC Tucson 87.24 52 P **P** **05 04 51.0 +2.5**
TUC IAmb IAmb 05 04 52.3
comp=Z,81nm,1.3s
TUC Tucson 87.24 52 P **P** **05 04 50.8 +2.3**
baz=238
R11A Troy Canyon, C 87.28 45 P **P** **05 04 49.7 +1.0**
baz=235,SNR=7.2
GYA Guiyang 87.30 301⇓ *i*P **P** **05 04 49.5 +0.5**
GYA pP pwP 05 06 43.9 +0.7
GYA PP **PP** **05 08 21.1 -1.3**
GYA SKS **SKSac** **05 14 28.3 -0.9**
GYA S **SKKSac** **05 14 42.9 +2.5**
GYA pmax pmax
comp=Z,42nm,0.8s
GYA pmax pmax
comp=Z,280nm,4.0s
PINE Pine Mountain 87.30 38 IAmb IAmb 05 04 52.0
comp=Z,86nm,1.1s
PBKT Sadao Pong 87.32 290 P **P** **05 04 50.2 +1.2**
PBKT IAmb IAmb 05 04 51.6
comp=Z,35nm,0.9s
I05D Terrebonne, OR 87.42 38 P **P** **05 04 51.1 +2.1**
baz=231,SNR=16
PLCA Paso Flores 87.50 134 P **P** **05 04 51.1 +1.4**
comp=Z,4.5nm,0.9s,baz=221,slow=7.7,SNR=6.6
PLCA pP **pwP** **05 06 41.7 -0.3**
comp=Z,12nm,0.9s,baz=228,slow=5.9,SNR=15
PLCA Paso Flores 87.50 134 P **P** **05 04 50.3 +0.6**
PLCA pP **pwP** **05 06 41.0 -0.9**
PLCA Paso Flores 87.50 134 *e*P **P** **05 04 52.0 +2.3**
O19K Port Alsworth 87.50 13 IAmb IAmb 05 04 49.9
comp=Z,60nm,0.9s
O19K Port Alsworth 87.50 13 P **P** **05 04 49.0 +0.1**
baz=203,SNR=22
CNPM China Poot 87.54 14 IAmb IAmb 05 04 50.7
comp=Z,39nm,0.9s
LC01 Cunco 87.56 132 P **P** **05 04 50.6 +0.6**
LC01 pP **pwP** **05 06 41.8 -0.7**
HOM Homer 87.57 14 P **P** **05 04 50.2 +1.0**
baz=206,SNR=6.2
F04D Rainier, OR 87.63 36 P **P** **05 04 53.0 +3.1**
baz=230
E03A Lebam 87.64 35 IAmb IAmb 05 04 53.1
comp=Z,54nm,1.1s
N18K Kilae Creek 87.65 12 P **P** **05 04 49.4 -0.3**
baz=202,SNR=5.8
MA2 Magadan 87.67 346 P **P** **05 04 49.9 +0.2**
comp=Z,44nm,0.9s,baz=146,slow=4.7,SNR=10.0
MA2 Magadan 87.67 346 *de*P **P** **05 04 49.6 -0.1**
MA2 pmax pmax
comp=Z,62nm,1.7s
MA2 Magadan 87.67 346 P **P** **05 04 49.6 -0.1**
MA2 IAmb IAmb 05 04 51.2
comp=Z,74nm,1.0s
O20K Slope Mountain 87.74 13 P **P** **05 04 50.0 -0.1**
baz=205,SNR=9.8
WVOR Wild Horse Val 87.80 41 IAmb IAmb 05 04 53.9
comp=Z,42nm,1.1s
BJT Baijiatuan 87.82 316 IAmb IAmb 05 04 53.4
comp=Z,35nm,1.0s
BJI Beijing 87.83 316 P **P** **05 04 51.9 +1.0**
BJI pmax pmax
comp=Z,46nm,0.8s
BJI pmax pmax
comp=Z,460nm,4.0s
BRLK Bradley Lake 87.83 14 IAmb IAmb 05 04 51.9
comp=Z,26nm,1.0s
BRSE Bradley Lake S 87.84 14 P **P** **05 04 51.3 +0.8**
baz=206,SNR=7.7
F04A Amboy 87.85 36 IAmb IAmb 05 04 53.7
comp=Z,49nm,1.0s
X16A Lo Mia Camp, P 87.89 50 IAmb IAmb 05 04 55.0
comp=Z,26nm,1.1s
G05D Wamic, OR 88.01 37 P **P** **05 04 53.5 +1.7**
baz=231,SNR=5.2
NLWA Neilton Lookou 88.04 34 IAmb IAmb 05 04 54.5
comp=Z,23nm,1.1s
N19K Bonanza Creek 88.04 12 P **P** **05 04 51.3 -0.3**
baz=203,SNR=13
LCMT Little Creek M 88.06 47 IAmb IAmb 05 04 55.4
comp=Z,40nm,1.4s
PHIT Phitsanulok 88.07 290 P **P** **05 04 54.0 +1.4**
comp=Z,5µmcomp=Z,508nm,0.8s
E04D Cinebar 88.17 36 P **P** **05 04 54.5 +2.1**
baz=230,SNR=10.0
UTHA Uthaitani 88.17 288 P **P** **05 04 54.5 +1.4**
comp=Z,2µmcomp=Z,163nm,0.8s
UTTA Uttaradit 88.20 290 P **P** **05 04 54.5 +1.3**
comp=Z,753nmcomp=Z,79nm,0.9s
CCUT Cedar City 88.28 47 IAmb IAmb 05 04 56.8
comp=Z,42nm,1.4s
I07A Izee 88.30 39 IAmb IAmb 05 04 56.3
comp=Z,45nm,1.1s
F05D White Salmon 88.33 37 P **P** **05 04 54.8 +1.6**
baz=231
KNB Kanab 88.35 48 IAmb IAmb 05 04 57.0
comp=Z,44nm,1.3s
HPIG 88.37 59 P **P** **05 04 54.7 +0.6**
HPIG IAmb IAmb 05 04 56.6
comp=Z,25nm,1.0s
U15A North Rim 88.39 48 IAmb IAmb 05 04 57.4
comp=Z,49nm,1.2s
J08A Circle Bar Ran 88.45 40 IAmb IAmb 05 04 56.8

comp=Z,50nm,1.1s
SPR3 Spring Creek 3 **88.46 45** IAmb IAmb 05 04 56.7
comp=Z,32nm,1.5s
SEW Seward **88.46 15** P **P** **05 04 53.7 +0.3**
baz=208
SZCU Shurtz Canyon **88.49 47** P **P** **05 04 55.3 +0.8**
SZCU IAmb IAmb 05 04 57.6
comp=Z,47nm,1.5s
PSUT Pine Spring **88.50 46** IAmb IAmb 05 04 57.2
comp=Z,22nm,1.4s
WUAZ Wupatki **88.52 49** IAmb IAmb 05 04 57.6
comp=Z,24nm,1.1s
WUAZ Wupatki **88.52 49** P **P** **05 04 56.4 +1.8**
baz=238,SNR=16
CAPN Captain Cook N **88.68 14** P **P** **05 04 56.2 +1.8**
baz=206
O22K Cooper Landing **88.73 14** IAmb IAmb 05 05 08.8
comp=Z,43nm,0.8s
O22K Cooper Landing **88.73 14** P **P** **05 04 55.3 +0.6**
baz=207
SPCR Spurr Chakacha **88.85 13** P **P** **05 04 54.7 -0.6**
baz=205,SNR=5.8
ZAIG Zacatecas **88.88 64** P **P** **05 04 57.8 +1.1**
ZAIG IAmb IAmb 05 04 59.9
comp=Z,22nm,1.1s
D05A Enumclaw **88.88 35** IAmb IAmb 05 04 59.1
comp=Z,63nm,1.1s
PKCU Pink Cliffs **88.92 47** IAmb IAmb 05 05 00.3
comp=Z,64nm,1.2s
TIY Taiyuan **88.94 313** *e*P **P** **05 04 58.0 +1.7**
TIY SKS **SKSac** **05 14 34.5 -3.8**
TIY S **ScS** **05 15 06.7 +1.2**
TIY pmax pmax
comp=Z,180nm,0.9s
TIY pmax pmax
comp=Z,200nm,4.4s
UMPA Umpang Tak **88.96 288** P **P** **05 04 58.0 +1.2**
comp=Z,3μmcomp=Z,111nm,1.1s
X18A Snowflake **89.00 51** IAmb IAmb 05 04 59.3
comp=Z,13nm,0.8s
M19K Big River Lodg **89.06 12** P **P** **05 04 56.3 +0.1**
baz=203,SNR=12
F07A Phinny Hill Vi **89.17 37** IAmb IAmb 05 05 00.0
comp=Z,18nm,1.1s
L19K White Mountain **89.24 12** IAmb IAmb 05 04 58.8
comp=Z,37nm,0.8s
L19K White Mountain **89.24 12** P **P** **05 04 57.8 +0.8**
baz=203,SNR=39
RC01 Rabbit Creek A **89.27 14** IAmb IAmb 05 04 58.5
comp=Z,28nm,0.9s
RC01 Rabbit Creek A **89.27 14** P **P** **05 04 57.4 +0.2**
baz=207,SNR=14
M20K Styx River **89.28 12** P **P** **05 04 56.8 -0.6**
baz=204,SNR=7.6
LAMP Lampang **89.33 291** P **P** **05 05 00.1 +1.6**
comp=Z,2μmcomp=Z,234nm,0.9s
MTPU Mount Pierson **89.33 47** IAmb IAmb 05 05 01.6
comp=Z,22nm,0.9s
G08A Pilot Rock **89.34 38** IAmb IAmb 05 05 00.9
comp=Z,42nm,1.2s
PWL Port Wells **89.39 15** IAmb IAmb 05 04 59.0
comp=Z,38nm,1.1s
SUA Susitna One **89.39 14** P **P** **05 04 57.1 -0.8**
SUA IAmb IAmb 05 04 59.3
comp=Z,36nm,0.8s
SUA Susitna One **89.39 14** P **P** **05 04 58.1 +0.2**
baz=206,SNR=36
XAN Xi'an **89.41 308** P **P** **05 04 59.9 +1.4**
XAN pmax pmax
comp=Z,110nm,1.1s
XAN pmax pmax
comp=Z,460nm,3.5s
XAN Xi'an **89.41 308** P **P** **05 05 00.0 +1.4**
XAN Xi'an **89.41 308** P **P** **05 04 60.0 +1.4**
W18A Petrified Fore **89.45 51** IAmb IAmb 05 05 01.9
comp=Z,22nm,1.0s
W18A Petrified Fore **89.45 51** P **P** **05 05 00.9 +2.0**
baz=239,SNR=5.4
TCRU Three Creeks R **89.47 46** IAmb IAmb 05 05 02.3
comp=Z,28nm,1.4s
PAYA Payao **89.50 292** P **P** **05 05 00.8 +1.5**
comp=Z,2μmcomp=Z,95nm,1.1s
B05A Bryant **89.51 34** P **P** **05 05 00.2 +1.6**
baz=230,SNR=8.4
121A Cookes Peak, D **89.53 54** P **P** **05 05 00.9 +1.6**
baz=240,SNR=7.0
E07A Sunnyside **89.62 37** IAmb IAmb 05 05 02.2
comp=Z,26nm,1.1s
L20K Farewell, AK **89.69 12** P **P** **05 04 59.3 +0.2**
baz=204,SNR=15
SKT Skwentna **89.69 13** P **P** **05 04 58.3 -0.8**
baz=206,SNR=8.7
HAWA Hanford **89.70 37** P **P** **05 05 00.0 +0.5**
HAWA IAmb IAmb 05 05 02.5
comp=Z,32nm,1.3s
HAWA pP **pP** **05 06 51.2 +1.3**
GLI Glacier Island **89.70 15** IAmb IAmb 05 05 00.4
comp=Z,41nm,1.1s
GLI Glacier Island **89.70 15** P **P** **05 04 59.4 +0.2**
baz=210,SNR=14
FID Port Fidalgo **89.74 16** IAmb IAmb 05 05 01.1
comp=Z,18nm,1.1s
EYAK Cordova Ski Ar **89.75 16** P **P** **05 05 00.2 +0.8**
baz=211
KMI Kunming **89.76 298** ⇓P **P** **05 05 02.1 +1.5**
KMI pmax pmax
comp=Z,96nm,1.1s
CM04 Chiang Mai Arr **89.83 290** P **P** **05 05 02.4 +1.6**
comp=Z,798nmcomp=Z,99nm,1.0s
CM09 Chiang Mai Arr **89.84 290** P **P** **05 05 02.8 +1.9**
comp=Z,698nmcomp=Z,95nm,1.0s
KNK Knik Glacier **89.85 15** IAmb IAmb 05 05 01.3
comp=Z,20nm,0.9s
KNK Knik Glacier **89.85 15** P **P** **05 05 00.4 +0.5**
baz=208,SNR=7.4
CM01 Chiang Mai Arr **89.86 290** P **P** **05 05 02.8 +1.9**
comp=Z,718nmcomp=Z,91nm,1.1s
PMR Palmer **89.86 14** IAmb IAmb 05 05 01.1
comp=Z,20nm,1.0s
PMR Palmer **89.86 14** P **P** **05 05 00.2 +0.3**
baz=208,SNR=8.8
CM05 Chiang Mai Arr **89.86 290** P **P** **05 05 02.5 +1.6**
comp=Z,578nmcomp=Z,70nm,0.9s
CM02 Chiang Mai Arr **89.87 290** P **P** **05 05 02.7 +1.7**
comp=Z,709nmcomp=Z,93nm,0.9s
TLIG Tlapa **89.88 71** IAmb IAmb 05 05 04.5
comp=Z,38nm,1.3s
RAGM Ragged Mountai **89.88 17** IAmb IAmb 05 05 01.9
comp=Z,32nm,1.0s
CMAR Chiang Mai Arr **89.89 290** P **P** **05 05 02.7 +1.6**
comp=Z,55nm,0.8s,baz=139,slow=3.4,SNR=194
CMAR pP **pP** **05 06 51.9 +1.6**
comp=Z,1.9nm,0.3s,baz=123,slow=3.3,SNR=2.5
CMAR PP **PP** **05 08 39.3 -3.5**
comp=Z,3.2nm,0.5s,baz=132,slow=6.6,SNR=4.0
CMAR Chiang Mai Arr **89.89 290** P **P** **05 05 02.4 +1.3**
CM15 Chiang Mai Arr **89.90 290** P **P** **05 05 03.0 +1.9**
comp=Z,682nmcomp=Z,91nm,0.9s
CM13 Chiang Mai Arr **89.90 290** P **P** **05 05 02.8 +1.7**
comp=Z,609nmcomp=Z,81nm,0.9s
CMMT Chiang Mai **90.04 291** P **P** **05 05 02.9 +1.1**
comp=Z,1μmcomp=Z,139nm,1.0s
MFID Camas Ranch **90.04 41** IAmb IAmb 05 05 04.0
comp=Z,34nm,1.1s
CHTO Chiang Mai **90.04 291** P **P** **05 05 02.5 +0.7**
CHTO pmax pmax
comp=Z,102nm,0.9s
CHTO Chiang Mai **90.04 291** P **P** **05 05 03.0 +1.2**
comp=Z,1μmcomp=Z,140nm,1.0s
CHTO Chiang Mai **90.04 291** P **P** **05 05 02.5 +0.7**
GHO Glory Hole Cre **90.06 14** IAmb IAmb 05 05 02.2
comp=Z,29nm,0.8s
DUG Dugway, Tooele **90.09 45** IAmb IAmb 05 05 04.2
comp=Z,20nm,1.4s
DUG Dugway, Tooele **90.09 45** P **P** **05 05 02.8 +1.1**
baz=237,SNR=8.1
SML Sawmill **90.23 14** P **P** **05 05 01.5 -0.2**
baz=208
DIV Divide **90.24 16** IAmb IAmb 05 05 03.1
comp=Z,23nm,1.2s
CUT Chultina **90.34 13** P **P** **05 05 02.0 0.0**
baz=207,SNR=7.0
SEY Seymchan **90.37 348** PKKPbc PKKPbc 05 22 29.0 -1.4
comp=Z,3.4nm,0.7s,baz=39,slow=4.4,SNR=3.9
SEY Seymchan **90.37 348** *i* P **P** **05 05 01.9 -0.3**
BMRM Bremner River **90.40 16** IAmb IAmb 05 05 04.0
comp=Z,18nm,0.9s
BMRM Bremner River **90.40 16** P **P** **05 05 03.4 +0.9**
baz=212,SNR=5.2
BO02 Sierra Bellavi **90.41 129** P **P** **05 05 02.8 -0.6**
BO02 IAmb IAmb 05 05 17.3
comp=Z,26nm,1.4s
BO02 **pwP** **05 06 54.9 -1.6**
NLU North Lily Min **90.44 45** IAmb IAmb 05 05 06.2
comp=Z,14nm,1.1s
K20K Telida **90.46 11** P **P** **05 05 03.0 +0.3**
baz=204,SNR=15
Q16A Castle Valley **90.47 47** IAmb IAmb 05 05 07.0
comp=Z,22nm,1.1s
SCM Sheep Creek Mo **90.48 15** IAmb IAmb 05 05 04.2
comp=Z,21nm,0.7s
KLU Klutina **90.52 16** P **P** **05 05 03.4 +0.4**
KLU Klutina **90.52 16** P **P** **05 05 03.5 +0.4**
baz=211
E09A Wood Farm, Sta **90.53 38** P **P** **05 05 04.5 +1.1**
E09A **pP** **05 06 55.0 +1.2**
CRQE Cirque **90.61 17** P **P** **05 05 04.3 +0.7**
baz=213
MHMT Maesarieng **90.62 290** P **P** **05 05 06.2 +1.7**
comp=Z,2μmcomp=Z,40nm,1.0s
ZEA Zeya **90.69 332** *e*P **P** **05 05 04.8 +0.9**
ZEA pmax pmax
comp=E,10.0nm,0.6s
ZEA pmax pmax
comp=N,20nm,1.0s
ZEA pmax pmax
comp=Z,40nm,0.8s
MPU Maple Canyon **90.76 46** IAmb IAmb 05 05 07.6
comp=Z,16nm,1.0s
MNTX Cornudas Mount **90.89 55** IAmb IAmb 05 05 08.3
comp=Z,14nm,1.1s
MNTX Cornudas Mount **90.89 55** P **P** **05 05 06.8 +1.4**
baz=241,SNR=20
VRDI Verde Repeater **90.92 17** IAmb IAmb 05 05 06.7
comp=Z,27nm,1.4s
N25K Chitina, Valde **90.94 16** P **P** **05 05 05.7 +0.7**
baz=212,SNR=6.7
HLID Hailey **90.97 41** IAmb IAmb 05 05 08.7
comp=Z,19nm,1.2s
HLID Hailey **90.97 41** P **P** **05 05 07.3 +1.6**
baz=236,SNR=22
HVU Hansel Valley **90.99 44** IAmb IAmb 05 05 08.5
comp=Z,48nm,1.4s
SRU San Rafael Swe **91.00 47** IAmb IAmb 05 05 08.5
comp=Z,39nm,1.2s
B08A Colville Reser **91.01 36** P **P** **05 05 05.9 +0.3**
B08A **pP** **05 06 56.6 +0.3**
WAT6 Susitna Watana **91.04 14** P **P** **05 05 05.6 0.0**
baz=209,SNR=7.0
CTU Camp Tracy **91.05 45** IAmb IAmb 05 05 08.6
comp=Z,23nm,1.1s
P17A Butcher Ranch, **91.05 46** IAmb IAmb 05 05 09.1
comp=Z,34nm,1.2s
TX32 Lajitas Array **91.06 58** IAmb IAmb 05 05 09.4
comp=Z,30nm,1.1s
TXAR Lajitas Array **91.06 58** P **P** **05 05 08.1 +1.7**
comp=Z,14nm,0.9s,baz=215,slow=5.9,SNR=127
TXAR pP **pwP** **05 06 59.5 -0.1**
comp=Z,8.8nm,1.0s,baz=215,slow=4.4,SNR=17
TXAR PP **PP** **05 08 54.9 +3.0**
comp=Z,3.7nm,1.0s,baz=218,slow=9.4,SNR=5.1
TXAR PKKPbc **PKKPbc** **05 22 27.9 +0.6**
comp=Z,0.9nm,0.8s,baz=89,slow=4.0,SNR=11
WAT1 Susitna Watana **91.08 14** P **P** **05 05 05.5 -0.1**
baz=208
MCARA McCarthy VSAT **91.16 17** P **P** **05 05 07.1 +1.1**
MCARA IAmb IAmb 05 05 08.3
comp=Z,31nm,1.2s
MCARA McCarthy VSAT **91.16 17** P **P** **05 05 06.4 +0.5**
baz=213
JLU Jordanelle **91.19 45** IAmb IAmb 05 05 10.3
comp=Z,18nm,1.2s
HHC Hu-ho-hao-te **91.20 315** *e*P **P** **05 05 07.9 +1.1**
HHC S **S** **05 15 30.4 +8.0**
HHC pmax pmax
comp=Z,44nm,1.5s
HHC pmax pmax
comp=Z,89nm,5.7s
J20K Nowinta River **91.20 11** P **P** **05 05 06.3 +0.3**
baz=203,SNR=11
LOGN Logan Glacier **91.24 18** P **P** **05 05 06.9 +0.3**
LOGN IAmb IAmb 05 05 08.2
comp=Z,12nm,0.9s
BARN Barnard Glacie **91.26 18** IAmb IAmb 05 05 08.5
comp=Z,11nm,0.8s
CHUM Lake Minchumin **91.27 12** P **P** **05 05 05.8 -0.5**
baz=205,SNR=9.2
CTG Chitna Glacier **91.27 18** P **P** **05 05 06.9 +0.3**
baz=215
TRF Thorofare Moun **91.27 13** IAmb IAmb 05 05 07.1
comp=Z,22nm,0.9s
TRF Thorofare Moun **91.27 13** P **P** **05 05 06.2 -0.4**
baz=207,SNR=19
MVCO Mesa Verde **91.39 49** P **P** **05 05 08.7 +0.8**
baz=239,SNR=5.2
TCUT Toone Canyon **91.49 45** IAmb IAmb 05 05 11.0
comp=Z,50nm,1.2s
RND Reindeer **91.53 13** IAmb IAmb 05 05 08.6
comp=Z,21nm,0.8s
HWUT Hardware Ranch **91.65 44** P **P** **05 05 09.4 +0.4**
HWUT IAmb IAmb 05 05 11.2
comp=Z,21nm,1.4s
CD2 Chengdu **91.67 303** P **P** **05 05 10.5 +1.4**
CD2 pmax pmax
comp=Z,190nm,0.8s
CD2 Chengdu **91.67 303** P **P** **05 05 09.5 +0.4**
CD2 pP pP 05 06 56.5 -2.1
CD2 SKS **SKSac** **05 14 53.9 -0.2**
CD2 S **S** **05 15 27.4 +0.5**
CD2 sS sS 05 18 44.5 +0.3
CD2 pmax pmax
comp=Z,270nm,0.9s
PV03 Paradox Valley **91.68 48** P **P** **05 05 10.5 +1.3**
PV03 pP **pP** **05 07 03.4 +3.9**
ANMO Albuquerque **91.69 52** *i* P **P** **05 05 09.4 +0.1**
ANMO pmax pmax
comp=Z,8.0nm,1.0s
ANMO Albuquerque **91.69 52** P **P** **05 05 09.9 +0.6**
ANMO pP **pwP** **05 07 03.0 +3.4**
ANMO Albuquerque **91.69 52** P **P** **05 05 10.5 +1.3**
baz=240
MCK McKinley **91.80 13** P **P** **05 05 08.9 +0.1**
MCK pmax pmax
comp=Z,8.0nm,0.8s
MCK McKinley **91.80 13** P **P** **05 05 08.9 +0.1**
MCK IAmb IAmb 05 05 11.0
comp=Z,8.3nm,0.8s
MCK McKinley **91.80 13** P **P** **05 05 08.5 -0.3**
baz=208
PAX Paxson **91.90 15** P **P** **05 05 09.4 -0.1**
baz=211
PV07 Paradox Valley **91.91 48** IAmb IAmb 05 05 12.5
comp=Z,20nm,1.5s
M26K Nabesna, AK **92.02 16** P **P** **05 05 10.5 +0.5**
baz=213,SNR=5.1
BTO Baotou **92.06 314** *e*P **P** **05 05 11.8 +1.1**
BWN Browne **92.08 13** IAmb IAmb 05 05 10.7
comp=Z,19nm,1.0s
CO02 Combarbal **92.09 126** P **P** **05 05 10.8 -0.5**
CO02 IAmb IAmb 05 05 15.4
comp=Z,28nm,1.5s
CO02 pP **pwP** **05 07 05.0 +0.4**
YUK3 Moose Creek **92.18 18** P **P** **05 05 11.7 +0.8**
baz=215,SNR=12
M27K Edge Creek, AK **92.28 17** IAmb IAmb 05 05 13.1
comp=Z,10nm,0.8s
M27K Edge Creek, AK **92.28 17** P **P** **05 05 12.3 +1.1**
baz=214,SNR=8.6
MENT Mentasta **92.30 16** IAmb IAmb 05 05 12.8
comp=Z,9.9nm,0.7s
L26K Log Cabin Wild **92.46 16** P **P** **05 05 12.5 +0.6**
baz=213,SNR=5.7
I21K Tanana **92.51 11** IAmb IAmb 05 05 13.0
comp=Z,8.2nm,0.8s
I21K Tanana **92.51 11** P **P** **05 05 12.4 +0.4**
baz=205,SNR=8.4
CO03 El Pedregal **92.51 126** P **P** **05 05 13.8 +0.6**
CO03 IAmb IAmb 05 05 14.6
comp=Z,13nm,1.2s
CO03 pP **pwP** **05 07 06.6 +0.2**
NEA2 Nenana **92.53 13** P **P** **05 05 11.5 -0.7**
baz=208
AHID Auburn Hatcher **92.56 43** IAmb IAmb 05 05 15.8
comp=Z,20nm,1.1s
BVCY Beaver Creek **92.59 17** P **P** **05 05 13.3 +0.8**
baz=215,SNR=6.4
MLY Manley **92.60 12** P **P** **05 05 11.9 -0.7**
baz=206,SNR=6.8
WRH Wood River Hil **92.63 13** IAmb IAmb 05 05 13.3
comp=Z,14nm,1.0s
RIDG Independent Ri **92.71 15** P **P** **05 05 13.3 +0.2**
baz=212,SNR=6.5
S22A 4UR Ranch, Cre **92.80 49** P **P** **05 05 15.9 +1.4**
baz=240,SNR=28
DOT Dot Lake **92.81 15** IAmb IAmb 05 05 14.8
comp=Z,9.9nm,1.0s
HDA Harding Lake **92.81 14** IAmb IAmb 05 05 14.1
comp=Z,9.1nm,0.7s
HDA Harding Lake **92.81 14** P **P** **05 05 13.4 -0.1**
baz=210,SNR=10
CCB Clear Creek Bu **92.84 13** P **P** **05 05 13.1 -0.5**
CCB IAmb IAmb 05 05 14.0
comp=Z,12nm,1.1s
L27K Beaver Creek, **92.87 16** P **P** **05 05 14.4 +0.6**
baz=214,SNR=6.6
REDW Red Top Meadow **93.03 43** IAmb IAmb 05 05 17.9
comp=Z,18nm,1.3s
O20A White River Ci **93.04 47** P **P** **05 05 16.2 +0.8**
baz=240
MSO Missoula **93.08 39** P **P** **05 05 15.4 +0.2**
baz=236
SCRK Sand Creek **93.11 15** P **P** **05 05 15.3 +0.3**
baz=212,SNR=6.8
ILAR Eielson Array **93.14 14** P **P** **05 05 14.4 -0.5**
comp=Z,3.0nm,0.7s,baz=223,slow=5.1,SNR=32
ILAR pP **pP** **05 07 06.1 +0.8**
comp=Z,1.4nm,0.9s,baz=229,slow=5.2,SNR=3.1
ILAR PP **PP** **05 09 06.6 -0.6**
comp=Z,4.4nm,1.1s,baz=224,slow=7.0,SNR=5.3
ILAR PKIKP **PKiKP** **05 09 57.8 -0.6**
comp=Z,0.5nm,0.4s,baz=265,slow=2.8,SNR=6.4
ILAR PKKPbc **PKKPdf** **05 22 20.2 -1.6**
comp=Z,0.5nm,0.5s,baz=346,slow=2.5,SNR=7.3
SNOW Snow King Moun **93.15 43** IAmb IAmb 05 05 19.2
comp=Z,9.4nm,0.9s
J25K Salcha River, **93.34 14** P **P** **05 05 16.0 +0.1**
baz=211,SNR=6.9
BILL Bilibino **93.36 355** *de*P **P** **05 05 16.9 +1.0**
BILL *i* *PP **pwP** **05 07 08.0 -1.8**
BILL pmax pmax
comp=Z,17nm,0.7s
BW06 Boulder Array **93.53 44** P **P** **05 05 18.5 +0.9**
baz=239
PDAR Pinedale Array **93.53 44** P **P** **05 05 18.1 +0.5**
comp=Z,2.5nm,0.8s,baz=215,slow=3.9,SNR=21
PDAR pP **pP** **05 07 09.1 +1.0**
comp=Z,1.7nm,0.9s,baz=180,slow=3.0,SNR=4.9
PDAR PP **PP** **05 09 09.2 -1.7**
comp=Z,4.0nm,1.0s,baz=231,slow=7.1,SNR=7.6
PDAR PKKPbc **PKKPdf** **05 22 20.3 -0.3**
comp=Z,0.2nm,0.4s,baz=106,slow=6.7,SNR=3.8
PDAR PKPPKP **P'P'df** **05 30 31.2 +0.1**
comp=Z,1.1nm,1.0s,baz=72,slow=8.6,SNR=6.5
K27K Chicken **93.62 16** IAmb IAmb 05 05 19.1
comp=Z,7.9nm,0.8s
K27K Chicken **93.62 16** P **P** **05 05 18.2 +1.0**
baz=214
J26K Charley River, **93.65 15** P **P** **05 05 18.4 +0.9**
baz=213,SNR=11
SDCO Great Sand Dun **93.72 50** P **P** **05 05 20.0 +1.3**
baz=241,SNR=8.1
BOZ Bozeman (W) **93.75 41** P **P** **05 05 19.6 +1.2**
baz=238,SNR=6.7
MSTX Muleshoe **93.90 54** P **P** **05 05 19.7 +0.4**
MSTX IAmb IAmb 05 05 21.4
comp=Z,16nm,1.4s
MSTX pP **pwP** **05 07 12.5 +0.1**
MSTX Muleshoe **93.90 54** P **P** **05 05 20.0 +0.7**
baz=242
LZH Lanzhou **94.04 308** ⇓P **P** **05 05 21.4 +1.4**
LZH SKS **SKSac** **05 15 05.0 -2.0**
LZH S **ScS** **05 15 54.9 +6.6**
LZH pmax pmax
comp=Z,67nm,1.2s
LZH pmax pmax
comp=Z,130nm,4.9s
T25A Trinidad **94.19 51** P **P** **05 05 21.6 +0.9**
baz=242
DAWY Dawson **94.33 17** P **P** **05 05 21.0 +0.6**
baz=216,SNR=8.3
EGAK Eagle **94.46 16** IAmb IAmb 05 05 22.3
comp=Z,9.7nm,0.8s
EGAK Eagle **94.46 16** P **P** **05 05 21.6 +0.6**
baz=215,SNR=9.6
TRQA Tornquist **94.50 136** *e*P **P** **05 05 25.0 +3.0**
Q24A Divide **94.55 49** P **P** **05 05 23.6 +1.1**
baz=241
JCT Junction City **94.57 59** IAmb IAmb 05 05 24.1
comp=Z,17nm,1.2s
JCT Junction City **94.57 59** P **P** **05 05 23.0 +0.7**
baz=244
ISCO Idaho Springs **94.63 48** P **P** **05 05 23.7 +0.9**
baz=241
COLD Coldfoot **94.67 11** P **P** **05 05 22.5 +0.6**
baz=207
N23A Red Feather La **94.94 47** P **P** **05 05 24.7 +0.6**
baz=241
YAK Yakutsk **95.62 339** *ce*P **P** **05 05 25.8 -0.5**
YAK pmax pmax
comp=Z,15nm,0.8s
ABTX Abilene, Hawle **95.63 57** IAmb IAmb 05 05 29.3
comp=Z,39nm,1.5s
ABTX Abilene, Hawle **95.63 57** P **P** **05 05 28.5 +1.4**
baz=244
KSCO Kaye Shedlock' **96.31 50** IAmb IAmb 05 05 33.2
comp=Z,34nm,1.5s
KSCO Kaye Shedlock' **96.31 50** P **P** **05 05 31.6 +1.4**
baz=243
EPYK Eagle Plains **96.85 16** P **P** **05 05 31.5 -0.2**
baz=219
ULN Ulaanbaatar **97.57 320** *ce*P Pdif 05 05 35.3 -0.3
ULN pmax pmax
comp=Z,17nm,1.6s
ULN Ulaanbaatar **97.57 320** P Pdif 05 05 34.5 -1.1
ULN IAmb IAmb 05 05 45.3
comp=Z,6.0nm,0.7s
SONM Songino Array **97.94 319** P **P** **05 05 37.4 +0.1**
comp=Z,1.2nm,0.4s,baz=162,slow=3.8,SNR=12
SONM PP **PP** **05 09 39.9 -4.5**
comp=Z,5.7nm,1.0s,baz=130,slow=7.0,SNR=8.2
SONM PKKPbc **PKKPbc** **05 22 10.1 +0.1**
comp=Z,0.8nm,0.8s,baz=238,slow=2.7,SNR=3.0
SONM Songino Array **97.94 319** Pdif 05 05 37.0 -0.3
SONM IAmb IAmb 05 05 49.1
comp=Z,6.4nm,1.2s
GTA Gaotai **98.39 310** ⇑P **P** **05 05 40.5 +1.0**
GTA pP pwP 05 07 37.0 +2.2
GTA SKS **SKSac** **05 15 27.8 -1.4**
GTA S **S** **05 16 28.9 +4.5**
GTA pmax pmax
comp=Z,11nm,1.2s
GTA pmax pmax
comp=Z,100nm,6.5s
ZAK Zakamensk **100.93 321** *eP* **Pdif** **05 05 49.4 -1.0**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
CPUP Villa Florida **104.73 129** PKKPbc PKKPbc 05 21 48.6 -1.3
comp=Z,1.9nm,0.9s,baz=84,slow=3.6,SNR=4.4
ULM Lac du Bonnet **105.28 41** PP **PP** **05 10 35.2 -3.4**
comp=Z,4.6nm,0.8s,baz=233,slow=7.4,SNR=5.0
SIV San Ignacio **107.90 118** PKKPbc PKKPbc 05 21 39.5 -0.6
comp=Z,2.1nm,0.5s,baz=2.5,slow=1.2,SNR=16
ZALV Zalesovo Beam **112.80 320** PKiKP **PKiKP** **05 10 33.5 -1.0**
comp=Z,4.7nm,0.4s,baz=146,slow=1.9,SNR=18
ZALV PP **PP** **05 11 26.8 -5.5**
comp=Z,2.0nm,0.6s,baz=104,slow=6.3,SNR=4.2
MK31 Makanchi Array **112.89 312** *i* PKiKP **PKiKP** **05 10 34.2 -0.8**
MKAR Makanchi Array **112.89 312** Pdiff **Pdif** **05 06 46.1 +2.5**
comp=Z,1.4nm,0.7s,baz=90,slow=5.5,SNR=12
MKAR PKiKP **PKiKP** **05 10 34.2 -0.8**
comp=Z,11nm,0.8s,baz=202,slow=0.9,SNR=34
MKAR PP **PP** **05 11 31.2 -1.9**
comp=Z,2.1nm,0.8s,baz=108,slow=7.9,SNR=3.6
MKAR SKP 05 13 23.9
comp=Z,4.3nm,0.8s,baz=68,slow=0.9,SNR=5.8
MKAR PKKPbc **PKKPbc** **05 21 24.6 0.0**
comp=Z,1.0nm,0.6s,baz=285,slow=3.7,SNR=10
MKAR Makanchi Array **112.89 312** **Pdif** **05 06 44.4 +0.8**
MAKZ Makanchi **113.11 312** PKiKP **PKiKP** **05 10 33.8 -1.6**
NRIK Noril'sk **114.02 337** PKiKP PKPdf 05 10 36.1 -0.4
comp=Z,5.1nm,0.5s,baz=111,slow=3.4,SNR=5.8
NRIK PP **PP** **05 11 36.0 -4.2**

comp=Z,5.2nm,0.8s,baz=117,slow=4.9,SNR=8.6
NRIK Noril'sk 114.02 337 *c i* PKIKP **PKiKP 05 10 36.6 +0.1**
SHLS Shalkode 114.07 308 *e* PKiKP PKPdf 05 10 36.3 -1.2
baz=308
SHLS Shalkode 114.07 308 *i* PKIKP PKPdf 05 10 36.3 -1.2
UZB Uzynbulak 114.38 308 *i* PKiKP PKPdf 05 10 37.6 -0.6
baz=308
UZB Uzynbulak 114.38 308 *i* PKIKP PKPdf 05 10 37.5 -0.7
KPKS Kokpek 114.69 308 *e* PKiKP PKPdf 05 10 38.1 -0.6
baz=308
KPKS Kokpek 114.69 308 *i* PKIKP PKPdf 05 10 38.1 -0.6
MDOK Medeo 115.80 308 *e* PKiKP **PKPdf 05 10 40.2 -0.8**
baz=308
MDOK Medeo 115.80 308 *i* PKIKP **PKPdf 05 10 40.1 -0.8**
KSH Kashi 115.87 303 PKP **PKiKP 05 10 41.8 +0.7**
KSH PP **PP 05 11 59.6 +5.4**
KSH AMB AMB
comp=Z,170nm,4.6s
CHKK Chushkaly 115.97 308 *e* PKiKP **PKPdf 05 10 40.1 -1.0**
baz=308
KURK Kurchatov 116.00 316 PKIKP **PKPdf 05 10 40.0 -0.8**
KURK Kurchatov 116.00 316 **PKPdf 05 10 40.0 -0.8**
KURBB Kurchatov Arra 116.04 316 PKP **PKPdf 05 10 40.0 -0.9**
comp=Z,20nm,0.8s,baz=100,slow=1.9,SNR=142
KURBB SKP 05 13 29.7
comp=Z,4.4nm,0.8s,baz=98,slow=1.8,SNR=6.7
KURBB PKKPbc **PKKPbc 05 21 14.2 +0.2**
comp=Z,0.5nm,0.8s,baz=275,slow=4.4,SNR=5.8
ULHL Ulahol 116.21 306 P **PKiKP 05 10 41.9 0.0**
SNR=8.5
MTBS Maitube 116.24 307 *e* PKiKP **PKPdf 05 10 40.7 -0.9**
baz=308
KUU Kurty 116.44 308 ⇓ *i* PKIKP **PKPdf 05 10 40.9 -1.1**
baz=308
KUU Kurty 116.44 308 *d i* PKIKP **PKPdf 05 10 40.8 -1.1**
BOOM Boomskoye usch 116.48 307 PKIKP **PKPdf 05 10 41.5 -0.8**
BOOM Boomskoye usch 116.48 307 PKPdf **PKPdf 05 10 41.5 -0.8**
PTGA Pitinga 116.69 104 PKKPbc PKKPbc 05 21 11.8 +0.8
comp=Z,1.6nm,0.3s,baz=327,slow=5.4,SNR=6.5
NIL Nilore 116.72 297 PKIKP **PKPdf 05 10 41.9 -0.9**
NIL Nilore 116.72 297 PKPdf **PKPdf 05 10 41.9 -0.9**
TKM2 Tokmak 2 116.80 307 P **PKPdf 05 10 42.4 -0.5**
SNR=15
TKM2 Tokmak 2 116.80 307 PKIKP **PKPdf 05 10 41.6 -1.3**
KZA Kyzart 116.91 306 P **PKiKP 05 10 43.6 +0.2**
SNR=6.4
KBK Karagaybulak 117.23 307 P **PKPdf 05 10 43.6 -0.1**
SNR=6.5
CHMS Chumysh 117.43 307 P **PKPdf 05 10 43.6 -0.3**
SNR=9.3
AAK Ala-Archa 117.55 307 PKP **PKPdf 05 10 44.1 -0.2**
comp=Z,5.9nm,0.6s,baz=152,slow=1.1,SNR=13
AAK PKKPbc **PKKPbc 05 21 09.3 +0.6**
comp=Z,1.7nm,0.5s,baz=272,slow=5.5,SNR=4.6
AAK Ala-Archa 117.55 307 P **PKPdf 05 10 44.0 -0.3**
SNR=5.4
AAK Ala-Archa 117.55 307 *c i* PKIKP **PKPdf 05 10 43.4 -0.9**
AAK pmax pmax
comp=Z,6.0nm,0.6s
AAK Ala-Archa 117.55 307 **PKPdf 05 10 43.4 -0.9**
SGDS Sogindy 117.59 308 ⇓ *i* PKiKP **PKPdf 05 10 43.7 -0.6**
baz=308
USP Ospenovka 117.65 307 P **PKPdf 05 10 43.9 -0.5**
SNR=19
AML Almayashu 118.06 306 P **PKiKP 05 10 45.7 +0.1**
SNR=11
EKS2 Erkin-Say 118.08 307 P **PKPdf 05 10 45.3 0.0**
SNR=11
BDFB Brasilia 118.18 126 PKP **PKPdf 05 10 45.5 -0.8**
comp=Z,0.9nm,0.5s,baz=243,slow=4.2,SNR=5.1
BDFB PKKPbc **PKKPbc 05 21 06.4 +0.1**
comp=Z,7.6nm,1.0s,baz=89,slow=0.2,SNR=7.3
BTLS Baital 118.24 309 ⇓ *i* PKIKP **PKPdf 05 10 44.9 -0.5**
baz=309
BTLS Baital 118.24 309 *d i* PKIKP **PKPdf 05 10 44.8 -0.5**
SJG San Juan 118.65 82 PKIKP **PKPdf 05 10 45.9 -1.0**
SJG San Juan 118.65 82 **PKPdf 05 10 45.9 -1.0**
GCPR Guaynabo City 118.77 82 **PKPdf 05 10 45.6 -1.5**
HUMP Col San Antoni 118.93 82 **PKPdf 05 10 45.9 -1.5**
SUR Sutherland 119.53 200 PKP **PKiKP 05 10 48.7 0.0**
comp=Z,30nm,0.8s,baz=175,slow=0.9,SNR=40
SUR Sutherland 119.53 200 **PKPdf 05 10 47.9 -0.7**
BRZS Berezniki 119.70 315 ⇓ *i* PKiKP **PKPdf 05 10 47.1 -0.9**
baz=315
BRZS Berezniki 119.70 315 *d i* PKIKP **PKPdf 05 10 47.1 -0.9**
OTUK Ortayu 119.78 313 PKIKP **PKPdf 05 10 47.0 -1.2**
BTK Batken 119.88 303 PKIKP **PKPdf 05 10 48.6 -0.2**
BTK Batken 119.88 303 PKPdf **PKPdf 05 10 48.6 -0.2**
DZA Taraz 119.89 307 *e* PKiKP **PKPdf 05 10 48.2 -0.5**
baz=307
DZA Taraz 119.89 307 *i* PKIKP **PKPdf 05 10 48.1 -0.5**
KBL Kabul 120.33 297 PKIKP **PKiKP 05 10 50.1 0.0**
KBL Kabul 120.33 297 PKPdf **PKiKP 05 10 50.1 0.0**
MC01 Montes Claros 120.40 130 *e* P **PKiKP 05 10 53.7 +3.1**
KK31 Karatay Array 120.52 307 PKIKP **PKPdf 05 10 49.5 -0.3**
KK31 Karatay Array 120.52 307 PKPdf **PKPdf 05 10 49.5 -0.3**
I63A Otisfield 120.63 52 P **PKPdf 05 10 49.8 -0.1**
baz=264
IUG Iuzhnay 120.75 306 ⇓ *i* PKiKP **PKPdf 05 10 50.5 +0.1**
baz=306
IUG Iuzhnay 120.75 306 *d i* PKIKP **PKPdf 05 10 50.5 +0.1**
G62A West of Eustis 120.79 51 P **PKPdf 05 10 49.3 -0.9**
baz=264
CHGR Chuyangaron 120.94 301 PKPdf **PKPdf 05 10 50.2 -0.7**
TAS Tashkent 121.20 305 PKIKP **PKPdf 05 10 51.2 0.0**
TAS Tashkent 121.20 305 PKPdf **PKPdf 05 10 51.2 0.0**
F62A Pittston Farm, 121.25 50 P **PKPdf 05 10 50.4 -0.7**
baz=265
BVAR Borovoye Array 121.27 318 PKP **PKPdf 05 10 50.5 -0.4**
comp=Z,23nm,0.5s,baz=207,slow=6.2,SNR=88
BRVK Borovoye 121.33 318 *c i* PKIKP **PKPdf 05 10 50.7 -0.3**
BRVK pmax pmax
comp=Z,42nm,1.3s
BRVK Borovoye 121.33 318 PKPdf **PKPdf 05 10 50.7 -0.3**
BOSA Boshof 121.37 206 PKP **PKiKP 05 10 52.3 0.0**
comp=Z,14nm,0.8s,baz=150,slow=2.2,SNR=30
BOSA PKKPbc **PKKPbc 05 20 55.2 -0.2**
comp=Z,1.6nm,0.7s,baz=4.5,slow=2.9,SNR=3.9
E62A Clayton Lake 121.61 49 P **PKPdf 05 10 51.4 -0.4**
baz=266
PKME Peaks-Kenny Pk 121.67 51 P **PKPdf 05 10 51.8 -0.1**
baz=265
F63A Nahmakanta, Br 121.83 50 P **PKPdf 05 10 52.1 -0.1**
baz=266
D62A Allapoint, All 121.96 49 P **PKPdf 05 10 51.8 -0.6**
baz=267
E63A Oxbow 122.35 50 P **PKPdf 05 10 52.5 -0.7**
baz=267
F64A Sherman 122.37 50 P **PKPdf 05 10 52.8 -0.4**
baz=266
NEEM North Greenlan 122.38 12 ⇓ *i* P **PKPdf 05 10 52.5 -0.2**
NEEM IAmb IAmb 05 10 53.2
comp=Z,21nm,0.6s
G65A Princeton 122.88 51 P **PKPdf 05 10 54.0 -0.2**
baz=266
NOR Nord 122.97 3 *i* P **PKPdf 05 10 51.6 -1.9**
NOR IAmb IAmb 05 10 53.6
comp=Z,5.0nm,0.8s
NOR Nord 122.97 3 *i* PKIKP **PKPdf 05 10 51.5 -1.9**
NOR pmax pmax
comp=Z,5.0nm,0.8s
SCHQ Schefferville 123.38 40 PKP **PKPdf 05 10 54.2 -0.7**
comp=Z,3.6nm,0.8s,baz=234,slow=16,SNR=1.7
LBTB Lobatse 124.40 208 PKIKP **PKPdf 05 10 57.5 -0.5**
LBTB Lobatse 124.40 208 **PKPdf 05 10 57.5 -0.5**
LMN Caledonia Moun 124.84 50 PKPdf **PKPdf 05 10 57.6 -0.4**
KBS Kingsbay 125.77 357 ⇓ *i* P **PKPdf 05 10 58.9 0.0**
KBS IAmb IAmb 05 10 59.8
comp=Z,43nm,0.8s
KBS Kingsbay 125.77 357 *c i* PKIKP **PKiKP 05 11 00.2 +0.9**
KBS pmax pmax
comp=Z,24nm,1.7s
SPA0 Spitsbergen Ar 126.25 356 *e* PKPdf **PKPdf 05 10 59.9 +0.1**
SVE Sverdlovsk 126.57 323 *e* PKIKP **PKPdf 05 11 00.9 0.0**
SVE pmax pmax
comp=Z,60nm,1.2s
ILULI Ilulissat 126.63 20 *i* P **PKPdf 05 10 59.8 -0.9**
ILULI IAmb IAmb 05 11 01.3
comp=Z,17nm,0.6s
ILULI Ilulissat 126.63 20 *i* PKIKP **PKPdf 05 10 59.7 -0.9**
ILULI pmax pmax
comp=Z,17nm,0.6s
WSAR Wadi Sarin 126.80 281 PKP **PKiKP 05 11 03.0 0.0**
comp=Z,12nm,0.9s,baz=116,slow=1.1,SNR=4.5
BIDO Bidbid 127.31 281 PKiKP **PKiKP 05 11 04.1 +0.1**
SNR=5.8

ARU Arti 127.77 323 PKP **PKPdf 05 11 03.3 +0.1**
comp=Z,22nm,0.4s,baz=85,slow=2.5,SNR=80
ARU Arti 127.77 323 *i* PKIKP **PKPdf 05 11 03.5 +0.3**
ARU 05 13 10.8
ARU PPP PPP 05 16 01.8
ARU 05 17 27.2
ARU Arti 127.77 323 PKPdf **PKPdf 05 11 02.5 -0.7**
SFJD Kangerlussuaq 127.84 23 *i* P **PKPdf 05 11 02.6 -0.4**
SFJD IAmb IAmb 05 11 03.5
comp=Z,9.4nm,0.7s
SFJD Kangerlussuaq 127.84 23 *i* PKIKP **PKPdf 05 11 02.6 -0.4**
SFJD pmax pmax
comp=Z,9.0nm,0.7s
AB31 Akbulak array 127.97 314 *i* PKIKP **PKPdf 05 11 03.0 -0.9**
ABKAR Akbulak array 127.97 314 PKPdf **PKPdf 05 11 04.2 +0.4**
SUMG Summit 127.99 14 *i* P **PKPdf 05 11 03.9 +0.1**
SUMG IAmb IAmb 05 11 05.2
comp=Z,16nm,1.0s
SUMG Summit 127.99 14 *i* PKIKP **PKPdf 05 11 03.8 +0.1**
SUMG pmax pmax
comp=Z,16nm,1.0s
SUMG Summit 127.99 14 PKPdf **PKPdf 05 11 03.0 -0.8**
HOQ Hoqain 128.06 281 PKiKP **PKiKP 05 11 05.5 0.0**
SNR=6.8
NUUK Nuuk 128.66 26 *i* P **PKPdf 05 11 04.9 +0.2**
NUUK IAmb IAmb 05 11 05.8
comp=Z,13nm,0.7s
SOHO SOHO 128.88 282 *i* PKPdf **PKPdf 05 11 06.0 -0.4**
SNR=27
ROSB Rosrio 129.02 117 *e* P **PKiKP 05 11 10.4 +2.6**
AKTO Aktyubinsk 129.09 316 PKP **PKPdf 05 11 05.8 -0.2**
comp=Z,18nm,0.6s,baz=97,slow=4.1,SNR=45
AKTO SKPbc SKPbc 05 13 42.1 +1.5
comp=Z,6.2nm,0.7s,baz=99,slow=4.0,SNR=5.6
UOSS Minazif 129.35 283 *i* PKPdf **PKPdf 05 11 06.6 -0.7**
SNR=7.8
UOSS Minazif 129.35 283 PKPdf **PKPdf 05 11 06.0 -1.3**
HATD Hatta, Dubai 129.39 282 *i* PKPdf **PKPdf 05 11 06.8 -0.6**
SNR=12
HATD Hatta, Dubai 129.39 282 PKPdf **PKPdf 05 11 07.1 -0.2**
ASHO Ashiyiah 129.42 282 *i* PKPdf **PKPdf 05 11 06.5 -1.0**
SNR=10
ASHO Ashiyiah 129.42 282 PKPdf **PKPdf 05 11 07.1 -0.3**
MSFE Esma-Masafi 129.48 283 PKPdf **PKPdf 05 11 07.2 -0.3**
GEYT Alibeck 129.50 299 PKP **PKiKP 05 11 07.7 -0.3**
comp=Z,374nm,0.7s,baz=218,slow=4.5,SNR=24
GEYT PP **PP 05 13 22.2 -2.9**
comp=Z,4.3nm,0.8s,baz=36,slow=15,SNR=3.7
GEYT SKPbc SKPbc 05 13 44.6 +2.1
comp=Z,28nm,1.1s,baz=210,slow=11,SNR=14
ALNE Al Ain 129.56 281 PKPdf **PKPdf 05 11 07.3 -0.3**
ALNE Al Ain 129.56 281 PKiKP **PKiKP 05 11 08.2 -0.3**
SNR=5.0
DY2G Dye2 129.60 22 *i* P **PKPdf 05 11 06.0 -0.8**
DY2G IAmb IAmb 05 11 07.8
comp=Z,32nm,0.6s
SHME Shamm 129.64 284 PKPdf **PKPdf 05 11 07.5 -0.3**
WHFO Wadi Hawf 129.69 273 PKPdf **PKPdf 05 11 07.7 -0.4**
NAZ Nazwa, Dubai 129.84 282 *i* PKPdf **PKPdf 05 11 07.8 -0.3**
SNR=6.1
FAQ Al Faqa, Dubai 129.85 282 *i* PKPdf **PKPdf 05 11 07.3 -0.9**
SNR=7.0
FAQ Al Faqa, Dubai 129.85 282 PKPdf **PKPdf 05 11 07.6 -0.6**
ASUD Al Ashush, Dub 130.06 282 PKPdf **PKPdf 05 11 08.3 -0.2**
ICESG Greenland Ices 130.07 17 *i* P **PKPdf 05 11 06.0 -1.8**
ICESG IAmb IAmb 05 11 08.5
comp=Z,13nm,0.7s
NBAN Anadia - AL 130.63 130 *e* P **PKiKP 05 11 13.4 +2.5**
KIRV Kirov 131.87 328 PKP **PKiKP 05 11 11.9 -0.1**
comp=Z,68nm,0.5s,baz=70,slow=1.0,SNR=30
KIRV SKPbc **SKPab 05 13 51.5 -0.1**
comp=Z,45nm,0.6s,baz=339,slow=0.2,SNR=14
KIRV Kirov 131.87 328 *c i* PKIKP **PKPdf 05 11 11.4 +0.5**
PRGR Permogore 132.26 333 *e* PKIKP **PKPdf 05 11 09.1 -2.5**
PRGR *e* 05 13 51.3
PRGR pmax pmax
comp=Z,58nm,1.5s
HAMF Hammerfest 132.36 350 *e* PKPdf **PKPdf 05 11 11.2 -0.4**
NBPA Parau_RN 132.71 125 *e* P **PKiKP 05 11 15.8 +0.7**
TSUM Tsumeb 132.80 203 **PKPdf 05 11 13.2 -0.9**
ARA0 ARCESS Array S 132.99 348 *e* PKPdf **PKPdf 05 11 12.7 -0.1**
ARCES ARCESS Array B 132.99 348 PKhKP PKPpre 05 11 04.4
comp=Z,2.3nm,0.5s,baz=151,slow=2.1,SNR=17
ARCES PKP **PKPdf 05 11 12.8 0.0**
comp=Z,17nm,0.6s,baz=36,slow=1.1,SNR=38
ARCES SKPbc **SKPab 05 13 55.5 -0.9**
comp=Z,59nm,0.9s,baz=42,slow=3.8,SNR=28
ARCES ARCESS Array B 132.99 348 PKPdf **PKPdf 05 11 12.2 -0.6**
RCBR Riachuelo 133.55 126 *e* P **PKiKP 05 11 18.9 +2.0**
NBPV Pedro Velho 133.59 128 *e* P **PKiKP 05 11 17.9 +1.0**
JETT Jettan, Norway 133.85 350 *e* PKPdf **PKPdf 05 11 11.7 -2.7**
TRO Tromso 134.00 351 *e* PKPdf **PKPdf 05 11 13.9 -0.7**
BELG Belogornoye 134.99 320 PKhKP PKPpre 05 11 06.5
comp=Z,11nm,0.7s,baz=276,slow=1.6,SNR=8.0
BELG PKP **PKPdf 05 11 17.6 +0.6**
comp=Z,66nm,0.6s,baz=307,slow=0.7,SNR=24
BELG SKPbc **SKPbc 05 14 02.3 +1.5**
comp=Z,65nm,0.9s,baz=101,slow=1.3,SNR=7.3
KLMR Klimovskoe 135.19 334 *e* PKIKP **PKPdf 05 11 11.2 -5.8**
KLMR *e* **PP 05 13 54.2 -5.6**
KLMR pmax pmax
comp=Z,27nm,0.7s
KLMR Klimovskoe 135.19 334 *e* PKPdf **PKPdf 05 11 11.3 -5.8**
KLMR AMP 05 11 18.7
comp=Z,27nm,0.7s
KLMR *e* PP **PP 05 13 54.3 -5.6**
KMBO Kilima Mbogo 135.50 240 PKhKP PKPpre 05 11 08.8
comp=Z,2.2nm,1.0s,baz=52,slow=12,SNR=4.0
KMBO PKP **PKPdf 05 11 19.2 -0.3**
comp=Z,12nm,1.0s,baz=36,slow=3.5,SNR=14
KMBO SKPbc **SKPbc 05 14 01.7 -2.3**
comp=Z,3.9nm,1.0s,baz=97,slow=6.8,SNR=5.0
KMBO Kilima Mbogo 135.50 240 *c i* PKIKP **PKPdf 05 11 19.7 +0.2**
KMBO pmax pmax
comp=Z,12nm,1.0s
FAUS Fauske 136.60 351 *e* SKPdf **SKPdf 05 14 06.7 -0.5**
MOR8 Moi Rana 137.85 351 *e* PKPdf **PKPdf 05 11 21.1 -0.8**
GROC Groznyy 138.53 308 *e* PKIKP **PKPdf 05 11 23.6 -0.2**
GROC *e* 05 14 08.7
GROC *e* **SKSac 05 17 50.8 -0.8**
GROC pmax pmax
comp=Z,67nm,1.2s
MOS Moscow 138.87 328 *e* PKIKP **PKPdf 05 11 22.7 -1.3**
MOS pmax pmax
comp=Z,45nm,0.8s
FINES FINESS Array B 139.51 341 PKhKP PKPpre 05 11 15.8
comp=Z,13nm,0.7s,baz=49,slow=4.5,SNR=74
FINES SKPbc **SKPbc 05 14 14.8 +1.3**
comp=Z,55nm,0.9s,baz=64,slow=4.4,SNR=26
OBN Obninsk 139.72 328 SKPbc **SKPbc 05 14 15.5 +1.3**
comp=Z,5.3nm,0.5s,baz=223,slow=1.3,SNR=8.5
OBN Obninsk 139.72 328 ⇓ *e* PKHKP PKPpre 05 11 16.7
OBN *i* **PKPdf 05 11 24.4 -1.2**
OBN *i* **SKPab 05 14 26.8 +0.4**
OBN *e* SS **SS 05 32 12.4 +4.3**
OBN pmax pmax
comp=Z,22nm,1.1s
OBN pmax pmax
comp=Z,52nm,1.7s
OBN Obninsk 139.72 328 PKPpre PKPpre 05 11 16.6
LODK Lodwar 139.73 243 PKPpre 05 11 19.4
GNI Garni 139.81 303 PKP **PKiKP 05 11 28.2 -0.8**
comp=Z,13nm,0.7s,baz=29,slow=8.6,SNR=7.8
GNI Garni 139.81 303 PKIKP **PKiKP 05 11 28.4 -0.6**
GNI Garni 139.81 303 *c i* PKIKP **PKPdf 05 11 27.0 +0.5**
GNI pmax pmax
comp=Z,39nm,1.7s
GNI Garni 139.81 303 PKPdf **PKPdf 05 11 25.2 -1.3**
ZEI Tsey 139.97 307 *i* PKHKP PKPpre 05 11 14.6
ZEI pmax pmax
comp=Z,6.0nm,0.7s
KBZ Khabaz 140.48 309 PKhKP PKPpre 05 11 21.9
comp=Z,4.7nm,0.8s,baz=119,slow=2.0,SNR=12
KBZ SKPbc **SKPbc 05 14 16.8 +0.1**
comp=Z,3.6nm,0.9s,baz=325,slow=5.7,SNR=4.2
KBZ Khabaz 140.48 309 *c i* PKHKP PKPpre 05 11 22.9
KBZ *i* **PKPdf 05 11 27.3 0.0**
KBZ pmax pmax
comp=Z,15nm,0.9s
KIV Kislovodsk 140.57 310 *e* PKIKP **PKPdf 05 11 27.4 -0.2**
KIV pmax pmax
comp=Z,21nm,1.1s
KIV Kislovodsk 140.57 310 PKPdf **PKPdf 05 11 26.9 -0.8**
SHA1 Shidzhatmaz 140.64 309 *i* PKIKP **PKPdf 05 11 27.5 -0.5**
KARS Kars 140.98 304 PKHKP PKPpre 05 11 23.9

KARS Kars 140.98 304 PKPdf **PKPdf 05 11 23.9 -4.7**
MEF Metsahovi 140.99 341 *e* P **PKPdf 05 11 22.0 -5.7**
RAF Rauma 141.06 343 *e* P **PKPdf 05 11 22.0 -5.8**
VSU Vasula 141.61 338 *e* P **PKPdf 05 11 24.2 -4.7**
GURO Guroymak-BITLI 142.11 301 PKPdf **PKPdf 05 11 27.8 -2.9**
AAL Aland 142.24 344 *e* P **PKPdf 05 11 25.6 -4.3**
MTSE Matsula 142.37 340 *e* P **PKPdf 05 11 26.6 -3.6**
AKN Aaknes 142.57 355 *e* PKPdf **PKPdf 05 11 27.8 -2.8**
SOC Sochi 142.74 310 *e* PKHKP PKPpre 05 11 28.1
SOC *i* **PKPdf 05 11 31.8 +0.4**
SOC *e* **PP 05 14 43.1 -3.5**
SOC *e* PPP PPP 05 17 57.3
UPP Uppsala 143.09 345 *e* P PKPab 05 11 28.4 -0.5
NB2 NORSAR Subarra 143.20 351 PKP PKPab 05 11 29.0 -0.4
comp=Z,60nm,1.0s,baz=16,slow=3.2
NB2 NORSAR Subarra 143.20 351 PKPab PKPab 05 11 29.0 -0.4
baz=16,slow=3.2
NOA NORSAR Array B 143.20 351 PKP PKPab 05 11 29.2 -0.2
comp=Z,69nm,0.9s,baz=15,slow=4.8,SNR=144
NOA SKPbc **SKiKP 05 14 24.3 +0.3**
comp=Z,3.7nm,0.6s,baz=14,slow=4.1,SNR=6.6
FOO Floro 143.29 356 *e* PKPab PKPab 05 11 29.8 +0.2
KTUT Trabzon 143.37 306 ⇑ P PKPbc 05 11 31.1 +0.2
NAO01 NORSAR Array S 143.43 351 *e* PKPbc PKPab 05 11 29.4 -0.8
NAO01 NORSAR Array S 143.43 351 PKPdf PKPbc 05 11 30.4 -0.1
NC602 NORSAR Array S 143.44 350 *e* PKPbc PKPab 05 11 29.8 -0.4
HYA Hoyanger 143.64 355 *e* PKPbc PKPab 05 11 30.9 -0.1
HFS Hagfors 143.65 348 PKP PKPab 05 11 30.6 -0.4
comp=Z,250nm,0.8s,baz=61,slow=3.7,SNR=531
HFS SKPbc **SKiKP 05 14 24.9 +0.1**
comp=Z,6.4nm,0.6s,baz=95,slow=3.0,SNR=1.9
SLIT Slitere, Latvi 143.73 340 *e* P PKPab 05 11 30.7 -0.7
SUE Sulen 143.85 356 *e* PKPab PKPbc 05 11 31.7 0.0
ANN Anapa 143.91 313 *d i* PKIKP PKPbc 05 11 32.4 -0.1
SKAR Skarslia 143.91 353 *e* PKPab PKPbc 05 11 32.0 -0.1
ISAL Salakas 143.98 335 *e* P **PKPdf 05 11 32.9 -0.3**
MNK Minsk 144.04 332 *i* PKIKP **PKPdf 05 11 33.2 -0.1**
MNK *i* 05 13 29.8
MNK *i* 05 14 18.2
MNK *i* P **PP 05 14 54.3 +0.8**
MNK *i* PPP PPP 05 18 10.9
MNK *i* SS SS 05 32 58.2 +0.8
MNK pmax pmax
comp=Z,567nm,1.0s
MNK pmax pmax
comp=E,21nm,1.0s
MNK pmax pmax
comp=N,184nm,1.0s
MNK MLR MLR
comp=E,15nm,20.0s
MNK MLR MLR
comp=N,468nm,20.0s
MNK MLR MLR
comp=Z,141nm,20.0s
MNK Minsk 144.04 332 *i* PKP **PKPdf 05 11 33.2 -0.1**
comp=E,21nm,1.0s
MNK *i* PKP **PKPdf 05 11 33.2 -0.1**
comp=N,184nm,1.0s
MNK *i* PKP **PKPdf 05 11 33.2 -0.1**
comp=Z,567nm,1.0s,baz=226
MNK *i* pPKP **pPKPdf 05 13 29.8 -0.6**
MNK *i* sPKP 05 14 18.2
MNK *i* SKP **SKPdf 05 14 20.4 +0.1**
MNK *i* PP **PP 05 14 54.4 +0.9**
MNK *i* PKS **PKSdf 05 15 08.8 +0.2**
MNK *i* SKS SKSdf 05 17 34.9 -20
MNK *i* PPP PPP 05 18 10.9
MNK *i* SKKS **SKKSdf 05 27 08.1 -2.0**
MNK *i* SS **SS 05 32 58.3 +0.8**
MNK *i* SSS SSS 05 37 29.8
MNK *i* LRM MLR 06 16 47.4
comp=E,15nm,20.4s
MNK *i* LRM MLR 06 16 49.3
comp=N,468nm,20.4s
MNK *i* LRM MLR 06 17 06.4
comp=Z,141nm,20.3s
IIGN Ignalina 144.11 334 *e* P **PKPdf 05 11 33.4 0.0**
NACGM Naroch 144.21 334 *i* PKP **PKPdf 05 11 33.5 -0.1**
OSL Oslo 144.33 351 *e* PKPbc PKPbc 05 11 33.2 -0.1
ASK Askoy 144.39 356 *e* PKPab PKPbc 05 11 33.4 0.0
BER Bergen 144.48 355 *e* PKPdf PKPbc 05 11 33.8 +0.1
KONO Kongsberg 144.76 352 *c i* PKIKP PKPbc 05 11 34.7 0.0
KONO pmax pmax
comp=Z,152nm,0.8s
KONO Kongsberg 144.76 352 *e* PKPbc **PKPdf 05 11 34.5 +0.1**
KONO Kongsberg 144.76 352 PKPdf **PKPdf 05 11 33.8 -0.6**
PABE Paberze 144.84 336 *e* P **PKPab 05 11 35.6 -0.1**
LRW Lerwick 144.91 1 *e* P **PKPdf 05 11 34.9 +0.3**
STRU Stroemstad 145.12 350 *i* P **PKPbc 05 11 35.6 -0.1**
PBUR Paburge 145.15 338 *e* P **PKPbc 05 11 36.1 +0.2**
BLS5 Blasjo 145.34 354 *e* PKPbc **PKPbc 05 11 36.8 +0.3**
KMY Karmoy 145.65 355 *e* PKPbc **PKPbc 05 11 37.7 +0.4**
AKASG Malin Array Be 145.90 326 PKPbc **PKPbc 05 11 37.9 -0.4**
comp=Z,89nm,0.5s,baz=46,slow=4.5,SNR=277
AKASG SKPbc **SKiKP 05 14 29.7 -0.1**
comp=Z,4.4nm,0.7s,baz=45,slow=2.3,SNR=4.1
SIM Simferopol' 146.04 314 *d i* PKIKP **PKPbc 05 11 38.4 -0.5**
SIM *i* **PKPab 05 11 40.4 -0.3**
SIM pmax pmax
comp=Z,177nm,0.7s
GAZ Gaziantep 146.10 300 PKPbc **PKPbc 05 11 38.6 -0.8**
BORU Boraas 146.16 348 *i* P **PKPbc 05 11 38.1 -0.7**
HOMB Homborsund 146.24 352 *i* P **PKPbc 05 11 39.0 +0.1**
HOMB Homborsund 146.24 352 *e* PKPbc **PKPbc 05 11 39.0 +0.1**
SUW Suwalki 146.28 335 *e* P **PKPbc 05 11 39.0 -0.3**
SNART Snartemo 146.33 353 *i* P **PKPbc 05 11 39.4 +0.1**
SNART Snartemo 146.33 353 *e* PKPbc **PKPbc 05 11 39.6 +0.3**
BIGH Upper Bighouse 146.46 4 *e* P **PKPbc 05 11 39.2 -0.4**
DIKM Dikmen 146.46 308 ⇓ P **PKPbc 05 11 40.9 +0.7**
ONAU Onsala 146.55 348 *i* P **PKPbc 05 11 39.4 -0.5**
LEWI Lewis, Hebride 146.56 7 *e* P **PKPbc 05 11 39.7 -0.2**
MLA1 Latheron 146.68 3 *e* P **PKPbc 05 11 39.9 -0.3**
BLEU Blekinge 146.70 344 *i* P **PKPbc 05 11 39.7 -0.6**
LINV Loch Inver, As 146.72 5 *e* P **PKPbc 05 11 40.0 -0.3**
FABU Falkenberg 146.76 347 *i* P **PKPbc 05 11 40.1 -0.4**
ASF Jabal al Asfar 146.92 291 PKPbc **PKiKP 05 11 42.9 -0.9**
comp=Z,135nm,0.9s,baz=260,slow=2.1,SNR=19
DEL Delary 147.01 346 *i* P **PKPbc 05 11 41.0 -0.1**
BZK Bozkurt 147.24 309 ⇓ P **PKPbc 05 11 41.2 -1.1**
KAC Achnashellach 147.35 5 *e* P **PKPbc 05 11 42.3 +0.3**
MCD Coleburn Disti 147.40 3 *e* P **PKPbc 05 11 41.9 -0.2**
KPL Plockton 147.48 6 *e* P **PKPbc 05 11 42.4 +0.1**
MDO Dochfour 147.48 4 *e* P **PKPbc 05 11 42.3 -0.1**
HWQ Hawqa 147.54 295 *e* P **PKPbc 05 11 43.9 +0.5**
BJUU Bjuv 147.56 346 *i* P **PKPbc 05 11 42.6 0.0**
RCY Rachaya 147.72 294 *e* P **PKiKP 05 11 44.9 -0.6**
BHL Bhannes 147.82 294 *e* P **PKPbc 05 11 44.8 +0.6**
QRWL Qaraoun 147.84 294 *e* P **PKiKP 05 11 45.3 -0.3**
SORM Soroca 147.90 323 ⇑ P **PKPbc 05 11 43.5 -0.2**
SORM Soroca 147.90 323 ⇑ PKP2 **PKPbc 05 11 43.5 -0.2**
MUD Monsted U'grnd 147.91 350 *i* P **PKPbc 05 11 42.8 -0.7**
MUD IAmb IAmb 05 11 44.5
comp=Z,42nm,0.7s
MUD Monsted U'grnd 147.91 350 *i* PKHKP PKPpre 05 11 42.7
MUD pmax pmax
comp=Z,42nm,0.7s
DQRL Deir Qamar 147.91 294 *e* P **PKiKP 05 11 45.5 -0.3**
PURM Purcari 147.93 320 ⇑ P **PKPbc 05 11 44.2 +0.3**
BSD Bornholm Skovb 148.00 344 *e* P **PKPbc 05 11 43.6 -0.1**
BSD Bornholm Skovb 148.00 344 ⇓ *i* P **PKPbc 05 11 43.8 -0.1**
BSD IAmb IAmb 05 11 44.5
comp=Z,102nm,1.0s
BSD Bornholm Skovb 148.00 344 ⇓ *i* PKP2 **PKPbc 05 11 43.7 -0.1**
BSD pmax pmax
comp=Z,100nm,1.0s
COP Copenhagen 148.05 347 ⇓ *i* P **PKPbc 05 11 44.1 +0.3**
COP IAmb IAmb 05 11 44.8
comp=Z,687nm,0.6s
COP Copenhagen 148.05 347 ⇓ *i* PKP2 **PKPbc 05 11 44.1 +0.3**
COP pmax pmax
comp=Z,690nm,0.6s
GHAJ Ghor Haditha 148.09 289 PKPbc **PKPbc 05 11 44.8 +0.1**
DRUM Mains of Drumt 148.11 3 *e* P **PKPbc 05 11 43.3 -0.7**
BRTR Keskin Array B 148.22 306 PKPbc **PKPbc 05 11 45.0 -0.1**
comp=Z,40nm,0.7s,baz=141,slow=4.5,SNR=87
BRTR Keskin Array B 148.22 306 PKIKP **PKPdf 05 11 40.0 -1.1**
BRTR Keskin Array B 148.22 306 PKPdf **PKPdf 05 11 40.0 -1.1**
KIS Kishinev 148.28 321 ⇓ *i* PKP **PKPbc 05 11 44.7 -0.1**
comp=Z,160nm,1.7s
KIS Kishinev 148.28 321 *c i* PKP2 **PKPbc 05 11 44.7 -0.1**
KIS pmax pmax
comp=Z,160nm,1.7s
MILM Milestii Mici 148.33 321 ⇑ P **PKPbc 05 11 44.6 -0.2**

EDU Dundee 148.45 3 eP PKPbc 05 11 44.9 +0.1
INVG Invergeldie, C 148.51 4 eP PKPbc 05 11 45.0 0.0
ANTO Ankara 148.80 306 PKIKP PKPdf 05 11 41.2 -0.6
ANTO PKPab 05 11 52.6 +0.4
ANTO Ankara 148.80 306 PKPdf PKPdf 05 11 41.2 -0.6
ANTO PKPbc PKPbc 05 11 46.8 +0.4
ANTO PKPab PKPab 05 11 52.6 +0.4
IAS Iasi 148.88 322 ⇑P PKPbc 05 11 46.2 -0.1
IAS Iasi 148.88 322 ⇑PKHKP PKPpre 05 11 46.2
BEL Belsk 148.89 335 ePKPbc PKiKP 05 11 47.0 -0.1
GKP Gorka Klasztor 148.96 340 ePKPbc PKiKP 05 11 46.8 -0.4
GKP Gorka Klasztor 148.96 340 eP PKiKP 05 11 46.8 -0.4
LVV L'vov 149.00 329 ePKHKP PKPpre 05 11 46.1
EDI Edinburgh 149.06 3 eP PKPbc 05 11 46.1 -0.3
PGBU Glenifferbraes 149.09 5 eP PKPbc 05 11 46.2 -0.3
ESY Stoneypath 149.10 3 eP PKPbc 05 11 46.6 +0.1
EBL Broad Law 149.22 3 eP PKPbc 05 11 46.9 +0.1
JURR Jurilovca 149.43 317 ⇑P PKiKP 05 11 49.0 +0.6
SCTR Scanteiesti 149.49 320 ⇓P PKPbc 05 11 46.5 -1.2
PRAR RASCA 149.51 324 ⇓P PKiKP 05 11 48.4 -0.2
LNIZ Loecknitz 149.64 343 ePKPbc PKiKP 05 11 48.6 +0.1
baz=23,slow=2.1
EKA Eskdalemuir Ar 149.65 4 PKP PKPdf 05 11 42.3 -0.3
comp=Z,2.4nm,0.6s,baz=316,slow=1.5,SNR=4.9
EKA PKPbc PKPbc 05 11 47.6 -0.2
comp=Z,7.2nm,0.4s,baz=359,slow=3.7,SNR=75
EKA pPKPbc pPKPab 05 13 46.6 -0.3
comp=Z,9.3nm,0.8s,baz=344,slow=2.1,SNR=7.7
ESK Eskdalemuir 149.67 4 eP PKPbc 05 11 47.5 -0.4
ESK Eskdalemuir 149.67 4 PKHKP PKPpre 05 11 47.7
ESK Eskdalemuir 149.67 4 PKPbc 05 11 47.7 -0.2
CFR Carcaliu 149.67 319 ⇑P PKPbc 05 11 47.4 -0.8
CFR Carcaliu 149.67 319 ⇑PKHKP PKPpre 05 11 47.4
SCHL Schela 149.68 319 ⇑P PKiKP 05 11 52.1 +3.2
IZVR Izvoarele 149.69 319 ⇓P PKiKP 05 11 49.8 +0.9
KWP Kalwaria Pacla 149.74 330 ePKPdf PKPdf 05 11 43.4 +0.5
KWP ePKPbc PKiKP 05 11 49.0 0.0
NEWG New Galloway 149.80 5 eP PKPbc 05 11 47.8 -0.4
BIZ Bicaz 149.83 323 ⇓P PKPbc 05 11 46.1 -2.4
BURAR Bucovina Array 149.88 325 ⇓P PKPbc 05 11 46.8 -2.0
BURAR Bucovina Array 149.88 325 ⇓P PKiKP 05 11 49.6 +0.2
BURAR Bucovina Array 149.88 325 ⇓PKHKP PKPpre 05 11 46.8
LEF Lefka 149.91 297 ⇓P PKPbc 05 11 47.8 -1.3
EFOR EFORIE 149.93 316 ⇑P PKiKP 05 11 50.1 +0.6
ODBI Odobesti 149.98 320 ⇓P PKiKP 05 11 50.3 +0.7
GAL1 Galloway 150.01 5 eP PKPbc 05 11 48.5 -0.1
MFTR Murfatlar 150.01 317 ⇑P PKiKP 05 11 49.6 -0.1
HARR Harsova 150.05 318 ⇓P PKiKP 05 11 49.6 -0.1
HARR Harsova 150.05 318 ⇓PKHKP PKPpre 05 11 49.6
MANR Mangalia 150.09 316 ⇑P PKiKP 05 11 50.1 +0.2
BSEG Bad Segeberg 150.12 348 ePKPbc PKiKP 05 11 49.6 +0.1
baz=23,slow=2.1
EDMD Edmundbyers 150.21 2 eP PKPbc 05 11 49.1 0.0
GRER 150.25 320 ⇓P PKiKP 05 11 52.5 +2.3
BISRR Bisoca 150.31 320 ⇓P PKiKP 05 11 51.7 +1.4
KESW Keswick, Cumbr 150.40 4 eP PKPbc 05 11 49.7 +0.1
ICOR Ion Corvin 150.43 317 ⇑P PKiKP 05 11 51.3 +0.7
KOLS Kolonicke sedl 150.44 330 ePKIKP PKPdf 05 11 44.5 +0.4
KOLS Kolonicke sedl 150.44 330 ePKP PKPdf 05 11 44.4 +0.4
KOLS e PKiKP 05 11 51.0 +0.6
AMRR Amara 150.45 318 ⇑P PKiKP 05 11 51.4 +0.8
AMRR Amara 150.45 318 ⇑PKIKP PKiKP 05 11 51.4 +0.8
OZUR 150.51 322 ⇓P PKiKP 05 11 51.3 +0.6
OJC Ojcow 150.54 334 ePKPdf PKPdf 05 11 44.5 +0.3
OJC ePKiKP PKiKP 05 11 50.6 0.0
OJC epPKPbc pPKPab 05 13 50.3 -0.1
OJC Ojcow 150.54 334 PKIKP PKPdf 05 11 43.3 -0.9
OJC Ojcow 150.54 334 PKPdf PKPdf 05 11 43.3 -0.9
OJC PKPbc PKPbc 05 11 50.2 +0.1
STHS Stebnicka Huta 150.55 331 ePKIKP PKPbc 05 11 50.2 0.0
STHS Stebnicka Huta 150.55 331 ePKP PKPbc 05 11 50.2 0.0
NEHR Nehoiu 150.62 320 ⇑P PKiKP 05 11 50.9 -0.1
IOMK Kirk Michael 150.62 5 eP PKPbc 05 11 49.9 -0.2
ISR Istrita 150.65 320 ⇓P PKiKP 05 11 51.0 -0.1
ISR Istrita 150.65 320 ⇓PKIKP PKiKP 05 11 51.0 -0.1
UZH Uzhgorod 150.65 329 ePKIKP PKPbc 05 11 48.2 -2.2
UZH i PKPab 05 11 59.0 -0.4
RUE Ruedersdorf 150.66 343 ePKPbc PKiKP 05 11 50.7 0.0
baz=23,slow=2.1
ARCR ARCALIA 150.67 325 ⇑P PKiKP 05 11 53.6 +2.6
WIM Isle of Man 150.72 6 eP PKPbc 05 11 50.2 -0.2
BMR Baia Mare 150.73 327 ⇓P PKPbc 05 11 49.2 -1.4
BMR Baia Mare 150.73 327 ⇓PKIKP PKPbc 05 11 49.2 -1.4
MLR Muntele Rosu 150.78 321 ⇑P PKiKP 05 11 54.6 +3.2
MLR Muntele Rosu 150.78 321 PKP PKPdf 05 11 44.1 -0.7
comp=Z,5.4nm,1.0s,baz=335,slow=3.6,SNR=8.7
MLR PKPbc PKPbc 05 11 50.8 -0.1
comp=Z,32nm,0.5s,baz=342,slow=6.9,SNR=70
DOPR Dopca 150.81 322 ⇑P PKiKP 05 11 52.0 +0.7
CRVS Cervenica-Dubn 150.83 330 ePKIKP PKPdf 05 11 44.8 +0.1
CRVS e PKPab 05 12 01.1 +0.8
CRVS Cervenica-Dubn 150.83 330 ePKP PKPdf 05 11 44.8 +0.1
CRVS e PKiKP 05 11 51.5 +0.2
CRVS e PKPab 05 12 01.1 +0.8
NIE Niedzica 150.95 332 ePKPdf PKPdf 05 11 46.5 +1.6
NIE ePKPbc PKiKP 05 11 52.8 +1.3
SECR 150.97 320 ⇓P PKiKP 05 11 51.7 0.0
HPK Haverah Park 151.09 2 eP PKPbc 05 11 51.3 +0.1
CBBR Cluj-Babes-Bol 151.30 325 ⇑P PKiKP 05 11 52.7 +0.4
CJR Cluj-Napoca 151.31 325 ⇓P PKiKP 05 11 52.7 +0.3
CJR Cluj-Napoca 151.31 325 ⇓PKIKP PKiKP 05 11 52.7 +0.3
KSP Ksiaz 151.33 338 ePKPdf PKPdf 05 11 45.7 +0.4
KSP ePKPbc PKiKP 05 11 52.8 +0.5
KSP ePKPab PKPab 05 12 02.9 +0.6
KSP epPKPbc pPKPab 05 13 53.1 -0.7
MESR Meseseni 151.35 326 ⇓P PKiKP 05 11 52.8 +0.4
FLTG Flechtingen 151.43 345 ePKPbc PKiKP 05 11 52.2 -0.1
baz=23,slow=2.1
OKC Ostrava-Krasne 151.49 335 ePKIKP PKiKP 05 11 53.0 +0.4
OKC e PKPab 05 12 04.1 +1.1
OKC Ostrava-Krasne 151.49 335⇑ePKP PKiKP 05 11 53.0 +0.4
OKC ePKPAB PKPab 05 12 04.1 +1.1
WME Myndd Eilian 151.50 5 eP PKPbc 05 11 51.5 -0.6
LANS Liptovska Anna 151.51 333 ePKIKP PKPdf 05 11 46.5 +0.8
LANS Liptovska Anna 151.51 333 ePKP PKPdf 05 11 46.5 +0.8
LANS e PKiKP 05 11 53.9 +1.2
RAZG Razgrad 151.51 317 ⇓P PKiKP 05 11 53.3 +0.5
NRDL Niedersach Rie 151.53 347 ePKPbc PKiKP 05 11 52.6 +0.2
baz=23,slow=2.1
NRDL ePKPab PKPab 05 12 03.2 +0.3
baz=23,slow=2.1
KECS Kecovo 151.58 331 ePKIKP PKiKP 05 11 53.6 +0.8
KECS e PKPab 05 12 04.0 +0.6
KECS Kecovo 151.58 331 ePKP PKiKP 05 11 53.6 +0.8
KECS e PKPab 05 12 04.0 +0.6
ARR Arges 151.60 322 ⇑P PKiKP 05 11 54.2 +1.2
OSTC Ostas 151.60 338 ePKPDF PKPdf 05 11 46.4 +0.6
OSTC ⇑ePKP PKiKP 05 11 53.1 +0.3
YRC Rhoscolyn 151.62 6 eP PKPbc 05 11 51.7 -0.7
CHVC Chvalec 151.63 338 ePKPDF PKPdf 05 11 46.2 +0.4
CHVC ⇑ePKP PKiKP 05 11 53.2 +0.3
LBWR Ladybower, Pea 151.65 2 eP PKPbc 05 11 52.4 -0.1
LTVH Ltavrtes, Hu 151.71 328 ⇑P PKiKP 05 11 53.7 +0.6
UPC Upice 151.71 338 ePKIKP PKiKP 05 11 53.2 +0.2
UPC e PKKPab 05 12 04.7
UPC Upice 151.71 338⇑ePKP PKiKP 05 11 53.2 +0.2
UPC ePKPAB PKPab 05 12 04.7 +0.8
DRGR 151.72 326 ⇓P PKPbc 05 11 52.4 -0.6
DRGR 151.72 326 ⇓PKIKP PKPbc 05 11 52.4 -0.6
DPC Dobruska-Polom 151.74 338 ePKIKP PKPdf 05 11 46.1 +0.1
DPC e PKKPab 05 12 05.1
DPC Dobruska-Polom 151.74 338 ePKPDF PKPdf 05 11 46.1 +0.1
DPC ⇑ePKP PKiKP 05 11 53.2 +0.1
DPC ePKPAB PKPab 05 12 05.1 +1.0
ASSE Asse, Remlinge 151.75 346 ePKPbc PKiKP 05 11 53.2 +0.3
baz=23,slow=2.1
ASSE ePKPab PKPab 05 12 04.1 +0.2
baz=23,slow=2.1
YLL Llanberis 151.77 5 eP PKPbc 05 11 52.1 -0.6
MORC Moravsky Berou 151.77 336 ⇑P PKiKP 05 11 53.6 +0.3
MORC Moravsky Berou 151.77 336 ⇑PKIKP PKiKP 05 11 53.6 +0.3
MORC Moravsky Berou 151.77 336 ePKP PKPdf 05 11 46.1 0.0
MORC e PKiKP 05 11 53.5 +0.3
KRLC Kraliky 151.81 337 ePKIKP PKiKP 05 11 53.8 +0.5
KRLC e PKPab 05 12 05.2 +0.8
KRLC Kraliky 151.81 337⇑ePKP PKiKP 05 11 53.8 +0.5
KRLC ePKPAB PKPab 05 12 05.2 +0.8
CLL Collm 151.93 342 ePKPdf PKPdf 05 11 47.0 +0.8
CLL ⇓iPKPbc PKiKP 05 11 53.5 +0.1
comp=Z,126nm,0.8s
CLL ⇑iPKPab PKPab 05 12 05.2 +0.5
comp=Z,60nm,0.9s
CLL epPKPbc pPKPbc 05 13 51.0 +1.5
CLL epPKiKP pPKPab 05 13 55.0 -1.3
CLL Collm 151.93 342⇓ePKIKP PKPdf 05 11 47.0 +0.8
CLL i PKPab 05 12 05.2 +0.5
CLL pmax pmax
comp=Z,126nm,0.8s
CLL pmax pmax
comp=Z,60nm,0.9s
CLL Collm 151.93 342 ePKPbc PKiKP 05 11 53.5 +0.1
baz=23,slow=2.1
STNC Stoke 151.94 3 eP PKiKP 05 11 53.4 +0.1
BRG Berggiesshubel 152.05 341 ePKPbc PKiKP 05 11 53.8 +0.2
baz=23,slow=2.1
BRG ePKPab PKPab 05 12 05.5 +0.3
baz=23,slow=2.1
CLZ Clausthal 152.08 346 ePKPbc PKiKP 05 11 53.9 +0.1
baz=23,slow=2.1
FOEL Foel Wylfa 152.09 4 eP PKPbc 05 11 53.5 0.0
IBBN Ibbenburen 152.13 350 ePKPbc PKiKP 05 11 54.2 +0.4
baz=23,slow=2.1
IBBN ePKPab PKPab 05 12 05.8 +0.2
baz=23,slow=2.1
PVCC Panska Ves 152.16 340 ePKIKP PKiKP 05 11 53.9 0.0
PVCC e PKPab 05 12 06.6 +0.8
PVCC Panska Ves 152.16 340⇑ePKP PKiKP 05 11 53.9 0.0
PVCC ePKPAB PKPab 05 12 06.6 +0.8
FBE Freiberg 152.18 342 ePKPbc PKiKP 05 11 54.1 +0.2
baz=23,slow=2.1
FBE ePKPab PKPab 05 12 06.5 +0.7
baz=23,slow=2.1
AKAS Kas 152.26 301 PKPbc 05 11 53.9 -0.7
VYHS Vyhne 152.28 332 ePKIKP PKiKP 05 11 54.3 0.0
VYHS e PKPab 05 12 07.2 +0.8
VYHS Vyhne 152.28 332 ePKP PKiKP 05 11 54.2 0.0
VYHS e PKPab 05 12 07.2 +0.8
CWF Charnwood Fore 152.32 2 eP PKPbc 05 11 53.7 -0.3
NEUB Neuenburg 152.34 344 ePKPbc PKiKP 05 11 54.5 +0.3
baz=23,slow=2.1
NEUB ePKPab PKPab 05 12 06.7 +0.2
baz=23,slow=2.1
GTTG Gottingen 152.45 346 ePKPbc PKiKP 05 11 54.6 +0.1
baz=23,slow=2.1
GTTG ePKPab PKPab 05 12 06.9 0.0
baz=23,slow=2.1
JAVC Velka Javorina 152.47 334 ePKP PKPdf 05 11 48.4 +1.2
JAVC e PKiKP 05 11 56.0 +1.3
HLM1 Long Mynd 152.48 4 eP PKPbc 05 11 54.0 -0.4
VRAC Vranov 152.51 336 PKP PKPdf 05 11 46.8 -0.3
comp=Z,5.0nm,1.1s,baz=105,slow=3.3,SNR=5.7
VRAC PKPbc PKPbc 05 11 54.2 -0.4
comp=Z,15nm,1.0s,baz=44,slow=1.5,SNR=3.6
VRAC PKPab PKPab 05 12 07.6 +0.2
comp=Z,26nm,0.8s,baz=41,slow=4.3,SNR=20
VRAC Vranov 152.51 336 ePKP PKPdf 05 11 47.0 -0.1
VRAC e PKiKP 05 11 54.9 +0.2
VRAC e PKPab 05 12 07.9 +0.6
GZR Gura Zlata 152.60 324 ⇓P PKPbc 05 11 54.9 -0.1
GZR Gura Zlata 152.60 324 ⇓PKIKP PKPbc 05 11 54.9 -0.1
SIRR Siria 152.60 326 ⇑P PKPbc 05 11 53.4 -1.5
PRA Prague 152.60 340 ePKIKP PKiKP 05 11 55.2 +0.4
PRA e PKPab 05 12 08.5 +0.9
PRA Prague 152.60 340⇑ePKP PKiKP 05 11 55.2 +0.4
PRA ePKPAB PKPab 05 12 08.5 +0.9
PRU Pruhonice 152.64 339 ePKIKP PKPbc 05 11 53.3 -1.5
PRU e PKPab 05 12 08.6 +0.8
PRU Pruhonice 152.64 339⇑ePKP PKPbc 05 11 53.3 -1.5
PRU ePKPAB PKPab 05 12 08.6 +0.8
KRUC Moravsky 152.79 336 ePKP PKPdf 05 11 47.3 -0.2
KRUC e PKiKP 05 11 55.4 +0.1
KRUC 05 12 09.0
SMOL Smolenice 152.84 334 ePKIKP PKiKP 05 11 56.3 +0.9
SMOL Smolenice 152.84 334 ePKP PKiKP 05 11 56.3 +0.9
SMOL e PKPab 05 12 10.0 +1.3
TANN Tannenbergstha 152.88 342 ePKPdf PKPdf 05 11 47.9 +0.2
baz=23,slow=2.1
TANN ePKPbc PKPbc 05 11 55.5 +0.1
baz=23,slow=2.1
WERD Werda 152.90 343 ePKPbc PKiKP 05 11 55.5 +0.1
baz=23,slow=2.1
MOX Moxa 152.90 344 ePKPbc PKiKP 05 11 55.7 +0.3
baz=23,slow=2.1
MOX ePKPab PKPab 05 12 09.2 +0.3
baz=23,slow=2.1
PLN Plauen 152.90 343 ePKPbc PKiKP 05 11 55.7 +0.2
baz=23,slow=2.1
PLN ePKPab PKPab 05 12 09.3 +0.4
baz=23,slow=2.1
GUNZ Gunzen 152.97 342 ePKPab PKPab 05 12 09.7 +0.5
baz=23,slow=2.1
MCH1 Michaelchurch 152.99 4 eP PKPbc 05 11 55.0 -0.4
WERN Wernitzgruen 153.02 342 ePKPab PKPab 05 12 10.4 +0.9
baz=23,slow=2.1
SRO Srobarova 153.03 332 ePKIKP PKiKP 05 11 56.1 +0.3
SRO e 05 12 10.6
SRO Srobarova 153.03 332 ePKP PKiKP 05 11 56.1 +0.3
SRO e 05 12 10.6
NKC Novy Kostel 153.05 342 ePKIKP PKPbc 05 11 55.6 -0.1
NKC e 05 12 09.8
NKC Novy Kostel 153.05 342⇑ePKP PKPbc 05 11 55.6 -0.1
NKC ePKPAB PKPab 05 12 09.8 +0.2
BZS Buzias 153.07 325 ⇓P PKPbc 05 11 54.8 -1.1
BZS Buzias 153.07 325 ⇓PKIKP PKPbc 05 11 54.8 -1.1
PBCC Pribram 153.08 340⇑ePKP PKPbc 05 11 55.1 -0.7
PBCC ePKPAB PKPab 05 12 10.1 +0.4
KASTN Kahler Asten 153.08 348 ePKPbc PKiKP 05 11 56.1 +0.2
baz=23,slow=2.1
UBBA Unterbreizbach 153.12 346 ePKPdf PKPdf 05 11 47.8 0.0
baz=23,slow=2.1
UBBA ePKPbc PKiKP 05 11 56.0 +0.2
baz=23,slow=2.1
ZST Bratislava 153.22 334 ePKIKP PKPdf 05 11 49.1 +0.9
ZST e PKPab 05 12 11.6 +1.2
ZST Bratislava 153.22 334 ePKP PKPdf 05 11 49.1 +0.9
ZST e PKiKP 05 11 56.6 +0.4
ZST e PKPab 05 12 11.6 +1.2
MANZ Manzenberg 153.37 342 ePKPdf PKPdf 05 11 48.1 -0.3
baz=23,slow=2.1
MANZ ePKPbc PKiKP 05 11 56.6 +0.1
baz=23,slow=2.1
ROTZ Rotzenmuhle 153.54 342 ePKPab PKPab 05 12 12.3 +0.6
baz=23,slow=2.1
KHC Kasperske Hory 153.70 340 ePKIKP PKPdf 05 11 48.4 -0.5
KHC e PKPab 05 12 13.2 +0.8
KHC Kasperske Hory 153.70 340 ePKPDF PKPdf 05 11 48.4 -0.5
KHC ⇑ePKP PKiKP 05 11 57.3 +0.1
KHC ePKPAB PKPab 05 12 13.2 +0.8
CKRC Cesky Krumlov 153.73 338 ePKPDF PKPdf 05 11 48.4 -0.5
CKRC ⇑ePKP PKiKP 05 11 57.3 0.0
CKRC ePKPAB PKPab 05 12 13.1 +0.6
GRFO Grafenberg 153.88 343 PKIKP PKPdf 05 11 49.2 +0.1
GRFO PKPab 05 12 13.6 +0.5
GRFO Grafenberg 153.88 343 PKPdf PKPdf 05 11 49.1 +0.1
GRFO PKPab 05 12 13.6 +0.5
WET Wettzell 153.90 341 ePKPab PKPab 05 12 13.9 +0.7
baz=23,slow=2.1
GEC2 GERESS Array S 153.91 339 ePKPbc PKiKP 05 11 57.8 0.0
baz=23,slow=2.1
GERES GERESS Array B 153.91 339 PKP PKPdf 05 11 49.1 -0.2
comp=Z,5.5nm,1.0s,baz=90,slow=2.0,SNR=28
GERES PKPbc PKiKP 05 11 58.0 +0.2
comp=Z,8.2nm,0.8s,baz=48,slow=2.0,SNR=25
GERES PKPab PKPab 05 12 13.6 +0.2
comp=Z,9.0nm,0.6s,baz=37,slow=4.0,SNR=12
BEBN Eben Emael 153.91 352 dPKPab PKPab 05 12 13.4 +0.2
CONA Conrad Observa 153.93 335 eP PKPdf 05 11 49.0 -0.3
comp=Z,9.5nm,0.9s
CONA eP PKiKP 05 11 58.1 +0.3
comp=Z,12nm,0.7s
CONA eP PKPab 05 12 14.4 +0.9
comp=Z,40nm,0.8s
AHRW Bad Neuenahr-A 153.95 350 ePKPbc PKiKP 05 11 58.0 +0.4
baz=23,slow=2.1
TNS Taunus Mts 154.01 348 ePKPbc PKiKP 05 11 58.0 +0.2
baz=23,slow=2.1
MEM Membach 154.05 351 dPKPdf PKPdf 05 11 49.3 +0.1
MEM dPKPbc PKPbc 05 11 57.8 0.0
MEM dPKPab PKPab 05 12 13.8 0.0
BTNL Ternell 154.05 351 dPKPbc PKPbc 05 11 57.7 -0.2
BTNL dPKPab PKPab 05 12 13.6 -0.2
UCC Uccle 154.06 354 dPKPbc PKiKP 05 11 58.1 +0.4
UCC dPKPab PKPab 05 12 13.9 +0.1
BSTI Sart Tilman 154.13 352 dPKPbc PKiKP 05 11 58.0 +0.1
BSTI dPKPab PKPab 05 12 14.2 +0.1
MILB Miltenberg 154.21 346 ePKPdf PKPdf 05 11 49.5 0.0
baz=23,slow=2.1
MILB ePKPbc PKPbc 05 11 58.2 0.0
baz=23,slow=2.1
BHOU Houvegnez 154.30 351 dPKPab PKPab 05 12 14.8 -0.1
FRGS Fruska Gora 154.31 326 ⇓P PKPbc 05 11 58.8 +0.2
BCLA Clavier 154.33 352 dPKPab PKPab 05 12 14.7 -0.3
SNF Seneffe 154.35 354 dPKPbc PKPbc 05 11 58.7 +0.3
SNF dPKPab PKPab 05 12 15.1 0.0
BGES Gesves 154.39 352 dPKPab PKPab 05 12 14.9 -0.3
BMRD Maredsous 154.51 353 dPKPbc PKPbc 05 11 59.1 +0.3
BMRD dPKPab PKPab 05 12 15.7 0.0
MOA Molln 154.58 337 eP PKPdf 05 11 49.5 -0.6
comp=Z,8.6nm,1.0s
MOA eP PKiKP 05 11 59.1 0.0
comp=Z,8.2nm,1.1s
MOA eP PKPab 05 12 16.8 +0.6
comp=Z,22nm,1.0s,SNR=5.5
ARSA Arzberg 154.61 335 i P PKPdf 05 11 49.3 -0.9
comp=Z,7.5nm,1.0s
ARSA eP PKiKP 05 11 58.8 -0.3
comp=Z,4.4nm,1.0s
ARSA eP PKPab 05 12 16.7 +0.3
comp=Z,11nm,0.9s
DOU Dourbes 154.73 353 dP PKPab 05 12 16.5 -0.2
DIVS Divibare 154.95 324 PKPdf PKPdf 05 11 50.3 -0.5
DIVS PKPab PKPab 05 12 17.4 -0.6
WLF Walferdange 154.95 350 dPKPdf PKPdf 05 11 51.1 +0.6
WLF dPKPbc PKPbc 05 12 00.6 +0.8
WLF dPKPab PKPab 05 12 17.6 0.0
WLF Walferdange 154.95 350 ePKPab PKPab 05 12 18.1 +0.4
baz=23,slow=2.1
APE Apeiranthos 155.11 305 ⇓P PKPdf 05 11 52.4 +1.2
APE Apeiranthos 155.11 305 ⇓PKIKP PKPdf 05 11 52.4 +1.2
VAY Valandovo 155.18 316 ePg PKPab 05 12 19.3 +0.3
STU Stuttgart 155.23 345 ePKPdf PKPdf 05 11 51.0 +0.1
baz=23,slow=2.1
STU ePKPbc PKPab 05 12 00.6 -18
baz=23,slow=2.1
STU ePKPab PKPab 05 12 19.3 +0.4
baz=23,slow=2.1
FUR Furstenfeldbru 155.25 342 ePKPab PKPab 05 12 19.7 +0.6
baz=23,slow=2.1
SOKA Soboth 155.28 335 eP PKPdf 05 11 50.4 -0.8
comp=Z,11nm,1.1s
SOKA eP PKPab 05 12 19.3 0.0
comp=Z,39nm,1.1s,SNR=5.9
PERS Pernice 155.28 334 i PKPdf PKPdf 05 11 50.1 -1.1
PERS e 05 11 59.3
PERS i PKPab PKPab 05 12 19.1 -0.2
SANT Santorini 155.41 303 PKPdf PKPdf 05 11 49.9 -1.8
SANT PKPab PKPab 05 12 19.3 -1.0
SKO Skopje 155.49 319 ePg PKPab 05 12 21.6 +1.3
KBA Koelnbreinsper 155.56 338 eP PKPdf 05 11 50.6 -1.1
comp=Z,16nm,0.9s
GCIS Gornji Cirnik 155.70 333 ePKPdf PKPdf 05 11 51.4 -0.3
GCIS e 05 12 01.3
GCIS ePKPab PKPab 05 12 20.5 -0.6
BFO Black Forest 155.84 346 PKIKP PKPdf 05 11 50.7 -1.1
BFO PKPab PKPab 05 12 21.7 +0.1
BFO Black Forest 155.84 346 PKPdf PKPdf 05 11 50.7 -1.1
BFO PKPab PKPab 05 12 21.7 +0.1
BFO Black Forest 155.84 346 ePKPbc PKPdf 05 12 01.7 +10
baz=23,slow=2.1
BFO ePKPab PKPab 05 12 21.5 -0.1
baz=23,slow=2.1
MYKA Terra Mystica 155.84 337 eP PKPab 05 12 21.4 -0.3
comp=Z,200nm,0.6s,SNR=5.6
WATA Walderalm 155.91 340 eP PKPdf 05 11 51.2 -0.8
comp=Z,11nm,1.1s
WATA eP PKPab 05 12 22.5 +0.4
comp=Z,27nm,0.5s,SNR=8.1
WTTA Wattenberg 155.96 340 eP PKPdf 05 11 51.6 -0.6
comp=Z,11nm,0.9s,SNR=6.0
WTTA eP PKPab 05 12 22.9 +0.6
comp=Z,44nm,0.6s,SNR=7.4
LJU Ljubljana 156.00 334 ePKPdf PKPdf 05 11 51.6 -0.5
LJU ePKPab PKPab 05 12 19.8 -2.5
RETA Reutte 156.01 342 eP PKPab 05 12 22.9 +0.5
comp=Z,39nm,0.8s,SNR=12
UBR Ueberruh 156.01 343 ePKPdf PKPdf 05 11 51.8 -0.3
baz=23,slow=2.1
UBR ePKPab PKPab 05 12 22.2 -0.3
baz=23,slow=2.1
MOTA Moosalm 156.04 341 i P PKPdf 05 11 51.4 -0.9
comp=Z,13nm,1.0s,SNR=5.9
MOTA eP PKPab 05 12 22.9 +0.2
comp=Z,38nm,0.9s,SNR=10
SQTA Sankt Quirin 156.12 341 eP PKPdf 05 11 51.8 -0.6
comp=Z,13nm,1.0s
SQTA eP PKPab 05 12 23.4 +0.4
comp=Z,33nm,0.7s,SNR=9.5
ABTA Abfaltersbach 156.13 338 i P PKPdf 05 11 51.4 -0.9
comp=Z,16nm,0.9s,SNR=8.2
ABTA i P PKPab 05 12 22.6 -0.5
comp=Z,30nm,0.9s,SNR=6.6
IDI Anoyia 156.21 301 PKP PKPdf 05 11 53.2 +0.5
comp=Z,12nm,1.0s,baz=94,slow=3.3,SNR=6.7
IDI PKPab PKPab 05 12 24.5 +0.7
comp=Z,21nm,0.7s,baz=76,slow=5.6,SNR=8.5
DAVA Damuels 156.44 343 eP PKPdf 05 11 52.3 -0.5
comp=Z,8.8nm,1.1s
DAVA eP PKPab 05 12 24.8 +0.5
comp=Z,28nm,0.7s,SNR=6.9
FETA Feichten 156.44 341 eP PKPdf 05 11 52.3 -0.5
comp=Z,17nm,1.1s,SNR=8.1
FETA eP PKPab 05 12 24.8 +0.4
comp=Z,35nm,1.1s
UDBI Udbina 156.70 330 ePKP PKPdf 05 12 03.5 +10
KIJV Kijevo 156.81 329 ePKP PKPdf 05 12 03.2 +10
RICI Ricice 156.84 327 ePKP PKPdf 05 12 03.5 +10
DAVOX Davos/Dischmat 156.90 342 PKP PKPdf 05 11 53.0 -0.5
comp=Z,2.9nm,0.7s,baz=316,slow=6.1,SNR=6.7
DAVOX PKPab PKPab 05 12 27.5 +1.0
comp=Z,39nm,0.7s,baz=0.8,slow=1.7,SNR=27
DAVOX Davos/Dischmat 156.90 342 PKIKP PKPdf 05 11 53.0 -0.5
MORI Morici 157.24 330 ePKP PKPdf 05 12 04.4 +11
TEOL Teolo 157.63 338 PKPdf PKPdf 05 11 53.0 -1.1
TEOL PKPab PKPab 05 12 29.4 0.0
SSB Saint Sauveur 159.47 351 PKIKP PKPdf 05 11 56.2 -0.1
SSB 05 12 37.1
SSB Saint Sauveur 159.47 351 PKPdf PKPdf 05 11 56.2 -0.1
SSB PKPab PKPab 05 12 37.1 -0.3
LIC Lamto 160.69 165 eP PKPdf 05 11 58.0 -0.6
comp=Z,71nm,1.3s
LIC Lamto 160.69 165 eP PKPab 05 12 44.0 +0.6
comp=Z,65nm,1.3s
KIC Kosan Boka 160.89 166 eP PKPdf 05 11 59.3 +0.5
comp=Z,56nm,1.3s
KIC Kosan Boka 160.89 166 eP PKPab 05 12 45.9 +1.6
comp=Z,36nm,0.8s
TIC Toumodi 161.10 165 eP PKPdf 05 11 59.5 +0.5
TIC Toumodi 161.10 165 eP PKPab 05 12 46.8 +1.6
DBIC Dimbokro 161.16 165 PKP PKPdf 05 11 58.3 -0.7
comp=Z,11nm,1.0s,baz=69,slow=1.1,SNR=5.8
DBIC PKPab PKPab 05 12 45.1 -0.3
comp=Z,13nm,1.0s,baz=181,slow=5.9,SNR=4.6
DBIC Dimbokro 161.16 165 PKPdf 05 11 58.0 -1.1
DBIC PKPab PKPab 05 12 44.5 -1.0
PGAV Gavieira, Arco 161.80 20 ePKPdf PKPdf 05 11 59.8 +0.8
PBRG Braganca 162.38 17 ePKPab PKPab 05 12 51.1 +0.8
PVRL Vila Real 162.59 20 ePKPdf PKPdf 05 12 00.9 +1.1
MVO Moncorvo 162.90 18 ePKPdf PKPdf 05 12 01.4 +1.3
PCAS Casmilo, Conde 163.43 23 ePKPdf PKPdf 05 12 01.6 +1.1
MTE Manteigas 163.45 20 ePKPdf PKPdf 05 12 01.3 +0.7
PCBR Castelo Branco 163.97 21 ePKPdf PKPdf 05 12 01.9 +0.9
PMAFR Mafra 164.08 27 ePKPdf PKPdf 05 12 02.5 +1.3
PMRV Marv??o 164.37 22 ePKPdf PKPdf 05 12 02.1 +0.7
PMTG Montargil 164.40 24 ePKPdf PKPdf 05 12 01.9 +0.5
PESTR Estremoz 164.81 23 ePKPdf PKPdf 05 12 02.4 +0.6
PESTR Estremoz 164.81 23 ePKPab PKPab 05 13 01.1 0.0
PESTR Estremoz 164.81 23 PKPdf 05 12 01.0 -0.8
PESTR PKPab PKPab 05 13 00.7 -0.3
EVO Evora 164.95 25 ePKPdf PKPdf 05 12 02.9 +1.0
ESDC Sonseca Array 165.04 12 PKP PKPdf 05 12 02.8 +0.8
comp=Z,1.0nm,0.8s,baz=0.2,slow=3.3,SNR=6.1
ESDC PKPab PKPab 05 13 02.5 +0.5
comp=Z,6.0nm,0.8s,baz=339,slow=4.5,SNR=23
PNCL Nicolau / Gran 165.11 27 ePKPdf PKPdf 05 12 03.0 +1.0
PBEJ Beja 165.45 25 ePKPdf PKPdf 05 12 03.4 +1.0
MESJ Messejana 165.47 27 ePKPdf PKPdf 05 12 03.0 +0.6
MESJ Messejana 165.47 27 ePKPdf PKPdf 05 12 03.4 +1.0
PTEO Sao Teotonio 165.50 29 ePKPdf PKPdf 05 12 03.6 +1.2
PBAR Barrancos 165.62 23 ePKPdf PKPdf 05 12 03.3 +0.8

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCVE	Castro Verde	165.72	27	ePKPdf	PKPdf	05 12 03.6	+1.0
MORF	Marmelete	165.73	29	ePKPdf	PKPdf	05 12 03.0	+0.4
MORF	Marmelete	165.73	29	ePKPdf	PKPdf	05 12 03.4	+0.7
PFVI	Vila Bisbo	165.80	30	ePKPdf	PKPdf	05 12 04.3	+1.6
PVAQ	Vaqueiros	166.04	26	ePKPdf	PKPdf	05 12 03.9	+1.1
PBDV	Barranco-do-Ve	166.09	27	ePKPdf	PKPdf	05 12 04.3	+1.4
KEST	Kesra	166.62	325	PKP	PKPdf	05 12 03.7	+0.2
	comp=Z,6.6nm,0.9s,baz=85,slow=5.2,SNR=7.0						
KEST				PKPab	PKPab	05 13 09.9	+0.5
	comp=Z,20nm,0.9s,baz=321,slow=7.1,SNR=11						
TORD	Torodi Ar. Bea	168.06	188	PKP	PKPdf	05 12 04.2	-0.7
	comp=Z,12nm,0.9s,baz=352,slow=0.8,SNR=50						
TORD				PKPab	PKPab	05 13 15.6	-0.3
	comp=Z,16nm,0.8s,baz=174,slow=3.6,SNR=30						
TORD				PP	PP	05 17 05.5	+1.2
	comp=Z,4.6nm,1.2s,baz=154,slow=3.9,SNR=4.2						
TORD	Torodi Ar. Bea	168.06	188		PKPdf	05 12 03.6	-1.3
TORD					PKPab	05 13 15.1	-0.8
MDT	Midelt	171.28	26	PKP	PKPdf	05 12 06.5	0.0
	comp=Z,15nm,1.1s,baz=45,slow=1.5,SNR=20						
MDT				PKPab	PKPab	05 13 31.4	+1.4
	comp=Z,1.6nm,0.7s,baz=111,slow=21,SNR=2.6						

WEL 06 05:08:31.2±0.7, 37°S±6°×17°7E±°, h264km±7km, M3.3/25, ML3.6/7, MLv3.3/25 Error ellipse: s-maj=0.0km s-min=0.0km az=97.1, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZ	Kuaotunu	1.21	262	P	Pn	05 09 08.4	-0.4
HAZ	Te Kaha	1.26	159	P	Pn	05 09 08.8	-0.2
HAZ				S	S	05 09 39.1	0.0
MXZ	Matakaoa Point	1.31	138	P	Pn	05 09 09.3	-0.1
MXZ				S	S	05 09 40.7	+1.0
RUGZ	Raukumara Rang	1.43	165	P	Pn	05 09 09.6	-0.7
PKGZ	Pakihiroa	1.48	152	P	Pn	05 09 11.0	+0.4
PKGZ				S	S	05 09 43.2	+1.3
WMGZ	Waiomatatini S	1.57	142	P	Pn	05 09 11.4	+0.2
WMGZ				S	S	05 09 43.6	+0.7
URZ	Urewera	1.68	183	P	Pn	05 09 11.8	-0.2
URZ				S	S	05 09 44.6	+0.2
PUZ	Puketiti	1.71	151	P	Pn	05 09 12.3	0.0
PUZ				S	S	05 09 45.0	+0.1
TWGZ	Tauwhareparae	1.71	159	P	Pn	05 09 12.9	+0.5
TWGZ				S	S	05 09 46.8	+1.8
MKAZ	Moumakai	1.72	252	P	Pn	05 09 12.4	-0.1
MWZ	Matawai	1.77	172	P	Pn	05 09 12.9	+0.1
MWZ				S	S	05 09 45.9	+0.1
TOZ	Tahuroa Road	1.78	229	P	Pn	05 09 12.9	0.0
ETAZ	East Tamaki Re	1.87	258	P	Pn	05 09 13.6	0.0
RAGZ	Rawiri	1.92	175	P	Pn	05 09 14.1	+0.1
RAGZ				S	S	05 09 48.9	+0.8
TKGZ	Te Karaka	1.92	165	P	Pn	05 09 14.1	+0.1
TKGZ				S	S	05 09 48.2	+0.2
MUGZ	Murupara	1.93	190	P	Pn	05 09 14.0	-0.1
MUGZ				S	S	05 09 48.2	+0.1
RTZ	Ruatahuna	2.04	185	P	Pn	05 09 14.9	-0.3
RTZ				S	S	05 09 50.1	0.0
CNGZ	Carnagh Statio	2.06	158	P	Pn	05 09 15.7	+0.5
RIGZ	Rimuhau	2.17	168	P	Pn	05 09 16.5	+0.3
RIGZ				S	S	05 09 52.1	+0.1
TLZ	Tolley Road	2.19	217	P	Pn	05 09 18.3	+1.8
SNGZ	Shannon Statio	2.20	177	P	Pn	05 09 16.5	0.0
SNGZ				S	S	05 09 52.6	+0.1
MTHZ	Maungataniwha	2.29	187	P	Pn	05 09 16.9	-0.4
MTHZ				S	S	05 09 55.7	+1.7
RAHZ	Arahi	2.33	182	P	Pn	05 09 18.0	+0.2
RAHZ				S	S	05 09 54.8	+0.1
PRGZ	Paritu Road	2.40	167	P	Pn	05 09 18.7	+0.3
PRGZ				S	S	05 09 54.1	-1.7
WCZ	Waipu Caves	2.40	285	P	Pn	05 09 17.5	-0.9
KNZ	Kokohu	2.46	172	P	Pn	05 09 18.6	-0.3
WHHZ	Waihua	2.49	180	P	Pn	05 09 19.5	+0.3
WHHZ				S	S	05 09 57.7	+0.2
NMHZ	Naumai	2.53	187	P	Pn	05 09 20.0	+0.2
NMHZ				S	S	05 09 59.4	+1.1
MHGZ	Mahia Peninsul	2.63	168	P	Pn	05 09 20.8	+0.3
BKZ	Black Stump Fm	2.64	192	P	Pn	05 09 20.0	-0.8
BKZ				S	S	05 09 59.3	-1.0
ARHZ	Aropaoanui	2.68	184	P	Pn	05 09 21.1	-0.1
ARHZ				S	S	05 10 01.2	+0.3
HIZ	Hauiti	2.69	223	P	Pn	05 09 23.4	+2.2
ETVZ	East Tongariro	2.81	204	P	Pn	05 09 22.0	-0.6
SNVZ	South Ngauruho	2.88	205	P	Pn	05 09 23.5	+0.2
MCHZ	McNeill Hill	2.89	188	P	Pn	05 09 23.1	-0.1
MCHZ				S	S	05 10 05.3	+0.7
KWHZ	Kaweka Forest	2.91	192	P	Pn	05 09 23.0	-0.5
KWHZ				S	S	05 10 05.3	+0.1
TUVZ	Tukino	2.95	204	P	Pn	05 09 24.1	0.0
WHVZ	Whangaehu Hut	2.99	205	P	Pn	05 09 24.5	-0.1
TRVZ	Turoa	3.02	205	P	Pn	05 09 24.9	+0.1
WNVZ	Wahianoa	3.02	204	P	Pn	05 09 24.4	-0.4
MOVZ	Moawhango	3.05	202	P	Pn	05 09 24.2	-0.8
CKHZ	Cape Kidnapper	3.07	182	P	Pn	05 09 24.8	-0.4
CKHZ				S	S	05 10 07.4	-0.7
KRHZ	Kereru	3.13	192	P	Pn	05 09 24.9	-0.9
VRZ	Vera Road	3.20	217	P	Pn	05 09 27.1	+0.6
KAHZ	Kahuranaki	3.22	185	P	Pn	05 09 26.2	-0.6
KAHZ				S	S	05 10 12.6	+1.6
PNHZ	Pukenui	3.42	193	P	Pn	05 09 27.6	-1.3
PNHZ				S	S	05 10 13.5	-1.6
PXZ	Pawanui	3.46	184	P	Pn	05 09 28.3	-1.0
PXZ				S	S	05 10 14.0	-1.6
TSZ	Takapari Road	3.61	195	P	Pn	05 09 29.5	-1.5
TSZ				S	S	05 10 17.9	-0.9
DVHZ	Dannevirke	3.80	192	P	Pn	05 09 31.6	-1.6
DVHZ				S	S	05 10 20.2	-2.5
BFZ	Birch Farm	4.16	190	P	Pn	05 09 36.1	-1.3
BFZ				S	S	05 10 29.0	-1.2
MRZ	Mangatainoka R	4.27	197	P	Pn	05 09 36.4	-2.2
MRZ				S	S	05 10 30.0	-2.5
TIWZ	Tintock	4.32	193	P	Pn	05 09 37.9	-1.3
TIWZ				S	S	05 10 31.2	-2.3
HOWZ	Holdsworth Sta	4.51	197	P	Pn	05 09 39.4	-2.1
HOWZ				S	S	05 10 32.9	-4.7
OGWZ	Otaki Gorge	4.52	200	P	Pn	05 09 39.4	-2.2
OGWZ				S	S	05 10 34.8	-3.0
KIW	Kapiti Island	4.64	202	P	Pn	05 09 40.7	-2.2
KIW				S	S	05 10 35.8	-4.5
MTW	Mount Morrison	4.76	196	P	Pn	05 09 42.3	-2.1
CAW	Cannon Point	4.82	200	P	Pn	05 09 42.7	-2.4
MSWZ	Moikau Station	5.06	197	P	Pn	05 09 45.8	-2.3
TCW	Tory Channel	5.16	205	P	Pn	05 09 46.7	-2.4
PLWZ	Palliser	5.21	196	P	Pn	05 09 47.0	-2.8
TUWZ	Tuamarina	5.47	207	P	Pn	05 09 50.5	-2.5
THZ	Tophouse	6.16	212	P	Pn	05 09 59.5	-2.0
KHZ	Kahutara	6.48	205	P	Pn	05 10 02.9	-2.5

IDC 06 05:15:12.9±2.2, 1°79N×127°50E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/57, mbtmp3.4/3, MS3.3/1, Ms1 3.3/1, ms1mx2.7/16, Error ellipse: s-maj=151.1km s-min=28.6km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.61	163	P	P	05 20 16.1	+0.6
	0.5nm,0.3s,baz=343,slow=11,SNR=14						
ASAR	Alice Springs	26.06	167	P	P	05 20 47.4	-0.9
	0.2nm,0.4s,baz=341,slow=11,SNR=2.1						
DZM	Mont Dzumac	44.80	124	LR	LR	05 43 10.7	
	comp=Z,37nm,19.1s,baz=204,slow=37						
MKAR	Makanchi Array	59.58	326	P	P	05 25 18.7	+0.1
	0.2nm,0.5s,baz=133,slow=7.8,SNR=2.6						

*IDC **06** 05:15:33.9±0.6, 60°23S×48°95W, h0km, mb4.6/18, mb1 4.6/19, mb1mx4.5/35, mbtmp4.6/19, ML4.6/1, MS4.1/13, Ms1 4.0/13, ms1mx4.0/17, Error ellipse: s-maj=21.8km s-min=12.6km az=54.0*

*NEIC **06** 05:15:36.1±1.7, 60°27S±0°08×48°9W±0°2, h10km±1km, mb4.8/36, Error ellipse: s-maj=14.1km s-min=11.8km az=130.0*

*GCMT **06** 05:15:38.1±0.4, 60°43S±0°02×49°15W±0°07, h27km±1km, MW5.0/73, Moment Tensor Solution. s13,c19; s73,c93; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.13±.22; Mθθ0.20±.15; Mφφ-0.32±.18; Mrθ1.98±.34; Mθφ2.98±.12; Mφr-0.28±.28; Best double couple: Mo3.59400×10^16 NP1:φs3.00000°,δ56.00000°,λ-180.00000°. NP2: φs273.00000°,δ90.00000°,λ-34.00000°. Principal axes: T 3.4730, Plg23.0000°, Azm323.0000°; N 0.2420, Plg56.0000°, Azm93.0000°; P -3.7150, Plg23.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 05:15:35.7±0.4, 60°31S±0°05×49°00W±0°06, h10km, n157, σ0.94/148, mb4.8/26, MS4.1/12, 1C, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	Palmer Station	8.26	231	Pn	Pn	05 17 35.1	-0.2
	7.7nm,0.3s,baz=59,slow=9.9,SNR=64						
PMSA				Sn	Sn	05 19 05.9	-2.7
	2.0nm,0.3s,baz=152,slow=23,SNR=2.0						
PMSA				LR	LR	05 20 38.6	
	comp=Z,824nm,21.9s,baz=62,slow=37						
PMSA	Palmer Station	8.26	231		Pn	05 17 35.5	+0.2
PMSA	Palmer Station	8.26	231	eP	Pn	05 17 35.4	0.0
PMSA				eS	Sn	05 19 09.0	+0.4
HOPE	Hope Point	9.06	54	Pn	Pn	05 17 45.0	-1.4
EFI	East Falkland	10.02	326		Pn	05 18 00.2	+0.7
MG02	Cerro Sombrero	13.42	295	Pn	Pn	05 18 46.8	+0.9
GO10	Punta Arenas	14.01	291	Pn	Pn	05 18 56.3	+2.2
GO09	Cerro Castillo	15.86	294	Pn	Pn	05 19 18.2	-0.5
BELA	Belgrano 2	18.27	170	P	P	05 19 49.7	+0.8
VNA3	Neumayer Olymp	19.05	141	P	Pn	05 19 59.2	+0.8
VNA1	Neumayer--Stat	19.37	139	P	Pn	05 20 03.4	+1.3
VNA2	Neumayer--Watz	19.70	140	P	Pn	05 20 06.1	-0.1
	baz=288,slow=13						
SNAA	Sanae	21.28	141	P	P	05 20 23.8	+1.9
SNAA	Sanae	21.28	141	P	P	05 20 22.7	+0.8
	14nm,1.0s,baz=287,slow=8.6,SNR=19						
SNAA				S	S	05 24 14.1	-3.8
	0.9nm,0.8s,baz=272,slow=16,SNR=1.1						
SNAA				LR	LR	05 27 17.3	
	comp=Z,572nm,18.0s,baz=303,slow=33						
SNAA	Sanae	21.28	141	P	P	05 20 22.5	+0.6
LL02	Futaleuf	22.03	311	P	P	05 20 30.2	+0.2
PLCA	Paso Flores	23.71	316	P	P	05 20 47.0	-0.6
	28nm,1.0s,baz=161,slow=9.4,SNR=32						
PLCA				LR	LR	05 29 52.1	
	comp=Z,254nm,20.2s,baz=159,slow=36						
PLCA	Paso Flores	23.71	316	P	P	05 20 47.3	-0.2
PLCA				IAmb	IAmb	05 20 48.2	
	comp=Z,50nm,1.1s						
PLCA	Paso Flores	23.71	316	eP	P	05 20 47.4	-0.2
TRQA	Tornquist	23.75	334	P	P	05 20 48.6	+0.7
TRQA	Tornquist	23.75	334	eP	P	05 20 48.8	+0.9
LL03	Petrohue	24.01	312	P	P	05 20 49.6	-0.7
LL04	Puerto Octay	24.21	313	P	P	05 20 50.7	-1.5
LL04				IAmb	IAmb	05 20 51.5	
	comp=Z,20nm,1.1s						
LC01	Cunco	25.80	316	P	P	05 21 06.1	-0.6
LC01				IAmb	IAmb	05 21 07.6	
	comp=Z,22nm,1.0s						
PLTB	Pedras Altas	28.71	352	P	P	05 21 33.6	+0.8
PLTB	Pedras Altas	28.71	352	eP	P	05 21 34.1	+1.3
QSPA	South Pole Qui	29.93	180	P	P	05 21 44.6	+1.0
	comp=Z,19nm,0.9s,baz=171,slow=3.5,SNR=59						
QSPA	South Pole Qui	29.93	180	P	P	05 21 44.3	+0.8
QSPA				IAmb	IAmb	05 21 46.3	
	comp=Z,19nm,0.8s						
CPSB	Cacapava Do Su	30.05	352	eP	P	05 21 45.8	+1.1
CNLB	Canela	31.02	357	eP	P	05 21 54.5	+1.2
ITQB	Itaqui	31.07	347	eP	P	05 21 54.2	+0.6
TER01	Tubaro-SC	31.77	360	eP	P	05 22 00.4	+0.5
CPUP	Villa Florida	34.45	347	LR	LR	05 35 24.1	
	comp=Z,157nm,21.1s,baz=174,slow=35						
CPUP	Villa Florida	34.45	347	eP	P	05 22 23.7	+0.5
TIJ01	Guaruva-PR	34.97	360	eP	P	05 22 28.6	+0.8
SYO	Syowa Base	35.57	142⇑	esP	sP	05 22 35.4	-0.4
PTGB	Pitanga	35.64	355	eP	P	05 22 34.4	+0.8
PET01	Itanhaem-SP	36.02	3	eP	P	05 22 37.4	+0.7
SPB	Sao Paulo	36.71	2	eP	P	05 22 43.2	+0.6
FRTB	Fartura	36.94	359	eP	P	05 22 45.0	+0.3
PARB	Paraibuna	37.02	5	eP	P	05 22 45.9	+0.5
VAO	Valinhos	37.31	3	eP	P	05 22 48.6	+0.8
TRCB	Terra Rica	37.57	354	eP	P	05 22 51.1	+1.1
RCLB	Rio Claro- Sao	37.87	2	eP	P	05 22 53.7	+1.1
VAS01	Vassouras-RJ	38.20	8	eP	P	05 22 56.6	+1.2
AQDB	Aquidauana	40.08	350	eP	P	05 23 11.6	+0.6
ITRB	Iturama	40.57	358	eP	P	05 23 16.1	+0.9
VNDA	Vanda	41.10	190	LR	LR	05 41 34.7	
	comp=Z,313nm,18.0s,baz=155,slow=38						
DIAM	Diamantina, MG	42.13	8	eP	P	05 23 28.8	+0.7
IPMB	Ipameri, GO	42.28	1	eP	P	05 23 29.9	+0.7
PP1B	Ponte de Pedra	42.86	352	eP	P	05 23 34.3	+0.4
NAN01	Guarapari, ES	42.89	12	eP	P	05 23 34.9	+0.8
MAW	Mawson	43.11	149	P	P	05 23 36.2	+0.8
	comp=Z,5.9nm,0.9s,baz=220,slow=12,SNR=6.8						
MAW				LR	LR	05 40 34.7	
	comp=Z,744nm,19.4s,baz=236,slow=35						
MAW	Mawson	43.11	149		P	05 23 36.6	+1.2
MC01	Montes Claros	43.70	7	eP	P	05 23 41.2	+0.5
GUA01	Guaratinga, BA	44.17	13	eP	P	05 23 44.6	+0.2
ARAG	Araguaiana, MT	44.58	356	eP	P	05 23 48.5	+0.7
BDFB	Brasilia	44.61	1	P	P	05 23 47.8	-0.3
	comp=Z,8.6nm,0.9s,baz=151,slow=4.7,SNR=7.8						
BDFB				LR	LR	05 39 28.2	
	comp=Z,88nm,21.2s,baz=44,slow=32						
BDFB	Brasilia	44.61	1	P	P	05 23 48.0	-0.1
BDFB				IAmb	IAmb	05 23 49.8	
	comp=Z,13nm,1.1s						
SALV	Santo Antonio	44.61	351	eP	P	05 23 49.2	+1.2
SIV	San Ignacio	45.12	344	P	P	05 23 51.6	-0.5
	comp=Z,16nm,0.8s,baz=195,slow=7.9,SNR=20						
JANB	Januaria	45.31	6	eP	P	05 23 54.3	+0.7
PTLB	Pontes e Lacer	45.40	346	eP	P	05 23 55.0	+0.8
CMC01	Camacan, BA	45.41	13	eP	P	05 23 55.2	+0.9
LPAZ	La Paz	46.10	334	P	P	05 24 00.4	0.0
	comp=Z,6.3nm,0.6s,baz=133,slow=4.5,SNR=11						
LPAZ				LR	LR	05 45 30.0	
	comp=Z,102nm,18.1s,baz=176,slow=39						
LPAZ	La Paz	46.10	334	P	P	05 24 01.2	+0.7
LPAZ				IAmb	IAmb	05 24 02.9	
	comp=Z,6.8nm,0.8s						
LPAZ	La Paz	46.10	334	eP	P	05 24 00.8	+0.3
GDU01	Guandu, BA	47.02	13	eP	P	05 24 07.4	+0.4
SDBA	SAO DESIDERIO	47.91	5	eP	P	05 24 14.3	+0.4
VILB	Vilhena	47.99	345	eP	P	05 24 15.6	+1.0
PEXB	Peixe	48.12	1	eP	P	05 24 16.1	+0.6
SNDB	Serra Nova Dou	48.28	357	eP	P	05 24 17.5	+0.8
CLDB	Colider	49.60	351	eP	P	05 24 27.4	+0.5
NBPN	Ponto Novo - B	49.80	11	eP	P	05 24 29.4	+0.9
NBLA	Lagarto - SE	49.92	14	eP	P	05 24 30.5	+1.1
SMTB	Santa Maria do	51.35	2	eP	P	05 24 40.2	0.0
ETMB	Extrema	52.01	338	eP	P	05 24 45.0	-0.1
SAML	Samuel	52.35	342	P	P	05 24 47.7	+0.1
SAML				IAmb	IAmb	05 24 49.0	
	comp=Z,19nm,0.9s						
SAML	Samuel	52.35	342	eP	P	05 24 48.2	+0.6
NNA	Nana	52.43	325	P	P	05 24 46.9	-1.4
	comp=Z,8.1nm,0.6s,baz=147,slow=6.1,SNR=3.7						
NNA	Nana	52.43	325	P	P	05 24 48.6	+0.3
SUR	Sutherland	52.58	91	P	P	05 24 49.4	0.0
	comp=Z,3.4nm,0.7s,baz=233,slow=15,SNR=1.7						
CASY	Casey	52.81	170	P	P	05 24 51.7	+1.3
NPGB	Novo Progresso	53.36	352	eP	P	05 24 55.8	+0.7
PRPB	Parauapebas	54.02	359	eP	P	05 25 00.4	+0.5
CZSB	Cruzeiro do Su	55.41	331	eP	P	05 25 09.5	-0.5
ITTB	Itaituba	56.04	352	eP	P	05 25 15.2	+0.8
H10S2	ASCENSION HYDR	57.30	41	T	T	06 27 58.0	
	baz=200,slow=74,SNR=31						
H10S3	ASCENSION HYDR	57.30	41	T	T	06 27 58.0	
	baz=20,slow=74,SNR=65						
ATAH	Atahualpa	57.49	325	P	P	05 25 24.2	-1.1
	comp=Z,4.3nm,0.9s,baz=95,slow=5.9,SNR=4.5						
MACA	Manacapuru-AM	57.70	346	eP	P	05 25 26.8	+0.5
BOSA	Boshof	57.86	92	P	P	05 25 26.7	-0.8
	comp=Z,2.7nm,0.6s,baz=214,slow=5.9,SNR=11						
BOSA				LR	LR	05 46 05.0	
	comp=Z,183nm,18.5s,baz=192,slow=32						
BOSA	Boshof	57.86	92	P	P	05 25 26.9	-0.6
H10N3	ASCENSION HYDR	58.40	41	T	T	06 29 09.1	
	baz=199,slow=75,SNR=129						
H10N1	ASCENSION HYDR	58.40	41	T	T	06 29 12.8	
	baz=199,slow=75,SNR=133						
H10N2	ASCENSION HYDR	58.41	41	T	T	06 29 12.9	
	baz=199,slow=75,SNR=164						
MALB	Monte Alegre	58.44	354	eP	P	05 25 31.9	+0.5
MCPB	Macapa, AP	59.83	356	eP	P	05 25 41.6	+0.6
PTGA	Pitinga	60.02	347	P	P	05 25 41.9	-0.5
	comp=Z,3.0nm,0.3s,baz=182,slow=6.5,SNR=8.4						
PTGA	Pitinga	60.02	347	P	P	05 25 41.9	-0.5
PTGA				IAmb	IAmb	05 25 43.2	
	comp=Z,11nm,1.1s						
LBTB	Lobatse	61.01	90	P	P	05 25 48.4	-0.8
	comp=Z,7.4nm,0.8s,baz=221,slow=7.8,SNR=13						
LBTB	Lobatse	61.01	90	P	P	05 25 48.7	-0.5
LBTB				IAmb	IAmb	05 26 00.4	
	comp=Z,9.9nm,0.9s						
BOAV	Boa Vista	63.17	347	eP	P	05 26 03.5	-0.1
OTAV	Otavalo	64.54	327	P	P	05 26 13.3	+0.1
OTAV				IAmb	IAmb	05 26 16.1	
	comp=Z,9.2nm,1.0s						
OTAV	Otavalo	64.54	327	eP	P	05 26 14.1	+0.9
MDP	Montagnes des	65.27	356	P	P	05 26 15.6	-1.8
	comp=Z,5.5nm,0.8s,baz=210,slow=8.2,SNR=4.3						
MATP	Matopo	66.30	90	P	P	05 26 23.9	-0.3
	comp=Z,1.9nm,0.7s,baz=216,slow=12,SNR=4.4						
ROSC	El Rosal	67.93	333	P	P	05 26 33.8	-1.1
ROSC				IAmb	IAmb	05 26 52.6	
	comp=Z,4.2nm,0.7s						
RUSC	La Rusia	68.67	334	P	P	05 26 38.4	-1.2
RUSC				IAmb	IAmb	05 26 39.9	
	comp=Z,9.1nm,1.1s						
PCRV	Puerto La Cruz	71.35	344	P	P	05 26 55.8	+0.3
	comp=Z,7.9nm,0.6s,baz=179,slow=9.7,SNR=2.5						
SJCC	San Jacinto, C	73.02	333	P	P	05 27 05.3	-0.1
SJCC				IAmb	IAmb	05 27 06.6	
	comp=Z,14nm,1.0s						
DBIC	Dimbokro	75.24	46	P	P	05 27 18.4	0.0
	comp=Z,3.2nm,0.6s,baz=207,slow=4.0,SNR=5.1						
DBIC				LR	LR	05 54 21.6	
	comp=Z,54nm,18.3s,baz=196,slow=31						
CUPR	Culebra, Puert	79.44	344	P	P	05 27 40.4	-1.4
CUPR				IAmb	IAmb	05 27 51.2	
	comp=Z,8.1nm,1.1s						
KOWA	Kowa	82.80	44	P	P	05 28 00.2	+0.4
TORD	Torodi Ar. Bea	83.61	49	P	P	05 28 04.1	+0.1
	comp=Z,3.1nm,0.5s,baz=208,slow=5.5,SNR=35						
TORD				LR	LR	05 58 59.6	
	comp=Z,88nm,19.2s,baz=195,slow=31						
TORD	Torodi Ar. Bea	83.61	49	P	P	05 28 04.5	+0.5
TORD				IAmb	IAmb	05 28 07.7	
	comp=Z,4.3nm,0.8s						
STKA	Stephens Creek	87.74	189	LR	LR	06 08 17.3	
	comp=Z,117nm,18.4s,baz=207,slow=36						
ASAR	Alice Springs	96.30	183	LR	LR	06 15 03.3	
	comp=Z,156nm,18.8s,baz=156,slow=37						
FINES	FINESS Array B	134.34	40	PKP	PKPdf	05 34 51.9	-0.2
	comp=Z,1.3nm,0.7s,baz=224,slow=3.8,SNR=3.4						
FINES	FINESS Array B	134.34	40		PKPdf	05 34 52.7	+0.6
ARCES	ARCESS Array B	139.91	32	PKhKP	PKPpre	05 34 50.6	
	comp=Z,1.5nm,0.5s,baz=191,slow=0.6,SNR=10						
WAT6	Susitna Watana	143.49	310	P	PKPab	05 35 05.3	-0.1
	baz=124						
J25K	Salcha River,	143.74	314	P	PKPbc	05 35 07.0	0.0
	baz=123						
SUA	Susitna One	144.04	307	P	PKPab	05 35 06.8	-0.7
	baz=124						
CUT	Chulitna	144.37	308	P	PKPab	05 35 08.0	-0.6
	baz=123						
ILAR	Eielson Array	144.38	313	PKP	PKPab	05 35 07.3	-1.2
	comp=Z,2.0nm,0.6s,baz=122,slow=1.0,SNR=30						
ILAR	Eielson Array	144.38	313		PKPab	05 35 07.6	-0.9
MCK	McKinley	144.58	311	P	PKPab	05 35 09.2	-0.1
	baz=122						
SKT	Skwentna	144.64	307	P	PKPab	05 35 08.3	-1.3
	baz=123,SNR=14						
POKR	Poker Plat Res	144.76	314	P	PKPab	05 35 09.0	-0.9
	baz=121						
TCOL	CIGO, UAF Yank	144.79	313	P	PKPab	05 35 09.1	-0.9
	baz=121						
TRF	Thorofare Moun	144.94	310	P	PKPab	05 35 09.9	-1.0
	baz=122						
O18K	Koktuh Hills	144.97	302	P	PKPbc	05 35 09.2	-1.6
	baz=124,SNR=7.8						
NEA2	Nenana	145.08	312	P	PKPbc	05 35 09.8	-1.3
	baz=121,SNR=18						
N19K	Bonanza Creek	145.19	304	P	PKPbc	05 35 09.9	-1.8
	baz=123,SNR=7.6						
M20K	Styx River	145.22	306	P	PKPbc	05 35 10.0	-1.7
	baz=122,SNR=6.5						
H24K	Noodor Dome	145.29	314	P	PKPbc	05 35 10.7	-1.1
	baz=120,SNR=5.8						
PPLA	Purkeypile	145.38	308	P	PKPbc	05 35 11.0	-1.3
	baz=121						
I23K	Minto, Yukon-K	145.47	313	P	PKPdf	05 35 10.8	-1.4
	baz=120,SNR=9.5						
BPAW	Bear Paw Mtn.	145.55	311	P	PKPdf	05 35 11.2	-1.2
	baz=120,SNR=18						
N18K	Kilae Creek	145.71	303	P	PKPdf	05 35 12.1	-0.6
	baz=122						
L20K	Farewell, AK	145.84	307	P	PKPdf	05 35 11.7	-1.2
	baz=121						
H23K	Yukon River	145.88	314	P	PKPdf	05 35 11.7	-1.1
	baz=119						
MLY	Manley	145.92	312	P	PKPdf	05 35 12.7	-0.4
	baz=120,SNR=16						
CHUM	Lake Minchumin	145.94	310	P	PKPdf	05 35 12.1	-0.9
	baz=120						
K20K	Telida	146.36	308	P	PKPdf	05 35 13.4	-0.4
	baz=120						
I21K	Tanana	146.45	312	P	PKPbc	05 35 14.8	-0.5
	baz=118						
COLD	Coldfoot	146.77	316	P	PKPbc	05 35 16.4	+0.3
	baz=117						
J20K	Nowinta River	146.79	309	P	PKPbc	05 35 15.8	-0.5
	baz=119						
TOLK	Toolik Lake Re	147.19	318	P	PKPbc	05 35 17.5	+0.1
	baz=115						
MKAR	Makanchi Array	148.85	93	PKPbc	PKPdf	05 35 20.5	+2.0
	comp=Z,2.4nm,0.6s,baz=236,slow=2.1,SNR=23						
KURBB	Kurchatov Arra	149.51	85	PKPbc	PKPbc	05 35 22.3	-1.5
	comp=Z,1.3nm,0.5s,baz=229,slow=3.1,SNR=20						
KURK	Kurchatov	149.61	85		PKPbc	05 35 22.3	-1.8
GTA	Gaotai	151.44	123	ePKPbc	PKPbc	05 35 28.4	-0.6
ZALV	Zalesovo Beam	154.59	84	PKPbc	PKPbc	05 35 35.2	-0.1
	comp=Z,1.1nm,0.7s,baz=235,slow=5.1,SNR=3.8						
ZALV	Zalesovo Beam	154.59	84	PKPdf	PKPdf	05 35 27.1	+0.3
ZALV					pPKPbc	05 35 37.1	-0.6
ZALV				PKPab	PKPab	05 35 51.2	+1.1
SONM	Songino Array	161.06	120	PKPab	PKPab	05 36 18.3	-0.1
	comp=Z,0.5nm,0.6s,baz=212,slow=5.1,SNR=2.6						

MEX 06 05:16:29.1±0.7, 18°41N×103°44W, h57km±5km, MD3.8, 1C, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.15	143	eP	Pn	05 16 36.5	-1.5
MMIG				eS	Sn	05 16 42.5	-1.8
COIG	Colima	0.80	343	eP	Pn	05 16 42.1	-2.5
COIG				eS	Sn	05 16 52.2	-3.7
R15V		0.92	326⇑	eP	Pn	05 16 44.6	-1.4
R15V				i S	Sn	05 16 56.8	-1.7
EZ5V		1.08	352	eP	Pn	05 16 46.7	-1.6
EZ5V				eS	Sn	05 17 00.5	-2.0
CJM	Chamela	1.86	306	eP	Pn	05 17 00.4	+1.7
CJM				eS	Sn	05 17 25.6	+4.5
ZIIG	Zihuatanejo	2.04	113	eP	Pn	05 16 59.6	-1.5
ZIIG				i S	Sn	05 17 29.2	+3.7
ARIG	Puente Sto Nin	2.94	92	eP	Pn	05 17 12.5	-0.9
ARIG				eS	Sn	05 17 51.4	+3.8
JRQG	Juriquilla Cam	3.63	51	eP	Pn	05 17 25.6	+2.5
JRQG				eS	Sn	05 18 16.1	+11
ZAIG	Zacatecas	4.42	11	eP	Pn	05 17 33.2	-0.7
ZAIG				eS	Sn	05 18 22.6	-1.6

*NEIC **06** 05:19:07.2±1.9, 28°11S±0°04×70°95W±0°09, h35km±7km, Error ellipse: s-maj=12.3km s-min=4.8km az=108.0*

*GUC **06** 05:19:07.2±0.7, 28°20S×70°71W, h40km±3km, ML4.4*

*IDC **06** 05:19:08.6±0.6, 28°18S×70°60W, h51km±5km, mb3.9/8, mb1 4.0/11, mb1mx3.8/33, mbtmp4.1/11, Error ellipse: s-maj=23.2km s-min=17.2km az=82.0*

ISC 06 05:19:07.0±0.5, 28°16S±0°05×71°06W±0°06, h43km±4km, n81, σ2.01/97, mb4.5/13, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	Llanos de Chal	0.05	195⇑	iP	Pn	05 19 16.7	+2.8
AC04				i S	Sn	05 19 22.8	+4.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AC04				IAML		05 19 23.4	
	comp=E,76μm,0.3s						
AC04	**Llanos de Chal**	**0.05**	**195**		**Pn**	**05 19 16.5**	**+2.6**
AC04					**Sn**	**05 19 22.8**	**+4.1**
LCO	**Las Campanas**	**0.91**	**160**	*e*P	**Pn**	**05 19 23.7**	**+0.1**
LCO				*i* S	**Sn**	**05 19 36.2**	**+0.5**
LCO	**Las Campanas**	**0.91**	**160**		**Pn**	**05 19 24.3**	**+0.7**
LCO					**Sn**	**05 19 36.0**	**+0.3**
GO03	**Copiap**	**0.92**	**53**	⇓*i*P	**Pn**	**05 19 22.6**	**-0.9**
GO03				*i* S	**Sn**	**05 19 33.4**	**-2.3**
GO03				IAML		05 19 34.0	
	comp=N,27μm,0.1s						
GO03	**Copiap**	**0.92**	**53**		**Pn**	**05 19 22.6**	**-0.9**
GO03					**Sn**	**05 19 33.2**	**-2.5**
CO05	**La Serena**	**1.76**	**185**	*e*P	**Pn**	**05 19 37.4**	**+2.4**
CO05				*i* S	**Sn**	**05 20 00.9**	**+4.7**
CO05				IAML		05 20 06.8	
	comp=N,6μm,0.7s						
CO05	**La Serena**	**1.76**	**185**		**Pn**	**05 19 37.3**	**+2.2**
GO04	**Tololo Observa**	**2.02**	**174**	*e*P	**Pn**	**05 19 41.0**	**+2.1**
GO04				*i* S	**Sn**	**05 20 07.3**	**+4.3**
GO04				IAML		05 20 24.5	
	comp=N,4μm,0.5s						
GO04	**Tololo Observa**	**2.02**	**174**		**Pn**	**05 19 41.8**	**+3.0**
AC02	**Maricunga**	**2.16**	**53**	⇓*i*P	**Pn**	**05 19 41.4**	**+0.5**
AC02				*i* S	**Sn**	**05 20 06.8**	**0.0**
AC02				IAML		05 20 09.8	
	comp=E,4μm,0.3s						
AC02				IAML		05 20 10.1	
	comp=N,4μm,0.3s						
AC02	**Maricunga**	**2.16**	**53**		**Pn**	**05 19 41.5**	**+0.5**
CO06	**Fray Jorge**	**2.56**	**191**	⇓*i*P	**Pn**	**05 19 47.4**	**+1.4**
CO06				IAML		05 20 32.0	
	comp=E,2μm,0.8s						
CO06	**Fray Jorge**	**2.56**	**191**	Pn	**Pn**	**05 19 47.6**	**+1.7**
CO03	**El Pedregal**	**2.69**	**173**	*e*P	**Pn**	**05 19 50.1**	**+2.2**
CO03				*i* S	**Sn**	**05 20 23.2**	**+3.9**
CO03				IAML		05 20 29.6	
	comp=E,2μm,0.4s						
CO03	**El Pedregal**	**2.69**	**173**		**Pn**	**05 19 50.4**	**+2.5**
CO02	**Combarbal**	**3.04**	**179**	*e*P	**Pn**	**05 19 54.7**	**+2.0**
CO02				*i* S	**Sn**	**05 20 32.1**	**+4.3**
CO02	**Combarbal**	**3.04**	**179**		**Pn**	**05 19 54.8**	**+2.2**
VA03	**San Esteban**	**4.61**	**175**		**Pn**	**05 20 16.8**	**+2.5**
VA01	**Torpederas**	**4.88**	**186**	Pn	**Pn**	**05 20 18.1**	**+0.4**
PB15	**IPOC Station P**	**5.13**	**17**		**Pn**	**05 20 21.1**	**-0.4**
MT05	**Renca**	**5.23**	**177**	Pn	**Pn**	**05 20 23.4**	**+0.7**
VA05	**Santo Domingo**	**5.50**	**185**		**Pn**	**05 20 26.4**	**0.0**
PB06	**IPOC Station P**	**5.59**	**14**		**Pn**	**05 20 26.8**	**-1.0**
MT09	**Talagante**	**5.60**	**179**		**Pn**	**05 20 29.1**	**+1.2**
MT01	**Popeta**	**5.69**	**182**		**Pn**	**05 20 30.0**	**+1.0**
LVC	**Limon Verde**	**5.86**	**20**	P	**Pn**	**05 20 30.5**	**-1.1**
	comp=E,1.6nm,0.3s,baz=186,slow=5.9,SNR=60						
LVC				S	Sn	05 21 50.5	+13
	comp=E,16nm,0.3s,baz=83,slow=22,SNR=8.8						
PB04	**IPOC Station P**	**5.86**	**8**	Pn	**Pn**	**05 20 29.7**	**-1.7**
BO01	**Tunca**	**6.22**	**180**		**Pn**	**05 20 36.8**	**+0.7**
PB07	**IPOC Station P**	**6.49**	**10**		**Pn**	**05 20 38.5**	**-1.6**
BO02	**Sierra Bellavi**	**6.62**	**178**		**Pn**	**05 20 42.5**	**+0.7**
GO05	**Huala**	**6.87**	**186**		**Pn**	**05 20 44.7**	**-0.5**
PB01	**IPOC Station P**	**7.22**	**12**		**Pn**	**05 20 47.9**	**-2.3**
ML02	**Panimavida**	**7.59**	**182**		**Pn**	**05 20 54.8**	**-0.2**
PB08	**IPOC Station P**	**8.17**	**13**		**Pn**	**05 21 00.8**	**-2.6**
H03N1	**Juan Fernandez**	**8.56**	**230**	P	**Pn**	**05 21 07.1**	**-1.0**
	baz=109,slow=18,SNR=84						
H03N1				T	T	05 29 53.9	
	baz=55,slow=74						
PSGCX	**Pisagua**	**8.56**	**6**	Pn	**Pn**	**05 21 05.4**	**-3.1**
H03N2	**Juan Fernandez**	**8.58**	**230**	P	**Pn**	**05 21 06.3**	**-1.9**
	baz=109,slow=18,SNR=65						
H03N2				T	T	05 29 48.6	
	baz=55						
H03N3	**Juan Fernandez**	**8.58**	**230**	P	**Pn**	**05 21 07.6**	**-0.8**
	baz=109,slow=18,SNR=91						
H03N3				T	T	05 30 23.6	
	baz=55,slow=74						
VA04	**Juan Fernndez**	**8.63**	**229**	Pn	**Pn**	**05 21 09.3**	**0.0**
H03S3	**Juan Fernandez**	**8.79**	**228**	P	**Pn**	**05 21 09.9**	**-1.3**
	baz=147,slow=72,SNR=14						
H03S3				S	**Sn**	**05 22 42.9**	**-6.0**
	baz=136,slow=74						
H03S1	**Juan Fernandez**	**8.80**	**228**	P	Pn	05 21 06.7	-4.6
	baz=147,slow=72,SNR=19						
H03S1				S	**Sn**	**05 22 43.4**	**-5.6**
	baz=136,slow=74						
H03S2	**Juan Fernandez**	**8.81**	**228**	P	**Pn**	**05 21 12.9**	**+1.4**
	baz=147,slow=72,SNR=15						
H03S2				S	**Sn**	**05 22 44.4**	**-4.9**
	baz=136						
LPAZ	**La Paz**	**12.12**	**14**	P	**Pn**	**05 21 58.0**	**+0.3**
	comp=E,0.2nm,0.3s,baz=56,slow=3.6,SNR=7.8						
LPAZ	**La Paz**	**12.12**	**14**		**Pn**	**05 21 56.0**	**-1.7**
CPUP	**Villa Florida**	**12.35**	**85**	P	**Pn**	**05 21 57.1**	**-3.2**
	comp=E,0.5nm,0.3s,baz=252,slow=11,SNR=10						
CPUP				S	Sn	05 24 01.3	-15
	comp=E,0.0nm,0.3s,baz=179,slow=16,SNR=1.1						
TRQA	**Tornquist**	**12.46**	**145**	Pn	**Pn**	**05 22 01.0**	**-0.7**
ITQB	**Itaqui**	**12.74**	**100**		**Pn**	**05 22 03.6**	**-1.8**
VNA3	**Neumayer Olymp**	**54.48**	**160**	P	**P**	**05 28 30.0**	**+0.2**
VNA2	**Neumayer--Watz**	**55.10**	**159**	P	**P**	**05 28 34.5**	**+0.2**
	baz=285,slow=8.3						
SNAA	**Sanae**	**56.70**	**159**	P	**P**	**05 28 45.9**	**+0.1**
SNAA	**Sanae**	**56.70**	**159**	P	**P**	**05 28 45.7**	**-0.2**
	comp=E,3.6nm,0.6s,baz=280,slow=9.0,SNR=38						
SNAA	**Sanae**	**56.70**	**159**	P	**P**	**05 28 46.2**	**+0.4**
QSPA	**South Pole Qui**	**62.06**	**180**	P	**P**	**05 29 23.8**	**+0.8**
	comp=E,1.6nm,0.4s,baz=317,slow=1.2,SNR=25						
QSPA	**South Pole Qui**	**62.06**	**180**	P	**P**	**05 29 23.9**	**+1.0**
QSPA				IAmb	IAmb	05 29 30.2	
	comp=Z,6.1nm,1.3s						
V58A	**Windy Hill, Pi**	**64.06**	**353**	P	**P**	**05 29 36.7**	**+0.4**
V58A				IAmb	IAmb	05 29 39.2	
	comp=Z,5.9nm,1.1s						
W52A	**Murphy**	**64.07**	**348**	P	**P**	**05 29 37.9**	**+1.5**
W52A				IAmb	IAmb	05 29 57.3	
	comp=Z,4.9nm,0.9s						
V53A	**Saluda**	**64.44**	**349**	P	**P**	**05 29 38.4**	**-0.5**
V53A				IAmb	IAmb	05 29 48.5	
	comp=Z,5.0nm,1.2s						
TXAR	**Lajitas Array**	**65.12**	**329**	P	**P**	**05 29 45.8**	**+2.2**
	comp=Z,0.3nm,0.8s,baz=158,slow=8.6,SNR=3.2						
TXAR				pP	**sP**	**05 30 01.7**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=150,slow=9.0,SNR=18						
T47A	**Sharon Grove**	**66.53**	**346**	P	**P**	**05 29 52.5**	**+0.2**
T47A				IAmb	IAmb	05 30 10.9	
	comp=Z,5.2nm,1.2s						
OK029	**Liberty Lake**	**68.31**	**337**	P	**P**	**05 30 05.0**	**+1.4**
OK029				IAmb	IAmb	05 30 05.9	
	comp=Z,3.7nm,0.9s						
KAN17	**Caldwell West**	**69.54**	**337**	P	**P**	**05 30 12.1**	**+0.9**
P43A	**Skaggs, Pawnee**	**69.61**	**345**	P	**P**	**05 30 12.1**	**+0.6**
DBIC	**Dimbokro**	**72.56**	**72**	P	**P**	**05 30 28.9**	**-1.1**
	comp=Z,5.9nm,0.8s,baz=234,slow=5.9,SNR=7.4						
U15A	**North Rim**	**75.05**	**327**	P	**P**	**05 30 45.6**	**+1.1**
MAW	**Mawson**	**78.53**	**164**	P	**P**	**05 31 03.8**	**+0.5**
	comp=Z,0.7nm,0.2s,baz=234,slow=12,SNR=2.6						
MAW	**Mawson**	**78.53**	**164**	P	**P**	**05 31 02.9**	**-0.4**
PDAR	**Pinedale Array**	**78.97**	**332**	P	**P**	**05 31 08.2**	**+1.8**
	comp=Z,1.0nm,1.2s,baz=143,slow=6.4,SNR=2.2						
PDAR				pP	**sP**	**05 31 22.6**	**-1.5**
	comp=Z,0.9nm,0.9s,baz=122,slow=6.8,SNR=5.2						
TORD	**Torodi Ar. Bea**	**81.44**	**70**	P	**P**	**05 31 18.7**	**-1.2**
	comp=Z,3.3nm,0.7s,baz=272,slow=4.8,SNR=26						
TORD				pP	**pP**	**05 31 33.2**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=274,slow=6.3,SNR=3.5						
QLMT	**Earthquake Lak**	**81.44**	**332**	P	**P**	**05 31 20.5**	**+1.0**
GCMT	**Greycliff**	**81.53**	**334**	P	**P**	**05 31 20.7**	**+0.8**
BOSA	**Boshof**	**82.05**	**118**	P	**P**	**05 31 22.0**	**-1.2**
	comp=Z,1.5nm,0.7s,baz=128,slow=5.9,SNR=2.1						
ASAR	**Alice Springs**	**123.13**	**208**	PKP	**PKPdf**	**05 37 59.3**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=130,slow=1.5,SNR=7.0						
WRA	**Warramunga Arr**	**126.24**	**210**	PKP	**PKPdf**	**05 38 05.5**	**0.0**
	comp=Z,0.8nm,0.4s,baz=162,slow=2.2,SNR=20						
WRA				pPKP	**pPKPdf**	**05 38 20.7**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=138,slow=1.2,SNR=1.9						
WRA	**Warramunga Arr**	**126.24**	**210**	PKPdf	**PKPdf**	**05 38 05.9**	**+0.4**
H11S2	**WAKE ISLAND Hy**	**126.51**	**273**	T	T	07 57 35.2	
	baz=112,slow=75,SNR=7.3						
H11S1	**WAKE ISLAND Hy**	**126.52**	**273**	T	T	07 57 24.4	
	baz=112,slow=75,SNR=15						
H11S3	**WAKE ISLAND Hy**	**126.53**	**273**	T	T	07 57 33.4	
	baz=112,slow=75,SNR=11						
ZALV	**Zalesovo Beam**	**148.76**	**28**	PKPbc	**PKPbc**	**05 38 49.4**	**+0.2**
	comp=Z,4.2nm,0.6s,baz=305,slow=4.8,SNR=11						
ZALV				pPKPbc	**sPKPdf**	**05 39 03.8**	**0.0**
	comp=Z,6.9nm,0.8s,baz=303,slow=3.8,SNR=9.2						
MKAR	**Makanchi Array**	**152.04**	**41**	PKPbc	**PKPbc**	**05 38 57.2**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=320,slow=2.0,SNR=12						
MKAR				pPKPbc	**pPKPbc**	**05 39 12.4**	**+1.5**
	comp=Z,1.5nm,0.6s,baz=312,slow=2.4,SNR=8.3						
MKAR	**Makanchi Array**	**152.04**	**41**	PKPbc	**PKPbc**	**05 38 57.5**	**+0.2**

BJI ***06*** *05:19:11.9±0.0, 31.̊33N×142.̊02E, h16km, mB4.9/35, mb4.7/54, Ms4.4/40, Ms7 4.2/40*

IDC ***06*** *05:19:12.3±0.5, 31.̊29N×141.̊92E, h0km, mb4.6/32, mb1 4.6/38, mb1mx4.5/62, mbtmp4.6/38, ML3.9/5, MS3.8/13, Ms1 3.9/13, ms1mx3.6/37, Error ellipse: s-maj=14.7km s-min=11.6km az=66.0*

MOS ***06*** *05:19:13.1±0.9, 31.̊25N×141.̊74E, h12km, mb5.0/56, Error ellipse: s-maj=8.3km s-min=4.3km az=118.0*

NIED ***06*** *05:19:14.5, 31.̊38N×142.̊08E, h44km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}2.78; $M_{\theta\theta}$0.21; $M_{\phi\phi}$-2.99; $M_{r\theta}$3.72; $M_{\theta\phi}$-2.30; $M_{\phi r}$1.65; Fault plane solution: $M_0$5.49000×10^{15} NP1:ϕ_s57.00000°, δ73.00000°, λ117.00000°. NP2:ϕ_s177.00000°, δ32.00000°, λ35.00000°.*

JMA ***06*** *05:19:14.4±0.1, 31.̊38N×142.̊08E, h44km, M4.4*

NEIC ***06*** *05:19:15.1±1.2, 31.̊29N±0.̊06×141.̊86E±0.̊09, h10km±1km, mb4.8/163, Error ellipse: s-maj=13.8km s-min=9.5km az=75.0*

ISC 06 05:19:17.1±0.4**, 31.̊36N**±0.̊04**×141.̊88E**±0.̊05**, h29**km**, n401, σ1.̊34**/419**, mb4.8**/147**, MS4.2**/17**, 10C-2D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**2.11**	**302**	P	**Pn**	**05 19 50.4**	**0.0**
JHCJ	**Hachijojimakas**	**2.45**	**315**	P	**Pn**	**05 19 54.6**	**-0.6**
JHCJ				*e*S	**Sn**	**05 20 24.4**	**+0.2**
JHJ2	**Mitsune**	**2.47**	**316**	P	**Pn**	**05 19 55.0**	**-0.4**
JHJ2				*e*S	**Sn**	**05 20 25.1**	**+0.5**
JHJ2	**Mitsune**	**2.47**	**316**	Pn	**Pn**	**05 19 55.1**	**-0.2**
JHJ	**Hachijo jima 2**	**2.50**	**315**	Pn	**Pn**	**05 19 55.2**	**-0.5**
	50nm,0.3s,baz=65,slow=22,SNR=20						
JHJ				Sn	**Sn**	**05 20 24.4**	**-0.9**
	65nm,0.3s,baz=66,slow=22,SNR=3.0						
JHJ				LR	LR	05 20 56.9	
	comp=Z,1μm,18.1s,baz=85,slow=41						
JMKN	**Mikurajimanish**	**3.18**	**323**	P	**Pn**	**05 20 04.4**	**-0.7**
BSO1	**Boso 1**	**3.37**	**347**	P	**Pn**	**05 20 06.7**	**-0.6**
BSO3	**Boso 3**	**3.62**	**342**	P	**Pn**	**05 20 10.8**	**-0.2**
BSO4	**Boso 4**	**3.84**	**341**	P	**Pn**	**05 20 14.2**	**0.0**
CBIJ	**Chichi jima**	**4.26**	**176**	P	**Pn**	**05 20 18.3**	**-1.7**
JCJ	**Chichijima**	**4.26**	**176**	Pn	**Pn**	**05 20 17.9**	**-2.1**
	45nm,0.3s,baz=281,slow=23,SNR=21						
JCJ				Sn	**Sn**	**05 21 05.9**	**-2.7**
	85nm,0.3s,baz=69,slow=24,SNR=6.2						
JCJ				LR	LR	05 21 42.7	
	comp=Z,643nm,18.1s,baz=23,slow=36						
JHU	**Hanno**	**4.98**	**335**	P	**Pn**	**05 20 29.7**	**-0.2**
JHU				*e*S	**Sn**	**05 21 25.5**	**-0.9**
JYT	**Yasato**	**5.05**	**344**		**Pn**	**05 20 33.0**	**+2.1**
JRY	**Ryogami san**	**5.27**	**333**	P	**Pn**	**05 20 33.9**	**0.0**
JHO	**Hitachi**	**5.35**	**349**	P	**Pn**	**05 20 33.6**	**-1.4**
JHO				*e*S	**Sn**	**05 21 32.2**	**-3.4**
JAG	**Ashikaga**	**5.44**	**339**	P	**Pn**	**05 20 35.8**	**-0.4**
JGF	**Kuroka**	**5.67**	**319**		**Pn**	**05 20 41.7**	**+2.3**
INU	**Inuyama**	**5.69**	**316**		**Pn**	**05 20 43.5**	**+3.8**
JTNC	**Tanabenakahech**	**5.83**	**297**	P	**Pn**	**05 20 43.6**	**+2.0**
MJAR	**Matsushiro Arr**	**6.00**	**330**	Pn	**Pn**	**05 20 44.7**	**+0.8**
	2.4nm,0.3s,baz=141,slow=11,SNR=93						
MJAR				Sn	**Sn**	**05 21 57.2**	**+5.6**
	0.4nm,0.3s,baz=149,slow=17,SNR=1.0						
MJAR	**Matsushiro Arr**	**6.00**	**330**	P	**Pn**	**05 20 45.5**	**+1.6**
MJAR	**Matsushiro Arr**	**6.00**	**330**		**Pn**	**05 20 45.5**	**+1.6**
MAJO	**Matsushiro**	**6.00**	**330**	*i* P	**Pn**	**05 20 45.5**	**+1.5**
MAJO	**Matsushiro**	**6.00**	**330**		**Pn**	**05 20 45.3**	**+1.3**
MAT	**Matsushiro**	**6.00**	**330**	P	**Pn**	**05 20 45.0**	**+1.0**
MAT				S	**Sn**	**05 21 50.1**	**-1.6**
MJB9	**Matsu-Tunnel**	**6.01**	**330**		**Pn**	**05 20 43.9**	**-0.1**
JFK	**Kawauchi**	**6.05**	**352**	P	**Pn**	**05 20 42.8**	**-1.8**
JFK				*e*S	**Sn**	**05 21 47.2**	**-5.7**
JMM	**Marumori**	**6.55**	**352**		**Pn**	**05 20 50.8**	**-0.7**
JWT	**Wachi**	**6.68**	**308**		**Pn**	**05 20 54.2**	**+0.9**
JSD	**Sado**	**7.30**	**337**		**Pn**	**05 21 01.8**	**+0.1**
JMK	**Ichinoseki**	**7.60**	**356**	P	**Pn**	**05 21 03.3**	**-2.5**
JMK				*e*S	**Sn**	**05 22 24.7**	**-6.2**
JTM	**Tenmabayashi**	**9.43**	**356**	Pn	**Pn**	**05 21 30.2**	**-0.8**
JNU	**Nakatsue**	**9.48**	**284**	Pn	**Pn**	**05 21 30.1**	**-1.5**
	0.4nm,0.3s,baz=100,slow=8.5,SNR=1.8						
JNU				LR	LR	05 25 16.6	
	comp=Z,406nm,19.8s,baz=112,slow=38						
JNU	**Nakatsue**	**9.48**	**284**	Pn	**Pn**	**05 21 30.8**	**-0.9**
JEW	**Eniwo**	**11.47**	**358**	Pn	**Pn**	**05 21 58.7**	**-0.1**
JKA	**Kamikawa-asahi**	**12.75**	**2**	Pn	**Pn**	**05 22 14.1**	**-2.2**
ASAJ	**Asahikawa**	**12.75**	**2**	Pn	**Pn**	**05 22 12.2**	**-4.1**
	2.1nm,0.3s,baz=222,slow=13,SNR=15						
ASAJ				Sn	Sn	05 24 26.1	-11
	1.0nm,0.3s,baz=264,slow=30,SNR=2.2						
ASAJ				LR	LR	05 28 18.7	
	comp=Z,332nm,20.1s,baz=152,slow=43						
ASAJ	**Asahikawa**	**12.75**	**2**	P	**Pn**	**05 22 14.1**	**-2.2**
KSRS	**Korea Array**	**13.02**	**302**	Pn	**Pn**	**05 22 22.8**	**+2.7**
	0.7nm,0.3s,baz=112,slow=12,SNR=13						
KSRS				LR	LR	05 27 21.1	
	comp=Z,394nm,18.2s,baz=101,slow=37						
MSHR	**Mys Shultsa**	**14.09**	**326**	*i* P	**Pn**	**05 22 34.1**	**-0.5**
MSHR				pmax	pmax		
	comp=Z,9.0nm,1.1s						
TEY	**Ternei**	**14.27**	**345**	*e*P	**Pn**	**05 22 35.2**	**-1.8**
KUR	**Kuril'sk**	**14.62**	**17**	P	**Pn**	**05 22 38.8**	**-3.1**
KUR				MLR	MLR		
	comp=Z,254nm,9.0s						
KUR				MLR	MLR		
	comp=E,534nm,16.0s						
KUR				MLR	MLR		
	comp=N,412nm,11.0s						
USRK	**Ussuriysk Ar.**	**15.00**	**331**	Pn	**Pn**	**05 22 46.5**	**-0.5**
	baz=143,slow=12,SNR=12						
USRK				LR	LR	05 28 35.1	
	comp=N,233nm,19.6s,baz=146,slow=37						
USRK	**Ussuriysk Ar.**	**15.00**	**331**	P	**Pn**	**05 22 47.6**	**+0.6**
USRK	**Ussuriysk Ar.**	**15.00**	**331**	Pn	**Pn**	**05 22 47.6**	**+0.6**
USA0B	**Ussuriysk Arra**	**15.00**	**331**	P	**Pn**	**05 22 47.3**	**+0.4**
USA0B				pmax	pmax		
	comp=Z,8.0nm,1.0s						
USA0B	**Ussuriysk Arra**	**15.00**	**331**		**Pn**	**05 22 47.3**	**+0.4**
YSS	**Yuzh-Sakhalins**	**15.59**	**2**	⇓*e*P	**Pn**	**05 22 51.7**	**-3.0**
YSS				*e*S	**Sn**	**05 25 42.5**	**-3.9**
YSS				pmax	pmax		
	comp=Z,40nm,0.8s						
YSS				MLR	MLR		
	comp=Z,700nm,14.0s						
YSS				MLR	MLR		
	comp=N,400nm,13.0s						
YSS				MLR	MLR		
	comp=E,300nm,14.0s						
YSS	**Yuzh-Sakhalins**	**15.59**	**2**		**Pn**	**05 22 52.0**	**-2.7**
YSS				IAmb	IAmb	05 22 54.8	
	comp=Z,29nm,0.8s						
MDJ	**Mudanjiang**	**16.37**	**327**	Pn	**Pn**	**05 23 03.6**	**-1.1**
GUMO	**Guam**	**17.90**	**170**	P	**Pn**	**05 23 23.6**	**-0.4**
GUMO				pmax	pmax		
	comp=Z,289nm,1.2s						
GUMO	**Guam**	**17.90**	**170**	P	**Pn**	**05 23 23.6**	**-0.4**
CN2	**Changchun**	**17.95**	**318**	*e*P	**Pn**	**05 23 24.3**	**-0.2**
CN2				*e*S	**Sn**	**05 26 44.1**	**+0.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=Z,500nm,16.0s						
CN2				LR	LR		
	comp=Z,500nm,16.0s						
CN2				LR	LR		
	comp=Z,700nm,17.1s						
SNY	**Shenyang**	**17.99**	**311**	⇑P	**Pn**	**05 23 24.7**	**-0.3**
SNY				S	**Sn**	**05 26 38.0**	**-6.8**
SNY				pmax	pmax		
	comp=Z,63nm,1.0s						
SNY				LR	LR		
	comp=Z,860nm,12.3s						
SNY				LR	LR		
	comp=Z,380nm,10.4s						
SNY				LR	LR		
	comp=Z,670nm,16.8s						
YOJ	**Yonaguni jima**	**18.02**	**252**	P	**P**	**05 23 27.0**	**+1.3**
YOJ				pmax	pmax		
	comp=Z,95nm,0.7s						
YOJ	**Yonaguni jima**	**18.02**	**252**	P	**P**	**05 23 27.0**	**+1.3**
YOJ				IAmb	IAmb	05 23 39.0	
	comp=Z,95nm,0.7s						
YHNB	**Yeheng**	**19.27**	**255**	P	**P**	**05 23 38.1**	**-1.4**
YHNB				IAmb	IAmb	05 23 51.4	
	comp=Z,90nm,1.4s						
NACB	**Ninganchiao**	**19.30**	**253**	P	**P**	**05 23 39.4**	**-0.4**
NACB				IAmb	IAmb	05 23 41.0	
	comp=Z,31nm,0.7s						
KLR	**Kul'dur**	**19.42**	**340**	P	**P**	**05 23 41.0**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=152,slow=7.3,SNR=14						
KLR	**Kul'dur**	**19.42**	**340**	*i* P	**P**	**05 23 40.3**	**-0.6**
KLR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TYV	**Tymovskoe**	**19.50**	**1**	*e*P	**Pn**	**05 23 44.9**	**+1.8**
TYV				pmax	pmax		
	comp=Z,13nm,0.9s						
TYV				pmax	pmax		
	comp=Z,200nm,3.3s						
NJ2	**Nanjing**	**19.60**	**278**	*e*P	**P**	**05 23 42.5**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
GRNR	**Gornyy**	**19.81**	**350**	⇑*i*P	**P**	**05 23 45.4**	**+0.2**
GRNR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
YULB	**Yu-li**	**19.90**	**252**	P	**P**	**05 23 45.5**	**-0.9**
YULB				IAmb	IAmb	05 24 06.4	
	comp=Z,81nm,1.1s						
SSLB	**Suanglung**	**20.00**	**253**	P	**P**	**05 23 47.2**	**-0.3**
TWG	**Pinlang**	**20.36**	**250**	P	**P**	**05 23 50.7**	**-0.6**
TWG				IAmb	IAmb	05 24 17.1	
	comp=Z,89nm,1.4s						
TPUB	**Ta-pu**	**20.49**	**252**	P	**P**	**05 23 52.3**	**-0.5**
TPUB				IAmb	IAmb	05 23 57.2	
	comp=Z,75nm,1.1s						
BJI	**Beijing**	**22.54**	**300**	P	**P**	**05 24 13.8**	**-0.9**
BJI				S	**S**	**05 28 14.4**	**-5.6**
BJI				pmax	pmax		
	comp=Z,24nm,0.8s						
BJI				pmax	pmax		
	comp=Z,250nm,4.1s						
BJI				LR	LR		
	comp=Z,490nm,13.0s						
BJI				LR	LR		
	comp=Z,340nm,13.3s						
BJI				LR	LR		
	comp=Z,540nm,12.6s						
BJT	**Baijiatuau**	**22.54**	**300**	P	**P**	**05 24 13.5**	**-1.2**
BJT				pmax	pmax		
	comp=Z,35nm,1.2s						
BJT	**Baijiatuau**	**22.54**	**300**	P	**P**	**05 24 13.5**	**-1.2**
BJT				IAmb	IAmb	05 24 16.3	
	comp=Z,35nm,1.2s						
HIA	**Hailar**	**24.45**	**323**	*i* P	**P**	**05 24 33.3**	**0.0**
HIA				pmax	pmax		
	comp=Z,50nm,1.1s						
HIA	**Hailar**	**24.45**	**323**	P	**P**	**05 24 33.5**	**+0.2**
HIA				IAmb	IAmb	05 24 34.9	
	comp=Z,36nm,0.9s						
ZEA	**Zeya**	**24.73**	**339**	*e*P	**P**	**05 24 36.9**	**+1.2**
ZEA				pmax	pmax		
	comp=N,30nm,1.0s						
ZEA				pmax	pmax		
	comp=E,10.0nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,70nm,0.8s						
TIY	**Taiyuan**	**25.00**	**293**	*e*P	**P**	**05 24 38.2**	**-0.3**
TIY				pP	**pwP**	**05 24 50.4**	**-2.2**
TIY				pmax	pmax		
	comp=Z,13nm,0.7s						
TIY				LR	LR		
	comp=Z,370nm,13.0s						
TIY				LR	LR		
	comp=Z,400nm,11.9s						
TIY				LR	LR		
	comp=Z,630nm,17.9s						
H11S3	**WAKE ISLAND Hy**	**25.82**	**114**	T	T	05 51 53.5	
	baz=304						
H11S1	**WAKE ISLAND Hy**	**25.82**	**114**	T	T	05 51 57.5	
	baz=304						
H11S2	**WAKE ISLAND Hy**	**25.84**	**114**	T	T	05 52 16.8	
	baz=304						
HHC	**Hu-ho-hao-te**	**26.15**	**300**	*e*P	**P**	**05 24 50.9**	**+2.0**
HHC				pmax	pmax		
	comp=Z,12nm,1.1s						
HHC				pmax	pmax		
	comp=Z,110nm,6.6s						
HHC				LR	LR		
	comp=Z,300nm,14.4s						
HHC				LR	LR		
	comp=Z,700nm,13.4s						
HHC				LR	LR		
	comp=Z,770nm,13.8s						
XAN	**Xi'an**	**27.80**	**284**	P	**P**	**05 25 02.7**	**-1.0**
XAN	**Xi'an**	**27.80**	**284**	P	**P**	**05 25 02.7**	**-1.0**
ULN	**Ulaanbaatar**	**31.16**	**312**	*ce*P	**P**	**05 25 35.1**	**+1.5**
ULN				pmax	pmax		
	comp=Z,33nm,1.3s						
ULN	**Ulaanbaatar**	**31.16**	**312**	P	**P**	**05 25 35.0**	**+1.5**
ULN	**Ulaanbaatar**	**31.16**	**312**	P	**P**	**05 25 35.4**	**+1.9**
	comp=Z,94nm,1.2s						
SONM	**Songino Array**	**31.57**	**312**	P	**P**	**05 25 38.2**	**+1.2**
	comp=Z,17nm,1.0s,baz=121,slow=8.7,SNR=63						
SONM				LR	LR	05 38 57.2	
	comp=Z,296nm,18.2s,baz=90,slow=37						
SONM	**Songino Array**	**31.57**	**312**	P	**P**	**05 25 38.3**	**+1.2**
SONM				pmax	pmax		
	comp=Z,30nm,1.2s						
SONM	**Songino Array**	**31.57**	**312**	P	**P**	**05 25 38.2**	**+1.2**
YAK	**Yakutsk**	**31.69**	**349**	*i* P	**P**	**05 25 40.2**	**+2.4**
YAK				pmax	pmax		
	comp=Z,11nm,0.6s						
YAK	**Yakutsk**	**31.69**	**349**	P	**P**	**05 25 37.8**	**0.0**
YAK				IAmb	IAmb	05 25 40.9	
	comp=Z,13nm,0.7s						
LZH	**Lanzhou**	**31.84**	**289**	*e*P	**P**	**05 25 39.3**	**-0.4**
LZH				pP	pP	05 25 45.8	-0.7
LZH				sP	pwP	05 25 53.7	-0.2
LZH				pmax	pmax		
	comp=Z,17nm,1.1s						
LZH				pmax	pmax		
	comp=Z,84nm,4.3s						
LZH				LR	LR		
	comp=Z,410nm,14.1s						
LZH				LR	LR		
	comp=Z,330nm,14.6s						
LZH				LR	LR		
	comp=Z,290nm,14.1s						
SEY	**Seymchan**	**32.30**	**9**	P	**P**	**05 25 43.1**	**-0.1**
	comp=Z,5.5nm,0.7s,baz=191,slow=8.1,SNR=11						
SEY	**Seymchan**	**32.30**	**9**	*i* P	**P**	**05 25 45.0**	**+1.9**
CD2	**Chengdu**	**32.52**	**279**	P	**P**	**05 25 45.1**	**-0.5**
CD2				S	**S**	**05 31 00.8**	**+1.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				LR	LR		
	comp=Z,470nm,12.0s						
CD2				LR	LR		
	comp=Z,660nm,13.9s						
CD2				LR	LR		
	comp=Z,850nm,14.1s						
BOD	**Bodaibo**	**32.63**	**332**	*e*P	**P**	**05 25 46.2**	**+0.1**
BOD				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ZAK	**Zakamensk**	**34.32**	**315**	*e*P	**P**	**05 26 02.0**	**+0.9**
ZAK				pmax	pmax		
	comp=Z,16nm,1.4s						
KMI	**Kunming**	**34.90**	**270**	⇓P	**P**	**05 26 07.1**	**+0.6**
KMI				pmax	pmax		
	comp=Z,8.0nm,1.2s						
GTA	**Gaotai**	**34.97**	**295**	⇑P	**P**	**05 26 06.5**	**-0.3**
GTA				pP	pP	05 26 10.7	-3.0
GTA				sP	sP	05 26 13.6	-2.7
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,71nm,5.1s						
GTA				LR	LR		
	comp=Z,230nm,14.5s						
GTA				LR	LR		
	comp=Z,440nm,14.9s						
GTA				LR	LR		

comp=Z,390nm,15.6s
TOLI2 Tolitoli 36.10 218 P **P** 05 26 15.3 -1.2
TOLI2 IAmb IAmb 05 26 27.0
comp=Z,11nm,0.8s
SKNT Sakolnakorn 37.22 256 P **P** 05 26 28.4 +2.2
BILL Bilibino 39.39 14 *eP* **P** 05 26 45.4 +1.6
BILL pmax pmax
comp=Z,6.0nm,0.4s
CHAI Chaiyaphum 39.41 256 P **P** 05 26 44.6 0.0
comp=Z,14nm,1.0s
UTTA Uttaradit 39.72 260 P **P** 05 26 47.6 +0.4
comp=Z,17nm,0.6s
SRAK Srakaew 40.34 254 P **P** 05 26 50.6 -1.7
comp=Z,126nm,0.9s
CMMT Chiang Mai 40.59 262 P **P** 05 26 54.5 +0.1
comp=Z,11nm,0.7s
CMMT Chiang Mai 40.59 262 P **P** 05 26 53.5 -0.9
comp=Z,11µmcomp=Z,360nmcomp=Z,11nm,0.7s
CHTO Chiang Mai 40.60 263 P **P** 05 26 53.4 -1.1
CHTO pmax pmax
comp=Z,7.0nm,0.7s
CHTO Chiang Mai 40.60 263 P **P** 05 26 55.0 +0.5
comp=Z,11nm,0.8s
CHTO Chiang Mai 40.60 263 P **P** 05 26 53.4 -1.1
CHTO Chiang Mai 40.60 263 P **P** 05 26 53.4 -1.1
comp=Z,6.2nm,0.8s
CMAR Chiang Mai Arr 40.76 262 P **P** 05 26 54.9 -0.9
comp=Z,1.9nm,0.5s,baz=59,slow=6.8,SNR=4.5
CMAR LR LR 05 45 25.9
comp=Z,105nm,18.9s,baz=115,slow=39
CMAR Chiang Mai Arr 40.76 262 *i* P **P** 05 26 55.0 -0.8
CMAR pmax pmax
comp=Z,2.0nm,0.5s
TIXI Tiksi 40.96 354 P **P** 05 26 57.0 +0.3
TIXI pmax pmax
comp=Z,3.0nm,0.7s
TIXI Tiksi 40.96 354 P **P** 05 26 57.0 +0.3
NIKH Nikolski High 41.41 44 P **P** 05 26 59.3 -1.4
NIKH IAmb IAmb 05 27 02.9
comp=Z,25nm,0.8s
LSA Lhasa 43.41 281 P **P** 05 27 17.4 -0.5
LSA pmax pmax
comp=Z,4.0nm,0.6s
LSA Lhasa 43.41 281 P **P** 05 27 17.4 -0.5
WMQ Urumqi 43.97 302 *eP* **P** 05 27 23.3 +1.6
WMQ pP pP 05 27 28.4 -0.1
WMQ pmax pmax
comp=Z,24nm,1.5s
WMQ pmax pmax
comp=Z,140nm,4.7s
WMQ LR LR
comp=Z,330nm,17.1s
WMQ LR LR
comp=Z,160nm,16.3s
SHL Shillong 44.03 275 P **P** 05 27 21.1 -1.4
SHL pmax pmax
comp=Z,7.0nm,0.5s
SHL Shillong 44.03 275 P **P** 05 27 21.1 -1.4
SHL IAmb IAmb 05 27 33.5
comp=Z,6.5nm,0.5s
DGZ Jazzator, Alta 44.21 311 *i* P **P** 05 27 25.2 +1.6
DGZ pmax pmax
comp=Z,36nm,1.1s
EDFI Ende, Flores 44.32 209 P **P** 05 27 23.2 -1.6
comp=Z,7.1nm,0.9s
COEN Coen 45.07 178 P **P** 05 27 30.9 +0.2
MTN Manton Dam 45.14 195 P **P** 05 27 30.0 -1.2
MTN IAmb IAmb 05 27 48.7
comp=Z,9.9nm,0.8s
ZAA0 Zalesovo Array 46.16 317 P **P** 05 27 39.3 +0.5
ZAA0 IAmb IAmb 05 27 40.3
comp=Z,24nm,1.3s
ZALV Zalesovo Beam 46.16 317 P **P** 05 27 38.9 0.0
comp=Z,6.8nm,0.6s,baz=100,slow=8.0,SNR=20
ZALV PcP **PcP** 05 29 14.7 +0.3
comp=Z,2.6nm,0.6s,baz=113,slow=3.8,SNR=4.6
ZALV Zalesovo Beam 46.16 317 *i* P **P** 05 27 39.5 +0.7
ZALV pmax pmax
comp=Z,7.0nm,0.6s
MK31 Makanchi Array 47.64 307 *i* P **P** 05 27 50.6 0.0
MK31 pmax pmax
comp=Z,4.0nm,0.5s
MK31 Makanchi Array 47.64 307 P **P** 05 27 51.2 +0.6
MK31 IAmb IAmb 05 27 52.2
comp=Z,20nm,1.4s
MKAR Makanchi Array 47.64 307 P **P** 05 27 51.1 +0.5
comp=Z,5.0nm,0.6s,baz=90,slow=9.6,SNR=48
MKAR PcP **PcP** 05 29 20.7 +0.8
comp=Z,1.0nm,0.5s,baz=84,slow=4.8,SNR=1.5
MKAR Makanchi Array 47.64 307 *i* P **P** 05 27 51.0 +0.4
MKAR pmax pmax
comp=Z,5.0nm,0.6s
MKAR Makanchi Array 47.64 307 P **P** 05 27 51.0 +0.4
MAKZ Makanchi 47.85 307 P **P** 05 27 52.6 +0.4
MAKZ pmax pmax
comp=Z,27nm,1.5s
MAKZ Makanchi 47.85 307 P **P** 05 27 52.6 +0.4
NRIK Noril'sk 48.61 337 P **P** 05 27 57.7 0.0
comp=Z,8.6nm,0.8s,baz=109,slow=9.2,SNR=7.7
NRIK Noril'sk 48.61 337 *i* P **P** 05 27 58.1 +0.4
NRIK pmax pmax
comp=Z,12nm,0.9s
NRIK Noril'sk 48.61 337 P **P** 05 27 58.0 +0.3
NRIK IAmb IAmb 05 27 59.7
comp=Z,12nm,1.0s
PSI Prapat 49.42 244 P **P** 05 28 05.1 +0.4
PSI pmax pmax
comp=Z,4.0nm,0.6s
RPSI Rantau Prapat 49.48 244 P **P** 05 28 05.1 0.0
KURK Kurchatov 49.87 312 P **P** 05 28 08.5 +0.9
KURBB Kurchatov Arra 49.94 312 P **P** 05 28 08.4 +0.4
comp=Z,8.0nm,0.6s,baz=88,slow=6.9,SNR=98
KURBB Kurchatov Arra 49.94 312 P **P** 05 28 08.1 0.0
O18K Koktuh Hills 49.94 36 P **P** 05 28 09.7 +1.7
O18K IAmb IAmb 05 28 13.0
comp=Z,5.1nm,0.7s
PDGK Podgornoye 49.95 302 P **P** 05 28 08.0 -0.5
SHLS Shalkode 50.00 302 *eP* **P** 05 28 05.8 -3.1
baz=302
SHLS Shalkode 50.00 302 *eP* **P** 05 28 05.8 -3.1
UZB Uzynbulak 50.32 302 *eP* **P** 05 28 10.2 -1.2
baz=302
UZB Uzynbulak 50.32 302 *eP* **P** 05 28 10.1 -1.2
N19K Bonanza Creek 50.39 35 P **P** 05 28 12.7 +1.2
KPKS Kokpek 50.51 303 *eP* **P** 05 28 12.3 -0.5
baz=303
KPKS Kokpek 50.51 303 *eP* **P** 05 28 12.3 -0.5
MDSI Maura Dua 50.61 232 P **P** 05 28 12.8 -0.8
comp=Z,837nmcomp=Z,13nm,1.1s
SATY Saty 50.78 302 *eP* **P** 05 28 13.6 -1.2
baz=302
SATY Saty 50.78 302 *eP* **P** 05 28 13.6 -1.2
K20K Telida 50.88 32 P **P** 05 28 16.5 +1.5
J20K Nowinta River 50.96 30 P **P** 05 28 16.4 +0.8
KDAK Kodiak Island 51.17 39 P **P** 05 28 16.1 -1.2
comp=Z,6.5nm,0.5s,baz=290,slow=6.6,SNR=20
KDAK Kodiak Island 51.17 39 P **P** 05 28 17.9 +0.6
KDAK pmax pmax
comp=Z,20nm,1.3s
KDAK Kodiak Island 51.17 39 P **P** 05 28 17.9 +0.6
KDAK IAmb IAmb 05 28 40.7
comp=Z,20nm,1.2s
CTA Charters Tower 51.32 175 P **P** 05 28 18.6 -0.3
comp=Z,2.3nm,0.5s,baz=350,slow=9.2,SNR=3.2
CTAO Charters Tower 51.32 175 P **P** 05 28 18.5 -0.3
CTAO pmax pmax
comp=Z,9.0nm,1.2s
CTAO Charters Tower 51.32 175 P **P** 05 28 18.5 -0.3
CTAO IAmb IAmb 05 28 40.2
comp=Z,9.2nm,1.1s
TARG Taragay, Kyrgy 51.44 301 P **P** 05 28 20.4 +0.3
TARG IAmb IAmb 05 28 23.0
comp=Z,11nm,0.9s
WR0 Warramunga Arr 51.51 189 P **P** 05 28 19.8 -0.4
WR0 IAmb IAmb 05 28 21.8
comp=Z,18nm,1.1s
WRAB Tennant Creek 51.51 189*ce* P **P** 05 28 20.0 -0.2
WRAB pmax pmax
comp=Z,23nm,1.3s
WRAB Tennant Creek 51.51 189 P **P** 05 28 19.7 -0.5
WRAB IAmb IAmb 05 28 21.7
comp=Z,18nm,1.1s
WB2 Warramunga Arr 51.52 189 P **P** 05 28 19.5 -0.8
WB2 IAmb IAmb 05 28 22.3
comp=Z,22nm,1.1s
WRA Warramunga Arr 51.52 189 P **P** 05 28 19.1 -1.2
comp=Z,4.1nm,0.3s,baz=6.8,slow=7.4,SNR=259
WRA Warramunga Arr 51.52 189 *i* P **P** 05 28 19.3 -1.0
WRA pmax pmax
comp=Z,4.0nm,0.3s
WRA Warramunga Arr 51.52 189 P **P** 05 28 19.6 -0.7
CHKK Chushkaly 51.67 303 *eP* **P** 05 28 20.4 -0.9
baz=303
MDOK Medeo 51.74 303 *eP* **P** 05 28 21.1 -1.0
baz=302
MDOK Medeo 51.74 303 *eP* **P** 05 28 21.0 -1.0
AAA Alma-Ata 51.83 303 *eP* **P** 05 28 22.9 +0.2
baz=303
AAA Alma-Ata 51.83 303 *eP* **P** 05 28 22.8 +0.2
I21K Tanana 52.01 29 P **P** 05 28 25.2 +1.7
KUU Kurty 52.13 304 *eP* **P** 05 28 24.5 -0.2
baz=304
KUU Kurty 52.13 304 *eP* **P** 05 28 24.5 -0.2
MTBS Maitube 52.19 303 *eP* **P** 05 28 24.3 -1.0
baz=303
MLY Manley 52.52 30 P **P** 05 28 28.6 +1.3
TKM2 Tokmak 2 52.83 302 P **P** 05 28 31.8 +1.6
SNR=13
TKM2 Tokmak 2 52.83 302 *i* P **P** 05 28 31.1 +0.9
TKM2 pmax pmax
comp=Z,25nm,1.4s
I23K Minto, Yukon-K 53.11 30 P **P** 05 28 32.2 +0.6
NEA2 Nenana 53.20 30 P **P** 05 28 33.4 +1.1
NEA2 IAmb IAmb 05 28 36.0
comp=Z,8.0nm,0.9s
RND Reindeer 53.22 32 P **P** 05 28 33.3 +0.7
RND pmax pmax
comp=Z,6.0nm,1.1s
RND Reindeer 53.22 32 P **P** 05 28 33.3 +0.7
KSH Kashi 53.25 298 P **P** 05 28 37.5 +4.3
KSH pP sP 05 28 41.8 -1.1
KSH pmax pmax
comp=Z,11nm,1.2s
KSH LR LR
comp=Z,330nm,18.5s
KSH LR LR
comp=Z,470nm,22.3s
KSH LR LR
comp=Z,400nm,16.1s
KNK Knik Glacier 53.35 34 P **P** 05 28 35.6 +2.2
KNK IAmb IAmb 05 28 37.8
comp=Z,12nm,0.9s
KBK Karagaybulak 53.35 302 P **P** 05 28 35.1 +1.1
SNR=6.0
TOLK Toolik Lake Re 53.38 25 P **P** 05 28 35.1 +1.4
TOLK IAmb IAmb 05 29 02.0
comp=Z,14nm,1.4s
PWL Port Wells 53.40 35 P **P** 05 28 34.3 +0.5
PWL IAmb IAmb 05 28 52.6
comp=Z,11nm,0.9s
SML Sawmill 53.41 34 P **P** 05 28 34.8 +0.8
SML pmax pmax
comp=Z,15nm,1.2s
SML Sawmill 53.41 34 P **P** 05 28 34.8 +0.8
SML IAmb IAmb 05 28 38.2
comp=Z,15nm,1.2s
SGDS Sogindy 53.43 303 *eP* **P** 05 28 34.0 -0.5
baz=303
FRU1 Bishkek 53.55 302 P **P** 05 28 36.6 +1.3
FRU1 pmax pmax
comp=Z,42nm,0.4s
FRU1 Bishkek 53.55 302 P **P** 05 28 36.6 +1.3
BTLS Baital 53.55 305 *eP* **P** 05 28 34.0 -1.3
baz=305
BTLS Baital 53.55 305 *eP* **P** 05 28 33.9 -1.3
USP Ospenovka 53.55 303 P **P** 05 28 36.4 +1.1
SNR=5.7
MDM Murphy Dome 53.58 30 P **P** 05 28 36.2 +1.1
MDM IAmb IAmb 05 28 49.4
comp=Z,7.5nm,1.0s
AAK Ala-Archa 53.68 302 P **P** 05 28 35.7 -0.7
comp=Z,8.8nm,1.1s,baz=113,slow=6.3,SNR=11
AAK Ala-Archa 53.68 302 P **P** 05 28 37.5 +1.1
SNR=5.5
AAK Ala-Archa 53.68 302 *i* P **P** 05 28 36.2 -0.2
AAK pmax pmax
comp=Z,12nm,1.2s
AAK Ala-Archa 53.68 302 P **P** 05 28 37.0 +0.6
AAK IAmb IAmb 05 28 38.2
comp=Z,13nm,1.2s
BRZS Berezniki 53.73 312 *eP* **P** 05 28 36.0 -0.5
baz=312
BRZS Berezniki 53.73 312 *eP* **P** 05 28 35.9 -0.5
COLA College 53.73 30*ce* **P** 05 28 40.9 +4.7
COLA pmax pmax
comp=Z,14nm,2.5s
H24K Noodor Dome 53.78 29 P **P** 05 28 37.6 +1.0
HDA Harding Lake 54.10 30 P **P** 05 28 38.9 0.0
HDA IAmb IAmb 05 28 41.3
comp=Z,4.0nm,0.7s
IL31 54.14 30 P **P** 05 28 39.1 -0.1
IL31 IAmb IAmb 05 28 41.7
comp=Z,5.9nm,0.9s
ILAR Eielson Array 54.14 30 P **P** 05 28 39.0 -0.2
comp=Z,2.8nm,0.7s,baz=261,slow=6.3,SNR=23
ILAR Eielson Array 54.14 30 P **P** 05 28 39.2 0.0
ILAR Eielson Array 54.14 30 P **P** 05 28 39.2 0.0
EKS2 Erkin-Say 54.20 302 P **P** 05 28 41.2 +1.1
SNR=5.8
AML Almayashu 54.37 302 P **P** 05 28 43.2 +1.5
SNR=14
M24K Tolsona, Glenn 54.43 33 P **P** 05 28 42.6 +1.1
M24K IAmb IAmb 05 29 06.3
comp=Z,19nm,1.1s
BVAR Borovoye Array 54.78 315 P **P** 05 28 44.4 +0.4
comp=Z,3.5nm,0.6s,baz=142,slow=7.5,SNR=16
BRVK Borovoye 54.84 316*ce* **P** 05 28 45.3 +0.9
BRVK pmax pmax
comp=Z,8.0nm,0.8s
BRVK Borovoye 54.84 316 P **P** 05 28 43.8 -0.6
BRVK IAmb IAmb 05 28 59.2
comp=Z,7.9nm,0.8s
BMAR Burnt Mountain 55.16 27 P **P** 05 28 48.5 +1.9
AS31 Alice Springs 55.24 189 P **P** 05 28 46.5 -1.2
AS31 IAmb IAmb 05 28 50.5
comp=Z,3.9nm,0.5s
ASAR Alice Springs 55.24 189 P **P** 05 28 46.9 -0.7
comp=Z,3.8nm,0.5s,baz=5.2,slow=6.1,SNR=48
ASAR S **S** 05 36 27.9 -1.6
comp=Z,1.5nm,1.1s,baz=10,slow=16,SNR=4.5
DOT Dot Lake 55.37 31 P **P** 05 28 48.5 +0.3
DOT IAmb IAmb 05 29 12.2
comp=Z,9.1nm,1.4s
SCRK Sand Creek 55.40 31 P **P** 05 28 49.0 +0.5
SCRK IAmb IAmb 05 29 05.6
comp=Z,4.0nm,0.7s
MENT Mentasta 55.55 32 P **P** 05 28 50.9 +1.4
L26K Log Cabin Wild 55.72 32 P **P** 05 28 51.8 +1.1
L26K IAmb IAmb 05 29 03.2
comp=Z,9.6nm,1.4s
L27K Beaver Creek, 56.41 32 P **P** 05 28 57.0 +1.4
L27K IAmb IAmb 05 29 01.1
comp=Z,12nm,1.5s
KK31 Karatay Array 56.44 304 P **P** 05 28 56.8 +0.6
KK31 pmax pmax
comp=Z,50nm,1.3s
KK31 Karatay Array 56.44 304 P **P** 05 28 56.8 +0.6
KKAR Karatay Array 56.44 304 P **P** 05 28 56.7 +0.6
KKAR 05 28 57.2
KKAR pmax pmax
comp=Z,50nm,1.3s
KKAR Karatay Array 56.44 304 P **P** 05 28 57.1 +1.0
KKAR Karatay Array 56.44 304 P **P** 05 28 56.7 +0.6
KKAR IAmb IAmb 05 28 57.9
comp=Z,50nm,1.2s
NIL Nilore 56.93 292 P **P** 05 29 01.6 +1.8
NIL pmax pmax
comp=Z,10.0nm,0.8s
BTK Batken 56.97 300 P **P** 05 29 00.8 +0.8
BTK pmax pmax
comp=Z,7.0nm,0.6s
BTK Batken 56.97 300 P **P** 05 29 00.8 +0.8
BTK IAmb IAmb 05 29 12.1
comp=Z,7.4nm,0.6s
IUG luzhnay 57.01 303 *eP* **P** 05 29 00.0 -0.3
baz=303
IUG luzhnay 57.01 303 *eP* **P** 05 29 00.0 -0.3
GAR Garm 57.63 299 P **P** 05 29 05.2 +0.4
CHGR Chuyangaron 58.59 299 P **P** 05 29 12.2 +0.8
INK Inuvik 59.29 25 P **P** 05 29 16.2 +0.6
comp=Z,1.5nm,0.5s,baz=251,slow=2.3,SNR=5.3
SVE Sverdlovsk 59.72 321 *eP* **P** 05 29 20.1 +1.3
SVE pmax pmax
comp=Z,22nm,1.0s
KBL Kabul 59.95 294 P **P** 05 29 21.5 +0.4
KBL pmax pmax
comp=Z,12nm,1.2s
KBL Kabul 59.95 294 P **P** 05 29 21.4 +0.4
KBL IAmb IAmb 05 29 23.3
comp=Z,12nm,1.1s
ARU Arti 60.93 321 P **P** 05 29 27.4 +0.4
comp=Z,4.3nm,0.5s,baz=51,slow=4.3,SNR=26
ARU Arti 60.93 321*c i* P **P** 05 29 27.5 +0.4
ARU 05 30 11.4
ARU 05 31 40.2
ARU S **S** 05 37 47.6 +4.5
ARU pmax pmax
comp=Z,32nm,1.1s
ARU MLR MLR
comp=Z,138nm,17.0s
ARU Arti 60.93 321 P **P** 05 29 27.5 +0.4
AB31 Akbulak array 61.98 313 P **P** 05 29 34.8 +0.5
ABKAR Akbulak array 61.98 313 P **P** 05 29 34.7 +0.4
ABKAR Akbulak array 61.98 313 P **P** 05 29 34.1 -0.2
ABKAR IAmb IAmb 05 29 49.7
comp=Z,8.4nm,0.6s
AKTO Aktyubinsk 62.83 314 P **P** 05 29 39.0 -1.0
comp=Z,4.2nm,0.5s,baz=75,slow=13,SNR=15
STKA Stephens Creek 62.89 180 P **P** 05 29 39.8 -0.6
comp=Z,2.2nm,0.7s,baz=12,slow=9.3,SNR=1.7
KIRV Kirov 65.05 325 P **P** 05 29 54.5 +0.2
comp=Z,13nm,0.5s,baz=177,slow=3.5,SNR=7.3
KIRV Kirov 65.05 325 *i* P **P** 05 29 55.5 +1.1
HRA Herat 65.26 296 P **P** 05 29 57.3 +0.8
PRGR Permogore 65.76 329 *eP* **P** 05 29 59.4 +0.4
PRGR pmax pmax
comp=Z,58nm,1.4s
GEYT Alibeck 67.01 301 P **P** 05 30 09.1 +1.6
comp=Z,12nm,0.6s,baz=200,slow=11,SNR=7.9
BELG Belogornoye 68.26 319 *i* P **P** 05 30 16.2 +1.2
BELG pmax pmax
comp=Z,3.0nm,0.9s
KLMR Klimovskoe 68.78 329 *eP* **P** 05 30 17.0 -1.1
KLMR pmax pmax
comp=Z,6.0nm,0.6s
KLMR Klimovskoe 68.78 329 *eP* **P** 05 30 17.0 -1.1
KLMR AMP 05 30 19.9
comp=Z,6.0nm,0.6s
ARCES ARCESS Array B 69.44 340 P **P** 05 30 22.6 +0.5
comp=Z,3.1nm,0.6s,baz=59,slow=10,SNR=16
ARCES ARCESS Array B 69.44 340 P **P** 05 30 23.1 +1.0
ARCES pmax pmax
comp=Z,22nm,1.4s
ARCES ARCESS Array B 69.44 340 P **P** 05 30 23.1 +1.0
OBN Obninsk 72.90 325*i* *eP* **P** 05 30 44.8 +1.6
OBN *i* 05 31 02.7
OBN *e* 05 33 26.1
OBN pmax pmax
comp=Z,9.0nm,1.1s
PINE Pine Mountain 73.76 48 P **P** 05 30 49.7 +0.8
PINE IAmb IAmb 05 31 18.5
comp=Z,12nm,0.8s
FINES FINESS Array B 74.02 333 P **P** 05 30 50.4 +0.7
comp=Z,3.9nm,0.6s,baz=93,slow=5.2,SNR=38
KBZ Khabaz 74.94 312 P **P** 05 30 55.8 +0.4
comp=Z,5.0nm,0.8s,baz=90,slow=2.4,SNR=12
KBZ LR LR 06 07 11.8
comp=Z,70nm,19.2s,baz=52,slow=38
KBZ Khabaz 74.94 312 *i* P **P** 05 30 56.3 +0.9
KBZ pmax pmax
comp=Z,15nm,0.9s
KIV Kislovodsk 74.96 312 *eP* **P** 05 30 56.6 +0.9
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,62nm,18.0s
KIV Kislovodsk 74.96 312 P **P** 05 30 57.0 +1.3
KIV IAmb IAmb 05 31 12.2
comp=Z,19nm,1.2s
SHA1 Shidzhatmaz 75.08 312 *i* P **P** 05 30 58.2 +1.6
ONI Oni 75.13 311 P **P** 05 30 58.2 +1.6
ONI pmax pmax
comp=Z,5.0nm,1.0s
ONI Oni 75.13 311 P **P** 05 30 58.2 +1.6
ONI IAmb IAmb 05 31 03.3
comp=Z,5.4nm,1.0s
WALA Waterton Lakes 75.41 41 P **P** 05 30 59.4 +1.2
WALA IAmb IAmb 05 31 00.7
comp=Z,5.6nm,1.0s
GNI Garni 75.45 308 *i* P **P** 05 31 00.7 +2.0
GNI pmax pmax
comp=Z,20nm,1.3s
GNI Garni 75.45 308 P **P** 05 30 58.7 0.0
GNI IAmb IAmb 05 31 27.2
comp=Z,15nm,1.1s
BMO Blue Mountains 75.54 46 P **P** 05 31 00.0 +1.0
BMO pmax pmax
comp=Z,2.0nm,1.0s
BMO Blue Mountains 75.54 46 P **P** 05 30 60.0 +1.0
MFID Camas Ranch 77.18 47 P **P** 05 31 09.2 +0.8
MFID IAmb IAmb 05 31 36.8
comp=Z,5.1nm,0.7s
YERR Yerington 77.20 52 P **P** 05 31 09.6 +0.9
YERR IAmb IAmb 05 31 36.3
comp=Z,6.8nm,0.4s
BMN Battle Mountai 77.82 50 P **P** 05 31 13.4 +1.4
BMN pmax pmax
comp=Z,14nm,0.5s
BMN Battle Mountai 77.82 50 P **P** 05 31 13.4 +1.4
HRY Holter Researc 77.84 43 P **P** 05 31 12.2 +0.2
KVN Kaiserville 77.94 52 P **P** 05 31 13.6 +0.8
KVN pmax pmax
comp=Z,5.0nm,0.9s
KVN Kaiserville 77.94 52 P **P** 05 31 13.6 +0.8
KVN IAmb IAmb 05 31 39.6
comp=Z,5.4nm,0.9s
LRM Limekiln Ridge 77.96 44 P **P** 05 31 13.9 +1.1
HLID Hailey 77.98 46 P **P** 05 31 14.0 +1.1
NVAR Mina Array Bea 78.12 52 P **P** 05 31 14.1 +0.3
comp=Z,2.7nm,0.7s,baz=282,slow=6.0,SNR=14
NVAR Mina Array Bea 78.12 52 P **P** 05 31 14.7 +0.9
DLMT Dillon 78.12 44 P **P** 05 31 14.8 +1.1
BOZ Bozeman (W) 78.57 43 P **P** 05 31 17.0 +0.9
BOZ pmax pmax
comp=Z,6.0nm,1.4s
BOZ Bozeman (W) 78.57 43 P **P** 05 31 17.0 +0.9
ELK Elko 78.95 49 P **P** 05 31 19.5 +1.1
ELK pmax pmax
comp=Z,5.0nm,0.9s
ELK Elko 78.95 49 P **P** 05 31 19.5 +1.1
ELK IAmb IAmb 05 31 42.5
comp=Z,5.1nm,0.8s
TPH Tonopah 79.03 52 P **P** 05 31 19.8 +1.0
TPH pmax pmax
comp=Z,17nm,1.0s
TPH Tonopah 79.03 52 P **P** 05 31 19.8 +1.0
TPH IAmb IAmb 05 31 48.8
comp=Z,17nm,1.0s
AKASG Malin Array Be 79.04 323 P **P** 05 31 17.2 -1.2
comp=Z,1.9nm,0.4s,baz=51,slow=6.4,SNR=11
AKASG LR LR 06 09 19.9
comp=Z,186nm,19.1s,baz=55,slow=38
AKASG Malin Array Be 79.04 323 P **P** 05 31 18.6 +0.3
AKASG pmax pmax
comp=Z,5.0nm,1.3s
AKASG Malin Array Be 79.04 323 P **P** 05 31 18.6 +0.3
AKBB Malin Array Si 79.04 323 P **P** 05 31 19.0 +0.7
AKBB Malin Array Si 79.04 323 P **P** 05 31 19.0 +0.7
AKBB IAmb IAmb 05 31 34.1
comp=Z,7.7nm,1.1s
HFS Hagfors 79.42 336 P **P** 05 31 20.2 0.0
comp=Z,5.5nm,0.8s,baz=143,slow=3.2,SNR=10.0
NC204 NORSAR Array S 79.53 338 P **P** 05 31 21.4 +0.5
NB2 NORSAR Subarra 79.57 338 P **P** 05 31 21.3 +0.2
comp=Z,8.3nm,1.0s,baz=40,slow=5.6
NOA NORSAR Array B 79.57 338 P **P** 05 31 21.4 +0.2
comp=Z,3.6nm,0.7s,baz=41,slow=5.4,SNR=14
NOA LR LR 06 12 46.2
comp=Z,77nm,18.3s,baz=55,slow=40
IMW Indian Meadow 79.92 45 P **P** 05 31 24.9 +1.3
IMW IAmb IAmb 05 31 28.0
comp=Z,6.6nm,0.9s
FLWY Flagg Ranch 79.96 44 P **P** 05 31 23.8 0.0
FLWY IAmb IAmb 05 31 28.5
comp=Z,10.0nm,1.1s
HVU Hansel Valley 79.96 47 P P **P** 05 31 25.2 +1.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HVU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HVU	**Hansel Valley**	**79.96**	**47**	P	**P**	**05 31 25.2**	**+1.4**
R11A	**Troy Canyon, C**	**79.98**	**51**	P	**P**	**05 31 24.3**	**+0.3**
FXWY	**Fox Creek**	**80.01**	**45**	P	**P**	**05 31 25.3**	**+1.2**
MOOW	**Moose Ponds**	**80.12**	**45**	P	**P**	**05 31 26.3**	**+1.6**
TPAW	**Teton Pass**	**80.14**	**45**	P	**P**	**05 31 24.6**	**-0.2**
REDW	**Red Top Meadow**	**80.27**	**45**	P	**P**	**05 31 26.7**	**+1.2**
LOHW	**Long Hollow**	**80.28**	**45**	P	**P**	**05 31 25.8**	**+0.3**
AHID	**Auburn Hatcher**	**80.45**	**46**	P	**P**	**05 31 26.6**	**+0.1**
PRN	**Pahroc Range**	**80.84**	**52**	P	**P**	**05 31 29.4**	**+0.8**
PSUT	**Pine Spring**	**81.03**	**50**	P	**P**	**05 31 29.9**	**+0.3**
PDAR	**Pinedale Array**	**81.39**	**45**	P	**P**	**05 31 31.6**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=271,slow=1.3,SNR=15						
PDAR	**Pinedale Array**	**81.39**	**45**	P	**P**	**05 31 31.8**	**+0.3**
NLU	**North Lily Min**	**81.41**	**48**	P	**P**	**05 31 32.1**	**+0.5**
MPU	**Maple Canyon**	**81.65**	**48**	P	**P**	**05 31 33.2**	**+0.3**
CCUT	**Cedar City**	**81.89**	**51**	P	**P**	**05 31 35.3**	**+1.1**
PFO	**Pinyon Flats O**	**81.90**	**56**	*ce*P	**P**	**05 31 35.3**	**+1.1**
PFO	**Pinyon Flats O**	**81.90**	**56**	P	**P**	**05 31 34.7**	**+0.5**
PFO				IAmb	IAmb	05 31 35.3	
	comp=Z,4.6nm,0.8s						
BNN	**Bunyan**	**82.01**	**311**	P	**P**	**05 31 36.0**	**+1.3**
GAZ	**Gaziantep**	**82.04**	**309**	P	**P**	**05 31 35.4**	**+0.6**
GAZ				IAmb	IAmb	05 31 53.2	
	comp=Z,8.5nm,0.8s						
MVU	**Marysvale**	**82.12**	**50**	P	**P**	**05 31 36.4**	**+0.9**
MSU	**Marysvale**	**82.14**	**50**	P	**P**	**05 31 36.8**	**+1.2**
MSU	**Marysvale**	**82.14**	**50**	P	**P**	**05 31 36.8**	**+1.2**
LCMT	**Little Creek M**	**82.27**	**51**	P	**P**	**05 31 36.6**	**+0.5**
LCMT				IAmb	IAmb	05 31 40.1	
	comp=Z,3.8nm,0.8s						
TMUT	**Trail Mountain**	**82.33**	**49**	P	**P**	**05 31 36.8**	**+0.2**
MTPU	**Mount Pierson**	**82.40**	**50**	P	**P**	**05 31 38.1**	**+1.0**
MTPU				IAmb	IAmb	05 31 41.4	
	comp=Z,4.2nm,0.9s						
P17A	**Butcher Ranch,**	**82.53**	**48**	P	**P**	**05 31 38.4**	**+0.9**
P17A				IAmb	IAmb	05 31 41.5	
	comp=Z,12nm,0.9s						
KNB	**Kanab**	**82.55**	**51**	P	**P**	**05 31 38.3**	**+0.7**
KNB				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KNB	**Kanab**	**82.55**	**51**	P	**P**	**05 31 38.3**	**+0.7**
KNB				IAmb	IAmb	05 31 41.5	
	comp=Z,6.3nm,0.7s						
Q16A	**Castle Valley**	**82.57**	**49**	P	**P**	**05 31 38.7**	**+1.0**
Q16A				IAmb	IAmb	05 31 41.5	
	comp=Z,7.1nm,0.8s						
RDMU	**Red Mountain**	**82.64**	**47**	P	**P**	**05 31 38.8**	**+0.7**
SRU	**San Rafael Swe**	**82.87**	**48**	P	**P**	**05 31 39.9**	**+0.6**
SRU				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SRU	**San Rafael Swe**	**82.87**	**48**	P	**P**	**05 31 39.9**	**+0.6**
SRU				IAmb	IAmb	05 31 42.5	
	comp=Z,7.1nm,0.8s						
BR131	**Keskin Array S**	**82.92**	**312**	P	**P**	**05 31 40.1**	**+0.6**
BR131				pmax	pmax		
	comp=Z,11nm,1.0s						
BR131	**Keskin Array S**	**82.92**	**312**	P	**P**	**05 31 40.1**	**+0.6**
BR131				IAmb	IAmb	05 31 42.1	
	comp=Z,11nm,1.0s						
BRTR	**Keskin Array B**	**82.92**	**312**	P	**P**	**05 31 40.2**	**+0.7**
	comp=Z,4.4nm,0.8s,baz=106,slow=4.0,SNR=27						
BRTR				LR	LR	06 12 52.2	
	comp=Z,72nm,18.4s,baz=108,slow=39						
BRTR	**Keskin Array B**	**82.92**	**312**	*i* P	**P**	**05 31 40.7**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRTR	**Keskin Array B**	**82.92**	**312**	P	**P**	**05 31 40.0**	**+0.5**
KWP	**Kalwaria Pacla**	**82.97**	**325**	P	**P**	**05 31 40.2**	**+0.8**
BURAR	**Bucovina Array**	**83.01**	**322**	P	**P**	**05 31 40.8**	**+1.1**
BURAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BURAR	**Bucovina Array**	**83.01**	**322**	P	**P**	**05 31 40.1**	**+0.3**
RSSD	**Black Hills**	**83.81**	**41**	P	**P**	**05 31 44.1**	**0.0**
RSSD				pmax	pmax		
	comp=Z,3.0nm,0.9s						
RSSD	**Black Hills**	**83.81**	**41**	P	**P**	**05 31 44.1**	**0.0**
OJC	**Ojcow**	**83.97**	**327**	P	**P**	**05 31 45.3**	**+0.8**
OJC				pmax	pmax		
	comp=Z,14nm,1.3s						
OJC	**Ojcow**	**83.97**	**327**	P	**P**	**05 31 45.3**	**+0.8**
OJC				IAmb	IAmb	05 32 04.1	
	comp=Z,14nm,1.3s						
Y14A	**Wickenburg**	**84.13**	**54**	P	**P**	**05 31 46.4**	**+0.7**
Y14A				IAmb	IAmb	05 31 48.8	
	comp=Z,5.9nm,1.1s						
PV21	**Cone Mtn., Par**	**84.18**	**48**	P	**P**	**05 31 47.0**	**+0.9**
PV23	**Carpenter Ridg**	**84.22**	**48**	P	**P**	**05 31 47.1**	**+0.8**
PV10	**Paradox Valley**	**84.24**	**48**	P	**P**	**05 31 47.3**	**+0.9**
PV14	**Lion Creek, Pa**	**84.26**	**48**	P	**P**	**05 31 47.4**	**+0.9**
PV20	**West Nyswonger**	**84.31**	**48**	P	**P**	**05 31 47.6**	**+0.9**
PV22	**Blue Mesa, Par**	**84.31**	**48**	P	**P**	**05 31 47.5**	**+0.8**
PV22				IAmb	IAmb	05 31 53.8	
	comp=Z,5.6nm,0.9s						
PV19	**Morning Glory**	**84.32**	**48**	P	**P**	**05 31 47.3**	**+0.5**
PV04	**Paradox Valley**	**84.32**	**48**	P	**P**	**05 31 47.6**	**+0.9**
PV04				IAmb	IAmb	05 31 50.3	
	comp=Z,8.0nm,0.8s						
PV17	**East Wray Mesa**	**84.35**	**48**	P	**P**	**05 31 47.8**	**+0.8**
WUAZ	**Wupatki**	**84.36**	**52**	P	**P**	**05 31 47.9**	**+1.0**
WUAZ				IAmb	IAmb	05 31 50.9	
	comp=Z,9.7nm,1.1s						
PV16	**Nyswonger Mesa**	**84.36**	**48**	P	**P**	**05 31 47.8**	**+0.9**
PV05	**Paradox Valley**	**84.38**	**49**	P	**P**	**05 31 47.8**	**+0.7**
PV11	**David Mesa, Pa**	**84.39**	**48**	P	**P**	**05 31 47.8**	**+0.7**
PV18	**Skein Mesa, Pa**	**84.40**	**48**	P	**P**	**05 31 48.0**	**+0.8**
PV12	**Saucer Basin,**	**84.43**	**48**	P	**P**	**05 31 48.1**	**+0.8**
PV03	**Paradox Valley**	**84.44**	**48**	P	**P**	**05 31 48.0**	**+0.7**
PV13	**Radium Mtn., P**	**84.51**	**48**	P	**P**	**05 31 48.3**	**+0.5**
PV02	**Paradox Valley**	**84.53**	**48**	P	**P**	**05 31 47.3**	**-0.6**
PV02				IAmb	IAmb	05 31 51.6	
	comp=Z,8.2nm,0.9s						
PV01	**Paradox Valley**	**84.68**	**48**	P	**P**	**05 31 49.2**	**+0.5**
PV01				IAmb	IAmb	05 31 51.8	
	comp=Z,8.9nm,0.8s						
X16A	**Lo Mia Camp, P**	**84.93**	**53**	P	**P**	**05 31 50.8**	**+0.9**
X16A				IAmb	IAmb	05 31 54.1	
	comp=Z,5.6nm,1.2s						
SMCO	**Snowmass**	**85.07**	**47**	P	**P**	**05 31 51.9**	**+1.1**
SMCO				IAmb	IAmb	05 31 55.0	
	comp=Z,10nm,1.1s						
MVCO	**Mesa Verde**	**85.27**	**49**	P	**P**	**05 31 52.2**	**+0.6**
MVCO				IAmb	IAmb	05 31 54.8	
	comp=Z,3.8nm,0.8s						
214A	**Organ Pipe Nat**	**85.37**	**55**	P	**P**	**05 31 52.6**	**+0.7**
214A				IAmb	IAmb	05 31 55.7	
	comp=Z,5.4nm,0.8s						
ISCO	**Idaho Springs**	**85.54**	**46**	P	**P**	**05 31 54.0**	**+1.0**
ISCO				pmax	pmax		
	comp=Z,7.0nm,1.4s						
ISCO	**Idaho Springs**	**85.54**	**46**	P	**P**	**05 31 54.0**	**+1.0**
ISCO				IAmb	IAmb	05 31 57.5	
	comp=Z,6.6nm,1.4s						
VRAC	**Vranov**	**86.09**	**328**	*e*P	**P**	**05 31 56.2**	**+1.0**
CLL	**Collm**	**86.21**	**331**	*e*P	**P**	**05 31 57.0**	**+1.4**
	comp=Z,7.0nm,1.0s						
CLL	**Collm**	**86.21**	**331**	*e*P	**P**	**05 31 57.0**	**+1.4**
KRUC	**Moravsky**	**86.36**	**328**	*e*P	**P**	**05 31 57.3**	**+0.8**
SUSD	**Miller**	**86.41**	**39**	P	**P**	**05 31 56.7**	**-0.1**
TUC	**Tucson**	**86.59**	**54**	P	**P**	**05 31 59.0**	**+1.0**
TUC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TUC	**Tucson**	**86.59**	**54**	P	**P**	**05 31 59.0**	**+1.0**
F33A	**5 Mile Ranch,**	**86.86**	**36**	P	**P**	**05 31 59.3**	**+0.3**
F33A				IAmb	IAmb	05 32 01.9	
	comp=Z,11nm,1.1s						
SDCO	**Great Sand Dun**	**86.86**	**47**	P	**P**	**05 32 00.7**	**+1.1**
GERES	**GERESS Array B**	**87.74**	**329**	P	**P**	**05 32 03.5**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=23,slow=5.3,SNR=2.3						
GERES				LR	LR	06 14 05.6	
	comp=Z,31nm,18.2s,baz=66,slow=38						
ANMO	**Albuquerque**	**87.95**	**50**	*i* P	**P**	**05 32 07.1**	**+2.4**
ANMO				pmax	pmax		
	comp=Z,14nm,3.5s						
ECSD	**EROS Data Cent**	**88.13**	**38**	P	**P**	**05 32 05.1**	**-0.1**
ECSD				IAmb	IAmb	05 32 07.8	
	comp=Z,6.9nm,1.1s						
EKA	**Eskdalemuir Ar**	**88.60**	**341**	P	**P**	**05 32 09.0**	**+1.9**
	comp=Z,1.8nm,0.8s,baz=52,slow=4.6,SNR=3.7						
EKA	**Eskdalemuir Ar**	**88.60**	**341**	P	**P**	**05 32 09.0**	**+1.9**
SPMN	**Marine on St.**	**89.04**	**35**	P	**P**	**05 32 10.1**	**+0.7**
SPMN				IAmb	IAmb	05 32 12.2	
	comp=Z,7.1nm,0.8s						
TX31	**Lajitas Ar. Si**	**93.26**	**53**	P	**P**	**05 32 30.4**	**+1.0**
TX32	**Lajitas Array**	**93.26**	**53**	P	**P**	**05 32 30.4**	**+1.0**
TXAR	**Lajitas Array**	**93.26**	**53**	P	**P**	**05 32 30.1**	**+0.6**
	comp=Z,7.2nm,0.7s,baz=301,slow=2.9,SNR=54						
TXAR	**Lajitas Array**	**93.26**	**53**	P	**P**	**05 32 30.4**	**+1.0**
TXAR	**Lajitas Array**	**93.26**	**53**	P	**P**	**05 32 30.4**	**+1.0**
R40A	**Maddies Statio**	**94.29**	**40**	P	**P**	**05 32 33.8**	**0.0**
R40A				IAmb	IAmb	05 32 36.1	
	comp=Z,5.1nm,0.7s						
CCM	**Cathedral Cave**	**95.02**	**39**	P	**P**	**05 32 36.9**	**-0.3**
CCM				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CCM	**Cathedral Cave**	**95.02**	**39**	P	**P**	**05 32 36.9**	**-0.3**
CCM				IAmb	IAmb	05 32 40.1	
	comp=Z,3.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**121.53**	**313**	PKP	**PKPdf**	**05 38 08.3**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=48,slow=1.4,SNR=6.5						
TORD				PP	**PP**	**05 39 40.7**	**+0.9**
	comp=Z,1.0nm,0.9s,baz=17,slow=11,SNR=4.2						
LPAZ	**La Paz**	**148.85**	**68**	PKPbc	**PKPbc**	**05 39 01.8**	**-1.5**
	comp=Z,1.9nm,0.6s,baz=345,slow=1.9,SNR=11						
PLCA	**Paso Flores**	**152.29**	**119**	PKPbc	**PKPbc**	**05 39 10.1**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=326,slow=3.2,SNR=5.1						

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*IDC **06** 05:56:25.8±1.9, 38.°08N×142.°68E, h0km, mb3.4/3, mb1 3.6/6, mb1mx3.4/51, mbtmp3.5/6, ML2.8/3, MS3.6/2, Ms1 3.6/2, ms1mx2.7/28, Error ellipse: s-maj=47.9km s-min=26.7km az=85.0*

*JMA **06** 05:56:33.5±0.1, 38.°03N×141.°84E, h46km±1km, M3.4*

ISC 06 05:56:31.8±1.8**, 37.°99N**±0.°04×**141.°99E**±0.°08**, h24**km±12km**, n30,** σ1.s**32**/33**, mb3.5**/3**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.52**	**308**	P	**Pb**	**05 56 43.5**	**+1.1**
JIKH				S	**Sb**	**05 56 50.1**	**+0.5**
JIO	**Ouri**	**0.69**	**312**	P	**Pb**	**05 56 45.5**	**+0.4**
JIO				S	**Sb**	**05 56 53.8**	**-0.4**
JKMT	**Kesennumamotoy**	**0.91**	**334**	P	**Pb**	**05 56 48.8**	**-0.2**
JKMT				S	**Sb**	**05 56 59.7**	**-1.0**
JMST	**Minamisoumatoc**	**0.92**	**253**	P	**Pb**	**05 56 48.6**	**-0.4**
JMST				*e*S	**Sb**	**05 56 59.5**	**-1.2**
JMM	**Marumori**	**0.96**	**263**	P	**Pn**	**05 56 49.0**	**-0.7**
JMM				S	**Sb**	**05 57 00.1**	**-1.8**
JFK	**Kawauchi**	**1.08**	**235**	P	**Pn**	**05 56 51.1**	**-0.4**
JOU	**Okura**	**1.11**	**290**	P	**Pn**	**05 56 51.5**	**-0.3**
JOU				*e*S	**Sn**	**05 57 04.6**	**-1.8**
JMK	**Ichinoseki**	**1.13**	**328**	P	**Pn**	**05 56 52.0**	**-0.1**
JMK				S	**Sn**	**05 57 05.8**	**-1.1**
JFT	**Otama**	**1.40**	**251**	P	**Pn**	**05 56 56.0**	**+0.3**
JYS	**Shirataka**	**1.54**	**279**	P	**Pn**	**05 56 57.4**	**-0.3**
JOM	**Ohasama**	**1.58**	**340**	P	**Pn**	**05 56 58.7**	**+0.5**
JYK	**Kaneyama**	**1.58**	**306**	P	**Pn**	**05 56 58.0**	**-0.3**
JYK				*e*S	**Sn**	**05 57 16.7**	**-1.2**
JRG	**Rokugo**	**1.76**	**323**	P	**Pn**	**05 57 01.4**	**+0.7**
JRG				*e*S	**Sn**	**05 57 22.1**	**-0.3**
JYA	**Atsumi**	**1.89**	**289**	P	**Pn**	**05 57 02.3**	**-0.2**
JFY	**Yanaizu**	**1.91**	**253**	P	**Pn**	**05 57 03.2**	**+0.4**
MJAR	**Matsushiro Arr**	**3.35**	**246**	Pn	**Pn**	**05 57 24.9**	**+2.3**
	0.3nm,0.3s,baz=63,slow=9.5,SNR=18						
MJAR				Sn	**Sn**	**05 58 04.5**	**+3.0**
	0.2nm,0.3s,baz=83,slow=10,SNR=1.9						
MAT	**Matsushiro**	**3.35**	**246**	P	**Pn**	**05 57 24.9**	**+2.3**
MAT				*e*S	**Sn**	**05 58 02.2**	**+0.6**
JHJ	**Hachijo jima 2**	**5.18**	**201**	Pn	**Pn**	**05 57 48.6**	**+0.8**
	8.5nm,0.3s,baz=61,slow=20,SNR=1.6						
JHJ				Sn	**Sn**	**05 58 44.0**	**-2.9**
	13nm,0.3s,baz=66,slow=21,SNR=1.8						
ASAJ	**Asahikawa**	**6.13**	**4**	Pn	Pn	05 57 54.8	-6.1
	0.1nm,0.3s,baz=180,slow=20,SNR=2.0						
ASAJ				Sn	Sn	05 59 00.1	-10
	0.1nm,0.3s,baz=220,slow=8.6,SNR=1.6						
H11N2	**WAKE ISLAND Hy**	**28.26**	**123**	T	T	06 32 35.6	
	baz=316,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**28.27**	**123**	T	T	06 32 39.7	
	baz=316,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**28.28**	**123**	T	T	06 32 36.8	
	baz=316,slow=76,SNR=9.8						
H11S1	**WAKE ISLAND Hy**	**29.01**	**125**	T	T	06 33 37.7	
	baz=318,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**29.01**	**125**	T	T	06 33 38.0	
	baz=318,slow=76,SNR=21						
H11S2	**WAKE ISLAND Hy**	**29.03**	**125**	T	T	06 33 38.9	
	baz=318,slow=76,SNR=22						
MKAR	**Makanchi Array**	**44.01**	**301**	P	**P**	**06 04 39.1**	**+1.9**
	0.1nm,0.4s,baz=97,slow=7.4,SNR=2.0						
HNR	**Honiara**	**50.07**	**157**	LR	LR	06 25 27.1	
	comp=Z,64nm,19.4s,baz=188,slow=35						
FITZ	**Fitzroy Crossi**	**57.87**	**198**	LR	LR	06 29 26.1	
	comp=Z,53nm,19.1s,baz=202,slow=34						
WRA	**Warramunga Arr**	**58.07**	**188**	P	**P**	**06 06 21.8**	**-1.2**
	0.6nm,0.6s,baz=7.6,slow=7.4,SNR=8.9						
ASAR	**Alice Springs**	**61.80**	**188**	P	**P**	**06 06 47.9**	**-0.7**
	0.3nm,0.7s,baz=10,slow=5.7,SNR=2.8						

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*MEX **06** 06:08:18.3±0.7, 14.°77N×94.°82W, h21km±19km, MD4.1*

*NEIC **06** 06:08:19.3±1.6, 14.°96N±0.°09×94.°74W±0.°07, h23km±10km, Error ellipse: s-maj=13.4km s-min=8.3km az=207.0*

ISC 06 06:08:20.4±1.0**, 15.°04N**±0.°08×**94.°66W**±0.°06**, h28**km**, n39,** σ1.s**61**/44**, mb4.1**/6**, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.54**	**64**	*e*P	**Pn**	**06 08 44.9**	**-1.1**
PCIG				*e*S	**Sn**	**06 09 06.9**	**+1.8**
PCIG		**1.54**	**64**		**Pn**	**06 08 44.9**	**-1.1**
PCIG					**Sn**	**06 09 06.9**	**+1.8**
TGIG		**2.28**	**40**	*e*P	**Pn**	**06 08 56.7**	**+0.5**
TGIG				*i* S	**Sn**	**06 09 20.8**	**-2.6**
TGIG		**2.28**	**40**		**Pn**	**06 08 56.7**	**+0.5**
TGIG					**Sn**	**06 09 20.8**	**-2.6**
THIG		**2.32**	**93**	*e*P	**Pn**	**06 08 54.9**	**-1.8**
THIG				*e*P	**Pb**	**06 09 00.8**	**-0.7**
THIG				*e*S	**Sn**	**06 09 21.8**	**-2.4**
THIG				*e*S	Sb	06 09 21.9	-7.8
THIG		**2.32**	**93**		**Pb**	**06 09 00.8**	**-0.7**
THIG					**Sn**	**06 09 21.9**	**-2.4**
CCIG	**Comitan**	**2.73**	**63**	*e*P	**Pn**	**06 09 04.6**	**+2.1**
CCIG				*e*S	**Sb**	**06 09 41.5**	**-0.2**
CCIG	**Comitan**	**2.73**	**63**		**Pn**	**06 09 05.0**	**+2.4**
HUEH	**Huehuetenango**	**3.06**	**84**	Pn	**Pn**	**06 09 08.1**	**+1.0**
TLIG	**Tlapa**	**4.52**	**304**		**Pn**	**06 09 25.4**	**-1.7**
PETF	**Flores**	**4.97**	**67**		**Pn**	**06 09 33.6**	**+0.3**
MTO3	**Montecristo**	**5.17**	**96**	Pn	**Pn**	**06 09 35.5**	**-0.6**
SOR	**Soroa**	**13.45**	**53**	Pn	**Pn**	**06 11 29.5**	**0.0**
435B	**Jarrell**	**15.90**	**351**	Pn	**Pn**	**06 12 03.0**	**+0.7**
435B				IAmb	IAmb	06 12 31.9	
	comp=Z,5.6nm,0.5s						
JCT	**Junction City**	**16.08**	**344**	Pn	**Pn**	**06 12 04.4**	**-0.2**
TXAR	**Lajitas Array**	**16.48**	**331**	Pn	**Pn**	**06 12 09.8**	**0.0**
TX31	**Lajitas Ar. Si**	**16.48**	**331**		**Pn**	**06 12 09.2**	**-0.6**
TX32	**Lajitas Array**	**16.48**	**331**		**Pn**	**06 12 09.1**	**-0.7**
WHTX	**Lake Whitney,**	**17.07**	**352**	P	**Pn**	**06 12 16.1**	**-1.0**
ABTX	**Abilene, Hawle**	**18.09**	**346**		**Pn**	**06 12 29.7**	**0.0**
ABTX				IAmb	IAmb	06 12 54.8	
	comp=Z,5.7nm,0.7s						
FNO	**Franklin**	**20.29**	**354**	P	Pn	06 12 59.8	+3.7
OKCFA	**Oklahoma City**	**20.45**	**353**	P	Pn	06 12 57.0	-1.0
OKCFA				IAmb	IAmb	06 13 21.0	
	comp=Z,8.2nm,0.7s						
CBOC	**Ciudad Bolivar**	**20.46**	**114**	*e*P	Pn	06 12 59.3	+0.9
AMTX	**Amarillo**	**20.75**	**344**	P	**P**	**06 12 59.1**	**0.0**
FCAR	**Ozark Folk Cen**	**20.89**	**6**	P	**P**	**06 13 00.1**	**-0.4**
FCAR				IAmb	IAmb	06 13 00.6	
	comp=Z,6.2nm,1.2s						
OK031	**S. Brethren Rd**	**20.92**	**355**	P	**P**	**06 13 00.8**	**0.0**
OK031				IAmb	IAmb	06 13 26.8	
	comp=Z,7.2nm,0.8s						
U38A	**Gravette**	**21.32**	**1**	P	**P**	**06 13 06.6**	**+1.5**
U38A				IAmb	IAmb	06 13 29.9	
	comp=Z,12nm,1.5s						
GUY2C	**Guyana, Caldas**	**21.33**	**115**	*e*P	**P**	**06 13 06.8**	**+1.0**
TOLC	**Tolima**	**21.68**	**117**	*e*P	**P**	**06 13 15.0**	**+5.5**
BLOK	**Blackwell**	**21.76**	**354**	P	**P**	**06 13 09.2**	**-0.6**
BLOK				IAmb	IAmb	06 13 13.5	
	comp=Z,19nm,1.2s						
ORTC	**Ortega, Tolima**	**22.08**	**118**	*e*P	**P**	**06 13 14.8**	**+1.3**
CHIC	**Chingaza**	**23.04**	**115**	*e*P	**P**	**06 13 27.4**	**+3.3**
RUSC	**La Rusia**	**23.06**	**111**	P	**P**	**06 13 23.2**	**-1.1**
RUSC				IAmb	IAmb	06 13 36.1	
	comp=Z,9.3nm,1.3s						
R40A	**Maddies Statio**	**23.26**	**5**	P	**P**	**06 13 25.2**	**-0.4**
R40A				IAmb	IAmb	06 13 27.3	
	comp=Z,4.7nm,1.1s						
WUAZ	**Wupatki**	**25.31**	**327**	P	**P**	**06 13 44.6**	**-0.3**
WUAZ				IAmb	IAmb	06 13 49.0	
	comp=Z,4.2nm,1.0s						
TRNY	**Table Rock, Ra**	**31.49**	**30**	P	**P**	**06 14 40.7**	**+0.9**
TPAW	**Teton Pass**	**31.60**	**337**	P	**P**	**06 14 40.1**	**-0.9**
TPAW				IAmb	IAmb	06 14 42.1	
	comp=Z,8.2nm,1.6s						
AGMN	**Agassiz Nation**	**33.18**	**359**	P	**P**	**06 14 54.3**	**-0.3**
MCMT	**McKenzie Canyo**	**33.46**	**336**	P	**P**	**06 14 58.0**	**+0.7**

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*KRNET **06** 06:12:49.6±0.1, 39.°02N×70.°90E, h9km, mb2.9*

ISC 06 06:12:50.5±1.2**, 39.°14N**±0.°07×**70.°81E**±0.°05**, h10**km**, n7,** σ1.s**87**/13**, 4C-8D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**0.41**	**251**	⇑*i*P	**Pg**	**06 12 58.3**	**-0.3**
	baz=67						
GAR				⇑*i*S	**Sg**	**06 13 04.7**	**+0.7**
	baz=67						
DRK	**Karamyk**	**0.84**	**66**	⇓*i*P	**Pg**	**06 13 05.8**	**-0.9**
	baz=57						
DRK				⇓*i*S	**Sb**	**06 13 17.4**	**-1.4**
	baz=57						
BTK	**Batken**	**0.92**	**0**	⇓*i*P	**Pn**	**06 13 09.3**	**-0.3**
	baz=57						
BTK				⇓*i*S	**Sn**	**06 13 23.9**	**+1.0**
	baz=57						
CHGR	**Chuyangaron**	**1.38**	**250**	⇑*i*P	**Pn**	**06 13 16.3**	**+0.5**
	baz=56						
CHGR				⇑*i*S	**Sg**	**06 13 35.5**	**+0.7**
	baz=56						
TRKS	**Terek-Say**	**2.40**	**6**	⇓*i*P	**Pb**	**06 13 33.3**	**-0.6**
	baz=5.0						
TRKS				⇓*i*S	**Sb**	**06 14 04.1**	**+0.4**
	baz=5.0						
KK31	**Karatay Array**	**3.97**	**357**	⇓Pn	**Pb**	**06 13 57.1**	**-3.4**
	1.3nm,0.3s,baz=175,slow=12,SNR=34						
KK31				⇓Sn	**Sb**	**06 14 49.5**	**+0.9**
	2.5nm,0.6s						
KK31				Lg	Lg	06 15 06.8	
	3.1nm,0.6s,baz=171,slow=32,SNR=4.3						
AAK	**Ala-Archa**	**4.47**	**37**	Pg	**Pn**	**06 14 02.6**	**+4.1**
	1.0nm,0.6s						
AAK				Lg	Lg	06 14 59.7	
	2.5nm,0.7s						

IDC 06 06:15:03.5±4.0**, 30.°12S**×**138.°67E, h0**km**, mb1 3.0**/3**, mb1mx3.0**/25**, mbtmp2.7**/3**, ML2.3**/3**, Error ellipse: s-maj=140.2km s-min=17.3km az=45.0, South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.06**	**126**	Pn	Pn	06 15 53.7	+0.6
	0.1nm,0.3s,baz=308,slow=12,SNR=1.9						
STKA				Pg	Pb	06 15 59.9	+1.1
	0.4nm,0.3s,baz=307,slow=10,SNR=5.0						
STKA				Sn	Sn	06 16 30.6	+0.2
	0.5nm,0.3s,baz=263,slow=15,SNR=3.7						
STKA				Lg	Lg	06 16 39.9	
	1.0nm,0.3s,baz=26,slow=7.4,SNR=4.7						
ASAR	**Alice Springs**	**7.71**	**325**	Pn	Pn	06 16 56.0	-1.1
	0.0nm,0.3s,baz=152,slow=12,SNR=5.3						
ASAR				Sn	Sn	06 18 12.5	-13
	0.1nm,0.3s,baz=83,slow=25,SNR=4.2						
WRA	**Warramunga Arr**	**10.87**	**338**	Pn	Pn	06 17 41.1	+0.8
	0.0nm,0.3s,baz=157,slow=13,SNR=2.0						

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*IDC **06** 06:32:16.0±0.9, 25.°78N×143.°04E, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.5/36, mbtmp3.6/6, ML2.4/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/36, Error ellipse: s-maj=35.9km s-min=17.8km az=79.0*

ISC 06 06:32:21.0±1.0**, 25.°8N**±0.°1×**143.°0E**±0.°2**, h35**km**, n15,** σ1.s**11**/9**, mb3.8**/5**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.51**	**330**	Pn	**Pn**	**06 32 45.3**	**-0.3**
	32nm,0.3s,baz=50,slow=4.4,SNR=31						
JCJ				Sn	**Sn**	**06 33 05.9**	**+1.8**
	116nm,0.3s,baz=287,slow=23,SNR=20						
MJAR	**Matsushiro Arr**	**11.49**	**340**	Pn	**Pn**	**06 35 01.3**	**-1.3**
	0.0nm,0.3s,baz=146,slow=17,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**22.81**	**100**	T	T	07 00 56.6	
	baz=290,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**22.81**	**100**	T	T	07 00 55.4	
	baz=290,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**22.82**	**100**	T	T	07 00 57.7	
	baz=290,slow=75,SNR=13						
H11S3	**WAKE ISLAND Hy**	**23.07**	**104**	T	T	07 01 18.1	
	baz=294,slow=74,SNR=3.6						
H11S1	**WAKE ISLAND Hy**	**23.07**	**103**	T	T	07 01 20.8	
	baz=294,slow=74,SNR=3.7						
H11S2	**WAKE ISLAND Hy**	**23.08**	**104**	T	T	07 01 18.9	
	baz=294,slow=74,SNR=4.1						
KLR	**Kul'dur**	**25.01**	**342**	LR	LR	06 46 57.5	
	comp=Z,42nm,20.7s,baz=224,slow=35						
WRA	**Warramunga Arr**	**46.22**	**191**	P	**P**	**06 40 43.3**	**+0.5**
	1.0nm,0.6s,baz=10,slow=8.8,SNR=16						
ASAR	**Alice Springs**	**49.94**	**191**	P	**P**	**06 41 11.3**	**-0.3**
	0.2nm,0.6s,baz=17,slow=9.7,SNR=2.3						
ILAR	**Eielson Array**	**58.51**	**28**	P	**P**	**06 42 13.1**	**-0.4**
	0.7nm,0.8s,baz=259,slow=6.9,SNR=7.3						
FINES	**FINESS Array B**	**79.46**	**334**	P	**P**	**06 44 23.3**	**-0.2**
	1.2nm,0.9s,baz=73,slow=3.7,SNR=6.1						
NVAR	**Mina Array Bea**	**80.74**	**52**	P	**P**	**06 44 32.5**	**+1.3**
	0.3nm,0.7s,baz=300,slow=3.8,SNR=2.8						
LPAZ	**La Paz**	**149.50**	**78**	PKPbc	**PKiKP**	**06 52 08.8**	**-0.4**
	0.7nm,0.8s,baz=253,slow=8.7,SNR=3.8						

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*IDC **06** 06:40:46.9±2.5, 60.°61S×47.°04W, h0km, mb3.8/1, mb1 3.8/1, mb1mx3.4/17, mbtmp3.8/1, MS3.3/2, Ms1 3.2/2, ms1mx2.9/20, Error ellipse: s-maj=148.3km s-min=82.8km az=180.0*

ISC 06 06:40:45.0±2.1**, 60.°7S**±0.°3×**48.°9W**±0.°6**, h10**km**, n12,** σ1.s**90**/6**, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**18.75**	**140**	P	**Pn**	**06 45 05.3**	**+1.4**
VNA1	**Neumayer--Stat**	**19.07**	**138**	P	**Pn**	**06 45 09.4**	**+1.6**
VNA2	**Neumayer--Watz**	**19.40**	**139**	P	**P**	**06 45 08.2**	**-2.5**
	baz=258,slow=1.5						
SNAA	**Sanae**	**20.97**	**140**	P	P	06 45 36.0	+8.1
PLCA	**Paso Flores**	**24.00**	**316**	LR	LR	06 53 35.4	
	comp=Z,21nm,21.4s,baz=166,slow=31						
H10N3	**ASCENSION HYDR**	**58.62**	**41**	T	T	07 53 37.4	
	baz=199,slow=75,SNR=10						
H10N1	**ASCENSION HYDR**	**58.63**	**41**	T	T	07 53 40.3	
	baz=199,slow=75,SNR=10						
H10N2	**ASCENSION HYDR**	**58.64**	**41**	T	T	07 53 30.7	
	baz=199,slow=75,SNR=7.9						
URZ	**Urewera**	**74.49**	**216**	LR	LR	07 22 21.0	
	comp=Z,60nm,18.0s,baz=211,slow=33						
TORD	**Torodi Ar. Bea**	**83.80**	**49**	P	**P**	**06 53 14.1**	**-0.1**
	0.7nm,0.9s,baz=188,slow=5.5,SNR=2.8						
ILAR	**Eielson Array**	**144.66**	**313**	PKPbc	**PKiKP**	**07 00 23.8**	**0.0**
	0.3nm,0.6s,baz=146,slow=1.3,SNR=4.4						
MKAR	**Makanchi Array**	**148.78**	**94**	PKPbc	**PKPbc**	**07 00 32.0**	**+0.6**
	0.3nm,0.5s,baz=228,slow=1.8,SNR=4.2						

MEX 06 06:43:59.9±0.5**, 17.°22N**×**101.°20W, h4**km±5km**, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.46**	**326**	*e*P	Pg	06 44 08.5	-0.3
ZIIG				*i* S	Sg	06 44 14.9	+0.1
UON	**La Union**	**0.95**	**322**	*e*P	Pg	06 44 15.9	-2.2
UON				*i* S	Sg	06 44 28.8	-1.7
ARIG	**Puente Sto Nin**	**1.33**	**37**	*e*P	Pn	06 44 20.3	-5.0
ARIG				*e*S	Sg	06 44 35.7	-7.0
DAIG	**Los Arroyos**	**1.49**	**97**	*e*P	Pn	06 44 24.0	-3.4
DAIG				*e*S	Sn	06 44 40.3	-7.0
MEIG	**Mezcala**	**1.66**	**65**	*e*P	Pn	06 44 26.3	-3.5
MEIG				*e*S	Sn	06 44 46.5	-5.1
PLIG	**Platanillo**	**1.99**	**54**	*e*P	Pn	06 44 31.4	-3.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PLIG				eS	Sn	06 44 57.1	-2.7
MGIG	Malinaltepec	2.45	89	eP	Pn	06 44 41.2	+0.4
MGIG				eS	Sn	06 45 11.4	+0.2
TLIG	Tlapa	2.53	82	eP	Pb	06 44 44.1	-1.9
TLIG				i S	Sn	06 45 14.5	+1.2

IDC 06 06:55:24.5±3.4, 24°.48N×109°.15W, h0^{km}, mb3.6/1, mb1 3.8/5, mb1mx3.6/32, mbtmp3.4/5, ML3.6/4, MS2.9/3, Ms1 2.9/3, ms1mx2.7/30, Error ellipse: s-maj=61.8km s-min=10.9km az=145.0

MEX 06 06:55:27.8±0.6, 25°.10N×109°.66W, h5^{km}, MD3.9

ISC 06 06:55:27.5±0.9, 24°.89N±0°.06×109°.46W±0°.06, h17^{km}, n14, σ2^{s}25/19, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSIG	Topolobambo	0.81	28	eP	Pb	06 55 40.8	-2.2
TSIG				eS	Sb	06 55 50.2	-3.5
LPIG	La Paz	1.10	225	Pg	Pb	06 55 46.8	-1.3
	23nm,0.3s,baz=49,slow=6.5,SNR=27						
LPIG				Lg	Lg	06 55 59.9	
	125nm,0.3s,baz=3.1,slow=21,SNR=13						
LPIG				LR	LR	06 56 14.3	
	comp=Z,107nm,20.4s,baz=88,slow=44						
LPIG	La Paz	1.10	225	eP	Pb	06 55 46.7	-1.4
LPIG				eS	Sg	06 56 04.0	+0.8
SSIG	Sanalona	2.11	91	eP	Pn	06 56 01.3	-0.7
SSIG				eS	Sn	06 56 26.2	-1.6
CSIG	Choix	2.17	27	eP	Pn	06 55 59.9	-2.9
CSIG				eS	Sb	06 56 31.0	-1.9
PDIG	Papasquiaro	3.69	87	eP	Pn	06 56 23.5	-0.5
PDIG				eS	Sb	06 57 16.4	-0.6
HPIG		3.98	58	eP	Pn	06 56 28.1	+0.2
HPIG				eS	Sn	06 57 15.1	+0.8
TXAR	Lajitas Array	6.80	48	Pn	Pn	06 57 05.9	-0.8
	0.2nm,0.3s,baz=224,slow=13,SNR=17						
TXAR				Pg	Pb	06 57 27.8	+2.5
	0.2nm,0.3s,baz=222,slow=15,SNR=5.2						
TXAR				Sn	Sn	06 58 22.0	-1.8
	0.4nm,0.3s,baz=229,slow=25,SNR=1.2						
TXAR				Lg	Lg	06 58 59.8	
	0.5nm,0.3s,baz=222,slow=23,SNR=2.1						
ANMO	Albuquerque	10.36	14	Pn	Pn	06 57 58.1	+2.7
	0.1nm,0.3s,baz=199,slow=12,SNR=6.2						
ANMO				Lg	Lg	07 00 52.9	
	0.1nm,0.3s,baz=239,slow=7.3,SNR=3.2						
ANMO				LR	LR	07 01 47.4	
	comp=Z,57nm,18.1s,baz=190,slow=36						
NVAR	Mina Array Bea	15.45	333	Pn	P	06 59 12.2	+2.9
	0.1nm,0.3s,baz=151,slow=13,SNR=5.8						
PDAR	Pinedale Array	17.83	360	P	P	06 59 39.9	+4.2
	0.1nm,0.3s,baz=162,slow=12,SNR=9.1						
NEW	Newport	24.10	347	LR	LR	07 09 12.6	
	comp=Z,35nm,20.5s,baz=260,slow=34						
TKL	Tuckaleechee C	24.58	58	LR	LR	07 09 37.4	
	comp=Z,32nm,21.5s,baz=259,slow=35						
ILAR	Eielson Array	46.59	339	P	P	07 03 59.4	+5.2
	0.8nm,0.9s,baz=144,slow=6.0,SNR=7.4						

MEX 06 06:59:47.6±1.7, 15°.77N×98°.12W, h8^{km}±422^{km}, MD3.5, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.61	359	i P	Pg	06 59 56.9	-2.6
PNIG				i S	Sg	07 00 04.1	-3.5
YOIG	Yosondua	1.21	27	eP	Pg	07 00 07.0	-3.9
YOIG				i S	Sg	07 00 22.7	-3.9
MGIG	Malinaltepec	1.53	341	i P	Pn	07 00 11.7	-3.8
MGIG				i S	Sn	07 00 31.4	-4.2

IDC 06 07:03:27.0±3.2, 27°.07S×65°.01W, h0^{km}, mb3.3/2, mb1 3.5/4, mb1mx3.5/22, mbtmp3.3/4, ML3.5/2, Error ellipse: s-maj=84.1km s-min=25.7km az=14.0, Tucuman Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	Villa Florida	6.91	86	Pn	Pn	07 05 10.5	+1.0
	1.1nm,0.3s,baz=262,slow=13,SNR=24						
CPUP				Lg	Lg	07 07 06.3	
	2.3nm,0.3s,baz=7.4,slow=19,SNR=5.2						
LPAZ	La Paz	11.11	344	Pn	Pn	07 06 07.5	-0.2
	0.0nm,0.3s,baz=163,slow=18,SNR=2.6						
TXAR	Lajitas Array	67.20	324	P	P	07 14 23.5	+0.3
	0.1nm,0.4s,baz=142,slow=9.2,SNR=1.6						
TORD	Torodi Ar. Bea	76.04	67	P	P	07 15 16.1	-0.5
	0.4nm,0.8s,baz=232,slow=7.1,SNR=1.9						

MEX 06 07:22:14.1±0.6, 16°.92N×100°.62W, h20^{km}, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAIG	Los Arroyos	0.93	84	eP	Pb	07 22 27.4	-4.2
DAIG				eS	Sb	07 22 38.7	-4.8
ARIG	Puente Sto Nin	1.37	11	eP	Pn	07 22 35.0	-3.2
ARIG				i S	Sn	07 22 52.0	-3.9
MEIG	Mezcala	1.38	44	eP	Pn	07 22 34.5	-3.8
MEIG				eS	Sn	07 22 51.2	-4.8
PLIG	Platanillo	1.81	36	eS	Sn	07 23 05.3	-1.3
MGIG	Malinaltepec	1.92	80	eP	Pn	07 22 44.2	-1.7
MGIG				i S	Sn	07 23 07.8	-1.7
TLIG	Tlapa	2.06	72	eP	Pn	07 22 46.3	-1.4
TLIG				eP	Pb	07 22 46.5	-4.4
TLIG				i S	Sn	07 23 09.2	-3.7

NIC 06 07:28:41.8±0.0, 35°.24N×31°.09E, h16^{km}±1^{km}, Ml3.2/5

ISK 06 07:28:42.0, 35°.60N×31°.43E, h7^{km}, ML3.0/23

DDA 06 07:28:45.8, 35°.83N×31°.56E, h7^{km}±1^{km}, ML2.5

ISC 06 07:28:41.6±1.2, 35°.58N±0°.03×31°.39E±0°.03, h9^{km}±10^{km}, n57, σ1^{s}47/76, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMS	Akamas	0.95	125	P	Pb	07 29 00.9	+0.6
AKMS				S	Sn	07 29 17.2	+2.3
AKMS				AML	AML	07 29 21.7	
	1.7nm,0.4s						
AKMS				AML	AML	07 29 21.7	
	1.7nm,0.4s						
AKMS				AML	AML	07 29 22.4	
	2.8nm,0.3s						
AKMS				AML	AML	07 29 22.4	
	2.8nm,0.3s						
GAZI	Gazipasa	1.00	49	i P	Pg	07 28 60.0	-0.9
GAZI				i S	Sg	07 29 09.9	-3.9
ALFC	Alefka	1.07	113	S	Sn	07 29 21.1	+3.2
ALFC				AML	AML	07 29 24.1	
	1.6nm,0.3s						
ALFC				AML	AML	07 29 25.6	
	1.6nm,0.2s						
NATA	Nata	1.25	129	P	Pg	07 29 06.1	+0.5
NATA				S	Sn	07 29 23.0	+0.8
NATA				AML	AML	07 29 31.0	
	2.0nm,0.3s						
NATA				AML	AML	07 29 31.0	
	2.0nm,0.3s						
NATA				AML	AML	07 29 33.3	
	2.1nm,0.5s						
NATA				AML	AML	07 29 33.3	
	2.1nm,0.5s						
LEF	Lefka	1.31	110	PN	Pn	07 29 06.4	+0.4
LEF				SN	Sn	07 29 24.1	+0.5
AKDN	Akdeniz- Kıbrı	1.32	102	PN	Pg	07 29 06.9	0.0
AKDN				SN	Sn	07 29 25.2	+1.4
KEPZ	Antalya-Kepez	1.33	7	i P	Pn	07 29 04.2	-2.3
KEPZ				i S	Sb	07 29 22.1	-2.0
KEPZ				IAML		07 29 26.0	
	comp=E,95nm,0.7s						
ANTB	Antalya	1.45	336	PN	Pb	07 29 08.9	+0.2
SZAC	Souni	1.47	123	P	Pn	07 29 09.0	+0.7
SZAC				AML	AML	07 29 31.8	
	comp=E,0.5nm,0.4s						
SZAC				AML	AML	07 29 35.8	
	comp=E,0.6nm,0.5s						
TEKE	Tekeli-Mersin	1.51	68	PN	Pn	07 29 08.1	-0.7
TEKE				SN	Sg	07 29 29.8	-0.5
AKAS	Kas	1.59	295	i P	Pb	07 29 12.1	+0.9
AKAS	Kas	1.59	295	PN	Pb	07 29 11.6	+0.4
ERMK	Ermenek	1.63	49	i P	Pg	07 29 13.8	+0.9
KORT	Korkueli	1.65	330	i P	Pb	07 29 12.4	+0.2
KORT				i S	Sg	07 29 37.3	+2.5
KORT				IAML		07 29 45.0	
	comp=E,92nm,0.9s						
KORT	Korkueli	1.65	330	PN	Pb	07 29 12.1	-0.2
ELL	Elmali	1.67	315	PN	Pn	07 29 12.6	+1.4
ELL	Elmali	1.67	315	P	Pn	07 29 11.7	+0.5
BERE	Bereket-Mersin	1.68	62	PN	Pb	07 29 11.9	-0.8
ATHAL	Athalassa	1.70	104	S	Sg	07 29 38.8	+2.6
CSS	Mathiatis	1.70	110	PN	Pb	07 29 12.6	-0.5
CSS	Mathiatis	1.70	110	P	Pb	07 29 13.0	-0.1
CSS				S	Sg	07 29 37.1	+0.7
ASGA	Asgata	1.72	117	P	Pb	07 29 13.3	0.0
ASGA				AML	AML	07 29 43.8	
	comp=E,0.7nm,0.7s						
ASGA				AML	AML	07 29 46.0	
	comp=E,0.5nm,0.4s						
LFK	Lefkose	1.78	99	PN	Pn	07 29 13.5	+1.0
AKK1	Akkuyu-Mersin	1.84	71	PN	Pb	07 29 14.3	-1.1
AKK2	Akkuyu-Mersin	1.84	72	PN	Pb	07 29 14.4	-1.0
AKKU	Akkuyu-Mersin	1.85	71	PN	Pb	07 29 14.5	-1.1
GULN	MERSIN_Gulnar	1.85	70	i P	Pb	07 29 15.0	-0.6
GULN				i S	Sn	07 29 37.3	+0.3
GULN				IAML		07 29 43.0	
	comp=E,45nm,0.7s						
GULN				IAML		07 29 44.0	
	comp=N,68nm,0.6s						
SEYD	Seydisehir-KON	1.86	11	PN	Pn	07 29 14.3	+0.5
BUCA	Burdur, Bucak-	1.87	339	i P	Pb	07 29 16.5	+0.5
BUCA				i S	Sg	07 29 42.4	+0.6
BUCA				IAML		07 29 49.0	
	comp=E,39nm,0.5s						
TEVE	Tevekalti-Mers	1.88	62	PN	Pn	07 29 14.6	+0.7
SEDI	Konya, Seydise	1.90	9	i P	Pn	07 29 13.1	-1.1
SEDI				i S	Sb	07 29 39.3	-1.0
SEDI				IAML		07 29 44.0	
	comp=E,69nm,0.6s						
SEDI				IAML		07 29 44.0	
	comp=N,72nm,0.5s						
MVOU	Mavrovouni	1.92	106	P	Pn	07 29 15.4	+1.0
YESI	Yesilovacik-Me	1.93	71	PN	Pb	07 29 15.8	-1.2
TISA	Tisan-Mersin	1.95	72	PN	Pn	07 29 15.9	+1.1
IKL	Isikli	1.98	70	PN	Pn	07 29 16.1	+0.9
KARG	Kargicak-Mersi	1.99	71	PN	Pn	07 29 16.4	+1.1
BCK	Bucak	1.99	341	PN	Pb	07 29 17.2	-0.8
KKBE	Karaman, Kazim	2.06	37	i P	Pn	07 29 17.3	+0.8
KKBE				i S	Sb	07 29 45.4	+0.2
KKBE				IAML		07 29 53.0	
	comp=N,60nm,0.5s						
KEBE	Keben-Mersin	2.08	65	PN	Pn	07 29 17.7	+1.0
KRMN	Karaman	2.20	43	PN	Pn	07 29 19.0	+0.6
SILI	Silifke-Mersin	2.20	68	PN	Pn	07 29 19.2	+0.9
EREN	Erenkoy	2.27	90	i P	Pb	07 29 22.5	-0.2
EREN				i S	Sn	07 29 48.4	+1.1
EREN				IAML		07 29 56.0	
	comp=E,50nm,0.6s						
EREN				IAML		07 29 57.0	
	comp=N,64nm,0.5s						
EREN	Erenkoy	2.27	90	PN	Pn	07 29 20.6	+1.4
KMER	Konya-Meram	2.33	20	i P	Pb	07 29 22.2	-1.6
KMER				i S	Sb	07 29 52.1	-0.5
KMER				IAML		07 29 56.0	
	comp=E,36nm,0.8s						
KMER				IAML		07 29 57.0	
	comp=N,43nm,0.5s						
ISP	Isparta	2.35	343	PN	Pn	07 29 21.9	+1.5
KIZK	Mersin	2.41	67	i P	Pn	07 29 22.6	+1.4
KIZK				i S	Sn	07 29 50.5	-0.3
KIZK	Mersin	2.41	67	PN	Pn	07 29 22.2	+1.0
BAGO	Egridir - ISPA	2.46	349	i P	Pn	07 29 22.1	+0.2
BAGO				i S	Sb	07 29 54.8	-1.6
KONT	Konya--Tatoy	2.49	18	i P	Pn	07 29 24.0	+1.7
KONT	Konya--Tatoy	2.49	18	PN	Pn	07 29 23.8	+1.5
DOGA	KONYA_Doganhis	2.54	5	i P	Pn	07 29 24.7	+1.6
DOGA				i S	Sn	07 29 53.8	-0.3
DOGA				IAML		07 29 58.0	
	comp=N,22nm,0.8s						
OSC2	CSNet OBS 4	2.60	163	P	Pn	07 29 20.3	-3.4
OSC2				S	Sn	07 29 49.7	-5.7
YVAC	Isparta, Yalva	2.69	358	i P	Pn	07 29 24.8	-0.3
LADK	Ladik-KONYA	2.73	16	PN	Pn	07 29 27.1	+1.4
MERS	Mersin	2.84	62	PN	Pn	07 29 28.5	+1.3
KERG	Konya-Eregli	2.87	49	i P	Pn	07 29 29.1	+1.5
YESY	Yesilyurt	2.91	40	PN	Pn	07 29 29.5	+1.4

BJI 06 07:40:44.3±0.0, 31°.30N×142°.02E, h13^{km}, mB4.9/64, mb5.0/70, Ms5.2/82, Ms7 5.0/78

IDC 06 07:40:45.7±0.4, 31°.22N×141°.89E, h0^{km}, mb4.8/36, mb1 4.9/41, mb1mx4.8/53, mbtmp4.8/41, ML3.8/3, MS4.6/40, Ms1 4.6/40, ms1mx4.5/53, Error ellipse: s-maj=12.9km s-min=9.7km az=93.0

MOS 06 07:40:46.2±1.0, 31°.24N×141°.77E, h11^{km}, mb5.2/86, MS4.8/20, Error ellipse: s-maj=6.7km s-min=3.9km az=114.8

NIED 06 07:40:47.1, 31°.33N×142°.11E, h42^{km}, MW5.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}2.62; $M_{\theta\theta}$-0.05; $M_{\phi\phi}$-2.57; $M_{r\theta}$3.09; $M_{\theta\phi}$-1.46; $M_{\phi r}$1.28; Fault plane solution: $M_0$4.47000×10^{16} NP1:ϕ_s54.00000°, δ71.00000°, λ114.00000°. NP2:ϕ_s180.00000°, δ30.00000°, λ40.00000°.

JMA 06 07:40:47.1±0.3, 31°.33N×142°.11E, h42^{km}, M5.2

NEIC 06 07:40:48.6±1.0, 31°.28N±0°.06×141°.86E±0°.09, h10^{km}±1^{km}, mb5.0/302, Error ellipse: s-maj=12.9km s-min=9.4km az=76.0

GCMT 06 07:40:50.7±0.2, 31°.19N±0°.02×142°.07E±0°.01, h14^{km}, MW5.0/129, Moment Tensor Solution. s56,c74; s129,c199; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.23±.14; $M_{\theta\theta}$-0.51±.08; $M_{\phi\phi}$-3.73±.10; $M_{r\theta}$1.72±.22; $M_{\theta\phi}$-0.66±.06; $M_{\phi r}$1.34±.19; Best double couple: $M_0$4.56300×10^{16} NP1:ϕ_s178.00000°, δ35.00000°, λ66.00000°. NP2:ϕ_s27.00000°, δ58.00000°, λ106.00000°. Principal axes: T 4.9240, Plg72.0000°, Azm336.0000°; N -0.7270, Plg14.0000°, Azm198.0000°; P -4.2020, Plg12.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 06 07:40:49.3±0.5, 31°.27N±0°.03×141°.85E±0°.04, h21^{km}±5^{km}, h22^{km}:pP-P, n913, σ1^{s}45/966, mb5.0/284, MS4.9/81, 47C-19D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	Aogashimamukai	2.14	304	P	Pn	07 41 23.8	-0.1
JHCJ	Hachijojimakas	2.51	316	P	Pn	07 41 28.3	-0.6
JHJ2	Mitsune	2.52	317	P	Pn	07 41 27.9	-1.2
JHJ2				eS	Sn	07 41 59.3	+0.1
JHJ2	Mitsune	2.52	317	Pn	Pn	07 41 28.3	-0.8
JHJ	Hachijo jima 2	2.55	317	Pn	Pn	07 41 28.7	-0.8
	37nm,0.3s,baz=282,slow=23,SNR=8.1						
JHJ				Sn	Sn	07 41 56.2	-3.7
	131nm,0.3s,baz=182,slow=10,SNR=6.7						
JHJ				LR	LR	07 42 48.0	
	comp=Z,14μm,18.0s,baz=125,slow=47						
JMKN	Mikurajimanish	3.24	324	P	Pn	07 41 38.6	-0.4
BSO1	Boso 1	3.46	348	P	Pn	07 41 40.4	-1.1
BSO3	Boso 3	3.70	343	P	Pn	07 41 44.4	-0.7
CBIJ	Chichi jima	4.17	176	P	Pn	07 41 50.9	-0.8
CBIJ				eS	Sn	07 42 36.9	-2.9
JCJ	Chichijima	4.17	176	Pn	Pn	07 41 50.9	-0.9
	68nm,0.3s,baz=259,slow=23,SNR=60						
JCJ				Sn	Sn	07 42 34.8	-5.1
	41nm,0.3s,baz=341,slow=19,SNR=3.8						
JCJ				LR	LR	07 43 16.6	
	comp=Z,5μm,18.8s,baz=354,slow=37						
JCJ	Chichijima	4.17	176	Pn	Pn	07 41 51.2	-0.6
JSG	Sagara	4.59	319	Pn	Pn	07 41 58.0	+0.5
JOD2	Odawara 2	4.61	331	P	Pn	07 41 57.9	+0.1
JOD2				S	Sn	07 42 47.8	-3.0
JYT	Yasato	5.14	345	Pn	Pn	07 42 04.2	-0.9
JRY	Ryogami san	5.34	333	P	Pn	07 42 07.9	0.0
JRY				eS	Sn	07 43 07.7	-1.0
JGF	Kuroka	5.73	320	Pn	Pn	07 42 14.1	+0.9
INU	Inuyama	5.74	316	Pn	Pn	07 42 13.8	+0.4
JTNC	Tanabenakahech	5.85	297	P	Pn	07 42 17.3	+2.4
MJAR	Matsushiro Arr	6.07	331	Pn	Pn	07 42 18.3	+0.4
	1.6nm,0.3s,baz=153,slow=10,SNR=109						
MJAR				LR	LR	07 44 57.3	
	comp=Z,4μm,19.1s,baz=150,slow=41						
MJAR	Matsushiro Arr	6.07	331	P	Pn	07 42 19.2	+1.3
MJAR	Matsushiro Arr	6.07	331	Pn	Pn	07 42 19.2	+1.3
MAJO	Matsushiro	6.07	331	c iP	Pn	07 42 19.0	+1.1
MAJO	Matsushiro	6.07	331	Pn	Pn	07 42 19.2	+1.2
MAT	Matsushiro	6.07	331	P	Pn	07 42 18.8	+0.9
MAT				S	Sn	07 43 25.6	-1.2
JMM	Marumori	6.64	353		Pn	07 42 24.1	-1.6
JWT	Wachi	6.72	308	Pn	Pn	07 42 30.4	+3.6
JSD	Sado	7.37	337	Pn	Pn	07 42 35.2	-0.6
JMK	Ichinoseki	7.69	356	P	Pn	07 42 37.4	-2.6
JMK				eS	Sn	07 43 58.6	-7.8
JHS	Saijyo	8.22	299		Pn	07 42 47.3	-0.1
JNU	Nakatsue	9.48	284	Pn	Pn	07 43 08.1	+3.3
	0.8nm,0.3s,baz=84,slow=7.1,SNR=12						
JNU				LR	LR	07 46 51.2	
	comp=Z,3μm,18.2s,baz=135,slow=38						
JTM	Tenmabayashi	9.52	356	Pn	Pn	07 43 03.9	-1.3
JSU	Suzuyama	9.75	274	Pn	Pn	07 43 09.7	+1.3
JMZ	Minamidaito 2	10.81	242	Pn	Pn	07 43 23.1	+0.3
ASAJ	Asahikawa	12.84	2	Pn	Pn	07 43 47.5	-3.1
	1.8nm,0.3s,baz=213,slow=7.9,SNR=28						
ASAJ				Sn	Sn	07 46 02.5	-10
	0.5nm,0.3s,baz=358,slow=28,SNR=1.7						
ASAJ				LR	LR	07 49 43.0	
	comp=Z,3μm,20.3s,baz=184,slow=42						
ASAJ	Asahikawa	12.84	2	P	Pn	07 43 46.6	-4.0
JKA	Kamikawa-asahi	12.84	2	Pn	Pn	07 43 46.6	-4.0
KSRS	Korea Array	13.05	302	Pn	Pn	07 43 57.2	+3.7
	0.6nm,0.3s,baz=112,slow=12,SNR=24						
KSRS				LR	LR	07 48 55.3	
	comp=Z,3μm,18.5s,baz=108,slow=37						
KSAR	Wonju Array Be	13.08	302	P	Pn	07 43 54.1	+0.3
KSAR	Wonju Array Be	13.08	302	Pn	Pn	07 43 54.1	+0.3
KS19	Wonju Array Si	13.11	302	Pn	Pn	07 43 59.3	+4.9
INCN	Inchon	14.01	300	P	P	07 44 11.5	-2.9
INCN	Inchon	14.01	300	Pn	P	07 44 11.5	-2.9
MSHR	Mys Shultsa	14.15	326	deP	Pn	07 44 08.2	-0.3
MSHR				pmax	pmax		
	comp=Z,11nm,1.3s						
VLA	Vladivostok	14.24	329	⇑eP	Pn	07 44 10.2	+0.5
VLA				pmax	pmax		
	comp=Z,17nm,0.8s						
KUR	Kuril'sk	14.71	17	P	Pn	07 44 16.3	+0.1
KUR				eS	Sn	07 46 58.7	+0.1
KUR				smax	smax		
	comp=E,24nm,0.3s						
KUR				MLR	MLR		
	comp=N,2μm,11.0s						
KUR				MLR	MLR		
	comp=Z,3μm,11.0s						
KUR				MLR	MLR		
	comp=E,954nm,12.0s						
USA0B	Ussuriysk Arra	15.07	332	⇑eP	Pn	07 44 20.5	-0.5
USA0B	Ussuriysk Arra	15.07	332	Pn	Pn	07 44 20.1	-0.9
USRK	Ussuriysk Ar.	15.07	332	Pn	Pn	07 44 19.8	-1.1
	baz=148,slow=12,SNR=19						
USRK				LR	LR	07 50 09.3	
	comp=E,2μm,19.1s,baz=135,slow=37						
YSS	Yuzh-Sakhalins	15.68	2	⇓eP	Pn	07 44 25.1	-3.9
YSS				eS	Sn	07 47 17.3	-4.7
YSS				pmax	pmax		
	comp=Z,60nm,0.9s						
YSS				MLR	MLR		
	comp=Z,4μm,13.0s						
YSS				MLR	MLR		
	comp=N,3μm,14.0s						
YSS				MLR	MLR		
	comp=E,2μm,15.0s						
YSS	Yuzh-Sakhalins	15.68	2	Pn	Pn	07 44 25.0	-3.9
MDJ	Mudanjiang	16.44	328	P	Pn	07 44 37.0	-1.7
MDJ				pP	P	07 44 38.9	-2.4
MDJ				pmax	pmax		
	comp=E,17nm,1.6s						
MDJ				pmax	pmax		
	comp=E,310nm,6.7s						
MDJ				LR	LR		
	comp=E,5μm,13.1s						
MDJ				LR	LR		
	comp=E,3μm,13.4s						
MDJ				LR	LR		
	comp=E,5μm,13.2s						
SSE	Sheshan	17.69	275	P	Pn	07 44 53.2	-1.2
SSE				S	Sn	07 48 12.8	+1.9
SSE				pmax	pmax		
	comp=E,410nm,10.8s						
SSE				LR	LR		
	comp=E,2μm,13.7s						
SSE				LR	LR		
	comp=E,2μm,13.7s						
SSE				LR	LR		
	comp=E,2μm,15.5s						
GUMO	Guam	17.81	170	P	Pn	07 44 56.1	0.0
	baz=25,slow=22,SNR=2.7						
GUMO	Guam	17.81	170	P	P	07 44 56.6	-0.1
GUMO				pmax	pmax		
	comp=Z,241nm,1.0s						
GUMO	Guam	17.81	170	P	P	07 44 56.6	-0.1
YOJ	Yonaguni jima	17.98	252	P	P	07 45 00.1	+1.6
YOJ				pmax	pmax		
	comp=Z,158nm,0.7s						
YOJ	Yonaguni jima	17.98	252	P	P	07 45 00.1	+1.6
YOJ				IAmb	IAmb	07 45 01.0	
	comp=Z,158nm,0.7s						
CN2	Changchun	18.01	319	eP	Pn	07 44 56.6	-1.7
CN2				eS	Sn	07 48 16.5	-2.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2				pmax	pmax		
	comp=Z,500nm,12.0s						
CN2				LR	LR		
	comp=Z,5μm,13.0s						
CN2				LR	LR		
	comp=Z,4μm,13.0s						
CN2				LR	LR		
	comp=Z,4μm,14.0s						
SNY	Shenyang	18.04	311	⇑P	Pn	07 44 58.3	-0.4
SNY				S	S	07 48 24.5	-0.5
SNY				pmax	pmax		
	comp=Z,97nm,1.2s						
SNY				LR	LR		
	comp=Z,4μm,14.9s						
SNY				LR	LR		
	comp=Z,2μm,18.2s						
SNY				LR	LR		
	comp=Z,3μm,14.2s						
DL2	Dalian	18.20	300	P	P	07 45 02.7	+1.9
DL2				pmax	pmax		
	comp=Z,47nm,0.9s						
DL2				pmax	pmax		
	comp=Z,900nm,10.2s						
DL2				LR	LR		
	comp=Z,2μm,10.7s						
DL2				LR	LR		
	comp=Z,5μm,12.2s						
DL2				LR	LR		
	comp=Z,7μm,12.5s						
TATO	Taipei	19.01	256	P	Pn	07 45 10.9	+0.3
TATO				IAmb	IAmb	07 45 12.3	
	comp=Z,133nm,0.9s						
YHNB	Yeheng	19.23	255	P	P	07 45 12.0	-0.3
YHNB				IAmb	IAmb	07 45 13.9	
	comp=Z,85nm,0.9s						
NACB	Ninganchiao	19.26	253	P	P	07 45 12.7	+0.1
NACB				IAmb	IAmb	07 45 14.6	
	comp=Z,62nm,0.8s						
KLR	Kul'dur	19.50	340	P	P	07 45 14.2	-0.8
	comp=Z,0.4nm,0.3s,baz=151,slow=11,SNR=21						
KLR	Kul'dur	19.50	340	ceP	P	07 45 13.4	-1.6
KLR				pmax	pmax		
	comp=Z,20nm,0.9s						
TYV	Tymovskoe	19.59	2	eP	Pn	07 45 19.3	+2.0
TYV				eS	Sn	07 49 01.4	+4.9
TYV				pmax	pmax		
	comp=Z,300nm,4.3s						
TYV				pmax	pmax		
	comp=Z,37nm,0.8s						
TYV				smax	smax		
	comp=E,900nm,4.2s						
TYV				smax	smax		
	comp=N,400nm,4.0s						
NJ2	Nanjing	19.59	278	eP	P	07 45 13.6	-2.6
NJ2				pP	pP	07 45 20.4	0.0

NJ2 sP **sP** 07 45 22.4 -0.4
NJ2 S **Sn** 07 49 00.0 +3.0
NJ2 pmax pmax
comp=N,13nm,0.6s
NJ2 LR LR
comp=N,2μm,13.5s
NJ2 LR LR
comp=N,2μm,15.3s
NJ2 LR LR
comp=N,2μm,20.1s
YULB Yu-li 19.86 252 P **P** 07 45 19.1 0.0
GRNR Gornyy 19.90 350⇓ *i*P **P** 07 45 19.6 +0.2
GRNR *e*S **Sn** 07 49 06.3 +2.2
GRNR pmax pmax
comp=N,10.0nm,1.0s
GRNR pmax pmax
comp=Z,20nm,0.9s
GRNR smax smax
comp=N,10.0nm,0.6s
SSLB Suanglung 19.96 253 P **P** 07 45 21.0 +0.8
TWG Pinlang 20.31 251 P **P** 07 45 24.4 +0.3
TWG IAmb IAmb 07 45 43.0
comp=Z,72nm,0.8s
TPUB Ta-pu 20.44 252 P **P** 07 45 25.6 +0.1
TIA Tai'an 21.13 290 P **P** 07 45 32.5 -0.3
TIA PP **PnPn** 07 45 58.0 +5.9
TIA S Sn 07 49 31.1 -2.8
TIA pmax pmax
comp=Z,11nm,0.9s
TIA LR LR
comp=Z,2μm,13.5s
TIA LR LR
comp=Z,4μm,14.2s
TIA LR LR
comp=Z,5μm,13.5s
QZH Quanzhou 21.44 259⇑ *i*P **P** 07 45 35.3 -1.0
QZH PP **PnPn** 07 46 01.9 +5.3
QZH S **S** 07 49 37.0 +3.6
QZH pmax pmax
comp=Z,580nm,8.0s
QZH LR LR
comp=Z,1μm,16.1s
QZH LR LR
comp=Z,2μm,16.3s
QZH LR LR
comp=Z,2μm,16.1s
NKL Nikolayevsk 21.89 358 *e*P **P** 07 45 46.4 +5.7
NKL *e*S **S** 07 49 46.6 +5.1
NKL pmax pmax
comp=E,4.0nm,0.8s
NKL pmax pmax
comp=N,621nm,1.1s
NKL pmax pmax
comp=Z,80nm,1.2s
NKL smax smax
comp=E,5.0nm,7.1s
NKL smax smax
comp=N,1μm,4.3s
SKR Severo-Kuril's 22.11 25 *e*P **P** 07 45 46.6 +3.4
SKR *e*S **S** 07 49 44.5 -1.4
SKR pmax pmax
comp=Z,23nm,1.0s
SKR pmax pmax
comp=Z,100nm,1.9s
SKR MLR MLR
comp=Z,1μm,14.0s
SKR MLR MLR
comp=Z,1μm,15.0s
BJT Baijiatuau 22.57 300 P **P** 07 45 47.0 -1.2
BJT pmax pmax
comp=Z,39nm,0.9s
BJT Baijiatuau 22.57 300 P **P** 07 45 47.0 -1.2
BJT IAmb IAmb 07 45 48.7
comp=Z,39nm,0.9s
BJI Beijing 22.57 300 P **P** 07 45 47.0 -1.2
BJI PP **PnPn** 07 46 13.4 +1.6
BJI S **S** 07 49 53.5 -1.0
BJI pmax pmax
comp=Z,52nm,1.3s
BJI pmax pmax
comp=Z,370nm,11.4s
BJI LR LR
comp=Z,3μm,12.6s
BJI LR LR
comp=Z,2μm,13.8s
BJI LR LR
comp=Z,3μm,12.9s
WHN Wuhan 23.59 275 ⇑P **P** 07 45 58.7 0.0
WHN S **S** 07 50 06.9 -5.1
WHN pmax pmax
comp=Z,200nm,1.7s
WHN LR LR
comp=Z,8μm,14.1s
WHN LR LR
comp=Z,4μm,14.8s
WHN LR LR
comp=Z,7μm,16.5s
HIA Hailar 24.51 324 P **P** 07 46 06.4 -0.8
HIA pmax pmax
comp=Z,75nm,0.9s
HIA Hailar 24.51 324 P **P** 07 46 06.4 -0.8
PETK Petropavlovsk- 24.67 23 P **P** 07 46 07.8 -0.8
comp=Z,3.8nm,0.9s,baz=197,slow=4.6,SNR=3.9
PETK LR LR 07 56 11.6
comp=Z,2μm,20.5s,baz=206,slow=38
PETK Petropavlovsk- 24.67 23 P **P** 07 46 08.6 0.0
PETK Petropavlovsk- 24.67 23 P **P** 07 46 08.6 0.0
ZEA Zeya 24.81 339 *e*P **P** 07 46 09.8 0.0
ZEA *e* 07 46 42.6
ZEA *e*S **S** 07 50 25.8 -5.3
ZEA pmax pmax
comp=E,100nm,12.4s
ZEA pmax pmax
comp=N,300nm,15.7s
ZEA pmax pmax
comp=Z,400nm,13.6s
ZEA pmax pmax
comp=N,60nm,0.6s
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=Z,130nm,0.8s
ZEA smax smax
comp=E,500nm,5.8s
ZEA smax smax
comp=N,1μm,11.4s
PET Petropavlovsk 24.93 24 *e*P **P** 07 46 15.8 +4.9
PET *e*S **S** 07 50 36.4 +3.2
PET pmax pmax
comp=Z,200nm,6.1s
PET MLR MLR
comp=Z,2μm,15.0s
PET MLR MLR
comp=Z,2μm,14.0s
TIY Taiyuan 25.02 293 *e*P **P** 07 46 11.7 -0.3
TIY S **S** 07 50 34.9 -0.2
TIY LR LR
comp=Z,2μm,13.0s
TIY LR LR
comp=Z,3μm,14.2s
TIY LR LR
comp=Z,4μm,16.6s
H11N2 WAKE ISLAND Hy 25.29 111 T T 08 12 31.4
baz=305
H11N1 WAKE ISLAND Hy 25.30 111 T T 08 12 37.3
baz=305
H11N3 WAKE ISLAND Hy 25.31 111 T T 08 12 39.1
baz=305
H11S3 WAKE ISLAND Hy 25.80 114 T T 08 13 31.7
baz=304,slow=79
H11S1 WAKE ISLAND Hy 25.80 114 T T 08 13 31.1
baz=304,slow=79
H11S2 WAKE ISLAND Hy 25.82 114 T T 08 13 43.0
baz=304,slow=79
HHC Hu-ho-hao-te 26.18 300 *e*P **P** 07 46 21.5 -1.0
HHC S **S** 07 50 51.0 -2.4
HHC pmax pmax
comp=Z,31nm,1.1s
HHC pmax pmax
comp=Z,400nm,7.6s
HHC LR LR
comp=Z,2μm,13.9s
HHC LR LR
comp=Z,5μm,13.2s
HHC LR LR
comp=Z,5μm,13.1s

BTO Baotou 27.28 299 *e*P **P** 07 46 32.2 -0.3
BTO LR LR
comp=Z,7μm,15.1s
BTO LR LR
comp=Z,7μm,20.4s
ENH Enshi 27.78 276 P **P** 07 46 35.1 -1.9
ENH IAmb IAmb 07 46 48.1
comp=Z,12nm,0.6s
XAN Xi'an 27.80 285 P **P** 07 46 35.8 -1.3
XAN pP pwP 07 46 47.1 -1.7
XAN pmax pmax
comp=Z,52nm,1.2s
XAN pmax pmax
comp=Z,340nm,9.4s
XAN LR LR
comp=Z,3μm,13.3s
XAN LR LR
comp=Z,1μm,15.6s
XAN LR LR
comp=Z,3μm,13.2s
XAN Xi'an 27.80 285 P **P** 07 46 35.9 -1.3
XAN Xi'an 27.80 285 P **P** 07 46 35.9 -1.3
DAV Davao City (W) 28.48 216 LR LR 07 56 43.9
comp=Z,1μm,20.9s,baz=340,slow=34
GYA Guiyang 31.11 270 ⇓P **P** 07 47 07.6 +1.0
GYA S **S** 07 52 15.8 +4.6
GYA pmax pmax
comp=Z,110nm,6.6s
GYA LR LR
comp=Z,1μm,13.6s
GYA LR LR
comp=Z,1μm,13.6s
GYA LR LR
comp=Z,3μm,16.3s
ULN Ulaanbaatar 31.21 312 *c i*P **P** 07 47 08.2 +0.9
ULN pmax pmax
comp=Z,94nm,1.7s
ULN Ulaanbaatar 31.21 312 P **P** 07 47 08.4 +1.1
ULN Ulaanbaatar 31.21 312 P **P** 07 47 08.5 +1.2
comp=Z,3μmcomp=Z,184nm,1.3s
QIZ Qiongzhong 31.32 255 P **P** 07 47 10.0 +1.6
QIZ S **S** 07 52 17.6 +3.2
QIZ sS **sS** 07 52 22.8 -0.5
QIZ pmax pmax
comp=Z,120nm,3.7s
QIZ LR LR
comp=Z,710nm,13.9s
QIZ LR LR
comp=Z,720nm,12.7s
QIZ LR LR
comp=Z,750nm,16.3s
SONM Songino Array 31.61 312 P **P** 07 47 11.5 +0.6
comp=Z,32nm,1.0s,baz=121,slow=8.2,SNR=129
SONM PcP **PcP** 07 50 02.5 -0.3
comp=Z,2.0nm,1.1s,baz=101,slow=4.5,SNR=1.6
SONM LR LR 08 00 31.4
comp=Z,2μm,18.5s,baz=102,slow=37
SONM Songino Array 31.61 312 P **P** 07 47 11.2 +0.3
YAK Yakutsk 31.78 349 *e*P **P** 07 47 11.8 -0.1
YAK *e**PP **pP** 07 47 15.9 -0.4
YAK *e*PPP PPP 07 48 22.3
YAK *e* 07 50 05.0
YAK *e*S **S** 07 52 17.1 -3.6
YAK *e*SS **SnSn** 07 54 11.1 +2.8
YAK pmax pmax
comp=Z,17nm,0.9s
YAK pmax pmax
comp=N,11nm,1.3s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK smax smax
comp=E,160nm,11.3s
YAK smax smax
comp=N,296nm,13.6s
YAK MLR MLR
comp=Z,2μm,13.0s
YAK MLR MLR
comp=N,1μm,14.0s
YAK MLR MLR
comp=E,638nm,14.0s
YAK Yakutsk 31.78 349 P **P** 07 47 08.8 -3.1
LZH Lanzhou 31.86 289 *e*P **P** 07 47 12.2 -1.0
LZH pP pP 07 47 16.2 -1.6
LZH sP sP 07 47 19.8 +0.1
LZH S **S** 07 52 21.3 -1.6
LZH SS **SnSn** 07 54 12.5 +1.3
LZH pmax pmax
comp=E,30nm,1.1s
LZH pmax pmax
comp=E,140nm,5.4s
LZH LR LR
comp=E,2μm,14.6s
LZH LR LR
comp=E,2μm,15.2s
LZH LR LR
comp=E,2μm,16.3s
SEY Seymchan 32.39 9 P **P** 07 47 17.5 +0.2
comp=E,14nm,0.8s,baz=187,slow=7.6,SNR=23
SEY Seymchan 32.39 9 *de*P **P** 07 47 18.2 +0.9
CD2 Chengdu 32.52 279 P **P** 07 47 18.8 -0.1
CD2 S **S** 07 52 30.0 -3.1
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 LR LR
comp=N,3μm,14.4s
CD2 LR LR
comp=E,4μm,14.4s
CD2 LR LR
comp=Z,6μm,15.8s
CD2 Chengdu 32.52 279 P **P** 07 47 18.2 -0.7
CD2 pP pP 07 47 21.7 -1.9
CD2 S **S** 07 52 30.6 -2.5
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,140nm,4.9s
CD2 LR LR
comp=Z,3μm,12.2s
CD2 LR LR
comp=Z,4μm,14.7s
CD2 LR LR
comp=Z,6μm,14.3s
BOD Bodaibo 32.70 332 *e*P **P** 07 47 19.7 -0.4
BOD pmax pmax
comp=Z,24nm,1.5s
TNTI Ternate 33.29 207 P **P** 07 47 25.9 +0.2
SIJI Sorong 33.50 199 LR LR 08 00 05.0
comp=Z,1μm,18.1s,baz=340,slow=35
JAY Jayapura 33.61 182 LR LR 07 59 18.2
comp=Z,1μm,18.6s,baz=8.0,slow=33
ZAK Zakamensk 34.38 315 *e*P **P** 07 47 35.2 +0.3
ZAK pmax pmax
comp=Z,33nm,1.6s
IRK Irkutsk 34.45 318 *e*P **P** 07 47 32.5 -3.0
IRK pmax pmax
comp=Z,36nm,3.3s
GTA Gaotai 34.99 295 ⇓P **P** 07 47 39.5 -0.9
GTA pP sP 07 47 46.5 -0.5
GTA sP pwP 07 47 50.6 -1.9
GTA PP **PP** 07 48 59.5 -0.3
GTA sS sS 07 53 23.8 +3.7
GTA SS **SnSn** 07 55 23.1 -3.9
GTA pmax pmax
comp=Z,11nm,0.9s
GTA pmax pmax
comp=Z,120nm,7.6s
GTA LR LR
comp=Z,2μm,16.0s
GTA LR LR
comp=Z,3μm,16.4s
GTA LR LR
comp=Z,3μm,15.6s
SLVN Son La 35.28 263 P **P** 07 47 42.5 -0.5
GTOI Gorontalo 35.31 214 P **P** 07 47 42.2 -0.9
comp=Z,337nmcomp=Z,32nm,0.8s
MRSI Marisa 35.97 215 P **P** 07 47 49.4 +0.6
comp=Z,1μmcomp=Z,91nm,1.1s
MRSI pP **pwP** 07 48 00.2 -0.3
comp=Z,1μmcomp=Z,91nm,1.1s
TOLI2 Tolitoli 36.02 218 P **P** 07 47 48.5 -0.8
TOLI2 IAmb IAmb 07 48 00.7
comp=Z,27nm,0.9s
SANI Sanana 36.41 207 P **P** 07 47 51.9 -0.6
comp=Z,617nmcomp=Z,54nm,1.0s
MSAI Masohi 36.56 202 P **P** 07 47 54.5 +0.7
comp=Z,8.3nm,1.1s

KRAI Karang Ratu 36.71 203 P **P** 07 47 55.7 +0.6
comp=Z,34nm,1.4s
APSI Ampana 37.31 215 P **P** 07 47 59.5 -0.8
comp=Z,79nm,1.3s
CHAI Chaiyaphum 39.37 256 P **P** 07 48 17.4 -0.3
comp=Z,509nmcomp=Z,31nm,0.8s
BILL Bilibino 39.48 14‖ *e*P **P** 07 48 18.0 0.0
BILL *i* 07 48 22.5
BILL *e* 07 49 51.3
BILL *e*S S 07 54 28.4 +10
BILL pmax pmax
comp=Z,12nm,0.9s
BILL MLR MLR
comp=Z,504nm,16.0s
BILL Bilibino 39.48 14 P **P** 07 48 18.2 +0.2
BILL IAmb IAmb 07 48 20.9
comp=Z,21nm,0.5s
PBKT Sadao Pong 39.89 258 P **P** 07 48 20.2 -1.7
PHIT Phitsanulok 40.06 259 P **P** 07 48 25.1 +1.7
LAMP Lampang 40.11 262 P **P** 07 48 25.2 +1.4
comp=Z,16nm,0.6s
SRAK Srakaew 40.30 254 P **P** 07 48 22.8 -2.5
CMMT Chiang Mai 40.56 263 P **P** 07 48 26.9 -0.6
comp=Z,404nmcomp=Z,13nm,0.7s
CMMT Chiang Mai 40.56 263 P **P** 07 48 27.0 -0.6
comp=Z,385nmcomp=Z,12nm,0.7s
CHTO Chiang Mai 40.57 263 P **P** 07 48 26.6 -1.0
CHTO pmax pmax
comp=Z,9.0nm,0.8s
CHTO Chiang Mai 40.57 263 P **P** 07 48 27.0 -0.6
comp=Z,13nm,0.8s
CHTO Chiang Mai 40.57 263 P **P** 07 48 26.6 -1.0
CHTO Chiang Mai 40.57 263 P **P** 07 48 26.6 -1.0
comp=Z,7.3nm,0.8s
CM09 Chiang Mai Arr 40.69 262 P P 07 48 34.0 +5.4
comp=Z,8.8nm,0.6s
CM04 Chiang Mai Arr 40.72 262 P **P** 07 48 29.6 +0.7
comp=Z,6.3nm,0.7s
CM31 Chiang Mai Arr 40.73 262 P **P** 07 48 28.7 -0.2
CMAR Chiang Mai Arr 40.73 262 P **P** 07 48 27.7 -1.2
comp=Z,3.2nm,0.5s,baz=55,slow=7.0,SNR=11
CMAR LR LR 08 06 59.5
comp=Z,1μm,18.6s,baz=104,slow=39
CMAR Chiang Mai Arr 40.73 262 *i* P **P** 07 48 28.6 -0.3
CMAR pmax pmax
comp=Z,3.0nm,0.5s
CMAR Chiang Mai Arr 40.73 262 P **P** 07 48 28.5 -0.3
CM01 Chiang Mai Arr 40.73 262 P **P** 07 48 29.9 +1.0
comp=Z,8.3nm,0.7s
CM02 Chiang Mai Arr 40.73 262 P **P** 07 48 33.3 +4.3
comp=Z,79nmcomp=Z,11nm,0.8s
CM05 Chiang Mai Arr 40.75 262 P **P** 07 48 30.1 +1.0
comp=Z,3.9nm,0.6s
CM13 Chiang Mai Arr 40.77 262 P **P** 07 48 29.8 +0.5
comp=Z,6.6nm,0.9s
MTKI Muara Teweh, K 41.00 224 P **P** 07 48 31.4 +0.3
TIXI Tiksi 41.05 354 P **P** 07 48 29.1 -1.7
comp=Z,4.4nm,0.7s,baz=136,slow=9.6,SNR=4.4
TIXI Tiksi 41.05 354 *ce*P **P** 07 48 32.4 +1.6
TIXI Tiksi 41.05 354 P **P** 07 48 30.0 -0.9
BNSI Bone 41.09 214 P **P** 07 48 32.2 +0.4
comp=Z,34nm,1.2s
NIKH Nikolski High 41.49 44 P **P** 07 48 34.1 -0.7
NIKH Nikolski High 41.49 44 P **P** 07 48 34.5 -0.3
baz=258,SNR=7.3
KAPI Kappang 41.80 214 P **P** 07 48 36.4 -1.2
comp=Z,24nm,1.1s,baz=9.9,slow=5.6,SNR=4.7
UNV Unalaska Valle 43.04 43 P **P** 07 48 48.8 +1.5
baz=260
LSA Lhasa 43.41 282 P **P** 07 48 50.7 -0.6
LSA pmax pmax
comp=Z,7.0nm,0.6s
LSA Lhasa 43.41 282 P **P** 07 48 50.7 -0.6
WMQ Urumqi 44.00 302 *e*P **P** 07 48 56.5 +1.1
WMQ pP sP 07 49 01.7 -0.5
WMQ pmax pmax
comp=Z,32nm,1.3s
WMQ pmax pmax
comp=Z,280nm,4.5s
WMQ LR LR
comp=Z,850nm,15.5s
WMQ LR LR
comp=Z,2μm,14.7s
WMQ LR LR
comp=Z,750nm,14.7s
WMQ Urumqi 44.00 302 P **P** 07 48 57.3 +1.9
WMQ Urumqi 44.00 302 P **P** 07 48 57.3 +1.9
SHL Shillong 44.02 276 P **P** 07 48 54.3 -1.5
SHL pmax pmax
comp=Z,9.0nm,0.7s
SHL Shillong 44.02 276 P **P** 07 48 54.3 -1.5
SOEI Soe 44.14 205 P **P** 07 48 56.6 -0.1
SOEI Soe 44.14 205 P **P** 07 48 56.3 -0.4
comp=Z,58nm,1.2s
EDFI Ende, Flores 44.23 209 P **P** 07 48 57.1 -0.4
comp=Z,20nm,1.2s
DGZ Jazzator, Alta 44.25 311 *c i*P **P** 07 48 58.2 +0.8
DGZ pmax pmax
comp=Z,58nm,1.1s
COEN Coen 44.98 178 P **P** 07 49 04.4 +1.1
MTN Manton Dam 45.05 195 P **P** 07 49 03.4 -0.4
MTN IAmb IAmb 07 49 22.5
comp=Z,20nm,0.9s
PLAI Plampang 46.06 214 P **P** 07 49 10.4 -1.5
comp=Z,29nm,1.0s
ZAA0 Zalesovo Array 46.21 317 P **P** 07 49 12.2 -0.5
ZALV Zalesovo Beam 46.21 317 P **P** 07 49 12.7 0.0
comp=Z,13nm,0.7s,baz=101,slow=7.7,SNR=45
ZALV PcP **PcP** 07 50 48.5 +0.4
comp=Z,6.3nm,0.6s,baz=110,slow=2.9,SNR=6.3
ZALV LR LR 08 09 17.9
comp=Z,1μm,19.4s,baz=93,slow=37
ZALV Zalesovo Beam 46.21 317 *i* P **P** 07 49 12.6 0.0
ZALV pmax pmax
comp=Z,14nm,0.7s
TWSI Taliwang, Sumb 46.42 215 P **P** 07 49 13.5 -1.2
comp=Z,24nm,1.1s
KLNI Mataram 46.54 216 P **P** 07 49 15.4 -0.2
comp=Z,53nm,1.2s
TAPN Taplejung 46.99 280 *e*P **P** 07 49 18.6 -0.9
comp=Z,14nm,0.5s
JAGI Jajag, Banyuwa 47.59 219 P **P** 07 49 22.9 -1.0
MK31 Makanchi Array 47.68 307 *c i*P **P** 07 49 24.3 0.0
MK31 Makanchi Array 47.68 307 P **P** 07 49 24.6 +0.3
MK31 IAmb IAmb 07 49 39.7
comp=Z,18nm,0.9s
MKAR Makanchi Array 47.68 307 P **P** 07 49 24.5 +0.2
comp=Z,8.6nm,0.6s,baz=89,slow=9.0,SNR=74
MKAR PcP **PcP** 07 50 52.6 -0.9
comp=Z,1.8nm,0.6s,baz=84,slow=5.7,SNR=1.1
MKAR S **S** 07 56 19.2 +0.1
comp=Z,1.4nm,1.0s,baz=94,slow=13,SNR=4.6
MKAR LR LR 08 10 21.8
comp=Z,869nm,18.9s,baz=88,slow=37
MKAR Makanchi Array 47.68 307 P **P** 07 49 24.0 -0.3
MAKZ Makanchi 47.89 307 P **P** 07 49 26.2 +0.3
MAKZ pmax pmax
comp=Z,58nm,1.5s
MAKZ Makanchi 47.89 307 P **P** 07 49 26.2 +0.3
RAMN Ramite 48.05 280 *e*P **P** 07 49 27.1 -0.6
comp=Z,16nm,0.5s
JIRN Jiri 48.17 281 *e*P **P** 07 49 28.6 -0.2
comp=Z,69nm,0.7s
SJI Sawahan 48.30 222 P **P** 07 49 27.9 -1.6
comp=Z,6μmcomp=Z,25nm,0.6s
KNRA Kununurra 48.34 197 P **P** 07 49 29.2 -0.4
KNRA IAmb IAmb 07 49 50.4
comp=Z,18nm,1.0s
GUN Gumba 48.35 281 *e*P **P** 07 49 30.1 -0.1
comp=Z,51nm,0.7s
PWJI Pagerwojo 48.51 221 P **P** 07 49 27.9 -3.1
comp=Z,50nm,0.9s
RDOG Red Dog Mine 48.54 24 P **P** 07 49 33.8 +3.2
baz=250
NRIK Noril'sk 48.68 337 P **P** 07 49 31.4 -0.3
comp=Z,21nm,1.0s,baz=112,slow=8.3,SNR=17
NRIK LR LR 08 10 52.4
comp=Z,487nm,18.3s,baz=111,slow=37
NRIK Noril'sk 48.68 337 *c i*P **P** 07 49 31.1 -0.6
NRIK pmax pmax
comp=Z,28nm,1.0s
NRIK Noril'sk 48.68 337 P **P** 07 49 31.6 -0.1
NRIK IAmb IAmb 07 49 37.0
comp=Z,27nm,1.1s
PKI Pulchoki 48.86 281 *e*P **P** 07 49 33.5 -0.5
comp=Z,11nm,0.5s

PKIN Phulchoki 48.86 281 *e*P **P 07 49 33.4 -0.6**
comp=Z,17nm,0.6s
GKN Gorkha 49.37 282 *e*P **P 07 49 37.0 -0.7**
CHIR Chirikof Islan 49.51 41 P **P 07 49 38.6 +0.4**
CHIR Chirikof Islan 49.51 41 P **P 07 49 38.1 -0.1**
baz=267
KPJI Karang Pucung 49.65 225 P **P 07 49 39.3 -0.4**
comp=Z,66nm,0.9s
N18K Kilae Creek 49.78 35 P **P 07 49 41.1 +1.0**
N18K Kilae Creek 49.78 35 P **P 07 49 41.2 +1.0**
baz=263,SNR=9.4
SVW2 Sparrevohn 49.98 34 P **P 07 49 42.0 +0.3**
DANN Dangsing 49.99 282 *e*P **P 07 49 42.9 +0.2**
comp=Z,28nm,0.6s
O18K Koktuh Hills 50.02 36 P **P 07 49 42.8 +0.7**
O18K IAmb IAmb 07 49 46.6
comp=Z,11nm,0.7s
O18K Koktuh Hills 50.02 36 P **P 07 49 43.1 +1.1**
baz=264,SNR=12
SHLS Shalkode 50.03 302⇑ *i*P **P 07 49 39.2 -3.3**
comp=Z,20nm,1.3s,baz=302
SHLS Shalkode 50.03 302*c i*P **P 07 49 39.2 -3.3**
SHLS pmax pmax
comp=Z,20nm,1.3s
LEM Lembang 50.06 227 P **P 07 49 42.0 -1.1**
comp=Z,38nm,0.7s,baz=26,slow=8.0,SNR=7.4
LEM Lembang 50.06 227 P **P 07 49 42.0 -1.1**
LEM Lembang 50.06 227 P **P 07 49 43.4 +0.4**
comp=Z,52nm,1.0s
KOLN Koldamda 50.31 282 *e*P **P 07 49 45.0 0.0**
comp=Z,35nm,0.8s
UZB Uzynbulak 50.35 302⇑ *i*P **P 07 49 43.8 -1.2**
comp=Z,27nm,1.8s,baz=302
UZB Uzynbulak 50.35 302 *e*P **P 07 49 45.0 0.0**
UZB pmax pmax
comp=Z,7.0nm,0.8s
L19K White Mountain 50.46 33 P **P 07 49 45.2 -0.1**
L19K White Mountain 50.46 33 P **P 07 49 45.6 +0.3**
baz=263
N19K Bonanza Creek 50.48 35 P **P 07 49 46.3 +0.7**
N19K Bonanza Creek 50.48 35 P **P 07 49 46.7 +1.1**
baz=264,SNR=8.3
O19K Port Alsworth 50.50 36 P **P 07 49 46.2 +0.6**
O19K Port Alsworth 50.50 36 P **P 07 49 46.7 +1.1**
baz=265
MDSI Maura Dua 50.54 232 P **P 07 49 46.5 0.0**
comp=Z,907nmcomp=Z,27nm,1.0s
TDK Taldyqorghan 50.54 305 *e*P **P 07 49 44.9 -1.4**
baz=304
TDK *e*LR LR 08 12 06.1
comp=Z,595nm,15.1s,baz=304
TDK Taldyqorghan 50.54 305 *e*P **P 07 49 44.8 -1.4**
TDK MLR MLR
comp=Z,595nm,15.0s
KPKS Kokpek 50.55 303 *e*P **P 07 49 45.7 -0.8**
comp=Z,48nm,2.7s,baz=302
KPKS Kokpek 50.55 303 *e*P **P 07 49 45.6 -0.8**
KPKS pmax pmax
comp=Z,48nm,2.7s
M19K Big River Lodg 50.64 33 P **P 07 49 47.7 +1.0**
M19K Big River Lodg 50.64 33 P **P 07 49 48.0 +1.2**
baz=263
PYUN Piuthan 50.72 282 *e*P **P 07 49 48.2 +0.2**
comp=Z,64nm,0.6s
SATY Saty 50.81 302⇑ *i*P **P 07 49 47.6 -0.8**
comp=Z,28nm,1.8s,baz=302
SATY Saty 50.81 302*c i*P **P 07 49 47.6 -0.8**
SATY pmax pmax
comp=Z,28nm,1.8s
OHAK Old Harbor 50.86 39 P **P 07 49 48.4 +0.1**
baz=268
PRZ Przheval'sk 50.90 301 P **P 07 49 50.7 +1.5**
PRZ Przheval'sk 50.90 301 P **P 07 49 50.7 +1.5**
L20K Farewell, AK 50.94 33 P **P 07 49 50.4 +1.3**
baz=263
K20K Telida 50.97 31 P **P 07 49 50.0 +0.8**
K20K IAmb IAmb 07 49 53.3
comp=Z,17nm,1.0s
K20K Telida 50.97 31 P **P 07 49 50.3 +1.1**
baz=262,SNR=20
P19K Oil Pt 51.00 36 P **P 07 49 50.0 +0.5**
P19K IAmb IAmb 07 49 52.4
comp=Z,16nm,0.8s
P19K Oil Pt 51.00 36 P **P 07 49 49.6 +0.1**
baz=266,SNR=6.9
J20K Nowinta River 51.05 30 P **P 07 49 50.6 +1.0**
J20K IAmb IAmb 07 49 53.8
comp=Z,13nm,0.9s
J20K Nowinta River 51.05 30 P **P 07 49 50.7 +1.0**
baz=262,SNR=18
ARXS Arharly 51.05 304 *e*P **P 07 49 50.2 0.0**
M20K Styx River 51.23 33 P **P 07 49 51.9 +0.6**
M20K Styx River 51.23 33 P **P 07 49 52.2 +0.9**
baz=265
CTA Charters Tower 51.24 175 P **P 07 49 50.6 -0.9**
comp=Z,2.8nm,0.7s,baz=355,slow=8.2,SNR=7.2
CTAO Charters Tower 51.24 175 P **P 07 49 51.0 -0.6**
CTAO pmax pmax
comp=Z,9.0nm,0.9s
CTAO Charters Tower 51.24 175 P **P 07 49 51.0 -0.6**
KDAK Kodiak Island 51.25 39 P **P 07 49 50.5 -0.8**
comp=Z,26nm,0.9s,baz=282,slow=6.3,SNR=21
KDAK Kodiak Island 51.25 39 P **P 07 49 50.8 -0.5**
baz=268
RSO Redoubt South 51.30 35 P **P 07 49 52.1 +0.2**
O20K Slope Mountain 51.34 36 P **P 07 49 52.2 +0.2**
baz=266
WRAB Tennant Creek 51.41 189*d i*P **P 07 49 53.0 0.0**
WRAB Tennant Creek 51.41 189 P **P 07 49 52.9 0.0**
WR0 Warramunga Arr 51.41 189 P **P 07 49 53.2 +0.2**
WB2 Warramunga Arr 51.42 189 P **P 07 49 52.7 -0.3**
WRA Warramunga Arr 51.42 189 P **P 07 49 53.0 -0.1**
comp=Z,54nm,1.2s,baz=6.7,slow=7.6,SNR=177
WRA S **S 07 57 07.9 -3.9**
comp=Z,3.4nm,1.1s,baz=5.7,slow=10,SNR=7.5
WRA LR LR 08 10 53.6
comp=Z,653nm,20.0s,baz=10.0,slow=35
WRA Warramunga Arr 51.42 189 P **P 07 49 53.2 +0.2**
WRA pmax pmax
comp=Z,4.0nm,1.2s
WRA Warramunga Arr 51.42 189 P **P 07 49 53.2 +0.2**
TARG Taragay, Kyrgy 51.47 301 P **P 07 49 54.8 +1.1**
TARG IAmb IAmb 07 49 56.6
comp=Z,27nm,1.0s
IMAR Indian Mountai 51.49 28 P **P 07 49 53.4 +0.4**
FITZ Fitzroy Crossi 51.49 200 P **P 07 49 52.1 -1.4**
comp=Z,5.5nm,0.8s,baz=27,slow=6.1,SNR=11
FITZ Fitzroy Crossi 51.49 200 P **P 07 49 54.0 +0.5**
FITZ IAmb IAmb 07 50 12.3
comp=Z,14nm,1.0s
SPCR Spurr Chakacha 51.61 34 P **P 07 49 55.3 +1.2**
baz=266
CHKK Chushkaly 51.71 303⇑ *i*P **P 07 49 54.3 -0.7**
baz=303
PPLA Purkeypile 51.76 32 P **P 07 49 56.1 +0.9**
PPLA IAmb IAmb 07 50 19.0
comp=Z,27nm,1.4s
PPLA Purkeypile 51.76 32 P **P 07 49 56.2 +0.9**
baz=265,SNR=6.3
MDOK Medeo 51.77 303 *i* P **P 07 49 55.9 +0.1**
baz=302
MDOK *e*S **S 07 57 17.9 +1.1**
baz=302
MDOK *e*LR LR 08 12 54.0
comp=Z,672nm,14.4s,baz=302
MDOK Medeo 51.77 303 *i* P **P 07 49 55.8 +0.1**
MDOK *e*S **S 07 57 17.8 +1.1**
MDOK MLR MLR
comp=Z,672nm,14.0s
CHUM Lake Minchumin 51.81 31 P **P 07 49 56.4 +1.0**
baz=264,SNR=9.1
AAA Alma-Ata 51.86 303 *e*P **P 07 49 55.6 -0.7**
baz=302
AAA Alma-Ata 51.86 303 *e*P **P 07 49 55.5 -0.7**
SKT Skwentna 51.99 33 P **P 07 49 56.9 0.0**
SKT Skwentna 51.99 33 P **P 07 49 57.2 +0.4**
baz=266,SNR=8.0
CNPM China Poot 52.01 37 P **P 07 49 57.2 +0.1**
CNPM IAmb IAmb 07 49 59.7
comp=Z,21nm,1.2s
I21K Tanana 52.10 29 P **P 07 49 59.0 +1.4**
I21K IAmb IAmb 07 50 14.7
comp=Z,23nm,1.4s
I21K Tanana 52.10 29 P **P 07 49 59.2 +1.6**
baz=263
KUU Kurty 52.16 304⇑ *i*P **P 07 49 58.1 -0.4**
comp=Z,88nm,1.6s,baz=303
KUU *e*S **S 07 57 22.7 +0.9**
baz=303
KUU Kurty 52.16 304*c i*P **P 07 49 58.0 -0.4**
KUU *e*S **S 07 57 22.7 +0.9**
KUU pmax pmax
comp=Z,88nm,1.6s
MTBS Maitube 52.23 303⇑ *i*P **P 07 49 59.0 0.0**
baz=302
BRSE Bradley Lake S 52.27 36 P **P 07 49 58.8 -0.2**
baz=268
SUA Susitna One 52.33 34 P **P 07 49 58.9 -0.6**
SUA IAmb IAmb 07 50 02.2
comp=Z,13nm,0.8s
SUA Susitna One 52.33 34 P **P 07 49 59.3 -0.3**
baz=267,SNR=17
KTH Kantishna Hill 52.39 31 P **P 07 50 00.6 +0.7**
KTH IAmb IAmb 07 50 17.4
comp=Z,22nm,1.2s
BPAW Bear Paw Mtn. 52.41 31 P **P 07 50 00.7 +0.8**
BPAW Bear Paw Mtn. 52.41 31 P **P 07 50 00.5 +0.6**
baz=265
ULHL Ulahol 52.52 302 P **P 07 50 02.3 +1.0**
SNR=6.5
MLY Manley 52.61 30 P **P 07 50 02.5 +1.1**
MLY Manley 52.61 30 P **P 07 50 02.3 +0.9**
baz=264,SNR=13
TRF Thorofare Moun 52.67 32 P **P 07 50 02.1 +0.1**
baz=266
RC01 Rabbit Creek A 52.81 35 P **P 07 50 02.2 -0.7**
baz=268
TKM2 Tokmak 2 52.86 302 P **P 07 50 04.9 +1.0**
SNR=16
SEW Seward 52.92 36 P **P 07 50 04.2 +0.5**
SEW IAmb IAmb 07 50 27.0
comp=Z,53nm,1.4s
SEW Seward 52.92 36 P **P 07 50 03.0 -0.7**
baz=269
COLD Coldfoot 53.06 27 P **P 07 50 05.4 +0.7**
baz=263
BWN Browne 53.08 31 P **P 07 50 06.3 +1.5**
BWN IAmb IAmb 07 50 35.4
comp=Z,28nm,0.9s
PMR Palmer 53.11 34 P **P 07 50 04.7 -0.4**
PMR pmax pmax
comp=Z,19nm,1.2s
PMR Palmer 53.11 34 P **P 07 50 04.7 -0.4**
PMR IAmb IAmb 07 50 08.7
comp=Z,18nm,1.2s
PMR Palmer 53.11 34 P **P 07 50 04.5 -0.6**
baz=268,SNR=7.6
H23K Yukon River 53.18 29 P **P 07 50 06.5 +0.9**
H23K IAmb IAmb 07 50 34.8
comp=Z,16nm,1.1s
H23K Yukon River 53.18 29 P **P 07 50 07.2 +1.6**
baz=265,SNR=9.5
I23K Minto, Yukon-K 53.20 29 P **P 07 50 06.7 +1.0**
I23K Minto, Yukon-K 53.20 29 P **P 07 50 06.6 +1.0**
baz=266
GHO Glory Hole Cre 53.22 34 P **P 07 50 06.6 +0.6**
GHO IAmb IAmb 07 50 10.3
comp=Z,26nm,1.2s
KSH Kashi 53.27 298 P **P 07 50 11.4 +4.6**
KSH S **S 07 57 45.0 +7.7**
KSH pmax pmax
comp=Z,23nm,1.1s
KSH pmax pmax
comp=Z,180nm,4.4s
KSH LR LR
comp=Z,2μm,18.5s
KSH LR LR
comp=Z,2μm,15.2s
KSH LR LR
comp=Z,3μm,15.9s
KZA Kyzart 53.27 302 P **P 07 50 08.4 +1.2**
SNR=14
NEA2 Nenana 53.28 30 P **P 07 50 07.0 +0.6**
NEA2 IAmb IAmb 07 50 10.5
comp=Z,31nm,1.1s
NEA2 Nenana 53.28 30 P **P 07 50 07.0 +0.6**
baz=266,SNR=43
MCK McKinley 53.29 31 P **P 07 50 06.5 +0.1**
MCK pmax pmax
comp=Z,21nm,1.2s
MCK McKinley 53.29 31 P **P 07 50 06.5 +0.1**
MCK IAmb IAmb 07 50 34.9
comp=Z,21nm,1.2s
MCK McKinley 53.29 31 P **P 07 50 06.9 +0.5**
baz=267
RND Reindeer 53.31 32 P **P 07 50 06.4 -0.3**
RND pmax pmax
comp=Z,15nm,1.0s
RND Reindeer 53.31 32 P **P 07 50 06.4 -0.3**
RND IAmb IAmb 07 50 34.1
comp=Z,15nm,1.0s
KBK Karagaybulak 53.38 302 P **P 07 50 08.4 +0.8**
SNR=18
WAT1 Susitna Watana 53.42 32 P **P 07 50 07.4 -0.1**
baz=268
KNK Knik Glacier 53.43 34 P **P 07 50 07.7 +0.2**
KNK IAmb IAmb 07 50 11.4
comp=Z,27nm,0.9s
KNK Knik Glacier 53.43 34 P **P 07 50 08.2 +0.7**
baz=269,SNR=13
CHMS Chumysh 53.46 303 P **P 07 50 09.1 +1.0**
SNR=8.6
SGDS Sogindy 53.46 303 *e*P **P 07 50 07.4 -0.7**
comp=Z,18nm,1.4s,baz=303
SGDS Sogindy 53.46 303 *e*P **P 07 50 07.3 -0.8**
SGDS pmax pmax
comp=Z,9.0nm,0.2s
TOLK Toolik Lake Re 53.48 25 P **P 07 50 08.7 +1.0**
TOLK IAmb IAmb 07 50 24.4
comp=Z,15nm,0.9s
TOLK Toolik Lake Re 53.48 25 P **P 07 50 09.1 +1.3**
baz=263,SNR=7.8
PWL Port Wells 53.48 35 P **P 07 50 07.7 -0.2**
PWL IAmb IAmb 07 50 10.4
comp=Z,19nm,0.9s
SML Sawmill 53.50 34 P **P 07 50 08.5 +0.5**
SML pmax pmax
comp=Z,20nm,0.8s
SML Sawmill 53.50 34 P **P 07 50 07.9 -0.1**
SML IAmb IAmb 07 50 10.9
comp=Z,20nm,0.8s
SML Sawmill 53.50 34 P **P 07 50 08.3 +0.3**
baz=269,SNR=12
USP Ospenovka 53.59 303 P **P 07 50 09.4 +0.4**
SNR=10
BTLS Baital 53.59 305⇑ *i*P **P 07 50 09.0 +0.1**
comp=Z,34nm,1.5s,baz=305
BTLS *i* S **S 07 57 41.8 +0.6**
baz=305
BTLS Baital 53.59 305 *e*P **P 07 50 09.2 +0.3**
BTLS pmax pmax
comp=Z,29nm,1.4s
MDM Murphy Dome 53.66 30 P **P 07 50 09.8 +0.6**
MDM IAmb IAmb 07 50 27.9
comp=Z,19nm,0.9s
WRH Wood River Hil 53.70 30 P **P 07 50 10.1 +0.7**
AAK Ala-Archa 53.71 302 P **P 07 50 09.5 -0.5**
comp=Z,13nm,1.0s,baz=124,slow=3.7,SNR=23
AAK Ala-Archa 53.71 302 P **P 07 50 11.0 +0.9**
SNR=11
AAK Ala-Archa 53.71 302 P **P 07 50 10.2 +0.1**
AAK Ala-Archa 53.71 302 P **P 07 50 10.8 +0.7**
AAK pmax pmax
comp=Z,34nm,1.4s
AAK Ala-Archa 53.71 302 P **P 07 50 10.8 +0.7**
AAK IAmb IAmb 07 50 11.8
comp=Z,34nm,1.4s
BRZS Berezniki 53.77 312⇑ *i*P **P 07 50 10.0 -0.2**
comp=Z,35nm,2.5s,baz=311
BRZS *i* S **S 07 57 42.3 -1.3**
baz=311
BRZS Berezniki 53.77 312 *e*P **P 07 50 10.2 0.0**
BRZS pmax pmax
comp=Z,17nm,1.6s
WAT6 Susitna Watana 53.79 33 P **P 07 50 10.6 +0.3**
baz=269,SNR=8.6
TCOL CIGO, UAF Yank 53.82 30 P **P 07 50 11.3 +1.1**
TCOL IAmb IAmb 07 50 27.2
comp=Z,9.6nm,0.6s
COLA College 53.82 30 P **P 07 50 11.6 +1.4**
COLA pmax pmax
comp=Z,10.0nm,0.8s
COLA College 53.82 30 P **P 07 50 11.6 +1.4**
COLA IAmb IAmb 07 50 29.2
comp=Z,9.5nm,0.8s
CCB Clear Creek Bu 53.83 30 P **P 07 50 11.7 +1.4**
H24K Noodor Dome 53.87 29 P **P 07 50 11.6 +0.9**
H24K IAmb IAmb 07 50 39.6
comp=Z,12nm,1.0s
H24K Noodor Dome 53.87 29 P **P 07 50 12.0 +1.3**
baz=266,SNR=10.0
SCM Sheep Creek Mo 53.98 34 P **P 07 50 11.5 0.0**
SCM pmax pmax
comp=Z,21nm,0.8s
SCM Sheep Creek Mo 53.98 34 P **P 07 50 11.5 0.0**
SCM IAmb IAmb 07 50 14.3
comp=Z,21nm,0.8s
GLI Glacier Island 54.09 35 P **P 07 50 12.0 -0.4**
GLI IAmb IAmb 07 50 17.0
comp=Z,9.2nm,0.8s
GLI Glacier Island 54.09 35 P **P 07 50 11.6 -0.7**
baz=271
HDA Harding Lake 54.19 30 P **P 07 50 12.3 -0.7**
HDA IAmb IAmb 07 50 15.3
comp=Z,8.7nm,0.7s
HDA Harding Lake 54.19 30 P **P 07 50 12.8 -0.2**
baz=268,SNR=9.0
EKS2 Erkin-Say 54.23 302 P **P 07 50 14.4 +0.6**
SNR=11
IL31 54.23 30 P **P 07 50 13.1 -0.1**
IL31 IAmb IAmb 07 50 41.7
comp=Z,13nm,1.1s
ILAR Eielson Array 54.23 30 P **P 07 50 12.7 -0.6**
comp=Z,8.4nm,0.9s,baz=266,slow=5.9,SNR=43
ILAR LR LR 08 11 02.5
comp=Z,176nm,21.8s,baz=280,slow=34
ILAR Eielson Array 54.23 30 P **P 07 50 13.0 -0.3**
ILAR Eielson Array 54.23 30 P **P 07 50 13.0 -0.3**
HIN Hinchinbrook I 54.39 35 P **P 07 50 15.0 +0.4**
HIN IAmb IAmb 07 50 17.0
comp=Z,18nm,0.9s
FID Port Fidalgo 54.40 35 P **P 07 50 14.7 +0.2**
FID IAmb IAmb 07 50 39.8
comp=Z,30nm,1.3s
AML Almayashu 54.40 302 P **P 07 50 17.1 +1.7**
SNR=12
M24K Tolsona, Glenn 54.52 33 P **P 07 50 16.3 +0.8**
M24K IAmb IAmb 07 50 24.4
comp=Z,38nm,1.4s
M24K Tolsona, Glenn 54.52 33 P **P 07 50 16.7 +1.2**
baz=271
KLU Klutina 54.65 34 P **P 07 50 16.6 +0.1**
KLU IAmb IAmb 07 50 21.0
comp=Z,26nm,1.4s
KLU Klutina 54.65 34 P **P 07 50 17.2 +0.7**
baz=271,SNR=6.9
DIV Divide 54.73 35 P **P 07 50 17.4 +0.4**
DIV IAmb IAmb 07 50 20.6
comp=Z,25nm,1.1s
EYAK Cordova Ski Ar 54.76 35 P **P 07 50 18.1 +1.0**
EYAK IAmb IAmb 07 50 20.6
comp=Z,18nm,1.0s
EYAK Cordova Ski Ar 54.76 35 P **P 07 50 17.6 +0.5**
baz=272,SNR=7.8
PRP Porcupine Dome 54.83 29 P **P 07 50 18.6 +0.8**
PRP Porcupine Dome 54.83 29 P **P 07 50 18.0 +0.3**
baz=269,SNR=6.6
BVAR Borovoye Array 54.83 316 P **P 07 50 18.0 +0.2**
comp=Z,6.4nm,0.7s,baz=148,slow=7.0,SNR=33
BVAR Borovoye Array 54.83 316 P **P 07 50 18.0 +0.2**
PAX Paxson 54.84 32 P **P 07 50 17.9 +0.1**
PAX pmax pmax
comp=Z,11nm,1.1s
PAX Paxson 54.84 32 P **P 07 50 17.9 +0.1**
PAX Paxson 54.84 32 P **P 07 50 18.0 +0.1**
baz=271,SNR=7.5
J25K Salcha River, 54.88 30 P **P 07 50 17.9 -0.2**
baz=270,SNR=5.2
BRVK Borovoye 54.89 316*c i*P **P 07 50 18.4 +0.2**
BRVK pmax pmax
comp=Z,13nm,0.8s
BRVK Borovoye 54.89 316 P **P 07 50 18.5 +0.2**
BRVK IAmb IAmb 07 50 19.2
comp=Z,14nm,1.0s
FYU Fort Yukon 54.97 28 P **P 07 50 19.9 +1.3**
HARP HAARP 54.99 33 P **P 07 50 19.6 +0.8**
baz=271
RIDG Independent Ri 55.11 31 P **P 07 50 20.2 +0.4**
baz=271
AS31 Alice Springs 55.15 189 P **P 07 50 20.7 +0.3**
ASAR Alice Springs 55.15 189 P **P 07 50 20.3 -0.1**
comp=Z,7.7nm,0.7s,baz=357,slow=5.4,SNR=94
ASAR S **S 07 58 00.5 -1.9**
comp=Z,2.2nm,1.0s,baz=13,slow=17,SNR=6.5
ASAR LR LR 08 12 58.6
comp=Z,653nm,20.2s,baz=1.0,slow=35
ASAR Alice Springs 55.15 189 P **P 07 50 19.7 -0.7**
BMAR Burnt Mountain 55.25 27 P **P 07 50 22.2 +1.5**
BMRM Bremner River 55.30 35 P **P 07 50 21.7 +0.5**
BMRM IAmb IAmb 07 50 24.8
comp=Z,23nm,1.0s
BMRM Bremner River 55.30 35 P **P 07 50 21.6 +0.4**
baz=273
DOT Dot Lake 55.46 31 P **P 07 50 22.1 -0.1**
SCRK Sand Creek 55.49 31 P **P 07 50 22.1 -0.5**
SCRK Sand Creek 55.49 31 P **P 07 50 22.3 -0.2**
baz=271,SNR=13
J26K Charley River, 55.55 30 P **P 07 50 23.4 +0.4**
baz=271
MENT Mentasta 55.64 32 P **P 07 50 24.4 +0.9**
GLB Gilahina Butte 55.66 34 P **P 07 50 24.3 +0.5**
GLB IAmb IAmb 07 50 27.9
comp=Z,18nm,1.3s
L26K Log Cabin Wild 55.80 32 P **P 07 50 25.6 +0.9**
L26K Log Cabin Wild 55.80 32 P **P 07 50 25.6 +0.9**
baz=272,SNR=13
VRDI Verde Repeater 55.85 34 P **P 07 50 25.6 +0.4**
VRDI IAmb IAmb 07 50 53.6
comp=Z,15nm,1.1s
DZA Taraz 55.94 303 *e*P **P 07 50 25.3 -0.7**
baz=303
DZA *e*S S 07 57 59.0 -14
baz=303
DZA Taraz 55.94 303 *e*P **P 07 50 25.3 -0.7**
M26K Nabesna, AK 56.00 33 P **P 07 50 26.9 +0.8**
baz=273
CRQM Cirque 56.03 35 P **P 07 50 26.4 -0.1**
CRQM IAmb IAmb 07 50 30.7
comp=Z,28nm,1.1s
MCARA McCarthy VSAT 56.05 34 P **P 07 50 27.2 +0.8**
baz=274
CRQE Cirque 56.06 35 P **P 07 50 28.0 +1.3**
baz=274
K27K Chicken 56.33 31 P **P 07 50 29.1 +0.7**
K27K IAmb IAmb 07 50 58.1
comp=Z,15nm,1.2s
K27K Chicken 56.33 31 P **P 07 50 29.6 +1.2**
baz=273
KK31 Karatay Array 56.48 304 P **P 07 50 30.3 +0.5**
KK31 pmax pmax
comp=Z,131nm,1.5s
KK31 Karatay Array 56.48 304 P **P 07 50 30.3 +0.5**
KKAR Karatay Array 56.48 304 P **P 07 50 30.3 +0.5**
KKAR pmax pmax
comp=Z,131nm,1.5s
KKAR Karatay Array 56.48 304 P **P 07 50 30.4 +0.6**
KKAR Karatay Array 56.48 304 P **P 07 50 30.3 +0.5**
KKAR IAmb IAmb 07 50 31.5
comp=Z,131nm,1.4s
L27K Beaver Creek, 56.49 32 P **P 07 50 30.7 +1.0**
baz=274,SNR=16
M27K Edge Creek, AK 56.52 33 P **P 07 50 30.7 +0.7**
M27K IAmb IAmb 07 50 34.3
comp=Z,14nm,1.1s
M27K Edge Creek, AK 56.52 33 P **P 07 50 30.5 +0.5**
baz=274
PSA00 Pilbara Seismi 56.62 205 P **P 07 50 30.6 -0.3**
EGAK Eagle 56.68 30 P **P 07 50 31.6 +0.7**
EGAK Eagle 56.68 30 P **P 07 50 31.1 +0.2**
baz=273
CTG Chitna Glacier 56.89 35 P **P 07 50 34.9 +2.2**
baz=276
NIL Nilore 56.94 292 P **P 07 50 34.0 +0.7**
NIL pmax pmax
comp=Z,45nm,1.3s
NIL Nilore 56.94 292 P **P 07 50 34.0 +0.7**
BVCY Beaver Creek 56.99 33 P **P 07 50 34.2 +1.1**
baz=275,SNR=6.3

IUG **luzhnay** 57.05 303⇑ *i*P P 07 50 34.7 +0.7
baz=302
IUG *e*S S 07 58 25.7 -2.0
baz=302
IUG luzhnay 57.05 303 *c i*P P 07 50 34.7 +0.7
IUG *e*S S 07 58 25.7 -2.0
YUK3 Moose Creek 57.23 34 P P 07 50 35.7 +0.6
baz=276
DAWY Dawson 57.50 31 P P 07 50 37.5 +0.8
DAWY Dawson 57.50 31 P P 07 50 38.6 +1.8
baz=275,SNR=8.1
GAR Garm 57.65 299 P P 07 50 38.8 +0.4
DZM Mont Dzumac 58.04 153 *e*P P 07 50 43.6 +2.5
comp=Z,64nm,1.4s
DZM *e*S S 07 58 40.3 -0.6
comp=Z,145nm,28.3s
DZM *e*LR LR 08 07 33.6
comp=Z,455nm,20.6s
DZM Mont Dzumac 58.04 153 LR LR 08 15 02.6
comp=Z,402nm,19.1s,baz=340,slow=36
YUK4 Talbot Arm 58.15 34 P P 07 50 42.8 +1.2
baz=278,SNR=5.9
YUK6 Outpost Mounta 58.34 34 P P 07 50 44.1 +1.1
baz=278
EPYK Eagle Plains 58.39 28 P P 07 50 44.1 +1.1
EPYK Eagle Plains 58.39 28 P P 07 50 44.1 +1.1
baz=276,SNR=11
HYB Hyderabad 58.60 272 *i* P P 07 50 45.0 -0.2
CHGR Chuyangaron 58.62 299 P P 07 50 45.8 +0.7
HYT Haines Junctio 58.77 34 P P 07 50 46.1 +0.4
HYT IAmb IAmb 07 50 50.6
comp=Z,13nm,0.8s
HYT Haines Junctio 58.77 34 P P 07 50 46.2 +0.4
baz=279,SNR=9.2
MAYO Mayo, Yukon 59.10 31 P P 07 50 49.5 +1.6
baz=279
INK Inuvik 59.38 25 P P 07 50 49.6 -0.1
comp=Z,8.2nm,1.0s,baz=279,slow=8.0,SNR=10
INK Inuvik 59.38 25 P P 07 50 50.0 +0.2
baz=278,SNR=5.9
SVE Sverdlovsk 59.78 321 *e*P P 07 50 53.1 +0.4
SVE *e*S S 07 59 07.1 +4.5
SVE pmax pmax
comp=Z,41nm,0.9s
SVE MLR MLR
comp=Z,723nm,14.0s
MSVF Nonsavu 59.85 139 LR LR 08 12 36.9
comp=Z,385nm,20.9s,baz=341,slow=32
KBL Kabul 59.97 294 P P 07 50 54.5 -0.2
KBL pmax pmax
comp=Z,14nm,1.0s
KBL Kabul 59.97 294 P P 07 50 54.5 -0.2
KBL IAmb IAmb 07 51 15.5
comp=Z,14nm,0.9s
WHY Whitehorse 60.07 34 P P 07 50 56.2 +1.4
WHY IAmb IAmb 07 50 58.4
comp=Z,10nm,0.9s
WHY Whitehorse 60.07 34 P P 07 50 55.5 +0.8
baz=281
FARO Faro, Yukon 60.48 32 P P 07 50 58.1 +0.7
baz=282,SNR=11
ARU Arti 60.99 321 *d i*P P 07 51 00.9 0.0
ARU 07 51 42.0
ARU S S 07 59 21.7 +3.6
ARU SS SS 08 03 14.2 -2.9
ARU pmax pmax
comp=Z,62nm,1.2s
ARU MLR MLR
comp=Z,871nm,17.0s
ARU Arti 60.99 321 P P 07 51 01.1 +0.2
MMPY Sheldon Lake, 61.35 32 P P 07 51 04.8 +1.5
baz=283
PALK Pallekele 61.65 261 P P 07 51 05.9 -0.2
comp=Z,7.2nm,0.8s,baz=166,slow=2.4,SNR=4.0
ABKAR Akbulak array 62.02 313 P P 07 51 08.1 +0.1
ABKAR Akbulak array 62.02 313 P P 07 51 08.2 +0.2
POO Poona 62.13 276 *e*P P 07 51 07.0 -2.3
STKA Stephens Creek 62.80 180 P P 07 51 11.1 -2.2
comp=Z,2.4nm,0.6s,baz=350,slow=11,SNR=2.0
STKA LR LR 08 18 04.2
comp=Z,693nm,20.2s,baz=9.7,slow=36
AKTO Aktyubinsk 62.88 314 P P 07 51 13.8 0.0
comp=Z,6.8nm,0.5s,baz=74,slow=16,SNR=21
DLBC Dease Lake 63.00 36 P P 07 51 14.4 -0.1
comp=Z,6.1nm,0.9s,baz=272,slow=9.0,SNR=10
FORT Forrest 63.08 193 P P 07 51 16.2 +1.1
KIRV Kirov 65.11 325 *c i*P P 07 51 28.3 +0.1
HRA Herat 65.29 296 P P 07 51 31.1 +0.9
PRGR Permogore 65.83 329 *e*P P 07 51 32.3 -0.6
PRGR pmax pmax
comp=Z,44nm,0.8s
BBB Bella Bella 66.00 42 LR LR 08 21 23.1
comp=Z,177nm,18.8s,baz=279,slow=37
KBS Kingsbay 66.39 351⇑ *e*P P 07 51 34.6 -1.6
KBS pmax pmax
comp=Z,10.0nm,1.2s
GEYT Alibeck 67.04 301 P P 07 51 42.2 +1.0
comp=Z,24nm,0.6s,baz=183,slow=3.0,SNR=21
GYA0B ALIBECK ARRAY 67.04 301 P P 07 51 41.9 +0.8
NWAO Narrogin (SRO) 67.96 202 P P 07 51 47.9 +1.2
NWAO pmax pmax
comp=Z,74nm,1.5s
NWAO Narrogin (SRO) 67.96 202 P P 07 51 47.9 +1.2
APA Apatity 68.10 337⇓ *i*P P 07 51 45.2 -2.0
APA *i* 07 52 11.0
APA *i* 07 54 19.0
APA pmax pmax
comp=Z,16nm,0.9s
APA MLR MLR
comp=Z,700nm,15.0s
BELG Belogornoye 68.32 319 P P 07 51 48.8 0.0
comp=Z,21nm,0.8s,baz=278,slow=1.7,SNR=13
BELG Belogornoye 68.32 319 *i* P P 07 51 48.8 0.0
BELG pmax pmax
comp=Z,5.0nm,1.0s
YKA Yellowknife Ar 68.63 29 LR LR 08 21 53.5
comp=Z,98nm,21.4s,baz=0.0,slow=36
YKA Yellowknife Ar 68.63 29 *i* P P 07 51 54.0 +3.4
YKA pmax pmax
comp=Z,2.0nm,0.8s
KLMR Klimovskoe 68.85 329 *e*P P 07 51 50.4 -1.6
KLMR *e* PcP 07 52 14.3 -2.1
KLMR pmax pmax
comp=Z,23nm,0.9s
KLMR Klimovskoe 68.85 329 *e*P P 07 51 50.4 -1.6
KLMR AMP 07 51 55.2
comp=Z,23nm,0.9s
KLMR *e*PcP PcP 07 52 14.3 -2.1
HAMF Hammerfest 69.38 342 *e*P P 07 51 56.0 +0.9
ARA0 ARCESS Array S 69.52 340 *e*P P 07 51 57.6 +1.5
ARCES ARCESS Array B 69.52 340 P P 07 51 56.6 +0.5
comp=Z,6.1nm,0.6s,baz=71,slow=7.8,SNR=22
ARCES LR LR 08 27 50.3
comp=Z,532nm,19.1s,baz=65,slow=41
ARCES ARCESS Array B 69.52 340 P P 07 51 56.9 +0.8
ARCES pmax pmax
comp=Z,23nm,1.2s
ARCES ARCESS Array B 69.52 340 P P 07 51 56.9 +0.8
ARCES IAmb IAmb 07 52 01.3
comp=Z,23nm,1.1s
KTK1 Kautokeino 70.49 340 *e*P P 07 52 02.2 +0.2
JETT Jettan, Norway 70.94 342 *e*P P 07 52 07.6 +2.9
NEEM North Greenlan 71.25 3 *i* P P 07 52 10.5 +3.6
NEEM IAmb IAmb 07 52 12.8
comp=Z,8.3nm,1.0s
TRO Tromso 71.29 342 *e*P P 07 52 08.1 +1.3
MOS Moscow 72.13 325 *e*P P 07 52 10.8 -1.3
MOS *e* 07 52 27.3
MOS MLR MLR
comp=Z,800nm,18.0s
VRH Novokhopyorsk 72.14 319 *e*P P 07 52 11.8 -0.5
VRH pmax pmax
comp=Z,10.0nm,0.8s
I03D Drain, OR 72.33 49 P P 07 52 14.7 +1.2
baz=296
H04D Lebanon 72.35 48 P P 07 52 15.7 +2.0
baz=297
MAK Makhachkala 72.36 310 *e*P P 07 52 08.5 -5.2
MAK *e*S S 08 01 30.0 -6.1
MAK *e*SSS SSS 08 09 25.1
MAK pmax pmax
comp=Z,93nm,0.8s
MAK MLR MLR
comp=Z,2μm,17.0s
H04A Detroit Lake 72.63 48 P P 07 52 16.1 +0.7
H04A IAmb IAmb 07 52 18.5
comp=Z,7.9nm,0.8s
B08A Colville Reser 72.70 44 P P 07 52 17.0 +1.2
WSAR Wadi Sarin 72.81 287 P P 07 52 17.4 +0.6
comp=Z,7.3nm,0.9s,baz=92,slow=5.0,SNR=4.7
L02E Cave Junction 72.85 51 P P 07 52 17.5 +0.8
baz=297
I04A Tendick Farm, 72.89 49 P P 07 52 17.9 +0.9
baz=297
OBN Obninsk 72.96 325⇓ *e*P P 07 52 17.5 +0.5
OBN *i* 07 52 35.5
OBN *i* 07 54 55.6
OBN *i* S **SKiKP** 08 01 46.0 -2.7
OBN *i* SS SS 08 06 31.4 +9.1
OBN pmax pmax
comp=Z,30nm,1.3s
OBN MLR MLR
comp=Z,1μm,19.0s
OBN Obninsk 72.96 325 P P 07 52 17.5 +0.5
E07A Sunnyside 73.23 45 P P 07 52 19.9 +1.1
E07A IAmb IAmb 07 52 44.7
comp=Z,11nm,1.2s
I05D Terrebonne, OR 73.33 48 P P 07 52 20.4 +0.9
baz=298
J04D Umpqua Nationa 73.34 49 P P 07 52 21.2 +1.3
baz=297
PUL Pulkovo 73.35 331⇑ *e*P P 07 52 19.1 -0.2
PUL pmax pmax
comp=Z,173nm,0.6s
STEI Steigen 73.43 342 *e*P P 07 52 20.7 +1.1
BANOM Banah 73.48 291 P P 07 52 21.6 +0.8
F07A Phinny Hill Vi 73.49 46 P P 07 52 21.2 +0.8
HAWA Hanford 73.50 46 P P 07 52 22.2 +1.8
SHME Shamm 73.55 291 P P 07 52 22.0 +0.9
C09A Chrisman Ranch 73.59 44 P P 07 52 21.7 +0.7
C09A IAmb IAmb 07 52 44.4
comp=Z,16nm,1.4s
YBH Yreka Blue Hor 73.63 51 LR LR 08 21 04.8
comp=Z,506nm,19.2s,baz=287,slow=33
EDM Edmonton 73.67 37 P P 07 52 21.9 +0.5
EDM pmax pmax
comp=Z,12nm,1.0s
EDM Edmonton 73.67 37 P P 07 52 21.9 +0.5
EDM IAmb IAmb 07 52 25.8
comp=Z,12nm,1.0s
FAUS Fauske 73.80 341 *e*P P 07 52 23.5 +1.7
PINE Pine Mountain 73.84 48 P P 07 52 23.8 +1.0
PINE IAmb IAmb 07 52 26.1
comp=Z,11nm,0.8s
MSFE Esma-Masafi 73.85 290 P P 07 52 23.0 +0.1
J05D Fort Rock, OR 73.88 49 P P 07 52 23.9 +0.9
baz=298
N02D Trinity Center 73.99 52 P P 07 52 24.9 +1.4
baz=298
UOSS Minazif 74.00 290 P P 07 52 24.2 +0.4
UOSS Minazif 74.00 290 P P 07 52 24.7 +0.9
UOSS IAmb IAmb 07 52 36.7
comp=Z,21nm,0.9s
NEW Newport 74.05 43 LR LR 08 27 37.7
comp=Z,120nm,18.0s,baz=302,slow=38
NEW Newport 74.05 43 P P 07 52 24.4 +0.7
NEW pmax pmax
comp=Z,7.0nm,1.0s
NEW Newport 74.05 43 P P 07 52 24.4 +0.7
NEW Newport 74.05 43 P P 07 52 24.5 +0.8
baz=299,SNR=6.9
FIA1 FINESS Array S 74.09 333 P P 07 52 23.9 +0.3
FINES FINESS Array B 74.10 333 P P 07 52 23.8 +0.2
comp=Z,12nm,0.8s,baz=98,slow=6.0,SNR=31
FINES LR LR 08 27 51.3
comp=Z,296nm,18.4s,baz=43,slow=38
FINES FINESS Array B 74.10 333 P P 07 52 24.2 +0.5
SOHO SOHO 74.11 289 P P 07 52 24.6 +0.2
HATD Hatta, Dubai 74.11 290 P P 07 52 25.0 +0.6
M04C Macdoel 74.19 51 P P 07 52 25.6 +0.8
baz=298
ASHO Ashiyiah 74.24 289 P P 07 52 25.4 +0.2
GOF Gofitskoye 74.25 313⇑ *e*P P 07 52 26.0 +1.1
K05A Summer Lake 74.37 49 P P 07 52 26.9 +1.0
K05A IAmb IAmb 07 52 39.0
comp=Z,15nm,1.0s
G08A Pilot Rock 74.38 46 P P 07 52 26.4 +0.6
NAZ Nazwa, Dubai 74.42 290 P P 07 52 27.7 +1.4
FAQ Al Faqa, Dubai 74.59 290 P P 07 52 28.0 +0.8
ZEI Tsey 74.79 311 *e*P P 07 52 28.1 -0.2
ZEI pmax pmax
comp=Z,10.0nm,1.5s
ASUD Al Ashush, Dub 74.85 290 P P 07 52 30.1 +1.3
MOR8 Moi Rana 74.90 340 *e*P P 07 52 27.6 -0.7
O03E Paynes Creek 74.91 52 P P 07 52 29.7 +0.8
baz=298
KBZ Khabaz 74.98 312 P P 07 52 29.9 +0.8
comp=Z,10nm,0.8s,baz=70,slow=4.5,SNR=16
KBZ LR LR 08 28 37.3
comp=Z,547nm,18.1s,baz=52,slow=38
KBZ Khabaz 74.98 312 *c e*P P 07 52 29.8 +0.7
KBZ pmax pmax
comp=Z,18nm,1.1s
KIV Kislovodsk 75.01 312 P P 07 52 30.2 +0.8
KIV Kislovodsk 75.01 312 *e*P P 07 52 30.3 +0.9
KIV *e*S S 08 02 08.4 +2.2
KIV pmax pmax
comp=Z,15nm,1.0s
KIV MLR MLR
comp=Z,521nm,18.0s
ONI Oni 75.17 311 P P 07 52 31.7 +1.3
ONI pmax pmax
comp=Z,27nm,1.3s
ONI Oni 75.17 311 P P 07 52 31.7 +1.3
ONI IAmb IAmb 07 52 54.9
comp=Z,27nm,1.3s
WALA Waterton Lakes 75.49 41 P P 07 52 33.0 +0.9
WALA IAmb IAmb 07 52 34.5
comp=Z,8.3nm,0.8s
GNI Garni 75.50 308 P P 07 52 33.8 +1.4
GNI Garni 75.50 308 *c e*P P 07 52 33.8 +1.4
GNI pmax pmax
comp=Z,40nm,1.3s
GNI Garni 75.50 308 P P 07 52 33.9 +1.4
BMO Blue Mountains 75.61 46 P P 07 52 33.3 +0.4
BMO pmax pmax
comp=Z,7.0nm,1.2s
BMO Blue Mountains 75.61 46 P P 07 52 33.3 +0.4
J08A Circle Bar Ran 75.62 48 P P 07 52 33.6 +0.6
VSU Vasula 75.62 331 *de*P P 07 52 33.1 +0.6
VSU pmax pmax
comp=Z,117nm,1.4s
JTMT Jette 75.96 42 P P 07 52 35.9 +1.1
JTMT IAmb IAmb 07 52 37.7
comp=Z,23nm,1.1s
WVOR Wild Horse Val 75.97 49 P P 07 52 35.6 +0.6
WVOR pmax pmax
comp=Z,5.0nm,1.0s
WVOR Wild Horse Val 75.97 49 P P 07 52 35.6 +0.6
BEKR Beckworth 76.09 52 P P 07 52 36.1 +0.3
BEKR IAmb IAmb 07 52 38.1
comp=Z,10nm,0.9s
SUMG Summit 76.44 0 *i* P P 07 52 38.0 +0.5
SUMG IAmb IAmb 07 52 47.5
comp=Z,6.4nm,0.8s
SUMG Summit 76.44 0 *i* P P 07 52 38.0 +0.5
SUMG pmax pmax
comp=Z,6.0nm,0.8s
SUMG Summit 76.44 0 P P 07 52 38.1 +0.7
SUMG IAmb IAmb 07 52 41.5
comp=Z,26nm,1.4s
MSO Missoula 76.63 43 P P 07 52 39.7 +1.0
MSO Missoula 76.63 43 P P 07 52 39.1 +0.4
baz=302
PAHR Pah Rah Range 76.82 52 P P 07 52 39.2 -0.8
SOC Sochi 77.06 313 *e*P P 07 52 40.9 -0.1
SOC *e* 07 55 31.1
SOC *e*S S 08 02 31.6 +3.0
SOC *e*SS SS 08 07 24.6 -0.5
SOC pmax pmax
comp=Z,5.0nm,0.4s
SOC MLR MLR
comp=Z,346nm,16.0s
MFID Camas Ranch 77.26 47 P P 07 52 42.9 +0.6
MFID IAmb IAmb 07 52 48.2
comp=Z,14nm,1.3s
YERR Yerington 77.27 52 P P 07 52 42.8 +0.3
YERR IAmb IAmb 07 52 46.7
comp=Z,16nm,1.2s
MNK Minsk 77.49 327 *i* P P 07 52 41.4 -1.8
MNK *i* PcP 07 52 51.6 -1.9
MNK *i* PP 07 55 35.7 -1.7
MNK *i* PPP PPP 07 57 23.0
MNK *i* S S 08 02 30.5 -2.4
MNK *i* 08 02 59.4
MNK *i* SS SS 08 07 32.6 +1.6
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK pmax pmax
comp=N,19nm,1.0s
MNK pmax pmax
comp=Z,22nm,1.0s
MNK MLR MLR
comp=Z,7μm,19.0s
MNK MLR MLR
comp=N,571nm,19.0s
MNK MLR MLR
comp=E,113nm,19.0s
MNK Minsk 77.49 327 *i* P P 07 52 41.5 -1.7
comp=E,3.0nm,1.0s
MNK *i* P P 07 52 41.5 -1.7
comp=N,19nm,1.1s
MNK *i* P P 07 52 41.5 -1.7
comp=Z,22nm,1.0s,baz=53
MNK *i* PcP PcP 07 52 51.6 -1.9
MNK *i* PP PP 07 55 35.8 -1.6
MNK *i* PPP PPP 07 57 23.1
MNK *i* S S 08 02 30.6 -2.3
MNK *i* SS SS 08 07 32.7 +1.7
MNK *i* SSS SSS 08 10 18.5
MNK *i* LR LR 08 24 52.4
MNK *i* LRM MLR 08 28 58.8
comp=Z,7μm,18.5s
MNK *i* LRM MLR 08 29 43.8
comp=N,571nm,18.5s
MNK *i* LRM MLR 08 30 52.3
comp=E,113nm,18.5s
NACGM Naroch 77.75 328 *i* P P 07 52 43.1 -1.5
ANN Anapa 77.83 315 *e*P P 07 52 50.1 +4.9
BMN Battle Mountai 77.89 50 P P 07 52 46.6 +0.7
BMN pmax pmax
comp=Z,9.0nm,1.1s
BMN Battle Mountai 77.89 50 P P 07 52 46.6 +0.7
HRY Holter Researc 77.92 42 P P 07 52 46.9 +0.9
RYN Ryan 77.94 52 P P 07 52 46.7 +0.5
RYN IAmb IAmb 07 52 48.8
comp=Z,9.5nm,0.9s
KVN Kaiserville 78.01 52 P P 07 52 47.1 +0.4
KVN pmax pmax
comp=Z,9.0nm,0.8s
KVN Kaiserville 78.01 52 P P 07 52 47.1 +0.4
KVN IAmb IAmb 07 52 49.6
comp=Z,9.4nm,0.8s
LRM Limekiln Ridge 78.04 43 P P 07 52 47.5 +0.8
HLID Hailey 78.06 46 P P 07 52 47.6 +0.8
HLID Hailey 78.06 46 P P 07 52 48.0 +1.1
baz=302,SNR=9.6
MDPB Devils Postpil 78.06 53 P P 07 52 47.5 +0.4
GURO Guroymak-BITLI 78.11 308 P P 07 52 47.9 +0.8
GURO IAmb IAmb 07 53 06.5
comp=Z,15nm,1.0s
LHV Little Huntoon 78.14 52 P P 07 52 47.8 +0.7
LHV IAmb IAmb 07 52 50.8
comp=Z,12nm,0.8s
NVAR Mina Array Bea 78.19 52 P P 07 52 47.6 -0.1
comp=Z,7.9nm,0.8s,baz=280,slow=5.2,SNR=50
NVAR LR LR 08 24 50.2
comp=Z,589nm,18.7s,baz=290,slow=34
NVAR Mina Array Bea 78.19 52 P P 07 52 48.3 +0.6
PAGB Antelope Grade 78.20 55 P P 07 52 48.1 +0.6
PAGB IAmb IAmb 07 52 51.2
comp=Z,19nm,1.0s
DLMT Dillon 78.20 44 P P 07 52 47.8 +0.2
MLAC Mammoth, Mammo 78.23 53 P P 07 52 49.3 +1.3
baz=300
NV11 Mina Array Sit 78.29 52 P P 07 52 48.6 +0.5
MCMT McKenzie Canyo 78.34 44 P P 07 52 49.5 +1.0
EGMT Eagleton 78.38 41 P P 07 52 49.4 +1.0
baz=304
UMR Umm Al-Rimmam 78.49 298 *e*P P 07 52 48.7 -0.5
BOZ Bozeman (W) 78.65 43 P P 07 52 50.5 +0.5
BOZ pmax pmax
comp=Z,5.0nm,0.9s
BOZ Bozeman (W) 78.65 43 P P 07 52 50.5 +0.5
BOZ Bozeman (W) 78.65 43 P P 07 52 50.8 +0.8
baz=303,SNR=12
MIB Mutribah 78.65 298 *e*P P 07 52 50.0 0.0
QRN Al-Qurain 78.73 297 *e*P P 07 52 50.3 -0.3
RDF Al-Radifah 78.92 297 *e*P P 07 52 51.7 +0.1
VES Vestal, Richgr 78.96 55 P P 07 52 51.8 +0.1
baz=301,SNR=5.9
ELK Elko 79.02 49 P P 07 52 52.4 +0.1
ELK pmax pmax
comp=Z,5.0nm,1.0s
ELK Elko 79.02 49 P P 07 52 52.4 +0.1
RST Umm Al-Ruwaisa 79.06 298 *e*P P 07 52 52.0 -0.3
TPH Tonopah 79.10 52 P P 07 52 53.3 +0.6
TPH pmax pmax
comp=Z,27nm,0.9s
TPH Tonopah 79.10 52 P P 07 52 53.3 +0.6
AKASG Malin Array Be 79.10 323 P P 07 52 52.0 -0.2
comp=Z,4.9nm,0.6s,baz=51,slow=6.1,SNR=19
AKASG LR LR 08 30 54.3
comp=Z,1μm,19.3s,baz=65,slow=38
AKASG Malin Array Be 79.10 323 P P 07 52 52.3 +0.1
AKASG pmax pmax
comp=Z,7.0nm,1.1s
AKASG Malin Array Be 79.10 323 P P 07 52 52.2 +0.1
AKBB Malin Array Si 79.10 323 *c i*P P 07 52 51.8 -0.4
AKBB Malin Array Si 79.10 323 P P 07 52 52.4 +0.2
AKBB IAmb IAmb 07 53 08.3
comp=Z,35nm,1.5s
QLMT Earthquake Lak 79.19 44 P P 07 52 54.6 +1.5
CWC Cottonwood Cre 79.35 54 P P 07 52 54.2 +0.1
baz=301
NC405 NORSAR Array S 79.43 338 P P 07 52 53.2 -0.6
YMR Madison River 79.55 44 P P 07 52 55.8 +0.8
YMR IAmb IAmb 07 52 58.9
comp=Z,9.6nm,0.8s
YHH Holmes Hill 79.55 44 P P 07 52 56.0 +0.8
GRAC Grapevine Rang 79.56 53 P P 07 52 56.4 +1.3
baz=301
MARD Mardin 79.59 307 P P 07 52 55.9 +0.6
MARD IAmb IAmb 07 53 14.3
comp=Z,15nm,0.8s
NC204 NORSAR Array S 79.61 338 P P 07 52 55.2 +0.4
NB2 NORSAR Subarra 79.64 338 P P 07 52 54.8 -0.2
comp=Z,3.7nm,0.7s,baz=41,slow=5.6
NB2 NORSAR Subarra 79.64 338 P P 07 52 54.8 -0.2
baz=41,slow=5.6
NOA NORSAR Array B 79.64 338 P P 07 52 54.8 -0.2
comp=Z,5.0nm,0.7s,baz=41,slow=5.4,SNR=17
NOA LR LR 08 34 20.5
comp=Z,524nm,18.5s,baz=40,slow=40
GCMT Greycliff 79.68 42 P P 07 52 54.0 -1.7
NC602 NORSAR Array S 79.77 338 *e*P P 07 52 56.1 +0.5
H17A Grant Village 79.93 44 P P 07 53 00.1 +2.9
baz=304,SNR=20
ICESG Greenland Ices 79.94 1 *i* P P 07 52 57.6 +0.8
ICESG IAmb IAmb 07 53 02.6
comp=Z,12nm,1.0s
MPMC Manual Prospec 79.96 54 P P 07 52 57.6 +0.2
baz=301
FLWY Flagg Ranch 80.03 44 P P 07 52 59.2 +1.5
FLWY IAmb IAmb 07 53 03.0
comp=Z,18nm,1.1s
AKN Aaknes 80.05 340 *e*P P 07 52 58.4 +1.3
R11A Troy Canyon, C 80.06 51 P P 07 52 58.2 +0.3
R11A Troy Canyon, C 80.06 51 P P 07 52 58.3 +0.4
baz=302,SNR=11
FXWY Fox Creek 80.09 45 P P 07 52 58.9 +0.9
FURC Furnace Creek, 80.18 53 P P 07 52 59.1 +0.8
baz=302,SNR=9.1
MOOW Moose Ponds 80.19 45 P P 07 52 59.6 +1.0
TPAW Teton Pass 80.22 45 P P 07 52 59.0 +0.3
EDW2 Edwards Air Fo 80.22 55 P P 07 52 59.2 +0.5
baz=301
RLMT Red Lodge 80.29 43 P P 07 52 59.9 +0.8
RLMT Red Lodge 80.29 43 P P 07 52 59.9 +0.8
baz=305,SNR=10
BGU Big Grassy Mou 80.34 48 P P 07 53 00.1 +0.8
TPNV Topopah Spring 80.35 53 P P 07 52 59.9 +0.4
TPNV pmax pmax
comp=Z,15nm,0.9s
TPNV Topopah Spring 80.35 53 P P 07 52 59.9 +0.4

TPNV IAmb IAmb 07 53 02.3
comp=Z,15nm,0.8s
TPNV Topopah Spring 80.35 53 P **P 07 52 59.6 +0.2**
baz=302,SNR=28
SNOW Snow King Moun 80.35 45 P **P 07 53 00.2 +0.7**
SNOW IAmb IAmb 07 53 03.2
comp=Z,11nm,0.9s
LOHW Long Hollow 80.36 45 P **P 07 53 00.2 +0.8**
AHID Auburn Hatcher 80.53 46 P **P 07 53 00.8 +0.5**
AHID IAmb IAmb 07 53 04.0
comp=Z,11nm,0.9s
SPR3 Spring Creek 3 80.54 50 P **P 07 53 01.0 +0.4**
BFSC Mount Baldy Ra 80.79 56 P **P 07 53 02.5 +0.7**
baz=302
GSC Goldstone, Bar 80.83 54 P **P 07 53 02.4 +0.5**
GSC pmax pmax
comp=Z,9.0nm,1.3s
GSC Goldstone, Bar 80.83 54 P **P 07 53 02.4 +0.5**
GSC Goldstone, Bar 80.83 54 P **P 07 53 02.5 +0.6**
baz=302
SKAR Skarsla 80.84 339 *e*P **P 07 53 02.6 +1.1**
DUG Dugway, Tooele 80.88 48 P **P 07 53 02.6 +0.4**
DUG pmax pmax
comp=Z,11nm,1.0s
DUG Dugway, Tooele 80.88 48 P **P 07 53 02.6 +0.4**
DUG IAmb IAmb 07 53 25.7
comp=Z,11nm,0.9s
DUG Dugway, Tooele 80.88 48 P **P 07 53 02.8 +0.6**
baz=303,SNR=11
SHOC Shoshone, Teco 80.88 54 P **P 07 53 02.7 +0.5**
baz=302
HWUT Hardware Ranch 80.89 47 P **P 07 53 03.0 +0.8**
HWUT IAmb IAmb 07 53 05.8
comp=Z,13nm,1.0s
PRN Pahroc Range 80.91 52 P **P 07 53 03.0 +0.6**
PRN IAmb IAmb 07 53 14.9
comp=Z,13nm,1.0s
SORM Soroca 81.10 322 ⇑P **P 07 53 03.4 +0.4**
SORM Soroca 81.10 322 ⇑P **P 07 53 03.4 +0.4**
PSUT Pine Spring 81.10 50 P **P 07 53 03.8 +0.2**
PSUT IAmb IAmb 07 53 07.0
comp=Z,10nm,0.9s
LAO LASA Array 81.11 40 P **P 07 53 04.5 +1.3**
LAO IAmb IAmb 07 53 07.5
comp=Z,15nm,0.9s
LAO LASA Array 81.11 40 P **P 07 53 04.8 +1.5**
baz=307
KONO Kongsberg 81.23 338 *e*P **P 07 53 04.2 +0.7**
TCUT Toone Canyon 81.26 47 P **P 07 53 05.0 +0.7**
TCUT IAmb IAmb 07 53 13.2
comp=Z,12nm,0.9s
CTU Camp Tracy 81.28 48 P **P 07 53 05.0 +0.6**
CTU IAmb IAmb 07 53 08.6
comp=Z,15nm,0.9s
SHPR Sheep Range 81.32 53 P **P 07 53 05.4 +0.7**
SHPR IAmb IAmb 07 53 09.6
comp=Z,16nm,1.3s
TUQ Turquoise Moun 81.37 54 P **P 07 53 05.6 +0.7**
baz=302,SNR=10
HEC Hector,Ludlow 81.41 55 P **P 07 53 05.9 +0.9**
baz=302
MURC Murrieta 81.45 56 P **P 07 53 05.4 +0.2**
baz=302
BW06 Boulder Array 81.47 45 P **P 07 53 05.4 0.0**
BW06 Boulder Array 81.47 45 P **P 07 53 05.8 +0.4**
baz=305,SNR=12
PD31 Pinedale Array 81.47 45 P **P 07 53 05.4 0.0**
PDAR Pinedale Array 81.47 45 P **P 07 53 05.8 +0.4**
comp=Z,6.1nm,0.9s,baz=280,slow=2.8,SNR=32
PDAR LR LR 08 25 48.1
comp=Z,205nm,19.6s,baz=328,slow=33
PDAR Pinedale Array 81.47 45 P **P 07 53 05.3 -0.1**
NLU North Lily Min 81.48 48 P **P 07 53 05.8 +0.3**
NLU IAmb IAmb 07 53 08.2
comp=Z,10nm,1.0s
JLU Jordanelle 81.52 48 P **P 07 53 06.4 +0.7**
JLU IAmb IAmb 07 53 09.1
comp=Z,11nm,0.9s
MPU Maple Canyon 81.73 48 P **P 07 53 07.4 +0.6**
MPU IAmb IAmb 07 53 11.0
comp=Z,16nm,0.9s
PPT Papeete 81.75 116 LR LR 08 23 30.6
comp=Z,409nm,19.1s,baz=304,slow=31
PPT2 Papeete2 81.76 116 *e*S **S 08 03 18.8 -0.4**
comp=Z,234nm,31.0s
PPT2 Papeete2 81.76 116 *e*LR LR 08 18 30.4
comp=Z,504nm,21.5s,baz=307
GMRC Granite Mounta 81.90 54 P **P 07 53 08.2 +0.5**
baz=302,SNR=10
PFO Pinyon Flats O 81.96 56 P **P 07 53 08.1 0.0**
PFO pmax pmax
comp=Z,10.0nm,0.9s
PFO Pinyon Flats O 81.96 56 P **P 07 53 08.1 0.0**
PFO IAmb IAmb 07 53 10.7
comp=Z,10.0nm,0.8s
PFO Pinyon Flats O 81.96 56 P **P 07 53 08.0 0.0**
baz=302,SNR=11
CCUT Cedar City 81.97 51 P **P 07 53 08.7 +0.5**
TPFO Pinon Flats 81.97 56 P **P 07 53 08.2 +0.1**
baz=302,SNR=11
TCRU Three Creeks R 81.98 50 P **P 07 53 08.9 +0.7**
TCRU IAmb IAmb 07 53 16.8
comp=Z,12nm,1.2s
BNN Bunyan 82.05 311 P **P 07 53 09.8 +1.4**
GAZ Gaziantep 82.08 309 P **P 07 53 08.7 +0.2**
GAZ IAmb IAmb 07 53 28.6
comp=Z,20nm,1.1s
BELC Belle Mtn. Jos 82.08 55 P **P 07 53 08.3 -0.3**
baz=302,SNR=8.9
SZCU Shurtz Canyon 82.12 51 P **P 07 53 09.1 +0.1**
ILGA Ilgaz 82.17 313 P **P 07 53 09.7 +0.6**
ILGA IAmb IAmb 07 53 24.5
comp=Z,12nm,0.8s
MVU Marysvale 82.20 50 P **P 07 53 10.4 +1.1**
MSU Marysvale 82.22 50 P **P 07 53 10.1 +0.7**
MSU Marysvale 82.22 50 P **P 07 53 10.1 +0.7**
LVV L'vov 82.26 325 *e*P **P 07 53 07.3 -1.8**
LVV e 07 56 17.1
LVV *e*S **S 08 03 18.7 -4.8**
LVV *e*PS **PnS 08 04 07.9 -5.5**
LVV MLR MLR
comp=E,700nm,18.0s
LVV MLR MLR
comp=N,300nm,19.0s
LVV MLR MLR
comp=Z,800nm,18.0s
BAR Barrett 82.31 57 P **P 07 53 09.6 -0.1**
BAR IAmb IAmb 07 53 12.7
comp=Z,11nm,0.9s
LCMT Little Creek M 82.34 51 P **P 07 53 10.9 +0.9**
LCMT IAmb IAmb 07 53 13.7
comp=Z,12nm,0.8s
MONP2 Monument Peak 82.37 56 P **P 07 53 10.7 +0.4**
baz=302,SNR=13
TMUT Trail Mountain 82.40 48 P **P 07 53 10.8 +0.3**
TMUT IAmb IAmb 07 53 14.0
comp=Z,12nm,1.0s
MTPU Mount Pierson 82.47 50 P **P 07 53 11.9 +0.9**
MTPU IAmb IAmb 07 53 15.4
comp=Z,11nm,0.9s
CBX Cerro Bola 82.51 57 P **P 07 53 11.4 +0.5**
IRM Iron Mountain 82.59 55 P **P 07 53 11.5 +0.3**
baz=303,SNR=11
P17A Butcher Ranch, 82.60 48 P **P 07 53 12.2 +0.8**
KNB Kanab 82.62 51 P **P 07 53 11.8 +0.3**
KNB pmax pmax
comp=Z,25nm,1.2s
KNB Kanab 82.62 51 P **P 07 53 11.8 +0.3**
KNB IAmb IAmb 07 53 17.6
comp=Z,25nm,1.2s
Q16A Castle Valley 82.64 49 P **P 07 53 12.5 +0.9**
Q16A IAmb IAmb 07 53 15.1
comp=Z,9.0nm,0.8s
BC3 Big Chuckawall 82.65 55 P **P 07 53 12.2 +0.5**
baz=303,SNR=16
RDMU Red Mountain 82.72 47 P **P 07 53 12.6 +0.6**
IKP In-Ko-Pah, Jac 82.72 56 P **P 07 53 12.3 +0.3**
baz=302,SNR=6.6
SRU San Rafael Swe 82.95 48 P **P 07 53 13.4 +0.2**
SRU pmax pmax
comp=Z,18nm,0.8s
SRU San Rafael Swe 82.95 48 P **P 07 53 13.4 +0.2**
W13A Hualapai Mount 82.95 53 P **P 07 53 13.6 +0.2**
BR131 Keskin Array S 82.97 312 P **P 07 53 13.7 +0.4**
BR131 pmax pmax
comp=Z,29nm,1.2s
BR131 Keskin Array S 82.97 312 P **P 07 53 13.7 +0.4**
BRTR Keskin Array B 82.97 312 P **P 07 53 13.2 0.0**
comp=Z,8.9nm,0.9s,baz=106,slow=4.0,SNR=50
BRTR LR LR 08 34 16.9
comp=Z,378nm,19.2s,baz=74,slow=39
BRTR Keskin Array B 82.97 312 *i* P **P 07 53 14.1 +0.9**
BRTR pmax pmax
comp=Z,9.0nm,0.9s
BRTR Keskin Array B 82.97 312 P **P 07 53 13.7 +0.4**
TESR Tescani 83.01 321 ⇑P **P 07 53 11.2 -1.9**
BIZ Bicaz 83.03 322 ⇓P **P 07 53 12.7 -0.5**
KWP Kalwaria Pacla 83.04 325 *e*P **P 07 53 14.2 +1.0**
KWP Kalwaria Pacla 83.04 325 P **P 07 53 14.2 +1.0**
KWP Kalwaria Pacla 83.04 325 P **P 07 53 14.2 +1.0**
BUR08 Bucovina Ar. S 83.06 322 P **P 07 53 13.8 +0.3**
BUR08 IAmb IAmb 07 53 29.9
comp=Z,12nm,1.1s
BURAR Bucovina Array 83.07 322 ⇑P **P 07 53 13.7 +0.1**
BURAR Bucovina Array 83.07 322 ⇑P **P 07 53 13.7 +0.1**
BURAR Bucovina Array 83.07 322 P **P 07 53 13.9 +0.4**
PDMCI Parker Dam,Lak 83.21 54 P **P 07 53 15.1 +0.7**
baz=303
U15A North Rim 83.30 51 P **P 07 53 15.5 +0.3**
U15A IAmb IAmb 07 53 19.5
comp=Z,11nm,1.3s
K22A Casper 83.35 44 P **P 07 53 15.4 +0.3**
K22A IAmb IAmb 07 53 20.6
comp=Z,7.9nm,0.8s
K22A Casper 83.35 44 P **P 07 53 16.0 +0.9**
baz=307,SNR=5.5
VRI Vrincioaia 83.37 320 ⇓P **P 07 53 11.2 -3.8**
VRI Vrincioaia 83.37 320 ⇓P **P 07 53 11.2 -3.8**
GLA Glamis 83.42 55 P **P 07 53 15.9 +0.4**
GLA pmax pmax
comp=Z,11nm,0.8s
GLA Glamis 83.42 55 P **P 07 53 15.9 +0.4**
GLA IAmb IAmb 07 53 18.5
comp=Z,11nm,0.8s
GLA Glamis 83.42 55 P **P 07 53 16.4 +0.9**
baz=303
ANTO Ankara 83.42 313 P **P 07 53 16.5 +1.1**
ANTO pmax pmax
comp=Z,21nm,1.1s
ANTO Ankara 83.42 313 P **P 07 53 16.5 +1.1**
ANTO IAmb IAmb 07 53 17.7
comp=Z,21nm,1.1s
PLOR Plostina 83.42 320 ⇓P **P 07 53 12.4 -2.9**
PLOR Plostina 83.42 320 ⇓P **P 07 53 12.4 -2.9**
RWWY Rawlins 83.51 45 P **P 07 53 17.0 +0.8**
RWWY IAmb IAmb 07 53 18.6
comp=Z,11nm,1.0s
KOLS Kolonicke sedl 83.71 325 *e*P **P 07 53 17.3 +0.6**
KOLS Kolonicke sedl 83.71 325 *e*P **P 07 53 17.3 +0.6**
O20A White River Ci 83.79 46 P **P 07 53 17.7 +0.2**
O20A IAmb IAmb 07 53 20.5
comp=Z,15nm,0.9s
O20A White River Ci 83.79 46 P **P 07 53 18.2 +0.7**
baz=306,SNR=15
NEHR Nehoiu 83.88 320 ⇑P **P 07 53 13.0 -4.6**
UZH Uzhgorod 83.90 325 *e*P **P 07 53 18.3 +0.7**
UZH *e* 07 53 24.1
UZH *i* S **S 08 03 39.8 -0.3**
UZH *e* 08 04 27.0
UZH MLR MLR
comp=N,220nm,16.0s
UZH MLR MLR
comp=E,220nm,16.0s
UZH MLR MLR
comp=Z,110nm,16.0s
MLR Muntele Rosu 84.03 320 ⇓P **P 07 53 15.3 -3.2**
MLR Muntele Rosu 84.03 320 P **P 07 53 19.8 +1.2**
MLR pmax pmax
comp=Z,17nm,1.4s
MLR Muntele Rosu 84.03 320 P **P 07 53 19.8 +1.2**
MLR IAmb IAmb 07 53 39.4
comp=Z,17nm,1.4s
OJC Ojcow 84.04 327 *e*P P 07 53 12.6 -5.7
OJC Ojcow 84.04 327 P **P 07 53 19.0 +0.7**
OJC pmax pmax
comp=Z,24nm,1.2s
OJC Ojcow 84.04 327 P **P 07 53 19.0 +0.7**
MDUB Mudurnu 84.06 314 P **P 07 53 19.2 +0.5**
ULM Lac du Bonnet 84.12 33 P **P 07 53 18.3 -0.4**
comp=Z,5.3nm,1.0s,baz=273,slow=8.4,SNR=3.7
ULM LR LR 08 32 16.6
comp=Z,313nm,19.3s,baz=296,slow=37
CRVS Cervenica-Dubn 84.13 325 *e*P **P 07 53 20.6 +1.7**
CRVS Cervenica-Dubn 84.13 325 *e*P **P 07 53 20.5 +1.7**
Y14A Wickenburg 84.20 54 P **P 07 53 20.0 +0.5**
Y14A IAmb IAmb 07 53 22.0
comp=Z,8.1nm,0.9s
PV21 Cone Mtn., Par 84.25 48 P **P 07 53 20.9 +1.0**
SECR 84.25 320 ⇑P P 07 53 14.8 -4.7
PV23 Carpenter Ridg 84.29 48 P **P 07 53 21.3 +1.1**
113A Mohawk Valley, 84.32 55 P **P 07 53 20.0 0.0**
113A IAmb IAmb 07 53 22.0
comp=Z,6.3nm,0.9s
PV10 Paradox Valley 84.32 48 P **P 07 53 21.1 +0.8**
PV14 Lion Creek, Pa 84.33 48 P **P 07 53 21.0 +0.6**
NIE Niedzica 84.35 326 *e*P **P 07 53 21.6 +1.7**
PV20 West Nyswonger 84.38 48 P **P 07 53 21.0 +0.5**
PV22 Blue Mesa, Par 84.39 48 P **P 07 53 21.2 +0.6**
PV22 IAmb IAmb 07 53 27.9
comp=Z,13nm,0.9s
PV19 Morning Glory 84.39 48 P **P 07 53 21.2 +0.6**
PV04 Paradox Valley 84.39 48 P **P 07 53 20.8 +0.2**
PV17 East Wray Mesa 84.42 48 P **P 07 53 21.4 +0.6**
WUAZ Wupatki 84.43 52 P **P 07 53 21.6 +0.8**
WUAZ Wupatki 84.43 52 P **P 07 53 21.8 +1.0**
baz=305,SNR=23
PV16 Nyswonger Mesa 84.44 48 P **P 07 53 21.4 +0.6**
TAOE Nuku Hiva Isla 84.44 104 *e*LR LR 08 19 43.4
comp=Z,541nm,21.9s,baz=299
PV05 Paradox Valley 84.45 49 P **P 07 53 21.6 +0.6**
PV11 David Mesa, Pa 84.47 48 P **P 07 53 21.7 +0.7**
PV18 Skein Mesa, Pa 84.48 48 P **P 07 53 21.2 +0.2**
PV12 Saucer Basin, 84.50 48 P **P 07 53 22.4 +1.2**
PV03 Paradox Valley 84.51 48 P **P 07 53 21.6 +0.4**
PV07 Paradox Valley 84.53 48 P **P 07 53 24.4 +3.0**
PV07 IAmb IAmb 07 53 28.5
comp=Z,8.4nm,0.9s
VOIR 84.56 321 ⇑P **P 07 53 16.6 -4.5**
VOIR 84.56 321 ⇑P **P 07 53 16.6 -4.5**
PV13 Radium Mtn., P 84.58 48 P **P 07 53 22.0 +0.4**
PV02 Paradox Valley 84.61 48 P **P 07 53 22.7 +1.0**
PV15 Paradox Valley 84.69 48 P **P 07 53 22.7 +0.5**
PV15 IAmb IAmb 07 53 25.6
comp=Z,11nm,0.9s
N23A Red Feather La 84.75 45 P **P 07 53 24.0 +1.5**
baz=307,SNR=16
PV01 Paradox Valley 84.76 48 P **P 07 53 22.8 +0.3**
PHWY Pilot Hill 84.79 44 P **P 07 53 22.8 +0.1**
PHWY IAmb IAmb 07 53 28.4
comp=Z,7.8nm,1.1s
ARR Arges 84.82 321 ⇓P **P 07 53 20.3 -2.1**
DRGR 84.91 323 ⇑P **P 07 53 23.1 +0.2**
DRGR 84.91 323 ⇑P **P 07 53 23.1 +0.2**
LANS Liptovska Anna 84.93 326 *e*P **P 07 53 24.8 +1.9**
LANS pmax pmax
comp=Z,9.0nm,1.6s
LANS Liptovska Anna 84.93 326 *e*P **P 07 53 24.8 +1.9**
X16A Lo Mia Camp, P 85.00 53 P **P 07 53 24.1 +0.4**
X16A IAmb IAmb 07 53 28.1
comp=Z,11nm,1.0s
OKC Ostrava-Krasne 85.07 327 AMS AMS 08 37 30.0
comp=Z,500nm,14.0s
SMCO Snowmass 85.15 47 P **P 07 53 25.3 +0.6**
SMCO IAmb IAmb 07 53 29.1
comp=Z,20nm,1.1s
KSP Ksiaz 85.20 329 *e*P **P 07 53 25.1 +0.9**
TBI Tubuai 85.27 121 *e*S **S 08 03 52.4 -1.8**
comp=Z,92nm,23.8s
TBI Tubuai 85.27 121 *e*LR LR 08 19 39.8
comp=Z,300nm,35.0s
MVCO Mesa Verde 85.35 49 P **P 07 53 26.2 +0.8**
MVCO IAmb IAmb 07 53 30.1
comp=Z,21nm,1.4s
MVCO Mesa Verde 85.35 49 P **P 07 53 26.3 +0.8**
baz=306,SNR=11
MORC Moravsky Berou 85.39 328 *e*P **P 07 53 25.4 +0.2**
214A Organ Pipe Nat 85.44 55 P **P 07 53 26.4 +0.6**
214A IAmb IAmb 07 53 29.9
comp=Z,14nm,1.1s
214A Organ Pipe Nat 85.44 55 P **P 07 53 26.5 +0.7**
baz=304,SNR=12
OSTC Ostas 85.44 329 *e*P **P 07 53 26.4 +1.0**
OSTC AMS AMS 08 37 30.0
comp=Z,800nm,14.4s
AGMN Agassiz Nation 85.47 34 P **P 07 53 25.7 +0.2**
AGMN IAmb IAmb 07 53 28.4
comp=Z,12nm,1.3s
AGMN Agassiz Nation 85.47 34 P **P 07 53 25.6 0.0**
baz=314
CHVC Chvalec 85.49 329 AMS AMS 08 36 10.0
comp=Z,800nm,11.8s
KRLC Kraliky 85.53 328 AMS AMS 08 36 10.0
comp=Z,900nm,14.5s
DPC Dobruska-Polom 85.54 328 *e*P **P 07 53 26.2 +0.3**
DPC *e*S **S 08 03 54.6 -1.9**
DPC MLR MLR
comp=Z,800nm,15.4s
DPC Dobruska-Polom 85.54 328 *e*P **P 07 53 26.2 +0.3**
DPC *e*S **S 08 03 54.6 -1.9**
DPC AMS AMS 08 37 30.0
comp=Z,800nm,15.4s
UPC Upice 85.56 329 AMS AMS 08 37 30.0
comp=Z,800nm,14.1s
ISCO Idaho Springs 85.61 46 P **P 07 53 27.9 +1.0**
ISCO pmax pmax
comp=Z,7.0nm,1.2s
ISCO Idaho Springs 85.61 46 P **P 07 53 27.9 +1.0**
ISCO Idaho Springs 85.61 46 P **P 07 53 28.1 +1.3**
baz=308,SNR=7.6
VYHS Vyhne 85.68 326 *e*P **P 07 53 26.1 -0.5**
VYHS Vyhne 85.68 326 *e*P **P 07 53 26.1 -0.5**
W18A Petrified Fore 85.75 51 P **P 07 53 29.8 +2.3**
baz=306
CSS Mathiatis 85.92 309 P **P 07 53 28.0 0.0**
CSS IAmb IAmb 07 53 45.6
comp=Z,16nm,1.0s
JAVC Velka Javorina 85.98 327 *e*P **P 07 53 29.5 +1.3**
S22A 4UR Ranch, Cre 86.10 48 P **P 07 53 30.5 +1.2**
baz=307,SNR=13
VRAC Vranov 86.16 328 *e*P **P 07 53 29.4 +0.4**
PVCC Panska Ves 86.19 329 AMS AMS 08 36 50.0
comp=Z,700nm,15.3s
BRG Berggiesshubel 86.20 330 *e*P **P 07 53 29.0 -0.1**
BRG Amp 07 53 30.6
comp=Z,7.0nm,1.2s
CLL Collm 86.28 331 *i* P **P 07 53 29.2 -0.3**
comp=Z,19nm,1.3s
CLL *i* (sP) **PcP 07 53 33.4 +1.4**
comp=Z,30nm,1.5s
CLL *i* 07 53 41.3
CLL *e*PP **PP 07 56 46.0 -3.7**
CLL *e*S **S 08 04 07.0 +3.4**
CLL *e*PS **PnS 08 05 02.0 -0.2**
CLL *e*SS **SS 08 09 42.0 +0.4**
CLL *e* 08 14 48.0
CLL Collm 86.28 331 P **P 07 53 29.5 0.0**
CLL pmax pmax
comp=Z,13nm,1.0s
CLL Collm 86.28 331 P **P 07 53 29.5 0.0**
CLL IAmb IAmb 07 53 34.8
comp=Z,13nm,1.0s
Q24A Divide 86.41 46 P **P 07 53 32.6 +1.8**
baz=308,SNR=5.9
KRUC Moravsky 86.43 328 *e*P **P 07 53 30.6 +0.3**
SUSD Miller 86.49 39 P **P 07 53 31.1 +0.4**
SUSD Miller 86.49 39 P **P 07 53 31.1 +0.4**
baz=312
PRA Prague 86.58 329 AMS AMS 08 36 50.0
comp=Z,1μm,14.8s
PRU Pruhonice 86.59 329 *e*SKS **S 08 04 01.6 -5.1**
PRU AMS AMS 08 36 50.0
comp=Z,800nm,15.4s
TUC Tucson 86.65 54 P **P 07 53 32.2 +0.4**
TUC pmax pmax
comp=Z,7.0nm,1.1s
TUC Tucson 86.65 54 P **P 07 53 32.2 +0.4**
TUC Tucson 86.65 54 P **P 07 53 32.7 +0.9**
baz=305
TREC Trest 86.67 328 AMS AMS 08 37 30.0
comp=Z,800nm,15.0s
SDCO Great Sand Dun 86.93 47 P **P 07 53 33.8 +0.5**
SDCO Great Sand Dun 86.93 47 P **P 07 53 34.4 +1.0**
baz=308,SNR=14
F33A 5 Mile Ranch, 86.94 36 P **P 07 53 32.8 -0.1**
NKC Novy Kostel 87.32 330 AMS AMS 08 38 20.0
comp=Z,800nm,13.8s
CONA Conrad Observa 87.49 327 *e*P **P 07 53 36.0 +0.4**
comp=Z,5.0nm,1.1s
CKRC Cesky Krumlov 87.55 328 *e*S **S 08 04 12.1 -3.9**
KHC Kasperske Hory 87.65 329 *e*P **P 07 53 37.8 +1.5**
KHC *e*S **S 08 04 12.5 -4.5**
KHC MLR MLR
comp=Z,600nm,14.1s
KHC Kasperske Hory 87.65 329 *e*P **P 07 53 37.8 +1.5**
KHC *e*S **S 08 04 12.5 -4.5**
KHC AMS AMS 08 37 00.0
comp=Z,600nm,14.1s
EYMN Ely 87.78 33 P **P 07 53 36.8 -0.1**
EYMN IAmb IAmb 07 53 40.9
comp=Z,19nm,1.4s
EYMN Ely 87.78 33 P **P 07 53 37.1 +0.2**
baz=317
GERES GERESS Array B 87.81 329 P **P 07 53 38.0 +0.9**
comp=Z,1.5nm,1.0s,baz=131,slow=3.7,SNR=4.3
GERES LR LR 08 36 36.4
comp=Z,357nm,19.0s,baz=24,slow=38
GERES GERESS Array B 87.81 329 P **P 07 53 38.0 +0.9**
T25A Trinidad 87.99 47 P **P 07 53 40.5 +2.1**
baz=308,SNR=6.1
ANMO Albuquerque 88.02 50 ⇑*e*P **P 07 53 39.1 +0.6**
ANMO pmax pmax
comp=Z,2.0nm,0.8s
ANMO Albuquerque 88.02 50 P **P 07 53 39.4 +0.8**
ANMO Albuquerque 88.02 50 P **P 07 53 39.8 +1.2**
baz=307
ARSA Arzberg 88.14 327 *e*P **P 07 53 39.7 +1.1**
comp=Z,3.1nm,0.9s
ECSD EROS Data Cent 88.21 38 P **P 07 53 39.3 +0.3**
ECSD IAmb IAmb 07 53 41.4
comp=Z,12nm,1.0s
ECSD EROS Data Cent 88.21 38 P **P 07 53 39.3 +0.3**
baz=313,SNR=14
319A Douglas 88.24 54 P **P 07 53 39.4 -0.1**
319A IAmb IAmb 07 53 43.6
comp=Z,7.5nm,1.0s
MOA Molln 88.28 328 *e*P **P 07 53 37.9 -1.4**
comp=Z,5.6nm,1.9s
F36A Milaca 88.31 35 P **P 07 53 39.2 -0.2**
F36A IAmb IAmb 07 53 41.6
comp=Z,13nm,1.2s
HSIG 88.42 57 P **P 07 53 40.4 +0.1**
HSIG IAmb IAmb 07 53 44.3
comp=Z,12nm,1.1s
E38A The Farm, Brul 88.73 34 P **P 07 53 41.0 -0.4**
SOKA Soboth 88.78 327 *e*P **P 07 53 41.2 -0.6**
comp=Z,6.0nm,1.6s
SPMN Marine on St. 89.12 35 P **P 07 53 43.7 +0.4**
SPMN IAmb IAmb 07 53 45.8
comp=Z,12nm,0.8s
SPMN Marine on St. 89.12 35 P **P 07 53 44.0 +0.8**
baz=316,SNR=5.9
ABTA Abfaltersbach 89.90 328 *e*P **P 07 53 46.6 -0.4**
comp=Z,6.1nm,1.0s
RETA Reutte 90.12 329 *e*P **P 07 53 48.3 +0.3**
comp=Z,10nm,1.3s
G40A Rib Lake 90.35 34 P **P 07 53 49.5 +0.4**
G40A IAmb IAmb 07 53 51.7
comp=Z,6.3nm,0.9s
FETA Feichten 90.50 329 *e*P **P 07 53 50.4 +0.5**
comp=Z,3.1nm,1.1s
BFO Black Forest 90.51 331 P **P 07 53 48.8 -0.9**
BFO pmax pmax
comp=Z,10.0nm,1.2s
BFO Black Forest 90.51 331 P **P 07 53 48.8 -0.9**
BFO IAmb IAmb 07 53 50.1
comp=Z,10nm,1.2s
DAVA Damuels 90.66 330 *e*P **P 07 53 49.6 -1.0**
comp=Z,13nm,1.9s
MNTX Cornudas Mount 90.71 52 P **P 07 53 51.1 +0.2**
MNTX Cornudas Mount 90.71 52 P **P 07 53 51.7 +0.7**
baz=308
N35A Tabor 90.71 40 P **P 07 53 51.3 +0.5**
SCHQ Schefferville 90.77 16 LR LR 08 35 53.2
comp=Z,140nm,21.9s,baz=57,slow=36
AMTX Amarillo 91.13 47 P **P 07 53 54.3 +1.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=310						
KSU1	**Kansas State U**	**91.38**	**42**	P	**P**	**07 53 54.1**	**+0.2**
KSU1				IAmb	IAmb	07 53 55.1	
	comp=Z,10nm,0.8s						
KSU1	**Kansas State U**	**91.38**	**42**	P	**P**	**07 53 54.4**	**+0.5**
	baz=313						
E46A	**Sault Ste Mari**	**92.18**	**30**	P	**P**	**07 53 58.4**	**+0.9**
E46A				IAmb	IAmb	07 54 19.8	
	comp=Z,17nm,1.4s						
WMOK	**Wichita Mounta**	**93.03**	**46**	P	**P**	**07 54 02.3**	**+0.6**
WMOK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WMOK	**Wichita Mounta**	**93.03**	**46**	P	**P**	**07 54 02.3**	**+0.6**
WMOK				IAmb	IAmb	07 54 06.0	
	comp=Z,5.4nm,0.9s						
WMOK	**Wichita Mounta**	**93.03**	**46**	P	**P**	**07 54 02.2**	**+0.5**
	baz=312						
QUOK	**Quay**	**93.32**	**44**	P	**P**	**07 54 02.9**	**0.0**
TX31	**Lajitas Ar. Si**	**93.33**	**53**	P	**P**	**07 54 04.1**	**+0.8**
TX32	**Lajitas Array**	**93.33**	**53**	P	**P**	**07 54 04.0**	**+0.7**
TXAR	**Lajitas Array**	**93.33**	**53**	P	**P**	**07 54 03.6**	**+0.4**
	comp=Z,17nm,0.8s,baz=300,slow=2.9,SNR=120						
TXAR				LR	LR	08 33 48.8	
	comp=Z,527nm,19.3s,baz=0.0,slow=34						
TXAR	**Lajitas Array**	**93.33**	**53**	P	**P**	**07 54 04.1**	**+0.8**
TXAR	**Lajitas Array**	**93.33**	**53**	P	**P**	**07 54 04.1**	**+0.8**
HPIG		**93.42**	**56**	P	**P**	**07 54 03.7**	**-0.1**
HPIG				IAmb	IAmb	07 54 07.7	
	comp=Z,6.3nm,0.9s						
ABTX	**Abilene, Hawle**	**93.88**	**48**	P	**P**	**07 54 07.3**	**+1.6**
	baz=311						
TUL1	**Leonard**	**94.04**	**43**	P	**P**	**07 54 06.5**	**+0.2**
	baz=314						
S39A	**Bolivar**	**94.21**	**41**	P	**P**	**07 54 06.8**	**-0.3**
S39A				IAmb	IAmb	07 54 08.7	
	comp=Z,6.2nm,0.7s						
R40A	**Maddies Statio**	**94.37**	**40**	P	**P**	**07 54 07.8**	**0.0**
R40A				IAmb	IAmb	07 54 09.7	
	comp=Z,9.5nm,0.8s						
CCM	**Cathedral Cave**	**95.10**	**39**	P	**P**	**07 54 11.0**	**-0.1**
CCM				pmax	pmax		
	comp=Z,19nm,1.4s						
CCM	**Cathedral Cave**	**95.10**	**39**	P	**P**	**07 54 10.9**	**-0.1**
CCM	**Cathedral Cave**	**95.10**	**39**	P	**P**	**07 54 11.2**	**+0.1**
	baz=317						
JCT	**Junction City**	**95.18**	**50**	P	**P**	**07 54 11.4**	**-0.3**
JCT				pmax	pmax		
	comp=Z,7.0nm,0.9s						
JCT	**Junction City**	**95.18**	**50**	P	**P**	**07 54 11.3**	**-0.3**
JCT				IAmb	IAmb	07 54 15.2	
	comp=Z,6.7nm,0.8s						
JCT	**Junction City**	**95.18**	**50**	P	**P**	**07 54 12.1**	**+0.4**
	baz=311,SNR=7.5						
MGMO	**Mountain Grove**	**95.18**	**41**	P	**P**	**07 54 10.9**	**-0.6**
MGMO				IAmb	IAmb	07 54 12.9	
	comp=Z,5.7nm,0.8s						
U40A	**Yellville**	**95.42**	**41**	P	**P**	**07 54 12.4**	**-0.2**
U40A				IAmb	IAmb	07 54 15.1	
	comp=Z,8.1nm,0.9s						
U40A	**Yellville**	**95.42**	**41**	P	**P**	**07 54 12.6**	**0.0**
	baz=316,SNR=7.9						
FCAR	**Ozark Folk Cen**	**96.17**	**41**	P	**P**	**07 54 15.8**	**-0.1**
FCAR				IAmb	IAmb	07 54 18.7	
	comp=Z,4.7nm,0.9s						
MIAR	**Mount Ida**	**96.29**	**43**	P	**P**	**07 54 17.1**	**+0.5**
MIAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MIAR	**Mount Ida**	**96.29**	**43**	P	**P**	**07 54 17.1**	**+0.5**
MIAR				IAmb	IAmb	07 54 18.9	
	comp=Z,7.3nm,0.9s						
MIAR	**Mount Ida**	**96.29**	**43**	P	**P**	**07 54 16.8**	**+0.2**
	baz=315,SNR=6.3						
833A	**Chaparral WMA,**	**96.86**	**51**	P	**P**	**07 54 21.2**	**+2.0**
	baz=311						
KEST	**Kesra**	**99.81**	**323**	LR	LR	08 43 49.4	
	comp=Z,338nm,19.3s,baz=294,slow=38						
PGAV	**Gavieira, Arco**	**102.10**	**338**	*e*LR	LR	08 39 20.9	
	comp=Z,233nm,18.0s						
MVO	**Moncorvo**	**102.41**	**336**	*e*LR	LR	08 36 10.9	
	comp=Z,228nm,18.0s						
MTE	**Manteigas**	**103.26**	**336**	*e*LR	LR	08 36 37.1	
	comp=Z,341nm,18.0s						
PMRV	**Marv??o**	**104.08**	**336**	*e*LR	LR	08 40 55.1	
	comp=Z,298nm,18.0s						
PVAQ	**Vaqueiros**	**106.00**	**335**	*e*LR	LR	08 38 15.6	
	comp=Z,295nm,20.0s						
VNDA	**Vanda**	**109.21**	**175**	Pdiff	**Pdif**	**07 55 14.9**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=247,slow=6.8,SNR=2.4						
TORD	**Torodi Ar. Bea**	**121.58**	**313**	PKP	**PKPdf**	**07 59 41.8**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=21,slow=1.2,SNR=5.1						
TORD				PP	**PP**	**08 01 13.7**	**+0.2**
	comp=Z,2.0nm,1.0s,baz=34,slow=7.9,SNR=4.8						
TORD				PKKPab	**PKKPab**	**08 09 44.4**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=241,slow=3.1,SNR=3.9						
SYO	**Syowa Base**	**123.18**	**205**	⇑*e*Pdiff	**Pdif**	**07 56 17.8**	**+2.6**
SYO	**Syowa Base**	**123.18**	**205**	⇓*e*pPdiff	pPdif	07 56 20.7	+0.7
SNAA	**Sanae**	**135.32**	**195**	PKPdf	**PKiKP**	**08 00 08.4**	**+0.2**
VNA2	**Neumayer--Watz**	**136.86**	**194**	PKPdf	**PKiKP**	**08 00 11.8**	**+0.5**
VNA3	**Neumayer Olymp**	**137.07**	**193**	PKPdf	**PKiKP**	**08 00 12.1**	**+0.4**
PLCA	**Paso Flores**	**152.27**	**119**	PKPbc	**PKPbc**	**08 00 42.9**	**-0.8**
	comp=Z,3.0nm,0.7s,baz=244,slow=3.1,SNR=4.8						

MEX 06 07:42:48.3±0.5**, 16°.91N**×**100°.54W, h16**km±5km**, MD4.0,**
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DAIG	**Los Arroyos**	**0.86**	**82**	*e*P	Pb	07 43 01.8	-3.0
DAIG				*e*S	Sb	07 43 12.4	-3.7
ZIIG	**Zihuatanejo**	**1.12**	**308**	*e*P	Pb	07 43 06.1	-3.3
ZIIG				*i* S	Sb	07 43 19.3	-4.5
MEIG	**Mezcala**	**1.34**	**41**	*e*P	Pn	07 43 08.9	-3.5
MEIG				*e*S	Sn	07 43 25.1	-4.9
ARIG	**Puente Sto Nin**	**1.38**	**8**	*e*P	Pn	07 43 09.3	-3.7
ARIG				*i* S	Sn	07 43 25.5	-5.4
PLIG	**Platanillo**	**1.78**	**34**	*e*P	Pn	07 43 16.6	-1.9
PLIG				*e*S	Sn	07 43 37.9	-2.9
MGIG	**Malinaltepec**	**1.85**	**80**	*e*P	Pn	07 43 18.6	-1.0
MGIG				*e*S	Sn	07 43 42.6	-0.2
TLIG	**Tlapa**	**2.00**	**71**	*e*P	Pn	07 43 19.1	-2.4
TLIG				*e*S	Sn	07 43 44.6	-1.7

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*IDC **06** 07:43:27.5±7.5, 36°.20N×69°.66E, h147km±59km, mb3.2/1, mb1 3.3/4, mb1mx2.9/51, mbtmp3.8/4, Error ellipse: s-maj=111.5km s-min=25.0km az=150.0*
*SOME **06** 07:43:35.7, 38°.12N×71°.05E, h0km*
ISC 06 07:43:28.7±2.2**, 36°.4N**±0°.2×**69°.6E**±0°.1**, h100**km**, n10, σ2s.23**/16**, 1C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**5.76**	**3**	*e*P	**Pn**	**07 44 55.2**	**+3.4**
	426nm,0.2s						
IUG				*e*S	**Sn**	**07 45 56.7**	**0.0**
	106nm,0.5s						
BRLS	**Borolday**	**6.64**	**2**	*e*P	**Pn**	**07 45 02.9**	**-0.8**
	1.9nm,0.1s						
BRLS				*e*S	Sn	07 46 10.0	-7.8
	16nm,0.4s						
KK31	**Karatay Array**	**6.75**	**6**	Pn	**Pn**	**07 45 06.6**	**+1.4**
	0.7nm,0.3s,baz=189,slow=13,SNR=6.1						
KK31				⇑Sn	**Sn**	**07 46 18.2**	**-2.3**
	1.3nm,0.3s,baz=184,slow=25,SNR=6.8						
MRKS	**Merke**	**6.95**	**23**	*e*P	**Pn**	**07 45 11.6**	**+3.6**
	4.1nm,0.5s						
MRKS				*e*S	**Sn**	**07 46 25.6**	**0.0**
	8.6nm,0.5s						
AAK	**Ala-Archa**	**7.32**	**30**	P	**Pn**	**07 45 14.4**	**+1.4**
	1.6nm,0.3s,baz=198,slow=6.3,SNR=9.3						
AAK				S	**Sn**	**07 46 35.2**	**+0.7**
	0.7nm,0.3s,baz=222,slow=20,SNR=9.4						
AAK	**Ala-Archa**	**7.32**	**30**	⇓Pn	**Pn**	**07 45 14.3**	**+1.3**
	1.9nm,0.4s						
AAK				⇓Sn	**Sn**	**07 46 34.8**	**+0.3**
	14nm,1.0s						
KST	**Kastek**	**8.28**	**35**	*e*P	**Pn**	**07 45 29.2**	**+3.2**
	2.9nm,0.6s						
KST				*e*S	**Sn**	**07 46 56.2**	**-1.6**
	7.4nm,0.9s						
GEYT	**Alibeck**	**9.27**	**283**	P	**Pn**	**07 45 39.4**	**0.0**
	0.7nm,0.3s,baz=110,slow=11,SNR=5.3						
MKAR	**Makanchi Array**	**14.08**	**38**	P	**Pn**	**07 46 43.4**	**-0.2**
	0.2nm,0.3s,baz=212,slow=11,SNR=13						
ZALV	**Zalesovo Beam**	**20.52**	**26**	P	**P**	**07 47 54.8**	**-4.0**

1.3nm,0.4s,baz=215,slow=10,SNR=6.3

IDC 06 07:47:46.8±6.9**, 20°.68N**×**147°.74E, h0**km**, mb3.6**/4**, mb1 3.8**/4**, mb1mx3.4**/41**, mbtmp3.6**/4**, Error ellipse: s-maj=226.3km s-min=32.7km az=80.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.45**	**199**	P	P	07 55 43.7	+0.1
	0.4nm,0.4s,baz=22,slow=8.4,SNR=7.9						
SONM	**Songino Array**	**42.86**	**319**	P	P	07 55 46.8	-0.1
	0.3nm,0.3s,baz=106,slow=7.7,SNR=1.7						
FITZ	**Fitzroy Crossi**	**44.21**	**211**	P	P	07 55 57.2	-0.7
	0.6nm,0.3s,baz=31,slow=8.8,SNR=9.0						
ASAR	**Alice Springs**	**46.09**	**198**	P	P	07 56 13.1	+0.2
	0.2nm,0.4s,baz=17,slow=8.6,SNR=4.4						

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*GUC **06** 07:57:58.1±0.7, 20°.73S×70°.62W, h43km±3km, ML3.4*
*IDC **06** 07:58:05.5±6.6, 12°.41S×70°.50W, h0km, mb4.0/1, mb1 3.5/2, mb1mx3.3/28, mbtmp3.5/2, ML2.5/1, Error ellipse: s-maj=181.6km s-min=50.4km az=81.0*
ISC 06 07:57:57.5±1.4**, 20°.75S**±0°.04×**70°.65W**±0°.09**, h35**km**, n15, σ1s.07**/24**, 3C-8D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TA01	**Diego Aracena**	**0.47**	**68**	⇓*i*P	**Pn**	**07 58 07.4**	**-0.4**
TA01				*i* S	**Sn**	**07 58 14.3**	**-0.6**
TA01				IAML		07 58 14.7	
	comp=E,6μm,0.1s						
TA02	**Huaiquique**	**0.68**	**46**	*e*P	**Pn**	**07 58 10.2**	**-0.4**
TA02				*i* S	**Sn**	**07 58 19.3**	**-0.7**
TA02				IAML		07 58 20.4	
	comp=N,5μm,0.1s						
HMBC	**Humberstone**	**0.85**	**57**	⇓*i*P	**Pn**	**07 58 12.8**	**-0.4**
HMBC				IAML		07 58 24.6	
	comp=N,1μm,0.2s						
PB02	**IPOC Station P**	**0.90**	**129**	⇓*i*P	**Pn**	**07 58 14.3**	**+0.5**
PB02				*i* S	**Sn**	**07 58 26.3**	**+0.5**
PB02				IAML		07 58 28.3	
	comp=E,6μm,0.1s						
PB01	**IPOC Station P**	**1.12**	**105**	⇓*i*P	**Pn**	**07 58 17.2**	**+0.3**
PB01				*i* S	**Sn**	**07 58 31.5**	**+0.4**
PB01				IAML		07 58 32.6	
	comp=N,4μm,0.2s						
PB07	**IPOC Station P**	**1.21**	**144**	⇓*i*P	**Pn**	**07 58 18.5**	**+0.4**
PB07				*i* S	**Sn**	**07 58 33.8**	**+0.5**
PB07				IAML		07 58 35.8	
	comp=E,733nm,0.2s						
PSGC	**Pisagua**	**1.25**	**23**	⇓*i*P	**Pn**	**07 58 18.3**	**-0.2**
PSGC				*i* S	**Sn**	**07 58 33.6**	**-0.6**
PSGC				IAML		07 58 35.3	
	comp=E,624nm,0.3s						
PB11	**IPOC Station P**	**1.35**	**44**	⇑*i*P	**Pn**	**07 58 20.1**	**+0.1**
PB11				*i* S	**Sn**	**07 58 37.2**	**+0.4**
PB11				IAML		07 58 38.3	
	comp=N,1μm,0.2s						
PB08	**IPOC Station P**	**1.52**	**67**	⇑*i*P	**Pn**	**07 58 23.3**	**+0.6**
PB08				*i* S	**Sn**	**07 58 42.2**	**+0.8**
PB08				IAML		07 58 43.7	
	comp=E,1μm,0.2s						
PB03	**IPOC Station P**	**1.54**	**147**	⇑*i*P	**Pn**	**07 58 23.2**	**+0.5**
PB03				*i* S	**Sn**	**07 58 42.2**	**+0.7**
PB03				IAML		07 58 44.6	
	comp=E,404nm,0.2s						
PB04	**IPOC Station P**	**1.65**	**164**	⇓*i*P	**Pn**	**07 58 24.4**	**+0.2**
PB04				IAML		07 58 44.5	
	comp=N,645nm,0.2s						
PB05	**IPOC Station P**	**2.14**	**169**	⇓*i*P	**Pn**	**07 58 30.7**	**-0.2**
PB05				IAML		07 59 14.5	
	comp=E,135nm,0.3s						
LPAZ	**La Paz**	**5.04**	**29**	Pn	**Pn**	**07 59 15.3**	**+4.1**
	comp=E,0.2nm,0.3s,baz=326,slow=6.4,SNR=9.4						
LPAZ				Lg	Lg	08 00 35.3	
	comp=E,0.3nm,0.3s,baz=359,slow=6.7,SNR=7.0						
TORD	**Torodi Ar. Bea**	**78.64**	**71**	P	**P**	**08 09 54.9**	**-1.5**
	comp=E,0.7nm,0.5s,baz=252,slow=5.7,SNR=7.7						
MKAR	**Makanchi Array**	**145.95**	**34**	PKP	**PKPbc**	**08 17 33.4**	**-0.1**
	comp=E,0.7nm,0.9s,baz=308,slow=3.3,SNR=4.5						

MEX 06 08:03:24.7±1.8**, 17°.00N**×**100°.61W, h15**km±43km**, MD3.7,**
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DAIG	**Los Arroyos**	**0.92**	**88**	*i* P	Pb	08 03 37.3	-5.1
	baz=268,slow=16						
DAIG				*e*S	Sb	08 03 47.4	-7.1
ARIG	**Puente Sto Nin**	**1.30**	**11**	*e*P	Pn	08 03 44.9	-3.5
MEIG	**Mezcala**	**1.32**	**46**	*i* P	Pn	08 03 44.5	-4.3
MGIG	**Malinaltepec**	**1.91**	**83**	*e*P	Pn	08 03 54.2	-2.6

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*JMA **06** 08:05:20.5±0.1, 23°.68N×122°.59E, h35km, M2.2*
*TAP **06** 08:05:21.2, 23°.72N×122°.63E, h38km±1km, ML2.9, C*
ISC 06 08:05:17.6±1.2**, 23°.70N**±0°.03×**122°.62E**±0°.02**, h9**km±9km**, n67, σ0s.86**/105**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.81**	**21**	P	**Pn**	**08 05 35.9**	**+0.7**
JYNG				*e*S	**Sn**	**08 05 46.5**	**-0.8**
YOJ	**Yonaguni jima**	**0.84**	**25**	P	**Pn**	**08 05 36.6**	**+0.9**
YOJ				*e*S	**Sn**	**08 05 47.7**	**-0.4**
YOJ	**Yonaguni jima**	**0.84**	**25**	*i* P	**Pn**	**08 05 36.5**	**+0.8**
	baz=25						
YOJ				*i* S	**Sn**	**08 05 47.5**	**-0.7**
	baz=25						
TWD	**Chiawan**	**1.01**	**292**	*e*P	**Pn**	**08 05 38.2**	**+0.2**
	baz=280						
NACB	**Ninganchiao**	**1.05**	**297**	*i* P	**Pn**	**08 05 38.6**	**0.0**
	baz=286						
NACB				*e*S	**Sg**	**08 05 51.5**	**0.0**
	baz=286						
EWUT	**Wuta**	**1.07**	**314**	*e*P	**Pn**	**08 05 39.9**	**+1.1**
	baz=322						
ENA	**Nanau**	**1.08**	**312**	*e*P	**Pn**	**08 05 40.5**	**+1.5**
	baz=311						
ENA				S	**Sn**	**08 05 54.1**	**-0.1**
	baz=311						
EGFH	**Guangfu**	**1.09**	**269**	*e*P	**Pn**	**08 05 39.7**	**+0.5**
	baz=267						
ESL	**Shilin**	**1.09**	**276**	*e*P	**Pn**	**08 05 39.1**	**0.0**
	baz=275						
HGSD	**Ruisui**	**1.12**	**260**	*e*P	**Pn**	**08 05 39.7**	**+0.3**
	baz=258						
HGSD				*e*S	**Sg**	**08 05 52.8**	**-0.8**
	baz=258						
ECBN	**Changbin**	**1.14**	**251**	*e*P	**Pn**	**08 05 40.4**	**+0.6**
	baz=249						
ECBN				*e*S	**Sg**	**08 05 54.1**	**-0.3**
	baz=249						
HATJ	**Hateruma jima**	**1.14**	**71**	P	**Pn**	**08 05 41.0**	**+1.2**
HATJ				*e*S	**Sn**	**08 05 55.9**	**+0.3**
ETLH	**Xiulin Townshi**	**1.16**	**296**	*e*P	**Pn**	**08 05 40.4**	**+0.3**
	baz=294						
ETLH				*e*S	**Sg**	**08 05 54.6**	**-0.4**
	baz=294						
IRIF	**Iriomote-Funau**	**1.20**	**58**	P	**Pn**	**08 05 42.2**	**+1.7**
IRIF				*e*S	**Sn**	**08 05 57.8**	**+0.9**
EHY	**Hungye**	**1.21**	**261**	*i* P	**Pn**	**08 05 41.5**	**+0.7**
	baz=259						
EHY				*e*S	**Sg**	**08 05 56.3**	**-0.2**
	baz=259						
EYUL	**Yuli**	**1.25**	**254**	*e*P	**Pg**	**08 05 42.0**	**+0.5**
	baz=244						
NDS	**Dongshan**	**1.25**	**319**	*e*P	**Pn**	**08 05 42.5**	**+1.2**
	baz=317						
NDS				S	**Sn**	**08 05 58.0**	**-0.2**
	baz=317						
YULB	**Yu-li**	**1.25**	**256**	*e*P	**Pg**	**08 05 41.9**	**+0.2**
	baz=255						
YULB				*e*S	**Sg**	**08 05 57.5**	**-0.4**
	baz=255						
TWF1	**Yuli**	**1.26**	**255**	*i* P	**Pg**	**08 05 42.2**	**+0.3**
	baz=245						
CHKT	**Chengkung**	**1.30**	**243**	P	**Pn**	**08 05 42.0**	**0.0**
	baz=241						
CHKT				S	**Sb**	**08 05 57.0**	**-2.0**
	baz=241						
FULB	**Fuli**	**1.32**	**248**	P	**Pn**	**08 05 42.4**	**+0.2**
	baz=237						
FULB				*e*S	**Sb**	**08 05 58.3**	**-1.2**
	baz=237						
WHF	**Hehuan Shan**	**1.32**	**290**	*e*P	**Pb**	**08 05 43.1**	**+0.3**
	baz=278						
WHF				S	**Sg**	**08 05 59.7**	**-0.5**
	baz=278						
TWE	**Neicheng**	**1.34**	**320**	*e*P	**Pg**	**08 05 44.2**	**+0.8**
	baz=319						
OWD	**Renai**	**1.35**	**281**	*e*P	**Pg**	**08 05 43.8**	**+0.3**
	baz=279						
OWD				*e*S	**Sb**	**08 06 00.3**	**-0.3**
	baz=279						
NDT	**Datong Townshi**	**1.36**	**312**	*e*P	**Pg**	**08 05 44.4**	**+0.7**
	baz=310						
NDT				S	**Sg**	**08 06 00.8**	**-0.5**
	baz=310						
NNS	**Nan Shan**	**1.36**	**303**	*e*P	**Pg**	**08 05 44.3**	**+0.5**
	baz=302						
NNS				*e*S	**Sb**	**08 06 00.1**	**-0.8**
	baz=302						
CHGB	**Renai**	**1.37**	**286**	*e*P	**Pg**	**08 05 44.4**	**+0.4**
	baz=277						
FUSS	**Fushou**	**1.37**	**294**	P	**Pg**	**08 05 44.2**	**+0.1**
	baz=292						
FUSS				*e*S	**Sb**	**08 06 00.5**	**-1.0**
	baz=292						
JKRS	**Kuro-shima**	**1.38**	**67**	P	**Pg**	**08 05 44.6**	**+0.5**
JKRS				*e*S	**Sn**	**08 06 02.0**	**+0.6**
EDH	**Donghe**	**1.41**	**239**	*i* P	**Pn**	**08 05 43.6**	**+0.1**
	baz=238						
EDH				*e*S	**Sb**	**08 05 59.6**	**-2.6**
	baz=238						
ECS	**Chishang**	**1.42**	**245**	*e*P	**Pg**	**08 05 45.6**	**+0.7**
	baz=244						
ECS				*e*S	**Sn**	**08 06 03.5**	**+1.0**
	baz=244						
TDCB	**Techi**	**1.45**	**293**	*e*P	**Pg**	**08 05 45.3**	**-0.2**
	baz=283						
TIPB	**Shuangxi**	**1.46**	**330**	*e*P	**Pg**	**08 05 45.2**	**-0.6**
	baz=329						
LDUT	**Ludao**	**1.47**	**226**	*e*P	**Pn**	**08 05 44.4**	**+0.1**
	baz=225						
LDUT				*e*S	**Sn**	**08 06 01.1**	**-2.6**
	baz=225						
YHNB	**Yeheng**	**1.49**	**311**	*e*P	**Pg**	**08 05 46.2**	**-0.1**
	baz=309						
NSK	**Sanguang**	**1.51**	**310**	*e*P	**Pg**	**08 05 46.9**	**+0.3**
	baz=309						
NSK				*e*S	**Sn**	**08 06 03.7**	**-1.1**
	baz=309						
SSLB	**Suanglung**	**1.53**	**274**	P	**Pb**	**08 05 46.2**	**0.0**
	baz=272						
JIJ	**Ishigaki jima**	**1.54**	**64**	P	**Pb**	**08 05 46.3**	**-0.1**
JIJ				*e*S	**Sn**	**08 06 04.7**	**-0.8**
ELDTW	**Lidau**	**1.56**	**251**	P	**Pn**	**08 05 46.2**	**+0.5**
	baz=250						
ELDTW				*e*S	**Sn**	**08 06 04.0**	**-2.0**
	baz=250						
NWF	**Wu-fen Shan**	**1.57**	**331**	*i* P	**Pg**	**08 05 47.0**	**-0.7**
	baz=330						
WFSB	**Wu-fen Shan**	**1.57**	**331**	P	**Pg**	**08 05 47.0**	**-0.8**
	baz=330						
SMLT	**Sun Moon Lake**	**1.59**	**277**	*e*P	**Pb**	**08 05 47.6**	**+0.4**
	baz=267						
WCS	**Beigang Elemen**	**1.61**	**283**	*e*P	**Pb**	**08 05 47.8**	**+0.3**
	baz=282						
TYC	**Yuchr**	**1.63**	**278**	*e*P	**Pb**	**08 05 48.1**	**+0.2**
	baz=268						
WHP	**Taichung City**	**1.64**	**291**	*e*P	**Pg**	**08 05 49.9**	**+0.8**
	baz=289						
WHP				*e*S	**Sb**	**08 06 09.0**	**+0.1**
	baz=289						
TWGBT	**Beinan**	**1.67**	**239**	*e*S	**Sn**	**08 06 07.6**	**-0.9**
	baz=229						
TWG	**Pinlang**	**1.67**	**239**	*e*P	**Pn**	**08 05 48.1**	**+1.0**
	baz=229						
TWG				*e*S	**Sn**	**08 06 07.3**	**-1.3**
	baz=229						
ALS	**Alishan**	**1.68**	**264**	*e*P	**Pg**	**08 05 49.5**	**-0.4**
	baz=262						
LIOB	**Emei**	**1.74**	**303**	*e*P	**Pg**	**08 05 51.3**	**+0.2**
	baz=292						
LIOB				*e*S	**Sb**	**08 06 11.6**	**-0.3**
	baz=292						
NSTT	**Nanjuang**	**1.75**	**302**	P	**Pg**	**08 05 50.9**	**-0.3**
	baz=291						
NSTT				*e*S	**Sn**	**08 06 11.3**	**+0.7**
	baz=291						
STYH	**Taoyuan**	**1.77**	**253**	*e*P	**Pb**	**08 05 50.3**	**-0.1**
	baz=245						
STYH				*e*S	**Sn**	**08 06 10.9**	**-0.3**
	baz=245						
JISG	**Ishigakijimahi**	**1.78**	**60**	P	**Pb**	**08 05 49.4**	**-1.0**
JISG				*e*S	**Sn**	**08 06 10.9**	**-0.4**
CHN5	**Tsauling**	**1.79**	**267**	*e*P	**Pg**	**08 05 51.4**	**-0.5**
	baz=266						
STYT	**Tauyuan**	**1.79**	**253**	*e*P	**Pb**	**08 05 50.6**	**-0.1**
	baz=243						
TPUB	**Ta-pu**	**1.87**	**258**	*e*P	**Pb**	**08 05 52.5**	**+0.5**
	baz=248						
CHN4	**Tsaushan**	**1.89**	**260**	*e*P	**Pn**	**08 05 50.8**	**+0.7**
	baz=253						
CHN4				*e*S	**Sn**	**08 06 15.0**	**+0.8**
	baz=253						
WTP	**Ta-pu**	**1.90**	**257**	*e*P	**Pb**	**08 05 53.1**	**+0.6**
	baz=255						
WTP				*e*S	**Sb**	**08 06 16.7**	**+0.4**
	baz=255						
SLGT	**Liugui**	**1.94**	**249**	*e*P	**Pb**	**08 05 53.4**	**+0.2**
	baz=243						
SLGT				*e*S	**Sn**	**08 06 16.1**	**+0.7**
	baz=243						
SGST	**Jiashian**	**1.97**	**252**	*e*P	**Pb**	**08 05 53.3**	**-0.4**
	baz=251						
CHN1	**Nanshi**	**1.99**	**256**	*e*P	**Pb**	**08 05 55.1**	**+1.0**
	baz=254						
CHN1				*e*S	**Sb**	**08 06 20.1**	**+1.1**
	baz=254						
TWK	**Hsinying**	**2.00**	**258**	*e*P	**Pb**	**08 05 54.4**	**+0.1**
	baz=257						
SSD	**Sandimen**	**2.06**	**243**	*e*P	**Pb**	**08 05 56.2**	**+1.0**
	baz=236						
TSMG	**Majia**	**2.07**	**242**	*e*P	**Pb**	**08 05 56.0**	**+0.7**
	baz=235						
EAST	**Anshuo**	**2.09**	**232**	*e*P	**Pn**	**08 05 54.3**	**+1.4**
	baz=239						
JTJ	**Tarama**	**2.12**	**63**	P	**Pb**	**08 05 55.1**	**-1.1**
MASBT	**Mashibuluo**	**2.12**	**240**	*e*P	**Pn**	**08 05 55.1**	**+1.7**
	baz=234						
MASBT				*e*S	**Sn**	**08 06 20.9**	**+1.0**
	baz=234						
WDGT	**Dungji**	**2.75**	**262**	*e*P	**Pn**	**08 06 04.2**	**+2.3**
	baz=260						

MEX 06 08:05:52.0±0.6**, 14°.47N**×**93°.22W, h111**km±20km**, MD4.0,**
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THIG		**1.02**	**65**	*i* P	Pn	08 06 11.8	-1.6
THIG				*i* S	Sn	08 06 27.2	-2.4
PCIG		**1.23**	**360**	*i* P	Pn	08 06 14.4	-1.3
PCIG				*i* S	Sn	08 06 28.5	-5.2
CCIG	**Comitan**	**2.08**	**30**	*e*P	Pn	08 06 29.6	+3.3
CCIG				*i* S	Sn	08 07 00.4	+8.0
TGIG		**2.30**	**2**	*e*P	Pn	08 06 31.7	+2.8
TGIG				*i* S	Sn	08 07 01.7	+4.5

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*IDC **06** 08:23:11.1±1.5, 1°.36N×126°.14E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.5/39, mbtmp3.7/4, ML3.2/1, Error ellipse: s-maj=65.3km s-min=16.8km az=80.0*
*DJA **06** 08:23:14.5±1.8, 2°N±5°×12°7E±°, h14km±17km, M3.6/5, MLv3.6/5*
ISC 06 08:23:16.9±0.9**, 1°.50N**±0°.06×**126°.54E**±0°.05**, h47**km**, n9, σ1s.12**/14**, mb4.0**/3**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.10**	**131**	P	**Pn**	**08 23 35.6**	**-0.3**
TNTI				S	**Sn**	**08 23 51.1**	**+1.0**
GAMI	**Galela, Maluku**	**1.29**	**75**	P	**Pn**	**08 23 38.5**	**-0.1**
GAMI				S	**Sn**	**08 23 55.7**	**+1.0**
MNI	**Manado**	**1.70**	**268**	P	**Pn**	**08 23 43.3**	**-0.8**
MNI				S	**Sn**	**08 24 05.4**	**+0.7**
SGSI	**Sangihe**	**2.39**	**335**	P	**Pn**	**08 23 52.2**	**-1.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SGSI				S	Sn	08 24 23.9	+2.2
GTOI	Gorontalo	3.63	256	P	Pn	08 24 11.6	+1.0
FITZ	Fitzroy Crossi	19.50	183	P	P	08 27 39.0	-1.2
	0.1nm,0.3s,baz=356,slow=8.8,SNR=1.7						
FITZ				S	S	08 31 17.2	-0.9
	0.0nm,0.3s,baz=267,slow=12,SNR=1.6						
WRA	Warramunga Arr	22.64	161	P	P	08 28 14.2	0.0
	3.5nm,0.5s,baz=340,slow=11,SNR=46						
ASAR	Alice Springs	26.02	164	P	P	08 28 46.5	+0.6
	0.5nm,0.4s,baz=346,slow=8.1,SNR=14						
MKAR	Makanchi Array	59.27	326	P	P	08 33 13.5	-0.2
	0.5nm,0.4s,baz=122,slow=6.9,SNR=7.8						

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*KRSC **06** 08:26:03.8±1.5, 52.°63N×154.°94E, h540km±21km, ML4.4*
*IDC **06** 08:26:04.1±1.0, 53.°19N×153.°51E, h508km±13km, mb2.8/8, mb1 3.0/15, mb1mx2.8/52, mbtmp3.8/15, Error ellipse: s-maj=18.7km s-min=13.6km az=106.0*
*NEIC **06** 08:26:04.1±1.0, 53.°2N±0.°1×153.°5E±0.°2, h503km±7km, mb4.2/12, Error ellipse: s-maj=22.3km s-min=15.3km az=134.0*
ISC 06 08:26:03.0±0.6**, 53.°12N**±0.°08×**153.°69E**±0.°07**, h500**km**, n58,** σ**1.°77**/60**, mb3.4**/11**, Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	Malaya Ipel'ka	2.05	113	eP	P	08 27 10.5	+2.2
APC	Apacha	2.11	94	eP	P	08 27 10.5	+2.0
PEA0B	Petropavlovsk-	2.42	89		P	08 27 12.1	+1.9
PETK	Petropavlovsk-	2.42	89	P	P	08 27 11.3	+1.0
	5.0nm,0.3s,baz=324,slow=2.2,SNR=48						
PETK	Petropavlovsk-	2.42	89		P	08 27 11.5	+1.2
GNL	Ganaly	2.61	75	eP	P	08 27 13.9	+2.4
KOK	Koryaka	2.98	85	eP	P	08 27 16.2	+2.3
KDTR	Khodutka, Kamc	2.99	114	eP	P	08 27 14.1	+0.3
KDTR				eS	S	08 28 08.8	-2.8
KRX	Arik	2.99	83	eP	P	08 27 16.0	+2.0
PET	Petropavlovsk	3.00	90	P	P	08 27 15.3	+1.4
RUS	Russkaya	3.01	101	eP	P	08 27 14.7	+0.7
RUS				eS	S	08 28 10.2	-1.6
AVH	Avacha	3.04	85	eP	P	08 27 16.7	+2.4
KRER	Koryakskii	3.05	84	eP	P	08 27 16.9	+2.4
DALK	Dalny	3.06	90	eP	P	08 27 16.0	+1.7
SMAR	Somma	3.08	85	eP	P	08 27 16.8	+2.1
SPN	Mys Shipunski	3.82	88	eP	P	08 27 20.1	+0.2
SPN				eS	S	08 28 18.9	-3.8
ESO	Esso	4.06	44	eP	P	08 27 26.4	+4.7
TUMR	Tumrok	4.37	58	eP	P	08 27 27.1	+2.6
KZV	Kizimen	4.37	60	eP	P	08 27 26.2	+1.7
KMNR	Kamenistaya	4.65	53	eP	P	08 27 29.2	+2.4
KOZ	Kozyrevsk	4.65	48	eP	P	08 27 29.6	+2.9
BZMR	Bezymyannaya	4.87	52	eP	P	08 27 32.0	+3.2
BZWR	Bezymyannyi-We	4.88	52	eP	P	08 27 32.2	+3.2
MKZ	Mys Kozlova	4.98	70	eP	P	08 27 29.0	-0.6
MKZ				eS	S	08 28 37.1	-3.4
MA2	Magadan	6.67	347	P	P	08 27 46.8	+1.1
	0.8nm,0.3s,baz=191,slow=16,SNR=2.2						
MA2	Magadan	6.67	347	P	P	08 27 47.4	+1.7
SEY	Seymchan	9.87	357	P	P	08 28 20.2	+1.6
	0.5nm,0.3s,baz=172,slow=9.3,SNR=12						
ASAJ	Asahikawa	11.60	224	P	P	08 28 38.9	+1.5
	0.2nm,0.3s,baz=56,slow=7.3,SNR=1.9						
KLR	Kul'dur	14.28	263	P	P	08 29 05.8	+0.3
	0.3nm,0.3s,baz=70,slow=12,SNR=2.9						
YAK	Yakutsk	15.58	314	P	P	08 29 18.1	-0.7
	0.1nm,0.3s,baz=203,slow=2.9,SNR=4.5						
YAK	Yakutsk	15.58	314	P	P	08 29 17.9	-0.9
BILL	Bilibino	16.14	17	P	P	08 29 25.8	+1.1
MAJO	Matsushiro	19.80	219	P	P	08 30 01.6	+1.7
MAJO				IAmb	IAmb	08 30 01.9	
	comp=Z,11nm,0.7s						
MAT	Matsushiro	19.80	219	P	P	08 30 00.8	+1.0
MJAR	Matsushiro Arr	19.80	219	P	P	08 30 00.8	+0.9
	comp=Z,0.1nm,0.3s,baz=25,slow=10,SNR=17						
MJAR	Matsushiro Arr	19.80	219	P	P	08 30 00.4	+0.6
MJAR				IAmb	IAmb	08 30 02.5	
	comp=Z,1.5nm,0.8s						
JGF	Kuroka	20.96	220	P	P	08 30 10.4	+0.1
JGF				IAmb	IAmb	08 30 23.9	
	comp=Z,31nm,1.5s						
HIA	Hailar	21.49	273	P	P	08 30 14.9	-0.1
IMAR	Indian Mountai	28.60	43	P	P	08 31 18.7	+1.0
ILAR	Eielson Array	31.54	45	P	P	08 31 44.4	+1.3
	comp=Z,0.2nm,0.5s,baz=257,slow=5.6,SNR=4.1						
BMAR	Burnt Mountain	32.19	40	P	P	08 31 50.3	+1.5
SCRK	Sand Creek	32.91	46	P	P	08 31 55.7	+0.8
DOT	Dot Lake	32.94	47	P	P	08 31 56.5	+1.4
DOT				IAmb	IAmb	08 32 18.2	
	comp=Z,2.7nm,1.3s						
BERG	Berg Lake	33.87	52	P	P	08 32 04.8	+1.8
BERG				IAmb	IAmb	08 32 14.0	
	comp=Z,20nm,1.2s						
EGAK	Eagle	33.96	44	P	P	08 32 04.7	+1.1
ENH	Enshi	39.28	252	P	P	08 32 47.5	-0.5
ENH				IAmb	IAmb	08 32 47.6	
	comp=Z,14nm,1.3s						
MK31	Makanchi Array	44.61	292	P	P	08 33 29.6	-0.3
MKAR	Makanchi Array	44.61	292	P	P	08 33 29.5	-0.4
	comp=Z,1.0nm,0.5s,baz=59,slow=7.0,SNR=12						
MKAR	Makanchi Array	44.61	292	P	P	08 33 29.9	0.0
FINES	FINESS Array B	58.47	333	P	P	08 35 08.9	-1.0
	comp=Z,1.0nm,0.8s,baz=38,slow=9.6,SNR=4.0						
AKASG	Malin Array Be	66.49	325	P	P	08 36 00.5	-1.6
	comp=Z,0.4nm,0.4s,baz=31,slow=6.2,SNR=3.0						
BRTR	Keskin Array B	74.03	316	P	P	08 36 46.9	-0.3
	comp=Z,0.5nm,0.7s,baz=339,slow=7.7,SNR=2.5						
TXAR	Lajitas Array	74.12	62	P	P	08 36 49.1	+1.3
	comp=Z,0.1nm,0.4s,baz=306,slow=7.7,SNR=1.8						
WRA	Warramunga Arr	74.66	199	P	P	08 36 50.6	-0.1
	comp=Z,1.0nm,0.8s,baz=24,slow=3.9,SNR=7.4						
ASAR	Alice Springs	78.37	198	P	P	08 37 11.9	+0.8
	comp=Z,0.5nm,0.6s,baz=11,slow=4.9,SNR=8.6						
ASAR	Alice Springs	78.37	198	P	P	08 37 11.7	+0.6
QSPA	South Pole Qui	142.86	180	PKhKP	PKPpre	08 44 34.2	
	comp=Z,1.0nm,0.7s,baz=18,slow=3.2,SNR=6.2						
QSPA	South Pole Qui	142.86	180		PKPdf	08 44 34.6	-3.2

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*JMA **06** 08:29:42.7±0.2, 39.°56N×143.°60E, h41km, M4.3*
*NIED **06** 08:29:42.7, 39.°56N×143.°60E, h41km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}7.22; $M_{\theta\theta}$-0.28; $M_{\phi\phi}$-6.94; $M_{r\theta}$1.97; $M_{\theta\phi}$-3.35; $M_{\phi r}$5.14; Fault plane solution: $M_0$9.53000×10^{14} NP1:ϕ_s22.00000°, δ63.00000°, λ89.00000°. NP2:ϕ_s204.00000°, δ27.00000°, λ92.00000°.*
*NEIC **06** 08:29:45.4±2.0, 39.°47N±0.°05×143.°4E±0.°1, h31km±6km, mb4.3/15 Error ellipse: s-maj=14.4km s-min=5.7km az=112.0*
*IDC **06** 08:29:46.8±2.3, 39.°50N×143.°46E, h44km±21km, mb3.7/18, mb1 3.9/23, mb1mx3.8/46, mbtmp3.9/23, ML3.3/5, Error ellipse: s-maj=19.4km s-min=14.6km az=129.0*
ISC 06 08:29:43.9±4.1**, 39.°50N**±0.°05×**143.°60E**±0.°07**, h25**km±29km**, n79,** σ**1.°48**/82**, mb4.2**/24**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	1.38	274	P	Pn	08 30 06.1	-1.4
JTH	Tanohata	1.41	289	P	Pn	08 30 06.2	-1.7
OFUJ	Ofunato	1.55	255	P	Pn	08 30 08.8	-1.1
OFUJ				eS	Sn	08 30 27.8	-1.5
JKEN	Kujiedanarisaw	1.61	297	P	Pn	08 30 08.8	-2.0
JOM	Ohasama	1.78	270	P	Pn	08 30 12.5	-0.6
JANG	Nango	1.82	299	P	Pn	08 30 11.7	-2.0
JMK	Ichinoseki	1.93	254	P	Pn	08 30 14.3	-0.7
JMK				eS	Sn	08 30 36.4	-2.0
JIO	Ouri	2.04	240	P	Pn	08 30 15.3	-1.3
JIO				eS	Sn	08 30 37.9	-3.3
JTM	Tenmabayashi	2.33	304	P	Pn	08 30 19.7	-0.8
JTM	Tenmabayashi	2.33	304		Pn	08 30 19.9	-0.7
JYK	Kaneyama	2.58	258	P	Pn	08 30 23.8	-0.3
JOT	Ohata	2.71	315	P	Pn	08 30 24.6	-1.2
JOT				eS	Sn	08 30 56.1	-1.6
JMM	Marumori	2.73	234		Pn	08 30 24.8	-1.4
JNBK	Urakawa-nobuka	2.85	347	P	Pn	08 30 27.0	-0.8
JNBK				eS	Sn	08 31 00.6	-0.7
JKB	Kayabe	3.08	322	P	Pn	08 30 30.2	-0.7
JCH	Churui	3.12	357	P	Pn	08 30 29.6	-1.8
JCH				eS	Sn	08 31 04.3	-3.5
JFT	Otama	3.23	233	P	Pn	08 30 32.5	-0.5
JFT				eS	Sn	08 31 10.6	-0.1
JOMM	Oshimamatsumae	3.40	308	P	Pn	08 30 34.4	-0.9
JEW	Eniwo	3.71	335		Pn	08 30 40.5	+0.9
JYT	Yasato	4.23	221		Pn	08 30 45.0	-1.8
JSD	Sado	4.42	252		Pn	08 30 48.9	-0.5
JKA	Kamikawa-asahi	4.67	351		Pn	08 30 52.2	-0.6
ASAJ	Asahikawa	4.67	351	P	Pn	08 30 52.8	0.0
	2.6nm,0.3s,baz=184,slow=13,SNR=31						
ASAJ				S	Sn	08 31 44.8	-1.4
	3.2nm,0.3s,baz=29,slow=33,SNR=1.5						
MJAR	Matsushiro Arr	5.18	237	P	Pn	08 30 59.8	0.0
	0.8nm,0.3s,baz=45,slow=12,SNR=72						
MJAR	Matsushiro Arr	5.18	237		Pn	08 30 59.9	+0.1
MAJO	Matsushiro	5.18	237		Pn	08 31 00.9	+1.1
MAT	Matsushiro	5.18	237	P	Pn	08 31 00.4	+0.6
MAT				eS	Sn	08 32 00.9	+2.2
JGF	Kuroka	6.30	234		Pn	08 31 16.5	+1.3
INU	Inuyama	6.67	234	Pn	Pn	08 31 21.7	+1.4
JHJ2	Mitsune	7.07	207	Pn	Pn	08 31 24.8	-0.9
JHJ	Hachijo jima 2	7.07	207	S	Sn	08 32 38.9	-6.4
	17nm,0.3s,baz=90,slow=23,SNR=2.2						
YSS	Yuzh-Sakhalins	7.48	356	Pn	Pn	08 31 32.8	+1.5
JWT	Wachi	7.76	240		Pn	08 31 33.9	-1.3
USRK	Ussuriysk Ar.	9.85	302	P	Pn	08 32 06.3	+2.5
	baz=105,slow=12,SNR=12						
KSRS	Korea Array	12.45	266	P	Pn	08 32 41.5	+2.1
	0.4nm,0.3s,baz=97,slow=13,SNR=4.5						
KLR	Kul'dur	12.89	323	P	Pn	08 32 46.0	+0.7
	0.1nm,0.3s,baz=132,slow=11,SNR=2.3						
HIA	Hailar	19.57	308	P	P	08 34 08.0	-1.9
SEY	Seymchan	24.06	10	P	P	08 34 56.8	0.0
	3.5nm,0.7s,baz=189,slow=6.4,SNR=5.9						
ULN	Ulaanbaatar	27.51	300	P	P	08 35 29.0	+0.6
ULN				IAmb	IAmb	08 35 29.5	
	comp=Z,10.0nm,1.4s						
SONM	Songino Array	27.95	300	P	P	08 35 32.3	0.0
	comp=Z,1.2nm,0.5s,baz=91,slow=9.0,SNR=6.0						
SONM	Songino Array	27.95	300	P	P	08 35 32.1	-0.2
H11N2	WAKE ISLAND Hy	28.11	128	T	T	09 05 00.0	
	baz=320,slow=74						
H11N1	WAKE ISLAND Hy	28.12	128	T	T	09 05 00.1	
	baz=320,slow=74						
H11N3	WAKE ISLAND Hy	28.13	128	T	T	09 05 02.3	
	baz=320,slow=74						
H11S1	WAKE ISLAND Hy	28.93	130	T	T	09 06 02.1	
	baz=322						
H11S3	WAKE ISLAND Hy	28.93	130	T	T	09 06 02.7	
	baz=322,slow=74						
H11S2	WAKE ISLAND Hy	28.95	130	T	T	09 06 03.4	
	baz=322,slow=74						
TIXI	Tiksi	33.08	352	P	P	08 36 16.8	-0.3
	comp=Z,1.5nm,0.3s,baz=135,slow=1.4,SNR=1.8						
TIXI	Tiksi	33.08	352	P	P	08 36 16.8	-0.3
TIXI				IAmb	IAmb	08 36 25.8	
	comp=Z,9.7nm,1.4s						
ZALV	Zalesovo Beam	41.58	310	P	P	08 37 28.7	-0.6
	comp=Z,1.7nm,0.3s,baz=95,slow=7.5,SNR=6.5						
ZALV	Zalesovo Beam	41.58	310	P	P	08 37 29.1	-0.2
CMAR	Chiang Mai Arr	43.80	255	P	P	08 37 48.1	+0.3
	comp=Z,1.6nm,0.2s,baz=43,slow=6.8,SNR=4.1						
KDAK	Kodiak Island	44.13	44	P	P	08 37 50.7	+0.8
	comp=Z,0.9nm,0.4s,baz=225,slow=2.9,SNR=9.0						
KDAK	Kodiak Island	44.13	44	P	P	08 37 51.0	+1.1
KDAK				IAmb	IAmb	08 38 18.0	
	comp=Z,6.3nm,1.1s						
MK31	Makanchi Array	44.31	300	P	P	08 37 51.8	+0.2
MK31				IAmb	IAmb	08 37 52.3	
	comp=Z,2.5nm,0.8s						
MKAR	Makanchi Array	44.31	300	P	P	08 37 51.5	-0.1
	comp=Z,2.6nm,0.6s,baz=85,slow=8.9,SNR=21						
MKAR	Makanchi Array	44.31	300	P	P	08 37 51.6	0.0
MAKZ	Makanchi	44.52	300	P	P	08 37 53.0	-0.2
MAKZ				IAmb	IAmb	08 37 57.8	
	comp=Z,3.5nm,0.7s						
ILAR	Eielson Array	46.49	34	P	P	08 38 10.2	+1.6
	comp=Z,0.9nm,0.7s,baz=263,slow=6.5,SNR=8.9						
PCA	Pinnacle	50.13	39	P	P	08 38 38.9	+2.1
EPYK	Eagle Plains	50.53	31	P	P	08 38 41.7	+2.0
EPYK				IAmb	IAmb	08 38 49.3	
	comp=Z,2.6nm,0.8s						
INK	Inuvik	51.41	28	P	P	08 38 48.4	+2.2
	comp=Z,1.2nm,0.6s,baz=299,slow=4.7,SNR=4.0						
INK	Inuvik	51.41	28	P	P	08 38 47.2	+1.0
INK				IAmb	IAmb	08 38 59.1	
	comp=Z,7.5nm,1.3s						
KK31	Karatay Array	53.40	299	P	P	08 39 00.9	-0.5
KKAR	Karatay Array	53.40	299	P	P	08 39 00.9	-0.5
ABKAR	Akbulak array	57.68	310	P	P	08 39 31.8	-0.2
ABKAR				IAmb	IAmb	08 39 32.3	
	comp=Z,1.5nm,0.7s						
WB2	Warramunga Arr	59.76	190	P	P	08 39 43.5	-3.2
WB2				IAmb	IAmb	08 39 59.4	
	comp=Z,7.3nm,1.3s						
WRA	Warramunga Arr	59.76	190	P	P	08 39 46.4	-0.3
	comp=Z,0.6nm,0.6s,baz=8.5,slow=6.4,SNR=7.4						
ASAR	Alice Springs	63.48	190	P	P	08 40 12.1	+0.3
	comp=Z,0.3nm,0.7s,baz=10,slow=5.5,SNR=1.8						
FIA1	FINESS Array S	67.43	333	P	P	08 40 37.2	+0.3
FINES	FINESS Array B	67.43	333	P	P	08 40 36.8	-0.1
	comp=Z,1.4nm,0.7s,baz=46,slow=5.5,SNR=7.0						
FINES	FINESS Array B	67.43	333	P	P	08 40 37.3	+0.4
KBZ	Khabaz	70.59	311	P	P	08 40 57.0	+0.2
	comp=Z,2.7nm,1.0s,baz=0.0,slow=6.1,SNR=4.4						
NVAR	Mina Array Bea	72.15	55	P	P	08 41 08.2	+1.6
	comp=Z,0.5nm,0.8s,baz=294,slow=7.9,SNR=4.0						
NOA	NORSAR Array B	72.57	338	P	P	08 41 08.1	-0.4
	comp=Z,0.7nm,0.8s,baz=36,slow=6.0,SNR=3.4						
AKASG	Malin Array Be	73.39	323	P	P	08 41 13.4	0.0
	comp=Z,1.2nm,0.7s,baz=47,slow=5.3,SNR=5.3						
PDAR	Pinedale Array	74.72	47	P	P	08 41 22.8	+1.0
	comp=Z,0.3nm,0.6s,baz=330,slow=2.4,SNR=3.9						
ULM	Lac du Bonnet	76.50	35	P	P	08 41 32.0	+0.5
TXAR	Lajitas Array	87.27	54	P	P	08 42 28.8	+0.2
	comp=Z,0.1nm,0.5s,baz=290,slow=3.7,SNR=1.6						

IDC 06 08:40:53.1±3.8**, 29.°17S**×**177.°09W, h54**km±19km**, mb3.2**/2**, mb1 3.5**/2**, mb1mx3.2**/23**, mbtmp3.5**/2**, Error ellipse: s-maj=72.4km s-min=44.1km az=172.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.73	263	P	Pn	08 41 07.1	-0.2
	526nm,0.3s,baz=92,slow=7.8,SNR=22						
RAO				S	Sn	08 41 19.4	+1.6
	303nm,0.3s,baz=60,slow=24,SNR=8.2						
ASAR	Alice Springs	43.98	265	P	P	08 48 54.5	-0.8
	0.3nm,0.7s,baz=111,slow=7.4,SNR=5.3						
WRA	Warramunga Arr	44.86	270	P	P	08 49 02.3	-0.1
	0.4nm,0.4s,baz=108,slow=8.0,SNR=15						
FINES	FINESS Array B	144.25	341	PKP	PKPdf	09 00 23.9	+1.7
	0.4nm,0.4s,baz=29,slow=4.4,SNR=6.1						

RSNC 06 08:43:22.0±1.3**, 6.°82N**×**73.°11W, h148**km±5km**, ML3.3, Mw3.7, 2C-8D, Fault plane solution: NP1:**ϕ_s147.00000°, δ52.00000°, λ-142.00000°.**, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.24	197⇓	iP	Pn	08 43 42.4	0.0
BARC				eS	Sn	08 43 56.9	-1.1
BARC				i		08 44 00.1	
	comp=Z,291nm,0.3s						
BRRC	Barranca, Sant	0.66	295⇓	iP	Pn	08 43 44.3	+0.3
BRRC				eS	Sn	08 44 01.2	+0.4
BRRC				i		08 44 03.9	
	comp=Z,190nm,0.1s						
RUSC	La Rusia	0.93	178⇓	iP	Pn	08 43 46.2	-0.3
RUSC				i		08 43 47.4	
	comp=Z,100nm,0.5s						
RUSC				eS	Sn	08 44 04.6	-0.6
PTBC	PUERTO BERRIO,	1.36	258	eP	Pn	08 43 48.9	-1.1
PTBC				eS	Sn	08 44 09.9	-1.5
PTBC				i		08 44 16.3	
	comp=Z,268nm,0.2s						
TAMC	Tame, Arauca	1.37	106⇓	iP	Pn	08 43 50.6	+0.4
TAMC				i		08 43 50.6	
	comp=Z,165nm,0.2s						
TAMC				eS	Sn	08 44 11.2	-0.3
OCAC	Ocana	1.42	352	eP	Pn	08 43 50.3	-0.4
OCAC				eS	Sn	08 44 12.3	-0.6
OCAC				i		08 44 20.9	
	comp=Z,309nm,0.2s						
SPBC	San Pablo de B	1.50	219⇓	eP	Pn	08 43 51.2	-0.4
SPBC				eS	Sn	08 44 14.0	-0.2
SPBC				i		08 44 20.4	
	comp=Z,385nm,0.4s						
ZARC	Zaragoza, Cauc	1.85	291	eP	Pn	08 43 54.5	-0.8
ZARC				eS	Sn	08 44 20.5	-0.4
ZARC				i		08 44 26.8	
	comp=Z,249nm,0.2s						
NORC	Norcasia	2.15	234	eP	Pn	08 43 58.1	-0.7
NORC				eS	Sn	08 44 26.9	-0.2
NORC				i		08 44 30.1	
	comp=Z,148nm,0.2s						
SMLC	San Martn de	2.18	334	eP	Pn	08 43 58.4	-0.8
SMLC				eS	Sn	08 44 27.3	-0.5
SMLC				i		08 44 32.1	
	comp=Z,207nm,0.1s						
CHIC	Chingaza	2.26	196⇓	eP	Pn	08 43 60.0	-0.7
CHIC				eS	Sn	08 44 29.4	-0.9
CHIC				i		08 44 35.6	
	comp=Z,60nm,0.3s						
ROSC	El Rosal	2.31	211⇓	iP	Pn	08 44 01.9	+0.8
ROSC				eS	Sn	08 44 31.2	+0.1
ROSC				i		08 44 40.0	
	comp=Z,181nm,0.4s						
HELC	Santa Helena	2.48	255	eP	Pn	08 44 02.3	-0.8
HELC				eS	Sn	08 44 34.3	-0.5
HELC				i		08 44 41.0	
	comp=Z,93nm,0.4s						
UREC	San Jos de Ur	2.57	291	eP	Pn	08 44 02.2	-1.7
UREC				eS	Sn	08 44 32.5	-3.7
UREC				i		08 44 43.1	
	comp=Z,102nm,0.3s						
SOCV	Socops	2.67	57	eP	Pn	08 44 03.7	-1.4
SOCV				eS	Sn	08 44 35.7	-2.7
LL2C	La Loma 2 Cana	2.73	353	eP	Pn	08 44 05.7	-0.3
LL2C				eS	Sn	08 44 39.7	-0.2
LL2C				i		08 44 47.3	
	comp=Z,117nm,0.2s						
GUY2C	Guyana, Caldas	2.75	235	eP	Pn	08 44 06.2	-0.4
GUY2C				eS	Sn	08 44 41.2	+0.4
GUY2C				i		08 44 49.1	
	comp=Z,150nm,0.8s						
PTGC	Puerto Gaitan,	2.78	159⇓	iP	Pn	08 44 05.3	-1.3
PTGC				eS	Sn	08 44 37.9	-3.1
CBOC	Ciudad Bolivar	3.03	252	eP	Pn	08 44 09.9	0.0
CBOC				i		08 44 11.0	
	comp=Z,38nm,0.2s						
CBOC				eS	Sn	08 44 45.4	-1.5
DBBC	Dabeiba	3.08	274⇑	eP	Pn	08 44 09.9	-0.5
DBBC				i		08 44 48.9	
	comp=Z,226nm,0.5s						
TOLC	Tolima	3.12	225	eP	Pn	08 44 11.0	-0.2
TOLC				eS	Sn	08 44 49.5	+0.3
TOLC				i		08 44 56.3	
	comp=Z,88nm,0.4s						
SDV	Santo Domingo	3.20	50	eP	Pn	08 44 11.6	-0.5
SDV				i		08 44 12.5	
	comp=Z,58nm,0.3s						
ARGC	Ariguani, Magd	3.22	340	eP	Pn	08 44 12.4	+0.3
ARGC				eS	Sn	08 44 49.1	-1.8
ARGC				i		08 45 03.3	
	comp=Z,26nm,0.3s						
PRAC	Prado	3.56	210	eP	Pn	08 44 15.3	-1.2
PRAC				eS	Sn	08 44 57.9	-0.9
PRAC				i		08 45 03.8	
	comp=Z,79nm,0.6s						
ORTC	Ortega, Tolima	3.59	216	eP	Pn	08 44 16.3	-0.6
ORTC				eS	Sn	08 44 59.6	+0.1
ORTC				i		08 45 05.3	
	comp=Z,51nm,0.4s						
ELOV	Elorza	3.61	87⇑	iP	Pn	08 44 16.3	-0.9
CVALL	Valledupar, Ce	3.66	358	eP	Pn	08 44 16.3	-1.6
CVALL				eS	Sn	08 44 57.5	-3.8
SJCC	San Jacinto, C	3.67	326	eP	Pn	08 44 16.1	-2.0
SJCC				eS	Sn	08 44 57.2	-4.4
SJCC				i		08 45 10.3	
	comp=Z,21nm,0.3s						
CRJC	Cerrejon, Guaj	4.18	3	eP	Pn	08 44 22.5	-2.1
CRJC				eS	Sn	08 45 09.9	-3.5
CRJC				i		08 45 16.7	
	comp=Z,40nm,0.5s						
SMRC	Santa Marta, M	4.45	346	eP	Pn	08 44 27.4	-0.8
SMRC				eS	Sn	08 45 14.6	-5.1
SMRC				i		08 45 16.9	
	comp=Z,27nm,0.2s						

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*TUL **06** 08:59:26.4±0.5, 36.°94N±0.°02×97.°93W±0.°02, h3km±3km, ML2.5, mb_Lg2.2/8(NEIC), Error ellipse: s-maj=2.8km s-min=2.0km az=167.0*
NEIC 06 08:59:26.5±1.0**, 36.°90N**±0.°01×**97.°92W**±0.°02**, h1**km±7km**, Error ellipse: s-maj=2.2km s-min=2.0km az=127.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	Grant County #	0.07	132		Pg	08 59 28.9	+1.1
KAN14	Manchester OK	0.07	331		Pg	08 59 27.6	-0.3
KAN14				Sg	Sg	08 59 28.4	-0.4
KAN17	Caldwell West	0.19	41		Pg	08 59 30.2	0.0
KAN17				Sg	Sg	08 59 32.9	+0.1
KAN05	Bluff City Nor	0.21	11		Pg	08 59 30.3	-0.3
KAN05				Sg	Sg	08 59 33.2	-0.3
OK032	Salt Plains WL	0.25	248		Pg	08 59 31.7	+0.5
KAN10	Anthony SW Sta	0.27	329		Pg	08 59 31.3	-0.3
KAN08	Anthony NE Sta	0.33	353		Pg	08 59 32.5	-0.4
KAN13	South Haven SW	0.37	72		Pg	08 59 33.9	+0.2
CROK	Carrier	0.39	187		Pg	08 59 35.0	+0.9
KAN12	Harper NE Stat	0.40	351		Pg	08 59 33.8	-0.5
KS20	Mayfield South	0.44	41		Pg	08 59 34.8	-0.2
BLOK	Blackwell	0.58	103		Pg	08 59 38.0	+0.3
U32A	Winter Ranch,	1.01	240	Pg	Pg	08 59 45.9	0.0
T35A	Sooner Cattle	1.13	89		Pg	08 59 47.9	-0.3
OK029	Liberty Lake	1.16	161		Pg	08 59 48.9	+0.1
QUOK	Quay	1.22	126		Pg	08 59 49.8	-0.1
OK031	S. Brethren Rd	1.28	137		Pg	08 59 51.0	-0.1
OK025	Westminster Rd	1.40	160		Pn	08 59 53.0	-0.1
OKCFA	Oklahoma City	1.53	165	Pn	Pn	08 59 55.2	+0.3
OKCSW	OKLAHOMA CITY	1.54	165		Pn	08 59 55.4	+0.3
R32A	Long Quarter,	1.65	338		Pn	08 59 56.1	-0.5
FNO	Franklin	1.69	165		Pn	08 59 57.6	+0.4
KSU1	Kansas State U	2.43	25	IAmb_Lg		09 00 43.8	
	comp=Z,8.0nm,0.7s						
X37A	Clayton	3.10	137		Pn	09 00 17.3	+0.8
AMTX	Amarillo	3.65	238	IAmb_Lg		09 01 23.6	
	comp=Z,5.9nm,0.9s						
U40A	Yellville	4.11	96	IAmb_Lg		09 01 43.5	
	comp=Z,5.3nm,0.7s						
X40A	Basin Creek Fa	4.79	119	IAmb_Lg		09 02 07.0	
	comp=Z,4.1nm,0.8s						

MEX 06 09:17:57.2±0.5**, 19.°61N**×**95.°72W, h27**km±19km**, MD4.0, Veracruz**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVIG	Laguna Verde	0.67	280	eP	Pb	09 18 08.1	-2.2
LVIG				eS	Sb	09 18 16.8	-2.4
TOIG	Toxpalan	1.97	220	i P	Pn	09 18 27.1	-1.9
TOIG				i S	Sn	09 18 48.9	-4.0
HLIG	Huajuapan de L	2.65	228	i P	Pn	09 18 37.4	-1.0
HLIG				eS	Sn	09 19 06.9	-2.9

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*IDC **06** 09:37:04.2±1.0, 31.°36N×141.°91E, h0km, mb3.6/6, mb1 3.8/9, mb1mx3.6/52, mbtmp3.6/9, ML3.1/3, MS2.9/4, Ms1 2.9/4, ms1mx2.6/44, Error ellipse: s-maj=34.0km s-min=18.0km az=77.0*
ISC 06 09:37:08.6±0.9**, 31.°36N**±0.°09×**141.°8E**±0.°2**, h29**km**, n12,** σ**0.°80**/11**, mb3.6**/6**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	2.45	316	Pn	Pn	09 37 47.7	+1.1
	6.0nm,0.3s,baz=57,slow=18,SNR=1.6						
JHJ				Sn	Sn	09 38 14.2	-1.3
	14nm,0.3s,baz=83,slow=23,SNR=4.1						
JCJ	Chichijima	4.26	175	Pn	Pn	09 38 11.8	+0.2
	12nm,0.3s,baz=71,slow=20,SNR=16						
JCJ				Sn	Sn	09 38 59.3	-1.0
	1.8nm,0.3s,baz=286,slow=19,SNR=1.6						
MJAR	Matsushiro Arr	5.97	331	Pn	Pn	09 38 35.1	+0.2
	0.1nm,0.3s,baz=143,slow=12,SNR=5.8						
MJAR				LR	LR	09 40 51.0	
	comp=Z,54nm,18.9s,baz=95,slow=38						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KSRS	**Korea Array**	**12.96**	**302**	LR	LR	09 44 46.4	
	comp=Z,26nm,18.8s,baz=105,slow=35						
DAV	**Davao City (W)**	**28.53**	**215**	LR	LR	09 53 18.2	
	comp=Z,30nm,19.8s,baz=159,slow=34						
MKAR	**Makanchi Array**	**47.58**	**307**	P	**P**	**09 45 41.7**	**0.0**
	0.4nm,0.7s,baz=72,slow=8.0,SNR=3.7						
KURBB	**Kurchatov Arra**	**49.88**	**312**	P	**P**	**09 45 59.1**	**-0.1**
	1.0nm,0.9s,baz=89,slow=7.4,SNR=8.8						
WRA	**Warramunga Arr**	**51.51**	**189**	P	**P**	**09 46 11.4**	**-0.3**
	0.4nm,0.3s,baz=6.7,slow=7.4,SNR=16						
ILAR	**Eielson Array**	**54.17**	**30**	P	**P**	**09 46 30.2**	**-0.7**
	0.3nm,0.8s,baz=242,slow=6.7,SNR=5.9						
ASAR	**Alice Springs**	**55.23**	**189**	P	**P**	**09 46 39.4**	**+0.3**
	0.3nm,0.6s,baz=360,slow=5.1,SNR=10						
MSVF	**Nonsavu**	**59.95**	**139**	LR	LR	10 09 40.6	
	comp=Z,34nm,18.8s,baz=2.9,slow=33						
TXAR	**Lajitas Array**	**93.31**	**53**	P	**P**	**09 50 21.8**	**+0.6**
	0.2nm,0.7s,baz=318,slow=1.7,SNR=3.7						

*BGR **06** 09:42:52.1±0.0, 21°.58S×176°.58W, h33km*

*NEIC **06** 09:44:00.8±2.1, 20°.29S±0°.09×178°.2W±0°.1, h559km±5km, mb4.8/269, Error ellipse: s-maj=14.8km s-min=12.8km az=125.0*

*NOU **06** 09:44:01.1, 20°.30S×178°.21W, h580km, mb5.0/77, Fiji Islands Region*

*GCMT **06** 09:44:03.8±0.5, 20°.08S±0°.04×178°.53W±0°.05, h590km±3km, MW5.2/71, Moment Tensor Solution. s71,c83; Duration: 1s.0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.67±.03; $M_{\theta\theta}$0.53±.06; $M_{\phi\phi}$0.13±.07; $M_{r\theta}$-0.62±.08; $M_{\theta\phi}$-0.21±.06; $M_{\phi r}$-0.10±.09; Best double couple: $M_0$0.89600×10^{17} NP1:ϕ_s307.00000°, δ27.00000°, λ-59.00000°. NP2:ϕ_s93.00000°, δ67.00000°, λ-105.00000°. Principal axes: T 0.8330, Plg21.0000°, Azm194.0000°; N 0.1250, Plg14.0000°, Azm99.0000°; P -0.9590, Plg65.0000°, Azm338.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

*IDC **06** 09:44:03.2±0.9, 20°.26S×178°.45W, h588km±9km, mb4.2/25, mb1 4.3/27, mb1mx4.3/36, mbtmp5.1/27 Error ellipse: s-maj=10.8km s-min=8.6km az=145.0*

ISC 06 09:44:02.4±0.2**, 20°.30S**±0°.05×**178°.29W**±0°.05**, h587**km**, n859, σ1s.21**/901**, mb4.8**/175**, 77C-103D, Fault plane solution: NP1:**ϕ_s75.22781°**,** δ81.12007°**,** λ-99.35254°. **NP2:**ϕ_s302.08286°**,** δ12.86936°**,** λ-43.87276°. **Principal axes:** T Plg35.4641°**,** Azm173.3385°**;** N Plg9.2395°**,** Azm76.6842°**;** P Plg52.9868°**,** Azm334.2235°**; Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.30**	**306**	P	**P**	**09 45 28.9**	**-0.4**
	17nm,0.3s,baz=162,slow=7.2,SNR=97						
MSVF				S	**S**	**09 46 41.0**	**+1.0**
	baz=210,slow=22,SNR=1.3						
MSVF	**Nonsavu**	**4.30**	**306**	P	**P**	**09 45 28.8**	**-0.4**
NIUE	**Niue**	**7.97**	**83**	P	**P**	**09 46 00.1**	**-0.9**
	baz=8.0,SNR=24						
NIUE				S	**S**	**09 47 39.8**	**+1.6**
	baz=8.0						
NIUE	**Niue**	**7.97**	**83**	P	**P**	**09 46 00.4**	**-0.6**
NIUE	**Niue**	**7.97**	**83**	P	**P**	**09 46 00.3**	**-0.7**
AFI	**Afiamalu**	**8.90**	**45**	P	**P**	**09 46 07.1**	**-3.1**
	48nm,0.3s,baz=62,slow=0.7,SNR=58						
AFI				S	**S**	**09 47 46.9**	**-7.9**
	10nm,0.3s,baz=73,slow=23,SNR=3.8						
AFI	**Afiamalu**	**8.90**	**45**	P	**P**	**09 46 07.2**	**-2.9**
AFI	**Afiamalu**	**8.90**	**45**	P	**P**	**09 46 07.0**	**-3.1**
RAO	**Raoul Island**	**8.92**	**178**	S	**S**	**09 47 51.0**	**-3.8**
	103nm,0.3s,baz=112,slow=23,SNR=6.4						
RTV	**Rentapao**	**12.81**	**279**	P	**P**	**09 46 50.9**	**+1.6**
	741μm,1.1s						
MARNC	**Mare, Loyalty**	**12.84**	**262**	P	**P**	**09 46 47.7**	**-2.0**
MARNC	**Mare, Loyalty**	**12.84**	**262**	P	**P**	**09 46 47.9**	**-1.7**
DVP	**Devils Point**	**13.04**	**279**	P	**P**	**09 46 52.6**	**+0.8**
	103μm,0.6s						
PINNC	**Pines Island,**	**13.48**	**258**	P	**P**	**09 46 54.9**	**-1.2**
LIFNC	**LIFOU**	**13.56**	**265**	P	**P**	**09 46 54.4**	**-2.7**
LIFNC	**LIFOU**	**13.56**	**265**	P	**P**	**09 46 54.6**	**-2.5**
YATNC	**Mamie plateau,**	**13.94**	**260**	P	**P**	**09 46 59.1**	**-1.7**
OUENC	**Ouen Island, N**	**14.01**	**259**	P	**P**	**09 47 00.3**	**-1.2**
OUENC	**Ouen Island, N**	**14.01**	**259**	P	**P**	**09 47 00.4**	**-1.2**
DZM	**Mont Dzumac**	**14.35**	**260**	*e*P	**P**	**09 47 03.8**	**-1.1**
	112nm,0.8s						
DZM	**Mont Dzumac**	**14.35**	**260**	P	**P**	**09 47 04.5**	**-0.4**
	4.9nm,0.3s,baz=114,slow=7.8,SNR=54						
DZM				S	**S**	**09 49 36.6**	**+2.2**
	baz=323,slow=16,SNR=4.7						
DZM	**Mont Dzumac**	**14.35**	**260**	P	**P**	**09 47 04.0**	**-1.0**
DZM	**Mont Dzumac**	**14.35**	**260**	P	**P**	**09 47 04.5**	**-0.4**
ONTNC	**Ouen Toro**	**14.36**	**259**	P	**P**	**09 47 03.6**	**-1.3**
NOUC	**Port Laguerre**	**14.48**	**260**	P	**P**	**09 47 05.3**	**-0.8**
SANVU	**Saraoutou**	**14.63**	**287**	P	**P**	**09 47 07.4**	**-0.1**
SANVU	**Saraoutou**	**14.63**	**287**	P	**P**	**09 47 07.3**	**-0.2**
KOUNC	**Koumac, New Ca**	**16.34**	**266**	P	**P**	**09 47 23.6**	**+0.2**
HAZ	**Te Kaha**	**17.73**	**190**	P	**P**	**09 47 34.2**	**-1.6**
HAZ				S	**S**	**09 50 29.2**	**-0.1**
PKGZ	**Pakihiroa**	**17.81**	**189**	P	**P**	**09 47 37.0**	**+0.3**
RUGZ	**Raukumara Rang**	**17.95**	**190**	P	**P**	**09 47 36.8**	**-1.2**
TGRZ	**Tauranga**	**18.00**	**194**	P	**P**	**09 47 40.0**	**+1.6**
OPRZ	**Ohinepanea**	**18.05**	**193**	P	**P**	**09 47 38.7**	**0.0**
TWGZ	**Tauwhareparae**	**18.10**	**189**	P	**P**	**09 47 39.2**	**-0.1**
KMRZ	**Kaimai**	**18.19**	**195**	P	**P**	**09 47 42.8**	**+2.7**
TOZ	**Tahuroa Road**	**18.19**	**196**	P	**P**	**09 47 41.6**	**+1.6**
MWZ	**Matawai**	**18.33**	**191**	P	**P**	**09 47 39.2**	**-2.2**
URZ	**Urewera**	**18.33**	**192**	P	**P**	**09 47 39.0**	**-2.4**
	21nm,0.3s,baz=303,slow=2.4,SNR=84						
URZ				S	**S**	**09 50 35.1**	**-4.1**
	1.1nm,0.3s,baz=201,slow=22,SNR=4.6						
URZ	**Urewera**	**18.33**	**192**	P	**P**	**09 47 38.4**	**-2.9**
URZ				S	**S**	**09 50 32.2**	**-7.0**
OMRZ	**Omania**	**18.34**	**193**	P	**P**	**09 47 42.6**	**+1.2**
TKGZ	**Te Karaka**	**18.38**	**190**	P	**P**	**09 47 41.5**	**-0.2**
HLRZ	**Highlands Stat**	**18.48**	**193**	P	**P**	**09 47 43.2**	**+0.4**
RAGZ	**Rawiri**	**18.51**	**191**	P	**P**	**09 47 42.6**	**-0.5**
MUGZ	**Murupara**	**18.61**	**192**	P	**P**	**09 47 42.3**	**-1.6**
KUTZ	**Kaahu Road**	**18.83**	**194**	P	**P**	**09 47 46.6**	**+0.7**
HIZ	**Hauiti**	**19.09**	**197**	P	**P**	**09 47 50.3**	**+2.1**
NMHZ	**Naumai**	**19.20**	**192**	P	**P**	**09 47 48.3**	**-1.0**
ARHZ	**Aropaoanui**	**19.33**	**191**	P	**P**	**09 47 50.1**	**-0.3**
TMVZ	**Te Maari**	**19.45**	**194**	P	**P**	**09 47 50.4**	**-1.3**
ETVZ	**East Tongariro**	**19.47**	**194**	P	**P**	**09 47 50.5**	**-1.3**
TWVZ	**Taurewa**	**19.47**	**195**	P	**P**	**09 47 51.2**	**-0.7**
WTVZ	**West Tongariro**	**19.48**	**194**	P	**P**	**09 47 51.7**	**-0.2**
NNVZ	**North Ngauruho**	**19.49**	**194**	P	**P**	**09 47 52.2**	**+0.1**
NGZ	**Ngauruhoe**	**19.53**	**194**	P	**P**	**09 47 51.5**	**-1.0**
SNVZ	**South Ngauruho**	**19.53**	**194**	P	**P**	**09 47 51.2**	**-1.3**
MCHZ	**McNeill Hill**	**19.56**	**192**	P	**P**	**09 47 51.4**	**-1.1**
TUVZ	**Tukino**	**19.61**	**194**	P	**P**	**09 47 51.5**	**-1.6**
WHVZ	**Whangaehu Hut**	**19.64**	**194**	P	**P**	**09 47 52.1**	**-1.4**
TRVZ	**Turoa**	**19.66**	**194**	P	**P**	**09 47 52.6**	**-1.1**
WNVZ	**Wahianoa**	**19.68**	**194**	P	**P**	**09 47 51.6**	**-2.1**
VRZ	**Vera Road**	**19.69**	**196**	P	**P**	**09 47 54.6**	**+0.9**
CKHZ	**Cape Kidnapper**	**19.70**	**191**	P	**P**	**09 47 53.5**	**-0.3**
PKVZ	**Pokaka**	**19.70**	**195**	P	**P**	**09 47 52.4**	**-1.5**
MOVZ	**Moawhango**	**19.72**	**194**	P	**P**	**09 47 52.8**	**-1.2**
BHHZ	**Black Hill Sta**	**19.73**	**193**	P	**P**	**09 47 51.9**	**-2.2**
KRHZ	**Kereru**	**19.82**	**192**	P	**P**	**09 47 52.9**	**-2.0**
KAHZ	**Kahuranaki**	**19.87**	**191**	P	**P**	**09 47 54.3**	**-1.0**
KHEZ	**Kahui Hut**	**20.05**	**198**	P	**P**	**09 48 00.6**	**+3.5**
PXZ	**Pawanui**	**20.10**	**191**	P	**P**	**09 47 56.0**	**-1.4**
PNHZ	**Pukenui**	**20.11**	**192**	P	**P**	**09 47 55.8**	**-1.7**
NMEZ	**Namu Road**	**20.20**	**198**	P	**P**	**09 48 00.9**	**+2.6**
WPHZ	**Waipukurau**	**20.21**	**192**	P	**P**	**09 47 57.5**	**-0.9**
WAZ	**Wanganui**	**20.23**	**195**	P	**P**	**09 47 57.9**	**-0.6**
TSZ	**Takapari Road**	**20.30**	**193**	P	**P**	**09 47 58.0**	**-1.2**
DVHZ	**Dannevirke**	**20.49**	**192**	P	**P**	**09 47 59.7**	**-1.3**
ANWZ	**Angora Road**	**20.59**	**191**	P	**P**	**09 48 00.8**	**-0.9**
POWZ	**Post Office Ro**	**20.66**	**193**	P	**P**	**09 48 01.9**	**-0.5**
PRWZ	**Pori Road**	**20.77**	**192**	P	**P**	**09 48 03.2**	**-0.2**
BFZ	**Birch Farm**	**20.84**	**192**	P	**P**	**09 48 02.6**	**-1.5**
OGWZ	**Otaki Gorge**	**21.20**	**194**	P	**P**	**09 48 05.6**	**-1.7**
HOWZ	**Holdsworth Sta**	**21.20**	**193**	P	**P**	**09 48 05.2**	**-2.1**
TMWZ	**Te Maipa**	**21.32**	**192**	P	**P**	**09 48 07.1**	**-1.3**
CAW	**Cannon Point**	**21.50**	**194**	P	**P**	**09 48 08.3**	**-1.6**
SNZO	**South Karori**	**21.77**	**194**	P	**P**	**09 48 11.5**	**-0.8**
TARA	**Tarawa**	**23.18**	**337**	P	**P**	**09 48 24.4**	**-0.9**
EIDS	**Eidsvold**	**28.64**	**254**	P	**P**	**09 49 12.3**	**-0.8**
	baz=29,SNR=22						
EIDS	**Eidsvold**	**28.64**	**254**	P	**P**	**09 49 12.9**	**-0.2**
ARMA	**Armidale**	**28.91**	**244**	P	**P**	**09 49 16.0**	**+0.5**
	baz=29,SNR=38						
ARMA	**Armidale**	**28.91**	**244**	P	**P**	**09 49 16.1**	**+0.5**
RMQ	**Roma**	**30.81**	**252**	P	**P**	**09 49 32.2**	**+0.4**
	baz=31,SNR=60						
KWAJ	**Kwajalein Atol**	**32.08**	**333**	P	**P**	**09 49 43.0**	**+0.3**
CNB	**Canberra Magne**	**32.11**	**235**	P	**P**	**09 49 43.1**	**+0.3**
	baz=32,SNR=14						
CAN	**Canberra**	**32.40**	**236**	P	**P**	**09 49 45.8**	**+0.6**
CAN				IAmb	IAmb	09 49 46.0	
	comp=Z,21nm,0.9s						
CTA	**Charters Tower**	**33.24**	**264**	P	**P**	**09 49 52.0**	**-0.4**
	comp=Z,65nm,0.4s,baz=92,slow=11,SNR=153						
CTA				ScP	**ScP**	**09 55 08.1**	**+1.5**
	comp=Z,6.0nm,0.9s,baz=223,slow=2.9,SNR=4.8						
CTAO	**Charters Tower**	**33.24**	**264**	P	**P**	**09 49 52.1**	**-0.4**
CMSA	**Cobar Meteorol**	**34.13**	**243**	P	**P**	**09 49 59.4**	**-0.4**
	baz=34,SNR=61						
QLP	**Quilpie**	**34.86**	**252**	P	**P**	**09 50 05.2**	**-0.6**
	baz=35,SNR=43						
MTSU	**Mount Surprise**	**35.33**	**267**	P	**P**	**09 50 09.5**	**-0.4**
	baz=35,SNR=61						
PATS	**Pohnpei**	**35.45**	**317**	P	**P**	**09 50 11.1**	**+0.2**
TOO	**Toolangi**	**35.80**	**233**	P	**P**	**09 50 13.6**	**+0.1**
	baz=36,SNR=12						
TOO	**Toolangi**	**35.80**	**233**	P	**P**	**09 50 14.0**	**+0.5**
TAU	**Tasmania Unive**	**36.58**	**224**	P	**P**	**09 50 20.3**	**+0.5**
COEN	**Coen**	**37.30**	**273**	P	**P**	**09 50 25.6**	**-0.5**
	baz=37						
COEN	**Coen**	**37.30**	**273**	P	**P**	**09 50 25.9**	**-0.2**
COEN				IAmb	IAmb	09 50 27.5	
	comp=Z,37nm,0.9s						
STKA	**Stephens Creek**	**37.63**	**244**	P	**P**	**09 50 28.9**	**+0.3**
	baz=38,SNR=32						
STKA	**Stephens Creek**	**37.63**	**244**	P	**P**	**09 50 28.9**	**+0.3**
	comp=Z,30nm,0.6s,baz=90,slow=9.8,SNR=73						
STKA	**Stephens Creek**	**37.63**	**244**	P	**P**	**09 50 28.9**	**+0.3**
ARPS	**Mount Arapiles**	**38.37**	**236**	P	**P**	**09 50 34.6**	**+0.1**
	baz=38,SNR=6.7						
QIS	**Mount Isa**	**39.38**	**262**	P	**P**	**09 50 41.9**	**-0.9**
	baz=39,SNR=8.1						
HTT	**Hallett**	**40.08**	**242**	P	**P**	**09 50 48.2**	**-0.1**
	baz=40,SNR=25						
BBOO	**Buckleboo**	**42.39**	**243**	P	**P**	**09 51 05.9**	**-0.6**
	baz=42,SNR=88						
BBOO	**Buckleboo**	**42.39**	**243**	P	**P**	**09 51 06.1**	**-0.4**
JAY	**Jayapura**	**43.72**	**288**	P	**P**	**09 51 17.5**	**+0.3**
	comp=Z,71nm,0.5s,baz=136,slow=4.6,SNR=102						
JAY	**Jayapura**	**43.72**	**288**	P	**P**	**09 51 17.1**	**-0.1**
	comp=Z,812nmcomp=Z,61nm,0.5s						
WR0	**Warramunga Arr**	**44.17**	**262**	P	**P**	**09 51 19.5**	**-1.0**
WR0				IAmb	IAmb	09 51 21.7	
	comp=Z,35nm,1.1s						
AS31	**Alice Springs**	**44.30**	**257**	P	**P**	**09 51 20.7**	**-0.8**
AS31				IAmb	IAmb	09 51 22.4	
	comp=Z,25nm,1.0s						
ASAR	**Alice Springs**	**44.30**	**257**	P	**P**	**09 51 20.6**	**-0.8**
	comp=Z,87nm,0.8s,baz=99,slow=8.0,SNR=428						
ASAR				PcP	**PcP**	**09 52 52.7**	**0.0**
	comp=Z,9.1nm,0.7s,baz=108,slow=3.9,SNR=9.5						
ASAR				ScP	**ScP**	**09 55 51.1**	**+1.7**
	comp=Z,1.5nm,0.8s,baz=106,slow=4.8,SNR=3.8						
ASAR				S	**S**	**09 57 11.9**	**-2.0**
	comp=Z,4.2nm,0.8s,baz=93,slow=16,SNR=16						
ASAR				PKiKP	**PKiKP**	**09 59 49.2**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=98,slow=1.3,SNR=4.7						
ASAR				ScS	**ScS**	**10 00 16.2**	**+1.2**
	comp=Z,1.7nm,0.8s,baz=88,slow=6.4,SNR=10						
ASAR	**Alice Springs**	**44.30**	**257**	P	**P**	**09 51 21.1**	**-0.4**
ASPA	**Alice Springs**	**44.30**	**257**	P	**P**	**09 51 20.1**	**-1.4**
	baz=44						
WC3	**Warramunga Arr**	**44.33**	**262**	P	**P**	**09 51 19.8**	**-2.0**
	baz=44						
WB2	**Warramunga Arr**	**44.35**	**262**	P	**P**	**09 51 20.6**	**-1.3**
WRAB	**Tennant Creek**	**44.35**	**262**	P	**P**	**09 51 20.5**	**-1.4**
WRA	**Warramunga Arr**	**44.36**	**262**	P	**P**	**09 51 20.5**	**-1.4**
	comp=Z,37nm,0.8s,baz=98,slow=7.8,SNR=235						
WRA				PcP	**PcP**	**09 52 52.1**	**-0.8**
	comp=Z,4.4nm,0.9s,baz=108,slow=3.2,SNR=3.6						
WRA				ScP	**ScP**	**09 55 51.4**	**+1.7**
	comp=Z,1.9nm,1.0s,baz=70,slow=4.5,SNR=3.5						
WRA				S	**S**	**09 57 13.4**	**-1.3**
	comp=Z,2.7nm,0.7s,baz=96,slow=13,SNR=6.9						
WRA				PKiKP	**PKiKP**	**09 59 48.7**	**-2.2**
	comp=Z,0.3nm,0.6s,baz=117,slow=0.4,SNR=1.8						
WRA				ScS	**ScS**	**10 00 16.5**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=120,slow=5.9,SNR=11						
WRA	**Warramunga Arr**	**44.36**	**262**	P	**P**	**09 51 20.7**	**-1.3**
HPAH	**Hawaii Prepara**	**45.78**	**30**	P	**P**	**09 51 33.1**	**+0.3**
DHH	**Diamond Head**	**45.91**	**27**	P	**P**	**09 51 33.8**	**+0.2**
KDU	**Kakadu**	**47.67**	**271**	P	**P**	**09 51 46.1**	**-0.9**
	baz=48,SNR=24						
MTN	**Manton Dam**	**48.89**	**270**	P	**P**	**09 51 54.9**	**-1.1**
	baz=49,SNR=33						
MTN	**Manton Dam**	**48.89**	**270**	P	**P**	**09 51 55.0**	**-1.1**
FORT	**Forrest**	**49.12**	**246**	P	**P**	**09 51 56.7**	**-0.9**
	baz=49,SNR=36						
FORT	**Forrest**	**49.12**	**246**	P	**P**	**09 51 57.1**	**-0.5**
WRKA	**Warakurna**	**49.26**	**254**	P	**P**	**09 51 57.8**	**-0.9**
	baz=49,SNR=105						
KNRA	**Kununurra**	**50.40**	**266**	P	**P**	**09 52 06.3**	**-0.8**
	baz=50,SNR=32						
KNRA	**Kununurra**	**50.40**	**266**	P	**P**	**09 52 06.4**	**-0.8**
KNRA				IAmb	IAmb	09 52 07.8	
	comp=Z,34nm,0.7s						
FAKI	**Fak Fak**	**51.19**	**283**	P	**P**	**09 52 11.9**	**-1.0**
FAKI				IAmb	IAmb	09 52 13.6	
	comp=Z,56nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.78**	**262**	P	**P**	**09 52 23.5**	**-0.7**
	baz=53,SNR=25						
FITZ	**Fitzroy Crossi**	**52.78**	**262**	P	**P**	**09 52 23.9**	**-0.3**
	comp=Z,12nm,0.9s,baz=125,slow=3.8,SNR=34						
FITZ	**Fitzroy Crossi**	**52.78**	**262**	P	**P**	**09 52 23.9**	**-0.3**
SIJI	**Sorong**	**52.92**	**285**	P	**P**	**09 52 24.3**	**-1.0**
	comp=Z,41nm,0.6s,baz=20,slow=22,SNR=7.2						
SIJI	**Sorong**	**52.92**	**285**	P	**P**	**09 52 25.3**	**0.0**
	comp=Z,40nm,1.0s						
SWI	**Sorong**	**52.93**	**285**	P	**P**	**09 52 25.6**	**+0.3**
SOEI	**Soe**	**56.22**	**272**	P	**P**	**09 52 49.0**	**+0.5**
SOEI	**Soe**	**56.22**	**272**	P	**P**	**09 52 48.4**	**-0.1**
	comp=Z,941nmcomp=Z,114nm,0.9s						
PSA00	**Pilbara Seismi**	**57.45**	**257**	P	**P**	**09 52 55.7**	**-0.9**
PSA00				IAmb	IAmb	09 52 57.1	
	comp=Z,35nm,0.8s						
PSA00	**Pilbara Seismi**	**57.45**	**257**	P	**P**	**09 52 55.7**	**-0.9**
PSA00				IAmb	IAmb	09 52 56.8	
	comp=Z,16nm,0.8s						
MEEK	**Meekatharra**	**57.73**	**251**	P	**P**	**09 52 57.1**	**-1.4**
	baz=58,SNR=19						
SBA	**Scott Base**	**58.05**	**184**	P	**P**	**09 53 00.6**	**+0.9**
SBA				IAmb	IAmb	09 53 03.7	
	comp=Z,46nm,1.2s						
VNDA	**Vanda**	**58.08**	**185**	P	**P**	**09 53 01.9**	**+1.9**
	comp=Z,6.3nm,0.5s,baz=357,slow=7.7,SNR=72						
VNDA	**Vanda**	**58.08**	**185**	P	**P**	**09 53 01.9**	**+1.9**
NWAO	**Narrogin (SRO)**	**58.21**	**243**	P	**P**	**09 53 01.9**	**+0.3**
	baz=58,SNR=6.7						
NWAO	**Narrogin (SRO)**	**58.21**	**243**	P	**P**	**09 53 01.6**	**0.0**
BLDU	**Ballidu**	**58.88**	**246**	P	**P**	**09 53 05.5**	**-0.6**
	baz=59,SNR=17						
EDFI	**Ende, Flores**	**58.95**	**272**	P	**P**	**09 53 06.2**	**-0.8**
	comp=Z,22nm,0.9s						
MUN	**Mundaring**	**59.17**	**244**	P	**P**	**09 53 08.0**	**0.0**
	baz=59,SNR=5.6						
MORW	**Morawa**	**59.65**	**248**	P	**P**	**09 53 10.8**	**-0.4**
	baz=60,SNR=10						
MORW	**Morawa**	**59.65**	**248**	P	**P**	**09 53 11.2**	**-0.1**
GIRL	**Giralia**	**62.34**	**254**	P	**P**	**09 53 29.2**	**+0.2**
	baz=62,SNR=4.9						
GIRL	**Giralia**	**62.34**	**254**	P	**P**	**09 53 29.5**	**+0.5**
CASY	**Casey**	**64.03**	**205**	P	**P**	**09 53 39.3**	**+0.4**
CASY				IAmb	IAmb	09 53 39.9	
	comp=Z,30nm,0.7s						
JHJ2	**Mitsune**	**66.49**	**322**	P	**P**	**09 53 55.0**	**+0.2**
JHJ	**Hachijo jima 2**	**66.52**	**322**	P	**P**	**09 53 55.0**	**0.0**
	comp=Z,66nm,0.4s,baz=226,slow=22,SNR=7.4						
JYT	**Yasato**	**68.57**	**325**	P	**P**	**09 54 06.3**	**-1.1**
JYT				IAmb	IAmb	09 54 08.8	
	comp=Z,19nm,0.8s						
SPMM	**Sapulut**	**68.68**	**284**	P	**P**	**09 54 09.0**	**+0.4**
QSPA	**South Pole Qui**	**69.77**	**180**	P	**P**	**09 54 15.4**	**+1.1**
MJAR	**Matsushiro Arr**	**69.89**	**324**	P	**P**	**09 54 14.9**	**-0.4**
	comp=Z,9.3nm,0.5s,baz=152,slow=6.2,SNR=56						
MJAR	**Matsushiro Arr**	**69.89**	**324**	P	**P**	**09 54 14.8**	**-0.6**
MAJO	**Matsushiro**	**69.89**	**324**	P	**P**	**09 54 15.1**	**-0.3**
MAJO				IAmb	IAmb	09 54 16.4	
	comp=Z,13nm,0.7s						
MAT	**Matsushiro**	**69.89**	**324**	P	**P**	**09 54 14.7**	**-0.7**
MAT				*e*S	**S**	**10 02 39.4**	**0.0**
AMKA	**Amchitka**	**71.40**	**358**	P	**P**	**09 54 23.8**	**0.0**
KIWB	**Kanaga Island**	**71.85**	**1**	P	**P**	**09 54 26.7**	**+0.3**
ADK	**Adak**	**71.89**	**1**	P	**P**	**09 54 26.5**	**-0.1**
ATKA	**Atka Island**	**72.28**	**3**	P	**P**	**09 54 28.6**	**-0.2**
LEM	**Lembang**	**72.77**	**269**	P	**P**	**09 54 32.7**	**-0.1**
	comp=Z,34nm,1.0s						
TWG	**Pinlang**	**73.05**	**303**	P	**P**	**09 54 32.8**	**-1.1**
TWG				IAmb	IAmb	09 54 33.6	
	comp=Z,20nm,0.5s						
KSM	**Kuching**	**73.11**	**278**	P	**P**	**09 54 34.0**	**-0.6**
NACB	**Ninganchiao**	**73.34**	**304**	P	**P**	**09 54 35.1**	**-0.5**
JKA	**Kamikawa-asahi**	**73.42**	**332**	P	**P**	**09 54 36.8**	**+1.2**
NIKH	**Nikolski High**	**73.42**	**6**	P	**P**	**09 54 35.3**	**-0.1**
NIKH	**Nikolski High**	**73.42**	**6**	P	**P**	**09 54 35.3**	**-0.1**
	baz=189,SNR=7.8						
SSLB	**Suanglung**	**73.64**	**304**	P	**P**	**09 54 36.3**	**-1.0**
SSLB				IAmb	IAmb	09 54 37.9	
	comp=Z,26nm,1.2s						
TPUB	**Ta-pu**	**73.64**	**303**	P	**P**	**09 54 36.4**	**-1.0**
TPUB				IAmb	IAmb	09 54 37.7	
	comp=Z,26nm,0.8s						
UNV	**Unalaska Valle**	**74.54**	**7**	P	**P**	**09 54 41.2**	**-0.4**
UNV	**Unalaska Valle**	**74.54**	**7**	P	**P**	**09 54 41.2**	**-0.4**
	baz=191,SNR=8.6						
YSS	**Yuzh-Sakhalins**	**75.60**	**334**	P	**P**	**09 54 48.1**	**+0.4**
YSS				IAmb	IAmb	09 54 49.7	
	comp=Z,54nm,1.1s						
PEA0B	**Petropavlovsk-**	**76.01**	**345**	P	**P**	**09 54 50.0**	**+0.1**
PEA0B				IAmb	IAmb	09 54 50.5	
	comp=Z,21nm,0.8s						
PETK	**Petropavlovsk-**	**76.01**	**345**	P	**P**	**09 54 49.3**	**-0.6**
	comp=Z,14nm,0.6s,baz=119,slow=6.1,SNR=61						
PETK	**Petropavlovsk-**	**76.01**	**345**	P	**P**	**09 54 49.4**	**-0.5**
CHNA	**Chernabura Isl**	**76.52**	**11**	P	**P**	**09 54 52.6**	**0.0**
	baz=198						
KSRS	**Korea Array**	**76.56**	**319**	P	**P**	**09 54 54.2**	**+1.0**
	comp=Z,4.7nm,0.6s,baz=126,slow=5.9,SNR=26						
KSAR	**Wonju Array Be**	**76.58**	**319**	P	**P**	**09 54 54.1**	**+0.8**
SDPT	**Sand Point**	**76.86**	**10**	P	**P**	**09 54 54.3**	**-0.1**
SDPT	**Sand Point**	**76.86**	**10**	P	**P**	**09 54 54.4**	**-0.1**
	baz=197,SNR=6.7						
CHGN	**Chignik**	**78.13**	**11**	P	**P**	**09 55 01.1**	**-0.1**
CHGN				IAmb	IAmb	09 55 04.6	
	comp=Z,36nm,0.8s						
CHGN	**Chignik**	**78.13**	**11**	P	**P**	**09 55 01.3**	**0.0**
	baz=199,SNR=8.5						
CHIR	**Chirikof Islan**	**78.23**	**13**	P	**P**	**09 55 02.5**	**+0.7**
CHIR	**Chirikof Islan**	**78.23**	**13**	P	**P**	**09 55 02.5**	**+0.7**
	baz=202,SNR=5.7						
USA0B	**Ussuriysk Arra**	**78.65**	**326**	P	**P**	**09 55 05.7**	**+1.4**
USA0B				IAmb	IAmb	09 55 06.5	
	comp=Z,38nm,1.4s						
USRK	**Ussuriysk Ar.**	**78.65**	**326**	P	**P**	**09 55 05.8**	**+1.4**
	comp=Z,8.7nm,0.6s,baz=134,slow=3.1,SNR=38						
DECC	**Green Verdugo**	**78.70**	**47**	P	**P**	**09 55 06.2**	**+1.3**
	baz=236						
KMRM	**Mail Ridge**	**78.78**	**40**	P	**P**	**09 55 05.7**	**+0.5**
109C	**Camp Elliot, M**	**78.80**	**49**	P	**P**	**09 55 07.2**	**+1.8**
	baz=237						
CBX	**Cerro Bola**	**78.80**	**49**	P	**P**	**09 55 06.3**	**+0.7**
ARVC	**Arvin**	**78.85**	**46**	P	**P**	**09 55 07.5**	**+1.8**
	baz=235						
MWC	**Mount Wilson**	**78.87**	**47**	P	**P**	**09 55 06.4**	**+0.4**
VES	**Vestal, Richgr**	**79.08**	**45**	P	**P**	**09 55 08.5**	**+1.7**
	baz=235,SNR=5.9						
MURC	**Murrieta**	**79.12**	**48**	P	**P**	**09 55 07.3**	**+0.1**
	baz=237						
BFSC	**Mount Baldy Ra**	**79.15**	**47**	P	**P**	**09 55 08.8**	**+1.3**
	baz=236						
SII	**Sitkinak Islan**	**79.22**	**13**	P	**P**	**09 55 07.6**	**+0.5**
SII	**Sitkinak Islan**	**79.22**	**13**	P	**P**	**09 55 07.5**	**+0.4**
	baz=203,SNR=8.2						
EDW2	**Edwards Air Fo**	**79.28**	**47**	P	**P**	**09 55 09.7**	**+1.7**
	baz=236,SNR=7.8						
MONP2	**Monument Peak**	**79.28**	**49**	P	**P**	**09 55 10.1**	**+1.8**
	baz=237,SNR=9.1						
O02D	**Mt. Diablo Mer**	**79.30**	**40**	P	**P**	**09 55 10.4**	**+2.4**
	baz=232,SNR=9.4						
IKP	**In-Ko-Pah, Jac**	**79.38**	**49**	P	**P**	**09 55 10.0**	**+1.4**
	baz=238,SNR=6.0						
ISA	**Isabella, Lake**	**79.39**	**46**	P	**P**	**09 55 09.8**	**+1.2**
ISA				IAmb	IAmb	09 55 11.5	
	comp=Z,35nm,1.4s						
ISA	**Isabella, Lake**	**79.39**	**46**	P	**P**	**09 55 10.4**	**+1.8**
	baz=236,SNR=11						
SRIG	**Santa Rosalia**	**79.54**	**56**	P	**P**	**09 55 09.6**	**+0.1**
SRIG				IAmb	IAmb	09 55 12.2	
	comp=Z,43nm,1.4s						
NJ2	**Nanjing**	**79.55**	**310**	*e*P	**P**	**09 55 10.8**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
PFO	**Pinyon Flats O**	**79.65**	**48**	P	**P**	**09 55 11.0**	**+0.9**
PFO	**Pinyon Flats O**	**79.65**	**48**	P	**P**	**09 55 10.6**	**+0.6**
	baz=237						
TPFO	**Pinon Flats**	**79.65**	**48**	P	**P**	**09 55 10.7**	**+0.7**
	baz=237						
SWSC	**Sam W. Stewart**	**79.75**	**49**	P	**P**	**09 55 12.1**	**+1.7**
	baz=238,SNR=6.4						
BELA	**Belgrano 2**	**79.79**	**173**	P	**P**	**09 55 10.7**	**+0.8**
BELA				IAmb	IAmb	09 55 10.9	
	comp=Z,18nm,0.7s						
LRMC	**Laurel Mtn Rad**	**79.82**	**46**	P	**P**	**09 55 12.3**	**+1.3**
	baz=236,SNR=7.3						
N02D	**Trinity Center**	**79.84**	**39**	P	**P**	**09 55 13.1**	**+2.3**
	baz=232,SNR=5.6						
O03E	**Paynes Creek**	**79.97**	**40**	P	**P**	**09 55 12.9**	**+1.4**
	baz=232,SNR=6.0						
M02C	**Callahan**	**80.01**	**39**	P	**P**	**09 55 14.3**	**+2.5**
	baz=232,SNR=9.1						
OHAK	**Old Harbor**	**80.02**	**13**	P	**P**	**09 55 11.6**	**+0.4**
OHAK				IAmb	IAmb	09 55 12.8	
	comp=Z,78nm,1.4s						
OHAK	**Old Harbor**	**80.02**	**13**	P	**P**	**09 55 11.6**	**+0.4**
	baz=204						
CWC	**Cottonwood Cre**	**80.09**	**45**	P	**P**	**09 55 14.1**	**+1.8**
	baz=236						
MDPB	**Devils Postpil**	**80.11**	**44**	P	**P**	**09 55 12.8**	**+0.2**
BELC	**Belle Mtn. Jos**	**80.18**	**48**	P	**P**	**09 55 14.8**	**+1.9**
	baz=237,SNR=11						
MPMC	**Manual Prospec**	**80.28**	**46**	P	**P**	**09 55 14.8**	**+1.4**
	baz=236,SNR=13						
GSC	**Goldstone, Bar**	**80.32**	**47**	P	**P**	**09 55 14.5**	**+1.0**
GSC	**Goldstone, Bar**	**80.32**	**47**	P	**P**	**09 55 14.9**	**+1.4**
	baz=237,SNR=7.2						
TIN	**Tinemaha, Big**	**80.34**	**45**	P	**P**	**09 55 15.6**	**+2.0**
	baz=236						
K02D	**Willamette Mer**	**80.35**	**38**	P	**P**	**09 55 14.9**	**+1.4**
	baz=231						
BC3	**Big Chuckawall**	**80.38**	**49**	P	**P**	**09 55 15.6**	**+1.7**
	baz=238,SNR=9.6						
HEC	**Hector,Ludlow**	**80.39**	**47**	P	**P**	**09 55 15.3**	**+1.4**
	baz=237,SNR=9.3						
J01E	**Myrtle Point**	**80.50**	**37**	P	**P**	**09 55 15.5**	**+1.4**
	baz=230						
GLA	**Glamis**	**80.50**	**50**	P	**P**	**09 55 15.8**	**+1.4**
GLA				IAmb	IAmb	09 55 17.8	
	comp=Z,26nm,1.1s						
GLA	**Glamis**	**80.50**	**50**	P	**P**	**09 55 17.1**	**+2.6**
	baz=238,SNR=6.0						
BEKR	**Beckworth**	**80.60**	**41**	P	**P**	**09 55 16.3**	**+1.3**
BEKR				IAmb	IAmb	09 55 17.6	
	comp=Z,43nm,1.4s						
PNTR	**Pine Nut**	**80.62**	**42**	P	**P**	**09 55 15.9**	**+0.8**
PNTR				IAmb	IAmb	09 55 17.9	
	comp=Z,38nm,0.9s						
KDAK	**Kodiak Island**	**80.69**	**14**	P	**P**	**09 55 15.3**	**+0.6**
	comp=Z,14nm,0.8s,baz=259,slow=1.8,SNR=28						
KDAK	**Kodiak Island**	**80.69**	**14**	P	**P**	**09 55 15.5**	**+0.8**
KDAK				IAmb	IAmb	09 55 17.1	
	comp=Z,35nm,1.1s						
KDAK	**Kodiak Island**	**80.69**	**14**	P	**P**	**09 55 15.0**	**+0.3**
	baz=204						
VCNR	**Virginia City**	**80.71**	**42**	P	**P**	**09 55 15.9**	**+0.3**
YERR	**Yerington**	**80.79**	**43**	P	**P**	**09 55 17.2**	**+1.3**
YERR				IAmb	IAmb	09 55 18.6	
	comp=Z,44nm,1.3s						
GMRC	**Granite Mounta**	**80.83**	**48**	P	**P**	**09 55 17.4**	**+1.2**
	baz=238,SNR=9.9						
LHV	**Little Huntoon**	**80.84**	**44**	P	**P**	**09 55 17.9**	**+2.0**
LHV				IAmb	IAmb	09 55 19.1	
	comp=Z,32nm,1.2s						
L04D	**Klamath Falls**	**80.84**	**39**	P	**P**	**09 55 18.1**	**+2.0**
	baz=232,SNR=16						
IRM	**Iron Mountain**	**80.86**	**49**	P	**P**	**09 55 18.3**	**+2.1**

baz=238,SNR=12
GRAC Grapevine Rang 80.88 45 P P 09 55 18.1 +1.9
baz=236,SNR=5.7
FURC Furnace Creek, 80.92 46 P P 09 55 17.8 +1.4
baz=236,SNR=6.8
TUQ Turquoise Moun 81.00 47 P P 09 55 18.9 +1.8
baz=237,SNR=12
SHOC Shoshone, Teco 81.01 47 P P 09 55 18.5 +1.5
baz=237,SNR=6.1
RYN Ryan 81.04 43 P P 09 55 18.1 +0.9
NVAR Mina Array Bea 81.07 44 P P 09 55 19.3 +1.8
comp=Z,17nm,1.1s,baz=223,slow=8.6,SNR=55
NVAR Mina Array Bea 81.07 44 P P 09 55 18.4 +0.9
113A Mohawk Valley, 81.12 50 P P 09 55 18.2 +0.6
113A IAmb IAmb 09 55 20.6
comp=Z,30nm,1.3s
COCO West Island 81.12 260 P P 09 55 18.8 +0.8
comp=Z,0.3nm,0.8s
I03D Drain, OR 81.16 37 P P 09 55 18.8 +1.3
baz=231
NV11 Mina Array Sit 81.17 44 P P 09 55 19.2 +1.3
NV11 IAmb IAmb 09 55 20.5
comp=Z,27nm,1.2s
JRMM Jerantut 81.27 277 P P 09 55 19.0 +0.2
HSIG 81.36 55 P P 09 55 19.9 +1.0
214A Organ Pipe Nat 81.40 51 P P 09 55 20.7 +1.6
214A IAmb IAmb 09 55 22.4
comp=Z,30nm,1.4s
214A Organ Pipe Nat 81.40 51 P P 09 55 21.4 +2.4
baz=240,SNR=10
Q19K Cape Douglas, 81.51 13 P P 09 55 18.7 -0.3
Q19K Cape Douglas, 81.51 13 P P 09 55 19.3 +0.3
baz=203,SNR=14
KVN Kaiserville 81.55 43 P P 09 55 20.7 +0.9
KVN IAmb IAmb 09 55 22.3
comp=Z,32nm,1.3s
TPH Tonopah 81.57 44 P P 09 55 21.5 +1.5
PMSA Palmer Station 81.58 157 P P 09 55 20.7 +1.4
comp=Z,12nm,0.7s,baz=242,slow=2.4,SNR=6.5
J04D Umpqua Nationa 81.59 38 P P 09 55 21.9 +1.9
baz=232
TPNV Topopah Spring 81.60 46 P P 09 55 21.4 +1.3
TPNV Topopah Spring 81.60 46 P P 09 55 21.6 +1.5
baz=237,SNR=17
PDMCI Parker Dam,Lak 81.64 49 P P 09 55 22.4 +2.2
baz=238,SNR=7.3
MAW Mawson 81.66 200 P P 09 55 20.2 +0.6
baz=82,SNR=14
MAW Mawson 81.66 200 P P 09 55 20.2 +0.6
comp=Z,5.4nm,0.6s,baz=129,slow=6.2,SNR=29
MAW Mawson 81.66 200 P P 09 55 20.0 +0.3
BUCK Buck Mountain 81.68 37 P P 09 55 21.8 +1.5
BUCK IAmb IAmb 09 55 23.3
comp=Z,53nm,1.2s
I04A Tendick Farm, 81.75 37 P P 09 55 22.2 +1.6
baz=232,SNR=5.6
H04D Lebanon 82.02 37 P P 09 55 23.7 +1.9
baz=231,SNR=6.5
O18K Koktuh Hills 82.06 12 P P 09 55 22.0 +0.3
O18K Koktuh Hills 82.06 12 P P 09 55 21.8 +0.1
baz=202,SNR=63
SHPR Sheep Range 82.10 47 P P 09 55 24.1 +1.5
J05D Fort Rock, OR 82.12 38 P P 09 55 24.8 +2.2
baz=233,SNR=5.3
W13A Hualapai Mount 82.24 48 P P 09 55 24.9 +1.4
P19K Oil Pt 82.26 13 P P 09 55 22.6 -0.1
P19K IAmb IAmb 09 55 23.8
comp=Z,30nm,0.8s
P19K Oil Pt 82.26 13 P P 09 55 22.8 0.0
baz=204,SNR=16
Y14A Wickenburg 82.27 50 P P 09 55 24.6 +1.2
H04A Detroit Lake 82.43 37 P P 09 55 24.7 +0.7
H04A IAmb IAmb 09 55 25.6
comp=Z,15nm,0.6s
O19K Port Alsworth 82.55 12 P P 09 55 24.1 0.0
O19K Port Alsworth 82.55 12 P P 09 55 24.1 0.0
baz=202,SNR=41
CNPM China Poot 82.57 14 P P 09 55 24.1 -0.2
CNPM IAmb IAmb 09 55 25.6
comp=Z,49nm,1.0s
HOM Homer 82.60 13 P P 09 55 24.9 +0.5
HOM Homer 82.60 13 P P 09 55 24.9 +0.5
baz=205,SNR=12
PRN Pahroc Range 82.65 46 P P 09 55 26.5 +1.1
PRN IAmb IAmb 09 55 28.4
comp=Z,27nm,1.1s
I05D Terrebonne, OR 82.70 37 P P 09 55 27.2 +1.8
baz=232,SNR=6.2
N18K Kilae Creek 82.71 11 P P 09 55 24.9 -0.1
N18K Kilae Creek 82.71 11 P P 09 55 25.1 +0.2
baz=201,SNR=11
O20K Slope Mountain 82.78 13 P P 09 55 25.3 -0.1
baz=204,SNR=18
R11A Troy Canyon, C 82.80 45 P P 09 55 27.4 +1.2
R11A Troy Canyon, C 82.80 45 P P 09 55 27.4 +1.2
baz=237,SNR=12
IPM Ipoh 82.84 277 P P 09 55 27.0 +0.3
F04D Rainier, OR 82.85 35 P P 09 55 28.1 +2.2
baz=231
BRLK Bradley Lake 82.86 14 P P 09 55 25.9 +0.1
BRLK IAmb IAmb 09 55 27.0
comp=Z,50nm,1.0s
BRSE Bradley Lake S 82.88 14 P P 09 55 26.3 +0.5
baz=206,SNR=21
BMN Battle Mountai 82.89 42 P P 09 55 28.1 +1.5
BMN IAmb IAmb 09 55 29.1
comp=Z,30nm,1.1s
TUC Tucson 83.07 52 P P 09 55 28.6 +1.1
TUC Tucson 83.07 52 P P 09 55 29.8 +2.3
baz=241
N19K Bonanza Creek 83.09 11 P P 09 55 26.7 -0.3
N19K IAmb IAmb 09 55 27.6
comp=Z,24nm,0.9s
N19K Bonanza Creek 83.09 11 P P 09 55 26.8 -0.2
baz=202,SNR=23
SVW2 Sparrevohn 83.16 11 P P 09 55 26.9 -0.3
G05D Wamic, OR 83.26 37 P P 09 55 29.7 +1.6
baz=232
E04D Cinebar 83.39 35 P P 09 55 30.6 +1.9
baz=231
SEW Seward 83.49 14 P P 09 55 29.0 +0.2
SEW IAmb IAmb 09 55 29.7
comp=Z,26nm,0.9s
SEW Seward 83.49 14 P P 09 55 29.0 +0.2
baz=207,SNR=8.7
MA2 Magadan 83.52 345 P P 09 55 28.0 -1.0
comp=Z,9.7nm,0.8s,baz=125,slow=9.6,SNR=4.0
MA2 Magadan 83.52 345 P P 09 55 29.1 +0.1
MA2 IAmb IAmb 09 55 37.4
comp=Z,24nm,1.1s
X16A Lo Mia Camp, P 83.63 50 P P 09 55 31.9 +1.5
LCMT Little Creek M 83.67 47 P P 09 55 31.8 +1.4
CAPN Captain Cook N 83.71 13 P P 09 55 30.7 +0.8
CAPN Captain Cook N 83.71 13 P P 09 55 31.1 +1.2
baz=205
319A Douglas 83.75 53 P P 09 55 32.5 +1.5
319A IAmb IAmb 09 55 34.6
comp=Z,40nm,1.2s
O22K Cooper Landing 83.77 14 P P 09 55 30.6 +0.4
O22K IAmb IAmb 09 55 36.0
comp=Z,36nm,0.8s
O22K Cooper Landing 83.77 14 P P 09 55 30.6 +0.4
baz=207,SNR=8.5
CCUT Cedar City 83.87 46 P P 09 55 33.0 +1.4
SPCR Spurr Chakacha 83.89 12 P P 09 55 30.5 -0.4
baz=204,SNR=6.6
KNB Kanab 83.96 47 P P 09 55 33.3 +1.3
KNB IAmb IAmb 09 55 35.1
comp=Z,23nm,1.4s
SPR3 Spring Creek 3 83.98 45 P P 09 55 33.1 +0.9
U15A North Rim 84.03 48 P P 09 55 33.7 +1.3
U15A IAmb IAmb 09 55 35.5
comp=Z,32nm,1.3s
PSUT Pine Spring 84.05 45 P P 09 55 33.6 +1.2
SZCU Shurtz Canyon 84.08 46 P P 09 55 33.2 +0.6
D05A Enumclaw 84.09 35 P P 09 55 33.3 +1.2
D05A IAmb IAmb 09 55 35.2
comp=Z,52nm,1.3s
M19K Big River Lodg 84.12 11 P P 09 55 31.9 0.0
M19K IAmb IAmb 09 55 32.8
comp=Z,14nm,0.7s
M19K Big River Lodg 84.12 11 P P 09 55 31.6 -0.3
baz=202,SNR=17
SKLT Songkhla 84.17 280 P P 09 55 35.7 +2.4
comp=Z,18nm,1.0s
WUAZ Wupatki 84.22 49 P P 09 55 34.6 +1.3
baz=240
WUAZ Wupatki 84.22 49 P P 09 55 35.0 +1.8
baz=240
FIS Fire Island 84.25 13 P P 09 55 33.2 +0.7
L19K White Mountain 84.30 11 P P 09 55 33.1 +0.3
L19K IAmb IAmb 09 55 34.5
comp=Z,29nm,1.0s
L19K White Mountain 84.30 11 P P 09 55 33.2 +0.4
baz=202,SNR=23
RC01 Rabbit Creek A 84.31 13 P P 09 55 32.9 0.0
RC01 IAmb IAmb 09 55 34.0
comp=Z,31nm,1.0s
RC01 Rabbit Creek A 84.31 13 P P 09 55 32.8 0.0
baz=207,SNR=22
ELK Elko 84.32 43 P P 09 55 34.8 +1.1
M20K Styx River 84.33 12 P P 09 55 33.3 +0.2
M20K Styx River 84.33 12 P P 09 55 32.5 -0.5
baz=204,SNR=5.9
PWL Port Wells 84.42 14 P P 09 55 33.3 -0.1
SUA Susitna One 84.43 13 P P 09 55 33.4 -0.2
baz=206,SNR=30
PKCU Pink Cliffs 84.53 47 P P 09 55 35.1 +0.2
PKCU IAmb IAmb 09 55 38.5
comp=Z,22nm,1.1s
HPIG 84.56 59 P P 09 55 36.1 +1.0
G08A Pilot Rock 84.63 38 P P 09 55 36.4 +1.4
G08A IAmb IAmb 09 55 37.5
comp=Z,35nm,1.2s
A04D Lummi Island 84.67 33 P P 09 55 35.2 +0.3
baz=231
B05A Bryant 84.70 34 P P 09 55 36.6 +1.5
baz=231,SNR=7.3
GLI Glacier Island 84.73 15 P P 09 55 34.9 0.0
GLI Glacier Island 84.73 15 P P 09 55 35.0 0.0
baz=209,SNR=30
SKT Skwentna 84.74 12 P P 09 55 34.6 -0.3
SKT Skwentna 84.74 12 P P 09 55 34.0 -1.0
baz=205,SNR=7.0
L20K Farewell, AK 84.75 11 P P 09 55 34.9 -0.1
baz=203,SNR=14
X18A Snowflake 84.75 50 P P 09 55 37.2 +1.3
FID Port Fidalgo 84.76 15 P P 09 55 36.0 -0.1
FID IAmb IAmb 09 55 36.1
comp=Z,42nm,1.2s
EYAK Cordova Ski Ar 84.77 15 P P 09 55 35.4 +0.3
EYAK IAmb IAmb 09 55 36.4
comp=Z,46nm,1.3s
EYAK Cordova Ski Ar 84.77 15 P P 09 55 34.6 -0.5
baz=210,SNR=5.3
LTY Liberty 84.84 35 P P 09 55 36.4 +0.5
LTY IAmb IAmb 09 55 38.0
comp=Z,23nm,1.4s
E07A Sunnyside 84.87 36 P P 09 55 37.4 +1.4
E07A IAmb IAmb 09 55 38.7
comp=Z,33nm,1.3s
KNK Knik Glacier 84.88 14 P P 09 55 35.9 +0.2
KNK IAmb IAmb 09 55 36.8
comp=Z,36nm,1.0s
KNK Knik Glacier 84.88 14 P P 09 55 35.8 +0.2
baz=208,SNR=11
PMR Palmer 84.89 14 P P 09 55 35.6 0.0
PMR IAmb IAmb 09 55 37.5
comp=Z,39nm,1.2s
PMR Palmer 84.89 14 P P 09 55 35.6 0.0
baz=207,SNR=18
MTPU Mount Pierson 84.92 46 P P 09 55 38.1 +1.3
HAWA Hanford 84.95 36 P P 09 55 37.4 +1.0
HAWA IAmb IAmb 09 55 39.1
comp=Z,29nm,1.1s
TCRU Three Creeks R 85.03 46 P P 09 55 38.5 +1.2
GHO Glory Hole Cre 85.10 14 P P 09 55 36.9 +0.1
MVU Marysvale 85.14 46 P P 09 55 38.8 +1.1
MVU IAmb IAmb 09 55 40.8
comp=Z,49nm,1.4s
MSU Marysvale 85.17 46 P P 09 55 38.9 +1.1
B06A Marblemount 85.18 34 P P 09 55 38.5 +1.1
SML Sawmill 85.26 14 P P 09 55 37.8 +0.3
SML IAmb IAmb 09 55 52.0
comp=Z,22nm,1.3s
SML Sawmill 85.26 14 P P 09 55 37.6 +0.1
baz=208,SNR=6.4
DIV Divide 85.27 15 P P 09 55 37.8 +0.3
TRTT Trang 85.27 280 P P 09 55 41.3 +2.7
comp=Z,1µmcomp=Z,21nm,1.3s
E08A Dider Farm, El 85.27 37 P P 09 55 38.1 +0.2
E08A IAmb IAmb 09 55 40.4
comp=Z,31nm,1.3s
BMO Blue Mountains 85.33 39 P P 09 55 38.7 +0.4
ZAIG Zacatecas 85.36 64 P P 09 55 40.5 +1.2
CUT Chulitna 85.38 13 P P 09 55 37.9 0.0
CUT Chulitna 85.38 13 P P 09 55 38.0 +0.1
baz=206,SNR=14
121A Cookes Peak, D 85.41 53 P P 09 55 40.7 +1.6
121A Cookes Peak, D 85.41 53 P P 09 55 41.4 +2.3
baz=242,SNR=5.7
MFID Camas Ranch 85.41 40 P P 09 55 39.8 +1.1
MFID IAmb IAmb 09 55 41.3
comp=Z,19nm,1.2s
BMRM Bremner River 85.42 16 P P 09 55 38.1 -0.1
BMRM IAmb IAmb 09 55 39.2
comp=Z,22nm,0.8s
BMRM Bremner River 85.42 16 P P 09 55 38.5 +0.2
baz=211,SNR=7.5
WAX Waxell Ridge 85.44 17 P P 09 55 38.7 +0.2
PPLA Purkeypile 85.44 12 P P 09 55 38.3 -0.1
PPLA Purkeypile 85.44 12 P P 09 55 37.6 -0.9
baz=204
MESA MESA 85.46 17 P P 09 55 39.3 +0.6
baz=214
SCM Sheep Creek Mo 85.51 14 P P 09 55 38.6 -0.1
K20K Telida 85.52 11 P P 09 55 38.7 0.0
K20K IAmb IAmb 09 55 40.1
comp=Z,23nm,0.9s
K20K Telida 85.52 11 P P 09 55 38.8 0.0
baz=203,SNR=28
KLU Klutina 85.54 15 P P 09 55 38.7 -0.2
KLU IAmb IAmb 09 55 40.3
comp=Z,13nm,0.9s
KLU Klutina 85.54 15 P P 09 55 39.3 +0.4
baz=210,SNR=8.9
BJI Beijing 85.56 316 P P 09 55 40.0 +0.6
BJI pmax pmax
comp=Z,11nm,0.7s
CRQM Cirque 85.62 16 P P 09 55 39.9 +0.5
CRQM IAmb IAmb 09 55 41.1
comp=Z,37nm,1.2s
CRQE Cirque 85.63 16 P P 09 55 39.5 +0.1
baz=213
WRAK Wrangell Islan 85.64 24 P P 09 55 40.3 +1.0
baz=222
YAH Yahtse 85.67 17 P P 09 55 39.8 0.0
YAH IAmb IAmb 09 55 41.7
comp=Z,33nm,1.0s
D08A Wollman Farm, 85.68 36 P P 09 55 40.7 +0.8
D08A IAmb IAmb 09 55 42.5
comp=Z,21nm,1.0s
TGL Tana Glacier 85.70 17 P P 09 55 39.9 +0.2
TGL IAmb IAmb 09 55 41.3
comp=Z,24nm,1.1s
ENH Enshi 85.70 304 P P 09 55 40.9 +0.5
ENH IAmb IAmb 09 55 41.7
comp=Z,11nm,0.7s
E09A Wood Farm, Sta 85.80 37 P P 09 55 41.0 +0.6
E09A IAmb IAmb 09 55 42.7
comp=Z,32nm,1.3s
SURA Surathani 85.81 281 P P 09 55 43.9 +2.8
TABL Table Mountain 85.90 17 P P 09 55 41.5 +0.7
TABL IAmb IAmb 09 55 42.4
comp=Z,30nm,1.0s
VRDI Verde Repeater 85.94 16 P P 09 55 41.7 +0.7
VRDI IAmb IAmb 09 55 42.5
comp=Z,43nm,1.4s
N25K Chitina, Valde 85.97 15 P P 09 55 41.3 +0.4
N25K Chitina, Valde 85.97 15 P P 09 55 41.3 +0.4
baz=211,SNR=16
GRNC Granite Creek 85.97 17 P P 09 55 41.7 +0.5
GRNC IAmb IAmb 09 55 42.3
comp=Z,24nm,1.1s
F10A Beach Ranch, E 86.01 38 P P 09 55 41.8 +0.3
M24K Tolsona, Glenn 86.02 15 P P 09 55 41.4 +0.3
M24K Tolsona, Glenn 86.02 15 P P 09 55 42.0 +0.9
baz=210,SNR=6.2
GLB Gilahina Butte 86.03 16 P P 09 55 41.7 +0.5
GLB IAmb IAmb 09 55 42.0
comp=Z,13nm,0.6s
Q16A Castle Valley 86.05 46 P P 09 55 43.4 +1.3
WAT6 Susitna Watana 86.07 14 P P 09 55 41.6 +0.1
baz=208,SNR=20
WAT1 Susitna Watana 86.12 13 P P 09 55 41.7 +0.1
baz=208
MCARA McCarthy VSAT 86.18 16 P P 09 55 42.7 +0.9
baz=213
TMUT Trail Mountain 86.21 46 P P 09 55 44.3 +1.4
TMUT IAmb IAmb 09 55 45.9
comp=Z,17nm,1.3s
B08A Colville Reser 86.22 35 P P 09 55 42.8 +0.4
B08A IAmb IAmb 09 55 44.1
comp=Z,17nm,1.1s
PLID Pearl Lake 86.23 39 P P 09 55 42.6 -0.1
PLID IAmb IAmb 09 55 44.4
comp=Z,10nm,0.8s
LOGN Logan Glacier 86.26 17 P P 09 55 42.9 +0.5
LOGN IAmb IAmb 09 55 44.1
comp=Z,39nm,1.3s
J20K Nowinta River 86.27 10 P P 09 55 42.4 +0.2
J20K Nowinta River 86.27 10 P P 09 55 42.6 +0.4
baz=203,SNR=12
LLLB Lillooet 86.27 32 P P 09 55 43.0 +0.4
LLLB IAmb IAmb 09 55 44.8
comp=Z,13nm,1.0s
BARN Barnard Glacie 86.27 17 P P 09 55 43.5 +1.0
BARN IAmb IAmb 09 55 44.3
comp=Z,30nm,1.0s
CTG Chitna Glacier 86.28 17 P P 09 55 43.0 +0.5
baz=214,SNR=6.1
KTH Kantishna Hill 86.28 12 P P 09 55 41.8 -0.6
KTH IAmb IAmb 09 55 42.5
comp=Z,28nm,1.1s
CTGM Chitina Glacie 86.28 17 P P 09 55 42.7 +0.2
CTGM IAmb IAmb 09 55 44.2
comp=Z,26nm,1.1s
TRF Thorofare Moun 86.31 12 P P 09 55 42.2 -0.5
TRF Thorofare Moun 86.31 12 P P 09 55 42.1 -0.5
baz=206,SNR=27
CHUM Lake Minchumin 86.32 11 P P 09 55 41.9 -0.5
baz=204,SNR=12
HLID Hailey 86.36 41 P P 09 55 44.3 +1.0
HLID IAmb IAmb 09 55 46.2
comp=Z,14nm,1.0s
HLID Hailey 86.36 41 P P 09 55 45.2 +1.9
baz=238,SNR=11
BESE Bessie Mountai 86.37 21 P P 09 55 44.0 +1.1
BESE IAmb IAmb 09 55 44.6
comp=Z,34nm,1.4s
C09A Chrisman Ranch 86.47 36 P P 09 55 44.7 +1.2
C09A IAmb IAmb 09 55 45.8
comp=Z,29nm,1.3s
RND Reindeer 86.57 13 P P 09 55 43.7 0.0
SRU San Rafael Swe 86.58 46 P P 09 55 45.4 +0.9
P17A Butcher Ranch, 86.61 46 P P 09 55 45.7 +1.0
JLU Jordanelle 86.70 45 P P 09 55 45.8 +0.6
BPAW Bear Paw Mtn. 86.77 12 P P 09 55 44.3 -0.3
BPAW Bear Paw Mtn. 86.77 12 P P 09 55 43.6 -0.9
baz=206,SNR=6.0
MCK McKinley 86.84 13 P P 09 55 44.9 -0.1
MCK McKinley 86.84 13 P P 09 55 44.6 -0.4
baz=207,SNR=17
MNTX Cornudas Mount 86.86 55 P P 09 55 46.8 +1.0
MNTX IAmb IAmb 09 55 48.8
comp=Z,18nm,1.2s
MNTX Cornudas Mount 86.86 55 P P 09 55 47.5 +1.7
baz=244,SNR=17
SKAG Skagway 86.89 20 P P 09 55 46.3 +1.1
SKAG Skagway 86.89 20 P P 09 55 46.9 +1.7
baz=220
PAX Paxson 86.93 14 P P 09 55 45.3 -0.2
PAX Paxson 86.93 14 P P 09 55 44.8 -0.6
baz=211,SNR=8.2
TCUT Toone Canyon 86.99 44 P P 09 55 46.9 +0.4
TCUT IAmb IAmb 09 55 50.8
comp=Z,26nm,1.4s
BNM Barren Site 87.01 52 P P 09 55 46.9 +0.1
M26K Nabesna, AK 87.05 16 P P 09 55 45.8 -0.1
M26K IAmb IAmb 09 55 47.7
comp=Z,20nm,1.0s
M26K Nabesna, AK 87.05 16 P P 09 55 46.6 +0.7
baz=213,SNR=12
PV05 Paradox Valley 87.06 48 P P 09 55 47.9 +1.0
YUK6 Outpost Mounta 87.11 18 P P 09 55 47.4 +0.8
baz=217,SNR=5.1
TX31 Lajitas Ar. Si 87.18 57 P P 09 55 48.6 +1.1
TX32 Lajitas Array 87.18 57 P P 09 55 48.5 +1.1
TX32 IAmb IAmb 09 55 50.7
comp=Z,17nm,1.1s
TXAR Lajitas Array 87.18 57 P P 09 55 49.3 +1.9
comp=Z,7.7nm,0.9s,baz=217,slow=6.6,SNR=77
TXAR Lajitas Array 87.18 57 P P 09 55 48.8 +1.3
YUK3 Moose Creek 87.19 17 P P 09 55 47.6 +0.8
baz=215,SNR=24
HYT Haines Junctio 87.28 19 P P 09 55 48.2 +1.0
HYT IAmb IAmb 09 55 49.2
comp=Z,16nm,1.0s
HYT Haines Junctio 87.28 19 P P 09 55 48.3 +1.1
baz=218,SNR=9.2
M27K Edge Creek, AK 87.30 16 P P 09 55 48.1 +0.9
M27K Edge Creek, AK 87.30 16 P P 09 55 48.2 +0.9
baz=214,SNR=22
MENT Mentasta 87.32 15 P P 09 55 47.8 +0.6
MENT IAmb IAmb 09 55 48.3
comp=Z,13nm,1.1s
YUK4 Talbot Arm 87.35 18 P P 09 55 48.8 +1.2
baz=217,SNR=5.2
NEW Newport 87.37 36 P P 09 55 48.6 +0.8
NEW Newport 87.37 36 P P 09 55 48.6 +0.8
baz=235,SNR=6.2
PV01 Paradox Valley 87.45 48 P P 09 55 49.4 +0.7
L26K Log Cabin Wild 87.48 15 P P 09 55 48.1 +0.1
L26K Log Cabin Wild 87.48 15 P P 09 55 48.8 +0.8
baz=212,SNR=10
ANMO Albuquerque 87.49 51 P P 09 55 49.7 +0.8
ANMO IAmb IAmb 09 55 51.4
comp=Z,14nm,1.3s
ANMO Albuquerque 87.49 51 P P 09 55 50.5 +1.6
baz=243
I21K Tanana 87.57 11 P P 09 55 48.2 0.0
I21K Tanana 87.57 11 P P 09 55 48.5 +0.2
baz=204,SNR=22
NEA2 Nenana 87.58 12 P P 09 55 47.9 -0.4
NEA2 IAmb IAmb 09 55 48.9
comp=Z,9.5nm,0.6s
NEA2 Nenana 87.58 12 P P 09 55 47.6 -0.7
baz=207,SNR=18
BVCY Beaver Creek 87.61 16 P P 09 55 49.8 +1.2
baz=215,SNR=5.7
MLY Manley 87.66 11 P P 09 55 48.6 -0.1
MLY IAmb IAmb 09 55 48.9
comp=Z,33nm,1.3s
MLY Manley 87.66 11 P P 09 55 48.3 -0.4
baz=206,SNR=37
WRH Wood River Hil 87.67 13 P P 09 55 48.9 +0.1
RIDG Independent Ri 87.74 14 P P 09 55 49.6 +0.4
baz=211,SNR=9.4
XAN Xi'an 87.80 307 P P 09 55 51.4 +1.2
XAN pP PcP 09 56 04.2 +13
XAN pmax pmax
comp=Z,24nm,1.3s
DOT Dot Lake 87.84 15 P P 09 55 50.0 +0.3
DOT IAmb IAmb 09 55 50.9
comp=Z,27nm,1.2s
HDA Harding Lake 87.85 13 P P 09 55 49.8 +0.2
HDA Harding Lake 87.85 13 P P 09 55 49.8 +0.2
baz=209,SNR=32
CCB Clear Creek Bu 87.88 13 P P 09 55 49.5 -0.3
L27K Beaver Creek, 87.89 16 P P 09 55 50.4 +0.4
L27K IAmb IAmb 09 55 51.6
comp=Z,18nm,1.2s
L27K Beaver Creek, 87.89 16 P P 09 55 50.3 +0.4
baz=214,SNR=14
RDMU Red Mountain 87.94 45 P P 09 55 51.6 +0.7
WHY Whitehorse 87.96 20 P P 09 55 51.1 +0.8
WHY IAmb IAmb 09 55 52.3
comp=Z,16nm,0.9s
WHY Whitehorse 87.96 20 P P 09 55 51.3 +0.9
baz=220,SNR=5.1
DLBC Dease Lake 87.98 23 P P 09 55 51.6 +1.1
DLBC IAmb IAmb 09 55 52.9
comp=Z,16nm,1.1s
MCMT McKenzie Canyo 87.98 40 P P 09 55 52.6 +1.6
IMAR Indian Mountai 88.01 10 P P 09 55 50.5 +0.1
AHID Auburn Hatcher 88.02 43 P P 09 55 52.2 +1.0
AHID IAmb IAmb 09 55 53.8

comp=Z,13nm,1.0s
I23K Minto, Yukon-K 88.02 12 P P 09 55 50.0 -0.3
I23K IAmb IAmb 09 55 51.0
comp=Z,11nm,0.6s
I23K Minto, Yukon-K 88.02 12 P P 09 55 50.0 -0.3
baz=207,SNR=14
PHIT Phitsanulok 88.02 289 P P 09 55 54.9 +3.4
comp=Z,30nm,1.1s
TCOL CIGO, UAF Yank 88.07 12 P P 09 55 50.7 +0.1
TCOL CIGO, UAF Yank 88.07 12 P P 09 55 50.5 -0.1
baz=208,SNR=13
MDM Murphy Dome 88.07 12 P P 09 55 50.2 -0.4
COLA College 88.07 12 P P 09 55 50.7 +0.1
COLA College 88.07 12 P P 09 55 50.3 -0.3
baz=208
SCRK Sand Creek 88.14 14 P P 09 55 51.8 +0.7
SCRK IAmb IAmb 09 55 53.7
comp=Z,9.9nm,0.9s
SCRK Sand Creek 88.14 14 P P 09 55 51.2 0.0
baz=212,SNR=14
IL31 88.18 13 P P 09 55 51.2 +0.1
ILAR Eielson Array 88.18 13 P P 09 55 50.9 -0.2
comp=Z,8.0nm,0.4s,baz=214,slow=5.3,SNR=174
ILAR PKiKP **PKiKP 10 00 47.5 -0.7**
comp=Z,0.2nm,0.5s,baz=270,slow=2.9,SNR=4.9
ILAR Eielson Array 88.18 13 P P 09 55 51.4 +0.2
SNAA Sanae 88.21 179 P P 09 55 51.1 -0.3
SNAA Sanae 88.21 179 P P 09 55 52.1 +0.6
VNA3 Neumayer Olymp 88.36 176 P P 09 55 51.9 -0.1
J25K Salcha River, 88.37 14 P P 09 55 52.1 -0.1
baz=211,SNR=22
POKR Poker Plat Res 88.37 13 P P 09 55 52.3 +0.2
POKR Poker Plat Res 88.37 13 P P 09 55 51.6 -0.4
baz=209
MSO Missoula 88.38 38 P P 09 55 52.9 +0.2
MSO Missoula 88.38 38 P P 09 55 53.5 +0.9
baz=238
DLMT Dillon 88.41 40 P P 09 55 54.2 +1.3
DLMT IAmb IAmb 09 55 55.6
comp=Z,28nm,1.4s
REDW Red Top Meadow 88.47 42 P P 09 55 54.7 +1.3
TPAW Teton Pass 88.47 42 P P 09 55 54.3 +0.9
TPAW IAmb IAmb 09 55 55.0
comp=Z,21nm,1.3s
S22A 4UR Ranch, Cre 88.49 49 P P 09 55 55.3 +1.6
baz=243,SNR=9.4
FXWY Fox Creek 88.50 42 P P 09 55 54.0 +0.5
FXWY IAmb IAmb 09 55 56.9
comp=Z,12nm,1.1s
SNOW Snow King Moun 88.58 42 P P 09 55 55.0 +1.1
H23K Yukon River 88.59 11 P P 09 55 53.0 0.0
H23K Yukon River 88.59 11 P P 09 55 52.8 -0.3
baz=207,SNR=7.3
O20A White River Ci 88.62 46 P P 09 55 54.1 +0.1
O20A IAmb IAmb 09 55 56.4
comp=Z,26nm,1.4s
O20A White River Ci 88.62 46 P P 09 55 55.5 +1.4
baz=242,SNR=7.1
K27K Chicken 88.64 15 P P 09 55 54.2 +0.9
K27K IAmb IAmb 09 55 55.4
comp=Z,21nm,1.0s
K27K Chicken 88.64 15 P P 09 55 54.2 +0.9
baz=214
IMW Indian Meadow 88.68 42 P P 09 55 55.5 +1.1
IMW IAmb IAmb 09 55 57.1
comp=Z,21nm,1.1s
J26K Charley River, 88.68 14 P P 09 55 54.4 +0.8
baz=212,SNR=24
MOOW Moose Ponds 88.73 42 P P 09 55 55.3 +0.8
LRM Limekiln Ridge 88.73 40 P P 09 55 55.5 +1.0
LOHW Long Hollow 88.75 42 P P 09 55 54.7 +0.1
LOHW IAmb IAmb 09 55 57.1
comp=Z,22nm,1.5s
VNA2 Neumayer--Watz 88.79 177 P P 09 55 54.4 +0.3
baz=199,slow=3.6
VNA2 ScS **S 10 05 55.1 +2.9**
QLMT Earthquake Lak 88.85 41 P P 09 55 56.6 +1.6
H24K Noodor Dome 88.92 12 P P 09 55 54.2 -0.4
FLWY Flagg Ranch 88.93 42 P P 09 55 57.0 +1.6
FLWY IAmb IAmb 09 55 58.4
comp=Z,21nm,1.1s
BW06 Boulder Array 89.00 43 P P 09 55 56.6 +0.8
BW06 IAmb IAmb 09 55 57.6
comp=Z,17nm,1.2s
BW06 Boulder Array 89.00 43 P P 09 55 56.7 +0.8
baz=241
PD31 Pinedale Array 89.00 43 P P 09 55 56.5 +0.7
PD31 IAmb IAmb 09 55 57.6
comp=Z,14nm,1.2s
PDAR Pinedale Array 89.00 43 P P 09 55 56.5 +0.7
comp=Z,5.5nm,0.8s,baz=205,slow=3.1,SNR=44
PDAR Pinedale Array 89.00 43 P P 09 55 56.3 +0.5
HHC Hu-ho-hao-te 89.02 314 *eP* **P 09 55 57.2 +1.4**
HHC pmax pmax
comp=Z,12nm,1.1s
HHC pmax pmax
comp=Z,52nm,6.6s
VNA1 Neumayer--Stat 89.02 177 P P 09 55 55.4 +0.3
SMCO Snowmass 89.04 47 P P 09 55 57.4 +1.1
SMCO IAmb IAmb 09 55 58.7
comp=Z,13nm,1.4s
YMR Madison River 89.05 41 P P 09 55 57.8 +1.8
YMR IAmb IAmb 09 55 59.2
comp=Z,24nm,1.3s
BOZ Bozeman (W) 89.11 40 P P 09 55 57.1 +0.9
BOZ IAmb IAmb 09 55 58.8
comp=Z,16nm,1.1s
BOZ Bozeman (W) 89.11 40 P P 09 55 57.7 +1.5
baz=239,SNR=18
PRP Porcupine Dome 89.12 13 P P 09 55 55.6 -0.1
PRP IAmb IAmb 09 55 57.3
comp=Z,12nm,0.9s
PRP Porcupine Dome 89.12 13 P P 09 55 55.6 -0.1
baz=210,SNR=8.9
H17A Grant Village 89.16 42 P P 09 55 57.2 +0.7
H17A IAmb IAmb 09 56 00.2
comp=Z,11nm,0.9s
H17A Grant Village 89.16 42 P P 09 55 59.5 +2.9
baz=240,SNR=7.2
YHH Holmes Hill 89.18 41 P P 09 55 58.0 +1.3
YHH IAmb IAmb 09 56 00.8
comp=Z,23nm,1.5s
LAMP Lampang 89.21 290 P P 09 56 00.1 +3.1
comp=Z,22nm,1.0s
YNR Norris Junctio 89.25 41 P P 09 55 57.7 +0.7
YNR IAmb IAmb 09 56 01.5
comp=Z,14nm,1.4s
DAWY Dawson 89.34 16 P P 09 55 56.6 -0.1
DAWY Dawson 89.34 16 P P 09 55 57.1 +0.5
baz=216,SNR=22
SDCO Great Sand Dun 89.43 49 P P 09 55 58.8 +0.8
SDCO Great Sand Dun 89.43 49 P P 09 55 58.8 +0.8
baz=244,SNR=7.1
EGAK Eagle 89.48 15 P P 09 55 57.6 +0.4
EGAK Eagle 89.48 15 P P 09 55 57.6 +0.4
baz=214,SNR=26
LC01 Cunco 89.50 132 P P 09 55 58.7 +0.7
LC01 IAmb IAmb 09 56 03.0
comp=Z,25nm,1.4s
HRY Holter Researc 89.56 39 P P 09 55 59.1 +0.9
PLCA Paso Flores 89.61 134 P P 09 56 00.7 +2.1
comp=Z,2.7nm,0.8s,baz=219,slow=8.1,SNR=5.1
FARO Faro, Yukon 89.63 19 P P 09 55 58.5 +0.5
baz=221
COLD Coldfoot 89.73 11 P P 09 55 59.0 +0.7
COLD IAmb IAmb 09 56 00.1
comp=Z,17nm,1.0s
COLD Coldfoot 89.73 11 P P 09 55 59.0 +0.7
baz=206
CM04 Chiang Mai Arr 89.74 290 P P 09 56 02.3 +2.8
comp=Z,143nmcomp=Z,14nm,1.1s
CM09 Chiang Mai Arr 89.75 290 P P 09 56 02.6 +3.1
comp=Z,12nm,1.1s
CM01 Chiang Mai Arr 89.77 290 P P 09 56 02.6 +3.0
comp=Z,111nmcomp=Z,12nm,1.2s
CM05 Chiang Mai Arr 89.77 290 P P 09 56 02.4 +2.8
comp=Z,96nmcomp=Z,8.5nm,1.1s
CM02 Chiang Mai Arr 89.78 290 P P 09 56 02.6 +2.9
comp=Z,88nmcomp=Z,10.0nm,1.1s
CMAR Chiang Mai Arr 89.79 290 P P 09 56 01.7 +2.0
comp=Z,6.9nm,1.0s,baz=120,slow=2.9,SNR=31
CMAR Chiang Mai Arr 89.79 290 P P 09 56 00.7 +1.0
CM15 Chiang Mai Arr 89.81 290 P P 09 56 02.6 +2.8
comp=Z,10nm,1.1s
CM13 Chiang Mai Arr 89.81 290 P P 09 56 02.7 +2.9
comp=Z,8.5nm,1.1s

YNE Yellowstone No 89.81 41 P P 09 56 00.8 +1.3
YNE IAmb IAmb 09 56 02.4
comp=Z,15nm,1.2s
MSTX Muleshoe 89.81 54 P P 09 56 00.2 +0.6
MSTX IAmb IAmb 09 56 01.6
comp=Z,19nm,1.3s
MSTX Muleshoe 89.81 54 P P 09 56 00.4 +0.8
baz=245
CMMT Chiang Mai 89.92 290 P P 09 56 02.0 +1.7
comp=Z,15nm,1.0s
CHTO Chiang Mai 89.92 290 P P 09 56 02.2 +1.9
comp=Z,15nm,1.0s
CHTO Chiang Mai 89.92 290 P P 09 56 01.3 +1.0
CHTO Chiang Mai 89.92 290 P P 09 56 01.8 +1.5
MAYO Mayo, Yukon 89.92 18 P P 09 56 00.7 +1.4
baz=219,SNR=11
T25A Trinidad 89.95 50 P P 09 56 01.4 +1.1
T25A Trinidad 89.95 50 P P 09 56 01.8 +1.5
baz=244
RWWY Rawlins 90.03 45 P P 09 56 00.9 +0.2
RWWY IAmb IAmb 09 56 02.6
comp=Z,21nm,1.2s
ISCO Idaho Springs 90.26 47 P P 09 56 02.5 +0.7
RLMT Red Lodge 90.33 41 P P 09 56 03.1 +1.2
RLMT Red Lodge 90.33 41 P P 09 56 03.7 +1.8
baz=241
N23A Red Feather La 90.52 46 P P 09 56 05.0 +2.0
baz=243,SNR=6.3
MMPY Sheldon Lake, 90.58 20 P P 09 56 03.1 +0.7
baz=223,SNR=8.0
TGTN Hyland Airport 90.78 22 P P 09 56 04.7 +1.3
baz=226
K22A Casper 90.93 44 P P 09 56 05.5 +0.8
K22A IAmb IAmb 09 56 06.7
comp=Z,17nm,1.4s
K22A Casper 90.93 44 P P 09 56 05.9 +1.2
baz=243
BMAR Burnt Mountain 90.96 12 P P 09 56 04.6 +0.6
PHWY Pilot Hill 91.03 46 P P 09 56 06.2 +0.9
PHWY IAmb IAmb 09 56 07.2
comp=Z,5.8nm,0.9s
TOLK Toolik Lake Re 91.11 10 P P 09 56 05.2 +0.5
TOLK IAmb IAmb 09 56 06.2
comp=Z,20nm,1.4s
TOLK Toolik Lake Re 91.11 10 P P 09 56 05.0 +0.3
baz=207
ABTX Abilene, Hawle 91.67 56 P P 09 56 08.4 +0.3
ABTX IAmb IAmb 09 56 10.8
comp=Z,14nm,1.2s
ABTX Abilene, Hawle 91.67 56 P P 09 56 09.1 +1.0
baz=247
EPYK Eagle Plains 91.87 16 P P 09 56 08.4 +0.2
EPYK Eagle Plains 91.87 16 P P 09 56 08.4 +0.2
baz=218,SNR=8.0
KSCO Kaye Shedlock' 92.01 49 P P 09 56 10.6 +0.9
KSCO Kaye Shedlock' 92.01 49 P P 09 56 11.2 +1.5
baz=245
EDM Edmonton 92.09 33 P P 09 56 09.2 -0.4
EDM IAmb IAmb 09 56 10.9
comp=Z,16nm,1.2s
LAO LASA Array 92.94 41 P P 09 56 13.8 +0.2
LAO IAmb IAmb 09 56 15.9
comp=Z,7.5nm,0.8s
LAO LASA Array 92.94 41 P P 09 56 15.4 +1.7
baz=243
RSSD Black Hills 93.20 44 P P 09 56 15.6 +0.5
INK Inuvik 94.15 15 P P 09 56 17.9 -0.6
comp=Z,7.8nm,1.1s,baz=179,slow=5.2,SNR=6.0
INK Inuvik 94.15 15 P P 09 56 18.4 -0.1
INK IAmb IAmb 09 56 18.9
comp=Z,6.0nm,0.9s
INK Inuvik 94.15 15 P P 09 56 18.4 -0.1
baz=221
R32A Long Quarter, 94.59 51 P P 09 56 21.9 +0.6
R32A IAmb IAmb 09 56 24.1
comp=Z,11nm,0.9s
DGMT Dagmar 94.95 40 P P 09 56 24.2 +1.5
baz=245
SONM Songino Array 95.43 319 P P 09 56 24.8 -0.2
comp=Z,1.0nm,0.6s,baz=129,slow=2.9,SNR=6.5
ZALV Zalesovo Beam 110.17 321 PKiKP PKiKP 10 01 26.8 -1.0
comp=Z,1.1nm,0.4s,baz=356,slow=0.9,SNR=5.5
MKAR Makanchi Array 110.86 314 Pdiff Pdif 09 57 37.6 +4.0
comp=Z,0.3nm,0.5s,baz=84,slow=6.9,SNR=4.0
MKAR PKiKP **PKiKP 10 01 28.7 -0.8**
comp=Z,1.4nm,0.4s,baz=201,slow=0.9,SNR=27
BRVK Borovoye 118.81 320 PKPdf 10 01 44.1 -0.3
GAR Garm 118.88 304 PKiKP 10 01 45.4 +0.1
KK31 Karatay Array 118.91 309 PKPdf PKPdf 10 01 44.4 -0.7
KKAR Karatay Array 118.91 309 PKPdf 10 01 44.4 -0.6
KKAR Karatay Array 118.91 309 PKPdf 10 01 44.4 -0.6
KBL Kabul 119.56 299 PKPdf 10 01 46.3 -0.5
CHGR Chuyangaron 119.76 304 PKPdf 10 01 46.9 0.0
KBS Kingsbay 121.13 358 PKiKP 10 01 48.6 +0.2
SPA0 Spitsbergen Ar 121.65 356 *e*PKPdf **PKiKP 10 01 49.5 0.0**
HOPEN Hopen 122.53 354 *e*PKPdf **PKiKP 10 01 51.4 +0.2**
ARU Arti 124.89 325 PKPdf PKPdf 10 01 55.9 -0.2
ABKAR Akbulak array 125.76 317 PKPdf PKPdf 10 01 57.9 0.0
ABKAR Akbulak array 125.76 317 PKPdf 10 01 58.1 +0.2
BOSA Boshof 126.31 206 PKP PKiKP 10 02 00.9 +0.5
comp=Z,3.2nm,0.8s,baz=181,slow=1.3,SNR=5.1
BOSA Boshof 126.31 206 PKPdf 10 01 59.9 0.0
HAMF Hammerfest 127.98 351 *e*PKPdf **PKPdf 10 02 01.4 -0.1**
GEYT Alibeck 128.45 303 PKP PKiKP 10 02 04.5 +0.3
comp=Z,157nm,0.9s,baz=198,slow=9.3,SNR=3.6
ARA0 ARCESS Array S 128.68 350 *e*PKPdf **PKiKP 10 02 03.3 -0.3**
ARCES ARCESS Array B 128.68 350 PKiKP PKPpre 10 01 50.9
comp=Z,1.6nm,0.8s,baz=342,slow=1.5,SNR=5.6
ARCES PKP **PKPdf 10 02 03.0 0.0**
comp=Z,2.6nm,0.4s,baz=58,slow=1.0,SNR=41
ARCES ARCESS Array B 128.68 350 PKPdf 10 02 03.2 +0.2
JETT Jettan, Norway 129.44 352 *e*PKPdf **PKiKP 10 02 05.6 +0.3**
KTK1 Kautokeino 129.52 350 *e*PKPdf **PKPdf 10 02 04.4 -0.1**
TRO Tromso 129.57 352 *e*PKPdf **PKPdf 10 02 04.7 +0.2**
KLMR Klimovskoe 131.59 336 *e*PKPdf **PKPdf 10 02 05.7 -2.9**
KLMR AMP 10 02 09.4
comp=Z,18nm,1.7s
LOF Lofoten 131.60 354 *e*PKPdf **PKPdf 10 02 08.6 +0.1**
FAUS Fauske 132.14 353 *e*PKPdf **PKPdf 10 02 09.9 +0.5**
NSS Namsos 135.27 354 *e*PKPdf **PKiKP 10 02 16.3 -0.8**
FINES FINESS Array B 135.51 344 PKiKP PKPpre 10 02 03.1
comp=Z,0.6nm,0.5s,baz=19,slow=8.1,SNR=7.1
FINES PKP **PKPdf 10 02 14.8 -1.2**
comp=Z,2.0nm,0.4s,baz=90,slow=2.2,SNR=11
FINES SKPbc **SKPbc 10 04 53.9 +1.1**
comp=Z,3.1nm,0.8s,baz=46,slow=4.1,SNR=6.8
FINES FINESS Array B 135.51 344 PKPdf PKPdf 10 02 16.5 +0.5
NB2 NORSAR Subarra 138.75 353 PKP PKPpre 10 02 12.4
comp=Z,0.5nm,0.4s,baz=10,slow=3.2
NOA NORSAR Array B 138.75 353 PKiKP PKPpre 10 02 12.8
comp=Z,0.3nm,0.5s,baz=309,slow=25,SNR=14
NOA PKP **PKiKP 10 02 23.4 -1.0**
comp=Z,0.5nm,0.4s,baz=30,slow=1.4,SNR=6.4
NOA SKPbc **SKPbc 10 05 03.2 +1.0**
comp=Z,2.6nm,0.8s,baz=17,slow=4.4,SNR=4.7
NC602 NORSAR Array S 139.01 353 *e*PKPdf PKPpre 10 02 16.4
KMBO Kilima Mbogo 139.19 243 PKiKP PKPpre 10 02 17.8
comp=Z,0.8nm,0.3s,baz=45,slow=2.7,SNR=3.5
SKAR Skarslia 139.39 355 *e*PKPdf **PKPdf 10 02 22.8 -0.4**
OSL Oslo 139.89 353 *e*PKPdf **PKPdf 10 02 23.4 -0.6**
KONO Kongsberg 140.29 354 *e*PKPdf **PKPdf 10 02 23.4 -1.4**
STRU Stromstad 140.71 352 *i* P PKPpre 10 02 19.7
BLS5 Blasjo 140.77 356 *e*PKPdf **PKPdf 10 02 22.4 -3.3**
GURO Guroymak-BITLI 140.82 307 PKPdf 10 02 26.6 0.0
HOMB Homborsund 141.76 354 *i* P **PKPdf 10 02 23.0 -4.4**
HOMB *i* P **PKiKP 10 02 23.5 -7.0**
HOMB IAmb IAmb 10 02 24.4
comp=Z,3.5nm,0.4s
SNART Snartemo 141.80 355 *i* P **PKPdf 10 02 23.2 -4.3**
SNART IAmb IAmb 10 02 24.4
comp=Z,2.7nm,0.4s
SNART Snartemo 141.80 355 *e*PKPdf **PKPdf 10 02 23.6 -3.9**
BORU Boraas 141.84 350 *i* P **PKPdf 10 02 23.2 -4.4**
ONAU Onsala 142.20 351 *i* P **PKPdf 10 02 24.2 -4.0**
FABU Fallenberg 142.45 350 *i* P **PKPdf 10 02 25.4 -3.3**
KAC Achmashellach 142.49 6 *e*P **PKPdf 10 02 25.9 -2.8**
BLEU Blekinge 142.54 347 *i* P **PKPdf 10 02 25.3 -3.5**
MCD Coleburn Disti 142.59 4 *e*P **PKPdf 10 02 25.7 -3.3**
KPL Plockton 142.62 7 *e*P **PKPdf 10 02 26.1 -2.8**
MDO Dochfour 142.64 5 *e*P **PKPdf 10 02 26.3 -2.8**
AKASG Malin Array Be 142.71 331 PKiKP PKPpre 10 02 26.2
comp=Z,27nm,0.5s,baz=44,slow=4.2,SNR=167
AKASG SKPbc **SKiKP 10 05 14.2 +0.4**
comp=Z,2.8nm,0.7s,baz=52,slow=2.8,SNR=12
DEL Delary 142.76 349 *i* P **PKPdf 10 02 26.0 -3.3**

DEL *i* P **PKiKP 10 02 26.4 -6.2**
DEL IAmb IAmb 10 02 27.6
comp=Z,9.3nm,0.4s
GOET G??ttrup 142.90 353 *i* P **PKPdf 10 02 29.8 +0.3**
GOET IAmb IAmb 10 02 30.2
comp=Z,30nm,0.4s
LODK Lodwar 143.17 247 PKPbc 10 02 30.0 +0.2
SHEL Horse Pasture 143.23 168 PKPbc 10 02 30.0 +0.1
BJUU Bjuv 143.29 349 *i* P PKPab 10 02 28.4 -0.1
DRUM Mains of Drumt 143.31 4 *eP* PKPab 10 02 28.4 -0.1
MUD Monsted U'grnd 143.47 353 *i* P PKPab 10 02 28.0 -1.2
MUD *i* P PKPbc 10 02 29.6 +0.3
MUD IAmb IAmb 10 02 30.3
comp=Z,14nm,0.4s
INVG Invergeldie, C 143.67 5 *e*P PKPab 10 02 30.0 0.0
COP Copenhagen 143.76 350 *i* P PKPbc 10 02 30.2 0.0
COP IAmb IAmb 10 02 31.0
comp=Z,173nm,0.4s
BSD Bornholm Skovb 143.84 347 *i* P PKPbc 10 02 30.0 -0.5
BSD *i* P PKPab 10 02 30.6 0.0
BSD IAmb IAmb 10 02 31.3
comp=Z,12nm,0.4s
EBL Broad Law 144.40 5 *e*P **PKPdf 10 02 32.1 0.0**
SNOP Sinop 144.42 315 PKPbc 10 02 32.8 0.0
DIKM Dikmen 144.55 314 ⇓P **PKPdf 10 02 32.3 -0.6**
MBAR Mbarara 144.79 237 PKPab 10 02 35.4 -0.3
GAZ Gaziantep 144.88 306 PKPdf **PKPdf 10 02 34.0 +0.3**
SORM Soroca 144.90 329 ⇑P PKPbc 10 02 33.9 -0.1
BEL Belsk 145.18 339 *e*PKPbc **PKPab 10 02 35.3 -0.6**
BZK Bozkurt 145.24 316 PKPbc 10 02 35.4 +0.2
BNN Bunyan 145.30 310 PKPbc 10 02 35.7 0.0
MILM Milestii Mici 145.48 327 ⇑P **PKPbc 10 02 35.4 -0.3**
IOMK Kirk Michael 145.76 7 *e*P **PKPbc 10 02 36.1 -0.1**
BSEG Bad Segeberg 145.78 351 *e*PKPbc **PKPbc 10 02 37.1 +0.7**
baz=15,slow=2.5
WIM Isle of Man 145.86 7 *e*P **PKPbc 10 02 36.6 0.0**
VASR Vaslui 146.19 327 ⇓P **PKPbc 10 02 38.0 +0.3**
ASF Labal al Asfar 146.44 299 PKPbc **PKPbc 10 02 39.1 +0.1**
comp=Z,7.0nm,0.6s,baz=314,slow=1.1,SNR=12
BR131 Keskin Array S 146.51 312 PKPbc 10 02 37.9 -1.1
BRTR Keskin Array B 146.51 312 PKPbc **PKPbc 10 02 38.6 -0.4**
comp=Z,4.9nm,0.4s,baz=135,slow=3.4,SNR=44
BRTR Keskin Array B 146.51 312 PKPdf **PKPdf 10 02 35.9 -0.5**
RUE Ruedersdorf 146.54 347 *e*PKPbc **PKPbc 10 02 39.2 +0.7**
baz=15,slow=2.5
TLCR 146.59 324 ⇓P **PKPbc 10 02 39.1 +0.3**
WME Myndd Eilian 146.64 7 *e*P **PKPbc 10 02 38.6 -0.1**
WLF1 Llynfaes 146.74 7 *e*P **PKPbc 10 02 38.8 -0.1**
BUR08 Bucovina Ar. S 146.74 331 PKPbc 10 02 39.4 0.0
YRC Rhoscolyn 146.75 7 *e*P **PKPbc 10 02 38.7 -0.3**
BURAR Bucovina Array 146.76 331 ⇓P **PKPbc 10 02 39.9 +0.6**
BURAR Bucovina Array 146.76 331 PKPdf **PKPdf 10 02 36.4 -0.1**
BIZ Bicaz 146.82 329 ⇑P **PKPbc 10 02 40.1 +0.7**
TESR Tescani 146.85 328 ⇑P **PKPbc 10 02 39.3 -0.2**
LBWR Ladybower, Pea 146.85 4 *e*P **PKPbc 10 02 39.4 0.0**
OJC Ojcow 146.88 339 *e*PKPbc **PKPbc 10 02 39.7 +0.2**
OJC Ojcow 146.88 339 PKPbc 10 02 38.9 -0.6
CFR Carcaliu 146.97 325 ⇑P **PKPbc 10 02 40.4 +0.5**
TPGR Topolog 147.02 324 ⇓P **PKiKP 10 02 41.2 -0.6**
KOLS Kolonicke sedl 147.02 335 *e*PKP **PKiKP 10 02 41.1 -0.6**
ANTO Ankara 147.03 313 PKPbc 10 02 40.5 +0.2
STHS Stebnicka Huta 147.03 336 *e*PKP **PKPbc 10 02 39.9 0.0**
STHS *e* 10 02 44.3
FLTG Flechtingen 147.18 349 *e*PKPbc **PKPbc 10 02 40.4 +0.2**
baz=15,slow=2.5
NRDL Niedersach Rie 147.21 351 *e*PKPbc **PKPbc 10 02 40.5 +0.3**
baz=15,slow=2.5
FOEL Foel Wylfa 147.25 6 *e*P **PKPbc 10 02 40.4 0.0**
VRI Vrincioaia 147.25 327 ⇑P **PKPbc 10 02 40.8 +0.2**
CRVS Cervenica-Dubn 147.36 336 *e*PKP **PKPbc 10 02 41.4 +0.6**
NIE Niedzica 147.37 337 *e*PKPbc **PKiKP 10 02 42.5 0.0**
HARR Harsova 147.39 324 ⇓P **PKPbc 10 02 41.6 +0.6**
KSP Ksiaz 147.42 343 *e*PKPbc **PKPbc 10 02 41.4 +0.5**
ASSE Asse, Remlinge 147.47 350 *e*PKPbc **PKPbc 10 02 41.5 +0.7**
baz=15,slow=2.5
CWF Charnwood Fore 147.54 3 *e*P **PKPbc 10 02 40.8 -0.3**
TRPA Tarpa 147.54 334 *e*P **PKPdf 10 02 37.1 -0.6**
MANR Mangalia 147.57 322 ⇑P **PKPbc 10 02 42.1 +0.6**
HLM1 Long Mynd 147.65 5 *e*P **PKPbc 10 02 40.9 -0.5**
OSTC Ostas 147.70 343 ⇑*e*PKP **PKPbc 10 02 42.3 +0.7**
IBBN Ibbenbueren 147.71 353 *e*PKPbc **PKPbc 10 02 42.0 +0.5**
baz=15,slow=2.5
GHAJ Ghor Haditha 147.73 297 PKPbc 10 02 41.9 -0.4
CLZ Clausthal 147.80 350 *e*PKPbc **PKPbc 10 02 42.2 +0.3**
baz=15,slow=2.5
UPC Upice 147.80 343 ⇑*e*PKP **PKPbc 10 02 42.2 +0.3**
CLL Collm 147.81 347 *e*PKPdf **PKPdf 10 02 38.0 0.0**
CLL *i* PKPbc **PKPbc 10 02 42.3 +0.5**
comp=Z,42nm,0.5s
CLL *i* PKPab **PKPab 10 02 46.1 -0.3**
comp=Z,22nm,0.6s
CLL *e*pPKPab **pPKPbc 10 04 56.0 -0.1**
CLL Collm 147.81 347 PKPbc 10 02 41.5 -0.3
MDUB Mudurnu 147.81 315 PKPbc 10 02 42.2 -0.1
DPC Dobruska-Polom 147.86 342 ⇑*e*PKP **PKPbc 10 02 42.4 +0.3**
DOPR Dopca 147.86 328 ⇑P **PKPbc 10 02 42.8 +0.6**
LANS Liptovska Anna 147.90 338 *e*PKP **PKiKP 10 02 43.4 -0.1**
LANS *e* 10 02 48.4
MLR Muntele Rosu 147.91 327 ⇓P **PKPbc 10 02 42.3 -0.2**
MLR Muntele Rosu 147.91 327 PKPbc 10 02 42.0 -0.5
MORC Moravsky Berou 148.00 341 ⇑P **PKiKP 10 02 43.3 -0.5**
MORC Moravsky Berou 148.00 341 PKPbc 10 02 43.0 +0.5
MORC Moravsky Berou 148.00 341 *e*PKP **PKPbc 10 02 42.4 0.0**
BRG Berggiesshubel 148.00 345 *e*PKPbc **PKPbc 10 02 43.0 -0.6**
baz=15,slow=2.5
BRG Berggiesshubel 148.00 345 *i* PKP **PKiKP 10 02 43.1 -0.6**
BRG Amp 10 02 44.2
comp=Z,23nm,0.6s
BRG Berggiesshubel 148.00 345 P **PKPab 10 02 47.8 +0.5**
BRG Amp 10 02 48.9
comp=Z,16nm,0.7s
FBE Freiberg 148.09 346 *e*PKPbc **PKPbc 10 02 43.0 +0.4**
baz=15,slow=2.5
MCH1 Michaelchurch 148.15 6 *e*P **PKPbc 10 02 42.0 -0.7**
GTTG Gottingen 148.15 350 *e*PKPbc **PKPbc 10 02 42.9 +0.2**
baz=15,slow=2.5
NEUB Neuenburg 148.16 348 *e*PKPbc **PKPbc 10 02 42.8 +0.1**
baz=15,slow=2.5
VOIR 148.40 328 ⇑P **PKPbc 10 02 44.1 +0.4**
DRGR 148.51 332 ⇑P **PKPbc 10 02 44.4 +0.5**
CSS Mathiatis 148.57 304 PKPbc 10 02 42.6 -1.7
BUG Bochum--Univer 148.62 353 *e*PKPbc **PKPbc 10 02 44.2 +0.4**
baz=15,slow=2.5
ARR Arges 148.66 328 ⇑P **PKPdf 10 02 40.4 +0.7**
PRU Pruhonice 148.67 344 ⇑*e*PKP **PKPbc 10 02 44.3 +0.3**
PRU *e*PKPAB **PKPab 10 02 50.5 +0.5**
VYHS Vyhne 148.68 338 *e*PKP **PKiKP 10 02 45.0 -0.1**
VYHS *e* 10 02 51.0
VRAC Vranov 148.71 341 ⇑P **PKiKP 10 02 45.0 -0.2**
VRAC Vranov 148.71 341 *e*PKP **PKiKP 10 02 44.7 -0.5**
VRAC *e* 10 02 51.1
KASTN Kahler Asten 148.71 352 *e*PKPbc **PKPbc 10 02 44.2 +0.1**
baz=15,slow=2.5
MOX Moxa 148.72 348 *e*PKPbc **PKiKP 10 02 44.7 -0.5**
baz=15,slow=2.5
JAVC Velka Javorina 148.76 340 *e*PKP **PKiKP 10 02 45.5 +0.1**
PLN Plauen 148.76 347 *e*PKPbc **PKPbc 10 02 44.5 +0.3**
baz=15,slow=2.5
TANN Tannenbergstha 148.77 347 *e*PKPbc **PKPbc 10 02 44.7 +0.3**
baz=15,slow=2.5
PSZ Piszkesteto 148.77 336 ⇓P **PKiKP 10 02 45.6 +0.1**
PSZ Piszkesteto 148.77 336 *e*P **PKPbc 10 02 44.2 -0.3**
PSZ Piszkesteto 148.77 336 PKPbc 10 02 44.2 -0.3
WERD Werda 148.77 347 *e*PKPbc **PKPbc 10 02 44.7 +0.4**
baz=15,slow=2.5
GUNZ Gunzen 148.84 347 *e*PKPbc **PKiKP 10 02 45.1 -0.3**
baz=15,slow=2.5
UBBA Unterbreizbach 148.85 350 *e*PKPbc **PKPbc 10 02 44.7 +0.4**
baz=15,slow=2.5
LEF Lefka 148.85 305 ⇑P **PKPbc 10 02 44.9 -0.1**
WERN Wernitzgruen 148.91 347 *e*PKPbc **PKPbc 10 02 45.0 +0.3**
baz=15,slow=2.5
NKC Novy Kostel 148.94 347 ⇑*e*PKP **PKiKP 10 02 45.4 -0.2**
NKC *e*PKPAB **PKPab 10 02 51.3 +0.1**
KRUC Moravsky 148.99 341 *e*PKP **PKPbc 10 02 44.8 0.0**
KRUC *e* 10 02 52.0
SMOL Smolenice 149.14 339 *e*PKP **PKiKP 10 02 46.3 +0.2**
SMOL *e* 10 02 53.2
MANZ Manzenberg 149.25 347 *e*PKPbc **PKiKP 10 02 45.9 -0.3**
baz=15,slow=2.5
SIRR Siria 149.37 332 ⇑P **PKiKP 10 02 46.6 0.0**
ROTZ Rotzenmuhle 149.43 347 *e*PKPbc **PKiKP 10 02 46.4 -0.2**
baz=15,slow=2.5

UCC	Uccle	149.50	357	dPKPbc	PKPbc	10 02 45.9	0.0
UCC				dPKPab	PKPab	10 02 52.7	-0.7
AHRW	Bad Neuenahr-A	149.53	353	ePKPbc	PKiKP	10 02 46.6	-0.1
	baz=15,slow=2.5						
ISP	Isparta	149.53	311		PKPbc	10 02 45.2	-1.5
GZR	Gura Zlata	149.53	330	⇑P	PKPbc	10 02 45.6	-0.8
MEM	Membach	149.57	355	dPKPdf	PKPdf	10 02 41.5	+0.6
MEM				dPKPbc	PKPbc	10 02 46.2	+0.1
MEM				dPKPab	PKPab	10 02 54.1	+0.4
BTNL	Ternell	149.58	354	dPKPbc	PKPbc	10 02 46.6	+0.3
BSTI	Sart Tilman	149.63	355	dPKPbc	PKPbc	10 02 46.3	0.0
TNS	Taunus Mts	149.67	351	ePKPbc	PKPbc	10 02 46.7	+0.2
	baz=15,slow=2.5						
KHC	Kasperske Hory	149.71	344	ePKPDF	PKPdf	10 02 42.7	+1.5
KHC				⇑ePKP	PKPbc	10 02 46.6	0.0
KHC				ePKPAB	PKPab	10 02 54.8	+0.4
SNF	Seneffe	149.79	357	dPKPbc	PKPbc	10 02 47.0	+0.3
SNF				dPKPab	PKPab	10 02 54.5	-0.1
CKRC	Cesky Krumlov	149.80	343	⇑ePKP	PKPbc	10 02 47.1	+0.3
CKRC				ePKPAB	PKPab	10 02 54.7	-0.1
BCLA	Clavier	149.81	355	dPKPab	PKPab	10 02 54.4	-0.3
BHOU	Houvegnez	149.82	355	dPKP	PKPbc	10 02 47.0	+0.2
BGES	Gesves	149.86	356	dPKP	PKPbc	10 02 47.0	+0.1
WET	Wettzell	149.86	345	ePKPbc	PKiKP	10 02 47.3	-0.2
	baz=15,slow=2.5						
BZS	Buzias	149.90	332	⇓P	PKPbc	10 02 46.6	-0.5
MILB	Miltenberg	149.93	350	ePKPbc	PKPbc	10 02 47.3	+0.3
	baz=15,slow=2.5						
GEC2	GERESS Array S	149.94	344		PKPbc	10 02 46.7	-0.5
GEC2	GERESS Array S	149.94	344	ePKPbc	PKPbc	10 02 47.5	+0.3
	baz=15,slow=2.5						
GERES	GERESS Array B	149.94	344	PKP	PKPdf	10 02 42.3	+0.6
	comp=Z,0.6nm,0.4s,baz=131,slow=3.7,SNR=4.9						
GERES				PKPbc	PKPbc	10 02 47.5	+0.3
	comp=Z,3.3nm,0.4s,baz=33,slow=3.2,SNR=26						
GERES	GERESS Array B	149.94	344		PKPbc	10 02 46.9	-0.3
BMRD	Maredsous	149.97	356	dPKPbc	PKiKP	10 02 47.7	0.0
BMRD				dPKPab	PKPab	10 02 55.4	0.0
HERR	Herculane	150.09	330	⇑P	PKPbc	10 02 47.6	0.0
CONA	Conrad Observa	150.16	341	eP	PKPbc	10 02 47.8	+0.1
	comp=Z,9.2nm,0.5s,SNR=12						
CONA				eP	PKPab	10 02 57.9	+1.5
	comp=Z,5.9nm,0.6s						
BALB	Balikesir	150.42	316		PKPbc	10 02 47.9	-0.6
BALB					PKPab	10 02 57.1	-0.6
ELL	Elmali	150.45	310	PKPbc	PKPbc	10 02 48.3	-0.5
ELL				PKPab	PKPab	10 02 57.5	-0.6
WLF	Walferdange	150.49	354	dPKPbc	PKiKP	10 02 48.6	-0.2
WLF				dPKPab	PKPab	10 02 57.6	0.0
WLF	Walferdange	150.49	354		PKPbc	10 02 48.5	+0.1
WLF				PKPab	PKPab	10 02 58.0	+0.4
WLF	Walferdange	150.49	354	ePKPbc	PKiKP	10 02 49.0	+0.2
	baz=15,slow=2.5						
MDVR	Moldovita	150.49	330	⇓P	PKiKP	10 02 48.9	-0.1
MOA	Molln	150.70	343	eP	PKPbc	10 02 48.7	-0.2
	comp=Z,3.9nm,0.4s						
MOA				eP	PKPab	10 02 59.3	+0.7
	comp=Z,17nm,1.2s						
ARSA	Arzberg	150.86	340	eP	PKPbc	10 02 49.0	-0.4
	comp=Z,2.8nm,0.7s						
FRGS	Fruska Gora	151.04	333	⇑P	PKPbc	10 02 49.4	-0.4
RJOB	Jochberg	151.19	344	ePKPbc	PKiKP	10 02 50.5	+0.1
	baz=15,slow=2.5						
VTS	Vitosha	151.31	326	⇓P	PKiKP	10 02 51.0	0.0
VTS	Vitosha	151.31	326		PKPbc	10 02 50.0	-0.6
VTS				PKPab	PKPab	10 03 01.0	-0.6
BOVS	Bovan	151.35	329	⇓P	PKPbc	10 02 49.4	-1.1
SOKA	Soboth	151.53	341	i P	PKPbc	10 02 50.3	-0.6
	comp=Z,2.6nm,0.4s						
BFO	Black Forest	151.53	351		PKPbc	10 02 50.6	-0.2
BFO				PKPab	PKPab	10 03 02.0	-0.1
BFO	Black Forest	151.53	351	ePKPbc	PKiKP	10 02 51.2	+0.2
	baz=15,slow=2.5						
DIVS	Divibare	151.80	331		PKPbc	10 02 49.7	-1.9
UBR	Ueberruh	151.85	348	ePKPbc	PKiKP	10 02 51.7	-0.1
	baz=15,slow=2.5						
WATA	Walderalm	151.86	346	eP	PKPbc	10 02 51.6	-0.1
	comp=Z,7.8nm,0.4s,SNR=8.0						
WATA				eP	PKPab	10 03 03.9	+0.2
	comp=Z,13nm,1.0s						
RETA	Reutte	151.90	347	eP	PKiKP	10 02 52.0	+0.1
	comp=Z,4.2nm,0.4s						
RETA				eP	PKPab	10 03 04.5	+0.7
	comp=Z,6.9nm,0.7s						
WTTA	Wattenberg	151.92	346	eP	PKPbc	10 02 51.4	-0.5
	comp=Z,12nm,0.4s,SNR=8.5						
WTTA				eP	PKPab	10 03 04.5	+0.5
	comp=Z,11nm,0.6s						
MOTA	Moosalm	151.96	346	eP	PKPbc	10 02 52.0	0.0
	comp=Z,4.3nm,0.6s						
MOTA				eP	PKPab	10 03 04.3	+0.2
	comp=Z,8.7nm,0.5s						
MYKA	Terra Mystica	151.98	342	i P	PKPbc	10 02 51.0	-0.9
	comp=Z,4.3nm,0.4s						
MYKA				eP	PKPab	10 03 04.0	-0.2
	comp=Z,6.6nm,0.6s						
SQTA	Sankt Quirin	152.06	346	eP	PKPbc	10 02 52.0	-0.2
	comp=Z,6.3nm,0.5s						
SQTA				eP	PKPab	10 03 04.8	+0.4
	comp=Z,13nm,1.2s						
ABTA	Abfaltersbach	152.18	344	eP	PKPbc	10 02 51.6	-0.7
	comp=Z,11nm,0.5s,SNR=6.0						
ABTA				eP	PKPab	10 03 05.0	0.0
	comp=Z,5.7nm,0.5s						
ZOU	Zoufplan	152.24	343		PKPab	10 03 04.8	-0.5
DAVA	Damuels	152.27	348	eP	PKiKP	10 02 52.9	+0.1
	comp=Z,1.7nm,0.4s						
CLF	Chambon-Foret	152.34	359		PKPab	10 03 05.7	+0.2
FETA	Feichten	152.35	347	i P	PKPbc	10 02 52.6	-0.3
	comp=Z,4.3nm,0.5s						
CTI	Castel Tesino	153.05	345		PKPab	10 03 08.3	-0.5
LIT	Litokhoron	153.44	323		PKPab	10 03 10.3	-0.2
SENIN	Lac Senin/Sane	153.60	351		PKPab	10 03 10.8	-0.5
TEOL	Teolo	153.69	344		PKPab	10 03 10.9	-0.5
PBRG	Braganca	157.40	17	ePKPab	PKPab	10 03 27.6	+0.1
POLO	Lamas de Olo	157.50	19	ePKPab	PKPab	10 03 29.1	+1.1
MVO	Moncorvo	157.91	18	ePKPdf	PKPdf	10 02 54.3	+1.4
MVO	Moncorvo	157.91	18	ePKPab	PKPab	10 03 29.9	+0.1
PCAS	Casmilo, Conde	158.46	22	ePKPdf	PKPdf	10 02 53.8	+0.3
PCAS	Casmilo, Conde	158.46	22	ePKPab	PKPab	10 03 31.9	-0.2
PSBE	So Bento	158.83	23	ePKPab	PKPab	10 03 34.4	+0.6
PMAFR	Mafra	159.13	25	ePKPab	PKPab	10 03 34.5	-0.6
PMRV	Marv??o	159.39	20	ePKPab	PKPab	10 03 36.7	+0.5
PESTR	Estremoz	159.83	21	ePKPab	PKPab	10 03 38.0	-0.2
ESDC	Sonseca Array	160.09	13	PKPab	PKPab	10 03 39.6	+0.3
	comp=Z,6.9nm,1.1s,baz=343,slow=4.5,SNR=16						
ESDC	Sonseca Array	160.09	13		PKPab	10 03 37.8	-1.5
PNCL	Nicolau / Gran	160.16	24	ePKPab	PKPab	10 03 39.7	+0.1
PBAR	Barrancos	160.64	21	ePKPab	PKPab	10 03 42.6	+0.9
KEST	Kesra	163.23	338	PKPab	PKPab	10 03 53.7	+0.5
	comp=Z,2.7nm,0.6s,baz=86,slow=6.5,SNR=4.7						
DBIC	Dimbokro	165.03	154	PKPab	PKPab	10 04 00.7	-0.9
	comp=Z,5.6nm,0.8s,baz=225,slow=4.1,SNR=4.7						
TORD	Torodi Ar. Bea	172.88	180	PKP	PKPdf	10 03 04.5	-1.1
	comp=Z,1.3nm,0.8s,baz=354,slow=1.2,SNR=6.5						
TORD				PKPab	PKPab	10 04 36.4	+0.1
	comp=Z,3.2nm,0.9s,baz=168,slow=4.0,SNR=12						
TORD	Torodi Ar. Bea	172.88	180		PKPab	10 04 36.2	0.0

*ATH **06** 09:45:35.1,39°.04N×20°.36E,h28km±3km,ML2.5/7 Error ellipse: s-maj=5.7km s-min=1.6km az=125.0*
*THE **06** 09:45:36.0,38°.98N×20°.33E,h18km,ML2.9/8,Error ellipse: s-maj=1.5km s-min=0.5km az=108.0*
ISC 06 09:45:36.0±1.1**,38°.99N**±0°.04×**20°.38E**±0°.05**,h26**km±8km**, n42,σ0s.51**/57**,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TSLK	Tsoukalades, L	0.27	128	P	Pb	09 45 42.5	-0.2
TSLK				S	Sb	09 45 47.6	+0.4
	2μm,0.3s						
TSLK	Tsoukalades, L	0.27	128	P	Pb	09 45 42.5	-0.2
TSLK				S	Sb	09 45 47.9	+0.6
LKD2	Lefkada island	0.30	133	P	Pb	09 45 42.7	-0.4
LKD2				S	Sb	09 45 47.9	0.0
	1μm,0.2s						
LKD2	Lefkada island	0.30	133	P	Pb	09 45 42.7	-0.4
LKD2				S	Sb	09 45 47.9	0.0
LKD2				AML	AML	09 45 48.0	
	comp=E,2176μm,0.2s						
LKD2				AML	AML	09 45 48.0	
	comp=N,2056μm,0.1s						
DRAG	Dragano-Lefkad	0.34	154	P	Pb	09 45 43.3	-0.4
DRAG				S	Sb	09 45 49.0	0.0
	comp=N,3μm,0.2s						
NYDR	Nydri-Lefkada	0.37	138	P	Pb	09 45 43.5	-0.7
NYDR				S	Sb	09 45 49.2	-0.5
EVGI	Lefkada island	0.43	150	P	Pb	09 45 44.5	-0.6
EVGI	Lefkada island	0.43	150	P	Pb	09 45 44.5	-0.6
FSK	Fiskardo	0.55	165	P	Pb	09 45 46.5	-0.6
FSK				S	Sb	09 45 55.1	+0.5
	comp=N,2μm,0.3s						
FSK	Fiskardo	0.55	165	P	Pb	09 45 46.5	-0.6
FSK				S	Sb	09 45 55.1	+0.5
FSK				AML	AML	09 45 55.5	
	comp=N,1427μm,0.3s						
FSK				AML	AML	09 45 55.9	
	comp=E,5073μm,0.3s						
KEF5	Kardakata, Kep	0.72	174	P	Pb	09 45 49.5	-0.4
KEF5				S	Sb	09 46 00.0	+0.7
	comp=E,3μm,0.3s						
KEF5	Kardakata, Kep	0.72	174	P	Pb	09 45 49.5	-0.4
KEF5				S	Sn	09 46 00.3	-0.3
KEF4	Livadi, Kephal	0.73	177	P	Pb	09 45 49.9	-0.2
KEF4				S	Sb	09 46 00.4	+0.6
	comp=E,5μm,0.2s						
KEF4	Livadi, Kephal	0.73	177	P	Pb	09 45 50.2	0.0
KEF4				S	Sn	09 46 01.1	+0.1
DMLN	Damoulianata-K	0.75	180	P	Pb	09 45 50.2	-0.3
DMLN				S	Sb	09 46 00.7	+0.4
	comp=E,648nm,0.2s						
KEF3	Kipouria, Keph	0.79	182	P	Pb	09 45 50.2	-0.9
KEF3	Kipouria, Keph	0.79	182	P	Pb	09 45 49.9	-1.2
VLS	Valsamata	0.83	168	P	Pb	09 45 51.1	-0.7
VLS				S	Sb	09 46 03.0	+0.4
	comp=E,928nm,0.2s						
VLS	Valsamata	0.83	168	P	Pb	09 45 51.1	-0.7
VLS				S	Sb	09 46 03.0	+0.4
VLS				AML	AML	09 46 03.4	
	comp=E,1979μm,0.2s						
VLS				AML	AML	09 46 04.3	
	comp=N,1412μm,0.1s						
PSDA	Pessada-Kefalo	0.89	170	P	Pb	09 45 52.3	-0.5
PSDA	Pessada-Kefalo	0.89	170	P	Pb	09 45 52.3	-0.5
EVR	Evrytania	1.12	93	P	Pn	09 45 56.2	+0.1
EVR	Evrytania	1.12	93	P	Pn	09 45 56.2	+0.1
EVR				AML	AML	09 46 12.7	
	comp=N,366μm,0.5s						
EVR				AML	AML	09 46 12.9	
	comp=E,290μm,0.5s						
RLS	Riolos of Patr	1.26	137	P	Pn	09 45 58.1	+0.1
RLS	Riolos of Patr	1.26	137	P	Pn	09 45 58.1	+0.1
RLS				AML	AML	09 46 19.8	
	comp=N,164μm,0.3s						
RLS				AML	AML	09 46 22.5	
	comp=E,126μm,0.3s						
ANX	Ano Chora	1.27	108	P	Pn	09 45 58.8	+0.6
ANX	Ano Chora	1.27	108	P	Pn	09 45 58.8	+0.6
ANX				AML	AML	09 46 20.2	
	comp=N,356μm,0.5s						
ANX				AML	AML	09 46 22.6	
	comp=E,265μm,0.4s						
EFP	Efpalio	1.32	115	P	Pn	09 45 59.5	+0.7
EFP	Efpalio	1.32	115	P	Pn	09 45 59.6	+0.7
EFP				AML	AML	09 46 20.3	
	comp=E,332μm,0.5s						
EFP				AML	AML	09 46 21.4	
	comp=N,211μm,0.4s						
MAKR	Makrakomi, Fth	1.36	89	P	Pb	09 46 00.3	-0.6
MAKR	Makrakomi, Fth	1.36	89	P	Pb	09 46 00.6	-0.3
SERG	Sergoula	1.43	113	P	Pn	09 46 00.6	+0.2
SERG	Sergoula	1.43	113	P	Pn	09 46 00.6	+0.2
LAKA	Lakka	1.46	120	P	Pn	09 46 01.1	+0.3
LAKA	Lakka	1.46	120	P	Pn	09 46 01.1	+0.3
AGG	Agios Georgios	1.52	88	P	Pn	09 46 01.8	+0.2
AGG	Agios Georgios	1.52	88	P	Pn	09 46 01.8	+0.2
STON	Ston	4.38	333	ePn	Pn	09 46 40.5	-0.3
RICI	Ricice	5.12	332	ePn	Pn	09 46 50.9	-0.1
KIJV	Kijevo	5.83	330	ePn	Pn	09 47 01.0	+0.2
ZIRJ	Zirje	5.87	324	ePn	Pn	09 47 01.2	0.0
DUGI	Dugi Otok	6.40	323	ePn	Pn	09 47 09.9	+1.3

*REN **06** 09:54:03.9±2.1,41°.87N±0°.04×119°.63W±0°.04,h9km±3km, ML2.5/4,ML2.5/7(SEA),ML2.1/24(NEIC),Error ellipse: s-maj=5.4km s-min=4.4km az=204.0*
*SEA **06** 09:54:04.7±3.0,41°.86N±0°.04×119°.61W±0°.05,h0km±4km, Error ellipse: s-maj=6.2km s-min=4.2km az=224.0*
NEIC 06 09:54:02.6±1.7**,41°.84N**±0°.04×**119°.52W**±0°.04**,h2**km±4km**, Error ellipse: s-maj=5.4km s-min=3.6km az=203.0, Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKVW	Lakeview	0.73	302		Pg	09 54 16.5	-0.2
WVOR	Wild Horse Val	0.88	48		Pn	09 54 21.9	-0.4
WVOR	Wild Horse Val	0.88	48	IAML		09 54 38.3	
	65nm,0.8s						
K05A	Summer Lake	1.35	311		Pg	09 54 28.0	-0.6
K05A	Summer Lake	1.35	311	IAML		09 54 50.5	
	comp=E,33nm,1.0s						
K05A				IAML		09 54 53.2	
	comp=N,46nm,1.2s						
LASM	Arnica Sink	1.56	262		Pn	09 54 31.0	-0.6
LTIM	Timbered Crate	1.62	246		Pn	09 54 32.2	-0.2
J08A	Circle Bar Ran	1.70	27		Pn	09 54 34.0	+0.6
J08A	Circle Bar Ran	1.70	27	IAML		09 54 59.9	
	comp=E,31nm,0.5s						
LBCM	Butte Creek Ri	1.71	235		Pn	09 54 33.6	0.0
M04C	Macdoel	1.74	269		Pn	09 54 33.4	-0.6
M04C					Sb	09 54 57.5	-0.2
K04D	Chiloquin, OR	1.84	296		Pn	09 54 36.2	+0.8
K04D					Sb	09 55 00.8	+0.3
J05D	Fort Rock, OR	1.92	319		Pb	09 54 38.0	-0.5
J05D					Sb	09 55 03.4	+0.4
BEKR	Beckworth	2.08	198	Pn	Pb	09 54 40.3	-0.9
L04D	Klamath Falls	2.11	281		Pn	09 54 38.2	-0.9
L04D					LR	09 55 08.3	
PAHR	Pah Rah Range	2.14	177	Pn	Pn	09 54 39.4	-0.1
PAHR				IAML		09 55 26.1	
	comp=N,8.7nm,3.6s						
B040	Montague	2.17	271		Sb	09 55 10.6	+0.5
PINE	Pine Mountain	2.21	332		Pn	09 54 39.8	-0.8
PINE				IAML		09 55 14.7	
	comp=E,17nm,0.8s						
PINE				IAML		09 55 21.8	
	comp=N,14nm,0.9s						
BMN	Battle Mountai	2.23	128	Pn	Pn	09 54 42.1	+1.2
I07A	Izee	2.24	0		Pn	09 54 40.2	-0.7
I07A				IAML		09 55 15.2	
	comp=N,13nm,0.6s						
I07A				IAML		09 55 23.3	
	comp=E,10nm,0.9s						
VCNR	Virginia City	2.55	182	Pn	Pn	09 54 44.1	-1.1
VCNR				IAML		09 55 19.0	
	comp=N,9.2nm,2.8s						
VCNR				IAML		09 55 28.9	
	comp=E,11nm,0.9s						
ELK	Elko	3.40	107		Pn	09 54 57.8	+0.8
ELK				IAML		09 55 33.5	
	comp=E,2.8nm,5.0s						
E03A	Lebam	5.53	330		Pn	09 55 24.2	-1.7

*IDC **06** 10:01:42.8±1.1,37°.88N×143°.73E,h0km,mb3.7/6, mb1 3.9/10,mb1mx3.7/42,mbtmp3.8/10,ML3.0/3,MS2.8/2, Ms1 2.8/2,ms1mx2.4/44,Error ellipse: s-maj=26.4km s-min=19.8km az=75.0*
*JMA **06** 10:01:45.0±0.2,38°.16N×143°.61E,h43km,M3.7*
*NIED **06** 10:01:45.1,38°.16N×143°.61E,h43km,MW3.6,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.00; $M_{\theta\theta}$-1.81; $M_{\phi\phi}$1.80; $M_{r\theta}$1.94; $M_{\theta\phi}$1.64; $M_{\phi r}$1.01; Fault plane solution: $M_0$3.27000×10^{14} NP1:ϕ_s66.00000°, δ89.00000°,λ42.00000°. NP2:ϕ_s335.00000°,δ48.00000°, λ179.00000°.*
ISC 06 10:01:44.2±0.9**,38°.11N**±0°.05×**143°.66E**±0°.08**,h19**km**,n31, σ2s.02**/44**,mb3.6**/6**,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	1.74	277	P	Pn	10 02 12.9	-0.5
JIKH				eS	Sn	10 02 32.8	-2.2
OFUJ	Ofunato	1.84	303	P	Pn	10 02 14.1	-0.7
OFUJ				eS	Sn	10 02 36.1	-1.4
JIO	Ouri	1.85	282	P	Pn	10 02 14.6	-0.3
JIO				S	Sn	10 02 35.6	-2.2
JKMT	Kesennumamotoy	1.85	293	P	Pn	10 02 14.5	-0.5
JKMT				S	Sn	10 02 36.6	-1.2
JMK	Ichinoseki	2.09	295	P	Pn	10 02 18.0	-0.2
JMK				eS	Sn	10 02 42.3	-1.4
JOM	Ohasama	2.30	307	P	Pn	10 02 20.9	-0.2
JOM				eS	Sn	10 02 47.2	-1.6
JFT	Otama	2.69	258	P	Pn	10 02 27.4	+0.8
JFT				eS	Sn	10 02 58.8	+0.1
JYK	Kaneyama	2.71	288	P	Pn	10 02 27.2	+0.4
JANG	Nango	2.81	324	P	Pn	10 02 28.1	0.0
JANG				eS	Sn	10 02 59.5	-2.0
JAW	Awa shima	3.49	277	P	Pn	10 02 38.5	+1.1
JAG	Ashikaga	3.75	245	P	Pn	10 02 41.1	0.0
JAG				eS	Sn	10 03 22.6	-2.1
JOT	Ohata	3.84	329	P	Pn	10 02 43.4	+1.1
BSO1	Boso 1	4.07	213	P	Pn	10 02 44.0	-0.9
JNBK	Urakawa-nobuka	4.23	351	P	Pn	10 02 47.0	-0.6
JNBK				eS	Sn	10 03 33.9	-2.5
JKB	Kayabe	4.28	333	eS	Sn	10 03 34.4	-3.3
JRY	Ryogami san	4.34	243	P	Pn	10 02 49.5	+0.3
JRY				eS	Sn	10 03 37.9	-1.3
JCH	Churui	4.51	357	P	Pn	10 02 50.4	-1.1
JCH				S	Sn	10 03 39.2	-4.1
MJAR	Matsushiro Arr	4.61	252	Pn	Pn	10 02 54.0	+1.1
	0.4nm,0.3s,baz=63,slow=14,SNR=26						
MJAR				Sn	Sn	10 03 47.6	+1.6
	0.1nm,0.3s,baz=253,slow=37,SNR=2.0						
MAT	Matsushiro	4.62	252	P	Pn	10 02 54.8	+1.8
MAT				eS	Sn	10 03 46.3	+0.2
JHJ	Hachijo jima 2	5.89	214	Pn	Pn	10 03 09.0	-1.5
	9.4nm,0.3s,baz=128,slow=22,SNR=13						
JHJ				Sn	Sn	10 04 10.5	-7.0
	9.1nm,0.3s,baz=62,slow=21,SNR=1.5						
ASAJ	Asahikawa	6.06	353	Pn	Pn	10 03 12.9	+0.1
	2.0nm,0.3s,baz=206,slow=12,SNR=24						
ASAJ				Sn	Sn	10 04 18.8	-2.7
	0.5nm,0.3s,baz=36,slow=29,SNR=2.1						
USRK	Ussuriysk Ar.	10.69	308	Pn	Pn	10 04 18.9	+2.6
	baz=138,slow=15,SNR=3.0						
JCJ	Chichijima	11.05	187	Pn	Pn	10 04 17.5	-3.7
	3.5nm,0.3s,baz=90,slow=23,SNR=12						
JCJ				Sn	Sn	10 06 12.8	-12
	2.6nm,0.3s,baz=123,slow=24,SNR=1.7						
KSRS	Korea Array	12.47	272	LR	LR	10 09 26.0	
	comp=Z,15nm,18.6s,baz=145,slow=37						
SONM	Songino Array	28.70	302	P	P	10 07 42.2	+2.0
	0.4nm,0.4s,baz=31,slow=19,SNR=2.3						
ZALV	Zalesovo Beam	42.52	312	P	P	10 09 39.6	+1.4
	0.4nm,0.3s,baz=88,slow=9.1,SNR=1.7						
MKAR	Makanchi Array	45.07	302	P	P	10 10 03.5	+4.6
	0.6nm,0.7s,baz=85,slow=8.5,SNR=6.6						
WRA	Warramunga Arr	58.40	190	P	P	10 11 38.6	+0.1
	1.0nm,0.6s,baz=9.8,slow=6.5,SNR=11						
ASAR	Alice Springs	62.12	190	P	P	10 12 04.4	+0.4
	0.5nm,0.8s,baz=6.9,slow=7.7,SNR=10						
PDAR	Pinedale Array	75.64	47	P	P	10 13 30.6	+2.3
	0.3nm,0.6s,baz=85,slow=3.1,SNR=4.2						
BORG	Borgarnes	76.80	353	LR	LR	10 47 25.9	
	comp=Z,18nm,19.4s,baz=304,slow=36						

*TUL **06** 10:32:36.7±1.4,36°.94N±0°.01×97°.69W±0°.02,h5km±1km, ML2.8,mb_Lg2.4/20(NEIC),Error ellipse: s-maj=2.9km s-min=2.3km az=346.0*
NEIC 06 10:32:36.8±1.2**,36°.90N**±0°.01×**97°.68W**±0°.01**,h3**km±7km**, Error ellipse: s-maj=2.2km s-min=0.7km az=225.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GC02	Grant County #	0.15	250		Pg	10 32 40.3	+0.4
GC02				Sg	Sg	10 32 42.6	+0.7
KAN17	Caldwell West	0.16	333	Pg	Pg	10 32 39.8	-0.2
KAN17				Sg	Sg	10 32 42.0	-0.1
KAN13	South Haven SW	0.19	56		Pg	10 32 40.8	+0.2
KAN13				Sg	Sg	10 32 43.4	+0.3
KAN14	Manchester OK	0.23	283	Pg	Pg	10 32 41.4	+0.1
KAN14				Sg	Sg	10 32 44.6	+0.1
KAN05	Bluff City Nor	0.26	323	Pg	Pg	10 32 41.6	-0.2
KAN05				Sg	Sg	10 32 45.0	-0.2
KS20	Mayfield South	0.34	17		Pg	10 32 43.1	-0.3
KS20				Sg	Sg	10 32 47.6	-0.3
BLOK	Blackwell	0.40	111	Pg	Pg	10 32 45.0	+0.5
BLOK				Sg	Sg	10 32 50.7	+1.0
KAN08	Anthony NE Sta	0.40	324	Pg	Pg	10 32 44.3	-0.2
KAN08				Sg	Sg	10 32 49.8	0.0
KAN10	Anthony SW Sta	0.40	303	Pg	Pg	10 32 44.5	-0.1
KAN10				Sg	Sg	10 32 49.7	-0.1
OK032	Salt Plains WL	0.44	257	Pg	Pg	10 32 45.5	+0.2
OK032				Sg	Sg	10 32 51.4	+0.5
CROK	Carrier	0.47	212		Pg	10 32 46.4	+0.6
CROK				Sg	Sg	10 32 53.0	+1.2
KAN12	Harper NE Stat	0.47	327	Pg	Pg	10 32 45.5	-0.3
KAN12				Sg	Sg	10 32 51.7	-0.2
T35A	Sooner Cattle	0.93	89		Pg	10 32 54.6	-0.1
T35A				Sg	Sg	10 33 06.7	-0.1
QUOK	Quay	1.07	133		Pg	10 32 57.3	0.0
QUOK				Sg	Sb	10 33 11.9	-0.4
OK029	Liberty Lake	1.12	171	Pg	Pg	10 32 58.2	-0.1
OK029				Sg	Sg	10 33 12.3	-0.5
OK031	S. Brethren Rd	1.17	144	Pg	Pg	10 32 59.1	-0.1
OK031				Sg	Sg	10 33 14.1	-0.2
U32A	Winter Ranch,	1.19	244		Pg	10 32 59.1	-0.4
U32A				Sg	Sg	10 33 14.4	-0.5
OK025	Westminster Rd	1.35	168		Pn	10 33 02.5	0.0
OKCFA	Oklahoma City	1.50	173		Pb	10 33 05.1	-0.2
OKCSW	OKLAHOMA CITY	1.51	173		Pb	10 33 05.5	+0.1
FNO	Franklin	1.66	172		Pb	10 33 07.4	-0.6
R32A	Long Quarter,	1.72	332	Pn	Pn	10 33 08.1	+0.4
X34A	Smith Ranch, M	2.30	183	Pn	Pn	10 33 16.8	+1.2
X34A				IAmb_Lg		10 33 51.0	
	comp=Z,10nm,0.7s						
WMOK	Wichita Mounta	2.34	203	Pn	Pn	10 33 17.0	+0.9
KSU1	Kansas State U	2.35	21	Pn	Pn	10 33 14.7	-1.6
KSU1				IAmb_Lg		10 33 54.7	
	comp=Z,18nm,0.8s						
CBKS	Cedar Bluff	2.51	320	Pn	Pn	10 33 18.5	0.0
U38A	Gravette	2.69	99	Pn	Pn	10 33 22.1	+1.2
LOOK	Love County	2.93	172	Pn	Pn	10 33 24.4	+0.1
X37A	Clayton	2.98	140	Pn	Pn	10 33 24.6	-0.3
X37A				IAmb_Lg		10 34 19.7	
	comp=Z,13nm,0.9s						
HHAR	Hobbs	3.07	101		Pn	10 33 27.0	+0.8
S39A	Bolivar	3.56	76	Pn	Pn	10 33 32.4	-0.5
Z35A	Perchaven, San	3.58	174	Pn	Pn	10 33 32.7	-0.5
U40A	Yellville	3.92	97	Pn	Pn	10 33 36.6	-1.2
MIAR	Mount Ida	4.08	124	Pn	Pn	10 33 41.2	+1.1
MIAR				IAmb_Lg		10 34 52.9	
	comp=Z,8.1nm,0.9s						
P38A	Dawn	4.25	49	Pn	Pn	10 33 40.5	-1.8
P38A				IAmb_Lg		10 34 58.5	
	comp=Z,9.1nm,0.7s						
N35A	Tabor	4.26	21	Pn	Pn	10 33 42.2	-0.3
MGMO	Mountain Grove	4.33	85	Pn	Pn	10 33 44.4	+0.8
KSCO	Kaye Shedlock'	4.44	300	Pn	Pn	10 33 44.8	-0.4
KSCO				IAmb_Lg		10 35 06.6	
	comp=Z,6.3nm,0.7s						
BGNE	Belgrade	4.51	355	Pn	Pn	10 33 46.7	+0.6
R40A	Maddies Statio	4.51	71	Pn	Pn	10 33 46.1	+0.1
ABTX	Abilene, Hawle	4.57	201	Pn	Pn	10 33 46.8	0.0
FCAR	Ozark Folk Cen	4.59	101	Pn	Pn	10 33 49.4	+2.2
FCAR				IAmb_Lg		10 35 01.8	
	comp=Z,10nm,0.8s						
X40A	Basin Creek Fa	4.62	120	Pn	Pn	10 33 48.4	+0.9
X40A				IAmb_Lg		10 35 12.9	
	comp=Z,5.7nm,0.8s						
WHAR	Wooly Hollow	4.65	109	Pn	Pn	10 33 48.3	+0.4
WLAR	White Oak Lake	4.92	129	Pn	Pn	10 33 52.8	+1.1
P40A	Paris	5.15	58	Pn	Pn	10 33 54.3	-0.5
N38A	Joes South For	5.21	40	Pn	Pn	10 33 54.7	-0.8
CCM	Cathedral Cave	5.24	75	Pn	Pn	10 33 56.2	+0.1
LCAR	Lake Charles	5.32	97	Pn	Pn	10 33 55.9	-1.2
PBMO	Poplar Bluff	5.81	89	Pn	Pn	10 34 03.7	-0.2
435B	Jarrell	6.11	179	IAmb_Lg		10 36 03.2	
	comp=Z,5.7nm,1.0s						
SDCO	Great Sand Dun	6.29	280	Pn	Pn	10 34 10.8	0.0
S44A	Carbondale	6.76	81	Pn	Pn	10 34 14.7	-2.2
K38A	Parkersburg	6.87	32	IAmb_Lg		10 36 27.1	
	comp=Z,6.7nm,0.9s						
ECSD	EROS Data Cent	6.87	6	Pn	Pn	10 34 17.0	-1.4
ISCO	Idaho Springs	6.87	297	Pn	Pn	10 34 18.0	-0.8

HDIL	Hopedale	7.50	58	Pn	Pn	10 34 26.3	-0.7

*TEH **06** 10:58:13.7, 32°.74N×47°.42E, h11km, ML3.5*
*ISN **06** 10:58:13.5±0.9, 32°.72N×47°.46E, h14km±6km, ML3.2*
*THR **06** 10:58:14.2±0.3, 32°.76N×47°.41E, h18km±8km, ML3.2*
*KISR **06** 10:58:16.4±0.7, 32°.30N×47°.21E, h0km±214km, ML3.9*
ISC 06 10:58:14.8±0.9**, 32°.74N**±0°.03×**47°.36E**±0°.03**, h11**km±6km**,**
n50, σ**0s.81**/63**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	Dehloran	0.09	231	ePg	Pg	10 58 16.8	-0.6
DHL1				eSg	Sg	10 58 20.0	+0.8
IKFM	Kafar-mosalman	0.89	27	ePg	Pg	10 58 30.4	-1.5
IKFM				eSg	Sg	10 58 43.2	-0.3
IKFM				e		10 58 49.2	
	comp=Z,13µm,0.5s						
IDOB	Doab	1.25	33	ePg	Pn	10 58 37.6	-0.9
IBDR	Badra	1.26	288	ePg	Pn	10 58 38.0	-0.4
IBDR				eSg	Sn	10 58 56.0	+0.6
IBDR				AML	AML	10 59 05.5	
	comp=E,397nm,0.6s						
IBDR				AML	AML	10 59 06.3	
	comp=N,332nm,1.0s						
BMDN	Meydan	1.54	52	ePg	Pn	10 58 42.9	+0.4
BMDN				eSg	Sb	10 59 04.5	+1.3
BMDN				e		10 59 11.5	
	comp=Z,10µm,0.9s						
KCHF	Cheshme Sefid,	1.56	350	ePg	Pn	10 58 43.7	+1.0
KCHF				e		10 59 08.9	
	comp=Z,5µm,0.5s						
KER	Kermanshah	1.66	353	ePg	Pb	10 58 45.8	+0.3
IGHG	Ghaleghazi	1.72	338	ePg	Pb	10 58 46.8	+0.2
IGHG				e		10 59 18.9	
	comp=Z,6µm,0.7s						
AHWZ	Ahwaz	1.78	142	ePg	Pn	10 58 46.7	+1.2
AHWZ				eSg	Sg	10 59 12.1	+0.2
IBZA	Bozab	1.78	13	ePg	Pb	10 58 48.3	+0.7
IBZA				e		10 59 16.5	
	comp=N,9µm,0.6s						
HSAM	Samen	1.80	35	ePg	Pn	10 58 47.1	+1.0
HSAM				eSg	Sg	10 59 13.4	+0.6
NSR	Nassriya	2.01	211	ePg	Pn	10 58 49.0	+0.3
NSR				eSg	Sb	10 59 16.0	-0.5
NSR				AML	AML	10 59 21.7	
	comp=E,350nm,0.4s						
IDHR	Dehrash	2.12	338	ePn	Pn	10 58 51.7	+1.2
IDHR				e		10 59 28.3	
	comp=Z,3µm,0.7s						
ILIN	Lien	2.20	351	ePn	Pb	10 58 54.0	-0.8
ILIN				e		10 59 30.2	
	comp=Z,1µm,0.4s						
IALM	Almabolaq	2.22	17	ePg	Pb	10 58 55.4	+0.2
KHMZ	Khomeyn	2.40	65	ePn	Pn	10 58 54.3	0.0
KHMZ	Khomeyn	2.40	65	ePn	Pn	10 58 54.3	0.0
HAGD	Aghdareh	2.55	35	ePn	Pn	10 58 57.1	+0.7
HAGD				e		10 59 43.5	
	comp=Z,2µm,1.1s						
BHD	Baghdad	2.56	283	ePn	Pn	10 58 58.0	+1.7
BHD				eSn	Sb	10 59 30.0	-2.3
BHD				AML	AML	10 59 39.4	
	comp=E,224nm,0.4s						
ASAO	Ashtian	2.86	50	ePn	Pn	10 59 00.8	+0.1
ASAO				eSg	Sb	10 59 42.5	+1.2
ASAO				IAML		10 59 55.1	
	comp=N,77nm,0.7s						
ASAO	Ashtian	2.86	50	ePn	Pn	10 59 00.8	+0.1
MIB	Mutribah	2.92	180	eP	Pn	10 59 01.9	+0.6
MIB				eS	Sn	10 59 36.0	-0.4
MIB				IAML		10 59 50.2	
	comp=Z,597nm,0.7s						
IPIR	Pirpir	2.98	90	ePn	Pn	10 59 03.4	+1.1
IPIR				e		11 00 01.5	
	comp=Z,663nm,0.5s						
SHK1	Shahrekord	3.00	97	ePn	Pn	10 59 02.0	-0.6
RST	Umm Al-Ruwaisa	3.24	186	eP	Pn	10 59 06.5	+0.9
RST				eS	Sn	10 59 43.5	-0.8
IBRJ	Brojen	3.40	103	ePn	Pn	10 59 07.7	-0.5
IRAZ	Razeghan	3.41	38	ePn	Pn	10 59 08.6	+0.4
QABG	Abgarm-Qazvin	3.49	31	ePn	Pn	10 59 09.9	+0.6
QAMS	Qamsar	3.52	72	ePn	Pn	10 59 11.1	+1.3
IKLH	Kolahrood	3.59	80	ePn	Pn	10 59 11.4	+0.7
IKLH				e		10 59 15.6	
	comp=Z,661nm,0.4s						
GHVR	GHOM	3.71	61	ePn	Pn	10 59 11.6	-0.7
GHVR	GHOM	3.71	61	ePn	Pn	10 59 11.6	-0.7
IQOM	Qom	3.73	55	ePn	Pn	10 59 12.7	0.0
RDF	Al-Radifah	3.80	178	eP	Pn	10 59 14.5	+1.1
RDF				eS	Sn	10 59 57.7	-0.4
RDF				IAML		11 00 25.0	
	comp=Z,167nm,0.6s						
KLNJ	Kolanjah	3.99	114	ePn	Pn	10 59 15.9	-0.4
KLNJ				e		11 00 30.2	
	comp=Z,691nm,0.8s						
QRN	Al-Qurain	4.01	173	eP	Pn	10 59 17.2	+0.9
QRN				eS	Sn	11 00 03.9	+0.6
QRN				IAML		11 00 06.1	
	comp=Z,303nm,0.5s						
QSDN	Sirdan	4.04	21	ePn	Pn	10 59 18.8	+1.9
ZNJK	Zanjan	4.07	15	ePn	Pn	10 59 17.6	+0.3
ZNJK	Zanjan	4.07	15	ePn	Pn	10 59 17.6	+0.3
KRSH	Karshahi	4.18	72	ePn	Pn	10 59 19.3	+0.5
IZEF	Zefreh	4.19	86	ePn	Pn	10 59 19.4	+0.5
IVRN	Varamin	4.27	57	ePn	Pn	10 59 19.9	0.0
IRAM	Ramesheh	4.35	101	ePn	Pn	10 59 21.0	-0.2
ISFB	Sefidab	4.38	67	ePn	Pn	10 59 21.8	+0.4
NASN	Na'in	4.59	88	ePn	Pn	10 59 24.6	+0.1
NASN	Na'in	4.59	88	ePn	Pn	10 59 24.6	+0.1
IDMV	Damavand	4.80	53	ePn	Pn	10 59 28.0	+0.6
AHBU	AHRAM	5.13	138	ePn	Pn	10 59 32.2	+0.5
IFIR	Firoozkooh	5.33	56	ePn	Pn	10 59 34.8	+0.2
ANAR	Anarak	5.37	83	ePn	Pn	10 59 34.5	-0.6

MEX 06 11:18:11.5±0.8**, 18°.06N**×**103°.28W, h10**km**, MD3.6, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.24	344	iP	Pg	11 18 15.6	-0.8
MMIG				iS	Sg	11 18 19.1	-0.6
COIG	Colima	1.18	341	eP	Pb	11 18 29.9	-4.2
COIG				eS	Sb	11 18 45.4	-4.1
R15V		1.29	329	eP	Pn	11 18 31.7	-4.0
R15V				iS	Sb	11 18 48.4	-4.3
EZ5V		1.45	348	eP	Pn	11 18 34.9	-3.1
EZ5V				eS	Sn	11 18 52.9	-4.3

*NIC **06** 11:19:00.5±0.0, 35°.78N×31°.43E, h14km±1km, Ml2.6/4*
*DDA **06** 11:19:02.8, 35°.79N×31°.55E, h18km±3km, ML2.0*
*ISK **06** 11:19:04.3, 35°.81N×31°.60E, h15km, ML2.3/12*
ISC 06 11:19:02.6±1.2**, 35°.77N**±0°.03×**31°.52E**±0°.02**, h20**km±5km**,**
n40, σ**1s.10**/55**, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	Gazipasa	0.79	54	iP	Pb	11 19 18.3	+0.5
GAZI				iS	Sb	11 19 28.3	+0.3
GAZI	Gazipasa	0.79	54	PG	Pn	11 19 18.5	-0.2
GAZI				SG	Sn	11 19 29.4	-0.6
AKMS	Akamas	1.00	138	P	Pb	11 19 20.6	-0.7
AKMS				S	Sn	11 19 36.2	+1.1
AKMS				AML	AML	11 19 40.9	
	0.8nm,0.6s						
AKMS				AML	AML	11 19 40.9	
	0.8nm,0.6s						
AKMS				AML	AML	11 19 44.6	
	0.4nm,0.3s						
AKMS				AML	AML	11 19 44.6	
	0.4nm,0.3s						
ALFC	Alefka	1.07	125	P	Pb	11 19 21.8	-0.7
ALFC				AML	AML	11 19 46.9	
	0.4nm,0.5s						
ALFC				AML	AML	11 19 48.6	
	0.3nm,0.2s						
AKUM	Antalya-Kumluc	1.10	300	iP	Pb	11 19 23.1	+0.1
AKUM				iS	Sn	11 19 40.1	+2.6
AKUM				IAML		11 19 43.0	
	comp=E,41nm,0.3s						
AKUM				IAML		11 19 43.0	
	comp=N,44nm,0.6s						
KEPZ	Antalya-Kepez	1.13	3	iP	Pb	11 19 23.0	-0.6
KEPZ				iS	Sb	11 19 35.1	-2.7
KEPZ				IAML		11 19 38.0	
	comp=N,39nm,0.6s						
KEPZ				IAML		11 19 43.0	
	comp=E,38nm,0.4s						
LEF	Lefka	1.29	120	PN	Pg	11 19 27.3	-0.3
LEF				SN	Sg	11 19 44.6	+0.1
ERMK	Ermenek	1.42	52	iP	Pg	11 19 30.8	+0.7
BERE	Bereket-Mersin	1.49	67	PN	Pb	11 19 29.9	+0.1
BERE				SN	Sg	11 19 49.3	-1.7
SZAC	Souni	1.50	132	P	Pn	11 19 27.6	-0.9
SZAC				S	Sb	11 19 49.4	+0.9
SZAC				AML	AML	11 19 52.6	
	comp=E,0.1nm,0.3s						
SZAC				AML	AML	11 19 52.6	
	comp=E,0.1nm,0.3s						
SZAC				AML	AML	11 20 04.5	
	comp=E,0.3nm,0.5s						
SZAC				AML	AML	11 20 04.5	
	comp=E,0.3nm,0.5s						
KORT	Korkueli	1.55	323	iP	Pg	11 19 33.5	+1.0
KORT				iS	Sg	11 19 54.2	+1.4
KORT				IAML		11 20 01.0	
	comp=E,27nm,0.9s						
KORT	Korkueli	1.55	323	PN	Pg	11 19 32.5	0.0
KSL	Kastellorizon	1.62	284	P	Pn	11 19 27.4	-2.6
KSL				S	Sn	11 19 48.5	-1.7
AKAS	Kas	1.62	287	iP	Pb	11 19 33.0	+1.0
AKAS				IAML		11 20 03.0	
	comp=N,18nm,0.9s						
AKAS	Kas	1.62	287	PN	Pg	11 19 33.9	0.0
CSS	Mathiatis	1.68	118	PN	Pb	11 19 33.9	+1.0
CSS	Mathiatis	1.68	118	P	Pn	11 19 30.5	-0.4
SEDI	Konya, Seydise	1.69	6	iP	Pn	11 19 32.2	+1.1
SEDI				iS	Sb	11 19 54.0	+0.1
SEDI				IAML		11 20 00.0	
	comp=N,22nm,0.4s						
SEDI				IAML		11 20 03.0	
	comp=E,27nm,0.5s						
AKKU	Akkuyu-Mersin	1.69	76	PN	Pb	11 19 33.5	+0.5
GULN	MERSIN_Gulnar	1.69	75	iP	Pb	11 19 32.4	-0.6
GULN				iS	Sb	11 19 54.9	+1.0
GULN				IAML		11 20 00.0	
	comp=E,20nm,0.8s						
GULN				IAML		11 20 00.0	
	comp=N,21nm,0.4s						
TEVE	Tevekalti-Mers	1.69	66	PN	Pb	11 19 33.2	+0.1
LFK	Lefkose	1.71	106	PN	Pb	11 19 33.9	+0.5
ASGA	Asgata	1.72	124	P	Pn	11 19 31.5	+0.1
ASGA				AML	AML	11 20 06.1	
	comp=N,0.2nm,0.9s						
ASGA				AML	AML	11 20 07.2	
	comp=N,0.2nm,1.0s						
BUCA	Burdur, Bucak-	1.74	334	iP	Pg	11 19 35.3	-0.8
BUCA				iS	Sg	11 19 59.1	+0.4
BUCA				IAML		11 20 08.0	
	comp=E,12nm,0.4s						
IKL	Isikli	1.81	74	PN	Pb	11 19 34.9	-0.3
KKBE	Karaman, Kazim	1.84	38	iP	Pb	11 19 36.4	+0.7
KKBE				IAML		11 20 10.0	
	comp=E,26nm,0.6s						
KKBE				IAML		11 20 10.0	
	comp=N,16nm,0.4s						
BCK	Bucak	1.85	336	PN	Pb	11 19 35.7	-0.1
MVOU	Mavrovouni	1.88	113	P	Pn	11 19 32.9	-0.7
KEBE	Keben-Mersin	1.90	69	PN	Pb	11 19 35.7	-0.9
SILI	Silifke-Mersin	2.04	72	PN	Pb	11 19 37.7	-1.2
GOLH	Golhisar	2.15	313	iP	Pn	11 19 33.3	-4.2
EREN	Erenkoy	2.17	96	PN	Pb	11 19 40.3	-0.9
KIZK	Mersin	2.24	71	PN	Pn	11 19 40.6	+2.0
KONT	Konya--Tatoy	2.27	17	PN	Pb	11 19 41.8	-1.2
OSC1	CSNet OBS 1	2.27	185	S	Sn	11 20 06.7	+0.2
BAGO	Egridir - ISPA	2.29	345	iP	Pb	11 19 42.7	-0.7
BAGO				iS	Sb	11 20 11.8	+0.5
DOGA	KONYA_Doganhis	2.33	3	iP	Pn	11 19 39.1	-1.0
YVAC	Isparta, Yalva	2.51	355	iP	Pn	11 19 44.8	+2.4
YVAC				iS	Sn	11 20 11.9	-0.6
KERG	Konya-Eregli	2.66	51	iP	Pb	11 19 48.1	-1.6
KERG				iS	Sb	11 20 21.6	-0.4
KERG				IAML		11 20 31.0	
	comp=N,7.1nm,0.5s						
OSC2	CSNet OBS 4	2.76	167	S	Sn	11 20 19.5	+1.0

IDC 06 11:34:19.3±29.0**, 26°.14N**×**141°.45E, h0**km**, mb3.9**/4**, mb1 3.9**/4**, mb1mx3.5**/27**, mbtmp3.9**/4**, Error ellipse: s-maj=608.9km s-min=79.7km az=167.0, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	46.32	189	P	P	11 42 46.8	-0.3
	0.5nm,0.5s,baz=9.8,slow=8.4,SNR=11						
ASAR	Alice Springs	50.05	189	P	P	11 43 15.8	-0.1
	0.1nm,0.4s,baz=13,slow=13,SNR=1.3						
DZM	Mont Dzumac	53.70	151	P	P	11 43 42.9	-0.3
	5.7nm,0.6s,baz=326,slow=7.3,SNR=8.5						
STKA	Stephens Creek	57.69	180	P	P	11 44 12.0	+0.4
	2.7nm,1.0s,baz=5.2,slow=11,SNR=4.0						

*KISR **06** 11:38:53.2±0.4, 30°.98N×49°.77E, h145km±34km, ML4.0*
*THR **06** 11:38:54.4±0.6, 31°.08N×49°.93E, h16km±5km, ML3.2*
*TEH **06** 11:38:55.1, 31°.13N×49°.92E, h19km, ML3.4*
ISC 06 11:38:57.2±1.0**, 31°.02N**±0°.04×**49°.87E**±0°.04**, h30**km**, n38,** σ**0s.77**/42**, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABEH	Behbahan	0.53	142	ePg	Pb	11 39 07.3	-0.8
AHWZ	Ahwaz	1.10	287	ePg	Pn	11 39 16.2	-0.3
AHWZ				eSg	Sn	11 39 32.3	+1.6
KLNJ	Kolanjah	1.48	90	ePg	Pn	11 39 22.1	0.0
KLNJ				e		11 39 46.4	
	comp=Z,4µm,0.6s						
IBRJ	Brojen	1.48	53	ePg	Pn	11 39 21.5	-0.6
SHK1	Shahrekord	1.57	33	ePg	Pn	11 39 21.7	-1.5
IPIR	Pirpir	1.88	27	ePg	Pn	11 39 27.8	+0.3
IPIR				e		11 39 56.5	
	comp=Z,4µm,0.6s						
IRAM	Ramesheh	2.29	69	ePn	Pn	11 39 33.6	+0.5
IRAM				e		11 39 39.0	
	comp=Z,1µm,0.6s						
IGAR	Gharneh	2.31	53	ePn	Pn	11 39 33.2	-0.2
UMR	Umm Al-Rimmam	2.37	233	eP	Pn	11 39 33.8	-0.2
AHBU	AHRAM	2.47	150	ePn	Pn	11 39 36.4	+0.9
MIB	Mutribah	2.50	242	eP	Pn	11 39 35.1	-0.7
IKLH	Kolahrood	2.71	32	ePn	Pn	11 39 38.7	-0.3
IKLH				e		11 40 21.3	
	comp=Z,834nm,0.5s						
KHMZ	Khomeyn	2.72	2	ePn	Pn	11 39 38.9	-0.1
KHMZ	Khomeyn	2.72	2	ePn	Pn	11 39 38.9	-0.1
BMDN	Meydan	2.79	342	ePn	Pn	11 39 39.4	-0.6
BMDN				e		11 40 31.4	
	comp=Z,2µm,0.7s						
IZEF	Zefreh	2.81	47	ePn	Pn	11 39 41.3	+1.0
QRN	Al-Qurain	2.83	217	eP	Pn	11 39 39.5	-0.8
RDF	Al-Radifah	2.90	225	eP	Pn	11 39 40.7	-0.7
RDF				eS	Sn	11 40 16.1	+0.9
RDF				IAML		11 40 19.8	
	comp=Z,424nm,0.5s						
RST	Umm Al-Ruwaisa	2.91	239	eP	Pn	11 39 40.6	-0.8
QAMS	Qamsar	3.00	25	ePn	Pn	11 39 43.6	+0.6
IKFM	Kafar-mosalman	3.03	326	ePn	Pn	11 39 43.8	+0.7
NASN	Na'in	3.06	54	ePn	Pn	11 39 43.8	-0.1
NASN	Na'in	3.06	54	ePn	Pn	11 39 43.8	-0.1
IDOB	Doab	3.11	333	ePn	Pn	11 39 45.3	+0.8
HSAM	Samen	3.36	342	ePn	Pn	11 39 49.3	+1.4
KRSH	Karshahi	3.51	32	ePn	Pn	11 39 49.4	-0.5
ASAO	Ashtian	3.52	2	ePn	Pn	11 39 49.7	-0.5
ASAO				eSg	Sb	11 40 42.4	+0.9
ASAO				IAML		11 40 48.0	
	comp=E,44nm,0.6s						
ASAO	Ashtian	3.52	2	ePn	Pn	11 39 49.7	-0.5
GHVR	GHOM	3.66	19	ePn	Pn	11 39 50.9	-0.9
GHVR				eSg	Sb	11 40 44.9	-0.2
GHVR	GHOM	3.66	19	ePn	Pn	11 39 50.9	-0.9
HAGD	Aghdareh	3.85	351	ePn	Pn	11 39 53.8	-0.8
HAGD				e		11 41 04.2	
	comp=Z,670nm,0.8s						
ISFB	Sefidab	3.88	30	ePn	Pn	11 39 54.2	-0.7
ANAR	Anarak	3.92	55	ePn	Pn	11 39 55.5	-0.1
IQOM	Qom	3.95	14	ePn	Pn	11 39 54.6	-1.4
IQOM				e		11 40 57.2	
	comp=Z,348nm,0.9s						
IVRN	Varamin	4.26	21	ePn	Pn	11 39 59.6	-0.6
IGHG	Ghaleghazi	4.32	321	ePn	Pn	11 40 00.6	-0.5
IGHG				e		11 41 41.8	
	comp=Z,1µm,1.0s						
IRAZ	Razeghan	4.38	1	ePn	Pn	11 40 01.1	-0.8
QABG	Abgarm-Qazvin	4.69	357	ePn	Pn	11 40 05.4	-0.7

IDC 06 12:02:17.9±3.9**, 3°.12S**×**148°.54E, h0**km**, mb4.3**/4**, mb1 4.5**/4**, mb1mx3.8**/29**, mbtmp4.3**/4**, MS3.5**/12**, Ms1 3.5**/12**, ms1mx3.3**/38**, Error ellipse: s-maj=100.0km s-min=35.2km az=96.0, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	7.85	274	LR	LR	12 06 36.0	
	comp=Z,552nm,18.7s,baz=194,slow=33						
HNR	Honiara	12.95	119	LR	LR	12 10 47.6	
	comp=Z,230nm,19.6s,baz=288,slow=39						
GUMO	Guam	17.00	348	LR	LR	12 11 53.1	
	comp=Z,57nm,18.0s,baz=164,slow=34						
WRA	Warramunga Arr	21.72	219	P	P	12 07 10.3	-0.6
	6.3nm,0.7s,baz=40,slow=11,SNR=40						
ASAR	Alice Springs	24.85	213	P	P	12 07 42.4	+0.1
	4.5nm,0.7s,baz=44,slow=8.1,SNR=67						
DZM	Mont Dzumac	25.63	139	eP	P	12 08 08.0	+19
	7.9nm,0.6s						
DZM				eLR	LR	12 14 44.9	
	comp=Z,402nm,24.9s						
DZM	Mont Dzumac	25.63	139	LR	LR	12 16 51.2	
	comp=Z,224nm,20.6s,baz=335,slow=34						
FITZ	Fitzroy Crossi	26.93	235	P	P	12 08 01.6	+0.4
	17nm,1.1s,baz=57,slow=9.6,SNR=17						
FITZ				LR	LR	12 20 33.7	
	comp=Z,51nm,20.6s,baz=60,slow=41						
H11S3	WAKE ISLAND Hy	27.94	39	T	T	12 37 39.8	
	baz=222,slow=76,SNR=1206						
H11S2	WAKE ISLAND Hy	27.95	39	T	T	12 37 38.3	
	baz=222,slow=76,SNR=988						
H11S1	WAKE ISLAND Hy	27.96	39	T	T	12 37 40.1	
	baz=222,slow=76,SNR=836						
KAPI	Kappang	28.78	265	LR	LR	12 19 42.2	
	comp=Z,42nm,20.1s,baz=162,slow=36						
H11N1	WAKE ISLAND Hy	28.98	38	T	T	12 38 54.5	
	baz=221,slow=76,SNR=184						
H11N3	WAKE ISLAND Hy	29.00	38	T	T	12 38 55.6	
	baz=221,slow=76,SNR=375						
H11N2	WAKE ISLAND Hy	29.00	38	T	T	12 38 55.7	
	baz=221,slow=76,SNR=320						
MSVF	Nonsavu	32.37	119	LR	LR	12 20 50.2	
	comp=Z,83nm,21.9s,baz=271,slow=34						
URZ	Urewera	43.64	147	LR	LR	12 26 29.5	
	comp=Z,135nm,18.4s,baz=211,slow=33						
CMAR	Chiang Mai Arr	53.33	296	P	P	12 11 39.1	-0.2
	0.5nm,0.3s,baz=113,slow=6.9,SNR=4.1						
CMAR				LR	LR	12 34 36.5	
	comp=Z,29nm,19.8s,baz=196,slow=36						
SONM	Songino Array	62.69	329	LR	LR	12 39 52.6	
	comp=Z,39nm,19.9s,baz=219,slow=36						
TBI	Tubuai	63.11	115	eLR	LR	12 32 16.0	
	comp=Z,88nm,30.0s						
YBH	Yreka Blue Hor	91.12	48	LR	LR	12 49 21.1	
	comp=Z,65nm,20.1s,baz=304,slow=31						
GEYT	Alibeck	92.23	308	LR	LR	12 59 50.6	
	comp=Z,24nm,19.1s,baz=195,slow=37						
TORD	Torodi Ar. Bea	145.75	289	PKPbc	PKPdf	12 21 59.2	-0.5
	3.9nm,1.1s,baz=65,slow=2.8,SNR=9.5						

IDC 06 12:03:25.7±1.8**, 1°.91S**×**139°.13E, h0**km**, mb3.6**/2**, mb1 3.9**/3**, mb1mx3.5**/30**, mbtmp3.7**/3**, ML4.0**/1**, MS3.4**/3**, Ms1 3.4**/3**, ms1mx2.8**/35**, Error ellipse: s-maj=32.3km s-min=15.0km az=16.0, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	1.69	111	Pg	Pn	12 03 56.1	-0.3
	10nm,0.3s,baz=274,slow=19,SNR=34						
JAY				Lg	Lg	12 04 19.1	
	27nm,0.3s,baz=300,slow=22,SNR=15						
WRA	Warramunga Arr	18.52	194	P	P	12 07 43.7	-0.1
	0.5nm,0.3s,baz=16,slow=12,SNR=12						
ASAR	Alice Springs	22.21	193	P	P	12 08 24.2	+0.2
	2.6nm,0.8s,baz=18,slow=9.4,SNR=18						
ASAR				LR	LR	12 18 29.8	
	comp=Z,201nm,18.7s,baz=43,slow=41						
JCJ	Chichijima	28.99	6	LR	LR	12 19 10.8	
	comp=Z,49nm,20.8s,baz=136,slow=33						
MJAR	Matsushiro Arr	38.27	359	LR	LR	12 25 58.7	
	comp=Z,39nm,18.3s,baz=230,slow=35						
MKAR	Makanchi Array	69.42	322	P	P	12 14 35.6	-0.1
	0.2nm,0.5s,baz=100,slow=6.4,SNR=2.0						

NOU 06 12:15:24.3, 14°.61S×**172°.85W, h200**km**, mb4.1**/6**, Samoa Islands, Samoa Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.25	56	P	Pn	12 15 55.7	-0.3
NIUE	Niue	5.25	148	P	Pn	12 16 41.9	0.0
	73nm,1.8s						

*SOF **06** 12:15:29.9, 41°.19N×23°.55E, h10km, MD2.5*
*ATH **06** 12:15:30.9, 41°.21N×23°.59E, h10km±3km, ML1.8/6, Error ellipse: s-maj=3.3km s-min=1.1km az=136.0*
*BEO **06** 12:15:30.7±0.7, 41°.16N×23°.60E, h14km±4km, ML1.8/6*
*SKO **06** 12:15:32.0, 41°.17N×23°.59E, h5km*
ISC 06 12:15:30.9±0.8**, 41°.21N**±0°.02×**23°.58E**±0°.03**, h10**km±6km**,**
n27, σ**0s.51**/42**, 2C, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRS	Serrai	0.10	175	ePg	Pg	12 15 33.3	-0.1
SRS				eSg	Sg	12 15 35.0	-0.2
SRS	Serrai	0.10	175	P	Pg	12 15 33.4	-0.1
SRS				S	Sg	12 15 35.2	-0.1
SRS				AML	AML	12 15 35.4	
	comp=E,1555µm,0.2s						
SRS				AML	AML	12 15 35.4	
	comp=N,2060µm,0.2s						
SRS	Serrai	0.10	175⇑	iPg	Pg	12 15 33.4	0.0
SRS				iSg	Sg	12 15 35.1	-0.1
NVR	Nevrokopi	0.25	57	P	Pg	12 15 35.9	-0.1
NVR				S	Sg	12 15 39.6	0.0
NVR				AML	AML	12 15 39.8	
	comp=N,674µm,0.1s						
NVR				AML	AML	12 15 39.8	
	comp=E,993µm,0.2s						
MMB	Musomiste	0.39	16	iPg	Pg	12 15 37.8	-0.8
SOH	Sokhos	0.43	204	P	Pg	12 15 39.1	-0.2
SOH				S	Sg	12 15 45.0	+0.1
SOH				AML	AML	12 15 46.2	
	comp=E,458µm,0.4s						
SOH				AML	AML	12 15 46.6	
	comp=N,510µm,0.3s						
SOH	Sokhos	0.43	204⇑	iPg	Pg	12 15 39.2	-0.1
SOH				iSg	Sg	12 15 45.1	+0.1
HORT	Hortiatis	0.71	211	P	Pg	12 15 44.3	-0.4
HORT				AML	AML	12 15 55.7	
	comp=E,98µm,0.1s						
HORT				AML	AML	12 15 57.7	
	comp=N,107µm,0.1s						
KAVA	Kavala	0.74	107	P	Pg	12 15 44.5	-0.7
THE	Thessaloniki	0.74	219	P	Pg	12 15 44.9	-0.4
THE	Thessaloniki	0.74	219	iPg	Pg	12 15 44.8	-0.4
THE				iSg	Sg	12 15 55.0	0.0
KKB	Krupnik	0.75	330	iPg	Pg	12 15 44.3	-1.1
VAY	Valandovo	0.77	278	ePg	Pb	12 15 46.8	+0.4
VAY				eSg	Sb	12 15 56.9	0.0
VAY	Valandovo	0.77	278	iPg	Pb	12 15 47.0	+0.6
VAY				iSg	Sb	12 15 57.1	+0.2
VAY				eLg	Lg	12 15 58.1	
	comp=N,15nm,0.2s						
VAY				eLg	Lg	12 15 59.1	
	comp=E,14nm,0.3s						
PLG	Polygyros	0.84	187	P	Pg	12 15 46.7	-0.5
PLG				AML	AML	12 16 01.0	
	comp=E,98µm,0.3s						
PLG				AML	AML	12 16 01.5	
	comp=N,125µm,0.3s						
GRG	Griva	0.93	254	iPg	Pg	12 15 48.2	-0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
OUR	Ouranopolis	0.93	161	P	Pg	12 15 48.3	-0.5
RZN	Rozhen	0.98	61	i Pg	Pb	12 15 50.4	+0.3
THAS	Thassos island	1.05	125	P	Pg	12 15 50.5	-0.7
THAS				AML	AML	12 16 06.6	
	comp=N,134µm,0.2s						
THAS				AML	AML	12 16 07.2	
	comp=E,144µm,0.2s						
PLD	Plovdiv	1.23	43	i Pg	Pg	12 15 54.4	0.0
PLD				i Sg	Sn	12 16 12.2	+1.5
VTS	Vitosha	1.43	350	ePg	Pn	12 15 57.3	+0.2
VTS				eSg	Sg	12 16 16.8	0.0
VTS	Vitosha	1.43	350	P	Pb	12 15 57.5	-0.2
VTS	Vitosha	1.43	350	i Pg	Pb	12 15 57.7	0.0
VTS				i Sg	Sg	12 16 17.0	+0.2
KDZ	Kurdzhali	1.45	72	P	Pn	12 15 56.9	-0.3
BOSS	Bosilegrad	1.52	328	ePg	Pg	12 16 00.4	+0.3
BOSS				eSg	Sg	12 16 20.6	+0.7
PRVS	Prvonek	1.71	319	ePg	Pg	12 16 03.7	-0.1
PRVS				eSg	Sg	12 16 25.9	-0.1
BARS	Barje	2.07	321	ePn	Pn	12 16 06.0	+0.2
BARS				eSn	Sn	12 16 30.4	-1.3

IDC 06 12:17:51.0±3.2, 22°.76N×11°.60W, h0km, mb4.0/1, mb1 3.7/3, mb1mx3.3/50, mbtmp3.7/3, ML3.5/2, Error ellipse: s-maj=96.6km s-min=35.1km az=72.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	15.84	125	Pn	Pn	12 21 35.6	+0.1
	0.1nm,0.3s,baz=310,slow=12,SNR=2.4						
TORD				Sn	Sn	12 24 33.1	+1.3
	0.1nm,0.3s,baz=314,slow=25,SNR=1.9						
DBIC	Dimbokro	17.27	157	P	Pn	12 21 53.7	+0.1
	0.5nm,0.3s,baz=351,slow=11,SNR=5.8						
FINES	FINESS Array B	46.50	24	P	P	12 26 19.8	0.0
	1.7nm,0.8s,baz=244,slow=9.1,SNR=2.1						
ASAR	Alice Springs	148.32	99	PKPbc	PKPbc	12 37 39.1	-0.9
	0.3nm,0.6s,baz=294,slow=3.4,SNR=2.0						

JMA 06 12:27:14.9±0.1, 24°.82N×122°.42E, h0km, M2.5
TAP 06 12:27:14.5, 24°.90N×122°.43E, h13km, ML2.2, C
ISC 06 12:27:15.0±1.2, 24°.86N±0°.05×122°.43E±0°.03, h10km±12km, n24, σ0s.41/41, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.42	290	P	Pg	12 27 23.4	+0.1
	baz=285						
TWB1				S	Sb	12 27 29.9	-1.1
	baz=285						
EGS		0.45	268	P	Pg	12 27 24.1	+0.3
	baz=253						
TWC	Suao	0.58	244	P	Pg	12 27 26.1	-0.2
	baz=240						
TWC				eS	Sb	12 27 34.8	-0.8
	baz=240						
NWF	Wu-fen Shan	0.62	290	i P	Pb	12 27 27.6	-0.4
	baz=286						
NWF				S	Sb	12 27 36.5	-0.3
	baz=286						
WFSB	Wu-fen Shan	0.62	290	P	Pb	12 27 27.7	-0.2
	baz=286						
WFSB				S	Sb	12 27 36.4	-0.3
	baz=286						
JYNG	Yonagunijimaku	0.62	131	P	Pg	12 27 27.0	-0.1
JYNG				eS	Sg	12 27 35.8	+0.5
YOJ	Yonaguni jima	0.67	127	P	Pg	12 27 27.7	-0.2
YOJ				eS	Sg	12 27 36.6	0.0
YOJ	Yonaguni jima	0.67	127	P	Pg	12 27 27.9	0.0
	baz=129						
NDS	Dongshan	0.69	251	P	Pg	12 27 28.4	+0.1
	baz=247						
NDS				S	Sb	12 27 38.3	-0.2
	baz=247						
TWE	Neicheng	0.70	259	P	Pb	12 27 29.0	-0.3
	baz=255						
TWE				S	Sb	12 27 39.1	-0.1
	baz=255						
ENA	Nanau	0.76	235	P	Pg	12 27 29.3	-0.4
	baz=232						
ENA				S	Sb	12 27 40.2	-0.5
	baz=232						
YM01	YM01	0.83	290	P	Pb	12 27 31.2	-0.3
	baz=287						
YM01				eS	Sb	12 27 42.7	0.0
	baz=287						
TWY	Chenhua	0.85	299	eP	Pb	12 27 31.6	-0.3
	baz=282						
TWY				eS	Sb	12 27 44.2	+0.8
	baz=282						
NDT	Datong Townshi	0.87	253	eP	Pb	12 27 31.9	-0.3
	baz=250						
NDT				eS	Sb	12 27 44.3	+0.4
	baz=250						
YHNB	Yeheng	0.97	259	P	Pb	12 27 33.8	-0.2
	baz=256						
YHNB				S	Sb	12 27 47.4	+0.4
	baz=256						
NSK	Sanguang	0.99	259	P	Pb	12 27 34.2	-0.1
	baz=256						
NSK				S	Sb	12 27 47.4	0.0
	baz=256						
NACB	Ninganchiao	1.02	228	P	Pg	12 27 34.4	-0.2
	baz=236						
NACB				S	Sg	12 27 47.8	-0.2
	baz=236						
NNS	Nan Shan	1.05	247	P	Pb	12 27 35.4	+0.1
	baz=231						
NNS				S	Sb	12 27 49.9	+0.7
	baz=231						
ETLH	Xiulin Townshi	1.08	233	P	Pg	12 27 35.5	-0.3
	baz=231						
ETLH				S	Sb	12 27 50.2	+0.1
	baz=231						
FUSS	Fushou	1.24	241	P	Pb	12 27 38.6	0.0
	baz=239						
IRIF	Iriomote-Funau	1.30	114	P	Pn	12 27 39.4	+0.2
HATJ	Hateruma jima	1.49	122	P	Pg	12 27 43.2	-0.4
JKRS	Kuro-shima	1.57	113	P	Pn	12 27 43.6	+0.7
JIJ	Ishigaki jima	1.64	107	P	Pg	12 27 46.0	-0.5

JMA 06 12:32:24.9±0.1, 28°.01N×131°.21E, h93km±3km, M3.6, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	Kikaishima	1.13	286	P	Pn	12 32 46.8	+0.5
JZK				eS	Sn	12 33 03.4	+0.9
JAM	Amami Oshima	1.47	286	P	Pn	12 32 50.8	+0.4
JAM				eS	Sn	12 33 09.0	-0.7
JAMN	Amaminishikomi	1.81	278	P	Pn	12 32 55.4	+0.7
JAMN				eS	Sn	12 33 17.4	-0.1
JTK	Tokunoshima	2.01	264	P	Pn	12 32 58.2	+0.8
JTK				eS	Sn	12 33 21.7	-0.4
JKDJ	Kitadaitoujima	2.05	178	P	Pn	12 32 58.2	+0.3
JKDJ				eS	Sn	12 33 22.6	-0.5
JTAJ	Takarajima	2.10	303	P	Pn	12 32 59.1	+0.6
JTAJ				eS	Sn	12 33 23.8	-0.4
JNN	Nakanoshima	2.17	328	P	Pn	12 33 00.2	+0.8
JNN				eS	Sn	12 33 25.0	-0.8
JMZ	Minamidaito 2	2.18	180	P	Pn	12 33 00.1	+0.5
JMZ				eS	Sn	12 33 25.0	-1.1
JYAK	Yakushimahirau	2.30	345	P	Pn	12 33 01.9	+0.7
JYAK				eS	Sn	12 33 27.7	-1.2
JMTN	Minamitane	2.39	354	P	Pn	12 33 03.1	+0.7
JMTN				eS	Sn	12 33 31.1	0.0
JOKE	Okinoerabujima	2.43	255	P	Pn	12 33 03.7	+0.9
JOKE				eS	Sn	12 33 31.5	-0.5
JKC	Kuchinoerabu	2.60	340	P	Pn	12 33 05.9	+0.8
JKC				eS	Sn	12 33 35.0	-1.0
JYRO	Yoronjima	2.64	249	P	Pn	12 33 06.4	+0.8
JYRO				eS	Sn	12 33 37.3	+0.3
JTN	Tanegashima 3	2.64	356	P	Pn	12 33 06.7	+1.0
JTN				eS	Sn	12 33 36.4	-0.6
JOW	Kunigami	2.86	246	P	Pn	12 33 09.4	+0.8
JIH	Iheya	3.04	252	P	Pn	12 33 11.9	+0.9
JIH				eS	Sn	12 33 46.3	-0.2
JNTH	Nagotoyohara	3.20	243	P	Pn	12 33 13.8	+0.6
JNTH				eS	Sn	12 33 50.2	-0.3
JJT3	Tamagusuku3	3.58	239	P	Pn	12 33 19.4	+1.2
JJT3				eS	Sn	12 33 59.9	+0.4
JAGN	Aguni-jima	3.80	249	P	Pn	12 33 22.6	+1.3
JAGN				eS	Sn	12 34 05.0	0.0
JTZ	Takazaki	3.88	358	S	Sn	12 34 06.5	-0.3
JKE	Kume jima 2	4.28	248	P	Pn	12 33 28.3	+0.5

TUL 06 13:02:11.9±0.4, 36°.57N±0°.01×97°.40W±0°.02, h7km±6km, ML2.6, mb_Lg2.3/12(NEIC), Error ellipse: s-maj=2.3km s-min=1.7km az=143.0
NEIC 06 13:02:11.7±0.4, 36°.56N±0°.01×97°.40W±0°.02, h6km±7km, Error ellipse: s-maj=2.3km s-min=1.4km az=142.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLOK	Blackwell	0.25	37		Pg	13 02 16.9	+0.3
BLOK				Sg	Sg	13 02 19.7	-0.1
KAN13	South Haven SW	0.45	352		Pg	13 02 20.6	+0.1
KAN13				Sg	Sg	13 02 26.5	+0.1
GC02	Grant County #	0.47	308		Pg	13 02 21.0	+0.2
CROK	Carrier	0.47	263		Pg	13 02 21.1	+0.3
CROK				Sg	Sg	13 02 27.2	+0.2
KAN17	Caldwell West	0.56	329		Pg	13 02 22.6	0.0
KAN14	Manchester OK	0.60	311	Pg	Pg	13 02 21.1	-2.1
KAN05	Bluff City Nor	0.66	325	Pg	Pg	13 02 24.5	0.0
KS20	Mayfield South	0.68	349		Pg	13 02 24.6	-0.2
QUOK	Quay	0.68	125		Pg	13 02 24.8	0.0
OK032	Salt Plains WL	0.70	290		Pg	13 02 25.1	0.0
OK031	S. Brethren Rd	0.76	143		Pg	13 02 26.3	0.0
OK029	Liberty Lake	0.77	183		Pg	13 02 26.4	0.0
KAN10	Anthony SW Sta	0.79	315	Pg	Pg	13 02 26.9	0.0
T35A	Sooner Cattle	0.79	63	Pg	Pg	13 02 26.8	-0.2
KAN08	Anthony NE Sta	0.81	325		Pg	13 02 27.0	-0.2
KAN12	Harper NE Stat	0.88	327	Pg	Pg	13 02 28.3	-0.2
OK025	Westminster Rd	0.98	177		Pg	13 02 30.4	-0.2
OKCFA	Oklahoma City	1.15	182		Pg	13 02 33.3	-0.4
OKCSW	OKLAHOMA CITY	1.16	182		Pg	13 02 33.3	-0.5
FNO	Franklin	1.30	180		Pn	13 02 35.9	-0.6
U32A	Winter Ranch,	1.30	262	Pn	Pn	13 02 36.0	-0.5
X34A	Smith Ranch, M	1.99	190	IAmb_Lg		13 03 15.2	
	comp=Z,14nm,1.2s						
WMOK	Wichita Mounta	2.14	212	Pn	Pn	13 02 47.9	-0.2
WMOK				IAmb_Lg		13 03 19.4	
	comp=Z,13nm,0.7s						
U38A	Gravette	2.43	92	IAmb_Lg		13 03 28.4	
	comp=Z,9.2nm,0.9s						
LOOK	Love County	2.57	176	Pn	Pn	13 02 53.9	0.0
X37A	Clayton	2.57	139	Pn	Pn	13 02 53.8	-0.1
HHAR	Hobbs	2.80	95	Pn	Pn	13 02 57.2	+0.1
MIAR	Mount Ida	3.71	122	IAmb_Lg		13 04 11.0	
	comp=Z,8.0nm,0.9s						
AMTX	Amarillo	3.87	246	IAmb_Lg		13 04 19.8	
	comp=Z,6.3nm,0.7s						
X40A	Basin Creek Fa	4.26	118	IAmb_Lg		13 04 29.1	
	comp=Z,6.0nm,0.8s						

KMA 06 13:07:29.0±1.0, 35°.68N×128°.00E, h6km±7km, Error ellipse: s-maj=8.7km s-min=4.3km az=136.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSKCH	Geochang	0.09	226	P	Pg	13 07 31.1	+0.1
	SNR=55						
KSKCH	Geochang	0.09	226	P	Pg	13 07 31.1	+0.1
	SNR=55						
KSKCH				S	Sg	13 07 32.6	+0.3
KSKCH	Geochang	0.09	226	P	Pg	13 07 31.1	+0.1
	SNR=55						
KSGIC	Gimchen	0.41	12	P	Pg	13 07 37.0	0.0
	SNR=16						
KSGIC	Gimchen	0.41	12	P	Pg	13 07 37.0	0.0
	SNR=16						
KSGIC	Gimchen	0.41	12	P	Pg	13 07 37.0	0.0
	SNR=16						
KSJEO	Jeonju	0.63	295	P	Pg	13 07 41.1	0.0
	SNR=14						
KSJEO	Jeonju	0.63	295	P	Pg	13 07 41.1	0.0
	SNR=14						
KSJEO	Jeonju	0.63	295	P	Pg	13 07 41.1	0.0
	SNR=14						
KSBON	Boeun	0.84	349	P	Pb	13 07 45.8	-0.2
	SNR=9.2						
KSBON	Boeun	0.84	349	P	Pb	13 07 45.8	-0.2
	SNR=9.2						
KSBON	Boeun	0.84	349	P	Pb	13 07 45.8	-0.2
	SNR=9.2						
KSJEU	Jeongeup	0.89	258	P	Pg	13 07 45.9	-0.2
	SNR=6.5						

IDC 06 13:07:36.9±3.9, 3°.32S×148°.10E, h0km, mb4.1/3, mb1 4.4/3, mb1mx3.7/40, mbtmp4.1/3, MS3.7/23, Ms1 3.7/23, ms1mx3.5/36, Error ellipse: s-maj=113.3km s-min=49.7km az=107.0
NEIC 06 13:07:37.2±1.9, 2°.6S±0°.1×147°.92E±0°.10, h48km±9km, mb4.3/12, Error ellipse: s-maj=18.6km s-min=13.3km az=201.0
ISC 06 13:07:37.0±1.0, 2°.5S±0°.1×147°.9E±0°.2, h50km, n39, σ1s.71/18, mb4.1/9, MS3.7/19, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	0.73	313		Pn	13 07 51.6	+0.4
JAY	Jayapura	7.19	270	LR	LR	13 11 52.1	
	comp=Z,581nm,19.3s,baz=134,slow=34						
HNR	Honiara	13.79	120	LR	LR	13 16 02.2	
	comp=Z,299nm,19.1s,baz=290,slow=38						
GUMO	Guam	16.31	349	LR	LR	13 16 22.8	
	comp=Z,202nm,21.0s,baz=139,slow=31						
SIJI	Sorong	16.71	275	LR	LR	13 16 59.0	
	comp=Z,324nm,21.2s,baz=227,slow=33						
SAUI	Saumlaki	17.39	251	Pn	P	13 11 34.8	-2.2
WR0	Warramunga Arr	21.68	216	P	P	13 12 23.9	+0.2
WR0				IAmb	IAmb	13 12 26.6	
	comp=Z,7.1nm,1.0s						
WRAB	Tennant Creek	21.77	216	P	P	13 12 24.3	-0.4
WRAB				IAmb	IAmb	13 12 27.6	
	comp=Z,6.3nm,0.8s						
WB2	Warramunga Arr	21.78	216	P	P	13 12 24.2	-0.6
WB2				IAmb	IAmb	13 12 27.7	
	comp=Z,7.9nm,0.9s						
WRA	Warramunga Arr	21.79	216	P	P	13 12 25.1	+0.2
	comp=Z,5.0nm,0.9s,baz=42,slow=10,SNR=17						
WRA				LR	LR	13 21 35.1	
	comp=Z,122nm,20.1s,baz=140,slow=39						
WRA	Warramunga Arr	21.79	216	P	P	13 12 24.4	-0.5
AS31	Alice Springs	24.99	212	P	P	13 12 56.9	+0.6
ASAR	Alice Springs	24.99	212	P	P	13 12 57.3	+1.0
	comp=Z,2.7nm,0.9s,baz=40,slow=7.4,SNR=19						
ASAR				LR	LR	13 24 01.8	
	comp=Z,106nm,20.7s,baz=2.0,slow=40						
DZM	Mont Dzumac	26.48	139	LR	LR	13 21 56.1	
	comp=Z,348nm,21.6s,baz=318,slow=33						
DZM	Mont Dzumac	26.48	139	P	P	13 13 09.3	-0.6
DZM				IAmb	IAmb	13 13 25.4	
	comp=Z,17nm,1.3s						
FITZ	Fitzroy Crossi	26.75	233	P	P	13 13 16.4	+4.2
	comp=Z,7.2nm,1.0s,baz=70,slow=9.7,SNR=10.0						
FITZ	Fitzroy Crossi	26.75	233	P	P	13 13 12.4	+0.1
FITZ				IAmb	IAmb	13 13 17.8	
	comp=Z,12nm,1.1s						
OUENC	Ouen Island, N	26.99	139	P	P	13 13 15.2	+0.9
ARMA	Armidale	27.95	173	P	P	13 13 22.4	-0.6
ARMA				IAmb	IAmb	13 13 31.1	
	comp=Z,13nm,1.2s						
MSVF	Nonsavu	33.21	119	LR	LR	13 27 13.2	
	comp=Z,81nm,20.8s,baz=316,slow=36						
MJAR	Matsushiro Arr	39.92	348	LR	LR	13 29 06.0	
	comp=Z,50nm,21.6s,baz=105,slow=32						
KSRS	Korea Array	43.90	337	LR	LR	13 31 46.9	
	comp=Z,61nm,19.8s,baz=157,slow=32						
URZ	Urewera	44.47	147	LR	LR	13 31 34.2	
	comp=Z,188nm,20.1s,baz=212,slow=33						
USA0B	Ussuriysk Arra	48.67	345	P	P	13 16 14.5	-1.6
USA0B				IAmb	IAmb	13 16 19.4	
	comp=Z,4.1nm,0.9s						
USRK	Ussuriysk Ar.	48.67	345	P	P	13 16 14.6	-1.5
CMAR	Chiang Mai Arr	52.50	296	LR	LR	13 40 20.1	
	comp=Z,22nm,18.4s,baz=90,slow=37						
SONM	Songino Array	61.87	330	LR	LR	13 44 56.4	
	comp=Z,58nm,20.5s,baz=69,slow=36						
CASY	Casey	68.81	195	P	P	13 18 34.6	-1.1
VNDA	Vanda	75.29	177	LR	LR	13 50 51.8	
	comp=Z,29nm,18.1s,baz=346,slow=35						
MKAR	Makanchi Array	75.44	320	LR	LR	13 51 45.0	
	comp=Z,45nm,20.0s,baz=73,slow=35						
KDAK	Kodiak Island	76.45	28	LR	LR	13 48 12.2	
	comp=Z,43nm,20.5s,baz=316,slow=32						
ZALV	Zalesovo Beam	76.60	327	LR	LR	13 53 02.2	
	comp=Z,37nm,19.8s,baz=137,slow=35						
AAK	Ala-Archa	79.58	314	LR	LR	13 55 04.4	
	comp=Z,42nm,20.1s,baz=109,slow=36						
GEYT	Alibeck	91.38	308	LR	LR	14 05 05.6	
	comp=Z,27nm,19.1s,baz=190,slow=38						
ARU	Arti	91.73	326	LR	LR	14 02 01.2	
	comp=Z,71nm,21.0s,baz=100,slow=35						
AKTO	Aktyubinsk	91.87	320	LR	LR	14 01 57.0	
	comp=Z,55nm,20.1s,baz=83,slow=35						
NVAR	Mina Array Bea	94.54	52	LR	LR	13 58 00.1	
	comp=Z,42nm,19.0s,baz=254,slow=32						
KIRV	Kirov	96.59	329	LR	LR	14 05 01.3	
	comp=Z,38nm,21.8s,baz=66,slow=35						
TORD	Torodi Ar. Bea	144.96	289	PKPbc	PKiKP	13 27 17.0	+3.4
	comp=Z,1.6nm,1.1s,baz=65,slow=2.7,SNR=4.2						

WEL 06 13:08:26.2±1.1, 35°S±9°×17°8W±1°1, h164km±35km, M4.3/13, mB4.8/1, ML4.5/8, MLv4.3/13, Mw(mB)4.1/1, Error ellipse: s-maj=0.0km s-min=0.0km az=63.1, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.74	230	P	Pn	13 09 22.7	-0.6
MXZ				S	Sn	13 10 07.2	-0.8
WMGZ	Waiomatatini S	3.84	227	P	Pn	13 09 23.8	-0.9
WMGZ				S	Sn	13 10 10.5	+0.3
PKGZ	Pakihiroa	4.09	228	P	Pn	13 09 27.5	-0.4
PKGZ				S	Sn	13 10 16.5	+0.4
PUZ	Puketiti	4.10	225	P	Pn	13 09 27.6	-0.4
PUZ				S	Sn	13 10 16.2	-0.1
HAZ	Te Kaha	4.19	232	P	Pn	13 09 29.7	+0.5
HAZ				S	Sn	13 10 20.7	+2.3
TWGZ	Tauwhareparae	4.33	226	P	Pn	13 09 31.8	+0.8
TWGZ				S	Sn	13 10 22.6	+0.9
RUGZ	Raukumara Rang	4.38	230	P	Pn	13 09 32.2	+0.4
CNGZ	Carnagh Statio	4.42	222	P	Pn	13 09 33.3	+1.2
TKGZ	Te Karaka	4.59	224	P	Pn	13 09 35.6	+1.3
TKGZ				S	Sn	13 10 28.6	+1.0
MWZ	Matawai	4.71	227	P	Pn	13 09 36.3	+0.4
MWZ				S	Sn	13 10 30.5	+0.1
RIGZ	Rimuhau	4.82	223	P	Pn	13 09 37.1	-0.3
RIGZ				S	Sn	13 10 34.0	+0.8
RAGZ	Rawiri	4.88	227	P	Pn	13 09 37.7	-0.5
RAGZ				S	Sn	13 10 35.0	+0.4
URZ	Urewera	4.92	231	P	Pn	13 09 38.3	-0.3
URZ				S	Sn	13 10 35.0	-0.3
MHGZ	Mahia Peninsul	5.07	218	P	Pn	13 09 39.8	-0.9
SNGZ	Shannon Statio	5.11	225	P	Pn	13 09 38.5	-2.7
SNGZ				S	Sn	13 10 39.6	-0.4
TGRZ	Tauranga	5.21	240	P	Pn	13 09 42.9	+0.4
MUGZ	Murupara	5.26	230	P	Pn	13 09 43.5	+0.3
MUGZ				S	Sn	13 10 42.5	-1.1
KUZ	Kuaotunu	5.26	251	P	Pn	13 09 43.3	+0.1
RAHZ	Arahi	5.35	225	S	Sn	13 10 46.4	+0.8
WHHZ	Waihua	5.37	223	S	Sn	13 10 47.8	+1.7
TOZ	Tahuroa Road	5.75	242	P	Pn	13 09 50.5	+0.8
BKZ	Black Stump Fm	5.86	226	P	Pn	13 09 51.1	0.0
BKZ				S	Sn	13 10 57.8	0.0
CTZ	Chatham Island	8.57	173	S	Sn	13 12 03.0	+0.6

ASRS 06 13:12:04.4±0.4, 50°N±3°×9°7E±°, h10km, MLv3.9/12, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZLR	Kyzyl	2.38	324	P	Pn	13 12 38.6	-4.8
KZLR				S	Sn	13 13 13.8	+1.1
MOY	Mondy	3.31	54	P	Pn	13 12 53.3	-3.0
MOY				S	Sn	13 13 38.5	+2.8
DJOS	Djoyskaya Sosn	4.48	314	P	Pn	13 13 11.5	-0.8
DJOS				S	Sn	13 14 03.2	-1.2
CERR	Cheremushki	4.51	315	P	Pn	13 13 13.8	+1.2
CERR				S	Sn	13 14 05.3	+0.2
DJO	Djoy, Khakassi	4.55	313	P	Pn	13 13 14.3	+1.0
DJO				S	Sn	13 14 09.3	+3.0
TBTR	Tabat	4.88	312	P	Pn	13 13 17.4	-0.4
TBTR				S	Sn	13 14 16.6	+2.2
CUR	Chagan-Uzun	5.40	276	P	Pn	13 13 24.6	-0.4
CUR				S	Sn	13 14 28.3	+1.1
ULGR	Ulagan, Altay	5.67	282	P	Pn	13 13 27.9	-0.8
ULGR				S	Sn	13 14 35.1	+1.2
AKAR	Aktash	5.87	279	P	Pn	13 13 30.7	-0.8
AKAR				S	Sn	13 14 40.0	+1.2
CHBI	Chibit, Altay	5.94	278	P	Pn	13 13 31.7	-0.7
CHBI				S	Sn	13 14 41.0	+0.4
DGZ	Jazzator, Alta	6.01	273	P	Pn	13 13 33.3	-0.1
DGZ				S	Sn	13 14 43.5	+1.2
SHRR	Shira	6.19	322	S	Sn	13 14 45.6	-0.8
LUZB	Luzhba, Kemero	6.20	312	P	Pn	13 13 36.1	+0.2
LUZB				S	Sn	13 14 49.1	+2.4
TASR	Tashtagol	6.28	302	S	Sn	13 14 51.1	+2.4
ARTR	Artybash	6.30	292	S	Sn	13 14 51.8	+2.6
TRG	Tyrgan	6.74	60	S	Sn	13 15 03.3	+3.2
SHTK	Zheleznogorsk-	6.81	345	S	Sn	13 15 01.4	-0.2
GZLN	Zheleznogorsk	6.83	346	S	Sn	13 15 03.1	+1.0

IASPEI 06 13:32:41.6±0.8, 38°.52N±0°.02×20°.58E±0°.03, h14km±5km, Error ellipse: s-maj=4.8km s-min=2.4km az=103.2, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009
ATH 06 13:32:42.3, 38°.51N×20°.60E, h11km±1km, ML2.6/11, Error ellipse: s-maj=2.1km s-min=0.7km az=283.0
THE 06 13:32:42.2, 38°.51N×20°.59E, h9km, ML2.8/13, Error ellipse: s-maj=0.7km s-min=0.2km az=286.0
ISC 06 13:32:41.7±0.8, 38°.52N±0°.02×20°.58E±0°.03, h14km±5km, n52, σ0s.52/76, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSK	Fiskardo	0.06	194	P	Pg	13 32 44.2	-0.2
FSK				S	Sg	13 32 45.8	-0.4
	25µm,0.3s						
FSK	Fiskardo	0.06	194	P	Pg	13 32 44.2	-0.2
FSK				S	Sg	13 32 45.8	-0.4
FSK				AML	AML	13 32 46.1	
	comp=E,71966µm,0.3s						
FSK				AML	AML	13 32 46.2	
	comp=N,30160µm,0.3s						
EVGI	Lefkada island	0.12	30	P	Pg	13 32 45.2	+0.2
EVGI				S	Sg	13 32 47.3	0.0
	comp=N,11µm,0.2s						
EVGI	Lefkada island	0.12	30	P	Pg	13 32 45.2	+0.2
EVGI				S	Sg	13 32 47.3	0.0
DRAG	Dragano-Lefkad	0.17	358	P	Pg	13 32 45.7	0.0
DRAG				S	Sg	13 32 48.6	+0.2
	comp=N,11µm,0.2s						
NYDR	Nydri-Lefkada	0.22	25	P	Pg	13 32 46.8	+0.3
NYDR				S	Sg	13 32 50.1	+0.4
	comp=N,3µm,0.2s						
KEF5	Kardakata, Kep	0.26	200	P	Pg	13 32 47.3	+0.2
KEF5				S	Sg	13 32 51.2	+0.4
	comp=N,4µm,0.2s						
KEF5	Kardakata, Kep	0.26	200	P	Pg	13 32 47.3	+0.2
KEF5				S	Sg	13 32 51.6	+0.8
LKD2	Lefkada island	0.28	12	P	Pg	13 32 47.7	+0.2
LKD2				S	Sg	13 32 52.1	+0.6
	comp=N,1µm,0.4s						
LKD2	Lefkada island	0.28	12	P	Pg	13 32 47.7	+0.2
LKD2				S	Sg	13 32 52.1	+0.6
LKD2				AML	AML	13 32 53.6	
	comp=E,1954µm,0.4s						
LKD2				AML	AML	13 32 54.1	
	comp=N,1946µm,0.3s						
KEF4	Livadi, Kephal	0.29	205	P	Pg	13 32 48.0	+0.3
KEF4				S	Sg	13 32 52.3	+0.6
	comp=N,11µm,0.2s						

KEF4	Livadi, Kephal	0.29	205	P	Pg	13 32 48.0	+0.3
KEF4				S	Sg	13 32 52.8	+1.1
TSLK	Tsoukalades, L	0.31	11	P	Pg	13 32 48.4	+0.3
TSLK				S	Sg	13 32 53.3	+0.8
	comp=N,1μm,0.5s						
TSLK	Tsoukalades, L	0.31	11	P	Pg	13 32 48.4	+0.3
TSLK				S	Sg	13 32 53.3	+0.8
DMLN	Damoulianata-K	0.32	210	P	Pg	13 32 48.5	+0.2
DMLN				S	Sg	13 32 53.6	+0.8
	comp=N,2μm,0.5s						
LXRA	Lixouri, Kepha	0.34	200	P	Pg	13 32 48.9	+0.4
LXRA				S	Sg	13 32 53.9	+0.7
VLS	Valsamata	0.34	179	P	Pg	13 32 48.8	+0.1
VLS				S	Sg	13 32 54.0	+0.7
	comp=N,2μm,0.2s						
VLS	Valsamata	0.34	179	P	Pg	13 32 48.7	+0.1
VLS				S	Sg	13 32 54.0	+0.7
VLS				AML	AML	13 32 54.9	
	comp=E,3968μm,0.3s						
VLS				AML	AML	13 32 55.0	
	comp=N,4072μm,0.2s						
KEF3	Kipouria, Keph	0.36	210	P	Pg	13 32 48.8	-0.3
KEF3				S	Sg	13 32 54.4	+0.4
	comp=N,4μm,0.2s						
KEF3	Kipouria, Keph	0.36	210	P	Pg	13 32 48.8	-0.3
KEF3				S	Sg	13 32 54.1	+0.1
PSDA	Pessada-Kefalo	0.40	180	P	Pg	13 32 50.0	+0.2
PSDA				S	Sg	13 32 55.8	+0.6
	comp=N,445nm,0.2s						
PSDA	Pessada-Kefalo	0.40	180	P	Pg	13 32 50.0	+0.2
PSDA				S	Sg	13 32 56.2	+1.0
VLMS	Volimes, Zakyn	0.64	174	P	Pg	13 32 54.1	-0.1
VLMS				S	Sb	13 33 03.7	+0.1
	comp=N,1μm,0.3s						
VLMS	Volimes, Zakyn	0.64	174	P	Pg	13 32 54.1	-0.1
VLMS				AML	AML	13 33 05.1	
	comp=N,3024μm,0.3s						
VLMS				AML	AML	13 33 06.3	
	comp=E,1918μm,0.2s						
PVO	Paravola	0.75	82	P	Pg	13 32 56.3	+0.1
PVO	Paravola	0.75	82	P	Pg	13 32 56.7	+0.5
LTHK	Lithakia	0.83	166	P	Pg	13 32 57.5	-0.3
LTHK	Lithakia	0.83	166	P	Pg	13 32 57.3	-0.5
LTHK				AML	AML	13 33 11.4	
	comp=E,991μm,0.2s						
LTHK				AML	AML	13 33 12.2	
	comp=N,631μm,0.2s						
RLS	Riolos of Patr	0.83	123	P	Pg	13 32 57.9	+0.1
RLS	Riolos of Patr	0.83	123	P	Pg	13 32 58.1	+0.3
RLS				AML	AML	13 33 17.7	
	comp=E,649μm,0.3s						
RLS				AML	AML	13 33 19.1	
	comp=N,526μm,0.4s						
EFP	Efpalio	1.04	95	P	Pg	13 33 01.2	-0.6
EFP	Efpalio	1.04	95	P	Pg	13 33 01.1	-0.6
EFP				AML	AML	13 33 23.8	
	comp=E,470μm,0.5s						
EFP				AML	AML	13 33 26.2	
	comp=N,392μm,0.8s						
ANX	Ano Chora	1.05	85	P	Pg	13 33 01.7	-0.3
ANX	Ano Chora	1.05	85	P	Pg	13 33 01.7	-0.3
ANX				AML	AML	13 33 24.9	
	comp=E,431μm,0.6s						
ANX				AML	AML	13 33 31.1	
	comp=N,518μm,0.5s						
DRO	Drossia	1.05	122	P	Pg	13 33 02.0	0.0
DRO	Drossia	1.05	122	P	Pg	13 33 02.0	0.0
DRO				AML	AML	13 33 21.4	
	comp=N,1093μm,0.4s						
DRO				AML	AML	13 33 21.5	
	comp=E,1711μm,0.4s						
LAKA	Lakka	1.13	104	P	Pb	13 33 02.9	-0.2
LAKA	Lakka	1.13	104	P	Pb	13 33 02.8	-0.3
LAKA				AML	AML	13 33 28.5	
	comp=N,730μm,0.4s						
LAKA				AML	AML	13 33 31.4	
	comp=E,1365μm,0.7s						
TRIZ	Trizonia	1.18	97	P	Pb	13 33 03.7	-0.1
TRIZ	Trizonia	1.18	97	P	Pb	13 33 03.5	-0.3
MAKR	Makrakomi, Fth	1.31	67	P	Pb	13 33 06.7	+0.6
KLV	Kalavryta, Ach	1.32	111	P	Pn	13 33 05.9	+0.1
KLV	Kalavryta, Ach	1.32	111	P	Pn	13 33 05.9	+0.1
KEK	Kerkira	1.34	333	P	Pn	13 33 06.7	+0.7
KEK	Kerkira	1.34	333	P	Pn	13 33 07.2	+1.2
AGG	Agios Georgios	1.46	69	P	Pn	13 33 08.3	+0.7
AGG	Agios Georgios	1.46	69	P	Pn	13 33 08.3	+0.7
AGG				AML	AML	13 33 35.6	
	comp=N,229μm,0.5s						
AGG				AML	AML	13 33 40.5	
	comp=E,247μm,0.7s						
STON	Ston	4.87	334	ePn	Pn	13 33 54.3	-0.2
STON				Sn	Sn	13 34 48.6	-2.0
RICI	Ricice	5.61	333	ePn	Pn	13 34 03.7	-1.0
KIJV	Kijevo	6.32	331	ePn	Pn	13 34 14.8	+0.3
ZIRJ	Zirje	6.34	326	ePn	Pn	13 34 14.3	-0.4
DUGI	Dugi Otok	6.87	324	ePn	Pn	13 34 21.9	0.0

*DDA **06** 14:17:05.0, 37°.12N×28°.74E, h3km±2km, ML3.3*
*THE **06** 14:17:05.9, 37°.06N×28°.73E, h1km, ML3.2/4, Error ellipse: s-maj=1.0km s-min=0.3km az=35.0*
*IDC **06** 14:17:05.1±1.4, 37°.13N×28°.83E, h0km, mb3.6/2, mb1 3.7/6, mb1mx3.4/44, mbtmp3.7/6, ML3.6/4, MS2.2/1, Ms1 2.2/1, ms1mx1.9/45, Error ellipse: s-maj=28.4km s-min=20.0km az=141.0*
*ISK **06** 14:17:05.1, 37°.10N×28°.74E, h5km, ML3.4/38*
*ATH **06** 14:17:05.4, 37°.21N×28°.69E, h10km±31km, ML3.2/5, Error ellipse: s-maj=31.6km s-min=2.8km az=0.0*
*NIC **06** 14:17:08.8±0.0, 36°.94N×28°.88E, h9km±3km, Ml3.3/6*
ISC 06 14:17:05.9±1.0**, 37°.13N**±0°.02×**28°.74E**±0°.01**, h8**km±8km**, n101, σ1^{s}.18**/138**, 4C-1D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DALY	Dalyan (Mula)	0.32	192	iP	Pg	14 17 11.8	-0.3
DALY				iS	Sg	14 17 16.6	+0.3
DALY				IAML		14 17 20.0	
	comp=N,3μm,0.7s						
DALY	Dalyan (Mula)	0.32	192	PG	Pg	14 17 11.8	-0.3
MULA	Mugla, Merkez-	0.36	291	iP	Pg	14 17 13.1	+0.1
MULA				iS	Sg	14 17 18.5	+0.9
MULA				IAML		14 17 21.0	
	comp=E,3μm,0.5s						
YER	Yerkesik	0.36	271	P	Pg	14 17 13.3	+0.3
YER				S	Sb	14 17 19.7	-0.8
YER	Yerkesik	0.36	271	PG	Pg	14 17 13.4	+0.4
YER				SG	Sb	14 17 19.5	-1.0
TAVA	DENIZLI_Tavas	0.37	23	iP	Pg	14 17 12.2	-0.9
TAVA				iS	Sg	14 17 17.3	-0.7
CAEL	Denizli, Camel	0.47	90	iP	Pg	14 17 14.3	-0.7
CAEL				iS	Sb	14 17 22.2	-1.3
CAME	Cameli-Denizli	0.49	112	PG	Pg	14 17 15.1	-0.3
CAME				SG	Sb	14 17 23.5	-0.7
TURN	Turunc	0.53	229	iP	Pg	14 17 15.7	-0.4
TURN	Turunc	0.53	229	PG	Pg	14 17 16.1	0.0
TURN				SG	Sb	14 17 24.4	-0.7
FETY	Fethiye	0.56	150	P	Pg	14 17 16.2	-0.6
FETY				S	Sg	14 17 24.6	+0.4
FETY	Fethiye	0.56	150	PG	Pg	14 17 16.2	-0.6
MLSB	Milas	0.79	283	PG	Pb	14 17 21.2	-0.6
AYDN	Tasoluk	0.87	308	iP	Pg	14 17 22.4	-0.1
AYDN				iS	Sg	14 17 34.2	+0.3
DAT	Datca	1.01	247	P	Pg	14 17 24.8	-0.5
DAT				S	Sb	14 17 39.6	+0.4
DAT	Datca	1.01	247	PG	Pb	14 17 25.5	-0.2
DAT				SG	Sn	14 17 40.3	-0.6
ELL	Elmali	1.01	112	PG	Pb	14 17 25.8	+0.1
ELL	Elmali	1.01	112	P	Pg	14 17 24.3	-1.0
ELL				S	Sg	14 17 37.1	-1.3
ARG	Arkhangelos	1.03	209	P	Pg	14 17 25.0	-0.7
ARG				S	Sb	14 17 39.4	-0.3
	comp=E,848nm,0.4s						
ARG	Arkhangelos	1.03	209	P	Pg	14 17 25.3	-0.4
ARG				S	Sn	14 17 41.1	-0.1
ARG				AML	AML	14 17 48.5	
	comp=N,1505μm,0.4s						
ARG				AML	AML	14 17 49.4	
	comp=E,1891μm,0.5s						
ARG	Arkhangelos	1.03	209	PG	Pb	14 17 25.6	-0.4
ARG				SG	Sn	14 17 40.6	-0.7
ARG	Arkhangelos	1.03	209	⇑P	Pb	14 17 25.9	-0.1
ARG				S	Sn	14 17 40.9	-0.4
BDRM	Kayabasi	1.03	267	iP	Pg	14 17 25.4	-0.3
BDRM				iS	Sn	14 17 41.0	-0.4
AYDB	Zeytinkoy-Aydi	1.06	321	PN	Pb	14 17 26.6	0.0
AKAS	Kas	1.13	142	iP	Pb	14 17 27.5	-0.2
AKAS				iS	Sn	14 17 47.6	+3.6
AKAS				IAML		14 17 51.0	
	comp=E,938nm,0.5s						
AKAS				IAML		14 17 52.0	
	comp=N,1μm,1.0s						
AKAS	Kas	1.13	142	PN	Pb	14 17 27.6	-0.2
BODT	Bodrum	1.14	267	P	Pg	14 17 27.3	-0.5
BODT				S	Sn	14 17 43.7	-0.3
BODT	Bodrum	1.14	267	PN	Pn	14 17 28.2	0.0
KSL	Kastellorizon	1.19	145	P	Pg	14 17 27.1	-1.6
KSL				S	Sg	14 17 43.6	-0.5
	comp=N,1μm,0.6s						
KSL	Kastellorizon	1.19	145	P	Pb	14 17 28.3	-0.3
KSL				AML	AML	14 17 51.7	
	comp=N,3348μm,0.6s						
KSL				AML	AML	14 17 54.6	
	comp=E,2612μm,0.6s						
KSL	Kastellorizon	1.19	145	⇓P	Pg	14 17 27.2	-1.5
KSL				AML	AML	14 17 51.4	
	comp=E,3.4nm,0.6s						
KSL				AML	AML	14 17 54.6	
	comp=E,2.7nm,0.6s						
BRDR	BURDUR-Merkez	1.20	61	iP	Pg	14 17 28.1	-0.8
DDIM	Aydin, Didim	1.24	286	iP	Pn	14 17 29.9	+0.4
DDIM				iS	Sn	14 17 48.0	+1.7
DDIM				IAML		14 17 54.0	
	comp=N,507nm,0.5s						
DDIM				IAML		14 17 55.0	
	comp=E,716nm,0.4s						
DEMR	Demre-Antalya	1.29	133	PN	Pb	14 17 30.6	+0.2
KORT	Korkueli	1.30	95	PN	Pb	14 17 30.9	+0.3
BASM	Basmaki-Afyon	1.31	52	PN	Pb	14 17 31.5	+0.7
GCAM	G?zelcaml?	1.33	296	iP	Pg	14 17 31.1	-0.3
GCAM				iS	Sb	14 17 48.2	+0.1
GCAM				IAML		14 17 55.0	
	comp=E,465nm,1.0s						
GCAM	G?zelcaml?	1.33	296	PN	Pg	14 17 31.7	+0.4
NIS1	Nisyros Isl.	1.35	248	PN	Pg	14 17 32.0	+0.1
PASA	Karahalli, USA	1.36	26	iP	Pn	14 17 29.9	-1.4
MANT	Manisa	1.37	354	iP	Pn	14 17 30.9	-0.6
MANT				iS	Sg	14 17 49.5	-0.4
KULA	Kula-Manisa	1.39	358	PN	Pn	14 17 31.5	-0.1
KOSK	Kos Island	1.46	256	PN	Pg	14 17 33.5	-0.3
BUCA	Burdur, Bucak-	1.47	82	iP	Pn	14 17 32.5	-0.3
BUCA				iS	Sg	14 17 55.6	+2.5
BCK	Bucak	1.51	77	PN	Pg	14 17 34.8	-0.1
AKUM	Antalya-Kumluc	1.52	121	iP	Pg	14 17 34.6	-0.4
AKUM				iS	Sg	14 17 57.7	+3.0
ANTB	Antalya	1.55	98	PN	Pg	14 17 35.0	-0.6
ISP	Isparta	1.58	63	P	Pb	14 17 35.3	-0.1
ISP	Isparta	1.58	63	PN	Pg	14 17 35.6	-0.6
KZIL	AFYON_Kizioren	1.59	44	iP	Pn	14 17 34.5	+0.1
USAK	Uak-Merkez	1.60	8	iP	Pn	14 17 34.3	-0.3
USAK				iS	Sn	14 17 54.3	-1.1
SMG	Samos	1.62	292	P	Pn	14 17 34.3	-0.5
SMG				S	Sb	14 17 56.5	-0.2
	comp=E,480nm,0.5s						
SMG	Samos	1.62	292	P	Pn	14 17 34.5	-0.3
SMG				AML	AML	14 18 09.4	
	comp=E,968μm,0.4s						
SMG				AML	AML	14 18 09.7	
	comp=N,958μm,0.5s						
BLCB	Balcova	1.84	314	P	Pn	14 17 37.9	+0.1
BAGO	Egridir - ISPA	1.84	62	iP	Pn	14 17 38.0	+0.1
BAGO				iS	Sn	14 17 59.3	-2.2
AKHS	Akhisar	1.90	338	iP	Pn	14 17 38.2	-0.3
DEMI	Demirci	1.91	360	iP	Pn	14 17 38.7	-0.2
SIMA	Simav-Kutahya	1.96	6	PN	Pb	14 17 41.4	-0.5
GEDZ	Gediz	1.99	15	PN	Pb	14 17 41.7	-0.6
SHUT	Suhut-Afyon	2.02	45	PN	Pb	14 17 42.3	-0.7
KARP	Karpathos	2.02	219	P	Pb	14 17 42.6	-0.4
KARP				S	Sg	14 18 09.8	-1.1
	comp=N,628nm,0.7s						
KARP	Karpathos	2.02	219	P	Pb	14 17 42.6	-0.4
KARP				S	Sg	14 18 09.8	-1.1
KARP				AML	AML	14 18 15.8	
	comp=N,1369μm,0.8s						
KARP				AML	AML	14 18 16.3	
	comp=E,1189μm,0.6s						
KARP	Karpathos	2.02	219	PN	Pb	14 17 41.6	-1.4
KARP	Karpathos	2.02	219	⇑P	Pb	14 17 41.6	-1.4
KARP				S	Sb	14 18 07.8	-0.5
KARP				AML	AML	14 18 15.0	
	comp=E,1.4nm,0.8s						
KARP				AML	AML	14 18 15.0	
	comp=E,1.4nm,0.8s						
KARP				AML	AML	14 18 15.6	
	comp=E,1.2nm,0.6s						
KARP				AML	AML	14 18 15.6	
	comp=E,1.2nm,0.6s						
GDZ	Gediz	2.04	16	iP	Pg	14 17 44.3	-0.8
GDZ				iS	Sg	14 18 13.8	+2.1
ZEYE	Izmir, Urla-Ze	2.09	303	iP	Pn	14 17 41.0	-0.2
URLA	Izmir	2.10	307	iP	Pn	14 17 41.0	-0.3
URLA	Izmir	2.10	307	PN	Pb	14 17 43.1	-1.1
ZEDA	zmir-Bergama	2.26	325	iP	Pn	14 17 43.6	+0.1
TVSB	Tavsanli	2.39	14	PN	Pn	14 17 47.2	+1.8
CHOS	Chios island	2.47	301	P	Pn	14 17 46.6	+0.1
CHOS	Chios island	2.47	301	P	Pn	14 17 47.1	+0.6
CHOS				AML	AML	14 18 34.5	
	comp=E,502μm,0.7s						
CHOS				AML	AML	14 18 39.2	
	comp=N,308μm,0.7s						
CHOS	Chios island	2.47	301	PN	Pn	14 17 48.2	+1.7
SEYD	Seydisehir-KON	2.49	83	PN	Pn	14 17 48.6	+1.8
APE	Apeiranthos	2.56	270	P	Pn	14 17 49.1	+1.4
APE	Apeiranthos	2.56	270	PN	Pn	14 17 49.5	+1.7
SANT	Santorini	2.74	255	PN	Pn	14 17 51.9	+1.7
ZKR	Zakros	2.86	226	PN	Pn	14 17 53.7	+1.9
ZKR	Zakros	2.86	226	P	Pn	14 17 54.2	+2.4
ZKR				AML	AML	14 18 39.8	
	comp=N,0.2nm,0.5s						
ZKR				AML	AML	14 18 41.1	
	comp=N,0.6nm,0.6s						
AUBOZ	BOZOYUK	2.96	20	PN	Pn	14 17 55.7	+2.5
KONT	Konya--Tatoy	2.99	73	PN	Pn	14 17 55.9	+2.2
GAZI	Gazipasa	3.01	106	PN	Pn	14 17 55.7	+1.8
KIZT	Kizilcal	3.04	54	PN	Pn	14 17 55.6	+1.2
BORA	Eskisehir	3.06	26	PN	Pn	14 17 56.9	+2.2
SIGR	SIGRI	3.08	313	PN	Pn	14 17 56.9	+2.1
KCTX	Karacabey (Bur	3.15	355	PN	Pn	14 17 58.1	+2.3
CAVI	Cavuskoy	3.19	15	PN	Pn	14 17 58.6	+2.2
SRCK	Saricakaya, Es	3.27	26	PN	Pn	14 17 59.8	+2.4
AKMS	Akamas	3.59	125	P	Pn	14 18 02.9	+0.9
AKMS				S	Sn	14 18 47.1	+2.5
AKMS				AML	AML	14 18 48.0	
	comp=N,0.2nm,0.5s						
AKMS				AML	AML	14 18 48.0	
	comp=N,0.2nm,0.5s						
IDI	Anoyia	3.61	241	Pn	Pn	14 18 05.3	+3.1
	comp=N,5.0nm,0.3s,baz=58,slow=14,SNR=17						
IDI				Sn	Sn	14 18 46.9	+1.9
	comp=N,5.0nm,0.3s,baz=288,slow=22,SNR=4.5						
ALFC	Alefka	3.69	121	⇑P	Pn	14 18 04.1	+0.8
ALFC				AML	AML	14 18 30.1	
	comp=N,0.1nm,0.5s						
ALFC				AML	AML	14 18 30.6	
	comp=N,0.2nm,0.7s						
NATA	Nata	3.89	126	P	Pn	14 18 06.8	+0.8
SZAC	Souni	4.11	124	⇑P	Pn	14 18 09.6	+0.6
SZAC				AML	AML	14 19 00.5	
	comp=N,0.2nm,0.6s						
OSC1	CSNet OBS 1	4.17	149	P	Pn	14 18 09.4	-0.4
ASGA	Asgata	4.34	121	P	Pn	14 18 12.2	+0.1
MVOU	Mavrovouni	4.49	117	P	Pn	14 18 15.0	+0.9
BRTR	Keskin Array B	4.64	55	Pn	Pn	14 18 17.9	+1.4
	comp=N,0.7nm,0.3s,baz=241,slow=17,SNR=22						
BRTR				Sn	Sn	14 19 10.8	+0.2
	comp=N,0.2nm,0.3s,baz=222,slow=23,SNR=5.9						
BRTR				LR	LR	14 20 15.6	
	comp=N,28nm,20.2s,baz=179,slow=42						
MMAI	Mount Meron Ar	6.83	125	Pn	Pn	14 18 45.9	-0.5
	comp=N,4.0nm,0.3s,baz=316,slow=12,SNR=12						
EIL	Elat	9.07	143	Pn	Pn	14 19 16.7	-0.4
	comp=N,0.6nm,0.3s,baz=139,slow=6.2,SNR=4.1						
EIL				Sn	Sn	14 20 55.4	-4.0
	comp=N,0.1nm,0.3s,baz=72,slow=13,SNR=2.4						
FINES	FINESS Array B	24.40	357	P	P	14 22 25.1	+0.6
	comp=N,1.3nm,0.7s,baz=170,slow=9.9,SNR=5.0						
TORD	Torodi Ar. Bea	33.97	232	P	P	14 23 49.6	-0.5
	comp=N,0.3nm,0.4s,baz=34,slow=8.0,SNR=2.8						

MEX 06 14:55:05.1±0.5**, 14°.49N**×**92°.71W, h38**km±53km**, MD3.7, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		1.30	338	iP	Pn	14 55 25.5	-1.3
PCIG				iS	Sn	14 55 40.5	-2.5
CCIG	Comitan	1.86	17	eP	Pn	14 55 32.7	-2.0
CCIG				eS	Sn	14 55 55.5	-1.6

*JMA **06** 15:05:01.5±0.1, 24°.11N×121°.75E, h31km±1km, M2.6*
*TAP **06** 15:05:02.4, 24°.27N×121°.86E, h11km, ML2.8, C*
ISC 06 15:05:03.1±0.7**, 24°.31N**±0°.01×**121°.85E**±0°.02**, h17**km**, n101, σ0^{s}.85**/196**, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EHP	Heping Village	0.10	272	P	Pg	15 05 05.2	-1.4
	baz=293						
EHP				S	Sg	15 05 08.0	-1.0
	baz=293						
EWUT	Wuta	0.15	335	P	Pg	15 05 06.7	-0.6
	baz=338						
EWUT				S	Sg	15 05 09.6	-0.5
	baz=338						
ENA	Nanau	0.16	321	P	Pg	15 05 06.7	-0.7
	baz=328						
ENA				S	Sg	15 05 09.9	-0.2
	baz=328						
ETL	Fush Village	0.25	235	P	Pg	15 05 07.3	-1.5
	baz=246						
ETL				S	Sg	15 05 11.2	-1.4
	baz=246						
NACB	Ninganchiao	0.27	240	P	Pg	15 05 07.5	-1.5
	baz=251						
NACB				S	Sg	15 05 11.6	-1.4
	baz=251						
TWC	Suao	0.30	0	iP	Pg	15 05 09.6	0.0
	baz=360						
TWC				iS	Sg	15 05 14.0	0.0
	baz=360						
TWD	Chiawan	0.32	226	P	Pg	15 05 08.5	-1.5
	baz=238						
TWD				S	Sg	15 05 13.4	-1.2
	baz=238						
NDS	Dongshan	0.35	340	P	Pb	15 05 10.5	-0.4
	baz=340						
NDS				S	Sb	15 05 16.0	-0.1
	baz=340						
ETLH	Xiulin Townshi	0.35	254	P	Pg	15 05 09.4	-1.1
	baz=262						
ETLH				eS	Sg	15 05 14.3	-1.1
	baz=262						
HWA	Hwalien	0.40	214	P	Pg	15 05 11.2	0.0
	baz=231						
HWA				eS	Sg	15 05 16.6	-0.1
	baz=231						
NDT	Datong Townshi	0.42	314	P	Pb	15 05 12.1	-0.1
	baz=316						
NDT				S	Sb	15 05 18.3	-0.1
	baz=316						
TWE	Neicheng	0.45	338	iP	Pb	15 05 12.4	-0.1
	baz=339						
TWE				eS	Sb	15 05 20.1	+1.3
	baz=339						
NNS	Nan Shan	0.45	287	P	Pg	15 05 12.1	-0.2
	baz=292						
NNS				S	Sg	15 05 18.5	-0.1
	baz=292						
ILA	Ilan	0.47	349	P	Pb	15 05 13.2	+0.3
	baz=342						
ILA				eS	Sn	15 05 22.0	-0.9
	baz=342						
ETM	Tongmen	0.47	224	P	Pg	15 05 11.2	-1.4
	baz=231						
ETM				eS	Sg	15 05 16.7	-2.3
	baz=231						
NTC	Toucheng	0.55	358	P	Pb	15 05 14.3	+0.1
	baz=356						
NTC				S	Sb	15 05 23.0	+1.1
	baz=356						
FUSS	Fushou	0.56	264	iP	Pg	15 05 13.9	-0.4
	baz=270						
FUSS				S	Sg	15 05 21.2	-0.5
	baz=270						
WHF	Hehuan Shan	0.56	253	P	Pg	15 05 13.4	-0.9
	baz=259						
WHF				S	Sg	15 05 20.9	-1.0
	baz=259						
YHNB	Yeheng	0.56	310	P	Pb	15 05 14.6	0.0
	baz=312						
YHNB				S	Sb	15 05 22.1	-0.2
	baz=312						
NSK	Sanguang	0.58	310	P	Pb	15 05 15.0	+0.1
	baz=312						
NSK				S	Sb	15 05 23.2	+0.4
	baz=312						
TWT	Tachien	0.62	265	P	Pg	15 05 15.1	-0.2
	baz=270						
TWT				S	Sb	15 05 23.8	-0.2
	baz=270						
ESL	Shilin	0.62	218	iP	Pg	15 05 13.9	-1.4
	baz=230						
ESL				eS	Sb	15 05 24.6	+0.7
	baz=230						
TDCB	Techi	0.63	265	P	Pg	15 05 15.3	-0.4
	baz=270						
TDCB				S	Sg	15 05 23.6	-0.5
	baz=270						
TEGC	Jichi Village	0.66	205	P	Pg	15 05 15.9	-0.2
	baz=209						
TEGC				S	Sb	15 05 25.5	+0.5
	baz=209						
CHGB	Renai	0.66	248	P	Pg	15 05 15.4	-0.8
	baz=247						
CHGB				S	Sg	15 05 24.5	-0.6
	baz=247						
TIPB	Shuangxi	0.66	358	P	Pb	15 05 16.7	+0.4
	baz=356						
TIPB				eS	Sn	15 05 26.4	-1.5
	baz=356						
OWD	Renai	0.71	240	P	Pg	15 05 16.1	-1.0
	baz=245						
OWD				eS	Sg	15 05 24.6	-1.8
	baz=245						
TWB1	Santiao Chiao	0.71	10	P	Pn	15 05 17.9	-0.5
	baz=8.0						
TWB1				S	Sb	15 05 27.5	+0.9
	baz=8.0						
TWA	Mucha	0.71	340	P	Pn	15 05 17.7	-0.8
	baz=340						
TWA				S	Sb	15 05 26.9	+0.2
	baz=340						
NHDH	Xindian Distri	0.72	336	P	Pn	15 05 17.9	-0.6
	baz=335						
NHDH				S	Sn	15 05 27.7	-1.4
	baz=335						
EGFH	Guangfu	0.74	211	P	Pb	15 05 16.8	-0.7
	baz=232						
EGFH				S	Sg	15 05 27.8	+0.3
	baz=232						
TATO	Taipei	0.74	334	P	Pn	15 05 18.4	-0.4
	baz=333						
TATO				S	Sn	15 05 29.2	-0.5
	baz=333						
NWF	Wu-fen Shan	0.76	355	P	Pn	15 05 18.9	-0.3
	baz=344						
NWF				S	Sn	15 05 29.3	-1.1
	baz=344						
WFSB	Wu-fen Shan	0.76	355	P	Pn	15 05 18.9	-0.2
	baz=346						
WFSB				S	Sn	15 05 29.3	-1.0
	baz=346						
TAP	Taipei	0.79	337	P	Pn	15 05 20.3	+0.7
	baz=337						
TAP				S	Sn	15 05 31.3	+0.3
	baz=337						
WHP	Taichung City	0.82	268	P	Pg	15 05 19.4	+0.2
	baz=272						
WHP				S	Sg	15 05 30.0	-0.1
	baz=272						
LIOB	Emei	0.83	294	P	Pn	15 05 20.1	0.0
	baz=297						

LIOB				S		Sg	15 05 30.5	+0.2	
	baz=297								
NSTT	**Nanjuang**	**0.84**	**293**	P		**Pn**	**15 05 19.9**	**-0.3**	
NSTT	baz=295			S		**Sn**	**15 05 31.2**	**-0.9**	
TNOU	**National Taiwa**	**0.84**	**355**	P		**Pb**	**15 05 18.7**	**-0.6**	
TNOU	baz=346			S		**Sb**	**15 05 29.8**	**-0.6**	
WPL	**Puli Township**	**0.86**	**250**	P		**Pb**	**15 05 19.7**	**0.0**	
WPL	baz=255			S		**Sb**	**15 05 30.7**	**-0.3**	
YM01	**YM01**	**0.87**	**343**	P		**Pg**	**15 05 20.0**	**-0.2**	
YM01	baz=342			*e*S		**Sn**	**15 05 32.6**	**-0.4**	
TWS1	**Kuangyinshan**	**0.88**	**334**	P		**Pn**	**15 05 20.7**	**-0.1**	
TWS1	baz=333			S		**Sn**	**15 05 33.1**	**0.0**	
DPDB	**Guoxing**	**0.89**	**252**	P		**Pg**	**15 05 20.2**	**-0.1**	
DPDB	baz=257			S		**Sb**	**15 05 31.5**	**-0.1**	
WCS	**Beigang Elemen**	**0.89**	**254**	P		**Pg**	**15 05 20.3**	**-0.2**	
WCS	baz=258			S		**Sg**	**15 05 32.2**	**0.0**	
NCUH	**Zhongli**	**0.89**	**318**	P		**Pn**	**15 05 21.0**	**+0.1**	
NCUH	baz=312			S		**Sn**	**15 05 34.6**	**+1.2**	
HGSD	**Ruisui**	**0.90**	**206**	P		**Pb**	**15 05 20.3**	**0.0**	
HGSD	baz=200			*e*S		**Sg**	**15 05 32.9**	**+0.5**	
YM08	**YM08**	**0.91**	**345**	P		**Pn**	**15 05 21.6**	**+0.4**	
YM08	baz=336			*e*S		**Sb**	**15 05 32.0**	**-0.3**	
SBCB	**Hsinchu**	**0.92**	**302**	P		**Pg**	**15 05 20.9**	**-0.2**	
SBCB	baz=294			*e*S		**Sn**	**15 05 34.1**	**-0.1**	
ANP	**Anpu**	**0.93**	**341**	P		**Pn**	**15 05 21.9**	**+0.4**	
ANP	baz=340			S		**Sn**	**15 05 34.8**	**+0.4**	
NTST	**Danshui**	**0.93**	**337**	P		**Pg**	**15 05 21.0**	**-0.1**	
NTST	baz=336			S		**Sn**	**15 05 34.8**	**+0.5**	
EHY	**Hungye**	**0.93**	**211**	P		**Pb**	**15 05 19.5**	**-1.3**	
EHY	baz=227			S		**Sb**	**15 05 33.0**	**+0.1**	
SMLT	**Sun Moon Lake**	**0.96**	**244**	*i* P		**Pb**	**15 05 21.1**	**-0.3**	
SMLT	baz=249			S		**Sn**	**15 05 35.2**	**-0.1**	
SSLB	**Suanglung**	**0.97**	**238**	P		**Pb**	**15 05 20.6**	**-0.8**	
SSLB	baz=251			S		**Sb**	**15 05 33.3**	**-0.7**	
TWQ1	**Liyutan**	**0.98**	**273**	*e*P		**Pn**	**15 05 24.8**	**+2.6**	
TWQ1	baz=276			*e*S		**Sg**	**15 05 34.6**	**-0.5**	
TYC	**Yuchr**	**0.99**	**246**	P		**Pb**	**15 05 21.9**	**+0.1**	
TYC	baz=243			*e*S		**Sn**	**15 05 37.2**	**+1.3**	
TWY	**Chenhua**	**0.99**	**347**	P		**Pg**	**15 05 23.5**	**+1.2**	
TWY	baz=345			S		**Sn**	**15 05 37.6**	**+1.7**	
NSY	**Sanyi**	**1.00**	**277**	*e*P		**Pb**	**15 05 21.4**	**-0.6**	
NSY	baz=280			*e*S		**Sn**	**15 05 36.6**	**+0.5**	
NHW	**Xinwu Township**	**1.01**	**314**	*e*P		**Pb**	**15 05 18.9**	**-3.3**	
JYNG	**Yonagunijimaku**	**1.01**	**82**	P		**Pb**	**15 05 21.8**	**-0.4**	
JYNG	baz=326			S		**Sb**	**15 05 35.7**	**+0.5**	
YULB	**Yu-li**	**1.04**	**209**	P		**Pb**	**15 05 21.4**	**-1.3**	
YULB	baz=225			*e*S		**Sb**	**15 05 36.5**	**+0.5**	
EYUL	**Yuli**	**1.07**	**207**	*e*P		**Pb**	**15 05 23.3**	**+0.1**	
EYUL	baz=229			*e*S		**Sg**	**15 05 38.1**	**+0.2**	
YOJ	**Yonaguni jima**	**1.07**	**81**	P		**Pb**	**15 05 22.8**	**-0.4**	
YOJ				S		**Sb**	**15 05 37.5**	**+0.6**	
YOJ	**Yonaguni jima**	**1.07**	**81**	P		**Pb**	**15 05 22.7**	**-0.4**	
YOJ	baz=64			*e*S		**Sn**	**15 05 37.9**	**+0.1**	
TWF1	**Yuli**	**1.07**	**208**	P		**Pb**	**15 05 22.4**	**-0.8**	
TWF1	baz=213			*e*S		**Sg**	**15 05 38.3**	**+0.3**	
WWF	**Wufeng**	**1.08**	**256**	*e*P		**Pg**	**15 05 25.8**	**+1.7**	
WWF	baz=256			*e*S		**Sg**	**15 05 41.9**	**+3.6**	
WHYT	**Xinyi Township**	**1.09**	**236**	*e*P		**Pg**	**15 05 24.4**	**+0.1**	
WHYT	baz=248			*e*S		**Sg**	**15 05 38.6**	**0.0**	
WDJ	**Dajia District**	**1.10**	**272**	*e*P		**Pb**	**15 05 23.3**	**-0.4**	
WDJ	baz=276			*e*S		**Sg**	**15 05 38.7**	**-0.2**	
WNT	**Mingjian**	**1.15**	**248**	P		**Pg**	**15 05 26.1**	**+0.8**	
WNT	baz=248			*e*S		**Sg**	**15 05 42.9**	**+2.6**	
FULB	**Fuli**	**1.21**	**205**	P		**Pn**	**15 05 25.4**	**0.0**	
FULB	baz=226			S		**Sg**	**15 05 42.3**	**-0.2**	
ALS	**Alishan**	**1.24**	**231**	*i* P		**Pn**	**15 05 26.1**	**+0.1**	
ALS	baz=236			*i* S		**Sn**	**15 05 42.7**	**+0.2**	
CHKT	**Chengkung**	**1.28**	**200**	*i* P		**Pn**	**15 05 26.0**	**-0.2**	
CHKT	baz=188			*e*S		**Sg**	**15 05 45.5**	**+0.9**	
CHN5	**Tsauling**	**1.28**	**237**	*e*P		**Pg**	**15 05 28.1**	**+0.3**	
CHN5	baz=242			S		**Sg**	**15 05 44.9**	**+0.2**	
WGK	**Gukeng**	**1.33**	**243**	*e*P		**Pn**	**15 05 26.8**	**-0.1**	
WGK	baz=248			*e*S		**Sg**	**15 05 47.2**	**+1.1**	
WDLH	**Douliu**	**1.35**	**243**	*e*P		**Pg**	**15 05 29.2**	**+0.1**	
WDLH	baz=249			*e*S		**Sg**	**15 05 48.6**	**+1.9**	
ELDTW	**Lidau**	**1.35**	**215**	*e*P		**Pn**	**15 05 27.4**	**+0.1**	
ELDTW	baz=206			*e*S		**Sb**	**15 05 45.8**	**+0.8**	
WRL	**Guolierlin Hig**	**1.40**	**254**	*e*P		**Pn**	**15 05 27.2**	**-0.7**	
WRL	baz=272			S		**Sg**	**15 05 48.5**	**0.0**	
EDH	**Donghe**	**1.42**	**201**	*e*P		**Pn**	**15 05 28.1**	**0.0**	
EDH	baz=190			*e*S		**Sn**	**15 05 46.2**	**-0.2**	
WTK	**Tuku**	**1.47**	**246**	*e*P		**Pg**	**15 05 31.6**	**+0.2**	
WTK	baz=251			S		**Sg**	**15 05 51.2**	**+0.6**	
CHN4	**Tsaushan**	**1.49**	**231**	*e*P		**Pn**	**15 05 29.0**	**-0.1**	
CHN4	baz=237			S		**Sg**	**15 05 51.3**	**0.0**	
STYH	**Taoyuan**	**1.50**	**221**	P		**Pb**	**15 05 30.2**	**-0.3**	
STYH	baz=227			S		**Sb**	**15 05 49.7**	**+0.5**	
	baz=227								
TPUB	**Ta-pu**	**1.50**	**228**	*e*P		**Pb**	**15 05 31.2**	**+0.7**	
TPUB	baz=234			S		**Sg**	**15 05 50.9**	**-0.6**	
WTP	**Ta-pu**	**1.55**	**227**	*e*P		**Pb**	**15 05 32.0**	**+0.7**	
WTP	baz=233			*e*S		**Sg**	**15 05 54.0**	**+0.9**	
TWK	**Hsinying**	**1.62**	**231**	P		**Pb**	**15 05 32.9**	**+0.3**	
TWK	baz=237			*e*S		**Sg**	**15 05 56.3**	**+0.9**	
TWGBT	**Beinan**	**1.64**	**206**	*e*P		**Pn**	**15 05 31.8**	**+0.6**	
TWGBT	baz=211			*e*S		**Sn**	**15 05 52.5**	**+0.6**	
CHN1	**Nanshi**	**1.65**	**228**	*e*P		**Pb**	**15 05 33.1**	**+0.1**	
CHN1	baz=234			*e*S		**Sg**	**15 05 57.4**	**+1.2**	
SGST	**Jiashian**	**1.68**	**224**	P		**Pb**	**15 05 33.2**	**-0.5**	
SGST	baz=214			*e*S		**Sg**	**15 05 57.1**	**-0.3**	
SLGT	**Liugui**	**1.71**	**220**	*e*P		**Pb**	**15 05 34.5**	**+0.4**	
SLGT	baz=226			*e*S		**Sg**	**15 05 58.9**	**+0.7**	
IRIF	**Iriomote-Funau**	**1.72**	**89**	P		**Pn**	**15 05 32.0**	**-0.2**	
IRIF				*e*S		**Sn**	**15 05 53.6**	**-0.2**	
SCST	**Cishan**	**1.88**	**222**	P		**Pb**	**15 05 36.8**	**-0.3**	
SCST	baz=227			*e*S		**Sg**	**15 06 04.1**	**+0.3**	
ECL	**Taimali**	**1.89**	**206**	*e*P		**Pn**	**15 05 35.3**	**+0.7**	
SSD	baz=213 **Sandimen**	**1.91**	**216**	*e*P		**Pb**	**15 05 37.5**	**0.0**	
SSD	baz=234			*e*S		**Sg**	**15 06 03.8**	**-1.0**	
TSMG	**Majia**	**1.94**	**215**	P		**Pb**	**15 05 37.2**	**-0.8**	
TSMG	baz=220			*e*S		**Sb**	**15 06 03.1**	**+1.2**	
JKRS	**Kuro-shima**	**1.97**	**92**	P		**Pn**	**15 05 36.5**	**+0.7**	
JKRS				S		**Sn**	**15 06 00.6**	**+0.5**	
MASBT	**Mashibuluo**	**2.02**	**214**	P		**Pb**	**15 05 38.1**	**-1.3**	
MASBT	baz=219			*e*S		**Sb**	**15 06 05.3**	**+1.0**	
JIJ	**Ishigaki jima**	**2.09**	**88**	P		**Pn**	**15 05 37.5**	**+0.1**	
JIJ				S		**Sn**	**15 06 03.0**	**-0.1**	
PHUB	**P'eng-hu**	**2.23**	**250**	*e*P		**Pn**	**15 05 40.6**	**+1.4**	
PHUB	baz=257			*e*S		**Sb**	**15 06 09.0**	**-1.2**	
JISG	**Ishigakijimahi**	**2.26**	**82**	P		**Pn**	**15 05 39.6**	**-0.1**	
VWUC	**VWUC**	**2.29**	**288**	S		**Sb**	**15 06 10.6**	**-1.3**	
	baz=290								
PTMZ	**Houxiangcun**	**2.59**	**287**	*e*P		**Pn**	**15 05 44.5**	**+0.3**	
PTMZ	baz=289			*e*S		**Sn**	**15 06 16.4**	**+1.2**	
JTJ	**Tarama**	**2.62**	**82**	P		**Pn**	**15 05 45.3**	**+0.6**	
MHZQ	**Yeshan**	**3.12**	**306**	P		**Pn**	**15 05 52.7**	**+1.3**	
	baz=305								

*IDC **06** 15:06:03.0±1.0,51.˝59N×174.˝29W,h0km,mb3.7/17, mb1 3.9/18,mb1mx3.8/60,mbtmp3.7/18,ML4.2/1,MS2.9/1, Ms1 2.9/1,ms1mx2.4/56,Error ellipse: s-maj=30.2km s-min=17.0km az=178.0*

*NEIC **06** 15:06:03.6±1.5,51.˝33N±0.˝06×174.˝21W±0.˝06,h8km±4km, mb4.1/94,ML3.5(AEIC),Error ellipse: s-maj=8.9km s-min=5.1km az=155.0*

*AEIC **06** 15:06:06±2.2,51.˝36N±0.˝04×174.˝32W±0.˝07,h16km±4km, Error ellipse: s-maj=7.7km s-min=3.0km az=129.0*

ISC 06 15:06:06.4±1.7,51.˝36N±0.˝07×174.˝23W±0.˝04, h28km±11km,n194,σ1$04/187,mb4.0/27,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.85**	**1**		**Pn**	**15 06 22.3**	**-0.1**
ATKA	**Atka Island**	**0.85**	**1**		**Sn**	**15 06 35.2**	**+1.2**
KOFP	**Korovin Flat P**	**0.92**	**5**		**Pn**	**15 06 24.1**	**+0.5**
KOKL	**Mount Kliuchef**	**0.97**	**1**		**Pn**	**15 06 24.7**	**+0.5**
KOSE	**Korovin Southe**	**1.00**	**6**		**Pb**	**15 06 25.5**	**+0.5**
KOSE					**Sn**	**15 06 40.2**	**+2.5**
GSIG	**Igitkin Island**	**1.23**	**301**		**Pn**	**15 06 27.6**	**-0.1**
GSIG					**Sb**	**15 06 44.1**	**-0.4**
GSMY	**Great Sitkin M**	**1.33**	**302**		**Pn**	**15 06 29.2**	**+0.1**
GSMY					**Sb**	**15 06 46.5**	**-0.8**
GSTR	**Great Sitkin T**	**1.36**	**304**		**Pn**	**15 06 29.5**	**0.0**
GSTD	**Great Sitkin T**	**1.38**	**301**		**Pn**	**15 06 29.9**	**-0.1**
GSTD					**Sb**	**15 06 48.6**	**-0.3**
ETKA	**Kagalaska Isla**	**1.45**	**291**		**Pn**	**15 06 30.7**	**-0.1**
ADK	**Adak**	**1.62**	**290**		**Pn**	**15 06 33.1**	**0.0**
ADK	**Adak**	**1.62**	**290**		**Sn**	**15 06 53.6**	**+0.6**
KIWB	**Kanaga Island**	**1.89**	**286**		**Pn**	**15 06 37.0**	**+0.2**
KIKV	**Kanaga Island**	**1.91**	**287**		**Pn**	**15 06 37.6**	**+0.5**
KIMD	**Kanaga Island**	**1.92**	**283**		**Pn**	**15 06 37.5**	**+0.3**
KIMD					**Sn**	**15 07 01.1**	**+0.7**
KICM	**Kanaga Island**	**1.93**	**288**		**Pn**	**15 06 38.0**	**+0.7**
TAPA	**Tanaga Point A**	**2.28**	**283**		**Pn**	**15 06 43.0**	**+0.7**
TAFP	**Tanaga Falls P**	**2.40**	**285**		**Pn**	**15 06 45.0**	**+1.1**
TAFP					**Sn**	**15 07 14.5**	**+2.1**
TASE	**Tanaga Southea**	**2.42**	**283**		**Pn**	**15 06 45.4**	**+1.2**
NIKH	**Nikolski High**	**3.68**	**62**	Pn	**Pn**	**15 07 01.6**	**+0.2**
NIKH	**Nikolski High** baz=247	**3.68**	**62**	P	**Pn**	**15 07 02.4**	**+1.0**
AMKA	**Amchitka**	**4.06**	**273**		**Pn**	**15 07 06.5**	**-0.1**
UNV	**Unalaska Valle**	**5.33**	**59**		**Pn**	**15 07 24.5**	**+0.5**
AKUT	**Akutan**	**5.84**	**58**	Pn	**Pn**	**15 07 30.9**	**-0.2**
SPIA	**Saint Paul Isl**	**6.28**	**20**	Pn	**Pn**	**15 07 36.7**	**-0.3**
SDPT	**Sand Point**	**9.14**	**59**	Pn	**Pn**	**15 08 16.5**	**+0.2**
CNBA	**Chernabura Isl**	**9.46**	**63**	Pn	**Pn**	**15 08 20.3**	**-0.4**
CHGN	**Chignik**	**10.57**	**56**	Pn	**Pn**	**15 08 35.5**	**-0.3**
O18K	**Koktuh Hills**	**13.66**	**44**	Pn	**Pn**	**15 09 17.9**	**-0.2**
Q19K	**Cape Douglas,**	**13.96**	**49**	Pn	**Pn**	**15 09 21.1**	**-1.0**
KDAK	**Kodiak Island**	**14.07**	**54**	Pn	**Pn**	**15 09 21.8**	**-1.7**
KDAK	**Kodiak Island** baz=252	**14.07**	**54**	P	**P**	**15 09 32.1**	**+1.1**
P19K	**Oil Pt**	**14.45**	**47**	Pn	**Pn**	**15 09 28.1**	**-0.8**
P19K	**Oil Pt** baz=244	**14.45**	**47**	P	**P**	**15 09 35.2**	**-0.2**
N19K	**Bonanza Creek**	**14.47**	**41**	Pn	**Pn**	**15 09 29.3**	**+0.1**
O20K	**Slope Mountain** baz=244	**14.92**	**46**	P	**P**	**15 09 41.1**	**+0.6**
L19K	**White Mountain**	**15.10**	**37**		**Pn**	**15 09 37.2**	**-0.4**
L19K	comp=Z,4.4nm,0.9s			IAmb	IAmb	15 09 45.4	
L19K	**White Mountain** baz=233,SNR=5.9	**15.10**	**37**	P	**P**	**15 09 44.7**	**+2.1**
M19K	**Big River Lodg**	**15.12**	**38**		**Pn**	**15 09 38.0**	**+0.2**
M19K	comp=Z,4.1nm,0.9s			IAmb	IAmb	15 09 44.9	
M19K	**Big River Lodg** baz=235	**15.12**	**38**	P	**P**	**15 09 42.7**	**0.0**
CNPM	**China Poot**	**15.33**	**49**		**Pn**	**15 09 39.8**	**-0.8**
CNPM	comp=Z,25nm,1.4s			IAmb	IAmb	15 10 05.1	
BRLK	**Bradley Lake**	**15.59**	**48**	Pn	**Pn**	**15 09 43.4**	**-0.6**
BRLK	comp=Z,6.0nm,0.8s			IAmb	IAmb	15 09 48.0	
M20K	**Styx River** baz=237	**15.60**	**39**	P	**P**	**15 09 48.5**	**+0.4**
K20K	**Telida**	**16.11**	**34**		**Pn**	**15 09 50.3**	**-0.3**
K20K	comp=Z,11nm,1.4s			IAmb	IAmb	15 09 58.3	
K20K	**Telida** baz=231	**16.11**	**34**	P	**P**	**15 09 53.2**	**-0.5**
SKT	**Skwentna** baz=240	**16.29**	**41**	P	**P**	**15 09 56.5**	**+0.8**
SUA	**Susitna One**	**16.37**	**43**	Pn	**Pn**	**15 09 52.9**	**-1.2**
SUA	**Susitna One** baz=243	**16.37**	**43**	P	**P**	**15 09 55.5**	**-1.2**
SEW	**Seward**	**16.38**	**48**	Pn	**Pn**	**15 09 51.2**	**-2.8**
SEW	comp=Z,8.6nm,1.0s			IAmb	IAmb	15 10 03.0	
O22K	**Cooper Landing**	**16.40**	**47**		**Pn**	**15 09 54.1**	**-0.1**
O22K	comp=Z,16nm,0.6s			IAmb	IAmb	15 10 02.3	
O22K	**Cooper Landing**	**16.40**	**47**	P	**P**	**15 09 55.8**	**-1.1**
	baz=247						
PPLA	**Purkeypile**	**16.52**	**37**	P	**P**	**15 09 57.7**	**-0.7**
PPLA	comp=Z,13nm,1.4s			IAmb	IAmb	15 10 06.6	
J20K	**Nowinta River**	**16.62**	**32**	P	**P**	**15 09 58.6**	**-0.7**
J20K	**Nowinta River** baz=229	**16.62**	**32**	P	**P**	**15 10 00.5**	**+1.2**
RC01	**Rabbit Creek A**	**16.64**	**45**	Pn	**Pn**	**15 09 56.5**	**-0.8**
RC01	**Rabbit Creek A** baz=245	**16.64**	**45**	P	**P**	**15 09 59.0**	**-0.6**
PMR	**Palmer**	**17.12**	**44**	Pn	**Pn**	**15 10 02.2**	**-1.1**
PWL	**Port Wells**	**17.18**	**46**	Pn	**Pn**	**15 10 01.1**	**-3.0**
GHO	**Glory Hole Cre**	**17.29**	**43**	Pn	**Pn**	**15 10 05.1**	**-0.5**
KNK	**Knik Glacier**	**17.34**	**45**	Pn	**Pn**	**15 10 05.2**	**-0.9**
KNK	comp=Z,4.7nm,0.6s			IAmb	IAmb	15 10 09.1	
KNK	**Knik Glacier** baz=246	**17.34**	**45**	P	**Pn**	**15 10 06.1**	**0.0**
KTH	**Kantishna Hill**	**17.37**	**36**	P	**Pn**	**15 10 06.6**	**0.0**
TRF	**Thorofare Moun**	**17.55**	**37**	P	**P**	**15 10 09.6**	**-0.2**
SML	**Sawmill**	**17.55**	**43**	Pn	**Pn**	**15 10 07.2**	**-1.7**
SML	**Sawmill** baz=245	**17.55**	**43**	P	**Pn**	**15 10 09.0**	**+0.2**
BPAW	**Bear Paw Mtn.**	**17.66**	**35**	P	**P**	**15 10 10.7**	**-0.2**
BPAW	**Bear Paw Mtn.** baz=235	**17.66**	**35**	P	**P**	**15 10 12.4**	**+1.6**
GLI	**Glacier Island**	**17.75**	**47**	Pn	**Pn**	**15 10 07.6**	**-3.6**
GLI	comp=Z,11nm,1.4s			IAmb	IAmb	15 10 28.7	
HIN	**Hinchinbrook I**	**17.87**	**49**	Pn	**Pn**	**15 10 10.1**	**-2.5**
HIN	comp=Z,32nm,1.4s			IAmb	IAmb	15 10 14.7	
I21K	**Tanana** baz=230	**17.98**	**31**	P	**P**	**15 10 16.0**	**+1.6**
FID	**Port Fidalgo**	**17.99**	**48**	P	**Pn**	**15 10 10.7**	**-3.5**
FID	comp=Z,18nm,1.4s			IAmb	IAmb	15 10 31.1	
SCM	**Sheep Creek Mo**	**18.00**	**44**	P	**Pn**	**15 10 12.3**	**-2.0**
SCM	comp=Z,9.2nm,1.1s			IAmb	IAmb	15 10 15.3	
RND	**Reindeer**	**18.08**	**38**	P	**Pn**	**15 10 13.5**	**-1.8**
MCK	**McKinley**	**18.21**	**37**	P	**Pn**	**15 10 15.9**	**-1.0**
MLY	**Manley**	**18.30**	**33**	P	**P**	**15 10 18.4**	**+0.5**
MLY	**Manley** baz=233,SNR=5.4	**18.30**	**33**	P	**P**	**15 10 21.1**	**+3.2**
KLU	**Klutina**	**18.50**	**46**	P	**P**	**15 10 19.0**	**-1.1**
KLU	comp=Z,14nm,1.4s			IAmb	IAmb	15 10 47.0	
KLU	**Klutina** baz=250	**18.50**	**46**	P	**P**	**15 10 19.7**	**-0.4**
M24K	**Tolsona, Glenn**	**18.61**	**44**	P	**P**	**15 10 20.5**	**-0.9**
M24K	comp=Z,24nm,1.4s			IAmb	IAmb	15 10 25.7	
M24K	**Tolsona, Glenn** baz=248	**18.61**	**44**	P	**Pn**	**15 10 22.3**	**+0.6**
RAGM	**Ragged Mountai**	**18.73**	**50**	P	**Pn**	**15 10 23.0**	**-0.2**
RAGM	comp=Z,7.6nm,0.7s			IAmb	IAmb	15 10 31.2	
I23K	**Minto, Yukon-K**	**18.84**	**33**	P	**P**	**15 10 23.8**	**+0.1**
I23K	comp=Z,6.6nm,0.8s			IAmb	IAmb	15 10 27.9	
I23K	**Minto, Yukon-K** baz=235,SNR=6.8	**18.84**	**33**	P	**Pn**	**15 10 24.8**	**+0.4**
HMT	**Hamilton**	**18.92**	**50**	P	**P**	**15 10 24.2**	**-0.5**
HMT	comp=Z,24nm,1.3s			IAmb	IAmb	15 10 48.0	
WRH	**Wood River Hil**	**18.92**	**36**	P	**P**	**15 10 22.9**	**-1.8**
BMRM	**Bremner River**	**18.93**	**48**	P	**P**	**15 10 23.9**	**-1.0**
BMRM	comp=Z,14nm,1.5s			IAmb	IAmb	15 10 32.8	
CCB	**Clear Creek Bu**	**19.11**	**36**	P	**P**	**15 10 24.8**	**-1.9**
CCB	comp=Z,3.6nm,0.5s			IAmb	IAmb	15 10 29.0	
MDM	**Murphy Dome**	**19.13**	**35**	P	**P**	**15 10 25.0**	**-2.0**
N25K	**Chitina, Valde**	**19.13**	**46**	P	**P**	**15 10 25.3**	**-1.8**
N25K	comp=Z,8.1nm,1.2s			IAmb	IAmb	15 10 31.1	
N25K	**Chitina, Valde** baz=251	**19.13**	**46**	P	**P**	**15 10 26.8**	**-0.3**
HARP	**HAARP** baz=248	**19.16**	**44**	P	**Pn**	**15 10 28.2**	**-0.2**
H23K	**Yukon River**	**19.18**	**32**	P	**P**	**15 10 26.9**	**-0.6**
PAX	**Paxson**	**19.25**	**42**		**Pn**	**15 10 28.9**	**-0.6**
PAX	**Paxson** baz=246	**19.25**	**42**	P	**Pn**	**15 10 28.9**	**-0.6**
HDA	**Harding Lake**	**19.31**	**37**	P	**P**	**15 10 27.9**	**-1.1**
HDA	comp=Z,8.0nm,1.1s			IAmb	IAmb	15 10 36.4	
HDA	**Harding Lake** baz=240,SNR=7.4	**19.31**	**37**	P	**P**	**15 10 29.0**	**0.0**
GLB	**Gilahina Butte**	**19.44**	**47**	P	**P**	**15 10 28.8**	**-1.7**
IL31		**19.52**	**36**	P	**P**	**15 10 29.6**	**-1.5**
IL31	comp=Z,3.9nm,0.5s			IAmb	IAmb	15 10 34.4	
ILAR	**Eielson Array** comp=Z,0.7nm,0.3s,baz=235,slow=9.4,SNR=56	**19.52**	**36**	P	**P**	**15 10 28.9**	**-2.4**
ILAR	**Eielson Array**	**19.52**	**36**	P	**P**	**15 10 31.3**	**+0.1**
VRDI	**Verde Repeater**	**19.54**	**48**	P	**P**	**15 10 30.2**	**-1.5**
VRDI	comp=Z,12nm,1.3s			IAmb	IAmb	15 10 41.7	
H24K	**Noodor Dome**	**19.74**	**33**		**P**	**15 10 33.2**	**-0.5**
H24K	comp=Z,5.3nm,0.8s			IAmb	IAmb	15 10 42.3	
H24K	**Noodor Dome** baz=236,SNR=8.3	**19.74**	**33**	P	**Pn**	**15 10 34.5**	**-0.8**
RIDG	**Independent Ri**	**19.83**	**40**	P	**P**	**15 10 33.6**	**-1.0**
RIDG	**Independent Ri** baz=245	**19.83**	**40**	P	**P**	**15 10 34.8**	**+0.2**
J25K	**Salcha River,** baz=242,SNR=17	**20.01**	**37**	P	**P**	**15 10 35.7**	**-0.9**
M26K	**Nabesna, AK**	**20.11**	**45**	Pn	**Pn**	**15 10 38.8**	**-0.8**
M26K	comp=Z,13nm,1.4s			IAmb	IAmb	15 10 39.5	
M26K	**Nabesna, AK** baz=251,SNR=7.4	**20.11**	**45**	P	**Pn**	**15 10 38.9**	**-0.8**
DOT	**Dot Lake**	**20.11**	**41**	P	**P**	**15 10 37.0**	**-0.7**
YAH	**Yahtse**	**20.14**	**51**	P	**P**	**15 10 37.5**	**-0.8**
YAH	comp=Z,48nm,1.5s			IAmb	IAmb	15 10 46.7	
SCRK	**Sand Creek**	**20.27**	**40**	P	**P**	**15 10 38.3**	**-1.3**
SCRK	comp=Z,7.2nm,1.0s			IAmb	IAmb	15 10 46.4	
SCRK	**Sand Creek** baz=246,SNR=16	**20.27**	**40**	P	**P**	**15 10 38.7**	**-0.9**
BARN	**Barnard Glacie**	**20.34**	**49**	P	**P**	**15 10 39.5**	**-0.8**
BARN	comp=Z,8.5nm,1.2s			IAmb	IAmb	15 10 58.8	
PRP	**Porcupine Dome**	**20.39**	**35**	P	**P**	**15 10 39.6**	**-1.3**
PRP	**Porcupine Dome** baz=240	**20.39**	**35**	P	**P**	**15 10 40.5**	**-0.4**
TABL	**Table Mountain**	**20.45**	**51**	P	**P**	**15 10 40.9**	**-0.7**
TABL	comp=Z,18nm,1.2s			IAmb	IAmb	15 10 43.2	
CTG	**Chitna Glacier** baz=257	**20.47**	**49**	P	Pn	15 10 43.9	0.0
M27K	**Edge Creek, AK**	**20.59**	**45**	P	**P**	**15 10 42.7**	**-0.3**
M27K	**Edge Creek, AK** baz=253	**20.59**	**45**	P	Pn	15 10 44.7	-0.6
J26K	**Charley River,** baz=245,SNR=23	**20.59**	**38**	P	**P**	**15 10 42.4**	**-0.6**
LOGN	**Logan Glacier**	**20.59**	**50**	P	**P**	**15 10 42.5**	**-0.6**
LOGN	comp=Z,5.7nm,0.9s			IAmb	IAmb	15 10 52.5	
PCA	**Pinnacle**	**20.82**	**52**	P	**P**	**15 10 45.7**	**+0.3**
PCA	comp=Z,39nm,1.5s			IAmb	IAmb	15 10 58.7	
L27K	**Beaver Creek,**	**20.83**	**43**	P	**P**	**15 10 45.5**	**-0.1**
L27K	comp=Z,7.4nm,1.5s			IAmb	IAmb	15 11 04.5	
TOLK	**Toolik Lake Re**	**21.00**	**25**	P	**P**	**15 10 46.3**	**-1.0**
TOLK	comp=Z,5.9nm,0.8s			IAmb	IAmb	15 10 54.9	
TOLK	**Toolik Lake Re** baz=227	**21.00**	**25**	P	**P**	**15 10 47.9**	**+0.7**
K27K	**Chicken**	**21.07**	**41**	P	**P**	**15 10 47.3**	**-0.7**
K27K	comp=Z,3.7nm,0.8s			IAmb	IAmb	15 10 53.8	
K27K	**Chicken** baz=248	**21.07**	**41**	P	**P**	**15 10 48.5**	**+0.5**
YUK3	**Moose Creek** baz=256	**21.07**	**47**	P	**P**	**15 10 51.1**	**+2.8**
SEY	**Seymchan** comp=Z,4.2nm,1.1s,baz=112,slow=6.7,SNR=1.5	**21.22**	**316**	P	**P**	**15 10 49.6**	**0.0**
MA2	**Magadan** comp=Z,28nm,18.9s,baz=76,slow=34	**21.26**	**306**	LR	LR	15 18 11.3	
EGAK	**Eagle**	**21.72**	**39**	P	**P**	**15 10 54.0**	**-0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EGAK				IAmb	IAmb	15 10 56.6	
	comp=Z,11nm,0.7s						
EGAK	**Eagle**	**21.72**	**39**	P	**P**	**15 10 55.2**	**+0.3**
	baz=248,SNR=16						
BMAR	**Burnt Mountain**	**21.72**	**31**	P	**P**	**15 10 54.8**	**-0.3**
DAWY	**Dawson**	**22.19**	**42**	P	**P**	**15 10 59.1**	**-1.0**
HYT	**Haines Junctio**	**22.28**	**51**	P	**P**	**15 11 01.0**	**-0.2**
HYT				IAmb	IAmb	15 11 24.3	
	comp=Z,6.8nm,1.2s						
INK	**Inuvik**	**25.86**	**34**	P	**P**	**15 11 35.0**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=198,slow=6.4,SNR=2.4						
INK	**Inuvik**	**25.86**	**34**	P	**P**	**15 11 35.0**	**-0.1**
INK				IAmb	IAmb	15 11 52.7	
	comp=Z,7.6nm,1.2s						
KHLH	**Kahului Airpor**	**33.44**	**149**	P	**P**	**15 12 43.6**	**+0.8**
H11N2	**WAKE ISLAND Hy**	**34.88**	**212**	T	T	15 50 19.4	
	baz=18						
H11N3	**WAKE ISLAND Hy**	**34.89**	**212**	T	T	15 50 16.0	
	baz=18						
H11N1	**WAKE ISLAND Hy**	**34.90**	**212**	T	T	15 50 29.8	
	baz=18						
UWB	**Uwekahuna B**	**35.19**	**148**	P	**P**	**15 12 58.1**	**0.0**
H11S1	**WAKE ISLAND Hy**	**36.09**	**212**	T	T	15 52 17.8	
	baz=16,slow=74						
H11S2	**WAKE ISLAND Hy**	**36.10**	**212**	T	T	15 52 16.3	
	baz=16,slow=74						
H11S3	**WAKE ISLAND Hy**	**36.10**	**212**	T	T	15 52 17.3	
	baz=16						
USA0B	**Ussuriysk Arra**	**36.13**	**280**	P	**P**	**15 13 05.8**	**0.0**
USA0B				IAmb	IAmb	15 13 33.7	
	comp=Z,4.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**36.13**	**280**	P	**P**	**15 13 05.8**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=63,slow=12,SNR=4.5						
EDM	**Edmonton**	**36.30**	**63**	P	**P**	**15 13 08.2**	**+0.9**
EUNU	**Eureka**	**39.53**	**16**	P	**P**	**15 13 33.0**	**-1.2**
NVAR	**Mina Array Bea**	**40.70**	**86**	P	**P**	**15 13 46.1**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=286,slow=11,SNR=2.3						
PDAR	**Pinedale Array**	**43.56**	**75**	P	**P**	**15 14 09.2**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=345,slow=6.5,SNR=3.3						
ULM	**Lac du Bonnet**	**47.27**	**59**	P	**P**	**15 14 36.7**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=310,slow=10,SNR=1.9						
ULM	**Lac du Bonnet**	**47.27**	**59**	P	**P**	**15 14 36.8**	**0.0**
MVCO	**Mesa Verde**	**47.56**	**80**	P	**P**	**15 14 40.5**	**+0.9**
MVCO				IAmb	IAmb	15 14 58.3	
	comp=Z,5.9nm,1.4s						
W18A	**Petrified Fore**	**48.13**	**84**	P	**P**	**15 14 43.1**	**-0.8**
SONM	**Songino Array**	**49.19**	**299**	P	**P**	**15 14 51.8**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=80,slow=9.2,SNR=4.4						
B35A	**Bob, Littlefor**	**49.50**	**60**	P	**P**	**15 14 54.2**	**+0.2**
B35A				IAmb	IAmb	15 15 08.4	
	comp=Z,10nm,1.4s						
SPB2	**Spitsbergen Ar**	**50.57**	**357**	P	**P**	**15 15 01.9**	**+0.1**
EYMN	**Ely**	**50.95**	**59**	P	**P**	**15 15 04.7**	**-0.4**
EYMN				IAmb	IAmb	15 15 09.9	
	comp=Z,4.5nm,1.0s						
D41A	**Chassel**	**53.06**	**59**	P	**P**	**15 15 20.4**	**-0.3**
E43A	**Lone Tree Farm**	**54.33**	**58**	P	**P**	**15 15 30.5**	**+0.4**
TXAR	**Lajitas Array**	**55.81**	**85**	P	**P**	**15 15 41.7**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=282,slow=4.4,SNR=2.6						
ARCES	**ARCESS Array B**	**58.56**	**352**	P	**P**	**15 15 58.9**	**-1.0**
	comp=Z,6.2nm,1.3s,baz=27,slow=8.2,SNR=6.7						
ARCES	**ARCESS Array B**	**58.56**	**352**	P	**P**	**15 15 58.8**	**-1.0**
ARCES				IAmb	IAmb	15 16 02.8	
	comp=Z,2.7nm,1.1s						
PLVO	**Plevna**	**60.40**	**54**	P	**P**	**15 16 13.4**	**+0.6**
DELO	**Deloro Mine**	**60.48**	**55**	P	**P**	**15 16 14.2**	**+0.8**
LONY	**Lake Ozonia**	**61.95**	**53**	P	**P**	**15 16 23.2**	**-0.2**
LONY				IAmb	IAmb	15 16 24.0	
	comp=Z,4.7nm,1.0s						
MKAR	**Makanchi Array**	**62.25**	**311**	P	**P**	**15 16 24.9**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=39,slow=6.2,SNR=6.3						
MOQ	**Mont Orford**	**62.60**	**51**	P	**P**	**15 16 27.7**	**-0.1**
J59A	**Piesco**	**62.81**	**54**	P	**P**	**15 16 29.0**	**-0.2**
D62A	**Allapoint, All**	**62.84**	**48**	P	**P**	**15 16 29.1**	**-0.1**
L59A	**Walton**	**63.46**	**55**	P	**P**	**15 16 34.7**	**+1.2**
G62A	**West of Eustis**	**63.50**	**50**	P	**P**	**15 16 33.6**	**-0.2**
G62A	**West of Eustis**	**63.50**	**50**	P	**P**	**15 16 34.1**	**+0.4**
	baz=317						
E63A	**Oxbow**	**63.62**	**48**	P	**P**	**15 16 34.4**	**0.0**
PQI	**Presque Isle**	**63.62**	**48**	P	**P**	**15 16 33.9**	**-0.6**
H62A	**Milan**	**63.67**	**51**	P	**P**	**15 16 35.0**	**+0.2**
K62A	**Royalston**	**64.54**	**53**	P	**P**	**15 16 40.2**	**-0.4**
LMN	**Caledonia Moun**	**65.71**	**46**	P	**P**	**15 16 48.3**	**+0.2**
DRLN	**Deer Lake**	**66.19**	**40**	P	**P**	**15 16 49.7**	**-1.4**
FINES	**FINESS Array B**	**66.38**	**350**	P	**P**	**15 16 51.0**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=336,slow=4.2,SNR=1.5						
ABKAR	**Akbulak array**	**69.64**	**325**	P	**P**	**15 17 13.4**	**+0.6**
NIUE	**Niue**	**70.23**	**176**	P	**P**	**15 17 16.5**	**-0.1**
KK31	**Karatay Array**	**70.46**	**315**	P	**P**	**15 17 18.0**	**0.0**
KK31				IAmb	IAmb	15 17 18.8	
	comp=Z,3.8nm,1.4s						
KKAR	**Karatay Array**	**70.46**	**315**	P	**P**	**15 17 17.9**	**-0.1**
KKAR	**Karatay Array**	**70.46**	**315**	P	**P**	**15 17 18.2**	**+0.2**
KKAR				IAmb	IAmb	15 17 18.8	
	comp=Z,3.8nm,1.4s						
CMAR	**Chiang Mai Arr**	**73.86**	**279**	P	**P**	**15 17 40.5**	**+1.9**
	comp=Z,0.4nm,0.5s,baz=20,slow=6.1,SNR=1.7						
AKASG	**Malin Array Be**	**76.39**	**345**	P	**P**	**15 17 51.1**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=16,slow=5.7,SNR=4.5						
AKASG	**Malin Array Be**	**76.39**	**345**	IAmb	IAmb	15 17 54.0	
	comp=Z,1.6nm,1.4s						
GERES	**GERESS Array B**	**79.95**	**355**	P	**P**	**15 18 12.0**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=6.9,slow=4.4,SNR=4.1						
BRTR	**Keskin Array B**	**86.08**	**339**	P	**P**	**15 18 44.9**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=1.3,slow=6.5,SNR=2.0						
ASAR	**Alice Springs**	**87.48**	**226**	P	**P**	**15 18 51.8**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=22,slow=6.0,SNR=5.0						
ESDC	**Sonseca Array**	**88.95**	**8**	P	**P**	**15 18 58.0**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=358,slow=5.3,SNR=4.3						
ESDC	**Sonseca Array**	**88.95**	**8**	IAmb	IAmb	15 19 05.6	
	comp=Z,2.6nm,1.4s						

IDC 06 15:07:24.1±4.2**, 17°.53S**×**178°.90W, h546**^{km}±22^{km}**, mb2.9**/4**, mb1 3.0**/5**, mb1mx2.8**/42**, mbtmp3.7**/5**, Error ellipse: s-maj=146.9km s-min=30.2km az=139.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.92**	**266**	P	P	15 08 38.4	0.0
	0.3nm,0.3s,baz=157,slow=13,SNR=2.9						
STKA	**Stephens Creek**	**38.41**	**241**	P	P	15 13 58.9	-0.3
	2.3nm,0.8s,baz=73,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**44.24**	**259**	P	P	15 14 44.9	-0.6
	0.5nm,0.7s,baz=96,slow=7.2,SNR=11						
ASAR	**Alice Springs**	**44.45**	**254**	P	P	15 14 47.4	+0.3
	2.0nm,0.4s,baz=85,slow=8.5,SNR=100						
ILAR	**Eielson Array**	**85.63**	**13**	P	P	15 19 04.5	-0.1
	0.1nm,0.4s,baz=220,slow=4.7,SNR=4.7						

*IDC **06** 15:20:31.9±1.2, 30°.63N×131°.25E, h0^{km}, mb3.8/10, mb1 3.8/13, mb1mx3.7/49, mbtmp3.7/13, ML2.9/3, MS2.6/1, Ms1 2.6/1, ms1mx2.3/46, Error ellipse: s-maj=43.6km s-min=16.6km az=79.0*

*JMA **06** 15:20:35.7±0.1, 30°.64N×131°.58E, h40^{km}±2^{km}, M3.5*

*NIED **06** 15:20:35.7, 30°.64N×131°.58E, h40^{km}, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}3.07; $M_{\theta\theta}$1.30; $M_{\phi\phi}$-4.37; $M_{r\theta}$2.20; $M_{\theta\phi}$3.20; $M_{\phi r}$5.40; Fault plane solution: $M_0$7.71000×10^{14} NP1:ϕ_s11.00000°, δ76.00000°, λ123.00000°. NP2:ϕ_s122.00000°, δ35.00000°, λ25.00000°.*

*NEIC **06** 15:20:36.4±1.3, 30°.66N±0°.07×131°.41E±0°.07, h29^{km}±6^{km}, mb4.5/14 Error ellipse: s-maj=9.6km s-min=8.7km az=169.0*

ISC 06 15:20:36.1±1.3**, 30°.67N**±0°.04×**131°.47E**±0°.05**, h31**^{km}±9^{km}**, n53,** σ1^{s}**00**/59**, mb4.1**/18**, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.42**	**269**	P	**Pn**	**15 20 46.4**	**+0.4**
JTN				S	**Sn**	**15 20 54.4**	**+1.7**
JMTN	**Minamitane**	**0.56**	**241**	P	**Pn**	**15 20 48.3**	**+0.4**
JMTN				S	**Sn**	**15 20 58.4**	**+2.3**
JTSR	**Tashiro 2**	**0.68**	**317**	P	**Pn**	**15 20 49.9**	**+0.2**
JTSR				S	**Sn**	**15 21 01.4**	**+2.1**
JNAR	**Kushima--Naru**	**0.87**	**349**	P	**Pb**	**15 20 52.6**	**-0.2**
JNAR				S	**Sn**	**15 21 05.3**	**+1.4**
JYAK	**Yakushimahirau**	**0.93**	**243**	P	**Pb**	**15 20 53.5**	**-0.2**
JYAK				S	**Sn**	**15 21 07.2**	**+2.0**
JNKG	**Nichinankitago**	**1.00**	**356**	P	**Pn**	**15 20 54.3**	**+0.4**
JNKG				S	**Sb**	**15 21 08.3**	**+0.7**
JKC	**Kuchinoerabu**	**1.11**	**260**	P	**Pb**	**15 20 56.5**	**-0.3**
JKC				S	**Sb**	**15 21 12.6**	**+1.6**
JSU	**Suzuyama**	**1.21**	**314**	P	**Pb**	**15 20 57.2**	**-1.2**
JSU				*e*S	**Sb**	**15 21 13.9**	**+0.2**
JSU	**Suzuyama**	**1.21**	**314**		**Pb**	**15 20 57.2**	**-1.2**
JTZ	**Takazaki**	**1.27**	**345**	P	**Pn**	**15 20 58.5**	**+0.8**
JTZ				S	**Sb**	**15 21 15.6**	**+0.1**
JNN	**Nakanoshima**	**1.60**	**240**	P	**Pb**	**15 21 03.4**	**-1.7**
JZO	**Okuchi**	**1.65**	**333**	P	**Pn**	**15 21 03.6**	**+0.7**
JNU	**Nakatsue**	**2.50**	**349**	Pn	**Pn**	**15 21 15.1**	**+0.5**
	2.7nm,0.3s,baz=196,slow=20,SNR=19						
JNU				Sn	**Sn**	**15 21 44.8**	**+0.7**
	8.0nm,0.3s,baz=239,slow=19,SNR=6.9						
JMN	**Monobe**	**3.67**	**33**	Pn	**Pn**	**15 21 31.0**	**+0.2**
JTU	**Tsushima**	**4.22**	**336**	Pn	**Pn**	**15 21 38.7**	**+0.4**
JHS	**Saijyo**	**4.54**	**17**	Pn	**Pn**	**15 21 44.1**	**+1.4**
JOW	**Kunigami**	**4.74**	**217**	Pn	**Pn**	**15 21 45.3**	**-0.1**
JWT	**Wachi**	**5.67**	**35**	Pn	**Pn**	**15 21 58.4**	**+0.2**
INU	**Inuyama**	**6.60**	**43**		**Pn**	**15 22 11.8**	**+0.9**
JSG	**Sagara**	**6.93**	**53**	Pn	**Pn**	**15 22 16.1**	**+0.6**
KSRS	**Korea Array**	**7.38**	**337**	Pn	**Pn**	**15 22 21.8**	**+0.2**
	0.2nm,0.3s,baz=157,slow=14,SNR=1.8						
MAJO	**Matsushiro**	**8.12**	**42**	Pn	**Pn**	**15 22 32.4**	**+0.6**
MJAR	**Matsushiro Arr**	**8.12**	**42**	LR	LR	15 25 50.8	
	comp=Z,43nm,21.8s,baz=260,slow=38						
MJAR	**Matsushiro Arr**	**8.12**	**42**	Pn	**Pn**	**15 22 31.3**	**-0.5**
KLR	**Kul'dur**	**18.54**	**1**	P	**Pn**	**15 24 51.0**	**+0.7**
	0.1nm,0.3s,baz=195,slow=12,SNR=2.2						
SONM	**Songino Array**	**25.73**	**319**	P	**P**	**15 26 02.9**	**-0.8**
	0.7nm,0.6s,baz=140,slow=10,SNR=5.3						
SONM	**Songino Array**	**25.73**	**319**	P	**P**	**15 26 02.4**	**-1.3**
PBKT	**Sadao Pong**	**31.15**	**250**	P	**P**	**15 26 49.7**	**-2.5**
PBKT				IAmb	IAmb	15 27 07.2	
	comp=Z,10nm,0.8s						
YAK	**Yakutsk**	**31.40**	**358**	P	**P**	**15 26 53.7**	**-0.2**
YAK				IAmb	IAmb	15 27 12.6	
	comp=Z,3.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**31.86**	**255**	P	**P**	**15 26 57.1**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=54,slow=8.3,SNR=2.7						
FAKI	**Fak Fak**	**33.41**	**179**	P	**P**	**15 27 13.0**	**+1.0**
H11N2	**WAKE ISLAND Hy**	**33.73**	**100**	T	T	16 03 17.6	
	baz=292,slow=74						
H11N1	**WAKE ISLAND Hy**	**33.73**	**100**	T	T	16 03 21.8	
	baz=292						
H11N3	**WAKE ISLAND Hy**	**33.74**	**100**	T	T	16 03 22.6	
	baz=292,slow=74						
MKAR	**Makanchi Array**	**40.91**	**307**	P	**P**	**15 28 14.8**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=90,slow=11,SNR=2.5						
KURK	**Kurchatov**	**43.73**	**313**	P	**P**	**15 28 38.1**	**-0.2**
KURBB	**Kurchatov Arra**	**43.78**	**313**	P	**P**	**15 28 38.1**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=96,slow=8.2,SNR=3.0						
MIDW	**Midway**	**44.31**	**80**	P	**P**	**15 28 43.7**	**+0.5**
BRVK	**Borovoye**	**49.06**	**316**	P	**P**	**15 29 20.1**	**0.0**
BRVK				IAmb	IAmb	15 29 20.8	
	comp=Z,2.5nm,0.5s						
WB2	**Warramunga Arr**	**50.39**	**176**	P	**P**	**15 29 29.8**	**-0.7**
WB2				IAmb	IAmb	15 29 50.4	
	comp=Z,3.8nm,1.1s						
WRA	**Warramunga Arr**	**50.39**	**176**	P	**P**	**15 29 30.8**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=355,slow=8.3,SNR=5.6						
WR0	**Warramunga Arr**	**50.42**	**176**	P	**P**	**15 29 29.7**	**-1.0**
WR0				IAmb	IAmb	15 29 33.2	
	comp=Z,6.3nm,1.5s						
ANM	**Nome**	**51.26**	**30**	P	**P**	**15 29 37.6**	**+1.0**
ANM				IAmb	IAmb	15 29 53.3	
	comp=Z,21nm,1.3s						
ASAR	**Alice Springs**	**54.07**	**177**	P	**P**	**15 29 58.4**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=11,slow=13,SNR=7.5						
ABKAR	**Akbulak array**	**55.78**	**311**	P	**P**	**15 30 08.9**	**-1.0**
CUT	**Chulitna**	**57.95**	**33**	P	**P**	**15 30 25.9**	**+0.8**
CUT				IAmb	IAmb	15 30 53.7	
	comp=Z,6.1nm,0.9s						
WRH	**Wood River Hil**	**58.71**	**30**	P	**P**	**15 30 31.3**	**+0.9**
WRH				IAmb	IAmb	15 30 51.2	
	comp=Z,2.5nm,1.1s						
CAN	**Canberra**	**67.68**	**165**	P	**P**	**15 31 30.5**	**+0.4**
KBZ	**Khabaz**	**68.58**	**309**	P	**P**	**15 31 36.5**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=62,slow=12,SNR=3.7						
FINES	**FINESS Array B**	**70.42**	**331**	P	**P**	**15 31 46.5**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=43,slow=6.3,SNR=4.8						
BRTR	**Keskin Array B**	**76.55**	**308**	P	**P**	**15 32 24.3**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=80,slow=6.9,SNR=5.9						
BRTR	**Keskin Array B**	**76.55**	**308**	P	**P**	**15 32 22.7**	**-0.9**
NOA	**NORSAR Array B**	**76.58**	**334**	P	**P**	**15 32 22.5**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=52,slow=5.4,SNR=2.1						

*IDC **06** 15:23:19.0±0.6, 24°.41N×124°.13E, h0^{km}, mb4.2/25, mb1 4.3/26, mb1mx4.2/51, mbtmp4.2/26, ML2.7/1, MS3.3/6, Ms1 3.3/6, ms1mx3.0/46, Error ellipse: s-maj=19.0km s-min=13.4km az=77.0*

*JMA **06** 15:23:25.9±0.1, 24°.39N×124°.11E, h44^{km}±1^{km}, M4.4*

JMA Felt I J1.

*BJI **06** 15:23:25.3±0.0, 24°.30N×124°.24E, h69^{km}, mB4.5/10, mb4.1/15*

*NIED **06** 15:23:25.9, 24°.39N×124°.11E, h44^{km}, MW4.2, Moment Tensor Solution. s1 Moment tensor: Scale 10^{15}Nm; M_{rr}0.20; $M_{\theta\theta}$0.73; $M_{\phi\phi}$-0.93; $M_{r\theta}$0.20; $M_{\theta\phi}$1.62; $M_{\phi r}$0.79; Fault plane solution: $M_0$2.00000×10^{15} NP1:ϕ_s13.00000°, δ87.00000°, λ155.00000°. NP2:ϕ_s104.00000°, δ66.00000°, λ4.00000°.*

*NEIC **06** 15:23:26.7±1.5, 24°.34N±0°.08×124°.02E±0°.07, h51^{km}±6^{km}, mb4.5/81 Error ellipse: s-maj=11.7km s-min=9.2km az=177.0*

ISC 06 15:23:25.5±0.6**, 24°.31N**±0°.05×**124°.10E**±0°.03**, h47**^{km}±5^{km}**, n158,** σ1^{s}**01**/163**, mb4.4**/68**, MS3.5**/5**, 1D, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIJ	**Ishigaki jima**	**0.07**	**36**	P	**Pn**	**15 23 32.5**	**-0.4**
JIJ				S	**Sn**	**15 23 37.6**	**-0.5**
JKRS	**Kuro-shima**	**0.11**	**229**	P	**Pn**	**15 23 33.3**	**+0.3**
JKRS				S	**Sn**	**15 23 39.3**	**+1.0**
JISG	**Ishigakijimahi**	**0.34**	**35**	P	**Pn**	**15 23 34.2**	**-0.5**
JISG				S	**Sn**	**15 23 39.9**	**-1.4**
IRIF	**Iriomote-Funau**	**0.34**	**274**	P	**Pn**	**15 23 35.0**	**+0.3**
IRIF				S	**Sn**	**15 23 41.3**	**0.0**
HATJ	**Hateruma jima**	**0.37**	**227**	P	**Pn**	**15 23 35.7**	**+0.7**
HATJ				S	**Sn**	**15 23 43.5**	**+1.7**
JTJ	**Tarama**	**0.64**	**59**	P	**Pn**	**15 23 38.1**	**-0.2**
JTJ				S	**Sn**	**15 23 46.7**	**-0.9**
YOJ	**Yonaguni jima**	**1.00**	**279**	P	**Pn**	**15 23 43.7**	**+0.5**
YOJ				S	**Sn**	**15 23 56.5**	**+0.3**
YOJ	**Yonaguni jima**	**1.00**	**279**		**Pn**	**15 23 43.6**	**+0.5**
YOJ				Sn	**Sn**	**15 23 53.0**	**-3.3**
JYNG	**Yonagunijimaku**	**1.06**	**278**	P	**Pn**	**15 23 44.6**	**+0.6**
JYNG				S	**Sn**	**15 23 58.5**	**+0.9**
JIRB	**Irabujima**	**1.10**	**62**	P	**Pn**	**15 23 44.3**	**-0.2**
JIRB				S	**Sn**	**15 23 58.5**	**-0.2**
JMJ2	**Miyako jima3**	**1.20**	**69**	P	**Pn**	**15 23 46.3**	**+0.5**
JMJ2				S	**Sn**	**15 24 02.3**	**+1.4**
JIKM	**Ikemajima**	**1.21**	**59**	P	**Pn**	**15 23 46.0**	**0.0**
JIKM				S	**Sn**	**15 24 01.1**	**-0.1**
JOGS	**Gusukube**	**1.27**	**69**	P	**Pn**	**15 23 47.5**	**+0.7**
JOGS				S	**Sn**	**15 24 04.7**	**+2.0**
NACB	**Ninganchiao**	**2.29**	**267**		**Pn**	**15 24 00.8**	**+0.1**
TATO	**Taipei**	**2.47**	**286**		**Pn**	**15 24 04.8**	**+1.6**
YHNB	**Yeheng**	**2.51**	**279**		**Pn**	**15 24 05.4**	**+1.5**
YULB	**Yu-li**	**2.72**	**251**	Pn	**Pn**	**15 24 06.0**	**-0.7**
SSLB	**Suanglung**	**2.92**	**260**	Pn	**Pn**	**15 24 09.1**	**-0.4**
TWG	**Pinlang**	**3.15**	**243**		**Pn**	**15 24 11.4**	**-1.2**
TPUB	**Ta-pu**	**3.33**	**253**		**Pn**	**15 24 16.3**	**+1.2**
JOW	**Kunigami**	**4.53**	**55**		**Pn**	**15 24 29.8**	**-1.7**
KNMB	**Chin-men Tao**	**5.21**	**273**	Pn	**Pn**	**15 24 41.0**	**+0.2**
JMZ	**Minamidaito 2**	**6.63**	**75**	Pn	**Pn**	**15 24 58.1**	**-2.2**
APYP	**Conner**	**6.95**	**203**⇓	*e*P	**Pn**	**15 25 05.2**	**+0.5**
APYP				*e*S	**Sn**	**15 26 17.8**	**-4.7**
KSAR	**Wonju Array Be**	**13.49**	**13**	Pn	**Pn**	**15 26 34.2**	**+0.1**
KSRS	**Korea Array**	**13.51**	**13**	Pn	**Pn**	**15 26 34.9**	**+0.5**
	0.1nm,0.3s,baz=182,slow=5.6,SNR=4.1						
JSG	**Sagara**	**16.02**	**47**	Pn	**Pn**	**15 27 07.7**	**+0.3**
XAN	**Xi'an**	**16.41**	**310**	P	**P**	**15 27 16.6**	**+1.9**
XAN				pP	pP	15 27 23.5	-2.0
XAN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MAJO	**Matsushiro**	**17.20**	**42**	Pn	**P**	**15 27 22.7**	**-0.7**
MJAR	**Matsushiro Arr**	**17.20**	**42**	P	**Pn**	**15 27 21.6**	**-0.7**
	0.0nm,0.3s,baz=221,slow=9.5,SNR=2.0						
MJAR				LR	LR	15 34 18.3	
	comp=Z,48nm,20.7s,baz=215,slow=38						
GUMO	**Guam**	**22.32**	**115**	LR	LR	15 38 01.1	
	comp=Z,37nm,18.1s,baz=346,slow=40						
CMAR	**Chiang Mai Arr**	**24.12**	**261**	P	**P**	**15 28 38.1**	**+1.1**
	0.4nm,0.4s,baz=66,slow=8.8,SNR=2.5						
ASAJ	**Asahikawa**	**24.88**	**33**	P	**P**	**15 28 42.9**	**-0.8**
	4.5nm,0.9s,baz=226,slow=11,SNR=7.0						
JKA	**Kamikawa-asahi**	**24.88**	**33**	P	**P**	**15 28 42.9**	**-0.8**
JKA	**Kamikawa-asahi**	**24.88**	**33**	IAmb	IAmb	15 28 48.9	
	comp=Z,6.5nm,0.9s						
GTA	**Gaotai**	**25.43**	**312**	*e*P	**P**	**15 28 48.3**	**-0.6**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KLR	**Kul'dur**	**25.59**	**12**	P	**P**	**15 28 49.2**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=136,slow=12,SNR=1.6						
YSS	**Yuzh-Sakhalins**	**27.08**	**29**	P	**P**	**15 29 04.8**	**+1.3**
YSS				IAmb	IAmb	15 29 10.4	
	comp=Z,9.9nm,1.0s						
SONM	**Songino Array**	**27.36**	**334**	P	**P**	**15 29 05.6**	**-0.6**
	comp=Z,2.0nm,0.6s,baz=160,slow=9.4,SNR=13						
SONM				LR	LR	15 41 37.7	
	comp=Z,54nm,18.9s,baz=154,slow=40						
SONM	**Songino Array**	**27.36**	**334**	P	**P**	**15 29 06.3**	**0.0**
PSI	**Prapat**	**32.37**	**233**	P	**P**	**15 29 51.0**	**+0.1**
	comp=Z,1.6nm,0.3s,baz=9.5,slow=6.1,SNR=4.1						
RPSI	**Rantau Prapat**	**32.44**	**232**	P	**P**	**15 29 51.0**	**-0.4**
CISI	**Cisompet, Garu**	**35.43**	**209**	P	**P**	**15 30 15.5**	**-1.8**
MTN	**Manton Dam**	**37.56**	**169**	P	**P**	**15 30 34.9**	**-0.4**
PETK	**Petropavlovsk-**	**38.30**	**33**	P	**P**	**15 30 41.7**	**+0.4**
RABL	**Rabaul**	**39.35**	**132**	P	**P**	**15 30 51.2**	**+0.7**
H11N1	**WAKE ISLAND Hy**	**39.82**	**88**	T	T	16 13 43.4	
	baz=283						
H11N2	**WAKE ISLAND Hy**	**39.82**	**88**	T	T	16 13 19.2	
	baz=283						
H11N3	**WAKE ISLAND Hy**	**39.84**	**88**	T	T	16 13 36.4	
	baz=283						
H11S3	**WAKE ISLAND Hy**	**39.95**	**90**	T	T	16 13 46.8	
	baz=283						
H11S1	**WAKE ISLAND Hy**	**39.96**	**90**	T	T	16 13 54.3	
	baz=283						
H11S2	**WAKE ISLAND Hy**	**39.97**	**90**	T	T	16 13 54.0	
	baz=283						
KNRA	**Kununurra**	**40.00**	**173**	P	**P**	**15 30 55.6**	**-0.1**
KNRA				IAmb	IAmb	15 31 15.3	
	comp=Z,10nm,1.1s						
MK31	**Makanchi Array**	**40.12**	**315**	P	**P**	**15 30 56.0**	**-0.7**
MKAR	**Makanchi Array**	**40.12**	**315**	P	**P**	**15 30 56.1**	**-0.5**
	comp=Z,4.6nm,0.6s,baz=101,slow=10,SNR=46						
MKAR				PcP	**PcP**	**15 33 00.2**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=84,slow=5.9,SNR=4.8						
MAKZ	**Makanchi**	**40.33**	**315**	P	**P**	**15 30 57.8**	**-0.6**
MAKZ				IAmb	IAmb	15 30 58.7	
	comp=Z,6.2nm,0.7s						
ZAA0	**Zalesovo Array**	**41.61**	**326**	P	**P**	**15 31 07.4**	**-1.4**
ZAA0				IAmb	IAmb	15 31 08.0	
	comp=Z,4.8nm,0.7s						
ZALV	**Zalesovo Beam**	**41.61**	**326**	P	**P**	**15 31 07.5**	**-1.3**
	comp=Z,6.7nm,0.6s,baz=117,slow=8.3,SNR=21						
ZALV	**Zalesovo Beam**	**41.61**	**326**	P	**P**	**15 31 07.1**	**-1.6**
TARG	**Taragay, Kyrgy**	**41.98**	**306**	P	**P**	**15 31 13.6**	**+1.1**
FITZ	**Fitzroy Crossi**	**42.18**	**178**	P	**P**	**15 31 14.1**	**+0.5**
	comp=Z,1.0nm,0.9s,baz=338,slow=5.4,SNR=1.4						
KURK	**Kurchatov**	**43.72**	**319**	P	**P**	**15 31 25.2**	**-0.7**
KURBB	**Kurchatov Arra**	**43.75**	**319**	P	**P**	**15 31 25.2**	**-0.9**
	comp=Z,1.3nm,0.4s,baz=113,slow=9.6,SNR=5.0						
NIL	**Nilore**	**45.07**	**294**	P	**P**	**15 31 37.0**	**+0.1**
NIL				IAmb	IAmb	15 31 39.1	
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr**	**45.10**	**166**	P	**P**	**15 31 37.5**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=348,slow=8.3,SNR=12						
WRA	**Warramunga Arr**	**45.10**	**166**	P	**P**	**15 31 37.8**	**+0.6**
WB2	**Warramunga Arr**	**45.10**	**166**	P	**P**	**15 31 37.4**	**+0.2**
WR0	**Warramunga Arr**	**45.16**	**166**	P	**P**	**15 31 37.6**	**-0.1**
WR0				IAmb	IAmb	15 32 04.5	
	comp=Z,6.5nm,1.1s						
GAR	**Garm**	**47.42**	**301**	P	**P**	**15 31 56.1**	**+0.6**
KK31	**Karatay Array**	**47.52**	**307**	P	**P**	**15 31 55.9**	**-0.1**
KKAR	**Karatay Array**	**47.52**	**307**	P	**P**	**15 31 55.9**	**-0.2**
KKAR	**Karatay Array**	**47.52**	**307**	P	**P**	**15 31 55.9**	**-0.2**
CHGR	**Chuyangaron**	**48.32**	**301**	P	**P**	**15 32 01.3**	**-1.1**
ASAR	**Alice Springs**	**48.63**	**168**	P	**P**	**15 32 05.4**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=352,slow=7.9,SNR=10.0						
BRVK	**Borovoye**	**49.35**	**320**	P	**P**	**15 32 09.2**	**-0.7**
BRVK				IAmb	IAmb	15 32 10.2	
	comp=Z,3.4nm,0.8s						
ABKAR	**Akbulak array**	**55.26**	**314**	P	**P**	**15 32 53.7**	**-0.1**
ABKAR				IAmb	IAmb	15 32 55.2	
	comp=Z,3.2nm,0.8s						
ARU	**Arti**	**56.62**	**323**	P	**P**	**15 33 02.1**	**-1.3**
ARU				IAmb	IAmb	15 33 03.4	
	comp=Z,6.1nm,1.0s						
GEYT	**Alibeck**	**57.03**	**301**	P	**P**	**15 33 08.1**	**+1.4**
	comp=Z,191nm,0.6s,baz=47,slow=6.5,SNR=7.3						
GEYT	**Alibeck**	**57.03**	**301**	IAmb	IAmb	15 33 11.9	
	comp=Z,346nm,0.9s						
GYA0B	**ALIBECK ARRAY**	**57.03**	**301**	P	**P**	**15 33 07.7**	**+1.0**
GYA0B				IAmb	IAmb	15 33 09.0	
	comp=Z,7.5nm,0.8s						
STKA	**Stephens Creek**	**58.32**	**163**	P	**P**	**15 33 16.9**	**+1.3**
	comp=Z,2.7nm,0.9s,baz=4.8,slow=5.7,SNR=3.0						
STKA	**Stephens Creek**	**58.32**	**163**	P	**P**	**15 33 16.9**	**+1.3**
SVW2	**Sparrevohn**	**64.38**	**32**	P	**P**	**15 33 57.6**	**+1.3**
SVW2				IAmb	IAmb	15 34 01.0	
	comp=Z,7.1nm,1.4s						
O18K	**Koktuh Hills**	**64.67**	**33**	P	**P**	**15 33 59.4**	**+1.2**
O18K				IAmb	IAmb	15 34 00.9	
	comp=Z,3.1nm,0.8s						
J20K	**Nowinta River**	**64.83**	**29**	P	**P**	**15 33 59.6**	**+0.5**
J20K				IAmb	IAmb	15 34 01.3	
	comp=Z,3.8nm,0.8s						
IMAR	**Indian Mountai**	**64.88**	**27**	P	**P**	**15 34 00.2**	**+0.7**
K20K	**Telida**	**64.92**	**30**	P	**P**	**15 34 01.0**	**+1.2**
I21K	**Tanana**	**65.67**	**27**	P	**P**	**15 34 05.7**	**+1.1**
I21K				IAmb	IAmb	15 34 06.9	
	comp=Z,5.0nm,0.8s						
PPLA	**Purkeypile**	**65.81**	**30**	P	**P**	**15 34 07.2**	**+1.4**
PPLA				IAmb	IAmb	15 34 30.6	
	comp=Z,5.4nm,1.0s						
OHAK	**Old Harbor**	**65.96**	**36**	P	**P**	**15 34 07.5**	**+1.0**
OHAK				IAmb	IAmb	15 34 35.0	
	comp=Z,8.1nm,1.1s						
COLD	**Coldfoot**	**66.19**	**25**	P	**P**	**15 34 08.8**	**+0.9**
MLY	**Manley**	**66.21**	**28**	P	**P**	**15 34 09.0**	**+0.8**
MLY				IAmb	IAmb	15 34 09.8	
	comp=Z,3.6nm,0.7s						
BPAW	**Bear Paw Mtn.**	**66.22**	**29**	P	**P**	**15 34 08.9**	**+0.8**
BPAW				IAmb	IAmb	15 34 09.9	
	comp=Z,3.8nm,0.7s						
KDAK	**Kodiak Island**	**66.26**	**36**	P	**P**	**15 34 09.9**	**+1.5**
KDAK				IAmb	IAmb	15 34 16.9	
	comp=Z,14nm,1.5s						
TOLK	**Toolik Lake Re**	**66.28**	**24**	P	**P**	**15 34 09.4**	**+0.9**
TOLK				IAmb	IAmb	15 34 13.2	
	comp=Z,6.6nm,1.1s						
H23K	**Yukon River**	**66.61**	**27**	P	**P**	**15 34 11.4**	**+0.7**
H23K				IAmb	IAmb	15 34 13.2	
	comp=Z,6.3nm,0.8s						
SUA	**Susitna One**	**66.67**	**31**	P	**P**	**15 34 11.6**	**+0.4**
SUA				IAmb	IAmb	15 34 13.1	
	comp=Z,4.1nm,0.9s						
I23K	**Minto, Yukon-K**	**66.78**	**27**	P	**P**	**15 34 12.8**	**+1.1**
I23K				IAmb	IAmb	15 34 29.1	
	comp=Z,4.8nm,1.4s						
NEA2	**Nenana**	**66.98**	**28**	P	**P**	**15 34 14.0**	**+1.0**
RND	**Reindeer**	**67.25**	**29**	P	**P**	**15 34 14.8**	**0.0**
MDM	**Murphy Dome**	**67.28**	**27**	P	**P**	**15 34 15.3**	**+0.4**
H24K	**Noodor Dome**	**67.29**	**26**	P	**P**	**15 34 16.5**	**+1.5**
H24K				IAmb	IAmb	15 34 17.3	
	comp=Z,3.8nm,0.8s						
WRH	**Wood River Hil**	**67.42**	**28**	P	**P**	**15 34 17.4**	**+1.7**
WRH				IAmb	IAmb	15 34 18.0	
	comp=Z,2.9nm,0.8s						
KBZ	**Khabaz**	**67.47**	**309**	P	**P**	**15 34 16.9**	**+0.4**
	comp=Z,3.5nm,0.9s,baz=105,slow=2.7,SNR=6.1						
CCB	**Clear Creek Bu**	**67.51**	**28**	P	**P**	**15 34 16.3**	**0.0**
CCB				IAmb	IAmb	15 34 21.5	
	comp=Z,4.9nm,1.4s						
POKR	**Poker Plat Res**	**67.59**	**27**	P	**P**	**15 34 18.1**	**+1.2**
SML	**Sawmill**	**67.75**	**31**	P	**P**	**15 34 19.5**	**+1.6**
SML				IAmb	IAmb	15 34 32.9	
	comp=Z,3.3nm,0.8s						
IL31		**67.88**	**28**	P	**P**	**15 34 18.1**	**-0.5**
ILAR	**Eielson Array**	**67.88**	**28**	P	**P**	**15 34 17.5**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=249,slow=4.0,SNR=12						
ILAR	**Eielson Array**	**67.88**	**28**	P	**P**	**15 34 17.6**	**-1.0**
SCM	**Sheep Creek Mo**	**68.21**	**31**	P	**P**	**15 34 21.6**	**+0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCM				IAmb	IAmb	15 34 31.1	
	comp=Z,12nm,1.4s						
FYU	**Fort Yukon**	**68.23**	**26**	P	**P**	**15 34 22.0**	**+1.3**
PRP	**Porcupine Dome**	**68.31**	**27**	P	**P**	**15 34 22.0**	**+0.5**
BMAR	**Burnt Mountain**	**68.31**	**25**	P	**P**	**15 34 22.8**	**+1.4**
SCRK	**Sand Creek**	**69.27**	**28**	P	**P**	**15 34 27.6**	**0.0**
DOT	**Dot Lake**	**69.31**	**28**	P	**P**	**15 34 27.3**	**-0.3**
DOT				IAmb	IAmb	15 34 28.6	
	comp=Z,4.3nm,0.8s						
K27K	**Chicken**	**70.08**	**28**	P	**P**	**15 34 33.4**	**+1.0**
K27K				IAmb	IAmb	15 34 34.3	
	comp=Z,5.6nm,0.9s						
M26K	**Nabesna, AK**	**70.08**	**30**	P	**P**	**15 34 33.1**	**+0.7**
M26K				IAmb	IAmb	15 34 34.6	
	comp=Z,6.7nm,1.1s						
EGAK	**Eagle**	**70.27**	**27**	P	**P**	**15 34 34.1**	**+0.6**
EGAK				IAmb	IAmb	15 34 34.7	
	comp=Z,3.4nm,0.8s						
ARCES	**ARCESS Array B**	**70.41**	**338**	P	**P**	**15 34 33.7**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=69,slow=6.6,SNR=6.2						
ARCES	**ARCESS Array B**	**70.41**	**338**	P	**P**	**15 34 34.0**	**-0.3**
L27K	**Beaver Creek,**	**70.43**	**29**	P	**P**	**15 34 35.3**	**+0.8**
M27K	**Edge Creek, AK**	**70.59**	**30**	P	**P**	**15 34 36.5**	**+0.8**
M27K				IAmb	IAmb	15 34 54.0	
	comp=Z,9.5nm,1.5s						
MARD	**Mardin**	**70.63**	**303**	P	**P**	**15 34 37.3**	**+0.9**
DAWY	**Dawson**	**71.20**	**27**	P	**P**	**15 34 40.2**	**+1.0**
DAWY				IAmb	IAmb	15 34 40.9	
	comp=Z,4.1nm,0.8s						
INK	**Inuvik**	**72.10**	**22**	P	**P**	**15 34 44.6**	**+0.1**
FIA1	**FINESS Array S**	**72.67**	**330**	P	**P**	**15 34 47.4**	**-0.6**
FIA1				IAmb	IAmb	15 34 50.3	
	comp=Z,9.0nm,0.9s						
FINES	**FINESS Array B**	**72.67**	**330**	P	**P**	**15 34 47.7**	**-0.2**
	comp=Z,3.2nm,0.7s,baz=67,slow=5.9,SNR=12						
FINES				LR	LR	16 08 44.5	
	comp=Z,35nm,18.1s,baz=46,slow=38						
FINES	**FINESS Array B**	**72.67**	**330**	P	**P**	**15 34 47.3**	**-0.7**
WHY	**Whitehorse**	**74.31**	**30**	P	**P**	**15 34 58.4**	**+0.6**
AKASG	**Malin Array Be**	**74.54**	**319**	P	**P**	**15 34 58.4**	**-0.7**
	comp=Z,3.7nm,0.6s,baz=62,slow=6.4,SNR=19						
AKBB	**Malin Array Si**	**74.54**	**319**	P	**P**	**15 34 57.9**	**-1.3**
AKBB				IAmb	IAmb	15 34 59.2	
	comp=Z,3.8nm,0.7s						
BR131	**Keskin Array S**	**75.23**	**307**	P	**P**	**15 35 03.0**	**-0.6**
BR131				IAmb	IAmb	15 35 05.2	
	comp=Z,6.3nm,0.9s						
BRTR	**Keskin Array B**	**75.23**	**307**	P	**P**	**15 35 04.0**	**+0.4**
	comp=Z,3.8nm,1.0s,baz=103,slow=5.3,SNR=16						
BRTR	**Keskin Array B**	**75.23**	**307**	P	**P**	**15 35 03.1**	**-0.6**
ASF	**Jabal al Asfar**	**75.25**	**299**	P	**P**	**15 35 00.8**	**-2.9**
	comp=Z,1.4nm,0.5s,baz=108,slow=3.2,SNR=2.3						
MMAI	**Mount Meron Ar**	**76.15**	**300**	P	**P**	**15 35 09.6**	**+0.7**
	comp=Z,3.3nm,0.8s,baz=61,slow=7.2,SNR=1.7						
SUW	**Suwalki**	**76.79**	**323**	P	**P**	**15 35 12.0**	**+0.1**
CSS	**Mathiatis**	**77.09**	**303**	P	**P**	**15 35 13.5**	**-0.6**
BUR08	**Bucovina Ar. S**	**78.10**	**317**	P	**P**	**15 35 19.7**	**+0.1**
BURAR	**Bucovina Array**	**78.11**	**317**	P	**P**	**15 35 19.8**	**+0.2**
BURAR				IAmb	IAmb	15 35 20.5	
	comp=Z,2.3nm,0.7s						
HFS	**Hagfors**	**78.74**	**331**	LR	LR	16 14 09.7	
	comp=Z,24nm,20.9s,baz=205,slow=39						
NB2	**NORSAR Subarra**	**79.34**	**333**	P	**P**	**15 35 24.5**	**-1.6**
	comp=Z,3.4nm,1.1s,baz=56,slow=5.6						
NOA	**NORSAR Array B**	**79.34**	**333**	P	**P**	**15 35 25.0**	**-1.1**
	comp=Z,6.2nm,1.2s,baz=54,slow=5.8,SNR=6.4						
NOA				LR	LR	16 13 43.5	
	comp=Z,28nm,18.1s,baz=70,slow=38						
NC204	**NORSAR Array S**	**79.41**	**333**	P	**P**	**15 35 26.1**	**-0.3**
OJC	**Ojcow**	**80.27**	**321**	P	**P**	**15 35 30.9**	**-0.4**
OJC				IAmb	IAmb	15 35 32.4	
	comp=Z,11nm,1.0s						
VTS	**Vitosha**	**81.42**	**313**	P	**P**	**15 35 38.0**	**+0.3**
VTS				IAmb	IAmb	15 35 39.3	
	comp=Z,5.3nm,0.8s						
YKA	**Yellowknife Ar**	**81.81**	**24**	P	**P**	**15 35 39.1**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=245,slow=6.8,SNR=2.6						
DPC	**Dobruska-Polom**	**82.19**	**322**	*e*P	**P**	**15 35 41.6**	**+0.1**
VRAC	**Vranov**	**82.54**	**321**	P	**P**	**15 35 43.8**	**+0.5**
	comp=Z,3.5nm,0.7s,baz=17,slow=3.3,SNR=5.1						
CLL	**Collm**	**83.54**	**324**	*i* P	**P**	**15 35 49.0**	**+0.6**
	comp=Z,4.0nm,0.7s						
CKRC	**Cesky Krumlov**	**84.09**	**321**	*e*P	**P**	**15 35 51.3**	**0.0**
KHC	**Kasperske Hory**	**84.34**	**322**	*e*P	**P**	**15 35 52.5**	**-0.1**
GEC2	**GERESS Array S**	**84.42**	**322**	P	**P**	**15 35 51.7**	**-1.4**
GEC2				IAmb	IAmb	15 35 54.0	
	comp=Z,4.0nm,0.8s						
GERES	**GERESS Array B**	**84.42**	**322**	P	**P**	**15 35 53.1**	**+0.1**
	comp=Z,3.5nm,0.7s,baz=64,slow=6.1,SNR=18						
GERES	**GERESS Array B**	**84.42**	**322**	P	**P**	**15 35 53.0**	**-0.1**
DAVOX	**Davos/Dischmat**	**87.70**	**321**	P	**P**	**15 36 09.6**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=31,slow=5.9,SNR=5.4						
NVAR	**Mina Array Bea**	**94.50**	**44**	P	**P**	**15 36 42.6**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=276,slow=12,SNR=2.8						

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*IASPEI **06** 15:24:37.2±0.8, 38°.52N±0°.02×20°.57E±0°.03, h14km±5km, Error ellipse: s-maj=5.0km s-min=2.5km az=104.5, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009*

*ATH **06** 15:24:37.8, 38°.52N×20°.57E, h13km±1km, ML2.6/11, Error ellipse: s-maj=2.0km s-min=0.7km az=284.0*

*THE **06** 15:24:37.7, 38°.51N×20°.57E, h11km, ML2.7/12, Error ellipse: s-maj=0.7km s-min=0.2km az=286.0*

ISC 06 15:24:37.3±0.8**, 38°.52N**±0°.02×**20°.56E**±0°.03**, h14**km±5km**, n51, σ0.56**/73**, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FSK	**Fiskardo**	**0.06**	**182**	P	**Pg**	**15 24 39.8**	**-0.1**
FSK				S	**Sg**	**15 24 41.5**	**-0.2**
	31µm,0.2s						
FSK	**Fiskardo**	**0.06**	**182**	P	**Pg**	**15 24 39.8**	**-0.1**
FSK				S	**Sg**	**15 24 41.5**	**-0.2**
FSK				AML	AML	15 24 41.6	
	comp=N,31150µm,0.2s						
FSK				AML	AML	15 24 41.7	
	comp=E,91093µm,0.3s						
EVGI	**Lefkada island**	**0.13**	**35**	P	**Pg**	**15 24 40.9**	**+0.2**
EVGI				S	**Sg**	**15 24 43.2**	**+0.1**
	comp=E,6µm,0.3s						
EVGI	**Lefkada island**	**0.13**	**35**	P	**Pg**	**15 24 40.9**	**+0.2**
EVGI				S	**Sg**	**15 24 43.2**	**+0.1**
DRAG	**Dragano-Lefkad**	**0.17**	**3**	P	**Pg**	**15 24 41.3**	**0.0**
DRAG				S	**Sg**	**15 24 44.3**	**+0.3**
	comp=E,8µm,0.3s						
NYDR	**Nydri-Lefkada**	**0.22**	**28**	P	**Pg**	**15 24 42.3**	**+0.1**
NYDR				S	**Sg**	**15 24 45.8**	**+0.3**
	comp=E,3µm,0.4s						
KEF5	**Kardakata, Kep**	**0.25**	**197**	P	**Pg**	**15 24 42.9**	**+0.2**
KEF5				S	**Sg**	**15 24 46.9**	**+0.6**
	comp=E,4µm,0.2s						
KEF5	**Kardakata, Kep**	**0.25**	**197**	P	**Pg**	**15 24 42.9**	**+0.2**
KEF5				S	**Sg**	**15 24 47.4**	**+1.1**
LKD2	**Lefkada island**	**0.28**	**15**	P	**Pg**	**15 24 43.3**	**+0.1**
LKD2				S	**Sg**	**15 24 48.0**	**+0.8**
	comp=E,682nm,0.4s						
LKD2	**Lefkada island**	**0.28**	**15**	P	**Pg**	**15 24 43.3**	**+0.1**
LKD2				S	**Sg**	**15 24 48.0**	**+0.8**
LKD2				AML	AML	15 24 50.1	
	comp=N,1434µm,0.5s						
LKD2				AML	AML	15 24 53.3	
	comp=E,1346µm,0.3s						
KEF4	**Livadi, Kephal**	**0.28**	**203**	P	**Pg**	**15 24 43.5**	**+0.3**
KEF4				S	**Sg**	**15 24 47.6**	**+0.5**
	comp=E,16µm,0.1s						
KEF4	**Livadi, Kephal**	**0.28**	**203**	P	**Pg**	**15 24 43.5**	**+0.3**
KEF4				S	**Sg**	**15 24 48.1**	**+1.0**
TSLK	**Tsoukalades, L**	**0.32**	**13**	P	**Pg**	**15 24 44.1**	**+0.3**
TSLK				S	**Sg**	**15 24 49.1**	**+0.9**
	comp=E,768nm,0.4s						
TSLK	**Tsoukalades, L**	**0.32**	**13**	P	**Pg**	**15 24 44.1**	**+0.3**
TSLK				S	**Sg**	**15 24 49.1**	**+0.9**
DMLN	**Damoulianata-K**	**0.32**	**208**	P	**Pg**	**15 24 44.1**	**+0.3**
DMLN				S	**Sg**	**15 24 49.0**	**+0.8**
	comp=E,2µm,0.3s						
LXRA	**Lixouri, Kepha**	**0.33**	**198**	P	**Pg**	**15 24 44.4**	**+0.4**
LXRA				S	**Sg**	**15 24 49.8**	**+1.2**
VLS	**Valsamata**	**0.34**	**177**	P	**Pg**	**15 24 44.4**	**+0.2**
VLS				S	**Sg**	**15 24 49.5**	**+0.6**
	comp=E,3µm,0.2s						
VLS	**Valsamata**	**0.34**	**177**	P	**Pg**	**15 24 44.4**	**+0.2**
VLS				S	**Sg**	**15 24 49.8**	**+0.9**
VLS				AML	AML	15 24 50.4	
	comp=E,4928µm,0.2s						
VLS				AML	AML	15 24 50.4	
	comp=N,7640µm,0.2s						
KEF3	**Kipouria, Keph**	**0.36**	**208**	P	**Pg**	**15 24 44.2**	**-0.3**
KEF3				S	**Sg**	**15 24 49.8**	**+0.4**
	comp=N,5µm,0.1s						
KEF3	**Kipouria, Keph**	**0.36**	**208**	P	**Pg**	**15 24 44.2**	**-0.3**
KEF3				S	**Sg**	**15 24 49.6**	**+0.2**
PSDA	**Pessada-Kefalo**	**0.40**	**178**	P	**Pg**	**15 24 45.6**	**+0.3**
PSDA				S	**Sg**	**15 24 51.5**	**+0.7**
	comp=N,818nm,0.2s						
PSDA	**Pessada-Kefalo**	**0.40**	**178**	P	**Pg**	**15 24 45.6**	**+0.3**
VLMS	**Volimes, Zakyn**	**0.65**	**173**	P	**Pg**	**15 24 49.8**	**-0.1**
VLMS	**Volimes, Zakyn**	**0.65**	**173**	P	**Pg**	**15 24 49.8**	**-0.1**
VLMS				AML	AML	15 25 00.6	
	comp=N,3433µm,0.3s						
VLMS				AML	AML	15 25 01.9	
	comp=E,2689µm,0.2s						
PVO	**Paravola**	**0.76**	**82**	P	**Pg**	**15 24 52.4**	**+0.4**
PVO	**Paravola**	**0.76**	**82**	P	**Pg**	**15 24 52.6**	**+0.6**
RLS	**Riolos of Patr**	**0.85**	**123**	P	**Pg**	**15 24 53.8**	**+0.2**
RLS	**Riolos of Patr**	**0.85**	**123**	P	**Pg**	**15 24 53.8**	**+0.2**
RLS				AML	AML	15 25 08.4	
	comp=N,425µm,0.2s						
RLS				AML	AML	15 25 09.1	
	comp=E,677µm,0.2s						
EVR	**Evrytania**	**1.05**	**67**	P	**Pb**	**15 24 57.3**	**0.0**
EVR	**Evrytania**	**1.05**	**67**	P	**Pb**	**15 24 57.3**	**0.0**
EVR				AML	AML	15 25 20.2	
	comp=N,220µm,0.5s						
EVR				AML	AML	15 25 24.0	
	comp=E,162µm,0.4s						
EFP	**Efpalio**	**1.06**	**95**	P	**Pb**	**15 24 56.9**	**-0.5**
EFP	**Efpalio**	**1.06**	**95**	P	**Pb**	**15 24 56.8**	**-0.5**
EFP				AML	AML	15 25 19.4	
	comp=E,323µm,0.5s						
EFP				AML	AML	15 25 20.4	
	comp=N,327µm,0.7s						
DRO	**Drossia**	**1.06**	**122**	P	**Pb**	**15 24 57.7**	**+0.2**
DRO	**Drossia**	**1.06**	**122**	P	**Pb**	**15 24 57.7**	**+0.2**
DRO				AML	AML	15 25 16.8	
	comp=N,1097µm,0.3s						
DRO				AML	AML	15 25 17.1	
	comp=E,1612µm,0.3s						
ANX	**Ano Chora**	**1.07**	**86**	P	**Pb**	**15 24 57.4**	**-0.2**
ANX	**Ano Chora**	**1.07**	**86**	P	**Pb**	**15 24 57.4**	**-0.2**
ANX				AML	AML	15 25 20.5	
	comp=E,381µm,0.6s						
ANX				AML	AML	15 25 25.4	
	comp=N,425µm,0.5s						
LAKA	**Lakka**	**1.15**	**104**	P	**Pb**	**15 24 58.5**	**-0.4**
LAKA	**Lakka**	**1.15**	**104**	P	**Pb**	**15 24 58.4**	**-0.4**
LAKA				AML	AML	15 25 21.7	
	comp=N,682µm,0.6s						
LAKA				AML	AML	15 25 27.1	
	comp=E,975µm,0.8s						
TRIZ	**Trizonia**	**1.19**	**97**	P	**Pn**	**15 24 59.3**	**-0.3**
TRIZ	**Trizonia**	**1.19**	**97**	P	**Pn**	**15 24 59.3**	**-0.3**
MAKR	**Makrakomi, Fth**	**1.32**	**68**	P	**Pb**	**15 25 02.4**	**+0.5**
KEK	**Kerkira**	**1.33**	**334**	P	**Pn**	**15 25 01.6**	**+0.1**
KEK	**Kerkira**	**1.33**	**334**	P	**Pn**	**15 25 02.0**	**+0.5**
KLV	**Kalavryta, Ach**	**1.33**	**110**	P	**Pn**	**15 25 01.6**	**0.0**
KLV	**Kalavryta, Ach**	**1.33**	**110**	P	**Pn**	**15 25 01.6**	**0.0**
KLV				AML	AML	15 25 29.1	
	comp=E,85µm,0.4s						
KLV				AML	AML	15 25 32.0	
	comp=N,118µm,0.8s						
STON	**Ston**	**4.86**	**334**	*e*Pn	**Pn**	**15 25 49.8**	**-0.2**
STON				Sn	**Sn**	**15 26 43.7**	**-2.3**
RICI	**Ricice**	**5.61**	**334**	*e*Pn	**Pn**	**15 26 00.2**	**0.0**
KIJV	**Kijevo**	**6.31**	**332**	*e*Pn	**Pn**	**15 26 10.6**	**+0.6**
ZIRJ	**Zirje**	**6.33**	**326**	*e*Pn	**Pn**	**15 26 09.9**	**-0.3**
DUGI	**Dugi Otok**	**6.86**	**325**	*e*Pn	**Pn**	**15 26 17.5**	**0.0**
UDBI	**Udbina**	**7.00**	**331**	*e*Pn	**Pn**	**15 26 20.9**	**+1.4**

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*NIC **06** 15:35:54.3±0.0, 36°.30N×36°.70E, h10km±2km, Ml3.6/5*

*ISK **06** 15:35:54.2, 36°.75N×36°.13E, h17km, ML3.4/29*

*DDA **06** 15:35:55.6, 36°.71N×36°.13E, h5km±2km, ML3.3*

*IDC **06** 15:35:56.0±2.0, 36°.73N×35°.77E, h0km, mb3.4/2, mb1 3.5/6, mb1mx3.2/42, mbtmp3.3/6, ML3.2/4, MS2.5/3, Ms1 2.5/3, ms1mx2.1/34, Error ellipse: s-maj=48.8km s-min=20.5km az=77.0*

ISC 06 15:35:55.3±1.0**, 36°.75N**±0°.02×**36°.11E**±0°.02**, h10**km±9km**, n70, σ1.44**/84**, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TAHT	**Tahtakopru-Hat**	**0.38**	**171**	PG	**Pg**	**15 36 02.6**	**-0.1**
TAHT				SG	**Sg**	**15 36 08.1**	**+0.4**
CEYT	**Ceyhan**	**0.39**	**312**	PG	**Pg**	**15 36 02.5**	**-0.5**
KRTD	**Karatas-Adana**	**0.58**	**255**	PG	**Pg**	**15 36 06.3**	**-0.2**
KRTS	**Karatas**	**0.61**	**254**	PG	**Pg**	**15 36 06.9**	**-0.3**
KRTS				SG	**Sb**	**15 36 16.8**	**-0.1**
YAYL	**Yayladag**	**0.71**	**180**	*i* P	**Pb**	**15 36 10.0**	**+0.1**
YAYL				*i* S	**Sg**	**15 36 18.7**	**+0.3**
YAYL				IAML		15 36 20.0	
	comp=N,1µm,0.5s						
YAYL	**Yayladag**	**0.71**	**180**	PG	**Pg**	**15 36 08.5**	**-0.5**
YAYL				SG	**Sb**	**15 36 19.3**	**-0.5**
KUZU	**Kuzuini**	**0.78**	**88**	*i* P	**Pb**	**15 36 10.7**	**-0.2**
KUZU				*i* S	**Sn**	**15 36 23.8**	**-0.4**
KUZU				IAML		15 36 25.0	
	comp=E,3µm,0.4s						
KUZU				IAML		15 36 27.0	
	comp=N,3µm,0.3s						
ANDN	**Andirin**	**0.85**	**13**	*i* P	**Pb**	**15 36 12.8**	**+0.5**
HCB	**Kahramanmara**	**0.87**	**47**	*i* P	**Pg**	**15 36 12.3**	**+0.2**
HCB				*i* S	**Sg**	**15 36 23.5**	**0.0**
HCB				IAML		15 36 28.0	
	comp=N,679nm,0.3s						
AKO	**Adana**	**0.89**	**324**	*i* P	**Pb**	**15 36 13.5**	**+0.6**
GAZ	**Gaziantep**	**0.98**	**64**	PG	**Pg**	**15 36 12.9**	**-1.2**
GAZ	**Gaziantep**	**0.98**	**64**	P	**Pg**	**15 36 12.9**	**-1.2**
GAZ				S	**Sg**	**15 36 26.6**	**-0.3**
GAZ				AML	AML	15 36 30.0	
	comp=N,2.2nm,0.6s						
GAZ				AML	AML	15 36 30.0	
	comp=N,2.2nm,0.6s						
GAZ				AML	AML	15 36 31.0	
	comp=N,2.3nm,0.4s						
GAZ				AML	AML	15 36 31.0	
	comp=N,2.3nm,0.4s						
KMRS	**Kahramanmaras**	**0.99**	**40**	PG	**Pg**	**15 36 13.8**	**-0.4**
KAHM	**Kahramanmaras,**	**1.04**	**42**	*i* P	**Pg**	**15 36 15.2**	**-0.1**
KAHM				*i* S	**Sg**	**15 36 28.4**	**-0.5**
KAHM				IAML		15 36 31.0	
	comp=E,500nm,0.4s						
KAHM				IAML		15 36 31.0	
	comp=N,557nm,0.4s						
KHMN	**Narli-Kahraman**	**1.06**	**52**	PG	**Pg**	**15 36 14.6**	**-1.0**
SAIM	**ADANA**	**1.23**	**359**	*i* P	**Pn**	**15 36 18.8**	**+0.1**
CMRD	**Camardi-Nigde**	**1.28**	**316**	PN	**Pn**	**15 36 17.9**	**-1.5**
MERS	**Mersin**	**1.28**	**276**	PN	**Pn**	**15 36 17.1**	**-2.2**
GZT	**Gaziantep**	**1.31**	**62**	*i* P	**Pg**	**15 36 20.7**	**+0.2**
GZT				*i* S	**Sn**	**15 36 38.0**	**+0.4**
GZT				IAML		15 36 41.0	
	comp=E,729nm,0.6s						
YAHY	**KAYSERI_Yahyal**	**1.47**	**336**	*i* P	**Pn**	**15 36 22.1**	**+0.1**
KIZK	**Mersin**	**1.60**	**261**	*i* P	**Pn**	**15 36 24.3**	**+0.6**
KIZK				*i* S	**Sn**	**15 36 43.5**	**-1.0**
KIZK	**Mersin**	**1.60**	**261**	PN	**Pn**	**15 36 21.5**	**-2.2**
NIDE	**Nigde/Merkez-G**	**1.64**	**320**	*i* P	**Pn**	**15 36 25.3**	**+1.0**
SARI	**SarD1z-Kayseri**	**1.67**	**8**	PN	**Pn**	**15 36 23.4**	**-1.5**
KERG	**Konya-Eregli**	**1.72**	**293**	*i* P	**Pb**	**15 36 27.1**	**0.0**
SILI	**Silifke-Mersin**	**1.80**	**258**	PN	**Pn**	**15 36 25.4**	**-1.0**
KEBE	**Keben-Mersin**	**1.95**	**262**	PN	**Pn**	**15 36 27.4**	**-1.2**
EREN	**Erenkoy**	**1.98**	**233**	*i* P	**Pb**	**15 36 31.4**	**-0.1**
EREN	**Erenkoy**	**1.98**	**233**	PN	**Pn**	**15 36 28.0**	**-0.9**
IKL	**Isikli**	**2.02**	**256**	PN	**Pn**	**15 36 28.2**	**-1.2**
TISA	**Tisan-Mersin**	**2.04**	**254**	PN	**Pn**	**15 36 28.9**	**-0.9**
BNN	**Bunyan**	**2.11**	**354**	PN	**Pn**	**15 36 29.7**	**-1.1**
DARE	**Darende-Malaty**	**2.12**	**31**	PN	**Pn**	**15 36 29.8**	**-1.2**
GULN	**MERSIN_Gulnar**	**2.14**	**256**	*i* P	**Pn**	**15 36 32.5**	**+1.4**
AKKU	**Akkuyu-Mersin**	**2.14**	**255**	PN	**Pn**	**15 36 30.3**	**-0.8**
YESY	**Yesilyurt**	**2.15**	**299**	PN	**Pn**	**15 36 30.4**	**-1.0**
TEVE	**Tevekalti-Mers**	**2.17**	**263**	PN	**Pn**	**15 36 30.9**	**-0.7**
URFA	**Urfa**	**2.28**	**72**	PN	**Pn**	**15 36 32.3**	**-0.8**
KRMN	**Karaman**	**2.32**	**281**	PN	**Pn**	**15 36 32.8**	**-0.8**
SANL	**SANLIURFA_Merk**	**2.35**	**79**	*i* P	**Pg**	**15 36 40.0**	**-0.2**
BERE	**Bereket-Mersin**	**2.36**	**261**	PN	**Pn**	**15 36 33.5**	**-0.7**
PARAL	**Paralimni**	**2.43**	**224**	P	**Pn**	**15 36 35.7**	**+0.7**
PARAL				S	**Sb**	**15 37 09.2**	**+0.2**
PARAL				AML	AML	15 37 16.7	
	comp=E,0.9nm,0.8s						
PARAL				AML	AML	15 37 16.7	
	comp=E,0.9nm,0.8s						
PARAL				AML	AML	15 37 16.9	
	comp=E,0.9nm,0.9s						
PARAL				AML	AML	15 37 16.9	
	comp=E,0.9nm,0.9s						
SULT	**Sultanhani-AKS**	**2.52**	**306**	PN	**Pn**	**15 36 35.7**	**-0.7**
LFK	**Lefkose**	**2.55**	**236**	PN	**Pn**	**15 36 36.2**	**-0.6**
ERMK	**Ermenek**	**2.57**	**269**	*i* P	**Pn**	**15 36 39.0**	**+1.8**
ERMK				*i* S	**Sb**	**15 37 13.3**	**-0.1**
KKBE	**Karaman, Kazim**	**2.58**	**281**	*i* P	**Pn**	**15 36 39.1**	**+1.9**
HEKM	**Malatya_Hekimh**	**2.58**	**34**	*i* P	**Pb**	**15 36 42.8**	**+1.0**
MVOU	**Mavrovouni**	**2.65**	**230**	P	**Pn**	**15 36 39.7**	**+1.6**
MVOU				S	**Sb**	**15 37 14.5**	**-1.0**
MVOU				AML	AML	15 37 21.0	
	comp=E,0.5nm,0.7s						
MVOU				AML	AML	15 37 21.0	
	comp=E,0.5nm,0.7s						
MVOU				AML	AML	15 37 23.5	
	comp=E,0.4nm,1.1s						
MVOU				AML	AML	15 37 23.5	
	comp=E,0.4nm,1.1s						
CSS	**Mathiatis**	**2.88**	**233**	PN	**Pn**	**15 36 40.9**	**-0.3**
CSS	**Mathiatis**	**2.88**	**233**	P	**Pn**	**15 36 42.8**	**+1.5**
ARPR	**Arapgir-MALATY**	**2.93**	**36**	PN	**Pn**	**15 36 41.4**	**-0.7**
YOZ	**Yozgat**	**2.95**	**348**	PN	**Pn**	**15 36 41.9**	**-0.5**
SVRC	**Sivrice-ELAZID**	**3.02**	**56**	PN	**Pn**	**15 36 42.8**	**-0.5**
ASGA	**Asgata**	**3.04**	**231**	P	**Pn**	**15 36 44.3**	**+0.8**
ASGA				AML	AML	15 37 30.5	
	comp=E,0.3nm,0.9s						
ASGA				AML	AML	15 37 35.1	
	comp=E,0.4nm,0.5s						
GAZI	**Gazipasa**	**3.10**	**262**	*i* P	**Pn**	**15 36 44.8**	**+0.5**
GAZI	**Gazipasa**	**3.10**	**262**	PN	**Pn**	**15 36 44.3**	**0.0**
SZAC	**Souni**	**3.29**	**234**	P	**Pn**	**15 36 48.2**	**+1.2**
SZAC				S	**Sb**	**15 37 31.3**	**-2.7**
SZAC				AML	AML	15 37 32.4	
	comp=E,0.4nm,1.0s						
SZAC				AML	AML	15 37 32.4	
	comp=E,0.4nm,1.0s						
SZAC				AML	AML	15 37 42.2	
	comp=E,0.7nm,0.7s						
SZAC				AML	AML	15 37 42.2	
	comp=E,0.7nm,0.7s						
NATA	**Nata**	**3.48**	**237**	P	**Pn**	**15 36 52.3**	**+2.6**
AKMS	**Akamas**	**3.52**	**242**	P	**Pn**	**15 36 52.4**	**+2.3**
MAZI	**Mazidag**	**3.54**	**77**	PN	**Pn**	**15 36 50.2**	**-0.3**
BRTR	**Keskin Array B**	**3.55**	**328**	Pn	**Pn**	**15 36 51.7**	**+1.1**
	comp=E,0.5nm,0.3s,baz=150,slow=13,SNR=14						
BRTR				Lg	Lg	15 37 41.5	
	comp=E,0.1nm,0.3s,baz=55,slow=33,SNR=1.3						
BRTR				LR	LR	15 38 33.3	
	comp=E,86nm,19.3s,baz=147,slow=46						
KEPZ	**Antalya-Kepez**	**3.62**	**274**	*i* P	**Pn**	**15 36 53.7**	**+2.2**
MMAI	**Mount Meron Ar**	**3.77**	**189**	Pn	**Pn**	**15 36 53.7**	**+0.1**
	comp=E,3.7nm,0.3s,baz=7.7,slow=14,SNR=11						
MMAI				Sn	**Sn**	**15 37 38.2**	**+0.1**
	comp=E,7.7nm,0.3s,baz=6.0,slow=18,SNR=1.5						
MMAI				LR	LR	15 38 43.3	
	comp=E,26nm,21.1s,baz=230,slow=45						
MMLI	**Mount Malkishu**	**4.34**	**188**	S	**Sn**	**15 37 43.9**	**-8.1**
ASF	**Jabal al Asfar**	**4.61**	**172**	Pn	**Pn**	**15 37 07.9**	**+2.8**
	comp=E,1.2nm,0.3s,baz=351,slow=4.6,SNR=5.0						
ASF				Lg	Lg	15 38 20.1	
	comp=E,2.2nm,0.3s,baz=45,slow=18,SNR=5.2						
OSC2	**CSNet OBS 4**	**4.84**	**222**	S	**Sn**	**15 38 05.8**	**+1.5**
IDI	**Anoyia**	**9.21**	**264**	Pn	**Pn**	**15 38 07.5**	**-0.7**
	comp=E,0.4nm,0.3s,baz=48,slow=15,SNR=1.2						
GERES	**GERESS Array B**	**20.32**	**314**	P	**P**	**15 40 31.4**	**-0.2**
	comp=E,0.9nm,0.9s,baz=114,slow=12,SNR=2.9						
DAVOX	**Davos/Dischmat**	**21.89**	**305**	LR	LR	15 51 01.7	
	comp=E,24nm,20.3s,baz=78,slow=42						
FINES	**FINESS Array B**	**25.51**	**349**	P	**P**	**15 41 26.7**	**+3.0**
	comp=E,1.4nm,0.8s,baz=145,slow=15,SNR=3.7						

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*TUL **06** 15:40:47±0.7, 36°.51N±0°.03×99°.02W±0°.04, h7km±6km, ML2.6, mb_Lg2.5/21(NEIC), Error ellipse: s-maj=5.6km s-min=2.3km az=124.0*

NEIC 06 15:40:46.5±0.5**, 36°.54N**±0°.03×**99°.04W**±0°.05**, h11**km±6km**, Error ellipse: s-maj=6.4km s-min=3.8km az=120.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.16**	**168**	Pg	Pg	15 40 50.1	-0.1
U32A				Sg	Sg	15 40 52.3	-0.5
OK032	**Salt Plains WL**	**0.72**	**68**		Pg	15 41 00.6	+0.1
OK032				Sg	Sg	15 41 10.1	+0.1
CROK	**Carrier**	**0.85**	**92**		Pg	15 41 02.8	-0.2
CROK				Sg	Sg	15 41 14.2	0.0
KAN10	**Anthony SW Sta**	**0.96**	**52**	Pg	Pg	15 41 05.0	0.0
KAN10				Sg	Sb	15 41 17.7	-0.1
KAN14	**Manchester OK**	**0.96**	**64**	Pg	Pg	15 41 05.1	0.0
KAN14				Sg	Sg	15 41 17.7	+0.1
GC02	**Grant County #**	**1.00**	**72**	Pg	Pg	15 41 05.6	-0.3
GC02				Sg	Sg	15 41 18.6	-0.2
KAN05	**Bluff City Nor**	**1.10**	**58**	Pg	Pb	15 41 06.3	-1.2
KAN08	**Anthony NE Sta**	**1.10**	**51**	Pg	Pb	15 41 06.6	-1.0
KAN12	**Harper NE Stat**	**1.13**	**48**	Pg	Pb	15 41 08.1	0.0
KAN17	**Caldwell West**	**1.14**	**63**	Pg	Pb	15 41 08.4	+0.1
KAN13	**South Haven SW**	**1.34**	**69**		Pn	15 41 11.4	+0.2
OK029	**Liberty Lake**	**1.48**	**120**		Pn	15 41 13.3	+0.1
BLOK	**Blackwell**	**1.49**	**81**	Pn	Pn	15 41 13.7	+0.5
OK025	**Westminster Rd**	**1.68**	**124**		Pn	15 41 16.3	+0.4
OKCFA	**Oklahoma City**	**1.71**	**131**	Pn	Pn	15 41 16.2	-0.1
WMOK	**Wichita Mounta**	**1.81**	**173**		Pn	15 41 17.5	-0.2
FNO	**Franklin**	**1.85**	**133**		Pn	15 41 18.1	-0.1
OK031	**S. Brethren Rd**	**1.88**	**108**		Pn	15 41 18.6	0.0
QUOK	**Quay**	**1.92**	**100**	Pn	Pn	15 41 19.9	+0.8
T35A	**Sooner Cattle**	**2.07**	**79**	IAmb_Lg		15 41 54.4	
	comp=Z,14nm,0.7s						
CBKS	**Cedar Bluff**	**2.34**	**347**	IAmb_Lg		15 42 08.4	
	comp=Z,14nm,0.9s						
X37A	**Clayton**	**3.57**	**122**		Pn	15 41 42.3	+0.4
KSCO	**Kaye Shedlock'**	**3.76**	**312**	IAmb_Lg		15 42 49.5	
	comp=Z,12nm,0.8s						
S39A	**Bolivar**	**4.71**	**74**	Pn	Pn	15 41 56.9	-0.7
S39A				IAmb_Lg		15 43 18.9	
	comp=Z,10nm,1.1s						
MIAR	**Mount Ida**	**4.88**	**112**	Pn	Pn	15 41 59.5	-0.4
U40A	**Yellville**	**4.99**	**90**	Pn	Pn	15 42 01.3	-0.1
U40A				IAmb_Lg		15 43 31.5	
	comp=Z,7.5nm,0.8s						
N35A	**Tabor**	**5.07**	**31**	IAmb_Lg		15 43 40.4	
	comp=Z,17nm,0.7s						
JCT	**Junction City**	**6.08**	**186**	IAmb_Lg		15 44 04.5	
	comp=Z,5.7nm,0.8s						
CCM	**Cathedral Cave**	**6.40**	**74**	IAmb_Lg		15 44 09.8	
	comp=Z,7.6nm,0.9s						
P43A	**Skaggs, Pawnee**	**8.12**	**65**	IAmb_Lg		15 45 07.7	
	comp=Z,9.5nm,0.8s						
W18A	**Petrified Fore**	**8.80**	**264**	IAmb_Lg		15 45 23.6	
	comp=Z,6.4nm,0.8s						

DJA 06 16:02:10.2±1.7**, 1°N**±8°×**12°6E**±°**, h29**km±18km**, M3.5**/6**, mb3.7**/3**, MLv3.4**/6**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.28**	**115**	P	Pn	16 02 32.1	-0.1
TNTI				S	Sn	16 02 48.9	+0.5
MNI	**Manado**	**1.37**	**276**	P	Pn	16 02 33.7	+0.4
MNI				S	Sn	16 02 50.4	-0.1
GAMI	**Galela, Maluku**	**1.67**	**72**	P	Pn	16 02 37.8	+0.3
GTOI	**Gorontalo**	**3.26**	**258**	P	Pn	16 03 00.8	+1.4
GTOI				S	Sn	16 03 41.2	+4.0
APSI	**Ampana**	**5.06**	**244**	P	Pn	16 03 24.7	+0.6
	0.1nm18nm,0.8s						
APSI				S	Sn	16 04 19.0	-2.6
	0.1nm18nm,0.8s						
KRAI	**Karang Ratu**	**5.09**	**154**	P	Pn	16 03 24.4	-0.3

IDC 06 16:16:20.6±2.5**, 2°.89S**×**142°.37E, h0**km**, mb3.2**/2**, mb1 3.4**/3**, mb1mx3.2**/24**, mbtmp3.2**/3**, ML3.4**/1**, Error**

ellipse: s-maj=42.4km s-min=27.0km az=64.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAY	Jayapura	1.70	282	Pn	Pb	16 16 52.8	0.0
	2.4nm,0.3s,baz=107,slow=19,SNR=20						
JAY				Sn	Sb	16 17 14.7	-0.1
	2.9nm,0.3s,baz=113,slow=18,SNR=6.1						
WRA	Warramunga Arr	18.68	204	P	Pn	16 20 40.7	0.0
	0.1nm,0.3s,baz=20,slow=12,SNR=13						
ASAR	Alice Springs	22.22	201	P	P	16 21 18.7	-0.3
	0.9nm,0.9s,baz=19,slow=9.5,SNR=12						
MKAR	Makanchi Array	72.18	321	P	P	16 27 46.9	-0.6
	0.1nm,0.4s,baz=102,slow=8.9,SNR=2.2						

MEX 06 16:30:40.7±0.3, 14°.60N×92°.89W, h17km±24km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		1.15	344	*e*P	Pn	16 30 58.4	-3.6
PCIG				*e*S	Sb	16 31 12.1	-4.7

IDC 06 16:44:34.6±1.1, 31°.24N×141°.76E, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.7/36, mbtmp3.8/7, ML2.9/2, Error ellipse: s-maj=42.6km s-min=22.2km az=99.0

ISC 06 16:44:39.4±0.9, 31°.18N±0°.09×141°.5E±0°.2, h37km, n7, σ1s.34/9, mb3.7/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	2.43	323	Pn	Pn	16 45 16.7	+0.2
	1.6nm,0.3s,baz=258,slow=11,SNR=1.8						
JHJ				Sn	Sn	16 45 43.6	-1.3
	2.1nm,0.3s,baz=61,slow=2.4,SNR=1.6						
JCJ	Chichijima	4.11	172	Pn	Pn	16 45 40.2	+0.5
	3.2nm,0.3s,baz=294,slow=22,SNR=7.1						
JCJ				Sn	Sn	16 46 24.1	-2.4
	2.3nm,0.3s,baz=264,slow=21,SNR=2.2						
WRA	Warramunga Arr	51.29	189	P	P	16 53 41.0	+1.1
	0.5nm,0.3s,baz=7.0,slow=7.6,SNR=20						
ASAR	Alice Springs	55.02	189	P	P	16 54 08.4	+1.1
	0.3nm,0.5s,baz=7.3,slow=5.9,SNR=13						
NVAR	Mina Array Bea	78.48	52	P	P	16 56 36.4	-0.6
	0.1nm,0.5s,baz=283,slow=8.0,SNR=1.7						
PDAR	Pinedale Array	81.74	45	P	P	16 56 55.0	+0.4
	0.8nm,1.1s,baz=317,slow=6.5,SNR=2.4						
TXAR	Lajitas Array	93.62	53	P	P	16 57 52.1	-0.2
	0.4nm,0.7s,baz=298,slow=2.7,SNR=6.3						

NEIC 06 16:45:06.1±2.0, 36°.95N±0°.04×141°.28E±0°.09, h44km±7km, mb4.2/33, Error ellipse: s-maj=10.9km s-min=5.2km az=104.0

JMA 06 16:45:06.4±0.1, 36°.97N×141°.22E, h56km±1km, M4.0 JMA Felt II J1.

IDC 06 16:45:06.7±0.6, 36°.95N×141°.26E, h55km±5km, mb3.7/10, mb1 3.9/15, mb1mx3.7/39, mbtmp4.0/15, MS2.7/2, Ms1 2.7/2, ms1mx2.4/35, Error ellipse: s-maj=13.3km s-min=10.2km az=161.0

NIED 06 16:45:06.4, 36°.97N×141°.22E, h56km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; Mrr0.85; Mθθ0.07; Mφφ-0.92; Mrθ-0.24; Mθφ-0.28; Mφr-0.53; Fault plane solution: M0 1.09000×10^{15} NP1: φs201.00000°, δ61.00000°, λ96.00000°. NP2:φs8.00000°, δ30.00000°, λ79.00000°.

ISC 06 16:45:06.2±0.6, 36°.94N±0°.04×141°.29E±0°.06, h53km±5km, n94, σ1s.07/106, mb4.1/28, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.43	293	P	Pn	16 45 16.5	-0.4
ONAJ				S	Sn	16 45 23.7	-0.9
JFK	Kawauchi	0.55	322	P	Pn	16 45 17.7	-0.5
JFK				S	Sn	16 45 25.7	-1.2
JFFD	Fukushimafurud	0.61	285	P	Pn	16 45 18.5	-0.4
JFFD				S	Sn	16 45 26.9	-1.2
JHO	Hitachi	0.67	241	P	Pn	16 45 19.4	-0.2
JHO				S	Sn	16 45 28.7	-0.6
JFT	Otama	0.96	308	P	Pn	16 45 23.8	+0.3
JFT				S	Sn	16 45 36.2	0.0
JMM	Marumori	1.01	337	P	Pn	16 45 23.8	-0.3
JMM				S	Sn	16 45 36.4	-1.0
JMM	Marumori	1.01	337		Pn	16 45 23.6	-0.6
JMM				Sn	Sn	16 45 35.6	-1.7
JYT	Yasato	1.13	232		Pn	16 45 25.7	0.0
JYT				Sn	Sn	16 45 38.9	-1.3
JFY	Yanaizu	1.35	291	P	Pn	16 45 28.6	-0.2
JOU	Okura	1.51	341	P	Pn	16 45 31.0	+0.1
JOU				*e*S	Sn	16 45 49.0	-0.5
JIO	Ouri	1.52	2	P	Pn	16 45 30.8	-0.2
JIO				*e*S	Sn	16 45 48.4	-1.2
JAG	Ashikaga	1.56	252	P	Pn	16 45 31.6	0.0
JAG				S	Sn	16 45 50.3	-0.4
JYS	Shirataka	1.61	323	P	Pn	16 45 32.6	+0.3
JKT	Katashina	1.65	265	P	Pn	16 45 33.3	+0.5
JKT				*e*S	Sn	16 45 53.7	+0.8
MJAR	Matsushiro Arr	2.51	262	P	Pn	16 45 44.5	0.0
	3.8nm,0.3s,baz=92,slow=8.3,SNR=244						
MJAR				S	Sn	16 46 14.4	+0.5
	5.9nm,0.3s,baz=92,slow=29,SNR=4.1						
MJAR				LR	LR	16 46 44.7	
	comp=Z,137nm,20.3s,baz=80,slow=40						
MAJO	Matsushiro	2.51	262		Pn	16 45 45.5	+0.9
MAT	Matsushiro	2.51	262	P	Pn	16 45 45.7	+1.2
MAT				S	Sn	16 46 15.7	+1.8
MJB9	Matsu-Tunnel	2.51	262		Pn	16 45 45.6	+1.0
JSD	Sado	2.65	295		Pn	16 45 45.7	-0.7
JGF	Kuroka	3.45	248		Pn	16 45 58.8	+1.3
INU	Inuyama	3.81	247		Pn	16 46 03.2	+1.0
JTM	Tenmabayashi	3.85	357		Pn	16 46 03.6	+0.7
JHJ2	Mitsune	4.00	198	Pn	Pn	16 46 03.8	-1.2
JHJ	Hachijo jima 2	4.00	198	P	Pn	16 46 05.1	+0.1
	41nm,0.3s,baz=161,slow=23,SNR=11						
JHJ				S	Sn	16 46 47.9	-2.8
	39nm,0.3s,baz=295,slow=23,SNR=2.4						
JEW	Eniwo	5.90	1	Pn	Pn	16 46 30.5	-0.5
JHS	Saijyo	6.91	256	Pn	Pn	16 46 45.4	+0.6
ASAJ	Asahikawa	7.24	7	P	Pn	16 46 48.2	-1.1
	1.0nm,0.3s,baz=216,slow=8.9,SNR=20						
ASAJ				S	Sn	16 48 08.2	-2.0
	0.4nm,0.3s,baz=49,slow=19,SNR=1.4						
JKA	Kamikawa-asahi	7.24	7		Pn	16 46 48.2	-1.1
JNU	Nakatsue	9.35	249	P	Pn	16 47 21.2	+2.9
	0.3nm,0.3s,baz=101,slow=5.5,SNR=4.3						
JNU	Nakatsue	9.35	249		Pn	16 47 17.5	-0.7
JCJ	Chichijima	9.84	175	Pn	Pn	16 47 22.1	-2.9
USA0B	Ussuriysk Arra	10.13	319		Pn	16 47 26.4	-2.5
USRK	Ussuriysk Ar.	10.13	319	P	Pn	16 47 30.8	+1.9
	baz=138,slow=13,SNR=31						
USRK	Ussuriysk Ar.	10.13	319		Pn	16 47 29.4	+0.6
KSRS	Korea Array	10.68	277	P	Pn	16 47 38.2	+1.8
	0.4nm,0.3s,baz=91,slow=15,SNR=7.6						
KSRS				LR	LR	16 51 34.2	
	comp=Z,41nm,21.1s,baz=117,slow=36						
JOW	Kunigami	14.94	231	P	P	16 48 38.0	-0.7
ENH	Enshi	27.23	265	P	P	16 50 46.0	+0.7
ENH				IAmb	IAmb	16 50 49.1	
	comp=Z,6.0nm,0.6s						
ULN	Ulaanbaatar	27.33	304	P	P	16 50 45.7	-0.5
SONM	Songino Array	27.76	304	P	P	16 50 49.1	-0.8
	comp=Z,1.2nm,0.4s,baz=116,slow=10,SNR=6.0						
SONM	Songino Array	27.76	304	P	P	16 50 50.0	0.0
SMY	Shemya	27.81	45	P	P	16 50 50.8	+0.7
H11N2	WAKE ISLAND Hy	28.18	120	T	T	17 20 59.4	
	baz=313,slow=75,SNR=54						
H11N1	WAKE ISLAND Hy	28.19	120	T	T	17 21 02.6	
	baz=313,slow=75,SNR=65						
H11N3	WAKE ISLAND Hy	28.20	120	T	T	17 21 03.4	
	baz=313,slow=75,SNR=57						
H11S1	WAKE ISLAND Hy	28.89	123	T	T	17 21 53.4	
	baz=314,slow=76,SNR=188						
H11S3	WAKE ISLAND Hy	28.89	123	T	T	17 21 54.6	
	baz=314,slow=76,SNR=141						
H11S2	WAKE ISLAND Hy	28.90	123	T	T	17 21 54.2	
	baz=314,slow=76,SNR=121						
AMKA	Amchitka	30.47	50	P	P	16 51 13.4	-0.4
ZAA0	Zalesovo Array	41.91	312	P	P	16 52 51.0	-0.2
ZAA0				IAmb	IAmb	16 52 54.5	
	comp=Z,2.7nm,0.8s						
ZALV	Zalesovo Beam	41.91	312	P	P	16 52 51.1	-0.1
	comp=Z,1.6nm,0.5s,baz=93,slow=7.0,SNR=6.5						
MK31	Makanchi Array	44.09	302	P	P	16 53 08.3	-0.8
MKAR	Makanchi Array	44.09	302	P	P	16 53 09.7	+0.7
	comp=Z,1.1nm,0.7s,baz=89,slow=11,SNR=9.8						
MKAR	Makanchi Array	44.09	302	P	P	16 53 08.2	-0.8
MAKZ	Makanchi	44.30	302	P	P	16 53 10.1	-0.6
SVW2	Sparrevohn	45.66	37	P	P	16 53 22.7	+1.4
SVW2				IAmb	IAmb	16 53 45.8	
	comp=Z,3.0nm,1.2s						
SII	Sitkinak Islan	46.44	44	P	P	16 53 26.5	-1.0
K20K	Telida	46.47	34	P	P	16 53 29.2	+1.6
K20K				IAmb	IAmb	16 53 30.3	
	comp=Z,1.9nm,0.8s						
M20K	Styx River	46.85	36	P	P	16 53 32.2	+1.4
M20K				IAmb	IAmb	16 53 57.4	
	comp=Z,2.2nm,1.3s						
KDAK	Kodiak Island	47.24	42	P	P	16 53 34.5	+0.8
KDAK				IAmb	IAmb	16 53 57.4	
	comp=Z,7.2nm,1.1s						
PPLA	Purkeypile	47.30	35	P	P	16 53 35.4	+1.1
PPLA				IAmb	IAmb	16 53 55.2	
	comp=Z,9.1nm,1.4s						
MLY	Manley	47.98	32	P	P	16 53 41.3	+1.9
MLY				IAmb	IAmb	16 53 57.4	
	comp=Z,3.2nm,1.2s						
GHO	Glory Hole Cre	48.85	36	P	P	16 53 47.2	+1.1
GHO				IAmb	IAmb	16 54 03.4	
	comp=Z,2.4nm,0.7s						
MDM	Murphy Dome	49.05	32	P	P	16 53 49.2	+1.6
MDM				IAmb	IAmb	16 54 05.6	
	comp=Z,5.0nm,1.2s						
ILAR	Eielson Array	49.63	32	P	P	16 53 52.5	+0.5
	comp=Z,0.8nm,0.8s,baz=263,slow=6.3,SNR=8.4						
ILAR				pP	pP	16 54 07.7	+1.6
	comp=Z,1.4nm,0.8s,baz=269,slow=6.4,SNR=10.0						
MTN	Manton Dam	50.43	193	P	P	16 53 58.3	-0.2
DOT	Dot Lake	50.94	34	P	P	16 54 02.7	+0.7
SCRK	Sand Creek	50.94	33	P	P	16 54 02.5	+0.5
SCRK				IAmb	IAmb	16 54 03.8	
	comp=Z,3.1nm,1.2s						
KAIM	Kayak Island	51.23	38	P	P	16 54 04.2	+0.1
EGAK	Eagle	52.08	32	P	P	16 54 11.2	+0.9
EGAK				IAmb	IAmb	16 54 27.2	
	comp=Z,3.1nm,1.1s						
KK31	Karatay Array	53.09	300	P	P	16 54 18.9	+0.6
KK31				IAmb	IAmb	16 54 26.5	
	comp=Z,2.0nm,1.0s						
KKAR	Karatay Array	53.09	300	P	P	16 54 18.6	+0.4
KNRA	Kununurra	53.65	195	P	P	16 54 22.5	+0.1
INK	Inuvik	54.52	27	pP	pP	16 54 44.2	+1.8
	comp=Z,1.2nm,0.7s,baz=299,slow=5.8,SNR=3.0						
CHGR	Chuyangaron	55.62	295	P	P	16 54 34.6	-2.2
FITZ	Fitzroy Crossi	56.70	198	P	P	16 54 44.7	+0.4
FITZ				IAmb	IAmb	16 54 57.5	
	comp=Z,5.1nm,1.2s						
WR0	Warramunga Arr	56.95	188	P	P	16 54 45.7	-0.4
WR0				IAmb	IAmb	16 54 54.0	
	comp=Z,6.0nm,1.4s						
WB2	Warramunga Arr	56.95	188	P	P	16 54 45.6	-0.5
WRA	Warramunga Arr	56.95	188	P	P	16 54 46.1	0.0
	comp=Z,1.4nm,0.5s,baz=5.7,slow=6.8,SNR=20						
WRA				pP	pP	16 55 01.1	+0.8
	comp=Z,1.0nm,0.5s,baz=4.7,slow=7.2,SNR=4.2						
WRA				PcP	PcP	16 55 41.1	+0.2
	comp=Z,1.0nm,0.7s,baz=1.4,slow=5.0,SNR=4.6						
WRA	Warramunga Arr	56.95	188	P	P	16 54 45.7	-0.4
ABKAR	Akbulak array	57.93	310	P	P	16 54 52.5	-0.4
ABKAR				IAmb	IAmb	16 54 57.9	
	comp=Z,1.1nm,0.9s						
EUNU	Eureka	60.30	9	P	P	16 55 10.6	+1.8
AS31	Alice Springs	60.67	188	P	P	16 55 11.8	-0.2
AS31				IAmb	IAmb	16 55 33.6	
	comp=Z,2.4nm,1.4s						
ASAR	Alice Springs	60.68	188	P	P	16 55 12.2	+0.2
	comp=Z,0.3nm,0.4s,baz=9.7,slow=9.1,SNR=9.7						
ASAR				pP	pP	16 55 27.4	+1.0
	comp=Z,0.6nm,0.7s,baz=18,slow=10,SNR=5.3						
FINES	FINESS Array B	68.86	332	P	P	16 56 03.5	-1.3
	comp=Z,1.4nm,0.7s,baz=49,slow=15,SNR=2.8						
AKASG	Malin Array Be	74.32	322	P	P	16 56 36.8	-1.0
	comp=Z,0.5nm,0.4s,baz=46,slow=6.0,SNR=4.8						
AKASG				pP	PcP	16 56 52.0	-0.4
	comp=Z,0.5nm,0.4s,baz=47,slow=6.0,SNR=4.1						
AKASG	Malin Array Be	74.32	322	IAmb	IAmb	16 56 40.5	
	comp=Z,0.6nm,0.8s						
NVAR	Mina Array Bea	75.12	53	P	P	16 56 43.7	+0.7
	comp=Z,0.6nm,0.7s,baz=267,slow=5.9,SNR=5.4						
BURAR	Bucovina Array	78.33	322	P	P	16 57 01.1	+0.4
TXAR	Lajitas Array	90.26	52	P	P	16 58 02.4	+0.8
	comp=Z,0.5nm,0.5s,baz=298,slow=3.3,SNR=9.1						
TXAR				pP	pP	16 58 18.9	+2.2
	comp=Z,0.2nm,0.5s,baz=310,slow=4.3,SNR=3.6						
LPAZ	La Paz	146.83	60	PKPbc	PKPbc	17 04 44.2	+0.5
	comp=Z,1.2nm,0.6s,baz=299,slow=3.7,SNR=11						
LPAZ				pPKPbc	pPKPdf	17 04 58.4	+0.8
	comp=Z,1.4nm,0.6s,baz=268,slow=1.7,SNR=5.8						
LPAZ	La Paz	146.83	60	PKPbc	PKPbc	17 04 44.0	+0.3
H03N2	Juan Fernandez	147.11	96	T	T	19 49 48.3	
	baz=291,slow=76,SNR=11						
H03N3	Juan Fernandez	147.12	96	T	T	19 49 28.0	
	baz=291,slow=76,SNR=11						
H03N1	Juan Fernandez	147.13	96	T	T	19 49 51.2	
	baz=291,slow=76,SNR=9.9						

IDC 06 17:36:51.8±0.8, 6°.78S×152°.55E, h0km, mb4.0/13, mb1 4.2/14, mb1mx4.0/30, mbtmp4.1/14, ML4.0/1, Error ellipse: s-maj=22.3km s-min=18.3km az=122.0

NEIC 06 17:36:55.8±1.6, 6°.74S±0°.09×152°.74E±0°.08, h35km±2km, mb4.3/13, Error ellipse: s-maj=16.0km s-min=11.6km az=29.0

DJA 06 17:36:57.5±0.8, 6°S±12°×15°3E±1°5, h122km±16km, M4.4/7, mb4.2/7, MLv4.5/2, MwMwp4.8/1, Mwp5.1/1

ISC 06 17:36:56.1±0.6, 6°.80S±0°.09×152°.64E±0°.09, h35km, n36, σ1s.59/35, mb4.0/18, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	Rabaul	2.63	350	Pn	Pn	17 37 33.6	-2.6
MANU	Manus Island	7.07	312		Pn	17 38 37.0	-0.1
HNR	Honiara	7.69	110	Pn	Pn	17 38 46.9	+1.2
	2.1nm,0.3s,baz=198,slow=21,SNR=1.0						
HNR	Honiara	7.69	110		Pn	17 38 42.7	-3.0
JAY	Jayapura	12.63	289	Pn	Pn	17 39 54.9	+1.5
	0.1nm,0.3s,baz=150,slow=21,SNR=1.8						
DZM	Mont Dzumac	20.20	140	P	Pn	17 41 29.4	-0.8
	2.9nm,0.7s,baz=287,slow=19,SNR=1.6						
DZM	Mont Dzumac	20.20	140	P	P	17 41 28.2	0.0
DZM				IAmb	IAmb	17 41 56.6	
	comp=Z,16nm,1.1s						
WR0	Warramunga Arr	21.90	232	P	P	17 41 45.6	-0.8
WR0				IAmb	IAmb	17 41 58.9	
	comp=Z,12nm,1.1s						
MTN	Manton Dam	22.02	253	P	P	17 41 48.2	+0.5
WB2	Warramunga Arr	22.04	232	P	P	17 41 47.3	-0.6
WB2				IAmb	IAmb	17 42 12.8	
	comp=Z,15nm,1.4s						
WRA	Warramunga Arr	22.05	232	P	P	17 41 47.6	-0.4
	comp=Z,4.5nm,0.8s,baz=55,slow=9.8,SNR=29						
WRA	Warramunga Arr	22.05	232	P	P	17 41 47.6	-0.4
SIJI	Sorong	22.12	285	P	P	17 41 49.2	+0.4
	comp=Z,5.9nm,0.9s,baz=137,slow=16,SNR=4.2						
ARMA	Armidale	23.52	182	P	P	17 42 02.8	-0.4
ARMA				IAmb	IAmb	17 42 21.2	
	comp=Z,16nm,1.4s						
KRAI	Karang Ratu	24.39	277	P	P	17 42 04.9	-6.6
	comp=Z,10nm,1.0s						
AS31	Alice Springs	24.60	225	P	P	17 42 13.7	+0.4
AS31				IAmb	IAmb	17 42 15.2	
	comp=Z,2.5nm,0.6s						
ASAR	Alice Springs	24.61	225	P	P	17 42 13.8	+0.4
	comp=Z,6.7nm,0.7s,baz=59,slow=9.2,SNR=92						
ASAR	Alice Springs	24.61	225	P	P	17 42 12.8	-0.5
KNRA	Kununurra	25.00	247	P	P	17 42 16.8	-0.1
STKA	Stephens Creek	27.00	201	P	P	17 42 35.6	+0.7
	comp=Z,2.9nm,0.9s,baz=27,slow=16,SNR=2.2						
STKA	Stephens Creek	27.00	201	P	P	17 42 34.2	-0.6
FITZ	Fitzroy Crossi	28.61	244	P	P	17 42 48.9	-0.5
	comp=Z,5.4nm,0.6s,baz=59,slow=7.9,SNR=42						
FITZ	Fitzroy Crossi	28.61	244	P	P	17 42 48.5	-0.9
FITZ				IAmb	IAmb	17 42 49.5	
	comp=Z,5.7nm,0.6s						
CMAR	Chiang Mai Arr	58.60	296	P	P	17 46 51.3	+1.3
	comp=Z,0.3nm,0.6s,baz=122,slow=6.2,SNR=2.8						
PETK	Petropavlovsk-	59.83	4	P	P	17 46 59.2	+1.3
	comp=Z,0.7nm,0.6s,baz=186,slow=8.0,SNR=1.1						
SONM	Songino Array	67.92	328	P	P	17 47 52.6	+1.1
	comp=Z,0.9nm,0.8s,baz=147,slow=2.2,SNR=6.2						
SONM	Songino Array	67.92	328	P	P	17 47 50.0	-1.5
VNDA	Vanda	70.85	178	P	P	17 48 09.4	+0.5
VNDA				IAmb	IAmb	17 48 22.0	
	comp=Z,3.7nm,1.4s						
MKAR	Makanchi Array	81.72	319	P	P	17 49 12.1	+0.9
	comp=Z,1.1nm,0.9s,baz=112,slow=6.1,SNR=5.6						
MKAR	Makanchi Array	81.72	319	P	P	17 49 11.4	+0.2
ZALV	Zalesovo Beam	82.72	327	P	P	17 49 15.7	-0.5
	comp=Z,1.1nm,0.6s,baz=103,slow=4.4,SNR=5.6						
QSPA	South Pole Qui	83.18	180	P	P	17 49 18.7	+0.1
ILAR	Eielson Array	84.06	22	P	P	17 49 23.7	+0.8
	comp=Z,1.0nm,0.7s,baz=244,slow=5.3,SNR=12						
ILAR	Eielson Array	84.06	22	P	P	17 49 22.7	-0.1
NVAR	Mina Array Bea	93.44	52	P	P	17 50 10.9	+2.3
	comp=Z,0.2nm,0.4s,baz=248,slow=9.6,SNR=1.9						
TORD	Torodi Ar. Bea	150.72	285	PKPbc	PKPbc	17 56 45.8	0.0
	comp=Z,0.8nm,0.6s,baz=40,slow=2.4,SNR=5.4						

IDC 06 17:49:39.6±12.0, 50°.42N×173°.56W, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.3/51, mbtmp3.5/4, ML2.8/2, Error ellipse: s-maj=286.9km s-min=30.3km az=164.0

NEIC 06 17:49:52.5±1.2, 51°.4N±0°.1×174°.3W±0°.1, h49km±26km, Error ellipse: s-maj=17.9km s-min=8.7km az=147.0

AEIC 06 17:49:54±1.2, 51°.6N±0°.1×174°.6W±0°.1, h41km±9km, ML2.7, Error ellipse: s-maj=19.2km s-min=3.8km az=153.0

ISC 06 17:49:51.0±2.0, 51°.3N±0°.2×174°.2W±0°.1, h50km, n19, σ0s.80/19, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATKA	Atka Island	0.93	359		Pn	17 50 07.2	-0.5
KOFP	Korovin Flat P	1.01	3		Pn	17 50 09.0	+0.2
KOKL	Mount Kliuchef	1.05	359		Pn	17 50 09.6	+0.1
KOSE	Korovin Southe	1.08	4		Pn	17 50 10.4	+0.7
GSIG	Igitkin Island	1.31	304		Pn	17 50 11.9	-1.0
GSMY	Great Sitkin M	1.41	304		Pn	17 50 13.2	-1.0
GSTR	Great Sitkin T	1.44	306		Pn	17 50 13.9	-0.7
GSCK	Great Sitkin C	1.45	302		Pn	17 50 14.2	-0.6
GSTD	Great Sitkin T	1.46	303		Pn	17 50 14.2	-0.8
ADK	Adak	1.69	292		Pn	17 50 17.2	-0.8
KIWB	Kanaga Island	1.95	289		Pn	17 50 21.7	+0.1
KIKV	Kanaga Island	1.97	289		Pn	17 50 21.1	-0.7
KIMD	Kanaga Island	1.98	286		Pn	17 50 21.4	-0.5
TAFP	Tanaga Falls P	2.46	286		Pn	17 50 28.9	+0.3
TASE	Tanaga Southea	2.48	285		Pn	17 50 29.3	+0.4
KDAK	Kodiak Island	14.09	54	Pn	Pn	17 53 06.1	-1.5
	0.1nm,0.3s,baz=293,slow=10,SNR=1.0						
PETK	Petropavlovsk-	17.30	287	P	P	17 53 50.5	+0.9
	0.1nm,0.3s,baz=101,slow=15,SNR=1.7						
ILAR	Eielson Array	19.57	36	P	P	17 54 14.4	+0.1
	0.5nm,0.4s,baz=235,slow=9.1,SNR=14						
MKAR	Makanchi Array	62.34	311	P	P	18 00 09.1	+1.2
	0.2nm,0.3s,baz=55,slow=5.8,SNR=4.3						

IDC 06 17:51:14.9±0.6, 29°.11N×102°.22E, h0km, mb4.1/17, mb1 4.2/18, mb1mx4.0/41, mbtmp4.1/18, ML4.0/1, MS3.5/10, Ms1 3.5/10, ms1mx3.2/44, Error ellipse: s-maj=19.0km s-min=13.5km az=67.0

BJI 06 17:51:17.2±0.0, 29°.13N×102°.11E, h18km, mB4.5/9, mb4.3/23, ML4.4/19, Ms4.1/22, Ms7 3.8/21

NEIC 06 17:51:23.7±2.5, 29°.11N±0°.09×102°.1E±0°.1, h73km±7km, mb4.3/12, Error ellipse: s-maj=18.6km s-min=9.2km az=54.0

ISC 06 17:51:17.2±0.4, 29°.21N±0°.04×102°.25E±0°.05, h10km, n95, σ1s.92/83, mb4.1/24, MS3.3/9, 2C-2D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CD2	Chengdu	2.14	37	⇑*i*Pn	Pb	17 51 56.4	+0.3
CD2				Pg	Pg	17 51 58.7	+0.4
CD2				Sg	Sg	17 52 27.3	+1.2
CD2				smax	smax		
	comp=N,6μm,0.5s						
CD2				smax	smax		
	comp=E,8μm,0.8s						
KMI	Kunming	4.09	174	⇓Pn	Pn	17 52 22.1	+2.0
KMI				Sn	Sn	17 53 10.4	+2.3
KMI				smax	smax		
	comp=N,400nm,1.0s						
KMI				smax	smax		
	comp=E,520nm,1.1s						
KMI				LR	LR		
	comp=N,2μm,8.8s						
KMI				LR	LR		
	comp=Z,820nm,7.3s						
GYA	Guiyang	4.77	124	⇓Pn	Pn	17 52 30.5	+1.2
GYA				Sn	Sn	17 53 27.7	+2.9
GYA				smax	smax		
	comp=N,500nm,0.8s						
GYA				smax	smax		
	comp=E,280nm,1.1s						
GYA				LR	LR		
	comp=E,950nm,3.9s						
GYA				LR	LR		
	comp=Z,670nm,5.1s						
ENH	Enshi	6.38	79	Pn	Pn	17 52 53.6	+2.2
XAN	Xi'an	7.45	48	Pn	Pn	17 53 05.9	-0.1
XAN				Sn	Sn	17 54 29.4	-1.3
XAN				Sg	Sg	17 55 14.9	-1.5
XAN				smax	smax		
	comp=N,420nm,1.0s						
XAN				smax	smax		
	comp=E,390nm,1.0s						
XAN				LR	LR		
	comp=N,610nm,7.5s						
XAN				LR	LR		
	comp=Z,1μm,15.2s						
SLVN	Son La	7.98	169	Pn	Pn	17 53 14.1	+0.7
SHL	Shillong	9.90	251		Pn	17 53 37.0	-2.8
SHL	Shillong	9.90	251	*e*P	Pn	17 53 40.0	+0.2
GTA	Gaotai	10.37	349	*e*P	Pn	17 53 50.2	+4.0
GTA				pP		17 53 55.1	
GTA				sP		17 53 58.1	
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,43nm,5.8s						
GTA				LR	LR		
	comp=N,360nm,13.1s						
GTA				LR	LR		
	comp=E,1μm,13.4s						
GTA				LR	LR		
	comp=Z,450nm,13.8s						
WHN	Wuhan	10.59	80	⇑P	Pn	17 53 51.4	+2.4
WHN				S	Sn	17 55 45.5	-2.1
WHN				LR	LR		
	comp=N,4μm,10.4s						
WHN				LR	LR		
	comp=E,660nm,4.4s						
CM34	Chiang Mai Arr	10.69	196	P	Pn	17 53 53.0	+2.5
CM33	Chiang Mai Arr	10.77	197	P	Pn	17 53 54.7	+3.1
CHTO	Chiang Mai	10.78	197	P	Pn	17 53 54.6	+2.9
	8.5nm,1.5s						
CHTO	Chiang Mai	10.78	197	Pn	Pn	17 53 50.1	-1.6
CHTO	Chiang Mai	10.78	197	P	Pn	17 53 53.1	+1.4
	4.8nm,1.5s						
CMMT	Chiang Mai	10.78	197	P	Pn	17 53 54.5	+2.8
	8.5nm,1.6s						
CMMT	Chiang Mai	10.78	197	P	Pn	17 53 54.5	+2.8
	8.5nm,1.6s						
CMMT	Chiang Mai	10.78	197	P	Pn	17 53 52.7	+1.0
	8.1nm,1.6s						
CM35	Chiang Mai Arr	10.86	196	P	Pn	17 53 55.0	+2.2
CM32	Chiang Mai Arr	10.96	197	P	Pn	17 53 57.0	+2.9
CM31	Chiang Mai Arr	11.12	196	P	Pn	17 54 00.9	+4.6
	3μm152nm,0.7s						
CMAR	Chiang Mai Arr	11.12	196	Pn	Pn	17 53 59.1	+2.7
	0.1nm,0.3s,baz=9.9,slow=13,SNR=20						
CMAR				Lg	Lg	17 57 05.8	
	0.6nm,0.3s,baz=30,slow=31,SNR=3.0						
CM09	Chiang Mai Arr	11.12	196	P	Pn	17 54 00.8	+4.4
	94nm6.3nm,1.0s						
CM09	Chiang Mai Arr	11.12	196	P	Pn	17 54 00.8	+4.5
	94nm6.3nm,1.0s						
NONG	Nongkai	11.12	176	P	Pn	17 54 00.8	+4.4
	26nm,1.0s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NONG	Nongkai	11.12	176	P	Pn	17 54 00.9	+4.5
	26nm,1.0s						
NONG	Nongkai	11.12	176	P	Pn	17 54 00.9	+4.5
	0.1nm26nm,1.0s						
CM15	Chiang Mai Arr	11.13	197	P	Pn	17 54 01.3	+4.8
	301nm5.4nm,0.8s						
CM15	Chiang Mai Arr	11.13	197	P	Pn	17 54 01.4	+4.9
	301nm5.4nm,0.8s						
CM02	Chiang Mai Arr	11.14	196	P	Pn	17 54 00.4	+3.7
	113nm9.7nm,1.0s						
CM02	Chiang Mai Arr	11.14	196	P	Pn	17 54 00.0	+3.3
	113nm9.7nm,1.0s						
CM13	Chiang Mai Arr	11.16	197	P	Pn	17 54 01.8	+4.8
	86nm5.0nm,0.9s						
CM13	Chiang Mai Arr	11.16	197	P	Pn	17 54 01.9	+4.9
	86nm5.0nm,0.9s						
CM04	Chiang Mai Arr	11.17	196	P	Pn	17 54 01.5	+4.5
	102nm6.8nm,0.8s						
CM04	Chiang Mai Arr	11.17	196	P	Pn	17 54 01.6	+4.6
	102nm6.8nm,0.8s						
CM05	Chiang Mai Arr	11.17	196	P	Pn	17 54 00.9	+3.8
	77nm3.9nm,1.3s						
CM05	Chiang Mai Arr	11.17	196	P	Pn	17 54 00.0	+2.9
	77nm3.9nm,1.3s						
UTTA	Uttaradit	11.52	188	P	Pn	17 54 06.8	+5.0
	17nm,0.8s						
UTTA	Uttaradit	11.52	188	P	Pn	17 54 06.9	+5.1
	4.1nm,0.8s						
PHIT	Phitsanulok	12.08	188	P	Pn	17 54 12.8	+3.3
	61nm,0.8s						
PHIT	Phitsanulok	12.08	188	P	Pn	17 54 12.9	+3.4
	15nm,0.8s						
QIZ	Qiongzhong	12.27	144	P	Pn	17 54 11.3	-0.8
QIZ				S	Sn	17 56 29.0	0.0
QIZ				LR	LR		
	comp=N,290nm,8.8s						
QIZ				LR	LR		
	comp=E,330nm,4.9s						
QIZ				LR	LR		
	comp=Z,350nm,6.7s						
CHAI	Chaiyaphum	13.25	181	P	P	17 54 37.4	+2.0
CHAI	Chaiyaphum	13.25	181	P	P	17 54 37.4	+2.0
TIA	Tai'an	14.33	57	P	Pn	17 54 41.6	+1.4
TIA				pmax	pmax		
	comp=Z,12nm,0.8s						
TIA				LR	LR		
	comp=N,420nm,12.1s						
TIA				LR	LR		
	comp=E,320nm,13.5s						
TIA				LR	LR		
	comp=Z,430nm,11.4s						
BJI	Beijing	15.73	43	P	Pn	17 55 00.0	+1.2
BJI				pmax	pmax		
	comp=Z,12nm,1.2s						
BJI				LR	LR		
	comp=N,250nm,13.0s						
BJI				LR	LR		
	comp=E,180nm,8.2s						
BJI				LR	LR		
	comp=Z,240nm,14.4s						
WMQ	Urumqi	18.65	325	*e*P	Pn	17 55 35.6	+0.1
SONM	Songino Array	18.87	9	P	Pn	17 55 39.0	+0.7
	0.4nm,0.3s,baz=190,slow=10,SNR=34						
SONM				LR	LR	18 03 34.1	
	comp=Z,278nm,20.9s,baz=190,slow=39						
SONM	Songino Array	18.87	9		Pn	17 55 39.4	+1.1
SONM				IAmb	IAmb	17 55 50.7	
	comp=Z,8.4nm,1.0s						
ULN	Ulaanbaatar	19.00	10		P	17 55 38.2	-0.9
ULN				IAmb	IAmb	17 55 52.7	
	comp=Z,8.6nm,1.1s						
ULN	Ulaanbaatar	19.00	10	P	Pn	17 55 40.1	+0.4
	comp=Z,37nm,1.2s						
SURT	Suratani	20.41	190	P	Pn	17 56 06.1	+10
SURT	Suratani	20.41	190	P	Pn	17 56 06.1	+10
KSRS	Korea Array	22.92	62	P	P	17 56 21.6	+0.3
	comp=Z,2.8nm,0.7s,baz=252,slow=9.9,SNR=13						
KSRS				LR	LR	18 05 51.2	
	comp=Z,54nm,19.6s,baz=238,slow=38						
MK31	Makanchi Array	23.46	324	P	P	17 56 27.3	+0.5
MKAR	Makanchi Array	23.46	324	P	P	17 56 27.1	+0.3
	comp=Z,1.8nm,0.7s,baz=128,slow=11,SNR=19						
MKAR				LR	LR	18 05 53.5	
	comp=Z,103nm,19.0s,baz=130,slow=37						
MKAR	Makanchi Array	23.46	324	P	P	17 56 26.6	-0.2
MAKZ	Makanchi	23.63	324	P	P	17 56 27.4	-1.1
KSH	Kashi	23.93	302	P	P	17 56 34.4	+2.9
KSH				pmax	pmax		
	comp=Z,9.0nm,1.8s						
TSI	Tuntungan	25.81	188	P	P	17 56 49.0	+0.4
	comp=Z,60nm,0.5s						
AAK	Ala-Archa	26.03	308	LR	LR	18 08 44.8	
	comp=Z,46nm,20.2s,baz=184,slow=40						
TPTI		26.25	192	P	P	17 56 53.2	+0.5
	comp=Z,5.3nm,1.2s						
PSI	Prapat	26.45	187	P	P	17 56 53.3	-1.3
	comp=Z,1.7nm,0.3s,baz=351,slow=14,SNR=4.4						
PSI	Prapat	26.45	187	P	P	17 56 53.1	-1.5
	comp=Z,3.2nm,1.1s,comp=Z,7.0nm,1.1s						
PSI				P	P	17 56 52.6	-2.0
	comp=Z,3.2nm,1.1s,comp=Z,7.0nm,1.1s						
ZALV	Zalesovo Beam	27.79	338	P	P	17 57 05.8	-0.4
	comp=Z,3.2nm,0.9s,baz=141,slow=7.3,SNR=8.3						
ZALV				LR	LR	18 07 58.2	
	comp=Z,46nm,18.9s,baz=198,slow=36						
KURBB	Kurchatov Arra	27.86	327	P	P	17 57 06.6	-0.2
	comp=Z,3.3nm,0.9s,baz=135,slow=9.4,SNR=29						
KURK	Kurchatov	27.88	327	P	P	17 57 06.6	-0.4
USRK	Ussuriysk Ar.	27.96	50	P	P	17 57 07.8	-0.1
	comp=Z,1.4nm,0.7s,baz=252,slow=7.6,SNR=5.3						
USRK				LR	LR	18 08 18.8	
	comp=Z,64nm,19.1s,baz=235,slow=36						
GSI	Gunungsitoli	28.11	190	P	P	17 57 07.2	-2.1
PALK	Pallekele	29.80	227	LR	LR	18 11 45.5	
	comp=Z,99nm,20.4s,baz=233,slow=41						
KLR	Kul'dur	30.07	40	P	P	17 57 26.2	-0.3
	comp=Z,1.7nm,0.9s,baz=272,slow=10,SNR=4.0						
MJAR	Matsushiro Arr	30.94	67	LR	LR	18 11 18.0	
	comp=Z,62nm,18.1s,baz=230,slow=39						
GEYT	Alibeck	37.50	295	P	P	17 58 32.3	+1.0
	comp=Z,2.1nm,0.6s,baz=80,slow=11,SNR=3.6						
ABKAR	Akbulak array	37.78	314	P	P	17 58 32.2	-1.2
ABKAR	Akbulak array	37.78	314	P	P	17 58 31.7	-1.7
ABKAR				IAmb	IAmb	17 58 34.4	
	comp=Z,3.2nm,0.9s						
ARU	Arti	40.98	324	P	P	17 58 59.1	-1.0
	comp=Z,0.8nm,0.5s,baz=172,slow=3.5,SNR=5.4						
NRIK	Noril'sk	41.06	352	LR	LR	18 15 28.6	
	comp=Z,74nm,19.5s,baz=190,slow=35						
TIXI	Tiksi	44.92	12	P	P	17 59 31.4	-0.3
	comp=Z,1.7nm,0.4s,baz=313,slow=2.8,SNR=3.4						
SEY	Seymchan	46.52	29	P	P	17 59 45.1	+0.6
	comp=Z,1.8nm,0.9s,baz=46,slow=14,SNR=1.6						
WRAB	Tennant Creek	57.84	144	P	P	18 01 06.5	-2.7
WRA	Warramunga Arr	57.85	144	P	P	18 01 08.3	-0.9
	comp=Z,3.7nm,0.6s,baz=310,slow=8.4,SNR=79						
WRA	Warramunga Arr	57.85	144	P	P	18 01 07.4	-1.9
WB2	Warramunga Arr	57.85	144	P	P	18 01 08.3	-0.9
WR0	Warramunga Arr	57.97	144	P	P	18 01 09.0	-1.1
WR0				IAmb	IAmb	18 01 22.0	
	comp=Z,4.3nm,0.7s						
FINES	FINESS Array B	58.25	327	P	P	18 01 11.0	-0.5
	comp=Z,1.5nm,0.9s,baz=69,slow=7.9,SNR=1.9						
ARCES	ARCESS Array B	58.33	336	P	P	18 01 12.3	+0.2
	comp=Z,1.6nm,0.8s,baz=54,slow=7.9,SNR=1.4						
ARCES	ARCESS Array B	58.33	336	P	P	18 01 11.3	-0.7
ARCES				IAmb	IAmb	18 01 19.0	
	comp=Z,8.9nm,1.2s						
MORW	Morawa	59.43	166	P	P	18 01 15.8	-4.2
AS31	Alice Springs	60.76	147	P	P	18 01 26.8	-2.5
AS31				IAmb	IAmb	18 01 36.5	
	comp=Z,2.1nm,1.1s						
ASAR	Alice Springs	60.76	147	P	P	18 01 28.6	-0.7
	comp=Z,1.1nm,0.5s,baz=329,slow=6.7,SNR=40						
STKA	Stephens Creek	71.33	145	P	P	18 02 35.9	-1.3
	comp=Z,2.7nm,1.0s,baz=350,slow=12,SNR=1.8						
ILAR	Eielson Array	72.23	25	P	P	18 02 41.6	-0.6
	comp=Z,1.1nm,0.9s,baz=288,slow=4.9,SNR=8.9						
MATP	Matopo	86.50	244	P	P	18 03 59.9	-1.0
	comp=Z,1.7nm,0.6s,baz=74,slow=5.6,SNR=4.0						
MSVF	Nonsavu	86.71	112	LR	LR	18 42 52.3	
	comp=Z,72nm,18.3s,baz=204,slow=36						
BDFB	Brasilia	149.48	290	PKPbc	PKPbc	18 11 05.7	-1.8
	comp=Z,1.8nm,0.7s,baz=170,slow=12,SNR=1.9						

IDC ***06*** *17:51:45.0±0.8, 37°.16S×78°.16E, h0km, mb4.1/12, mb1 4.1/12, mb1mx3.9/34, mbtmp4.1/12, MS4.1/24, Ms1 4.1/24, ms1mx4.0/31, Error ellipse: s-maj=25.6km s-min=21.9km az=20.0*

NEIC ***06*** *17:51:45.8±1.9, 37°.4S±0°.1×78°.2E±0°.1, h10km±1km, mb4.7/16, Error ellipse: s-maj=22.7km s-min=7.3km az=146.0*

GCMT ***06*** *17:51:48.8±0.2, 37°.11S±0°.01×78°.32E±0°.01, h15km±1km, MW5.0/112, Moment Tensor Solution. s40,c46; s112,c173; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.28±.11; $M_{\theta\theta}$-2.14±.10; $M_{\phi\phi}$2.42±.11; $M_{r\theta}$-0.38±.21; $M_{\theta\phi}$-2.97±.10; $M_{\phi r}$1.25±.35; Best double couple: $M_0$3.93500×10^{16} NP1:ϕ_s288.00000°,δ76.00000°, λ171.00000°. NP2:ϕ_s20.00000°,δ82.00000°,λ14.00000°. Principal axes: T 4.2510, Plg16.0000°, Azm244.0000°; N -0.6360, Plg74.0000°, Azm50.0000°; P -3.6190, Plg4.0000°, Azm153.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 17:51:44.9±0.5**, 37°.21S**±0°.10**×78°.13E**±0°.09**, h9**km**, n57, σ1ˢ82**/35**, mb4.3**/18**, MS4.2**/24**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AIS	Amsterdam Isla	0.74	217		Pg	17 51 58.0	-1.1
H01W2	Cape Leeuwin H	29.09	96	T	T	18 28 00.1	
	baz=254,slow=75,SNR=850						
H01W3	Cape Leeuwin H	29.10	96	T	T	18 28 00.6	
	baz=254,slow=75,SNR=821						
H01W1	Cape Leeuwin H	29.11	96	T	T	18 27 58.8	
	baz=254,slow=75,SNR=726						
H08S2	Diego Garcia H	29.87	349	T	T	18 29 05.8	
	baz=170,slow=76,SNR=244						
H08S1	Diego Carcia H	29.87	349	T	T	18 29 06.1	
	baz=170,slow=76,SNR=377						
H08S3	Diego Garcia H	29.89	349	T	T	18 29 07.5	
	baz=170,slow=76,SNR=1707						
DGAR	Diego Garcia	30.11	349	P	P	17 57 50.6	-4.2
MAW	Mawson	31.64	191	LR	LR	18 09 15.5	
	comp=Z,125nm,18.7s,baz=34,slow=33						
ABPO	Ambohimpanom	32.52	295	P	P	17 58 14.6	-1.8
ABPO				IAmb	IAmb	17 58 23.0	
	comp=Z,8.9nm,1.1s						
FORT	Forrest	41.50	96	P	P	17 59 29.9	-2.5
FORT				IAmb	IAmb	17 59 47.8	
	comp=Z,27nm,1.3s						
BOSA	Boshof	44.72	265	P	P	18 00 00.9	+2.2
	comp=Z,3.2nm,0.9s,baz=105,slow=6.5,SNR=4.3						
BOSA				LR	LR	18 14 34.1	
	comp=Z,269nm,20.6s,baz=116,slow=31						
BOSA	Boshof	44.72	265	P	P	17 59 58.8	+0.1
BOSA				IAmb	IAmb	18 00 17.9	
	comp=Z,7.8nm,1.1s						
ASAR	Alice Springs	49.30	91	P	P	18 00 36.1	+1.7
	comp=Z,2.0nm,1.1s,baz=230,slow=8.2,SNR=9.5						
ASAR				LR	LR	18 18 46.5	
	comp=Z,387nm,20.5s,baz=241,slow=33						
ASAR	Alice Springs	49.30	91	P	P	18 00 33.4	-1.0
AS31	Alice Springs	49.30	91	P	P	18 00 33.8	-0.7
KNRA	Kununurra	49.49	78	P	P	18 00 35.4	-0.5
KNRA				IAmb	IAmb	18 00 40.8	
	comp=Z,7.3nm,0.9s						
WRA	Warramunga Arr	51.55	87	P	P	18 00 53.0	+1.6
	comp=Z,1.1nm,0.8s,baz=226,slow=9.1,SNR=9.8						
WRA				LR	LR	18 20 20.4	
	comp=Z,450nm,20.4s,baz=265,slow=33						
STKA	Stephens Creek	51.69	104	P	P	18 00 52.9	+0.5
	comp=Z,2.7nm,0.8s,baz=277,slow=9.3,SNR=3.3						
STKA				LR	LR	18 18 11.4	
	comp=Z,212nm,21.8s,baz=227,slow=31						
STKA	Stephens Creek	51.69	104	P	P	18 00 51.9	-0.5
KMBO	Kilima Mbogo	52.02	304	LR	LR	18 18 02.0	
	comp=Z,109nm,21.4s,baz=95,slow=30						
VNDA	Vanda	52.65	164	LR	LR	18 21 13.8	
	comp=Z,565nm,19.8s,baz=259,slow=34						
QSPA	South Pole Qui	52.95	180	P	P	18 01 02.9	+1.5
	comp=Z,4.5nm,1.0s,baz=292,slow=2.1,SNR=10						
QSPA	South Pole Qui	52.95	180	P	P	18 01 01.7	+0.3
QSPA				IAmb	IAmb	18 01 14.1	
	comp=Z,15nm,1.3s						
TSUM	Tsumeb	55.40	271	P	P	18 01 18.9	-0.9
LODK	Lodwar	56.68	306	P	P	18 01 30.8	+1.9
LODK				IAmb	IAmb	18 01 42.5	
	comp=Z,6.0nm,1.4s						
CMAR	Chiang Mai Arr	58.74	23	P	P	18 01 43.0	-0.2
	comp=Z,0.6nm,0.7s,baz=210,slow=5.2,SNR=1.2						
CMAR				LR	LR	18 23 10.6	
	comp=Z,72nm,21.2s,baz=228,slow=32						
DZM	Mont Dzumac	75.72	107	LR	LR	18 30 03.9	
	comp=Z,106nm,21.1s,baz=238,slow=30						
GAR	Garm	76.17	354	P	P	18 03 35.0	+1.7
GEYT	Alibeck	77.02	344	LR	LR	18 33 48.1	
	comp=Z,100nm,19.1s,baz=130,slow=33						
HNR	Honiara	77.87	93	LR	LR	18 34 51.9	
	comp=Z,237nm,20.6s,baz=220,slow=33						
AAK	Ala-Archa	79.54	357	P	P	18 03 51.7	-0.3
	comp=Z,1.8nm,0.7s,baz=306,slow=19,SNR=2.1						
KK31	Karatay Array	80.23	354	P	P	18 03 58.1	+2.6
KKAR	Karatay Array	80.23	354	P	P	18 03 58.2	+2.7
KKAR	Karatay Array	80.23	354	P	P	18 03 57.8	+2.3
GUMO	Guam	80.44	65	LR	LR	18 38 15.5	
	comp=Z,29nm,18.6s,baz=200,slow=35						
MK31	Makanchi Array	83.71	3	P	P	18 04 16.6	+3.0
MK31				IAmb	IAmb	18 04 21.4	
	comp=Z,8.6nm,1.2s						
MKAR	Makanchi Array	83.71	3	P	P	18 04 15.4	+1.7
	comp=Z,1.7nm,0.9s,baz=192,slow=3.4,SNR=9.0						
MKAR				LR	LR	18 39 53.5	
	comp=Z,137nm,18.9s,baz=183,slow=34						
MKAR	Makanchi Array	83.71	3	P	P	18 04 15.0	+1.3
MAKZ	Makanchi	83.71	3	P	P	18 04 13.7	0.0
MAKZ				IAmb	IAmb	18 04 21.5	
	comp=Z,6.5nm,1.1s						
KBZ	Khabaz	86.67	335	LR	LR	18 40 15.1	
	comp=Z,122nm,20.7s,baz=153,slow=34						
BRTR	Keskin Array B	86.79	327	P	P	18 04 30.6	+1.1
	comp=Z,0.9nm,0.9s,baz=157,slow=4.7,SNR=4.6						
BRTR				LR	LR	18 40 24.0	
	comp=Z,90nm,18.9s,baz=114,slow=34						
BRTR	Keskin Array B	86.79	327	P	P	18 04 28.5	-1.0
TORD	Torodi Ar. Bea	87.34	289	P	P	18 04 33.3	+0.7
	comp=Z,0.6nm,0.6s,baz=114,slow=3.7,SNR=3.4						
TORD				LR	LR	18 42 01.5	
	comp=Z,117nm,18.4s,baz=145,slow=34						
KSRS	Korea Array	87.39	37	LR	LR	18 42 26.6	
	comp=Z,22nm,19.1s,baz=200,slow=35						
KURBB	Kurchatov Arra	87.46	0	P	P	18 04 35.0	+2.8
	comp=Z,3.3nm,1.1s,baz=192,slow=4.6,SNR=12						
KURK	Kurchatov	87.55	0	P	P	18 04 35.0	+2.4
SONM	Songino Array	88.35	19	P	P	18 04 38.8	+2.1
	comp=Z,0.5nm,0.7s,baz=202,slow=7.4,SNR=3.1						
SONM	Songino Array	88.35	19	P	P	18 04 36.0	-0.7
DBIC	Dimbokro	88.43	280	LR	LR	18 43 10.8	
	comp=Z,117nm,18.0s,baz=142,slow=35						
ZALV	Zalesovo Beam	90.97	4	LR	LR	18 43 29.7	
	comp=Z,116nm,20.0s,baz=196,slow=34						
MJAR	Matsushiro Arr	92.08	44	LR	LR	18 43 02.0	
	comp=Z,58nm,20.6s,baz=190,slow=33						
USRK	Ussuriysk Ar.	94.57	36	LR	LR	18 44 21.9	
	comp=Z,78nm,22.0s,baz=210,slow=33						
KEST	Kesra	96.60	310	LR	LR	18 46 35.2	
	comp=Z,127nm,19.2s,baz=312,slow=34						
PLCA	Paso Flores	97.29	203	LR	LR	18 44 33.5	
	comp=Z,57nm,22.0s,baz=162,slow=33						
AKASG	Malin Array Be	97.53	331	LR	LR	18 46 56.3	
	comp=Z,49nm,20.3s,baz=345,slow=34						
INK	Inuvik	144.26	20	PKP	PKiKP	18 11 22.9	-0.9
	comp=Z,3.1nm,1.1s,baz=335,slow=4.0,SNR=3.5						

IDC ***06*** *18:17:03.7±1.1, 41°.49S×174°.40E, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/25, mbtmp3.8/3, ML2.8/1, Error ellipse: s-maj=33.8km s-min=28.9km az=151.0*

WEL ***06*** *18:17:07.3±0.2, 42°S±2°×17°4E±°, h12km±2km, M4.1/54, ML4.3/54, MLv4.1/54, Error ellipse: s-maj=0.0km s-min=0.0km az=142.9*

NEIC ***06*** *18:17:09.2±1.9, 41°.3S±0°.1×174°.34E±0°.08, h26km±8km, mb4.3/13, Error ellipse: s-maj=16.7km s-min=7.1km az=201.0*

ISC 06 18:17:07.4±0.8**, 41°.61S**±0°.03**×174°.37E**±0°.02**, h24**km±5km**, n131, σ1ˢ48**/140**, mb4.2**/8**, Cook Strait**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.18	221	P	Pb	18 17 13.1	+0.4
CMWZ				S	Sb	18 17 17.6	+1.3
TUWZ	Tuamarina	0.37	300	P	Pb	18 17 15.4	0.0
TUWZ				S	Sb	18 17 21.0	+0.1
BSWZ	Blackbirch Sta	0.39	255	P	Pb	18 17 16.2	+0.5
BSWZ				S	Sn	18 17 22.6	-1.4
SNZO	South Karori	0.39	40		Pb	18 17 15.6	-0.2
SNZO				Sg	Sb	18 17 20.5	-1.0
TCW	Tory Channel	0.41	350	P	Pb	18 17 15.7	-0.4
TCW				S	Sb	18 17 21.4	-0.6
BHW	Baring Head	0.43	61	P	Pb	18 17 16.3	0.0
WEL	Wellington	0.44	42	P	Pb	18 17 16.5	-0.1
WEL				S	Sb	18 17 23.0	+0.1
PLWZ	Palliser	0.66	86	P	Pn	18 17 20.9	-0.4
PLWZ				S	Sn	18 17 32.6	+1.7
MSWZ	Moikau Station	0.69	74	P	Pb	18 17 21.1	+0.4
MSWZ				S	Sn	18 17 32.8	+1.3
CAW	Cannon Point	0.73	46	P	Pb	18 17 21.2	-0.1
PAWZ	Paruwai Farm	0.83	74	P	Pn	18 17 23.5	0.0
PAWZ				S	Sn	18 17 36.7	+1.7
NNZ	Nelson	0.84	298	P	Pn	18 17 23.7	0.0
KIW	Kapiti Island	0.85	28	P	Pb	18 17 23.4	-0.2
DUWZ	D'Urville Isla	0.88	337	P	Pb	18 17 24.1	+0.1
MTW	Mount Morrison	0.96	62	P	Pn	18 17 25.8	+0.4
MTW				S	Sn	18 17 40.5	+2.2
OGWZ	Otaki Gorge	1.00	37	P	Pb	18 17 25.8	-0.2
TRWZ	Traveller	1.01	78	P	Pn	18 17 26.2	+0.2
KHZ	Kahutara	1.01	217	P	Pn	18 17 27.2	+1.2
KHZ				S	Sn	18 17 42.0	+2.5
THZ	Tophouse	1.11	262	P	Pb	18 17 28.4	+0.5
HOWZ	Holdsworth Sta	1.12	51	P	Pb	18 17 28.1	0.0
TMWZ	Te Maipa	1.25	67	P	Pn	18 17 29.5	+0.1
MRZ	Mangatainoka R	1.32	44	P	Pb	18 17 31.0	-0.4
TIWZ	Tintock	1.42	54	P	Pn	18 17 32.0	+0.3
CPWZ	Castlepoint	1.55	64	P	Pb	18 17 38.2	+2.9
OHWZ	Ohakea	1.58	27	P	Pb	18 17 36.5	+0.7
QRZ	Quartz Range	1.60	299	P	Pb	18 17 36.2	0.0
PRWZ	Pori Road	1.61	49	P	Pn	18 17 34.6	+0.4
POWZ	Post Office Ro	1.61	41	P	Pn	18 17 35.0	+0.6
GVZ	Greta Valley S	1.68	216	P	Pn	18 17 35.9	+0.8
BFZ	Birch Farm	1.69	57	P	Pn	18 17 35.0	-0.4
DVHZ	Dannevirke	1.89	47	P	Pn	18 17 38.0	-0.2
WAZ	Wanganui	1.92	14	P	Pb	18 17 41.7	+0.1
DSZ	Denniston Nort	1.93	265	P	Pb	18 17 40.8	-1.1
LTZ	Lake Taylor	1.95	233	P	Pn	18 17 40.0	+1.0
TSZ	Takapari Road	1.97	38	P	Pn	18 17 39.7	+0.5
AMCZ	Amberley	2.02	219	P	Pn	18 17 40.2	+0.4
LREZ	Lake Rotokare	2.15	1	P	Pb	18 17 45.5	-0.1
PNHZ	Pukenui	2.19	40	P	Pn	18 17 42.6	+0.3
WPHZ	Waipukurau	2.21	46	P	Pn	18 17 42.6	+0.1
NMEZ	Namu Road	2.23	350	P	Pb	18 17 48.4	+1.4
PREZ	Palmer Road	2.27	356	P	Pb	18 17 48.5	+0.8
OKCZ	Okains Bay	2.32	204	P	Pn	18 17 43.8	-0.2
KHEZ	Kahui Hut	2.33	353	P	Pb	18 17 48.3	-0.5
NEZ	North Egmont	2.35	355	P	Pb	18 17 48.9	-0.1
NBEZ	Newall Road No	2.38	351	P	Pb	18 17 49.8	+0.3
MTVZ	Mangateitei	2.38	21	P	Pb	18 17 48.2	-1.4
DREZ	Durham Road	2.43	357	P	Pb	18 17 49.9	-0.4
OXZ	Oxford	2.43	224	P	Pn	18 17 45.2	-0.3
PKE	Pukeiti	2.44	353	P	Pb	18 17 49.9	-0.5
PKVZ	Pokaka	2.44	18	P	Pb	18 17 49.1	-1.4
INZ	Inchbonnie	2.44	242	P	Pn	18 17 46.9	+1.2
MOVZ	Moawhango	2.44	26	P	Pn	18 17 47.7	+1.9
MQZ	McQueen's Vall	2.44	211	P	Pn	18 17 45.0	-0.7
PXZ	Pawanui	2.46	51	P	Pn	18 17 45.0	-0.9
WNVZ	Wahianoa	2.47	23	P	Pn	18 17 48.4	+2.1
TRVZ	Turoa	2.48	22	P	Pb	18 17 51.9	+0.6
BHHZ	Black Hill Sta	2.48	32	P	Pn	18 17 47.7	+1.4
KRHZ	Kereru	2.49	38	P	Pn	18 17 46.4	0.0
VRZ	Vera Road	2.50	7	P	Pb	18 17 50.1	-1.5
DRZ	Dome Shelter	2.51	22	P	Pb	18 17 52.9	+1.1
WHVZ	Whangaehu Hut	2.51	22	P	Pn	18 17 49.3	+2.5
FWVZ	Far West T-bar	2.52	21	P	Pn	18 17 49.4	+2.4
MHEZ	Mangahewa	2.54	359	P	Pb	18 17 52.2	+0.1
TUVZ	Tukino	2.54	23	P	Pb	18 17 51.9	-0.4
NGZ	Ngauruhoe	2.61	21	P	Pn	18 17 50.6	+2.4
SNVZ	South Ngauruho	2.61	22	P	Pn	18 17 50.6	+2.4
KAHZ	Kahuranaki	2.63	47	P	Pn	18 17 47.7	-0.7
OTVZ	Oturere	2.64	22	P	Pn	18 17 51.0	+2.4
NNVZ	North Ngauruho	2.66	21	P	Pn	18 17 51.4	+2.6
WTVZ	West Tongariro	2.66	21	P	Pb	18 17 53.2	-1.2
TWVZ	Taurewa	2.67	18	P	Pb	18 17 52.5	-2.0
RACZ	Rakaia	2.68	217	P	Pn	18 17 48.3	-0.6
ETVZ	East Tongariro	2.68	23	P	Pn	18 17 51.4	+2.3
KWHZ	Kaweka Forest	2.69	36	P	Pn	18 17 50.1	+1.0
TMVZ	Te Maari	2.69	23	P	Pn	18 17 51.3	+2.0
KRVZ	Karewarewa	2.70	21	P	Pb	18 17 54.5	-0.5
MHCZ	Mount Hutt	2.82	226	P	Pn	18 17 50.7	-0.2
KATZ	Kakaramea	2.82	21	P	Pb	18 17 58.1	+1.0
RITZ	Rihia Road	2.87	24	P	Pb	18 17 58.2	+0.3
BKZ	Black Stump Fm	2.93	34	P	Pb	18 18 00.1	+1.1
RATZ	Rangitukua	2.95	22	P	Pb	18 18 00.7	+1.5
WACZ	Wakanui South	2.98	218	P	Pn	18 17 53.0	-0.1
WVZ	Waitaha Valley	3.06	240	P	Pn	18 17 55.5	+1.3
WATZ	Wairara	3.08	20	P	Pb	18 18 02.0	+0.5
HIZ	Hauiti	3.12	7	P	Pn	18 17 58.4	+3.4
RPZ	Rata Peaks	3.22	228	P	Pn	18 17 56.5	0.0
ARCZ	Arundel	3.31	224	P	Pn	18 17 57.7	0.0
MTHZ	Maungataniwha	3.34	35	P	Pn	18 17 58.3	+0.2
TLZ	Tolley Road	3.40	16	P	Pb	18 18 04.0	-3.0
ALRZ	Allen Road	3.40	27	P	Pb	18 18 06.7	-0.3
GCSZ	Gaunt Creek Bo	3.44	239	P	Pn	18 18 01.0	+1.6
TMZ	Timaru	3.71	221	P	Pn	18 18 02.9	-0.2
FOZ	Fox Glacier	3.87	239	P	Pn	18 18 06.5	+1.2
URZ	Urewera	3.96	33	Pn	Pn	18 18 05.3	-1.2
	0.7nm,0.3s,baz=123,slow=23,SNR=1.3						
URZ				Sn	Sn	18 18 51.6	-0.5
	4.3nm,0.3s,baz=216,slow=18,SNR=4.0						
URZ	Urewera	3.96	33	P	Pn	18 18 07.2	+0.7
TOZ	Tahuroa Road	3.98	13	P	Pn	18 18 10.1	+3.4
OPRZ	Ohinepanea	4.12	25	P	Pn	18 18 13.8	+5.0
LBZ	Lake Benmore	4.14	227	P	Pn	18 18 09.2	+0.2
ODZ	Otahua Downs	4.38	217	P	Pn	18 18 11.5	-0.7
RUGZ	Raukumara Rang	4.45	36	P	Pn	18 18 12.4	-0.9
MKAZ	Moumakai	4.54	8	P	Pn	18 18 18.4	+3.8
AWAZ	Awhitu Peninsu	4.55	3	P	Pn	18 18 18.3	+3.6
ETAZ	East Tamaki Re	4.67	5	P	Pn	18 18 20.8	+4.4
WTAZ	Waiatarua	4.68	2	P	Pn	18 18 22.3	+5.9
JCZ	Jackson Bay	4.79	237	P	Pn	18 18 19.1	+1.1
KUZ	Kuaotunu	4.97	13	P	Pn	18 18 25.4	+4.9
EAZ	Earnscleugh	5.16	224	P	Pn	18 18 23.5	+0.5
MSZ	Milford Sound	5.62	235	P	Pn	18 18 35.2	+5.9
WCZ	Waipu Caves	5.67	360	P	Pn	18 18 37.8	+7.8
OUZ	Omahuta	6.41	354	P	Pn	18 18 44.8	+4.5
CTZ	Chatham Island	6.97	111	P	Pn	18 18 47.6	-0.2
PINNC	Pines Island,	19.82	341	P	P	18 21 32.9	-3.3
PINNC				IAmb	IAmb	18 21 49.4	
	comp=Z,24nm,1.1s						
ONTNC	Ouen Toro	20.37	339	P	P	18 21 37.8	-4.4
NIUE	Niue	26.15	36	P	P	18 22 36.4	-3.3
STKA	Stephens Creek	27.86	280	P	P	18 22 54.7	-0.4
AS31	Alice Springs	38.08	285	P	P	18 24 24.7	+0.5
ASAR	Alice Springs	38.08	285	P	P	18 24 24.3	+0.1
	comp=Z,0.5nm,0.4s,baz=122,slow=6.7,SNR=37						
ASAR				PcP	PcP	18 26 38.0	-1.1
	comp=Z,0.2nm,0.8s,baz=123,slow=3.4,SNR=1.7						
ASAR	Alice Springs	38.08	285	P	P	18 24 24.5	+0.3
WR0	Warramunga Arr	39.99	290	P	P	18 24 40.3	+0.2
WR0				IAmb	IAmb	18 24 59.0	
	comp=Z,6.3nm,1.4s						
WB2	Warramunga Arr	40.13	290	P	P	18 24 41.7	+0.3
WB2				IAmb	IAmb	18 24 42.8	
	comp=Z,4.0nm,0.8s						
WRAB	Tennant Creek	40.14	290	P	P	18 24 41.8	+0.4
WRAB				IAmb	IAmb	18 24 42.1	
	comp=Z,3.6nm,0.6s						
WRA	Warramunga Arr	40.14	290	P	P	18 24 41.7	+0.3
	comp=Z,2.5nm,0.5s,baz=128,slow=8.5,SNR=59						
WRA	Warramunga Arr	40.14	290	P	P	18 24 41.1	-0.3
KNRA	Kununurra	46.92	290	P	P	18 25 36.8	+0.7
KNRA				IAmb	IAmb	18 25 43.9	
	comp=Z,4.9nm,1.1s						
MTN	Manton Dam	47.24	294	P	P	18 25 38.8	+0.2
QSPA	South Pole Qui	48.51	180	P	P	18 25 52.1	+4.1
QSPA				IAmb	IAmb	18 26 03.8	
	comp=Z,4.5nm,1.4s						
PSA00	Pilbara Seismi	49.69	276	P	P	18 25 56.4	-1.0
PSA00				IAmb	IAmb	18 26 07.9	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,3.4nm,1.3s						
DBIC	Dimbokro	145.20	181	PKPbc	PKPdf	18 36 43.9	+0.6
	comp=Z,2.9nm,1.1s,baz=148,slow=9.5,SNR=1.5						
ARCES	ARCESS Array B	147.68	340	PKPbc	PKPdf	18 36 46.8	+1.1
	comp=Z,1.3nm,0.7s,baz=46,slow=2.6,SNR=5.0						
TORD	Torodi Ar. Bea	150.93	195	PKPbc	PKiKP	18 36 59.5	+0.6
	comp=Z,0.4nm,0.6s,baz=145,slow=2.5,SNR=7.5						
TORD				PKPab	pPKPbc	18 37 05.4	-1.0
	comp=Z,0.4nm,0.5s,baz=147,slow=2.5,SNR=4.8						
FINES	FINESS Array B	152.47	327	PKPbc	PKPbc	18 36 59.8	-0.6
	comp=Z,1.9nm,0.9s,baz=14,slow=3.9,SNR=3.8						

MEX 06 18:18:43.5±1.0, 13°.80N×92°.91W, h10km, MD4.1, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCIG		1.92	351	eP	Pn	18 19 13.1	-3.1
PCIG				eS	Sn	18 19 36.0	-4.5
CCIG	Comitan	2.58	17	eP	Pn	18 19 25.3	-0.3
CCIG				eS	Sn	18 19 56.2	-0.9
TGIG		2.97	356	eP	Pn	18 19 30.1	-0.7
TGIG				eS	Sn	18 20 02.0	-4.6
CMIG	Matias Romero	3.79	330	eP	Pn	18 19 40.4	-1.6
CMIG				eS	Sn	18 20 22.9	-3.8

SKHL 06 18:20:59.6±0.2, 45°.30N×150°.20E, h142km±8km, mb4.8/4, msha5.5/3
MOS 06 18:21:00.8±1.2, 45°.94N×149°.56E, h158km, mb4.2/1, Error ellipse: s-maj=16.9km s-min=10.6km az=136.5
IDC 06 18:21:03.9±2.3, 46°.13N×149°.42E, h166km±22km, mb3.3/11, mb1 3.5/17, mb1mx3.3/46, mbtmp3.8/17, MS3.7/1, Ms1 3.7/1, ms1mx2.4/23, Error ellipse: s-maj=23.0km s-min=12.2km az=139.0
JMA 06 18:21:04.2±0.5, 45°.24N×149°.62E, h158km, M3.6
ISC 06 18:21:00.9±0.6, 45°.60N±0°.07×149°.77E±0°.07, h150km, n60, σ1s.88/69, mb3.5/11, 2C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.39	255c	iPN	Pn	18 21 29.9	+0.6
KUR				eS	Sn	18 21 52.0	+1.0
KUR				pmax	pmax		
	comp=N,30nm,0.6s						
KUR				pmax	pmax		
	comp=Z,205nm,0.6s						
KUR				pmax	pmax		
	comp=E,14nm,0.3s						
KUR				smax	smax		
	comp=N,582nm,0.4s						
KUR				smax	smax		
	comp=E,397nm,0.4s						
KUR	Kuril'sk	1.39	255	iP	Pn	18 21 29.9	+0.6
KUR				AMB	AMB	18 21 30.0	
	comp=E,205nm,0.4s						
KUR				eS	Sn	18 21 52.8	+1.8
KUR				A	A	18 21 55.0	
	comp=E,582nm,0.4s						
KUR				A	A	18 21 55.0	
	comp=E,397nm,0.4s						
YUK	Yuzh-Kuril'sk	3.19	242⇓	iPN	Pn	18 21 52.1	+1.5
YUK				iS	Sn	18 22 30.6	+1.5
YUK				pmax	pmax		
	comp=Z,125nm,0.2s						
YUK				pmax	pmax		
	comp=N,31nm,0.3s						
YUK				smax	smax		
	comp=N,57nm,0.2s						
YUK				smax	smax		
	comp=E,218nm,0.3s						
YUK	Yuzh-Kuril'sk	3.19	242	iP	Pn	18 21 51.3	+0.7
YUK				AMB	AMB	18 21 52.3	
	comp=E,180nm,0.4s						
YUK				iS	Sn	18 22 29.6	+0.5
YUK				A	A	18 22 34.3	
	comp=E,120nm,0.4s						
YUK				A	A	18 22 34.3	
	comp=E,240nm,0.4s						
GRPR	Tuman	3.27	242⇑	iPN	Pn	18 21 53.2	+1.6
GRPR				eS	Sn	18 22 31.9	+1.0
GRPR				pmax	pmax		
	comp=Z,107nm,0.2s						
GRPR				pmax	pmax		
	comp=N,34nm,0.1s						
GRPR				pmax	pmax		
	comp=E,21nm,0.1s						
GRPR				smax	smax		
	comp=E,108nm,0.2s						
GRPR				smax	smax		
	comp=N,287nm,0.3s						
GRPR	Tuman	3.27	242	iP	Pn	18 21 52.5	+0.9
GRPR				AMB	AMB	18 21 53.0	
	comp=N,107nm,0.2s						
GRPR				eS	Sn	18 22 31.9	+1.0
GRPR				A	A	18 22 37.0	
	comp=N,287nm,0.3s						
GRPR				A	A	18 22 37.0	
	comp=N,108nm,0.3s						
NEM2	Nemuro 2	3.65	234	P	Pn	18 21 56.6	+0.1
NEM2				eS	Sn	18 22 37.2	-2.4
NMR	Nemuro--Hokkai	3.65	234⇓	iPN	Pn	18 21 56.6	0.0
NMR				eS	Sn	18 22 37.6	-2.2
NMR	Nemuro--Hokkai	3.65	234	iP	Pn	18 21 56.2	-0.4
NMR				eS	Sn	18 22 37.6	-2.2
JRA	Rausu	3.71	245	P	Pn	18 21 58.5	+1.3
JNK	Nakash	4.13	243	P	Pn	18 22 04.0	+1.2
AKK	Akkeshi	4.38	236	eP	Pn	18 22 05.7	-0.4
AKK				eS	Sn	18 22 54.3	-2.5
JAK	Akkeshi	4.48	236	P	Pn	18 22 07.3	0.0
JAK				eS	Sn	18 22 56.6	-2.5
JTKR	Abashiri--Toko	4.48	251	P	Pn	18 22 08.4	+1.0
JMP	Maruseppu	4.83	253	P	Pn	18 22 13.0	+0.9
JAR	Ashorobuto	4.88	244	P	Pn	18 22 14.1	+1.5
JOB	Onbets	5.04	240	P	Pn	18 22 15.5	+0.7
JOB				eS	Sn	18 23 10.4	-2.1
YSS	Yuzh-Sakhalins	5.05	288	ePN	Pn	18 22 13.6	-1.3
YSS				eS	Sn	18 23 10.0	-2.6
YSS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
YSS				smax	smax		
	comp=N,10.0nm,0.9s						
YSS	Yuzh-Sakhalins	5.05	288	eP	Pn	18 22 18.1	+3.2
YSS				AMB	AMB	18 22 21.5	
	comp=N,10.0nm,0.8s						
YSS				eS	Sn	18 23 17.6	+5.0
YSS				A	A	18 23 22.3	
	comp=N,10.0nm,0.5s						
YSS				A	A	18 23 22.3	
	comp=N,10.0nm,0.5s						
JKK2	Kamakawa 2	5.29	253	P	Pn	18 22 19.6	+1.4
JKA	Kamikawa-asahi	5.31	256	eP	Pn	18 22 20.0	+1.6
ASAJ	Asahikawa	5.31	256	P	Pn	18 22 20.0	+1.6
	comp=N,4.9nm,0.3s,baz=82,slow=19,SNR=53						
ASAJ	Asahikawa	5.31	256	P	Pn	18 22 20.0	+1.6
JCH	Churui	5.50	239	P	Pn	18 22 20.6	-0.2
JCH				eS	Sn	18 23 19.6	-3.6
JFR	Furan	5.69	247	P	Pn	18 22 25.1	+1.6
JAB	Ashibetsu	5.79	251	P	Pn	18 22 26.6	+1.9
JBT2	Biratori 2	6.03	245	P	Pn	18 22 27.9	0.0
JNBK	Urakawa-nobuka	6.06	239	P	Pn	18 22 27.2	-1.1
JNB	Noboribetsu	7.03	247	P	Pn	18 22 40.8	-0.5
JNB				eS	Sn	18 23 56.4	-3.5
JKB	Kayabe	7.33	243	P	Pn	18 22 44.0	-1.3
JSH	Shimam	7.60	251	P	Pn	18 22 49.2	+0.4
JYM2	Yakumo 2	7.63	246	P	Pn	18 22 48.7	-0.6
JANG	Nango	7.99	232	P	Pn	18 22 52.4	-1.7
PETK	Petropavlovsk-	9.12	32	P	Pn	18 23 07.6	-1.4
	comp=N,0.1nm,0.3s,baz=206,slow=16,SNR=1.9						
MJAR	Matsushiro Arr	12.56	228	P	P	18 24 03.0	+3.1
	comp=N,0.1nm,0.3s,baz=49,slow=10,SNR=6.6						
USRK	Ussuriysk Ar.	12.69	270	P	Pn	18 23 55.9	-0.1
	baz=80,slow=12,SNR=6.0						
KLR	Kul'dur	12.73	293	P	Pn	18 23 53.4	-3.1
	comp=N,0.1nm,0.3s,baz=92,slow=8.9,SNR=4.2						
KLR	Kul'dur	12.73	293	eP	P	18 24 01.1	-0.6
KSRS	Korea Array	18.23	251	P	Pn	18 25 03.7	-0.5
	comp=N,0.3nm,0.3s,baz=58,slow=11,SNR=8.9						
JNU	Nakatsue	19.14	236	P	Pn	18 25 16.8	+1.7
	comp=N,0.4nm,0.3s,baz=188,slow=4.5,SNR=6.1						
H11N2	WAKE ISLAND Hy	29.42	146	T	T	18 58 07.0	
	baz=336,slow=75,SNR=54						
H11N1	WAKE ISLAND Hy	29.44	146	T	T	18 58 04.4	
	baz=336,slow=75,SNR=40						
H11N3	WAKE ISLAND Hy	29.44	146	T	T	18 58 08.5	
	baz=336,slow=75,SNR=45						
H11S1	WAKE ISLAND Hy	30.45	147	T	T	18 59 24.3	
	baz=337,slow=74,SNR=38						
H11S3	WAKE ISLAND Hy	30.46	147	T	T	18 59 24.2	
	baz=337,slow=74,SNR=29						
H11S2	WAKE ISLAND Hy	30.47	147	T	T	18 59 24.1	
	baz=337						
ILAR	Eielson Array	38.89	38	P	P	18 28 08.9	-2.4
	comp=N,0.8nm,0.8s,baz=276,slow=8.7,SNR=8.7						
INK	Inuvik	43.85	31	P	P	18 28 52.0	+0.4
	comp=N,1.7nm,0.8s,baz=173,slow=3.9,SNR=5.4						
INK	Inuvik	43.85	31	P	P	18 28 52.0	+0.4
MKAR	Makanchi Array	45.40	297	P	P	18 29 02.5	-1.7
	comp=N,0.4nm,0.8s,baz=66,slow=10,SNR=3.2						
DLBC	Dease Lake	48.05	44	LR	LR	18 51 58.8	
	comp=N,74nm,19.1s,baz=322,slow=39						
CMAR	Chiang Mai Arr	49.83	254	P	P	18 29 40.4	+1.7
	comp=N,0.3nm,0.3s,baz=42,slow=7.3,SNR=1.9						
FINES	FINESS Array B	64.06	334	P	P	18 31 14.9	-3.3
	comp=N,1.1nm,0.7s,baz=51,slow=9.1,SNR=2.0						
NVAR	Mina Array Bea	65.02	60	P	P	18 31 27.1	+2.0
	comp=N,0.6nm,0.6s,baz=293,slow=7.9,SNR=5.0						
WRA	Warramunga Arr	66.72	196	P	P	18 31 38.5	+2.7
	comp=N,0.5nm,0.9s,baz=14,slow=6.0,SNR=2.3						
PDAR	Pinedale Array	67.29	52	P	P	18 31 39.2	-0.3
	comp=N,0.4nm,0.3s,baz=233,slow=3.5,SNR=5.2						
ASAR	Alice Springs	70.43	195	P	P	18 32 02.3	+3.6
	comp=N,0.2nm,0.6s,baz=12,slow=6.3,SNR=6.4						
AKASG	Malin Array Be	71.18	325	P	P	18 31 59.7	-3.2
	comp=N,0.1nm,0.3s,baz=38,slow=5.0,SNR=4.7						
TXAR	Lajitas Array	80.08	58	P	P	18 32 55.5	+1.4
	comp=N,0.6nm,0.5s,baz=298,slow=4.0,SNR=9.2						
PLCA	Paso Flores	150.42	95	PKPbc	PKiKP	18 40 36.0	+1.1
	comp=N,1.2nm,0.6s,baz=259,slow=2.9,SNR=3.3						

WEL 06 18:23:12.4±0.3, 42°S±3°×17°4E±°, h15km±2km, M3.2/26, ML3.4/26, MLv3.2/26, Error ellipse: s-maj=0.0km s-min=0.0km az=150.5, Cook Strait

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.19	207	P	Pb	18 23 18.3	+0.6
CMWZ				S	Sb	18 23 22.8	+1.6
TUWZ	Tuamarina	0.33	297	P	Pb	18 23 20.6	+0.7
TUWZ				S	Sb	18 23 26.4	+1.4
BSWZ	Blackbirch Sta	0.37	248	P	Pb	18 23 21.3	+0.6
BSWZ				S	Sb	18 23 27.6	+1.3
TCW	Tory Channel	0.37	353	P	Pb	18 23 20.9	+0.3
TCW				S	Sb	18 23 26.4	+0.2
BHW	Baring Head	0.44	68	P	Pb	18 23 21.6	-0.3
WEL	Wellington	0.44	48	P	Pb	18 23 21.8	-0.1
WEL				S	Sb	18 23 28.3	0.0
PLWZ	Palliser	0.69	90	P	Pg	18 23 26.1	+0.1
PLWZ				S	Sb	18 23 36.3	+0.7
MSWZ	Moikau Station	0.71	77	P	Pb	18 23 26.5	0.0
MSWZ				S	Sn	18 23 37.7	-0.8
CAW	Cannon Point	0.73	50	P	Pg	18 23 26.5	0.0
NNZ	Nelson	0.80	296	P	Pn	18 23 28.9	-0.2
DUWZ	D'Urville Isla	0.83	338	P	Pn	18 23 29.3	-0.3
DUWZ				S	Sn	18 23 41.2	-0.5
KIW	Kapiti Island	0.84	32	P	Pg	18 23 28.7	0.0
PAWZ	Paruwai Farm	0.85	77	P	Pg	18 23 28.9	+0.1
PAWZ				S	Sn	18 23 42.1	+0.1
MTW	Mount Morrison	0.97	65	P	Pg	18 23 31.3	0.0
MTW				S	Sn	18 23 46.0	+0.9
OGWZ	Otaki Gorge	0.99	40	P	Pb	18 23 31.1	-0.1
KHZ	Kahutara	1.02	215	P	Pg	18 23 32.5	+0.2
TRWZ	Traveller	1.03	80	P	Pb	18 23 32.0	0.0
THZ	Tophouse	1.08	260	P	Pn	18 23 33.0	-0.1
HOWZ	Holdsworth Sta	1.12	53	P	Pb	18 23 33.5	0.0
TMWZ	Te Maipa	1.26	69	P	Pn	18 23 35.1	-0.4
MRZ	Mangatainoka R	1.31	46	P	Pn	18 23 36.4	+0.2
TIWZ	Tintock	1.42	56	P	Pn	18 23 37.4	-0.3
OHWZ	Ohakea	1.56	29	P	Pg	18 23 41.9	-0.5
PRWZ	Pori Road	1.61	51	P	Pn	18 23 40.0	-0.2
POWZ	Post Office Ro	1.61	43	P	Pn	18 23 40.3	0.0
GVZ	Greta Valley S	1.69	214	P	Pn	18 23 41.2	-0.2
BFZ	Birch Farm	1.70	59	P	Pn	18 23 41.3	-0.2
DVHZ	Dannevirke	1.89	48	P	Pn	18 23 43.3	-0.8
WAZ	Wanganui	1.89	15	P	Pg	18 23 48.1	-0.5
LTZ	Lake Taylor	1.95	231	P	Pn	18 23 45.3	+0.3
TSZ	Takapari Road	1.96	40	P	Pn	18 23 45.1	0.0
AMCZ	Amberley	2.03	217	P	Pn	18 23 45.5	-0.5
LREZ	Lake Rotokare	2.12	1	P	Pg	18 23 53.6	+0.6
PNHZ	Pukenui	2.19	41	P	Pn	18 23 48.0	-0.3
NMEZ	Namu Road	2.19	351	P	Sg	18 24 24.4	+1.6
WPHZ	Waipukurau	2.20	47	P	Pg	18 23 53.6	-1.0
PREZ	Palmer Road	2.24	357	P	Pg	18 23 55.2	-0.2
KHEZ	Kahui Hut	2.29	354	P	Pb	18 23 54.1	+0.5
NEZ	North Egmont	2.31	355	P	Pb	18 23 54.4	+0.6
NBEZ	Newall Road No	2.33	351	P	Pg	18 23 57.1	-0.1
MTVZ	Mangateitei	2.36	22	P	Pb	18 23 55.9	+1.3
PKE	Pukeiti	2.40	354	P	Pb	18 23 55.9	+0.6
PKVZ	Pokaka	2.41	19	P	Pb	18 23 57.0	+1.4
MOVZ	Moawhango	2.42	27	P	Pb	18 23 55.9	+0.1
OXZ	Oxford	2.44	223	P	Pn	18 23 50.5	-1.1
WNVZ	Wahianoa	2.45	24	P	Pb	18 23 54.9	-1.3
TRVZ	Turoa	2.46	23	P	Pb	18 23 57.6	+1.1
MQZ	McQueen's Vall	2.46	210	P	Pn	18 23 50.2	-1.8
BHHZ	Black Hill Sta	2.47	33	P	Pb	18 23 57.0	+0.5
VRZ	Vera Road	2.47	8	P	Pb	18 23 55.6	-0.9
KRHZ	Kereru	2.48	39	P	Pn	18 23 51.6	-0.7
WHVZ	Whangaehu Hut	2.48	23	P	Pb	18 23 57.0	+0.1
FWVZ	Far West T-bar	2.50	22	P	Pb	18 23 58.0	+0.8
TUVZ	Tukino	2.52	24	P	Pg	18 23 60.0	-0.7
NGZ	Ngauruhoe	2.59	22	P	Pb	18 23 59.6	+1.0
SNVZ	South Ngauruho	2.59	23	P	Pb	18 23 58.8	+0.2
OTVZ	Oturere	2.62	23	P	Pb	18 23 59.5	+0.4
NNVZ	North Ngauruho	2.63	22	P	Pb	18 24 00.0	+0.7
WTVZ	West Tongariro	2.64	22	P	Pb	18 24 00.4	+0.9
TWVZ	Taurewa	2.64	19	P	Pb	18 24 00.9	+1.4
ETVZ	East Tongariro	2.66	24	P	Pb	18 24 00.6	+0.8
TMVZ	Te Maari	2.67	24	P	Pb	18 24 00.9	+0.8
KRVZ	Karewarewa	2.67	22	P	Pb	18 24 00.8	+0.8
KWHZ	Kaweka Forest	2.68	37	P	Pg	18 24 02.3	-1.5
MCHZ	McNeill Hill	2.79	41	P	Pg	18 24 10.1	+4.2
KATZ	Kakaramea	2.80	22	P	Pb	18 24 03.8	+1.6
RITZ	Rihia Road	2.85	25	P	Pg	18 24 05.3	-1.7
BKZ	Black Stump Fm	2.92	35	P	Pb	18 24 05.5	+1.3
RATZ	Rangitukua	2.92	23	P	Pg	18 24 06.5	-1.9
WVZ	Waitaha Valley	3.06	240	P	Pn	18 23 57.3	-2.8
HIZ	Hauiti	3.09	8	P	Pb	18 24 05.0	-2.0
NMHZ	Naumai	3.12	38	P	Pg	18 24 11.6	-0.5
RPZ	Rata Peaks	3.23	227	P	Pn	18 24 02.4	-0.1
MTHZ	Maungataniwha	3.33	36	P	Pg	18 24 15.2	-1.0
TLZ	Tolley Road	3.37	16	P	Pb	18 24 13.3	+1.4
GRRZ	Galatos Road	3.50	24	P	Pn	18 24 05.0	-1.4
RTZ	Ruatahuna	3.59	35	P	Pg	18 24 18.8	-2.4
TMZ	Timaru	3.72	220	P	Pn	18 24 08.4	-0.9
ODZ	Otahua Downs	4.39	217	P	Pn	18 24 17.0	-1.5

TAP 06 18:29:49.6, 24°.77N×122°.54E, h24km, ML2.5, D
JMA 06 18:29:50.1±0.1, 24°.68N×122°.48E, h9km±2km, M1.9
ISC 06 18:29:49.8±1.0, 24°.73N±0°.04×122°.51E±0°.02, h17km±8km, n27, σ0s.33/51, Taiwan region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.48	125	P	Pg	18 29 59.4	-0.1
JYNG				S	Sg	18 30 06.0	-0.1
YOJ	Yonaguni jima	0.53	120	P	Pg	18 30 00.3	-0.1
YOJ				S	Sg	18 30 07.3	-0.2
YOJ	Yonaguni jima	0.53	120	P	Pg	18 30 00.2	-0.1
	baz=117						
YOJ				S	Sg	18 30 07.4	-0.2
	baz=117						
TWB1	Santiao Chiao	0.55	301	P	Pg	18 30 00.6	-0.1
	baz=296						
TWB1				S	Sg	18 30 08.4	+0.3
	baz=296						
TWC	Suao	0.61	259	iP	Pg	18 30 01.9	+0.1
	baz=256						
TWC				S	Sb	18 30 10.4	0.0
	baz=256						
TIPB	Shuangxi	0.67	291	P	Pg	18 30 02.9	0.0
	baz=287						
TIPB				S	Sb	18 30 12.2	+0.2
	baz=287						
EWUT	Wuta	0.72	247	P	Pg	18 30 04.0	0.0
	baz=252						
EWUT				S	Sb	18 30 14.1	+0.5
	baz=252						
NDS	Dongshan	0.73	263	P	Pg	18 30 03.9	-0.1
	baz=260						
NDS				eS	Sg	18 30 13.6	-0.1
	baz=260						
NWF	Wu-fen Shan	0.74	297	iP	Pg	18 30 04.4	+0.1
	baz=293						
WFSB	Wu-fen Shan	0.74	297	P	Pb	18 30 04.3	0.0
	baz=293						
ENA	Nanau	0.76	247	P	Pg	18 30 04.8	+0.1
	baz=252						
ENA				S	Sb	18 30 15.6	+0.9
	baz=252						
TWE	Neicheng	0.76	270	P	Pg	18 30 05.0	+0.2
	baz=266						
TWE				S	Sg	18 30 15.1	+0.2
	baz=266						
TNOU	National Taiwa	0.79	302	P	Pb	18 30 04.8	-0.3
	baz=298						
TNOU				S	Sn	18 30 16.8	-0.8
	baz=298						
NDT	Datong Townshi	0.91	262	P	Pg	18 30 07.8	+0.2
	baz=259						
NDT				S	Sn	18 30 20.3	-0.4
	baz=259						
YM01	YM01	0.95	296	eP	Pn	18 30 09.1	+0.6
	baz=293						
YM01				eS	Sb	18 30 20.1	-0.1
	baz=293						
NACB	Ninganchiao	1.00	237	P	Pb	18 30 08.7	0.0
	baz=235						
NACB				S	Sg	18 30 22.1	-0.2
	baz=235						
YHNB	Yeheng	1.03	267	P	Pn	18 30 09.6	0.0
	baz=264						
YHNB				S	Sg	18 30 23.2	-0.2
	baz=264						
NSK	Sanguang	1.05	267	P	Pg	18 30 10.1	0.0
	baz=264						
NSK				eS	Sb	18 30 22.9	-0.2
	baz=264						
ETLH	Xiulin Townshi	1.07	241	P	Pn	18 30 10.2	0.0
	baz=246						
ETLH				S	Sg	18 30 24.7	+0.1
	baz=246						
NNS	Nan Shan	1.07	255	P	Pn	18 30 10.2	0.0
	baz=252						
NNS				S	Sg	18 30 24.7	0.0
	baz=252						
IRIF	Iriomote-Funau	1.18	109	P	Pg	18 30 12.4	-0.2
IRIF				S	Sn	18 30 27.1	-0.2
WHF	Hehuan Shan	1.27	243	eP	Pg	18 30 14.2	-0.2
	baz=241						
WHF				eS	Sg	18 30 31.3	+0.1
	baz=241						
HATJ	Hateruma jima	1.36	119	eS	Sb	18 30 32.4	+0.4
LIOB	Emei	1.36	267	P	Pb	18 30 14.6	-0.2
	baz=264						
LIOB				S	Sb	18 30 32.6	+0.5
	baz=264						
CHGB	Renai	1.39	242	P	Pn	18 30 14.2	-0.4
	baz=222						
CHGB				S	Sb	18 30 33.7	+0.8
	baz=222						
JKRS	Kuro-shima	1.45	109	P	Pb	18 30 16.5	+0.1
JKRS				eS	Sb	18 30 35.4	+0.7
JIJ	Ishigaki jima	1.53	103	P	Pb	18 30 17.8	0.0
JIJ				eS	Sb	18 30 37.6	+0.6

NEIC 06 18:32:36.5±2.1, 13°.7S±0°.1×167°.2E±0°.1, h208km±8km, mb4.3/29, Error ellipse: s-maj=19.0km s-min=13.7km az=68.0
IDC 06 18:32:36.8±1.9, 13°.84S×167°.25E, h215km±15km, mb3.7/16, mb1 3.8/18, mb1mx3.7/46, mbtmp4.3/18, Error ellipse: s-maj=18.4km s-min=11.1km az=101.0
NOU 06 18:32:39.8, 13°.98S×166°.71E, h189km, mb4.2/18, Vanuatu Islands
ISC 06 18:32:35.6±0.4, 13°.75S±0°.06×167°.14E±0°.08, h200km, n68, σ1s.37/77, mb4.2/29, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.69	178		Pn	18 33 12.2	+1.1
SANVU	Saraoutou	1.69	178	P	Pn	18 33 12.4	+1.3
LIFNC	LIFOU	6.99	179	Pn	Pn	18 34 15.3	-0.4
MARNC	Mare, Loyalty	7.74	174	P	Pn	18 34 26.8	+1.4
HNR	Honiara	8.25	301	P	Pn	18 34 35.5	+3.3
	2.9nm,0.3s,baz=29,slow=4.6,SNR=1.0						
HNR	Honiara	8.25	301	Pn	Pn	18 34 31.2	-0.9
DZM	Mont Dzumac	8.31	184	P	Pn	18 34 33.7	+0.8
	0.5nm,0.3s,baz=93,slow=17,SNR=2.5						
DZM				S	Sn	18 36 08.0	+1.5
	baz=87,slow=23,SNR=1.6						
NOUC	Port Laguerre	8.35	185	P	Pn	18 34 34.2	+0.8
PINNC	Pines Island,	8.82	178	Pn	Pn	18 34 40.7	+1.1
MSVF	Nonsavu	11.22	112	P	P	18 35 20.0	+3.3
EIDS	Eidsvold	19.02	230	P	P	18 36 44.7	+2.2
AFI	Afiamalu	20.47	93	P	Pn	18 37 03.8	+0.3
	15nm,0.3s,baz=302,slow=16,SNR=2.7						
AFI	Afiamalu	20.47	93	P	P	18 36 57.4	-0.9
CTA	Charters Tower	20.94	250	P	P	18 37 04.0	+0.9
	3.7nm,0.5s,baz=71,slow=11,SNR=12						
CTAO	Charters Tower	20.94	250	P	P	18 37 04.2	+1.0
CTAO				IAmb	IAmb	18 37 04.7	
	comp=Z,5.1nm,0.6s						
ARMA	Armidale	21.91	218	P	P	18 37 14.3	+1.2
ARMA				IAmb	IAmb	18 37 15.6	
	comp=Z,3.7nm,0.7s						
NIUE	Niue	22.62	107	P	P	18 37 18.6	-1.1
COEN	Coen	23.27	267	P	P	18 37 28.1	+2.5
COEN				IAmb	IAmb	18 37 44.2	
	comp=Z,6.8nm,1.0s						
CAN	Canberra	27.00	214	P	P	18 37 59.4	+0.3
STKA	Stephens Creek	29.54	228	P	P	18 38 22.7	+1.1
	comp=Z,2.6nm,0.4s,baz=54,slow=9.0,SNR=12						
STKA				PcP	PcP	18 41 21.4	-0.3
	comp=Z,1.3nm,0.4s,baz=79,slow=6.1,SNR=4.3						
STKA	Stephens Creek	29.54	228	P	P	18 38 22.3	+0.7
TOO	Toolangi	30.57	215	P	P	18 38 30.8	+0.2
TOO				IAmb	IAmb	18 38 49.1	
	comp=Z,12nm,1.1s						
WR0	Warramunga Arr	31.77	254	P	P	18 38 41.1	-0.3
WB2	Warramunga Arr	31.94	254	P	P	18 38 42.0	-0.9
WRA	Warramunga Arr	31.95	254	P	P	18 38 42.7	-0.3
	comp=Z,0.7nm,0.5s,baz=80,slow=9.8,SNR=18						
WRA				PcP	PcP	18 41 27.9	-0.4
	comp=Z,0.4nm,0.5s,baz=101,slow=3.3,SNR=4.9						
WRA				ScP	ScP	18 44 51.4	-1.5
	comp=Z,1.2nm,0.8s,baz=112,slow=3.2,SNR=5.8						
WRA				PKiKP	PKiKP	18 48 54.5	-2.0
	comp=Z,0.4nm,0.6s,baz=184,slow=0.5,SNR=5.9						
AS31	Alice Springs	32.91	248	P	P	18 38 50.5	-0.8
ASAR	Alice Springs	32.92	248	P	P	18 38 51.0	-0.4
	comp=Z,0.8nm,0.4s,baz=74,slow=9.9,SNR=46						
ASAR				PcP	PcP	18 41 30.4	-0.5
	comp=Z,0.7nm,0.5s,baz=66,slow=2.2,SNR=11						
ASAR				S	S	18 43 50.4	-4.1
	comp=Z,0.6nm,0.9s,baz=75,slow=16,SNR=4.5						
ASAR				ScP	ScP	18 44 55.9	-0.3
	comp=Z,1.3nm,1.0s,baz=89,slow=3.1,SNR=7.2						
ASAR				PKiKP	PKiKP	18 48 55.0	-2.1
	comp=Z,0.3nm,0.7s,baz=110,slow=1.6,SNR=5.3						
MTN	Manton Dam	35.03	267	P	P	18 39 11.4	+1.8
MTN				IAmb	IAmb	18 39 31.2	
	comp=Z,3.4nm,0.7s						
KNRA	Kununurra	37.14	262	P	P	18 39 28.2	+0.8
KNRA				IAmb	IAmb	18 39 32.9	
	comp=Z,9.9nm,1.1s						
FORT	Forrest	39.70	238	P	P	18 39 48.6	0.0
FITZ	Fitzroy Crossi	40.08	258	P	P	18 39 52.6	+0.7
NWAO	Narrogin (SRO)	49.15	238	P	P	18 41 02.9	-0.5
NWAO				IAmb	IAmb	18 41 13.8	
	comp=Z,11nm,1.0s						
JMN	Monobe	56.86	327	P	P	18 41 58.1	-1.6
MJAR	Matsushiro Arr	56.98	332	P	P	18 41 59.6	-0.7
	comp=Z,1.8nm,0.5s,baz=168,slow=8.0,SNR=8.0						
MJAR	Matsushiro Arr	56.98	332	P	P	18 41 58.6	-1.8
MAJO	Matsushiro	56.98	332	P	P	18 42 00.6	+0.2
MAJO				IAmb	IAmb	18 42 12.6	
	comp=Z,4.6nm,1.0s						
JNU	Nakatsue	58.05	324	P	P	18 42 08.9	+0.9
JNU				IAmb	IAmb	18 42 19.9	

	comp=Z,10nm,1.1s						
TPUB	**Ta-pu**	**58.53**	**309**	P	**P**	**18 42 11.1**	**-0.4**
TPUB				IAmb	IAmb	18 42 17.7	
	comp=Z,5.8nm,0.9s						
ASAJ	**Asahikawa**	**61.78**	**340**	P	**P**	**18 42 34.8**	**+1.8**
	comp=Z,5.6nm,0.5s,baz=215,slow=6.4,SNR=19						
VNDA	**Vanda**	**63.84**	**181**	P	**P**	**18 42 45.4**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=360,slow=6.3,SNR=5.7						
SBA	**Scott Base**	**64.11**	**180**	P	**P**	**18 42 48.5**	**+0.5**
SBA				IAmb	IAmb	18 42 49.0	
	comp=Z,6.4nm,0.9s						
CASY	**Casey**	**64.39**	**202**	P	**P**	**18 42 49.2**	**-0.6**
CASY				IAmb	IAmb	18 42 49.9	
	comp=Z,5.3nm,0.8s						
USRK	**Ussuriysk Ar.**	**65.96**	**333**	P	**P**	**18 43 02.0**	**+1.8**
	comp=Z,2.9nm,0.9s,baz=91,slow=11,SNR=4.2						
PETK	**Petropavlovsk-**	**67.08**	**354**	P	**P**	**18 43 07.7**	**+0.5**
	comp=Z,4.3nm,0.8s,baz=163,slow=11,SNR=5.7						
CMAR	**Chiang Mai Arr**	**74.44**	**294**	P	**P**	**18 43 53.4**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=130,slow=4.5,SNR=10						
CHTO	**Chiang Mai**	**74.56**	**294**	P	**P**	**18 43 54.2**	**+1.1**
CHTO				IAmb	IAmb	18 43 54.7	
	comp=Z,2.0nm,0.6s						
QSPA	**South Pole Qui**	**76.28**	**180**	P	**P**	**18 44 01.3**	**-0.8**
QSPA				IAmb	IAmb	18 44 02.3	
	comp=Z,8.3nm,0.9s						
SEY	**Seymchan**	**77.30**	**353**	P	**P**	**18 44 08.0**	**+0.5**
	comp=Z,3.0nm,1.1s,baz=182,slow=6.2,SNR=7.5						
YAK	**Yakutsk**	**81.06**	**343**	P	**P**	**18 44 26.5**	**-1.3**
SONM	**Songino Array**	**81.64**	**324**	P	**P**	**18 44 31.7**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=140,slow=6.9,SNR=5.3						
MAW	**Mawson**	**82.74**	**202**	P	**P**	**18 44 36.3**	**-0.4**
	comp=Z,4.1nm,0.6s,baz=119,slow=5.5,SNR=26						
MAW	**Mawson**	**82.74**	**202**	P	**P**	**18 44 36.2**	**-0.5**
ILAR	**Eielson Array**	**85.64**	**18**	P	**P**	**18 44 50.2**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=241,slow=5.1,SNR=16						
NVAR	**Mina Array Bea**	**86.73**	**49**	P	**P**	**18 44 57.1**	**-0.3**
	comp=Z,0.6nm,0.9s,baz=239,slow=8.3,SNR=2.6						
SNAA	**Sanae**	**94.52**	**183**	P	**P**	**18 45 31.2**	**-1.7**
VNA3	**Neumayer Olymp**	**95.19**	**181**	P	**P**	**18 45 33.2**	**-2.7**
VNA2	**Neumayer--Watz**	**95.45**	**182**	P	**P**	**18 45 34.5**	**-2.6**
MK31	**Makanchi Array**	**96.41**	**316**	P	**P**	**18 45 42.8**	**+0.9**
MK31				IAmb	IAmb	18 45 43.0	
	comp=Z,1.6nm,0.8s						
MKAR	**Makanchi Array**	**96.41**	**316**	P	**P**	**18 45 42.2**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=100,slow=5.7,SNR=15						
ARCES	**ARCESS Array B**	**119.28**	**346**	PKP	**PKPdf**	**18 50 59.4**	**-1.0**
	comp=Z,2.3nm,0.6s,baz=76,slow=1.7,SNR=19						
FINES	**FINESS Array B**	**124.77**	**338**	PKP	**PKPdf**	**18 51 10.6**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=46,slow=2.6,SNR=13						
NB2	**NORSAR Subarra**	**129.65**	**345**	PKPdf	**PKPdf**	**18 51 20.4**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=27,slow=1.9						
NOA	**NORSAR Array B**	**129.65**	**345**	PKP	**PKPdf**	**18 51 19.8**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=30,slow=2.0,SNR=3.9						
GERES	**GERESS Array B**	**138.72**	**333**	PKP	**PKPdf**	**18 51 37.5**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=35,slow=3.6,SNR=3.0						
DAVOX	**Davos/Dischmat**	**141.94**	**334**	PKhKP	PKPpre	18 51 39.7	
	comp=Z,1.4nm,0.5s,baz=204,slow=8.7,SNR=5.1						
KEST	**Kesra**	**150.37**	**322**	PKPbc	**PKPdf**	**18 52 01.3**	**+2.9**
	comp=Z,6.6nm,0.6s,baz=134,slow=4.2,SNR=6.4						
ESDC	**Sonseca Array**	**153.01**	**345**	PKPbc	**PKPbc**	**18 52 07.9**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=11,slow=3.5,SNR=5.4						
ESDC				PKPab	**PKPab**	**18 52 22.1**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=3.1,slow=4.3,SNR=4.2						
TORD	**Torodi Ar. Bea**	**165.83**	**269**	PKP	**PKPdf**	**18 52 16.8**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=22,slow=1.1,SNR=6.8						
TORD				PKPab	**PKPab**	**18 53 17.7**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=89,slow=4.6,SNR=6.2						

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*IDC **06** 18:32:37.4±3.4, 14°.56N×92°.42W, h0km, mb3.6/4, mb1 4.0/7, mb1mx3.7/50, mbtmp3.7/7, ML3.7/3, Error ellipse: s-maj=167.1km s-min=28.8km az=41.0*
*GCG **06** 18:32:41.6±0.4, 14°.49N×93°.22W, h35km±999km, MD3.9*
*MEX **06** 18:32:42.9±1.3, 14°.63N×92°.92W, h100km±25km, MD4.3*
*SNET **06** 18:32:44.0±1.1, 14°.38N×92°.86W, h72km±21km, ML4.2*
*UCR **06** 18:32:44.2±1.1, 14°.38N×92°.86W, h71km±23km, ML3.8*
ISC 06 18:32:44.1±1.3, **14°.44N**±0°.07×**92°.99W**±0°.04, **h41**km±16km, **n42**, σ**2s.06**/65, **mb3.7**/4, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THIG		**0.84**	**56**	*e*P	**Pn**	**18 32 58.1**	**-1.4**
THIG				*i* S	**Sn**	**18 33 11.2**	**+0.4**
RTAL	**Retalhuleu**	**1.26**	**86**	*e*P	**Pn**	**18 33 04.0**	**-1.3**
RTAL				*e*S	**Sn**	**18 33 20.9**	**-0.1**
PCIG		**1.28**	**350**	*i* P	**Pn**	**18 33 03.8**	**-1.7**
PCIG				*i* S	**Sn**	**18 33 18.7**	**-2.7**
HUEH	**Huehuetenango**	**1.69**	**59**	*e*P	**Pn**	**18 33 11.8**	**+0.4**
HUEH				*e*S	**Sn**	**18 33 32.9**	**+1.0**
CCIG	**Comitan**	**2.01**	**24**	*e*P	**Pn**	**18 33 16.4**	**+0.7**
CCIG				*e*S	**Sn**	**18 33 41.2**	**+1.5**
FUG	**Fuego 3**	**2.08**	**90**	*e*P	**Pn**	**18 33 17.8**	**+1.0**
FUG				*e*S	**Sn**	**18 33 46.0**	**+4.4**
TGIG		**2.33**	**357**	*i* P	**Pn**	**18 33 20.5**	**+0.5**
TGIG				*i* S	**Sn**	**18 33 49.5**	**+2.0**
NBG	**Las Nubes**	**2.57**	**86**	*e*P	**Pn**	**18 33 25.0**	**+1.5**
NBG				*e*S	**Sn**	**18 33 58.7**	**+5.1**
SLOZ	**Alcaldia de Sa**	**3.14**	**97**	*e*P	**Pn**	**18 33 30.2**	**-0.9**
SLOZ				*e*S	**Sn**	**18 34 05.7**	**-1.7**
CMIG	**Matias Romero**	**3.20**	**326**	Pn	**Pn**	**18 33 30.8**	**-1.2**
	10nm,0.3s,baz=143,slow=13,SNR=82						
CMIG				Sn	**Sn**	**18 34 07.4**	**-1.6**
	19nm,0.3s,baz=119,slow=12,SNR=7.0						
CMIG	**Matias Romero**	**3.20**	**326**	*e*P	**Pn**	**18 33 30.8**	**-1.2**
CMIG				*e*S	**Sn**	**18 34 06.8**	**-2.2**
MRL	**Marmol**	**3.27**	**78**	*e*P	**Pn**	**18 33 34.2**	**+1.2**
RTR	**El Retiro**	**3.29**	**99**	*e*P	**Pn**	**18 33 32.1**	**-1.3**
RTR	**El Retiro**	**3.29**	**99**	*e*P	**Pn**	**18 33 32.1**	**-1.3**
SBLS	**San Blas**	**3.32**	**100**	*e*P	**Pn**	**18 33 32.6**	**-1.3**
SBLS				*e*S	**Sn**	**18 34 12.1**	**-0.2**
SBLS	**San Blas**	**3.32**	**100**	*e*P	**Pn**	**18 33 32.6**	**-1.3**
SBLS				*e*S	**Sn**	**18 34 12.1**	**-0.2**
CEVE	**Cerro Verde**	**3.33**	**100**	*e*P	**Pn**	**18 33 33.1**	**-0.8**
CEVE				*e*S	**Sn**	**18 34 10.6**	**-1.7**
CEVE				IAML		18 34 19.8	
	comp=Z,1μm,0.5s						
CEVE	**Cerro Verde**	**3.33**	**100**	*e*P	**Pn**	**18 33 33.1**	**-0.8**
CEVE				*e*S	**Sn**	**18 34 10.6**	**-1.7**
CEVE				IAML		18 34 19.8	
	comp=Z,1μm,0.5s						
SNJE	**San Jose**	**3.33**	**99**	*e*P	**Pn**	**18 33 33.9**	**-0.1**
SNJE	**San Jose**	**3.33**	**99**	*e*P	**Pn**	**18 33 33.9**	**-0.1**
MTO3	**Montecristo**	**3.52**	**90**	*e*P	**Pn**	**18 33 36.0**	**-0.6**
MTO3	**Montecristo**	**3.52**	**90**	*e*P	**Pn**	**18 33 36.0**	**-0.6**
LFRS	**El Faro**	**3.90**	**102**	*e*P	**Pn**	**18 33 40.5**	**-1.2**
LFRS				*e*S	**Sn**	**18 34 24.6**	**-1.7**
LFRS	**El Faro**	**3.90**	**102**	*e*P	**Pn**	**18 33 40.5**	**-1.2**
LFRS				*e*S	**Sn**	**18 34 24.6**	**-1.7**
PEIG	**Puerto Escondi**	**4.30**	**292**	*e*P	**Pn**	**18 33 45.7**	**-1.4**
PEIG				*i* S	**Sn**	**18 34 32.0**	**-4.0**
VHO	**Vista Hermosa**	**4.45**	**307**	*e*P	**Pn**	**18 33 53.1**	**+3.8**
VHO				*i* S	**Sn**	**18 34 40.9**	**+0.9**
TECA	**Tecapa**	**4.46**	**102**	*e*P	**Pn**	**18 33 48.8**	**-0.6**
TECA	**Tecapa**	**4.46**	**102**	*e*P	**Pn**	**18 33 48.8**	**-0.6**
YOIG	**Yosondua**	**5.00**	**299**	*e*P	**Pn**	**18 33 60.0**	**+3.0**
YOIG				*i* S	**Sn**	**18 34 59.9**	**+6.3**
LCND	**La Caada**	**5.08**	**102**	*e*P	**Pn**	**18 33 56.9**	**-0.9**
LCND				IAML		18 35 05.7	
	comp=Z,91nm,0.5s						
LCND	**La Caada**	**5.08**	**102**	*e*P	**Pn**	**18 33 56.9**	**-0.9**
LCND				IAML		18 35 05.7	
	comp=Z,91nm,0.5s						
TOIG	**Toxpalan**	**5.34**	**313**	*e*P	**Pn**	**18 34 01.2**	**-0.2**
TOIG				*i* S	**Sn**	**18 35 02.4**	**+0.6**
HLIG	**Huajuapan de L**	**5.72**	**307**	*e*P	**Pn**	**18 34 10.0**	**+3.2**
HLIG				*i* S	**Sn**	**18 35 14.8**	**+3.4**
TPIG	**Tehuac#an**	**5.76**	**314**	*i* P	**Pn**	**18 34 07.1**	**-0.3**
TPIG				*i* S	**Sn**	**18 35 13.6**	**+1.2**
LVIG	**Laguna Verde**	**6.19**	**329**	*i* P	**Pn**	**18 34 08.9**	**-4.1**
LVIG				*i* S	**Sn**	**18 35 19.7**	**-2.9**
JTS	**Las Juntas de**	**8.87**	**117**	Pn	Pn	18 34 42.1	-7.8
	comp=Z,0.2nm,0.3s,baz=8.6,slow=23,SNR=1.6						
JTS				Lg	Lg	18 36 59.6	
	comp=Z,0.6nm,0.3s,baz=178,slow=19,SNR=2.8						
TXAR	**Lajitas Array**	**17.81**	**328**	P	**P**	**18 36 51.3**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=143,slow=14,SNR=20						
ANMO	**Albuquerque**	**23.75**	**332**	P	**P**	**18 37 53.4**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=142,slow=12,SNR=1.9						
PDAR	**Pinedale Array**	**31.63**	**336**	P	**P**	**18 39 03.2**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=136,slow=12,SNR=1.6						
NVAR	**Mina Array Bea**	**32.73**	**322**	P	**P**	**18 39 15.8**	**+2.6**
	comp=Z,1.2nm,0.7s,baz=135,slow=9.0,SNR=13						
ILAR	**Eielson Array**	**62.06**	**337**	P	**P**	**18 42 59.5**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=142,slow=5.1,SNR=5.6						
CMAR	**Chiang Mai Arr**	**145.26**	**340**	PKPbc	**PKPdf**	**18 52 16.0**	**-2.4**
	comp=Z,0.7nm,0.6s,baz=343,slow=2.5,SNR=3.4						

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*NIC **06** 18:34:27.5±0.0, 35°.89N×28°.66E, h34km±23km, Ml2.8/3*
*ISK **06** 18:34:27.7, 35°.93N×28°.62E, h39km±1km, ML2.1/10*
*DDA **06** 18:34:28.0, 36°.07N×28°.47E, h68km±27km, ML1.8*
ISC 06 18:34:27.9±1.3, **35°.92N**±0°.04×**28°.63E**±0°.04, **h45**km±19km, **n24**, σ**0s.47**/37, **1C-1D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.50**	**306**	PG	**Pn**	**18 34 38.7**	**-0.2**
ARG				SG	**Sn**	**18 34 46.6**	**-0.2**
ARG	**Arkhangelos**	**0.50**	**306**	P	**Pn**	**18 34 38.8**	**-0.2**
ARG				S	**Sn**	**18 34 47.2**	**+0.4**
FETY	**Fethiye**	**0.80**	**27**	PG	**Pn**	**18 34 42.9**	**0.0**
FETY				SG	**Sn**	**18 34 54.2**	**+0.4**
AKAS	**Kas**	**0.85**	**68**	PG	**Pn**	**18 34 43.8**	**+0.2**
DALY	**Dalyan (Mula)**	**0.90**	**1**	*i* P	**Pn**	**18 34 43.8**	**-0.3**
DALY				*i* S	**Sn**	**18 34 55.6**	**-0.3**
DALY				IAML		18 35 04.0	
	comp=E,74nm,0.9s						
DALY	**Dalyan (Mula)**	**0.90**	**1**	PG	**Pn**	**18 34 44.2**	**+0.1**
DALY				SG	**Sn**	**18 34 56.2**	**+0.2**
TURN	**Turunc**	**0.91**	**340**	*i* P	**Pn**	**18 34 43.9**	**-0.4**
TURN				*i* S	**Sn**	**18 34 57.1**	**+0.8**
TURN				IAML		18 34 58.0	
	comp=N,31nm,0.2s						
TURN				IAML		18 34 59.0	
	comp=E,25nm,0.2s						
TURN	**Turunc**	**0.91**	**340**	PG	**Pn**	**18 34 44.4**	**+0.1**
TURN				SG	**Sn**	**18 34 56.5**	**+0.2**
CAME	**Cameli-Denizli**	**1.16**	**28**	PN	**Pn**	**18 34 47.9**	**+0.1**
DAT	**Datca**	**1.17**	**314**	PN	**Pn**	**18 34 48.1**	**+0.1**
YER	**Yerkesik**	**1.24**	**347**	PN	**Pn**	**18 34 49.2**	**+0.2**
KARP	**Karpathos**	**1.25**	**253**	PN	**Pn**	**18 34 49.4**	**+0.3**
KARP	**Karpathos**	**1.25**	**253**	P	**Pn**	**18 34 49.3**	**+0.3**
KARP				S	**Sn**	**18 35 04.9**	**+0.1**
MULA	**Mugla, Merkez-**	**1.36**	**350**	*i* P	**Pn**	**18 34 51.6**	**+1.1**
BDRM	**Kayabasi**	**1.49**	**320**	*i* P	**Pn**	**18 34 52.0**	**-0.3**
BDRM				*i* S	**Sn**	**18 35 09.1**	**-1.5**
BDRM				IAML		18 35 10.0	
	comp=E,11nm,0.4s						
BDRM				IAML		18 35 11.0	
	comp=N,14nm,0.3s						
BODT	**Bodrum**	**1.56**	**317**	PN	**Pn**	**18 34 53.0**	**-0.2**
TAVA	**DENIZLI_Tavas**	**1.56**	**8**	*i* P	**Pn**	**18 34 53.4**	**+0.1**
TAVA				*i* S	**Sn**	**18 35 12.4**	**+0.1**
AYDN	**Tasoluk**	**1.84**	**341**	*i* P	**Pn**	**18 34 57.4**	**+0.3**
AYDN				IAML		18 35 14.0	
	comp=E,21nm,1.3s						
AYDN				*i* S	**Sn**	**18 35 18.7**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**2.11**	**344**	PN	**Pn**	**18 35 01.2**	**+0.3**
AKMS	**Akamas**	**3.15**	**106**	⇓P	**Pn**	**18 35 14.9**	**-0.2**
AKMS				S	**Sn**	**18 35 51.2**	**-0.4**
AKMS				AML	AML	18 35 51.4	
	comp=E,0.1nm,0.2s						
AKMS				AML	AML	18 35 51.4	
	comp=E,0.1nm,0.2s						
AKMS				AML	AML	18 35 52.0	
AKMS				AML	AML	18 35 52.0	
OSC1	**CSNet OBS 1**	**3.25**	**137**	S	**Sn**	**18 35 53.9**	**0.0**
ALFC	**Alefka**	**3.33**	**102**	S	**Sn**	**18 35 54.7**	**-1.0**
SZAC	**Souni**	**3.67**	**107**	P	**Pn**	**18 35 22.4**	**+0.2**
SZAC				S	**Sn**	**18 36 04.3**	**+0.2**
SZAC				AML	AML	18 36 04.5	
	comp=E,0.1nm,0.2s						
SZAC				AML	AML	18 36 04.5	
	comp=E,0.1nm,0.2s						
SZAC				AML	AML	18 36 04.7	
	comp=E,0.1nm,0.2s						
SZAC				AML	AML	18 36 04.7	
	comp=E,0.1nm,0.2s						
ASGA	**Asgata**	**3.94**	**105**	⇑P	**Pn**	**18 35 26.2**	**+0.3**
ASGA				AML	AML	18 36 11.5	
ASGA				AML	AML	18 36 12.8	

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*IDC **06** 18:35:04.7±6.9, 50°.48N×173°.63W, h0km, mb3.8/7, mb1 3.9/9, mb1mx3.6/78, mbtmp3.8/9, ML3.0/2, Error ellipse: s-maj=168.5km s-min=24.5km az=160.0*
*NEIC **06** 18:35:16.9±1.2, 51°.30N±0°.06×174°.25W±0°.10, h40km±39km, Error ellipse: s-maj=11.8km s-min=4.8km az=137.0*
*AEIC **06** 18:35:17±1.0, 51°.44N±0°.07×174°.36W±0°.09, h58km±6km, ML3.2/20, Error ellipse: s-maj=11.8km s-min=4.5km az=140.0*
ISC 06 18:35:16.0±1.8, **51°.3N**±0°.1×**174°.22W**±0°.06, **h44**km±16km, **n29**, σ**0s.87**/34, **mb3.9**/6, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.95**	**1**		**Pn**	**18 35 32.6**	**-0.3**
ATKA	**Atka Island**	**0.95**	**1**		**Sn**	**18 35 45.9**	**+0.6**
KOFP	**Korovin Flat P**	**1.02**	**4**		**Pn**	**18 35 34.4**	**+0.4**
KOFP					**Sn**	**18 35 47.0**	**-0.2**
KOKL	**Mount Kliuchef**	**1.07**	**1**		**Pn**	**18 35 34.9**	**+0.3**
KOKL					**Sn**	**18 35 47.3**	**-1.1**
KOSE	**Korovin Southe**	**1.10**	**6**		**Pn**	**18 35 35.9**	**+0.9**
GSIG	**Igitkin Island**	**1.29**	**305**		**Pn**	**18 35 37.5**	**-0.1**
GSMY	**Great Sitkin M**	**1.39**	**305**		**Pn**	**18 35 38.9**	**-0.1**
GSMY					**Sn**	**18 35 55.2**	**-0.9**
GSTR	**Great Sitkin T**	**1.42**	**307**		**Pn**	**18 35 39.7**	**+0.3**
GSTD	**Great Sitkin T**	**1.44**	**305**		**Pn**	**18 35 39.7**	**0.0**
GSTD					**Sn**	**18 35 58.3**	**+0.8**
ADK	**Adak**	**1.66**	**293**	Pn	**Pn**	**18 35 42.8**	**+0.2**
KIWB	**Kanaga Island**	**1.92**	**289**		**Pn**	**18 35 46.8**	**+0.6**
KIKV	**Kanaga Island**	**1.94**	**290**		**Pn**	**18 35 47.1**	**+0.6**
KIMD	**Kanaga Island**	**1.95**	**286**		**Pn**	**18 35 47.0**	**+0.4**
KICM	**Kanaga Island**	**1.97**	**291**		**Pn**	**18 35 47.5**	**+0.6**
TAFP	**Tanaga Falls P**	**2.43**	**287**		**Pn**	**18 35 54.4**	**+1.2**
TAFP					**Sn**	**18 36 21.6**	**-0.2**
TASE	**Tanaga Southea**	**2.45**	**285**		**Pn**	**18 35 54.8**	**+1.3**
NIKH	**Nikolski High**	**3.73**	**60**	Pn	**Pn**	**18 36 11.3**	**+0.3**
SPIA	**Saint Paul Isl**	**6.37**	**20**	Pn	**Pn**	**18 36 50.1**	**+2.9**
Q19K	**Cape Douglas,**	**14.02**	**49**	Pn	**Pn**	**18 38 32.9**	**+1.1**
KDAK	**Kodiak Island**	**14.12**	**54**	Pn	**Pn**	**18 38 31.7**	**-1.5**
	0.1nm,0.3s,baz=337,slow=17,SNR=1.7						
KDAK	**Kodiak Island**	**14.12**	**54**	P	**P**	**18 38 40.4**	**+0.5**
PETK	**Petropavlovsk-**	**17.28**	**287**	Pn	**P**	**18 39 15.5**	**+0.7**
	0.1nm,0.3s,baz=84,slow=14,SNR=4.3						
ILAR	**Eielson Array**	**19.60**	**36**	P	**P**	**18 39 40.0**	**-0.2**
	1.1nm,0.5s,baz=234,slow=8.7,SNR=22						
USRK	**Ussuriysk Ar.**	**36.15**	**280**	P	**P**	**18 42 13.0**	**-0.9**
	0.9nm,0.7s,baz=35,slow=7.2,SNR=4.1						
SONM	**Songino Array**	**49.24**	**299**	P	**P**	**18 43 59.9**	**-0.2**
	0.4nm,0.8s,baz=57,slow=5.3,SNR=2.1						
ARCES	**ARCESS Array B**	**58.66**	**352**	P	**P**	**18 45 08.5**	**+0.3**
	1.2nm,0.8s,baz=17,slow=8.9,SNR=3.9						
MKAR	**Makanchi Array**	**62.32**	**311**	P	**P**	**18 45 34.2**	**+0.6**
	0.3nm,0.4s,baz=36,slow=5.1,SNR=6.3						
FINES	**FINESS Array B**	**66.48**	**350**	P	**P**	**18 45 59.8**	**-0.6**
	1.3nm,0.9s,baz=19,slow=9.3,SNR=1.5						
HFS	**Hagfors**	**68.78**	**356**	P	**P**	**18 46 14.5**	**-0.5**
	3.1nm,1.0s,baz=29,slow=3.3,SNR=2.4						

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*SOME **06** 18:41:16.0, 37°.70N×71°.07E, h0km*
*IDC **06** 18:41:22.4±16.0, 36°.61N×70°.26E, h254km±159km, mb2.7/2, mb1 2.8/4, mb1mx2.5/55, mbtmp3.5/4, Error ellipse: s-maj=101.8km s-min=53.2km az=16.0*
ISC 06 18:41:17.7±1.7, **36°.5N**±0°.1×**70°.1E**±0°.1, **h200**km, **n15**, σ**2s.03**/20, **3C, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**5.66**	**359**	*e*P	**Pn**	**18 42 42.7**	**+2.1**
	234nm,0.4s						
IUG				*e*S	**Sn**	**18 43 44.5**	**-1.7**
	52nm,0.7s						
AML	**Almayashu**	**6.29**	**25**	P	**Pn**	**18 42 50.5**	**+1.5**
	SNR=18						
DZA	**Taraz**	**6.47**	**8**	*e*P	**Pn**	**18 42 54.2**	**+3.2**
	15nm,0.1s						
DZA				*e*S	**Sn**	**18 44 04.3**	**-0.7**
	43nm,0.2s						
BRLS	**Borolday**	**6.55**	**358**	*e*P	**Pn**	**18 42 50.7**	**-1.3**
	0.7nm,0.2s						
BRLS				*e*S	Sn	18 43 58.4	-8.4
	0.8nm,0.3s						
KK31	**Karatay Array**	**6.62**	**2**	Pn	**Pn**	**18 42 54.0**	**+1.1**
	0.4nm,0.3s,baz=192,slow=13,SNR=37						
KK31				⇑Sn	**Sn**	**18 44 05.0**	**-3.6**
	1.7nm,0.5s,baz=195,slow=22,SNR=3.7						
MRKS	**Merke**	**6.70**	**20**	*e*P	**Pn**	**18 42 57.8**	**+3.7**
	4.0nm,0.2s						
MRKS				*e*S	**Sn**	**18 44 10.6**	**+0.1**
	9.4nm,0.6s						
EKS2	**Erkin-Say**	**6.79**	**23**	P	**Pn**	**18 42 57.0**	**+1.8**
	SNR=23						
KZA	**Kyzart**	**6.86**	**34**	P	**Pn**	**18 42 58.1**	**+1.7**
	SNR=12						
AAK	**Ala-Archa**	**7.02**	**27**	P	**Pn**	**18 42 59.9**	**+1.7**
	SNR=10						
AAK	**Ala-Archa**	**7.02**	**27**	⇑Pn	**Pn**	**18 42 59.9**	**+1.7**
	5.2nm,0.3s						
AAK				⇑Sn	**Sn**	**18 44 16.5**	**-1.5**
	8.6nm,1.0s						
ULHL	**Ulahol**	**7.46**	**38**	P	**Pn**	**18 43 05.7**	**+1.7**
	SNR=8.5						
MKAR	**Makanchi Array**	**13.73**	**38**	P	**Pn**	**18 44 24.9**	**+0.7**
	0.1nm,0.3s,baz=224,slow=16,SNR=7.2						
AKTO	**Aktyubinsk**	**16.46**	**332**	P	**P**	**18 44 57.0**	**+0.6**
	0.2nm,0.3s,baz=154,slow=9.7,SNR=3.5						
ZALV	**Zalesovo Beam**	**20.24**	**26**	P	**P**	**18 45 36.5**	**-0.8**
	0.7nm,0.4s,baz=221,slow=12,SNR=3.7						
ASAR	**Alice Springs**	**84.82**	**124**	P	**P**	**18 53 28.5**	**-1.3**
	0.2nm,0.9s,baz=314,slow=4.7,SNR=1.1						

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*ISK **06** 18:44:49.4, 36°.13N×30°.22E, h23km, ML3.0/27*
*DDA **06** 18:44:49.6, 36°.10N×30°.37E, h18km, ML2.6*
ISC 06 18:44:49.8±1.1, **36°.09N**±0°.04×**30°.24E**±0°.02, **h18**km±7km, **n59**, σ**0s.90**/74, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.24**	**21**	*i* P	**Pg**	**18 44 55.1**	**-0.3**
AKUM				*i* S	**Sg**	**18 44 59.0**	**-0.2**
AKUM				IAML		18 45 00.0	
	comp=N,3μm,0.6s						
AKUM				IAML		18 45 07.0	
	comp=E,1μm,0.5s						
DEMR	**Demre-Antalya**	**0.30**	**298**	PG	**Pg**	**18 44 56.4**	**+0.1**
AKAS	**Kas**	**0.53**	**285**	*i* P	**Pg**	**18 45 00.5**	**+0.1**
AKAS				*i* S	**Sn**	**18 45 11.6**	**+0.4**
AKAS				IAML		18 45 13.0	
	comp=E,590nm,0.5s						
AKAS				IAML		18 45 13.0	
	comp=N,615nm,0.6s						
AKAS	**Kas**	**0.53**	**285**	PG	**Pg**	**18 45 00.7**	**+0.3**
KEMT	**Kemer-ANTALYA**	**0.57**	**27**	PG	**Pb**	**18 45 01.2**	**-0.1**
ELL	**Elmali**	**0.70**	**338**	PG	**Pg**	**18 45 02.7**	**-1.0**
ELL				SG	**Sb**	**18 45 13.9**	**+0.8**
ANTB	**Antalya**	**0.87**	**23**	PG	**Pb**	**18 45 06.5**	**+0.1**
ANTB				SG	**Sn**	**18 45 18.8**	**-0.7**
KORT	**Korkueli**	**0.91**	**6**	PG	**Pb**	**18 45 06.3**	**-0.9**
FETY	**Fethiye**	**1.08**	**301**	PG	**Pb**	**18 45 09.1**	**-0.8**
FETY				SG	**Sb**	**18 45 23.6**	**-0.1**
CAME	**Cameli-Denizli**	**1.13**	**319**	PN	**Pb**	**18 45 10.1**	**-0.9**
BUCA	**Burdur, Bucak-**	**1.26**	**12**	*i* P	**Pb**	**18 45 13.2**	**+0.1**
BUCA				*i* S	**Sg**	**18 45 32.1**	**+1.5**
BUCA				IAML		18 45 39.0	
	comp=E,98nm,0.6s						
GOLH	**Golhisar**	**1.26**	**335**	*i* P	Pn	18 45 07.8	-5.0
GOLH				*i* S	**Sg**	**18 45 32.8**	**+2.0**
CAEL	**Denizli, Camel**	**1.26**	**325**	*i* P	**Pg**	**18 45 14.4**	**+0.2**
KEPZ	**Antalya-Kepez**	**1.37**	**53**	*i* P	**Pn**	**18 45 13.3**	**-0.8**
KEPZ				*i* S	**Sn**	**18 45 31.3**	**-0.5**
KEPZ				IAML		18 45 33.0	
	comp=E,102nm,0.6s						
BCK	**Bucak**	**1.39**	**12**	PN	**Pn**	**18 45 13.7**	**-0.8**
DALY	**Dalyan (Mula)**	**1.47**	**300**	*i* P	**Pg**	**18 45 17.9**	**-0.1**
DALY	**Dalyan (Mula)**	**1.47**	**300**	PN	**Pn**	**18 45 14.8**	**-0.6**
DALY				SN	**Sn**	**18 45 33.5**	**-0.6**
BRDR	**BURDUR-Merkez**	**1.61**	**355**	*i* P	**Pn**	**18 45 17.9**	**+0.5**
GAZI	**Gazipasa**	**1.69**	**85**	*i* P	**Pn**	**18 45 17.0**	**-1.5**
GAZI				*i* S	**Sn**	**18 45 39.0**	**-0.7**
GAZI	**Gazipasa**	**1.69**	**85**	PN	**Pn**	**18 45 17.8**	**-0.7**
ARG	**Arkhangelos**	**1.71**	**275**	PN	**Pn**	**18 45 17.9**	**-0.8**
TAVA	**DENIZLI_Tavas**	**1.73**	**323**	*i* P	**Pn**	**18 45 20.2**	**+1.0**
ISP	**Isparta**	**1.74**	**7**	PN	**Pn**	**18 45 18.1**	**-1.2**
TURN	**Turunc**	**1.74**	**294**	*i* P	**Pn**	**18 45 19.6**	**+0.4**
TURN	**Turunc**	**1.74**	**294**	PN	**Pn**	**18 45 18.5**	**-0.7**
SEDI	**Konya, Seydise**	**1.82**	**42**	*i* P	**Pn**	**18 45 20.9**	**+0.5**
SEDI				*i* S	**Sb**	**18 45 44.5**	**-0.8**
SEYD	**Seydisehir-KON**	**1.84**	**44**	PN	**Pn**	**18 45 20.5**	**-0.1**
YER	**Yerkesik**	**1.88**	**304**	PN	**Pn**	**18 45 20.6**	**-0.6**
MULA	**Mugla, Merkez-**	**1.93**	**308**	*i* P	**Pb**	**18 45 24.4**	**-0.1**
MULA				*i* S	**Sn**	**18 45 45.6**	**-0.1**
MULA				IAML		18 45 59.0	
	comp=N,56nm,0.8s						
BAGO	**Egridir - ISPA**	**1.94**	**13**	*i* P	**Pn**	**18 45 22.7**	**+0.6**
DAT	**Datca**	**2.24**	**287**	PN	**Pn**	**18 45 25.7**	**-0.4**
DOGA	**KONYA_Doganhis**	**2.31**	**29**	*i* P	**Pb**	**18 45 30.1**	**-1.0**
MLSB	**Milas**	**2.31**	**302**	PN	**Pn**	**18 45 26.7**	**-0.3**
YVAC	**Isparta, Yalva**	**2.32**	**20**	*i* P	**Pn**	**18 45 29.0**	**+1.8**
YVAC				*i* S	**Sn**	**18 45 56.9**	**+1.5**
YVAC				IAML		18 46 02.0	
	comp=E,14nm,0.9s						
PASA	**Karahalli, USA**	**2.33**	**345**	*i* P	**Pn**	**18 45 27.1**	**-0.3**
TEKE	**Tekeli-Mersin**	**2.33**	**88**	PN	**Pn**	**18 45 27.5**	**+0.2**
LEF	**Lefka**	**2.37**	**113**	PN	**Pn**	**18 45 28.2**	**+0.4**
BERE	**Bereket-Mersin**	**2.43**	**83**	PN	**Pn**	**18 45 29.2**	**+0.4**
KKBE	**Karaman, Kazim**	**2.45**	**62**	*i* P	**Pn**	**18 45 30.0**	**+1.0**
KKBE				*i* S	**Sn**	**18 45 59.8**	**+1.2**
AYDN	**Tasoluk**	**2.45**	**310**	*i* P	**Pn**	**18 45 29.1**	**+0.1**
SHUT	**Suhut-Afyon**	**2.47**	**6**	PN	**Pn**	**18 45 29.0**	**-0.3**
KONT	**Konya--Tatoy**	**2.51**	**42**	*i* P	**Pb**	**18 45 32.2**	**-2.2**
KONT				*i* S	**Sn**	**18 46 00.2**	**+0.2**
KONT	**Konya--Tatoy**	**2.51**	**42**	PN	**Pn**	**18 45 30.1**	**+0.3**
NIS1	**Nisyros Isl.**	**2.52**	**283**	PN	**Pn**	**18 45 29.6**	**-0.3**
BODT	**Bodrum**	**2.54**	**293**	PN	**Pn**	**18 45 29.9**	**-0.3**
KARP	**Karpathos**	**2.56**	**259**	PN	**Pn**	**18 45 30.5**	**+0.1**
TEVE	**Tevekalti-Mers**	**2.62**	**82**	PN	**Pn**	**18 45 31.9**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**2.63**	**315**	PN	**Pn**	**18 45 31.4**	**-0.2**
AKKU	**Akkuyu-Mersin**	**2.69**	**88**	PN	**Pn**	**18 45 32.9**	**+0.8**
LADK	**Ladik-KONYA**	**2.71**	**38**	PN	**Pn**	**18 45 32.8**	**+0.3**
KULA	**Kula-Manisa**	**2.72**	**333**	PN	**Pn**	**18 45 31.9**	**-0.9**
CSS	**Mathiatis**	**2.77**	**113**	PN	**Pn**	**18 45 34.4**	**+1.1**
USAK	**Uak-Merkez**	**2.79**	**340**	*i* P	**Pn**	**18 45 30.2**	**-3.5**
USAK				*i* S	**Sn**	**18 46 08.2**	**+1.3**
IKL	**Isikli**	**2.79**	**86**	PN	**Pn**	**18 45 34.6**	**+0.9**
KEBE	**Keben-Mersin**	**2.83**	**82**	PN	**Pn**	**18 45 35.0**	**+0.8**
KDHN	**Kadinhani**	**2.85**	**31**	*i* P	**Pn**	**18 45 35.3**	**+0.8**
GCAM	**G?zelcaml?**	**2.89**	**305**	PN	**Pn**	**18 45 34.9**	**-0.1**
KIZT	**Kizilcal**	**3.07**	**25**	PN	**Pn**	**18 45 37.5**	**-0.1**
SIMA	**Simav-Kutahya**	**3.15**	**342**	PN	**Pn**	**18 45 38.4**	**-0.2**

IDC 06 18:47:22.1±14.0, **17°.82S**×**176°.80W**, **h330**km±68km, **mb3.4**/2, **mb1 3.6**/3, **mb1mx3.0**/34, **mbtmp4.0**/3, **Error ellipse: s-maj=298.1km s-min=56.9km az=137.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.91**	**270**	P	Pn	18 48 39.9	0.0
	1.1nm,0.3s,baz=127,slow=21,SNR=11						
WRA	**Warramunga Arr**	**46.16**	**259**	P	P	18 55 15.1	+0.1
	1.0nm,0.4s,baz=93,slow=8.3,SNR=74						
ASAR	**Alice Springs**	**46.29**	**254**	P	P	18 55 15.6	-0.4
	2.3nm,0.6s,baz=90,slow=8.0,SNR=54						
BRTR	**Keskin Array B**	**145.79**	**316**	PKPbc	PKPdf	19 06 22.3	+0.3
	0.4nm,0.6s,baz=72,slow=4.7,SNR=2.4						

IDC 06 19:22:27.3±7.7, **5°.39S**×**128°.77E**, **h177**km±99km, **mb2.8**/1, **mb1 3.0**/4, **mb1mx2.8**/30, **mbtmp3.4**/4, **Error ellipse: s-maj=156.3km s-min=21.8km az=80.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.14**	**29**	P	Pn	19 23 43.3	+0.2
	19nm,0.3s,baz=178,slow=0.4,SNR=63						
SIJI				S	Sn	19 24 37.3	-5.3
	2.6nm,0.3s,baz=203,slow=23,SNR=14						
WRA	**Warramunga Arr**	**15.44**	**160**	P	Pn	19 25 55.0	-1.0
	0.1nm,0.3s,baz=343,slow=12,SNR=7.4						
ASAR	**Alice Springs**	**18.83**	**165**	P	P	19 26 34.2	+0.4
	0.1nm,0.3s,baz=350,slow=12,SNR=15						
MKAR	**Makanchi Array**	**66.22**	**327**	P	P	19 32 56.1	-0.1
	0.2nm,0.5s,baz=132,slow=8.0,SNR=1.6						

IDC 06 19:39:41.5±2.4, 18.73N×107.75W, h0km, mb3.3/1, mb1 3.9/2, mb1mx3.4/36, mbtmp3.5/2, ML4.0/1, MS3.0/3, Ms1 3.0/3, ms1mx2.7/22, Error ellipse: s-maj=129.5km s-min=40.9km az=106.0, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E1	SOCORRO T-PHAS	3.01	271	T	T	19 43 24.3	
	SNR=26						
TXAR	Lajitas Array	11.19	19	Pn	Pn	19 42 23.8	+0.8
	0.2nm,0.3s,baz=202,slow=14,SNR=17						
TXAR				LR	LR	19 45 18.3	
	comp=Z,45nm,21.6s,baz=0.0,slow=30						
PFO	Pinyon Flats O	16.74	334	LR	LR	19 49 03.5	
	comp=Z,88nm,19.3s,baz=168,slow=34						
ELK	Elko	22.86	345	LR	LR	19 52 23.4	
	comp=Z,38nm,19.8s,baz=152,slow=33						
ILAR	Eielson Array	52.88	340	P	P	19 48 59.0	+0.1
	0.3nm,0.6s,baz=149,slow=7.9,SNR=3.1						
H03N2	Juan Fernandez	58.72	152	T	T	20 53 28.9	
	baz=330,slow=77,SNR=30						
H03N1	Juan Fernandez	58.73	152	T	T	20 53 28.9	
	baz=330,slow=77,SNR=28						
H03N3	Juan Fernandez	58.74	152	T	T	20 53 25.5	
	baz=330,slow=77,SNR=29						
WRA	Warramunga Arr	121.70	258	PKP	PKPdf	19 58 37.9	-0.3
	0.5nm,0.7s,baz=95,slow=2.8,SNR=8.6						
ASAR	Alice Springs	122.68	253	PKP	PKPdf	19 58 39.9	-0.2
	0.5nm,0.8s,baz=64,slow=1.8,SNR=5.8						

IDC 06 20:01:01.2±1.6, 38.12S×48.78E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/43, mbtmp3.7/4, ML3.9/1, MS3.3/5, Ms1 3.3/5, ms1mx3.0/39, Error ellipse: s-maj=57.7km s-min=33.7km az=75.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	Ambohidratompo	19.53	355	P	Pn	20 05 31.1	-0.5
	0.3nm,0.3s,baz=132,slow=16,SNR=1.9						
BOSA	Boshof	21.77	289	LR	LR	20 12 40.0	
	comp=Z,50nm,21.0s,baz=182,slow=32						
LBTB	Lobatse	23.61	297	LR	LR	20 13 18.1	
	comp=Z,51nm,20.3s,baz=142,slow=31						
MAW	Mawson	30.57	169	LR	LR	20 16 24.7	
	comp=Z,71nm,19.3s,baz=326,slow=30						
H08S1	Diego Carcia H	37.14	41	T	T	20 47 09.6	
	baz=211						
H08S2	Diego Garcia H	37.15	41	T	T	20 47 11.1	
	baz=211						
H08S3	Diego Garcia H	37.16	41	T	T	20 47 11.6	
	baz=211						
KMBO	Kilima Mbogo	38.31	341	LR	LR	20 21 42.2	
	comp=Z,36nm,19.4s,baz=96,slow=32						
H01W2	Cape Leeuwin H	51.65	108	T	T	21 05 14.5	
	baz=246,slow=75						
H01W3	Cape Leeuwin H	51.66	108	T	T	21 05 14.0	
	baz=246,slow=75						
H01W1	Cape Leeuwin H	51.66	108	T	T	21 05 14.0	
	baz=246,slow=75						
QSPA	South Pole Qui	52.08	180	P	P	20 10 12.8	+0.2
	0.4nm,0.7s,baz=266,slow=4.5,SNR=1.0						
VNDA	Vanda	57.81	166	LR	LR	20 35 13.9	
	comp=Z,51nm,18.2s,baz=308,slow=36						
ASAR	Alice Springs	72.13	106	P	P	20 12 27.8	0.0
	0.6nm,0.6s,baz=229,slow=6.1,SNR=12						
WRA	Warramunga Arr	74.58	103	P	P	20 12 42.6	+0.3
	1.4nm,0.9s,baz=223,slow=6.3,SNR=7.0						
ILAR	Eielson Array	151.75	14	PKPbc	PKPbc	20 20 56.0	-0.7
	0.8nm,0.8s,baz=321,slow=3.6,SNR=6.9						

IDC 06 20:27:39.7±5.8, 37.97N×74.04E, h129km±47km, mb3.3/4, mb1 3.2/9, mb1mx3.0/51, mbtmp3.6/9, MS2.7/1, Ms1 2.7/1, ms1mx2.1/32, Error ellipse: s-maj=50.6km s-min=24.1km az=30.0
SOME 06 20:27:45.6, 39.17N×73.38E, h10km
NNC 06 20:27:47.6±3.5, 38.76N×73.81E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=27.0km s-min=18.9km az=149.0
ISC 06 20:27:40.6±0.8, 38.07N±0.07×73.99E±0.09, h150km, n33, σ2s38/38, mb3.4/4, 5C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	4.07	357	P	Pn	20 28 43.3	+1.2
	SNR=66						
KZA	Kyzart	4.12	13	P	Pn	20 28 42.8	0.0
	SNR=25						
AAK	Ala-Archa	4.58	5	P	Pn	20 28 49.2	+0.6
	1.0nm,0.3s,baz=173,slow=12,SNR=7.6						
AAK				S	Sn	20 29 41.4	-0.2
	0.6nm,0.3s,baz=174,slow=17,SNR=1.8						
AAK	Ala-Archa	4.58	5	⇑Pn	Pn	20 28 49.8	+1.2
	4.7nm,0.9s						
AAK				⇑Sn	Sn	20 29 36.5	-5.1
	4.5nm,0.7s						
AAK				Lg	Lg	20 29 54.2	
	8.2nm,0.9s						
EKS2	Erkin-Say	4.59	358	P	Pn	20 28 51.4	+2.7
	SNR=13						
KBK	Karagaybulak	4.64	9	P	Pn	20 28 51.2	+1.7
	SNR=8.9						
MRKS	Merke	4.71	353	eP	Pn	20 28 53.5	+3.3
	11nm,0.5s						
MRKS				eS	Sn	20 29 42.3	-2.3
	37nm,0.5s						
CHMS	Chumysh	4.96	6	P	Pn	20 28 55.0	+1.5
	SNR=6.5						
TKM2	Tokmak 2	5.00	14	⇓Pn	Pn	20 28 55.2	+1.0
	25nm,1.2s						
TKM2				⇑Sn	Sn	20 29 48.8	-2.8
	7.2nm,0.7s						
TKM2				⇑Lg	Lg	20 30 05.4	
	9.3nm,1.1s						
IUG	Iuzhnay	5.08	325	eP	Pn	20 28 58.9	+3.7
	294nm,0.3s						
IUG				eS	Sn	20 29 51.5	-1.8
	197nm,0.6s						
DZA	Taraz	5.23	338	eP	Pn	20 29 00.7	+3.7
	28nm,0.2s						
DZA				eS	Sn	20 29 54.6	-2.1
	122nm,0.5s						
KK31	Karatay Array	5.69	333	⇑Pn	Pn	20 29 03.5	+0.5
	5.1nm,0.6s,baz=143,slow=16,SNR=53						
KK31				⇓Sn	Sn	20 30 03.8	-3.8
	22nm,0.7s,baz=151,slow=22,SNR=15						
BRLS	Borolday	5.88	329	eP	Pn	20 29 06.8	+1.1
	3.3nm,0.1s						
BRLS				eS	Sn	20 30 05.3	-6.9
	0.9nm,0.8s						
MKAR	Makanchi Array	10.66	32	P	Pn	20 30 10.2	+1.0
	0.1nm,0.3s,baz=217,slow=15,SNR=1.8						
PYUN	Piuthan	12.47	140	eP	Pn	20 30 33.3	+0.1
	45nm,0.3s						
DANN	Dangsing	12.67	137	eP	Pn	20 30 35.6	-0.3
	22nm,0.4s						
KOLN	Koldanda	13.05	139	eP	P	20 30 41.4	-4.0
	7.6nm,0.3s						
GKN	Gorkha	13.42	135	eP	Pn	20 30 45.5	+0.1
	21nm,0.4s						
KKN	Kakani	13.95	134	eP	P	20 30 52.4	-3.0
DMN	Daman	13.99	135	eP	P	20 30 53.3	-2.6
	3.9nm,0.2s						
PKIN	Phulchoki	14.18	134	eP	P	20 30 55.4	-2.6
PKI	Pulchoki	14.19	134	eP	P	20 30 55.7	-2.5
	2.7nm,0.2s						
JIRN	Jiri	14.57	132	eP	P	20 31 01.4	-1.1
	8.9nm,0.3s						
BVAR	Borovoye Array	15.17	352	P	P	20 31 09.6	+1.1
	0.3nm,0.3s,baz=184,slow=15,SNR=13						
RAMN	Ramite	15.35	133	eP	P	20 31 11.4	+0.5
ODAN	Odare	15.88	131	eP	P	20 31 18.1	+1.3
AKTO	Aktyubinsk	16.80	323	P	Pn	20 31 27.7	+0.8
	0.2nm,0.3s,baz=120,slow=14,SNR=7.1						
ZALV	Zalesovo Beam	17.54	22	P	Pn	20 31 35.5	-0.2
	0.2nm,0.3s,baz=218,slow=13,SNR=3.9						
KVAR	Kislovodsk Arr	24.24	294	LR	LR	20 44 30.6	
	comp=Z,15nm,18.9s,baz=328,slow=42						
SONM	Songino Array	25.49	57	P	P	20 32 56.6	+1.7
	0.3nm,0.4s,baz=251,slow=7.5,SNR=2.7						
FINES	FINESS Array B	37.56	324	P	P	20 34 41.9	+1.9
	0.6nm,0.5s,baz=112,slow=11,SNR=5.6						
ARCES	ARCESS Array B	40.64	336	P	P	20 35 07.4	+1.9
	4.9nm,1.1s,baz=107,slow=8.6,SNR=5.7						
WRA	Warramunga Arr	80.84	124	P	P	20 39 38.4	+0.5
	0.4nm,1.0s,baz=321,slow=4.3,SNR=4.9						

TUL 06 20:36:50.1±1.2, 36.20N±0.01×97.15W±0.02, h6km±7km, ML2.6, mb_Lg2.5/23(NEIC), Error ellipse: s-maj=1.9km s-min=1.5km az=65.0
NEIC 06 20:36:50±1.3, 36.20N±0.01×97.15W±0.02, h5km±7km, Error ellipse: s-maj=1.9km s-min=1.5km az=65.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	S. Brethren Rd	0.35	134	Pg	Pg	20 36 57.4	+0.6
OK031				Sg	Sg	20 37 02.4	+1.1
QUOK	Quay	0.36	94	Pg	Pg	20 36 57.6	+0.6
QUOK				Sg	Sg	20 37 02.5	+0.9
OK029	Liberty Lake	0.47	212	Pg	Pg	20 36 59.3	+0.2
OK029				Sg	Sg	20 37 05.9	+0.7
BLOK	Blackwell	0.56	355	Pg	Pg	20 37 01.0	+0.2
OK025	Westminster Rd	0.64	194		Pg	20 37 02.4	+0.2
OK025				Sg	Sg	20 37 11.3	+0.9
CROK	Carrier	0.74	295	Pg	Pg	20 37 04.3	+0.1
CROK				Sg	Sg	20 37 13.9	0.0
OKCFA	Oklahoma City	0.82	198		Pg	20 37 05.8	0.0
OKCSW	OKLAHOMA CITY	0.82	197		Pg	20 37 05.9	0.0
OKCSW				Sg	Sg	20 37 17.4	+0.8
KAN13	South Haven SW	0.85	342		Pg	20 37 06.2	-0.3
GC02	Grant County #	0.87	319		Pg	20 37 06.5	-0.2
T35A	Sooner Cattle	0.88	35		Pg	20 37 06.9	0.0
FNO	Franklin	0.96	192		Pg	20 37 08.2	-0.2
KAN17	Caldwell West	0.98	330		Pg	20 37 08.5	-0.3
KAN14	Manchester OK	1.00	319		Pg	20 37 08.9	-0.4
KAN05	Bluff City Nor	1.08	328	Pg	Pg	20 37 10.3	-0.4
KS20	Mayfield South	1.08	343	Pg	Pg	20 37 10.6	-0.1
KAN10	Anthony SW Sta	1.20	321	Pg	Pg	20 37 12.4	-0.6
U32A	Winter Ranch,	1.51	277	IAmb_Lg		20 37 40.8	
	comp=Z,39nm,0.8s						
X34A	Smith Ranch, M	1.69	200	Pn	Pb	20 37 21.1	-0.5
X34A				IAmb_Lg		20 37 46.4	
	comp=Z,43nm,1.0s						
WMOK	Wichita Mounta	1.98	223		Pn	20 37 24.9	+0.7
WMOK				IAmb_Lg		20 37 53.4	
	comp=Z,28nm,0.8s						
X37A	Clayton	2.16	137	Pn	Pn	20 37 27.3	+0.6
X37A				IAmb_Lg		20 38 02.7	
	comp=Z,16nm,0.8s						
LOOK	Love County	2.20	181	IAmb_Lg		20 38 03.6	
	comp=Z,17nm,0.8s						
X40A	Basin Creek Fa	3.92	115	IAmb_Lg		20 38 59.1	
	comp=Z,8.1nm,0.8s						
WHAR	Wooly Hollow	4.05	101	IAmb_Lg		20 39 02.8	
	comp=Z,11nm,0.8s						
P38A	Dawn	4.46	39	IAmb_Lg		20 39 14.5	
	comp=Z,16nm,1.1s						
KSCO	Kaye Shedlock'	5.18	304	IAmb_Lg		20 39 42.4	
	comp=Z,6.5nm,0.8s						
PBMO	Poplar Bluff	5.44	82	IAmb_Lg		20 39 44.6	
	comp=Z,10nm,1.1s						
L34A	Svendsen Farm,	5.79	6	IAmb_Lg		20 40 09.8	
	comp=Z,14nm,0.8s						
T25A	Trinidad	5.91	281	IAmb_Lg		20 40 03.7	
	comp=Z,5.3nm,0.8s						
JCT	Junction City	6.12	202	IAmb_Lg		20 40 21.7	
	comp=Z,5.6nm,1.0s						

IDC 06 20:36:59.8±2.6, 5.21S×151.83E, h61km±11km, mb3.6/4, mb1 3.8/4, mb1mx3.4/33, mbtmp3.9/4, Error ellipse: s-maj=70.0km s-min=29.8km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.45	228	P	P	20 41 53.9	-0.1
	2.7nm,0.6s,baz=53,slow=9.8,SNR=30						
WRA				pP	pP	20 42 07.4	0.0
	3.4nm,0.6s,baz=54,slow=9.6,SNR=13						
WRA				PcP	PcP	20 45 47.0	+0.3
	0.5nm,0.8s,baz=60,slow=1.2,SNR=2.7						
ASAR	Alice Springs	25.20	222	P	P	20 42 20.3	+0.3
	2.2nm,0.8s,baz=54,slow=9.4,SNR=20						
ASAR				pP	pP	20 42 35.8	+1.0
	3.1nm,0.7s,baz=55,slow=8.4,SNR=14						
FITZ	Fitzroy Crossi	28.62	241	P	P	20 42 50.0	-0.6
	1.1nm,0.6s,baz=73,slow=7.7,SNR=6.4						
FITZ				pP	pP	20 43 04.0	-1.9
	2.5nm,0.7s,baz=46,slow=6.8,SNR=3.8						
SONM	Songino Array	66.16	328	P	P	20 47 42.0	+0.9
	0.3nm,0.5s,baz=134,slow=6.2,SNR=2.1						
H03S2	Juan Fernandez	118.32	133	T	T	23 05 15.9	
	baz=237,slow=74						
H03S1	Juan Fernandez	118.33	133	T	T	23 05 19.7	
	baz=237,slow=74						
H03S3	Juan Fernandez	118.33	133	T	T	23 05 22.4	
	baz=237,slow=74						
TORD	Torodi Ar. Bea	149.51	287	PKPbc	PKPbc	20 56 41.9	-1.4
	0.3nm,0.3s,baz=93,slow=2.7,SNR=7.6						

IDC 06 20:43:34.4±1.8, 3.17S×129.59E, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.3/30, mbtmp3.3/4, ML3.2/2, Error ellipse: s-maj=60.1km s-min=25.3km az=89.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	2.84	36	Pn	Pn	20 44 19.4	-1.6
	3.1nm,0.3s,baz=241,slow=23,SNR=14						
SIJI				Sn	Sb	20 44 59.9	-1.5
	2.7nm,0.3s,baz=69,slow=22,SNR=13						
WRA	Warramunga Arr	17.30	165	P	P	20 47 38.9	-0.2
	0.1nm,0.3s,baz=342,slow=12,SNR=9.8						
ASAR	Alice Springs	20.80	169	P	P	20 48 16.7	-0.8
	0.3nm,0.3s,baz=342,slow=11,SNR=16						
SONM	Songino Array	54.71	341	P	P	20 53 06.5	+0.8
	0.3nm,0.5s,baz=159,slow=7.8,SNR=2.6						

IDC 06 20:50:14.2±0.7, 0.74S×121.63E, h0km, mb4.1/12, mb1 4.2/15, mb1mx4.0/35, mbtmp4.1/15, ML3.7/3, MS3.4/11, Ms1 3.4/11, ms1mx3.1/39, Error ellipse: s-maj=21.1km s-min=13.3km az=67.0
DJA 06 20:50:16.0±0.2, 1°S±2°×12°2E±°, h10km, M4.6/23, mB5.2/6, mb4.6/23, MLv4.7/19, Mw(mB)4.5/6
NEIC 06 20:50:17.9±2.1, 0.68S±0.06×121.66E±0.09, h23km±5km, mb4.4/14, Error ellipse: s-maj=13.6km s-min=8.2km az=69.0
KLM 06 20:50:19, 0.85S×121.76E, h37km, mb4.8
ISC 06 20:50:15.7±0.9, 0.75S±0.05×121.57E±0.05, h11km±6km, n87, σ1s24/88, mb4.4/24, MS3.4/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	Ampana	0.18	153	P	Pg	20 50 20.1	+0.4
APSI				S	Sg	20 50 23.4	+1.0
MRSI	Marisa	1.28	17	P	Pn	20 50 37.3	-2.2
MPSI	Mapaga	1.99	303	P	Pn	20 50 47.4	-1.9
MPSI				S	Sb	20 51 16.0	-0.7
GTOI	Gorontalo	2.00	46	P	Pn	20 50 49.6	+0.2
TOLI2	Tolitoli	2.01	337	Pn	Pn	20 50 49.5	-0.1
TTSI	Tana Toraja	2.87	217	P	Pn	20 51 02.3	+0.9
KKSI	Kolaka, Sulawe	3.40	179	P	Pn	20 51 08.7	0.0
PMSI	Majene	3.81	224	P	Pn	20 51 16.5	+2.2
BNSI	Bone	3.91	202	P	Pn	20 51 17.4	+1.7
MNI	Manado	3.93	56	P	Pn	20 51 20.0	+3.9
SANI	Sanana	4.60	106	P	Pn	20 51 25.7	+0.4
KAPI	Kappang	4.61	203	Pn	Pn	20 51 25.7	+0.4
	12nm,0.3s,baz=36,slow=6.8,SNR=14						
KAPI				Sn	Sn	20 52 17.0	-1.8
	7.4nm,0.3s,baz=44,slow=16,SNR=3.7						
KAPI				Lg	Lg	20 52 35.3	
	9.6nm,0.3s,baz=191,slow=15,SNR=4.0						
KAPI				LR	LR	20 53 24.7	
	comp=Z,851nm,18.7s,baz=70,slow=41						
KAPI	Kappang	4.61	203	Pn	Pn	20 51 26.1	+0.8
KAPI	Kappang	4.61	203	P	Pn	20 51 25.4	+0.1
BKB	Balikpapan	4.70	264	Pn	Pn	20 51 28.7	+2.2
BKB	Balikpapan	4.70	264	P	Pn	20 51 28.3	+1.7
BKSI	Bulukumba	4.76	198	P	Pn	20 51 27.8	+0.3
MKS	Makassar	4.91	205	P	Pn	20 51 29.6	+0.2
BSSI	Bau Bau, Buton	5.46	191	P	Pn	20 51 37.3	+0.2
	0.2nm42nm,0.5s						
KBKI	Kotabaru	5.96	245	P	Pn	20 51 44.4	+0.5
	0.5nm957nm63nm,0.5s						
TNTI	Ternate	5.99	75	P	Pn	20 51 44.1	-0.3
	0.3nm28nm,1.1s						
MTKI	Muara Teweh, K	6.67	268	P	Pn	20 51 53.4	-0.3
	0.3nm39nm,0.5s						
GAMI	Galela, Maluku	6.73	68	P	Pn	20 51 56.7	+2.1
	0.3nm81nm,0.7s						
BBKI	Banjar Baru	7.24	248	P	Pn	20 52 01.2	-0.3
	0.2nm39nm,0.7s						
KRAI	Karang Ratu	7.28	111	P	Pn	20 52 03.8	+1.6
	0.2nm60nm,0.6s						
SPMM	Sapulut	7.44	317	P	Pn	20 52 10.0	+5.6
PKKI	Palangkaraya	7.73	259	P	Pn	20 52 09.8	+1.5
	0.5nm1μm108nm,0.8s						
MSAI	Masohi	7.79	109	P	Pn	20 52 11.0	+1.8
	0.2nm3μm8.5nm,0.6s						
MMRI	Maumere	7.86	175	P	Pn	20 52 06.8	-3.3
EDFI	Ende, Flores	7.95	179	P	Pn	20 52 11.0	-0.3
	0.0nm12nm,0.8s						
SOEI	Soe	9.34	163	Pn	Pn	20 52 32.4	+1.9
SOEI	Soe	9.34	163	P	Pn	20 52 31.2	+0.7
	49nm,1.0s						
SWI	Sorong	9.69	91	P	Pn	20 52 35.7	+0.5
	586nm34nm,0.9s						
SIJI	Sorong	9.70	91	Pn	Pn	20 52 36.0	+0.7
	1.6nm,0.3s,baz=266,slow=13,SNR=2.9						
SIJI				Sn	Sn	20 54 24.8	+0.4
	0.5nm,0.3s,baz=193,slow=22,SNR=1.7						
SIJI				LR	LR	20 57 29.3	
	comp=Z,166nm,18.2s,baz=22,slow=45						
SIJI	Sorong	9.70	91	P	Pn	20 52 36.4	+1.1
	9.9nm,0.7s						
STKI	Sintang	10.12	275	P	Pn	20 52 42.8	+1.7
JAGI	Jajag, Banyuwa	10.65	224	P	Pn	20 52 47.8	-0.5
	36nm,1.4s						
FAKI	Fak Fak	10.89	102	Pn	Pn	20 52 51.7	0.0
LEM	Lembang	15.16	246	LR	LR	20 59 49.6	
	comp=Z,208nm,19.7s,baz=148,slow=38						
CBJI	Citeko	15.72	249	P	Pn	20 53 58.5	+1.1
	66nm,0.9s						
FITZ	Fitzroy Crossi	17.70	167	P	Pn	20 54 22.7	+0.4
	0.1nm,0.3s,baz=8.1,slow=7.1,SNR=1.6						
FITZ				LR	LR	21 01 42.1	
	comp=Z,32nm,20.4s,baz=338,slow=39						
MDSI	Maura Dua	17.76	258	P	Pn	20 54 22.8	-0.3
	7.5nm,1.0s						
JAY	Jayapura	19.21	95	LR	LR	21 03 44.1	
	comp=Z,110nm,20.2s,baz=307,slow=42						
MASI	Maura Aman, Be	19.46	263	P	P	20 54 41.9	-0.8
	79nm,1.0s						
JRMM	Jerantut	19.63	284	P	Pn	20 54 47.0	+1.2
MNSI	Mandailing Nat	22.04	274	P	P	20 55 11.2	+0.6
	10nm,0.8s						
TRSI	Tarutung	22.77	277	P	P	20 55 19.9	+1.3
	80nm,0.7s						
WRA	Warramunga Arr	22.80	148	P	P	20 55 18.4	-0.3
	16nm,1.1s,baz=325,slow=8.5,SNR=25						
WRA				PcP	PcP	20 59 11.5	+1.2
	0.7nm,0.9s,baz=320,slow=2.1,SNR=1.8						
WRA	Warramunga Arr	22.80	148	P	P	20 55 19.4	+0.6
WB2	Warramunga Arr	22.81	148	P	P	20 55 17.2	-1.6
PSI	Prapat	22.91	279	P	P	20 55 20.8	+0.7
	3.6nm,0.5s,baz=166,slow=2.3,SNR=13						
PSI	Prapat	22.91	279	P	P	20 55 21.0	+1.0
	173nm7.4nm,1.3s,15nm,1.4s						
PSI				P	pP	20 55 21.2	-1.9
	173nm7.4nm,1.3s,15nm,1.4s						
WR0	Warramunga Arr	22.93	147	P	P	20 55 19.3	-0.7
WR0				IAmb	IAmb	20 55 25.9	
	comp=Z,12nm,0.9s						
GSI	Gunungsitoli	24.08	275	P	P	20 55 31.6	+0.2
GSI	Gunungsitoli	24.08	275	P	P	20 55 30.3	-1.1
	comp=Z,27nm,1.3s						
AS31	Alice Springs	25.73	153	P	P	20 55 49.4	+3.0
ASAR	Alice Springs	25.73	153	P	P	20 55 46.9	+0.5
	comp=Z,1.0nm,0.7s,baz=342,slow=14,SNR=11						
ASAR				PcP	PcP	20 59 16.1	-0.5
	comp=Z,0.5nm,0.8s,baz=348,slow=2.4,SNR=2.8						
PBKT	Sadao Pong	26.63	311	P	P	20 55 55.9	+1.4
	comp=Z,9.9nm,0.8s						
CMAR	Chiang Mai Arr	29.31	312	P	P	20 56 19.4	+0.9
	comp=Z,1.2nm,0.8s,baz=135,slow=7.3,SNR=10						
CMAR				LR	LR	21 08 23.5	
	comp=Z,67nm,19.6s,baz=197,slow=37						
CMMT	Chiang Mai	29.53	312	P	P	20 56 19.5	-1.0
	comp=Z,4.2nm,1.1s						
CHTO	Chiang Mai	29.53	312	P	P	20 56 20.2	-0.3
	comp=Z,2.5nm,1.1s						
STKA	Stephens Creek	36.28	151	P	P	20 57 17.7	-1.6
	comp=Z,2.1nm,0.9s,baz=308,slow=19,SNR=1.8						
STKA	Stephens Creek	36.28	151	P	P	20 57 17.6	-1.8
STKA				IAmb	IAmb	20 57 26.0	
	comp=Z,3.5nm,1.2s						
KSRS	Korea Array	38.47	8	P	P	20 57 38.3	+0.6
	comp=Z,1.3nm,0.6s,baz=184,slow=8.7,SNR=4.7						
KSRS				LR	LR	21 14 21.0	
	comp=Z,37nm,20.1s,baz=202,slow=38						
MJAR	Matsushiro Arr	40.20	21	P	P	20 57 50.9	-1.4
	comp=Z,2.7nm,0.8s,baz=185,slow=9.4,SNR=4.7						
MJAR				LR	LR	21 16 11.3	
	comp=Z,32nm,18.5s,baz=240,slow=39						
MJAR	Matsushiro Arr	40.20	21	P	P	20 57 51.2	-1.1
GTA	Gaotai	44.66	336	eP	P	20 58 30.0	+1.3
GTA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
USRK	Ussuriysk Ar.	45.71	10	P	P	20 58 36.5	-0.3
	comp=Z,2.4nm,0.6s,baz=198,slow=6.7,SNR=9.1						
USRK	Ussuriysk Ar.	45.71	10	P	P	20 58 35.2	-1.6
ULN	Ulaanbaatar	50.05	347	P	P	20 59 10.1	-0.5
ULN				IAmb	IAmb	20 59 17.0	
	comp=Z,4.0nm,0.8s						
ULN	Ulaanbaatar	50.05	347	P	P	20 59 10.7	+0.2
	comp=Z,23nm,0.9s						
SONM	Songino Array	50.16	347	P	P	20 59 11.9	+0.5
	comp=Z,3.5nm,0.7s,baz=169,slow=7.9,SNR=12						
SONM	Songino Array	50.16	347	P	P	20 59 12.0	+0.6
SONM				IAmb	IAmb	20 59 18.2	
	comp=Z,3.0nm,0.7s						
MK31	Makanchi Array	58.51	329	P	P	21 00 12.7	+0.6
MK31				IAmb	IAmb	21 00 19.2	
	comp=Z,4.9nm,1.2s						
MKAR	Makanchi Array	58.51	329	P	P	21 00 12.6	+0.5
	comp=Z,1.8nm,0.6s,baz=131,slow=7.8,SNR=22						
MKAR	Makanchi Array	58.51	329	P	P	21 00 12.9	+0.8
PETK	Petropavlovsk-	61.54	24	P	P	21 00 33.0	+0.3
	comp=Z,3.8nm,1.0s,baz=193,slow=4.6,SNR=4.1						
ZAA0	Zalesovo Array	62.41	336	P	P	21 00 38.1	-0.5
ZAA0				IAmb	IAmb	21 00 43.3	
	comp=Z,3.3nm,0.8s						
ZALV	Zalesovo Beam	62.41	336	P	P	21 00 38.1	-0.5
	comp=Z,3.6nm,0.8s,baz=128,slow=5.7,SNR=11						
ZALV	Zalesovo Beam	62.41	336	P	P	21 00 37.7	-0.9
BRVK	Borovoye	68.46	330	P	P	21 01 16.6	-1.2
BRVK				IAmb	IAmb	21 01 23.7	
	comp=Z,4.1nm,0.9s						
ABKAR	Akbulak array	72.45	323	P	P	21 01 41.4	-0.8
ARU	Arti	76.04	329	LR	LR	21 37 12.9	
	comp=Z,28nm,18.2s,baz=121,slow=37						
MAW	Mawson	77.81	200	LR	LR	21 32 06.1	
	comp=Z,31nm,21.1s,baz=58,slow=32						
VNDA	Vanda	79.71	172	LR	LR	21 36 40.3	
	comp=Z,30nm,18.5s,baz=344,slow=35						
QSPA	South Pole Qui	89.19	180	P	P	21 03 12.0	+0.6
TORD	Torodi Ar. Bea	119.21	285	PKP	PKPdf	21 09 06.4	+0.4
	comp=Z,1.0nm,1.0s,baz=46,slow=4.2,SNR=3.9						

NEIC 06 20:58:29.3±0.9, 17.80N±0.10×68.26W±0.06, h67km±27km, Error ellipse: s-maj=14.1km s-min=7.8km az=191.0
OSPL 06 20:58:29.0±0.8, 17.89N×68.27W, h95km±13km, ML3.2
RSPR 06 20:58:30.0, 17.88N×68.22W, h81km±2km, MD3.7/11
ISC 06 20:58:28.3±0.9, 17.87N±0.07×68.28W±0.03, h94km, n85, σ0s97/92, 17C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.65	352		Pn	20 58 44.5	-0.3
PCDR				IAML		20 58 56.5	
	comp=E,1μm,0.9s						
PCDR	Punta Cana, DR	0.65	352	iP	Pn	20 58 44.4	-0.4
PCDR				eS	Sn	20 58 56.1	-0.9
PCDR				IAML		20 58 59.8	
	comp=Z,2μm,0.4s						
IDE	Isla Desecheo	0.93	56	⇑eP	Pn	20 58 46.9	-0.5
CRPR	Cabo Rojo, PR	1.12	83		Pn	20 58 49.2	-0.4
CRPR	Cabo Rojo, PR	1.12	83	iP	Pn	20 58 49.2	-0.4

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRPR				eS	Sn	20 59 04.5	-1.3
CRPR				IAML		20 59 04.7	
	comp=Z,243nm,0.3s						
LSP	Las Mesas	1.18	75	⇑eP	Pn	20 58 50.1	-0.2
LSP	Las Mesas	1.18	75	eS	Sn	20 59 05.4	-1.6
MLPR	Magueyes Islan	1.18	85	⇑eP	Pn	20 58 49.9	-0.4
MLPR	Magueyes Islan	1.18	85	eS	Sn	20 59 05.8	-1.2
MLPR	Magueyes Islan	1.18	85		Pn	20 58 49.9	-0.4
MLPR					Sn	20 59 05.8	-1.2
AGPR	Aguadilla, PR	1.26	62	⇑eP	Pn	20 58 51.2	-0.2
AGPR	Aguadilla, PR	1.26	62	eS	Sn	20 59 07.9	-0.8
AGPR	Aguadilla, PR	1.26	62		Pn	20 58 51.2	-0.2
AGPR					Sn	20 59 07.9	-0.8
AGPR	Aguadilla, PR	1.26	62	IAML		20 59 09.4	
	comp=E,424nm,0.2s						
AGPR				IAML		20 59 10.1	
	comp=N,475nm,0.3s						
AGPR	Aguadilla, PR	1.26	62	iP	Pn	20 58 51.2	-0.2
AGPR				eS	Sn	20 59 06.6	-2.2
AGPR				IAML		20 59 12.9	
	comp=Z,232nm,0.2s						
DR12	Loma Pena Alta	1.39	311		Pn	20 58 52.2	-0.8
AOPR	Arecibo Observ	1.53	72	⇑eP	Pn	20 58 54.4	-0.2
AOPR	Arecibo Observ	1.53	72	eS	Sn	20 59 13.4	-1.2
AOPR	Arecibo Observ	1.53	72		Pn	20 58 54.4	-0.2
AOPR					Sn	20 59 13.4	-1.2
OBIP	Obispado Ponce	1.60	83	⇑eP	Pn	20 58 54.9	-0.7
OBIP	Obispado Ponce	1.60	83	eS	Sn	20 59 14.7	-1.5
OBIP	Obispado Ponce	1.60	83		Pn	20 58 54.9	-0.7
OBIP					Sn	20 59 14.7	-1.5
CELP	Cerrillos	1.63	82	⇑eP	Pn	20 58 56.1	+0.2
CELP	Cerrillos	1.63	82	eS	Sn	20 59 16.4	-0.6
CELP	Cerrillos	1.63	82		Pn	20 58 56.1	+0.2
CELP					Sn	20 59 16.4	-0.6
SDD	Santo Domingo	1.66	291	Pn	Pn	20 58 55.5	-0.7
SDD				IAML		20 59 17.2	
	comp=N,320nm,0.6s						
SDD				IAML		20 59 17.4	
	comp=E,283nm,0.8s						
ICMP	Isla Caja de M	1.67	89	⇑eP	Pn	20 58 56.3	-0.1
ICMP	Isla Caja de M	1.67	89	eS	Sn	20 59 17.1	-0.7
ICMP	Isla Caja de M	1.67	89		Pn	20 58 56.3	-0.1
ICMP					Sn	20 59 17.1	-0.7
ICMP	Isla Caja de M	1.67	89	IAML		20 59 17.9	
	comp=E,254nm,0.4s						
EMPR	Esperanza - Ma	1.77	70	⇑eP	Pn	20 58 57.9	+0.2
EMPR	Esperanza - Ma	1.77	70	eS	Sn	20 59 18.8	-1.2
EMPR	Esperanza - Ma	1.77	70		Pn	20 58 57.9	+0.2
EMPR					Sn	20 59 18.8	-1.2
SJG	San Juan	2.04	83		Pn	20 59 01.1	-0.1
SJG				IAML		20 59 28.7	
	comp=E,237nm,0.3s						
SJG				IAML		20 59 33.6	
	comp=E,171nm,0.2s						
SJG	San Juan	2.04	83	eP	Pn	20 59 00.8	-0.4
BANI	BANI	2.04	285		Pn	20 59 01.5	+0.1
IGPR	InterUniversit	2.07	87	⇑eP	Pn	20 59 01.6	+0.1
IGPR	InterUniversit	2.07	87	eS	Sn	20 59 25.9	-1.1
IGPR	InterUniversit	2.07	87		Sn	20 59 25.9	-1.1
GCPR	Guaynabo City	2.14	78	⇑eP	Pn	20 59 02.5	0.0
GCPR	Guaynabo City	2.14	78	eS	Sn	20 59 27.7	-0.8
GCPR	Guaynabo City	2.14	78		Pn	20 59 02.5	0.0
GCPR					Sn	20 59 27.7	-0.8
GCPR	Guaynabo City	2.14	78	IAML		20 59 28.0	
	comp=E,160nm,0.6s						
GCPR				IAML		20 59 28.0	
	comp=N,222nm,0.6s						
PDPR	Patillas Dam,	2.16	86		Pn	20 59 02.4	-0.3
HUMP	Col San Antoni	2.33	83	⇑eP	Pn	20 59 05.4	+0.5
HUMP	Col San Antoni	2.33	83	eS	Sn	20 59 32.6	-0.5
HUMP	Col San Antoni	2.33	83		Pn	20 59 05.4	+0.5
HUMP					Sn	20 59 32.6	-0.5
HUMP	Col San Antoni	2.33	83	IAML		20 59 39.2	
	comp=N,270nm,0.3s						
HUMP				IAML		20 59 39.4	
	comp=E,365nm,0.2s						
CBYP	Canovanas	2.34	80	⇑eP	Pn	20 59 05.6	+0.4
CBYP	Canovanas	2.34	80	eS	Sn	20 59 32.9	-0.6
CBYP	Canovanas	2.34	80		Pn	20 59 05.6	+0.4
CBYP					Sn	20 59 32.9	-0.6
MTP	Monte Pirata	2.61	85	⇑eP	Pn	20 59 09.3	+0.7
MTP	Monte Pirata	2.61	85	eS	Sn	20 59 39.8	+0.2
MTP	Monte Pirata	2.61	85		Pn	20 59 09.3	+0.7
MTP					Sn	20 59 39.8	+0.2
MTP	Monte Pirata	2.61	85	IAML		20 59 44.8	
	comp=E,123nm,0.3s						
MTP				IAML		20 59 47.0	
	comp=N,102nm,0.4s						
LOBA2	Hotel Casa Bon	2.69	275	iP	Pn	20 59 09.4	-0.3
LOBA2				eS	Sn	20 59 38.1	-3.4
LOBA2				IAML		20 59 41.0	
	comp=Z,93nm,0.4s						
SC01	Santiago de lo	2.79	304		Pn	20 59 13.3	+2.1
SC01				IAML		20 59 53.7	
	comp=E,181nm,0.5s						
SC01				IAML		20 59 59.6	
	comp=N,255nm,0.4s						
CUPR	Culebra, Puert	2.89	81	⇓eP	Pn	20 59 12.3	0.0
CUPR	Culebra, Puert	2.89	81		Pn	20 59 12.3	0.0
SDDR	Presa de Saban	3.06	292		Pn	20 59 17.0	+2.2
SDDR				IAML		20 59 58.6	
	comp=N,70nm,0.6s						
SDDR	Presa de Saban	3.06	292	eP	Pn	20 59 15.9	+1.1
STVI	Saint Thomas	3.20	81	⇑eP	Pn	20 59 17.0	+0.4
STVI	Saint Thomas	3.20	81		Pn	20 59 17.0	+0.4
STVI	Saint Thomas	3.20	81	IAML		20 59 57.1	
	comp=E,99nm,0.6s						
STVI				IAML		20 59 58.8	
	comp=N,123nm,0.3s						
CDVI	St. Croix	3.35	91	⇑eP	Pn	20 59 19.2	+0.6
CDVI	St. Croix	3.35	91		Pn	20 59 19.2	+0.6
CDVI	St. Croix	3.35	91	IAML		21 00 01.1	
	comp=N,146nm,0.6s						
CDVI				IAML		21 00 07.5	
	comp=E,164nm,0.7s						
ABVI	Anegada Island	3.85	76		Pn	20 59 25.9	+0.5
ABVI	Anegada Island	3.85	76	IAML		21 00 22.9	
	comp=N,58nm,1.6s						
ABVI				IAML		21 00 31.2	
	comp=E,54nm,1.3s						
ABV	Anegada	3.85	76	⇑eP	Pn	20 59 25.9	+0.5
JAKH	Jacmel	4.05	276	Pn	Pn	20 59 29.0	+1.0
LGNH	Logne	4.16	280	Pn	Pn	20 59 30.7	+1.2
LGNH				IAML		21 00 22.1	
	comp=N,84nm,0.6s						
HATO	Hato, Curacao	5.69	187	Pn	Pn	20 59 50.6	+0.2
URIC	Uribia, Colomb	7.10	211	Pn	Pn	21 00 08.3	-1.3
SMLC	San Martn de	10.62	213	eP	Pn	21 00 54.9	-2.7
PAMC	Pamplona, Colo	11.31	203	eP	Pn	21 01 08.2	+0.8
ZARC	Zaragoza, Cauc	12.14	213	eP	Pn	21 01 17.3	-0.8
BARC	Barichara	12.18	204	eP	Pn	21 01 19.6	+0.8
UREC	San Jos de Ur	12.29	216	eP	Pn	21 01 21.4	+1.4
PTBC	PUERTO BERRIO,	12.77	209	eP	Pn	21 01 27.3	+0.8
RUSC	La Rusia	12.79	202	Pn	Pn	21 01 27.1	-0.1
RUSC	La Rusia	12.79	202	eP	Pn	21 01 28.1	+1.0
SPBC	San Pablo de B	13.39	206	eP	Pn	21 01 35.8	+1.1
CBOC	Ciudad Bolivar	14.12	213	eP	Pn	21 01 46.7	+2.4
GUY2C	Guyana, Caldas	14.35	210	eP	P	21 01 51.3	-0.5

MEX 06 21:22:06.7±0.5, 14.̊91N×93.̊29W, h23^{km}±999^{km}, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		0.79	5	eP	Pb	21 22 19.2	-2.6
PCIG				eS	Sb	21 22 29.5	-2.6
CCIG	Comitan	1.75	39	eP	Pn	21 22 28.2	-7.7
CCIG				eS	Sn	21 22 49.6	-8.1
TGIG		1.86	5	eP	Pn	21 22 31.3	-6.0
TGIG				eS	Sn	21 22 53.1	-7.1

IDC 06 21:24:17.5±3.4, 31.̊48S×178.̊02W, h0^{km}, mb4.2/2, mb1 4.3/3, mb1mx3.8/24, mbtmp4.1/3, ML3.3/1, Error ellipse: s-maj=75.4km s-min=49.3km az=116.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	7.86	209	Pn	Pn	21 26 12.2	-0.9
	0.4nm,0.3s,baz=128,slow=20,SNR=1.9						
URZ				Sn	Sn	21 27 40.1	-2.6

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	1.1nm,0.3s,baz=131,slow=19,SNR=1.8						
ASAR	Alice Springs	43.04	268	P	P	21 32 19.4	+0.1
	0.7nm,0.4s,baz=109,slow=7.8,SNR=12						
WRA	Warramunga Arr	44.13	273	P	P	21 32 27.9	-0.2
	2.2nm,0.4s,baz=112,slow=8.0,SNR=75						
FINES	FINESS Array B	146.14	339	PKPbc	PKPdf	21 43 58.0	0.0
	1.4nm,0.9s,baz=30,slow=3.4,SNR=1.5						

KRSC 06 21:53:13.9±3.3, 49.̊34N×155.̊68E, h127^{km}±41^{km}, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.38	12	eP	Pn	21 53 42.3	+1.9
SKR				eS	Sn	21 54 00.1	-0.4
ALID	Alaid	1.54	357	eP	Pn	21 53 46.5	+4.2
PAU	Pauzhetka	2.25	18	eS	Sn	21 54 22.0	+2.9
KDTR	Khodutka, Kamc	2.91	31	eS	Sn	21 54 35.4	+1.4
RUS	Russkaya	3.58	29	eS	Sn	21 54 52.3	+2.5
KRX	Arik	4.44	24	eP	Pn	21 54 19.1	-0.4
MKZ	Mys Kozlova	6.42	33	eP	Pn	21 54 48.0	+2.1

IDC 06 21:56:49.0±1.8, 4.̊28S×152.̊73E, h0^{km}, mb4.2/5, mb1 4.4/5, mb1mx3.8/38, mbtmp4.2/5, Error ellipse: s-maj=38.9km s-min=32.6km az=10.0
NEIC 06 21:56:56.5±1.0, 4.̊2S±0.̊1×152.̊81E±0.̊10, h62^{km}±8^{km}, mb4.5/13, Error ellipse: s-maj=20.3km s-min=9.0km az=145.0
ISC 06 21:56:54.7±0.7, 4.̊2S±0.̊1×152.̊87E±0.̊09, h50^{km}, n23, σ1^{s}46/26, mb4.4/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	Rabaul	0.70	271		Pn	21 57 09.3	+0.8
RABL				Sn	Sn	21 57 20.4	+1.8
RABL	Rabaul	0.70	271	P	Pn	21 57 09.3	+0.8
PATS	Pohnpei	12.23	26	Pn	Pn	21 59 47.8	+1.3
FAKI	Fak Fak	20.62	273	P	P	22 01 29.8	-0.3
DZM	Mont Dzumac	22.11	145	P	P	22 01 46.2	0.0
	4.6nm,0.4s,baz=270,slow=7.6,SNR=13						
DZM	Mont Dzumac	22.11	145	P	P	22 01 46.2	0.0
DZM				IAmb	IAmb	22 01 47.8	
	comp=Z,31nm,1.5s						
MTN	Manton Dam	23.13	247	P	P	22 01 56.0	-0.9
MTN				IAmb	IAmb	22 02 09.5	
	comp=Z,11nm,1.2s						
WR0	Warramunga Arr	23.76	227	P	P	22 02 02.7	-0.1
WB2	Warramunga Arr	23.89	228	P	P	22 02 04.0	0.0
WB2				IAmb	IAmb	22 02 06.3	
	comp=Z,9.3nm,0.6s						
WRA	Warramunga Arr	23.89	228	P	P	22 02 04.0	-0.1
	comp=Z,7.1nm,0.6s,baz=54,slow=9.8,SNR=68						
WRA				S	S	22 06 14.1	-3.0
	comp=Z,1.1nm,0.7s,baz=57,slow=15,SNR=5.9						
WRA	Warramunga Arr	23.89	228	P	P	22 02 03.7	-0.3
KNRA	Kununurra	26.30	243	P	P	22 02 26.6	+0.7
KNRA				IAmb	IAmb	22 02 29.7	
	comp=Z,9.5nm,0.7s						
ASAR	Alice Springs	26.64	222	P	P	22 02 29.0	+0.1
	comp=Z,0.9nm,0.5s,baz=55,slow=9.0,SNR=18						
ASAR				PcP	PcP	22 05 53.5	+1.4
	comp=Z,0.3nm,0.6s,baz=35,slow=3.4,SNR=1.8						
ASAR	Alice Springs	26.64	222	P	P	22 02 28.9	-0.1
STKA	Stephens Creek	29.50	200	P	P	22 02 53.9	-0.4
	comp=Z,1.7nm,0.7s,baz=37,slow=12,SNR=3.8						
FITZ	Fitzroy Crossi	30.01	240	P	P	22 02 56.6	-2.4
	comp=Z,3.4nm,0.8s,baz=69,slow=8.6,SNR=14						
FITZ	Fitzroy Crossi	30.01	240	P	P	22 02 56.7	-2.3
FITZ				IAmb	IAmb	22 02 60.0	
	comp=Z,4.5nm,0.9s						
BBOO	Buckleboo	32.52	207	P	P	22 03 20.6	-0.3
BBOO				IAmb	IAmb	22 03 24.7	
	comp=Z,41nm,1.4s						
FORT	Forrest	35.30	219	P	P	22 03 44.6	-0.4
LTZ	Lake Taylor	42.12	159	P	P	22 04 43.9	+1.8
SKT	Skwentna	78.35	23	P	P	22 08 45.8	-3.8
QSPA	South Pole Qui	85.76	180	P	P	22 09 29.6	+1.1
QSPA				IAmb	IAmb	22 09 42.5	
	comp=Z,9.3nm,1.5s						
TORD	Torodi Ar. Bea	150.18	289	PKPbc	PKiKP	22 16 42.5	+0.4
	comp=Z,1.2nm,0.3s,baz=83,slow=2.2,SNR=36						

IDC 06 21:58:25.5±1.3, 1.̊20N×121.̊99E, h0^{km}, mb3.7/5, mb1 3.8/5, mb1mx3.6/38, mbtmp3.7/5, MS2.4/1, Ms1 2.4/1, ms1mx2.2/38, Error ellipse: s-maj=178.8km s-min=21.1km az=65.0
DJA 06 21:58:28.3±0.4, 1˚N±3˚×12˚2E±˚, h10^{km}, M4.3/6, mb4.7/2, MLv4.0/6
ISC 06 21:58:26.7±2.1, 1.̊33N±0.̊07×121.̊92E±0.̊05, h6^{km}±13^{km}, n13, σ1^{s}63/17, mb3.7/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MRSI	Marisa	0.85	178	P	Pn	21 58 47.1	+1.9
MRSI				S	Sn	21 58 59.3	+1.3
GTOI	Gorontalo	1.30	122	P	Pg	21 58 52.2	+0.6
GTOI				S	Sg	21 59 07.9	-0.6
APSI	Ampana	2.25	187	P	Pb	21 59 06.7	-1.0
APSI				S	Sg	21 59 38.1	-0.8
MPSI	Mapaga	2.25	244	P	Pn	21 59 04.5	+0.1
MPSI				S	Sb	21 59 35.3	-0.5
MNI	Manado	2.93	88	P	Pn	21 59 15.5	+1.7
MNI				S	Sn	21 59 48.3	-1.0
TTSI	Tana Toraja	4.83	206	P	Pn	21 59 43.1	+3.1
BNSI	Bone	5.98	198	P	Pn	21 59 57.1	+1.4
DAV	Davao City (W)	6.77	33	LR	LR	22 02 59.3	
	comp=Z,31nm,19.3s,baz=208,slow=40						
WRA	Warramunga Arr	24.41	151	P	P	22 03 43.5	-2.7
	1.4nm,0.7s,baz=326,slow=10.0,SNR=4.8						
ASAR	Alice Springs	27.45	156	P	P	22 04 12.7	-1.0
	0.7nm,0.5s,baz=328,slow=8.6,SNR=8.0						
STKA	Stephens Creek	37.94	152	P	P	22 05 43.8	-1.3
	2.0nm,0.6s,baz=329,slow=10,SNR=4.3						
SONM	Songino Array	48.23	346	P	P	22 07 09.1	+0.7
	0.7nm,0.6s,baz=166,slow=10,SNR=4.6						
MKAR	Makanchi Array	56.92	328	P	P	22 08 13.6	+0.9
	0.1nm,0.6s,baz=132,slow=8.6,SNR=1.4						

NNC 06 22:14:38.3±0.5, 45.̊51N×71.̊42E, h0^{km}, mb4.2, mpv3.9, Error ellipse: s-maj=5.0km s-min=3.0km az=63.0
SOME 06 22:14:40.0, 45.̊43N×71.̊50E, h5^{km}
ISC 06 22:14:39.8±0.7, 45.̊52N±0.̊03×71.̊58E±0.̊03, h10^{km}, n64, σ2^{s}42/97, 16C-15D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BTLS	Baital	1.81	105	eP	Pg	22 15 13.8	-0.5
	26nm,0.1s						
BTLS				eS	Sg	22 15 37.6	-0.1
	150nm,0.3s						
KK31	Karatay Array	2.54	198	⇓Pg	Pb	22 15 24.0	-1.4
	5.4nm,0.2s,baz=21,slow=16,SNR=22						
KK31				⇓Lg	Lg	22 15 55.4	
	168nm,0.5s,baz=12,slow=27,SNR=19						
DZA	Taraz	2.64	184	eP	Pb	22 15 28.2	+1.1
	45nm,0.3s						
DZA				eS	Sg	22 16 02.1	-2.4
	302nm,0.4s						
OTUK	Ortayu	2.77	11	⇓Pn	Pn	22 15 25.1	+0.8
	3.5nm,0.3s						
OTUK				⇑Pg	Pg	22 15 31.4	-1.5
	20nm,0.5s						
OTUK				⇓Sn	Sn	22 15 58.5	+0.7
	55nm,0.4s						
OTUK				⇑Lg	Lg	22 16 08.6	
	125nm,0.5s						
BRLS	Borolday	2.79	207	eP	Pg	22 15 34.0	+0.8
	20nm,0.1s						
BRLS				eS	Sg	22 16 11.7	+2.4
	54nm,0.2s						
SGDS	Sogindy	3.01	132	Pg	Pb	22 15 33.7	+0.2
	14nm,0.5s						
SGDS				Lg	Lg	22 16 11.9	
	200nm,0.2s						
MRKS	Merke	3.02	156	eP	Pb	22 15 34.9	+1.2
	15nm,0.4s						
MRKS				eS	Sg	22 16 13.7	-3.0
	93nm,0.3s						
USP	Ospenovka	3.08	136	P	Pn	22 15 29.2	+0.7
	SNR=5.9						
EKS2	Erkin-Say	3.27	150	P	Pn	22 15 31.7	+0.6
	SNR=7.3						
CHMS	Chumysh	3.40	137	P	Pn	22 15 33.5	+0.6
	SNR=27						
KRBS	Karabastau	3.45	121	eP	Pg	22 15 42.9	-2.9
	13nm,0.2s						
KRBS				eS	Sg	22 16 27.6	-2.8
	108nm,0.3s						
KRBS	Karabastau	3.45	121	Pg	Pg	22 15 42.9	-2.9
	13nm,0.2s						
KRBS				Lg	Lg	22 16 27.6	
	108nm,0.3s						
IUG	Iuzhnay	3.56	199	eP	Pb	22 15 43.8	+1.0
	167nm,0.2s						
IUG				eS	Sb	22 16 29.1	+3.0
	253nm,0.6s						
AAK	Ala-Archa	3.57	143	P	Pn	22 15 35.9	+0.6
	SNR=9.1						
AAK	Ala-Archa	3.57	143	⇑Pn	Pn	22 15 35.6	+0.3
	4.2nm,0.5s						
AAK				⇓Pg	Pg	22 15 45.4	-2.7
	12nm,0.3s						
AAK				⇓Lg	Lg	22 16 32.9	
	41nm,0.4s						
AML	Almayashu	3.72	155	P	Pn	22 15 39.0	+1.4
	SNR=19						
KBK	Karagaybulak	3.75	139	P	Pg	22 15 48.4	-3.2
	SNR=21						
KUU	Kurty	3.76	114	eP	Pg	22 15 50.7	-1.1
	12nm,0.4s						
KUU				eS	Sg	22 16 41.0	+0.5
	254nm,0.4s						
KUU	Kurty	3.76	114	Pg	Pg	22 15 50.7	-1.1
	12nm,0.4s						
KUU				Lg	Lg	22 16 41.0	
	254nm,0.4s						
DGS	Degeres	3.77	126	eP	Pg	22 15 50.5	-1.5
	44nm,0.2s						
DGS				eS	Sg	22 16 40.1	-0.8
	329nm,0.4s						
DGS	Degeres	3.77	126	Pg	Pg	22 15 50.5	-1.5
	44nm,0.2s						
DGS				Lg	Lg	22 16 40.1	
	329nm,0.4s						
TKM2	Tokmak 2	3.88	131	P	Pn	22 15 40.8	+1.0
	SNR=8.1						
TKM2	Tokmak 2	3.88	131	⇑Pg	Pg	22 15 50.9	-3.2
	14nm,0.4s						
TKM2				⇑Lg	Lg	22 16 43.9	
	78nm,0.5s						
KST	Kastek	4.00	127	eP	Pg	22 15 54.5	-1.9
	24nm,0.2s						
KST				eS	Sg	22 16 47.5	-0.9
	48nm,0.4s						
KST	Kastek	4.00	127	Pg	Pg	22 15 54.5	-1.9
	24nm,0.2s						
KST				Lg	Lg	22 16 47.5	
	48nm,0.4s						
KTBS	Karatobe	4.07	115	eP	Pg	22 15 54.7	-3.0
	9.5nm,0.3s						
KTBS				eS	Sg	22 16 47.6	-2.7
	210nm,0.4s						
KTBS	Karatobe	4.07	115	Pg	Pg	22 15 54.7	-3.0
	9.5nm,0.3s						
KTBS				Lg	Lg	22 16 47.6	
	210nm,0.4s						
CHKK	Chushkaly	4.20	111	eP	Pg	22 15 57.6	-2.6
	7.1nm,0.2s						
CHKK				eS	Sg	22 16 52.5	-2.1
	127nm,0.4s						
CHKK	Chushkaly	4.20	111	Pg	Pg	22 15 57.6	-2.6
	7.1nm,0.2s						
CHKK				Lg	Lg	22 16 52.5	
	127nm,0.4s						
MTBS	Maitube	4.22	123	eP	Pb	22 15 56.5	+2.3
	7.5nm,0.1s						
MTBS				eS	Sg	22 16 50.7	-4.6
	115nm,0.2s						
MTBS	Maitube	4.22	123	Pg	Pb	22 15 56.5	+2.3
	7.5nm,0.1s						
MTBS				Lg	Lg	22 16 50.7	
	115nm,0.2s						
KZA	Kyzart	4.35	141	P	Pn	22 15 48.3	+2.0
	SNR=8.6						
IZV	Izvestkoviy	4.38	123	eP	Pg	22 16 01.4	-2.4
	21nm,0.2s						
IZV				eS	Sg	22 16 59.2	-1.3
	109nm,0.4s						
IZV	Izvestkoviy	4.38	123	Pg	Pg	22 16 01.4	-2.4
	21nm,0.2s						
IZV				Lg	Lg	22 16 59.2	
	109nm,0.4s						
AAA	Alma-Ata	4.47	119	eP	Pg	22 16 05.5	+0.1
	39nm,0.4s						
AAA				eS	Sg	22 17 05.8	+2.6
	178nm,0.6s						
KNDC	Almaty	4.50	119	⇓Pg	Pg	22 16 02.1	-3.7
	24nm,0.4s						
KNDC				⇓Lg	Lg	22 17 06.3	
	304nm,0.7s						
BRZS	Berezniki	4.52	9	eP	Pg	22 16 04.6	-1.8
	6.6nm,0.1s						
BRZS				eS	Sg	22 17 04.2	-0.7
	67nm,0.1s						
MDOK	Medeo	4.58	119	eP	Pg	22 16 07.2	-0.2
	10nm,0.4s						
MDOK				eS	Sg	22 17 08.8	+2.1
	91nm,0.5s						
MDOK	Medeo	4.58	119	⇑Pg	Pg	22 16 03.4	-4.0
	14nm,0.6s						
MDOK				Lg	Lg	22 17 07.7	
	108nm,0.8s						
MDOK	Medeo	4.58	119	Pg	Pg	22 16 07.2	-0.2
	10nm,0.4s						
MDOK				Lg	Lg	22 17 08.8	
	91nm,0.5s						
KOTS	Kotyrbulak	4.58	118	eP	Pg	22 16 04.7	-2.7
	5.8nm,0.0s						
KOTS				eS	Sg	22 17 04.9	-1.8
	124nm,0.4s						
KOTS	Kotyrbulak	4.58	118	Pg	Pg	22 16 04.7	-2.7
	5.8nm,0.0s						
KOTS				Lg	Lg	22 17 04.9	
	124nm,0.4s						
TNSS	Tian-Shan	4.58	121	Pg	Pg	22 16 05.6	-2.0
	7.1nm,0.4s						
TNSS				Lg	Lg	22 17 05.8	
	68nm,0.2s						
ARXS	Arharly	4.63	104	eP	Pg	22 16 05.7	-2.7
	11nm,0.5s						
ARXS				eS	Sg	22 17 06.3	-2.0
	85nm,0.4s						
ARXS	Arharly	4.63	104	Pg	Pg	22 16 05.7	-2.7
	11nm,0.5s						
ARXS				Lg	Lg	22 17 06.3	
	85nm,0.4s						
KURS	Kuram	5.13	111	eP	Pg	22 16 16.9	-1.1
	11nm,0.5s						
KURS				eS	Sg	22 17 25.6	+1.1
	56nm,0.5s						
KURS	Kuram	5.13	111	Pg	Pg	22 16 16.9	-1.1
	11nm,0.5s						
KURS				Lg	Lg	22 17 25.5	
	56nm,0.5s						
KAPS	Kapalarasan	5.48	90	eP	Pg	22 16 22.7	-2.0
	0.4nm,0.2s						
KAPS				eS	Sg	22 17 35.5	-0.1
	3.0nm,1.2s						
KAPS	Kapalarasan	5.48	90	Pg	Pg	22 16 22.7	-2.0
	0.4nm,0.2s						
KAPS				Lg	Lg	22 17 35.5	
	3.0nm,1.2s						
KPKS	Kokpek	5.48	110	eP	Pg	22 16 21.5	-3.2
	3.1nm,0.2s						
KPKS				eS	Sg	22 17 33.3	-2.3
	46nm,0.5s						
SATY	Saty	5.48	114	eP	Pg	22 16 20.4	-4.4
	5.8nm,0.5s						
SATY				eS	Sg	22 17 31.1	-4.6
	30nm,0.4s						
SATY	Saty	5.48	114	Pg	Pg	22 16 20.4	-4.4
	5.8nm,0.5s						
SATY				Lg	Lg	22 17 31.1	
	30nm,0.4s						
UZB	Uzynbulak	5.84	111	eP	Pg	22 16 27.4	-4.2
	4.6nm,0.3s						
UZB				eS	Sg	22 17 43.9	-3.4
	30nm,0.7s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**5.84**	**111**	Pg	**Pg**	**22 16 27.4**	**-4.2**
	4.6nm,0.3s						
UZB				Lg	Lg	22 17 43.9	
	30nm,0.7s						
PDGK	**Podgornoye**	**6.07**	**108**	Pg	**Pg**	**22 16 32.3**	**-3.7**
	1.3nm,0.5s						
PDGK				Lg	Lg	22 17 51.8	
	9.6nm,0.6s						
PDGK	**Podgornoye**	**6.07**	**108**	⇓Pn	**Pn**	**22 16 10.4**	**+0.7**
	2.2nm,0.3s						
PDGK				⇓Pg	**Pg**	**22 16 33.1**	**-3.0**
	7.5nm,0.8s						
PDGK				⇓Lg	Lg	22 17 56.4	
	24nm,0.8s						
SHLS	**Shalkode**	**6.12**	**110**	*e*P	**Pg**	**22 16 38.5**	**+1.4**
	8.1nm,0.6s						
SHLS				*e*S	**Sg**	**22 18 02.3**	**+5.9**
	43nm,0.5s						
SHLS	**Shalkode**	**6.12**	**110**	Pg	**Pg**	**22 16 38.4**	**+1.4**
	8.1nm,0.6s						
SHLS				Lg	Lg	22 18 02.3	
	43nm,0.5s						
KURBB	**Kurchatov Arra**	**6.91**	**40**	⇑Pn	**Pn**	**22 16 20.8**	**-0.2**
	1.4nm,0.2s						
KURBB				⇑Lg	Lg	22 18 20.2	
	132nm,0.8s						
MAKZ	**Makanchi**	**7.33**	**76**	⇑Pn	**Pn**	**22 16 27.1**	**+0.2**
	1.6nm,0.5s						
MAKZ				⇓Sn	**Sn**	**22 17 53.9**	**+3.8**
	3.2nm,0.8s						
MAKZ				⇓Lg	Lg	22 18 36.7	
	7.5nm,0.6s						
MK31	**Makanchi Array**	**7.54**	**76**	Pn	**Pn**	**22 16 30.4**	**+0.6**
	1.3nm,0.5s,baz=253,slow=14,SNR=49						
MK31				⇑Sn	**Sn**	**22 18 00.7**	**+5.4**
	1.2nm,0.3s,baz=274,slow=35,SNR=4.1						
MK31				Lg	Lg	22 18 40.5	
	8.0nm,0.6s,baz=252,slow=26,SNR=5.9						
BRVK	**Borovoye**	**7.59**	**354**	⇓Pn	**Pn**	**22 16 30.2**	**-0.2**
	4.7nm,1.0s						
BRVK				⇓Sn	**Sn**	**22 17 57.8**	**+1.4**
	7.1nm,0.5s						
BRVK				⇑Lg	Lg	22 18 39.6	
	18nm,0.6s						
AB31	**Akbulak array**	**8.73**	**299**	⇑Pn	**Pn**	**22 16 42.8**	**-3.3**
	3.2nm,0.8s,baz=120,slow=9.6,SNR=38						
AB31				Sn	**Sn**	**22 18 24.6**	**0.0**
	2.2nm,0.5s,baz=108,slow=26,SNR=12						
AB31				⇑Lg	Lg	22 19 13.2	
	2.0nm,0.4s						
AKTO	**Aktyubinsk**	**10.33**	**303**	⇑Pn	**Pn**	**22 17 05.6**	**-2.4**
	2.0nm,0.5s						
AKTO				⇑Sn	**Sn**	**22 19 02.0**	**-1.8**
	4.2nm,0.7s						
AKTO				⇑Lg	Lg	22 20 02.0	
	7.3nm,0.8s						

MEX 06 22:23:53.9±0.9**, 15°.17N×91°.94W, h170km±8km, MD4.0, 1D, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THIG		**0.41**	**231**	*i* P	Pn	22 24 15.9	-1.2
THIG				⇓*i*S	Sn	22 24 33.4	-1.5
CCIG	**Comitan**	**1.13**	**350**	*i* P	Pn	22 24 21.1	-0.8
CCIG				*e*S	Sn	22 24 40.8	-2.7
PCIG		**1.35**	**294**	*i* P	Pn	22 24 22.4	-1.1
PCIG				*e*S	Sn	22 24 43.8	-2.6
TGIG		**1.97**	**325**	*e*P	Pn	22 24 29.0	-1.0
TGIG				*e*S	Sn	22 24 54.8	-3.2
CMIG	**Matias Romero**	**3.42**	**304**	*e*P	Pn	22 24 46.4	-0.9
CMIG				*e*S	Sn	22 25 24.4	-4.5

IDC 06 22:27:23.1±10.0**, 0°.84S×15°.91W, h0km, mb3.7**/3**, mb1 3.9**/4**, mb1mx3.4**/42**, mbtmp3.8**/4**, ML3.5**/1**, MS3.0**/2**, Ms1 3.0**/2**, ms1mx2.7**/29**, Error ellipse: s-maj=269.6km s-min=73.5km az=167.0, North of Ascension Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**7.08**	**169**	T	T	22 37 02.9	
	baz=347,slow=74						
H10N3	**ASCENSION HYDR**	**7.09**	**169**	T	T	22 37 03.2	
	baz=347,slow=74						
H10N1	**ASCENSION HYDR**	**7.10**	**169**	T	T	22 37 04.1	
	baz=347,slow=74						
H10S3	**ASCENSION HYDR**	**8.15**	**171**	T	T	22 38 21.4	
	baz=350,slow=74,SNR=59						
H10S2	**ASCENSION HYDR**	**8.16**	**171**	T	T	22 38 20.3	
	baz=230,slow=74,SNR=17						
DBIC	**Dimbokro**	**13.31**	**56**	LR	LR	22 34 42.6	
	comp=Z,48nm,21.5s,baz=334,slow=33						
KOWA	**Kowa**	**19.25**	**37**	P	P	22 31 48.3	-1.1
	0.2nm,0.3s,baz=208,slow=7.2,SNR=3.6						
KOWA				LR	LR	22 38 14.1	
	comp=Z,71nm,20.0s,baz=166,slow=34						
TORD	**Torodi Ar. Bea**	**22.31**	**51**	P	P	22 32 22.8	+0.3
	2.2nm,0.6s,baz=232,slow=11,SNR=11						
GERES	**GERESS Array B**	**55.71**	**23**	P	P	22 37 03.0	+1.4
	0.3nm,0.6s,baz=231,slow=6.2,SNR=3.6						
FINES	**FINESS Array B**	**69.86**	**20**	P	P	22 38 34.6	-0.8
	2.3nm,1.1s,baz=240,slow=4.7,SNR=6.0						

IDC 06 22:50:59.5±5.2**, 8°.99S×119°.34E, h236km±86km, mb3.2**/2**, mb1 3.2**/3**, mb1mx2.8**/28**, mbtmp3.7**/3**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.9**/4**, Error ellipse: s-maj=155.7km s-min=61.2km az=23.0, Flores region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.13**	**129**	P	P	22 54 53.4	-1.2
	0.3nm,0.3s,baz=299,slow=12,SNR=13						
WRA				S	S	22 58 10.7	+0.8
	0.1nm,0.3s,baz=303,slow=26,SNR=1.4						
WRA				LR	LR	23 03 28.9	
	comp=Z,90nm,19.3s,baz=75,slow=41						
ASAR	**Alice Springs**	**20.18**	**138**	P	P	22 55 17.1	+0.7
	1.4nm,0.5s,baz=312,slow=8.9,SNR=19						
STKA	**Stephens Creek**	**30.75**	**141**	P	P	22 56 52.7	-0.2
	1.3nm,0.5s,baz=310,slow=7.9,SNR=3.7						

MEX 06 22:53:34.3±0.4**, 16°.76N×95°.17W, h98km±9km, MD3.9, Oaxaca**

*IDC **06** 23:18:46.9±1.3, 34°.57N×26°.48E, h0km, mb3.7/4, mb1 3.5/8, mb1mx3.3/38, mbtmp3.5/8, ML3.0/4, MS3.0/1, Ms1 3.0/1, ms1mx2.1/39, Error ellipse: s-maj=29.9km s-min=17.0km az=3.0*
*NIC **06** 23:18:49.0±0.0, 34°.43N×26°.31E, h22km±3km, Ml3.6/5*
*ISK **06** 23:18:49.0, 34°.45N×26°.41E, h20km, ML2.9/13*
*ATH **06** 23:18:50.2, 34°.49N×26°.24E, h42km±14km, ML2.9/5, Error ellipse: s-maj=18.1km s-min=2.2km az=346.0*
*HLW **06** 23:18:51.7, 34°.60N×26°.32E, h22km±17km, Md3.7, Ml3.8*
*THE **06** 23:18:51.8, 34°.55N×26°.29E, h6km±1km, ML2.7/4, Error ellipse: s-maj=1.4km s-min=0.5km az=303.0*
*DDA **06** 23:18:52.0, 35°.00N×26°.35E, h142km±71km, ML2.6*
ISC 06 23:18:50.7±1.2**, 34°.51N**±0°.04×**26°.36E**±0°.03**, h29km**±10km**, n77, σ1s.68**/99**, mb3.7**/4**, Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.61**	**349**	P	**Pn**	**23 19 03.0**	**-0.4**
ZKR				S	**Sn**	**23 19 11.6**	**-0.7**
	2µm,0.7s						
ZKR	**Zakros**	**0.61**	**349**	P	**Pn**	**23 19 03.0**	**-0.4**
ZKR				S	**Sn**	**23 19 12.2**	**-0.1**
ZKR				AML	AML	23 19 14.8	
	comp=N,1721µm,0.6s						
ZKR				AML	AML	23 19 14.8	
	comp=E,5254µm,0.9s						
ZKR	**Zakros**	**0.61**	**349**	PG	**Pn**	**23 19 02.9**	**-0.4**
ZKR				SG	**Sn**	**23 19 12.9**	**+0.6**
ZKR	**Zakros**	**0.61**	**349**	P	**Pn**	**23 19 03.0**	**-0.4**
ZKR				S	**Sn**	**23 19 12.7**	**+0.4**
ZKR				AML	AML	23 19 13.6	
	comp=E,5.0nm,0.9s						
ZKR				AML	AML	23 19 13.6	
	comp=E,5.0nm,0.9s						
FRMA	**Ierapetra Chan**	**0.72**	**314**	P	**Pb**	**23 19 03.4**	**-1.3**
FRMA				S	**Sb**	**23 19 12.7**	**-1.5**
	comp=E,640nm,0.4s						
STIA	**Sitia Lasithi**	**0.72**	**342**	P	**Pn**	**23 19 04.9**	**0.0**
STIA				S	**Sn**	**23 19 15.1**	**+0.1**
NPS	**Neapolis**	**0.97**	**321**	P	**Pn**	**23 19 08.9**	**+0.6**
NPS	**Neapolis**	**0.97**	**321**	P	**Pn**	**23 19 08.5**	**+0.2**
NPS				AML	AML	23 19 25.6	
	comp=E,1673µm,0.8s						
NPS				AML	AML	23 19 25.6	
	comp=N,1464µm,0.4s						
KARP	**Karpathos**	**1.22**	**32**	P	**Pb**	**23 19 13.9**	**+0.7**
KARP				S	**Sb**	**23 19 31.0**	**+2.3**
	comp=N,388nm,0.7s						
KARP	**Karpathos**	**1.22**	**32**	P	**Pb**	**23 19 13.9**	**+0.7**
KARP				S	**Sb**	**23 19 31.0**	**+2.3**
KARP	**Karpathos**	**1.22**	**32**	PN	**Pn**	**23 19 11.9**	**+0.1**
KARP				SN	**Sb**	**23 19 28.9**	**+0.2**
KARP	**Karpathos**	**1.22**	**32**	S	**Sb**	**23 19 29.9**	**+1.2**
HRKL	**Herakleio**	**1.30**	**308**	PN	**Pn**	**23 19 13.3**	**+0.4**
IDI	**Anoyia**	**1.43**	**303**	Pn	**Pb**	**23 19 15.8**	**-1.0**
	comp=N,3.2nm,0.3s,baz=136,slow=9.0,SNR=38						
IDI				Sn	**Sb**	**23 19 35.7**	**+1.0**
	comp=N,18nm,0.3s,baz=344,slow=20,SNR=12						
IDI	**Anoyia**	**1.43**	**303**	P	**Pb**	**23 19 15.7**	**-1.0**
IDI				S	**Sb**	**23 19 34.6**	**-0.1**
	comp=N,210nm,0.7s						
IDI	**Anoyia**	**1.43**	**303**	P	**Pb**	**23 19 15.4**	**-1.4**
IDI				AML	AML	23 19 39.0	
	comp=E,370µm,0.8s						
IDI				AML	AML	23 19 40.5	
	comp=N,468µm,0.6s						
GVD	**Gavdhos**	**1.90**	**281**	PN	**Pb**	**23 19 22.6**	**-2.1**
VAM	**Vamos**	**1.98**	**297**	P	**Pn**	**23 19 23.4**	**+1.2**
VAM	**Vamos**	**1.98**	**297**	P	**Pn**	**23 19 23.4**	**+1.2**
VAM				AML	AML	23 20 02.7	
	comp=E,424µm,0.8s						
VAM				AML	AML	23 20 08.2	
	comp=N,360µm,0.9s						
SANT	**Santorini**	**1.99**	**339**	PN	**Pn**	**23 19 21.9**	**-0.5**
IMMV	**Iera Moni Meta**	**2.17**	**297**	P	**Pn**	**23 19 26.2**	**+1.4**
IMMV	**Iera Moni Meta**	**2.17**	**297**	P	**Pn**	**23 19 26.5**	**+1.7**
IMMV				AML	AML	23 20 12.3	
	comp=E,446µm,0.6s						
IMMV				AML	AML	23 20 14.9	
	comp=N,443µm,0.8s						
IMMV	**Iera Moni Meta**	**2.17**	**297**	PN	**Pn**	**23 19 26.2**	**+1.4**
NIS1	**Nisyros Isl.**	**2.19**	**18**	PN	**Pn**	**23 19 26.0**	**+0.9**
ARG	**Arkhangelos**	**2.23**	**40**	P	**Pb**	**23 19 27.9**	**-2.4**
ARG	**Arkhangelos**	**2.23**	**40**	PN	**Pn**	**23 19 26.3**	**+0.7**
ARG	**Arkhangelos**	**2.23**	**40**	P	**Pn**	**23 19 26.8**	**+1.2**
ARG				S	**Sn**	**23 19 53.9**	**+1.7**
KNDR	**Palaiochora Ch**	**2.31**	**289**	PN	**Pn**	**23 19 28.8**	**+2.1**
DAT	**Datca**	**2.42**	**24**	*i* P	**Pn**	**23 19 28.2**	**-0.2**
DAT	**Datca**	**2.42**	**24**	PN	**Pn**	**23 19 28.8**	**+0.4**
APE	**Apeiranthos**	**2.64**	**345**	PN	**Pn**	**23 19 31.5**	**+0.2**
APE	**Apeiranthos**	**2.64**	**345**	P	**Pn**	**23 19 31.2**	**-0.1**
BODT	**Bodrum**	**2.66**	**17**	PN	**Pn**	**23 19 32.6**	**+1.0**
TURN	**Turunc**	**2.73**	**34**	*i* P	**Pn**	**23 19 34.1**	**+1.6**
TURN	**Turunc**	**2.73**	**34**	PN	**Pn**	**23 19 33.4**	**+0.9**
DALY	**Dalyan (Mula)**	**2.96**	**38**	*i* P	**Pn**	**23 19 37.5**	**+1.8**
DALY	**Dalyan (Mula)**	**2.96**	**38**	PN	**Pn**	**23 19 36.8**	**+1.1**
YER	**Yerkesik**	**3.05**	**30**	PN	**Pn**	**23 19 38.1**	**+1.2**
FETY	**Fethiye**	**3.07**	**46**	*i* P	**Pn**	**23 19 37.9**	**+0.7**
FETY				*i* S	**Sn**	**23 20 08.4**	**-4.5**
KSL	**Kastellorizon**	**3.10**	**57**	P	**Pn**	**23 19 38.9**	**+1.3**
KSL				S	**Sn**	**23 20 16.8**	**+3.2**
AKAS	**Kas**	**3.16**	**56**	*i* P	**Pn**	**23 19 39.8**	**+1.2**
SLUM	**Salum**	**3.16**	**198**	P	**Pn**	**23 19 40.3**	**+1.9**
	baz=197						
SLUM				AMP		23 20 00.0	
	baz=197						
MATC	**Matruh**	**3.24**	**167**	P	**Pn**	**23 19 41.7**	**+2.1**
	baz=166						
AYDN	**Tasoluk**	**3.37**	**21**	*i* P	**Pn**	**23 19 39.6**	**-1.8**
CAEL	**Denizli, Camel**	**3.55**	**42**	*i* P	**Pn**	**23 19 45.7**	**+1.8**
CAEL				*i* S	**Sn**	**23 20 25.2**	**+0.3**
CAEL				IAML		23 20 37.0	
	comp=E,34nm,0.8s						
TAVA	**DENIZLI_Tavas**	**3.60**	**34**	*i* P	**Pn**	**23 19 44.9**	**+0.3**
TAVA				*i* S	**Sn**	**23 20 24.4**	**-1.8**
AKUM	**Antalya-Kumluc**	**3.72**	**60**	*i* P	**Pn**	**23 19 47.6**	**+1.5**
AKUM				*i* S	**Sn**	**23 20 26.5**	**-2.5**
AKUM				IAML		23 20 36.0	
	comp=E,13nm,0.5s						
AKUM				IAML		23 20 37.0	
	comp=N,11nm,0.9s						
GOLH	**Golhisar**	**3.76**	**43**	*i* P	**Pn**	**23 19 43.2**	**-3.6**
GOLH				*i* S	Sn	23 20 21.8	-8.3
KORT	**Korkueli**	**4.09**	**51**	*i* P	Pn	23 19 56.3	+5.1
KORT				*i* S	**Sn**	**23 20 39.2**	**+1.0**
OSC1	**CSNet OBS 1**	**4.21**	**103**	P	**Pn**	**23 19 53.3**	**+0.5**
OSC1				S	**Sn**	**23 20 41.3**	**+0.3**
BUCA	**Burdur, Bucak-**	**4.42**	**49**	*i* P	**Pn**	**23 19 59.7**	**+3.9**
BUCA				*i* S	**Sn**	**23 20 45.6**	**-0.7**
PASA	**Karahalli, USA**	**4.58**	**32**	*i* P	**Pn**	**23 19 57.6**	**-0.5**
KZIL	**AFYON_Kizioren**	**4.82**	**38**	*i* P	Pn	23 19 54.9	-6.5
KEPZ	**Antalya-Kepez**	**4.89**	**59**	*i* P	**Pn**	**23 20 02.4**	**+0.2**
KEPZ				*i* S	Sn	23 20 49.7	-8.1
KEPZ				IAML		23 21 12.0	
	comp=E,6.7nm,0.5s						
AKMS	**Akamas**	**4.95**	**82**	P	**Pn**	**23 20 03.3**	**+0.3**
AKMS				AML	AML	23 20 57.8	
	comp=E,0.1nm,0.4s						
AKMS				AML	AML	23 20 58.2	
	comp=E,0.2nm,0.3s						
OSC2	**CSNet OBS 4**	**5.12**	**105**	P	**Pn**	**23 20 05.7**	**+0.3**
ALFC	**Alefka**	**5.17**	**81**	P	**Pn**	**23 20 06.3**	**+0.2**
ALFC				AML	AML	23 21 03.5	
	comp=E,0.1nm,0.4s						
ALFC				AML	AML	23 21 04.0	
	comp=E,0.1nm,0.4s						
SEDI	**Konya, Seydise**	**5.27**	**55**	*i* P	**Pn**	**23 20 07.3**	**-0.2**
SEDI				*i* S	**Sn**	**23 21 02.8**	**-4.5**
SEDI				IAML		23 21 11.0	
	comp=N,13nm,0.5s						
SWA2		**5.31**	**189**	P	**Pn**	**23 20 09.9**	**+2.0**
	baz=189						
SWA2				AMP		23 21 00.0	
	baz=189						
SWA2				S	**Sn**	**23 21 06.0**	**-2.1**
	baz=189						
SZAC	**Souni**	**5.38**	**86**	P	**Pn**	**23 20 09.1**	**0.0**
SZAC				AML	AML	23 21 10.6	
	comp=N,0.1nm,0.4s						
SZAC				AML	AML	23 21 10.9	
	comp=N,0.1nm,0.3s						
ASGA	**Asgata**	**5.69**	**85**	P	**Pn**	**23 20 13.6**	**+0.4**
ASGA				AML	AML	23 21 18.0	
	comp=N,0.2nm,0.4s						
ASGA				AML	AML	23 21 18.3	
	comp=N,0.2nm,0.7s						
CSS	**Mathiatis**	**5.76**	**84**	P	**Pn**	**23 20 14.4**	**+0.2**
MVOU	**Mavrovouni**	**6.01**	**83**	P	**Pn**	**23 20 18.6**	**+1.0**
RYAN	**Fayoum**	**6.36**	**147**	P	**Pn**	**23 20 23.6**	**+1.2**
	baz=147						
RYAN				AMP		23 21 00.0	
	baz=147						
RYAN				S	**Sn**	**23 21 32.2**	**-1.8**
	baz=147						
GLL	**Jalalah**	**6.70**	**136**	P	**Pn**	**23 20 29.0**	**+1.9**
	baz=136						
SUZ	**Suez**	**7.20**	**129**	P	**Pn**	**23 20 35.4**	**+1.5**
	baz=128						
HFRF	**Wahat Farafira**	**7.53**	**167**	P	**Pn**	**23 20 40.1**	**+1.6**
	baz=166						
MMAI	**Mount Meron Ar**	**7.68**	**99**	Pn	**Pn**	**23 20 38.8**	**-1.8**
	comp=N,0.6nm,0.3s,baz=292,slow=12,SNR=3.3						
BRTR	**Keskin Array B**	**7.80**	**46**	Pn	**Pn**	**23 20 40.9**	**-1.4**
	comp=N,0.0nm,0.3s,baz=225,slow=14,SNR=2.0						
BRTR				Sn	**Sn**	**23 22 04.4**	**-5.3**
	comp=N,0.1nm,0.3s,baz=205,slow=23,SNR=3.5						
EIL	**Elat**	**8.74**	**121**	Pn	**Pn**	**23 20 55.0**	**-0.1**
	comp=N,0.2nm,0.3s,baz=228,slow=4.2,SNR=7.2						
EIL				Sn	**Sn**	**23 22 27.1**	**-5.6**
	comp=N,1.0nm,0.3s,baz=76,slow=2.8,SNR=8.3						
HDK1	**Dakhla**	**9.32**	**163**	P	**Pn**	**23 21 04.6**	**+1.6**
	baz=162						
KBZ	**Khabaz**	**15.77**	**49**	Pn	**Pn**	**23 22 30.7**	**+0.2**
	comp=N,0.1nm,0.3s,baz=267,slow=16,SNR=2.3						
GEYT	**Alibeck**	**25.78**	**73**	LR	LR	23 36 02.8	
	comp=N,30nm,18.1s,baz=275,slow=40						
TORD	**Torodi Ar. Bea**	**30.85**	**232**	P	**P**	**23 25 04.9**	**+0.5**
	comp=N,0.2nm,0.4s,baz=32,slow=8.6,SNR=2.0						
MKAR	**Makanchi Array**	**43.31**	**56**	P	**P**	**23 26 49.7**	**-0.1**
	comp=N,0.2nm,0.3s,baz=266,slow=8.3,SNR=8.1						
ZALV	**Zalesovo Beam**	**44.74**	**46**	P	**P**	**23 27 00.9**	**-0.3**
	comp=N,0.7nm,0.4s,baz=255,slow=7.4,SNR=2.7						
SONM	**Songino Array**	**59.13**	**51**	P	**P**	**23 28 49.4**	**+0.8**
	comp=N,0.5nm,0.4s,baz=281,slow=7.8,SNR=3.8						

*IDC **06** 23:34:05.1±4.3, 6°.90S×147°.67E, h62km±35km, mb3.9/9, mb1 4.2/13, mb1mx3.9/33, mbtmp4.3/13, ML4.4/4, MS3.3/8, Ms1 3.3/8, ms1mx3.0/27, Error ellipse: s-maj=35.4km s-min=17.4km az=80.0*
*NEIC **06** 23:34:07.1±1.1, 6°.89S±0°.07×147°.43E±0°.09, h66km±7km, mb4.5/26, Error ellipse: s-maj=14.6km s-min=8.0km az=124.0*
*DJA **06** 23:34:09.5±0.5, 7°S±3°×14°7E±°, h91km±7km, M4.9/20, mB5.5/2, mb4.5/20, MLv5.1/2, Mw(mB)5.0/2*
ISC 06 23:34:06.5±0.5**, 6°.98S**±0°.06×**147°.40E**±0°.07**, h65km, n78, σ1s.86**/76**, mb4.7**/32**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**5.49**	**60**		**Pn**	**23 35 25.2**	**-0.7**
JAY	**Jayapura**	**8.01**	**303**	P	**Pn**	**23 36 03.2**	**+2.9**
	2.7nm,0.3s,baz=141,slow=5.2,SNR=2.6						
JAY				LR	LR	23 40 06.4	
	comp=Z,182nm,20.0s,baz=93,slow=44						
COEN	**Coen**	**8.08**	**211**	Pn	**Pn**	**23 36 02.6**	**+1.3**
COEN				Sn	**Sn**	**23 37 31.3**	**+0.1**
CTA	**Charters Tower**	**13.08**	**185**	P	**Pn**	**23 37 10.8**	**+1.2**
	2.0nm,0.3s,baz=1.4,slow=13,SNR=14						
CTAO	**Charters Tower**	**13.08**	**185**	Pn	**Pn**	**23 37 11.4**	**+1.9**
FAKI	**Fak Fak**	**15.62**	**284**	Pn	**Pn**	**23 37 43.0**	**+0.1**
FAKI				IAmb	IAmb	23 37 48.8	
	comp=Z,79nm,1.3s						
FAKI	**Fak Fak**	**15.62**	**284**	P	**Pn**	**23 37 43.6**	**+0.7**
	comp=Z,50nm,1.4s						
MTN	**Manton Dam**	**17.04**	**249**		**P**	**23 38 01.7**	**+0.1**
SIJI	**Sorong**	**17.19**	**290**	P	**Pn**	**23 38 02.2**	**-0.3**
	comp=Z,4.2nm,0.3s,baz=120,slow=16,SNR=6.8						
SIJI				LR	LR	23 45 33.7	
	comp=Z,116nm,20.0s,baz=104,slow=40						
SIJI	**Sorong**	**17.19**	**290**	P	**Pn**	**23 38 01.0**	**-1.6**
	comp=Z,25nm,0.7s						
SWI	**Sorong**	**17.20**	**290**	P	**Pn**	**23 38 02.9**	**+0.3**
	comp=Z,84nm,0.6s						
PATS	**Pohnpei**	**17.52**	**39**		**Pn**	**23 38 05.8**	**-0.8**
WR0	**Warramunga Arr**	**17.95**	**223**	P	**P**	**23 38 11.9**	**+0.3**
WB2	**Warramunga Arr**	**18.07**	**223**	P	**Pn**	**23 38 13.6**	**+0.4**
WRA	**Warramunga Arr**	**18.07**	**223**	P	**P**	**23 38 13.2**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=49,slow=11,SNR=29						
WRA				S	**Sn**	**23 41 25.4**	**-9.1**
	comp=Z,0.2nm,0.3s,baz=51,slow=22,SNR=4.2						
WRA	**Warramunga Arr**	**18.07**	**223**	P	**P**	**23 38 13.1**	**+0.2**
EIDS	**Eidsvold**	**18.62**	**170**	P	**P**	**23 38 19.2**	**+0.2**
EIDS				IAmb	IAmb	23 38 30.7	
	comp=Z,8.1nm,0.7s						
KRAI	**Karang Ratu**	**19.27**	**280**	P	**P**	**23 38 27.2**	**+1.1**
	comp=Z,6µmcomp=Z,38nm,1.2s						
KNRA	**Kununurra**	**20.20**	**243**	P	**P**	**23 38 36.5**	**+0.3**
KNRA				IAmb	IAmb	23 38 41.2	
	comp=Z,11nm,0.8s						
GUMO	**Guam**	**20.59**	**353**	LR	LR	23 44 52.6	
	comp=Z,86nm,21.8s,baz=221,slow=32						
AS31	**Alice Springs**	**21.05**	**217**	P	**P**	**23 38 47.0**	**+1.6**
ASAR	**Alice Springs**	**21.06**	**217**	P	**P**	**23 38 46.0**	**+0.6**
	comp=Z,2.3nm,0.4s,baz=52,slow=9.3,SNR=50						
ASAR				S	**S**	**23 42 36.1**	**-0.3**
	comp=Z,4.3nm,0.9s,baz=29,slow=27,SNR=8.6						
ASAR	**Alice Springs**	**21.06**	**217**	P	**P**	**23 38 46.9**	**+1.4**
SANI	**Sanana**	**21.89**	**282**	P	**P**	**23 38 54.1**	**-0.3**
	comp=Z,24nm,0.8s						
SOEI	**Soe**	**23.05**	**262**	P	**P**	**23 39 00.4**	**-6.4**
ARMA	**Armidale**	**23.66**	**171**	P	**P**	**23 39 12.4**	**+0.1**
ARMA				IAmb	IAmb	23 39 22.7	
	comp=Z,34nm,1.5s						
DZM	**Mont Dzumac**	**23.73**	**131**	LR	LR	23 47 47.3	
	comp=Z,136nm,18.6s,baz=64,slow=35						
FITZ	**Fitzroy Crossi**	**23.91**	**240**	P	**P**	**23 39 15.2**	**+0.6**
	comp=Z,12nm,0.4s,baz=57,slow=7.7,SNR=113						
FITZ	**Fitzroy Crossi**	**23.91**	**240**	P	**P**	**23 39 14.8**	**+0.2**
FITZ				IAmb	IAmb	23 39 16.3	
	comp=Z,14nm,0.5s						
MNI	**Manado**	**24.01**	**290**	P	**P**	**23 39 14.2**	**-1.4**
SGSI	**Sangihe**	**24.26**	**295**	P	**P**	**23 39 18.0**	**+0.2**
MMRI	**Maumere**	**24.98**	**265**	P	**P**	**23 39 23.3**	**-1.1**
	comp=Z,37nm,0.6s						
STKA	**Stephens Creek**	**25.36**	**192**	P	**P**	**23 39 27.5**	**-0.1**
	comp=Z,5.1nm,0.6s,baz=357,slow=9.3,SNR=11						
STKA				LR	LR	23 49 38.8	
	comp=Z,97nm,20.4s,baz=5.2,slow=37						
STKA	**Stephens Creek**	**25.36**	**192**	P	**P**	**23 39 28.3**	**+0.7**
EDFI	**Ende, Flores**	**25.52**	**264**	P	**P**	**23 39 28.3**	**-1.1**
	comp=Z,13nm,0.6s						
DAV	**Davao City (W)**	**25.85**	**302**	LR	LR	23 50 07.5	
	comp=Z,21nm,21.6s,baz=338,slow=37						
KAPI	**Kappang**	**27.56**	**273**	LR	LR	23 52 30.1	
	comp=Z,61nm,20.1s,baz=270,slow=40						
KAPI	**Kappang**	**27.56**	**273**	P	**P**	**23 39 47.0**	**-0.7**
	comp=Z,19nm,1.3s						
BBOO	**Buckleboo**	**27.78**	**201**	P	**P**	**23 39 51.1**	**+1.6**
BBOO				IAmb	IAmb	23 40 10.8	
	comp=Z,26nm,1.4s						
MPSI	**Mapaga**	**28.38**	**284**	P	**P**	**23 39 53.5**	**-1.5**
FORT	**Forrest**	**29.82**	**215**	P	**P**	**23 40 08.5**	**+1.0**
FORT				IAmb	IAmb	23 40 24.6	
	comp=Z,21nm,1.2s						
PSA00	**Pilbara Seismi**	**30.31**	**239**	P	**P**	**23 40 12.5**	**+0.5**
PSA00	**Pilbara Seismi**	**30.31**	**239**	P	**P**	**23 40 12.1**	**+0.1**
PSA00				IAmb	IAmb	23 40 25.6	
	comp=Z,8.2nm,1.4s						
MORW	**Morawa**	**36.83**	**229**	P	**P**	**23 41 09.1**	**+0.5**
MORW				IAmb	IAmb	23 41 09.8	
	comp=Z,15nm,1.1s						
NWAO	**Narrogin (SRO)**	**38.08**	**223**	P	**P**	**23 41 19.4**	**+0.3**
CISI	**Cisompet, Garu**	**39.26**	**267**	P	**P**	**23 41 28.5**	**-0.8**
CMWZ	**Cape Campbell**	**42.01**	**150**	P	**P**	**23 41 52.3**	**+0.7**
KSAR	**Wonju Array Be**	**47.80**	**339**	P	**P**	**23 42 36.8**	**-0.8**
RPSI	**Rantau Prapat**	**49.32**	**280**	P	**P**	**23 42 49.4**	**-0.3**
RPSI				IAmb	IAmb	23 42 53.0	
	comp=Z,4.6nm,0.9s						
NONG	**Nongkai**	**50.26**	**300**	P	**P**	**23 42 58.4**	**+1.7**
	comp=Z,11µmcomp=Z,17nm,0.8s						
GSI	**Gunungsitoli**	**50.39**	**277**	P	**P**	**23 42 57.1**	**-0.7**
PKDT	**Phuket**	**51.10**	**286**	P	**P**	**23 43 05.4**	**+2.3**
PHIT	**Phitsanulok**	**52.27**	**298**	P	**P**	**23 43 13.6**	**+1.9**
	comp=Z,46nm,0.8s						
UTTA	**Uttaradit**	**52.37**	**299**	P	**P**	**23 43 14.2**	**+1.7**
	comp=Z,18nm,0.8s						
UMPA	**Umpang Tak**	**53.27**	**296**	P	**P**	**23 43 22.5**	**+3.3**
	comp=Z,1µmcomp=Z,27nm,1.0s						
CM04	**Chiang Mai Arr**	**54.01**	**299**	P	**P**	**23 43 27.0**	**+2.5**
	comp=Z,6.2nm,0.9s						
CM09	**Chiang Mai Arr**	**54.01**	**299**	P	**P**	**23 43 27.7**	**+3.1**
	comp=Z,10nm,0.8s						
CM05	**Chiang Mai Arr**	**54.03**	**299**	P	**P**	**23 43 27.0**	**+2.3**
	comp=Z,5.8nm,0.9s						
CM02	**Chiang Mai Arr**	**54.05**	**299**	P	**P**	**23 43 27.4**	**+2.6**
	comp=Z,83nmcomp=Z,6.9nm,0.9s						
CM31	**Chiang Mai Arr**	**54.06**	**299**	P	**P**	**23 43 25.6**	**+0.7**
CM31				IAmb	IAmb	23 43 27.4	
	comp=Z,7.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**54.06**	**299**	P	**P**	**23 43 26.5**	**+1.6**
	comp=Z,2.9nm,0.5s,baz=122,slow=5.9,SNR=19						
CM13	**Chiang Mai Arr**	**54.08**	**299**	P	**P**	**23 43 27.0**	**+2.0**
	comp=Z,83nmcomp=Z,5.6nm,0.8s						
CMMT	**Chiang Mai**	**54.20**	**299**	P	**P**	**23 43 28.3**	**+2.4**
	comp=Z,2.5nm,0.7s						
CHTO	**Chiang Mai**	**54.20**	**299**	P	**P**	**23 43 28.4**	**+2.5**
	comp=Z,5.4nm,1.1s						
CHTO	**Chiang Mai**	**54.20**	**299**	P	**P**	**23 43 26.0**	**+0.1**
CHTO				IAmb	IAmb	23 43 28.1	
	comp=Z,4.8nm,1.0s						
PETK	**Petropavlovsk-**	**60.49**	**7**	LR	LR	00 06 14.6	
	comp=Z,47nm,21.9s,baz=115,slow=32						
CASY	**Casey**	**64.43**	**196**	P	**P**	**23 44 35.8**	**+0.2**
CASY				IAmb	IAmb	23 44 51.5	
	comp=Z,16nm,1.5s						
SONM	**Songino Array**	**65.44**	**331**	P	**P**	**23 44 42.0**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=142,slow=7.3,SNR=2.1						
VNDA	**Vanda**	**70.92**	**177**	P	**P**	**23 45 16.6**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=334,slow=7.8,SNR=3.1						
VNDA	**Vanda**	**70.92**	**177**	P	**P**	**23 45 16.5**	**+0.1**
VNDA				IAmb	IAmb	23 45 20.6	
	comp=Z,3.3nm,1.4s						
MKAR	**Makanchi Array**	**78.50**	**321**	P	**P**	**23 45 60.0**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=98,slow=7.9,SNR=8.7						

MKAR	**Makanchi Array**	**78.50**	**321**	P	**P**	**23 46 00.4**	**-0.4**
ZALV	**Zalesovo Beam**	**80.04**	**328**	P	**P**	**23 46 07.5**	**-1.5**
	comp=Z,1.6nm,0.5s,baz=110,slow=4.8,SNR=8.9						
ZALV	**Zalesovo Beam**	**80.04**	**328**	P	**P**	**23 46 06.9**	**-2.1**
NIL	**Nilore**	**80.81**	**306**	P	**P**	**23 46 14.4**	**+0.8**
ILAR	**Eielson Array**	**86.22**	**23**	P	**P**	**23 46 37.9**	**-2.7**
	comp=Z,0.4nm,0.5s,baz=255,slow=4.8,SNR=6.0						
TORD	**Torodi Ar. Bea**	**145.70**	**283**	PKPbc	**PKPbc**	**23 53 39.0**	**-0.1**
	comp=Z,2.4nm,0.5s,baz=75,slow=3.9,SNR=38						
DBIC	**Dimbokro**	**152.45**	**271**	PKPbc	**PKPbc**	**23 53 56.5**	**0.0**
	comp=Z,2.4nm,0.7s,baz=146,slow=2.1,SNR=5.3						

KRSC 07 00:04:02.9±0.9, 54°.31N×162°.23E, h39km±10km, ML4.0,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.38**	**310**	*i* P	Pn	00 04 12.5	+0.6
MKZ				*e*S	Sn	00 04 18.0	-0.5
KZV	**Kizimen**	**1.38**	**306**	*e*P	Pn	00 04 26.8	+1.0
KZV				*e*S	Sn	00 04 43.4	+0.5
TUMR	**Tumrok**	**1.55**	**310**	*e*P	Pn	00 04 29.7	+1.6
TUMR				*e*S	Sn	00 04 48.1	+1.1
KII	**Karymskiy**	**1.66**	**262**	*e*P	Pn	00 04 31.8	+2.3
KII				*e*S	Sn	00 04 51.4	+1.8
SPN	**Mys Shipunski**	**1.79**	**228**	*e*P	Pn	00 04 33.1	+1.9
SPN				*e*S	Sn	00 04 53.8	+1.1
KMNR	**Kamenistaya**	**1.85**	**322**	*e*P	Pn	00 04 34.9	+2.8
KMNR				*e*S	Sn	00 04 58.3	+4.0
BZGR	**Bezymyannyi-Gr**	**1.85**	**332**	*e*P	Pn	00 04 34.3	+2.1
BZGR				*e*S	Sn	00 04 56.6	+2.1
ZLN	**Zelenaya**	**1.90**	**335**	*e*P	Pn	00 04 35.5	+2.7
ZLN				*e*S	Sn	00 04 58.3	+2.8
KBTR	**Krutoberegovo**	**1.93**	**10**	*e*P	Pn	00 04 35.9	+2.8
BZWR	**Bezymyannyi-We**	**1.93**	**330**	*e*P	Pn	00 04 35.3	+1.9
KBG	**Krutoberegovo**	**1.97**	**8**	*e*P	Pn	00 04 36.3	+2.7
KBG				*e*S	Sn	00 05 00.3	+3.3
KIRR	**Kirishev**	**1.97**	**327**	*e*P	Pn	00 04 35.6	+1.7
LGNR	**Loginova**	**1.98**	**334**	*e*P	Pn	00 04 36.7	+2.5
LGNR				*e*S	Sn	00 05 00.4	+2.5
CIRR	**Tsirk**	**2.00**	**335**	*e*P	Pn	00 04 36.6	+2.4
KPT	**Kopyto**	**2.02**	**326**	*e*P	Pn	00 04 36.8	+2.3
NLC	**Nalytchevo**	**2.06**	**237**	*e*P	Pn	00 04 37.4	+2.5
NLC				*e*S	Sn	00 05 01.4	+2.0
KRSR	**Krestovskiy**	**2.13**	**334**	*e*P	Pn	00 04 38.0	+1.9
KRSR				*e*S	Sn	00 05 02.6	+1.2
KLY	**Klyuchi**	**2.20**	**336**	*e*P	Pn	00 04 39.0	+2.2
KLY				*e*S	Sn	00 05 04.4	+1.6
KOZ	**Kozyrevsk**	**2.21**	**323**	*e*P	Pn	00 04 39.9	+2.8
KOZ				*e*S	Sn	00 05 05.8	+2.7
SDLR	**Sedlovina**	**2.24**	**244**	*e*P	Pn	00 04 40.7	+3.1
SDLR				*e*S	Sn	00 05 07.4	+3.4
SMAR	**Somma**	**2.29**	**244**	*e*P	Pn	00 04 41.3	+3.0
SMAR				*e*S	Sn	00 05 08.5	+3.1
KRER	**Koryakskii**	**2.30**	**245**	*e*P	Pn	00 04 41.9	+3.5
KRER				*e*S	Sn	00 05 09.4	+3.8
UGLR	**Uglovaya**	**2.31**	**243**	*e*P	Pn	00 04 41.6	+3.2
UGLR				*e*S	Sn	00 05 08.8	+3.2
SMKR	**Semkarok**	**2.32**	**349**	*e*P	Pn	00 04 41.9	+3.4
SMKR				*e*S	Sn	00 05 09.5	+3.7
AVH	**Avacha**	**2.32**	**245**	*e*P	Pn	00 04 42.2	+3.5
AVH				*e*S	Sn	00 05 10.3	+4.3
KRX	**Arik**	**2.33**	**247**	*e*P	Pn	00 04 41.9	+3.1
KRX				*e*S	Sn	00 05 09.5	+3.3
BDR	**Baidarnaya**	**2.33**	**346**	*e*P	Pn	00 04 41.9	+3.1
BDR				*e*S	Sn	00 05 10.3	+4.0
BKI	**Bering**	**2.34**	**66**	*e*P	Pn	00 04 41.5	+2.7
BKI				*e*S	Sn	00 05 07.9	+1.6
KOK	**Koryaka**	**2.37**	**246**	*e*P	Pn	00 04 42.6	+3.4
SRKR	**Sorokina**	**2.42**	**346**	*e*P	Pn	00 04 42.5	+2.5
DALK	**Dalny**	**2.44**	**240**	*e*P	Pn	00 04 42.8	+2.7
DALK				*e*S	Sn	00 05 11.4	+2.8
PET	**Petropavlovsk**	**2.49**	**240**	*e*P	Pn	00 04 44.0	+3.2
PET				*e*S	Sn	00 05 13.2	+3.3
ESO	**Esso**	**2.59**	**310**	*e*P	Pn	00 04 46.0	+3.7
GNL	**Ganaly**	**2.61**	**258**	*e*P	Pn	00 04 45.9	+3.3
KRMR	**Karymshinskiy**	**2.86**	**240**	*e*P	Pn	00 04 50.6	+4.6
KRMR				*e*S	Sn	00 05 23.9	+4.8
RUS	**Russkaya**	**2.92**	**231**	*e*P	Pn	00 04 49.6	+2.9
RUS				*e*S	Sn	00 05 22.8	+2.3
MTVR	**Mutnovka**	**3.04**	**235**	*e*P	Pn	00 04 52.2	+3.7
MTVR				*e*S	Sn	00 05 26.7	+3.0
GRL	**Gorelyy**	**3.05**	**236**	*e*P	Pn	00 04 52.2	+3.5
ASAK	**Asacha**	**3.24**	**235**	*e*P	Pn	00 04 56.0	+4.8
APC	**Apacha**	**3.33**	**247**	*e*P	Pn	00 04 55.9	+3.6
KDTR	**Khodutka, Kamc**	**3.55**	**227**	*e*P	Pn	00 04 59.2	+3.9
MIPR	**Malaya Ipel'ka**	**3.87**	**240**	*e*P	Pn	00 05 03.5	+3.7

*JMA **07** 00:07:11.8±0.1, 29°.96N×131°.27E, h22km±1km, M3.6*
*NIED **07** 00:07:11.9, 29°.96N×131°.27E, h22km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.01; $M_{\theta\theta}$-0.14; $M_{\phi\phi}$-0.86; $M_{r\theta}$0.24; $M_{\theta\phi}$-0.68; $M_{\phi r}$1.00; Fault plane solution: $M_0$1.54000×10^{15} NP1:ϕ_s18.00000°, δ67.00000°, λ77.00000°. NP2:ϕ_s228.00000°, δ27.00000°, λ117.00000°.*
*NEIC **07** 00:07:17.5±1.7, 30°.23N±0°.05×131°.0E±0°.1, h44km±6km, mb4.4/16 Error ellipse: s-maj=12.6km s-min=7.9km az=97.0*
*IDC **07** 00:07:18.0±3.6, 30°.21N×130°.92E, h61km±29km, mb3.5/11, mb1 3.6/13, mb1mx3.5/34, mbtmp3.8/13, ML3.2/2, MS3.1/3, Ms1 3.2/3, ms1mx2.7/35, Error ellipse: s-maj=41.3km s-min=24.9km az=80.0*
ISC 07 00:07:15.3±0.8, 30°.08N±0°.06×131°.08E±0°.06, h38km±1km, n55, σ1^{s}08/62, mb4.2/18, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMTN	**Minamitane**	**0.35**	**334**	P	**Pn**	**00 07 22.3**	**-1.5**
JMTN				S	**Sn**	**00 07 29.8**	**-0.7**
JYAK	**Yakushimahirau**	**0.52**	**288**	P	**Pn**	**00 07 25.3**	**-0.9**
JYAK				*e*S	**Sn**	**00 07 34.9**	**+1.1**
JTN	**Tanegashima 3**	**0.58**	**352**	P	**Pn**	**00 07 26.0**	**-1.2**
JTN				*e*S	**Sn**	**00 07 35.7**	**+0.3**
JKC	**Kuchinoerabu**	**0.85**	**297**	P	**Pn**	**00 07 31.2**	**+0.5**
JKC				*e*S	**Sn**	**00 07 44.7**	**+2.7**
JNN	**Nakanoshima**	**1.07**	**258**	P	**Pn**	**00 07 33.6**	**-0.1**
JNN				*e*S	**Sn**	**00 07 49.3**	**+2.0**
JTSR	**Tashiro 2**	**1.09**	**353**	P	**Pn**	**00 07 33.9**	**-0.2**
JTSR				*e*S	**Sn**	**00 07 50.0**	**+2.1**
JNAR	**Kushima--Naru**	**1.45**	**7**	P	**Pn**	**00 07 38.7**	**-0.3**
JNAR				*e*S	**Sn**	**00 07 57.9**	**+1.1**
JSU	**Suzuyama**	**1.52**	**340**	P	**Pn**	**00 07 40.0**	**+0.1**
JSU	**Suzuyama**	**1.52**	**340**	Pn	**Pn**	**00 07 40.0**	**+0.1**
JNKG	**Nichinankitago**	**1.60**	**9**	P	**Pn**	**00 07 40.9**	**-0.1**
JNKG				*e*S	**Sn**	**00 08 01.9**	**+1.5**
JNU	**Nakatsue**	**3.04**	**357**	P	**Pn**	**00 08 01.1**	**+0.3**
	6.4nm,0.3s,baz=213,slow=7.6,SNR=28						
JNU				S	**Sn**	**00 08 36.2**	**+0.3**
	3.9nm,0.3s,baz=207,slow=13,SNR=4.4						
JNU	**Nakatsue**	**3.04**	**357**		**Pn**	**00 08 01.3**	**+0.5**
JOW	**Kunigami**	**4.07**	**218**	Pn	**Pn**	**00 08 16.4**	**+1.5**
JMZ	**Minamidaito 2**	**4.25**	**178**	Pn	Pn	00 08 23.1	+5.7
JMN	**Monobe**	**4.35**	**32**	Pn	**Pn**	**00 08 20.8**	**+1.9**
JTU	**Tsushima**	**4.66**	**343**	Pn	**Pn**	**00 08 23.7**	**+0.7**
JHS	**Saijyo**	**5.20**	**19**	Pn	**Pn**	**00 08 30.3**	**-0.2**
JWT	**Wachi**	**6.34**	**34**	Pn	**Pn**	**00 08 45.4**	**-0.8**
INU	**Inuyama**	**7.26**	**42**	Pn	**Pn**	**00 09 00.4**	**+1.7**
KSRS	**Korea Array**	**7.81**	**341**	P	**Pn**	**00 09 08.1**	**+1.8**
	0.3nm,0.3s,baz=156,slow=14,SNR=5.8						
USRK	**Ussuriysk Ar.**	**14.11**	**3**	P	**P**	**00 10 40.5**	**+1.0**
	baz=74,slow=6.8,SNR=4.9						
USRK				LR	LR	00 15 50.8	
	comp=Z,69nm,20.9s,baz=184,slow=37						
USRK	**Ussuriysk Ar.**	**14.11**	**3**	P	**P**	**00 10 40.0**	**+0.6**
SONM	**Songino Array**	**25.95**	**320**	P	**P**	**00 12 42.3**	**-1.9**
	0.5nm,0.3s,baz=134,slow=12,SNR=4.0						
SONM				LR	LR	00 23 17.6	
	comp=Z,51nm,19.9s,baz=126,slow=37						
SONM	**Songino Array**	**25.95**	**320**	P	**P**	**00 12 43.1**	**-1.1**
CMAR	**Chiang Mai Arr**	**31.39**	**256**	LR	LR	00 27 56.1	
	comp=Z,34nm,18.1s,baz=60,slow=40						
MKAR	**Makanchi Array**	**41.00**	**308**	PcP	**PcP**	**00 16 53.5**	**-0.5**
	0.6nm,0.8s,baz=90,slow=1.4,SNR=2.6						
KURK	**Kurchatov**	**43.89**	**313**	P	**P**	**00 15 17.1**	**-0.8**
KURBB	**Kurchatov Arra**	**43.93**	**313**	P	**P**	**00 15 17.1**	**-1.1**
	0.3nm,0.4s,baz=96,slow=9.4,SNR=8.0						
NRIK	**Noril'sk**	**46.43**	**340**	P	**P**	**00 15 35.9**	**-1.9**
	1.0nm,0.4s,baz=129,slow=6.5,SNR=2.3						
NRIK	**Noril'sk**	**46.43**	**340**	P	**P**	**00 15 36.9**	**-0.9**
BRVK	**Borovoye**	**49.24**	**316**	P	**P**	**00 15 59.8**	**0.0**
BRVK				IAmb	IAmb	00 16 02.9	
	comp=Z,3.0nm,0.7s						
KK31	**Karatay Array**	**49.34**	**303**	P	**P**	**00 16 01.3**	**+0.5**
KK31				IAmb	IAmb	00 16 02.0	
	comp=Z,6.1nm,1.4s						
KKAR	**Karatay Array**	**49.34**	**303**	P	**P**	**00 16 01.3**	**+0.5**
KKAR				IAmb	IAmb	00 16 02.0	
	comp=Z,6.1nm,1.4s						
KKAR	**Karatay Array**	**49.34**	**303**	P	**P**	**00 16 01.3**	**+0.5**
CHGR	**Chuyangaron**	**50.97**	**297**	P	**P**	**00 16 13.6**	**+0.3**
ASAR	**Alice Springs**	**53.51**	**177**	P	**P**	**00 16 33.1**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=12,slow=11,SNR=2.2						
ABKAR	**Akbulak array**	**55.92**	**312**	P	**P**	**00 16 48.9**	**-0.3**
ABKAR	**Akbulak array**	**55.92**	**312**	P	**P**	**00 16 49.1**	**-0.2**
ABKAR				IAmb	IAmb	00 16 51.5	
	comp=Z,2.9nm,1.4s						
ARU	**Arti**	**55.99**	**320**	P	**P**	**00 16 49.3**	**-0.4**
ARU				IAmb	IAmb	00 17 06.9	
	comp=Z,6.6nm,1.5s						
J20K	**Nowinta River**	**56.77**	**30**	P	**P**	**00 16 56.3**	**+1.2**
J20K				IAmb	IAmb	00 17 00.5	
	comp=Z,4.3nm,1.3s						
K20K	**Telida**	**56.82**	**31**	P	**P**	**00 16 56.9**	**+1.4**
KDAK	**Kodiak Island**	**57.94**	**38**	P	**P**	**00 17 03.5**	**+0.1**
SUA	**Susitna One**	**58.49**	**33**	P	**P**	**00 17 08.2**	**+0.8**
TRF	**Thorofare Moun**	**58.52**	**31**	P	**P**	**00 17 08.6**	**+1.0**
MDM	**Murphy Dome**	**59.27**	**29**	P	**P**	**00 17 14.0**	**+1.3**
MDM				IAmb	IAmb	00 17 15.2	
	comp=Z,5.2nm,1.5s						
BMAR	**Burnt Mountain**	**60.46**	**26**	P	**P**	**00 17 22.5**	**+1.7**
SCRK	**Sand Creek**	**61.23**	**30**	P	**P**	**00 17 26.5**	**+0.3**
SCRK				IAmb	IAmb	00 17 27.7	
	comp=Z,5.7nm,1.5s						
INK	**Inuvik**	**64.37**	**24**	P	**P**	**00 17 47.0**	**+0.2**
	comp=Z,1.3nm,0.9s,baz=259,slow=5.2,SNR=2.0						
INK	**Inuvik**	**64.37**	**24**	P	**P**	**00 17 47.1**	**+0.4**
INK				IAmb	IAmb	00 17 55.9	
	comp=Z,3.8nm,1.3s						
ARCES	**ARCESS Array B**	**67.36**	**338**	P	**P**	**00 18 05.5**	**-0.5**
	comp=Z,2.2nm,0.9s,baz=64,slow=11,SNR=3.6						
KBZ	**Khabaz**	**68.69**	**309**	P	**P**	**00 18 14.0**	**-0.8**
	comp=Z,2.1nm,1.0s,baz=192,slow=7.0,SNR=3.6						
FINES	**FINESS Array B**	**70.76**	**331**	P	**P**	**00 18 25.7**	**-1.6**
	comp=Z,0.9nm,0.4s,baz=79,slow=5.7,SNR=13						
AKASG	**Malin Array Be**	**74.24**	**320**	P	**P**	**00 18 47.3**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=56,slow=6.7,SNR=3.2						
BRTR	**Keskin Array B**	**76.65**	**308**	P	**P**	**00 19 02.6**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=111,slow=5.4,SNR=5.6						
NOA	**NORSAR Array B**	**76.96**	**334**	P	**P**	**00 19 03.2**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=52,slow=5.4,SNR=2.0						

*ISK **07** 00:37:16.9, 39°.14N×29°.14E, h5km, ML2.2/17*
*DDA **07** 00:37:16.6, 39°.10N×29°.13E, h7km±2km, ML1.9*
ISC 07 00:37:17.2±0.8, 39°.13N±0°.02×29°.14E±0°.02, h13km±5km, n35, σ0^{s}69/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHAP	**Saphane-Kutahy**	**0.12**	**147**	PG	**Pg**	**00 37 20.3**	**-0.2**
SHAP				SG	**Sg**	**00 37 22.7**	**-0.1**
SMAA	**Simav-Kutahya**	**0.12**	**259**	PG	**Pg**	**00 37 20.3**	**-0.2**
SMAA				SG	**Sg**	**00 37 22.7**	**-0.1**
SIMA	**Simav-Kutahya**	**0.13**	**251**	PG	**Pg**	**00 37 20.3**	**-0.2**
SIMA				SG	**Sg**	**00 37 22.6**	**-0.3**
GEDZ	**Gediz**	**0.23**	**111**	PG	**Pg**	**00 37 22.1**	**0.0**
GEDZ				SG	**Sg**	**00 37 25.8**	**+0.4**
GDZ	**Gediz**	**0.27**	**98**	*i* P	**Pg**	**00 37 22.4**	**-0.5**
GDZ				*i* S	**Sg**	**00 37 26.3**	**-0.4**
TVSB	**Tavsanli**	**0.41**	**38**	PG	**Pg**	**00 37 25.1**	**-0.3**
TVSB				SG	**Sg**	**00 37 30.5**	**-0.4**
USAK	**Uak-Merkez**	**0.42**	**193**	*i* P	**Pg**	**00 37 25.3**	**-0.3**
USAK				IAML		00 37 27.0	
	comp=E,104nm,0.9s						
USAK				*i* S	**Sg**	**00 37 30.8**	**-0.4**
USAK				IAML		00 37 31.0	
	comp=N,362nm,0.3s						
DURS	**Dursunbey**	**0.70**	**313**	*i* P	**Pg**	**00 37 30.7**	**-0.1**
ANDZ	**Kutahya, Merke**	**0.70**	**57**	*i* P	**Pg**	**00 37 30.8**	**-0.1**
ANDZ				*i* S	**Sg**	**00 37 39.6**	**-0.6**
ANDZ				IAML		00 37 45.0	
	comp=E,57nm,0.2s						
ANDZ				IAML		00 37 45.0	
	comp=N,71nm,0.2s						
MANT	**Manisa**	**0.78**	**216**	*i* P	**Pg**	**00 37 31.6**	**-0.7**
MANT				*i* S	**Sg**	**00 37 41.1**	**-1.4**
MANT				IAML		00 37 42.0	
	comp=E,62nm,0.4s						
MANT				IAML		00 37 43.0	
	comp=N,71nm,0.3s						
PASA	**Karahalli, USA**	**0.82**	**160**	*i* P	**Pg**	**00 37 32.5**	**-0.6**
PASA				*i* S	**Sg**	**00 37 42.8**	**-1.1**
PASA				IAML		00 37 48.0	
	comp=E,31nm,0.3s						
ULDT	**Uludag**	**1.02**	**360**	*i* P	**Pg**	**00 37 36.3**	**-0.5**
ULDT				*i* S	**Sg**	**00 37 48.4**	**-1.7**
ULDT				IAML		00 37 52.0	
	comp=E,34nm,0.5s						
AUBOZ	**BOZOYUK**	**1.05**	**41**	*i* P	**Pb**	**00 37 37.3**	**+0.1**
AUBOZ	**BOZOYUK**	**1.05**	**41**	PG	**Pb**	**00 37 37.3**	**+0.1**
BALB	**Balikesir**	**1.10**	**298**	PN	**Pn**	**00 37 38.7**	**+0.4**
STEP	**BALIKESIR_Sava**	**1.13**	**283**	*i* P	**Pg**	**00 37 38.6**	**-0.4**
STEP				*i* S	**Sg**	**00 37 52.5**	**-1.1**
STEP				IAML		00 37 56.0	
	comp=E,26nm,0.3s						
STEP				IAML		00 37 57.0	
	comp=N,27nm,0.4s						
IGD	**Bursa**	**1.14**	**2**	*i* P	**Pb**	**00 37 38.9**	**+0.1**
IGD				*i* S	**Sn**	**00 37 54.6**	**+0.2**
IGD				IAML		00 37 55.0	
	comp=E,18nm,0.4s						
IGD				IAML		00 37 56.0	
	comp=N,27nm,0.2s						
KZIL	**AFYON_Kizioren**	**1.17**	**137**	*i* P	**Pg**	**00 37 39.2**	**-0.5**
KZIL				*i* S	**Sg**	**00 37 53.7**	**-1.2**
BILE	**Bilecik/Merkez**	**1.18**	**29**	*i* P	**Pn**	**00 37 40.0**	**+0.5**
BILE				*i* S	**Sb**	**00 37 55.4**	**+0.6**
BILE				IAML		00 37 59.0	
	comp=N,34nm,0.2s						
SHUT	**Suhut-Afyon**	**1.24**	**117**	PN	**Pn**	**00 37 41.3**	**+0.9**
BORA	**Eskisehir**	**1.27**	**53**	*i* P	**Pg**	**00 37 40.9**	**-0.7**
BORA				*i* S	**Sg**	**00 37 57.2**	**-0.9**
BORA				IAML		00 37 58.0	
	comp=E,26nm,0.4s						
BORA				IAML		00 37 58.0	
	comp=N,32nm,0.3s						
BORA	**Eskisehir**	**1.27**	**53**	PN	**Pn**	**00 37 41.4**	**+0.7**
KCTX	**Karacabey (Bur**	**1.29**	**332**	PN	**Pb**	**00 37 41.7**	**+0.4**
GEMT	**Gemlik**	**1.31**	**2**	PN	**Pg**	**00 37 42.2**	**-0.1**
BALY	**Balya**	**1.33**	**298**	*i* P	**Pg**	**00 37 43.5**	**+0.8**
BALY				*i* S	**Sg**	**00 37 58.4**	**-1.6**
SGAZ	**Eskisehir, Sey**	**1.38**	**72**	*i* P	**Pg**	**00 37 43.7**	**-0.1**
ADVT	**Abdulvahap**	**1.39**	**19**	PN	**Pg**	**00 37 43.6**	**-0.2**
YLV	**Yalova**	**1.45**	**7**	PN	**Pg**	**00 37 44.7**	**-0.4**
ARMT	**Armutlu**	**1.46**	**352**	PN	**Pn**	**00 37 43.8**	**+0.6**
SRCK	**Saricakaya, Es**	**1.47**	**51**	PN	**Pg**	**00 37 45.1**	**-0.3**
TRML	**Termal-Yalova**	**1.48**	**1**	PN	**Pb**	**00 37 44.6**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**220**	PN	**Pn**	**00 37 45.6**	**+1.2**
BUHA	**Balikesir, Bur**	**1.64**	**284**	*i* P	**Pg**	**00 37 49.5**	**+0.9**
GULT	**Gulveren**	**1.68**	**39**	PN	**Pn**	**00 37 47.3**	**+0.9**
MRMT	**Marmara Adasi**	**1.89**	**322**	PN	**Pb**	**00 37 50.9**	**-0.8**

*BGR **07** 00:37:31.7±0.0, 38°.62N×40°.91E, h33km, mb4.4*
*MED_RC **07** 00:37:35.0±0.4, 39°.26N×40°.14E, h10km, MW4.5/29, Moment Tensor Solution. Body waves: s1,c1;Mantle waves: s29,c42; Duration: 1^{s}0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.19±.04; $M_{\theta\theta}$-0.59±.04; $M_{\phi\phi}$0.78±.02; $M_{r\theta}$0.20±.15; $M_{\theta\phi}$-0.22±.02; $M_{\phi r}$0.08±.10; Best double couple: $M_0$0.76000×10^{16} NP1:ϕ_s308.00000°, δ73.00000°, λ-166.00000°. NP2:ϕ_s214.00000°, δ77.00000°, λ-18.00000°. Principal axes: T 0.8100, Plg3.0000°, Azm262.0000°; N -0.1100, Plg68.0000°, Azm359.0000°; P -0.7100, Plg22.0000°, Azm170.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
*ISK **07** 00:37:35.9, 39°.18N×40°.21E, h8km, ML4.5/31*
*IDC **07** 00:37:36.9±0.5, 39°.32N×40°.24E, h0km, mb4.1/25, mb1 4.1/37, mb1mx4.1/53, mbtmp4.1/37, ML3.7/11, MS3.6/27, Ms1 3.6/27, ms1mx3.5/43, Error ellipse: s-maj=9.8km s-min=6.3km az=165.0*
*DDA **07** 00:37:36.1, 39°.17N×40°.19E, h17km±1km, MW4.4*
*NEIC **07** 00:37:37.9, 39°.18N×40°.28E, h19km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.53; $M_{\theta\theta}$5.92; $M_{\phi\phi}$-7.45; $M_{r\theta}$-1.28; $M_{\theta\phi}$0.74; $M_{\phi r}$0.59; Fault plane solution: $M_0$7.00000×10^{15} NP1:ϕ_s221.12000°, δ76.64000°, λ172.45000°. NP2:ϕ_s312.88000°, δ82.65000°, λ13.47000°. Principal axes: T 6.2898, Plg15.0000°, Azm178.0000°; N 1.2492, Plg75.0000°, Azm341.0000°; P -7.5390, Plg4.0000°, Azm86.0000°;*
*MOS **07** 00:37:38.2±1.4, 39°.22N×40°.31E, h16km, mb4.6/29 Error ellipse: s-maj=4.4km s-min=3.4km az=90.7*
*NEIC **07** 00:37:39.2±2.1, 39°.19N±0°.04×40°.35E±0°.05, h10km±1km, Error ellipse: s-maj=6.9km s-min=6.5km az=217.0*
ISC 07 00:37:37.3±1.0, 39°.19N±0°.01×40°.23E±0°.01, h2km±6km, n379, σ1^{s}70/430, mb4.4/72, MS3.5/29, 41C-32D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YEDI	**Yedisu-Bingol**	**0.34**	**44**	PG	**Pg**	**00 37 43.4**	**-0.5**
YEDI				SG	**Sg**	**00 37 48.9**	**+0.5**
BINT	**Bingol**	**0.37**	**148**	P	**Pg**	**00 37 44.0**	**-0.4**
BINT				S	**Sg**	**00 37 50.2**	**+0.9**
BNGB	**Bingl**	**0.40**	**120**	PG	**Pg**	**00 37 44.0**	**-0.9**
BNGB				SG	**Sg**	**00 37 50.6**	**+0.5**
ERZN	**Erzincan**	**0.56**	**315**	PG	**Pg**	**00 37 47.4**	**-0.6**
ERZN				SG	**Sg**	**00 37 55.4**	**+0.1**
KOVA	**Elazig, Kovanc**	**0.59**	**214**	⇑ *i*P	**Pg**	**00 37 47.4**	**-1.1**
KOVA				*i* S	**Sg**	**00 37 55.8**	**-0.3**
KOVA				IAML		00 37 56.0	
	comp=E,40μm,0.6s						
KOVA				IAML		00 37 58.0	
	comp=N,32μm,0.6s						
KARO	**Karliova-Bingo**	**0.64**	**79**	PG	**Pg**	**00 37 48.7**	**-0.9**
KARO				SG	**Sg**	**00 37 58.9**	**+0.9**
SLHN	**Bingol, Solhan**	**0.66**	**111**	⇑ *i*P	**Pg**	**00 37 49.0**	**-0.9**
SLHN				*i* S	**Sg**	**00 37 59.7**	**+1.3**
SLHN				IAML		00 38 01.0	
	comp=E,26μm,0.3s						
SLHN				IAML		00 38 02.0	
	comp=N,14μm,0.5s						
EUZM	**Uzumlu**	**0.66**	**321**	⇓ *i*P	**Pg**	**00 37 49.0**	**-1.0**
EUZM				*i* S	**Sg**	**00 37 59.1**	**+0.6**
EUZM				IAML		00 38 00.0	
	comp=N,5μm,0.5s						
EUZM				IAML		00 38 01.0	
	comp=E,7μm,0.6s						
HANI	**Diyarbakir_Han**	**0.79**	**170**	⇓ *i*P	**Pg**	**00 37 51.3**	**-1.1**
HANI				*i* S	**Sg**	**00 38 03.0**	**+0.5**
HANI				IAML		00 38 07.0	
	comp=E,11μm,0.5s						
HANI				IAML		00 38 09.0	
	comp=N,7μm,0.4s						
KOPT	**Kop Dagi**	**0.85**	**14**	⇑ *i*P	**Pg**	**00 37 53.3**	**-0.2**
KOPT				*i* S	**Sb**	**00 38 06.7**	**-0.3**
KOPT				IAML		00 38 10.0	
	comp=E,14μm,0.6s						
KOPT				IAML		00 38 14.0	
	comp=N,9μm,0.5s						
KOPT	**Kop Dagi**	**0.85**	**14**		**Pg**	**00 37 53.5**	**-0.1**
KOPT				Sg	**Sg**	**00 38 04.8**	**+0.2**
VRTB	**Varto-Mus**	**0.95**	**92**	⇑ *i*P	**Pg**	**00 37 55.4**	**-0.1**
VRTB				*i* S	**Sn**	**00 38 16.0**	**+4.0**
VRTB	**Varto-Mus**	**0.95**	**92**	PG	**Pg**	**00 37 54.8**	**-0.7**
EMRE	**Erzurum,Aziziy**	**1.01**	**34**	⇑ *i*P	**Pg**	**00 37 56.2**	**-0.5**
EMRE				*i* S	**Sn**	**00 38 13.6**	**-0.2**
EMRE				IAML		00 38 17.0	
	comp=E,11μm,0.9s						
EMRE				IAML		00 38 20.0	
	comp=N,9μm,0.8s						
EJDE	**Erzurum, Palan**	**1.05**	**52**	⇑ *i*P	**Pg**	**00 37 56.2**	**-1.1**
EJDE				*i* S	**Sb**	**00 38 12.9**	**+0.2**
BAYB	**BAYBURT**	**1.06**	**1**	⇓ *i*P	**Pg**	**00 37 56.8**	**-0.9**
BAYB				*i* S	**Sg**	**00 38 11.8**	**+0.3**
BAYB				IAML		00 38 14.0	
	comp=N,3μm,0.4s						
SVRC	**Sivrice-ELAZID**	**1.09**	**222**	PG	**Pg**	**00 37 56.6**	**-1.5**
SVRC				SG	**Sg**	**00 38 12.2**	**0.0**
MUSM	**Mu-Merkez**	**1.10**	**115**	⇑ *i*P	**Pg**	**00 37 56.1**	**-2.2**
MUSM				*i* S	**Sg**	**00 38 12.2**	**-0.4**
ERZM	**Erzurum**	**1.13**	**51**	⇑ *i*P	**Pg**	**00 37 57.9**	**-1.0**
ERZM				*i* S	**Sn**	**00 38 18.6**	**+2.0**
REFA	**Refahiye_ERZN**	**1.16**	**281**	⇑ *i*P	**Pg**	**00 38 00.8**	**+1.3**
REFA				*i* S	**Sn**	**00 38 20.2**	**+3.0**
REFA				IAML		00 38 21.0	
	comp=N,2μm,0.9s						
REFA				IAML		00 38 21.0	
	comp=E,2μm,0.8s						
ELZG	**Elazig**	**1.20**	**235**	⇑ *i*P	**Pb**	**00 37 57.6**	**-3.2**
ELZG				*i* S	**Sg**	**00 38 14.6**	**-1.1**
ELZG				IAML		00 38 18.0	
	comp=E,10μm,0.7s						
ELZG				IAML		00 38 20.0	
	comp=N,6μm,0.6s						
BAYT	**Aydıntepe-Bayb**	**1.20**	**357**	PN	**Pb**	**00 37 59.1**	**-1.8**
BAYT				SN	**Sg**	**00 38 16.7**	**+0.8**
KELT	**Kelkit**	**1.22**	**322**	⇓ *i*P	**Pb**	**00 37 58.9**	**-2.3**
KELT				*i* S	**Sg**	**00 38 16.9**	**+0.5**
DIYA	**Diyarbakir**	**1.27**	**184**	⇓ *i*P	**Pn**	**00 38 01.0**	**-1.2**
DIYA				*i* S	**Sn**	**00 38 19.6**	**-0.2**
ILIC	**ilic-Erzincan**	**1.32**	**282**	PN	**Pn**	**00 38 00.4**	**-2.4**
ILIC				SN	**Sb**	**00 38 18.8**	**-1.4**
KEMA	**Kemaliye**	**1.35**	**274**	⇑ *i*P	**Pn**	**00 38 00.5**	**-2.8**
KEMA				*i* S	**Sb**	**00 38 20.4**	**-0.8**
GUMT	**Gumushane**	**1.39**	**336**	PN	**Pn**	**00 38 02.3**	**-1.6**
GUMT				SN	**Sb**	**00 38 21.4**	**-1.0**
EKAR	**Karacoban**	**1.42**	**87**	*i* P	**Pb**	**00 38 04.7**	**0.0**
EKAR				*i* S	**Sg**	**00 38 28.6**	**+5.6**
ARPR	**Arapgir-MALATY**	**1.48**	**267**	PN	**Pn**	**00 38 03.1**	**-2.0**
ARPR				SN	**Sn**	**00 38 23.2**	**-1.9**
KOPR	**Koprukoy-ERZUR**	**1.48**	**57**	PN	**Pn**	**00 38 03.8**	**-1.4**
KOPR				SN	**Sn**	**00 38 24.2**	**-1.1**
GURO	**Guroymak-BITLI**	**1.54**	**114**	PN	**Pn**	**00 38 03.9**	**-2.0**
GURO	**Guroymak-BITLI**	**1.54**	**114**		**Pn**	**00 38 03.6**	**-2.4**
GURO				Sg	**Sg**	**00 38 27.9**	**+1.1**
HOMI	**Horasan**	**1.55**	**56**	⇑ *i*P	**Pn**	**00 38 04.9**	**-1.2**
HOMI				*i* S	Sg	00 38 37.7	+11
ALUC	**Giresun/Alucra**	**1.61**	**316**	⇓ *i*P	**Pn**	**00 38 06.2**	**-0.7**
ALUC				*i* S	**Sn**	**00 38 28.8**	**+0.4**
BLIS	**Bitlis-Merkez**	**1.66**	**117**	⇑ *i*P	**Pn**	**00 38 05.9**	**-1.7**
BLIS				*i* S	**Sg**	**00 38 31.5**	**+0.8**
BLIS				IAML		00 38 32.0	
	comp=E,5μm,0.7s						
BLIS				IAML		00 38 34.0	
	comp=N,3μm,0.6s						
MAZI	**Mazidag**	**1.74**	**174**	PN	**Pn**	**00 38 07.2**	**-1.4**
MACK	**Trabzon**	**1.79**	**349**	⇓ *i*P	**Pn**	**00 38 09.2**	**0.0**
SRTM	**Siirt_Merkez**	**1.79**	**132**	⇑ *i*P	**Pn**	**00 38 08.6**	**-0.6**
SRTM				*i* S	**Sb**	**00 38 33.4**	**-0.3**
HEKM	**Malatya_Hekimh**	**1.80**	**261**	⇑ *i*P	**Pn**	**00 38 07.9**	**-1.6**
HEKM				*i* S	**Sb**	**00 38 34.2**	**0.0**
MLAZ	**Malazgirt-MUS**	**1.80**	**91**	PN	**Pn**	**00 38 08.4**	**-1.1**
KTUT	**Trabzon**	**1.83**	**349**	⇓P	**Pn**	**00 38 09.9**	**+0.1**
KTUT	**Trabzon**	**1.83**	**349**	⇓S	**Sg**	**00 38 36.1**	**+0.1**
KTUT	**Trabzon**	**1.83**	**349**	PN	**Pn**	**00 38 08.8**	**-0.9**
SUSE	**Susehri**	**1.87**	**304**	⇑ *i*P	**Pn**	**00 38 10.3**	**-0.2**
SUSE				*i* S	**Sb**	**00 38 37.2**	**+1.1**
MARD	**Mardin**	**1.92**	**167**	⇓ *i*P	**Pn**	**00 38 09.9**	**-1.2**
MARD				*i* S	**Sb**	**00 38 36.9**	**-0.7**
MARD	**Mardin**	**1.92**	**167**		**Pn**	**00 38 10.0**	**-1.2**
MARD				Sg	**Sb**	**00 38 37.3**	**-0.4**
CHOM	**Cayeli-Rize**	**1.94**	**12**	PN	**Pn**	**00 38 10.3**	**-1.1**
ADCV	**BITLIS_Adilcev**	**1.98**	**100**	⇑ *i*P	**Pn**	**00 38 11.8**	**-0.2**
ADCV				*i* S	**Sb**	**00 38 39.7**	**+0.4**
MIDY	**Mardin/Midyat-**	**2.00**	**152**	⇓ *i*P	**Pn**	**00 38 11.2**	**-1.0**
MIDY				*i* S	**Sb**	**00 38 39.7**	**-0.2**
MIDY				IAML		00 38 43.0	
	comp=N,7μm,0.8s						
AKCD	**Akcadag**	**2.02**	**244**	⇑ *i*P	**Pn**	**00 38 11.2**	**-1.3**
AKCD				*i* S	**Sn**	**00 38 39.9**	**+1.5**
CUZAR	**Zara_SIVAS**	**2.03**	**291**	⇑ *i*P	**Pn**	**00 38 12.0**	**-0.6**
CUZAR				*i* S	**Sb**	**00 38 40.8**	**+0.1**
URFA	**Urfa**	**2.07**	**213**	PN	**Pn**	**00 38 11.7**	**-1.5**
SENK	**Senkaya-Erzuru**	**2.13**	**49**	PN	**Pn**	**00 38 13.1**	**-0.9**
DBAD	**Bademkaya**	**2.14**	**31**	⇑ *i*P	**Pn**	**00 38 13.8**	**-0.3**
DBAD				*i* S	**Sg**	**00 38 45.5**	**-0.6**
CUKAN	**kangal_SIVAS**	**2.15**	**274**	⇑ *i*P	**Pn**	**00 38 13.3**	**-1.1**
CUKAN				*i* S	**Sb**	**00 38 45.2**	**+0.9**
AGRB	**Hanur-Agry**	**2.17**	**79**	PN	**Pn**	**00 38 13.6**	**-1.0**

PERV **Siirt/Pervari-** 2.20 124⇑ *i*P Pn 00 38 14.5 -0.4
PERV *i*S Sb 00 38 46.6 +1.1
PERV IAML 00 38 49.0
comp=E,6μm,1.0s
PERV IAML 00 38 54.0
comp=N,7μm,0.8s
DARE **Darende-Malaty** 2.23 255 PN Pn 00 38 13.9 -1.5
SANL **SANLIURFA_Merk** 2.24 206⇓ *i*P Pn 00 38 14.7 -0.8
SANL *i*S Sb 00 38 47.7 +0.9
DRNR **Artvin, Merkez** 2.34 32 *i*P Pn 00 38 16.6 -0.2
DRNR *i*S Sg 00 38 53.6 +1.1
CUGUR **Gurin_SVAS** 2.36 259 *i*P Pn 00 38 16.3 -0.8
CUGUR *i*S Sb 00 38 52.3 +2.1
SIRN **Sirnak** 2.41 134 *eP* Pn 00 38 17.2 -0.6
SIRN *i*S Sb 00 38 51.9 +0.3
SIRN IAML 00 38 54.0
comp=N,2μm,0.7s
SIRN IAML 00 38 58.0
comp=E,3μm,1.0s
DBOC **Borcka** 2.41 27⇑ *i*P Pn 00 38 17.8 -0.1
DBOC *i*S Sg 00 38 54.3 -0.5
SIRT **Sirnak** 2.42 134 PN Pn 00 38 16.9 -1.1
SIRT **Sirnak** 2.42 134 Pn 00 38 18.2 +0.3
BCA **Borcka** 2.49 25 ⇑P Pn 00 38 18.8 -0.1
BCA **Borcka** 2.49 25 ⇓S Sb 00 38 53.7 -0.1
BCA **Borcka** 2.49 25 PN Pn 00 38 18.2 -0.6
SCER **sogukcermik** 2.49 287 *i*P Pn 00 38 18.1 -0.9
SCER *i*S Sg 00 38 58.0 +0.6
VANB **Van** 2.53 103 PN Pn 00 38 19.4 -0.1
RSDY **Resadiye-TOKAT** 2.54 299 PN Pn 00 38 18.7 -0.9
ELBS **KAHRAMANMARAS** 2.58 251 *i*P Pn 00 38 19.1 -1.1
ELBS *i*S Sg 00 39 02.0 +2.0
SVSK **Karacayir** 2.60 287 PN Pn 00 38 19.4 -1.0
VMUR **Van-Muradiye** 2.60 93 *i*P Pn 00 38 20.3 -0.3
VMUR *i*S Sg 00 39 01.3 +0.3
KARS **Kars** 2.62 56 P Pn 00 38 20.2 -0.5
KARS **Kars** 2.62 56 Pn 00 38 20.2 -0.5
KARS Pg Pb 00 38 26.4 +1.5
OZAP **Van, Ozalp-Mer** 2.98 99 *i*P Pn 00 38 26.8 +1.0
EAK **Akyaka** 2.99 59 *i*P Pn 00 38 25.9 0.0
EPOS **Posof** 2.99 39 *i*P Pn 00 38 25.9 0.0
KAHM **Kahramanmaras,** 3.05 238 *i*P Pn 00 38 25.3 -1.3
KAHM *i*S Sg 00 39 14.6 -0.7
TOKT **Tokat** 3.06 293 PN Pn 00 38 25.8 -0.9
SARI **SarD1z-Kayseri** 3.08 256 PN Pn 00 38 26.2 -1.0
CUSAR **Sarkisla-SIVAS** 3.10 275 *eP* Pn 00 38 27.6 +0.2
KMRS **Kahramanmaras** 3.12 238 PN Pn 00 38 26.5 -1.0
GAZ **Gaziantep** 3.12 231 PN Pn 00 38 26.6 -1.0
GAZ **Gaziantep** 3.12 231 Pn Pn 00 38 26.5 -1.1
GAZ Pb 00 38 36.0 +2.5
HAKT **HAKKARI** 3.18 120 *i*P Pn 00 38 29.2 +0.7
TASB **TASBURUN-IGDIR** 3.19 74 PN Pn 00 38 28.2 -0.4
CUKT **Cukurca** 3.29 125 *i*P Pn 00 38 30.1 +0.1
CUKT **Cukurca** 3.29 125 PN Pn 00 38 29.5 -0.5
AKH **Akhalkalaki** 3.33 47 ⇑P Pn 00 38 30.9 +0.3
AKH **Akhalkalaki** 3.33 47 P Pn 00 38 30.2 -0.4
AKH **Akhalkalaki** 3.33 47 PN Pn 00 38 30.0 -0.6
BNN **Bunyan** 3.44 266 PN Pn 00 38 31.2 -0.8
BNN **Bunyan** 3.44 266 Pn Pn 00 38 31.4 -0.5
SAIM **ADANA** 3.47 251 *i*P Pn 00 38 31.4 -1.0
HACI **Hacifakili, Ak** 3.52 280 *i*P Pb 00 38 32.8 -0.4
GUNE **Kayseri** 3.60 267 *i*P Pb 00 38 38.8 -3.0
GNI **Garni** 3.61 73 Pn Pn 00 38 33.8 -0.5
comp=E,1.0nm,0.3s,baz=292,slow=3.8,SNR=27
GNI Pg Pb 00 38 42.7 +0.8
comp=E,4.2nm,0.3s,baz=294,slow=4.2,SNR=42
GNI **Garni** 3.61 73 Pb Pb 00 38 42.1 +0.2
GNI **Garni** 3.61 73 *c* *i*P Pn 00 38 34.1 -0.3
GNI pmax pmax
comp=Z,34nm,0.8s
GNI **Garni** 3.61 73 PN Pn 00 38 34.1 -0.3
GNI **Garni** 3.61 73 Pn Pn 00 38 32.9 -1.4
SAMS **Samsun-Alacam** 3.78 306 *i*P Pb 00 38 42.9 -1.8
CHVG **Ch'k'valeri** 3.79 21 ⇑P Pn 00 38 37.4 +0.6
CHVG **Ch'k'valeri** 3.79 21 ⇑P Pn 00 38 37.4 +0.6
YOZ **Yozgat** 3.83 278 PN Pn 00 38 36.8 -0.6
KZRT **Kazreti** 3.87 54 P Pn 00 38 38.2 +0.4
NAX **Nakhchivan** 4.09 89 P Pn 00 38 42.8 +1.9
ONI **Oni** 4.18 35 P Pn 00 38 42.2 +0.1
ONI **Oni** 4.18 35 Pn 00 38 42.2 +0.1
ONI Pb 00 38 52.1 +0.5
SEAG **Tbilisi Sea** 4.33 52 P Pn 00 38 46.1 +1.9
SOC **Sochi** 4.40 355 *eP* Pn 00 38 43.4 -1.7
SOC *e* 00 39 35.1
SOC pmax pmax
comp=Z,91nm,0.6s
SOC smax smax
comp=E,214nm,1.2s
ARXR **Arkhyz** 4.44 10 *c* *i*P Pn 00 38 46.4 +0.7
NEY **Neytrino** 4.47 24⇓ *le*P Pn 00 38 46.7 +0.5
GUDG **Gudauri** 4.59 43 P Pn 00 38 46.3 -1.6
SNOP **Sinop** 4.75 308 Pn Pn 00 38 51.5 +1.6
SNOP Pb 00 39 03.5 +2.1
LZRR **Lazarevskoye** 4.78 353 *de*P Pn 00 38 49.7 -0.6
SHA1 **Shidzhatmaz** 4.89 21 *d* *i*P Pn 00 38 53.0 +0.9
GANJ **Ganja** 4.90 71 P Pn 00 38 54.8 +2.8
KBZ **Khabaz** 4.95 23 Pn Pn 00 38 51.7 -0.9
comp=E,0.9nm,0.3s,baz=162,slow=5.2,SNR=15
KBZ Pg Pb 00 39 04.5 -0.2
comp=E,1.0nm,0.3s,baz=207,slow=10,SNR=9.4
KBZ Lg Lg 00 40 08.6
baz=46,slow=9.5,SNR=1.2
KBZ LR LR 00 40 60.0
comp=E,473nm,19.9s,baz=201,slow=42
KBZ **Khabaz** 4.95 23 *de*P Pn 00 38 53.6 +0.9
NCK **Nalchik** 4.99 29 *de*P Pn 00 38 54.8 +1.6
KIV **Kislovodsk** 5.10 20 ⇑P Pn 00 38 55.3 +0.5
KIV **Kislovodsk** 5.10 20 Pn Pn 00 38 56.1 +1.3
KIV **Kislovodsk** 5.10 20 *eP* Pn 00 38 55.8 +1.0
KIV pmax pmax
comp=Z,13nm,1.0s
KIV MLR MLR
comp=Z,134nm,8.0s
KIV **Kislovodsk** 5.10 20 Pn Pn 00 38 55.6 +0.8
KIV Pg Pg 00 39 15.1 +0.1
KVAR **Kislovodsk Arr** 5.11 20 Pn Pn 00 38 56.4 +1.5
baz=271,slow=20,SNR=6.5
KVAR Lg Lg 00 40 15.9
baz=84,slow=21,SNR=1.3
KVAR LR LR 00 41 08.8
comp=Z,749nm,18.3s,baz=94,slow=42
BR131 **Keskin Array S** 5.13 278 *ce*P Pn 00 38 54.9 -0.4
BR131 **Keskin Array S** 5.13 278 Pn 00 38 55.0 -0.2
BR131 Pb 00 39 09.8 +2.0
BRTR **Keskin Array B** 5.13 278 Pn Pn 00 38 55.4 +0.1
comp=Z,1.6nm,0.3s,baz=106,slow=15,SNR=54
BRTR Pg Pb 00 39 09.8 +2.0
comp=Z,3.8nm,0.3s,baz=111,slow=16,SNR=20
BRTR Lg Lg 00 40 15.9
baz=209,slow=38,SNR=1.1
BRTR LR LR 00 41 26.2
comp=Z,539nm,19.5s,baz=132,slow=45
BRTR **Keskin Array B** 5.13 278 Pn Pn 00 38 54.9 -0.4
BRTR Pb 00 39 09.9 +2.1
ILGA **Ilgaz** 5.33 292 Pn 00 39 00.0 +2.0
ZKTA **Zakatala** 5.45 61 P Pn 00 39 03.2 +3.6
BZK **Bozkurt** 5.49 302 Pn 00 39 02.4 +2.3
MNGR **Mingechevir, A** 5.49 71 P Pn 00 39 02.9 +2.8
ANTO **Ankara** 5.79 279 P Pn 00 39 07.0 +2.7
ANTO **Ankara** 5.79 279 Pn Pn 00 39 08.0 +3.7
GROC **Groznyy** 5.80 45 *eP* Pn 00 39 07.4 +3.1
GROC *e* 00 40 10.6
GROC pmax pmax
comp=Z,19nm,1.0s
GROC smax smax
comp=N,28nm,1.0s
GROC MLR MLR
comp=Z,159nm,7.0s
BR231 **Keskin MP Arra** 5.80 279 Pn 00 39 07.6 +3.1
ANN **Anapa** 5.98 340⇑ *eP* Pn 00 39 08.9 +2.2
GOF **Gofitskoye** 6.22 19⇑ *eP* Pn 00 39 08.1 -2.0
GOF pmax pmax
comp=Z,9.0nm,0.6s
MAK **Makhachkala** 6.66 53 *eP* Pn 00 39 13.2 -2.9
MAK *eS* Sn 00 40 27.6 -4.9
MAK pmax pmax
comp=Z,205nm,1.1s
MAK MLR MLR
comp=Z,983nm,10.0s
LKRN **Lenkeran, Azer** 6.68 91 P Pn 00 39 18.4 +2.0
SUDU **Sudak** 6.90 327 *eP* Pn 00 39 23.5 +4.1
SUDU *eS* Sn 00 40 45.3 +6.9

CSS **Mathiatis** 6.95 235 Pn Pn 00 39 23.1 +3.0
YAL **Yalta** 6.97 321 *eP* Pn 00 39 23.7 +3.4
YAL *eS* Sn 00 40 46.1 +5.9
ALU **Alushta** 7.00 323 *eP* Pn 00 39 27.1 +6.4
ALU *eS* Sn 00 40 51.3 +10
MDUB **Mudurnu** 7.07 283 Pn 00 39 24.3 +2.5
SEV **Sevastopol'** 7.25 320 *eP* Pn 00 39 31.3 +7.1
SEV *eS* Sn 00 40 58.2 +11
MMAI **Mount Meron Ar** 7.30 214 Pn Pn 00 39 26.1 +1.1
comp=Z,1.6nm,0.3s,baz=62,slow=15,SNR=12
MMAI Lg Lg 00 41 29.2
comp=Z,2.8nm,0.3s,baz=50,slow=6,SNR=1.2
ASF **Jabal al Asfar** 7.51 202 Pn Pn 00 39 28.4 +0.5
comp=Z,0.9nm,0.3s,baz=355,slow=8.4,SNR=18
ASF Lg Lg 00 41 31.6
comp=Z,2.3nm,0.3s,baz=353,slow=18,SNR=3.4
ISP **Isparta** 7.74 263 P Pn 00 39 32.8 +1.8
ISP **Isparta** 7.74 263 Pn Pn 00 39 32.8 +1.8
ELL **Elmali** 8.51 257 P Pn 00 39 44.5 +2.8
ELL **Elmali** 8.51 257 Pn 00 39 44.5 +2.8
GHAJ **Ghor Haditha** 8.75 207 Pn 00 39 45.8 +1.0
AKAS **Kas** 8.93 254 Pn Pn 00 39 49.2 +1.9
MANT **Manisa** 9.14 269 Pn Pn 00 39 52.1 +1.7
BALB **Balikesir** 9.57 277 Pn Pn 00 39 58.3 +2.3
EIL **Elat** 10.45 206 Lg Lg 00 43 10.8
comp=Z,0.3nm,0.3s,baz=307,slow=19,SNR=2.5
MILM **Milestii Mici** 11.37 316 ⇑P Pn 00 40 18.9 -1.7
KIS **Kishinev** 11.41 317 *eP* Pn 00 40 17.0 -4.3
KIS **Kishinev** 11.41 317 *e*PP Pn 00 40 32.0 +11
KIS *eS* Sn 00 42 33.0 +3.7
KIS *eLR* LR 00 45 36.0
comp=Z,140nm,16.0s
KIS **Kishinev** 11.41 317 *eP* Pn 00 40 17.0 -4.3
KIS *eS* Sn 00 42 33.0 +3.7
KIS MLR MLR
comp=Z,140nm,16.0s
VORD **Divnogorie** 11.79 357 *eP* Pn 00 40 25.9 -0.5
VORD pmax pmax
comp=Z,10.0nm,0.7s
SANT **Santorini** 12.03 261 Pn Pn 00 40 30.8 +1.0
VRH **Novokhopyorsk** 12.06 4 *eP* Pn 00 40 29.6 -0.4
VRH pmax pmax
comp=Z,4.0nm,0.4s
MLR **Muntele Rosu** 12.30 305 Pn Pn 00 40 32.5 -1.0
comp=Z,0.2nm,0.3s,baz=118,slow=24,SNR=2.1
MLR LR LR 00 46 04.2
comp=Z,291nm,20.6s,baz=146,slow=42
SORM **Soroca** 12.39 320 ⇓P Pn 00 40 32.2 -2.4
SORM **Soroca** 12.39 320 ⇑P Pn 00 40 37.0 +2.4
IDI **Anoyia** 12.83 257 Pn Pn 00 40 42.0 +1.2
comp=Z,0.1nm,0.3s,baz=112,slow=13,SNR=2.0
VOIR 12.85 304 ⇓P Pn 00 40 37.6 -3.3
VOIR 12.85 304 P Pn 00 40 41.6 +0.7
VOIR pmax pmax
comp=Z,11nm,1.0s
VTS **Vitosha** 13.31 290 ⇓P Pn 00 40 43.1 -4.2
VTS **Vitosha** 13.31 290 P Pn 00 40 49.1 +1.8
VTS **Vitosha** 13.31 290 Pn Pn 00 40 49.1 +1.8
BURAR **Bucovina Array** 13.77 313 ⇓P Pn 00 40 50.4 -3.2
BURAR **Bucovina Array** 13.77 313 P Pn 00 40 56.9 +3.4
BURAR **Bucovina Array** 13.77 313 Pn Pn 00 40 56.9 +3.4
BUR08 **Bucovina Ar. S** 13.79 313 Pn Pn 00 40 57.1 +3.2
AKASG **Malin Array Be** 13.88 330 Pn Pn 00 40 53.9 -1.0
comp=Z,1.1nm,0.3s,baz=131,slow=13,SNR=6.2
AKASG Sn Sn 00 43 19.7 -10
comp=Z,0.1nm,0.3s,baz=209,slow=34,SNR=1.3
AKASG **Malin Array Be** 13.88 330 P Pn 00 40 54.9 0.0
AKASG **Malin Array Be** 13.88 330 Pn 00 40 54.9 0.0
AKBB **Malin Array Si** 13.88 330 ⇓*le*P Pn 00 40 57.1 +2.2
AKBB **Malin Array Si** 13.88 330 Pn 00 40 54.5 -0.4
AGG **Agios Georgios** 13.91 275 P Pn 00 40 56.3 +0.9
AGG **Agios Georgios** 13.91 275 Pn Pn 00 40 56.3 +0.9
GEYT **Alibeck** 14.05 90 Pn Pn 00 40 56.5 -0.9
baz=251,slow=23,SNR=8.1
GEYT LR LR 00 48 06.2
comp=Z,124nm,18.1s,baz=220,slow=45
GYA0B **ALIBECK ARRAY** 14.05 90 Pn Pn 00 40 57.1 -0.3
BELG **Belogornoye** 14.16 19 Pn Pn 00 40 56.3 -2.4
comp=Z,0.3nm,0.3s,baz=46,slow=3.5,SNR=4.6
BELG **Belogornoye** 14.16 19 *de*P Pn 00 40 58.6 -0.1
BELG pmax pmax
comp=Z,3.0nm,0.9s
GZR **Gura Zlata** 14.32 301 ⇑P Pn 00 40 57.0 -4.0
HERR **Herculane** 14.40 299 ⇑P Pn 00 40 58.1 -4.0
ITM **Ithomi** 14.54 268 Pn Pn 00 41 06.0 +1.9
MDVR **Moldovita** 14.85 298 ⇓P Pn 00 41 03.8 -4.5
DRGR 14.88 306 ⇑P Pn 00 41 04.4 -4.4
DRGR 14.88 306 ⇑P Pn 00 41 03.4 -5.3
BZS **Buzias** 15.16 301 ⇓P Pn 00 41 07.6 -4.8
LTVH **Ltavrtes, Hu** 15.63 308 *eP* Pn 00 41 16.0 -2.5
TIR **Tirane** 15.70 284 P Pn 00 41 21.0 +1.6
TIR pmax pmax
comp=Z,26nm,1.2s
UZH **Uzhgorod** 15.97 312 *eP* Pn 00 41 21.3 -1.6
AMBH **Ambrzfalva** 15.99 303 *eP* P 00 41 30.9 +4.1
OBN **Obninsk** 16.12 352 Pn Pn 00 41 22.9 -1.8
comp=Z,0.1nm,0.3s,baz=51,slow=9.1,SNR=3.7
OBN **Obninsk** 16.12 352 *eP* Pn 00 41 23.1 -1.7
OBN pmax pmax
comp=Z,13nm,1.0s
OBN MLR MLR
comp=Z,97nm,20.0s
KOLS **Kolonicke sedl** 16.13 313 *eP* P 00 41 29.2 +0.7
KOLS **Kolonicke sedl** 16.13 313 *eP* P 00 41 29.2 +0.7
CRVS **Cervenica-Dubn** 16.58 312 *eP* P 00 41 35.5 +2.0
CRVS **Cervenica-Dubn** 16.58 312 *eP* P 00 41 35.5 +2.0
MOS **Moscow** 16.65 355 *eP* Pn 00 41 28.0 -3.5
AKTO **Aktyubinsk** 16.85 42 Pn Pn 00 41 30.9 -3.3
comp=Z,0.3nm,0.3s,baz=227,slow=12,SNR=36
AKTO LR LR 00 49 46.3
comp=Z,337nm,18.9s,baz=231,slow=44
ABKAR **Akbulak array** 17.29 48 P Pn 00 41 38.5 -1.3
ABKAR **Akbulak array** 17.29 48 Pn 00 41 38.0 -1.8
MNK **Minsk** 17.45 335 *i*P Pn 00 41 39.8 -1.8
MNK *i*S Sn 00 44 54.5 -1.7
MNK pmax pmax
comp=N,7.0nm,1.1s
MNK pmax pmax
comp=E,2.0nm,1.1s
MNK pmax pmax
comp=Z,11nm,1.1s
MNK MLR MLR
comp=Z,127nm,14.0s
MNK MLR MLR
comp=N,185nm,17.0s
MNK MLR MLR
comp=E,22nm,16.0s
MNK **Minsk** 17.45 335 *i*P Pn 00 41 39.9 -1.7
comp=E,2.0nm,1.1s
MNK *i*P Pn 00 41 39.9 -1.7
comp=N,7.0nm,1.1s
MNK *i*P Pn 00 41 39.9 -1.7
comp=Z,11nm,1.1s,baz=146
MNK *i*PP PnPn 00 41 50.0 -1.7
MNK *i*PPP PPP 00 41 57.7
MNK *i*S Sn 00 44 54.5 -1.7
MNK *i*SS SnSn 00 45 09.8 +0.3
MNK *i*SSS SSS 00 45 22.1
MNK *i*LQ LQ 00 46 23.4
MNK *i*LR LR 00 47 44.6
MNK *i*LRM MLR 00 48 59.0
comp=Z,127nm,13.5s
MNK *i*LRM MLR 00 49 06.1
comp=N,185nm,16.8s
MNK *i*LRM MLR 00 49 09.4
comp=E,22nm,16.1s
NACGM **Naroch** 18.14 334 *i*P P 00 41 51.2 +0.6
OJC **Ojcow** 18.17 314 P P 00 41 52.2 +1.2
OJC pmax pmax
comp=Z,6.0nm,1.1s
OJC **Ojcow** 18.17 314 P 00 41 52.2 +1.2
TIP **Timpagrande** 18.19 277 P P 00 41 51.9 +0.5
TIP IAmb IAmb 00 41 55.8
comp=Z,26nm,1.3s
HRA **Herat** 18.26 98 P P 00 41 52.3 0.0
KOLL **Kolacno** 18.27 308 *eP* P 00 41 56.2 +4.2
SGRT **San Giovanni R** 18.79 286 P Pn 00 41 59.6 +1.3
BANOM **Banah** 18.89 130 Pn Pn 00 41 59.5 -0.1
NAZ **Nazwa, Dubai** 19.23 133 Pn Pn 00 42 03.5 -0.2
MDH **Madha** 19.36 131 Pn Pn 00 42 04.8 -0.4
FAQ **Al Faqa, Dubai** 19.38 133 Pn P 00 42 04.5 +0.1
UOSS **Minazif** 19.58 132 Pn P 00 42 06.7 +0.2
UOSS **Minazif** 19.58 132 P Pn 00 42 08.1 +0.3

UOSS IAmb IAmb 00 42 16.1
comp=Z,19nm,0.8s
HATD **Hatta, Dubai** 19.63 132 P Pn 00 42 09.2 +0.8
CONA **Conrad Observa** 19.64 304 P Pn 00 42 08.5 0.0
comp=Z,27nm,1.7s,SNR=9.0
VRAC **Vranov** 19.65 309 P P 00 42 05.7 -1.5
comp=Z,0.1nm,0.3s,baz=10,slow=10,SNR=1.1
VRAC LR LR 00 51 21.7
comp=Z,137nm,18.9s,baz=128,slow=42
ARSA **Arzberg** 19.67 302 *eP* Pn 00 42 12.7 +3.9
comp=Z,4.3nm,1.0s
ASHO **Ashiyiah** 19.69 133 P Pn 00 42 10.0 +0.7
KRLC **Kraliky** 19.84 311 AMS AMS 00 52 00.0
comp=Z,200nm,8.0s
DPC **Dobruska-Polom** 20.22 311 *eP* Pn 00 42 17.8 +2.5
DPC MLR MLR
comp=Z,200nm,8.0s
DPC **Dobruska-Polom** 20.22 311 *eP* Pn 00 42 17.8 +2.5
DPC *eS* Sn 00 46 12.1 +8.8
DPC AMS AMS 00 52 40.0
comp=Z,200nm,8.0s
KIRV **Kirov** 20.29 14 P P 00 42 12.6 -1.4
comp=Z,19nm,0.9s,baz=297,slow=2.0,SNR=3.6
KIRV LR LR 00 50 27.8
comp=Z,96nm,18.5s,baz=206,slow=38
VAE **Valguarnera** 20.31 273 P P 00 42 15.1 +0.5
comp=Z,5.0nm,0.9s,baz=68,slow=11,SNR=1.9
TREC **Trest** 20.32 308 AMS AMS 00 51 30.0
comp=Z,200nm,13.0s
OSTC **Ostas** 20.37 312 AMS AMS 00 52 40.0
comp=Z,200nm,14.2s
SOHO **SOHO** 20.39 133 P P 00 42 14.6 -0.9
KSP **Ksiaz** 20.45 313 *eP* Pn 00 42 20.9 +3.0
UPC **Upice** 20.47 311 AMS AMS 00 52 40.0
comp=Z,200nm,10.8s
CHVC **Chvalec** 20.47 312 *eP* Pn 00 42 20.3 +2.0
AQU **L'Aquila** 20.53 287 P Pn 00 42 18.5 -0.6
AQU pmax pmax
comp=Z,24nm,0.9s
AQU **L'Aquila** 20.53 287 P Pn 00 42 18.5 -0.6
AQU IAmb IAmb 00 42 24.9
comp=Z,24nm,0.9s
MOA **Molln** 20.65 303 *eP* Pn 00 42 22.0 +1.6
comp=Z,7.9nm,0.8s
NRCA **Norcia** 20.75 289 P Pn 00 42 21.4 -0.2
NRCA IAmb IAmb 00 42 29.0
comp=Z,27nm,1.2s
CKRC **Cesky Krumlov** 20.89 306 *eP* Pn 00 42 24.3 +1.1
CKRC *eS* Sn 00 46 26.4 +6.8
CKRC AMS AMS 00 51 20.0
comp=Z,200nm,22.1s
ARU **Arti** 21.07 29 P P 00 42 21.6 -0.9
comp=Z,4.8nm,0.7s,baz=224,slow=8.6,SNR=20
ARU LR LR 00 52 28.6
comp=Z,87nm,21.0s,baz=230,slow=43
ARU **Arti** 21.07 29 *d* *i*P P 00 42 21.6 -0.9
ARU 00 42 41.0
ARU S S 00 46 18.0 +0.4
ARU SS SnSn 00 46 37.9 -0.5
ARU pmax pmax
comp=Z,26nm,1.0s
ARU MLR MLR
comp=Z,198nm,15.0s
ARU **Arti** 21.07 29 P P 00 42 21.5 -1.1
ARU IAmb IAmb 00 42 25.8
comp=Z,25nm,1.0s
KBA **Koelnbreinsper** 21.07 301 *eP* P 00 42 26.5 +3.6
comp=Z,29nm,1.5s
GKP **Gorka Klasztor** 21.11 319 *eP* P 00 42 25.6 +2.6
PRU **Pruhonice** 21.14 309 *eP* P 00 42 24.1 +0.7
PRU *eS* Sn 00 46 36.5 +11
PRU MLR MLR
comp=Z,200nm,14.2s
PRU **Pruhonice** 21.14 309 *eP* P 00 42 24.1 +0.7
PRU *eS* Sn 00 46 36.5 +11
PRU AMS AMS 00 52 30.0
comp=Z,200nm,14.2s
VSU **Vasula** 21.16 340⇑ *eP* P 00 42 24.7 +1.3
VSU pmax pmax
comp=Z,29nm,0.9s
MURB **Monte Urbino** 21.19 290 P P 00 42 23.7 -0.3
MURB IAmb IAmb 00 42 31.7
comp=Z,42nm,1.4s
ZOU **Zoufplan** 21.22 299 P P 00 42 25.5 +1.0
ZOU IAmb IAmb 00 42 36.7
comp=Z,25nm,1.1s
GEC2 **GERESS Array S** 21.29 306 P P 00 42 26.4 +1.3
GERES **GERESS Array B** 21.29 306 P P 00 42 24.2 -0.9
comp=Z,1.6nm,0.7s,baz=110,slow=10,SNR=13
GERES LR LR 00 52 06.5
comp=Z,168nm,20.4s,baz=120,slow=41
GERES **GERESS Array B** 21.29 306 P P 00 42 27.0 +2.0
GERES **GERESS Array B** 21.29 306 P P 00 42 27.0 +2.0
PVCC **Panska Ves** 21.32 311 AMS AMS 00 53 00.0
comp=Z,200nm,13.3s
STAL **STALIGIAL** 21.35 298 P P 00 42 27.2 +1.5
STAL IAmb IAmb 00 42 30.3
comp=Z,20nm,1.3s
KHC **Kasperske Hory** 21.45 306 *eP* P 00 42 28.9 +2.2
KHC MLR MLR
comp=Z,200nm,20.3s
KHC **Kasperske Hory** 21.45 306 *eP* P 00 42 28.9 +2.2
KHC *eS* Sn 00 46 41.6 +8.7
KHC AMS AMS 00 51 10.0
comp=Z,200nm,20.3s
ABTA **Abfaltersbach** 21.57 300 *eP* P 00 42 30.9 +2.8
comp=Z,6.9nm,0.9s
KLMR **Klimovskoe** 21.69 359 *eP* P 00 42 27.4 -1.7
KLMR pmax pmax
comp=Z,41nm,1.5s
KLMR **Klimovskoe** 21.69 359 *eP* P 00 42 27.5 -1.7
KLMR AMP 00 42 33.7
comp=Z,41nm,1.5s
BRG **Berggiesshubel** 21.82 311 *eP* P 00 42 35.3 +4.6
BRG Amp 00 42 38.2
comp=Z,8.2nm,1.3s
BRG Amp 00 51 37.0
comp=N,0.2nm,15.6s
BRG Amp 00 51 37.0
comp=E,0.2nm,17.6s
BRG Amp 00 51 39.0
comp=Z,0.2nm,17.3s
WET **Wettzell** 21.89 306 P P 00 42 33.6 +2.1
WET pmax pmax
comp=Z,7.0nm,1.2s
TEOL **Teolo** 21.95 296 P P 00 42 32.9 +0.8
CTI **Castel Tesino** 22.05 297 P P 00 42 33.8 +0.5
CTI pmax pmax
comp=Z,20nm,1.2s
CTI **Castel Tesino** 22.05 297 P P 00 42 33.8 +0.5
CTI IAmb IAmb 00 42 39.9
comp=Z,20nm,1.2s
OSSC **Osservatorio P** 22.13 291 P P 00 42 36.4 +2.3
SVE **Sverdlovsk** 22.16 31⇓ *eP* P 00 42 34.1 -0.1
SVE pmax pmax
comp=Z,27nm,1.0s
TAS **Tashkent** 22.24 75 P P 00 42 34.6 -0.7
TAS pmax pmax
comp=Z,25nm,0.9s
TAS **Tashkent** 22.24 75 P P 00 42 34.6 -0.7
TAS IAmb IAmb 00 42 36.5
comp=Z,24nm,0.9s
WTTA **Wattenberg** 22.25 301 *eP* P 00 42 38.8 +3.2
comp=Z,18nm,1.0s,SNR=5.8
WSAR **Wadi Sarin** 22.30 130 P P 00 42 37.4 +1.3
comp=Z,4.6nm,0.9s,baz=212,slow=13,SNR=2.9
WSAR LR LR 00 52 34.5
comp=Z,378nm,18.9s,baz=340,slow=40
WATA **Walderalm** 22.30 301 *eP* P 00 42 38.3 +2.2
comp=Z,24nm,1.3s,SNR=11
WATA **Walderalm** 22.30 301 P P 00 42 38.7 +2.6
ZCCA **Zocca** 22.36 293 P P 00 42 39.0 +2.5
ZCCA IAmb IAmb 00 42 54.1
comp=Z,16nm,1.2s
CHGR **Chuyangaron** 22.47 82 P P 00 42 38.2 +0.3
NKC **Novy Kostel** 22.49 308 AMS AMS 00 52 30.0
comp=Z,200nm,20.7s
SQTA **Sankt Quirin** 22.53 300 *eP* P 00 42 39.1 +0.7
comp=Z,17nm,1.4s
CLL **Collm** 22.53 311 *eP* P 00 42 39.0 +0.7
CLL *i* 00 42 41.3
CLL *e* 00 42 43.0
comp=Z,14nm,1.3s
CLL *eS* S 00 46 42.0 -4.1
CLL **Collm** 22.53 311 *eP* P 00 42 39.0 +0.7

CLL *i* 00 42 41.3
CLL *e* 00 42 43.0
CLL pmax pmax
comp=Z,14nm,1.3s
CLL Collm 22.53 311 P **P** **00 42 38.6 +0.3**
CLL lAmb lAmb 00 42 44.8
comp=Z,13nm,1.2s
MOTA Moosalm 22.62 301 *e*P **P** **00 42 40.1 +0.6**
comp=Z,23nm,1.1s
PRGR Permogore 22.72 7 *e*P **P** **00 42 42.0 +1.9**
PRGR pmax pmax
comp=Z,38nm,1.5s
VLC Villacollemand 22.77 292 P **P** **00 42 43.0 +2.1**
VLC lAmb lAmb 00 42 58.0
comp=Z,17nm,1.2s
SALO Salr 22.77 296 P **P** **00 42 42.1 +1.1**
SALO lAmb lAmb 00 42 46.8
comp=Z,23nm,1.0s
FETA Feichten 22.82 300 *e*P **P** **00 42 43.9 +2.3**
comp=Z,14nm,1.3s,SNR=8.9
PRMA PARMA 22.85 294 P **P** **00 42 42.6 +0.8**
RETA Reutte 22.88 301 *e*P **P** **00 42 43.5 +1.5**
comp=Z,4.7nm,0.9s
KK31 Karatay Array 23.07 70 P **P** **00 42 43.8 -0.3**
KK31 pmax pmax
comp=Z,13nm,1.0s
KK31 Karatay Array 23.07 70 P **P** **00 42 43.8 -0.3**
KK31 lAmb lAmb 00 42 45.5
comp=Z,13nm,0.9s
KKAR Karatay Array 23.07 70 P **P** **00 42 43.6 -0.4**
KKAR Karatay Array 23.07 70 P **P** **00 42 43.6 -0.4**
KKAR Karatay Array 23.07 70 P **P** **00 42 43.5 -0.6**
KKAR lAmb lAmb 00 42 45.6
comp=Z,13nm,0.9s
GRF Grafenberg Arr 23.08 307 P **P** **00 42 45.5 +1.4**
GRF pmax pmax
comp=Z,35nm,1.3s
GRF Grafenberg Arr 23.08 307 *e*P **P** **00 42 45.0 +0.8**
comp=Z,9.7nm,0.8s,baz=112,slow=10.0
GRFO Grafenberg 23.08 307 P **P** **00 42 45.5 +1.4**
GRFO pmax pmax
comp=Z,78nm,1.4s
GRFO Grafenberg 23.08 307 P **P** **00 42 45.5 +1.4**
MOX Moxa 23.13 309 P **P** **00 42 45.2 +0.6**
MOX pmax pmax
comp=Z,6.0nm,1.2s
GAR Garm 23.30 81 P **P** **00 42 46.6 0.0**
DAVOX Davos/Dischmat 23.36 299 P **P** **00 42 46.8 -0.4**
comp=Z,4.2nm,0.9s,baz=140,slow=13,SNR=6.5
DAVOX LR LR 00 52 55.5
comp=Z,129nm,18.2s,baz=85,slow=39
DAVA Damuels 23.43 300 *e*P **P** **00 42 49.3 +1.4**
comp=Z,3.9nm,0.8s
KBL Kabul 23.46 92 P **P** **00 42 48.6 +0.2**
KBL pmax pmax
comp=Z,6.0nm,1.1s
KBL Kabul 23.46 92 P **P** **00 42 48.6 +0.2**
BTK Batken 23.52 78 P **P** **00 42 47.5 -1.2**
BTK pmax pmax
comp=Z,7.0nm,1.0s
BTK Batken 23.52 78 P **P** **00 42 47.5 -1.2**
BTK lAmb lAmb 00 43 05.1
comp=Z,7.2nm,0.9s
FINES FINESS Array B 23.93 343 P **P** **00 42 51.8 -0.7**
comp=Z,4.3nm,0.6s,baz=150,slow=10,SNR=19
FINES LR LR 00 53 42.4
comp=Z,100nm,20.5s,baz=154,slow=41
FINES FINESS Array B 23.93 343 *i* P **P** **00 42 55.0 +2.6**
FINES pmax pmax
comp=Z,4.0nm,0.6s
FINES FINESS Array B 23.93 343 P **P** **00 42 53.0 +0.6**
STU Stuttgart 24.15 304 P **P** **00 42 56.5 +1.8**
STU pmax pmax
comp=Z,33nm,0.9s
STU Stuttgart 24.15 304 P **P** **00 42 56.5 +1.8**
DRK Karamyk 24.36 79 P **P** **00 42 56.6 -0.3**
DRK lAmb lAmb 00 42 58.5
comp=Z,21nm,1.2s
SLE Schleitheim 24.44 301 P **P** **00 42 57.4 +0.1**
SLE pmax pmax
comp=Z,17nm,1.1s
BFO Black Forest 24.64 302 P **P** **00 43 01.7 +2.6**
BFO pmax pmax
comp=Z,11nm,1.4s
BFO Black Forest 24.64 302 P **P** **00 43 01.7 +2.6**
BFO lAmb lAmb 00 43 11.0
comp=Z,11nm,1.4s
KEST Kesra 24.70 272 P **P** **00 42 59.7 -0.1**
comp=Z,7.6nm,0.8s,baz=161,slow=1.5,SNR=11
KEST Kesra 24.70 272 P **P** **00 43 00.5 +0.6**
KEST lAmb lAmb 00 43 06.0
comp=Z,20nm,1.1s
SAOF Saorge 24.81 292 P **P** **00 42 57.2 -3.5**
SAOF pmax pmax
comp=Z,16nm,1.6s
BVAR Borovoye Array 24.84 46 P **P** **00 43 00.0 -0.8**
comp=Z,3.0nm,1.0s,baz=193,slow=20,SNR=5.1
SENIN Lac Senin/Sane 25.08 297 P **P** **00 43 03.0 -0.3**
SENIN lAmb lAmb 00 43 18.8
comp=Z,12nm,1.1s
BNI Bardonecchia 25.45 294 P **P** **00 43 07.9 +1.3**
BNI pmax pmax
comp=Z,30nm,1.5s
BNI Bardonecchia 25.45 294 P **P** **00 43 07.9 +1.3**
AAK Ala-Archa 26.01 71 P **P** **00 43 11.6 -0.2**
comp=Z,2.4nm,0.6s,baz=231,slow=14,SNR=6.1
AAK LR LR 00 54 43.0
comp=Z,84nm,19.1s,baz=272,slow=40
AAK Ala-Archa 26.01 71 *de*P **P** **00 43 12.3 +0.5**
AAK pmax pmax
comp=Z,15nm,1.3s
AAK Ala-Archa 26.01 71 P **P** **00 43 11.6 -0.2**
HFS Hagfors 26.77 330 P **P** **00 43 17.3 -1.0**
comp=Z,7.3nm,1.1s,baz=157,slow=4.2,SNR=2.8
KSH Kashi 27.53 78 P **P** **00 43 22.6 -2.8**
KSH pP pP 00 43 27.6 +1.2
KSH pmax pmax
comp=Z,5.0nm,0.8s
ATD Arta Tunnel 27.65 174 LR LR 00 54 23.6
comp=Z,37nm,18.4s,baz=162,slow=36
NOA NORSAR Array B 28.29 330 LR LR 00 56 16.2
comp=Z,66nm,18.8s,baz=135,slow=40
CLF Chambon-Foret 28.63 300 P **P** **00 43 36.9 +1.9**
KURBB Kurchatov Arra 29.11 54 P **P** **00 43 38.0 -1.2**
comp=Z,1.2nm,0.8s,baz=266,slow=8.8,SNR=8.9
KURK Kurchatov 29.18 54 P **P** **00 43 38.1 -1.8**
MAKZ Makanchi 31.16 62 P **P** **00 43 57.0 -0.5**
MAKZ pmax pmax
comp=Z,4.0nm,1.1s
MAKZ Makanchi 31.16 62 P **P** **00 43 57.0 -0.5**
MAKZ lAmb lAmb 00 44 14.5
comp=Z,4.2nm,1.1s
MKAR Makanchi Array 31.38 62 P **P** **00 43 59.2 -0.2**
comp=Z,3.5nm,0.9s,baz=280,slow=7.3,SNR=14
MKAR LR LR 00 58 43.5
comp=Z,78nm,20.0s,baz=288,slow=40
MKAR Makanchi Array 31.38 62 P **P** **00 43 58.9 -0.5**
ARCES ARCESS Array B 31.41 350 P **P** **00 43 58.4 -1.0**
comp=Z,1.6nm,0.9s,baz=132,slow=5.4,SNR=4.3
ARCES LR LR 00 57 42.7
comp=Z,125nm,20.6s,baz=80,slow=39
ARCES ARCESS Array B 31.41 350 lAmb lAmb 00 44 08.5
comp=Z,16nm,1.4s
EKA Eskdalemuir Ar 32.95 314 P **P** **00 44 12.2 -0.8**
comp=Z,1.2nm,0.7s,baz=115,slow=7.9,SNR=5.0
ZAA0 Zalesovo Array 33.41 49 P **P** **00 44 16.7 -0.3**
ZALV Zalesovo Beam 33.41 49 P **P** **00 44 15.8 -1.2**
comp=Z,0.7nm,0.6s,baz=279,slow=9.5,SNR=2.5
ZALV LR LR 00 59 52.0
comp=Z,78nm,20.8s,baz=252,slow=40
ESBB Sonseca Array 33.88 285 P **P** **00 44 21.5 +0.1**
ESBB lAmb lAmb 00 44 24.2
comp=Z,2.8nm,0.8s
ESDC Sonseca Array 33.88 285 P **P** **00 44 19.5 -1.9**
comp=Z,2.2nm,0.9s,baz=64,slow=8.3,SNR=8.4
ESDC LR LR 01 00 16.5
comp=Z,52nm,18.4s,baz=10.0,slow=40
DGZ Jazzator, Alta 34.77 57 *e*P **P** **00 44 28.8 -0.3**
DGZ pmax pmax
comp=Z,8.0nm,2.6s
WMQ Urumqi 35.46 67 *e*P **P** **00 44 37.0 +2.0**
WMQ LR LR
comp=N,310nm,14.7s
WMQ LR LR
comp=E,310nm,19.7s
WMQ LR LR
comp=Z,110nm,21.9s
NRIK Noril'sk 39.16 24 P **P** **00 45 05.6 -0.4**
comp=Z,6.5nm,1.0s,baz=262,slow=5.8,SNR=3.7
NRIK LR LR 01 03 33.2
comp=Z,105nm,20.3s,baz=268,slow=40
NRIK Noril'sk 39.16 24 *e*P **P** **00 45 06.9 +0.9**
NRIK pmax pmax
comp=Z,9.0nm,1.1s
NRIK Noril'sk 39.16 24 P **P** **00 45 06.4 +0.4**
NRIK lAmb lAmb 00 45 10.8
comp=Z,8.9nm,1.1s
TORD Torodi Ar. Bea 42.75 243 P **P** **00 45 36.0 -0.2**
comp=Z,2.3nm,1.0s,baz=39,slow=6.5,SNR=6.6
TORD PcP **PcP** **00 47 28.3 +0.5**
comp=Z,0.4nm,0.6s,baz=39,slow=2.2,SNR=2.2
TORD LR LR 01 06 53.5
comp=Z,43nm,19.2s,baz=280,slow=41
TORD Torodi Ar. Bea 42.75 243 lAmb lAmb 00 45 43.6
comp=Z,4.3nm,1.4s
SONM Songino Array 47.41 57 P **P** **00 46 12.8 -0.3**
comp=Z,1.1nm,0.8s,baz=295,slow=7.0,SNR=5.6
SONM PcP **PcP** **00 47 42.7 -1.0**
comp=Z,0.6nm,0.8s,baz=258,slow=1.3,SNR=2.4
SONM LR LR 01 08 38.5
comp=Z,225nm,18.4s,baz=282,slow=39
SONM Songino Array 47.41 57 P **P** **00 46 12.6 -0.5**
ULN Ulaanbaatar 47.83 57 *de*P **P** **00 46 16.6 +0.2**
ULN pmax pmax
comp=Z,11nm,1.0s
ULN Ulaanbaatar 47.83 57 P **P** **00 46 15.9 -0.5**
LZH Lanzhou 49.54 72 *e*P **P** **00 46 27.9 -1.9**
LZH pP pP 00 46 32.2 +1.4
LZH sP sP 00 46 34.7 +3.5
BOD Bodaibo 49.62 42 *e*P **P** **00 46 28.4 -1.4**
BOD pmax pmax
comp=Z,14nm,0.7s
DBIC Dimbokro 51.86 243 P **P** **00 46 49.1 +1.9**
comp=Z,6.9nm,1.1s,baz=14,slow=7.8,SNR=4.4
DBIC LR LR 01 13 40.8
comp=Z,49nm,18.0s,baz=73,slow=42
DBIC Dimbokro 51.86 243 lAmb lAmb 00 46 53.2
comp=Z,17nm,1.4s
HHC Hu-ho-hao-te 53.22 64 *e*P **P** **00 46 57.6 +0.4**
HHC pmax pmax
comp=Z,10.0nm,0.9s
HHC pmax pmax
comp=Z,94nm,6.6s
CMAR Chiang Mai Arr 54.47 95 P **P** **00 47 07.2 +0.7**
comp=Z,0.8nm,0.3s,baz=288,slow=6.6,SNR=4.4
CMAR LR LR 01 13 03.6
comp=Z,38nm,21.6s,baz=210,slow=39
CMAR Chiang Mai Arr 54.47 95 *ce*P **P** **00 47 08.8 +2.3**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
NJ2 Nanjing 62.45 70 *e*P **P** **00 48 00.5 -1.5**
NJ2 pmax pmax
comp=Z,16nm,0.7s
RES Resolute Bay 62.59 348 P **P** **00 48 03.0 +0.7**
RES pmax pmax
comp=Z,14nm,0.8s
RES Resolute Bay 62.59 348 P **P** **00 48 04.6 +2.3**
PSI Prapat 64.28 109 P **P** **00 48 13.6 -0.9**
PSI pmax pmax
comp=Z,7.0nm,1.2s
RPSI Rantau Prapat 64.36 109 P **P** **00 48 13.6 -1.3**
RPSI lAmb lAmb 00 48 17.1
comp=Z,7.1nm,1.2s
BILL Bilibino 65.72 19 *e*P **P** **00 48 24.0 +1.1**
BILL *e* 00 50 50.6
BILL pmax pmax
comp=Z,2.0nm,1.0s
KSRS Korea Array 66.04 60 P **P** **00 48 24.4 -1.0**
comp=Z,3.4nm,0.9s,baz=297,slow=7.1,SNR=6.1
KSRS LR LR 01 20 39.7
comp=Z,113nm,19.5s,baz=295,slow=39
BOSA Boshof 68.89 194 P **P** **00 48 45.7 +2.2**
comp=Z,2.2nm,0.7s,baz=22,slow=4.0,SNR=4.4
MJAR Matsushiro Arr 73.36 56 LR LR 01 23 30.9
comp=Z,50nm,20.6s,baz=260,slow=38
ILAR Eielson Array 76.22 3 P **P** **00 49 26.9 +0.1**
comp=Z,0.6nm,0.9s,baz=301,slow=3.1,SNR=4.5

NOU 07 00:48:30.8, 15°.53S×169°.08E, h211km, mb3.5/11, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.81**	**272**	P	Pn	00 49 08.9	+0.6
RTV	**Rentapao**	**2.34**	**196**	P	Pn	00 49 14.6	+1.0
DVP	**Devils Point**	**2.34**	**201**	P	Pn	00 49 13.1	-0.6
MARNC	**Mare, Loyalty**	**6.00**	**189**	P	Pn	00 49 57.7	-0.5
YATNC	**Mamie plateau,**	**6.82**	**197**	P	Pn	00 50 07.8	-0.9
DZM	**Mont Dzumac**	**6.97**	**201**	P	Pn	00 50 11.4	+0.6
NOUC	**Port Laguerre**	**7.04**	**201**	P	Pn	00 50 12.8	+1.1
OUENC	**Ouen Island, N**	**7.17**	**197**	P	Pn	00 50 13.1	-0.2

*JMA **07** 00:49:42.7±0.1, 39°.39N×143°.14E, h21km±2km, M4.3*
*NIED **07** 00:49:42.8, 39°.39N×143°.14E, h21km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}-0.32; $M_{\theta\theta}$0.86; $M_{\phi\phi}$-0.54; $M_{r\theta}$0.69; $M_{\theta\phi}$-0.30; $M_{\phi r}$0.53; Fault plane solution: $M_0$1.19000×10¹⁵ NP1: ϕ_s242.00000°, δ80.00000°, λ-130.00000°. NP2: ϕ_s140.00000°, δ41.00000°, λ-16.00000°.*
*IDC **07** 00:49:46.0±3.7, 39°.28N×143°.05E, h35km±31km, mb3.8/15, mb1 3.9/19, mb1mx3.8/38, mbtmp4.0/19, ML3.7/3, MS3.1/6, Ms1 3.1/6, ms1mx2.8/44 Error ellipse: s-maj=19.5km s-min=15.4km az=103.0*
*NEIC **07** 00:49:46.7±2.0, 39°.27N±0°.07×143°.2E±0°.1, h39km±3km, mb4.5/17, Error ellipse: s-maj=14.3km s-min=9.6km az=101.0*
ISC 07 00:49:42.9±3.7, 39°.35N±0°.05×143°.19E±0°.06, h15km±23km, n77, σ1°.72/76, mb4.2/23, MS3.0/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.08**	**282**	P	**Pb**	**00 50 01.7**	**-1.7**
MIYJ				S	**Sb**	**00 50 15.4**	**-2.0**
JTH	**Tanohata**	**1.18**	**300**	P	**Pn**	**00 50 03.1**	**-1.8**
JTH				*e*S	**Sb**	**00 50 18.1**	**-2.0**
OFUJ	**Ofunato**	**1.21**	**258**	P	**Pn**	**00 50 03.9**	**-1.4**
OFUJ				S	**Sb**	**00 50 19.6**	**-1.4**
JKMT	**Kesennumamotoy**	**1.44**	**249**	P	**Pn**	**00 50 07.6**	**-0.8**
JOM	**Ohasama**	**1.48**	**275**	P	**Pn**	**00 50 08.0**	**-0.9**
JOM				S	**Sn**	**00 50 26.3**	**-1.7**
JMK	**Ichinoseki**	**1.58**	**256**	P	**Pn**	**00 50 09.9**	**-0.5**
JANG	**Nango**	**1.65**	**309**	P	**Pn**	**00 50 09.7**	**-1.6**
JIO	**Ouri**	**1.69**	**239**	P	**Pn**	**00 50 11.8**	**-0.1**
JRG	**Rokugo**	**1.98**	**272**	P	**Pn**	**00 50 16.4**	**+0.5**
JAH	**Hinai**	**2.14**	**294**	P	**Pn**	**00 50 18.5**	**+0.4**
JAH				*e*S	**Sn**	**00 50 44.8**	**+0.4**
JTM	**Tenmabayashi**	**2.17**	**312**	P	**Pn**	**00 50 18.1**	**-0.4**
JTM				*e*S	**Sn**	**00 50 43.6**	**-1.6**
JTM	**Tenmabayashi**	**2.17**	**312**	Pn	**Pn**	**00 50 18.4**	**-0.1**
JOU	**Okura**	**2.20**	**244**	P	**Pn**	**00 50 19.6**	**+0.6**
JYK	**Kaneyama**	**2.24**	**260**	P	**Pn**	**00 50 20.3**	**+0.8**
JMM	**Marumori**	**2.39**	**232**	P	**Pn**	**00 50 21.6**	**+0.1**
JMM	**Marumori**	**2.39**	**232**		**Pn**	**00 50 20.9**	**-0.6**
JEW	**Eniwo**	**3.73**	**340**		**Pn**	**00 50 42.5**	**+2.6**
JYT	**Yasato**	**3.92**	**218**		**Pn**	**00 50 42.4**	**-0.1**
JSD	**Sado**	**4.07**	**253**	Pn	**Pn**	**00 50 46.0**	**+1.3**
JKA	**Kamikawa-asahi**	**4.78**	**355**		**Pn**	**00 50 54.9**	**+0.5**
ASAJ	**Asahikawa**	**4.78**	**355**	Pn	**Pn**	**00 50 54.5**	**+0.1**
	3.9nm,0.3s,baz=216,slow=16,SNR=7.2						
ASAJ				Sn	**Sn**	**00 51 45.3**	**-4.3**
	baz=225,slow=33,SNR=1.2						
ASAJ				LR	LR	00 53 21.3	
	comp=Z,389nm,20.8s,baz=162,slow=44						
MAJO	**Matsushiro**	**4.83**	**236**		**Pn**	**00 50 57.4**	**+2.3**
MAT	**Matsushiro**	**4.83**	**236**	P	**Pn**	**00 50 57.3**	**+2.2**
MAT				*e*S	**Sn**	**00 51 55.1**	**+4.2**
MJAR	**Matsushiro Arr**	**4.83**	**236**	Pn	**Pn**	**00 50 56.3**	**+1.1**
	0.5nm,0.3s,baz=332,slow=10,SNR=21						
MJAR	**Matsushiro Arr**	**4.83**	**236**		**Pn**	**00 50 57.0**	**+1.9**
JGF	**Kuroka**	**5.96**	**233**		**Pn**	**00 51 11.1**	**+0.5**
INU	**Inuyama**	**6.33**	**233**	Pn	**Pn**	**00 51 17.1**	**+1.4**
JHJ2	**Mitsune**	**6.79**	**205**	Pn	**Pn**	**00 51 20.8**	**-1.2**
JHJ	**Hachijo jima 2**	**6.80**	**205**	Pn	**Pn**	**00 51 20.9**	**-1.3**
	9.5nm,0.3s,baz=242,slow=23,SNR=1.7						
JHJ				Sn	**Sn**	**00 52 32.4**	**-6.9**
	6.8nm,0.3s,baz=89,slow=20,SNR=1.6						
JWT Wachi 7.41 239 Pn **Pn** **00 51 32.6 +2.1**
USA0B Ussuriysk Arra 9.67 304 Pn **Pn** **00 52 05.3 +3.9**
USRK Ussuriysk Ar. 9.67 304 Pn **Pn** **00 52 01.7 +0.3**
baz=144,slow=41,SNR=1.8
USRK Ussuriysk Ar. 9.67 304 **Pn** **00 52 05.9 +4.5**
KSRS Korea Array 12.13 266 Pn **Pn** **00 52 37.8 +2.7**
0.3nm,0.3s,baz=68,slow=15,SNR=1.9
KSRS LR LR 00 56 57.7
comp=Z,90nm,18.3s,baz=85,slow=36
MA2 Magadan 20.81 11 LR LR 01 03 38.9
comp=Z,44nm,18.7s,baz=155,slow=40
YAK Yakutsk 24.17 344 LR LR 01 04 48.5
comp=Z,23nm,20.5s,baz=85,slow=37
SEY Seymchan 24.26 10 LR LR 01 04 15.0
comp=Z,55nm,18.6s,baz=102,slow=36
SONM Songino Array 27.75 300 P **P** **00 55 31.3 +0.3**
1.3nm,0.7s,baz=97,slow=8.2,SNR=5.9
H11N2 WAKE ISLAND Hy 28.27 127 T T 01 25 12.0
baz=319,slow=74,SNR=161
H11N1 WAKE ISLAND Hy 28.28 127 T T 01 25 11.7
baz=319,slow=74,SNR=85
H11N3 WAKE ISLAND Hy 28.29 127 T T 01 25 12.2
baz=319,slow=74,SNR=94
H11S1 WAKE ISLAND Hy 29.08 129 T T 01 26 17.0
baz=321,slow=76,SNR=24
H11S3 WAKE ISLAND Hy 29.08 129 T T 01 26 18.8
baz=321,slow=76,SNR=13
H11S2 WAKE ISLAND Hy 29.10 129 T T 01 26 18.4
baz=321,slow=76,SNR=20
ZAA0 Zalesovo Array 41.43 310 P **P** **00 57 28.8 +0.1**
ZALV Zalesovo Beam 41.43 310 P **P** **00 57 28.6 -0.1**
1.7nm,0.5s,baz=92,slow=7.8,SNR=9.6
ZALV Zalesovo Beam 41.43 310 P **P** **00 57 28.3 -0.3**
CHIR Chirikof Islan 42.93 47 P **P** **00 57 42.2 +1.4**
O18K Koktuh Hills 43.01 41 P **P** **00 57 43.0 +1.6**
O18K lAmb lAmb 00 57 48.3
comp=Z,8.1nm,1.4s
MK31 Makanchi Array 44.12 300 P **P** **00 57 50.5 -0.1**
MKAR Makanchi Array 44.12 300 P **P** **00 57 50.2 -0.4**
comp=Z,1.3nm,0.7s,baz=87,slow=11,SNR=17
MKAR Makanchi Array 44.12 300 P **P** **00 57 50.4 -0.2**
KDAK Kodiak Island 44.45 44 P **P** **00 57 53.9 +0.9**
comp=Z,1.7nm,0.6s,baz=308,slow=1.7,SNR=5.1
KDAK Kodiak Island 44.45 44 lAmb lAmb 00 57 58.2
comp=Z,11nm,1.3s
ILAR Eielson Array 46.79 34 P **P** **00 58 12.8 +1.3**
comp=Z,0.5nm,0.6s,baz=261,slow=6.2,SNR=11
SCRK Sand Creek 48.11 34 P **P** **00 58 23.1 +1.3**
SCRK lAmb lAmb 00 58 37.3
comp=Z,1.9nm,0.8s
RAGM Ragged Mountai 48.22 39 P **P** **00 58 24.3 +1.6**
RAGM lAmb lAmb 00 58 30.7
comp=Z,12nm,1.3s
TARG Taragay, Kyrgy 48.66 295 P **P** **00 58 27.5 +0.7**
TARG lAmb lAmb 00 58 38.2
comp=Z,7.5nm,1.4s
SUCK Suckling Hills 48.71 40 P **P** **00 58 26.0 -0.4**
BOOM Boomskoye usch 49.70 297 P **P** **00 58 34.6 +0.1**
INK Inuvik 51.69 28 P **P** **00 58 49.6 +0.8**
comp=Z,0.7nm,0.5s,baz=276,slow=7.1,SNR=4.3
ARU Arti 55.57 318 P **P** **00 59 17.6 +0.2**
ARU lAmb lAmb 00 59 26.7
comp=Z,4.6nm,0.7s
CHGR Chuyangaron 55.95 295 P **P** **00 59 20.5 -0.1**
CHGR lAmb lAmb 00 59 29.6
comp=Z,8.3nm,0.8s
DIB Dawson Inlet, 56.60 46 P **P** **00 59 24.5 -0.3**
WR0 Warramunga Arr 59.55 189 P **P** **00 59 45.1 -0.7**
WR0 lAmb lAmb 00 59 55.9
comp=Z,2.6nm,0.9s
WB2 Warramunga Arr 59.56 190 P **P** **00 59 45.3 -0.6**
WB2 lAmb lAmb 00 59 46.1
comp=Z,3.9nm,0.9s
WRA Warramunga Arr 59.56 190 P **P** **00 59 45.3 -0.6**
comp=Z,1.0nm,0.5s,baz=7.9,slow=6.3,SNR=14
ARCES ARCESS Array B 62.33 339 P **P** **01 00 04.9 +0.8**
comp=Z,2.6nm,0.9s,baz=49,slow=9.8,SNR=3.5
ASAR Alice Springs 63.29 190 P **P** **01 00 09.8 -1.2**
comp=Z,4.5nm,0.3s,baz=359,slow=5.5,SNR=6.3
FINES FINESS Array B 67.42 332 P **P** **01 00 36.1 -1.3**
comp=Z,1.1nm,0.7s,baz=61,slow=9.0,SNR=4.8
KBZ Khabaz 70.45 311 P **P** **01 00 57.4 +0.8**
comp=Z,1.0nm,0.7s,baz=213,slow=15,SNR=2.0
NVAR Mina Array Bea 72.49 55 P **P** **01 01 10.7 +1.4**
comp=Z,0.6nm,0.7s,baz=297,slow=8.0,SNR=4.4
NB2 NORSAR Subarra 72.59 338 P **P** **01 01 09.2 0.0**
comp=Z,1.1nm,0.5s,baz=35,slow=6.2
NOA NORSAR Array B 72.59 338 P **P** **01 01 08.9 -0.3**
comp=Z,0.4nm,0.6s,baz=50,slow=5.5,SNR=2.6
NOA LR LR 01 39 01.5
comp=Z,13nm,18.1s,baz=350,slow=41
AKASG Malin Array Be 73.32 323 P **P** **01 01 13.0 -0.7**
comp=Z,0.3nm,0.4s,baz=46,slow=6.2,SNR=2.1
PDAR Pinedale Array 75.05 47 P **P** **01 01 25.8 +1.5**
comp=Z,0.4nm,0.7s,baz=243,slow=1.0,SNR=3.7
PDAR Pinedale Array 75.05 47 P **P** **01 01 25.1 +0.8**

IDC 07 00:53:14.5±1.4, 59°.21N×30°.64W, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.3/38, mbtmp3.5/4, MS3.3/2, Ms1 3.3/2, ms1mx2.7/31, Error ellipse: s-maj=52.5km s-min=30.4km az=33.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**25.83**	**127**	P	P	00 58 47.8	+0.5
	0.6nm,1.0s,baz=317,slow=9.2,SNR=4.2						
KEST	**Kesra**	**34.99**	**114**	LR	LR	01 11 42.5	
	comp=Z,39nm,19.8s,baz=203,slow=32						
ULM	**Lac du Bonnet**	**37.27**	**286**	LR	LR	01 14 04.5	
	comp=Z,49nm,18.9s,baz=324,slow=34						
PDAR	**Pinedale Array**	**49.23**	**287**	P	P	01 02 04.6	0.0
	0.2nm,0.5s,baz=48,slow=8.6,SNR=3.7						
TORD	**Torodi Ar. Bea**	**51.88**	**139**	P	P	01 02 24.0	-0.6
	0.6nm,1.0s,baz=356,slow=8.7,SNR=2.8						
MKAR	**Makanchi Array**	**60.97**	**46**	P	P	01 03 28.9	-0.2
	0.7nm,0.8s,baz=321,slow=6.0,SNR=3.1						

MEX 07 00:57:51.6±0.5, 14°.41N×92°.03W, h97km±7km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.54**	**336**	*i* S	Sn	00 58 17.3	-1.8
PCIG		**1.72**	**318**	*e*P	Pn	00 58 19.7	-0.8
PCIG				*e*S	Sn	00 58 40.7	-1.8
CCIG	**Comitan**	**1.86**	**357**	*e*P	Pn	00 58 26.4	+4.0
CCIG				*e*S	Sn	00 58 48.6	+2.6

NEIC 07 01:30:14.6±0.4, 37°.25N±0°.02×97°.542W±0°.009, h7km±3km, Error ellipse: s-maj=3.1km s-min=0.9km az=193.0, Kansas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KS20	**Mayfield South**	**0.03**	**203**		Pg	01 30 15.8	-0.1
KS20				Sg	Sg	01 30 16.6	-0.4
KS21	**Milan North St**	**0.10**	**289**	Pg	Pg	01 30 16.9	0.0
KS21				Sg	Sg	01 30 18.4	-0.1
KAN13	**South Haven SW**	**0.24**	**168**	Pg	Pg	01 30 19.5	0.0
KAN13				Sg	Sg	01 30 23.2	+0.4
KAN06	**Argonia West S**	**0.25**	**269**		Pg	01 30 19.6	0.0
KAN06					Sg	01 30 23.1	+0.1
KAN17	**Caldwell West**	**0.27**	**221**	Pg	Pg	01 30 20.0	0.0
KAN17				Sg	Sg	01 30 23.6	-0.1
KAN05	**Bluff City Nor**	**0.30**	**241**	Pg	Pg	01 30 20.4	-0.1
KAN05				Sg	Sg	01 30 24.7	+0.2
KAN08	**Anthony NE Sta**	**0.34**	**266**	Pg	Pg	01 30 21.3	-0.1
KAN08				Sg	Sg	01 30 26.1	+0.2
KAN12	**Harper NE Stat**	**0.37**	**277**	Pg	Pg	01 30 21.7	-0.1
KAN12				Sg	Sg	01 30 26.8	+0.2
KAN14	**Manchester OK**	**0.45**	**229**	Pg	Pg	01 30 23.2	-0.1
KAN14					Sg	01 30 29.2	0.0
KAN10	**Anthony SW Sta**	**0.46**	**254**		Pg	01 30 23.4	-0.2
KAN10					Sg	01 30 29.6	+0.1
GC02	**Grant County #**	**0.47**	**212**		Pg	01 30 23.7	-0.1
GC02				Sg	Sg	01 30 30.0	0.0
BLOK	**Blackwell**	**0.56**	**152**		Pg	01 30 25.5	+0.1
BLOK				Sg	Sg	01 30 33.1	+0.5
OK032	**Salt Plains WL**	**0.70**	**230**	Pg	Pg	01 30 27.7	-0.3
OK032					Sg	01 30 37.1	-0.1
CROK	**Carrier**	**0.83**	**205**	Pg	Pg	01 30 30.2	-0.3
CROK				Sg	Sg	01 30 41.1	-0.1

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
T35A	Sooner Cattle	0.89	112		Pg	01 30 31.8	0.0
T35A				Sg	Sg	01 30 43.8	+0.5
QUOK	Quay	1.27	148	Pg	Pn	01 30 38.4	-0.4
QUOK				Sg	Sb	01 30 55.4	0.0
OK031	S. Brethren Rd	1.42	156		Pn	01 30 40.8	-0.1
OK029	Liberty Lake	1.46	177	Pn	Pn	01 30 41.3	-0.1
U32A	Winter Ranch,	1.46	234	Pn	Pn	01 30 41.3	-0.1
R32A	Long Quarter,	1.49	322		Pn	01 30 42.1	+0.2
OK025	Westminster Rd	1.68	174	Pn	Pn	01 30 44.7	+0.3
OKCSW	OKLAHOMA CITY	1.85	177	Pn	Pn	01 30 46.5	-0.3
KSU1	Kansas State U	1.99	21	IAmb_Lg		01 31 18.2	
	comp=Z,21nm,0.7s						
FNO	Franklin	2.00	177	Pn	Pn	01 30 48.7	-0.1
CBKS	Cedar Bluff	2.33	313	IAmb_Lg		01 31 30.3	
	comp=Z,14nm,0.8s						
WMOK	Wichita Mounta	2.70	202	Pn	Pn	01 30 59.2	+0.7
HHAR	Hobbs	3.05	107	Pn	Pn	01 31 04.5	+1.2
X37A	Clayton	3.19	146	Pn	Pn	01 31 06.6	+1.4
X37A				IAmb_Lg		01 32 03.8	
	comp=Z,5.8nm,1.0s						
LOOK	Love County	3.27	175	Pn	Pn	01 31 05.7	-0.6
S39A	Bolivar	3.38	81	Pn	Pn	01 31 08.4	+0.5
S39A				IAmb_Lg		01 32 05.2	
	comp=Z,4.3nm,0.8s						
U40A	Yellville	3.87	102		Pn	01 31 16.5	+2.0
AMTX	Amarillo	4.10	236	IAmb_Lg		01 32 32.0	
	comp=Z,6.2nm,0.7s						
R40A	Maddies Statio	4.30	74	IAmb_Lg		01 32 41.4	
	comp=Z,4.2nm,0.8s						
WHAR	Wooly Hollow	4.67	113	IAmb_Lg		01 32 55.6	
	comp=Z,7.8nm,0.9s						
X40A	Basin Creek Fa	4.71	124	IAmb_Lg		01 32 47.3	
	comp=Z,5.9nm,0.7s						
LCAR	Lake Charles	5.27	101	Pn	Pn	01 31 35.1	+1.3

IDC 07 01:33:15.8±2.1**,0°.48N×127°.61E,h0km,mb3.6**/3**, mb1 3.8**/3**,mb1mx3.4**/41**,mbtmp3.6**/3**,MS3.3**/3**,Ms1 3.3**/3**, ms1mx2.7**/35**,Error ellipse: s-maj=171.8km s-min=25.4km az=67.0,Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAY	Jayapura	13.42	103	LR	LR	01 42 45.3	
	comp=Z,143nm,19.9s,baz=189,slow=42						
WRA	Warramunga Arr	21.34	162	P	P	01 38 04.7	-0.1
	1.8nm,0.7s,baz=342,slow=11,SNR=8.6						
GUMO	Guam	21.48	52	LR	LR	01 46 51.8	
	comp=Z,48nm,18.8s,baz=165,slow=38						
ASAR	Alice Springs	24.77	166	P	P	01 38 39.5	0.0
	1.1nm,0.7s,baz=349,slow=8.8,SNR=8.4						
PETK	Petropavlovsk-	58.11	21	LR	LR	02 05 03.7	
	comp=Z,38nm,21.9s,baz=189,slow=33						
MKAR	Makanchi Array	60.72	326	P	P	01 43 29.3	0.0
	0.4nm,0.5s,baz=120,slow=6.8,SNR=3.1						

IDC 07 01:46:38.3±297.0**,14°.14N×97°.89E,h0km,Error ellipse: s-maj=123.2km s-min=95.2km az=0.0,Near south coast of Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	41.03	348	*i*		05 52 20.0	
	baz=160,slow=325,SNR=3.4						
I45RU	USSURIYSK INFR	41.71	37	*i*		06 04 50.0	
	baz=236,slow=323,SNR=2.8						
I04AU	SHANNON INFRAS	51.55	161	*i*		06 59 20.0	
	baz=338,slow=329,SNR=0.8						
I53US	FAIRBANKS INFR	87.17	23	*i*		10 45 35.0	
	baz=300,slow=322,SNR=2.1						

*IDC **07** 01:47:28.2±0.8,3°.12S×135°.09E,h0km,mb4.2/5, mb1 4.5/8,mb1mx4.1/31,mbtmp4.4/8,ML4.7/3,MS3.4/5, Ms1 3.4/5,ms1mx3.0/34,Error ellipse: s-maj=30.0km s-min=20.2km az=62.0*
*DJA **07** 01:47:32.7±0.7,3°S±3°×13°5E±°,h33km±9km,M4.9/20, mB5.4/7,mb4.7/20,MLv4.9/6,Mw(mB)4.9/7*
*NEIC **07** 01:47:33.6±1.8,3°.15S±0°.08×135°.13E±0°.06,h33km±3km, mb4.4/15,Error ellipse: s-maj=11.3km s-min=8.2km az=186.0*
ISC 07 01:47:31.8±0.5**,3°.23S**±0°.06×**135°.12E**±0°.04**,h28km,n68, σ1s.68**/69**,mb4.4**/8**,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SRPI	Serui, Papua	1.75	40	P	Pn	01 48 00.4	0.0
SRPI				S	Sn	01 48 21.8	0.0
BAKI	Biak	2.25	26	P	Pn	01 48 08.0	+0.8
FAKI	Fak Fak	2.88	276	Pn	Pn	01 48 17.5	+1.6
FAKI				Sn	Sn	01 48 51.0	+1.4
FAKI	Fak Fak	2.88	276	P	Pn	01 48 17.4	+1.6
FAKI				S	Sn	01 48 50.7	+1.1
SIJI	Sorong	4.50	301	Pn	Pn	01 48 38.7	+0.5
	42nm,0.3s,baz=171,slow=23,SNR=48						
SIJI				Sn	Sn	01 49 27.3	-2.5
	30nm,0.3s,baz=120,slow=23,SNR=11						
SIJI				LR	LR	01 50 45.7	
	comp=Z,538nm,19.5s,baz=186,slow=45						
SIJI	Sorong	4.50	301	P	Pn	01 48 38.6	+0.4
SIJI				S	Sn	01 49 25.1	-4.6
SWI	Sorong	4.51	301	P	Pn	01 48 40.1	+1.8
SWI				S	Sn	01 49 26.9	-3.0
BNDI	Bandanaira	5.36	256	P	Pn	01 48 50.3	+0.4
	1.7nm289nm,0.7s						
JAY	Jayapura	5.63	83	Pn	Pn	01 48 55.2	+1.5
	4.2nm,0.3s,baz=267,slow=8.3,SNR=1.3						
JAY				Sn	Sn	01 49 57.1	-0.3
	4.4nm,0.3s,baz=112,slow=19,SNR=2.1						
JAY	Jayapura	5.63	83	P	Pn	01 48 55.0	+1.3
	0.1nm16nm,0.9s						
MSAI	Masohi	6.18	269	P	Pn	01 49 02.4	+1.2
	0.2nm22nm,0.5s						
KRAI	Karang Ratu	6.71	269	P	Pn	01 49 10.5	+1.9
	1.7nm20µm48nm,0.6s						
SANI	Sanana	9.19	277	P	Pn	01 49 42.8	+0.2
	623nm58nm,0.8s						
MTN	Manton Dam	10.34	202	Pn	Pn	01 50 00.7	+2.4
SOEI	Soe	12.58	238	Pn	Pn	01 50 29.9	+0.8
SOEI	Soe	12.58	238	P	Pn	01 50 30.3	+1.2
	100nm,0.8s						
COEN	Coen	13.30	144		Pn	01 50 38.1	-0.9
APSI	Ampana	13.65	279	P	Pn	01 50 44.0	+0.3
KNRA	Kununurra	13.86	206	Pn	Pn	01 50 47.2	+0.7
EDFI	Ende, Flores	14.43	247	P	Pn	01 50 56.3	+1.8
	25nm,1.4s						
BSSI	Bau Bau, Buton	14.86	258	P	Pn	01 51 00.4	+0.2
	869nm36nm,1.3s						
TOLI2	Tolitoli	14.96	287	P	P	01 51 05.9	-0.8
BNSI	Bone	15.02	265	P	Pn	01 51 02.8	+0.5
	777nm18nm,1.3s						
TTSI	Tana Toraja	15.28	270	P	Pn	01 51 07.9	+2.2
	26nm,0.9s						
MPSI	Mapaga	15.62	283	P	P	01 51 12.8	-1.3
	1µm7.3nm,1.5s						
WRAB	Tennant Creek	16.62	183	Pn	Pn	01 51 21.9	-1.1
WRAB				IAmb	IAmb	01 51 41.6	
	comp=Z,65nm,1.4s						
WB2	Warramunga Arr	16.63	183	Pn	Pn	01 51 20.6	-2.5
WB2				IAmb	IAmb	01 51 28.5	
	comp=Z,29nm,0.9s						
WRA	Warramunga Arr	16.63	183	Pn	Pn	01 51 21.2	-1.9
	comp=Z,2.5nm,0.3s,baz=3.1,slow=13,SNR=74						
WRA				Sn	Sn	01 54 16.6	-10
	comp=Z,2.6nm,0.3s,baz=354,slow=23,SNR=9.3						
WRA				LR	LR	01 58 31.8	
	comp=Z,202nm,21.6s,baz=345,slow=40						
WRA	Warramunga Arr	16.63	183	P	Pn	01 51 21.8	-1.3
WR0	Warramunga Arr	16.64	182	P	Pn	01 51 22.3	-0.9
WR0				IAmb	IAmb	01 51 41.7	
	comp=Z,21nm,0.8s						
WBSI	Waikabubak, Su	16.87	247	P	P	01 51 27.3	-0.7
	comp=Z,29nm,1.0s						
FITZ	Fitzroy Crossi	17.45	211	P	Pn	01 51 32.4	-1.0
	comp=Z,4.6nm,0.3s,baz=27,slow=11,SNR=132						
FITZ				S	Sn	01 54 35.1	-12
	comp=Z,3.8nm,0.3s,baz=210,slow=16,SNR=11						
FITZ	Fitzroy Crossi	17.45	211	Pn	Pn	01 51 33.4	0.0
FITZ				IAmb	IAmb	01 51 38.5	
	comp=Z,12nm,0.7s						
PLAI	Plampang	18.11	251	P	Pn	01 51 39.1	-2.5
KBKI	Kotabaru	18.92	269	P	Pn	01 51 51.7	+0.3
	comp=Z,2µmcomp=Z,24nm,1.0s						
TWSI	Taliwang, Sumb	18.94	252	P	P	01 51 51.3	+0.5
	comp=Z,14nm,1.4s						
GUMO	Guam	19.31	30	LR	LR	01 58 07.2	
	comp=Z,33nm,21.1s,baz=254,slow=33						
CTA	Charters Tower	19.98	148	P	P	01 52 02.9	+0.8
	comp=Z,6.5nm,0.8s,baz=317,slow=14,SNR=4.2						
CTAO	Charters Tower	19.98	148	P	P	01 52 02.7	+0.6
CTAO				IAmb	IAmb	01 52 19.6	
	comp=Z,9.3nm,0.8s						
BBKI	Banjar Baru	20.24	269	P	Pn	01 52 07.3	+0.2
	comp=Z,93nm,1.2s						
AS31	Alice Springs	20.35	183	P	Pn	01 52 07.9	-0.5
AS31				IAmb	IAmb	01 52 17.2	
	comp=Z,12nm,0.7s						
ASAR	Alice Springs	20.36	183	P	Pn	01 52 08.2	-0.2
	comp=Z,36nm,0.9s,baz=9.2,slow=11,SNR=109						
ASAR				S	S	01 55 45.0	-8.2
	comp=Z,7.5nm,0.9s,baz=6.7,slow=28,SNR=4.5						
ASAR				LR	LR	02 00 39.2	
	comp=Z,217nm,21.4s,baz=354,slow=39						
ASAR	Alice Springs	20.36	183	P	Pn	01 52 07.8	-0.6
PSA00	Pilbara Seismi	23.52	218	P	P	01 52 41.5	+1.8
PSA00				IAmb	IAmb	01 52 43.4	
	comp=Z,13nm,1.0s						
PWJI	Pagerwojo	23.68	257	P	P	01 52 41.3	-0.1
	comp=Z,24nm,1.1s						
STKI	Sintang	23.85	277	P	P	01 52 45.3	+2.3
LEM	Lembang	27.62	261	LR	LR	02 06 30.7	
	comp=Z,136nm,18.8s,baz=176,slow=41						
STKA	Stephens Creek	29.14	169	P	P	01 53 37.0	+6.5
	comp=Z,2.3nm,0.7s,baz=63,slow=14,SNR=2.3						
STKA	Stephens Creek	29.14	169	P	P	01 53 32.6	+2.0
BBOO	Buckleboo	29.44	178	P	P	01 53 34.4	+1.1
CASY	Casey	65.26	191	P	P	01 58 11.1	+0.4
MK31	Makanchi Array	68.04	324	P	P	01 58 29.3	+0.5
MK31				IAmb	IAmb	01 58 30.4	
	comp=Z,2.8nm,0.8s						
MKAR	Makanchi Array	68.04	324	P	P	01 58 29.3	+0.5
	comp=Z,4.5nm,0.7s,baz=113,slow=8.2,SNR=31						
MAKZ	Makanchi	68.24	324	P	P	01 58 30.3	+0.3
MAKZ				IAmb	IAmb	01 58 32.1	
	comp=Z,4.3nm,0.8s						
BOOM	Boomskoye usch	70.08	317	P	P	01 58 42.0	+0.2
ZALV	Zalesovo Beam	70.61	331	P	P	01 58 44.4	-0.1
	comp=Z,1.1nm,0.8s,baz=103,slow=6.5,SNR=4.1						
ZALV	Zalesovo Beam	70.61	331	P	P	01 58 44.2	-0.3
KK31	Karatay Array	74.00	317	P	P	01 59 05.9	+0.9
KKAR	Karatay Array	74.00	317	P	P	01 59 05.5	+0.5
ABKAR	Akbulak array	82.81	320	P	P	01 59 53.3	-0.2
ILAR	Eielson Array	87.79	25	P	P	02 00 17.1	-1.1
	comp=Z,0.9nm,0.7s,baz=258,slow=4.6,SNR=8.2						
ILAR	Eielson Array	87.79	25	P	P	02 00 17.4	-0.7
TORD	Torodi Ar. Bea	132.93	285	PKP	PKPdf	02 06 45.0	-0.6
	comp=Z,0.5nm,0.8s,baz=110,slow=3.3,SNR=3.2						
CPUP	Villa Florida	148.25	158	PKPbc	PKPbc	02 07 16.8	+0.8
	comp=Z,7.6nm,0.8s,baz=228,slow=1.3,SNR=13						
LPAZ	La Paz	149.93	131	PKPbc	PKiKP	02 07 23.1	+0.8
	comp=Z,2.9nm,0.8s,baz=289,slow=0.9,SNR=11						
LPAZ	La Paz	149.93	131	PKPbc	PKiKP	02 07 22.8	+0.5
ROSC	El Rosal	150.59	86	PKPbc	PKiKP	02 07 23.5	0.0
	comp=Z,5.5nm,0.6s,baz=41,slow=20,SNR=5.6						
ROSC	El Rosal	150.59	86	PKPbc	PKPbc	02 07 22.8	0.0

IDC 07 01:56:08.5±6.5**,3°.99S×102°.09E,h0km,mb3.6**/3**, mb1 3.8**/3**,mb1mx3.4**/29**,mbtmp3.6**/3**,MS3.6**/1**,Ms1 3.6**/1**, ms1mx2.7**/31**,Error ellipse: s-maj=332.7km s-min=29.7km az=52.0,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	29.31	85	LR	LR	02 13 39.5	
	comp=Z,125nm,21.5s,baz=347,slow=36						
WRA	Warramunga Arr	35.20	119	P	P	02 03 03.7	-1.0
	0.3nm,0.5s,baz=293,slow=8.0,SNR=2.1						
ASAR	Alice Springs	36.41	125	P	P	02 03 15.7	+0.6
	0.5nm,0.6s,baz=298,slow=7.9,SNR=5.8						
MKAR	Makanchi Array	53.51	343	P	P	02 05 30.8	-0.1
	0.5nm,0.5s,baz=156,slow=9.1,SNR=5.0						

IDC 07 02:09:39.7±2.0**,26°.91N×143°.67E,h0km,mb3.7**/3**, mb1 3.9**/4**,mb1mx3.5**/38**,mbtmp3.7**/4**,ML3.3**/1**,MS2.6**/1**, Ms1 2.6**/1**,ms1mx2.2**/38**,Error ellipse: s-maj=42.9km s-min=21.9km az=49.0,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	Chichijima	1.34	278	Pn	Pb	02 10 06.6	+0.8
	15nm,0.3s,baz=322,slow=20,SNR=6.2						
JCJ				Sn	Sb	02 10 23.9	+0.4
	124nm,0.3s,baz=276,slow=22,SNR=22						
MJAR	Matsushiro Arr	10.67	336	Pn	Pn	02 12 11.9	-1.9
	0.2nm,0.3s,baz=161,slow=12,SNR=5.1						
ASAJ	Asahikawa	17.20	357	LR	LR	02 21 29.1	
	comp=Z,22nm,19.2s,baz=138,slow=41						
WRA	Warramunga Arr	47.44	192	P	P	02 18 16.2	-0.1
	1.8nm,0.5s,baz=9.4,slow=7.9,SNR=17						
ASAR	Alice Springs	51.16	192	P	P	02 18 44.1	-0.5
	0.3nm,0.5s,baz=4.5,slow=5.8,SNR=7.0						
MKAR	Makanchi Array	51.62	310	P	P	02 18 48.6	+0.5
	0.4nm,0.6s,baz=93,slow=8.5,SNR=2.5						

*JMA **07** 02:33:20.9±0.1,39°.03N×142°.38E,h33km±1km,M3.9*
JMA Felt I J1.
*NIED **07** 02:33:20.9,39°.03N×142°.38E,h33km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.37; $M_{\theta\theta}$0.29; $M_{\phi\phi}$1.08; $M_{r\theta}$0.86; $M_{\theta\phi}$-0.86; $M_{\phi r}$4.69; Fault plane solution: $M_0$4.98000×10^{14} NP1: ϕ_s187.00000°,δ83.00000°,λ-79.00000°. NP2: ϕ_s308.00000°,δ13.00000°,λ-149.00000°.*
*NEIC **07** 02:33:26.1±2.5,38°.91N±0°.07×142°.2E±0°.1,h65km±10km, mb4.3/8 Error ellipse: s-maj=17.7km s-min=9.4km az=111.0*
*IDC **07** 02:33:26.2±2.4,38°.94N×142°.32E,h72km±22km,mb3.6/6, mb1 3.7/10,mb1mx3.4/44,mbtmp3.8/10,MS2.8/2, Ms1 2.8/2,ms1mx2.5/39,Error ellipse: s-maj=26.8km s-min=14.4km az=104.0*
ISC 07 02:33:20.8±1.8**,39°.06N**±0°.04×**142°.37E**±0°.07**,h23km**±12km**, n53,σ1s.95**/53**,mb4.1**/10**,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.55	273	P	Pb	02 33 32.3	+0.6
OFUJ				S	Sb	02 33 40.0	+0.8
MIYJ	Miyakonagasawa	0.67	321	P	Pn	02 33 34.1	-0.8
MIYJ				S	Sn	02 33 43.2	-1.6
JKMT	Kesennumamotoy	0.74	251	P	Pn	02 33 34.7	-1.2
JKMT				S	Sn	02 33 44.1	-2.3
JMK	Ichinoseki	0.91	264	P	Pn	02 33 37.5	-0.6
JMK				S	Sn	02 33 49.0	-1.4
JOM	Ohasama	0.94	297	P	Pn	02 33 38.4	-0.1
JOM				S	Sb	02 33 50.9	+0.6
JTH	Tanohata	0.96	336	P	Pn	02 33 38.4	-0.5
JIO	Ouri	1.00	233	P	Pn	02 33 38.1	-1.3
JIO				S	Sn	02 33 50.1	-2.7
JKZ	Kuzumaki	1.23	319	P	Pn	02 33 43.0	+0.4
JKZ				S	Sb	02 33 59.1	+0.3
JRG	Rokugo	1.39	285	P	Pn	02 33 45.1	+0.3
JRG				*e*S	Sn	02 34 02.4	-0.1
JANG	Nango	1.47	334	P	Pn	02 33 46.4	+0.5
JOU	Okura	1.50	243	P	Pn	02 33 46.2	-0.2
JYK	Kaneyama	1.58	266	P	Pn	02 33 47.5	+0.2
JYK				S	Sn	02 34 06.8	-0.2
JMM	Marumori	1.72	227		Pn	02 33 48.5	-0.8
JYT	Yasato	3.31	212	Pn	Pn	02 34 12.2	+1.0
JSD	Sado	3.38	254	Pn	Pn	02 34 13.0	+0.9
JEW	Eniwo	3.84	350	Pn	Pb	02 34 24.4	-3.5
MAJO	Matsushiro	4.14	234	Pn	Pn	02 34 25.8	+3.1
MAT	Matsushiro	4.14	234	P	Pn	02 34 24.5	+1.8
MAT				*e*S	Sn	02 35 13.8	+3.3
MJAR	Matsushiro Arr	4.14	234	P	Pn	02 34 24.5	+1.8
	0.7nm,0.3s,baz=27,slow=11,SNR=30						
MJAR				LR	LR	02 36 10.6	
	comp=Z,149nm,18.8s,baz=50,slow=41						
MJAR	Matsushiro Arr	4.14	234	Pn	Pn	02 34 25.8	+3.1
ASAJ	Asahikawa	5.06	2	P	Pn	02 34 41.5	+6.3
	2.2nm,0.3s,baz=211,slow=18,SNR=3.1						
ASAJ				S	Sn	02 35 39.5	+6.6
	1.5nm,0.3s,baz=2.3,slow=21,SNR=4.9						
JKA	Kamikawa-asahi	5.06	2	Pn	Pn	02 34 41.1	+6.0
JGF	Kuroka	5.28	231	Pn	Pn	02 34 40.9	+2.6
JHJ	Hachijo jima 2	6.29	200	S	Sn	02 35 58.7	-4.5
	3.8nm,0.3s,baz=270,slow=20,SNR=1.8						
JWT	Wachi	6.72	238	Pn	Pn	02 35 01.0	+3.0
JHS	Saijyo	8.44	244	Pn	Pn	02 35 25.4	+3.7
USA0B	Ussuriysk Arra	9.32	307	Pn	Pn	02 35 39.1	+5.5
USRK	Ussuriysk Ar.	9.32	307	P	Pn	02 35 38.3	+4.7
	baz=103,slow=12,SNR=5.5						
KSRS	Korea Array	11.48	267	P	Pn	02 36 08.8	+5.6
	0.3nm,0.3s,baz=95,slow=14,SNR=2.6						
KSRS				LR	LR	02 40 08.7	
	comp=Z,46nm,20.1s,baz=130,slow=35						
H11N2	WAKE ISLAND Hy	28.61	125	T	T	03 09 37.1	
	baz=318,slow=75,SNR=114						
H11N1	WAKE ISLAND Hy	28.62	125	T	T	03 09 33.5	
	baz=318,slow=75,SNR=101						
H11N3	WAKE ISLAND Hy	28.63	125	T	T	03 09 34.1	
	baz=318,slow=75,SNR=80						
H11S1	WAKE ISLAND Hy	29.40	127	T	T	03 10 42.7	
	baz=318,slow=76,SNR=17						
H11S3	WAKE ISLAND Hy	29.40	127	T	T	03 10 41.7	
	baz=318,slow=76,SNR=24						
H11S2	WAKE ISLAND Hy	29.42	127	T	T	03 10 43.5	
	baz=318,slow=76,SNR=16						
ZALV	Zalesovo Beam	41.14	311	P	P	02 41 03.2	+0.3
	1.4nm,0.5s,baz=78,slow=8.6,SNR=5.3						
ZALV	Zalesovo Beam	41.14	311	P	P	02 41 02.3	-0.6
MK31	Makanchi Array	43.72	300	P	P	02 41 24.1	0.0
MK31				IAmb	IAmb	02 41 24.7	
	comp=Z,2.2nm,0.7s						
MKAR	Makanchi Array	43.72	300	P	P	02 41 23.9	-0.2
	comp=Z,2.4nm,0.7s,baz=85,slow=10.0,SNR=14						
ILAR	Eielson Array	47.39	33	P	P	02 41 53.7	+0.9
	comp=Z,1.0nm,0.8s,baz=267,slow=6.0,SNR=9.0						
PRP	Porcupine Dome	47.92	32	P	P	02 41 58.8	+1.7
BMAR	Burnt Mountain	48.20	30	P	P	02 42 01.0	+1.9
SCRK	Sand Creek	48.71	34	P	P	02 42 03.6	+0.4
SCRK				IAmb	IAmb	02 42 04.9	
	comp=Z,2.9nm,1.2s						
KKAR	Karatay Array	52.79	299	P	P	02 42 34.0	-0.1
ABKAR	Akbulak array	57.23	309	P	P	02 43 05.5	-0.6
ABKAR				IAmb	IAmb	02 43 06.3	
	comp=Z,2.7nm,1.0s						
WRAB	Tennant Creek	59.16	189	P	P	02 43 19.5	-0.3
WR0	Warramunga Arr	59.16	189	P	P	02 43 18.3	-1.4
WR0				IAmb	IAmb	02 43 29.0	
	comp=Z,5.6nm,1.4s						
WB2	Warramunga Arr	59.17	189	P	P	02 43 17.9	-1.9
WRA	Warramunga Arr	59.17	189	P	P	02 43 18.3	-1.5
	comp=Z,0.8nm,0.5s,baz=7.1,slow=6.8,SNR=12						
WRA	Warramunga Arr	59.17	189	P	P	02 43 18.4	-1.5
ASAR	Alice Springs	62.90	189	P	P	02 43 44.2	-0.9
	comp=Z,0.3nm,0.6s,baz=12,slow=10,SNR=7.5						
ASAR	Alice Springs	62.90	189	P	P	02 43 45.2	+0.1
AKASG	Malin Array Be	73.16	322	P	P	02 44 49.1	-0.2
	comp=Z,0.5nm,0.4s,baz=47,slow=5.3,SNR=4.2						

*SNET **07** 02:49:59.2±0.8,12°.80N×90°.43W,h18km±8km,ML3.4*
*IDC **07** 02:50:00.6±2.2,13°.32N×89°.89W,h0km,mb3.7/6, mb1 3.9/8,mb1mx3.7/36,mbtmp3.7/8,ML3.0/2,MS3.1/1, Ms1 3.1/1,ms1mx2.6/30,Error ellipse: s-maj=53.0km s-min=22.1km az=33.0*
*GCG **07** 02:50:20.8±0.3,14°.71N×90°.74W,h54km±80km,MD3.5*
ISC 07 02:49:58.9±1.2**,12°.77N**±0°.08×**90°.31W**±0°.07**,h10km,n25, σ1s.41**/27**,mb3.9**/5**,1C,Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEVE	Cerro Verde	1.25	32	*e*P	Pn	02 50 22.7	+0.1
CEVE				IAML		02 50 44.7	
	comp=Z,1µm,0.4s						
SBLS	San Blas	1.26	32	*e*P	Pn	02 50 22.8	0.0
SBLS				*e*S	Sn	02 50 41.4	+1.5
SNJE	San Jose	1.29	32	*e*P	Pn	02 50 23.3	0.0
RTR	El Retiro	1.29	30	*e*P	Pn	02 50 23.4	+0.2
SLOZ	Alcaldia de Sa	1.35	22	⇑*i*P	Pn	02 50 23.8	-0.1
SLOZ				*e*S	Sb	02 50 42.2	+0.4
SLOZ				IAML		02 50 48.2	
	comp=Z,273nm,0.6s						
BOQS	Boqueron	1.39	46	*e*P	Pn	02 50 24.9	+0.3
LFRS	El Faro	1.48	55	*e*P	Pn	02 50 26.0	+0.2
LBRS	Las Brisas	1.56	52	*e*P	Pn	02 50 27.4	+0.5
COEG	Centro de Oper	1.63	58	*e*P	Pn	02 50 28.0	+0.3
PAVA	Las Pavas	1.63	55	*e*P	Pn	02 50 28.8	+0.9
PCG	Pacaya	1.64	350	*e*P	Pg	02 50 31.6	+1.1
TECO	Alcaldia de Te	1.67	63	*e*P	Pn	02 50 28.4	+0.1
FUG	Fuego 3	1.75	343	*e*P	Pb	02 50 30.7	-0.5
NBG	Las Nubes	1.81	359	*e*P	Pb	02 50 32.2	-0.1
MTO3	Montecristo	1.86	29	*e*P	Pn	02 50 31.6	+0.4
MRL	Marmol	2.38	15	*e*S	Sn	02 50 56.0	-12
LCND	La Caada	2.42	77	*e*P	Pn	02 50 39.2	+0.6
LCND				IAML		02 51 13.7	
	comp=Z,152nm,0.4s						
JTS	Las Juntas de	5.80	115	Pn	Pn	02 51 28.0	+2.9
	comp=Z,0.9nm,0.3s,baz=173,slow=21,SNR=8.3						
JTS				Sn	Sn	02 52 32.0	+0.3
	comp=Z,0.2nm,0.3s,baz=319,slow=19,SNR=1.1						
CMIG	Matias Romero	6.17	315	Pn	Pn	02 51 31.8	+1.7
	comp=Z,0.1nm,0.3s,baz=133,slow=19,SNR=1.3						
CMIG				Sn	Sn	02 52 43.0	+2.2
	comp=Z,0.3nm,0.3s,baz=109,slow=18,SNR=1.6						
TXAR	Lajitas Array	20.64	325	P	Pn	02 54 40.7	-0.4
	comp=Z,0.9nm,0.7s,baz=151,slow=12,SNR=8.1						
TKL	Tuckaleechee C	23.54	13	P	P	02 55 08.0	-1.5
	comp=Z,2.3nm,0.7s,baz=179,slow=7.6,SNR=4.6						
TKL				LR	LR	03 04 13.9	
	comp=Z,53nm,20.0s,baz=215,slow=37						
NVAR	Mina Array Bea	35.66	321	P	P	02 57 00.4	+2.8
	comp=Z,0.8nm,0.7s,baz=134,slow=7.7,SNR=6.0						
ULM	Lac du Bonnet	37.65	354	P	P	02 57 11.6	-2.5
	comp=Z,1.3nm,0.6s,baz=197,slow=11,SNR=1.3						
SCHQ	Schefferville	45.83	19	P	P	02 58 18.1	-3.0
	comp=Z,3.0nm,0.8s,baz=226,slow=4.6,SNR=3.7						
ILAR	Eielson Array	64.62	337	P	P	03 00 36.3	-0.1
	comp=Z,0.4nm,0.9s,baz=131,slow=4.1,SNR=4.2						

*NEIC **07** 03:06:47.0±1.3,19°.52N±0°.08×65°.60W±0°.06,h38km±46km, Error ellipse: s-maj=12.5km s-min=8.3km az=191.0*
*RSPR **07** 03:06:46.2,19°.68N×65°.65W,h39km±18km,MD3.5/4*
ISC 07 03:06:44.0±1.7**,19°.58N**±0°.08×**65°.57W**±0°.05**,h16km,n25, σ0s.42**/30**,6C,Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CUPR	Culebra, Puert	1.29	168	⇑*e*P	Pb	03 07 08.2	+0.3
CUPR	Culebra, Puert	1.29	168	*e*S	Sg	03 07 25.4	-0.3
CUPR	Culebra, Puert	1.29	168		Pg	03 07 08.4	-0.5
CUPR					Sn	03 07 24.8	+0.5
CBYP	Canovanas	1.32	192	⇑*e*P	Pn	03 07 08.0	+0.1
CBYP	Canovanas	1.32	192	*e*S	Sb	03 07 25.9	+0.5
CBYP	Canovanas	1.32	192		Pn	03 07 07.8	-0.1
CBYP				Sn	Sb	03 07 26.1	+0.7
CBYP				IAML		03 07 28.8	
	comp=N,53nm,0.2s						
CBYP				IAML		03 07 29.2	
	comp=E,55nm,0.2s						
STVI	Saint Thomas	1.35	154	Pn	Pn	03 07 08.5	+0.3
STVI				IAML		03 07 39.5	
	comp=E,19nm,1.6s						
GCPR	Guaynabo City	1.35	201	⇑*e*P	Pb	03 07 08.8	-0.2
GCPR	Guaynabo City	1.35	201	Pn	Pn	03 07 08.5	+0.2
HUMP	Col San Antoni	1.45	191	⇑*e*P	Pb	03 07 10.3	-0.3
HUMP	Col San Antoni	1.45	191	*e*S	Sn	03 07 28.5	+0.2
HUMP	Col San Antoni	1.45	191		Pn	03 07 09.4	-0.2
HUMP					Sb	03 07 28.8	-0.1
HUMP				IAML		03 07 38.1	
	comp=N,17nm,0.7s						
HUMP				IAML		03 07 40.7	
	comp=E,19nm,0.7s						
MTP	Monte Pirata	1.47	180	⇑*e*P	Pb	03 07 10.7	-0.3
MTP	Monte Pirata	1.47	180	*e*S	Sb	03 07 29.8	+0.3
MTP	Monte Pirata	1.47	180		Pn	03 07 10.3	+0.5
MTP					Sb	03 07 30.0	+0.5
MTP				IAML		03 07 39.8	
	comp=E,22nm,0.9s						
MTP				IAML		03 07 44.5	
	comp=N,22nm,1.5s						
VGBI	Virgin Gorda,	1.54	134	⇑*e*P	Pb	03 07 11.6	-0.6
VGBI	Virgin Gorda,	1.54	134	*e*S	Sb	03 07 32.2	+0.7
VGBI	Virgin Gorda,	1.54	134		Pb	03 07 11.6	-0.6
VGBI					Sb	03 07 32.2	+0.7
SJG	San Juan	1.56	201	Pn	Pn	03 07 11.0	-0.1

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJG				IAML		03 07 40.6	
	comp=N,16nm,1.1s						
AOPR	Arecibo Observ	1.66	223	Pn	Pn	03 07 12.2	-0.4
AOPR				IAML		03 07 50.0	
	comp=N,39nm,0.4s						
OBIP	Obispado Ponce	1.81	213	Pn	Pn	03 07 15.0	+0.3
OBIP				IAML		03 07 48.7	
	comp=E,17nm,0.9s						
OBIP				IAML		03 07 55.2	
	comp=N,13nm,1.3s						
CRPR	Cabo Rojo, PR	2.14	223	Pn	Pn	03 07 18.6	-0.5
CRPR				IAML		03 07 48.5	
	comp=N,20nm,1.9s						
PCDR	Punta Cana, DR	2.87	249	Pn	Pn	03 07 29.2	+0.1
DR12	Loma Pena Alta	3.69	258	Pn	Pn	03 07 40.8	+0.3
SDDR	Presa de Saban	5.44	265	Pn	Pn	03 08 04.9	+0.4

IDC 07 03:06:45.7±7.2**, 22°.68S×178°.18W, h0^{km}, mb3.6**/3**, mb1 3.9**/3**, mb1mx3.6**/19**, mbtmp3.6**/3**, Error ellipse: s-maj=309.1km s-min=38.3km az=147.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.90	259	P	P	03 14 53.9	-0.5
	0.2nm,0.4s,baz=96,slow=7.4,SNR=7.1						
WRA	Warramunga Arr	44.18	264	P	P	03 14 56.8	+0.1
	0.9nm,0.4s,baz=102,slow=8.4,SNR=18						
ILAR	Eielson Array	90.47	13	P	P	03 19 48.7	-0.1
	0.2nm,0.6s,baz=211,slow=6.3,SNR=3.1						

MEX 07 03:28:21.3±0.6**, 16°.03N×98°.41W, h5^{km}, MD3.5, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.46	37	iP	Pg	03 28 29.3	-0.8
PNIG				iS	Sg	03 28 36.4	+0.3
YOIG	Yosondua	1.17	45	eP	Pg	03 28 40.9	-2.9
YOIG				iS	Sg	03 28 56.3	-2.8
MGIG	Malinaltepec	1.22	350	eP	Pg	03 28 41.5	-3.2
MGIG				iS	Sg	03 28 57.0	-3.5

IDC 07 03:56:06.7±2.1, 52°.69N×169°.22W, h0^{km}, mb3.3/3, mb1 3.6/5, mb1mx3.3/37, mbtmp3.4/5, ML3.1/2, Error ellipse: s-maj=57.6km s-min=28.4km az=174.0
AEIC 07 03:56:10±2.5, 52°.24N±0°.05×169°.37W±0°.07, h26^{km}±5^{km}, Error ellipse: s-maj=8.3km s-min=3.9km az=138.0
NEIC 07 03:56:12.3±2.4, 52°.32N±0°.07×169°.45W±0°.09, h43^{km}±14^{km}, mb3.6/20, ML3.2(AEIC), Error ellipse: s-maj=11.1km s-min=7.5km az=152.0
ISC 07 03:56:11.3±1.8**, 52°.1N**±0°.1×**169°.29W**±0°.08**, h46^{km}**±19^{km}**, n70,** σ1^{s}**44**/72**, mb3.3**/3**, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.88	17		Pn	03 56 25.6	-1.7
NIKH				Sn	Sn	03 56 38.2	-0.8
OKSP	Okmok Steeple	1.28	28		Pn	03 56 31.5	-1.2
OKSO	Okmok South	1.41	29		Pn	03 56 33.3	-1.2
OKSO					Sn	03 56 52.0	+0.1
OKTU	Okmok Mt. Tuli	1.47	31		Pn	03 56 34.6	-0.7
OKFG	Magazine Ridge	1.53	33		Pn	03 56 35.5	-0.7
OKFG					Sn	03 56 54.9	+0.1
MAPS	Pakushin South	2.20	39		Pn	03 56 45.1	-0.2
MAPS					Sn	03 57 12.0	+0.7
MGOD	Makushin Gods	2.22	40		Pn	03 56 45.6	0.0
MREP	Makushin Rep't	2.28	42		Pn	03 56 46.8	+0.3
MSW	Makushin Switc	2.34	39		Pn	03 56 47.3	0.0
MNAT	Makushin Natee	2.36	41		Pn	03 56 48.3	+0.8
MNAT					Sn	03 57 16.2	+1.0
UNV	Unalaska Valle	2.41	43		Pn	03 56 48.1	0.0
MTBL	Makushin Table	2.42	40		Pn	03 56 48.9	+0.5
AKMO	Akutan Morgan	2.79	44		Pn	03 56 54.2	+0.8
AKRB	Akutan Reef Bi	2.79	43		Pn	03 56 54.6	+1.2
AKLV	Akutan Long Va	2.86	43		Pn	03 56 55.5	+1.1
AKGG	Akutan Green G	2.87	43		Pn	03 56 55.6	+1.1
AKUT	Akutan	2.92	45	Pn	Pn	03 56 57.2	+2.0
KOFP	Korovin Flat P	2.96	275		Pn	03 56 55.8	0.0
ATKA	Atka Island	3.02	273	Pn	Pn	03 56 55.7	-0.9
WECS	Westdahl Cape	3.62	47		Pn	03 57 05.0	+0.2
GSTR	Great Sitkin T	4.17	272	Pn	Pn	03 57 11.8	-0.6
GSTD	Great Sitkin T	4.23	272		Pn	03 57 12.6	-0.6
GSCK	Great Sitkin C	4.24	271		Pn	03 57 13.1	-0.2
ADK	Adak	4.57	270		Pn	03 57 17.5	-0.3
KIWB	Kanaga Island	4.86	270	Pn	Pn	03 57 21.8	-0.1
KIMD	Kanaga Island	4.93	269		Pn	03 57 22.8	+0.1
SPIA	Saint Paul Isl	5.08	354	Pn	Pn	03 57 25.9	+1.0
TAPA	Tanaga Point A	5.28	270		Pn	03 57 28.6	+1.1
AMKA	Amchitka	7.12	268	Pn	Pn	03 57 52.9	+0.1
CHGN	Chignik	7.62	52	Pn	Pn	03 58 02.3	+2.7
OHAK	Old Harbor	10.57	55	Pn	Pn	03 58 38.5	-1.4
O18K	Koktuh Hills	11.03	40	Pn	Pn	03 58 49.4	+3.2
KDAK	Kodiak Island	11.13	53	Pn	Pn	03 58 45.6	-2.0
	0.2nm,0.3s,baz=240,slow=3.6,SNR=11						
KDAK	Kodiak Island	11.13	53	Pn	Pn	03 58 45.9	-1.8
Q19K	Cape Douglas,	11.16	46	Pn	Pn	03 58 47.5	-0.5
SVW2	Sparrevohn	11.71	35	Pn	Pn	03 58 57.0	+1.5
SUA	Susitna One	13.75	40	Pn	Pn	03 59 24.4	+0.9
PWL	Port Wells	14.44	45	Pn	Pn	03 59 30.4	-2.3
HIN	Hinchinbrook I	15.06	48	Pn	Pn	03 59 38.5	-2.2
FID	Port Fidalgo	15.21	47	Pn	Pn	03 59 39.7	-3.1
FID				IAmb	IAmb	04 00 02.7	
	comp=Z,7.3nm,1.4s						
BPAW	Bear Paw Mtn.	15.32	31	P	P	03 59 47.6	-0.7
BPAW				IAmb	IAmb	03 59 53.9	
	comp=Z,3.1nm,0.8s						
SCM	Sheep Creek Mo	15.34	42	Pn	Pn	03 59 42.7	-1.8
EYAK	Cordova Ski Ar	15.46	48	Pn	Pn	03 59 46.0	+0.1
EYAK				IAmb	IAmb	03 59 59.1	
	comp=Z,7.8nm,1.1s						
KLU	Klutina	15.77	44	Pn	Pn	03 59 48.3	-1.8
KLU				IAmb	IAmb	04 00 05.2	
	comp=Z,4.1nm,1.2s						
I21K	Tanana	15.79	27	P	P	03 59 56.1	+2.7
I21K				IAmb	IAmb	03 59 58.3	
	comp=Z,4.6nm,1.2s						
MLY	Manley	16.05	29	P	P	03 59 56.8	+0.5
MLY				IAmb	IAmb	04 00 05.2	
	comp=Z,2.7nm,0.9s						
HMT	Hamilton	16.07	49	P	Pn	03 59 52.8	-1.1
N25K	Chitina, Valde	16.39	45	P	Pn	03 59 56.6	-1.4
I23K	Minto, Yukon-K	16.55	30	P	P	04 00 01.6	-0.2
GLB	Gilahina Butte	16.68	46	P	Pn	04 00 00.3	-1.2
GLB				IAmb	IAmb	04 00 02.2	
	comp=Z,5.3nm,1.1s						
CCB	Clear Creek Bu	16.73	33	P	P	04 00 03.9	+0.1
VRDI	Verde Repeater	16.76	47	P	Pn	04 00 00.9	-1.7
VRDI				IAmb	IAmb	04 00 21.6	
	comp=Z,7.5nm,1.4s						
ILAR	Eielson Array	17.12	34	Pn	Pn	04 00 03.8	-3.2
	comp=Z,0.1nm,0.3s,baz=227,slow=11,SNR=2.0						
ILAR	Eielson Array	17.12	34	P	Pn	04 00 06.2	-0.7
YAH	Yahtse	17.27	51	P	Pn	04 00 07.5	-1.5
RIDG	Independent Ri	17.28	38	P	Pn	04 00 09.4	+0.4
SCRK	Sand Creek	17.73	38	P	P	04 00 15.1	+0.1
HYT	Haines Junctio	19.41	51	P	Pn	04 00 36.9	+2.0
HYT				IAmb	IAmb	04 00 38.5	
	comp=Z,4.4nm,0.8s						
BMAR	Burnt Mountain	19.52	29	P	P	04 00 35.1	+0.7
PETK	Petropavlovsk-	19.97	286	P	P	04 00 39.5	0.0
	comp=Z,0.3nm,0.3s,baz=97,slow=15,SNR=6.5						
PETK	Petropavlovsk-	19.97	286	P	P	04 00 39.6	+0.2
EPYK	Eagle Plains	21.56	36	P	P	04 00 55.3	-1.2
INK	Inuvik	23.52	33	P	P	04 01 12.1	-4.6
	comp=Z,0.7nm,0.5s,baz=239,slow=5.9,SNR=2.1						
INK	Inuvik	23.52	33	P	P	04 01 15.5	-1.2
INK				IAmb	IAmb	04 01 43.8	
	comp=Z,3.5nm,1.2s						
H11S1	WAKE ISLAND Hy	38.48	218	T	T	04 44 44.0	
	baz=23,slow=76,SNR=17						
H11S2	WAKE ISLAND Hy	38.50	218	T	T	04 44 45.2	
	baz=23,slow=76,SNR=12						
H11S3	WAKE ISLAND Hy	38.50	218	T	T	04 44 50.0	
	baz=23,slow=76,SNR=8.6						
PDAR	Pinedale Array	40.40	79	P	P	04 03 46.5	+1.5
	comp=Z,0.2nm,0.5s,baz=327,slow=4.6,SNR=3.6						
PDAR	Pinedale Array	40.40	79	P	P	04 03 46.7	+1.7
TXAR	Lajitas Array	52.70	89	P	P	04 05 21.4	+0.1
	comp=Z,0.2nm,0.7s,baz=322,slow=10,SNR=2.3						

MEX 07 04:16:57.1±0.9**, 14°.88N×92°.73W, h87^{km}**±10^{km}**, MD3.9, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THIG		0.45	86	eP	Pn	04 17 09.4	-1.7
THIG				iS	Sn	04 17 20.0	-1.6
PCIG		0.94	330	iP	Pn	04 17 14.8	-1.2
PCIG				eS	Sn	04 17 28.2	-1.9
CCIG	Comitan	1.51	22	iP	Pn	04 17 24.0	+1.0
CCIG				iS	Sn	04 17 44.6	+2.1
TGIG		1.92	349	eP	Pn	04 17 27.6	-0.8
TGIG				iS	Sn	04 17 49.8	-2.2
CMIG	Matias Romero	3.02	317	eP	Pn	04 17 42.4	-0.5
CMIG				iS	Sn	04 18 19.8	+1.7

IDC 07 04:20:14.0±3.8**, 5°.05S×148°.20E, h0^{km}, mb3.4**/3**, mb1 3.8**/3**, mb1mx3.4**/44**, mbtmp3.5**/3**, MS3.5**/1**, Ms1 3.5**/1**, ms1mx2.7**/24**, Error ellipse: s-maj=119.1km s-min=45.8km az=112.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.03	221	P	P	04 24 49.5	+0.7
	1.0nm,0.3s,baz=47,slow=10,SNR=19						
ASAR	Alice Springs	23.08	215	P	P	04 25 21.8	+0.3
	0.8nm,0.5s,baz=49,slow=8.8,SNR=13						
FITZ	Fitzroy Crossi	25.58	238	P	P	04 25 44.1	-0.9
	0.6nm,0.5s,baz=36,slow=11,SNR=4.9						
KAPI	Kappang	28.34	269	LR	LR	04 38 43.3	
	comp=Z,99nm,19.9s,baz=353,slow=39						
TORD	Torodi Ar. Bea	146.00	286	PKPbc	PKPdf	04 39 56.3	+0.1
	0.1nm,0.5s,baz=92,slow=3.7,SNR=2.3						

VAO 07 04:21:25.7±0.3, 6°.90S×71°.79W, h563^{km}±2^{km}, mb3.8
IDC 07 04:21:25.4±1.1, 6°.84S×71°.78W, h579^{km}±16^{km}, mb3.0/6, mb1 3.2/11, mb1mx3.0/36, mbtmp4.0/11, Error ellipse: s-maj=22.5km s-min=14.6km az=34.0
ISC 07 04:21:24.9±0.6**, 6°.78S**±0°.08×**71°.79W**±0°.06**, h550^{km}, n42,** σ1^{s}**76**/49**, mb3.3**/6**, Western Brazil**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CZSB	Cruzeiro do Su	1.31	224	eP	P	04 22 34.1	+2.1
CZSB				eS	S	04 23 29.1	+2.5
TBTG	Tabatinga, AM	3.18	36	eP	P	04 22 44.4	+3.3
TBTG				eS	S	04 23 47.7	+4.6
ETMB	Extrema	6.29	119	eP	P	04 23 08.1	+2.0
ETMB				eS	S	04 24 30.2	+1.1
ATAH	Atahualpa	6.57	266	P	P	04 23 11.6	+2.3
	5.3nm,0.3s,baz=66,slow=5.4,SNR=29						
ATAH				S	S	04 24 37.3	+2.8
	0.4nm,0.3s,baz=18,slow=20,SNR=2.4						
NNA	Nana	7.19	224	P	P	04 23 15.4	+0.7
	2.0nm,0.3s,baz=153,slow=4.5,SNR=2.7						
NNA				S	S	04 24 47.7	+3.0
	1.7nm,0.3s,baz=64,slow=6.6,SNR=4.1						
SAML	Samuel	8.79	105	eP	P	04 23 32.2	+1.7
SAML				eS	S	04 25 15.4	+1.7
OTAV	Otavalo	9.63	316	eP	P	04 23 41.1	+1.5
LPAZ	La Paz	10.11	160	P	P	04 23 45.5	+0.9
	0.1nm,0.3s,baz=315,slow=12,SNR=5.6						
LPAZ	La Paz	10.11	160	eP	P	04 23 43.8	-0.8
MACA	Manacapuru-AM	11.63	73	eP	P	04 24 00.9	+1.2
VILB	Vilhena	12.96	119	eP	P	04 24 13.8	+0.3
PTGA	Pitinga	13.23	64	P	P	04 24 17.6	+1.3
	3.3nm,0.3s,baz=238,slow=11,SNR=41						
SIV	San Ignacio	13.93	132	P	P	04 24 22.7	-0.7
	0.1nm,0.3s,baz=315,slow=12,SNR=2.1						
BOAV	Boa Vista	14.47	51	eP	P	04 24 30.4	+1.3
PTLB	Pontes e Lacer	15.11	126	eP	P	04 24 35.5	0.0
ITTB	Itaituba	16.16	82	eP	P	04 24 44.8	-1.2
NPGB	Novo Progresso	16.32	92	eP	P	04 24 47.1	-0.4
CLDB	Colider	16.32	106	eP	P	04 24 46.8	-0.7
MALB	Monte Alegre	18.14	75	eP	P	04 25 04.5	+0.3
MCPB	Macapa, AP	20.69	73	eP	P	04 25 27.9	+0.5
SNDB	Serra Nova Dou	20.86	106	eP	P	04 25 28.9	-0.1
ARAG	Araguaiana, MT	21.49	116	eP	P	04 25 34.3	-0.2
PEXB	Peixe	23.76	105	eP	P	04 25 55.2	+0.4
SMTB	Santa Maria do	24.06	97	eP	P	04 25 57.8	+0.2
BDFB	Brasilia	24.91	113	P	P	04 26 03.9	-1.2
	1.0nm,0.5s,baz=315,slow=2.9,SNR=3.2						
IPMB	Ipameri, GO	25.54	118	eP	P	04 26 09.9	-0.8
SDBA	SAO DESIDERIO	27.08	104	eP	P	04 26 24.0	-0.3
ROSB	Rosrio	27.83	83	eP	P	04 26 30.9	+0.2
RCLB	Rio Claro- Sao	28.09	126	eP	P	04 26 32.1	-0.8
JANB	Januaria	28.18	109	eP	P	04 26 33.3	-0.5
NBPS	Pedro II - PI	30.29	87	eP	P	04 26 52.1	0.0
NBPN	Ponto Novo - B	31.47	100	eP	P	04 27 01.7	-0.4
NBMO	Morrinhos-CE	31.81	85	eP	P	04 27 05.0	0.0
NBPB	Pedra_Branca-C	32.04	90	eP	P	04 27 07.1	+0.1
GDU01	Guandu, BA	32.41	105	eP	P	04 27 10.0	-0.2
TXAR	Lajitas Array	47.22	321	P	P	04 29 08.1	-0.5
	0.3nm,0.4s,baz=135,slow=7.5,SNR=10						
TXAR				PcP	PcP	04 30 28.0	-1.1
	0.1nm,0.6s,baz=113,slow=2.3,SNR=2.3						
PDAR	Pinedale Array	60.08	329	P	P	04 30 38.4	-1.1
	0.4nm,0.4s,baz=124,slow=9.1,SNR=8.7						
ULM	Lac du Bonnet	60.52	342	P	P	04 30 39.2	-2.7
	1.7nm,0.3s,baz=145,slow=6.2,SNR=4.9						
TORD	Torodi Ar. Bea	75.61	75	P	P	04 32 12.6	-1.7
	0.6nm,0.6s,baz=261,slow=4.4,SNR=4.7						
YKA	Yellowknife Ar	76.44	341	P	P	04 32 16.3	-1.6
	1.1nm,0.6s,baz=125,slow=6.9,SNR=5.1						
WRA	Warramunga Arr	143.04	224	PKP	PKPdf	04 39 52.4	-5.0
	0.7nm,0.4s,baz=142,slow=3.0,SNR=35						
FITZ	Fitzroy Crossi	149.88	215	PKPbc	PKPdf	04 40 12.0	+3.3
	1.3nm,0.6s,baz=214,slow=1.7,SNR=9.8						

IDC 07 04:22:57.5±0.5, 9°.90S×160°.43E, h0^{km}, mb4.6/23, mb1 4.8/25, mb1mx4.6/47, mbtmp4.7/25, ML4.2/2, MS4.1/25, Ms1 4.1/25, ms1mx4.0/41, Error ellipse: s-maj=13.3km s-min=8.5km az=54.0
MOS 07 04:23:01.9±0.9, 9°.74S×160°.22E, h36^{km}, mb5.2/29, Error ellipse: s-maj=9.6km s-min=7.4km az=70.2
NEIC 07 04:23:02.1±1.7, 9°.78S±0°.07×160°.35E±0°.07, h22^{km}±4^{km}, mb5.1/147, Error ellipse: s-maj=12.6km s-min=7.8km az=221.0
BJI 07 04:23:02.1±0.0, 9°.05S×160°.45E, h11^{km}, mB5.0/30, mb4.8/38, Ms4.6/10, Ms7 4.3/9
ISC 07 04:23:03.8±0.3**, 9°.79S**±0°.05×**160°.27E**±0°.05**, h37^{km}, n381,** σ0^{s}**94**/339**, mb5.0**/137**, MS4.2**/29**, 8C-7D, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	0.48	318	Pg	Pn	04 23 11.8	-2.2
	2μm,0.3s,baz=164,slow=5.0,SNR=150						
HNR				Lg	Lg	04 23 20.5	
	11μm,0.3s,baz=336,slow=20,SNR=35						
HNR	Honiara	0.48	318	P	Pn	04 23 12.3	-1.8
SANVU	Saraoutou	8.80	130		Pn	04 25 06.1	-2.4
SANVU	Saraoutou	8.80	130	P	Pn	04 25 06.9	-1.6
RABL	Rabaul	9.78	304		Pn	04 25 22.3	+0.2
LIFNC	LIFOU	12.82	149	Pn	Pn	04 26 01.0	-2.6
DZM	Mont Dzumac	13.57	155	ePn	Pn	04 26 13.1	-0.9
	11nm,0.5s						
DZM				eLR	LR	04 29 28.4	
	comp=Z,933nm,22.6s						
DZM	Mont Dzumac	13.57	155	Pn	Pn	04 26 11.4	-2.6
	0.2nm,0.3s,baz=149,slow=18,SNR=1.2						
DZM				LR	LR	04 30 58.2	
	comp=Z,934nm,18.8s,baz=19,slow=36						
DZM	Mont Dzumac	13.57	155		Pn	04 26 13.3	-0.6
ONTNC	Ouen Toro	13.79	155	Pn	Pn	04 26 16.9	+0.1
MARNC	Mare, Loyalty	13.81	148	Pn	Pn	04 26 16.5	-0.6
OUENC	Ouen Island, N	14.05	154	Pn	Pn	04 26 19.3	-1.1
PINNC	Pines Island,	14.49	153	Pn	Pn	04 26 26.5	+0.2
PATS	Pohnpei	16.63	353		Pn	04 26 52.7	-1.6
TARA	Tarawa	16.77	49	P	Pn	04 26 56.1	0.0
TARA				IAmb	IAmb	04 27 18.0	
	comp=Z,114nm,0.6s						
CTA	Charters Tower	16.96	231	P	Pn	04 26 58.7	+0.3
	comp=Z,1.7nm,0.3s,baz=48,slow=12,SNR=27						
CTA				LR	LR	04 32 53.6	
	comp=Z,1μm,20.4s,baz=58,slow=35						
CTAO	Charters Tower	16.96	231	P	Pn	04 26 59.0	+0.6
CTAO				pmax	pmax		
	comp=Z,130nm,1.0s						
CTAO	Charters Tower	16.96	231		Pn	04 26 59.0	+0.6
CTAO				IAmb	IAmb	04 27 03.8	
	comp=Z,130nm,0.9s						
COEN	Coen	17.23	254	P	P	04 27 03.8	+0.8
MTSU	Mount Surprise	17.55	240	P	Pn	04 27 05.7	-0.1
	baz=18,SNR=19						
EIDS	Eidsvold	17.78	208	P	P	04 27 09.3	+0.2
	baz=18,SNR=7.0						
EIDS	Eidsvold	17.78	208		P	04 27 09.3	+0.2
MSVF	Nonsavu	18.98	116	P	P	04 27 22.6	+0.3
MSVF				pmax	pmax		
	comp=Z,30nm,1.2s						
MSVF	Nonsavu	18.98	116	Pn	P	04 27 22.6	+0.3
RMQ	Roma	19.86	212	P	Pn	04 27 33.6	-0.1
	baz=20,SNR=108						
KWAJ	Kwajalein Atol	19.86	22	P	P	04 27 31.2	-0.7
KWAJ				pmax	pmax		
	comp=Z,1μm,1.8s						
KWAJ	Kwajalein Atol	19.86	22	P	P	04 27 31.2	-0.7
JAY	Jayapura	20.74	289	P	P	04 27 41.0	-0.6
	comp=Z,84nm,0.9s,baz=338,slow=3.7,SNR=18						
JAY				LR	LR	04 36 54.2	
	comp=Z,229nm,18.1s,baz=250,slow=40						
JAY	Jayapura	20.74	289	P	P	04 27 41.0	-0.6
JAY	Jayapura	20.74	289	P	P	04 27 41.0	-0.6
	comp=Z,744nmcomp=Z,52nm,1.0s						
GENI	Genyem	21.21	288	P	P	04 27 46.7	+0.1
	comp=Z,73nm,0.6s						
ARMA	Armidale	22.05	200	P	P	04 27 55.3	-0.2
	baz=22,SNR=16						
ARMA	Armidale	22.05	200	P	P	04 27 55.6	+0.1
ARMA				IAmb	IAmb	04 27 58.3	
	comp=Z,41nm,0.8s						
QLP	Quilpie	22.56	220	P	P	04 28 02.2	+1.2
	baz=23,SNR=4.1						
QIS	Mount Isa	22.61	239	P	P	04 28 01.5	0.0
	baz=23,SNR=53						
BAKI	Biak	25.50	288	P	P	04 28 30.0	+1.0
	comp=Z,58nm,1.6s						
CMSA	Cobar Meteorol	25.52	210	P	P	04 28 29.3	+0.3
	baz=26,SNR=22						
WR0	Warramunga Arr	26.80	245	P	P	04 28 40.5	-0.3
WR0				IAmb	IAmb	04 28 41.3	
	comp=Z,61nm,1.2s						
WC3	Warramunga Arr	26.95	245	P	P	04 28 41.3	-0.9
	baz=27						
WRAB	Tennant Creek	26.97	245	deP	P	04 28 41.4	-0.8
WRAB				pmax	pmax		
	comp=Z,69nm,1.3s						
WRAB	Tennant Creek	26.97	245	P	P	04 28 41.7	-0.6
WRAB				IAmb	IAmb	04 28 47.2	
	comp=Z,83nm,1.2s						
WB2	Warramunga Arr	26.97	245	P	P	04 28 41.9	-0.3
WB2				IAmb	IAmb	04 28 42.8	
	comp=Z,71nm,1.2s						
WRA	Warramunga Arr	26.98	245	P	P	04 28 41.6	-0.8
	comp=Z,28nm,1.0s,baz=75,slow=9.1,SNR=57						
WRA				LR	LR	04 39 42.4	
	comp=Z,706nm,18.9s,baz=60,slow=37						
WRA	Warramunga Arr	26.98	245	P	P	04 28 40.9	-1.5
CNB	Canberra Magne	27.29	200	P	P	04 28 45.7	+0.7
	baz=28,SNR=5.8						
KDU	Kakadu	27.41	261	P	P	04 28 45.7	-0.5
	baz=28,SNR=4.1						
CAN	Canberra	27.42	200	P	P	04 28 46.2	+0.1
CAN				pmax	pmax		
	comp=Z,130nm,1.8s						
CAN	Canberra	27.42	200	P	P	04 28 46.2	+0.1
GUMO	Guam	27.81	326	LR	LR	04 38 46.2	
	comp=Z,246nm,21.8s,baz=164,slow=34						
STKA	Stephens Creek	27.97	216	P	P	04 28 50.8	-0.3
	baz=28,SNR=16						
STKA	Stephens Creek	27.97	216	P	P	04 28 50.8	-0.3
	comp=Z,11nm,0.6s,baz=33,slow=10,SNR=25						
STKA				LR	LR	04 39 57.1	
	comp=Z,733nm,19.0s,baz=18,slow=36						
STKA	Stephens Creek	27.97	216	P	P	04 28 50.8	-0.3
STKA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
STKA	Stephens Creek	27.97	216	P	P	04 28 50.8	-0.3
AS31	Alice Springs	28.70	238	P	P	04 28 56.9	-0.9
ASAR	Alice Springs	28.70	238	P	P	04 28 56.0	-1.7
	comp=Z,7.0nm,0.9s,baz=70,slow=9.4,SNR=51						
ASAR				LR	LR	04 40 17.1	
	comp=Z,524nm,18.6s,baz=58,slow=36						
ASAR	Alice Springs	28.70	238	P	P	04 28 55.7	-2.0
ASAR	Alice Springs	28.70	238	P	P	04 28 55.7	-2.0
H11S2	WAKE ISLAND Hy	28.81	13	T	T	04 58 00.5	
	baz=194,slow=76,SNR=203						
H11S3	WAKE ISLAND Hy	28.81	13	T	T	04 58 01.6	
	baz=194,slow=76,SNR=204						
H11S1	WAKE ISLAND Hy	28.83	13	T	T	04 57 56.5	
	baz=194,slow=76,SNR=126						
H11N1	WAKE ISLAND Hy	30.03	13	T	T	04 59 30.0	
	baz=193,slow=76,SNR=405						
H11N3	WAKE ISLAND Hy	30.04	13	T	T	04 59 30.5	
	baz=193,slow=76,SNR=267						
H11N2	WAKE ISLAND Hy	30.05	13	T	T	04 59 31.4	
	baz=193,slow=76,SNR=457						
HTT	Hallett	30.65	217	P	P	04 29 14.5	-0.4
	baz=31,SNR=5.9						
TOO	Toolangi	30.70	203	P	P	04 29 16.6	+1.3
	baz=31,SNR=3.6						
TOO	Toolangi	30.70	203	P	P	04 29 16.0	+0.7
TOO				pmax	pmax		
	comp=Z,93nm,1.8s						
TOO	Toolangi	30.70	203	P	P	04 29 16.0	+0.7
KNRA	Kununurra	31.26	256	P	P	04 29 19.9	-0.4
	baz=31,SNR=5.5						
KNRA	Kununurra	31.26	256	P	P	04 29 20.1	-0.3
KNRA				IAmb	IAmb	04 29 25.4	
	comp=Z,22nm,0.7s						
ARPS	Mount Arapiles	31.62	209	P	P	04 29 23.8	+0.4
	baz=32						
BBOO	Buckleboo	31.99	221	P	P	04 29 26.2	-0.5
	baz=32,SNR=8.8						
BBOO	Buckleboo	31.99	221	P	P	04 29 25.6	-1.1
BBOO				IAmb	IAmb	04 30 01.6	
	comp=Z,37nm,1.2s						
KRAI	Karang Ratu	32.29	279	P	P	04 29 29.6	+0.1
	comp=Z,14nm,1.1s						
BKZ	Black Stump Fm	32.65	156	P	P	04 29 31.6	-0.8
WRKA	Warakurna	33.95	239	P	P	04 29 42.8	-1.1
	baz=34,SNR=11						
KHZ	Kahutara	34.52	163	P	P	04 29 48.6	0.0
FITZ	Fitzroy Crossi	34.56	252	P	P	04 29 48.1	-1.1
	baz=35,SNR=22						
FITZ	Fitzroy Crossi	34.56	252	P	P	04 29 47.9	-1.3
	comp=Z,7.2nm,0.8s,baz=97,slow=5.4,SNR=17						
FITZ	Fitzroy Crossi	34.56	252	P	P	04 29 48.2	-1.1
TAU	Tasmania Unive	34.88	197	P	P	04 29 51.1	-0.6
TAU				pmax	pmax		
	comp=Z,66nm,1.3s						
TAU	Tasmania Unive	34.88	197	P	P	04 29 51.1	-0.6
SANI	Sanana	34.93	281	P	P	04 29 52.3	-0.1
	comp=Z,23nm,1.4s						
SOEI	Soe	35.47	267	P	P	04 29 58.3	+1.0
	comp=Z,18nm,1.0s						
LBZ	Lake Benmore	35.52	168	P	P	04 29 57.9	+0.7
FORT	Forrest	36.51	230	P	P	04 30 06.3	+0.5
FORT				IAmb	IAmb	04 30 17.1	
	comp=Z,36nm,1.2s						
EDFI	Ende, Flores	38.08	268	P	P	04 30 18.5	-1.0
	comp=Z,6.7nm,1.3s						
DAV	Davao City (W)	38.40	295	LR	LR	04 46 56.1	
	comp=Z,123nm,18.6s,baz=146,slow=37						
GTOI	Gorontalo	38.51	283	P	P	04 30 24.0	+1.1
	comp=Z,424nmcomp=Z,42nm,0.7s						
KKSI	Kolaka, Sulawe	38.71	276	P	P	04 30 26.0	+1.3
	comp=Z,2μmcomp=Z,56nm,0.9s						
BKSI	Bulukumba	40.02	273	P	P	04 30 36.1	+0.5
	comp=Z,19nm,1.0s						
BNSI	Bone	40.19	275	P	P	04 30 37.6	+0.6
	comp=Z,49nm,1.0s						
KAPI	Kappang	40.44	274	P	P	04 30 39.3	+0.2
	comp=Z,36nm,1.1s,baz=124,slow=5.3,SNR=6.0						
KAPI	Kappang	40.44	274	P	P	04 30 39.6	+0.5
KAPI				pmax	pmax		
	comp=Z,37nm,1.1s						
KAPI	Kappang	40.44	274	P	P	04 30 39.6	+0.5
KAPI				IAmb	IAmb	04 30 40.9	
	comp=Z,37nm,1.1s						
KAPI	Kappang	40.44	274	P	P	04 30 39.9	+0.8
	comp=Z,35nm,1.1s						
PSA00	Pilbara Seismi	40.52	248	P	P	04 30 39.0	-0.7
PSA00				IAmb	IAmb	04 30 39.9	

comp=Z,37nm,1.1s
PSA00 Pilbara Seismi 40.52 248 P **P** 04 30 38.2 -1.5
PSA00 lAmb lAmb 04 30 40.0
comp=Z,22nm,1.1s
JCJ Chichijima 40.65 335 LR LR 04 45 34.3
comp=Z,272nm,18.7s,baz=120,slow=33
TTSI Tana Toraja 40.72 277 P **P** 04 30 41.6 +0.2
comp=Z,19nm,1.0s
TOLI2 Tolitoli 40.78 283 P **P** 04 30 40.3 -1.6
MPSI Mapaga 41.42 282 P **P** 04 30 46.8 -0.3
comp=Z,24nm,1.2s
PLAI Plampang 41.92 268 P **P** 04 30 50.2 -1.1
comp=Z,48nm,1.3s
MEEK Meekatharra 42.74 241 P **P** 04 30 57.4 -0.5
baz=43,SNR=13
KLNI Mataram 43.62 268 P **P** 04 31 06.3 +1.3
comp=Z,28nm,1.3s
BLDU Ballidu 45.47 236 P **P** 04 31 19.6 0.0
baz=46,SNR=5.3
BBKI Banjar Baru 45.52 275 P **P** 04 31 21.4 +1.1
JAGI Jajag, Banyuwa 45.53 268 P **P** 04 31 19.1 -1.2
JAGI Jajag, Banyuwa 45.53 268 P **P** 04 31 19.1 -1.2
comp=Z,37nm,0.7s
MORW Morawa 45.58 239 P **P** 04 31 20.0 -0.6
baz=46,SNR=5.2
MORW Morawa 45.58 239 P **P** 04 31 19.6 -0.9
MORW lAmb lAmb 04 31 20.8
comp=Z,16nm,0.9s
NWAO Narrogin (SRO) 45.79 233 P **P** 04 31 20.2 -1.9
comp=Z,5.6nm,0.9s,baz=45,slow=5.7,SNR=2.1
JHJ Hachijo jima 2 46.92 336 LR LR 04 50 21.1
comp=Z,120nm,19.8s,baz=346,slow=35
PWJI Pagerwojo 47.88 268 P **P** 04 31 38.5 -0.2
comp=Z,26nm,0.9s
SJI Sawahan 47.95 268 P **P** 04 31 40.0 +0.6
comp=Z,9μmcomp=Z,65nm,0.6s
PPT Papeete 49.22 105 LR LR 04 47 45.0
comp=Z,206nm,21.6s,baz=232,slow=30
PPT2 Papeete2 49.22 105 *e*S **S** 04 38 56.2 +3.4
comp=Z,95nm,27.2s
PPT2 *e*LR LR 04 45 59.8
comp=Z,414nm,22.8s
STKI Sintang 49.52 278 P **P** 04 31 52.8 +1.4
TBI Tubuai 49.79 112 *e*S **S** 04 39 04.0 +3.5
comp=Z,307nm,31.0s
TBI *e*LQ LQ 04 44 02.7
comp=Z,853nm,28.8s
TBI *e*LR LR 04 46 13.8
comp=Z,255nm,25.8s
MJAR Matsushiro Arr 50.54 337 P **P** 04 31 57.1 -1.6
comp=Z,2.3nm,0.5s,baz=161,slow=8.4,SNR=5.1
MJAR LR LR 04 54 11.9
comp=Z,78nm,19.3s,baz=145,slow=37
MAJO Matsushiro 50.55 337‖ *e*P **P** 04 31 57.7 -1.0
MAJO pmax pmax
comp=Z,5.0nm,0.4s
MAT Matsushiro 50.55 337 P **P** 04 31 54.4 -4.3
KSM Kuching 50.98 280 P **P** 04 32 02.0 -0.4
JNU Nakatsue 51.04 328 P **P** 04 32 02.8 +0.3
OPA Opana 51.53 52 P **P** 04 32 07.0 +0.7
OPA pmax pmax
comp=Z,319nm,1.8s
OPA Opana 51.53 52 P **P** 04 32 07.0 +0.7
JSD Sado 51.84 338 P **P** 04 32 08.4 +0.1
HMH Humu'ula Sheep 52.46 56 P **P** 04 32 13.8 +0.1
JTU Tsushima 52.90 328 P **P** 04 32 14.3 -1.9
JTM Tenmabayashi 53.36 342 P **P** 04 32 19.6 +0.1
KSRS Korea Array 55.92 329 P **P** 04 32 38.0 -0.2
comp=Z,1.5nm,0.6s,baz=148,slow=9.8,SNR=8.3
KSRS LR LR 04 56 31.6
comp=Z,81nm,18.6s,baz=134,slow=36
JKA Kamikawa-asahi 56.00 345 lAmb lAmb 04 32 39.9
comp=Z,44nm,1.7s
ASAJ Asahikawa 56.00 345 P **P** 04 32 39.5 +0.8
comp=Z,8.7nm,0.6s,baz=210,slow=10,SNR=5.8
QIZ Qiongzhong 57.37 300 P **P** 04 32 50.3 +1.5
QIZ S **S** 04 40 45.5 +2.2
QIZ LR LR
comp=Z,210nm,22.1s
NJ2 Nanjing 57.42 318 *e*P **P** 04 32 50.6 +1.6
NJ2 pmax pmax
comp=Z,15nm,0.6s
YSS Yuzh-Sakhalins 58.61 346 *e*P **P** 04 32 57.6 +0.6
TAOE Nuku Hiva Isla 58.74 94 *e*LR LR 04 50 24.8
comp=Z,303nm,26.3s
USA0B Ussuriysk Arra 59.54 337 *ce*P **P** 04 33 03.6 +0.1
USRK Ussuriysk Ar. 59.54 337 P **P** 04 33 03.7 +0.2
comp=Z,5.9nm,0.9s,baz=159,slow=7.4,SNR=12
MDJ Mudanjiang 60.85 335 P **P** 04 33 12.9 +0.4
MDJ pP pP 04 33 20.8 -2.9
MDJ sP sP 04 33 24.1 -3.6
MDJ S **S** 04 41 32.6 +5.1
MDJ sS pS 04 41 40.4 -0.8
MDJ pmax pmax
comp=Z,16nm,0.5s
MDJ pmax pmax
comp=Z,72nm,5.9s
MDJ LR LR
comp=Z,240nm,24.9s
MDJ LR LR
comp=Z,250nm,21.4s
MDJ LR LR
comp=Z,220nm,24.5s
KULM Kulim 61.26 282 P **P** 04 33 16.0 +0.1
SKNT Sakolnakorn 61.67 295 P **P** 04 33 20.4 +1.8
comp=Z,10nm,1.2s
CN2 Changchun 62.01 332 *e*P **P** 04 33 19.0 -1.3
CN2 pmax pmax
comp=Z,10.0nm,1.0s
PSI Prapat 62.36 278 P **P** 04 33 21.8 -1.7
comp=Z,3.9nm,1.4s
PEA0B Petropavlovsk- 62.69 358‖ *e*P **P** 04 33 25.4 +0.7
PEA0B Petropavlovsk- 62.69 358 P **P** 04 33 24.1 -0.6
PETK Petropavlovsk- 62.69 358 P **P** 04 33 24.4 -0.3
comp=Z,5.5nm,0.9s,baz=137,slow=7.4,SNR=5.3
PETK LR LR 04 58 20.4
comp=Z,229nm,20.0s,baz=164,slow=34
PETK Petropavlovsk- 62.69 358 P **P** 04 33 23.7 -1.0
PETK Petropavlovsk- 62.69 358 P **P** 04 33 23.7 -1.0
GSI Gunungsitoli 63.37 276 P **P** 04 33 29.7 -0.4
GSI Gunungsitoli 63.37 276 P **P** 04 33 29.6 -0.4
comp=Z,33nm,1.8s
SMY Shemya 63.39 9 P **P** 04 33 29.4 +0.1
SMY pmax pmax
comp=Z,196nm,1.3s
SMY Shemya 63.39 9 P **P** 04 33 29.4 +0.1
KLR Kul'dur 63.89 340 P **P** 04 33 32.3 -0.3
comp=Z,5.2nm,0.8s,baz=153,slow=3.4,SNR=18
KLR LR LR 04 59 01.7
comp=Z,127nm,21.2s,baz=122,slow=34
KLR Kul'dur 63.89 340‖ *e*P **P** 04 33 32.4 -0.3
KLR pmax pmax
comp=Z,19nm,1.5s
KIWB Kanaga Island 64.41 15 P **P** 04 33 36.3 +0.3
ADK Adak 64.56 16 P **P** 04 33 36.1 -0.9
ADK pmax pmax
comp=Z,75nm,1.4s
ADK Adak 64.56 16 P **P** 04 33 36.1 -0.9
XAN Xi'an 65.35 314 P P 04 33 52.2 +10
XAN pP sP 04 33 56.2 -1.9
XAN pmax pmax
comp=Z,5.0nm,0.6s
CASY Casey 65.66 200 P **P** 04 33 44.4 +0.4
CASY lAmb lAmb 04 33 44.9
comp=Z,24nm,1.2s
CMAR Chiang Mai Arr 66.69 295 P **P** 04 33 52.1 +0.6
comp=Z,2.7nm,0.5s,baz=115,slow=4.7,SNR=8.3
CMAR LR LR 05 01 40.1
comp=Z,50nm,21.3s,baz=165,slow=35
HHC Hu-ho-hao-te 67.46 322 *e*P **P** 04 33 58.6 +2.5
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,82nm,6.6s
VNDA Vanda 67.72 180 P **P** 04 33 57.4 +0.5
comp=Z,6.8nm,1.0s,baz=342,slow=6.8,SNR=18
VNDA LR LR 04 59 13.2
comp=Z,172nm,18.6s,baz=345,slow=32
VNDA Vanda 67.72 180 P **P** 04 33 57.5 +0.5
VNDA pmax pmax
comp=Z,9.0nm,1.0s
VNDA Vanda 67.72 180 P **P** 04 33 57.5 +0.5
VNDA lAmb lAmb 04 33 58.4
comp=Z,9.1nm,0.9s
SBA Scott Base 68.13 179 P **P** 04 34 00.6 +1.0
SBA pmax pmax
comp=Z,21nm,1.6s
SBA Scott Base 68.13 179 P **P** 04 34 00.6 +1.0
SBA lAmb lAmb 04 34 06.3
comp=Z,21nm,1.6s
HIA Hailar 68.71 333 *ce*P **P** 04 34 03.8 +0.1
HIA pmax pmax
comp=Z,11nm,1.2s
HIA Hailar 68.71 333 P **P** 04 34 04.1 +0.4
HIA lAmb lAmb 04 34 05.6
comp=Z,25nm,1.3s
ZEA Zeya 69.20 340 *e*P **P** 04 34 07.2 +0.6
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=N,10.0nm,1.0s
ZEA pmax pmax
comp=Z,10.0nm,0.8s
UNV Unalaska Valle 69.36 20 P **P** 04 34 06.9 -0.6
UNV lAmb lAmb 04 35 59.2
comp=Z,32nm,1.6s
MA2 Magadan 69.55 355‖ *e*P **P** 04 34 07.3 -1.3
MA2 pmax pmax
comp=Z,15nm,1.1s
SPIA Saint Paul Isl 71.00 16 P **P** 04 34 17.6 +0.1
CNBA Chernabura Isl 72.64 23 P **P** 04 34 26.4 -1.0
SDPT Sand Point 72.71 22 P **P** 04 34 27.1 -0.6
SEY Seymchan 72.76 356 P **P** 04 34 27.6 -0.3
comp=Z,1.9nm,0.3s,baz=168,slow=7.6,SNR=5.7
SEY Seymchan 72.76 356‖ *e*P **P** 04 34 27.9 0.0
ULN Ulaanbaatar 74.19 326 *ce*P **P** 04 34 37.6 +0.7
ULN pmax pmax
comp=Z,17nm,1.3s
ULN Ulaanbaatar 74.19 326 P **P** 04 34 37.4 +0.5
ULN Ulaanbaatar 74.19 326 P **P** 04 34 37.6 +0.7
comp=Z,54nm,1.2s
GTA Gaotai 74.35 316 *e*P **P** 04 34 39.0 +1.0
GTA pP pP 04 34 46.7 -3.0
GTA sP PcP 04 34 49.5 -3.1
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,71nm,7.6s
GTA LR LR
comp=Z,75nm,17.1s
GTA LR LR
comp=Z,110nm,16.4s
GTA LR LR
comp=Z,110nm,17.4s
SONM Songino Array 74.53 326 P **P** 04 34 39.6 +0.7
comp=Z,7.0nm,0.8s,baz=138,slow=5.3,SNR=26
SONM Songino Array 74.53 326 P **P** 04 34 38.8 -0.1
SONM pmax pmax
comp=Z,7.0nm,0.9s
SONM Songino Array 74.53 326 P **P** 04 34 38.8 -0.1
SHL Shillong 75.20 300 P **P** 04 34 43.6 +0.3
SHL pmax pmax
comp=Z,17nm,1.2s
SHL Shillong 75.20 300 P **P** 04 34 43.5 +0.3
SHL lAmb lAmb 04 34 44.4
comp=Z,17nm,1.2s
YAK Yakutsk 75.46 346 LR LR 05 06 51.0
comp=Z,155nm,20.0s,baz=90,slow=35
YAK Yakutsk 75.46 346 *de*P **P** 04 34 43.7 0.0
YAK pmax pmax
comp=Z,11nm,0.5s
KDAK Kodiak Island 77.50 24 P **P** 04 34 55.2 -0.1
comp=Z,2.4nm,0.7s,baz=243,slow=6.2,SNR=6.6
ZAK Zakamensk 77.64 327 *e*P **P** 04 34 56.0 -0.5
ZAK pmax pmax
comp=Z,10.0nm,1.4s
BILL Bilibino 77.75 2 *d i*P **P** 04 34 56.4 -0.2
BILL *e* 04 35 03.3
BILL *e* 04 37 52.7
BILL *e*PPP PPP 04 39 39.9
BILL pmax pmax
comp=Z,23nm,1.7s
BILL Bilibino 77.75 2 P **P** 04 34 56.2 -0.4
Q19K Cape Douglas, 77.87 22 P **P** 04 34 56.4 -1.1
Q19K lAmb lAmb 04 34 58.1
comp=Z,14nm,0.6s
Q19K Cape Douglas, 77.87 22 P **P** 04 34 56.7 -0.7
baz=226
O18K Koktuh Hills 77.94 21 P **P** 04 34 57.0 -0.8
O18K lAmb lAmb 04 35 32.8
comp=Z,32nm,1.9s
O18K Koktuh Hills 77.94 21 P **P** 04 34 57.0 -0.8
baz=225
P19K Oil Pt 78.52 22 P **P** 04 35 00.1 -1.0
P19K lAmb lAmb 04 35 00.9
comp=Z,8.8nm,0.8s
P19K Oil Pt 78.52 22 P **P** 04 35 00.4 -0.7
baz=227
SVW2 Sparrevohn 78.70 20 P **P** 04 35 02.1 +0.1
SVW2 lAmb lAmb 04 35 03.8
comp=Z,45nm,1.8s
N19K Bonanza Creek 78.88 21 P **P** 04 35 02.6 -0.5
baz=225
O20K Slope Mountain 79.04 22 P **P** 04 35 03.0 -0.9
baz=227
CNPM China Poot 79.19 23 P **P** 04 35 04.3 -0.4
BRLK Bradley Lake 79.48 23 P **P** 04 35 05.0 -1.3
BRLK lAmb lAmb 04 35 36.0
comp=Z,53nm,1.8s
BRSE Bradley Lake S 79.52 23 P **P** 04 35 06.1 -0.4
baz=229
M19K Big River Lodg 79.68 20 lAmb lAmb 04 35 09.3
comp=Z,13nm,0.7s
M19K Big River Lodg 79.68 20 P **P** 04 35 08.0 +0.7
baz=225,SNR=14
L19K White Mountain 79.72 20 lAmb lAmb 04 35 09.7
comp=Z,9.3nm,0.7s
L19K White Mountain 79.72 20 P **P** 04 35 07.8 +0.3
baz=225,SNR=15
M20K Styx River 80.09 20 lAmb lAmb 04 35 11.1
comp=Z,26nm,1.8s
M20K Styx River 80.09 20 P **P** 04 35 09.5 -0.2
baz=226
QSPA South Pole Qui 80.20 180 P **P** 04 35 09.9 -0.5
QSPA lAmb lAmb 04 35 11.4
comp=Z,14nm,1.0s
L20K Farewell, AK 80.25 20 P **P** 04 35 11.1 +0.6
baz=226,SNR=14
SUA Susitna One 80.65 22 P **P** 04 35 12.1 -0.7
baz=229,SNR=7.2
RC01 Rabbit Creek A 80.78 22 P **P** 04 35 12.7 -0.5
baz=230
K20K Telida 80.81 19 P **P** 04 35 13.4 0.0
baz=226
PPLA Purkeypile 81.11 20 lAmb lAmb 04 35 42.2
comp=Z,29nm,1.8s
PPLA Purkeypile 81.11 20 P **P** 04 35 14.5 -0.6
baz=227
PWL Port Wells 81.16 23 P **P** 04 35 14.8 -0.5
PMR Palmer 81.33 22 P **P** 04 35 15.3 -0.8
PMR pmax pmax
comp=Z,8.0nm,1.1s
PMR Palmer 81.33 22 P **P** 04 35 15.3 -0.8
PMR Palmer 81.33 22 P **P** 04 35 15.7 -0.4
baz=230
J20K Nowinta River 81.36 18 P **P** 04 35 16.1 -0.1
J20K lAmb lAmb 04 35 17.9
comp=Z,22nm,1.6s
J20K Nowinta River 81.36 18 P **P** 04 35 16.4 +0.1
baz=225,SNR=6.9
CHUM Lake Minchumin 81.74 19 P **P** 04 35 18.0 -0.3
baz=227,SNR=6.3
SML Sawmill 81.76 22 P **P** 04 35 17.4 -1.1
baz=231
KTH Kantishna Hill 81.97 20 lAmb lAmb 04 35 19.3
comp=Z,32nm,1.7s
TRF Thorofare Moun 82.12 20 P **P** 04 35 19.1 -1.4
baz=229,SNR=8.4
BPAW Bear Paw Mtn. 82.32 19 P **P** 04 35 20.0 -1.4
baz=228
WAT1 Susitna Watana 82.32 21 P **P** 04 35 20.9 -0.6
baz=231
WAT6 Susitna Watana 82.46 22 P **P** 04 35 21.9 -0.4
baz=232
KLU Klutina 82.47 23 P **P** 04 35 22.0 -0.3
RND Reindeer 82.59 21 lAmb lAmb 04 35 23.3
comp=Z,40nm,1.7s
I21K Tanana 82.73 18 lAmb lAmb 04 35 24.9
comp=Z,33nm,1.6s
I21K Tanana 82.73 18 P **P** 04 35 23.6 +0.2
baz=227,SNR=14
M24K Tolsona, Glenn 82.75 22 P **P** 04 35 24.5 +0.8
baz=233
MCK McKinley 82.77 20 P **P** 04 35 22.9 -0.8
MCK pmax pmax
comp=Z,28nm,1.3s
MCK McKinley 82.77 20 P **P** 04 35 22.9 -0.8
MCK lAmb lAmb 04 35 23.8
comp=Z,28nm,1.3s
MCK McKinley 82.77 20 P **P** 04 35 23.1 -0.6
baz=230,SNR=8.2
BWN Browne 82.87 20 lAmb lAmb 04 35 34.8
comp=Z,23nm,1.1s
MLY Manley 83.02 19 lAmb lAmb 04 35 25.6
comp=Z,26nm,1.6s
MLY Manley 83.02 19 P **P** 04 35 24.8 -0.2
baz=228,SNR=12
N25K Chitina, Valde 83.05 23 P **P** 04 35 25.4 +0.1
baz=234
WAX Waxell Ridge 83.09 25 P **P** 04 35 26.2 +0.6
CRQE Cirque 83.16 24 P **P** 04 35 25.9 -0.1
baz=236
GLB Gilahina Butte 83.27 24 P **P** 04 35 26.1 -0.3
NEA2 Nenana 83.27 20 P **P** 04 35 24.8 -1.5
NEA2 lAmb lAmb 04 35 26.2
comp=Z,28nm,1.6s
NEA2 Nenana 83.27 20 P **P** 04 35 25.3 -1.0
baz=230,SNR=6.9
I23K Minto, Yukon-K 83.54 19 P **P** 04 35 26.9 -0.7
baz=230
MDM Murphy Dome 83.78 20 lAmb lAmb 04 35 28.7
comp=Z,25nm,1.6s
TABL Table Mountain 83.80 25 P **P** 04 35 28.7 -0.6
MAW Mawson 83.83 202 P **P** 04 35 29.2 +0.1
baz=84,SNR=5.8
MAW Mawson 83.83 202 P **P** 04 35 29.5 +0.3
comp=Z,6.0nm,1.1s,baz=90,slow=5.7,SNR=9.6
MAW LR LR 05 07 54.5
comp=Z,107nm,21.6s,baz=67,slow=32
MAW Mawson 83.83 202 P **P** 04 35 29.0 -0.2
MAW pmax pmax
comp=Z,3.0nm,1.3s
MAW Mawson 83.83 202 P **P** 04 35 29.0 -0.2
TCOL CIGO, UAF Yank 83.85 20 lAmb lAmb 04 35 29.0
comp=Z,10nm,0.6s
TCOL CIGO, UAF Yank 83.85 20 P **P** 04 35 28.5 -0.7
baz=231
COLA College 83.86 20 P **P** 04 35 27.9 -1.3
COLA pmax pmax
comp=Z,11nm,0.6s
COLA College 83.86 20 P **P** 04 35 27.9 -1.3
COLA lAmb lAmb 04 35 29.0
comp=Z,11nm,0.6s
COLA College 83.86 20 P **P** 04 35 28.4 -0.8
baz=231
HDA Harding Lake 83.87 20 P **P** 04 35 28.7 -0.7
baz=232,SNR=7.6
H23K Yukon River 83.92 19 P **P** 04 35 28.8 -0.8
H23K Yukon River 83.92 19 P **P** 04 35 29.8 +0.2
baz=230
BARN Barnard Glacie 83.92 25 P **P** 04 35 29.7 -0.2
PINM Pinnacle 84.00 26 P **P** 04 35 30.0 -0.1
baz=238
CTG Chitna Glacier 84.00 25 P **P** 04 35 30.4 +0.2
baz=238
CTGM Chitina Glacie 84.00 25 P **P** 04 35 30.3 0.0
CTGM lAmb lAmb 04 36 09.7
comp=Z,13nm,1.2s
ILAR Eielson Array 84.12 20 P **P** 04 35 29.5 -1.1
comp=Z,4.1nm,0.5s,baz=250,slow=5.1,SNR=77
ILAR LR LR 05 07 14.7
comp=Z,125nm,20.2s,baz=235,slow=32
M26K Nabesna, AK 84.13 23 P **P** 04 35 31.1 +0.3
baz=236
RIDG Independent Ri 84.21 21 P **P** 04 35 30.6 -0.6
baz=234,SNR=6.2
WMQ Urumqi 84.43 316 *e*P **P** 04 35 33.7 +0.9
H24K Noodor Dome 84.45 19 P **P** 04 35 31.1 -1.3
baz=231
M27K Edge Creek, AK 84.54 23 lAmb lAmb 04 35 42.5
comp=Z,16nm,1.5s
M27K Edge Creek, AK 84.54 23 P **P** 04 35 33.2 +0.2
baz=237,SNR=5.4
COLD Coldfoot 84.64 17 P **P** 04 35 33.7 +0.5
baz=229
SCRK Sand Creek 84.66 21 P **P** 04 35 33.1 -0.4
SCRK Sand Creek 84.66 21 P **P** 04 35 33.6 0.0
baz=235,SNR=5.5
YUK3 Moose Creek 84.79 24 P **P** 04 35 35.2 +0.8
baz=238
L27K Beaver Creek, 84.94 23 lAmb lAmb 04 35 36.7
comp=Z,23nm,1.8s
L27K Beaver Creek, 84.94 23 P **P** 04 35 35.0 +0.2
baz=237
J26K Charley River, 85.06 21 P **P** 04 35 35.3 -0.2
baz=235
YUK4 Talbot Arm 85.31 25 P **P** 04 35 38.0 +1.0
baz=240
K27K Chicken 85.38 22 lAmb lAmb 04 35 39.3
comp=Z,12nm,1.4s
K27K Chicken 85.38 22 P **P** 04 35 38.0 +1.0
baz=237
HYT Haines Junctio 85.54 26 P **P** 04 35 38.1 +0.1
HYT lAmb lAmb 04 35 39.8
comp=Z,28nm,1.5s
HYT Haines Junctio 85.54 26 P **P** 04 35 38.7 +0.7
baz=241
TOLK Toolik Lake Re 85.75 16 lAmb lAmb 04 35 39.9
comp=Z,4.6nm,0.6s
TOLK Toolik Lake Re 85.75 16 P **P** 04 35 38.9 +0.2
baz=229
EGAK Eagle 86.13 21 lAmb lAmb 04 35 42.3
comp=Z,17nm,1.4s
EGAK Eagle 86.13 21 P **P** 04 35 41.2 +0.5
baz=237,SNR=8.7
DAWY Dawson 86.40 23 lAmb lAmb 04 35 44.0
comp=Z,17nm,1.5s
DAWY Dawson 86.40 23 P **P** 04 35 42.9 +0.8
baz=239,SNR=8.1
O02D Mt. Diablo Mer 86.44 48 P **P** 04 35 44.0 +1.1
baz=254
N02D Trinity Center 86.72 48 P **P** 04 35 44.6 +0.4
baz=254
M02C Callahan 86.73 47 P **P** 04 35 44.9 +0.6
baz=254
O03E Paynes Creek 87.20 48 P **P** 04 35 46.8 +0.2
baz=255
L04D Klamath Falls 87.35 47 P **P** 04 35 47.7 +0.4
baz=254
I04A Tendick Farm, 87.70 45 P **P** 04 35 49.4 +0.5
baz=254
J04D Umpqua Nationa 87.76 46 P **P** 04 35 49.9 +0.5
baz=254
BEKR Beckworth 88.16 49 P **P** 04 35 50.6 -0.8
BEKR lAmb lAmb 04 35 52.8
comp=Z,19nm,1.8s
J05D Fort Rock, OR 88.39 46 P **P** 04 35 53.2 +1.0
baz=255
K05A Summer Lake 88.49 46 P **P** 04 35 52.5 -0.3
K05A lAmb lAmb 04 35 54.0
comp=Z,16nm,1.3s
EPYK Eagle Plains 88.53 21 P **P** 04 35 52.6 +0.4
baz=241
MDPB Devils Postpil 88.60 52 P **P** 04 35 52.9 -0.7
MDPB lAmb lAmb 04 35 54.9
comp=Z,19nm,1.7s
ISA Isabella, Lake 88.63 54 P **P** 04 35 53.5 0.0
ISA pmax pmax
comp=Z,13nm,1.4s
ISA Isabella, Lake 88.63 54 P **P** 04 35 53.5 0.0
ISA lAmb lAmb 04 35 54.9
comp=Z,13nm,1.4s
ISA Isabella, Lake 88.63 54 P **P** 04 35 54.2 +0.7
baz=257
PINE Pine Mountain 88.72 45 P **P** 04 35 53.9 0.0
PINE lAmb lAmb 04 35 55.9
comp=Z,9.5nm,1.1s
YERR Yerington 88.79 50 P **P** 04 35 54.2 -0.1
EDW2 Edwards Air Fo 88.84 54 P **P** 04 35 54.8 +0.3
baz=257,SNR=6.3
PAHR Pah Rah Range 88.85 50 P **P** 04 35 54.5 -0.1
PAHR lAmb lAmb 04 35 56.0
comp=Z,14nm,1.5s
MK31 Makanchi Array 88.95 318‖ *e*P **P** 04 35 54.4 -0.3
MK31 Makanchi Array 88.95 318 P **P** 04 35 54.1 -0.6
MKAR Makanchi Array 88.95 318 P **P** 04 35 54.5 -0.2
comp=Z,1.1nm,0.7s,baz=97,slow=5.8,SNR=9.2
MKAR Makanchi Array 88.95 318 *i*P **P** 04 35 54.0 -0.7
MKAR pmax pmax

2015 SEP

mb1 3.8/8,mb1mx3.5/52,mbtmp3.7/8,ML2.9/3,MS2.9/5, Ms1 2.9/5,ms1mx2.5/57,Error ellipse: s-maj=33.1km s-min=9.0km az=151.0

TEH ***07*** *04:33:46.0,39.39N×43.99E,h4km,ML3.6*

ISC 07 04:33:46.1±1.1,39.40N±0.02×43.98E±0.01,h1km±9km, n123,σ1§69/173,mb3.8/4,7C-1D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DYDN	**Diyadin**	**0.27**	**303**	*i*P		**Pg**	**04 33 50.2**	**-1.1**
DYDN				*i* S		**Sg**	**04 33 56.2**	**+1.4**
DYDN	**Diyadin**	**0.27**	**303**	*e*Pg		**Pg**	**04 33 50.4**	**-0.9**
IGDI	**IGDIR**	**0.48**	**9**	⇑*i*P		**Pg**	**04 33 55.2**	**0.0**
IGDI				*i* S		**Sb**	**04 34 03.1**	**-1.8**
IGDI	**IGDIR**	**0.48**	**9**	*e*Pg		**Pg**	**04 33 55.3**	**0.0**
VMUR	**Van-Muradiye**	**0.52**	**218**	⇑*i*P		**Pg**	**04 33 55.3**	**-0.7**
VMUR				*i* S		**Sn**	**04 34 08.0**	**-2.4**
MAKU	**Maku**	**0.55**	**94**	*e*Pg		**Pg**	**04 33 53.8**	**-2.9**
MAKU	comp=N,2μm,0.3s			IAML			04 34 08.7	
MAKU	comp=E,4μm,0.4s			IAML			04 34 16.9	
MAKU	**Maku**	**0.55**	**94**	*e*Pg		**Pg**	**04 33 53.8**	**-2.9**
TASB	**TASBURUN-IGDIR**	**0.62**	**19**	PG		**Pg**	**04 33 58.2**	**+0.2**
TASB				SG		**Sb**	**04 34 08.8**	**-0.3**
TASB	**TASBURUN-IGDIR**	**0.62**	**19**	*e*Pg		**Pg**	**04 33 57.9**	**-0.1**
VNNZ	**Vanand**	**0.71**	**350**	*i* P		**Pb**	**04 34 00.3**	**-1.2**
VNNZ				*i* S		**Sb**	**04 34 11.4**	**-0.5**
OZAP	**Van, Ozalp-Mer**	**0.73**	**179**	⇑*i*P		**Pg**	**04 34 00.3**	**0.0**
OZAP				*i* S		**Sb**	**04 34 12.8**	**+0.3**
HYR	**Heyderabad**	**0.75**	**64**	P		**Pg**	**04 34 01.0**	**+0.5**
HYR	SNR=24			S		**Sn**	**04 34 14.6**	**-1.3**
METS	**Metsamor**	**0.76**	**6**	*i* P		**Pg**	**04 34 00.7**	**0.0**
METS				*i* S		**Sb**	**04 34 12.0**	**-1.0**
AGRB	**Hanur-Agry**	**0.78**	**283**	PG		**Pg**	**04 33 59.8**	**-1.4**
AGRB				SG		**Sg**	**04 34 11.3**	**0.0**
NRKZ	**NAREK**	**0.80**	**41**	*i* P		**Pb**	**04 34 03.1**	**+0.1**
NRKZ				*i* S		**Sn**	**04 34 16.2**	**-1.1**
ARUZ	**Aruch**	**0.89**	**6**	*i* P		**Pg**	**04 34 03.1**	**-0.1**
ARUZ				*i* S		**Sb**	**04 34 15.8**	**-1.1**
VANB	**Van**	**0.92**	**210**	PG		**Pn**	**04 34 05.2**	**-1.2**
VANB	**Van**	**0.92**	**210**	*e*Pg		**Pn**	**04 34 05.2**	**-1.2**
GNI	**Garni**	**0.95**	**38**	Pg		**Pg**	**04 34 04.9**	**+0.4**
GNI	comp=E,84nm,0.3s,baz=247,slow=3.0,SNR=136			Lg		Lg	04 34 20.1	
GNI	comp=E,130nm,0.3s,baz=180,slow=20,SNR=8.6							
GNI	**Garni**	**0.95**	**38**	*i* P		**Pg**	**04 34 04.4**	**-0.1**
GNI				*i* S		**Sb**	**04 34 18.6**	**-0.2**
GNI	**Garni**	**0.95**	**38**	PG		**Pg**	**04 34 04.4**	**-0.1**
GNI				SG		**Sn**	**04 34 20.2**	**-1.0**
GNI	**Garni**	**0.95**	**38**	*e*Pg		**Pg**	**04 34 04.3**	**-0.2**
KAPZ	**Kaputan**	**1.08**	**31**	*i* P		**Pg**	**04 34 06.7**	**-0.1**
KAPZ				*i* S		**Sb**	**04 34 22.3**	**-0.1**
DIGO	**Kars**	**1.12**	**336**	*i* P		**Pb**	**04 34 07.5**	**-1.0**
DIGO				*i* S		**Sn**	**04 34 29.2**	**+3.9**
DIGO	**Kars**	**1.12**	**336**	*e*Pg		**Pn**	**04 34 08.3**	**-0.9**
MLAZ	**Malazgirt-MUS**	**1.14**	**257**	PN		**Pg**	**04 34 06.9**	**-1.1**
MLAZ	**Malazgirt-MUS**	**1.14**	**257**	*e*Pg		**Pn**	**04 34 08.2**	**-1.2**
ADCV	**BITLIS_Adilcev**	**1.14**	**239**	*i* P		**Pb**	**04 34 07.8**	**-1.0**
ADCV				*i* S		**Sn**	**04 34 27.9**	**+2.2**
ADCV	**BITLIS_Adilcev**	**1.14**	**239**	*e*Pg		**Pb**	**04 34 07.7**	**-1.0**
NAX	**Nakhchivan**	**1.20**	**100**	P		**Pn**	**04 34 09.7**	**-0.4**
NAX	SNR=45			S		**Sn**	**04 34 28.1**	**+1.1**
SBZ	**Shahbuz**	**1.22**	**89**	P		**Pb**	**04 34 09.8**	**-0.3**
SBZ				S		**Sn**	**04 34 30.6**	**+3.0**
EAK	**Akyaka**	**1.32**	**348**	*i* P		**Pg**	**04 34 12.2**	**+0.7**
EAK				*i* S		**Sn**	**04 34 33.9**	**+3.7**
EAK	comp=N,2μm,0.7s			IAML			04 34 40.0	
EAK	comp=E,2μm,0.9s			IAML			04 34 42.0	
EAK	**Akyaka**	**1.32**	**348**	*e*Pg		**Pg**	**04 34 12.8**	**+1.4**
AKDM	**Akdamar-Van**	**1.32**	**216**	PN		**Pn**	**04 34 10.3**	**-1.6**
AKDM	**Akdamar-Van**	**1.32**	**216**	*e*Pg		**Pn**	**04 34 10.3**	**-1.6**
KARS	**Kars**	**1.41**	**331**	PN		**Pb**	**04 34 12.3**	**-1.1**
EKAR	**Karacoban**	**1.49**	**265**	*i* P		**Pg**	**04 34 14.9**	**+0.2**
IMRD	**Marand**	**1.51**	**116**	*e*Pg		**Pb**	**04 34 14.4**	**-0.6**
IMRD	comp=Z,18μm,0.6s			*e*			04 34 49.8	
ORD	**Ordubad** SNR=226	**1.64**	**106**	P		**Pn**	**04 34 16.1**	**0.0**
ORD				S		**Sg**	**04 34 43.3**	**+4.6**
ISHB	**Shabestar**	**1.69**	**130**	*e*Pn		**Pn**	**04 34 16.5**	**-0.6**
ISHB	comp=Z,7μm,0.7s			*e*			04 34 23.0	
SENK	**Senkaya-Erzuru**	**1.71**	**313**	PN		**Pn**	**04 34 16.5**	**-0.8**
HOMI	**Horasan**	**1.73**	**293**	⇑*i*P		**Pn**	**04 34 16.4**	**-1.2**
HOMI				*i* S		**Sg**	**04 34 43.5**	**+2.0**
HOMI	comp=E,2μm,1.0s			IAML			04 34 55.0	
GURO	**Guroymak-BITLI**	**1.74**	**242**	PN		**Pn**	**04 34 16.7**	**-0.9**
KOPR	**Koprukoy-ERZUR**	**1.74**	**291**	PN		**Pn**	**04 34 16.8**	**-0.9**
BLIS	**Bitlis-Merkez**	**1.75**	**237**	⇑*i*P		**Pn**	**04 34 17.2**	**-0.7**
BLIS				*i* S		**Sg**	**04 34 45.0**	**+2.5**
YOVA	**Hakkari_Yksek**	**1.82**	**172**	*i* P		**Pb**	**04 34 19.8**	**-0.7**
YOVA				*i* S		**Sg**	**04 34 47.4**	**+2.7**
YOVA	**Hakkari_Yksek**	**1.82**	**172**	*e*Pn		**Pb**	**04 34 19.7**	**-0.7**
HAKT	**HAKKARI**	**1.85**	**187**	*i* P		**Pb**	**04 34 20.6**	**-0.2**
HAKT				*i* S		**Sg**	**04 34 52.4**	**+6.9**
HAKT	comp=N,109nm,1.0s			IAML			04 35 04.0	
GDB	**GEDABAY** SNR=126	**1.90**	**45**	P		**Pb**	**04 34 21.0**	**-0.7**
GDB				S		**Sg**	**04 34 49.7**	**+2.5**
VRTB	**Varto-Mus**	**1.97**	**264**	PN		**Pn**	**04 34 20.1**	**-0.7**
QZX	**Qazax, Azerbai** SNR=88	**1.97**	**32**	P		**Pb**	**04 34 22.1**	**-0.8**
QZX				S		**Sg**	**04 34 51.9**	**+2.4**
MUSM	**Mu-Merkez**	**2.03**	**251**	⇑*i*P		**Pn**	**04 34 21.2**	**-0.4**
MUSM				*i* S		**Sg**	**04 34 51.1**	**-0.4**
MUSM	comp=E,109nm,0.9s			IAML			04 34 57.0	
AKH	**Akhalkalaki**	**2.04**	**350**	PN		**Pn**	**04 34 21.7**	**-0.2**
ITBZ	**Tabriz**	**2.05**	**124**	*e*Pn		**Pb**	**04 34 23.4**	**-0.9**
ERZM	**Erzurum**	**2.08**	**285**	*i* P		**Pb**	**04 34 23.5**	**-1.3**
ERZM				*i* S		**Sg**	**04 34 58.9**	**+5.9**
EJDE	**Erzurum, Palan**	**2.11**	**283**	⇑*i*P		**Pn**	**04 34 23.0**	**0.0**
EJDE				*i* S		**Sg**	**04 34 58.4**	**+4.4**
EJDE	comp=E,1μm,0.7s			IAML			04 35 01.0	
EJDE	comp=N,459nm,0.8s			IAML			04 35 07.0	
SRTM	**Siirt_Merkez**	**2.13**	**230**	*i* P		**Pn**	**04 34 22.4**	**-0.6**
SRTM				*i* S		**Sg**	**04 34 58.9**	**+4.2**
CUKT	**Cukurca**	**2.17**	**188**	PN		**Pn**	**04 34 23.5**	**0.0**
GANJ	**Ganja** SNR=21	**2.19**	**55**	P		**Pb**	**04 34 25.2**	**-1.4**
GANJ				S		**Sg**	**04 34 56.4**	**-0.1**
SIRT	**Sirnak**	**2.25**	**213**	PN		**Pn**	**04 34 24.0**	**-0.5**
SIRN	**Sirnak**	**2.26**	**213**	*i* P		**Pg**	**04 34 28.1**	**-1.3**
DGRG	**David-gareji**	**2.31**	**27**	*i* P		**Pb**	**04 34 28.4**	**-0.3**
EPOS	**Posof**	**2.31**	**336**	*i* P		**Pg**	**04 34 29.3**	**-1.2**
EPOS				*i* S		Sg	04 35 11.2	+11
IAZR	**Azarshahr**	**2.33**	**137**	*e*Pn		**Pb**	**04 34 26.9**	**-2.1**
IAZR	comp=Z,5μm,0.8s			*e*			04 35 18.0	
SLHN	**Bingol, Solhan**	**2.34**	**260**	*i* P		**Pb**	**04 34 26.5**	**-2.7**
DBAD	**Bademkaya**	**2.38**	**314**	*i* P		**Pn**	**04 34 26.7**	**+0.2**
DBAD				*i* S		**Sg**	**04 35 05.5**	**+2.8**
AGDM	**Agdam** SNR=32	**2.52**	**73**	P		**Pn**	**04 34 29.5**	**+1.3**
AGDM				S		**Sb**	**04 35 04.0**	**+0.4**
QRD	**Qoradiz** SNR=17	**2.59**	**88**	P		**Pn**	**04 34 30.3**	**+1.1**
QRD				S		**Sb**	**04 35 06.8**	**+1.1**
BNGB	**Bingl**	**2.60**	**262**	PN		**Pn**	**04 34 28.8**	**-0.6**
BRDA	**Brd** SNR=4.0	**2.61**	**70**	P		**Pn**	**04 34 30.5**	**+1.0**
BRDA				S		**Sb**	**04 35 08.2**	**+1.8**
IHRS	**Heris**	**2.62**	**113**	*e*Pn		**Pn**	**04 34 30.9**	**+1.0**
IHRS	comp=Z,2μm,0.7s			*e*			04 34 41.4	
YEDI	**Yedisu-Bingol**	**2.66**	**272**	PN		**Pn**	**04 34 29.8**	**-0.5**
BCA	**Borcka**	**2.72**	**319**	PN		**Pn**	**04 34 30.9**	**-0.2**
MNGR	**Mingechevir, A** SNR=3.8	**2.75**	**59**	P		**Pn**	**04 34 33.1**	**+1.7**
MNGR				S		**Sg**	**04 34 35.2**	**-2.1**
BLQ	**Beylaqan** SNR=28	**2.79**	**82**	P		**Pn**	**04 34 33.2**	**+1.3**
BLQ				S		**Sb**	**04 35 13.2**	**+1.9**
BATM	**Batumi**	**2.81**	**322**	PN		**Pn**	**04 34 32.6**	**+0.4**
IBST	**Bostanabad**	**2.84**	**126**	*e*Pn		**Pn**	**04 34 34.5**	**+1.6**
ZRD	**Zardab** SNR=7.8	**2.99**	**72**	P		**Pn**	**04 34 36.3**	**+1.7**
ZRD				S		**Sb**	**04 35 17.9**	**+0.8**
CHOM	**Cayeli-Rize**	**2.99**	**306**	PN		**Pn**	**04 34 34.8**	**+0.1**
BAYB	**BAYBURT**	**2.99**	**288**	*e*P		**Pb**	**04 34 38.5**	**-1.9**
ZKTA	**Zakatala** SNR=11	**3.01**	**41**	P		**Pn**	**04 34 35.9**	**+0.9**
ZKTA				S		**Sg**	**04 35 20.9**	**-2.0**
SEKA	**Sheki** SNR=9.0	**3.06**	**53**	P		**Pb**	**04 34 38.4**	**-2.9**
SEKA				S		**Sg**	**04 35 23.2**	**-1.1**
GRMI	**Germi**	**3.10**	**100**	*e*Pn		**Pn**	**04 34 32.7**	**-3.7**
GRMI				*e*Sg		**Sb**	**04 35 20.4**	**-0.2**
GRMI	**Germi**	**3.10**	**100**	*e*Pn		**Pn**	**04 34 32.7**	**-3.7**
BAYT	**Aydıntepe-Bayb**	**3.12**	**290**	PN		**Pn**	**04 34 36.1**	**-0.5**
ISRB	**Sarab**	**3.29**	**117**	*e*Pn		**Pb**	**04 34 43.2**	**-2.2**
ISRB	comp=Z,1μm,0.5s			*e*			04 34 53.6	
IHSH	**Hashtrud**	**3.32**	**128**	*e*Pn		**Pn**	**04 34 41.1**	**+1.6**
QBL	**Gabala** SNR=12	**3.34**	**61**	P		**Pn**	**04 34 41.5**	**+2.0**
QBL				S		**Sb**	**04 35 27.6**	**+0.4**
YRD	**Yardimli** SNR=30	**3.35**	**97**	P		**Pn**	**04 34 40.6**	**+0.8**
YRD				S		**Sb**	**04 35 27.7**	**0.0**
KDMR	**Kurdemir** SNR=5.4	**3.38**	**72**	P		**Pn**	**04 34 41.7**	**+1.6**
KDMR				S		**Sb**	**04 35 27.9**	**-0.5**
GLBA	**Cilabad** SNR=17	**3.43**	**91**	P		**Pn**	**04 34 41.4**	**+0.8**
GLBA				S		**Sb**	**04 35 28.9**	**-0.9**
SAAT	**Saatly** SNR=3.0	**3.46**	**81**	P		**Pn**	**04 34 41.2**	**+0.1**
SAAT				S		**Sb**	**04 35 28.7**	**-2.1**
LRK	**Lerik** SNR=13	**3.48**	**101**	P		**Pn**	**04 34 41.9**	**+0.4**
LRK				S		**Sb**	**04 35 30.1**	**-1.3**
IML	**Ismayilli** SNR=3.7	**3.51**	**65**	P		**Pn**	**04 34 42.4**	**+0.5**
IML				S		**Sb**	**04 35 31.3**	**-1.0**
XNQ	**Khinaliq** SNR=7.7	**3.64**	**60**	P		**Pn**	**04 34 44.4**	**+0.5**
XNQ				S		**Sb**	**04 35 35.2**	**-1.0**
LKRN	**Lenkeran, Azer** SNR=8.5	**3.80**	**99**	P		**Pn**	**04 34 47.0**	**+1.2**
LKRN				S		**Sb**	**04 35 38.9**	**-1.6**
PQL	**Pirkuli** SNR=5.1	**3.80**	**67**	P		**Pn**	**04 34 47.1**	**+1.1**
PQL				S		**Sb**	**04 35 40.1**	**-0.6**
ASTR	**Astara** SNR=13	**3.84**	**101**	P		**Pn**	**04 34 46.9**	**+0.5**
ASTR				S		**Sb**	**04 35 40.3**	**-1.5**
QSAR	**Qusar** SNR=2.9	**3.89**	**56**	P		**Pn**	**04 34 48.0**	**+0.9**
QSAR				S		**Sb**	**04 35 43.3**	**0.0**
ALIB	**Äli-Bayra** SNR=4.7	**3.92**	**80**	P		**Pn**	**04 34 47.8**	**+0.3**
QUBA	**Quba, Azerbaij** SNR=3.0	**3.96**	**59**	P		**Pn**	**04 34 49.2**	**+1.1**
QUBA				S		**Sb**	**04 35 45.0**	**-0.3**
ATGJ	**Altiaghaj** SNR=3.0	**4.07**	**67**	P		**Pn**	**04 34 51.0**	**+1.3**
SIZA	**Siyzn**	**4.12**	**64**	P		**Pn**	**04 34 51.5**	**+1.2**
KBZ	**Khabaz**	**4.40**	**350**	Pn		**Pb**	**04 35 02.1**	**-2.1**
BRTR	comp=Z,0.2nm,0.3s,baz=194,slow=4.2,SNR=2.3			LR		LR	04 39 12.0	
ZNJK	**Zanjan**	**4.61**	**125**	*e*Pn		**Pn**	**04 34 54.1**	**-3.1**
ZNJK				*e*Sg		**Sb**	**04 36 07.0**	**+3.0**
ZNJK	**Zanjan**	**4.61**	**125**	*e*Pn		**Pn**	**04 34 54.1**	**-3.1**
QABG	**Abgarm-Qazvin**	**5.78**	**128**	*e*Pn		**Pn**	**04 35 14.3**	**+1.1**
CHTH	**Charan**	**6.65**	**119**	*e*Pn		**Pn**	**04 35 21.9**	**-3.4**
CHTH	**Charan**	**6.65**	**119**	*e*Pn		**Pn**	**04 35 21.9**	**-3.4**
BRTR	**Keskin Array B**	**8.00**	**276**	Pn		Pn	04 35 48.0	+4.4
BRTR	comp=Z,0.1nm,0.3s,baz=99,slow=12,SNR=8.8			LR		LR	04 39 12.0	
MMAI	**Mount Meron Ar** comp=Z,86nm,21.8s,baz=95,slow=41	**9.41**	**230**	LR		LR	04 39 15.2	
BELG	**Belogornoye** comp=Z,45nm,20.8s,baz=27,slow=44	**13.24**	**10**	LR		LR	04 43 23.9	
AKTO	**Aktyubinsk** comp=Z,0.1nm,0.3s,baz=233,slow=15,SNR=2.8	**14.83**	**37**	Pn		**Pn**	**04 37 16.3**	**-0.6**
AKTO	comp=Z,49nm,21.8s,baz=245,slow=40			LR		LR	04 43 40.3	
AKTO	**Aktyubinsk**	**14.83**	**37**	P		**Pn**	**04 37 16.3**	**-0.6**
AKASG	**Malin Array Be** comp=Z,33nm,18.5s,baz=25,slow=35	**15.34**	**322**	Pn		**Pn**	**04 37 22.4**	**-1.3**
ARU	**Arti** comp=Z,0.9nm,0.3s,baz=125,slow=12,SNR=6.4	**19.57**	**25**	P		**P**	**04 38 14.6**	**-0.7**
WSAR	**Wadi Sarin** comp=Z,59nm,19.6s,baz=168,slow=42	**20.35**	**138**	LR		LR	04 48 02.4	
GERES	**GERESS Array B** comp=Z,0.9nm,0.7s,baz=106,slow=9.8,SNR=5.8	**23.56**	**304**	P		**P**	**04 38 59.2**	**+1.1**
GERES	**GERESS Array B**	**23.56**	**304**	P		**P**	**04 38 59.2**	**+1.1**
FINES	**FINESS Array B** comp=Z,3.6nm,0.9s,baz=130,slow=13,SNR=5.2	**24.68**	**339**	P		**P**	**04 39 07.7**	**-0.6**
ESDC	**Sonseca Array** comp=Z,0.5nm,0.7s,baz=67,slow=7.5,SNR=4.7	**36.62**	**286**	P		**P**	**04 40 53.6**	**-0.4**
KSRS	**Korea Array** comp=Z,0.6nm,0.3s,baz=283,slow=7.5,SNR=5.0	**63.40**	**62**	P		**P**	**04 44 18.6**	**+1.4**
NEW	**Newport** comp=Z,91nm,18.0s,baz=274,slow=36	**91.12**	**347**	LR		LR	05 28 08.1	

IDC ***07*** *04:39:43.4±0.9,18.06N×145.91E,h0km,mb3.8/6, mb1 4.1/6,mb1mx3.7/41,mbtmp3.8/6,Error ellipse: s-maj=36.7km s-min=21.5km az=101.0*

NEIC ***07*** *04:40:06.6±1.6,18.01N±0.04×145.5E±0.2,h190km±8km, mb3.8/22,Error ellipse: s-maj=25.3km s-min=6.1km az=90.0*

ISC 07 04:40:07.1±0.7,18.0N±0.1×145.5E±0.2,h200km,n37, σ0§86/37,mb3.7/18,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.42**	**188**		Pn	**Pn**	**04 41 15.1**	**+0.9**
WR0	**Warramunga Arr**	**39.22**	**196**		P	**P**	**04 47 15.3**	**-0.9**
WR0	comp=Z,2.1nm,0.8s				IAmb	IAmb	04 47 17.2	
WB2	**Warramunga Arr**	**39.26**	**197**		P	**P**	**04 47 16.1**	**-0.4**
WRA	**Warramunga Arr** comp=Z,1.1nm,0.3s,baz=16,slow=7.5,SNR=42	**39.26**	**197**		P	**P**	**04 47 15.9**	**-0.6**
WRA	**Warramunga Arr**	**39.26**	**197**		P	**P**	**04 47 15.8**	**-0.6**
FITZ	**Fitzroy Crossi**	**40.84**	**210**		P	**P**	**04 47 30.0**	**+0.5**
FITZ	comp=Z,3.2nm,1.1s				IAmb	IAmb	04 47 33.4	
AS31	**Alice Springs**	**42.92**	**196**		P	**P**	**04 47 46.0**	**-0.3**
ASAR	**Alice Springs** comp=Z,0.4nm,0.3s,baz=15,slow=7.0,SNR=11	**42.92**	**196**		P	**P**	**04 47 44.9**	**-1.4**
ASAR	**Alice Springs**	**42.92**	**196**		P	**P**	**04 47 46.0**	**-0.3**
PSA00	**Pilbara Seismi**	**46.66**	**214**		P	**P**	**04 48 16.3**	**+0.5**
PSA00	comp=Z,3.6nm,1.1s				IAmb	IAmb	04 48 21.3	
MORW	**Morawa**	**54.76**	**212**		P	**P**	**04 49 15.7**	**-0.5**
MKAR	**Makanchi Array** comp=Z,0.4nm,0.5s,baz=103,slow=8.4,SNR=5.8	**58.82**	**314**		P	**P**	**04 49 45.5**	**+0.9**
MKAR	**Makanchi Array**	**58.82**	**314**		P	**P**	**04 49 46.1**	**+1.5**
MAKZ	**Makanchi**	**59.04**	**314**		P	**P**	**04 49 46.8**	**+0.7**
MAKZ	comp=Z,1.0nm,0.7s				IAmb	IAmb	04 50 04.5	
K20K	**Telida**	**60.94**	**27**		P	**P**	**04 49 59.5**	**+0.9**
K20K	comp=Z,2.2nm,1.1s				IAmb	IAmb	04 50 00.1	
J20K	**Nowinta River**	**61.17**	**26**		P	**P**	**04 50 01.0**	**+0.8**
KURK	**Kurchatov**	**61.67**	**318**		P	**P**	**04 50 04.5**	**+0.6**
TARG	**Taragay, Kyrgy**	**61.72**	**308**		P	**P**	**04 50 02.6**	**-2.1**
KURBB	**Kurchatov Arra** comp=Z,0.5nm,0.2s,baz=97,slow=7.2,SNR=4.3	**61.72**	**318**		P	**P**	**04 50 04.5**	**+0.3**
IMAR	**Indian Mountai**	**61.94**	**24**		P	**P**	**04 50 05.5**	**+0.2**
I21K	**Tanana**	**62.37**	**25**		P	**P**	**04 50 08.5**	**+0.3**
I21K	comp=Z,2.3nm,1.1s				IAmb	IAmb	04 50 18.2	
BPAW	**Bear Paw Mtn.**	**62.47**	**26**		P	**P**	**04 50 09.0**	**+0.1**
BPAW	comp=Z,0.9nm,0.9s				IAmb	IAmb	04 50 17.8	
MLY	**Manley**	**62.83**	**25**		P	**P**	**04 50 11.5**	**+0.2**
MLY	comp=Z,0.9nm,0.5s				IAmb	IAmb	04 50 12.1	
MDM	**Murphy Dome**	**63.84**	**26**		P	**P**	**04 50 18.9**	**+1.0**
MDM	comp=Z,0.9nm,0.8s				IAmb	IAmb	04 50 26.8	
TOLK	**Toolik Lake Re**	**64.31**	**22**		P	**P**	**04 50 21.7**	**+0.7**
TOLK					IAmb	IAmb	04 50 27.1	

THR ***07*** *04:33:41.6±0.4,39.46N×43.91E,h18km±5km,ML3.5*

ISK ***07*** *04:33:44.9,39.40N×43.90E,h5km,ML3.7/19*

NSSP ***07*** *04:33:45.3,39.40N×43.98E,h5km,Ms3.5*

AZER ***07*** *04:33:45.0±0.3,39.39N×44.14E,h3km±1km,ml3.8/31, Error ellipse: s-maj=2.9km s-min=1.8km az=232.0*

DDA ***07*** *04:33:46.0,39.40N×43.95E,h8km±6km,MW4.0*

IDC ***07*** *04:33:46.9±1.9,39.43N×43.98E,h0km,mb3.8/4,*

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,1.6nm,0.9s						
IL31		64.36	26	P	P	04 50 19.6	-1.6
IL31				IAmb	IAmb	04 50 20.0	
	comp=Z,1.0nm,0.6s						
ILAR	Eielson Array	64.36	26	P	P	04 50 19.4	-1.8
	comp=Z,0.3nm,0.4s,baz=251,slow=6.0,SNR=7.1						
RIDG	Independent Ri	65.03	27	P	P	04 50 25.3	-0.4
DOT	Dot Lake	65.36	28	P	P	04 50 27.2	-0.5
BMAR	Burnt Mountain	65.83	23	P	P	04 50 31.4	+0.6
EGAK	Eagle	66.78	27	P	P	04 50 37.4	+0.7
EGAK				IAmb	IAmb	04 50 56.0	
	comp=Z,1.2nm,0.9s						
ABKAR	Akbulak array	73.73	317	P	P	04 51 18.6	-0.5
K05A	Summer Lake	80.59	48	P	P	04 51 58.1	+0.4
KVN	Kaiserville	83.68	51	P	P	04 52 14.1	+0.2
NVAR	Mina Array Bea	83.72	52	P	P	04 52 13.6	-0.6
	comp=Z,0.3nm,0.3s,baz=262,slow=7.3,SNR=4.4						
HRY	Holter Researc	85.46	42	P	P	04 52 22.5	-0.1
LPAZ	La Paz	147.84	92	PKPbc	PKPbc	04 59 29.5	-0.5
	comp=Z,1.2nm,0.5s,baz=7.4,slow=4.0,SNR=13						

JMA 07 04:43:57.2, 35°.16N×135°.49E, h8km±1km, M2.8, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	Wachi	0.14	329	P	Pg	04 44 00.4	+0.1
JWT				S	Sg	04 44 02.4	0.0
JHE	Heguri	0.53	162	P	Pg	04 44 07.5	0.0
JHE				S	Sg	04 44 14.6	+0.2
JKS	Kasai	0.56	252	P	Pg	04 44 07.9	-0.1
JKS				S	Sg	04 44 15.2	-0.1
JKY	Yasaka	0.56	326	P	Pg	04 44 08.1	0.0
JKY				S	Sg	04 44 15.6	+0.1
JKSM	Kasumi	0.80	303	P	Pg	04 44 12.3	-0.3
JKSM				S	Sg	04 44 22.8	-0.2
JAWN	Awajishima-nag	0.83	216	P	Pg	04 44 13.1	0.0
JAWN				S	Sg	04 44 24.0	+0.1
TSUJ	Tsu 2	0.89	120	P	Pg	04 44 14.0	-0.2
TSUJ				S	Sg	04 44 25.3	-0.4
JWY	Kouya	0.94	175	P	Pg	04 44 15.0	-0.3
JWY				S	Sg	04 44 27.3	-0.3
MAT	Matsushiro	2.60	57	P	Pn	04 44 40.9	+1.3

IDC 07 04:53:46.0±4.7, 16°.39S×175°.82W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.7/37, mbtmp3.9/4, Error ellipse: s-maj=205.4km s-min=34.9km az=137.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	41.53	240	P	P	05 01 35.0	-0.4
	1.5nm,0.6s,baz=78,slow=14,SNR=3.7						
WRA	Warramunga Arr	47.36	258	P	P	05 02 22.4	+0.2
	0.4nm,0.5s,baz=90,slow=7.0,SNR=7.9						
ASAR	Alice Springs	47.60	253	P	P	05 02 23.8	-0.2
	3.1nm,0.6s,baz=88,slow=8.5,SNR=49						
ILAR	Eielson Array	83.87	12	P	P	05 06 17.2	0.0
	0.3nm,0.5s,baz=222,slow=6.2,SNR=5.0						

IDC 07 04:56:27.0±2.8, 53°.62N×86°.94E, h0km, mb1 2.9/2, mb1mx2.8/53, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=27.7km s-min=15.6km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.30	286	*i*		05 04 30.0	
	baz=104,slow=320,SNR=3.4						
ZALV	Zalesovo Beam	1.30	285	Pg	Pg	04 56 51.1	-0.7
	1.8nm,0.3s,baz=106,slow=14,SNR=9.5						
ZALV				Lg	Lg	04 57 09.8	
	2.4nm,0.3s,baz=105,slow=28,SNR=7.2						
KURBB	Kurchatov Arra	5.98	243	Pn	Pn	04 57 55.8	-0.9
	0.1nm,0.3s,baz=62,slow=14,SNR=1.3						
MKAR	Makanchi Array	7.45	205	Pn	Pn	04 58 19.0	+2.0
	0.2nm,0.3s,baz=27,slow=12,SNR=7.2						

IDC 07 05:07:36.1±5.6, 32°.21S×179°.85E, h426km±62km, mb3.4/5, mb1 3.6/6, mb1mx3.2/39, mbtmp4.3/6, Error ellipse: s-maj=72.4km s-min=25.9km az=13.0
WEL 07 05:07:38.3±0.5, 32°S±5°×18°0W±1°3, h361km±8km, M4.1/19, mB4.5/13, ML5.0/22, MLv4.9/19, Mw(mB)3.7/13, Error ellipse: s-maj=0.0km s-min=0.0km az=110.5
ISC 07 05:07:33.7±0.8, 31°.93S±0°.07×180°.0W±0°.1, h400km, n60, σ2s17/84, mb3.7/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.19	34	P	Pn	05 08 38.2	-0.4
GLKZ				S	S	05 09 29.0	-2.0
MXZ	Matakaoa Point	5.79	194	P	Pn	05 09 08.2	+4.3
MXZ				S	S	05 10 17.2	-0.4
KUZ	Kuaotunu	5.98	215	P	Pn	05 09 11.0	+5.0
WMGZ	Waiomatatini S	6.02	192	P	Pn	05 09 09.5	+3.1
WMGZ				S	S	05 10 21.2	-0.8
HAZ	Te Kaha	6.10	197	P	Pn	05 09 10.4	+3.1
HAZ				S	S	05 10 23.2	-0.4
PKGZ	Pakihiroa	6.16	195	P	Pn	05 09 11.2	+3.2
PKGZ				S	S	05 10 16.1	-8.8
WCZ	Waipu Caves	6.19	228	P	Pn	05 09 11.4	+3.1
PUZ	Puketiti	6.30	193	P	Pn	05 09 11.2	+1.7
PUZ				S	S	05 10 25.9	-1.7
OUZ	Omahuta	6.30	237	P	Pn	05 09 11.8	+2.4
RUGZ	Raukumara Rang	6.32	197	P	Pn	05 09 11.7	+1.8
RUGZ				S	S	05 10 25.7	-2.6
TWGZ	Tauwhareparae	6.46	195	P	Pn	05 09 14.6	+3.4
TWGZ				S	S	05 10 31.9	+1.1
OPRZ	Ohinepanea	6.56	205	P	P	05 09 18.0	+5.1
MWZ	Matawai	6.71	197	P	P	05 09 17.2	+2.5
MWZ				S	S	05 10 35.7	-0.3
TKGZ	Te Karaka	6.74	195	P	P	05 09 16.8	+1.9
TKGZ				S	S	05 10 34.0	-2.4
URZ	Urewera	6.75	200	P	Pn	05 09 14.6	+0.2
	9.9nm,0.3s,baz=261,slow=5.0,SNR=69						
URZ				S	S	05 10 33.8	-3.0
	11nm,0.3s,baz=64,slow=21,SNR=16						
URZ	Urewera	6.75	200	P	Pn	05 09 14.6	+0.2
URZ				S	S	05 10 35.3	-1.4
RAGZ	Rawiri	6.89	197	P	P	05 09 19.0	+2.3
RAGZ				S	S	05 10 38.6	-1.2
RIGZ	Rimuhau	7.01	195	P	Pn	05 09 19.5	+2.1
RIGZ				S	S	05 10 41.4	-0.7
RTZ	Ruatahuna	7.12	200	P	Pn	05 09 20.0	+1.3
RTZ				S	S	05 10 41.3	-3.2
PRGZ	Paritu Road	7.19	194	P	P	05 09 22.7	+2.7
PRGZ				S	S	05 10 44.0	-1.9
TLZ	Tolley Road	7.37	209	P	P	05 09 25.4	+3.5
OTVZ	Oturere	8.05	205	P	P	05 09 30.6	+1.0
OTVZ				S	S	05 11 03.9	0.0
NGZ	Ngauruhoe	8.08	205	P	P	05 09 32.7	+2.7
TUVZ	Tukino	8.14	205	P	P	05 09 31.6	+1.0
FWVZ	Far West T-bar	8.17	205	P	P	05 09 32.6	+1.6
FWVZ				S	S	05 11 07.4	+0.9
BHHZ	Black Hill Sta	8.20	202	P	Pn	05 09 31.9	+0.9
BHHZ				S	S	05 11 04.1	-3.0
TRVZ	Turoa	8.21	205	P	P	05 09 32.9	+1.5
WNVZ	Wahianoa	8.22	205	P	Pn	05 09 31.9	+0.7
WNVZ				S	S	05 11 03.7	-3.8
MOVZ	Moawhango	8.23	204	P	P	05 09 32.7	+1.2
MOVZ				S	S	05 11 02.8	-4.8
KAHZ	Kahuranaki	8.25	197	P	P	05 09 34.6	+2.8
KAHZ				S	S	05 11 07.2	-0.8
PKVZ	Pokaka	8.28	206	P	P	05 09 33.8	+1.8
MTVZ	Mangateitei	8.31	205	P	P	05 09 34.4	+2.0
PXZ	Pawanui	8.48	197	P	P	05 09 36.5	+2.3
PXZ				S	S	05 11 09.4	-3.4
PNHZ	Pukenui	8.55	200	P	Pn	05 09 34.8	0.0
PNHZ				S	S	05 11 10.0	-4.3
WPHZ	Waipukurau	8.62	199	P	P	05 09 38.2	+2.4
WPHZ				S	S	05 11 13.4	-2.4
TSZ	Takapari Road	8.76	201	P	Pn	05 09 38.3	+1.1
TSZ				S	S	05 11 16.3	-2.4
PKE	Pukeiti	8.76	213	P	P	05 09 43.1	+5.7
NEZ	North Egmont	8.78	212	P	P	05 09 42.3	+4.7
WAZ	Wanganui	8.82	206	P	P	05 09 39.7	+1.7
WAZ				S	S	05 11 18.8	-1.1
DVHZ	Dannevirke	8.92	199	P	P	05 09 40.5	+1.4
DVHZ				S	S	05 11 16.7	-5.3
BFZ	Birch Farm	9.25	198	P	P	05 09 43.7	+0.9
BFZ				S	S	05 11 26.1	-2.9
MRZ	Mangatainoka R	9.42	201	P	P	05 09 44.8	+0.1
TIWZ	Tintock	9.44	200	P	Pn	05 09 46.3	+1.2
HOWZ	Holdsworth Sta	9.66	201	P	P	05 09 48.1	+0.8
OGWZ	Otaki Gorge	9.70	202	P	P	05 09 47.9	+0.2
KIW	Kapiti Island	9.82	203	P	P	05 09 49.4	+0.2
CAW	Cannon Point	9.99	202	P	P	05 09 51.7	+0.7
PAWZ	Paruwai Farm	10.13	200	P	P	05 09 53.6	+1.0
MSWZ	Moikau Station	10.21	201	P	P	05 09 54.5	+1.0
CTA	Charters Tower	32.44	283	P	P	05 13 28.7	0.0
	1.8nm,0.3s,baz=112,slow=7.5,SNR=2.6						
STKA	Stephens Creek	32.52	260	P	P	05 13 29.9	+0.6
	2.2nm,0.6s,baz=112,slow=12,SNR=3.2						
ASAR	Alice Springs	41.38	270	P	P	05 14 41.6	-1.4
	2.5nm,0.6s,baz=107,slow=7.3,SNR=28						
WRA	Warramunga Arr	42.51	275	P	P	05 14 50.5	-1.6
	2.8nm,0.4s,baz=113,slow=8.0,SNR=57						
FITZ	Fitzroy Crossi	50.71	272	P	P	05 15 53.9	-0.9
	1.2nm,0.5s,baz=158,slow=6.8,SNR=12						
ARCES	ARCESS Array B	139.70	346	PKhKP	PKPpre	05 26 07.8	
	2.2nm,1.0s,baz=56,slow=1.6,SNR=2.1						
FINES	FINESS Array B	145.97	338	PKPbc	PKPbc	05 26 26.4	-0.1
	5.5nm,0.5s,baz=48,slow=4.7,SNR=58						
NB2	NORSAR Subarra	149.97	349	PKP	PKPbc	05 26 36.4	-0.5
	comp=Z,0.7nm,0.7s,baz=17,slow=2.6						
NOA	NORSAR Array B	149.97	349	PKPbc	PKPbc	05 26 35.9	-1.0
	comp=Z,0.4nm,0.4s,baz=18,slow=4.1,SNR=3.4						
AKASG	Malin Array Be	151.44	320	PKPbc	PKPbc	05 26 39.8	-0.7
	comp=Z,0.7nm,0.4s,baz=72,slow=3.1,SNR=5.9						
BRTR	Keskin Array B	151.79	295	PKPbc	PKPbc	05 26 41.5	-0.4
	comp=Z,0.6nm,0.5s,baz=148,slow=1.7,SNR=4.6						

NEIC 07 05:16:10.4±2.8, 16°.82S±0°.06×69°.12W±0°.07, h204km±3km, mb4.5/127, Error ellipse: s-maj=10.9km s-min=8.2km az=117.0
VAO 07 05:16:10.5±0.4, 16°.70S×69°.03W, h199km±3km, mb4.4
IDC 07 05:16:10.8±0.5, 16°.70S×68°.96W, h200km±3km, mb3.9/15, mb1 4.1/21, mb1mx3.9/40, mbtmp4.6/21, Error ellipse: s-maj=11.6km s-min=10.3km az=43.0
GUC 07 05:16:11.2±0.6, 16°.77S×69°.13W, h182km±6km, ML4.9
ISC 07 05:16:09.2±0.5, 16°.80S±0°.04×69°.17W±0°.05, h196km±5km, n299, σ1s55/295, mb4.5/68, 6C-1D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	1.12	63	P	Pn	05 16 42.0	+1.9
	161nm,0.3s,baz=282,slow=4.8,SNR=8003						
LPAZ				S	Sn	05 17 04.1	+0.2
	105nm,0.3s,baz=101,slow=16,SNR=36						
LPAZ	La Paz	1.12	63⇓	*i*P	Pn	05 16 42.0	+1.9
LPAZ				*i* S	Sn	05 17 04.5	+0.6
LPAZ	La Paz	1.12	63	*e*P	Pn	05 16 42.2	+2.1
AP01	Chacalluta	1.92	215⇑	*e*P	Pn	05 16 47.6	+1.1
AP01				*i* S	Sn	05 17 15.4	-0.2
AP01				IAML		05 17 19.1	
	comp=E,6μm,0.3s						
AP01	Chacalluta	1.92	215	Pn	Pn	05 16 48.4	+1.9
AP01				Sn	Sn	05 17 16.3	+0.7
PSGC	Pisagua	2.92	198⇑	*i*P	Pn	05 16 58.5	+0.7
PSGC				*i* S	Sn	05 17 34.3	-1.6
PSGCX	Pisagua	2.92	198	Pn	Pn	05 16 58.6	+0.8
PSGCX				Sn	Sn	05 17 34.4	-1.5
PB11	IPOC Station P	2.98	189⇑	*i*P	Pn	05 16 59.5	+1.0
PB11				*i* S	Sn	05 17 36.4	-0.8
PB11				IAML		05 17 42.2	
	comp=N,2μm,0.3s						
PB11	IPOC Station P	2.98	189	Pn	Pn	05 16 59.5	+1.0
PB08	IPOC Station P	3.32	180⇑	*i*P	Pn	05 17 04.4	+1.6
PB08				*i* S	Sn	05 17 44.9	0.0
PB08	IPOC Station P	3.32	180		Pn	05 17 04.5	+1.6
HMBC	Humberstone	3.52	191⇑	*e*P	Pn	05 17 05.7	+0.7
HMBC				*i* S	Sn	05 17 46.5	-2.4
TA02	Huaiquique	3.57	195		Pn	05 17 05.8	+0.4
TA01	Diego Aracena	3.86	194	*e*P	Pn	05 17 09.2	+0.1
TA01				*e*S	Sn	05 17 52.0	-4.2
TA01	Diego Aracena	3.86	194		Pn	05 17 09.3	+0.3
PB01	IPOC Station P	4.23	184	Pn	Pn	05 17 14.4	+0.6
PB02	IPOC Station P	4.55	189	*e*P	Pn	05 17 18.4	+0.6
PB02				*e*S	Sn	05 18 09.1	-2.7
PB07	IPOC Station P	4.95	188⇑	*i*P	Pn	05 17 23.8	+0.9
PB07				*e*S	Sn	05 18 18.9	-2.3
PB07	IPOC Station P	4.95	188		Pn	05 17 23.8	+0.9
PB09	IPOC Station P	4.97	181		Pn	05 17 24.2	+0.9
PB04	IPOC Station P	5.58	189	Pn	Pn	05 17 31.4	+0.3
LVC	Limon Verde	5.78	178	P	Pn	05 17 34.9	+1.0
	comp=N,79nm,0.3s,baz=8.6,slow=5.8,SNR=470						
LVC				S	Sn	05 18 37.8	-3.1
	comp=N,19nm,0.3s,baz=343,slow=5.9,SNR=3.7						
LVC	Limon Verde	5.78	178	*e*P	Pn	05 17 35.0	+1.1
PB06	IPOC Station P	5.88	184		Pn	05 17 35.2	+0.2
AF01	San Pedro de A	6.19	171		Pn	05 17 40.7	+1.6
PB15	IPOC Station P	6.38	182		Pn	05 17 41.7	+0.2
PB10	IPOC Station P	6.80	191		Pn	05 17 46.3	-0.5
ETMB	Extrema	7.52	23	*e*P	Pn	05 17 56.2	0.0
SIV	San Ignacio	7.82	85	P	Pn	05 17 58.3	-1.8
	comp=N,19nm,0.3s,baz=282,slow=9.6,SNR=265						
PB14	IPOC Station P	7.87	188	Pn	Pn	05 17 59.8	-1.2
NNA	Nana	8.84	302	P	Pn	05 18 14.8	+1.3
	comp=N,6.3nm,0.3s,baz=135,slow=10,SNR=13						
NNA				S	Sn	05 19 48.0	-4.6
	comp=N,13nm,0.3s,baz=23,slow=16,SNR=11						
NNA	Nana	8.84	302	Pn	Pn	05 18 14.6	+1.1
VILB	Vilhena	9.48	67	*e*P	Pn	05 18 20.1	-1.8
CZSB	Cruzeiro do Su	9.65	339	*e*P	Pn	05 18 21.7	-2.4
PTLB	Pontes e Lacer	9.74	83	*e*P	Pn	05 18 23.0	-2.1
SAML	Samuel	9.75	38		Pn	05 18 23.7	-1.5
SAML	Samuel	9.75	38	*e*P	Pn	05 18 23.5	-1.8
AC02	Maricunga	9.98	180	Pn	Pn	05 18 28.6	-0.2
GO03	Copiap	10.79	185	Pn	Pn	05 18 37.2	-1.5
AC04	Llanos de Chal	11.48	188	Pn	Pn	05 18 45.2	-2.4
LCO	Las Campanas	12.23	186		Pn	05 18 56.3	-1.0
TBTG	Tabatinga, AM	12.56	357	*e*P	Pn	05 19 01.5	+0.1
SALV	Santo Antonio	12.97	88	*e*P	Pn	05 19 05.8	-0.7
ATAH	Atahualpa	13.17	316	P	P	05 19 11.6	-1.1
	comp=N,3.0nm,0.3s,baz=171,slow=5.7,SNR=16						
AQDB	Aquidauana	13.28	108	Pn	Pn	05 19 09.3	-1.1
AQDB	Aquidauana	13.28	108	*e*P	Pn	05 19 10.9	+0.5
GO04	Tololo Observa	13.39	186		Pn	05 19 12.2	+0.3
PP1B	Ponte de Pedra	13.68	95	*e*P	Pn	05 19 14.5	-1.0
CO06	Fray Jorge	13.99	189	Pn	Pn	05 19 18.2	-1.0
CO03	El Pedregal	14.04	185	Pn	Pn	05 19 18.6	-1.3
CLDB	Colider	14.26	67	*e*P	Pn	05 19 21.6	-1.1
CO02	Combarbal	14.43	186	Pn	Pn	05 19 24.1	-0.6
CPUP	Villa Florida	14.53	133	P	Pn	05 19 24.3	-1.5
	comp=N,0.6nm,0.3s,baz=312,slow=13,SNR=13						
CPUP	Villa Florida	14.53	133	Pn	Pn	05 19 24.5	-1.3
CPUP	Villa Florida	14.53	133	*e*P	P	05 19 27.0	-0.1
MACA	Manacapuru-AM	15.92	33	*e*P	Pn	05 19 43.3	+0.5
VA03	San Esteban	15.94	184	P	Pn	05 19 43.8	+0.7
VA01	Torpederas	16.30	187	P	P	05 19 46.7	0.0
MT05	Renca	16.58	185	P	P	05 19 50.1	+0.3
ARAG	Araguaiana, MT	16.71	89	*e*P	P	05 19 51.6	+0.4
VA05	Santo Domingo	16.93	187	P	P	05 19 52.2	-1.3
VA05				IAmb	IAmb	05 19 58.6	
	comp=Z,16nm,0.7s						
MT09	Talagante	16.98	185	P	P	05 19 53.3	-1.0
MT09				IAmb	IAmb	05 19 59.9	
	comp=Z,22nm,0.9s						
MT01	Popeta	17.09	186	P	Pn	05 19 58.5	+1.7
ITQB	Itaqui	17.22	140	P	Pn	05 19 57.7	-0.5
ITQB	Itaqui	17.22	140	*e*P	Pn	05 19 57.8	-0.5
PCMB	Pacaembu	17.57	109	*e*P	P	05 20 01.4	+0.7
BO01	Tunca	17.60	185	P	P	05 20 01.6	+0.7
PTGB	Pitanga	17.82	119	*e*P	Pn	05 20 04.6	-0.8
SNDB	Serra Nova Dou	17.97	77	*e*P	P	05 20 05.1	0.0
BO02	Sierra Bellavi	17.97	184	P	P	05 20 05.8	+0.7
BO02				IAmb	IAmb	05 20 12.1	
	comp=Z,27nm,0.9s						
ITTB	Itaituba	18.07	48	*e*P	P	05 20 06.1	-0.1
ITRB	Iturama	18.10	102	*e*P	P	05 20 07.3	+0.8
GO05	Huala	18.30	187	P	Pn	05 20 10.1	-0.8
PTGA	Pitinga	18.36	31	P	P	05 20 08.8	-0.6
	comp=Z,1.3nm,0.3s,baz=203,slow=12,SNR=11						
PTGA				S	S	05 23 25.1	-3.9
	comp=Z,0.1nm,0.3s,baz=143,slow=20,SNR=1.5						
PTGA	Pitinga	18.36	31	P	P	05 20 09.8	+0.4
VA04	Juan Fernndez	18.89	206	P	P	05 20 15.9	+1.0
ML02	Panimavida	18.99	186	P	Pn	05 20 17.8	-1.2
OTAV	Otavalo	19.25	331	P	P	05 20 20.9	+1.5
OTAV				IAmb	IAmb	05 20 32.1	
	comp=Z,30nm,1.4s						
OTAV	Otavalo	19.25	331	*e*P	P	05 20 20.7	+1.3
FLOC	Florencia	19.36	340	P	P	05 20 18.4	-1.7
FLOC				IAmb	IAmb	05 20 23.5	
	comp=Z,20nm,1.5s						
FLOC	Florencia	19.36	340	*e*P	P	05 20 18.0	-2.1
TULM	Tulcn-Chalpat	19.37	333	*e*P	P	05 20 21.9	+1.2
PAC1	Pacto, Paraso	19.43	330	*e*P	Pn	05 20 23.4	-1.3
FRTB	Fartura	19.52	113	*e*P	P	05 20 21.8	-0.1
CPSB	Cacapava Do Su	19.75	136	*e*P	P	05 20 24.5	+0.3
BB19B	Bebedouro	19.98	105	*e*P	P	05 20 26.4	-0.4
IPMB	Ipameri, GO	20.04	96	*e*P	P	05 20 26.7	-0.8
BDFB	Brasilia	20.35	90	P	P	05 20 30.4	-0.5
	comp=Z,19nm,0.7s,baz=265,slow=12,SNR=30						
BDFB	Brasilia	20.35	90	P	P	05 20 30.3	-0.5
PLTB	Pedras Altas	20.53	139	P	P	05 20 32.0	-0.6
PLTB				IAmb	IAmb	05 20 33.7	
	comp=Z,10nm,1.1s						
PLTB	Pedras Altas	20.53	139	*e*P	P	05 20 33.3	+0.7
TIJ01	Guaruva-PR	20.62	118	*e*P	P	05 20 34.3	+0.6
PEXB	Peixe	20.74	80	*e*P	P	05 20 34.3	-0.6
MALB	Monte Alegre	20.88	46	*e*P	P	05 20 37.0	+0.6
BOAV	Boa Vista	20.90	25	*e*P	P	05 20 37.7	+1.1
CNLB	Canela	20.92	130	*e*P	P	05 20 37.8	+1.1
RCLB	Rio Claro- Sao	21.13	109	*e*P	P	05 20 38.7	-0.3
SPB	Sao Paulo	21.48	112	P	P	05 20 44.1	+1.5
SPB	Sao Paulo	21.48	112	*e*P	P	05 20 42.5	-0.1
PRPB	Parauapebas	21.69	63	*e*P	P	05 20 43.8	-1.0
VAO	Valinhos	21.76	110	*e*P	P	05 20 44.9	-0.6
PET01	Itanhaem-SP	21.80	114	*e*P	P	05 20 46.3	+0.5
ROSC	El Rosal	22.10	346	P	P	05 20 49.9	+0.6
	comp=Z,3.5nm,0.4s,baz=66,slow=20,SNR=3.1						
ROSC	El Rosal	22.10	346	IAmb	IAmb	05 20 58.3	
	comp=Z,6.7nm,1.0s						
TRQA	Tornquist	22.10	165	P	P	05 20 49.4	+0.7
TRQA				IAmb	IAmb	05 20 51.6	
	comp=Z,13nm,0.9s						
TRQA	Tornquist	22.10	165	*e*P	P	05 20 50.1	+1.5
SMTB	Santa Maria do	22.46	72	*e*P	P	05 20 51.8	-0.4
GUY2C	Guyana, Caldas	22.73	344	*e*P	P	05 20 52.6	-2.5
RUSC	La Rusia	22.88	350	P	P	05 20 55.8	-0.6
RUSC	La Rusia	22.88	350	*e*P	P	05 20 55.0	-1.5
PARB	Paraibuna	23.04	110	*e*P	P	05 20 58.5	+1.0
TAMC	Tame, Arauca	23.23	353	*e*P	P	05 20 59.1	-0.1
BSCB	Bom Sucesso	23.45	104	*e*P	P	05 21 01.7	+0.5
MCPB	Macapa, AP	23.48	48	*e*P	P	05 21 01.6	+0.1
HELC	Santa Helena	23.70	344	*e*P	P	05 20 57.1	-6.7
PTBC	PUERTO BERRIO,	23.77	347	*e*P	P	05 21 00.5	-3.6
PLCA	Paso Flores	23.88	183	P	P	05 21 06.7	+1.8
	comp=Z,12nm,0.8s,baz=356,slow=10,SNR=24						
PLCA	Paso Flores	23.88	183	P	P	05 21 06.9	+2.0
PLCA				IAmb	IAmb	05 21 09.4	
	comp=Z,12nm,0.8s						
PLCA	Paso Flores	23.88	183	*e*P	P	05 21 07.2	+2.4
SDBA	SAO DESIDERIO	23.88	83	*e*P	P	05 21 03.9	-1.3
JANB	Januaria	23.97	89	*e*P	P	05 21 05.0	-0.9
ESAR	Angra dos Reis	24.04	109	*e*P	P	05 21 07.1	+0.6
MC01	Montes Claros	24.16	93	*e*P	P	05 21 07.6	-0.1
LL04	Puerto Octay	24.19	186	P	P	05 21 09.0	+1.5
LL04				IAmb	IAmb	05 21 35.6	
	comp=Z,19nm,1.4s						
DIAM	Diamantina, MG	24.36	97	*e*P	P	05 21 09.7	+0.2
VAS01	Vassouras-RJ	24.84	107	*e*P	P	05 21 14.2	+0.5
SDV	Santo Domingo	25.56	357	P	P	05 21 21.3	+0.8
	comp=Z,6.3nm,0.4s,baz=275,slow=4.1,SNR=3.4						
SDV	Santo Domingo	25.56	357	*e*P	P	05 21 21.3	+0.8
DUB01	Friburgo-RJ	25.79	106	*e*P	P	05 21 22.9	+0.5
GO07	Milladeo Hill,	26.50	187	P	P	05 21 30.0	+1.6
SJCC	San Jacinto, C	27.18	347	P	P	05 21 34.5	-0.4
SJCC				IAmb	IAmb	05 21 36.3	
	comp=Z,14nm,1.2s						
MDP	Montagnes des	27.22	38	P	P	05 21 35.0	-0.1
	comp=Z,4.1nm,0.5s,baz=210,slow=8.7,SNR=8.6						
RIB01	Linhares ES	27.46	100	*e*P	P	05 21 37.6	+0.4
NBPN	Ponto Novo - B	28.73	82	*e*P	P	05 21 47.2	-1.4
TOSP	Speyside	29.20	18	P	P	05 21 53.3	+0.7
NBPS	Pedro II - PI	29.86	69	*e*P	P	05 21 57.7	-0.9
NBLA	Lagarto - SE	30.98	83	*e*P	P	05 22 06.5	-1.9
NBPB	Pedra_Branca-C	31.06	72	*e*P	P	05 22 08.5	-0.6
NBMA	Muriti-CE	31.14	76	*e*P	P	05 22 09.2	-0.6
NBMO	Morrinhos-CE	31.59	68	*e*P	P	05 22 12.6	-1.2
MPOM	Morne Pois Mar	32.12	15	P	P	05 22 17.2	-1.0
FDF	Fort de France	32.32	15	P	P	05 22 18.1	-2.0
NBAN	Anadia - AL	32.76	82	*e*P	P	05 22 22.7	-1.3
RCBR	Riachuelo	34.34	75	P	P	05 22 37.3	-0.3
RCBR				IAmb	IAmb	05 22 38.1	
	comp=Z,15nm,0.8s						
RCBR	Riachuelo	34.34	75	*e*P	P	05 22 37.5	-0.1
MLPR	Magueyes Islan	34.62	4	P	P	05 22 39.1	-0.7
CRPR	Cabo Rojo, PR	34.65	3	P	P	05 22 39.0	-1.0
OBIP	Obispado Ponce	34.72	4	P	P	05 22 39.1	-1.6
OBIP				IAmb	IAmb	05 22 49.9	
	comp=Z,19nm,1.1s						
MTP	Monte Pirata	34.86	6	P	P	05 22 39.8	-2.1
HUMP	Col San Antoni	34.88	6	P	P	05 22 41.0	-1.1
HUMP				IAmb	IAmb	05 23 09.6	
	comp=Z,22nm,1.3s						
CBYP	Canovanas	35.01	5	P	P	05 22 41.0	-2.2
CBYP				IAmb	IAmb	05 22 43.0	
	comp=Z,8.0nm,0.7s						
AOPR	Arecibo Observ	35.01	4	P	P	05 22 40.6	-2.6
AOPR				IAmb	IAmb	05 22 51.4	
	comp=Z,10.0nm,0.8s						
GCPR	Guaynabo City	35.02	5	P	P	05 22 40.9	-2.4
GCPR				IAmb	IAmb	05 22 42.6	
	comp=Z,8.8nm,0.7s						
MTO3	Montecristo	36.86	326	P	P	05 23 00.6	+1.4
MTO3				IAmb	IAmb	05 23 02.5	
	comp=Z,8.7nm,1.0s						
CCIG	Comitan	39.92	324	IAmb	IAmb	05 23 27.1	
	comp=Z,9.4nm,0.7s						
833A	Chaparral WMA,	53.55	327	P	P	05 25 11.7	+1.7
	baz=143						
JCT	Junction City	55.49	328	IAmb	IAmb	05 25 26.8	
	comp=Z,8.3nm,0.7s						
JCT	Junction City	55.49	328	P	P	05 25 25.5	+1.6
	baz=144,SNR=9.5						
WVT	Waverly	55.53	342	P	P	05 25 22.2	-1.9
	baz=158						
WHTX	Lake Whitney,	55.58	331	P	P	05 25 24.8	+0.3
WHTX	Lake Whitney,	55.58	331	P	P	05 25 25.6	+1.1
	baz=147,SNR=7.6						
MIAR	Mount Ida	56.09	336	P	P	05 25 27.6	-0.5
	baz=152						
TXAR	Lajitas Array	56.68	324	P	P	05 25 33.6	+1.1
	comp=Z,2.3nm,0.6s,baz=149,slow=7.2,SNR=42						
TX31	Lajitas Ar. Si	56.68	324	P	P	05 25 33.0	+0.6
TX31				IAmb	IAmb	05 25 34.7	
	comp=Z,18nm,1.2s						
TX32	Lajitas Array	56.68	324	P	P	05 25 33.1	+0.6
TX32				IAmb	IAmb	05 25 34.7	
	comp=Z,7.6nm,1.4s						
W39A	Magazine	56.74	336	P	P	05 25 32.9	+0.2
	baz=152						
X37A	Clayton	56.86	334	IAmb	IAmb	05 25 36.4	
	comp=Z,4.3nm,0.7s						
PBMO	Poplar Bluff	56.95	340	IAmb	IAmb	05 25 33.4	
	comp=Z,6.6nm,0.6s						
ABTX	Abilene, Hawle	57.15	329	P	P	05 25 37.3	+1.7
ABTX				IAmb	IAmb	05 25 38.2	
	comp=Z,12nm,1.1s						
ABTX	Abilene, Hawle	57.15	329	P	P	05 25 37.3	+1.7
	baz=145						
U40A	Yellville	57.42	337	P	P	05 25 36.2	-1.1
	baz=153						
O53A	New Philadelph	57.85	349	P	P	05 25 39.2	-1.1
	baz=166						
X34A	Smith Ranch, M	57.93	332	P	P	05 25 41.7	+0.7
TUL1	Leonard	58.17	335	P	P	05 25 42.7	0.0
	baz=150						
CCM	Cathedral Cave	58.38	340	P	P	05 25 42.6	-1.4
CCM				IAmb	IAmb	05 25 43.6	
	comp=Z,4.7nm,0.9s						
CCM	Cathedral Cave	58.38	340	P	P	05 25 42.7	-1.3
	baz=155						
L63A	North Scituate	58.41	358	P	P	05 25 43.7	-0.4
	baz=177						
WMOK	Wichita Mounta	58.48	331	P	P	05 25 45.9	+1.1
	baz=146						
OK031	S. Brethren Rd	58.64	334	P	P	05 25 45.8	-0.2
OK031				IAmb	IAmb	05 25 46.6	
	comp=Z,8.1nm,0.8s						
S39A	Bolivar	58.77	338	P	P	05 25 45.8	-1.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
S39A				IAmb	IAmb	05 25 46.4	
	comp=Z,5.2nm,0.6s						
OK029	**Liberty Lake**	**58.77**	**333**	P	**P**	**05 25 46.9**	**+0.1**
M54A	**Oil Creek Stat**	**58.82**	**351**	P	**P**	**05 25 46.1**	**-1.0**
	baz=168						
M53A	**WI Miller and**	**58.92**	**350**	P	**P**	**05 25 46.9**	**-0.8**
	baz=167,SNR=5.2						
BINY	**Binghamton**	**59.04**	**354**	P	**P**	**05 25 47.8**	**-0.7**
	baz=172						
MNTX	**Cornudas Mount**	**59.43**	**324**	P	**P**	**05 25 51.5**	**0.0**
MNTX				IAmb	IAmb	05 25 53.5	
	comp=Z,6.0nm,0.8s						
MNTX	**Cornudas Mount**	**59.43**	**324**	P	**P**	**05 25 52.0**	**+0.6**
	baz=139,SNR=13						
ERPA	**Erie**	**59.47**	**351**	P	**P**	**05 25 50.8**	**-0.7**
ERPA	**Erie**	**59.47**	**351**	P	**P**	**05 25 51.0**	**-0.4**
	baz=168						
MSTX	**Muleshoe**	**59.78**	**328**	P	**P**	**05 25 54.9**	**+1.0**
	baz=142,SNR=11						
KSU1	**Kansas State U**	**61.25**	**336**	P	**P**	**05 26 03.1**	**-0.5**
	baz=150						
319A	**Douglas**	**61.46**	**321**	P	**P**	**05 26 07.7**	**+2.3**
319A				IAmb	IAmb	05 26 08.2	
	comp=Z,8.8nm,0.7s						
BNM	**Barren Site**	**61.96**	**325**	P	**P**	**05 26 10.3**	**+1.5**
CBKS	**Cedar Bluff**	**62.29**	**333**	P	**P**	**05 26 11.2**	**+0.6**
CBKS				IAmb	IAmb	05 26 12.8	
	comp=Z,7.2nm,0.7s						
CBKS	**Cedar Bluff**	**62.29**	**333**	P	**P**	**05 26 11.5**	**+0.9**
	baz=147						
ANMO	**Albuquerque**	**62.47**	**326**	P	**P**	**05 26 12.9**	**+0.9**
ANMO				IAmb	IAmb	05 26 14.4	
	comp=Z,3.5nm,0.7s						
ANMO	**Albuquerque**	**62.47**	**326**	P	**P**	**05 26 13.6**	**+1.6**
	baz=139						
TUC	**Tucson**	**63.02**	**321**	P	**P**	**05 26 17.2**	**+1.5**
TUC	**Tucson**	**63.02**	**321**	P	**P**	**05 26 17.6**	**+2.0**
	baz=135						
214A	**Organ Pipe Nat**	**64.03**	**319**	P	**P**	**05 26 24.7**	**+2.6**
	baz=133,SNR=7.0						
SDCO	**Great Sand Dun**	**64.11**	**329**	IAmb	IAmb	05 26 25.5	
	comp=Z,7.1nm,0.7s						
SDCO	**Great Sand Dun**	**64.11**	**329**	P	**P**	**05 26 24.7**	**+1.8**
	baz=141,SNR=18						
VNA3	**Neumayer Olymp**	**64.59**	**162**	P	**P**	**05 26 27.9**	**+2.7**
VNA1	**Neumayer--Stat**	**64.78**	**161**	P	**P**	**05 26 29.3**	**+2.9**
S22A	**4UR Ranch, Cre**	**64.79**	**328**	P	**P**	**05 26 28.9**	**+1.6**
	baz=140,SNR=7.2						
Q24A	**Divide**	**64.89**	**330**	P	**P**	**05 26 29.1**	**+1.1**
	baz=142						
VNA2	**Neumayer--Watz**	**65.15**	**161**	P	**P**	**05 26 30.6**	**+1.8**
	baz=300,slow=5.0						
MVCO	**Mesa Verde**	**65.26**	**326**	P	**P**	**05 26 32.1**	**+1.8**
MVCO				IAmb	IAmb	05 26 32.9	
	comp=Z,12nm,1.1s						
MVCO	**Mesa Verde**	**65.26**	**326**	P	**P**	**05 26 32.1**	**+1.8**
	baz=138,SNR=9.8						
ECSD	**EROS Data Cent**	**65.27**	**338**	P	**P**	**05 26 29.7**	**-0.2**
ECSD				IAmb	IAmb	05 26 29.8	
	comp=Z,5.3nm,1.1s						
ECSD	**EROS Data Cent**	**65.27**	**338**	P	**P**	**05 26 29.4**	**-0.6**
	baz=151						
Y14A	**Wickenburg**	**65.49**	**321**	P	**P**	**05 26 33.5**	**+1.8**
WUAZ	**Wupatki**	**65.63**	**323**	P	**P**	**05 26 33.8**	**+1.2**
WUAZ				IAmb	IAmb	05 26 36.5	
	comp=Z,7.7nm,0.8s						
WUAZ	**Wupatki**	**65.63**	**323**	P	**P**	**05 26 35.3**	**+2.7**
	baz=135,SNR=8.3						
ISCO	**Idaho Springs**	**65.77**	**330**	P	**P**	**05 26 35.4**	**+1.8**
	baz=142,SNR=7.8						
SMCO	**Snowmass**	**65.95**	**329**	IAmb	IAmb	05 26 37.7	
	comp=Z,6.1nm,0.7s						
PV01	**Paradox Valley**	**65.98**	**327**	P	**P**	**05 26 37.0**	**+2.2**
PV01				IAmb	IAmb	05 26 37.9	
	comp=Z,9.4nm,0.8s						
PV02	**Paradox Valley**	**66.12**	**327**	IAmb	IAmb	05 26 39.2	
	comp=Z,11nm,1.1s						
PV03	**Paradox Valley**	**66.22**	**327**	IAmb	IAmb	05 26 39.7	
	comp=Z,3.6nm,0.7s						
PV05	**Paradox Valley**	**66.22**	**326**	IAmb	IAmb	05 26 39.0	
	comp=Z,19nm,1.4s						
PV12	**Saucer Basin,**	**66.24**	**327**	IAmb	IAmb	05 26 40.2	
	comp=Z,8.0nm,1.1s						
PV07	**Paradox Valley**	**66.25**	**327**	IAmb	IAmb	05 26 39.3	
	comp=Z,3.3nm,0.6s						
SNAA	**Sanae**	**66.78**	**162**	P	**P**	**05 26 41.2**	**+1.9**
BC3	**Big Chuckawall**	**66.82**	**319**	P	**P**	**05 26 42.0**	**+1.9**
	baz=131						
PHWY	**Pilot Hill**	**66.87**	**331**	P	**P**	**05 26 41.5**	**+1.0**
PHWY				IAmb	IAmb	05 26 42.4	
	comp=Z,6.0nm,1.2s						
MONP2	**Monument Peak**	**66.94**	**318**	P	**P**	**05 26 44.2**	**+3.2**
	baz=130						
IRM	**Iron Mountain**	**66.95**	**320**	P	**P**	**05 26 44.1**	**+3.2**
	baz=132						
O20A	**White River Ci**	**67.31**	**328**	IAmb	IAmb	05 26 46.0	
	comp=Z,6.5nm,0.8s						
O20A	**White River Ci**	**67.31**	**328**	P	**P**	**05 26 45.1**	**+1.9**
	baz=139,SNR=6.7						
LIC	**Lamto**	**67.40**	**76**	*e*P	**P**	**05 26 43.6**	**-0.4**
	comp=Z,10.0nm,0.3s						
TIC	**Toumodi**	**67.56**	**75**	*e*P	**P**	**05 26 45.5**	**+0.5**
GMRC	**Granite Mounta**	**67.69**	**320**	P	**P**	**05 26 48.4**	**+2.8**
	baz=131						
KIC	**Kosan Boka**	**67.71**	**76**	*e*P	**P**	**05 26 45.7**	**-0.3**
	comp=Z,30nm,0.5s						
DBIC	**Dimbokro**	**67.72**	**75**	P	**P**	**05 26 45.3**	**-0.7**
	comp=Z,9.7nm,0.5s,baz=253,slow=5.3,SNR=26						
DBIC	**Dimbokro**	**67.72**	**75**	P	**P**	**05 26 44.9**	**-1.1**
DBIC				IAmb	IAmb	05 26 46.0	
	comp=Z,12nm,0.8s						
SRU	**San Rafael Swe**	**67.73**	**326**	P	**P**	**05 26 47.5**	**+1.6**
SRU				IAmb	IAmb	05 26 48.5	
	comp=Z,5.3nm,0.7s						
LCMT	**Little Creek M**	**67.75**	**323**	P	**P**	**05 26 47.8**	**+1.9**
P17A	**Butcher Ranch,**	**68.11**	**326**	P	**P**	**05 26 49.9**	**+1.7**
P17A				IAmb	IAmb	05 26 51.1	
	comp=Z,10.0nm,0.9s						
MSU	**Marysvale**	**68.20**	**325**	P	**P**	**05 26 51.0**	**+2.2**
TMUT	**Trail Mountain**	**68.23**	**326**	P	**P**	**05 26 50.6**	**+1.5**
TMUT				IAmb	IAmb	05 26 51.8	
	comp=Z,3.7nm,0.7s						
TUQ	**Turquoise Moun**	**68.28**	**320**	P	**P**	**05 26 52.1**	**+2.9**
	baz=131						
RDMU	**Red Mountain**	**68.31**	**328**	IAmb	IAmb	05 26 51.9	
	comp=Z,9.5nm,0.7s						
K22A	**Casper**	**68.42**	**331**	P	**P**	**05 26 51.9**	**+1.8**
	baz=141						
MPU	**Maple Canyon**	**68.98**	**326**	IAmb	IAmb	05 26 56.6	
	comp=Z,5.9nm,0.9s						
EDW2	**Edwards Air Fo**	**69.21**	**319**	P	**P**	**05 26 57.3**	**+2.3**
	baz=130						
TPNV	**Topopah Spring**	**69.47**	**321**	P	**P**	**05 26 59.8**	**+3.1**
	baz=132,SNR=9.1						
FURC	**Furnace Creek,**	**69.53**	**320**	P	**P**	**05 26 59.9**	**+3.2**
	baz=131,SNR=7.6						
MPMC	**Manual Prospec**	**69.65**	**320**	P	**P**	**05 27 00.2**	**+2.5**
	baz=130						
DUG	**Dugway, Tooele**	**69.74**	**326**	P	**P**	**05 27 00.3**	**+2.2**
DUG	**Dugway, Tooele**	**69.74**	**326**	P	**P**	**05 27 00.6**	**+2.4**
	baz=135,SNR=5.8						
SPR3	**Spring Creek 3**	**69.74**	**324**	P	**P**	**05 27 00.4**	**+2.0**
PDAR	**Pinedale Array**	**69.95**	**329**	P	**P**	**05 27 00.5**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=126,slow=7.6,SNR=20						
BW06	**Boulder Array**	**69.95**	**329**	P	**P**	**05 27 00.4**	**+0.9**
BW06	**Boulder Array**	**69.95**	**329**	P	**P**	**05 27 00.9**	**+1.4**
	baz=139						
ISA	**Isabella, Lake**	**70.01**	**319**	P	**P**	**05 27 02.8**	**+3.0**
	baz=130						
R11A	**Troy Canyon, C**	**70.02**	**323**	P	**P**	**05 27 02.7**	**+2.7**
	baz=132,SNR=6.2						
HWUT	**Hardware Ranch**	**70.09**	**327**	IAmb	IAmb	05 27 02.6	
	comp=Z,4.1nm,0.7s						
CWC	**Cottonwood Cre**	**70.26**	**320**	P	**P**	**05 27 04.1**	**+2.6**
	baz=130						
BGU	**Big Grassy Mou**	**70.38**	**326**	P	**P**	**05 27 04.0**	**+2.0**
PKM	**Mcpherson Peak**	**70.38**	**318**	P	**P**	**05 27 05.2**	**+3.0**
	baz=128						
VES	**Vestal, Richgr**	**70.51**	**319**	P	**P**	**05 27 05.6**	**+2.9**
	baz=129						
AHID	**Auburn Hatcher**	**70.71**	**329**	P	**P**	**05 27 05.4**	**+1.4**
AHID				IAmb	IAmb	05 27 06.3	
	comp=Z,6.7nm,0.7s						
ULM	**Lac du Bonnet**	**70.79**	**342**	P	**P**	**05 27 03.5**	**-0.6**
	comp=Z,5.3nm,0.6s,baz=152,slow=7.4,SNR=7.5						
ULM	**Lac du Bonnet**	**70.79**	**342**	P	**P**	**05 27 03.7**	**-0.4**
ULM				IAmb	IAmb	05 27 04.0	
	comp=Z,5.3nm,0.6s						
HVU	**Hansel Valley**	**70.85**	**327**	P	**P**	**05 27 06.4**	**+1.5**
HVU				IAmb	IAmb	05 27 07.4	
	comp=Z,5.4nm,0.7s						
SNOW	**Snow King Moun**	**71.05**	**329**	IAmb	IAmb	05 27 08.8	
	comp=Z,3.7nm,0.7s						
MOOW	**Moose Ponds**	**71.26**	**329**	P	**P**	**05 27 08.3**	**+0.9**
FXWY	**Fox Creek**	**71.31**	**329**	P	**P**	**05 27 08.2**	**+0.5**
KOWA	**Kowa**	**71.44**	**68**	P	**P**	**05 27 07.8**	**-0.9**
ELK	**Elko**	**71.45**	**325**	P	**P**	**05 27 09.6**	**+1.0**
FLWY	**Flagg Ranch**	**71.48**	**330**	IAmb	IAmb	05 27 11.8	
	comp=Z,9.2nm,0.9s						
RLMT	**Red Lodge**	**71.59**	**331**	P	**P**	**05 27 10.4**	**+1.1**
RLMT				IAmb	IAmb	05 27 11.8	
	comp=Z,4.7nm,0.9s						
RLMT	**Red Lodge**	**71.59**	**331**	P	**P**	**05 27 11.4**	**+2.0**
	baz=140						
H17A	**Grant Village**	**71.66**	**330**	P	**P**	**05 27 10.8**	**+1.0**
H17A	**Grant Village**	**71.66**	**330**	P	**P**	**05 27 11.4**	**+1.6**
	baz=138						
NVAR	**Mina Array Bea**	**71.67**	**321**	P	**P**	**05 27 12.6**	**+2.6**
	comp=Z,1.2nm,0.7s,baz=141,slow=6.8,SNR=9.5						
GCMT	**Greycliff**	**72.28**	**332**	P	**P**	**05 27 13.5**	**+0.2**
HLID	**Hailey**	**72.96**	**327**	P	**P**	**05 27 19.2**	**+1.7**
HLID	**Hailey**	**72.96**	**327**	P	**P**	**05 27 19.9**	**+2.5**
	baz=135,SNR=8.9						
BOZ	**Bozeman (W)**	**73.05**	**330**	P	**P**	**05 27 19.5**	**+1.6**
BOZ	**Bozeman (W)**	**73.05**	**330**	P	**P**	**05 27 19.8**	**+2.0**
	baz=138						
MCMT	**McKenzie Canyo**	**73.08**	**329**	P	**P**	**05 27 20.0**	**+1.9**
MFID	**Camas Ranch**	**73.60**	**326**	IAmb	IAmb	05 27 24.7	
	comp=Z,10nm,1.1s						
PLID	**Pearl Lake**	**74.84**	**328**	IAmb	IAmb	05 27 31.1	
	comp=Z,6.4nm,0.8s						
BMO	**Blue Mountains**	**75.36**	**327**	IAmb	IAmb	05 27 34.1	
	comp=Z,4.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**76.06**	**71**	P	**P**	**05 27 34.9**	**-0.8**
	comp=Z,9.4nm,0.6s,baz=249,slow=5.0,SNR=85						
TORD	**Torodi Ar. Bea**	**76.06**	**71**	P	**P**	**05 27 34.7**	**-1.0**
TORD				IAmb	IAmb	05 27 35.7	
	comp=Z,9.1nm,0.7s						
YBH	**Yreka Blue Hor**	**76.38**	**322**	P	**P**	**05 27 38.0**	**+1.1**
	comp=Z,1.9nm,0.8s,baz=163,slow=4.6,SNR=5.1						
I05D	**Terrebonne, OR**	**77.20**	**324**	P	**P**	**05 27 44.8**	**+3.3**
	baz=129						
EDM	**Edmonton**	**79.43**	**335**	P	**P**	**05 27 52.3**	**-1.1**
EDM				IAmb	IAmb	05 27 54.8	
	comp=Z,6.8nm,0.7s						
B05A	**Bryant**	**80.09**	**327**	P	**P**	**05 27 58.9**	**+1.8**
	baz=129						
ESDC	**Sonseca Array**	**82.69**	**45**	P	**P**	**05 28 11.5**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=253,slow=5.6,SNR=5.6						
BOSA	**Boshof**	**85.88**	**118**	P	**P**	**05 28 29.1**	**+1.6**
	comp=Z,0.7nm,0.4s,baz=195,slow=6.0,SNR=1.0						
DLBC	**Dease Lake**	**89.94**	**333**	P	**P**	**05 28 48.2**	**+2.3**
	comp=Z,2.8nm,0.9s,baz=108,slow=3.2,SNR=4.2						
DLBC	**Dease Lake**	**89.94**	**333**	IAmb	IAmb	05 28 49.9	
	comp=Z,5.0nm,1.1s						
ASAR	**Alice Springs**	**133.89**	**210**	SKPbc	**SKPbc**	**05 38 15.1**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=159,slow=2.8,SNR=4.4						
ZALV	**Zalesovo Beam**	**137.78**	**23**	SKPab	**SKiKP**	**05 38 29.8**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=322,slow=4.5,SNR=5.2						
MKAR	**Makanchi Array**	**141.90**	**32**	PKP	**PKPdf**	**05 35 16.6**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=340,slow=4.8,SNR=3.3						
MKAR				SKPbc	**SKiKP**	**05 38 37.6**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=329,slow=5.0,SNR=3.1						
SONM	**Songino Array**	**148.84**	**6**	PKPbc	**PKiKP**	**05 35 36.2**	**+1.2**
	comp=Z,1.6nm,0.5s,baz=345,slow=2.1,SNR=9.6						
SONM	**Songino Array**	**148.84**	**6**	PKPdf	**PKPdf**	**05 35 28.1**	**-1.5**
SONM				PKPbc	**PKPbc**	**05 35 31.5**	**-2.3**
SONM				PKPab	**PKPab**	**05 35 36.8**	**-1.4**

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*TEH **07** 05:29:24.8,28°.67N×52°.57E,h8km,ML3.6*
*THR **07** 05:29:26.5±0.6,28°.65N×52°.49E,h18km±5km,ML3.8*
*DSN **07** 05:29:27.3±2.1,28°.23N×52°.48E,h10km,ML3.1/6,Error ellipse: s-maj=37.8km s-min=15.0km az=22.0*
ISC 07 05:29:25.8±1.0**,28°.64N**±0°.04×**52°.57E**±0°.04**,h10**km**,n41,** σ**1§81**/46**,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
QIR1	**Qir**	**0.45**	**111**	*e*Pg	**Pg**	**05 29 32.5**	**-2.2**
QIR1				*e*		05 29 51.7	
	comp=Z,68μm,0.4s						
JHRM	**Jahrom**	**0.90**	**98**	*e*Pg	**Pg**	**05 29 43.2**	**0.0**
JHRM				*e*		05 30 12.1	
	comp=Z,44μm,0.5s						
SHI	**Shiraz**	**1.00**	**357**	*e*Pg	**Pg**	**05 29 43.6**	**-1.4**
AHBU	**AHRAM**	**1.14**	**282**	*e*Pg	**Pg**	**05 29 46.4**	**-1.3**
KAZ1	**Kazerun**	**1.27**	**321**	*e*Pg	**Pn**	**05 29 49.2**	**-0.5**
KAZ1				*e*Sg	**Sn**	**05 30 09.4**	**+2.5**
KAZ1				*e*		05 30 17.4	
	comp=Z,23μm,0.4s						
LMD1	**Lamerd**	**1.40**	**158**	*e*Pg	**Pg**	**05 29 52.5**	**-0.2**
LMD1				*e*Sg	**Sg**	**05 30 13.0**	**+2.1**
LMD1				*e*		05 30 19.6	
	comp=Z,13μm,0.5s						
LAR1	**LAR**	**1.87**	**121**	*e*Pn	**Pn**	**05 29 59.2**	**+1.3**
KLNJ	**Kolanjah**	**2.50**	**340**	*e*Pn	**Pn**	**05 30 06.4**	**-0.5**
KLNJ				*e*		05 31 01.6	
	comp=Z,2μm,0.6s						
IRAM	**Ramesheh**	**3.16**	**357**	*e*Pn	**Pn**	**05 30 16.2**	**+0.4**
IMEH	**Mehriz**	**3.26**	**32**	*e*Pn	**Pn**	**05 30 18.4**	**+1.1**
ISAD	**Sadrabad**	**3.40**	**16**	*e*Pn	**Pn**	**05 30 20.2**	**+1.0**
BNDS	**Bandar-Abbas**	**3.42**	**110**	*e*Pn	**Pn**	**05 30 22.0**	**+2.6**
BNDS	**Bandar-Abbas**	**3.42**	**110**	*e*Pn	**Pn**	**05 30 22.0**	**+2.6**
KHGB	**Koh Gabri**	**3.82**	**62**	*e*Pn	**Pn**	**05 30 26.0**	**+1.1**
KHGB				*e*		05 31 37.7	
	comp=Z,503nm,1.2s						
KRBR	**Kerman**	**3.90**	**69**	*e*Pn	**Pn**	**05 30 29.2**	**+3.1**
KRBR				*e*Sg	**Sg**	**05 31 29.9**	**-1.2**
KRBR	**Kerman**	**3.90**	**69**	*e*Pn	**Pn**	**05 30 29.2**	**+3.1**
TVBK	**TV Kerman**	**3.90**	**69**	*e*Pn	**Pn**	**05 30 27.8**	**+1.7**
TVBK				*e*		05 30 46.6	
	comp=Z,821nm,0.6s						
IBAF	**Bafgh**	**3.92**	**41**	*e*Pn	**Pn**	**05 30 27.1**	**+0.8**
ICHK	**Chekchek**	**3.93**	**23**	*e*Pn	**Pn**	**05 30 27.5**	**+1.1**
YZKH	**Yazd**	**4.12**	**25**	*e*Pn	**Pn**	**05 30 30.9**	**+1.9**
YZKH	**Yazd**	**4.12**	**25**	*e*Pn	**Pn**	**05 30 30.9**	**+1.9**
IZEF	**Zefreh**	**4.25**	**357**	*e*Pn	**Pn**	**05 30 31.1**	**+0.3**
BANOM	**Banah**	**4.29**	**128**	P	**Pn**	**05 30 30.3**	**-0.8**
BANOM				S	**Sn**	**05 31 19.8**	**-1.5**
MSFE	**Esma-Masafi**	**4.58**	**135**	P	**Pn**	**05 30 33.4**	**-1.7**
MSFE				S	**Sn**	**05 31 25.0**	**-3.5**
ANAR	**Anarak**	**4.64**	**12**	*e*Pn	**Pn**	**05 30 36.4**	**+0.3**
MDH	**Madha**	**4.71**	**134**	P	**Pn**	**05 30 33.4**	**-3.5**
IKLH	**Kolahrood**	**4.74**	**350**	*e*Pn	**Pn**	**05 30 37.8**	**+0.2**
UOSS	**Minazif**	**4.91**	**138**	P	**Pn**	**05 30 37.6**	**-2.2**
HATD	**Hatta, Dubai**	**4.96**	**139**	P	**Pn**	**05 30 40.5**	**+0.1**
ASHO	**Ashiyiah**	**5.03**	**141**	P	**Pn**	**05 30 40.1**	**-1.3**
KRSH	**Karshahi**	**5.32**	**356**	*e*Pn	**Pn**	**05 30 45.7**	**+0.2**
TPRV	**Parvadeh(Tabas**	**5.63**	**38**	*e*Pn	**Pn**	**05 30 50.6**	**+1.0**
ISFB	**Sefidab**	**5.70**	**357**	*e*Pn	**Pn**	**05 30 50.3**	**-0.3**
GHVR	**GHOM**	**5.92**	**350**	*e*Pn	**Pn**	**05 30 55.6**	**+2.0**
GHVR				IAML		05 32 04.7	
	comp=N,21nm,0.4s						
GHVR				IAML		05 32 04.9	
	comp=E,20nm,0.5s						
GHVR	**GHOM**	**5.92**	**350**	*e*Pn	**Pn**	**05 30 55.6**	**+2.0**
TKDS	**Koohdasht(Taba**	**6.31**	**37**	*e*Pn	**Pn**	**05 30 59.5**	**+0.5**
TNSJ	**Nastanj**	**6.33**	**32**	*e*Pn	**Pn**	**05 31 00.6**	**+1.3**
IVRN	**Varamin**	**6.37**	**354**	*e*Pn	**Pn**	**05 30 59.6**	**-0.3**
BSRN	**Basiran**	**6.57**	**58**	*e*Pn	**Pn**	**05 31 05.8**	**+3.2**
BSRN	**Basiran**	**6.57**	**58**	*e*Pn	**Pn**	**05 31 05.8**	**+3.2**
SRVN	**Saravan**	**8.78**	**96**	*e*Pn	**Pn**	**05 31 33.9**	**+1.0**

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*NEIC **07** 05:48:10.5±0.9,18°.2S±0°.2×177°.7W±0°.2,h641km±11km, mb4.2/7,Error ellipse: s-maj=28.5km s-min=13.3km az=142.0*
*IDC **07** 05:48:10.7±1.9,18°.48S×177°.79W,h642km±23km,mb2.8/5, mb1 3.1/6,mb1mx2.8/45,mbtmp3.8/6,Error ellipse: s-maj=30.9km s-min=23.7km az=142.0*
ISC 07 05:48:11.2±0.8**,18°.3S**±0°.2×**177°.8W**±0°.2**,h650**km**,n15,** σ**1§47**/15**,mb3.6**/8**,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.98**	**277**	P	**P**	**05 49 39.5**	**-0.9**
	5.3nm,0.3s,baz=139,slow=2.3,SNR=35						
OUZ	**Omahuta**	**18.53**	**203**	P	**P**	**05 51 49.9**	**+0.4**
URZ	**Urewera**	**20.41**	**192**	P	**P**	**05 52 04.2**	**-2.1**
	4.2nm,0.7s,baz=40,slow=1.0,SNR=5.6						
URZ	**Urewera**	**20.41**	**192**	P	**P**	**05 52 04.4**	**-1.9**
URZ				IAmb	IAmb	05 52 32.5	
	comp=Z,37nm,1.5s						
COEN	**Coen**	**37.69**	**271**	P	**P**	**05 54 35.7**	**+1.2**
COEN				IAmb	IAmb	05 54 43.5	
	comp=Z,17nm,1.3s						
WB2	**Warramunga Arr**	**45.12**	**260**	P	**P**	**05 55 32.8**	**+0.2**
WB2				IAmb	IAmb	05 55 46.1	
	comp=Z,9.3nm,1.4s						
WRA	**Warramunga Arr**	**45.14**	**260**	P	**P**	**05 55 32.5**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=99,slow=7.1,SNR=17						
ASAR	**Alice Springs**	**45.25**	**255**	P	**P**	**05 55 33.5**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=88,slow=8.2,SNR=12						
QSPA	**South Pole Qui**	**71.79**	**180**	P	**P**	**05 58 31.1**	**+1.2**
QSPA				IAmb	IAmb	05 58 54.0	
	comp=Z,4.7nm,1.5s						
BGU	**Big Grassy Mou**	**84.05**	**44**	P	**P**	**05 59 34.8**	**-0.9**
BGU				IAmb	IAmb	05 59 38.0	
	comp=Z,11nm,1.5s						
TXAR	**Lajitas Array**	**85.70**	**57**	P	**P**	**05 59 46.4**	**+2.5**
	comp=Z,0.7nm,0.7s,baz=201,slow=4.8,SNR=4.3						
TXAR	**Lajitas Array**	**85.70**	**57**	P	**P**	**05 59 45.4**	**+1.5**
ILAR	**Eielson Array**	**86.11**	**13**	P	**P**	**05 59 44.2**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=214,slow=4.9,SNR=5.8						
ILAR	**Eielson Array**	**86.11**	**13**	P	**P**	**05 59 43.2**	**-1.5**
QLMT	**Earthquake Lak**	**87.01**	**41**	P	**P**	**05 59 48.5**	**-1.3**

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*NEIC **07** 05:51:17.4±2.0,8°.61N±0°.06×77°.83W±0°.06,h14km±3km, mb4.7/215,Error ellipse: s-maj=9.1km s-min=7.8km az=218.0*
*UPA **07** 05:51:17.1±0.8,8°.68N×77°.88W,h10km±3km,MW4.9, Fault plane solution: NP1:ϕ_s281.08000°,δ64.62000°, λ55.25000°.*
*RSNC **07** 05:51:17.2±0.8,8°.68N×77°.89W,h9km±2km,ML4.2,Mw4.8, Fault plane solution: NP1:ϕ_s63.00000°,δ87.00000°, λ-175.00000°.*
*IDC **07** 05:51:17.9±4.5,8°.47N×77°.91W,h22km±28km,mb4.2/26, mb1 4.4/28,mb1mx4.3/48,mbtmp4.4/28,ML4.0/2,MS3.9/13, Ms1 3.9/13,ms1mx3.7/25,Error ellipse: s-maj=15.3km s-min=9.4km az=48.0*
*GCMT **07** 05:51:20.4±0.3,8°.66N±0°.02×77°.91W±0°.02,h28km, MW4.9/81,Moment Tensor Solution. s22,c27; s81,c106; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.70±.17; $M_{\theta\theta}$-0.24±.11; $M_{\phi\phi}$-2.46±.12; $M_{r\theta}$-0.80±.15; $M_{\theta\phi}$-1.04±.07; $M_{\phi r}$0.43±.16; Best double couple: $M_0$2.93200×10^{16} NP1:ϕ_s219.00000°,δ47.00000°,λ115.00000°. NP2: ϕ_s5.00000°,δ49.00000°,λ66.00000°. Principal axes: T 2.9910, Plg72.0000°, Azm205.0000°; N -0.1210, Plg18.0000°, Azm21.0000°; P -2.8740, Plg1.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*UCR **07** 05:51:39.0±1.9,9°.40N×79°.45W,h0km±999km, mb4.7(NEIC)*
ISC 07 05:51:17.2±0.6**,8°.67N**±0°.03×**77°.85W**±0°.02**,h15**km±4km**, n498,** σ**1§63**/521**,mb4.6**/123**,MS3.9**/10**,25C-23D, Panama-Colombia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UPD2	**Meteti**	**0.20**	**235**	⇓*i*P	**Pg**	**05 51 21.6**	**-0.3**
UPD2				*e*S	**Sg**	**05 51 24.6**	**-0.5**
UPD2	**Meteti**	**0.20**	**235**	⇓*i*P	**Pg**	**05 51 21.6**	**-0.3**
UPD2				*e*S	**Sg**	**05 51 24.0**	**-1.1**
CAPC	**Capurgana**	**0.49**	**94**	⇓*i*P	**Pg**	**05 51 26.7**	**-0.3**
CAPC				*e*S	**Sg**	**05 51 33.6**	**0.0**
CAPC				*i*		05 51 34.5	
	comp=Z,45μm,0.2s						
CNTA3	**Canitas, Panam**	**1.17**	**298**	⇑*e*P	**Pb**	**05 51 37.2**	**-1.9**
CNTA3				*e*S	**Sb**	**05 51 52.3**	**-1.7**
CHPO	**Chepo, Panama**	**1.35**	**292**	⇑*e*P	**Pn**	**05 51 40.1**	**-1.4**
CHPO				*e*S	**Sb**	**05 51 57.9**	**-1.3**
LCBC	**Los crdobas,**	**1.48**	**83**	⇓*i*P	**Pb**	**05 51 44.5**	**+0.2**
LCBC				*e*S	**Sb**	**05 52 03.5**	**+0.7**
LCBC				*i*		05 52 09.5	
	comp=Z,5μm,0.3s						
PTAC	**Punta Ardita,**	**1.51**	**179**	⇑*e*P	**Pn**	**05 51 40.7**	**-2.9**
PTAC				*e*S	**Sn**	**05 52 00.0**	**-3.1**
TABO3	**Taboga, Panama**	**1.69**	**274**	⇓*i*P	**Pn**	**05 51 45.1**	**-1.1**
TABO3				*e*S	**Sn**	**05 52 06.0**	**-1.6**
UPA	**Univ. de Panam**	**1.70**	**281**	⇓*i*P	**Pn**	**05 51 45.0**	**-1.2**
UPA				*e*S	**Sn**	**05 52 06.3**	**-1.3**
UPA	**Univ. de Panam**	**1.70**	**281**	⇓*i*P	**Pn**	**05 51 45.1**	**-1.2**
UPA				*e*S	**Sn**	**05 52 06.5**	**-1.2**
UPA				*i*		05 52 14.7	
	comp=Z,4μm,0.6s						
ARRA3	**Arraijan, Pana**	**1.81**	**280**	⇑*e*P	**Pn**	**05 51 47.5**	**-0.3**
ARRA3				*e*S	**Sn**	**05 52 09.9**	**-0.7**
CHOR3	**La Chorrera**	**1.91**	**277**	⇑*e*P	**Pn**	**05 51 48.9**	**-0.3**
CHOR3				*e*S	**Sn**	**05 52 12.7**	**-0.3**
BCIP	**Isla Barro Col**	**2.03**	**284**	⇓*i*P	**Pn**	**05 51 50.1**	**-0.7**
BCIP				*e*S	**Sn**	**05 52 15.0**	**-0.8**
BCIP	**Isla Barro Col**	**2.03**	**284**	Pn	**Pn**	**05 51 50.4**	**-0.4**
BCIP	**Isla Barro Col**	**2.03**	**284**	⇓*i*P	**Pn**	**05 51 50.2**	**-0.6**
BCIP				*e*S	**Sn**	**05 52 14.8**	**-1.1**
SABA3	**Sabanitas, Col**	**2.05**	**290**	⇑*e*P	**Pn**	**05 51 50.8**	**-0.3**
SABA3				*e*S	**Sn**	**05 52 16.7**	**+0.4**
VTON	**El Valle, Cocl**	**2.24**	**269**	⇓*e*P	**Pn**	**05 51 52.9**	**-0.9**
VTON				*e*S	**Sn**	**05 52 19.4**	**-1.9**
DBBC	**Dabeiba**	**2.31**	**135**	⇓*e*P	**Pn**	**05 51 54.0**	**-0.7**
PNME	**Penonome**	**2.46**	**266**	⇑*e*P	**Pn**	**05 51 56.8**	**0.0**
PNME				*e*S	**Sn**	**05 52 26.4**	**-0.1**
PCRI3	**Pocri, Los San**	**2.46**	**246**	⇑*e*P	**Pn**	**05 51 57.0**	**+0.2**
PCRI3				*e*S	**Sn**	**05 52 26.1**	**-0.5**
UREC	**San Jos de Ur**	**2.46**	**111**	⇑*e*P	**Pn**	**05 51 56.8**	**-0.1**
UREC				*e*S	**Sn**	**05 52 26.2**	**-0.5**
UREC				*i*		05 52 28.4	
	comp=Z,815nm,0.8s						
AZU	**Azuero**	**2.55**	**250**	⇓*e*P	**Pn**	**05 51 57.5**	**-0.5**
AZU				*e*S	**Sn**	**05 52 29.3**	**+0.4**
AZU	**Azuero**	**2.55**	**250**	*e*P	**Pn**	**05 51 56.8**	**-1.2**
AZU				*e*S	**Sn**	**05 52 27.5**	**-1.3**
PESE3	**Pese, Herrera**	**2.84**	**255**	⇑*e*P	**Pn**	**05 52 01.1**	**-0.8**
PESE3				*e*S	**Sn**	**05 52 36.8**	**+0.8**
SJCC	**San Jacinto, C**	**2.90**	**65**	⇓*e*P	**Pn**	**05 52 03.1**	**+0.2**
SJCC				*e*S	**Sn**	**05 52 38.4**	**+0.8**
SJCC	**San Jacinto, C**	**2.90**	**65**	Pn	**Pn**	**05 52 03.0**	**0.0**
SJCC	**San Jacinto, C**	**2.90**	**65**	⇑*e*P	**Pn**	**05 52 03.5**	**+0.6**
SJCC				*e*S	**Sn**	**05 52 38.7**	**+1.1**
SJCC				*i*		05 52 45.1	
	comp=Z,377nm,0.4s						
CALO3	**Calobre, Verag**	**2.98**	**264**	⇑*e*P	**Pn**	**05 52 03.6**	**-0.3**
CALO3				*e*S	**Sb**	**05 52 43.5**	**-2.8**
ZARC	**Zaragoza, Cauc**	**3.18**	**111**	⇓*e*P	**Pn**	**05 52 06.8**	**+0.1**
ZARC				*e*S	**Sn**	**05 52 45.1**	**+0.7**
ZARC				*i*		05 52 50.9	
	comp=Z,1μm,0.5s						
PONU3	**Ponuga, Veragu**	**3.19**	**256**	*e*S	**Sb**	**05 52 50.5**	**-1.9**
CACAO	**El Cacao, Vera**	**3.26**	**246**	*e*P	**Pn**	**05 52 06.7**	**-1.1**
CACAO				*e*S	**Sn**	**05 52 46.8**	**+0.5**
CACAO	**El Cacao, Vera**	**3.26**	**246**	*e*P	**Pn**	**05 52 06.7**	**-1.1**
CACAO				*e*S	**Sn**	**05 52 45.6**	**-0.7**
CACAO				*i*		05 52 57.5	
	comp=Z,2μm,0.6s						
CBOC	**Ciudad Bolivar**	**3.33**	**147**	*e*P	**Pn**	**05 52 08.2**	**-0.6**
CBOC				*e*S	**Sn**	**05 52 50.2**	**+2.0**
CBOC				*i*		05 52 58.1	
	comp=Z,458nm,0.7s						
HELC	**Santa Helena**	**3.37**	**137**	⇑*e*P	**Pn**	**05 52 09.9**	**+0.3**
HELC				*e*S	**Sn**	**05 52 50.7**	**+1.2**
HELC	**Santa Helena**	**3.37**	**137**	*e*P	**Pn**	**05 52 10.5**	**+1.0**
HELC				*e*S	**Sn**	**05 52 50.9**	**+1.4**
HELC				*i*		05 53 04.1	
	comp=Z,291nm,0.6s						
SMLC	**San Martn de**	**3.73**	**88**	⇓*e*P	**Pn**	**05 52 13.8**	**-0.5**
SMLC				*e*S	**Sn**	**05 52 57.7**	**-0.3**
SMLC				*i*		05 53 09.1	
	comp=Z,404nm,0.5s						
ARGC	**Ariguani, Magd**	**3.75**	**71**	⇓*i*P	**Pn**	**05 52 14.9**	**+0.5**
ARGC				*e*S	**Sn**	**05 52 59.1**	**+0.8**
ARGC				*i*		05 53 02.6	
	comp=Z,314nm,0.3s						
PTBC	**PUERTO BERRIO,**	**3.97**	**122**	⇓*e*P	**Pn**	**05 52 17.0**	**-0.6**
PTBC				*e*S	**Sn**	**05 53 03.8**	**-0.1**
PTBC				*i*		05 53 10.8	
	comp=Z,325nm,0.5s						
GUY2C	**Guyana, Caldas**	**4.21**	**144**	*e*P	**Pn**	**05 52 22.2**	**+0.8**

GUY2C eS Sn 05 53 11.1 +0.5
GUY2C i 05 53 24.4
comp=Z,266nm,0.6s
CHGR2 Aguacate 4.25 274 eP Pn 05 52 26.1 +4.6
CHGR2 eS Sb 05 53 27.0 +4.0
NORC Norcasia 4.27 136 eP Pn 05 52 24.0 +2.3
NORC eS Sn 05 53 15.2 +3.8
NORC i 05 53 34.3
comp=Z,188nm,0.7s
LL1C La Loma 1 Cana 4.33 78⇓ iP Pn 05 52 24.1 +1.7
LL1C eS Sn 05 53 14.1 +1.5
SMRC Santa Marta, M 4.35 55 eP Pn 05 52 23.2 +0.5
SMRC eS Sn 05 53 12.0 -1.1
SMRC i 05 53 17.1
comp=Z,174nm,0.4s
BRRC Barranca, Sant 4.38 110⇓ iP Pn 05 52 23.6 +0.5
BRRC eS Sn 05 53 13.0 -1.0
BRRC i 05 53 36.0
comp=Z,219nm,0.4s
LL2C La Loma 2 Cana 4.44 78⇓ eP Pn 05 52 24.6 +0.6
LL2C eS Sn 05 53 16.6 +1.1
LL2C i 05 53 20.8
comp=Z,843nm,0.3s
OCAC Ocana 4.50 95⇓ iP Pn 05 52 25.0 0.0
OCAC eS Sn 05 53 17.2 +0.1
OCAC Ocana 4.50 95⇓ iP Pn 05 52 25.0 0.0
OCAC eS Sn 05 53 16.7 -0.5
DVD David 4.56 267 eS Sb 05 53 37.0 +5.3
DVD eS Sg 05 53 37.3 -6.3
MALC Bahia Malaga 4.65 174 eP Pn 05 52 26.9 0.0
MALC eS Sn 05 53 17.6 -3.1
MALC i 05 53 22.8
comp=Z,87nm,0.3s
TOLC Tolima 4.77 148 eP Pn 05 52 29.6 +0.8
RGM0 Gandoca 4.79 281 Pn Pn 05 52 27.4 -1.4
SPBC San Pablo de B 4.80 128 eP Pn 05 52 32.1 +3.1
SPBC eS Sb 05 53 32.9 -5.7
SPBC i 05 53 56.3
comp=Z,116nm,0.6s
CVALL Valledupar, Ce 4.88 68 eP Pn 05 52 30.3 +0.2
CVALL eS Sn 05 53 24.1 -2.4
YOTC Yotoco, Valle 4.89 162 eP Pn 05 52 28.8 -1.5
YOTC eS Sn 05 53 26.9 +0.3
CDITO Canoas 4.97 269 Pn 05 52 32.8 +1.5
BARC Barichara 5.06 114 eP Pn 05 52 33.1 +0.4
BARC eS Sn 05 53 30.7 -0.5
BARC i 05 53 44.4
comp=Z,434nm,0.8s
EDSV San Vito 5.07 272 eP Pn 05 52 34.7 +1.9
ROSC El Rosal 5.17 137 Pn Pn 05 52 36.8 +2.4
comp=Z,10nm,0.3s,baz=219,slow=3.7,SNR=33
ROSC Sn Sn 05 53 37.2 +3.2
comp=Z,13nm,0.3s,baz=0.0,slow=20,SNR=2.0
ROSC LR LR 05 54 18.1
comp=Z,661nm,20.0s,baz=4.5,slow=36
ROSC El Rosal 5.17 137 Pn Pn 05 52 36.5 +2.1
ROSC El Rosal 5.17 137⇓ eP Pn 05 52 37.5 +3.1
ROSC i 05 54 01.6
comp=Z,95nm,0.6s
EDBA Buenos Aires 5.38 276 eP Pn 05 52 39.8 +2.7
ORTC Ortega, Tolima 5.39 151⇑ eP Pn 05 52 38.0 +1.0
ORTC eS Sn 05 53 39.0 +0.1
ORTC i 05 54 04.5
comp=Z,68nm,0.6s
CRJC Cerrejon, Guaj 5.42 64⇑ eP Pn 05 52 37.4 -0.2
CRJC eS Sn 05 53 37.1 -2.7
RUSC La Rusia 5.47 120⇑ eP Pn 05 52 39.1 +0.5
RUSC eS Sn 05 53 42.1 +0.6
RUSC La Rusia 5.47 120 Pn Pn 05 52 38.2 -0.4
RUSC La Rusia 5.47 120⇑ eP Pn 05 52 38.4 -0.2
RUSC eS Sn 05 53 39.1 -2.5
RUSC i 05 53 55.6
comp=Z,250nm,0.7s
SRBA San Rafael, Bu 5.47 276 Pn 05 52 38.3 0.0
EDPN Palmar Norte 5.55 273 eP Pn 05 52 43.6 +4.3
RIOS Rincon, Osa 5.60 271 eP Pn 05 52 42.4 +2.4
RIOS Rincon, Osa 5.60 271 Pn 05 52 41.9 +1.9
GR1C Gorgona, Isla 5.64 183 eP Pn 05 52 40.2 -0.2
BATAN Batan 5.64 285⇑ iP Pn 05 52 40.7 +0.3
BATAN Batan 5.64 285 Pn Pn 05 52 40.5 0.0
CHIC Chingaza 5.73 134 eP Pn 05 52 44.3 +2.2
PRAC Prado 5.73 149 eP Pn 05 52 42.5 +0.7
PRAC eS Sn 05 53 47.5 +0.1
PRAC i 05 54 30.5
comp=Z,57nm,0.6s
PEZE Perez Zeledon, 5.80 277 eP Pn 05 52 43.9 +1.0
PEZE Perez Zeledon, 5.80 277 Pn Pn 05 52 43.0 +0.2
PRVC Isla de Provid 5.81 324 Pn 05 52 41.6 -1.3
PRVC Isla de Provid 5.81 324 eP Pn 05 52 40.4 -2.5
PRVC eS Sn 05 53 44.3 -5.1
PRVC i 05 53 56.6
comp=Z,189nm,0.4s
CDM Cerro de Muert 5.91 279 eP Pn 05 52 44.1 -0.5
VTCV VTCV, Calle Va 5.95 283 eP Pn 05 52 45.0 +0.1
CVTR Volcan Turrial 5.99 283 eP Pn 05 52 44.1 -1.5
CVTR Volcan Turrial 5.99 283 Pn 05 52 45.8 +0.1
RIMA Rio Macho 6.04 281 eP Pn 05 52 46.1 -0.1
RIMA Rio Macho 6.04 281 Pn 05 52 46.2 +0.1
MARP Paez Belalcaza 6.08 162 eP Pn 05 52 48.6 +1.7
MARP eS Sn 05 53 55.1 -1.3
VILC Villavicencio, 6.12 137 eP Pn 05 52 50.5 +3.2
OCM Ochomogo 6.16 282 eP Pn 05 52 47.5 -0.3
LCR2 La Lucha 2 6.17 280 eP Pn 05 52 47.9 -0.1
POPC Popayan, Colom 6.20 169 eP Pn 05 52 48.9 +0.5
POPC eS Sn 05 53 59.7 +0.5
RIFO Rio Frio, Sara 6.21 286 eP Pn 05 52 47.1 -1.3
SJS Escuela Geolog 6.25 282 eP Pn 05 52 49.4 +0.3
HDC Heredia 6.33 283⇑ iP Pn 05 52 50.1 +0.9
HDC Heredia 6.33 283 eP Pn 05 52 50.7 +0.6
HDC Heredia 6.33 283 Pn 05 52 50.8 +0.7
PCON Cinco Dias 6.46 167⇑ eP Pn 05 52 53.8 +1.5
PCON eS Sn 05 54 04.6 -1.5
PCON i 05 54 11.6
comp=Z,48nm,0.7s
CRPO Crater poas 6.47 284 eP Pn 05 52 52.8 +0.5
URIC Uribia, Colomb 6.50 62 Pn 05 52 52.9 +0.5
URIC Uribia, Colomb 6.50 62 eP Pn 05 52 53.8 +1.4
SOTA Rioblanco 6.61 169⇑ iP Pn 05 52 55.1 +0.9
SOTA eS Sn 05 54 11.4 +1.9
SOTA i 05 54 32.0
comp=Z,48nm,0.7s
BBAC Balboa, Cauca 6.63 175 eP Pn 05 52 54.7 +0.4
SRA1 San Ramn 6.70 283 eP Pn 05 52 56.2 +1.0
COVE Coope Vega, Sa 6.78 288 eP Pn 05 52 55.9 -0.2
COVE Coope Vega, Sa 6.78 288 Pn 05 52 56.1 0.0
GARC Garzon, Huila 6.85 160 eP Pn 05 52 58.2 +0.8
TUMC Tumaco 6.85 187 Pn Pn 05 52 55.1 -2.1
CEDE Laguna Cedeo 7.00 286 eP Pn 05 53 00.1 +0.8
ARE1 Arenal 1 7.01 285 eP Pn 05 52 59.6 +0.3
SDV Santo Domingo 7.13 88 Pn Pn 05 53 01.1 -0.1
comp=Z,14nm,0.3s,baz=268,slow=8.6,SNR=53
SDV Sn Sn 05 54 20.7 -1.4
comp=Z,110nm,0.3s,baz=2.5,slow=19,SNR=14
SDV LR LR 05 56 52.9
comp=Z,2µm,18.4s,baz=258,slow=46
SDV Santo Domingo 7.13 88⇑ iP Pn 05 53 01.8 +0.6
SDV eS Sn 05 54 18.0 -4.2
SDV Santo Domingo 7.13 88 Pn Pn 05 53 00.5 -0.8
SDV Santo Domingo 7.13 88 eP Pn 05 53 01.1 -0.1
SDV eS Sn 05 54 19.6 -2.6
SDV i 05 54 29.4
comp=Z,220nm,0.5s
SDV Santo Domingo 7.13 88 eP Pn 05 53 01.3 +0.1
JTS Las Juntas de 7.19 284 Pn Pn 05 53 02.9 +1.0
comp=Z,4.3nm,0.3s,baz=150,slow=7.9,SNR=35
JTS Sn Sn 05 54 24.6 +1.2
comp=Z,2.7nm,0.3s,baz=12,slow=19,SNR=2.0
JTS LR LR 05 56 04.7
comp=Z,1µm,18.0s,baz=184,slow=40
JTS Las Juntas de 7.19 284⇑ iP Pn 05 53 02.8 +1.0
JTS Las Juntas de 7.19 284 eP Pn 05 53 02.8 +1.0
JTS Las Juntas de 7.19 284 Pn Pn 05 53 01.5 -0.4
PTGC Puerto Gaitan, 7.21 128 eP Pn 05 53 03.3 +1.3
PTGC eS Sn 05 54 16.8 -6.9
FLOC Florencia 7.37 163 Pn 05 53 03.7 -0.6
FLOC Florencia 7.37 163 eP Pn 05 53 05.0 +0.7
CCUFI Cufio, Nario 7.41 176 eP Pn 05 53 06.9 +1.6
GCUF Volcan Galeras 7.41 176 eP Pn 05 53 06.3 +1.0
CUI Cuipilapa 7.48 286 eP Pn 05 53 06.1 +0.3
MACC Macarena, Meta 7.60 148 eP Pn 05 53 07.5 -0.1
MACC eS Sb 05 55 07.8 +8.5
MACC i 05 55 35.9
comp=Z,21nm,0.7s
DUNO Dulce Nombre, 7.67 281 Pn Pn 05 53 08.5 0.0
GPS2 Hotel Rincn d 7.68 286 eP Pn 05 53 09.4 +0.8
ORTG Ortega, Santa 7.70 283 Pn Pn 05 53 09.2 +0.4
VRLE La Escondida, 7.71 286 eP Pn 05 53 08.9 -0.1
HZTE Horizontes, Gu 7.91 286 Pn 05 53 12.1 +0.5
ACON Acoyapa 7.92 295 eP Pn 05 53 12.3 +0.4
ACON Acoyapa 7.92 295 Pn 05 53 11.8 0.0
GUVC San Jose del G 8.00 139 eP Pn 05 53 17.5 +4.6
CUSE Cuicocha Este 8.32 184 eP Pn 05 53 18.2 +0.4
OTAV Otavalo 8.39 184 Pn 05 53 18.8 0.0
OTAV Otavalo 8.39 184⇑ eP Pn 05 53 19.2 +0.4
OTAV eS Sn 05 54 50.7 -2.9
PAC1 Pacto, Paraso 8.40 186 eP Pn 05 53 18.3 -0.3
PAC1 eS Sn 05 54 51.8 -1.4
ELOV Elorza 8.45 101 eP Pn 05 53 17.4 -1.7
ELOV eS Sn 05 54 48.8 -5.6
HATO Hato, Curacao 9.41 67 Pn Pn 05 53 33.8 +1.4
CNGN Cerro Negro 9.50 294 Pn 05 53 35.1 +1.5
MTDJ Mount Denham 9.51 2 Pn Pn 05 53 34.5 +0.8
CRIN San Cristobal 9.89 295 Pn 05 53 39.9 +0.9
TGUH Tegucigalpa,Un 10.68 301 Pn Pn 05 53 49.0 -0.8
JAKH Jacmel 10.83 28 Pn 05 53 52.0 +0.2
LGNH Logne 11.03 27 Pn 05 53 55.5 +1.0
FSCY Frank Sound, G 11.07 343 Pn 05 53 57.2 +2.2
CBCY The Bluff, Cay 11.16 351 Pn Pn 05 54 00.2 +4.0
GTBY Guantanamo Bay 11.50 13 Pn 05 54 03.3 +2.4
SDDR Presa de Saban 12.07 31 Pn 05 54 10.6 +1.8
BANI BANI 12.10 36 Pn 05 54 10.7 +1.5
MTO3 Montecristo 12.63 298 Pn 05 54 20.4 +3.7
SC01 Santiago de lo 12.73 32 Pn 05 54 19.1 +1.3
DR12 Loma Pena Alta 12.99 38 Pn 05 54 21.6 +0.2
PCRV Puerto La Cruz 13.12 82 Pn Pn 05 54 21.0 -2.2
comp=Z,3.1nm,0.3s,baz=209,slow=8.0,SNR=12
PCRV Sn Sn 05 56 43.2 -5.7
comp=Z,0.8nm,0.3s,baz=53,slow=20,SNR=4.3
PLCV Puerto La Cruz 13.16 82 Pn 05 54 21.0 -2.7
MLPR Magueyes Islan 13.99 48 Pn Pn 05 54 33.1 -1.9
PETF Flores 14.30 306 Pn P 05 54 43.6 -2.8
OBIP Obispado Ponce 14.36 48 P 05 54 47.4 +0.4
AOPR Arecibo Observ 14.45 47 Pn Pn 05 54 37.6 -3.7
EMPR Esperanza - Ma 14.69 47 Pn Pn 05 54 45.5 +1.0
SJG San Juan 14.74 49 Pn Pn 05 54 40.4 -4.9
comp=Z,2.0nm,0.3s,baz=223,slow=13,SNR=6.7
SJG Sn Sn 05 57 13.6 -15
comp=Z,2.0nm,0.3s,baz=73,slow=19,SNR=5.1
SJG LR LR 06 01 25.0
comp=Z,384nm,18.9s,baz=234,slow=41
SJG San Juan 14.74 49 Pn 05 54 44.0 -1.3
HUMP Col San Antoni 14.99 50 Pn Pn 05 54 46.7 -1.9
TBTG Tabatinga, AM 15.02 148 eP Pn 05 54 46.6 -2.5
CBYP Canovanas 15.06 49 Pn Pn 05 54 49.9 +0.2
CBYP IAmb IAmb 05 55 01.4
comp=Z,42nm,1.1s
CUPR Culebra, Puert 15.52 51 Pn Pn 05 54 53.4 -2.1
ATAH Atahualpa 15.71 182 Pn Pn 05 54 59.0 +0.6
comp=Z,0.4nm,0.3s,baz=5.4,slow=9.3,SNR=8.5
STVI Saint Thomas 15.80 51 Pn Pn 05 54 59.3 +0.1
STVI IAmb IAmb 05 55 12.4
comp=Z,29nm,0.8s
GRGR Grenville 16.30 76 Pn Pn 05 55 04.2 -1.5
SVB Belmont 16.92 73 Pn Pn 05 55 10.8 -2.7
CZSB Cruzeiro do Su 17.07 162 eP Pn 05 55 15.7 +0.1
ANWB Willy Bob 18.00 59 Pn Pn 05 55 25.8 -1.3
ANWB IAmb IAmb 05 55 35.5
comp=Z,69nm,0.8s
BOAV Boa Vista 18.33 109 eP Pn 05 55 30.5 -0.5
PTGA Pitinga 20.11 117 P P 05 55 50.6 -0.1
comp=Z,7.9nm,0.8s,baz=305,slow=12,SNR=11
PTGA S S 05 59 36.5 +0.1
comp=Z,4.0nm,0.8s,baz=340,slow=12,SNR=3.1
PTGA Pitinga 20.11 117 P P 05 55 50.2 -0.5
NNA Nana 20.54 177 P P 05 55 54.6 -0.7
comp=Z,5.3nm,0.3s,baz=360,slow=12,SNR=2.9
NNA Nana 20.54 177 IAmb IAmb 05 55 55.7
comp=Z,34nm,1.3s
MACA Manacapuru-AM 20.76 124 eP P 05 55 57.1 -0.6
ETMB Extrema 21.71 148 eP P 05 56 05.6 -2.2
TLIG Tlapa 22.01 296 P P 05 56 11.4 +0.2
SAML Samuel 22.79 140 P P 05 56 16.3 -3.2
SAML IAmb IAmb 05 56 30.4
comp=Z,14nm,0.8s
SAML Samuel 22.79 140 eP P 05 56 17.0 -2.5
352A Blakely 23.64 345 P P 05 56 28.8 +0.9
352A IAmb IAmb 05 56 43.8
comp=Z,29nm,1.1s
250A Grady 24.48 343 P P 05 56 36.7 +1.0
250A IAmb IAmb 05 56 44.0
comp=Z,19nm,0.9s
152A Waverly Hall 24.72 346 P P 05 56 39.3 +1.4
152A IAmb IAmb 05 56 48.2
comp=Z,16nm,1.2s
GOGA Godfrey 25.17 349 P P 05 56 43.5 +1.6
GOGA IAmb IAmb 05 56 52.5
comp=Z,16nm,1.1s
GOGA Godfrey 25.17 349 P P 05 56 46.2 +4.2
baz=167
MDP Montagnes des 25.27 96 P P 05 56 44.8 +1.7
comp=Z,9.7nm,0.8s,baz=278,slow=13,SNR=8.5
ITTB Itaituba 25.57 120 eP P 05 56 45.7 -0.2
344A Westbrook Farm 25.65 334 P P 05 56 47.2 +0.9
LRAL Lakeview Retre 25.68 342 P P 05 56 47.1 +0.5
LRAL Lakeview Retre 25.68 342 P P 05 56 47.6 +0.9
baz=159
MALB Monte Alegre 25.73 113 eP P 05 56 47.2 0.0
HODGE Hodges 25.77 352 P P 05 56 48.7 +1.3
HODGE IAmb IAmb 05 57 14.9
comp=Z,17nm,1.3s
Z47A Carrollton 26.18 340 P P 05 56 50.9 -0.2
342A Flagon Creek P 26.31 331 P P 05 56 53.1 +0.7
LPAZ La Paz 26.59 159 P P 05 56 54.0 -1.8
comp=Z,4.4nm,1.0s,baz=349,slow=13,SNR=13
LPAZ PcP PcP 06 00 19.1 -1.0
comp=Z,1.2nm,0.8s,baz=334,slow=7.3,SNR=3.3
LPAZ La Paz 26.59 159 P P 05 56 53.8 -1.9
LPAZ La Paz 26.59 159 eP P 05 56 54.9 -0.8
HKT Hockley 27.06 324 P P 05 57 00.7 +1.6
MCPB Macapa, AP 27.22 108 eP P 05 56 59.4 -1.4
Y45A Yeager Farm, C 27.30 338 P P 05 57 01.7 +0.4
NPGB Novo Progresso 27.32 124 eP P 05 57 00.0 -1.6
CPCT Cooper Cave 27.35 348 P P 05 57 04.5 +2.8
CPCT IAmb IAmb 05 57 13.1
comp=Z,12nm,1.3s
TKL Tuckaleechee C 27.41 349 P P 05 57 04.2 +2.0
comp=Z,1.1nm,0.6s,baz=170,slow=6.1,SNR=1.6
VILB Vilhena 27.72 141 eP P 05 57 03.5 -1.8
V48A Smith Brothers 28.17 344 P P 05 57 09.0 0.0
TZTN Tazewell 28.23 350 P P 05 57 09.1 -0.5
TZTN IAmb IAmb 05 57 21.2
comp=Z,18nm,1.4s
W45A Hickory Valley 28.34 340 P P 05 57 10.4 -0.1
LPAR Lepanto 29.13 339 P P 05 57 17.0 -0.5
X40A Basin Creek Fa 29.16 334 P P 05 57 17.4 -0.4
X40A IAmb IAmb 05 57 25.0
comp=Z,6.3nm,0.8s
X40A Basin Creek Fa 29.16 334 P P 05 57 23.4 +5.6
baz=148,SNR=6.3
HBAR Harrisburg 29.21 338 P P 05 57 18.1 -0.2
CLDB Colider 29.30 131 eP P 05 57 19.9 +0.6
PB11 IPOC Station P 29.38 164 P P 05 57 17.9 -2.1
WHTX Lake Whitney, 29.50 325 P P 05 57 18.5 -2.4
WHTX IAmb IAmb 05 57 26.9
comp=Z,12nm,1.1s
WHTX Lake Whitney, 29.50 325 P P 05 57 26.0 +5.1
baz=138
MIAR Mount Ida 29.53 333 P P 05 57 20.9 -0.3
MIAR Mount Ida 29.53 333 P P 05 57 26.2 +5.1
baz=147
SIV San Ignacio 29.60 146 P P 05 57 19.0 -2.9
comp=Z,3.6nm,0.9s,baz=338,slow=9.3,SNR=18
WHAR Wooly Hollow 29.61 336 P P 05 57 23.9 +2.1
LCAR Lake Charles 29.86 338 P P 05 57 23.3 -0.7
LCAR IAmb IAmb 05 57 30.9
comp=Z,16nm,1.2s
PB08 IPOC Station P 29.88 163 P P 05 57 23.4 -1.4
PB08 IAmb IAmb 05 57 25.1
comp=Z,21nm,1.4s
T45A Paducah 29.88 342 P P 05 57 24.5 +0.3
FCAR Ozark Folk Cen 30.07 336 P P 05 57 27.0 +1.1
FCAR IAmb IAmb 05 57 31.6
comp=Z,6.3nm,0.7s
W39A Magazine 30.17 333 P P 05 57 25.7 -1.1
W39A IAmb IAmb 05 57 33.1
comp=Z,7.2nm,0.8s
W39A Magazine 30.17 333 P P 05 57 32.5 +5.7
baz=147
PBMO Poplar Bluff 30.23 340 P P 05 57 26.7 -0.6
PBMO IAmb IAmb 05 57 33.6
comp=Z,9.0nm,0.8s
PTLB Pontes e Lacer 30.30 142 eP P 05 57 26.5 -1.6
X37A Clayton 30.41 331 IAmb IAmb 05 57 35.2
comp=Z,12nm,0.8s
U40A Yellville 30.76 336 IAmb IAmb 05 57 38.2
comp=Z,12nm,0.8s
U40A Yellville 30.76 336 P P 05 57 31.6 -0.4
baz=150,SNR=5.8
P52A Corning 31.07 354 P P 05 57 40.9 +6.2
baz=172
HHAR Hobbs 31.15 334 P P 05 57 35.2 -0.3
HHAR IAmb IAmb 05 57 42.9
comp=Z,10.0nm,1.0s
ABTX Abilene, Hawle 31.24 323 P P 05 57 36.5 +0.1
ABTX IAmb IAmb 05 57 42.6
comp=Z,17nm,1.1s
ABTX Abilene, Hawle 31.24 323 P P 05 57 40.6 +4.3
baz=135
U38A Gravette 31.48 334 IAmb IAmb 05 57 43.7
comp=Z,7.9nm,0.8s
PRPB Parauapebas 31.60 117 eP P 05 57 39.0 -0.6
CCM Cathedral Cave 31.66 340 P P 05 57 38.7 -1.2
CCM Cathedral Cave 31.66 340 P P 05 57 39.6 -0.3
baz=154
TUL1 Leonard 31.68 332 P P 05 57 44.0 +3.9
baz=145,SNR=7.3
TX32 Lajitas Array 31.78 314 P P 05 57 40.5 -0.7
TXAR Lajitas Array 31.78 314 P P 05 57 41.3 +0.1
comp=Z,3.6nm,1.0s,baz=137,slow=9.0,SNR=12
TXAR PcP PcP 06 00 32.1 -0.3
comp=Z,0.6nm,0.8s,baz=158,slow=3.6,SNR=3.4
TXAR Lajitas Array 31.78 314 P P 05 57 42.8 +1.6
TX31 Lajitas Ar. Si 31.78 314 P P 05 57 41.0 -0.2
TX31 IAmb IAmb 05 57 47.4
comp=Z,14nm,0.9s
FNO Franklin 31.95 329 P P 05 57 42.0 -0.5
S39A Bolivar 32.11 337 IAmb IAmb 05 57 49.5
comp=Z,14nm,1.3s
R40A Maddies Statio 32.23 338 P P 05 57 46.1 +1.1
R40A IAmb IAmb 05 57 50.5
comp=Z,9.7nm,0.8s
WMOK Wichita Mounta 32.28 327 P P 05 57 47.3 +1.8
WMOK Wichita Mounta 32.28 327 P P 05 57 49.5 +4.1
baz=139,SNR=5.6
LVC Limon Verde 32.29 164 P P 05 57 45.3 -0.7
LVC IAmb IAmb 05 57 46.7
comp=Z,12nm,0.9s
LVC Limon Verde 32.29 164 eP P 05 57 44.5 -1.5
OK029 Liberty Lake 32.40 329 P P 05 57 46.1 -0.3
T35A Sooner Cattle 32.83 332 P P 05 57 53.4 +3.1
BLOK Blackwell 33.04 331 P P 05 57 54.4 +2.3
CROK Carrier 33.22 330 P P 05 57 57.0 +3.4
P40A Paris 33.26 340 P P 05 57 57.6 +3.7
P40A IAmb IAmb 05 57 59.4
comp=Z,9.2nm,0.9s
MSTX Muleshoe 34.06 321 P P 05 58 03.8 +2.7
MSTX IAmb IAmb 05 58 07.0
comp=Z,16nm,1.2s
MSTX Muleshoe 34.06 321 P P 05 58 04.5 +3.3
baz=132
MNTX Cornudas Mount 34.35 316 P P 05 58 02.9 -0.7
MNTX Cornudas Mount 34.35 316 P P 05 58 02.7 -0.8
baz=126,SNR=6.1
J58A Remsen 34.63 3 P P 05 58 11.3 +5.5
J58A IAmb IAmb 05 58 13.9
comp=Z,11nm,1.2s
KSU1 Kansas State U 34.67 334 P P 05 58 05.3 -0.9
KSU1 Kansas State U 34.67 334 P P 05 58 04.8 -1.4
baz=146
R32A Long Quarter, 35.08 331 P P 05 58 12.3 +2.5
JFWS Jewell Farm 35.81 344 IAmb IAmb 05 58 23.9
comp=Z,8.3nm,0.8s
JFWS Jewell Farm 35.81 344 P P 05 58 19.6 +3.6
baz=159
I63A Otisfield 35.81 9 P P 05 58 21.7 +5.7
baz=192
CBKS Cedar Bluff 35.89 330 P P 05 58 19.3 +2.6
CBKS Cedar Bluff 35.89 330 P P 05 58 21.9 +5.2
baz=141,SNR=5.2
LONY Lake Ozonia 35.93 4 P P 05 58 18.6 +1.7
LONY IAmb IAmb 05 58 26.2
comp=Z,11nm,1.1s
LONY Lake Ozonia 35.93 4 P P 05 58 23.5 +6.5
baz=185
SADO Sadowa 35.98 358 P P 05 58 17.7 +0.3
comp=Z,4.7nm,0.9s,baz=280,slow=4.2,SNR=3.6
SADO Sadowa 35.98 358 IAmb IAmb 05 58 25.1
comp=Z,6.7nm,0.7s
PLVO Plevna 36.24 1 P P 05 58 21.1 +1.4
PLVO IAmb IAmb 05 58 26.9
comp=Z,6.9nm,0.7s
AC02 Maricunga 36.29 167 P P 05 58 21.5 +0.7
AC02 IAmb IAmb 05 58 22.2
comp=Z,7.3nm,0.9s
K38A Parkersburg 36.30 341 P P 05 58 22.3 +2.1
I42A Draeger Farm, 36.39 346 P P 05 58 22.4 +1.4
I42A IAmb IAmb 05 58 40.8
comp=Z,13nm,1.0s
121A Cookes Peak, D 36.50 315 P P 05 58 21.7 -0.5
121A Cookes Peak, D 36.50 315 P P 05 58 27.2 +5.0
baz=124
BNM Barren Site 36.65 318 P P 05 58 23.7 +0.1
319A Douglas 36.95 312 P P 05 58 26.1 +0.1
319A IAmb IAmb 05 58 52.6
comp=Z,7.0nm,0.8s
L34A Svendsen Farm, 36.98 337 P P 05 58 27.2 +1.3
L34A IAmb IAmb 05 58 30.4
comp=Z,10nm,0.7s
ANMO Albuquerque 37.02 319 P P 05 58 26.7 0.0
ANMO Albuquerque 37.02 319 P P 05 58 27.1 +0.5
baz=128
T25A Trinidad 37.18 324 P P 05 58 29.1 +1.0
T25A IAmb IAmb 05 58 36.2
comp=Z,12nm,1.3s
T25A Trinidad 37.18 324 P P 05 58 33.8 +5.8
baz=133
KSCO Kaye Shedlock' 37.51 328 P P 05 58 31.6 +0.9
BDFB Brasilia 38.16 129 P P 05 58 35.0 -1.4
comp=Z,5.1nm,0.8s,baz=309,slow=6.4,SNR=5.9
BDFB Brasilia 38.16 129 IAmb IAmb 05 58 46.9
comp=Z,22nm,1.4s
SDCO Great Sand Dun 38.23 324 P P 05 58 37.8 +0.8
SDCO IAmb IAmb 05 58 44.3
comp=Z,15nm,1.2s
SDCO Great Sand Dun 38.23 324 P P 05 58 37.9 +0.9
baz=132,SNR=8.6
E62A Clayton Lake 38.48 9 P P 05 58 45.6 +6.9
baz=193
TUC Tucson 38.53 312 P P 05 58 39.6 +0.2
TUC Tucson 38.53 312 P P 05 58 40.0 +0.6
baz=120
ECSD EROS Data Cent 38.58 338 P P 05 58 42.0 +2.5
ECSD IAmb IAmb 05 58 44.0
comp=Z,6.5nm,0.7s
ECSD EROS Data Cent 38.58 338 P P 05 58 43.2 +3.7
baz=149,SNR=7.4
S22A 4UR Ranch, Cre 39.02 322 P P 05 58 45.0 +1.3
baz=131
W18A Petrified Fore 39.29 317 IAmb IAmb 05 58 54.2
comp=Z,24nm,1.4s
W18A Petrified Fore 39.29 317 P P 05 58 47.4 +1.6
baz=125
F36A Milaca 39.44 343 P P 05 58 45.3 -1.4
IPMB Ipameri, GO 39.47 132 eP P 05 58 45.7 -1.6
ISCO Idaho Springs 39.70 326 P P 05 58 49.1 -0.2
ISCO Idaho Springs 39.70 326 P P 05 58 50.7 +1.5
baz=134,SNR=6.2
MVCO Mesa Verde 39.72 320 P P 05 58 48.8 -0.5
baz=128
214A Organ Pipe Nat 39.86 311 P P 05 58 51.0 +0.5
214A Organ Pipe Nat 39.86 311 P P 05 58 52.2 +1.8
baz=118
CO03 El Pedregal 39.88 170 P P 05 58 50.0 -0.6
CO03 IAmb IAmb 05 58 51.0
comp=Z,14nm,1.1s
SMCO Snowmass 40.05 324 P P 05 58 52.8 +0.5
CPUP Villa Florida 40.09 151 LR LR 06 17 20.0
comp=Z,174nm,18.4s,baz=331,slow=39
F33A 5 Mile Ranch, 40.30 340 P P 05 58 55.3 +1.6
PV15 Paradox Valley 40.41 322 IAmb IAmb 05 59 02.5
comp=Z,24nm,1.1s

PV02 Paradox Valley 40.48 321 IAmb IAmb 05 59 03.0
comp=Z,32nm,1.4s
PV07 Paradox Valley 40.57 322 IAmb IAmb 05 59 03.7
comp=Z,14nm,0.9s
PV12 Saucer Basin, 40.59 322 IAmb IAmb 05 59 05.5
comp=Z,17nm,1.1s
PV18 Skein Mesa, Pa 40.61 321 P **P 05 58 57.7 +0.9**
PV18 IAmb IAmb 05 59 03.2
comp=Z,8.8nm,0.7s
PV11 David Mesa, Pa 40.62 321 P **P 05 58 56.6 -0.2**
WUAZ Wupatki 40.63 316 P **P 05 58 57.1 +0.2**
WUAZ Wupatki 40.63 316 P **P 05 58 59.1 +2.2**
baz=123,SNR=5.3
PHWY Pilot Hill 40.66 328 pP 05 59 02.9 +0.9
PV04 Paradox Valley 40.70 322 IAmb IAmb 05 59 05.5
comp=Z,25nm,1.4s
JANB Januaria 40.75 125 *e*P **P 05 58 56.7 -1.2**
PV14 Lion Creek, Pa 40.76 321 pP 05 59 03.0 +0.2
ZON Zonda 40.94 168 P **P 05 58 58.5 -0.7**
Y14A Wickenburg 40.95 313 P **P 05 59 00.3 +0.8**
O20A White River Ci 41.41 324 P **P 05 59 03.4 +0.1**
U15A North Rim 41.74 317 P **P 05 59 06.8 +0.6**
MC01 Montes Claros 41.96 127 *e*P **P 05 59 06.4 -1.5**
RSSD Black Hills 42.03 332 P **P 05 59 07.8 -0.5**
SRU San Rafael Swe 42.14 321 P **P 05 59 09.8 +0.5**
SRU IAmb IAmb 05 59 16.0
comp=Z,11nm,1.2s
NBPN Ponto Novo - B 42.18 117 *e*P **P 05 59 08.6 -1.2**
KNB Kanab 42.42 317 P **P 05 59 12.6 +1.0**
P17A Butcher Ranch, 42.49 322 IAmb IAmb 05 59 19.0
comp=Z,13nm,1.3s
E28A Huff 42.53 337 IAmb IAmb 05 59 17.2
comp=Z,13nm,0.7s
TMUT Trail Mountain 42.67 321 P **P 05 59 17.7 +3.9**
LCMT Little Creek M 42.70 317 P **P 05 59 13.9 +0.1**
MSU Marysvale 42.83 319 P **P 05 59 15.7 +0.7**
MVU Marysvale 42.85 319 P **P 05 59 15.2 +0.1**
DIAM Diamantina, MG 43.08 129 *e*P **P 05 59 15.6 -1.5**
MDND Maddock 43.18 339 P **P 05 59 22.0 +4.6**
baz=148,SNR=6.5
MPU Maple Canyon 43.37 322 P **P 05 59 20.0 +0.8**
NLU North Lily Min 43.60 321 P **P 05 59 21.9 +0.7**
JLU Jordanelle 43.61 322 P **P 05 59 21.8 +0.6**
JLU IAmb IAmb 05 59 29.0
comp=Z,15nm,1.5s
SHPR Sheep Range 43.76 315 P **P 05 59 22.7 +0.3**
CTU Camp Tracy 43.84 322 P **P 05 59 22.9 -0.2**
PD31 Pinedale Array 43.89 326 P **P 05 59 23.2 -0.3**
PDAR Pinedale Array 43.89 326 P **P 05 59 24.2 +0.8**
comp=Z,2.7nm,0.9s,baz=125,slow=13,SNR=7.4
BW06 Boulder Array 43.89 326 pP 05 59 28.5 +0.2
BW06 Boulder Array 43.89 326 P P 05 59 28.4 +4.9
baz=132,SNR=5.5
TCUT Toone Canyon 43.90 323 P **P 05 59 23.5 -0.1**
TCUT IAmb IAmb 05 59 30.0
comp=Z,13nm,0.8s
PSUT Pine Spring 43.93 318 P **P 05 59 24.8 +1.0**
PSUT IAmb IAmb 05 59 31.1
comp=Z,12nm,1.2s
GDU01 Guandu, BA 44.02 120 *e*P **P 05 59 24.0 -0.5**
ULM Lac du Bonnet 44.08 343 P **P 05 59 26.2 +1.7**
comp=Z,2.9nm,0.5s,baz=147,slow=16,SNR=9.3
ULM LR LR 06 19 34.2
comp=Z,134nm,18.1s,baz=130,slow=38
ULM Lac du Bonnet 44.08 343 IAmb IAmb 05 59 48.3
comp=Z,17nm,1.5s
DUG Dugway, Tooele 44.20 321 IAmb IAmb 05 59 32.4
comp=Z,5.6nm,0.8s
DUG Dugway, Tooele 44.20 321 P **P 05 59 26.9 +1.0**
baz=126,SNR=6.6
HWUT Hardware Ranch 44.29 323 IAmb IAmb 05 59 44.7
comp=Z,9.1nm,1.3s
SPR3 Spring Creek 3 44.50 319 P **P 05 59 28.8 +0.3**
SPR3 IAmb IAmb 05 59 35.3
comp=Z,14nm,1.4s
SPUT South Promonto 44.64 322 P **P 05 59 29.0 -0.4**
SPUT IAmb IAmb 05 59 37.9
comp=Z,8.9nm,1.3s
TPNV Topopah Spring 44.74 315 P **P 05 59 32.3 +2.1**
AHID Auburn Hatcher 44.75 325 IAmb IAmb 05 59 36.0
comp=Z,6.7nm,0.9s
R11A Troy Canyon, C 44.99 317 P **P 05 59 33.6 +1.3**
baz=121
SNOW Snow King Moun 45.01 326 P **P 05 59 32.7 +0.2**
SNOW IAmb IAmb 05 59 39.0
comp=Z,15nm,1.1s
LOHW Long Hollow 45.02 326 IAmb IAmb 05 59 39.8
comp=Z,6.7nm,1.0s
TPAW Teton Pass 45.13 326 P **P 05 59 33.0 -0.4**
TPAW IAmb IAmb 05 59 38.4
comp=Z,4.9nm,0.8s
MOOW Moose Ponds 45.19 326 IAmb IAmb 05 59 40.1
comp=Z,5.4nm,0.8s
MPMC Manual Prospec 45.20 313 P **P 05 59 37.9 +3.9**
baz=117
FXWY Fox Creek 45.27 326 P **P 05 59 34.4 -0.1**
FXWY IAmb IAmb 05 59 40.8
comp=Z,7.5nm,1.0s
RLMT Red Lodge 45.33 329 P **P 05 59 34.9 0.0**
RLMT IAmb IAmb 05 59 41.0
comp=Z,12nm,1.4s
RLMT Red Lodge 45.33 329 P **P 05 59 34.6 -0.2**
baz=134
IMW Indian Meadow 45.39 326 P **P 05 59 36.1 +0.6**
IMW IAmb IAmb 05 59 41.3
comp=Z,5.7nm,0.7s
YNE Yellowstone No 45.63 328 pP 05 59 42.2 +0.1
ARVC Arvin 45.77 311 P **P 05 59 39.7 +1.4**
baz=115
ELK Elko 46.04 320 P **P 05 59 42.7 +2.0**
VES Vestal, Richgr 46.26 312 P **P 05 59 43.8 +1.6**
baz=116
QLMT Earthquake Lak 46.27 327 P **P 05 59 42.6 +0.2**
NV11 Mina Array Sit 46.78 316 P **P 05 59 46.8 +0.5**
NV11 IAmb IAmb 05 59 53.4
comp=Z,7.7nm,1.1s
SCHQ Schefferville 46.87 9 P **P 05 59 49.4 +2.7**
comp=Z,13nm,0.8s,baz=193,slow=6.9,SNR=13
SCHQ LR LR 06 21 43.1
comp=Z,99nm,18.0s,baz=174,slow=39
BOZ Bozeman (W) 46.88 328 P **P 05 59 47.5 +0.5**
BOZ IAmb IAmb 05 59 53.1
comp=Z,5.5nm,0.7s
BOZ Bozeman (W) 46.88 328 P **P 05 59 47.6 +0.6**
baz=131,SNR=6.1
NVAR Mina Array Bea 46.88 316 P **P 05 59 49.0 +1.7**
comp=Z,4.7nm,1.1s,baz=130,slow=7.2,SNR=11
NVAR PcP **PcP 06 01 20.5 +0.5**
comp=Z,1.6nm,0.7s,baz=135,slow=4.3,SNR=6.0
NVAR LR LR 06 22 18.0
comp=Z,126nm,18.6s,baz=126,slow=40
NVAR Mina Array Bea 46.88 316 P **P 05 59 47.0 -0.2**
NVAR **PcP 06 01 20.1 +0.1**
LHV Little Huntoon 46.93 315 P **P 05 59 48.4 +1.1**
LHV IAmb IAmb 05 59 58.3
comp=Z,8.7nm,1.1s
KVN Kaiserville 47.04 317 P **P 05 59 48.7 +0.3**
KVN IAmb IAmb 05 59 54.9
comp=Z,6.6nm,1.3s
MCMT McKenzie Canyo 47.04 326 P **P 05 59 49.6 +1.2**
RYN Ryan 47.12 316 P **P 05 59 50.1 +1.0**
RYN IAmb IAmb 05 59 55.9
comp=Z,5.4nm,1.1s
BMN Battle Mountai 47.15 319 P **P 05 59 49.3 +0.1**
BMN IAmb IAmb 05 59 54.8
comp=Z,5.8nm,1.0s
HLID Hailey 47.15 324 P **P 05 59 49.1 -0.2**
HLID Hailey 47.15 324 P **P 05 59 49.8 +0.6**
baz=127
DLMT Dillon 47.24 327 P **P 05 59 49.9 +0.1**
DLMT IAmb IAmb 05 59 56.7
comp=Z,6.7nm,1.1s
LC01 Cunco 47.64 174 P **P 05 59 51.7 -1.1**
HRY Holter Researc 47.72 329 P **P 05 59 53.9 +0.4**
YERR Yerington 47.79 316 P **P 05 59 54.7 +0.4**
YERR IAmb IAmb 06 00 01.2
comp=Z,13nm,1.4s
MFID Camas Ranch 47.90 323 IAmb IAmb 06 00 01.5
comp=Z,8.1nm,0.9s
TRQA Tornquist 48.79 163 *e*P **P 06 00 00.6 -1.1**
MSO Missoula 48.90 328 P **P 06 00 07.2 +4.5**
baz=130
WVOR Wild Horse Val 49.09 320 IAmb IAmb 06 00 10.7
comp=Z,12nm,1.1s
J08A Circle Bar Ran 49.48 321 P **P 06 00 07.0 -0.1**
J08A IAmb IAmb 06 00 13.8
comp=Z,12nm,1.3s
PLCA Paso Flores 49.61 173 P **P 06 00 07.0 -1.0**
comp=Z,5.7nm,0.9s,baz=356,slow=9.5,SNR=8.9
PLCA PcP **PcP 06 01 28.8 -0.7**
comp=Z,1.4nm,0.9s,baz=117,slow=4.5,SNR=3.0
PLCA LR LR 06 20 55.0
comp=Z,121nm,20.8s,baz=354,slow=36
PLCA Paso Flores 49.61 173 IAmb IAmb 06 00 07.5
comp=Z,8.2nm,0.9s
PLCA **PcP 06 01 29.1 -0.4**
PLCA Paso Flores 49.61 173 *e*P **P 06 00 07.4 -0.6**
G08A Pilot Rock 50.81 323 P **P 06 00 17.8 +0.5**
E09A Wood Farm, Sta 51.02 325 P **P 06 00 18.6 0.0**
E09A IAmb IAmb 06 00 24.6
comp=Z,14nm,1.2s
PINE Pine Mountain 51.24 321 P **P 06 00 20.4 -0.1**
PINE IAmb IAmb 06 00 25.3
comp=Z,16nm,1.5s
L04D Klamath Falls 51.36 318 P **P 06 00 25.6 +4.2**
baz=118
NEW Newport 51.48 327 pP 06 00 26.7 -0.2
NEW Newport 51.48 327 P **P 06 00 26.6 +4.5**
baz=127
J04D Umpqua Nationa 51.71 319 P **P 06 00 27.0 +2.9**
baz=119
H04A Detroit Lake 52.46 321 IAmb IAmb 06 00 58.5
comp=Z,6.9nm,1.1s
B08A Colville Reser 52.73 326 P **P 06 00 30.9 -0.4**
B08A IAmb IAmb 06 00 37.3
comp=Z,9.5nm,1.1s
EDM Edmonton 52.87 334 IAmb IAmb 06 00 37.2
comp=Z,9.2nm,0.7s
LTY Liberty 52.87 324 pP 06 00 37.0 -0.4
LON Longmire 53.27 323 pP 06 00 40.2 -0.1
YKA Yellowknife Ar 59.98 341 P **P 06 01 22.2 -0.5**
comp=Z,3.7nm,1.0s,baz=128,slow=7.0,SNR=5.6
YKA Yellowknife Ar 59.98 341 P **P 06 01 25.1 +2.4**
DLBC Dease Lake 63.50 332 P **P 06 01 46.8 +0.2**
DLBC IAmb IAmb 06 01 53.0
comp=Z,4.6nm,0.8s
ICESG Greenland Ices 65.25 14 *i* P **P 06 01 58.3 0.0**
ICESG *i* 06 02 03.4
MMPY Sheldon Lake, 66.10 336 P P 06 02 08.8 +5.3
baz=120
HYT Haines Junctio 67.96 333 P P 06 02 21.6 +6.1
baz=113
SUMG Summit 68.10 12⇑*i*P **P 06 02 16.5 0.0**
SUMG IAmb IAmb 06 02 18.1
comp=Z,10nm,1.0s
SUMG *i* 06 02 22.6
SUMG Summit 68.10 12 P **P 06 02 16.5 0.0**
YUK3 Moose Creek 69.64 333 P **P 06 02 26.3 +0.2**
baz=111
INK Inuvik 69.74 341 P **P 06 02 26.0 -0.2**
comp=Z,2.0nm,0.8s,baz=117,slow=13,SNR=4.2
INK Inuvik 69.74 341 P **P 06 02 26.4 +0.1**
INK IAmb IAmb 06 02 35.5
comp=Z,7.0nm,1.1s
EPYK Eagle Plains 69.94 338 P **P 06 02 28.2 +0.6**
EPYK IAmb IAmb 06 02 33.6
comp=Z,5.9nm,0.9s
DAWY Dawson 70.03 336 P **P 06 02 28.4 +0.2**
DAWY IAmb IAmb 06 02 34.5
comp=Z,11nm,1.5s
DAWY Dawson 70.03 336 P **P 06 02 27.8 -0.4**
baz=112
NEEM North Greenlan 70.17 6 *i* P **P 06 02 29.4 +0.3**
NEEM IAmb IAmb 06 02 30.8
comp=Z,23nm,1.1s
NEEM *i* 06 02 35.4
M27K Edge Creek, AK 70.47 334 P **P 06 02 31.8 +0.8**
M27K IAmb IAmb 06 02 38.3
comp=Z,7.9nm,1.0s
M27K Edge Creek, AK 70.47 334 P **P 06 02 31.8 +0.7**
baz=110,SNR=5.1
CRQE Cirque 70.50 332 P **P 06 02 32.0 +0.8**
baz=108
CRQM Cirque 70.53 332 P **P 06 02 31.2 -0.3**
MCARA McCarthy VSAT 70.67 332 P **P 06 02 32.9 +0.8**
MCARA McCarthy VSAT 70.67 332 P **P 06 02 33.1 +1.0**
baz=108
L27K Beaver Creek, 70.68 334 P **P 06 02 33.0 +0.8**
L27K Beaver Creek, 70.68 334 P **P 06 02 32.9 +0.7**
baz=110
M26K Nabesna, AK 70.97 333 P **P 06 02 34.7 +0.7**
M26K IAmb IAmb 06 02 39.2
comp=Z,6.9nm,0.9s
M26K Nabesna, AK 70.97 333 P **P 06 02 34.6 +0.6**
baz=108
EGAK Eagle 71.00 336 P **P 06 02 34.0 0.0**
EGAK IAmb IAmb 06 02 41.9
comp=Z,6.6nm,1.0s
EGAK Eagle 71.00 336 P **P 06 02 33.9 -0.1**
baz=111
K27K Chicken 71.11 335 P **P 06 02 35.3 +0.6**
K27K IAmb IAmb 06 02 41.5
comp=Z,6.6nm,1.1s
K27K Chicken 71.11 335 P **P 06 02 35.2 +0.5**
baz=110
SCRK Sand Creek 71.89 335 P **P 06 02 39.8 +0.2**
SCRK IAmb IAmb 06 02 57.2
comp=Z,5.0nm,0.7s
TIC Toumodi 72.11 86 *e*P **P 06 02 42.1 +0.4**
ESDC Sonseca Array 72.12 51 P **P 06 02 42.2 +0.8**
comp=Z,4.5nm,1.0s,baz=271,slow=5.3,SNR=18
ESDC Sonseca Array 72.12 51 P **P 06 02 42.1 +0.7**
ESDC IAmb IAmb 06 02 43.3
comp=Z,11nm,1.2s
LIC Lamto 72.15 86 *e*P **P 06 02 41.3 -0.6**
comp=Z,75nm,1.5s
RIDG Independent Ri 72.19 335 P **P 06 02 41.1 -0.2**
DBIC Dimbokro 72.27 86 P **P 06 02 42.5 -0.1**
comp=Z,5.0nm,1.0s,baz=237,slow=8.0,SNR=4.2
DBIC LR LR 06 32 58.2
comp=Z,40nm,20.3s,baz=288,slow=35
DBIC Dimbokro 72.27 86 IAmb IAmb 06 02 43.4
comp=Z,16nm,1.1s
KOWA Kowa 72.31 78 P **P 06 02 43.1 +0.3**
comp=Z,4.8nm,0.7s,baz=280,slow=5.6,SNR=14
KOWA Kowa 72.31 78 P **P 06 02 40.1 -2.8**
KOWA IAmb IAmb 06 02 44.3
comp=Z,5.9nm,0.8s
KIC Kosan Boka 72.42 86 *e*P **P 06 02 44.2 +0.7**
comp=Z,42nm,1.2s
PRP Porcupine Dome 72.99 336 P **P 06 02 45.6 -0.6**
PRP IAmb IAmb 06 02 52.4
comp=Z,5.9nm,0.8s
BMAR Burnt Mountain 73.21 338 P **P 06 02 46.8 -0.5**
ILAR Eielson Array 73.33 335 LR LR 06 37 23.6
comp=Z,106nm,20.6s,baz=158,slow=38
CCB Clear Creek Bu 73.68 335 P **P 06 02 48.7 -1.3**
COLA College 73.76 335 P **P 06 02 50.5 +0.1**
COLA IAmb IAmb 06 03 02.2
comp=Z,6.4nm,0.7s
TCOL CIGO, UAF Yank 73.76 335 P **P 06 02 50.4 -0.1**
TCOL IAmb IAmb 06 03 02.2
comp=Z,6.0nm,0.7s
RND Reindeer 73.83 334 P **P 06 02 51.6 +0.6**
MDM Murphy Dome 73.93 335 P **P 06 02 51.4 -0.2**
MDM IAmb IAmb 06 03 13.8
comp=Z,6.0nm,1.1s
MCK McKinley 73.94 334 P **P 06 02 51.9 +0.2**
PMSA Palmer Station 73.97 174 *e*P **P 06 02 51.1 -0.4**
H24K Noodor Dome 74.01 336 P **P 06 02 52.1 +0.1**
H24K IAmb IAmb 06 02 58.6
comp=Z,5.7nm,0.9s
EKA Eskdalemuir Ar 74.21 35 P **P 06 02 53.7 +0.3**
comp=Z,3.4nm,1.0s,baz=248,slow=4.4,SNR=5.1
H23K Yukon River 74.67 336 IAmb IAmb 06 03 03.5
comp=Z,5.8nm,0.9s
COLD Coldfoot 75.25 337 IAmb IAmb 06 03 06.3
comp=Z,5.1nm,1.0s
IMAR Indian Mountai 76.40 336 P **P 06 03 04.8 -1.0**
TORD Torodi Ar. Bea 77.96 78 P **P 06 03 14.9 -0.5**
comp=Z,1.2nm,0.7s,baz=285,slow=5.1,SNR=6.8
TORD LR LR 06 39 21.1
comp=Z,26nm,18.5s,baz=265,slow=37
TORD Torodi Ar. Bea 77.96 78 P **P 06 03 14.9 -0.5**
NB2 NORSAR Subarra 82.03 29 P P 06 03 43.7 +7.1
comp=Z,1.2nm,0.7s,baz=272,slow=5.3
NOA NORSAR Array B 82.03 29 P **P 06 03 38.0 +1.4**
comp=Z,2.0nm,0.9s,baz=274,slow=5.5,SNR=5.0
NOA LR LR 06 38 24.7
comp=Z,54nm,18.9s,baz=70,slow=34
DAVOX Davos/Dischmat 82.20 44 P **P 06 03 38.6 +0.6**
comp=Z,1.1nm,0.3s,baz=249,slow=10,SNR=3.2
UNV Unalaska Valle 82.28 323 P **P 06 03 37.9 -0.1**
CLL Collm 83.84 39 *i* P **P 06 03 47.3 +1.1**
comp=Z,11nm,1.4s
CLL *e*sP **sP 06 03 53.0 -0.1**
CLL Lm MLR 06 59 00.0
comp=Z,100nm,20.0s
KHC Kasperske Hory 84.45 41 *e*P **P 06 03 50.5 +1.1**
BRG Berggiesshubel 84.48 40 *e*P **P 06 03 51.0 +1.6**
BRG Amp 06 03 52.6
comp=Z,5.9nm,1.0s
GERES GERESS Array B 84.56 42 P **P 06 03 50.3 +0.2**
comp=Z,1.0nm,0.7s,baz=215,slow=1.6,SNR=5.5
GERES GERESS Array B 84.56 42 P **P 06 03 49.2 -0.9**
KRUC Moravsky 86.29 41 *e*P **P 06 04 00.0 +1.5**
VRAC Vranov 86.38 41 *e*P **P 06 04 00.5 +1.5**
ARCES ARCESS Array B 86.57 20 P **P 06 03 60.0 +0.5**
comp=Z,3.9nm,0.7s,baz=280,slow=3.9,SNR=12
ARCES ARCESS Array B 86.57 20 P **P 06 04 00.1 +0.6**
FINES FINESS Array B 89.03 28 P **P 06 04 11.6 +0.2**
comp=Z,6.9nm,1.1s,baz=271,slow=8.6,SNR=3.9
VNA3 Neumayer Olymp 91.30 163 P **P 06 04 20.5 -1.2**
VNA1 Neumayer--Stat 91.50 162 P **P 06 04 21.8 -0.8**
VNA2 Neumayer--Watz 91.87 162 P **P 06 04 23.0 -1.3**
baz=313,slow=4.3
SNAA Sanae 93.50 162 P **P 06 04 30.8 -1.2**
SNAA Sanae 93.50 162 P **P 06 04 31.0 -1.0**
SONM Songino Array 123.62 357 PKP **PKPdf 06 10 13.5 -1.1**
comp=Z,0.6nm,0.6s,baz=322,slow=4.2,SNR=2.3
KSRS Korea Array 128.17 334 PKP **PKPdf 06 10 22.2 -1.1**
comp=Z,1.5nm,0.7s,baz=10,slow=0.7,SNR=3.3
STKA Stephens Creek 136.74 232 PKP **PKPdf 06 10 39.2 -0.4**
comp=Z,4.5nm,0.9s,baz=25,slow=4.7,SNR=4.6
HYB Hyderabad 145.13 42 *i* PKP **PKPbc 06 10 54.0 -0.6**
HYB *e*pPKP **PKiKP 06 10 59.0 0.0**
ASAR Alice Springs 146.16 240 PKPbc **PKPdf 06 10 56.0 -0.8**
comp=Z,12nm,0.9s,baz=117,slow=3.7,SNR=66
WRA Warramunga Arr 146.93 247 PKPbc **PKPdf 06 10 57.3 -0.8**
comp=Z,14nm,0.8s,baz=109,slow=3.9,SNR=28
WRA Warramunga Arr 146.93 247 PKPdf **PKPdf 06 10 56.7 -1.4**
CMAR Chiang Mai Arr 152.86 7 PKP **PKPdf 06 11 06.8 -0.8**
comp=Z,1.3nm,0.3s,baz=316,slow=3.8,SNR=4.3
CMAR PKPab **PKPab 06 11 26.4 +0.9**
comp=Z,3.3nm,0.8s,baz=330,slow=5.2,SNR=5.6
FITZ Fitzroy Crossi 155.33 245 PKP **PKPdf 06 11 08.1 -2.8**
comp=Z,4.2nm,1.2s,baz=177,slow=2.3,SNR=3.8
FITZ Fitzroy Crossi 155.33 245 **PKPdf 06 11 08.3 -2.7**

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*IDC **07** 05:55:39.2±0.4, 11.°37N×139.°58E, h0km, mb4.7/42, mb1 4.8/44, mb1mx4.7/55, mbtmp4.8/44, ML4.6/2, MS4.0/27, Ms1 4.0/27, ms1mx3.9/40, Error ellipse: s-maj=14.4km s-min=9.2km az=82.0*

*DJA **07** 05:55:41.4±0.4, 11°N±3°×13°9E±°, h12km±2km, M5.5/35, mb4.9/35, mB5.9/13, MLv5.6/1, Mw(mB)5.5/13, MwMwp6.2/1, Mwp6.2/1*

*BJI **07** 05:55:43.5±0.0, 11.°52N×139.°76E, h41km, mB5.1/39, mb5.0/68, Ms4.3/43, Ms7 4.2/42*

*GCMT **07** 05:55:44.7±0.3, 11.°37N±0.°03×139.°56E±0.°02, h25km±1km, MW4.9/81, Moment Tensor Solution. s12,c16; s81,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.00±.22; $M_{\theta\theta}$-0.91±.13; $M_{\phi\phi}$2.91±.14; $M_{r\theta}$-1.84±.32; $M_{\theta\phi}$-0.81±.09; $M_{\phi r}$0.24±.23; Best double couple: $M_0$3.27100×10^{16} NP1:ϕ_s19.00000°, δ49.00000°, λ-38.00000°. NP2: ϕ_s137.00000°, δ62.00000°, λ-132.00000°. Principal axes: T 3.1560, Plg8.0000°, Azm255.0000°; N 0.2350, Plg36.0000°, Azm160.0000°; P -3.3860, Plg53.0000°, Azm356.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **07** 05:55:46.7±1.6, 11.°42N±0.°05×139.°62E±0.°08, h48km±6km, mb4.9/166 Error ellipse: s-maj=13.2km s-min=3.5km az=118.0*

ISC 07 05:55:43.1±0.8**, 11.°33N**±0.°04×**139.°55E**±0.°05**, h24**km±5km**, n447, σ1.°33**/444**, mb4.9**/183**, MS4.1**/36**, 2C-1D, Western Caroline Islands**

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

GUMO Guam 5.66 66 Pn **Pn 05 57 06.1 +0.3**
18nm,0.3s,baz=235,slow=4.1,SNR=19
GUMO Sn **Sn 05 58 11.0 +0.8**
30nm,0.3s,baz=90,slow=19,SNR=1.8
GUMO LR LR 05 58 53.1
comp=Z,602nm,18.4s,baz=248,slow=34
GUMO T T 06 02 57.8
26nm,0.3s,baz=195,slow=19,SNR=4.9
GUMO Guam 5.66 66 Pn **Pn 05 57 06.2 +0.3**
GUMO Sn **Sn 05 58 09.3 -0.8**
ANA2 Anatahan 7.79 50 **Pn 05 57 36.5 +1.5**
BAKI Biak 12.90 196 P **Pn 05 58 45.2 +0.1**
44nm,1.2s
JAY Jayapura 13.80 175 Pn **Pn 05 59 01.3 +3.9**
4.7nm,0.3s,baz=264,slow=6.8,SNR=17
JAY Sn **Sn 06 01 26.5 -3.6**
0.8nm,0.3s,baz=135,slow=14,SNR=1.2
JAY LR LR 06 03 21.2
comp=Z,1μm,18.0s,baz=2.5,slow=33
GENI Genyem 13.84 177 P **Pn 05 58 58.7 +0.7**
61nm,0.6s
DAV Davao City (W) 14.42 254 LR LR 06 05 37.5
comp=Z,273nm,18.0s,baz=144,slow=41
SIJI Sorong 14.65 215 LR LR 06 03 56.8
comp=Z,303nm,18.8s,baz=47,slow=34
JCJ Chichijima 15.88 9 Pn **Pn 05 59 24.6 -0.6**
2.3nm,0.3s,baz=66,slow=20,SNR=1.3
JCJ LR LR 06 04 10.9
comp=Z,298nm,20.9s,baz=134,slow=32
JCJ Chichijima 15.88 9 IAmb IAmb 05 59 30.9
comp=Z,161nm,1.0s
FAKI Fak Fak 15.91 208 Pn **P 05 59 28.7 -0.3**
FAKI IAmb IAmb 05 59 32.4
comp=Z,58nm,1.0s
JMZ Minamidaito 2 16.42 333 **P 05 59 33.5 -1.2**
KRAI Karang Ratu 18.30 218 P **P 05 59 53.1 -2.4**
comp=Z,55nm,1.1s
JOW Kunigami 18.72 327 P **P 05 59 59.3 -0.8**
JOW IAmb IAmb 06 00 09.0
comp=Z,78nm,1.0s
MRSI Marisa 20.54 240 P **P 06 00 18.9 -1.2**
comp=Z,3μmcomp=Z,237nm,1.2s
MRSI pP Pn 06 00 22.8 +0.5
comp=Z,3μmcomp=Z,237nm,1.2s
SAUI Saumlaki 20.86 204 P Pn 06 00 26.4 +0.3
TWG Pinlang 21.00 305 P **P 06 00 27.6 +2.5**
TWG IAmb IAmb 06 01 03.9
comp=Z,105nm,1.5s
YULB Yu-li 21.12 307 P **P 06 00 26.8 +0.5**
YULB IAmb IAmb 06 00 34.5
comp=Z,41nm,1.0s
TOLI2 Tolitoli 21.21 243 P **P 06 00 29.2 +1.9**
TOLI2 IAmb IAmb 06 00 57.5
comp=Z,97nm,1.5s
NACB Ninganchiao 21.31 309 P **P 06 00 26.8 -1.4**
NACB IAmb IAmb 06 00 36.1
comp=Z,141nm,1.7s
APSI Ampana 21.55 237 P **P 06 00 30.7 -0.2**
comp=Z,892nmcomp=Z,81nm,0.9s
SSLB Suanglung 21.59 307 P **P 06 00 32.8 +1.4**
TPUB Ta-pu 21.60 306 P **P 06 00 31.5 +0.1**
TPUB IAmb IAmb 06 00 34.6
comp=Z,51nm,0.8s
JHJ2 Mitsune 21.68 1 P **P 06 00 32.0 -0.1**
YHNB Yeheng 21.75 310 P **P 06 00 34.2 +1.1**
YHNB IAmb IAmb 06 00 38.2
comp=Z,78nm,1.1s
JSU Suzuyama 21.77 339 P **P 06 00 32.0 -1.1**
MPSI Mapaga 22.36 242 P **P 06 00 39.5 -0.2**
comp=Z,1μmcomp=Z,55nm,1.6s
MPSI pP **pP 06 00 41.6 -4.5**
comp=Z,1μmcomp=Z,55nm,1.6s
JMN Monobe 22.89 348 P **P 06 00 45.6 +0.5**
JNU Nakatsue 23.10 341 P **P 06 00 47.3 0.0**
comp=Z,74nm,0.9s,baz=139,slow=3.8,SNR=18
JNU LR LR 06 08 30.9
comp=Z,282nm,20.8s,baz=120,slow=33
JNU Nakatsue 23.10 341 P **P 06 00 46.6 -0.8**
INU Inuyama 24.02 355 P **P 06 00 54.6 -1.6**
INU IAmb IAmb 06 00 57.1
comp=Z,46nm,1.0s
JWT Wachi 24.14 352 P **P 06 00 57.1 -0.2**
TTSI Tana Toraja 24.27 235 P **P 06 00 58.5 -0.2**

comp=Z,58nm,1.1s
TTSI pP **pP** **06 01 01.4 -3.8**
comp=Z,58nm,1.1s
JHS **Saijyo** **24.28 347** P **P**
JHS IAmb IAmb 06 01 00.9
comp=Z,62nm,1.1s
JYT **Yasato** **24.80 1** P **P** **06 01 01.9 -1.4**
BNSI **Bone** **24.86 232** P **P** **06 01 03.5 -0.6**
comp=Z,58nm,1.1s
MJAR **Matsushiro Arr** **25.13 357** P **P** **06 01 04.5 -1.8**
comp=Z,10nm,1.0s,baz=175,slow=11,SNR=13
MJAR LR LR 06 09 58.7
comp=Z,239nm,18.6s,baz=145,slow=34
MAJO **Matsushiro** **25.13 357** P **P** **06 01 04.8 -1.5**
MAJO IAmb IAmb 06 01 06.7
comp=Z,21nm,0.9s
MAT **Matsushiro** **25.13 357** P **P** **06 01 03.7 -2.6**
COEN **Coen** **25.38 172** P **P** **06 01 10.9 +2.2**
COEN IAmb IAmb 06 01 23.5
comp=Z,54nm,1.6s
BKSI **Bulukumba** **25.44 230** P **P** **06 01 09.7 +0.4**
comp=Z,15nm,1.0s
KAPI **Kappang** **25.52 232** P **P** **06 01 09.4 -0.7**
comp=Z,2.4nm,0.4s,baz=68,slow=16,SNR=1.5
SOEI **Soe** **25.88 217** P **P** **06 01 13.5 +0.1**
comp=Z,73nm,0.9s
SSE **Sheshan** **26.00 322** P **P** **06 01 14.6 +0.4**
SSE S **S** **06 05 44.1 +0.5**
SSE pmax pmax
comp=Z,43nm,0.8s
SSE LR LR
comp=Z,180nm,19.6s
SSE LR LR
comp=Z,200nm,19.2s
MMRI **Maumere** **26.26 222** P **P** **06 01 16.7 -0.1**
comp=Z,8µmcomp=Z,135nm,0.7s
JMM **Marumori** **26.45 2** P **P** **06 01 17.6 -0.6**
JSD **Sado** **26.62 358** P **P** **06 01 18.6 -1.2**
JSD IAmb IAmb 06 01 20.4
comp=Z,37nm,0.8s
EDFI **Ende, Flores** **26.71 222** P **P** **06 01 20.2 -0.7**
comp=Z,9.7nm,1.5s
H11S3 **WAKE ISLAND Hy** **27.15 72** T T 06 29 52.3
baz=255,slow=74,SNR=52
H11S1 **WAKE ISLAND Hy** **27.17 72** T T 06 29 54.5
baz=255,slow=74,SNR=29
H11S2 **WAKE ISLAND Hy** **27.17 72** T T 06 29 51.8
baz=255,SNR=43
MTKI **Muara Teweh, K** **27.36 245** P **P** **06 01 26.7 0.0**
H11N1 **WAKE ISLAND Hy** **27.60 69** T T 06 30 28.6
baz=254,slow=75,SNR=23
H11N2 **WAKE ISLAND Hy** **27.61 69** T T 06 30 30.3
baz=254,slow=75,SNR=18
H11N3 **WAKE ISLAND Hy** **27.62 69** T T 06 30 30.1
baz=254,slow=75,SNR=25
KSRS **Korea Array** **28.03 340** P **P** **06 01 32.2 -0.1**
comp=Z,16nm,0.9s,baz=161,slow=10,SNR=38
KSRS LR LR 06 12 17.9
comp=Z,366nm,18.4s,baz=146,slow=36
KSAR **Wonju Array Be** **28.03 340** P **P** **06 01 31.9 -0.5**
NJ2 **Nanjing** **28.09 320** *e*P **P** **06 01 33.0 0.0**
NJ2 pmax pmax
comp=Z,17nm,1.4s
KS19 **Wonju Array Si** **28.09 340** P **P** **06 01 31.9 -1.1**
KNRA **Kununurra** **28.88 202** P **P** **06 01 39.5 -0.7**
HNR **Honiara** **28.93 135** LR LR 06 12 47.1
comp=Z,419nm,18.7s,baz=304,slow=36
QIZ **Qiongzhong** **29.64 289** P **P** **06 01 47.0 +0.1**
QIZ sP **pwP** **06 02 03.7 +7.0**
QIZ S **S** **06 06 41.0 -0.3**
QIZ pmax pmax
comp=Z,14nm,1.6s
QIZ LR LR
comp=Z,250nm,16.7s
QIZ LR LR
comp=Z,240nm,13.9s
QIZ LR LR
comp=Z,270nm,18.6s
PBKI **Pangkalan Bun** **31.03 245** P **P** **06 01 58.9 -0.4**
comp=Z,26µmcomp=Z,655nm,0.5s
WR0 **Warramunga Arr** **31.48 189** P **P** **06 02 03.8 +0.6**
WR0 IAmb IAmb 06 02 08.5
comp=Z,12nm,1.1s
WRAB **Tennant Creek** **31.48 189** P **P** **06 02 03.8 +0.6**
WB2 **Warramunga Arr** **31.49 189** P **P** **06 02 03.2 -0.1**
WRA **Warramunga Arr** **31.49 189** P **P** **06 02 03.8 +0.6**
comp=Z,9.1nm,1.1s,baz=12,slow=9.9,SNR=18
WRA LR LR 06 14 57.2
comp=Z,440nm,18.4s,baz=15,slow=37
WRA **Warramunga Arr** **31.49 189** P **P** **06 02 03.9 +0.6**
FITZ **Fitzroy Crossi** **32.30 205** P **P** **06 02 09.7 -0.6**
comp=Z,2.6nm,0.7s,baz=11,slow=7.5,SNR=6.4
FITZ **Fitzroy Crossi** **32.30 205** P **P** **06 02 09.4 -0.9**
ASAJ **Asahikawa** **32.77 4** P **P** **06 02 12.5 -1.8**
comp=Z,4.6nm,0.5s,baz=232,slow=14,SNR=4.4
JKA **Kamikawa-asahi** **32.77 4** P **P** **06 02 12.5 -1.8**
JKA **Kamikawa-asahi** **32.77 4** IAmb IAmb 06 02 16.4
comp=Z,31nm,1.4s
USA0B **Ussuriysk Arra** **33.40 350** P **P** **06 02 18.6 -1.1**
USA0B IAmb IAmb 06 02 20.5
comp=Z,13nm,0.9s
USRK **Ussuriysk Ar.** **33.40 350** P **P** **06 02 19.7 0.0**
comp=Z,14nm,1.0s,baz=166,slow=8.3,SNR=19
USRK LR LR 06 14 02.6
comp=Z,313nm,19.9s,baz=152,slow=33
USRK **Ussuriysk Ar.** **33.40 350** P **P** **06 02 19.2 -0.4**
SJI **Sawahan** **33.50 237** P **P** **06 02 21.6 +0.5**
comp=Z,5µmcomp=Z,22nm,1.0s
MDJ **Mudanjiang** **34.26 347** P **P** **06 02 27.5 +0.3**
MDJ S **S** **06 07 53.5 +0.7**
MDJ pmax pmax
comp=Z,10.0nm,0.7s
MDJ pmax pmax
comp=Z,81nm,6.6s
MDJ LR LR
comp=Z,240nm,17.1s
MDJ LR LR
comp=Z,230nm,19.2s
MDJ LR LR
comp=Z,430nm,20.5s
GYA **Guiyang** **34.43 301** ⇑P **P** **06 02 31.0 +1.9**
GYA pP pwP 06 02 42.3 +3.7
GYA S **S** **06 08 00.3 +4.2**
GYA pmax pmax
comp=Z,17nm,1.2s
GYA LR LR
comp=Z,220nm,20.5s
CN2 **Changchun** **34.58 342** *e*P **P** **06 02 28.4 -1.6**
CN2 pmax pmax
comp=Z,30nm,1.1s
SKNT **Sakolnakorn** **34.90 283** P **P** **06 02 35.0 +1.9**
comp=Z,8.2nm,0.9s
SKNT **Sakolnakorn** **34.90 283** P **P** **06 02 35.1 +1.9**
comp=Z,8.2nm,0.9s
AS31 **Alice Springs** **35.21 189** P **P** **06 02 36.4 +0.7**
ASAR **Alice Springs** **35.22 189** P **P** **06 02 36.2 +0.5**
comp=Z,2.2nm,0.6s,baz=18,slow=12,SNR=34
ASAR PcP **PcP** **06 05 07.7 +1.1**
comp=Z,1.3nm,0.8s,baz=353,slow=3.1,SNR=4.6
ASAR ScP **ScP** **06 08 54.4 +3.5**
comp=Z,0.6nm,0.9s,baz=12,slow=4.7,SNR=3.3
ASAR LR LR 06 16 33.9
comp=Z,308nm,19.8s,baz=348,slow=36
ASAR **Alice Springs** **35.22 189** P **P** **06 02 36.0 +0.3**
BJT **Baijiatuan** **35.28 328** P **P** **06 02 36.2 +0.1**
CTJI **Waduk Cacaban** **35.28 240** P **P** **06 02 36.7 +0.3**
comp=Z,28µmcomp=Z,35nm,1.2s
BJI **Beijing** **35.29 328** P **P** **06 02 36.2 +0.1**
BJI pmax pmax
comp=Z,54nm,1.1s
BJI LR LR
comp=Z,260nm,14.1s
BJI LR LR
comp=Z,120nm,15.4s
BJI LR LR
comp=Z,350nm,17.8s
SLVN **Son La** **35.54 291** P **P** **06 02 40.4 +1.8**
SLVN IAmb IAmb 06 02 41.5
comp=Z,16nm,0.9s
YSS **Yuzh-Sakhalins** **35.61 4** P **P** **06 02 38.4 -0.4**
KPJI **Karang Pucung** **35.66 240** P **P** **06 02 39.1 -0.5**
comp=Z,53nm,1.6s
NONG **Nongkai** **35.79 285** P **P** **06 02 43.1 +2.3**
comp=Z,21nm,1.4s
NONG **Nongkai** **35.79 285** P **P** **06 02 43.1 +2.3**
comp=Z,22nm,1.4s

XAN **Xi'an** **35.95 314** P **P** **06 02 42.6 +0.6**
XAN pP pP 06 02 49.7 +1.0
XAN pmax pmax
comp=Z,11nm,1.1s
SRAK **Srakaew** **36.66 278** P **P** **06 02 45.8 -2.4**
comp=Z,98nm,1.3s
CISI **Cisompet, Garu** **36.72 241** P **P** **06 02 50.5 +1.6**
CISI **Cisompet, Garu** **36.72 241** P **P** **06 02 47.1 -1.7**
comp=Z,2µmcomp=Z,57nm,0.9s
CHAI **Chaiyaphum** **36.75 281** P **P** **06 02 50.0 +1.0**
comp=Z,387nmcomp=Z,39nm,0.9s
CHAI **Chaiyaphum** **36.75 281** P **P** **06 02 50.1 +1.0**
comp=Z,96nmcomp=Z,9.8nm,0.9s
KMI **Kunming** **37.41 297** ⇑P **P** **06 02 55.7 +0.9**
KMI pmax pmax
comp=Z,10.0nm,0.6s
KMI LR LR
comp=Z,170nm,13.4s
KMI LR LR
comp=Z,220nm,15.1s
KMI LR LR
comp=Z,280nm,25.1s
UTTA **Uttaradit** **38.22 284** P **P** **06 03 03.2 +1.8**
comp=Z,529nmcomp=Z,12nm,0.5s
UTTA **Uttaradit** **38.22 284** P **P** **06 03 03.3 +1.8**
comp=Z,132nmcomp=Z,2.9nm,0.5s
PHIT **Phitsanulok** **38.32 283** P **P** **06 03 05.6 +3.3**
comp=Z,96nm,1.1s
PHIT **Phitsanulok** **38.32 283** P **P** **06 03 05.0 +2.7**
comp=Z,24nm,1.1s
KLR **Kul'dur** **38.34 352** P **P** **06 03 02.9 +0.9**
comp=Z,81nm,0.8s,baz=166,slow=6.3,SNR=182
HHC **Hu-ho-hao-te** **38.35 325** *e*P **P** **06 03 04.7 +2.3**
HHC S **S** **06 08 58.6 +2.9**
HHC pmax pmax
comp=Z,13nm,0.8s
HHC pmax pmax
comp=Z,83nm,6.6s
HHC LR LR
comp=Z,150nm,17.1s
HHC LR LR
comp=Z,270nm,15.7s
HHC LR LR
comp=Z,240nm,18.1s
CD2 **Chengdu** **38.41 306** P **P** **06 03 03.7 +0.7**
CD2 pmax pmax
comp=Z,30nm,0.9s
MDSI **Maura Dua** **38.54 248** P **P** **06 03 03.2 -0.9**
comp=Z,5.2nm,1.0s
KASI **Kota Agung** **38.69 246** P **P** **06 03 05.0 -0.4**
comp=Z,39nm,1.4s
LWLI **Liwa** **38.87 247** P **P** **06 03 06.4 -0.6**
comp=Z,109nm,0.6s
PAYA **Payao** **39.01 287** P **P** **06 03 10.8 +2.7**
comp=Z,814nmcomp=Z,43nm,1.1s
PAYA **Payao** **39.01 287** P **P** **06 03 10.9 +2.7**
comp=Z,203nmcomp=Z,11nm,1.1s
PHET **Kaeng Krachan** **39.03 277** P **P** **06 03 11.2 +3.0**
comp=Z,16nm,0.9s
PHET **Kaeng Krachan** **39.03 277** P **P** **06 03 11.3 +3.0**
comp=Z,4.2nm,0.9s
LAMP **Lampang** **39.16 285** P **P** **06 03 11.3 +2.0**
comp=Z,285nmcomp=Z,35nm,0.8s
LAMP **Lampang** **39.16 285** P **P** **06 03 11.4 +2.0**
comp=Z,71nmcomp=Z,8.8nm,0.8s
UTHA **Uthaitani** **39.19 281** P **P** **06 03 11.7 +2.2**
comp=Z,20nm,1.0s
UTHA **Uthaitani** **39.19 281** P **P** **06 03 11.8 +2.2**
comp=Z,5.0nm,1.0s
SURA **Surathani** **39.32 271** P P 06 03 16.1 +5.4
comp=Z,1µmcomp=Z,12nm,1.0s
SURA **Surathani** **39.32 271** P P 06 03 16.2 +5.5
comp=Z,1µmcomp=Z,12nm,1.0s
SRDT **SRDT** **39.49 279** P **P** **06 03 12.6 +0.5**
comp=Z,6µmcomp=Z,19nm,1.0s
CM34 **Chiang Mai Arr** **39.64 286** P **P** **06 03 14.0 +0.6**
CM36 **Chiang Mai Arr** **39.66 285** P **P** **06 03 15.0 +1.4**
CM09 **Chiang Mai Arr** **39.76 285** P **P** **06 03 16.3 +2.0**
comp=Z,403nmcomp=Z,49nm,1.0s
CM09 **Chiang Mai Arr** **39.76 285** P **P** **06 03 16.4 +2.1**
comp=Z,403nmcomp=Z,49nm,1.0s
UMPA **Umpang Tak** **39.76 282** P P 06 03 19.5 +5.1
comp=Z,4µmcomp=Z,16nm,0.9s
UMPA **Umpang Tak** **39.76 282** P **P** **06 03 19.0 +4.6**
comp=Z,1µmcomp=Z,4.0nm,0.9s
CM04 **Chiang Mai Arr** **39.77 285** P **P** **06 03 16.3 +1.9**
comp=Z,404nmcomp=Z,54nm,0.9s
CM04 **Chiang Mai Arr** **39.77 285** P **P** **06 03 16.4 +1.9**
comp=Z,404nmcomp=Z,54nm,0.9s
CM05 **Chiang Mai Arr** **39.80 285** P **P** **06 03 16.5 +1.8**
comp=Z,278nmcomp=Z,36nm,0.9s
CM05 **Chiang Mai Arr** **39.80 285** P **P** **06 03 16.5 +1.8**
comp=Z,278nmcomp=Z,36nm,0.9s
CM02 **Chiang Mai Arr** **39.80 285** P **P** **06 03 16.6 +1.9**
comp=Z,353nmcomp=Z,49nm,0.9s
CM02 **Chiang Mai Arr** **39.80 285** P **P** **06 03 16.6 +1.9**
comp=Z,353nmcomp=Z,49nm,0.9s
CM31 **Chiang Mai Arr** **39.80 285** P **P** **06 03 16.8 +2.1**
comp=Z,47µmcomp=Z,1µm,1.0s
CM31 **Chiang Mai Arr** **39.80 285** P **P** **06 03 16.9 +2.1**
CMAR **Chiang Mai Arr** **39.80 285** P **P** **06 03 16.3 +1.6**
comp=Z,28nm,0.8s,baz=93,slow=6.6,SNR=92
CMAR LR LR 06 17 46.2
comp=Z,187nm,21.8s,baz=157,slow=33
CM15 **Chiang Mai Arr** **39.82 285** P **P** **06 03 16.7 +1.9**
comp=Z,368nmcomp=Z,52nm,0.9s
CM15 **Chiang Mai Arr** **39.82 285** P **P** **06 03 16.8 +1.9**
comp=Z,368nmcomp=Z,52nm,0.9s
CMMT **Chiang Mai** **39.83 286** P **P** **06 03 16.2 +1.3**
comp=Z,14nm,1.1s
CMMT **Chiang Mai** **39.83 286** P **P** **06 03 16.3 +1.3**
comp=Z,14nm,1.1s
CMMT **Chiang Mai** **39.83 286** P **P** **06 03 14.8 -0.1**
comp=Z,13nm,1.9s
CM33 **Chiang Mai Arr** **39.83 286** P **P** **06 03 16.0 +1.1**
CHTO **Chiang Mai** **39.83 286** P **P** **06 03 16.3 +1.4**
comp=Z,14nm,1.2s
CHTO **Chiang Mai** **39.83 286** P **P** **06 03 16.4 +1.4**
CHTO IAmb IAmb 06 03 17.7
comp=Z,11nm,0.9s
CHTO **Chiang Mai** **39.83 286** P **P** **06 03 15.0 +0.1**
comp=Z,7.9nm,1.2s
CM13 **Chiang Mai Arr** **39.84 285** P **P** **06 03 16.7 +1.7**
comp=Z,352nmcomp=Z,44nm,0.9s
CM13 **Chiang Mai Arr** **39.84 285** P **P** **06 03 16.0 +1.0**
comp=Z,352nmcomp=Z,44nm,0.9s
CM32 **Chiang Mai Arr** **39.91 286** P **P** **06 03 17.0 +1.4**
SURT **Suratani** **40.16 271** P P 06 03 23.2 +5.5
comp=Z,1.2nm,1.1s
SURT **Suratani** **40.16 271** P P 06 03 23.3 +5.6
comp=Z,1.2nm,1.1s
LZH **Lanzhou** **40.57 313** *e*P **P** **06 03 18.4 -2.6**
LZH sP sP 06 03 38.1 +7.5
LZH *e*S **S** **06 09 30.0 +0.7**
LZH sS sS 06 09 49.8 +10
LZH SS **SS** **06 12 25.7 -3.9**
LZH pmax pmax
comp=Z,26nm,1.1s
LZH pmax pmax
comp=Z,140nm,4.6s
LZH LR LR
comp=Z,260nm,13.0s
LZH LR LR
comp=Z,350nm,14.9s
LZH LR LR
comp=Z,320nm,16.0s
MHMT **Maesarieng** **40.74 285** P **P** **06 03 24.6 +2.1**
comp=Z,683nmcomp=Z,59nm,0.8s
MHMT **Maesarieng** **40.74 285** P **P** **06 03 24.0 +1.5**
PSI **Prapat** **41.15 261** P **P** **06 03 25.6 -0.4**
comp=Z,9.3nm,0.9s,comp=Z,19nm,0.9s
PSI P **P** **06 03 25.6 -0.4**
comp=Z,9.3nm,0.9s,comp=Z,19nm,0.9s
RPSI **Rantau Prapat** **41.17 261** P **P** **06 03 25.2 -0.9**
RPSI IAmb IAmb 06 03 32.9
comp=Z,15nm,0.9s
HIA **Hailar** **41.24 340** P **P** **06 03 27.0 +0.8**
HIA IAmb IAmb 06 03 27.6
comp=Z,31nm,1.0s
DZM **Mont Dzumac** **42.40 142** *e*P **P** **06 03 40.7 +4.6**
comp=Z,38nm,1.4s
DZM **Mont Dzumac** **42.40 142** *e*LR LR 06 15 24.0
comp=Z,692nm,22.9s
DZM **Mont Dzumac** **42.40 142** P **P** **06 03 36.6 +0.5**
comp=Z,5.1nm,0.9s,baz=158,slow=19,SNR=1.9
GSI **Gunungsitoli** **42.83 260** P **P** **06 03 37.8 -1.8**
comp=Z,5µmcomp=Z,16nm,1.1s

STKA **Stephens Creek** **43.00 177** P **P** **06 03 40.5 -0.2**
comp=Z,4.8nm,0.8s,baz=326,slow=10,SNR=6.4
STKA LR LR 06 22 06.4
comp=Z,318nm,18.8s,baz=10,slow=37
FORT **Forrest** **43.30 194** P **P** **06 03 43.6 +0.5**
FORT IAmb IAmb 06 03 54.7
comp=Z,25nm,0.8s
PETK **Petropavlovsk-** **44.15 16** P **P** **06 03 50.0 +0.3**
comp=Z,3.8nm,1.0s,baz=232,slow=3.6,SNR=4.4
GTA **Gaotai** **44.95 316** ⇓P **P** **06 03 56.8 +0.3**
GTA pP sP 06 04 08.9 +2.8
GTA sP pwP 06 04 14.2 +8.4
GTA PcP **PcP** **06 05 38.2 +0.6**
GTA pmax pmax
comp=Z,16nm,1.2s
GTA pmax pmax
comp=Z,67nm,5.8s
GTA LR LR
comp=Z,170nm,15.6s
GTA LR LR
comp=Z,130nm,16.7s
GTA LR LR
comp=Z,190nm,20.0s
ULN **Ulaanbaatar** **45.47 330** P **P** **06 04 01.2 +0.7**
ULN IAmb IAmb 06 04 02.1
comp=Z,16nm,0.8s
ULN **Ulaanbaatar** **45.47 330** P **P** **06 04 00.3 -0.2**
comp=Z,103nm,1.0s
SONM **Songino Array** **45.78 329** P **P** **06 04 03.4 +0.5**
comp=Z,9.9nm,1.0s,baz=139,slow=7.7,SNR=31
SONM PcP **PcP** **06 05 38.5 -1.8**
comp=Z,2.7nm,0.8s,baz=140,slow=5.3,SNR=4.3
SONM LR LR 06 23 47.4
comp=Z,175nm,19.7s,baz=158,slow=37
SONM **Songino Array** **45.78 329** P **P** **06 04 03.2 +0.3**
SONM IAmb IAmb 06 04 04.7
comp=Z,36nm,1.5s
SHL **Shillong** **47.13 294** P **P** **06 04 14.2 +0.3**
SHL **Shillong** **47.13 294** *e*P **P** **06 04 14.0 +0.1**
MSVF **Nonsavu** **47.75 127** P **P** **06 04 19.2 +0.6**
comp=Z,7.7nm,0.6s,baz=286,slow=11,SNR=4.1
MSVF **Nonsavu** **47.75 127** P **P** **06 04 18.1 -0.5**
COCO **West Island** **48.42 242** P **P** **06 04 22.6 -1.2**
comp=Z,5.0nmcomp=Z,0.1nm,0.9s
LSA **Lhasa** **48.48 300** P **P** **06 04 26.0 +1.3**
LSA pmax pmax
comp=Z,67nm,0.9s
LSA **Lhasa** **48.48 300** P **P** **06 04 26.9 +2.2**
LSA IAmb IAmb 06 04 27.5
comp=Z,14nm,0.9s
MA2 **Magadan** **48.88 8** P **P** **06 04 26.2 -0.5**
comp=Z,3.7nm,0.3s,baz=198,slow=20,SNR=3.7
NWAO **Narrogin (SRO)** **48.89 205** P **P** **06 04 26.5 -0.6**
comp=Z,5.2nm,0.6s,baz=33,slow=8.1,SNR=6.3
YAK **Yakutsk** **51.12 354** P **P** **06 04 43.0 -0.7**
comp=Z,82nm,0.9s,baz=178,slow=1.1,SNR=20
YAK **Yakutsk** **51.12 354** IAmb IAmb 06 04 44.3
comp=Z,106nm,0.7s
RAMN **Ramite** **52.01 295** *e*P **P** **06 04 52.0 +0.8**
comp=Z,20nm,0.7s
SEY **Seymchan** **52.34 7** P **P** **06 04 53.2 +0.5**
comp=Z,8.6nm,0.8s,baz=185,slow=6.0,SNR=16
JIRN **Jiri** **52.46 296** *e*P **P** **06 04 55.5 +0.8**
comp=Z,61nm,0.8s
GUN **Gumba** **52.76 296** *e*P **P** **06 04 57.7 +0.8**
comp=Z,131nm,0.9s
PKI **Pulchoki** **53.13 296** *e*P **P** **06 04 59.8 +0.1**
comp=Z,59nm,1.0s
PKIN **Phulchoki** **53.15 296** *e*P **P** **06 04 59.7 0.0**
KKN **Kakani** **53.27 296** *e*P **P** **06 05 00.9 +0.3**
GKN **Gorkha** **53.86 296** *e*P **P** **06 05 04.9 +0.1**
DANN **Dangsing** **54.67 297** *e*P **P** **06 05 11.2 +0.4**
comp=Z,76nm,1.0s
KOLN **Koldanda** **54.75 296** *e*P **P** **06 05 11.8 +0.5**
comp=Z,72nm,0.9s
WMQ **Urumqi** **55.03 316** *e*P **P** **06 05 16.1 +3.2**
WMQ sP sP 06 05 33.9 +11
WMQ pmax pmax
comp=Z,33nm,1.1s
WMQ pmax pmax
comp=Z,150nm,5.1s
WMQ LR LR
comp=Z,120nm,23.9s
PYUN **Piuthan** **55.32 296** *e*P **P** **06 05 15.9 +0.4**
comp=Z,155nm,1.0s
ZSN **Zaisan** **58.12 319** *e*P **P** **06 05 34.4 -0.4**
baz=319
HYB **Hyderabad** **59.19 284** *i* P **P** **06 05 43.0 +0.2**
MK31 **Makanchi Array** **59.58 318** P **P** **06 05 45.2 +0.2**
MK31 IAmb IAmb 06 05 46.4
comp=Z,12nm,1.1s
MKAR **Makanchi Array** **59.58 318** P **P** **06 05 45.4 +0.5**
comp=Z,8.1nm,0.8s,baz=104,slow=8.9,SNR=60
MKAR LR LR 06 34 32.9
comp=Z,51nm,18.1s,baz=94,slow=39
MKAR **Makanchi Array** **59.58 318** P **P** **06 05 45.2 +0.2**
MAKZ **Makanchi** **59.79 318** P **P** **06 05 46.7 +0.3**
ZAA0 **Zalesovo Array** **60.51 326** P **P** **06 05 50.7 -0.5**
ZAA0 IAmb IAmb 06 05 51.7
comp=Z,17nm,1.2s
ZALV **Zalesovo Beam** **60.51 326** P **P** **06 05 51.0 -0.1**
comp=Z,5.7nm,0.7s,baz=101,slow=6.2,SNR=15
ZALV PcP **PcP** **06 06 34.1 -1.5**
comp=Z,3.1nm,0.7s,baz=123,slow=5.3,SNR=4.4
ZALV LR LR 06 32 50.9
comp=Z,117nm,19.7s,baz=104,slow=37
ZALV **Zalesovo Beam** **60.51 326** P **P** **06 05 50.5 -0.7**
SHLS **Shalkode** **60.60 313** *e*P **P** **06 05 49.1 -3.0**
baz=313
TIXI **Tiksi** **60.63 356** P **P** **06 05 51.1 -0.6**
comp=Z,9.9nm,0.7s,baz=155,slow=7.2,SNR=4.6
TIXI **Tiksi** **60.63 356** P **P** **06 05 51.2 -0.4**
TIXI IAmb IAmb 06 05 53.6
comp=Z,13nm,0.8s
UZB **Uzynbulak** **60.91 313** *e*P **P** **06 05 52.9 -1.4**
baz=313
KPKS **Kokpek** **61.22 313** *e*P **P** **06 05 55.3 -1.0**
baz=313
PRZ **Przheval'sk** **61.22 312** P **P** **06 05 58.0 +1.6**
SATY **Saty** **61.33 313** *e*P **P** **06 05 55.7 -1.4**
baz=313
ZHN **Zhinishke** **61.33 313** *e*P **P** **06 05 55.7 -1.4**
baz=313
TARG **Taragay, Kyrgy** **61.51 311** P **P** **06 05 57.7 -1.0**
TARG IAmb IAmb 06 06 26.6
comp=Z,9.3nm,0.9s
TDK **Taldyqorghan** **61.74 315** *e*P **P** **06 05 59.2 -0.5**
baz=315
KDJ **Kajisay** **62.04 312** P **P** **06 06 03.0 +1.0**
KDJ IAmb IAmb 06 06 03.6
comp=Z,15nm,1.0s
MDOK **Medeo** **62.33 313** *e*P **P** **06 06 02.5 -1.3**
baz=313
CHKK **Chushkaly** **62.50 314** *e*P **P** **06 06 03.6 -1.2**
baz=314
KSH **Kashi** **62.52 309** P **P** **06 06 08.2 +3.0**
KSH pmax pmax
comp=Z,14nm,0.8s
KSH LR LR
comp=Z,2µm,30.3s
KSH LR LR
comp=Z,1µm,30.8s
KSH LR LR
comp=Z,270nm,19.4s
MTBS **Maitube** **62.77 313** *e*P **P** **06 06 05.2 -1.5**
baz=313
KUU **Kurty** **62.97 314** *e*P **P** **06 06 05.8 -2.1**
baz=314
BOOM **Boomskoye usch** **63.01 312** P **P** **06 06 08.8 +0.3**
BOOM IAmb IAmb 06 06 10.1
comp=Z,23nm,1.6s
BOOM PcP **PcP** **06 06 46.1 -0.2**
AAK **Ala-Archa** **64.09 312** P **P** **06 06 15.9 +0.4**
comp=Z,3.6nm,0.9s,baz=105,slow=2.6,SNR=6.2
AAK **Ala-Archa** **64.09 312** P **P** **06 06 15.5 0.0**
NIL **Nilore** **64.11 302** P **P** **06 06 15.7 0.0**
SGDS **Sogindy** **64.11 313** *e*P **P** **06 06 14.2 -1.3**
baz=313
BTLS **Baital** **64.78 315** *e*P **P** **06 06 18.0 -1.8**
baz=314
DRK **Karamyk** **65.73 308** P **P** **06 06 27.4 +0.9**
BTK **Batken** **66.53 309** P **P** **06 06 31.6 +0.3**
BTK IAmb IAmb 06 06 32.7
comp=Z,26nm,1.4s
NRIK **Noril'sk** **66.62 342** P **P** **06 06 31.1 -0.1**
comp=Z,25nm,1.0s,baz=110,slow=7.7,SNR=22

NRIK LR LR 06 34 36.6
comp=Z,228nm,20.9s,baz=93,slow=35
NRIK Noril'sk 66.62 342 P **P** **06 06 30.6 -0.6**
GAR Garm 66.84 308 P **P** **06 06 33.8 +0.4**
KK31 Karatay Array 67.05 312 P **P** **06 06 34.8 +0.3**
KK31 IAmb IAmb 06 06 35.7
comp=Z,21nm,1.5s
KKAR Karatay Array 67.05 312 P **P** **06 06 34.5 0.0**
IUG Iuzhnay 67.31 311 *eP* **P** **06 06 35.4 -0.9**
baz=311
KBL Kabul 67.64 303 P **P** **06 06 38.6 -0.1**
KBL IAmb IAmb 06 06 39.2
comp=Z,10.0nm,0.7s
CHGR Chuyangaron 67.72 307 P **P** **06 06 38.6 -0.3**
TAS Tashkent 67.79 310 P **P** **06 06 40.5 +1.2**
N18K Kilae Creek 67.84 29 P **P** **06 06 39.1 0.0**
N18K Kilae Creek 67.84 29 P **P** **06 06 38.8 -0.4**
baz=253
O18K Koktuh Hills 67.93 30 P **P** **06 06 39.1 -0.6**
O18K IAmb IAmb 06 06 41.4
comp=Z,6.1nm,0.9s
O18K Koktuh Hills 67.93 30 P **P** **06 06 38.2 -1.5**
baz=254
SVW2 Sparrevohn 68.11 28 P **P** **06 06 39.7 -1.1**
Q19K Cape Douglas, 68.46 31 P **P** **06 06 40.9 -2.2**
Q19K Cape Douglas, 68.46 31 P **P** **06 06 41.0 -2.0**
baz=256
BVAR Borovoye Array 68.51 323 P **P** **06 06 43.5 0.0**
comp=Z,15nm,0.9s,baz=157,slow=8.0,SNR=45
N19K Bonanza Creek 68.54 29 P **P** **06 06 43.3 -0.3**
N19K Bonanza Creek 68.54 29 P **P** **06 06 43.3 -0.3**
baz=254
BRVK Borovoye 68.58 323 P **P** **06 06 43.6 -0.3**
BRVK IAmb IAmb 06 06 44.8
comp=Z,15nm,0.8s
L19K White Mountain 68.75 27 P **P** **06 06 44.0 -0.9**
L19K IAmb IAmb 06 07 09.9
comp=Z,9.2nm,1.2s
L19K White Mountain 68.75 27 P **P** **06 06 44.0 -0.9**
baz=253
P19K Oil Pt 68.84 30 P **P** **06 06 44.0 -1.5**
P19K IAmb IAmb 06 06 53.3
comp=Z,34nm,1.8s
M19K Big River Lodg 68.88 28 P **P** **06 06 45.3 -0.3**
L20K Farewell, AK 69.27 27 P **P** **06 06 48.0 0.0**
baz=254
RSO Redoubt South 69.27 29 P **P** **06 06 48.0 -0.3**
K20K Telida 69.43 26 P **P** **06 06 49.1 0.0**
K20K Telida 69.43 26 P **P** **06 06 49.1 0.0**
baz=254,SNR=7.9
M20K Styx River 69.45 28 P **P** **06 06 48.6 -0.7**
M20K Styx River 69.45 28 P **P** **06 06 48.8 -0.4**
baz=255
J20K Nowinta River 69.63 25 P **P** **06 06 50.1 -0.1**
J20K Nowinta River 69.63 25 P **P** **06 06 50.1 -0.1**
baz=253,SNR=9.5
CNPM China Poot 69.80 31 P **P** **06 06 50.3 -1.1**
CNPM IAmb IAmb 06 06 50.9
comp=Z,7.6nm,0.9s
BRSE Bradley Lake S 70.09 30 P **P** **06 06 51.8 -1.3**
baz=258
PPLA Purkeypile 70.13 27 P **P** **06 06 52.8 -0.7**
baz=256
SKT Skwentna 70.21 28 P **P** **06 06 53.0 -0.8**
SKT Skwentna 70.21 28 P **P** **06 06 52.2 -1.6**
baz=256
IMAR Indian Mountai 70.32 24 P **P** **06 06 53.8 -0.6**
CHUM Lake Minchumin 70.33 26 P **P** **06 06 54.8 +0.3**
baz=255
SUA Susitna One 70.46 29 P **P** **06 06 53.7 -1.8**
SUA IAmb IAmb 06 06 55.7
comp=Z,7.9nm,1.0s
SUA Susitna One 70.46 29 P **P** **06 06 54.0 -1.5**
baz=257,SNR=7.2
FIS Fire Island 70.64 29 P **P** **06 06 55.3 -1.1**
O22K Cooper Landing 70.74 30 P **P** **06 06 55.3 -1.8**
SEW Seward 70.80 30 P **P** **06 06 57.2 -0.3**
SEW IAmb IAmb 06 06 57.2
comp=Z,13nm,1.0s
SEW Seward 70.80 30 P **P** **06 06 56.6 -0.8**
baz=259
I21K Tanana 70.80 25 P **P** **06 06 56.9 -0.5**
I21K IAmb IAmb 06 06 59.0
comp=Z,8.3nm,0.8s
I21K Tanana 70.80 25 P **P** **06 06 57.3 -0.1**
baz=255,SNR=12
KTH Kantishna Hill 70.85 26 P **P** **06 06 56.8 -1.0**
KTH IAmb IAmb 06 06 58.4
comp=Z,12nm,1.0s
RC01 Rabbit Creek A 70.86 29 P **P** **06 06 56.4 -1.4**
RC01 Rabbit Creek A 70.86 29 P **P** **06 06 56.5 -1.3**
baz=258
BPAW Bear Paw Mtn. 70.95 26 P **P** **06 06 57.8 -0.5**
BPAW IAmb IAmb 06 06 59.2
comp=Z,9.6nm,0.9s
BPAW Bear Paw Mtn. 70.95 26 P **P** **06 06 57.7 -0.6**
baz=256,SNR=13
TRF Thorofare Moun 71.10 27 P **P** **06 06 58.0 -1.4**
TRF IAmb IAmb 06 06 59.9
comp=Z,8.9nm,0.8s
TRF Thorofare Moun 71.10 27 P **P** **06 06 58.1 -1.4**
baz=257,SNR=8.3
PMR Palmer 71.24 29 P **P** **06 06 58.3 -1.7**
PMR IAmb IAmb 06 06 60.0
comp=Z,9.3nm,1.1s
PMR Palmer 71.24 29 P **P** **06 06 58.7 -1.4**
baz=259,SNR=6.8
MLY Manley 71.27 25 P **P** **06 06 59.2 -1.1**
MLY IAmb IAmb 06 07 00.6
comp=Z,6.6nm,0.7s
MLY Manley 71.27 25 P **P** **06 06 59.7 -0.6**
baz=256,SNR=13
GHO Glory Hole Cre 71.37 28 P **P** **06 06 59.5 -1.5**
PWL Port Wells 71.48 29 P **P** **06 06 59.9 -1.7**
PWL IAmb IAmb 06 07 02.4
comp=Z,20nm,0.9s
KNK Knik Glacier 71.52 29 P **P** **06 07 00.8 -1.0**
KNK IAmb IAmb 06 07 02.4
comp=Z,11nm,1.0s
KNK Knik Glacier 71.52 29 P **P** **06 07 00.3 -1.5**
baz=260
SML Sawmill 71.66 28 P **P** **06 07 01.4 -1.3**
SML IAmb IAmb 06 07 03.5
comp=Z,9.0nm,0.8s
SML Sawmill 71.66 28 P **P** **06 07 01.6 -1.1**
baz=260,SNR=6.2
RND Reindeer 71.72 27 P **P** **06 07 02.1 -0.9**
WAT1 Susitna Watana 71.75 27 P **P** **06 07 01.7 -1.4**
baz=259
MCK McKinley 71.75 26 P **P** **06 07 02.2 -1.0**
MCK IAmb IAmb 06 07 03.5
comp=Z,8.6nm,0.8s
MCK McKinley 71.75 26 P **P** **06 07 02.3 -0.9**
baz=258,SNR=6.0
I23K Minto, Yukon-K 71.87 25 P **P** **06 07 03.5 -0.2**
I23K Minto, Yukon-K 71.87 25 P **P** **06 07 03.5 -0.3**
baz=258,SNR=8.8
NEA2 Nenana 71.87 25 P **P** **06 07 03.5 -0.4**
H23K Yukon River 71.94 24 P **P** **06 07 04.2 -0.1**
H23K Yukon River 71.94 24 P **P** **06 07 04.3 0.0**
baz=257,SNR=9.8
COLD Coldfoot 72.02 23 P **P** **06 07 04.5 -0.2**
COLD Coldfoot 72.02 23 P **P** **06 07 04.7 +0.1**
baz=256,SNR=7.8
WAT6 Susitna Watana 72.07 28 P **P** **06 07 04.2 -1.1**
baz=260,SNR=12
SCM Sheep Creek Mo 72.13 28 P **P** **06 07 04.8 -0.8**
SCM IAmb IAmb 06 07 06.8
comp=Z,21nm,1.0s
WRH Wood River Hil 72.26 26 P **P** **06 07 05.3 -0.9**
MDM Murphy Dome 72.30 25 P **P** **06 07 05.8 -0.7**
FID Port Fidalgo 72.36 30 P **P** **06 07 05.8 -1.1**
FID IAmb IAmb 06 07 15.2
comp=Z,15nm,1.3s
CCB Clear Creek Bu 72.42 26 P **P** **06 07 05.5 -1.6**
TCOL CIGO, UAF Yank 72.44 25 P **P** **06 07 06.2 -1.0**
COLA College 72.44 25 P **P** **06 07 06.0 -1.2**
TOLK Toolik Lake Re 72.59 21 P **P** **06 07 07.9 -0.2**
TOLK Toolik Lake Re 72.59 21 P **P** **06 07 08.0 -0.1**
baz=256
H24K Noodor Dome 72.62 24 P **P** **06 07 08.0 -0.4**
H24K Noodor Dome 72.62 24 P **P** **06 07 07.5 -0.9**
baz=259
HDA Harding Lake 72.74 26 P **P** **06 07 07.3 -1.7**
HDA Harding Lake 72.74 26 P **P** **06 07 07.4 -1.7**
baz=260
KLU Klutina 72.74 29 P **P** **06 07 08.3 -0.9**
KLU IAmb IAmb 06 07 10.2
comp=Z,7.2nm,0.8s
KLU Klutina 72.74 29 P **P** **06 07 08.6 -0.6**
baz=262,SNR=5.8
IL31 72.83 25 P **P** **06 07 07.6 -1.9**
ILAR Eielson Array 72.83 25 P **P** **06 07 07.4 -2.2**
comp=Z,3.5nm,0.7s,baz=254,slow=5.5,SNR=26
ILAR Eielson Array 72.83 25 P **P** **06 07 07.7 -1.9**
PAX Paxson 73.16 27 P **P** **06 07 10.6 -1.1**
PAX IAmb IAmb 06 07 12.4
comp=Z,5.6nm,0.7s
PAX Paxson 73.16 27 P **P** **06 07 10.5 -1.2**
baz=262,SNR=12
RAGM Ragged Mountai 73.20 30 P **P** **06 07 12.4 +0.5**
RAGM IAmb IAmb 06 07 56.9
comp=Z,30nm,1.4s
HARP HAARP 73.22 28 P **P** **06 07 10.8 -1.1**
baz=262,SNR=7.4
HRA Herat 73.26 303 P **P** **06 07 13.1 +0.1**
HRA IAmb IAmb 06 07 14.1
comp=Z,21nm,0.8s
BMRM Bremner River 73.30 30 P **P** **06 07 11.9 -0.6**
BMRM IAmb IAmb 06 07 13.6
comp=Z,12nm,1.0s
BMRM Bremner River 73.30 30 P **P** **06 07 11.9 -0.6**
baz=263,SNR=6.5
N25K Chitina, Valde 73.38 29 P **P** **06 07 12.9 -0.1**
baz=263
RIDG Independent Ri 73.55 27 P **P** **06 07 13.0 -0.9**
RIDG IAmb IAmb 06 07 14.1
comp=Z,6.8nm,0.8s
RIDG Independent Ri 73.55 27 P **P** **06 07 12.9 -0.9**
baz=262,SNR=7.9
GLB Gilahina Butte 73.74 29 P **P** **06 07 14.6 -0.5**
FYU Fort Yukon 73.80 24 P **P** **06 07 15.0 -0.3**
FYU IAmb IAmb 06 07 29.7
comp=Z,33nm,1.8s
DOT Dot Lake 73.88 27 P **P** **06 07 15.0 -0.9**
DOT IAmb IAmb 06 07 16.8
comp=Z,9.1nm,0.8s
VRDI Verde Repeater 73.89 29 P **P** **06 07 15.3 -0.8**
MENT Mentasta 73.95 28 P **P** **06 07 15.6 -0.7**
SCRK Sand Creek 73.96 27 P **P** **06 07 15.9 -0.5**
SCRK Sand Creek 73.96 27 P **P** **06 07 15.4 -1.0**
baz=263,SNR=11
CRQM Cirque 73.99 30 P **P** **06 07 13.7 -3.0**
CRQE Cirque 74.02 30 P **P** **06 07 13.7 -3.1**
baz=265,SNR=7.5
WAX Waxell Ridge 74.11 30 P **P** **06 07 16.3 -0.9**
WAX IAmb IAmb 06 08 08.2
comp=Z,24nm,1.3s
MCARA McCarthy VSAT 74.11 29 P **P** **06 07 16.5 -0.7**
MCARA IAmb IAmb 06 07 18.7
comp=Z,8.3nm,0.8s
MCARA McCarthy VSAT 74.11 29 P **P** **06 07 16.9 -0.3**
baz=264
J26K Charley River, 74.11 26 P **P** **06 07 16.2 -1.1**
baz=263,SNR=11
L26K Log Cabin Wild 74.13 28 P **P** **06 07 16.9 -0.3**
L26K Log Cabin Wild 74.13 28 P **P** **06 07 16.9 -0.4**
baz=264,SNR=9.3
TGL Tana Glacier 74.14 30 P **P** **06 07 17.6 +0.1**
TGL IAmb IAmb 06 07 19.6
comp=Z,18nm,1.3s
BMAR Burnt Mountain 74.19 23 P **P** **06 07 17.7 +0.1**
MESA MESA 74.53 31 P **P** **06 07 19.6 -0.3**
MESA IAmb IAmb 06 07 21.7
comp=Z,24nm,1.2s
YAH Yahtse 74.65 30 P **P** **06 07 21.2 +0.6**
GRNC Granite Creek 74.67 30 P **P** **06 07 20.1 -0.6**
GRNC IAmb IAmb 06 07 22.2
comp=Z,9.5nm,0.8s
ABKAR Akbulak array 74.73 318 P **P** **06 07 20.2 -0.8**
M27K Edge Creek, AK 74.74 28 P **P** **06 07 20.8 -0.2**
M27K Edge Creek, AK 74.74 28 P **P** **06 07 20.8 -0.2**
baz=265,SNR=7.3
K27K Chicken 74.80 27 P **P** **06 07 21.4 +0.3**
K27K Chicken 74.80 27 P **P** **06 07 21.0 -0.1**
baz=265
L27K Beaver Creek, 74.82 28 P **P** **06 07 21.1 -0.3**
L27K Beaver Creek, 74.82 28 P **P** **06 07 21.0 -0.3**
baz=265,SNR=5.1
CTG Chitina Glacier 74.89 30 P **P** **06 07 21.8 -0.1**
baz=266
CTGM Chitina Glacie 74.89 30 P **P** **06 07 21.9 0.0**
CTGM IAmb IAmb 06 07 23.7
comp=Z,10.0nm,0.8s
TABL Table Mountain 74.95 30 P **P** **06 07 21.8 -0.6**
TABL IAmb IAmb 06 07 23.6
comp=Z,14nm,0.8s
LOGN Logan Glacier 75.04 30 P **P** **06 07 23.0 +0.2**
LOGN IAmb IAmb 06 07 26.2
comp=Z,10nm,0.8s
EGAK Eagle 75.26 26 P **P** **06 07 23.2 -0.6**
EGAK Eagle 75.26 26 P **P** **06 07 22.7 -1.1**
baz=265
YUK3 Moose Creek 75.36 29 P **P** **06 07 24.6 -0.1**
baz=267,SNR=11
PPT Papeete 75.65 112 LR LR 06 34 26.1
comp=Z,130nm,19.1s,baz=298,slow=31
PPT2 Papeete2 75.65 112 *e*LR LR 06 30 49.1
comp=Z,332nm,28.8s
ARU Arti 75.66 326 P **P** **06 07 25.6 -0.6**
comp=Z,2.2nm,0.2s,baz=91,slow=3.5,SNR=19
ARU Arti 75.66 326 P **P** **06 07 25.6 -0.6**
ARU IAmb IAmb 06 07 26.3
comp=Z,20nm,0.9s
AKTO Aktyubinsk 75.97 319 P **P** **06 07 27.6 -0.6**
comp=Z,2.4nm,0.8s,baz=72,slow=8.6,SNR=6.1
DAWY Dawson 75.98 27 P **P** **06 07 27.7 -0.3**
DAWY IAmb IAmb 06 07 28.6
comp=Z,6.9nm,0.8s
DAWY Dawson 75.98 27 P **P** **06 07 27.7 -0.3**
baz=267,SNR=11
YUK4 Talbot Arm 76.21 29 P **P** **06 07 29.8 +0.2**
baz=268,SNR=9.5
YUK6 Outpost Mounta 76.34 30 P **P** **06 07 30.4 +0.1**
baz=269
GEYT Alibeck 76.40 306 P **P** **06 07 31.2 +0.3**
comp=Z,20nm,0.7s,baz=26,slow=7.1,SNR=5.4
GYA0B ALIBECK ARRAY 76.40 306 P **P** **06 07 31.7 +0.8**
GYA0B IAmb IAmb 06 07 35.5
comp=Z,14nm,0.9s
HYT Haines Junctio 76.75 30 P **P** **06 07 32.8 +0.3**
HYT IAmb IAmb 06 07 34.4
comp=Z,9.8nm,0.9s
HYT Haines Junctio 76.75 30 P **P** **06 07 32.8 +0.3**
baz=270,SNR=9.1
EPYK Eagle Plains 77.19 24 P **P** **06 07 34.7 0.0**
EPYK IAmb IAmb 06 08 13.5
comp=Z,18nm,1.5s
EPYK Eagle Plains 77.19 24 P **P** **06 07 34.4 -0.4**
baz=269
TBI Tubuai 77.49 117 *e*LR LR 06 31 40.9
comp=Z,218nm,30.2s
WHY Whitehorse 78.05 30 P **P** **06 07 40.2 +0.5**
WHY IAmb IAmb 06 07 41.4
comp=Z,7.4nm,0.9s
WHY Whitehorse 78.05 30 P **P** **06 07 39.4 -0.4**
baz=272
INK Inuvik 78.42 22 P **P** **06 07 40.5 -1.0**
comp=Z,2.3nm,0.8s,baz=267,slow=3.4,SNR=5.2
FARO Faro, Yukon 78.72 28 P **P** **06 07 43.0 -0.3**
baz=273
KIRV Kirov 80.50 328 P **P** **06 07 53.2 +0.2**
comp=Z,13nm,0.8s,baz=350,slow=5.1,SNR=6.8
DLBC Dease Lake 80.67 32 P **P** **06 07 53.7 -0.4**
DLBC IAmb IAmb 06 08 09.6
comp=Z,12nm,1.4s
BELG Belogornoye 82.29 322 P **P** **06 08 02.4 -0.2**
comp=Z,45nm,1.1s,baz=62,slow=1.2,SNR=15
HOPEN Hopen 84.60 348 *eP* **P** **06 08 13.7 -0.4**
KLMR Klimovskoe 85.03 331 *eP* **P** **06 08 14.0 -2.5**
KLMR AMP 06 08 16.9
comp=Z,9.0nm,1.0s
EUNU Eureka 85.78 7 P **P** **06 08 20.0 0.0**
EUNU IAmb IAmb 06 08 21.4
comp=Z,12nm,0.9s
ONI Oni 86.86 313 P **P** **06 08 26.3 +0.2**
ONI IAmb IAmb 06 08 28.9
comp=Z,13nm,1.3s
KBZ Khabaz 87.01 314 LR LR 06 50 55.1
comp=Z,107nm,20.0s,baz=25,slow=38
YKA Yellowknife Ar 87.22 27 P **P** **06 08 26.7 -0.6**
comp=Z,5.7nm,0.8s,baz=294,slow=3.9,SNR=12
I03D Drain, OR 87.34 46 P **P** **06 08 27.0 -1.2**
baz=283
ARA0 ARCESS Array S 87.58 341 *e*P **P** **06 08 27.6 -1.3**
ARCES ARCESS Array B 87.58 341 P **P** **06 08 27.8 -1.1**
comp=Z,16nm,0.6s,baz=71,slow=7.7,SNR=59
ARCES LR LR 06 50 31.5
comp=Z,132nm,20.5s,baz=45,slow=38
ARCES ARCESS Array B 87.58 341 P **P** **06 08 27.8 -1.1**
HAMF Hammerfest 87.63 343 *e*P **P** **06 08 27.7 -1.4**
OBN Obninsk 88.10 326 P **P** **06 08 30.4 -1.2**
comp=Z,3.5nm,0.3s,baz=163,slow=7.3,SNR=9.0
J04D Umpqua Nationa 88.33 46 P **P** **06 08 33.5 +0.2**
baz=284
KTK1 Kautokeino 88.54 341 *e*P **P** **06 08 32.0 -1.5**
J05D Fort Rock, OR 88.94 46 P **P** **06 08 36.2 +0.1**
baz=285
PINE Pine Mountain 89.02 46 P **P** **06 08 36.7 +0.1**
JETT Jettan, Norway 89.14 342 *e*P **P** **06 08 36.4 0.0**
TRO Tromso 89.55 342 *e*P **P** **06 08 38.2 0.0**
VNDA Vanda 89.61 175 P **P** **06 08 38.9 +0.7**
comp=Z,1.5nm,0.9s,baz=286,slow=6.7,SNR=3.7
VNDA LR LR 06 49 47.8
comp=Z,89nm,18.2s,baz=348,slow=36
VNDA Vanda 89.61 175 P **P** **06 08 39.5 +1.3**
VNDA IAmb IAmb 06 08 44.6
comp=Z,4.1nm,1.1s
BEKR Beckworth 90.44 49 P **P** **06 08 42.7 -0.6**
BEKR IAmb IAmb 06 08 43.6
comp=Z,3.8nm,0.8s
FIA1 FINESS Array S 90.94 334 P **P** **06 08 43.1 -1.7**
FINES FINESS Array B 90.95 334 P **P** **06 08 43.1 -1.7**
comp=Z,11nm,0.7s,baz=66,slow=4.8,SNR=30
FINES LR LR 06 52 47.9
comp=Z,110nm,19.1s,baz=57,slow=38
WVOR Wild Horse Val 91.00 46 P **P** **06 08 45.7 -0.1**
WVOR IAmb IAmb 06 08 55.7
comp=Z,12nm,1.7s
STEI Steigen 91.61 342 *e*P **P** **06 08 46.0 -1.8**
FAUS Fauske 91.92 341 *e*P **P** **06 08 47.5 -1.8**
LOF Lofoten 92.01 342 *e*P **P** **06 08 49.6 -0.1**
NVAR Mina Array Bea 92.37 50 P **P** **06 08 52.1 -0.1**
comp=Z,1.3nm,0.7s,baz=277,slow=5.4,SNR=9.9
NVAR LR LR 06 46 36.9
comp=Z,37nm,18.2s,baz=304,slow=33
MFID Camas Ranch 92.68 45 P **P** **06 08 53.2 -0.3**
MFID IAmb IAmb 06 09 08.0
comp=Z,9.4nm,1.4s
HLID Hailey 93.61 44 P **P** **06 08 57.7 -0.1**
HLID Hailey 93.61 44 P **P** **06 08 57.7 -0.1**
baz=289
MPMC Manual Prospec 93.67 52 P **P** **06 08 58.2 -0.1**
baz=287
AKASG Malin Array Be 93.78 323 P **P** **06 08 55.6 -2.6**
comp=Z,0.4nm,0.4s,baz=52,slow=4.6,SNR=4.8
AKASG LR LR 06 54 14.8
comp=Z,86nm,19.2s,baz=70,slow=38
AKASG Malin Array Be 93.78 323 IAmb IAmb 06 08 57.3
comp=Z,1.9nm,1.1s
ELK Elko 93.94 47 P **P** **06 08 59.1 -0.4**
ELK IAmb IAmb 06 09 00.8
comp=Z,4.0nm,1.2s
TPNV Topopah Spring 94.36 51 P **P** **06 09 01.3 -0.1**
TPNV Topopah Spring 94.36 51 P **P** **06 09 01.0 -0.4**
baz=288
BRTR Keskin Array B 94.76 312 P **P** **06 09 02.6 -0.5**
comp=Z,0.6nm,0.8s,baz=59,slow=6.9,SNR=3.8
BRTR LR LR 06 55 53.5
comp=Z,40nm,20.6s,baz=26,slow=38
PFO Pinyon Flats O 95.19 54 P **P** **06 09 05.0 -0.2**
baz=287
RLMT Red Lodge 96.50 42 P **P** **06 09 12.1 +1.1**
RLMT IAmb IAmb 06 09 13.0
comp=Z,2.8nm,0.8s
RLMT Red Lodge 96.50 42 P **P** **06 09 12.1 +1.1**
baz=293
NOA NORSAR Array B 97.21 337 P **P** **06 09 12.8 -0.8**
comp=Z,1.3nm,0.9s,baz=48,slow=4.9,SNR=3.3
NOA LR LR 06 55 24.2
comp=Z,85nm,20.5s,baz=65,slow=37
PDAR Pinedale Array 97.21 44 P Pdif 06 09 15.0 +0.5
comp=Z,0.3nm,0.7s,baz=222,slow=2.2,SNR=3.9
NC602 NORSAR Array S 97.28 337 *e*P **P** **06 09 13.3 -0.7**
KONO Kongsberg 98.72 337 *e*Pdif **P** **06 09 19.5 -1.0**
FOO Floro 99.05 340 *e*Pdif **Pdif** **06 09 25.5 +3.7**
CRVS Cervenica-Dubn 99.09 324 *e*PDIFF **Pdif** **06 09 21.5 -0.9**
PV02 Paradox Valley 99.54 48 P **Pdif** **06 09 23.6 -1.3**
VYHS Vyhne 100.80 324 *e*PDIFF **Pdif** **06 09 28.9 -1.1**
SNAA Sanae 115.53 192 PKPdf **PKiKP** **06 14 21.9 -0.7**
VNA2 Neumayer--Watz 117.04 192 PKPdf **PKPdf** **06 14 24.9 -0.5**
VNA3 Neumayer Olymp 117.21 191 PKPdf **PKPdf** **06 14 24.9 -0.8**
VNA1 Neumayer--Stat 117.43 192 PKPdf **PKPdf** **06 14 25.7 -0.5**
TORD Torodi Ar. Bea 131.62 299 PKP **PKPdf** **06 14 54.3 -0.7**
comp=Z,1.4nm,0.8s,baz=33,slow=2.1,SNR=7.1
DBIC Dimbokro 140.32 295 PKP **PKPdf** **06 15 11.9 +0.8**
comp=Z,5.4nm,0.9s,baz=288,slow=1.9,SNR=3.6
PLCA Paso Flores 140.51 143 PKP **PKiKP** **06 15 12.7 -0.7**
comp=Z,0.8nm,0.6s,baz=259,slow=5.2,SNR=3.1
LVC Limon Verde 150.62 116 PKPbc **PKPbc** **06 15 33.6 -0.8**
comp=Z,6.3nm,0.7s,baz=260,slow=4.8,SNR=8.6
LVC Limon Verde 150.62 116 **PKPbc** **06 15 34.7 +0.3**
LVC PKPab **PKPab** **06 15 41.8 +0.6**
LPAZ La Paz 152.69 104 PKPbc **PKPbc** **06 15 39.0 -0.6**
comp=Z,1.5nm,0.6s,baz=239,slow=3.3,SNR=13
LPAZ PKPab **PKPab** **06 15 49.8 -0.5**
comp=Z,2.0nm,0.7s,baz=248,slow=6.4,SNR=6.6
LPAZ La Paz 152.69 104 **PKPbc** **06 15 39.4 -0.2**
CPUP Villa Florida 158.18 135 PKPab **PKPab** **06 16 12.8 +0.2**
comp=Z,1.3nm,0.8s,baz=230,slow=7.9,SNR=3.6
SIV San Ignacio 159.44 105 PKPab **PKPab** **06 16 18.7 +0.1**
comp=Z,0.9nm,0.8s,baz=242,slow=3.9,SNR=5.3

RSNC 07 06:13:05.0±1.2, 9.99N×74.97W, h23km±3km, ML3.2, Mw3.5,3C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SJCC	**San Jacinto, C**	**0.22**	**247**	↑	*i* P	Pb	06 13 10.3	-0.6
SJCC					*e*S	Sb	06 13 15.5	+0.7
SJCC					*i*		06 13 17.3	
	comp=Z,2μm,0.4s							
ARGC	**Ariguani, Magd**	**0.73**	**100**	↑	*i* P	Pb	06 13 18.2	-0.8
ARGC					*e*S	Sb	06 13 28.8	+0.2
ARGC					*i*		06 13 38.5	
	comp=Z,248nm,0.6s							
SMRC	**Santa Marta, M**	**1.38**	**32**		*e*P	Pn	06 13 27.6	-1.2
SMRC					*e*S	Sn	06 13 46.2	-0.3
SMRC					*i*		06 13 48.3	
	comp=Z,164nm,0.3s							
LL1C	**La Loma 1 Cana**	**1.46**	**107**	↑	*e*P	Pn	06 13 29.7	-0.2
LL1C					*e*S	Sb	06 13 49.7	-0.1
LL1C					*i*		06 14 01.1	
	comp=Z,790nm,0.4s							
SMLC	**San Martn de**	**1.47**	**143**		*e*P	Pn	06 13 28.6	-1.5
SMLC					*i*		06 13 48.6	
	comp=Z,658nm,0.2s							
SMLC					*e*S	Sn	06 13 48.7	0.0
LL2C	**La Loma 2 Cana**	**1.57**	**106**		*e*P	Pn	06 13 30.8	-0.6
LL2C					*e*S	Sb	06 13 52.9	0.0
LL2C					*i*		06 13 54.9	
	comp=Z,910nm,0.2s							
CVALL	**Valledupar, Ce**	**1.77**	**73**		*e*P	Pn	06 13 32.7	-1.4
CVALL					*e*S	Sn	06 13 55.3	-0.7
CVALL					*i*		06 13 57.7	
	comp=Z,418nm,0.9s							
LCBC	**Los crdobas,**	**1.78**	**231**		*i*	Sn	06 13 52.1	-4.0
	comp=Z,141nm,0.3s							
LCBC					*e*S	Sb	06 13 55.6	-3.1
UREC	**San Jos de Ur**	**2.29**	**194**		*e*P	Pn	06 13 38.1	-3.3
UREC					*i*		06 14 16.8	
	comp=Z,53nm,0.4s							
CRJC	**Cerrejon, Guaj**	**2.30**	**63**		*e*P	Pn	06 13 39.7	-1.9
CRJC					*e*S	Sn	06 14 08.8	-0.4
CRJC					*i*		06 14 11.0	
	comp=Z,290nm,0.3s							
OCAC	**Ocana**	**2.38**	**137**	↓	*i* P	Pn	06 13 41.3	-1.4
OCAC					*e*S	Sn	06 14 10.8	-0.6
ZARC	**Zaragoza, Cauc**	**2.48**	**177**		*e*P	Pn	06 13 41.7	-2.3
ZARC					*e*S	Sn	06 14 11.1	-2.4
ZARC					*i*		06 14 19.4	
	comp=Z,110nm,0.4s							
BRRC	**Barranca, Sant**	**3.12**	**156**	↓	*e*P	Pn	06 13 51.1	-1.7
BRRC					*e*S	Sn	06 14 28.3	-1.1
BRRC					*i*		06 14 47.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PTBC	PUERTO BERRIO,	3.46	171	eP	Pn	06 13 55.6	-1.9
PTBC				eS	Sn	06 14 33.5	-4.3
PTBC				i		06 14 53.7	
	comp=Z,36nm,0.4s						
BARC	Barichara	3.81	152	eP	Pn	06 14 01.3	-1.2
BARC				i		06 15 09.8	
	comp=Z,71nm,0.1s						
HELC	Santa Helena	3.81	188	eP	Pn	06 14 01.1	-1.5
HELC				eS	Sn	06 14 41.6	-5.3
HELC				i		06 15 15.3	
	comp=Z,15nm,0.4s						
CBOC	Ciudad Bolivar	4.22	194	eP	Pn	06 14 06.7	-1.4
CBOC				eS	Sn	06 14 57.6	+0.8
NORC	Norcasia	4.39	179	eP	Pn	06 14 07.8	-2.6
NORC				eS	Sn	06 14 56.7	-4.2
NORC				i		06 15 24.8	
	comp=Z,14nm,0.4s						
SPBC	San Pablo de B	4.40	168	eP	Pn	06 14 08.0	-2.5
SPBC				eS	Sn	06 14 55.3	-5.7
SPBC				i		06 15 23.8	
	comp=Z,17nm,0.3s						
SDV	Santo Domingo	4.42	104	eP	Pn	06 14 10.4	-0.5
SDV				eS	Sn	06 15 00.6	-1.1
SDV				i		06 15 07.7	
	comp=Z,51nm,0.5s						
RUSC	La Rusia	4.48	155	eP	Pn	06 14 10.7	-1.2
RUSC				eS	Sb	06 15 12.3	-4.7
RUSC				i		06 15 30.8	
	comp=Z,19nm,0.4s						
GUY2C	Guyana, Caldas	4.75	185	eP	Pn	06 14 14.5	-1.1
GUY2C				eS	Sb	06 15 31.9	+7.2
GUY2C				i		06 15 40.4	
	comp=Z,12nm,0.5s						
ROSC	El Rosal	5.15	173	eS	Sb	06 15 35.1	-1.3
TOLC	Tolima	5.38	184	eP	Pn	06 14 24.4	+0.3
TOLC				eS	Sb	06 15 45.9	+3.2
ORTC	Ortega, Tolima	6.04	183	eP	Pn	06 14 32.3	-0.7

IDC 07 06:27:34.1±1.5**, 26°.75N×141°.20E, h0^{km}, mb3.9**/1**, mb1 4.1**/3**, mb1mx3.5**/42**, mbtmp3.8**/3**, ML3.2**/2**, Error ellipse: s-maj=25.1km s-min=20.2km az=136.0, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	Chichijima	0.94	68	Pn	Pn	06 27 54.2	-0.5
	29nm,0.3s,baz=254,slow=23,SNR=23						
JCJ				Sn	Sn	06 28 11.2	+2.4
	94nm,0.3s,baz=270,slow=20,SNR=6.5						
MJAR	Matsushiro Arr	10.09	346	Pn	Pn	06 29 57.8	-2.5
	0.4nm,0.3s,baz=151,slow=11,SNR=11						
MAT	Matsushiro	10.09	346	P	Pn	06 29 58.9	-1.5
MAT				eS	Sn	06 31 58.5	+4.2
USRK	Ussuriysk Ar.	18.94	339	P	Pn	06 31 58.6	+1.4
	baz=144,slow=9.7,SNR=6.1						
WRA	Warramunga Arr	46.89	189	P	P	06 36 06.2	-0.2
	1.2nm,0.7s,baz=12,slow=8.5,SNR=12						

*NNC **07** 06:45:20.9±1.6, 54°.55N×87°.11E, h0^{km}, mb2.4, mpv2.3, Error ellipse: s-maj=15.7km s-min=10.3km az=169.0, Suspected Mining explosion.*
*IDC **07** 06:45:29.5±2.8, 54°.22N×86°.87E, h0^{km}, mb1 2.9/2, mb1mx2.9/38, mbtmp2.9/2, ML2.9/2, Error ellipse: s-maj=23.7km s-min=14.2km az=61.0*
ISC 07 06:45:28.1±4.1**, 54°.4N**±0°.2×**86°.7E**±0°.2**, h0^{km}, n7, σ1^{s}74**/8**, 5C-1D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.18	248	i		06 52 00.0	
	baz=79,slow=321,SNR=4.4						
ZAA0	Zalesovo Array	1.18	248	⇓P	Pg	06 45 47.9	-2.8
	0.3nm,0.3s						
ZAA0				⇑S	Sb	06 46 08.2	+1.1
	23nm,1.4s						
ZALV	Zalesovo Beam	1.18	248	Pg	Pn	06 45 53.0	+1.2
	1.4nm,0.3s,baz=75,slow=18,SNR=8.6						
ZALV				Lg	Lg	06 46 09.0	
	2.5nm,0.3s,baz=78,slow=28,SNR=18						
KURBB	Kurchatov Arra	6.24	236	Pn	Pn	06 47 03.5	+2.1
	0.1nm,0.3s,baz=53,slow=13,SNR=7.6						
KURBB				Lg	Lg	06 48 47.1	
	0.0nm,0.3s,baz=55,slow=30,SNR=6.4						
KURBB	Kurchatov Arra	6.24	236	⇑Sn	Sn	06 48 13.9	+0.5
	2.0nm,0.7s						
KURBB				⇑Lg	Lg	06 48 48.5	
	4.6nm,0.7s						
MK31	Makanchi Array	8.11	202	Pn	Pn	06 47 23.6	-3.4
	0.3nm,0.6s,baz=27,slow=14,SNR=15						
MK31				⇑Sn	Sn	06 48 59.4	+0.1
	0.3nm,0.5s,baz=27,slow=13,SNR=5.4						
MK31				⇑Lg	Lg	06 49 45.6	
	3.2nm,1.1s,baz=18,slow=27,SNR=6.0						
MKAR	Makanchi Array	8.11	202	Pn	Pn	06 47 27.3	+0.3
	0.4nm,0.3s,baz=22,slow=13,SNR=11						
MKAR				Sn	Sn	06 48 59.7	+0.4
	0.1nm,0.3s,baz=23,slow=26,SNR=5.4						
MKAR				Lg	Lg	06 49 43.4	
	0.0nm,0.3s,baz=22,slow=31,SNR=7.4						

*INET **07** 07:06:00.3, 12°.40N×88°.43W, h15^{km}, MW4.4*
*UCR **07** 07:06:06.7±2.2, 12°.55N×88°.45W, h5^{km}, ML4.5, MW4.4, mb4.6(NEIC)*
*SNET **07** 07:06:08.7±0.8, 12°.64N×88°.34W, h50^{km}±21^{km}, ML4.7*
*IDC **07** 07:06:08.7±0.6, 12°.78N×88°.03W, h46^{km}±4^{km}, mb4.2/19, mb1 4.4/21, mb1mx4.1/45, mbtmp4.4/21, MS3.7/17, Ms1 3.7/17, ms1mx3.5/38, Error ellipse: s-maj=21.6km s-min=10.9km az=56.0*
*NEIC **07** 07:06:10.9±2.1, 12°.74N±0°.06×88°.20W±0°.05, h58^{km}±6^{km}, mb4.6/369, Md4.7(SNET), Error ellipse: s-maj=10.0km s-min=5.9km az=218.0*
*GCG **07** 07:06:11.7±0.3, 13°.15N×88°.74W, h198^{km}±41^{km}, MD4.3*
ISC 07 07:06:08.7±0.6**, 12°.65N**±0°.04×**88°.28W**±0°.04**, h50^{km}**±5^{km}**, n715, σ1^{s}08**/714**, mb4.6**/188**, MS4.0**/20**, 6C-29D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JUCU	Jucuar¡n	0.60	3	⇓iP	Pn	07 06 21.4	+0.1
JUCU				IAML		07 06 32.9	
	comp=Z,33μm,0.3s						
JUCU	Jucuar¡n	0.60	3	⇓iP	Pn	07 06 21.4	+0.1
JUCU				IAML		07 06 32.9	
	comp=Z,33μm,0.3s						
ALJI	Alcalda de J	0.73	337	⇓iP	Pn	07 06 22.8	0.0
ALJI				eS	Sn	07 06 34.0	+1.0
ALJI				IAML		07 06 35.9	
	comp=Z,14μm,0.3s						
ALJI	Alcalda de J	0.73	337	⇓iP	Pn	07 06 22.8	0.0
ALJI				eS	Sn	07 06 34.0	+1.0
ALJI				IAML		07 06 35.9	
	comp=Z,14μm,0.3s						
LCND	La Caada	0.76	30	⇓iP	Pn	07 06 23.7	+0.5
LCND	La Caada	0.76	30	⇓iP	Pn	07 06 23.7	+0.5
CNCH	Conchagua	0.76	35	⇓eP	Pn	07 06 23.8	+0.4
CNCH	Conchagua	0.76	35	⇓eP	Pn	07 06 23.8	+0.4
LCY	Lacayo	0.77	359	⇓iP	Pn	07 06 24.0	+0.6
LCY	Lacayo	0.77	359	⇓iP	Pn	07 06 24.0	+0.6
PACA	Pacayal	0.81	357	eP	Pn	07 06 24.8	+0.7
PACA				eS	Sn	07 06 36.9	+1.7
PACA	Pacayal	0.81	357	eP	Pn	07 06 24.8	+0.7
PACA				eS	Sn	07 06 36.9	+1.7
TECA	Tecapa	0.86	346	⇓iP	Pn	07 06 25.0	+0.2
TECA	Tecapa	0.86	346	⇓iP	Pn	07 06 25.0	+0.2
COEB	Comit de Eme	0.88	344	⇓iP	Pn	07 06 24.9	+0.1
COEB				IAML		07 06 44.6	
	comp=Z,12μm,0.4s						
COEB	Comit de Eme	0.88	344	⇓iP	Pn	07 06 24.9	+0.1
COEB				IAML		07 06 44.6	
	comp=Z,12μm,0.4s						
PQSS	Presa 15 de Se	1.00	344	i P	Pn	07 06 26.9	+0.5
TECO	Alcaldia de Te	1.00	331	⇓eP	Pn	07 06 26.1	-0.4
COEG	Centro de Oper	1.12	329	⇓iP	Pn	07 06 27.9	-0.2
COEG				IAML		07 06 46.4	
	comp=Z,12μm,0.3s						
COEG	Centro de Oper	1.12	329	⇓iP	Pn	07 06 27.9	-0.2
COEG				IAML		07 06 46.4	
	comp=Z,12μm,0.3s						
SJTE	Alcalda de S	1.19	324	⇓eP	Pn	07 06 28.7	-0.3
SJTE				eS	Sn	07 06 43.9	-0.3
SJTE				IAML		07 06 48.3	
	comp=Z,11μm,0.3s						
SJTE	Alcalda de S	1.19	324	⇓eP	Pn	07 06 28.7	-0.3
SJTE				eS	Sn	07 06 43.9	-0.3
SJTE				IAML		07 06 48.3	
	comp=Z,11μm,0.3s						
CRIN	San Cristobal	1.20	88	Pn	Pn	07 06 29.6	+0.3
CRIN				Sn	Sn	07 06 44.5	0.0
LFRS	El Faro	1.23	322	⇓iP	Pn	07 06 29.4	-0.3
LFRS	El Faro	1.23	322	⇓iP	Pn	07 06 29.4	-0.3
PAVA	Las Pavas	1.23	329	⇓iP	Pn	07 06 29.9	+0.2
PAVA	Las Pavas	1.23	329	⇓iP	Pn	07 06 29.9	+0.2
LALI	Alcalda de L	1.31	310	⇑iP	Pn	07 06 29.9	-0.7
LALI	Alcalda de L	1.31	310	⇑iP	Pn	07 06 29.9	-0.7
LBRS	Las Brisas	1.31	326	⇓iP	Pn	07 06 31.0	+0.3
LBRS	Las Brisas	1.31	326	⇓iP	Pn	07 06 31.0	+0.3
AEIL	Aeropuerto Ilo	1.32	322	eP	Pn	07 06 31.0	+0.2
AEIL				IAML		07 06 52.7	
	comp=Z,21μm,0.3s						
AEIL	Aeropuerto Ilo	1.32	322	eP	Pn	07 06 31.0	+0.2
AEIL				IAML		07 06 52.7	
	comp=Z,21μm,0.3s						
UDBS	Universidad Do	1.36	321	eP	Pn	07 06 31.3	0.0
UDBS	Universidad Do	1.36	321	eP	Pn	07 06 31.3	0.0
IGN	Direccin Gen	1.36	321	eP	Pn	07 06 31.3	-0.1
IGN	Direccin Gen	1.36	321	eP	Pn	07 06 31.3	-0.1
OPAM	Oficina de Pla	1.38	320	i P	Pn	07 06 31.5	-0.1
OPAM	Oficina de Pla	1.38	320	i P	Pn	07 06 31.5	-0.1
SNET	Serv Nac Est T	1.38	318	eP	Pn	07 06 31.3	-0.4
SNET				eS	Sn	07 06 49.3	+0.4
SNET				IAML		07 06 52.8	
	comp=Z,13μm,0.3s						
SNET	Serv Nac Est T	1.38	318	eP	Pn	07 06 31.3	-0.4
SNET				eS	Sn	07 06 49.3	+0.4
SNET				IAML		07 06 52.8	
	comp=Z,13μm,0.3s						
SNET	Serv Nac Est T	1.38	318	Pn	Pn	07 06 31.1	-0.6
UEES	Universidad Ev	1.41	319	⇓eP	Pn	07 06 32.0	-0.1
UEES				IAML		07 06 53.8	
	comp=Z,11μm,0.3s						
UEES	Universidad Ev	1.41	319	⇓eP	Pn	07 06 32.0	-0.1
UEES				IAML		07 06 53.8	
	comp=Z,11μm,0.3s						
MAGS	Ministerio de	1.42	316	i P	Pn	07 06 32.1	0.0
BOQS	Boqueron	1.45	318	⇑iP	Pn	07 06 33.0	+0.2
BOQS	Boqueron	1.45	318	⇑iP	Pn	07 06 33.0	+0.2
CNGN	Cerro Negro	1.55	95	Pn	Pn	07 06 34.5	+0.5
CNGN				Sn	Sn	07 06 53.2	+0.1
TGUH	Tegucigalpa,Un	1.71	35	Pn	Pn	07 06 37.6	+1.4
TGUH				Sn	Sn	07 06 54.9	-2.0
CEVE	Cerro Verde	1.75	312	eP	Pn	07 06 36.8	-0.1
CEVE	Cerro Verde	1.75	312	eP	Pn	07 06 36.8	-0.1
SBLS	San Blas	1.76	312	⇑iP	Pn	07 06 37.1	+0.2
SBLS	San Blas	1.76	312	⇑iP	Pn	07 06 37.1	+0.2
SNJE	San Jose	1.77	313	eP	Pn	07 06 37.2	+0.2
SNJE	San Jose	1.77	313	eP	Pn	07 06 37.2	+0.2
RTR	El Retiro	1.81	313	eP	Pn	07 06 38.0	+0.3
RTR	El Retiro	1.81	313	eP	Pn	07 06 38.0	+0.3
SLOZ	Alcaldia de Sa	2.00	313	eP	Pn	07 06 40.4	+0.3
MTO3	Montecristo	2.03	329	⇓iP	Pn	07 06 41.3	+0.7
MTO3	Montecristo	2.03	329	⇓iP	Pn	07 06 41.3	+0.7
MTO3	Montecristo	2.03	329	Pn	Pn	07 06 41.3	+0.7
MASN	Masaya	2.19	107	Pn	Pn	07 06 42.8	+0.2
MRL	Marmol	2.77	331	eP	Pn	07 06 53.0	+2.2
NBG	Las Nubes	2.78	314	eP	Pn	07 06 53.0	+2.1
PCG	Pacaya	2.85	308	eP	Pn	07 06 55.5	+3.6
PCG				eS	Sn	07 07 26.7	+1.6
FUG	Fuego 3	3.06	306	eS	Sn	07 07 30.6	+0.3
ACON	Acoyapa	3.11	102	Pn	Pn	07 06 54.3	-1.0
HZTE	Horizontes, Gu	3.26	126	Pn	Pn	07 06 58.9	+1.6
GBS3	Finca Las Img	3.33	124	eP	Pn	07 07 00.7	+2.3
LAPC	Finca la Perla	3.36	124	eP	Pn	07 07 00.2	+1.4
GB1A	Borinquen Arri	3.36	123	eP	Pn	07 06 59.9	+1.0
BUEV	Buena Vista	3.37	123	eP	Pn	07 07 00.8	+2.0
BUAI	Buenos Aires	3.38	121	eP	Pn	07 07 00.9	+1.8
GPS2	Hotel Rincn d	3.44	123	eP	Pn	07 07 01.3	+1.5
LIM1	Limonal	3.55	123	eP	Pn	07 07 02.1	+0.8
GUAB	Guayabo de Bag	3.56	123	eP	Pn	07 07 02.2	+0.7
ORTG	Ortega, Santa	3.58	129	Pn	Pn	07 07 02.7	+0.9
HORNC	Hornillas	3.60	122	eP	Pn	07 07 02.5	+0.5
GUAI	GUAI	3.60	131	eP	Pn	07 07 03.0	+0.9
COLC	Colonia	3.60	123	eP	Pn	07 07 04.2	+2.1
CUI	Cuipilapa	3.64	123	eP	Pn	07 07 03.8	+1.2
DUNO	Dulce Nombre,	3.74	133	Pn	Pn	07 07 05.2	+1.2
PTEN	Parque Tenorio	3.76	120	eP	Pn	07 07 04.6	+0.4
JTS	Las Juntas de	4.02	125	P	Pn	07 07 09.0	+1.2
	comp=Z,4.3nm,0.3s,baz=179,slow=23,SNR=35						
JTS				S	Sn	07 07 57.1	+3.4
	comp=Z,18nm,0.3s,baz=22,slow=13,SNR=5.9						
JTS	Las Juntas de	4.02	125	Pn	Pn	07 07 09.2	+1.4
CEDE	Laguna Cedeo	4.12	121	eP	Pn	07 07 11.5	+2.3
CASO	Castillo	4.12	122	eP	Pn	07 07 10.3	+1.2
FORC	Fortuna	4.15	121	eP	Pn	07 07 11.8	+2.2
COVE	Coope Vega, Sa	4.26	116	Pn	Pn	07 07 13.3	+2.3
CAO2	Cobano, Puntar	4.29	133	Pn	Pn	07 07 12.4	+1.0
HDC	Heredia	4.86	122	eP	Pn	07 07 24.6	+5.1
OCM	Ochomogo	5.05	122	eP	Pn	07 07 25.9	+3.9
LCR2	La Lucha 2	5.10	124	eP	Pn	07 07 25.5	+2.7
CVTR	Volcan Turrial	5.15	120		Pn	07 07 25.9	+2.2
CCIG	Comitan	5.19	314	Pn	Pn	07 07 26.3	+2.3
RIMA	Rio Macho	5.20	123	eP	Pn	07 07 27.7	+3.6
RIMA	Rio Macho	5.20	123		Pn	07 07 25.8	+1.7
CDM	Cerro de Muert	5.40	124	eP	Pn	07 07 29.9	+2.7
BATAN	Batan	5.44	117		Pn	07 07 29.1	+1.8
PEZE	Perez Zeledon,	5.57	125	eP	Pn	07 07 31.5	+2.4
PEZE	Perez Zeledon,	5.57	125		Pn	07 07 31.3	+2.2
SRBA	San Rafael, Bu	5.91	125		Pn	07 07 36.0	+2.2
EDPN	Palmar Norte	5.99	127	eP	Pn	07 07 37.7	+2.8
EDBA	Buenos Aires	6.02	125	eP	Pn	07 07 37.4	+2.1
RIOS	Rincon, Osa	6.11	129	eP	Pn	07 07 39.0	+2.5
RIOS	Rincon, Osa	6.11	129		Pn	07 07 38.7	+2.2
EDSV	San Vito	6.46	126	eP	Pn	07 07 44.0	+2.7
CDITO	Canoas	6.69	127		Pn	07 07 46.1	+1.7
PRVC	Isla de Provid	6.78	83	Pn	Pn	07 07 47.8	+2.2
CMIG	Matias Romero	7.76	305	P	Pn	07 08 01.2	+2.2
	comp=Z,1.2nm,0.3s,baz=102,slow=9.0,SNR=10.0						
CMIG				S	Sn	07 09 25.1	-0.5
	comp=Z,3.5nm,0.3s,baz=100,slow=9.1,SNR=3.5						
FSCY	Frank Sound, G	9.51	45		Pn	07 08 25.4	+2.4
LCCY	Blossom Villag	10.52	47		Pn	07 08 40.1	+3.3
TLIG	Tlapa	11.06	297		Pn	07 08 45.6	+1.1
SOR	Soroa	11.27	26	Pn	Pn	07 08 48.6	+1.5
MTDJ	Mount Denham	11.75	61	Pn	Pn	07 08 52.4	-1.4
SJCC	San Jacinto, C	13.14	101	Pn	Pn	07 09 12.5	-0.2
GUY2C	Guyana, Caldas	14.73	119	eP	P	07 09 39.8	+0.1
061Z	Ochoppi	14.87	27	Pn	Pn	07 09 37.2	+1.4
TOLC	Tolima	15.11	121	eP	P	07 09 41.4	-2.3
BBAC	Balboa, Cauca	15.20	133	eP	P	07 09 44.3	-0.3
POPC	Popayan, Colom	15.26	130	eP	Pn	07 09 42.2	+0.9
SOTA	Rioblanco	15.58	131	eP	P	07 09 51.5	+2.3
MARP	Paez Belalcaza	15.62	128	eP	P	07 09 50.7	+1.4
OTAV	Otavalo	15.72	141		Pn	07 09 47.3	-0.1
OTAV	Otavalo	15.72	141	eP	P	07 09 50.2	-0.4
ROSC	El Rosal	15.82	118	P	P	07 09 54.0	+2.2
	comp=Z,0.4nm,0.3s,baz=52,slow=23,SNR=4.7						
ROSC				LR	LR	07 16 46.0	
	comp=Z,113nm,21.0s,baz=300,slow=41						
URIC	Uribia, Colomb	15.95	92		P	07 09 53.3	+0.5
FLOC	Florencia	16.66	130	P	P	07 10 00.8	+0.2
FLOC				IAmb	IAmb	07 10 05.3	
	comp=Z,50nm,1.2s						
FLOC	Florencia	16.66	130	eP	P	07 10 01.9	+1.2
SDV	Santo Domingo	17.74	100	P	Pn	07 10 11.5	-0.8
	comp=Z,1.9nm,0.3s,baz=276,slow=5.4,SNR=3.7						
SDV	Santo Domingo	17.74	100	eP	P	07 10 12.8	+0.1
441A	DeRidder	18.57	347	P	Pn	07 10 22.7	+0.5
441A				IAmb	IAmb	07 10 47.2	
	comp=Z,35nm,0.9s						
HKT	Hockley	18.58	339	P	Pn	07 10 22.5	+0.2
346A	Big Creek Wild	18.68	357	P	P	07 10 23.0	+0.2
346A				IAmb	IAmb	07 10 27.2	
	comp=Z,17nm,0.6s						
833A	Chaparral WMA,	18.73	328	P	Pn	07 10 25.2	+1.1
	baz=144						
344A	Westbrook Farm	18.85	354		Pn	07 10 26.3	+0.8
344A				IAmb	IAmb	07 10 36.7	
	comp=Z,63nm,1.0s						
352A	Blakely	18.99	9	P	Pn	07 10 27.5	+0.2
342A	Flagon Creek P	19.00	349	P	Pn	07 10 28.6	+1.2
342A				IAmb	IAmb	07 10 47.0	
	comp=Z,43nm,1.1s						
TIGA	Tifton	19.19	12	P	Pn	07 10 29.3	-0.4
TIGA	Tifton	19.19	12	P	Pn	07 10 32.1	+2.4
	baz=194						
250A	Grady	19.32	5	P	P	07 10 30.5	+0.7
VBMS	Vicksburg	19.58	354	P	Pn	07 10 36.0	+1.7
	baz=173						
NATX	Nacogdoches	19.90	344	P	Pn	07 10 38.1	+0.1
NATX				IAmb	IAmb	07 10 50.2	
	comp=Z,36nm,1.0s						
146A	Union	19.91	358	P	P	07 10 36.7	+0.6
255A	Hazlehurst	19.91	15	P	P	07 10 37.2	+1.0
435B	Jarrell	19.99	336	P	P	07 10 37.6	+0.5
435B				IAmb	IAmb	07 10 43.6	
	comp=Z,20nm,0.7s						
435B	Jarrell	19.99	336	P	Pn	07 10 38.3	-0.8
	baz=153						
143A	Socs Landing,	20.16	352	P	Pn	07 10 40.1	-1.0
143A				IAmb	IAmb	07 10 56.6	
	comp=Z,52nm,1.2s						
152A	Waverly Hall	20.19	9	P	Pn	07 10 40.8	-0.6
152A				IAmb	IAmb	07 10 56.6	
	comp=Z,37nm,0.8s						
LRAL	Lakeview Retre	20.32	3	P	Pn	07 10 42.3	-0.7
LRAL	Lakeview Retre	20.32	3	P	Pn	07 10 43.4	+0.4
	baz=184						
257A	Skidaway Islan	20.36	18	P	P	07 10 41.6	+0.6
154A	Montrose	20.43	13	P	P	07 10 42.7	+0.9
Z47A	Carrollton	20.45	1	P	Pn	07 10 43.9	-0.7
Z47A				IAmb	IAmb	07 11 00.8	
	comp=Z,29nm,0.9s						
237A	Washetta, Mont	20.46	341	P	Pn	07 10 43.5	-1.2
JCT	Junction City	20.70	331	P	P	07 10 45.0	+0.2
JCT				IAmb	IAmb	07 10 49.9	
	comp=Z,35nm,0.7s						
JCT	Junction City	20.70	331	P	P	07 10 46.0	+1.2
	baz=147,SNR=31						
Z41A	Richland Creek	20.92	349	P	Pn	07 10 49.8	-0.3
	baz=168,SNR=5.9						
WHTX	Lake Whitney,	21.01	338	P	P	07 10 47.9	-0.2
WHTX				IAmb	IAmb	07 11 06.4	
	comp=Z,51nm,1.3s						
GOGA	Godfrey	21.13	11	P	P	07 10 51.9	+2.6
GOGA				IAmb	IAmb	07 11 07.0	
	comp=Z,28nm,0.8s						
GOGA	Godfrey	21.13	11	P	P	07 10 51.9	+2.6
	baz=193,SNR=19						
Y45A	Yeager Farm, C	21.15	357	P	P	07 10 52.1	+2.5
Y45A				IAmb	IAmb	07 11 09.4	
	comp=Z,27nm,0.9s						
Y49A	Blount Mountai	21.18	4	P	P	07 10 51.1	+1.2
WLAR	White Oak Lake	21.40	349	P	P	07 10 51.4	-0.8
WLAR				IAmb	IAmb	07 10 57.8	
	comp=Z,27nm,0.7s						
CCAR	Cane Creek	21.41	352	P	P	07 10 53.4	+1.1
CCAR				IAmb	IAmb	07 11 11.7	
	comp=Z,37nm,0.8s						
Z38A	Mt. Pleasant	21.41	344	P	P	07 10 53.3	+1.0
Z38A				IAmb	IAmb	07 11 12.6	
	comp=Z,16nm,0.7s						
Y52A	Lilburn	21.46	10	P	P	07 10 54.7	+1.7
HPIG		21.63	314	P	P	07 10 56.6	+1.7
X48A	Hartselle	21.73	3	P	P	07 10 56.1	+0.3
OXF	Oxford	21.79	357	P	P	07 10 57.5	+1.1
OXF				IAmb	IAmb	07 11 16.8	
	comp=Z,34nm,0.8s						
OXF	Oxford	21.79	357	P	P	07 10 57.5	+1.2
	baz=177,SNR=6.4						
TX31	Lajitas Ar. Si	21.91	322	P	P	07 10 59.4	+1.5
TX32	Lajitas Array	21.91	322	P	P	07 10 59.4	+1.6
TX32				IAmb	IAmb	07 11 02.0	
	comp=Z,16nm,0.8s						
TXAR	Lajitas Array	21.91	322	P	P	07 10 59.3	+1.4
	comp=Z,19nm,0.8s,baz=139,slow=9.8,SNR=163						
TXAR				PcP	PcP	07 14 57.5	+1.7
	comp=Z,1.4nm,0.9s,baz=165,slow=3.0,SNR=5.6						
TXAR				pPcP		07 15 11.1	
	comp=Z,1.7nm,0.8s,baz=160,slow=4.0,SNR=7.1						
TXAR				ScP	ScP	07 18 33.5	+4.5
	comp=Z,0.3nm,0.8s,baz=152,slow=5.8,SNR=3.8						
TXAR				LR	LR	07 20 31.5	
	comp=Z,91nm,18.2s,baz=0.0,slow=39						
TXAR	Lajitas Array	21.91	322	P	P	07 10 59.2	+1.3
FPAL	Fort Paine	21.93	6	P	P	07 10 59.3	+1.4
X40A	Basin Creek Fa	22.13	350	P	P	07 11 01.9	+1.9
X40A				IAmb	IAmb	07 11 25.6	
	comp=Z,23nm,1.4s						
X40A	Basin Creek Fa	22.13	350	P	P	07 11 02.6	+2.6
	baz=168						
Z35A	Perchaven, San	22.16	340	P	P	07 11 00.1	-0.3
HODGE	Hodges	22.17	13	P	P	07 11 02.6	+2.1
PLAL	Pickwick Lake	22.23	0	P	P	07 11 01.7	+0.5
CBYP	Canovanas	22.32	73	P	P	07 11 01.4	-0.9
CBYP				IAmb	IAmb	07 11 17.7	
	comp=Z,28nm,1.2s						
MIAR	Mount Ida	22.32	348	P	P	07 11 03.2	+1.1
MIAR				IAmb	IAmb	07 11 20.7	
	comp=Z,21nm,1.0s						
MIAR	Mount Ida	22.32	348	P	P	07 11 03.3	+1.2
	baz=166,SNR=19						
W45A	Hickory Valley	22.42	358	P	P	07 11 03.3	+0.1
ABTX	Abilene, Hawle	22.44	334	P	P	07 11 03.9	+0.4
ABTX				IAmb	IAmb	07 11 06.7	
	comp=Z,20nm,0.9s						
ABTX	Abilene, Hawle	22.44	334	P	P	07 11 05.3	+1.8
	baz=150,SNR=7.3						
Y57A	Sumter	22.45	17	P	P	07 11 04.3	+0.8
JSC	Jenkinsville	22.46	15	P	P	07 11 03.2	-0.4
MTP	Monte Pirata	22.57	73	P	P	07 11 04.5	-0.4
MTP				IAmb	IAmb	07 11 05.9	
	comp=Z,17nm,0.8s						
SWET	Sewanee	22.57	5	P	P	07 11 05.6	+0.8
Y58A	Scranton	22.57	19	P	P	07 11 05.9	+1.2
W50A	Signal Mountai	22.61	6	P	P	07 11 05.8	+0.5
W52A	Murphy	22.69	9	P	P	07 11 07.7	+1.6
W52A				IAmb	IAmb	07 11 28.8	
	comp=Z,16nm,0.9s						
W41B	Gary Mavity, V	22.71	352	P	P	07 11 07.1	+0.8
	baz=170,SNR=11						
LOOK	Love County	22.74	341	P	P	07 11 07.3	+0.8
LOOK				IAmb	IAmb	07 11 30.9	
	comp=Z,22nm,0.7s						
BG3	Lake Jocassee	22.77	11	P	P	07 11 08.1	+1.2
BG3				IAmb	IAmb	07 11 23.2	
	comp=Z,38nm,1.3s						
X37A	Clayton	22.77	345	P	P	07 11 08.8	+1.9
X37A				IAmb	IAmb	07 11 27.8	
	comp=Z,19nm,0.8s						
WHAR	Wooly Hollow	22.83	352	P	P	07 11 07.9	+0.4
WHAR				IAmb	IAmb	07 11 09.6	
	comp=Z,19nm,0.7s						
PAULI	Pauline	22.84	14	P	P	07 11 08.8	+1.2
PAULI				IAmb	IAmb	07 11 24.6	
	comp=Z,39nm,1.0s						
CPCT	Cooper Cave	22.95	8	P	P	07 11 09.5	+0.7
CPCT				IAmb	IAmb	07 11 26.2	
	comp=Z,48nm,1.5s						
W39A	Magazine	22.99	348	P	P	07 11 10.3	+1.1
W39A				IAmb	IAmb	07 11 12.0	
	comp=Z,18nm,0.9s						
W39A	Magazine	22.99	348	P	P	07 11 10.6	+1.5
	baz=166,SNR=13						
BIRD	Birdtown, Kers	23.02	17	P	P	07 11 10.6	+1.1
BIRD				IAmb	IAmb	07 11 25.4	
	comp=Z,31nm,0.9s						
V48A	Smith Brothers	23.03	3	P	P	07 11 09.8	+0.2
STVI	Saint Thomas	23.17	73	P	P	07 11 10.2	-0.9
KMSC	Kings Mountain	23.26	15	P	P	07 11 12.8	+1.0
KMSC				IAmb	IAmb	07 11 27.8	
	comp=Z,21nm,0.9s						
KMSC	Kings Mountain	23.26	15	P	P	07 11 13.0	+1.2
	baz=197,SNR=12						
TKL	Tuckaleechee C	23.27	9	P	P	07 11 12.5	+0.6
	comp=Z,19nm,0.8s,baz=181,slow=12,SNR=31						
TKL	Tuckaleechee C	23.27	9	P	P	07 11 12.8	+0.9
TKL				IAmb	IAmb	07 11 29.7	
	comp=Z,30nm,1.0s						
X58A	Rowland	23.27	19	P	P	07 11 13.0	+1.1
X58A				IAmb	IAmb	07 11 27.7	
	comp=Z,23nm,0.7s						
SLBS	Sierra La Lagu	23.29	301	P	P	07 11 15.5	+3.1
PCRV	Puerto La Cruz	23.31	94	P	P	07 11 11.9	-0.7
	comp=Z,5.3nm,0.6s,baz=12,slow=4.3,SNR=2.4						
V51A	Loudon	23.32	8	P	P	07 11 13.4	+1.0
V51A				IAmb	IAmb	07 11 30.6	

comp=Z,34nm,1.4s
WVT Waverly 23.38 1 P P 07 11 13.4 +0.4
WVT Waverly 23.38 1 P P 07 11 13.4 +0.4
baz=181
FCAR Ozark Folk Cen 23.40 352 P P 07 11 13.5 +0.4
FCAR IAmb IAmb 07 11 36.2
comp=Z,22nm,1.0s
CLTN Cedars of Leba 23.40 4 P P 07 11 13.6 +0.4
V53A Saluda 23.44 11 P P 07 11 15.0 +1.3
V53A IAmb IAmb 07 11 30.9
comp=Z,19nm,0.8s
LCAR Lake Charles 23.46 354 P P 07 11 13.8 +0.1
V52A Sevierville 23.47 10 P P 07 11 15.1 +1.2
V52A IAmb IAmb 07 11 30.2
comp=Z,18nm,0.9s
X34A Smith Ranch, M 23.51 340 P P 07 11 15.8 +1.6
W57A Gilead 23.63 17 P P 07 11 16.2 +0.9
W57A IAmb IAmb 07 11 30.6
comp=Z,18nm,0.9s
HICK Hickman 23.80 358 P P 07 11 17.2 +0.3
U49A Red Boiling Sp 23.87 5 P P 07 11 17.4 -0.1
U49A IAmb IAmb 07 11 35.4
comp=Z,13nm,0.9s
PARMO Parma 23.95 357 P P 07 11 18.8 +0.6
PARMO IAmb IAmb 07 11 19.4
comp=Z,23nm,0.7s
U40A Yellville 23.96 351 P P 07 11 18.8 +0.4
U40A Yellville 23.96 351 P P 07 11 19.0 +0.7
baz=169,SNR=32
WMOK Wichita Mounta 23.96 338 P P 07 11 18.4 -0.1
WMOK Wichita Mounta 23.96 338 P P 07 11 19.1 +0.6
baz=154,SNR=10.0
V55A Taylorsville 23.96 14 P P 07 11 19.6 +1.2
FNO Franklin 23.97 341 P P 07 11 18.9 +0.4
HHAR Hobbs 24.07 349 P P 07 11 19.9 +0.5
HHAR IAmb IAmb 07 11 22.0
comp=Z,17nm,0.6s
PBMO Poplar Bluff 24.10 356 P P 07 11 19.4 -0.2
PBMO IAmb IAmb 07 11 20.5
comp=Z,14nm,0.8s
TUL1 Leonard 24.13 345 P P 07 11 19.8 -0.1
baz=162
TZTN Tazewell 24.17 9 P P 07 11 20.9 +0.6
TZTN IAmb IAmb 07 11 36.9
comp=Z,21nm,0.8s
TZTN Tazewell 24.17 9 P P 07 11 20.6 +0.3
baz=191
OK025 Westminster Rd 24.25 342 P P 07 11 21.1 +0.1
OK025 IAmb IAmb 07 11 24.2
comp=Z,16nm,0.6s
T47A Sharon Grove 24.26 2 P P 07 11 20.8 -0.2
T47A IAmb IAmb 07 11 35.7
comp=Z,34nm,1.0s
T45A Paducah 24.27 359 P P 07 11 21.2 0.0
U38A Gravette 24.31 348 P P 07 11 22.1 +0.4
CNNC Cliffs of the 24.38 21 P P 07 11 22.6 +0.4
CNNC IAmb IAmb 07 11 23.7
comp=Z,17nm,0.8s
OK031 S. Brethren Rd 24.45 343 P P 07 11 22.3 -0.6
U54A Nelsons Funny 24.47 13 P P 07 11 23.3 +0.2
V58A Windy Hill, Pi 24.48 18 P P 07 11 23.7 +0.5
OK029 Liberty Lake 24.49 342 P P 07 11 23.3 +0.1
QUOK Quay 24.62 343 P P 07 11 24.2 -0.2
QUOK IAmb IAmb 07 11 25.0
comp=Z,18nm,0.6s
MNTX Cornudas Mount 24.63 323 P P 07 11 25.0 +0.4
MNTX Cornudas Mount 24.63 323 P P 07 11 24.9 +0.3
baz=137,SNR=18
U56A King 24.64 15 P P 07 11 25.0 +0.4
U56A IAmb IAmb 07 11 43.0
comp=Z,26nm,1.0s
MGMO Mountain Grove 24.66 352 P P 07 11 25.0 +0.2
MGMO IAmb IAmb 07 11 43.0
comp=Z,16nm,0.9s
TBTG Tabatinga, AM 24.76 131 eP P 07 11 27.0 +1.1
S44A Carbondale 24.95 358 P P 07 11 27.1 -0.3
S44A IAmb IAmb 07 11 47.5
comp=Z,14nm,0.8s
SIUC Southern Illin 24.97 358 P P 07 11 27.5 -0.1
SIUC IAmb IAmb 07 11 28.2
comp=Z,12nm,0.7s
MSTX Muleshoe 24.99 331 P P 07 11 28.0 +0.1
MSTX Muleshoe 24.99 331 P P 07 11 28.4 +0.5
baz=145,SNR=40
S51A Beattyville 25.23 9 P P 07 11 29.6 -0.3
S51A IAmb IAmb 07 11 56.5
comp=Z,17nm,1.0s
AMTX Amarillo 25.25 333 P P 07 11 31.1 +0.8
AMTX Amarillo 25.25 333 P P 07 11 31.3 +1.1
baz=148
T35A Sooner Cattle 25.27 344 P P 07 11 29.5 -0.7
BLOK Blackwell 25.31 343 P P 07 11 30.4 -0.3
S39A Bolivar 25.34 351 P P 07 11 30.8 -0.1
U59A Littleton 25.42 20 P P 07 11 32.0 +0.4
U59A IAmb IAmb 07 11 49.1
comp=Z,13nm,0.8s
CCM Cathedral Cave 25.44 355 P P 07 11 31.3 -0.5
CCM IAmb IAmb 07 11 45.9
comp=Z,14nm,0.8s
CCM Cathedral Cave 25.44 355 P P 07 11 31.6 -0.2
baz=173
BLA Blacksburg 25.45 15 P P 07 11 32.5 +0.5
BLA IAmb IAmb 07 11 47.7
comp=Z,20nm,0.8s
BLA Blacksburg 25.45 15 P P 07 11 33.1 +1.1
baz=198
CZSB Cruzeiro do Su 25.49 142 eP P 07 11 33.9 +1.4
WCI Wyandotte Cave 25.53 4 P P 07 11 32.5 -0.2
WCI IAmb IAmb 07 11 33.4
comp=Z,16nm,0.7s
WCI Wyandotte Cave 25.53 4 P P 07 11 32.5 -0.1
baz=184
T57A Hurt 25.56 17 P P 07 11 34.0 +1.0
T57A IAmb IAmb 07 11 48.5
comp=Z,25nm,1.1s
GC02 Grant County # 25.59 342 P P 07 11 32.7 -0.5
KAN13 South Haven SW 25.62 343 P P 07 11 32.6 -0.9
KAN13 IAmb IAmb 07 11 36.9
comp=Z,23nm,0.7s
OK032 Salt Plains WL 25.65 341 P P 07 11 33.3 -0.5
OK032 IAmb IAmb 07 11 36.9
comp=Z,21nm,0.9s
R49A Shelbyville 25.68 6 P P 07 11 33.4 -0.6
KAN14 Manchester OK 25.71 342 P P 07 11 33.5 -0.9
KAN17 Caldwell West 25.73 342 P P 07 11 33.5 -1.0
R50A Paris 25.77 7 P P 07 11 34.2 -0.6
R40A Maddies Statio 25.78 353 P P 07 11 34.8 -0.1
S54A Dingess, Beckl 25.81 13 P P 07 11 35.6 +0.4
S54A IAmb IAmb 07 11 51.9
comp=Z,14nm,0.8s
KAN05 Bluff City Nor 25.83 342 P P 07 11 36.2 +0.8
KAN08 Anthony NE Sta 25.97 342 P P 07 11 38.1 +1.4
OLIL Olney 25.98 0 P P 07 11 36.6 -0.1
OLIL IAmb IAmb 07 11 50.9
comp=Z,14nm,1.0s
KAN12 Harper NE Stat 26.04 342 P P 07 11 37.2 -0.1
Q44A Meyer Farm, Va 26.15 359 P P 07 11 37.9 -0.4
Q44A IAmb IAmb 07 11 38.6
comp=Z,18nm,0.7s
R53A Hurricane 26.19 11 P P 07 11 38.9 +0.3
R53A IAmb IAmb 07 11 55.3
comp=Z,20nm,1.1s
BLO Bloomington 26.46 3 P P 07 11 40.0 -1.1
Q51A Peebles 26.63 9 P P 07 11 42.9 +0.3
Q51A IAmb IAmb 07 11 57.9
comp=Z,20nm,0.8s
121A Cookes Peak, D 26.66 321 P P 07 11 42.6 -0.6
Q52A Bidwell 26.74 10 P P 07 11 43.1 -0.5
Q52A IAmb IAmb 07 11 59.0
comp=Z,11nm,0.8s
SRIG Santa Rosalia 26.76 307 P P 07 11 44.9 +1.0
SRIG IAmb IAmb 07 11 46.8
comp=Z,17nm,0.9s
P48A Milroy 26.82 5 P P 07 11 43.1 -1.2
R58B Mineral 26.86 18 P P 07 11 45.6 +0.9
R58B IAmb IAmb 07 12 00.2
comp=Z,19nm,1.1s
P46A Rosedale 26.88 2 P P 07 11 44.6 -0.2
P40A Paris 26.98 354 P P 07 11 45.7 0.0
P40A IAmb IAmb 07 11 48.1
comp=Z,9.2nm,0.7s
Q54A Coxs Mills 27.05 13 P P 07 11 46.3 0.0
Q54A IAmb IAmb 07 11 47.8
comp=Z,18nm,0.7s
P51A Williamsport 27.12 9 P P 07 11 46.2 -0.8
BNM Barren Site 27.14 325 P P 07 11 48.5 +0.9
CBN Corbin Frederi 27.24 19 P P 07 11 48.5 +0.5
Y22D IRIS PASSCAL I 27.25 325 P P 07 11 48.6 +0.2
Y22D IRIS PASSCAL I 27.25 325 P P 07 11 51.5 +3.1
baz=137,SNR=7.8
P38A Dawn 27.26 351 P P 07 11 47.8 -0.5
P38A IAmb IAmb 07 11 49.1
comp=Z,14nm,0.7s
R32A Long Quarter, 27.29 342 P P 07 11 48.4 -0.2
LENM Lemitar 27.34 325 P P 07 11 50.6 +1.3
LENM PcP PcP 07 15 09.1 +1.4
O44A Mansfield 27.39 360 P P 07 11 48.6 -0.8
O44A IAmb IAmb 07 11 49.5
comp=Z,13nm,0.6s
P53A Whipple 27.41 12 P P 07 11 50.1 +0.4
P53A IAmb IAmb 07 12 05.0
comp=Z,19nm,1.1s
P52A Corning 27.42 10 P P 07 11 49.9 +0.2
P52A IAmb IAmb 07 12 04.7
comp=Z,9.6nm,0.8s
P52A Corning 27.42 10 P P 07 11 49.6 -0.1
baz=193
Q56A Snyder Ridge, 27.49 15 P P 07 11 51.3 +0.9
Q56A IAmb IAmb 07 12 08.4
comp=Z,15nm,0.8s
ANMO Albuquerque 27.64 326 P P 07 11 53.8 +1.9
comp=Z,1.9nm,0.6s,baz=138,slow=9.1,SNR=12
ANMO PcP PcP 07 15 09.2 +0.8
comp=Z,0.8nm,0.4s,baz=132,slow=3.6,SNR=3.5
ANMO pPcP 07 15 24.0
comp=Z,0.9nm,0.6s,baz=176,slow=6.0,SNR=4.7
SFIN Lafayette 27.64 2 P P 07 11 50.8 -0.8
SFIN Lafayette 27.64 2 P P 07 11 50.7 -0.9
baz=182
O49A Covington 27.65 7 P P 07 11 51.1 -0.6
O49A IAmb IAmb 07 11 51.8
comp=Z,9.9nm,0.7s
HDIL Hopedale 27.81 358 P P 07 11 52.6 -0.5
HDIL IAmb IAmb 07 12 06.9
comp=Z,10nm,0.9s
ACSO Alum Creek Sta 27.87 9 P P 07 11 53.4 -0.2
ACSO IAmb IAmb 07 11 54.7
comp=Z,14nm,0.7s
ACSO Alum Creek Sta 27.87 9 P P 07 11 53.8 +0.1
baz=191,SNR=8.0
MCWV Mont Chateau 27.91 14 P P 07 11 53.8 -0.3
MCWV IAmb IAmb 07 11 55.5
comp=Z,7.9nm,0.8s
MCWV Mont Chateau 27.91 14 P P 07 11 54.4 +0.3
baz=198
CBKS Cedar Bluff 27.97 341 P P 07 11 54.8 +0.2
CBKS IAmb IAmb 07 12 18.6
comp=Z,8.6nm,0.7s
CBKS Cedar Bluff 27.97 341 P P 07 11 54.8 +0.2
baz=156
O53A New Philadelph 28.19 12 P P 07 11 56.4 -0.1
O53A IAmb IAmb 07 12 11.3
comp=Z,9.4nm,0.7s
O53A New Philadelph 28.19 12 P P 07 11 56.7 +0.2
baz=195
N47A Urbana 28.21 4 P P 07 11 56.0 -0.7
P57A Homestead Farm 28.23 17 P P 07 11 58.1 +1.2
O54A Avella 28.29 13 P P 07 11 57.5 0.0
O54A IAmb IAmb 07 11 58.7
comp=Z,10nm,0.7s
T25A Trinidad 28.34 332 P P 07 11 59.9 +1.6
T25A IAmb IAmb 07 12 01.1
comp=Z,15nm,0.7s
T25A Trinidad 28.34 332 P P 07 11 60.0 +1.7
baz=145,SNR=17
N38A Joes South For 28.37 352 P P 07 11 57.7 -0.4
N38A IAmb IAmb 07 11 59.6
comp=Z,12nm,0.5s
N49A Columbus Grove 28.39 7 P P 07 11 57.8 -0.5
N49A IAmb IAmb 07 11 59.3
comp=Z,10nm,0.8s
TUC Tucson 28.44 317 P P 07 12 00.7 +1.7
TUC Tucson 28.44 317 P P 07 12 04.0 +5.0
baz=128
N53A Lisbon 28.80 12 P P 07 12 01.4 -0.5
N53A IAmb IAmb 07 12 04.3
comp=Z,7.6nm,0.7s
O56A Blue Knob Stat 28.81 16 P P 07 12 02.5 +0.4
N35A Tabor 28.83 348 P P 07 12 01.8 -0.5
N35A IAmb IAmb 07 12 03.5
comp=Z,14nm,0.9s
M50A Fremont 29.01 8 P P 07 12 03.3 -0.5
N33A J Bar K, Exete 29.11 346 P P 07 12 04.7 -0.1
N54A Moraine State 29.12 13 P P 07 12 04.9 0.0
N54A IAmb IAmb 07 12 06.0
comp=Z,11nm,0.7s
N54A Moraine State 29.12 13 P P 07 12 05.0 +0.2
baz=197,SNR=8.0
P60A Greenville 29.27 20 P P 07 12 06.7 +0.7
baz=206
L42A Oliver, Polo 29.27 358 P P 07 12 05.3 -0.8
L42A IAmb IAmb 07 12 05.8
comp=Z,7.1nm,0.6s
PAGS Pennsylvania G 29.30 18 P P 07 12 06.8 +0.4
PAGS IAmb IAmb 07 12 21.7
comp=Z,13nm,0.8s
SSPA Standing Stone 29.34 16 P P 07 12 07.0 +0.3
SSPA IAmb IAmb 07 12 21.8
comp=Z,8.2nm,0.8s
SSPA Standing Stone 29.34 16 P P 07 12 07.1 +0.4
baz=201
SDCO Great Sand Dun 29.34 331 P P 07 12 08.8 +1.6
SDCO Great Sand Dun 29.34 331 P P 07 12 08.7 +1.6
baz=144,SNR=17
L48A N Adams 29.38 6 P P 07 12 06.0 -1.0
L48A IAmb IAmb 07 12 06.8
comp=Z,11nm,0.8s
L40A Anamosa 29.41 356 P P 07 12 06.6 -0.8
L40A IAmb IAmb 07 12 21.9
comp=Z,11nm,0.9s
M53A WI Miller and 29.44 12 P P 07 12 06.3 -1.3
M53A IAmb IAmb 07 12 23.5
comp=Z,9.9nm,0.8s
M53A WI Miller and 29.44 12 P P 07 12 07.4 -0.3
baz=195
M54A Oil Creek Stat 29.72 13 P P 07 12 10.3 +0.2
M54A IAmb IAmb 07 12 11.1
comp=Z,8.6nm,0.7s
M54A Oil Creek Stat 29.72 13 P P 07 12 10.1 0.0
baz=197
AAM Ann Arbor 29.81 7 P P 07 12 10.0 -0.9
AAM IAmb IAmb 07 12 13.2
comp=Z,12nm,0.6s
AAM Ann Arbor 29.81 7 P P 07 12 10.6 -0.3
baz=189
N58A Sunbury 29.86 18 P P 07 12 12.7 +1.3
S22A 4UR Ranch, Cre 29.98 330 P P 07 12 14.5 +1.7
baz=142,SNR=26
LUPA Lehigh Univers 30.06 20 P P 07 12 13.8 +0.7
LUPA IAmb IAmb 07 12 14.8
comp=Z,8.6nm,0.7s
K38A Parkersburg 30.14 353 P P 07 12 14.4 +0.6
X16A Lo Mia Camp, P 30.20 320 P P 07 12 16.7 +2.1
M57A Sunshine Farm, 30.20 17 P P 07 12 15.1 +0.7
M57A IAmb IAmb 07 12 29.6
comp=Z,14nm,0.8s
N59A State Game Lan 30.22 19 P P 07 12 15.2 +0.6
N59A IAmb IAmb 07 12 30.1
comp=Z,10nm,1.0s
N59A State Game Lan 30.22 19 P P 07 12 15.3 +0.8
baz=205
MVCO Mesa Verde 30.43 327 P P 07 12 17.4 +0.7
MVCO Mesa Verde 30.43 327 P P 07 12 18.0 +1.3
baz=138
J47A Sunmer 30.62 5 P P 07 12 16.8 -1.2
J47A IAmb IAmb 07 12 18.8
comp=Z,9.2nm,0.6s
WUAZ Wupatki 30.87 321 P P 07 12 21.6 +1.0
WUAZ Wupatki 30.87 321 P P 07 12 22.6 +2.0
baz=132
ISCO Idaho Springs 31.07 334 P P 07 12 22.5 +0.1
ISCO IAmb IAmb 07 12 25.7
comp=Z,6.9nm,0.8s
ISCO Idaho Springs 31.07 334 P P 07 12 23.6 +1.2
baz=146,SNR=14
I42A Draeger Farm, 31.13 359 P P 07 12 21.4 -1.1
I42A IAmb IAmb 07 12 36.2
comp=Z,9.4nm,0.8s
PV01 Paradox Valley 31.16 328 P P 07 12 24.8 +1.6
SMCO Snowmass 31.18 331 P P 07 12 24.3 +0.8
SMCO IAmb IAmb 07 12 25.7
comp=Z,9.9nm,0.8s
I40A Norwalk 31.19 357 P P 07 12 22.2 -0.9
ETMB Extrema 31.29 135 eP P 07 12 24.4 +0.2
PV02 Paradox Valley 31.30 328 P P 07 12 25.7 +1.3
BINY Binghamton 31.32 18 P P 07 12 24.7 +0.4
BINY IAmb IAmb 07 12 40.9
comp=Z,13nm,1.1s
BINY Binghamton 31.32 18 P P 07 12 24.7 +0.4
baz=203
PV19 Morning Glory 31.50 328 P P 07 12 27.1 +0.9
PV19 IAmb IAmb 07 12 30.2
comp=Z,7.4nm,0.6s
PV04 Paradox Valley 31.52 328 P P 07 12 27.8 +1.5
PV04 IAmb IAmb 07 12 30.6
comp=Z,7.5nm,0.8s
I37A Lemond, Waseca 31.56 353 P P 07 12 25.5 -0.8
MACA Manacapuru-AM 31.60 118 eP P 07 12 27.1 +0.1
L59A Walton 31.61 19 P P 07 12 26.6 -0.2
L59A IAmb IAmb 07 12 42.9
comp=Z,12nm,0.9s
J54A Appleton 31.63 13 P P 07 12 26.9 +0.1
K57A Scipio Center 31.66 17 P P 07 12 26.9 -0.3
K57A IAmb IAmb 07 12 41.3
comp=Z,8.1nm,0.8s
ECSD EROS Data Cent 31.79 349 P P 07 12 27.8 -0.6
ECSD IAmb IAmb 07 12 30.7
comp=Z,5.8nm,0.8s
ECSD EROS Data Cent 31.79 349 P P 07 12 27.4 -1.0
baz=164,SNR=8.3
PDMCI Parker Dam,Lak 31.88 317 P P 07 12 31.0 +1.7
baz=126
U15A North Rim 32.03 322 P P 07 12 32.5 +1.6
J56A Wolcott 32.07 16 P P 07 12 30.7 -0.1
N23A Red Feather La 32.12 334 P P 07 12 32.8 +1.2
baz=146,SNR=5.9
W13A Hualapai Mount 32.19 318 P P 07 12 34.1 +1.9
PHWY Pilot Hill 32.26 335 P P 07 12 33.4 +0.6
PHWY IAmb IAmb 07 12 35.6
comp=Z,5.7nm,0.7s
BC3 Big Chuckawall 32.40 315 P P 07 12 35.7 +1.7
baz=124
J57A Williamstown 32.43 17 P P 07 12 34.2 +0.3
J57A IAmb IAmb 07 12 48.4
comp=Z,7.9nm,0.8s
IRM Iron Mountain 32.47 316 P P 07 12 36.3 +1.8
baz=125
O20A White River Ci 32.53 331 P P 07 12 36.4 +1.2
O20A PcP PcP 07 15 21.3 +0.3
O20A White River Ci 32.53 331 P P 07 12 37.2 +2.0
baz=142,SNR=30
G40A Rib Lake 32.55 357 P P 07 12 34.1 -0.8
G40A IAmb IAmb 07 12 48.8
comp=Z,11nm,1.1s
L61B Northampton 32.64 22 P P 07 12 35.8 0.0
baz=209
SPMN Marine on St. 32.69 354 P P 07 12 35.2 -1.0
PKCU Pink Cliffs 32.73 323 P P 07 12 37.9 +0.8
SAML Samuel 32.90 130 P P 07 12 37.4 -1.0
SRU San Rafael Swe 32.90 327 P P 07 12 39.2 +0.8
SADO Sadowa 32.95 12 P P 07 12 37.8 -0.6
SADO IAmb IAmb 07 12 40.2
comp=Z,9.9nm,0.9s
LCMT Little Creek M 32.99 322 P P 07 12 40.5 +1.3
DELO Deloro Mine 33.05 14 P P 07 12 39.2 -0.1
DELO IAmb IAmb 07 12 54.8
comp=Z,21nm,1.5s
MTPU Mount Pierson 33.06 324 P P 07 12 41.3 +1.3
Q16A Castle Valley 33.11 326 P P 07 12 41.8 +1.5
GMRC Granite Mounta 33.18 316 P P 07 12 42.4 +1.6
baz=125
P17A Butcher Ranch, 33.28 327 P P 07 12 43.0 +1.3
P17A IAmb IAmb 07 12 43.6
comp=Z,6.0nm,0.7s
SZCU Shurtz Canyon 33.28 323 P P 07 12 43.4 +1.6
RWWY Rawlins 33.31 334 P P 07 12 43.2 +1.2
F36A Milaca 33.40 353 P P 07 12 42.0 -0.4
F36A IAmb IAmb 07 12 55.8
comp=Z,7.8nm,0.9s
TMUT Trail Mountain 33.40 327 P P 07 12 43.8 +0.9
RDMU Red Mountain 33.51 330 P P 07 12 44.3 +0.6
F33A 5 Mile Ranch, 33.77 350 P P 07 12 44.6 -1.0
K22A Casper 33.82 335 P P 07 12 46.8 +0.4
K22A Casper 33.82 335 P P 07 12 47.4 +1.1
baz=147,SNR=9.8
E38A The Farm, Brul 33.96 356 P P 07 12 46.4 -0.8
E38A IAmb IAmb 07 13 02.5
comp=Z,10nm,1.0s
MPU Maple Canyon 34.15 327 P P 07 12 50.0 +0.7
RSSD Black Hills 34.16 340 P P 07 12 49.2 0.0
RSSD IAmb IAmb 07 12 51.6
comp=Z,5.3nm,0.6s
RSSD Black Hills 34.16 340 P P 07 12 50.3 +1.1
baz=152
PSUT Pine Spring 34.36 323 P P 07 12 52.7 +1.6
JLU Jordanelle 34.48 328 P P 07 12 53.4 +1.3
TPNV Topopah Spring 34.83 319 P P 07 12 56.7 +1.6
TPNV Topopah Spring 34.83 319 P P 07 12 57.2 +2.0
baz=127,SNR=5.6
TCUT Toone Canyon 34.84 329 P P 07 12 56.3 +1.0
TCUT IAmb IAmb 07 12 58.5
comp=Z,7.2nm,0.6s
DUG Dugway, Tooele 34.91 326 P P 07 12 56.4 +0.6
DUG Dugway, Tooele 34.91 326 P P 07 12 58.1 +2.3
baz=135
FURC Furnace Creek, 34.95 318 P P 07 12 57.9 +2.0
baz=126
SPR3 Spring Creek 3 34.95 323 P P 07 12 57.0 +0.7
LPAZ La Paz 34.98 145 P P 07 12 58.0 +0.8
comp=Z,0.8nm,0.6s,baz=337,slow=6.5,SNR=6.3
LPAZ LR LR 07 27 39.7
comp=Z,106nm,19.2s,baz=308,slow=37
LPAZ La Paz 34.98 145 eP P 07 12 57.6 +0.5
MPMC Manual Prospec 35.13 317 P P 07 12 59.0 +1.2
baz=124
D32A Dogwood Acres, 35.15 350 P P 07 12 56.7 -0.9
PD31 Pinedale Array 35.21 332 P P 07 12 58.3 -0.2
PD31 IAmb IAmb 07 12 59.6
comp=Z,4.1nm,0.7s
PDAR Pinedale Array 35.21 332 P P 07 12 58.9 +0.5
comp=Z,3.9nm,0.6s,baz=128,slow=11,SNR=48
PDAR PcP PcP 07 15 27.9 -0.7
comp=Z,1.0nm,0.6s,baz=139,slow=4.1,SNR=6.7
PDAR pPcP 07 15 41.8
comp=Z,1.2nm,0.7s,baz=149,slow=5.1,SNR=6.4
PDAR LR LR 07 31 15.1
comp=Z,63nm,20.4s,baz=134,slow=43
PDAR Pinedale Array 35.21 332 P P 07 12 59.0 +0.5
BW06 Boulder Array 35.22 332 P P 07 12 58.6 +0.2
BW06 IAmb IAmb 07 12 59.6
comp=Z,4.7nm,0.7s
BW06 Boulder Array 35.22 332 P P 07 12 58.9 +0.4
baz=142,SNR=10
R11A Troy Canyon, C 35.27 321 P P 07 13 00.6 +1.6
baz=129
HWUT Hardware Ranch 35.28 329 P P 07 12 60.0 +1.0
EYMN Ely 35.29 356 P P 07 12 57.6 -1.1
EYMN IAmb IAmb 07 13 02.4
comp=Z,5.1nm,0.7s
E28A Huff 35.40 345 P P 07 12 59.6 -0.1
SPUT South Promonto 35.51 328 P P 07 13 02.2 +1.2
SPUT IAmb IAmb 07 13 05.7
comp=Z,4.8nm,0.9s
BGU Big Grassy Mou 35.54 327 P P 07 13 00.4 -0.8
GRAC Grapevine Rang 35.58 318 P P 07 13 03.8 +2.4
baz=126
G62A West of Eustis 35.81 22 P P 07 13 03.6 +0.3
baz=210
B35A Bob, Littlefor 35.89 354 P P 07 13 03.9 +0.1
B35A IAmb IAmb 07 13 27.8
comp=Z,10nm,1.3s
AHID Auburn Hatcher 35.93 331 P P 07 13 04.8 +0.3
HVU Hansel Valley 36.02 328 P P 07 13 06.3 +1.0
HVU IAmb IAmb 07 13 09.4
comp=Z,3.8nm,0.7s
AGMN Agassiz Nation 36.09 351 P P 07 13 04.9 -0.7
AGMN Agassiz Nation 36.09 351 P P 07 13 04.9 -0.7
baz=167,SNR=9.5
REDW Red Top Meadow 36.27 332 P P 07 13 08.3 +0.8
SNOW Snow King Moun 36.30 332 P P 07 13 08.8 +1.0
MDND Maddock 36.34 347 P P 07 13 07.6 -0.2
MDND Maddock 36.34 347 P P 07 13 07.8 0.0
baz=161,SNR=6.2
LOHW Long Hollow 36.35 332 P P 07 13 09.0 +0.9

TPAW **Teton Pass** 36.42 332 P **P** 07 13 08.5 -0.2
MOOW **Moose Ponds** 36.52 332 P **P** 07 13 10.3 +0.7
FXWY **Fox Creek** 36.56 332 P **P** 07 13 10.9 +0.9
FXWY IAmb IAmb 07 13 11.9
comp=Z,5.0nm,0.7s
ELK **Elko** 36.63 325 P **P** 07 13 11.6 +1.0
comp=Z,2.0nm,0.8s,baz=131,slow=8.7,SNR=12
ELK **Elko** 36.63 325 P **P** 07 13 11.7 +1.0
IMW **Indian Meadow** 36.73 332 P **P** 07 13 12.3 +0.9
IMW IAmb IAmb 07 13 28.7
comp=Z,6.4nm,0.7s
FLWY **Flagg Ranch** 36.76 333 P **P** 07 13 13.1 +1.4
NV11 **Mina Array Sit** 36.92 319 P **P** 07 13 14.3 +1.2
G65A **Princeton** 36.93 25 P **P** 07 13 13.5 +0.7
baz=215
H17A **Grant Village** 36.95 333 P **P** 07 13 14.3 +1.0
H17A IAmb IAmb 07 13 15.8
comp=Z,7.9nm,0.8s
H17A **Grant Village** 36.95 333 P **P** 07 13 14.8 +1.5
baz=142,SNR=9.6
RLMT **Red Lodge** 36.98 335 P **P** 07 13 13.9 +0.5
RLMT **Red Lodge** 36.98 335 P **P** 07 13 14.1 +0.6
baz=144,SNR=18
NVAR **Mina Array Bea** 37.02 319 P **P** 07 13 15.8 +1.8
comp=Z,2.6nm,0.7s,baz=131,slow=7.2,SNR=29
NVAR PcP **PcP** 07 15 35.5 +1.4
comp=Z,3.0nm,0.7s,baz=134,slow=3.8,SNR=16
NVAR pPcP 07 15 49.9
comp=Z,4.1nm,0.7s,baz=134,slow=3.8,SNR=16
NVAR ScP **ScP** 07 19 19.5 +2.4
comp=Z,0.4nm,0.8s,baz=158,slow=5.5,SNR=2.1
NVAR LR LR 07 30 03.5
comp=Z,110nm,20.6s,baz=132,slow=39
LHV **Little Huntoon** 37.04 319 P **P** 07 13 15.9 +2.1
LHV IAmb IAmb 07 13 17.3
comp=Z,4.8nm,0.8s
YMP **Mirror Lake Pl** 37.04 334 P **P** 07 13 16.1 +2.0
LAO **LASA Array** 37.15 339 P **P** 07 13 15.3 +0.6
LAO IAmb IAmb 07 13 17.5
comp=Z,6.8nm,0.8s
LAO **LASA Array** 37.15 339 P **P** 07 13 15.2 +0.6
baz=150
F64A **Sherman** 37.17 23 P **P** 07 13 14.9 +0.1
baz=213
YNE **Yellowstone No** 37.19 334 P **P** 07 13 16.2 +0.8
YNR **Norris Junctio** 37.25 333 P **P** 07 13 16.6 +0.8
KVN **Kaiserville** 37.26 320 P **P** 07 13 17.3 +1.4
RYN **Ryan** 37.27 319 P **P** 07 13 16.9 +0.9
YMR **Madison River** 37.34 333 P **P** 07 13 17.6 +1.0
YHH **Holmes Hill** 37.38 333 P **P** 07 13 17.9 +0.9
YHB **Horse Butte** 37.51 333 P **P** 07 13 18.4 +0.4
BMN **Battle Mountai** 37.57 323 P **P** 07 13 19.4 +0.9
BMN IAmb IAmb 07 13 21.3
comp=Z,4.0nm,0.7s
QLMT **Earthquake Lak** 37.67 333 P **P** 07 13 20.3 +1.0
GCMT **Greycliff** 37.69 335 P **P** 07 13 19.7 +0.3
VILB **Vilhena** 37.72 131 *e*P **P** 07 13 19.6 -0.3
YERR **Yerington** 37.94 319 P **P** 07 13 22.7 +1.0
D62A **Allapoint, All** 37.94 21 P **P** 07 13 21.2 0.0
baz=211
ULM **Lac du Bonnet** 38.01 352 P **P** 07 13 20.6 -1.2
comp=Z,16nm,0.7s,baz=170,slow=9.2,SNR=26
ULM LR LR 07 30 16.9
comp=Z,175nm,21.2s,baz=138,slow=38
ULM **Lac du Bonnet** 38.01 352 P **P** 07 13 20.6 -1.2
DGMT **Dagmar** 38.09 343 P **P** 07 13 23.1 +0.6
DGMT **Dagmar** 38.09 343 P **P** 07 13 23.2 +0.6
baz=154,SNR=14
NPGB **Novo Progresso** 38.13 119 *e*P **P** 07 13 23.2 -0.1
HLID **Hailey** 38.15 329 P **P** 07 13 23.9 +0.6
HLID **Hailey** 38.15 329 P **P** 07 13 24.3 +1.0
baz=136,SNR=10
MCPB **Macapa, AP** 38.19 107 *e*P **P** 07 13 22.4 -1.4
PNTR **Pine Nut** 38.23 319 P **P** 07 13 24.9 +0.8
PNTR IAmb IAmb 07 13 28.6
comp=Z,4.4nm,0.7s
MCMT **McKenzie Canyo** 38.32 332 P **P** 07 13 26.2 +1.4
BOZ **Bozeman (W)** 38.36 333 P **P** 07 13 26.1 +1.0
BOZ **Bozeman (W)** 38.36 333 P **P** 07 13 26.2 +1.1
baz=142,SNR=26
DLMT **Dillon** 38.61 332 P **P** 07 13 27.9 +0.7
MFID **Camas Ranch** 38.77 327 P **P** 07 13 29.3 +0.8
LRM **Limekiln Ridge** 38.90 333 P **P** 07 13 31.1 +1.4
HRY **Holter Researc** 39.32 334 P **P** 07 13 34.1 +1.0
EGMT **Eagleton** 39.55 337 P **P** 07 13 35.7 +0.8
EGMT **Eagleton** 39.55 337 P **P** 07 13 35.8 +0.8
baz=146,SNR=14
WVOR **Wild Horse Val** 39.66 324 P **P** 07 13 36.4 +0.4
CLDB **Colider** 39.83 125 *e*P **P** 07 13 36.0 -1.6
LVC **Limon Verde** 39.86 151 *e*P **P** 07 13 37.6 -0.4
PTLB **Pontes e Lacer** 40.14 133 *e*P **P** 07 13 39.5 -0.5
J08A **Circle Bar Ran** 40.16 325 P **P** 07 13 40.9 +0.8
J08A IAmb IAmb 07 13 46.3
comp=Z,3.8nm,0.5s
MSO **Missoula** 40.33 333 P **P** 07 13 41.5 +0.1
MSO IAmb IAmb 07 13 42.8
comp=Z,10nm,0.9s
MSO **Missoula** 40.33 333 P **P** 07 13 42.0 +0.6
baz=139,SNR=10
BMO **Blue Mountains** 40.53 328 P **P** 07 13 43.1 0.0
I07A **Izee** 41.20 325 P **P** 07 13 49.0 +0.4
F10A **Beach Ranch, E** 41.27 329 P **P** 07 13 49.0 -0.1
F10A IAmb IAmb 07 13 53.1
comp=Z,7.1nm,0.8s
PINE **Pine Mountain** 41.83 324 P **P** 07 13 54.4 +0.5
WALA **Waterton Lakes** 42.03 335 P **P** 07 13 56.3 +0.9
WALA IAmb IAmb 07 13 56.9
comp=Z,7.6nm,0.8s
E09A **Wood Farm, Sta** 42.10 329 P **P** 07 13 56.8 +0.9
I04A **Tendick Farm,** 42.68 323 P **P** 07 14 00.5 -0.1
baz=126
HAWA **Hanford** 42.73 328 P **P** 07 14 00.3 -0.6
NEW **Newport** 42.84 332 P **P** 07 14 01.8 -0.1
comp=Z,2.7nm,0.6s,baz=140,slow=8.2,SNR=12
NEW **Newport** 42.84 332 P **P** 07 14 01.4 -0.5
NEW **Newport** 42.84 332 P **P** 07 14 01.8 -0.1
baz=136
D08A **Wollman Farm,** 42.86 329 P **P** 07 14 02.1 +0.1
D08A IAmb IAmb 07 14 03.3
comp=Z,6.6nm,0.8s
G05D **Wamic, OR** 42.94 326 P **P** 07 14 04.4 +1.7
baz=129
SALV **Santo Antonio** 42.94 130 *e*P **P** 07 14 02.2 -0.8
C09A **Chrisman Ranch** 43.06 330 P **P** 07 14 03.9 +0.2
H04A **Detroit Lake** 43.08 324 P **P** 07 14 04.2 +0.3
FFC **Flin Flon** 43.34 348 P **P** 07 14 05.8 +0.2
FFC IAmb IAmb 07 14 05.9
comp=Z,7.8nm,0.7s
LTY **Liberty** 43.88 328 P **P** 07 14 10.7 +0.4
B08A **Colville Reser** 43.96 330 P **P** 07 14 10.9 0.0
SNDB **Serra Nova Dou** 44.11 122 *e*P **P** 07 14 11.9 -0.5
PP1B **Ponte de Pedra** 44.62 132 *e*P **P** 07 14 16.4 -0.2
B06A **Marblemount** 45.12 329 P **P** 07 14 20.5 +0.5
EDM **Edmonton** 45.13 339 P **P** 07 14 19.9 -0.3
B05A **Bryant** 45.27 328 P **P** 07 14 20.5 -0.7
baz=130
SCHQ **Schefferville** 45.32 17 P **P** 07 14 20.0 -1.6
comp=Z,9.2nm,0.7s,baz=224,slow=6.5,SNR=11
SCHQ pP **pP** 07 14 33.8 -1.2
comp=Z,14nm,0.9s,baz=223,slow=9.0,SNR=6.6
SCHQ **Schefferville** 45.32 17 P **P** 07 14 20.3 -1.3
SMTB **Santa Maria do** 45.73 116 *e*P **P** 07 14 24.5 -0.9
ARAG **Araguaiana, MT** 45.78 127 *e*P **P** 07 14 24.6 -1.1
A04D **Lummi Island** 45.87 329 P **P** 07 14 26.4 +0.4
baz=130,SNR=6.3
AQDB **Aquidauana** 45.94 135 P **P** 07 14 27.2 +0.3
AQDB IAmb IAmb 07 14 27.5
comp=Z,11nm,1.0s
AQDB **Aquidauana** 45.94 135 *e*P **P** 07 14 26.9 0.0
PGC **Sidney** 46.21 328 P **P** 07 14 29.0 +0.4
PGC IAmb IAmb 07 14 29.6
comp=Z,6.0nm,0.9s
PEXB **Peixe** 46.68 120 *e*P **P** 07 14 31.4 -1.4
H03N2 **Juan Fernandez** 46.69 169 T T 08 04 33.1
baz=347,slow=76,SNR=14
H03N1 **Juan Fernandez** 46.70 169 T T 08 04 34.2
baz=347,slow=76,SNR=15
LLLB **Lillooet** 46.71 331 P **P** 07 14 33.3 +0.7
LLLB IAmb IAmb 07 14 34.3
comp=Z,9.8nm,0.9s
H03N3 **Juan Fernandez** 46.71 169 T T 08 04 39.7
baz=347,slow=76,SNR=20
BDFB **Brasilia** 48.76 124 P **P** 07 14 47.9 -1.2
comp=Z,2.6nm,0.6s,baz=279,slow=8.1,SNR=6.8
BDFB LR LR 07 37 24.5
comp=Z,132nm,18.1s,baz=280,slow=39
BDFB **Brasilia** 48.76 124 IAmb IAmb 07 14 49.0
comp=Z,11nm,1.3s
CPUP **Villa Florida** 49.07 142 P **P** 07 14 50.5 -0.6
comp=Z,1.7nm,0.7s,baz=340,slow=9.0,SNR=5.1
CPUP LR LR 07 36 13.7
comp=Z,73nm,18.9s,baz=324,slow=37
CPUP **Villa Florida** 49.07 142 *e*P **P** 07 14 50.2 -0.9
PCMB **Pacaembu** 49.80 133 *e*P **P** 07 14 55.8 -1.0
IPMB **Ipameri, GO** 49.90 127 *e*P **P** 07 14 56.8 -0.9
ITQB **Itaqui** 51.99 145 P **P** 07 15 13.1 +0.1
ITQB **Itaqui** 51.99 145 *e*P **P** 07 15 12.2 -0.9
FRTB **Fartura** 52.11 133 *e*P **P** 07 15 12.2 -2.0
NBMA **Muriti-CE** 53.08 109 *e*P **P** 07 15 18.7 -2.8
NBPN **Ponto Novo - B** 53.14 114 *e*P **P** 07 15 19.7 -2.2
YKA **Yellowknife Ar** 53.21 345 P **P** 07 15 20.6 -1.0
comp=Z,5.7nm,0.8s,baz=134,slow=8.7,SNR=16
YKA pP **pP** 07 15 33.6 -1.6
comp=Z,9.1nm,0.9s,baz=138,slow=8.1,SNR=9.7
YKA **Yellowknife Ar** 53.21 345 P **P** 07 15 21.1 -0.5
TIJ01 **Guaruva-PR** 53.76 135 *e*P **P** 07 15 25.2 -1.1
VAO **Valinhos** 53.78 131 *e*P **P** 07 15 25.6 -1.0
SPB **Sao Paulo** 53.79 132 *e*P **P** 07 15 25.4 -1.1
PARB **Paraibuna** 54.97 130 *e*P **P** 07 15 33.6 -1.6
PLTB **Pedras Altas** 55.27 144 *e*P **P** 07 15 36.8 -0.3
DLBC **Dease Lake** 55.38 335 P **P** 07 15 38.7 +1.1
comp=Z,22nm,0.7s,baz=140,slow=5.5,SNR=75
DLBC pP **pP** 07 15 51.8 +0.4
comp=Z,8.4nm,0.7s,baz=114,slow=6.8,SNR=7.9
DLBC **Dease Lake** 55.38 335 P **P** 07 15 38.5 +0.8
PLCA **Paso Flores** 55.60 164 P **P** 07 15 39.4 0.0
comp=Z,1.7nm,0.9s,baz=351,slow=12,SNR=2.9
PLCA LR LR 07 34 12.5
comp=Z,45nm,18.8s,baz=347,slow=30
TAOE **Nuku Hiva Isla** 55.78 250 *e*LR LR 07 31 47.2
comp=Z,177nm,25.6s
DUB01 **Friburgo-RJ** 56.73 127 *e*P **P** 07 15 47.0 -0.7
MMPY **Sheldon Lake,** 58.46 338 P **P** 07 15 59.5 +0.1
baz=129,SNR=10
YUK4 **Talbot Arm** 60.61 335 P **P** 07 16 14.6 +0.2
baz=120
MAYO **Mayo, Yukon** 60.73 338 P **P** 07 16 15.1 +0.2
baz=124,SNR=5.1
TABL **Table Mountain** 61.24 333 P **P** 07 16 19.2 +0.6
LOGN **Logan Glacier** 61.35 334 P **P** 07 16 20.3 +0.9
LOGN IAmb IAmb 07 16 20.9
comp=Z,4.2nm,0.9s
CTG **Chitna Glacier** 61.57 334 P **P** 07 16 21.2 +0.4
baz=118
GRNC **Granite Creek** 61.64 333 P **P** 07 16 21.4 0.0
GRNC IAmb IAmb 07 16 21.9
comp=Z,5.9nm,0.8s
BARN **Barnard Glacie** 61.75 334 P **P** 07 16 22.4 +0.3
BARN IAmb IAmb 07 16 36.5
comp=Z,4.2nm,0.9s
TGL **Tana Glacier** 62.12 333 P **P** 07 16 24.9 +0.4
DAWY **Dawson** 62.30 337 P **P** 07 16 25.1 -0.4
DAWY **Dawson** 62.30 337 P **P** 07 16 23.6 -1.9
baz=121
M27K **Edge Creek, AK** 62.44 335 P **P** 07 16 26.9 +0.3
baz=118
MCARA **McCarthy VSAT** 62.48 334 P **P** 07 16 27.4 +0.6
baz=116
EPYK **Eagle Plains** 62.60 340 P **P** 07 16 27.2 -0.3
EPYK IAmb IAmb 07 16 27.8
comp=Z,6.3nm,0.8s
EPYK **Eagle Plains** 62.60 340 P **P** 07 16 27.1 -0.3
baz=125
L27K **Beaver Creek,** 62.75 336 P **P** 07 16 28.5 0.0
L27K IAmb IAmb 07 16 29.1
comp=Z,4.6nm,0.8s
L27K **Beaver Creek,** 62.75 336 P **P** 07 16 28.2 -0.4
baz=118,SNR=9.5
INK **Inuvik** 62.77 343 P **P** 07 16 28.0 -0.5
INK **Inuvik** 62.77 343 P **P** 07 16 28.0 -0.5
baz=129,SNR=5.6
BMRM **Bremner River** 63.00 333 P **P** 07 16 30.2 -0.1
BMRM IAmb IAmb 07 16 31.2
comp=Z,5.2nm,0.8s
BMRM **Bremner River** 63.00 333 P **P** 07 16 30.6 +0.4
baz=114
N25K **Chitina, Valde** 63.26 334 P **P** 07 16 31.9 -0.1
N25K IAmb IAmb 07 16 33.4
comp=Z,6.1nm,0.8s
N25K **Chitina, Valde** 63.26 334 P **P** 07 16 32.0 0.0
baz=115,SNR=5.7
K27K **Chicken** 63.30 337 P **P** 07 16 31.8 -0.4
K27K IAmb IAmb 07 16 32.8
comp=Z,4.5nm,0.8s
K27K **Chicken** 63.30 337 P **P** 07 16 32.2 +0.1
baz=118
EGAK **Eagle** 63.32 338 P **P** 07 16 31.6 -0.6
EGAK IAmb IAmb 07 16 45.4
comp=Z,3.4nm,0.8s
EGAK **Eagle** 63.32 338 P **P** 07 16 31.2 -1.1
baz=119
EYAK **Cordova Ski Ar** 63.35 332 P **P** 07 16 33.0 +0.6
EYAK **Cordova Ski Ar** 63.35 332 P **P** 07 16 33.0 +0.5
baz=113
L26K **Log Cabin Wild** 63.35 335 P **P** 07 16 32.6 +0.1
L26K **Log Cabin Wild** 63.35 335 P **P** 07 16 32.0 -0.5
baz=116
MENT **Mentasta** 63.46 335 P **P** 07 16 33.0 -0.3
MENT IAmb IAmb 07 16 46.5
comp=Z,3.0nm,0.8s
KLU **Klutina** 63.80 333 P **P** 07 16 35.7 +0.1
KLU IAmb IAmb 07 16 49.2
comp=Z,4.9nm,0.8s
KLU **Klutina** 63.80 333 P **P** 07 16 35.4 -0.2
baz=113
DOT **Dot Lake** 63.91 336 P **P** 07 16 35.8 -0.4
DOT IAmb IAmb 07 16 36.7
comp=Z,5.3nm,0.7s
SCRK **Sand Creek** 64.03 336 P **P** 07 16 36.7 -0.4
baz=116
PAX **Paxson** 64.20 335 P **P** 07 16 37.4 -0.8
PAX IAmb IAmb 07 16 38.3
comp=Z,4.1nm,0.8s
PAX **Paxson** 64.20 335 P **P** 07 16 37.3 -0.9
baz=114
J26K **Charley River,** 64.22 337 P **P** 07 16 38.4 +0.2
baz=117,SNR=13
RIDG **Independent Ri** 64.27 336 P **P** 07 16 38.5 -0.1
RIDG IAmb IAmb 07 16 40.0
comp=Z,6.0nm,0.8s
RIDG **Independent Ri** 64.27 336 P **P** 07 16 38.4 -0.2
baz=115,SNR=6.7
KNK **Knik Glacier** 64.89 333 P **P** 07 16 42.4 -0.3
KNK IAmb IAmb 07 17 01.4
comp=Z,7.3nm,0.9s
KNK **Knik Glacier** 64.89 333 P **P** 07 16 42.4 -0.3
baz=111
WAT6 **Susitna Watana** 65.01 334 P **P** 07 16 42.5 -1.1
baz=112,SNR=6.6
PMOR **Pomariorio Ree** 65.09 247 *e*T T 08 27 16.6
comp=Z,4.3nm,0.2s
GHO **Glory Hole Cre** 65.23 333 P **P** 07 16 44.3 -0.6
PMR **Palmer** 65.26 333 P **P** 07 16 44.8 -0.2
PRP **Porcupine Dome** 65.30 337 P **P** 07 16 44.7 -0.7
PRP IAmb IAmb 07 16 45.5
comp=Z,5.8nm,0.8s
PRP **Porcupine Dome** 65.30 337 P **P** 07 16 44.7 -0.7
baz=115,SNR=10
RC01 **Rabbit Creek A** 65.36 332 P **P** 07 16 45.4 -0.3
RC01 **Rabbit Creek A** 65.36 332 P **P** 07 16 45.4 -0.3
baz=109,SNR=6.5
HDA **Harding Lake** 65.39 336 P **P** 07 16 45.1 -0.6
HDA IAmb IAmb 07 16 45.7
comp=Z,6.3nm,0.7s
HDA **Harding Lake** 65.39 336 P **P** 07 16 45.1 -0.7
baz=114,SNR=6.1
IL31 **65.51 336** P **P** 07 16 45.6 -0.9
IL31 IAmb IAmb 07 16 60.0
comp=Z,14nm,1.4s
ILAR **Eielson Array** 65.51 336 P **P** 07 16 45.2 -1.3
comp=Z,4.3nm,1.0s,baz=165,slow=4.9,SNR=43
ILAR pP **pP** 07 16 59.2 -1.4
comp=Z,2.9nm,0.6s,baz=160,slow=4.8,SNR=12
ILAR LR LR 07 51 06.8
comp=Z,80nm,18.4s,baz=144,slow=41
FIS **Fire Island** 65.60 332 P **P** 07 16 47.7 +0.5
RND **Reindeer** 65.78 335 P **P** 07 16 48.4 -0.1
BMAR **Burnt Mountain** 65.81 339 P **P** 07 16 48.1 -0.3
CCB **Clear Creek Bu** 65.82 336 P **P** 07 16 47.4 -1.2
CCB IAmb IAmb 07 17 02.0
comp=Z,2.6nm,0.6s
POKR **Poker Plat Res** 65.86 337 P **P** 07 16 47.9 -0.9
POKR IAmb IAmb 07 16 48.8
comp=Z,4.1nm,0.7s
WRH **Wood River Hil** 65.87 336 P **P** 07 16 48.6 -0.3
WRH IAmb IAmb 07 17 02.1
comp=Z,3.7nm,0.8s
MCK **McKinley** 65.94 335 P **P** 07 16 48.9 -0.4
MCK IAmb IAmb 07 17 03.0
comp=Z,5.7nm,0.9s
MCK **McKinley** 65.94 335 P **P** 07 16 49.1 -0.2
baz=111
SUA **Susitna One** 65.95 332 P **P** 07 16 48.9 -0.6
SUA IAmb IAmb 07 16 49.8
comp=Z,5.3nm,0.8s
SUA **Susitna One** 65.95 332 P **P** 07 16 49.0 -0.6
baz=109,SNR=6.7
MDM **Murphy Dome** 66.11 336 P **P** 07 16 49.5 -0.9
NEA2 **Nenana** 66.31 336 P **P** 07 16 50.9 -0.8
NEA2 IAmb IAmb 07 16 51.5
comp=Z,3.2nm,0.7s
NEA2 **Nenana** 66.31 336 P **P** 07 16 51.0 -0.6
baz=112,SNR=6.2
BWN **Browne** 66.31 335 P **P** 07 16 51.0 -0.7
H24K **Noodor Dome** 66.32 337 P **P** 07 16 51.6 -0.2
H24K IAmb IAmb 07 17 05.6
comp=Z,4.3nm,0.9s
H24K **Noodor Dome** 66.32 337 P **P** 07 16 51.0 -0.8
baz=113,SNR=6.4
TRF **Thorofare Moun** 66.40 334 P **P** 07 16 52.5 0.0
TRF IAmb IAmb 07 16 52.6
comp=Z,9.1nm,1.0s
TRF **Thorofare Moun** 66.40 334 P **P** 07 16 51.9 -0.7
baz=110,SNR=8.5
O20K **Slope Mountain** 66.41 330 P **P** 07 16 52.1 -0.4
baz=106
SKT **Skwentna** 66.47 333 P **P** 07 16 52.2 -0.5
SKT IAmb IAmb 07 16 52.8
comp=Z,4.6nm,0.8s
SKT **Skwentna** 66.47 333 P **P** 07 16 51.8 -1.0
baz=108
RSO **Redoubt South** 66.58 331 P **P** 07 16 53.5 -0.3
P19K **Oil Pt** 66.59 330 P **P** 07 16 53.0 -0.6
P19K IAmb IAmb 07 16 53.7
comp=Z,4.1nm,0.6s
P19K **Oil Pt** 66.59 330 P **P** 07 16 52.5 -1.1
baz=106
I23K **Minto, Yukon-K** 66.63 336 P **P** 07 16 53.2 -0.5
I23K IAmb IAmb 07 16 55.5
comp=Z,4.9nm,0.7s
I23K **Minto, Yukon-K** 66.63 336 P **P** 07 16 53.1 -0.6
baz=112,SNR=9.4
KTH **Kantishna Hill** 66.71 334 P **P** 07 16 53.2 -1.1
KTH IAmb IAmb 07 16 54.1
comp=Z,4.8nm,0.8s
BPAW **Bear Paw Mtn.** 66.92 335 P **P** 07 16 54.8 -0.8
BPAW IAmb IAmb 07 16 55.4
comp=Z,7.4nm,0.8s
BPAW **Bear Paw Mtn.** 66.92 335 P **P** 07 16 54.5 -1.1
baz=110,SNR=8.0
H23K **Yukon River** 66.95 337 P **P** 07 16 55.5 -0.3
H23K **Yukon River** 66.95 337 P **P** 07 16 55.0 -0.7
baz=112
PPLA **Purkeypile** 67.04 333 P **P** 07 16 55.6 -0.9
baz=108
MLY **Manley** 67.13 336 P **P** 07 16 56.1 -0.8
MLY IAmb IAmb 07 16 56.9
comp=Z,6.6nm,0.7s
MLY **Manley** 67.13 336 P **P** 07 16 56.3 -0.7
baz=110,SNR=10
M20K **Styx River** 67.16 332 P **P** 07 16 57.0 -0.2
M20K IAmb IAmb 07 17 11.4
comp=Z,3.2nm,0.6s
M20K **Styx River** 67.16 332 P **P** 07 16 56.0 -1.3
baz=106
N19K **Bonanza Creek** 67.50 331 P **P** 07 16 58.2 -1.2
N19K IAmb IAmb 07 17 18.8
comp=Z,9.2nm,1.4s
N19K **Bonanza Creek** 67.50 331 P **P** 07 16 58.1 -1.4
baz=105
PPT **Papeete** 67.55 245 LR LR 07 39 09.0
comp=Z,104nm,19.7s,baz=90,slow=29
PPT2 **Papeete2** 67.56 245 *e*S S 07 25 42.0 -12
comp=Z,57nm,22.8s
PPT2 **Papeete2** 67.56 245 *e*LR LR 07 37 18.5
comp=Z,204nm,25.8s
O18K **Koktuh Hills** 67.61 330 P **P** 07 16 59.3 -0.7
O18K IAmb IAmb 07 17 00.2
comp=Z,5.8nm,0.7s
O18K **Koktuh Hills** 67.61 330 P **P** 07 16 59.2 -0.9
baz=104
L20K **Farewell, AK** 67.66 333 P **P** 07 16 59.2 -1.2
baz=106,SNR=7.6
I21K **Tanana** 67.68 336 P **P** 07 16 59.7 -0.6
I21K IAmb IAmb 07 17 16.8
comp=Z,7.8nm,1.4s
I21K **Tanana** 67.68 336 P **P** 07 16 59.2 -1.1
baz=109
COLD **Coldfoot** 67.71 338 P **P** 07 17 00.2 -0.3
COLD IAmb IAmb 07 17 15.3
comp=Z,5.6nm,1.0s
COLD **Coldfoot** 67.71 338 P **P** 07 17 00.7 +0.2
baz=112,SNR=5.4
M19K **Big River Lodg** 67.74 332 P **P** 07 16 59.9 -1.0
M19K **Big River Lodg** 67.74 332 P **P** 07 17 00.1 -0.8
baz=105
K20K **Telida** 67.99 334 P **P** 07 17 01.4 -1.0
K20K **Telida** 67.99 334 P **P** 07 17 00.6 -1.8
baz=106,SNR=5.3
TOLK **Toolik Lake Re** 68.02 340 P **P** 07 17 02.1 -0.4
TOLK IAmb IAmb 07 17 02.8
comp=Z,3.9nm,0.6s
TOLK **Toolik Lake Re** 68.02 340 P **P** 07 17 02.3 -0.3
baz=113
N18K **Kilae Creek** 68.13 331 P **P** 07 17 02.5 -0.9
N18K **Kilae Creek** 68.13 331 P **P** 07 17 02.4 -0.9
baz=104
J20K **Nowinta River** 68.26 335 P **P** 07 17 02.8 -1.2
J20K **Nowinta River** 68.26 335 P **P** 07 17 02.8 -1.2
baz=106
TBI **Tubuai** 69.72 239 *e*LR LR 07 38 16.7
comp=Z,104nm,24.5s
TBI **Tubuai** 69.72 239 *e*T T 08 32 51.1
comp=Z,7.3nm,0.3s
PMSA **Palmer Station** 79.35 170 LR LR 07 48 13.1
comp=Z,84nm,20.6s,baz=262,slow=32
PMSA **Palmer Station** 79.35 170 *e*P **P** 07 18 05.5 -3.3
NOA **NORSAR Array B** 83.58 29 LR LR 07 51 54.0
comp=Z,30nm,21.7s,baz=270,slow=33
HFS **Hagfors** 85.01 29 LR LR 07 52 22.5
comp=Z,22nm,21.0s,baz=289,slow=33
ARCES **ARCESS Array B** 86.26 19 P **P** 07 18 43.5 -1.2
comp=Z,2.7nm,1.0s,baz=268,slow=4.5,SNR=3.5
DAVOX **Davos/Dischmat** 86.40 43 LR LR 07 51 25.7
comp=Z,71nm,21.3s,baz=5.5,slow=32
TORD **Torodi Ar. Bea** 87.16 77 P **P** 07 18 47.0 -3.2
comp=Z,0.4nm,0.7s,baz=301,slow=4.3,SNR=2.6
CLL **Collm** 87.16 38 *e*P **P** 07 18 51.0 +1.6
CLL Lm MLR 08 04 00.0
comp=Z,100nm,19.5s
CLL LmV 08 33 00.0
comp=Z,100nm,18.1s
VRAC **Vranov** 89.97 39 LR LR 07 55 27.2
comp=Z,53nm,18.9s,baz=348,slow=33
SEY **Seymchan** 91.44 336 P **P** 07 19 09.2 -0.1
comp=Z,1.8nm,0.5s,baz=120,slow=4.7,SNR=5.5
NRIK **Noril'sk** 98.17 1 LR LR 08 06 53.7
comp=Z,45nm,19.5s,baz=20,slow=37
VNA3 **Neumayer Olymp** 98.26 161 Pdiff **P** 07 19 39.7 -0.5
VNA1 **Neumayer--Stat** 98.56 161 Pdiff **P** 07 19 40.8 -0.7
VNA2 **Neumayer--Watz** 98.90 161 Pdiff **P** 07 19 41.1 -2.0
SNAA **Sanae** 100.48 161 Pdiff **Pdif** 07 19 48.1 -2.0
KSRS **Korea Array** 119.67 327 pPKP pPKPdf 07 25 08.2 -0.4
comp=Z,1.7nm,0.6s,baz=351,slow=2.1,SNR=3.9
STKA **Stephens Creek** 130.50 239 PKP **PKiKP** 07 25 15.6 +0.3
comp=Z,1.6nm,0.6s,baz=145,slow=7.2,SNR=3.2
WRA **Warramunga Arr** 138.54 254 PKhKP PKPpre 07 25 26.2
comp=Z,1.4nm,0.8s,baz=103,slow=2.5,SNR=5.5
WRA PKP **PKPdf** 07 25 30.6 +0.8
comp=Z,1.2nm,0.7s,baz=105,slow=2.5,SNR=5.7
WRA pPKP pPKPdf 07 25 45.7 +0.8
comp=Z,2.7nm,1.1s,baz=124,slow=1.4,SNR=3.3
WRA **Warramunga Arr** 138.54 254 **PKiKP** 07 25 30.7 -1.2
ASAR **Alice Springs** 138.59 249 PKhKP PKPpre 07 25 22.6
comp=Z,0.4nm,0.8s,baz=101,slow=2.1,SNR=5.5
ASAR PKP **PKiKP** 07 25 30.8 -1.2
comp=Z,1.1nm,0.6s,baz=96,slow=2.1,SNR=12

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR				pPKP	pPKPdf	07 25 46.2	+1.3
	comp=Z,0.7nm,0.6s,baz=98,slow=2.4,SNR=3.3						
FITZ	Fitzroy Crossi	146.88	256	PKPbc	PKPbc	07 25 46.5	+0.1
	comp=Z,3.3nm,0.8s,baz=119,slow=3.2,SNR=6.1						
FITZ				pPKPbc	pPKPbc	07 26 00.3	-1.0
	comp=Z,4.8nm,0.7s,baz=130,slow=6.9,SNR=5.1						
FITZ	Fitzroy Crossi	146.88	256	PKPbc	PKPbc	07 25 46.3	-0.2
PAYA	Payao	147.19	346	PKP	PKPbc	07 25 48.0	+0.7
CMAR	Chiang Mai Arr	148.28	347	PKPbc	PKPdf	07 25 47.5	+0.6
	comp=Z,3.3nm,0.5s,baz=329,slow=2.4,SNR=10						
CMAR				pPKPbc	pPKPdf	07 26 01.6	-0.5
	comp=Z,3.4nm,0.7s,baz=328,slow=2.6,SNR=2.7						
UMPA	Umpang Tak	150.47	346	PKP	PKiKP	07 25 57.2	+0.7
UTHA	Uthaitani	150.95	345	PKP	PKPbc	07 25 57.1	+0.2

*NNC **07** 07:09:10.1±1.5, 54°.13N×87°.28E, h0km, mb2.6, mpv2.5, Error ellipse: s-maj=11.8km s-min=8.7km az=47.0, Suspected Mining explosion.*
*IDC **07** 07:09:10.3±3.0, 54°.23N×87°.37E, h0km, mb1 3.0/2, mb1mx2.9/51, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=25.5km s-min=17.2km az=56.0*
ISC 07 07:09:10.1±3.6, **54°.2N**±0°.2×**87°.2E**±0°.2, **h0km, n7, σ1s55**/9, **5C-2D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.44	259	i		07 17 50.0	
	baz=79,slow=325,SNR=6.3						
ZAA0	Zalesovo Array	1.44	259	⇑P	Pg	07 09 36.8	-0.8
	0.4nm,0.3s						
ZAA0				⇑S	Sg	07 09 57.4	+1.2
	12nm,1.2s						
ZALV	Zalesovo Beam	1.44	259	Pg	Pb	07 09 36.4	-1.3
	1.1nm,0.3s,baz=81,slow=16,SNR=7.3						
ZALV				Lg	Lg	07 09 59.6	
	2.3nm,0.3s,baz=78,slow=28,SNR=6.8						
KURBB	Kurchatov Arra	6.42	239	Pn	Pn	07 10 47.7	+1.8
	0.0nm,0.3s,baz=56,slow=13,SNR=7.8						
KURBB				Lg	Lg	07 12 38.2	
	0.1nm,0.3s,baz=54,slow=32,SNR=7.0						
KURBB	Kurchatov Arra	6.42	239	⇑Sn	Sn	07 11 59.9	+0.1
	6.8nm,1.0s						
KURBB				⇓Lg	Lg	07 12 33.4	
	11nm,0.8s						
MK31	Makanchi Array	8.08	205	⇑Pn	Pn	07 11 08.5	-0.1
	0.5nm,0.6s,baz=29,slow=14,SNR=6.9						
MK31				⇓Sn	Sn	07 12 39.6	-1.0
	0.5nm,0.5s,baz=25,slow=24,SNR=5.4						
MK31				⇑Lg	Lg	07 13 24.3	
	11nm,1.2s,baz=25,slow=29,SNR=4.1						
MKAR	Makanchi Array	8.08	205	Pn	Pn	07 11 11.1	+2.4
	0.2nm,0.3s,baz=24,slow=12,SNR=7.5						
MKAR				Sn	Sn	07 12 40.1	-0.6
	0.2nm,0.3s,baz=22,slow=25,SNR=5.4						
MKAR				Lg	Lg	07 13 30.4	
	0.1nm,0.3s,baz=21,slow=30,SNR=5.0						

*IDC **07** 07:14:10.8±5.2, 21°.66N×143°.72E, h246km±47km, mb3.5/15, mb1 3.6/15, mb1mx3.3/60, mbtmp4.1/15, MS2.9/1, Ms1 2.9/1, ms1mx2.4/40, Error ellipse: s-maj=20.9km s-min=18.7km az=5.0*
ISC 07 07:14:10.7±0.8, **21°.6N**±0°.1×**143°.7E**±0°.2, **h250km, n18, σ0s72**/18, **mb3.8**/14, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	5.65	346	LR	LR	07 16 57.1	
	comp=Z,138nm,21.7s,baz=104,slow=30						
KSRS	Korea Array	20.89	323	P	P	07 18 34.7	+0.7
	5.5nm,0.8s,baz=147,slow=8.8,SNR=23						
KLR	Kul'dur	29.17	344	P	P	07 19 48.1	-0.6
	1.9nm,0.6s,baz=133,slow=2.9,SNR=7.1						
SONM	Songino Array	39.73	320	P	P	07 21 19.6	+0.4
	0.8nm,0.4s,baz=122,slow=6.3,SNR=5.9						
WRA	Warramunga Arr	42.29	193	P	P	07 21 39.6	-0.5
	0.3nm,0.8s,baz=14,slow=8.3,SNR=1.8						
MKAR	Makanchi Array	55.12	313	P	P	07 23 17.6	+0.3
	1.2nm,0.5s,baz=90,slow=8.8,SNR=19						
MKAR				PcP	PcP	07 24 15.4	+0.2
	0.5nm,0.5s,baz=66,slow=5.0,SNR=7.7						
KURBB	Kurchatov Arra	57.93	317	P	P	07 23 37.0	+0.1
	5.2nm,0.6s,baz=94,slow=7.6,SNR=40						
KDAK	Kodiak Island	58.01	34	P	P	07 23 37.6	+0.4
	2.1nm,0.8s,baz=293,slow=7.7,SNR=5.4						
ILAR	Eielson Array	61.91	27	P	P	07 24 02.9	-0.7
	0.7nm,0.8s,baz=252,slow=5.3,SNR=7.8						
BVAR	Borovoye Array	63.06	320	P	P	07 24 11.6	+0.2
	3.1nm,0.4s,baz=137,slow=4.8,SNR=21						
INK	Inuvik	67.46	24	P	P	07 24 37.7	-1.5
	0.4nm,0.4s,baz=261,slow=8.5,SNR=4.3						
YKA	Yellowknife Ar	76.31	28	P	P	07 25 32.2	+0.4
	1.7nm,0.7s,baz=296,slow=4.3,SNR=4.0						
ARCES	ARCESS Array B	79.17	342	P	P	07 25 47.6	+0.1
	1.2nm,0.6s,baz=79,slow=8.8,SNR=6.9						
KBZ	Khabaz	82.79	314	P	P	07 26 07.0	0.0
	3.1nm,0.7s,baz=116,slow=6.3,SNR=5.8						
NVAR	Mina Array Bea	82.82	52	P	P	07 26 08.9	+1.3
	0.5nm,0.7s,baz=276,slow=5.2,SNR=6.4						
FINES	FINESS Array B	83.48	335	P	P	07 26 09.1	-1.1
	0.9nm,0.6s,baz=48,slow=2.8,SNR=6.1						
PLCA	Paso Flores	145.32	131	PKPbc	PKPab	07 33 20.3	+0.6
	1.4nm,0.7s,baz=243,slow=6.8,SNR=3.4						
LPAZ	La Paz	149.46	86	PKPbc	PKiKP	07 33 32.7	-0.1
	0.4nm,0.5s,baz=292,slow=5.4,SNR=4.8						

*IDC **07** 07:24:47.8±0.8, 59°.29N×30°.40W, h0km, mb3.8/11, mb1 3.9/12, mb1mx3.7/55, mbtmp3.8/12, ML3.8/1, Error ellipse: s-maj=23.0km s-min=16.0km az=165.0*
ISC 07 07:24:50.2±0.8, **59°.3N**±0°.1×**30°.4W**±0°.1, **h16km, n12, σ0s67**/13, **mb3.9**/11, **Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	6.92	34	Pn	Pn	07 26 31.1	+0.4
	1.9nm,0.3s,baz=212,slow=3.6,SNR=9.4						
BORG				Sn	Sn	07 27 48.3	-0.7
	0.7nm,0.3s,baz=68,slow=19,SNR=4.0						
ARCES	ARCESS Array B	25.21	43	P	P	07 30 14.7	0.0
	2.6nm,0.8s,baz=55,slow=13,SNR=5.8						
ESDC	Sonseca Array	25.78	128	P	P	07 30 21.3	+1.1
	0.9nm,0.7s,baz=332,slow=8.1,SNR=6.4						
FINES	FINESS Array B	27.25	61	P	P	07 30 34.1	+1.0
	1.6nm,0.8s,baz=284,slow=7.7,SNR=4.3						
AKASG	Malin Array Be	34.15	78	P	P	07 31 33.3	-0.8
	0.8nm,0.3s,baz=297,slow=9.0,SNR=5.2						
AKTO	Aktyubinsk	48.00	59	P	P	07 33 27.9	0.0
	2.0nm,0.7s,baz=328,slow=8.5,SNR=7.4						
PDAR	Pinedale Array	49.34	288	P	P	07 33 38.3	-0.3
	0.8nm,0.7s,baz=70,slow=6.7,SNR=8.8						
TORD	Torodi Ar. Bea	51.87	139	P	P	07 33 56.8	-0.9
	0.8nm,0.8s,baz=336,slow=7.0,SNR=3.3						
TXAR	Lajitas Array	56.83	272	P	P	07 34 33.9	+0.1
	0.3nm,0.8s,baz=72,slow=2.9,SNR=3.4						
NVAR	Mina Array Bea	56.92	290	P	P	07 34 34.5	+0.1
	0.3nm,0.8s,baz=62,slow=5.2,SNR=4.5						
MKAR	Makanchi Array	60.80	47	P	P	07 35 01.3	+0.3
	1.7nm,0.9s,baz=328,slow=6.4,SNR=6.1						
SIV	San Ignacio	79.09	210	P	P	07 36 53.5	-0.1
	1.4nm,1.1s,baz=326,slow=3.6,SNR=3.8						

*IDC **07** 07:25:00.7±0.7, 59°.30N×30°.50W, h0km, mb4.0/16, mb1 4.1/17, mb1mx3.9/55, mbtmp4.0/17, ML4.2/1, Error ellipse: s-maj=21.2km s-min=13.1km az=174.0*
*NEIC **07** 07:25:02.7±0.5, 59°.4N±0°.1×30°.5W±0°.2, h10km±2km, mb4.4/10, Error ellipse: s-maj=22.7km s-min=15.6km az=179.0*
ISC 07 07:25:03.4±0.6, **59°.37N**±0°.10×**30°.51W**±0°.07, **h16km, n30, σ0s77**/31, **mb4.1**/19, **Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	6.90	35	Pn	Pn	07 26 44.7	+1.0
	3.9nm,0.3s,baz=216,slow=6.5,SNR=8.5						
BORG				Sn	Sn	07 28 00.3	-1.4
	0.8nm,0.3s,baz=280,slow=18,SNR=1.6						
ANGG	Ammassalik, Gr	7.08	335	Pn	Pn	07 26 46.9	+0.7
EKA	Eskdalemuir Ar	15.24	93	Pn	Pn	07 28 39.4	+1.8
	baz=299,slow=9.4,SNR=6.6						
SCHQ	Schefferville	20.07	273	P	P	07 29 35.7	0.0
	6.2nm,0.8s,baz=44,slow=6.2,SNR=5.9						
SCHQ	Schefferville	20.07	273	P	P	07 29 35.8	0.0
ARCES	ARCESS Array B	25.21	43	P	P	07 30 27.4	-0.5
	1.5nm,0.7s,baz=289,slow=4.8,SNR=3.8						
ARCES	ARCESS Array B	25.21	43	P	P	07 30 27.7	-0.1
ARCES				IAmb	IAmb	07 30 28.8	
	comp=Z,14nm,1.5s						
ESDC	Sonseca Array	25.88	128	P	P	07 30 34.4	+0.2
	comp=Z,2.4nm,0.8s,baz=330,slow=8.9,SNR=9.2						
FINES	FINESS Array B	27.28	61	P	P	07 30 48.2	+1.7
	comp=Z,5.4nm,0.9s,baz=286,slow=14,SNR=5.1						
AKASG	Malin Array Be	34.20	78	P	P	07 31 46.7	-1.0
	comp=Z,0.8nm,0.3s,baz=304,slow=8.7,SNR=9.8						
ULM	Lac du Bonnet	37.29	286	P	P	07 32 13.7	-0.5
	comp=Z,2.8nm,0.8s,baz=94,slow=4.6,SNR=4.2						
ARU	Arti	44.04	53	P	P	07 33 09.0	-0.8
	comp=Z,1.0nm,0.3s,baz=341,slow=5.2,SNR=4.7						
PBMO	Poplar Bluff	44.10	267	P	P	07 33 10.6	0.0
PBMO				IAmb	IAmb	07 33 11.7	
	comp=Z,6.0nm,0.9s						
LRAL	Lakeview Retre	45.29	260	P	P	07 33 20.6	+0.6
LRAL				IAmb	IAmb	07 33 20.8	
	comp=Z,3.4nm,0.8s						
ILAR	Eielson Array	47.27	328	P	P	07 33 35.1	-0.1
	comp=Z,0.7nm,0.9s,baz=51,slow=7.1,SNR=4.9						
AKTO	Aktyubinsk	48.02	59	P	P	07 33 41.4	+0.2
	comp=Z,4.0nm,0.8s,baz=321,slow=8.2,SNR=13						
BW06	Boulder Array	49.25	287	P	P	07 33 50.9	-0.2
BW06				IAmb	IAmb	07 33 51.5	
	comp=Z,3.0nm,0.8s						
PD31	Pinedale Array	49.25	287	P	P	07 33 50.6	-0.4
PD31				IAmb	IAmb	07 33 51.5	
	comp=Z,3.1nm,0.9s						
PDAR	Pinedale Array	49.25	287	P	P	07 33 50.5	-0.6
	comp=Z,2.2nm,0.8s,baz=64,slow=7.1,SNR=14						
PDAR	Pinedale Array	49.25	287	P	P	07 33 51.0	-0.1
ABKAR	Akbulak array	49.74	59	P	P	07 33 54.2	-0.2
TORD	Torodi Ar. Bea	51.96	139	P	P	07 34 10.0	-1.5
	comp=Z,1.2nm,0.7s,baz=338,slow=7.7,SNR=8.5						
TXAR	Lajitas Array	56.76	272	P	P	07 34 46.5	+0.1
	comp=Z,0.7nm,0.9s,baz=59,slow=5.0,SNR=6.5						
NVAR	Mina Array Bea	56.83	290	P	P	07 34 47.9	+0.9
	comp=Z,0.6nm,0.7s,baz=60,slow=5.7,SNR=7.8						
TKX	Tecate	60.69	285	P	P	07 35 14.1	+0.5
HSIG		60.73	278	P	P	07 35 14.0	+0.1
MK31	Makanchi Array	60.80	47	P	P	07 35 14.1	-0.1
MK31				IAmb	IAmb	07 35 16.0	
	comp=Z,2.3nm,0.8s						
MKAR	Makanchi Array	60.80	47	P	P	07 35 14.0	-0.2
	comp=Z,2.3nm,0.7s,baz=337,slow=5.8,SNR=9.5						
AAK	Ala-Archa	61.19	54	P	P	07 35 17.9	+0.8
	comp=Z,0.8nm,0.2s,baz=257,slow=3.4,SNR=3.8						
SIV	San Ignacio	79.11	210	P	P	07 37 06.7	-0.1
	comp=Z,1.3nm,0.8s,baz=42,slow=1.6,SNR=5.7						

*IDC **07** 07:29:06.5±1.1, 59°.35N×30°.40W, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.5/57, mbtmp3.7/8, ML3.7/1, Error ellipse: s-maj=32.7km s-min=20.8km az=175.0*
ISC 07 07:29:08.9±1.2, **59°.3N**±0°.1×**30°.4W**±0°.1, **h16km, n8, σ0s98**/9, **mb3.9**/7, **Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	6.91	34	Pn	Pn	07 30 50.2	+0.9
	1.3nm,0.3s,baz=230,slow=3.7,SNR=1.3						
BORG				Sn	Sn	07 32 07.0	-0.5
	0.6nm,0.3s,baz=77,slow=19,SNR=2.2						
ESDC	Sonseca Array	25.78	128	P	P	07 34 39.9	+1.1
	0.4nm,0.3s,baz=330,slow=10,SNR=6.0						
AKASG	Malin Array Be	34.14	78	P	P	07 35 50.9	-1.7
	0.2nm,0.4s,baz=316,slow=7.8,SNR=1.4						
AKTO	Aktyubinsk	47.99	59	P	P	07 37 46.6	+0.1
	0.8nm,0.6s,baz=302,slow=11,SNR=4.2						
PDAR	Pinedale Array	49.34	288	P	P	07 37 57.0	-0.3
	1.1nm,0.9s,baz=60,slow=6.1,SNR=7.8						
KURBB	Kurchatov Arra	56.22	46	P	P	07 38 48.1	+0.5
	1.1nm,0.7s,baz=322,slow=7.3,SNR=8.5						
NVAR	Mina Array Bea	56.92	290	P	P	07 38 53.0	-0.2
	0.4nm,0.8s,baz=59,slow=4.3,SNR=4.6						
MKAR	Makanchi Array	60.79	47	P	P	07 39 20.1	+0.4
	1.1nm,0.8s,baz=337,slow=5.8,SNR=8.8						

IDC 07 07:39:33.0±2.8, **54°.07N**×**86°.53E, h0km, mb1 2.9**/2, **mb1mx2.9**/48, **mbtmp2.9**/2, **ML2.5**/2, **Error ellipse: s-maj=23.8km s-min=14.2km az=56.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.02	264	i		07 46 00.0	
	baz=83,slow=326,SNR=4.1						
ZALV	Zalesovo Beam	1.02	264	Pg	Pg	07 39 50.5	-1.9
	0.7nm,0.3s,baz=86,slow=17,SNR=5.2						
ZALV				Lg	Lg	07 40 07.4	
	1.3nm,0.3s,baz=81,slow=29,SNR=6.9						
KURBB	Kurchatov Arra	5.99	238	Pn	Pn	07 41 04.1	+1.2
	0.1nm,0.3s,baz=55,slow=14,SNR=4.4						
MKAR	Makanchi Array	7.77	202	Pn	Pn	07 41 28.2	+1.0
	0.2nm,0.3s,baz=25,slow=13,SNR=6.8						

*IDC **07** 07:49:32.7±0.9, 59°.08N×30°.40W, h0km, mb3.7/10, mb1 3.9/11, mb1mx3.6/52, mbtmp3.8/11, ML4.0/1, MS3.5/16, Ms1 3.6/16, ms1mx3.2/52, Error ellipse: s-maj=28.5km s-min=17.9km az=172.0*
*NEIC **07** 07:49:33.7±1.6, 59°.1N±0°.2×30°.5W±0°.2, h10km±1km, mb4.1/5, Error ellipse: s-maj=30.3km s-min=9.4km az=146.0*
ISC 07 07:49:35.2±0.8, **59°.2N**±0°.1×**30°.4W**±0°.1, **h17km, n29, σ1s31**/17, **mb3.9**/12, **MS3.5**/14, **Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	7.00	34	Pn	Pn	07 51 17.3	+0.5
	2.6nm,0.3s,baz=225,slow=5.9,SNR=10						
BORG				Sn	Sn	07 52 33.5	-2.4
	1.2nm,0.3s,baz=103,slow=22,SNR=6.9						
SFJD	Kangerlussuaq	11.96	319	LR	LR	07 56 08.1	
	comp=Z,442nm,19.4s,baz=119,slow=33						
FRB	Frobisher Bay	18.55	300	LR	LR	08 00 04.1	
	comp=Z,304nm,18.3s,baz=42,slow=34						
SCHQ	Schefferville	20.13	273	LR	LR	08 00 40.0	
	comp=Z,122nm,18.2s,baz=87,slow=33						
NOA	NORSAR Array B	20.56	67	LR	LR	08 01 00.4	
	comp=Z,51nm,21.3s,baz=270,slow=33						
HFS	Hagfors	21.98	69	LR	LR	08 01 30.9	
	comp=Z,61nm,19.8s,baz=274,slow=33						
ARCES	ARCESS Array B	25.29	43	P	P	07 55 00.4	+0.2
	2.1nm,1.0s,baz=318,slow=1.6,SNR=4.6						
ESDC	Sonseca Array	25.74	128	P	P	07 55 03.2	-1.5
	1.6nm,0.7s,baz=332,slow=10,SNR=2.4						
ESDC				LR	LR	08 03 28.7	
	comp=Z,49nm,18.3s,baz=265,slow=33						
DAVOX	Davos/Dischmat	26.80	100	LR	LR	08 05 03.2	
	comp=Z,94nm,19.5s,baz=266,slow=35						
FINES	FINESS Array B	27.31	61	P	P	07 55 20.7	+2.2
	2.3nm,0.7s,baz=292,slow=10,SNR=4.6						
FINES	FINESS Array B	27.31	61	P	P	07 55 19.5	+1.0
GERES	GERESS Array B	27.41	93	LR	LR	08 05 58.7	
	comp=Z,110nm,19.0s,baz=305,slow=36						
KEST	Kesra	34.88	115	LR	LR	08 09 26.6	
	comp=Z,114nm,20.3s,baz=221,slow=34						
ULM	Lac du Bonnet	37.38	286	LR	LR	08 10 46.0	
	comp=Z,87nm,19.5s,baz=356,slow=34						
YKA	Yellowknife Ar	38.40	312	LR	LR	08 10 50.9	
	comp=Z,114nm,20.7s,baz=0.0,slow=33						
BRTR	Keskin Array B	43.99	87	LR	LR	08 16 26.0	
	comp=Z,61nm,20.5s,baz=302,slow=37						
ILAR	Eielson Array	47.42	329	LR	LR	08 19 18.0	
	comp=Z,50nm,18.0s,baz=236,slow=38						
AKTO	Aktyubinsk	48.06	59	P	P	07 58 13.4	+0.2
	1.3nm,0.6s,baz=309,slow=5.9,SNR=5.3						
PD31	Pinedale Array	49.34	288	P	P	07 58 23.4	-0.1
PD31				IAmb	IAmb	07 58 23.7	
	comp=Z,1.8nm,0.9s						
PDAR	Pinedale Array	49.34	288	P	P	07 58 23.8	+0.3
	comp=Z,1.4nm,0.8s,baz=59,slow=6.6,SNR=12						
PDAR				LR	LR	08 18 11.0	
	comp=Z,90nm,18.8s,baz=48,slow=35						
ABKAR	Akbulak array	49.77	59	P	P	07 58 26.7	+0.3
BVAR	Borovoye Array	51.30	49	P	P	07 58 39.1	+1.2
	comp=Z,0.7nm,0.6s,baz=248,slow=7.8,SNR=5.7						
TORD	Torodi Ar. Bea	51.81	139	P	P	07 58 41.6	-0.4
	comp=Z,0.4nm,0.8s,baz=342,slow=9.8,SNR=2.5						
MPU	Maple Canyon	52.45	287	P	P	07 58 44.2	-2.7
MPU				IAmb	IAmb	07 58 48.1	
	comp=Z,2.7nm,1.2s						
DBIC	Dimbokro	55.95	149	LR	LR	08 19 40.0	
	comp=Z,68nm,19.9s,baz=352,slow=32						
TXAR	Lajitas Array	56.81	272	P	P	07 59 18.6	+0.1
	comp=Z,0.3nm,0.9s,baz=49,slow=11,SNR=2.7						
NVAR	Mina Array Bea	56.93	291	P	P	07 59 20.1	+0.8
	comp=Z,0.4nm,0.7s,baz=50,slow=5.9,SNR=5.5						
NVAR				LR	LR	08 21 35.5	
	comp=Z,51nm,19.8s,baz=352,slow=34						
MK31	Makanchi Array	60.87	47	P	P	07 59 47.0	+0.6
MK31				IAmb	IAmb	07 59 48.0	
	comp=Z,1.8nm,1.2s						
MKAR	Makanchi Array	60.87	47	P	P	07 59 46.8	+0.4
	comp=Z,1.9nm,0.9s,baz=324,slow=6.0,SNR=13						

*IDC **07** 08:17:09.6±0.8, 59°.27N×30°.57W, h0km, mb3.7/15, mb1 3.9/17, mb1mx3.8/56, mbtmp3.8/17, ML3.9/2, MS3.4/20, Ms1 3.4/20, ms1mx3.3/66, Error ellipse: s-maj=23.2km s-min=15.5km az=5.0*
*NEIC **07** 08:17:11.3±1.3, 59°.3N±0°.1×30°.5W±0°.2, h10km±1km, mb4.4/31, Error ellipse: s-maj=19.7km s-min=16.1km az=169.0*
ISC 07 08:17:12.2±0.6, **59°.3N**±0°.1×**30°.46W**±0°.07, **h16km, n68, σ1s01**/51, **mb4.3**/30, **MS3.5**/17, **Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	6.94	34	Pn	Pn	08 18 52.7	-0.3
	2.2nm,0.3s,baz=208,slow=7.2,SNR=9.2						
BORG				Sn	Sn	08 20 09.1	-2.4
	1.3nm,0.3s,baz=26,slow=19,SNR=7.6						
BORG				LR	LR	08 20 26.8	
	comp=Z,50nm,20.9s,baz=257,slow=28						
BORG	Borgarnes	6.94	34		Pn	08 18 53.7	+0.6
SFJD	Kangerlussuaq	11.88	319	LR	LR	08 23 52.7	
	comp=Z,380nm,18.1s,baz=150,slow=34						
JMIC	Jan Mayen	14.78	29	LR	LR	08 24 46.8	
	comp=Z,87nm,18.6s,baz=246,slow=31						
EKA	Eskdalemuir Ar	15.22	93	Pn	Pn	08 20 45.7	-0.4
	baz=288,slow=14,SNR=3.1						
SCHQ	Schefferville	20.10	273	LR	LR	08 28 05.9	
	comp=Z,118nm,20.2s,baz=108,slow=33						
NOA	NORSAR Array B	20.55	67	P	P	08 21 50.2	+0.5
	0.5nm,0.7s,baz=287,slow=10,SNR=2.3						
NOA				LR	LR	08 28 56.7	
	comp=Z,82nm,19.5s,baz=285,slow=34						
HFS	Hagfors	21.97	69	LR	LR	08 29 19.5	
	comp=Z,78nm,21.3s,baz=296,slow=33						
ARCES	ARCESS Array B	25.24	43	LR	LR	08 30 49.3	
	comp=Z,38nm,18.4s,baz=295,slow=32						
ESDC	Sonseca Array	25.82	128	P	P	08 22 42.7	+0.2
	1.8nm,1.0s,baz=329,slow=9.5,SNR=7.7						
ESDC				LR	LR	08 30 56.3	
	comp=Z,37nm,20.2s,baz=305,slow=32						
ESDC	Sonseca Array	25.82	128	P	P	08 22 41.5	-1.0
DAVOX	Davos/Dischmat	26.84	100	LR	LR	08 32 28.9	
	comp=Z,72nm,21.0s,baz=267,slow=34						
FINES	FINESS Array B	27.29	61	LR	LR	08 32 55.9	
	comp=Z,44nm,21.0s,baz=250,slow=35						
GERES	GERESS Array B	27.43	93	LR	LR	08 33 54.8	
	comp=Z,114nm,18.2s,baz=308,slow=37						
RES	Resolute Bay	27.58	329	LR	LR	08 32 18.7	
	comp=Z,49nm,21.3s,baz=98,slow=33						
VRAC	Vranov	28.63	89	LR	LR	08 35 03.4	
	comp=Z,105nm,18.7s,baz=333,slow=37						
J59A	Piesco	31.03	259	P	P	08 23 29.2	+0.3
J59A				IAmb	IAmb	08 23 30.4	
	comp=Z,6.4nm,1.1s						
BURAR	Bucovina Array	34.13	85	P	P	08 23 54.4	-1.6
AKASG	Malin Array Be	34.19	78	P	P	08 23 56.1	-0.3
	comp=Z,0.4nm,0.4s,baz=310,slow=8.2,SNR=4.7						
AKASG	Malin Array Be	34.19	78	IAmb	IAmb	08 24 05.8	
	comp=Z,1.7nm,1.4s						
SSPA	Standing Stone	34.82	259	P	P	08 24 02.4	+0.5
SSPA				IAmb	IAmb	08 24 03.2	
	comp=Z,9.5nm,1.2s						
KEST	Kesra	34.94	115	LR	LR	08 36 06.5	
	comp=Z,111nm,21.8s,baz=320,slow=32						
ULM	Lac du Bonnet	37.33	286	LR	LR	08 38 31.3	
	comp=Z,109nm,18.9s,baz=66,slow=34						
YKA	Yellowknife Ar	38.32	312	LR	LR	08 39 22.9	
	comp=Z,88nm,19.3s,baz=0.0,slow=35						
S44A	Carbondale	42.82	267	P	P	08 25 09.1	+0.1
BRTR	Keskin Array B	44.01	87	P	P	08 25 20.1	+1.3
	comp=Z,1.2nm,0.8s,baz=305,slow=5.1,SNR=1.8						
BRTR				LR	LR	08 46 57.6	
	comp=Z,62nm,18.0s,baz=316,slow=41						
ARU	Arti	44.06	53	P	P	08 25 20.1	+1.3
ARU				IAmb	IAmb	08 25 25.4	
	comp=Z,8.6nm,1.3s						
NRIK	Noril'sk	44.19	27	P	P	08 25 19.8	+0.1
	comp=Z,0.9nm,0.4s,baz=299,slow=10,SNR=4.3						
NRIK	Noril'sk	44.19	27	IAmb	IAmb	08 25 26.6	
	comp=Z,1.5nm,0.8s						
U40A	Yellville	45.69	269	P	P	08 25 32.2	+0.2
U40A				IAmb	IAmb	08 25 32.9	
	comp=Z,6.2nm,1.2s						
KBZ	Khabaz	45.75	76	P	P	08 25 33.9	+1.6
	comp=Z,0.9nm,0.5s,baz=29,slow=24,SNR=2.2						
DLBC	Dease Lake	46.75	315	LR	LR	08 43 01.7	
	comp=Z,66nm,19.7s,baz=322,slow=33						
X40A	Basin Creek Fa	47.13	267	P	P	08 25 42.0	-1.3
IL31		47.34	329	P	P	08 25 45.3	+0.9
IL31				IAmb	IAmb	08 25 54.8	
	comp=Z,5.2nm,1.5s						
ILAR	Eielson Array	47.34	329	P	P	08 25 44.9	+0.3
	comp=Z,0.9nm,1.0s,baz=36,slow=7.2,SNR=6.3						
IMAR	Indian Mountai	48.09	333	P	P	08 25 50.5	+0.1
PHWY	Pilot Hill	48.36	283	P	P	08 25 53.0	-0.1
PHWY				IAmb	IAmb	08 25 53.8	
	comp=Z,3.2nm,1.1s						
PD31	Pinedale Array	49.29	287	P	P	08 25 59.1	-1.1
PD31				IAmb	IAmb	08 26 00.7	
	comp=Z,3.3nm,1.2s						
PDAR	Pinedale Array	49.29	287	P	P	08 25 59.1	-1.1
	comp=Z,1.3nm,0.8s,baz=58,slow=5.6,SNR=10.0						
PDAR				LR	LR	08 45 47.7	
	comp=Z,71nm,20.4s,baz=2.0,slow=35						
PDAR	Pinedale Array	49.29	287	P	P	08 25 58.0	-2.2
ISCO	Idaho Springs	49.57	282	P	P	08 26 03.0	+0.5
ISCO				IAmb	IAmb	08 26 07.8	
	comp=Z,4.8nm,1.2s						
ABKAR	Akbulak array	49.75	59	P	P	08 26 02.8	-0.5
ABKAR				IAmb	IAmb	08 26 04.9	
	comp=Z,4.0nm,1.1s						
WMOK	Wichita Mounta	49.99	272	P	P	08 26 05.2	-0.1
RDMU	Red Mountain	50.95	286	P	P	08 26 12.5	-0.3
RDMU				IAmb	IAmb	08 26 13.7	
	comp=Z,5.8nm,1.2s						
BRVK	Borovoye	51.19	50	P	P	08 26 13.8	-0.3
BRVK				IAmb	IAmb	08 26 15.8	
	comp=Z,4.4nm,1.2s						
BVAR	Borovoye Array	51.26	50	P	P	08 26 15.0	+0.3
	comp=Z,0.7nm,0.5s,baz=242,slow=8.2,SNR=7.6						
TORD	Torodi Ar. Bea	51.90	139	P	P	08 26 19.2	-0.6
	comp=Z,0.8nm,0.8s,baz=342,slow=7.7,SNR=5.9						
TORD	Torodi Ar. Bea	51.90	139	IAmb	IAmb	08 26 27.8	
	comp=Z,3.4nm,1.4s						
ELK	Elko	53.59	290	LR	LR	08 47 53.1	
	comp=Z,44nm,19.2s,baz=32,slow=34						
ELK	Elko	53.59	290	P	P	08 26 34.4	+2.0
ELK				IAmb	IAmb	08 26 34.4	
	comp=Z,7.3nm,1.5s						
KNB	Kanab	55.31	285	P	P	08 26 44.4	-0.5
ZALV	Zalesovo Beam	55.74	40	P	P	08 26 49.0	+1.5
	comp=Z,0.5nm,0.3s,baz=334,slow=13,SNR=1.7						
KURK	Kurchatov	56.22	46	P	P	08 26 51.2	+0.2
KURBB	Kurchatov Arra	56.26	46	P	P	08 26 51.2	-0.1
	comp=Z,2.6nm,0.9s,baz=319,slow=7.4,SNR=14						
KVN	Kaiserville	56.29	291	P	P	08 26 51.7	-0.1
KVN				IAmb	IAmb	08 26 52.9	
	comp=Z,7.2nm,1.3s						
PAHR	Pah Rah Range	56.38	292	P	P	08 26 53.1	+0.6
TXAR	Lajitas Array	56.78	272	P	P	08 26 55.3	-0.2
	comp=Z,0.5nm,0.9s,baz=42,slow=7.3,SNR=5.0						
NVAR	Mina Array Bea	56.87	290	P	P	08 26 56.1	0.0
	comp=Z,0.2nm,0.6s,baz=302,slow=45,SNR=2.1						
GSC	Goldstone, Bar	58.63	287	P	P	08 27 07.9	-0.4
MAKZ	Makanchi	60.70	47	P	P	08 27 22.7	+0.4
MAKZ				IAmb	IAmb	08 27 23.5	
	comp=Z,4.8nm,1.1s						
HSIG		60.76	278	P	P	08 27 22.4	-0.6
HSIG				IAmb	IAmb	08 27 23.6	
	comp=Z,2.3nm,0.9s						
MK31	Makanchi Array	60.83	47	P	P	08 27 22.7	-0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MK31				IAmb	IAmb	08 27 24.3	
	comp=Z,3.4nm,1.1s						
MKAR	Makanchi Array	60.83	47	P	P	08 27 23.1	-0.1
	comp=Z,2.3nm,0.9s,baz=336,slow=5.6,SNR=16						
MKAR	Makanchi Array	60.83	47	P	P	08 27 23.0	-0.2
AAK	Ala-Archa	61.21	54	P	P	08 27 27.2	+1.2
AAK				IAmb	IAmb	08 27 27.8	
	comp=Z,2.5nm,1.0s						
BTK	Batken	61.75	59	P	P	08 27 31.4	+1.8
GAR	Garm	62.40	60	P	P	08 27 35.5	+1.4
ASAR	Alice Springs	142.71	24	PKP	PKPdf	08 36 41.6	-2.7
	comp=Z,0.4nm,0.9s,baz=336,slow=2.0,SNR=2.4						

MEX 07 08:21:54.8±1.1, 28°.10N×112°.33W, h16km±59km, MD3.6, Gulf of California

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRIG	Santa Rosalia	0.78	174	*e*P	Pb	08 22 06.7	-3.2
SRIG				*i* S	Sb	08 22 17.4	-3.0
GUYB	Guaymas	1.30	98	*i* P	Pn	08 22 14.5	-3.9
GUYB				*e*S	Sb	08 22 30.8	-4.6
HSIG		1.52	53	*i* P	Pn	08 22 18.2	-3.1

*NEIC **07** 08:37:32.4±1.6, 57°.1S±0°.1×25°.3W±0°.2, h35km±1km, mb4.9/56, Error ellipse: s-maj=18.8km s-min=15.8km az=43.0*

*IDC **07** 08:37:34.9±4.7, 57°.02S×25°.31W, h58km±41km, mb4.3/11, mb1 4.5/12, mb1mx4.2/24, mbtmp4.7/12, ML5.4/1, MS3.9/2, Ms1 3.8/2, ms1mx3.3/31, Error ellipse: s-maj=23.3km s-min=14.6km az=58.0*

*BJI **07** 08:37:36.2±0.0, 57°.30S×25°.50W, h60km, mB5.4/1*

ISC 07 08:37:33.4±0.4, 57°.17S±0°.07×25°.28W±0°.10, h50km, n136, σ1s29/134, mb4.9/28, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	6.96	290	Pn	Pn	08 39 13.7	+1.0
VNA1	Neumayer--Stat	15.36	158	P	P	08 41 09.0	-1.4
VNA1	Neumayer--Stat	15.36	158	PcP	PcP	08 46 07.6	-0.1
VNA1				S	Sn	08 43 55.1	-0.2
VNA3	Neumayer Olymp	15.58	161	P	P	08 41 11.0	-1.9
VNA3				S	Sn	08 44 00.5	-0.2
VNA2	Neumayer--Watz	15.76	158	P	P	08 41 13.5	-1.2
	baz=322,slow=16						
VNA2	Neumayer--Watz	15.76	158	PcP	PcP	08 46 08.7	+0.4
VNA2				S	Sn	08 44 04.3	-0.6
SNAA	Sanae	17.29	156	P	P	08 41 34.3	+2.5
SNAA	Sanae	17.29	156	PcP	PcP	08 46 11.7	+1.0
SNAA	Sanae	17.29	156	P	P	08 41 33.9	+2.1
	14nm,0.3s,baz=278,slow=24,SNR=745						
SNAA				S	Sn	08 44 33.0	-9.0
	0.3nm,0.3s,baz=348,slow=24,SNR=2.3						
SNAA	Sanae	17.29	156		P	08 41 33.9	+2.1
SNAA				IAmb	IAmb	08 41 36.9	
	comp=Z,77nm,0.6s						
EFI	East Falkland	19.72	272	P	Pn	08 41 59.1	-1.2
PMSA	Palmer Station	20.00	232	P	Pn	08 42 03.9	+0.4
	comp=Z,36nm,0.7s,baz=60,slow=8.0,SNR=17						
PMSA				LR	LR	08 48 16.2	
	comp=Z,383nm,21.0s,baz=84,slow=32						
PMSA	Palmer Station	20.00	232		Pn	08 42 03.8	+0.3
PMSA				IAmb	IAmb	08 42 04.8	
	comp=Z,46nm,0.9s						
MG02	Cerro Sombrero	25.26	261	P	P	08 42 54.0	-0.5
TRQA	Tornquist	30.73	293	P	P	08 43 42.1	-1.5
TRQA				PcP	PcP	08 46 40.2	+0.2
PLTB	Pedras Altas	32.03	310	P	P	08 43 54.8	-0.2
PLTB				IAmb	IAmb	08 43 55.8	
	comp=Z,14nm,0.8s						
PLTB	Pedras Altas	32.03	310	*e*P	P	08 43 55.0	0.0
QSPA	South Pole Qui	33.08	180	P	P	08 44 06.1	+2.0
QSPA				IAmb	IAmb	08 44 07.4	
	comp=Z,13nm,0.6s						
PLCA	Paso Flores	33.23	280	P	P	08 44 03.9	-1.7
	comp=Z,6.3nm,0.9s,baz=131,slow=8.0,SNR=9.5						
PLCA	Paso Flores	33.23	280	P	P	08 44 04.3	-1.3
PLCA	Paso Flores	33.23	280	*e*P	P	08 44 04.2	-1.3
LL04	Puerto Octay	34.11	278	P	P	08 44 12.1	-0.9
LL04				IAmb	IAmb	08 44 12.3	
	comp=Z,14nm,0.9s						
LL05	Los Muermos	34.34	276	P	P	08 44 13.9	-1.2
ITQB	Itaqui	35.12	308	P	P	08 44 21.5	-0.3
ITQB	Itaqui	35.12	308	*e*P	P	08 44 21.7	-0.2
PET01	Itanhaem-SP	36.49	325	*e*P	P	08 44 33.5	-0.2
PTGB	Pitanga	37.73	318	*e*P	P	08 44 44.2	0.0
BO02	Sierra Bellavi	37.76	287	P	P	08 44 43.5	-1.0
BO02				IAmb	IAmb	08 45 03.2	
	comp=Z,14nm,1.1s						
GO05	Huala	38.20	285	P	P	08 44 46.5	-1.6
ALF01	Guarapari-ES	38.24	336	*e*P	P	08 44 49.0	+0.5
RCLB	Rio Claro- Sao	38.33	326	*e*P	P	08 44 49.6	+0.3
CPUP	Villa Florida	38.34	310	P	P	08 44 48.3	-1.0
	comp=Z,6.4nm,0.7s,baz=151,slow=7.8,SNR=16						
CPUP	Villa Florida	38.34	310	P	P	08 44 48.8	-0.5
CPUP	Villa Florida	38.34	310	*e*P	P	08 44 48.8	-0.5
MAW	Mawson	38.62	142	P	P	08 44 52.5	+1.3
	comp=Z,1.9nm,0.6s,baz=245,slow=7.9,SNR=5.9						
MAW				PcP	PcP	08 47 03.6	+1.3
	comp=Z,1.3nm,0.5s,baz=257,slow=5.4,SNR=4.4						
MAW	Mawson	38.62	142	P	P	08 44 52.8	+1.7
MT09	Talagante	38.66	287	P	P	08 44 50.1	-2.0
MT09				IAmb	IAmb	08 45 17.0	
	comp=Z,23nm,1.2s						
MT01	Popeta	38.73	287	P	P	08 44 50.4	-2.1
MT01				IAmb	IAmb	08 45 08.7	
	comp=Z,28nm,1.4s						
BSCB	Bom Sucesso	38.87	330	*e*P	P	08 44 54.3	+0.4
VA03	San Esteban	39.22	289	P	P	08 44 56.3	-0.5
BB19B	Bebedouro	39.90	325	*e*P	P	08 45 02.9	+0.4
PCMB	Pacaembu	40.30	321	*e*P	P	08 45 05.7	0.0
CO02	Combarbal	40.69	290	P	P	08 45 08.1	-0.9
CO02				IAmb	IAmb	08 45 16.7	
	comp=Z,20nm,1.2s						
NAN01	Guarapari, ES	40.80	338	*e*P	P	08 45 10.5	+0.7
CO03	El Pedregal	40.83	290	P	P	08 45 09.4	-0.6
DIAM	Diamantina, MG	41.17	333	*e*P	P	08 45 13.2	+0.2
ITRB	Iturama	41.76	323	*e*P	P	08 45 18.0	+0.2
MC01	Montes Claros	42.76	333	*e*P	P	08 45 25.9	0.0
AQDB	Aquidauana	42.94	316	P	P	08 45 26.6	-0.6
AQDB	Aquidauana	42.94	316	*e*P	P	08 45 26.8	-0.5
CMC01	Camacan, BA	43.10	340	*e*P	P	08 45 28.7	+0.1
AC04	Llanos de Chal	43.16	292	P	P	08 45 27.8	-1.2
AC04				IAmb	IAmb	08 45 28.4	
	comp=Z,19nm,0.8s						
GO03	Copiap	43.24	294	P	P	08 45 28.1	-1.6
AC02	Maricunga	43.32	296	P	P	08 45 30.6	-0.2
AC02				IAmb	IAmb	08 45 31.1	
	comp=Z,19nm,0.7s						
JANB	Januaria	44.44	333	*e*P	P	08 45 39.8	+0.4
BDFB	Brasilia	44.87	328	P	P	08 45 44.1	+1.2
	comp=Z,1.0nm,0.3s,baz=39,slow=2.8,SNR=4.1						
BDFB	Brasilia	44.87	328	P	P	08 45 44.0	+1.2
BOSA	Boshof	45.26	73	LR	LR	09 00 11.9	
	comp=Z,151nm,21.9s,baz=192,slow=30						
PP1B	Ponte de Pedra	45.27	318	*e*P	P	08 45 46.1	+0.1
VNDA	Vanda	45.50	182	P	P	08 45 49.5	+2.5
	comp=Z,5.0nm,0.7s,baz=191,slow=7.0,SNR=52						
VNDA	Vanda	45.50	182	P	P	08 45 49.5	+2.5
ARAG	Araguaiana, MT	45.97	323	*e*P	P	08 45 51.9	+0.5
AF01	San Pedro de A	46.13	300	P	P	08 45 53.1	0.0
PB15	IPOC Station P	46.53	298	P	P	08 45 55.2	-0.8
PB15				IAmb	IAmb	08 45 55.8	
	comp=Z,12nm,0.6s						
LVC	Limon Verde	46.77	299	P	P	08 45 58.1	0.0
LVC	Limon Verde	46.77	299	*e*P	P	08 45 57.1	-1.1
PB10	IPOC Station P	46.80	297	P	P	08 45 56.7	-1.3
PB10				IAmb	IAmb	08 45 57.3	
	comp=Z,11nm,1.0s						
PB06	IPOC Station P	47.01	298	P	P	08 45 58.1	-1.6
PB06				IAmb	IAmb	08 45 59.6	
	comp=Z,17nm,1.0s						
SALV	Santo Antonio	47.13	318	*e*P	P	08 46 00.7	+0.2
SDBA	SAO DESIDERIO	47.13	333	*e*P	P	08 46 01.3	+0.7
PB04	IPOC Station P	47.60	298	P	P	08 46 02.9	-1.5
PB09	IPOC Station P	47.62	299	P	P	08 46 04.6	0.0
PB09				IAmb	IAmb	08 46 05.4	
	comp=Z,13nm,0.6s						
NBPN	Ponto Novo - B	47.63	340	*e*P	P	08 46 05.4	+1.0
PB07	IPOC Station P	47.99	299	P	P	08 46 06.6	-0.8
PB01	IPOC Station P	48.39	299	P	P	08 46 09.9	-0.4
PTLB	Pontes e Lacer	48.84	314	*e*P	P	08 46 13.6	-0.1
PB08	IPOC Station P	49.00	300	P	P	08 46 15.7	+0.3
TA01	Diego Aracena	49.12	299	P	P	08 46 15.6	-0.3
TA01				IAmb	IAmb	08 46 21.9	
	comp=Z,40nm,1.5s						
SNDB	Serra Nova Dou	49.32	326	*e*P	P	08 46 17.8	+0.4
TA02	Huaiquique	49.35	299	P	P	08 46 17.2	-0.5
PB11	IPOC Station P	49.57	300	P	P	08 46 19.0	-0.5
PB11				IAmb	IAmb	08 46 25.6	
	comp=Z,13nm,0.7s						
H10N1	ASCENSION HYDR	49.92	14	T	T	09 40 30.5	
	baz=189,slow=75,SNR=12						
H10N3	ASCENSION HYDR	49.92	14	T	T	09 40 29.7	
	baz=189,slow=75,SNR=21						
PSGCX	Pisagua	49.93	300	P	P	08 46 21.4	-0.8
PSGCX				IAmb	IAmb	08 46 21.7	
	comp=Z,12nm,0.6s						
H10N2	ASCENSION HYDR	49.94	14	T	T	09 40 31.5	
	baz=189,slow=75,SNR=11						
NBLV	Livramento - P	50.52	345	*e*P	P	08 46 27.5	+1.0
SMTB	Santa Maria do	51.22	331	*e*P	P	08 46 32.9	+1.1
VILB	Vilhena	51.52	315	*e*P	P	08 46 34.0	-0.1
CLDB	Colider	51.82	321	*e*P	P	08 46 36.2	-0.1
LPAZ	La Paz	51.88	304	P	P	08 46 37.8	+0.3
	comp=Z,25nm,0.4s,baz=105,slow=4.6,SNR=183						
LPAZ	La Paz	51.88	304	P	P	08 46 37.6	+0.1
NBPA	Parau_RN	52.12	345	*e*P	P	08 46 39.5	+1.0
NPGB	Novo Progresso	55.25	323	*e*P	P	08 47 01.8	+0.4
SAML	Samuel	56.34	313	P	P	08 47 08.9	-0.3
SAML				IAmb	IAmb	08 47 11.0	
	comp=Z,13nm,0.8s						
SAML	Samuel	56.34	313	*e*P	P	08 47 08.9	-0.3
ETMB	Extrema	56.80	309	*e*P	P	08 47 12.4	-0.1
ITTB	Itaituba	57.88	323	*e*P	P	08 47 20.6	+0.5
MALB	Monte Alegre	59.79	326	*e*P	P	08 47 34.2	+0.9
MCPB	Macapa, AP	60.56	329	*e*P	P	08 47 39.9	+1.4
MACA	Manacapuru-AM	60.71	318	*e*P	P	08 47 40.4	+0.8
PTGA	Pitinga	62.71	320	P	P	08 47 52.6	-0.5
TBTG	Tabatinga, AM	63.42	308	*e*P	P	08 47 57.0	-0.8
DBIC	Dimbokro	65.78	22	P	P	08 48 12.5	-0.5
	comp=Z,2.8nm,0.6s,baz=179,slow=5.9,SNR=4.7						
DBIC	Dimbokro	65.78	22	IAmb	IAmb	08 48 21.2	
	comp=Z,15nm,1.2s						
FLOC	Florencia	71.08	306	P	P	08 48 46.2	-0.1
FLOC				IAmb	IAmb	08 48 46.7	
	comp=Z,8.8nm,1.1s						
OTAV	Otavalo	71.15	302	P	P	08 48 49.0	+1.8
OTAV	Otavalo	71.15	302	*e*P	P	08 48 48.3	+1.0
PRAC	Prado	72.64	307	*e*P	P	08 48 56.1	+0.5
YOTC	Yotoco, Valle	73.52	306	*e*P	P	08 49 03.4	+2.4
TORD	Torodi Ar. Bea	73.54	27	P	P	08 49 00.5	-0.3
	comp=Z,7.9nm,0.7s,baz=198,slow=6.2,SNR=39						
TORD	Torodi Ar. Bea	73.54	27	P	P	08 49 00.5	-0.3
RUSC	La Rusia	73.83	310	P	P	08 49 02.5	-0.7
RUSC				IAmb	IAmb	08 49 03.3	
	comp=Z,12nm,1.2s						
GUY2C	Guyana, Caldas	74.20	307	*e*P	P	08 49 03.9	-1.5
PTBC	PUERTO BERRIO,	74.99	309	*e*P	P	08 49 07.2	-2.2
STKA	Stephens Creek	90.61	169	P	P	08 50 30.8	+0.7
	comp=Z,1.7nm,0.9s,baz=135,slow=9.8,SNR=3.1						
ASAR	Alice Springs	97.59	161	P	Pdif	08 51 01.8	-0.6
	comp=Z,1.4nm,0.8s,baz=189,slow=4.3,SNR=13						
WRA	Warramunga Arr	101.31	160	P	Pdif	08 51 19.3	+0.4
	comp=Z,0.7nm,0.7s,baz=196,slow=6.2,SNR=5.4						
AKASG	Malin Array Be	116.49	35	PKP	PKiKP	08 56 09.9	-0.5
	comp=Z,0.2nm,0.3s,baz=301,slow=30,SNR=2.1						
SCHQ	Schefferville	116.63	335	PKP	PKiKP	08 56 10.2	-0.4
	comp=Z,6.1nm,1.2s,baz=321,slow=11,SNR=2.1						
NOA	NORSAR Array B	121.30	20	PKP	PKiKP	08 56 19.1	-0.4
	comp=Z,0.5nm,0.7s,baz=180,slow=2.3,SNR=1.8						
ULM	Lac du Bonnet	121.79	315	PKP	PKPdf	08 56 19.8	-0.8
	comp=Z,1.6nm,0.5s,baz=148,slow=3.2,SNR=4.4						
PDAR	Pinedale Array	121.83	300	PKP	PKiKP	08 56 20.7	-0.7
	comp=Z,0.1nm,0.3s,baz=117,slow=5.6,SNR=2.7						
NVAR	Mina Array Bea	122.80	291	PKP	PKiKP	08 56 24.7	+1.3
	comp=Z,0.6nm,0.3s,baz=26,slow=20,SNR=39						
NVAR	Mina Array Bea	122.80	291		PKiKP	08 56 25.2	+1.7
CMAR	Chiang Mai Arr	123.69	109	PKP	PKiKP	08 56 26.2	+0.6
	comp=Z,1.7nm,0.3s,baz=218,slow=3.3,SNR=4.2						
FINES	FINESS Array B	124.89	27	PKP	PKPdf	08 56 25.5	-0.7
	comp=Z,2.6nm,0.8s,baz=182,slow=2.1,SNR=12						
ARCES	ARCESS Array B	131.60	21	PKP	PKPdf	08 56 38.2	-0.6
	comp=Z,0.7nm,0.5s,baz=185,slow=2.0,SNR=10						
MKAR	Makanchi Array	136.25	71	PKP	PKiKP	08 56 49.1	-0.8
	comp=Z,0.3nm,0.7s,baz=217,slow=3.8,SNR=3.5						
WMQ	Urumqi	137.10	78	*e*PKP	PKiKP	08 56 51.4	-0.4
YKA	Yellowknife Ar	137.71	316	PKP	PKPdf	08 56 50.4	+0.1
	comp=Z,1.8nm,0.6s,baz=128,slow=2.6,SNR=6.0						
NJ2	Nanjing	144.86	120	*e*PKP	PKiKP	08 57 06.1	-1.9
INK	Inuvik	147.34	319	PKPbc	PKPbc	08 57 09.2	-0.6
	baz=78,slow=4.6						
HHC	Hu-ho-hao-te	147.98	102	*e*PKPbc	PKPab	08 57 14.1	-1.2
SONM	Songino Array	149.74	87	PKPbc	PKiKP	08 57 16.8	-1.0
	comp=Z,3.5nm,0.6s,baz=237,slow=3.2,SNR=15						
ILAR	Eielson Array	151.65	310	PKPbc	PKiKP	08 57 20.4	-0.5
	comp=Z,4.8nm,0.5s,baz=136,slow=2.0,SNR=58						
KDAK	Kodiak Island	152.25	294	PKPbc	PKiKP	08 57 22.2	-0.1
	comp=Z,5.8nm,0.5s,baz=196,slow=4.2,SNR=27						

*IDC **07** 08:37:41.7±19.0, 24°.48N×123°.15E, h171km±126km, mb3.5/9, mb1 3.5/10, mb1mx3.2/52, mbtmp3.9/10, Error ellipse: s-maj=163.4km s-min=29.6km az=174.0*

*NEIC **07** 08:37:52.3±1.8, 25°.3N±0°.1×123°.33E±0°.09, h228km±8km, mb4.1/20, Error ellipse: s-maj=20.0km s-min=10.6km az=162.0*

*JMA **07** 08:37:53.8±0.2, 25°.50N×123°.17E, h211km±4km, M4.2*

ISC 07 08:37:52.7±0.6, 25°.5N±0°.1×123°.25E±0°.04, h223km±9km, n66, σ1s37/90, mb3.9/19, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.08	191	P	Pn	08 38 25.1	-0.4
YOJ				*e*S	S	08 38 49.4	-1.6
YOJ	Yonaguni jima	1.08	191	Pn	Pn	08 38 25.1	-0.4
YOJ				Sn	S	08 38 49.9	-1.1
JYNG	Yonagunijimaku	1.11	194	P	Pn	08 38 25.3	-0.3
JYNG				S	S	08 38 50.0	-1.2
IRIF	Iriomote-Funau	1.27	160	P	Pn	08 38 26.5	-0.2
IRIF				S	S	08 38 51.8	-1.4
JISG	Ishigakijimahi	1.35	134	P	Pn	08 38 27.6	+0.3
JISG				S	S	08 38 53.8	-0.4
JIJ	Ishigaki jima	1.42	145	P	Pn	08 38 28.0	+0.1
JIJ				S	S	08 38 53.7	-1.5
JKRS	Kuro-shima	1.46	151	P	Pn	08 38 28.7	+0.5
JKRS				S	S	08 38 54.7	-1.1
HATJ	Hateruma jima	1.55	161	P	Pn	08 38 29.4	+0.4
HATJ				S	S	08 38 57.1	-0.1
JTJ	Tarama	1.59	123	P	Pn	08 38 30.1	+0.9
JTJ				S	S	08 38 57.1	-0.5
TATO	Taipei	1.68	251	Pn	Pn	08 38 30.4	+0.4
TATO				Sn	S	08 39 00.6	+1.5
JIRB	Irabujima	1.88	111	P	Pn	08 38 32.8	+1.0
JIRB				S	S	08 39 01.3	-0.9
YHNB	Yeheng	1.90	244	Pn	Pn	08 38 32.1	0.0
YHNB				Sn	S	08 39 00.9	-1.8
JIKM	Ikemajima	1.91	108	P	Pn	08 38 33.4	+1.3
JIKM				S	S	08 39 02.8	+0.1
NACB	Ninganchiao	2.02	228	Pn	Pn	08 38 32.5	-0.7
NACB				Sn	S	08 39 02.2	-2.4
JMJ2	Miyako jima3	2.04	112	P	Pn	08 38 34.8	+1.4
JMJ2				S	S	08 39 05.0	0.0
JOGS	Gusukube	2.10	111	P	Pn	08 38 35.5	+1.5
JOGS				S	S	08 39 06.4	+0.3
SSLB	Suanglung	2.71	231	Pn	Pn	08 38 40.7	+0.3
SSLB				Sn	S	08 39 16.1	-1.5
YULB	Yu-li	2.77	220	Pn	Pn	08 38 39.0	-2.1
YULB				Sn	S	08 39 15.5	-3.3
TPUB	Ta-pu	3.26	228	Pn	Pn	08 38 46.5	-0.1
TPUB				Sn	S	08 39 27.2	-1.6
JKE	Kume jima 2	3.29	75	P	Pn	08 38 47.2	+0.4
JKE				S	S	08 39 27.9	-1.3
TWG	Pinlang	3.35	217	Pn	Pn	08 38 45.3	-2.3
JAGN	Aguni-jima	3.75	73	P	Pn	08 38 52.3	0.0
JJT3	Tamagusuku3	4.13	80	P	Pn	08 38 57.5	+0.5
JJT3				S	S	08 39 45.7	-1.8
JNTH	Nagotoyohara	4.41	76	P	Pn	08 39 00.0	-0.3
JNTH				S	S	08 39 50.3	-3.3
JIH	Iheya	4.50	69	P	Pn	08 39 00.9	-0.5
JIH				S	S	08 39 51.8	-3.7
JOW	Kunigami	4.70	73	P	Pn	08 39 03.1	-0.9
JOW				S	S	08 39 55.3	-4.9
JOW	Kunigami	4.70	73	Pn	Pn	08 39 03.3	-0.6
JMZ	Minamidaito 2	7.20	86	Pn	Pn	08 39 35.7	0.0
KSRS	Korea Array	12.54	17	P	P	08 40 47.6	+0.9
	0.4nm,0.3s,baz=196,slow=12,SNR=9.8						
SONM	Songino Array	25.93	333	P	P	08 43 04.5	0.0
	0.4nm,0.5s,baz=139,slow=7.1,SNR=2.4						
YAK	Yakutsk	36.75	5	P	P	08 44 42.2	+3.8
	19nm,0.4s,baz=81,slow=1.1,SNR=3.3						
YAK	Yakutsk	36.75	5	P	P	08 44 40.6	+2.2
PEA0B	Petropavlovsk-	37.71	34	P	P	08 44 44.7	-2.0
MK31	Makanchi Array	38.72	314	P	P	08 44 55.0	-0.1
MKAR	Makanchi Array	38.72	314	P	P	08 44 55.0	-0.2
	0.9nm,0.4s,baz=102,slow=9.7,SNR=15						
MKAR	Makanchi Array	38.72	314	P	P	08 44 55.2	+0.1
MAKZ	Makanchi	38.93	314	P	P	08 44 57.1	+0.2
MAKZ				IAmb	IAmb	08 44 57.5	
	comp=Z,2.1nm,0.6s						
ZAA0	Zalesovo Array	40.17	325	P	P	08 45 05.3	-1.7
ZAA0				IAmb	IAmb	08 45 44.1	
	comp=Z,2.5nm,0.5s						
ZALV	Zalesovo Beam	40.17	325	P	P	08 45 06.5	-0.5
	comp=Z,0.9nm,0.4s,baz=125,slow=9.2,SNR=2.5						
ZALV	Zalesovo Beam	40.17	325	P	P	08 45 05.3	-1.7
KURK	Kurchatov	42.30	318	P	P	08 45 24.1	-0.2
KURBB	Kurchatov Arra	42.32	318	P	P	08 45 24.1	-0.4
	comp=Z,1.6nm,0.2s,baz=112,slow=8.3,SNR=2.0						
KK31	Karatay Array	46.17	306	P	P	08 45 55.6	+0.5
KKAR	Karatay Array	46.17	306	P	P	08 45 55.6	+0.4
ABKAR	Akbulak array	53.86	314	P	P	08 46 53.0	+0.4
ABKAR				IAmb	IAmb	08 46 53.6	
	comp=Z,2.0nm,0.8s						
IMAR	Indian Mountai	64.14	27	P	P	08 48 02.8	-0.1
KDAK	Kodiak Island	65.73	36	P	P	08 48 13.3	0.0
SUA	Susitna One	66.04	32	P	P	08 48 15.9	+0.6
SUA				IAmb	IAmb	08 48 53.2	
	comp=Z,3.2nm,0.5s						
I23K	Minto, Yukon-K	66.06	28	P	P	08 48 14.9	-0.3
I23K				IAmb	IAmb	08 48 49.9	
	comp=Z,4.2nm,0.5s						
MDM	Murphy Dome	66.56	28	P	P	08 48 20.4	+1.9
MDM				IAmb	IAmb	08 48 34.3	
	comp=Z,2.9nm,1.3s						
KNK	Knik Glacier	67.13	31	P	P	08 48 20.1	-2.0
KNK				IAmb	IAmb	08 48 53.4	
	comp=Z,8.9nm,1.5s						
IL31		67.16	28	P	P	08 48 23.8	+1.6
ILAR	Eielson Array	67.16	28	P	P	08 48 22.0	-0.2
	comp=Z,0.2nm,0.5s,baz=285,slow=5.4,SNR=4.3						
ILAR	Eielson Array	67.16	28	P	P	08 48 22.1	-0.2
BMAR	Burnt Mountain	67.53	25	P	P	08 48 26.0	+1.5
RIDG	Independent Ri	68.25	29	P	P	08 48 29.3	+0.2
RIDG				IAmb	IAmb	08 48 53.0	
	comp=Z,6.8nm,1.5s						
ARCES	ARCESS Array B	69.00	338	P	P	08 48 33.7	+0.1
	comp=Z,1.2nm,0.8s,baz=64,slow=2.8,SNR=4.5						
DAWY	Dawson	70.49	28	P	P	08 48 43.6	+0.8
EPYK	Eagle Plains	70.81	25	P	P	08 48 45.8	+1.2
EPYK				IAmb	IAmb	08 48 53.3	
	comp=Z,5.0nm,1.5s						
FIA1	FINESS Array S	71.23	330	P	P	08 48 47.1	-0.1
FINES	FINESS Array B	71.23	330	P	P	08 48 47.6	+0.4
	comp=Z,1.6nm,0.5s,baz=54,slow=7.1,SNR=8.4						
FINES	FINESS Array B	71.23	330	P	P	08 48 47.3	+0.1
INK	Inuvik	71.28	22	P	P	08 48 48.1	+0.8
	comp=Z,0.6nm,0.4s,baz=290,slow=4.2,SNR=2.1						
INK	Inuvik	71.28	22	P	P	08 48 48.4	+1.0
INK				IAmb	IAmb	08 48 50.8	
	comp=Z,4.1nm,1.5s						
NB2	NORSAR Subarra	77.91	333	P	P	08 49 25.2	-0.4
	comp=Z,0.9nm,0.6s,baz=53,slow=6.2						
NOA	NORSAR Array B	77.91	333	P	P	08 49 25.3	-0.4
	comp=Z,0.4nm,0.7s,baz=54,slow=5.9,SNR=3.9						

*BJI **07** 08:46:08.6±0.0, 24°.02S×179°.33E, h548km, mB5.6/61, mb5.6/74*

*NOU **07** 08:46:08.5, 24°.28S×179°.29E, h545km, ML5.6/140, South of Fiji Islands*

*MOS **07** 08:46:08.6±0.8, 24°.25S×179°.06E, h543km, mb5.6/39, Error ellipse: s-maj=8.4km s-min=7.2km az=103.9*

*BGR **07** 08:46:09.8±0.0, 23°.37S×178°.10W, h549km±3km*

*NEIC **07** 08:46:09.1±2.2, 24°.24S±0°.08×179°.13E±0°.09, h535km±1km, mb5.4/407, Mwb5.9/49, Mww6.0, Error ellipse: s-maj=13.8km s-min=12.8km az=77.0*

*NEIC **07** 08:46:09.4, 24°.24S×179°.12E, h546km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.96; $M_{\theta\theta}$1.39; $M_{\phi\phi}$-0.42; $M_{r\theta}$-4.45; $M_{\theta\phi}$-1.04; $M_{\phi r}$-6.41; Fault plane solution: $M_0$7.97000×10^{17} NP1:ϕ_s36.09000°, δ89.67000°, λ-93.98000°. NP2:ϕ_s301.32000°, δ4.00000°, λ-4.78000°. Principal axes: T 6.9397, Plg45.0000°, Azm130.0000°; N 1.7646, Plg4.0000°, Azm36.0000°; P -8.7043, Plg45.0000°, Azm302.0000°;*

*NEIC **07** 08:46:10, 24°.64S×179°.56W, h550km, Moment Tensor Solution. Duration: 2s6 Moment tensor: Scale 10^{18}Nm; M_{rr}0.10; $M_{\theta\theta}$-0.01; $M_{\phi\phi}$-0.08; $M_{r\theta}$-0.60; $M_{\theta\phi}$-0.14; $M_{\phi r}$-0.86; Fault plane solution: $M_0$1.06000×10^{18} NP1: ϕ_s46.00000°, δ4.00000°, λ102.00000°. NP2:ϕ_s215.00000°, δ86.00000°, λ89.00000°. Principal axes: T 1.0128, Plg49.0000°, Azm124.0000°; N 0.0907, Plg1.0000°, Azm215.0000°; P -1.1035, Plg41.0000°, Azm305.0000°;*

*IDC **07** 08:46:10.1±0.4, 24°.19S×178°.98E, h550km±3km, mb5.1/39, mb1 5.1/42, mb1mx5.0/45, mbtmp5.9/42 Error ellipse: s-maj=7.4km s-min=5.8km az=7.0*

*GCMT **07** 08:46:12.4±0.1, 24°.28S±0°.02×179°.07E±0°.02, h552km, MW5.8/142, Moment Tensor Solution. s142,c267; Duration: 2s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.52±.06; $M_{\theta\theta}$0.02±.10; $M_{\phi\phi}$0.49±.10; $M_{r\theta}$-4.25±.10; $M_{\theta\phi}$-0.79±.09; $M_{\phi r}$-5.92±.09; Best double couple: $M_0$7.30400×10^{17} NP1:ϕ_s129.00000°, δ4.00000°, λ-176.00000°. NP2:ϕ_s35.00000°, δ90.00000°, λ-86.00000°. Principal axes: T 6.8420, Plg45.0000°, Azm121.0000°; N 0.9230, Plg4.0000°, Azm215.0000°; P -7.7650, Plg45.0000°, Azm309.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 07 08:46:09.0±0.2, 24°.32S±0°.03×179°.06E±0°.03, h546km±2km, h546km:pP-P, n1799, σ1s74/2144, mb5.5/366, 139C-239D, Fault plane solution: NP1:ϕ_s217.13055°, δ86.19238°, λ56.26811°. **NP2:**ϕ_s121.45100°, δ33.92083°, λ173.16570°. **Principal axes:** T Plg39.3252°, Azm96.6263°; N Plg33.6475°, Azm219.6694°; P Plg32.6705°, Azm334.9354°; **Fault plane solution: NP1:** ϕ_s210.75430°, δ89.07779°, λ101.67650°. **NP2:** ϕ_s305.20752°, δ11.71235°, λ4.54752°. **Principal axes:** T Plg44.7299°, Azm132.3754°; N Plg11.6750°, Azm30.5637°; P Plg42.9221°, Azm289.4846°; **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RIZ	Raoul Island	5.60	152	P	P	08 47 44.8	+1.1
RIZ				S	S	08 49 01.3	+0.1
RAO	Raoul Island	5.61	152	P	P	08 47 46.1	+2.4
	769nm,0.3s,baz=32,slow=0.8,SNR=59						
RAO				S	S	08 49 00.6	-0.7
	222nm,0.3s,baz=56,slow=23,SNR=1.6						
RAO	Raoul Island	5.61	152	P	P	08 47 44.8	+1.1
RAO	Raoul Island	5.61	152	P	P	08 47 44.8	+1.1
GLKZ	Green Lake	5.62	152	P	P	08 47 47.1	+3.3
GLKZ				S	S	08 49 02.5	+1.0
MSVF	Nonsavu	6.62	352	P	P	08 47 53.6	+0.2
	114nm,0.3s,baz=196,slow=5.0,SNR=210						
MSVF				S	S	08 49 18.9	+0.2
	baz=155,slow=24,SNR=1.2						
MSVF	Nonsavu	6.62	352	P	P	08 47 53.6	+0.2
MARNC	Mare, Loyalty	10.55	283	P	P	08 48 34.1	+1.5
MARNC	Mare, Loyalty	10.55	283	P	P	08 48 34.4	+1.8
PINNC	Pines Island,	10.80	277	P	P	08 48 37.6	+2.5
PINNC	Pines Island,	10.80	277	P	P	08 48 38.2	+3.1
NFK	Norfolk Island	11.00	242	P	P	08 48 40.8	+3.7
	baz=11						
OUENC	Ouen Island, N	11.38	277	P	P	08 48 44.0	+2.8
OUENC	Ouen Island, N	11.38	277	P	P	08 48 44.3	+3.1
YATNC	Mamie plateau,	11.42	279	P	P	08 48 44.3	+2.7
LIFNC	LIFOU	11.48	286	P	P	08 48 42.8	+0.6
LIFNC	LIFOU	11.48	286	P	P	08 48 43.1	+0.9
NIUE	Niue	11.48	65	P	P	08 48 41.4	-0.9
	baz=11,SNR=97						

NIUE S S 08 50 45.8 -2.5
baz=11
NIUE Niue 11.48 65 P P 08 48 41.4 -0.9
NIUE Niue 11.48 65 P P 08 48 41.3 -1.0
ONTNC Ouen Toro 11.76 277 P P 08 48 47.9 +2.8
ONTNC Ouen Toro 11.76 277 P P 08 48 48.1 +3.0
DZM Mont Dzumac 11.82 278 *eP* P 08 48 48.9 +3.1
4µm,0.8s
DZM Mont Dzumac 11.82 278 P P 08 48 48.6 +2.8
69nm,0.3s,baz=85,slow=16,SNR=804
DZM S S 08 50 58.9 +4.1
baz=288,slow=13,SNR=13
DZM Mont Dzumac 11.82 278 P P 08 48 48.8 +3.0
OUZ Omahuta 11.86 202 P P 08 48 49.1 +3.2
OUZ Omahuta 11.86 202 P P 08 48 48.3 +2.5
NOUC Port Laguerre 11.94 278 P P 08 48 49.6 +2.6
MXZ Matakaoa Point 13.22 183 P P 08 49 00.6 +0.6
MXZ Matakaoa Point 13.22 183 P P 08 48 59.2 -0.7
MXZ S S 08 51 20.3 -0.5
HAZ Te Kaha 13.44 184 P P 08 49 01.2 -1.1
HAZ S S 08 51 17.6 -7.4
WMGZ Waiomatatini S 13.47 182 P P 08 49 04.7 +2.1
WMGZ S S 08 51 20.3 -5.2
AFI Afiamalu 13.48 42 P P 08 48 59.1 -4.0
15nm,0.3s,baz=250,slow=3.2,SNR=20
AFI S S 08 51 18.0 -8.5
13nm,0.3s,baz=56,slow=19,SNR=4.6
AFI Afiamalu 13.48 42 P P 08 48 59.0 -4.1
AFI Afiamalu 13.48 42 P P 08 48 59.2 -4.0
PKGZ Pakihiroa 13.56 183 P P 08 49 02.9 -0.6
PKGZ S S 08 51 21.2 -6.0
WHRZ Whale Island 13.62 187 P P 08 49 06.5 +2.4
WHRZ S S 08 51 30.3 +2.0
RUGZ Raukumara Rang 13.66 185 P P 08 49 07.4 +2.8
RUGZ S S 08 51 25.7 -3.5
PUZ Puketiti 13.73 183 P P 08 49 08.3 +3.1
PUZ S S 08 51 24.8 -5.6
TWGZ Tauwhareparae 13.85 184 P P 08 49 07.4 +0.9
TWGZ S S 08 51 29.4 -3.4
EDRZ Edgecumbe 13.89 188 P P 08 49 09.3 +2.3
EDRZ S S 08 51 38.5 +4.9
URZ Urewera 14.00 186 P P 08 49 05.2 -2.8
34nm,0.3s,baz=122,slow=23,SNR=86
URZ S S 08 51 30.2 -5.3
12nm,0.3s,baz=173,slow=20,SNR=3.3
URZ Urewera 14.00 186 P P 08 49 05.6 -2.4
URZ Urewera 14.00 186 P P 08 49 10.2 +2.1
URZ S S 08 51 33.9 -1.5
MWZ Matawai 14.04 185 P P 08 49 09.3 +0.8
MWZ S S 08 51 32.1 -4.2
TARZ Mount Tarawera 14.05 188 P P 08 49 05.9 -2.8
TARZ S S 08 51 36.5 -0.1
TKGZ Te Karaka 14.12 184 P P 08 49 10.1 +2.7
TKGZ S S 08 51 32.1 -5.6
CNGZ Carnagh Statio 14.14 183 P P 08 49 13.8 +4.3
CNGZ S S 08 51 36.7 -1.6
KOUNC Koumac, New Ca 14.17 282 P P 08 49 12.0 +2.0
RAGZ Rawiri 14.21 185 P P 08 49 10.2 -0.1
RAGZ S S 08 51 34.8 -4.8
SANVU Saraoutou 14.21 306 P P 08 49 09.6 -1.0
SANVU Saraoutou 14.21 306 P P 08 49 09.8 -0.7
MUGZ Murupara 14.25 187 P P 08 49 10.2 -0.5
MUGZ S S 08 51 38.5 -1.9
PRRZ Plateau Road 14.32 188 P P 08 49 07.9 -3.5
PRRZ S S 08 51 40.9 -0.8
RTZ Ruatahuna 14.37 187 P P 08 49 12.9 +1.0
RTZ S S 08 51 38.5 -4.2
WPRZ Whakapapatarin 14.38 189 P P 08 49 14.4 +2.5
WPRZ S S 08 51 40.3 -2.4
RIGZ Rimuhau 14.39 184 P P 08 49 10.1 -2.0
RIGZ S S 08 51 38.4 -4.6
ALRZ Allen Road 14.39 189 P P 08 49 08.5 -3.6
ALRZ S S 08 51 41.5 -1.5
SNGZ Shannon Statio 14.50 185 P P 08 49 14.7 +1.5
SNGZ S S 08 51 43.0 -2.0
PRGZ Paritu Road 14.60 184 P P 08 49 12.8 -1.4
PRGZ S S 08 51 39.9 -7.0
HIZ Hauiti 14.60 193 P P 08 49 15.2 +0.9
MTHZ Maungataniwha 14.62 187 P P 08 49 12.7 -1.7
MRHZ Matea Rd 14.65 188 P P 08 49 12.6 -2.2
RAHZ Arahi 14.65 186 P P 08 49 12.3 -2.5
KNZ Kokohu 14.71 184 P P 08 49 10.9 -4.4
WHHZ Waihua 14.80 186 P P 08 49 11.8 -4.5
MHGZ Mahia Peninsul 14.83 184 P P 08 49 17.7 +1.1
NMHZ Naumai 14.86 187 P P 08 49 15.8 -1.2
BKZ Black Stump Fm 14.97 188 P P 08 49 16.9 -1.1
BKZ IAmb IAmb 08 49 21.4
comp=Z,112nm,0.7s
BKZ Black Stump Fm 14.97 188 P P 08 49 14.5 -3.6
ARHZ Aropaoanui 15.01 186 P P 08 49 16.5 -1.9
OTVZ Oturere 15.08 190 P P 08 49 16.9 -2.5
NGZ Ngauruhoe 15.10 190 P P 08 49 18.7 -0.9
TUVZ Tukino 15.19 190 P P 08 49 19.1 -1.3
MCHZ McNeill Hill 15.22 187 P P 08 49 18.2 -2.4
KWHZ Kaweka Forest 15.23 188 P P 08 49 17.7 -3.1
WNVZ Wahianoa 15.25 190 P P 08 49 20.2 -0.9
PKVZ Pokaka 15.26 191 P P 08 49 19.4 -1.7
MOVZ Moawhango 15.31 190 P P 08 49 20.0 -1.6
MTVZ Mangateitei 15.33 191 P P 08 49 18.2 -3.6
BHHZ Black Hill Sta 15.34 189 P P 08 49 17.6 -4.4
CKHZ Cape Kidnapper 15.39 186 P P 08 49 20.5 -1.9
KRHZ Kereru 15.45 188 P P 08 49 19.9 -3.2
KAHZ Kahuranaki 15.54 186 P P 08 49 21.1 -2.9
FUNA Funafuti 15.70 1 P P 08 49 23.8 -2.1
FUNA Funafuti 15.70 0 P P 08 49 23.8 -2.1
PNHZ Pukenui 15.74 188 P P 08 49 22.6 -3.4
WAZ Wanganui 15.78 192 P P 08 49 24.0 -2.3
PXZ Pawanui 15.78 186 P P 08 49 21.2 -5.0
TSZ Takapari Road 15.91 189 P P 08 49 23.8 -3.9
DVHZ Dannevirke 16.12 188 P P 08 49 25.2 -4.5
OHWZ Ohakea 16.16 190 P P 08 49 26.7 -3.3
ANWZ Angora Road 16.25 187 P P 08 49 26.4 -4.4
POWZ Post Office Ro 16.27 189 P P 08 49 29.1 -1.9
PRWZ Pori Road 16.40 188 P P 08 49 30.9 -1.4
BFZ Birch Farm 16.49 188 P P 08 49 32.0 -1.1
BFZ Birch Farm 16.49 188 P P 08 49 30.2 -2.9
MRZ Mangatainoka R 16.56 189 P P 08 49 30.4 -3.3
OGWZ Otaki Gorge 16.78 190 P P 08 49 31.3 -4.4
HOWZ Holdsworth Sta 16.80 189 P P 08 49 32.1 -3.9
KIW Kapiti Island 16.86 191 P P 08 49 33.0 -3.5
DUWZ D'Urville Isla 17.00 193 P P 08 49 37.1 -0.6
CAW Cannon Point 17.08 190 P P 08 49 35.7 -2.7
TCW Tory Channel 17.32 192 P P 08 49 38.6 -2.1
SNZO South Karori 17.34 191 P P 08 49 39.6 -1.1
MSWZ Moikau Station 17.35 190 P P 08 49 40.4 -0.6
QRZ Quartz Range 17.35 197 P P 08 49 41.2 +0.3
QRZ Quartz Range 17.35 197 P P 08 49 40.9 -0.1
BHW Baring Head 17.40 191 P P 08 49 40.2 -1.2
PLWZ Palliser 17.50 190 P P 08 49 41.3 -1.0
NNZ Nelson 17.51 194 P P 08 49 42.0 -0.4
NNZ Nelson 17.51 194 P P 08 49 42.3 -0.1
TUWZ Tuamarina 17.59 193 P P 08 49 41.5 -1.6
TUWZ Tuamarina 17.59 193 P P 08 49 42.4 -0.8
CMWZ Cape Campbell 17.85 192 P P 08 49 45.2 -0.3
BSWZ Blackbirch Sta 17.88 193 P P 08 49 45.2 -0.6
BSWZ Blackbirch Sta 17.88 193 P P 08 49 43.7 -2.1
THZ Tophouse 18.14 195 P P 08 49 48.5 +0.2
THZ Tophouse 18.14 195 P P 08 49 45.7 -2.5
KHZ Kahutara 18.62 193 P P 08 49 51.1 -1.4
KHZ Kahutara 18.62 193 P P 08 49 50.6 -1.9
LHI Lord Howe Isla 19.06 243 P P 08 49 59.9 +3.2
baz=19,SNR=40
LHI Lord Howe Isla 19.06 243 P P 08 49 59.5 +2.8
LHI Lord Howe Isla 19.06 243 P P 08 49 59.7 +3.0
LTZ Lake Taylor 19.26 195 P P 08 49 58.0 -0.4
INZ Inchbonnie 19.41 197 P P 08 49 58.1 -1.6
RAR Rarotonga 19.76 85 P P 08 50 02.9 -0.3
comp=Z,8,8nm,0.3s,baz=241,slow=7.3,SNR=64
RAR ScP ScP 08 56 39.3 -1.0
comp=Z,2.9nm,0.3s,baz=225,slow=5.8,SNR=7.2
RAR Rarotonga 19.76 85 P P 08 50 02.6 -0.5
RAR Rarotonga 19.76 85 P P 08 50 02.9 -0.3
OXZ Oxford 19.83 195 P P 08 50 02.2 -1.3
MQZ McQueen's Vall 20.05 194 P P 08 50 05.1 -0.3
MQZ IAmb IAmb 08 50 13.4
comp=Z,106nm,0.8s
RPZ Rata Peaks 20.44 197 P P 08 50 09.6 +0.5
FOZ Fox Glacier 20.62 199 P P 08 50 10.6 -0.1
FOZ IAmb IAmb 08 50 12.8
comp=Z,189nm,0.9s
LBZ Lake Benmore 21.30 198 P P 08 50 16.8 0.0
LBZ IAmb IAmb 08 50 19.8
comp=Z,62nm,0.8s
ODZ Otahua Downs 21.78 196 P P 08 50 21.6 +0.4
ODZ IAmb IAmb 08 50 47.6
comp=Z,45nm,0.9s
WKZ Wanaka 22.04 199 P P 08 50 22.4 -1.1
WKZ IAmb IAmb 08 50 47.8
comp=Z,106nm,0.9s
MLZ Mavora Lakes 22.80 200 P P 08 50 30.3 0.0
MLZ IAmb IAmb 08 50 32.4
comp=Z,182nm,0.8s
KNTN Kanton 23.19 24 P P 08 50 33.1 -1.0
WHZ Wether Hill Ro 23.32 200 P P 08 50 35.0 0.0
HNR Honiara 23.48 306 P P 08 50 36.3 -0.4
comp=Z,3µm,0.7s,baz=172,slow=0.9,SNR=53
HNR Honiara 23.48 306 P P 08 50 36.4 -0.3
HNR Honiara 23.48 306 P P 08 50 36.4 -0.3
HNR Honiara 23.48 306 P P 08 50 36.6 -0.1
ARMA Armidale 25.08 250 P P 08 50 53.3 +2.5
baz=25,SNR=208
ARMA Armidale 25.08 250 P P 08 50 53.4 +2.6
EIDS Eidsvold 25.40 262 P P 08 50 55.1 +1.6
baz=26,SNR=192
EIDS Eidsvold 25.40 262 P P 08 50 55.3 +1.7
RIV Riverview 26.10 242 P P 08 51 02.1 +2.5
baz=26,SNR=5.0
TARA Tarawa 26.20 346 P P 08 51 00.8 0.0
TARA Tarawa 26.20 346 P P 08 51 01.1 +0.3
RMQ Roma 27.43 259 P P 08 51 13.6 +2.1
baz=28,SNR=361
CNB Canberra Magne 27.90 240 P P 08 51 17.8 +2.3
baz=28,SNR=157
CAN Canberra 28.19 240 P P 08 51 20.0 +1.9
CAN pmax pmax
comp=Z,296nm,0.8s
CAN Canberra 28.19 240 P P 08 51 20.0 +1.9
YNG Young 28.44 242 P P 08 51 22.6 +2.4
baz=29,SNR=61
MILA Mila 28.56 237 P P 08 51 23.2 +2.0
baz=29,SNR=37
TBI Tubuai 28.78 95 *eP* P 08 51 24.0 +0.8
comp=Z,410nm,0.8s
TBI *e*ScP ScP 08 57 05.4 -0.1
comp=Z,283nm,1.4s
PAE Paea 29.97 83 *eP* P 08 51 33.7 +0.1
comp=Z,86nm,1.0s
PAE *e*ScP ScP 08 57 09.4 -0.1
comp=Z,12nm,1.1s
PPT2 Papeete2 30.00 83 *eP* P 08 51 34.2 +0.3
comp=Z,373nm,1.1s
PPT2 *e*ScP ScP 08 57 09.6 -0.1
comp=Z,58nm,1.0s
PPT Papeete 30.00 83 P P 08 51 34.3 +0.4
comp=Z,288nm,0.8s,baz=115,slow=1.7,SNR=26
PPT ScP ScP 08 57 09.2 -0.5
comp=Z,87nm,1.1s,baz=321,slow=7.9,SNR=4.6
PPTF Pamatai, Papee 30.01 83 P P 08 51 34.3 +0.3
TIAR Tiarei 30.21 83 *eP* P 08 51 36.0 +0.3
comp=Z,111nm,1.0s
TIAR *e*ScP ScP 08 57 10.1 -0.2
comp=Z,11nm,0.9s
CMSA Cobar Meteorol 30.27 249 P P 08 51 37.2 +1.2
baz=30,SNR=842
CTA Charters Tower 30.62 271 P P 08 51 40.7 +1.5
comp=Z,2µm,0.6s,baz=95,slow=11,SNR=3340
CTA S S 08 56 04.5 +1.0
comp=Z,33nm,1.0s,baz=0.0,slow=22,SNR=15
CTA ScP ScP 08 57 13.8 +2.1
comp=Z,154nm,1.3s,baz=52,slow=1.9,SNR=8.4
CTAO Charters Tower 30.62 271 P P 08 51 41.1 +1.8
CTAO Charters Tower 30.62 271 P P 08 51 41.0 +1.8
MEH Mehetia 31.28 85 *eP* P 08 51 45.3 +0.4
comp=Z,131nm,1.2s
MEH *e*ScP ScP 08 57 13.5 -0.4
comp=Z,32nm,1.1s
QLP Quilpie 31.47 258 P P 08 51 47.6 +1.2
baz=32,SNR=4.8
TOO Toolangi 31.50 237 P P 08 51 48.3 +1.8
baz=32,SNR=136
TOO Toolangi 31.50 237 P P 08 51 48.4 +1.8
TOO pmax pmax
comp=Z,202nm,0.7s
TOO Toolangi 31.50 237 P P 08 51 48.4 +1.8
MOO Moorlands 31.92 228 P P 08 51 51.8 +1.9
baz=32,SNR=3.3
TAU Tasmania Unive 32.03 227 P P 08 51 52.6 +1.7
TAU pmax pmax
comp=Z,75nm,0.7s
TAU Tasmania Unive 32.03 227 P P 08 51 52.6 +1.7
TAU IAmb IAmb 08 51 53.5
comp=Z,75nm,0.7s
PMOR Pomariorio Ree 32.40 80 *eP* P 08 51 54.6 +0.2
comp=Z,609nm,1.0s
PMOR *e*ScP ScP 08 57 17.5 -0.2
comp=Z,228nm,1.2s
VAH Vaihoa 32.55 80 *eP* P 08 51 55.6 -0.1
comp=Z,374nm,0.9s
RABL Rabaul 32.73 303 P P 08 51 57.0 -0.3
RABL Rabaul 32.73 303 P P 08 51 58.1 +0.8
MTSU Mount Surprise 32.91 274 P P 08 52 00.1 +1.4
baz=33,SNR=1000
MCQ Macquarie Isla 33.66 201 P P 08 52 04.5 0.0
MCQ pmax pmax
comp=Z,154nm,1.1s
MCQ Macquarie Isla 33.66 201 P P 08 52 04.5 0.0
MCQ IAmb IAmb 08 52 06.3
comp=Z,154nm,1.1s
STKA Stephens Creek 33.77 249 P P 08 52 07.2 +1.3
baz=34,SNR=423
STKA Stephens Creek 33.77 249 P P 08 52 07.1 +1.3
comp=Z,258nm,0.8s,baz=93,slow=10,SNR=481
STKA S S 08 56 50.6 -0.6
comp=Z,23nm,0.9s,baz=199,slow=22,SNR=3.0
STKA Stephens Creek 33.77 249 P P 08 52 07.4 +1.6
STKA pmax pmax
comp=Z,54nm,0.8s
STKA Stephens Creek 33.77 249 P P 08 52 07.4 +1.6
STKA IAmb IAmb 08 52 08.0
comp=Z,54nm,0.8s
ARPS Mount Arapiles 34.17 240 P P 08 52 10.6 +1.5
baz=34,SNR=124
XMAS Kiritimati 34.75 44 P P 08 52 14.4 +0.2
XMAS IAmb IAmb 08 52 15.9
comp=Z,202nm,0.9s
KWAJ Kwajalein Atol 34.76 340 P P 08 52 13.9 -0.3
KWAJ pmax pmax
comp=Z,361nm,0.9s
KWAJ Kwajalein Atol 34.76 340 P P 08 52 13.9 -0.3
COEN Coen 35.34 280 P P 08 52 20.7 +1.6
HTT Hallett 36.12 246 P P 08 52 26.0 +0.6
baz=36,SNR=211
QIS Mount Isa 36.58 268 P P 08 52 29.8 +0.5
baz=37,SNR=118
PATS Pohnpei 36.99 324 P P 08 52 33.2 +0.5
baz=37,SNR=10
PATS Pohnpei 36.99 324 P P 08 52 32.1 -0.6
MANU Manus Island 37.79 301 P P 08 52 39.5 +0.2
BBOO Buckleboo 38.49 247 P P 08 52 44.8 0.0
baz=39,SNR=369
BBOO Buckleboo 38.49 247 P P 08 52 45.2 +0.4
MMPI Merauke 40.14 286 P P 08 52 59.2 +0.9
comp=Z,23µmcomp=Z,2µm,0.8s
AS31 Alice Springs 41.12 261 P P 08 53 06.6 +0.5
AS31 IAmb IAmb 08 53 08.4
comp=Z,344nm,1.4s
ASAR Alice Springs 41.12 261 P P 08 53 06.5 +0.4
comp=Z,476nm,0.9s,baz=97,slow=6.5,SNR=1908
ASAR PcP PcP 08 54 53.1 +0.8
comp=Z,37nm,0.7s,baz=105,slow=4.2,SNR=5.8
ASAR ScP ScP 08 57 52.1 +1.6
comp=Z,34nm,0.8s,baz=118,slow=3.7,SNR=13
ASAR S S 08 58 37.4 -2.8
comp=Z,31nm,0.8s,baz=98,slow=14,SNR=10
ASAR ScS ScS 09 02 08.8 +0.1
comp=Z,6.6nm,1.0s,baz=113,slow=6.8,SNR=4.6
ASAR Alice Springs 41.12 261 P P 08 53 06.9 +0.8
ASAR 08 54 53.2
ASAR Alice Springs 41.12 261 P P 08 53 06.9 +0.8
ASAR PcP PcP 08 54 53.2 +0.8
ASPA Alice Springs 41.13 261 P P 08 53 06.3 +0.2
baz=41
WR0 Warramunga Arr 41.34 267 P P 08 53 07.8 +0.1
WC3 Warramunga Arr 41.49 267 P P 08 53 09.1 +0.1
baz=42
WB2 Warramunga Arr 41.52 267 P P 08 53 09.6 +0.4
WRAB Tennant Creek 41.52 267 *d iP* P 08 53 09.2 0.0
WRAB pmax pmax
comp=Z,782nm,0.9s
WRAB Tennant Creek 41.52 267 P P 08 53 09.3 +0.2
WRA Warramunga Arr 41.53 267 P P 08 53 09.1 -0.1
comp=Z,546nm,0.6s,baz=100,slow=8.3,SNR=668
WRA PcP PcP 08 54 54.1 +0.3
comp=Z,7.8nm,0.4s,baz=126,slow=2.5,SNR=4.5
WRA ScP ScP 08 57 52.8 +0.6
comp=Z,143nm,1.0s,baz=105,slow=4.2,SNR=34
WRA S S 08 58 42.3 -3.8
comp=Z,34nm,0.9s,baz=107,slow=16,SNR=6.8
WRA Warramunga Arr 41.53 267 P P 08 53 09.6 +0.3
WRA pmax pmax
comp=Z,85nm,0.9s
WRA Warramunga Arr 41.53 267 P P 08 53 09.6 +0.3
WRA IAmb IAmb 08 53 10.7
comp=Z,85nm,0.9s
TAOE Nuku Hiva Isla 41.82 76 *eP* P 08 53 12.3 +0.6
comp=Z,1µm,0.9s
TAOE Nuku Hiva Isla 41.82 76 P P 08 53 11.1 -0.6
RKT Rikitea 41.95 98 *eP* P 08 53 13.2 +0.7
comp=Z,274nm,0.9s
RKT *e*ScP ScP 08 57 53.8 0.0
comp=Z,157nm,1.0s
JOHN Johnston Islan 42.29 16 P P 08 53 15.1 0.0
JOHN IAmb IAmb 08 53 16.1
comp=Z,174nm,0.8s
JAY Jayapura 42.90 294 P P 08 53 20.4 +0.3
comp=Z,539nm,0.7s,baz=135,slow=2.9,SNR=225
JAY ScP ScP 08 57 58.9 +1.1
comp=Z,36nm,1.0s,baz=348,slow=6.6,SNR=5.5
JAY S S 08 59 04.9 -1.0
comp=Z,17nm,1.0s,baz=178,slow=11,SNR=2.0
JAY Jayapura 42.90 294 P P 08 53 20.2 +0.1
comp=Z,2µmcomp=Z,4µmcomp=Z,356nm,1.3s
GENI Genyem 43.30 294 P P 08 53 23.5 +0.3
comp=Z,4µmcomp=Z,14µmcomp=Z,1µm,1.1s
H11S2 WAKE ISLAND Hy 44.22 343 P P 08 53 30.1 +0.2
baz=198,slow=8.8,SNR=4.4
H11S3 WAKE ISLAND Hy 44.23 343 P P 08 53 29.8 -0.2
baz=198,slow=8.8,SNR=3.3
H11S1 WAKE ISLAND Hy 44.24 343 P P 08 53 31.5 +1.4
baz=198,slow=8.8,SNR=2.4
WAKE Wake Island 44.99 343 P P 08 53 35.5 -0.5
FORT Forest 45.37 250 P P 08 53 38.7 -0.2
baz=46,SNR=1000
FORT Forest 45.37 250 P P 08 53 39.2 +0.3
KDU Kakadu 45.48 276 P P 08 53 39.6 -0.3
baz=46,SNR=215
WRKA Warakurna 45.91 258 P P 08 53 43.3 +0.1
baz=46,SNR=836
MTN Manton Dam 46.64 275 P P 08 53 48.3 -0.4
baz=47,SNR=112
MTN Manton Dam 46.64 275 P P 08 53 48.7 -0.1
SRPI Serui, Papua 46.99 292 P P 08 53 52.4 +0.9
comp=Z,16µmcomp=Z,2µm,0.8s
KNRA Kununurra 47.83 271 P P 08 53 58.1 +0.4
baz=48,SNR=316
KNRA Kununurra 47.83 271 P P 08 53 58.3 +0.5
SAUI Saumlaki 48.40 281 P P 08 54 02.2 +0.2
SAUI Saumlaki 48.40 281 P P 08 54 03.5 +1.5
comp=Z,13µmcomp=Z,1µm,1.0s
FAKI Fak Fak 49.89 288 P P 08 54 12.7 -0.3
FAKI Fak Fak 49.89 288 P P 08 54 12.7 -0.3
comp=Z,3µmcomp=Z,7µmcomp=Z,500nm,1.0s
FITZ Fitzroy Crossi 49.95 266 P P 08 54 14.1 +0.7
baz=50,SNR=624
FITZ Fitzroy Crossi 49.95 266 P P 08 54 14.0 +0.7
comp=Z,380nm,0.7s,baz=108,slow=5.0,SNR=481
FITZ ScP ScP 08 58 28.7 +1.4
comp=Z,86nm,1.0s,baz=89,slow=5.0,SNR=16
FITZ S S 09 00 43.6 0.0
comp=Z,20nm,0.9s,baz=308,slow=22,SNR=14
FITZ Fitzroy Crossi 49.95 266 P P 08 54 14.4 +1.0
KHLU Kahalu`u 50.00 31 P P 08 54 13.6 -0.1
KHLU IAmb IAmb 08 54 15.0
comp=Z,132nm,0.8s
MLOA Mauna Loa Obse 50.10 32 P P 08 54 15.2 +0.3
MLOA IAmb IAmb 08 54 22.9
comp=Z,92nm,0.9s
HUH Hualalai 50.11 31 P P 08 54 14.7 0.0
HUH IAmb IAmb 08 54 16.0
comp=Z,81nm,0.7s
PUH Pauahi 50.14 32 P P 08 54 15.2 +0.4
PUH IAmb IAmb 08 54 16.1
comp=Z,198nm,0.8s
HMH Humu'ula Sheep 50.20 32 P P 08 54 16.4 +0.9
HMH IAmb IAmb 08 54 17.1
comp=Z,246nm,0.9s
GUMO Guam 50.34 315 P P 08 54 16.0 -0.2
comp=Z,394nm,0.6s,baz=153,slow=6.5,SNR=44
GUMO Guam 50.34 315 P P 08 54 16.1 -0.2
GUMO pmax pmax
comp=Z,573nm,0.7s
GUMO Guam 50.34 315 P P 08 54 16.1 -0.1
GUMO Guam 50.34 315 P P 08 54 16.2 -0.1
BNDI Bandanaira 51.18 285 P P 08 54 22.2 -0.2
comp=Z,4µmcomp=Z,19µmcomp=Z,2µm,0.8s
SIJI Sorong 51.76 289 P P 08 54 26.0 -0.6
comp=Z,1µm,0.7s,baz=89,slow=5.5,SNR=118
SIJI Sorong 51.76 289 P P 08 54 25.7 -0.9
comp=Z,10µmcomp=Z,1µm,0.9s
ANA2 Anatahan 51.89 318 P P 08 54 27.4 0.0
ANA2 Anatahan 51.89 318 P P 08 54 27.4 0.0
SARN Sarigan 52.12 318 P P 08 54 28.1 -1.0
MIDW Midway 52.34 4 P P 08 54 30.6 +0.3
MSAI Masohi 52.59 285 P P 08 54 32.4 -0.1
comp=Z,1µmcomp=Z,126nm,0.6s
KRAI Karang Ratu 53.07 285 P P 08 54 35.9 -0.1
comp=Z,10µmcomp=Z,847nm,0.9s
VNDA Vanda 53.90 185 P P 08 54 42.4 +1.6
comp=Z,57nm,0.8s,baz=2.2,slow=7.9,SNR=384
VNDA ScP ScP 08 58 43.7 +0.3
comp=Z,17nm,0.9s,baz=348,slow=4.8,SNR=5.6
VNDA S S 09 01 36.2 +1.5
comp=Z,2.0nm,0.9s,baz=204,slow=13,SNR=1.8
VNDA Vanda 53.90 185 P P 08 54 42.6 +1.8
VNDA pmax pmax
comp=Z,64nm,0.7s
VNDA Vanda 53.90 185 P P 08 54 42.6 +1.8
VNDA IAmb IAmb 08 54 43.0
comp=Z,64nm,0.7s
SBA Scott Base 53.92 183 P P 08 54 43.6 +2.7
SBA pmax pmax
comp=Z,331nm,0.9s
SBA Scott Base 53.92 183 P P 08 54 43.6 +2.7
SBA IAmb IAmb 08 54 44.9
comp=Z,331nm,0.8s
SOEI Soe 54.03 276 P P 08 54 44.6 +1.7
SOEI Soe 54.03 276 P P 08 54 44.6 +1.7
comp=Z,14µmcomp=Z,1µm,0.8s
MEEK Meekatharra 54.17 254 P P 08 54 43.2 -0.5
baz=54,SNR=59
PSA00 Pilbara Seismi 54.25 260 P P 08 54 43.5 -0.7
PSA00 IAmb IAmb 08 54 45.5
comp=Z,166nm,1.2s
NWAO Narrogin (SRO) 54.28 246 P P 08 54 44.4 +0.1
baz=54,SNR=26
NWAO Narrogin (SRO) 54.28 246 P P 08 54 43.6 -0.7
comp=Z,58nm,0.6s,baz=119,slow=6.3,SNR=32
NWAO Narrogin (SRO) 54.28 246 P P 08 54 44.6 +0.3
NWAO pmax pmax
comp=Z,124nm,1.1s
NWAO Narrogin (SRO) 54.28 246 P P 08 54 44.6 +0.3
NWAO IAmb IAmb 08 54 45.6
comp=Z,124nm,1.1s
NWAO Narrogin (SRO) 54.28 246 P P 08 54 44.2 -0.1
BLDU Ballidu 55.08 249 P P 08 54 49.6 -0.3
baz=55,SNR=157
MUN Mundaring 55.28 247 P P 08 54 51.5 +0.2
baz=55,SNR=47
SANI Sanana 55.78 285 P P 08 54 54.8 -0.2
comp=Z,4µmcomp=Z,7µmcomp=Z,626nm,0.8s
MORW Morawa 55.93 250 P P 08 54 55.9 0.0
baz=56,SNR=109
MORW Morawa 55.93 250 P P 08 54 56.1 +0.2
MORW IAmb IAmb 08 54 56.5
comp=Z,171nm,0.7s
TNTI Ternate 55.95 289 P P 08 54 56.4 +0.3
TNTI Ternate 55.95 289 P P 08 54 56.2 +0.1
comp=Z,9µmcomp=Z,781nm,1.0s
GAMI Galela, Maluku 56.12 290 P P 08 54 56.3 -1.1
comp=Z,7µmcomp=Z,709nm,0.9s
MMRI Maumere 56.31 276 P P 08 54 59.0 +0.4
MMRI Maumere 56.31 276 P P 08 54 58.6 -0.1
comp=Z,9µmcomp=Z,894nm,1.0s

H01W1 **Cape Leeuwin H** 56.55 243 P P 08 55 01.3 +1.5
baz=114,slow=7.1,SNR=14
H01W2 **Cape Leeuwin H** 56.57 243 P P 08 55 01.4 +1.6
baz=114,slow=7.1,SNR=7.3
H01W3 **Cape Leeuwin H** 56.57 243 P P 08 55 01.4 +1.5
baz=114,slow=7.1,SNR=11
EDFI **Ende, Flores** 56.76 276 P P 08 55 01.4 -0.5
comp=Z,5µmcomp=Z,525nm,1.1s
MNI **Manado** 58.47 288 P P 08 55 13.0 -0.4
comp=Z,7µmcomp=Z,395nm,0.9s
WBSI **Waikabubak, Su** 58.51 274 P P 08 55 13.7 0.0
comp=Z,7µmcomp=Z,686nm,1.1s
BSSI **Bau Bau, Buton** 58.90 278 P P 08 55 15.8 -0.5
comp=Z,3µmcomp=Z,251nm,1.4s
GIRL **Giralia** 58.99 257 P P 08 55 18.2 +1.4
baz=59,SNR=39
GIRL **Giralia** 58.99 257 P P 08 55 18.3 +1.5
SGSI **Sangihe** 59.00 291 P P 08 55 16.8 -0.2
comp=Z,418nm,0.7s
CASY **Casey** 59.37 206 P P 08 55 19.0 +0.6
CASY IAmb IAmb 08 55 19.7
comp=Z,173nm,0.8s
BKSI **Bulukumba** 59.58 278 P P 08 55 20.2 -0.6
comp=Z,8µmcomp=Z,983nm,0.8s
BNSI **Bone** 59.98 279 P P 08 55 23.4 -0.1
comp=Z,6µmcomp=Z,528nm,0.8s
KAPI **Kappang** 60.04 279 P P 08 55 23.8 -0.1
comp=Z,62nm,0.6s,baz=155,slow=3.7,SNR=44
KAPI PP PP 08 57 42.1 -3.1
KAPI S S 09 02 56.7 +1.4
comp=Z,1.3nm,0.3s,baz=126,slow=22,SNR=1.2
KAPI **Kappang** 60.04 279 P P 08 55 24.3 +0.4
KAPI pmax pmax
comp=Z,1µm,1.9s
KAPI **Kappang** 60.04 279 P P 08 55 24.3 +0.4
KAPI **Kappang** 60.04 279 P P 08 55 24.3 +0.4
KAPI **Kappang** 60.04 279 P P 08 55 24.1 +0.2
comp=Z,4µmcomp=Z,181nm,1.3s
APSI **Ampana** 60.21 278 P P 08 55 25.2 +0.6
comp=Z,5µmcomp=Z,545nm,0.9s
MKS **Makassar** 60.21 278 P P 08 55 25.4 +0.4
comp=Z,6µmcomp=Z,437nm,1.3s
PLAI **Plampang** 60.29 274 P P 08 55 25.3 -0.2
comp=Z,19µmcomp=Z,2µm,1.0s
MRSI **Marisa** 60.54 285 P P 08 55 26.1 -1.1
comp=Z,3µmcomp=Z,247nm,0.6s
DAV **Davao City (W)** 60.74 294 P P 08 55 29.4 +0.9
DAV **Davao City (W)** 60.74 294 P P 08 55 29.7 +1.2
comp=Z,8µmcomp=Z,748nm,0.7s
TTSI **Tana Toraja** 60.82 281 P P 08 55 28.7 -0.3
comp=Z,3µmcomp=Z,210nm,0.9s
TWSI **Taliwang, Sumb** 61.14 273 P P 08 55 31.1 0.0
comp=Z,5µmcomp=Z,456nm,1.3s
PMSI **Majene** 61.44 280 P P 08 55 33.7 +0.6
comp=Z,6µmcomp=Z,450nm,1.3s
TOLI2 **Tolitoli** 61.86 285 P P 08 55 35.1 -0.7
MPSI **Mapaga** 62.27 284 P P 08 55 37.8 -0.7
comp=Z,6µmcomp=Z,564nm,1.1s
JCJ **Chichijima** 62.28 323 P P 08 55 37.6 -0.6
comp=Z,180nm,0.4s,baz=253,slow=5.6,SNR=25
JCJ **Chichijima** 62.28 323 P P 08 55 38.3 0.0
DNP **Denpasar** 62.69 273 P P 08 55 41.9 +0.7
comp=Z,24µmcomp=Z,1µm,0.7s
SRBI **Singaraja** 62.91 273 P P 08 55 42.5 -0.1
comp=Z,8µmcomp=Z,600nm,0.9s
BYJI **Banyuwangi** 63.64 273 P P 08 55 48.7 +1.4
comp=Z,384nm,1.5s
JAGI **Jajag, Banyuwa** 63.73 272 P P 08 55 46.9 -1.0
JAGI **Jajag, Banyuwa** 63.73 272 P P 08 55 46.9 -1.0
comp=Z,7µmcomp=Z,661nm,1.2s
RPN **Rapa Nui** 63.75 109 P P 08 55 47.5 -0.3
comp=Z,361nm,0.8s,baz=288,slow=4.0,SNR=18
RPN PKPPKP **P'P'df** 09 24 31.6 -4.1
comp=Z,40nm,0.3s,baz=8.6,slow=2.5,SNR=8.2
RPN **Rapa Nui** 63.75 109 P P 08 55 48.2 +0.4
RPN pmax pmax
comp=Z,465nm,0.9s
RPN **Rapa Nui** 63.75 109 P P 08 55 48.2 +0.4
ABJI **Asem Bagus** 63.92 273 P P 08 55 49.5 +0.4
comp=Z,355nm,1.2s
KBKI **Kotabaru** 64.00 279 P P 08 55 50.2 +0.6
comp=Z,6µmcomp=Z,184nm,0.7s
BKB **Balikpapan** 64.23 281 P P 08 55 51.5 +0.5
SMKI **Samarinda** 64.31 282 P P 08 55 52.5 +0.9
comp=Z,10µmcomp=Z,882nm,1.1s
KMMI **Kalianget** 64.45 274 P P 08 55 52.5 0.0
comp=Z,10µmcomp=Z,709nm,1.5s
BBKI **Banjar Baru** 65.13 278 P P 08 55 57.4 +0.7
comp=Z,6µmcomp=Z,415nm,0.9s
QSPA **South Pole Qui** 65.77 180 S S 09 04 04.2 +0.6
comp=Z,19nm,1.1s,baz=206,slow=23,SNR=5.2
QSPA **South Pole Qui** 65.77 180 P P 08 56 01.4 +1.4
PWJI **Pagerwojo** 66.04 272 P P 08 56 02.3 -0.1
comp=Z,6µmcomp=Z,574nm,0.9s
MTKI **Muara Teweh, K** 66.16 280 P P 08 56 03.3 +0.1
comp=Z,262nm,0.9s
SJI **Sawahan** 66.19 272 P P 08 56 03.7 +0.2
comp=Z,16µmcomp=Z,428nm,0.7s
PKKI **Palangkaraya** 66.43 279 P P 08 56 05.5 +0.6
comp=Z,17µmcomp=Z,2µm,0.9s
TBJI **Tambak Boyo** 66.47 273 P P 08 56 06.2 +1.1
comp=Z,5µmcomp=Z,355nm,0.8s
PCJI **Pacitan** 66.55 271 P P 08 56 06.0 +0.4
comp=Z,13µmcomp=Z,2µm,0.8s
UGM **Wanagama** 67.25 271 P P 08 56 09.8 -0.2
UGM **Wanagama** 67.25 271 P P 08 56 10.2 +0.2
comp=Z,7µmcomp=Z,561nm,1.2s
SPMM **Sapulut** 67.35 287 P P 08 56 11.0 +0.5
YOGI **Yogyakarta** 67.50 271 P P 08 56 12.3 +0.8
comp=Z,588nm,1.5s
SMRI **Semarang** 67.67 272 P P 08 56 13.1 +0.6
JMZ **Minamidaito 2** 68.00 314 P P 08 56 14.0 -0.1
JMZ IAmb IAmb 08 56 16.5
comp=Z,211nm,1.1s
JHJ2 **Mitsune** 68.26 325 P P 08 56 15.5 -0.1
JHJ **Hachijo jima 2** 68.28 325 P P 08 56 15.3 -0.4
comp=Z,543nm,0.5s,baz=190,slow=13,SNR=22
PBKI **Pangkalan Bun** 68.34 277 P P 08 56 17.4 +1.0
comp=Z,12µmcomp=Z,2µm,1.0s
CTJI **Waduk Cacaban** 68.83 272 P P 08 56 19.8 +0.3
comp=Z,3µmcomp=Z,278nm,1.2s
KPJI **Karang Pucung** 68.93 271 P P 08 56 20.0 -0.1
comp=Z,382nm,0.9s
CMJI **Cimerak** 69.20 271 P P 08 56 21.3 -0.4
comp=Z,3µmcomp=Z,222nm,1.1s
STKI **Sintang** 69.67 280 P P 08 56 25.4 +0.8
comp=Z,361nm,1.0s
CISI **Cisompet, Garu** 69.86 271 P P 08 56 25.2 -0.5
CISI IAmb IAmb 08 56 25.6
comp=Z,135nm,0.7s
CISI **Cisompet, Garu** 69.86 271 P P 08 56 25.0 -0.8
comp=Z,3µmcomp=Z,258nm,1.4s
JCJI **Jatiwangi** 69.87 272 P P 08 56 25.6 -0.1
comp=Z,10µmcomp=Z,966nm,0.9s
JSG **Sagara** 70.33 325 P P 08 56 28.7 +0.8
JYT **Yasato** 70.52 327 P P 08 56 29.5 +0.5
CNJI **Cibinong** 70.58 271 P P 08 56 29.4 -0.6
comp=Z,6µmcomp=Z,752nm,1.1s
JOW **Kunigami** 70.64 313 P P 08 56 30.6 +0.7
XMI **Christmas Isla** 70.70 267 P P 08 56 31.4 +0.7
comp=Z,714nm,1.0s
XMIS **Christmas Isla** 70.72 267 P P 08 56 31.6 +0.8
XMIS **Christmas Isla** 70.72 267 P P 08 56 31.2 +0.4
SKJI **Sukabumi** 71.23 271 P P 08 56 33.8 0.0
comp=Z,5µmcomp=Z,573nm,0.7s
DBJI **Dramaga** 71.23 271 P P 08 56 33.7 -0.1
comp=Z,9µmcomp=Z,398nm,1.1s
INU **Inuyama** 71.46 325 P P 08 56 34.9 +0.3
INU IAmb IAmb 08 56 36.3
comp=Z,242nm,1.0s
JGF **Kuroka** 71.47 325 P P 08 56 34.6 -0.1
JGF IAmb IAmb 08 56 35.5
comp=Z,88nm,0.7s
JMM **Marumori** 71.54 329 P P 08 56 35.0 0.0
JMM IAmb IAmb 08 56 38.8
comp=Z,88nm,1.0s
MJAR **Matsushiro Arr** 71.76 326 P P 08 56 35.8 -0.5
comp=Z,250nm,0.9s,baz=162,slow=5.1,SNR=268
MJAR PP PP 08 59 23.4 -2.4
comp=Z,4.2nm,1.0s,baz=277,slow=31,SNR=2.0
MJAR PKPPKP **P'P'df** 09 24 16.6 -2.2
comp=Z,2.9nm,0.8s,baz=321,slow=3.6,SNR=5.0
MJAR **Matsushiro Arr** 71.76 326 P P 08 56 35.8 -0.5
MJAR IAmb IAmb 08 56 37.7
comp=Z,234nm,0.8s
MAJO **Matsushiro** 71.76 326*d* *i*P P 08 56 36.6 +0.2
MAJO pmax pmax
comp=Z,378nm,0.9s
MAJO **Matsushiro** 71.76 326 P P 08 56 36.6 +0.2
MAT **Matsushiro** 71.76 326 P P 08 56 36.5 +0.1
MAT S S 09 05 13.4 +0.3
MJB9 **Matsu-Tunnel** 71.77 326 P P 08 56 36.6 +0.2
TPI **Tanjungpandan** 71.94 275 P P 08 56 38.4 +0.5
comp=Z,2µmcomp=Z,163nm,1.2s
JMN **Monobe** 71.96 322 P P 08 56 38.4 +0.8
SBJI **Serang** 71.96 271 P P 08 56 38.5 +0.5
comp=Z,8µmcomp=Z,508nm,1.4s
JWT **Wachi** 72.27 324 P P 08 56 40.1 +0.8
BLSI **Bandar Lampung** 73.07 272 P P 08 56 44.2 -0.2
comp=Z,400nm,1.0s
TWG **Pinlang** 73.25 305 P P 08 56 43.1 -2.1
TWG IAmb IAmb 08 56 44.1
comp=Z,143nm,0.6s
JNU **Nakatsue** 73.28 319 P P 08 56 45.2 +0.1
comp=Z,186nm,0.9s,baz=100,slow=0.9,SNR=72
JNU **Nakatsue** 73.28 319 P P 08 56 45.5 +0.3
JNU IAmb IAmb 08 56 46.1
comp=Z,218nm,0.9s
JHS **Saijyo** 73.32 322 P P 08 56 46.2 +0.8
YULB **Yu-li** 73.41 306 P P 08 56 44.1 -2.0
YULB IAmb IAmb 08 56 45.4
comp=Z,48nm,0.7s
PPBI **Pangkal Pinang** 73.56 275 P P 08 56 47.5 +0.3
comp=Z,57µmcomp=Z,237nm,1.5s
NACB **Ninganchiao** 73.66 307 P P 08 56 46.8 -0.7
KASI **Kota Agung** 73.69 271 P P 08 56 47.1 -0.9
comp=Z,5µmcomp=Z,522nm,1.0s
JTM **Tenmabayashi** 73.77 331 P P 08 56 48.7 +0.9
TPUB **Ta-pu** 73.86 305 P P 08 56 47.3 -1.4
SSLB **Suanglung** 73.90 306 P P 08 56 47.6 -1.3
SSLB IAmb IAmb 08 56 49.1
comp=Z,233nm,1.0s
YHNB **Yeheng** 74.11 307 P P 08 56 49.9 -0.3
YHNB IAmb IAmb 08 56 51.0
comp=Z,165nm,0.9s
TATO **Taipei** 74.21 307 P P 08 56 49.6 -1.0
TATO **Taipei** 74.21 307 P P 08 56 50.0 -0.6
LWLI **Liwa** 74.29 272 P P 08 56 50.8 -0.7
comp=Z,8µmcomp=Z,636nm,0.7s
MDSI **Maura Dua** 74.40 272 P P 08 56 50.4 -1.6
comp=Z,2µmcomp=Z,247nm,0.9s
YUK **Yuzh-Kuril'sk** 74.52 336 *e*P P 08 56 44.7 -7.2
YUK *e**SP sP 08 59 35.0 -5.6
YUK *e*S **S** **09 05 42.3 -0.8**
YUK *e*SS **SS** **09 10 47.5 +1.8**
YUK *e*SSS SSS 09 14 12.9
YUK pmax pmax
comp=Z,862nm,0.9s
YUK pmax pmax
comp=N,238nm,1.0s
KUR **Kuril'sk** 74.83 338*de*P P **08 56 54.9 +1.3**
KUR *i* 08 57 03.8
KUR *e* 08 59 46.1
KUR *i*S **S** **09 05 50.7 +4.3**
KUR *i* 09 06 11.7
KUR *e*SS **SS** **09 10 58.4 +8.0**
KUR pmax pmax
comp=E,98nm,1.1s
KUR pmax pmax
comp=Z,492nm,1.1s
KUR pmax pmax
comp=N,80nm,1.0s
KUR pmax pmax
comp=E,357nm,2.5s
KUR pmax pmax
comp=Z,2µm,2.5s
KUR pmax pmax
comp=N,280nm,1.9s
LHSI **Lahat** 75.26 272 P P 08 56 56.3 -0.5
comp=N,4µmcomp=N,173nm,1.1s
JEW **Eniwo** 75.28 332 P P 08 56 57.3 +1.1
AMKA **Amchitka** 75.36 0 P P 08 56 56.3 -0.1
DSRI **Dabo** 75.67 276 P P 08 56 59.4 +0.3
comp=N,3µmcomp=N,112nm,1.3s
EGSI **Enggano, Bengk** 75.78 271 P P 08 57 00.5 +0.8
comp=N,4µmcomp=N,393nm,0.9s
JKA **Kamikawa-asahi** 75.85 334 P P 08 57 01.3 +2.0
JKA IAmb IAmb 08 57 02.9
comp=Z,239nm,0.9s
ASAJ **Asahikawa** 75.85 334 P P 08 56 59.3 0.0
comp=Z,170nm,0.8s,baz=218,slow=8.3,SNR=132
ASAJ **Asahikawa** 75.85 334 P P 08 57 01.3 +2.0
ASAJ pmax pmax
comp=Z,239nm,0.9s
KIWB **Kanaga Island** 75.91 2 P P 08 56 59.8 +0.4
ADK **Adak** 75.96 3 P P 08 56 59.8 +0.1
ADK pmax pmax
comp=Z,704nm,1.4s
ADK **Adak** 75.96 3 P P 08 56 59.8 +0.1
BELA **Belgrano 2** 76.13 173 P P 08 57 00.5 0.0
BELA IAmb IAmb 08 57 01.7
comp=Z,255nm,0.8s
KSI **Kapahiang** 76.18 272 P P 08 57 01.1 -0.9
comp=Z,10µmcomp=Z,722nm,0.8s
GSTR **Great Sitkin T** 76.20 3 P P 08 57 01.2 +0.1
QZH **Quanzhou** 76.32 306 ⇓*i*P P 08 57 02.7 +0.3
QZH pP pP 08 58 56.7 +0.7
QZH sP sP 08 59 52.1 +0.5
QZH S S 09 06 03.0 -0.3
QZH ScS ScS 09 06 25.4 -2.1
QZH pmax pmax
comp=Z,81nm,1.7s
QZH pmax pmax
comp=Z,1µm,4.6s
ATKA **Atka Island** 76.42 4 P P 08 57 02.0 -0.2
ATKA IAmb IAmb 08 57 02.9
comp=Z,267nm,0.8s
UBSI **University, Be** 76.43 272 P P 08 57 03.0 -0.2
comp=Z,421nm,0.6s
MASI **Maura Aman, Be** 76.71 273 P P 08 57 04.0 -0.8
comp=Z,11µmcomp=Z,1µm,0.9s
SMY **Shemya** 76.84 357 P P 08 57 04.3 -0.2
SMY pmax pmax
comp=Z,404nm,1.1s
SMY **Shemya** 76.84 357 P P 08 57 04.3 -0.2
SMY IAmb IAmb 08 57 05.5
comp=Z,404nm,1.1s
MAW **Mawson** 77.06 201 P P 08 57 06.8 +1.1
baz=77,SNR=63
MAW **Mawson** 77.06 201 P P 08 57 06.8 +1.1
comp=Z,65nm,0.8s,baz=132,slow=5.9,SNR=122
MAW S S 09 06 07.2 -2.6
comp=Z,4.1nm,1.1s,baz=240,slow=20,SNR=2.9
MAW **Mawson** 77.06 201 P P 08 57 07.0 +1.3
MAW **Mawson** 77.06 201 P P 08 57 07.0 +1.3
BTDF **Bukit Timah Da** 77.18 277 P P 08 57 07.7 +0.3
comp=Z,2µmcomp=Z,130nm,1.4s
SKR **Severo-Kuril's** 77.38 345 *e*P P 08 57 07.6 +0.1
SKR *e* 08 59 59.3
SKR *e*S **S** **09 06 13.1 -0.3**
SKR pmax pmax
comp=Z,190nm,1.6s
SKR pmax pmax
comp=Z,600nm,4.5s
SKR pmax pmax
comp=Z,100nm,4.0s
TJN **Taejon** 77.61 320*ce*P P 08 57 09.5 +0.4
NIKH **Nikolski High** 77.67 7 P P 08 57 09.1 0.0
NIKH **Nikolski High** 77.67 7 P P 08 57 09.0 0.0
baz=191,SNR=25
RGRI **Rengat** 77.77 275 P P 08 57 12.0 +1.5
KRJI **Kerinci** 77.84 273 P P 08 57 11.1 0.0
KSRS **Korea Array** 78.02 321 P P 08 57 12.4 +1.1
comp=Z,94nm,0.8s,baz=136,slow=5.6,SNR=243
KSRS PP PP 09 00 14.8 -3.1
comp=Z,1.0nm,0.6s,baz=86,slow=18,SNR=2.6
KSAR **Wonju Array Be** 78.03 321 P P 08 57 12.4 +1.0
KSAR **Wonju Array Be** 78.03 321 P P 08 57 12.3 +1.0
KS19 **Wonju Array Si** 78.08 321 P P 08 57 11.9 +0.2
KS19 IAmb IAmb 08 57 13.1
comp=Z,115nm,0.8s
YSS **Yuzh-Sakhalins** 78.15 336*k* *i*P P 08 57 13.7 +1.9
YSS *e**PP pP 08 59 08.3 +2.0
YSS *e**SP sP 09 00 02.0 +0.4
YSS *e*S **S** **09 06 26.5 +4.8**
YSS *e* 09 06 39.0
YSS *e*SS **SS** **09 11 47.5 +7.6**
YSS pmax pmax
comp=Z,1µm,4.2s
YSS pmax pmax
comp=N,500nm,3.4s
YSS pmax pmax
comp=Z,440nm,1.1s
YSS smax smax
comp=E,500nm,6.0s
YSS **Yuzh-Sakhalins** 78.15 336 P P 08 57 13.2 +1.5
HKC **Hong Kong Obse** 78.22 301 ⇑P P 08 57 14.0 +1.2
INCN **Inchon** 78.79 320 P P 08 57 16.4 +0.9
INCN pmax pmax
comp=Z,130nm,0.9s
INCN **Inchon** 78.79 320 P P 08 57 16.4 +0.9
INCN IAmb IAmb 08 57 17.7
comp=Z,130nm,0.8s
INCN **Inchon** 78.79 320 P P 08 57 16.5 +0.9
UNV **Unalaska Valle** 78.83 9 P P 08 57 14.8 -0.4
UNV IAmb IAmb 08 57 15.7
comp=Z,113nm,0.7s
UNV **Unalaska Valle** 78.83 9 P P 08 57 14.7 -0.4
baz=193,SNR=39
PMSA **Palmer Station** 78.86 157 P P 08 57 16.2 +0.8
PMSA IAmb IAmb 08 57 17.6
comp=Z,259nm,0.9s
PMSA **Palmer Station** 78.86 157 *e*P P 08 57 16.6 +1.2
PET **Petropavlovsk** 79.04 348 ⇓*i*P P 08 57 16.6 +0.3
PET *e**PP **pP** **08 59 10.0 -1.1**
PET *e**SP **sP** **09 00 07.4 +1.0**
PET *i*S **S** **09 06 28.9 -1.7**
PET *e*SS **SS** **09 11 48.2 -4.6**
PET pmax pmax
comp=Z,285nm,0.6s
PET pmax pmax
comp=Z,700nm,8.4s
PET pmax pmax
comp=Z,400nm,14.0s
PET **Petropavlovsk** 79.04 348 P P 08 57 16.1 -0.2
PET IAmb IAmb 08 57 17.1
comp=Z,146nm,0.6s
TEY **Ternei** 79.14 331 ⇓*e*P P 08 57 17.3 +0.2
TEY *e* 09 00 08.3
TEY *e* 09 06 34.7
AKUT **Akutan** 79.22 9 P P 08 57 16.8 -0.4
BKNI **Bangkinang** 79.22 275 P P 08 57 18.9 +0.6
comp=Z,286nm,1.3s
PDSI **Padang** 79.24 274 P P 08 57 17.2 -1.2
comp=Z,5µmcomp=Z,86nm,0.7s
PEA0B **Petropavlovsk-** 79.31 347 *ce*P P 08 57 18.5 +0.7
PEA0B **Petropavlovsk-** 79.31 347 P P 08 57 18.3 +0.5
PETK **Petropavlovsk-** 79.31 347 P P 08 57 17.7 -0.1
comp=Z,234nm,0.8s,baz=120,slow=7.5,SNR=238
JRMM **Jerantut** 79.42 279 P P 08 57 20.0 +0.6
MSHR **Mys Shultsa** 79.88 326 *ce*P P 08 57 22.3 +1.2
MSHR pmax pmax
comp=Z,169nm,1.3s
VLA **Vladivostok** 79.91 327 *d* *i*P P 08 57 22.2 +1.0
VLA pmax pmax
comp=Z,148nm,0.9s
QIZ **Qiongzhong** 80.01 296 P P 08 57 23.0 +0.7
QIZ sP **sP** **09 00 13.9 +1.4**
QIZ S **S** **09 06 41.1 -1.0**
QIZ sS **sS** **09 10 10.5 +2.8**
QIZ pmax pmax
comp=Z,43nm,0.9s
UGL **Uglegorsk** 80.18 336 *e*P P 08 57 23.7 +1.3
UGL *e*S **S** **09 06 45.8 +3.3**
UGL pmax pmax
comp=Z,400nm,0.9s
UGL smax smax
comp=E,1µm,7.2s
FALS **False Pass** 80.27 10 P P 08 57 22.3 -0.4
FALS IAmb IAmb 08 57 25.0
comp=Z,63nm,0.8s
FALS **False Pass** 80.27 10 P P 08 57 22.4 -0.4
baz=196,SNR=7.0
NJ2 **Nanjing** 80.29 312 ⇓*i*P P 08 57 24.4 +0.9
NJ2 pP **pP** **08 59 19.8 +1.2**
NJ2 sP **sP** **09 00 14.7 +0.9**
NJ2 PP **PP** **09 00 34.8 -1.7**
NJ2 S **S** **09 06 49.0 +4.6**
NJ2 SKS **SKKSac** **09 06 51.0 -1.5**
NJ2 pmax pmax
comp=Z,150nm,0.8s
NJ2 pmax pmax
comp=Z,990nm,5.7s
USA0B **Ussuriysk Arra** 80.65 328 *d* *i*P P 08 57 26.3 +1.3
USA0B **Ussuriysk Arra** 80.65 328 P P 08 57 26.3 +1.3
USRK **Ussuriysk Ar.** 80.65 328 P P 08 57 25.7 +0.7
comp=Z,213nm,1.0s,baz=138,slow=3.8,SNR=270
USRK PP **PP** **09 00 35.8 -3.4**
comp=Z,5.9nm,1.0s,baz=97,slow=8.3,SNR=4.0
USRK **Ussuriysk Ar.** 80.65 328 P P 08 57 26.1 +1.0
USRK **Ussuriysk Ar.** 80.65 328 P P 08 57 26.1 +1.0
MNSI **Mandaling Nat** 80.74 275 P P 08 57 24.8 -1.5
comp=Z,199nm,0.8s
CNBA **Chernabura Isl** 80.92 12 IAmb IAmb 08 57 27.4
comp=Z,70nm,1.0s
CHNA **Chernabura Isl** 80.93 12 P P 08 57 26.3 +0.1
baz=200
IPM **Ipoh** 80.98 279 P P 08 57 28.0 +0.5
SDPT **Sand Point** 81.25 12 IAmb IAmb 08 57 28.2
comp=Z,103nm,0.9s
SDPT **Sand Point** 81.25 12 P P 08 57 27.6 -0.2
baz=199,SNR=6.4
TYV **Tymovskoe** 81.45 338 *e*P P 08 57 30.8 +1.8
TYV *e*S **S** **09 06 51.7 -3.7**
TYV pmax pmax
comp=Z,241nm,1.1s
TYV pmax pmax
comp=Z,1µm,4.8s
TYV smax smax
comp=N,400nm,4.7s
TYV smax smax
comp=E,300nm,4.3s
PBSI **Pulau Batu** 81.58 274 P P 08 57 31.4 +0.8
comp=E,244nm,1.0s
KULM **Kulim** 81.66 280 P P 08 57 31.0 0.0
SPIA **Saint Paul Isl** 81.67 6 IAmb IAmb 08 57 31.8
comp=Z,217nm,1.0s
SPIA **Saint Paul Isl** 81.67 6 P P 08 57 30.7 +0.7
baz=190
TRSI **Tarutung** 81.82 276 P P 08 57 32.5 +0.6
comp=Z,419nm,0.7s
GO10 **Punta Arenas** 81.95 145 P P 08 57 33.6 +1.7
RPSI **Rantau Prapat** 82.13 277 IAmb IAmb 08 57 33.8
comp=Z,196nm,0.9s
MDJ **Mudanjiang** 82.14 327 P P 08 57 34.0 +1.3
MDJ sP sP 09 00 27.6 +4.0
MDJ S **S** **09 06 59.9 -2.6**
MDJ sS sS 09 10 33.6 +4.1
MDJ pmax pmax
comp=Z,310nm,0.9s
MDJ pmax pmax
comp=Z,2µm,5.4s
MDJ **Mudanjiang** 82.14 327 IAmb IAmb 08 57 35.2
comp=Z,280nm,1.0s
PSI **Prapat** 82.17 277 PP PP 09 00 48.4 -3.8
PSI **Prapat** 82.17 277 P P 08 57 32.3 -1.5
comp=Z,3µmcomp=Z,258nm,1.1s,comp=Z,1µm,1.1s,
comp=Z,123nm,1.0s
PSI P P 08 57 32.3 -1.5
comp=Z,3µmcomp=Z,258nm,1.1s,comp=Z,1µm,1.1s,
comp=Z,123nm,1.0s
SCZ2 **Santa Cruz Isl** 82.18 47 P P 08 57 35.0 +1.8
baz=234
SCI2 **San Clemente I** 82.33 49 P P 08 57 35.1 +1.2
baz=235
SYO **Syowa Base** 82.41 194 ⇑*i*P P 08 57 33.6 -0.1
SYO **Syowa Base** 82.41 194 ⇓*i*PcP PcP 08 57 37.6 +0.3
SYO **Syowa Base** 82.41 194 ⇓*e*pP pP 08 59 30.6 +1.0
USHA **Ushuaia** 82.42 147 P P 08 57 34.9 +0.9
comp=Z,59nm,1.0s,baz=241,slow=5.8,SNR=2.4
SKLT **Songkhla** 82.50 281 P P 08 57 36.0 +0.8
CHGN **Chignik** 82.54 12 P P 08 57 34.1 -0.3
CHGN IAmb IAmb 08 57 35.6
comp=Z,197nm,1.2s
CHGN **Chignik** 82.54 12 P P 08 57 34.6 +0.3
baz=201,SNR=15
WHN **Wuhan** 82.58 308 ⇓P P 08 57 36.1 +0.9
WHN pP **pP** **08 59 32.6 +1.4**
WHN S **SKSac** **09 07 03.2 -1.3**
WHN pmax pmax
comp=Z,300nm,0.9s
WHN pmax pmax
comp=Z,2µm,4.2s
PKM **Mcpherson Peak** 82.58 47 P P 08 57 37.1 +1.6
baz=234,SNR=5.4
CHIR **Chirikof Islan** 82.68 14 P P 08 57 35.6 +0.5
baz=203

DL2	Dalian	82.70	318	P	P	08 57 35.2 -0.4
DL2				pP	pP	08 59 32.3 +0.5
DL2				PP	PP	09 00 54.1 -1.8
DL2				S	SKSac	09 07 02.9 -2.0
DL2				pmax	pmax	
	comp=Z,100nm,1.1s					
DL2				pmax	pmax	
	comp=Z,600nm,5.1s					
SMMC	Simmler	82.72	46	P	P	08 57 37.4 +1.5
	baz=233,SNR=5.6					
MG01	Puerto William	82.76	148	P	P	08 57 36.7 +1.0
MG01				IAmb	IAmb	08 57 38.0
	comp=Z,148nm,0.8s					
GSI	Gunungsitoli	82.78	275	P	P	08 57 37.4 +0.7
GSI	Gunungsitoli	82.78	275	P	P	08 57 37.2 +0.5
	comp=Z,5µmcomp=Z,463nm,0.8s					
TSI	Tuntungan	82.79	277	P	P	08 57 36.9 +0.2
	comp=Z,248nm,1.0s					
OSI	Osito Audit: C	83.15	47	P	P	08 57 39.2 +1.1
	baz=234,SNR=5.2					
DECC	Green Verdugo	83.20	48	P	P	08 57 39.2 +0.9
	baz=235,SNR=5.0					
PASC	Pasadena Art C	83.26	48	P	P	08 57 39.5 +1.0
109C	Camp Elliot, M	83.27	49	P	P	08 57 39.9 +1.3
	baz=236,SNR=7.0					
ARVC	Arvin	83.38	47	P	P	08 57 40.5 +1.3
	baz=234,SNR=10					
TKX	Tecate	83.43	50	P	P	08 57 40.8 +1.3
SNY	Shenyang	83.44	322	⇓P	P	08 57 39.5 +0.3
SNY				pP	pP	08 59 37.5 +1.9
SNY				sP	sP	09 00 28.6 -1.9
SNY				S	SKSac	09 07 06.8 -2.7
SNY				pmax	pmax	
	comp=Z,80nm,1.0s					
SNY				pmax	pmax	
	comp=Z,870nm,3.7s					
BAR	Barrett	83.45	50	P	P	08 57 40.5 +0.9
MURC	Murrieta	83.61	49	P	P	08 57 41.6 +1.3
	baz=235,SNR=11					
TRTT	Trang	83.61	282	P	P	08 57 41.6 +0.8
VES	Vestal, Richgr	83.63	46	P	P	08 57 41.2 +0.9
	baz=234,SNR=16					
BFSC	Mount Baldy Ra	83.65	48	P	P	08 57 41.7 +1.0
	baz=235					
LPIG	La Paz	83.67	60	P	P	08 57 41.7 +0.8
	comp=Z,50nm,0.8s,baz=180,slow=0.5,SNR=21					
SII	Sitkinak Islan	83.68	15	P	P	08 57 40.9 +0.8
SII				IAmb	IAmb	08 57 41.8
	comp=Z,153nm,0.8s					
SII	Sitkinak Islan	83.68	15	P	P	08 57 40.9 +0.8
	baz=204					
GRNR	Gornyy	83.69	334	⇓*i*P	P	08 57 42.2 +1.9
GRNR				*e*S	S	09 07 14.7 -2.9
GRNR				pmax	pmax	
	comp=E,40nm,0.7s					
GRNR				pmax	pmax	
	comp=N,60nm,1.1s					
GRNR				pmax	pmax	
	comp=Z,220nm,1.1s					
GRNR				smax	smax	
	comp=N,2.0nm,0.8s					
GRNR				MLR	MLR	
	comp=E,1µm,11.0s					
GRNR				MLR	MLR	
	comp=N,1µm,10.0s					
GRNR				MLR	MLR	
	comp=Z,710nm,13.0s					
VOG	Valley Oaks Go	83.71	46	P	P	08 57 41.6 +0.9
	baz=234					
CN2	Changchun	83.72	324	*e*P	P	08 57 40.9 +0.3
CN2				*e*pP	pP	08 59 37.1 0.0
CN2				*e*sP	sP	09 00 32.4 +0.5
CN2				SKS	SKSac	09 07 12.0 +0.8
CN2				pmax	pmax	
	comp=Z,520nm,1.0s					
MONP2	Monument Peak	83.74	50	P	P	08 57 42.9 +1.6
	baz=236,SNR=39					
MONP2				S	S	09 07 26.2 +6.8
	baz=236					
SLBS	Sierra La Lagu	83.75	61	P	P	08 57 43.0 +1.6
SLBS				IAmb	IAmb	08 57 43.7
	comp=Z,88nm,0.8s					
EDW2	Edwards Air Fo	83.80	47	P	P	08 57 42.6 +1.3
	baz=235,SNR=22					
EDW2				S	S	09 07 24.9 +5.4
	baz=235					
SRIG	Santa Rosalia	83.80	56	P	P	08 57 42.7 +1.3
SRIG				IAmb	IAmb	08 57 44.1
	comp=Z,115nm,1.2s					
RMX	La Rumorosa	83.82	50	P	P	08 57 42.1 +0.5
RMX				IAmb	IAmb	08 57 44.3
	comp=Z,51nm,0.8s					
IKP	In-Ko-Pah, Jac	83.83	50	P	P	08 57 43.3 +1.8
	baz=236,SNR=25					
IKP				S	S	09 07 26.6 +6.7
	baz=236					
SFX	San Felipe	83.84	52	P	P	08 57 42.1 +0.6
TIA	Tai'an	83.90	314	⇓P	P	08 57 42.8 +1.1
TIA				S	SKSac	09 07 11.3 -1.5
TIA				pmax	pmax	
	comp=Z,430nm,1.0s					
TIA				pmax	pmax	
	comp=Z,1µm,3.2s					
ISA	Isabella, Lake	83.93	47	P	P	08 57 42.9 +0.9
ISA				pmax	pmax	
	comp=Z,40nm,0.9s					
ISA	Isabella, Lake	83.93	47	P	P	08 57 42.9 +0.9
ISA				IAmb	IAmb	08 57 44.4
	comp=Z,40nm,0.8s					
ISA	Isabella, Lake	83.93	47	P	P	08 57 43.4 +1.5
	baz=234,SNR=46					
ISA				S	S	09 07 24.9 +4.2
	baz=234					
O02D	Mt. Diablo Mer	83.93	41	P	P	08 57 44.2 +2.3
	baz=231,SNR=7.1					
O02D				S	S	09 07 27.3 +6.7
	baz=231					
TPTI		83.94	276	P	P	08 57 42.2 -0.3
	comp=Z,1µmcomp=Z,110nm,1.1s					
NKL	Nikolayevsk	84.04	338	*e*P	P	08 57 40.2 -1.7
NKL				pmax	pmax	
	comp=N,539nm,0.8s					
NKL				MLR	MLR	
	comp=N,5µm,14.0s					
NKL				MLR	MLR	
	comp=Z,924nm,10.0s					
PFO	Pinyon Flats O	84.12	49	P	P	08 57 44.2 +1.2
	comp=Z,12nm,0.9s,baz=253,slow=3.8,SNR=17					
PFO	Pinyon Flats O	84.12	49	P	P	08 57 43.0 0.0
PFO	Pinyon Flats O	84.12	49	P	P	08 57 44.4 +1.3
	baz=236,SNR=11					
BBRC	Big Bear Solar	84.17	48	P	P	08 57 44.8 +1.4
	baz=235					
SWSC	Sam W. Stewart	84.21	50	P	P	08 57 44.9 +1.6
	baz=236,SNR=22					
SURA	Surathani	84.24	283	P	P	08 57 45.3 +1.5
SNAA	Sanae	84.27	179	P	P	08 57 42.7 -0.4
SNAA				S	S	09 07 21.3 -1.6
SNAA	Sanae	84.27	179	*ce*P	P	08 57 42.5 -0.6
SNAA				pmax	pmax	
	comp=Z,85nm,1.5s					
SNAA	Sanae	84.27	179	P	P	08 57 42.5 -0.6
SNAA				IAmb	IAmb	08 57 44.1
	comp=Z,120nm,1.5s					
CPBX	Cerro Prieto	84.27	51	P	P	08 57 44.0 +0.4
CPBX				IAmb	IAmb	08 57 48.5
	comp=Z,44nm,0.6s					
LRMC	Laurel Mtn Rad	84.35	47	P	P	08 57 45.4 +1.3
	baz=235,SNR=8.0					
RRX	Edison Barstow	84.46	48	P	P	08 57 45.9 +1.3
	baz=235					
KLR	Kul'dur	84.47	331	P	P	08 57 45.4 +1.2
	comp=Z,52nm,0.6s,baz=111,slow=3.8,SNR=69					
N02D	Trinity Center	84.48	40	P	P	08 57 46.6 +2.1
	baz=231,SNR=7.5					
N02D				S	S	09 07 31.9 +6.1
	baz=231					
OHAK	Old Harbor	84.49	15	P	P	08 57 44.6 +0.6
OHAK				IAmb	IAmb	08 57 45.6
	comp=Z,84nm,0.9s					
OHAK	Old Harbor	84.49	15	P	P	08 57 44.7 +0.6
	baz=205,SNR=17					
OHAK				S	S	09 07 25.2 +0.2
	baz=205					
VNA3	Neumayer Olymp	84.51	177	P	P	08 57 43.8 -0.3
VNA3				S	S	09 07 24.0 -1.2
O03E	Paynes Creek	84.59	41	P	P	08 57 46.2 +1.0
	baz=232,SNR=6.8					
O03E				S	S	09 07 31.8 +4.8
	baz=232					
CWC	Cottonwood Cre	84.64	46	P	P	08 57 46.7 +1.2
	baz=235					
CWC				S	S	09 07 32.9 +5.1
	baz=235					
M02C	Callahan	84.65	40	P	P	08 57 47.0 +1.6
	baz=231,SNR=7.3					
M02C				S	S	09 07 33.4 +5.9
	baz=231					
BELC	Belle Mtn. Jos	84.66	49	P	P	08 57 47.2 +1.6
	baz=236,SNR=46					
BELC				S	S	09 07 35.2 +7.2
	baz=236					
MDPB	Devils Postpil	84.68	45	P	P	08 57 46.6 +0.8
L02E	Cave Junction	84.70	39	S	S	09 07 34.7 +6.8
	baz=230					
MPMC	Manual Prospec	84.81	47	P	P	08 57 47.3 +0.9
	baz=235,SNR=22					
GSC	Goldstone, Bar	84.83	48	P	P	08 57 47.0 +0.5
GSC				pmax	pmax	
	comp=Z,83nm,1.8s					
GSC	Goldstone, Bar	84.83	48	P	P	08 57 47.0 +0.5
GSC				IAmb	IAmb	08 57 48.7
	comp=Z,82nm,1.8s					
GSC	Goldstone, Bar	84.83	48	P	P	08 57 47.8 +1.4
	baz=235,SNR=20					
MLAC	Mammoth, Mammo	84.84	45	P	P	08 57 47.7 +1.1
	baz=234					
MLAC				S	S	09 07 37.8 +8.0
	baz=234					
BC3	Big Chuckawall	84.84	50	P	P	08 57 48.2 +1.7
	baz=236,SNR=22					
BC3				S	S	09 07 37.8 +8.0
	baz=236					
PKDT	Phuket	84.85	281	P	P	08 57 47.9 +1.0
HEC	Hector,Ludlow	84.89	48	P	P	08 57 48.0 +1.3
	baz=236,SNR=24					
HEC				S	S	09 07 35.4 +5.3
	baz=236					
SURT	Suratani	84.89	282	P	P	08 57 48.8 +1.7
TIN	Tinemaha, Big	84.89	46	P	P	08 57 48.0 +1.3
	baz=234					
TIN				S	S	09 07 35.8 +5.7
	baz=234					
VNA2	Neumayer--Watz	84.91	178	P	P	08 57 46.1 0.0
	baz=185,slow=4.0					
VNA2				S	S	09 07 28.6 -0.6
GLA	Glamis	84.95	50	P	P	08 57 48.4 +1.4
GLA				pmax	pmax	
	comp=Z,65nm,1.0s					
GLA	Glamis	84.95	50	P	P	08 57 48.4 +1.4
GLA				IAmb	IAmb	08 57 50.0
	comp=Z,66nm,0.9s					
GLA	Glamis	84.95	50	P	P	08 57 48.9 +1.9
	baz=237,SNR=18					
GLA				S	S	09 07 38.3 +7.6
	baz=237					
YBH	Yreka Blue Hor	84.95	40	P	P	08 57 47.9 +1.0
	comp=Z,4.3nm,0.7s,baz=250,slow=1.2,SNR=23					
LHMI	Lhok Sumawe	84.98	278	P	P	08 57 47.3 -0.2
LHMI	Lhok Sumawe	84.98	278	P	P	08 57 48.2 +0.7
	comp=Z,5µmcomp=Z,514nm,0.9s					
K02D	Willamette Mer	85.01	39	S	S	09 07 38.1 +7.2
	baz=230					
J01E	Myrtle Point	85.16	38	S	S	09 07 40.1 +8.0
	baz=230					
VNA1	Neumayer--Stat	85.16	178	P	P	08 57 47.2 -0.1
VNA1				S	S	09 07 29.6 -1.8
KDAK	Kodiak Island	85.16	15	P	P	08 57 47.4 +0.1
	comp=Z,36nm,1.0s,baz=217,slow=3.0,SNR=18					
KDAK				pP	pwP	08 59 47.8 -1.5
	comp=Z,12nm,1.1s,baz=190,slow=10,SNR=3.0					
KDAK	Kodiak Island	85.16	15	P	P	08 57 46.5 -0.8
KDAK				IAmb	IAmb	08 57 48.9
	comp=Z,48nm,1.0s					
KDAK	Kodiak Island	85.16	15	P	P	08 57 47.8 +0.5
	baz=206					
KDAK				S	S	09 07 32.6 +1.2
	baz=206					
BEKR	Beckworth	85.21	42	P	P	08 57 49.1 +0.9
PNTR	Pine Nut	85.21	43	P	P	08 57 49.5 +1.1
GMRC	Granite Mounta	85.32	49	P	P	08 57 50.1 +1.3
	baz=236					
GMRC				S	S	09 07 40.1 +5.7
	baz=236					
IRM	Iron Mountain	85.33	49	P	P	08 57 50.5 +1.7
	baz=236,SNR=38					
IRM				S	S	09 07 41.4 +7.1
	baz=236					
YERR	Yerington	85.38	44	P	P	08 57 48.9 -0.2
GRAC	Grapevine Rang	85.42	46	P	P	08 57 50.6 +1.4
	baz=235,SNR=16					
GRAC				S	S	09 07 41.9 +6.8
	baz=235					
FURC	Furnace Creek,	85.45	47	P	P	08 57 50.5 +1.2
	baz=235,SNR=8.3					
L04D	Klamath Falls	85.49	40	P	P	08 57 51.0 +1.5
	baz=231					
L04D				S	S	09 07 40.7 +5.0
	baz=231					
M04C	Macdoel	85.49	40	P	P	08 57 49.7 +0.2
	baz=232,SNR=5.8					
M04C				S	S	09 07 41.0 +5.3
	baz=232					
TUQ	Turquoise Moun	85.51	48	P	P	08 57 50.9 +1.2
	baz=236,SNR=12					
TUQ				S	S	09 07 43.9 +7.8
	baz=236					
SHOC	Shoshone, Teco	85.53	47	P	P	08 57 50.8 +1.1
	baz=236,SNR=12					
SHOC				S	S	09 07 43.0 +7.0
	baz=236					
RYN	Ryan	85.62	44	P	P	08 57 50.4 +0.1
NVAR	Mina Array Bea	85.64	44	P	P	08 57 51.4 +0.9
	comp=Z,9.7nm,0.7s,baz=222,slow=8.5,SNR=60					
NVAR				pP	pP	08 59 50.0 +1.5
	comp=Z,6.0nm,1.1s,baz=90,slow=12,SNR=3.7					
NVAR				PKKPbc	PKKPbc	09 15 51.6 +1.4
	comp=Z,0.4nm,0.7s,baz=99,slow=2.4,SNR=4.0					
NVAR				PKPPKP	P'P'df	09 23 56.4 +1.6
	comp=Z,1.1nm,0.9s,baz=120,slow=0.1,SNR=5.0					
NVAR	Mina Array Bea	85.64	44	P	P	08 57 50.8 +0.3
HSIG		85.65	56	P	P	08 57 51.4 +1.0
HSIG				IAmb	IAmb	08 57 52.4
	comp=Z,55nm,0.7s					
NV11	Mina Array Sit	85.74	44	P	P	08 57 51.0 +0.2
214A	Organ Pipe Nat	85.80	52	IAmb	IAmb	08 57 53.5
	comp=Z,31nm,0.8s					
214A	Organ Pipe Nat	85.80	52	P	P	08 57 52.9 +1.8
	baz=238					
214A				S	S	09 07 46.9 +8.0
	baz=238					
I03D	Drain, OR	85.83	38	P	P	08 57 52.8 +1.9
	baz=230,SNR=5.9					
I03D				S	S	09 07 44.6 +6.2
	baz=230					
PHET	Kaeng Krachan	85.86	286	P	P	08 57 53.6 +1.9
Q19K	Cape Douglas,	85.96	14	P	P	08 57 51.3 +0.1
	baz=205,SNR=22					
Q19K				S	S	09 07 39.7 +0.5
	baz=205					
NEE2	Needles Airpor	86.03	49	P	P	08 57 53.7 +1.6
	baz=237					
NEE2				S	S	09 07 49.0 +8.1
	baz=237					
K04D	Chiloquin, OR	86.06	39	P	P	08 57 53.9 +1.7
	baz=232					
K04D				S	S	09 07 48.3 +7.2
	baz=232					
PDMCI	Parker Dam,Lak	86.11	50	P	P	08 57 53.9 +1.5
	baz=237,SNR=12					
TPNV	Topopah Spring	86.13	47	P	P	08 57 53.9 +1.2
	baz=236,SNR=40					
TPNV				S	S	09 07 48.5 +6.4
	baz=236					
TPH	Tonopah	86.14	45	IAmb	IAmb	08 57 54.8
	comp=Z,85nm,0.8s					
KVN	Kaiserville	86.14	44	P	P	08 57 53.4 +0.7
KVN				pmax	pmax	
	comp=Z,15nm,0.6s					
KVN	Kaiserville	86.14	44	P	P	08 57 53.4 +0.7
GYA	Guiyang	86.22	301	⇓*i*P	P	08 57 53.4 +0.1
GYA				pP	pwP	08 59 58.0 +1.5
GYA				sP	sP	09 00 43.6 -1.6
GYA				SKS	SKSac	09 07 25.9 -2.0
GYA				S	S	09 07 40.9 -2.4
GYA				sS	sS	09 11 14.3 +1.1
GYA				pmax	pmax	
	comp=Z,64nm,1.1s					
GYA				pmax	pmax	
	comp=Z,680nm,3.7s					
J04D	Umpqua Nationa	86.24	39	P	P	08 57 54.8 +1.7
	baz=231,SNR=10					
PBKT	Sadao Pong	86.30	290	P	P	08 57 56.1 +2.4
PBKT	Sadao Pong	86.30	290	IAmb	IAmb	08 57 56.4
	comp=Z,38nm,0.8s					
PBKT	Sadao Pong	86.30	290	P	P	08 57 54.5 +0.8
	comp=Z,57nm,0.9s					
BUCK	Buck Mountain	86.34	38	P	P	08 57 54.3 +0.9
BUCK				IAmb	IAmb	09 00 01.7
	comp=Z,54nm,1.2s					
I04A	Tendick Farm,	86.41	38	P	P	08 57 55.1 +1.4
	baz=231,SNR=6.3					
I04A				S	S	09 07 49.0 +4.8
	baz=231					
O18K	Koktuh Hills	86.48	13	IAmb	IAmb	08 57 54.6
	comp=Z,154nm,1.1s					
O18K	Koktuh Hills	86.48	13	P	P	08 57 53.5 -0.1
	baz=203,SNR=37					
O18K				S	S	09 07 43.8 -0.3
	baz=203					
LL02	Futaleuf	86.50	136	P	P	08 57 55.4 +1.1
LL02				IAmb	IAmb	08 57 56.8
	comp=Z,130nm,0.8s					
LL01	San Ignacio de	86.55	135	P	P	08 57 55.5 +1.0
LL01				IAmb	IAmb	08 57 56.1
	comp=Z,58nm,0.9s					
K05A	Summer Lake	86.62	40	P	P	08 57 56.6 +1.6
H04D	Lebanon	86.69	38	P	P	08 57 57.0 +2.0
	baz=231					
H04D				S	S	09 07 50.6 +4.0
	baz=231					
P19K	Oil Pt	86.71	14	P	P	08 57 54.3 -0.4
P19K				IAmb	IAmb	08 57 55.7
	comp=Z,118nm,0.8s					
P19K	Oil Pt	86.71	14	P	P	08 57 54.6 -0.1
	baz=205,SNR=30					
P19K				S	S	09 07 46.5 +0.2
	baz=205					
BJT	Baijiatuau	86.73	317	IAmb	IAmb	08 57 57.0
	comp=Z,89nm,0.9s					
BJI	Beijing	86.74	317	P	P	08 57 56.4 +1.1
BJI				pP	pP	08 59 53.2 +0.3
BJI				sP	sP	09 00 45.6 -1.8
BJI				PP	PP	09 01 25.4 -2.8
BJI				SKS	SKSac	09 07 27.8 -2.3
BJI				S	S	09 07 45.1 -2.2
BJI				sS	sS	09 11 14.6 -3.1
BJI				pmax	pmax	
	comp=Z,140nm,1.7s					
BJI				pmax	pmax	
	comp=Z,1µm,4.2s					
J05D	Fort Rock, OR	86.77	39	P	P	08 57 57.7 +2.1
	baz=232,SNR=23					
J05D				S	S	09 07 54.2 +6.5
	baz=232					
MA2	Magadan	86.77	346	*ce*P	P	08 57 55.1 +0.2
MA2				pmax	pmax	
	comp=Z,229nm,0.9s					
MA2	Magadan	86.77	346	P	P	08 57 54.9 -0.1
SRDT	SRDT	86.93	287	P	P	08 57 58.5 +1.8
SRDT	SRDT	86.93	287	P	P	08 57 57.7 +1.0
	comp=Z,8µmcomp=Z,255nm,1.3s					
O19K	Port Alsworth	86.97	13	P	P	08 57 55.6 -0.2
O19K	Port Alsworth	86.97	13	P	P	08 57 55.8 -0.1
	baz=204,SNR=41					
O19K				S	S	09 07 47.7 -0.8
	baz=204					
CNPM	China Poot	87.04	15	P	P	08 57 56.3 0.0
CNPM				IAmb	IAmb	08 57 57.6
	comp=Z,255nm,1.5s					
PHIT	Phitsanulok	87.05	290	P	P	08 57 58.7 +1.4
HOM	Homer	87.07	14	P	P	08 57 56.5 +0.2
HOM	Homer	87.07	14	P	P	08 57 57.0 +0.7
	baz=206,SNR=30					
HOM				S	S	09 07 49.4 0.0
	baz=206					
H04A	Detroit Lake	87.09	38	P	P	08 57 57.7 +0.8
N18K	Kilae Creek	87.11	12	P	P	08 57 56.0 -0.6
	baz=203,SNR=6.6					
N18K				S	S	09 07 49.0 -0.9
	baz=203					
UTHA	Uthaitani	87.17	288	P	P	08 57 59.3 +1.5
LL03	Petrohue	87.17	134	P	P	08 57 58.0 +0.5
UTTA	Uttaradit	87.18	291	P	P	08 57 59.2 +1.4
PRN	Pahroc Range	87.18	47	P	P	08 57 59.1 +1.4
O20K	Slope Mountain	87.23	14	P	P	08 57 56.9 -0.3
	baz=206,SNR=22					
O20K				S	S	09 07 50.5 -0.6
	baz=206					
PINE	Pine Mountain	87.25	39	P	P	08 57 59.7 +1.8
PINE				IAmb	IAmb	08 58 01.6
	comp=Z,56nm,1.1s					
LL04	Puerto Octay	87.28	134	P	P	08 57 59.1 +1.0
LL04				IAmb	IAmb	08 58 00.2
	comp=Z,100nm,0.8s					
BRLK	Bradley Lake	87.33	15	P	P	08 57 57.7 +0.1
BRLK				IAmb	IAmb	08 57 58.9
	comp=Z,127nm,1.3s					
BRSE	Bradley Lake S	87.35	15	P	P	08 57 58.3 +0.6
	baz=207,SNR=18					
BRSE				S	S	09 07 51.4 -0.8
	baz=207					
R11A	Troy Canyon, C	87.35	46	P	P	08 57 58.3 -0.1
	baz=236,SNR=8.4					
R11A				S	S	09 07 57.2 +3.7
	baz=236					
I05D	Terrebonne, OR	87.36	38	P	P	08 58 00.1 +1.9
	baz=232,SNR=11					
TUC	Tucson	87.45	53	P	P	08 58 00.0 +1.1
TUC				pmax	pmax	
	comp=Z,48nm,1.0s					
TUC	Tucson	87.45	53	P	P	08 58 00.0 +1.1
TUC				IAmb	IAmb	08 58 02.2
	comp=Z,48nm,0.9s					
TUC	Tucson	87.45	53	P	P	08 58 01.2 +2.3
	baz=239					
TUC				S	S	09 08 03.7 +9.2
	baz=239					
BMN	Battle Mountai	87.48	43	P	P	08 57 59.6 +0.6
BMN				pmax	pmax	
	comp=Z,103nm,1.9s					
BMN	Battle Mountai	87.48	43	P	P	08 57 59.6 +0.6
BMN				IAmb	IAmb	08 58 01.3
	comp=Z,102nm,1.9s					
N19K	Bonanza Creek	87.51	13	P	P	08 57 58.0 -0.5
N19K				IAmb	IAmb	08 57 59.0
	comp=Z,78nm,1.4s					
N19K	Bonanza Creek	87.51	13	P	P	08 57 58.1 -0.5
	baz=204,SNR=11					
N19K				S	S	09 07 52.1 -1.6
	baz=204					
E03A	Lebam	87.52	36	P	P	08 57 59.7 +1.0
E03A				IAmb	IAmb	08 58 02.4
	comp=Z,42nm,1.0s					
F04D	Rainier, OR	87.52	36	S	S	09 08 00.7 +6.4
	baz=231					
F04A	Amboy	87.75	37	IAmb	IAmb	08 58 03.1
	comp=Z,32nm,0.8s					
TIY	Taiyuan	87.84	313	⇓*i*P	P	08 58 02.2 +1.6
TIY				pP	pP	09 00 00.8 +2.2
TIY				sP	sP	09 00 56.0 +2.9
TIY				SKS	SKSac	09 07 35.8 -1.2
TIY				S	S	09 07 59.5 +1.6
TIY				pmax	pmax	
	comp=Z,290nm,1.0s					
DIB	Dawson Inlet,	87.89	27	P	P	08 58 01.3 +1.0
DIB				IAmb	IAmb	08 58 03.0
	comp=Z,57nm,1.1s					
UMPA	Umpang Tak	87.96	289	P	P	08 58 02.8 +1.2
SEW	Seward	87.97	15	IAmb	IAmb	08 58 01.5
	comp=Z,48nm,0.9s					
SEW	Seward	87.97	15	P	P	08 58 00.6 +0.1
	baz=208,SNR=12					
SEW				S	S	09 07 56.6 -1.3
	baz=208					
E04D	Cinebar	88.06	36	P	P	08 58 03.1 +1.8
	baz=231,SNR=9.7					
E04D				S	S	09 08 04.5 +5.3
	baz=231					

X16A Lo Mia Camp, P 88.06 51 P P 08 58 02.1 +0.2
319A Douglas 88.08 54 IAmb IAmb 08 58 05.2
comp=Z,82nm,1.0s
GAMB Gambell 88.09 4 IAmb IAmb 08 58 03.1
comp=Z,60nm,1.0s
GAMB Gambell 88.09 4 P P 08 58 02.2 +1.2
baz=188
GAMB S S 09 08 01.4 +2.7
baz=188
Q23K Middleton Isla 88.17 17 P P 08 58 02.6 +1.1
baz=211
CAPN Captain Cook N 88.17 14 P P 08 58 02.5 +1.0
CAPN IAmb IAmb 08 58 03.7
comp=Z,99nm,0.8s
CAPN Captain Cook N 88.17 14 P P 08 58 02.8 +1.3
baz=207
O22K Cooper Landing 88.24 15 P P 08 58 02.0 +0.2
O22K IAmb IAmb 08 58 08.1
comp=Z,108nm,0.8s
O22K Cooper Landing 88.24 15 P P 08 58 02.0 +0.2
baz=208,SNR=16
F05D White Salmon 88.24 37 P P 08 58 03.7 +1.5
baz=232,SNR=5.8
F05D S S 09 08 04.7 +3.7
baz=232
I07A Izee 88.25 39 P P 08 58 03.2 +0.8
I07A IAmb IAmb 08 58 05.4
comp=Z,55nm,1.6s
LAMP Lampang 88.31 291 P P 08 58 04.8 +1.7
comp=Z,2µmcomp=Z,220nm,1.0s
XAN Xi'an 88.33 309 P P 08 58 04.2 +1.3
XAN pmax pmax
comp=Z,230nm,1.2s
XAN pmax pmax
comp=Z,1µm,5.6s
SPCR Spurr Chakacha 88.33 13 P P 08 58 01.7 -0.6
baz=206,SNR=12
SPCR S S 09 07 59.2 -2.1
baz=206
CCUT Cedar City 88.39 47 P P 08 58 04.7 +1.3
CCUT IAmb IAmb 08 58 06.3
comp=Z,56nm,1.7s
J08A Circle Bar Ran 88.42 40 P P 08 58 04.5 +1.2
J08A IAmb IAmb 08 58 06.0
comp=Z,72nm,1.5s
KNB Kanab 88.47 48 IAmb IAmb 08 58 06.5
comp=Z,96nm,1.8s
U15A North Rim 88.52 49 P P 08 58 05.3 +1.2
U15A IAmb IAmb 08 58 06.8
comp=Z,30nm,0.8s
M19K Big River Lodg 88.53 12 P P 08 58 02.8 -0.3
M19K IAmb IAmb 08 58 03.6
comp=Z,25nm,0.7s
M19K Big River Lodg 88.53 12 P P 08 58 03.1 0.0
baz=204,SNR=20
PLCA Paso Flores 88.59 135 P P 08 58 05.7 +1.4
comp=Z,41nm,0.8s,baz=236,slow=4.6,SNR=77
PLCA PP PP 09 01 40.7 -1.4
comp=Z,4.8nm,1.0s,baz=236,slow=7.9,SNR=3.0
PLCA PKKPbc PKKPbc 09 15 43.0 +0.4
comp=Z,1.4nm,0.6s,baz=86,slow=4.3,SNR=3.6
PLCA Paso Flores 88.59 135 P P 08 58 04.5 +0.2
PLCA IAmb IAmb 08 58 06.3
comp=Z,53nm,0.8s
PLCA Paso Flores 88.59 135 eP P 08 58 05.8 +1.6
LON Longmire 88.59 36 P P 08 58 04.6 +0.7
LON pmax pmax
comp=Z,10.0nm,0.8s
LON Longmire 88.59 36 P P 08 58 04.6 +0.7
SZCU Shurtz Canyon 88.60 47 P P 08 58 05.7 +1.3
SZCU IAmb IAmb 08 58 07.1
comp=Z,70nm,1.8s
LC01 Cunco 88.65 132 IAmb IAmb 08 58 06.6
comp=Z,151nm,1.3s
WUAZ Wupatki 88.68 50 P P 08 58 05.9 +1.2
WUAZ IAmb IAmb 08 58 07.4
comp=Z,40nm,1.4s
WUAZ Wupatki 88.68 50 P P 08 58 06.2 +1.5
baz=239
WUAZ S S 09 08 13.4 +7.5
baz=239
L19K White Mountain 88.69 12 P P 08 58 04.0 +0.1
L19K IAmb IAmb 08 58 05.5
comp=Z,136nm,1.1s
L19K White Mountain 88.69 12 P P 08 58 04.5 +0.5
baz=204,SNR=78
L19K S S 09 08 04.1 -0.4
baz=204
KMI Kunming 88.70 298 ⇓P P 08 58 06.6 +1.5
KMI pP pP 09 00 05.0 +1.8
KMI sP sP 09 00 59.6 +2.1
KMI PP PP 09 01 44.8 +0.5
KMI SKS SKSac 09 07 40.7 -2.2
KMI S S 09 08 07.0 +0.4
KMI pmax pmax
comp=Z,100nm,1.2s
KMI pmax pmax
comp=Z,560nm,3.8s
HPIG 88.71 60 IAmb IAmb 08 58 07.2
comp=Z,60nm,0.8s
M20K Styx River 88.75 13 P P 08 58 03.6 -0.7
baz=205,SNR=9.1
D05A Enumclaw 88.77 36 P P 08 58 05.7 +1.1
D05A IAmb IAmb 08 58 08.4
comp=Z,75nm,1.1s
RC01 Rabbit Creek A 88.78 15 P P 08 58 04.5 +0.2
baz=208,SNR=29
RC01 S S 09 08 03.5 -1.7
baz=208
CMAR Chiang Mai Arr 88.87 291 P P 08 58 07.5 +1.7
comp=Z,68nm,0.9s,baz=138,slow=3.4,SNR=128
CMAR PP PP 09 01 44.0 -1.4
comp=Z,20nm,0.8s,baz=128,slow=5.8,SNR=15
CMAR PKKPbc PKKPbc 09 15 40.9 -0.4
comp=Z,4.0nm,0.6s,baz=289,slow=4.2,SNR=8.5
SUA Susitna One 88.88 14 P P 08 58 04.4 -0.5
SUA IAmb IAmb 08 58 05.8
comp=Z,84nm,0.7s
SUA Susitna One 88.88 14 P P 08 58 04.9 -0.1
baz=207,SNR=42
SUA S S 09 08 05.0 -1.4
baz=207
PGC Sidney 88.93 34 P P 08 58 05.5 +0.2
PGC IAmb IAmb 08 58 08.1
comp=Z,69nm,1.5s
HIN Hinchinbrook I 88.96 16 IAmb IAmb 08 58 06.4
comp=Z,57nm,1.0s
CMMT Chiang Mai 89.02 291 P P 08 58 07.5 +1.0
CMMT Chiang Mai 89.02 291 P P 08 58 07.5 +1.0
comp=Z,2µmcomp=Z,138nm,1.2s
CHTO Chiang Mai 89.02 291 P P 08 58 07.8 +1.3
CHTO Chiang Mai 89.02 291 P P 08 58 07.6 +1.1
comp=Z,2µmcomp=Z,147nm,1.2s
CHTO Chiang Mai 89.02 291 P P 08 58 07.8 +1.3
CHTO Chiang Mai 89.02 291 P P 08 58 07.9 +1.5
CHTO Chiang Mai 89.02 291 P P 08 58 07.6 +1.1
comp=Z,1µmcomp=Z,82nm,1.2s
PKCU Pink Cliffs 89.04 48 P P 08 58 08.6 +2.0
PKCU IAmb IAmb 08 58 09.8
comp=Z,39nm,0.9s
KAIM Kayak Island 89.11 17 P P 08 58 06.8 +0.9
KAIM IAmb IAmb 08 58 07.9
comp=Z,53nm,1.0s
KAIM Kayak Island 89.11 17 P P 08 58 06.6 +0.8
baz=213,SNR=6.0
L20K Farewell, AK 89.15 12 P P 08 58 06.1 0.0
baz=204,SNR=21
SKT Skwentna 89.17 13 IAmb IAmb 08 58 06.0
comp=Z,25nm,1.0s
SKT Skwentna 89.17 13 P P 08 58 04.5 -1.6
baz=206,SNR=7.2
X18A Snowflake 89.18 51 P P 08 58 07.6 +0.5
GLI Glacier Island 89.22 16 P P 08 58 06.5 +0.1
baz=210,SNR=37
GLI S S 09 08 08.2 -1.1
baz=210
FID Port Fidalgo 89.27 16 IAmb IAmb 08 58 07.6
comp=Z,77nm,1.1s
G08A Pilot Rock 89.28 39 P P 08 58 08.5 +1.3
EYAK Cordova Ski Ar 89.28 17 P P 08 58 06.6 0.0
EYAK IAmb IAmb 08 58 08.0
comp=Z,87nm,1.2s
EYAK Cordova Ski Ar 89.28 17 P P 08 58 07.0 +0.4
baz=212,SNR=16
EYAK S S 09 08 09.1 -0.7
baz=212

ZAIG Zacatecas 89.30 65 IAmb IAmb 08 58 10.9
comp=Z,26nm,0.9s
EFI East Falkland 89.31 148 ceP P 08 58 08.4 +1.2
EFI pmax pmax
comp=Z,326nm,1.7s
EFI East Falkland 89.31 148 P P 08 58 07.7 +0.5
A04D Lummi Island 89.35 34 P P 08 58 08.9 +1.7
baz=231,SNR=26
A04D S S 09 08 16.1 +5.1
baz=231
KNK Knik Glacier 89.36 15 P P 08 58 07.4 +0.3
baz=209,SNR=19
KNK S S 09 08 09.5 -1.1
baz=209
PMR Palmer 89.36 15 P P 08 58 06.7 -0.3
PMR pmax pmax
comp=Z,76nm,1.1s
PMR Palmer 89.36 15 P P 08 58 06.7 -0.3
PMR IAmb IAmb 08 58 08.0
comp=Z,76nm,1.1s
PMR Palmer 89.36 15 P P 08 58 06.9 0.0
baz=209,SNR=30
PMR S S 09 08 08.5 -1.9
baz=209
B05A Bryant 89.38 35 P P 08 58 08.8 +1.4
baz=231,SNR=17
B05A S S 09 08 15.9 +4.6
baz=231
ANM Nome 89.41 7 S S 09 08 11.7 +0.9
baz=194
RAGM Ragged Mountai 89.43 17 P P 08 58 07.8 +0.4
RAGM IAmb IAmb 08 58 09.1
comp=Z,65nm,1.1s
MTPU Mount Pierson 89.44 47 P P 08 58 09.9 +1.4
MTPU IAmb IAmb 08 58 11.6
comp=Z,26nm,0.9s
SEY Seymchan 89.50 348 P P 08 58 08.2 +0.6
comp=Z,115nm,0.9s,baz=152,slow=5.2,SNR=176
SEY PKKPbc PKKPbc 09 15 39.7 -1.9
comp=Z,4.6nm,0.7s,baz=232,slow=0.3,SNR=13
SEY Seymchan 89.50 348 d iP P 08 58 08.0 +0.4
HMT Hamilton 89.50 17 P P 08 58 08.1 +0.4
HMT IAmb IAmb 08 58 09.2
comp=Z,70nm,1.1s
LTY Liberty 89.52 36 P P 08 58 08.6 +0.4
E07A Sunnyside 89.54 37 P P 08 58 08.7 +0.5
TCRU Three Creeks R 89.56 47 P P 08 58 08.9 +0.1
GHO Glory Hole Cre 89.56 15 P P 08 58 07.6 -0.4
GHO IAmb IAmb 08 58 09.2
comp=Z,89nm,0.7s
MHMT Maesarieng 89.61 290 P P 08 58 11.2 +2.0
W18A Petrified Fore 89.63 51 P P 08 58 10.2 +1.1
baz=240
W18A S S 09 08 22.0 +7.5
baz=240
MVU Marysvale 89.66 47 P P 08 58 09.7 +0.4
MVU IAmb IAmb 08 58 12.2
comp=Z,72nm,1.1s
ZEA Zeya 89.67 332 eP P 08 58 09.6 +1.0
ZEA e 09 00 07.5
ZEA e 09 07 46.8
ZEA pmax pmax
comp=E,20nm,0.6s
ZEA pmax pmax
comp=N,70nm,0.8s
ZEA pmax pmax
comp=Z,130nm,0.8s
MSU Marysvale 89.69 47 P P 08 58 10.6 +1.2
MSU Marysvale 89.69 47 P P 08 58 10.6 +1.2
BERG Berg Lake 89.70 17 P P 08 58 09.5 +0.9
BERG IAmb IAmb 08 58 10.4
comp=Z,85nm,1.1s
SML Sawmill 89.73 15 P P 08 58 08.6 -0.2
baz=209
121A Cookes Peak, D 89.76 54 IAmb IAmb 08 58 12.2
comp=Z,19nm,0.7s
121A Cookes Peak, D 89.76 54 P P 08 58 11.7 +1.9
baz=241
121A S S 09 08 25.1 +9.3
baz=241
DIV Divide 89.77 16 P P 08 58 09.0 0.0
DIV IAmb IAmb 08 58 10.9
comp=Z,48nm,1.0s
C06D Leavenworth 89.80 36 P P 08 58 10.3 +0.8
baz=232
CUT Chulitna 89.82 14 P P 08 58 08.7 -0.4
CUT Chulitna 89.82 14 P P 08 58 09.0 -0.1
baz=208,SNR=19
K20K Telida 89.92 12 P P 08 58 09.7 +0.1
K20K IAmb IAmb 08 58 10.8
comp=Z,51nm,1.1s
K20K Telida 89.92 12 P P 08 58 09.8 +0.1
baz=204,SNR=20
K20K S S 09 08 14.3 -1.2
baz=204
BMRM Bremner River 89.94 17 IAmb IAmb 08 58 11.2
comp=Z,110nm,1.4s
BMRM Bremner River 89.94 17 P P 08 58 09.9 +0.1
baz=213,SNR=7.5
BMRM S S 09 08 16.0 +0.1
baz=213
BMO Blue Mountains 89.98 40 P P 08 58 11.5 +1.1
BMO pmax pmax
comp=Z,21nm,1.7s
BMO Blue Mountains 89.98 40 P P 08 58 11.5 +1.1
WAX Waxell Ridge 89.98 18 P P 08 58 10.4 +0.4
WAX IAmb IAmb 08 58 11.9
comp=Z,114nm,1.3s
MESA MESA 90.01 18 P P 08 58 10.7 +0.3
MESA IAmb IAmb 08 58 12.8
comp=Z,71nm,0.8s
MESA MESA 90.01 18 P P 08 58 11.4 +1.1
baz=215,SNR=9.2
MESA S S 09 08 18.3 +1.4
baz=215
KLU Klutina 90.05 16 P P 08 58 10.6 +0.3
baz=212,SNR=5.2
KLU S S 09 08 15.5 -1.3
baz=212
HHC Hu-ho-hao-te 90.11 316 eP P 08 58 12.6 +1.5
HHC pP pP 09 00 10.5 +0.9
HHC sP sP 09 01 04.4 +0.5
HHC SKS SKSac 09 07 49.5 -0.6
HHC S ScS 09 08 25.4 +4.7
HHC pmax pmax
comp=Z,190nm,5.7s
TNA Tin City 90.14 5 IAmb IAmb 08 58 12.3
comp=Z,111nm,0.9s
TNA Tin City 90.14 5 P P 08 58 10.7 +0.2
baz=192
CRQM Cirque 90.16 18 P P 08 58 10.7 -0.3
CRQM IAmb IAmb 08 58 12.5
comp=Z,81nm,1.3s
DUG Dugway, Tooele 90.16 45 P P 08 58 11.2 -0.3
DUG pmax pmax
comp=Z,36nm,1.8s
DUG Dugway, Tooele 90.16 45 P P 08 58 11.2 -0.3
DUG Dugway, Tooele 90.16 45 P P 08 58 12.3 +0.9
baz=238,SNR=8.3
CRQE Cirque 90.17 18 P P 08 58 11.7 +0.8
baz=214,SNR=6.4
YAH Yahtse 90.22 18 P P 08 58 11.3 0.0
YAH IAmb IAmb 08 58 13.2
comp=Z,87nm,1.3s
TGL Tana Glacier 90.24 18 IAmb IAmb 08 58 12.8
comp=Z,62nm,1.2s
ISLE Juniper Island 90.25 18 P P 08 58 11.6 +0.3
ISLE IAmb IAmb 08 58 12.8
comp=Z,54nm,1.1s
HIA Hailar 90.25 326 P P 08 58 12.0 +0.5
HIA pmax pmax
comp=Z,114nm,1.6s
HIA Hailar 90.25 326 P P 08 58 12.0 +0.5
HIA IAmb IAmb 08 58 13.1
comp=Z,114nm,1.6s
WRAK Wrangell Islan 90.29 25 P P 08 58 12.7 +1.3
WRAK IAmb IAmb 08 58 13.7
comp=Z,27nm,0.9s
WRAK Wrangell Islan 90.29 25 P P 08 58 12.7 +1.3
baz=223,SNR=8.4
D08A Wollman Farm, 90.35 37 P P 08 58 12.9 +0.9
TLIG Tlapa 90.42 71 P P 08 58 14.0 +0.9
TLIG IAmb IAmb 08 58 15.8
comp=Z,113nm,1.4s
PINM Pinnacle 90.44 19 P P 08 58 12.9 +0.8
baz=216

TABL Table Mountain 90.46 19 IAmb IAmb 08 58 13.8
comp=Z,34nm,0.7s
E09A Wood Farm, Sta 90.46 38 IAmb IAmb 09 00 20.2
comp=Z,28nm,1.2s
VRDI Verde Repeater 90.46 17 IAmb IAmb 08 58 13.8
comp=Z,39nm,1.2s
N25K Chitina, Valde 90.48 16 P P 08 58 12.8 +0.5
N25K IAmb IAmb 08 58 13.7
comp=Z,95nm,1.6s
N25K Chitina, Valde 90.48 16 P P 08 58 12.8 +0.5
baz=213,SNR=11
N25K S S 09 08 20.4 -0.3
baz=213
GRNC Granite Creek 90.52 18 IAmb IAmb 08 58 14.3
comp=Z,56nm,1.2s
WAT6 Susitna Watana 90.55 15 P P 08 58 12.6 -0.1
baz=210,SNR=11
WAT6 S S 09 08 19.8 -1.7
baz=210
GLB Gilahina Butte 90.55 17 IAmb IAmb 08 58 14.0
comp=Z,48nm,1.2s
Q16A Castle Valley 90.57 47 P P 08 58 14.3 +0.9
Q16A IAmb IAmb 08 58 16.5
comp=Z,99nm,1.7s
GO05 Huala 90.58 129 P P 08 58 13.8 +0.3
GO05 IAmb IAmb 08 58 15.1
comp=Z,96nm,0.9s
WAT1 Susitna Watana 90.58 14 P P 08 58 12.4 -0.3
baz=209
WAT1 S S 09 08 19.3 -2.2
baz=209
CD2 Chengdu 90.59 304 P P 08 58 15.0 +1.5
CD2 pP pP 09 00 13.1 +1.1
CD2 sP sP 09 01 07.6 +1.4
CD2 SKS SKSac 09 07 52.6 -0.5
CD2 S ScS 09 08 27.8 +2.7
CD2 sS sS 09 11 57.7 +1.8
CD2 pmax pmax
comp=Z,300nm,1.0s
CD2 pmax pmax
comp=Z,740nm,5.6s
J20K Nowinta River 90.65 11 IAmb IAmb 08 58 14.3
comp=Z,57nm,1.2s
J20K Nowinta River 90.65 11 P P 08 58 13.2 +0.3
baz=204,SNR=22
J20K S S 09 08 21.0 -1.0
baz=204
F10A Beach Ranch, E 90.67 39 P P 08 58 13.6 +0.1
MCARA McCarthy VSAT 90.71 17 P P 08 58 12.5 -0.7
MCARA IAmb IAmb 08 58 15.5
comp=Z,45nm,1.0s
MCARA McCarthy VSAT 90.71 17 P P 08 58 14.0 +0.8
baz=214,SNR=8.5
MCARA S S 09 08 22.8 +0.2
baz=214
KTH Kantishna Hill 90.71 13 P P 08 58 12.3 -1.0
KTH IAmb IAmb 08 58 13.3
comp=Z,38nm,1.0s
CHUM Lake Minchumin 90.73 12 P P 08 58 12.6 -0.7
baz=206,SNR=9.4
TMUT Trail Mountain 90.75 47 P P 08 58 15.6 +1.3
TMUT IAmb IAmb 08 58 17.1
comp=Z,53nm,0.7s
TRF Thorofare Moun 90.75 13 P P 08 58 12.9 -0.7
baz=208,SNR=16
TRF S S 09 08 20.1 -3.2
baz=208
LOGN Logan Glacier 90.81 18 P P 08 58 14.2 +0.3
LOGN IAmb IAmb 08 58 15.5
comp=Z,91nm,1.4s
CTG Chitna Glacier 90.83 18 P P 08 58 14.4 +0.4
baz=216,SNR=8.8
CTG S S 09 08 24.3 +0.3
baz=216
CTGM Chitina Glacie 90.83 18 IAmb IAmb 08 58 15.5
comp=Z,86nm,1.4s
MPU Maple Canyon 90.84 46 P P 08 58 15.8 +1.2
MPU IAmb IAmb 08 58 16.9
comp=Z,16nm,0.8s
PLID Pearl Lake 90.87 40 IAmb IAmb 09 00 25.4
comp=Z,48nm,2.0s
LLLB Lillooet 90.95 33 P P 08 58 15.6 +0.9
HLID Hailey 90.97 42 P P 08 58 16.3 +1.1
HLID Hailey 90.97 42 P P 08 58 16.5 +1.4
baz=237,SNR=8.4
HLID S S 09 08 33.2 +7.0
baz=237
BTO Baotou 90.97 315 eP P 08 58 17.0 +1.9
SPUT South Promonto 90.99 45 IAmb IAmb 08 58 17.5
comp=Z,21nm,1.0s
HARP HAARP 91.01 16 P P 08 58 14.8 +0.1
baz=212,SNR=6.8
HVU Hansel Valley 91.03 44 IAmb IAmb 08 58 17.6
comp=Z,14nm,0.7s
SRU San Rafael Swe 91.11 47 P P 08 58 16.2 +0.3
SRU pmax pmax
comp=Z,30nm,0.8s
SRU San Rafael Swe 91.11 47 P P 08 58 16.2 +0.3
SRU IAmb IAmb 08 58 17.9
comp=Z,30nm,0.8s
CTU Camp Tracy 91.11 45 IAmb IAmb 08 58 17.8
comp=Z,16nm,0.8s
Y22D IRIS PASSCAL I 91.14 53 IAmb IAmb 08 58 18.7
comp=Z,108nm,1.7s
Y22D IRIS PASSCAL I 91.14 53 P P 08 58 17.6 +1.5
baz=241
LENM Lemitar 91.14 53 P P 08 58 16.4 +0.2
P17A Butcher Ranch, 91.15 47 P P 08 58 16.9 +0.9
P17A IAmb IAmb 08 58 18.5
comp=Z,25nm,1.2s
MNTX Cornudas Mount 91.15 56 P P 08 58 15.7 -0.4
MNTX IAmb IAmb 08 58 17.8
comp=Z,16nm,0.8s
MNTX Cornudas Mount 91.15 56 P P 08 58 17.3 +1.3
baz=242
MNTX S S 09 08 36.4 +8.5
baz=242
BPAW Bear Paw Mtn. 91.19 13 P P 08 58 14.4 -1.0
baz=207
JLU Jordanelle 91.26 46 IAmb IAmb 08 58 19.7
comp=Z,65nm,1.9s
MCK McKinley 91.28 14 P P 08 58 15.5 -0.4
MCK pmax pmax
comp=Z,44nm,1.1s
MCK McKinley 91.28 14 P P 08 58 15.4 -0.4
MCK IAmb IAmb 09 00 23.1
comp=Z,44nm,1.1s
MCK McKinley 91.28 14 P P 08 58 15.4 -0.4
baz=209,SNR=8.2
MCK S S 09 08 24.8 -2.9
baz=209
TX31 Lajitas Ar. Si 91.38 58 P P 08 58 18.2 +0.9
TX31 IAmb IAmb 08 58 19.8
comp=Z,77nm,0.8s
TX32 Lajitas Array 91.38 58 P P 08 58 18.4 +1.2
TX32 IAmb IAmb 08 58 19.8
comp=Z,26nm,0.8s
TXAR Lajitas Array 91.38 58 P P 08 58 18.5 +1.3
comp=Z,21nm,0.7s,baz=214,slow=6.4,SNR=307
TXAR pP pP 09 00 19.6 +2.7
comp=Z,5.7nm,1.1s,baz=225,slow=4.6,SNR=4.6
TXAR PP PP 09 02 10.3 +5.4
comp=Z,2.7nm,1.0s,baz=218,slow=7.8,SNR=4.7
TXAR S SKSac 09 07 57.9 +0.2
comp=Z,0.3nm,0.9s,baz=184,slow=10.0,SNR=3.8
TXAR PKKPbc PKKPbc 09 15 34.3 -1.3
comp=Z,2.4nm,0.8s,baz=94,slow=3.6,SNR=21
BNM Barren Site 91.39 53 P P 08 58 18.1 +0.7
PAX Paxson 91.42 15 P P 08 58 16.2 -0.4
baz=212,SNR=7.5
BO01 Tunca 91.49 129 IAmb IAmb 08 58 18.6
comp=Z,37nm,1.0s
SKAG Skagway 91.50 21 S S 09 08 33.5 +3.9
baz=221
BO02 Sierra Bellavi 91.50 129 IAmb IAmb 08 58 19.5
comp=Z,59nm,0.8s
MVCO Mesa Verde 91.53 50 P P 08 58 17.4 -0.6
MVCO Mesa Verde 91.53 50 P P 08 58 18.8 +0.9
baz=240
PV05 Paradox Valley 91.55 49 P P 08 58 17.5 -0.5
TCUT Toone Canyon 91.56 45 IAmb IAmb 08 58 20.2
comp=Z,140nm,1.9s
BWN Browne 91.56 13 IAmb IAmb 08 58 19.8
comp=Z,51nm,1.0s
M26K Nabesna, AK 91.56 17 P P 08 58 17.3 0.0
M26K IAmb IAmb 08 58 18.6
comp=Z,20nm,1.1s

M26K	Nabesna, AK	91.56	17	P	P	08 58 17.8	+0.6
	baz=214,SNR=6.5						
M26K				S	S	09 08 30.6	+0.4
	baz=214						
HWUT	Hardware Ranch	91.71	45	P	P	08 58 19.1	+0.5
YUK3	Moose Creek	91.74	18	P	P	08 58 18.9	+0.7
	baz=216,SNR=23						
YUK3				S	S	09 08 32.4	+0.2
	baz=216						
PV23	Carpenter Ridg	91.80	48	IAmb	IAmb	08 58 21.7	
	comp=Z,17nm,0.7s						
M27K	Edge Creek, AK	91.82	17	P	P	08 58 18.6	0.0
M27K				IAmb	IAmb	08 58 20.2	
	comp=Z,41nm,1.1s						
M27K	Edge Creek, AK	91.82	17	P	P	08 58 19.4	+0.8
	baz=215,SNR=18						
HYT	Haines Junctio	91.85	20	P	P	08 58 19.0	+0.3
HYT	Haines Junctio	91.85	20	P	P	08 58 19.1	+0.4
	baz=219,SNR=5.3						
PV02	Paradox Valley	91.86	49	P	P	08 58 20.0	+0.5
MT09	Talagante	91.87	128	P	P	08 58 19.6	0.0
MT09				IAmb	IAmb	08 58 21.0	
	comp=Z,72nm,1.1s						
ANMO	Albuquerque	91.89	52	pP	pP	09 00 22.0	+2.8
	comp=Z,5.3nm,1.0s,baz=210,slow=8.1,SNR=6.9						
ANMO	Albuquerque	91.89	52	ceP	P	08 58 20.3	+0.7
ANMO				pmax	pmax		
	comp=Z,14nm,0.9s						
ANMO	Albuquerque	91.89	52	P	P	08 58 19.8	+0.2
ANMO	Albuquerque	91.89	52	P	P	08 58 20.5	+0.9
	baz=242						
YUK4	Talbot Arm	91.92	19	P	P	08 58 20.2	+1.1
	baz=218						
PV01	Paradox Valley	91.94	49	P	P	08 58 19.1	-0.7
I21K	Tanana	91.96	12	P	P	08 58 18.7	-0.2
I21K				IAmb	IAmb	09 00 25.2	
	comp=Z,35nm,1.1s						
I21K	Tanana	91.96	12	P	P	08 58 18.8	-0.2
	baz=206,SNR=18						
L26K	Log Cabin Wild	91.99	16	P	P	08 58 19.5	+0.4
	baz=214,SNR=5.5						
L26K				S	S	09 08 33.5	-0.4
	baz=214						
NEA2	Nenana	92.01	13	P	P	08 58 18.2	-1.0
	baz=209,SNR=6.3						
NEA2				S	S	09 08 30.1	-3.9
	baz=209						
PV07	Paradox Valley	92.04	48	P	P	08 58 20.2	0.0
NEW	Newport	92.04	37	S	S	09 08 39.7	+4.7
	baz=235						
MLY	Manley	92.06	12	P	P	08 58 18.6	-0.8
MLY	Manley	92.06	12	P	P	08 58 18.7	-0.8
	baz=207,SNR=9.8						
BVCY	Beaver Creek	92.14	17	P	P	08 58 20.7	+0.8
	baz=216,SNR=9.1						
BVCY				S	S	09 08 35.8	+0.6
	baz=216						
RIDG	Independent Ri	92.22	15	P	P	08 58 19.4	-0.8
RIDG				IAmb	IAmb	08 58 21.2	
	comp=Z,25nm,1.0s						
RIDG	Independent Ri	92.22	15	P	P	08 58 20.2	0.0
	baz=212,SNR=5.6						
RIDG				S	S	09 08 35.9	-0.1
	baz=212						
HDA	Harding Lake	92.31	14	P	P	08 58 19.9	-0.7
HDA				IAmb	IAmb	08 58 20.6	
	comp=Z,14nm,0.6s						
HDA	Harding Lake	92.31	14	P	P	08 58 20.3	-0.3
	baz=211,SNR=11						
HDA				S	S	09 08 34.0	-2.5
	baz=211						
HDA				S	S	09 08 34.0	-2.5
	baz=211						
CCB	Clear Creek Bu	92.33	14	IAmb	IAmb	08 58 20.8	
	comp=Z,40nm,1.3s						
IMAR	Indian Mountai	92.38	11	P	P	08 58 20.7	-0.1
L27K	Beaver Creek,	92.41	17	IAmb	IAmb	08 58 22.4	
	comp=Z,20nm,1.1s						
L27K	Beaver Creek,	92.41	17	P	P	08 58 21.7	+0.6
	baz=215,SNR=6.9						
L27K				S	S	09 08 38.0	+0.4
	baz=215						
I23K	Minto, Yukon-K	92.44	13	P	P	08 58 20.2	-0.9
	baz=208						
RDMU	Red Mountain	92.48	46	P	P	08 58 22.7	+0.5
MDM	Murphy Dome	92.51	13	IAmb	IAmb	09 00 27.1	
	comp=Z,34nm,1.1s						
TCOL	CIGO, UAF Yank	92.51	13	P	P	08 58 20.6	-0.9
TCOL				IAmb	IAmb	09 00 27.1	
	comp=Z,34nm,1.1s						
TCOL	CIGO, UAF Yank	92.51	13	P	P	08 58 20.8	-0.7
	baz=210,SNR=7.6						
TCOL				S	S	09 08 35.0	-3.3
	baz=210						
COLA	College	92.52	13	P	P	08 58 20.6	-0.9
COLA				pmax	pmax		
	comp=Z,31nm,1.0s						
COLA	College	92.52	13	P	P	08 58 20.6	-0.9
COLA				IAmb	IAmb	09 00 27.1	
	comp=Z,31nm,1.0s						
WHY	Whitehorse	92.55	21	S	S	09 08 42.0	+2.9
	baz=221						
BILL	Bilibino	92.56	355	c iP	P	08 58 22.2	+0.6
BILL				e*PP	pwP	09 00 23.7	-1.9
BILL				e*SP	sP	09 01 15.2	+0.5
BILL				e		09 02 14.0	
BILL				eS	SKSac	09 07 58.3	-3.9
BILL				eSS	SS	09 15 11.0	+2.9
BILL				pmax	pmax		
	comp=Z,57nm,1.1s						
MCMT	McKenzie Canyo	92.60	41	P	P	08 58 23.9	+1.2
AHID	Auburn Hatcher	92.60	44	P	P	08 58 23.9	+1.2
AHID				IAmb	IAmb	08 58 25.0	
	comp=Z,25nm,1.5s						
SCRK	Sand Creek	92.63	15	P	P	08 58 22.3	+0.2
	baz=213,SNR=7.9						
SCRK				S	S	09 08 39.7	+0.1
	baz=213						
IL31		92.64	14	P	P	08 58 21.1	-0.9
IL31				IAmb	IAmb	09 00 27.8	
	comp=Z,24nm,1.2s						
ILAR	Eielson Array	92.64	14	P	P	08 58 21.2	-0.8
	comp=Z,11nm,0.9s,baz=217,slow=5.5,SNR=30						
ILAR				pP	pwP	09 00 24.0	-1.7
	comp=Z,9.4nm,1.0s,baz=230,slow=5.6,SNR=10.0						
ILAR				PP	PP	09 02 09.5	-4.3
	comp=Z,4.1nm,1.1s,baz=214,slow=7.8,SNR=3.1						
ILAR				S	SKSac	09 08 01.0	-1.8
	comp=Z,0.1nm,0.6s,baz=250,slow=27,SNR=1.3						
ILAR				PKKPbc	PKKPdf	09 15 31.1	-0.6
	comp=Z,0.4nm,0.4s,baz=334,slow=2.2,SNR=6.1						
ILAR	Eielson Array	92.64	14	P	P	08 58 20.9	-1.2
POKR	Poker Plat Res	92.82	14	P	P	08 58 22.1	-0.8
	baz=210						
POKR				S	S	09 08 38.0	-3.0
	baz=210						
S22A	4UR Ranch, Cre	92.95	50	P	P	08 58 25.7	+1.1
	baz=241,SNR=23						
LZH	Lanzhou	92.96	308	eP	P	08 58 26.0	+1.6
LZH				pP	pP	09 00 24.0	+0.9
LZH				sP	sP	09 01 19.9	+2.6
LZH				SKS	SKSac	09 08 05.5	-0.7
LZH				eS	ScS	09 08 49.4	+4.6
LZH				sS	sS	09 12 17.8	-0.2
LZH				pmax	pmax		
	comp=Z,160nm,1.0s						
LZH				pmax	pmax		
	comp=Z,410nm,4.1s						
H23K	Yukon River	93.00	12	P	P	08 58 23.4	-0.4
MSO	Missoula	93.03	39	S	S	09 08 48.1	+4.2
	baz=237						
RDOG	Red Dog Mine	93.06	7	P	P	08 58 26.2	+2.3
RDOG				IAmb	IAmb	08 58 27.1	
	comp=Z,41nm,1.0s						
RDOG	Red Dog Mine	93.06	7	P	P	08 58 26.2	+2.3
	baz=196,SNR=16						
REDW	Red Top Meadow	93.07	43	IAmb	IAmb	09 00 32.6	
	comp=Z,28nm,1.2s						
K27K	Chicken	93.14	16	P	P	08 58 25.5	+1.1
	baz=215						
O20A	White River Ci	93.14	47	IAmb	IAmb	09 00 38.1	
	comp=Z,31nm,1.8s						
O20A	White River Ci	93.14	47	P	P	08 58 26.0	+0.8
	baz=241						
J26K	Charley River,	93.17	15	P	P	08 58 25.5	+0.9
	baz=213,SNR=12						
J26K				S	S	09 08 44.8	+0.6
	baz=213						
SNOW	Snow King Moun	93.18	43	IAmb	IAmb	09 00 32.6	
	comp=Z,21nm,1.1s						
CO02	Combarbal	93.18	126	P	P	08 58 26.0	+0.3
IMW	Indian Meadow	93.29	43	IAmb	IAmb	09 00 33.8	
	comp=Z,23nm,1.2s						
CMIG	Matias Romero	93.41	73	P	P	08 58 27.4	+0.7
	comp=Z,5.9nm,0.5s,baz=287,slow=3.1,SNR=10						
FLWY	Flagg Ranch	93.53	43	P	P	08 58 24.2	-2.7
FLWY				IAmb	IAmb	09 00 34.5	
	comp=Z,16nm,1.1s						
SMCO	Snowmass	93.54	48	P	P	08 58 27.7	+0.3
PRP	Porcupine Dome	93.58	14	IAmb	IAmb	09 02 18.5	
	comp=Z,26nm,1.4s						
PRP	Porcupine Dome	93.58	14	P	P	08 58 26.1	-0.4
	baz=212,SNR=10						
PRP				S	S	09 08 45.5	-2.3
	baz=212						
BW06	Boulder Array	93.58	44	P	P	08 58 27.3	+0.1
BW06	Boulder Array	93.58	44	P	P	08 58 27.6	+0.3
	baz=240,SNR=6.9						
BW06				S	S	09 08 53.8	+4.6
	baz=240						
PD31	Pinedale Array	93.58	44	P	P	08 58 27.2	-0.1
PDAR	Pinedale Array	93.58	44	P	P	08 58 27.6	+0.4
	comp=Z,2.8nm,0.7s,baz=209,slow=3.2,SNR=32						
PDAR				pP	pwP	09 00 28.7	-0.7
	comp=Z,7.2nm,1.0s,baz=204,slow=3.3,SNR=9.8						
PDAR				PP	PP	09 02 22.4	+0.5
	comp=Z,0.8nm,0.8s,baz=201,slow=7.3,SNR=2.5						
PDAR				PKKPbc	PKKPdf	09 15 29.9	+0.4
	comp=Z,0.6nm,0.8s,baz=74,slow=5.4,SNR=4.3						
PDAR				SKKPbc	SKKPbc	09 18 17.9	-2.3
	comp=Z,0.8nm,1.0s,baz=105,slow=3.5,SNR=3.5						
PDAR	Pinedale Array	93.58	44	P	P	08 58 27.4	+0.2
CO03	El Pedregal	93.60	126	P	P	08 58 27.6	+0.1
CO03				IAmb	IAmb	08 58 28.6	
	comp=Z,42nm,0.8s						
YMR	Madison River	93.67	42	IAmb	IAmb	09 00 36.0	
	comp=Z,27nm,1.4s						
BOZ	Bozeman (W)	93.74	41	P	P	08 58 28.9	+1.1
BOZ				pmax	pmax		
	comp=Z,18nm,1.1s						
BOZ	Bozeman (W)	93.74	41	P	P	08 58 28.9	+1.1
BOZ				IAmb	IAmb	09 00 35.8	
	comp=Z,18nm,1.1s						
BOZ	Bozeman (W)	93.74	41	P	P	08 58 29.1	+1.3
	baz=239						
BOZ				S	S	09 08 55.6	+5.4
	baz=239						
YHH	Holmes Hill	93.80	42	P	P	08 58 29.9	+1.7
YHH				IAmb	IAmb	09 00 37.6	
	comp=Z,22nm,1.4s						
GO04	Tololo Observa	93.86	125	IAmb	IAmb	08 58 31.0	
	comp=Z,19nm,0.8s						
DAWY	Dawson	93.87	17	P	P	08 58 28.2	+0.5
	baz=217,SNR=15						
SDCO	Great Sand Dun	93.88	50	P	P	08 58 29.1	+0.3
SDCO	Great Sand Dun	93.88	50	P	P	08 58 29.4	+0.7
	baz=242,SNR=18						
EGAK	Eagle	93.99	16	P	P	08 58 28.0	-0.2
EGAK				IAmb	IAmb	08 58 28.9	
	comp=Z,20nm,0.7s						
EGAK	Eagle	93.99	16	P	P	08 58 28.5	+0.3
	baz=216,SNR=19						
COLD	Coldfoot	94.12	12	P	P	08 58 28.9	+0.1
COLD				IAmb	IAmb	09 00 35.9	
	comp=Z,27nm,1.3s						
COLD	Coldfoot	94.12	12	P	P	08 58 28.7	-0.1
	baz=208						
COLD				S	S	09 08 52.7	+0.5
	baz=208						
MSTX	Muleshoe	94.14	55	P	P	08 58 29.9	0.0
MSTX	Muleshoe	94.14	55	P	P	08 58 30.2	+0.3
	baz=244						
MSTX				S	S	09 08 58.5	+4.4
	baz=244						
833A	Chaparral WMA,	94.30	61	P	P	08 58 30.7	+0.2
	baz=245						
T25A	Trinidad	94.38	51	P	P	08 58 31.3	+0.4
T25A	Trinidad	94.38	51	P	P	08 58 31.2	+0.3
	baz=243,SNR=6.7						
YNE	Yellowstone No	94.42	42	IAmb	IAmb	09 00 39.3	
	comp=Z,22nm,1.1s						
MAYO	Mayo, Yukon	94.48	19	P	P	08 58 31.7	+1.2
	baz=220,SNR=11						
MAYO				S	S	09 08 56.3	+0.9
	baz=220						
AC04	Llanos de Chal	94.65	124	P	P	08 58 32.4	+0.2
AC04				IAmb	IAmb	08 58 33.6	
	comp=Z,40nm,0.8s						
YAK	Yakutsk	94.65	339	P	P	08 58 31.4	+0.2
	comp=Z,18nm,0.6s,baz=22,slow=0.5,SNR=8.7						
YAK	Yakutsk	94.65	339	eP	P	08 58 30.6	-0.6
YAK				e*PP	pP	09 00 32.0	+1.8
YAK				ePPP	PPP	09 04 42.6	
YAK				eS	SKSac	09 08 08.3	-5.3
YAK				e		09 08 55.1	
YAK				i SS	SS	09 15 46.0	+8.3
YAK				pmax	pmax		
	comp=Z,66nm,1.0s						
YAK				pmax	pmax		
	comp=N,7.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.1s						
YAK				smax	smax		
	comp=N,230nm,2.0s						
YAK				smax	smax		
	comp=E,98nm,2.0s						
YAK	Yakutsk	94.65	339	P	P	08 58 30.7	-0.6
YAK				IAmb	IAmb	08 58 32.0	
	comp=Z,55nm,0.8s						
Q24A	Divide	94.69	49	P	P	08 58 33.1	+0.6
	baz=242						
ZON	Zonda	94.70	128	P	P	08 58 33.0	+0.5
ZON				pmax	pmax		
	comp=Z,22nm,1.1s						
ZON	Zonda	94.70	128	P	P	08 58 33.0	+0.5
ZON				IAmb	IAmb	08 58 33.5	
	comp=Z,22nm,1.1s						
ISCO	Idaho Springs	94.76	48	P	P	08 58 32.8	0.0
ISCO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ISCO	Idaho Springs	94.76	48	P	P	08 58 32.8	0.0
ISCO	Idaho Springs	94.76	48	P	P	08 58 33.1	+0.4
	baz=242						
JCT	Junction City	94.89	59	P	P	08 58 33.3	+0.1
JCT				pmax	pmax		
	comp=Z,41nm,1.9s						
JCT	Junction City	94.89	59	P	P	08 58 33.3	+0.1
JCT				IAmb	IAmb	08 58 34.4	
	comp=Z,41nm,1.9s						
JCT	Junction City	94.89	59	P	P	08 58 33.6	+0.4
	baz=245						
JCT				S	S	09 09 04.2	+3.6
	baz=245						
MMPY	Sheldon Lake,	95.17	21	P	P	08 58 34.4	+0.7
	baz=224						
MMPY				S	S	09 09 03.2	+1.7
	baz=224						
BMAR	Burnt Mountain	95.40	13	P	P	08 58 35.1	+0.5
TGTN	Hyland Airport	95.41	23	P	P	08 58 35.6	+0.8
	baz=227						
TGTN				S	S	09 09 06.5	+2.9
	baz=227						
K22A	Casper	95.48	46	S	S	09 09 12.1	+6.8
	baz=242						
TRQA	Tornquist	95.59	136	P	P	08 58 36.7	+0.4
TRQA				pmax	pmax		
	comp=Z,18nm,0.8s						
TRQA	Tornquist	95.59	136	P	P	08 58 36.7	+0.4
TRQA				IAmb	IAmb	08 58 37.2	
	comp=Z,18nm,0.8s						
TRQA	Tornquist	95.59	136	eP	P	08 58 36.9	+0.5
GO03	Copiap	95.60	123	P	P	08 58 36.7	+0.1
GO03				IAmb	IAmb	08 58 38.2	
	comp=Z,32nm,0.9s						
ABTX	Abilene, Hawle	95.92	57	P	P	08 58 37.3	-0.5
ABTX				IAmb	IAmb	08 58 39.3	
	comp=Z,16nm,1.1s						
ABTX	Abilene, Hawle	95.92	57	P	P	08 58 37.8	0.0
	baz=245						
EPYK	Eagle Plains	96.38	16	P	P	08 58 38.9	-0.1
EPYK				IAmb	IAmb	08 58 39.6	
	comp=Z,15nm,0.8s						
EPYK	Eagle Plains	96.38	16	Pdiff	P	08 58 39.3	+0.2
	baz=220						
KSCO	Kaye Shedlock’	96.47	50	Pdiff	P	08 58 41.5	+1.2
	baz=244						
ULN	Ulaanbaatar	96.49	320	d iP	P	08 58 40.4	+0.3
ULN				pmax	pmax		
	comp=Z,67nm,1.5s						
ULN	Ulaanbaatar	96.49	320	P	P	08 58 40.3	+0.2
ULN	Ulaanbaatar	96.49	320	P	P	08 58 40.6	+0.5
ULN	Ulaanbaatar	96.49	320	P	P	08 58 39.6	-0.5
	comp=Z,3µmcomp=Z,162nm,1.4s						
435B	Jarrell	96.75	59	Pdiff	P	08 58 41.3	-0.3
	baz=246						
AC02	Maricunga	96.83	123	P	P	08 58 43.7	+1.0
AC02				IAmb	IAmb	08 58 46.0	
	comp=Z,17nm,1.0s						
SONM	Songino Array	96.86	320	P	P	08 58 42.0	+0.2
	comp=Z,9.2nm,0.6s,baz=140,slow=3.8,SNR=36						
SONM				PP	PP	09 02 42.5	-4.2
	comp=Z,7.8nm,1.0s,baz=123,slow=7.1,SNR=7.0						
SONM				PKKPbc	PKKPbc	09 15 21.5	-0.6
	comp=Z,4.2nm,0.7s,baz=266,slow=3.0,SNR=16						
SONM	Songino Array	96.86	320	P	P	08 58 41.7	-0.1
MTO3	Montecristo	97.21	78	P	P	08 58 44.0	-0.1
GTA	Gaotai	97.30	310	⇓P	P	08 58 44.7	+0.7
GTA				pP	pwP	09 00 51.0	+2.6
GTA				SKS	SKSac	09 08 26.7	-2.0
GTA				S	S	09 09 24.2	+3.4
GTA				pmax	pmax		
	comp=Z,37nm,1.3s						
GTA				pmax	pmax		
	comp=Z,200nm,7.6s						
RSSD	Black Hills	97.77	45	P	Pdif	08 58 45.1	-0.9
RSSD				pmax	pmax		
	comp=Z,14nm,1.1s						
RSSD	Black Hills	97.77	45	P	Pdif	08 58 45.1	-0.9
RSSD				IAmb	IAmb	09 00 53.4	
	comp=Z,14nm,1.1s						
INK	Inuvik	98.66	16	P	Pdif	08 58 48.9	-0.2
	comp=Z,8.6nm,0.9s,baz=240,slow=4.6,SNR=6.8						
INK				PP	PP	09 02 57.3	-2.2
	comp=Z,3.3nm,1.0s,baz=266,slow=5.5,SNR=3.1						
INK				PKKPbc	PKKPbc	09 15 16.0	-1.5
	comp=Z,1.4nm,0.8s,baz=99,slow=3.9,SNR=4.8						
INK	Inuvik	98.66	16	Pdif	Pdif	08 58 48.5	-0.5
INK				IAmb	IAmb	08 58 49.9	
	comp=Z,18nm,1.2s						
LVC	Limon Verde	99.19	120	P	Pdif	08 58 54.8	+1.7
	comp=Z,6.4nm,0.9s,baz=254,slow=6.1,SNR=6.5						
LVC				PP	PP	09 03 03.1	-1.2
	comp=Z,5.7nm,0.8s,baz=238,slow=8.8,SNR=7.3						
LVC	Limon Verde	99.19	120	eP	PP	09 03 02.9	-1.4
LVC	Limon Verde	99.19	120	eP	Pdif	08 58 55.4	+2.2
JTS	Las Juntas de	99.57	83	P	Pdif	08 58 55.7	+1.2
	comp=Z,6.0nm,0.8s,baz=8.3,slow=7.4,SNR=4.5						
JTS				PP	PP	09 03 04.3	-3.1
	comp=Z,12nm,1.0s,baz=270,slow=3.5,SNR=5.0						
ZAK	Zakamensk	99.85	321	eP	Pdif	08 58 55.0	0.0
ZAK				pmax	pmax		
	comp=Z,12nm,1.3s						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
PALK	Pallekele	100.55	273	PP	PP	09 03 11.8	-2.9
	comp=Z,14nm,0.8s,baz=146,slow=6.0,SNR=4.2						
YKA	Yellowknife Ar	101.10	26	pP	pP	09 01 01.6	+1.6
	comp=Z,1.0nm,0.6s,baz=219,slow=33,SNR=3.0						
TIXI	Tiksi	101.73	346	P	Pdif	08 59 02.6	-0.1
	comp=Z,5.3nm,0.9s,baz=114,slow=5.6,SNR=3.5						
TIXI				PP	PP	09 03 19.1	-3.2
	comp=Z,4.6nm,0.8s,baz=116,slow=11,SNR=4.7						
TIXI	Tiksi	101.73	346	i P	Pdif	08 59 02.0	-0.7
TIXI	Tiksi	101.73	346		Pdif	08 59 02.5	-0.2
LPAZ	La Paz	103.03	115	Pdiff	Pdif	08 59 12.6	+2.0
	comp=Z,2.7nm,0.7s,baz=238,slow=4.6,SNR=13						
LPAZ				PKiKP	PKiKP	09 03 26.7	-0.5
	comp=Z,2.1nm,0.8s,baz=260,slow=2.5,SNR=4.1						
LPAZ				PKKPbc	PKKPbc	09 15 04.5	0.0
	comp=Z,2.4nm,0.7s,baz=54,slow=2.1,SNR=9.1						
CPUP	Villa Florida	105.82	129	PP	PP	09 03 52.0	-0.4
	comp=Z,4.4nm,1.0s,baz=256,slow=4.4,SNR=4.5						
CPUP				PKKPbc	PKKPbc	09 14 53.5	-2.3
	comp=Z,3.8nm,1.0s,baz=47,slow=2.5,SNR=5.3						
ETMB	Extrema	107.86	110	eP	PP	09 04 06.3	-1.5
SIV	San Ignacio	108.96	118	Pdiff	Pdif	08 59 38.6	+2.4
	comp=Z,1.0nm,0.9s,baz=196,slow=2.4,SNR=5.4						
SIV				PKiKP	PKiKP	09 03 37.0	-0.5
	comp=Z,6.4nm,1.2s,baz=239,slow=4.5,SNR=7.4						
SIV				PP	PP	09 04 15.2	-0.3
	comp=Z,3.3nm,0.8s,baz=243,slow=9.0,SNR=8.0						
SIV				PKKPbc	PKKPbc	09 14 46.3	+0.3
	comp=Z,5.1nm,0.6s,baz=63,slow=2.5,SNR=29						
SIV				PKKPab	PKKPab	09 15 01.1	-0.9
	comp=Z,3.7nm,0.8s,baz=126,slow=7.3,SNR=7.3						
TKL	Tuckaleechee C	109.28	59	PKiKP	PKiKP	09 03 36.5	-1.0
	comp=Z,2.1nm,0.7s,baz=220,slow=8.0,SNR=2.3						
TKL				PP	PP	09 04 15.3	-2.8
	comp=Z,5.3nm,0.9s,baz=246,slow=2.7,SNR=4.2						
TKL				PKKPbc	PKKPbc	09 14 46.3	+1.3
	comp=Z,5.1nm,1.1s,baz=72,slow=9.5,SNR=4.2						
ZSN	Zaisan	110.25	314	i PKiKP	PKiKP	09 03 38.3	-0.7
	baz=314						
ZSN				ePP	PP	09 04 23.0	-1.6
	baz=314						
ZSN	Zaisan	110.25	314	i PKIKP	PKiKP	09 03 38.2	-0.7
ZSN				e		09 04 22.9	
PTLB	Pontes e Lacer	110.81	119	eP	PKiKP	09 03 40.5	-0.4
PTLB	Pontes e Lacer	110.81	119	eP	PKiKP	09 03 37.6	-3.3
POO	Poona	110.89	281	eP	PKiKP	09 03 39.0	-2.0
ZALV	Zalesovo Beam	111.73	321	PKiKP	PKiKP	09 03 40.4	-1.1
	comp=Z,6.1nm,0.7s,baz=153,slow=1.0,SNR=9.8						
ZALV				PP	PP	09 04 32.6	-2.3
	comp=Z,3.0nm,0.7s,baz=114,slow=6.6,SNR=3.9						
ZALV				Sdiff		09 09 30.5	
	comp=Z,0.6nm,0.4s,baz=201,slow=40,SNR=1.3						
ZALV				PKKPbc	PKKPbc	09 14 35.4	-2.2
	comp=Z,1.3nm,0.4s,baz=292,slow=2.9,SNR=4.9						
ZALV				PKKPab	PKKPab	09 14 47.5	+1.1
	comp=Z,2.7nm,0.7s,baz=268,slow=4.2,SNR=5.6						
MK31	Makanchi Array	111.80	313	i PKIKP	PKiKP	09 03 41.2	-0.7
MKAR	Makanchi Array	111.80	313	Pdiff	Pdif	08 59 48.6	+0.5
	comp=Z,3.6nm,0.5s,baz=92,slow=5.5,SNR=42						
MKAR				PKiKP	PKiKP	09 03 41.2	-0.8
	comp=Z,7.2nm,0.7s,baz=177,slow=0.3,SNR=15						
MKAR				PP	PP	09 04 35.5	-0.1
	comp=Z,5.8nm,0.8s,baz=90,slow=8.5,SNR=4.7						
MKAR				SKP		09 06 26.1	
	comp=Z,2.4nm,0.5s,baz=153,slow=0.6,SNR=5.9						
MKAR				Sdiff		09 09 32.5	
	comp=Z,1.5nm,0.6s,baz=103,slow=5.5,SNR=5.4						
MKAR				PKKPbc	PKKPbc	09 14 37.0	-0.3
	comp=Z,5.6nm,0.7s,baz=285,slow=3.8,SNR=26						
MKAR				PKKPab	PKKPab	09 14 47.5	+1.2
	comp=Z,13nm,0.7s,baz=280,slow=4.4,SNR=31						
MKAR				SKKPbc	SKKPbc	09 17 25.2	-5.8
	comp=Z,1.0nm,0.6s,baz=268,slow=4.4,SNR=3.7						
MKAR	Makanchi Array	111.80	313	Pdif	Pdif	08 59 48.3	+0.2
MKAR				PKiKP	PKiKP	09 03 41.0	-0.9
SDV	Santo Domingo	112.06	90	eP	PKiKP	09 03 42.2	-1.4
SHLS	Shalkode	112.98	308	ePKiKP	PKiKP	09 03 43.0	-1.4
	baz=308						
SHLS				ePP	PP	09 04 39.9	-4.3
	baz=308						
SHLS	Shalkode	112.98	308	i PKIKP	PKiKP	09 03 43.0	-1.4
SHLS				e		09 04 39.9	
NRIK	Noril'sk	113.04	337	PKiKP	PKiKP	09 03 42.9	-0.7
	comp=Z,2.1nm,0.3s,baz=0.0,slow=2.1,SNR=1.7						
NRIK				PP	PP	09 04 38.3	-5.3
	comp=Z,10.0nm,1.1s,baz=117,slow=7.3,SNR=11						
NRIK	Noril'sk	113.04	337	c iPKIKP	PKiKP	09 03 43.6	0.0
UZB	Uzynbulak	113.29	308	ePKiKP	PKiKP	09 03 44.4	-0.7
	baz=308						
UZB	Uzynbulak	113.29	308	i PKIKP	PKiKP	09 03 44.4	-0.7
KPKS	Kokpek	113.60	309	ePKiKP	PKiKP	09 03 44.7	-0.9
	baz=309						
KPKS				ePP	PP	09 04 45.6	-2.9
	baz=309						
KPKS	Kokpek	113.60	309	i PKIKP	PKiKP	09 03 44.7	-0.9
KPKS				e		09 04 45.5	
SATY	Saty	113.72	308	ePKiKP	PKiKP	09 03 45.2	-0.7
	baz=308						
SATY				ePP	PP	09 04 47.9	-1.4
	baz=308						
SATY	Saty	113.72	308	i PKIKP	PKiKP	09 03 45.1	-0.7
SATY				e		09 04 47.8	
TDK	Taldyqorghan	114.10	310	ePP	PP	09 04 50.2	-1.6
	baz=310						

ARXS Arharly 114.35 309 *e*PKIKP PKPdf 09 03 46.2 -0.8
MDOK Medeo 114.71 308 *e*PKiKP PKPdf 09 03 46.9 -0.9
baz=308
MDOK *e*PP **PP** **09 04 53.3 -3.0**
baz=308
MDOK Medeo 114.71 308 *i* PKIKP PKPdf 09 03 46.8 -1.0
MDOK *e* 09 04 53.2
KSH Kashi 114.79 304 PKP **PKiKP** **09 03 49.2 +1.2**
SADO Sadowa 114.85 50 PKP PKPdf 09 03 46.7 -1.1
comp=Z,1.8nm,0.5s,baz=211,slow=7.4,SNR=1.9
CHKK Chushkaly 114.88 309 *e*PKiKP PKPdf 09 03 46.7 -1.2
baz=309
KURK Kurchatov 114.91 316 PKIKP PKPdf 09 03 47.2 -0.5
KURK Kurchatov 114.91 316 PKPdf 09 03 47.2 -0.5
KURK **SKiKP** **09 06 32.2 +0.6**
KURBB Kurchatov Arra 114.95 316 PKP PKPdf 09 03 47.2 -0.6
comp=Z,18nm,0.8s,baz=100,slow=2.0,SNR=53
KURBB PP **PP** **09 04 54.4 -3.1**
comp=Z,7.0nm,0.9s,baz=93,slow=6.1,SNR=11
KURBB SKP 09 06 32.2
comp=Z,6.7nm,1.0s,baz=104,slow=2.0,SNR=5.3
KURBB PKKPbc **PKKPbc** **09 14 26.6 -0.1**
comp=Z,7.6nm,0.7s,baz=278,slow=4.0,SNR=15
KURBB PKKPab **PKKPab** **09 14 33.7 +1.5**
comp=Z,7.9nm,0.7s,baz=282,slow=5.1,SNR=14
KURBB SKKPbc SKKPbc 09 17 17.2 -4.5
comp=Z,0.8nm,0.2s,baz=281,slow=4.2,SNR=4.2
ULHL Ulahol 115.12 307 P **PKPdf** **09 03 48.7 0.0**
SNR=11
MTBS Maitube 115.15 308 *e*PKiKP **PKPdf** **09 03 47.7 -0.8**
baz=308
MTBS *e*PP **PP** **09 04 57.5 -1.7**
baz=308
KUU Kurty 115.35 309 *e*PKiKP **PKPdf** **09 03 47.6 -1.2**
baz=309
KUU *e*PP **PP** **09 04 55.1 -5.4**
baz=309
KUU Kurty 115.35 309 *i* PKIKP **PKPdf** **09 03 47.6 -1.2**
BOOM Boomskoye usch 115.39 307 PKIKP **PKPdf** **09 03 48.7 -0.5**
BOOM Boomskoye usch 115.39 307 PKPdf **PKPdf** **09 03 48.7 -0.5**
NIL Nilore 115.67 297 PKIKP **PKPdf** **09 03 49.3 -0.5**
NIL Nilore 115.67 297 **PKPdf** **09 03 49.2 -0.5**
TKM2 Tokmak 2 115.72 308 P **PKiKP** **09 03 49.2 -0.6**
SNR=9.0
KZA Kyzart 115.82 307 P **PKiKP** **09 03 50.7 +0.4**
SNR=8.1
CHMS Chumysh 116.34 308 P **PKPdf** **09 03 50.6 -0.2**
SNR=6.6
AAK Ala-Archa 116.47 307 PKP **PKPdf** **09 03 50.2 -1.0**
comp=Z,3.8nm,0.4s,baz=197,slow=0.8,SNR=8.1
AAK PKKPbc **PKKPbc** **09 14 21.9 +0.3**
comp=Z,11nm,0.7s,baz=218,slow=3.6,SNR=22
AAK Ala-Archa 116.47 307 PKPdf **PKPdf** **09 03 50.6 -0.6**
AAK Ala-Archa 116.47 307*c* *i*PKIKP **PKiKP** **09 03 51.5 +0.3**
AAK pmax pmax
comp=Z,24nm,1.3s
SGDS Sogindy 116.50 308 *e*PKiKP **PKPdf** **09 03 50.6 -0.5**
baz=308
SGDS *e*PP **PP** **09 05 04.5 -4.0**
baz=308
USP Ospenovka 116.56 308 P **PKPdf** **09 03 51.0 -0.2**
SNR=9.7
AML Almayashu 116.97 306 P **PKiKP** **09 03 52.7 +0.2**
SNR=17
AML Almayashu 116.97 306 PKPdf **PKPdf** **09 03 51.6 -0.8**
EKS2 Erkin-Say 116.99 307 P **PKPdf** **09 03 52.1 0.0**
SNR=7.9
BTLS Baital 117.15 310⇓ *i*PKiKP **PKPdf** **09 03 51.7 -0.6**
baz=310
BTLS *e*PP **PP** **09 05 10.4 -2.4**
baz=310
BTLS Baital 117.15 310*d* *i*PKIKP **PKPdf** **09 03 51.6 -0.6**
BTLS *e* 09 05 10.4
PTGA Pitinga 117.66 105 PKP **PKPdf** **09 03 53.6 -0.6**
comp=Z,9.8nm,0.6s,baz=268,slow=3.3,SNR=33
PTGA SKP 09 06 35.8
comp=Z,4.4nm,0.5s,baz=290,slow=4.5,SNR=6.6
PTGA PKKPbc **PKKPbc** **09 14 18.6 +1.7**
comp=Z,6.5nm,0.9s,baz=112,slow=3.8,SNR=11
PTGA Pitinga 117.66 105 PKPdf **PKPdf** **09 03 53.2 -0.9**
PCRV Puerto La Cruz 118.02 91 PKP **PKPdf** **09 03 53.5 -1.3**
comp=Z,4.3nm,0.7s,baz=154,slow=18,SNR=1.3
PLCV Puerto La Cruz 118.06 91 **PKPdf** **09 03 53.5 -1.4**
BOAV Boa Vista 118.58 101 *e*P **PKPdf** **09 03 54.8 -1.1**
BTK Batken 118.80 304 PKIKP **PKPdf** **09 03 54.9 -0.8**
BTK Batken 118.80 304 PKPdf **PKPdf** **09 03 54.9 -0.8**
I60A Shoreham 118.86 52 P **PKPdf** **09 03 55.1 -0.5**
baz=263
GAR Garm 119.02 302 **PKPdf** **09 03 55.7 -0.5**
L61B Northampton 119.14 54 P **PKPdf** **09 03 55.6 -0.5**
baz=263
BDFB Brasilia 119.27 126 PKP **PKPdf** **09 03 56.7 -0.6**
comp=Z,10.0nm,0.6s,baz=212,slow=0.8,SNR=17
BDFB SKP 09 06 38.8
comp=Z,3.6nm,0.7s,baz=347,slow=4.3,SNR=3.4
BDFB PKKPbc **PKKPbc** **09 14 12.7 +1.0**
comp=Z,13nm,0.7s,baz=57,slow=3.4,SNR=16
KBL Kabul 119.27 297 PKIKP **PKPdf** **09 03 56.7 -0.2**
KBL Kabul 119.27 297 PKPdf **PKPdf** **09 03 56.7 -0.2**
KBL Kabul 119.27 297 P **PKiKP** **09 03 57.4 +0.4**
SNR=19
J61A Chester 119.34 53 P **PKPdf** **09 03 56.2 -0.2**
baz=263
SJG San Juan 119.36 82 PKP **PKPdf** **09 03 56.0 -1.2**
comp=Z,9.5nm,0.5s,baz=27,slow=1.3,SNR=5.5
SJG SKP 09 06 38.7
comp=Z,115nm,1.4s,baz=263,slow=4.9,SNR=6.0
SJG San Juan 119.36 82 PKIKP **PKPdf** **09 03 56.0 -1.2**
SJG San Juan 119.36 82 **PKPdf** **09 03 55.8 -1.4**
KKAR Karatay Array 119.43 307 PKIKP **PKPdf** **09 03 56.4 -0.3**
KKAR Karatay Array 119.43 307 **PKPdf** **09 03 56.4 -0.3**
HUMP Col San Antoni 119.64 82 **PKPdf** **09 03 56.7 -1.0**
IUG luzhnay 119.67 306⇓ *i*PKiKP **PKPdf** **09 03 57.3 0.0**
baz=306
IUG luzhnay 119.67 306*d* *i*PKIKP **PKPdf** **09 03 57.3 0.0**
J62A Henniker 119.86 53 P **PKPdf** **09 03 57.3 -0.2**
baz=264
CHGR Chuyangaron 119.86 302 PKPdf **PKPdf** **09 03 57.7 0.0**
LBNH Lisbon 119.89 52 P **PKPdf** **09 03 57.3 -0.2**
baz=264
MTP Monte Pirata 119.89 82 **PKPdf** **09 03 57.1 -1.2**
HRV Adam Dziewonsk 119.97 54 P **PKPdf** **09 03 57.2 -0.5**
baz=264
K63A Dunstable 120.01 53 P **PKPdf** **09 03 57.4 -0.4**
baz=264
BVAR Borovoye Array 120.18 319 PKP **PKPdf** **09 03 57.4 -0.4**
comp=Z,15nm,0.5s,baz=193,slow=5.8,SNR=49
BVAR PP **PP** **09 05 29.6 -3.6**
comp=Z,4.2nm,0.7s,baz=144,slow=5.3,SNR=3.5
BVAR PKKPbc **PKKPbc** **09 14 08.1 -0.4**
comp=Z,5.1nm,0.7s,baz=238,slow=8.5,SNR=14
BRVK Borovoye 120.25 319*c* *i*PKIKP **PKPdf** **09 03 57.6 -0.3**
BRVK pmax pmax
comp=Z,32nm,1.0s
J63A Strafford 120.40 53 P **PKPdf** **09 03 58.0 -0.5**
baz=264
DIAM Diamantina, MG 120.59 132 *e*P **PKPdf** **09 03 59.6 -0.3**
I63A Otisfield 120.83 52 P **PKiKP** **09 03 59.4 -0.1**
baz=265
ALF01 Guarapari-ES 120.89 136 *e*P **PKiKP** **09 04 00.9 +0.6**
G62A West of Eustis 120.96 51 P **PKPdf** **09 03 59.0 -0.6**
baz=266
PEXB Peixe 121.27 123 *e*P **PKPdf** **09 04 00.9 -0.1**
F62A Pittston Farm, 121.41 50 P **PKPdf** **09 04 00.2 -0.2**
baz=266
MC01 Montes Claros 121.49 130 *e*P **PKiKP** **09 04 02.4 +0.6**
I64A Boothbay 121.50 52 P **PKPdf** **09 04 00.2 -0.3**
baz=266
BOSA Boshof 121.65 207 PKP **PKPdf** **09 04 01.5 -0.1**
comp=Z,3.6nm,0.4s,baz=186,slow=1.8,SNR=16
BOSA PKKPbc **PKKPbc** **09 14 02.8 -0.9**
comp=Z,2.7nm,0.7s,baz=354,slow=4.2,SNR=6.7
NEEM North Greenlan 121.84 11 *i* P **PKPdf** **09 04 00.5 -0.2**
NEEM IAmb IAmb 09 04 01.5
comp=Z,23nm,0.9s
PKME Peaks-Kenny Pk 121.84 51 P **PKPdf** **09 04 00.8 -0.4**
baz=267
SJMB Sao Joao De Ma 121.97 134 *e*P **PKPdf** **09 04 01.8 -0.6**
F63A Nahmakanta, Br 122.00 50 P **PKPdf** **09 04 01.2 -0.3**
baz=267
RIB01 Linhares ES 122.05 135 *e*P **PKPdf** **09 04 02.1 -0.3**
D62A Allapoint, All 122.10 48 P **PKPdf** **09 04 00.9 -0.8**
baz=268
BSFB Barra de Sao F 122.10 134 *e*P **PKPdf** **09 04 02.2 -0.3**
MALB Monte Alegre 122.10 109 *e*P **PKiKP** **09 04 03.2 +0.3**
JANB Januaria 122.34 128 *e*P **PKPdf** **09 04 02.9 -0.2**
F64A Sherman 122.53 50 P **PKPdf** **09 04 02.0 -0.5**
baz=268
G65A Princeton 123.06 51 P **PKPdf** **09 04 03.3 -0.3**
baz=268
NAN01 Guarapari, ES 123.29 134 *e*P **PKiKP** **09 04 05.1 0.0**
SCHQ Schefferville 123.33 39 PKP **PKPdf** **09 04 02.8 -1.0**
comp=Z,1.7nm,0.3s,baz=332,slow=3.1,SNR=6.4
PRPB Parauapebas 123.56 116 *e*P **PKPdf** **09 04 04.9 -0.6**
SDBA SAO DESIDERIO 123.65 125 *e*P **PKPdf** **09 04 05.5 -0.2**
SMTB Santa Maria do 123.79 120 *e*P **PKPdf** **09 04 05.7 -0.3**
GUA01 Guaratinga, BA 124.40 133 *e*P **PKPdf** **09 04 06.7 -0.3**
MCPB Macapa, AP 124.76 109 *e*P **PKPdf** **09 04 07.9 +0.1**
HRA Herat 124.79 296 PKPdf **PKPdf** **09 04 07.3 -0.2**
JLN Jalan Bani Buh 124.89 281 P **PKiKP** **09 04 08.3 +0.1**
SNR=6.1
LMN Caledonia Moun 125.01 50 PKPdf **PKPdf** **09 04 06.7 -0.6**
CMC01 Camacan, BA 125.47 132 *e*P **PKPdf** **09 04 08.6 -0.5**
SPITS Spitsbergen Ar 125.47 356 PKP **PKPdf** **09 04 06.7 -0.6**
comp=Z,55nm,0.9s,baz=91,slow=5.3,SNR=16
SPITS PP **PP** **09 06 04.2 -3.2**
comp=Z,6.0nm,0.6s,baz=82,slow=10,SNR=6.0
SPITS SKP 09 06 51.7
comp=Z,11nm,0.6s,baz=65,slow=4.7,SNR=5.5
SPITS Spitsbergen Ar 125.47 356 PKIKP **PKPdf** **09 04 07.4 +0.1**
SPB2 Spitsbergen Ar 125.47 356 **PKPdf** **09 04 07.4 +0.1**
SVE Sverdlovsk 125.50 324 *e*PKIKP **PKPdf** **09 04 07.7 -0.2**
SVE pmax pmax
comp=Z,47nm,1.1s
WSAR Wadi Sarin 125.85 282 P **PKiKP** **09 04 10.3 +0.2**
MHTO MHTO 125.88 279 P **PKPdf** **09 04 09.4 -0.2**
SNR=13
SMDO Samad 126.33 282 P **PKiKP** **09 04 11.1 -0.1**
SNR=7.0
BIDO Bidbid 126.37 282 P **PKPdf** **09 04 10.6 +0.1**
SNR=5.4
GDU01 Guandu, BA 126.59 131 *e*P **PKPdf** **09 04 11.1 -0.1**
ARU Arti 126.71 323 PKP **PKPdf** **09 04 10.4 +0.2**
comp=Z,13nm,0.4s,baz=119,slow=1.0,SNR=36
ARU Arti 126.71 323 *i* PKIKP **PKPdf** **09 04 10.2 0.0**
ARU 09 06 13.0
ARU 09 10 21.0
ARU Arti 126.71 323 PKPdf **PKPdf** **09 04 09.5 -0.6**
MDP Montagnes des 126.82 102 PKP **PKPdf** **09 04 11.6 -0.2**
comp=Z,16nm,0.5s,baz=251,slow=2.5,SNR=27
ABKAR Akbulak array 126.89 314 PKPdf **PKPdf** **09 04 10.9 +0.1**
BSY Bisya 127.01 281 P **PKPdf** **09 04 11.4 -0.5**
SNR=7.4
TMAB Tom-Au,PA,Br 127.09 113 *e*P **PKPdf** **09 04 12.1 -0.2**
GBN Guysborough 127.33 50 PKPdf **PKiKP** **09 04 12.1 -0.2**
SUMG Summit 127.48 13 *i* P **PKPdf** **09 04 12.0 +0.2**
SUMG IAmb IAmb 09 04 13.3
comp=Z,26nm,1.0s
SUMG Summit 127.48 13 *i* PKIKP **PKPdf** **09 04 11.9 +0.2**
SUMG pmax pmax
comp=Z,26nm,1.0s
SUMG Summit 127.48 13 PKPdf **PKPdf** **09 04 12.0 +0.2**
SOHO SOHO 127.93 282 *i* PKPdf **PKPdf** **09 04 12.9 -0.6**
SNR=21
AKTO Aktyubinsk 128.00 316 PKP **PKPdf** **09 04 13.1 +0.3**
comp=Z,24nm,0.8s,baz=86,slow=4.0,SNR=39
AKTO SKPbc SKPdf 09 06 41.7 -15
comp=Z,4.8nm,0.7s,baz=105,slow=3.0,SNR=3.8
NBPN Ponto Novo - B 128.12 128 *e*P **PP** **09 06 26.0 +0.5**
NBPN Ponto Novo - B 128.12 128 *e*P **PKPdf** **09 04 14.0 -0.2**
NBPN Ponto Novo - B 128.12 128 *e*P **PP** **09 06 26.4 +0.8**
MDH Madha 128.39 284 PKPdf **PKPdf** **09 04 13.5 -0.9**
UOSS Minazif 128.40 283 *i* PKPdf **PKPdf** **09 04 13.7 -0.7**
SNR=9.8
UOSS Minazif 128.40 283 PKPdf **PKPdf** **09 04 13.8 -0.6**
GEYT Alibeck 128.44 300 PKP **PKiKP** **09 04 14.8 -0.1**
comp=Z,24nm,0.8s,baz=216,slow=1.3,SNR=20
GEYT PP **PP** **09 06 23.7 -4.4**
comp=Z,1.5nm,0.3s,baz=307,slow=28,SNR=2.8
GEYT SKPbc SKPdf 09 06 43.9 -14
comp=Z,22nm,1.0s,baz=220,slow=5.8,SNR=11
GYA0B ALIBECK ARRAY 128.44 300 PKPdf **PKPdf** **09 04 14.0 -0.1**
HATD Hatta, Dubai 128.44 283 *i* PKPdf **PKPdf** **09 04 14.2 -0.3**
SNR=16
HATD Hatta, Dubai 128.44 283 P **PKPdf** **09 04 14.1 -0.3**
SNR=11
ASHO Ashiyiah 128.47 283 *i* PKPdf **PKPdf** **09 04 14.1 -0.5**
SNR=6.8
ASHO Ashiyiah 128.47 283 P **PKPdf** **09 04 14.1 -0.5**
SNR=8.1
MSFE Esma-Masafi 128.52 284 *i* PKPdf **PKPdf** **09 04 14.3 -0.4**
SNR=11
MASF Masafi 128.52 284 P **PKPdf** **09 04 14.3 -0.4**
SNR=5.5
ALNE Al Ain 128.61 282 PKPdf **PKPdf** **09 04 14.1 -0.7**
ALNE Al Ain 128.61 282 P **PKPdf** **09 04 14.7 -0.1**
SNR=6.2
SHME Shamm 128.67 285 *i* PKPdf **PKPdf** **09 04 14.3 -0.6**
SNR=7.1
NAZ Nazwa, Dubai 128.89 283 *i* PKiKP **PKiKP** **09 04 16.0 -0.1**
SNR=6.4
FAQ Al Faqa, Dubai 128.90 283 PKPdf **PKPdf** **09 04 14.9 -0.4**
DY2G Dye2 129.24 22 *i* P **PKPdf** **09 04 15.0 0.0**
DY2G IAmb IAmb 09 04 15.9
comp=Z,11nm,0.7s
NBLA Lagarto - SE 129.74 130 *e*P SKPbc 09 06 47.3 -1.6
NBLA Lagarto - SE 129.74 130 *e*P **PKPdf** **09 04 17.1 -0.2**
ROSB Rosrio 130.08 117 *e*P **PKPdf** **09 04 17.8 -0.2**
ROSB Rosrio 130.08 117 *e*P **SKPbc** **09 06 46.1 -4.1**
KIRV Kirov 130.82 328 PKP **PKiKP** **09 04 18.9 0.0**
comp=Z,38nm,0.5s,baz=186,slow=1.4,SNR=15
KIRV SKPbc **SKPbc** **09 06 51.5 +0.2**
comp=Z,213nm,0.6s,baz=92,slow=1.4,SNR=43
KIRV Kirov 130.82 328*c* *i*PKIKP **PKPdf** **09 04 18.2 +0.3**
PRGR Permogore 131.25 333 *e*PKIKP **PKPdf** **09 04 14.2 -4.4**
PRGR *e* 09 06 53.1
PRGR pmax pmax
comp=Z,10.0nm,0.5s
NBPS Pedro II - PI 131.34 120 *e*P **PKPdf** **09 04 20.3 -0.2**
NBPS Pedro II - PI 131.34 120 *e*P **SKPbc** **09 06 53.4 -1.5**
HAMF Hammerfest 131.50 349 *e* 09 06 53.3
NBMA Muriti-CE 131.50 126 *e*P **PKPdf** **09 04 20.6 -0.1**
NBMA Muriti-CE 131.50 126 *e*P **SKPbc** **09 06 53.9 -1.4**
NBAN Anadia - AL 131.72 130 *e*P **PKPdf** **09 04 20.6 -0.4**
APA Apatity 131.85 343⇓ *i*PKIKP PKPpre 09 04 13.9
APA *i* *PP pPKPdf 09 06 15.6 -11
APA *i* 09 06 54.2
APA pmax pmax
comp=Z,12nm,0.8s
NBPB Pedra_Branca-C 132.06 123 *e*P **PKPdf** **09 04 21.8 +0.1**
ARA0 ARCESS Array S 132.11 348 *e* 09 06 56.3
ARCES ARCESS Array B 132.11 348 PKP **PKPdf** **09 04 19.7 -0.4**
comp=Z,15nm,0.5s,baz=55,slow=0.9,SNR=22
ARCES SKPbc **SKPbc** **09 06 56.0 +0.3**
comp=Z,78nm,1.1s,baz=20,slow=3.9,SNR=24
ARCES SKKPbc **SKKPbc** **09 16 21.0 -4.5**
comp=Z,1.2nm,0.6s,baz=198,slow=3.2,SNR=7.0
ARCES SKKP 09 17 06.8
comp=Z,8.5nm,1.1s,baz=316,slow=5.1,SNR=4.5
NBLV Livramento - P 132.85 127 *e*P **PKPdf** **09 04 23.4 +0.1**
KTK1 Kautokeino 132.99 348 *e* 09 06 57.5
JETT Jettan, Norway 132.99 350 *e* 09 07 01.2
NBMO Morrinhos-CE 133.10 120 *e*P **PKPdf** **09 04 23.7 +0.1**
TSUM Tsumeb 133.13 204 **PKiKP** **09 04 24.7 -0.4**
TRO Tromso 133.15 351 *e* 09 06 59.4
NBRF Rio Formoso - 133.22 130 *e*P **PKPdf** **09 04 22.3 -1.5**
KIBK Kibwezi 133.79 241 **PKPdf** **09 04 23.7 -1.4**
NBPA Parau_RN 133.79 126 *e*P **PKPdf** **09 04 25.0 +0.1**
NBCL Cascavel-CE 133.89 123 *e*P **PKiKP** **09 04 26.3 -0.2**
BELG Belogornoye 133.91 320 PKhKP PKPpre 09 04 11.6
comp=Z,16nm,0.5s,baz=84,slow=1.0,SNR=9.4
BELG PKP **PKPdf** **09 04 24.0 +0.1**
comp=Z,128nm,1.0s,baz=105,slow=2.1,SNR=17
BELG SKPbc **SKPbc** **09 07 02.9 +0.8**
comp=Z,230nm,1.2s,baz=270,slow=0.9,SNR=9.4
BELG SKKPbc **SKKPbc** **09 16 19.6 +1.5**
comp=Z,13nm,0.9s,baz=183,slow=7.4,SNR=4.4
BELG Belogornoye 133.91 320 *i* PKIKP **PKPdf** **09 04 24.2 +0.3**
KLMR Klimovskoe 134.18 334 *e*PKIKP **PKPdf** **09 04 23.0 -1.1**
KLMR *e* 09 06 59.8
KLMR pmax pmax
comp=Z,27nm,1.0s
KLMR Klimovskoe 134.18 334 *e*PKPdf **PKPdf** **09 04 23.1 -1.1**
KLMR AMP 09 04 25.7
comp=Z,27nm,1.0s
KLMR *e*PP **PP** **09 06 59.8 -3.6**
RCBR Riachuelo 134.63 127 *e*P **SKPbc** **09 07 04.2 -1.6**
RCBR Riachuelo 134.63 127 *e*P **PKiKP** **09 04 27.4 -0.7**
NBPV Pedro Velho 134.67 128 *e*P **PKPdf** **09 04 26.9 +0.3**
KMBO Kilima Mbogo 135.15 241 PKP **PKPdf** **09 04 26.8 -1.0**
comp=Z,10nm,0.9s,baz=19,slow=7.7,SNR=4.6
KMBO SKP 09 07 10.2
comp=Z,16nm,0.9s,baz=86,slow=3.6,SNR=14
STEI Steigen 135.25 351 *e*PKPdf PKPpre 09 04 18.5
STEI *e* 09 07 06.3
LOF Lofoten 135.28 352 *e* 09 07 06.2
FAUS Fauske 135.76 351 *e*PKPdf PKPpre 09 04 19.7
FAUS *e* 09 07 08.1
MAK Makhachkala 136.25 307 *i* P **Pdif** **09 01 32.5 -4.3**
MAK *i* 09 04 30.8
MAK *e* 09 06 36.3
MAK *e*PPP PPP 09 10 18.4
MAK *e*SS SS 09 24 35.6 +0.1
MAK pmax pmax
comp=Z,214nm,1.0s
QRN Al-Qurain 136.31 287 *e*P **SKPbc** **09 07 11.8 +1.4**
KBD Kabd 136.54 287 *e*P **SKPbc** **09 07 12.7 +1.6**
UMR Umm Al-Rimmam 136.56 288 *e*P **SKPbc** **09 07 12.2 +1.2**
NBB15 Halsa Church 136.59 352 *e* **SKPbc** **09 07 11.0 +1.0**
RDF Al-Radifah 136.64 287 *e*P **SKPbc** **09 07 12.2 +0.9**
NBB13 Alf Garage 136.74 352 *e* **SKPbc** **09 07 11.0 +0.6**
KONS Konsvik 136.89 352 *e* **SKPbc** **09 07 11.4 +0.6**
MIB Mutribah 136.91 288 *e*P **SKPbc** **09 07 12.9 +0.8**
RST Umm Al-Ruwaisa 137.18 288 *e*P **SKPbc** **09 07 13.6 +0.7**
GROC Groznyy 137.44 308 *e*PKIKP **PKPdf** **09 04 31.3 +0.5**
GROC *e* 09 07 21.6
GROC *e* 09 07 33.3
GROC *e* 09 10 50.6
GROC pmax pmax
comp=Z,183nm,1.2s
BORG Borgarnes 137.45 13 PKKP **PKKPdf** **09 14 04.2 -2.0**
comp=Z,21nm,0.9s,baz=22,slow=5.2,SNR=3.0
VRH Novokhopyorsk 137.76 321 *e*PKHKP PKPpre 09 04 24.2
VRH pmax pmax
comp=Z,40nm,0.9s
MOS Moscow 137.83 328 *e*PKIKP **PKPdf** **09 04 29.0 -2.1**
MOS *e* 09 06 29.5
MOS *e* 09 07 25.6
MOS pmax pmax
comp=Z,36nm,0.7s
FINES FINESS Array B 138.56 341 PKhKP PKPpre 09 04 21.6
comp=Z,25nm,0.9s,baz=58,slow=3.1,SNR=41
FINES PKP **PKPdf** **09 04 32.6 +0.4**
comp=Z,24nm,0.5s,baz=91,slow=3.7,SNR=14
FINES SKPbc **SKPbc** **09 07 16.0 +0.3**
comp=Z,64nm,0.5s,baz=44,slow=3.9,SNR=28
FINES SKKPbc **SKKPbc** **09 15 57.1 -4.1**
comp=Z,2.8nm,0.7s,baz=192,slow=5.3,SNR=7.4
OBN Obninsk 138.67 328 PKhKP PKPpre 09 04 24.9
comp=Z,8.3nm,0.3s,baz=59,slow=8.1,SNR=3.3
OBN SKPbc **SKPbc** **09 07 15.6 -0.6**
comp=Z,5.4nm,0.3s,baz=62,slow=4.0,SNR=8.5
OBN Obninsk 138.67 328 *e*PKIKP **PKPdf** **09 04 30.3 -2.3**
OBN *e* 09 10 50.9
OBN *e*SS SS 09 25 05.9 +3.4
OBN pmax pmax
comp=Z,36nm,0.9s
OBN pmax pmax
comp=Z,62nm,1.2s
GNI Garni 138.73 304 PKPdf PKPpre 09 04 27.6
ZEI Tsey 138.88 308 *i* PKHKP PKPpre 09 04 24.9
ZEI pmax pmax
comp=Z,12nm,1.0s
NSS Namsos 138.91 352 *e* 09 07 16.9
GOF Gofitskoye 138.95 311⇑ *e*PKIKP **PKPdf** **09 04 32.7 -0.8**
VORD Divnogorie 139.26 321 *e*PKHKP PKPpre 09 04 23.8
VORD pmax pmax
comp=Z,10.0nm,0.9s
KBZ Khabaz 139.39 310 PKhKP PKPpre 09 04 25.7
comp=Z,8.5nm,0.8s,baz=84,slow=3.3,SNR=9.6
KBZ PKP **PKPdf** **09 04 34.1 -0.2**
comp=Z,9.1nm,0.8s,baz=142,slow=3.0,SNR=8.7
KBZ SKPbc **SKPbc** **09 07 19.1 +0.6**
comp=Z,6.9nm,0.8s,baz=40,slow=2.4,SNR=7.6
AKH Akhalkalaki 139.45 306⇑ P PKPpre 09 04 27.8
KIV Kislovodsk 139.48 310 PKPdf **PKPdf** **09 04 32.2 -2.5**
KIV Kislovodsk 139.48 310 *e*PKIKP **PKPdf** **09 04 34.0 -0.6**
KIV pmax pmax
comp=Z,20nm,1.1s
MEF Metsahovi 140.04 341 *e*P PKPpre 09 04 28.4
RAF Rauma 140.13 343 *e*P PKPpre 09 04 28.7
CHVG Ch'k'valeri 140.20 308⇑ P **PKPdf** **09 04 31.1 -4.8**
CHVG Ch'k'valeri 140.20 308⇑ PKHKP PKPpre 09 04 31.1
SENK Senkaya-Erzuru 140.46 305 *e*P PKPpre 09 04 31.4
VSU Vasula 140.63 337 *e*P PKPpre 09 04 30.7
BCA Borcka 140.82 306⇓ P PKPpre 09 04 31.4
BCA Borcka 140.82 306 *e*P PKPpre 09 04 31.9
AAL Aland 141.31 343 *e*P PKPpre 09 04 31.5
MOL Molde 141.33 354 *e*PKPdf **PKPdf** **09 04 36.8 -0.4**
MOL *e* 09 07 23.5
MTSE Matsula 141.41 339 *e*P **PKPdf** **09 04 33.0 -4.5**
SOC Sochi 141.65 310 *e*PKHKP PKPpre 09 04 32.7
SOC *i* 09 04 37.8
SOC *e* 09 06 41.0
SOC *e* 09 07 37.4
SOC pmax pmax
comp=Z,20nm,0.6s
SOC pmax pmax
comp=Z,21nm,0.7s
AKN Aaknes 141.77 354 *e*PKPdf **PKPdf** **09 04 37.8 -0.3**
AKN *e* 09 07 25.1
BNGB Bingl 142.01 303 *e*P **PKPdf** **09 04 36.2 -3.2**
YEDI Yedisu-Bingol 142.03 304 *e*P **PKPdf** **09 04 36.1 -3.4**
NC303 NORSAR Array S 142.15 350 PKPdf **PKPdf** **09 04 35.3 -3.5**
UPP Uppsala 142.18 345 *e*P **PKPdf** **09 04 33.9 -4.9**
KTUT Trabzon 142.29 306⇑ P **PKPdf** **09 04 37.2 -2.5**
KTUT Trabzon 142.29 306 *e*P **PKPdf** **09 04 36.7 -2.9**
NB2 NORSAR Subarra 142.35 350 PKP **PKPdf** **09 04 35.2 -4.0**
comp=Z,25nm,0.6s,baz=16,slow=3.2
NB2 NORSAR Subarra 142.35 350 PKPab **PKPdf** **09 04 35.2 -4.0**
baz=16,slow=3.2
NOA NORSAR Array B 142.35 350 PKHKP PKPpre 09 04 35.2
comp=Z,78nm,0.9s,baz=16,slow=4.8,SNR=171
NOA SKPbc **SKPbc** **09 07 25.9 +0.2**
comp=Z,17nm,0.8s,baz=16,slow=4.2,SNR=13
NAO01 NORSAR Array S 142.59 350 PKPdf **PKPdf** **09 04 36.6 -2.9**
NC602 NORSAR Array S 142.59 350 *e*PKPdf **PKPdf** **09 04 36.2 -3.3**
SLIT Slitere, Latvi 142.77 339 *e*P **PKPdf** **09 04 36.9 -3.0**
HFS Hagfors 142.78 348 SKKPbc SKKPbc 09 15 40.0 -4.5
comp=Z,3.6nm,0.8s,baz=194,slow=3.0,SNR=3.6
ANN Anapa 142.82 313 *i* PKHKP PKPpre 09 04 37.8
ANN pmax pmax
comp=Z,393nm,0.9s
HYA Hoyanger 142.84 354 *e*PKPdf **PKPdf** **09 04 37.6 -2.3**
ISAL Salakas 142.98 335 *e*P **PKPdf** **09 04 38.8 -1.6**
PTK Pertek 143.01 303 *e*P **PKiKP** **09 04 51.4 +6.7**
MNK Minsk 143.02 332 *i* PKIKP PKPbc 09 04 39.3 +0.8
MNK *i* 09 07 56.9
MNK *i* 09 10 56.7
MNK *i* PPP PPP 09 11 13.7
MNK *i* SS SS 09 25 53.0 +0.7
MNK *i* SSS SSS 09 31 24.7
MNK pmax pmax
comp=E,15nm,0.8s
MNK pmax pmax
comp=N,110nm,0.8s
MNK pmax pmax
comp=Z,640nm,0.8s
MNK MLR MLR
comp=Z,639nm,15.0s
MNK MLR MLR
comp=N,393nm,15.0s
MNK Minsk 143.02 332 *i* PKP PKPbc 09 04 39.4 +0.8
comp=E,15nm,0.8s
MNK *i* PKP PKPbc 09 04 39.4 +0.8
comp=N,110nm,0.8s
MNK *i* PKP PKPbc 09 04 39.4 +0.8
comp=Z,640nm,0.8s,baz=47
MNK *i* pPKP pPKPdf 09 06 48.2 +1.0
MNK *i* SKP 09 07 27.6
MNK *i* PP **PP** **09 07 57.0 -0.3**
MNK *i* PKS **PKSdf** **09 08 15.0 -0.9**
MNK *i* SKS **SKSdf** **09 10 56.8 -1.5**
MNK *i* PPP PPP 09 11 13.8
MNK *i* SKKS **SKKSdf** **09 20 13.2 -3.5**
MNK *i* SS **SS** **09 25 53.0 +0.8**
MNK *i* SSS SSS 09 31 24.7
MNK *i* LRM MLR 10 08 13.3
comp=Z,639nm,14.8s
MNK *i* LRM MLR 10 08 15.0
comp=E,32nm,14.8s
MNK *i* LRM MLR 10 08 16.6
comp=N,393nm,14.8s
SUE Sulen 143.07 355 *e*PKPbc PKPbc 09 04 38.3 -0.1

IIGN	Ignalina	143.10	334	eP	PKPbc	09 04 39.1	+0.3
SVRC	Sivrice-ELAZID	143.18	302	eP	PKPdf	09 04 40.7	-0.8
NACGM	Naroch	143.20	333	i PKP	PKPbc	09 04 39.0	-0.1
OSL	Oslo	143.48	350	ePKPab	PKPbc	09 04 39.9	+0.2
ILIC	ilic-Erzincan	143.53	304	eP	PKPdf	09 04 41.9	-0.1
ASK	Askoy	143.60	355	ePKPab	PKPbc	09 04 40.2	+0.1
BER	Bergen	143.69	355	ePKPab	PKPbc	09 04 40.6	+0.3
URFA	Urfa	143.72	301	eP	PKPdf	09 04 42.4	0.0
ARPR	Arapgir-MALATY	143.78	304	eP	PKPdf	09 04 43.2	+0.7
PABE	Paberze	143.85	336	eP	PKPdf	09 04 41.5	-0.4
PABE	Paberze	143.85	336		PKPab	09 04 41.5	+0.3
KONO	Kongsberg	143.92	351	ePKPbc	PKPbc	09 04 40.6	-0.6
PBUR	Paburge	144.17	338	eP	PKPab	09 04 42.2	-0.1
LRW	Lerwick	144.20	0	eP	PKPbc	09 04 41.6	-0.4
RSDY	Resadiye-TOKAT	144.23	306	eP	PKPab	09 04 44.1	+0.9
H10S3	ASCENSION HYDR	144.32	156	PKP	PKPab	09 04 45.3	+1.5
	baz=200,slow=74,SNR=9.7						
H10S2	ASCENSION HYDR	144.32	156	PKP	PKPab	09 04 44.3	+0.5
	baz=20,slow=74,SNR=20						
BLS5	Blasjo	144.53	353	ePKPab	PKPab	09 04 43.5	-0.2
DARE	Darende-Malaty	144.54	303	eP	PKPab	09 04 45.5	+1.0
SVSK	Karacayir	144.60	305	eP	PKPab	09 04 45.7	+1.2
TOKT	Tokat	144.83	306	eP	PKPab	09 04 45.5	0.0
AKASG	Malin Array Be	144.85	326	PKP	PKPdf	09 04 43.0	-0.8
	comp=N,248nm,0.6s,baz=43,slow=4.4,SNR=344						
AKASG				SKPbc	SKiKP	09 07 32.5	+0.2
	comp=N,19nm,0.5s,baz=44,slow=2.7,SNR=13						
AKASG				SKKPbc	SKKPab	09 15 32.7	-1.2
	comp=N,8.9nm,0.9s,baz=246,slow=3.9,SNR=22						
AKASG	Malin Array Be	144.85	326c	iPKIKP	PKPdf	09 04 43.9	+0.1
AKASG				pmax	pmax		
	comp=Z,249nm,0.6s						
AKASG	Malin Array Be	144.85	326		PKPdf	09 04 43.2	-0.6
AKBB	Malin Array Si	144.85	326c	iPKIKP	PKPdf	09 04 43.4	-0.4
AKBB	Malin Array Si	144.85	326	PKPdf	PKPdf	09 04 43.3	-0.4
KMY	Karmoy	144.85	354	ePKPab	PKPab	09 04 44.5	-0.4
SIM	Simferopol'	144.95	315	i PKIKP	PKPdf	09 04 44.3	+0.2
SIM				pmax	pmax		
	comp=Z,575nm,0.8s						
KVT	Kavak	144.98	308	eP	PKPab	09 04 46.3	+0.2
GAZ	Gaziantep	145.03	301	eP	PKPbc	09 04 45.7	+0.3
GAZ	Gaziantep	145.03	301	PKPbc	PKPbc	09 04 45.2	-0.2
KMRS	Kahramanmaras	145.21	301	eP	PKPab	09 04 46.9	-0.1
BORU	Boraas	145.28	347	i P	PKPbc	09 04 45.0	-0.4
SNOP	Sinop	145.29	309	eP	PKPab	09 04 46.7	-0.4
DIKM	Dikmen	145.37	309	⇑P	PKPab	09 04 47.5	+0.1
DIKM	Dikmen	145.37	309	eP	PKPab	09 04 47.0	-0.5
ASCN	Ascension	145.38	156	PKPbc	PKPbc	09 04 47.0	0.0
SARI	SarD1z-Kayseri	145.39	303	eP	PKPab	09 04 47.7	-0.2
H10N3	ASCENSION HYDR	145.41	156	PKPbc	PKPab	09 04 48.3	+0.4
	baz=187,slow=5.0,SNR=7.6						
HOMB	Homborsund	145.41	351	⇓iP	PKPbc	09 04 45.9	+0.2
HOMB				IAmb	IAmb	09 04 46.6	
	comp=Z,242nm,1.0s						
HOMB	Homborsund	145.41	351	ePKPbc	PKPbc	09 04 45.8	+0.1
H10N1	ASCENSION HYDR	145.41	156	PKPbc	PKPab	09 04 48.2	+0.3
	baz=187,slow=5.0,SNR=8.8						
H10N2	ASCENSION HYDR	145.42	156	PKPbc	PKPab	09 04 47.9	-0.1
	baz=187,slow=5.0,SNR=6.4						
SNART	Snartemo	145.51	352	⇓iP	PKPbc	09 04 46.2	+0.1
SNART				IAmb	IAmb	09 04 47.0	
	comp=Z,350nm,1.1s						
SNART	Snartemo	145.51	352	ePKPbc	PKPbc	09 04 46.1	+0.1
ONAU	Onsala	145.67	348	i P	PKPbc	09 04 45.9	-0.6
BNN	Bunyan	145.73	304	eP	PKPbc	09 04 48.3	+0.8
BLEU	Blekinge	145.78	343	i P	PKPbc	09 04 46.2	-0.6
FABU	Falkenberg	145.88	347	i P	PKPbc	09 04 46.6	-0.5
ASF	Jabal al Asfar	145.90	292	SKKPbc	SKKPbc	09 15 30.4	+0.3
	comp=Z,11nm,1.0s,baz=225,slow=2.9,SNR=8.1						
YOZ	Yozgat	145.92	305	eP	PKPbc	09 04 48.5	+0.5
LEWI	Lewis, Hebride	145.93	6	eP	PKPbc	09 04 46.7	-0.6
TAHT	Tahtakopru-Hat	145.98	299	eP	PKPab	09 04 49.2	-0.9
MLA1	Latheron	145.99	2	eP	PKPbc	09 04 47.1	-0.3
YAYL	Yayladag	146.10	299	eP	PKPbc	09 04 49.6	+1.0
DEL	Delary	146.11	345	⇓iP	PKPbc	09 04 47.5	-0.2
DEL				IAmb	IAmb	09 04 48.3	
	comp=Z,72nm,0.7s						
BZK	Bozkurt	146.16	310	⇑P	PKPab	09 04 49.7	-0.9
BZK	Bozkurt	146.16	310	eP	PKPbc	09 04 49.3	+0.9
BZK	Bozkurt	146.16	310	PKPbc	PKPbc	09 04 49.0	+0.7
CEYT	Ceyhan	146.21	301	eP	PKPbc	09 04 49.8	+1.1
CORM	Corum	146.28	307	eP	PKiKP	09 04 50.2	-1.1
GOET	G??ttrup	146.49	350	eP	PKPbc	09 04 49.2	+0.4
GOET				IAmb	IAmb	09 04 50.0	
	comp=Z,193nm,1.0s						
HWQ	Hawqa	146.49	296	eP	PKPbc	09 04 50.4	+0.6
KRTS	Karatas	146.59	300	eP	PKiKP	09 04 51.1	-0.7
CMRD	Camardi-Nigde	146.66	302	eP	PKPbc	09 04 51.1	+1.0
BJUU	Bjuv	146.66	346	i P	PKPbc	09 04 49.3	0.0
RCY	Rachaya	146.68	294	eP	PKPbc	09 04 51.2	+0.9
KAC	Achnashellach	146.70	4	eP	PKPbc	09 04 49.4	0.0
MCD	Coleburn Disti	146.72	2	eP	PKPbc	09 04 48.6	-0.8
BHL	Bhannes	146.78	295	eP	PKPbc	09 04 51.3	+0.8
QRWL	Qaraoun	146.80	295	eP	PKiKP	09 04 51.7	-0.8
MDO	Dochfour	146.81	3	eP	PKPbc	09 04 49.3	-0.4
SORM	Soroca	146.83	323	⇓P	PKPbc	09 04 50.0	0.0
SORM	Soroca	146.83	323	⇓PKP2	PKPbc	09 04 50.0	0.0
KPL	Plockton	146.83	5	eP	PKPdf	09 04 47.3	+0.4
PURM	Purcari	146.85	320	⇓P	PKPbc	09 04 50.5	+0.4
DQRL	Deir Qamar	146.87	295	eP	PKiKP	09 04 51.9	-0.8
CANT	Cankiri	146.88	308	eP	PKPbc	09 04 51.3	+0.8
MUD	Monsted U'grnd	147.06	350	⇓iP	PKPbc	09 04 50.5	+0.1
MUD				IAmb	IAmb	09 04 51.2	
	comp=Z,83nm,0.8s						
MUD	Monsted U'grnd	147.06	350	⇓iPKP2	PKPbc	09 04 50.4	+0.1
MUD				pmax	pmax		
	comp=Z,83nm,0.8s						
BSD	Bornholm Skovb	147.07	343	eP	PKPbc	09 04 49.9	-0.6
BSD	Bornholm Skovb	147.07	343	⇓iP	PKPbc	09 04 50.2	-0.2
BSD				IAmb	IAmb	09 04 51.2	
	comp=Z,131nm,0.9s						
BSD	Bornholm Skovb	147.07	343	⇓iPKP2	PKPbc	09 04 50.2	-0.2
BSD				pmax	pmax		
	comp=Z,130nm,0.9s						
KURC	Kurucasile-Bar	147.07	310	eP	PKPbc	09 04 49.9	-1.0
MMLI	Mount Malkishu	147.12	293	eP	PKiKP	09 04 52.9	-0.2
BR131	Keskin Array S	147.14	306	PKP2	PKPbc	09 04 51.1	-0.2
BR131	Keskin Array S	147.14	306	PKPbc	PKPbc	09 04 51.1	-0.2
BRTR	Keskin Array B	147.14	306	PKPbc	PKPbc	09 04 50.9	-0.5
	comp=Z,78nm,0.8s,baz=140,slow=4.3,SNR=101						
BRTR				SKPbc	SKiKP	09 07 39.3	+1.7
	comp=Z,5.1nm,1.0s,baz=145,slow=5.7,SNR=2.6						
BRTR	Keskin Array B	147.14	306	eP	PKPbc	09 04 51.4	+0.1
BRTR	Keskin Array B	147.14	306	PKP2	PKPbc	09 04 51.4	+0.1
BRTR	Keskin Array B	147.14	306	PKPbc	PKPbc	09 04 51.4	+0.1
BRTR				PKPab	PKPab	09 04 55.4	+0.6
COP	Copenhagen	147.16	346	eP	PKPbc	09 04 50.7	+0.1
COP				IAmb	IAmb	09 04 51.1	
	comp=Z,820nm,0.7s						
COP	Copenhagen	147.16	346	ePKP2	PKPbc	09 04 50.7	+0.1
COP				pmax	pmax		
	comp=Z,820nm,0.7s						
MERS	Mersin	147.20	301	eP	PKPbc	09 04 52.0	+0.5
KIS	Kishinev	147.21	321	i sPKP		09 07 03.0	
KIS	Kishinev	147.21	321	ePP	PP	09 07 50.0	-32
KIS	Kishinev	147.21	321d	iPKP2	PKPbc	09 04 51.0	-0.1
KIS				pmax	pmax		
	comp=Z,200nm,3.4s						
KIS	Kishinev	147.21	321	⇓iPKP	PKPbc	09 04 51.0	-0.1
	comp=Z,200nm,3.4s						
KIS	Kishinev	147.21	321	i pPKP	pPKPdf	09 06 56.0	+1.4
MILM	Milestii Mici	147.25	321	⇓P	PKPbc	09 04 51.1	-0.1
SERE	Sereflikochisa	147.42	305	eP	PKPbc	09 04 52.3	+0.2
KIZK	Mersin	147.58	300	eP	PKPbc	09 04 52.9	+0.5
HRFI	Mount Harif	147.58	288	eP	PKiKP	09 04 53.8	-0.4
AFSR	Afar-Bala (An	147.64	306	eP	PKPbc	09 04 53.3	+0.7
SULT	Sultanhani-AKS	147.66	304	eP	PKPbc	09 04 52.6	-0.1
EIL	Elat	147.66	287	PKPbc	PKiKP	09 04 53.8	-0.5
	comp=Z,162nm,0.8s,baz=132,slow=3.9,SNR=112						
EIL	Elat	147.66	287	eP	PKiKP	09 04 53.9	-0.4
ANTO	Ankara	147.71	307	eP	PKiKP	09 04 53.5	-0.7
ANTO	Ankara	147.71	307	PKP2	PKPbc	09 04 53.1	+0.4
ANTO	Ankara	147.71	307	PKPbc	PKPbc	09 04 53.1	+0.4
ANTO				PKPab	PKPab	09 04 58.2	+1.1
LOD	Lodumlu	147.73	307	eP	PKPbc	09 04 53.4	+0.6
BR231	Keskin MP Arra	147.74	307		PKPbc	09 04 53.3	+0.5
BR231				PKPab	PKPab	09 04 58.1	+1.0
EREN	Erenkoy	147.74	298	eP	PKiKP	09 04 53.6	-0.7
SILI	Silifke-Mersin	147.77	300	eP	PKPbc	09 04 53.5	+0.6
KULU	Kulu	147.81	305	eP	PKiKP	09 04 53.8	-0.7
BEL	Belsk	147.88	334	ePKPbc	PKiKP	09 04 53.4	-0.6
BEL				ePKPab	PKPab	09 04 57.8	+0.6
BEL				epPKPbc	pPKPbc	09 06 57.9	+0.3
KEBE	Keben-Mersin	147.92	300	eP	PKPbc	09 04 54.0	+0.7
LVV	L'vov	147.96	329	ePKP2	PKPbc	09 04 53.0	+0.1
IKL	Isikli	147.99	300	eP	PKPbc	09 04 53.8	+0.4
VASR	Vaslui	147.99	321	⇓P	PKPbc	09 04 53.6	+0.5
GKP	Gorka Klasztor	148.00	339	ePKPbc	PKPbc	09 04 53.4	+0.5
GKP				ePKPab	PKPab	09 04 57.8	+0.2
GKP	Gorka Klasztor	148.00	339	eP	PKPbc	09 04 53.0	+0.1
EAB	Aberfoyle	148.06	4	eP	PKPbc	09 04 52.9	0.0
AKKU	Akkuyu-Mersin	148.11	300	eP	PKPbc	09 04 53.9	+0.2
TEVE	Tevekalti-Mers	148.14	300	eP	PKiKP	09 04 54.6	-0.6
TLCR		148.17	318	⇓P	PKPbc	09 04 54.0	+0.4
TLCR		148.17	318	⇓PKP2	PKPbc	09 04 54.0	+0.4
VLDR	Vladesti	148.26	320	⇑P	PKiKP	09 04 54.6	-0.4
LFK	Lefkose	148.30	298	eP	PKPbc	09 04 54.9	+0.6
BERE	Bereket-Mersin	148.33	300	eP	PKiKP	09 04 55.1	-0.6
JURR	Jurilovca	148.35	318	⇑P	PKiKP	09 04 54.6	-0.6
VARL	Varlezi	148.37	320	⇑P	PKiKP	09 04 54.8	-0.4
SCTR	Scanteiesti	148.41	320	⇓P	PKiKP	09 04 55.0	-0.3
TATR	Tatarca	148.41	319	⇑P	PKPbc	09 04 54.2	0.0
CSS	Mathiatis	148.52	298	eP	PKiKP	09 04 55.4	-0.5
CSS	Mathiatis	148.52	298		PKPbc	09 04 55.2	+0.4
CSS				PKPab	PKPab	09 05 01.3	+0.9
LADK	Ladik-KONYA	148.53	304	eP	PKPbc	09 04 54.7	-0.2
GHRR		148.54	321	⇑P	PKiKP	09 04 55.7	+0.2
TPGR	Topolog	148.58	318	⇓P	PKiKP	09 04 55.2	-0.5
SLCR	Slobozia Conac	148.59	320	⇓P	PKiKP	09 04 55.5	-0.1
CFR	Carcaliu	148.59	319	⇑P	PKiKP	09 04 55.4	-0.2
CFR	Carcaliu	148.59	319	⇑PKP2	PKiKP	09 04 55.4	-0.2
KONT	Konya--Tatoy	148.60	304	eP	PKPbc	09 04 54.9	-0.1
IZVR	Izvoarele	148.61	320	⇓P	PKiKP	09 04 55.7	0.0
MDUB	Mudurnu	148.66	309	eP	PKPbc	09 04 55.4	+0.3
MDUB	Mudurnu	148.66	309	PKPbc	PKPbc	09 04 55.4	+0.3
MDUB				PKPab	PKPab	09 05 01.8	+0.9
SKMB	Sankelmark Bun	148.67	348	ePKPbc	PKPbc	09 04 54.9	+0.5
	baz=21,slow=2.3						
KIZT	Kizilcal	148.69	306	eP	PKiKP	09 04 55.8	-0.5
KWP	Kalwaria Pacla	148.71	330	ePKPbc	PKiKP	09 04 55.5	-0.3
KWP				ePKPab	PKPab	09 05 01.4	+0.7
KWP				epPKPbc	pPKPab	09 07 01.6	0.0
KWP	Kalwaria Pacla	148.71	330	PKP2	PKiKP	09 04 55.5	-0.3
KWP	Kalwaria Pacla	148.71	330		PKiKP	09 04 55.5	-0.3
LNIZ	Loecknitz	148.71	343	ePKPbc	PKiKP	09 04 55.3	-0.3
	baz=21,slow=2.3						
LNIZ				ePKPab	PKPab	09 05 01.5	+1.1
	baz=21,slow=2.3						
BIZ	Bicaz	148.76	323	⇓P	PKPdf	09 04 51.4	+1.0
AUSIV	SIVRIHISAR	148.77	307	eP	PKPbc	09 04 55.6	+0.2
SVRH	Sivrihisar-ESK	148.78	307	eP	PKPbc	09 04 55.5	+0.1
TIRR	Tirgusor	148.79	317	⇑P	PKPbc	09 04 55.5	+0.3
TIRR	Tirgusor	148.79	317		PKPbc	09 04 55.4	+0.3
TIRR				PKPab	PKPab	09 05 02.6	+1.5
BUR08	Bucovina Ar. S	148.81	325		PKPbc	09 04 54.9	-0.4
BUR08				PKPab	PKPab	09 05 02.9	+1.6
BUR01	Bucovina Ar. S	148.82	325	⇑P	PKiKP	09 04 56.6	+0.3
BURAR	Bucovina Array	148.82	325	⇓P	PKiKP	09 04 56.3	0.0
BURAR	Bucovina Array	148.82	325	⇓PKP2	PKiKP	09 04 56.3	0.0
BURAR	Bucovina Array	148.82	325	PKPbc	PKiKP	09 04 56.0	-0.3
BURAR				PKPab	PKPab	09 05 02.4	+1.1
LEF	Lefka	148.85	298	⇓P	PKPbc	09 04 55.9	+0.3
LEF	Lefka	148.85	298	eP	PKiKP	09 04 56.1	-0.5
ODBI	Odobesti	148.91	320	⇓P	PKiKP	09 04 56.6	+0.3
MFTR	Murfatlar	148.92	317	⇓P	PKiKP	09 04 56.2	-0.2
HARR	Harsova	148.97	318	⇑P	PKiKP	09 04 56.6	+0.1
TLBR	Topalu	148.97	318	⇓P	PKiKP	09 04 56.3	-0.2
MANR	Mangalia	149.00	316	⇓P	PKiKP	09 04 56.6	0.0
VRI	Vrincioaia	149.04	321	⇓P	PKPbc	09 04 55.8	+0.1
VRI	Vrincioaia	149.04	321	eP	PKPbc	09 04 55.9	+0.2
GAZI	Gazipasa	149.07	300	eP	PKPbc	09 04 55.9	-0.2
CVDA	Cernavoda	149.08	317	⇑P	PKPbc	09 04 56.2	+0.4
PLOR	Plostina	149.09	321	⇓P	PKPbc	09 04 55.8	-0.1
NEWG	New Galloway	149.14	4	eP	PKPdf	09 04 50.3	-0.4
CIFT	Cifteler, Eski	149.14	307	eP	PKPbc	09 04 56.6	+0.3
SEYD	Seydisehir-KON	149.15	303	eP	PKiKP	09 04 56.9	-0.4
GULT	Gulveren	149.16	309	eP	PKPbc	09 04 56.6	+0.3
SAUV	Serdivan-Sakar	149.18	310	eP	PKPbc	09 04 56.4	+0.2
SRCK	Saricakaya, Es	149.22	308	eP	PKPbc	09 04 56.6	+0.2
BSEG	Bad Segeberg	149.24	347	ePKPbc	PKPbc	09 04 56.2	+0.4
	baz=21,slow=2.3						
ICOR	Ion Corvin	149.34	317	⇑P	PKiKP	09 04 57.0	-0.2
COVR	Voineasa-Covas	149.35	321	⇑P	PKPbc	09 04 56.0	-0.5
GAL1	Galloway	149.36	4	eP	PKPdf	09 04 51.3	+0.2
KOLS	Kolonicke sedl	149.40	329	ePKP	PKPdf	09 04 52.3	+0.9
KOLS				e		09 04 57.8	
KOLS				e		09 07 08.6	
BORA	Eskisehir	149.41	308	eP	PKiKP	09 04 57.3	-0.4
HLG	Helgoland	149.45	350	ePKPbc	PKPbc	09 04 56.7	+0.4
	baz=21,slow=2.3						
HLG				ePKPab	PKPab	09 05 04.6	+1.1
	baz=21,slow=2.3						
SILT	Sile	149.49	311	eP	PKiKP	09 04 57.4	-0.3
STHS	Stebnicka Huta	149.52	331	ePKP	PKPbc	09 04 56.7	-0.1
STHS				e		09 07 09.4	
OJC	Ojcow	149.53	333	ePKPbc	PKiKP	09 04 57.2	-0.3
OJC				ePKPab	PKPab	09 05 04.3	+0.3
OJC				epPKPbc	pPKPbc	09 07 02.8	+0.6
OJC	Ojcow	149.53	333	PKHKP	PKPpre	09 04 57.2	
OJC						09 05 04.2	
OJC	Ojcow	149.53	333	PKPbc	PKiKP	09 04 57.2	-0.3
OJC				PKPab	PKPab	09 05 04.2	+0.1
ISR	Istrita	149.57	320	⇑P	PKPbc	09 04 57.2	+0.1
UZH	Uzhgorod	149.60	329	i		09 05 05.1	
UZH				ePKHKP	PKPbc	09 04 56.3	-0.6
HRT	Hereke	149.61	310	eP	PKPbc	09 04 57.4	+0.1
ARCR	ARCALIA	149.61	325	⇑P	PKiKP	09 04 58.3	+0.5
BMR	Baia Mare	149.67	326	⇑P	PKiKP	09 04 57.9	+0.1
AUBOZ	BOZOYUK	149.70	308	eP	PKPbc	09 04 57.9	+0.3
MLR	Muntele Rosu	149.70	321	⇑P	PKPbc	09 04 57.5	0.0
MLR	Muntele Rosu	149.70	321	PKPbc	PKPbc	09 04 57.4	-0.1
MLR				PKPab	PKPab	09 05 06.5	+1.4
ADVT	Abdulvahap	149.71	309	eP	PKPbc	09 04 57.7	+0.2
CAVI	Cavuskoy	149.72	309	eP	PKPbc	09 04 57.9	+0.3
RUE	Ruedersdorf	149.73	342	ePKPbc	PKiKP	09 04 57.6	-0.1
	baz=21,slow=2.3						
DOPR	Dopca	149.74	322	⇓P	PKiKP	09 04 58.4	+0.3
SHUT	Suhut-Afyon	149.78	306	eP	PKiKP	09 04 58.5	-0.1
CRVS	Cervenica-Dubn	149.80	330	ePKP	PKPdf	09 04 52.5	+0.5
CRVS				e		09 04 58.3	
CRVS				e		09 05 06.1	
CRVS				e		09 07 10.7	
TRPA	Tarpa	149.84	328	⇓P	PKPbc	09 04 57.7	+0.2
TRPA	Tarpa	149.84	328	eP	PKPbc	09 04 57.7	+0.2
YLV	Yalova	149.91	310	eP	PKPbc	09 04 58.1	0.0
ISK	Istanbul-Kandi	149.93	311	eP	PKPbc	09 04 57.9	-0.1
KAVV	Kandilli-Istan	149.93	311	eP	PKiKP	09 04 59.4	+0.8
NIE	Niedzica	149.93	332	ePKPbc	PKiKP	09 04 59.5	+1.1
NIE				ePKPab	PKPab	09 05 07.2	+1.4
NIE				epPKPbc	pPKPbc	09 07 04.1	+0.8
IOMK	Kirk Michael	149.97	4	eP	PKPdf	09 04 51.6	-0.4
SULR		149.98	319	⇓P	PKPbc	09 04 58.2	+0.3
ISP	Isparta	150.03	304	eP	PKPbc	09 04 58.1	-0.4
WIM	Isle of Man	150.07	4	eP	PKPdf	09 04 51.7	-0.6
BCK	Bucak	150.09	303	eP	PKPbc	09 04 58.0	-0.6
GEMT	Gemlik	150.09	310	eP	PKPbc	09 04 58.5	+0.1
ANTB	Antalya	150.20	302	eP	PKPbc	09 04 58.3	-0.4
CTKS	Kestanelik-??a	150.24	312	eP	PKPbc	09 04 58.9	+0.2
CBBR	Cluj-Babes-Bol	150.24	325	⇓P	PKiKP	09 04 59.9	+0.9
VOIR		150.25	322	⇓P	PKPbc	09 04 58.6	-0.1
VOIR		150.25	322	⇓PKIKP	PKPbc	09 04 58.6	-0.1
CJR	Cluj-Napoca	150.25	325	⇑P	PKiKP	09 04 59.7	+0.5
CJR	Cluj-Napoca	150.25	325	⇑PKIKP	PKiKP	09 04 59.7	+0.5
ARMT	Armutlu	150.27	310	eP	PKPbc	09 04 58.9	+0.1
TVSB	Tavsanli	150.27	308	eP	PKiKP	09 04 59.6	+0.1
MESR	Meseseni	150.30	326	⇓P	PKiKP	09 04 59.4	+0.3
MDNY	Mudanya-Bursa	150.33	310	eP	PKiKP	09 04 59.2	-0.2
KSP	Ksiaz	150.35	338	ePKPbc	PKiKP	09 04 59.5	+0.3
KSP				ePKPab	PKPab	09 05 08.3	+0.9
KSP				epPKPbc	pPKPab	09 07 11.9	+3.6
KORT	Korkueli	150.40	303	eP	PKPbc	09 04 59.6	+0.2
SLVT	Silivri	150.44	312	eP	PKPab	09 05 09.1	+0.9
GEDZ	Gediz	150.46	307	eP	PKiKP	09 04 59.9	0.0
LANS	Liptovska Anna	150.49	332	ePKIKP	PKPdf	09 04 54.5	+1.4
LANS				e		09 05 09.2	
LANS	Liptovska Anna	150.49	332	ePKP	PKPdf	09 04 54.5	+1.4
LANS				e		09 05 00.5	
LANS				e		09 05 09.2	
LANS				e		09 07 13.1	
OKC	Ostrava-Krasne	150.49	335	ePKIKP	PKiKP	09 04 59.6	+0.1
OKC				e		09 05 08.9	
OKC	Ostrava-Krasne	150.49	335	⇑ePKP	PKiKP	09 04 59.6	+0.1
OKC				ePKPAB	PKPab	09 05 08.9	+0.8
ARR	Arges	150.52	322	⇑P	PKPdf	09 04 53.8	+0.5
FLTG	Flechtingen	150.53	345	ePKPbc	PKiKP	09 04 59.2	-0.2
	baz=21,slow=2.3						
FLTG				ePKPab	PKPab	09 05 08.4	+0.3
	baz=21,slow=2.3						
KECS	Kecovo	150.54	330	ePKIKP	PKiKP	09 05 00.1	+0.5
KECS				e		09 05 09.1	
KECS	Kecovo	150.54	330	ePKP	PKiKP	09 05 00.1	+0.5
KECS				e		09 05 09.1	
OSTC	Ostas	150.62	337	ePKPDF	PKPdf	09 04 54.4	+1.2
OSTC				⇑ePKP	PKiKP	09 05 00.1	+0.3
OSTC				ePKPAB	PKPab	09 05 10.4	+1.8
OSTC				ex	x	09 07 04.1	
OSTC				ex	x	09 08 01.9	
NRDL	Niedersach Rie	150.63	346	ePKPbc	PKiKP	09 04 59.5	-0.1
	baz=21,slow=2.3						
NRDL				epPKPbc	pPKPbc	09 07 05.8	+0.9
CHVC	Chvalec	150.65	338	⇑ePKP	PKiKP	09 05 00.2	+0.4
CHVC				ePKPAB	PKPab	09 05 09.9	+1.1
DRGR		150.66	326	⇑P	PKiKP	09 05 00.2	+0.2
DRGR		150.66	326	⇑PKIKP	PKiKP	09 05 00.2	+0.2
LTVH	Ltavrtes, Hu	150.66	327	⇑P	PKiKP	09 05 00.7	+0.8
UPC	Upice	150.73	338	ePKIKP	PKiKP	09 05 00.4	+0.4
UPC				e		09 05 10.3	
UPC				e		09 07 06.0	
UPC				e		09 08 01.9	
UPC	Upice	150.73	338	⇑ePKP	PKiKP	09 05 00.4	+0.4
UPC				ePKPAB	PKPab	09 05 10.3	+1.2
UPC				epPKP	pPKPbc	09 07 06.0	+0.8
UPC				ex	x	09 08 01.9	
KCTX	Karacabey (Bur	150.74	310	eP	PKPbc	09 05 00.1	+0.2
SIMA	Simav-Kutahya	150.75	307	eP	PKiKP	09 05 00.4	-0.1
DPC	Dobruska-Polom	150.76	337	ePKIKP	PKPdf	09 04 54.4	+0.9
DPC				e		09 05 10.4	
DPC	Dobruska-Polom	150.76	337	ePKPDF	PKPdf	09 04 54.4	+0.9
DPC				⇑ePKP	PKiKP	09 05 00.6	+0.5
DPC				ePKPAB	PKPab	09 05 10.4	+1.2
DPC				epPKP	pPKPbc	09 07 06.2	+0.8
DPC				ex	x	09 08 05.5	
MORC	Moravsky Berou	150.78	335	⇓P	PKiKP	09 05 00.3	+0.2
MORC	Moravsky Berou	150.78	335	⇓PKIKP	PKiKP	09 05 00.3	+0.2
MORC	Moravsky Berou	150.78	335	ePKP	PKPdf	09 04 53.3	-0.2
MORC				e		09 05 00.3	
MORC				e		09 05 10.1	
MORC				epPKP	pPKPab	09 07 12.7	+2.7
ELL	Elmali	150.81	302	eP	PKiKP	09 05 00.7	0.0
ELL	Elmali	150.81	302	PKIKP	PKPbc	09 05 00.5	+0.1
ELL						09 05 10.9	
ELL	Elmali	150.81	302	PKPbc	PKPbc	09 05 00.5	+0.1
ELL				PKPab	PKPab	09 05 10.9	+0.8
HUMR	Humele	150.82	320	⇑P	PKiKP	09 05 00.2	-0.1
KRLC	Kraliky	150.82	336	ePKIKP	PKiKP	09 05 00.5	+0.3
KRLC				e		09 05 10.4	
KRLC	Kraliky	150.82	336	⇑ePKP	PKiKP	09 05 00.5	+0.3
KRLC				ePKPAB	PKPab	09 05 10.4	+0.9
ASSE	Asse, Remlinge	150.84	345	ePKPbc	PKiKP	09 04 59.9	-0.1
	baz=21,slow=2.3						
ASSE				ePKPab	PKPab	09 05 09.9	+0.6
	baz=21,slow=2.3						
WME	Myndd Eilian	150.85	4	eP	PKPdf	09 04 53.7	+0.3
WLF1	Llynfaes	150.95	4	eP	PKPdf	09 04 52.9	-0.6
LOT	Lotru	150.96	323	⇓P	PKiKP	09 05 01.0	+0.3
YRC	Rhoscolyn	150.97	5	eP	PKPbc	09 04 59.2	-0.7
CLL	Collm	150.99	342	ePKPdf	PKPdf	09 04 54.0	+0.3
CLL				⇓iPKPbc	PKiKP	09 05 00.5	+0.1
	comp=Z,212nm,1.0s						
CLL				i PKPab	PKPab	09 05 10.5	+0.4
	comp=Z,177nm,0.7s						
CLL				epPKPbc	pPKPbc	09 07 07.0	+1.2
CLL				i pPKPab	pPKPab	09 07 12.7	+1.9
CLL				esPKPab	sPKPab	09 08 03.0	-1.4
CLL				ePP	PP	09 08 43.0	-0.1
CLL				epPP		09 10 33.0	
CLL				eSKSdf	SKSdf	09 11 18.0	+8.4
CLL				ePPP	PPP	09 12 10.0	
CLL				eSKSP		09 18 04.0	
CLL				ePSKS		09 19 02.0	
CLL				eSKKSdf	SKKSdf	09 20 00.0	-1.1
CLL				eSPP	SPP	09 20 47.0	
CLL				ePPS	PPS	09 21 43.0	
CLL				e		09 22 41.0	
CLL				eSS	SS	09 27 18.0	-2.7
CLL				e		09 28 24.0	
CLL				esSS		09 31 00.0	
CLL				eSSS	SSS	09 33 12.0	
CLL				esSSS		09 36 18.0	
CLL	Collm	150.99	342	⇓ePKIKP	PKPdf	09 04 54.0	+0.3
CLL				i		09 05 00.5	
CLL				i		09 05 10.5	
CLL				pmax	pmax		
	comp=Z,212nm,1.0s						
CLL				pmax	pmax		
	comp=Z,177nm,0.7s						
EDC	Edincik	151.05	310	eP	PKPbc	09 05 00.6	0.0
BRG	Berggiesshubel	151.10	340	ePKPbc	PKiKP	09 05 01.0	+0.3
	baz=21,slow=2.3						
BRG				ePKPab	PKPab	09 05 11.3	+0.8
	baz=21,slow=2.3						
YLL	Llanberis	151.11	4	eP	PKPdf	09 04 54.3	+0.5
MRMT	Marmara Adasi	151.13	311	eP	PKPbc	09 05 00.7	-0.2
EDRB	Edirne	151.14	314	eP	PKPbc	09 05 00.8	+0.1
CLZ	Clausthal	151.18	345	ePKPbc	PKiKP	09 05 00.8	-0.1
	baz=21,slow=2.3						
KULA	Kula-Manisa	151.19	306	P	PKiKP	09 05 01.4	0.0
KULA	Kula-Manisa	151.19	306	eP	PKiKP	09 05 01.5	0.0
AKAS	Kas	151.19	302	eP	PKPbc	09 05 01.2	0.0
PVCC	Panska Ves	151.20	339	ePKIKP	PKiKP	09 05 01.3	+0.4
PVCC				e		09 05 12.1	
PVCC	Panska Ves	151.20	339	⇑ePKP	PKiKP	09 05 01.3	+0.4
PVCC				ePKPAB	PKPab	09 05 12.1	+1.1
CAME	Cameli-Denizli	151.22	303	eP	PKiKP	09 05 01.7	+0.1
PSZ	Piszkesteto	151.23	330	⇑P	PKPbc	09 05 00.7	-0.2
PSZ	Piszkesteto	151.23	330	eP	PKPbc	09 05 00.9	0.0
PSZ	Piszkesteto	151.23	330	⇑PKIKP	PKPbc	09 05 00.7	-0.2
KSL	Kastellorizon	151.23	301	P	PKPbc	09 05 00.9	-0.2
FBE	Freiberg	151.23	341	ePKPbc	PKiKP	09 05 01.4	+0.4
	baz=21,slow=2.3						
FBE				ePKPab	PKPab	09 05 12.4	+1.3
	baz=21,slow=2.3						
FBE				epPKPbc	pPKPbc	09 07 08.8	+2.3
VYHS	Vyhne	151.26	332	ePKIKP	PKiKP	09 05 01.2	+0.1
VYHS				e		09 05 12.5	
VYHS	Vyhne	151.26	332	ePKP	PKiKP	09 05 01.2	+0.1
VYHS				e		09 05 12.5	
VYHS				e		09 07 13.2	
IBBN	Ibbenburen	151.27	349	ePKPbc	PKiKP	09 05 01.1	+0.2
	baz=21,slow=2.3						
BALB	Balikesir	151.33	309	eP	PKPbc	09 05 01.3	+0.1
BALB	Balikesir	151.33	309		PKPbc	09 05 00.7	-0.5
BALB				PKPab	PKPab	09 05 12.6	+0.6
KOLL	Kolacno	151.38	333	ePKP	PKiKP	09 05 02.0	+0.6
KOLL				e		09 05 12.8	
RKY	Sarkoy-Tekirda	151.38	312	eP	PKPab	09 05 12.8	+0.6
FOEL	Foel Wylfa	151.41	3	eP	PKPdf	09 04 55.0	+0.7
NEUB	Neuenburg	151.42	343	ePKPbc	PKiKP	09 05 01.5	+0.1
	baz=21,slow=2.3						
NEUB				ePKPab	PKPab	09 05 12.9	+1.0
	baz=21,slow=2.3						
KRBG	Karabiga-Canak	151.43	311	eP	PKiKP	09 05 01.6	-0.1
JAVC	Velka Javorina	151.46	334	ePKP	PKPdf	09 04 55.4	+0.8
JAVC				e		09 05 02.8	
JAVC				e		09 05 14.2	
JAVC				epPKP	pPKPab	09 07 15.8	+3.0
FETY	Fethiye	151.48	303	P	PKPbc	09 05 01.8	+0.1
FETY	Fethiye	151.48	303	eP	PKiKP	09 05 02.0	0.0
VRAC	Vranov	151.52	336	⇓P	PKiKP	09 05 01.8	+0.2
VRAC	Vranov	151.52	336	⇓PKIKP	PKiKP	09 05 01.8	+0.2
VRAC	Vranov	151.52	336	ePKP	PKPdf	09 04 54.3	-0.3
VRAC				e		09 05 01.8	
VRAC				e		09 05 13.2	
VRAC				epPKP	pPKPab	09 07 14.7	+1.7
SIRR	Siria	151.55	326	⇓P	PKiKP	09 05 01.9	+0.1
GTTG	Gottingen	151.55	346	ePKPbc	PKiKP	09 05 01.7	+0.1
	baz=21,slow=2.3						
GTTG				ePKPab	PKPab	09 05 13.4	+0.9
	baz=21,slow=2.3						
PRU	Pruhonice	151.67	339	ePKIKP	PKPdf	09 04 55.9	+1.1
PRU				e		09 05 02.0	
PRU				e		09 05 13.8	
PRU	Pruhonice	151.67	339	ePKPDF	PKPdf	09 04 55.9	+1.1

Code	Station	Δ°	AZ°	Op	ISC	Time	Res
PRU				⇑ePKP	PKiKP	09 05 02.0	+0.1
PRU				ePKPAB	PKPab	09 05 13.8	+0.8
PRU				epPKP	pPKPbc	09 07 08.6	+1.1
PRU				ex	x	09 08 09.7	
DALY	Dalyan (Mula)	151.76	303	eP	PKiKP	09 05 02.7	+0.2
KRUC	Moravsky	151.79	336	ePKP	PKPdf	09 04 54.8	-0.2
KRUC				e		09 05 02.3	
KRUC				e		09 05 14.5	
KRUC				epPKP	pPKPab	09 07 15.3	+1.1
HLM1	Long Mynd	151.80	3	eP	PKPdf	09 04 54.6	-0.3
SMOL	Smolenice	151.83	334	ePKIKP	PKiKP	09 05 02.9	+0.6
SMOL				e		09 05 15.2	
SMOL	Smolenice	151.83	334	ePKP	PKiKP	09 05 02.9	+0.6
SMOL				e		09 05 15.2	
ERIK	Erikli-Kesan	151.84	312	eP	PKPbc	09 05 02.3	0.0
YER	Yerkesik	151.94	304	eP	PKiKP	09 05 03.2	+0.2
TANN	Tannenbergstha	151.94	342	ePKPbc	PKiKP	09 05 02.7	+0.1
	baz=21,slow=2.3						
BUD	Budapest	151.95	331	eP	PKiKP	09 05 03.2	+0.7
WERD	Werda	151.96	342	ePKPbc	PKiKP	09 05 02.6	+0.1
	baz=21,slow=2.3						
WERD				ePKPab	PKPab	09 05 15.3	+1.1
	baz=21,slow=2.3						
MOX	Moxa	151.97	343	ePKPbc	PKiKP	09 05 02.6	0.0
	baz=21,slow=2.3						
MOX				ePKPab	PKPab	09 05 15.4	+1.1
	baz=21,slow=2.3						
GELI	Tayfur-Gelibol	151.99	312	eP	PKPbc	09 05 02.6	-0.1
GUNZ	Gunzen	152.03	342	ePKPbc	PKiKP	09 05 02.8	+0.1
	baz=21,slow=2.3						
GUNZ				ePKPab	PKPab	09 05 15.8	+1.2
	baz=21,slow=2.3						
GUNZ				epPKPbc	pPKPbc	09 07 09.5	+1.1
HERR	Herculane	152.06	323	⇓P	PKPbc	09 05 02.3	-0.4
WERN	Wernitzgruen	152.08	342	ePKPbc	PKiKP	09 05 03.0	+0.2
	baz=21,slow=2.3						
WERN				ePKPab	PKPab	09 05 16.0	+1.1
	baz=21,slow=2.3						
WERN				epPKPbc	pPKPbc	09 07 10.5	+2.0
TURN	Turunc	152.08	303	eP	PKiKP	09 05 03.7	+0.5
NKC	Novy Kostel	152.11	341	ePKIKP	PKiKP	09 05 03.1	+0.2
NKC				e		09 05 15.8	
NKC	Novy Kostel	152.11	341	⇑ePKP	PKiKP	09 05 03.1	+0.2
NKC				ePKPAB	PKPab	09 05 15.8	+0.9
PBCC	Pribram	152.11	339	⇑ePKP	PKiKP	09 05 03.0	+0.1
PBCC				ePKPAB	PKPab	09 05 15.8	+0.9
BUG	Bochum--Univer	152.19	349	ePKPbc	PKiKP	09 05 03.2	+0.3
	baz=21,slow=2.3						
KASTN	Kahler Asten	152.20	347	ePKPbc	PKiKP	09 05 03.2	+0.2
	baz=21,slow=2.3						
KASTN				epPKPbc	pPKPbc	09 07 10.3	+1.6
ZST	Bratislava	152.22	334	ePKIKP	PKiKP	09 05 04.3	+1.2
ZST				e		09 05 16.2	
ZST	Bratislava	152.22	334	ePKP	PKiKP	09 05 04.3	+1.2
ZST				e		09 05 16.2	
UBBA	Unterbreizbach	152.22	345	ePKPbc	PKiKP	09 05 03.1	+0.3
	baz=21,slow=2.3						
RSBS	Rosebush, Pemb	152.25	5	eP	PKPbc	09 05 02.2	-0.7
MLSB	Milas	152.27	305	eP	PKiKP	09 05 03.8	+0.2
RDO	Rodhopi	152.27	314	P	PKPbc	09 05 02.9	-0.4
RDO	Rodhopi	152.27	314	eP	PKPbc	09 05 03.1	-0.2
MCH1	Michaelchurch	152.31	3	eP	PKPbc	09 05 02.3	-0.7
PLD	Plovdiv	152.32	316	eP	PKPbc	09 05 03.3	-0.1
EZN	Ezine	152.34	311	P	PKPbc	09 05 03.4	0.0
EZN	Ezine	152.34	311	eP	PKPbc	09 05 03.5	0.0
ARG	Arkhangelos	152.34	302	eP	PKiKP	09 05 03.9	+0.2
CSKK	Cskako	152.38	331	eP	PKiKP	09 05 04.1	+0.7
MANZ	Manzenberg	152.43	342	ePKPdf	PKPdf	09 04 57.0	+1.0
	baz=21,slow=2.3						
MANZ				ePKPbc	PKiKP	09 05 03.9	+0.3
	baz=21,slow=2.3						
MDVR	Moldovita	152.51	324	⇑P	PKPbc	09 05 03.8	0.0
BOZC	Bozcaada	152.53	311	eP	PKPab	09 05 17.3	+0.3
GCAM	G?zelcaml?	152.53	306	eP	PKiKP	09 05 04.3	+0.2
ROTZ	Rotzenmuhle	152.60	341	ePKPab	PKPab	09 05 18.0	+1.0
	baz=21,slow=2.3						
DAT	Datca	152.60	304	P	PKPbc	09 05 03.6	-0.7
PRK	Paraskevi	152.63	309	P	PKiKP	09 05 05.0	+0.8
BODT	Bodrum	152.70	304	P	PKPbc	09 05 04.0	-0.4
KHC	Kasperske Hory	152.73	339	ePKIKP	PKPdf	09 04 56.5	+0.1
KHC				e		09 05 04.1	
KHC				e		09 05 17.6	
KHC	Kasperske Hory	152.73	339	ePKPDF	PKPdf	09 04 56.5	+0.1
KHC				⇑ePKP	PKPbc	09 05 04.1	0.0
KHC				ePKPAB	PKPab	09 05 17.6	0.0
KHC				epPKP	pPKPbc	09 07 10.1	0.0
KHC				ex	x	09 08 14.7	
EGYH	Egyhazaskeszo	152.74	332	eP	PKPbc	09 05 01.5	-2.6
CKRC	Cesky Krumlov	152.75	338	ePKPDF	PKPdf	09 04 56.8	+0.3
CKRC				⇑ePKP	PKiKP	09 05 04.6	+0.4
CKRC				ePKPAB	PKPab	09 05 18.3	+0.6
CKRC				ex	x	09 07 16.3	
CKRC				ex	x	09 08 18.3	
URLA	Izmir	152.75	307	eP	PKPbc	09 05 04.5	0.0
SMG	Samos	152.82	306	P	PKPbc	09 05 04.3	-0.3
SOP	Sopron	152.85	334	eP	PKiKP	09 05 05.0	+0.6
CONA	Conrad Observa	152.93	335	eP	PKPdf	09 04 56.5	-0.3
	comp=Z,8.1nm,0.9s						
CONA				eP	PKiKP	09 05 04.9	+0.2
	comp=Z,28nm,0.7s,SNR=9.6						
CONA				eP	PKPab	09 05 19.2	+0.7
	comp=Z,72nm,0.7s						
CONA				eP	pPKPab	09 07 18.1	-0.9
	comp=Z,54nm,1.3s,SNR=9.7						
GEC2	GERESS Array S	152.94	338	PKPdf	PKPdf	09 04 56.3	-0.5
GEC2				PKPbc	PKiKP	09 05 05.2	+0.5
GEC2				PKPab	PKPab	09 05 19.1	+0.5
GEC2	GERESS Array S	152.94	338	ePKPbc	PKiKP	09 05 05.4	+0.7
	baz=21,slow=2.3						
GEC2				ePKPab	PKPab	09 05 19.5	+0.9
	baz=21,slow=2.3						
GEC2				epPKPbc	pPKPbc	09 07 12.8	+2.2
GERES	GERESS Array B	152.94	338	PKP	PKPdf	09 04 56.4	-0.5
	comp=Z,2.8nm,0.8s,baz=90,slow=2.7,SNR=15						
GERES				PKPbc	PKPbc	09 05 04.6	0.0
	comp=Z,19nm,0.9s,baz=27,slow=3.4,SNR=29						
GERES				PKPab	PKPab	09 05 18.5	-0.1
	comp=Z,19nm,0.6s,baz=35,slow=4.9,SNR=21						
GERES				pPKPbc	pPKPbc	09 07 13.6	+2.9
	comp=Z,11nm,0.9s,baz=31,slow=2.3,SNR=4.2						
GRFO	Grafenberg	152.94	343		PKPab	09 05 19.4	+0.9
WET	Wettzell	152.94	340	ePKPbc	PKiKP	09 05 05.2	+0.6
	baz=21,slow=2.3						
WET				ePKPab	PKPab	09 05 19.9	+1.3
	baz=21,slow=2.3						
KAVA	Kavala	153.02	314	P	PKPbc	09 05 04.6	-0.3
BEBN	Eben Emael	153.07	351	dPKPab	PKPab	09 05 18.9	0.0
TNS	Taunus Mts	153.13	347	ePKPbc	PKiKP	09 05 05.3	+0.3
	baz=21,slow=2.3						
TNS				ePKPab	PKPab	09 05 20.0	+0.7
	baz=21,slow=2.3						
CHOS	Chios island	153.13	308	P	PKPbc	09 05 05.2	-0.1
CHOS	Chios island	153.13	308	eP	PKPbc	09 05 05.3	-0.1
MEM	Membach	153.20	350	dPKPdf	PKPdf	09 04 57.2	+0.2
MEM				dPKPbc	PKPbc	09 05 04.7	-0.3
MEM				dPKPab	PKPab	09 05 18.8	-0.7
BTNL	Ternell	153.21	350	dPKPdf	PKPdf	09 04 57.4	+0.4
BTNL				dPKPbc	PKPbc	09 05 04.9	-0.1
BTNL				dPKPab	PKPab	09 05 18.6	-0.9
BOVS	Bovan	153.24	322	⇓P	PKPbc	09 05 04.9	-0.4
UCC	Uccle	153.25	353	dPKPbc	PKPbc	09 05 05.0	-0.1
UCC				dPKPab	PKPab	09 05 19.3	-0.3
FRGS	Fruska Gora	153.25	326	⇓iP	PKPab	09 05 19.3	-0.7
NVR	Nevrokopi	153.26	315	P	PKPbc	09 05 05.0	-0.5
KARP	Karpathos	153.29	301	P	PKPbc	09 05 05.7	0.0
KARP	Karpathos	153.29	301	eP	PKiKP	09 05 05.9	+0.1
KARP	Karpathos	153.29	301		PKPbc	09 05 05.2	-0.5
KARP				PKPab	PKPab	09 05 21.4	+0.8
MILB	Miltenberg	153.31	345	ePKPdf	PKPdf	09 04 57.8	+0.6
	baz=21,slow=2.3						
MILB				ePKPbc	PKiKP	09 05 05.7	+0.4
	baz=21,slow=2.3						
KOVH	Kovagotottos	153.41	330	eP	PKPdf	09 04 57.6	+0.2
BHOU	Houvegnez	153.45	350	dPKPab	PKPab	09 05 20.7	+0.1
BCLA	Clavier	153.49	351	dPKPbc	PKiKP	09 05 05.7	+0.1
BCLA				dPKPab	PKPab	09 05 20.6	-0.2
SNF	Seneffe	153.54	353	dPKPbc	PKPbc	09 05 05.4	-0.3
SNF				dPKPab	PKPab	09 05 20.3	-0.6
BGES	Gesves	153.56	351	dPKPab	PKPab	09 05 20.7	-0.3
MOA	Molln	153.59	337	eP	PKPdf	09 04 57.1	-0.6
	comp=Z,5.9nm,0.9s						
MOA				eP	PKPbc	09 05 05.6	-0.3
	comp=Z,15nm,1.2s						
MOA				eP	PKPab	09 05 21.9	+0.6
	comp=Z,49nm,1.0s,SNR=7.1						
MOA				eP	pPKPab	09 07 20.3	-1.3
	comp=Z,14nm,1.1s						
ARSA	Arzberg	153.61	334	eP	PKPdf	09 04 57.1	-0.6
	comp=Z,5.5nm,1.0s						
ARSA				eP	PKPab	09 05 21.7	+0.3
	comp=Z,18nm,0.6s,SNR=5.8						
ARSA				eP	pPKPab	09 07 20.1	-1.7
	comp=Z,18nm,1.6s						
BMRD	Maredsous	153.68	352	dPKPdf	PKPdf	09 04 58.0	+0.3
BMRD				dPKPbc	PKPbc	09 05 05.8	-0.1
BMRD				dPKPab	PKPab	09 05 21.1	-0.4
BEHE	Becsehely	153.71	332	⇓iP	PKPab	09 05 21.9	+0.1
TEKS	Tekeris	153.82	325	⇓iP	PKPab	09 05 21.7	-0.7
DIVS	Divibare	153.88	324	⇓iP	PKPab	09 05 22.2	-0.6
DIVS	Divibare	153.88	324	PKPdf	PKPdf	09 04 57.3	-1.0
DIVS					PKiKP	09 05 06.9	+0.1
DIVS				PKPab	PKPab	09 05 23.5	+0.7
DOU	Dourbes	153.91	352	dPKPbc	PKPbc	09 05 06.1	-0.4
DOU				dPKPab	PKPab	09 05 22.3	-0.2
APE	Apeiranthos	154.03	306	eP	PKPbc	09 05 06.7	-0.6
VAY	Valandovo	154.09	317	eP	PKPbc	09 05 06.8	-0.4
WLF	Walferdange	154.09	349	dPKPbc	PKiKP	09 05 07.8	+0.9
WLF				dPKPab	PKPab	09 05 23.7	+0.3
WLF	Walferdange	154.09	349	PKIKP	PKPdf	09 04 57.5	-0.8
WLF						09 05 23.1	
WLF	Walferdange	154.09	349	PKPdf	PKPdf	09 04 57.5	-0.8
WLF				PKPbc	PKiKP	09 05 08.0	+1.1
WLF				PKPab	PKPab	09 05 23.1	-0.3
STIP	Stip	154.12	318	eP	PKPbc	09 05 06.3	-1.0
HORT	Hortiatis	154.14	315	eP	PKPab	09 05 23.8	-0.2
RJOB	Jochberg	154.20	338	ePKPab	PKPab	09 05 25.2	+1.2
	baz=21,slow=2.3						
GROS	Grobnik	154.26	333	i PKPdf	PKPdf	09 04 58.0	-0.7
GROS				i PKPdif	PKiKP	09 05 07.0	-0.5
GROS				i PKPab	PKPab	09 05 24.0	-0.2
GROS				ePP	PP	09 08 57.2	-4.4
GROS				e		09 11 53.0	
GROS				e		09 12 37.2	
SOKA	Soboth	154.27	334	eP	PKPdf	09 04 58.0	-0.8
	comp=Z,8.5nm,1.0s						
SOKA				eP	PKiKP	09 05 07.0	-0.5
	comp=Z,19nm,1.2s						
SOKA				eP	PKPab	09 05 24.3	0.0
	comp=Z,58nm,1.2s,SNR=7.5						
SOKA				eP	pPKPab	09 07 20.8	-3.9
	comp=Z,38nm,1.6s,SNR=5.8						
FUR	Furstenfeldbru	154.30	341	ePKPab	PKPab	09 05 25.6	+1.3
	baz=21,slow=2.3						
STU	Stuttgart	154.32	344	PKIKP	PKPdf	09 04 59.0	+0.4
STU						09 05 07.7	
STU						09 05 24.6	
STU	Stuttgart	154.32	344	PKPdf	PKPdf	09 04 59.0	+0.4
STU				PKPbc	PKPbc	09 05 07.7	+0.2
STU					PKPab	09 05 24.6	+0.3
STU	Stuttgart	154.32	344	ePKPdf	PKPdf	09 04 59.2	+0.5
	baz=21,slow=2.3						
STU				ePKPbc	PKPbc	09 05 08.2	+0.8
	baz=21,slow=2.3						
SANT	Santorini	154.33	304	PKPdf	PKPdf	09 04 56.6	-2.5
SANT					PKiKP	09 05 06.4	-1.5
SANT				PKPab	PKPab	09 05 23.5	-1.5
BBLS	Lazići	154.35	324	⇓iP	PKPab	09 05 24.7	-0.1
SKO	Skopje	154.41	319	eP	PKPbc	09 05 08.2	+0.3
RUDO	Rudo	154.54	324	eP	PKPab	09 05 25.1	-0.4
KBA	Koelnbreinsper	154.58	337	eP	PKPab	09 05 25.8	0.0
	comp=Z,35nm,0.6s						
OBKA	Obir	154.60	335	eP	PKiKP	09 05 07.7	-0.5
	comp=Z,15nm,1.3s						
OBKA				eP	PKPab	09 05 25.7	-0.1
	comp=Z,22nm,0.6s						
IVA	Berane	154.75	322	⇓iP	PKPab	09 05 27.6	+1.1
MRAK	Mrakovica	154.78	329	⇓iP	PKPab	09 05 26.1	-0.4
BLY	Banja Luka	154.84	329	⇓iP	PKPab	09 05 26.6	-0.1
MYKA	Terra Mystica	154.85	336	eP	PKPab	09 05 26.4	-0.4
	comp=Z,53nm,0.7s,SNR=9.1						
MYKA				eP	pPKPbc	09 07 20.7	+5.9
	comp=Z,8.9nm,1.0s						
BFO	Black Forest	154.94	345	PKIKP	PKPdf	09 04 58.8	-0.7
BFO						09 05 27.2	
BFO	Black Forest	154.94	345		PKPdf	09 04 58.8	-0.7
BFO				PKPab	PKPab	09 05 27.2	+0.2
WATA	Walderalm	154.95	340	i P	PKPab	09 05 27.8	+0.5
	comp=Z,55nm,0.5s,SNR=7.5						
WATA				eP	pPKPab	09 07 21.9	-5.6
	comp=Z,36nm,1.6s						
KOME	Kolasin	154.97	323	⇓iP	PKPab	09 05 28.2	+0.7
LJU	Ljubljana	154.99	334	⇓iP	PKPab	09 05 27.0	-0.4
LJU	Ljubljana	154.99	334	i PKPdf	PKPdf	09 04 59.3	-0.3
LJU				i PKPdif	PKPbc	09 05 09.1	+0.2
LJU				i PKPab	PKPab	09 05 27.4	0.0
LJU				epPKPbc	pPKPbc	09 07 22.3	+7.2
LJU				i pPKPab	pPKPab	09 07 34.2	+6.6
LJU				ePP	PP	09 09 02.5	-3.1
WTTA	Wattenberg	155.00	339	i P	PKPdf	09 04 59.0	-0.9
	comp=Z,18nm,1.2s,SNR=5.3						
WTTA				i P	PKPab	09 05 28.1	+0.5
	comp=Z,89nm,0.6s,SNR=6.9						
WTTA				eP	pPKPab	09 07 22.0	-5.7
	comp=Z,37nm,1.4s						
RETA	Reutte	155.07	341	i P	PKPab	09 05 28.3	+0.6
	comp=Z,89nm,0.8s,SNR=24						
RETA				eP	pPKPab	09 07 22.1	-5.8
	comp=Z,18nm,1.7s						
UPM	Unac-Piva	155.07	324	eP	PKPab	09 05 27.7	-0.3
UBR	Ueberruh	155.08	342	ePKPdf	PKPdf	09 04 59.8	0.0
	baz=21,slow=2.3						
MOTA	Moosalm	155.09	340	eP	PKPdf	09 04 59.0	-1.0
	comp=Z,12nm,0.9s,SNR=5.9						
MOTA				eP	PKPab	09 05 28.3	+0.4
	comp=Z,85nm,0.9s,SNR=13						
MOTA				eP	pPKPab	09 07 22.0	-6.1
	comp=Z,19nm,1.2s						
BOJS	Bojanci	155.13	332	⇓iP	PKPab	09 05 27.6	-0.3
IDI	Anoyia	155.13	302	PKPbc	PKPdf	09 05 09.5	+9.3
	comp=Z,51nm,0.9s,baz=145,slow=2.6,SNR=16						
IDI	Anoyia	155.13	302	P	PKPdf	09 05 10.1	+10
MGRS	Mrkonjic Grad	155.13	328	eP	PKPab	09 05 28.9	+0.8
CADS	Cadrg	155.15	335	ePKPdf	PKPdf	09 04 58.6	-1.3
CADS				i PKPab	PKPab	09 05 26.7	-1.4
ABTA	Abfaltersbach	155.15	338	eP	PKPdf	09 04 58.7	-1.2
	comp=Z,14nm,0.8s,SNR=8.7						
ABTA				i P	PKPab	09 05 27.9	-0.3
	comp=Z,70nm,0.7s,SNR=6.3						
ABTA				i P	pPKPab	09 07 22.0	-6.4
	comp=Z,27nm,1.4s						
ZOU	Zoufplan	155.16	337		PKPdf	09 04 59.5	-0.6
ZOU				PKPab	PKPab	09 05 27.8	-0.5
SQTA	Sankt Quirin	155.17	340	eP	PKPdf	09 04 59.5	-0.5
	comp=Z,10.0nm,0.6s						
SQTA				eP	PKPab	09 05 28.9	+0.6
	comp=Z,75nm,0.7s,SNR=9.2						
SQTA				eP	pPKPab	09 07 22.9	-5.5
	comp=Z,16nm,0.9s						
CEY	Cerknica	155.28	334	⇓iP	PKPab	09 05 27.8	-0.8
OHR	Ohrid	155.31	318	eP	PKPdf	09 05 10.2	+10
PDG	Podgorica	155.39	322	⇓iP	PKPab	09 05 29.3	+0.1
PDG	Podgorica	155.39	322	PKPab	PKPab	09 05 29.0	-0.2
TTG	Podgorica	155.39	322	⇓iP	PKPab	09 05 29.6	+0.4
AGG	Agios Georgios	155.46	312	P	PKPdf	09 05 08.5	+8.0
AGG	Agios Georgios	155.46	312	eP	PKPab	09 05 27.9	-1.8
BRY	Bratogost	155.47	324	⇓iP	PKPab	09 05 29.5	-0.2
BRY	Bratogost	155.47	324	⇓iP	PKPab	09 05 29.6	-0.2
FETA	Feichten	155.50	341	eP	PKPdf	09 05 00.0	-0.5
	comp=Z,17nm,0.9s,SNR=10						
FETA				i P	PKPab	09 05 30.2	+0.5
	comp=Z,75nm,1.0s,SNR=8.2						
FETA				eP	pPKPab	09 07 23.4	-6.5
	comp=Z,11nm,1.2s						
CEME	Cevo	155.50	323	⇓iP	PKPab	09 05 29.9	+0.1
DAVA	Damuels	155.50	342	i P	PKPab	09 05 30.1	+0.4
	comp=Z,81nm,0.7s,SNR=15						
STAL	STALIGIAL	155.50	337		PKPdf	09 04 59.3	-1.1
STAL				PKPab	PKPab	09 05 28.9	-0.6
TRI	Trieste	155.57	335	PKP2	PKPab	09 05 29.4	-0.4
TRI	Trieste	155.57	335	PKPab	PKPab	09 05 29.4	-0.4
DRME	Dracevica, Mon	155.59	322	⇓iP	PKPab	09 05 30.0	-0.1
DRME	Dracevica, Mon	155.59	322	⇓iP	PKPab	09 05 30.2	+0.1
MAKR	Makrakomi, Fth	155.59	312	P	PKPdf	09 05 10.4	+10
SKDS	Skadanscina	155.61	334	⇓iP	PKPab	09 05 29.1	-0.9
BUM	Brajici-Budva	155.68	322	⇓iP	PKPab	09 05 29.8	-0.7
KIJV	Kijevo	155.77	328	eP	PKPdf	09 05 09.9	+9.2
IMMV	Iera Moni Meta	155.77	303	eP	PKPab	09 05 31.7	+0.6
RICI	Ricice	155.79	327	eP	PKPdf	09 05 10.0	+9.2
HCY	Herceg Novi	155.80	323	⇓iP	PKPab	09 05 30.4	-0.6
HCY	Herceg Novi	155.80	323	⇓iP	PKPab	09 05 30.8	-0.2
GVD	Gavdhos	155.90	302	eP	PKPab	09 05 31.7	0.0
STON	Ston	155.94	325	⇓iP	PKPab	09 05 29.7	-1.8
LSK	Leskovik	155.99	316	P	PKPdf	09 05 11.6	+10
MAKA	Makarska	155.99	326	eP	PKPdf	09 05 09.1	+8.0
NVLJ	Novalja	156.04	331	eP	PKPdf	09 05 12.2	+11
KLV	Kalavryta, Ach	156.05	310	P	PKPdf	09 05 10.7	+9.3
CTI	Castel Tesino	156.06	338	PKP2	PKPab	09 05 32.0	-0.1
CTI	Castel Tesino	156.06	338	PKPab	PKPab	09 05 32.0	-0.1
LAKA	Lakka	156.08	311	P	PKPdf	09 05 11.9	+11
KTHA	Kythira Island	156.17	306	eP	PKPab	09 05 32.2	-0.7
CLF	Chambon-Foret	156.20	355		PKPdf	09 04 59.9	-1.2
CLF				PKPab	PKPab	09 05 33.0	+0.6
MORI	Morici	156.20	329	eP	PKPdf	09 05 10.7	+9.4
ZIRJ	Zirje	156.39	329	eP	PKPdf	09 05 14.2	+13
DUGI	Dugi Otok	156.41	330	eP	PKPdf	09 05 10.9	+9.4
VLO	Vlora	156.48	318	PKP2	PKPab	09 05 35.6	+1.6
VLO	Vlora	156.48	318		PKPab	09 05 35.6	+1.6
ITM	Ithomi	156.61	309	eP	PKPab	09 05 34.4	-0.3
TEOL	Teolo	156.65	337	PKPdf	PKPdf	09 05 01.7	-0.1
TEOL				PKPab	PKPab	09 05 34.9	+0.4
SALO	Salr	156.81	339	PKPab	PKPab	09 05 34.7	-0.5
SENIN	Lac Senin/Sane	157.02	345	PKPab	PKPab	09 05 36.9	+0.6
SCTE	Santa Cesarea	157.35	319	PKPab	PKPab	09 05 38.2	+0.4
SGRT	San Giovanni R	157.75	325	PKPab	PKPab	09 05 39.8	+0.2
ZCCA	Zocca	157.77	337		PKPab	09 05 40.7	+1.3
MURB	Monte Urbino	158.09	333	PKPab	PKPab	09 05 41.7	+0.8
NRCA	Norcia	158.19	331		PKPab	09 05 41.5	+0.1
OSSC	Osservatorio P	158.38	335	PKPab	PKPab	09 05 41.5	-0.7
BNI	Bardonecchia	158.41	345	PKP2	PKPab	09 05 42.4	+0.1
BNI	Bardonecchia	158.41	345	PKPab	PKPab	09 05 42.4	+0.1
AQU	L'Aquila	158.44	330	PKP2	PKPab	09 05 43.0	+0.5
AQU	L'Aquila	158.44	330	⇓iP	PKPab	09 05 42.4	-0.1
AQU	L'Aquila	158.44	330		PKPab	09 05 43.0	+0.5
INTR	Introdacqua	158.47	329		PKPdf	09 05 03.6	-0.7
SSB	Saint Sauveur	158.62	349	PKP2	PKPab	09 05 43.3	+0.2
SSB	Saint Sauveur	158.62	349	PKPab	PKPab	09 05 43.3	+0.2
PAOL	Paolisi	158.88	326		PKPab	09 05 44.1	-0.4
TIP	Timpagrande	158.94	319	PKPab	PKPab	09 05 45.8	+1.0
CASP	Castiglione de	159.15	335	PKPab	PKPab	09 05 45.4	-0.1
CEL	Celeste	160.04	318		PKPab	09 05 50.4	+0.8
PGAV	Gavieira, Arco	161.37	17	ePKPdf	PKPdf	09 05 10.7	+3.2
PGAV	Gavieira, Arco	161.37	17	ePKPab	PKPab	09 05 55.6	+0.3
LIC	Lamto	161.59	167	eP	PKPab	09 05 56.7	0.0
	comp=Z,242nm,0.9s						
RAFF	Raffo Rosso	161.64	318		PKPab	09 05 58.3	+1.7
PCAB	Cabril	161.67	17	ePKPdf	PKPdf	09 05 09.3	+1.6
PCAB	Cabril	161.67	17	ePKPab	PKPab	09 05 57.2	+0.6
KIC	Kosan Boka	161.78	168	eP	PKPab	09 05 58.7	+1.1
	comp=Z,124nm,0.8s						
PBRG	Braganca	161.90	14	ePKPdf	PKPdf	09 05 08.9	+0.9
PBRG	Braganca	161.90	14	ePKPab	PKPab	09 05 57.5	-0.1
TIC	Toumodi	162.00	167	eP	PKPab	09 05 59.8	+1.3
POLO	Lamas de Olo	162.05	17	ePKPdf	PKPdf	09 05 10.3	+2.1
POLO	Lamas de Olo	162.05	17	ePKPab	PKPab	09 05 59.0	+0.7
DBIC	Dimbokro	162.06	167	PKP	PKPdf	09 05 08.8	-0.1
	comp=Z,3.7nm,0.7s,baz=203,slow=1.5,SNR=3.7						
DBIC				PKPab	PKPab	09 05 59.2	+0.4
	comp=Z,33nm,0.8s,baz=203,slow=4.1,SNR=21						
DBIC				PP	PP	09 09 44.0	+1.0
	comp=Z,9.6nm,0.8s,baz=169,slow=5.8,SNR=5.1						
DBIC	Dimbokro	162.06	167	PKPab	PKPab	09 05 58.8	+0.1
CLTB	Caltabellotta	162.08	321	PKPab	PKPab	09 05 57.5	-1.1
PVRL	Vila Real	162.16	17	ePKPab	PKPab	09 05 59.3	+0.6
MVO	Moncorvo	162.44	15	ePKPdf	PKPdf	09 05 10.3	+1.7
MVO	Moncorvo	162.44	15	ePKPab	PKPab	09 06 00.2	+0.2
PVIS	Viseu	162.64	18	ePKPab	PKPab	09 06 01.5	+0.7
MTE	Manteigas	163.03	18	ePKPdf	PKPdf	09 05 10.8	+1.7
MTE	Manteigas	163.03	18	ePKPab	PKPab	09 06 03.1	+0.5
MTE	Manteigas	163.03	18	PKPab	PKPab	09 06 02.8	+0.2
PCAS	Casmilo, Conde	163.06	20	ePKPdf	PKPdf	09 05 09.7	+0.6
PCAS	Casmilo, Conde	163.06	20	ePKPab	PKPab	09 06 03.0	+0.3
PCBR	Castelo Branco	163.57	18	ePKPdf	PKPdf	09 05 10.9	+1.3
PCBR	Castelo Branco	163.57	18	ePKPab	PKPab	09 06 05.4	+0.5
PMAFR	Mafra	163.78	24	ePKPdf	PKPdf	09 05 09.8	0.0
PMRV	Marv??o	163.97	18	ePKPab	PKPab	09 06 07.1	+0.4
PESTR	Estremoz	164.43	20	ePKPdf	PKPdf	09 05 11.4	+1.0
PESTR	Estremoz	164.43	20	ePKPab	PKPab	09 06 08.8	0.0
ESBB	Sonseca Array	164.47	9	PKPab	PKPab	09 06 08.7	-0.2
ESDC	Sonseca Array	164.47	9	PKP	PKPdf	09 05 10.4	-0.1
	comp=Z,0.4nm,0.4s,baz=27,slow=3.6,SNR=5.5						
ESDC				PKPab	PKPab	09 06 08.9	-0.1
	comp=Z,20nm,0.9s,baz=343,slow=4.2,SNR=53						
ESDC				SKPbc		09 08 10.1	
	comp=Z,0.6nm,0.7s,baz=354,slow=34,SNR=2.2						
ESDC				PP	PP	09 09 57.8	+2.0
	comp=Z,0.3nm,0.4s,baz=331,slow=39,SNR=3.3						
ESDC	Sonseca Array	164.47	9	PKPab	PKPab	09 06 09.3	+0.3
PAB	San Pablo	164.54	10	PKP2	PKPab	09 06 09.1	-0.2
PAB	San Pablo	164.54	10		PKPab	09 06 09.1	-0.2
EVO	Evora	164.60	21	ePKPdf	PKPdf	09 05 11.9	+1.4
PNCL	Nicolau / Gran	164.80	23	ePKPdf	PKPdf	09 05 12.2	+1.5
PNCL	Nicolau / Gran	164.80	23	ePKPab	PKPab	09 06 10.5	+0.1
PBEJ	Beja	165.11	22	ePKPdf	PKPdf	09 05 12.9	+1.9
PBEJ	Beja	165.11	22	ePKPab	PKPab	09 06 12.6	+0.9
MESJ	Messejana	165.15	23	ePKPdf	PKPdf	09 05 11.0	0.0
MESJ	Messejana	165.15	23	ePKPdf	PKPdf	09 05 12.2	+1.2
MESJ	Messejana	165.15	23	ePKPab	PKPab	09 06 11.8	-0.1
PTEO	Sao Teotonio	165.22	25	ePKPdf	PKPdf	09 05 12.9	+1.8
PTEO	Sao Teotonio	165.22	25	ePKPab	PKPab	09 06 12.8	+0.5
PBAR	Barrancos	165.24	19	ePKPdf	PKPdf	09 05 11.8	+0.7
PBAR	Barrancos	165.24	19	ePKPab	PKPab	09 06 12.5	+0.2
PCVE	Castro Verde	165.40	23	ePKPdf	PKPdf	09 05 12.6	+1.4
PCVE	Castro Verde	165.40	23	ePKPab	PKPab	09 06 11.9	-1.2
MORF	Marmelete	165.46	25	ePKPdf	PKPdf	09 05 11.3	-0.1
MORF	Marmelete	165.46	25	ePKPdf	PKPdf	09 05 13.1	+1.7
MORF	Marmelete	165.46	25	ePKPab	PKPab	09 06 13.5	+0.1
PFVI	Vila Bisbo	165.54	26	ePKPdf	PKPdf	09 05 13.7	+2.4
KEST	Kesra	165.56	324	PKP	PKPdf	09 05 11.8	+0.3
	comp=Z,5.0nm,0.9s,baz=4.2,slow=3.4,SNR=4.3						
KEST				PKPab	PKPab	09 06 15.0	+1.0
	comp=Z,26nm,0.6s,baz=0.1,slow=0.9,SNR=26						
PVAQ	Vaqueiros	165.72	22	ePKPdf	PKPdf	09 05 13.1	+1.6
PVAQ	Vaqueiros	165.72	22	ePKPab	PKPab	09 06 14.9	+0.4
PVAQ	Vaqueiros	165.72	22	PKPdf	PKPdf	09 05 12.4	+0.9
PVAQ					PKPab	09 06 14.4	0.0
PBDV	Barranco-do-Ve	165.79	23	ePKPdf	PKPdf	09 05 13.5	+1.9
PBDV	Barranco-do-Ve	165.79	23	ePKPab	PKPab	09 06 15.5	+0.7
TORD	Torodi Ar. Bea	168.62	193	PKP	PKPdf	09 05 13.6	-0.6
	comp=Z,3.2nm,0.8s,baz=336,slow=1.0,SNR=14						
TORD				PKPab	PKPab	09 06 28.1	+0.4
	comp=Z,62nm,0.8s,baz=165,slow=3.0,SNR=108						
TORD				PP	PP	09 10 17.1	+0.5
	comp=Z,12nm,0.8s,baz=169,slow=3.8,SNR=9.8						
TORD	Torodi Ar. Bea	168.62	193		PKPdf	09 05 13.2	-1.0
TORD					PKPab	09 06 27.8	+0.1
KOWA	Kowa	169.81	163	PKP	PKPdf	09 05 14.2	-0.7
	comp=Z,2.9nm,0.7s,baz=137,slow=2.2,SNR=3.5						
KOWA				PKPab	PKPab	09 06 33.5	+0.5
	comp=Z,27nm,0.8s,baz=191,slow=4.5,SNR=28						
KOWA				PP	PP	09 10 28.6	+6.0
	comp=Z,9.4nm,0.8s,baz=160,slow=5.3,SNR=6.9						
KOWA	Kowa	169.81	163		PKPdf	09 05 13.6	-1.3
KOWA				PKPab	PKPab	09 06 33.0	+0.1
MDT	Midelt	170.94	20	PKPab	PKPab	09 06 38.6	+0.8
	comp=Z,31nm,1.0s,baz=13,slow=4.4,SNR=14						

NNC 07 08:58:18.9±3.1, 52.43N×76.07E, h0km, mb3.2, mpv2.9, 3C-3D Error ellipse: s-maj=60.1km s-min=10.5km az=31.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	2.38	139	⇓Pg	Pb	08 59 02.8	+0.3
	2.5nm,0.3s						
KURBB				⇑Lg	Lg	08 59 33.4	
	45nm,0.7s						
BRVK	Borovoye	3.57	282	⇑Pg	Pb	08 59 24.0	+1.2
	2.0nm,0.7s						
BRVK				⇑Lg	Lg	09 00 11.1	
	17nm,0.9s						
MAKZ	Makanchi	6.81	143	⇓Lg	Lg	09 01 52.3	
	3.5nm,0.6s						
MK31	Makanchi Array	6.94	142	⇓Lg	Lg	09 01 57.6	
	2.6nm,0.6s,baz=328,slow=25,SNR=5.3						

IDC 07 08:59:34.9±2.7, 54.31N×86.28E, h0km, mb1 3.6/2,

mb1mx3.3/79,mbtmp3.6/2,ML3.1/2,Error ellipse: s-maj=21.5km s-min=13.1km az=48.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.93	248	*i*		09 04 40.0	
	baz=67,slow=319,SNR=3.8						
ZALV	Zalesovo Beam	0.93	248	Pg	Pg	08 59 50.9	-1.9
	2.0nm,0.3s,baz=65,slow=17,SNR=11						
ZALV				Lg	Lg	09 00 06.9	
	12nm,0.3s,baz=70,slow=29,SNR=12						
KURBB	Kurchatov Arra	6.00	235	Pn	Pn	09 01 05.5	+0.7
	0.2nm,0.3s,baz=51,slow=13,SNR=2.8						
MKAR	Makanchi Array	7.94	200	Pn	Pn	09 01 32.8	+1.3
	0.6nm,0.3s,baz=23,slow=13,SNR=26						

BEO 07 09:02:15.5±1.5,44°.21N×17°.78E,h0km,ML1.5/3,Mining explosion.,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBLS	Lazići	1.22	106	*e*Pg	Pg	09 02 37.4	-1.5
BBLS				*e*Sg	Sg	09 02 54.2	-0.5
DIVS	Divibare	1.60	93	*e*Pg	Pn	09 02 44.1	-1.0
DIVS				*e*Sg	Sn	09 03 06.2	-0.2
IVAS	Ivanjica	1.83	109	*e*Pg	Pn	09 02 48.2	0.0
IVAS				*e*Sg	Sb	09 03 13.6	+0.3

*IDC **07** 09:10:41.4±1.0,6°.24S×155°.29E,h0km,mb4.1/10, mb1 4.2/10,mb1mx3.9/55,mbtmp4.1/10,Error ellipse: s-maj=35.9km s-min=21.9km az=91.0*

*NEIC **07** 09:10:44.2±0.9,6°.3S±0°.1×155°.38E±0°.06,h16km±6km, mb4.3/15,Error ellipse: s-maj=17.8km s-min=8.2km az=175.0*

ISC 07 09:10:47.9±0.8,6°.3S±0°.1×155°.3E±0°.1,h50km,n34, σ1s.01/27,mb4.2/17,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	Rabaul	3.79	304	Pn	Pn	09 11 41.9	-1.9
DZM	Mont Dzumac	19.00	147		Pn	09 15 05.2	-1.5
WR0	Warramunga Arr	24.32	234	P	P	09 16 01.2	+0.2
WR0				IAmb	IAmb	09 16 01.7	
	comp=Z,5.0nm,0.6s						
WRAB	Tennant Creek	24.46	234	P	P	09 16 02.3	-0.1
WRAB				IAmb	IAmb	09 16 03.2	
	comp=Z,3.9nm,0.6s						
WB2	Warramunga Arr	24.46	234	P	P	09 16 02.6	+0.3
WB2				IAmb	IAmb	09 16 03.3	
	comp=Z,3.7nm,0.5s						
WRA	Warramunga Arr	24.47	234	P	P	09 16 02.6	+0.2
	comp=Z,3.7nm,0.5s,baz=57,slow=10,SNR=55						
WRA				PcP	PcP	09 19 41.2	+0.9
	comp=Z,0.4nm,0.4s,baz=69,slow=2.6,SNR=8.7						
WRA	Warramunga Arr	24.47	234	P	P	09 16 02.2	-0.3
MTN	Manton Dam	24.70	253	P	P	09 16 04.0	-0.6
MTN				IAmb	IAmb	09 16 09.9	
	comp=Z,10nm,1.1s						
ASAR	Alice Springs	26.86	228	P	P	09 16 23.9	-0.3
	comp=Z,1.3nm,0.7s,baz=59,slow=8.8,SNR=21						
ASAR				PcP	PcP	09 19 46.6	+0.8
	comp=Z,0.4nm,0.6s,baz=70,slow=1.3,SNR=5.0						
H11S3	WAKE ISLAND Hy	27.08	24	T	T	09 44 43.4	
	baz=205,slow=76,SNR=27						
H11S2	WAKE ISLAND Hy	27.09	24	T	T	09 44 39.4	
	baz=205,slow=76,SNR=23						
H11S1	WAKE ISLAND Hy	27.10	24	T	T	09 44 44.7	
	baz=205,slow=76,SNR=16						
KNRA	Kununurra	27.65	248	P	P	09 16 31.4	+0.2
KNRA				IAmb	IAmb	09 16 44.2	
	comp=Z,7.1nm,1.1s						
H11N1	WAKE ISLAND Hy	28.26	24	T	T	09 46 15.8	
	baz=205						
H11N3	WAKE ISLAND Hy	28.27	24	T	T	09 46 20.4	
	baz=205						
H11N2	WAKE ISLAND Hy	28.28	24	T	T	09 46 28.0	
	baz=205						
FITZ	Fitzroy Crossi	31.23	245	P	P	09 17 02.0	-0.9
PSA00	Pilbara Seismi	37.49	243	P	P	09 17 58.6	+1.4
TUWZ	Tuamarina	38.71	157	P	P	09 18 06.9	-0.1
SNZO	South Karori	38.90	157	P	P	09 18 06.1	-2.5
BSWZ	Blackbirch Sta	38.93	158	P	P	09 18 11.7	+2.8
CMAR	Chiang Mai Arr	60.79	295	P	P	09 20 56.1	+0.9
	comp=Z,2.1nm,0.5s,baz=119,slow=5.8,SNR=7.9						
SONM	Songino Array	68.94	327	P	P	09 21 48.9	+0.9
	comp=Z,0.8nm,0.5s,baz=132,slow=4.7,SNR=3.8						
SONM	Songino Array	68.94	327	P	P	09 21 48.1	+0.1
SONM				IAmb	IAmb	09 21 50.3	
	comp=Z,2.4nm,1.2s						
VNDA	Vanda	71.25	179	P	P	09 22 02.5	+1.1
	comp=Z,0.6nm,0.8s,baz=317,slow=4.8,SNR=3.6						
ILAR	Eielson Array	82.63	21	P	P	09 23 06.2	+0.7
	comp=Z,0.2nm,0.5s,baz=228,slow=5.1,SNR=1.9						
MK31	Makanchi Array	83.11	319	P	P	09 23 07.1	-1.4
MK31				IAmb	IAmb	09 23 10.0	
	comp=Z,1.2nm,0.8s						
MKAR	Makanchi Array	83.11	319	P	P	09 23 08.2	-0.4
	comp=Z,1.3nm,0.6s,baz=98,slow=5.7,SNR=9.1						
MAKZ	Makanchi	83.32	319	P	P	09 23 09.9	+0.4
MAKZ				IAmb	IAmb	09 23 10.6	
	comp=Z,1.7nm,0.7s						
QSPA	South Pole Qui	83.66	180	P	P	09 23 12.8	+1.8
	comp=Z,1.2nm,0.5s,baz=47,slow=1.1,SNR=19						
ZALV	Zalesovo Beam	83.80	326	P	P	09 23 11.6	-0.2
	comp=Z,0.6nm,0.3s,baz=122,slow=5.2,SNR=2.7						
MAW	Mawson	85.14	203	P	P	09 23 19.6	+1.2
	comp=Z,1.6nm,0.5s,baz=116,slow=7.1,SNR=7.7						
MAW	Mawson	85.14	203	IAmb	IAmb	09 23 20.1	
	comp=Z,0.4nm,0.6s						
TORD	Torodi Ar. Bea	153.15	287	PKPbc	PKiKP	09 30 40.9	-0.5
	comp=Z,0.3nm,0.5s,baz=91,slow=2.3,SNR=4.9						

*IDC **07** 09:13:54.5±0.3,32°.79S×178°.15W,h0km,mb5.1/36, mb1 5.2/38,mb1mx5.1/45,mbtmp5.1/38,ML5.7/2,MS5.9/37, Ms1 5.9/37,ms1mx5.7/45,Error ellipse: s-maj=12.6km s-min=12.1km az=3.0*

*SVSA **07** 09:13:56.6,32°.82S×177°.86W,h17km,MW6.3(NEIC)*

*NEIC **07** 09:13:56.6±3.0,32°.82S±0°.06×177°.86W±0°.09,h17km±1km, mb5.6/187,Ms_20 6.4/907,Mwc6.3/102,Mww6.3, Mwc6.2(GCMT),Error ellipse: s-maj=13.3km s-min=9.4km az=95.0*

*MOS **07** 09:13:56.2±1.3,32°.73S×178°.10W,h19km,mb5.9/40, MS6.2/33,Error ellipse: s-maj=9.2km s-min=7.3km az=95.0*

*BJI **07** 09:13:56.6±0.0,33°.07S×177°.99W,h29km,mB6.1/54, mb5.4/35,Ms6.2/69,Ms7 5.9/65*

*NOU **07** 09:13:56.4,33°.20S×177°.63W,h18km,ML6.0/85,South of Kermadec Islands*

*BGR **07** 09:13:58.8±0.0,32°.72S×177°.99W,h10km,Ms6.6*

*GCMT **07** 09:14:03.6±0.1,32°.83S×177°.73W,h12km,MW6.2/165, Moment Tensor Solution. s150,c340; s165,c623; Duration: 3s.0 Moment tensor: Scale 10^{18}Nm; M_{rr}1.54±.01; $M_{\theta\theta}$-0.09±.01; $M_{\phi\phi}$-1.45±.01; $M_{r\theta}$0.37±.02; $M_{\theta\phi}$-0.44±.01; $M_{\phi r}$1.71±.02; Best double couple: $M_0$2.34400×10^{18} NP1:ϕ_s200.00000°,δ21.00000°, λ96.00000°. NP2:ϕ_s13.00000°,δ69.00000°,λ88.00000°. Principal axes: T 2.3270, Plg66.0000°, Azm279.0000°; N 0.0340, Plg2.0000°, Azm14.0000°; P -2.3610, Plg24.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **07** 09:14:03,32°.82S×177°.71W,h12km,Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.52; $M_{\theta\theta}$-0.05; $M_{\phi\phi}$-1.48; $M_{r\theta}$0.38; $M_{\theta\phi}$-0.48; $M_{\phi r}$1.89; Fault plane solution: $M_0$2.49000×10^{18} NP1:ϕ_s202.00000°, δ20.00000°,λ99.00000°. NP2:ϕ_s13.00000°,δ70.00000°, λ87.00000°. Principal axes: T 2.4423, Plg64.0000°, Azm277.0000°; N 0.0927, Plg3.0000°, Azm14.0000°; P -2.5351, Plg25.0000°, Azm105.0000°;*

*NEIC **07** 09:14:04,32°.92S×177°.72W,h12km,Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.53; $M_{\theta\theta}$-0.12; $M_{\phi\phi}$-1.42; $M_{r\theta}$0.45; $M_{\theta\phi}$-0.57; $M_{\phi r}$2.84; Fault plane solution: $M_0$3.28000×10^{18} NP1:ϕ_s211.00000°, δ15.00000°,λ110.00000°. NP2:ϕ_s10.00000°,δ76.00000°, λ85.00000°. Principal axes: T 3.2593, Plg59.0000°, Azm273.0000°; N 0.0443, Plg5.0000°, Azm12.0000°; P -3.3036, Plg31.0000°, Azm105.0000°;*

*NEIC **07** 09:14:20.4,32°.99S×177°.60W,h21km,Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.98; $M_{\theta\theta}$-0.30; $M_{\phi\phi}$-1.68; $M_{r\theta}$0.46; $M_{\theta\phi}$-0.49; $M_{\phi r}$3.24; Fault plane solution: $M_0$3.78000×10^{18} NP1:ϕ_s204.17000°, δ15.48000°,λ104.14000°. NP2:ϕ_s9.52000°,δ75.00000°, λ86.13000°. Principal axes: T 3.8728, Plg60.0000°, Azm274.0000°; N -0.1770, Plg4.0000°, Azm11.0000°; P -3.6959, Plg30.0000°, Azm103.0000°;*

ISC 07 09:13:56.1±0.4,32°.93S±0°.03×177°.98W±0°.04,h13km±2km, h12km:pP-P,n1598,σ2s.60/1296,mb5.6/183,MS6.4/524, 22C-31D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	3.67	1	Pn	Pn	09 14 47.8	-4.7
	251nm,0.3s,baz=130,slow=16,SNR=11						
RAO				Sn	Sn	09 15 30.3	-5.4
	1μm,0.3s,baz=78,slow=21,SNR=7.8						
RAO	Raoul Island	3.67	1	P	Pn	09 14 48.8	-3.8
RAO	Raoul Island	3.67	1	Pn	Pn	09 14 48.8	-3.8
MXZ	Matakaoa Point	5.53	212	Pn	Pn	09 15 17.6	-0.5
MXZ	Matakaoa Point	5.53	212	P	Pn	09 15 16.8	-1.4
MXZ				S	Sn	09 16 24.6	+2.9
WMGZ	Waiomatatini S	5.70	210	P	Pn	09 15 20.0	-0.5
WMGZ				S	Sn	09 16 28.7	+2.9
PKGZ	Pakihiroa	5.90	212	P	Pn	09 15 21.3	-2.0
PKGZ				S	Sn	09 16 31.7	+0.8
HAZ	Te Kaha	5.93	215	P	Pn	09 15 22.7	-0.9
PUZ	Puketiti	5.98	210	P	Pn	09 15 21.7	-2.6
WIZ	White Island	6.05	219	P	Pn	09 15 31.6	+6.3
RUGZ	Raukumara Rang	6.15	214	P	Pn	09 15 25.0	-1.7
TWGZ	Tauwhareparae	6.18	211	P	Pn	09 15 25.7	-1.5
TWGZ				S	Sn	09 16 40.4	+2.6
CNGZ	Carnagh Statio	6.35	208	P	Pn	09 15 27.4	-2.0
CNGZ				S	Sn	09 16 45.2	+3.4
WHRZ	Whale Island	6.41	219	P	Pn	09 15 31.8	+1.5
TKGZ	Te Karaka	6.46	211	P	Pn	09 15 28.9	-2.0
MWZ	Matawai	6.52	213	P	Pn	09 15 29.3	-2.5
OPRZ	Ohinepanea	6.63	221	P	Pn	09 15 33.5	+0.2
URZ	Urewera	6.65	216	Pn	Pn	09 15 30.7	-2.9
	21nm,0.3s,baz=120,slow=23,SNR=61						
URZ				Sn	Sn	09 16 46.6	-2.7
	90nm,0.3s,baz=165,slow=19,SNR=12						
URZ	Urewera	6.65	216	Pn	Pn	09 15 33.5	-0.1
URZ	Urewera	6.65	216	P	Pn	09 15 31.6	-1.9
MARZ	Manawahe	6.67	219	P	Pn	09 15 34.5	+0.7
RAGZ	Rawiri	6.70	213	P	Pn	09 15 32.0	-2.2
TGRZ	Tauranga	6.71	223	P	Pn	09 15 36.1	+1.7
RIGZ	Rimuhau	6.72	210	P	Pn	09 15 32.2	-2.3
EDRZ	Edgecumbe	6.72	218	P	Pn	09 15 36.4	+1.8
PRGZ	Paritu Road	6.86	208	P	Pn	09 15 34.0	-2.4
PRGZ				S	Sn	09 16 54.0	-0.4
OMRZ	Omania	6.92	220	P	Pn	09 15 38.7	+1.4
KARZ	Kaharoa	6.93	221	P	Pn	09 15 38.7	+1.3
TARZ	Mount Tarawera	6.94	219	P	Pn	09 15 39.6	+2.0
SNGZ	Shannon Statio	6.97	212	P	Pn	09 15 35.8	-2.1
KMRZ	Kaimai	6.98	224	P	Pn	09 15 39.6	+1.6
MUGZ	Murupara	6.99	216	P	Pn	09 15 37.6	-0.7
RTZ	Ruatahuna	7.00	214	P	Pn	09 15 37.1	-1.2
RRRZ	Republican Roa	7.02	218	P	Pn	09 15 39.2	+0.6
NGRZ	Ngongotaha	7.02	221	P	Pn	09 15 41.7	+3.1
KNZ	Kokohu	7.03	209	P	Pn	09 15 37.2	-1.5
HLRZ	Highlands Stat	7.04	219	P	Pn	09 15 40.4	+1.5
MHGZ	Mahia Peninsul	7.05	207	P	Pn	09 15 37.3	-1.7
UTU	Utuhina	7.07	221	P	Pn	09 15 43.5	+4.2
HSRZ	Hossack Road	7.14	220	P	Pn	09 15 46.1	+5.9
HRRZ	Handcock Road	7.17	219	P	Pn	09 15 44.6	+3.8
RAHZ	Arahi	7.19	212	P	Pn	09 15 40.0	-0.9
PRRZ	Plateau Road	7.20	218	P	Pn	09 15 41.7	+0.6
MTHZ	Maungataniwha	7.25	214	P	Pn	09 15 40.2	-1.6
WHHZ	Waihua	7.26	211	P	Pn	09 15 43.3	+1.4
ALRZ	Allen Road	7.27	218	P	Pn	09 15 42.0	-0.1
WPRZ	Whakapapatarin	7.33	219	P	Pn	09 15 44.4	+1.5
OUZ	Omahuta	7.35	250	Pn	Pn	09 15 44.8	+1.6
MRHZ	Matea Rd	7.44	216	P	Pn	09 15 43.6	-0.9
NMHZ	Naumai	7.46	213	P	Pn	09 15 44.0	-0.8
KUTZ	Kaahu Road	7.50	221	P	Pn	09 15 47.0	+1.8
ARHZ	Aropaoanui	7.51	211	P	Pn	09 15 45.7	+0.3
TLZ	Tolley Road	7.54	223	P	Pn	09 15 46.7	+0.9
WHTZ	Whakaora	7.55	219	P	Pn	09 15 47.5	+1.5
BKZ	Black Stump Fm	7.67	214	Pn	Pn	09 15 46.6	-0.9
BKZ	Black Stump Fm	7.67	214	P	Pn	09 15 44.8	-2.7
MCHZ	McNeill Hill	7.80	212	P	Pn	09 15 48.2	-1.1
RATZ	Rangitukua	7.80	219	P	Pn	09 15 49.4	+0.1
CKHZ	Cape Kidnapper	7.81	209	P	Pn	09 15 48.8	-0.7
RITZ	Rihia Road	7.83	218	P	Pn	09 15 49.7	-0.1
KWHZ	Kaweka Forest	7.90	213	P	Pn	09 15 49.4	-1.4
KATZ	Kakaramea	7.92	219	P	Pn	09 15 53.0	+1.9
KAHZ	Kahuranaki	8.01	210	P	Pn	09 15 48.2	-4.0
TMVZ	Te Maari	8.02	218	P	Pn	09 15 51.0	-1.4
NTVZ	North Tongarir	8.02	218	P	Pn	09 15 51.1	-1.3
ETVZ	East Tongariro	8.03	218	P	Pn	09 15 51.5	-1.1
KRVZ	Karewarewa	8.03	218	P	Pn	09 15 53.0	+0.4
HIZ	Hauiti	8.06	224		Pn	09 15 52.8	-0.1
HIZ	Hauiti	8.06	224	P	Pn	09 15 54.4	+1.5
OTVZ	Oturere	8.07	218	P	Pn	09 15 51.9	-1.3
NNVZ	North Ngauruho	8.07	218	P	Pn	09 15 52.6	-0.6
WTVZ	West Tongariro	8.08	218	P	Pn	09 15 53.2	0.0
SNVZ	South Ngauruho	8.10	218	P	Pn	09 15 53.5	-0.1
KRHZ	Kereru	8.10	213	P	Pn	09 15 50.9	-2.6
NGZ	Ngauruhoe	8.12	218	P	Pn	09 15 53.9	+0.1
TWVZ	Taurewa	8.12	219	P	Pn	09 15 55.0	+1.1
BHHZ	Black Hill Sta	8.12	215	P	Pn	09 15 51.8	-2.1
TUVZ	Tukino	8.16	217	P	Pn	09 15 55.8	+1.4
WHVZ	Whangaehu Hut	8.20	218	P	Pn	09 15 55.4	+0.3
MOVZ	Moawhango	8.21	216	P	Pn	09 15 53.3	-1.8
PXZ	Pawanui	8.21	209	P	Pn	09 15 52.3	-2.7
WNVZ	Wahianoa	8.23	217	P	Pn	09 15 54.2	-1.1
MTVZ	Mangateitei	8.34	218	P	Pn	09 15 57.2	+0.4
PNHZ	Pukenui	8.40	212	P	Pn	09 15 55.6	-2.0
WPHZ	Waipukurau	8.42	211	P	Pn	09 15 53.9	-3.9
VRZ	Vera Road	8.53	222	P	Pn	09 16 00.2	+0.9
TSZ	Takapari Road	8.62	213	P	Pn	09 15 58.1	-2.5
DVHZ	Dannevirke	8.73	211	P	Pn	09 15 58.9	-3.2
ANWZ	Angora Road	8.73	209	P	Pn	09 15 59.6	-2.5
WAZ	Wanganui	8.86	218	P	Pn	09 16 02.9	-1.0
POWZ	Post Office Ro	8.98	212	P	Pn	09 16 04.0	-1.6
NEZ	North Egmont	9.01	223	P	Pn	09 16 08.8	+2.8
BFZ	Birch Farm	9.02	209		Pn	09 16 04.8	-1.2
BFZ	Birch Farm	9.02	209	P	Pn	09 16 02.4	-3.6
PRWZ	Pori Road	9.03	211	P	Pn	09 16 04.5	-1.6
KHEZ	Kahui Hut	9.07	223	P	Pn	09 16 11.7	+4.9
TIWZ	Tintock	9.24	210	P	Pn	09 16 05.6	-3.5
MRZ	Mangatainoka R	9.28	212	P	Pn	09 16 04.9	-4.8
HOWZ	Holdsworth Sta	9.50	211	P	Pn	09 16 10.3	-2.4
TMWZ	Te Maipa	9.52	209	P	Pn	09 16 07.8	-5.1
OGWZ	Otaki Gorge	9.59	213	P	Pn	09 16 11.6	-2.3
MTW	Mount Morrison	9.72	211	P	Pn	09 16 12.6	-3.1
KIW	Kapiti Island	9.75	214	P	Pn	09 16 11.6	-4.5
CAW	Cannon Point	9.87	212	P	Pn	09 16 14.2	-3.6
PAWZ	Paruwai Farm	9.94	210	P	Pn	09 16 14.7	-3.9
MSWZ	Moikau Station	10.04	211	Pn	Pn	09 16 19.6	-0.5
PLWZ	Palliser	10.17	210		Pn	09 16 21.3	-0.6
DUWZ	D'Urville Isla	10.19	217	P	Pn	09 16 20.8	-1.3
SNZO	South Karori	10.20	213		Pn	09 16 23.1	+0.9
TCW	Tory Channel	10.32	215	P	Pn	09 16 22.6	-1.2
TUWZ	Tuamarina	10.65	215		Pn	09 16 26.8	-1.6
TUWZ	Tuamarina	10.65	215	P	Pn	09 16 25.0	-3.3
NNZ	Nelson	10.77	217		Pn	09 16 30.4	+0.4
NNZ	Nelson	10.77	217	P	Pn	09 16 25.9	-4.1
BSWZ	Blackbirch Sta	10.90	214	Pn	Pn	09 16 32.3	+0.5
BSWZ	Blackbirch Sta	10.90	214	P	Pn	09 16 28.4	-3.4
QRZ	Quartz Range	10.94	221	Pn	Pn	09 16 33.3	+0.9
QRZ	Quartz Range	10.94	221	P	Pn	09 16 29.0	-3.4
THZ	Tophouse	11.41	217		Pn	09 16 39.0	+0.2
THZ	Tophouse	11.41	217	P	Pn	09 16 34.1	-4.8
KHZ	Kahutara	11.61	213		Pn	09 16 40.4	-1.0
KHZ	Kahutara	11.61	213	P	Pn	09 16 38.8	-2.7
LTZ	Lake Taylor	12.48	215	Pn	Pn	09 16 52.0	-1.5
AMCZ	Amberley	12.61	213	P	Pn	09 16 56.0	+0.9
OXZ	Oxford	13.01	214		Pn	09 16 58.8	-1.9
MQZ	McQueen's Vall	13.02	212	Pn	Pn	09 16 58.9	-1.9
RPZ	Rata Peaks	13.77	215	Pn	Pn	09 17 08.0	-3.0
FOZ	Fox Glacier	14.27	219		Pn	09 17 15.5	-2.3
LBZ	Lake Benmore	14.69	215	Pn	Pn	09 17 21.8	-1.8
ODZ	Otahua Downs	14.97	213		Pn	09 17 23.2	-4.2
MSVF	Nonsavu	15.55	346	Pn	Pn	09 17 32.4	-2.9
	1.9nm,0.3s,baz=142,slow=12,SNR=19						
MSVF				LR	LR	09 22 00.6	
	comp=Z,48μm,19.1s,baz=175,slow=32						
MSVF	Nonsavu	15.55	346	*i* P	Pn	09 17 32.8	-2.4
MSVF	Nonsavu	15.55	346	Pn	Pn	09 17 31.8	-3.4
MSVF				IAmb	IAmb	09 18 02.5	
	comp=Z,288nm,1.1s						
NIUE	Niue	15.57	30	P	Pn	09 17 28.0	-7.4
	baz=16,SNR=8.6						
NIUE	Niue	15.57	30		Pn	09 17 29.5	-5.9
NIUE	Niue	15.57	30	P	Pn	09 17 34.0	-1.4
WKZ	Wanaka	15.59	217	Pn	Pn	09 17 33.1	-2.4
MLZ	Mavora Lakes	16.42	217	Pn	Pn	09 17 43.6	-2.6
PINNC	Pines Island,	16.47	305	Pn	Pn	09 17 47.5	+0.5
PINNC				IAmb	IAmb	09 18 05.3	
	comp=Z,362nm,0.9s						
PINNC	Pines Island,	16.47	305	P	P	09 17 53.8	+4.1
MARNC	Mare, Loyalty	16.86	309		P	09 17 53.1	-0.9
MARNC	Mare, Loyalty	16.86	309	P	P	09 17 57.4	+3.4
WHZ	Wether Hill Ro	16.87	216	Pn	Pn	09 17 52.1	+0.2
OUENC	Ouen Island, N	17.02	304	P	P	09 17 56.9	+1.1
OUENC	Ouen Island, N	17.02	304	P	P	09 17 58.0	+2.2
YATNC	Mamie plateau,	17.23	305	P	P	09 18 01.6	+3.6
ONTNC	Ouen Toro	17.36	304	P	P	09 18 00.3	+0.7
ONTNC				IAmb	IAmb	09 18 09.1	
	comp=Z,458nm,1.0s						
ONTNC	Ouen Toro	17.36	304	P	P	09 18 03.9	+4.3
DZM	Mont Dzumac	17.53	304	*e*Pn	P	09 18 03.0	+1.5
	comp=Z,1μm,1.6s						
DZM				*e*LR	LR	09 22 08.3	
	comp=Z,159μm,26.0s						
DZM	Mont Dzumac	17.53	304	P	P	09 18 01.0	-0.4
	comp=Z,2.6nm,0.3s,baz=151,slow=15,SNR=33						
DZM				LR	LR	09 23 43.2	
	comp=Z,91μm,18.3s,baz=126,slow=34						
DZM	Mont Dzumac	17.53	304	P	P	09 18 02.5	+1.0
DZM				IAmb	IAmb	09 18 12.4	
	comp=Z,2μm,1.8s						
DZM	Mont Dzumac	17.53	304	P	P	09 18 04.8	+3.3
NOUC	Port Laguerre	17.61	304	P	P	09 18 05.6	+3.4
LIFNC	LIFOU	17.88	309	P	P	09 18 05.6	+0.4
LIFNC	LIFOU	17.88	309	P	P	09 18 09.3	+4.1
LHI	Lord Howe Isla	19.47	268	P	Pn	09 18 25.5	+1.6
	baz=20,SNR=9.7						
LHI	Lord Howe Isla	19.47	268	P	Pn	09 18 24.3	+0.3
LHI	Lord Howe Isla	19.47	268	P	Pn	09 18 25.9	+2.0
AFI	Afiamalu	19.76	18	P	P	09 18 24.0	-2.0
	comp=Z,8.7nm,0.3s,baz=199,slow=18,SNR=16						
AFI				S	S	09 21 46.3	-22
	comp=Z,1.6nm,0.3s,baz=255,slow=20,SNR=1.8						
AFI	Afiamalu	19.76	18	P	P	09 18 24.0	-2.0
AFI	Afiamalu	19.76	18	P	P	09 18 23.7	-2.3
AFI	Afiamalu	19.76	18	P	P	09 18 26.4	+0.4
RAR	Rarotonga	19.94	59	P	P	09 18 24.9	-3.0
	comp=Z,1.2nm,0.3s,baz=220,slow=6.9,SNR=3.5						
RAR				S	S	09 21 51.0	-21
	comp=Z,0.7nm,0.3s,baz=107,slow=20,SNR=1.6						
RAR				LR	LR	09 25 35.5	
	comp=Z,56μm,19.1s,baz=222,slow=35						
RAR	Rarotonga	19.94	59	P	P	09 18 24.8	-3.0
RAR				pmax	pmax		
	comp=Z,645nm,1.5s						
RAR	Rarotonga	19.94	59	P	P	09 18 24.8	-3.0
RAR				IAmb	IAmb	09 18 56.2	
	comp=Z,645nm,1.5s						
RAR	Rarotonga	19.94	59	P	P	09 18 27.3	-0.6
KOUNC	Koumac, New Ca	20.04	304	P	Pn	09 18 32.2	+1.5
SANVU	Saraoutou	21.99	319	P	P	09 18 48.7	-1.3
SANVU				IAmb	IAmb	09 19 21.2	
	comp=Z,664nm,1.4s						
SANVU	Saraoutou	21.99	319	P	P	09 18 53.9	+3.9
ARMA	Armidale	25.95	267	P	P	09 19 30.9	+2.4
	baz=26,SNR=14						
ARMA	Armidale	25.95	267	P	P	09 19 28.2	-0.2
TBI	Tubuai	26.83	76	*e*P	P	09 19 37.4	+1.1
	comp=Z,210nm,1.2s						
TBI				*e*S	S	09 24 06.0	-6.4
	comp=Z,7μm,27.2s						
TBI				*e*LQ	LQ	09 25 02.5	
	comp=Z,43μm,25.5s						
TBI				*e*LR	LR	09 26 12.1	
	comp=Z,52μm,31.2s,baz=242						
TBI	Tubuai	26.83	76	*e*T	T	09 46 38.8	
	comp=Z,17nm,0.3s						
CNB	Canberra Magne	27.08	256	P	P	09 19 40.3	+1.7
	baz=27,SNR=15						
MILA	Mila	27.16	252	P	P	09 19 41.7	+2.4
	baz=27,SNR=7.6						
CAN	Canberra	27.37	256	P	P	09 19 41.8	+0.6
CAN				pmax	pmax		
	comp=Z,120nm,1.3s						
CAN				MLR	MLR		
	comp=Z,43μm,18.0s						
CAN	Canberra	27.37	256	P	P	09 19 41.8	+0.6
CAN				IAmb	IAmb	09 20 09.7	
	comp=Z,120nm,1.3s						
YNG	Young	27.97	258	P	P	09 19 48.2	+1.7
	baz=28,SNR=7.6						
EIDS	Eidsvold	27.98	278	P	P	09 19 47.4	+0.7
	baz=28,SNR=15						
EIDS	Eidsvold	27.98	278	P	P	09 19 46.9	+0.2
EIDS				IAmb	IAmb	09 20 02.6	
	comp=Z,284nm,1.4s						
TAU	Tasmania Unive	28.95	240	P	P	09 19 54.3	-0.8
TAU				pmax	pmax		
	comp=Z,84nm,1.0s						
TAU				MLR	MLR		
	comp=Z,27μm,18.0s						
TAU	Tasmania Unive	28.95	240	P	P	09 19 54.3	-0.8
TAU				IAmb	IAmb	09 20 18.5	
	comp=Z,84nm,0.9s						
MOO	Moorlands	28.98	241	P	P	09 19 56.4	+1.0
	baz=29,SNR=4.5						
RMQ	Roma	29.51	274	P	P	09 20 03.0	+2.7
	baz=30,SNR=49						
PAE	Paea	29.71	66	*e*P	P	09 20 03.4	+1.3
	comp=Z,16nm,1.2s						
PAE	Paea	29.71	66	*e*T	T	09 50 08.6	
	comp=Z,4.5nm,0.3s						
PPT2	Papeete2	29.76	66	*e*P	P	09 20 03.7	+1.1
	comp=Z,101nm,1.4s						
PPT2				*e*S	S	09 24 52.9	-5.9
	comp=Z,7μm,24.2s						
PPT2				*e*LQ	LQ	09 26 17.2	
	comp=Z,28μm,22.0s						
PPT2				*e*LR	LR	09 27 26.6	
	comp=Z,45μm,20.8s,baz=227						
PPT2	Papeete2	29.76	66	*e*T	T	09 50 13.8	
	comp=Z,4.5nm,0.3s						
PPT	Papeete	29.77	66	P	P	09 20 04.4	+1.8
	comp=Z,30nm,0.7s,baz=180,slow=20,SNR=3.8						
PPT				LR	LR	09 30 01.5	
	comp=Z,49μm,19.1s,baz=239,slow=32						
TIAR	Tiarei	29.95	66	*e*P	P	09 20 05.4	+1.1
	comp=Z,18nm,0.8s						
TOO	Toolangi	30.07	251	P	P	09 20 06.6	+1.5
	baz=30,SNR=9.5						
TOO	Toolangi	30.07	251	P	P	09 20 05.9	+0.8
TOO				pmax	pmax		
	comp=Z,58nm,1.2s						
TOO	Toolangi	30.07	251	P	P	09 20 05.9	+0.8
CMSA	Cobar Meteorol	30.67	263	P	P	09 20 11.4	+1.0
	baz=31,SNR=80						
HNR	Honiara	31.01	314	P	P	09 20 15.2	+1.6
	comp=Z,97nm,0.6s,baz=159,slow=2.8,SNR=2.2						
HNR				LR	LR	09 31 44.6	
	comp=Z,9μm,18.2s,baz=158,slow=35						
VAH	Vaihoa	32.66	65	*e*P	P	09 20 29.1	+1.0
	comp=Z,92nm,1.0s						
VAH	Vaihoa	32.66	65	*e*T	T	09 53 49.6	
	comp=Z,13nm,0.2s						
ARPS	Mount Arapiles	33.03	252	P	P	09 20 32.0	+0.9
	baz=33,SNR=31						
QLP	Quilpie	33.28	271	P	P	09 20 34.3	+0.8
	baz=34,SNR=20						
STKA	Stephens Creek	34.00	261	P	P	09 20 40.1	+0.4
	baz=34,SNR=7.9						
STKA	Stephens Creek	34.00	261	P	P	09 20 40.7	+0.9
	comp=Z,16nm,0.9s,baz=110,slow=8.8,SNR=9.5						
STKA				LR	LR	09 33 51.9	
	comp=Z,20μm,18.0s,baz=98,slow=35						
STKA	Stephens Creek	34.00	261	P	P	09 20 36.5	-3.2
CTA	Charters Tower	34.30	283	P	P	09 20 42.8	+0.4
	comp=Z,64nm,0.6s,baz=118,slow=10,SNR=92						
CTA				LR	LR	09 33 16.3	

comp=Z,12µm,18.4s,baz=122,slow=34
CTAO Charters Tower 34.30 283 P **P** **09 20 40.7 -1.7**
CTAO pmax pmax
comp=Z,442nm,1.4s
CTAO MLR MLR
comp=Z,26µm,18.0s
CTAO Charters Tower 34.30 283 P **P** **09 20 40.7 -1.7**
TARA Tarawa 35.17 344 P **P** **09 20 52.1 +2.3**
HTT Hallett 35.88 257 P **P** **09 20 56.1 +0.1**
baz=36,SNR=23
MTSU Mount Surprise 36.86 284 P **P** **09 21 05.2 +0.8**
baz=37,SNR=41
BBOO Buckleboo 38.37 257 P **P** **09 21 16.1 -0.9**
baz=38,SNR=18
BBOO Buckleboo 38.37 257 P **P** **09 21 16.2 -0.8**
QIS Mount Isa 39.58 277 P **P** **09 21 27.3 -0.1**
baz=40,SNR=24
XMAS Kiritimati 39.83 33 IAMs_20 IAMs_20 09 35 17.9
comp=Z,37µm,20.0s
XMAS Kiritimati 39.83 33 P **P** **09 21 29.3 -0.1**
COEN Coen 40.04 289 P **P** **09 21 30.9 -0.3**
COEN IAmb IAmb 09 21 52.5
comp=Z,97nm,0.8s
COEN IAMs_20 IAMs_20 09 37 56.2
comp=Z,68µm,18.0s
TAOE Nuku Hiva Isla 42.34 64 *e*S **S** **09 28 05.3 -5.9**
comp=Z,14µm,25.0s
TAOE *e*LQ LQ 09 31 34.8
comp=Z,31µm,28.7s
TAOE *e*LR LR 09 33 15.6
comp=Z,24µm,21.4s,baz=237
AS31 Alice Springs 43.05 270 P **P** **09 21 55.0 -0.9**
ASAR Alice Springs 43.05 270 P **P** **09 21 54.5 -1.3**
comp=Z,58nm,0.8s,baz=108,slow=6.8,SNR=327
ASAR PcP **PcP** **09 23 45.4 -0.5**
comp=Z,4.4nm,0.6s,baz=111,slow=3.7,SNR=0.6
ASAR LR LR 09 39 24.7
comp=Z,11µm,18.1s,baz=124,slow=36
ASAR PKPPKP **P'P'df** **09 53 51.6 -2.6**
comp=Z,1.4nm,1.1s,baz=270,slow=1.9,SNR=4.7
ASAR Alice Springs 43.05 270 P **P** **09 21 55.0 -0.9**
ASAR 09 23 45.4
ASAR Alice Springs 43.05 270 P **P** **09 21 55.0 -0.9**
WR0 Warramunga Arr 44.09 275 P **P** **09 22 02.7 -1.5**
WR0 IAmb IAmb 09 22 15.5
comp=Z,147nm,0.9s
WB2 Warramunga Arr 44.26 275 P **P** **09 22 04.6 -1.0**
WRAB Tennant Creek 44.26 275 *i* P **P** **09 22 04.3 -1.3**
WRAB pmax pmax
comp=Z,151nm,0.9s
WRAB MLR MLR
comp=Z,24µm,18.0s
WRAB Tennant Creek 44.26 275 P **P** **09 22 02.9 -2.7**
WRA Warramunga Arr 44.27 275 P **P** **09 22 04.0 -1.6**
comp=Z,62nm,0.6s,baz=118,slow=7.7,SNR=572
WRA LR LR 09 40 45.0
comp=Z,24µm,18.5s,baz=115,slow=36
WRA Warramunga Arr 44.27 275 P **P** **09 22 04.5 -1.2**
WRA pmax pmax
comp=Z,28nm,1.0s
WRA Warramunga Arr 44.27 275 P **P** **09 22 04.5 -1.2**
FORT Forrest 45.47 258 P **P** **09 22 13.6 -1.5**
baz=46,SNR=143
FORT Forrest 45.47 258 P **P** **09 22 13.8 -1.3**
PATS Pohnpei 45.52 326 IAMs_20 IAMs_20 09 38 51.2
comp=Z,30µm,19.0s
SBA Scott Base 45.52 184 P **P** **09 22 15.6 +0.7**
SBA pmax pmax
comp=Z,149nm,1.2s
SBA MLR MLR
comp=Z,9µm,18.0s
SBA Scott Base 45.52 184 P **P** **09 22 15.6 +0.7**
SBA IAmb IAmb 09 22 44.7
comp=Z,149nm,1.2s
VNDA Vanda 45.59 186 P **P** **09 22 17.2 +1.8**
comp=Z,5.5nm,0.7s,baz=13,slow=6.7,SNR=18
VNDA LR LR 09 38 01.1
comp=Z,8µm,21.0s,baz=6.0,slow=32
VNDA Vanda 45.59 186 P **P** **09 22 14.7 -0.7**
WRKA Warakurna 47.23 265 P **P** **09 22 27.3 -1.8**
baz=47,SNR=100
JAY Jayapura 49.11 299 P **P** **09 22 41.5 -2.2**
comp=Z,44nm,1.1s,baz=157,slow=8.1,SNR=5.2
JAY LR LR 09 42 53.2
comp=Z,9µm,20.2s,baz=117,slow=36
JAY Jayapura 49.11 299 P **P** **09 22 42.8 -0.9**
comp=Z,6µmcomp=Z,1µmcomp=Z,136nm,1.1s
KDU Kakadu 49.42 282 P **P** **09 22 45.0 -1.0**
baz=50,SNR=20
GENI Genyem 49.45 299 P **P** **09 22 45.2 -1.0**
comp=Z,11µmcomp=Z,7µmcomp=Z,237nm,1.1s
JOHN Johnston Islan 50.04 11 P **P** **09 22 48.9 -1.6**
MTN Manton Dam 50.44 281 P **P** **09 22 53.9 +0.2**
baz=51,SNR=7.2
MTN Manton Dam 50.44 281 P **P** **09 22 52.7 -1.0**
KNRA Kununurra 50.96 276 P **P** **09 22 56.8 -0.9**
baz=51,SNR=24
KNRA Kununurra 50.96 276 P **P** **09 22 57.1 -0.5**
KNRA IAMs_20 IAMs_20 09 44 58.7
comp=Z,27µm,18.0s
FITZ Fitzroy Crossi 52.42 272 P **P** **09 23 07.0 -1.5**
baz=53,SNR=60
FITZ Fitzroy Crossi 52.42 272 P **P** **09 23 06.9 -1.6**
comp=Z,30nm,0.7s,baz=152,slow=6.6,SNR=53
FITZ LR LR 09 46 02.6
comp=Z,28µm,18.4s,baz=103,slow=37
FITZ Fitzroy Crossi 52.42 272 P **P** **09 23 07.5 -1.1**
FITZ IAmb IAmb 09 23 23.8
comp=Z,79nm,0.9s
FITZ IAMs_20 IAMs_20 09 45 50.3
comp=Z,27µm,18.0s
CASY Casey 52.93 209 P **P** **09 23 12.0 +0.3**
CASY IAmb IAmb 09 23 43.8
comp=Z,169nm,1.1s
SAUI Saumlaki 52.99 286 IAMs_20 IAMs_20 09 46 01.4
comp=Z,29µm,18.0s
NWAO Narrogin (SRO) 53.56 251 P **P** **09 23 15.5 -1.3**
baz=54,SNR=4.8
NWAO Narrogin (SRO) 53.56 251 P **P** **09 23 15.3 -1.5**
comp=Z,7.9nm,0.6s,baz=103,slow=6.6,SNR=6.3
NWAO Narrogin (SRO) 53.56 251 P **P** **09 23 14.1 -2.7**
WAKE Wake Island 53.96 342 IAMs_20 IAMs_20 09 48 38.0
comp=Z,23µm,18.0s
MEEK Meekatharra 54.67 259 P **P** **09 23 23.1 -2.0**
baz=55,SNR=18
MUN Mundaring 54.69 252 P **P** **09 23 23.9 -1.2**
baz=55,SNR=4.1
BLDU Ballidu 54.76 254 P **P** **09 23 24.9 -0.8**
baz=55,SNR=11
FAKI Fak Fak 55.26 292 P **P** **09 23 27.4 -2.0**
FAKI Fak Fak 55.26 292 P **P** **09 23 27.8 -1.6**
comp=Z,10µmcomp=Z,2µmcomp=Z,123nm,1.3s
PSA00 Pilbara Seismi 55.73 265 P **P** **09 23 30.8 -1.9**
PSA00 Pilbara Seismi 55.73 265 P **P** **09 23 31.0 -1.7**
PSA00 IAmb IAmb 09 23 48.6
comp=Z,86nm,1.2s
PSA00 IAMs_20 IAMs_20 09 47 55.0
comp=Z,12µm,20.0s
MORW Morawa 55.86 255 P **P** **09 23 32.1 -1.5**
baz=56,SNR=10
MORW Morawa 55.86 255 P **P** **09 23 32.2 -1.5**
MORW IAmb IAmb 09 23 45.0
comp=Z,36nm,0.9s
KHU Kahuku 56.11 26 IAMs_20 IAMs_20 09 44 58.5
comp=Z,21µm,20.0s
HLP Hilina Pali 56.27 26 IAMs_20 IAMs_20 09 45 29.7
comp=Z,23µm,19.0s
AIN Ainahou 56.29 26 IAMs_20 IAMs_20 09 45 48.1
comp=Z,22µm,19.0s
KHLU Kahalu`u 56.33 25 P **P** **09 23 35.3 -1.7**
SDHHI Sand Hill 56.36 26 IAMs_20 IAMs_20 09 45 24.1
comp=Z,21µm,19.0s
RIM Rim 56.38 26 IAMs_20 IAMs_20 09 45 23.5
comp=Z,22µm,19.0s
WRMHI West Rim 56.38 26 IAMs_20 IAMs_20 09 45 24.5
comp=Z,22µm,19.0s
PUH Pauahi 56.38 26 IAMs_20 IAMs_20 09 45 23.5
comp=Z,21µm,19.0s
KKO Keanakako`i 56.38 26 IAMs_20 IAMs_20 09 45 43.6
comp=Z,22µm,18.0s
NPH North Pit 56.39 26 IAMs_20 IAMs_20 09 45 42.8
comp=Z,23µm,18.0s
OBL Observatory Le 56.39 26 IAMs_20 IAMs_20 09 45 24.9
comp=Z,23µm,19.0s
UWE Uwekahuna 56.39 26 IAMs_20 IAMs_20 09 45 24.9
comp=Z,22µm,19.0s
MLOA Mauna Loa Obse 56.39 26 IAMs_20 IAMs_20 09 45 42.9
comp=Z,21µm,20.0s
BYL Byron's Ledge 56.40 26 IAMs_20 IAMs_20 09 45 06.0
comp=Z,21µm,20.0s
UWB Uwekahuna B 56.40 26 IAMs_20 IAMs_20 09 45 44.1
comp=Z,24µm,19.0s
HATHI Halema'uma'u T 56.41 26 IAMs_20 IAMs_20 09 45 43.2
comp=Z,23µm,18.0s
SBLHI Steaming Bluff 56.41 26 IAMs_20 IAMs_20 09 45 35.3
comp=Z,22µm,19.0s
MLH Mauna Loa 56.42 26 IAMs_20 IAMs_20 09 45 24.7
comp=Z,20µm,19.0s
JCUZ Jacuzzi 56.43 26 IAMs_20 IAMs_20 09 45 36.9
comp=Z,26µm,19.0s
NPOC North of Pu'u 56.43 26 IAMs_20 IAMs_20 09 45 45.0
comp=Z,26µm,18.0s
HMH Humu'ula Sheep 56.49 26 IAMs_20 IAMs_20 09 45 45.5
comp=Z,24µm,19.0s
POHA Pohakuloa 56.61 26 IAMs_20 IAMs_20 09 45 30.8
comp=Z,20µm,18.0s
QSPA South Pole Qui 57.19 180 P **P** **09 23 44.5 +1.8**
comp=Z,71nm,1.0s,baz=352,slow=0.8,SNR=40
QSPA LR LR 09 45 08.5
comp=Z,8µm,20.3s,baz=40,slow=33
QSPA PKPPKP P'P'df 09 53 31.4 -8.2
comp=Z,1.7nm,0.8s,baz=250,slow=3.7,SNR=3.5
QSPA South Pole Qui 57.19 180 P **P** **09 23 43.9 +1.3**
SIJI Sorong 57.31 293 P **P** **09 23 42.4 -1.6**
comp=Z,12nm,0.6s,baz=108,slow=5.5,SNR=6.1
SIJI LR LR 09 46 36.1
comp=Z,11µm,21.9s,baz=125,slow=34
SIJI Sorong 57.31 293 P **P** **09 23 43.5 -0.5**
comp=Z,6µmcomp=Z,2µmcomp=Z,79nm,1.4s
KIP Kipapa 57.31 22 *i* P **P** **09 23 43.3 -0.5**
KIP pmax pmax
comp=Z,350nm,3.1s
KIP MLR MLR
comp=Z,10µm,16.0s
OPA Opana 57.56 22 IAMs_20 IAMs_20 09 46 07.0
comp=Z,21µm,20.0s
SOEI Soe 57.77 280 P **P** **09 23 46.8 -0.6**
SOEI IAMs_20 IAMs_20 09 49 24.1
comp=Z,24µm,19.0s
SOEI Soe 57.77 280 P **P** **09 23 48.0 +0.6**
comp=Z,14µmcomp=Z,4µmcomp=Z,299nm,1.1s
KRAI Karang Ratu 58.06 289 P **P** **09 23 48.0 -1.3**
comp=Z,3µmcomp=Z,53nm,0.9s
GUMO Guam 58.30 316 LR LR 09 49 05.1
comp=Z,8µm,18.1s,baz=90,slow=36
RPN Rapa Nui 58.78 104 LR LR 09 44 07.4
comp=Z,17µm,20.1s,baz=244,slow=31
GIRL Giralia 59.95 261 P **P** **09 24 02.7 +0.3**
baz=60,SNR=6.9
GIRL Giralia 59.95 261 IAMs_20 IAMs_20 09 50 22.7
comp=Z,24µm,18.0s
MMRI Maumere 60.05 280 P **P** **09 24 00.8 -2.4**
comp=Z,11µmcomp=Z,7µmcomp=Z,334nm,1.2s
EDFI Ende, Flores 60.45 279 P **P** **09 24 03.6 -2.4**
comp=Z,5µmcomp=Z,861nmcomp=Z,39nm,1.3s
SANI Sanana 60.74 288 P **P** **09 24 06.1 -1.7**
comp=Z,7µmcomp=Z,2µmcomp=Z,120nm,1.2s
MIDW Midway 60.81 1 IAMs_20 IAMs_20 09 48 24.8
comp=Z,34µm,19.0s
WBSI Waikabubak, Su 61.88 277 P **P** **09 24 15.3 -0.4**
comp=Z,2µmcomp=Z,106nm,1.0s
BKSI Bulukumba 63.62 281 P **P** **09 24 27.5 +0.3**
comp=Z,8µmcomp=Z,1µmcomp=Z,52nm,1.0s
PLAI Plampang 63.66 277 P **P** **09 24 25.8 -1.7**
comp=Z,8µmcomp=Z,2µmcomp=Z,150nm,1.5s
KAPI Kappang 64.10 281 P **P** **09 24 29.0 -1.3**
comp=Z,12nm,0.8s,baz=205,slow=7.3,SNR=8.1
KAPI LR LR 09 53 28.9
comp=Z,9µm,18.7s,baz=140,slow=37
KAPI Kappang 64.10 281 P **P** **09 24 29.0 -1.3**
KAPI Kappang 64.10 281 P **P** **09 24 29.0 -1.3**
KAPI IAmb IAmb 09 24 53.0
comp=Z,65nm,1.0s
KAPI Kappang 64.10 281 P **P** **09 24 30.5 +0.2**
comp=Z,7µmcomp=Z,2µmcomp=Z,68nm,1.1s
BNSI Bone 64.15 282 P **P** **09 24 29.8 -0.9**
comp=Z,10µmcomp=Z,2µmcomp=Z,82nm,1.3s
TWSI Taliwang, Sumb 64.46 276 P **P** **09 24 31.8 -0.9**
comp=Z,6µmcomp=Z,1µmcomp=Z,120nm,1.0s
APSI Ampana 64.90 286 P **P** **09 24 36.6 +1.1**
comp=Z,2µmcomp=Z,1µmcomp=Z,80nm,1.4s
TTSI Tana Toraja 65.15 283 P **P** **09 24 36.9 -0.3**
comp=Z,7µmcomp=Z,1µmcomp=Z,67nm,1.2s
MRSI Marisa 65.48 288 P **P** **09 24 38.1 -1.2**
comp=Z,8µmcomp=Z,1µmcomp=Z,35nm,1.4s
SRBI Singaraja 66.20 276 P **P** **09 24 44.2 +0.2**
comp=Z,141nm,1.0s
DAV Davao City (W) 66.72 296 LR LR 09 53 06.1
comp=Z,4µm,20.6s,baz=112,slow=35
TOLI2 Tolitoli 66.79 288 P **P** **09 24 44.0 -3.7**
TOLI2 IAmb IAmb 09 24 58.9
comp=Z,46nm,1.0s
JAGI Jajag, Banyuwa 66.89 275 P **P** **09 24 47.1 -1.3**
comp=Z,8µmcomp=Z,83nm,1.4s
MPSI Mapaga 67.04 286 P **P** **09 24 48.3 -1.1**
comp=Z,8µmcomp=Z,1µmcomp=Z,61nm,1.0s
BELA Belgrano 2 67.28 172 P **P** **09 24 48.1 -1.8**
KBKI Kotabaru 68.01 281 P **P** **09 24 56.2 +0.7**
comp=Z,78nm,1.2s
BKB Balikpapan 68.56 283 IAMs_20 IAMs_20 09 57 47.3
comp=Z,25µm,18.0s
BBKI Banjar Baru 69.02 280 P **P** **09 25 02.0 +0.2**
comp=Z,81nm,1.4s
PWJI Pagerwojo 69.09 274 P **P** **09 25 02.5 +0.3**
comp=Z,75nm,1.6s
SJI Sawahan 69.27 274 P **P** **09 25 03.5 0.0**
comp=Z,3µmcomp=Z,44nm,2.1s
PCJI Pacitan 69.53 273 P **P** **09 25 04.9 0.0**
comp=Z,157nm,1.3s
MAW Mawson 69.96 201 P **P** **09 25 07.9 +1.2**
baz=70,SNR=31
MAW Mawson 69.96 201 P **P** **09 25 07.7 +1.0**
comp=Z,44nm,1.1s,baz=130,slow=7.2,SNR=22
MAW LR LR 09 54 07.6
comp=Z,13µm,20.7s,baz=118,slow=34
MAW Mawson 69.96 201 P **P** **09 25 07.3 +0.6**
MAW pmax pmax
comp=Z,59nm,1.8s
MAW Mawson 69.96 201 P **P** **09 25 07.3 +0.6**
MAW IAmb IAmb 09 25 21.7
comp=Z,59nm,1.8s
PMSA Palmer Station 69.96 155 P **P** **09 25 08.6 +1.9**
comp=Z,20nm,0.8s,baz=332,slow=6.0,SNR=4.4
PMSA LR LR 09 50 28.0
comp=Z,3µm,20.9s,baz=244,slow=31
PMSA Palmer Station 69.96 155 P **P** **09 25 07.5 +0.7**
PMSA IAmb IAmb 09 25 21.4
comp=Z,86nm,1.3s
PMSA Palmer Station 69.96 155 *e*P **P** **09 25 05.3 -1.5**
JCJ Chichijima 70.70 323 P **P** **09 25 09.8 -1.9**
comp=Z,39nm,0.5s,baz=204,slow=18,SNR=1.9
JCJ LR LR 09 52 07.1
comp=Z,6µm,21.6s,baz=141,slow=32
LEM Lembang 73.24 273 P **P** **09 25 28.2 +0.7**
comp=Z,33nm,0.8s,baz=154,slow=12,SNR=4.3
LEM LR LR 09 56 14.9
comp=Z,6µm,21.9s,baz=138,slow=35
STKI Sintang 73.77 281 P **P** **09 25 30.3 -0.2**
comp=Z,4µmcomp=Z,51nm,1.0s
SYO Syowa Base 74.66 193 ‖ *e*P **P** **09 25 34.2 -0.6**
SYO Syowa Base 74.66 193 ‖ *i*pP pP 09 25 37.0 +0.2
SYO Syowa Base 74.66 193 ‖ *i*sP sP 09 25 42.6 +5.1
SNAA Sanae 75.63 178 P **P** **09 25 40.8 +0.3**
SNAA Sanae 75.63 178 *i* P **P** **09 25 40.4 -0.1**
SNAA pmax pmax
comp=Z,106nm,1.4s
SNAA Sanae 75.63 178 P **P** **09 25 39.7 -0.8**
SNAA IAmb IAmb 09 26 13.8
comp=Z,141nm,1.2s
VNA3 Neumayer Olymp 75.79 176 P **P** **09 25 41.7 +0.3**
VNA2 Neumayer--Watz 76.22 177 P **P** **09 25 44.5 +0.7**
baz=174,slow=5.1
VNA1 Neumayer--Stat 76.45 176 P **P** **09 25 45.8 +0.7**
JHJ Hachijo jima 2 76.80 325 LR LR 10 00 54.9
comp=Z,4µm,18.2s,baz=136,slow=37
MDSI Maura Dua 77.37 273 P **P** **09 25 48.4 -2.8**
GO07 Milladeo Hill, 77.52 133 pP 09 25 54.5 +0.9
LL02 Futaleuf 78.58 134 P **P** **09 25 57.6 +0.1**
LL02 IAmb IAmb 09 26 03.1
comp=Z,81nm,1.1s
LL01 San Ignacio de 78.69 133 P **P** **09 25 57.9 -0.1**
LL01 IAmb IAmb 09 26 03.5
comp=Z,94nm,1.2s
H03S2 Juan Fernandez 79.06 123 T T 10 53 12.8
baz=237,slow=74,SNR=4.9
H03S1 Juan Fernandez 79.07 123 T T 10 53 13.1
baz=237,slow=74,SNR=3.7
H03S3 Juan Fernandez 79.08 123 T T 10 53 12.3
baz=237,slow=74,SNR=4.4
H03N3 Juan Fernandez 79.27 123 T T 10 53 20.3
baz=240,slow=72,SNR=4.6
H03N2 Juan Fernandez 79.27 123 T T 10 53 15.2
baz=240,slow=72,SNR=3.6
H03N1 Juan Fernandez 79.28 123 T T 10 53 16.4
baz=240,slow=72,SNR=8.9
LL04 Puerto Octay 79.52 132 P **P** **09 26 01.0 -1.7**
LL04 IAmb IAmb 09 26 08.1
comp=Z,131nm,1.1s
MASI Maura Aman, Be 79.72 273 P **P** **09 26 04.2 0.0**
comp=Z,3µmcomp=Z,121nm,0.9s
MJAR Matsushiro Arr 80.33 326 P **P** **09 26 07.1 +0.2**
comp=Z,12nm,1.2s,baz=159,slow=5.8,SNR=9.6
MJAR LR LR 09 57 01.5
comp=Z,7µm,21.7s,baz=85,slow=32
MJAR Matsushiro Arr 80.33 326 P **P** **09 26 03.9 -3.0**
MAJO Matsushiro 80.33 326 *i* P **P** **09 26 06.1 -0.8**
MAJO pmax pmax
comp=Z,50nm,1.8s
MAJO MLR MLR
comp=Z,6µm,19.0s
MAJO Matsushiro 80.33 326 P **P** **09 26 05.1 -1.7**
MAT Matsushiro 80.33 326 P **P** **09 26 04.9 -2.0**
MAT S **S** **09 36 09.2 -3.0**
EFI East Falkland 80.67 147 *i* P **P** **09 26 08.3 -0.3**
EFI pmax pmax
comp=Z,55nm,0.9s
EFI East Falkland 80.67 147 P **P** **09 26 07.0 -1.7**
PLCA Paso Flores 80.78 133 P **P** **09 26 10.3 +0.8**
comp=Z,80nm,1.1s,baz=228,slow=5.4,SNR=30
PLCA LR LR 09 54 56.7
comp=Z,9µm,19.7s,baz=238,slow=30
PLCA Paso Flores 80.78 133 P **P** **09 26 07.8 -1.8**
PLCA pmax pmax
comp=Z,220nm,1.3s
PLCA Paso Flores 80.78 133 P **P** **09 26 07.8 -1.8**
PLCA Paso Flores 80.78 133 *e*P **P** **09 26 09.3 -0.3**
LC01 Cunco 81.01 131 P **P** **09 26 09.1 -1.7**
JNU Nakatsue 81.46 319 P **P** **09 26 13.2 +0.2**
comp=Z,17nm,1.0s,baz=63,slow=8.4,SNR=3.2
JNU LR LR 09 58 49.9
comp=Z,4µm,20.4s,baz=124,slow=33
JSD Sado 81.51 326 P **P** **09 26 11.7 -1.4**
JSD IAmb IAmb 09 26 17.5
comp=Z,208nm,1.9s
JEM Erimo 82.69 332 IAMs_20 IAMs_20 09 57 44.3
comp=Z,16µm,20.0s
YUK Yuzh-Kuril'sk 83.40 335 *e*P P 09 26 15.8 -7.0
YUK *e*S **S** **09 36 37.2 -6.2**
QZH Quanzhou 83.42 305 ⇑ *i*P **P** **09 26 22.8 -0.6**
QZH S **S** **09 36 42.1 -2.4**
QZH pmax pmax
comp=Z,1µm,7.1s
QZH LR LR
comp=Z,2µm,17.5s
QZH LR LR
comp=Z,1µm,18.9s
QZH LR LR
comp=Z,3µm,18.5s
KUR Kuril'sk 83.75 336 *c* P **P** **09 26 23.7 -0.8**
KUR *e* 09 26 28.0
KUR *e* 09 29 32.8
KUR *e*PPP PPP 09 31 39.9
KUR *e*S **S** **09 36 46.7 -0.2**
KUR *e*SSS SSS 09 45 41.3
KUR pmax pmax
comp=Z,226nm,1.6s
KUR pmax pmax
comp=E,92nm,1.5s
KUR pmax pmax
comp=N,69nm,1.7s
KUR pmax pmax
comp=Z,8µm,18.0s
BO02 Sierra Bellavi 84.11 128 P **P** **09 26 23.8 -3.3**
MT01 Popeta 84.34 127 P **P** **09 26 28.9 +0.7**
KIWB Kanaga Island 84.42 1 P **P** **09 26 27.6 -0.3**
ADK Adak 84.46 1 P **P** **09 26 27.4 -0.6**
ADK pmax pmax
comp=Z,186nm,1.4s
ADK Adak 84.46 1 P **P** **09 26 27.4 -0.6**
ADK Adak 84.46 1 IAMs_20 IAMs_20 09 57 47.6
comp=Z,19µm,21.0s
MT09 Talagante 84.57 127 P **P** **09 26 29.5 0.0**
MT09 IAmb IAmb 09 26 43.0
comp=Z,83nm,1.1s
JKA Kamikawa-asahi 84.69 333 P **P** **09 26 28.2 -1.2**
ASAJ Asahikawa 84.69 333 P **P** **09 26 29.5 +0.1**
comp=Z,14nm,0.7s,baz=175,slow=8.8,SNR=15
ASAJ LR LR 09 58 24.6
comp=Z,8µm,21.3s,baz=166,slow=32
ASAJ Asahikawa 84.69 333 P **P** **09 26 28.2 -1.2**
ASAJ pmax pmax
comp=Z,251nm,1.9s
ATKA Atka Island 84.83 2 IAMs_20 IAMs_20 09 58 21.5
comp=Z,17µm,20.0s
SMY Shemya 85.58 355 IAMs_20 IAMs_20 10 01 21.5
comp=Z,18µm,20.0s
RPSI Rantau Prapat 85.66 276 P **P** **09 26 33.2 -1.8**
RPSI IAmb IAmb 09 26 45.3
comp=Z,60nm,1.6s
PSI Prapat 85.72 276 P **P** **09 26 34.4 -1.1**
comp=Z,6.9nm,0.8s,baz=186,slow=4.9,SNR=7.9
PSI PP **PP** **09 29 55.2 +0.4**
comp=Z,9.5nm,1.0s,baz=180,slow=9.9,SNR=4.5
PSI LR LR 10 05 03.1
comp=Z,8µm,21.4s,baz=90,slow=36
PSI Prapat 85.72 276 P **P** **09 26 32.7 -2.8**
comp=Z,6µmcomp=Z,885nmcomp=Z,22nm,1.3s,comp=Z,473nm,1.3s,
comp=Z,11nm,1.3s
PSI P **P** **09 26 32.9 -2.6**
comp=Z,6µmcomp=Z,885nmcomp=Z,22nm,1.3s,comp=Z,473nm,1.3s,
comp=Z,11nm,1.3s
SSE Sheshan 85.78 311 P **P** **09 26 34.0 -1.2**
SSE pP **pwP** **09 26 45.2 +0.3**
SSE sP sP 09 26 49.8 +12
SSE S **S** **09 37 05.8 -2.0**
SSE pmax pmax
comp=Z,17nm,0.7s
SSE pmax pmax
comp=Z,490nm,11.4s
SSE LR LR
comp=Z,710nm,24.4s
TJN Taejon 85.81 319 *i* P **P** **09 26 35.5 +0.3**
SLBS Sierra La Lagu 85.86 58 IAMs_20 IAMs_20 09 58 39.1
comp=Z,20µm,18.0s
NIKH Nikolski High 85.91 6 P **P** **09 26 34.7 -0.6**
NIKH Nikolski High 85.91 6 P **P** **09 26 36.2 +0.9**
baz=188
GSI Gunungsitoli 86.03 274 P **P** **09 26 35.3 -1.7**
GSI Gunungsitoli 86.03 274 P **P** **09 26 36.3 -0.6**
comp=Z,63nm,0.7s
CO02 Combarbal 86.07 125 P **P** **09 26 35.8 -1.3**
QIZ Qiongzhong 86.09 295 P **P** **09 26 36.0 -1.0**
QIZ pP **pwP** **09 26 45.5 -1.9**
QIZ PP **PP** **09 29 56.7 -1.0**
QIZ S **S** **09 37 07.6 -3.8**
QIZ SS **SS** **09 42 52.2 +1.9**
QIZ pmax pmax
comp=Z,1µm,10.2s
QIZ LR LR
comp=Z,1µm,14.2s
QIZ LR LR
comp=Z,2µm,30.9s
QIZ LR LR
comp=Z,6µm,32.4s
KSRS Korea Array 86.28 320 P **P** **09 26 38.0 +0.6**
comp=Z,6.0nm,0.8s,baz=140,slow=5.6,SNR=21
KSAR Wonju Array Be 86.30 320 P **P** **09 26 36.2 -1.4**
KSAR Wonju Array Be 86.30 320 P **P** **09 26 36.2 -1.4**
SKR Severo-Kuril's 86.34 344 *e*P **P** **09 26 35.1 -2.3**
SKR *e*S **SKSac** **09 37 05.0 +2.0**
SKR *e*PS 09 38 11.9
SKR pmax pmax
comp=Z,66nm,0.9s
SKR pmax pmax
comp=Z,700nm,5.3s
SKR pmax pmax
comp=Z,600nm,6.9s
SKR MLR MLR
comp=Z,3µm,18.0s
KS19 Wonju Array Si 86.35 320 P **P** **09 26 35.5 -2.4**

KS19 IAmb IAmb 09 27 01.2
comp=Z,138nm,1.9s
CO03 El Pedregal 86.50 125 P **P** **09 26 38.0 -1.1**
SRIG Santa Rosalia 86.53 54 P **P** **09 26 36.8 -2.2**
SRIG IAmb IAmb 09 27 18.5
comp=Z,32nm,1.1s
SRIG IAMs_20 IAMs_20 09 57 32.0
comp=Z,19µm,20.0s
CIS Catalina Islan 86.56 46 S S 09 37 26.9 +11
baz=226
CCX Cicese 86.61 48 IAMs_20 IAMs_20 09 57 29.9
comp=Z,11µm,20.0s
CO05 La Serena 86.66 124 P **P** **09 26 39.3 -0.5**
CO05 IAmb IAmb 09 26 44.4
comp=Z,85nm,1.1s
SKLT Songkhla 86.69 281 P P 09 26 51.8 +12
PKM Mcpherson Peak 86.75 44 P **P** **09 26 43.2 +3.0**
baz=226
PKM S S 09 37 32.0 +14
baz=226
TJX Tijuana 86.79 48 IAMs_20 IAMs_20 09 57 45.3
comp=Z,17µm,20.0s
SMMC Simmler 86.94 44 P **P** **09 26 43.8 +2.9**
baz=225
UNV Unalaska Valle 86.99 7 P **P** **09 26 40.0 -0.5**
UNV IAmb IAmb 09 27 14.2
comp=Z,44nm,1.1s
UNV IAMs_20 IAMs_20 10 03 53.3
comp=Z,14µm,20.0s
UNV Unalaska Valle 86.99 7 P **P** **09 26 41.9 +1.4**
baz=190
HOPE Hope Point 87.00 159 IAMs_20 IAMs_20 10 11 29.9
comp=Z,9µm,18.0s
109C Camp Elliot, M 87.02 47 IAMs_20 IAMs_20 09 58 02.8
comp=Z,17µm,20.0s
109C Camp Elliot, M 87.02 47 P **P** **09 26 44.8 +3.6**
baz=227
YSS Yuzh-Sakhalins 87.03 334α *i*P **P** **09 26 41.6 +0.7**
YSS *e* 09 37 05.8
YSS *e*S **S** **09 37 15.0 -4.2**
YSS *e*SS **SS** **09 43 04.0 +0.8**
YSS pmax pmax
comp=Z,80nm,2.0s
YSS pmax pmax
comp=Z,2µm,5.5s
YSS Yuzh-Sakhalins 87.03 334 P **P** **09 26 40.6 -0.3**
YSS IAMs_20 IAMs_20 10 00 41.0
comp=Z,13µm,21.0s
PAGB Antelope Grade 87.09 44 IAMs_20 IAMs_20 10 06 53.6
comp=Z,20µm,18.0s
TKX Tecate 87.11 48 IAMs_20 IAMs_20 09 58 04.3
comp=Z,17µm,21.0s
PMPB Monarch Peak 87.11 43 IAMs_20 IAMs_20 10 07 03.3
comp=Z,20µm,18.0s
BAR Barrett 87.15 48 IAMs_20 IAMs_20 09 57 56.2
comp=Z,17µm,20.0s
DECC Green Verdugo 87.20 46 P **P** **09 26 44.1 +1.9**
baz=226
DECC S S 09 37 34.6 +13
baz=226
SFX San Felipe 87.21 50 IAMs_20 IAMs_20 10 00 10.8
comp=Z,12µm,19.0s
OSI Osito Audit: C 87.21 45 IAmb IAmb 09 27 23.1
comp=Z,122nm,1.6s
OSI Osito Audit: C 87.21 45 P **P** **09 26 44.6 +2.4**
baz=226
OSI S S 09 37 35.3 +14
baz=226
PASC Pasadena Art C 87.23 46 P **P** **09 26 39.8 -2.5**
PASC IAmb IAmb 09 26 48.7
comp=Z,40nm,1.4s
MWC Mount Wilson 87.34 46 P **P** **09 26 38.8 -4.2**
MWC pmax pmax
comp=Z,103nm,1.9s
MWC MLR MLR
comp=Z,22µm,18.0s
MWC Mount Wilson 87.34 46 P **P** **09 26 38.8 -4.2**
MWC IAmb IAmb 09 27 22.8
comp=Z,103nm,1.9s
MURC Murrieta 87.44 47 P **P** **09 26 45.6 +2.2**
baz=227
MURC S S 09 37 37.0 +13
baz=227
MONP2 Monument Peak 87.44 48 P **P** **09 26 46.0 +2.4**
baz=228
MONP2 S S 09 37 35.8 +11
baz=228
ZON Zonda 87.46 126 P **P** **09 26 44.6 +0.9**
ZON pmax pmax
comp=Z,110nm,1.2s
ZON Zonda 87.46 126 P **P** **09 26 44.6 +0.9**
ZON IAMs_20 IAMs_20 09 59 50.2
comp=Z,9µm,19.0s
RMX La Rumorosa 87.47 48 IAMs_20 IAMs_20 09 57 56.6
comp=Z,18µm,20.0s
IKP In-Ko-Pah, Jac 87.48 48 P **P** **09 26 46.1 +2.5**
baz=228
IKP S S 09 37 36.5 +12
baz=228
ARVC Arvin 87.50 45 P **P** **09 26 44.2 +0.7**
baz=226
LCO Las Campanas 87.58 123 P **P** **09 26 46.1 +1.5**
LCO pmax pmax
comp=Z,48nm,1.1s
LCO Las Campanas 87.58 123 P **P** **09 26 46.1 +1.5**
LCO IAmb IAmb 09 26 49.0
comp=Z,48nm,1.1s
LCO Las Campanas 87.58 123 IAMs_20 IAMs_20 09 57 49.6
comp=Z,14µm,20.0s
BFSC Mount Baldy Ra 87.59 46 P **P** **09 26 44.5 +0.3**
baz=227
BFSC S S 09 37 36.0 +10
baz=227
TRQA Tornquist 87.64 135 P **P** **09 26 43.1 -1.4**
TRQA pmax pmax
comp=Z,206nm,1.8s
TRQA Tornquist 87.64 135 P **P** **09 26 43.0 -1.4**
TRQA Tornquist 87.64 135 *e*P **P** **09 26 42.7 -1.8**
PAYG Puerto Ayora 87.70 89 IAMs_20 IAMs_20 09 59 25.7
comp=Z,12µm,18.0s
TRTT Trang 87.83 281 P **P** **09 26 47.1 +1.5**
comp=Z,1µmcomp=Z,32nm,0.9s
CPBX Cerro Prieto 87.83 49 IAMs_20 IAMs_20 10 04 42.3
comp=Z,11µm,19.0s
EDW2 Edwards Air Fo 87.83 45 P **P** **09 26 46.1 +0.9**
baz=227,SNR=13
EDW2 S S 09 37 39.4 +12
baz=227
VES Vestal, Richgr 87.84 44 P **P** **09 26 45.1 0.0**
baz=226,SNR=13
SWSC Sam W. Stewart 87.87 48 P **P** **09 26 47.4 +2.0**
baz=228
SWSC S S 09 37 41.3 +13
baz=228
TEY Ternei 87.88 330 *de*P **P** **09 26 42.0 -3.0**
TEY *e* 09 26 45.1
TEY *e* 09 37 09.1
TEY pmax pmax
comp=Z,100nm,7.7s
UABX UABC, Campus M 87.89 49 IAMs_20 IAMs_20 09 57 57.7
comp=Z,13µm,20.0s
GUVIX Guadalupe Vict 87.90 49 IAMs_20 IAMs_20 10 02 17.1
comp=Z,14µm,18.0s
NJ2 Nanjing 87.90 311 *e*P **P** **09 26 47.1 +1.6**
NJ2 pP **pwP** **09 26 55.6 +0.4**
NJ2 sP sP 09 27 00.7 +13
NJ2 PP **PP** **09 30 13.3 +1.2**
NJ2 S **S** **09 37 33.3 +5.0**
NJ2 sS ScS 09 37 46.3 +12
NJ2 pmax pmax
comp=Z,29nm,0.6s
NJ2 pmax pmax
comp=Z,2µm,8.1s
NJ2 LR LR
comp=Z,4µm,17.1s
NJ2 LR LR
comp=Z,2µm,17.1s
NJ2 LR LR
comp=Z,4µm,18.9s
PFO Pinyon Flats O 87.90 47 P **P** **09 26 46.3 +0.7**
comp=Z,10nm,1.0s,baz=248,slow=5.2,SNR=11
PFO Pinyon Flats O 87.90 47 P **P** **09 26 43.5 -2.2**
PFO pmax pmax
comp=Z,103nm,1.9s
PFO Pinyon Flats O 87.90 47 P **P** **09 26 43.5 -2.2**
PFO IAmb IAmb 09 27 26.8
comp=Z,103nm,1.9s
PFO Pinyon Flats O 87.90 47 P **P** **09 26 46.6 +0.9**
baz=228
PFO S S 09 37 40.3 +12
baz=228
TPFO Pinon Flats 87.90 47 P **P** **09 26 47.2 +1.6**
baz=228
TPFO S S 09 37 40.3 +12
baz=228
PET Petropavlovsk 87.98 346 *e*P **P** **09 26 43.3 -2.0**
PET *e*S **SKSac** **09 37 19.8 +6.8**
PET *e*SS **SS** **09 43 15.0 -1.9**
PET pmax pmax
comp=Z,92nm,2.0s
PET pmax pmax
comp=Z,1µm,8.6s
PET pmax pmax
comp=Z,2µm,10.1s
PET pmax pmax
comp=Z,900nm,11.8s
PET smax smax
comp=E,5µm,14.4s
PET smax smax
comp=E,5µm,12.7s
PET smax smax
comp=N,4µm,12.2s
PET MLR MLR
comp=Z,17µm,19.0s
PET Petropavlovsk 87.98 346 IAMs_20 IAMs_20 10 04 53.6
comp=Z,13µm,19.0s
VOG Valley Oaks Go 88.00 44 P **P** **09 26 47.5 +1.6**
baz=226
BBRC Big Bear Solar 88.06 46 P **P** **09 26 48.8 +2.3**
baz=227
BBRC S S 09 37 42.8 +13
baz=227
ISA Isabella, Lake 88.08 45 P **P** **09 26 42.8 -3.6**
ISA pmax pmax
comp=Z,110nm,1.4s
ISA Isabella, Lake 88.08 45 P **P** **09 26 42.8 -3.6**
ISA IAMs_20 IAMs_20 10 02 55.9
comp=Z,18µm,18.0s
ISA Isabella, Lake 88.08 45 P **P** **09 26 47.3 +0.9**
baz=226,SNR=13
ISA S **S** **09 37 37.7 +7.6**
baz=226
PEA0B Petropavlovsk- 88.26 346 *i*P **P** **09 26 47.0 +0.3**
PEA0B Petropavlovsk- 88.26 346 P **P** **09 26 45.8 -0.9**
PEA0B IAMs_20 IAMs_20 10 10 46.9
comp=Z,11µm,20.0s
PETK Petropavlovsk- 88.26 346 P **P** **09 26 46.6 0.0**
comp=Z,19nm,0.8s,baz=117,slow=5.6,SNR=16
PETK LR LR 09 59 00.2
comp=Z,7µm,21.6s,baz=144,slow=31
PETK Petropavlovsk- 88.26 346 P **P** **09 26 46.4 -0.3**
FALS False Pass 88.32 8 IAMs_20 IAMs_20 10 07 48.6
comp=Z,13µm,20.0s
FALS False Pass 88.32 8 S **S** **09 37 36.0 +4.8**
baz=192
LRMC Laurel Mtn Rad 88.42 45 P **P** **09 26 48.9 +0.8**
baz=227
RRX Edison Barstow 88.43 46 P **P** **09 26 50.6 +2.6**
baz=227
MSHR Mys Shultsa 88.44 325 *i*P **P** **09 26 49.7 +1.9**
MSHR pmax pmax
comp=Z.9.0nm,0.7s
BELC Belle Mtn. Jos 88.45 47 P **P** **09 26 49.1 +0.8**
baz=228,SNR=14
HSIG 88.49 54 P **P** **09 26 46.0 -2.4**
HSIG IAmb IAmb 09 26 54.7
comp=Z,37nm,1.4s
HSIG IAMs_20 IAMs_20 09 58 40.8
comp=Z,14µm,20.0s
GLA Glamis 88.55 49 IAMs_20 IAMs_20 09 58 41.3
comp=Z,15µm,20.0s
GLA Glamis 88.55 49 P **P** **09 26 50.5 +1.9**
baz=228
BC3 Big Chuckawall 88.56 48 P **P** **09 26 50.1 +1.4**
baz=228,SNR=15
SURA Surathani 88.61 282 P P 09 27 06.8 +18
GO03 Copiap 88.75 122 IAmb IAmb 09 26 54.5
comp=Z,60nm,1.3s
HEC Hector,Ludlow 88.80 46 P **P** **09 26 50.8 +1.0**
baz=228,SNR=18
CNBA Chernabura Isl 88.82 11 P **P** **09 26 48.5 -0.8**
CNBA IAMs_20 IAMs_20 10 09 31.9
comp=Z,13µm,20.0s
CHNA Chernabura Isl 88.83 11 P **P** **09 26 49.8 +0.6**
baz=195
CHNA S **S** **09 37 38.9 +2.9**
baz=195
GSC Goldstone, Bar 88.83 46 P **P** **09 26 50.0 0.0**
GSC pmax pmax
comp=Z,69nm,1.4s
GSC MLR MLR
comp=Z,23µm,18.0s
GSC Goldstone, Bar 88.83 46 P **P** **09 26 50.0 0.0**
GSC IAmb IAmb 09 27 09.0
comp=Z,69nm,1.4s
GSC Goldstone, Bar 88.83 46 P **P** **09 26 51.0 +1.0**
baz=227,SNR=22
O02D Mt. Diablo Mer 88.84 39 P **P** **09 26 51.3 +1.4**
baz=224,SNR=9.5
O02D S **S** **09 37 44.4 +7.2**
baz=224
CWC Cottonwood Cre 88.84 44 P **P** **09 26 50.7 +0.6**
baz=226
MPMC Manual Prospec 88.93 45 P **P** **09 26 51.4 +0.8**
baz=227,SNR=10.0
MPMC S **S** **09 37 47.0 +8.6**
baz=227
113A Mohawk Valley, 89.04 49 IAMs_20 IAMs_20 10 01 51.2
comp=Z,19µm,18.0s
UGL Uglegorsk 89.07 335 *e*P **P** **09 26 54.3 +3.8**
UGL *e*S **SKSac** **09 37 21.5 +1.9**
UGL pmax pmax
comp=Z,2µm,7.5s
UGL pmax pmax
comp=Z,150nm,1.3s
UGL smax smax
comp=Z,3µm,10.0s
UGL smax smax
comp=E,3µm,14.0s
UGL smax smax
comp=N,10µm,12.0s
IRM Iron Mountain 89.08 48 P **P** **09 26 53.1 +2.0**
baz=228,SNR=24
MDPB Devils Postpil 89.09 43 IAmb IAmb 09 27 34.9
comp=Z,46nm,1.4s
MDPB IAMs_20 IAMs_20 10 08 25.5
comp=Z,18µm,19.0s
214A Organ Pipe Nat 89.12 50 IAMs_20 IAMs_20 10 03 05.6
comp=Z,17µm,18.0s
214A Organ Pipe Nat 89.12 50 P **P** **09 26 54.2 +2.9**
baz=230
TIN Tinemaha, Big 89.18 44 P **P** **09 26 52.6 +1.0**
baz=226
GMRC Granite Mounta 89.18 47 P **P** **09 26 52.8 +1.1**
baz=228,SNR=18
SDPT Sand Point 89.20 10 P **P** **09 26 51.6 +0.6**
SDPT IAMs_20 IAMs_20 10 09 54.7
comp=Z,10µm,20.0s
SDPT Sand Point 89.20 10 P **P** **09 26 52.8 +1.8**
baz=195
SDPT S **S** **09 37 41.8 +2.4**
baz=195
MLAC Mammoth, Mammo 89.22 43 P **P** **09 26 54.4 +2.5**
baz=226
MLAC S **S** **09 37 49.5 +8.4**
baz=226
USA0B Ussuriysk Arra 89.27 327 *i*P **P** **09 26 50.8 -0.9**
USA0B Ussuriysk Arra 89.27 327 P **P** **09 26 50.6 -1.1**
USA0B IAmb IAmb 09 27 10.5
comp=Z,55nm,1.1s
USRK Ussuriysk Ar. 89.27 327 P **P** **09 26 50.8 -0.9**
comp=Z,3.6nm,0.7s,baz=132,slow=2.8,SNR=14
USRK LR LR 10 06 51.6
comp=Z,3µm,18.2s,baz=120,slow=36
USRK Ussuriysk Ar. 89.27 327 P **P** **09 26 51.1 -0.6**
SRAK Srakaew 89.32 287 P P 09 27 04.0 +11
TUQ Turquoise Moun 89.45 46 P **P** **09 26 54.0 +1.0**
baz=228
TUQ S **S** **09 37 51.7 +8.5**
baz=228
O03E Paynes Creek 89.45 39 P **P** **09 26 54.6 +1.8**
baz=224
N02D Trinity Center 89.46 38 P **P** **09 26 54.7 +2.0**
baz=224
N02D S **S** **09 37 49.0 +6.1**
baz=224
SHOC Shoshone, Teco 89.55 46 P **P** **09 26 54.2 +1.0**
baz=228,SNR=21
SHOC S **S** **09 37 49.2 +5.4**
baz=228
FURC Furnace Creek, 89.58 45 P **P** **09 26 54.1 +0.8**
baz=227,SNR=10.0
GRAC Grapevine Rang 89.64 44 P **P** **09 26 54.7 +1.0**
baz=227,SNR=13
GRAC S **S** **09 37 47.4 +2.7**
baz=227
M02C Callahan 89.69 38 P **P** **09 26 56.0 +2.1**
baz=224
M02C S **S** **09 37 52.4 +7.4**
baz=224
PDMCI Parker Dam,Lak 89.80 48 P **P** **09 26 55.7 +1.3**
baz=229
PNTR Pine Nut 89.81 42 P **P** **09 26 52.5 -2.1**
PNTR IAmb IAmb 09 27 19.1
comp=Z,52nm,1.2s
NEE2 Needles Airpor 89.81 47 P **P** **09 26 56.5 +2.1**
baz=229
NEE2 S S 09 37 56.2 +10
baz=229
LHV Little Huntoon 89.84 43 P **P** **09 26 53.7 -0.8**
LHV IAmb IAmb 09 27 26.3
comp=Z,39nm,1.1s
L02E Cave Junction 89.86 37 P **P** **09 26 58.3 +3.7**
baz=223
L02E S **S** **09 37 55.0 +8.6**
baz=223
WHN Wuhan 89.88 307 ⇓P **P** **09 26 56.0 +1.1**
WHN pmax pmax
comp=Z,1µm,5.2s
WHN LR LR
comp=Z,4µm,18.3s
WHN LR LR
comp=Z,13µm,22.2s
WHN LR LR
comp=Z,10µm,18.3s
VCNR Virginia City 89.92 41 IAmb IAmb 09 27 04.8
comp=Z,27nm,1.1s
BEKR Beckworth 89.93 41 P **P** **09 26 55.7 +0.6**
BEKR IAmb IAmb 09 27 13.5
comp=Z,75nm,1.9s
BEKR IAMs_20 IAMs_20 10 04 38.8
comp=Z,19µm,18.0s
YERR Yerington 89.93 42 P **P** **09 26 54.7 -0.4**
SPIA Saint Paul Isl 89.99 4 IAMs_20 IAMs_20 10 03 38.9
comp=Z,14µm,20.0s
SPIA Saint Paul Isl 89.99 4 S **S** **09 37 52.0 +5.2**
baz=186
KHON Khomkaen 90.00 289 P P 09 27 06.3 +11
YBH Yreka Blue Hor 90.01 38 P **P** **09 26 55.4 +0.1**
comp=Z,3.2nm,1.0s,baz=126,slow=5.4,SNR=5.5
KEBM Edson Butte 90.02 36 IAMs_20 IAMs_20 10 02 36.1
comp=Z,19µm,19.0s
NVAR Mina Array Bea 90.08 43 P **P** **09 26 56.3 +0.4**
comp=Z,7.4nm,0.8s,baz=217,slow=5.6,SNR=30
NVAR PKKPbc **PKKPbc** **09 44 28.7 +1.4**
comp=Z,0.4nm,0.7s,baz=111,slow=3.1,SNR=3.7
NVAR PKPPKP **P'P'df** **09 52 39.2 +7.5**
comp=Z,0.5nm,0.8s,baz=55,slow=4.7,SNR=3.0
NVAR Mina Array Bea 90.08 43 P **P** **09 26 56.0 +0.1**
RYN Ryan 90.09 42 IAMs_20 IAMs_20 10 04 28.1
comp=Z,20µm,19.0s
NV11 Mina Array Sit 90.17 43 P **P** **09 26 56.7 +0.5**
NV11 IAmb IAmb 09 27 14.9
comp=Z,81nm,1.9s
K02D Willamette Mer 90.22 37 P **P** **09 26 58.7 +2.4**
baz=223
K02D S S 09 37 59.0 +9.2
baz=223
TPNV Topopah Spring 90.27 45 P **P** **09 26 56.3 -0.5**
TPNV pmax pmax
comp=Z,32nm,1.1s
TPNV MLR MLR
comp=Z,19µm,18.0s
TPNV Topopah Spring 90.27 45 P **P** **09 26 56.3 -0.5**
TPNV IAmb IAmb 09 27 28.1
comp=Z,32nm,1.1s
TPNV IAMs_20 IAMs_20 10 08 48.9
comp=Z,19µm,18.0s
TPNV Topopah Spring 90.27 45 P **P** **09 26 58.0 +1.2**
baz=228,SNR=18
TPNV S **S** **09 37 57.3 +6.5**
baz=228
Y14A Wickenburg 90.28 49 P **P** **09 26 57.2 +0.5**
Y14A IAmb IAmb 09 27 38.1
comp=Z,84nm,1.8s
Y14A IAMs_20 IAMs_20 10 03 49.2
comp=Z,18µm,19.0s
PAHR Pah Rah Range 90.36 41 P **P** **09 26 55.6 -1.4**
PAHR IAmb IAmb 09 27 21.4
comp=Z,44nm,1.4s
TYV Tymovskoe 90.37 336 *e*P **P** **09 26 57.7 +1.1**
TYV *e*S **S** **09 37 50.5 -0.1**
TYV pmax pmax
comp=Z,900nm,3.3s
TYV pmax pmax
comp=Z,68nm,1.0s
TYV smax smax
comp=E,4µm,9.1s
TYV smax smax
comp=N,8µm,9.1s
CHAI Chaiyaphum 90.42 289 P P 09 27 05.1 +7.4
CHGN Chignik 90.43 11 P **P** **09 26 59.0 +2.3**
baz=196
J01E Myrtle Point 90.43 36 P **P** **09 26 59.7 +2.6**
baz=223
J01E S S 09 38 01.1 +10
baz=223
CHIR Chirikof Islan 90.44 12 IAMs_20 IAMs_20 10 10 17.5
comp=Z,21µm,20.0s
CHIR Chirikof Islan 90.44 12 S **S** **09 37 55.8 +4.7**
baz=199
TPH Tonopah 90.46 44 P **P** **09 26 57.7 0.0**
TPH pmax pmax
comp=Z,184nm,1.2s
TPH Tonopah 90.46 44 P **P** **09 26 57.6 0.0**
W13A Hualapai Mount 90.48 48 P **P** **09 26 58.2 +0.3**
W13A IAMs_20 IAMs_20 10 00 09.5
comp=Z,16µm,20.0s
M04C Macdoel 90.50 38 P **P** **09 26 58.0 +0.4**
baz=224
M04C S **S** **09 38 00.8 +8.3**
baz=224
L04D Klamath Falls 90.57 38 P **P** **09 27 00.2 +2.2**
baz=224
L04D S **S** **09 37 60.0 +6.8**
baz=224
KVN Kaiserville 90.62 42 P **P** **09 26 58.0 -0.4**
KVN pmax pmax
comp=Z,24nm,1.2s
KVN Kaiserville 90.62 42 P **P** **09 26 58.0 -0.4**
KVN IAMs_20 IAMs_20 10 05 03.1
comp=Z,20µm,19.0s
SHPR Sheep Range 90.63 46 P **P** **09 26 58.0 -0.4**
SHPR IAmb IAmb 09 27 18.0
comp=Z,107nm,2.0s
SHPR IAMs_20 IAMs_20 10 02 46.3
comp=Z,19µm,19.0s
PHET Kaeng Krachan 90.66 285 P P 09 27 08.2 +9.3
TUC Tucson 90.67 51 P **P** **09 26 57.8 -0.9**
TUC pmax pmax
comp=Z,27nm,1.2s
TUC MLR MLR
comp=Z,10µm,19.0s
TUC Tucson 90.67 51 P **P** **09 26 57.8 -0.9**
TUC Tucson 90.67 51 IAMs_20 IAMs_20 10 09 51.6
comp=Z,10µm,19.0s
TUC Tucson 90.67 51 P **P** **09 26 59.8 +1.1**
baz=231
NONG Nongkai 90.71 291 P **P** **09 27 02.5 +3.5**
comp=Z,132nm,0.9s
MDJ Mudanjiang 90.72 326 P **P** **09 27 00.1 +1.7**
MDJ sP pwP 09 27 15.1 +6.2
MDJ SKS **SKSac** **09 37 27.6 -1.9**
MDJ S **S** **09 37 55.7 +1.6**
MDJ sS sS 09 38 13.1 +15
MDJ SS **SS** **09 43 56.7 -0.3**
MDJ pmax pmax
comp=Z,24nm,2.4s
MDJ pmax pmax
comp=Z,1µm,7.6s
MDJ LR LR

comp=Z,6µm,17.8s
MDJ LR LR
comp=Z,6µm,19.9s
MDJ LR LR
comp=Z,13µm,18.6s
MDJ Mudanjiang 90.72 326 IAMs_20 IAMs_20 10 07 50.7
comp=Z,10µm,19.0s
ZAIG Zacatecas 90.73 63 IAMs_20 IAMs_20 09 59 39.1
comp=Z,17µm,20.0s
DL2 Dalian 90.81 317 P **P** **09 27 02.6 +3.6**
DL2 SKS **SKSac** **09 37 29.7 -0.7**
DL2 SS **SS** **09 43 56.9 -1.7**
DL2 pmax pmax
comp=Z,620nm,7.3s
DL2 LR LR
comp=Z,2µm,14.5s
DL2 LR LR
comp=Z,1µm,15.5s
DL2 LR LR
comp=Z,2µm,15.3s
TLIG Tlapa 90.85 70 IAMs_20 IAMs_20 09 58 49.4
comp=Z,14µm,20.0s
HPIG 90.90 58 P **P** **09 26 58.4 -1.6**
HPIG IAmb IAmb 09 27 09.6
comp=Z,42nm,1.7s
319A Douglas 91.09 53 IAMs_20 IAMs_20 10 00 20.6
comp=Z,15µm,20.0s
I03D Drain, OR 91.11 36 P **P** **09 27 02.7 +2.4**
baz=223
I03D S **S** **09 38 04.9 +7.2**
baz=223
K04D Chiloquin, OR 91.14 38 P **P** **09 27 02.5 +1.9**
baz=224
K04D S **S** **09 38 05.0 +6.6**
baz=224
I02D Swisshome 91.16 36 S **S** **09 38 05.7 +7.5**
baz=223
PRN Pahroc Range 91.29 45 P **P** **09 27 01.2 -0.3**
PRN IAmb IAmb 09 27 26.8
comp=Z,57nm,1.4s
UNM Universidad Na 91.36 68 IAMs_20 IAMs_20 09 59 30.0
comp=Z,16µm,20.0s
J04D Umpqua Nationa 91.40 37 P **P** **09 27 03.8 +1.9**
baz=224
J04D S **S** **09 38 09.1 +8.2**
baz=224
SII Sitkinak Islan 91.40 13 IAMs_20 IAMs_20 10 12 43.0
comp=Z,14µm,19.0s
SII Sitkinak Islan 91.40 13 S S 09 38 09.5 +10
baz=200
X16A Lo Mia Camp, P 91.58 49 IAmb IAmb 09 27 18.9
comp=Z,22nm,1.1s
X16A IAMs_20 IAMs_20 10 12 39.6
comp=Z,16µm,18.0s
R11A Troy Canyon, C 91.60 44 P **P** **09 27 02.9 0.0**
baz=228
R11A S **S** **09 38 08.1 +5.3**
baz=228
I04A Tendick Farm, 91.65 37 P **P** **09 27 04.5 +1.7**
baz=224
BUCK Buck Mountain 91.65 36 IAMs_20 IAMs_20 10 01 28.4
comp=Z,21µm,20.0s
K05A Summer Lake 91.66 38 P **P** **09 27 03.8 +0.7**
TIA Tai'an 91.70 313 P **P** **09 27 03.5 +0.3**
TIA pmax pmax
comp=Z,22nm,2.6s
TIA pmax pmax
comp=Z,920nm,14.7s
TIA LR LR
comp=Z,3µm,20.1s
TIA LR LR
comp=Z,3µm,19.1s
TIA LR LR
comp=Z,5µm,20.0s
J05D Fort Rock, OR 91.88 38 P **P** **09 27 04.8 +0.7**
baz=225
J05D S **S** **09 38 11.9 +6.8**
baz=225
H04D Lebanon 92.01 36 P **P** **09 27 05.3 +0.9**
baz=224
H04D S **S** **09 38 12.5 +6.7**
baz=224
BMN Battle Mountai 92.06 42 P **P** **09 27 03.8 -1.2**
BMN pmax pmax
comp=Z,29nm,1.2s
BMN Battle Mountai 92.06 42 P **P** **09 27 03.8 -1.2**
BMN IAmb IAmb 09 27 29.2
comp=Z,29nm,1.2s
LCMT Little Creek M 92.12 46 P **P** **09 27 05.8 +0.4**
CN2 Changchun 92.16 323 *e*P **P** **09 27 06.2 +1.1**
CN2 *e*pP pwP 09 27 14.3 -1.4
CN2 *e*sP sP 09 27 17.5 +10
CN2 SKS **SKSac** **09 37 36.3 -1.5**
CN2 pmax pmax
comp=Z,30nm,1.9s
CN2 LR LR
comp=Z,4µm,19.0s
CN2 LR LR
comp=Z,3µm,19.0s
CN2 LR LR
comp=Z,5µm,20.0s
LPA La Plata 92.17 135 *e*P **P** **09 27 06.2 +0.6**
LPA pPP 09 30 50.0
LPA PKIKP **PKiKP** **09 31 54.6 -0.8**
LPA PPP PPP 09 32 49.6
LPA SKS **SKSac** **09 37 38.4 -0.4**
LPA S **SKKSac** **09 37 58.4 +2.6**
LPA SCS **ScS** **09 38 11.6 +1.1**
LPA sS sS 09 38 21.5 +10
LPA SKIKS 09 39 01.7
LPA PS PS 09 39 18.0 -1.3
LPA SS **SS** **09 44 06.7 -10**
LPA SSS SSS 09 48 12.0
OHAK Old Harbor 92.20 13 IAMs_20 IAMs_20 10 11 19.0
comp=Z,16µm,20.0s
OHAK Old Harbor 92.20 13 S **S** **09 38 13.2 +6.3**
baz=200
G03D McMinnville, O 92.25 35 S **S** **09 38 14.8 +6.8**
baz=223
UTHA Uthaitani 92.26 287 P P 09 27 14.2 +7.9
WUAZ Wupatki 92.32 49 IAmb IAmb 09 27 47.6
WUAZ comp=Z,41nm,1.5s IAMs_20 IAMs_20 10 00 59.2
comp=Z,14µm,20.0s
WUAZ Wupatki 92.32 49 P **P** **09 27 09.0 +2.7**
baz=230
WUAZ S S 09 38 20.7 +11
baz=230
U15A North Rim 92.33 47 P **P** **09 27 07.0 +0.6**
U15A IAmb IAmb 09 27 28.8
comp=Z,39nm,1.4s
U15A IAMs_20 IAMs_20 10 01 09.4
comp=Z,11µm,20.0s
KNB Kanab 92.38 47 P **P** **09 27 06.8 +0.2**
KNB pmax pmax
comp=Z,130nm,1.9s
KNB Kanab 92.38 47 P **P** **09 27 06.8 +0.2**
PHIT Phitsanulok 92.38 289 P P 09 27 16.8 +10
PINE Pine Mountain 92.39 37 P **P** **09 27 06.2 -0.3**
PINE IAmb IAmb 09 27 25.4
comp=Z,43nm,1.1s
PINE IAMs_20 IAMs_20 10 03 49.0
comp=Z,19µm,19.0s
CCUT Cedar City 92.40 46 P **P** **09 27 07.5 +0.8**
CCUT IAmb IAmb 09 27 32.1
comp=Z,42nm,1.6s
H04A Detroit Lake 92.40 36 P **P** **09 27 06.2 -0.1**
H04A IAmb IAmb 09 27 30.2
comp=Z,75nm,1.5s
H04A IAMs_20 IAMs_20 10 02 03.2
comp=Z,19µm,20.0s
GRNR Gornyy 92.54 333 ⇓*i*P **P** **09 27 08.0 +1.3**
GRNR *e*S **S** **09 38 12.7 +2.4**
GRNR pmax pmax
comp=Z,7.0nm,0.7s
GRNR smax smax
comp=N,3.0nm,0.8s
I05D Terrebonne, OR 92.58 37 P **P** **09 27 09.3 +2.2**
baz=224
I05D S **S** **09 38 18.0 +6.9**
baz=224
SZCU Shurtz Canyon 92.59 46 P **P** **09 27 07.6 0.0**
SZCU IAmb IAmb 09 27 44.0
comp=Z,57nm,1.8s
X18A Snowflake 92.61 50 IAmb IAmb 09 27 18.2
comp=Z,35nm,1.7s
X18A IAMs_20 IAMs_20 10 05 13.8
comp=Z,15µm,18.0s
WVOR Wild Horse Val 92.65 40 P **P** **09 27 07.8 +0.2**
WVOR pmax pmax
comp=Z,49nm,1.6s
WVOR Wild Horse Val 92.65 40 P **P** **09 27 07.8 +0.2**
WVOR IAmb IAmb 09 27 31.9
comp=Z,49nm,1.6s
LVC Limon Verde 92.70 119 P **P** **09 27 09.3 +0.5**
LVC pmax pmax
comp=Z,44nm,1.2s
LVC Limon Verde 92.70 119 P **P** **09 27 09.3 +0.5**
LVC IAmb IAmb 09 27 14.8
comp=Z,44nm,1.1s
LVC Limon Verde 92.70 119 *e*P **P** **09 27 06.8 -2.0**
NNA Nana 92.71 106 IAMs_20 IAMs_20 10 00 12.2
comp=Z,13µm,20.0s
PSUT Pine Spring 92.74 45 IAmb IAmb 09 27 33.2
comp=Z,36nm,1.8s
SPR3 Spring Creek 3 92.76 44 P **P** **09 27 08.3 -0.2**
121A Cookes Peak, D 92.80 53 IAMs_20 IAMs_20 10 01 44.9
comp=Z,20µm,20.0s
121A Cookes Peak, D 92.80 53 P **P** **09 27 11.1 +2.5**
baz=232
121A S **S** **09 38 21.0 +7.1**
baz=232
GYA Guiyang 92.82 300 ⇓P **P** **09 27 10.4 +1.6**
GYA pP pwP 09 27 18.9 -0.2
GYA PP **PP** **09 30 54.2 +2.8**
GYA S **S** **09 38 16.9 +2.7**
GYA SS **SS** **09 44 28.2 +0.1**
GYA pmax pmax
comp=Z,510nm,8.4s
GYA LR LR
comp=Z,1µm,16.4s
GYA LR LR
comp=Z,2µm,18.6s
GYA LR LR
comp=Z,2µm,19.0s
KDAK Kodiak Island 92.86 13 P **P** **09 27 09.6 +1.6**
comp=Z,3.1nm,0.8s,baz=256,slow=12,SNR=2.2
KDAK Kodiak Island 92.86 13 P **P** **09 27 07.8 -0.2**
KDAK pmax pmax
comp=Z,46nm,1.6s
KDAK Kodiak Island 92.86 13 P **P** **09 27 07.8 -0.2**
KDAK IAmb IAmb 09 27 44.3
comp=Z,46nm,1.6s
KDAK Kodiak Island 92.86 13 IAMs_20 IAMs_20 10 06 10.4
comp=Z,14µm,20.0s
KDAK Kodiak Island 92.86 13 S **S** **09 38 15.0 +2.3**
baz=201
TA01 Diego Aracena 92.98 117 P **P** **09 27 10.2 +0.6**
F04D Rainier, OR 93.01 35 P **P** **09 27 12.1 +3.2**
baz=223
F04D S **S** **09 38 23.0 +8.3**
baz=223
E03A Lebam 93.08 34 IAMs_20 IAMs_20 10 03 13.1
comp=Z,15µm,19.0s
W18A Petrified Fore 93.11 50 IAMs_20 IAMs_20 10 13 38.1
comp=Z,14µm,18.0s
W18A Petrified Fore 93.11 50 P **P** **09 27 11.7 +1.7**
baz=231
W18A S S 09 38 26.6 +10
baz=231
F04A Amboy 93.18 35 IAmb IAmb 09 27 28.1
comp=Z,64nm,1.4s
F04A IAMs_20 IAMs_20 10 02 04.9
comp=Z,16µm,20.0s
EPT El Paso 93.20 54 IAMs_20 IAMs_20 10 01 50.4
comp=Z,12µm,20.0s
PB01 IPOC Station P 93.21 117 P **P** **09 27 10.6 -0.3**
PB01 IAmb IAmb 09 27 16.2
comp=Z,36nm,1.1s
KLR Kul'dur 93.22 330 P **P** **09 27 10.4 +0.5**
comp=Z,8.5nm,1.1s,baz=86,slow=2.6,SNR=9.2
KLR LR LR 10 05 08.0
comp=Z,4µm,20.2s,baz=138,slow=33
KLR Kul'dur 93.22 330 *i*P **P** **09 27 09.6 -0.3**
KLR pmax pmax
comp=Z,42nm,1.6s
KLR MLR MLR
comp=Z,9µm,19.0s
G05D Wamic, OR 93.23 36 P **P** **09 27 12.5 +2.4**
baz=225
G05D S **S** **09 38 24.0 +7.2**
baz=225
I07A Izee 93.33 38 P **P** **09 27 10.3 -0.4**
I07A IAmb IAmb 09 27 31.4
comp=Z,22nm,1.2s
I07A IAMs_20 IAMs_20 10 04 31.9
comp=Z,17µm,19.0s
J08A Circle Bar Ran 93.37 39 P **P** **09 27 10.9 0.0**
J08A IAmb IAmb 09 27 35.3
comp=Z,22nm,1.1s
ELK Elko 93.39 43 P **P** **09 27 11.4 +0.2**
comp=Z,3.0nm,0.9s,baz=250,slow=5.5,SNR=9.6
ELK Elko 93.39 43 P **P** **09 27 10.1 -1.1**
ELK pmax pmax
comp=Z,18nm,1.5s
ELK MLR MLR
comp=Z,22µm,19.0s
ELK Elko 93.39 43 P **P** **09 27 10.1 -1.1**
MTPU Mount Pierson 93.42 46 P **P** **09 27 11.0 -0.6**
MTPU IAmb IAmb 09 27 31.4
comp=Z,34nm,1.5s
NLWA Neilton Lookou 93.55 33 IAMs_20 IAMs_20 10 01 49.7
comp=Z,18µm,20.0s
E04D Cinebar 93.56 35 S S 09 38 29.6 +10
baz=224
PSGCX Pisagua 93.60 116 IAmb IAmb 09 27 17.6
comp=Z,37nm,1.2s
F05D White Salmon 93.62 36 S **S** **09 38 25.1 +5.0**
baz=224
TX32 Lajitas Array 93.73 57 IAmb IAmb 09 27 31.9
comp=Z,37nm,1.7s
TXAR Lajitas Array 93.73 57 P **P** **09 27 12.9 0.0**
comp=Z,1.7nm,0.9s,baz=199,slow=4.4,SNR=14
TXAR PKKPbc **PKKPbc** **09 44 19.0 +1.7**
comp=Z,0.5nm,0.8s,baz=95,slow=4.3,SNR=5.3
TXAR LR LR 10 04 14.0
comp=Z,14µm,18.2s,baz=0.0,slow=32
TXAR Lajitas Array 93.73 57 P **P** **09 27 12.2 -0.7**
TXAR Lajitas Array 93.73 57 P **P** **09 27 12.2 -0.7**
Q19K Cape Douglas, 93.73 12 IAMs_20 IAMs_20 10 14 03.3
comp=Z,16µm,19.0s
MNTX Cornudas Mount 93.93 55 IAMs_20 IAMs_20 10 02 35.8
comp=Z,10µm,20.0s
MNTX Cornudas Mount 93.93 55 P **P** **09 27 13.5 -0.2**
baz=233
MNTX S **S** **09 38 30.2 +6.7**
baz=233
LON Longmire 94.06 35 P **P** **09 27 10.2 -3.7**
LON pmax pmax
comp=Z,15nm,1.4s
LON Longmire 94.06 35 P **P** **09 27 10.2 -3.7**
LON IAMs_20 IAMs_20 10 02 12.2
comp=Z,15µm,20.0s
CMAR Chiang Mai Arr 94.25 289 P **P** **09 27 17.7 +2.3**
comp=Z,1.4nm,0.4s,baz=143,slow=3.3,SNR=1.2
CMAR PP **PP** **09 31 04.7 +2.1**
comp=Z,2.3nm,0.3s,baz=128,slow=5.9,SNR=6.6
CMAR LR LR 10 14 37.7
comp=Z,2µm,18.1s,baz=178,slow=39
D05A Enumclaw 94.29 35 P **P** **09 27 13.9 -1.0**
D05A IAmb IAmb 09 27 29.5
comp=Z,42nm,1.2s
Y22D IRIS PASSCAL I 94.31 52 IAMs_20 IAMs_20 10 02 52.8
comp=Z,16µm,20.0s
O18K Koktuh Hills 94.34 11 P **P** **09 27 12.7 -2.1**
O18K IAmb IAmb 09 27 45.3
comp=Z,44nm,1.2s
O18K IAMs_20 IAMs_20 10 06 09.3
comp=Z,11µm,20.0s
O18K Koktuh Hills 94.34 11 P **P** **09 27 16.5 +1.6**
baz=199
O18K S **S** **09 38 28.8 +3.0**
baz=199
F07A Phinny Hill Vi 94.38 36 IAMs_20 IAMs_20 10 03 06.7
comp=Z,16µm,20.0s
DUG Dugway, Tooele 94.43 44 P **P** **09 27 15.1 -0.8**
baz=230
DUG S **S** **09 38 36.3 +8.5**
baz=230
G08A Pilot Rock 94.45 37 P **P** **09 27 14.8 -1.0**
G08A IAMs_20 IAMs_20 10 05 13.5
comp=Z,16µm,19.0s
P19K Oil Pt 94.49 12 IAMs_20 IAMs_20 10 12 58.2
comp=Z,13µm,19.0s
P19K Oil Pt 94.49 12 P **P** **09 27 17.5 +2.0**
baz=201
P19K S **S** **09 38 30.6 +3.5**
baz=201
PGC Sidney 94.66 33 IAMs_20 IAMs_20 10 03 00.0
comp=Z,10µm,20.0s
BJI Beijing 94.73 315 P **P** **09 27 18.5 +1.4**
BJI SKS **SKSac** **09 37 51.8 -0.3**
BJI S **ScS** **09 38 32.9 +1.8**
BJI pmax pmax
comp=Z,11nm,0.9s
BJI pmax pmax
comp=Z,660nm,7.1s
BJI LR LR
comp=Z,3µm,20.3s
BJI LR LR
comp=Z,2µm,19.7s
BJI LR LR
comp=Z,5µm,20.2s
CNPM China Poot 94.74 13 IAMs_20 IAMs_20 10 07 21.2
comp=Z,17µm,20.0s
HOM Homer 94.79 13 IAMs_20 IAMs_20 10 03 35.4
comp=Z,13µm,20.0s
O19K Port Alsworth 94.81 12 P **P** **09 27 16.4 -0.5**
O19K IAmb IAmb 09 27 47.3
comp=Z,54nm,1.3s
O19K IAMs_20 IAMs_20 10 12 48.7
comp=Z,11µm,20.0s
O19K Port Alsworth 94.81 12 P **P** **09 27 19.1 +2.2**
baz=200
O19K S **S** **09 38 31.5 +1.7**
baz=200
TMUT Trail Mountain 94.81 46 P **P** **09 27 18.5 +0.6**
TMUT IAmb IAmb 09 29 00.8
comp=Z,13nm,0.3s
MFID Camas Ranch 94.83 40 P **P** **09 27 17.4 -0.2**
MFID IAMs_20 IAMs_20 10 07 29.6
comp=Z,15µm,18.0s
E07A Sunnyside 94.88 36 IAmb IAmb 09 27 36.3
comp=Z,27nm,1.4s
HAWA Hanford 94.93 36 P **P** **09 27 16.8 -1.1**
HAWA IAmb IAmb 09 27 36.3
comp=Z,28nm,1.4s
KMI Kunming 94.97 297 ⇑P **P** **09 27 18.0 -0.9**
KMI pP pwP 09 27 32.2 +3.0
KMI PP **PP** **09 31 05.2 -3.2**
KMI SKS **SKSac** **09 37 54.2 -0.4**
KMI S **S** **09 38 29.6 -3.8**
KMI SS **SS** **09 44 57.7 -1.4**
KMI pmax pmax
comp=Z,8.0nm,0.8s
KMI pmax pmax
comp=Z,340nm,9.9s
KMI LR LR
comp=Z,860nm,18.9s
KMI LR LR
comp=Z,2µm,23.3s
KMI LR LR
comp=Z,6µm,40.8s
LTY Liberty 94.97 35 P **P** **09 27 17.2 -0.9**
LTY IAmb IAmb 09 28 07.5
comp=Z,38nm,1.9s
LTY IAMs_20 IAMs_20 10 03 02.3
comp=Z,16µm,20.0s
O20K Slope Mountain 95.00 12 S **S** **09 38 34.7 +3.0**
baz=201
BMO Blue Mountains 95.01 38 P **P** **09 27 17.4 -1.0**
BMO pmax pmax
comp=Z,42nm,2.0s
BMO MLR MLR
comp=Z,28µm,18.0s
BMO Blue Mountains 95.01 38 P **P** **09 27 17.4 -1.0**
BMO IAmb IAmb 09 27 27.6
comp=Z,42nm,2.0s
B05A Bryant 95.01 34 P **P** **09 27 20.2 +2.1**
baz=224
B05A S **S** **09 38 38.5 +6.4**
baz=224
MPU Maple Canyon 95.01 45 IAmb IAmb 09 27 54.6
comp=Z,33nm,2.0s
N18K Kilae Creek 95.02 11 IAMs_20 IAMs_20 10 08 42.1
comp=Z,9µm,20.0s
N18K Kilae Creek 95.02 11 S **S** **09 38 36.5 +4.9**
baz=198
BRLK Bradley Lake 95.03 13 IAMs_20 IAMs_20 10 14 48.5
comp=Z,15µm,19.0s
BRSE Bradley Lake S 95.04 13 P **P** **09 27 21.7 +3.7**
baz=203
BRSE S **S** **09 38 36.6 +4.7**
baz=203
A04D Lummi Island 95.06 33 P **P** **09 27 22.9 +4.6**
baz=224
A04D S S 09 38 41.7 +9.2
baz=224
ANMO Albuquerque 95.14 51 P **P** **09 27 20.4 +1.0**
comp=Z,1.9nm,1.0s,baz=194,slow=2.9,SNR=5.9
ANMO Albuquerque 95.14 51 *i*P **P** **09 27 19.1 -0.2**
ANMO pmax pmax
comp=Z,10.0nm,1.4s
ANMO Albuquerque 95.14 51 P **P** **09 27 19.3 0.0**
ANMO Albuquerque 95.14 51 IAMs_20 IAMs_20 10 05 04.8
comp=Z,18µm,19.0s
ANMO Albuquerque 95.14 51 P **P** **09 27 19.7 +0.4**
baz=233
ANMO S **S** **09 38 42.2 +7.9**
baz=233
MVCO Mesa Verde 95.19 49 IAMs_20 IAMs_20 10 02 31.1
comp=Z,15µm,20.0s
MVCO Mesa Verde 95.19 49 P **P** **09 27 22.0 +2.4**
baz=232
MVCO S S 09 38 46.0 +11
baz=232
P17A Butcher Ranch, 95.20 46 P **P** **09 27 18.6 -0.9**
P17A IAmb IAmb 09 28 10.0
comp=Z,39nm,1.9s
E08A Dider Farm, El 95.23 36 IAMs_20 IAMs_20 10 03 43.1
comp=Z,18µm,20.0s
CCIG Comitan 95.29 74 IAMs_20 IAMs_20 10 05 14.1
comp=Z,11µm,18.0s
BBB Bella Bella 95.31 28 IAMs_20 IAMs_20 10 05 25.2
comp=Z,13µm,19.0s
PV05 Paradox Valley 95.34 48 IAMs_20 IAMs_20 10 03 00.5
comp=Z,15µm,20.0s
N19K Bonanza Creek 95.37 11 IAMs_20 IAMs_20 10 06 40.5
comp=Z,14µm,20.0s
N19K Bonanza Creek 95.37 11 P **P** **09 27 22.0 +2.4**
baz=200
N19K S **S** **09 38 41.0 +6.2**
baz=200
HVU Hansel Valley 95.47 43 P **P** **09 27 20.6 -0.1**
HVU pmax pmax
comp=Z,11nm,1.1s
HVU Hansel Valley 95.47 43 P **P** **09 27 20.6 -0.1**
B06A Marblemount 95.48 34 IAMs_20 IAMs_20 10 04 21.6
comp=Z,14µm,20.0s
PV17 East Wray Mesa 95.55 48 IAMs_20 IAMs_20 10 03 02.8
comp=Z,16µm,20.0s
PV19 Morning Glory 95.56 48 IAMs_20 IAMs_20 10 03 02.9
comp=Z,14µm,20.0s
TIY Taiyuan 95.56 312 *e*P **P** **09 27 22.1 +1.0**
TIY PP **PP** **09 31 12.6 0.0**
TIY S **S** **09 38 36.7 -0.9**
TIY sS **sS** **09 38 45.9 +4.6**
TIY pmax pmax
comp=Z,460nm,7.1s
TIY LR LR
comp=Z,1µm,14.4s
TIY LR LR
comp=Z,2µm,15.9s
TIY LR LR
comp=Z,3µm,19.6s
PV10 Paradox Valley 95.56 47 IAMs_20 IAMs_20 10 03 10.6
comp=Z,17µm,20.0s
PV18 Skein Mesa, Pa 95.56 48 IAMs_20 IAMs_20 10 03 03.6
comp=Z,14µm,20.0s
PV14 Lion Creek, Pa 95.57 47 IAMs_20 IAMs_20 10 03 13.3
comp=Z,17µm,20.0s
PV16 Nyswonger Mesa 95.60 48 IAMs_20 IAMs_20 10 03 05.0
comp=Z,14µm,20.0s
PV11 David Mesa, Pa 95.62 48 IAMs_20 IAMs_20 10 02 55.5
comp=Z,17µm,20.0s
PV23 Carpenter Ridg 95.63 47 IAMs_20 IAMs_20 10 03 15.7
comp=Z,16µm,19.0s
SEW Seward 95.63 14 IAMs_20 IAMs_20 10 03 53.7
comp=Z,12µm,20.0s
PV02 Paradox Valley 95.65 48 IAMs_20 IAMs_20 10 03 15.3

comp=Z,17µm,21.0s
XAN Xi'an 95.65 307 P **P** **09 27 23.1 +1.6**
XAN SKS **SKSac** **09 37 58.6 +1.2**
XAN S **ScS** **09 38 40.2 +1.0**
XAN pmax pmax
comp=Z,8.0nm,2.5s
XAN pmax pmax
comp=Z,650nm,10.0s
XAN LR LR
comp=Z,3µm,17.9s
XAN LR LR
comp=Z,3µm,20.0s
XAN LR LR
comp=Z,5µm,19.5s
PV04 Paradox Valley 95.66 48 IAMs_20 IAMs_20 10 03 25.5
comp=Z,17µm,19.0s
PV12 Saucer Basin, 95.67 48 IAMs_20 IAMs_20 10 03 18.0
comp=Z,17µm,20.0s
Q23K Middleton Isla 95.68 16 IAMs_20 IAMs_20 10 07 10.1
comp=Z,15µm,20.0s
D08A Wollman Farm, 95.69 36 P **P** **09 27 20.4 -1.0**
D08A IAmb IAmb 09 27 39.7
comp=Z,25nm,1.4s
HLID Hailey 95.70 41 P **P** **09 27 20.8 -0.9**
HLID IAMs_20 IAMs_20 10 08 05.6
comp=Z,16µm,18.0s
HLID Hailey 95.70 41 P **P** **09 27 22.3 +0.6**
baz=229
HLID S **S** **09 38 46.2 +7.4**
baz=229
E09A Wood Farm, Sta 95.71 37 P **P** **09 27 21.6 +0.2**
E09A IAmb IAmb 09 27 39.4
comp=Z,24nm,1.4s
E09A IAMs_20 IAMs_20 10 03 58.7
comp=Z,13µm,20.0s
PV01 Paradox Valley 95.71 48 IAMs_20 IAMs_20 10 03 18.9
comp=Z,16µm,20.0s
PV21 Cone Mtn., Par 95.72 47 IAMs_20 IAMs_20 10 03 19.1
comp=Z,13µm,20.0s
MA2 Magadan 95.73 345 P **P** **09 27 22.3 +1.2**
comp=Z,12nm,1.0s,baz=93,slow=7.1,SNR=2.4
MA2 LR LR 10 04 19.3
comp=Z,1µm,21.9s,baz=148,slow=32
MA2 Magadan 95.73 345 *i* P **P** **09 27 21.6 +0.5**
MA2 pmax pmax
comp=Z,12nm,1.3s
MA2 Magadan 95.73 345 IAMs_20 IAMs_20 10 14 29.5
comp=Z,11µm,19.0s
F10A Beach Ranch, E 95.81 38 P **P** **09 27 20.2 -1.8**
F10A IAMs_20 IAMs_20 10 05 48.3
comp=Z,14µm,20.0s
TCUT Toone Canyon 95.84 44 IAmb IAmb 09 27 57.9
comp=Z,27nm,1.3s
PV07 Paradox Valley 95.84 48 IAMs_20 IAMs_20 10 03 03.6
comp=Z,14µm,20.0s
PLID Pearl Lake 95.85 39 P **P** **09 27 21.7 -0.7**
PLID IAmb IAmb 09 27 40.3
comp=Z,19nm,1.1s
PV15 Paradox Valley 95.89 48 IAMs_20 IAMs_20 10 03 14.7
comp=Z,16µm,20.0s
CAPN Captain Cook N 95.91 13 IAMs_20 IAMs_20 10 08 11.1
comp=Z,18µm,20.0s
O22K Cooper Landing 95.92 14 IAMs_20 IAMs_20 10 15 22.8
comp=Z,12µm,19.0s
CRAG Craig 96.04 24 IAMs_20 IAMs_20 10 06 42.5
comp=Z,13µm,19.0s
CRAG Craig 96.04 24 S S 09 38 51.5 +11
baz=216
SPCR Spurr Chakacha 96.12 12 S **S** **09 38 43.8 +2.5**
baz=202
SNET Serv Nac Est T 96.28 78 IAMs_20 IAMs_20 10 01 54.2
comp=Z,14µm,20.0s
B08A Colville Reser 96.39 35 P **P** **09 27 23.2 -1.3**
B08A IAMs_20 IAMs_20 10 06 38.7
comp=Z,10µm,19.0s
M19K Big River Lodg 96.41 11 IAMs_20 IAMs_20 10 09 24.3
comp=Z,11µm,20.0s
M19K Big River Lodg 96.41 11 S **S** **09 38 49.2 +5.5**
baz=200
FIS Fire Island 96.44 13 IAMs_20 IAMs_20 10 08 36.7
comp=Z,9µm,20.0s
RC01 Rabbit Creek A 96.48 13 S **S** **09 38 47.2 +2.9**
baz=204
GAMB Gambell 96.51 3 IAMs_20 IAMs_20 10 05 28.1
comp=Z,14µm,21.0s
HIN Hinchinbrook I 96.52 15 IAMs_20 IAMs_20 10 07 32.1
comp=Z,17µm,20.0s
MTO3 Montecristo 96.55 77 IAMs_20 IAMs_20 10 02 12.4
comp=Z,9µm,20.0s
PWL Port Wells 96.55 14 IAMs_20 IAMs_20 10 15 37.9
comp=Z,14µm,19.0s
ITQB Itaqui 96.57 132 P **P** **09 27 23.5 -2.4**
ITQB IAmb IAmb 09 27 29.9
comp=Z,36nm,1.1s
ITQB Itaqui 96.57 132 *eP* **P** **09 27 24.6 -1.3**
S22A 4UR Ranch, Cre 96.57 49 P **P** **09 27 28.5 +2.6**
baz=233
S22A S **S** **09 38 55.2 +8.3**
baz=233
KAIM Kayak Island 96.57 16 IAMs_20 IAMs_20 10 07 16.6
comp=Z,17µm,19.0s
M20K Styx River 96.60 12 IAMs_20 IAMs_20 10 14 16.0
comp=Z,12µm,20.0s
M20K Styx River 96.60 12 S **S** **09 38 50.7 +5.2**
baz=201
L19K White Mountain 96.60 11 IAMs_20 IAMs_20 10 14 15.1
comp=Z,10µm,19.0s
L19K White Mountain 96.60 11 P **P** **09 27 28.4 +3.3**
baz=199
L19K S **S** **09 38 53.6 +8.2**
baz=199
SIT Sitka 96.61 22 IAMs_20 IAMs_20 10 04 46.6
comp=Z,12µm,20.0s
SIT Sitka 96.61 22 S **S** **09 38 54.1 +8.6**
baz=215
SUA Susitna One 96.63 13 IAMs_20 IAMs_20 10 16 04.5
comp=Z,16µm,19.0s
SUA Susitna One 96.63 13 P **P** **09 27 27.9 +2.5**
baz=203
LLLB Lillooet 96.78 32 IAMs_20 IAMs_20 10 14 33.1
comp=Z,12µm,19.0s
EYAK Cordova Ski Ar 96.82 15 IAMs_20 IAMs_20 10 07 29.1
comp=Z,15µm,20.0s
EYAK Cordova Ski Ar 96.82 15 S S 09 38 56.3 +9.1
baz=207
GLI Glacier Island 96.83 15 IAMs_20 IAMs_20 10 08 24.3
comp=Z,14µm,20.0s
GLI Glacier Island 96.83 15 P **P** **09 27 29.4 +3.3**
baz=206
GLI S S 09 38 56.3 +9.0
baz=206
FID Port Fidalgo 96.84 15 IAMs_20 IAMs_20 10 08 01.5
comp=Z,19µm,20.0s
SUCK Suckling Hills 96.85 16 IAMs_20 IAMs_20 10 07 26.0
comp=Z,18µm,20.0s
KVTX Kingsville 96.91 62 IAMs_20 IAMs_20 10 05 20.9
comp=Z,11µm,19.0s
PLTB Pedras Altas 96.95 135 *eP* **P** **09 27 26.0 -1.7**
SKT Skwentna 96.97 12 IAMs_20 IAMs_20 10 14 37.3
comp=Z,13µm,20.0s
SKT Skwentna 96.97 12 S **S** **09 38 55.2 +6.7**
baz=202
KNK Knik Glacier 97.03 14 IAMs_20 IAMs_20 10 16 05.4
comp=Z,14µm,19.0s
KNK Knik Glacier 97.03 14 S **S** **09 38 57.8 +8.7**
baz=205
MSTX Muleshoe 97.03 54 IAMs_20 IAMs_20 10 04 03.0
comp=Z,12µm,20.0s
MSTX Muleshoe 97.03 54 S **S** **09 38 56.0 +5.4**
baz=235
L20K Farewell, AK 97.04 11 S **S** **09 38 55.5 +6.4**
baz=200
AHID Auburn Hatcher 97.06 43 IAMs_20 IAMs_20 10 13 33.4
comp=Z,15µm,18.0s
PMR Palmer 97.06 13 IAMs_20 IAMs_20 10 16 19.5
comp=Z,9µm,19.0s
PMR Palmer 97.06 13 S **S** **09 38 57.9 +8.8**
baz=204
WRAK Wrangell Islan 97.07 24 IAMs_20 IAMs_20 10 07 13.6
comp=Z,15µm,19.0s
WRAK Wrangell Islan 97.07 24 S S 09 38 59.6 +10
baz=217
LPAZ La Paz 97.09 114 P Pdif 09 27 30.1 +0.7
comp=Z,2.9nm,0.8s,baz=217,slow=4.6,SNR=8.7
LPAZ LR LR 10 06 40.3
comp=Z,2µm,18.1s,baz=238,slow=32
LPAZ La Paz 97.09 114 P **P** **09 27 29.2 -0.1**
LPAZ pmax pmax
comp=Z,16nm,1.4s
LPAZ La Paz 97.09 114 P Pdif 09 27 29.2 -0.1
LPAZ La Paz 97.09 114 *eP* **P** **09 27 27.6 -1.7**
O20A White River Ci 97.13 46 IAMs_20 IAMs_20 10 05 32.4
comp=Z,10µm,20.0s
O20A White River Ci 97.13 46 S S 09 39 02.4 +11
baz=232
JCT Junction City 97.14 58 IAMs_20 IAMs_20 10 05 17.9
comp=Z,18µm,19.0s
JCT Junction City 97.14 58 S **S** **09 38 54.0 +2.5**
baz=236
BERG Berg Lake 97.15 16 IAMs_20 IAMs_20 10 07 37.0
comp=Z,18µm,20.0s
GHO Glory Hole Cre 97.26 13 IAMs_20 IAMs_20 10 16 15.3
comp=Z,11µm,19.0s
SMCO Snowmass 97.33 48 P **P** **09 27 27.4 -2.1**
SMCO IAmb IAmb 09 27 58.0
comp=Z,24nm,2.0s
SMCO IAMs_20 IAMs_20 10 04 11.9
comp=Z,13µm,20.0s
DIV Divide 97.34 15 IAMs_20 IAMs_20 10 08 17.7
comp=Z,12µm,20.0s
NEW Newport 97.40 36 PP **PP** **09 31 29.1 +2.5**
comp=Z,0.6nm,0.6s,baz=191,slow=6.1,SNR=4.1
NEW Newport 97.40 36 S **S** **09 38 59.1 +6.2**
baz=228
YKU2 Yakutat 97.41 19 IAMs_20 IAMs_20 10 07 42.6
comp=Z,13µm,20.0s
SML Sawmill 97.41 14 IAMs_20 IAMs_20 10 16 18.2
comp=Z,12µm,18.0s
SML Sawmill 97.41 14 S **S** **09 38 58.3 +5.9**
baz=205
SDCO Great Sand Dun 97.42 50 IAMs_20 IAMs_20 10 08 20.1
comp=Z,11µm,18.0s
SDCO Great Sand Dun 97.42 50 S **S** **09 39 02.4 +8.4**
baz=234
CD2 Chengdu 97.44 302 P **P** **09 27 29.6 -0.1**
CD2 PP **PP** **09 31 31.8 +4.5**
CD2 SKS **SKSac** **09 38 06.3 -0.6**
CD2 S **S** **09 38 53.0 -1.1**
CD2 SS **SS** **09 45 31.0 -2.7**
CD2 pmax pmax
comp=Z,820nm,10.1s
CD2 LR LR
comp=Z,3µm,17.3s
CD2 LR LR
comp=Z,4µm,21.6s
CD2 LR LR
comp=Z,5µm,35.9s
BMRM Bremner River 97.45 16 IAMs_20 IAMs_20 10 08 08.8
comp=Z,15µm,20.0s
BMRM Bremner River 97.45 16 S **S** **09 38 58.5 +5.7**
baz=208
REDW Red Top Meadow 97.57 43 IAmb IAmb 09 28 16.2
comp=Z,18nm,1.4s
REDW IAMs_20 IAMs_20 10 13 58.1
comp=Z,18µm,19.0s
CUT Chulitna 97.59 13 IAMs_20 IAMs_20 10 16 25.6
comp=Z,18µm,19.0s
TPAW Teton Pass 97.59 43 P **P** **09 27 30.0 -0.4**
TPAW IAmb IAmb 09 28 18.2
comp=Z,39nm,1.9s
TPAW IAMs_20 IAMs_20 10 13 57.7
comp=Z,17µm,19.0s
CRQM Cirque 97.61 16 IAMs_20 IAMs_20 10 08 01.1
comp=Z,18µm,20.0s
KLU Klutina 97.63 15 IAMs_20 IAMs_20 10 05 00.5
comp=Z,12µm,20.0s
KLU Klutina 97.63 15 S **S** **09 38 58.7 +4.4**
baz=207
SCM Sheep Creek Mo 97.64 14 IAMs_20 IAMs_20 10 08 53.8
comp=Z,11µm,20.0s
FXWY Fox Creek 97.64 42 IAMs_20 IAMs_20 10 09 39.0
comp=Z,17µm,19.0s
ORTG Ortega, Santa 97.65 83 IAMs_20 IAMs_20 10 04 54.5
comp=Z,8µm,18.0s
ISLE Juper Island 97.67 17 IAMs_20 IAMs_20 10 07 52.4
comp=Z,19µm,20.0s
ANM Nome 97.67 5 IAMs_20 IAMs_20 10 08 49.9
comp=Z,14µm,20.0s
ANM Nome 97.67 5 S **S** **09 38 59.0 +4.6**
baz=191
TGL Tana Glacier 97.68 17 IAMs_20 IAMs_20 10 07 52.8
comp=Z,17µm,20.0s
SNOW Snow King Moun 97.69 43 P Pdif 09 27 30.8 -0.1
SNOW IAmb IAmb 09 27 45.0
comp=Z,12nm,1.1s
735A Kenedy 97.69 61 IAMs_20 IAMs_20 10 05 07.5
comp=Z,9µm,19.0s
PPLA Purkeypile 97.71 12 S **S** **09 38 57.9 +2.9**
baz=202
PCA Pinnacle 97.75 18 IAMs_20 IAMs_20 10 07 24.8
comp=Z,16µm,20.0s
PINM Pinnacle 97.75 18 S **S** **09 39 01.6 +6.1**
baz=211
T25A Trinidad 97.77 51 IAMs_20 IAMs_20 10 14 09.4
comp=Z,10µm,19.0s
T25A Trinidad 97.77 51 S S 09 39 08.1 +11
baz=234
BCPM Bancas Point 97.79 18 IAMs_20 IAMs_20 10 07 54.8
comp=Z,14µm,20.0s
K20K Telida 97.83 11 S **S** **09 39 00.8 +5.0**
baz=200
IMW Indian Meadow 97.85 42 IAMs_20 IAMs_20 10 09 45.6
comp=Z,16µm,19.0s
DLMT Dillon 97.86 40 IAMs_20 IAMs_20 10 09 38.6
comp=Z,14µm,19.0s
LOHW Long Hollow 97.87 43 IAMs_20 IAMs_20 10 14 07.9
comp=Z,16µm,18.0s
MOOW Moose Ponds 97.87 42 IAMs_20 IAMs_20 10 09 38.0
comp=Z,18µm,19.0s
JIS Juneau Island 97.90 22 IAMs_20 IAMs_20 10 05 54.7
comp=Z,16µm,20.0s
GRNC Granite Creek 97.92 17 IAMs_20 IAMs_20 10 07 60.0
comp=Z,19µm,20.0s
BW06 Boulder Array 97.95 44 IAMs_20 IAMs_20 10 09 24.1
comp=Z,17µm,19.0s
BW06 Boulder Array 97.95 44 P Pdif 09 27 33.4 +1.4
baz=232
BW06 S **S** **09 39 04.3 +6.1**
baz=232
PD31 Pinedale Array 97.95 44 P **P** **09 27 30.7 -1.3**
PDAR Pinedale Array 97.95 44 P Pdif 09 27 32.0 0.0
comp=Z,1.2nm,0.9s,baz=212,slow=3.2,SNR=7.8
PDAR PP **PP** **09 31 37.0 +5.9**
comp=Z,1.5nm,1.1s,baz=235,slow=5.2,SNR=5.0
PDAR PKKP **PKKPdf** **09 44 10.2 +0.2**
comp=Z,0.5nm,0.7s,baz=77,slow=4.0,SNR=3.7
PDAR PKPPKP 09 52 27.6
comp=Z,0.5nm,1.0s,baz=27,slow=6.3,SNR=4.9
PDAR LR LR 10 06 06.4
comp=Z,10µm,19.2s,baz=246,slow=32
VRDI Verde Repeater 97.95 16 IAMs_20 IAMs_20 10 08 22.9
comp=Z,14µm,20.0s
HHC Hu-ho-hao-te 98.00 314 *eP* Pdif 09 27 32.9 +0.8
HHC sP pwP 09 27 50.2 +7.6
HHC pmax pmax
comp=Z,16nm,0.8s
HHC pmax pmax
comp=Z,430nm,6.6s
HHC LR LR
comp=Z,2µm,19.9s
HHC LR LR
comp=Z,4µm,21.8s
HHC LR LR
comp=Z,7µm,20.7s
BESE Bessie Mountai 98.01 21 IAMs_20 IAMs_20 10 08 50.4
comp=Z,14µm,19.0s
CPSB Cacapava Do Su 98.02 134 *eP* **P** **09 27 31.2 -1.3**
N25K Chitina, Valde 98.02 15 IAMs_20 IAMs_20 10 08 28.6
comp=Z,14µm,20.0s
N25K Chitina, Valde 98.02 15 S S 09 39 08.0 +10
baz=208
JTS Las Juntas de 98.03 83 *i* P **P** **09 27 31.5 -1.2**
JTS pmax pmax
comp=Z,38nm,2.5s
JTS MLR MLR
comp=Z,4µm,17.0s
JTS Las Juntas de 98.03 83 IAMs_20 IAMs_20 10 06 14.7
comp=Z,8µm,18.0s
GLB Gilahina Butte 98.05 16 IAMs_20 IAMs_20 10 08 26.7
comp=Z,11µm,20.0s
MSO Missoula 98.08 39 S S 09 39 10.9 +12
baz=230
TGUH Tegucigalpa,Un 98.08 79 IAMs_20 IAMs_20 10 06 27.1
comp=Z,9µm,19.0s
FLWY Flagg Ranch 98.11 42 IAmb IAmb 09 28 21.5
comp=Z,27nm,1.6s
M24K Tolsona, Glenn 98.12 14 IAMs_20 IAMs_20 10 08 55.6
comp=Z,12µm,20.0s
M24K Tolsona, Glenn 98.12 14 S S 09 39 10.2 +12
baz=206
OTAV Otavalo 98.13 95 *eP* **P** **09 27 32.9 -0.9**
MCARA McCarthy VSAT 98.19 16 IAMs_20 IAMs_20 10 08 11.0
comp=Z,12µm,20.0s
MCARA McCarthy VSAT 98.19 16 S S 09 39 11.1 +12
baz=209
CTG Chitna Glacier 98.22 17 S **S** **09 39 07.2 +7.6**
baz=210
CTGM Chitina Glacie 98.23 17 IAMs_20 IAMs_20 10 08 10.3
comp=Z,15µm,20.0s
BARN Barnard Glacie 98.23 17 IAMs_20 IAMs_20 10 08 10.1
comp=Z,14µm,20.0s
WAT6 Susitna Watana 98.23 14 S S 09 39 09.0 +9.4
baz=205
AMTX Amarillo 98.29 54 IAMs_20 IAMs_20 10 05 23.4
comp=Z,15µm,20.0s
AMTX Amarillo 98.29 54 S **S** **09 39 05.7 +4.4**
baz=236
WAT1 Susitna Watana 98.30 13 S S 09 39 09.9 +10
baz=205
YMR Madison River 98.32 42 P **P** **09 27 32.9 -0.6**
Q24A Divide 98.35 49 S **S** **09 39 09.5 +7.5**
baz=234
CPUP Villa Florida 98.40 129 PKKP 09 44 04.5
comp=Z,2.7nm,0.9s,baz=51,slow=5.3,SNR=4.7
CPUP LR LR 10 06 22.9
comp=Z,6µm,18.8s,baz=232,slow=32
CPUP Villa Florida 98.40 129 *eP* **P** **09 27 33.4 -0.9**
SEY Seymchan 98.44 347 P **P** **09 27 32.7 -0.6**
comp=Z,6.9nm,1.1s,baz=136,slow=6.0,SNR=6.6
SEY Seymchan 98.44 347 *i* P **P** **09 27 32.6 -0.7**
ABTX Abilene, Hawle 98.44 57 S **S** **09 39 09.8 +7.3**
baz=236
ZEA Zeya 98.45 331 *eP* **P** **09 27 31.7 -1.9**
ZEA *e* 09 40 30.4
ZEA pmax pmax
comp=N,10.0nm,1.3s
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZEA pmax pmax
comp=N,100nm,5.0s
ZEA pmax pmax
comp=Z,300nm,9.0s
YHH Holmes Hill 98.46 42 **P** **09 27 33.6 -0.7**
YHH IAmb IAmb 09 28 10.4
comp=Z,29nm,1.8s
CZSB Cruzeiro do Su 98.47 105 *eP* **P** **09 27 33.8 -1.0**
TNA Tin City 98.48 4 IAMs_20 IAMs_20 10 08 53.3
comp=Z,13µm,20.0s
TNA Tin City 98.48 4 S **S** **09 39 04.9 +3.8**
baz=188
JTMT Jette 98.50 38 IAMs_20 IAMs_20 10 09 45.5
comp=Z,12µm,19.0s
BOZ Bozeman (W) 98.53 41 IAMs_20 IAMs_20 10 19 00.5
comp=Z,14µm,18.0s
BOZ Bozeman (W) 98.53 41 Pdiff Pdif 09 27 36.0 +1.6
baz=231
BOZ S **S** **09 39 11.7 +8.8**
baz=231
KTH Kantishna Hill 98.53 12 IAMs_20 IAMs_20 10 15 29.5
comp=Z,18µm,19.0s
ISCO Idaho Springs 98.55 48 IAMs_20 IAMs_20 10 17 08.1
comp=Z,16µm,18.0s
ISCO Idaho Springs 98.55 48 S S 09 39 13.9 +10
baz=234
TRF Thorofare Moun 98.55 12 IAMs_20 IAMs_20 10 15 07.9
comp=Z,18µm,20.0s
TRF Thorofare Moun 98.55 12 Pdiff Pdif 09 27 35.9 +1.8
baz=203
TRF S **S** **09 39 09.8 +7.6**
baz=203
SKAG Skagway 98.58 20 IAMs_20 IAMs_20 10 08 31.7
comp=Z,13µm,19.0s
SKAG Skagway 98.58 20 S S 09 39 12.8 +11
baz=215
J20K Nowinta River 98.59 10 Pdiff Pdif 09 27 36.8 +2.8
baz=200
J20K S S 09 39 12.9 +11
baz=200
PEZE Perez Zeledon, 98.62 84 IAMs_20 IAMs_20 10 06 21.3
comp=Z,10µm,18.0s
RWWY Rawlins 98.69 46 IAMs_20 IAMs_20 10 07 43.6
comp=Z,17µm,19.0s
ACON Acoyapa 98.73 81 IAMs_20 IAMs_20 10 03 11.2
comp=Z,11µm,22.0s
RND Reindeer 98.77 13 IAMs_20 IAMs_20 10 09 50.7
comp=Z,15µm,20.0s
HIA Hailar 98.77 324 IAMs_20 IAMs_20 10 13 15.0
comp=Z,8µm,19.0s
SRBA San Rafael, Bu 98.81 85 IAMs_20 IAMs_20 10 05 10.2
comp=Z,12µm,18.0s
435B Jarrell 98.90 59 IAMs_20 IAMs_20 10 08 21.6
comp=Z,13µm,19.0s
435B Jarrell 98.90 59 S **S** **09 39 13.5 +7.1**
baz=237
BPAW Bear Paw Mtn. 99.03 12 IAMs_20 IAMs_20 10 16 02.6
comp=Z,15µm,20.0s
MCK McKinley 99.05 13 IAMs_20 IAMs_20 10 10 01.2
comp=Z,18µm,20.0s
MCK McKinley 99.05 13 Pdiff **Pdif** **09 27 39.9 +3.8**
baz=204
YNE Yellowstone No 99.06 42 P **Pdif** **09 27 35.1 -1.9**
M26K Nabesna, AK 99.08 16 IAMs_20 IAMs_20 10 08 43.7
comp=Z,12µm,20.0s
HYT Haines Junctio 99.10 19 IAMs_20 IAMs_20 10 08 57.4
comp=Z,16µm,20.0s
M27K Edge Creek, AK 99.30 16 IAMs_20 IAMs_20 10 08 56.5
comp=Z,10µm,20.0s
MENT Mentasta 99.39 15 IAMs_20 IAMs_20 10 09 35.1
comp=Z,13µm,20.0s
DLBC Dease Lake 99.43 23 PKKPbc PKKPbc 09 44 04.2 +1.5
comp=Z,1.0nm,0.7s,baz=108,slow=3.2,SNR=3.1
DLBC Dease Lake 99.43 23 IAMs_20 IAMs_20 10 08 47.1
comp=Z,13µm,20.0s
PHWY Pilot Hill 99.52 47 IAMs_20 IAMs_20 10 07 47.8
comp=Z,9µm,18.0s
WALA Waterton Lakes 99.53 37 IAMs_20 IAMs_20 10 06 37.3
comp=Z,16µm,20.0s
L26K Log Cabin Wild 99.55 15 IAMs_20 IAMs_20 10 09 30.1
comp=Z,15µm,20.0s
HKT Hockley 99.73 61 IAMs_20 IAMs_20 10 06 52.6
comp=Z,13µm,20.0s
RIDG Independent Ri 99.86 14 IAMs_20 IAMs_20 10 06 14.0
comp=Z,15µm,20.0s
WRH Wood River Hil 99.88 13 IAMs_20 IAMs_20 10 10 27.1
comp=Z,17µm,20.0s
L27K Beaver Creek, 99.93 16 IAMs_20 IAMs_20 10 09 20.2
comp=Z,13µm,20.0s
MLY Manley 99.93 11 IAMs_20 IAMs_20 10 16 21.4
comp=Z,10µm,20.0s
HDA Harding Lake 100.04 13 IAMs_20 IAMs_20 10 20 43.3
comp=Z,7µm,18.0s
CCB Clear Creek Bu 100.09 13 IAMs_20 IAMs_20 10 10 12.7
comp=Z,16µm,20.0s
WMOK Wichita Mounta 100.20 55 IAMs_20 IAMs_20 10 06 17.9
comp=Z,12µm,20.0s
LZH Lanzhou 100.24 306 *eP* **Pdif** **09 27 41.6 -0.7**
LZH pP pwP 09 27 49.6 -2.4
LZH sP sP 09 27 54.8 +10
LZH SKS **SKSac** **09 38 19.0 -2.0**
LZH pmax pmax
comp=Z,17nm,1.2s
LZH pmax pmax
comp=Z,280nm,6.2s
LZH LR LR
comp=Z,3µm,16.8s
LZH LR LR
comp=Z,2µm,15.7s
LZH LR LR
comp=Z,3µm,17.6s
SCRK Sand Creek 100.25 15 IAMs_20 IAMs_20 10 10 14.3
comp=Z,12µm,20.0s
TCOL CIGO, UAF Yank 100.29 13 P **Pdif** **09 27 44.5 +3.0**
baz=205
COLA College 100.29 13 IAMs_20 IAMs_20 10 10 29.4
comp=Z,17µm,20.0s
MDM Murphy Dome 100.30 12 IAMs_20 IAMs_20 10 10 40.2
comp=Z,15µm,20.0s
ILAR Eielson Array 100.38 13 P **Pdif** **09 27 42.4 +0.4**
comp=Z,0.9nm,1.0s,baz=224,slow=5.4,SNR=3.0
ILAR PP **PP** **09 31 47.8 -1.1**
comp=Z,3.0nm,1.1s,baz=219,slow=7.1,SNR=5.6
K27K Chicken 100.71 15 IAMs_20 IAMs_20 10 10 05.5
comp=Z,13µm,20.0s
237A Washetta, Mont 100.83 59 IAMs_20 IAMs_20 10 11 24.8

comp=Z,12µm,20.0s
H23K Yukon River 100.86 12 IAMs_20 IAMs_20 10 16 59.8
comp=Z,15µm,20.0s
BILL Bilibino 101.35 354 *e*P **Pdif** **09 27 46.6 +0.4**
BILL *e* 09 31 55.5
BILL *e*PPP PPP 09 34 03.5
BILL *i* 09 39 19.7
BILL *e*SS SS 09 46 25.1 -1.7
BILL *e*SSS SSS 09 50 17.3
BILL pmax pmax
comp=Z,3.0nm,0.4s
BILL MLR MLR
comp=Z,8µm,19.0s
BILL Bilibino 101.35 354 IAMs_20 IAMs_20 10 13 47.9
comp=Z,9µm,19.0s
OKCFA Oklahoma City 101.48 55 IAMs_20 IAMs_20 10 07 09.9
comp=Z,13µm,21.0s
NATX Nacogdoches 101.54 60 IAMs_20 IAMs_20 10 06 01.4
comp=Z,10µm,20.0s
EGAK Eagle 101.56 15 IAMs_20 IAMs_20 10 10 23.0
comp=Z,13µm,20.0s
OK025 Westminster Rd 101.65 55 IAMs_20 IAMs_20 10 07 15.3
comp=Z,11µm,20.0s
OK029 Liberty Lake 101.68 55 IAMs_20 IAMs_20 10 07 25.2
comp=Z,14µm,20.0s
CROK Carrier 101.70 54 IAMs_20 IAMs_20 10 07 32.5
comp=Z,12µm,20.0s
OK032 Salt Plains WL 101.70 54 IAMs_20 IAMs_20 10 07 01.6
comp=Z,13µm,20.0s
BCIP Isla Barro Col 101.72 87 IAMs_20 IAMs_20 10 05 12.6
comp=Z,18µm,20.0s
CBKS Cedar Bluff 101.76 51 IAMs_20 IAMs_20 10 09 32.2
comp=Z,13µm,19.0s
441A DeRidder 102.09 61 IAMs_20 IAMs_20 10 12 37.1
comp=Z,7µm,19.0s
OK031 S. Brethren Rd 102.19 55 IAMs_20 IAMs_20 10 07 41.6
comp=Z,12µm,20.0s
LAO LASA Array 102.19 42 IAMs_20 IAMs_20 10 16 45.3
comp=Z,11µm,19.0s
R32A Long Quarter, 102.23 52 IAMs_20 IAMs_20 10 17 22.6
comp=Z,11µm,18.0s
FYU Fort Yukon 102.30 13 IAMs_20 IAMs_20 10 11 38.9
comp=Z,10µm,20.0s
KS21 Milan North St 102.33 54 IAMs_20 IAMs_20 10 07 31.0
comp=Z,13µm,20.0s
BLOK Blackwell 102.36 54 IAMs_20 IAMs_20 10 16 21.0
comp=Z,12µm,20.0s
KS20 Mayfield South 102.37 54 IAMs_20 IAMs_20 10 08 04.4
comp=Z,12µm,20.0s
QUOK Quay 102.39 55 IAMs_20 IAMs_20 10 07 49.0
comp=Z,15µm,21.0s
EDM Edmonton 102.45 34 IAMs_20 IAMs_20 10 14 14.1
comp=Z,9µm,20.0s
T35A Sooner Cattle 102.92 54 IAMs_20 IAMs_20 10 08 11.9
comp=Z,12µm,20.0s
342A Flagon Creek P 103.05 61 IAMs_20 IAMs_20 10 15 52.5
comp=Z,7µm,18.0s
YAK Yakutsk 103.58 337 *e*P **Pdif** **09 27 59.5 +3.3**
YAK *e* 09 32 09.6
YAK *e* 09 38 34.2
YAK *e* 09 39 48.3
YAK pmax pmax
comp=Z,13nm,1.0s
YAK pmax pmax
comp=E.4.0nm,0.9s
YAK Yakutsk 103.58 337 IAMs_20 IAMs_20 10 09 48.7
comp=Z,8µm,20.0s
545A Edgard 103.74 63 IAMs_20 IAMs_20 10 15 47.9
comp=Z,14µm,19.0s
MIAR Mount Ida 103.75 58 IAMs_20 IAMs_20 10 13 28.0
comp=Z,13µm,19.0s
EPYK Eagle Plains 103.90 16 IAMs_20 IAMs_20 10 17 58.4
comp=Z,10µm,19.0s
TRCB Terra Rica 103.92 129 IAMs_20 IAMs_20 10 11 19.1
comp=Z,9µm,19.0s
KSU1 Kansas State U 103.98 52 IAMs_20 IAMs_20 10 10 36.0
comp=Z,13µm,19.0s
ROSC El Rosal 104.08 93 IAMs_20 IAMs_20 10 12 04.8
comp=Z,10µm,18.0s
U38A Gravette 104.14 56 IAMs_20 IAMs_20 10 08 32.2
comp=Z,16µm,20.0s
BGNE Belgrade 104.17 50 IAMs_20 IAMs_20 10 20 57.8
comp=Z,10µm,19.0s
N33A J Bar K, Exete 104.27 51 IAMs_20 IAMs_20 10 12 47.6
comp=Z,12µm,18.0s
DGMT Dagmar 104.33 41 IAMs_20 IAMs_20 10 11 24.9
comp=Z,16µm,20.0s
143A Socs Landing, 104.39 60 IAMs_20 IAMs_20 10 16 46.0
comp=Z,10µm,18.0s
VBMS Vicksburg 104.80 61 IAMs_20 IAMs_20 10 11 14.9
comp=Z,7µm,20.0s
SONM Songino Array 105.02 317 Pdiff **Pdif** **09 28 07.1 +3.9**
comp=Z,0.4nm,0.4s,baz=132,slow=6.0,SNR=4.2
SONM PP **PP** **09 32 29.6 +5.3**
comp=Z,1.4nm,0.9s,baz=122,slow=7.4,SNR=3.5
SONM PKKPbc **PKKPbc** **09 43 47.4 +1.5**
comp=Z,0.4nm,0.4s,baz=270,slow=1.5,SNR=4.1
WHAR Wooly Hollow 105.04 58 IAMs_20 IAMs_20 10 09 05.0
comp=Z,16µm,20.0s
A21K Barrow 105.06 7 IAMs_20 IAMs_20 10 16 51.7
comp=Z,8µm,20.0s
346A Big Creek Wild 105.17 62 IAMs_20 IAMs_20 10 21 39.8
comp=Z,7µm,18.0s
SUSD Miller 105.24 47 IAMs_20 IAMs_20 10 23 42.1
comp=Z,7µm,18.0s
E28A Huff 105.31 44 IAMs_20 IAMs_20 10 12 40.8
comp=Z,14µm,18.0s
SAML Samuel 105.36 112 IAMs_20 IAMs_20 10 10 27.1
comp=Z,9µm,19.0s
S39A Bolivar 105.50 55 IAMs_20 IAMs_20 10 09 34.3
comp=Z,15µm,20.0s
N35A Tabor 105.52 51 IAMs_20 IAMs_20 10 13 08.6
comp=Z,14µm,19.0s
L34A Svendsen Farm, 105.59 50 IAMs_20 IAMs_20 10 21 52.6
comp=Z,8µm,18.0s
SOR Soroa 106.00 73 IAMs_20 IAMs_20 10 08 25.4
comp=Z,13µm,20.0s
INK Inuvik 106.20 16 PP **PP** **09 32 33.0 +0.7**
comp=Z,2.9nm,1.0s,baz=180,slow=8.3,SNR=3.5
P38A Dawn 106.31 53 IAMs_20 IAMs_20 10 10 03.6
comp=Z,11µm,21.0s
Y45A Yeager Farm, C 106.32 60 IAMs_20 IAMs_20 10 14 40.0
comp=Z,8µm,19.0s
HBAR Harrisburg 106.33 58 IAMs_20 IAMs_20 10 13 38.3
comp=Z,12µm,19.0s
ECSD EROS Data Cent 106.33 48 IAMs_20 IAMs_20 10 19 24.0
comp=Z,15µm,18.0s
R40A Maddies Statio 106.52 55 IAMs_20 IAMs_20 10 10 15.2
comp=Z,16µm,20.0s
HDBT Hernando Brdge 106.56 59 IAMs_20 IAMs_20 10 12 33.5
comp=Z,14µm,20.0s
MDND Maddock 106.60 44 IAMs_20 IAMs_20 10 15 17.1
comp=Z,13µm,19.0s
LPAR Lepanto 106.61 58 IAMs_20 IAMs_20 10 18 54.6
comp=Z,12µm,18.0s
OXF Oxford 106.73 60 IAMs_20 IAMs_20 10 18 07.8
comp=Z,13µm,18.0s
GNAR Gosnell 106.98 58 IAMs_20 IAMs_20 10 13 56.5
comp=Z,14µm,19.0s
N38A Joes South For 107.07 52 IAMs_20 IAMs_20 10 12 39.8
comp=Z,12µm,19.0s
Z47A Carrollton 107.08 61 IAMs_20 IAMs_20 10 12 45.2
comp=Z,9µm,19.0s
CCM Cathedral Cave 107.11 56 IAMs_20 IAMs_20 10 10 55.0
comp=Z,12µm,20.0s
P40A Paris 107.27 54 IAMs_20 IAMs_20 10 10 55.0
comp=Z,11µm,20.0s
LNXT Lenox 107.42 58 IAMs_20 IAMs_20 10 14 09.2
comp=Z,12µm,19.0s
HALT Halls 107.44 58 IAMs_20 IAMs_20 10 11 02.7
comp=Z,9µm,20.0s
F33A 5 Mile Ranch, 107.57 47 IAMs_20 IAMs_20 10 24 40.7
comp=Z,13µm,18.0s
SCIA State Center 107.62 51 IAMs_20 IAMs_20 10 12 40.3
comp=Z,15µm,19.0s
GLAT Glass 107.65 58 IAMs_20 IAMs_20 10 12 37.1
comp=Z,13µm,19.0s
YKA Yellowknife Ar 107.71 26 PKKPbc PKKPbc 09 43 38.6 +0.9
comp=Z,2.4nm,0.9s,baz=50,slow=4.1,SNR=3.1
LRAL Lakeview Retre 107.80 62 IAMs_20 IAMs_20 10 19 14.2
comp=Z,8µm,18.0s
MTDJ Mount Denham 108.25 80 IAMs_20 IAMs_20 10 12 57.4
comp=Z,14µm,18.0s
K38A Parkersburg 108.26 51 IAMs_20 IAMs_20 10 17 39.2
comp=Z,9µm,18.0s
X48A Hartselle 108.42 61 IAMs_20 IAMs_20 10 23 10.7
comp=Z,7µm,18.0s
I37A Lemond, Waseca 108.50 49 IAMs_20 IAMs_20 10 17 27.4
comp=Z,12µm,18.0s
Y49A Blount Mountai 108.61 61 IAMs_20 IAMs_20 10 11 18.8
comp=Z,7µm,20.0s
WVT Waverly 108.62 59 IAMs_20 IAMs_20 10 12 10.0
comp=Z,9µm,20.0s
N41A Harden Midland 108.63 53 IAMs_20 IAMs_20 10 21 05.0
comp=Z,15µm,19.0s
L40A Anamosa 109.01 52 IAMs_20 IAMs_20 10 21 25.0
comp=Z,14µm,18.0s
P43A Skaggs, Pawnee 109.04 55 IAMs_20 IAMs_20 10 11 33.0
comp=Z,14µm,20.0s
Q44A Meyer Farm, Va 109.06 56 IAMs_20 IAMs_20 10 12 05.4
comp=Z,15µm,20.0s
061Z Ochoppi 109.15 71 IAMs_20 IAMs_20 10 11 00.2
comp=Z,10µm,20.0s
Z51A Franklin 109.28 62 IAMs_20 IAMs_20 10 17 54.6
comp=Z,9µm,19.0s
SDV Santo Domingo 109.32 92 IAMs_20 IAMs_20 10 12 51.6
comp=Z,10µm,19.0s
SWET Sewanee 109.58 60 IAMs_20 IAMs_20 10 15 17.5
comp=Z,15µm,19.0s
HDIL Hopedale 109.61 54 IAMs_20 IAMs_20 10 21 58.1
comp=Z,10µm,18.0s
CLTN Cedars of Leba 109.69 59 IAMs_20 IAMs_20 10 14 28.2
comp=Z,14µm,18.0s
O44A Mansfield 110.00 55 IAMs_20 IAMs_20 10 12 11.3
comp=Z,13µm,19.0s
JFWS Jewell Farm 110.03 51 IAMs_20 IAMs_20 10 12 40.1
comp=Z,11µm,19.0s
I40A Norwalk 110.23 50 IAMs_20 IAMs_20 10 24 27.3
comp=Z,10µm,19.0s
U49A Red Boiling Sp 110.27 59 IAMs_20 IAMs_20 10 14 35.7
comp=Z,11µm,19.0s
Y52A Lilburn 110.36 62 IAMs_20 IAMs_20 10 19 34.0
comp=Z,8µm,19.0s
GOGA Godfrey 110.60 63 IAMs_20 IAMs_20 10 22 36.5
comp=Z,8µm,18.0s
TIXI Tiksi 110.70 344 PP **PP** **09 33 01.9 -3.1**
comp=Z,4.2nm,0.8s,baz=143,slow=8.7,SNR=3.1
TIXI Tiksi 110.70 344 IAMs_20 IAMs_20 10 14 56.9
comp=Z,9µm,20.0s
M44A Midewin, Midew 110.83 54 IAMs_20 IAMs_20 10 22 42.3
comp=Z,12µm,18.0s
A36M Sachs Harbour 110.84 15 IAMs_20 IAMs_20 10 16 25.3
comp=Z,8µm,20.0s
W52A Murphy, 111.00 61 IAMs_20 IAMs_20 10 14 49.0
comp=Z,10µm,19.0s
SFIN Lafayette 111.04 55 IAMs_20 IAMs_20 10 21 21.9
comp=Z,11µm,18.0s
GTBY Guantanamo Bay 111.07 79 IAMs_20 IAMs_20 10 15 16.2
comp=Z,7µm,18.0s
G40A Rib Lake 111.10 49 IAMs_20 IAMs_20 10 22 03.3
comp=Z,11µm,19.0s
HQIL Hanson Quary C 111.14 53 IAMs_20 IAMs_20 10 19 58.4
comp=Z,8µm,20.0s
K43A Burlington 111.21 52 IAMs_20 IAMs_20 10 13 06.3
comp=Z,11µm,20.0s
I42A Draeger Farm, 111.34 51 IAMs_20 IAMs_20 10 24 51.6
comp=Z,8µm,19.0s
BG3 Lake Jocassee 111.69 62 IAMs_20 IAMs_20 10 15 50.3
comp=Z,8µm,19.0s
HODGE Hodges 111.86 63 IAMs_20 IAMs_20 10 13 34.9
comp=Z,7µm,19.0s
BDFB Brasilia 112.05 127 IAMs_20 IAMs_20 10 15 21.8
comp=Z,14µm,19.0s
V53A Saluda 112.07 61 IAMs_20 IAMs_20 10 15 01.3
comp=Z,12µm,19.0s
N47A Urbana 112.22 55 IAMs_20 IAMs_20 10 17 03.1
comp=Z,12µm,19.0s
H43A Windswept, Lux 112.33 51 IAMs_20 IAMs_20 10 17 22.8
comp=Z,9µm,18.0s
PAULI Pauline 112.45 62 IAMs_20 IAMs_20 10 18 17.4
comp=Z,8µm,18.0s
F42A Maple Grove Fa 112.63 49 IAMs_20 IAMs_20 10 13 36.7
comp=Z,10µm,20.0s
PTGA Pitinga 112.84 107 IAMs_20 IAMs_20 10 13 23.5
comp=Z,11µm,20.0s
KMSC Kings Mountain 112.94 62 IAMs_20 IAMs_20 10 18 30.4
comp=Z,10µm,19.0s
NHSC New Hope 112.95 65 IAMs_20 IAMs_20 10 26 34.7
comp=Z,9µm,18.0s
I45A Fountain 113.16 52 IAMs_20 IAMs_20 10 14 33.7
comp=Z,11µm,20.0s
U54A Nelsons Funny 113.16 61 IAMs_20 IAMs_20 10 15 20.1
comp=Z,13µm,19.0s
Y57A Sumter 113.17 64 IAMs_20 IAMs_20 10 14 28.6
comp=Z,7µm,20.0s
L48A N Adams 113.52 54 IAMs_20 IAMs_20 10 14 19.5
comp=Z,10µm,20.0s
E43A Lone Tree Farm 113.60 49 IAMs_20 IAMs_20 10 14 25.4
comp=Z,11µm,20.0s
J47A Sunmer 113.78 53 IAMs_20 IAMs_20 10 24 02.2
comp=Z,13µm,19.0s
G45A Suttons Bay 113.94 51 IAMs_20 IAMs_20 10 27 09.3
comp=Z,12µm,18.0s
W57A Gilead 113.94 63 IAMs_20 IAMs_20 10 19 39.0
comp=Z,9µm,18.0s
S54A Dingess, Beckl 114.05 59 IAMs_20 IAMs_20 10 18 20.7
comp=Z,10µm,18.0s
X58A Rowland 114.19 63 IAMs_20 IAMs_20 10 27 22.5
comp=Z,6µm,18.0s
AAM Ann Arbor 114.19 54 IAMs_20 IAMs_20 10 27 01.3
comp=Z,10µm,19.0s
M50A Fremont 114.26 55 IAMs_20 IAMs_20 10 15 06.1
comp=Z,13µm,20.0s
Y59A Loris 114.31 64 IAMs_20 IAMs_20 10 14 47.2
comp=Z,7µm,20.0s
SC01 Santiago de lo 114.47 82 IAMs_20 IAMs_20 10 12 56.4
comp=Z,7µm,20.0s
GLMI Grayling 114.53 51 IAMs_20 IAMs_20 10 17 09.1
comp=Z,10µm,19.0s
P53A Whipple 114.67 58 IAMs_20 IAMs_20 10 14 43.0
comp=Z,15µm,20.0s
WMQ Urumqi 114.79 307 PKP **PKiKP** **09 32 38.3 +2.0**
WMQ PP **PP** **09 33 33.0 -2.0**
WMQ SKKS 09 40 28.1
WMQ SS **SS** **09 49 24.6 -5.1**
WMQ AMB AMB
comp=Z,390nm,7.1s
WMQ LR LR
comp=Z,2µm,16.3s
WMQ LR LR
comp=Z,2µm,21.5s
WMQ LR LR
comp=Z,2µm,19.3s
Y60A Bolivia 114.81 64 IAMs_20 IAMs_20 10 19 08.0
comp=Z,6µm,18.0s
POO Poona 114.82 277 *e*P PKiKP 09 32 47.0 +10
V58A Windy Hill, Pi 114.86 62 IAMs_20 IAMs_20 10 19 37.7
comp=Z,11µm,19.0s
BOSA Boshof 114.94 202 PKP PKPdf 09 32 38.5 +1.2
comp=Z,7.2nm,0.9s,baz=139,slow=3.0,SNR=6.6
BOSA PKKPab **PKKPab** **09 43 23.4 +1.2**
comp=Z,4.2nm,0.9s,baz=21,slow=3.0,SNR=3.7
K50A Casco 115.08 54 IAMs_20 IAMs_20 10 27 47.8
comp=Z,9µm,18.0s
R55A Marlinton 115.11 59 IAMs_20 IAMs_20 10 26 37.2
comp=Z,12µm,18.0s
E46A Sault Ste Mari 115.32 50 IAMs_20 IAMs_20 10 24 34.4
comp=Z,12µm,19.0s
CNNC Cliffs of the 115.55 63 IAMs_20 IAMs_20 10 18 36.6
comp=Z,7µm,19.0s
U59A Littleton 116.06 62 IAMs_20 IAMs_20 10 17 37.6
comp=Z,13µm,20.0s
Q56A Snyder Ridge, 116.07 59 IAMs_20 IAMs_20 10 19 00.7
comp=Z,13µm,19.0s
V61A Roper 116.75 63 IAMs_20 IAMs_20 10 20 38.9
comp=Z,10µm,19.0s
P57A Homestead Farm 117.08 59 IAMs_20 IAMs_20 10 19 31.5
comp=Z,10µm,19.0s
ICMP Isla Caja de M 117.26 86 IAMs_20 IAMs_20 10 16 13.8
comp=Z,11µm,20.0s
OBIP Obispado Ponce 117.27 85 IAMs_20 IAMs_20 10 16 23.0
comp=Z,7µm,20.0s
SSPA Standing Stone 117.59 58 IAMs_20 IAMs_20 10 16 33.8
comp=Z,14µm,20.0s
SMLA Simla 117.59 291 *i* x **PKPdf** **09 32 41.6 -0.4**
ZSN Zaisan 117.93 310 *e*PKP **PKiKP** **09 32 42.8 +0.6**
baz=310
ZSN Zaisan 117.93 310 *e*PKIKP **PKiKP** **09 32 42.8 +0.6**
SADO Sadowa 118.15 53 IAMs_20 IAMs_20 10 17 29.4
comp=Z,9µm,20.0s
J55A Hilton 118.55 55 IAMs_20 IAMs_20 10 19 30.0
comp=Z,10µm,18.0s
DHRM DHARAMSHALA 118.71 292 *i* x **PKPdf** **09 32 42.7 -1.7**
WUPA West Chester U 118.98 59 IAMs_20 IAMs_20 10 20 41.6
comp=Z,8µm,19.0s
DELO Deloro Mine 119.09 54 IAMs_20 IAMs_20 10 17 48.4
comp=Z,10µm,20.0s
N59A State Game Lan 119.19 58 IAMs_20 IAMs_20 10 17 33.3
comp=Z,13µm,20.0s
J56A Wolcott 119.21 55 IAMs_20 IAMs_20 10 19 33.6
comp=Z,12µm,19.0s
MK31 Makanchi Array 119.39 309 *i* PKIKP **PKPdf** **09 32 43.9 -1.1**
MKAR Makanchi Array 119.39 309 PKP **PKPdf** **09 32 44.4 -0.6**
comp=Z,9.7nm,0.8s,baz=164,slow=1.2,SNR=14
MKAR PKKPbc **PKKPbc** **09 42 59.2 +1.7**
comp=Z,2.4nm,0.9s,baz=282,slow=2.2,SNR=9.1
MKAR SKKPbc SKKPbc 09 46 48.1 +1.6
comp=Z,1.7nm,1.0s,baz=298,slow=2.6,SNR=3.9
MKAR PKPPKP 09 51 39.0
comp=Z,0.5nm,0.8s,baz=321,slow=2.0,SNR=3.6
MKAR Makanchi Array 119.39 309*c i* PKIKP **PKPdf** **09 32 44.2 -0.8**
MKAR pmax pmax
comp=Z,10.0nm,0.8s
MKAR Makanchi Array 119.39 309 PKPdf **PKPdf** **09 32 43.2 -1.8**
P61A Hammonton 119.48 60 IAMs_20 IAMs_20 10 28 53.9
comp=Z,9µm,18.0s
MAKZ Makanchi 119.60 309 PKIKP **PKPdf** **09 32 44.3 -1.1**
MAKZ Makanchi 119.60 309 **PKPdf** **09 32 44.3 -1.1**
PLVO Plevna 119.62 53 IAMs_20 IAMs_20 10 18 33.5
comp=Z,12µm,20.0s
J57A Williamstown 119.85 55 IAMs_20 IAMs_20 10 18 57.5
comp=Z,12µm,19.0s
ZAA0 Zalesovo Array 119.92 317 PKPdf **PKPdf** **09 32 44.6 -1.1**
ZALV Zalesovo Beam 119.92 317 PKP **PKPdf** **09 32 44.6 -1.1**
comp=Z,6.1nm,0.8s,baz=106,slow=1.3,SNR=8.8
SHLS Shalkode 120.17 304 *e*PKP **PKPdf** **09 32 44.7 -2.1**
baz=304
SHLS Shalkode 120.17 304 *e*PKIKP **PKPdf** **09 32 44.6 -2.1**
FDF Fort de France 120.26 92 IAMs_20 IAMs_20 10 22 00.5
comp=Z,6µm,18.0s
MPOM Morne Pois Mar 120.37 92 IAMs_20 IAMs_20 10 21 52.1
comp=Z,6µm,19.0s
UZB Uzynbulak 120.47 304 *e*PKP **PKPdf** **09 32 47.0 -0.4**
baz=304
UZB Uzynbulak 120.47 304 *e*PKIKP **PKPdf** **09 32 46.9 -0.4**
ILAM Ilet Lapin Mar 120.52 92 IAMs_20 IAMs_20 10 23 00.0
comp=Z,8µm,18.0s
NBPN Ponto Novo - B 120.71 130 *e*P **PKPdf** **09 32 47.8 -0.8**
KPKS Kokpek 120.81 304 *e*PKP **PKPdf** **09 32 47.2 -0.8**
baz=304
KPKS Kokpek 120.81 304 *e*PKIKP **PKPdf** **09 32 47.1 -0.8**
BBGH Gun Hill 120.81 94 IAMs_20 IAMs_20 10 17 35.7
comp=Z,8µm,22.0s
SATY Saty 120.88 304 *e*PKP **PKiKP** **09 32 48.6 +0.3**
baz=304
SATY *e*PP **PP** **09 34 10.7 -6.7**
baz=304
SATY Saty 120.88 304 *e*PKIKP **PKiKP** **09 32 48.5 +0.3**
TMAB Tom-Au,PA,Br 121.10 116 *e*P **PKPdf** **09 32 48.7 -0.6**
LONY Lake Ozonia 121.19 54 IAMs_20 IAMs_20 10 22 44.9
comp=Z,12µm,18.0s
ACCN Adirondack Com 121.46 56 IAMs_20 IAMs_20 10 19 47.1
comp=Z,13µm,20.0s
KSH Kashi 121.52 299 PKP **PKiKP** **09 32 50.4 +0.8**
KSH SKS **SKSdf** **09 39 55.4 -5.9**
KSH SKKS **SKKSac** **09 41 15.6 -5.1**
KSH LR LR
comp=Z,3µm,22.7s
KSH LR LR
comp=Z,3µm,18.9s
KSH LR LR
comp=Z,3µm,23.2s
ARXS Arharly 121.62 305 *e*PKIKP **PKPdf** **09 32 48.5 -1.0**
MDOK Medeo 121.86 304 *e*PKP **PKPdf** **09 32 48.8 -1.2**
baz=304
MDOK *e*PP **PP** **09 34 21.8 -2.4**
baz=304
MDOK *e*LR LR 10 27 55.3
comp=Z,1µm,17.0s,baz=304
MDOK Medeo 121.86 304 *e*PKIKP **PKPdf** **09 32 48.8 -1.2**
MDOK *e* 09 34 21.7
NRIK Noril'sk 121.94 335 PKP **PKiKP** **09 32 49.6 +0.3**
comp=Z,2.3nm,0.3s,baz=13,slow=1.3,SNR=5.8
NRIK Noril'sk 121.94 335 **PKiKP** **09 32 50.0 +0.7**
AAA Alma-Ata 121.96 304 *e*PKP **PKPdf** **09 32 50.0 -0.1**
baz=304
AAA *e*LR LR 10 35 32.6
comp=Z,11µm,59.5s,baz=304
AAA Alma-Ata 121.96 304 *e*PKIKP **PKPdf** **09 32 50.0 -0.1**
M63A Gales Ferry 122.01 59 IAMs_20 IAMs_20 10 24 44.0
comp=Z,12µm,19.0s
CHKK Chushkaly 122.10 304 *e*PKP **PKPdf** **09 32 49.5 -0.8**
baz=304
NBLA Lagarto - SE 122.13 132 *e*P **PKPdf** **09 32 50.8 -0.5**
ULHL Ulahol 122.16 302 P **PKiKP** **09 32 51.0 0.0**
SNR=9.1
MTBS Maitube 122.28 303 *e*PKP **PKPdf** **09 32 49.7 -1.0**
baz=304
MTBS *e*PP **PP** **09 34 25.8 -1.2**
baz=304
BOOM Boomskoye usch 122.44 303 PKIKP **PKPdf** **09 32 50.2 -1.0**
BOOM Boomskoye usch 122.44 303 PKPdf **PKPdf** **09 32 50.2 -1.0**
EUNU Eureka 122.46 12 IAMs_20 IAMs_20 10 31 18.3
comp=Z,11µm,18.0s
KUU Kurty 122.56 304 *e*PKP **PKPdf** **09 32 49.8 -1.4**
baz=304
KUU Kurty 122.56 304 *e*PKIKP **PKPdf** **09 32 49.8 -1.4**
KURK Kurchatov 122.79 313 PKIKP **PKPdf** **09 32 50.6 -0.7**
TKM2 Tokmak 2 122.81 303 P **PKPdf** **09 32 51.4 -0.5**
SNR=14
TKM2 Tokmak 2 122.81 303 PKIKP **PKPdf** **09 32 51.2 -0.8**
KZA Kyzart 122.81 302 P **PKiKP** **09 32 52.4 0.0**
SNR=12
KURBB Kurchatov Arra 122.82 313 PKP **PKPdf** **09 32 50.6 -0.8**
comp=Z,15nm,0.7s,baz=107,slow=1.9,SNR=34
KURBB Kurchatov Arra 122.82 313 PKIKP **PKPdf** **09 32 50.5 -0.9**
KBK Karagaybulak 123.19 303 P **PKiKP** **09 32 52.9 0.0**
SNR=8.8
CHMS Chumnysh 123.42 303 P **PKPdf** **09 32 52.6 -0.3**
SNR=14
AAK Ala-Archa 123.51 302 PKP **PKiKP** **09 32 53.7 +0.3**
comp=Z,6.9nm,0.6s,baz=141,slow=6.8,SNR=12
AAK Ala-Archa 123.51 302 *i* PKiKP **PKPdf** **09 32 53.1 -0.2**
SNR=7.8
AAK Ala-Archa 123.51 302*c i* PKIKP **PKiKP** **09 32 53.6 +0.1**
AAK pmax pmax
comp=Z,104nm,2.5s
AAK Ala-Archa 123.51 302 PKPdf **PKPdf** **09 32 52.8 -0.5**
SGDS Sogindy 123.63 303 *e*PKP **PKPdf** **09 32 52.7 -0.7**
baz=304
USP Ospenovka 123.67 303 P **PKPdf** **09 32 53.2 -0.2**
SNR=12
ROSB Rosrio 123.69 120 *e*P **PKPdf** **09 32 53.7 -0.6**
AML Almayashu 123.94 302 P **PKPdf** **09 32 54.4 0.0**
SNR=36
AML Almayashu 123.94 302 *i* PKPdf **PKPdf** **09 32 53.4 -1.0**
SNR=36
EKS2 Erkin-Say 124.02 302 P **PKiKP** **09 32 54.4 -0.1**
SNR=15
NBAN Anadia - AL 124.09 132 *e*P **PKPdf** **09 32 54.1 -0.9**
G62A West of Eustis 124.12 55 P **PKPdf** **09 32 53.4 -0.7**
baz=256
NBMA Muriti-CE 124.24 128 *e*P **PKPdf** **09 32 54.6 -0.8**
BTLS Baital 124.44 305 *e*PKP **PKPdf** **09 32 54.0 -0.8**
baz=305
BTLS Baital 124.44 305 *e*PKIKP **PKPdf** **09 32 53.9 -0.8**
NBPS Pedro II - PI 124.57 124 *e*P **PKPdf** **09 32 54.9 -1.2**
F62A Pittston Farm, 124.67 54 IAMs_20 IAMs_20 10 26 17.0
comp=Z,11µm,19.0s
PKME Peaks-Kenny Pk 124.98 55 P **PKPdf** **09 32 55.4 -0.3**
baz=256
NBPB Pedra_Branca-C 125.03 126 *e*P **PKPdf** **09 32 56.3 -0.6**
E62A Clayton Lake 125.13 53 P **PKPdf** **09 32 55.7 -0.4**
baz=257
KBL Kabul 125.20 292 PKIKP **PKiKP** **09 32 57.3 +0.2**
KBL Kabul 125.20 292 PKPdf **PKiKP** **09 32 57.3 +0.2**
NBLV Livramento - P 125.45 130 *e*P **PKPdf** **09 32 55.8 -2.0**
GAR Garm 125.55 297 **PKPdf** **09 32 55.9 -1.3**
GAR IAMs_20 IAMs_20 10 28 33.9
comp=Z,7µm,21.0s
ALE Alert 125.74 8 IAMs_20 IAMs_20 10 27 39.1
comp=Z,9µm,20.0s
E63A Oxbow 125.83 54 P **PKPdf** **09 32 56.6 -0.7**
baz=258
TSUM Tsumeb 126.07 198 **PKPdf** **09 32 58.2 -0.7**
TSUM IAMs_20 IAMs_20 10 30 24.2
comp=Z,7µm,18.0s
PQI Presque Isle 126.16 53 IAMs_20 IAMs_20 10 22 10.3
comp=Z,11µm,20.0s
TULEG Thule 126.20 16 IAMs_20 IAMs_20 10 28 38.2
comp=Z,11µm,20.0s
OTUK Ortayu 126.28 309 PKIKP **PKPdf** **09 32 56.8 -1.4**

NBMO Morrinhos-CE 126.32 124 *e*P **PKPdf** **09 32 58.6 -0.8**
CHGR Chuyangaron 126.33 296 IAMs_20 IAMs_20 10 29 24.5
comp=Z,6µm,21.0s
KK31 Karatay Array 126.46 302 *i* PKIKP **PKPdf** **09 32 58.3 -0.4**
NBPA Parau_RN 126.53 129 *e*P **PKPdf** **09 32 58.7 -1.0**
IUG Iuzhnay 126.58 301 *e*PKP **PKPdf** **09 32 58.0 -1.1**
baz=301
IUG Iuzhnay 126.58 301 *e*PKIKP **PKPdf** **09 32 58.0 -1.1**
NBCL Cascavel-CE 126.87 126 *e*P **PKPdf** **09 32 59.7 -0.7**
NBPV Pedro Velho 127.21 131 *e*P **PKPdf** **09 33 00.2 -0.8**
RCBR Riachuelo 127.26 130 IAMs_20 IAMs_20 10 24 46.8
comp=Z,10µm,19.0s
RCBR Riachuelo 127.26 130 *e*P **PKPdf** **09 33 00.2 -0.9**
FRB Frobisher Bay 127.52 32 PKPPKP 09 51 25.9
comp=Z,20nm,1.1s,baz=112,slow=5.4,SNR=3.3
BATG Bathurst New B 127.59 53 **PKiKP** **09 33 01.8 +0.6**
BVAR Borovoye Array 128.20 314 PKP **PKiKP** **09 33 02.2 -0.1**
comp=Z,12nm,0.8s,baz=188,slow=9.7,SNR=21
BRVK Borovoye 128.27 314*c* *i* PKIKP **PKPdf** **09 32 59.9 -1.9**
BRVK pmax pmax
comp=Z,59nm,2.5s
BRVK MLR MLR
comp=Z,5µm,18.0s
BRVK Borovoye 128.27 314 PKPdf **PKiKP** **09 33 02.7 +0.3**
BRVK Borovoye 128.27 314 IAMs_20 IAMs_20 10 31 30.1
comp=Z,6µm,19.0s
MHTO MHTO 129.25 271 PKPdf **PKPdf** **09 33 03.5 -1.2**
SNR=9.1
NEEM North Greenlan 129.68 13 *i* P **PKPdf** **09 33 03.6 -0.6**
NEEM IAMs_20 IAMs_20 10 35 58.8
comp=Z,10µm,19.7s
SMDO Samad 130.06 274 PKiKP **PKPdf** **09 33 06.4 +0.2**
SNR=12
BIDO Bidbid 130.18 274 PKiKP **PKiKP** **09 33 07.3 +0.1**
SNR=10
BSY Bisya 130.64 273 PKiKP **PKPdf** **09 33 06.8 -0.4**
SNR=11
HOQ Hoqain 130.89 274 PKiKP **PKiKP** **09 33 10.1 +1.5**
SNR=14
SOHO SOHO 131.76 274 *i* PKiKP **PKPdf** **09 33 08.9 -0.4**
SNR=17
UOSS Minazif 132.35 275 PKPdf **PKPdf** **09 33 05.7 -4.8**
UOSS Minazif 132.35 275 PKPdf **PKPdf** **09 33 10.9 +0.5**
HATD Hatta, Dubai 132.37 275 *i* PKPdf **PKPdf** **09 33 09.0 -1.5**
SNR=9.5
HATD Hatta, Dubai 132.37 275 PKiKP **PKiKP** **09 33 12.0 +0.4**
SNR=10
ASHO Ashiyiah 132.38 275 *i* PKPdf **PKPdf** **09 33 08.5 -2.0**
SNR=7.9
ASHO Ashiyiah 132.38 275 PKiKP **PKiKP** **09 33 11.1 -0.5**
SNR=8.4
ALNE Al Ain 132.39 274 *i* PKPdf **PKPdf** **09 33 08.8 -1.7**
SNR=6.1
ALNE Al Ain 132.39 274 PKiKP **PKiKP** **09 33 12.0 +0.4**
SNR=12
MDH Madha 132.41 276 *i* PKPdf **PKPdf** **09 33 08.1 -2.5**
SNR=7.1
MSFE Esma-Masafi 132.55 276 *i* PKPdf **PKPdf** **09 33 09.2 -1.6**
SNR=5.5
KMBO Kilima Mbogo 132.55 232 PKP **PKiKP** **09 33 14.0 +1.4**
comp=Z,2.8nm,0.6s,baz=205,slow=1.9,SNR=7.7
KMBO Kilima Mbogo 132.55 232 PKIKP **PKiKP** **09 33 14.0 +1.4**
MASF Masafi 132.55 276 PKiKP **PKiKP** **09 33 12.6 +0.6**
SNR=5.6
BANOM Banah 132.64 276 *i* PKiKP **PKiKP** **09 33 12.1 0.0**
SNR=5.8
FAQ Al Faqa, Dubai 132.79 275 PKPdf **PKPdf** **09 33 04.7 -6.6**
NAZ Nazwa, Dubai 132.82 275 *i* PKPdf **PKPdf** **09 33 07.3 -4.0**
SNR=5.7
ILULI Iluliesat 133.28 23 IAMs_20 IAMs_20 10 29 20.1
comp=Z,9µm,20.0s
DRLN Deer Lake 133.49 51 IAMs_20 IAMs_20 10 28 32.1
comp=Z,10µm,19.0s
KBS Kingsbay 133.71 357 *e*PKPdf **PKPdf** **09 33 09.5 -1.9**
KBS *e*PP **PP** **09 35 39.9 -0.8**
KBS *e*SKPdf **SKPdf** **09 36 44.2 -2.1**
KBS *e*SS **SS** **09 53 26.1 -0.2**
KBS IVMs_BB IVMs_BB 10 26 50.8
comp=Z,2µm,21.1s
KBS Kingsbay 133.71 357 IAMs_20 IAMs_20 10 39 23.0
comp=Z,5µm,19.0s
SVE Sverdlovsk 133.84 319 *i* PKIKP **PKiKP** **09 33 14.0 +0.5**
SVE pmax pmax
comp=Z,68nm,2.0s
SVE MLR MLR
comp=Z,4µm,23.0s
SPITS Spitsbergen Ar 134.22 356 PKP **PKPdf** **09 33 12.8 +0.4**
comp=Z,16nm,1.1s,baz=336,slow=3.2,SNR=1.7
SFJD Kangerlussuaq 134.27 26 IAMs_20 IAMs_20 10 25 38.5
comp=Z,8µm,20.0s
AB31 Akbulak array 134.54 309 *i* PKIKP **PKPdf** **09 33 13.6 -0.2**
ABKAR Akbulak array 134.54 309 **PKPdf** **09 33 13.8 +0.1**
GEYT Alibeck 134.60 293 PKP **PKPdf** **09 33 14.4 +0.1**
comp=Z,8.3nm,0.7s,baz=195,slow=8.9,SNR=7.7
ARU Arti 135.03 319 PKP **PKPdf** **09 33 14.0 -0.5**
comp=Z,6.6nm,0.6s,baz=102,slow=1.9,SNR=16
ARU Arti 135.03 319 *i* PKIKP **PKPdf** **09 33 13.3 -1.1**
ARU Arti 135.03 319 PKPdf **PKPdf** **09 33 13.9 -0.5**
ARU IAMs_20 IAMs_20 10 42 39.3
comp=Z,6µm,19.0s
HOPEN Hopen 135.04 353 *e*PKPdf **PKPdf** **09 33 13.2 -0.7**
HOPEN *e*PP **PP** **09 35 49.6 +0.4**
HOPEN *e*SKPdf **SKPbc** **09 36 44.5 +0.3**
HOPEN *e*SS **SS** **09 53 41.2 -1.1**
HOPEN IVMs_BB IVMs_BB 10 31 14.5
comp=Z,3µm,22.0s
SUMG Summit 135.12 16 *i* P **PKiKP** **09 33 16.9 +0.7**
SUMG IAMs_20 IAMs_20 10 39 26.2
comp=Z,8µm,16.5s
SUMG Summit 135.12 16 *i* PKIKP **PKiKP** **09 33 17.7 +1.5**
SUMG MLR MLR
comp=Z,8µm,16.0s
SUMG Summit 135.12 16 IAMs_20 IAMs_20 10 39 32.7
comp=Z,9µm,19.0s
HSPB Hornsund (broa 135.41 356 *e*PKPdf **PKPdf** **09 33 14.3 -0.3**
HSPB *e*PP **PP** **09 35 52.0 +0.5**
HSPB IVMs_BB IVMs_BB 10 31 12.7
comp=Z,3µm,20.7s
AKTO Aktyubinsk 135.78 311 PKP **PKPdf** **09 33 15.4 -0.6**
comp=Z,7.6nm,0.8s,baz=120,slow=2.7,SNR=17
DY2G Dye2 136.07 26 *i* P **PKPdf** **09 33 15.8 -0.7**
DY2G IAMs_20 IAMs_20 10 54 09.2
comp=Z,6µm,15.6s
ICESG Greenland Ices 136.93 20 *i* P **PKPdf** **09 33 18.6 +0.5**
ICESG IAMs_20 IAMs_20 10 44 44.6
comp=Z,6µm,15.6s
DBG Daneborg 137.09 9 *e*P **PKiKP** **09 33 25.3 +5.7**
DBG IAMs_20 IAMs_20 10 45 10.7
comp=Z,6µm,18.0s
DBG Daneborg 137.09 9 *e*PKPdf **PKiKP** **09 33 19.6 -0.1**
DBG *e*PP **PP** **09 35 58.1 -4.0**
DBG *e*SS SS 09 54 03.5 -3.3
BJO1 Bjornoya 137.51 353 *e*PKPdf **PKPdf** **09 33 16.3 -2.3**
BJO1 *e*PP **PP** **09 36 02.2 -2.5**
BJO1 *e*SS SS 09 54 09.0 -2.7
BJO1 IVMs_BB IVMs_BB 10 29 03.7
comp=Z,5µm,3.7s
KIRV Kirov 139.38 324 PKP **PKPdf** **09 33 21.9 -0.5**
comp=Z,12nm,0.4s,baz=89,slow=1.9,SNR=5.0
KIRV Kirov 139.38 324*c* *i* PKIKP **PKPdf** **09 33 23.2 +0.8**
PRGR Permogore 140.01 329 *e*PKIKP **PKPdf** **09 33 18.0 -5.4**
PRGR pmax pmax
comp=Z,89nm,1.5s
SCO Scoresbysund 140.16 12 IAMs_20 IAMs_20 10 34 01.0
comp=Z,7µm,20.0s
LVZ Lovozero 140.25 341 IAMs_20 IAMs_20 10 35 59.7
comp=Z,8µm,21.0s
HAMF Hammerfest 140.42 349 *e*PKPdf **PKPdf** **09 33 21.6 -2.3**
HAMF *e*PP **PP** **09 36 22.6 -0.1**
HAMF *e*SS SS 09 54 41.1 -4.9
HAMF IVMs_BB IVMs_BB 10 33 45.1
comp=Z,4µm,19.8s
KEV Kevo 140.58 347 IAMs_20 IAMs_20 10 37 52.0
comp=Z,9µm,20.0s
QRN Al-Qurain 140.61 276 *e*P **PKPdf** **09 33 24.3 -1.3**
APA Apatity 140.82 342 ⇓ *i* PKIKP **PKPdf** **09 33 22.9 -1.9**
APA *i* 09 36 24.0
APA pmax pmax
comp=Z,8.0nm,0.8s
KBD Kabd 140.93 277 *e*P **PKPdf** **09 33 24.3 -1.9**
UMR Umm Al-Rimmam 141.02 278 *e*P **PKPdf** **09 33 24.3 -2.0**
ARCES ARCESS Array B 141.06 347 PKhKP PKPpre 09 33 20.5
comp=Z,1.3nm,0.5s,baz=54,slow=2.1,SNR=14
MIB Mutribah 141.40 278 *e*P **PKPdf** **09 33 24.9 -2.1**
JMIC Jan Mayen 141.46 6 *e*PKPdf **PKPdf** **09 33 22.0 -3.9**
JMIC *e*SS SS 09 55 02.1 +4.0
RST Umm Al-Ruwaisa 141.60 277 *e*P **PKPdf** **09 33 25.8 -1.6**
JETT Jettan, Norway 141.90 350 *e*PKPdf **PKPdf** **09 33 23.1 -3.6**
KTK1 Kautokeino 141.92 348 *e*PKPdf **PKPdf** **09 33 25.8 -1.0**
KTK1 *e*SS SS 09 55 05.0 +1.3
BELG Belogornoye 142.01 315 PKhKP PKPpre 09 33 23.7
comp=Z,26nm,1.0s,baz=14,slow=2.7,SNR=3.5
TRO Tromso 142.04 350 *e*PKPdf **PKPdf** **09 33 26.5 -0.4**
TRO IVmB_BB 09 33 31.4
comp=Z,2µm,3.3s
TRO *e*PP **PP** **09 36 34.8 +2.3**
TRO *e*SS SS 09 55 07.6 +2.6
TRO IVMs_BB IVMs_BB 10 34 06.3
comp=Z,2µm,4.0s
KLMR Klimovskoe 142.98 330 *e*PKHKP PKPpre 09 33 24.2
KLMR pmax pmax
comp=Z,54nm,1.0s
KLMR MLR MLR
comp=Z,5µm,22.0s
KLMR Klimovskoe 142.98 330 *e*PKPdf **PKPdf** **09 33 24.3 -4.5**
KLMR AMP 09 33 38.4
comp=Z,54nm,1.0s
KLMR SKP 09 36 57.7
KLMR LR LR 10 22 54.6
KLMR AMP 10 35 48.6
comp=Z,5µm,21.5s
MAK Makhachkala 143.15 299 *e*PKIKP PKPbc 09 33 28.0 +1.4
MAK *e* 09 36 38.1
MAK *e* 09 40 33.3
MAK *e*SS SS 09 55 16.3 -3.8
MAK pmax pmax
comp=Z,248nm,1.3s
STEI Steigen 144.13 352 *e*PKPdf **PKPdf** **09 33 31.9 +1.2**
STEI *e*SS SS 09 55 28.9 -0.1
LOF Lofoten 144.13 353 *e*PKPdf **PKPdf** **09 33 30.5 -0.1**
LOF IVmB_BB 09 33 33.4
comp=Z,789nm,2.9s
LOF *e*SS SS 09 55 29.9 +0.9
LOF IVMs_BB IVMs_BB 10 32 02.2
comp=Z,866nm,3.1s
GROC Groznyy 144.40 300 *e*PKHKP PKPpre 09 33 27.9
GROC *e* 09 40 33.9
GROC pmax pmax
comp=Z,136nm,1.3s
FAUS Fauske 144.64 351 *e*PKPab **PKPab** **09 33 29.8 -0.4**
FAUS IVmB_BB 09 33 38.7
comp=Z,1µm,2.5s
FAUS *e*SS SS 09 55 36.8 +1.9
FAUS IVMs_BB IVMs_BB 10 36 16.4
comp=Z,2µm,20.5s
GNI Garni 145.19 294 PKPbc **PKPbc** **09 33 30.9 -2.4**
GNI Garni 145.19 294 *e*P **PKPbc** **09 33 32.6 -0.7**
GNI Garni 145.19 294*ce* PKIKP **PKPbc** **09 33 32.5 -0.7**
GNI pmax pmax
comp=Z,114nm,2.5s
TASB TASBURUN-IGDIR 145.57 294 *e*P **PKPdf** **09 33 34.1 0.0**
KONS Konsvik 145.75 352 *e*PKPdf **PKPdf** **09 33 33.0 -0.5**
ZEI Tsey 145.81 299 *i* PKIKP **PKPdf** **09 33 34.7 +0.1**
ZEI pmax pmax
comp=Z,30nm,1.1s
VRH Novokhopyorsk 145.86 314 *e*PKP2 **PKPdf** **09 33 34.3 +0.2**
VRH pmax pmax
comp=Z,80nm,0.6s
CUKT Cukurca 145.90 289 *e*P **PKPdf** **09 33 34.6 -0.3**
MOR8 Moi Rana 145.90 351 *e*PKPab **PKPdf** **09 33 34.0 +0.2**
MOR8 IVmBBB 09 33 39.0
comp=Z,2µm,3.0s
MOR8 *e*PP **PP** **09 36 53.2 -2.5**
MOR8 *e*SS SS 09 55 47.1 -2.2
MOR8 IVMs_BB IVMs_BB 10 33 42.2
comp=Z,1µm,20.7s
STOK Stokkvaagen 145.92 352 *e*PKPdf **PKPdf** **09 33 33.1 -0.7**
ONI Oni 146.15 299 IAMs_20 IAMs_20 10 46 17.7
comp=Z,5µm,20.0s
AKH Akhalkalaki 146.15 297 ⇓ P **PKPab** **09 33 36.6 -0.3**
AKH Akhalkalaki 146.15 297 *e*P **PKPbc** **09 33 35.8 -0.4**
VANB Van 146.17 292 *e*P **PKPbc** **09 33 35.8 -0.5**
GOF Gofitskoye 146.24 303 ⇓ *i* PKP2 **PKPab** **09 33 36.5 -0.4**
GOF pmax pmax
comp=Z,368nm,1.3s
MOS Moscow 146.40 323 *e*PKP2 **PKPdf** **09 33 34.6 -0.3**
MOS pmax pmax
comp=Z,483nm,1.5s
MOS MLR MLR
comp=N,6µm,21.0s
MOS MLR MLR
comp=E,5µm,21.0s
MOS MLR MLR
comp=Z,7µm,21.0s
KARS Kars 146.47 295 *e*P **PKPbc** **09 33 36.7 -0.5**
AKDM Akdamar-Van 146.48 291 *e*P **PKPdf** **09 33 36.5 +0.6**
KBZ Khabaz 146.48 301 PKPbc **PKPbc** **09 33 36.8 0.0**
comp=Z,13nm,0.8s,baz=26,slow=2.4,SNR=21
KBZ Khabaz 146.48 301*c* *i* PKP2 **PKPbc** **09 33 37.0 +0.2**
AGRB Hanur-Agry 146.52 293 *e*P **PKPdf** **09 33 36.5 +0.6**
KIV Kislovodsk 146.61 301 ⇑ P **PKPab** **09 33 38.2 -0.2**
KIV Kislovodsk 146.61 301 *i* PKPbc **PKPdf** **09 33 35.4 -0.4**
SNR=34
KIV Kislovodsk 146.61 301 *e*P **PKPdf** **09 33 35.8 0.0**
KIV Kislovodsk 146.61 301 *i* PKP2 **PKPab** **09 33 38.3 -0.2**
KIV pmax pmax
comp=Z,46nm,1.0s
KIV Kislovodsk 146.61 301 **PKPdf** **09 33 35.8 0.0**
KIV IAMs_20 IAMs_20 10 44 10.7
comp=Z,4µm,20.0s
CHVG Ch'k'valeri 147.15 299 ⇓ P **PKPab** **09 33 40.7 +0.2**
CHVG Ch'k'valeri 147.15 299 ⇓ PKP2 **PKPab** **09 33 40.7 +0.2**
VORR Voronezh 147.20 316 *e*PKIKP **PKPdf** **09 33 36.5 +0.1**
VORR pmax pmax
comp=Z,750nm,2.2s
OBN Obninsk 147.22 323 PKPbc **PKPbc** **09 33 38.4 -0.1**
comp=Z,16nm,0.5s,baz=93,slow=1.2,SNR=30
OBN Obninsk 147.22 323 *e*PKP2 **PKPbc** **09 33 38.7 +0.1**
OBN *e* 09 36 59.8
OBN *e*SS SS 09 56 03.2 -2.1
OBN *e*SSS SSS 10 01 37.6
OBN pmax pmax
comp=Z,527nm,2.5s
OBN Obninsk 147.22 323 **PKPbc** **09 33 38.6 +0.1**
OBN IAMs_20 IAMs_20 10 52 43.3
comp=Z,6µm,19.0s
GURO Guroymak-BITLI 147.23 291 *e*P **PKPdf** **09 33 37.5 +0.4**
VORD Divnogorie 147.39 315 *e*PKP2 **PKPbc** **09 33 38.7 -0.5**
VORD pmax pmax
comp=Z,60nm,0.7s
KOPR Koprukoy-ERZUR 147.41 294 *e*P **PKPbc** **09 33 40.2 +0.3**
BATM Batumi 147.50 297 ⇓ P **PKPdf** **09 33 35.6 -1.6**
BATM Batumi 147.50 297 *e*P **PKPdf** **09 33 37.1 -0.1**
BATM Batumi 147.50 297 ⇓ PKIKP **PKPdf** **09 33 35.6 -1.6**
FINES FINESS Array B 147.51 339 PKPbc **PKPbc** **09 33 38.5 -0.7**
comp=Z,76nm,0.8s,baz=45,slow=3.6,SNR=109
FINES FINESS Array B 147.51 339 PKP2 **PKPbc** **09 33 38.2 -1.0**
FINES FINESS Array B 147.51 339 **PKPbc** **09 33 38.2 -1.0**
BCA Borcka 147.56 297 ⇓ P **PKPbc** **09 33 40.5 +0.5**
BCA Borcka 147.56 297 *e*P **PKPdf** **09 33 37.4 0.0**
NSS Namsos 147.78 352 *e*PKPdf **PKPdf** **09 33 36.3 -0.6**
KARO Karliova-Bingo 148.02 293 *e*P **PKPbc** **09 33 41.9 +0.3**
CHOM Cayeli-Rize 148.22 296 *e*P **PKPdf** **09 33 38.3 -0.2**
BNGB Bingl 148.30 292 *e*P **PKPdf** **09 33 39.1 +0.3**
MAZI Mazidag 148.42 289 *e*P **PKPdf** **09 33 38.9 -0.2**
KOPT Kop Dagi 148.45 294 **PKPbc** **09 33 43.1 +0.4**
SOC Sochi 148.79 301*ce* PKIKP **PKPdf** **09 33 38.2 -1.1**
SOC *i* 09 33 42.9
SOC *e* 09 37 12.1
SOC *e*SSS SSS 10 02 00.6
SOC pmax pmax
comp=Z,8.0nm,0.6s
SOC pmax pmax
comp=Z,31nm,0.6s
KTUT Trabzon 148.97 296 ⇑ P **PKiKP** **09 33 44.7 -0.3**
MEF Metsahovi 148.99 338 *e*P **PKiKP** **09 33 44.1 -0.2**
ERZN Erzincan 149.05 293 *e*P **PKPdf** **09 33 41.0 +1.0**
RAF Rauma 149.09 341 *e*P **PKiKP** **09 33 45.0 +0.4**
PTK Pertek 149.30 292 *e*P **PKPab** **09 33 51.8 +2.3**
SVRC Sivrice-ELAZID 149.36 291 *e*P **PKPdf** **09 33 40.4 -0.2**
VSU Vasula 149.52 334 *e*P **PKiKP** **09 33 45.0 -0.6**
URFA Urfa 149.72 289 *e*P **PKPdf** **09 33 40.9 -0.2**
ILIC Ilic-Erzincan 149.94 293 *e*P **PKPdf** **09 33 41.8 +0.4**
ARPR Arapgir-MALATY 150.13 292 *e*P **PKPdf** **09 33 42.1 +0.3**
MOL Molde 150.13 355 *e*PKPbc **PKPbc** **09 33 45.1 -0.8**
ANN Anapa 150.22 304 *i* PKIKP **PKPbc** **09 33 46.3 -0.3**
ANN pmax pmax
comp=Z,340nm,2.4s
AAL Aland 150.28 342 *e*P **PKPbc** **09 33 43.9 -2.4**
MTSE Matsula 150.35 337 *e*P **PKiKP** **09 33 47.7 +0.5**
AKN Aaknes 150.56 355 *e*PKPbc **PKPbc** **09 33 45.8 -1.2**
AKN IVmB_BB 09 34 06.1
comp=Z,2µm,3.4s
AKN *e*SKSdf **SKSdf** **09 40 44.5 -4.1**
AKN *e*SS **SS** **09 56 43.5 +1.9**
AKN IVMs_BB IVMs_BB 10 33 30.2
comp=Z,1µm,3.6s
SACV Santiago Islan 150.66 121 IAMs_20 IAMs_20 10 37 46.0
comp=Z,4µm,19.0s
DARE Darende-Malaty 150.80 291 *e*P **PKPdf** **09 33 41.4 -1.4**
RSDY Resadiye-TOKAT 150.86 295 *e*P **PKPdf** **09 33 42.8 +0.1**
GAZ Gaziantep 150.99 288 *e*P **PKPdf** **09 33 42.1 -1.0**
SVSK Karacayir 151.14 294 *e*P **PKPdf** **09 33 43.4 +0.3**
UPP Uppsala 151.15 344 *e*P **PKiKP** **09 33 51.5 +2.7**
KMRS Kahramanmaras 151.25 289 *e*P **PKPdf** **09 33 43.2 -0.2**
NB2 NORSAR Subarra 151.25 351 PKP **PKPbc** **09 33 48.1 -0.5**
comp=Z,364nm,2.0s,baz=17,slow=2.6
NB2 NORSAR Subarra 151.25 351 PKPab **PKPbc** **09 33 48.1 -0.5**
baz=17,slow=2.6
NOA NORSAR Array B 151.25 351 PKPbc **PKPbc** **09 33 47.8 -0.9**
comp=Z,8.2nm,0.7s,baz=14,slow=4.1,SNR=27
FOO Floro 151.25 357 *e*PKPbc **PKiKP** **09 33 48.8 -0.2**
FOO IVmB_BB 09 33 49.1
comp=Z,938nm,3.1s
FOO *e*SS SS 09 56 49.8 +0.7
TOKT Tokat 151.46 295 *e*P **PKPdf** **09 33 42.2 -1.5**
NAO01 NORSAR Array S 151.48 351 **PKPdf** **09 33 44.8 +1.9**
NC602 NORSAR Array S 151.49 350 *e*PKPdf **PKPdf** **09 33 41.5 -1.4**
NC602 IVmB_BB 09 33 52.1
comp=Z,683nm,2.8s
NC602 *e*SS SS 09 56 52.1 +0.2
NC602 IVMs_BB IVMs_BB 10 35 32.2
comp=Z,910nm,10.5s
NC602 NORSAR Array S 151.49 350 **PKPdf** **09 33 42.8 -0.2**
HYA Hoyanger 151.62 356 *e*PKPbc **PKPbc** **09 33 49.4 +0.1**
HYA *e*SS SS 09 56 54.5 +1.3
SARI SarD1z-Kayseri 151.63 291 *e*P **PKPdf** **09 33 43.9 -0.3**
HFS Hagfors 151.72 348 PKPbc **PKPbc** **09 33 48.2 -1.5**
comp=Z,8.4nm,0.6s,baz=120,slow=5.3,SNR=22
MNK Minsk 151.75 327 *i* PKIKP **PKPdf** **09 33 41.7 -1.8**
MNK *i* 09 37 28.6
MNK *i* 09 40 46.7
MNK *i* PPP PPP 09 40 53.2
MNK *i* SS SS 09 56 52.8 -2.8
MNK *i* SSS SSS 10 02 38.0
MNK pmax pmax
comp=E,2.0nm,0.6s
MNK pmax pmax
comp=Z,34nm,0.6s
MNK pmax pmax
comp=N,6.0nm,0.6s
MNK Minsk 151.75 327 *i* PKP **PKPdf** **09 33 41.8 -1.7**
comp=E,2.0nm,0.6s
MNK *i* PKP **PKPdf** **09 33 41.8 -1.7**
comp=N,6.0nm,0.6s
MNK *i* PKP **PKPdf** **09 33 41.8 -1.7**
comp=Z,34nm,0.6s,baz=50
MNK *i* PP **PP** **09 37 28.6 -1.5**
MNK *i* SKS **SKSdf** **09 40 46.7 -3.7**
MNK *i* PPP PPP 09 40 53.2
MNK *i* SKKS **SKKSdf** **09 49 34.5 -4.6**
MNK *i* SS **SS** **09 56 52.9 -2.7**
MNK *i* SSS SSS 10 02 38.0
MNK *i* LQ LQ 10 33 10.4
MNK *i* LR LR 10 37 50.5
MNK *i* LRM MLR 10 44 54.7
comp=E,500nm,19.2s
MNK *i* LRM MLR 10 44 54.7
comp=N,3µm,19.2s
MNK *i* LRM MLR 10 44 54.7
comp=Z,4µm,19.1s
HRFI Mount Harif 151.76 273 *e*P **PKPdf** **09 33 44.3 -0.1**
TAHT Tahtakopru-Hat 151.77 287 *e*P **PKPdf** **09 33 44.0 -0.2**
KVT Kavak 151.77 297 *e*P **PKPdf** **09 33 44.3 +0.2**
HWQ Hawqa 151.78 282 *e*P **PKPbc** **09 33 47.9 -3.0**
ISAL Salakas 151.80 331 *e*P **PKiKP** **09 33 52.3 +2.0**
SUE Sulen 151.80 357 *e*PKPdf **PKPdf** **09 33 42.0 -1.4**
SUE *e*SS SS 09 56 56.8 +1.5
YAYL Yayladag 151.82 286 *e*P **PKPdf** **09 33 43.5 -0.9**
QRWL Qaraoun 151.91 281 *e*P **PKPbc** **09 33 48.1 -3.0**
IIGN Ignalina 151.91 330 *e*P **PKiKP** **09 33 51.8 +1.2**
SKAR Skarslia 151.93 353 *e*PKPbc **PKPbc** **09 33 50.3 +0.1**
SKAR IVmB_BB 09 34 49.8
comp=Z,2µm,6.9s
SKAR *e*SS SS 09 56 57.0 +0.1
SKAR IVMs_BB IVMs_BB 10 35 23.7
comp=Z,1µm,22.5s
MMLI Mount Malkishu 151.95 278 *e*P **PKPdf** **09 33 45.0 +0.4**
NACGM Naroch 151.97 329 *i* PKP **PKiKP** **09 33 51.3 +0.6**
BHL Bhannes 151.98 281 *e*P **PKPdf** **09 33 44.4 -0.3**
DQRL Deir Qamar 152.02 281 *e*P **PKPbc** **09 33 50.5 -0.8**
BNN Bunyan 152.07 292 *e*P **PKPdf** **09 33 44.3 -0.5**
CEYT Ceyhan 152.15 288 *e*P **PKPdf** **09 33 44.5 -0.2**
DIKM Dikmen 152.30 298 ⇓ P **PKPbc** **09 33 49.9 -1.7**
OSL Oslo 152.38 351 *e*SS SS 09 57 02.8 +1.2
YOZ Yozgat 152.44 294 *e*P **PKPdf** **09 33 44.5 -0.8**
BER Bergen 152.45 356 *e*PKPdf **PKPdf** **09 33 43.6 -0.8**
BER IVmB_BB 09 33 50.1
comp=Z,999nm,3.0s
BER *e*PKPbc **PKPbc** **09 33 51.1 -0.2**
BER *e*SS SS 09 57 04.7 +2.3
SIM Simferopol' 152.48 305 *i* PKIKP **PKiKP** **09 33 52.5 +0.4**
SIM pmax pmax
comp=Z,66nm,0.4s
H07S1 FLORES T-PHASE 152.51 67 *e*PKP **PKPbc** **09 33 49.9 -2.3**
LIC Lamto 152.63 165 *e*P **PKPbc** **09 33 49.8 -3.4**
comp=Z,204nm,1.0s
PABE Paberze 152.71 332 *e*P **PKiKP** **09 33 54.5 +2.3**
CMRD Camardi-Nigde 152.76 289 *e*P **PKPdf** **09 33 45.1 -0.7**
KONO Kongsberg 152.80 352 *e*PKPdf **PKPdf** **09 33 42.9 -2.0**
KONO *e*SS SS 09 57 05.5 -0.8
KONO IVMs_BB IVMs_BB 10 35 00.9
comp=Z,1µm,24.0s
KONO Kongsberg 152.80 352 IAMs_20 IAMs_20 10 46 27.6
comp=Z,5µm,20.0s
KIC Kosan Boka 152.83 165 *e*P **PKPbc** **09 33 51.2 -2.4**
comp=Z,85nm,0.9s
TIC Toumodi 153.04 164 *e*P **PKPbc** **09 33 51.6 -2.5**
PBUR Paburge 153.08 335 *e*P **PKiKP** **09 33 55.3 +2.3**
DBIC Dimbokro 153.10 165 PKP **PKPdf** **09 33 48.3 +1.4**
comp=Z,14nm,1.0s,baz=146,slow=0.5,SNR=7.4
DBIC PKPbc **PKiKP** **09 33 54.6 +0.3**
comp=Z,45nm,0.9s,baz=185,slow=3.2,SNR=17
DBIC PKPab **PKPab** **09 34 06.0 +0.5**
comp=Z,14nm,0.5s,baz=178,slow=2.3,SNR=11
MERS Mersin 153.13 288 *e*P **PKPdf** **09 33 44.4 -1.9**
BZK Bozkurt 153.18 299 ⇓ P **PKPdf** **09 33 48.5 +2.4**
AKASG Malin Array Be 153.28 320 PKP **PKPdf** **09 33 45.9 -0.1**
comp=Z,0.3nm,0.3s,baz=42,slow=1.5,SNR=7.8
AKASG PKPbc **PKPbc** **09 33 53.1 -0.3**
comp=Z,20nm,0.9s,baz=66,slow=2.3,SNR=28
BLS5 Blasjo 153.34 355 *e*PKPdf **PKPdf** **09 33 45.4 -0.4**
BLS5 IVmB_BB 09 34 01.5
comp=Z,1µm,3.0s
BLS5 *e*SKSdf **SKSdf** **09 40 49.4 -2.9**
BLS5 *e*SS **SS** **09 57 13.0 +0.8**
BLS5 IVMs_BB IVMs_BB 10 34 21.2
comp=Z,941nm,25.5s
EREN Erenkoy 153.35 285 *e*P **PKPdf** **09 33 46.4 -0.1**
KIZK Mersin 153.42 287 *e*P **PKPdf** **09 33 45.9 -0.7**
BR131 Keskin Array S 153.73 294 PKiKP **PKiKP** **09 33 55.3 +0.2**
SNR=16
BRTR Keskin Array B 153.73 294 PKPbc **PKPbc** **09 33 54.2 -0.8**
comp=Z,6.1nm,0.6s,baz=132,slow=1.8,SNR=5.3
BRTR Keskin Array B 153.73 294 *e*P **PKPdf** **09 33 46.1 -1.1**
SERE Sereflikochisa 153.85 292 *e*P **PKPdf** **09 33 46.5 -0.8**
CSS Mathiatis 154.00 283 *e*P **PKPdf** **09 33 46.1 -1.4**
CSS Mathiatis 154.00 283 IAMs_20 IAMs_20 10 52 22.1
comp=Z,4µm,19.0s
SUW Suwalki 154.11 331 IAMs_20 IAMs_20 10 48 56.0
comp=Z,6µm,20.0s
HOMB Homborsund 154.28 352 *e*PKPdf **PKPdf** **09 33 45.1 -1.9**
HOMB *e*PP **PP** **09 37 43.5 -0.5**
HOMB *e*SS SS 09 57 20.0 -2.4
HOMB IVMs_BB IVMs_BB 10 34 08.6
comp=Z,844nm,16.5s
SNART Snartemo 154.35 354 *e*PKPdf **PKPdf** **09 33 45.4 -1.8**
ANTO Ankara 154.37 294 PKiKP **PKPdf** **09 33 52.0 +4.0**
ANTO Ankara 154.37 294 IAMs_20 IAMs_20 10 50 30.8
comp=Z,4µm,20.0s
ROSA Rosais 154.86 68 *e*PKP **PKPdf** **09 33 47.6 -1.0**
PGRA Graciosa 155.04 67 *e*PKP **PKPdf** **09 33 49.8 +1.0**

SORM	Soroca	155.04	315	⇓P	PKPdf	09 33 58.4	+10
KIS	Kishinev	155.27	312	ePKP	PKPdf	09 33 50.0	+1.2
	comp=Z,200nm,5.7s						
KIS	Kishinev	155.27	312	ePP	PP	09 37 42.0	-8.5
KIS				eSKKS		09 45 52.0	
KIS				eLR	LR	10 40 15.0	
	comp=Z,2µm,19.5s						
KIS	Kishinev	155.27	312	ePKIKP	PKPdf	09 33 50.0	+1.2
KIS				pmax	pmax		
	comp=Z,200nm,5.7s						
GOET	G??ttrup	155.39	351	IAMs_20	IAMs_20	10 45 13.1	
	comp=Z,7µm,21.6s						
PAGU	Agualva, Azore	155.68	68	ePKP	PKPdf	09 33 53.2	+3.5
CIFT	Cifteler, Eski	155.75	294	eP	PKPdf	09 33 49.1	-0.8
MUD	Monsted U'grnd	155.96	350	i P	PKPab	09 34 17.0	+0.4
MUD				IAMs_20	IAMs_20	10 45 17.6	
	comp=Z,10µm,20.3s						
BSD	Bornholm Skovb	156.04	342	i P	PKPab	09 34 05.3	-12
BSD				IAMs_20	IAMs_20	10 52 08.3	
	comp=Z,4µm,19.3s						
SHUT	Suhut-Afyon	156.22	292	eP	PKPdf	09 33 50.1	-0.5
ISP	Isparta	156.30	290	eP	PKPdf	09 33 51.8	+1.1
TPGR	Topolog	156.36	308	⇑P	PKPdf	09 33 59.6	+9.2
AUBOZ	BOZOYUK	156.47	295	eP	PKPdf	09 33 49.3	-1.5
KORT	Korkueli	156.47	288	eP	PKPdf	09 33 49.8	-1.2
LVV	L'vov	156.53	322	ePKIKP	PKPdf	09 33 50.0	-0.4
TESR	Tescani	156.82	313	⇑P	PKPdf	09 34 00.4	+9.5
ELL	Elmali	156.83	287	eP	PKPdf	09 33 50.8	-0.6
YLV	Yalova	156.86	297	eP	PKPdf	09 33 50.2	-1.1
PSET	Sete Cidades	156.90	70	ePKP	PKPdf	09 33 50.9	-0.5
BIZ	Bicaz	156.95	314	⇑P	PKPdf	09 34 03.1	+12
RGN	Rugen	156.96	343	IAMs_20	IAMs_20	10 56 38.2	
	comp=Z,7µm,19.0s						
TVSB	Tavsanli	156.97	294	eP	PKPdf	09 33 50.6	-0.9
VRI	Vrincioaia	157.06	311	⇑P	PKPdf	09 34 02.7	+11
CMLA	Cha da Macela	157.06	70	ePKP	PKPdf	09 33 54.3	+2.8
CMLA	Cha da Macela	157.06	70	IAMs_20	IAMs_20	10 46 14.0	
	comp=Z,8µm,18.0s						
AKAS	Kas	157.08	286	eP	PKPdf	09 33 50.6	-1.2
BURAR	Bucovina Array	157.13	317	⇓P	PKPdf	09 34 04.6	+13
ARMT	Armutlu	157.24	297	eP	PKPdf	09 33 52.6	+0.9
EKA	Eskdalemuir Ar	157.31	8	PKPab	PKPab	09 34 22.2	-0.2
	comp=Z,3.9nm,0.9s,baz=352,slow=3.1,SNR=2.7						
KWP	Kalwaria Pacla	157.31	323	ePKPdf	PKPdf	09 33 53.8	+2.3
KWP				ePKPab	pPKPab	09 34 24.9	-0.1
PSMN	Pico do Norte,	157.46	72	ePKP	PKPdf	09 33 51.9	-0.2
FETY	Fethiye	157.50	287	eP	PKPdf	09 33 51.8	-0.3
KULA	Kula-Manisa	157.70	292	eP	PKPdf	09 33 51.5	-0.9
MLR	Muntele Rosu	157.71	311	⇓P	PKPdf	09 34 03.4	+11
MLR	Muntele Rosu	157.71	311	IAMs_20	IAMs_20	10 47 28.3	
	comp=Z,5µm,21.0s						
KOLS	Kolonicke sedl	157.98	323	ePKIKP	PKPdf	09 33 53.1	+0.8
KOLS				e		09 34 24.0	
KOLS	Kolonicke sedl	157.98	323	ePKP	PKPdf	09 33 53.1	+0.8
KOLS				e		09 34 24.0	
YER	Yerkesik	158.12	288	eP	PKPdf	09 33 51.8	-1.1
BALB	Balikesir	158.15	295	IAMs_20	IAMs_20	11 00 16.9	
	comp=Z,7µm,20.0s						
UZH	Uzhgorod	158.16	322	i PKIKP	PKPdf	09 33 55.4	+2.9
UZH				i		09 34 24.0	
UZH				e		09 40 57.2	
TURN	Turunc	158.17	287	eP	PKPdf	09 33 52.6	-0.3
OJC	Ojcow	158.29	328	ePKPdf	PKPdf	09 33 53.3	+0.7
OJC				ePKPab	PKPab	09 34 26.9	0.0
OJC				ePP	PP	09 38 38.6	+32
OJC	Ojcow	158.29	328	IAMs_20	IAMs_20	10 47 13.1	
	comp=Z,7µm,20.0s						
VOIR		158.30	312	⇓P	PKPdf	09 34 05.1	+12
CRVS	Cervenica-Dubn	158.41	323	ePKIKP	PKPdf	09 33 56.2	+3.3
CRVS	Cervenica-Dubn	158.41	323	ePKP	PKPdf	09 33 56.2	+3.3
CRVS				e		09 34 30.0	
MLSB	Milas	158.51	289	eP	PKPdf	09 33 48.9	-4.5
ARR	Arges	158.59	312	⇑P	PKPdf	09 33 55.1	+1.8
NIE	Niedzica	158.63	326	ePKPdf	PKPdf	09 33 54.6	+1.5
NIE				ePKPab	PKPab	09 34 26.9	-1.5
KARP	Karpathos	159.07	284	IAMs_20	IAMs_20	11 03 00.2	
	comp=Z,5µm,20.0s						
KSP	Ksiaz	159.25	334	ePKPdf	PKPdf	09 33 54.8	+1.0
KSP				ePKPab	PKPab	09 34 31.1	+0.1
KSP				ePP	PP	09 38 38.6	+27
OKC	Ostrava-Krasne	159.30	329	ePKIKP	PKPdf	09 33 57.9	+4.1
OKC				MLR	MLR		
	comp=Z,6µm,20.0s						
OKC	Ostrava-Krasne	159.30	329	ePKPDF	PKPdf	09 33 57.9	+4.1
OKC				ex	x	09 38 43.5	
OKC				AMS	AMS	10 46 30.0	
	comp=Z,6µm,20.0s						
FLTG	Flechtingen	159.49	344	ePKPdf	PKPdf	09 33 53.2	-0.7
	baz=22,slow=1.1						
FLTG				ePKPab	PKPab	09 34 31.0	-0.9
	baz=22,slow=1.1						
OSTC	Ostas	159.51	333	ePKPDF	PKPdf	09 33 58.5	+4.4
OSTC				ePP	PP	09 38 43.6	+30
OSTC				AMS	AMS	10 49 50.0	
	comp=Z,7µm,19.1s						
CHVC	Chvalec	159.55	334	ePKPDF	PKPdf	09 33 58.3	+4.1
CHVC				AMS	AMS	10 49 50.0	
	comp=Z,7µm,19.6s						
NRDL	Niedersach Rie	159.59	346	ePKPdf	PKPdf	09 33 53.0	-1.0
	baz=22,slow=1.1						
NRDL				ePKPab	PKPab	09 34 30.9	-1.4
	baz=22,slow=1.1						
MORC	Moravsky Berou	159.60	330	PKIKP	PKPdf	09 33 53.7	-0.6
MORC	Moravsky Berou	159.60	330	PKPdf	PKPdf	09 33 53.7	-0.6
MORC				IAMs_20	IAMs_20	10 47 16.6	
	comp=Z,6µm,21.0s						
MORC	Moravsky Berou	159.60	330	ePKP	PKPdf	09 33 54.5	+0.2
MORC				e		09 45 04.4	
MORC				eSS	SS	09 58 21.9	+1.5
UPC	Upice	159.63	334	ePKIKP	PKPdf	09 33 58.3	+4.1
UPC				MLR	MLR		
	comp=Z,7µm,19.5s						
UPC	Upice	159.63	334	ePKPDF	PKPdf	09 33 58.3	+4.1
UPC				ex	x	09 38 40.8	
UPC				AMS	AMS	10 49 50.0	
	comp=Z,7µm,19.5s						
DPC	Dobruska-Polom	159.64	333	ePKIKP	PKPdf	09 33 58.7	+4.4
DPC				MLR	MLR		
	comp=Z,6µm,19.4s						
DPC	Dobruska-Polom	159.64	333	ePKPDF	PKPdf	09 33 58.7	+4.4
DPC				ePKPAB	PKPab	09 34 33.1	+0.4
DPC				ex	x	09 38 45.0	
DPC				AMS	AMS	10 53 10.0	
	comp=Z,6µm,19.4s						
KRLC	Kraliky	159.68	332	ePKIKP	PKPdf	09 33 58.5	+4.2
KRLC				MLR	MLR		
	comp=Z,4µm,21.6s						
KRLC	Kraliky	159.68	332	ePKPDF	PKPdf	09 33 58.5	+4.2
KRLC				ex	x	09 38 45.0	
KRLC				AMS	AMS	10 49 50.0	
	comp=Z,4µm,21.6s						
GZR	Gura Zlata	159.72	314	⇑P	PKPdf	09 33 47.5	-7.1
ASSE	Asse, Remlinge	159.81	344	ePKPdf	PKPdf	09 33 53.7	-0.5
	baz=22,slow=1.1						
ASSE				ePKPab	PKPab	09 34 30.9	-2.4
	baz=22,slow=1.1						
CLL	Collm	159.95	340	ePKPdf	PKPdf	09 33 55.0	+0.5
	comp=Z,130nm,3.1s						
CLL				⇓iPKPab	PKPab	09 34 33.6	-0.4
	comp=Z,161nm,1.8s						
CLL				i pPKPab	sPKPab	09 34 42.2	+5.6
CLL				e(sPKPab)		09 34 45.0	
CLL				i		09 34 56.5	
CLL				ePP	PP	09 38 14.0	-1.5
CLL				e		09 38 57.0	
CLL				eSKSdf	SKSdf	09 41 06.0	+6.6
CLL				ePPP	PPP	09 41 54.0	
CLL				ePPPP		09 44 18.0	
CLL				eSKKSac	SKKSac	09 45 06.0	+2.0
CLL				e		09 46 06.0	
CLL				e		09 47 00.0	
CLL				e(PSKS)		09 48 30.0	
CLL				ePPPPrev		09 49 30.0	
CLL				ePPS	PPS	09 51 36.0	
CLL				e		09 54 24.0	
CLL				e		09 56 12.0	
CLL				eSS	SS	09 58 17.0	-6.5
CLL				ePSS	PSS	09 59 18.0	
CLL				eSSS	SSS	10 04 30.0	
CLL				eSSSS		10 08 30.0	
CLL				e		10 10 06.0	
CLL				Lm	MLR	10 45 00.0	
	comp=N,4µm,21.4s						

CLL				Lm	MLR	10 45 00.0	
	comp=E,4µm,20.4s						
CLL				Lmax		11 06 00.0	
CLL	Collm	159.95	340	PKIKP	PKPdf	09 33 53.8	-0.7
CLL	Collm	159.95	340	PKPdf	PKPdf	09 33 53.8	-0.7
CLL				IAMs_20	IAMs_20	10 45 29.8	
	comp=Z,6µm,22.0s						
CLL	Collm	159.95	340	ePKPdf	PKPdf	09 33 53.9	-0.6
	baz=22,slow=1.1						
CLL				ePKPab	PKPab	09 34 32.0	-1.9
	baz=22,slow=1.1						
VYHS	Vyhne	159.97	326	ePKP2	PKPab	09 34 34.6	+0.4
BRG	Berggiesshubel	160.04	337	ePKPdf	PKPdf	09 33 54.4	-0.3
	baz=22,slow=1.1						
BRG				ePKPab	PKPab	09 34 32.5	-1.9
	baz=22,slow=1.1						
BRG	Berggiesshubel	160.04	337	Amp		09 38 38.6	
	comp=Z,32nm,1.5s						
BRG	Berggiesshubel	160.04	337	PP	PP	09 38 37.5	+21
PVCC	Panska Ves	160.13	336	ePKIKP	PKPdf	09 33 58.6	+3.8
PVCC				MLR	MLR		
	comp=Z,6µm,19.0s						
PVCC	Panska Ves	160.13	336	ePKPDF	PKPdf	09 33 58.6	+3.8
PVCC				ePKPAB	pPKPab	09 34 36.8	-0.2
PVCC				ex	x	09 38 40.9	
PVCC				AMS	AMS	10 54 20.0	
	comp=Z,6µm,19.0s						
CLZ	Clausthal	160.14	345	ePKPdf	PKPdf	09 33 54.4	-0.4
	baz=22,slow=1.1						
CLZ				ePKPab	PKPab	09 34 33.3	-1.5
	baz=22,slow=1.1						
FBE	Freiberg	160.19	338	ePKPab	PKPab	09 34 34.0	-1.0
	baz=22,slow=1.1						
IBBN	Ibbenburen	160.19	350	ePKPab	PKPab	09 34 33.8	-1.2
	baz=22,slow=1.1						
JAVC	Velka Javorina	160.23	328	ePKP	PKPdf	09 33 55.9	+0.9
JAVC				e		09 45 09.8	
JAVC				eSS	SS	09 58 29.6	+2.4
TORD	Torodi Ar. Bea	160.31	179	PKP	PKPdf	09 33 56.4	+0.3
	comp=Z,8.5nm,1.0s,baz=268,slow=0.4,SNR=22						
TORD				PKPab	PKPab	09 34 37.2	+0.8
	comp=Z,17nm,1.1s,baz=178,slow=2.0,SNR=6.5						
TORD				PP	PP	09 38 24.0	+6.9
	comp=Z,2.0nm,0.9s,baz=136,slow=6.6,SNR=2.0						
TORD	Torodi Ar. Bea	160.31	179		PKPdf	09 33 54.5	-1.6
VRAC	Vranov	160.35	331	PKP	PKPdf	09 33 55.1	+0.1
	comp=Z,2.5nm,0.4s,baz=340,slow=2.5,SNR=6.6						
VRAC	Vranov	160.35	331	ePKP	PKPdf	09 33 54.5	-0.6
VRAC				e		09 34 35.5	
VRAC				e		09 45 07.8	
VRAC				eSS	SS	09 58 28.8	+0.6
NEUB	Neuenburg	160.38	341	ePKPab	PKPab	09 34 35.1	-0.8
	baz=22,slow=1.1						
GTTG	Gottingen	160.51	345	ePKPab	PKPab	09 34 35.6	-0.8
	baz=22,slow=1.1						
PRA	Prague	160.56	335	ePP	PP	09 38 48.4	+30
PRA				AMS	AMS	10 59 50.0	
	comp=Z,7µm,18.7s						
PRU	Pruhonice	160.59	335	ePKIKP	PKPdf	09 33 59.3	+4.0
PRU				MLR	MLR		
	comp=Z,8µm,18.6s						
PRU	Pruhonice	160.59	335	ePKPDF	PKPdf	09 33 59.3	+4.0
PRU				ePKPAB	sPKPab	09 34 39.8	+0.3
PRU				ex	x	09 38 44.9	
PRU				ex	x	09 42 37.1	
PRU				AMS	AMS	11 00 10.0	
	comp=Z,8µm,18.6s						
KRUC	Moravsky	160.63	331	ePKP	PKPdf	09 33 55.5	+0.1
KRUC				e		09 45 09.1	
KRUC				eSS	SS	09 58 31.2	+0.1
VTS	Vitosha	160.69	306	⇑P	PKPdf	09 33 55.1	-0.7
VTS	Vitosha	160.69	306	⇑PKIKP	PKPdf	09 33 55.1	-0.7
TREC	Trest	160.81	332	ePKIKP	PKPdf	09 33 58.9	+3.3
TREC				MLR	MLR		
	comp=Z,9µm,20.1s						
TREC	Trest	160.81	332	ePKPDF	PKPdf	09 33 58.9	+3.3
TREC				AMS	AMS	10 52 00.0	
	comp=Z,9µm,20.1s						
KOWA	Kowa	160.84	162	PKPdf	PKPdf	09 33 55.8	-0.8
TANN	Tannenbergstha	160.90	339	ePKPab	PKPab	09 34 36.4	-1.9
	baz=22,slow=1.1						
WERD	Werda	160.92	340	ePKPdf	PKPdf	09 33 55.1	-0.6
	baz=22,slow=1.1						
WERD				ePKPab	PKPab	09 34 37.1	-1.2
	baz=22,slow=1.1						
PLN	Plauen	160.93	340	ePKPab	PKPab	09 34 36.8	-1.5
	baz=22,slow=1.1						
MOX	Moxa	160.94	341	ePKPdf	PKPdf	09 33 55.3	-0.3
	baz=22,slow=1.1						
MOX				ePKPab	PKPab	09 34 36.6	-1.7
	baz=22,slow=1.1						
MOX				eL	L	11 03 13.0	
	comp=Z,8µm,18.0s						
GUNZ	Gunzen	160.99	339	ePKPab	PKPab	09 34 37.9	-0.7
	baz=22,slow=1.1						
PBCC	Pribram	161.04	336	AMS	AMS	11 02 00.0	
	comp=Z,3µm,18.3s						
WERN	Wernitzgruen	161.04	339	ePKPab	PKPab	09 34 37.9	-0.9
	baz=22,slow=1.1						
NKC	Novy Kostel	161.07	339	ePKPDF	PKPdf	09 34 03.1	+7.3
NKC				ePKPAB	sPKPab	09 34 44.0	+2.4
NKC				ePP	PP	09 38 42.1	+21
NKC				ex	x	09 42 40.1	
NKC				AMS	AMS	11 03 20.0	
	comp=Z,7µm,17.9s						
BUG	Bochum--Univer	161.11	350	ePKPab	PKPab	09 34 37.6	-1.4
	baz=22,slow=1.1						
KASTN	Kahler Asten	161.15	347	ePKPab	PKPab	09 34 38.5	-0.7
	baz=22,slow=1.1						
UBBA	Unterbreizbach	161.18	344	ePKPdf	PKPdf	09 33 55.3	-0.4
	baz=22,slow=1.1						
UBBA				ePKPab	PKPab	09 34 38.7	-0.5
	baz=22,slow=1.1						
MANZ	Manzenberg	161.39	339	ePKPdf	PKPdf	09 33 55.3	-0.9
	baz=22,slow=1.1						
MANZ				ePKPab	PKPab	09 34 40.4	+0.1
	baz=22,slow=1.1						
ROTZ	Rotzenmuhle	161.55	339	ePKPab	PKPab	09 34 41.1	0.0
	baz=22,slow=1.1						
CKRC	Cesky Krumlov	161.65	333	ePKPDF	PKPdf	09 34 00.4	+3.9
CKRC				ePKPAB	pPKPab	09 34 44.1	+0.3
CKRC				ex	x	09 38 35.0	
CKRC				ex	x	09 42 48.4	
CKRC				AMS	AMS	10 47 30.0	
	comp=Z,8µm,20.4s						
KHC	Kasperske Hory	161.65	335	ePKIKP	PKPdf	09 34 00.4	+3.9
KHC				e		09 34 40.9	
KHC				MLR	MLR		
	comp=Z,6µm,18.3s						
KHC	Kasperske Hory	161.65	335	ePKPDF	PKPdf	09 34 00.4	+3.9
KHC				ePKPAB	PKPab	09 34 40.9	-0.6
KHC				ex	x	09 38 36.3	
KHC				ex	x	09 42 51.6	
KHC				AMS	AMS	10 55 00.0	
	comp=Z,6µm,18.3s						
CONA	Conrad Observa	161.73	329	eP	PKPdf	09 33 55.6	-1.1
	comp=Z,6.5nm,1.3s						
CONA				eP	sPKPab	09 34 46.0	+1.3
	comp=Z,36nm,1.6s						
CONA				P	PP	09 38 35.0	+10
	comp=Z,6.3nm,1.2s						
GEC2	GERESS Array S	161.85	335	ePKPdf	PKPdf	09 33 55.8	-1.0
	baz=22,slow=1.1						
GEC2				ePKPab	PKPab	09 34 42.5	0.0
	baz=22,slow=1.1						
GERES	GERESS Array B	161.85	335	PKP	PKPdf	09 33 57.6	+0.8
	comp=Z,0.6nm,0.8s,baz=90,slow=1.0,SNR=4.1						
GERES				PKPab	PKPab	09 34 41.6	-0.8
	comp=Z,2.3nm,0.8s,baz=50,slow=2.1,SNR=3.8						
GERES				PP	PP	09 38 27.1	+1.1
	comp=Z,1.5nm,0.3s,baz=46,slow=4.2,SNR=8.3						
WET	Wettzell	161.88	337	ePKPab	PKPab	09 34 42.5	-0.1
	baz=22,slow=1.1						
GRF	Grafenberg Arr	161.91	340	ePKPab	PKPab	09 34 42.6	0.0
	baz=22,slow=1.1						
GRF				eL	L	10 50 02.9	
	comp=Z,8µm,19.6s						
BEBN	Eben Emael	161.94	352	dPKP	PKPab	09 34 42.4	-0.2
AHRW	Bad Neuenahr-A	162.01	350	ePKPab	PKPab	09 34 43.3	+0.3
	baz=22,slow=1.1						
TNS	Taunus Mts	162.08	346	ePKPab	PKPab	09 34 44.0	+0.6
	baz=22,slow=1.1						
MEM	Membach	162.09	352	dPKP	PKPab	09 34 43.9	+0.6
BTNL	Ternell	162.10	351	dPKP	PKPab	09 34 43.0	-0.4
MILB	Miltenberg	162.27	344	ePKPab	PKPab	09 34 44.8	+0.7
	baz=22,slow=1.1						

BHOU	Houvegnez	162.34	352	dPKPdf	PKPdf	09 33 56.5	-0.6
BHOU				dPKP	PKPab	09 34 44.0	-0.5
ARSA	Arzberg	162.39	328	eP	PKPdf	09 33 56.2	-1.2
	comp=Z,6.4nm,1.5s						
ARSA				eP	pPKPab	09 34 47.4	+0.3
	comp=Z,15nm,1.1s						
BGES	Gesves	162.41	353	dPKPdf	PKPdf	09 33 58.7	+1.5
MOA	Molln	162.45	332	eP	PKPdf	09 33 57.8	+0.5
	comp=Z,5.4nm,1.2s						
MOA				eP	pPKPab	09 34 47.5	+0.2
	comp=Z,18nm,1.3s						
DOU	Dourbes	162.74	354	dPKPdf	PKPdf	09 33 59.0	+1.5
DOU				dPKP	PKPab	09 34 41.3	-4.8
WLF	Walferdange	163.00	351	dPKP	PKPab	09 34 48.0	+0.7
WLF	Walferdange	163.00	351	ePKPab	PKPab	09 34 46.3	-1.0
	baz=22,slow=1.1						
SOKA	Soboth	163.05	328	eP	PKPdf	09 33 58.1	+0.1
	comp=Z,5.5nm,1.1s						
SOKA				eP	pPKPab	09 34 49.8	-0.3
	comp=Z,28nm,1.2s						
RJOB	Jochberg	163.11	334	ePKPdf	PKPdf	09 33 58.2	+0.1
	baz=22,slow=1.1						
RJOB				ePKPab	PKPab	09 34 47.2	-0.8
	baz=22,slow=1.1						
FUR	Furstenfeldbru	163.25	338	ePKPdf	PKPdf	09 33 57.9	-0.2
	baz=22,slow=1.1						
FUR				ePKPab	PKPab	09 34 48.1	-0.5
	baz=22,slow=1.1						
PDKS	Podkum	163.53	327	i PKPdf	PKPdf	09 33 58.4	-0.1
PDKS				e		09 34 28.0	
PDKS				i PKPab	PKPab	09 34 49.4	-0.5
PDKS				ePP	PP	09 38 34.1	-0.9
PDKS				e		09 45 29.5	
LJU	Ljubljana	163.76	327	i PKPdf	PKPdf	09 33 58.3	-0.4
LJU				ePKPab	PKPab	09 34 50.2	-0.6
LJU				e		09 45 25.3	
LJU				i		09 49 56.5	
PMOZ	Porto Moniz, M	163.85	85	eLQ	LQ	10 23 17.8	
PMOZ				eLR	LR	10 30 41.3	
	comp=Z,5µm,18.0s						
WATA	Walderalm	163.88	336	eP	PKPdf	09 33 57.8	-1.1
	comp=Z,7.3nm,0.9s						
WATA				eP	PKPab	09 34 51.0	-0.5
	comp=Z,44nm,1.8s						
WATA				eP	PP	09 38 39.3	+2.6
	comp=Z,9.1nm,1.0s						
BFO	Black Forest	163.90	345	PKP2	PKPab	09 34 49.2	-2.2
BFO	Black Forest	163.90	345	PKPab	PKPab	09 34 49.2	-2.2
BFO	Black Forest	163.90	345	ePKPdf	PKPdf	09 33 58.5	-0.2
	baz=22,slow=1.1						
BFO				ePKPab	PKPab	09 34 50.8	-0.5
	baz=22,slow=1.1						
WTTA	Wattenberg	163.92	336	eP	PKPdf	09 33 59.7	+0.7
	comp=Z,31nm,2.1s						
WTTA				eP	PP	09 38 40.1	+3.1
	comp=Z,12nm,1.2s						
RETA	Reutte	164.02	338	eP	PKPdf	09 33 59.9	+0.9
	comp=Z,8.8nm,1.6s						
RETA				P	PKPab	09 34 51.3	-0.7
	comp=Z,28nm,1.2s						
MOTA	Moosalm	164.03	337	eP	PKPdf	09 33 59.6	+0.5
	comp=Z,4.8nm,0.7s						
MOTA				eP	PKPab	09 34 51.0	-1.2
	comp=Z,41nm,1.2s						
MOTA				eP	PP	09 38 35.0	-2.5
	comp=Z,13nm,1.7s						
ABTA	Abfaltersbach	164.04	333	eP	PKPab	09 34 53.4	+1.3
	comp=Z,29nm,1.5s						
UBR	Ueberruh	164.04	340	ePKPdf	PKPdf	09 33 58.9	0.0
	baz=22,slow=1.1						
UBR				ePKPab	PKPab	09 34 52.7	+0.6
	baz=22,slow=1.1						
SQTA	Sankt Quirin	164.11	337	eP	PKPab	09 34 52.0	-0.4
	comp=Z,53nm,1.5s						
FETA	Feichten	164.44	337	eP	PKPdf	09 34 00.4	+1.0
	comp=Z,13nm,1.6s						
FETA				eP	PKPab	09 34 54.9	+0.9
	comp=Z,52nm,1.2s						
DAVA	Damuels	164.46	340	P	PKPab	09 34 53.2	-0.9
	comp=Z,16nm,0.8s						
PMPST	Porto Santo, M	164.59	84	ePKPdf	PKPdf	09 34 05.1	+5.3
DAVOX	Davos/Dischmat	164.92	339	PKP	PKPdf	09 34 00.1	+0.2
	comp=Z,1.8nm,0.5s,baz=49,slow=4.5,SNR=6.6						
DAVOX				PKPab	PKPab	09 34 56.7	+0.5
	comp=Z,7.2nm,0.6s,baz=334,slow=2.6,SNR=7.1						
DAVOX				PP	PP	09 38 41.6	-0.6
	comp=Z,1.9nm,0.6s,baz=53,slow=8.0,SNR=3.4						
PGAV	Gavieira, Arco	167.83	39	ePKPdf	PKPdf	09 34 02.7	+0.5
PGAV	Gavieira, Arco	167.83	39	eLQ	LQ	10 23 18.9	
PGAV	Gavieira, Arco	167.83	39	eLR	LR	10 33 59.3	
	comp=Z,8µm,20.0s						
PCAB	Cabril	168.14	39	ePKPdf	PKPdf	09 34 05.7	+3.4
POLO	Lamas de Olo	168.50	40	ePKPdf	PKPdf	09 34 08.9	+6.2
PBRG	Braganca	168.73	36	ePKPdf	PKPdf	09 34 09.9	+7.1
PVIS	Viseu	168.89	43	ePKPdf	PKPdf	09 34 09.5	+6.6
PCAS	Casmilo, Conde	168.95	47	ePKPdf	PKPdf	09 34 07.2	+4.3
MVO	Moncorvo	169.06	39	ePKPdf	PKPdf	09 34 09.3	+6.3
MVO	Moncorvo	169.06	39	eLR	LR	10 24 01.5	
	comp=Z,8µm,16.0s						
MVO	Moncorvo	169.06	39	eLR	LR	10 37 38.4	
	comp=Z,8µm,16.0s						
PSBE	So Bento	169.07	50	ePKPdf	PKPdf	09 34 09.1	+6.1
PMST	Lisbon--Monsan	169.22	54	ePKPdf	PKPdf	09 34 05.8	+2.7
LIS	Lisbon	169.25	54	ePKPdf	PKPdf	09 34 03.1	+0.1
LIS				eSS	SS	09 59 58.5	-2.3
LIS				IAMs_20	IAMs_20	10 42 47.1	
	comp=Z,9µm,24.7s						
MTE	Manteigas	169.30	43	ePKPdf	PKPdf	09 34 09.2	+6.0
MTE	Manteigas	169.30	43	eLQ	LQ	10 23 59.5	
MTE				eLR	LR	10 33 10.0	
	comp=Z,13µm,18.0s						
PCBR	Castelo Branco	169.70	45	ePKPdf	PKPdf	09 34 07.8	+4.5
PNCL	Nicolau / Gran	169.97	56	ePKPdf	PKPdf	09 34 05.5	+2.0
PMRV	Marv??o	170.01	47	ePKPdf	PKPdf	09 34 08.8	+5.2
PMRV	Marv??o	170.01	47	ePKPab	PKPab	09 35 21.9	+3.2
PMRV	Marv??o	170.01	47	eLQ	LQ	10 24 29.5	
PMRV				eLR	LR	10 33 29.4	
	comp=Z,6µm,18.0s						
PTEO	Sao Teotonio	170.08	59	ePKPdf	PKPdf	09 34 06.8	+3.2
EVO	Evora	170.11	53	PKP	PKPdf	09 34 09.8	+6.1
EVO				SS	SS	10 00 14.0	+4.7
EVO	Evora	170.11	53	ePKPdf	PKPdf	09 34 08.6	+5.0
PFVI	Vila Bisbo	170.17	62	ePKPdf	PKPdf	09 34 06.7	+3.0
PESTR	Estremoz	170.21	50	ePKPdf	PKPdf	09 34 07.1	+3.4
MORF	Marmelete	170.23	60	ePKPdf	PKPdf	09 34 03.6	-0.2
MORF				eSS	SS	10 00 08.6	-2.3
MORF				IAMs_20	IAMs_20	10 49 18.5	
	comp=Z,9µm,16.2s						
MORF	Marmelete	170.23	60	ePKPdf	PKPdf	09 34 07.3	+3.5
MESJ	Messejana	170.31	57	ePKPdf	PKPdf	09 34 03.6	-0.1
MESJ				eSS	SS	10 00 09.2	-2.2
MESJ				IAMs_20	IAMs_20	10 55 16.9	
	comp=Z,10µm,19.6s						
MESJ	Messejana	170.31	57	ePKPdf	PKPdf	09 34 06.0	+2.3
PBEJ	Beja	170.47	55	ePKPdf	PKPdf	09 34 08.6	+4.8
PCVE	Castro Verde	170.53	57	ePKPdf	PKPdf	09 34 10.6	+6.7
TTIG	Tnine Tigouga,	170.78	102	P	PKPdf	09 34 10.0	+5.5
TTIG	Tnine Tigouga,	170.78	102	P	PKPdf	09 34 10.0	+5.5
PBDV	Barranco-do-Ve	170.78	59	ePKPdf	PKPdf	09 34 06.1	+2.0
PVAQ	Vaqueiros	170.86	58	ePKPdf	PKPdf	09 34 06.6	+2.5
PVAQ	Vaqueiros	170.86	58	eLQ	LQ	10 25 12.5	
PVAQ				eLR	LR	10 34 16.2	
	comp=Z,11µm,18.0s						
PBAR	Barrancos	170.95	52	ePKPdf	PKPdf	09 34 09.2	+5.1
PBAR	Barrancos	170.95	52	ePKPab	PKPab	09 35 27.1	+4.2
OUK	Oukaimeden	171.44	99	P	PKPdf	09 34 11.0	+6.0
OUK	Oukaimeden	171.44	99	P	PKPdf	09 34 11.0	+6.0
UCM	Universidad Co	171.51	28	PKP	PKPdf	09 34 10.8	+6.4
UCM				SS	SS	10 00 12.5	-9.2
PAB	San Pablo	171.63	36	PKIKP	PKPdf	09 34 05.1	+0.6
PAB	San Pablo	171.63	36		PKPdf	09 34 05.1	+0.6
ARNO	Arenosillo	171.70	57	PKP	PKPdf	09 34 01.5	-3.0
ARNO				SS	SS	10 00 38.8	+14
ESDC	Sonseca Array	171.72	34	PKP	PKPdf	09 34 05.0	+0.5
	comp=Z,0.3nm,0.3s,baz=5.0,slow=1.3,SNR=6.0						
ESDC				PKPab	PKPab	09 35 26.7	+0.5
	comp=Z,1.3nm,0.8s,baz=342,slow=5.0,SNR=1.7						
ESDC				PP	PP	09 39 25.9	+8.9
	comp=Z,1.3nm,0.8s,baz=340,slow=4.3,SNR=4.1						
AVE	Averroes	172.08	85	PKP	PKPdf	09 34 11.9	+7.1
AVE				SS	SS	10 00 40.6	+11
SFS	San Fernando	172.36	60	PKP	PKPdf	09 34 09.2	+4.4
SFS				SKKS		09 46 23.9	
ZHG	ZHG	172.72	84	P	PKPdf	09 34 12.0	+6.8

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
ZHG	**ZHG**	**172.72**	**84**	P	**PKPdf**	**09 34 12.0**	**+6.8**
LIJA	**Lijar**	**172.72**	**55**	PKP	**PKPdf**	**09 34 08.6**	**+3.5**
RSA	**Sarsar**	**173.19**	**71**	P	**PKPdf**	**09 34 12.0**	**+6.7**
RSA	**Sarsar**	**173.19**	**71**	P	**PKPdf**	**09 34 12.0**	**+6.7**
TZRR	**Tazzarine**	**173.20**	**106**	P	**PKPdf**	**09 34 11.0**	**+5.5**
TZRR	**Tazzarine**	**173.20**	**106**	P	**PKPdf**	**09 34 11.0**	**+5.5**
CEU	**Ceuta**	**173.21**	**62**	PKP	PKPdf	09 34 13.3	+8.2
CEU				SS	SS	10 00 55.0	+15
KEST	**Kesra**	**173.33**	**297**	PKP	**PKPdf**	**09 34 05.6**	**+0.2**
	comp=Z,4.6nm,0.9s,baz=355,slow=11,SNR=5.5						
EMAL	**Malaga-Limoner**	**173.46**	**52**	PKP	**PKPdf**	**09 34 07.4**	**+2.2**
EMAL				SS	**PP**	**09 39 25.7**	**-0.3**
CHEFC	**Chefchaouen**	**173.51**	**68**	P	**PKPdf**	**09 34 12.0**	**+6.5**
CHEFC	**Chefchaouen**	**173.51**	**68**	P	**PKPdf**	**09 34 12.0**	**+6.5**
IFR	**Ifrane**	**173.98**	**82**	PKP	**PKPdf**	**09 34 10.1**	**+4.3**
IFR				SS	SS	10 00 30.1	-19
LCRM	**LCR**	**174.19**	**81**	P	**PKPdf**	**09 34 12.0**	**+6.1**
LCRM	**LCR**	**174.19**	**81**	P	**PKPdf**	**09 34 12.0**	**+6.1**
PVLZ	**Peæn de**	**174.29**	**65**	PKP	**PKPdf**	**09 34 12.6**	**+7.0**
PVLZ				SS	SS	10 00 35.9	-15
CART	**Cartagena**	**174.74**	**27**	PKP	**PKPdf**	**09 34 03.9**	**-1.7**
CART				SS	SS	10 00 57.1	+4.2
MELI	**Melilla**	**175.26**	**59**	PKP	**PKPdf**	**09 34 03.6**	**-2.3**
JBK	**JBK**	**175.92**	**69**	P	**PKPdf**	**09 34 12.0**	**+5.6**
JBK	**JBK**	**175.92**	**69**	P	**PKPdf**	**09 34 12.0**	**+5.6**
FIGM	**Figuig**	**177.12**	**105**	P	**PKPdf**	**09 34 10.0**	**+3.4**
FIGM	**Figuig**	**177.12**	**105**	P	**PKPdf**	**09 34 10.0**	**+3.4**

IDC 07 09:18:49.5±3.5**,32°.72S**×**178°.37W,h0km,mb4.3**/2**, mb1 4.6**/3**,mb1mx3.9**/48**,mbtmp4.4**/3**,ML3.2**/1**,Error ellipse: s-maj=81.0km s-min=49.6km az=118.0,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.48**	**6**	Sn	Sn	09 20 25.6	-1.2
	41nm,0.3s,baz=108,slow=20,SNR=1.2						
URZ	**Urewera**	**6.64**	**212**	Pn	Pn	09 20 27.1	-1.2
	0.5nm,0.3s,baz=99,slow=19,SNR=1.0						
URZ				Sn	Sn	09 21 41.4	-3.4
	9.4nm,0.3s,baz=301,slow=19,SNR=4.3						
ASAR	**Alice Springs**	**42.73**	**270**	P	P	09 26 49.0	+0.4
	2.8nm,0.8s,baz=113,slow=7.1,SNR=2.3						
WRA	**Warramunga Arr**	**43.93**	**275**	P	P	09 26 58.1	-0.2
	1.9nm,0.3s,baz=114,slow=7.9,SNR=4.5						
FINES	**FINESS Array B**	**147.20**	**338**	PKPbc	PKPbc	09 38 33.2	-0.7
	3.2nm,0.6s,baz=32,slow=3.4,SNR=2.1						

*IDC **07** 09:19:44.7±0.6, 32°.84S×178°.32W, h0km, mb4.6/12, mb1 4.8/13, mb1mx4.5/47, mbtmp4.6/13, ML4.4/1, Error ellipse: s-maj=22.3km s-min=20.2km az=177.0*
*WEL **07** 09:19:44.2±0.6, 33°S±5°×17°8W±1°2, h33km, M5.4/16, mB5.4/2, ML5.9/23, MLv5.4/16, Mw(mB)4.9/2, Error ellipse: s-maj=0.0km s-min=0.0km az=110.2*
*NEIC **07** 09:19:49.0±1.9, 32°.96S±0°.07×178°.2W±0°.1, h29km±4km, mb5.0/21, Error ellipse: s-maj=17.5km s-min=9.4km az=108.0*
ISC 07 09:19:45.2±0.4**,32°.88S**±0°.05×**178°.16W**±0°.08**,h10km, n103,**σ**2s.33**/127**,mb4.9**/20**,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.61**	**3**	P	Pn	09 20 23.4	-18
GLKZ				S	**Sn**	**09 21 19.6**	**-4.2**
RAO	**Raoul Island**	**3.62**	**3**	Sn	**Sn**	**09 21 18.3**	**-5.8**
	235nm,0.3s,baz=272,slow=23,SNR=4.3						
RIZ	**Raoul Island**	**3.62**	**3**	P	Pn	09 20 25.2	-16
RIZ				S	**Sn**	**09 21 18.6**	**-5.6**
MXZ	**Matakaoa Point**	**5.50**	**211**	Pn	**Pn**	**09 21 09.4**	**+2.3**
WMGZ	**Waiomatatini S**	**5.67**	**209**	P	**Pn**	**09 21 11.4**	**+1.9**
WMGZ				S	**Sn**	**09 22 15.0**	**+0.4**
PKGZ	**Pakihiroa**	**5.87**	**211**	P	**Pn**	**09 21 11.2**	**-1.1**
PKGZ				S	**Sn**	**09 22 18.9**	**-0.8**
HAZ	**Te Kaha**	**5.89**	**213**	P	**Pn**	**09 21 14.0**	**+1.5**
HAZ				S	**Sn**	**09 22 20.9**	**+0.8**
PUZ	**Puketiti**	**5.95**	**208**	P	**Pn**	**09 21 14.7**	**+1.3**
PUZ				S	**Sn**	**09 22 19.9**	**-1.7**
RUGZ	**Raukumara Rang**	**6.11**	**213**	P	**Pn**	**09 21 15.0**	**-0.7**
RUGZ				S	**Sn**	**09 22 25.7**	**0.0**
TWGZ	**Tauwhareparae**	**6.16**	**210**	P	**Pn**	**09 21 15.4**	**-0.7**
TWGZ				S	**Sn**	**09 22 25.7**	**-1.0**
CNGZ	**Carnagh Statio**	**6.33**	**207**	P	**Pn**	**09 21 17.5**	**-1.0**
CNGZ				S	**Sn**	**09 22 25.7**	**-5.2**
WHRZ	**Whale Island**	**6.36**	**217**	P	**Pn**	**09 21 21.0**	**+2.0**
WHRZ				S	**Sn**	**09 22 34.4**	**+2.7**
TKGZ	**Te Karaka**	**6.43**	**209**	P	**Pn**	**09 21 20.2**	**+0.2**
TKGZ				S	**Sn**	**09 22 34.4**	**+1.0**
MWZ	**Matawai**	**6.48**	**212**	P	**Pn**	**09 21 20.5**	**-0.2**
MWZ				S	**Sn**	**09 22 33.4**	**-1.2**
OPRZ	**Ohinepanea**	**6.58**	**220**	P	**Pn**	**09 21 22.3**	**+0.4**
OPRZ				S	**Sn**	**09 22 38.3**	**+1.4**
URZ	**Urewera**	**6.61**	**214**	Pn	**Pn**	**09 21 21.0**	**-1.4**
	7.2nm,0.3s,baz=340,slow=19,SNR=2.1						
URZ				Sn	**Sn**	**09 22 34.6**	**-3.2**
	30nm,0.3s,baz=331,slow=19,SNR=8.2						
TGRZ	**Tauranga**	**6.65**	**222**	P	**Pn**	**09 21 25.5**	**+2.5**
RAGZ	**Rawiri**	**6.66**	**211**	P	**Pn**	**09 21 23.0**	**-0.2**
RAGZ				S	**Sn**	**09 22 37.3**	**-1.9**
RIGZ	**Rimuhau**	**6.70**	**209**	P	**Pn**	**09 21 23.7**	**+0.1**
RIGZ				S	**Sn**	**09 22 40.2**	**+0.3**
KARZ	**Kaharoa**	**6.87**	**220**	P	**Pn**	**09 21 27.4**	**+1.4**
KARZ				S	**Sn**	**09 22 47.0**	**+2.8**
KMRZ	**Kaimai**	**6.92**	**223**	P	**Pn**	**09 21 28.4**	**+1.8**
MKAZ	**Moumakai**	**6.92**	**231**	P	**Pn**	**09 21 28.1**	**+1.5**
SNGZ	**Shannon Statio**	**6.94**	**211**	P	**Pn**	**09 21 26.9**	**0.0**
SNGZ				S	**Sn**	**09 22 45.1**	**-0.8**
MUGZ	**Murupara**	**6.95**	**215**	P	**Pn**	**09 21 26.3**	**-0.7**
MUGZ				S	**Sn**	**09 22 44.1**	**-2.0**
RTZ	**Ruatahuna**	**6.96**	**213**	P	**Pn**	**09 21 26.9**	**-0.3**
RTZ				S	**Sn**	**09 22 43.1**	**-3.4**
TOZ	**Tahuroa Road**	**7.09**	**225**	P	**Pn**	**09 21 30.6**	**+1.6**
TOZ				S	**Sn**	**09 22 48.9**	**-0.7**
RAHZ	**Arahi**	**7.16**	**211**	P	**Pn**	**09 21 30.5**	**+0.6**
RAHZ				S	**Sn**	**09 22 49.9**	**-1.4**
MTHZ	**Maungataniwha**	**7.21**	**213**	P	**Pn**	**09 21 31.5**	**+0.8**
MTHZ				S	**Sn**	**09 22 49.9**	**-2.8**
OUZ	**Omahuta**	**7.23**	**249**	Pn	**Pn**	**09 21 33.4**	**+2.5**
MRHZ	**Matea Rd**	**7.40**	**215**	P	**Pn**	**09 21 32.3**	**-0.9**
MRHZ				S	**Sn**	**09 22 52.8**	**-4.5**
NMHZ	**Naumai**	**7.43**	**212**	P	**Pn**	**09 21 33.9**	**+0.2**
NMHZ				S	**Sn**	**09 22 55.7**	**-2.3**
BKZ	**Black Stump Fm**	**7.63**	**213**	Pn	**Pn**	**09 21 36.5**	**+0.1**
BKZ	**Black Stump Fm**	**7.63**	**213**	P	**Pn**	**09 21 37.2**	**+0.8**
BKZ				S	**Sn**	**09 22 58.6**	**-4.3**
RATZ	**Rangitukua**	**7.75**	**218**	P	**Pn**	**09 21 38.4**	**+0.4**
NTVZ	**North Tongarir**	**7.97**	**217**	P	**Pn**	**09 21 39.7**	**-1.5**
KAHZ	**Kahuranaki**	**7.98**	**209**	P	**Pn**	**09 21 37.2**	**-4.0**
KAHZ				S	**Sn**	**09 23 07.3**	**-4.3**
OTVZ	**Oturere**	**8.02**	**217**	P	**Pn**	**09 21 41.5**	**-0.4**
OTVZ				S	**Sn**	**09 23 10.2**	**-2.6**
SNVZ	**South Ngauruho**	**8.05**	**217**	P	**Pn**	**09 21 42.9**	**+0.6**
BHHZ	**Black Hill Sta**	**8.08**	**214**	P	**Pn**	**09 21 43.1**	**+0.4**
MSWZ	**Moikau Station**	**10.01**	**210**		**Sn**	**09 23 52.6**	**-8.9**
SNZO	**South Karori**	**10.16**	**212**		**Sn**	**09 23 58.3**	**-6.8**
THZ	**Tophouse**	**11.36**	**216**		**Sn**	**09 24 27.3**	**-7.4**
KHZ	**Kahutara**	**11.57**	**212**		**Sn**	**09 24 31.5**	**-8.0**
RPZ	**Rata Peaks**	**13.73**	**215**	P	**Pn**	**09 22 57.1**	**-2.7**
MLZ	**Mavora Lakes**	**16.37**	**216**	Pn	**Pn**	**09 23 34.4**	**-0.7**
MLZ	**Mavora Lakes**	**16.37**	**216**	P	**Pn**	**09 23 31.7**	**-3.4**
DZM	**Mont Dzumac**	**17.37**	**304**	P	**P**	**09 23 52.9**	**+3.7**
	0.6nm,0.3s,baz=119,slow=17,SNR=4.6						
DZM	**Mont Dzumac**	**17.37**	**304**	IAmb	IAmb	09 24 09.0	
	comp=Z,178nm,1.8s						
AFI	**Afiamalu**	**19.76**	**19**	P	**P**	**09 24 13.1**	**-2.3**
	comp=Z,1.5nm,0.3s,baz=360,slow=23,SNR=2.1						
AFI	**Afiamalu**	**19.76**	**19**	IAmb	IAmb	09 24 33.4	
	comp=Z,110nm,1.2s						
RAR	**Rarotonga**	**20.04**	**59**	P	**P**	**09 24 17.4**	**-1.0**
	comp=Z,13nm,0.6s,baz=227,slow=13,SNR=2.7						
EIDS	**Eidsvold**	**27.82**	**278**	P	**P**	**09 25 35.4**	**+0.6**
TAU	**Tasmania Unive**	**28.85**	**240**	P	**P**	**09 25 43.5**	**-0.2**
TOO	**Toolangi**	**29.94**	**251**	P	**P**	**09 25 54.3**	**+0.7**
CTA	**Charters Tower**	**34.14**	**283**	P	**P**	**09 26 31.6**	**+1.0**
	comp=Z,8.4nm,0.4s,baz=118,slow=10,SNR=14						
CTAO	**Charters Tower**	**34.14**	**283**	P	**P**	**09 26 31.7**	**+1.2**
CTAO				IAmb	IAmb	09 26 46.0	
	comp=Z,21nm,0.8s						
BBOO	**Buckleboo**	**38.23**	**257**	P	**P**	**09 27 05.0**	**-0.4**
BBOO				IAmb	IAmb	09 27 57.6	
	comp=Z,60nm,1.6s						
COEN	**Coen**	**39.88**	**289**	P	**P**	**09 27 20.4**	**+1.0**
COEN				IAmb	IAmb	09 27 34.3	
	comp=Z,25nm,1.1s						
AS31	**Alice Springs**	**42.90**	**270**	P	**P**	**09 27 43.4**	**-0.7**
ASAR	**Alice Springs**	**42.90**	**270**	P	**P**	**09 27 43.7**	**-0.5**
	comp=Z,14nm,0.9s,baz=107,slow=7.5,SNR=8.1						
ASAR				PcP	**PcP**	**09 29 33.9**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=124,slow=4.5,SNR=0.6						
ASAR				S	**S**	**09 34 06.7**	**-2.4**
	comp=Z,1.3nm,0.8s,baz=122,slow=15,SNR=4.3						
WR0	**Warramunga Arr**	**43.94**	**275**	P	**P**	**09 27 52.0**	**-0.5**
WR0				IAmb	IAmb	09 28 41.2	
	comp=Z,34nm,1.1s						
WB2	**Warramunga Arr**	**44.10**	**275**	P	**P**	**09 27 53.2**	**-0.7**
WB2				IAmb	IAmb	09 28 38.4	
	comp=Z,48nm,1.2s						
WRAB	**Tennant Creek**	**44.11**	**275**	P	**P**	**09 27 53.0**	**-0.9**
WRAB				IAmb	IAmb	09 27 54.1	
	comp=Z,26nm,0.9s						
WRA	**Warramunga Arr**	**44.11**	**275**	P	**P**	**09 27 53.2**	**-0.8**
	comp=Z,12nm,0.5s,baz=113,slow=8.1,SNR=24						
WRA	**Warramunga Arr**	**44.11**	**275**	IAmb	IAmb	09 27 54.9	
	comp=Z,4.1nm,1.4s						
FORT	**Forrest**	**45.33**	**258**	P	**P**	**09 28 01.7**	**-1.8**
KNRA	**Kununurra**	**50.80**	**276**	P	**P**	**09 28 45.6**	**-0.4**
FITZ	**Fitzroy Crossi**	**52.26**	**272**	P	**P**	**09 28 56.2**	**-0.7**
	comp=Z,8.2nm,0.8s,baz=144,slow=8.9,SNR=3.2						
CASY	**Casey**	**52.90**	**209**	P	**P**	**09 29 01.3**	**+0.3**
CASY				IAmb	IAmb	09 29 05.2	
	comp=Z,17nm,0.9s						
QSPA	**South Pole Qui**	**57.24**	**180**	P	**P**	**09 29 34.3**	**+1.8**
	comp=Z,10nm,0.9s,baz=36,slow=4.4,SNR=4.0						
QSPA	**South Pole Qui**	**57.24**	**180**	P	**P**	**09 29 34.6**	**+2.1**
BELA	**Belgrano 2**	**67.36**	**172**	P	**P**	**09 30 40.1**	**+0.2**
BELA				IAmb	IAmb	09 30 42.2	
	comp=Z,8.9nm,1.0s						
MAW	**Mawson**	**69.95**	**201**	P	**P**	**09 30 58.9**	**+2.6**
	comp=Z,6.0nm,0.9s,baz=123,slow=8.6,SNR=5.3						
MAW	**Mawson**	**69.95**	**201**	P	**P**	**09 30 58.9**	**+2.6**
SNAA	**Sanae**	**75.69**	**178**	P	**P**	**09 31 31.5**	**+1.2**
SNAA	**Sanae**	**75.69**	**178**	P	**P**	**09 31 30.2**	**-0.1**
SNAA				IAmb	IAmb	09 31 43.4	
	comp=Z,16nm,1.2s						
VNA3	**Neumayer Olymp**	**75.85**	**176**	P	**P**	**09 31 31.1**	**-0.1**
VNA2	**Neumayer--Watz**	**76.28**	**177**	P	**P**	**09 31 35.3**	**+1.6**
	baz=176,slow=6.1						
VNA1	**Neumayer--Stat**	**76.51**	**177**	P	**P**	**09 31 36.8**	**+1.9**
PLCA	**Paso Flores**	**80.92**	**133**	P	**P**	**09 32 00.5**	**+0.6**
	comp=Z,8.1nm,1.1s,baz=191,slow=7.3,SNR=6.0						
KSRS	**Korea Array**	**86.14**	**320**	P	**P**	**09 32 27.6**	**+1.2**
	comp=Z,1.4nm,0.7s,baz=200,slow=12,SNR=2.5						
PETK	**Petropavlovsk-**	**88.17**	**346**	P	**P**	**09 32 36.4**	**+0.5**
	comp=Z,7.2nm,1.0s,baz=144,slow=5.2,SNR=6.0						
YBH	**Yreka Blue Hor**	**90.06**	**38**	P	**P**	**09 32 47.1**	**+2.0**
	comp=Z,2.6nm,0.9s,baz=224,slow=2.7,SNR=4.1						
NVAR	**Mina Array Bea**	**90.14**	**43**	P	**P**	**09 32 47.7**	**+2.0**
	comp=Z,1.9nm,0.9s,baz=208,slow=5.9,SNR=6.5						
TXAR	**Lajitas Array**	**93.83**	**57**	P	**P**	**09 33 04.0**	**+1.1**
	comp=Z,0.7nm,1.0s,baz=193,slow=3.7,SNR=3.4						
MKAR	**Makanchi Array**	**119.24**	**309**	PKP	**PKiKP**	**09 38 35.3**	**+1.0**
	comp=Z,2.5nm,0.9s,baz=48,slow=1.8,SNR=5.4						
AAK	**Ala-Archa**	**123.35**	**303**	PKP	**PKiKP**	**09 38 44.6**	**+1.8**
	comp=Z,1.5nm,0.5s,baz=63,slow=6.8,SNR=3.7						
KK31	**Karatay Array**	**126.30**	**302**		**PKPdf**	**09 38 47.4**	**-0.6**
KKAR	**Karatay Array**	**126.30**	**302**		**PKiKP**	**09 38 47.5**	**-0.9**
AKTO	**Aktyubinsk**	**135.64**	**311**	PKP	**PKiKP**	**09 39 06.6**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=56,slow=3.6,SNR=3.1						
ARCES	**ARCESS Array B**	**140.97**	**347**	PKhKP	PKPpre	09 39 10.1	
	comp=Z,2.9nm,1.0s,baz=48,slow=1.3,SNR=1.6						
KBZ	**Khabaz**	**146.32**	**301**	PKPbc	**PKPab**	**09 39 26.2**	**-0.5**
	comp=Z,6.8nm,1.0s,baz=45,slow=1.4,SNR=2.3						
OBN	**Obninsk**	**147.09**	**323**	PKPbc	**PKPbc**	**09 39 27.7**	**-0.1**
	comp=Z,6.0nm,0.4s,baz=49,slow=8.9,SNR=3.1						
FINES	**FINESS Array B**	**147.41**	**339**	PKPbc	**PKPbc**	**09 39 28.1**	**-0.4**
	comp=Z,4.5nm,0.5s,baz=40,slow=3.2,SNR=7.9						
NB2	**NORSAR Subarra**	**151.17**	**351**	PKP	**PKPbc**	**09 39 37.2**	**-0.8**
	comp=Z,40nm,1.7s,baz=17,slow=4.1						
NOA	**NORSAR Array B**	**151.17**	**351**	PKPbc	**PKiKP**	**09 39 39.4**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=13,slow=4.1,SNR=4.2						
HFS	**Hagfors**	**151.63**	**348**	PKPbc	**PKiKP**	**09 39 39.5**	**+0.1**
	comp=Z,4.0nm,0.8s,baz=119,slow=5.1,SNR=2.0						
BNN	**Bunyan**	**151.91**	**292**		**PKPbc**	**09 39 39.0**	**-1.6**
AKASG	**Malin Array Be**	**153.14**	**320**	PKPbc	**PKiKP**	**09 39 43.5**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=62,slow=2.0,SNR=1.3						
AKASG	**Malin Array Be**	**153.14**	**320**		**PKPbc**	**09 39 40.5**	**-2.2**
DBIC	**Dimbokro**	**153.19**	**165**	PKPbc	**PKiKP**	**09 39 45.6**	**+1.5**
	comp=Z,4.1nm,0.7s,baz=206,slow=6.8,SNR=3.2						
BRTR	**Keskin Array B**	**153.57**	**294**	PKPbc	**PKiKP**	**09 39 43.9**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=109,slow=5.0,SNR=2.4						
TORD	**Torodi Ar. Bea**	**160.36**	**180**	PKPab	**PKPab**	**09 40 27.6**	**+1.4**
	comp=Z,2.0nm,0.9s,baz=178,slow=2.7,SNR=2.5						

IDC 07 09:23:30.5±3.5**,32°.75S**×**178°.36W,h0km,mb3.7**/2**, mb1 4.0**/3**,mb1mx3.7**/46**,mbtmp3.8**/3**,ML3.3**/1**,Error ellipse: s-maj=81.1km s-min=49.8km az=119.0,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.63**	**213**	Pn	Pn	09 25 08.0	-1.1
	0.7nm,0.3s,baz=307,slow=20,SNR=0.7						
URZ				Sn	Sn	09 26 21.4	-4.0
	1.9nm,0.3s,baz=135,slow=23,SNR=1.2						
ASAR	**Alice Springs**	**42.73**	**270**	P	P	09 31 29.9	+0.2
	0.6nm,0.8s,baz=108,slow=8.0,SNR=1.6						
WRA	**Warramunga Arr**	**43.93**	**275**	P	P	09 31 39.2	-0.1
	0.4nm,0.4s,baz=113,slow=7.9,SNR=4.9						
FINES	**FINESS Array B**	**147.22**	**338**	PKPbc	PKPbc	09 43 14.2	-0.8
	2.2nm,0.9s,baz=113,slow=3.6,SNR=1.6						

IDC 07 09:24:22.4±3.1**,32°.72S**×**178°.19W,h0km,mb4.1**/3**, mb1 4.3**/4**,mb1mx3.8**/45**,mbtmp4.1**/4**,ML3.8**/1**,Error ellipse: s-maj=67.4km s-min=47.2km az=125.0,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.72**	**213**	Pn	Pn	09 26 02.0	-0.3
	2.0nm,0.3s,baz=135,slow=21,SNR=0.8						
URZ				Sn	Sn	09 27 15.0	-4.6
	1.2nm,0.3s,baz=118,slow=21,SNR=1.1						
CTA	**Charters Tower**	**34.08**	**283**	P	P	09 31 10.2	+1.5
	1.7nm,0.4s,baz=124,slow=11,SNR=1.7						
ASAR	**Alice Springs**	**42.87**	**270**	P	P	09 32 22.4	-0.2
	0.7nm,0.3s,baz=108,slow=7.4,SNR=8.7						
WRA	**Warramunga Arr**	**44.07**	**275**	P	P	09 32 31.5	-0.9
	1.3nm,0.4s,baz=115,slow=8.0,SNR=11						
FINES	**FINESS Array B**	**147.25**	**339**	PKPbc	PKPbc	09 44 06.2	-0.8
	1.2nm,0.5s,baz=42,slow=3.1,SNR=5.6						

IDC 07 09:25:10.0±4.8**,32°.66S**×**178°.34W,h0km,mb4.1**/3**, mb1 4.2**/3**,mb1mx3.8**/44**,mbtmp4.1**/3**,Error ellipse: s-maj=184.5km s-min=62.3km az=163.0,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.71**	**212**	Sn	Sn	09 28 00.7	-6.1
	7.3nm,0.3s,baz=92,slow=23,SNR=5.8						
CTA	**Charters Tower**	**33.94**	**283**	P	P	09 31 55.5	+0.4
	1.5nm,0.5s,baz=98,slow=7.1,SNR=1.6						
ASAR	**Alice Springs**	**42.75**	**270**	P	P	09 33 09.2	-0.1
	1.3nm,0.8s,baz=111,slow=7.4,SNR=4.6						
WRA	**Warramunga Arr**	**43.94**	**275**	P	P	09 33 18.5	-0.5
	2.1nm,0.6s,baz=116,slow=7.8,SNR=6.8						
FINES	**FINESS Array B**	**147.15**	**339**	PKPbc	PKPbc	09 44 53.5	-0.8
	3.4nm,0.9s,baz=20,slow=4.4,SNR=2.1						

*NNC **07** 09:27:02.5±1.4, 53°.48N×87°.82E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=11.7km s-min=5.3km az=63.0, Suspected Mining explosion.*
*IDC **07** 09:27:04.0±2.4, 53°.54N×87°.74E, h0km, mb1 3.6/3, mb1mx3.3/72, mbtmp3.6/3, ML3.4/3, Error ellipse: s-maj=21.1km s-min=12.7km az=60.0*
ISC 07 09:27:02.6±2.8**,53°.6N**±0°.1×**87°.7E**±0°.1**,h0km,n9,**σ**1s.38**/15**, 7C-4D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.77**	**283**	*i*		09 39 10.0	
	baz=98,slow=329,SNR=14						
ZAA0	**Zalesovo Array**	**1.77**	**283**	⇓Pn	**Pb**	**09 27 34.9**	**-1.1**
	2.4nm,0.6s						
ZAA0				⇑Sn	**Sg**	**09 28 00.5**	**+1.0**
	12nm,0.5s						
ZALV	**Zalesovo Beam**	**1.77**	**283**	Pg	**Pb**	**09 27 34.9**	**-1.1**
	8.6nm,0.3s,baz=99,slow=15,SNR=33						
ZALV				Lg	Lg	09 27 58.7	
	14nm,0.3s,baz=99,slow=29,SNR=28						
KURBB	**Kurchatov Arra**	**6.39**	**246**	Pn	**Pn**	**09 28 39.7**	**+1.7**
	0.4nm,0.3s,baz=62,slow=14,SNR=9.8						
KURBB				Sn	**Sn**	**09 29 51.9**	**+0.2**
	0.1nm,0.3s,baz=62,slow=24,SNR=2.2						
KURBB				Lg	Lg	09 30 26.9	
	0.1nm,0.3s,baz=64,slow=32,SNR=12						
KURBB	**Kurchatov Arra**	**6.39**	**246**	⇑Pn	**Pn**	**09 28 39.2**	**+1.2**
	3.6nm,0.5s						
KURBB				⇑Sn	**Sn**	**09 29 52.1**	**+0.5**
	5.6nm,0.4s						
KURBB				⇑Lg	Lg	09 30 25.3	
	33nm,0.9s						
MK31	**Makanchi Array**	**7.63**	**209**	⇑Pn	**Pn**	**09 28 55.2**	**+0.2**
	0.2nm,0.2s,baz=30,slow=13,SNR=41						
MK31				⇑Sn	**Sn**	**09 30 21.9**	**-0.3**
	0.7nm,0.5s,baz=105,slow=31,SNR=5.1						
MK31				⇓Lg	Lg	09 31 02.5	
	7.7nm,0.9s,baz=52,slow=26,SNR=3.6						
MKAR	**Makanchi Array**	**7.63**	**209**	Pn	**Pn**	**09 28 56.8**	**+1.8**
	0.6nm,0.3s,baz=26,slow=13,SNR=28						
MKAR				Sn	**Sn**	**09 30 21.9**	**-0.2**
	0.3nm,0.3s,baz=30,slow=22,SNR=3.8						
MKAR				Lg	Lg	09 31 03.6	
	0.4nm,0.3s,baz=31,slow=34,SNR=3.7						
MAKZ	**Makanchi**	**7.71**	**211**	⇓Pn	**Pn**	**09 28 55.2**	**-0.9**
	1.0nm,0.6s						
MAKZ				⇑Sn	**Sn**	**09 30 23.8**	**-0.3**
	2.6nm,1.0s						
MAKZ				⇓Lg	Lg	09 31 05.6	
	12nm,1.1s						
BVAR	**Borovoye Array**	**10.40**	**274**	Pn	**Pn**	**09 29 34.8**	**+1.9**
	0.5nm,0.3s,baz=68,slow=12,SNR=5.3						
BVAR				Sn	**Sn**	**09 31 27.5**	**-2.6**
	0.6nm,0.3s,baz=92,slow=20,SNR=8.1						

IDC 07 09:27:09.2±3.0**,25°.55S**×**177°.99E,h0km,mb4.0**/3**, mb1 4.2**/3**,mb1mx3.7**/46**,mbtmp3.9**/3**,Error ellipse: s-maj=188.0km s-min=36.0km az=160.0,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**39.99**	**263**	P	P	09 34 45.8	-0.2
	0.7nm,0.4s,baz=89,slow=8.1,SNR=9.9						
TXAR	**Lajitas Array**	**92.85**	**59**	P	P	09 40 24.1	-0.2
	0.8nm,0.8s,baz=227,slow=5.7,SNR=6.9						
ILAR	**Eielson Array**	**94.07**	**14**	P	P	09 40 29.0	+0.2
	0.3nm,0.7s,baz=220,slow=3.7,SNR=1.9						

MEX 07 09:30:01.0±1.1**,15°.45N**×**92°.71W,h103km**±9km**,MD4.0,1D, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PCIG		**0.55**	**298**	*e*P	Pn	09 30 15.6	-1.9
PCIG				*e*S	Sn	09 30 28.2	-1.7
THIG		**0.69**	**141**	*e*P	Pn	09 30 17.1	-1.6
THIG				*e*S	Sn	09 30 30.6	-1.2
CCIG	**Comitan**	**0.99**	**34**	*e*P	Pn	09 30 20.0	-1.8
CCIG				*e*S	Sn	09 30 39.1	+1.6
TGIG		**1.38**	**343**	*e*P	Pn	09 30 25.2	-0.8
TGIG				*e*S	Sn	09 30 43.5	-1.5
CMIG	**Matias Romero**	**2.65**	**308**	⇓*e*P	Pn	09 30 41.0	-1.3

*IDC **07** 09:30:17.2±1.7, 32°.67S×178°.17W, h0km, mb4.2/4, mb1 4.3/5, mb1mx3.9/44, mbtmp4.1/5, ML3.8/1, Error ellipse: s-maj=44.4km s-min=30.6km az=48.0*
*WEL **07** 09:30:19.5±1.1, 32°S±14°×17°8W±3°1, h109km±59km, M4.7/7, ML5.4/11, MLv4.7/7, Error ellipse: s-maj=0.0km s-min=0.0km az=113.0*
*NEIC **07** 09:30:19.4±0.6, 32°.76S±0°.09×178°.2W±0°.1, h10km±2km, mb4.3/8, Error ellipse: s-maj=23.7km s-min=6.7km az=126.0*
ISC 07 09:30:20.0±1.1**,32°.67S**±0°.07×**178°.2W**±0°.1**,h20km,n39,** σ**1s.45**/50**,mb4.2**/7**,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.40**	**4**	P	Pn	09 31 06.5	-5.4
GLKZ				S	**Sn**	**09 31 47.4**	**-4.2**
MXZ	**Matakaoa Point**	**5.67**	**210**	P	**Pn**	**09 31 44.9**	**+1.9**
MXZ				S	**Sn**	**09 32 48.5**	**+0.9**
WMGZ	**Waiomatatini S**	**5.85**	**208**	P	**Pn**	**09 31 44.9**	**-0.6**
WMGZ				S	**Sn**	**09 32 50.1**	**-1.8**
PKGZ	**Pakihiroa**	**6.04**	**209**	P	**Pn**	**09 31 46.2**	**-2.0**
PKGZ				S	**Sn**	**09 32 55.5**	**-1.4**
HAZ	**Te Kaha**	**6.06**	**212**	P	**Pn**	**09 31 47.8**	**-0.5**
HAZ				S	**Sn**	**09 32 58.7**	**+1.6**
PUZ	**Puketiti**	**6.13**	**207**	P	**Pn**	**09 31 47.0**	**-2.3**
PUZ				S	**Sn**	**09 32 57.1**	**-1.8**
RUGZ	**Raukumara Rang**	**6.28**	**211**	P	**Pn**	**09 31 50.8**	**-0.8**
RUGZ				S	**Sn**	**09 33 05.0**	**+2.2**
TWGZ	**Tauwhareparae**	**6.33**	**209**	P	**Pn**	**09 31 51.2**	**-1.0**
TWGZ				S	**Sn**	**09 33 04.5**	**+0.7**
CNGZ	**Carnagh Statio**	**6.51**	**206**	P	Pn	09 31 49.1	-5.5
CNGZ				S	**Sn**	**09 33 08.2**	**0.0**
TKGZ	**Te Karaka**	**6.61**	**208**	P	**Pn**	**09 31 55.2**	**-0.7**
TKGZ				S	**Sn**	**09 33 11.1**	**+0.4**
MWZ	**Matawai**	**6.65**	**211**	P	**Pn**	**09 31 55.7**	**-0.8**
MWZ				S	**Sn**	**09 33 09.9**	**-1.9**
URZ	**Urewera**	**6.78**	**213**	Pn	**Pn**	**09 31 57.2**	**-1.0**
	1.8nm,0.3s,baz=302,slow=19,SNR=7.4						
URZ				Sn	**Sn**	**09 33 13.6**	**-1.1**
	2.9nm,0.3s,baz=119,slow=23,SNR=2.7						
URZ	**Urewera**	**6.78**	**213**	P	**Pn**	**09 31 57.3**	**-0.9**
URZ				S	**Sn**	**09 33 13.2**	**-1.6**
RAGZ	**Rawiri**	**6.83**	**210**	P	**Pn**	**09 31 58.7**	**-0.4**
RAGZ				S	**Sn**	**09 33 16.2**	**-0.2**
SNGZ	**Shannon Statio**	**7.11**	**210**	P	**Pn**	**09 32 02.9**	**+0.1**
SNGZ				S	**Sn**	**09 33 22.0**	**-1.0**
RTZ	**Ruatahuna**	**7.12**	**212**	P	**Pn**	**09 32 00.6**	**-2.5**
RTZ				S	**Sn**	**09 33 21.4**	**-2.1**
OUZ	**Omahuta**	**7.29**	**247**	Pn	**Pn**	**09 32 05.7**	**+0.3**
MTHZ	**Maungataniwha**	**7.38**	**212**	P	**Pn**	**09 32 06.8**	**+0.2**
MTHZ				S	**Sn**	**09 33 29.2**	**-0.5**
BKZ	**Black Stump Fm**	**7.79**	**212**	Pn	**Pn**	**09 32 11.1**	**-1.1**
BKZ	**Black Stump Fm**	**7.79**	**212**	P	**Pn**	**09 32 11.3**	**-0.9**
BKZ				S	**Sn**	**09 33 36.2**	**-3.7**
BFZ	**Birch Farm**	**9.16**	**208**	Pn	**Pn**	**09 32 29.5**	**-1.5**
CTA	**Charters Tower**	**34.08**	**283**	P	**P**	**09 37 05.2**	**+1.9**
	2.4nm,0.5s,baz=112,slow=11,SNR=7.1						
CTAO	**Charters Tower**	**34.08**	**283**	P	**P**	**09 37 03.8**	**+0.6**
AS31	**Alice Springs**	**42.88**	**269**	P	**P**	**09 38 17.1**	**-0.2**
ASAR	**Alice Springs**	**42.88**	**269**	P	**P**	**09 38 17.2**	**0.0**
	2.7nm,0.8s,baz=106,slow=7.6,SNR=27						
ASAR	**Alice Springs**	**42.88**	**269**	P	**P**	**09 38 16.5**	**-0.7**
WR0	**Warramunga Arr**	**43.90**	**275**	P	**P**	**09 38 25.4**	**0.0**
WR0				IAmb	IAmb	09 38 45.5	
	comp=Z,9.8nm,1.4s						
WB2	**Warramunga Arr**	**44.07**	**275**	P	**P**	**09 38 26.6**	**-0.2**
WB2				IAmb	IAmb	09 38 27.2	
	comp=Z,4.0nm,0.8s						
WRA	**Warramunga Arr**	**44.08**	**275**	P	**P**	**09 38 26.6**	**-0.3**
	comp=Z,1.4nm,0.3s,baz=112,slow=8.0,SNR=31						
WRA	**Warramunga Arr**	**44.08**	**275**	IAmb	IAmb	09 38 33.6	
	comp=Z,0.4nm,1.3s						
FORT	**Forrest**	**45.36**	**257**	P	**P**	**09 38 36.8**	**-0.2**
VNDA	**Vanda**	**45.83**	**186**	P	**P**	**09 38 41.6**	**+1.6**
VNDA				IAmb	IAmb	09 39 05.9	
	comp=Z,2.9nm,1.4s						
QSPA	**South Pole Qui**	**57.45**	**180**	P	**P**	**09 40 08.3**	**+1.1**
	comp=Z,1.5nm,1.0s,baz=45,slow=20,SNR=3.2						
QSPA	**South Pole Qui**	**57.45**	**180**	IAmb	IAmb	09 40 20.7	
	comp=Z,3.3nm,0.8s						
VNA3	**Neumayer Olymp**	**76.06**	**176**	P	P	09 42 17.1	+12
VNA2	**Neumayer--Watz**	**76.49**	**177**	P	P	09 42 19.5	+11
	baz=166,slow=5.4						
VNA1	**Neumayer--Stat**	**76.72**	**177**	P	P	09 42 21.1	+12
FINES	**FINESS Array B**	**147.21**	**339**	PKPbc	**PKPbc**	**09 50 00.9**	**-0.1**
	comp=Z,3.7nm,0.8s,baz=40,slow=3.4,SNR=9.1						
TORD	**Torodi Ar. Bea**	**160.57**	**180**	PKPab	**PKPab**	**09 50 59.8**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=207,slow=2.9,SNR=1.9						

IDC 07 09:33:15.2±5.7**,32°.82S**×**178°.37W,h0**km**,mb3.7**/2**,mb1 4.0**/2**,mb1mx3.6**/43**,mbtmp3.7**/2**,Error ellipse: s-maj=238.2km s-min=64.1km az=160.0,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.73**	**270**	P	P	09 41 14.4	+0.2
	0.5nm,0.5s,baz=107,slow=7.7,SNR=5.5						
WRA	**Warramunga Arr**	**43.93**	**275**	P	P	09 41 23.7	-0.4
	0.9nm,0.6s,baz=117,slow=7.8,SNR=6.6						
FINES	**FINESS Array B**	**147.29**	**338**	PKPbc	PKPbc	09 52 59.0	-0.8
	1.5nm,0.8s,baz=27,slow=3.4,SNR=1.4						

IDC 07 09:34:24.7±0.8,32°.83S×178°.19W,h0km,mb4.3/9, mb1 4.5/10,mb1mx4.2/44,mbtmp4.3/10,ML4.4/1,Error ellipse: s-maj=25.9km s-min=21.4km az=15.0
WEL 07 09:34:26.6±0.8,33°S±11°×17°9W±2°8,h147km±23km, M5.1/9,mB4.9/2,MLv5.1/9,Mw(mB)4.2/2,Error ellipse: s-maj=0.0km s-min=0.0km az=111.5
NEIC 07 09:34:27.5±1.9,32°.91S±0°.05×178°.2W±0°.1,h18km±5km, mb4.6/19,Error ellipse: s-maj=16.6km s-min=3.9km az=109.0
NOU 07 09:34:39.0,33°.79S×178°.38W,h120km,mb4.5/8,South of Kermadec Islands
ISC 07 09:34:26.1±0.6**,32°.94S**±0°.06×**178°.12W**±0°.09**,h10**km**,n74,** σ**1.91**/81**,mb4.6**/18**,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.67**	**3**	P	Pn	09 35 19.4	-3.5
GLKZ				S	Sn	09 35 58.5	-7.7
RAO	**Raoul Island**	**3.68**	**3**	Sn	**Sn**	**09 36 00.1**	**-6.4**
	53nm,0.3s,baz=239,slow=19,SNR=1.7						
RAO	**Raoul Island**	**3.68**	**3**	Pn	**Pn**	**09 35 23.2**	**+0.1**
MXZ	**Matakaoa Point**	**5.46**	**211**	Pn	**Pn**	**09 35 48.9**	**+1.3**
MXZ	**Matakaoa Point**	**5.46**	**211**	P	**Pn**	**09 35 48.5**	**+0.9**
MXZ				S	**Sn**	**09 36 47.6**	**-2.9**
WMGZ	**Waiomatatini S**	**5.63**	**209**	P	**Pn**	**09 35 49.3**	**-0.6**
WMGZ				S	**Sn**	**09 36 52.6**	**-2.1**
PKGZ	**Pakihiroa**	**5.83**	**211**	P	Pn	09 35 50.2	-2.6
PKGZ				S	**Sn**	**09 36 57.6**	**-2.2**
HAZ	**Te Kaha**	**5.86**	**214**	P	**Pn**	**09 35 55.2**	**+2.2**
HAZ				S	**Sn**	**09 37 00.9**	**+0.7**
PUZ	**Puketiti**	**5.91**	**209**	P	Pn	09 35 51.0	-2.8
PUZ				S	**Sn**	**09 37 02.5**	**+0.9**
RUGZ	**Raukumara Rang**	**6.08**	**213**	P	**Pn**	**09 35 55.2**	**-1.0**
RUGZ				S	**Sn**	**09 37 06.7**	**+0.9**
TWGZ	**Tauwhareparae**	**6.12**	**210**	P	**Pn**	**09 35 56.8**	**+0.2**
TWGZ				S	**Sn**	**09 37 07.5**	**+0.9**
CNGZ	**Carnagh Statio**	**6.29**	**207**	P	**Pn**	**09 35 58.5**	**-0.4**
CNGZ				S	**Sn**	**09 37 13.4**	**+2.6**
TKGZ	**Te Karaka**	**6.39**	**210**	P	Pn	09 35 58.5	-1.9
TKGZ				S	**Sn**	**09 37 13.4**	**0.0**
URZ	**Urewera**	**6.58**	**215**	Pn	**Pn**	**09 36 02.5**	**-0.3**
	6.8nm,0.3s,baz=118,slow=23,SNR=12						
URZ				Sn	**Sn**	**09 37 15.5**	**-2.4**
	15nm,0.3s,baz=119,slow=19,SNR=9.3						
URZ	**Urewera**	**6.58**	**215**	Pn	**Pn**	**09 36 02.8**	**-0.1**
URZ					**Sn**	**09 37 16.7**	**-1.2**
WHHZ	**Waihua**	**7.19**	**210**	S	**Sn**	**09 37 29.8**	**-3.2**
OUZ	**Omahuta**	**7.24**	**249**	Pn	**Pn**	**09 36 13.8**	**+1.9**
NMHZ	**Naumai**	**7.39**	**212**	P	**Pn**	**09 36 14.3**	**+0.2**
NMHZ				S	**Sn**	**09 37 38.0**	**-0.1**
ARHZ	**Aropaoanui**	**7.45**	**211**	P	**Pn**	**09 36 15.2**	**+0.3**
ARHZ				S	**Sn**	**09 37 34.7**	**-4.6**
BKZ	**Black Stump Fm**	**7.59**	**214**	Pn	**Pn**	**09 36 16.2**	**-0.7**
MCHZ	**McNeill Hill**	**7.72**	**211**	P	**Pn**	**09 36 18.4**	**-0.2**
MCHZ				S	**Sn**	**09 37 43.7**	**-2.5**
KWHZ	**Kaweka Forest**	**7.83**	**213**	P	Pn	09 36 16.8	-3.4
KWHZ				S	**Sn**	**09 37 45.4**	**-3.5**
KAHZ	**Kahuranaki**	**7.94**	**209**	P	Pn	09 36 18.4	-3.2
KAHZ				S	**Sn**	**09 37 47.8**	**-3.8**
KRVZ	**Karewarewa**	**7.95**	**218**	P	**Pn**	**09 36 20.9**	**-1.0**
KRVZ				S	**Sn**	**09 37 48.7**	**-3.3**
HIZ	**Hauiti**	**7.97**	**224**	Pn	**Pn**	**09 36 23.7**	**+1.7**
KRHZ	**Kereru**	**8.03**	**212**	P	Pn	09 36 20.1	-2.8
KRHZ				S	Sn	09 37 47.8	-6.0
PXZ	**Pawanui**	**8.15**	**208**	S	**Sn**	**09 37 52.0**	**-4.6**
BFZ	**Birch Farm**	**8.95**	**209**	Pn	**Pn**	**09 36 35.2**	**-0.2**
SNZO	**South Karori**	**10.13**	**212**	Pn	**Pn**	**09 36 53.4**	**+1.9**
TUWZ	**Tuamarina**	**10.57**	**214**	Pn	**Pn**	**09 36 57.5**	**-0.2**
NNZ	**Nelson**	**10.69**	**217**	Pn	**Pn**	**09 37 01.0**	**+1.8**
THZ	**Tophouse**	**11.33**	**216**	Pn	**Pn**	**09 37 07.8**	**-0.3**
LTZ	**Lake Taylor**	**12.41**	**215**	Pn	Pn	09 37 21.0	-1.8
OUENC	**Ouen Island, N**	**16.93**	**304**	Pn	**Pn**	**09 38 19.9**	**-3.3**
OUENC				IAmb	IAmb	09 38 29.7	
	comp=Z,47nm,1.1s						
DZM	**Mont Dzumac**	**17.43**	**305**	Pn	**Pn**	**09 38 27.8**	**-1.7**
NOUC	**Port Laguerre**	**17.51**	**304**	P	**P**	**09 38 38.5**	**+6.9**
STKA	**Stephens Creek**	**33.88**	**261**	P	**P**	**09 41 10.1**	**+0.9**
	comp=Z,2.9nm,1.0s,baz=100,slow=12,SNR=3.6						
CTA	**Charters Tower**	**34.18**	**283**	P	**P**	**09 41 12.4**	**+0.6**
	comp=Z,5.9nm,0.5s,baz=119,slow=11,SNR=13						
CTAO	**Charters Tower**	**34.18**	**283**	P	**P**	**09 41 12.7**	**+0.8**
BBOO	**Buckleboo**	**38.24**	**257**	P	**P**	**09 41 46.0**	**-0.5**
BBOO				IAmb	IAmb	09 41 59.2	
	comp=Z,27nm,1.5s						
COEN	**Coen**	**39.93**	**289**	P	**P**	**09 42 01.0**	**+0.2**
COEN				IAmb	IAmb	09 42 19.0	
	comp=Z,15nm,1.1s						
AS31	**Alice Springs**	**42.93**	**270**	P	**P**	**09 42 24.0**	**-1.4**
ASAR	**Alice Springs**	**42.93**	**270**	P	**P**	**09 42 24.5**	**-0.9**
	comp=Z,5.8nm,0.8s,baz=112,slow=7.6,SNR=33						
ASAR	**Alice Springs**	**42.93**	**270**	P	**P**	**09 42 24.0**	**-1.4**
WR0	**Warramunga Arr**	**43.97**	**275**	P	**P**	**09 42 32.6**	**-1.2**
WR0				IAmb	IAmb	09 42 44.1	
	comp=Z,14nm,1.3s						
WB2	**Warramunga Arr**	**44.14**	**275**	P	**P**	**09 42 34.2**	**-0.9**
WRAB	**Tennant Creek**	**44.14**	**275**	P	**P**	**09 42 34.0**	**-1.1**
WRAB				IAmb	IAmb	09 42 34.9	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**44.15**	**275**	P	**P**	**09 42 33.8**	**-1.4**
	comp=Z,6.5nm,0.6s,baz=115,slow=7.7,SNR=45						
WRA	**Warramunga Arr**	**44.15**	**275**	P	**P**	**09 42 33.5**	**-1.7**
FORT	**Forrest**	**45.35**	**258**	P	**P**	**09 42 43.6**	**-1.0**
KNRA	**Kununurra**	**50.84**	**276**	P	**P**	**09 43 26.0**	**-1.2**
KNRA				IAmb	IAmb	09 43 28.8	
	comp=Z,8.7nm,1.1s						
FITZ	**Fitzroy Crossi**	**52.29**	**272**	P	**P**	**09 43 37.1**	**-1.0**
	comp=Z,2.3nm,0.6s,baz=157,slow=7.3,SNR=11						
CASY	**Casey**	**52.86**	**209**	P	**P**	**09 43 41.7**	**+0.1**
CASY				IAmb	IAmb	09 43 54.7	
	comp=Z,10nm,0.9s						
MORW	**Morawa**	**55.74**	**255**	P	P	09 44 00.9	-2.3
MORW				IAmb	IAmb	09 44 03.0	
	comp=Z,6.3nm,0.9s						
QSPA	**South Pole Qui**	**57.18**	**180**	P	**P**	**09 44 14.6**	**+1.5**
	comp=Z,2.2nm,0.7s,baz=15,slow=3.8,SNR=6.7						
BELA	**Belgrano 2**	**67.29**	**172**	P	**P**	**09 45 20.6**	**+0.1**
BELA				IAmb	IAmb	09 45 48.4	
	comp=Z,3.0nm,0.9s						
MAW	**Mawson**	**69.91**	**201**	P	**P**	**09 45 37.8**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=160,slow=6.2,SNR=4.0						
SNAA	**Sanae**	**75.63**	**178**	P	**P**	**09 46 11.3**	**+0.4**
SNAA	**Sanae**	**75.63**	**178**	P	**P**	**09 46 10.2**	**-0.8**
SNAA				IAmb	IAmb	09 46 23.5	
	comp=Z,8.9nm,1.2s						
VNA3	**Neumayer Olymp**	**75.79**	**176**	P	**P**	**09 46 11.6**	**-0.2**
VNA2	**Neumayer--Watz**	**76.22**	**177**	P	**P**	**09 46 14.5**	**+0.3**
	baz=175,slow=4.9						
VNA1	**Neumayer--Stat**	**76.45**	**177**	P	**P**	**09 46 15.8**	**+0.3**
PLCA	**Paso Flores**	**80.86**	**133**	P	**P**	**09 46 41.1**	**+0.6**
	comp=Z,2.7nm,0.9s,baz=264,slow=10,SNR=3.2						
PLCA	**Paso Flores**	**80.86**	**133**	IAmb	IAmb	09 46 42.0	
	comp=Z,13nm,1.4s						
NVAR	**Mina Array Bea**	**90.17**	**43**	P	**P**	**09 47 26.9**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=211,slow=8.3,SNR=3.7						
MKAR	**Makanchi Array**	**119.30**	**309**	PKP	**PKPdf**	**09 53 14.8**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=83,slow=4.5,SNR=2.8						
KURK	**Kurchatov**	**122.70**	**313**		**PKPdf**	**09 53 21.2**	**-0.5**
KURBB	**Kurchatov Arra**	**122.74**	**313**	PKP	**PKPdf**	**09 53 21.2**	**-0.6**
	comp=Z,1.4nm,0.9s,baz=108,slow=2.0,SNR=9.5						
BVAR	**Borovoye Array**	**128.12**	**314**	PKP	**PKPdf**	**09 53 31.6**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=168,slow=7.4,SNR=2.6						
FINES	**FINESS Array B**	**147.47**	**339**	PKPbc	**PKPdf**	**09 54 08.6**	**+1.6**
	comp=Z,3.9nm,0.6s,baz=43,slow=3.6,SNR=11						
NOA	**NORSAR Array B**	**151.23**	**351**	PKPbc	**PKPbc**	**09 54 20.3**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=17,slow=4.1,SNR=1.9						
AKASG	**Malin Array Be**	**153.21**	**320**	PKPbc	**PKPbc**	**09 54 23.1**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=65,slow=1.9,SNR=5.5						
CLL	**Collm**	**159.91**	**339**	*i* PKPab	**PKPab**	**09 55 03.8**	**-0.5**
	comp=Z,28nm,2.0s						
TORD	**Torodi Ar. Bea**	**160.30**	**179**	PKPab	**PKPab**	**09 55 06.4**	**-0.5**
	comp=Z,0.8nm,0.9s,baz=194,slow=2.0,SNR=2.7						

IDC 07 09:37:38.5±2.4**,31°.46N**×**141°.15E,h0**km**,mb3.6**/3**,mb1 3.9**/4**,mb1mx3.5**/60**,mbtmp3.7**/4**,ML4.3**/1**,Error ellipse: s-maj=110.1km s-min=39.1km az=106.0,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.44**	**168**	Pn	Pn	09 38 46.5	-0.6
	14nm,0.3s,baz=300,slow=20,SNR=13						
JCJ				Sn	Sn	09 39 36.3	-3.3
	2.6nm,0.3s,baz=301,slow=22,SNR=1.8						
WRA	**Warramunga Arr**	**51.53**	**188**	P	P	09 46 46.1	0.0
	0.4nm,0.3s,baz=5.8,slow=7.3,SNR=10						
ASAR	**Alice Springs**	**55.25**	**188**	P	P	09 47 13.5	0.0
	0.2nm,0.5s,baz=4.1,slow=5.3,SNR=6.4						
TXAR	**Lajitas Array**	**93.69**	**52**	P	P	09 50 57.4	-0.1
	0.2nm,0.7s,baz=308,slow=3.3,SNR=2.2						

IDC 07 09:40:33.4±2.6,32°.64S×178°.04W,h0km,mb3.9/2, mb1 4.1/3,mb1mx3.7/40,mbtmp3.9/3,ML3.4/1,Error ellipse: s-maj=71.7km s-min=44.5km az=135.0
ISC 07 09:40:34.0±1.9**,33°.9S**±0°.2×**178°.0W**±0°.3**,h10**km**,n29,** σ**2.09**/21**,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.87**	**221**	Pn	**Pb**	**09 42 15.1**	**-1.3**
	0.7nm,0.3s,baz=301,slow=23,SNR=1.1						
URZ				Sn	**Sb**	**09 43 27.7**	**+1.0**
	1.1nm,0.3s,baz=134,slow=22,SNR=2.4						
HSRZ	**Hossack Road**	**6.39**	**225**	P	Pg	09 42 49.0	+13
NMHZ	**Naumai**	**6.65**	**217**	P	**Pg**	**09 42 42.5**	**+1.1**
BKZ	**Black Stump Fm**	**6.86**	**218**	P	**Pb**	**09 42 33.8**	**+0.4**
MCHZ	**McNeill Hill**	**6.97**	**216**	P	**Pb**	**09 42 33.5**	**-1.7**
KWHZ	**Kaweka Forest**	**7.09**	**217**	P	Pb	09 42 31.2	-6.1
KAHZ	**Kahuranaki**	**7.17**	**213**	P	Pb	09 42 28.2	-10
TMVZ	**Te Maari**	**7.25**	**222**	P	**Pb**	**09 42 39.0**	**-1.0**
ETVZ	**East Tongariro**	**7.26**	**222**	P	**Pb**	**09 42 39.3**	**-0.9**
KRHZ	**Kereru**	**7.29**	**216**	P	Pn	09 42 28.5	+7.9
OTVZ	**Oturere**	**7.31**	**222**	P	**Pb**	**09 42 38.5**	**-2.5**
BHHZ	**Black Hill Sta**	**7.33**	**219**	P	Pb	09 42 31.9	-9.4
SNVZ	**South Ngauruho**	**7.34**	**222**	P	**Pb**	**09 42 38.9**	**-2.6**
PXZ	**Pawanui**	**7.37**	**212**	P	Pn	09 42 26.5	+4.9
TUVZ	**Tukino**	**7.39**	**222**	P	**Pb**	**09 42 38.0**	**-4.3**
MOVZ	**Moawhango**	**7.43**	**220**	P	Pb	09 42 35.3	-7.7
WHVZ	**Whangaehu Hut**	**7.43**	**222**	P	**Pb**	**09 42 38.4**	**-4.7**
WNVZ	**Wahianoa**	**7.46**	**221**	P	Pb	09 42 37.7	-5.8
MTVZ	**Mangateitei**	**7.57**	**222**	P	Pb	09 42 38.4	-7.0
PNHZ	**Pukenui**	**7.58**	**216**	P	**Pn**	**09 42 27.1**	**+2.6**
WPHZ	**Waipukurau**	**7.58**	**214**	P	**Pn**	**09 42 25.7**	**+1.1**
TSZ	**Takapari Road**	**7.81**	**216**	P	**Pn**	**09 42 28.8**	**+1.1**
ANWZ	**Angora Road**	**7.89**	**212**	P	**Pn**	**09 42 28.7**	**0.0**
DVHZ	**Dannevirke**	**7.90**	**214**	P	**Pn**	**09 42 28.0**	**-0.9**
BFZ	**Birch Farm**	**8.17**	**212**	P	**Pn**	**09 42 31.6**	**-0.9**
ASAR	**Alice Springs**	**43.00**	**271**	P	**P**	**09 48 35.5**	**+1.8**
	1.0nm,0.8s,baz=107,slow=7.4,SNR=6.5						
WRA	**Warramunga Arr**	**44.30**	**276**	P	**P**	**09 48 43.5**	**-0.7**
	1.0nm,0.4s,baz=116,slow=7.7,SNR=13						
FINES	**FINESS Array B**	**148.38**	**338**	PKPbc	**PKPdf**	**10 00 17.2**	**+0.9**
	2.0nm,0.7s,baz=30,slow=3.4,SNR=2.3						
AKASG	**Malin Array Be**	**153.96**	**318**	PKPbc	**PKPbc**	**10 00 32.2**	**-1.0**
	0.3nm,0.5s,baz=47,slow=3.0,SNR=1.6						

IDC 07 09:41:60.0±3.2**,32°.77S**×**178°.38W,h0**km**,mb3.9**/2**,mb1 4.1**/3**,mb1mx3.6**/40**,mbtmp3.9**/3**,ML3.5**/1**,Error ellipse: s-maj=76.7km s-min=47.9km az=123.0,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.60**	**213**	Pn	Pn	09 43 37.9	-0.4
	1.1nm,0.3s,baz=315,slow=19,SNR=1.8						
URZ				Sn	Sn	09 44 50.6	-3.6
	1.7nm,0.3s,baz=124,slow=23,SNR=1.9						
ASAR	**Alice Springs**	**42.71**	**270**	P	P	09 49 59.3	+0.3
	0.6nm,0.6s,baz=108,slow=7.7,SNR=2.7						
WRA	**Warramunga Arr**	**43.92**	**275**	P	P	09 50 08.4	-0.3
	1.5nm,0.5s,baz=116,slow=7.8,SNR=8.2						
FINES	**FINESS Array B**	**147.24**	**338**	PKPbc	PKPbc	10 01 43.7	-0.8
	2.6nm,0.7s,baz=49,slow=2.6,SNR=5.0						

IDC 07 09:48:05.8±0.6,32°.78S×178°.20W,h0km,mb4.4/11, mb1 4.5/12,mb1mx4.2/40,mbtmp4.4/12,ML4.1/1,Error ellipse: s-maj=22.4km s-min=20.9km az=6.0
NEIC 07 09:48:07.7±2.3,32°.79S±0°.07×178°.2W±0°.1,h10km±1km, mb4.6/19,Error ellipse: s-maj=18.9km s-min=11.5km az=108.0
WEL 07 09:48:07.3±0.7,33°S±7°×17°8W±1°8,h33km,M4.6/12, mB5.0/9,ML5.2/16,MLv5.0/12,Mw(mB)4.3/9,Error ellipse: s-maj=0.0km s-min=0.0km az=110.1
ISC 07 09:48:07.4±0.5**,32°.89S**±0°.06×**178°.17W**±0°.09**,h10**km**,n86,** σ**1.92**/105**,mb4.5**/20**,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.62**	**3**	P	Pn	09 48 56.7	-6.8
GLKZ				S	Sn	09 49 37.6	-8.6
RAO	**Raoul Island**	**3.63**	**3**	Sn	**Sn**	**09 49 40.2**	**-6.3**
	75nm,0.3s,baz=107,slow=22,SNR=1.9						
RAO	**Raoul Island**	**3.63**	**3**	Pn	**Pn**	**09 49 00.9**	**-2.8**
RIZ	**Raoul Island**	**3.64**	**3**	S	Sn	09 49 38.5	-8.2
MXZ	**Matakaoa Point**	**5.48**	**211**	Pn	**Pn**	**09 49 29.2**	**+0.1**
MXZ	**Matakaoa Point**	**5.48**	**211**	P	**Pn**	**09 49 28.4**	**-0.7**
MXZ				S	**Sn**	**09 50 30.7**	**-1.5**
WMGZ	**Waiomatatini S**	**5.66**	**209**	P	**Pn**	**09 49 31.8**	**+0.3**
WMGZ				S	**Sn**	**09 50 35.9**	**-0.6**
PKGZ	**Pakihiroa**	**5.86**	**211**	P	**Pn**	**09 49 32.6**	**-1.7**
PKGZ				S	**Sn**	**09 50 39.4**	**-2.1**
HAZ	**Te Kaha**	**5.88**	**213**	P	**Pn**	**09 49 35.3**	**+0.8**
HAZ				S	**Sn**	**09 50 40.3**	**-1.6**
PUZ	**Puketiti**	**5.94**	**208**	P	**Pn**	**09 49 33.5**	**-1.9**
PUZ				S	**Sn**	**09 50 42.9**	**-0.6**
RUGZ	**Raukumara Rang**	**6.10**	**213**	P	**Pn**	**09 49 37.2**	**-0.5**
RUGZ				S	**Sn**	**09 50 48.1**	**+0.6**
TWGZ	**Tauwhareparae**	**6.14**	**210**	P	**Pn**	**09 49 38.4**	**+0.2**
TWGZ				S	**Sn**	**09 50 47.2**	**-1.3**
CNGZ	**Carnagh Statio**	**6.31**	**207**	P	**Pn**	**09 49 38.4**	**-2.1**
CNGZ				S	**Sn**	**09 50 50.7**	**-2.0**
TKGZ	**Te Karaka**	**6.42**	**209**	P	**Pn**	**09 49 39.8**	**-2.1**
MWZ	**Matawai**	**6.47**	**212**	P	**Pn**	**09 49 41.2**	**-1.5**
MWZ				S	**Sn**	**09 50 53.3**	**-3.2**
OPRZ	**Ohinepanea**	**6.56**	**220**	P	**Pn**	**09 49 45.4**	**+1.5**
OPRZ				S	**Sn**	**09 50 57.7**	**-1.0**
URZ	**Urewera**	**6.60**	**214**	Pn	**Pn**	**09 49 43.3**	**-1.0**
	3.7nm,0.3s,baz=51,slow=6.5,SNR=14						
URZ				Sn	**Sn**	**09 50 57.1**	**-2.5**
	9.7nm,0.3s,baz=68,slow=19,SNR=11						
URZ	**Urewera**	**6.60**	**214**		**Sn**	**09 50 59.1**	**-0.5**
URZ	**Urewera**	**6.60**	**214**	P	**Pn**	**09 49 43.3**	**-1.0**
URZ				S	**Sn**	**09 50 56.8**	**-2.8**
RAGZ	**Rawiri**	**6.65**	**211**	P	**Pn**	**09 49 44.2**	**-1.0**
RAGZ				S	**Sn**	**09 51 00.3**	**-0.8**
RIGZ	**Rimuhau**	**6.68**	**209**	P	**Pn**	**09 49 43.7**	**-1.9**
RIGZ				S	**Sn**	**09 50 57.7**	**-4.1**
SNGZ	**Shannon Statio**	**6.92**	**211**	P	**Pn**	**09 49 48.0**	**-0.9**
SNGZ				S	**Sn**	**09 51 06.4**	**-1.3**
MUGZ	**Murupara**	**6.93**	**215**	P	**Pn**	**09 49 47.9**	**-1.1**
MUGZ				S	**Sn**	**09 51 06.4**	**-1.5**
RTZ	**Ruatahuna**	**6.94**	**213**	P	**Pn**	**09 49 48.6**	**-0.6**
RTZ				S	**Sn**	**09 51 04.7**	**-3.6**
RAHZ	**Arahi**	**7.14**	**211**	P	**Pn**	**09 49 52.4**	**+0.5**
RAHZ				S	**Sn**	**09 51 09.9**	**-3.2**
MTHZ	**Maungataniwha**	**7.20**	**213**	P	**Pn**	**09 49 52.8**	**+0.1**
MTHZ				S	**Sn**	**09 51 13.4**	**-1.2**
OUZ	**Omahuta**	**7.22**	**249**	Pn	**Pn**	**09 49 54.4**	**+1.4**
NMHZ	**Naumai**	**7.41**	**212**	P	**Pn**	**09 49 55.3**	**-0.4**
NMHZ				S	**Sn**	**09 51 16.9**	**-3.0**
BKZ	**Black Stump Fm**	**7.61**	**213**	Pn	**Pn**	**09 49 58.1**	**-0.2**
BKZ	**Black Stump Fm**	**7.61**	**213**	P	**Pn**	**09 49 56.7**	**-1.6**
KAHZ	**Kahuranaki**	**7.97**	**209**	P	**Pn**	**09 50 00.0**	**-3.2**
KAHZ				S	**Sn**	**09 51 29.1**	**-4.4**
OTVZ	**Oturere**	**8.01**	**217**	P	**Pn**	**09 50 03.3**	**-0.6**
OTVZ				S	**Sn**	**09 51 32.5**	**-2.1**
OUENC	**Ouen Island, N**	**16.87**	**304**	P	**P**	**09 52 09.8**	**+4.1**
YATNC	**Mamie plateau,**	**17.07**	**305**	P	**P**	**09 52 12.1**	**+4.1**
ONTNC	**Ouen Toro**	**17.21**	**304**	P	**P**	**09 52 14.6**	**+5.1**
DZM	**Mont Dzumac**	**17.37**	**304**	Pn	**Pn**	**09 52 08.0**	**-2.0**
DZM				IAmb	IAmb	09 52 17.4	
	comp=Z,36nm,1.0s						
DZM	**Mont Dzumac**	**17.37**	**304**	P	**P**	**09 52 15.7**	**+4.3**
EIDS	**Eidsvold**	**27.82**	**278**	P	**P**	**09 53 56.7**	**-0.2**
EIDS				IAmb	IAmb	09 54 05.0	
	comp=Z,9.7nm,1.2s						
STKA	**Stephens Creek**	**33.85**	**261**	P	**P**	**09 54 50.9**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=110,slow=12,SNR=1.5						
CTA	**Charters Tower**	**34.13**	**283**	P	**P**	**09 54 53.2**	**+0.6**
	comp=Z,4.8nm,0.5s,baz=102,slow=10,SNR=10						
CTAO	**Charters Tower**	**34.13**	**283**	P	**P**	**09 54 53.4**	**+0.8**
CTAO				IAmb	IAmb	09 55 07.0	
	comp=Z,8.9nm,0.7s						
BBOO	**Buckleboo**	**38.22**	**257**	P	**P**	**09 55 26.6**	**-0.9**
BBOO				IAmb	IAmb	09 55 48.7	
	comp=Z,12nm,1.2s						
COEN	**Coen**	**39.88**	**289**	P	**P**	**09 55 41.0**	**-0.5**
COEN				IAmb	IAmb	09 55 56.5	
	comp=Z,12nm,1.1s						
AS31	**Alice Springs**	**42.89**	**270**	P	**P**	**09 56 05.6**	**-0.7**
ASAR	**Alice Springs**	**42.89**	**270**	P	**P**	**09 56 05.5**	**-0.7**
	comp=Z,9.5nm,0.8s,baz=111,slow=7.4,SNR=56						
ASAR	**Alice Springs**	**42.89**	**270**	P	**P**	**09 56 04.5**	**-1.8**
WR0	**Warramunga Arr**	**43.93**	**275**	P	**P**	**09 56 13.8**	**-0.9**
WR0				IAmb	IAmb	09 56 16.8	
	comp=Z,7.4nm,0.8s						
WB2	**Warramunga Arr**	**44.09**	**275**	P	**P**	**09 56 15.0**	**-1.0**
WB2				IAmb	IAmb	09 56 15.6	
	comp=Z,11nm,0.8s						
WRAB	**Tennant Creek**	**44.10**	**275**	P	**P**	**09 56 14.8**	**-1.2**
WRAB				IAmb	IAmb	09 56 15.6	
	comp=Z,9.0nm,0.8s						
WRA	**Warramunga Arr**	**44.10**	**275**	P	**P**	**09 56 14.8**	**-1.2**
	comp=Z,6.6nm,0.5s,baz=113,slow=8.1,SNR=56						
WRA	**Warramunga Arr**	**44.10**	**275**	P	**P**	**09 56 14.2**	**-1.8**
FORT	**Forrest**	**45.32**	**258**	P	**P**	**09 56 24.2**	**-1.4**
MTN	**Manton Dam**	**50.27**	**281**	P	**P**	**09 57 02.3**	**-1.9**
MTN				IAmb	IAmb	09 57 20.9	
	comp=Z,16nm,1.4s						
KNRA	**Kununurra**	**50.79**	**276**	P	**P**	**09 57 06.8**	**-1.4**
KNRA				IAmb	IAmb	09 57 07.9	
	comp=Z,14nm,1.2s						
FITZ	**Fitzroy Crossi**	**52.26**	**272**	P	**P**	**09 57 18.1**	**-1.0**
	comp=Z,4.1nm,0.7s,baz=153,slow=7.6,SNR=11						
CASY	**Casey**	**52.89**	**209**	P	**P**	**09 57 22.1**	**-0.9**
QSPA	**South Pole Qui**	**57.23**	**180**	P	**P**	**09 57 55.7**	**+1.0**
	comp=Z,3.3nm,0.8s,baz=23,slow=5.4,SNR=7.2						
QSPA	**South Pole Qui**	**57.23**	**180**	P	**P**	**09 57 57.4**	**+2.7**
MAW	**Mawson**	**69.94**	**201**	P	**P**	**09 59 19.8**	**+1.4**
	comp=Z,1.6nm,0.8s,baz=81,slow=3.8,SNR=2.8						
MAW	**Mawson**	**69.94**	**201**	IAmb	IAmb	09 59 26.8	
	comp=Z,1.1nm,1.0s						
PMSA	**Palmer Station**	**70.07**	**155**	P	**P**	**09 59 21.3**	**+2.1**
SNAA	**Sanae**	**75.68**	**178**	P	**P**	**09 59 55.1**	**+2.6**
SNAA	**Sanae**	**75.68**	**178**	P	**P**	**09 59 52.1**	**-0.4**
SNAA				IAmb	IAmb	10 00 04.8	
	comp=Z,8.1nm,1.1s						
VNA3	**Neumayer Olymp**	**75.84**	**176**	P	**P**	**09 59 55.5**	**+2.1**
VNA2	**Neumayer--Watz**	**76.27**	**177**	P	**P**	**09 59 57.4**	**+1.6**
	baz=173,slow=7.3						
VNA1	**Neumayer--Stat**	**76.50**	**177**	P	**P**	**09 59 59.6**	**+2.6**
PLCA	**Paso Flores**	**80.92**	**133**	P	**P**	**10 00 21.9**	**-0.2**
	comp=Z,5.7nm,1.1s,baz=188,slow=3.9,SNR=4.2						
KSRS	**Korea Array**	**86.15**	**320**	P	**P**	**10 00 48.7**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=139,slow=4.7,SNR=5.6						
PETK	**Petropavlovsk-**	**88.18**	**346**	P	**P**	**10 00 58.0**	**0.0**
	comp=Z,1.6nm,0.5s,baz=148,slow=8.4,SNR=2.4						
NVAR	**Mina Array Bea**	**90.16**	**43**	P	**P**	**10 01 07.7**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=211,slow=8.4,SNR=5.4						
MKAR	**Makanchi Array**	**119.24**	**309**	PKP	**PKPdf**	**10 06 55.3**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=154,slow=0.7,SNR=5.2						
KURK	**Kurchatov**	**122.64**	**313**		**PKPdf**	**10 07 01.5**	**-1.3**
KURBB	**Kurchatov Arra**	**122.68**	**313**	PKP	**PKPdf**	**10 07 01.5**	**-1.4**
	comp=Z,1.1nm,0.7s,baz=109,slow=1.8,SNR=13						
BVAR	**Borovoye Array**	**128.06**	**314**	PKP	**PKPdf**	**10 07 12.7**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=141,slow=5.0,SNR=4.8						
AKTO	**Aktyubinsk**	**135.64**	**311**	PKP	**PKPdf**	**10 07 28.9**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=108,slow=6.4,SNR=2.4						
KBZ	**Khabaz**	**146.32**	**301**	PKPbc	**PKPbc**	**10 07 48.7**	**+0.6**
	comp=Z,7.2nm,0.9s,baz=90,slow=1.0,SNR=3.0						
FINES	**FINESS Array B**	**147.41**	**339**	PKPbc	**PKPdf**	**10 07 50.0**	**+1.8**
	comp=Z,11nm,0.8s,baz=48,slow=2.8,SNR=15						
ASF	**Jabal al Asfar**	**150.51**	**278**	PKPbc	**PKPbc**	**10 07 58.4**	**-1.2**
	comp=Z,1.2nm,0.3s,baz=169,slow=5.2,SNR=2.7						
NB2	**NORSAR Subarra**	**151.18**	**351**	PKP	**PKPbc**	**10 07 59.5**	**-0.7**
	comp=Z,4.4nm,0.9s,baz=14,slow=4.0						
NOA	**NORSAR Array B**	**151.18**	**351**	PKPbc	**PKPbc**	**10 07 59.5**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=14,slow=4.1,SNR=5.3						
HFS	**Hagfors**	**151.64**	**347**	PKPbc	**PKPbc**	**10 08 00.3**	**-0.9**
	comp=Z,4.4nm,0.9s,baz=103,slow=4.6,SNR=2.7						
MMAI	**Mount Meron Ar**	**151.89**	**280**	PKPbc	**PKPbc**	**10 08 03.0**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=86,slow=6.4,SNR=1.6						
AKASG	**Malin Array Be**	**153.14**	**320**	PKPbc	**PKPbc**	**10 08 04.2**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=54,slow=2.6,SNR=4.1						
BRTR	**Keskin Array B**	**153.57**	**294**	PKPbc	**PKPbc**	**10 08 06.9**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=102,slow=6.5,SNR=1.8						
TORD	**Torodi Ar. Bea**	**160.35**	**180**	PKPab	**PKPab**	**10 08 50.1**	**+1.8**
	comp=Z,1.1nm,1.0s,baz=195,slow=4.5,SNR=3.0						
GERES	**GERESS Array B**	**161.74**	**334**	PKPab	**PKPab**	**10 08 53.3**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=74,slow=5.2,SNR=3.4						

IDC 07 09:50:47.7±0.7,21°.48N×120°.81E,h0km,mb4.0/14, mb1 4.1/14,mb1mx3.9/75,mbtmp4.0/14,Error ellipse: s-maj=29.0km s-min=15.0km az=74.0
TAP 07 09:50:49.9,21°.70N×121°.07E,h23km,ML4.2,D
JMA 07 09:50:51.7±0.1,21°.87N×120°.98E,h38km±4km,M4.2
NEIC 07 09:50:52.3±1.5,21°.59N±0°.07×121°.03E±0°.09,h27km±6km, mb4.4/11,ML4.9(TAP),Error ellipse: s-maj=13.4km s-min=9.2km az=62.0
ISC 07 09:50:50.7±1.0**,21°.64N**±0°.04×**121°.03E**±0°.03**,h20**km±4km**,n124,** σ**1.41**/148**,mb4.1**/19**,3C-5D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSEB	**Hengchuen, Pin**	**0.29**	**335**	⇓ *i*P	**Pg**	**09 50 57.1**	**-0.1**
	baz=306						
TSEB				*i* S	**Sb**	**09 51 02.7**	**+1.1**
	baz=306						
TWKBT	**Hengchun**	**0.36**	**326**	⇓ *i*P	**Pg**	**09 50 57.8**	**-0.7**
	baz=307						
TWKBT				*i* S	**Sg**	**09 51 03.3**	**-0.4**
	baz=307						
TWK1	**Hengchun**	**0.37**	**326**	⇓ *i*P	**Pg**	**09 50 57.8**	**-0.8**
	baz=307						
TWK1				*i* S	**Sg**	**09 51 03.6**	**-0.3**
	baz=307						
SNW	**Nanwan**	**0.41**	**321**	P	**Pg**	**09 50 59.2**	**-0.1**
	baz=307						
SNW				S	**Sb**	**09 51 05.6**	**+0.3**
	baz=307						
HEN	**Hengchun**	**0.45**	**324**	⇓ *i*P	**Pg**	**09 50 59.6**	**-0.5**
	baz=315						
HEN				*i* S	**Sg**	**09 51 06.2**	**-0.2**
	baz=315						
SLIU	**Shizi**	**0.61**	**340**	⇑ *i*P	**Pg**	**09 51 02.1**	**-0.9**
	baz=339						
SLIU				S	**Sg**	**09 51 10.4**	**-0.9**
	baz=339						
LAY	**Lan-yu**	**0.63**	**51**	*e*P	**Pg**	**09 51 02.7**	**-0.6**
	baz=53						
TAW	**Tawu**	**0.73**	**350**	⇑ *i*P	**Pb**	**09 51 03.4**	**-1.3**
	baz=359						
TAW				S	**Sb**	**09 51 13.8**	**-0.4**
	baz=359						
EAST	**Anshuo**	**0.76**	**347**	⇑ *i*P	**Pb**	**09 51 04.1**	**-1.3**
	baz=354						
EAST				S	**Sg**	**09 51 16.1**	**+0.3**
	baz=354						
SCZT	**Fangliau**	**0.82**	**333**	⇓ *i*P	**Pb**	**09 51 06.0**	**-0.3**
	baz=336						
SCZT				*i* S	**Sg**	**09 51 18.7**	**+0.9**
	baz=336						
WLCH	**Liuqiu**	**0.93**	**320**	*e*P	**Pg**	**09 51 08.8**	**-0.1**
	baz=306						
TWP	**Hsiaoliuchiu**	**0.94**	**319**	*e*P	**Pb**	**09 51 08.3**	**0.0**
	baz=305						
ECL	**Taimali**	**0.96**	**356**	*e*P	**Pb**	**09 51 05.9**	**-2.8**
	baz=3.0						
MASBT	**Mashibuluo**	**1.04**	**339**	P	**Pb**	**09 51 09.6**	**-0.4**
	baz=341						
MASBT				S	**Sb**	**09 51 23.0**	**-0.2**

baz=341
LDUT Ludao 1.11 22 *e*P Pn 09 51 08.7 -2.5
baz=30
LDUT S Sb 09 51 23.0 -2.3
baz=30
TSMG Majia 1.12 342 P Pn 09 51 11.4 +0.1
baz=349
TSMG S Sb 09 51 25.2 -0.4
baz=349
KAU Kaohsiung 1.14 324 *e*P Pn 09 51 11.9 +0.3
baz=305
SSD Sandimen 1.16 342 P Pn 09 51 11.9 0.0
baz=349
SSD S Sb 09 51 26.2 -0.6
baz=349
TWGBT Beinan 1.18 2 *e*P Pn 09 51 08.8 -3.3
TWG Pinlang 1.18 2 *e*P Pn 09 51 09.8 -2.3
TWG Pinlang 1.18 2 Pn Pn 09 51 12.4 +0.2
SGLT Jiouru 1.19 335 *e*P Pg 09 51 13.9 0.0
baz=349
SGLT *e*S Sg 09 51 30.7 +1.2
baz=349
LONT Longtian 1.27 4 *e*P Pn 09 51 12.3 -1.0
baz=3.0
SNJT Kaohsiung City 1.28 330 *e*P Pg 09 51 15.5 -0.1
baz=309
SCST Cishan 1.34 338 *e*P Pg 09 51 16.6 0.0
baz=337
EDH Donghe 1.35 11 *e*P Pn 09 51 12.1 -2.4
baz=10.0
EDH *e*S Sn 09 51 29.0 -2.9
baz=10.0
SLGT Liugui 1.39 345 *e*P Pb 09 51 16.0 -0.2
baz=356
ECS Chishang 1.46 7 *e*P Pn 09 51 13.1 -3.0
baz=6.0
CHKT Chengkung 1.49 12 *e*P Pn 09 51 15.0 -1.4
baz=11
CHKT *e*S Sn 09 51 31.9 -3.4
baz=11
SGST Jiashian 1.50 344 *e*P Pb 09 51 18.5 +0.6
baz=356
SGST *e*S Sb 09 51 37.8 +1.3
baz=356
ELDTW Lidau 1.54 360 *e*P Pn 09 51 17.1 -0.1
baz=7.0
STYH Taoyuan 1.54 351 *e*P Pb 09 51 18.6 -0.1
baz=350
FULB Fuli 1.57 9 *e*P Pn 09 51 16.0 -1.6
baz=8.0
FULB *e*S Sn 09 51 34.8 -2.6
baz=8.0
WTP Ta-pu 1.65 347 *e*P Pn 09 51 19.2 +0.6
baz=346
SNST Tainan City 1.65 343 *e*P Pb 09 51 21.4 +0.9
baz=355
TPUB Ta-pu 1.69 348 *e*P Pn 09 51 19.9 +0.6
baz=347
TPUB Ta-pu 1.69 348 Pn 09 51 20.3 +1.0
TWK Hsinying 1.70 343 *e*P Pb 09 51 22.1 +0.8
baz=355
EYUL Yuli 1.72 9 *e*P Pn 09 51 19.4 -0.3
baz=8.0
CHN4 Tsaushan 1.75 347 *e*P Pb 09 51 21.6 -0.6
baz=346
YULB Yu-li 1.76 8 Pn Pb 09 51 22.3 -0.1
YUS Yu-Shan 1.84 358 *e*P Pn 09 51 23.0 +1.3
baz=7.0
ICHU Yijhu 1.85 338 *e*P Pb 09 51 24.1 +0.2
baz=338
ALS Alishan 1.88 354 *e*P Pb 09 51 23.7 -0.8
baz=353
EHY Hungye 1.88 8 *e*P Pn 09 51 20.9 -0.9
baz=7.0
CHN5 Tsauling 1.98 351 *e*P Pn 09 51 23.0 -0.2
baz=350
WDGT Dungji 2.05 322 *e*P Pn 09 51 22.2 -2.0
baz=322
WDGT *e*S Sn 09 51 45.6 -3.6
baz=322
EGFH Guangfu 2.05 10 *e*P Pn 09 51 24.0 -0.2
baz=9.0
WHYT Xinyi Township 2.06 356 *e*P Pn 09 51 24.8 +0.6
baz=355
WDLH Douliu 2.09 348 *e*P Pb 09 51 26.9 -1.1
baz=348
SSLB Suanglung 2.14 358 *e*P Pn 09 51 27.2 +1.8
baz=10.0
SSLB Suanglung 2.14 358 Pn Pn 09 51 27.3 +1.8
VCHM Qimei 2.15 317 *e*P Pn 09 51 22.9 -2.7
baz=316
ESL Shilin 2.20 10 *e*P Pn 09 51 25.1 -1.1
baz=9.0
SMLT Sun Moon Lake 2.24 357 *e*P Pn 09 51 27.3 +0.5
baz=3.0
TYC Yuchr 2.26 356 *e*P Pn 09 51 28.4 +1.3
baz=343
PHUB P'eng-hu 2.30 324 *e*P Pn 09 51 25.0 -2.6
baz=325
PHUB *e*S Sn 09 51 51.3 -4.0
baz=325
WCS Beigang Elemen 2.41 357 *e*P Pn 09 51 30.1 +1.0
baz=357
CHGB Renai 2.41 3 *e*P Pn 09 51 30.1 +0.8
baz=10.0
WHF Hehuan Shan 2.50 5 *e*P Pn 09 51 31.3 +0.6
baz=12
NACB Ninganchiao 2.58 12 *e*P Pn 09 51 30.5 -0.8
baz=10.0
NACB Ninganchiao 2.58 12 Pn Pn 09 51 31.7 +0.3
ETLH Xiulin Townshi 2.59 9 *e*P Pn 09 51 32.6 +1.0
baz=8.0
FUSS Fushou 2.60 4 *e*P Pn 09 51 33.9 +1.9
baz=13
WHP Taichung City 2.63 358 *e*P Pn 09 51 32.8 +0.6
baz=9.0
TWQ1 Liyutan 2.71 355 *e*P Pn 09 51 35.0 +1.8
baz=344
NNS Nan Shan 2.81 6 *e*P Pn 09 51 36.6 +1.9
baz=14
LIOB Emei 2.99 360 *e*P Pn 09 51 38.1 +1.0
YHNB Yeheng 3.03 6 *e*P Pn 09 51 38.5 +0.8
baz=13
YHNB Yeheng 3.03 6 Pn 09 51 39.1 +1.3
NSK Sanguang 3.04 6 *e*P Pn 09 51 40.1 +2.3
baz=13
NDS Dongshan 3.05 12 *e*P Pn 09 51 38.8 +1.0
baz=11
TWC Suao 3.05 14 *e*P Pn 09 51 38.8 +0.9
baz=6.0
TATO Taipei 3.35 7 Pn 09 51 45.1 +3.2
YOJ Yonaguni jima 3.35 33 P Pn 09 51 42.3 +0.3
YOJ *e*S Sn 09 52 20.0 -1.3
YOJ Yonaguni jima 3.35 33 *e*P Pn 09 51 42.9 +0.9
baz=31
YOJ Yonaguni jima 3.35 33 Pn Pn 09 51 42.5 +0.5
TIPB Shuangxi 3.40 12 *e*P Pn 09 51 42.5 -0.2
baz=11
NWF Wu-fen Shan 3.49 11 *e*P Pn 09 51 45.5 +1.5
baz=10.0
HATJ Hateruma jima 3.52 46 P Pn 09 51 43.8 -0.5
HATJ *e*S Sn 09 52 23.5 -1.8
IRIF Iriomote-Funau 3.66 42 P Pn 09 51 45.7 -0.6
IRIF *e*S Sn 09 52 28.4 -0.5
KNMB Chin-men Tao 3.72 320 *e*P Pn 09 51 45.4 -1.7
baz=320
KNMB Chin-men Tao 3.72 320 Pn Pn 09 51 45.4 -1.7
JKRS Kuro-shima 3.77 46 P Pn 09 51 47.1 -0.7
JKRS S Sn 09 52 29.5 -2.2
ZPLA Ao Xicun 3.79 308 *e*P Pn 09 51 45.6 -2.4
baz=307
PTMZ Houxiangcun 3.81 333 *e*P Pn 09 51 47.3 -1.1
baz=323
JIJ Ishigaki jima 3.95 46 P Pn 09 51 49.7 -0.5
JIJ *e*S Sn 09 52 33.7 -2.3
JISG Ishigakijimahi 4.21 45 P Pn 09 51 53.8 -0.1
JISG *e*S Sn 09 52 39.3 -3.2
AXDP Jialang 4.29 320 *e*P Pn 09 51 54.0 -0.9
baz=320
JTJ Tarama 4.51 48 P Pn 09 51 58.0 0.0
JTJ S Sn 09 52 47.1 -2.8
JIRB Irabujima 4.96 49 P Pn 09 52 04.3 +0.1
JIRB *e*S Sn 09 52 59.0 -2.0
JMJ2 Miyako jima3 5.02 51 P Pn 09 52 05.3 +0.4
JMJ2 *e*S Sn 09 53 00.2 -2.2
JIKM Ikemajima 5.07 49 *e*S Sn 09 53 02.1 -1.7
JOGS Gusukube 5.09 52 *e*S Sn 09 53 02.7 -1.4

JOW Kunigami 8.39 51 Pn Pn 09 52 51.2 -0.1
JMZ Minamidaito 2 10.22 64 Pn Pn 09 53 16.1 -0.3
CMAR Chiang Mai Arr 20.98 265 P P 09 55 33.4 +0.4
1.3nm,0.3s,baz=69,slow=8.7,SNR=9.7
MJAR Matsushiro Arr 21.07 41 P P 09 55 36.0 +2.3
1.2nm,0.6s,baz=229,slow=9.8,SNR=3.0
ASAJ Asahikawa 28.66 34 P P 09 56 48.4 +2.3
3.9nm,0.7s,baz=219,slow=14,SNR=7.0
SONM Songino Array 28.67 339 P P 09 56 46.8 +0.4
0.6nm,0.6s,baz=157,slow=7.8,SNR=2.5
KLR Kul'dur 28.82 15 P P 09 56 48.4 +0.8
1.1nm,0.8s,baz=180,slow=1.0,SNR=2.1
KNRA Kununurra 37.85 168 P P 09 58 06.0 -0.3
KNRA IAmb IAmb 09 58 29.7
comp=Z,20nm,1.3s
MKAR Makanchi Array 40.09 318 P P 09 58 25.5 +0.5
comp=Z,1.0nm,0.6s,baz=103,slow=9.0,SNR=1.8
COEN Coen 41.52 146 P P 09 58 36.6 -0.4
COEN IAmb IAmb 09 58 44.6
comp=Z,5.7nm,0.8s
ZALV Zalesovo Beam 42.32 329 P P 09 58 43.2 +0.1
comp=Z,1.3nm,0.5s,baz=120,slow=8.8,SNR=2.1
H11N1 WAKE ISLAND Hy 42.84 84 T T 10 44 43.9
baz=282,slow=75,SNR=5.5
H11N2 WAKE ISLAND Hy 42.84 84 T T 10 44 45.3
baz=282,slow=75,SNR=6.1
H11N3 WAKE ISLAND Hy 42.85 84 T T 10 44 33.3
baz=282,slow=75,SNR=5.0
WRA Warramunga Arr 43.33 162 P P 09 58 50.3 -1.3
comp=Z,3.3nm,0.6s,baz=345,slow=9.3,SNR=16
WB2 Warramunga Arr 43.33 162 P P 09 58 50.9 -0.7
WB2 IAmb IAmb 09 58 51.3
comp=Z,3.6nm,0.6s
WR0 Warramunga Arr 43.40 161 P P 09 58 51.2 -1.0
WR0 IAmb IAmb 09 58 51.8
comp=Z,3.8nm,0.6s
KURBB Kurchatov Arra 43.98 322 P P 09 58 56.4 -0.2
comp=Z,2.5nm,0.9s,baz=120,slow=7.6,SNR=5.0
SEY Seynchan 46.41 19 P P 09 59 18.2 +2.5
comp=Z,0.7nm,0.3s,baz=191,slow=19,SNR=5.2
AS31 Alice Springs 46.74 164 P P 09 59 18.7 -0.1
ASAR Alice Springs 46.74 164 P P 09 59 18.4 -0.4
comp=Z,1.0nm,0.6s,baz=351,slow=8.2,SNR=14
FORT Forrest 52.55 172 P P 10 00 02.2 -0.6
ABKAR Akbulak array 55.13 316 P P 10 00 22.2 +0.5
ABKAR IAmb IAmb 10 00 22.9
comp=Z,3.3nm,1.1s
BBOO Buckleboo 56.02 165 P P 10 00 28.4 +0.3
STKA Stephens Creek 56.74 159 P P 10 00 33.2 -0.1
comp=Z,3.2nm,0.6s,baz=352,slow=6.0,SNR=5.7
STKA Stephens Creek 56.74 159 IAmb IAmb 10 00 50.1
comp=Z,3.1nm,1.4s
ARU Arti 57.06 324 P P 10 00 35.3 -0.1
comp=Z,1.2nm,0.3s,baz=156,slow=18,SNR=4.0
ARU Arti 57.06 324 IAmb IAmb 10 00 35.7
comp=Z,3.7nm,0.6s
ARCES ARCESS Array B 71.84 338 P P 10 02 13.3 +1.5
comp=Z,1.3nm,0.8s,baz=74,slow=7.6,SNR=1.4
AKASG Malin Array Be 74.67 319 P P 10 02 28.2 -0.7
comp=Z,0.2nm,0.3s,baz=61,slow=6.6,SNR=1.8

*NOU **07** 09:52:14.0,33˚.18S×175˚.78W,h17km,mb4.9/24,South of Kermadec Islands*
*IDC **07** 09:52:25.7±0.5,32˚.76S×178˚.08W,h0km,mb4.6/16, mb1 4.7/18,mb1mx4.6/38,mbtmp4.6/18,ML4.5/2,Error ellipse: s-maj=18.5km s-min=16.2km az=90.0*
*WEL **07** 09:52:25.1±0.8,33˚.S±5˚×17˚.7W±1˚.2,h33km,M4.8/13, mB5.0/7,ML5.5/19,MLv5.3/13,Mw(mB)4.3/7,Error ellipse: s-maj=0.0km s-min=0.0km az=109.1*
*NEIC **07** 09:52:30.2±1.2,32˚.90S±0˚.03×178˚.2W±0˚.1,h24km±4km, mb4.8/42,Error ellipse: s-maj=15.1km s-min=4.6km az=85.0*

ISC 07 09:52:30.5±0.4,32˚.95S±0˚.05×177˚.99W±0˚.07,h34km, n152,σ2ϕ08/166,mb4.8/35,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
GLKZ	**Green Lake**	**3.67**	**1**	P	Pn	09 53 19.3	-5.5
GLKZ				S	**Sn**	**09 54 01.7**	**-5.3**
RAO	**Raoul Island**	**3.68**	**1**	P	**Pn**	**09 53 20.3**	**-4.7**
	59nm,0.3s,baz=120,slow=20,SNR=2.1						
RAO				Sn	**Sn**	**09 54 01.3**	**-5.9**
	78nm,0.3s,baz=90,slow=20,SNR=3.6						
RIZ	**Raoul Island**	**3.69**	**1**	P	Pn	09 53 19.5	-5.6
MXZ	**Matakaoa Point**	**5.51**	**212**	Pn	**Pn**	**09 53 48.2**	**-2.0**
MXZ	**Matakaoa Point**	**5.51**	**212**	P	**Pn**	**09 53 48.1**	**-2.0**
MXZ				S	**Sn**	**09 54 52.8**	**+0.5**
WMGZ	**Waiomatatini S**	**5.68**	**210**	P	**Pn**	**09 53 51.5**	**-1.0**
WMGZ				S	**Sn**	**09 54 58.5**	**+2.0**
PKGZ	**Pakihiroa**	**5.89**	**212**	P	**Pn**	**09 53 53.3**	**-2.0**
PKGZ				S	**Sn**	**09 55 02.2**	**+0.6**
HAZ	**Te Kaha**	**5.92**	**215**	P	**Pn**	**09 53 54.6**	**-1.1**
HAZ				S	**Sn**	**09 55 04.8**	**+2.6**
PUZ	**Puketiti**	**5.96**	**210**	P	**Pn**	**09 53 53.3**	**-3.1**
PUZ				S	**Sn**	**09 55 04.7**	**+1.3**
RUGZ	**Raukumara Rang**	**6.13**	**214**	P	**Pn**	**09 53 56.9**	**-1.9**
RUGZ				S	**Sn**	**09 55 08.1**	**+0.4**
TWGZ	**Tauwhareparae**	**6.17**	**211**	P	**Pn**	**09 53 57.7**	**-1.4**
CNGZ	**Carnagh Statio**	**6.33**	**208**	P	**Pn**	**09 53 59.5**	**-1.9**
KUZ	**Kuaotunu**	**6.41**	**232**	P	**Pn**	**09 54 02.7**	**+0.2**
TKGZ	**Te Karaka**	**6.44**	**211**	P	**Pn**	**09 54 03.4**	**+0.6**
MWZ	**Matawai**	**6.50**	**213**	P	**Pn**	**09 54 00.9**	**-2.8**
MWZ				S	**Sn**	**09 55 16.0**	**-0.7**
OPRZ	**Ohinepanea**	**6.62**	**221**	P	**Pn**	**09 54 05.0**	**-0.3**
OPRZ				S	**Sn**	**09 55 20.7**	**+1.3**
URZ	**Urewera**	**6.64**	**216**	Pn	**Pn**	**09 54 02.6**	**-2.9**
	7.4nm,0.3s,baz=27,slow=16,SNR=10						
URZ				Sn	**Sn**	**09 55 18.4**	**-1.5**
	10nm,0.3s,baz=164,slow=19,SNR=12						
URZ	**Urewera**	**6.64**	**216**	Pn	**Pn**	**09 54 04.8**	**-0.7**
URZ	**Urewera**	**6.64**	**216**	P	**Pn**	**09 54 03.1**	**-2.4**
URZ				S	**Sn**	**09 55 19.0**	**-0.9**
RAGZ	**Rawiri**	**6.68**	**213**	P	**Pn**	**09 54 02.3**	**-3.9**
RAGZ				S	**Sn**	**09 55 19.8**	**-1.4**
RIGZ	**Rimuhau**	**6.71**	**210**	P	**Pn**	**09 54 05.1**	**-1.5**
RIGZ				S	**Sn**	**09 55 21.6**	**-0.1**
PRGZ	**Paritu Road**	**6.84**	**208**	P	**Pn**	**09 54 04.4**	**-3.9**
PRGZ				S	**Sn**	**09 55 23.0**	**-2.1**
SNGZ	**Shannon Statio**	**6.95**	**212**	P	**Pn**	**09 54 07.5**	**-2.4**
SNGZ				S	**Sn**	**09 55 27.7**	**0.0**
WCZ	**Waipu Caves**	**7.00**	**243**	P	**Pn**	**09 54 13.3**	**+2.7**
KNZ	**Kokohu**	**7.01**	**209**	S	**Sn**	**09 55 27.3**	**-1.9**
TOZ	**Tahuroa Road**	**7.15**	**226**	P	**Pn**	**09 54 13.3**	**+0.7**
TOZ				S	**Sn**	**09 55 36.3**	**+3.7**
OUZ	**Omahuta**	**7.34**	**250**	P	**Pn**	**09 54 17.9**	**+2.7**
BKZ	**Black Stump Fm**	**7.65**	**214**	Pn	**Pn**	**09 54 19.6**	**+0.1**
BKZ	**Black Stump Fm**	**7.65**	**214**	P	**Pn**	**09 54 15.9**	**-3.6**
BKZ				S	**Sn**	**09 55 42.8**	**-2.1**
CKHZ	**Cape Kidnapper**	**7.79**	**209**	S	**Sn**	**09 55 45.8**	**-2.7**
PLWZ	**Palliser**	**10.15**	**210**		**Sn**	**09 56 39.1**	**-7.3**
SNZO	**South Karori**	**10.18**	**213**		**Sn**	**09 56 39.7**	**-7.3**
TUWZ	**Tuamarina**	**10.63**	**215**	Pn	**Pn**	**09 55 00.3**	**0.0**
TUWZ					**Sn**	**09 56 49.8**	**-8.3**
THZ	**Tophouse**	**11.39**	**217**	Pn	**Pn**	**09 55 09.9**	**-0.9**
RPZ	**Rata Peaks**	**13.76**	**215**	Pn	**Pn**	**09 55 38.9**	**-4.2**
PINNC	**Pines Island,**	**16.48**	**305**	P	**Pn**	**09 56 19.1**	**0.0**
PINNC				IAmb	IAmb	09 56 38.0	
	comp=Z,95nm,1.1s						
PINNC	**Pines Island,**	**16.48**	**305**	P	**P**	**09 56 25.4**	**+4.0**
OUENC	**Ouen Island, N**	**17.03**	**304**	P	**Pn**	**09 56 25.6**	**-0.3**
OUENC				IAmb	IAmb	09 56 32.4	
	comp=Z,77nm,1.1s						
OUENC	**Ouen Island, N**	**17.03**	**304**	P	**P**	**09 56 30.6**	**+3.1**
YATNC	**Mamie plateau,**	**17.23**	**305**	P	**P**	**09 56 33.9**	**+4.1**
	comp=Z,81nm,1.2s						
ONTNC	**Ouen Toro**	**17.37**	**304**	P	**Pn**	**09 56 29.8**	**-0.4**
ONTNC				IAmb	IAmb	09 56 36.9	
	comp=Z,65nm,1.0s						
ONTNC	**Ouen Toro**	**17.37**	**304**	P	**P**	**09 56 36.2**	**+4.9**
DZM	**Mont Dzumac**	**17.53**	**304**	P	**P**	**09 56 35.4**	**+2.2**
	comp=Z,0.4nm,0.3s,baz=113,slow=15,SNR=12						
DZM	**Mont Dzumac**	**17.53**	**304**		**Pn**	**09 56 31.8**	**-0.6**
DZM				IAmb	IAmb	09 56 39.5	
	comp=Z,46nm,1.0s						
NOUC	**Port Laguerre**	**17.61**	**304**	P	**P**	**09 56 38.0**	**+4.0**
AFI	**Afiamalu**	**19.78**	**18**	P	**P**	**09 56 55.8**	**-2.1**
	comp=Z,1.2nm,0.3s,baz=122,slow=3.2,SNR=4.2						
AFI	**Afiamalu**	**19.78**	**18**	P	**P**	**09 56 57.7**	**-0.2**
AFI				IAmb	IAmb	09 56 59.3	
	comp=Z,69nm,1.0s						
KOUNC	**Koumac, New Ca**	**20.04**	**304**	P	Pn	09 57 04.9	+2.3
EIDS	**Eidsvold**	**27.98**	**278**	P	**P**	**09 58 17.1**	**-1.0**

STKA Stephens Creek 33.99 261 P **P** **09 59 11.9 +0.9**
comp=Z,5.9nm,1.0s,baz=74,slow=13,SNR=4.6
CTA Charters Tower 34.30 283 P **P** **09 59 13.6 -0.2**
comp=Z,13nm,0.6s,baz=113,slow=9.9,SNR=23
CTAO Charters Tower 34.30 283 P **P** **09 59 13.0 -0.8**
BBOO Buckleboo 38.35 257 P **P** **09 59 47.2 -1.1**
BBOO IAmb IAmb 09 59 57.5
comp=Z,33nm,1.2s
COEN Coen 40.04 289 P **P** **10 00 02.3 -0.2**
COEN IAmb IAmb 10 00 04.1
comp=Z,22nm,1.1s
AS31 Alice Springs 43.04 270 P **P** **10 00 26.2 -1.0**
ASAR Alice Springs 43.05 270 P **P** **10 00 26.3 -0.9**
comp=Z,19nm,1.0s,baz=114,slow=7.9,SNR=53
ASAR PcP **PcP** **10 02 16.4 -0.6**
comp=Z,2.2nm,1.0s,baz=118,slow=3.9,SNR=1.8
ASAR S **S** **10 06 47.9 -2.9**
comp=Z,1.1nm,0.9s,baz=112,slow=16,SNR=6.3
ASAR Alice Springs 43.05 270 P **P** **10 00 24.9 -2.2**
WR0 Warramunga Arr 44.09 275 P **P** **10 00 34.5 -1.0**
WR0 IAmb IAmb 10 00 36.3
comp=Z,13nm,0.8s
WB2 Warramunga Arr 44.25 275 P **P** **10 00 35.8 -1.1**
WRAB Tennant Creek 44.26 275 P **P** **10 00 35.5 -1.4**
WRA Warramunga Arr 44.26 275 P **P** **10 00 35.8 -1.2**
comp=Z,14nm,0.7s,baz=113,slow=8.0,SNR=48
WRA S **S** **10 07 04.2 -4.4**
comp=Z,0.7nm,0.8s,baz=113,slow=14,SNR=4.5
WRA Warramunga Arr 44.26 275 P **P** **10 00 35.3 -1.7**
FORT Forrest 45.46 258 P **P** **10 00 45.0 -1.4**
VNDA Vanda 45.57 186 P **P** **10 00 49.2 +2.6**
comp=Z,1.2nm,0.9s,baz=21,slow=8.5,SNR=3.6
JAY Jayapura 49.11 299 P **P** **10 01 13.3 -1.7**
comp=Z,13nm,1.1s
GENI Genyem 49.45 299 P **P** **10 01 16.4 -1.1**
comp=Z,24nm,1.1s
MTN Manton Dam 50.43 281 P **P** **10 01 23.5 -1.5**
MTN IAmb IAmb 10 01 25.3
comp=Z,20nm,1.1s
KNRA Kununurra 50.95 276 P **P** **10 01 28.0 -0.9**
KNRA IAmb IAmb 10 01 30.3
comp=Z,16nm,1.1s
FITZ Fitzroy Crossi 52.41 272 P **P** **10 01 38.8 -1.0**
comp=Z,10nm,1.0s,baz=120,slow=7.1,SNR=11
FITZ Fitzroy Crossi 52.41 272 P **P** **10 01 38.6 -1.2**
FITZ IAmb IAmb 10 01 40.0
comp=Z,18nm,1.1s
CASY Casey 52.91 209 P **P** **10 01 43.4 +0.6**
CASY IAmb IAmb 10 01 45.6
comp=Z,17nm,0.9s
QSPA South Pole Qui 57.17 180 P **P** **10 02 15.5 +1.7**
comp=Z,9.1nm,1.0s,baz=47,slow=3.6,SNR=9.0
QSPA South Pole Qui 57.17 180 P **P** **10 02 15.7 +2.0**
SOEI Soe 57.76 280 P **P** **10 02 17.5 -1.2**
BELA Belgrano 2 67.27 172 P **P** **10 03 20.9 -0.1**
BELA IAmb IAmb 10 03 22.4
comp=Z,8.0nm,1.0s
MAW Mawson 69.94 201 P **P** **10 03 39.4 +1.6**
comp=Z,10nm,1.1s,baz=115,slow=8.0,SNR=11
MAW Mawson 69.94 201 P **P** **10 03 38.6 +0.9**
SNAA Sanae 75.62 178 P **P** **10 04 12.3 +0.8**
SNAA Sanae 75.62 178 pP pP 10 04 25.1 +5.3
SNAA Sanae 75.62 178 P **P** **10 04 11.6 0.0**
SNAA pP **pP** **10 04 19.0 -0.9**
SNAA IAmb IAmb 10 04 26.8
comp=Z,9.5nm,1.0s
VNA3 Neumayer Olymp 75.77 176 P **P** **10 04 12.9 +0.6**
VNA3 Neumayer Olymp 75.77 176 pP pP 10 04 27.3 +6.6
VNA2 Neumayer--Watz 76.20 177 P **P** **10 04 15.8 +0.9**
baz=176,slow=5.1
VNA2 Neumayer--Watz 76.20 177 pP pP 10 04 29.2 +6.1
VNA1 Neumayer--Stat 76.44 176 P **P** **10 04 17.1 +1.0**
LL02 Futaleuf 78.57 134 P **P** **10 04 30.2 +1.7**
LL02 IAmb IAmb 10 04 32.3
comp=Z,7.9nm,1.1s
MJAR Matsushiro Arr 80.34 326 P **P** **10 04 36.8 -1.2**
comp=Z,3.7nm,1.1s,baz=168,slow=4.5,SNR=4.8
MJAR Matsushiro Arr 80.34 326 IAmb IAmb 10 04 39.4
comp=Z,5.6nm,1.2s
PLCA Paso Flores 80.77 133 P **P** **10 04 42.3 +1.6**
comp=Z,12nm,1.2s,baz=205,slow=4.6,SNR=5.9
PLCA Paso Flores 80.77 133 P **P** **10 04 42.6 +1.9**
PLCA IAmb IAmb 10 04 44.7
comp=Z,19nm,1.2s
ASAJ Asahikawa 84.70 333 P **P** **10 05 02.0 +1.5**
comp=Z,2.0nm,0.7s,baz=191,slow=10,SNR=2.0
KSRS Korea Array 86.29 320 P **P** **10 05 08.8 +0.1**
comp=Z,2.8nm,1.0s,baz=138,slow=5.6,SNR=7.0
NJ2 Nanjing 87.91 311 *e*P **P** **10 05 18.3 +1.7**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
ISA Isabella, Lake 88.10 45 P **P** **10 05 19.0 +1.5**
ISA IAmb IAmb 10 05 19.9
comp=Z,6.9nm,1.2s
PETK Petropavlovsk- 88.27 346 P **P** **10 05 18.1 +0.2**
comp=Z,12nm,1.1s,baz=115,slow=10.0,SNR=8.4
PETK Petropavlovsk- 88.27 346 P **P** **10 05 17.6 -0.2**
PNTR Pine Nut 89.82 42 IAmb IAmb 10 05 39.1
comp=Z,9.8nm,1.3s
NVAR Mina Array Bea 90.10 43 P **P** **10 05 28.1 +1.0**
comp=Z,1.2nm,0.9s,baz=217,slow=7.3,SNR=7.0
Y14A Wickenburg 90.30 49 P **P** **10 05 29.4 +1.5**
TPH Tonopah 90.47 44 P **P** **10 05 29.1 +0.2**
W13A Hualapai Mount 90.50 48 P **P** **10 05 30.6 +1.6**
W13A IAmb IAmb 10 05 31.6
comp=Z,5.8nm,1.4s
KVN Kaiserville 90.64 42 P **P** **10 05 30.3 +0.8**
TUC Tucson 90.69 51 P **P** **10 05 31.5 +1.7**
NONG Nongkai 90.71 291 P **P** 10 05 37.0 +6.9
U15A North Rim 92.34 47 P **P** **10 05 39.1 +1.5**
U15A IAmb IAmb 10 05 51.2
comp=Z,2.8nm,1.1s
PINE Pine Mountain 92.41 37 P **P** **10 05 38.9 +1.3**
PINE IAmb IAmb 10 05 51.2
comp=Z,5.3nm,1.1s
KLR Kul'dur 93.23 330 P **P** **10 05 41.6 +0.5**
comp=Z,2.8nm,1.1s,baz=149,slow=9.7,SNR=3.0
J08A Circle Bar Ran 93.39 39 P **P** **10 05 43.0 +1.0**
J08A IAmb IAmb 10 05 44.9
comp=Z,5.8nm,1.2s
TXAR Lajitas Array 93.75 57 P **P** **10 05 44.8 +0.7**
comp=Z,0.7nm,1.1s,baz=214,slow=6.0,SNR=4.4
BJT Baijiatuau 94.73 315 P **P** **10 05 49.8 +1.7**
PV17 East Wray Mesa 95.57 48 P **P** **10 05 52.6 +0.2**
BCPM Bancas Point 97.81 18 P **P** **10 06 01.4 -0.3**
HHC Hu-ho-hao-te 98.00 314 *e*P Pdif 10 06 06.9 +3.7
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,2μm,6.6s
WMQ Urumqi 114.79 307 *e*P **PKiKP** **10 11 08.3 +1.0**
MKAR Makanchi Array 119.40 309 PKP **PKPdf** **10 11 15.7 -0.3**
comp=Z,6.0nm,1.1s,baz=83,slow=3.8,SNR=17
ZALV Zalesovo Beam 119.92 317 PKP **PKPdf** **10 11 16.3 -0.4**
comp=Z,0.8nm,0.3s,baz=153,slow=4.2,SNR=1.7
KURK Kurchatov 122.80 313 **PKPdf** **10 11 22.1 -0.3**
KURBB Kurchatov Arra 122.83 313 PKP **PKPdf** **10 11 22.1 -0.4**
comp=Z,6.4nm,1.0s,baz=102,slow=2.0,SNR=20
BVAR Borovoye Array 128.21 314 PKP **PKiKP** **10 11 33.4 +0.2**
comp=Z,1.7nm,0.5s,baz=172,slow=4.5,SNR=17
AKTO Aktyubinsk 135.79 311 PKP **PKPdf** **10 11 47.6 +0.5**
comp=Z,2.9nm,0.9s,baz=67,slow=3.0,SNR=7.8
ARCES ARCESS Array B 141.07 347 PKhKP PKPpre 10 11 50.9
comp=Z,2.8nm,1.0s,baz=72,slow=3.2,SNR=1.4
KLMR Klimovskoe 142.99 330 *e*PKPdf **PKPdf** **10 11 55.5 -4.3**
KLMR AMP 10 11 59.9
comp=Z,22nm,1.5s
KBZ Khabaz 146.48 301 PKPbc **PKPbc** **10 12 08.0 +0.2**
comp=Z,12nm,1.0s,baz=69,slow=1.3,SNR=9.6
OBN Obninsk 147.23 323 PKPbc **PKPbc** **10 12 09.0 -0.6**
comp=Z,3.7nm,0.4s,baz=155,slow=4.6,SNR=5.8
FINES FINESS Array B 147.52 339 PKPbc **PKPbc** **10 12 09.9 -0.3**
comp=Z,27nm,1.1s,baz=54,slow=3.3,SNR=20
FINES FINESS Array B 147.52 339 **PKPbc** **10 12 10.2 -0.1**
VSU Vasula 149.53 334 *e*P **PKiKP** **10 12 16.9 +0.3**
NB2 NORSAR Subarra 151.26 351 PKP **PKPbc** **10 12 19.3 -0.3**
comp=Z,0.6nm,0.5s,baz=10,slow=2.6
NOA NORSAR Array B 151.26 351 PKPbc **PKPbc** **10 12 19.7 +0.1**
comp=Z,1.6nm,0.8s,baz=14,slow=4.1,SNR=5.5
HFS Hagfors 151.73 348 PKPbc **PKPbc** **10 12 19.7 -1.0**
comp=Z,3.1nm,0.7s,baz=354,slow=1.5,SNR=5.7
IIGN Ignalina 151.92 330 *e*P **PKiKP** **10 12 23.3 +1.7**
NACGM Naroch 151.98 329 *i* PKP **PKiKP** **10 12 22.0 +0.3**
LIC Lamto 152.62 165 *e*PKiKP **PKiKP** **10 12 26.2 +1.9**
comp=Z,41nm,1.2s

PABE	Paberze	152.72	332	eP	PKiKP	10 12 23.9	+0.6
KIC	Kosan Boka	152.81	165	ePKIKP	PKiKP	10 12 26.4	+1.6
	comp=Z,20nm,1.1s						
TIC	Toumodi	153.03	164	ePKIKP	PKiKP	10 12 26.9	+1.7
DBIC	Dimbokro	153.09	165	PKPbc	PKiKP	10 12 25.8	+0.5
	comp=Z,5.1nm,0.7s,baz=194,slow=3.2,SNR=5.2						
AKASG	Malin Array Be	153.29	320	PKPbc	PKPbc	10 12 24.4	-0.1
	comp=Z,5.7nm,0.9s,baz=52,slow=2.6,SNR=17						
AKASG	Malin Array Be	153.29	320		PKPbc	10 12 24.0	-0.4
BRTR	Keskin Array B	153.73	294	PKPbc	PKPbc	10 12 25.9	-0.1
	comp=Z,3.0nm,0.9s,baz=119,slow=6.4,SNR=7.1						
CLL	Collm	159.96	340	ePKPab	PKPab	10 13 05.0	-0.1
	comp=Z,14nm,1.0s						
CLL				epPKPab	sPKPab	10 13 16.0	-0.7
BRG	Berggiesshubel	160.05	337	P	PKPab	10 13 06.5	+1.0
BRG				Amp		10 13 08.9	
	comp=Z,10nm,1.2s						
TORD	Torodi Ar. Bea	160.29	179	PKP	PKPdf	10 12 27.8	+0.8
	comp=Z,2.2nm,1.1s,baz=140,slow=1.5,SNR=5.5						
TORD				PKPab	PKPab	10 13 07.3	-0.1
	comp=Z,2.4nm,1.0s,baz=163,slow=3.4,SNR=5.1						
CONA	Conrad Observa	161.74	329	eP	PKPab	10 13 14.1	+1.0
	comp=Z,4.2nm,1.0s						
GERES	GERESS Array B	161.86	335	PKPab	PKPab	10 13 13.0	-0.6
	comp=Z,1.8nm,0.3s,baz=57,slow=3.6,SNR=19						
GRF	Grafenberg Arr	161.92	340	ePKPab	PKPab	10 13 14.4	+0.7
	baz=33,slow=3.9						
RETA	Reutte	164.03	338	eP	PKPab	10 13 23.1	0.0
	comp=Z,12nm,1.3s						
MOTA	Moosalm	164.04	337	eP	PKPab	10 13 22.9	-0.4
	comp=Z,9.1nm,1.2s						
SQTA	Sankt Quirin	164.12	337	eP	PKPab	10 13 24.0	+0.5
	comp=Z,4.9nm,0.8s						
FETA	Feichten	164.45	337	eP	PKPab	10 13 24.6	-0.5
	comp=Z,4.6nm,1.2s						
DAVA	Damuels	164.48	340	eP	PKPab	10 13 24.7	-0.5
	comp=Z,9.5nm,0.9s						
DAVOX	Davos/Dischmat	164.93	339	PKPab	PKPab	10 13 27.1	-0.2
	comp=Z,3.3nm,0.9s,baz=20,slow=4.1,SNR=5.6						

*IDC **07** 09:53:03.2±2.6, 53.°51N×87.°70E, h0km, mb1 3.6/2, mb1mx3.2/73, mbtmp3.6/2, ML3.2/2, Error ellipse: s-maj=25.5km s-min=16.9km az=84.0*
*NNC **07** 09:53:03.5±2.1, 53.°45N×87.°66E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=18.1km s-min=8.3km az=64.0, Suspected Mining explosion.*
ISC 07 09:53:02.9±3.2**, 53.°6N**±0.°1×**87.°6E**±0.°2**, h0km, n10, σ1^{s}95**/15**, 5C-6D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.71	284	i		10 05 10.0	
	baz=99,slow=327,SNR=21						
ZAA0	Zalesovo Array	1.71	284	⇑Pn	Pn	09 53 34.5	+0.5
	1.4nm,0.3s						
ZAA0				⇑Sn	Sg	09 53 59.7	+1.7
	16nm,0.8s						
ZALV	Zalesovo Beam	1.71	284	Pn	Pb	09 53 34.6	-0.6
	7.9nm,0.3s,baz=101,slow=14,SNR=45						
ZALV				Sn	Sb	09 53 59.2	+1.9
	8.6nm,0.3s,baz=101,slow=27,SNR=26						
KURBB	Kurchatov Arra	6.33	246	Pn	Pn	09 54 39.0	+1.6
	0.5nm,0.3s,baz=62,slow=14,SNR=53						
KURBB				Sn	Sn	09 55 49.4	-0.9
	0.1nm,0.3s,baz=66,slow=25,SNR=3.0						
KURBB				Lg	Lg	09 56 24.7	
	0.1nm,0.3s,baz=63,slow=32,SNR=5.5						
KURBB	Kurchatov Arra	6.33	246	⇓Pn	Pn	09 54 38.7	+1.4
	8.3nm,0.7s						
KURBB				⇓Sn	Sn	09 55 50.1	-0.2
	9.6nm,0.6s						
KURBB				⇓Lg	Lg	09 56 24.1	
	22nm,0.7s						
MK31	Makanchi Array	7.59	209	⇑Pn	Pn	09 54 55.7	+1.0
	0.2nm,0.3s,baz=30,slow=14,SNR=19						
MK31				⇓Sn	Sn	09 56 20.8	-0.5
	2.4nm,0.7s,baz=29,slow=26,SNR=2.8						
MK31				⇓Lg	Lg	09 57 01.0	
	12nm,1.1s,baz=58,slow=31,SNR=5.6						
MKAR	Makanchi Array	7.59	209	Pn	Pn	09 54 56.0	+1.4
	0.4nm,0.3s,baz=28,slow=13,SNR=17						
MKAR				Sn	Sn	09 56 20.6	-0.7
	0.3nm,0.3s,baz=27,slow=24,SNR=7.8						
MKAR				Lg	Lg	09 57 01.6	
	0.4nm,0.3s,baz=27,slow=34,SNR=5.8						
MAKZ	Makanchi	7.67	210	⇑Pn	Pn	09 54 56.9	+1.2
	2.3nm,0.9s						
MAKZ				⇑Sn	Sn	09 56 22.0	-1.2
	4.0nm,0.9s						
MAKZ				⇓Lg	Lg	09 57 02.5	
	6.2nm,0.8s						
BVAR	Borovoye Array	10.34	274	Sn	Sn	09 57 23.7	-5.2
	0.2nm,0.3s,baz=81,slow=19,SNR=3.1						
SONM	Songino Array	13.19	108	Lg	Lg	09 59 48.4	
	0.5nm,0.3s,baz=300,slow=33,SNR=2.5						

IDC 07 09:53:43.5±4.8**, 32.°60S×178.°19W, h0km, mb4.4**/3**, mb1 4.5**/3**, mb1mx3.9**/36**, mbtmp4.4**/3**, Error ellipse: s-maj=196.4km s-min=58.2km az=164.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.83	213	Sn	Sn	09 56 38.6	-4.8
	6.0nm,0.3s,baz=20,slow=22,SNR=0.9						
CTA	Charters Tower	34.06	283	P	P	10 00 31.1	+1.5
	3.3nm,0.5s,baz=121,slow=9.0,SNR=1.9						
ASAR	Alice Springs	42.88	269	P	P	10 01 43.3	-0.6
	2.2nm,0.6s,baz=111,slow=8.0,SNR=1.4						
WRA	Warramunga Arr	44.07	275	P	P	10 01 52.6	-0.9
	2.0nm,0.3s,baz=112,slow=8.0,SNR=7.5						
FINES	FINESS Array B	147.14	339	PKPbc	PKPbc	10 13 27.0	-0.7
	1.7nm,0.5s,baz=51,slow=4.3,SNR=5.0						

*HLW **07** 09:59:32.3, 35.°14N×23.°68E, h9km±23km, Md3.4, Ml3.8*
*ATH **07** 09:59:32.0, 35.°24N×23.°32E, h58km±4km, ML4.1/8, Error ellipse: s-maj=5.6km s-min=1.3km az=46.0*
*ISK **07** 09:59:32.9, 35.°22N×23.°36E, h48km, ML3.9/17*
*NEIC **07** 09:59:33.4±2.4, 35.°28N±0.°08×23.°32E±0.°05, h54km±9km, mb4.1/11, ML4.1(ATH), Error ellipse: s-maj=13.5km s-min=1.7km az=207.0*
*IDC **07** 09:59:33.8±1.5, 35.°37N×23.°25E, h60km±13km, mb3.9/19, mb1 3.9/23, mb1mx3.8/57, mbtmp4.1/23, Error ellipse: s-maj=15.6km s-min=12.3km az=7.0*
*THE **07** 09:59:33.5, 35.°16N×23.°23E, h26km±1km, ML4.0/7, Error ellipse: s-maj=1.7km s-min=0.8km az=41.0*
*DDA **07** 09:59:33.8, 35.°21N×23.°60E, h13km±5km, MW4.1*
ISC 07 09:59:31.5±0.6**, 35.°15N**±0.°04×**23.°34E**±0.°04**, h44km**±6km**, n212, σ2^{s}34**/239**, mb4.2**/24**, 9C-3D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNDR	Palaiochora Ch	0.30	73	P	Pn	09 59 40.8	+0.7
KNDR				S	Sn	09 59 47.6	+1.4
	17µm,0.8s						
KNDR	Palaiochora Ch	0.30	73	PG	Pn	09 59 40.9	+0.8
KNDR				SG	Sn	09 59 47.8	+1.6
IMMV	Iera Moni Meta	0.61	59	P	Pn	09 59 45.9	+2.0
IMMV				S	Sn	09 59 55.9	+3.1
	23µm,0.4s						
IMMV	Iera Moni Meta	0.61	59	P	Pn	09 59 45.7	+1.8
IMMV				S	Sn	09 59 55.6	+2.7
IMMV				AML	AML	10 00 00.0	
	comp=N,51636µm,0.4s						
IMMV				AML	AML	10 00 02.8	
	comp=E,45126µm,0.7s						
IMMV	Iera Moni Meta	0.61	59	PG	Pn	09 59 45.8	+1.8
IMMV				SG	Sn	09 59 54.5	+1.7
GVD	Gavdhos	0.69	116	P	Pn	09 59 47.7	+2.8
GVD	Gavdhos	0.69	116	P	Pn	09 59 47.6	+2.6
GVD				S	Sn	09 59 59.3	+4.8
GVD				AML	AML	10 00 07.8	
	comp=E,16071µm,0.4s						
GVD				AML	AML	10 00 09.1	
	comp=N,23243µm,0.5s						
GVD	Gavdhos	0.69	116	PG	Pn	09 59 47.5	+2.6
GVD				SG	Sn	09 59 57.8	+3.3
ANKY	Antikythira Is	0.72	358	P	Pn	09 59 46.7	+1.4
ANKY				S	Sn	09 59 57.3	+2.0
	comp=N,18µm,0.6s						
ANKY	Antikythira Is	0.72	358	P	Pn	09 59 46.5	+1.1
ANKY				S	Sn	09 59 56.1	+0.7
ANKY				AML	AML	09 59 59.9	
	comp=E,36719µm,0.6s						
ANKY				AML	AML	10 00 00.7	
	comp=N,35613µm,0.7s						
VAM	Vamos	0.75	69	P	Pn	09 59 48.3	+2.5
VAM				S	Sn	10 00 00.2	+4.1
	comp=N,28µm,0.8s						
VAM	Vamos	0.75	69	P	Pn	09 59 48.2	+2.5
VAM				S	Sn	09 59 59.5	+3.4
VAM				AML	AML	10 00 03.4	
	comp=N,71138µm,0.8s						
VAM				AML	AML	10 00 04.3	
	comp=E,44762µm,0.8s						
PRNS	Prines Rethymn	0.98	77	P	Pn	09 59 50.9	+2.1
PRNS				S	Sn	10 00 05.1	+3.6
KTHA	Kythira Island	1.13	349	P	Pn	09 59 52.6	+1.7
KTHA				S	Sn	10 00 07.3	+2.0
KTHA	Kythira Island	1.13	349	P	Pn	09 59 52.3	+1.4
KTHA				S	Sn	10 00 06.6	+1.2
KTHA				AML	AML	10 00 11.3	
	comp=N,9471µm,0.5s						
KTHA				AML	AML	10 00 15.4	
	comp=E,22244µm,0.4s						
KTHA	Kythira Island	1.13	349	PG	Pn	09 59 52.4	+1.4
KTHA				SG	Sn	10 00 06.4	+1.1
SIVA	Sivas	1.22	96	P	Pn	09 59 55.4	+3.4
IDI	Anoyia	1.28	83	P	Pn	09 59 55.8	+2.8
	comp=E,35nm,0.3s,baz=249,slow=10,SNR=76						
IDI				S	Sn	10 00 13.5	+4.5
	comp=E,109nm,0.3s,baz=327,slow=17,SNR=9.0						
IDI	Anoyia	1.28	83	P	Pn	09 59 55.9	+2.9
IDI	Anoyia	1.28	83	P	Pn	09 59 55.9	+2.9
IDI				S	Sn	10 00 13.3	+4.3
IDI				AML	AML	10 00 21.6	
	comp=N,6422µm,0.6s						
IDI				AML	AML	10 00 24.6	
	comp=E,2929µm,0.4s						
KSTL	Kastelli Herak	1.43	83	P	Pn	10 00 01.7	+6.7
IACM	Heraklion	1.43	83	P	Pn	09 59 59.0	+4.0
HRKL	Herakleio	1.45	83	PN	Pn	09 59 57.3	+2.0
HRKL				SN	Sn	10 00 15.2	+2.0
VLI	Veliai	1.60	348	P	Pn	09 59 58.7	+1.3
VLI	Veliai	1.60	348	P	Pn	09 59 58.9	+1.5
VLI				AML	AML	10 00 27.9	
	comp=N,8284µm,0.5s						
VLI				AML	AML	10 00 31.7	
	comp=E,9891µm,0.8s						
MHLO	Agia Marina, M	1.77	29	P	Pn	10 00 01.0	+1.4
NPS	Neapolis	1.87	86	P	Pn	10 00 05.0	+4.0
NPS	Neapolis	1.87	86	P	Pn	10 00 05.0	+4.0
NPS				AML	AML	10 00 44.3	
	comp=E,3352µm,0.7s						
NPS				AML	AML	10 00 53.1	
	comp=N,2986µm,1.0s						
THR6	Thira Island,	2.07	54	P	Pn	10 00 05.6	+1.9
SANT	Santorini	2.12	54	P	Pn	10 00 05.9	+1.5
SANT	Santorini	2.12	54	PN	Pn	10 00 06.3	+1.9
SANT				SN	Sn	10 00 30.6	+1.1
SANT	Santorini	2.12	54		Pn	10 00 06.0	+1.5
THT2	Imerovigli	2.13	52	PN	Pn	10 00 06.5	+1.9
CMBO	Columbo, Santo	2.14	51	P	Pn	10 00 06.6	+1.9
THR8	Santorini-Mono	2.15	54	P	Pn	10 00 06.3	+1.5
KRND	KRANIDI	2.24	356	P	Pn	10 00 08.0	+1.9
STIA	Sitia Lasithi	2.26	88	P	Pn	10 00 10.7	+4.4
ITM	Ithomi	2.33	331	P	Pn	10 00 08.9	+1.5
ITM	Ithomi	2.33	331	PN	Pn	10 00 09.3	+1.9
ITM	Ithomi	2.33	331		Pn	10 00 09.0	+1.7
VLX	Vlachokerasia	2.35	341	P	Pn	10 00 11.4	+3.7
VLX	Vlachokerasia	2.35	341	P	Pn	10 00 11.5	+3.8
ZKR	Zakros	2.36	90	P	Pn	10 00 11.2	+3.4
ZKR	Zakros	2.36	90	PN	Pn	10 00 10.3	+2.5
EPID	Epidavros	2.47	356	P	Pn	10 00 11.2	+1.9
APE	Apeiranthos	2.62	42	⇑P	Pn	10 00 12.8	+1.5
APE	Apeiranthos	2.62	42	P	Pn	10 00 12.8	+1.5
APE	Apeiranthos	2.62	42	PN	Pn	10 00 13.3	+2.0
VLY	Voula,Athens	2.73	8	P	Pn	10 00 14.1	+1.3
LOUT	Loutraki	2.85	354	P	Pn	10 00 16.9	+2.4
LTK	Loutraki	2.89	354	P	Pn	10 00 16.3	+1.3
THAL	Thalero	2.94	350	P	Pn	10 00 18.2	+2.5
DION	Dionisos Attik	2.97	9	P	Pn	10 00 16.9	+0.8
VILL	Villia	3.01	360	P	Pn	10 00 17.4	+0.6
KARY	Karystos	3.01	17	P	Pn	10 00 17.9	+1.2
KLV	Kalavryta, Ach	3.05	342	P	Pn	10 00 18.8	+1.6
DRO	Drossia	3.09	335	P	Pn	10 00 19.2	+1.4
KARP	Karpathos	3.15	82	P	Pn	10 00 20.8	+2.1
KARP	Karpathos	3.15	82	PN	Pn	10 00 21.5	+2.8
KARP	Karpathos	3.15	82	Pn	Pn	10 00 20.6	+1.9
LAKA	Lakka	3.28	341	P	Pn	10 00 21.4	+1.0
KOSK	Kos Island	3.36	60	PN	Pn	10 00 24.1	+2.6
TRIZ	Trizonia	3.37	343	P	Pn	10 00 22.7	+1.1
SERG	Sergoula	3.42	343	P	Pn	10 00 23.1	+0.8
NIS1	Nisyros Isl.	3.44	64	PN	Pn	10 00 25.3	+2.7
EFP	Efpalio	3.47	341	P	Pn	10 00 25.4	+2.4
PSDA	Pessada-Kefalo	3.70	324	P	Pn	10 00 25.7	-0.4
BODT	Bodrum	3.74	58	PN	Pn	10 00 29.6	+2.8
DAT	Datca	3.79	64	PN	Pn	10 00 30.2	+2.8
BDRM	Kayabasi	3.84	59	i P	Pn	10 00 30.7	+2.6
CHOS	Chios island	3.90	33	PN	Pn	10 00 31.5	+2.5
AGG	Agios Georgios	3.95	349	P	Pn	10 00 30.0	+0.3
AGG	Agios Georgios	3.95	349	PN	Pn	10 00 30.6	+0.9
AGG	Agios Georgios	3.95	349		Pn	10 00 30.2	+0.6
EVR	Evrytania	3.96	342	P	Pn	10 00 32.1	+2.3
SLUM	Salum	3.97	156	P	Pn	10 00 31.2	+1.3
	baz=160						
SLUM				AMP		10 01 00.0	
	baz=160						
SLUM				S	Sn	10 01 13.9	-1.2
	baz=160						
MAKR	Makrakomi, Fth	3.98	346	P	Pn	10 00 31.9	+1.9
ZEYE	Izmir, Urla-Ze	4.00	39	i P	Pn	10 00 31.1	+0.8
ARG	Arkhangelos	4.04	73	PN	Pn	10 00 33.9	+3.1
GCAM	G?zelcaml?	4.05	50	PN	Pn	10 00 33.9	+3.0
URLA	Izmir	4.14	38	i P	Pn	10 00 32.9	+0.7
URLA	Izmir	4.14	38	PN	Pn	10 00 34.6	+2.4
MLSB	Milas	4.18	58	PN	Pn	10 00 35.7	+2.9
TURN	Turunc	4.30	66	i P	Pn	10 00 36.6	+2.3
TURN				i S	Sn	10 01 22.2	-1.1
TURN	Turunc	4.30	66	PN	Pn	10 00 37.3	+2.9
AYDN	Tasoluk	4.44	54	i P	Pn	10 00 38.8	+2.4
YER	Yerkesik	4.47	62	PN	Pn	10 00 39.9	+3.1
SIGR	SIGRI	4.53	26	PN	Pn	10 00 40.5	+3.0
MULA	Mugla, Merkez-	4.55	61	i P	Pn	10 00 39.9	+2.1
AYDB	Zeytinkoy-Aydi	4.61	51	PN	Pn	10 00 41.7	+2.9
DALY	Dalyan (Mula)	4.62	67	i P	Pn	10 00 41.1	+2.3
DALY				i S	Sn	10 01 34.4	+3.2
DALY	Dalyan (Mula)	4.62	67	PN	Pn	10 00 42.2	+3.4
TAVA	DENIZLI_Tavas	5.06	61	i P	Pn	10 00 48.0	+3.0
TAVA				i S	Sn	10 01 45.1	+2.9
AKAS	Kas	5.22	76	i P	Pn	10 00 48.0	+0.9
AKAS				i S	Sn	10 01 44.9	-1.2
AKAS	Kas	5.22	76		Pn	10 00 48.8	+1.7
CAEL	Denizli, Camel	5.23	66	i P	Pn	10 00 55.5	+8.2
GOLH	Golhisar	5.45	66	i P	Pn	10 00 47.7	-2.5
GOLH				i S	Sn	10 01 45.5	-6.3
ELL	Elmali	5.57	71	Pn	Pn	10 00 53.2	+1.4
AKUM	Antalya-Kumluc	5.82	76	i P	Pn	10 00 56.9	+1.7
AKUM				i S	Sn	10 01 58.9	-1.8
KBN	Korca	5.83	341	Pn	Pn	10 00 56.1	+0.7
PASA	Karahalli, USA	5.88	55	i P	Pn	10 00 59.5	+3.3
KORT	Korkueli	5.97	70	i P	Pn	10 00 60.0	+2.5
KORT				i S	Sn	10 02 04.8	+0.1
SWA2		6.15	162	P	Pn	10 01 00.8	+1.0
	baz=165						
SWA2				S	Sn	10 02 04.4	-4.5
	baz=165						
VAY	Valandovo	6.20	355	i Pn	Pn	10 01 00.9	+0.6
SCTE	Santa Cesarea	6.25	323	Pn	Pn	10 01 00.8	-0.4
OHR	Ohrid	6.28	342	i Pn	Pn	10 01 01.6	0.0
STIP	Stip	6.60	352	i Pn	Pn	10 01 05.8	-0.1
TIP	Timpagrande	6.62	309	⇑P	Pn	10 01 05.5	-0.8
TIP	Timpagrande	6.62	309	Pn	Pn	10 01 05.0	-1.3
KEPZ	Antalya-Kepez	6.92	73	i P	Pn	10 01 11.7	+1.2
YVAC	Isparta, Yalva	7.07	62	i P	Pn	10 01 15.7	+3.1
GAZI	Gazipasa	7.39	79	i P	Pn	10 01 16.8	0.0
GAZI				i S	Sn	10 02 32.8	-6.5
VTS	Vitosha	7.46	359	⇑P	Pn	10 01 15.9	-2.0
VTS	Vitosha	7.46	359		Pn	10 01 18.5	+0.6
RAFF	Raffo Rosso	7.55	289	Pn	Pn	10 01 17.9	-1.1
DRME	Dracevica, Mon	7.74	336	ePn	Pn	10 01 19.0	-2.6
ERMK	Ermenek	7.91	76	i P	Pn	10 01 25.9	+1.8
PDG	Podgorica	7.94	338	⇓P	Pn	10 01 20.9	-3.4
PDG	Podgorica	7.94	338	ePn	Pn	10 01 22.9	-1.4
KKBE	Karaman, Kazim	8.04	72	i P	Pn	10 01 26.8	+1.0
KKBE				i S	Sn	10 02 52.1	-3.3
CSS	Mathiatis	8.20	88	Pn	Pn	10 01 27.6	-0.3
HCY	Herceg Novi	8.21	334	ePn	Pn	10 01 24.5	-3.5
RYAN	Fayoum	8.44	134	P	Pn	10 01 31.7	+0.5
	baz=135						
BOVS	Bovan	8.57	352	⇑P	Pn	10 01 30.7	-2.3
BRY	Bratogost	8.60	336	ePn	Pn	10 01 28.6	-4.8
UPM	Unac-Piva	8.75	338	ePn	Pn	10 01 34.1	-1.5
STON	Ston	8.87	332	ePn	Pn	10 01 33.4	-3.6
STON	Ston	8.87	332	ePn	Pn	10 01 33.8	-3.2
SGRT	San Giovanni R	8.89	320	Pn	Pn	10 01 35.2	-2.2
GLL	Jalalah	8.99	126	P	Pn	10 01 38.3	-0.6
	baz=127						
RUDO	Rudo	9.00	341	ePn	Pn	10 01 35.5	-3.3
BBLS	Lazići	9.22	342	ePn	Pn	10 01 38.9	-3.0
DIVS	Divibare	9.30	345	ePn	Pn	10 01 39.7	-3.4
DIVS	Divibare	9.30	345	Pn	Pn	10 01 40.1	-3.0
BR131	Keskin Array S	9.38	58		Pn	10 01 45.0	+0.9
BRTR	Keskin Array B	9.38	58	P	Pn	10 01 46.5	+2.3
	comp=N,0.3nm,0.3s,baz=235,slow=15,SNR=9.6						
BRTR	Keskin Array B	9.38	58	Pn	Pn	10 01 45.6	+1.4
MAKA	Makarska	9.49	331	ePn	Pn	10 01 42.6	-2.9
SUZ	Suez	9.60	121	P	Pn	10 01 47.0	-0.2
	baz=121						
SUZ				S	Sn	10 03 24.3	-9.5
	baz=121						
RICI	Ricice	9.62	332	ePn	Pn	10 01 44.2	-3.1
MDVR	Moldovita	9.71	353	⇓P	Pn	10 01 46.3	-2.2
MMAI	Mount Meron Ar	10.23	99	P	Pn	10 01 55.8	0.0
	comp=N,3.4nm,0.3s,baz=280,slow=13,SNR=5.7						
MMAI				S	Sn	10 03 42.1	-7.0
	comp=N,2.0nm,0.3s,baz=302,slow=25,SNR=1.8						
GZR	Gura Zlata	10.25	358	⇑P	Pn	10 01 53.7	-2.2
ARR	Arges	10.26	5	⇑P	Pn	10 01 54.9	-1.3
KIJV	Kijevo	10.34	331	ePn	Pn	10 01 54.7	-2.4
FRGS	Fruska Gora	10.36	346	ePn	Pn	10 01 54.8	-2.6
VOIR		10.36	7	⇑P	Pn	10 01 55.3	-2.3
ZIRJ	Zirje	10.37	327	ePn	Pn	10 01 55.8	-1.7
MGRS	Mrkonjic Grad	10.43	334	ePn	Pn	10 01 57.1	-1.3
MORI	Morici	10.51	328	ePn	Pn	10 01 57.7	-1.8
MLR	Muntele Rosu	10.52	10	⇑P	Pn	10 01 57.3	-2.5
MLR	Muntele Rosu	10.52	10	P	Pn	10 02 00.0	+0.3
	comp=N,0.4nm,0.3s,baz=171,slow=12,SNR=4.7						
MLR	Muntele Rosu	10.52	10	Pn	Pn	10 01 59.2	-0.6
BZS	Buzias	10.54	353	⇑P	Pn	10 01 56.4	-3.5
BLY	Banja Luka	10.69	336	ePn	Pn	10 01 57.7	-4.2
DUGI	Dugi Otok	10.90	327	ePn	Pn	10 02 03.2	-1.5
DUGI				Sn	Sn	10 03 55.0	-10
HDK1	Dakhla	10.91	150	P	Pn	10 02 04.9	-0.2
	baz=151						
PLOR	Plostina	10.99	12	⇓P	Pn	10 02 04.2	-1.8
MRAK	Mrakovica	11.02	335	ePn	Pn	10 02 02.8	-3.7
NRCA	Norcia	11.05	317	Pn	Pn	10 02 05.6	-1.3
TR2	Tor 2	11.11	124	P	Pn	10 02 06.2	-1.6
	baz=125						
EIL	Elat	11.23	116	P	Pn	10 02 08.9	-0.5
	comp=N,1.1nm,0.3s,baz=221,slow=18,SNR=8.0						
EIL				S	Sn	10 04 05.0	-8.5
	comp=N,0.6nm,0.3s,baz=73,slow=18,SNR=1.3						
NVLJ	Novalja	11.43	328	ePn	Pn	10 02 10.3	-1.7
ASF	Jabal al Asfar	11.68	101	P	Pn	10 02 16.5	+0.9
	comp=N,0.4nm,0.3s,baz=338,slow=19,SNR=2.5						
BOJS	Bojanci	12.04	332	ePn	Pn	10 02 17.3	-3.1
CEY	Cerknica	12.56	330	ePn	Pn	10 02 24.5	-3.0
SOKA	Soboth	13.11	334	eP	Pn	10 02 31.3	-3.8
	comp=N,5.4nm,1.1s						
CONA	Conrad Observa	13.93	339	eP	P	10 02 55.6	+2.2
	comp=N,2.4nm,0.5s						
LANS	Liptovska Anna	14.28	350	ePN	P	10 02 59.8	+2.6
MOA	Molln	14.38	335	eP	P	10 02 59.0	+0.7
	comp=N,1.8nm,0.5s						
WATA	Walderalm	15.03	328	eP	P	10 03 07.6	+1.9
	comp=N,6.3nm,1.0s						
FETA	Feichten	15.18	325	eP	P	10 03 09.1	+1.8
	comp=N,5.5nm,0.8s						
GERES	GERESS Array B	15.43	335	P	Pn	10 03 04.6	-1.5
	baz=160,slow=16,SNR=1.4						
RETA	Reutte	15.51	326	eP	P	10 03 13.3	+2.4
	comp=N,1.3nm,0.4s						
DAVA	Damuels	15.77	324	eP	P	10 03 15.2	+1.3
	comp=N,8.0nm,0.8s						
AKASG	Malin Array Be	16.12	14	P	Pn	10 03 12.1	-2.8
	comp=N,1.4nm,0.3s,baz=203,slow=12,SNR=6.8						
AKBB	Malin Array Si	16.12	14		Pn	10 03 15.7	+0.8
AKBB				IAmb	IAmb	10 03 29.8	
	comp=Z,6.2nm,1.1s						
CLL	Collm	17.79	338	eP	P	10 03 36.0	0.0
CLL				esP	sP	10 03 51.0	0.0
NACGM	Naroch	19.90	6	i P	P	10 03 57.4	-1.7
RST	Umm Al-Ruwaisa	20.75	99	eP	P	10 04 08.7	+0.2
MIB	Mutribah	20.92	98	eP	P	10 04 10.2	-0.1
ESDC	Sonseca Array	22.11	290	P	P	10 04 23.7	+0.5
	comp=Z,0.6nm,0.6s,baz=82,slow=11,SNR=1.7						
MDT	Midelt	23.26	272	P	P	10 04 38.0	+2.8
	comp=Z,1.4nm,0.4s,baz=100,slow=14,SNR=6.5						
HFS	Hagfors	25.78	349	P	P	10 04 57.1	-0.8
	comp=Z,4.4nm,0.5s,baz=153,slow=10.0,SNR=30						
FINES	FINESS Array B	26.38	3	P	P	10 05 01.4	-1.9
	comp=Z,1.6nm,0.5s,baz=224,slow=13,SNR=12						
NB2	NORSAR Subarra	27.05	347	P	P	10 05 08.6	-0.9
	comp=Z,1.2nm,0.7s,baz=156,slow=9.3						
NOA	NORSAR Array B	27.05	347	P	P	10 05 08.2	-1.3
	comp=Z,0.4nm,0.4s,baz=148,slow=9.5,SNR=7.0						
EKA	Eskdalemuir Ar	27.20	326	P	P	10 05 12.5	+1.6
	comp=Z,3.0nm,0.9s,baz=116,slow=10,SNR=3.7						
TORD	Torodi Ar. Bea	29.36	227	P	P	10 05 31.5	+1.1
	comp=Z,0.6nm,0.3s,baz=31,slow=8.6,SNR=9.5						
TORD	Torodi Ar. Bea	29.36	227	IAmb	IAmb	10 05 34.2	
	comp=Z,3.1nm,1.4s						
AKTO	Aktyubinsk	29.36	48	P	P	10 05 29.6	-0.6
	comp=Z,0.6nm,0.3s,baz=223,slow=8.4,SNR=2.9						
ARU	Arti	31.96	37	P	P	10 05 51.5	-1.5
	comp=Z,2.0nm,0.3s,baz=209,slow=8.4,SNR=6.1						
ARU	Arti	31.96	37	IAmb	IAmb	10 05 53.0	
	comp=Z,6.7nm,0.6s						
ARCES	ARCESS Array B	34.47	1	P	P	10 06 12.4	-2.2
	comp=Z,2.0nm,0.6s,baz=179,slow=8.2,SNR=14						
ARCES				PcP	PcP	10 08 48.8	-0.1
	comp=Z,0.4nm,0.4s,baz=160,slow=2.9,SNR=1.3						
KK31	Karatay Array	37.04	63	P	P	10 06 36.5	-0.6
KK31				IAmb	IAmb	10 06 59.5	
	comp=Z,3.0nm,1.1s						
KKAR	Karatay Array	37.04	63	P	P	10 06 37.0	-0.1
KKAR				IAmb	IAmb	10 06 59.5	
	comp=Z,3.0nm,1.1s						
BVAR	Borovoye Array	37.44	47	P	P	10 06 40.0	-0.4
	comp=Z,0.4nm,0.4s,baz=243,slow=13,SNR=4.2						
DBIC	Dimbokro	38.41	229	P	P	10 06 49.4	+0.6
	comp=Z,3.0nm,0.6s,baz=48,slow=7.6,SNR=3.6						
MK31	Makanchi Array	45.03	56	P	P	10 07 42.0	-0.7
MK31				IAmb	IAmb	10 07 42.9	
	comp=Z,2.1nm,0.8s						
MKAR	Makanchi Array	45.03	56	P	P	10 07 42.7	0.0
	comp=Z,1.7nm,0.3s,baz=269,slow=8.1,SNR=62						
ZALV	Zalesovo Beam	46.09	46	P	P	10 07 50.1	-0.8
	comp=Z,2.0nm,0.3s,baz=266,slow=9.6,SNR=6.0						
SONM	Songino Array	60.65	50	P	P	10 09 38.4	+0.4
	comp=Z,0.8nm,0.3s,baz=271,slow=6.6,SNR=5.7						
SONM	Songino Array	60.65	50	IAmb	IAmb	10 09 39.1	
	comp=Z,3.7nm,1.4s						
SCHQ	Schefferville	62.23	319	P	P	10 09 49.0	+0.6
	comp=Z,1.0nm,0.3s,baz=59,slow=11,SNR=6.1						
SCHQ	Schefferville	62.23	319	IAmb	IAmb	10 10 03.0	
	comp=Z,3.5nm,0.9s						
CMAR	Chiang Mai Arr	68.06	82	P	P	10 10 27.9	+1.1
	comp=Z,0.7nm,0.4s,baz=301,slow=7.8,SNR=5.5						
KLR	Kul'dur	74.75	40	P	P	10 11 06.7	+0.1
	comp=Z,2.5nm,0.6s,baz=296,slow=7.0,SNR=9.8						
USRK	Ussuriysk Ar.	77.90	44	P	P	10 11 24.6	0.0
	comp=Z,4.2nm,0.5s,baz=288,slow=4.4,SNR=12						
KSRS	Korea Array	79.47	52	P	P	10 11 34.0	+0.6
	comp=Z,2.2nm,0.7s,baz=302,slow=5.0,SNR=6.7						
MJAR	Matsushiro Arr	86.44	47	P	P	10 12 09.9	+0.4
	comp=Z,1.3nm,0.8s,baz=306,slow=7.0,SNR=2.2						
WRA	Warramunga Arr	118.08	96	PKP	PKiKP	10 18 14.0	+0.1
	comp=Z,0.2nm,0.6s,baz=309,slow=1.3,SNR=4.8						
ASAR	Alice Springs	119.52	99	PKP	PKiKP	10 18 17.6	+0.8
	comp=Z,0.3nm,0.9s,baz=324,slow=2.0,SNR=2.4						

IDC 07 09:59:47.4±3.3**, 32.°78S×178.°57W, h0km, mb3.9**/3**, mb1 4.1**/4**, mb1mx3.7**/34**, mbtmp3.9**/4**, ML3.4**/1**, MS4.7**/1**,**

Ms1 4.7/1, ms1mx4.0/39, Error ellipse: s-maj=67.4km s-min=37.5km az=110.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.50	212	Pn	Pn	10 01 24.2	-0.1
	0.8nm,0.3s,baz=307,slow=20,SNR=3.1						
URZ				Sn	Sn	10 02 40.7	+1.5
	2.8nm,0.3s,baz=168,slow=20,SNR=5.2						
AFI	Afiamalu	19.79	20	LR	LR	10 13 08.5	
	comp=Z,2µm,18.1s,baz=318,slow=40						
CTA	Charters Tower	33.78	283	P	P	10 06 32.4	+1.3
	1.6nm,0.8s,baz=135,slow=7.1,SNR=1.0						
ASAR	Alice Springs	42.55	270	P	P	10 07 45.0	-0.1
	1.1nm,0.8s,baz=108,slow=7.7,SNR=11						
WRA	Warramunga Arr	43.76	275	P	P	10 07 53.9	-1.0
	1.4nm,0.6s,baz=116,slow=7.6,SNR=9.5						
FINES	FINESS Array B	147.19	338	PKPbc	PKPbc	10 19 31.2	-0.7
	2.9nm,0.9s,baz=90,slow=2.8,SNR=3.5						

*IDC **07** 10:03:49.6±0.9, 32°.72S×178°.23W, h0km, mb4.1/6, mb1 4.3/7, mb1mx3.9/34, mbtmp4.1/7, ML3.9/1, Error ellipse: s-maj=29.2km s-min=25.6km az=150.0*

*WEL **07** 10:03:50.2±0.9, 32°S±9°×17°8W±2°1, h148km±23km, M4.7/5, mB4.9/3, MLv4.8/5, Mw(mB)4.2/3, Error ellipse: s-maj=0.0km s-min=0.0km az=112.5*

*NEIC **07** 10:03:54.6±1.5, 32°.81S±0°.08×178°.4W±0°.2, h20km±6km, mb4.3/9, Error ellipse: s-maj=21.6km s-min=10.2km az=106.0*

ISC 07 10:03:51.8±0.7, 32°.62S±0°.06×178°.2W±0°.1, h20km, n56, σ2s.04/68, mb4.3/10, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.36	5	P	Pn	10 04 40.0	-3.1
GLKZ				S	Sn	10 05 19.0	-3.4
RAO	Raoul Island	3.37	5	Pn	Pb	10 04 48.8	-2.1
MXZ	Matakaoa Point	5.69	209	Pn	Pn	10 05 14.0	-1.1
MXZ	Matakaoa Point	5.69	209	P	Pn	10 05 10.9	-4.2
MXZ				S	Sn	10 06 19.7	0.0
WMGZ	Waiomatatini S	5.87	207	P	Pn	10 05 16.7	-0.9
WMGZ				S	Sn	10 06 26.4	+2.2
PKGZ	Pakihiroa	6.06	209	P	Pn	10 05 18.6	-1.7
PKGZ				S	Sn	10 06 28.5	-0.6
HAZ	Te Kaha	6.07	211	P	Pn	10 05 19.1	-1.3
HAZ				S	Sn	10 06 31.1	+1.9
PUZ	Puketiti	6.14	207	P	Pn	10 05 19.2	-2.3
PUZ				S	Sn	10 06 30.5	-0.6
RUGZ	Raukumara Rang	6.29	211	P	Pn	10 05 21.7	-1.9
RUGZ				S	Sn	10 06 34.5	-0.4
TKGZ	Te Karaka	6.62	208	P	Pn	10 05 26.9	-1.1
TKGZ				S	Sn	10 06 41.4	-1.5
MWZ	Matawai	6.66	210	P	Pn	10 05 26.3	-2.3
MWZ				S	Sn	10 06 43.4	-0.5
URZ	Urewera	6.79	213	Pn	Pn	10 05 28.2	-2.0
	2.5nm,0.3s,baz=306,slow=19,SNR=8.0						
URZ				Sn	Sn	10 06 46.3	-0.6
	13nm,0.3s,baz=114,slow=20,SNR=11						
URZ	Urewera	6.79	213	Pn	Pn	10 05 28.8	-1.4
URZ					Sn	10 06 46.6	-0.3
OUZ	Omahuta	7.27	247	Pn	Pn	10 05 36.5	-0.3
BKZ	Black Stump Fm	7.80	212	Pn	Pn	10 05 44.0	-0.3
BKZ	Black Stump Fm	7.80	212	P	Pn	10 05 43.6	-0.7
BKZ				S	Sn	10 07 07.0	-5.0
MCHZ	McNeill Hill	7.95	210	S	Sn	10 07 14.3	-1.2
KWHZ	Kaweka Forest	8.05	211	P	Pn	10 05 46.3	-1.3
KWHZ				S	Sn	10 07 16.0	-2.0
TMVZ	Te Maari	8.13	215	P	Sn	10 07 19.2	-1.0
ETVZ	East Tongariro	8.14	215	P	Sn	10 07 20.0	-0.5
KAHZ	Kahuranaki	8.17	207	P	Pn	10 05 46.9	-2.4
KAHZ				P	Sn	10 07 19.1	-2.0
OTVZ	Oturere	8.19	215	P	Pn	10 05 49.6	0.0
OTVZ				P	Sn	10 07 19.5	-2.1
KRHZ	Kereru	8.25	210	P	Sn	10 07 19.3	-3.7
BHHZ	Black Hill Sta	8.26	212	P	Pn	10 05 50.9	+0.3
BHHZ				S	Sn	10 07 20.6	-2.7
FWVZ	Far West T-bar	8.31	216	P	Sn	10 07 23.1	-1.8
PNHZ	Pukenui	8.55	210	P	Sn	10 07 26.5	-3.9
WPHZ	Waipukurau	8.58	209	P	Sn	10 07 28.3	-2.7
TSZ	Takapari Road	8.77	211	P	Sn	10 07 30.4	-5.4
DVHZ	Dannevirke	8.89	209	P	Sn	10 07 33.0	-5.6
CTA	Charters Tower	34.02	283	P	P	10 10 37.2	+2.6
	3.2nm,0.5s,baz=110,slow=11,SNR=9.5						
CTAO	Charters Tower	34.02	283	P	P	10 10 36.9	+2.4
AS31	Alice Springs	42.84	269	P	P	10 11 50.0	+1.3
AS31				IAmb	IAmb	10 11 50.5	
	comp=Z,1.5nm,0.7s						
ASAR	Alice Springs	42.84	269	P	P	10 11 49.8	+1.1
	comp=Z,3.7nm,0.7s,baz=104,slow=7.4,SNR=41						
WR0	Warramunga Arr	43.85	275	P	P	10 11 57.8	+0.9
WR0				IAmb	IAmb	10 12 02.0	
	comp=Z,7.7nm,1.2s						
WB2	Warramunga Arr	44.01	275	P	P	10 11 58.8	+0.6
WB2				IAmb	IAmb	10 11 59.9	
	comp=Z,5.2nm,0.7s						
WRAB	Tennant Creek	44.02	275	P	P	10 11 58.2	0.0
WRAB				IAmb	IAmb	10 12 05.6	
	comp=Z,5.3nm,1.0s						
WRA	Warramunga Arr	44.02	275	P	P	10 11 58.9	+0.6
	comp=Z,3.7nm,0.6s,baz=118,slow=7.8,SNR=28						
WRA	Warramunga Arr	44.02	275	P	P	10 11 58.4	+0.1
FORT	Forrest	45.32	257	P	P	10 12 08.0	-0.5
KNRA	Kununurra	50.71	276	P	P	10 12 50.2	-0.1
FITZ	Fitzroy Crossi	52.19	272	P	P	10 13 02.2	+0.8
	comp=Z,1.5nm,0.8s,baz=152,slow=7.3,SNR=2.5						
FITZ	Fitzroy Crossi	52.19	272	P	P	10 13 02.5	+1.1
QSPA	South Pole Qui	57.49	180	P	P	10 13 41.1	+1.8
	comp=Z,0.6nm,0.6s,baz=60,slow=2.3,SNR=1.9						
SNAA	Sanae	75.95	179	P	P	10 15 47.6	+11
VNA3	Neumayer Olymp	76.11	176	P	P	10 15 49.5	+12
VNA2	Neumayer--Watz	76.54	177	P	P	10 15 51.4	+11
	baz=168,slow=5.0						
VNA1	Neumayer--Stat	76.77	177	P	P	10 15 53.0	+12
NVAR	Mina Array Bea	90.00	43	P	P	10 16 53.1	+3.1
	comp=Z,0.3nm,0.8s,baz=229,slow=8.2,SNR=2.8						
MKAR	Makanchi Array	119.03	309	PKP	PKPdf	10 22 39.0	+0.2
	comp=Z,0.3nm,0.6s,baz=73,slow=3.4,SNR=3.4						
KURBB	Kurchatov Arra	122.45	313	PKP	PKPdf	10 22 45.6	+0.4
	comp=Z,0.6nm,0.5s,baz=102,slow=1.7,SNR=2.8						
BVAR	Borovoye Array	127.83	315	PKP	PKPdf	10 22 55.6	+0.2
	comp=Z,0.6nm,0.6s,baz=101,slow=2.9,SNR=1.8						
KBZ	Khabaz	146.13	301	PKPbc	PKPbc	10 23 30.7	+0.4
	comp=Z,1.2nm,0.5s,baz=108,slow=3.2,SNR=3.6						
FINES	FINESS Array B	147.15	339	PKPbc	PKPbc	10 23 33.1	+0.5
	comp=Z,4.3nm,0.7s,baz=64,slow=4.4,SNR=9.8						
MMAI	Mount Meron Ar	151.79	280	PKPbc	PKPbc	10 23 45.3	0.0
	comp=Z,0.5nm,0.3s,baz=46,slow=6.2,SNR=2.0						
AKASG	Malin Array Be	152.90	320	PKPbc	PKPbc	10 23 47.8	+0.7
	comp=Z,0.4nm,0.3s,baz=66,slow=2.2,SNR=2.0						
TORD	Torodi Ar. Bea	160.62	180	PKPab	PKPab	10 24 32.1	-0.1
	comp=Z,0.2nm,0.5s,baz=206,slow=4.6,SNR=1.8						

*IDC **07** 10:13:35.1±2.3, 23°.09N×93°.66E, h72km±24km, mb3.7/5, mb1 3.8/6, mb1mx3.3/54, mbtmp3.9/6, Error ellipse: s-maj=24.3km s-min=12.3km az=41.0*

*NDI **07** 10:13:35.0±1.0, 23°.22N×93°.55E, h87km±47km, ML3.2*

ISC 07 10:13:34.1±1.0, 23°.20N±0°.06×93°.62E±0°.06, h53km, n14, σ1s.91/22, mb4.0/5, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IMP	Imphal	1.65	10	eP	Pn	10 14 02.5	+1.7
IMP				eS	Pn	10 14 04.5	+3.7
IMP				IAML		10 14 05.2	
	comp=N,132nm,0.3s						
IMP				IAML		10 14 05.5	
	comp=E,45nm,0.2s						
BRDH	Bariadhala	1.90	254	P	Pn	10 14 06.5	+2.5
	comp=E,59nm,0.3s,baz=223,slow=19,SNR=2.5						
BRDH				S	Sn	10 14 28.9	+2.2
	comp=E,195nm,0.3s,baz=240,slow=21,SNR=8.4						
KOHI	KOHIMA	2.55	10	eP	Pn	10 14 14.2	+1.1
KOHI				eS	Sn	10 14 44.2	+1.2
KOHI				IAML		10 14 45.1	
	comp=N,212nm,0.4s						
KOHI				IAML		10 14 45.3	
	comp=E,215nm,0.7s						
SHL	Shillong	2.84	326	eP	Pn	10 14 18.9	+1.8
SHL				eS	Sn	10 14 49.4	-0.8
SHL				IAML		10 14 53.9	
	comp=E,215nm,0.1s						
SHL				IAML		10 14 54.0	
	comp=N,242nm,0.1s						
SHL	Shillong	2.84	326	ePG	Pn	10 14 18.0	+0.9
SHL				i SG	Sn	10 14 49.0	-1.2
MOKO	MOKOCHONG	3.21	15	eP	Pn	10 14 23.4	+1.1
MOKO				ex	Sn	10 15 01.8	+2.4
MOKO				IAML		10 15 08.4	
	comp=N,169nm,0.2s						
MOKO				IAML		10 15 08.5	
	comp=E,127nm,0.2s						
ITAN	ITANAGAR	3.93	1	eS	Sn	10 15 14.9	-1.8
DHUB	DHUBRI	4.33	311	eP	Pn	10 14 37.3	-0.1
DHUB				eS	Sn	10 15 22.9	-3.7
CMAR	Chiang Mai Arr	6.86	132	P	Pn	10 15 10.8	-1.3
	comp=E,1.0nm,0.3s,baz=310,slow=14,SNR=6.6						
MKAR	Makanchi Array	25.25	342	P	P	10 18 55.8	+0.6
	comp=E,1.8nm,0.7s,baz=152,slow=10.0,SNR=14						
MKAR				S	S	10 23 17.2	+0.2
	comp=E,1.1nm,0.9s,baz=78,slow=14,SNR=5.5						
SONM	Songino Array	26.62	19	P	P	10 19 07.6	0.0
	comp=E,1.0nm,0.7s,baz=183,slow=9.3,SNR=4.2						
ZALV	Zalesovo Beam	31.41	350	P	P	10 19 50.1	+0.1
	comp=E,1.7nm,0.4s,baz=156,slow=11,SNR=1.8						
WRA	Warramunga Arr	58.45	134	P	P	10 23 22.9	-2.0
	comp=E,0.9nm,0.5s,baz=316,slow=6.8,SNR=32						
ASAR	Alice Springs	60.84	137	P	P	10 23 39.7	-1.6
	comp=E,0.6nm,0.5s,baz=320,slow=6.8,SNR=21						

*IDC **07** 10:21:33.1±2.5, 36°.27N×70°.22E, h208km±23km, mb3.3/11, mb1 3.5/17, mb1mx3.3/47, mbtmp4.0/17, Error ellipse: s-maj=20.9km s-min=14.1km az=179.0*

*NNC **07** 10:21:47.1±2.8, 37°.32N×70°.66E, h228km±38km, mb2.9, mpv4.1, Error ellipse: s-maj=29.2km s-min=17.1km az=12.0*

ISC 07 10:21:35.1±0.6, 36°.59N±0°.06×70°.26E±0°.07, h213km, n54, σ2s.87/60, mb3.6/9, 6C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	3.07	153	P	Pn	10 22 28.2	+1.8
CEP				S	S	10 23 07.0	+0.7
CHCP	Chirah Chowk	3.83	139	P	Pn	10 22 37.8	+2.5
THW	Thamme Wali	3.98	162	P	Pn	10 22 37.9	+0.7
THN	Thein Dam	6.12	131	eP	Pn	10 23 05.5	+1.4
THN				eS	S	10 24 17.0	+2.4
AML	Almayashu	6.14	25	P	Pn	10 23 07.0	+2.4
	SNR=61						
KK31	Karatay Array	6.51	2	⇑P	Pn	10 23 10.4	+1.4
	2.2nm,0.3s,baz=184,slow=3.0,SNR=35						
KK31				⇑S	S	10 24 20.6	-2.9
	14nm,0.7s,baz=180,slow=17,SNR=4.6						
DHRM	DHARAMSHALA	6.61	129	eP	Pn	10 23 11.4	+0.9
DHRM				eS	S	10 24 25.2	-1.1
DHRM				IAML		10 24 26.5	
	comp=E,534nm,0.2s						
DHRM				IAML		10 24 27.1	
	comp=N,689nm,0.8s						
EKS2	Erkin-Say	6.64	23	P	Pn	10 23 13.6	+2.8
	SNR=15						
KZA	Kyzart	6.71	34	P	Pn	10 23 14.4	+2.5
	SNR=19						
AAK	Ala-Archa	6.87	27	P	Pn	10 23 15.5	+1.7
	comp=N,3.6nm,0.3s,baz=214,slow=4.3,SNR=20						
AAK				S	S	10 24 24.9	-7.2
	comp=N,2.2nm,0.3s,baz=185,slow=2.2,SNR=4.8						
AAK	Ala-Archa	6.87	27	P	Pn	10 23 16.9	+3.2
	SNR=13						
AAK	Ala-Archa	6.87	27	⇑P	Pn	10 23 16.6	+2.9
	comp=N,5.7nm,0.4s						
AAK				⇑S	S	10 24 26.9	-5.2
	comp=N,42nm,0.6s						
BHK	Bhakra	7.26	133	ex	S	10 24 33.8	-7.6
ULHL	Ulahol	7.30	38	P	Pn	10 23 21.9	+2.4
	SNR=13						
TKM2	Tokmak 2	7.54	31	P	Pn	10 23 25.1	+2.6
	SNR=17						
TKM2	Tokmak 2	7.54	31	⇓P	Pn	10 23 24.8	+2.3
	comp=N,20nm,0.8s						
TKM2				⇓S	S	10 24 41.8	-6.3
	comp=N,19nm,0.9s						
SMLA	Simla	7.92	131	eP	Pn	10 23 27.8	+0.6
SMLA				eS	S	10 24 53.0	-3.8
SMLA				IAML		10 24 55.2	
	comp=N,142nm,0.2s						
SMLA				IAML		10 24 56.4	
	comp=E,234nm,0.2s						
MDOK	Medeo	8.39	36	⇑P	Pn	10 23 35.7	+2.4
	comp=E,12nm,0.6s						
GEYT	Alibeck	9.77	282	P	Pn	10 23 49.1	-2.1
	comp=E,1.2nm,0.3s,baz=157,slow=13,SNR=14						
PDGK	Podgornoye	9.77	44	P	Pn	10 23 53.7	+2.5
	comp=E,8.6nm,0.6s						
NDI	New Delhi	9.82	141	eP	Pn	10 23 54.0	+2.1
NDI				eS	S	10 25 35.0	-7.1
OTUK	Ortayu	11.75	7	⇑P	Pn	10 24 17.9	+1.6
	comp=E,1.6nm,0.9s						
MAKZ	Makanchi	13.44	37	⇓P	Pn	10 24 39.3	+1.9
	comp=E,7.1nm,0.5s						
MK31	Makanchi Array	13.58	38	P	Pn	10 24 40.8	+1.7
	comp=E,0.4nm,0.3s,baz=212,slow=8.7,SNR=22						
MKAR	Makanchi Array	13.58	38	P	Pn	10 24 40.7	+1.5
	comp=E,0.5nm,0.3s,baz=224,slow=15,SNR=22						
PYUN	Piuthan	13.68	125	eP	Pn	10 24 41.8	+1.0
	comp=E,72nm,0.3s						
DANN	Dangsing	14.04	122	eP	Pn	10 24 46.3	+1.0
	comp=E,74nm,0.4s						
KOLN	Koldanda	14.31	124	eP	P	10 24 49.7	0.0
AB31	Akbulak array	14.72	333	P	P	10 25 00.2	+6.4
	comp=E,0.4nm,0.4s,baz=141,slow=12,SNR=5.3						
GKN	Gorkha	14.86	121	eP	P	10 24 58.2	+2.4
	comp=E,57nm,0.3s						
KURBB	Kurchatov Arra	15.24	20	P	P	10 25 02.6	+3.1
	comp=E,0.1nm,0.3s,baz=218,slow=8.5,SNR=1.6						
DMN	Daman	15.43	121	eP	Pn	10 25 05.2	+3.0
	comp=E,60nm,0.4s						
KKN	Kakani	15.44	120	eP	Pn	10 25 05.1	+2.8
	comp=E,45nm,0.5s						
PKIN	Phulchoki	15.65	121	eP	Pn	10 25 08.5	+3.6
	comp=E,64nm,0.4s						
PKI	Pulchoki	15.66	121	eP	Pn	10 25 08.9	+3.8
	comp=E,46nm,0.4s						
GUN	Gumba	15.78	119	eP	Pn	10 25 10.8	+4.2
	comp=E,36nm,0.3s						
JIRN	Jiri	16.15	119	eP	Pn	10 25 15.8	+4.8
	comp=E,107nm,0.6s						
AKTO	Aktyubinsk	16.41	331	P	Pn	10 25 13.6	+0.1
	comp=E,0.6nm,0.3s,baz=156,slow=9.6,SNR=9.4						
BVAR	Borovoye Array	16.43	0	P	Pn	10 25 13.7	0.0
	comp=E,0.3nm,0.3s,baz=187,slow=11,SNR=3.2						
RAMN	Ramite	16.88	120	eP	Pn	10 25 22.4	+2.9
	comp=E,34nm,0.3s						
TAPN	Taplejung	17.42	117	eP	Pn	10 25 30.3	+4.4
	comp=E,18nm,0.3s						
ODAN	Odare	17.49	119	eP	Pn	10 25 29.2	+2.5
	comp=E,46nm,0.5s						
ZALV	Zalesovo Beam	20.09	26	P	P	10 25 54.0	+1.8
	comp=E,1.1nm,0.3s,baz=212,slow=10,SNR=3.8						
GNI	Garni	20.30	288	P	P	10 25 54.3	-0.5
	comp=E,6.7nm,0.7s,baz=182,slow=18,SNR=4.9						
SONM	Songino Array	28.78	56	P	P	10 27 13.7	+0.6
	comp=E,0.3nm,0.3s,baz=253,slow=9.9,SNR=3.6						
CMAR	Chiang Mai Arr	31.02	118	P	P	10 27 30.7	-2.3
	comp=E,1.2nm,0.3s,baz=316,slow=8.6,SNR=2.2						
FINES	FINESS Array B	37.08	326	P	P	10 28 24.9	+0.5
	comp=E,3.1nm,1.0s,baz=161,slow=7.7,SNR=1.1						
NOA	NORSAR Array B	43.95	323	P	P	10 29 21.5	+0.8
	comp=E,0.2nm,0.4s,baz=100,slow=8.0,SNR=1.4						
PETK	Petropavlovsk-	60.32	44	P	P	10 31 21.5	+0.3
	comp=E,4.6nm,1.2s,baz=302,slow=5.8,SNR=2.2						
TORD	Torodi Ar. Bea	65.12	268	P	P	10 31 51.9	-1.5
	comp=E,0.2nm,0.3s,baz=45,slow=6.1,SNR=2.1						
NRS	Narsarsuaq	69.51	332	IAMs_20	IAMs_20	10 32 27.5	
	comp=Z,17µm,18.3s						
ILAR	Eielson Array	74.86	16	P	P	10 32 51.5	-0.2
	comp=Z,0.4nm,0.5s,baz=300,slow=4.7,SNR=6.1						
YKA	Yellowknife Ar	81.18	2	P	P	10 33 27.3	+0.8
	comp=Z,0.9nm,0.7s,baz=337,slow=13,SNR=1.7						
WRA	Warramunga Arr	82.55	121	P	P	10 33 32.0	-2.3
	comp=Z,1.0nm,0.6s,baz=322,slow=4.8,SNR=13						

*IDC **07** 10:25:31.2±0.5, 32°.87S×178°.24W, h0km, mb4.2/15, mb1 4.4/19, mb1mx4.3/34, mbtmp4.3/19, ML4.4/3, Error ellipse: s-maj=18.4km s-min=16.4km az=117.0*

*WEL **07** 10:25:31.1±0.9, 33°S±6°×17°8W±1°7, h33km, M4.7/16, mB4.9/7, ML5.1/16, MLv5.1/16, Mw(mB)4.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=108.1*

*NEIC **07** 10:25:35.9±2.4, 32°.87S±0°.08×178°.4W±0°.2, h23km±5km, mb4.7/17, Error ellipse: s-maj=20.3km s-min=10.5km az=108.0*

ISC 07 10:25:36.0±0.4, 32°.82S±0°.05×178°.30W±0°.09, h32km, n95, σ1s.81/105, mb4.5/19, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.56	5	P	Pn	10 26 25.1	-3.9
GLKZ				S	Sn	10 27 06.4	-3.7
RAO	Raoul Island	3.58	5	Pn	Pn	10 26 27.2	-2.0
	68nm,0.3s,baz=79,slow=20,SNR=2.2						
RAO				Sn	Sn	10 27 08.1	-2.3
	78nm,0.3s,baz=359,slow=21,SNR=2.2						
RIZ	Raoul Island	3.58	5	P	Pn	10 26 22.4	-6.9
RIZ				S	Sn	10 27 08.6	-1.9
MXZ	Matakaoa Point	5.48	210	Pn	Pn	10 26 54.2	-1.1
MXZ	Matakaoa Point	5.48	210	P	Pn	10 26 54.3	-1.1
MXZ				S	Sn	10 27 57.1	-0.3
WMGZ	Waiomatatini S	5.66	207	P	Pn	10 26 59.2	+1.3
WMGZ				S	Sn	10 27 59.8	-1.9
PKGZ	Pakihiroa	5.86	209	P	Pn	10 26 59.3	-1.3
PKGZ				S	Sn	10 28 04.3	-2.3
HAZ	Te Kaha	5.87	212	P	Pn	10 26 56.1	-4.6
HAZ				S	Sn	10 28 08.1	+1.2
PUZ	Puketiti	5.94	207	P	Pn	10 26 50.9	-11
PUZ				S	Sn	10 28 06.5	-2.2
RUGZ	Raukumara Rang	6.09	212	P	Pn	10 26 52.0	-12
RUGZ				S	Sn	10 28 15.4	+2.9
TWGZ	Tauwhareparae	6.14	209	P	Pn	10 26 59.7	-4.8
TWGZ				S	Sn	10 28 12.7	-1.0
CNGZ	Carnagh Statio	6.32	206	P	Pn	10 27 04.4	-2.5
CNGZ				S	Sn	10 28 18.2	+0.2
TKGZ	Te Karaka	6.42	208	P	Pn	10 27 05.0	-3.3
TKGZ				S	Sn	10 28 18.2	-2.2
MWZ	Matawai	6.46	211	P	Pn	10 27 06.0	-2.9
MWZ				S	Sn	10 28 20.9	-0.6
OPRZ	Ohinepanea	6.54	219	P	Pn	10 27 10.9	+1.0
OPRZ				S	Sn	10 28 23.7	+0.3
URZ	Urewera	6.59	213	Pn	Pn	10 27 07.6	-3.0
	4.2nm,0.3s,baz=11,slow=16,SNR=11						
URZ				Sn	Sn	10 28 21.5	-3.0
	15nm,0.3s,baz=170,slow=19,SNR=13						
URZ	Urewera	6.59	213	Pn	Pn	10 27 09.1	-1.5
URZ	Urewera	6.59	213	P	Pn	10 27 08.9	-1.6
URZ				S	Sn	10 28 22.8	-1.8
RAGZ	Rawiri	6.65	210	P	Pn	10 27 08.7	-2.7
RAGZ				S	Sn	10 28 24.6	-1.5
RIGZ	Rimuhau	6.69	208	P	Pn	10 27 11.1	-0.8
RIGZ				S	Sn	10 28 25.5	-1.5
SNGZ	Shannon Statio	6.92	210	P	Pn	10 27 14.7	-0.5
SNGZ				S	Sn	10 28 30.1	-2.7
MUGZ	Murupara	6.92	214	P	Pn	10 27 13.5	-1.7
RTZ	Ruatahuna	6.94	212	P	Pn	10 27 14.9	-0.6
RAHZ	Arahi	7.14	210	P	Pn	10 27 17.8	-0.4
MTHZ	Maungataniwha	7.19	212	P	Pn	10 27 18.1	-0.8
MRHZ	Matea Rd	7.37	214	P	Pn	10 27 19.4	-2.0
NMHZ	Naumai	7.41	211	P	Pn	10 27 21.0	-1.0
BKZ	Black Stump Fm	7.61	212	Pn	Pn	10 27 24.3	-0.3
BKZ	Black Stump Fm	7.61	212	P	Pn	10 27 24.2	-0.4
KAHZ	Kahuranaki	7.97	208	P	Pn	10 27 26.5	-3.1
OTVZ	Oturere	8.00	216	P	Pn	10 27 27.1	-3.0
NNVZ	North Ngauruho	8.00	216	P	Pn	10 27 28.5	-1.6
KHZ	Kahutara	11.55	212		Sn	10 30 18.6	-7.8
RPZ	Rata Peaks	13.70	214	Pn	Pn	10 28 46.1	-1.9
RPZ	Rata Peaks	13.70	214	P	Pn	10 28 46.0	-2.1
OUENC	Ouen Island, N	16.74	305	P	Pn	10 29 28.4	+0.3
OUENC				IAmb	IAmb	10 29 36.3	
	comp=Z,57nm,1.2s						
DZM	Mont Dzumac	17.25	305	P	P	10 29 35.9	+0.1
	comp=Z,0.1nm,0.3s,baz=156,slow=15,SNR=3.0						
DZM	Mont Dzumac	17.25	305	IAmb	IAmb	10 29 43.4	
	comp=Z,33nm,1.1s						
AFI	Afiamalu	19.75	19	P	Pn	10 30 04.2	-0.7
	comp=Z,1.2nm,0.3s,baz=225,slow=8.6,SNR=2.2						
AFI	Afiamalu	19.75	19	IAmb	IAmb	10 30 10.2	
	comp=Z,72nm,1.4s						
RAR	Rarotonga	20.12	60	P	P	10 30 05.9	-1.3
	comp=Z,9.3nm,0.6s,baz=164,slow=18,SNR=2.5						
STKA	Stephens Creek	33.76	261	P	P	10 32 15.8	+1.0
	comp=Z,2.1nm,1.0s,baz=63,slow=14,SNR=1.7						
CTA	Charters Tower	34.01	283	P	P	10 32 18.3	+1.2
	comp=Z,5.3nm,0.6s,baz=119,slow=11,SNR=5.0						
AS31	Alice Springs	42.78	270	P	P	10 33 30.9	+0.1
ASAR	Alice Springs	42.78	270	P	P	10 33 31.1	+0.3
	comp=Z,11nm,1.0s,baz=112,slow=7.8,SNR=44						
ASAR	Alice Springs	42.78	270	P	P	10 33 30.1	-0.7
WR0	Warramunga Arr	43.81	275	P	P	10 33 39.0	-0.1
WR0				IAmb	IAmb	10 33 40.4	
	comp=Z,8.1nm,0.9s						
WB2	Warramunga Arr	43.98	275	P	P	10 33 40.6	+0.1
WB2				IAmb	IAmb	10 33 41.1	
	comp=Z,8.8nm,0.6s						
WRAB	Tennant Creek	43.99	275	P	P	10 33 40.4	-0.2
WRAB				IAmb	IAmb	10 33 47.2	
	comp=Z,8.1nm,0.7s						
WRA	Warramunga Arr	43.99	275	P	P	10 33 40.6	+0.1
	comp=Z,6.5nm,0.6s,baz=116,slow=8.0,SNR=48						
WRA	Warramunga Arr	43.99	275	P	P	10 33 39.9	-0.7
FORT	Forrest	45.23	258	P	P	10 33 50.2	-0.1
VNDA	Vanda	45.66	186	P	P	10 33 53.5	+0.4
	comp=Z,0.9nm,1.1s,baz=2.2,slow=11,SNR=2.6						
VNDA	Vanda	45.66	186	P	P	10 33 55.1	+2.0
KNRA	Kununurra	50.68	276	P	P	10 34 33.5	+0.9
FITZ	Fitzroy Crossi	52.14	272	P	P	10 34 43.9	+0.3
FITZ				IAmb	IAmb	10 34 44.1	
	comp=Z,4.4nm,0.9s						
CASY	Casey	52.89	209	P	P	10 34 50.3	+1.8
QSPA	South Pole Qui	57.29	180	P	P	10 35 20.1	-0.3
	comp=Z,4.2nm,0.9s,baz=29,slow=2.2,SNR=9.7						
QSPA	South Pole Qui	57.29	180	P	P	10 35 22.1	+1.7
BELA	Belgrano 2	67.42	172	P	P	10 36 27.4	-0.5
BELA				IAmb	IAmb	10 36 42.2	
	comp=Z,7.1nm,1.1s						
MAW	Mawson	69.96	201	P	P	10 36 44.2	+0.5
	comp=Z,2.7nm,1.0s,baz=76,slow=5.8,SNR=4.1						
SNAA	Sanae	75.75	179	P	P	10 37 18.2	+0.1
SNAA	Sanae	75.75	179	pP	pP	10 37 29.1	+2.8
SNAA	Sanae	75.75	179	P	P	10 37 18.4	+0.3
SNAA				IAmb	IAmb	10 37 30.7	
	comp=Z,15nm,1.4s						
VNA3	Neumayer Olymp	75.91	176	P	P	10 37 18.8	-0.2
VNA3	Neumayer Olymp	75.91	176	pP	pP	10 37 30.6	+3.4
VNA2	Neumayer--Watz	76.34	177	P	P	10 37 21.7	+0.3
	baz=178,slow=4.5						
VNA2	Neumayer--Watz	76.34	177	pP	pP	10 37 33.2	+3.6
VNA1	Neumayer--Stat	76.57	177	P	P	10 37 23.0	+0.4
VNA1	Neumayer--Stat	76.57	177	pP	pP	10 37 34.7	+3.9
PLCA	Paso Flores	81.05	133	P	P	10 37 48.4	+0.5
	comp=Z,3.8nm,1.0s,baz=239,slow=3.8,SNR=5.2						
PLCA	Paso Flores	81.05	133	IAmb	IAmb	10 37 51.9	
	comp=Z,6.1nm,1.1s						
KSRS	Korea Array	86.03	320	P	P	10 38 14.6	+1.5
	comp=Z,1.4nm,0.9s,baz=140,slow=7.9,SNR=4.1						
PETK	Petropavlovsk-	88.09	346	P	P	10 38 23.9	+1.2
	comp=Z,3.1nm,0.9s,baz=127,slow=9.5,SNR=4.1						
PETK	Petropavlovsk-	88.09	346	P	P	10 38 24.4	+1.6
USRK	Ussuriysk Ar.	89.04	327	P	P	10 38 28.6	+1.1
	comp=Z,0.9nm,0.8s,baz=140,slow=7.5,SNR=2.7						
NVAR	Mina Array Bea	90.19	43	P	P	10 38 33.9	+0.6
	comp=Z,1.0nm,0.9s,baz=208,slow=8.1,SNR=5.7						
TXAR	Lajitas Array	93.90	58	P	P	10 38 51.6	+1.1
	comp=Z,0.2nm,0.8s,baz=195,slow=9.1,SNR=3.5						
PDAR	Pinedale Array	98.06	44	P	Pdif	10 39 10.0	+0.6
	comp=Z,0.1nm,0.5s,baz=292,slow=2.8,SNR=1.9						
MKAR	Makanchi Array	119.12	309	PKP	PKPdf	10 44 20.7	-0.6
	comp=Z,0.8nm,0.8s,baz=144,slow=2.3,SNR=5.7						
KURK	Kurchatov	122.52	313		PKPdf	10 44 26.7	-0.9
KURBB	Kurchatov Arra	122.56	313	PKP	PKPdf	10 44 26.7	-1.0
	comp=Z,2.1nm,0.8s,baz=95,slow=2.1,SNR=13						
BVAR	Borovoye Array	127.94	314	PKP	PKPdf	10 44 38.0	+0.1
	comp=Z,1.8nm,0.9s,baz=169,slow=8.2,SNR=6.0						
AKTO	Aktyubinsk	135.51	311	PKP	PKPdf	10 44 51.5	-0.9
	comp=Z,0.5nm,0.3s,baz=106,slow=7.4,SNR=3.8						
ANGG	Ammassalik, Gr	139.56	24	IAMs_20	IAMs_20	10 45 10.4	
	comp=Z,12µm,17.5s						
KBZ	Khabaz	146.19	301	PKPbc	PKPbc	10 45 13.4	+0.6
	comp=Z,2.9nm,0.9s,baz=169,slow=8.8,SNR=4.9						
FINES	FINESS Array B	147.31	338	PKPbc	PKPbc	10 45 15.8	+0.3
	comp=Z,4.0nm,0.6s,baz=48,slow=4.6,SNR=10						
NB2	NORSAR Subarra	151.10	350	PKP	PKPbc	10 45 25.3	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,10nm,1.4s,baz=20,slow=3.0						
NOA	NORSAR Array B	151.10	350	PKPbc	PKPbc	10 45 24.8	-0.3
	comp=Z,0.2nm,0.4s,baz=17,slow=4.2,SNR=3.0						
AKASG	Malin Array Be	153.02	320	PKPbc	PKPbc	10 45 29.9	+0.3
	comp=Z,0.8nm,0.6s,baz=62,slow=2.1,SNR=6.4						
AKASG				PKPab	PKPab	10 45 40.0	-1.1
	comp=Z,0.8nm,0.5s,baz=59,slow=2.9,SNR=4.6						
AKASG	Malin Array Be	153.02	320	PKPdf	PKPdf	10 45 22.9	+0.6
BRTR	Keskin Array B	153.44	294	PKPbc	PKPbc	10 45 31.4	+0.2
	comp=Z,1.3nm,0.8s,baz=29,slow=3.3,SNR=4.1						
BRTR				PKPab	PKPab	10 45 42.6	-1.0
	comp=Z,0.7nm,0.5s,baz=177,slow=6.2,SNR=2.6						
CLL	Collm	159.76	339	*e*PKPab	PKPab	10 46 12.0	+2.0
BRG	Berggiesshubel	159.84	337	*e*P	PKPab	10 46 11.3	+0.9
BRG				Amp		10 46 13.7	
	comp=Z,14nm,1.5s						
BRG				Amp		10 50 09.0	
	comp=N,3.7nm,19.8s						
BRG				Amp		10 50 10.0	
	comp=E,0.8nm,22.0s						
BRG				Amp		10 50 15.0	
	comp=Z,6.2nm,20.2s						
TORD	Torodi Ar. Bea	160.41	180	PKP	PKPdf	10 45 31.5	-1.5
	comp=Z,0.4nm,0.9s,baz=236,slow=4.7,SNR=2.3						
TORD				PKPab	PKPab	10 46 13.4	-0.3
	comp=Z,1.1nm,0.8s,baz=191,slow=3.6,SNR=4.3						

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*NOU **07** 10:30:19.1, 33°.11S×176°.99W, h37km, mb5.0/41, South of Kermadec Islands*
*IDC **07** 10:30:20.6±0.4, 32°.74S×178°.16W, h0km, mb4.6/20, mb1 4.7/26, mb1mx4.6/48, mbtmp4.6/26, ML4.8/4, MS4.7/2, Ms1 4.6/2, ms1mx3.9/31, Error ellipse: s-maj=16.0km s-min=14.0km az=108.0*
*WEL **07** 10:30:20.8±0.6, 33°S±7°×17°8W±1°6, h154km±15km, M4.6/14, mB4.8/12, MLv5.5/14, Mw(mB)4.1/12, Error ellipse: s-maj=0.0km s-min=0.0km az=112.4*
*BJI **07** 10:30:21.2±0.0, 32°.71S×177°.90W, h6km, mB5.3/1, mb5.4/9, Ms5.4/1, Ms7 5.1/1*
*NEIC **07** 10:30:22.9±1.8, 32°.85S±0°.07×178°.18W±0°.05, h10km±1km, mb4.9/45, Error ellipse: s-maj=12.8km s-min=5.5km az=334.0*
ISC 07 10:30:25.3±0.3**, 32°.90S**±0°.04×**178°.19W**±0°.06**, h34km, n177, σ2s.16**/203**, mb4.8**/40**, 3D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.63	4	P	Pn	10 31 14.3	-4.8
GLKZ				S	Sn	10 31 55.6	-5.2
RAO	Raoul Island	3.64	4	Pn	Pn	10 31 15.1	-4.2
	116nm,0.3s,baz=117,slow=14,SNR=6.5						
RAO				Sn	Sn	10 31 57.6	-3.4
	142nm,0.3s,baz=119,slow=19,SNR=2.6						
RAO	Raoul Island	3.64	4	Pn	Pn	10 31 16.8	-2.4
RIZ	Raoul Island	3.65	4	P	Pn	10 31 13.5	-5.9
RIZ				S	Sn	10 31 57.2	-3.9
MXZ	Matakaoa Point	5.46	211	Pn	Pn	10 31 42.9	-1.3
MXZ	Matakaoa Point	5.46	211	P	Pn	10 31 42.9	-1.3
MXZ				S	Sn	10 32 45.2	-0.7
WMGZ	Waiomatatini S	5.64	208	P	Pn	10 31 45.4	-1.2
WMGZ				S	Sn	10 32 50.3	+0.1
PKGZ	Pakihiroa	5.84	210	P	Pn	10 31 48.0	-1.4
PKGZ				S	Sn	10 32 54.5	-0.7
HAZ	Te Kaha	5.86	213	P	Pn	10 31 49.7	0.0
HAZ				S	Sn	10 32 57.8	+2.3
PUZ	Puketiti	5.92	208	P	Pn	10 31 48.8	-1.7
PUZ				S	Sn	10 32 55.3	-1.8
RUGZ	Raukumara Rang	6.08	213	P	Pn	10 31 52.2	-0.6
RUGZ				S	Sn	10 33 04.6	+3.4
TWGZ	Tauwhareparae	6.12	210	P	Pn	10 31 51.3	-2.0
TWGZ				S	Sn	10 33 03.7	+1.6
CNGZ	Carnagh Statio	6.29	207	P	Pn	10 31 53.9	-1.8
CNGZ				S	Sn	10 33 08.0	+1.6
KUZ	Kuaotunu	6.31	231	P	Pn	10 31 57.2	+1.4
TKGZ	Te Karaka	6.40	209	P	Pn	10 31 55.6	-1.5
TKGZ				S	Sn	10 33 09.6	+0.7
MWZ	Matawai	6.45	212	P	Pn	10 31 56.4	-1.4
MWZ				S	Sn	10 33 10.5	+0.3
URZ	Urewera	6.58	214	Pn	Pn	10 31 58.6	-0.9
	9.9nm,0.3s,baz=95,slow=18,SNR=23						
URZ				Sn	Sn	10 33 12.7	-0.5
	47nm,0.3s,baz=58,slow=20,SNR=17						
URZ	Urewera	6.58	214	Pn	Pn	10 31 59.4	-0.1
OUZ	Omahuta	7.20	249	Pn	Pn	10 32 11.2	+3.2
NMHZ	Naumai	7.39	212	P	Pn	10 32 10.0	-0.8
NMHZ				S	Sn	10 33 33.3	-0.2
ARHZ	Aropaoanui	7.45	210	P	Pn	10 32 08.3	-3.2
ARHZ				S	Sn	10 33 33.3	-1.5
BKZ	Black Stump Fm	7.59	213		Pn	10 32 11.4	-2.1
BKZ	Black Stump Fm	7.59	213	P	Pn	10 32 10.8	-2.7
BKZ				S	Sn	10 33 36.7	-1.7
MCHZ	McNeill Hill	7.73	211	P	Pn	10 32 12.5	-2.8
MCHZ				S	Sn	10 33 42.6	+0.9
CKHZ	Cape Kidnapper	7.75	208	P	Sn	10 33 39.2	-3.0
KWHZ	Kaweka Forest	7.83	212	P	Pn	10 32 12.5	-4.3
KWHZ				S	Sn	10 33 43.4	-0.9
TMVZ	Te Maari	7.93	217	P	Sn	10 33 47.5	+0.7
ETVZ	East Tongariro	7.94	217	P	Sn	10 33 46.7	-0.4
KAHZ	Kahuranaki	7.95	209	P	Pn	10 32 13.3	-5.0
KAHZ				P	Sn	10 33 44.7	-2.4
OTVZ	Oturere	7.99	217	P	Pn	10 32 15.9	-3.2
OTVZ				P	Sn	10 33 46.7	-1.6
SNVZ	South Ngauruho	8.02	217	P	Sn	10 33 48.2	-0.8
KRHZ	Kereru	8.03	212	P	Pn	10 32 16.7	-2.9
KRHZ				S	Sn	10 33 45.1	-4.1
BHHZ	Black Hill Sta	8.05	214	P	Pn	10 32 17.5	-2.3
BHHZ				S	Sn	10 33 48.5	-1.2
TUVZ	Tukino	8.07	216	P	Pn	10 32 17.5	-2.7
TUVZ				P	Sn	10 33 48.5	-1.8
FWVZ	Far West T-bar	8.11	217	P	Pn	10 32 20.1	-0.8
FWVZ				P	Sn	10 33 43.6	-7.8
MOVZ	Moawhango	8.13	215	P	Pn	10 32 18.4	-2.6
MOVZ				S	Sn	10 33 46.8	-4.9
WNVZ	Wahianoa	8.15	216	P	Pn	10 32 20.1	-1.2
WNVZ				S	Sn	10 33 48.5	-3.7
PXZ	Pawanui	8.15	208	P	Pn	10 32 18.4	-2.8
PXZ				P	Sn	10 33 44.2	-7.9
PNHZ	Pukenui	8.33	211	P	Pn	10 32 20.1	-3.6
PNHZ				S	Sn	10 33 51.8	-4.7
WPHZ	Waipukurau	8.35	210	P	Pn	10 32 19.2	-4.7
WPHZ				S	Sn	10 33 55.2	-1.8
TSZ	Takapari Road	8.55	212	P	Pn	10 32 20.8	-5.9
TSZ				P	Sn	10 33 58.9	-3.1
DVHZ	Dannevirke	8.66	210	P	Pn	10 32 25.0	-3.2
DVHZ				P	Sn	10 34 00.4	-4.3
ANWZ	Angora Road	8.68	208	P	Pn	10 32 21.6	-6.6
ANWZ				P	Sn	10 33 59.3	-5.6
BFZ	Birch Farm	8.96	208	P	Pn	10 32 24.2	-8.0
BFZ				P	Sn	10 34 06.7	-5.1
PRWZ	Pori Road	8.96	210	P	Pn	10 32 28.4	-3.8
PRWZ				P	Sn	10 34 02.5	-9.4
MRZ	Mangatainoka R	9.21	211	P	Pn	10 32 30.2	-5.5
MRZ				S	Sn	10 34 12.0	-6.2
TUWZ	Tuamarina	10.57	214	Pn	Pn	10 32 52.2	-2.0
LTZ	Lake Taylor	12.41	215	Pn	Pn	10 33 17.2	-2.2
MSVF	Nonsavu	15.47	346	Pn	Pn	10 33 58.2	-2.9
	0.3nm,0.3s,baz=160,slow=14,SNR=4.2						
MSVF	Nonsavu	15.47	346	IAmb	IAmb	10 34 06.8	
	comp=Z,26nm,1.1s						
PINNC	Pines Island,	16.31	305	P	P	10 34 13.5	-0.9
PINNC				IAmb	IAmb	10 34 29.4	
	comp=Z,73nm,1.1s						
OUENC	Ouen Island, N	16.86	305	P	P	10 34 21.3	+0.9
OUENC				IAmb	IAmb	10 34 25.8	
	comp=Z,112nm,1.0s						
OUENC	Ouen Island, N	16.86	305	P	P	10 34 24.1	+3.7
YATNC	Mamie plateau,	17.06	306	P	P	10 34 28.6	+5.9
ONTNC	Ouen Toro	17.20	304	P	P	10 34 24.5	+0.3
ONTNC				IAmb	IAmb	10 34 30.3	
	comp=Z,60nm,0.7s						
DZM	Mont Dzumac	17.36	305	P	Pn	10 34 21.9	-3.1
	comp=Z,0.2nm,0.3s,baz=106,slow=17,SNR=2.5						
DZM				S	Sn	10 37 22.5	-15
	comp=Z,0.4nm,0.3s,baz=100,slow=16,SNR=4.0						
DZM				LR	LR	10 39 44.6	
	comp=Z,2μm,18.4s,baz=86,slow=33						
DZM	Mont Dzumac	17.36	305		P	10 34 26.2	+0.1
DZM				IAmb	IAmb	10 34 49.5	
	comp=Z,95nm,1.3s						
DZM	Mont Dzumac	17.36	305	P	P	10 34 30.6	+4.5
NOUC	Port Laguerre	17.44	304	P	P	10 34 30.8	+3.9
AFI	Afiamalu	19.79	19	P	P	10 34 49.4	-3.3
	comp=Z,1.5nm,0.3s,baz=221,slow=17,SNR=3.6						
AFI	Afiamalu	19.79	19	P	P	10 34 51.6	-1.2
AFI				IAmb	IAmb	10 35 18.6	
	comp=Z,72nm,1.0s						
KOUNC	Koumac, New Ca	19.87	304	P	Pn	10 34 57.6	+2.3
RAR	Rarotonga	20.08	59	P	P	10 34 54.8	-1.0
	comp=Z,1.1nm,0.3s,baz=245,slow=8.2,SNR=3.7						
ARMA	Armidale	25.77	267	P	P	10 35 54.0	+1.0
ARMA				IAmb	IAmb	10 36 20.4	
	comp=Z,33nm,1.3s						
EIDS	Eidsvold	27.80	278	P	P	10 36 12.3	+1.0
EIDS				IAmb	IAmb	10 36 14.6	
	comp=Z,15nm,0.9s						
TAU	Tasmania Unive	28.81	240	P	P	10 36 21.1	+1.0
TOO	Toolangi	29.91	251	P	P	10 36 31.4	+1.4
TOO				IAmb	IAmb	10 36 44.1	
	comp=Z,32nm,1.4s						
STKA	Stephens Creek	33.83	261	P	P	10 37 05.3	+0.9
	comp=Z,3.4nm,0.7s,baz=112,slow=11,SNR=8.7						
STKA				LR	LR	10 49 51.8	
	comp=Z,1μm,18.4s,baz=47,slow=35						
CTA	Charters Tower	34.12	283	P	P	10 37 08.5	+1.5
	comp=Z,19nm,0.5s,baz=119,slow=10,SNR=32						
CTAO	Charters Tower	34.12	283	P	P	10 37 08.6	+1.6
BBOO	Buckleboo	38.20	257	P	P	10 37 41.4	-0.4
COEN	Coen	39.86	289	P	P	10 37 56.5	+0.6
COEN				IAmb	IAmb	10 38 15.1	
	comp=Z,27nm,1.1s						
AS31	Alice Springs	42.87	270	P	P	10 38 20.9	+0.4
ASAR	Alice Springs	42.87	270	P	P	10 38 20.4	-0.1
	comp=Z,17nm,0.7s,baz=106,slow=7.4,SNR=122						
ASAR				PcP	PcP	10 40 11.8	+0.6
	comp=Z,1.4nm,0.7s,baz=111,slow=5.4,SNR=1.2						
ASAR				S	S	10 44 41.7	-1.3
	comp=Z,0.6nm,0.7s,baz=118,slow=14,SNR=3.5						
ASAR	Alice Springs	42.87	270	P	P	10 38 20.8	+0.3
WR0	Warramunga Arr	43.91	275	IAmb	IAmb	10 38 32.3	
	comp=Z,19nm,0.6s						
WB2	Warramunga Arr	44.07	275	P	P	10 38 30.3	0.0
WRAB	Tennant Creek	44.08	275	P	P	10 38 30.2	-0.1
WRAB				IAmb	IAmb	10 38 33.9	
	comp=Z,23nm,0.7s						
WRA	Warramunga Arr	44.08	275	P	P	10 38 30.0	-0.3
	comp=Z,26nm,0.6s,baz=118,slow=7.6,SNR=212						
WRA				PcP	PcP	10 40 17.6	+2.4
	comp=Z,0.9nm,0.4s,baz=138,slow=3.5,SNR=1.5						
WRA				S	S	10 44 57.5	-3.3
	comp=Z,1.1nm,0.9s,baz=119,slow=14,SNR=2.9						
FORT	Forrest	45.30	258	P	P	10 38 39.1	-0.7
VNDA	Vanda	45.60	186	P	P	10 38 43.6	+2.0
	comp=Z,2.0nm,1.1s,baz=13,slow=9.3,SNR=4.4						
VNDA				S	S	10 45 23.3	+1.9
	comp=Z,1.3nm,0.6s,baz=87,slow=19,SNR=6.9						
VNDA	Vanda	45.60	186	P	P	10 38 44.2	+2.6
JAY	Jayapura	48.94	299	P	P	10 39 10.0	+1.6
	comp=Z,17nm,1.6s						
GENI	Genyem	49.28	299	P	P	10 39 11.8	+0.8
	comp=Z,49nm,1.2s						
KNRA	Kununurra	50.77	276	P	P	10 39 22.5	+0.2
KNRA				IAmb	IAmb	10 39 24.4	
	comp=Z,38nm,1.2s						
FITZ	Fitzroy Crossi	52.23	272	P	P	10 39 33.3	0.0
FITZ				IAmb	IAmb	10 39 35.0	
	comp=Z,12nm,0.9s						
CASY	Casey	52.87	209	P	P	10 39 38.3	+1.0
CASY				IAmb	IAmb	10 39 41.4	
	comp=Z,40nm,1.4s						
PSA00	Pilbara Seismi	55.55	265	IAmb	IAmb	10 40 07.8	
	comp=Z,12nm,1.3s						
MORW	Morawa	55.70	255	P	P	10 39 58.6	+0.1
MORW				IAmb	IAmb	10 40 02.1	
	comp=Z,6.1nm,0.7s						
QSPA	South Pole Qui	57.22	180	P	P	10 40 10.8	+1.9
	comp=Z,9.9nm,0.9s,baz=48,slow=2.9,SNR=21						
QSPA	South Pole Qui	57.22	180	P	P	10 40 10.8	+1.9
SOEI	Soe	57.58	280	P	P	10 40 11.4	-0.7
SOEI	Soe	57.58	280	P	P	10 40 12.4	+0.3
	comp=Z,41nm,1.3s						
EDFI	Ende, Flores	60.26	279	P	P	10 40 29.9	-0.8
	comp=Z,5.7nm,1.6s						
BELA	Belgrano 2	67.34	172	P	P	10 41 16.5	+0.2
BELA				IAmb	IAmb	10 41 33.9	
	comp=Z,8.9nm,0.9s						
MAW	Mawson	69.92	201	P	P	10 41 33.3	+0.9
	comp=Z,8.9nm,0.9s,baz=116,slow=7.4,SNR=14						
MAW	Mawson	69.92	201	P	P	10 41 34.0	+1.5
SYO	Syowa Base	74.65	193	⇓*e*P	P	10 42 02.2	+1.5
SYO	Syowa Base	74.65	193	⇓*e*sP	sP	10 42 06.8	-6.0
PTKI	Pontianak	75.18	280	P	P	10 42 01.5	-3.2
SNAA	Sanae	75.67	178	P	P	10 42 06.9	+0.3
SNAA	Sanae	75.67	178	PcP	PcP	10 42 17.9	-1.4
SNAA	Sanae	75.67	178	P	P	10 42 07.1	+0.4
VNA3	Neumayer Olymp	75.83	176	P	P	10 42 07.6	+0.1
VNA3	Neumayer Olymp	75.83	176	PcP	PcP	10 42 19.3	-0.7
VNA2	Neumayer--Watz	76.26	177	P	P	10 42 10.5	+0.6
	baz=176,slow=6.1						
VNA2	Neumayer--Watz	76.26	177	PcP	PcP	10 42 21.8	0.0
VNA1	Neumayer--Stat	76.49	177	P	P	10 42 11.7	+0.5
VNA1	Neumayer--Stat	76.49	177	PcP	PcP	10 42 23.3	+0.5
LL02	Futaleuf	78.72	134	P	P	10 42 25.3	+1.1
LL02				IAmb	IAmb	10 42 28.0	
	comp=Z,21nm,1.4s						
MJAR	Matsushiro Arr	80.20	326	P	P	10 42 31.6	-0.5
	comp=Z,1.2nm,0.7s,baz=158,slow=5.9,SNR=2.7						
PLCA	Paso Flores	80.93	133	P	P	10 42 37.5	+1.1
	comp=Z,5.1nm,0.9s,baz=198,slow=7.3,SNR=6.9						
PLCA	Paso Flores	80.93	133	P	P	10 42 37.8	+1.4
PLCA				IAmb	IAmb	10 42 38.6	
	comp=Z,10nm,1.1s						
ASAJ	Asahikawa	84.58	333	P	P	10 42 55.5	+0.7
	comp=Z,4.0nm,0.8s,baz=185,slow=9.1,SNR=5.0						
KSRS	Korea Array	86.14	320	P	P	10 43 03.4	+0.7
	comp=Z,2.7nm,0.7s,baz=140,slow=5.8,SNR=12						
CO02	Combarbal	86.24	125	P	P	10 43 04.4	+0.6
NJ2	Nanjing	87.74	311	*e*P	P	10 43 14.1	+3.5
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ISA	Isabella, Lake	88.19	45	P	P	10 43 13.8	+1.0
ISA				IAmb	IAmb	10 43 14.8	
	comp=Z,6.4nm,1.1s						
PEA0B	Petropavlovsk-	88.19	346	P	P	10 43 13.4	+1.2
PETK	Petropavlovsk-	88.19	346	P	P	10 43 11.9	-0.3
	comp=Z,7.4nm,0.9s,baz=126,slow=7.5,SNR=8.9						
PETK	Petropavlovsk-	88.19	346	P	P	10 43 12.9	+0.7
USRK	Ussuriysk Ar.	89.15	327	P	P	10 43 17.5	+0.5
	comp=Z,1.6nm,0.7s,baz=132,slow=4.3,SNR=13						
YBH	Yreka Blue Hor	90.10	38	P	P	10 43 22.3	+0.7
	comp=Z,1.9nm,0.9s,baz=208,slow=4.3,SNR=3.9						
NVAR	Mina Array Bea	90.18	43	P	P	10 43 22.2	0.0
	comp=Z,1.8nm,0.9s,baz=215,slow=8.5,SNR=12						
NVAR	Mina Array Bea	90.18	43	P	P	10 43 22.6	+0.4
TUC	Tucson	90.80	51	P	P	10 43 26.3	+1.2
TUC				IAmb	IAmb	10 43 35.7	
	comp=Z,5.8nm,1.3s						
PRN	Pahroc Range	91.39	45	P	P	10 43 29.4	+1.5
PRN				IAmb	IAmb	10 43 49.8	
	comp=Z,6.2nm,1.1s						
KDAK	Kodiak Island	92.87	13	P	P	10 43 33.5	-0.4
	comp=Z,4.9nm,1.0s,baz=225,slow=1.4,SNR=2.8						
TXAR	Lajitas Array	93.87	58	P	P	10 43 39.1	-0.3
	comp=Z,0.4nm,0.9s,baz=198,slow=7.9,SNR=5.4						
LPAZ	La Paz	97.27	115	P	Pdif	10 43 56.8	+0.8
	comp=Z,1.2nm,0.8s,baz=248,slow=1.2,SNR=4.6						
LPAZ	La Paz	97.27	115	IAmb	IAmb	10 44 16.8	
	comp=Z,4.4nm,1.3s						
HHC	Hu-ho-hao-te	97.84	314	*e*P	Pdif	10 44 00.8	+3.5
HHC				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PDAR	Pinedale Array	98.05	44	P	Pdif	10 43 58.5	+0.1
	comp=Z,0.2nm,0.5s,baz=186,slow=3.6,SNR=3.7						
DLBC	Dease Lake	99.47	23	P	Pdif	10 44 03.1	-0.9
	comp=Z,5.2nm,0.7s,baz=180,slow=6.1,SNR=3.7						
DLBC	Dease Lake	99.47	23		Pdif	10 44 05.6	+1.5
WMQ	Urumqi	114.62	307	*e*PKP	PKiKP	10 49 03.4	+1.6
MKAR	Makanchi Array	119.23	309	PKP	PKPdf	10 49 09.7	-0.8
	comp=Z,2.0nm,0.6s,baz=99,slow=0.6,SNR=21						
ZALV	Zalesovo Beam	119.77	317	PKP	PKiKP	10 49 11.2	-0.1
	comp=Z,0.7nm,0.3s,baz=70,slow=1.7,SNR=4.0						
KSH	Kashi	121.34	299	PKP	PKiKP	10 49 16.6	+1.6
BOOM	Boomskoye usch	122.27	303	PKPdf	PKiKP	10 49 17.6	+0.8
KURK	Kurchatov	122.64	313		PKiKP	10 49 16.9	-0.1
KURBB	Kurchatov Arra	122.67	313	PKP	PKiKP	10 49 16.9	-0.2
	comp=Z,5.7nm,0.7s,baz=112,slow=1.8,SNR=41						
AAK	Ala-Archa	123.34	303	PKP	PKiKP	10 49 19.3	+0.4
	comp=Z,2.2nm,0.6s,baz=130,slow=7.3,SNR=5.8						
AAK	Ala-Archa	123.34	303	PKPdf	PKiKP	10 49 19.7	+0.7
KK31	Karatay Array	126.29	302	PKPdf	PKiKP	10 49 24.8	+0.2
BVAR	Borovoye Array	128.05	314	PKP	PKiKP	10 49 28.0	+0.3
	comp=Z,3.2nm,0.6s,baz=212,slow=5.1,SNR=15						
ARU	Arti	134.89	319	PKP	PKiKP	10 49 40.7	-0.7
	comp=Z,2.3nm,0.2s,baz=23,slow=6.6,SNR=7.7						
AKTO	Aktyubinsk	135.63	311	PKP	PKPdf	10 49 41.7	+0.1
	comp=Z,3.8nm,0.8s,baz=74,slow=7.9,SNR=14						
ARCES	ARCESS Array B	140.98	347	PKP	PKPdf	10 49 51.0	+0.2
	comp=Z,2.4nm,0.8s,baz=31,slow=3.3,SNR=2.3						
BELG	Belogornoye	141.86	315	PKP	PKPdf	10 49 53.8	+1.0
	comp=Z,18nm,0.8s,baz=87,slow=3.6,SNR=5.7						
KLMR	Klimovskoe	142.86	330	*e*PKPdf	PKPdf	10 49 48.9	-5.5
KLMR				AMP		10 50 03.9	
	comp=Z,36nm,1.5s						
KBZ	Khabaz	146.31	301	PKPbc	PKPbc	10 50 02.1	0.0
	comp=Z,4.2nm,0.8s,baz=126,slow=3.8,SNR=6.8						
OBN	Obninsk	147.09	323	PKPbc	PKPbc	10 50 04.2	+0.2
	comp=Z,4.5nm,0.3s,baz=80,slow=6.1,SNR=10						
FINES	FINESS Array B	147.42	338	PKPbc	PKPbc	10 50 05.0	+0.3
	comp=Z,21nm,0.6s,baz=44,slow=3.8,SNR=49						
FINES	FINESS Array B	147.42	338		PKPbc	10 50 04.6	-0.1
MEF	Metsahovi	148.89	338	*e*P	PKiKP	10 50 09.2	-0.8
VSU	Vasula	149.42	334	*e*P	PKPdf	10 50 07.5	+2.0
AAL	Aland	150.19	342	*e*P	PKPab	10 50 15.8	-2.2
UPP	Uppsala	151.07	343	*e*P	PKPab	10 50 21.3	-0.3
NB2	NORSAR Subarra	151.19	350	PKP	PKPbc	10 50 14.1	-0.2
	comp=Z,2.0nm,0.6s,baz=17,slow=2.6						
NOA	NORSAR Array B	151.19	350	PKP	PKPdf	10 50 09.2	+0.9
	comp=Z,0.9nm,1.0s,baz=13,slow=4.1,SNR=1.5						
NOA				PKPbc	PKiKP	10 50 14.4	-0.3
	comp=Z,2.1nm,0.6s,baz=14,slow=4.1,SNR=12						
ISAL	Salakas	151.69	330	*e*P	PKiKP	10 50 16.6	+0.7
IIGN	Ignalina	151.79	330	*e*P	PKiKP	10 50 16.6	+0.5
NACGM	Naroch	151.85	329	*i* PKP	PKiKP	10 50 16.7	+0.4
PABE	Paberze	152.60	332	*e*P	PKiKP	10 50 18.5	+0.8
LIC	Lamto	152.71	165	*e*P	PKiKP	10 50 19.4	+0.1
	comp=Z,29nm,0.7s						
KIC	Kosan Boka	152.90	166	*e*P	PKiKP	10 50 20.9	+1.2
	comp=Z,11nm,0.7s						
TIC	Toumodi	153.12	165	*e*P	PKiKP	10 50 21.4	+1.2
AKASG	Malin Array Be	153.14	320	PKP	PKPdf	10 50 12.7	+1.2
	comp=Z,5.2nm,0.8s,baz=47,slow=2.7,SNR=4.0						
AKASG				PKPbc	PKPbc	10 50 19.4	+0.4
	comp=Z,3.2nm,0.6s,baz=49,slow=2.5,SNR=11						
DBIC	Dimbokro	153.18	165	PKPbc	PKiKP	10 50 20.8	+0.5
	comp=Z,15nm,1.2s,baz=178,slow=0.7,SNR=5.1						
BRTR	Keskin Array B	153.55	294	PKPbc	PKiKP	10 50 21.3	+0.8
	comp=Z,1.9nm,0.5s,baz=111,slow=5.4,SNR=7.0						
BRTR	Keskin Array B	153.55	294		PKiKP	10 50 20.5	0.0
COP	Copenhagen	156.04	345	IAMs_20	IAMs_20	10 50 28.6	
	comp=Z,37μm,18.5s						
CLL	Collm	159.86	339	⇓*i*PKPab	PKPab	10 50 59.3	-0.1
	comp=Z,11nm,1.0s						
CLL				*i* pPKPab	pPKPab	10 51 09.7	+1.2
BRG	Berggiesshubel	159.94	337	P	PKPab	10 51 11.6	+12
BRG				Amp		10 51 14.5	
	comp=Z,13nm,1.4s						
TORD	Torodi Ar. Bea	160.34	180	PKP	PKPdf	10 50 21.9	+0.1
	comp=Z,1.4nm,0.9s,baz=153,slow=0.7,SNR=5.4						
TORD				PKPab	PKPab	10 51 04.0	+1.7
	comp=Z,2.4nm,1.0s,baz=194,slow=3.3,SNR=5.6						
GERES	GERESS Array B	161.74	334	PKPab	PKPab	10 51 07.2	-0.6
	comp=Z,1.0nm,0.6s,baz=52,slow=5.2,SNR=4.5						

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*KRNET **07** 10:32:22.0±0.1, 40°.44N×74°.29E, h24km, mb2.3*
*NNC **07** 10:32:31.0±1.6, 40°.84N×73°.59E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=12.0km s-min=6.0km az=167.0*
*SOME **07** 10:32:30.8, 40°.83N×73°.57E, h15km*
ISC 07 10:32:27.3±1.5**, 40°.53N**±0°.06×**73°.72E**±0°.05**, h7km**±16km**, n17, σ1s.76**/27**, 12C-6D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.54	198	⇑*i*P	Pg	10 32 36.1	-1.7
	baz=35						
SFK				⇑*i*S	Sg	10 32 46.3	+1.3
	baz=35						
OHH	Osh	0.71	270	⇑*i*P	Pn	10 32 43.6	-0.2
	baz=75						
OHH				⇑*i*S	Sn	10 32 58.6	+3.5
	baz=75						
ARLS	Aral	1.41	19	⇓*i*P	Pn	10 32 47.5	-5.9
	baz=1.0						
ARLS				⇓*i*S	Sn	10 33 06.4	-5.9
	baz=1.0						
DRK	Karamyk	1.81	235	⇑*i*P	Pn	10 32 58.2	-0.9
	baz=44						
DRK				⇑*i*S	Sb	10 33 24.2	+0.3
	baz=44						
AAK	Ala-Archa	2.18	15	⇑Pg	Pn	10 33 05.5	+1.3
	0.5nm,0.5s						
AAK				⇑Lg	Lg	10 33 32.2	
	3.0nm,0.7s						
TRKS	Terek-Say	2.19	298	⇓*i*P	Pn	10 33 04.5	+0.2
	baz=94						
TRKS				⇓*i*S	Sb	10 33 34.5	-0.2
	baz=94						
MRKS	Merke	2.24	351	*e*P	Pn	10 33 06.2	+1.2
	3.2nm,0.3s						
MRKS				*e*S	Sn	10 33 31.5	-1.4
	13nm,0.3s						
MRKS	Merke	2.24	351	P	Pn	10 33 06.2	+1.2
	3.2nm,0.3s						
MRKS				S	Sn	10 33 31.5	-1.4
	13nm,0.3s						
BTK	Batken	2.27	259	⇑*i*P	Pn	10 33 06.1	+0.9
	baz=63						
BTK				⇑*i*S	Sb	10 33 37.5	+0.6
	baz=63						
TKM2	Tokmak 2	2.77	30	⇓Pg	Pb	10 33 18.3	+1.0
	1.2nm,0.6s						
TKM2				⇑Lg	Lg	10 33 51.7	
	3.5nm,0.6s						
KST	Kastek	3.02	33	*e*P	Pb	10 33 22.3	+0.8
	1.8nm,0.4s						
KST				*e*S	Sb	10 33 59.0	+0.5
	3.8nm,0.4s						
KST	Kastek	3.02	33	Pg	Pb	10 33 22.3	+0.8
	1.8nm,0.4s						
KST				Lg	Lg	10 33 59.0	
	3.8nm,0.4s						
DGS	Degeres	3.11	29	*e*P	Pb	10 33 24.3	+1.3
	5.4nm,0.5s						
DGS				*e*S	Sb	10 34 02.5	+1.3
	5.1nm,0.4s						
DGS	Degeres	3.11	29	Pg	Pb	10 33 24.3	+1.3
	5.4nm,0.5s						
DGS				Lg	Lg	10 34 02.5	
	5.1nm,0.4s						
IUG	Iuzhnay	3.21	301	*e*P	Pb	10 33 24.9	+0.2
	107nm,0.5s						
IUG				*e*S	Sb	10 34 03.4	-0.6
	11nm,0.3s						
IUG	Iuzhnay	3.21	301	Pg	Pb	10 33 24.9	+0.2
	107nm,0.5s						
IUG				Lg	Lg	10 34 03.4	
	11nm,0.3s						
KK31	Karatay Array	3.51	318	⇓Pg	Pb	10 33 30.0	+0.2
	0.3nm,0.4s						
KK31				⇑Lg	Lg	10 34 12.5	
	1.5nm,0.5s,baz=127,slow=28,SNR=7.7						

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*IDC **07** 10:33:13.8±1.0, 32°.68S×178°.08W, h0km, mb4.3/7, mb1 4.4/10, mb1mx4.1/44, mbtmp4.3/10, ML4.0/3, Error ellipse: s-maj=34.1km s-min=20.2km az=151.0*
*NEIC **07** 10:33:14.7±2.1, 32°.71S±0°.09×177°.8W±0°.2, h10km±1km, mb4.6/13, Error ellipse: s-maj=23.5km s-min=12.8km az=109.0*
*WEL **07** 10:33:16.8±0.8, 33°S±8°×17°8W±2°1, h33km, M4.9/2, ML5.2/10, MLv4.9/2, Error ellipse: s-maj=0.0km s-min=0.0km az=109.4*
ISC 07 10:33:16.1±0.6**, 32°.71S**±0°.06×**177°.98W**±0°.10**, h20km, n66, σ2s.42**/79**, mb4.5**/10**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.43	1	P	Pn	10 34 04.5	-4.0
GLKZ				S	Sn	10 34 43.2	-5.4
RAO	Raoul Island	3.44	1	Pn	Pn	10 34 06.9	-1.8
	51nm,0.3s,baz=287,slow=21,SNR=1.4						

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
RAO				Sn	Sn	10 34 45.2	-3.7
	148nm,0.3s,baz=100,slow=22,SNR=2.9						
RAO	Raoul Island	3.44	1	Pn	Pn	10 34 08.4	-0.2
RIZ	Raoul Island	3.45	1	S	Sn	10 34 46.8	-2.2
MXZ	Matakaoa Point	5.72	211	P	Pn	10 34 35.8	-4.1
MXZ				S	Sn	10 35 40.6	-4.3
WMGZ	Waiomatatini S	5.89	209	P	Pn	10 34 40.0	-2.2
WMGZ				S	Sn	10 35 50.7	+1.6
PKGZ	Pakihiroa	6.09	211	P	Pn	10 34 45.1	0.0
PKGZ				S	Sn	10 35 51.6	-2.6
HAZ	Te Kaha	6.11	213	P	Pn	10 34 44.7	-0.6
HAZ				S	Sn	10 35 57.2	+2.5
PUZ	Puketiti	6.17	209	P	Pn	10 34 45.7	-0.4
PUZ				S	Sn	10 35 56.4	+0.3
RUGZ	Raukumara Rang	6.33	213	P	Pn	10 34 48.6	+0.2
RUGZ				S	Sn	10 36 00.2	0.0
TWGZ	Tauwhareparae	6.37	210	P	Pn	10 34 49.3	+0.3
TWGZ				S	Sn	10 36 02.5	+1.4
CNGZ	Carnagh Statio	6.54	207	P	Pn	10 34 49.3	-2.0
CNGZ				S	Sn	10 36 05.9	+0.6
KUZ	Kuaotunu	6.56	230	P	Pn	10 34 51.7	+0.2
MWZ	Matawai	6.70	212	P	Pn	10 34 54.5	+1.1
MWZ				S	Sn	10 36 08.6	-0.5
URZ	Urewera	6.83	214	Pn	Pn	10 34 54.7	-0.5
	5.2nm,0.3s,baz=355,slow=13,SNR=0.9						
URZ				Sn	Sn	10 36 10.1	-2.2
	3.1nm,0.3s,baz=119,slow=19,SNR=3.9						
URZ	Urewera	6.83	214	Pn	Pn	10 34 55.1	0.0
OUZ	Omahuta	7.43	248	Pn	Pn	10 35 05.3	+2.0
NMHZ	Naumai	7.65	212	S	Sn	10 36 31.3	-1.2
ARHZ	Aropaoanui	7.70	210	P	Sn	10 36 34.1	+0.3
BKZ	Black Stump Fm	7.85	213	Pn	Pn	10 35 10.3	+1.2
MCHZ	McNeill Hill	7.98	211	P	Pn	10 35 12.2	+1.2
MCHZ				S	Sn	10 36 39.7	-0.9
KWHZ	Kaweka Forest	8.09	212	P	Sn	10 36 41.4	-1.9
KAHZ	Kahuranaki	8.20	209	P	Sn	10 36 42.3	-3.8
ETVZ	East Tongariro	8.20	217	P	Sn	10 36 43.9	-2.3
KRHZ	Kereru	8.29	212	S	Sn	10 36 46.3	-1.9
MOVZ	Moawhango	8.39	215	P	Pn	10 35 14.5	-2.1
MOVZ				P	Sn	10 36 46.6	-4.2
PXZ	Pawanui	8.41	208	P	Sn	10 36 48.8	-2.2
PNHZ	Pukenui	8.59	211	S	Sn	10 36 49.7	-5.9
WPHZ	Waipukurau	8.61	210	P	Sn	10 36 53.8	-2.2
TSZ	Takapari Road	8.81	212	P	Sn	10 36 55.9	-5.1
DVHZ	Dannevirke	8.92	210	P	Sn	10 36 58.0	-5.7
ANWZ	Angora Road	8.93	208	P	Sn	10 36 59.3	-4.5
BFZ	Birch Farm	9.21	209	P	Sn	10 37 04.8	-6.0
MRZ	Mangatainoka R	9.47	211	S	Sn	10 37 09.2	-8.0
OUENC	Ouen Island, N	16.89	304		P	10 37 13.7	+0.4
OUENC				IAmb	IAmb	10 37 18.4	
	comp=Z,44nm,1.0s						
RAR	Rarotonga	19.83	59	P	Pn	10 37 47.4	+0.1
	comp=Z,0.8nm,0.3s,baz=270,slow=9.1,SNR=1.7						
EIDS	Eidsvold	27.95	277	P	P	10 39 06.1	+0.8
EIDS				IAmb	IAmb	10 39 19.9	
	comp=Z,11nm,1.1s						
STKA	Stephens Creek	34.04	260	P	P	10 40 00.1	+1.2
	comp=Z,2.2nm,0.9s,baz=77,slow=14,SNR=1.7						
CTA	Charters Tower	34.25	283	P	P	10 40 02.2	+1.4
	comp=Z,6.5nm,0.5s,baz=114,slow=11,SNR=9.0						
CTAO	Charters Tower	34.25	283	P	P	10 40 02.2	+1.4
COEN	Coen	39.97	289	P	P	10 40 51.3	+1.9
AS31	Alice Springs	43.05	269	P	P	10 41 14.6	-0.1
ASAR	Alice Springs	43.05	269	P	P	10 41 14.3	-0.4
	comp=Z,7.0nm,0.7s,baz=107,slow=7.7,SNR=12						
WR0	Warramunga Arr	44.07	275	P	P	10 41 22.8	-0.1
WR0				IAmb	IAmb	10 41 39.2	
	comp=Z,12nm,0.9s						
WB2	Warramunga Arr	44.23	275	P	P	10 41 24.0	-0.3
WRAB	Tennant Creek	44.24	275	P	P	10 41 24.0	-0.4
WRA	Warramunga Arr	44.24	275	P	P	10 41 23.8	-0.6
	comp=Z,8.6nm,0.6s,baz=112,slow=8.0,SNR=14						
WRA	Warramunga Arr	44.24	275	P	P	10 41 23.4	-1.0
FORT	Forrest	45.51	257	P	P	10 41 33.7	-0.6
MTN	Manton Dam	50.39	281	P	P	10 42 11.6	-0.7
FITZ	Fitzroy Crossi	52.40	272	P	P	10 42 27.7	+0.4
CASY	Casey	53.12	209	P	P	10 42 32.5	+0.6
SNAA	Sanae	75.86	178	P	P	10 45 13.2	+13
SNAA	Sanae	75.86	178	P	P	10 45 00.6	0.0
SNAA				IAmb	IAmb	10 45 14.5	
	comp=Z,9.5nm,1.2s						
VNA3	Neumayer Olymp	76.01	176	P	P	10 45 14.7	+13
VNA2	Neumayer--Watz	76.44	177	P	P	10 45 17.2	+13
	baz=174,slow=5.0						
VNA1	Neumayer--Stat	76.67	176	P	P	10 45 18.6	+13
PETK	Petropavlovsk-	88.04	346	P	P	10 46 05.7	+1.3
	comp=Z,1.2nm,0.6s,baz=133,slow=6.3,SNR=2.1						
USRK	Ussuriysk Ar.	89.09	327	P	P	10 46 10.6	+1.0
	comp=Z,0.7nm,0.7s,baz=140,slow=4.7,SNR=2.7						
TXAR	Lajitas Array	93.62	57	P	P	10 46 33.9	+2.7
	comp=Z,0.3nm,0.9s,baz=224,slow=3.6,SNR=2.6						
BVAR	Borovoye Array	128.04	315	PKP	PKPdf	10 52 20.8	+0.6
	comp=Z,0.9nm,0.6s,baz=359,slow=7.5,SNR=2.7						
FINES	FINESS Array B	147.30	339	PKPbc	PKPbc	10 52 57.5	+0.1
	comp=Z,5.0nm,0.6s,baz=55,slow=2.6,SNR=7.2						
NOA	NORSAR Array B	151.03	351	PKPbc	PKPbc	10 53 06.7	-0.2
	comp=Z,0.3nm,0.5s,baz=14,slow=4.1,SNR=2.4						
NOA				PKPab	PKPab	10 53 14.9	+0.4
	comp=Z,1.8nm,0.9s,baz=18,slow=3.0,SNR=3.3						
HFS	Hagfors	151.50	348	PKPbc	PKPbc	10 53 08.7	+0.7
	comp=Z,4.0nm,0.9s,baz=27,slow=3.6,SNR=2.6						
HFS				PKPab	PKPab	10 53 16.6	+0.2
	comp=Z,2.4nm,0.7s,baz=106,slow=5.2,SNR=1.7						
BRTR	Keskin Array B	153.64	294	PKPbc	PKPbc	10 53 12.9	-0.7
	comp=Z,0.9nm,0.6s,baz=146,slow=2.8,SNR=2.7						
BRTR				PKPab	PKPab	10 53 27.5	+1.2
	comp=Z,0.6nm,0.4s,baz=146,slow=5.0,SNR=3.3						
TORD	Torodi Ar. Bea	160.53	179	PKPab	PKPab	10 53 56.6	+0.5
	comp=Z,0.2nm,0.6s,baz=181,slow=3.2,SNR=2.4						

*BEO **07** 10:41:06.3±0.8, 41.°13N×20.°37E, h1km±3km, ML2.4/8*
*ATH **07** 10:41:07.9, 41.°11N×19.°93E, h26km±11km, ML2.3/4, Error ellipse: s-maj=12.2km s-min=1.1km az=7.0*
*TIR **07** 10:41:07.8, 41.°17N×20.°17E, h3km±1km, Md2.7, Ml2.5*
*THE **07** 10:41:08.9, 41.°18N×20.°17E, h16km±4km, ML2.3/4, Error ellipse: s-maj=5.1km s-min=0.6km az=359.0*
*PDG **07** 10:41:08.7±0.4, 41.°13N×19.°97E, h19km, ML2.5/12, Error ellipse: s-maj=0.7km s-min=1.5km az=0.0*
*SKO **07** 10:41:09.2, 41.°14N×20.°08E, h11km*
ISC 07 10:41:08.4±0.9**, 41.°16N**±0.°02×**20.°11E**±0.°02**, h17**km±7km**, n54, σ1.s11**/90**, 8C-5D, Albania**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
TIR	Tirane	0.26	316	ePg	Pg	10 41 14.2	-0.1
TIR				eSg	Sb	10 41 19.8	+0.8
TIR	Tirane	0.26	316	P	Pg	10 41 14.2	-0.1
TIR				S	Sb	10 41 19.8	+0.8
	980nm,0.3s						
TIR	Tirane	0.26	316	P	Pg	10 41 14.1	-0.3
TIR				S	Sg	10 41 18.7	+0.3
TIR				AML	AML	10 41 20.3	
	comp=E,5707μm,0.4s						
TIR				AML	AML	10 41 23.2	
	comp=N,4013μm,0.3s						
TIR	Tirane	0.26	316	P	Pg	10 41 14.2	-0.1
	baz=308						
TIR				S	Sb	10 41 19.6	+0.7
	baz=308						
TIR				AMP			
	comp=N,3.1nm,0.4s,baz=308						
TIR	Tirane	0.26	316	⇓iPg	Pg	10 41 14.2	-0.1
OHR	Ohrid	0.52	95	i Pg	Pb	10 41 19.4	+0.2
OHR				i Sg	Sn	10 41 28.0	-1.6
OHR				eLg	Lg	10 41 28.3	
	comp=N,49nm,0.3s						
OHR				eLg	Lg	10 41 29.1	
	comp=E,106nm,0.4s						
PHP	Peshkopia	0.58	25	P	Pg	10 41 19.4	-0.6
PHP	Peshkopia	0.58	25	P	Pg	10 41 19.7	-0.3
	baz=21						
PHP				S	Sb	10 41 28.4	+0.2
	baz=21						
PHP				AMP			
	comp=N,0.4nm,0.3s,baz=21						
KBN	Korca	0.74	136	P	Pg	10 41 22.7	-0.3
KBN				S	Sb	10 41 33.8	+1.1
	comp=N,290nm,0.6s						
KBN	Korca	0.74	136	P	Pg	10 41 22.6	-0.4
	baz=139						
KBN				S	Sn	10 41 34.6	-0.4
	baz=139						
KBN				AMP			
	comp=N,1.0nm,0.7s,baz=139						
NEST	Nestorio	1.03	136	P	Pb	10 41 27.8	0.0
NEST	Nestorio	1.03	136	P	Pb	10 41 27.8	0.0
NEST				S	Sg	10 41 42.1	+0.2
NEST				AML	AML	10 41 47.6	
	comp=E,286μm,0.4s						
NEST				AML	AML	10 41 47.7	
	comp=N,335μm,0.5s						
ULC	Ulcinj	1.03	321	i Pg	Pb	10 41 27.6	-0.2
ULC	Ulcinj	1.03	321	⇑iPg	Pb	10 41 27.2	-0.7
ULC				i Sg	Sn	10 41 43.6	+1.4
LSK	Leskovik	1.07	160	P	Pn	10 41 29.5	+0.8
	baz=162						
DRME	Dracevica, Mon	1.24	326	⇑iPg	Pn	10 41 31.2	+0.3
DRME				i Sg	Sg	10 41 49.8	+1.2
SRN	Sarande	1.28	184	P	Pn	10 41 32.5	+1.0
SKO	Skopje	1.29	50	i Pg	Pg	10 41 32.6	-0.7
SKO				i Sg	Sg	10 41 51.9	+1.8
PDG	Podgorica	1.42	334	ePg	Pn	10 41 34.5	+1.1
PDG				eSg	Sg	10 41 54.9	+0.5
PDG	Podgorica	1.42	334	i Pg	Pb	10 41 35.0	+0.5
PDG				i Sg	Sg	10 41 54.7	+0.3
TTG	Podgorica	1.42	334	⇓iPg	Pn	10 41 34.6	+1.1
TTG				i Sg	Sg	10 41 54.6	+0.2
PVY	Plav	1.44	356	⇓iPg	Pb	10 41 35.5	+0.7
PVY				i Sg	Sg	10 41 56.3	+1.3
BUM	Brajici-Budva	1.46	322	⇓iPg	Pn	10 41 34.3	+0.3
BUM				i Sg	Sb	10 41 55.2	+1.8
KEK	Kerkira	1.46	189	P	Pn	10 41 34.5	+0.5
KEK				S	Sn	10 41 54.5	+1.8
	comp=N,52nm,0.2s						
KEK	Kerkira	1.46	189	P	Pn	10 41 32.9	-1.1
KPRO	Kipourio	1.54	141	P	Pn	10 41 36.0	+1.0
KPRO				AML	AML	10 42 08.4	
	comp=N,128μm,0.8s						
KPRO				AML	AML	10 42 09.1	
	comp=E,132μm,0.7s						
IGT	Igoumenitsa	1.63	174	P	Pn	10 41 36.5	+0.1
IGT				S	Sn	10 41 57.8	+0.9
	comp=E,58nm,0.6s						
IGT	Igoumenitsa	1.63	174	P	Pn	10 41 36.2	-0.1
IGT				AML	AML	10 42 00.8	
	comp=E,114μm,0.8s						
IGT				AML	AML	10 42 01.3	
	comp=N,115μm,0.5s						
IGT	Igoumenitsa	1.63	174	i Pn	Pn	10 41 36.5	+0.1
CEME	Cevo	1.65	328	⇓iPn	Pn	10 41 37.3	+0.7
CEME				i Sn	Sb	10 41 59.7	+0.8
STIP	Stip	1.65	70	i Pn	Pg	10 41 39.7	-0.4
SCTE	Santa Cesarea	1.66	230	P	Pn	10 41 34.9	-1.8
IVA	Berane	1.72	355	⇑iPn	Pb	10 41 39.3	-0.3
IVA				i Sn	Sg	10 42 03.0	-0.9
GRG	Griva	1.75	96	i Pn	Pn	10 41 38.7	+0.8
KOME	Kolasin	1.75	346	⇑iPn	Pn	10 41 39.1	+1.1
KOME				i Sn	Sb	10 42 02.9	+1.2
HCY	Herceg Novi	1.77	317	⇑iPn	Pn	10 41 38.9	+0.7
HCY				eSn	Sb	10 42 02.5	+0.3
NKME	Niksic	1.82	332	⇑iPn	Pn	10 41 40.0	+1.0
NKME				i Sn	Sb	10 42 04.3	+0.4
BRY	Bratogost	2.10	327	⇑iPn	Pn	10 41 43.6	+0.7
BRY				i Sn	Sn	10 42 10.5	+1.9
SJES	Sjenica	2.10	357	ePn	Pn	10 41 43.5	+0.6
SJES				eSn	Sb	10 42 11.5	-0.5
SELS	Selova	2.19	20	ePn	Pn	10 41 44.4	+0.3
SELS				eSn	Sn	10 42 09.7	-1.1
BOSS	Bosilegrad	2.22	52	ePg	Pn	10 41 43.5	-0.9
BOSS				eSg	Sn	10 42 12.5	+1.1
UPM	Unac-Piva	2.23	337	⇑iPn	Pn	10 41 45.7	+1.0
UPM				i Sn	Sn	10 42 14.4	+2.4
IVAS	Ivanjica	2.42	1	ePn	Pn	10 41 47.6	+0.4
IVAS				eSn	Sn	10 42 18.5	+2.1
STON	Ston	2.48	314	ePn	Pn	10 41 47.9	0.0
BOVS	Bovan	2.74	25	ePn	Pn	10 41 50.0	-1.6
BBLS	Lazići	2.75	349	ePn	Pn	10 41 52.3	+0.5
BBLS				eSn	Sn	10 42 26.5	+1.8
ZAPS	Zavoj	2.83	41	ePn	Pn	10 41 50.8	-2.0
ZAPS				eSn	Sn	10 42 23.7	-2.7
MAKA	Makarska	3.13	314	ePn	Pn	10 41 55.0	-1.8
MAKA				Sn	Sn	10 42 31.9	-1.9
KIJV	Kijevo	3.95	317	ePn	Pn	10 42 08.1	-0.1
KIJV				Sn	Sn	10 42 52.4	-1.7
ZIRJ	Zirje	4.14	309	ePn	Pn	10 42 10.1	-0.7
ZIRJ				Sn	Sn	10 42 56.0	-2.7
MORI	Morici	4.23	311	ePn	Pn	10 42 11.8	-0.2
UDBI	Udbina	4.64	318	ePn	Pn	10 42 18.3	+0.5
DUGI	Dugi Otok	4.68	309	ePn	Pn	10 42 17.5	-0.8
DUGI				Sn	Sn	10 43 09.2	-3.0
NVLJ	Novalja	5.14	313	ePn	Pn	10 42 23.6	-0.8

IDC 07 10:45:44.4±3.2**, 32.°69S**×**178.°42W, h0**km**, mb3.5**/2**, mb1 3.8**/3**, mb1mx3.5**/30**, mbtmp3.6**/3**, ML3.3**/1**, Error ellipse: s-maj=74.2km s-min=48.0km az=122.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
URZ	Urewera	6.64	212	Pn	Pn	10 47 22.1	-1.1
	0.6nm,0.3s,baz=352,slow=7.1,SNR=1.3						
URZ				Sn	Sn	10 48 35.4	-4.3
	0.6nm,0.3s,baz=108,slow=20,SNR=2.0						
ASAR	Alice Springs	42.68	270	P	P	10 53 43.2	+0.1
	0.3nm,0.6s,baz=111,slow=7.7,SNR=6.9						
WRA	Warramunga Arr	43.87	275	P	P	10 53 52.8	-0.1
	0.4nm,0.3s,baz=114,slow=7.9,SNR=15						
FINES	FINESS Array B	147.15	338	PKPbc	PKPbc	11 05 27.9	-0.8
	1.6nm,0.9s,baz=86,slow=5.7,SNR=4.6						

IDC 07 10:46:06.8±2.3**, 31.°38N**×**141.°29E, h0**km**, mb3.8**/3**, mb1 4.1**/4**, mb1mx3.5**/66**, mbtmp3.9**/4**, ML4.3**/1**, Error ellipse: s-maj=111.4km s-min=35.5km az=107.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	2.16	324	Sn	Sg	10 47 15.9	-0.2
	9.6nm,0.3s,baz=254,slow=11,SNR=1.8						
JCJ	Chichijima	4.33	169	Pn	Pn	10 47 13.8	-0.2
	17nm,0.3s,baz=83,slow=14,SNR=15						
JCJ				Sn	Sn	10 47 58.9	-6.3
	2.7nm,0.3s,baz=352,slow=19,SNR=2.1						
WRA	Warramunga Arr	51.46	188	P	P	10 55 13.7	-0.2
	0.5nm,0.3s,baz=6.7,slow=7.7,SNR=18						
ASAR	Alice Springs	55.18	188	P	P	10 55 41.4	+0.1
	0.3nm,0.5s,baz=358,slow=4.8,SNR=14						
TXAR	Lajitas Array	93.65	52	P	P	10 59 25.5	-0.1
	0.3nm,0.8s,baz=321,slow=3.7,SNR=5.9						

WEL 07 10:47:33.4, 41.°S±10°×**17.°4E**±1.°2**, h81**km±18km**, M2.2**/6**, ML2.3**/10**, MLv2.2**/6**, Error ellipse: s-maj=0.0km s-min=0.0km az=117.9, South Island**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
NNZ	Nelson	0.18	314	P	Pn	10 47 45.5	+0.3
TUWZ	Tuamarina	0.31	106	P	Pn	10 47 46.6	+0.8
BSWZ	Blackbirch Sta	0.44	147	P	Pn	10 47 47.1	+0.4
TCW	Tory Channel	0.56	76	P	Pn	10 47 48.6	+0.9
DUWZ	D'Urville Isla	0.61	27	P	Pn	10 47 49.5	+1.3
THZ	Tophouse	0.64	229	P	Pn	10 47 48.4	-0.2
QRZ	Quartz Range	0.93	304	P	Pn	10 47 51.6	0.0
KHZ	Kahutara	1.07	180	P	Pn	10 47 52.7	-0.6
KIW	Kapiti Island	1.14	65	P	Pn	10 47 54.7	+0.6
CAW	Cannon Point	1.17	79	P	Pn	10 47 54.6	+0.2
OGWZ	Otaki Gorge	1.33	67	P	Pn	10 47 56.8	+0.3
DSZ	Denniston Nort	1.37	252	P	Pn	10 47 56.2	-0.9
MTW	Mount Morrison	1.48	83	P	Pn	10 47 58.0	-0.5
HOWZ	Holdsworth Sta	1.55	74	P	Pn	10 47 59.0	-0.4
GVZ	Greta Valley S	1.67	193	P	Pn	10 48 05.6	+4.7
MRZ	Mangatainoka R	1.68	67	P	Pn	10 48 00.7	-0.4
TIWZ	Tintock	1.85	73	P	Pn	10 48 02.7	-0.7

IDC 07 10:57:22.9±3.4**, 32.°66S**×**178.°18W, h0**km**, mb3.8**/2**, mb1 4.0**/3**, mb1mx3.7**/19**, mbtmp3.8**/3**, ML3.1**/1**, Error ellipse: s-maj=74.9km s-min=38.3km az=114.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
URZ	Urewera	6.78	213	Pn	Pn	10 59 03.9	+0.2
	0.4nm,0.3s,baz=128,slow=20,SNR=2.1						
URZ				Sn	Sn	11 00 19.9	-1.7
	0.5nm,0.3s,baz=131,slow=20,SNR=2.8						
ASAR	Alice Springs	42.89	269	P	P	11 05 23.4	0.0
	0.6nm,0.5s,baz=112,slow=7.8,SNR=20						
WRA	Warramunga Arr	44.08	275	P	P	11 05 33.0	-0.1
	0.6nm,0.4s,baz=114,slow=8.0,SNR=22						
FINES	FINESS Array B	147.20	339	PKPbc	PKPbc	11 17 06.4	-0.9
	2.4nm,0.8s,baz=42,slow=4.3,SNR=2.2						

IDC 07 10:58:55.3±266.0**, 56.°87N**×**39.°66E, h0**km**, Error ellipse: s-maj=54.9km s-min=30.1km az=94.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	1.35	265	i		11 09 20.0	
	baz=82,slow=332,SNR=1.9						
I37NO	I37NO	15.41	331	i		12 33 50.0	
	baz=133,slow=328,SNR=1.1						
I46RU	ZALESOVO INFRA	25.45	77	i		13 28 20.0	
	baz=297,slow=323,SNR=0.7						

*NEIC **07** 11:15:34.4±1.4, 22.°2S±0.°1×179.°5W±0.°1, h579km±8km, mb4.2/30, Error ellipse: s-maj=19.8km s-min=16.3km az=148.0*
*IDC **07** 11:15:35.5±1.3, 22.°17S×179.°74W, h590km±12km, mb3.3/12, mb1 3.5/15, mb1mx3.3/40, mbtmp4.2/15, Error ellipse: s-maj=22.7km s-min=10.7km az=151.0*
ISC 07 11:15:34.9±0.4**, 22.°19S**±0.°08×**179.°60W**±0.°08**, h592**km**, n73, σ0.s89**/79**, mb4.0**/27**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.95	333	P	P	11 17 06.1	-1.0
	5.3nm,0.3s,baz=244,slow=23,SNR=24						
MSVF				S	S	11 18 22.1	-0.1
	baz=284,slow=23,SNR=1.8						
MSVF	Nonsavu	4.95	333		P	11 17 06.5	-0.6
NIUE	Niue	9.57	73	P	P	11 17 46.4	-2.9
MARNC	Mare, Loyalty	11.51	271	P	P	11 18 07.9	-0.8
DZM	Mont Dzumac	12.94	268	P	P	11 18 22.7	-0.6
	0.7nm,0.3s,baz=90,slow=16,SNR=2.5						
DZM	Mont Dzumac	12.94	268	P	P	11 18 23.2	-0.1
URZ	Urewera	16.27	189	P	P	11 18 54.8	-0.1
	0.6nm,0.3s,baz=136,slow=22,SNR=1.8						
URZ				S	S	11 21 36.4	-1.4
	0.3nm,0.3s,baz=129,slow=21,SNR=1.5						
URZ	Urewera	16.27	189	P	P	11 18 55.4	+0.6
BKZ	Black Stump Fm	17.25	190	P	P	11 19 04.5	+0.5
EIDS	Eidsvold	26.99	257	P	P	11 20 31.6	+0.6
EIDS				IAmb	IAmb	11 20 38.2	
	comp=Z,13nm,1.5s						
ARMA	Armidale	27.01	246	P	P	11 20 32.7	+1.4
CAN	Canberra	30.34	238	P	P	11 21 00.8	+0.8
CTA	Charters Tower	31.88	267	P	P	11 21 13.4	+0.1
	comp=Z,3.9nm,0.4s,baz=92,slow=10,SNR=8.6						
CTAO	Charters Tower	31.88	267	P	P	11 21 13.9	+0.7
CTAO				IAmb	IAmb	11 21 14.1	
	comp=Z,6.4nm,0.6s						
TOO	Toolangi	33.71	235	P	P	11 21 28.6	+0.2
STKA	Stephens Creek	35.73	246	P	P	11 21 44.9	-0.4
	comp=Z,2.8nm,0.5s,baz=100,slow=12,SNR=13						
STKA	Stephens Creek	35.73	246	P	P	11 21 46.0	+0.7
COEN	Coen	36.25	277	P	P	11 21 50.5	+0.8
BBOO	Buckleboo	40.48	245	P	P	11 22 23.3	-0.3
AS31	Alice Springs	42.70	259	P	P	11 22 41.4	0.0
ASAR	Alice Springs	42.70	259	P	P	11 22 41.1	-0.2
	comp=Z,4.9nm,0.8s,baz=97,slow=8.0,SNR=37						
ASAR				PcP	PcP	11 24 19.9	+0.6
	comp=Z,0.8nm,0.5s,baz=107,slow=4.0,SNR=6.8						
ASAR				ScP	ScP	11 27 16.7	+2.3
	comp=Z,0.4nm,0.9s,baz=98,slow=5.7,SNR=2.5						
ASAR				S	S	11 28 22.3	-1.0
	comp=Z,1.0nm,0.9s,baz=95,slow=15,SNR=8.4						
ASAR	Alice Springs	42.70	259	P	P	11 22 40.9	-0.5
WR0	Warramunga Arr	42.73	264	P	P	11 22 40.9	-0.6
WR0				IAmb	IAmb	11 23 09.5	
	comp=Z,5.9nm,1.4s						
WB2	Warramunga Arr	42.91	264	P	P	11 22 42.3	-0.6
WB2				IAmb	IAmb	11 22 42.7	
	comp=Z,3.4nm,0.8s						
WRA	Warramunga Arr	42.92	264	P	P	11 22 42.5	-0.6
	comp=Z,1.2nm,0.3s,baz=94,slow=7.8,SNR=27						
WRA				S	S	11 28 22.9	-3.5
	comp=Z,0.6nm,0.8s,baz=98,slow=14,SNR=2.8						
WRA	Warramunga Arr	42.92	264	P	P	11 22 42.8	-0.2
FORT	Forrest	47.27	248	P	P	11 23 15.4	-0.7
FORT				IAmb	IAmb	11 23 16.3	
	comp=Z,12nm,0.8s						
MTN	Manton Dam	47.72	273	P	P	11 23 19.1	-0.5
MTN				IAmb	IAmb	11 23 20.6	
	comp=Z,10nm,1.1s						
KNRA	Kununurra	49.09	268	P	P	11 23 30.0	+0.3
KNRA				IAmb	IAmb	11 23 49.2	
	comp=Z,14nm,1.4s						
FITZ	Fitzroy Crossi	51.35	264	P	P	11 23 46.5	+0.4
	comp=Z,0.7nm,0.3s,baz=131,slow=4.9,SNR=12						
FITZ	Fitzroy Crossi	51.35	264	P	P	11 23 46.6	+0.4
VNDA	Vanda	56.11	185	P	P	11 24 19.6	+0.9
QSPA	South Pole Qui	67.89	180	P	P	11 25 35.7	+0.5
QSPA				IAmb	IAmb	11 25 37.8	
	comp=Z,7.7nm,1.5s						
BELA	Belgrano 2	78.08	173	P	P	11 26 33.0	0.0
MAW	Mawson	79.48	200	P	P	11 26 40.7	+0.2
	comp=Z,1.1nm,0.6s,baz=159,slow=5.9,SNR=2.2						
OHAK	Old Harbor	82.13	14	P	P	11 26 54.4	+0.3
OHAK				IAmb	IAmb	11 27 04.1	
	comp=Z,18nm,1.5s						
PNTR	Pine Nut	82.83	43	P	P	11 26 58.6	+0.2
PNTR				IAmb	IAmb	11 27 00.8	
	comp=Z,5.6nm,0.7s						
NVAR	Mina Array Bea	83.27	44	P	P	11 27 01.9	+1.2
	comp=Z,1.6nm,0.9s,baz=224,slow=8.7,SNR=9.5						
NVAR	Mina Array Bea	83.27	44	P	P	11 27 01.1	+0.4
O18K	Koktuh Hills	84.15	12	P	P	11 27 04.5	+0.3
O18K				IAmb	IAmb	11 27 05.3	
	comp=Z,7.4nm,0.8s						
PINE	Pine Mountain	84.82	38	P	P	11 27 07.8	-0.3
PINE				IAmb	IAmb	11 27 11.0	
	comp=Z,9.7nm,1.4s						
SVW2	Sparrevohn	85.23	11	P	P	11 27 09.3	-0.1
SVW2				IAmb	IAmb	11 27 12.4	
	comp=Z,5.4nm,1.4s						
I07A	Izee	85.83	39		P	11 27 12.2	-0.6
U15A	North Rim	86.19	48	P	P	11 27 15.3	+0.3
U15A				IAmb	IAmb	11 27 17.4	
	comp=Z,2.4nm,0.8s						
SNAA	Sanae	86.37	179	P	P	11 27 13.9	-1.1
L19K	White Mountain	86.37	11	P	P	11 27 15.6	+0.7
L19K				IAmb	IAmb	11 27 16.6	
	comp=Z,3.5nm,0.8s						
VNA3	Neumayer Olymp	86.56	177	P	P	11 27 14.5	-1.3
VNA2	Neumayer--Watz	86.98	177	P	P	11 27 17.2	-0.5
	baz=181,slow=3.0						
VNA1	Neumayer--Stat	87.22	177	P	P	11 27 18.3	-0.5
SEY	Seymchan	87.68	348	P	P	11 27 22.0	+1.1
	comp=Z,1.8nm,0.8s,baz=351,slow=22,SNR=2.7						
HLID	Hailey	88.57	41	P	P	11 27 26.0	+0.2
HLID				IAmb	IAmb	11 27 28.2	
	comp=Z,3.8nm,1.2s						
TXAR	Lajitas Array	89.21	58	P	P	11 27 30.6	+1.6
	comp=Z,0.9nm,0.9s,baz=209,slow=5.7,SNR=11						
CMAR	Chiang Mai Arr	89.28	290	P	P	11 27 30.8	+1.4
	comp=Z,1.4nm,0.8s,baz=130,slow=3.6,SNR=8.3						
ILAR	Eielson Array	90.28	13	P	P	11 27 32.8	-0.2
	comp=Z,0.5nm,0.6s,baz=219,slow=4.2,SNR=7.3						
ILAR	Eielson Array	90.28	13	P	P	11 27 34.0	+1.1
PDAR	Pinedale Array	91.20	44	P	P	11 27 38.1	+0.1
	comp=Z,0.3nm,0.6s,baz=221,slow=5.9,SNR=3.8						
MKAR	Makanchi Array	111.26	313	PKiKP	PKiKP	11 33 01.4	-0.8
	comp=Z,0.4nm,0.5s,baz=76,slow=1.8,SNR=4.7						
MKAR	Makanchi Array	111.26	313		PKiKP	11 33 01.6	-0.6
BVAR	Borovoye Array	119.39	319	PKP	PKPdf	11 33 17.4	-0.2
	comp=Z,1.2nm,0.4s,baz=212,slow=4.4,SNR=7.8						
ARCES	ARCESS Array B	130.29	349	PKP	PKPdf	11 33 37.7	-0.2
	comp=Z,0.8nm,0.5s,baz=11,slow=1.2,SNR=7.5						
ARCES	ARCESS Array B	130.29	349		PKiKP	11 33 38.5	-0.5
HFS	Hagfors	140.94	349	PKhKP	PKPpre	11 33 52.6	
	comp=Z,1.8nm,0.4s,baz=72,slow=4.8,SNR=16						
AKASG	Malin Array Be	143.72	329	PKhKP	PKPpre	11 34 01.9	
	comp=Z,2.5nm,0.4s,baz=39,slow=4.2,SNR=13						

AKASG	Malin Array Be	143.72	329		PKPbc	11 34 01.8	-0.5
EKA	Eskdalemuir Ar	146.79	4	PKPbc	PKPbc	11 34 11.1	0.0
	comp=Z,0.6nm,0.4s,baz=2.9,slow=2.9,SNR=7.6						
BRTR	Keskin Array B	146.81	309	PKPbc	PKPbc	11 34 11.5	-0.3
	comp=Z,0.9nm,0.4s,baz=116,slow=5.6,SNR=4.1						
CLL	Collm	149.32	344	*e*PKPdf	PKPbc	11 34 16.0	-1.6
CLL				*i* PKPbc	PKiKP	11 34 18.0	-0.3
	comp=Z,9.0nm,0.7s						
CLL				*e*PKPab	PKPab	11 34 25.0	+0.3
BRG	Berggiesshubel	149.47	343	*e*P	PKiKP	11 34 19.0	+0.4
BRG				Amp		11 34 19.3	
	comp=Z,7.4nm,0.5s						
JAVC	Velka Javorina	150.04	337	*e*P	PKiKP	11 34 21.2	+1.2
KRUC	Moravsky	150.32	339	*e*P	PKiKP	11 34 20.4	-0.1
GERES	GERESS Array B	151.37	342	PKPbc	PKPbc	11 34 22.5	0.0
	comp=Z,0.8nm,0.4s,baz=48,slow=2.0,SNR=3.9						
GERES				PKPab	PKPab	11 34 34.1	+0.5
	comp=Z,0.6nm,0.6s,baz=100,slow=5.5,SNR=2.0						
ESDC	Sonseca Array	162.17	11	PKPab	PKPab	11 35 21.3	+0.8
	comp=Z,0.6nm,0.3s,baz=58,slow=39,SNR=2.6						
TORD	Torodi Ar. Bea	170.93	188	PKPab	PKPab	11 35 59.5	0.0
	comp=Z,0.2nm,0.5s,baz=85,slow=36,SNR=3.1						

*IDC **07** 11:17:13.4±3.3, 36°.42N×71°.41E, h64km±27km, mb3.7/18, mb1 3.8/24, mb1mx3.7/66, mbtmp4.0/24, ML3.8/6, Error ellipse: s-maj=22.1km s-min=13.0km az=0.0*
*NNC **07** 11:17:18.1±5.0, 36°.75N×71°.11E, h110km±70km, mb3.5, mpv3.9, Error ellipse: s-maj=41.7km s-min=31.4km az=170.0*
ISC 07 11:17:16.4±0.5**, 36°.56N**±0°.05×**71°.29E**±0°.06**, h100km, n53, σ2s.42**/54**, mb3.8**/18**, 2C-7D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.78	169	P	Pn	11 17 59.5	+0.2
CHCP	Chirah Chowk	3.31	150	P	Pn	11 18 06.9	+0.5
THW	Thamme Wali	3.77	174	P	Pn	11 18 12.2	-0.4
THN	Thein Dam	5.50	137	*e*S	Sn	11 19 37.0	-0.9
AML	Almayashu	5.87	18	P	Pn	11 18 41.5	+0.3
	SNR=132						
KZA	Kyzart	6.31	28	P	Pn	11 18 47.3	+0.1
	SNR=8.7						
EKS2	Erkin-Say	6.39	17	P	Pn	11 18 48.6	+0.6
	SNR=20						
AAK	Ala-Archa	6.55	21	P	Pn	11 18 50.6	+0.3
	2.8nm,0.3s,baz=174,slow=8.8,SNR=15						
AAK				S	Sn	11 20 02.3	-1.3
	0.6nm,0.3s,baz=348,slow=21,SNR=1.9						
AAK	Ala-Archa	6.55	21	P	Pn	11 18 50.6	+0.3
	SNR=8.9						
AAK	Ala-Archa	6.55	21	⇓P	Pn	11 18 50.4	+0.1
	4.4nm,0.4s						
AAK				⇓S	Sn	11 20 04.0	+0.4
	16nm,0.7s						
KK31	Karatay Array	6.56	355	P	Pn	11 18 50.0	-0.3
	2.6nm,0.2s,baz=177,slow=12,SNR=153						
KK31				⇓S	Sn	11 19 60.0	-3.7
	3.4nm,0.3s,baz=180,slow=25,SNR=5.4						
CHMS	Chumysh	6.96	21	P	Pn	11 18 56.3	+0.6
	SNR=5.5						
TKM2	Tokmak 2	7.17	26	P	Pn	11 18 59.3	+0.6
	SNR=9.2						
TKM2	Tokmak 2	7.17	26	⇓P	Pn	11 18 59.1	+0.5
	4.0nm,0.7s						
TKM2				⇓S	Sn	11 20 18.7	+0.1
	5.2nm,0.7s						
GEYT	Alibeck	10.59	281	P	Pn	11 19 43.0	-2.1
	1.0nm,0.3s,baz=97,slow=38,SNR=2.0						
GEYT				S	Sn	11 21 36.4	-5.3
	1.7nm,0.3s,baz=217,slow=29,SNR=2.6						
MAKZ	Makanchi	12.97	35	⇓P	Pn	11 20 14.1	-2.7
	3.6nm,0.8s						
PYUN	Piuthan	12.99	127	*e*P	Pn	11 20 11.3	-6.1
	26nm,0.3s						
MK31	Makanchi Array	13.11	35	P	Pn	11 20 16.8	-1.8
	0.4nm,0.4s,baz=205,slow=13,SNR=5.8						
MKAR	Makanchi Array	13.11	35	P	Pn	11 20 16.9	-1.6
	0.1nm,0.3s,baz=206,slow=14,SNR=7.0						
DANN	Dangsing	13.33	124	*e*P	Pn	11 20 15.7	-6.1
	17nm,0.4s						
KOLN	Koldanda	13.61	127	*e*P	Pn	11 20 20.2	-5.2
	11nm,0.3s						
PKIN	Phulchoki	14.93	123	*e*P	Pn	11 20 36.5	-5.9
	12nm,0.3s						
PKI	Pulchoki	14.94	123	*e*P	Pn	11 20 37.0	-5.7
	6.1nm,0.2s						
KURBB	Kurchatov Arra	14.99	18	P	P	11 20 45.1	-0.8
	0.2nm,0.3s,baz=205,slow=12,SNR=16						
KURBB	Kurchatov Arra	14.99	18	⇓P	P	11 20 45.3	-0.5
	3.9nm,0.6s						
GUN	Gumba	15.04	121	*e*P	Pn	11 20 37.9	-6.1
	11nm,0.3s						
AB31	Akbulak array	15.15	330	P	Pn	11 20 42.5	-2.2
	0.7nm,0.3s,baz=137,slow=13,SNR=34						
AB31				⇑S	Sn	11 23 23.5	-8.3
	1.2nm,0.4s,baz=152,slow=23,SNR=7.0						
JIRN	Jiri	15.42	121	*e*P	Pn	11 20 42.6	-6.1
	21nm,0.4s						
RAMN	Ramite	16.15	122	*e*P	Pn	11 20 52.9	-4.8
	9.0nm,0.3s						
BVAR	Borovoye Array	16.48	358	P	Pn	11 21 01.2	-0.1
	0.6nm,0.3s,baz=182,slow=18,SNR=5.8						
TAPN	Taplejung	16.67	119	*e*P	Pn	11 21 01.7	-2.5
	11nm,0.4s						
AKTO	Aktyubinsk	16.85	330	P	Pn	11 21 05.6	-0.3
	0.4nm,0.3s,baz=130,slow=10,SNR=10						
AKTO	Aktyubinsk	16.85	330	⇑P	P	11 21 08.0	+1.6
	3.6nm,0.5s						
ZALV	Zalesovo Beam	19.77	24	P	P	11 21 38.5	+0.2
	0.9nm,0.3s,baz=226,slow=9.7,SNR=12						
SONM	Songino Array	28.11	55	P	P	11 22 59.2	+0.4
	1.1nm,0.6s,baz=256,slow=9.8,SNR=6.5						
AKASG	Malin Array Be	33.09	309	P	P	11 23 44.7	+2.3
	2.0nm,0.6s,baz=81,slow=6.9,SNR=7.8						
IDI	Anoyia	37.31	282	P	P	11 24 21.3	+2.3
	1.6nm,0.5s,baz=86,slow=15,SNR=1.0						
FINES	FINESS Array B	37.56	326	P	P	11 24 23.1	+2.5
	1.2nm,0.4s,baz=113,slow=8.6,SNR=8.2						
ARCES	ARCESS Array B	41.18	337	P	P	11 24 52.6	+2.0
	1.4nm,0.5s,baz=115,slow=8.5,SNR=15						
HFS	Hagfors	43.16	322	P	P	11 25 09.0	+2.2
	3.2nm,0.3s,baz=104,slow=11,SNR=21						
NB2	NORSAR Subarra	44.47	323	P	P	11 25 18.9	+1.6
	comp=Z,1.4nm,0.4s,baz=97,slow=7.9						
NOA	NORSAR Array B	44.47	323	P	P	11 25 19.2	+1.9
	comp=Z,1.6nm,0.4s,baz=96,slow=7.7,SNR=12						
KSRS	Korea Array	44.64	71	P	P	11 25 20.6	+1.7
	comp=Z,0.5nm,0.4s,baz=54,slow=42,SNR=2.6						
TIXI	Tiksi	45.63	22	P	P	11 25 27.1	+0.9
	comp=Z,3.5nm,0.3s,baz=284,slow=5.9,SNR=7.8						
USRK	Ussuriysk Ar.	45.94	61	P	P	11 25 29.2	+0.1
	comp=Z,0.9nm,0.7s,baz=139,slow=40,SNR=2.6						
EKA	Eskdalemuir Ar	52.41	316	P	P	11 26 20.7	+2.5
	comp=Z,0.4nm,0.5s,baz=171,slow=12,SNR=2.2						
MJAR	Matsushiro Arr	52.71	69	P	P	11 26 22.0	+1.2
	comp=Z,0.6nm,0.3s,baz=312,slow=36,SNR=1.8						
ESDC	Sonseca Array	57.64	298	P	P	11 26 58.2	+2.0
	comp=Z,0.6nm,0.7s,baz=57,slow=7.2,SNR=2.4						
TORD	Torodi Ar. Bea	65.95	269	P	P	11 27 52.6	+0.4
	comp=Z,0.7nm,0.5s,baz=48,slow=5.9,SNR=9.5						
INK	Inuvik	73.81	9	P	P	11 28 41.3	+1.9
	comp=Z,0.8nm,0.5s,baz=320,slow=11,SNR=4.1						
ILAR	Eielson Array	74.66	16	P	P	11 28 44.8	+0.4
	comp=Z,0.4nm,1.0s,baz=304,slow=7.2,SNR=5.5						
WRA	Warramunga Arr	81.82	122	P	P	11 29 24.7	+0.1
	comp=Z,0.3nm,0.5s,baz=325,slow=4.9,SNR=8.0						
ASAR	Alice Springs	84.10	125	P	P	11 29 36.5	+0.2
	comp=Z,0.3nm,0.8s,baz=307,slow=4.3,SNR=2.9						

IDC 07 11:22:31.0±3.5**, 32°.93S**×**178°.39W, h0km, mb3.4**/2**, mb1 3.7**/3**, mb1mx3.6**/28**, mbtmp3.5**/3**, ML3.3**/1**, Error ellipse: s-maj=78.6km s-min=38.5km az=114.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.46	213	Pn	Pn	11 24 07.3	0.0
	0.6nm,0.3s,baz=112,slow=21,SNR=1.5						
URZ				Sn	Sn	11 25 21.5	-0.2
	1.4nm,0.3s,baz=122,slow=18,SNR=2.5						
ASAR	Alice Springs	42.70	270	P	P	11 30 30.0	+0.1
	0.3nm,0.8s,baz=106,slow=7.0,SNR=2.5						
WRA	Warramunga Arr	43.92	275	P	P	11 30 39.6	-0.2
	0.5nm,0.5s,baz=115,slow=7.6,SNR=9.4						
FINES	FINESS Array B	147.38	338	PKPbc	PKPbc	11 42 15.1	-0.8
	1.1nm,0.7s,baz=60,slow=3.9,SNR=1.4						

*KRSC **07** 11:24:22.1±1.0, 54°.15N×162°.09E, h45km±12km, ML4.4*
*MOS **07** 11:24:24.5±0.8, 54°.20N×162°.02E, h49km, mb4.5/13, Error ellipse: s-maj=6.5km s-min=4.0km az=77.2*
*NEIC **07** 11:24:24.8±1.2, 54°.2N±0°.1×162°.1E±0°.2, h27km±8km, mb4.4/71, Error ellipse: s-maj=19.3km s-min=13.4km az=158.0*
*IDC **07** 11:24:27.6±2.0, 54°.31N×161°.83E, h62km±19km, mb3.8/19, mb1 4.0/22, mb1mx3.7/62, mbtmp4.1/22, Error ellipse: s-maj=19.1km s-min=11.5km az=149.0*
ISC 07 11:24:24.0±1.1**, 54°.17N**±0°.03×**162°.10E**±0°.03**, h30km**±8km**, n304, σ1s.19**/355**, mb4.3**/63**, 1C, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.45	331	PN	Pb	11 24 33.2	-0.3
MKZ				S	Sb	11 24 39.9	-0.1
MKZ	Mys Kozlova	0.45	331	*i* P	Pb	11 24 33.2	-0.3
MKZ				*e*S	Sb	11 24 39.9	-0.1
KZV	Kizimen	1.41	313	PN	Pn	11 24 47.5	-0.4
KZV				S	Sn	11 25 04.5	-1.1
KZV	Kizimen	1.41	313	*i* P	Pn	11 24 47.5	-0.4
KZV				*e*S	Sn	11 25 04.5	-1.1
KII	Karymskiy	1.57	266	PN	Pn	11 24 49.4	-0.5
KII				S	Sn	11 25 07.3	-1.9
KII	Karymskiy	1.57	266	*e*P	Pn	11 24 49.4	-0.5
KII				*e*S	Sn	11 25 07.3	-1.9
TUMR	Tumrok	1.59	315	PN	Pn	11 24 50.2	-0.1
TUMR				S	Sn	11 25 09.1	-0.8
TUMR	Tumrok	1.59	315	*e*P	Pn	11 24 50.2	-0.1
TUMR				*e*S	Sn	11 25 09.1	-0.8
SPN	Mys Shipunski	1.64	230	PN	Pn	11 24 50.2	-0.6
SPN				S	Sn	11 25 09.1	-1.7
SPN	Mys Shipunski	1.64	230	*i* P	Pn	11 24 50.2	-0.6
SPN				*e*S	Sn	11 25 09.1	-1.7
KMNR	Kamenistaya	1.92	327	PN	Pn	11 24 55.4	+0.6
KMNR				S	Sn	11 25 17.6	-0.4
KMNR	Kamenistaya	1.92	327	*e*P	Pn	11 24 55.4	+0.6
KMNR				*e*S	Sn	11 25 17.6	-0.4
NLC	Nalytchevo	1.92	240	PN	Pn	11 24 54.5	-0.1
NLC				S	Sn	11 25 16.4	-1.4
NLC	Nalytchevo	1.92	240	*e*P	Pn	11 24 54.5	-0.1
NLC				*e*S	Sn	11 25 16.4	-1.4
BZGR	Bezymyannyi-Gr	1.95	336	PN	Pn	11 24 55.5	+0.3
BZGR				S	Sn	11 25 18.2	-0.5
BZGR	Bezymyannyi-Gr	1.95	336	*e*P	Pn	11 24 55.5	+0.3
BZGR				*e*S	Sn	11 25 18.2	-0.5
ZLN	Zelenaya	2.00	339	PN	Pn	11 24 56.5	+0.7
ZLN				S	Sn	11 25 19.7	-0.2
ZLN	Zelenaya	2.00	339	*e*P	Pn	11 24 56.5	+0.7
ZLN				*e*S	Sn	11 25 19.7	-0.2
BZWR	Bezymyannyi-We	2.02	333	PN	Pn	11 24 56.6	+0.4
BZWR	Bezymyannyi-We	2.02	333	*e*P	Pn	11 24 56.6	+0.4
KIRR	Kirishev	2.06	331	PN	Pn	11 24 57.5	+0.8
KIRR	Kirishev	2.06	331	*e*P	Pn	11 24 57.5	+0.8
LGNR	Loginova	2.08	338	PN	Pn	11 24 57.7	+0.5
LGNR	Loginova	2.08	338	*e*P	Pn	11 24 57.7	+0.5
KBTR	Krutoberegovo	2.08	11	PN	Pn	11 24 57.4	+0.5
KBTR	Krutoberegovo	2.08	11	*e*P	Pn	11 24 57.4	+0.5
CIRR	Tsirk	2.10	339	PN	Pn	11 24 57.5	+0.2
CIRR	Tsirk	2.10	339	*e*P	Pn	11 24 57.5	+0.2
KPT	Kopyto	2.10	330	PN	Pn	11 24 57.9	+0.7
KPT	Kopyto	2.10	330	*e*P	Pn	11 24 57.9	+0.7
SDLR	Sedlovina	2.11	246	PN	Pn	11 24 57.9	+0.5
SDLR				S	Sn	11 25 22.2	-0.5
SDLR	Sedlovina	2.11	246	*e*P	Pn	11 24 57.9	+0.5
SDLR				*e*S	Sn	11 25 22.2	-0.5
KBG	Krutoberegovo	2.12	9	PN	Pn	11 24 58.8	+1.4
KBG				S	Sn	11 25 23.4	+0.7
KBG	Krutoberegovo	2.12	9	*e*P	Pn	11 24 58.8	+1.4
KBG				*e*S	Sn	11 25 23.4	+0.7
SMAR	Somma	2.16	247	PN	Pn	11 24 58.5	+0.3
SMAR				S	Sn	11 25 23.5	-0.6
SMAR	Somma	2.16	247	*e*P	Pn	11 24 58.5	+0.3
SMAR				*e*S	Sn	11 25 23.5	-0.6
KRER	Koryakskii	2.17	248	PN	Pn	11 24 59.2	+0.9
KRER				S	Sn	11 25 24.5	+0.2
KRER	Koryakskii	2.17	248	*e*P	Pn	11 24 59.2	+0.9
KRER				*e*S	Sn	11 25 24.5	+0.2
UGLR	Uglovaya	2.17	245	PN	Pn	11 24 58.9	+0.7
UGLR				S	Sn	11 25 24.0	-0.2
UGLR	Uglovaya	2.17	245	*e*P	Pn	11 24 58.9	+0.7
UGLR				*e*S	Sn	11 25 24.0	-0.2
AVH	Avacha	2.19	247	PN	Pn	11 24 59.4	+0.9
AVH				S	Sn	11 25 25.1	+0.4
AVH	Avacha	2.19	247	*e*P	Pn	11 24 59.4	+0.9
AVH				*e*S	Sn	11 25 25.1	+0.4
KRX	Arik	2.21	250	PN	Pn	11 24 59.4	+0.7
KRX				S	Sn	11 25 24.6	-0.4
KRX	Arik	2.21	250	*e*P	Pn	11 24 59.4	+0.7
KRX				*e*S	Sn	11 25 24.6	-0.4
KRSR	Krestovskiy	2.23	337	PN	Pn	11 24 59.3	+0.2
KRSR	Krestovskiy	2.23	337	*e*P	Pn	11 24 59.3	+0.2
KOK	Koryaka	2.24	248	PN	Pn	11 25 00.0	+0.9
KOK	Koryaka	2.24	248	*e*P	Pn	11 25 00.0	+0.9
KOZ	Kozyrevsk	2.29	327	PN	Pn	11 25 00.6	+0.9
KOZ				S	Sn	11 25 26.9	+0.1
KOZ	Kozyrevsk	2.29	327	*e*P	Pn	11 25 00.6	+0.9
KOZ				*e*S	Sn	11 25 26.9	+0.1
DALK	Dalny	2.30	242	PN	Pn	11 25 00.0	+0.2
DALK				S	Sn	11 25 25.7	-1.4
DALK	Dalny	2.30	242	*e*P	Pn	11 25 00.0	+0.2
DALK				*e*S	Sn	11 25 25.7	-1.4
KLY	Klyuchi	2.30	339	PN	Pn	11 25 00.0	+0.1
KLY				S	Sn	11 25 25.6	-1.6
KLY	Klyuchi	2.30	339	*e*P	Pn	11 25 00.0	+0.1
KLY				*e*S	Sn	11 25 25.6	-1.6
PET	Petropavlovsk	2.35	242	*e*PN	Pn	11 25 01.1	+0.4
PET				*e*S	Sn	11 25 27.9	-0.6
PET				pmax	pmax		
	comp=Z,251nm,0.4s						
PET				smax	smax		
	comp=N,1μm,0.7s						
PET				smax	smax		
	comp=E,969nm,0.6s						
PET	Petropavlovsk	2.35	242	*e*P	Pn	11 25 01.0	+0.4
PET				*e*S	Sn	11 25 27.5	-1.0
PET	Petropavlovsk	2.35	242		Pn	11 25 01.0	+0.4
SMKR	Semkarok	2.45	352	PN	Pn	11 25 02.9	+0.9
SMKR				S	Sn	11 25 31.1	+0.2
SMKR	Semkarok	2.45	352	*e*P	Pn	11 25 02.9	+0.9
SMKR				*e*S	Sn	11 25 31.1	+0.2
BDR	Baidarnaya	2.46	348	PN	Pn	11 25 02.5	+0.4
BDR	Baidarnaya	2.46	348	*e*P	Pn	11 25 02.5	+0.4
BKI	Bering	2.48	64	PN	Pn	11 25 02.6	+0.4
BKI				S	Sn	11 25 29.9	-1.5
BKI	Bering	2.48	64	*e*P	Pn	11 25 02.6	+0.4
BKI				*e*S	Sn	11 25 29.9	-1.5
GNL	Ganaly	2.50	261	PN	Pn	11 25 04.1	+1.3
GNL	Ganaly	2.50	261	*e*P	Pn	11 25 04.1	+1.3
SRKR	Sorokina	2.55	348	PN	Pn	11 25 04.3	+1.0
SRKR	Sorokina	2.55	348	*e*P	Pn	11 25 04.3	+1.0
ESO	Esso	2.63	313	PN	Pn	11 25 06.8	+2.3
ESO				S	Sn	11 25 36.8	+1.4
ESO	Esso	2.63	313	*e*P	Pn	11 25 06.8	+2.3
ESO				*e*S	Sn	11 25 36.8	+1.4
KRMR	Karymshinskiy	2.73	242	PN	Pn	11 25 08.2	+2.5
KRMR				S	Sn	11 25 40.0	+2.4
KRMR	Karymshinskiy	2.73	242	*e*P	Pn	11 25 08.2	+2.5
KRMR				*e*S	Sn	11 25 40.0	+2.4
RUS	Russkaya	2.77	233	PN	Pn	11 25 06.3	0.0
RUS				S	Sn	11 25 37.9	-0.8
RUS	Russkaya	2.77	233	*e*P	Pn	11 25 06.3	0.0
RUS				*e*S	Sn	11 25 37.9	-0.8
PEA0B	Petropavlovsk-	2.83	250	⇑*e*PN	Pn	11 25 08.1	+0.9
PEA0B	Petropavlovsk-	2.83	250	Pn	Pn	11 25 08.5	+1.3
PETK	Petropavlovsk-	2.83	250	P	Pn	11 25 07.8	+0.7
	comp=E,23nm,0.3s,baz=276,slow=32,SNR=264						
PETK				S	Sn	11 25 42.5	+2.3
	comp=E,20nm,0.3s,baz=74,slow=23,SNR=3.3						
PETK	Petropavlovsk-	2.83	250	PN	Pn	11 25 07.7	+0.6
PETK	Petropavlovsk-	2.83	250	Pn	Pn	11 25 07.7	+0.6
MTVR	Mutnovka	2.89	236	PN	Pn	11 25 09.1	+0.9
MTVR				S	Sn	11 25 41.7	-0.3
MTVR	Mutnovka	2.89	236	*e*P	Pn	11 25 09.1	+0.9
MTVR				*e*S	Sn	11 25 41.7	-0.3
GRL	Gorelyy	2.91	238	PN	Pn	11 25 09.5	+1.2
GRL	Gorelyy	2.91	238	*e*P	Pn	11 25 09.5	+1.2
ASAK	Asacha	3.09	236	PN	Pn	11 25 12.3	+1.4
ASAK	Asacha	3.09	236	*e*P	Pn	11 25 12.3	+1.4
APC	Apacha	3.20	249	PN	Pn	11 25 14.2	+1.9
APC				S	Sn	11 25 50.2	+0.8
APC	Apacha	3.20	249	*e*P	Pn	11 25 14.2	+1.9
APC				*e*S	Sn	11 25 50.2	+0.8
KDTR	Khodutka, Kamc	3.39	227	PN	Pn	11 25 15.3	+0.4
KDTR				S	Sn	11 25 53.3	-0.7
KDTR	Khodutka, Kamc	3.39	227	*e*P	Pn	11 25 15.3	+0.4
KDTR				*e*S	Sn	11 25 53.3	-0.7
MIPR	Malaya Ipel'ka	3.73	242	PN	Pn	11 25 21.2	+1.7
MIPR	Malaya Ipel'ka	3.73	242	*e*P	Pn	11 25 21.2	+1.7
PAU	Pauzhetka	4.20	232	PN	Pn	11 25 27.5	+1.6
PAU	Pauzhetka	4.20	232	*e*P	Pn	11 25 27.5	+1.6
SKR	Severo-Kuril's	5.06	229	*e*PN	Pn	11 25 39.7	+1.9
SKR				*e*S	Sn	11 26 35.7	+0.6
SKR				smax	smax		
	comp=N,96nm,0.8s						
SKR				smax	smax		
	comp=E,229nm,1.0s						
SKR	Severo-Kuril's	5.06	229	*e*P	Pn	11 25 38.4	+0.6
ALID	Alaid	5.19	233	PN	Pn	11 25 40.4	+0.7
ALID	Alaid	5.19	233	*e*P	Pn	11 25 40.4	+0.7
MA2	Magadan	8.23	316	P	Pn	11 26 22.1	+0.8
	comp=E,0.2nm,0.3s,baz=82,slow=15,SNR=3.8						
MA2	Magadan	8.23	316	*i* PN	Pn	11 26 23.2	+1.9
MA2	Magadan	8.23	316		Pn	11 26 21.4	+0.1
BILL	Bilibino	14.06	6	*e*P	P	11 27 45.6	-2.7
BILL				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ASAJ	Asahikawa	16.20	240	P	Pn	11 28 09.3	+0.1
	comp=Z,0.8nm,0.3s,baz=62,slow=12,SNR=7.9						
NIKH	Nikolski High	17.24	82	Pn	Pn	11 28 21.8	-0.5
NIKH				IAmb	IAmb	11 28 47.6	
	comp=Z,39nm,1.0s						
YAK	Yakutsk	18.68	308	*i* P	Pn	11 28 41.1	+1.2
YAK				pmax	pmax		
	comp=Z,6.0nm,0.3s						
KLR	Kul'dur	19.36	268	*i* P	Pn	11 28 49.5	+1.3
KLR				pmax	pmax		
	comp=Z,8.0nm,2.3s						
N18K	Kilae Creek	23.20	57	P	P	11 29 29.3	+1.2
N18K	Kilae Creek	23.20	57	P	P	11 29 29.2	+1.2
	baz=273						
N19K	Bonanza Creek	23.88	56	P	P	11 29 35.7	+1.0
	baz=274						
K20K	Telida	24.04	50	P	P	11 29 36.5	+0.4
K20K	Telida	24.04	50	P	P	11 29 37.5	+1.4
	baz=268,SNR=6.8						
J20K	Nowinta River	24.05	48	P	P	11 29 36.4	+0.2
J20K				IAmb	IAmb	11 29 38.6	
	comp=Z,11nm,0.9s						
J20K	Nowinta River	24.05	48	P	P	11 29 36.8	+0.6
	baz=266,SNR=12						
MAJO	Matsushiro	24.15	233	*i* P	P	11 29 38.4	+1.1
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MAT	Matsushiro	24.15	233	P	P	11 29 38.1	+0.8
MJAR	Matsushiro Arr	24.15	233	P	P	11 29 35.5	-1.9
	comp=Z,2.3nm,0.6s,baz=358,slow=11,SNR=4.1						
IMAR	Indian Mountai	24.40	44	P	P	11 29 40.1	+0.7
M20K	Styx River	24.48	54	P	P	11 29 41.5	+1.2
	baz=272						
I21K	Tanana	25.05	46	P	P	11 29 45.5	+0.3
I21K	Tanana	25.05	46	P	P	11 29 45.4	+0.3
	baz=266						
KDAK	Kodiak Island	25.24	63	P	P	11 29 47.0	0.0
	comp=Z,5.7nm,1.1s,baz=349,slow=4.4,SNR=2.2						
KDAK	Kodiak Island	25.24	63	P	P	11 29 47.8	+0.8
KDAK				IAmb	IAmb	11 29 52.6	
	comp=Z,18nm,1.4s						
BPAW	Bear Paw Mtn.	25.43	48	P	P	11 29 49.4	+0.6
	baz=269						
MLY	Manley	25.57	46	P	P	11 29 50.4	+0.4
	baz=268						
TRF	Thorofare Moun	25.75	50	P	P	11 29 52.3	+0.5
TRF	Thorofare Moun	25.75	50	P	P	11 29 52.5	+0.7
	baz=271						
COLD	Coldfoot	25.96	41	P	P	11 29 54.1	+0.6
COLD	Coldfoot	25.96	41	P	P	11 29 53.5	+0.1
	baz=264						
H23K	Yukon River	26.10	44	P	P	11 29 55.5	+0.7
H23K	Yukon River	26.10	44	P	P	11 29 55.6	+0.8
	baz=267						
I23K	Minto, Yukon-K	26.15	46	P	P	11 29 56.1	+0.9
	baz=269						
TOLK	Toolik Lake Re	26.38	38	P	P	11 29 59.4	+2.1
	baz=261						
WRH	Wood River Hil	26.69	47	P	P	11 30 00.8	+0.7
WRH				IAmb	IAmb	11 30 02.0	
	comp=Z,5.4nm,0.9s						
KNK	Knik Glacier	26.74	54	P	P	11 30 01.2	+0.6
	baz=277						
SML	Sawmill	26.75	53	P	P	11 30 01.8	+1.0
	baz=276						
CCB	Clear Creek Bu	26.81	47	P	P	11 30 01.5	+0.3
IL31		27.21	47	P	P	11 30 05.5	+0.8
ILAR	Eielson Array	27.21	47	P	P	11 30 04.3	-0.4
	comp=Z,2.5nm,1.0s,baz=263,slow=7.8,SNR=20						
ILAR	Eielson Array	27.21	47	P	P	11 30 06.6	+1.9
PRP	Porcupine Dome	27.76	45	P	P	11 30 10.3	+0.5
	baz=271,SNR=5.5						
BMAR	Burnt Mountain	28.14	41	P	P	11 30 14.5	+1.3
SCRK	Sand Creek	28.51	48	P	P	11 30 16.9	+0.3
SCRK	Sand Creek	28.51	48	P	P	11 30 16.1	-0.4
	baz=276,SNR=5.3						
M26K	Nabesna, AK	29.16	51	P	P	11 30 22.8	+0.6
M26K	Nabesna, AK	29.16	51	P	P	11 30 24.1	+1.8
	baz=279						
K27K	Chicken	29.34	48	P	P	11 30 24.5	+0.7
K27K	Chicken	29.34	48	P	P	11 30 23.8	0.0
	baz=277						
L27K	Beaver Creek,	29.59	50	P	P	11 30 27.5	+1.5
L27K				IAmb	IAmb	11 30 28.1	
	comp=Z,7.4nm,0.8s						
L27K	Beaver Creek,	29.59	50	P	P	11 30 27.3	+1.3
	baz=279,SNR=11						
EGAK	Eagle	29.65	46	P	P	11 30 26.1	-0.4
EGAK				IAmb	IAmb	11 30 26.6	
	comp=Z,3.9nm,0.9s						
EGAK	Eagle	29.65	46	P	P	11 30 26.0	-0.4
	baz=276						
M27K	Edge Creek, AK	29.68	51	P	P	11 30 27.2	+0.2
M27K				IAmb	IAmb	11 30 29.8	
	comp=Z,5.9nm,0.9s						
M27K	Edge Creek, AK	29.68	51	P	P	11 30 28.7	+1.7
	baz=280,SNR=5.8						
MESA	MESA	30.10	56	P	P	11 30 36.0	+5.3
	baz=284						
BVCY	Beaver Creek	30.14	51	P	P	11 30 32.2	+1.4
	baz=281						
YUK3	Moose Creek	30.45	52	P	P	11 30 34.6	+0.8
	baz=282						
HYT	Haines Junctio	32.06	53	P	P	11 30 49.0	+1.0
HYT				IAmb	IAmb	11 30 50.8	
	comp=Z,7.1nm,1.1s						
HYT	Haines Junctio	32.06	53	P	P	11 30 49.7	+1.7
	baz=286						
INK	Inuvik	32.28	39	P	P	11 30 48.4	-1.1
	comp=Z,0.6nm,0.6s,baz=252,slow=4.8,SNR=4.8						
INK	Inuvik	32.28	39	P	P	11 30 50.0	+0.4
INK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
INK	Inuvik	32.28	39	P	P	11 30 50.0	+0.4
INK				IAmb	IAmb	11 31 07.0	
	comp=Z,4.1nm,1.3s						
SKAG	Skagway	33.51	55	P	P	11 31 02.8	+2.4
	baz=289						
FARO	Faro, Yukon	33.59	50	P	P	11 31 02.6	+1.4
	baz=286						
MMPY	Sheldon Lake,	34.41	49	P	P	11 31 10.0	+1.7
	baz=287						
H11N2	WAKE ISLAND Hy	34.57	172	T	T	12 08 23.5	
	baz=355,slow=76,SNR=174						
H11N3	WAKE ISLAND Hy	34.59	172	T	T	12 08 25.7	
	baz=355,slow=76,SNR=138						
H11N1	WAKE ISLAND Hy	34.59	172	T	T	12 08 30.7	
	baz=355,slow=76,SNR=162						
H11S1	WAKE ISLAND Hy	35.77	173	T	T	12 09 52.4	
	baz=352,slow=77,SNR=6.0						
H11S3	WAKE ISLAND Hy	35.78	173	T	T	12 09 49.9	
	baz=352,slow=77,SNR=3.6						

H11S2	WAKE ISLAND Hy	35.79	173	T	T	12 09 59.7	
	baz=352,slow=77,SNR=7.6						
HHC	Hu-ho-hao-te	35.85	269	eP	P	11 31 20.5	-0.5
HHC				pmax	pmax		
	comp=Z,15nm,0.7s						
HHC				pmax	pmax		
	comp=Z,370nm,7.6s						
LZH	Lanzhou	43.54	270	eP	P	11 32 28.4	+3.4
LZH				pP	pwP	11 32 44.4	+7.9
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
DGZ	Jazzator, Alta	44.27	296	iP	P	11 32 30.8	+0.1
LLLB	Lillooet	44.44	62	P	P	11 32 34.0	+2.1
LLLB				IAmb	IAmb	11 32 34.6	
	comp=Z,4.8nm,0.9s						
A04D	Lummi Island	45.12	65	P	P	11 32 39.3	+2.0
	baz=307						
B05A	Bryant	45.72	65	P	P	11 32 43.5	+1.5
	baz=307						
B08A	Colville Reser	47.12	63	P	P	11 32 53.6	+0.5
EDM	Edmonton	47.16	55	P	P	11 32 53.9	+0.5
EDM				pmax	pmax		
	comp=Z,13nm,0.8s						
EDM	Edmonton	47.16	55	P	P	11 32 53.9	+0.5
WMQ	Urumqi	47.74	290	eP	P	11 32 57.9	-0.1
G05D	Wamic, OR	48.02	68	P	P	11 33 01.3	+1.2
	baz=310						
C09A	Chrisman Ranch	48.03	63	P	P	11 33 00.3	+0.2
C09A				IAmb	IAmb	11 33 01.7	
	comp=Z,4.6nm,0.9s						
KURK	Kurchatov	48.18	302	P	P	11 32 59.2	-2.0
KURBB	Kurchatov Arra	48.28	302	P	P	11 32 59.2	-2.7
	comp=Z,0.8nm,0.6s,baz=57,slow=7.3,SNR=3.0						
NEW	Newport	48.34	62	P	P	11 33 03.5	+1.0
	baz=309						
I04A	Tendick Farm,	48.35	70	P	P	11 33 04.2	+1.5
	baz=310						
F07A	Phinny Hill Vi	48.35	66	P	P	11 33 04.0	+1.3
MK31	Makanchi Array	48.76	296	iP	P	11 33 03.8	-2.0
J04D	Umpqua Nationa	48.88	70	P	P	11 33 09.0	+2.0
	baz=311						
E09A	Wood Farm, Sta	48.91	64	P	P	11 33 08.2	+1.3
PINE	Pine Mountain	49.16	69	P	P	11 33 10.1	+1.0
PINE				IAmb	IAmb	11 33 11.6	
	comp=Z,2.6nm,0.8s						
G08A	Pilot Rock	49.26	66	P	P	11 33 10.9	+1.1
J05D	Fort Rock, OR	49.33	70	P	P	11 33 12.2	+1.8
	baz=311,SNR=6.8						
L04D	Klamath Falls	49.44	71	P	P	11 33 12.5	+1.3
	baz=312						
WALA	Waterton Lakes	49.48	59	P	P	11 33 12.0	+0.6
F10A	Beach Ranch, E	49.75	64	P	P	11 33 14.0	+0.6
F10A				IAmb	IAmb	11 33 15.6	
	comp=Z,3.2nm,0.9s						
K05A	Summer Lake	49.89	70	P	P	11 33 16.3	+1.6
JTMT	Jette	50.13	61	P	P	11 33 17.2	+0.9
BMO	Blue Mountains	50.44	66	P	P	11 33 19.5	+0.8
BMO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BMO	Blue Mountains	50.44	66	P	P	11 33 19.5	+0.8
BMO				IAmb	IAmb	11 33 20.5	
	comp=Z,2.4nm,0.8s						
BRVK	Borovoye	50.68	309	iP	P	11 33 20.4	+0.1
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
O03E	Paynes Creek	51.01	73	P	P	11 33 24.6	+1.5
	baz=313						
HRY	Holter Researc	52.07	60	P	P	11 33 32.0	+1.1
BEKR	Beckworth	52.11	72	P	P	11 33 33.2	+1.8
BEKR				IAmb	IAmb	11 33 33.7	
	comp=Z,4.2nm,1.2s						
MFID	Camas Ranch	52.19	66	P	P	11 33 32.8	+0.9
HLID	Hailey	52.85	65	P	P	11 33 37.5	+0.7
HLID	Hailey	52.85	65	P	P	11 33 37.2	+0.5
	baz=313						
VCNR	Virginia City	52.90	72	P	P	11 33 39.3	+2.0
VCNR				IAmb	IAmb	11 33 40.1	
	comp=Z,4.9nm,0.8s						
BOZ	Bozeman (W)	52.93	61	P	P	11 33 38.3	+1.0
	baz=313						
PNTR	Pine Nut	53.08	72	P	P	11 33 40.4	+1.8
YERR	Yerington	53.35	72	P	P	11 33 42.5	+1.9
BMN	Battle Mountai	53.47	70	P	P	11 33 43.0	+1.6
BMN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BMN	Battle Mountai	53.47	70	P	P	11 33 43.0	+1.6
BMN				IAmb	IAmb	11 33 44.1	
	comp=Z,4.1nm,1.0s						
YHH	Holmes Hill	53.88	62	P	P	11 33 45.5	+1.0
YHH				IAmb	IAmb	11 33 47.6	
	comp=Z,4.6nm,1.2s						
KVN	Kaiserville	53.94	71	P	P	11 33 46.5	+1.6
KVN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KVN	Kaiserville	53.94	71	P	P	11 33 46.5	+1.6
RYN	Ryan	54.00	72	P	P	11 33 46.9	+1.6
RYN				IAmb	IAmb	11 33 48.0	
	comp=Z,4.4nm,0.8s						
NVAR	Mina Array Bea	54.26	72	P	P	11 33 49.2	+1.9
	comp=Z,4.3nm,0.7s,baz=298,slow=7.4,SNR=47						
NVAR	Mina Array Bea	54.26	72	P	P	11 33 48.9	+1.6
LHV	Little Huntoon	54.27	72	P	P	11 33 49.3	+2.3
H17A	Grant Village	54.29	62	P	P	11 33 50.2	+2.7
	baz=314						
ELK	Elko	54.34	68	P	P	11 33 49.1	+1.3
ELK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ELK	Elko	54.34	68	P	P	11 33 49.1	+1.3
ELK				IAmb	IAmb	11 33 50.5	
	comp=Z,3.8nm,1.1s						
MDPB	Devils Postpil	54.38	73	P	P	11 33 49.4	+1.1
MDPB				IAmb	IAmb	11 33 51.2	
	comp=Z,5.2nm,1.0s						
IMW	Indian Meadow	54.45	63	P	P	11 33 50.0	+1.3
IMW				IAmb	IAmb	11 33 51.8	
	comp=Z,4.5nm,1.2s						
RLMT	Red Lodge	54.47	60	P	P	11 33 49.4	+0.8
RLMT				IAmb	IAmb	11 33 50.6	
	comp=Z,3.2nm,0.8s						
RLMT	Red Lodge	54.47	60	P	P	11 33 49.8	+1.1
	baz=314						
FXWY	Fox Creek	54.58	63	P	P	11 33 51.0	+1.4
LOHW	Long Hollow	54.82	63	P	P	11 33 52.4	+1.1
LOHW				IAmb	IAmb	11 33 53.9	
	comp=Z,3.8nm,1.2s						
LAO	LASA Array	54.91	57	P	P	11 33 52.8	+1.2
	baz=314						
TPH	Tonopah	55.12	72	P	P	11 33 54.9	+1.5
TPH				pmax	pmax		
	comp=Z,37nm,0.9s						
TPH	Tonopah	55.12	72	P	P	11 33 54.9	+1.5
VES	Vestal, Richgr	55.65	75	P	P	11 33 58.4	+1.4
	baz=316						
AAK	Ala-Archa	55.67	297	P	P	11 33 56.1	-1.2
	comp=Z,1.0nm,0.5s,baz=254,slow=14,SNR=1.2						
HWUT	Hardware Ranch	55.72	65	P	P	11 33 59.3	+1.6
HWUT				IAmb	IAmb	11 33 59.9	
	comp=Z,3.8nm,0.8s						
CWC	Cottonwood Cre	55.79	74	P	P	11 34 00.1	+1.8
	baz=316						
GRAC	Grapevine Rang	55.80	73	P	P	11 34 00.5	+2.3
	baz=316						
R11A	Troy Canyon, C	55.83	70	P	P	11 33 59.1	+0.5
R11A				IAmb	IAmb	11 34 01.1	
	comp=Z,3.9nm,1.2s						
R11A	Troy Canyon, C	55.83	70	P	P	11 33 59.8	+1.3
	baz=315						
BW06	Boulder Array	55.96	63	P	P	11 33 59.8	+0.3
BW06				IAmb	IAmb	11 34 01.1	
	comp=Z,2.1nm,0.8s						
BW06	Boulder Array	55.96	63	P	P	11 34 00.5	+1.1
	baz=315						
PD31	Pinedale Array	55.96	63	P	P	11 34 00.5	+1.0
PDAR	Pinedale Array	55.96	63	P	P	11 34 00.5	+1.0
	comp=Z,1.5nm,0.8s,baz=291,slow=3.8,SNR=14						
PDAR	Pinedale Array	55.96	63	P	P	11 34 00.0	+0.6
DUG	Dugway, Tooele	56.04	67	P	P	11 34 01.4	+1.4
DUG				pmax	pmax		
	comp=Z,4.0nm,1.0s						
DUG	Dugway, Tooele	56.04	67	P	P	11 34 01.4	+1.4
DUG				IAmb	IAmb	11 34 02.8	
	comp=Z,4.3nm,0.9s						
DUG	Dugway, Tooele	56.04	67	P	P	11 34 01.8	+1.8
	baz=315						
SPR3	Spring Creek 3	56.06	69	P	P	11 34 02.2	+1.8
MPMC	Manual Prospec	56.40	74	P	P	11 34 04.5	+1.9
	baz=316,SNR=5.2						
TPNV	Topopah Spring	56.46	72	P	P	11 34 04.8	+1.8
	baz=316,SNR=6.4						
FURC	Furnace Creek,	56.46	73	P	P	11 34 04.7	+1.9
	baz=316,SNR=9.1						
LRMC	Laurel Mtn Rad	56.71	74	P	P	11 34 06.4	+1.6
	baz=316						
EDW2	Edwards Air Fo	56.96	75	P	P	11 34 08.0	+1.5
	baz=316						
SHOC	Shoshone, Teco	57.20	73	P	P	11 34 09.8	+1.7
	baz=316						
ULM	Lac du Bonnet	57.21	48	P	P	11 34 08.6	+0.6
	comp=Z,2.1nm,0.7s,baz=304,slow=7.3,SNR=1.9						
GSC	Goldstone, Bar	57.33	74	P	P	11 34 10.1	+1.0
GSC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GSC	Goldstone, Bar	57.33	74	P	P	11 34 10.1	+1.0
GSC	Goldstone, Bar	57.33	74	P	P	11 34 10.7	+1.5
	baz=316,SNR=5.2						
RDMU	Red Mountain	57.51	65	P	P	11 34 11.3	+0.8
TMUT	Trail Mountain	57.55	67	P	P	11 34 11.9	+1.0
TMUT				IAmb	IAmb	11 34 13.4	
	comp=Z,3.9nm,0.8s						
BFSC	Mount Baldy Ra	57.62	75	P	P	11 34 12.7	+1.5
	baz=317						
CCUT	Cedar City	57.63	70	P	P	11 34 13.3	+1.9
CCUT				IAmb	IAmb	11 34 13.9	
	comp=Z,2.7nm,0.8s						
TUQ	Turquoise Moun	57.73	73	P	P	11 34 13.8	+1.8
	baz=317						
RSSD	Black Hills	57.82	58	P	P	11 34 12.5	-0.1
RSSD				pmax	pmax		
	comp=Z,5.0nm,0.8s						
RSSD	Black Hills	57.82	58	P	P	11 34 13.7	+1.1
	baz=316						
SRU	San Rafael Swe	58.05	66	P	P	11 34 15.6	+1.3
SRU				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SRU	San Rafael Swe	58.05	66	P	P	11 34 15.6	+1.3
GMRC	Granite Mounta	58.35	73	P	P	11 34 18.2	+1.8
	baz=317						
O20A	White River Ci	58.53	64	P	P	11 34 17.8	+0.2
O20A				IAmb	IAmb	11 34 19.1	
	comp=Z,2.5nm,0.8s						
O20A	White River Ci	58.53	64	P	P	11 34 19.0	+1.4
	baz=317						
BELC	Belle Mtn. Jos	58.73	74	P	P	11 34 20.2	+1.2
	baz=317						
IRM	Iron Mountain	59.10	73	P	P	11 34 23.3	+1.8
	baz=317						
W13A	Hualapai Mount	59.12	72	P	P	11 34 23.1	+1.4
W13A				IAmb	IAmb	11 34 23.7	
	comp=Z,2.0nm,0.9s						
N23A	Red Feather La	59.18	62	P	P	11 34 23.9	+1.7
	baz=317						
BC3	Big Chuckawall	59.29	74	P	P	11 34 24.2	+1.3
	baz=318						
PV22	Blue Mesa, Par	59.40	66	P	P	11 34 24.6	+0.9
PV22				IAmb	IAmb	11 34 25.4	
	comp=Z,3.5nm,0.9s						
PDMCI	Parker Dam,Lak	59.55	73	P	P	11 34 26.5	+1.9
	baz=318						
CMAR	Chiang Mai Arr	59.57	259	P	P	11 34 24.8	0.0
	comp=Z,1.2nm,0.5s,baz=26,slow=7.1,SNR=8.2						
FINES	FINESS Array B	59.60	337	P	P	11 34 23.0	-1.4
	comp=Z,2.3nm,0.9s,baz=45,slow=10,SNR=4.4						
ISCO	Idaho Springs	60.16	63	P	P	11 34 30.0	+1.0
ISCO				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ISCO	Idaho Springs	60.16	63	P	P	11 34 30.0	+1.0
ISCO				IAmb	IAmb	11 34 31.1	
	comp=Z,2.3nm,1.0s						
ISCO	Idaho Springs	60.16	63	P	P	11 34 30.7	+1.7
	baz=318						
WUAZ	Wupatki	60.20	70	P	P	11 34 30.2	+1.0
WUAZ	Wupatki	60.20	70	P	P	11 34 31.0	+1.8
	baz=318						
X16A	Lo Mia Camp, P	60.98	71	P	P	11 34 36.2	+1.6
X16A				IAmb	IAmb	11 34 37.3	
	comp=Z,2.9nm,0.9s						
S22A	4UR Ranch, Cre	61.03	65	P	P	11 34 36.7	+1.7
	baz=318,SNR=5.5						
SDCO	Great Sand Dun	61.73	64	P	P	11 34 40.9	+1.1
	baz=318						
214A	Organ Pipe Nat	62.04	74	P	P	11 34 43.3	+1.7
	baz=319						
NOA	NORSAR Array B	62.83	345	P	P	11 34 44.8	-1.6
	comp=Z,0.8nm,0.8s,baz=19,slow=5.2,SNR=2.5						
TUC	Tucson	62.91	72	P	P	11 34 48.9	+1.5
	baz=319						
HFS	Hagfors	63.28	343	P	P	11 34 47.5	-1.8
	comp=Z,2.8nm,0.8s,baz=38,slow=7.5,SNR=2.2						
ANMO	Albuquerque	63.31	67	P	P	11 34 51.4	+1.2
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.5s						
ANMO	Albuquerque	63.31	67	P	P	11 34 51.4	+1.2
ANMO	Albuquerque	63.31	67	P	P	11 34 51.3	+1.1
	baz=319						
MNTX	Cornudas Mount	66.36	68	P	P	11 35 11.0	+1.2
MNTX				IAmb	IAmb	11 35 12.0	
	comp=Z,3.1nm,1.1s						
MNTX	Cornudas Mount	66.36	68	P	P	11 35 11.2	+1.3
	baz=320						
AKASG	Malin Array Be	68.29	330	P	P	11 35 19.4	-2.3
	comp=Z,0.3nm,0.3s,baz=32,slow=5.1,SNR=1.8						
TX32	Lajitas Array	69.12	69	P	P	11 35 28.3	+0.9
TX32				IAmb	IAmb	11 35 30.4	
	comp=Z,2.4nm,1.0s						
TXAR	Lajitas Array	69.12	69	P	P	11 35 28.4	+1.0
	comp=Z,1.4nm,0.6s,baz=298,slow=4.9,SNR=27						
TXAR	Lajitas Array	69.12	69	P	P	11 35 28.0	+0.6
TXAR	Lajitas Array	69.12	69	P	P	11 35 28.0	+0.6
U40A	Yellville	69.25	56	P	P	11 35 27.4	-0.6
	baz=323						
KBZ	Khabaz	69.56	318	P	P	11 35 29.1	-0.6
	comp=Z,1.8nm,0.7s,baz=294,slow=4.5,SNR=1.8						
WRA	Warramunga Arr	77.57	207	P	P	11 36 16.1	-0.8
	comp=Z,0.6nm,0.5s,baz=18,slow=6.2,SNR=10						
ASAR	Alice Springs	81.24	206	P	P	11 36 37.1	+0.2
	comp=Z,1.2nm,0.9s,baz=20,slow=4.3,SNR=8.7						
ESDC	Sonseca Array	85.76	349	P	P	11 36 59.8	-0.4
	comp=Z,1.0nm,0.9s,baz=1.1,slow=4.8,SNR=5.3						

*PGC **07** 11:26:08.5±0.8, 47°.46N×128°.87W, h10km, MLSn2.5/22, Mw3.1/22, 288km Wsw of Tofino, Bc Off Coast Of Washington*

*NEIC **07** 11:26:08.4±2.1, 47°.61N±0°.03×128°.8W±0°.1, h14km±6km, ML2.8/10, Mwr3.1(OTT), Error ellipse: s-maj=10.2km s-min=4.1km az=75.0*

ISC 07 11:26:07.3±1.7**, 47°.55N**±0°.10×**128°.8W**±0°.1**, h5**km±16km**, n44,** σ**1s21**/59**, Off coast of Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMF	NEPTUNE Canada	0.45	333	P	Pg	11 26 15.9	-0.1
KEMF				S	Sg	11 26 20.8	-1.1
KEMF	NEPTUNE Canada	0.45	333		Pg	11 26 15.9	-0.1
KEMF					Sg	11 26 20.8	-1.1
NC27	ODP1027	0.73	72	P	Pb	11 26 22.9	+0.5
NC27	ODP1027	0.73	72		Pb	11 26 22.9	+0.5
NC89	ODP889	1.72	48	Pn	Pn	11 26 38.1	+0.3
NC89	ODP889	1.72	48	Pn	Pn	11 26 38.1	+0.3
TOFB	Tofino	2.51	49	Pn	Pn	11 26 48.8	+0.1
TOFB	Tofino	2.51	49	Pn	Pn	11 26 48.1	-0.6
EDB	Eliza Dome	2.58	25	Pn	Pn	11 26 49.9	+0.2
EDB				Sn	Sn	11 27 19.6	-1.9
EDB	Eliza Dome	2.58	25	Pn	Pn	11 26 49.9	+0.2
EDB				Sn	Sn	11 27 19.6	-1.9
OZB	Mount Ozzard	2.62	56	Pn	Pn	11 26 50.5	+0.2
OZB				Sn	Sn	11 27 21.7	-0.8
BFSB	Bamfield	2.76	61	Pn	Pn	11 26 52.6	+0.3
B928	Bamfield	2.77	61	Pn	Pn	11 26 52.5	+0.3
B928				Sn	Sn	11 27 24.7	-1.2
GDR	Gold River	2.89	38	Pn	Pn	11 26 55.0	+1.0
BTB	Buttle Lake	2.90	47	Pn	Pn	11 26 55.2	+0.9
BTB				Sn	Sn	11 27 29.0	-0.7
WOSB	Woss	3.00	28	Pn	Pn	11 26 56.7	+1.1
WOSB				Sn	Sn	11 27 31.1	-0.9
MAYB	Maynard	3.05	20	Pn	Pn	11 26 57.0	+0.7
PFB	Port Renfrew	3.09	69	Pn	Pn	11 26 56.9	+0.1
PFB				Sn	Sn	11 27 33.1	-1.0
MGB	Mount Grey	3.10	61	Pn	Pn	11 26 57.3	+0.3
MGB				Sn	Sn	11 27 33.3	-1.2
TLCB	Telegraph Cove	3.27	22	Pn	Pn	11 27 00.3	+1.2
TLCB				Sn	Sn	11 27 38.2	-0.1
NLWA	Neilton Lookou	3.34	91	Pn	Pn	11 26 59.8	-0.5
NLWA				IAML		11 28 55.4	
	12nm,4.2s						
CBB	Campbell River	3.36	41	Pn	Pn	11 27 01.9	+1.4
CBB				Sn	Sn	11 27 39.8	-1.0
B926	Mesachie Lake	3.37	66	Pn	Pn	11 27 01.1	+0.5
B926				Sn	Sn	11 27 39.5	-1.4
NCRB	Newcastle Ridg	3.38	31	Pn	Pn	11 27 02.5	+1.6
NCRB				Sn	Sn	11 27 41.0	-0.4
GHNB	Nanoose	3.51	58	Pn	Pn	11 27 03.6	+1.2
TXB	Texada	3.60	52	Pn	Pn	11 27 05.2	+1.4
NLLB	Nanaimo Lost L	3.62	61	Pn	Pn	11 27 05.1	+1.1
PGC	Sidney	3.75	71	Pn	Pn	11 27 07.4	+1.7
PGC	Sidney	3.75	71	Pn	Pn	11 27 05.5	-0.2
PGC				IAML		11 28 53.4	
	comp=N,9.1nm,3.8s						
GOBB	Galiano Island	3.80	66	Pn	Pn	11 27 07.7	+1.2
SHB	Sechelt	3.85	56	Pn	Pn	11 27 09.2	+1.8
BIB	Bowen Island	4.10	61	Pn	Pn	11 27 12.5	+2.0
WPB	Watts Point	4.26	58	Pn	Pn	11 27 15.0	+2.2
HNBB	Haney	4.49	65	Pn	Pn	11 27 17.3	+1.2
BBB	Bella Bella	4.66	5	Pn	Pn	11 27 19.9	+1.6
BBB				Sn	Sn	11 28 11.3	-1.5
BBB	Bella Bella	4.66	5	Pn	Pn	11 27 19.3	+1.0
BBB				IAML		11 29 14.3	
	comp=N,14nm,1.6s						
BBB				IAML		11 30 01.7	
	comp=E,12nm,2.8s						
VDB	Vedder Mountai	4.70	69	Pn	Pn	11 27 20.3	+1.4
LON	Longmire	4.83	97	Pn	Pn	11 27 23.1	+2.3
LON				IAML		11 29 05.8	
	comp=E,5.4nm,3.5s						
LON				IAML		11 30 27.8	
	comp=N,6.3nm,4.5s						
BUCK	Buck Mountain	5.26	127	Pn	Pn	11 27 25.3	-1.3
H04A	Detroit Lake	5.41	120	Pn	Pn	11 27 30.5	+1.8
LLLB	Lillooet	5.48	53	Pn	Pn	11 27 31.8	+2.2
LTY	Liberty	5.52	90	Pn	Pn	11 27 31.9	+1.7
BUTB	Butedale	5.53	2	Pn	Pn	11 27 31.9	+1.6
DLMT	Dillon	11.39	95	Pn	Pn	11 28 50.2	-0.5

*IDC **07** 11:29:46.3±3.1, 32°.77S×178°.41W, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/36, mbtmp3.8/4, ML3.6/1, Error ellipse: s-maj=70.6km s-min=46.2km az=123.0*

ISC 07 11:29:54.1±1.5**, 32°.7S**±0°.1×**179°.5W**±0°.2**, h10**km**, n9,** σ**2s53**/10**, mb3.8**/3**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.17	206	Pn	Pn	11 31 24.0	-1.4
	1.1nm,0.3s,baz=306,slow=22,SNR=6.3						
URZ				Sn	Sn	11 32 36.0	0.0
	1.8nm,0.3s,baz=144,slow=18,SNR=2.1						
ASAR	Alice Springs	41.79	270	P	P	11 37 45.0	+0.9
	0.7nm,0.7s,baz=106,slow=7.4,SNR=12						
WRA	Warramunga Arr	42.99	275	P	P	11 37 54.9	+1.0
	1.0nm,0.5s,baz=116,slow=7.7,SNR=26						
FITZ	Fitzroy Crossi	51.15	273	P	P	11 38 58.0	+0.5
	1.3nm,0.8s,baz=164,slow=7.4,SNR=2.4						
SNAA	Sanae	75.86	179	P	P	11 41 38.8	-1.4
VNA3	Neumayer Olymp	76.06	177	P	P	11 41 44.0	+2.7
VNA2	Neumayer--Watz	76.48	177	P	P	11 41 46.6	+2.9
	baz=169,slow=4.6						
VNA1	Neumayer--Stat	76.72	177	P	P	11 41 47.8	+2.8
FINES	FINESS Array B	146.86	338	PKPbc	PKPdf	11 49 30.0	-4.0
	2.5nm,0.7s,baz=56,slow=4.8,SNR=5.4						

*IDC **07** 11:34:47.3±2.5, 32°.57S×178°.07W, h0km, mb4.2/3, mb1 4.3/4, mb1mx3.8/35, mbtmp4.2/4, ML3.6/1, Error ellipse: s-maj=58.9km s-min=44.5km az=130.0*

*WEL **07** 11:34:49.3±0.9, 33°S±9°×17°8W±2°3, h33km, M4.5/8, mB4.6/1, ML4.8/14, MLv4.5/8, Mw(mB)3.8/1, Error ellipse: s-maj=0.0km s-min=0.0km az=109.8*

ISC 07 11:34:47.7±1.9**, 32°.7S**±0°.1×**177°.8W**±0°.3**, h20**km**, n27,** σ**1s51**/43**, mb4.2**/3**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.42	358	P	Pn	11 35 38.1	-1.7
GLKZ				S	Sn	11 36 16.2	-3.5
MXZ	Matakaoa Point	5.83	212	P	Pn	11 36 12.9	0.0
MXZ				S	Sn	11 37 18.7	-0.5
WMGZ	Waiomatatini S	5.99	210	P	Pn	11 36 15.3	+0.1
WMGZ				S	Sn	11 37 21.6	-1.6
PKGZ	Pakihiroa	6.20	212	P	Pn	11 36 17.1	-1.0
PKGZ				S	Sn	11 37 28.9	+0.5
HAZ	Te Kaha	6.23	214	P	Pn	11 36 19.2	+0.8
HAZ				S	Sn	11 37 31.1	+2.1
PUZ	Puketiti	6.27	210	P	Pn	11 36 19.4	+0.4
PUZ				S	Sn	11 37 28.4	-1.8
RUGZ	Raukumara Rang	6.44	214	P	Pn	11 36 19.9	-1.6
RUGZ				S	Sn	11 37 34.6	+0.1
TWGZ	Tauwhareparae	6.48	211	P	Pn	11 36 22.6	+0.7
TWGZ				S	Sn	11 37 33.6	-1.7
CNGZ	Carnagh Statio	6.64	208	P	Pn	11 36 22.5	-1.7
CNGZ				S	Sn	11 37 37.7	-1.6
TKGZ	Te Karaka	6.75	211	P	Pn	11 36 26.1	+0.4
TKGZ				S	Sn	11 37 41.3	-0.7
MWZ	Matawai	6.81	213	P	Pn	11 36 24.5	-1.9
MWZ				S	Sn	11 37 42.4	-1.0
URZ	Urewera	6.95	215	Pn	Pn	11 36 29.3	+1.0
	1.2nm,0.3s,baz=120,slow=24,SNR=7.1						
URZ				Sn	Sn	11 37 45.6	-1.2
	3.7nm,0.3s,baz=166,slow=21,SNR=6.5						
URZ	Urewera	6.95	215	P	Pn	11 36 28.8	+0.5
URZ				S	Sn	11 37 45.5	-1.2
RAGZ	Rawiri	6.99	213	P	Pn	11 36 26.9	-2.1
RAGZ				S	Sn	11 37 46.7	-1.2
RIGZ	Rimuhau	7.02	210	P	Pn	11 36 28.9	-0.4
RIGZ				S	Sn	11 37 47.5	-1.0
SNGZ	Shannon Statio	7.26	212	P	Pn	11 36 34.1	+1.5
SNGZ				S	Sn	11 37 51.4	-3.1
RAHZ	Arahi	7.49	212	P	Pn	11 36 36.4	+0.7
RAHZ				S	Sn	11 37 58.6	-1.4
MTHZ	Maungataniwha	7.55	214	P	Pn	11 36 36.6	0.0
MTHZ				S	Sn	11 37 59.9	-1.7
BKZ	Black Stump Fm	7.96	214	P	Pn	11 36 42.6	+0.3
BKZ				S	Sn	11 38 08.8	-3.0
CTA	Charters Tower	34.41	282	P	P	11 41 35.4	+1.6
	2.6nm,0.5s,baz=125,slow=8.6,SNR=7.9						
ASAR	Alice Springs	43.22	269	P	P	11 42 48.0	+0.3
	2.2nm,0.7s,baz=110,slow=8.0,SNR=38						
ASAR				PcP	PcP	11 44 38.6	+1.8
	0.3nm,1.0s,baz=111,slow=5.1,SNR=1.5						
WRA	Warramunga Arr	44.42	274	P	P	11 42 57.4	+0.1
	1.8nm,0.5s,baz=113,slow=7.6,SNR=32						
SNAA	Sanae	75.87	178	P	P	11 46 46.6	+14
VNA3	Neumayer Olymp	76.02	176	P	P	11 46 47.9	+15
VNA2	Neumayer--Watz	76.45	177	P	P	11 46 49.8	+14
	baz=168,slow=5.0						
VNA1	Neumayer--Stat	76.68	176	P	P	11 46 51.8	+15
FINES	FINESS Array B	147.35	339	PKPbc	PKPbc	11 54 30.9	+1.9
	1.9nm,0.7s,baz=45,slow=5.7,SNR=7.1						

*EST **07** 11:35:04.6±0.1, 59°.24N×27°.74E, h0km, ML1.7(HEL), Explosion*

*LVSN **07** 11:35:22.9±5.3, 58°.78N×26°.62E, h0km±999km, ML1.9*

HEL 07 11:35:05.2±0.4**, 59°.27N×27°.73E, h0**km**, ML1.9, Explosion, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE03	Tooma soojaam,	0.85	243	eP	Pg	11 35 19.3	-2.1
EE03				eS	Sg	11 35 30.4	-2.0
ARBE	Arbavere	0.91	282	eP	Pg	11 35 21.0	-1.6
ARBE				eS	Sg	11 35 32.9	-1.5
VSU	Vasula	0.96	213	eP	Pg	11 35 21.6	-1.9
VSU	Vasula	0.96	213	eS	Sg	11 35 33.8	-2.1
VSU				AML	AML	11 35 55.5	
	comp=Z,50nm,0.8s						
VSU				AML	AML	11 35 56.0	
	comp=N,70nm,0.9s						
VSU				AML	AML	11 37 21.4	
	comp=E,129nm,0.4s						
VJF	Virojoki	1.28	356	eP	Pg	11 35 27.8	-2.0
VJF				MSG		11 35 43.8	
	comp=Z,6.6nm,0.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VJF				eSB	Sg	11 35 45.7	-0.6
EE02	Kiisa, Saku	1.56	269	eP	Pn	11 35 32.7	-1.4
EE02				eS	Sn	11 35 52.7	-2.2
PVF	Pernaja	1.59	325	eP	Pn	11 35 33.4	-1.1
PVF				MSG		11 35 52.9	
	comp=Z,6.6nm,0.2s						
PVF				eSG	Sn	11 35 54.5	-1.3
MEF	Metsahovi	1.94	301	ePG	Pn	11 35 39.5	+0.2
MEF				eSG	Sn	11 36 05.0	+0.7
MEF				MSG		11 36 06.0	
	comp=Z,3.5nm,0.1s						
NUR	Nurmijrvi	1.99	310	ePG	Pn	11 35 40.5	+0.4
NUR				eSG	Sb	11 36 06.9	-0.7
NUR				MSG		11 36 08.2	
	comp=Z,7.0nm,0.1s						
MTSE	Matsula	2.10	256	ePB	Pn	11 35 41.7	+0.2
MTSE				eSG	Sn	11 36 09.4	+1.1
MTSE	Matsula	2.10	256	eP	Pg	11 35 50.5	+5.1
MTSE				eS	Sn	11 36 08.6	+0.3
MTSE				AML	AML	11 36 10.8	
	comp=Z,41nm,0.8s						
MTSE				AML	AML	11 36 11.0	
	comp=E,63nm,0.3s						
MTSE				AML	AML	11 36 14.2	
	comp=N,67nm,0.2s						
FIA0	FINESS Array S	2.33	340	eP	Pn	11 35 44.3	-0.5
FIA0				ePB	Pb	11 35 45.8	-2.3
FIA0				eSG	Sb	11 36 17.4	0.0
FIA0				MSG		11 36 18.9	
	comp=Z,2.5nm,0.1s						
FIA1	FINESS Array S	2.33	340	ePB	Pn	11 35 45.8	+1.0
KAF	Kangasniemi	2.94	347	ePB	Pn	11 35 55.7	+2.6
KAF				eSG	Sb	11 36 35.8	+0.9
KEF	Keuruu	3.23	335	ePB	Pb	11 36 00.5	-2.9
KEF				MSG		11 36 40.0	
	comp=Z,1.7nm,0.2s						
SLIT	Slitere, Latvi	3.29	242	eS	Sb	11 36 44.3	-0.7
RAF	Rauma	3.46	303	eP	Pn	11 36 01.4	+1.2
JOF	Joensuu	4.06	24	eP	Pn	11 36 08.6	+0.2

*NEIC **07** 11:39:53.6±1.4, 13°.45S±0°.05×78°.0W±0°.1, h15km±5km, mb4.4/18, Error ellipse: s-maj=17.7km s-min=4.8km az=74.0*

*IDC **07** 11:39:58.2±3.5, 13°.21S×77°.94W, h44km±29km, mb3.6/6, mb1 3.9/8, mb1mx3.7/35, mbtmp3.9/8, ML3.9/2, Error ellipse: s-maj=25.1km s-min=19.5km az=23.0*

ISC 07 11:39:55.7±0.8**, 13°.39S**±0°.07×**77°.94W**±0°.10**, h35km, n52, σ1s.20**/49**, mb4.4**/14**, 1D, Off coast of Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NNA	Nana	1.76	37	P	Pn	11 40 23.5	-0.2
	96nm,0.3s,baz=230,slow=13,SNR=143						
NNA				S	Sn	11 40 44.1	-0.8
	297nm,0.3s,baz=67,slow=9.3,SNR=30						
ATAH	Atahualpa	6.24	356	P	Pn	11 41 27.4	+1.8
	10nm,0.3s,baz=171,slow=6.6,SNR=52						
ATAH				S	Sn	11 42 34.2	-1.7
	3.0nm,0.3s,baz=176,slow=23,SNR=3.1						
PSGCX	Pisagua	9.70	131	Pn	Pn	11 42 12.9	-0.1
LPAZ	La Paz	9.91	108	P	Pn	11 42 18.8	+2.6
	0.2nm,0.3s,baz=286,slow=9.7,SNR=7.4						
LPAZ	La Paz	9.91	108		Pn	11 42 17.7	+1.5
LPAZ	La Paz	9.91	108	eP	Pn	11 42 18.8	+2.6
TA01	Diego Aracena	10.29	135	Pn	Pn	11 42 21.0	+0.1
PB08	IPOC Station P	10.76	130	Pn	Pn	11 42 26.0	-1.6
OTAV	Otavalo	13.55	358		Pn	11 43 07.1	+1.1
PTLC	Puerto Leguiza	13.83	13	eP	Pn	11 43 03.7	-5.6
FLOC	Florencia	15.05	9	eP	Pn	11 43 24.8	-1.1
BBAC	Balboa, Cauca	15.33	3	eP	Pn	11 43 27.7	-2.1
SOTA	Rioblanco	15.48	5	⇓eP	P	11 43 35.6	-0.5
GARC	Garzon, Huila	15.67	9	eP	Pn	11 43 31.5	-2.7
POPC	Popayan, Colom	15.88	5	eP	P	11 43 40.1	-0.1
MACC	Macarena, Meta	15.96	15	eP	P	11 43 38.2	-2.8
SIV	San Ignacio	16.52	101	P	Pn	11 43 43.4	-1.4
	0.3nm,0.3s,baz=271,slow=12,SNR=4.0						
ORTC	Ortega, Tolima	17.39	9	eP	P	11 43 56.4	-0.5
TOLC	Tolima	18.05	8	eP	P	11 44 12.5	+8.1
NORC	Norcasia	19.08	9	eP	Pn	11 44 23.1	+6.8
RUSC	La Rusia	19.76	14	P	Pn	11 44 23.4	-1.5
RUSC				IAmb	IAmb	11 44 38.3	
	comp=Z,19nm,0.9s						
PTBC	PUERTO BERRIO,	20.10	10	eP	Pn	11 44 33.7	+5.2
PTGA	Pitinga	21.79	56	P	P	11 44 46.0	+1.2
	comp=Z,2.8nm,0.7s,baz=244,slow=16,SNR=8.3						
PTGA	Pitinga	21.79	56	P	P	11 44 45.4	+0.6
SMLC	San Martn de	22.38	10	eP	P	11 44 52.2	+1.2
AQDB	Aquidauana	22.39	111	P	P	11 44 51.1	-0.1
SJCC	San Jacinto, C	23.30	7	eP	P	11 45 11.1	+10
PLCA	Paso Flores	27.99	168	P	P	11 45 42.6	-0.7
TXAR	Lajitas Array	49.21	330	P	P	11 48 41.5	+0.7
	comp=Z,0.5nm,0.6s,baz=152,slow=8.9,SNR=8.6						
TXAR	Lajitas Array	49.21	330	P	P	11 48 41.2	+0.4
HALT	Halls	50.21	348	P	P	11 48 47.5	-0.7
X37A	Clayton	50.51	341	P	P	11 48 51.5	+1.0
LCAR	Lake Charles	50.76	346	P	P	11 48 53.3	+1.0
LCAR				IAmb	IAmb	11 48 56.0	
	comp=Z,6.0nm,1.3s						
FCAR	Ozark Folk Cen	50.82	345	P	P	11 48 53.1	+0.3
FCAR				IAmb	IAmb	11 48 53.7	
	comp=Z,5.6nm,1.1s						
S44A	Carbondale	51.91	349	P	P	11 49 01.6	+0.7
S44A				IAmb	IAmb	11 49 01.7	
	comp=Z,5.0nm,0.8s						
MNTX	Cornudas Mount	51.99	330	P	P	11 49 02.3	+0.7
S39A	Bolivar	52.83	345	P	P	11 49 08.0	+0.2
S39A				IAmb	IAmb	11 49 08.4	
	comp=Z,5.0nm,0.8s						
P38A	Dawn	54.71	345	P	P	11 49 21.2	-0.3
P38A				IAmb	IAmb	11 49 21.9	
	comp=Z,6.6nm,0.9s						
LENM	Lemitar	54.77	330	P	P	11 49 23.2	+0.9
ANMO	Albuquerque	55.17	331	P	P	11 49 25.6	+0.5
ANMO				IAmb	IAmb	11 49 27.4	
	comp=Z,3.9nm,1.1s						
W18A	Petrified Fore	56.89	329	P	P	11 49 38.3	+0.9
SDCO	Great Sand Dun	57.07	334	P	P	11 49 39.1	+0.3
PV13	Radium Mtn., P	58.88	332	P	P	11 49 51.3	-0.1
PV13				IAmb	IAmb	11 49 54.7	
	comp=Z,4.3nm,1.2s						
SPR3	Spring Creek 3	62.22	328	P	P	11 50 14.9	+0.6
SPR3				IAmb	IAmb	11 50 15.9	
	comp=Z,2.3nm,0.8s						
PDAR	Pinedale Array	62.97	334	P	P	11 50 19.4	+0.3
	comp=Z,0.4nm,0.6s,baz=120,slow=8.8,SNR=4.3						
PDAR	Pinedale Array	62.97	334	P	P	11 50 19.1	+0.1
NVAR	Mina Array Bea	63.91	325	P	P	11 50 25.4	0.0
	comp=Z,0.4nm,0.7s,baz=149,slow=3.7,SNR=4.7						
ULM	Lac du Bonnet	65.30	347	P	P	11 50 33.6	-0.3
	comp=Z,3.6nm,0.7s,baz=187,slow=6.4,SNR=4.2						
ULM	Lac du Bonnet	65.30	347	P	P	11 50 34.3	+0.4
TORD	Torodi Ar. Bea	83.19	75	P	P	11 52 20.6	+1.7
	comp=Z,1.1nm,0.7s,baz=299,slow=3.9,SNR=5.2						
SONM	Songino Array	145.47	355	PKPbc	PKPab	11 59 30.5	-0.1
	comp=Z,1.2nm,0.6s,baz=338,slow=3.6,SNR=6.5						
SONM	Songino Array	145.47	355		PKPab	11 59 29.6	-1.0

IDC 07 11:45:45.9±3.1**, 32°.65S**×**178°.38W, h0km, mb3.9**/2**, mb1 4.1**/3**, mb1mx3.7**/36**, mbtmp3.9**/3**, ML3.4**/1**, Error ellipse: s-maj=69.8km s-min=37.1km az=116.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.70	212	Pn	Pn	11 47 23.9	-1.6
	0.8nm,0.3s,baz=109,slow=21,SNR=1.3						
URZ				Sn	Sn	11 48 42.3	-0.2
	1.3nm,0.3s,baz=133,slow=20,SNR=3.0						
ASAR	Alice Springs	42.72	270	P	P	11 53 45.2	+0.3
	0.8nm,0.7s,baz=105,slow=7.6,SNR=19						
WRA	Warramunga Arr	43.91	275	P	P	11 53 54.4	-0.2
	0.7nm,0.3s,baz=113,slow=8.1,SNR=33						
FINES	FINESS Array B	147.12	339	PKPbc	PKPbc	12 05 29.3	-0.8
	1.5nm,0.7s,baz=64,slow=3.2,SNR=5.5						

*JMA **07** 11:53:36.1±0.1, 24°.58N×122°.70E, h85km±1km, M3.0*

*TAP **07** 11:53:36.2, 24°.62N×122°.72E, h82km, ML4.1, C*

ISC 07 11:53:36.5±1.2**, 24°.57N**±0°.03×**122°.70E**±0°.02**, h83km**±6km**, n150, σ1s.04**/251**, 1D, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.25	118	P	Pn	11 53 48.8	0.0
JYNG				S	Sn	11 53 58.1	+0.2
YOJ	Yonaguni jima	0.30	111	P	Pn	11 53 49.0	-0.1
YOJ				S	Sn	11 53 58.3	0.0
YOJ	Yonaguni jima	0.30	111	⇓iP	Pn	11 53 49.0	-0.1
	baz=125						
YOJ				S	Sn	11 53 58.4	0.0
	baz=125						
EGS		0.75	291	eP	Pn	11 53 53.1	+0.2
	baz=283						
TWC	Suao	0.78	273	eP	Pn	11 53 52.8	-0.4
	baz=272						
TWC				eS	Sn	11 54 04.8	-0.8
	baz=272						
TWB1	Santiao Chiao	0.78	304	eP	Pn	11 53 52.7	-0.6
	baz=295						
NTC	Toucheng	0.84	290	eP	Pn	11 53 53.7	-0.2
	baz=285						
NTC				eS	Sn	11 54 06.3	-0.5
	baz=285						
EWUT	Wuta	0.85	262	eP	Pn	11 53 54.3	+0.4
	baz=258						
EWUT				eS	Sn	11 54 07.3	+0.3
	baz=258						
ENA	Nanau	0.89	261	eP	Pn	11 53 54.7	+0.3
	baz=254						
ENA				eS	Sn	11 54 08.1	+0.4
	baz=254						
ILA	Ilan	0.89	283	eP	Pn	11 53 55.4	+1.0
	baz=278						
ILA				eS	Sn	11 54 09.6	+1.8
	baz=278						
TIPB	Shuangxi	0.89	297	eP	Pn	11 53 54.1	-0.3
	baz=290						
NDS	Dongshan	0.90	274	eP	Pn	11 53 54.5	-0.1
	baz=271						
TWE	Neicheng	0.96	279	eP	Pn	11 53 55.1	-0.1
	baz=270						
TWE				eS	Sn	11 54 10.2	+1.1
	baz=270						
IRIF	Iriomote-Funau	0.96	104	P	Pn	11 53 55.0	-0.3
IRIF				S	Sn	11 54 09.4	+0.1
NWF	Wu-fen Shan	0.98	301	eP	Pn	11 53 55.4	-0.1
	baz=289						
NWF				eS	Sn	11 54 09.7	-0.1
	baz=289						
WFSB	Wu-fen Shan	0.98	301	eP	Pn	11 53 55.4	0.0
	baz=290						
WFSB				eS	Sn	11 54 09.4	-0.1
	baz=290						
TNOU	National Taiwa	1.02	305	eP	Pn	11 53 54.0	-2.0
	baz=301						
ETL	Fush Village	1.07	248	eP	Pn	11 53 56.5	0.0
	baz=245						
NDT	Datong Townshi	1.08	272	eP	Pn	11 53 57.3	+0.6
	baz=265						
NACB	Ninganchiao	1.09	249	eP	Pn	11 53 56.5	-0.2
	baz=238						
NACB				eS	Sn	11 54 11.8	-0.1
	baz=238						
TWA	Mucha	1.10	292	eP	Pn	11 53 56.9	0.0
	baz=280						
TWA				eS	Sn	11 54 12.2	0.0
	baz=280						
TWD	Chiawan	1.12	244	eP	Pn	11 53 57.1	-0.1
	baz=232						
TWD				eS	Sn	11 54 12.5	-0.2
	baz=232						
HATJ	Hateruma jima	1.13	117	P	Pn	11 53 57.6	+0.4
HATJ				eS	Sn	11 54 14.7	+1.9
NHDH	Xindian Distri	1.14	290	eP	Pn	11 53 57.5	+0.1
	baz=280						
NHDH				eS	Sn	11 54 13.2	+0.1
	baz=280						
HWA	Hwalien	1.16	240	eP	Pn	11 53 58.0	+0.4
	baz=237						
ETLH	Xiulin Townshi	1.17	252	eP	Pn	11 53 57.7	-0.2
	baz=249						
ETLH				eS	Sn	11 54 13.7	-0.2
	baz=249						
TATO	Taipei	1.18	290	eP	Pn	11 53 57.6	-0.2
	baz=277						
TATO				eS	Sn	11 54 13.9	+0.1
	baz=277						
YM01	YM01	1.18	299	eP	Pn	11 53 57.8	-0.1
	baz=290						
YM01				eS	Sn	11 54 15.0	+1.0
	baz=290						
YM08	YM08	1.18	302	eP	Pn	11 53 57.6	-0.4
	baz=299						
TAP	Taipei	1.19	293	eP	Pn	11 53 58.1	+0.2
	baz=281						
PCYT	Pengchaiyu	1.20	332	eP	Pn	11 53 58.1	0.0
	baz=330						
YHNB	Yeheng	1.21	275	eP	Pn	11 53 58.8	+0.5
	baz=264						
YHNB				eS	Sn	11 54 15.5	+0.7
	baz=264						
NNS	Nan Shan	1.22	264	eP	Pn	11 53 58.6	+0.2
	baz=252						
NNS				eS	Sn	11 54 15.2	+0.2
	baz=252						
BACT	New Taipei Cit	1.22	291	eP	Pn	11 53 59.2	+0.8
	baz=278						
TWY	Chenhua	1.22	305	eP	Pn	11 53 58.4	0.0
	baz=302						
TWY				eS	Sn	11 54 15.8	+0.9
	baz=302						
NSK	Sanguang	1.23	275	eP	Pn	11 53 58.9	+0.4
	baz=264						
NSK				eS	Sn	11 54 15.7	+0.6
	baz=264						
JKRS	Kuro-shima	1.23	105	P	Pn	11 53 58.7	+0.2
JKRS				S	Sn	11 54 16.0	+0.9
ANP	Anpu	1.24	300	eP	Pn	11 53 58.5	-0.2
	baz=288						
ETM	Tongmen	1.26	242	eP	Pn	11 53 58.7	-0.2
	baz=233						
ETM				eS	Sn	11 54 15.4	-0.2
	baz=233						
TWS1	Kuangyinshan	1.28	295	eP	Pn	11 53 58.4	-0.7
	baz=286						
TWS1				eS	Sn	11 54 16.9	+0.7
	baz=286						
NTST	Danshui	1.28	298	eP	Pn	11 53 59.3	+0.2
	baz=294						
NTST				eS	Sn	11 54 16.8	+0.6
	baz=294						
JIJ	Ishigaki jima	1.33	99	P	Pn	11 53 59.3	-0.4
JIJ				S	Sn	11 54 17.6	+0.4
NTY	Taoyuan	1.35	289	eP	Pn	11 54 00.5	+0.6
	baz=280						
TEGC	Jichi Village	1.37	231	eP	Pn	11 54 00.1	-0.1
	baz=237						
TEGC				eS	Sn	11 54 17.8	-0.3
	baz=237						
FUSS	Fushou	1.37	257	eP	Pn	11 54 00.7	+0.2
	baz=248						
WHF	Hehuan Shan	1.38	252	eP	Pn	11 54 00.7	0.0
	baz=249						
WHF				eS	Sn	11 54 18.4	-0.7
	baz=249						
ESL	Shilin	1.38	237	eP	Pn	11 54 00.0	-0.4
	baz=234						
ESL				eS	Sn	11 54 18.1	-0.4
	baz=234						
TWT	Tachien	1.43	258	eS	Sn	11 54 20.0	+0.2
	baz=249						
NCU	National Centr	1.44	286	eP	Pn	11 54 01.7	+0.7
	baz=272						
NCU				eS	Sn	11 54 20.7	+1.0
	baz=272						
NCUH	Zhongli	1.44	286	eP	Pn	11 54 01.5	+0.4
	baz=273						
NCUH				eS	Sn	11 54 20.4	+0.8
	baz=273						
TDCB	Techi	1.44	258	eP	Pn	11 54 02.0	+0.7
	baz=250						
TDCB				eS	Sn	11 54 20.1	0.0
	baz=250						
JISG	Ishigakijimahi	1.46	89	P	Pn	11 54 01.0	-0.4
JISG				S	Sn	11 54 19.7	-0.6
EGFH	Guangfu	1.47	233	eP	Pn	11 54 01.4	-0.1
	baz=230						
EGFH				eS	Sn	11 54 20.2	-0.3
	baz=230						
NJD	Zhudong	1.48	277	eP	Pn	11 54 02.4	+0.8
	baz=274						
CHGB	Renai	1.48	250	eP	Pn	11 54 02.3	+0.4
	baz=240						
CHGB				eS	Sn	11 54 21.1	-0.1
	baz=240						
OWD	Renai	1.52	247	eP	Pn	11 54 02.6	+0.3
	baz=237						
OWD				eS	Sn	11 54 21.3	-0.6
	baz=237						
LIOB	Emei	1.54	273	eP	Pn	11 54 02.9	+0.4
	baz=270						
LIOB				eS	Sn	11 54 22.4	+0.3
	baz=270						
HSN1	Hsinchu	1.55	278	eP	Pn	11 54 02.7	+0.2
	baz=275						
HSN1				eS	Sn	11 54 22.9	+0.7
	baz=275						
NSTT	Nanjuang	1.55	273	eP	Pn	11 54 03.2	+0.6
	baz=269						
NSTT				eS	Sn	11 54 22.6	+0.2
	baz=269						
SBCB	Hsinchu	1.58	278	eP	Pn	11 54 03.2	+0.3
	baz=275						
SBCB				eS	Sn	11 54 23.3	+0.4
	baz=275						
HGSD	Ruisui	1.59	228	eP	Pn	11 54 02.7	-0.4
	baz=222						
HGSD				eS	Sn	11 54 22.7	-0.4
	baz=222						
HSN	Hsinchu	1.59	279	eP	Pn	11 54 03.3	+0.2
	baz=276						
HSN				eS	Sn	11 54 23.4	+0.1
	baz=276						
WHP	Taichung City	1.63	260	eP	Pn	11 54 05.0	+1.4
	baz=253						
WHP				eS	Sn	11 54 25.2	+1.0
	baz=253						
EHY	Hungye	1.65	230	eP	Pn	11 54 03.5	-0.4
	baz=228						
EHY				eS	Sn	11 54 23.8	-0.8
	baz=228						
WPL	Puli Township	1.69	251	eP	Pn	11 54 05.2	+0.8
	baz=243						
ECBN	Changbin	1.69	223	eP	Pn	11 54 04.4	0.0
	baz=214						
ECBN				eS	Sn	11 54 25.1	-0.5
	baz=214						
DPDB	Guoxing	1.71	252	eP	Pn	11 54 05.6	+1.0
	baz=244						
WCS	Beigang Elemen	1.71	253	eP	Pn	11 54 05.7	+1.0
	baz=246						
WCS				eS	Sn	11 54 27.2	+1.1
	baz=246						
YULB	Yu-li	1.74	228	eP	Pn	11 54 04.8	-0.3
	baz=235						
YULB				eS	Sn	11 54 25.8	-1.0
	baz=235						
NMLH	Miaoli	1.74	269	eP	Pn	11 54 05.5	+0.5
	baz=266						
NMLH				eS	Sn	11 54 27.0	+0.2
	baz=266						
EYUL	Yuli	1.76	226	eP	Pn	11 54 05.2	0.0
	baz=234						
EYUL				eS	Sn	11 54 27.4	+0.3
	baz=234						
TWF1	Yuli	1.77	227	eP	Pn	11 54 05.1	-0.3
	baz=234						
TWF1				eS	Sn	11 54 26.4	-1.0
	baz=234						
TWQ1	Liyutan	1.77	263	eP	Pn	11 54 06.2	+0.7
	baz=260						
TWQ1				eS	Sn	11 54 28.0	+0.4
	baz=260						
NSY	Sanyi	1.78	265	eP	Pn	11 54 06.5	+1.0
	baz=262						
NSY				eS	Sn	11 54 28.1	+0.4
	baz=262						
SSLB	Suanglung	1.78	244	eP	Pn	11 54 06.0	+0.5
	baz=237						
SSLB				eS	Sn	11 54 27.3	-0.4
	baz=237						
SMLT	Sun Moon Lake	1.78	248	eP	Pn	11 54 06.8	+1.1
	baz=240						
SMLT				eS	Sn	11 54 28.2	+0.3
	baz=240						
TYC	Yuchr	1.81	249	eP	Pn	11 54 07.2	+1.2
	baz=241						
TYC				eS	Sn	11 54 29.7	+1.4
	baz=241						
JTJ	Tarama	1.82	87	P	Pn	11 54 06.1	0.0
JTJ				eS	Sn	11 54 29.4	+0.8
FULB	Fuli	1.88	224	eP	Pn	11 54 06.6	-0.3
	baz=215						
FULB				eS	Sn	11 54 29.6	-0.4
	baz=215						
WDJ	Dajia District	1.89	264	eP	Pn	11 54 07.6	+0.6
	baz=261						
WDJ				eS	Sn	11 54 30.4	0.0
	baz=261						
WHYT	Xinyi Township	1.90	243	eP	Pn	11 54 08.7	+1.4
	baz=237						
WHYT				eS	Sn	11 54 31.3	+0.7
	baz=237						
WWF	Wufeng	1.90	254	eP	Pn	11 54 08.2	+1.0
	baz=263						
CHKT	Chengkung	1.91	220	eP	Pn	11 54 06.5	-0.7
	baz=214						
CHKT				eS	Sn	11 54 29.0	-1.7
	baz=214						
YUS	Yu-Shan	1.93	236	eP	Pn	11 54 08.6	+0.6
	baz=234						
WJS	Zhushan	1.95	248	eP	Pn	11 54 09.3	+1.5
	baz=237						
WJS				eS	Sn	11 54 34.2	+2.5
	baz=237						
WNT	Mingjian	1.97	250	eP	Pn	11 54 09.3	+1.3
	baz=258						
WNT				eS	Sn	11 54 34.1	+2.0
	baz=258						
ECS	Chishang	2.00	223	eP	Pn	11 54 08.6	+0.1
	baz=231						
WCHH	Zhanghua	2.02	256	eP	Pn	11 54 09.1	+0.4
	baz=253						
WCHH				eS	Sn	11 54 33.9	+0.6
	baz=253						
ALS	Alishan	2.03	239	eP	Pn	11 54 10.4	+1.2
	baz=230						
ALS				eS	Sn	11 54 35.6	+1.6
	baz=230						
EDH	Donghe	2.04	219	eP	Pn	11 54 08.6	-0.5
	baz=214						
EDH				eS	Sn	11 54 32.4	-1.5
	baz=214						
ELDTW	Lidau	2.07	229	eP	Pn	11 54 09.4	-0.1
	baz=226						
ELDTW				eS	Sn	11 54 34.1	-0.6
	baz=226						
CHN5	Tsauling	2.09	243	eP	Pn	11 54 11.1	+1.3
	baz=233						
CHN5				eS	Sn	11 54 37.2	+2.1
	baz=233						
WGK	Gukeng	2.15	246	eP	Pn	11 54 12.5	+2.1
	baz=243						
WGK				eS	Sn	11 54 39.1	+2.8
	baz=243						
WDLH	Douliu	2.17	247	eP	Pn	11 54 12.1	+1.5
	baz=256						
WDLH				eS	Sn	11 54 39.2	+2.5
	baz=256						
LONT	Longtian	2.20	221	eP	Pn	11 54 10.7	-0.4
	baz=228						
LONT				eS	Sn	11 54 36.9	-0.6
	baz=228						
LDUT	Ludao	2.20	211	eP	Pn	11 54 10.6	-0.5
	baz=210						
LDUT				eS	Sn	11 54 35.8	-1.9
	baz=210						
WRL	Guolierlin Hig	2.23	253	eP	Pn	11 54 11.9	+0.5
	baz=261						
WRL				eS	Sn	11 54 38.2	0.0
	baz=261						
STYH	Taoyuan	2.25	232	eP	Pn	11 54 13.0	+1.3
	baz=227						
STYH				eS	Sn	11 54 39.0	+0.2
	baz=227						
JIRB	Irabujima	2.26	83	P	Pn	11 54 11.8	-0.1
JIRB				eS	Sn	11 54 39.0	0.0

STYT	Tauyuan	2.27	232	eP	Pn	11 54 13.4	+1.3
	baz=227						
STYT				eS	Sn	11 54 40.4	+1.1
	baz=227						
TPUB	Ta-pu	2.28	237	eP	Pn	11 54 13.8	+1.5
	baz=230						
TPUB				eS	Sn	11 54 41.4	+1.8
	baz=230						
CHN4	Tsaushan	2.28	238	eS	Sn	11 54 39.9	+0.3
	baz=236						
CHN2	Minshiung	2.29	244	eS	Sn	11 54 43.2	+3.5
	baz=253						
WTK	Tuku	2.29	248	eP	Pn	11 54 13.2	+0.9
	baz=245						
WTK				eS	Sn	11 54 40.2	+0.4
	baz=245						
TWGBT	Beinan	2.29	221	eP	Pn	11 54 12.2	-0.1
	baz=225						
TWGBT				eS	Sn	11 54 39.0	-0.9
	baz=225						
TWG	Pinlang	2.30	221	eP	Pn	11 54 12.3	-0.1
	baz=225						
TWG				eS	Sn	11 54 39.0	-0.9
	baz=225						
TTN	Taitung	2.30	219	eP	Pn	11 54 13.7	+1.2
	baz=212						
WTCT	Ta-ch'eng	2.32	253	eS	Sn	11 54 40.9	+0.4
	baz=260						
WTP	Ta-pu	2.32	236	eP	Pn	11 54 14.5	+1.7
	baz=226						
WTP				eS	Sn	11 54 43.0	+2.3
	baz=226						
JIKM	Ikemajima	2.34	81	P	Pn	11 54 14.2	+1.2
CHY	Chiayi	2.34	243	eP	Pn	11 54 14.4	+1.4
	baz=252						
CHY				eS	Sn	11 54 43.2	+2.3
	baz=252						
JMJ	Miyako jima 2	2.37	84	i P	Pn	11 54 13.9	+0.6
	baz=86						
JMJ2	Miyako jima3	2.39	85	P	Pn	11 54 14.2	+0.5
JMJ2				eS	Sn	11 54 43.6	+1.4
TWK	Hsinying	2.41	238	eP	Pn	11 54 15.5	+1.5
	baz=235						
TWK				eS	Sn	11 54 44.0	+1.3
	baz=235						
CHN1	Nanshi	2.42	236	eP	Pn	11 54 16.1	+1.9
	baz=233						
CHN1				eS	Sn	11 54 44.9	+1.9
	baz=233						
SNST	Tainan City	2.43	237	eP	Pn	11 54 16.2	+2.1
	baz=234						
SNST				eS	Sn	11 54 45.6	+2.5
	baz=234						
SGST	Jiashian	2.44	233	eP	Pn	11 54 15.2	+0.8
	baz=241						
SGST				eS	Sn	11 54 45.3	+1.9
	baz=241						
WSF	Szhu	2.45	248	eP	Pn	11 54 15.0	+0.6
	baz=255						
WSF				eS	Sn	11 54 44.9	+1.3
	baz=255						
JOGS	Gusukube	2.47	85	P	Pn	11 54 15.1	+0.4
ICHU	Yijhu	2.52	242	eS	Sn	11 54 46.8	+1.4
	baz=239						
ECL	Taimali	2.54	220	eP	Pn	11 54 15.1	-0.5
	baz=218						
ECL				eS	Sn	11 54 43.9	-1.7
	baz=218						
CHN8	Yiju	2.59	242	eS	Sn	11 54 49.0	+2.2
	baz=240						
SSD	Sandimen	2.63	227	eP	Pn	11 54 18.0	+1.1
	baz=225						
SCST	Cishan	2.63	231	eP	Pn	11 54 19.2	+2.3
	baz=238						
SCST				eS	Sn	11 54 52.0	+4.1
	baz=238						
TSMG	Majia	2.65	226	eP	Pn	11 54 18.8	+1.7
	baz=224						
TSMG				eS	Sn	11 54 49.8	+1.5
	baz=224						
MASBT	Mashibuluo	2.72	225	eP	Pn	11 54 19.1	+0.9
	baz=223						
LAY	Lan-yu	2.73	203	eP	Pn	11 54 17.5	-0.9
	baz=202						
LAY				eS	Sn	11 54 48.0	-2.5
	baz=202						
TAW	Tawu	2.76	217	eP	Pn	11 54 18.2	-0.4
	baz=221						
EAST	Anshuo	2.77	218	eP	Pn	11 54 18.6	-0.2
	baz=216						
SCZT	Fangliau	2.91	222	eP	Pn	11 54 22.1	+1.5
	baz=213						
SLIU	Shizi	2.92	217	eP	Pn	11 54 20.9	0.0
	baz=215						
MATB	Ma-tsu	2.95	303	eP	Pn	11 54 20.1	-1.1
	baz=301						
MSUT	Lienchiang	2.98	303	eP	Pn	11 54 21.2	-0.4
	baz=301						
VWUC	VWUC	2.99	279	eP	Pn	11 54 20.9	-0.8
	baz=276						
PNG	Penghu	3.05	252	eP	Pn	11 54 21.8	-0.7
	baz=248						
PNG				eS	Sn	11 54 56.3	-1.7
	baz=248						
PHUB	P'eng-hu	3.05	250	eP	Pn	11 54 22.0	-0.5
	baz=248						
PHUB				eS	Sn	11 54 56.3	-1.8
	baz=248						
WDGT	Dungji	3.08	246	eP	Pn	11 54 23.0	+0.1
	baz=243						
WDGT				eS	Sn	11 54 58.0	-0.7
	baz=243						
HEN	Hengchun	3.13	216	eS	Sn	11 54 59.9	-0.1
	baz=205						
TWKBT	Hengchun	3.14	214	eP	Pn	11 54 24.0	+0.2
	baz=212						
TWKBT				eS	Sn	11 55 00.7	+0.4
	baz=212						
TWK1	Hengchun	3.14	214	eP	Pn	11 54 24.0	+0.1
	baz=212						
TWK1				eS	Sn	11 55 00.2	-0.1
	baz=212						
XPSS	Dashiqiu	3.27	317	eP	Pn	11 54 24.1	-1.4
	baz=315						
VCHM	Qimei	3.29	246	eP	Pn	11 54 26.3	+0.5
	baz=243						
VCHM				eS	Sn	11 55 02.2	-1.7
	baz=243						
PTMZ	Houxiangcun	3.29	279	eP	Pn	11 54 25.0	-0.8
	baz=276						
LYJJ	Jianjiangzhen	3.31	307	eP	Pn	11 54 25.0	-1.0
	baz=306						
MHZQ	Yeshan	3.66	295	eP	Pn	11 54 30.1	-0.7
	baz=293						
KNM	Kinmen	3.89	269	eP	Pn	11 54 34.9	+0.9
	baz=266						
KNMB	Chin-men Tao	3.93	269	eP	Pn	11 54 33.6	-0.9
	baz=267						
AXDP	Jialang	4.32	275	eP	Pn	11 54 40.2	+0.5
	baz=273						
ZPLA	Ao Xicun	4.57	263	eP	Pn	11 54 42.6	-0.5
	baz=260						
ZPLA				eS	Sn	11 55 31.6	-3.4
	baz=260						
JOW	Kunigami	5.51	65	eP	Pn	11 54 54.3	-1.7
	baz=68						

NOU 07 11:56:33.1, 16°.08S×167°.62E, h179km, MLv3.3/5, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	0.75	327	P	Pn	11 56 59.5	+0.5
SANVU	Saraoutou	0.75	327	P	Pn	11 56 59.8	+0.8
DVP	Devils Point	1.72	162	P	Pn	11 57 07.1	-0.1
DVP	Devils Point	1.72	162	P	Pn	11 57 07.1	-0.1

NNC 07 11:57:05.6±1.3, 42°.05N×80°.71E, h0km, mb3.6, mpv3.3,
Error ellipse: s-maj=8.8km s-min=7.0km az=148.0
SOME 07 11:57:05.6, 42°.05N×80°.75E, h15km
KRNET 07 11:57:06.0±0.1, 42°.12N×80°.98E, h30km, mb3.2
ISC 07 11:57:04.5±2.6, 42°.09N±0°.08×80°.9E±0°.1, h7km±12km, n41, σ1s51/65, 8C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	1.42	343	eP	Pg	11 57 31.6	-0.1
	baz=41						
KTMS				eS	Sn	11 57 50.2	+0.4
	baz=41						
KTMS	Ketmen	1.42	343	eP	Pg	11 57 31.6	-0.1
	3.5nm,0.1s						
KTMS				eS	Sn	11 57 50.2	+0.4
	16nm,0.2s						
KTMS	Ketmen	1.42	343	P	Pg	11 57 31.6	-0.1
	3.5nm,0.1s						
KTMS				S	Sg	11 57 51.1	+1.1
	16nm,0.2s						
SHLS	Shalkode	1.51	315	eP	Pn	11 57 30.0	-2.1
	baz=22						
SHLS				eS	Sn	11 57 47.7	-4.3
	baz=22						
SHLS	Shalkode	1.51	315	eP	Pn	11 57 30.0	-2.1
	28nm,0.2s						
SHLS				eS	Sn	11 57 47.8	-4.3
	59nm,0.2s						
SHLS	Shalkode	1.51	315	P	Pn	11 57 29.5	-2.5
	28nm,0.3s						
SHLS				S	Sn	11 57 47.6	-4.3
	66nm,0.5s						
PDGK	Podgornoye	1.62	320	P	Pb	11 57 34.3	-0.5
	4.7nm,0.3s						
PDGK				S	Sn	11 57 55.9	+1.2
	11nm,0.2s						
UZB	Uzynbulak	1.75	308	eP	Pg	11 57 37.5	-0.5
	baz=6.0						
UZB				eS	Sb	11 58 00.2	+1.0
	baz=6.0						
UZB	Uzynbulak	1.75	308	eP	Pg	11 57 37.5	-0.5
	6.2nm,0.3s						
UZB				eS	Sb	11 58 00.2	+1.0
	34nm,0.2s						
UZB	Uzynbulak	1.75	308	P	Pb	11 57 37.3	+0.3
	9.8nm,0.3s						
UZB				S	Sb	11 58 00.9	+1.8
	34nm,0.2s						
PRZ	Przheval'sk	1.90	283	⇓iP	Pg	11 57 40.0	-1.0
	baz=82						
PRZ				⇓iS	Sb	11 58 04.1	+0.5
	baz=82						
SATY	Saty	2.08	298	eP	Pb	11 57 42.3	-0.5
	baz=97						
SATY				eS	Sb	11 58 08.6	-0.3
	baz=97						
SATY	Saty	2.08	298	eP	Pb	11 57 42.3	-0.5
	9.6nm,0.2s						
SATY				eS	Sb	11 58 08.6	-0.3
	20nm,0.2s						
SATY	Saty	2.08	298	Pg	Pb	11 57 43.2	+0.5
	9.6nm,0.2s						
SATY				Lg	Lg	11 58 11.4	
	20nm,0.2s						
KPKS	Kokpek	2.14	311	eP	Pb	11 57 44.4	+0.8
	18nm,0.2s						
KPKS				eS	Sb	11 58 12.1	+1.8
	69nm,0.2s						
KURS	Kuram	2.45	306	eP	Pb	11 57 49.2	+0.3
	4.8nm,0.3s						
KURS				eS	Sb	11 58 20.6	+1.3
	6.8nm,0.4s						
KURS	Kuram	2.45	306	Pg	Pb	11 57 47.3	-1.6
	4.8nm,0.3s						
KURS				Lg	Lg	11 58 18.6	
	6.8nm,0.4s						
ANVS	Anan'yevo	2.50	287	⇑iP	Pb	11 57 48.2	-1.6
	baz=86						
ANVS				⇑iS	Sn	11 58 18.4	+1.9
	baz=86						
KDJ	Kajisay	2.77	272	⇓iP	Pb	11 57 52.0	-2.5
	baz=71						
KDJ				⇓iS	Sn	11 58 24.7	+1.4
	baz=71						
KOTS	Kotyrbulak	3.02	293	eP	Pb	11 57 59.0	+0.2
	4.3nm,0.5s						
KOTS				eS	Sb	11 58 37.7	+1.8
	20nm,0.2s						
KOTS	Kotyrbulak	3.02	293	Pg	Pb	11 57 58.3	-0.5
	7.6nm,0.3s						
KOTS				Lg	Lg	11 58 37.1	
	20nm,0.2s						
MDOK	Medeo	3.04	292	eP	Pb	11 57 58.9	-0.2
	3.9nm,0.3s						
MDOK				eS	Sb	11 58 37.2	+0.7
	11nm,0.4s						
MDOK	Medeo	3.04	292	Pg	Pb	11 57 58.5	-0.5
	2.8nm,0.6s						
MDOK				⇑Lg	Lg	11 58 36.9	
	11nm,0.6s						
MDOK	Medeo	3.04	292	Pg	Pb	11 57 58.5	-0.5
	3.9nm,0.3s						
MDOK				Lg	Lg	11 58 37.5	
	11nm,0.4s						
TNSS	Tian-Shan	3.07	289	Pg	Pb	11 57 59.1	-0.7
	3.7nm,0.3s						
TNSS				Lg	Lg	11 58 38.7	
	16nm,0.3s						
ARXS	Arharly	3.10	314	eP	Pb	11 58 00.1	+0.2
	5.5nm,0.2s						
ARXS				eS	Sb	11 58 39.5	+1.6
	10nm,0.5s						
ARXS	Arharly	3.10	314	Pg	Pb	11 57 59.9	0.0
	5.5nm,0.2s						
ARXS				Lg	Lg	11 58 40.1	
	10nm,0.5s						
IZV	Izvestkoviy	3.31	288	eP	Pb	11 58 03.1	-0.5
	2.8nm,0.2s						
IZV				eS	Sb	11 58 44.2	+0.1
	15nm,0.3s						
IZV	Izvestkoviy	3.31	288	Pg	Pb	11 58 03.1	-0.5
	2.8nm,0.2s						
IZV				Lg	Lg	11 58 45.5	
	15nm,0.3s						
KAPS	Kapalarasan	3.38	341	eP	Pb	11 58 05.3	+0.5
	2.2nm,0.3s						
KAPS				eS	Sb	11 58 48.4	+2.1
	4.9nm,0.3s						
KAPS	Kapalarasan	3.38	341	Pg	Pb	11 58 04.7	-0.1
	2.7nm,0.3s						
KAPS				Lg	Lg	11 58 48.3	
	4.9nm,0.3s						
MTBS	Maitube	3.46	289	eP	Pb	11 58 06.9	+0.7
	1.0nm,0.1s						
MTBS				eS	Sb	11 58 50.5	+2.0
	8.3nm,0.3s						
MTBS	Maitube	3.46	289	Pg	Pb	11 58 05.8	-0.4
	2.0nm,0.1s						
MTBS				Lg	Lg	11 58 49.9	
	8.3nm,0.3s						
KTBS	Karatobe	3.50	299	eP	Pb	11 58 06.8	0.0
	2.0nm,0.3s						
KTBS				eS	Sb	11 58 50.4	+0.9
	14nm,0.3s						
KTBS	Karatobe	3.50	299	Pg	Pb	11 58 06.9	+0.1
	2.0nm,0.3s						
KTBS				Lg	Lg	11 58 51.7	
	14nm,0.3s						
BOOM	Boomskoye usch	3.71	278	⇑iP	Pn	11 58 05.0	+2.7
	baz=77						
BOOM				⇑iS	Sn	11 58 47.7	+1.4
	baz=77						
KST	Kastek	3.77	286	eP	Pb	11 58 12.3	+0.8
	6.3nm,0.3s						
KST				eS	Sb	11 58 59.9	+2.4
	6.6nm,0.3s						
KST	Kastek	3.77	286	Pg	Pb	11 58 11.5	0.0
	6.3nm,0.3s						
KST				Lg	Lg	11 58 59.9	
	6.6nm,0.3s						
TKM2	Tokmak 2	4.01	284	⇑Pg	Pb	11 58 16.1	+0.5
	1.8nm,0.5s						
TKM2				⇓Lg	Lg	11 59 08.4	
	5.8nm,0.7s						
MAKZ	Makanchi	4.78	9	⇑Pn	Pn	11 58 21.1	+4.2
	1.3nm,0.5s						
MAKZ				⇓Lg	Lg	11 59 39.1	
	2.4nm,0.8s						
MK31	Makanchi Array	4.81	11	⇑Pn	Pn	11 58 21.9	+4.6
	0.1nm,0.2s,baz=203,slow=13,SNR=20						
MK31				Lg	Lg	11 59 40.0	
	0.8nm,0.4s,baz=191,slow=27,SNR=8.4						

NNC 07 12:00:03.1±1.6, 40°.24N×73°.87E, h0km, mb3.8, mpv3.5,
Error ellipse: s-maj=12.9km s-min=6.7km az=163.0
SOME 07 12:00:03.6, 40°.27N×73°.73E, h10km
KRNET 07 12:00:04.7±0.1, 40°.23N×73°.75E, h12km, mb2.9
ISC 07 12:00:02.7±0.9, 40°.20N±0°.03×73°.78E±0°.03, h10km, n50, σ1s39/77, 26C-11D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.29	229	⇓iP	Pb	12 00 10.4	+0.4
	baz=22						
SFK				⇓iS	Sb	12 00 14.3	-0.7
	baz=22						
OHH	Osh	0.83	293	⇓iP	Pn	12 00 19.8	-0.7
	baz=92						
OHH				⇓iS	Sb	12 00 30.8	+0.3
	baz=92						
DRK	Karamyk	1.69	245	⇑iP	Pg	12 00 36.2	+1.1
	baz=44						
DRK				⇑iS	Sg	12 00 58.6	+1.6
	baz=44						
ARLS	Aral	1.71	14	⇑iP	Pg	12 00 36.0	+0.6
	baz=15						
ARLS				⇑iS	Sg	12 00 58.9	+1.3
	baz=15						
AML	Almayashu	1.93	358	⇑iP	Pg	12 00 40.0	+0.3
	baz=59						
AML				⇑iS	Sg	12 01 05.8	+1.1
	baz=59						
AML	Almayashu	1.93	358	P	Pg	12 00 39.5	-0.2
	SNR=43						
KZA	Kyzart	2.18	30	⇓iP	Pg	12 00 44.2	-0.2
	baz=31						
KZA				⇓iS	Sg	12 01 12.4	-0.3
	baz=31						
KZA	Kyzart	2.18	30	P	Pg	12 00 44.4	-0.1
	SNR=7.9						
BTK	Batken	2.28	267	⇑iP	Pg	12 00 44.9	-1.4
	baz=67						
BTK				⇑iS	Sg	12 01 14.2	-1.7
	baz=67						
TRKS	Terek-Say	2.41	304	⇑iP	Pb	12 00 45.6	-0.5
	baz=3.0						
TRKS				⇑iS	Sb	12 01 15.8	-0.1
	baz=3.0						
EKS2	Erkin-Say	2.46	360	⇑iP	Pb	12 00 47.7	+0.7
	baz=0.0						
EKS2				⇑iS	Sb	12 01 19.0	+1.6
	baz=0.0						
EKS2	Erkin-Say	2.46	360	P	Pg	12 00 48.5	-1.3
	SNR=10						
MNAS	Manas	2.48	338	⇑iP	Pb	12 00 47.7	+0.3
	baz=38						
MNAS				⇑iS	Sb	12 01 19.1	+1.1
	baz=38						
AAK	Ala-Archa	2.49	12	P	Pg	12 00 49.2	-1.2
	SNR=5.7						
AAK	Ala-Archa	2.49	12	⇑Pg	Pg	12 00 48.6	-1.9
	7.8nm,0.4s						
AAK				⇑Lg	Lg	12 01 21.4	
	28nm,0.8s						
MRKS	Merke	2.58	351	eP	Pg	12 00 50.0	-2.0
	18nm,0.2s						
MRKS				eS	Sg	12 01 23.9	-1.5
	65nm,0.3s						
MRKS	Merke	2.58	351	Pg	Pb	12 00 48.7	-0.3
	18nm,0.2s						
MRKS				Lg	Lg	12 01 23.8	
	65nm,0.3s						
KBK	Karagaybulak	2.60	19	⇑iP	Pb	12 00 49.9	+0.4
	baz=20						
KBK				⇑iS	Sb	12 01 22.1	+0.4
	baz=20						
ULHL	Ulahol	2.76	41	⇑iP	Pb	12 00 52.5	+0.3
	baz=42						
ULHL				⇑iS	Sb	12 01 26.2	+0.1
	baz=42						
BOOM	Boomskoye usch	2.80	35	⇓eP	Pb	12 00 51.9	-1.0
	baz=35						
BOOM				⇓iS	Sb	12 01 27.1	-0.3
	baz=35						
CHMS	Chumysh	2.89	14	⇓iP	Pb	12 00 53.7	-0.6
	baz=15						
CHMS				⇓iS	Sb	12 01 29.4	-0.3
	baz=15						
GAR	Garm	2.94	247	⇑iP	Pb	12 00 54.5	-0.6
	baz=46						
GAR				⇑iS	Sb	12 01 30.8	-0.3
	baz=46						
TKM2	Tokmak 2	3.04	26	P	Pb	12 00 56.7	-0.3
	SNR=8.4						
TKM2	Tokmak 2	3.04	26	Pn	Pn	12 00 53.1	+2.1
	3.7nm,0.4s						
TKM2				⇑Lg	Lg	12 01 38.9	
	14nm,0.6s						
USP	Ospenovka	3.11	10	P	Pg	12 01 01.1	-1.2
	SNR=6.0						
KDJ	Kajisay	3.21	52	⇑eP	Pb	12 00 58.2	-1.6
	baz=53						
KDJ				⇑eS	Sb	12 01 36.9	-2.1
	baz=53						
KST	Kastek	3.28	29	eP	Pg	12 01 03.3	-2.1
	7.8nm,0.6s						
KST				eS	Sg	12 01 46.8	-1.1
	25nm,0.8s						
KST	Kastek	3.28	29	Pg	Pb	12 00 60.0	-1.0
	11nm,0.5s						
KST				Lg	Lg	12 01 43.2	
	25nm,0.8s						
DGS	Degeres	3.38	25	eP	Pg	12 01 05.5	-2.0
	3.0nm,0.3s						
DGS				eS	Sg	12 01 50.3	-1.0
	13nm,0.6s						
DGS	Degeres	3.38	25	Pg	Pb	12 01 03.9	+1.1
	5.6nm,0.5s						
DGS				Lg	Lg	12 01 50.2	
	13nm,0.6s						
IUG	Iuzhnay	3.44	306	eP	Pg	12 01 06.3	-2.2
	262nm,0.2s						
IUG				eS	Sg	12 01 51.4	-1.6
	19nm,0.5s						
IUG	Iuzhnay	3.44	306	Pg	Pb	12 01 04.0	+0.3
	262nm,0.2s						
IUG				Lg	Lg	12 01 50.2	
	19nm,0.5s						
MTBS	Maitube	3.53	33	eP	Pg	12 01 08.8	-1.5
	2.0nm,0.1s						
MTBS				eS	Sg	12 01 55.7	-0.4
IZV	Izvestkoviy	3.54	36	eP	Pg	12 01 09.7	-0.7
	2.7nm,0.3s						
IZV				eS	Sg	12 01 57.6	+1.3
	15nm,0.3s						
IZV	Izvestkoviy	3.54	36	Pg	Pb	12 01 03.8	-1.7
	3.3nm,0.3s						
IZV				Lg	Lg	12 01 50.0	
	15nm,0.3s						
KRBS	Karabastau	3.77	21	eP	Pg	12 01 12.7	-2.1
	2.6nm,0.3s						
KRBS				eS	Sg	12 02 02.8	-0.8
	6.4nm,0.3s						
KRBS	Karabastau	3.77	21	Pg	Pb	12 01 11.2	+1.9
	2.6nm,0.3s						
KRBS				Lg	Lg	12 02 02.8	
	6.4nm,0.3s						
KK31	Karatay Array	3.80	321	⇑Pn	Pn	12 01 04.9	+3.6
	0.1nm,0.2s,baz=56,slow=50,SNR=5.2						
KK31				⇓Pg	Pg	12 01 13.3	-2.0
	0.8nm,0.3s,baz=138,slow=18,SNR=14						
KK31				Lg	Lg	12 02 04.8	
	2.0nm,0.3s						
MDOK	Medeo	3.84	38	eP	Pg	12 01 14.5	-1.7
	2.7nm,0.3s						
MDOK				eS	Sg	12 02 05.8	-0.1
	9.7nm,0.5s						
MDOK	Medeo	3.84	38	Lg	Lg	12 02 04.8	
	11nm,0.8s						
MDOK	Medeo	3.84	38	Pg	Pb	12 01 10.9	+0.4
	2.8nm,0.2s						
MDOK				Lg	Lg	12 02 02.0	
	9.7nm,0.5s						
KOTS	Kotyrbulak	3.92	38	eP	Pg	12 01 15.5	-2.3
	3.0nm,0.2s						
KOTS				eS	Sg	12 02 07.6	-1.0
	18nm,0.4s						
KOTS	Kotyrbulak	3.92	38	Pg	Pb	12 01 12.5	+0.5
	3.2nm,0.3s						
KOTS				Lg	Lg	12 02 04.7	
	18nm,0.4s						
KTBS	Karatobe	4.12	31	eP	Pg	12 01 19.1	-2.5
	2.5nm,0.3s						
KTBS				eS	Sg	12 02 13.8	-1.2

	12nm,0.3s						
KTBS	Karatobe	4.12	31	Pg	Pb	12 01 16.3	+1.0
	2.5nm,0.3s						
KTBS				Lg	Lg	12 02 11.3	
	12nm,0.3s						
KUU	Kurty	4.15	26	eP	Pg	12 01 19.9	-2.3
	1.7nm,0.2s						
KUU				eS	Sg	12 02 14.9	-1.0
	11nm,0.3s						
KUU	Kurty	4.15	26	Pg	Pb	12 01 18.0	+2.2
	2.7nm,0.3s						
KUU				Lg	Lg	12 02 14.4	
	11nm,0.3s						
CHKK	Chushkaly	4.36	32	Pg	Pb	12 01 22.0	+2.7
	1.9nm,0.1s						
CHKK				Lg	Lg	12 02 21.3	
	8.8nm,0.3s						
KURS	Kuram	4.64	43	Pg	Pb	12 01 25.2	+1.0
	2.1nm,0.6s						
KURS				Lg	Lg	12 02 26.8	
	4.9nm,0.5s						
ARXS	Arharly	5.01	36	Pg	Pb	12 01 32.9	+2.5
	3.8nm,0.3s						
ARXS				Lg	Lg	12 02 39.7	
	5.2nm,0.3s						

*NIC **07** 12:20:07.3±0.0, 35°.01N×29°.03E, h34km±36km, Ml2.9/5*
*DDA **07** 12:20:08.8, 35°.29N×28°.77E, h25km±2km, ML2.3*
ISC 07 12:20:07.5±1.6, **35°.01N**±0°.06×**28°.98E**±0°.06, **h56**km±57km, **n15**, σ**0.s57**/22, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSL	Kastellorizon	1.24	23	P	Pn	12 20 28.6	+0.1
KSL				S	Sn	12 20 43.8	-0.5
KSL				AML	AML	12 20 45.5	
	0.1nm,0.4s						
KSL				AML	AML	12 20 45.5	
	0.1nm,0.4s						
KSL				AML	AML	12 20 45.7	
	0.1nm,0.2s						
KSL				AML	AML	12 20 45.7	
	0.1nm,0.2s						
AKAS	Kas	1.32	23	i P	Pn	12 20 30.1	+0.4
AKAS				i S	Sn	12 20 47.2	+0.8
KARP	Karpathos	1.58	290	P	Pn	12 20 33.4	+0.2
AKUM	Antalya-Kumluc	1.72	40	i P	Pn	12 20 34.4	-0.6
DALY	Dalyan (Mula)	1.82	352	i P	Pn	12 20 37.3	+0.9
TURN	Turunc	1.86	342	i P	Pn	12 20 37.3	+0.4
TURN				i S	Sn	12 20 58.3	-1.0
OSC1	CSNet OBS 1	2.43	128	P	Pn	12 20 44.6	-0.1
OSC1				S	Sn	12 21 13.0	-0.2
TAVA	DENIZLI_Tavas	2.45	359	i P	Pn	12 20 45.3	+0.2
TAVA				i S	Sn	12 21 13.8	-0.1
TAVA				IAML		12 21 15.0	
	comp=E,23nm,0.3s						
AKMS	Akamas	2.76	89	P	Pn	12 20 49.3	+0.1
AKMS				S	Sn	12 21 20.5	-0.8
AKMS				AML	AML	12 21 20.6	
	comp=E,0.1nm,0.3s						
AKMS				AML	AML	12 21 20.6	
	comp=E,0.1nm,0.3s						
AKMS				AML	AML	12 21 20.7	
	comp=E,0.1nm,0.2s						
AKMS				AML	AML	12 21 20.7	
	comp=E,0.1nm,0.2s						
AYDN	Tasoluk	2.79	342	i P	Pn	12 20 57.8	+8.1
AYDN				i S	Sn	12 21 21.3	-0.8
ALFC	Alefka	2.97	86	P	Pn	12 20 52.2	0.0
ALFC				AML	AML	12 21 26.0	
	comp=E,0.1nm,0.1s						
ALFC				AML	AML	12 21 26.0	
	comp=E,0.1nm,0.1s						
ALFC				S	Sn	12 21 26.2	-0.5
ALFC				AML	AML	12 21 26.3	
	comp=E,0.2nm,0.3s						
ALFC				AML	AML	12 21 26.3	
	comp=E,0.2nm,0.3s						
SZAC	Souni	3.22	93	S	Sn	12 21 33.4	+0.6
SZAC				AML	AML	12 21 34.1	
	comp=E,0.1nm,0.3s						
SZAC				AML	AML	12 21 34.5	
	comp=E,0.1nm,0.2s						
OSC2	CSNet OBS 4	3.34	124	S	Sn	12 21 35.7	0.0
ASGA	Asgata	3.52	92	S	Sn	12 21 40.6	+0.6
ASGA				AML	AML	12 21 40.6	
	comp=E,0.1nm,0.3s						
ASGA				AML	AML	12 21 40.9	
	comp=E,0.1nm,0.2s						
CSS	Mathiatis	3.57	90	S	Sn	12 21 41.8	+0.3

*MAN **07** 12:22:36.4, 10°.20N×126°.21E, h17km, mb5.2, ML4.2, MS4.4*
*BJI **07** 12:22:38.8±0.0, 10°.03N×126°.30E, h72km, mB5.0/26, mb4.6/43, Ms4.4/33, Ms7 4.2/32*
*KLM **07** 12:22:38, 10°.21N×126°.68E, h59km, mb4.9*
*GCMT **07** 12:22:39.4±0.5, 10°.16N±0°.03×126°.04E±0°.04, h55km±2km, MW5.0/66, Moment Tensor Solution. s19,c19; s66,c81; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.92±.27; $M_{\theta\theta}$0.28±.17; $M_{\phi\phi}$-3.20±.17; $M_{r\theta}$0.48±.10; $M_{\theta\phi}$-0.42±.14; $M_{\phi r}$-1.42±.14; Best double couple: $M_0$3.43700×10^{16} NP1:ϕ_s19.00000°, δ34.00000°, λ110.00000°. NP2: ϕ_s175.00000°, δ58.00000°, λ77.00000°. Principal axes: T 3.3370, Plg73.0000°, Azm51.0000°; N 0.2000, Plg11.0000°, Azm182.0000°; P -3.5380, Plg12.0000°, Azm275.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **07** 12:22:40.4±1.8, 10°.22N±0°.07×126°.2E±0°.1, h52km±6km, mb4.8/129 Error ellipse: s-maj=15.8km s-min=10.1km az=80.0*
*DJA **07** 12:22:40.2±0.6, 10°N±4°×12°6E±°, h64km±5km, M5.1/50, mB5.4/14, mb4.9/50, MLv5.8/3, Mw(mB)4.8/14*
*IDC **07** 12:22:41.1±1.4, 10°.11N×126°.03E, h70km±12km, mb4.2/29, mb1 4.3/34, mb1mx4.2/62, mbtmp4.6/34, MS4.1/38, Ms1 4.1/38, ms1mx4.1/52, Error ellipse: s-maj=15.3km s-min=8.1km az=83.0*
ISC 07 12:22:39.7±0.3, **10°.14N**±0°.03×**126°.18E**±0°.05, **h54**km, **n348**, σ**1.s41**/342, **mb4.8**/109, **MS4.2**/38, **5C-6D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	0.77	243	⇓eP	Pn	12 22 51.6	-2.9
SCPH				eS	Sn	12 23 02.1	-3.2
BIPH	Bislig	1.95	175	⇑iP	Pn	12 23 10.6	+0.2
BIPH				i S	Sn	12 23 33.4	-0.3
LLP	Lapu-Lapu	2.19	275	⇓eP	Pn	12 23 13.5	-0.2
LLP				i S	Sn	12 23 40.3	+0.6
SNPH	Sibulan	3.01	255	⇓eP	Pn	12 23 24.6	-0.4
SNPH				eS	Sn	12 24 01.7	+1.8
DAV	Davao City (W)	3.10	191	P	Pn	12 23 27.8	+1.5
	124nm,0.3s,baz=59,slow=10,SNR=8.1						
DAV				S	Sn	12 24 04.1	+1.9
	166nm,0.3s,baz=160,slow=20,SNR=8.1						
DAV				LR	LR	12 25 09.2	
	comp=Z,6μm,20.1s,baz=20,slow=49						
DAV	Davao City (W)	3.10	191		Pn	12 23 28.1	+1.8
DAV	Davao City (W)	3.10	191	P	Pn	12 23 26.8	+0.5
DCPH	Dipolog City	3.19	241	⇓eP	Pn	12 23 27.1	-0.4
KCP	Kidapawan	3.29	199	⇑iP	Pn	12 23 29.6	+0.7
KCP				i S	Sn	12 24 11.6	+4.8
RCP	Roxas	3.66	293	⇓eP	Pn	12 23 34.0	+0.1
JAP	San Jose, Anti	4.21	279	⇑eP	Pn	12 23 43.2	+1.8
SGSI	Sangihe	6.44	186	P	Pn	12 24 15.1	+3.0
	4.7nm6μm491nm,0.6s						
GAMI	Galela, Maluku	8.40	169	P	Pn	12 24 40.3	+1.4
	3μm175nm,0.8s						
TNTI	Ternate	9.38	173		Pn	12 24 53.2	+1.0
TNTI	Ternate	9.38	173	P	Pn	12 24 52.3	0.0
	74nm,1.5s						
GTOI	Gorontalo	9.95	199	P	Pn	12 24 59.3	-0.8
	959nm95nm,1.4s						
TOLI2	Tolitoli	10.45	211	Pn	Pn	12 25 08.6	+1.6
MRSI	Marisa	10.48	204	P	Pn	12 25 08.1	+0.7
	98nm,0.9s						
SPMM	Sapulut	11.04	241	P	Pn	12 25 19.0	+3.9
SIJI	Sorong	12.05	155	P	Pn	12 25 30.4	+1.6
	2.0nm,0.3s,baz=9.7,slow=8.2,SNR=4.6						
SIJI				S	Sn	12 27 30.7	-11
	1.0nm,0.3s,baz=190,slow=24,SNR=1.3						
SIJI				LR	LR	12 30 59.2	
	comp=Z,393nm,19.9s,baz=342,slow=41						
SIJI	Sorong	12.05	155	P	Pn	12 25 28.1	-0.7
	410nm20nm,0.9s						
SANI	Sanana	12.11	181	P	Pn	12 25 28.8	-0.8
	879nm86nm,0.7s						
KRAI	Karang Ratu	13.55	171	P	Pn	12 25 50.8	+1.5
	41nm,0.8s						
MSAI	Masohi	13.67	168	P	Pn	12 25 54.5	+3.5
	367nm15nm,0.8s						
YULB	Yu-li	13.98	341	Pn	Pn	12 25 54.8	-0.4
TPUB	Ta-pu	14.12	339	Pn	Pn	12 25 56.2	-0.9
FAKI	Fak Fak	14.31	155	Pn	Pn	12 25 59.8	+0.3
FAKI	Fak Fak	14.31	155	P	Pn	12 25 59.6	+0.1
	1μm102nm,0.8s						
TTSI	Tana Toraja	14.55	206	P	Pn	12 26 04.5	+1.9
	2μm97nm,0.9s						
BAKI	Biak	14.97	138	P	Pn	12 26 08.3	+0.1
	1μm87nm,1.6s						
SRPI	Serui, Papua	15.57	139	P	Pn	12 26 16.4	+0.4
BNSI	Bone	15.66	203	P	Pn	12 26 17.4	+0.4
	2μm114nm,1.2s						
MTKI	Muara Teweh, K	15.72	226	P	Pn	12 26 18.2	+0.3
SBUM	Sibu	15.83	242	P	P	12 26 23.0	+0.8
KAPI	Kappang	16.36	203	P	Pn	12 26 24.2	-1.7
	0.4nm,0.3s,baz=42,slow=7.8,SNR=3.7						
KAPI				LR	LR	12 34 01.2	
	comp=Z,286nm,18.3s,baz=24,slow=42						
KAPI	Kappang	16.36	203		P	12 26 28.5	+0.5
KAPI				IAmb	IAmb	12 26 52.5	
	comp=Z,59nm,1.1s						
KAPI	Kappang	16.36	203	P	Pn	12 26 25.1	-0.8
	comp=Z,44nm,1.1s						
QZH	Quanzhou	16.40	335	P	P	12 26 28.6	+0.2
QZH				S	Sn	12 29 29.2	+1.7
QZH				pmax	pmax		
	comp=Z,320nm,2.4s						
QZH				LR	LR		
	comp=Z,700nm,16.6s						
QZH				LR	LR		
	comp=Z,490nm,17.5s						
QZH				LR	LR		
	comp=Z,820nm,17.1s						
BKSI	Bulukumba	16.50	202	P	Pn	12 26 28.1	+0.4
	comp=Z,26nm,0.8s						
JOW	Kunigami	16.73	7	P	P	12 26 33.1	+1.2
	comp=Z,1.5nm,0.3s,baz=181,slow=11,SNR=5.6						
JOW				LR	LR	12 32 15.7	
	comp=Z,319nm,19.6s,baz=158,slow=34						
JOW	Kunigami	16.73	7		Pn	12 26 30.4	0.0
JOW				IAmb	IAmb	12 26 37.9	
	comp=Z,81nm,1.3s						
QIZ	Qiongzhong	18.10	301	P	Pn	12 26 49.0	+1.5
QIZ				S	S	12 30 10.7	-1.2
QIZ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
QIZ				LR	LR		
	comp=Z,510nm,17.8s						
QIZ				LR	LR		
	comp=Z,600nm,21.8s						
QIZ				LR	LR		
	comp=Z,850nm,22.6s						
GUMO	Guam	18.61	78	LR	LR	12 32 32.0	
	comp=Z,765nm,20.7s,baz=227,slow=32						
GENI	Genyem	18.81	132	P	Pn	12 26 56.2	+0.1
	comp=Z,139nm,0.8s						
MMRI	Maumere	19.06	192		Pn	12 26 58.8	-0.2
MMRI				IAmb	IAmb	12 27 18.5	
	comp=Z,50nm,0.7s						
MMRI	Maumere	19.06	192	P	Pn	12 26 58.8	-0.2
	comp=Z,67nm,0.7s						
JAY	Jayapura	19.16	130	P	P	12 26 59.5	+0.6
	comp=Z,1.0nm,0.3s,baz=320,slow=5.5,SNR=10						
JAY				LR	LR	12 34 09.7	
	comp=Z,804nm,18.5s,baz=309,slow=36						
JAY	Jayapura	19.16	130	P	P	12 26 59.2	+0.2
	comp=Z,599nmcomp=Z,38nm,1.1s						
EDFI	Ende, Flores	19.29	194	P	Pn	12 27 01.3	-0.5
	comp=Z,323nmcomp=Z,18nm,0.7s						
SOEI	Soe	19.85	186		P	12 27 07.1	+0.6
SOEI	Soe	19.85	186	P	P	12 27 07.0	+0.4
	comp=Z,2μmcomp=Z,95nm,1.1s						
BATI	Baumata	20.36	187	P	P	12 27 11.8	-0.2
	comp=Z,40nm,0.5s,baz=193,slow=4.7,SNR=14						
BATI				LR	LR	12 37 28.8	
	comp=Z,904nm,19.3s,baz=270,slow=44						
BATI	Baumata	20.36	187	P	P	12 27 12.4	+0.4
	comp=Z,94nm,1.4s						
PLAI	Plampang	20.61	204	P	P	12 27 12.8	-1.9
	comp=Z,45nm,1.0s						
TWSI	Taliwang, Sumb	20.91	207	P	Pn	12 27 20.1	-0.9
	comp=Z,37nm,1.1s						
KLNI	Mataram	20.99	209	P	P	12 27 20.3	+1.5
	comp=Z,32nm,1.0s						
JAGI	Jajag, Banyuwa	22.02	213	P	P	12 27 31.8	+1.9
JCJ	Chichijima	22.64	40	LR	LR	12 34 49.5	
	comp=Z,300nm,21.0s,baz=162,slow=32						
SJI	Sawahan	22.83	219	P	P	12 27 39.2	+0.7
	comp=Z,47nm,1.1s						
NJ2	Nanjing	22.84	344	eP	P	12 27 38.3	-0.1
NJ2				pP	pP	12 27 52.7	+2.3
NJ2				sP	sP	12 28 00.1	+3.1
NJ2				S	S	12 31 44.4	+0.6
NJ2				pmax	pmax		
	comp=Z,18nm,0.9s						
NJ2				LR	LR		
	comp=Z,400nm,12.8s						
NJ2				LR	LR		
	comp=Z,230nm,14.2s						
NJ2				LR	LR		
	comp=Z,660nm,17.0s						
JNU	Nakatsue	23.28	10	LR	LR	12 36 33.3	
	comp=Z,202nm,21.1s,baz=158,slow=36						
MTN	Manton Dam	23.35	168	P	P	12 27 43.1	-0.5
NONG	Nongkai	23.67	292	P	P	12 27 46.8	+0.2
	comp=Z,26nm,0.9s						
UGM	Wanagama	23.76	222	P	P	12 27 49.0	+1.5
	comp=Z,163nm,1.8s						
CTJI	Waduk Cacaban	24.01	225	P	P	12 27 52.5	+2.7
	comp=Z,33nm,0.9s						
SLVN	Son La	24.12	300	P	P	12 27 49.5	-1.3
CHAI	Chaiyaphum	24.25	286	P	P	12 27 53.5	+1.6
	comp=Z,366nmcomp=Z,41nm,0.9s						
KPJI	Karang Pucung	24.42	225	P	P	12 27 55.3	+1.9
	comp=Z,40nm,1.0s						
GYA	Guiyang	24.58	314	⇑P	P	12 27 54.9	-0.1
GYA				S	S	12 32 08.8	-3.6
GYA				pmax	pmax		
	comp=Z,8.0nm,1.2s						
GYA				LR	LR		
	comp=Z,390nm,16.6s						
GYA				LR	LR		
	comp=Z,380nm,13.5s						
GYA				LR	LR		
	comp=Z,700nm,16.5s						
LEM	Lembang	25.02	228	LR	LR	12 39 13.4	
	comp=Z,512nm,21.6s,baz=51,slow=40						
CBJI	Citeko	25.32	230	P	P	12 28 03.9	+2.2
	comp=Z,7μmcomp=Z,68nm,0.5s						
IPM	Ipoh	25.57	259	P	P	12 28 06.0	+2.1
SBJI	Serang	25.68	232	P	P	12 28 05.0	0.0
	comp=Z,171nm,0.9s						
KNRA	Kununurra	25.77	174	P	P	12 28 05.7	0.0
UTTA	Uttaradit	25.97	290	P	P	12 28 22.7	+15
PHIT	Phitsanulok	25.98	288	P	P	12 28 09.8	+2.2
	comp=Z,48nm,0.8s						
JHJ	Hachijo jima 2	26.08	27	LR	LR	12 36 22.8	
	comp=Z,388nm,21.5s,baz=255,slow=31						
MDSI	Maura Dua	26.29	237	P	P	12 28 09.9	-0.6
	comp=Z,1μmcomp=Z,12nm,1.1s						
UTHA	Uthaitani	26.60	284	P	P	12 28 17.5	+4.2
	comp=Z,16nm,0.6s						
KMI	Kunming	26.79	307	⇓P	P	12 28 18.7	+3.6
KMI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KMI				LR	LR		
	comp=Z,380nm,18.9s						
KMI				LR	LR		
	comp=Z,450nm,24.0s						
KMI				LR	LR		
	comp=Z,690nm,21.7s						
LAMP	Lampang	27.01	291	P	P	12 28 30.7	+14
PAYA	Payao	27.01	293	P	P	12 28 17.4	+0.4
	comp=Z,32nm,0.7s						
KSRS	Korea Array	27.24	3	P	P	12 28 19.1	+0.3
	comp=Z,1.0nm,0.4s,baz=181,slow=10,SNR=7.7						
KSRS				LR	LR	12 39 57.5	
	comp=Z,190nm,19.9s,baz=194,slow=38						
UMPA	Umpang Tak	27.26	286	P	P	12 28 27.7	+8.5
CM04	Chiang Mai Arr	27.58	290	P	P	12 28 24.4	+2.3
	comp=Z,80nmcomp=Z,6.9nm,0.9s						
CM09	Chiang Mai Arr	27.58	290	P	P	12 28 33.5	+11
CM05	Chiang Mai Arr	27.61	290	P	P	12 28 30.0	+7.6
CM02	Chiang Mai Arr	27.62	290	P	P	12 28 24.5	+2.1
	comp=Z,86nmcomp=Z,7.4nm,0.8s						
CMAR	Chiang Mai Arr	27.63	290	P	P	12 28 21.6	-0.9
	comp=Z,4.0nm,1.0s,baz=105,slow=7.1,SNR=16						
CMAR				LR	LR	12 39 31.1	
	comp=Z,405nm,19.4s,baz=137,slow=37						
CM15	Chiang Mai Arr	27.65	290	P	P	12 28 31.8	+9.2
CM13	Chiang Mai Arr	27.66	290	P	P	12 28 31.3	+8.6
CMMT	Chiang Mai	27.71	291	P	P	12 28 24.1	+0.9
	comp=Z,5.6nm,1.2s						
CMMT	Chiang Mai	27.71	291	P	P	12 28 22.4	-0.8
	comp=Z,5.3nm,1.2s						
CHTO	Chiang Mai	27.71	291	P	P	12 28 24.2	+0.9
	comp=Z,5.6nm,1.2s						
CHTO	Chiang Mai	27.71	291	P	P	12 28 22.9	-0.4
CHTO	Chiang Mai	27.71	291	P	P	12 28 23.1	-0.2
	comp=Z,3.2nm,1.2s						
PSI	Prapat	28.03	257	P	P	12 28 26.0	-0.2
	comp=Z,2.4nm,0.4s,baz=181,slow=1.5,SNR=6.4						
PSI				LR	LR	12 41 25.4	
	comp=Z,522nm,19.0s,baz=356,slow=40						
MNSI	Mandailing Nat	28.03	252	P	P	12 28 27.4	+1.3
	comp=Z,23nm,0.9s						
RPSI	Rantau Prapat	28.06	257	P	P	12 28 27.2	+0.9
RPSI				IAmb	IAmb	12 28 51.7	
	comp=Z,18nm,1.1s						
FITZ	Fitzroy Crossi	28.06	181	P	P	12 28 25.4	-0.8
	comp=Z,3.1nm,0.3s,baz=10,slow=7.0,SNR=44						
FITZ	Fitzroy Crossi	28.06	181	P	P	12 28 25.8	-0.4
MJAR	Matsushiro Arr	28.46	21	LR	LR	12 37 57.6	
	comp=Z,403nm,21.7s,baz=260,slow=32						
XAN	Xi'an	28.57	329	P	P	12 28 29.6	-1.2
XAN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
COEN	Coen	29.28	145	P	P	12 28 36.6	-0.5
COEN				IAmb	IAmb	12 28 54.7	
	comp=Z,28nm,1.1s						
WRAB	Tennant Creek	30.94	165	P	P	12 28 50.8	-1.0
WRAB				IAmb	IAmb	12 28 51.0	
	comp=Z,26nm,1.3s						
WRA	Warramunga Arr	30.95	165	P	P	12 28 49.9	-2.0
	comp=Z,14nm,1.0s,baz=344,slow=9.8,SNR=58						
WRA				S	S	12 33 45.7	-7.0
	comp=Z,2.4nm,0.9s,baz=347,slow=14,SNR=5.3						
WRA	Warramunga Arr	30.95	165	P	P	12 28 50.9	-1.0
WB2	Warramunga Arr	30.95	165	P	P	12 28 50.8	-1.1
WB2				IAmb	IAmb	12 28 51.0	
	comp=Z,30nm,1.2s						
WR0	Warramunga Arr	31.02	165	P	P	12 28 51.9	-0.6
WR0				IAmb	IAmb	12 28 52.3	
	comp=Z,23nm,1.1s						
BJT	Baijiatuau	31.06	345	P	P	12 28 50.7	-1.9
PSA00	Pilbara Seismi	32.12	191	P	P	12 29 03.1	+0.9
PSA00				IAmb	IAmb	12 29 15.7	
	comp=Z,13nm,0.8s						
PSA00	Pilbara Seismi	32.12	191	P	P	12 29 03.0	+0.9
PSA00				IAmb	IAmb	12 29 15.6	
	comp=Z,6.2nm,0.9s						
HHC	Hu-ho-hao-te	33.21	340	eP	P	12 29 14.1	+2.5
HHC				S	S	12 34 32.1	+4.3
HHC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,65nm,6.6s						
HHC				LR	LR		
	comp=Z,400nm,18.6s						
HHC				LR	LR		
	comp=Z,340nm,18.0s						
HHC				LR	LR		
	comp=Z,400nm,19.0s						
USRK	Ussuriysk Ar.	34.31	7	P	P	12 29 21.8	+0.9
	comp=Z,3.8nm,0.7s,baz=196,slow=9.2,SNR=10						
USRK				LR	LR	12 42 27.6	
	comp=Z,114nm,21.0s,baz=174,slow=34						
USRK	Ussuriysk Ar.	34.31	7	P	P	12 29 19.4	-1.6
AS31	Alice Springs	34.43	167	P	P	12 29 21.9	-0.5
ASAR	Alice Springs	34.43	167	P	P	12 29 20.8	-1.6
	comp=Z,7.4nm,0.6s,baz=351,slow=6.9,SNR=62						
ASAR				PP	PP	12 30 40.9	-0.4
	comp=Z,4.3nm,1.0s,baz=348,slow=8.5,SNR=1.9						
ASAR				S	S	12 34 41.1	-5.8
	comp=Z,3.9nm,0.9s,baz=352,slow=21,SNR=8.6						
ASAR				ScP	ScP	12 35 36.1	-1.6
	comp=Z,2.0nm,1.0s,baz=310,slow=2.2,SNR=5.9						
ASAR	Alice Springs	34.43	167	P	P	12 29 21.4	-1.0
MDJ	Mudanjiang	34.48	4	P	P	12 29 23.2	+0.7
MDJ				pmax	pmax		
	comp=Z,19nm,2.0s						
MDJ				pmax	pmax		
	comp=Z,230nm,4.4s						
SHL	Shillong	35.93	300	P	P	12 29 34.5	-1.0
SHL				IAmb	IAmb	12 30 00.5	
	comp=Z,19nm,1.0s						
CTAO	Charters Tower	35.95	147	P	P	12 29 35.4	-0.1
CTAO				IAmb	IAmb	12 29 49.2	
	comp=Z,10nm,0.9s						
GTA	Gaotai	37.44	326	⇑P	P	12 29 46.8	-1.3
GTA				S	S	12 35 30.6	-2.3
GTA				ScP	ScP	12 35 48.1	-0.6
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,33nm,6.5s						
GTA				LR	LR		
	comp=Z,240nm,17.8s						
GTA				LR	LR		
	comp=Z,360nm,18.5s						
GTA				LR	LR		
	comp=Z,440nm,19.6s						
HNR	Honiara	38.82	119	LR	LR	12 43 38.8	
	comp=Z,433nm,21.8s,baz=260,slow=32						
KLR	Kul'dur	39.25	6	P	P	12 30 03.4	+0.5
	comp=Z,2.2nm,0.5s,baz=159,slow=7.2,SNR=11						
H11S3	WAKE ISLAND Hy	40.04	73	T	T	13 13 07.0	
	baz=262,slow=74,SNR=64						
H11S1	WAKE ISLAND Hy	40.06	73	T	T	13 13 07.1	
	baz=262,slow=74,SNR=54						
H11S2	WAKE ISLAND Hy	40.06	73	T	T	13 13 05.8	
	baz=262,slow=74,SNR=59						
MORW	Morawa	40.19	194	P	P	12 30 10.8	-0.1
MORW				IAmb	IAmb	12 30 14.3	
	comp=Z,23nm,1.4s						
H11N1	WAKE ISLAND Hy	40.38	72	T	T	13 13 34.4	
	baz=265,slow=74,SNR=86						
H11N2	WAKE ISLAND Hy	40.39	72	T	T	13 13 32.9	
	baz=265,slow=74,SNR=334						
H11N3	WAKE ISLAND Hy	40.40	72	T	T	13 13 35.9	
	baz=265,slow=74,SNR=421						
FORT	Forrest	40.72	178	P	P	12 30 15.1	-0.2
ULN	Ulaanbaatar	40.92	340	P	P	12 30 16.3	-0.7
ULN	Ulaanbaatar	40.92	340	P	P	12 30 16.9	-0.1
	comp=Z,31nm,0.8s						
SONM	Songino Array	41.11	340	P	P	12 30 18.0	-0.6
	comp=Z,1.9nm,0.5s,baz=158,slow=8.8,SNR=12						
SONM				ScP	ScP	12 36 02.7	0.0
	comp=Z,1.8nm,1.0s,baz=163,slow=1.5,SNR=8.2						
SONM				LR	LR	12 49 59.4	
	comp=Z,280nm,18.8s,baz=147,slow=40						
SONM	Songino Array	41.11	340	P	P	12 30 17.1	-1.4
NWAO	Narrogin (SRO)	43.66	191	P	P	12 30 39.6	+0.3
NWAO				IAmb	IAmb	12 30 41.6	
	comp=Z,21nm,1.0s						
BBOO	Buckleboo	43.73	168	P	P	12 30 39.4	-0.4
STKA	Stephens Creek	44.30	161	P	P	12 30 44.0	-0.4
	comp=Z,12nm,0.9s,baz=351,slow=6.6,SNR=25						
STKA				PP	PP	12 32 29.9	+1.3
	comp=Z,8.8nm,0.9s,baz=340,slow=14,SNR=2.8						
STKA	Stephens Creek	44.30	161	P	P	12 30 44.2	-0.2
ARMA	Armidale	47.16	150	P	P	12 31 07.5	+0.4
ARMA				IAmb	IAmb	12 31 19.9	
	comp=Z,24nm,1.2s						
WMQ	Urumqi	47.27	322	eP	P	12 31 09.8	+2.0
WMQ				LR	LR		
	comp=Z,410nm,18.1s						
WMQ				LR	LR		
	comp=Z,380nm,19.5s						
WMQ				LR	LR		
	comp=Z,280nm,18.5s						

PETK Petropavlovsk- 49.80 24 P P 12 31 27.9 +1.0
comp=Z,2.4nm,0.6s,baz=207,slow=6.2,SNR=6.4
PETK LR LR 12 51 22.6
comp=Z,218nm,21.3s,baz=215,slow=34
PETK Petropavlovsk- 49.80 24 P P 12 31 26.6 -0.4
CAN Canberra 50.10 156 P P 12 31 30.3 +0.8
LIFNC LIFOU 50.72 127 P P 12 31 35.0 +0.6
TOO Toolangi 50.79 160 P P 12 31 35.2 +0.5
DZM Mont Dzumac 50.83 129 P P 12 31 34.9 -0.4
comp=Z,75nm,1.2s,baz=262,slow=9.2,SNR=13
DZM Mont Dzumac 50.83 129 P P 12 31 35.9 +0.5
DZM Mont Dzumac 50.83 129 P P 12 31 36.9 +1.5
ONTNC Ouen Toro 50.97 130 P P 12 31 38.4 +2.1
YATNC Mamie plateau, 51.16 129 P P 12 31 40.0 +2.2
OUENC Ouen Island, N 51.33 129 P P 12 31 40.3 +1.3
OUENC Ouen Island, N 51.33 129 P P 12 31 40.6 +1.6
YAK Yakutsk 51.86 2 P P 12 31 42.2 -0.1
PINNC Pines Island, 51.90 129 P P 12 31 44.1 +0.9
MK31 Makanchi Array 52.08 323 P P 12 31 43.5 -0.8
MK31 IAmb IAmb 12 31 45.1
comp=Z,5.8nm,0.8s
MKAR Makanchi Array 52.08 323 P P 12 31 43.3 -1.0
comp=Z,7.5nm,0.7s,baz=121,slow=7.8,SNR=61
MKAR PcP PcP 12 32 55.3 -0.5
comp=Z,1.9nm,0.6s,baz=111,slow=5.6,SNR=1.5
MKAR ScP ScP 12 36 45.7 -2.7
comp=Z,0.2nm,0.5s,baz=134,slow=4.2,SNR=2.1
MKAR LR LR 12 55 12.2
comp=Z,295nm,21.7s,baz=116,slow=38
MKAR Makanchi Array 52.08 323 P P 12 31 43.4 -0.9
MAKZ Makanchi 52.27 323 P P 12 31 45.2 -0.6
MA2 Magadan 52.69 15 P P 12 31 49.1 +0.6
MA2 IAmb IAmb 12 32 15.2
comp=Z,9.7nm,1.0s
KDJ Kajisay 53.32 316 P P 12 31 54.1 +0.4
ZAA0 Zalesovo Array 54.70 331 P P 12 32 02.0 -1.4
ZALV Zalesovo Beam 54.70 331 P P 12 32 01.9 -1.5
comp=Z,4.4nm,0.6s,baz=119,slow=7.2,SNR=12
ZALV LR LR 12 57 39.6
comp=Z,186nm,18.5s,baz=174,slow=38
ZALV Zalesovo Beam 54.70 331 P P 12 32 02.3 -1.0
AAK Ala-Archa 55.36 315 LR LR 12 58 29.1
comp=Z,220nm,19.7s,baz=91,slow=39
MSVF Nonsavu 58.23 118 LR LR 12 57 50.5
comp=Z,269nm,18.3s,baz=265,slow=36
KK31 Karatay Array 58.28 315 P P 12 32 27.9 -1.1
KKAR Karatay Array 58.28 315 P P 12 32 28.1 -1.0
TIXI Tiksi 61.49 1 P P 12 32 50.1 -0.4
BRVK Borovoye 61.80 325 P P 12 32 51.8 -1.2
BRVK IAmb IAmb 12 32 53.5
comp=Z,5.6nm,0.8s
ATKA Atka Island 63.62 36 P P 12 33 05.7 +0.7
NRIK Noril'sk 64.12 346 P P 12 33 06.3 -1.8
comp=Z,2.8nm,0.5s,baz=121,slow=5.8,SNR=3.9
NRIK LR LR 13 04 38.9
comp=Z,252nm,18.1s,baz=188,slow=39
AFI Afiamalu 66.02 110 LR LR 12 56 42.7
comp=Z,334nm,21.7s,baz=335,slow=31
GEYT Alibeck 66.55 307 LR LR 13 07 00.6
comp=Z,208nm,20.3s,baz=190,slow=40
ABKAR Akbulak array 66.92 319 P P 12 33 25.2 -1.3
ABKAR Akbulak array 66.92 319 P P 12 33 25.4 -1.1
ABKAR IAmb IAmb 12 33 26.7
comp=Z,2.0nm,0.7s
THZ Tophouse 67.11 144 P P 12 33 28.2 +0.4
LBZ Lake Benmore 67.30 147 P P 12 33 30.1 +1.2
LTZ Lake Taylor 67.39 145 P P 12 33 30.7 +1.1
BKZ Black Stump Fm 67.74 140 P P 12 33 32.4 +0.5
AKTO Aktyubinsk 68.37 320 LR LR 13 05 28.2
comp=Z,258nm,20.5s,baz=106,slow=38
UNV Unalaska Valle 68.54 36 P P 12 33 36.4 -0.1
ARU Arti 69.29 327 P P 12 33 40.2 -1.0
ARU IAmb IAmb 12 33 41.7
comp=Z,10nm,0.5s
CHGN Chignik 73.53 34 P P 12 34 07.0 +0.2
CHGN IAmb IAmb 12 34 32.2
comp=Z,12nm,0.8s
N18K Kilae Creek 75.31 30 P P 12 34 17.6 +0.5
N18K IAmb IAmb 12 34 21.1
comp=Z,19nm,1.3s
N18K Kilae Creek 75.31 30 P P 12 34 18.0 +1.0
baz=264,SNR=6.3
SVW2 Sparrevohn 75.50 29 P P 12 34 19.2 +1.1
SVW2 IAmb IAmb 12 34 22.1
comp=Z,14nm,1.2s
O18K Koktuh Hills 75.58 31 P P 12 34 19.7 +1.1
O18K Koktuh Hills 75.58 31 P P 12 34 20.6 +2.0
baz=265,SNR=13
L19K White Mountain 75.95 28 P P 12 34 21.2 +0.5
L19K White Mountain 75.95 28 P P 12 34 22.3 +1.6
baz=265
N19K Bonanza Creek 76.01 30 P P 12 34 22.0 +0.8
N19K IAmb IAmb 12 34 23.6
comp=Z,13nm,1.2s
N19K Bonanza Creek 76.01 30 P P 12 34 22.6 +1.4
baz=266,SNR=7.3
O19K Port Alsworth 76.05 30 P P 12 34 22.4 +1.2
O19K IAmb IAmb 12 34 24.7
comp=Z,16nm,1.2s
M19K Big River Lodg 76.14 29 P P 12 34 21.7 -0.1
K20K Telida 76.40 27 P P 12 34 24.5 +1.2
K20K IAmb IAmb 12 34 27.3
comp=Z,9.0nm,1.2s
K20K Telida 76.40 27 P P 12 34 24.5 +1.2
baz=265
J20K Nowinta River 76.44 26 P P 12 34 24.4 +1.0
J20K IAmb IAmb 12 34 27.3
comp=Z,21nm,1.4s
J20K Nowinta River 76.44 26 P P 12 34 25.3 +1.9
baz=265
M20K Styx River 76.73 29 P P 12 34 25.9 +0.7
M20K Styx River 76.73 29 P P 12 34 27.1 +1.9
baz=267
IMAR Indian Mountai 76.76 24 P P 12 34 25.9 +0.7
KDAK Kodiak Island 76.82 33 P P 12 34 26.8 +1.1
comp=Z,3.3nm,0.4s,baz=286,slow=6.8,SNR=8.5
KDAK Kodiak Island 76.82 33 P P 12 34 26.1 +0.5
KDAK IAmb IAmb 12 34 55.0
comp=Z,17nm,1.4s
CASY Casey 77.08 186 P P 12 34 27.2 +0.4
CASY IAmb IAmb 12 34 27.5
comp=Z,18nm,1.2s
SPU Mount Spurr 77.22 29 P P 12 34 28.3 +0.4
I21K Tanana 77.44 25 P P 12 34 30.1 +1.1
I21K IAmb IAmb 12 34 32.9
comp=Z,17nm,1.3s
I21K Tanana 77.44 25 P P 12 34 31.0 +2.0
baz=267
SKT Skwentna 77.50 29 P P 12 34 30.2 +0.8
baz=268,SNR=6.5
BPAW Bear Paw Mtn. 77.82 26 P P 12 34 31.9 +0.7
BPAW Bear Paw Mtn. 77.82 26 P P 12 34 32.7 +1.5
baz=268,SNR=16
BRSE Bradley Lake S 77.83 31 P P 12 34 31.8 +0.4
baz=269
SUA Susitna One 77.85 29 P P 12 34 31.9 +0.4
baz=269,SNR=6.2
ONI Oni 77.88 311 P P 12 34 32.7 +0.6
ONI IAmb IAmb 12 34 38.0
comp=Z,14nm,1.4s
MLY Manley 77.95 26 P P 12 34 33.4 +1.4
MLY IAmb IAmb 12 34 35.3
comp=Z,18nm,1.2s
MLY Manley 77.95 26 P P 12 34 32.8 +0.8
baz=268
CUT Chulitna 78.10 28 P P 12 34 32.6 -0.1
TRF Thorofare Moun 78.11 27 P P 12 34 33.4 +0.4
TRF IAmb IAmb 12 34 36.8
comp=Z,6.2nm,0.9s
TRF Thorofare Moun 78.11 27 P P 12 34 33.6 +0.6
baz=269,SNR=6.2
KBZ Khabaz 78.23 313 P P 12 34 33.8 0.0
comp=Z,1.1nm,0.4s,baz=234,slow=21,SNR=2.5
KBZ LR LR 13 13 27.9
comp=Z,165nm,18.2s,baz=76,slow=39
COLD Coldfoot 78.25 23 P P 12 34 34.4 +0.9
COLD IAmb IAmb 12 34 37.4
comp=Z,13nm,1.2s
COLD Coldfoot 78.25 23 P P 12 34 35.6 +2.1
baz=268
H23K Yukon River 78.48 25 P P 12 34 33.9 -0.9
H23K IAmb IAmb 12 34 38.8
comp=Z,10nm,1.0s
H23K Yukon River 78.48 25 P P 12 34 36.8 +2.0
baz=269

TOLK Toolik Lake Re 78.53 22 P P 12 34 35.9 +0.8
TOLK IAmb IAmb 12 34 38.1
comp=Z,11nm,0.8s
TOLK Toolik Lake Re 78.53 22 P P 12 34 36.9 +1.8
baz=268
I23K Minto, Yukon-K 78.54 25 P P 12 34 35.8 +0.7
I23K IAmb IAmb 12 34 37.9
comp=Z,9.5nm,0.8s
I23K Minto, Yukon-K 78.54 25 P P 12 34 36.7 +1.6
baz=269
PMR Palmer 78.63 29 P P 12 34 36.0 +0.3
PMR IAmb IAmb 12 34 38.0
comp=Z,13nm,1.3s
PMR Palmer 78.63 29 P P 12 34 36.4 +0.7
baz=270,SNR=6.1
NEA2 Nenana 78.66 26 P P 12 34 37.0 +1.2
NEA2 IAmb IAmb 12 34 38.9
comp=Z,8.2nm,0.8s
NEA2 Nenana 78.66 26 P P 12 34 37.5 +1.7
baz=270,SNR=9.4
MCK McKinley 78.72 27 P P 12 34 35.9 -0.3
MCK McKinley 78.72 27 P P 12 34 36.9 +0.7
baz=270,SNR=13
RND Reindeer 78.75 27 P P 12 34 36.9 +0.4
RND IAmb IAmb 12 34 37.2
comp=Z,8.5nm,1.1s
WAT1 Susitna Watana 78.89 28 P P 12 34 37.6 +0.5
baz=270
KNK Knik Glacier 78.95 29 P P 12 34 37.5 0.0
KNK Knik Glacier 78.95 29 P P 12 34 37.9 +0.3
baz=271
SML Sawmill 79.01 29 P P 12 34 39.1 +1.3
baz=271,SNR=6.3
MDM Murphy Dome 79.02 26 P P 12 34 37.4 -0.4
PWL Port Wells 79.02 30 P P 12 34 38.0 +0.1
WRH Wood River Hil 79.08 26 P P 12 34 38.5 +0.4
H24K Noodor Dome 79.16 25 P P 12 34 40.2 +1.6
H24K Noodor Dome 79.16 25 P P 12 34 40.3 +1.6
baz=270
TCOL CIGO, UAF Yank 79.18 26 P P 12 34 39.5 +0.9
TCOL CIGO, UAF Yank 79.18 26 P P 12 34 40.9 +2.3
baz=271
COLA College 79.18 26 P P 12 34 39.5 +0.9
CCB Clear Creek Bu 79.21 26 P P 12 34 38.4 -0.4
GURO Guroymak-BITLI 79.21 307 P P 12 34 39.2 -0.4
GURO IAmb IAmb 12 34 41.2
comp=Z,13nm,0.8s
WAT6 Susitna Watana 79.27 28 P P 12 34 40.2 +0.8
baz=271,SNR=12
SCM Sheep Creek Mo 79.48 29 P P 12 34 40.7 +0.3
SCM IAmb IAmb 12 34 43.5
comp=Z,13nm,1.0s
HDA Harding Lake 79.58 26 P P 12 34 40.7 -0.1
HDA IAmb IAmb 12 34 42.0
comp=Z,8.5nm,0.7s
HDA Harding Lake 79.58 26 P P 12 34 40.5 -0.3
baz=272,SNR=8.7
IL31 79.60 26 P P 12 34 40.5 -0.4
ILAR Eielson Array 79.60 26 P P 12 34 41.1 +0.2
comp=Z,1.8nm,0.7s,baz=233,slow=5.0,SNR=30
ILAR Eielson Array 79.60 26 P P 12 34 40.7 -0.2
KLMR Klimovskoe 79.60 330 *e*P P 12 34 37.4 -3.6
KLMR AMP 12 34 44.1
comp=Z,2.0nm,0.4s
GLI Glacier Island 79.63 30 P P 12 34 41.3 +0.1
GLI IAmb IAmb 12 34 43.4
comp=Z,12nm,0.8s
GLI Glacier Island 79.63 30 P P 12 34 42.5 +1.3
baz=272
M24K Tolsona, Glenn 80.02 28 P P 12 34 43.6 +0.2
M24K IAmb IAmb 12 34 55.1
comp=Z,13nm,1.0s
M24K Tolsona, Glenn 80.02 28 P P 12 34 45.2 +1.8
baz=273
FYU Fort Yukon 80.21 24 P P 12 34 44.4 +0.2
FYU IAmb IAmb 12 34 48.2
comp=Z,22nm,1.2s
DIV Divide 80.26 29 P P 12 34 45.4 +0.7
DIV IAmb IAmb 12 34 49.6
comp=Z,7.5nm,0.7s
PAX Paxson 80.30 28 P P 12 34 45.4 +0.5
PAX IAmb IAmb 12 34 49.2
comp=Z,11nm,1.2s
PAX Paxson 80.30 28 P P 12 34 46.2 +1.3
baz=273,SNR=6.8
BMAR Burnt Mountain 80.42 23 P P 12 34 46.2 +0.8
RIDG Independent Ri 80.53 27 P P 12 34 46.4 +0.3
baz=274,SNR=11
N25K Chitina, Valde 80.79 29 P P 12 34 48.6 +1.1
N25K IAmb IAmb 12 34 51.9
comp=Z,14nm,1.4s
N25K Chitina, Valde 80.79 29 P P 12 34 49.1 +1.6
baz=274
BMRM Bremner River 80.84 30 P P 12 34 46.7 -1.0
BMRM Bremner River 80.84 30 P P 12 34 50.1 +2.4
baz=274
DOT Dot Lake 80.89 27 P P 12 34 48.5 +0.6
DOT IAmb IAmb 12 34 50.7
comp=Z,13nm,1.4s
SCRK Sand Creek 80.90 27 P P 12 34 48.2 +0.1
SCRK Sand Creek 80.90 27 P P 12 34 49.0 +0.9
baz=274,SNR=7.2
J26K Charley River, 80.94 26 P P 12 34 49.0 +0.8
baz=274,SNR=7.3
MENT Mentasta 81.10 28 P P 12 34 49.6 +0.6
MENT IAmb IAmb 12 34 52.8
comp=Z,5.1nm,0.6s
GLB Gilahina Butte 81.18 29 P P 12 34 50.3 +0.7
GLB IAmb IAmb 12 34 54.1
comp=Z,18nm,1.2s
L26K Log Cabin Wild 81.26 27 P P 12 34 51.3 +1.4
baz=275,SNR=5.4
VRDI Verde Repeater 81.37 29 P P 12 34 51.6 +0.8
VRDI IAmb IAmb 12 35 11.5
comp=Z,11nm,1.3s
M26K Nabesna, AK 81.48 28 P P 12 34 51.9 +0.7
M26K IAmb IAmb 12 34 54.5
comp=Z,16nm,1.4s
M26K Nabesna, AK 81.48 28 P P 12 34 52.5 +1.4
baz=276,SNR=5.1
K27K Chicken 81.73 26 P P 12 34 53.8 +1.4
K27K IAmb IAmb 12 34 56.4
comp=Z,21nm,1.1s
K27K Chicken 81.73 26 P P 12 34 54.6 +2.3
baz=276,SNR=15
WAX Waxell Ridge 81.74 30 P P 12 34 51.3 -1.2
WAX IAmb IAmb 12 34 56.9
comp=Z,10nm,0.6s
L27K Beaver Creek, 81.95 27 P P 12 34 54.8 +1.2
L27K Beaver Creek, 81.95 27 P P 12 34 55.4 +1.9
baz=276,SNR=9.8
M27K Edge Creek, AK 82.00 28 P P 12 34 55.5 +1.5
baz=276
EGAK Eagle 82.05 26 P P 12 34 54.5 +0.5
EGAK Eagle 82.05 26 P P 12 34 55.2 +1.2
baz=277
BARN Barnard Glacie 82.26 29 P P 12 34 55.5 +0.1
CTG Chitna Glacier 82.42 29 P P 12 34 58.5 +2.3
baz=277
CTGM Chitina Glacie 82.43 29 P P 12 34 56.9 +0.6
BVCY Beaver Creek 82.47 28 P P 12 34 58.3 +2.0
baz=277
TABL Table Mountain 82.58 30 P P 12 34 58.1 +0.9
TABL IAmb IAmb 12 35 01.6
comp=Z,14nm,0.8s
LOGN Logan Glacier 82.60 30 P P 12 34 56.5 -0.7
LOGN IAmb IAmb 12 35 06.0
comp=Z,9.6nm,0.8s
YUK3 Moose Creek 82.74 29 P P 12 34 59.6 +1.7
baz=278
DAWY Dawson 82.90 26 P P 12 34 59.5 +1.0
DAWY IAmb IAmb 12 35 02.2
comp=Z,20nm,1.4s
DAWY Dawson 82.90 26 P P 12 35 00.2 +1.7
baz=278,SNR=13
PINM Pinnacle 83.07 30 P P 12 35 01.4 +1.9
baz=278
EPYK Eagle Plains 83.63 24 P P 12 35 02.6 +0.4
EPYK Eagle Plains 83.63 24 P P 12 35 03.3 +1.1
baz=281,SNR=8.9
YUK4 Talbot Arm 83.66 29 P P 12 35 05.1 +2.4
baz=280
YUK6 Outpost Mounta 83.86 29 P P 12 35 05.8 +2.0
baz=280
ASF Jabal al Asfar 84.08 302 P P 12 35 05.2 -0.1
comp=Z,3.8nm,0.8s,baz=327,slow=5.1,SNR=4.8

ARCES ARCESS Array B 84.29 340 P P 12 35 05.0 -0.5
comp=Z,1.8nm,0.6s,baz=69,slow=6.6,SNR=19
ARCES LR LR 13 17 51.6
comp=Z,105nm,18.3s,baz=350,slow=39
ARCES ARCESS Array B 84.29 340 P P 12 35 05.4 -0.1
ARCES IAmb IAmb 12 35 09.7
comp=Z,7.5nm,1.1s
HYT Haines Junctio 84.30 29 P P 12 35 07.3 +1.4
HYT IAmb IAmb 12 35 09.8
comp=Z,13nm,1.0s
HYT Haines Junctio 84.30 29 P P 12 35 07.8 +1.9
baz=280
INK Inuvik 84.44 22 P P 12 35 06.8 +0.7
comp=Z,5.4nm,0.9s,baz=297,slow=9.5,SNR=8.7
INK Inuvik 84.44 22 P P 12 35 06.3 +0.1
INK IAmb IAmb 12 35 09.1
comp=Z,8.7nm,1.0s
INK Inuvik 84.44 22 P P 12 35 06.7 +0.5
baz=283,SNR=7.8
MAYO Mayo, Yukon 84.51 26 P P 12 35 08.9 +2.2
baz=282
BRTR Keskin Array B 85.55 309 P P 12 35 09.8 -2.8
comp=Z,2.5nm,0.7s,baz=90,slow=4.9,SNR=6.0
BRTR LR LR 13 18 28.7
comp=Z,123nm,19.9s,baz=110,slow=39
WHY Whitehorse 85.59 29 P P 12 35 13.2 +0.9
WHY Whitehorse 85.59 29 P P 12 35 14.4 +2.0
baz=283
SKAG Skagway 85.64 30 P P 12 35 13.4 +1.0
SKAG IAmb IAmb 12 35 14.8
comp=Z,9.9nm,1.0s
SKAG Skagway 85.64 30 P P 12 35 14.4 +2.1
baz=282
FARO Faro, Yukon 85.95 27 P P 12 35 15.5 +1.6
baz=284
FINES FINESS Array B 85.97 332 P P 12 35 11.6 -2.3
comp=Z,1.9nm,0.3s,baz=77,slow=3.8,SNR=27
FINES LR LR 13 17 48.2
comp=Z,180nm,18.6s,baz=68,slow=38
FINES FINESS Array B 85.97 332 P P 12 35 12.9 -1.1
A36M Sachs Harbour 86.07 17 P P 12 35 14.1 -0.2
CSS Mathiatis 86.59 305 P P 12 35 16.6 -1.0
AKASG Malin Array Be 86.61 321 P P 12 35 15.8 -1.6
comp=Z,1.6nm,0.5s,baz=65,slow=4.6,SNR=12
AKASG LR LR 13 18 38.9
comp=Z,79nm,19.7s,baz=220,slow=39
AKASG Malin Array Be 86.61 321 P P 12 35 16.2 -1.2
AKASG IAmb IAmb 12 35 17.8
comp=Z,5.7nm,1.3s
MMPY Sheldon Lake, 86.78 27 P P 12 35 19.6 +1.5
baz=286
PPT Papeete 87.61 108 LR LR 13 07 06.4
comp=Z,142nm,21.6s,baz=254,slow=30
TGTN Hyland Airport 88.45 28 P P 12 35 28.0 +1.9
baz=288
KMBO Kilima Mbogo 89.14 269 LR LR 13 15 35.6
comp=Z,103nm,18.4s,baz=92,slow=36
MAW Mawson 89.54 200 P P 12 35 30.3 -0.5
comp=Z,3.8nm,0.8s,baz=54,slow=8.4,SNR=9.3
MAW LR LR 13 15 20.2
comp=Z,67nm,19.3s,baz=66,slow=35
MAW Mawson 89.54 200 P P 12 35 31.4 +0.6
MAW IAmb IAmb 12 35 32.2
comp=Z,5.1nm,1.4s
VNDA Vanda 89.81 173 P P 12 35 31.8 -0.1
comp=Z,3.8nm,1.1s,baz=316,slow=5.2,SNR=12
VNDA LR LR 13 17 06.5
comp=Z,82nm,18.8s,baz=346,slow=36
VNDA Vanda 89.81 173 P P 12 35 32.2 +0.3
VNDA IAmb IAmb 12 35 32.8
comp=Z,8.9nm,1.2s
BURAR Bucovina Array 89.88 318 P P 12 35 32.5 -0.6
BUR08 Bucovina Ar. S 89.89 318 P P 12 35 33.0 -0.2
SBA Scott Base 90.72 172 P P 12 35 36.8 +0.6
SBA IAmb IAmb 12 35 52.5
comp=Z,6.5nm,1.1s
CRVS Cervenica-Dubn 91.93 320 *e*P P 12 35 42.9 +0.4
NOA NORSAR Array B 92.84 334 P P 12 35 45.1 -1.4
comp=Z,0.4nm,0.5s,baz=69,slow=4.7,SNR=3.3
NOA LR LR 13 20 26.1
comp=Z,98nm,20.9s,baz=50,slow=37
YKA Yellowknife Ar 93.91 24 P P 12 35 52.1 +0.8
comp=Z,2.8nm,0.7s,baz=300,slow=3.7,SNR=6.0
GERES GERESS Array B 96.74 322 LR LR 13 22 10.0
comp=Z,85nm,19.3s,baz=80,slow=37
TXAR Lajitas Array 117.98 49 PKP PKiKP 12 41 21.4 0.0
comp=Z,0.3nm,0.5s,baz=352,slow=2.9,SNR=7.0
TXAR Lajitas Array 117.98 49 PKPdf 12 41 21.1 -0.1
TORD Torodi Ar. Bea 120.23 292 PKP PKPdf 12 41 23.9 -1.9
comp=Z,0.7nm,0.4s,baz=73,slow=2.0,SNR=12
TORD Torodi Ar. Bea 120.23 292 PKPdf 12 41 24.5 -1.3
KOWA Kowa 124.89 296 PKP PKPdf 12 41 33.7 -1.1
comp=Z,1.2nm,0.4s,baz=35,slow=5.5,SNR=3.8
PLCA Paso Flores 146.12 157 PKPbc PKPab 12 42 14.8 -0.1
comp=Z,5.4nm,1.1s,baz=284,slow=3.0,SNR=7.0
PLCA Paso Flores 146.12 157 PKPdf 12 42 11.9 -1.4
CPUP Villa Florida 163.55 169 PKPab PKPab 12 43 29.1 +0.4
comp=Z,2.1nm,0.9s,baz=188,slow=7.1,SNR=2.3

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*NEIC **07** 12:29:19.4±0.7, 19°.20N±0°.03×65°.43W±0°.04, h39km±46km,*
Error ellipse: s-maj=6.5km s-min=2.9km az=135.0
*RSPR **07** 12:29:19.7, 19°.16N×65°.41W, h67km±6km, MD3.4/14*
ISC 07 12:29:19.4±1.5**, 19°.20N**±0°.07×**65°.43W**±0°.03**, h35km, n58,**
σ**0s.54**/62**, 12C-3D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CUPR	**Culebra, Puert**	**0.90**	**171**⇓	*e*P	**Pn**	**12 29 35.7**	**+0.1**
CUPR	**Culebra, Puert**	**0.90**	**171**	*e*S	**Sn**	**12 29 48.3**	**+0.9**
CUPR	**Culebra, Puert**	**0.90**	**171**		**Pn**	**12 29 35.7**	**+0.1**
CUPR					**Sn**	**12 29 48.3**	**+0.9**
CUPR	**Culebra, Puert**	**0.90**	**171**	IAML		12 29 51.2	
	comp=N,186nm,0.5s						
STVI	**Saint Thomas**	**0.96**	**152**⇓	*e*P	**Pn**	**12 29 35.8**	**-0.6**
STVI	**Saint Thomas**	**0.96**	**152**	*e*S	**Sn**	**12 29 48.6**	**-0.3**
STVI	**Saint Thomas**	**0.96**	**152**		**Pn**	**12 29 35.8**	**-0.6**
STVI					**Sn**	**12 29 48.6**	**-0.3**
STVI	**Saint Thomas**	**0.96**	**152**	IAML		12 29 51.9	
	comp=N,236nm,0.2s						
STVI				IAML		12 29 54.2	
	comp=E,208nm,0.3s						
CBYP	**Canovanas**	**1.01**	**204**⇑	*e*P	**Pn**	**12 29 36.6**	**-0.6**
CBYP	**Canovanas**	**1.01**	**204**	*e*S	**Sn**	**12 29 51.2**	**+0.9**
CBYP	**Canovanas**	**1.01**	**204**		**Pn**	**12 29 36.6**	**-0.6**
CBYP					**Sn**	**12 29 51.2**	**+0.9**
GCPR	**Guaynabo City**	**1.08**	**215**		**Pn**	**12 29 37.2**	**-0.9**
TBVI	**Tortola**	**1.10**	**135**⇑	*e*P	**Pn**	**12 29 37.4**	**-0.9**
TBVI	**Tortola**	**1.10**	**135**	*e*S	**Sn**	**12 29 51.8**	**-0.4**
MTP	**Monte Pirata**	**1.11**	**186**⇑	*e*P	**Pn**	**12 29 38.6**	**+0.1**
MTP	**Monte Pirata**	**1.11**	**186**	*e*S	**Sn**	**12 29 52.3**	**-0.2**
MTP	**Monte Pirata**	**1.11**	**186**		**Pn**	**12 29 38.6**	**+0.1**
MTP					**Sn**	**12 29 52.3**	**-0.2**
MTP	**Monte Pirata**	**1.11**	**186**	IAML		12 29 56.9	
	comp=N,178nm,0.2s						
MTP				IAML		12 30 00.1	
	comp=E,234nm,0.3s						
HUMP	**Col San Antoni**	**1.13**	**201**⇓	*e*P	**Pn**	**12 29 38.6**	**-0.2**
HUMP	**Col San Antoni**	**1.13**	**201**	*e*S	**Sn**	**12 29 53.0**	**-0.1**
HUMP	**Col San Antoni**	**1.13**	**201**		**Pn**	**12 29 38.6**	**-0.2**
HUMP					**Sn**	**12 29 53.0**	**-0.1**
HUMP	**Col San Antoni**	**1.13**	**201**	IAML		12 29 58.4	
	comp=E,190nm,0.2s						
ABV	**Anegada**	**1.14**	**114**⇑	*e*P	**Pn**	**12 29 38.8**	**-0.1**
ABV	**Anegada**	**1.14**	**114**	*e*S	**Sn**	**12 29 54.2**	**+0.9**
ABVI	**Anegada Island**	**1.14**	**114**		**Pn**	**12 29 38.8**	**-0.1**
ABVI					**Sn**	**12 29 54.2**	**+0.9**
ABVI	**Anegada Island**	**1.14**	**114**	IAML		12 30 07.5	
	comp=E,186nm,0.9s						
ABVI				IAML		12 30 11.2	
	comp=N,224nm,1.1s						
VGBI	**Virgin Gorda,**	**1.21**	**126**⇑	*e*P	**Pn**	**12 29 39.5**	**-0.3**
VGBI	**Virgin Gorda,**	**1.21**	**126**	*e*S	**Sn**	**12 29 54.8**	**-0.1**
VGBI	**Virgin Gorda,**	**1.21**	**126**		**Pn**	**12 29 39.5**	**-0.3**
VGBI					**Sn**	**12 29 54.8**	**-0.1**
EMPR	**Esperanza - Ma**	**1.27**	**235**⇑	*e*P	**Pn**	**12 29 40.6**	**-0.1**
EMPR	**Esperanza - Ma**	**1.27**	**235**	*e*S	**Sn**	**12 29 56.4**	**-0.1**
EMPR	**Esperanza - Ma**	**1.27**	**235**		**Pn**	**12 29 40.6**	**-0.1**
EMPR					**Sn**	**12 29 56.4**	**-0.1**
EMPR	**Esperanza - Ma**	**1.27**	**235**	IAML		12 30 05.9	
	comp=N,192nm,0.6s						
SJG	**San Juan**	**1.28**	**212**		**Pn**	**12 29 40.5**	**-0.4**
SJG				IAML		12 30 03.6	
	comp=N,118nm,0.4s						
PDPR	**Patillas Dam,**	**1.31**	**206**		**Pn**	**12 29 41.0**	**-0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PDPR				IAML		12 30 07.7	
	comp=E,105nm,0.5s						
IGPR	InterUniversit	1.39	208	⇑ eP	Pn	12 29 42.1	-0.2
IGPR	InterUniversit	1.39	208	eS	Sn	12 29 59.7	+0.2
AOPR	Arecibo Observ	1.52	236	⇑ eP	Pn	12 29 44.0	-0.1
AOPR	Arecibo Observ	1.52	236	eS	Sn	12 30 02.9	+0.3
AOPR	Arecibo Observ	1.52	236		Pn	12 29 44.0	-0.1
AOPR					Sn	12 30 02.9	+0.3
CELP	Cerrillos	1.56	224	⇑ eP	Pn	12 29 45.0	+0.2
CELP	Cerrillos	1.56	224	eS	Sn	12 30 03.7	-0.1
CELP	Cerrillos	1.56	224		Pn	12 29 45.0	+0.2
CELP					Sn	12 30 03.7	-0.1
CDVI	St. Croix	1.58	156		Pn	12 29 45.6	+0.7
OBIP	Obispado Ponce	1.61	224	⇑ eP	Pn	12 29 44.6	-0.7
OBIP	Obispado Ponce	1.61	224	eS	Sn	12 30 04.9	+0.1
OBIP	Obispado Ponce	1.61	224		Pn	12 29 44.6	-0.7
OBIP					Sn	12 30 04.9	+0.1
OBIP	Obispado Ponce	1.61	224	IAML		12 30 08.4	
	comp=E,125nm,0.8s						
OBIP				IAML		12 30 11.0	
	comp=N,74nm,0.6s						
ICMP	Isla Caja de M	1.67	219	Pn	Pn	12 29 48.2	+2.0
ICMP				IAML		12 30 15.9	
	comp=N,85nm,0.5s						
ICMP				IAML		12 30 16.0	
	comp=E,92nm,0.9s						
AGPR	Aguadilla, PR	1.75	246	Pn	Pn	12 29 48.3	+1.0
AGPR				IAML		12 30 13.6	
	comp=N,85nm,0.4s						
AGPR				IAML		12 30 21.5	
	comp=E,76nm,0.6s						
LSP	Las Mesas	1.87	237	⇑ eP	Pn	12 29 49.1	+0.1
MLPR	Magueyes Islan	1.96	232	Pn	Pn	12 29 50.1	-0.1
CRPR	Cabo Rojo, PR	1.99	233	⇑ eP	Pn	12 29 50.3	-0.3
CRPR	Cabo Rojo, PR	1.99	233	eS	Sn	12 30 13.7	-0.5
CRPR	Cabo Rojo, PR	1.99	233		Pn	12 29 50.3	-0.3
CRPR					Sn	12 30 13.7	-0.5
CRPR	Cabo Rojo, PR	1.99	233	IAML		12 30 32.1	
	comp=E,50nm,0.8s						
DR12	Loma Pena Alta	3.76	264	Pn	Pn	12 30 15.4	+0.4
SDDR	Presa de Saban	5.54	269	Pn	Pn	12 30 39.0	-0.6

IDC 07 12:30:18.7±2.0, 17°.83S×173°.83W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/27, mbtmp3.6/4, ML3.2/1, Error ellipse: s-maj=83.3km s-min=24.0km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.37	27	Pn	Pn	12 31 25.8	-0.7
	1.3nm,0.3s,baz=54,slow=21,SNR=1.8						
AFI				Sn	Sn	12 32 20.4	+2.2
	1.6nm,0.3s,baz=38,slow=20,SNR=1.4						
WRA	Warramunga Arr	48.93	259	P	P	12 39 06.5	-0.5
	0.3nm,0.4s,baz=97,slow=7.5,SNR=10						
ASAR	Alice Springs	49.01	254	P	P	12 39 07.8	+0.3
	0.7nm,0.5s,baz=90,slow=8.4,SNR=20						
TXAR	Lajitas Array	82.31	56	P	P	12 42 42.7	+0.1
	0.2nm,0.8s,baz=215,slow=6.1,SNR=3.8						

MEX 07 12:33:09.2±0.4, 14°.74N×93°.22W, h8km±45km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.96	0	i P	Pg	12 33 23.5	-4.3
PCIG				i S	Sg	12 33 35.9	-4.4
CCIG	Comitan	1.86	34	i P	Pn	12 33 35.9	-5.7
CCIG				i S	Sn	12 34 00.2	-5.2
TGIG		2.03	3	i P	Pn	12 33 39.7	-4.2
TGIG				i S	Sn	12 34 04.7	-4.9
CMIG	Matias Romero	2.84	326	eP	Pn	12 33 51.7	-3.2
CMIG				eS	Sn	12 34 25.1	-4.3

IDC 07 12:55:37.5±2.2, 27°.94N×87°.59E, h0km, mb3.9/4, mb1 3.9/6, mb1mx3.5/64, mbtmp3.7/6, ML3.8/2, Error ellipse: s-maj=138.1km s-min=19.9km az=61.0
NDI 07 12:55:45.0±1.4, 28°.21N×87°.74E, h85km±18km, ML3.6
ISC 07 12:55:47.8±1.1, 27°.99N±0°.09×87°.90E±0°.07, h100km, n12, σ2ˢ15/17, mb3.7/4, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	Tadong	0.91	137	eP	Pn	12 56 07.3	-0.1
GTK				eS	Sn	12 56 21.9	-0.2
GTK				IAML		12 56 23.5	
	comp=E,2μm,0.3s						
DHUB	DHUBRI	2.71	136	eP	Pn	12 56 30.1	+0.5
DHUB				eS	Sn	12 57 03.1	+1.4
SHL	Shillong	4.30	123	eP	Pn	12 56 50.4	-0.7
SHL				eS	Sn	12 57 39.2	-1.1
SHL				IAML		12 57 42.5	
	comp=N,141nm,0.2s						
SHL				IAML		12 57 43.0	
	comp=E,67nm,0.3s						
BOK	Bokaro	4.55	204	eP	Pn	12 56 54.0	-0.5
BOK				eS	Sn	12 57 42.9	-3.4
KOHI	KOHIMA	5.98	111	eP	Pn	12 57 13.2	-0.8
KOHI				eS	Sn	12 58 18.2	-3.1
MOKO	MOKOCHONG	6.12	104	eP	Pn	12 57 14.9	-0.9
MOKO				eS	Sn	12 58 22.1	-2.4
CMAR	Chiang Mai Arr	13.88	131	Pn	Pn	12 58 58.1	-2.2
	comp=E,0.3nm,0.3s,baz=310,slow=13,SNR=1.7						
MKAR	Makanchi Array	19.29	348	P	Pn	13 00 04.7	-1.9
	comp=E,0.1nm,0.3s,baz=160,slow=13,SNR=2.8						
KURBB	Kurchatov Arra	23.70	345	P	P	13 00 51.0	+0.7
	comp=E,0.9nm,0.6s,baz=163,slow=9.0,SNR=8.7						
ARCES	ARCESS Array B	54.47	337	P	P	13 05 05.1	+0.6
	comp=E,1.5nm,0.8s,baz=96,slow=9.2,SNR=2.0						
WRA	Warramunga Arr	65.47	131	P	P	13 06 23.9	+3.4
	comp=E,0.6nm,0.4s,baz=322,slow=6.0,SNR=19						
ASAR	Alice Springs	67.86	135	P	P	13 06 39.0	+3.4
	comp=E,0.4nm,0.5s,baz=316,slow=5.9,SNR=20						

IDC 07 13:00:52.4±0.7, 48°.24N×157°.02E, h0km, mb3.9/16, mb1 4.0/19, mb1mx3.9/53, mbtmp3.9/19, ML3.2/3, MS3.6/1, Ms1 3.7/1, ms1mx2.7/51, Error ellipse: s-maj=19.5km s-min=14.8km az=148.0
NEIC 07 13:00:54.0±1.8, 48°.21N±0°.10×157°.0E±0°.1, h10km±1km, mb4.4/46, Error ellipse: s-maj=16.7km s-min=13.9km az=354.0
MOS 07 13:00:55.1±0.9, 48°.26N×157°.01E, h32km, mb4.7/8, Error ellipse: s-maj=12.4km s-min=3.8km az=83.7
SKHL 07 13:00:55.8±0.2, 48°.20N×157°.10E, h47km±7km, mb4.6/9
KRSC 07 13:00:55.4±2.0, 48°.47N×157°.71E, h24km±31km, ML4.5
ISC 07 13:00:57.2±0.5, 48°.26N±0°.06×157°.01E±0°.06, h35km, n174, σ1ˢ38/192, mb4.2/40, 4C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.50	347	ePN	Pn	13 01 34.4	-0.8
SKR				eS	Sn	13 02 03.2	-1.2
SKR				pmax	pmax		
	comp=Z,274nm,0.7s						
SKR				smax	smax		
	comp=E,528nm,0.7s						
SKR				smax	smax		
	comp=N,1μm,0.5s						
SKR	Severo-Kuril's	2.50	347	eP	Pn	13 01 34.7	-0.5
SKR				eS	Sn	13 02 04.0	-0.4
SKR	Severo-Kuril's	2.50	347	eP	Pn	13 01 34.4	-0.8
SKR				AMB	AMB	13 01 34.9	
	comp=N,274nm,0.7s						
SKR				eS	Sn	13 02 03.2	-1.2
SKR				A	A	13 02 04.9	
	comp=N,1μm,0.7s						
SKR				A	A	13 02 04.9	
	comp=N,527nm,0.7s						
ALID	Alaid	2.78	341	PN	Pn	13 01 39.9	+0.6
ALID				S	Sn	13 02 12.7	+1.0
ALID	Alaid	2.78	341	eP	Pn	13 01 39.9	+0.6
ALID				eS	Sn	13 02 12.7	+1.0
PAU	Pauzhetka	3.22	358	PN	Pn	13 01 45.1	0.0
PAU				S	Sn	13 02 21.8	-0.4
PAU	Pauzhetka	3.22	358	eP	Pn	13 01 45.1	0.0
PAU				eS	Sn	13 02 21.8	-0.4
PAU	Pauzhetka	3.22	358	eP	Pn	13 01 45.1	0.0
PAU				AMB	AMB	13 01 47.9	
	comp=N,120nm,0.6s						
PAU				eS	Sn	13 02 22.2	0.0
PAU				A	A	13 02 23.9	
	comp=N,240nm,0.5s						
PAU				A	A	13 02 23.9	
	comp=N,310nm,0.5s						
KDTR	Khodutka, Kamc	3.62	11	PN	Pn	13 01 49.7	-1.0
KDTR	Khodutka, Kamc	3.62	11	eP	Pn	13 01 49.7	-1.0
KDTR				eS	Sn	13 02 30.2	-2.0
MIPR	Malaya Ipel'ka	4.03	358	PN	Pn	13 01 56.9	+0.6
MIPR	Malaya Ipel'ka	4.03	358	eP	Pn	13 01 56.9	+0.6
ASAK	Asacha	4.17	8	PN	Pn	13 01 57.8	-0.5
ASAK	Asacha	4.17	8	eP	Pn	13 01 57.8	-0.5
ASAK				eS	Sn	13 02 43.8	-2.0
RUS	Russkaya	4.29	12	PN	Pn	13 01 58.9	-1.0
RUS	Russkaya	4.29	12	eP	Pn	13 01 58.9	-1.0
RUS				eS	Sn	13 02 46.0	-2.7
RUS	Russkaya	4.29	12	eP	Pn	13 01 58.9	-1.0
MTVR	Mutnovka	4.30	10	PN	Pn	13 01 59.6	-0.5
MTVR	Mutnovka	4.30	10	eP	Pn	13 01 59.6	-0.5
MTVR				eS	Sn	13 02 47.4	-1.7
GRL	Gorelyy	4.35	9	PN	Pn	13 02 00.8	-0.1
GRL	Gorelyy	4.35	9	eP	Pn	13 02 00.8	-0.1
GRL				eS	Sn	13 02 50.1	-0.3
KRMR	Karymshinskiy	4.63	8	PN	Pn	13 02 06.4	+1.8
KRMR	Karymshinskiy	4.63	8	eP	Pn	13 02 06.4	+1.8
KRMR				eS	Sn	13 02 56.3	-0.8
APC	Apacha	4.67	1	PN	Pn	13 02 05.3	+0.1
APC	Apacha	4.67	1	eP	Pn	13 02 05.3	+0.1
PEA0B	Petropavlovsk-	4.88	5	cePN	Pn	13 02 07.2	-0.8
PEA0B	Petropavlovsk-	4.88	5	Pn	Pn	13 02 06.9	-1.1
PETK	Petropavlovsk-	4.88	5	Pn	Pn	13 02 06.9	-1.1
	comp=N,1.7nm,0.3s,baz=191,slow=20,SNR=26						
PETK				Sn	Sn	13 03 07.0	+3.9
	comp=N,0.8nm,0.3s,baz=196,slow=21,SNR=1.3						
PET	Petropavlovsk	4.89	12	cePN	Pn	13 02 07.6	-0.5
PET				pmax	pmax		
	comp=Z,31nm,0.7s						
PET	Petropavlovsk	4.89	12	eP	Pn	13 02 07.5	-0.5
PET				eS	Sn	13 03 00.3	-3.0
PET	Petropavlovsk	4.89	12		Pn	13 02 06.8	-1.3
PET	Petropavlovsk	4.89	12	eP	Pn	13 02 08.0	-0.1
PET				AMB	AMB	13 02 08.3	
	comp=Z,122nm,0.4s						
PET				eS	Sn	13 03 02.4	-0.9
DALK	Dalny	4.91	12	PN	Pn	13 02 07.6	-0.8
DALK	Dalny	4.91	12	eP	Pn	13 02 07.6	-0.8
DALK				eS	Sn	13 03 01.9	-1.9
UGLR	Uglovaya	5.09	12	PN	Pn	13 02 09.8	-1.2
UGLR	Uglovaya	5.09	12	eP	Pn	13 02 09.8	-1.2
AVH	Avacha	5.13	12	PN	Pn	13 02 12.0	+0.5
AVH	Avacha	5.13	12	eP	Pn	13 02 12.0	+0.5
AVH				eS	Sn	13 03 08.8	-0.8
AVH	Avacha	5.13	12	eP	Pn	13 02 12.0	+0.5
NLC	Nalytchevo	5.14	16	eS	Sn	13 03 06.8	-2.7
SMAR	Somma	5.14	12	PN	Pn	13 02 11.9	+0.1
SMAR	Somma	5.14	12	eP	Pn	13 02 11.9	+0.1
KOK	Koryaka	5.15	11	PN	Pn	13 02 12.1	+0.4
KOK	Koryaka	5.15	11	eP	Pn	13 02 12.1	+0.4
KOK	Koryaka	5.15	11	eP	Pn	13 02 12.1	+0.4
SDLR	Sedlovina	5.17	13	PN	Pn	13 02 11.2	-0.8
SDLR	Sedlovina	5.17	13	eP	Pn	13 02 11.2	-0.8
SDLR				eS	Sn	13 03 06.3	-4.1
KRER	Koryakskii	5.17	12	PN	Pn	13 02 12.1	-0.1
KRER	Koryakskii	5.17	12	eP	Pn	13 02 12.1	-0.1
KRER				eS	Sn	13 03 08.8	-1.9
SPN	Mys Shipunski	5.21	20	PN	Pn	13 02 11.5	-1.0
SPN	Mys Shipunski	5.21	20	eP	Pn	13 02 11.5	-1.0
SPN				eS	Sn	13 03 07.4	-4.0
SPN	Mys Shipunski	5.21	20	eP	Pn	13 02 13.0	+0.5
KRX	Arik	5.21	11	PN	Pn	13 02 13.0	+0.3
KRX	Arik	5.21	11	eP	Pn	13 02 13.0	+0.3
KRX				eS	Sn	13 03 10.5	-1.1
GNL	Ganaly	5.48	6	PN	Pn	13 02 17.4	+1.1
GNL	Ganaly	5.48	6	eP	Pn	13 02 17.4	+1.1
MKZ	Mys Kozlova	6.96	23	PN	Pn	13 02 34.7	-1.9
MKZ	Mys Kozlova	6.96	23	eP	Pn	13 02 34.7	-1.9
MKZ				eS	Sn	13 03 49.1	-5.3
MKZ	Mys Kozlova	6.96	23	eP	Pn	13 02 34.7	-1.9
KUR	Kuril'sk	6.97	248	ePN	Pn	13 02 36.0	-0.7
KUR				pmax	pmax		
	comp=Z,33nm,0.6s						
KUR	Kuril'sk	6.97	248	eP	Pn	13 02 36.0	-0.7
KUR				AMB	AMB	13 02 42.5	
	comp=Z,33nm,0.6s						
KUR				eS	Sn	13 03 50.6	-4.0
KUR				A	A	13 03 58.4	
	comp=Z,34nm,0.5s						
KUR				A	A	13 03 58.4	
	comp=Z,17nm,0.5s						
KZV	Kizimen	7.16	15	PN	Pn	13 02 39.8	+0.3
KZV	Kizimen	7.16	15	eP	Pn	13 02 39.8	+0.3
KZV				eS	Sn	13 03 57.7	-1.9
TUMR	Tumrok	7.30	14	PN	Pn	13 02 41.7	+0.4
TUMR	Tumrok	7.30	14	eP	Pn	13 02 41.7	+0.4
KMNR	Kamenistaya	7.77	14	PN	Pn	13 02 49.5	+1.8
KMNR	Kamenistaya	7.77	14	eP	Pn	13 02 49.5	+1.8
YUK	Yuzh-Kuril'sk	8.81	246	eP	Pn	13 03 02.9	+0.9
YUK				AMB	AMB	13 03 03.6	
	comp=Z,100nm,0.6s						
TYV	Tymovskoe	9.69	291	eP	Pn	13 03 15.9	+2.0
TYV				AMB	AMB	13 03 21.1	
	comp=Z,2.0nm,0.4s						
YSS	Yuzh-Sakhalins	9.72	268	ePN	Pn	13 03 04.4	-10
YSS	Yuzh-Sakhalins	9.72	268	eP	Pn	13 03 12.6	-1.7
YSS				AMB	AMB	13 03 13.5	
	comp=Z,17nm,0.9s						
ASAJ	Asahikawa	10.81	253	Pn	Pn	13 03 27.6	-1.7
	comp=Z,0.2nm,0.3s,baz=270,slow=17,SNR=1.9						
MA2	Magadan	11.91	344	Pn	Pn	13 03 42.8	-1.5
	comp=Z,0.1nm,0.3s,baz=99,slow=21,SNR=1.6						
MA2	Magadan	11.91	344	i PN	Pn	13 03 40.1	-4.2
EKMR	Ekimchan	15.96	297	eP	Pn	13 04 37.8	-1.1
EKMR				AMB	AMB	13 04 47.8	
	comp=Z,7.0nm,0.6s						
KLR	Kul'dur	16.67	283	Pn	P	13 04 49.1	-0.8
	comp=Z,0.2nm,0.3s,baz=83,slow=17,SNR=5.0						
KLR	Kul'dur	16.67	283	i P	Pn	13 04 42.4	-5.5
USA0B	Ussuriysk Arra	17.75	266	P	P	13 05 00.9	-1.0
USA0B				pmax	pmax		
	comp=Z,3.0nm,0.9s						
USA0B	Ussuriysk Arra	17.75	266		P	13 05 00.9	-1.0
USRK	Ussuriysk Ar.	17.75	266	P	P	13 05 00.9	-1.0
USRK	Ussuriysk Ar.	17.75	266		P	13 05 00.9	-1.0
BILL	Bilibino	20.39	10	eP	Pn	13 05 33.7	+0.9
BILL				e		13 05 43.3	
BILL				e		13 05 51.1	
BILL				ePPP	PPP	13 06 01.1	
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BILL	Bilibino	20.39	10	eP	Pn	13 05 33.2	+0.4
JWT	Wachi	20.59	239	P	P	13 05 32.0	-1.1
JHS	Saijyo	22.12	242	P	P	13 05 47.3	-2.3
JHS				IAmb	IAmb	13 05 50.9	
	comp=Z,35nm,1.4s						
KSRS	Korea Array	23.76	254	P	P	13 06 07.2	+1.1
	comp=Z,2.5nm,0.9s,baz=43,slow=11,SNR=7.0						
KSAR	Wonju Array Be	23.79	254	P	P	13 06 04.1	-2.4
KSAR	Wonju Array Be	23.79	254	P	P	13 06 04.1	-2.4
CHGN	Chignik	28.00	56	P	P	13 06 44.5	+0.1
Q19K	Cape Douglas,	30.48	51	P	P	13 07 08.5	+2.1
Q19K				IAmb	IAmb	13 07 12.3	
	comp=Z,6.7nm,0.8s						
H11S1	WAKE ISLAND Hy	30.70	162	T	T	13 40 47.1	
	baz=344,slow=76,SNR=6.5						
H11S3	WAKE ISLAND Hy	30.71	162	T	T	13 40 46.0	
	baz=344,slow=76,SNR=3.8						
H11S2	WAKE ISLAND Hy	30.72	162	T	T	13 40 49.1	
	baz=344,slow=76,SNR=4.4						
IMAR	Indian Mountai	30.98	37	P	P	13 07 11.5	+0.8
CNPM	China Poot	31.69	50	P	P	13 07 18.1	+1.1
NEA2	Nenana	32.77	40	P	P	13 07 26.1	-0.3
NEA2				IAmb	IAmb	13 07 28.8	
	comp=Z,2.4nm,0.7s						
RND	Reindeer	32.81	42	P	P	13 07 26.6	-0.3
RND				pmax	pmax		
	comp=Z,4.0nm,1.0s						
RND	Reindeer	32.81	42	P	P	13 07 26.6	-0.3
RND				IAmb	IAmb	13 07 28.2	
	comp=Z,3.9nm,1.0s						
SML	Sawmill	33.05	45	P	P	13 07 29.7	+0.8
MDM	Murphy Dome	33.15	39	P	P	13 07 31.3	+1.5
WRH	Wood River Hil	33.18	40	P	P	13 07 31.2	+1.2
WRH				IAmb	IAmb	13 07 56.4	
	comp=Z,5.9nm,1.4s						
H24K	Noodor Dome	33.35	38	P	P	13 07 31.6	+0.1
H24K				IAmb	IAmb	13 08 00.2	
	comp=Z,5.5nm,1.5s						
SCM	Sheep Creek Mo	33.52	45	P	P	13 07 34.5	+1.4
SCM				pmax	pmax		
	comp=Z,11nm,1.4s						
SCM	Sheep Creek Mo	33.52	45	P	P	13 07 34.5	+1.4
SCM				IAmb	IAmb	13 07 35.9	
	comp=Z,11nm,1.4s						
HDA	Harding Lake	33.67	41	P	P	13 07 35.4	+1.1
IL31		33.71	40	P	P	13 07 35.2	+0.7
IL31				IAmb	IAmb	13 07 38.2	
	comp=Z,4.5nm,1.3s						
ILAR	Eielson Array	33.71	40	P	P	13 07 34.3	-0.3
	comp=Z,0.8nm,0.8s,baz=273,slow=8.0,SNR=7.7						
ILAR				LR	LR	13 22 35.2	
	comp=Z,97nm,20.0s,baz=182,slow=39						
ILAR	Eielson Array	33.71	40	P	P	13 07 36.0	+1.4
ILAR	Eielson Array	33.71	40	P	P	13 07 36.0	+1.4
FYU	Fort Yukon	34.47	37	P	P	13 07 42.5	+1.3
FYU				IAmb	IAmb	13 07 44.1	
	comp=Z,5.6nm,0.9s						
BMAR	Burnt Mountain	34.78	35	P	P	13 07 45.6	+1.8
N25K	Chitina, Valde	34.83	45	P	P	13 07 46.3	+1.9
DOT	Dot Lake	34.95	42	P	P	13 07 45.4	0.0
SCRK	Sand Creek	34.97	41	P	P	13 07 44.9	-0.8
VRDI	Verde Repeater	35.42	46	P	P	13 07 51.1	+1.5
VRDI				IAmb	IAmb	13 08 04.0	
	comp=Z,5.5nm,1.2s						
M26K	Nabesna, AK	35.52	44	P	P	13 07 51.9	+1.6
M26K				IAmb	IAmb	13 07 53.3	
	comp=Z,5.1nm,1.1s						
K27K	Chicken	35.81	41	P	P	13 07 53.7	+1.0
K27K				IAmb	IAmb	13 07 55.1	
	comp=Z,3.9nm,0.9s						
L27K	Beaver Creek,	35.99	43	P	P	13 07 55.9	+1.5
L27K				IAmb	IAmb	13 07 57.9	
	comp=Z,3.9nm,1.2s						
EGAK	Eagle	36.16	40	P	P	13 07 56.0	+0.3
EGAK				IAmb	IAmb	13 07 57.6	
	comp=Z,4.3nm,0.8s						
CTGM	Chitina Glacie	36.47	46	P	P	13 08 00.1	+1.5
EPYK	Eagle Plains	37.89	37	P	P	13 08 11.2	+0.7
EPYK				IAmb	IAmb	13 08 13.2	
	comp=Z,3.8nm,1.0s						
HYT	Haines Junctio	38.34	46	P	P	13 08 16.0	+1.6
EUNU	Eureka	47.11	12	P	P	13 09 25.7	+0.5
MK31	Makanchi Array	48.58	298	P	P	13 09 36.6	-0.3
MK31				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MK31	Makanchi Array	48.58	298	P	P	13 09 36.6	-0.3
MKAR	Makanchi Array	48.58	298	P	P	13 09 37.4	+0.4
	comp=Z,0.7nm,0.6s,baz=60,slow=7.8,SNR=4.0						
MKAR	Makanchi Array	48.58	298	P	P	13 09 37.0	+0.1
KURK	Kurchatov	48.72	304	P	P	13 09 38.6	+0.7
KURK	Kurchatov	48.72	304	P	P	13 09 38.6	+0.7
KURK	Kurchatov	48.72	304	eP	P	13 09 38.6	+0.7
KURBB	Kurchatov Arra	48.81	304	P	P	13 09 38.6	0.0
	comp=Z,1.3nm,0.6s,baz=66,slow=8.1,SNR=6.0						
BOOM	Boomskoye usch	54.73	296	P	P	13 10 24.3	+1.2
BOOM				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BOOM	Boomskoye usch	54.73	296	P	P	13 10 24.3	+1.2
BOOM				IAmb	IAmb	13 10 25.5	
	comp=Z,3.2nm,0.7s						
CMAR	Chiang Mai Arr	55.27	259	P	P	13 10 28.5	+1.4
	comp=Z,1.5nm,0.7s,baz=33,slow=7.3,SNR=10						
AAK	Ala-Archa	55.51	297	P	P	13 10 29.4	+0.7
	comp=Z,1.1nm,0.3s,baz=116,slow=4.1,SNR=4.7						
AAK	Ala-Archa	55.51	297	ceP	P	13 10 29.8	+1.1
AAK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
AAK	Ala-Archa	55.51	297	P	P	13 10 29.1	+0.5
AAK				IAmb	IAmb	13 10 30.8	
	comp=Z,2.4nm,0.8s						
AAK	Ala-Archa	55.51	297	eP	P	13 10 29.8	+1.1
ARU	Arti	55.67	318	P	P	13 10 29.7	+0.3
	comp=Z,0.6nm,0.3s,baz=263,slow=2.1,SNR=4.5						
ARU	Arti	55.67	318	ceP	P	13 10 30.4	+1.0
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARU	Arti	55.67	318	IAmb	IAmb	13 10 31.1	
	comp=Z,4.9nm,0.8s						
ARU	Arti	55.67	318	eP	P	13 10 30.4	+1.0
JTMT	Jette	56.01	54	P	P	13 10 32.2	+0.1
JTMT				IAmb	IAmb	13 10 34.9	
	comp=Z,3.1nm,0.9s						
KKAR	Karatay Array	57.56	300	P	P	13 10 43.6	+0.5
KKAR	Karatay Array	57.56	300	P	P	13 10 43.6	+0.5
LRM	Limekiln Ridge	58.17	55	P	P	13 10 48.6	+1.0
PNTR	Pine Nut	58.20	65	P	P	13 10 49.1	+1.3
PNTR				IAmb	IAmb	13 10 50.1	
	comp=Z,3.3nm,0.9s						
BOZ	Bozeman (W)	58.76	55	P	P	13 10 53.0	+1.4
BOZ				pmax	pmax		
	comp=Z,3.0nm,1.4s						
BOZ	Bozeman (W)	58.76	55	P	P	13 10 53.0	+1.4
BOZ				IAmb	IAmb	13 11 10.5	
	comp=Z,2.8nm,1.4s						
NVAR	Mina Array Bea	59.40	65	P	P	13 10 57.7	+1.5
	comp=Z,0.6nm,0.7s,baz=290,slow=6.2,SNR=6.0						
NVAR	Mina Array Bea	59.40	65	P	P	13 10 56.2	0.0
ABKAR	Akbulak array	59.46	311	P	P	13 10 56.4	+0.3
AKTO	Aktyubinsk	59.66	313	P	P	13 10 59.6	+2.0
	comp=Z,0.8nm,0.4s,baz=274,slow=19,SNR=4.3						
PD31	Pinedale Array	61.72	57	P	P	13 11 12.0	+0.1
PD31				IAmb	IAmb	13 11 32.0	
	comp=Z,2.0nm,1.3s						
PDAR	Pinedale Array	61.72	57	P	P	13 11 12.8	+0.8
	comp=Z,0.6nm,0.7s,baz=347,slow=2.0,SNR=6.1						
FIA1	FINESS Array S	63.77	336	P	P	13 11 25.0	+0.1
FINES	FINESS Array B	63.77	336	P	P	13 11 24.5	-0.4
	comp=Z,1.9nm,0.8s,baz=37,slow=5.4,SNR=3.8						
PV17	East Wray Mesa	65.04	60	P	P	13 11 34.9	+0.9
PV17				IAmb	IAmb	13 11 38.4	
	comp=Z,6.0nm,1.3s						
CTAO	Charters Tower	68.71	191	P	P	13 11 56.1	-1.0
CTAO				pmax	pmax		
	comp=Z,13nm,1.5s						
CTAO	Charters Tower	68.71	191	P	P	13 11 56.1	-1.0
LENM	Lemitar	69.04	62	P	P	13 11 58.2	-1.2
LEM	Lembang	69.87	233	P	P	13 11 58.2	-6.4
WRA	Warramunga Arr	70.86	203	P	P	13 12 09.9	-0.4
	comp=Z,0.8nm,0.6s,baz=21,slow=4.9,SNR=9.5						
AKASG	Malin Array Be	71.71	328	P	P	13 12 14.5	-0.7
	comp=Z,0.3nm,0.3s,baz=37,slow=40,SNR=6.1						
TX31	Lajitas Ar. Si	74.45	63	P	P	13 12 32.4	+0.5
TX31				IAmb	IAmb	13 12 36.5	
	comp=Z,7.4nm,1.3s						
TX32	Lajitas Array	74.45	63	P	P	13 12 32.4	+0.5
TXAR	Lajitas Array	74.45	63	P	P	13 12 33.0	+1.1
	comp=Z,0.4nm,0.5s,baz=309,slow=5.1,SNR=9.5						
ASAR	Alice Springs	74.53	202	P	P	13 12 32.5	+0.4
	comp=Z,0.7nm,0.7s,baz=14,slow=5.9,SNR=11						
BURAR	Bucovina Array	75.73	329	P	P	13 12 38.7	-0.3
P49A	Miami Univ. Ec	76.89	44	P	P	13 12 46.0	+0.4
MOQ	Mont Orford	77.33	33	P	P	13 12 48.2	+0.3
OXF	Oxford	78.53	51	P	P	13 12 55.6	+0.8
OXF				pmax	pmax		
	comp=Z,7.0nm,0.7s						
OXF	Oxford	78.53	51	P	P	13 12 55.6	+0.8
DAVOX	Davos/Dischmat	81.10	338	P	P	13 13 10.1	+1.3
	comp=Z,1.6nm,0.4s,baz=13,slow=3.0,SNR=3.2						

IDC 07 13:02:21.6±0.9, 50°.04N×78°.67E, h0km, mb1 3.3/3, mb1mx3.1/55, mbtmp3.3/3, ML3.0/3, Error ellipse: s-maj=11.7km s-min=6.5km az=63.0
NNC 07 13:02:21.0±0.4, 50°.02N×78°.66E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=7.1km s-min=2.2km az=82.0, Suspected Mining explosion.
ISC 07 13:02:19.9±0.8, 50°.36N±0°.05×79°.31E±0°.04, h0km, n34, σ1ˢ14/44, 25C-7D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR14	Kurchatov Arra	0.53	300	⇑P	Pb	13 02 32.6	+0.6
KUR14				⇓S	Sb	13 02 41.2	+1.1
KUR15	Kurchatov Arra	0.55	299	⇑P	Pb	13 02 32.8	+0.4
KUR15				⇑S	Sb	13 02 41.6	+0.8
KUR07	Kurchatov Arra	0.56	294	⇑P	Pb	13 02 32.3	-0.2
KUR07				⇑S	Sb	13 02 41.0	0.0

KUR06	**Kurchatov Arra**	**0.56**	**296**	⇑P	**Pb**	**13 02 32.6**	**+0.1**
KUR06				⇓S	**Sb**	**13 02 41.4**	**+0.2**
KURBB	**Kurchatov Arra**	**0.57**	**298**	Pg	**Pb**	**13 02 32.4**	**-0.3**
	10.0nm,0.3s,baz=171,slow=18,SNR=196						
KURBB				Lg	Lg	13 02 41.5	
	12nm,0.3s,baz=176,slow=31,SNR=21						
KURBB	**Kurchatov Arra**	**0.57**	**298**	⇑P	**Pb**	**13 02 32.8**	**+0.1**
	56nm,0.3s						
KURBB				⇑S	**Sb**	**13 02 41.7**	**+0.4**
	390nm,0.8s						
KUR05	**Kurchatov Arra**	**0.57**	**300**	⇑P	**Pb**	**13 02 33.0**	**+0.2**
KUR05				⇑S	**Sb**	**13 02 41.8**	**+0.4**
KUR04	**Kurchatov Arra**	**0.58**	**302**	⇑P	**Pb**	**13 02 33.4**	**+0.5**
KUR04				⇓S	**Sb**	**13 02 42.0**	**+0.3**
KUR16	**Kurchatov Arra**	**0.59**	**298**	⇑P	**Pb**	**13 02 33.0**	**0.0**
KUR16				⇑S	**Sb**	**13 02 42.0**	**+0.2**
KUR17	**Kurchatov Arra**	**0.61**	**297**	⇑P	**Pb**	**13 02 33.1**	**-0.2**
KUR17				⇑S	**Sb**	**13 02 42.4**	**-0.1**
MAKZ	**Makanchi**	**3.97**	**153**	⇑Pn	**Pn**	**13 03 23.3**	**+1.4**
	0.6nm,0.4s						
MAKZ				⇓Pg	**Pb**	**13 03 30.2**	**-0.4**
	3.5nm,0.5s						
MAKZ				⇑Lg	Lg	13 04 24.4	
	20nm,0.6s						
MK31	**Makanchi Array**	**4.08**	**150**	Pn	**Pn**	**13 03 24.4**	**+1.0**
	0.2nm,0.1s,baz=16,slow=3.8,SNR=124						
MK31				⇑Pg	**Pb**	**13 03 32.7**	**+0.2**
	3.1nm,0.2s,baz=323,slow=16,SNR=6.2						
MK31				⇓Lg	Lg	13 04 28.9	
	14nm,0.5s,baz=346,slow=18,SNR=31						
MKAR	**Makanchi Array**	**4.08**	**150**	Pn	**Pn**	**13 03 25.2**	**+1.8**
	1.0nm,0.3s,baz=321,slow=10.0,SNR=125						
MKAR				Pg	**Pb**	**13 03 31.4**	**-1.0**
	2.1nm,0.3s,baz=332,slow=14,SNR=20						
MKAR				Lg	Lg	13 04 24.8	
	2.4nm,0.3s,baz=328,slow=28,SNR=7.1						
ZSN	**Zaisan**	**4.67**	**126**	Pg	**Pg**	**13 03 48.8**	**-0.7**
	4.5nm,0.2s						
ZSN				Lg	Lg	13 04 49.7	
	22nm,0.3s						
I46RU	**ZALESOVO INFRA**	**4.94**	**41**	*i*		13 34 45.0	
	baz=226,slow=321,SNR=1.8						
ZAA0	**Zalesovo Array**	**4.94**	**41**	⇑Pn	**Pb**	**13 03 44.9**	**-2.3**
	0.4nm,0.3s						
ZAA0				⇓Lg	Lg	13 05 15.5	
	1.1nm,0.6s						
ZALV	**Zalesovo Beam**	**4.94**	**41**	Pn	**Pb**	**13 03 45.6**	**-1.6**
	3.3nm,0.3s,baz=230,slow=14,SNR=22						
ZALV				Sn	**Sb**	**13 04 48.2**	**+1.1**
	0.2nm,0.3s,baz=220,slow=28,SNR=2.3						
ZALV				Lg	Lg	13 05 11.3	
	0.7nm,0.3s,baz=232,slow=25,SNR=2.1						
OTUK	**Ortayu**	**5.03**	**248**	⇑Pn	Pn	13 03 32.2	-4.4
	3.6nm,0.3s						
OTUK				⇑Pg	Pb	13 03 42.9	-5.9
	1.9nm,0.3s						
OTUK				⇑Lg	Lg	13 04 44.5	
	10nm,0.5s						
KAPS	**Kapalarasan**	**5.07**	**180**	Pg	**Pb**	**13 03 46.6**	**-2.9**
	0.3nm,0.3s						
KAPS				Lg	Lg	13 04 47.9	
	2.6nm,0.6s						
DJR	**Jarkent**	**6.04**	**177**	Pg	**Pb**	**13 04 04.6**	**-1.3**
	0.4nm,0.3s						
DJR				Lg	Lg	13 05 14.2	
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**6.16**	**299**	Pn	**Pn**	**13 03 52.0**	**0.0**
	0.4nm,0.3s,baz=188,slow=8.4,SNR=7.2						
BVAR				Sn	**Sn**	**13 05 01.2**	**-1.9**
	1.2nm,0.3s,baz=129,slow=23,SNR=13						
BVAR				Lg	Lg	13 05 30.0	
	1.6nm,0.3s,baz=127,slow=29,SNR=6.8						
ARXS	**Arharly**	**6.23**	**190**	Pg	**Pb**	**13 04 09.6**	**+0.4**
	5.5nm,0.4s						
ARXS				Lg	Lg	13 05 23.5	
	19nm,0.5s						
BRVK	**Borovoye**	**6.23**	**299**	⇑Pn	**Pn**	**13 03 53.4**	**+0.4**
	1.3nm,0.5s						
BRVK				⇑Sn	**Sn**	**13 05 02.4**	**-2.5**
	4.2nm,0.5s						
BTLS	**Baital**	**6.39**	**216**	Pg	**Pb**	**13 04 10.0**	**-2.0**
	0.9nm,0.1s						
BTLS				Lg	Lg	13 05 23.7	
	4.0nm,0.5s						
CHKK	**Chushkaly**	**6.70**	**195**	Pg	**Pb**	**13 04 18.2**	**+1.1**
	3.5nm,0.3s						
CHKK				Lg	Lg	13 05 37.6	
	13nm,0.4s						
KUU	**Kurty**	**6.78**	**199**	Pg	**Pb**	**13 04 19.1**	**+0.6**
	2.2nm,0.2s						
KUU				Lg	Lg	13 05 39.4	
	14nm,0.7s						
KTBS	**Karatobe**	**6.88**	**196**	Pg	**Pb**	**13 04 21.3**	**+1.0**
	1.5nm,0.3s						
KTBS				Lg	Lg	13 05 44.0	
	16nm,0.3s						
PDGK	**Podgornoye**	**7.03**	**179**	⇑Lg	Lg	13 05 53.6	
	16nm,0.8s						
KRBS	**Karabastau**	**7.11**	**202**	Pg	**Pb**	**13 04 23.8**	**-0.4**
	1.8nm,0.3s						
KRBS				Lg	Lg	13 05 47.6	
	4.0nm,0.4s						
DGS	**Degeres**	**7.52**	**200**	Pg	**Pb**	**13 04 31.4**	**+0.2**
	7.1nm,0.4s						
DGS				Lg	Lg	13 06 01.5	
	18nm,0.3s						
SGDS	**Sogindy**	**7.61**	**207**	Pg	**Pb**	**13 04 31.9**	**-0.9**
SGDS				Lg	Lg	13 06 01.3	
KST	**Kastek**	**7.67**	**199**	Pg	**Pb**	**13 04 36.1**	**+2.4**
	1.1nm,0.1s						
KST				Lg	Lg	13 06 07.5	
	4.3nm,0.4s						
TKM2	**Tokmak 2**	**7.86**	**200**	⇓Lg	Lg	13 06 15.4	
	5.2nm,0.6s						
AAK	**Ala-Archa**	**8.40**	**205**	Lg	Lg	13 06 31.0	
	0.3nm,0.3s,baz=229,slow=20,SNR=2.2						

*IDC **07** 13:28:14.7±2.4, 32.°25S×178.°39W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/28, mbtmp3.8/4, Error ellipse: s-maj=66.5km s-min=38.8km az=38.0*
*NEIC **07** 13:28:19.3±1.1, 32.°7S±0.°2×178.°7W±0.°2, h10km±2km, mb4.4/11, Error ellipse: s-maj=30.8km s-min=28.4km az=5.0*
ISC 07 13:28:18.4±1.1**, 32.°75S**±0.°09×**178.°7W**±0.°2**, h10**km**, n24,** σ**0.s89**/19**, mb4.0**/7**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.38**	**206**	Pn	**Pn**	**13 29 38.7**	**0.0**
URZ	**Urewera**	**6.46**	**210**	Pn	**Pn**	**13 29 53.0**	**-0.4**
	0.8nm,0.3s,baz=120,slow=24,SNR=2.0						
URZ				Sn	**Sn**	**13 31 07.5**	**+0.3**
	2.7nm,0.3s,baz=300,slow=23,SNR=5.3						
BKZ	**Black Stump Fm**	**7.48**	**210**	Pn	**Pn**	**13 30 07.3**	**-0.3**
NIUE	**Niue**	**15.74**	**32**	P	**P**	**13 32 04.1**	**-0.2**
NIUE				IAmb	IAmb	13 32 15.9	
	comp=Z,49nm,1.1s						
WHZ	**Wether Hill Ro**	**16.66**	**214**	Pn	**Pn**	**13 32 11.3**	**-0.5**
WHZ				IAmb	IAmb	13 32 22.9	
	comp=Z,45nm,1.4s						
DZM	**Mont Dzumac**	**16.90**	**305**	P	**P**	**13 32 17.0**	**-0.3**
DZM				IAmb	IAmb	13 32 35.9	
	comp=Z,23nm,1.4s						
SANVU	**Saraoutou**	**21.44**	**320**	P	**P**	**13 33 07.3**	**+0.5**
CTAO	**Charters Tower**	**33.64**	**283**	P	**P**	**13 35 01.2**	**+1.8**
AS31	**Alice Springs**	**42.42**	**270**	P	**P**	**13 36 12.2**	**-1.3**
ASAR	**Alice Springs**	**42.42**	**270**	P	**P**	**13 36 13.7**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=105,slow=7.5,SNR=33						
ASAR	**Alice Springs**	**42.42**	**270**	P	**P**	**13 36 11.9**	**-1.6**
WR0	**Warramunga Arr**	**43.44**	**275**	P	**P**	**13 36 21.7**	**-0.1**
WR0				IAmb	IAmb	13 36 24.6	
	comp=Z,13nm,1.5s						
WB2	**Warramunga Arr**	**43.61**	**275**	P	**P**	**13 36 23.0**	**-0.1**
WB2				IAmb	IAmb	13 36 25.2	
	comp=Z,6.2nm,1.2s						
WRA	**Warramunga Arr**	**43.62**	**275**	P	**P**	**13 36 23.2**	**0.0**
	comp=Z,1.0nm,0.4s,baz=115,slow=7.8,SNR=32						
WRA	**Warramunga Arr**	**43.62**	**275**	IAmb	IAmb	13 36 25.3	
	comp=Z,0.3nm,1.2s						
FORT	**Forrest**	**44.89**	**258**	P	**P**	**13 36 32.3**	**-0.9**
FORT				IAmb	IAmb	13 36 46.0	
	comp=Z,9.1nm,0.9s						
FITZ	**Fitzroy Crossi**	**51.77**	**272**	P	**P**	**13 37 26.0**	**-0.5**
	comp=Z,1.1nm,0.9s,baz=119,slow=9.3						
QSPA	**South Pole Qui**	**57.37**	**180**	P	**P**	**13 38 07.8**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=210,slow=3.1,SNR=1.3						
QSPA	**South Pole Qui**	**57.37**	**180**	IAmb	IAmb	13 38 16.5	
	comp=Z,2.1nm,0.9s						
SNAA	**Sanae**	**75.83**	**179**	P	P	13 40 12.0	+7.6
VNA3	**Neumayer Olymp**	**76.01**	**176**	P	P	13 40 13.4	+8.0
VNA2	**Neumayer--Watz**	**76.43**	**177**	P	P	13 40 15.7	+8.0
	baz=167,slow=5.3						
VNA1	**Neumayer--Stat**	**76.67**	**177**	P	P	13 40 16.6	+7.6
FINES	**FINESS Array B**	**147.11**	**338**	PKPbc	**PKPdf**	**13 47 57.4**	**-1.3**
	comp=Z,1.7nm,0.7s,baz=57,slow=5.1,SNR=2.4						

*THR **07** 13:35:05.9±0.5, 35.°34N×52.°79E, h15km±4km, ML3.8*
*TEH **07** 13:35:06.4, 35.°33N×52.°77E, h16km, ML3.7*
ISC 07 13:35:06.7±1.1**, 35.°34N**±0.°03×**52.°77E**±0.°02**, h9**km±10km**, n66,** σ**1.s11**/70**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAS	**Lasjerd**	**0.16**	**73**	*e*Pg	**Pg**	**13 35 10.4**	**+0.1**
IFIR	**Firoozkooh**	**0.30**	**358**	*e*Pg	**Pg**	**13 35 12.9**	**0.0**
IFIR				*e*Sg	**Sg**	**13 35 17.4**	**+0.4**
ISHM	**Shahmirzad**	**0.64**	**42**	*e*Pg	**Pb**	**13 35 19.4**	**-0.8**
ISHM				*e*		13 35 33.5	
	comp=Z,60µm,0.3s						
IDMV	**Damavand**	**0.65**	**292**	*e*Pg	**Pg**	**13 35 19.3**	**0.0**
DAMV	**Damavand**	**0.71**	**295**	*e*Pg	**Pg**	**13 35 20.0**	**-0.5**
DAMV	**Damavand**	**0.71**	**295**	*e*Pg	**Pg**	**13 35 20.0**	**-0.5**
IVRN	**Varamin**	**0.92**	**249**	*e*Pg	**Pg**	**13 35 24.0**	**-0.4**
IVRN				*e*Sg	**Sb**	**13 35 37.3**	**+0.1**
IANJ	**Anjilo**	**0.95**	**82**	*e*Pg	**Pb**	**13 35 24.8**	**-0.7**
IANJ				*e*		13 35 43.3	
	comp=Z,30µm,0.1s						
IPRN	**Peran**	**0.97**	**339**	*e*Pg	**Pg**	**13 35 25.3**	**-0.1**
IPRN				*e*		13 35 41.1	
	comp=Z,21µm,0.5s						
ISFB	**Sefidab**	**1.07**	**204**	*e*Pg	**Pb**	**13 35 26.1**	**-1.4**
ISFB				*e*		13 35 30.9	
	comp=Z,15µm,0.2s						
TEH	**Tehran**	**1.20**	**290**	*e*Pg	**Pn**	**13 35 29.6**	**-0.3**
IHSB	**Hasanabad**	**1.22**	**275**	*e*Pg	**Pn**	**13 35 29.4**	**-0.8**
IHSB				*e*Sg	**Sn**	**13 35 46.6**	**-0.3**
IGLO	**Ghaloghah**	**1.45**	**36**	*e*Pg	**Pg**	**13 35 34.0**	**-0.5**
IGLO				*e*		13 35 59.7	
	comp=Z,13µm,0.5s						
CHTH	**Charan**	**1.45**	**294**	*e*Pg	**Pn**	**13 35 33.1**	**-0.4**
CHTH	**Charan**	**1.45**	**294**	*e*Pg	**Pn**	**13 35 33.1**	**-0.4**
KRSH	**Karshahi**	**1.46**	**201**	*e*Pn	**Pn**	**13 35 32.5**	**-1.0**
IQOM	**Qom**	**1.48**	**251**	*e*Pg	**Pn**	**13 35 33.2**	**-0.6**
GHVR	**GHOM**	**1.48**	**235**	*e*Pg	**Pb**	**13 35 34.1**	**-0.4**
GHVR				*e*Sg	**Sg**	**13 35 54.9**	**+0.6**
GHVR				IAML		13 35 59.7	
	comp=N,1µm,0.5s						
GHVR				IAML		13 36 01.1	
	comp=E,2µm,0.3s						
GHVR	**GHOM**	**1.48**	**235**	*e*Pg	**Pb**	**13 35 34.1**	**-0.4**
IMHD	**Mahdasht**	**1.75**	**282**	*e*Pn	**Pn**	**13 35 38.1**	**+0.7**
QAMS	**Qamsar**	**1.96**	**216**	*e*Pn	**Pn**	**13 35 40.0**	**-0.4**
QALM	**Alamut, Qazvin**	**2.04**	**303**	*e*Pn	**Pb**	**13 35 44.2**	**+0.1**
IKLH	**Kolahrood**	**2.24**	**206**	*e*Pn	**Pn**	**13 35 44.4**	**+0.1**
IKLH				*e*		13 35 52.8	
	comp=Z,8µm,0.2s						
ANAR	**Anarak**	**2.28**	**159**	*e*Pn	**Pn**	**13 35 45.2**	**+0.4**
IGZV	**Ghazvin**	**2.32**	**298**	*e*Pn	**Pb**	**13 35 48.2**	**-0.7**
IGZV				*e*		13 35 50.4	
	comp=Z,5µm,0.4s						
IRAZ	**Razeghan**	**2.32**	**273**	*e*Pn	**Pn**	**13 35 45.8**	**+0.4**
ASAO	**Ashtian**	**2.39**	**252**	*e*Pn	**Pn**	**13 35 47.0**	**+0.7**
ASAO				IAML		13 36 22.5	
	comp=E,416nm,0.3s						
ASAO				IAML		13 36 23.6	
	comp=N,266nm,0.3s						
ASAO	**Ashtian**	**2.39**	**252**	*e*Pn	**Pn**	**13 35 47.0**	**+0.7**
IZEF	**Zefreh**	**2.46**	**189**	*e*Pn	**Pn**	**13 35 46.9**	**-0.4**
IZEF				*e*		13 36 31.7	
	comp=Z,4µm,0.4s						
NASN	**Na'in**	**2.53**	**179**	*e*Pn	**Pn**	**13 35 49.0**	**+0.6**
NASN	**Na'in**	**2.53**	**179**	*e*Pn	**Pn**	**13 35 49.0**	**+0.6**
QABG	**Abgarm-Qazvin**	**2.62**	**279**	*e*Pn	**Pn**	**13 35 49.8**	**+0.2**
SHRO	**Shahrood**	**2.72**	**75**	*e*Pn	**Pn**	**13 35 51.1**	**+0.3**
SHRO	**Shahrood**	**2.72**	**75**	*e*Pn	**Pn**	**13 35 51.1**	**+0.3**
JIR1	**Jirandeh**	**2.77**	**301**	*e*Pn	**Pb**	**13 35 54.0**	**-2.5**
IMND	**Minoodasht**	**2.87**	**47**	*e*Pn	**Pn**	**13 35 53.1**	**+0.4**
IGAR	**Gharneh**	**2.99**	**192**	*e*Pn	**Pn**	**13 35 55.4**	**+0.9**
HAGD	**Aghdareh**	**3.02**	**261**	*e*Pn	**Pn**	**13 35 57.5**	**+2.5**
IPIR	**Pirpir**	**3.07**	**211**	*e*Pn	**Pn**	**13 35 58.2**	**+2.5**
QSDN	**Sirdan**	**3.14**	**293**	*e*Pn	**Pn**	**13 35 57.4**	**+0.7**
YZKH	**Yazd**	**3.31**	**152**	*e*Pn	**Pn**	**13 35 59.0**	**+0.2**
YZKH	**Yazd**	**3.31**	**152**	*e*Pn	**Pn**	**13 35 59.0**	**+0.2**
ICHK	**Chekchek**	**3.37**	**156**	*e*Pn	**Pn**	**13 36 00.2**	**+0.4**
SHK1	**Shahrekord**	**3.38**	**208**	*e*Pn	**Pn**	**13 36 01.9**	**+1.9**
ISAD	**Sadrabad**	**3.50**	**167**	*e*Pn	**Pn**	**13 36 01.7**	**+0.1**
IRAM	**Ramesheh**	**3.53**	**185**	*e*Pn	**Pn**	**13 36 03.0**	**+1.0**
MRVT	**Maraveh tapeh**	**3.54**	**48**	*e*Pn	**Pn**	**13 36 02.4**	**+0.4**
MRVT	**Maraveh tapeh**	**3.54**	**48**	*e*Pn	**Pn**	**13 36 02.4**	**+0.4**
ZNJK	**Zanjan**	**3.57**	**293**	*e*Pn	**Pn**	**13 36 03.2**	**+0.7**
ZNJK	**Zanjan**	**3.57**	**293**	*e*Pn	**Pn**	**13 36 03.2**	**+0.7**
HSAM	**Samen**	**3.61**	**253**	*e*Pn	**Pn**	**13 36 05.7**	**+2.6**
BMDN	**Meydan**	**3.66**	**244**	*e*Pn	**Pn**	**13 36 06.5**	**+2.8**
BMDN				*e*		13 37 27.8	
	comp=Z,1µm,1.0s						
TPRV	**Parvadeh(Tabas**	**3.98**	**124**	*e*Pn	**Pn**	**13 36 08.5**	**+0.4**
TKDS	**Koohdasht(Taba**	**3.99**	**114**	*e*Pn	**Pn**	**13 36 08.3**	**+0.1**
SBZV	**Sabzevar**	**4.07**	**74**	*e*Pn	**Pn**	**13 36 09.6**	**+0.2**
IDOB	**Doab**	**4.09**	**249**	*e*Pn	**Pn**	**13 36 09.1**	**-0.6**
IMEH	**Mehriz**	**4.23**	**158**	*e*Pn	**Pn**	**13 36 11.3**	**-0.3**
KLNJ	**Kolanjah**	**4.43**	**193**	*e*Pn	**Pn**	**13 36 16.2**	**+1.8**
ISFR	**Sfrayin**	**4.56**	**66**	*e*Pn	**Pn**	**13 36 17.6**	**+1.3**
ISRB	**Sarab**	**4.80**	**303**	*e*Pn	**Pn**	**13 36 21.4**	**+2.0**
IAKL	**Akhelmad**	**5.02**	**74**	*e*Pn	**Pn**	**13 36 22.3**	**-0.2**
IGHG	**Ghaleghazi**	**5.20**	**261**	*e*Pn	**Pn**	**13 36 26.5**	**+1.6**
IDHR	**Dehrash**	**5.28**	**265**	*e*Pn	**Pn**	**13 36 27.6**	**+1.6**
IHRS	**Heris**	**5.47**	**305**	*e*Pn	**Pn**	**13 36 32.1**	**+3.4**
AFRZ	**Afriz**	**5.51**	**108**	*e*Pn	**Pn**	**13 36 30.2**	**+1.1**
IKRD	**Kardeh**	**5.65**	**73**	*e*Pn	**Pn**	**13 36 32.5**	**+1.3**

*INET **07** 13:40:58.8, 13.°38N×88.°48W, h198km, ML4.4*
*UCR **07** 13:41:10.3±1.2, 13.°21N×88.°48W, h131km±5km, ML3.5, MW3.6*
*SNET **07** 13:41:10.2±0.8, 13.°30N×88.°46W, h132km±3km, ML3.5*
ISC 07 13:41:11.2±1.9**, 13.°3N**±0.°1×**88.°45W**±0.°08**, h130**km±11km**, n49,** σ**0.s45**/65**, 2C-1D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.12**	**282**	*e*P	**Pn**	**13 41 28.6**	**-0.2**
ALJI				*e*S	**Sn**	**13 41 41.6**	**-0.4**
ALJI	**Alcalda de J**	**0.12**	**282**	*e*P	**Pn**	**13 41 28.6**	**-0.2**
ALJI				*e*S	**Sn**	**13 41 41.6**	**-0.4**
LCY	**Lacayo**	**0.20**	**52**	*e*P	**Pn**	**13 41 28.7**	**-0.4**
LCY	**Lacayo**	**0.20**	**52**	*e*P	**Pn**	**13 41 28.7**	**-0.4**
TECA	**Tecapa**	**0.20**	**346**	*e*P	**Pn**	**13 41 28.8**	**-0.4**
TECA	**Tecapa**	**0.20**	**346**	*e*P	**Pn**	**13 41 28.8**	**-0.4**
JUCU	**Jucuar¡n**	**0.20**	**104**	*e*P	**Pn**	**13 41 28.4**	**-0.7**
JUCU				*e*S	**Sn**	**13 41 43.1**	**+0.6**
JUCU				IAML		13 41 49.9	
	comp=Z,1µm,0.2s						
JUCU	**Jucuar¡n**	**0.20**	**104**	*e*P	**Pn**	**13 41 28.4**	**-0.7**
JUCU				*e*S	**Sn**	**13 41 43.1**	**+0.6**
JUCU				IAML		13 41 49.9	
	comp=Z,1µm,0.2s						
PACA	**Pacayal**	**0.21**	**37**	*e*P	**Pn**	**13 41 29.5**	**+0.3**
PACA	**Pacayal**	**0.21**	**37**	*e*P	**Pn**	**13 41 29.5**	**+0.3**
COEB	**Comit de Eme**	**0.21**	**338**	*e*P	**Pn**	**13 41 28.8**	**-0.4**
COEB				IAML		13 41 30.0	
	comp=Z,929nm,0.2s						
COEB	**Comit de Eme**	**0.21**	**338**	*e*P	**Pn**	**13 41 28.8**	**-0.4**
COEB				IAML		13 41 30.0	
	comp=Z,929nm,0.2s						
BLLM	**Bellamira**	**0.25**	**56**	*e*P	**Pn**	**13 41 28.8**	**-0.4**
BLLM	**Bellamira**	**0.25**	**56**	*e*P	**Pn**	**13 41 28.8**	**-0.4**
PQSS	**Presa 15 de Se**	**0.34**	**342**	*e*P	**Pn**	**13 41 29.0**	**-0.4**
PQSS				IAML		13 41 29.9	
	comp=Z,819nm,0.2s						
TECO	**Alcaldia de Te**	**0.40**	**306**	*e*P	**Pn**	**13 41 29.2**	**-0.5**
TECO				*e*S	**Sn**	**13 41 44.0**	**+0.2**
SNVI	**San Vicente**	**0.49**	**309**	*e*P	**Pn**	**13 41 30.2**	**-0.1**
SNVI	**San Vicente**	**0.49**	**309**	*e*P	**Pn**	**13 41 30.2**	**-0.1**
COEG	**Centro de Oper**	**0.52**	**307**	*e*P	**Pn**	**13 41 30.4**	**0.0**
COEG	**Centro de Oper**	**0.52**	**307**	*e*P	**Pn**	**13 41 30.4**	**0.0**
LCND	**La Caada**	**0.55**	**89**	⇑*e*P	**Pn**	**13 41 30.1**	**-0.3**
LCND				*e*S	**Sn**	**13 41 45.6**	**+0.6**
LCND	**La Caada**	**0.55**	**89**	⇑*e*P	**Pn**	**13 41 30.1**	**-0.3**
LCND				*e*S	**Sn**	**13 41 45.6**	**+0.6**
CNCH	**Conchagua**	**0.60**	**92**	*e*P	**Pn**	**13 41 30.4**	**-0.5**
CNCH				*e*P	**Pn**	**13 41 30.5**	**-0.5**
CNCH				*e*S	**Sn**	**13 41 46.5**	**+0.6**
CNCH	**Conchagua**	**0.60**	**92**	*e*P	**Pn**	**13 41 30.4**	**-0.5**
CNCH				*e*P	**Pn**	**13 41 30.5**	**-0.5**
CNCH				*e*S	**Sn**	**13 41 46.5**	**+0.6**
PAVA	**Las Pavas**	**0.62**	**311**	*e*P	**Pn**	**13 41 30.6**	**-0.5**
PAVA				IAML		13 41 31.6	
	comp=Z,716nm,0.4s						
PAVA	**Las Pavas**	**0.62**	**311**	*e*P	**Pn**	**13 41 30.6**	**-0.5**
PAVA				IAML		13 41 31.6	
	comp=Z,716nm,0.4s						
LFRS	**El Faro**	**0.67**	**298**	*e*P	**Pn**	**13 41 31.0**	**-0.4**
LFRS				*e*S	**Sn**	**13 41 47.5**	**+0.6**
LFRS	**El Faro**	**0.67**	**298**	*e*P	**Pn**	**13 41 31.0**	**-0.4**
LFRS				*e*S	**Sn**	**13 41 47.5**	**+0.6**
LBRS	**Las Brisas**	**0.72**	**307**	*e*P	**Pn**	**13 41 31.6**	**-0.1**
LBRS	**Las Brisas**	**0.72**	**307**	*e*P	**Pn**	**13 41 31.6**	**-0.1**
LFU	**La Fuente**	**0.78**	**305**	*e*P	**Pn**	**13 41 31.8**	**-0.5**
LFU	**La Fuente**	**0.78**	**305**	*e*P	**Pn**	**13 41 31.8**	**-0.5**
SNET	**Serv Nac Est T**	**0.85**	**297**	*e*P	**Pn**	**13 41 32.4**	**-0.4**
SNET				IAML		13 41 33.1	
	comp=Z,763nm,0.3s						
SNET				*e*S	**Sn**	**13 41 49.4**	**+0.2**
SNET	**Serv Nac Est T**	**0.85**	**297**	*e*P	**Pn**	**13 41 32.4**	**-0.4**
SNET				IAML		13 41 33.1	
	comp=Z,763nm,0.3s						
SNET				*e*S	**Sn**	**13 41 49.4**	**+0.2**
LALI	**Alcalda de L**	**0.87**	**282**	*e*P	**Pn**	**13 41 32.5**	**-0.3**
LALI	**Alcalda de L**	**0.87**	**282**	*e*P	**Pn**	**13 41 32.5**	**-0.3**
BOQS	**Boqueron**	**0.91**	**298**	*e*P	**Pn**	**13 41 33.3**	**-0.2**
BOQS	**Boqueron**	**0.91**	**298**	*e*P	**Pn**	**13 41 33.3**	**-0.2**
SNJE	**San Jose**	**1.25**	**297**	*e*P	**Pn**	**13 41 36.7**	**-0.1**
SNJE	**San Jose**	**1.25**	**297**	*e*P	**Pn**	**13 41 36.7**	**-0.1**
SBLS	**San Blas**	**1.26**	**295**	*e*P	**Pn**	**13 41 36.5**	**-0.4**
SBLS	**San Blas**	**1.26**	**295**	*e*P	**Pn**	**13 41 36.5**	**-0.4**
RTR	**El Retiro**	**1.30**	**297**	*e*P	**Pn**	**13 41 37.2**	**-0.1**
RTR	**El Retiro**	**1.30**	**297**	*e*P	**Pn**	**13 41 37.2**	**-0.1**
MTO3	**Montecristo**	**1.40**	**321**	*e*P	**Pn**	**13 41 38.0**	**-0.5**
SLOZ	**Alcaldia de Sa**	**1.48**	**299**	*e*P	**Pn**	**13 41 38.2**	**-0.9**
SLOZ				*e*S	**Sn**	**13 42 01.3**	**+0.9**
HORNC	**Hornillas**	**4.11**	**128**	*i*P	**Pn**	**13 42 12.1**	**-0.4**
CUI	**Cuipilapa**	**4.15**	**129**	*i*P	**Pn**	**13 42 12.6**	**-0.5**
GUAI	**GUAI**	**4.17**	**136**	⇓*i*P	**Pn**	**13 42 13.4**	**+0.3**

*JMA **07** 13:45:29.1±0.1, 24.°73N×122.°99E, h102km±2km, M1.7*
*TAP **07** 13:45:31.3, 24.°77N×122.°80E, h99km±1km, ML2.8, D*
ISC 07 13:45:30.0±1.6**, 24.°71N**±0.°06×**122.°96E**±0.°03**, h94**km±11km**, n53,** σ**0.s94**/100**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.25**	**170**	*e*P	**Pn**	**13 45 44.5**	**+0.8**
	baz=155						
YOJ				*e*S	Sn	13 45 58.0	+4.2
	baz=155						
JYNG	**Yonagunijimaku**	**0.26**	**184**	P	**Pn**	**13 45 44.0**	**+0.3**
JYNG				*e*S	**Sn**	**13 45 54.7**	**+0.9**
IRIF	**Iriomote-Funau**	**0.79**	**118**	P	**Pn**	**13 45 47.5**	**-0.2**
IRIF				*e*S	**Sn**	**13 46 01.9**	**+0.9**
HATJ	**Hateruma jima**	**1.00**	**130**	P	**Pn**	**13 45 49.9**	**-0.1**
HATJ				*e*S	**Sn**	**13 46 05.6**	**+0.6**
JKRS	**Kuro-shima**	**1.06**	**116**	P	**Pn**	**13 45 50.8**	**+0.2**
JKRS				*e*S	**Sn**	**13 46 06.9**	**+0.7**
TIPB	**Shuangxi**	**1.07**	**284**	*e*P	**Pn**	**13 45 50.9**	**+0.2**
	baz=277						
TIPB				*e*S	**Sn**	**13 46 05.4**	**-1.0**
	baz=277						
JIJ	**Ishigaki jima**	**1.13**	**107**	P	**Pn**	**13 45 51.0**	**-0.4**
JIJ				S	**Sn**	**13 46 07.4**	**-0.1**
NDS	**Dongshan**	**1.14**	**267**	*e*P	**Pn**	**13 45 51.8**	**+0.3**
	baz=267						
NDS				*e*S	**Sn**	**13 46 06.7**	**-1.0**
	baz=267						
ENA	**Nanau**	**1.15**	**256**	*e*P	**Pn**	**13 45 52.5**	**+0.8**
	baz=245						
ENA				*e*S	**Sn**	**13 46 07.6**	**-0.4**
	baz=245						
JISG	**Ishigakijimahi**	**1.23**	**95**	P	**Pn**	**13 45 52.0**	**-0.6**
JISG				*e*S	**Sn**	**13 46 09.1**	**-0.6**
NDT	**Datong Townshi**	**1.32**	**266**	*e*P	**Pn**	**13 45 54.6**	**+0.8**
	baz=265						
NDT				*e*S	**Sn**	**13 46 10.9**	**-0.9**
	baz=265						
YM01	**YM01**	**1.34**	**289**	*e*P	**Pn**	**13 45 55.0**	**+1.0**
	baz=283						
YM01				*e*S	**Sn**	**13 46 10.9**	**-1.2**
	baz=283						
NACB	**Ninganchiao**	**1.36**	**247**	*e*P	**Pn**	**13 45 54.1**	**-0.1**
	baz=242						
NACB				*e*S	**Sn**	**13 46 10.6**	**-1.8**
	baz=242						
TWD	**Chiawan**	**1.40**	**244**	*e*P	**Pn**	**13 45 54.9**	**+0.2**
	baz=231						
TWD				*e*S	**Sn**	**13 46 12.0**	**-1.2**
	baz=231						
ETLH	**Xiulin Townshi**	**1.44**	**250**	*e*P	**Pn**	**13 45 55.3**	**+0.1**
	baz=245						
ETLH				*e*S	**Sn**	**13 46 13.8**	**-0.7**
	baz=245						
YHNB	**Yeheng**	**1.45**	**269**	*e*P	**Pn**	**13 45 56.2**	**+0.8**
	baz=272						
YHNB				*e*S	**Sn**	**13 46 15.1**	**+0.5**
	baz=272						
NSK	**Sanguang**	**1.46**	**269**	*e*P	**Pn**	**13 45 56.1**	**+0.6**
	baz=272						
NSK				*e*S	**Sn**	**13 46 15.4**	**+0.5**
	baz=272						
NNS	**Nan Shan**	**1.47**	**260**	*e*P	**Pn**	**13 45 56.2**	**+0.4**
	baz=249						
NNS				*e*S	**Sn**	**13 46 14.1**	**-1.1**
	baz=249						
ETM	**Tongmen**	**1.53**	**241**	*e*P	**Pn**	**13 45 56.4**	**+0.1**
	baz=231						
ETM				*e*S	**Sn**	**13 46 15.0**	**-1.3**
	baz=231						
JTJ	**Tarama**	**1.58**	**92**	P	**Pn**	**13 45 56.5**	**-0.4**
JTJ				*e*S	**Sn**	**13 46 16.8**	**-0.6**
FUSS	**Fushou**	**1.63**	**254**	P	**Pn**	**13 45 58.4**	**+0.5**
	baz=244						
FUSS				*e*S	**Sn**	**13 46 17.8**	**-1.1**
	baz=244						
WHF	**Hehuan Shan**	**1.65**	**250**	P	**Pn**	**13 45 58.3**	**+0.1**
	baz=246						
WHF				S	**Sn**	**13 46 17.7**	**-1.9**
	baz=246						
ESL	**Shilin**	**1.66**	**238**	*e*P	**Pn**	**13 45 58.1**	**+0.2**
	baz=233						
ESL				*e*S	**Sn**	**13 46 17.6**	**-1.6**
	baz=233						
EGFH	**Guangfu**	**1.74**	**234**	*e*P	**Pn**	**13 45 59.2**	**+0.1**
	baz=229						
EGFH				*e*S	**Sn**	**13 46 19.7**	**-1.4**
	baz=229						
CHGB	**Renai**	**1.75**	**249**	P	**Pn**	**13 45 59.9**	**+0.5**
	baz=239						
CHGB				S	**Sn**	**13 46 20.4**	**-1.3**
	baz=239						
LIOB	**Emei**	**1.77**	**268**	*e*P	**Pn**	**13 45 59.9**	**+0.4**
	baz=266						
LIOB				*e*S	**Sn**	**13 46 22.3**	**+0.5**
	baz=266						
NSTT	**Nanjuang**	**1.79**	**268**	*e*P	**Pn**	**13 45 59.7**	**+0.1**
	baz=265						
NSTT				*e*S	**Sn**	**13 46 22.1**	**0.0**
	baz=265						
OWD	**Renai**	**1.80**	**246**	*e*P	**Pn**	**13 46 00.3**	**+0.5**
	baz=236						
OWD				*e*S	**Sn**	**13 46 21.2**	**-1.3**
	baz=236						
HGSD	**Ruisui**	**1.86**	**230**	*e*P	**Pn**	**13 46 00.5**	**0.0**
	baz=223						
HGSD				*e*S	**Sn**	**13 46 22.9**	**-0.8**
	baz=223						
WHP	**Taichung City**	**1.89**	**257**	*e*P	**Pn**	**13 46 01.4**	**+0.5**
	baz=251						
WHP				*e*S	**Sn**	**13 46 23.8**	**-0.8**
	baz=251						
EHY	**Hungye**	**1.92**	**232**	*e*P	**Pn**	**13 46 01.6**	**+0.2**
	baz=227						
EHY				*e*S	**Sn**	**13 46 23.8**	**-1.4**

	baz=227						
WCS	**Beigang Elemen**	**1.98**	**251**	*e*P	**Pn**	**13 46 03.0**	**+0.9**
	baz=248						
WCS				*e*S	**Sn**	**13 46 25.6**	**-0.9**
	baz=248						
YULB	**Yu-li**	**2.01**	**230**	*e*P	**Pn**	**13 46 01.8**	**-0.7**
	baz=233						
YULB				*e*S	**Sn**	**13 46 26.1**	**-1.2**
	baz=233						
SSLB	**Suanglung**	**2.05**	**244**	*e*P	**Pn**	**13 46 03.4**	**+0.4**
	baz=237						
SSLB				*e*S	**Sn**	**13 46 26.6**	**-1.7**
	baz=237						
SMLT	**Sun Moon Lake**	**2.06**	**247**	*e*P	**Pn**	**13 46 03.9**	**+0.7**
	baz=237						
SMLT				*e*S	**Sn**	**13 46 27.9**	**-0.6**
	baz=237						
TYC	**Yuchr**	**2.08**	**248**	*e*P	**Pn**	**13 46 04.5**	**+1.1**
	baz=239						
TYC				*e*S	**Sn**	**13 46 28.2**	**-0.7**
	baz=239						
FULB	**Fuli**	**2.14**	**226**	*e*P	**Pn**	**13 46 04.7**	**+0.4**
	baz=216						
FULB				*e*S	**Sn**	**13 46 30.4**	**0.0**
	baz=216						
CHKT	**Chengkung**	**2.17**	**223**	*e*S	**Sn**	**13 46 29.2**	**-1.8**
	baz=215						
WHYT	**Xinyi Township**	**2.17**	**243**	*e*P	**Pn**	**13 46 05.4**	**+0.7**
	baz=237						
WHYT				*e*S	**Sn**	**13 46 31.1**	**-0.1**
	baz=237						
EDH	**Donghe**	**2.30**	**222**	*e*P	**Pn**	**13 46 05.8**	**-0.5**
	baz=215						
EDH				*e*S	**Sn**	**13 46 32.4**	**-1.7**
	baz=215						
ALS	**Alishan**	**2.31**	**239**	*e*P	**Pn**	**13 46 07.9**	**+1.2**
	baz=230						
ALS				*e*S	**Sn**	**13 46 34.3**	**-0.4**
	baz=230						
ELDTW	**Lidau**	**2.34**	**230**	*e*P	**Pn**	**13 46 07.3**	**+0.4**
	baz=227						
ELDTW				*e*S	**Sn**	**13 46 32.9**	**-2.2**
	baz=227						
CHN5	**Tsauling**	**2.36**	**243**	*e*P	**Pn**	**13 46 08.8**	**+1.6**
	baz=232						
CHN5				*e*S	**Sn**	**13 46 36.1**	**+0.4**
	baz=232						
LDUT	**Ludao**	**2.44**	**214**	*e*P	**Pn**	**13 46 09.8**	**+1.6**
	baz=208						
LDUT				*e*S	**Sn**	**13 46 36.4**	**-1.1**
	baz=208						
LONT	**Longtian**	**2.46**	**224**	*e*S	**Sn**	**13 46 37.6**	**-0.2**
	baz=227						
STYH	**Taoyuan**	**2.52**	**233**	*e*P	**Pn**	**13 46 10.2**	**+1.0**
	baz=227						
STYH				*e*S	**Sn**	**13 46 38.5**	**-0.8**
	baz=227						
TPUB	**Ta-pu**	**2.55**	**237**	*e*P	**Pn**	**13 46 10.9**	**+1.2**
	baz=234						
TPUB				*e*S	**Sn**	**13 46 40.4**	**+0.3**
	baz=234						
TWGBT	**Beinan**	**2.55**	**223**	*e*S	**Sn**	**13 46 40.6**	**+0.5**
	baz=225						
CHN4	**Tsaushan**	**2.56**	**239**	*e*P	**Pn**	**13 46 11.9**	**+2.3**
	baz=229						
CHN4				*e*S	**Sn**	**13 46 41.5**	**+1.4**
	baz=229						
TWG	**Pinlang**	**2.56**	**223**	*e*S	**Sn**	**13 46 40.2**	**0.0**
	baz=226						
WTP	**Ta-pu**	**2.60**	**236**	*e*P	**Pn**	**13 46 11.2**	**+1.0**
	baz=233						
WTP				*e*S	**Sn**	**13 46 40.1**	**-1.1**
	baz=233						
SLGT	**Liugui**	**2.72**	**232**	*e*P	**Pn**	**13 46 13.2**	**+1.3**
	baz=235						
SLGT				*e*S	**Sn**	**13 46 44.5**	**+0.3**
	baz=235						
EAST	**Anshuo**	**3.02**	**220**	*e*P	**Pn**	**13 46 17.5**	**+1.5**
	baz=217						

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*IDC **07** 13:45:44.6±2.2, 32.°00S×178.°55W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/26, mbtmp4.1/4, Error ellipse: s-maj=61.6km s-min=36.8km az=39.0*

*NEIC **07** 13:45:46.1±0.9, 31.°9S±0.°1×178.°4W±0.°2, h10km±1km, mb4.3/10, Error ellipse: s-maj=26.8km s-min=19.1km az=82.0*

ISC 07 13:45:45.3±1.2**, 31.°8S**±0.°1×**178.°5W**±0.°2**, h10**km**, n21, σ0.s96**/14**, mb4.2**/8**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.42**	**208**	Pn	Pn	13 47 21.4	-12
	1.0nm,0.3s,baz=273,slow=4.4,SNR=11						
URZ				Sn	Sn	13 48 38.8	-19
	4.9nm,0.3s,baz=15,slow=21,SNR=7.7						
BKZ	**Black Stump Fm**	**8.44**	**208**		Pn	13 47 37.0	-11
MSVF	**Nonsavu**	**14.31**	**347**	Pn	**Pn**	**13 49 07.1**	**-1.1**
ARMA	**Armidale**	**25.59**	**265**	P	**P**	**13 51 15.8**	**+1.0**
ARMA				IAmb	IAmb	13 51 20.1	
	comp=Z,19nm,1.2s						
EIDS	**Eidsvold**	**27.41**	**276**	P	**P**	**13 51 31.9**	**+0.7**
EIDS				IAmb	IAmb	13 51 32.5	
	comp=Z,8.3nm,1.4s						
CTA	**Charters Tower**	**33.62**	**282**	P	**P**	**13 52 27.4**	**+1.2**
	comp=Z,2.4nm,0.6s,baz=101,slow=0.8,SNR=3.0						
CTAO	**Charters Tower**	**33.62**	**282**	P	**P**	**13 52 25.5**	**-0.7**
XMAS	**Kiritimati**	**39.11**	**35**	P	**P**	**13 53 13.8**	**+0.9**
AS31	**Alice Springs**	**42.63**	**269**	P	**P**	**13 53 42.1**	**0.0**
ASAR	**Alice Springs**	**42.63**	**269**	P	**P**	**13 53 42.2**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=107,slow=7.5,SNR=30						
WR0	**Warramunga Arr**	**43.56**	**274**	P	**P**	**13 53 50.3**	**+0.7**
WR0				IAmb	IAmb	13 54 17.8	
	comp=Z,4.7nm,1.3s						
WB2	**Warramunga Arr**	**43.73**	**274**	P	**P**	**13 53 51.4**	**+0.4**
WB2				IAmb	IAmb	13 54 03.3	
	comp=Z,5.9nm,1.2s						
WRA	**Warramunga Arr**	**43.74**	**274**	P	**P**	**13 53 51.6**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=115,slow=7.5,SNR=30						
FORT	**Forrest**	**45.30**	**257**	P	**P**	**13 54 01.6**	**-1.8**
QSPA	**South Pole Qui**	**58.35**	**180**	P	**P**	**13 55 39.8**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=80,slow=7.9,SNR=3.4						
QSPA	**South Pole Qui**	**58.35**	**180**	IAmb	IAmb	13 55 44.5	
	comp=Z,4.8nm,1.4s						
SNAA	**Sanae**	**76.81**	**179**	P	P	13 57 41.1	+4.2
VNA3	**Neumayer Olymp**	**76.98**	**176**	P	P	13 57 41.9	+4.2
VNA2	**Neumayer--Watz**	**77.41**	**177**	P	P	13 57 44.7	+4.6
	baz=164,slow=4.7						
VNA1	**Neumayer--Stat**	**77.64**	**177**	P	P	13 57 46.4	+5.0
FINES	**FINESS Array B**	**146.26**	**339**	PKPbc	**PKPab**	**14 05 26.2**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=33,slow=5.3,SNR=5.4						

IDC 07 13:47:11.7±2.4**, 32.°10S**×**178.°69W, h0**km**, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.6**/26**, mbtmp3.8**/3**, Error ellipse: s-maj=69.5km s-min=43.0km az=45.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.46**	**269**	P	P	13 55 08.6	0.0
	1.0nm,1.0s,baz=112,slow=7.6,SNR=3.3						
WRA	**Warramunga Arr**	**43.60**	**274**	P	P	13 55 17.8	-0.1
	1.0nm,0.6s,baz=117,slow=7.6,SNR=3.4						
QSPA	**South Pole Qui**	**58.01**	**180**	P	P	13 57 06.3	+0.2
	1.6nm,1.0s,baz=349,slow=12,SNR=2.0						
FINES	**FINESS Array B**	**146.52**	**339**	PKPbc	PKPdf	14 06 52.8	+0.1
	3.1nm,1.0s,baz=72,slow=4.5,SNR=1.7						

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*IDC **07** 13:49:09.4±3.4, 32.°65S×178.°21W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/26, mbtmp4.0/4, ML3.7/1, Error ellipse: s-maj=70.7km s-min=49.4km az=117.0*

*NEIC **07** 13:49:10.0±1.0, 32.°9S±0.°2×178.°0W±0.°1, h10km±1km, mb4.4/8, Error ellipse: s-maj=42.1km s-min=7.7km az=162.0*

ISC 07 13:49:09.8±1.0**, 32.°8S**±0.°1×**178.°0W**±0.°1**, h10**km**, n15, σ0.s90**/15**, mb4.3**/7**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.74**	**215**	Pn	**Pn**	**13 50 48.6**	**-0.1**
	1.4nm,0.3s,baz=126,slow=23,SNR=1.6						
URZ				Sn	**Sn**	**13 52 05.8**	**+0.3**
	1.8nm,0.3s,baz=302,slow=22,SNR=2.1						
BSWZ	**Blackbirch Sta**	**10.99**	**214**	Pn	Pn	13 51 40.3	-6.7

ARMA	**Armidale**	**25.90**	**267**	P	**P**	**13 54 42.4**	**+0.2**
ARMA				IAmb	IAmb	13 55 03.9	
	comp=Z,18nm,1.2s						
CAN	**Canberra**	**27.36**	**256**	P	**P**	**13 54 54.6**	**-0.7**
PPTF	**Pamatai, Papee**	**29.76**	**66**	P	**P**	**13 55 16.1**	**-0.6**
CTA	**Charters Tower**	**34.22**	**283**	P	**P**	**13 55 56.0**	**+0.1**
	comp=Z,4.5nm,1.1s,baz=65,slow=2.4,SNR=3.2						
AS31	**Alice Springs**	**43.00**	**270**	P	**P**	**13 57 09.5**	**-0.1**
ASAR	**Alice Springs**	**43.00**	**270**	P	**P**	**13 57 09.6**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=109,slow=7.6,SNR=9.2						
ASAR	**Alice Springs**	**43.00**	**270**	P	**P**	**13 57 09.3**	**-0.4**
WR0	**Warramunga Arr**	**44.03**	**275**	P	**P**	**13 57 17.3**	**-0.6**
WR0				IAmb	IAmb	13 57 18.0	
	comp=Z,5.6nm,1.4s						
WB2	**Warramunga Arr**	**44.20**	**275**	P	**P**	**13 57 18.6**	**-0.6**
WB2				IAmb	IAmb	13 57 47.0	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**44.21**	**275**	P	**P**	**13 57 19.0**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=112,slow=7.8,SNR=6.1						
WRA	**Warramunga Arr**	**44.21**	**275**	P	**P**	**13 57 18.1**	**-1.2**
SNAA	**Sanae**	**75.77**	**178**	P	**P**	**14 00 55.3**	**-0.2**
SNAA				IAmb	IAmb	14 01 20.0	
	comp=Z,4.5nm,1.3s						
FINES	**FINESS Array B**	**147.37**	**339**	PKPbc	**PKPdf**	**14 08 53.0**	**+2.5**
	comp=Z,2.5nm,0.9s,baz=72,slow=4.5,SNR=2.3						

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*IDC **07** 13:57:46.5±1.8, 52.°73N×165.°20W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/43, mbtmp3.4/4, ML3.1/1, MS4.4/1, Ms1 4.4/1, ms1mx3.2/40, Error ellipse: s-maj=44.1km s-min=27.6km az=7.0*

*NEIC **07** 13:57:50.0±1.1, 53.°57N±0.°05×164.°90W±0.°05, h19km±4km, ML3.2/8, ML3.2/40(AEIC), Error ellipse: s-maj=6.7km s-min=3.9km az=172.0*

*AEIC **07** 13:57:50.3±1.6, 53.°57N±0.°07×164.°90W±0.°06, h52km±8km, Error ellipse: s-maj=11.1km s-min=3.9km az=160.0*

ISC 07 13:57:50.0±1.4**, 53.°54N**±0.°06×**164.°89W**±0.°04**, h19**km±4km**, n67, σ0.s80**/74**, mb3.6**/3**, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**0.76**	**322**		**Pg**	**13 58 04.7**	**-0.3**
AKSA					**Sg**	**13 58 15.3**	**+0.2**
AKSA	**Akutan Strait**	**0.76**	**322**		**Pg**	**13 58 04.6**	**-0.3**
AKSA					**Sn**	**13 58 15.9**	**-0.7**
AKUT	**Akutan**	**0.79**	**319**		**Pg**	**13 58 05.2**	**-0.2**
AKUT					**Sn**	**13 58 17.1**	**-0.2**
AKUT	**Akutan**	**0.79**	**319**	IAML		13 58 17.9	
	comp=N,487nm,0.2s						
AKUT				IAML		13 58 22.7	
	comp=E,907nm,0.5s						
AKBBA	**Akutan Broad B**	**0.83**	**313**		**Pg**	**13 58 05.9**	**-0.4**
AKMO	**Akutan Morgan**	**0.86**	**310**		**Pb**	**13 58 06.3**	**0.0**
AKMO					**Sn**	**13 58 18.8**	**-0.3**
AKLV	**Akutan Long Va**	**0.89**	**315**		**Pb**	**13 58 06.4**	**-0.3**
AKRB	**Akutan Reef Bi**	**0.91**	**311**		**Pb**	**13 58 07.0**	**-0.1**
AKGG	**Akutan Green G**	**0.93**	**316**		**Pb**	**13 58 07.3**	**-0.1**
WESP	**Westdahl Peak**	**0.96**	**6**		**Pb**	**13 58 07.8**	**-0.2**
WESP					**Sn**	**13 58 21.2**	**-0.5**
WECS	**Westdahl Cape**	**0.99**	**4**		**Pb**	**13 58 08.4**	**-0.1**
UNV	**Unalaska Valle**	**1.00**	**288**		**Pb**	**13 58 07.8**	**-0.9**
UNV					**Sb**	**13 58 21.7**	**+0.2**
UNV	**Unalaska Valle**	**1.00**	**288**	P	**Pb**	**13 58 07.8**	**-0.9**
	baz=105						
UNV				S	**Sb**	**13 58 21.7**	**+0.2**
	baz=105						
WEBT	**Westdahl Beart**	**1.06**	**4**		**Pb**	**13 58 09.2**	**-0.4**
MNAT	**Makushin Natee**	**1.12**	**289**		**Pn**	**13 58 09.8**	**-0.8**
MNAT					**Sn**	**13 58 25.0**	**-0.4**
MTBL	**Makushin Table**	**1.14**	**293**		**Pn**	**13 58 10.6**	**-0.4**
MSW	**Makushin Switc**	**1.18**	**289**		**Pn**	**13 58 10.7**	**-0.8**
MSW					**Sn**	**13 58 26.9**	**-0.1**
MGOD	**Makushin Gods**	**1.21**	**283**		**Pn**	**13 58 11.0**	**-0.8**
MAPS	**Pakushin South**	**1.25**	**283**		**Pn**	**13 58 11.5**	**-0.8**
SSLS	**Shishaldin Sou**	**1.29**	**24**		**Pn**	**13 58 11.9**	**-1.0**
BRPK	**Brown Peak**	**1.30**	**31**		**Pn**	**13 58 12.0**	**-1.1**
ISLZ	**Isanotski Laza**	**1.38**	**30**		**Pn**	**13 58 13.0**	**-1.2**
ISNN	**Isanotski Nort**	**1.45**	**26**		**Pn**	**13 58 14.5**	**-0.6**
FALS	**False Pass**	**1.58**	**33**		**Pn**	**13 58 15.8**	**-1.0**
FALS					**Sn**	**13 58 36.2**	**-0.5**
FALS	**False Pass**	**1.58**	**33**	P	**Pn**	**13 58 15.8**	**-1.0**
	baz=215						
FALS				S	**Sn**	**13 58 36.2**	**-0.5**
	baz=215						
OKFG	**Magazine Ridge**	**1.81**	**267**		**Pn**	**13 58 20.3**	**+0.3**
OKTU	**Okmok Mt. Tuli**	**1.89**	**266**		**Pn**	**13 58 21.4**	**+0.2**
OKCE	**Okmok Cone E**	**1.96**	**268**		**Pn**	**13 58 22.7**	**+0.6**
OKSO	**Okmok South**	**1.96**	**266**		**Pn**	**13 58 22.5**	**+0.3**
DT1	**Dutton Round H**	**2.19**	**43**		**Pn**	**13 58 25.1**	**-0.2**
NIKH	**Nikolski High**	**2.45**	**258**		**Pn**	**13 58 28.8**	**0.0**
NIKH	**Nikolski High**	**2.45**	**258**	P	**Pn**	**13 58 28.8**	**0.0**
	baz=74						
SDPT	**Sand Point**	**3.15**	**53**		**Pn**	**13 58 38.4**	**0.0**
SDPT	**Sand Point**	**3.15**	**53**	IAML		13 59 36.6	
	comp=E,90nm,0.9s						
SDPT	**Sand Point**	**3.15**	**53**	P	**Pn**	**13 58 38.4**	**0.0**
	baz=237						
CNBA	**Chernabura Isl**	**3.37**	**66**		Lg	13 59 40.6	
CNBA	**Chernabura Isl**	**3.37**	**66**		**Pn**	**13 58 40.8**	**-0.7**
CHNA	**Chernabura Isl**	**3.37**	**65**	P	**Pn**	**13 58 40.7**	**-0.8**
	baz=250						
CHGN	**Chignik**	**4.65**	**51**	Pn	**Pn**	**13 58 58.5**	**-0.5**
CHGN				IAML		14 00 11.5	
	comp=N,28nm,0.2s						
SPIA	**Saint Paul Isl**	**4.75**	**322**		**Pn**	**13 59 00.5**	**0.0**
SPIA	**Saint Paul Isl**	**4.75**	**322**	P	**Pn**	**13 59 00.5**	**0.0**
	baz=138						
ATKA	**Atka Island**	**5.79**	**260**	Pn	**Pn**	**13 59 14.9**	**+0.2**
CHIR	**Chirikof Islan**	**5.84**	**63**	Pn	**Pn**	**13 59 15.2**	**-0.2**
ADK	**Adak**	**7.35**	**262**	Pn	**Pn**	**13 59 36.6**	**+0.4**
OHAK	**Old Harbor**	**7.57**	**56**	Pn	**Pn**	**13 59 38.3**	**-0.8**
KDAK	**Kodiak Island**	**8.15**	**54**	Pn	**Pn**	**13 59 46.0**	**-1.0**
Q19K	**Cape Douglas,**	**8.27**	**45**	Pn	**Pn**	**13 59 47.9**	**-0.8**
N18K	**Kilae Creek**	**8.66**	**31**	Pn	**Pn**	**13 59 54.1**	**-0.1**
P19K	**Oil Pt**	**8.87**	**42**	Pn	**Pn**	**13 59 56.4**	**-0.6**
CNPM	**China Poot**	**9.63**	**46**	Pn	**Pn**	**14 00 04.6**	**-2.7**
M19K	**Big River Lodg**	**10.08**	**30**	Pn	**Pn**	**14 00 12.1**	**-1.3**
L19K	**White Mountain**	**10.17**	**28**	Pn	**Pn**	**14 00 14.4**	**-0.4**
SEW	**Seward**	**10.70**	**46**	Pn	**Pn**	**14 00 21.1**	**-0.8**
SUA	**Susitna One**	**10.97**	**38**	Pn	**Pn**	**14 00 25.4**	**-0.5**
RC01	**Rabbit Creek A**	**11.13**	**41**	Pn	**Pn**	**14 00 26.9**	**-0.9**
PWL	**Port Wells**	**11.57**	**44**	Pn	**Pn**	**14 00 33.3**	**-0.5**
HIN	**Hinchinbrook I**	**12.13**	**48**	Pn	**Pn**	**14 00 39.5**	**-2.1**
FID	**Port Fidalgo**	**12.30**	**47**	Pn	**Pn**	**14 00 42.5**	**-1.4**
KLU	**Klutina**	**12.89**	**44**	Pn	**Pn**	**14 00 50.4**	**-1.7**
M24K	**Tolsona, Glenn**	**13.11**	**42**	Pn	**Pn**	**14 00 54.4**	**-0.5**
N25K	**Chitina, Valde**	**13.51**	**45**	Pn	**Pn**	**14 00 59.5**	**-0.9**
ILAR	**Eielson Array**	**14.49**	**32**	Pn	**P**	**14 01 22.3**	**+2.0**
	comp=N,0.1nm,0.3s,baz=230,slow=14,SNR=1.5						
RIDG	**Independent Ri**	**14.53**	**37**	Pn	**Pn**	**14 01 13.9**	**-0.4**
PETK	**Petropavlovsk-**	**22.18**	**284**	P	**P**	**14 02 44.5**	**-0.2**
	comp=N,2.5nm,1.0s,baz=92,slow=12,SNR=5.3						
NVAR	**Mina Array Bea**	**35.04**	**96**	P	**P**	**14 04 42.9**	**+1.4**
	comp=N,0.3nm,0.7s,baz=283,slow=10.0,SNR=3.9						
TXAR	**Lajitas Array**	**50.06**	**93**	P	**P**	**14 06 43.0**	**-0.4**
	comp=N,0.4nm,0.5s,baz=297,slow=5.5,SNR=6.8						
SADO	**Sadowa**	**53.51**	**62**	LR	LR	14 27 48.4	
	comp=N,319nm,19.7s,baz=172,slow=33						

MEX 07 14:02:04.9±0.6**, 14.°63N**×**92.°56W, h82**km±9km**, MD3.6, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.40**	**46**	*e*P	Pn	14 02 16.1	-1.9
THIG				*e*S	Sn	14 02 25.6	-2.2
PCIG		**1.24**	**329**	*e*P	Pn	14 02 25.9	-1.1
PCIG				*e*S	Sn	14 02 41.8	-1.8
CCIG	**Comitan**	**1.69**	**14**	*e*P	Pn	14 02 33.8	+0.8
CCIG				*e*S	Sn	14 02 53.8	-0.5
CMIG	**Matias Romero**	**3.31**	**318**	*e*P	Pn	14 02 53.4	-1.1
CMIG				*e*S	Sn	14 03 31.5	-1.4

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*NEIC **07** 14:03:29.7±1.4, 35.°51S±0.°05×70.°0W±0.°1, h152km±5km, mb4.3/66, Error ellipse: s-maj=12.5km s-min=7.7km az=90.0*

*GUC **07** 14:03:30.6±0.6, 35.°51S×70.°23W, h181km±4km, ML4.3*

*IDC **07** 14:03:30.7±2.3, 35.°55S×69.°90W, h159km±20km, mb3.8/13, mb1 4.0/16, mb1mx3.9/32, mbtmp4.2/16, Error ellipse: s-maj=20.9km s-min=11.5km az=82.0*

ISC 07 14:03:30.5±0.7**, 35.°50S**±0.°04×**70.°07W**±0.°08**, h161**km±6km**, n145, σ1.s14**/159**, mb4.3**/42**, 10C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO02	**Sierra Bellavi**	**0.91**	**320**	*e*P	**Pn**	**14 03 56.3**	**+0.5**
BO02				*i* S	**Sn**	**14 04 16.4**	**+1.2**
BO02				IAML		14 04 22.3	
	comp=E,2µm,0.2s						
BO02	**Sierra Bellavi**	**0.91**	**320**		**Pn**	**14 03 56.1**	**+0.4**
ML02	**Panimavida**	**1.13**	**256**	*e*P	**Pn**	**14 03 57.5**	**+0.1**
ML02				*i* S	**Sn**	**14 04 18.2**	**+0.1**
ML02				IAML		14 04 19.7	
	comp=N,4µm,0.6s						
ML02	**Panimavida**	**1.13**	**256**		**Pn**	**14 03 57.3**	**-0.1**
BO01	**Tunca**	**1.38**	**323**	⇑*i*P	**Pn**	**14 03 59.9**	**+0.1**
BO01				*i* S	**Sn**	**14 04 22.7**	**+0.4**
BO01				IAML		14 04 23.9	
	comp=N,1µm,0.7s						
BO01	**Tunca**	**1.38**	**323**		**Pn**	**14 03 59.7**	**-0.1**
GO05	**Huala**	**1.60**	**287**	⇑*i*P	**Pn**	**14 04 01.4**	**-0.5**
GO05				*i* S	**Sn**	**14 04 25.1**	**-1.1**
GO05	**Huala**	**1.60**	**287**	Pn	**Pn**	**14 04 01.4**	**-0.5**
LMEL	**Las Melosas**	**1.65**	**356**	⇑*i*P	**Pn**	**14 04 03.7**	**+1.0**
LMEL				*i* S	**Sn**	**14 04 29.9**	**+2.5**
LMEL				IAML		14 04 41.1	
	comp=N,1000nm,0.1s						
BO03	**Pichilemu**	**1.85**	**302**	⇑*i*P	**Pn**	**14 04 04.8**	**+0.2**
BO03				*i* S	**Sn**	**14 04 30.0**	**-0.8**
BO03				IAML		14 04 32.8	
	comp=N,3µm,0.7s						
MT09	**Talagante**	**1.88**	**336**	⇑*i*P	**Pn**	**14 04 05.3**	**+0.2**
MT09				*i* S	**Sn**	**14 04 32.0**	**+0.3**
MT09	**Talagante**	**1.88**	**336**		**Pn**	**14 04 05.0**	**-0.1**
MT01	**Popeta**	**1.90**	**329**	⇑*i*P	**Pn**	**14 04 05.0**	**-0.1**
MT01				*i* S	**Sn**	**14 04 31.3**	**-0.6**
MT01				IAML		14 04 35.5	
	comp=E,2µm,0.3s						
MT01	**Popeta**	**1.90**	**329**		**Pn**	**14 04 05.1**	**-0.1**
MT05	**Renca**	**2.17**	**345**	⇑*i*P	**Pn**	**14 04 08.9**	**+0.5**
MT05				*i* S	**Sn**	**14 04 38.2**	**+0.6**
MT05	**Renca**	**2.17**	**345**		**Pn**	**14 04 08.2**	**-0.2**
VA05	**Santo Domingo**	**2.23**	**325**	⇑*i*P	**Pn**	**14 04 09.1**	**+0.1**
VA05				*i* S	**Sn**	**14 04 38.0**	**-0.7**
VA05	**Santo Domingo**	**2.23**	**325**		**Pn**	**14 04 08.9**	**-0.1**
ROCH	**El Roble**	**2.64**	**343**	⇑*i*P	**Pn**	**14 04 14.2**	**+0.1**
ROCH				*i* S	**Sn**	**14 04 47.5**	**-0.2**
ROCH				IAML		14 04 53.8	
	comp=E,2µm,0.5s						
VA03	**San Esteban**	**2.76**	**352**	⇑*i*P	**Pn**	**14 04 16.1**	**+0.7**
VA03				*i* S	**Sn**	**14 04 50.4**	**+0.3**
VA03				IAML		14 04 55.6	
	comp=E,2µm,0.6s						
VA03	**San Esteban**	**2.76**	**352**		**Pn**	**14 04 16.1**	**+0.7**
VA01	**Torpederas**	**2.79**	**332**	*e*P	**Pn**	**14 04 16.0**	**+0.3**
VA01				*i* S	**Sn**	**14 04 49.5**	**-1.2**
VA01				IAML		14 04 52.2	
	comp=E,2µm,0.1s						
VA01	**Torpederas**	**2.79**	**332**	Pn	**Pn**	**14 04 15.9**	**+0.2**
LC01	**Cunco**	**3.69**	**202**	Pn	**Pn**	**14 04 25.8**	**-1.1**
ZON	**Zonda**	**4.11**	**17**		**Pn**	**14 04 31.4**	**-1.1**
CO02	**Combarbal**	**4.35**	**349**	*e*P	**Pn**	**14 04 35.2**	**-0.6**
CO02				*e*S	**Sn**	**14 05 24.2**	**-2.4**
CO02	**Combarbal**	**4.35**	**349**		**Pn**	**14 04 33.9**	**-1.8**
CO03	**El Pedregal**	**4.67**	**353**	*e*P	**Pn**	**14 04 40.2**	**+0.2**
CO03				*e*S	**Sn**	**14 05 31.3**	**-2.9**
CO03	**El Pedregal**	**4.67**	**353**		**Pn**	**14 04 39.7**	**-0.2**
CO06	**Fray Jorge**	**4.99**	**344**	*e*P	**Pn**	**14 04 43.5**	**-0.5**
CO06				*e*S	**Sn**	**14 05 38.9**	**-2.5**
CO06	**Fray Jorge**	**4.99**	**344**	Pn	**Pn**	**14 04 43.1**	**-0.8**
PLCA	**Paso Flores**	**5.24**	**184**	P	**Pn**	**14 04 46.3**	**-0.9**
	comp=E,0.9nm,0.3s,baz=358,slow=12,SNR=36						
PLCA	**Paso Flores**	**5.24**	**184**	Pn	**Pn**	**14 04 47.0**	**-0.3**
GO04	**Tololo Observa**	**5.35**	**353**		**Pn**	**14 04 47.8**	**-1.1**
CO05	**La Serena**	**5.65**	**350**	Pn	**Pn**	**14 04 51.5**	**-1.2**
LL04	**Puerto Octay**	**5.71**	**198**		**Pn**	**14 04 50.8**	**-2.6**
TRQA	**Tornquist**	**6.98**	**114**	Pn	**Pn**	**14 05 08.1**	**-2.1**
LL01	**San Ignacio de**	**7.11**	**194**	Pn	**Pn**	**14 05 09.4**	**-2.5**
AC04	**Llanos de Chal**	**7.32**	**353**	Pn	**Pn**	**14 05 13.7**	**-1.2**
VA04	**Juan Fernndez**	**7.46**	**282**	Pn	**Pn**	**14 05 17.0**	**+0.4**
GO03	**Copiap**	**7.88**	**359**	Pn	**Pn**	**14 05 20.8**	**-1.6**
GO07	**Milladeo Hill,**	**8.10**	**199**	Pn	Pn	14 05 19.8	-5.2
AC02	**Maricunga**	**8.67**	**6**	Pn	**Pn**	**14 05 29.0**	**-4.3**
PB14	**IPOC Station P**	**10.84**	**358**	Pn	**Pn**	**14 05 58.4**	**-3.3**
PB10	**IPOC Station P**	**11.95**	**358**	Pn	**Pn**	**14 06 12.0**	**-3.8**
PB15	**IPOC Station P**	**12.26**	**3**		**Pn**	**14 06 16.6**	**-3.4**
PB06	**IPOC Station P**	**12.75**	**2**	Pn	**Pn**	**14 06 25.4**	**-1.0**
LVC	**Limon Verde**	**12.88**	**5**	P	**Pn**	**14 06 27.3**	**-0.9**
	comp=E,1.1nm,0.3s,baz=213,slow=8.5,SNR=11						
LVC	**Limon Verde**	**12.88**	**5**	Pn	**Pn**	**14 06 26.6**	**-1.6**
PB04	**IPOC Station P**	**13.12**	**360**	Pn	**Pn**	**14 06 29.4**	**-1.6**
PB09	**IPOC Station P**	**13.67**	**3**	Pn	**Pn**	**14 06 36.8**	**-1.3**
PB07	**IPOC Station P**	**13.72**	**1**	Pn	**Pn**	**14 06 37.1**	**-1.6**
PB01	**IPOC Station P**	**14.41**	**2**	Pn	**Pn**	**14 06 46.4**	**-0.8**
TA01	**Diego Aracena**	**14.88**	**360**	Pn	**Pn**	**14 06 51.8**	**-1.1**
PB08	**IPOC Station P**	**15.32**	**3**	Pn	**Pn**	**14 06 57.5**	**-1.2**
PB11	**IPOC Station P**	**15.68**	**1**	Pn	**Pn**	**14 07 00.9**	**-2.0**
PB11				IAmb	IAmb	14 07 06.4	
	comp=Z,17nm,0.9s						
PSGCX	**Pisagua**	**15.84**	**360**		**Pn**	**14 07 03.6**	**-1.2**
PSGCX				IAmb	IAmb	14 07 08.3	
	comp=Z,20nm,1.1s						
MG02	**Cerro Sombrero**	**17.29**	**178**	P	**Pn**	**14 07 22.6**	**+0.6**
GO10	**Punta Arenas**	**17.67**	**182**	P	**P**	**14 07 25.0**	**-0.1**
EFI	**East Falkland**	**18.32**	**156**	P	**P**	**14 07 30.4**	**-1.8**
LPAZ	**La Paz**	**19.21**	**6**	P	**Pn**	**14 07 44.9**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=178,slow=7.2,SNR=28						
LPAZ	**La Paz**	**19.21**	**6**		**Pn**	**14 07 44.5**	**-1.0**
SIV	**San Ignacio**	**21.03**	**25**	P	**P**	**14 08 02.3**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=233,slow=12,SNR=4.8						
PTGA	**Pitinga**	**35.85**	**17**	P	**P**	**14 10 13.9**	**-0.9**
BELA	**Belgrano 2**	**45.13**	**170**	P	**P**	**14 11 30.6**	**+0.4**
VNA3	**Neumayer Olymp**	**47.36**	**158**	P	**P**	**14 11 47.7**	**0.0**
VNA1	**Neumayer--Stat**	**47.66**	**157**	P	**P**	**14 11 49.2**	**-0.8**
VNA2	**Neumayer--Watz**	**48.00**	**157**	P	**P**	**14 11 52.6**	**-0.1**
	baz=290,slow=9.2						
SNAA	**Sanae**	**49.59**	**157**	P	**P**	**14 12 04.6**	**-0.2**
SNAA	**Sanae**	**49.59**	**157**	P	**P**	**14 12 04.6**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=252,slow=13,SNR=20						
SNAA				PcP	**PcP**	**14 13 23.8**	**0.0**
	comp=Z,0.5nm,0.6s,baz=270,slow=5.1,SNR=1.5						
SNAA	**Sanae**	**49.59**	**157**	P	**P**	**14 12 04.4**	**-0.3**
SNAA				IAmb	IAmb	14 12 08.4	
	comp=Z,6.2nm,1.2s						
QSPA	**South Pole Qui**	**54.74**	**180**	P	**P**	**14 12 43.6**	**+0.6**
	comp=Z,3.1nm,0.8s,baz=274,slow=0.8,SNR=29						
QSPA	**South Pole Qui**	**54.74**	**180**	P	**P**	**14 12 43.4**	**+0.4**
VNDA	**Vanda**	**62.95**	**191**	P	**P**	**14 13 38.7**	**-0.5**
	comp=Z,0.7nm,0.9s,baz=125,slow=7.3,SNR=4.2						
VNDA	**Vanda**	**62.95**	**191**	P	**P**	**14 13 41.2**	**+2.0**
GOGA	**Godfrey**	**69.69**	**348**	P	**P**	**14 14 22.6**	**+0.1**
GOGA				IAmb	IAmb	14 14 28.4	
	comp=Z,5.5nm,1.2s						
SLBS	**Sierra La Lagu**	**69.93**	**321**	P	**P**	**14 14 26.5**	**+2.2**
BIRD	**Birdtown, Kers**	**70.45**	**351**	P	**P**	**14 14 27.6**	**+0.5**
BIRD				IAmb	IAmb	14 14 33.3	
	comp=Z,4.5nm,1.0s						
X51A	**Calhoun**	**71.06**	**347**	P	**P**	**14 14 31.0**	**+0.2**
BG3	**Lake Jocassee**	**71.15**	**349**	P	**P**	**14 14 31.6**	**+0.3**
BG3				IAmb	IAmb	14 14 32.2	
	comp=Z,3.8nm,0.6s						
FPAL	**Fort Paine**	**71.17**	**346**	P	**P**	**14 14 31.9**	**+0.4**
FPAL				IAmb	IAmb	14 14 32.5	
	comp=Z,3.8nm,0.8s						
MAW	**Mawson**	**71.28**	**163**	P	**P**	**14 14 33.4**	**+1.6**
Y45A	**Yeager Farm, C**	**71.37**	**343**	P	**P**	**14 14 34.0**	**+1.4**
X48A	**Hartselle**	**71.38**	**345**	P	**P**	**14 14 33.3**	**+0.6**
V58A	**Windy Hill, Pi**	**71.43**	**352**	P	**P**	**14 14 32.9**	**-0.1**
V58A				IAmb	IAmb	14 14 33.2	
	comp=Z,5.8nm,1.1s						
V55A	**Taylorsville**	**71.74**	**350**	P	**P**	**14 14 35.4**	**+0.5**
V55A				IAmb	IAmb	14 14 35.9	
	comp=Z,5.0nm,0.8s						
W50A	**Signal Mountai**	**71.76**	**347**	P	**P**	**14 14 34.4**	**-0.6**
W50A				IAmb	IAmb	14 14 36.2	
	comp=Z,6.0nm,0.7s						
V53A	**Saluda**	**71.79**	**349**	P	**P**	**14 14 35.2**	**-0.1**
V53A				IAmb	IAmb	14 14 36.1	
	comp=Z,4.5nm,0.9s						
TX32	**Lajitas Array**	**71.84**	**329**	P	**P**	**14 14 36.2**	**+0.5**
TXAR	**Lajitas Array**	**71.84**	**329**	P	**P**	**14 14 37.2**	**+1.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.9nm,0.4s,baz=156,slow=9.0,SNR=22						
TXAR	**Lajitas Array**	**71.84**	**329**	P	**P**	**14 14 36.7**	**+1.0**
TX31	**Lajitas Ar. Si**	**71.84**	**329**	P	**P**	**14 14 36.5**	**+0.8**
TX31				IAmb	IAmb	14 14 37.6	
	comp=Z,6.0nm,0.9s						
CPCT	**Cooper Cave**	**71.86**	**348**	P	**P**	**14 14 34.6**	**-0.9**
CPCT				IAmb	IAmb	14 14 51.3	
	comp=Z,10.0nm,1.3s						
SWET	**Sewanee**	**71.89**	**346**	P	**P**	**14 14 34.8**	**-1.0**
TKL	**Tuckaleechee C**	**71.94**	**348**	P	**P**	**14 14 35.9**	**-0.1**
V52A	**Sevierville**	**72.09**	**348**	P	**P**	**14 14 36.7**	**-0.2**
PLAL	**Pickwick Lake**	**72.11**	**345**	P	**P**	**14 14 36.5**	**-0.5**
PLAL				IAmb	IAmb	14 14 37.6	
	comp=Z,14nm,1.4s						
U54A	**Nelsons Funny**	**72.48**	**350**	P	**P**	**14 14 39.8**	**+0.4**
V48A	**Smith Brothers**	**72.57**	**346**		**P**	**14 14 39.8**	**0.0**
V48A				IAmb	IAmb	14 14 41.0	
	comp=Z,6.1nm,0.7s						
T57A	**Hurt**	**72.63**	**352**	P	**P**	**14 14 39.9**	**-0.2**
T57A				IAmb	IAmb	14 14 54.2	
	comp=Z,12nm,1.4s						
SUR	**Sutherland**	**72.69**	**118**	P	**P**	**14 14 41.8**	**+0.7**
TZTN	**Tazewell**	**72.77**	**349**	P	**P**	**14 14 40.8**	**-0.2**
TZTN				IAmb	IAmb	14 15 09.5	
	comp=Z,8.8nm,1.2s						
MIAR	**Mount Ida**	**73.06**	**340**	P	**P**	**14 14 43.0**	**+0.3**
MIAR				IAmb	IAmb	14 15 07.7	
	comp=Z,11nm,1.5s						
U49A	**Red Boiling Sp**	**73.12**	**347**	P	**P**	**14 14 42.9**	**-0.1**
U49A				IAmb	IAmb	14 14 43.4	
	comp=Z,3.5nm,0.7s						
WVT	**Waverly**	**73.16**	**345**		**P**	**14 14 44.0**	**+0.8**
JSRW	**J. Sargeant Re**	**73.18**	**354**	P	**P**	**14 14 44.6**	**+1.3**
ABTX	**Abilene, Hawle**	**73.22**	**334**	P	**P**	**14 14 44.4**	**+0.7**
ABTX				IAmb	IAmb	14 14 45.4	
	comp=Z,5.4nm,0.8s						
W39A	**Magazine**	**73.73**	**340**	P	**P**	**14 14 47.4**	**+0.8**
W39A				IAmb	IAmb	14 14 48.5	
	comp=Z,7.6nm,0.8s						
T47A	**Sharon Grove**	**73.84**	**346**	P	**P**	**14 14 46.4**	**-0.8**
S51A	**Beattyville**	**73.84**	**349**	P	**P**	**14 14 47.0**	**-0.2**
S51A				IAmb	IAmb	14 14 48.2	
	comp=Z,6.6nm,0.8s						
LCAR	**Lake Charles**	**73.86**	**342**	P	**P**	**14 14 47.7**	**+0.4**
DBIC	**Dimbokro**	**74.15**	**70**	P	**P**	**14 14 49.4**	**-0.2**
	comp=Z,3.1nm,0.7s,baz=211,slow=14						
PBMO	**Poplar Bluff**	**74.36**	**343**	P	**P**	**14 14 50.2**	**0.0**
U40A	**Yellville**	**74.57**	**341**	P	**P**	**14 14 51.7**	**+0.2**
U40A				IAmb	IAmb	14 14 52.6	
	comp=Z,4.9nm,0.6s						
MNTX	**Cornudas Mount**	**74.62**	**329**	P	**P**	**14 14 51.8**	**0.0**
Q54A	**Coxs Mills**	**74.78**	**351**	P	**P**	**14 14 52.0**	**-0.5**
Q54A				IAmb	IAmb	14 15 04.3	
	comp=Z,12nm,1.4s						
HHAR	**Hobbs**	**74.79**	**340**	P	**P**	**14 14 52.6**	**-0.2**
HHAR				IAmb	IAmb	14 14 53.8	
	comp=Z,3.5nm,0.6s						
WMOK	**Wichita Mounta**	**74.84**	**336**	P	**P**	**14 14 52.9**	**-0.2**
WUPA	**West Chester U**	**75.23**	**356**	P	**P**	**14 14 56.8**	**+1.7**
CCM	**Cathedral Cave**	**75.77**	**343**	P	**P**	**14 14 58.4**	**+0.2**
CCM				IAmb	IAmb	14 14 59.5	
	comp=Z,5.7nm,0.8s						
P48A	**Milroy**	**75.92**	**348**	P	**P**	**14 14 58.7**	**-0.4**
P48A				IAmb	IAmb	14 14 59.5	
	comp=Z,4.9nm,0.9s						
S39A	**Bolivar**	**75.95**	**341**	P	**P**	**14 14 59.3**	**0.0**
S39A				IAmb	IAmb	14 15 00.8	
	comp=Z,8.1nm,1.4s						
AMTX	**Amarillo**	**75.99**	**334**	P	**P**	**14 15 00.2**	**+0.6**
AMTX				IAmb	IAmb	14 15 01.5	
	comp=Z,7.2nm,1.0s						
R40A	**Maddies Statio**	**76.25**	**342**	P	**P**	**14 15 01.1**	**+0.1**
P43A	**Skaggs, Pawnee**	**76.89**	**345**	P	**P**	**14 15 04.5**	**-0.1**
P43A				IAmb	IAmb	14 15 06.0	
	comp=Z,10nm,1.1s						
P40A	**Paris**	**77.37**	**343**	P	**P**	**14 15 07.5**	**+0.3**
P40A				IAmb	IAmb	14 15 08.4	
	comp=Z,7.6nm,1.0s						
ANMO	**Albuquerque**	**77.88**	**330**	P	**P**	**14 15 11.9**	**+1.5**
BOSA	**Boshof**	**77.95**	**116**	P	**P**	**14 15 10.8**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=226,slow=4.8,SNR=5.1						
BOSA	**Boshof**	**77.95**	**116**	P	**P**	**14 15 10.4**	**-0.6**
BOSA				IAmb	IAmb	14 15 34.5	
	comp=Z,9.9nm,1.1s						
T25A	**Trinidad**	**79.00**	**333**	P	**P**	**14 15 18.4**	**+1.9**
T25A				IAmb	IAmb	14 15 19.3	
	comp=Z,6.2nm,0.8s						
I62A	**Tamworth**	**79.01**	**359**	P	**P**	**14 15 15.5**	**-0.6**
SDCO	**Great Sand Dun**	**79.94**	**332**	P	**P**	**14 15 22.6**	**+0.9**
PFO	**Pinyon Flats O**	**81.31**	**322**	P	**P**	**14 15 31.1**	**+2.2**
	comp=Z,0.8nm,0.6s,baz=149,slow=4.4,SNR=4.6						
PFO	**Pinyon Flats O**	**81.31**	**322**	IAmb	IAmb	14 15 54.2	
	comp=Z,8.1nm,1.5s						
TORD	**Torodi Ar. Bea**	**83.22**	**69**	P	**P**	**14 15 38.9**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=255,slow=4.2,SNR=9.5						
PDAR	**Pinedale Array**	**85.83**	**332**	P	**P**	**14 15 52.2**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=153,slow=4.5,SNR=10						
NVAR	**Mina Array Bea**	**86.04**	**324**	P	**P**	**14 15 54.9**	**+1.9**
	comp=Z,1.9nm,0.8s,baz=153,slow=5.6,SNR=18						
NVAR	**Mina Array Bea**	**86.04**	**324**	P	**P**	**14 15 53.8**	**+0.9**
ELK	**Elko**	**86.49**	**327**	P	**P**	**14 15 55.8**	**+0.7**
	baz=122,slow=8.0						
ULM	**Lac du Bonnet**	**88.37**	**344**	P	**P**	**14 16 03.5**	**0.0**
	comp=Z,4.4nm,0.7s,baz=166,slow=4.2,SNR=4.5						
ULM	**Lac du Bonnet**	**88.37**	**344**	IAmb	IAmb	14 16 05.1	
	comp=Z,9.7nm,1.2s						
NEW	**Newport**	**93.36**	**331**	P	**P**	**14 16 26.0**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=122,slow=9.5,SNR=2.4						
ARCES	**ARCESS Array B**	**124.68**	**25**	PKP	**PKPdf**	**14 22 09.1**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=289,slow=2.8,SNR=3.7						
ZALV	**Zalesovo Beam**	**154.56**	**36**	PKPbc	**PKPbc**	**14 23 11.1**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=344,slow=4.8,SNR=5.9						
MKAR	**Makanchi Array**	**156.45**	**53**	PKPab	**PKPab**	**14 23 35.0**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=282,slow=4.0,SNR=15						

KRSC 07 14:04:44.1±2.0**, 49.°73N**×**156.°55E, h99**km±32km**, ML3.8, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.00**	**344**	*e*P	Pn	14 05 04.9	+0.5
SKR				*e*S	Sn	14 05 19.9	+0.3
ALID	**Alaid**	**1.31**	**331**	*e*P	Pn	14 05 07.2	-0.9
PAU	**Pauzhetka**	**1.75**	**5**	*e*P	Pn	14 05 15.2	+1.8
PAU				*e*S	Sn	14 05 37.8	+2.1
KDTR	**Khodutka, Kamc**	**2.30**	**24**	*e*P	Pn	14 05 22.7	+2.2
KDTR				*e*S	Sn	14 05 51.2	+2.9
MTVR	**Mutnovka**	**2.95**	**20**	*e*P	Pn	14 05 31.9	+2.7
MTVR				*e*S	Sn	14 06 07.0	+3.1
RUS	**Russkaya**	**2.98**	**24**	*e*P	Pn	14 05 31.3	+1.8
RUS				*e*S	Sn	14 06 06.2	+1.8
GRL	**Gorelyy**	**2.99**	**18**	*e*P	Pn	14 05 32.7	+3.0
GRL				*e*S	Sn	14 06 08.1	+3.2
PET	**Petropavlovsk**	**3.56**	**21**	*e*P	Pn	14 05 40.0	+2.8
DALK	**Dalny**	**3.59**	**22**	*e*P	Pn	14 05 40.1	+2.5
DALK				*e*S	Sn	14 06 21.0	+2.0
UGLR	**Uglovaya**	**3.77**	**21**	*e*P	Pn	14 05 43.9	+3.8
AVH	**Avacha**	**3.80**	**20**	*e*P	Pn	14 05 43.4	+2.9
KOK	**Koryaka**	**3.80**	**19**	*e*P	Pn	14 05 43.8	+3.2
KRER	**Koryakskii**	**3.84**	**20**	*e*S	Sn	14 06 28.7	+3.3
KRX	**Arik**	**3.87**	**19**	*e*P	Pn	14 05 44.1	+2.6
SPN	**Mys Shipunski**	**4.02**	**31**	*e*P	Pn	14 05 45.0	+1.6
SPN				*e*S	Sn	14 06 30.1	+0.7
MKZ	**Mys Kozlova**	**5.79**	**31**	*e*P	Pn	14 06 08.8	+1.4
MKZ				*e*S	Sn	14 07 11.8	-0.6

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*BJI **07** 14:06:24.7±0.0, 32.°98S×177.°83W, h12km, mB6.1/70, mb5.3/43, Ms6.0/73, Ms7 5.7/72*

*WEL **07** 14:06:26.6±0.8, 33.°S±6.°×17.°8W±1.°5, h33km, M5.8/16, mB6.0/14, ML6.4/16, MLv6.0/16, Mw(mB)5.7/14, Error ellipse: s-maj=0.0km s-min=0.0km az=108.7*

*IDC **07** 14:06:26.4±0.3, 32.°89S×178.°21W, h0km, mb5.1/28, mb1 5.2/30, mb1mx5.1/34, mbtmp5.1/30, ML5.6/2, MS5.8/25, Ms1 5.8/25, ms1mx5.7/35, Error ellipse: s-maj=13.7km s-min=10.9km az=171.0*

*SVSA **07** 14:06:27.8, 32.°83S×178.°20W, h10km, MW5.9(NEIC)*

*NEIC **07** 14:06:27.8±2.0, 32.°83S±0.°08×178.°2W±0.°1, h10km±1km, mb5.4/174, Ms_20 6.2/856, Mwb5.9/35, Mww5.9, Mwc5.9(GCMT), Error ellipse: s-maj=14.6km s-min=12.9km az=91.0*

*MOS **07** 14:06:27.0±1.3, 32.°73S×178.°28W, h10km, mb5.7/39, MS6.0/32, Error ellipse: s-maj=9.1km s-min=7.0km az=94.8*

*NEIC **07** 14:06:28.8, 32.°76S×178.°22W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}4.59; $M_{\theta\theta}$2.56; $M_{\phi\phi}$-7.15; $M_{r\theta}$2.26; $M_{\theta\phi}$-1.50; $M_{\phi r}$4.07; Fault plane solution: $M_0$7.96000×10^{17} NP1:ϕ_s162.48000°, δ32.00000°, λ49.70000°. NP2:ϕ_s27.48000°, δ66.16000°, λ112.00000°. Principal axes: T 6.6392, Plg62.0000°, Azm332.0000°; N 2.1805, Plg20.0000°, Azm198.0000°; P -8.8197, Plg18.0000°, Azm101.0000°;*

*NOU **07** 14:06:30.2, 33.°20S×177.°78W, h41km, ML6.0/67, South of Kermadec Islands*

*NEIC **07** 14:06:32, 32.°77S×177.°56W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}0.53; $M_{\theta\theta}$0.01; $M_{\phi\phi}$-0.54; $M_{r\theta}$0.33; $M_{\theta\phi}$-0.25; $M_{\phi r}$0.78; Fault plane solution: $M_0$1.03000×10^{18} NP1:ϕ_s198.00000°, δ17.00000°, λ85.00000°. NP2:ϕ_s23.00000°, δ73.00000°, λ91.00000°. Principal axes: T 0.9746, Plg62.0000°, Azm295.0000°; N 0.1065, Plg1.0000°, Azm202.0000°; P -1.0811, Plg28.0000°, Azm112.0000°;*

*GCMT **07** 14:06:32.8±0.1, 32.°94S±0.°01×177.°76W, h14km, MW5.9/163, Moment Tensor Solution. s142,c302; s163,c481; Duration: 2.s2 Moment tensor: Scale 10^{18} Nm; M_{rr}0.52±.01; $M_{\theta\theta}$-0.04±.00; $M_{\phi\phi}$-0.48±.00; $M_{r\theta}$0.15±.01; $M_{\theta\phi}$-0.18±.00; $M_{\phi r}$0.69±.02; Best double couple: $M_0$0.88500×10^{18} NP1:ϕ_s205.00000°, δ19.00000°, λ101.00000°. NP2:ϕ_s14.00000°, δ71.00000°, λ86.00000°. Principal axes: T 0.8750, Plg63.0000°, Azm278.0000°; N 0.0190, Plg3.0000°, Azm15.0000°; P -0.8940, Plg26.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **07** 14:06:33, 32.°93S×177.°73W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}5.13; $M_{\theta\theta}$-0.17; $M_{\phi\phi}$-4.96; $M_{r\theta}$1.68; $M_{\theta\phi}$-1.86; $M_{\phi r}$7.61; Fault plane solution: $M_0$9.47000×10^{17} NP1:ϕ_s205.00000°, δ18.00000°, λ101.00000°. NP2:ϕ_s13.00000°, δ73.00000°, λ86.00000°. Principal axes: T 9.2550, Plg62.0000°, Azm278.0000°; N 0.4150, Plg3.0000°, Azm15.0000°; P -9.6700, Plg28.0000°, Azm106.0000°;*

ISC 07 14:06:26.9±0.4**, 32.°94S**±0.°03×**178.°23W**±0.°03**, h6**km±2km**, h7**km**:pP-P, n1467, σ2.s38**/1189**, mb5.4**/173**, MS6.2**/487**, 87C-49D, Fault plane solution: NP1:**ϕ_s182.49526°**,** δ45.14264°**,** λ90.36822°. **NP2:**ϕ_s1.97323°**,** δ44.85855°**,** λ89.62995°. **Principal axes:** T Plg89.7028°**,** Azm153.6791°**;** N Plg0.2610°**,** Azm2.2355°**;** P Plg0.1420°**,** Azm272.2349°**; South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.67**	**4**	P	**Pn**	**14 07 20.5**	**-3.7**
GLKZ				S	**Sn**	**14 08 02.3**	**-5.5**
RAO	**Raoul Island**	**3.69**	**4**	Pn	**Pn**	**14 07 20.5**	**-3.9**
	542nm,0.3s,baz=45,slow=20,SNR=20						
RAO				Sn	**Sn**	**14 08 01.7**	**-6.4**
	542nm,0.3s,baz=217,slow=23,SNR=4.1						
RAO	**Raoul Island**	**3.69**	**4**	⇓P	**Pn**	**14 07 20.8**	**-3.6**
RAO	**Raoul Island**	**3.69**	**4**		Pn	14 07 19.6	-4.8
RAO	**Raoul Island**	**3.69**	**4**	⇓P	**Pn**	**14 07 20.8**	**-3.6**
RIZ	**Raoul Island**	**3.69**	**4**	P	**Pn**	**14 07 19.8**	**-4.6**
RIZ				S	**Sn**	**14 08 02.8**	**-5.5**
MXZ	**Matakaoa Point**	**5.41**	**211**	Pn	**Pn**	**14 07 44.9**	**-3.2**
MXZ	**Matakaoa Point**	**5.41**	**211**	P	**Pn**	**14 07 46.7**	**-1.4**
MXZ				S	**Sn**	**14 08 50.0**	**-0.8**
WMGZ	**Waiomatatini S**	**5.59**	**208**	P	**Pn**	**14 07 50.0**	**-0.5**
WMGZ				S	**Sn**	**14 08 58.0**	**+3.1**
PKGZ	**Pakihiroa**	**5.79**	**210**	P	**Pn**	**14 07 52.8**	**-0.5**
PKGZ				S	**Sn**	**14 08 59.9**	**-0.1**
HAZ	**Te Kaha**	**5.81**	**213**	P	**Pn**	**14 07 55.7**	**+2.2**
HAZ				S	**Sn**	**14 09 02.7**	**+2.3**
PUZ	**Puketiti**	**5.87**	**208**	P	**Pn**	**14 07 53.2**	**-1.2**
PUZ				S	**Sn**	**14 09 02.1**	**+0.1**
RUGZ	**Raukumara Rang**	**6.03**	**213**	P	**Pn**	**14 07 56.2**	**-0.4**
RUGZ				S	**Sn**	**14 09 07.8**	**+1.9**
TWGZ	**Tauwhareparae**	**6.07**	**210**	P	**Pn**	**14 07 56.4**	**-0.8**
TWGZ				S	**Sn**	**14 09 07.7**	**+0.7**
CNGZ	**Carnagh Statio**	**6.25**	**207**	P	**Pn**	**14 07 58.0**	**-1.6**
CNGZ				S	**Sn**	**14 09 13.1**	**+1.9**
MYRZ	**Mayor Island**	**6.27**	**225**	P	Pn	14 08 04.9	+5.0
WHRZ	**Whale Island**	**6.28**	**217**	P	**Pn**	**14 08 02.7**	**+2.7**
WHRZ				S	**Sn**	**14 09 13.1**	**+1.1**
TKGZ	**Te Karaka**	**6.35**	**209**	P	**Pn**	**14 08 00.1**	**-0.8**
TKGZ				S	**Sn**	**14 09 13.1**	**-0.6**
MWZ	**Matawai**	**6.40**	**212**	P	**Pn**	**14 08 00.4**	**-1.2**
MWZ				S	**Sn**	**14 09 19.6**	**+4.6**
OPRZ	**Ohinepanea**	**6.49**	**220**	P	**Pn**	**14 08 03.0**	**+0.1**
URZ	**Urewera**	**6.53**	**214**	Pn	**Pn**	**14 08 02.7**	**-0.6**
	33nm,0.3s,baz=299,slow=24,SNR=49						
URZ				Sn	**Sn**	**14 09 17.2**	**-0.9**
	46nm,0.3s,baz=162,slow=18,SNR=11						
URZ	**Urewera**	**6.53**	**214**	Pn	**Pn**	**14 08 02.9**	**-0.4**
URZ	**Urewera**	**6.53**	**214**	P	**Pn**	**14 08 03.4**	**0.0**
URZ				S	**Sn**	**14 09 16.6**	**-1.5**
URZ	**Urewera**	**6.53**	**214**	⇓P	**Pn**	**14 08 02.8**	**-0.6**
MARZ	**Manawahe**	**6.53**	**218**	P	**Pn**	**14 08 04.4**	**+1.0**
MARZ				S	**Sn**	**14 09 19.5**	**+1.2**
TGRZ	**Tauranga**	**6.57**	**222**	P	**Pn**	**14 08 06.3**	**+2.4**
RAGZ	**Rawiri**	**6.58**	**211**	P	**Pn**	**14 08 03.1**	**-1.1**
RAGZ				S	**Sn**	**14 09 19.3**	**-0.2**
EDRZ	**Edgecumbe**	**6.59**	**217**	P	**Pn**	**14 08 06.4**	**+2.1**
EDRZ				S	**Sn**	**14 09 20.5**	**+0.7**
RIGZ	**Rimuhau**	**6.61**	**208**	P	**Pn**	**14 08 03.2**	**-1.4**
RIGZ				S	**Sn**	**14 09 20.5**	**+0.2**
PRGZ	**Paritu Road**	**6.75**	**207**	P	**Pn**	**14 08 04.4**	**-2.2**
OMRZ	**Omania**	**6.78**	**219**	P	**Pn**	**14 08 09.8**	**+2.9**
KARZ	**Kaharoa**	**6.78**	**220**	P	**Pn**	**14 08 08.8**	**+1.9**
TARZ	**Mount Tarawera**	**6.81**	**218**	P	**Pn**	**14 08 10.5**	**+3.2**
KMRZ	**Kaimai**	**6.83**	**223**	P	**Pn**	**14 08 10.2**	**+2.6**
SNGZ	**Shannon Statio**	**6.85**	**210**	P	**Pn**	**14 08 07.0**	**-0.9**
MUGZ	**Murupara**	**6.86**	**215**	P	**Pn**	**14 08 07.6**	**-0.4**
RTZ	**Ruatahuna**	**6.87**	**213**	P	**Pn**	**14 08 08.1**	**-0.1**
NGRZ	**Ngongotaha**	**6.87**	**220**	P	Pn	14 08 13.4	+5.1
RRRZ	**Republican Roa**	**6.88**	**217**	P	**Pn**	**14 08 09.9**	**+1.6**
HLRZ	**Highlands Stat**	**6.90**	**218**	P	**Pn**	**14 08 12.1**	**+3.6**
KNZ	**Kokohu**	**6.92**	**208**	P	**Pn**	**14 08 08.0**	**-0.7**
MHGZ	**Mahia Peninsul**	**6.95**	**206**	P	**Pn**	**14 08 08.0**	**-1.2**
HRRZ	**Handcock Road**	**7.04**	**218**	P	**Pn**	**14 08 14.0**	**+3.6**
PRRZ	**Plateau Road**	**7.06**	**217**	P	**Pn**	**14 08 11.7**	**+0.9**
RAHZ	**Arahi**	**7.07**	**211**	P	**Pn**	**14 08 10.5**	**-0.4**
MTHZ	**Maungataniwha**	**7.13**	**213**	P	**Pn**	**14 08 11.4**	**-0.3**
WHHZ	**Waihua**	**7.14**	**210**	P	**Pn**	**14 08 13.9**	**+2.1**
OUZ	**Omahuta**	**7.16**	**249**	Pn	**Pn**	**14 08 13.2**	**+1.2**
OUZ	**Omahuta**	**7.16**	**249**	⇑P	**Pn**	**14 08 16.1**	**+4.1**
WPRZ	**Whakapapatarin**	**7.20**	**218**	P	**Pn**	**14 08 15.1**	**+2.5**
MRHZ	**Matea Rd**	**7.31**	**215**	P	**Pn**	**14 08 13.8**	**-0.4**
NMHZ	**Naumai**	**7.34**	**212**	P	**Pn**	**14 08 14.7**	**0.0**
KUTZ	**Kaahu Road**	**7.35**	**219**	P	**Pn**	**14 08 18.0**	**+3.2**
TLZ	**Tolley Road**	**7.39**	**222**	P	**Pn**	**14 08 17.7**	**+2.4**
ARHZ	**Aropaoanui**	**7.40**	**210**	P	**Pn**	**14 08 15.6**	**+0.2**
WHTZ	**Whakaora**	**7.41**	**218**	P	**Pn**	**14 08 19.0**	**+3.3**
BKZ	**Black Stump Fm**	**7.54**	**213**	Pn	**Pn**	**14 08 16.0**	**-1.4**
BKZ	**Black Stump Fm**	**7.54**	**213**	P	**Pn**	**14 08 16.9**	**-0.5**
RATZ	**Rangitukua**	**7.66**	**218**	P	**Pn**	**14 08 19.4**	**+0.4**
RITZ	**Rihia Road**	**7.70**	**217**	P	**Pn**	**14 08 20.5**	**+1.0**
TMVZ	**Te Maari**	**7.88**	**217**	P	**Pn**	**14 08 21.7**	**-0.4**
NTVZ	**North Tongarir**	**7.88**	**217**	P	**Pn**	**14 08 22.1**	**-0.1**
ETVZ	**East Tongariro**	**7.89**	**217**	P	**Pn**	**14 08 21.9**	**-0.4**
KAHZ	**Kahuranaki**	**7.90**	**209**	P	**Pn**	**14 08 18.5**	**-3.7**
HIZ	**Hauiti**	**7.91**	**223**		**Pn**	**14 08 22.3**	**-0.1**
OTVZ	**Oturere**	**7.94**	**217**	P	**Pn**	**14 08 22.6**	**-0.3**
KRHZ	**Kereru**	**7.99**	**212**	P	**Pn**	**14 08 22.2**	**-1.3**
BFZ	**Birch Farm**	**8.90**	**208**		**Pn**	**14 08 34.4**	**-1.6**
MSWZ	**Moikau Station**	**9.93**	**210**		Pn	14 08 41.6	-8.5
PLWZ	**Palliser**	**10.05**	**209**	Pn	**Pn**	**14 08 49.0**	**-2.8**
SNZO	**South Karori**	**10.08**	**212**	Pn	**Pn**	**14 08 49.6**	**-2.5**
SNZO	**South Karori**	**10.08**	**212**	⇑S	**Sn**	**14 10 39.0**	**-6.4**
TUWZ	**Tuamarina**	**10.52**	**214**		**Pn**	**14 08 53.6**	**-4.5**
NNZ	**Nelson**	**10.63**	**217**		Pn	14 08 53.8	-5.9
QRZ	**Quartz Range**	**10.80**	**221**	Pn	**Pn**	**14 08 59.3**	**-2.7**
THZ	**Tophouse**	**11.28**	**216**	Pn	**Pn**	**14 09 04.7**	**-3.9**
KHZ	**Kahutara**	**11.48**	**212**		Pn	14 09 06.4	-4.9
KHZ	**Kahutara**	**11.48**	**212**	⇓P	**Pn**	**14 09 10.8**	**-0.5**
KHZ				⇓S	**Sn**	**14 11 11.3**	**-8.6**
LTZ	**Lake Taylor**	**12.36**	**215**	Pn	Pn	14 09 18.4	-4.9
OXZ	**Oxford**	**12.88**	**214**		**Pn**	**14 09 25.8**	**-4.7**
MQZ	**McQueen's Vall**	**12.90**	**211**	Pn	Pn	14 09 25.5	-5.3
RPZ	**Rata Peaks**	**13.64**	**215**	Pn	Pn	14 09 35.5	-5.3
FOZ	**Fox Glacier**	**14.13**	**218**	Pn	**Pn**	**14 09 43.5**	**-4.0**
LBZ	**Lake Benmore**	**14.56**	**215**	Pn	Pn	14 09 48.4	-5.0
ODZ	**Otahua Downs**	**14.85**	**212**		Pn	14 09 51.3	-5.9
ODZ	**Otahua Downs**	**14.85**	**212**	⇓P	**Pn**	**14 09 53.7**	**-3.5**
MSVF	**Nonsavu**	**15.51**	**347**	Pn	**Pn**	**14 10 04.2**	**-2.1**
	1.9nm,0.3s,baz=146,slow=14,SNR=19						
MSVF				Sn	**Sn**	**14 13 01.9**	**+3.4**
	0.2nm,0.3s,baz=255,slow=20,SNR=1.0						
MSVF	**Nonsavu**	**15.51**	**347**	P	**Pn**	**14 10 04.7**	**-1.6**
MSVF				pmax	pmax		
	comp=Z,192nm,1.2s						
MSVF	**Nonsavu**	**15.51**	**347**		**Pn**	**14 10 04.7**	**-1.6**
MSVF				IAmb	IAmb	14 10 08.3	
	comp=Z,192nm,1.1s						
MSVF	**Nonsavu**	**15.51**	**347**	⇑P	**Pn**	**14 10 05.7**	**-0.6**
NIUE	**Niue**	**15.68**	**30**	P	Pn	14 10 00.7	-7.7
	baz=16,SNR=8.0						
NIUE				S	Sn	14 12 36.5	-26
	baz=16						
NIUE	**Niue**	**15.68**	**30**	P	Pn	14 10 00.5	-7.9
NIUE	**Niue**	**15.68**	**30**	⇑P	**Pn**	**14 10 03.4**	**-5.0**
NIUE				⇑S	Sn	14 12 42.8	-20
NIUE	**Niue**	**15.68**	**30**	P	**Pn**	**14 10 08.8**	**+0.4**
MLZ	**Mavora Lakes**	**16.29**	**216**	Pn	**Pn**	**14 10 14.3**	**-1.8**
PINNC	**Pines Island,**	**16.31**	**305**	Pn	**Pn**	**14 10 16.8**	**+0.3**
PINNC	**Pines Island,**	**16.31**	**305**	P	**P**	**14 10 23.2**	**+3.7**
MARNC	**Mare, Loyalty**	**16.70**	**310**	⇑P	**P**	**14 10 26.3**	**+2.4**
MARNC	**Mare, Loyalty**	**16.70**	**310**	P	**P**	**14 10 27.3**	**+3.4**
WHZ	**Wether Hill Ro**	**16.74**	**215**		**Pn**	**14 10 17.8**	**-4.2**
OUENC	**Ouen Island, N**	**16.86**	**305**	Pn	**Pn**	**14 10 22.9**	**-0.6**
OUENC	**Ouen Island, N**	**16.86**	**305**	P	**P**	**14 10 29.5**	**+3.9**
YATNC	**Mamie plateau,**	**17.06**	**306**	P	**P**	**14 10 30.9**	**+3.0**
ONTNC	**Ouen Toro**	**17.20**	**304**	P	**P**	**14 10 29.9**	**+0.5**
ONTNC				IAmb	IAmb	14 10 38.5	
	comp=Z,343nm,1.0s						
ONTNC	**Ouen Toro**	**17.20**	**304**	P	**P**	**14 10 33.9**	**+4.5**
DZM	**Mont Dzumac**	**17.36**	**305**	*e*Pn	**P**	**14 10 33.9**	**+2.6**
	comp=Z,1μm,1.4s						
DZM				*e*LR	LR	14 14 35.5	
	comp=Z,62μm,24.6s						
DZM	**Mont Dzumac**	**17.36**	**305**	P	**P**	**14 10 33.5**	**+2.2**
	comp=Z,2.2nm,0.3s,baz=137,slow=12,SNR=27						
DZM				S	**S**	**14 13 50.2**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=88,slow=18,SNR=4.7						
DZM				LR	LR	14 16 12.0	
	comp=Z,72μm,18.3s,baz=128,slow=34						
DZM	**Mont Dzumac**	**17.36**	**305**	Pn	**Pn**	**14 10 29.3**	**-0.7**
DZM				IAmb	IAmb	14 10 41.6	
	comp=Z,717nm,1.4s						
DZM	**Mont Dzumac**	**17.36**	**305**	⇑P	**P**	**14 10 34.0**	**+2.6**
DZM	**Mont Dzumac**	**17.36**	**305**	P	**P**	**14 10 34.6**	**+3.3**
NOUC	**Port Laguerre**	**17.44**	**304**	P	**P**	**14 10 36.0**	**+3.9**
LIFNC	**LIFOU**	**17.72**	**310**	P	**P**	**14 10 39.8**	**+4.6**
LHI	**Lord Howe Isla**	**19.26**	**268**	P	**Pn**	**14 10 53.6**	**+0.5**
	baz=20,SNR=4.8						
LHI	**Lord Howe Isla**	**19.26**	**268**	P	**Pn**	**14 10 53.3**	**+0.3**
AFI	**Afiamalu**	**19.84**	**19**	P	**P**	**14 10 55.9**	**-2.6**
	comp=Z,5.9nm,0.3s,baz=256,slow=13,SNR=20						
AFI	**Afiamalu**	**19.84**	**19**	P	**P**	**14 10 56.4**	**-2.1**
AFI				pmax	pmax		
	comp=Z,360nm,1.1s						
AFI	**Afiamalu**	**19.84**	**19**	P	**P**	**14 10 54.5**	**-4.0**
AFI	**Afiamalu**	**19.84**	**19**	⇑P	**P**	**14 10 55.9**	**-2.6**
AFI	**Afiamalu**	**19.84**	**19**	P	**P**	**14 10 58.6**	**+0.1**
KOUNC	**Koumac, New Ca**	**19.87**	**304**	⇑P	**Pn**	**14 11 01.8**	**+1.5**
KOUNC	**Koumac, New Ca**	**19.87**	**304**	P	**Pn**	**14 11 02.6**	**+2.2**
RAR	**Rarotonga**	**20.12**	**59**	P	**P**	**14 10 59.9**	**-1.7**
	comp=Z,83nm,0.7s,baz=233,slow=8.9,SNR=15						
RAR				LR	LR	14 18 07.6	
	comp=Z,30μm,19.2s,baz=223,slow=35						
RAR	**Rarotonga**	**20.12**	**59**	P	**P**	**14 10 59.9**	**-1.7**
RAR				IAmb	IAmb	14 11 03.1	
	comp=Z,231nm,1.1s						
RAR	**Rarotonga**	**20.12**	**59**	⇑P	**P**	**14 10 59.5**	**-2.1**
RAR	**Rarotonga**	**20.12**	**59**	P	**P**	**14 10 59.7**	**-1.9**
SANVU	**Saraoutou**	**21.86**	**319**	P	**P**	**14 11 21.2**	**+0.8**
SANVU				IAmb	IAmb	14 11 41.2	
	comp=Z,112nm,0.7s						
SANVU	**Saraoutou**	**21.86**	**319**	⇑P	**P**	**14 11 19.6**	**-0.7**
ARMA	**Armidale**	**25.74**	**267**	P	**P**	**14 12 02.4**	**+4.1**
	baz=26,SNR=8.4						
ARMA	**Armidale**	**25.74**	**267**	P	**P**	**14 11 58.6**	**+0.3**
ARMA				IAmb	IAmb	14 12 08.3	
	comp=Z,66nm,1.1s						
ARMA	**Armidale**	**25.74**	**267**	⇑P	**P**	**14 12 02.1**	**+3.8**
CNB	**Canberra Magne**	**26.87**	**256**	P	**P**	**14 12 10.4**	**+1.9**
	baz=27,SNR=16						
MCQ	**Macquarie Isla**	**26.91**	**210**	P	**P**	**14 12 10.0**	**+1.5**
MCQ				pmax	pmax		
	comp=Z,205nm,1.5s						
MCQ	**Macquarie Isla**	**26.91**	**210**	P	**P**	**14 12 10.0**	**+1.5**
MCQ				IAmb	IAmb	14 12 25.8	
	comp=Z,205nm,1.4s						
MILA	**Mila**	**26.96**	**252**	P	**P**	**14 12 13.0**	**+3.8**
	baz=27,SNR=7.3						
TBI	**Tubuai**	**27.03**	**77**	*e*S	**S**	**14 16 43.1**	**-4.9**
	comp=Z,3μm,25.2s						
TBI				*e*LQ	LQ	14 17 33.8	
	comp=Z,22μm,24.5s						
TBI				*e*LR	LR	14 18 44.4	
	comp=Z,24μm,21.0s,baz=241						
TBI	**Tubuai**	**27.03**	**77**	*e*T	T	14 39 48.0	
	comp=Z,19nm,0.3s						
CAN	**Canberra**	**27.17**	**256**	P	**P**	**14 12 12.4**	**+1.2**
CAN				pmax	pmax		
	comp=Z,67nm,1.4s						
CAN				MLR	MLR		
	comp=Z,50μm,18.0s						
CAN	**Canberra**	**27.17**	**256**	P	**P**	**14 12 12.4**	**+1.2**
CAN				IAMs_20	IAMs_20	14 22 59.4	
	comp=Z,50μm,18.0s						
YNG	**Young**	**27.76**	**258**	P	**P**	**14 12 19.1**	**+2.7**
	baz=28,SNR=5.3						
EIDS	**Eidsvold**	**27.78**	**278**	P	**P**	**14 12 18.0**	**+1.4**
	baz=28,SNR=17						
EIDS	**Eidsvold**	**27.78**	**278**	P	**P**	**14 12 17.7**	**+1.1**
EIDS				IAmb	IAmb	14 12 22.6	
	comp=Z,108nm,1.3s						
EIDS	**Eidsvold**	**27.78**	**278**	⇑P	**P**	**14 12 17.9**	**+1.4**
TAU	**Tasmania Unive**	**28.77**	**240**	P	**P**	**14 12 26.7**	**+1.4**
TAU				pmax	pmax		
	comp=Z,97nm,1.4s						
TAU				MLR	MLR		
	comp=Z,43μm,18.0s						
TAU	**Tasmania Unive**	**28.77**	**240**	P	**P**	**14 12 26.7**	**+1.4**
TAU				IAmb	IAmb	14 12 29.5	
	comp=Z,97nm,1.4s						
TAU	**Tasmania Unive**	**28.77**	**240**	IAMs_20	IAMs_20	14 24 50.4	
	comp=Z,43μm,18.0s						
TAU	**Tasmania Unive**	**28.77**	**240**	⇓P	**P**	**14 12 27.4**	**+2.1**
RMQ	**Roma**	**29.31**	**274**	P	**P**	**14 12 32.3**	**+2.0**
	baz=30,SNR=49						
TOO	**Toolangi**	**29.87**	**251**	P	**P**	**14 12 35.9**	**+0.8**
	baz=30,SNR=14						
TOO	**Toolangi**	**29.87**	**251**	P	**P**	**14 12 36.4**	**+1.2**
TOO				pmax	pmax		
	comp=Z,23nm,0.8s						
TOO	**Toolangi**	**29.87**	**251**	P	**P**	**14 12 36.4**	**+1.2**
PAE	**Paea**	**29.91**	**66**	*e*P	**P**	**14 12 35.9**	**+0.3**
	comp=Z,14nm,1.0s						
PAE	**Paea**	**29.91**	**66**	*e*T	T	14 43 23.0	
	comp=Z,4.6nm,0.3s						
PPT2	**Papeete2**	**29.95**	**66**	*e*P	**P**	**14 12 36.5**	**+0.4**
	comp=Z,76nm,1.1s						
PPT2				*e*S	**S**	**14 17 29.2**	**-5.0**
	comp=Z,3μm,23.8s						
PPT2				*e*LQ	LQ	14 18 39.3	
	comp=Z,20μm,22.5s						
PPT2				*e*LR	LR	14 20 15.0	
	comp=Z,24μm,20.8s,baz=228						
PPT2	**Papeete2**	**29.95**	**66**	*e*T	T	14 43 26.7	
	comp=Z,4.0nm,0.3s						
PPTF	**Pamatai, Papee**	**29.96**	**66**	P	**P**	**14 12 35.7**	**-0.5**
PPTF				IAmb	IAmb	14 13 01.7	
	comp=Z,149nm,1.3s						
PPT	**Papeete**	**29.97**	**66**	P	**P**	**14 12 36.1**	**0.0**
	comp=Z,59nm,1.0s,baz=269,slow=17,SNR=4.8						
PPT				LR	LR	14 22 52.7	
	comp=Z,24μm,19.2s,baz=240,slow=33						
TIAR	**Tiarei**	**30.15**	**67**	*e*P	**P**	**14 12 38.1**	**+0.3**
	comp=Z,23nm,0.8s						
CMSA	**Cobar Meteorol**	**30.46**	**263**	P	**P**	**14 12 41.9**	**+1.5**

baz=31,SNR=71
HNR Honiara 30.87 314 LR LR 14 24 23.7
comp=Z,9µm,18.2s,baz=158,slow=35
HNR Honiara 30.87 314 P **P** **14 12 44.3 +0.2**
HNR pmax pmax
comp=Z,313nm,1.2s
HNR MLR MLR
comp=Z,12µm,18.0s
HNR Honiara 30.87 314 P **P** **14 12 44.3 +0.2**
MEH Mehetia 30.96 68 *e*T T 14 44 41.3
comp=Z,12nm,0.3s
PMOR Pomariorio Rae 32.80 64 *e*P **P** **14 13 01.4 +0.4**
comp=Z,231nm,1.4s
ARPS Mount Arapiles 32.83 252 P **P** **14 13 02.5 +1.3**
baz=33,SNR=31
VAH Vaihoa 32.86 65 *e*P **P** **14 13 01.7 +0.1**
comp=Z,272nm,1.6s
VAH Vaihoa 32.86 65 *e*T T 14 47 04.0
comp=Z,11nm,0.2s
QLP Quilpie 33.07 271 P **P** **14 13 06.1 +2.7**
baz=33,SNR=11
QLP Quilpie 33.07 271 ⇓P **P** **14 13 04.6 +1.2**
STKA Stephens Creek 33.80 261 P **P** **14 13 12.0 +2.3**
baz=34,SNR=11
STKA Stephens Creek 33.80 261 P **P** **14 13 11.0 +1.3**
comp=Z,8.7nm,0.8s,baz=102,slow=11,SNR=13
STKA LR LR 14 26 27.9
comp=Z,21µm,18.0s,baz=95,slow=36
STKA Stephens Creek 33.80 261 P **P** **14 13 11.0 +1.3**
STKA Stephens Creek 33.80 261 P **P** **14 13 09.8 +0.1**
CTA Charters Tower 34.10 283 P **P** **14 13 13.8 +1.4**
comp=Z,30nm,0.4s,baz=119,slow=10,SNR=66
CTA S **S** **14 18 41.3 +2.5**
comp=Z,9.1nm,1.0s,baz=23,slow=23,SNR=7.2
CTA LR LR 14 26 54.5
comp=Z,16µm,18.3s,baz=142,slow=36
CTAO Charters Tower 34.10 283 P **P** **14 13 12.9 +0.4**
CTAO pmax pmax
comp=Z,268nm,1.5s
CTAO MLR MLR
comp=Z,16µm,18.0s
CTAO Charters Tower 34.10 283 P **P** **14 13 12.8 +0.4**
CTAO Charters Tower 34.10 283 ⇑P **P** **14 13 13.7 +1.2**
TARA Tarawa 35.12 344 P **P** **14 13 19.3 -1.9**
HTT Hallett 35.68 257 P **P** **14 13 26.2 +0.2**
baz=36,SNR=25
HTT Hallett 35.68 257 ⇑P **P** **14 13 26.8 +0.7**
MTSU Mount Surprise 36.66 284 P **P** **14 13 35.7 +1.2**
baz=37,SNR=36
BBOO Buckleboo 38.16 257 P **P** **14 13 46.6 -0.4**
baz=38,SNR=27
BBOO Buckleboo 38.16 257 P **P** **14 13 46.1 -1.0**
BBOO IAMs_20 IAMs_20 14 29 31.0
comp=Z,29µm,18.0s
QIS Mount Isa 39.38 277 P **P** **14 13 57.5 0.0**
baz=40,SNR=21
COEN Coen 39.85 289 P **P** **14 14 01.0 -0.4**
COEN IAmb IAmb 14 14 27.4
comp=Z,111nm,1.1s
COEN Coen 39.85 289 ⇑P **P** **14 14 02.1 +0.8**
XMAS Kiritimati 39.96 34 P **P** **14 14 02.2 0.0**
XMAS IAmb IAmb 14 14 23.2
comp=Z,182nm,1.5s
TAOE Nuku Hiva Isla 42.53 64 *e*P **P** **14 14 23.5 0.0**
comp=Z,235nm,1.4s
TAOE *e*S **S** **14 20 43.2 -3.3**
comp=Z,8µm,24.5s
TAOE *e*LQ LQ 14 24 14.9
comp=Z,10µm,29.0s
TAOE *e*LR LR 14 25 56.7
comp=Z,13µm,21.4s,baz=236
TAOE Nuku Hiva Isla 42.53 64 P **P** **14 14 23.5 0.0**
TAOE IAmb IAmb 14 14 28.2
comp=Z,157nm,1.3s
AS31 Alice Springs 42.84 270 P **P** **14 14 25.0 -1.0**
ASAR Alice Springs 42.84 270 P **P** **14 14 25.4 -0.6**
comp=Z,41nm,0.7s,baz=109,slow=7.4,SNR=252
ASAR S **S** **14 20 46.8 -4.2**
comp=Z,5.4nm,0.9s,baz=115,slow=16,SNR=9.4
ASAR LR LR 14 32 42.6
comp=Z,8µm,19.8s,baz=126,slow=37
ASPA Alice Springs 42.84 270 P **P** **14 14 25.5 -0.5**
baz=43
KWAJ Kwajalein Atol 43.65 339 P **P** **14 14 32.1 -0.2**
KWAJ pmax pmax
comp=Z,608nm,1.5s
KWAJ MLR MLR
comp=Z,12µm,18.0s
KWAJ Kwajalein Atol 43.65 339 P **P** **14 14 32.1 -0.2**
WR0 Warramunga Arr 43.88 275 P **P** **14 14 33.4 -1.0**
WC3 Warramunga Arr 44.02 275 P **P** **14 14 34.8 -0.7**
baz=44
WB2 Warramunga Arr 44.05 275 P **P** **14 14 34.8 -0.9**
WRAB Tennant Creek 44.05 275 *ce*P **P** **14 14 35.3 -0.5**
WRAB pmax pmax
comp=Z,221nm,1.7s
WRAB MLR MLR
comp=Z,16µm,16.0s
WRAB Tennant Creek 44.05 275 P **P** **14 14 34.5 -1.2**
WRAB IAmb IAmb 14 14 40.4
comp=Z,145nm,1.1s
WRAB Tennant Creek 44.05 275 ⇑P **P** **14 14 35.0 -0.8**
WRA Warramunga Arr 44.06 275 P **P** **14 14 35.0 -0.8**
comp=Z,50nm,0.4s,baz=117,slow=7.7,SNR=512
WRA S **S** **14 21 03.8 -5.0**
comp=Z,4.5nm,1.1s,baz=111,slow=14,SNR=4.7
WRA LR LR 14 33 13.5
comp=Z,18µm,18.4s,baz=115,slow=36
WRA Warramunga Arr 44.06 275 P **P** **14 14 34.4 -1.4**
MANU Manus Island 44.56 306 P **P** **14 14 37.9 -1.9**
MANU IAmb IAmb 14 14 46.0
comp=Z,49nm,1.1s
FORT Forrest 45.26 258 P **P** **14 14 44.0 -1.2**
baz=46,SNR=93
FORT Forrest 45.26 258 P **P** **14 14 43.7 -1.6**
FORT IAMs_20 IAMs_20 14 34 00.9
comp=Z,23µm,19.0s
FORT Forrest 45.26 258 ⇑P **P** **14 14 44.0 -1.2**
VNDA Vanda 45.56 186 P **P** **14 14 49.1 +2.2**
comp=Z,4.3nm,0.7s,baz=13,slow=6.3,SNR=31
VNDA LR LR 14 31 16.6
comp=Z,11µm,19.7s,baz=12,slow=33
VNDA Vanda 45.56 186 P **P** **14 14 48.9 +1.9**
VNDA IAmb IAmb 14 15 12.1
comp=Z,47nm,1.5s
WRKA Warakurna 47.02 265 P **P** **14 14 57.8 -1.5**
baz=47,SNR=86
WRKA Warakurna 47.02 265 ⇑P **P** **14 14 57.8 -1.5**
JAY Jayapura 48.93 299 P **P** **14 15 12.8 -1.3**
comp=Z,55nm,1.1s,baz=135,slow=2.6,SNR=12
JAY LR LR 14 33 19.2
comp=Z,6µm,21.9s,slow=33
JAY Jayapura 48.93 299 P **P** **14 15 13.6 -0.5**
comp=Z,4µmcomp=Z,2µmcomp=Z,71nm,1.6s
KDU Kakadu 49.22 282 P **P** **14 15 15.1 -1.1**
baz=50,SNR=32
KDU Kakadu 49.22 282 ⇓P **P** **14 15 15.1 -1.1**
GENI Genyem 49.27 299 ⇑P **P** **14 15 16.1 -0.6**
GENI Genyem 49.27 299 P **P** **14 15 17.9 +1.2**
comp=Z,10µmcomp=Z,5µmcomp=Z,179nm,1.7s
JOHN Johnston Islan 50.09 11 P **P** **14 15 22.3 -0.4**
MTN Manton Dam 50.23 281 P **P** **14 15 23.0 -1.0**
baz=51,SNR=10
MTN Manton Dam 50.23 281 P **P** **14 15 22.6 -1.4**
MTN IAmb IAmb 14 15 26.1
comp=Z,117nm,1.2s
MTN IAMs_20 IAMs_20 14 37 38.7
comp=Z,17µm,18.0s
MTN Manton Dam 50.23 281 ⇑P **P** **14 15 23.8 -0.2**
KNRA Kununurra 50.75 277 P **P** **14 15 27.2 -0.7**
baz=51,SNR=36
KNRA Kununurra 50.75 277 P **P** **14 15 26.4 -1.5**
KNRA IAMs_20 IAMs_20 14 37 08.7
comp=Z,19µm,18.0s
FITZ Fitzroy Crossi 52.21 272 P **P** **14 15 37.9 -0.9**
baz=52,SNR=52
FITZ Fitzroy Crossi 52.21 272 P **P** **14 15 37.6 -1.2**
comp=Z,29nm,0.8s,baz=128,slow=7.0,SNR=73
FITZ S **S** **14 23 02.7 -1.4**
comp=Z,1.8nm,0.8s,baz=162,slow=9.6,SNR=1.3
FITZ LR LR 14 37 29.7
comp=Z,13µm,19.1s,baz=103,slow=36
FITZ Fitzroy Crossi 52.21 272 P **P** **14 15 37.2 -1.6**
FITZ IAMs_20 IAMs_20 14 38 27.5
comp=Z,21µm,18.0s
FITZ Fitzroy Crossi 52.21 272 ⇑P **P** **14 15 37.6 -1.2**

CASY Casey 52.82 209 P **P** **14 15 42.6 0.0**
CASY IAmb IAmb 14 16 01.9
comp=Z,96nm,1.1s
CASY Casey 52.82 209 ⇑P **P** **14 15 43.6 +0.9**
BAKI Biak 53.22 297 P **P** **14 15 47.4 +1.1**
NWAO Narrogin (SRO) 53.36 251 P **P** **14 15 47.0 -0.2**
baz=54,SNR=4.6
NWAO Narrogin (SRO) 53.36 251 P **P** **14 15 46.4 -0.8**
comp=Z,10.0nm,0.7s,baz=114,slow=6.6,SNR=7.8
NWAO Narrogin (SRO) 53.36 251 P **P** **14 15 45.8 -1.4**
NWAO IAmb IAmb 14 15 49.5
comp=Z,46nm,1.2s
NWAO IAMs_20 IAMs_20 14 39 22.1
comp=Z,20µm,18.0s
WAKE Wake Island 53.90 342 IAMs_20 IAMs_20 14 39 05.7
comp=Z,15µm,19.0s
MEEK Meekatharra 54.47 259 P **P** **14 15 53.6 -1.9**
baz=55,SNR=24
MUN Mundaring 54.49 252 P **P** **14 15 54.6 -0.8**
baz=55,SNR=6.4
BLDU Ballidu 54.56 254 P **P** **14 15 55.3 -0.7**
baz=55,SNR=7.0
FAKI Fak Fak 55.07 292 P **P** **14 15 58.8 -1.1**
FAKI Fak Fak 55.07 292 P **P** **14 15 58.0 -1.9**
comp=Z,7µmcomp=Z,3µmcomp=Z,139nm,1.2s
PSAD2 Pilbara Seismi 55.40 265 IAMs_20 IAMs_20 14 43 00.5
comp=Z,19µm,20.0s
PSAC2 Pilbara Seismi 55.48 265 IAMs_20 IAMs_20 14 42 52.0
comp=Z,18µm,19.0s
PSAB3 Pilbara Seismi 55.50 265 IAMs_20 IAMs_20 14 43 02.2
comp=Z,18µm,20.0s
PSAA3 Pilbara Seismi 55.51 265 IAMs_20 IAMs_20 14 43 02.4
comp=Z,17µm,19.0s
PSAC3 Pilbara Seismi 55.51 265 IAMs_20 IAMs_20 14 42 11.5
comp=Z,19µm,18.0s
PSAB2 Pilbara Seismi 55.51 265 IAMs_20 IAMs_20 14 43 02.5
comp=Z,17µm,19.0s
PSA00 Pilbara Seismi 55.52 265 P **P** **14 16 00.1 -2.9**
PSA00 IAmb IAmb 14 16 05.2
comp=Z,91nm,1.4s
PSA00 IAMs_20 IAMs_20 14 42 53.3
comp=Z,18µm,19.0s
PSAA2 Pilbara Seismi 55.52 265 IAMs_20 IAMs_20 14 43 02.7
comp=Z,18µm,20.0s
PSAB1 Pilbara Seismi 55.54 265 IAMs_20 IAMs_20 14 42 54.2
comp=Z,17µm,19.0s
PSAD3 Pilbara Seismi 55.54 265 IAMs_20 IAMs_20 14 42 11.3
comp=Z,20µm,18.0s
PSAC1 Pilbara Seismi 55.56 265 IAMs_20 IAMs_20 14 42 12.9
comp=Z,19µm,19.0s
PSAD1 Pilbara Seismi 55.58 265 IAMs_20 IAMs_20 14 42 14.3
comp=Z,15µm,20.0s
MORW Morawa 55.66 255 P **P** **14 16 02.4 -1.6**
baz=56,SNR=21
MORW Morawa 55.66 255 P **P** **14 16 02.0 -2.0**
MORW IAmb IAmb 14 16 06.5
comp=Z,97nm,1.4s
MORW IAMs_20 IAMs_20 14 39 53.8
comp=Z,17µm,18.0s
MORW Morawa 55.66 255 ⇑P **P** **14 16 02.8 -1.2**
HLP Hilina Pali 56.37 26 IAMs_20 IAMs_20 14 37 52.3
comp=Z,14µm,19.0s
AIN Ainahou 56.39 26 IAMs_20 IAMs_20 14 38 13.6
comp=Z,14µm,18.0s
RIM Rim 56.48 26 IAMs_20 IAMs_20 14 38 24.0
comp=Z,14µm,18.0s
PUH Pauahi 56.48 26 IAMs_20 IAMs_20 14 38 16.1
comp=Z,14µm,19.0s
KKO Keanakako'i 56.48 26 IAMs_20 IAMs_20 14 38 16.1
comp=Z,13µm,18.0s
NPH North Pit 56.49 26 IAMs_20 IAMs_20 14 38 23.3
comp=Z,14µm,18.0s
OBL Observatory Le 56.49 26 IAMs_20 IAMs_20 14 38 24.4
comp=Z,14µm,18.0s
UWE Uwekahuna 56.49 26 IAMs_20 IAMs_20 14 38 24.4
comp=Z,14µm,18.0s
BYL Byron's Ledge 56.50 26 IAMs_20 IAMs_20 14 38 24.5
comp=Z,15µm,18.0s
HATHI Halema'uma'u T 56.51 26 IAMs_20 IAMs_20 14 38 16.8
comp=Z,15µm,18.0s
SBLHI Steaming Bluff 56.51 26 IAMs_20 IAMs_20 14 38 25.8
comp=Z,14µm,18.0s
HMH Humu'ula Sheep 56.59 26 P **P** **14 16 11.0 +0.1**
SIJI Sorong 57.12 293 P **P** **14 16 12.9 -1.6**
comp=Z,2µmcomp=Z,38nm,1.5s
QSPA South Pole Qui 57.18 180 P **P** **14 16 15.4 +1.0**
comp=Z,29nm,0.8s,baz=57,slow=1.2,SNR=45
QSPA South Pole Qui 57.18 180 P **P** **14 16 15.9 +1.6**
QSPA South Pole Qui 57.18 180 IAMs_20 IAMs_20 14 39 24.5
comp=Z,19µm,18.0s
SOEI Soe 57.56 280 P **P** **14 16 16.7 -1.0**
SOEI IAMs_20 IAMs_20 14 41 52.0
comp=Z,22µm,19.0s
SOEI Soe 57.56 280 ⇓P **P** **14 16 18.6 +0.8**
SOEI Soe 57.56 280 P **P** **14 16 17.7 -0.1**
comp=Z,8µmcomp=Z,4µmcomp=Z,166nm,1.4s
BATI Baumata 57.82 279 LR LR 14 40 44.6
comp=Z,10µm,20.8s,baz=121,slow=36
BATI Baumata 57.82 279 P **P** **14 16 19.8 +0.3**
comp=Z,5µmcomp=Z,2µmcomp=Z,66nm,1.0s
KRAI Karang Ratu 57.87 289 P **P** **14 16 17.7 -2.1**
comp=Z,2µmcomp=Z,48nm,1.8s
GUMO Guam 58.16 317 P **P** **14 16 20.8 -0.9**
GUMO pmax pmax
comp=Z,211nm,1.3s
GUMO Guam 58.16 317 P **P** **14 16 20.8 -0.9**
RPN Rapa Nui 58.98 104 IAMs_20 IAMs_20 14 39 48.7
comp=Z,13µm,18.0s
GIRL Giralia 59.74 261 P **P** **14 16 33.0 +0.3**
baz=60,SNR=5.1
GIRL Giralia 59.74 261 P **P** **14 16 32.5 -0.2**
MMRI Maumere 59.85 280 P **P** **14 16 32.7 -0.9**
comp=Z,6µmcomp=Z,4µmcomp=Z,226nm,1.5s
EDFI Ende, Flores 60.24 279 P **P** **14 16 34.5 -1.9**
comp=Z,4µmcomp=Z,1µmcomp=Z,29nm,1.6s
SANI Sanana 60.54 288 ⇑P **P** **14 16 35.6 -2.7**
SANI Sanana 60.54 288 P **P** **14 16 36.7 -1.6**
comp=Z,8µmcomp=Z,3µmcomp=Z,135nm,1.5s
MIDW Midway 60.83 1 IAMs_20 IAMs_20 14 41 05.7
comp=Z,20µm,19.0s
WBSI Waikabubak, Su 61.68 277 P **P** **14 16 46.5 +0.4**
comp=Z,2µmcomp=Z,62nm,1.5s
KKSI Kolaka, Sulawe 62.81 284 P **P** **14 16 53.5 -0.2**
comp=Z,2µmcomp=Z,40nm,0.5s
BKSI Bulukumba 63.42 282 P **P** **14 16 56.0 -1.7**
comp=Z,6µmcomp=Z,2µmcomp=Z,56nm,1.6s
PLAI Plampang 63.46 277 P **P** **14 16 59.5 +1.6**
comp=Z,7µmcomp=Z,83nm,1.5s
MNI Manado 63.57 291 P **P** **14 16 56.7 -2.0**
comp=Z,3µmcomp=Z,65nm,1.2s
KAPI Kappang 63.90 282 P **P** **14 17 01.6 +0.8**
comp=Z,2µmcomp=Z,55nm,1.7s
BNSI Bone 63.95 282 P **P** **14 17 00.4 -0.8**
comp=Z,2µmcomp=Z,71nm,1.7s
TWSI Taliwang, Sumb 64.25 276 P **P** **14 17 04.4 +1.2**
comp=Z,32nm,0.9s
APSI Ampana 64.70 286 P **P** **14 17 08.2 +2.1**
comp=Z,3µmcomp=Z,2µmcomp=Z,56nm,1.6s
TTSI Tana Toraja 64.95 283 P **P** **14 17 07.8 +0.1**
comp=Z,1µmcomp=Z,44nm,1.4s
MRSI Marisa 65.29 288 P **P** **14 17 09.8 -0.1**
comp=Z,4µmcomp=Z,1µmcomp=Z,27nm,1.0s
PMSI Majene 65.44 282 P **P** **14 17 13.3 +2.4**
comp=Z,4µmcomp=Z,2µmcomp=Z,67nm,1.4s
KHKI Kahang-Kahang 65.52 276 P **P** **14 17 11.9 +0.5**
SRBI Singaraja 66.00 276 P **P** **14 17 16.0 +1.5**
comp=Z,86nm,1.4s
TOLI2 Tolitoli 66.59 288 P **P** **14 17 17.1 -1.3**
TOLI2 IAmb IAmb 14 17 19.8
comp=Z,42nm,1.0s
JAGI Jajag, Banyuwa 66.68 275 P **P** **14 17 19.1 +0.2**
comp=Z,50nm,1.4s
MPSI Mapaga 66.84 286 P **P** **14 17 19.7 -0.2**
comp=Z,5µmcomp=Z,2µmcomp=Z,40nm,1.5s
BELA Belgrano 2 67.30 172 P **P** **14 17 21.4 -0.5**
BELA IAmb IAmb 14 17 50.3
comp=Z,54nm,1.1s
KMMI Kalianget 67.59 276 P **P** **14 17 25.5 +0.8**
comp=Z,3µmcomp=Z,86nm,1.5s
KBKI Kotabaru 67.81 281 P **P** **14 17 26.1 0.0**
comp=Z,30nm,1.4s
KRKI Karangkates 68.27 274 P **P** **14 17 29.2 +0.3**
BBKI Banjar Baru 68.82 280 P **P** **14 17 33.1 +0.7**
PWJI Pagerwojo 68.88 274 P **P** **14 17 31.5 -1.3**
MAW Mawson 69.87 201 P **P** **14 17 38.6 +0.5**
baz=70,SNR=24
MAW Mawson 69.87 201 P **P** **14 17 39.0 +1.0**

comp=Z,19nm,0.9s,baz=126,slow=8.5,SNR=23
MAW LR LR 14 46 44.5
comp=Z,18µm,20.4s,baz=119,slow=35
MAW Mawson 69.87 201 P **P** **14 17 39.0 +1.0**
MAW Mawson 69.87 201 P **P** **14 17 38.5 +0.5**
PMSA Palmer Station 70.04 155 P **P** **14 17 37.9 -1.2**
MTKI Muara Teweh, K 70.18 282 P **P** **14 17 42.7 +1.9**
JCJ Chichijima 70.58 323 P **P** **14 17 40.6 -2.3**
SPMM Sapulut 72.18 288 P **P** **14 17 53.0 0.0**
CISI Cisompet, Garu 72.48 272 P **P** **14 17 53.1 -1.7**
CISI IAmb IAmb 14 18 06.2
comp=Z,53nm,1.2s
XMIS Christmas Isla 72.77 269 IAMs_20 IAMs_20 14 53 26.3
comp=Z,10µm,19.0s
STKI Sintang 73.57 281 P **P** **14 18 01.5 +0.3**
SBUM Sibu 74.31 283 P **P** **14 18 06.0 +0.5**
SYO Syowa Base 74.61 193 ⇑*e*P **P** **14 18 05.9 -0.4**
SYO Syowa Base 74.61 193 ⇓*e*pP pP 14 18 08.9 +2.3
MG02 Cerro Sombrero 74.72 143 P **P** **14 18 08.3 +1.1**
KSM Kuching 75.32 282 P **P** **14 18 11.0 -0.4**
SNAA Sanae 75.63 178 P **P** **14 18 12.4 0.0**
SNAA Sanae 75.63 178 ⇑*i*P **P** **14 18 11.8 -0.5**
SNAA pmax pmax
comp=Z,67nm,2.7s
SNAA MLR MLR
comp=Z,12µm,18.0s
SNAA Sanae 75.63 178 P **P** **14 18 12.2 -0.1**
SNAA IAmb IAmb 14 18 27.5
comp=Z,57nm,1.1s
SNAA IAMs_20 IAMs_20 14 50 37.9
comp=Z,12µm,18.0s
SNAA Sanae 75.63 178 ⇑P **P** **14 18 12.2 -0.1**
VNA3 Neumayer Olymp 75.79 176 P **P** **14 18 12.9 -0.3**
VNA2 Neumayer--Watz 76.22 177 P **P** **14 18 15.7 +0.1**
baz=178,SNR=4.4
VNA1 Neumayer--Stat 76.45 177 P **P** **14 18 17.1 +0.3**
MDSI Maura Dua 77.17 273 P **P** **14 18 19.5 -2.4**
LL02 Futaleuf 78.72 134 P **P** **14 18 29.7 -0.4**
LL02 IAmb IAmb 14 18 34.1
comp=Z,36nm,0.9s
H03S2 Juan Fernandez 79.23 123 T T 15 45 35.3
baz=236
H03S1 Juan Fernandez 79.24 123 T T 15 45 36.8
baz=236,slow=74,SNR=4.7
H03S3 Juan Fernandez 79.25 123 T T 15 45 35.2
baz=236,slow=74,SNR=4.2
COCO West Island 79.28 262 IAMs_20 IAMs_20 14 58 11.9
comp=Z,10µm,18.0s
H03N3 Juan Fernandez 79.44 123 T T 15 45 48.1
baz=240,slow=74,SNR=4.5
H03N2 Juan Fernandez 79.44 123 T T 15 45 49.2
baz=240
H03N1 Juan Fernandez 79.45 123 T T 15 45 48.5
baz=240,slow=74,SNR=5.5
MASI Maura Aman, Be 79.52 273 P **P** **14 18 35.6 +0.7**
INU Inuyama 79.84 324 ⇑P **P** **14 18 38.7 +2.7**
MJAR Matsushiro Arr 80.22 326 P **P** **14 18 36.9 -1.2**
comp=Z,14nm,1.1s,baz=151,slow=6.5,SNR=14
MJAR LR LR 14 49 21.3
comp=Z,3µm,21.9s,baz=170,slow=32
MJAR Matsushiro Arr 80.22 326 P **P** **14 18 37.5 -0.6**
MJAR pmax pmax
comp=Z,20nm,1.3s
MJAR Matsushiro Arr 80.22 326 P **P** **14 18 37.5 -0.6**
MAJO Matsushiro 80.22 326 *i*P **P** **14 18 37.5 -0.6**
MAJO pmax pmax
comp=Z,17nm,1.1s
MAJO MLR MLR
comp=Z,4µm,19.0s
MAJO Matsushiro 80.22 326 P **P** **14 18 37.4 -0.8**
MAJO IAmb IAmb 14 18 41.8
comp=Z,62nm,1.4s
MAJO Matsushiro 80.22 326 ⇑P **P** **14 18 37.5 -0.6**
MAJO ⇑P **sP** **14 18 40.7 +2.2**
MAT Matsushiro 80.22 326 P **P** **14 18 37.9 -0.2**
MAT S **S** **14 28 39.6 -4.1**
PLCA Paso Flores 80.92 133 P **P** **14 18 42.7 +0.5**
comp=Z,24nm,0.9s,baz=232,slow=5.3,SNR=24
PLCA LR LR 14 48 11.8
comp=Z,8µm,18.8s,baz=234,slow=31
PLCA Paso Flores 80.92 133 P **P** **14 18 41.1 -1.1**
LC01 Cunco 81.16 131 P **P** **14 18 42.6 -0.8**
JHS Saijyo 81.55 321 P **P** **14 18 44.8 -0.5**
QZH Quanzhou 83.26 305 *i*P **P** **14 18 53.8 -0.6**
QZH PP **PP** **14 22 08.5 +2.3**
QZH S **S** **14 29 13.6 -1.8**
QZH pmax pmax
comp=Z,2µm,8.8s
QZH LR LR
comp=Z,1µm,14.7s
QZH LR LR
comp=Z,880nm,15.6s
QZH LR LR
comp=Z,1µm,18.5s
ML02 Panimavida 83.27 128 P **P** **14 18 53.7 -0.9**
YUK Yuzh-Kuril'sk 83.32 335 *e*P **P** **14 18 51.7 -2.5**
YUK *e* 14 22 03.4
YUK *e*PPP PPP 14 23 55.1
YUK *e*S **S** **14 29 12.9 -2.3**
YUK *e*SS **SS** **14 34 40.4 -0.7**
YUK *e*SSS SSS 14 38 09.0
YUK pmax pmax
comp=Z,188nm,1.2s
YUK pmax pmax
comp=N,89nm,1.1s
YUK pmax pmax
comp=E,177nm,0.7s
YUK pmax pmax
comp=Z,208nm,1.5s
KUR Kuril'sk 83.67 337 *c i*P **P** **14 18 56.2 +0.2**
KUR *i*S **S** **14 29 19.2 +0.5**
KUR pmax pmax
comp=Z,2µm,7.1s
KUR MLR MLR
comp=Z,5µm,19.0s
BO02 Sierra Bellavi 84.27 128 P **P** **14 18 59.1 -0.7**
BO01 Tunca 84.30 127 P **P** **14 18 58.7 -1.1**
BO01 IAmb IAmb 14 19 23.7
comp=Z,38nm,1.4s
VA05 Santo Domingo 84.37 127 P **P** **14 18 58.7 -1.5**
KIWB Kanaga Island 84.44 1 P **P** **14 18 58.9 -0.8**
ADK Adak 84.47 1 P **P** **14 18 58.9 -1.0**
ADK pmax pmax
comp=Z,101nm,1.1s
ADK Adak 84.47 1 P **P** **14 18 58.9 -1.0**
ADK Adak 84.47 1 IAMs_20 IAMs_20 14 50 20.0
comp=Z,11µm,21.0s
MT01 Popeta 84.50 127 P **P** **14 18 59.5 -1.4**
JKA Kamikawa-asahi 84.60 333 P **P** **14 18 59.7 -1.1**
JKA IAmb IAmb 14 19 11.7
comp=Z,44nm,1.1s
ASAJ Asahikawa 84.60 333 P **P** **14 18 59.7 -1.1**
ASAJ pmax pmax
comp=Z,44nm,1.1s
IPM Ipoh 84.67 279 P **P** **14 19 02.0 0.0**
MT09 Talagante 84.73 127 P **P** **14 19 01.1 -1.1**
MT05 Renca 85.12 127 P **P** **14 19 03.2 -0.8**
PSI Prapat 85.51 276 P **P** **14 19 05.1 -1.2**
PSI P **P** **14 19 05.1 -1.2**
VA03 San Esteban 85.62 126 P **P** **14 19 05.8 -0.8**
VA03 IAmb IAmb 14 19 09.5
comp=Z,41nm,1.2s
SSE Sheshan 85.63 311 P **P** **14 19 05.5 -0.8**
SSE pP **PcP** **14 19 08.2 -1.0**
SSE S **S** **14 29 37.7 -1.2**
SSE SS **SS** **14 35 18.9 +3.2**
SSE pmax pmax
comp=Z,10.0nm,0.6s
SSE pmax pmax
comp=Z,530nm,6.2s
TJN Taejon 85.68 319 *i*P **P** **14 19 06.8 +0.4**
GSI Gunungsitoli 85.83 274 P **P** **14 19 06.2 -1.6**
QIZ Qiongzhong 85.91 296 P **P** **14 19 06.8 -1.2**
QIZ S **S** **14 29 39.1 -3.1**
QIZ SS **SS** **14 35 26.0 +5.9**
QIZ pmax pmax
comp=Z,960nm,7.1s
QIZ LR LR
comp=Z,950nm,16.3s
QIZ LR LR
comp=Z,1µm,18.6s
QIZ LR LR
comp=Z,1µm,17.2s
LPIG La Paz 86.04 58 LR LR 14 49 59.1

comp=Z,11µm,19.2s,baz=266,slow=30
SLBS Sierra La Lagu 86.04 59 P **P** **14 19 07.7 -0.9**
SLBS IAmb IAmb 14 19 21.4
comp=Z,62nm,1.4s
SLBS Sierra La Lagu 86.04 59 IAMs_20 IAMs_20 14 54 38.2
comp=Z,11µm,18.0s
KSRS Korea Array 86.16 320 P **P** **14 19 08.8 +0.1**
comp=Z,9.0nm,0.8s,baz=142,slow=5.5,SNR=26
KSRS LR LR 14 55 43.6
comp=Z,2µm,19.0s,baz=124,slow=34
KSAR Wonju Array Be 86.17 320 P **P** **14 19 08.0 -0.8**
KSAR Wonju Array Be 86.17 320 P **P** **14 19 08.0 -0.8**
KS19 Wonju Array Si 86.22 320 P **P** **14 19 08.1 -1.0**
KS19 IAmb IAmb 14 19 13.0
comp=Z,29nm,1.1s
CO02 Combarbal 86.24 125 P **P** **14 19 08.9 -0.8**
SKR Severo-Kuril's 86.29 344 *e*P **P** **14 19 05.0 -4.0**
SKR *e*S **SKSac** **14 29 34.4 -0.9**
SKR *e*PS 14 30 36.9
SKR pmax pmax
comp=Z,400nm,8.2s
SKR pmax pmax
comp=Z,1µm,5.2s
SKR pmax pmax
comp=Z,43nm,0.9s
SKR MLR MLR
comp=Z,2µm,16.0s
SCI2 San Clemente I 86.35 47 P P 14 19 15.2 +5.3
baz=227
SCZ2 Santa Cruz Isl 86.39 45 P **P** **14 19 12.1 +2.0**
baz=226
CO03 El Pedregal 86.67 125 P **P** **14 19 11.2 -0.7**
SRIG Santa Rosalia 86.71 54 IAMs_20 IAMs_20 14 53 44.6
comp=Z,12µm,18.0s
CIS Catalina Islan 86.72 46 P **P** **14 19 14.6 +2.9**
baz=227
CCX Cicese 86.77 49 IAMs_20 IAMs_20 14 54 09.6
comp=Z,7µm,18.0s
PKM Mcpherson Peak 86.91 45 P **P** **14 19 14.0 +1.2**
baz=226
YSS Yuzh-Sakhalins 86.94 334 *ce*P **P** **14 19 13.3 +0.9**
YSS *e* 14 22 31.8
YSS *e* 14 29 39.0
YSS *e*S **S** **14 29 51.9 +0.9**
YSS pmax pmax
comp=Z,40nm,0.9s
YSS pmax pmax
comp=Z,2µm,6.0s
YSS pmax pmax
comp=N,400nm,5.5s
YSS MLR MLR
comp=Z,4µm,16.0s
YSS Yuzh-Sakhalins 86.94 334 P **P** **14 19 12.2 -0.2**
TJX Tijuana 86.95 48 IAMs_20 IAMs_20 14 50 38.5
comp=Z,10µm,20.0s
FMP Fort Macarthur 87.01 46 P **P** **14 19 17.1 +4.1**
baz=227
UNV Unalaska Valle 87.02 7 IAMs_20 IAMs_20 14 56 25.9
comp=Z,7µm,19.0s
SMMC Simmler 87.10 44 P **P** **14 19 16.5 +3.0**
baz=226
109C Camp Elliot, M 87.18 48 IAMs_20 IAMs_20 14 50 44.4
comp=Z,10µm,20.0s
109C Camp Elliot, M 87.18 48 P **P** **14 19 17.8 +4.0**
baz=227
PAGB Antelope Grade 87.24 44 P **P** **14 19 14.8 +0.7**
PAGB IAmb IAmb 14 19 24.5
comp=Z,34nm,1.5s
PAGB IAMs_20 IAMs_20 14 59 26.7
comp=Z,11µm,18.0s
PMPB Monarch Peak 87.26 43 IAMs_20 IAMs_20 14 59 27.2
comp=Z,11µm,19.0s
BAR Barrett 87.31 48 IAMs_20 IAMs_20 14 50 28.9
comp=Z,10µm,20.0s
DECC Green Verdugo 87.35 46 P **P** **14 19 16.9 +2.1**
baz=227
OSI Osito Audit: C 87.37 45 P **P** **14 19 19.0 +4.2**
baz=226
SFX San Felipe 87.38 50 IAMs_20 IAMs_20 14 54 21.8
comp=Z,8µm,18.0s
MURC Murrieta 87.60 47 P **P** **14 19 16.8 +0.8**
baz=227
MONP2 Monument Peak 87.61 48 P **P** **14 19 14.4 -1.8**
baz=228,SNR=8.2
TRTT Trang 87.62 281 P **P** **14 19 18.0 +1.5**
comp=Z,20nm,1.6s
RMX La Rumorosa 87.63 48 IAMs_20 IAMs_20 14 50 29.3
comp=Z,11µm,20.0s
IKP In-Ko-Pah, Jac 87.64 48 P **P** **14 19 16.3 +0.1**
baz=228
NJ2 Nanjing 87.75 311 *e*P **P** **14 19 16.0 -0.6**
NJ2 pP **PcP** **14 19 20.1 +1.6**
NJ2 SKS **SKSac** **14 29 47.0 +1.8**
NJ2 S **ScS** **14 30 03.9 -2.2**
NJ2 SS **SS** **14 35 48.2 +1.5**
NJ2 pmax pmax
comp=Z,11nm,0.5s
NJ2 pmax pmax
comp=Z,2µm,9.0s
NJ2 LR LR
comp=Z,2µm,19.0s
NJ2 LR LR
comp=Z,2µm,16.1s
NJ2 LR LR
comp=Z,3µm,16.1s
BFSC Mount Baldy Ra 87.75 46 P **P** **14 19 17.3 +0.6**
baz=227
TEY Ternei 87.78 330 *ce*P P 14 19 08.8 -7.6
TEY *e* **P** **14 19 17.2 +0.8**
TEY *e* 14 29 37.4
TEY pmax pmax
comp=Z,100nm,10.0s
TEY pmax pmax
comp=E,100nm,11.7s
TEY pmax pmax
comp=N,100nm,11.3s
TRQA Tornquist 87.78 135 P **P** **14 19 16.7 -0.3**
TRQA pmax pmax
comp=Z,45nm,1.4s
TRQA Tornquist 87.78 135 P **P** **14 19 16.7 -0.3**
TRQA IAmb IAmb 14 19 23.7
comp=Z,45nm,1.4s
TRQA Tornquist 87.78 135 IAMs_20 IAMs_20 14 55 16.9
comp=Z,9µm,18.0s
PAYG Puerto Ayora 87.91 89 IAMs_20 IAMs_20 14 52 32.1
comp=Z,8µm,19.0s
PET Petropavlovsk 87.94 346 *e*P **P** **14 19 19.1 +2.1**
PET *e* 14 29 43.3
PET *e*S **S** **14 29 59.7 -0.6**
PET *e*PS 14 31 03.4
PET pmax pmax
comp=Z,2µm,4.6s
PET pmax pmax
comp=Z,84nm,1.6s
PET pmax pmax
comp=Z,1µm,11.6s
PET MLR MLR
comp=Z,9µm,19.0s
AC04 Llanos de Chal 87.96 122 P **P** **14 19 17.4 -0.6**
EDW2 Edwards Air Fo 87.99 46 P **P** **14 19 18.3 +0.5**
baz=227,SNR=23
VES Vestal, Richgr 88.00 44 P **P** **14 19 17.6 -0.1**
baz=226
SWSC Sam W. Stewart 88.03 48 P **P** **14 19 19.4 +1.4**
baz=228
GUVIX Guadalupe Vict 88.06 49 IAMs_20 IAMs_20 14 54 58.0
comp=Z,8µm,19.0s
PFO Pinyon Flats O 88.06 47 P **P** **14 19 18.9 +0.6**
comp=Z,8.6nm,1.0s,baz=295,slow=1.1,SNR=12
PFO Pinyon Flats O 88.06 47 P **P** **14 19 17.8 -0.5**
PFO IAmb IAmb 14 19 22.8
comp=Z,30nm,1.4s
PFO Pinyon Flats O 88.06 47 P **P** **14 19 19.3 +1.0**
baz=228,SNR=8.5
VOG Valley Oaks Go 88.15 44 P **P** **14 19 19.7 +1.3**
baz=226
BBRC Big Bear Solar 88.22 47 P **P** **14 19 22.5 +3.4**
baz=228
PEA0B Petropavlovsk- 88.22 346 *ce*P **P** **14 19 17.8 -0.6**
PEA0B Petropavlovsk- 88.22 346 P **P** **14 19 18.2 -0.1**
PETK Petropavlovsk- 88.22 346 P **P** **14 19 17.7 -0.6**
comp=Z,42nm,1.0s,baz=72,slow=9.5,SNR=32
PETK LR LR 14 51 53.4
comp=Z,4µm,21.7s,baz=139,slow=31
PETK Petropavlovsk- 88.22 346 P **P** **14 19 17.9 -0.5**
PETK Petropavlovsk- 88.22 346 P **P** **14 19 17.9 -0.5**

ISA Isabella, Lake 88.23 45 IAMs_20 IAMs_20 14 55 36.1
comp=Z,11µm,18.0s
ISA Isabella, Lake 88.23 45 P **P** **14 19 19.2 +0.2**
baz=226,SNR=21
MSHR Mys Shultsa 88.32 325 *i* P **P** **14 19 21.0 +1.9**
MSHR pmax pmax
comp=Z,12nm,0.8s
FALS False Pass 88.36 9 IAMs_20 IAMs_20 15 02 07.4
comp=Z,7µm,19.0s
LRMC Laurel Mtn Rad 88.58 45 P **P** **14 19 21.7 +1.0**
baz=227,SNR=21
RRX Edison Barstow 88.58 46 P **P** **14 19 22.1 +1.6**
baz=227
BELC Belle Mtn. Jos 88.61 47 P **P** **14 19 21.1 +0.2**
baz=228,SNR=14
HSIG 88.67 54 P **P** **14 19 20.9 -0.2**
HSIG IAmb IAmb 14 19 24.9
comp=Z,31nm,1.4s
HSIG IAMs_20 IAMs_20 14 51 42.3
comp=Z,8µm,20.0s
GLA Glamis 88.71 49 P **P** **14 19 21.4 +0.1**
GLA pmax pmax
comp=Z,55nm,1.5s
GLA MLR MLR
comp=Z,9µm,18.0s
GLA Glamis 88.71 49 P **P** **14 19 21.4 +0.1**
GLA IAmb IAmb 14 19 41.1
comp=Z,55nm,1.5s
GLA IAMs_20 IAMs_20 14 57 43.1
comp=Z,9µm,18.0s
GLA Glamis 88.71 49 P **P** **14 19 23.3 +2.0**
baz=229
BC3 Big Chuckawall 88.72 48 P **P** **14 19 22.2 +0.9**
baz=228,SNR=23
CNBA Chernabura Isl 88.87 11 IAMs_20 IAMs_20 15 02 16.0
comp=Z,7µm,20.0s
CHNA Chernabura Isl 88.88 11 P **P** **14 19 23.4 +2.0**
baz=196
CHNA S **S** **14 30 13.0 +3.9**
baz=196
GO03 Copiap 88.92 122 P **P** **14 19 22.5 -0.1**
GO03 IAmb IAmb 14 19 41.9
comp=Z,50nm,1.5s
HEC Hector,Ludlow 88.95 47 P **P** **14 19 23.0 +0.6**
baz=228,SNR=16
O02D Mt. Diablo Mer 88.98 39 P **P** **14 19 22.8 +0.4**
baz=224
O02D S **S** **14 30 18.1 +7.1**
baz=224
GSC Goldstone, Bar 88.99 46 P **P** **14 19 22.6 0.0**
GSC pmax pmax
comp=Z,36nm,1.3s
GSC MLR MLR
comp=Z,13µm,18.0s
GSC Goldstone, Bar 88.99 46 P **P** **14 19 22.6 0.0**
GSC IAmb IAmb 14 19 27.0
comp=Z,36nm,1.2s
GSC Goldstone, Bar 88.99 46 P **P** **14 19 22.7 0.0**
baz=228,SNR=20
UGL Uglegorsk 88.99 335 *e*P **P** **14 19 20.9 -1.1**
UGL *e* 14 19 20.9
UGL *e*S **SKSac** **14 29 50.9 -0.9**
UGL *e*SS **SS** **14 36 04.6 +0.4**
UGL pmax pmax
comp=Z,90nm,1.4s
UGL smax smax
comp=E,3µm,10.0s
UGL smax smax
comp=N,7µm,9.6s
CWC Cottonwood Cre 89.00 44 P **P** **14 19 23.5 +0.9**
baz=227
CWC S **S** **14 30 17.9 +6.4**
baz=227
MPMC Manual Prospec 89.09 45 P **P** **14 19 23.1 0.0**
baz=227,SNR=22
USA0B Ussuriysk Arra 89.17 327 *i* P **P** **14 19 23.5 +0.5**
USA0B Ussuriysk Arra 89.17 327 P **P** **14 19 22.2 -0.9**
USA0B IAmb IAmb 14 19 45.1
comp=Z,58nm,1.4s
USRK Ussuriysk Ar. 89.17 327 P **P** **14 19 23.3 +0.3**
comp=Z,7.6nm,0.6s,baz=104,slow=3.0,SNR=22
USRK LR LR 14 59 14.2
comp=Z,2µm,18.2s,baz=121,slow=36
USRK Ussuriysk Ar. 89.17 327 P **P** **14 19 22.5 -0.6**
113A Mohawk Valley, 89.20 49 P **P** **14 19 23.1 -0.4**
113A IAmb IAmb 14 19 42.3
comp=Z,26nm,1.4s
113A IAMs_20 IAMs_20 14 54 32.2
comp=Z,11µm,18.0s
MDPB Devils Postpil 89.24 43 P **P** **14 19 21.2 -2.7**
MDPB IAMs_20 IAMs_20 15 00 49.5
comp=Z,9µm,19.0s
IRM Iron Mountain 89.24 48 P **P** **14 19 24.7 +1.0**
baz=228,SNR=23
IRM S **S** **14 30 18.9 +5.3**
baz=228
SDPT Sand Point 89.24 10 P **P** **14 19 23.7 +0.6**
SDPT Sand Point 89.24 10 P **P** **14 19 25.9 +2.8**
baz=195
SDPT S **S** **14 30 15.5 +3.1**
baz=195
SKNT Sakolnakorn 89.25 291 P **P** **14 19 25.8 +1.7**
comp=Z,24nm,1.7s
214A Organ Pipe Nat 89.29 51 P **P** **14 19 22.8 -1.2**
214A IAmb IAmb 14 19 45.5
comp=Z,25nm,1.4s
214A IAMs_20 IAMs_20 14 55 28.7
comp=Z,10µm,18.0s
214A Organ Pipe Nat 89.29 51 P **P** **14 19 24.4 +0.4**
baz=230
TIN Tinemaha, Big 89.33 44 P **P** **14 19 25.3 +1.1**
baz=227
GMRC Granite Mounta 89.34 47 P **P** **14 19 24.2 -0.1**
baz=228,SNR=12
GMRC S **S** **14 30 20.2 +5.5**
baz=228
MLAC Mammoth, Mammo 89.37 43 P **P** **14 19 26.4 +1.9**
baz=226
MLAC S **S** **14 30 23.5 +8.3**
baz=226
O03E Paynes Creek 89.59 40 P **P** **14 19 25.5 +0.2**
baz=224
O03E S **S** **14 30 20.9 +4.2**
baz=224
N02D Trinity Center 89.60 39 P **P** **14 19 25.8 +0.6**
baz=224
N02D S **S** **14 30 23.9 +7.1**
baz=224
TUQ Turquoise Moun 89.61 46 P **P** **14 19 26.1 +0.6**
baz=228,SNR=15
TUQ S **S** **14 30 22.4 +5.1**
baz=228
SHOC Shoshone, Teco 89.71 46 P **P** **14 19 26.3 +0.5**
baz=228,SNR=13
SHOC S **S** **14 30 24.9 +7.1**
baz=228
WHN Wuhan 89.72 307 ⇑P **P** **14 19 25.7 -0.3**
WHN LR LR
comp=Z,4µm,19.1s
WHN LR LR
comp=Z,2µm,14.6s
WHN LR LR
comp=Z,5µm,18.6s
FURC Furnace Creek, 89.74 45 P **P** **14 19 26.9 +1.1**
baz=228
GRAC Grapevine Rang 89.80 44 P **P** **14 19 27.2 +1.0**
baz=227
GRAC S **S** **14 30 25.0 +6.3**
baz=227
M02C Callahan 89.83 38 P **P** **14 19 27.2 +0.9**
baz=224
M02C S **S** **14 30 25.8 +7.0**
baz=224
PNTR Pine Nut 89.95 42 P **P** **14 19 26.1 -1.0**
PNTR IAmb IAmb 14 19 31.3
comp=Z,26nm,1.1s
PDMCI Parker Dam,Lak 89.96 48 P **P** **14 19 27.9 +0.9**
baz=229,SNR=6.7
PDMCI S **S** **14 30 27.5 +7.3**
baz=229
NEE2 Needles Airpor 89.97 48 P **P** **14 19 28.2 +1.2**
baz=229
NEE2 S **S** **14 30 26.1 +5.8**
baz=229
LHV Little Huntoon 89.99 43 P **P** **14 19 26.7 -0.3**
LHV IAmb IAmb 14 19 31.6
comp=Z,20nm,1.1s

L02E Cave Junction 90.00 37 S **S** **14 30 27.9 +7.7**
baz=223
SPIA Saint Paul Isl 90.02 4 S **S** **14 30 24.8 +5.2**
baz=187
VCNR Virginia City 90.07 41 P **P** **14 19 27.5 -0.2**
BEKR Beckworth 90.07 41 P **P** **14 19 27.2 -0.5**
BEKR IAmb IAmb 14 19 55.8
comp=Z,29nm,1.5s
BEKR IAMs_20 IAMs_20 14 57 02.5
comp=Z,11µm,18.0s
YERR Yerington 90.08 42 P **P** **14 19 27.4 -0.4**
YERR IAmb IAmb 14 19 31.6
comp=Z,21nm,1.1s
YBH Yreka Blue Hor 90.14 38 P **P** **14 19 29.1 +1.2**
comp=Z,6.9nm,1.1s,baz=217,slow=5.5,SNR=7.6
KEBM Edson Butte 90.15 36 IAMs_20 IAMs_20 14 54 50.1
comp=Z,11µm,20.0s
AC02 Maricunga 90.16 122 P **P** **14 19 28.0 -1.0**
AC02 IAmb IAmb 14 19 55.4
comp=Z,48nm,1.5s
NVAR Mina Array Bea 90.23 43 P **P** **14 19 28.5 0.0**
comp=Z,11nm,0.9s,baz=218,slow=7.2,SNR=34
NVAR Mina Array Bea 90.23 43 P **P** **14 19 28.0 -0.5**
RYN Ryan 90.24 43 P **P** **14 19 27.7 -0.7**
RYN IAmb IAmb 14 19 34.6
comp=Z,35nm,1.5s
RYN IAMs_20 IAMs_20 14 57 09.1
comp=Z,11µm,19.0s
TYV Tymovskoe 90.30 336 *e*P **P** **14 19 30.2 +2.1**
TYV *e*S **S** **14 30 26.7 +4.2**
TYV pmax pmax
comp=Z,2µm,5.2s
TYV pmax pmax
comp=Z,77nm,1.4s
TYV smax smax
comp=N,36nm,1.8s
TYV smax smax
comp=E,19nm,1.8s
TYV smax smax
comp=N,16µm,9.7s
TYV smax smax
comp=E,8µm,9.7s
NV11 Mina Array Sit 90.31 43 P **P** **14 19 28.3 -0.5**
NV11 IAMs_20 IAMs_20 14 57 03.1
comp=Z,11µm,19.0s
K02D Willamette Mer 90.35 37 P **P** **14 19 28.8 +0.1**
baz=223
K02D S **S** **14 30 30.8 +7.2**
baz=223
TPNV Topopah Spring 90.42 45 P **P** **14 19 29.4 +0.1**
TPNV pmax pmax
comp=Z,21nm,1.2s
TPNV Topopah Spring 90.42 45 P **P** **14 19 29.4 +0.1**
TPNV IAmb IAmb 14 19 33.8
comp=Z,20nm,1.2s
TPNV IAMs_20 IAMs_20 14 56 50.2
comp=Z,11µm,18.0s
TPNV Topopah Spring 90.42 45 P **P** **14 19 29.8 +0.5**
baz=228,SNR=15
TPNV S **S** **14 30 31.6 +6.9**
baz=228
Y14A Wickenburg 90.44 49 P **P** **14 19 29.5 +0.2**
Y14A IAmb IAmb 14 19 48.6
comp=Z,28nm,1.4s
Y14A IAMs_20 IAMs_20 14 56 40.0
comp=Z,11µm,18.0s
PHET Kaeng Krachan 90.46 285 P P 14 19 40.1 +10
CHGN Chignik 90.48 11 P **P** **14 19 29.8 +1.0**
CHGN Chignik 90.48 11 P **P** **14 19 31.0 +2.2**
baz=196
CHIR Chirikof Islan 90.50 13 S **S** **14 30 27.1 +3.0**
baz=199
PAHR Pah Rah Range 90.50 41 P **P** **14 19 28.6 -1.1**
PAHR IAmb IAmb 14 19 57.8
comp=Z,27nm,1.4s
NONG Nongkai 90.52 291 P **P** **14 19 30.7 +0.7**
comp=Z,72nm,0.9s
PB14 IPOC Station P 90.57 120 P **P** **14 19 29.4 -1.3**
MDJ Mudanjiang 90.61 326 P **P** **14 19 29.4 -0.4**
MDJ SKS **SKSac** **14 29 59.8 -1.7**
MDJ S **ScS** **14 30 27.6 -1.6**
MDJ sS sS 14 30 34.0 +7.9
MDJ SS **SS** **14 36 34.4 +6.5**
MDJ pmax pmax
comp=Z,27nm,1.5s
MDJ pmax pmax
comp=Z,2µm,11.2s
MDJ LR LR
comp=Z,3µm,21.4s
MDJ LR LR
comp=Z,4µm,18.7s
MDJ LR LR
comp=Z,8µm,21.4s
MDJ Mudanjiang 90.61 326 P **P** **14 19 28.8 -1.0**
MDJ IAmb IAmb 14 19 33.5
comp=Z,20nm,1.0s
TPH Tonopah 90.61 44 P **P** **14 19 29.0 -1.2**
TPH pmax pmax
comp=Z,69nm,1.0s
TPH Tonopah 90.61 44 P **P** **14 19 29.0 -1.2**
M04C Macdoel 90.64 39 P **P** **14 19 28.8 -1.4**
baz=224
M04C S **S** **14 30 32.9 +6.5**
baz=224
W13A Hualapai Mount 90.64 48 P **P** **14 19 28.8 -1.6**
W13A IAmb IAmb 14 19 40.6
comp=Z,18nm,1.2s
W13A IAMs_20 IAMs_20 14 53 01.1
comp=Z,9µm,20.0s
DL2 Dalian 90.68 317 P **P** **14 19 30.9 +0.7**
DL2 SKS **SKSac** **14 30 01.9 -0.3**
DL2 S **ScS** **14 30 29.9 -0.2**
DL2 SS **SS** **14 36 31.0 +1.9**
DL2 pmax pmax
comp=Z,1µm,8.4s
DL2 LR LR
comp=Z,1µm,16.5s
DL2 LR LR
comp=Z,1µm,18.6s
DL2 LR LR
comp=Z,2µm,18.2s
L04D Klamath Falls 90.70 38 P **P** **14 19 31.1 +0.6**
baz=224
L04D S **S** **14 30 32.8 +5.8**
baz=224
KVN Kaiserville 90.77 42 P **P** **14 19 30.3 -0.6**
KVN pmax pmax
comp=Z,12nm,1.1s
KVN Kaiserville 90.77 42 P **P** **14 19 30.3 -0.6**
KVN IAMs_20 IAMs_20 14 57 37.0
comp=Z,11µm,19.0s
SHPR Sheep Range 90.78 46 P **P** **14 19 31.1 +0.1**
SHPR IAmb IAmb 14 19 40.6
comp=Z,24nm,1.3s
SHPR IAMs_20 IAMs_20 15 01 12.8
comp=Z,11µm,18.0s
TUC Tucson 90.84 51 P **P** **14 19 31.8 +0.5**
TUC pmax pmax
comp=Z,50nm,1.5s
TUC Tucson 90.84 51 P **P** **14 19 31.8 +0.5**
TUC IAmb IAmb 14 19 53.2
comp=Z,50nm,1.5s
TUC Tucson 90.84 51 P **P** **14 19 31.8 +0.5**
baz=231
TUC S **S** **14 30 35.8 +7.2**
baz=231
ZAIG Zacatecas 90.92 63 IAMs_20 IAMs_20 14 52 10.8
comp=Z,9µm,20.0s
TLIG Tlapa 91.05 70 P **P** **14 19 32.8 +0.1**
TLIG IAMs_20 IAMs_20 14 51 19.8
comp=Z,7µm,20.0s
HPIG 91.08 58 IAMs_20 IAMs_20 14 52 35.7
comp=Z,11µm,20.0s
I03D Drain, OR 91.24 36 P **P** **14 19 33.2 +0.4**
baz=223
I03D S **S** **14 30 33.3 +1.8**
baz=223
319A Douglas 91.26 53 P **P** **14 19 32.6 -0.7**
319A IAmb IAmb 14 19 38.0
comp=Z,19nm,1.2s
319A IAMs_20 IAMs_20 14 53 03.0
comp=Z,9µm,20.0s
K04D Chiloquin, OR 91.28 38 S **S** **14 30 38.4 +6.2**
baz=224
I02D Swisshome 91.29 36 S **S** **14 30 39.3 +7.4**
baz=223

PRN Pahroc Range 91.44 45 P **P** **14 19 34.2 +0.2**
PRN IAmb IAmb 14 19 39.0
comp=Z,22nm,1.2s
SII Sitkinak Islan 91.46 13 IAMs_20 IAMs_20 15 03 49.4
comp=Z,8μm,19.0s
SII Sitkinak Islan 91.46 13 S **S** **14 30 36.5 +3.6**
baz=200
J04D Umpqua Nationa 91.54 37 P **P** **14 19 34.6 +0.2**
baz=224
TIA Tai'an 91.56 313 *e*P **P** **14 19 37.2 +2.8**
TIA SS SS 14 36 37.2 -4.7
TIA pmax pmax
comp=Z,21nm,1.8s
TIA pmax pmax
comp=Z,1μm,11.8s
TIA LR LR
comp=Z,810nm,22.1s
TIA LR LR
comp=Z,1μm,21.1s
TIA LR LR
comp=Z,2μm,19.0s
UNM Universidad Na 91.56 68 IAMs_20 IAMs_20 14 52 02.2
comp=Z,8μm,19.0s
SNY Shenyang 91.62 321 ⇓P **P** **14 19 36.8 +2.3**
SNY pmax pmax
comp=Z,14nm,1.0s
SNY pmax pmax
comp=Z,980nm,10.6s
SNY LR LR
comp=Z,2μm,20.2s
SNY LR LR
comp=Z,2μm,22.4s
SNY LR LR
comp=Z,4μm,19.9s
X16A Lo Mia Camp, P 91.75 49 P **P** **14 19 35.0 -0.6**
X16A IAmb IAmb 14 19 45.9
comp=Z,22nm,1.2s
X16A IAMs_20 IAMs_20 14 57 05.4
comp=Z,8μm,18.0s
R11A Troy Canyon, C 91.75 44 P **P** **14 19 35.2 -0.3**
R11A IAMs_20 IAMs_20 15 02 15.2
comp=Z,11μm,18.0s
R11A Troy Canyon, C 91.75 44 P **P** **14 19 34.6 -0.9**
baz=228,SNR=5.8
R11A S **S** **14 30 42.8 +6.0**
baz=228
I04A Tendick Farm, 91.78 37 P **P** **14 19 35.0 -0.3**
baz=224
I04A S **S** **14 30 41.6 +5.0**
baz=224
BUCK Buck Mountain 91.78 36 P **P** **14 19 35.3 0.0**
BUCK IAmb IAmb 14 19 45.3
comp=Z,50nm,1.4s
BUCK IAMs_20 IAMs_20 14 54 10.4
comp=Z,12μm,20.0s
K05A Summer Lake 91.80 38 P **P** **14 19 35.5 -0.1**
J05D Fort Rock, OR 92.02 38 P **P** **14 19 36.8 +0.2**
baz=225,SNR=14
J05D S **S** **14 30 44.7 +5.8**
baz=225
CN2 Changchun 92.05 323 *e*P **P** **14 19 36.1 -0.4**
CN2 *es*P pwP 14 19 43.2 -0.9
CN2 *e*PP **PP** **14 23 20.4 +3.7**
CN2 SKS **SKSac** **14 30 07.6 -2.2**
CN2 pmax pmax
comp=Z,40nm,1.2s
CN2 LR LR
comp=Z,2μm,18.0s
CN2 LR LR
comp=Z,2μm,18.0s
CN2 LR LR
comp=Z,3μm,19.0s
H04D Lebanon 92.14 36 P **P** **14 19 38.5 +1.6**
baz=224
H04D S **S** **14 30 46.6 +7.0**
baz=224
BMN Battle Mountai 92.20 42 P **P** **14 19 37.6 +0.1**
BMN pmax pmax
comp=Z,25nm,1.3s
BMN Battle Mountai 92.20 42 P **P** **14 19 37.6 +0.1**
BMN IAmb IAmb 14 20 05.7
comp=Z,24nm,1.3s
OHAK Old Harbor 92.25 13 IAMs_20 IAMs_20 15 04 02.5
comp=Z,8μm,20.0s
OHAK Old Harbor 92.25 13 S **S** **14 30 45.3 +5.3**
baz=201
LCMT Little Creek M 92.28 47 P **P** **14 19 37.2 -0.7**
G03D McMinnville, O 92.38 35 S **S** **14 30 48.1 +6.4**
baz=224
GRNR Gornyy 92.45 333 ⇑*i*P **P** **14 19 40.9 +2.7**
GRNR pmax pmax
comp=Z,20nm,1.1s
WUAZ Wupatki 92.48 49 P **P** **14 19 38.3 -0.6**
WUAZ IAmb IAmb 14 19 49.0
comp=Z,20nm,1.4s
WUAZ IAMs_20 IAMs_20 14 53 41.0
comp=Z,8μm,20.0s
WUAZ Wupatki 92.48 49 P **P** **14 19 39.3 +0.4**
baz=231
WUAZ S **S** **14 30 52.2 +8.7**
baz=231
U15A North Rim 92.49 47 P **P** **14 19 38.4 -0.7**
U15A IAmb IAmb 14 19 48.0
comp=Z,21nm,1.4s
U15A IAMs_20 IAMs_20 14 53 51.9
comp=Z,6μm,20.0s
PINE Pine Mountain 92.53 38 P **P** **14 19 38.2 -0.7**
PINE IAmb IAmb 14 19 43.4
comp=Z,26nm,0.9s
PINE IAMs_20 IAMs_20 14 56 31.2
comp=Z,10μm,19.0s
H04A Detroit Lake 92.53 36 P **P** **14 19 37.8 -1.0**
H04A IAmb IAmb 14 19 47.2
comp=Z,21nm,1.0s
H04A IAMs_20 IAMs_20 14 54 35.2
comp=Z,11μm,20.0s
KNB Kanab 92.54 47 P **P** **14 19 38.2 -1.0**
KNB pmax pmax
comp=Z,17nm,1.2s
KNB Kanab 92.54 47 P **P** **14 19 38.2 -1.0**
KNB IAmb IAmb 14 19 48.7
comp=Z,17nm,1.2s
CCUT Cedar City 92.55 46 P **P** **14 19 39.7 +0.4**
GYA Guiyang 92.64 300 ⇑P **P** **14 19 41.0 +1.2**
GYA pP pwP 14 19 45.3 -2.2
GYA PP **PP** **14 23 23.9 +2.0**
GYA S **S** **14 30 49.2 +4.0**
GYA SS **SS** **14 36 54.9 -3.2**
GYA pmax pmax
comp=Z,11nm,1.5s
GYA pmax pmax
comp=Z,830nm,8.5s
GYA LR LR
comp=Z,940nm,10.2s
GYA LR LR
comp=Z,1μm,19.0s
GYA LR LR
comp=Z,2μm,16.8s
I05D Terrebonne, OR 92.71 37 P **P** **14 19 40.1 +0.4**
baz=225
SZCU Shurtz Canyon 92.75 46 P **P** **14 19 40.2 0.0**
SZCU IAmb IAmb 14 20 09.3
comp=Z,20nm,1.4s
X18A Snowflake 92.77 50 P **P** **14 19 40.3 0.0**
X18A IAmb IAmb 14 19 59.8
comp=Z,15nm,1.3s
X18A IAMs_20 IAMs_20 14 57 37.6
comp=Z,8μm,19.0s
WVOR Wild Horse Val 92.79 40 P **P** **14 19 40.0 -0.1**
WVOR pmax pmax
comp=Z,20nm,1.2s
WVOR Wild Horse Val 92.79 40 P **P** **14 19 40.0 -0.1**
WVOR IAmb IAmb 14 19 44.1
comp=Z,20nm,1.1s
ENH Enshi 92.87 304 P **P** **14 19 41.0 +0.3**
ENH IAmb IAmb 14 19 49.1
comp=Z,22nm,1.0s
LVC Limon Verde 92.88 119 LR LR 14 53 08.4
comp=Z,5μm,20.6s,baz=214,slow=30
LVC Limon Verde 92.88 119 P **P** **14 19 40.5 -0.9**
LVC pmax pmax
comp=Z,45nm,1.3s
LVC Limon Verde 92.88 119 P **P** **14 19 40.5 -0.9**
NKL Nikolayevsk 92.88 337 *e*P **P** **14 19 38.7 -1.4**
NKL pmax pmax
comp=E,8.0nm,1.3s
NKL pmax pmax
comp=Z,26nm,1.2s
PSUT Pine Spring 92.89 45 P **P** **14 19 40.8 -0.1**
NNA Nana 92.91 106 IAMs_20 IAMs_20 14 53 10.6
comp=Z,9μm,20.0s
SPR3 Spring Creek 3 92.92 44 P **P** **14 19 40.3 -0.8**
KDAK Kodiak Island 92.92 13 P **P** **14 19 41.8 +1.7**
comp=Z,7.3nm,1.0s,baz=8.1,slow=7.1,SNR=2.6
KDAK Kodiak Island 92.92 13 IAMs_20 IAMs_20 14 54 54.0
comp=Z,8μm,21.0s
KDAK Kodiak Island 92.92 13 S **S** **14 30 47.3 +1.5**
baz=201
121A Cookes Peak, D 92.97 53 IAMs_20 IAMs_20 14 54 16.3
comp=Z,11μm,20.0s
PB09 IPOC Station P 93.12 118 P **P** **14 19 41.1 -1.3**
KLR Kul'dur 93.13 330 *ce*P **P** **14 19 40.8 -0.5**
KLR pmax pmax
comp=Z,3.0nm,0.8s
KLR MLR MLR
comp=Z,3μm,18.0s
F04D Rainier, OR 93.13 35 P **P** **14 19 45.9 +4.4**
baz=224
F04D S **S** **14 30 54.5 +6.1**
baz=224
E03A Lebam 93.20 34 P **P** **14 19 42.2 +0.5**
E03A IAmb IAmb 14 19 46.1
comp=Z,27nm,1.1s
E03A IAMs_20 IAMs_20 14 55 35.9
comp=Z,9μm,20.0s
W18A Petrified Fore 93.28 50 IAMs_20 IAMs_20 14 57 54.1
comp=Z,8μm,18.0s
W18A Petrified Fore 93.28 50 S **S** **14 30 59.2 +8.5**
baz=232
F04A Amboy 93.31 35 P **P** **14 19 41.0 -1.2**
F04A IAmb IAmb 14 19 46.1
comp=Z,21nm,1.0s
F04A IAMs_20 IAMs_20 14 55 36.8
comp=Z,10μm,20.0s
G05D Wamic, OR 93.36 36 P **P** **14 19 43.4 +0.9**
baz=225,SNR=8.1
G05D S **S** **14 30 58.4 +7.9**
baz=225
EPT El Paso 93.38 54 IAMs_20 IAMs_20 14 54 52.2
comp=Z,7μm,20.0s
PB01 IPOC Station P 93.39 118 P **P** **14 19 42.9 -0.6**
PB01 IAmb IAmb 14 19 47.4
comp=Z,27nm,1.2s
I07A Izee 93.47 38 P **P** **14 19 42.8 -0.4**
I07A IAMs_20 IAMs_20 14 57 05.2
comp=Z,10μm,19.0s
J08A Circle Bar Ran 93.51 39 P **P** **14 19 42.6 -0.8**
J08A IAmb IAmb 14 19 47.4
comp=Z,16nm,1.0s
ELK Elko 93.54 43 P **P** **14 19 44.4 +0.6**
comp=Z,3.2nm,0.9s,baz=245,slow=4.5,SNR=13
ELK Elko 93.54 43 P **P** **14 19 42.5 -1.3**
ELK IAMs_20 IAMs_20 14 59 25.3
comp=Z,10μm,19.0s
MTPU Mount Pierson 93.58 46 P **P** **14 19 43.1 -1.1**
MTPU IAmb IAmb 14 19 54.7
comp=Z,15nm,1.2s
NLWA Neilton Lookou 93.68 34 P **P** **14 19 43.0 -1.0**
NLWA IAMs_20 IAMs_20 14 54 21.3
comp=Z,10μm,20.0s
E04D Cinebar 93.69 35 P **P** **14 19 45.9 +1.9**
baz=224
E04D S **S** **14 31 00.8 +7.6**
baz=224
F05D White Salmon 93.75 36 S **S** **14 30 59.8 +5.9**
baz=225
Q19K Cape Douglas, 93.79 12 IAMs_20 IAMs_20 15 05 17.3
comp=Z,10μm,19.0s
MSU Marysvale 93.89 46 P **P** **14 19 44.7 -0.7**
MSU Marysvale 93.89 46 P **P** **14 19 44.7 -0.7**
TX31 Lajitas Ar. Si 93.92 58 P **P** **14 19 44.2 -1.4**
TX31 IAmb IAmb 14 19 58.1
comp=Z,32nm,1.3s
TX32 Lajitas Array 93.92 58 P **P** **14 19 44.4 -1.2**
TXAR Lajitas Array 93.92 58 P **P** **14 19 45.2 -0.4**
comp=Z,2.0nm,1.0s,baz=212,slow=4.4,SNR=14
TXAR LR LR 14 54 37.3
comp=Z,7μm,19.5s,baz=0.0,slow=31
TXAR Lajitas Array 93.92 58 P **P** **14 19 44.6 -1.0**
CMAR Chiang Mai Arr 94.05 289 P **P** **14 19 48.1 +1.8**
comp=Z,0.6nm,0.6s,baz=132,slow=4.0,SNR=4.2
CMAR PP **PP** **14 23 32.1 -0.8**
comp=Z,7.6nm,1.1s,baz=135,slow=5.5,SNR=13
CMAR LR LR 15 07 15.8
comp=Z,2μm,18.1s,baz=187,slow=39
MNTX Cornudas Mount 94.10 55 P **P** **14 19 45.2 -1.1**
MNTX IAMs_20 IAMs_20 14 58 16.4
comp=Z,7μm,18.0s
MNTX Cornudas Mount 94.10 55 P **P** **14 19 45.9 -0.4**
baz=234
MNTX S **S** **14 31 02.3 +4.7**
baz=234
LON Longmire 94.19 35 P **P** **14 19 45.8 -0.6**
LON pmax pmax
comp=Z,15nm,1.5s
LON Longmire 94.19 35 P **P** **14 19 45.8 -0.6**
LON IAMs_20 IAMs_20 14 54 54.0
comp=Z,8μm,20.0s
O18K Koktuh Hills 94.39 11 P **P** **14 19 47.9 +0.9**
O18K IAmb IAmb 14 20 15.2
comp=Z,14nm,0.9s
O18K IAMs_20 IAMs_20 14 58 41.2
comp=Z,7μm,20.0s
O18K Koktuh Hills 94.39 11 P **P** **14 19 48.3 +1.4**
baz=199
O18K S **S** **14 31 01.2 +2.4**
baz=199
D05A Enumclaw 94.42 35 P **P** **14 19 48.2 +0.9**
D05A IAmb IAmb 14 19 56.7
comp=Z,47nm,1.3s
Y22D IRIS PASSCAL I 94.48 52 IAMs_20 IAMs_20 14 55 54.2
comp=Z,9μm,20.0s
F07A Phinny Hill Vi 94.52 37 IAMs_20 IAMs_20 14 55 38.7
comp=Z,10μm,20.0s
P19K Oil Pt 94.54 12 IAMs_20 IAMs_20 15 05 32.2
comp=Z,8μm,20.0s
P19K Oil Pt 94.54 12 S **S** **14 31 03.1 +2.9**
baz=201
DUG Dugway, Tooele 94.58 44 S **S** **14 31 08.3 +6.5**
baz=230
G08A Pilot Rock 94.59 37 P **P** **14 19 47.8 -0.6**
G08A IAmb IAmb 14 19 52.2
comp=Z,12nm,1.0s
G08A IAMs_20 IAMs_20 14 57 46.7
comp=Z,9μm,19.0s
BJI Beijing 94.59 315 P **P** **14 19 49.6 +1.3**
BJI SKS **SKSac** **14 30 25.4 +1.4**
BJI S **ScS** **14 31 06.2 +3.6**
BJI pmax pmax
comp=Z,11nm,0.9s
BJI pmax pmax
comp=Z,950nm,10.2s
BJI LR LR
comp=Z,2μm,19.4s
BJI LR LR
comp=Z,1μm,16.2s
BJI LR LR
comp=Z,3μm,18.8s
PGC Sidney 94.78 33 P **P** **14 19 49.8 +0.8**
PGC IAmb IAmb 14 19 52.9
comp=Z,14nm,1.1s
KMI Kunming 94.79 297 ⇑P **P** **14 19 49.3 -0.6**
KMI pP sP 14 19 52.1 +1.9
KMI PP **PP** **14 23 40.9 +2.1**
KMI SKS **SKSac** **14 30 24.2 -2.1**
KMI S **S** **14 31 00.0 -4.4**
KMI pmax pmax
comp=Z,7.0nm,0.7s
KMI pmax pmax
comp=Z,550nm,9.1s
KMI LR LR
comp=Z,660nm,15.9s
KMI LR LR
comp=Z,610nm,19.6s
KMI LR LR
comp=Z,1μm,18.4s
CNPM China Poot 94.80 13 IAMs_20 IAMs_20 14 56 03.9
comp=Z,9μm,21.0s
HOM Homer 94.84 13 IAMs_20 IAMs_20 14 56 07.0
comp=Z,8μm,21.0s
O19K Port Alsworth 94.86 12 P **P** **14 19 50.3 +1.3**
O19K IAmb IAmb 14 20 15.4
comp=Z,30nm,1.4s
O19K Port Alsworth 94.86 12 P **P** **14 19 51.6 +2.6**
baz=200
O19K S **S** **14 31 04.6 +1.8**
baz=200
TMUT Trail Mountain 94.97 46 P **P** **14 19 50.6 +0.1**
MFID Camas Ranch 94.97 40 P **P** **14 19 49.9 -0.3**
MFID IAMs_20 IAMs_20 15 00 01.1
comp=Z,9μm,19.0s
E07A Sunnyside 95.01 36 P **P** **14 19 50.0 -0.1**
O20K Slope Mountain 95.06 13 S **S** **14 31 07.1 +2.4**
baz=201
HAWA Hanford 95.06 36 P **P** **14 19 50.7 +0.4**
N18K Kilae Creek 95.06 11 S **S** **14 31 07.6 +2.9**
baz=199
BRLK Bradley Lake 95.09 13 IAMs_20 IAMs_20 14 56 23.1
comp=Z,8μm,21.0s
BRSE Bradley Lake S 95.10 14 S **S** **14 31 07.3 +2.3**
baz=203
LTY Liberty 95.10 35 IAMs_20 IAMs_20 14 56 54.1
comp=Z,9μm,20.0s
B05A Bryant 95.14 34 P **P** **14 19 52.7 +2.2**
baz=224
B05A S **S** **14 31 12.0 +6.3**
baz=224
BMO Blue Mountains 95.15 39 P **P** **14 19 50.9 0.0**
BMO pmax pmax
comp=Z,14nm,1.5s
BMO Blue Mountains 95.15 39 P **P** **14 19 50.9 0.0**
A04D Lummi Island 95.18 33 S **S** **14 31 14.7 +8.7**
baz=224
SRU San Rafael Swe 95.27 46 P **P** **14 19 51.3 -0.4**
SRU pmax pmax
comp=Z,5.0nm,1.0s
SRU San Rafael Swe 95.27 46 P **P** **14 19 51.3 -0.4**
ANMO Albuquerque 95.31 52 P **P** **14 19 52.4 +0.5**
comp=Z,1.7nm,0.9s,baz=175,slow=4.9,SNR=5.8
ANMO PP **PP** **14 23 41.9 -0.7**
comp=Z,0.4nm,0.3s,baz=188,slow=5.8,SNR=3.2
ANMO Albuquerque 95.31 52 *ce*P **P** **14 19 51.2 -0.8**
ANMO pmax pmax
comp=Z,1.0nm,1.0s
ANMO Albuquerque 95.31 52 P **P** **14 19 50.9 -1.1**
ANMO Albuquerque 95.31 52 IAMs_20 IAMs_20 14 57 45.8
comp=Z,10μm,18.0s
ANMO Albuquerque 95.31 52 P **P** **14 19 52.0 0.0**
baz=233
ANMO S **S** **14 31 14.2 +5.8**
baz=233
MVCO Mesa Verde 95.35 49 IAMs_20 IAMs_20 14 55 12.8
comp=Z,9μm,20.0s
MVCO Mesa Verde 95.35 49 S **S** **14 31 15.3 +6.6**
baz=232
E08A Dider Farm, El 95.36 37 IAMs_20 IAMs_20 14 56 15.1
comp=Z,11μm,20.0s
TIY Taiyuan 95.41 312 *e*P **P** **14 19 55.0 +2.8**
TIY PP **PP** **14 23 41.6 -1.7**
TIY S **S** **14 31 05.8 -3.1**
TIY pmax pmax
comp=Z,520nm,9.0s
TIY LR LR
comp=Z,710nm,14.2s
TIY LR LR
comp=Z,2μm,18.6s
TIY LR LR
comp=Z,2μm,17.2s
N19K Bonanza Creek 95.42 11 IAMs_20 IAMs_20 14 59 23.3
comp=Z,8μm,21.0s
N19K Bonanza Creek 95.42 11 S **S** **14 31 10.0 +2.1**
baz=200
BBB Bella Bella 95.42 28 IAMs_20 IAMs_20 14 57 20.0
comp=Z,7μm,19.0s
CCIG Comitan 95.49 74 IAMs_20 IAMs_20 14 57 29.6
comp=Z,7μm,18.0s
B06A Marblemount 95.60 34 IAMs_20 IAMs_20 14 57 04.2
comp=Z,8μm,20.0s
HVU Hansel Valley 95.62 43 P **P** **14 19 51.8 -1.4**
HVU pmax pmax
comp=Z,8.0nm,1.1s
HVU Hansel Valley 95.62 43 P **P** **14 19 51.8 -1.4**
MA2 Magadan 95.68 345 *ce*P **P** **14 19 54.4 +1.6**
MA2 pmax pmax
comp=Z,32nm,1.4s
SEW Seward 95.69 14 IAMs_20 IAMs_20 14 56 46.4
comp=Z,7μm,20.0s
SEW Seward 95.69 14 S **S** **14 31 13.2 +3.2**
baz=204
PV17 East Wray Mesa 95.72 48 IAMs_20 IAMs_20 14 55 45.3
comp=Z,12μm,21.0s
PV10 Paradox Valley 95.72 48 IAMs_20 IAMs_20 14 55 45.1
comp=Z,10μm,19.0s
PV18 Skein Mesa, Pa 95.73 48 IAMs_20 IAMs_20 14 55 45.6
comp=Z,8μm,20.0s
PV13 Radium Mtn., P 95.73 48 IAMs_20 IAMs_20 14 55 45.7
comp=Z,9μm,20.0s
PV14 Lion Creek, Pa 95.73 48 IAMs_20 IAMs_20 14 55 45.8
comp=Z,10μm,20.0s
Q23K Middleton Isla 95.75 16 IAMs_20 IAMs_20 14 59 34.1
comp=Z,8μm,18.0s
MID Middleton Isla 95.75 16 IAMs_20 IAMs_20 14 59 34.0
comp=Z,8μm,19.0s
PV16 Nyswonger Mesa 95.76 48 IAMs_20 IAMs_20 14 55 36.5
comp=Z,8μm,20.0s
PV03 Paradox Valley 95.77 48 IAMs_20 IAMs_20 14 55 56.8
comp=Z,8μm,20.0s
PV23 Carpenter Ridg 95.79 48 IAMs_20 IAMs_20 14 55 57.2
comp=Z,9μm,21.0s
PV02 Paradox Valley 95.81 48 IAMs_20 IAMs_20 14 55 38.8
comp=Z,9μm,20.0s
PV04 Paradox Valley 95.82 48 IAMs_20 IAMs_20 14 55 39.0
comp=Z,9μm,20.0s
D08A Wollman Farm, 95.82 36 P **P** **14 19 52.3 -1.5**
D08A IAmb IAmb 14 20 01.8
comp=Z,15nm,1.3s
PV12 Saucer Basin, 95.84 48 IAMs_20 IAMs_20 14 55 38.5
comp=Z,10μm,20.0s
E09A Wood Farm, Sta 95.84 37 P **P** **14 19 52.7 -1.2**
E09A IAmb IAmb 14 20 21.5
comp=Z,16nm,1.3s
E09A IAMs_20 IAMs_20 14 56 30.7
comp=Z,7μm,20.0s
HLID Hailey 95.85 41 P **P** **14 19 54.1 -0.1**
HLID IAMs_20 IAMs_20 15 00 29.2
comp=Z,9μm,19.0s
HLID Hailey 95.85 41 P **P** **14 19 54.7 +0.5**
baz=229
HLID S **S** **14 31 15.8 +3.2**
baz=229
PV01 Paradox Valley 95.87 48 IAMs_20 IAMs_20 14 55 50.4
comp=Z,9μm,19.0s
F10A Beach Ranch, E 95.94 38 P **P** **14 19 53.2 -1.3**
F10A IAmb IAmb 14 19 57.5
comp=Z,10.0nm,1.1s
F10A IAMs_20 IAMs_20 14 58 30.5
comp=Z,8μm,20.0s
CAPN Captain Cook N 95.97 13 IAMs_20 IAMs_20 15 00 52.7
comp=Z,9μm,20.0s
O22K Cooper Landing 95.98 14 IAMs_20 IAMs_20 14 57 08.1
comp=Z,6μm,20.0s
PLID Pearl Lake 95.99 39 P **P** **14 19 54.1 -0.8**
PLID IAmb IAmb 14 20 23.4
comp=Z,20nm,1.4s
PV07 Paradox Valley 96.01 48 IAMs_20 IAMs_20 14 55 45.1
comp=Z,8μm,20.0s
PV15 Paradox Valley 96.05 48 IAMs_20 IAMs_20 14 55 57.2
comp=Z,9μm,20.0s
CRAG Craig 96.14 24 IAMs_20 IAMs_20 14 59 14.7
comp=Z,6μm,19.0s
CRAG Craig 96.14 24 S S 14 31 23.6 +10
baz=217
M19K Big River Lodg 96.46 11 IAMs_20 IAMs_20 15 02 05.9
comp=Z,6μm,20.0s
SNET Serv Nac Est T 96.48 78 IAMs_20 IAMs_20 14 58 10.1
comp=Z,9μm,18.0s
B08A Colville Reser 96.52 35 P **P** **14 19 55.8 -1.2**
GAMB Gambell 96.53 3 IAMs_20 IAMs_20 14 58 00.3
comp=Z,7μm,21.0s
GAMB Gambell 96.53 3 S **S** **14 31 21.2 +4.1**
baz=186
RC01 Rabbit Creek A 96.54 13 S **S** **14 31 20.4 +3.0**
baz=204
HIN Hinchinbrook I 96.58 15 IAMs_20 IAMs_20 15 00 14.0
comp=Z,10μm,20.0s
PWL Port Wells 96.61 14 IAMs_20 IAMs_20 14 57 11.7
comp=Z,8μm,20.0s
KAIM Kayak Island 96.64 16 IAMs_20 IAMs_20 14 59 48.6
comp=Z,9μm,20.0s
L19K White Mountain 96.65 11 P **P** **14 19 57.5 +0.3**

L19K IAmb IAmb 14 20 05.8
comp=Z,17nm,1.4s
L19K White Mountain 96.65 11 P **P** **14 19 58.3 +1.1**
baz=200
L19K S **S** **14 31 23.1 +4.7**
baz=200
M20K Styx River 96.65 12 IAMs_20 IAMs_20 15 07 08.9
comp=Z,7µm,20.0s
M20K Styx River 96.65 12 S **S** **14 31 20.6 +2.0**
baz=201
SIT Sitka 96.70 22 IAMs_20 IAMs_20 14 57 28.5
comp=Z,8µm,20.0s
SIT Sitka 96.70 22 S **S** **14 31 27.0 +8.2**
baz=215
S22A 4UR Ranch, Cre 96.73 49 P **P** **14 20 01.4 +2.9**
baz=233
EYAK Cordova Ski Ar 96.89 16 IAMs_20 IAMs_20 15 00 02.1
comp=Z,8µm,19.0s
EYAK Cordova Ski Ar 96.89 16 S **S** **14 31 25.2 +4.9**
baz=207
GLI Glacier Island 96.89 15 P **P** **14 19 57.5 -0.7**
GLI IAmb IAmb 14 20 01.7
comp=Z,29nm,1.3s
GLI IAMs_20 IAMs_20 15 00 47.1
comp=Z,8µm,20.0s
GLI Glacier Island 96.89 15 P **P** **14 20 00.3 +2.0**
baz=206
GLI S **S** **14 31 24.4 +4.0**
baz=206
FID Port Fidalgo 96.91 15 IAMs_20 IAMs_20 15 00 33.3
comp=Z,10µm,19.0s
SUCK Suckling Hills 96.92 17 IAMs_20 IAMs_20 14 59 59.1
comp=Z,10µm,19.0s
SKT Skwentna 97.02 12 S **S** **14 31 25.9 +4.4**
baz=202
KNK Knik Glacier 97.09 14 IAMs_20 IAMs_20 14 57 30.4
comp=Z,7µm,20.0s
KNK Knik Glacier 97.09 14 S **S** **14 31 24.9 +2.8**
baz=205
KVTX Kingsville 97.10 62 IAMs_20 IAMs_20 15 02 25.2
comp=Z,6µm,18.0s
WRAK Wrangell Islan 97.16 24 IAMs_20 IAMs_20 15 05 41.7
comp=Z,8µm,18.0s
WRAK Wrangell Islan 97.16 24 S S 14 31 33.6 +11
baz=217
AHID Auburn Hatcher 97.20 43 IAMs_20 IAMs_20 15 04 34.4
comp=Z,8µm,19.0s
MSTX Muleshoe 97.21 54 IAMs_20 IAMs_20 14 56 56.4
comp=Z,7µm,19.0s
CD2 Chengdu 97.27 302 P **P** **14 20 00.1 -0.7**
CD2 PP **PP** **14 24 01.5 +3.8**
CD2 SKS **SKSac** **14 30 37.7 -1.0**
CD2 S **S** **14 31 24.4 -0.8**
CD2 SS **SS** **14 38 07.6 +3.9**
CD2 pmax pmax
comp=Z,950nm,11.5s
CD2 LR LR
comp=Z,2µm,17.3s
LPAZ La Paz 97.28 115 P Pdif 14 20 04.0 +1.9
comp=Z,1.7nm,0.6s,baz=222,slow=4.0,SNR=12
LPAZ LR LR 14 59 18.6
comp=Z,2µm,18.1s,baz=236,slow=33
LPAZ La Paz 97.28 115 P Pdif 14 20 04.0 +1.9
LPAZ La Paz 97.28 115 P **P** **14 20 00.9 -1.1**
LPAZ IAmb IAmb 14 20 05.0
comp=Z,11nm,1.3s
O20A White River Ci 97.28 47 IAMs_20 IAMs_20 14 57 55.8
comp=Z,6µm,20.0s
GHO Glory Hole Cre 97.32 14 IAMs_20 IAMs_20 15 08 47.6
comp=Z,5µm,18.0s
JCT Junction City 97.32 59 IAMs_20 IAMs_20 14 57 49.8
comp=Z,9µm,19.0s
JCT Junction City 97.32 59 P Pdif 14 20 03.5 +2.4
baz=236
JCT S **S** **14 31 28.0 +2.4**
baz=236
DIV Divide 97.40 15 IAMs_20 IAMs_20 15 09 51.5
comp=Z,7µm,19.0s
SML Sawmill 97.47 14 IAMs_20 IAMs_20 15 08 41.6
comp=Z,7µm,18.0s
SML Sawmill 97.47 14 S **S** **14 31 27.5 +2.0**
baz=205
YKU2 Yakutat 97.48 19 IAMs_20 IAMs_20 15 07 03.0
comp=Z,7µm,19.0s
SMCO Snowmass 97.49 48 IAMs_20 IAMs_20 14 56 43.4
comp=Z,8µm,20.0s
BMRM Bremner River 97.52 16 IAMs_20 IAMs_20 15 00 31.8
comp=Z,8µm,19.0s
BMRM Bremner River 97.52 16 S **S** **14 31 31.4 +5.4**
baz=208
MCMT McKenzie Canyo 97.52 41 P Pdif 14 20 02.3 +0.3
NEW Newport 97.53 36 P Pdif 14 20 02.5 +0.8
comp=Z,1.2nm,0.8s,baz=309,slow=4.6,SNR=4.0
NEW Newport 97.53 36 IAmb IAmb 14 20 06.0
comp=Z,2.9nm,1.1s
SDCO Great Sand Dun 97.58 50 IAMs_20 IAMs_20 15 00 42.9
comp=Z,6µm,18.0s
SDCO Great Sand Dun 97.58 50 S **S** **14 31 34.9 +6.8**
baz=234
CUT Chulitna 97.64 13 IAMs_20 IAMs_20 14 58 00.1
comp=Z,9µm,21.0s
CRQM Cirque 97.68 17 IAMs_20 IAMs_20 15 00 34.2
comp=Z,11µm,20.0s
KLU Klutina 97.69 15 IAMs_20 IAMs_20 14 57 33.4
comp=Z,7µm,20.0s
KLU Klutina 97.69 15 S **S** **14 31 32.2 +4.7**
baz=207
ANM Nome 97.70 6 IAMs_20 IAMs_20 15 01 43.5
comp=Z,7µm,20.0s
REDW Red Top Meadow 97.72 43 IAMs_20 IAMs_20 15 01 59.9
comp=Z,8µm,19.0s
ISLE Juniper Island 97.74 17 IAMs_20 IAMs_20 15 00 24.6
comp=Z,10µm,20.0s
TPAW Teton Pass 97.74 43 IAMs_20 IAMs_20 15 01 59.5
comp=Z,9µm,18.0s
TGL Tana Glacier 97.75 17 IAMs_20 IAMs_20 15 00 15.9
comp=Z,9µm,20.0s
PPLA Purkeypile 97.76 12 IAMs_20 IAMs_20 15 07 45.0
comp=Z,9µm,20.0s
FXWY Fox Creek 97.79 42 IAMs_20 IAMs_20 15 02 02.8
comp=Z,9µm,19.0s
PCA Pinnacle 97.83 18 IAMs_20 IAMs_20 15 00 07.1
comp=Z,9µm,20.0s
PINM Pinnacle 97.83 18 S **S** **14 31 36.4 +7.7**
baz=211
SNOW Snow King Moun 97.84 43 IAMs_20 IAMs_20 15 02 14.0
comp=Z,8µm,19.0s
HHC Hu-ho-hao-te 97.85 314 *e*P **P** **14 20 02.7 -0.6**
HHC SKS **SKSac** **14 30 42.8 +1.5**
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,580nm,7.6s
HHC LR LR
comp=Z,1µm,18.0s
HHC LR LR
comp=Z,2µm,19.3s
HHC LR LR
comp=Z,4µm,19.9s
ORTG Ortega, Santa 97.85 83 IAMs_20 IAMs_20 14 57 25.7
comp=Z,6µm,18.0s
BCPM Bancas Point 97.87 18 IAMs_20 IAMs_20 15 00 37.2
comp=Z,7µm,19.0s
735A Kenedy 97.88 61 IAMs_20 IAMs_20 15 03 12.7
comp=Z,6µm,18.0s
T25A Trinidad 97.93 51 S S 14 31 42.3 +11
baz=235
JIS Juneau Island 97.99 22 IAMs_20 IAMs_20 14 58 26.6
comp=Z,10µm,20.0s
GRNC Granite Creek 97.99 17 IAMs_20 IAMs_20 15 00 33.4
comp=Z,10µm,20.0s
DLMT Dillon 98.00 40 P Pdif 14 20 04.8 +0.9
DLMT IAMs_20 IAMs_20 15 02 10.2
comp=Z,7µm,19.0s
IMW Indian Meadow 98.00 42 P **P** **14 20 03.5 -0.6**
IMW IAMs_20 IAMs_20 15 02 08.4
comp=Z,8µm,19.0s
LOHW Long Hollow 98.02 43 IAMs_20 IAMs_20 15 02 09.8
comp=Z,8µm,19.0s
VRDI Verde Repeater 98.02 16 IAMs_20 IAMs_20 15 00 46.0
comp=Z,8µm,20.0s
MOOW Moose Ponds 98.02 43 IAMs_20 IAMs_20 15 02 00.9
comp=Z,9µm,19.0s
N25K Chitina, Valde 98.09 16 IAMs_20 IAMs_20 15 01 10.8
comp=Z,8µm,20.0s
N25K Chitina, Valde 98.09 16 S **S** **14 31 35.1 +4.3**
baz=208
BESE Bessie Mountai 98.09 21 IAMs_20 IAMs_20 14 58 39.2
comp=Z,8µm,20.0s
BW06 Boulder Array 98.10 44 P **P** **14 20 04.2 -0.3**
BW06 Boulder Array 98.10 44 S **S** **14 31 35.8 +3.6**
baz=232
PDAR Pinedale Array 98.10 44 P Pdif 14 20 06.2 +1.7
comp=Z,0.6nm,0.4s,baz=207,slow=3.6,SNR=6.0
PDAR LR LR 14 58 39.2
comp=Z,6µm,19.4s,baz=246,slow=32
GLB Gilahina Butte 98.12 16 IAMs_20 IAMs_20 15 00 59.7
comp=Z,6µm,20.0s
M24K Tolsona, Glenn 98.19 15 IAMs_20 IAMs_20 15 01 28.5
comp=Z,6µm,20.0s
JTS Las Juntas de 98.24 83 IAMs_20 IAMs_20 14 57 54.0
comp=Z,5µm,18.0s
FLWY Flagg Ranch 98.25 42 IAMs_20 IAMs_20 15 02 27.0
comp=Z,9µm,19.0s
MCARA McCarthy VSAT 98.25 16 IAMs_20 IAMs_20 15 01 03.2
comp=Z,7µm,20.0s
MCARA McCarthy VSAT 98.25 16 S **S** **14 31 38.8 +6.7**
baz=209
LOGN Logan Glacier 98.26 17 IAMs_20 IAMs_20 15 00 51.4
comp=Z,10µm,20.0s
WAT6 Susitna Watana 98.29 14 S **S** **14 31 34.9 +2.2**
baz=206
CTG Chitna Glacier 98.30 17 S **S** **14 31 39.7 +7.0**
baz=211
CTGM Chitina Glacie 98.30 17 IAMs_20 IAMs_20 15 00 43.5
comp=Z,8µm,20.0s
BARN Barnard Glacie 98.30 17 IAMs_20 IAMs_20 15 00 42.5
comp=Z,7µm,20.0s
WAT1 Susitna Watana 98.36 13 S **S** **14 31 39.3 +6.4**
baz=205
ZEA Zeya 98.36 331 *e*P Pdif 14 20 05.1 0.0
ZEA *e*S **SKSac** **14 30 46.0 +3.0**
ZEA *e* 14 31 36.5
ZEA *e* 14 32 54.9
ZEA pmax pmax
comp=E,100nm,14.8s
ZEA pmax pmax
comp=N,100nm,10.1s
ZEA pmax pmax
comp=Z,300nm,13.8s
ZEA pmax pmax
comp=N,10.0nm,1.5s
ZEA pmax pmax
comp=Z,10.0nm,1.7s
ZEA smax smax
comp=Z,500nm,11.3s
ZEA smax smax
comp=E,2µm,10.6s
ZEA smax smax
comp=N,2µm,10.3s
SEY Seymchan 98.40 347 *i* P **P** **14 20 03.9 -1.1**
AMTX Amarillo 98.47 54 IAMs_20 IAMs_20 14 57 34.7
comp=Z,8µm,20.0s
TNA Tin City 98.51 4 IAMs_20 IAMs_20 15 01 24.6
comp=Z,7µm,20.0s
CPUP Villa Florida 98.56 129 PKKP 14 36 36.4
comp=Z,2.2nm,0.8s,baz=76,slow=4.2,SNR=3.2
CPUP LR LR 14 59 10.2
comp=Z,7µm,18.8s,baz=231,slow=32
KTH Kantishna Hill 98.59 12 IAMs_20 IAMs_20 15 08 01.9
comp=Z,10µm,20.0s
TRF Thorofare Moun 98.60 12 IAMs_20 IAMs_20 14 58 42.4
comp=Z,10µm,21.0s
JTMT Jemtland 98.63 38 IAMs_20 IAMs_20 15 02 18.6
comp=Z,6µm,19.0s
SKAG Skagway 98.67 21 IAMs_20 IAMs_20 15 01 12.4
comp=Z,6µm,19.0s
SKAG Skagway 98.67 21 S S 14 31 45.0 +9.4
baz=215
BOZ Bozeman (W) 98.68 41 IAMs_20 IAMs_20 15 11 33.1
comp=Z,7µm,18.0s
BOZ Bozeman (W) 98.68 41 S **S** **14 31 41.8 +5.0**
baz=231
ISCO Idaho Springs 98.71 48 IAMs_20 IAMs_20 14 57 35.6
comp=Z,9µm,20.0s
PEZE Perez Zeledon, 98.83 85 IAMs_20 IAMs_20 14 59 10.6
comp=Z,7µm,18.0s
RND Reindeer 98.83 13 IAMs_20 IAMs_20 15 09 43.3
comp=Z,8µm,19.0s
RWWY Rawlins 98.84 46 IAMs_20 IAMs_20 15 00 07.9
comp=Z,8µm,19.0s
ACON Acoyapa 98.94 82 IAMs_20 IAMs_20 14 59 00.3
comp=Z,6µm,19.0s
SRBA San Rafael, Bu 99.01 85 IAMs_20 IAMs_20 14 57 49.6
comp=Z,9µm,18.0s
YUK6 Outpost Mounta 99.05 18 S **S** **14 31 46.3 +7.1**
baz=213
BPAW Bear Paw Mtn. 99.08 12 IAMs_20 IAMs_20 15 08 26.0
comp=Z,9µm,19.0s
435B Jarrell 99.09 59 IAMs_20 IAMs_20 15 00 54.6
comp=Z,7µm,19.0s
PAX Paxson 99.11 14 IAMs_20 IAMs_20 15 01 48.8
comp=Z,7µm,20.0s
MCK McKinley 99.11 13 IAMs_20 IAMs_20 15 02 43.8
comp=Z,9µm,20.0s
M26K Nabesna, AK 99.15 16 IAMs_20 IAMs_20 15 01 35.9
comp=Z,7µm,20.0s
HYT Haines Junctio 99.18 19 IAMs_20 IAMs_20 15 01 39.8
comp=Z,8µm,20.0s
YNE Yellowstone No 99.21 42 P **Pdif** **14 20 09.8 +0.4**
YNE IAmb IAmb 14 20 13.7
comp=Z,9.3nm,1.2s
BWN Browne 99.42 12 IAMs_20 IAMs_20 15 10 23.7
comp=Z,10µm,19.0s
MENT Mentasta 99.46 15 IAMs_20 IAMs_20 15 02 07.1
comp=Z,7µm,20.0s
DLBC Dease Lake 99.52 23 PP **PP** **14 24 21.2 +6.8**
comp=Z,5.8nm,1.3s,baz=222,slow=6.0,SNR=3.5
DLBC Dease Lake 99.52 23 IAMs_20 IAMs_20 15 01 47.2
comp=Z,9µm,20.0s
L26K Log Cabin Wild 99.62 15 IAMs_20 IAMs_20 15 02 12.3
comp=Z,8µm,20.0s
WALA Waterton Lakes 99.66 37 IAMs_20 IAMs_20 14 59 09.9
comp=Z,9µm,20.0s
RLMT Red Lodge 99.70 42 IAMs_20 IAMs_20 15 03 14.2
comp=Z,9µm,18.0s
WHY Whitehorse 99.78 20 IAMs_20 IAMs_20 15 02 42.7
comp=Z,9µm,19.0s
NEA2 Nenana 99.87 12 IAMs_20 IAMs_20 15 10 28.9
comp=Z,8µm,19.0s
HKT Hockley 99.92 61 *i* P **Pdif** **14 20 09.6 -2.9**
HKT pmax pmax
comp=Z,2.0nm,1.0s
HKT Hockley 99.92 61 IAMs_20 IAMs_20 14 59 33.8
comp=Z,7µm,19.0s
RIDG Independent Ri 99.92 14 IAMs_20 IAMs_20 14 59 17.4
comp=Z,8µm,20.0s
WRH Wood River Hil 99.94 13 IAMs_20 IAMs_20 15 02 58.7
comp=Z,9µm,20.0s
MLY Manley 99.98 11 IAMs_20 IAMs_20 15 08 53.8
comp=Z,6µm,20.0s
L27K Beaver Creek, 99.99 16 IAMs_20 IAMs_20 15 02 02.2
comp=Z,7µm,20.0s
DOT Dot Lake 100.01 15 IAMs_20 IAMs_20 15 02 36.5
comp=Z,6µm,20.0s
LZH Lanzhou 100.08 306 *e*P **Pdif** **14 20 10.0 -3.4**
LZH sP pwP 14 20 20.9 -0.2
LZH PP **PP** **14 24 22.0 +2.7**
LZH SKS **SKSac** **14 30 54.3 +1.5**
LZH *e*S **Sdif** **14 31 41.4 -7.5**
LZH sS sS 14 31 55.2 +5.8
LZH SS **SS** **14 38 40.5 -2.7**
LZH pmax pmax
comp=Z,25nm,1.0s
LZH pmax pmax
comp=Z,510nm,6.2s
LZH LR LR
comp=Z,2µm,14.4s
LZH LR LR
comp=Z,2µm,14.4s
LZH LR LR
comp=Z,2µm,15.7s
HDA Harding Lake 100.10 13 IAMs_20 IAMs_20 15 13 16.9
comp=Z,5µm,18.0s
CCB Clear Creek Bu 100.15 13 IAMs_20 IAMs_20 15 02 45.3
comp=Z,9µm,20.0s
SCRK Sand Creek 100.31 15 IAMs_20 IAMs_20 15 02 45.6
comp=Z,7µm,20.0s
I23K Minto, Yukon-K 100.33 12 IAMs_20 IAMs_20 15 08 53.9
comp=Z,9µm,20.0s
TCOL CIGO, UAF Yank 100.35 13 IAMs_20 IAMs_20 15 03 01.4
comp=Z,10µm,20.0s
COLA College 100.35 13 IAMs_20 IAMs_20 15 03 11.4
comp=Z,9µm,20.0s
MDM Murphy Dome 100.36 12 IAMs_20 IAMs_20 15 03 11.7
comp=Z,8µm,20.0s
WMOK Wichita Mounta 100.38 55 IAMs_20 IAMs_20 14 58 50.4
comp=Z,6µm,20.0s
ILAR Eielson Array 100.44 13 P **Pdif** **14 20 14.3 +0.3**
comp=Z,0.6nm,0.9s,baz=202,slow=6.8,SNR=3.5
ILAR PP **PP** **14 24 18.9 -2.2**
comp=Z,2.5nm,1.0s,baz=222,slow=7.0,SNR=6.3
POKR Poker Flat Res 100.65 13 IAMs_20 IAMs_20 15 03 10.4
comp=Z,10µm,20.0s
K27K Chicken 100.77 15 IAMs_20 IAMs_20 15 02 38.9
comp=Z,8µm,19.0s
H23K Yukon River 100.92 12 IAMs_20 IAMs_20 15 09 42.6
comp=Z,8µm,20.0s
237A Washetta, Mont 101.02 59 IAMs_20 IAMs_20 15 10 12.8
comp=Z,7µm,18.0s
RDOG Red Dog Mine 101.34 6 IAMs_20 IAMs_20 15 06 00.6
comp=Z,9µm,20.0s
BILL Bilibino 101.34 354 *i* P **Pdif** **14 20 18.5 +0.5**
BILL *e* **PP** **14 24 23.9 -4.0**
BILL *e*PPP PPP 14 26 35.8
BILL *e*SS SS 14 38 52.3 -6.8
BILL *e*SSS SSS 14 42 45.0
BILL pmax pmax
comp=Z,4.0nm,0.3s
BILL MLR MLR
comp=Z,5µm,18.0s
DAWY Dawson 101.42 16 IAMs_20 IAMs_20 15 10 47.0
comp=Z,5µm,18.0s
EGAK Eagle 101.62 15 IAMs_20 IAMs_20 15 03 05.3
comp=Z,8µm,20.0s
OKCFA Oklahoma City 101.66 55 IAMs_20 IAMs_20 15 05 22.4
comp=Z,8µm,20.0s
OK025 Westminster Rd 101.83 55 IAMs_20 IAMs_20 15 00 07.8
comp=Z,6µm,20.0s
OK029 Liberty Lake 101.86 55 IAMs_20 IAMs_20 15 00 07.6
comp=Z,7µm,20.0s
CROK Carrier 101.87 54 IAMs_20 IAMs_20 15 00 03.9
comp=Z,7µm,20.0s
OK032 Salt Plains WL 101.88 54 IAMs_20 IAMs_20 14 59 44.0
comp=Z,7µm,20.0s
CBKS Cedar Bluff 101.93 51 IAMs_20 IAMs_20 15 03 33.2
comp=Z,8µm,18.0s
LAO LASA Array 102.34 42 IAMs_20 IAMs_20 15 11 58.1
comp=Z,6µm,18.0s
FYU Fort Yukon 102.35 13 IAMs_20 IAMs_20 15 03 52.5
comp=Z,6µm,20.0s
OK031 S. Brethren Rd 102.37 55 IAMs_20 IAMs_20 15 00 23.1
comp=Z,7µm,20.0s
R32A Long Quarter, 102.40 52 IAMs_20 IAMs_20 15 00 58.7
comp=Z,5µm,20.0s
KS21 Milan North St 102.50 54 IAMs_20 IAMs_20 15 00 36.8
comp=Z,8µm,20.0s
BLOK Blackwell 102.53 54 IAMs_20 IAMs_20 15 04 55.4
comp=Z,8µm,21.0s
KS20 Mayfield South 102.55 54 IAMs_20 IAMs_20 15 00 37.7
comp=Z,8µm,22.0s
QUOK Quay 102.57 55 IAMs_20 IAMs_20 15 00 29.5
comp=Z,10µm,22.0s
T35A Sooner Cattle 103.09 55 IAMs_20 IAMs_20 15 00 54.3
comp=Z,7µm,20.0s
PALK Pallekele 103.19 270 IAMs_20 IAMs_20 15 08 15.9
comp=Z,7µm,19.0s
SHL Shillong 103.35 292 *i* x **PP** **14 24 39.8 -4.4**
MIAR Mount Ida 103.93 58 IAMs_20 IAMs_20 15 05 51.8
comp=Z,7µm,18.0s
545A Edgard 103.93 63 IAMs_20 IAMs_20 15 14 43.3
comp=Z,8µm,18.0s
KSU1 Kansas State U 104.16 53 IAMs_20 IAMs_20 15 03 17.2
comp=Z,7µm,19.0s
BGNE Belgrade 104.33 50 IAMs_20 IAMs_20 15 13 31.7
comp=Z,6µm,18.0s
X40A Basin Creek Fa 104.43 58 IAMs_20 IAMs_20 15 04 00.0
comp=Z,6µm,19.0s
N33A J Bar K, Exete 104.44 51 IAMs_20 IAMs_20 15 05 19.5
comp=Z,8µm,18.0s
344A Westbrook Farm 104.45 62 IAMs_20 IAMs_20 15 15 43.9
comp=Z,5µm,18.0s
DGMT Dagmar 104.48 41 IAMs_20 IAMs_20 15 04 16.6
comp=Z,9µm,19.0s
SONM Songino Array 104.89 318 PP **PP** **14 24 52.3 -2.8**
comp=Z,1.7nm,1.0s,baz=139,slow=2.7,SNR=5.3
SONM PKKP **PKKPab** **14 36 35.0 +2.1**
comp=Z,2.8nm,1.1s,baz=288,slow=1.4,SNR=8.2
CCAR Cane Creek 104.91 59 IAMs_20 IAMs_20 15 04 11.8
comp=Z,9µm,19.0s
WHAR Wooly Hollow 105.22 58 IAMs_20 IAMs_20 15 01 36.8
comp=Z,9µm,20.0s
E28A Huff 105.46 44 IAMs_20 IAMs_20 15 06 59.9
comp=Z,8µm,18.0s
SAML Samuel 105.55 112 IAMs_20 IAMs_20 15 02 56.4
comp=Z,6µm,19.0s
S39A Bolivar 105.68 55 IAMs_20 IAMs_20 15 02 16.7
comp=Z,9µm,20.0s
N35A Tabor 105.69 51 IAMs_20 IAMs_20 15 05 40.6
comp=Z,8µm,19.0s
L34A Svendsen Farm, 105.76 50 IAMs_20 IAMs_20 15 14 25.4
comp=Z,5µm,18.0s
SOR Soroa 106.20 73 IAMs_20 IAMs_20 15 00 56.3
comp=Z,7µm,20.0s
INK Inuvik 106.27 16 IAMs_20 IAMs_20 15 05 58.1
comp=Z,6µm,20.0s
VIS Vishakhapatnam 106.35 281 *i* x **PP** **14 25 05.0 -1.2**
P38A Dawn 106.48 53 IAMs_20 IAMs_20 15 03 15.8
comp=Z,7µm,20.0s
ECSD EROS Data Cent 106.49 48 IAMs_20 IAMs_20 15 11 56.6
comp=Z,8µm,18.0s
HBAR Harrisburg 106.51 58 IAMs_20 IAMs_20 15 06 29.1
comp=Z,8µm,18.0s
MDRS Chennai 106.58 275 *i* x **PP** **14 25 10.0 +2.1**
R40A Maddies Statio 106.70 55 IAMs_20 IAMs_20 15 02 56.7
comp=Z,9µm,20.0s
HDBT Hernando Brdge 106.75 59 IAMs_20 IAMs_20 15 06 32.4
comp=Z,8µm,21.0s
MDND Maddock 106.75 44 IAMs_20 IAMs_20 15 07 58.1
comp=Z,8µm,18.0s
SPB Sao Paulo 106.78 133 IAMs_20 IAMs_20 15 05 06.1
comp=Z,6µm,18.0s
LPAR Lepanto 106.79 58 IAMs_20 IAMs_20 15 06 37.5
comp=Z,6µm,18.0s
OXF Oxford 106.91 60 IAMs_20 IAMs_20 15 16 51.8
comp=Z,6µm,18.0s
GNAR Gosnell 107.16 58 IAMs_20 IAMs_20 15 06 38.4
comp=Z,7µm,19.0s
BOK Bokaro 107.23 287 *i* x x 14 25 03.3
N38A Joes South For 107.25 52 IAMs_20 IAMs_20 15 05 20.9
comp=Z,7µm,19.0s
Z47A Carrollton 107.27 61 IAMs_20 IAMs_20 15 05 27.5
comp=Z,5µm,19.0s
CCM Cathedral Cave 107.29 56 IAMs_20 IAMs_20 15 03 36.5
comp=Z,7µm,20.0s
PEBM Pemiscott Bayo 107.34 58 IAMs_20 IAMs_20 15 06 33.1
comp=Z,9µm,19.0s
P40A Paris 107.44 54 IAMs_20 IAMs_20 15 03 37.3
comp=Z,6µm,20.0s
LNXT Lenox 107.60 58 IAMs_20 IAMs_20 15 13 22.0
comp=Z,7µm,18.0s
HALT Halls 107.62 58 IAMs_20 IAMs_20 15 06 18.5
comp=Z,6µm,19.0s
F33A 5 Mile Ranch, 107.73 47 IAMs_20 IAMs_20 15 17 32.1
comp=Z,7µm,18.0s
SCIA State Center 107.79 51 IAMs_20 IAMs_20 15 05 21.3
comp=Z,8µm,18.0s
GLAT Glass 107.83 58 IAMs_20 IAMs_20 15 03 16.9
comp=Z,6µm,20.0s
D32A Dogwood Acres, 107.92 45 IAMs_20 IAMs_20 15 12 12.1
comp=Z,8µm,18.0s
LRAL Lakeview Retre 107.98 62 IAMs_20 IAMs_20 15 13 26.5
comp=Z,5µm,18.0s
HICK Hickman 108.00 58 IAMs_20 IAMs_20 15 06 52.4
comp=Z,9µm,19.0s
SLM Saint Louis 108.27 56 IAMs_20 IAMs_20 15 07 44.2
comp=Z,8µm,19.0s
K38A Parkersburg 108.43 51 IAMs_20 IAMs_20 15 10 20.1
comp=Z,6µm,18.0s
I37A Lemond, Waseca 108.66 49 IAMs_20 IAMs_20 15 09 59.2
comp=Z,7µm,18.0s
N41A Harden Midland 108.80 53 IAMs_20 IAMs_20 15 13 46.2
comp=Z,8µm,18.0s
WVT Waverly 108.81 59 IAMs_20 IAMs_20 15 11 11.0
comp=Z,6µm,18.0s
L40A Anamosa 109.18 52 IAMs_20 IAMs_20 15 04 31.0
comp=Z,7µm,20.0s
P43A Skaggs, Pawnee 109.22 55 IAMs_20 IAMs_20 15 16 10.5
comp=Z,8µm,18.0s
Q44A Meyer Farm, Va 109.23 56 IAMs_20 IAMs_20 15 04 47.9
comp=Z,8µm,19.0s
061Z Ochoppi 109.35 71 IAMs_20 IAMs_20 15 03 31.5
comp=Z,6µm,20.0s
Z51A Franklin 109.47 62 IAMs_20 IAMs_20 15 10 09.9

comp=Z,5µm,18.0s
SDV Santo Domingo 109.52 92 IAMs_20 IAMs_20 15 04 54.4
comp=Z,6µm,20.0s
SWET Sewanee 109.77 60 IAMs_20 IAMs_20 15 07 58.6
comp=Z,8µm,18.0s
HDIL Hopedale 109.79 54 IAMs_20 IAMs_20 15 17 03.5
comp=Z,5µm,18.0s
CLTN Cedars of Leba 109.87 59 IAMs_20 IAMs_20 15 06 52.2
comp=Z,7µm,19.0s
ULM Lac du Bonnet 110.06 43 IAMs_20 IAMs_20 15 07 21.6
comp=Z,8µm,19.0s
O44A Mansfield 110.17 55 IAMs_20 IAMs_20 15 04 42.7
comp=Z,7µm,20.0s
L42A Oliver, Polo 110.19 53 IAMs_20 IAMs_20 15 08 40.8
comp=Z,8µm,19.0s
JFWS Jewell Farm 110.20 51 IAMs_20 IAMs_20 15 05 22.2
comp=Z,6µm,20.0s
W50A Signal Mountai 110.22 61 IAMs_20 IAMs_20 15 08 05.4
comp=Z,8µm,18.0s
I40A Norwalk 110.40 50 IAMs_20 IAMs_20 15 16 52.1
comp=Z,7µm,18.0s
U49A Red Boiling Sp 110.46 59 IAMs_20 IAMs_20 15 07 17.7
comp=Z,6µm,19.0s
Y52A Lilburn 110.55 62 IAMs_20 IAMs_20 15 12 05.3
comp=Z,5µm,18.0s
VOI Vohitsoka 110.56 225 IAMs_20 IAMs_20 15 08 15.1
comp=Z,5µm,18.0s
TIXI Tiksi 110.65 344 IAMs_20 IAMs_20 15 07 28.7
comp=Z,5µm,20.0s
GOGA Godfrey 110.79 63 IAMs_20 IAMs_20 15 15 07.9
comp=Z,5µm,18.0s
CPCT Cooper Cave 110.91 61 IAMs_20 IAMs_20 15 06 30.7
comp=Z,7µm,20.0s
M44A Midewin, Midew 111.01 54 IAMs_20 IAMs_20 15 15 15.6
comp=Z,6µm,18.0s
W52A Murphy 111.19 61 IAMs_20 IAMs_20 15 07 48.2
comp=Z,5µm,19.0s
SFIN Lafayette 111.22 55 IAMs_20 IAMs_20 15 09 41.3
comp=Z,7µm,18.0s
G40A Rib Lake 111.27 49 IAMs_20 IAMs_20 15 05 41.1
comp=Z,6µm,20.0s
K43A Burlington 111.38 52 IAMs_20 IAMs_20 15 05 48.4
comp=Z,7µm,20.0s
I42A Draeger Farm, 111.50 51 IAMs_20 IAMs_20 15 11 12.5
comp=Z,5µm,18.0s
TKL Tuckaleechee C 111.55 61 IAMs_20 IAMs_20 15 09 04.6
comp=Z,8µm,19.0s
V52A Sevierville 111.75 61 IAMs_20 IAMs_20 15 06 55.2
comp=Z,8µm,20.0s
BG3 Lake Jocassee 111.88 62 IAMs_20 IAMs_20 15 09 17.6
comp=Z,4µm,18.0s
V53A Saluda 112.26 61 IAMs_20 IAMs_20 15 09 03.5
comp=Z,7µm,19.0s
H43A Windswept, Lux 112.50 51 IAMs_20 IAMs_20 15 12 02.7
comp=Z,5µm,18.0s
ABPO Ambohimpanom 112.51 227 IAMs_20 IAMs_20 15 05 25.7
comp=Z,6µm,19.0s
S51A Beattyville 112.52 59 IAMs_20 IAMs_20 15 09 56.0
comp=Z,7µm,19.0s
SUR Sutherland 112.59 197 IAMs_20 IAMs_20 15 08 50.4
comp=Z,6µm,20.0s
PAULI Pauline 112.64 62 IAMs_20 IAMs_20 15 11 07.7
comp=Z,4µm,18.0s
F42A Maple Grove Fa 112.79 49 IAMs_20 IAMs_20 15 06 08.4
comp=Z,6µm,20.0s
PTGA Pitinga 113.03 107 IAMs_20 IAMs_20 15 06 02.9
comp=Z,7µm,20.0s
KMSC Kings Mountain 113.13 62 IAMs_20 IAMs_20 15 09 49.7
comp=Z,6µm,18.0s
NHSC New Hope 113.14 65 IAMs_20 IAMs_20 15 16 50.3
comp=Z,4µm,18.0s
I45A Fountain 113.33 52 IAMs_20 IAMs_20 15 07 16.8
comp=Z,6µm,19.0s
U54A Nelsons Funny 113.34 61 IAMs_20 IAMs_20 15 08 12.2
comp=Z,7µm,19.0s
V55A Taylorsville 113.51 62 IAMs_20 IAMs_20 15 08 42.8
comp=Z,8µm,19.0s
L48A N Adams 113.70 54 IAMs_20 IAMs_20 15 06 49.9
comp=Z,5µm,20.0s
E43A Lone Tree Farm 113.77 49 IAMs_20 IAMs_20 15 07 07.2
comp=Z,7µm,20.0s
J47A Sumner 113.95 53 IAMs_20 IAMs_20 15 16 35.4
comp=Z,6µm,19.0s
G45A Suttons Bay 114.10 51 IAMs_20 IAMs_20 15 19 33.3
comp=Z,6µm,18.0s
W57A Gilead 114.13 63 IAMs_20 IAMs_20 15 12 11.4
comp=Z,5µm,18.0s
S54A Dingess, Beckl 114.24 60 IAMs_20 IAMs_20 15 11 02.7
comp=Z,6µm,19.0s
U56A King 114.33 61 IAMs_20 IAMs_20 15 08 37.4
comp=Z,8µm,20.0s
AAM Ann Arbor 114.37 54 IAMs_20 IAMs_20 15 19 45.6
comp=Z,6µm,18.0s
P52A Corning 114.38 57 IAMs_20 IAMs_20 15 07 09.3
comp=Z,8µm,20.0s
M50A Fremont 114.44 55 IAMs_20 IAMs_20 15 07 48.6
comp=Z,7µm,20.0s
WMQ Urumqi 114.63 307 PKP PKPdf 14 25 07.1 -0.8
WMQ PP **PP** **14 26 04.8 -0.9**
WMQ SKKS 14 33 03.9
WMQ SS **SS** **14 41 55.4 -4.7**
WMQ AMB AMB
comp=Z,750nm,7.9s
WMQ LR LR
comp=Z,1µm,18.7s
WMQ LR LR
comp=Z,1µm,19.3s
WMQ LR LR
comp=Z,1µm,20.5s
BLA Blacksburg 114.65 60 IAMs_20 IAMs_20 15 11 05.8
comp=Z,8µm,19.0s
GLMI Grayling 114.70 51 IAMs_20 IAMs_20 15 08 19.1
comp=Z,5µm,20.0s
P53A Whipple 114.85 58 IAMs_20 IAMs_20 15 07 14.8
comp=Z,8µm,21.0s
BOSA Boshof 114.85 203 PKP PKPdf 14 25 10.4 +1.4
comp=Z,1.8nm,0.6s,baz=183,slow=4.2,SNR=3.9
V58A Windy Hill, Pi 115.05 62 IAMs_20 IAMs_20 15 11 05.5
comp=Z,6µm,18.0s
R55A Marlinton 115.29 60 IAMs_20 IAMs_20 15 19 01.7
comp=Z,6µm,18.0s
T57A Hurt 115.42 61 IAMs_20 IAMs_20 15 11 43.3
comp=Z,7µm,19.0s
E46A Sault Ste Mari 115.48 50 IAMs_20 IAMs_20 15 17 06.7
comp=Z,6µm,19.0s
I49A Point Hope 115.56 53 IAMs_20 IAMs_20 15 13 23.9
comp=Z,7µm,18.0s
S57A Dark Hollow, R 115.94 60 IAMs_20 IAMs_20 15 10 58.9
comp=Z,7µm,19.0s
Q56A Snyder Ridge, 116.26 59 IAMs_20 IAMs_20 15 11 33.5
comp=Z,7µm,19.0s
V61A Roper 116.94 63 IAMs_20 IAMs_20 15 13 11.2
comp=Z,6µm,18.0s
P57A Homestead Farm 117.27 59 IAMs_20 IAMs_20 15 12 04.2
comp=Z,6µm,19.0s
T60A Surry 117.34 62 IAMs_20 IAMs_20 15 10 01.4
comp=Z,7µm,20.0s
SMLA Simla 117.40 291 *e*P **PKPdf** **14 25 07.8 -5.7**
SSPA Standing Stone 117.77 58 IAMs_20 IAMs_20 15 09 05.4
comp=Z,7µm,20.0s
ZSN Zaisan 117.78 310 *e*PKP **PKPdf** **14 25 12.7 -1.1**
baz=310
ZSN *e*PP **PP** **14 26 26.7 -1.0**
baz=310
ZSN Zaisan 117.78 310 *e*PKIKP **PKPdf** **14 25 12.7 -1.1**
ZSN *e* **PP** **14 26 26.6 -1.0**
MEDO Medina 118.25 55 IAMs_20 IAMs_20 15 14 12.7
comp=Z,6µm,18.0s
SADO Sadowa 118.32 53 PKP **PKiKP** **14 25 15.8 +0.9**
comp=Z,7.5nm,0.9s,baz=243,slow=2.3,SNR=3.6
SADO Sadowa 118.32 53 IAMs_20 IAMs_20 15 10 01.4
comp=Z,5µm,20.0s
DHRM DHARAMSHALA 118.52 292 *e*P **PKPdf** **14 25 15.9 0.0**
J55A Hilton 118.72 55 IAMs_20 IAMs_20 15 22 20.3
comp=Z,7µm,18.0s
P60A Greenville 119.10 59 IAMs_20 IAMs_20 15 13 20.7
comp=Z,7µm,19.0s
WUPA West Chester U 119.16 59 IAMs_20 IAMs_20 15 13 22.4
comp=Z,5µm,19.0s
MK31 Makanchi Array 119.24 309 PKIKP **PKPdf** **14 25 14.9 -1.7**
MK31 Makanchi Array 119.24 309 PKPdf **PKPdf** **14 25 14.9 -1.7**
MKAR Makanchi Array 119.24 309 PKP **PKPdf** **14 25 15.3 -1.3**
comp=Z,8.7nm,0.7s,baz=207,slow=1.6,SNR=40
MKAR PKKPbc **PKKPbc** **14 35 29.3 -0.6**
comp=Z,0.8nm,0.6s,baz=272,slow=3.9,SNR=5.8
MKAR Makanchi Array 119.24 309 PKPdf **PKPdf** **14 25 14.6 -2.0**
DELO Deloro Mine 119.27 54 IAMs_20 IAMs_20 15 11 00.5
comp=Z,6µm,20.0s
MAKZ Makanchi 119.45 309 PKIKP **PKPdf** **14 25 15.4 -1.6**
MAKZ Makanchi 119.45 309 **PKPdf** **14 25 15.3 -1.6**
PECO Prince Edward 119.51 55 IAMs_20 IAMs_20 15 22 44.9
comp=Z,6µm,18.0s
P61A Hammonton 119.66 60 IAMs_20 IAMs_20 15 16 22.7
comp=Z,4µm,19.0s
RES Resolute Bay 119.72 18 IAMs_20 IAMs_20 15 13 35.6
comp=Z,6µm,20.0s
ZAA0 Zalesovo Array 119.78 317 PKPdf **PKPdf** **14 25 15.7 -1.7**
ZALV Zalesovo Beam 119.78 317 PKP **PKPdf** **14 25 16.4 -1.0**
comp=Z,9.8nm,1.0s,baz=155,slow=2.1,SNR=14
ZALV Zalesovo Beam 119.78 317 PKPdf **PKPdf** **14 25 15.8 -1.6**
PLVO Plevna 119.80 53 IAMs_20 IAMs_20 15 10 56.5
comp=Z,7µm,20.0s
SHLS Shalkode 120.00 304 *e*PKP **PKPdf** **14 25 17.4 -1.0**
baz=304
SHLS *e*PP **PP** **14 26 40.8 -2.5**
baz=304
SHLS Shalkode 120.00 304 *e*PKIKP **PKPdf** **14 25 17.3 -1.0**
SHLS *e* **PP** **14 26 40.7 -2.5**
J57A Williamstown 120.03 55 IAMs_20 IAMs_20 15 11 39.8
comp=Z,7µm,20.0s
UZB Uzynbulak 120.31 304 *e*PKP **PKPdf** **14 25 18.0 -0.9**
baz=304
UZB *e*PP **PP** **14 26 45.9 +0.5**
baz=304
UZB Uzynbulak 120.31 304 *e*PKIKP **PKPdf** **14 25 18.0 -0.9**
UZB *e* **PP** **14 26 45.9 +0.5**
FDF Fort de France 120.47 92 IAMs_20 IAMs_20 15 16 00.3
comp=Z,4µm,18.0s
PRZ Przheval'sk 120.53 303 PKIKP **PKPdf** **14 25 19.2 -0.3**
PRZ Przheval'sk 120.53 303 **PKPdf** **14 25 19.2 -0.3**
SATY Saty 120.71 304 *e*PKP **PKPdf** **14 25 18.5 -1.2**
baz=304
SATY *e*PP **PP** **14 26 49.5 +1.4**
baz=304
SATY Saty 120.71 304 *e*PKIKP **PKPdf** **14 25 18.5 -1.2**
SATY *e* **PP** **14 26 49.5 +1.4**
TARG Taragay, Kyrgy 120.72 302 **PKPdf** **14 25 19.2 -1.0**
BBGH Gun Hill 121.01 94 IAMs_20 IAMs_20 15 09 54.6
comp=Z,5µm,22.0s
KDJ Kajisay 121.28 303 PKIKP **PKPdf** **14 25 20.4 -0.5**
KDJ Kajisay 121.28 303 **PKPdf** **14 25 20.4 -0.5**
TDK Taldyqorghan 121.29 306 *e*PKP **PKPdf** **14 25 20.1 -0.6**
baz=306
TDK *e*PP **PP** **14 26 50.4 -1.6**
baz=306
TDK Taldyqorghan 121.29 306 *e*PKIKP **PKPdf** **14 25 20.0 -0.6**
TDK *e* **PP** **14 26 50.3 -1.6**
KSH Kashi 121.34 299 PKP **PKiKP** **14 25 24.2 +3.0**
KSH PP **PP** **14 26 52.2 -0.3**
KSH SS SS 14 43 35.3 +7.7
KSH AMB AMB
comp=Z,630nm,9.5s
KSH LR LR
comp=Z,2µm,20.4s
KSH LR LR
comp=Z,1µm,18.9s
KSH LR LR
comp=Z,3µm,18.0s
YLE Yale 121.53 58 IAMs_20 IAMs_20 15 19 34.7
comp=Z,7µm,18.0s
MDOK Medeo 121.69 304 *e*PKP **PKPdf** **14 25 20.4 -1.2**
baz=304
MDOK *e*PP **PP** **14 26 52.5 -2.3**
baz=304
MDOK Medeo 121.69 304 PKIKP **PKiKP** **14 25 22.5 +0.7**
TNSS Tian-Shan 121.72 304 *e*PKP **PKPdf** **14 25 21.5 -0.5**
baz=304
AAA Alma-Ata 121.79 304 *e*PKP **PKiKP** **14 25 22.8 +0.9**
baz=304
AAA Alma-Ata 121.79 304 *e*PKIKP **PKiKP** **14 25 22.7 +0.9**
NRIK Noril'sk 121.86 335 PKP **PKiKP** **14 25 21.1 0.0**
comp=Z,7.3nm,0.8s,baz=105,slow=2.2,SNR=10
NRIK Noril'sk 121.86 335*c* iPKIKP **PKiKP** **14 25 21.6 +0.5**
NRIK MLR MLR
comp=Z,3µm,19.0s
NRIK Noril'sk 121.86 335 PKPdf **PKPdf** **14 25 20.7 -0.2**
CHKK Chushkaly 121.93 304 *e*PKP **PKPdf** **14 25 21.0 -0.9**
baz=304
MTBS Maitube 122.11 304 *e*PKP **PKPdf** **14 25 21.1 -1.2**
baz=304
BOOM Boomskoye usch 122.27 303 PKIKP **PKPdf** **14 25 22.6 -0.2**
BOOM Boomskoye usch 122.27 303 PKPdf **PKPdf** **14 25 22.6 -0.2**
KUU Kuuly 122.39 304 *e*PKP **PKPdf** **14 25 22.3 -0.5**
baz=304
KUU *e*PP **PP** **14 26 59.1 -0.4**
baz=304
KUU Kurty 122.39 304 *e*PKIKP **PKPdf** **14 25 22.3 -0.5**
KUU *e* **PP** **14 26 59.0 -0.4**
EUNU Eureka 122.52 12 IAMs_20 IAMs_20 15 23 45.1
comp=Z,6µm,18.0s
TKM2 Tokmak 2 122.64 303 P **PKiKP** **14 25 25.8 +2.0**
SNR=23
TKM2 Tokmak 2 122.64 303 PKIKP **PKPdf** **14 25 22.9 -0.6**
KZA Kyzart 122.64 302 P **PKiKP** **14 25 26.7 +2.7**
SNR=7.0
KURK Kurchatov 122.64 313 PKIKP **PKPdf** **14 25 22.3 -0.6**
KURK Kurchatov 122.64 313 **PKPdf** **14 25 22.3 -0.6**
KURBB Kurchatov Arra 122.68 313 PKP **PKPdf** **14 25 22.3 -0.7**
comp=Z,22nm,0.7s,baz=112,slow=2.1,SNR=61
KURBB Kurchatov Arra 122.68 313 PKIKP **PKPdf** **14 25 20.7 -2.3**
CHMS Chumysh 123.25 303 P **PKiKP** **14 25 26.9 +2.2**
SNR=16
AAK Ala-Archa 123.34 303 PKP **PKiKP** **14 25 25.3 +0.3**
comp=Z,7.7nm,0.7s,baz=123,slow=5.0,SNR=12
AAK PKKPbc **PKKPbc** **14 35 14.5 +0.1**
comp=Z,0.6nm,0.2s,baz=228,slow=2.4,SNR=4.2
AAK Ala-Archa 123.34 303 P **PKiKP** **14 25 27.4 +2.3**
SNR=10.0
AAK Ala-Archa 123.34 303 PKiKP **PKiKP** **14 25 26.2 +1.1**
AAK Ala-Archa 123.34 303 PKPdf **PKPdf** **14 25 24.6 -0.2**
SGDS Sogindy 123.46 303 *e*PKP **PKPdf** **14 25 24.1 -0.8**
baz=303
SGDS *e*PP **PP** **14 27 05.8 -1.0**
baz=303
USP Ospenovka 123.50 303 P **PKPdf** **14 25 24.5 -0.4**
SNR=18
AML Almayashu 123.77 302 P **PKiKP** **14 25 28.8 +2.6**
SNR=24
AML Almayashu 123.77 302 PKiKP **PKiKP** **14 25 26.2 0.0**
EKS2 Erkin-Say 123.85 302 P **PKiKP** **14 25 28.6 +2.5**
SNR=10
BTLS Baital 124.28 305 *e*PKP **PKPdf** **14 25 25.6 -0.7**
baz=305
BTLS *e*PP **PP** **14 27 11.2 -0.9**
baz=305
BTLS Baital 124.28 305 *e*PKIKP **PKPdf** **14 25 25.6 -0.7**
BTLS *e* **PP** **14 27 11.2 -0.9**
G62A West of Eustis 124.30 55 P **PKiKP** **14 25 27.6 +1.0**
baz=256
WVL Waterville 124.74 56 IAMs_20 IAMs_20 15 14 33.5
comp=Z,7µm,20.0s
F62A Pittston Farm, 124.84 54 P **PKPdf** **14 25 27.4 0.0**
baz=257
KBL Kabul 125.01 292 PKIKP **PKPdf** **14 25 28.1 -0.2**
KBL Kabul 125.01 292 PKPdf **PKPdf** **14 25 28.1 -0.2**
PKME Peaks-Kenny Pk 125.16 55 **PKPdf** **14 25 27.6 -0.4**
BTK Batken 125.29 299 PKIKP **PKPdf** **14 25 28.0 -0.5**
BTK Batken 125.29 299 PKPdf **PKPdf** **14 25 28.0 -0.5**
E62A Clayton Lake 125.31 53 **PKPdf** **14 25 27.4 -0.9**
E62A Clayton Lake 125.31 53 P **PKPdf** **14 25 27.7 -0.5**
baz=258
GAR Garm 125.37 297 **PKPdf** **14 25 27.8 -1.0**
F63A Nahmakanta, Br 125.39 54 P **PKiKP** **14 25 29.4 +0.6**
baz=257
DZA Taraz 125.65 302 *e*PKP **PKiKP** **14 25 29.5 0.0**
baz=302
DZA Taraz 125.65 302 *e*PKIKP **PKiKP** **14 25 29.4 0.0**
ALE Alert 125.78 8 IAMs_20 IAMs_20 15 20 30.6
comp=Z,5µm,20.0s
E63A Oxbow 126.01 54 P **PKiKP** **14 25 30.6 +0.6**
baz=258
CHGR Chuyangaron 126.15 296 PKPdf **PKPdf** **14 25 29.8 -0.4**
CHGR IAMs_20 IAMs_20 15 27 52.1
comp=Z,7µm,19.0s
TULEG Thule 126.27 16 IAMs_20 IAMs_20 15 21 00.5
comp=Z,6µm,20.0s
KK31 Karatay Array 126.29 302 PKIKP **PKPdf** **14 25 30.4 +0.1**
KK31 Karatay Array 126.29 302 PKPdf **PKPdf** **14 25 30.4 +0.1**
KKAR Karatay Array 126.29 302 PKIKP **PKPdf** **14 25 29.7 -0.6**
KKAR Karatay Array 126.29 302 PKPdf **PKPdf** **14 25 29.6 -0.6**
KKAR Karatay Array 126.29 302 **PKPdf** **14 25 29.7 -0.6**
PQI Presque Isle 126.33 53 **PKPdf** **14 25 28.9 -1.2**
G65A Princeton 126.34 55 **PKPdf** **14 25 29.7 -0.5**
IUG Iuzhnay 126.40 301 *e*PKP **PKiKP** **14 25 30.9 -0.2**
baz=301
IUG Iuzhnay 126.40 301 *e*PKIKP **PKiKP** **14 25 30.9 -0.2**
BVAR Borovoye Array 128.06 314 PKP **PKPdf** **14 25 33.0 -0.3**
comp=Z,16nm,0.7s,baz=206,slow=6.1,SNR=33
BVAR Borovoye Array 128.06 314 PKIKP **PKPdf** **14 25 33.0 -0.3**
SOCY Socotra 128.12 259 IAMs_20 IAMs_20 15 19 33.0
comp=Z,5µm,19.0s
BRVK Borovoye 128.13 314*c* iPKIKP **PKiKP** **14 25 33.8 -0.2**
BRVK pmax pmax
comp=Z,46nm,1.3s
BRVK Borovoye 128.13 314 PKPdf **PKPdf** **14 25 33.4 0.0**
SCHQ Schefferville 128.23 43 PKP **PKPdf** **14 25 33.3 -0.3**
comp=Z,13nm,1.2s,baz=268,slow=5.4,SNR=3.8
LMN Caledonia Moun 128.36 55 PKPdf **PKPdf** **14 25 33.7 -0.4**
NEEM North Greenlan 129.73 13 *i* P **PKiKP** **14 25 37.4 +0.4**
NEEM IAmb IAmb 14 25 40.2
comp=Z,9.0nm,0.6s
NEEM IAMs_20 IAMs_20 15 28 32.1
comp=Z,5µm,18.8s
SHEL Horse Pasture 130.85 170 IAMs_20 IAMs_20 15 26 38.7
comp=Z,5µm,20.0s
KIBK Kibwezi 130.95 232 IAMs_20 IAMs_20 15 18 44.1
comp=Z,4µm,18.0s
SOHO SOHO 131.56 274 *i* PKPdf **PKPdf** **14 25 39.4 -1.4**
SNR=10
UOSS Minazif 132.15 275 *i* PKiKP **PKiKP** **14 25 43.0 0.0**
SNR=5.4
HATD Hatta, Dubai 132.16 275 *i* PKiKP **PKiKP** **14 25 43.5 +0.5**
SNR=8.9
ASHO Ashiyiah 132.17 275 *i* PKiKP **PKPdf** **14 25 42.5 +0.4**
SNR=6.5
ALNE Al Ain 132.18 274 *i* PKiKP **PKiKP** **14 25 44.3 +1.2**
SNR=5.4
MDH Madha 132.20 276 *i* PKPdf **PKPdf** **14 25 40.2 -1.8**
SNR=7.5
MSFE Esma-Masafi 132.34 276 *i* PKiKP **PKiKP** **14 25 43.4 0.0**
SNR=7.4
KMBO Kilima Mbogo 132.38 232 PKP **PKiKP** **14 25 46.2 +2.0**
comp=Z,2.4nm,0.7s,baz=155,slow=5.2,SNR=5.0
KMBO SKPbc **SKPab** **14 29 12.1 +0.6**
comp=Z,14nm,1.0s,baz=102,slow=3.9,SNR=13
BANOM Banah 132.44 276 PKPdf **PKPdf** **14 25 40.3 -2.2**
FAQ Al Faqa, Dubai 132.58 275 PKPdf **PKPdf** **14 25 42.1 -0.6**
SHME Shamm 132.62 277 PKiKP **PKPdf** **14 25 42.7 0.0**
NAZ Nazwa, Dubai 132.62 275 PKiKP **PKiKP** **14 25 43.7 -0.3**
ASUD Al Ashush, Dub 132.76 274 PKiKP **PKiKP** **14 25 46.9 +2.7**
ILULI Ilulissat 133.37 23 IAMs_20 IAMs_20 15 22 01.7
comp=Z,6µm,20.0s
DRLN Deer Lake 133.66 51 IAMs_20 IAMs_20 15 22 58.8
comp=Z,6µm,19.0s
SVE Sverdlovsk 133.72 319 *i* PKiKP **PKiKP** **14 25 45.2 +0.1**
SVE pmax pmax
comp=Z,60nm,1.9s
SVE MLR MLR
comp=Z,2µm,21.0s
SFJD Kangerlussuaq 134.37 26 IAMs_20 IAMs_20 15 18 21.4
comp=Z,5µm,20.0s
AB31 Akbulak array 134.38 309 *i* PKiKP **PKPdf** **14 25 45.8 +0.4**
GEYT Alibeck 134.41 293 PKP **PKiKP** **14 25 47.4 +0.1**
comp=Z,5.9nm,0.7s,baz=218,slow=9.0,SNR=10
GYA0B ALIBECK ARRAY 134.41 293 PKPdf **PKPdf** **14 25 45.3 -0.6**
ARU Arti 134.90 319 PKP **PKPdf** **14 25 46.3 +0.2**
comp=Z,6.3nm,0.7s,baz=191,slow=0.2,SNR=14
ARU Arti 134.90 319 *i* PKiKP **PKiKP** **14 25 47.1 -0.4**
ARU **PP** **14 28 22.6 +1.7**
ARU SS SS 14 46 46.8 +32
ARU SSS SSS 14 51 12.9
ARU Arti 134.90 319 IAMs_20 IAMs_20 15 31 32.6
comp=Z,3µm,20.0s
SUMG Summit 135.19 16 *e*P **PKiKP** **14 25 48.9 +0.7**
SUMG IAmb IAmb 14 25 51.2
comp=Z,12nm,1.1s
SUMG IAMs_20 IAMs_20 15 31 59.8
comp=Z,6µm,17.2s
SUMG Summit 135.19 16 *e*PKIKP **PKiKP** **14 25 48.9 +0.7**
SUMG pmax pmax
comp=Z,12nm,1.1s
SUMG MLR MLR
comp=Z,6µm,17.0s
SUMG Summit 135.19 16 IAMs_20 IAMs_20 15 32 04.2
comp=Z,6µm,19.0s
AKTO Aktyubinsk 135.63 311 PKP **PKiKP** **14 25 48.7 -0.6**
comp=Z,13nm,0.7s,baz=106,slow=4.9,SNR=8.0
AKTO Aktyubinsk 135.63 311 PKIKP **PKPdf** **14 25 48.3 +0.6**
DY2G Dye2 136.17 26 *i* P **PKPdf** **14 25 48.6 +0.1**
ASCN Ascension 136.55 156 IAMs_20 IAMs_20 15 29 48.6
comp=Z,4µm,18.0s
ATD Arta Tunnel 136.78 250 IAMs_20 IAMs_20 15 23 20.2
comp=Z,3µm,19.0s
LODK Lodwar 137.00 234 IAMs_20 IAMs_20 15 31 15.8
comp=Z,3µm,18.0s
ICESG Greenland Ices 137.01 20 *e*P **PKiKP** **14 25 53.2 +1.3**
ICESG IAMs_20 IAMs_20 15 23 37.8
comp=Z,7µm,18.7s
FURI Furi 138.38 243 IAMs_20 IAMs_20 15 21 07.5
comp=Z,3µm,19.0s
KIRV Kirov 139.27 324 PKP **PKiKP** **14 25 56.2 -0.1**
comp=Z,17nm,0.7s,baz=54,slow=2.9,SNR=10
PRGR Permogore 139.91 329 *e*PKIKP **PKPdf** **14 25 51.1 -4.1**
PRGR pmax pmax
comp=Z,86nm,1.5s
LVZ Lovozero 140.19 341 IAMs_20 IAMs_20 15 28 51.6
comp=Z,4µm,20.0s
SCO Scoresbysund 140.21 12 IAMs_20 IAMs_20 15 26 33.7
comp=Z,4µm,20.0s
QRN Al-Qurain 140.40 277 *e*P **SKiKP** **14 29 37.6 +1.2**
KEV Kevo 140.54 346 IAMs_20 IAMs_20 15 30 44.5
comp=Z,4µm,20.0s
APA Apatity 140.76 341 ||*i* PKIKP **PKPdf** **14 25 53.1 -3.5**
APA pmax pmax
comp=Z,7.0nm,1.0s
RDF Al-Radifah 140.76 277 *e*P **SKiKP** **14 29 38.2 +1.1**
ARCES ARCESS Array B 141.02 347 PKhKP PKPpre 14 25 51.0
comp=Z,1.6nm,0.5s,baz=22,slow=2.9,SNR=9.8
ARCES PKP **PKPdf** **14 25 54.9 -2.1**
comp=Z,3.3nm,0.6s,baz=63,slow=1.6,SNR=15
MIB Mutribah 141.20 278 *e*P **SKiKP** **14 29 39.5 +1.6**
RST Umm Al-Ruwaisa 141.40 277 *e*P **SKiKP** **14 29 39.5 +1.2**
KLMR Klimovskoe 142.88 330 *e*PKHKP PKPpre 14 25 55.3
KLMR pmax pmax
comp=Z,127nm,1.3s
KLMR Klimovskoe 142.88 330 *e*PKPdf PKPpre 14 25 55.3
KLMR AMP 14 26 00.3
comp=Z,127nm,1.3s
KLMR SKP 14 29 39.9
KLMR LR LR 15 18 06.8
KLMR AMP 15 44 51.6
comp=Z,3µm,16.8s
MAK Makhachkala 142.98 299 *e*PKHKP PKPpre 14 25 55.7
MAK *e* 14 29 07.3
MAK *e* 14 33 02.5
MAK *e*SS SS 14 47 47.0 -3.6
MAK *e*SSS SSS 14 53 10.7
MAK pmax pmax
comp=Z,215nm,1.5s
STEI Steigen 144.11 351 *e*PKPdf PKPbc 14 26 01.4 +0.9
GROC Groznyy 144.22 300 *e*PKIKP **PKPdf** **14 26 03.1 -0.4**
GROC *e* 14 29 20.3
GROC *e* 14 33 16.0
GROC pmax pmax
comp=Z,120nm,1.4s
FAUS Fauske 144.62 351 *e*PKPab **PKPab** **14 26 00.9 -1.0**
GNI Garni 145.01 294 PKPbc **PKPdf** **14 26 06.2 +1.0**
comp=Z,16nm,0.9s,baz=176,slow=4.9,SNR=19
GNI Garni 145.01 294*c* iPKIKP **PKPdf** **14 26 05.6 +0.4**
GNI pmax pmax
comp=Z,65nm,1.3s
GNI MLR MLR
comp=Z,1µm,21.0s
NBB30 Finnes 145.20 352 *e*PKPdf **PKPbc** **14 26 03.5 -0.5**
NBB17 Glomfjord BYr 145.32 352 *e* **PKPbc** **14 26 04.2 -0.3**
NBB13 Alf Garage 145.58 352 *e*PKPab **PKPdf** **14 26 05.0 0.0**
ZEI Tsey 145.63 299 *i* PKIKP **PKPdf** **14 26 05.9 -0.3**
ZEI pmax pmax
comp=Z,33nm,1.4s
VRH Novokhopyorsk 145.71 314 *e*PKIKP **PKPbc** **14 26 06.0 -0.2**
VRH pmax pmax
comp=Z,430nm,1.7s
NBB40 Tonnes 145.73 352 *e*PKPab **PKPdf** **14 26 05.4 +0.1**
KONS Konsvik 145.73 352 *e*PKPab **PKPab** **14 26 06.1 0.0**
NCK Nalchik 145.81 300 *i* PKP2 **PKPbc** **14 26 06.7 -0.1**
MOR8 Moi Rana 145.88 351 *e*PKPab **PKPdf** **14 26 04.8 -0.9**
ONI Oni 145.97 299 IAMs_20 IAMs_20 15 37 13.6
comp=Z,4µm,20.0s

AKH	Akhalkalaki	145.97 297	⇓P	PKPbc	14 26 07.8 +0.2
GOF	Gofitskoye	146.07 303	⇓iPKP2	PKPbc	14 26 07.7 +0.2
GOF			pmax	pmax	
	comp=Z,209nm,1.0s				
MOS	Moscow	146.28 323	i PKIKP	PKPdf	14 26 05.7 -0.9
MOS			e		14 29 26.6
MOS			pmax	pmax	
	comp=Z,946nm,1.4s				
KBZ	Khabaz	146.30 301	PKPbc	PKPdf	14 26 07.4 +0.4
	comp=Z,34nm,1.0s,baz=48,slow=1.9,SNR=24				
KVAR	Kislovodsk Arr	146.43 301	PKPbc	PKPab	14 26 09.6 -0.1
	comp=Z,7.1nm,0.7s,baz=129,slow=6.5,SNR=15				
KIV	Kislovodsk	146.44 301	⇑P	PKPdf	14 26 07.9 +0.5
KIV	Kislovodsk	146.44 301	i PKP2	PKPdf	14 26 07.6 +0.2
KIV			pmax	pmax	
	comp=Z,40nm,1.1s				
NEY	Neytrino	146.47 300	i PKHKP	PKPpre	14 26 02.2
CHVG	Ch'k'valeri	146.97 299	⇑P	PKiKP	14 26 13.3 +0.6
CHVG	Ch'k'valeri	146.97 299	⇑PKP2	PKiKP	14 26 13.3 +0.6
VORR	Voronezh	147.06 316	ePKIKP	PKPdf	14 26 06.0 -2.0
VORR			pmax	pmax	
	comp=Z,750nm,1.6s				
OBN	Obninsk	147.11 323	PKPbc	PKPbc	14 26 09.7 -0.5
	comp=Z,19nm,0.7s,baz=44,slow=3.3,SNR=21				
OBN	Obninsk	147.11 323	ePKP2	PKPbc	14 26 09.5 -0.6
OBN			e		14 29 35.5
OBN			ePPP	PPP	14 32 51.7
OBN			pmax	pmax	
	comp=Z,471nm,1.5s				
PUL	Pulkovo	147.20 333c	iPKP2	PKiKP	14 26 13.4 +0.8
PUL			pmax	pmax	
	comp=Z,580nm,1.3s				
VORD	Divnogorie	147.25 315	ePKP2	PKPbc	14 26 09.9 -0.8
VORD			pmax	pmax	
	comp=Z,240nm,1.4s				
BATM	Batumi	147.31 297	⇑P	PKPbc	14 26 11.6 +0.4
BATM	Batumi	147.31 297	⇑PKP2	PKPbc	14 26 11.6 +0.4
BCA	Borcka	147.38 297	⇓P	PKPbc	14 26 11.0 -0.4
FIA1	FINESS Array S	147.44 338	PKPbc	PKPbc	14 26 10.2 -0.7
FINES	FINESS Array B	147.44 338	PKPbc	PKPbc	14 26 10.8 -0.1
	comp=Z,119nm,0.8s,baz=45,slow=3.2,SNR=84				
FINES	FINESS Array B	147.44 338	PKPbc	PKPbc	14 26 10.3 -0.6
SOC	Sochi	148.62 301c	ePKHKP	PKPpre	14 26 09.3
SOC			i		14 26 15.6
SOC			e		14 29 41.3
SOC			ePPP	PPP	14 33 06.6
SOC			eSS	SS	14 48 46.8 -8.0
SOC			eSSS	SSS	14 54 35.3
SOC			pmax	pmax	
	comp=Z,18nm,0.8s				
SOC			pmax	pmax	
	comp=Z,80nm,1.1s				
KTUT	Trabzon	148.79 296	⇑P	PKiKP	14 26 16.6 +0.1
MEF	Metsahovi	148.92 338	eP	PKiKP	14 26 15.6 -0.6
RAF	Rauma	149.04 341	eP	PKiKP	14 26 15.9 -0.4
VSU	Vasula	149.44 334	eP	PKiKP	14 26 16.9 -0.4
ANN	Anapa	150.05 304	i PKHKP	PKPpre	14 26 15.8
ANN			e		14 29 59.3
ANN			eSS	SS	14 49 16.1 +5.5
MOL	Molde	150.12 355	ePKPab	PKPab	14 26 22.4 -1.3
AAL	Aland	150.22 342	eP	PKiKP	14 26 19.7 +0.9
MTSE	Matsula	150.27 337	eP	PKiKP	14 26 19.4 +0.4
ASF	Jabal al Asfar	150.47 278	PKPbc	PKPbc	14 26 17.6 -2.1
	comp=Z,42nm,1.1s,baz=186,slow=1.3,SNR=14				
GAZ	Gaziantep	150.79 288	IAMs_20	IAMs_20	15 37 07.8
	comp=Z,4µm,20.0s				
SACV	Santiago Islan	150.83 122	IAMs_20	IAMs_20	15 37 29.0
	comp=Z,3µm,18.0s				
NC303	NORSAR Array S	151.02 350	ePKPbc	PKPbc	14 26 19.3 -0.6
NC204	NORSAR Array S	151.06 351	ePKPbc	PKPbc	14 26 20.2 +0.1
UPP	Uppsala	151.10 343	eP	PKiKP	14 26 20.6 0.0
NB2	NORSAR Subarra	151.22 350	PKP	PKPbc	14 26 20.0 -0.5
	comp=Z,28nm,0.9s,baz=17,slow=4.1				
NB2	NORSAR Subarra	151.22 350	PKPac		14 26 20.0
	baz=17,slow=4.1				
NOA	NORSAR Array B	151.22 350	PKPbc	PKPbc	14 26 19.9 -0.5
	comp=Z,8.3nm,0.7s,baz=13,slow=4.1,SNR=23				
GHAJ	Ghor Haditha	151.40 276	IAMs_20	IAMs_20	15 33 12.3
	comp=Z,3µm,19.0s				
NAO01	NORSAR Array S	151.46 351	ePKPbc	PKPbc	14 26 20.0 -0.9
NC602	NORSAR Array S	151.47 350	epPKPdf	PKPbc	14 26 18.2 -2.8
EIL	Elat	151.53 272	PKPbc	PKPbc	14 26 21.9 -0.2
	comp=Z,100nm,1.2s,baz=140,slow=4.9,SNR=22				
MNK	Minsk	151.64 327	i PKIKP	PKPdf	14 26 12.9 -2.4
MNK			i		14 29 58.7
MNK			i		14 33 20.5
MNK			i PPP	PPP	14 33 24.4
MNK			i SS	SS	14 49 27.3 +0.3
MNK			i SSS	SSS	14 55 17.7
MNK			pmax	pmax	
	comp=E,6.0nm,1.1s				
MNK			pmax	pmax	
	comp=Z,241nm,1.1s				
MNK			pmax	pmax	
	comp=N,38nm,1.1s				
MNK	Minsk	151.64 327	i PKP	PKPdf	14 26 12.9 -2.3
	comp=E,6.0nm,1.1s				
MNK			i PKP	PKPdf	14 26 12.9 -2.3
	comp=N,38nm,1.1s				
MNK			i PKP	PKPdf	14 26 12.9 -2.3
	comp=Z,241nm,1.1s,baz=50				
MNK			i SKP		14 29 46.4
MNK			i PKS	PP	14 29 47.6 -14
MNK			i PP	PP	14 29 58.7 -2.7
MNK			i SKS	SKSdf	14 33 20.6 -2.4
MNK			i PPP	PPP	14 33 24.4
MNK			i SKKS	SKKSdf	14 42 08.0 -3.9
MNK			i SS	SS	14 49 27.3 +0.3
MNK			i SSS	SSS	14 55 17.8
MNK			i LQ	LQ	15 26 45.4
MNK			i LR	LR	15 31 34.1
MNK			i LRM	MLR	15 37 22.0
	comp=E,311nm,18.5s				
MNK			i LRM	MLR	15 37 22.0
	comp=N,1µm,18.5s				
MNK			i LRM	MLR	15 37 22.0
	comp=Z,2µm,18.5s				
HFS	Hagfors	151.68 347	PKP	PKPdf	14 26 13.5 -1.6
	comp=Z,7.2nm,1.0s,baz=99,slow=7.7,SNR=4.2				
HFS			PKPbc	PKPbc	14 26 21.1 -0.4
	comp=Z,25nm,0.9s,baz=108,slow=4.7,SNR=26				
ISAL	Salakas	151.71 330	eP	PKiKP	14 26 22.8 +0.7
MMAI	Mount Meron Ar	151.85 279	PKPbc	PKiKP	14 26 23.7 +0.5
	comp=Z,63nm,0.9s,baz=76,slow=7.8,SNR=38				
NACGM	Naroch	151.88 329	i PKP	PKPbc	14 26 21.7 -0.3
SKAR	Skarslia	151.92 353	ePKPbc	PKiKP	14 26 22.3 -0.1
DIKM	Dikmen	152.12 298	⇑P	PKiKP	14 26 26.2 +2.8
SIM	Simferopol'	152.32 305	i PKIKP	PKiKP	14 26 23.6 -0.1
SIM			pmax	pmax	
	comp=Z,93nm,0.5s				
PABE	Paberze	152.63 332	eP	PKiKP	14 26 25.0 +1.1
LIC	Lamto	152.68 165	eP	PKPdf	14 26 20.7 +2.6
	comp=Z,68nm,0.7s				
H07S1	FLORES T-PHASE	152.71 67	ePKP	PKPab	14 26 30.4 -4.9
KONO	Kongsberg	152.78 351⇑	ePKIKP	PKiKP	14 26 26.3 +2.2
KONO			pmax	pmax	
	comp=Z,46nm,1.2s				
KONO	Kongsberg	152.78 351	ePKPbc	PKPbc	14 26 20.9 -3.0
KIC	Kosan Boka	152.87 166	eP	PKPbc	14 26 22.1 -3.5
	comp=Z,31nm,0.7s				
PBUR	Paburge	153.00 335	eP	PKiKP	14 26 27.2 +2.5
TIC	Toumodi	153.08 165	eP	PKPdf	14 26 22.1 +3.4
DBIC	Dimbokro	153.14 165	PKP	PKPdf	14 26 19.8 +1.0
	comp=Z,13nm,1.0s,baz=245,slow=1.8,SNR=7.4				
DBIC			PKPbc	sPKPbc	14 26 27.1 +0.5
	comp=Z,12nm,0.6s,baz=185,slow=2.5,SNR=13				
AKASG	Malin Array Be	153.15 320	PKPbc	PKiKP	14 26 26.0 +0.8
	comp=Z,17nm,0.7s,baz=48,slow=3.1,SNR=36				
BLS5	Blasjo	153.33 355	eSKPdf	SKPdf	14 29 48.8 -2.5
BRTR	Keskin Array B	153.54 294	PKP	PKPdf	14 26 19.9 +1.1
	comp=Z,3.2nm,1.0s,baz=132,slow=1.8,SNR=8.3				
BRTR			PKPbc	sPKPbc	14 26 27.7 +0.8
	comp=Z,23nm,1.1s,baz=130,slow=4.0,SNR=20				
BRTR	Keskin Array B	153.54 294	PKIKP	PKPdf	14 26 18.1 -0.7
BRTR	Keskin Array B	153.54 294	PKPdf	PKPdf	14 26 18.1 -0.7
CSS	Mathiatis	153.80 283	IAMs_20	IAMs_20	15 37 49.0
	comp=Z,4µm,20.0s				
SUW	Suwalki	154.02 331	eP	PKiKP	14 26 30.0 +3.1
SUW	Suwalki	154.02 331	PKPbc	PKiKP	14 26 27.2 +0.3
SUW			IAMs_20	IAMs_20	15 42 48.9
	comp=Z,3µm,20.0s				
ANTO	Ankara	154.18 294	IAMs_20	IAMs_20	15 40 23.6
	comp=Z,4µm,20.0s				
HOMB	Homborsund	154.26 352	eP	PKPbc	14 26 23.1 -4.0

ONAU	Onsala	154.58 347	i P	PKPbc	14 26 24.3 -3.5
BLEU	Blekinge	154.69 342	eP	PKPdf	14 26 22.1 +2.5
FABU	Falkenberg	154.79 346	eP	PKPdf	14 26 22.1 +2.4
SORM	Soroca	154.90 315	⇓P	PKPbc	14 26 25.7 -3.2
SORM	Soroca	154.90 315	⇓PKIKP	PKPbc	14 26 25.7 -3.2
PICO	Pico	154.93 69	ePKP	PKPbc	14 26 26.5 -2.9
DEL	Delary	155.03 344	eP	PKPdf	14 26 24.2 +4.1
ROSA	Rosais	155.06 68	ePKP	PKPdf	14 26 21.9 +1.2
KIS	Kishinev	155.12 312	ePKP	PKPdf	14 26 17.0 -3.5
	comp=Z,200nm,7.3s				
KIS	Kishinev	155.12 312	ePP	PP	14 30 16.0 -5.5
KIS			eSKKS		14 37 16.0
KIS			eLR	LR	15 33 48.0
	comp=Z,900nm,22.0s				
KIS	Kishinev	155.12 312	ePKIKP	PKPdf	14 26 17.0 -3.5
KIS			e		14 30 16.0
KIS			pmax	pmax	
	comp=Z,200nm,7.3s				
PGRA	Graciosa	155.23 67	ePKP	PKPdf	14 26 20.1 -0.9
GOET	G??ttrup	155.37 350	eP	PKPdf	14 26 26.6 +6.2
BJUU	Bjuv	155.58 345	eP	PKPdf	14 26 21.3 +0.5
PAGU	Agualva, Azore	155.88 68	ePKP	PKPdf	14 26 23.0 +1.2
MUD	Monsted U'grnd	155.94 350	eP	PKPdf	14 26 24.2 +2.9
MUD			IAMs_20	IAMs_20	15 38 18.9
	comp=Z,5µm,20.5s				
MUD	Monsted U'grnd	155.94 350	ePKIKP	PKPdf	14 26 24.1 +2.9
MUD			MLR	MLR	
	comp=Z,5µm,20.0s				
BSD	Bornholm Skovb	155.98 341	eP	PKPdf	14 26 20.5 -0.9
BSD	Bornholm Skovb	155.98 341	ePKIKP	PKPdf	14 26 20.5 -0.9
COP	Copenhagen	156.07 345	eP	PKPdf	14 26 24.0 +2.5
COP			IAMs_20	IAMs_20	15 42 24.0
	comp=Z,23µm,19.0s				
COP	Copenhagen	156.07 345	ePKIKP	PKPdf	14 26 24.0 +2.5
COP			MLR	MLR	
	comp=Z,23µm,19.0s				
LVV	L'vov	156.41 322	ePKIKP	PKPdf	14 26 18.9 -3.3
BIZ	Bicaz	156.81 314	⇑P	PKPdf	14 26 26.7 +3.9
RGN	Rugen	156.90 343	IAMs_20	IAMs_20	15 49 19.3
	comp=Z,4µm,18.0s				
VRI	Vrincioaia	156.91 311	⇓P	PKPdf	14 26 35.8 +13
BUR08	Bucovina Ar. S	156.99 317	PKPdf	PKPdf	14 26 23.0 -0.2
BURAR	Bucovina Array	157.00 316	⇑P	PKPdf	14 26 26.8 +3.6
BURAR	Bucovina Array	157.00 316	⇑PKIKP	PKPdf	14 26 26.8 +3.6
BURAR	Bucovina Array	157.00 316	PKPdf	PKPdf	14 26 22.8 -0.4
PSET	Sete Cidades	157.10 70	ePKP	PKPdf	14 26 22.6 -0.9
KWP	Kalwaria Pacla	157.20 323	ePKPdf	PKPdf	14 26 26.6 +3.4
KWP			ePKPab	sPKPab	14 26 56.0 +1.6
COVR	Voineasa-Covas	157.25 312	⇓P	PKPdf	14 26 25.9 +2.4
CMLA	Cha da Macela	157.26 70	ePKP	PKPdf	14 26 29.0 +5.3
MLR	Muntele Rosu	157.56 311	⇑P	PKPdf	14 26 25.5 +1.6
MLR	Muntele Rosu	157.56 311	PKP	PKPdf	14 26 24.6 +0.6
	comp=Z,6.5nm,1.1s,baz=349,slow=7.0,SNR=7.1				
MLR	Muntele Rosu	157.56 311	PKIKP	PKPdf	14 26 23.9 -0.1
MLR	Muntele Rosu	157.56 311	PKPdf	PKPdf	14 26 23.9 -0.1
MLR			IAMs_20	IAMs_20	15 44 32.7
	comp=Z,4µm,20.0s				
PSMN	Pico do Norte,	157.66 72	ePKP	PKPdf	14 26 29.4 +5.2
KOLS	Kolonicke sedl	157.86 322	ePKIKP	PKPdf	14 26 27.0 +2.9
KOLS	Kolonicke sedl	157.86 322	ePKP	PKPdf	14 26 27.0 +2.9
UZH	Uzhgorod	158.03 322	ePKIKP	PKPdf	14 26 25.1 +0.9
UZH			i		14 26 57.9
UZH			e		14 33 20.3
VOIR		158.15 312	⇓P	PKPdf	14 26 29.3 +4.7
VOIR		158.15 312	⇓PKIKP	PKPdf	14 26 29.3 +4.7
OJC	Ojcow	158.19 328	ePKPdf	PKPdf	14 26 25.0 +0.6
OJC			ePKPab	sPKPab	14 27 00.0 +1.4
OJC	Ojcow	158.19 328	PKIKP	PKPdf	14 26 22.8 -1.6
OJC	Ojcow	158.19 328	PKPdf	PKPdf	14 26 22.8 -1.6
OJC			IAMs_20	IAMs_20	15 46 59.6
	comp=Z,4µm,19.0s				
CRVS	Cervenica-Dubn	158.29 323	ePKIKP	PKPdf	14 26 27.0 +2.4
CRVS	Cervenica-Dubn	158.29 323	ePKP	PKPdf	14 26 27.0 +2.4
CRVS			e		14 27 01.2
ARR	Arges	158.45 312	⇓P	PKPdf	14 26 25.5 +0.5
NIE	Niedzica	158.52 325	ePKPdf	PKPdf	14 26 27.5 +2.6
NIE			ePKPab	sPKPab	14 27 01.6 +1.4
KARP	Karpathos	158.87 284	IAMs_20	IAMs_20	15 55 08.1
	comp=Z,4µm,19.0s				
DRGR		158.88 317	⇑P	PKPdf	14 26 27.2 +1.8
DRGR		158.88 317	⇑PKIKP	PKPdf	14 26 27.2 +1.8
LANS	Liptovska Anna	159.10 326	ePKIKP	PKPdf	14 26 28.6 +3.0
LANS	Liptovska Anna	159.10 326	ePKP	PKPdf	14 26 28.6 +3.0
LANS			e		14 27 04.6
KSP	Ksiaz	159.17 333	ePKPdf	PKPdf	14 26 26.8 +1.3
KSP			ePKPab	sPKPab	14 27 04.7 +1.9
OKC	Ostrava-Krasne	159.20 329	ePKIKP	PKPdf	14 26 27.8 +2.2
OKC			MLR	MLR	
	comp=Z,3µm,20.5s				
OKC			MLR	MLR	
	comp=E,2µm,18.2s				
OKC	Ostrava-Krasne	159.20 329	ePKPDF	PKPdf	14 26 27.8 +2.2
OKC			ex	x	14 37 38.9
OKC			AMS	AMS	15 39 10.0
	comp=E,3µm,20.5s				
OSTC	Ostas	159.43 333	ePKPDF	PKPdf	14 26 28.8 +2.9
OSTC			ex	x	14 37 39.5
OSTC			AMS	AMS	15 42 30.0
	comp=E,4µm,19.2s				
CHVC	Chvalec	159.46 333	ePKPDF	PKPdf	14 26 25.0 -1.0
CHVC			ePKPAB	sPKPab	14 27 05.9 +1.7
CHVC			AMS	AMS	15 42 20.0
	comp=E,4µm,19.4s				
MORC	Moravsky Berou	159.50 330	PKIKP	PKPdf	14 26 24.4 -1.6
MORC	Moravsky Berou	159.50 330	PKPdf	PKPdf	14 26 24.4 -1.6
MORC	Moravsky Berou	159.50 330	ePKP	PKPdf	14 26 26.3 +0.2
MORC			e		14 27 05.5
MORC			e		14 37 38.2
MORC			e		14 37 40.3
UPC	Upice	159.54 333	ePKIKP	PKPdf	14 26 26.2 +0.2
UPC			MLR	MLR	
	comp=Z,4µm,17.7s				
UPC	Upice	159.54 333	ePKPDF	PKPdf	14 26 26.2 +0.2
UPC			ex	x	14 37 40.8
UPC			AMS	AMS	15 57 30.0
	comp=Z,4µm,17.7s				
DPC	Dobruska-Polom	159.55 333	ePKIKP	PKPdf	14 26 26.5 +0.4
DPC			e		14 27 03.8
DPC			MLR	MLR	
	comp=Z,3µm,20.1s				
DPC	Dobruska-Polom	159.55 333	ePKPDF	PKPdf	14 26 26.5 +0.4
DPC			ePKPAB	PKPab	14 27 03.8 -0.4
DPC			ex	x	14 37 40.7
DPC			AMS	AMS	15 43 50.0
	comp=Z,3µm,20.1s				
GZR	Gura Zlata	159.58 314	⇓P	PKPdf	14 26 26.8 +0.5
GZR	Gura Zlata	159.58 314	⇓PKIKP	PKPdf	14 26 26.8 +0.5
KRLC	Kraliky	159.59 331	ePKIKP	PKPdf	14 26 26.9 +0.8
KRLC			MLR	MLR	
	comp=Z,3µm,20.0s				
KRLC	Kraliky	159.59 331	ePKPDF	PKPdf	14 26 26.9 +0.8
KRLC			ex	x	14 37 40.1
KRLC			AMS	AMS	15 46 40.0
	comp=Z,3µm,20.0s				
PSZ	Piszkesteto	159.72 323	⇑P	PKPdf	14 26 27.1 +0.7
PSZ	Piszkesteto	159.72 323	⇑PKIKP	PKPdf	14 26 27.1 +0.7
SIRR	Siria	159.78 317	⇓P	PKPdf	14 26 28.5 +2.1
VYHS	Vyhne	159.86 325	ePKP2	PKPab	14 27 06.5 +0.9
VYHS	Vyhne	159.86 325	ePKP	PKPab	14 27 06.5 +0.9
CLL	Collm	159.89 339	ePKPdf	PKPdf	14 26 27.0 +0.7
CLL			ePKPab	pPKPab	14 27 06.0 +0.2
	comp=Z,121nm,1.4s				
CLL			ePP	PP	14 30 45.0 -2.0
CLL			e(SKSdf)		14 33 25.0
CLL			e		14 34 12.0
CLL			ePPPP		14 36 48.0
CLL			eSKKSac	SKKSac	14 37 44.0 +7.7
CLL			ePSKS		14 41 07.0
CLL			eSKKSdf	SKKSdf	14 41 57.0 +1.4
CLL			ePPS	PPS	14 44 07.0
CLL			e		14 45 48.0
CLL			e		14 46 57.0
CLL			e		14 48 48.0
CLL			eSS	SS	14 50 48.0 -7.4
CLL			ePSS	PSS	14 51 49.0
CLL			eSSS	SSS	14 57 00.0
CLL			ePSSrev		14 58 51.0
CLL			e(SSSS)		15 00 54.0
CLL			LmH		15 38 00.0
	comp=N,2µm,20.5s				
CLL			LmH		15 38 00.0
	comp=E,2µm,20.2s				

CLL			Lmax		15 55 00.0
CLL	Collm	159.89 339	PKIKP	PKPdf	14 26 25.9 -0.4
CLL					14 27 05.4
CLL	Collm	159.89 339	PKPdf	PKPdf	14 26 25.9 -0.4
CLL			PKPab	PKPab	14 27 05.4 -0.1
CLL			IAMs_20	IAMs_20	15 55 36.5
	comp=Z,4µm,18.0s				
BRG	Berggiesshubel	159.97 337⇓	ePKPf		14 26 31.1
BRG			Amp		14 26 33.7
	comp=Z,22nm,1.7s				
BRG			ePKPab	PKPab	14 27 08.0 +2.0
BRG			Amp		14 27 10.5
	comp=Z,116nm,1.5s				
PVCC	Panska Ves	160.05 336	ePKIKP	PKPdf	14 26 26.8 +0.2
PVCC			MLR	MLR	
	comp=Z,4µm,19.0s				
PVCC	Panska Ves	160.05 336	ePKPDF	PKPdf	14 26 26.8 +0.2
PVCC			ePKPAB	sPKPab	14 27 08.6 +1.9
PVCC			AMS	AMS	15 57 00.0
	comp=Z,4µm,19.0s				
JAVC	Velka Javorina	160.13 328	ePKP	PKPdf	14 26 28.2 +1.4
JAVC			e		14 27 08.3
JAVC			e		14 37 42.2
BZS	Buzias	160.16 315	⇓P	PKPdf	14 26 26.6 -0.3
BZS	Buzias	160.16 315	⇓PKIKP	PKPdf	14 26 26.6 -0.3
VRAC	Vranov	160.26 330	PKP	PKPdf	14 26 27.2 +0.4
	comp=Z,1.5nm,0.5s,baz=348,slow=5.6,SNR=7.6				
VRAC			PKPab	sPKPab	14 27 08.5 +0.9
	comp=Z,3.2nm,0.4s,baz=55,slow=2.9,SNR=8.4				
VRAC	Vranov	160.26 330	ePKP	PKPdf	14 26 28.4 +1.5
VRAC			e		14 27 08.8
TORD	Torodi Ar. Bea	160.30 180	PKP	PKPdf	14 26 28.5 +0.5
	comp=Z,13nm,1.2s,baz=312,slow=0.8,SNR=20				
TORD			PKPab	PKPab	14 27 08.2 0.0
	comp=Z,5.8nm,0.8s,baz=180,slow=2.1,SNR=7.5				
TORD	Torodi Ar. Bea	160.30 180		PKPdf	14 26 27.4 -0.5
PRA	Prague	160.48 335	ePKIKP	PKPdf	14 26 27.9 +0.8
PRA			MLR	MLR	
	comp=Z,5µm,18.1s				
PRA	Prague	160.48 335	ePKPDF	PKPdf	14 26 27.9 +0.8
PRA			ePP	PP	14 30 44.1 -6.2
PRA			ex	x	14 37 40.2
PRA			AMS	AMS	15 50 20.0
	comp=Z,5µm,18.1s				
PRU	Pruhonice	160.51 335	ePKIKP	PKPdf	14 26 26.9 -0.2
PRU			e		14 30 50.0
PRU			MLR	MLR	
	comp=Z,5µm,18.0s				
PRU	Pruhonice	160.51 335	ePKPDF	PKPdf	14 26 26.9 -0.2
PRU			ePKPAB	sPKPab	14 27 10.2 +1.5
PRU			ePP	PP	14 30 50.0 -0.5
PRU			ex	x	14 37 40.8
PRU			AMS	AMS	15 50 20.0
	comp=Z,5µm,18.0s				
VTS	Vitosha	160.52 306	⇓P	PKPdf	14 26 29.2 +1.6
VTS	Vitosha	160.52 306	PKIKP	PKPdf	14 26 26.6 -1.0
VTS	Vitosha	160.52 306	PKPdf	PKPdf	14 26 26.6 -1.0
KRUC	Moravsky	160.53 330	ePKP	PKPdf	14 26 27.5 +0.3
KRUC			e		14 27 08.8
KRUC			e		14 37 42.2
MDVR	Moldovita	160.54 313	⇑P	PKPdf	14 26 28.2 +0.8
TREC	Trest	160.72 332	ePKIKP	PKPdf	14 26 27.2 -0.2
TREC			MLR	MLR	
	comp=Z,4µm,20.7s				
TREC	Trest	160.72 332	ePKPDF	PKPdf	14 26 27.2 -0.2
TREC			AMS	AMS	15 39 50.0
	comp=Z,4µm,20.7s				
IDI	Anoyia	160.72 283	PKP	PKPdf	14 26 29.4 +1.5
	comp=Z,21nm,1.2s,baz=82,slow=1.8,SNR=7.0				
PBCC	Pribram	160.96 335	ePKPDF	PKPdf	14 26 29.7 +2.1
PBCC			ePKPAB	sPKPab	14 27 12.6 +1.9
PBCC			AMS	AMS	15 50 50.0
	comp=Z,2µm,20.4s				
NKC	Novy Kostel	161.00 339	ePKIKP	PKPdf	14 26 27.1 -0.6
NKC			e		14 30 55.4
NKC			MLR	MLR	
	comp=Z,6µm,17.5s				
NKC	Novy Kostel	161.00 339	ePKPDF	PKPdf	14 26 27.1 -0.6
NKC			ePKPAB	sPKPab	14 27 11.1 +0.2
NKC			ePP	PP	14 30 55.4 +2.3
NKC			ex	x	14 37 48.6
NKC			AMS	AMS	15 56 20.0
	comp=Z,6µm,17.5s				
BOVS	Bovan	161.10 310	⇓P	PKPdf	14 26 28.9 +0.9
FRGS	Fruska Gora	161.47 316	⇓P	PKPdf	14 26 29.0 +0.7
CKRC	Cesky Krumlov	161.56 333	ePKPDF	PKPdf	14 26 28.4 +0.1
CKRC			ePKPAB	PKPab	14 27 12.6 -0.4
CKRC			ePP	PP	14 30 59.5 +3.3
CKRC			ex	x	14 37 50.1
CKRC			AMS	AMS	15 40 10.0
	comp=Z,4µm,20.3s				
KHC	Kasperske Hory	161.57 335	ePKIKP	PKPdf	14 26 28.1 -0.2
KHC			e		14 30 59.7
KHC			MLR	MLR	
	comp=Z,4µm,17.3s				
KHC	Kasperske Hory	161.57 335	ePKPDF	PKPdf	14 26 28.1 -0.2
KHC			x	x	14 26 44.5
KHC			ePKPAB	PKPab	14 27 13.2 +0.1
KHC			x	x	14 27 32.5
KHC			ePP	PP	14 30 59.7 +3.5
KHC			ex	x	14 37 50.8
KHC			AMS	AMS	15 53 40.0
	comp=Z,4µm,17.3s				
CONA	Conrad Observa	161.63 329	i P	PKPdf	14 26 30.6 +2.1
	comp=Z,14nm,1.9s				
CONA			i P	sPKPab	14 27 15.7 +1.9
	comp=Z,31nm,1.5s				
GEC2	GERESS Array S	161.77 334	PKPdf	PKPdf	14 26 28.2 -0.4
GERES	GERESS Array B	161.77 334	PKP	PKPdf	14 26 29.9 +1.3
	comp=Z,1.0nm,0.8s,baz=70,slow=1.6,SNR=7.1				
GERES			PKPab	sPKPab	14 27 15.9 +1.6
	comp=Z,2.5nm,0.7s,baz=39,slow=6.3,SNR=8.6				
GRA1	Grafenberg Arr	161.85 340	PKPab	PKPab	14 27 13.9 -0.3
GRF	Grafenberg Arr	161.85 340	PKP2	PKPab	14 27 13.9 -0.3
DIVS	Divibare	161.95 313	PKPdf	PKPdf	14 26 28.1 -0.9
MEM	Membach	162.07 351	dPKP	PKPab	14 27 14.5 -0.5
BTNL	Ternell	162.08 351	dPKP	PKPab	14 27 15.0 -0.2
ARSA	Arzberg	162.29 328	i P	PKPdf	14 26 29.7 +0.6
	comp=Z,6.8nm,1.0s				
ARSA			i P	sPKPab	14 27 18.3 +1.7
	comp=Z,20nm,1.3s				
BHOU	Houvegnez	162.32 351	dPKP	PKPab	14 27 17.4 +1.1
BCLA	Clavier	162.34 353	dPKP	PKPab	14 27 15.1 -1.2
MOA	Molln	162.36 331	i P	PKPdf	14 26 29.5 +0.3
	comp=Z,7.2nm,1.3s				
MOA			i P	sPKPab	14 27 18.7 +1.8
	comp=Z,22nm,1.6s				
BGES	Gesves	162.40 353	dPKP	PKPab	14 27 16.2 -0.3
BMRD	Maredsous	162.51 354	dPKP	PKPab	14 27 16.1 -0.9
KOGS	Kog	162.54 325	i PKPdf	PKPdf	14 26 29.9 +0.5
KOGS			ePP	PP	14 31 02.7 +1.0
DOU	Dourbes	162.73 354	dPKP	PKPab	14 27 17.4 -0.6
SOKA	Soboth	162.95 327	i P	PKPdf	14 26 29.0 -0.8
	comp=Z,12nm,1.5s				
SOKA			i P	sPKPab	14 27 21.1 +1.5
	comp=Z,22nm,1.2s				
WLF	Walferdange	162.97 350	dPKP	PKPab	14 27 20.0 +0.9
MYKA	Terra Mystica	163.59 330	i P	PKPdf	14 26 31.2 +0.7
	comp=Z,2.6nm,0.6s				
MYKA			i P	sPKPab	14 27 23.0 +0.6
	comp=Z,6.1nm,0.7s				
LJU	Ljubljana	163.65 327	i PKPdf	PKPdf	14 26 29.2 -1.3
LJU			ePP	PP	14 31 05.4 -2.1
LJU			e		14 37 56.1
CRNS	Crni Vrh	163.75 327	ePKPdf	PKPdf	14 26 31.8 +1.3
WATA	Walderalm	163.81 335	i P	PKPdf	14 26 32.6 +1.8
	comp=Z,13nm,1.3s				
WATA			i P	sPKPab	14 27 25.1 +1.7
	comp=Z,28nm,1.4s				
WTTA	Wattenberg	163.85 335	i P	PKPdf	14 26 31.1 +0.3
	comp=Z,9.3nm,1.3s				
WTTA			i P	sPKPab	14 27 25.5 +1.9
	comp=Z,31nm,1.5s				
BFO	Black Forest	163.85 344	PKP2	PKPab	14 27 22.3 -0.7
BFO	Black Forest	163.85 344	PKPab	PKPab	14 27 22.3 -0.7
RETA	Reutte	163.95 337	i P	PKPdf	14 26 30.4 -0.3
	comp=Z,1.4nm,0.4s				
RETA			i P	sPKPab	14 27 25.9 +2.0
	comp=Z,83nm,1.3s,SNR=15				
ABTA	Abfaltersbach	163.96 332	i P	PKPdf	14 26 31.4 +0.6
	comp=Z,10.0nm,1.1s				
ABTA			i P	sPKPab	14 27 26.8 +2.8
	comp=Z,16nm,1.1s				
MOTA	Moosalm	163.96 336	i P	PKPdf	14 26 32.1 +1.2

	comp=Z,10nm,1.2s						
MOTA				*i* P	sPKPab	14 27 25.9	+1.8
	comp=Z,59nm,1.3s,SNR=9.6						
SQTA	Sankt Quirin	164.03	336	*i* P	PKPdf	14 26 31.8	+0.9
	comp=Z,4.2nm,1.0s						
SQTA				*i* P	sPKPab	14 27 26.5	+2.2
	comp=Z,38nm,1.2s						
PMOZ	Porto Moniz, M	164.06	85	*e*PP	PP	14 31 11.9	+0.9
PMOZ	Porto Moniz, M	164.06	85	*e*SS	SS	14 51 50.2	+8.1
PMOZ	Porto Moniz, M	164.06	85	*e*LR	LR	15 29 33.9	
	comp=Z,4μm,18.0s						
STAL	STALIGIAL	164.27	331		PKPab	14 27 23.8	-1.2
PMAR	Madeira	164.28	86	*e*PP	PP	14 31 17.5	+5.2
FUL	Funchal	164.30	86	*e*PKP	PKPdf	14 26 45.0	+14
FUL	Funchal	164.30	86	*e*PP	PP	14 31 17.0	+4.9
FETA	Feichten	164.37	337	*i* P	PKPdf	14 26 32.7	+1.4
	comp=Z,5.9nm,1.1s						
FETA				*i* P	sPKPab	14 27 27.9	+2.0
	comp=Z,41nm,1.4s						
DAVA	Damuels	164.40	339	*e*P	PKPdf	14 26 33.7	+2.4
	comp=Z,5.6nm,1.2s						
DAVA				*i* P	sPKPab	14 27 28.0	+2.0
	comp=Z,58nm,1.2s,SNR=12						
PMPST	Porto Santo, M	164.80	85	*e*PKP	PKPdf	14 26 38.3	+6.4
PMPST	Porto Santo, M	164.80	85	*e*PP	PP	14 31 17.0	+2.2
DAVOX	Davos/Dischmat	164.85	338	PKP	PKPdf	14 26 34.9	+3.1
	comp=Z,1.9nm,0.6s,baz=222,slow=6.0,SNR=4.1						
DAVOX				PKPab	sPKPab	14 27 29.3	+1.2
	comp=Z,16nm,0.9s,baz=321,slow=4.0,SNR=16						
DAVOX				PP	PP	14 31 15.6	+1.9
	comp=Z,1.2nm,0.4s,baz=304,slow=5.2,SNR=3.1						
SALO	Salr	165.65	334		PKPab	14 27 31.2	+0.1
SENIN	Lac Senin/Sane	165.94	344	PKPab	PKPab	14 27 31.7	-0.9
INTR	Introdacqua	166.79	317		PKPdf	14 26 32.4	-0.9
BNI	Bardonecchia	167.32	344	PKP2	PKPab	14 27 37.8	-0.8
BNI	Bardonecchia	167.32	344	PKPab	PKPab	14 27 37.8	-0.8
SSB	Saint Sauveur	167.49	351	PKP2	PKPab	14 27 38.4	-0.7
SSB	Saint Sauveur	167.49	351	PKPab	PKPab	14 27 38.4	-0.7
PGAV	Gavieira, Arco	167.97	39	*e*PP	PP	14 31 35.4	+5.2
PGAV	Gavieira, Arco	167.97	39	*e*SS	SS	14 52 28.3	+8.5
PGAV	Gavieira, Arco	167.97	39	*e*LR	LR	15 29 52.6	
	comp=Z,4μm,18.0s						
PCAB	Cabril	168.28	39	*e*PP	PP	14 31 38.7	+7.0
POLO	Lamas de Olo	168.64	39	*e*PKP	PKPdf	14 26 38.6	+3.9
POLO	Lamas de Olo	168.64	39	*e*PP	PP	14 31 44.5	+11
POLO	Lamas de Olo	168.64	39	*e*SS	SS	14 52 33.1	+6.5
VAE	Valguarnera	168.72	297	PKP	PKPdf	14 26 35.8	+1.0
	comp=Z,9.3nm,0.5s,baz=323,slow=5.1,SNR=2.2						
PVRL	Vila Real	168.75	40	*e*PP	PP	14 31 46.1	+12
PBRG	Braganca	168.86	35	*e*PKP	PKPdf	14 26 39.0	+4.3
PBRG	Braganca	168.86	35	*e*PP	PP	14 31 45.0	+11
PVIS	Viseu	169.04	42	*e*PKP	PKPdf	14 26 40.4	+5.5
PVIS	Viseu	169.04	42	*e*PP	PP	14 31 47.9	+12
COI	Coimbra	169.07	46	*e*PKP	PKPdf	14 26 42.2	+7.4
PCAS	Casmilo, Conde	169.11	46	*e*PKP	PKPdf	14 26 40.4	+5.5
PCAS	Casmilo, Conde	169.11	46	*e*PP	PP	14 31 46.9	+11
PCAS	Casmilo, Conde	169.11	46	*e*SS	SS	14 52 34.3	+2.8
MVO	Moncorvo	169.20	38	*e*PKP	PKPdf	14 26 40.2	+5.2
MVO	Moncorvo	169.20	38	*e*PP	PP	14 31 47.3	+11
MVO	Moncorvo	169.20	38	*e*SS	SS	14 52 38.3	+6.3
MVO	Moncorvo	169.20	38	*e*LR	LR	15 34 01.6	
	comp=Z,4μm,16.0s						
PMAFR	Mafra	169.22	53	*e*PKP	PKPdf	14 26 39.9	+4.9
PMAFR	Mafra	169.22	53	*e*PP	PP	14 31 42.2	+5.4
PMAFR	Mafra	169.22	53	*e*SS	SS	14 52 39.2	+6.3
PSBE	So Bento	169.24	49	*e*PKP	PKPdf	14 26 41.1	+6.1
PSBE	So Bento	169.24	49	*e*PP	PP	14 31 39.9	+3.1
PSBE	So Bento	169.24	49	*e*SS	SS	14 52 39.8	+6.8
PMST	Lisbon--Monsan	169.40	54	*e*PKP	PKPdf	14 26 41.7	+6.6
PMST	Lisbon--Monsan	169.40	54	*e*PP	PP	14 31 42.7	+5.0
LIS	Lisbon	169.43	54	*e*PKPdf	PKPdf	14 26 33.6	-1.5
LIS				*e*PP	PP	14 31 34.7	-3.2
LIS				*e*SS	SS	14 52 30.2	-4.8
LIS				IAMs_20	IAMs_20	15 51 02.3	
	comp=Z,5μm,21.0s						
LIS	Lisbon	169.43	54	*e*PKIKP	PKPdf	14 26 33.6	-1.5
LIS				*e*		14 31 34.6	
LIS				*e*SS	SS	14 52 30.2	-4.8
LIS	Lisbon	169.43	54	*e*PP	PP	14 31 45.3	+7.4
MTE	Manteigas	169.45	42	*e*PKP	PKPdf	14 26 41.6	+6.4
MTE	Manteigas	169.45	42	*e*PP	PP	14 31 52.5	+15
MTE	Manteigas	169.45	42	*e*SS	SS	14 52 39.3	+4.5
MTE	Manteigas	169.45	42	*e*LR	LR	15 31 04.6	
	comp=Z,7μm,18.0s						
PCBR	Castelo Branco	169.85	45	*e*PKP	PKPdf	14 26 39.4	+4.1
PCBR	Castelo Branco	169.85	45	*e*PP	PP	14 31 52.4	+13
PMTG	Montargil	169.85	50	*e*SS	SS	14 52 44.6	+5.5
PNCL	Nicolau / Gran	170.15	56	*e*PKP	PKPdf	14 26 41.6	+6.1
PNCL	Nicolau / Gran	170.15	56	*e*PP	PP	14 31 46.8	+5.2
PNCL	Nicolau / Gran	170.15	56	*e*SS	SS	14 52 43.4	+1.1
PMRV	Marv??o	170.16	46	*e*PKP	PKPdf	14 26 39.9	+4.3
PMRV	Marv??o	170.16	46	*e*PP	PP	14 31 41.1	-0.3
PMRV	Marv??o	170.16	46	*e*SS	SS	14 52 48.5	+6.5
PMRV	Marv??o	170.16	46	*e*LR	LR	15 32 23.8	
	comp=Z,4μm,18.0s						
PTEO	Sao Teotonio	170.26	59	*e*PKP	PKPdf	14 26 41.9	+6.3
PTEO	Sao Teotonio	170.26	59	*e*PP	PP	14 31 53.0	+11
EVO	Evora	170.29	52	PKP	PKPdf	14 26 40.1	+4.5
EVO				SS	SS	14 52 46.1	+2.7
EVO	Evora	170.29	52	*e*PKP	PKPdf	14 26 40.8	+5.2
EVO	Evora	170.29	52	*e*PP	PP	14 31 46.2	+4.0
PFVI	Vila Bisbo	170.35	61	*e*PKP	PKPdf	14 26 41.3	+5.6
PFVI	Vila Bisbo	170.35	61	*e*PP	PP	14 31 46.8	+4.0
PESTR	Estremoz	170.38	49	*e*PKP	PKPdf	14 26 40.2	+4.5
PESTR	Estremoz	170.38	49	*e*PP	PP	14 31 46.2	+3.6
PESTR	Estremoz	170.38	49	*e*SS	SS	14 52 47.7	+3.4
PESTR	Estremoz	170.38	49		PKPdf	14 26 34.8	-0.9
MORF	Marmelete	170.42	60	*e*PKPdf	PKPdf	14 26 34.1	-1.7
MORF				*e*PP	PP	14 31 39.6	-3.6
MORF				*e*SS	SS	14 52 39.9	-5.5
MORF				IAMs_20	IAMs_20	15 41 50.6	
	comp=Z,7μm,22.8s						
MORF	Marmelete	170.42	60	*e*PKIKP	PKPdf	14 26 34.1	-1.7
MORF				*e*		14 31 39.5	
MORF				*e*SS	SS	14 52 39.8	-5.5
MORF	Marmelete	170.42	60	*e*PKP	PKPdf	14 26 39.0	+3.2
MORF	Marmelete	170.42	60	*e*PP	PP	14 31 48.5	+5.4
MORF	Marmelete	170.42	60	*e*SS	SS	14 52 53.0	+7.7
MESJ	Messejana	170.49	56	*e*PKPdf	PKPdf	14 26 34.2	-1.6
MESJ				*e*PP	PP	14 31 40.0	-3.3
MESJ				*e*SS	SS	14 52 40.7	-5.0
MESJ				IAMs_20	IAMs_20	15 55 00.6	
	comp=Z,5μm,22.4s						
MESJ	Messejana	170.49	56	*e*PKIKP	PKPdf	14 26 34.1	-1.6
MESJ				*e*		14 31 40.0	
MESJ				*e*SS	SS	14 52 40.6	-5.1
MESJ	Messejana	170.49	56	*e*PKP	PKPdf	14 26 40.7	+5.0
MESJ	Messejana	170.49	56	*e*PP	PP	14 31 47.4	+4.1
PBEJ	Beja	170.65	54	*e*PKP	PKPdf	14 26 41.4	+5.6
PBEJ	Beja	170.65	54	*e*PP	PP	14 31 45.6	+1.6
PCVE	Castro Verde	170.71	57	*e*PKP	PKPdf	14 26 41.1	+5.2
PCVE	Castro Verde	170.71	57	*e*PP	PP	14 31 48.5	+4.0
PCVE	Castro Verde	170.71	57	*e*SS	SS	14 52 56.2	+8.2
PBDV	Barranco-do-Ve	170.96	59	*e*PKP	PKPdf	14 26 42.8	+6.7
PBDV	Barranco-do-Ve	170.96	59	*e*PP	PP	14 31 52.5	+6.7
PBDV	Barranco-do-Ve	170.96	59	*e*SS	SS	14 52 52.9	+2.3
PVAQ	Vaqueiros	171.05	58	*e*PKP	PKPdf	14 26 41.0	+4.9
PVAQ	Vaqueiros	171.05	58	*e*PP	PP	14 31 51.9	+5.8
PVAQ	Vaqueiros	171.05	58	*e*SS	SS	14 52 52.6	+1.3
PVAQ				*e*SS	SS	14 53 03.2	+12
PVAQ	Vaqueiros	171.05	58	*e*LR	LR	15 31 02.2	
	comp=Z,5μm,18.0s						
UCM	Universidad Co	171.62	27	PKP	PKPdf	14 26 36.2	-0.1
UCM				SS	SS	14 52 40.4	-15
ESDC	Sonseca Array	171.84	33	PKP	PKPdf	14 26 38.0	+1.5
	comp=Z,3.9nm,1.2s,baz=346,slow=1.9,SNR=9.4						
ESDC				PKPab	sPKPab	14 27 59.8	+0.8
	comp=Z,2.2nm,1.0s,baz=314,slow=4.4,SNR=4.7						
ESDC				PP	PP	14 31 50.4	+1.1
	comp=Z,3.0nm,1.2s,baz=340,slow=3.6,SNR=4.6						
ESDC	Sonseca Array	171.84	33		PKPdf	14 26 36.2	-0.2
ARNO	Arenosillo	171.88	57	PKP	PKPdf	14 26 40.9	+4.4
ARNO	Arenosillo	171.88	57	PP	PP	14 31 53.3	+3.1
AVE	Averroes	172.28	85	PKP	PKPdf	14 26 41.2	+4.4
AVE				SS	SS	14 53 03.7	-0.7
SFS	San Fernando	172.55	60	PKP	PKPdf	14 26 39.0	+2.2
SFS				SS	SS	14 52 24.3	-42
KEST	Kesra	173.15	296	PKP	PKPdf	14 26 39.5	+2.3
	comp=Z,4.2nm,0.8s,baz=239,slow=5.9,SNR=2.5						
CEU	Ceuta	173.40	61	PKP	PKPdf	14 26 50.9	+14
CEU				SS	SS	14 53 34.9	+20
IFR	Ifrane	174.19	82	PKP	PKPdf	14 26 42.4	+4.7
IFR				SS	SS	14 52 58.0	-25
CART	Cartagena	174.84	25	PKP	PKPdf	14 26 25.7	-12
CART				SS	SS	14 53 29.4	+3.1
MELI	Melilla	175.44	58	PKP	PKPdf	14 26 47.7	+10

IDC 07 14:09:15.1±5.4**, 33°.77S**×**177°.91W, h0km, mb4.5**/3**, mb1 4.7**/3**, mb1mx4.0**/37**, mbtmp4.5**/3 **Error ellipse: s-maj=294.5km s-min=51.6km az=164.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.11	270	P	P	14 17 17.6	+0.3
	4.8nm,0.9s,baz=110,slow=7.1,SNR=1.0						
WRA	Warramunga Arr	44.40	276	P	P	14 17 27.2	-0.5
	3.0nm,0.3s,baz=118,slow=7.7,SNR=1.6						
FITZ	Fitzroy Crossi	52.50	272	P	P	14 18 30.0	-0.2
	3.7nm,0.6s,baz=128,slow=4.4,SNR=1.4						
FINES	FINESS Array B	148.31	338	PKPbc	PKPbc	14 29 01.9	-0.5
	3.3nm,0.6s,baz=50,slow=3.6,SNR=5.2						
AKASG	Malin Array Be	153.95	319	PKPbc	PKPbc	14 29 15.8	-0.2
	0.7nm,0.4s,baz=42,slow=4.3,SNR=1.6						

*IDC **07** 14:09:38.8±3.5, 33°.24S×178°.09W, h0km, mb4.8/4, mb1 4.9/4, mb1mx4.2/39, mbtmp4.8/4, Error ellipse: s-maj=166.5km s-min=47.0km az=167.0*

*NEIC **07** 14:09:42.8±2.0, 33°.4S±0°.2×178°.3W±0°.2, h10km±2km, mb4.9/18, Error ellipse: s-maj=37.1km s-min=22.6km az=163.0*

ISC 07 14:09:41.9±1.0**, 33°.6S**±0°.2×**178°.3W**±0°.1**, h10km, n28, σ1s.51**/26**, mb4.8**/10**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PINNC	Pines Island,	16.63	307		P	14 13 37.0	-0.7
PINNC				IAmb	IAmb	14 13 41.7	
	comp=Z,170nm,1.5s						
PYZ	Puysegur Point	17.01	218	Pn	Pn	14 13 36.8	-3.0
AFI	Afiamalu	20.47	18	P	P	14 14 18.3	-1.6
AFI	Afiamalu	20.47	18	S	P	14 14 18.7	-1.1
	comp=Z,3.9nm,0.3s,baz=74,slow=18,SNR=1.9						
RAR	Rarotonga	20.52	58	P	P	14 14 19.0	-1.4
RAR	Rarotonga	20.52	58	S	P	14 14 23.8	+3.4
	comp=Z,10nm,0.6s,baz=348,slow=19,SNR=1.4						
EIDS	Eidsvold	27.80	279	P	P	14 15 32.0	+0.7
EIDS				IAmb	IAmb	14 16 00.6	
	comp=Z,14nm,1.1s						
TAU	Tasmania Unive	28.39	241	P	P	14 15 37.9	+1.5
CTA	Charters Tower	34.18	284	P	P	14 16 27.9	+0.3
	comp=Z,9.2nm,0.5s,baz=104,slow=12,SNR=3.1						
CTAO	Charters Tower	34.18	284	P	P	14 16 27.4	-0.2
CTAO				IAmb	IAmb	14 16 31.4	
	comp=Z,12nm,0.6s						
BBOO	Buckleboo	37.95	258	P	P	14 17 01.2	+1.4
BBOO				IAmb	IAmb	14 17 26.6	
	comp=Z,41nm,1.4s						
COEN	Coen	39.99	290	P	P	14 17 17.4	+0.4
AS31	Alice Springs	42.77	271	P	P	14 17 39.9	+0.1
ASAR	Alice Springs	42.77	271	P	P	14 17 39.8	0.0
	comp=Z,10.0nm,0.8s,baz=106,slow=8.2,SNR=3.6						
ASAR	Alice Springs	42.77	271	P	P	14 17 39.5	-0.4
WR0	Warramunga Arr	43.87	276	P	P	14 17 47.8	-0.9
WR0				IAmb	IAmb	14 17 48.9	
	comp=Z,18nm,1.1s						
WB2	Warramunga Arr	44.04	276	P	P	14 17 48.7	-1.3
WB2				IAmb	IAmb	14 17 51.6	
	comp=Z,41nm,1.4s						
WRAB	Tennant Creek	44.04	276	P	P	14 17 48.6	-1.5
WRAB				IAmb	IAmb	14 18 07.7	
	comp=Z,10nm,0.7s						
WRA	Warramunga Arr	44.05	276	P	P	14 17 49.0	-1.2
	comp=Z,9.3nm,0.5s,baz=117,slow=7.8,SNR=5.6						
WRA	Warramunga Arr	44.05	276	IAmb	IAmb	14 17 51.0	
	comp=Z,2.3nm,1.4s						
FORT	Forrest	45.06	258	P	P	14 17 59.6	+1.6
MTN	Manton Dam	50.29	282	P	P	14 18 38.7	-0.2
MTN				IAmb	IAmb	14 19 01.0	
	comp=Z,26nm,1.4s						
KNRA	Kununurra	50.76	277	P	P	14 18 43.2	+0.8
FITZ	Fitzroy Crossi	52.16	273	P	P	14 18 52.2	-0.7
	comp=Z,4.3nm,0.6s,baz=114,slow=10.0,SNR=1.7						
FITZ	Fitzroy Crossi	52.16	273	IAmb	IAmb	14 19 12.1	
	comp=Z,9.5nm,1.1s						
FINES	FINESS Array B	148.01	338	PKPbc	PKPdf	14 29 24.6	+1.0
	comp=Z,8.4nm,0.5s,baz=45,slow=4.1,SNR=6.4						
FINES	FINESS Array B	148.01	338		PKPdf	14 29 25.3	+1.7
AKASG	Malin Array Be	153.59	319	PKPbc	PKPbc	14 29 37.8	-2.6
	comp=Z,1.3nm,0.5s,baz=49,slow=2.7,SNR=2.2						

IDC 07 14:10:50.9±5.5**, 33°.02S**×**178°.21W, h0km, mb4.3**/3**, mb1 4.4**/3**, mb1mx3.9**/38**, mbtmp4.3**/3**, Error ellipse: s-maj=230.7km s-min=63.6km az=165.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	34.13	283	P	P	14 17 38.5	+0.9
	3.4nm,0.7s,baz=105,slow=12,SNR=1.3						
ASAR	Alice Springs	42.86	270	P	P	14 18 50.4	-0.6
	2.3nm,0.6s,baz=111,slow=7.0,SNR=1.7						
WRA	Warramunga Arr	44.08	275	P	P	14 19 00.5	-0.5
	2.0nm,0.5s,baz=115,slow=7.7,SNR=1.7						
FINES	FINESS Array B	147.53	338	PKPbc	PKPbc	14 30 35.5	-0.7
	2.2nm,0.7s,baz=69,slow=4.6,SNR=0.7						

IDC 07 14:11:41.8±7.0**, 31°.45S**×**178°.96W, h0km, mb4.1**/3**, mb1 4.3**/3**, mb1mx3.8**/37**, mbtmp4.1**/3**, Error ellipse: s-maj=289.6km s-min=63.8km az=157.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.24	269	P	P	14 19 36.9	-0.1
	1.4nm,0.7s,baz=95,slow=6.9,SNR=1.5						
WRA	Warramunga Arr	43.33	274	P	P	14 19 46.6	+0.7
	1.0nm,0.4s,baz=114,slow=7.7,SNR=1.6						
FITZ	Fitzroy Crossi	51.55	271	P	P	14 20 49.1	-0.7
	3.0nm,0.9s,baz=113,slow=4.8,SNR=3.2						
FINES	FINESS Array B	145.84	339	PKPbc	PKPdf	14 31 21.5	-0.2
	3.3nm,0.7s,baz=77,slow=6.1,SNR=1.9						

*IDC **07** 14:13:04.0±0.7, 32°.76S×178°.26W, h0km, mb4.5/7, mb1 4.7/9, mb1mx4.2/39, mbtmp4.5/9, ML4.3/2, Error ellipse: s-maj=25.8km s-min=22.8km az=166.0*

*NEIC **07** 14:13:05.4±1.6, 32°.9S±0°.1×178°.2W±0°.2, h10km±1km, mb4.7/20, Error ellipse: s-maj=24.6km s-min=18.0km az=78.0*

ISC 07 14:13:04.8±0.5**, 32°.85S**±0°.07×**178°.2W**±0°.1**, h10km, n54, σ1s.67**/54**, mb4.6**/12**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	3.60	4	Pn	Pn	14 13 57.9	-2.8
	26nm,0.3s,baz=112,slow=19,SNR=1.2						
RAO				Sn	Sn	14 14 38.1	-5.2
	82nm,0.3s,baz=254,slow=20,SNR=1.7						
RAO	Raoul Island	3.60	4	Pn	Pn	14 13 59.4	-1.3
URZ	Urewera	6.60	214	Pn	Pn	14 14 41.2	-0.7
	6.1nm,0.3s,baz=268,slow=5.6,SNR=8.2						
URZ				Sn	Sn	14 15 53.6	-3.6
	14nm,0.3s,baz=182,slow=12,SNR=6.7						
URZ	Urewera	6.60	214	Pn	Pn	14 14 41.1	-0.8
RPZ	Rata Peaks	13.72	215	Pn	Pn	14 16 15.8	-3.5
OUENC	Ouen Island, N	16.81	304	P	P	14 17 04.7	+2.2
OUENC				IAmb	IAmb	14 17 09.1	
	comp=Z,94nm,1.3s						
DZM	Mont Dzumac	17.32	304	P	P	14 17 12.6	+4.3
	comp=Z,0.7nm,0.3s,baz=130,slow=15,SNR=7.8						
DZM	Mont Dzumac	17.32	304	P	P	14 17 13.1	+4.9
CTA	Charters Tower	34.09	283	P	P	14 19 51.7	+2.0
	comp=Z,7.8nm,0.6s,baz=113,slow=9.7,SNR=9.5						
CTAO	Charters Tower	34.09	283	P	P	14 19 51.2	+1.5
CTAO				IAmb	IAmb	14 19 57.0	
	comp=Z,9.6nm,0.6s						
BBOO	Buckleboo	38.18	257	P	P	14 20 24.3	-0.3
COEN	Coen	39.83	289	P	P	14 20 40.1	+1.5
COEN				IAmb	IAmb	14 20 59.1	
	comp=Z,17nm,1.1s						
AS31	Alice Springs	42.85	270	P	P	14 21 02.1	-1.3
ASAR	Alice Springs	42.85	270	P	P	14 21 03.5	+0.1
	comp=Z,7.1nm,0.8s,baz=111,slow=7.8,SNR=7.2						
ASAR	Alice Springs	42.85	270	P	P	14 21 02.9	-0.5
WR0	Warramunga Arr	43.88	275	P	P	14 21 11.5	-0.3
WB2	Warramunga Arr	44.05	275	P	P	14 21 12.4	-0.7
WRAB	Tennant Creek	44.05	275	P	P	14 21 13.0	-0.1
WRA	Warramunga Arr	44.06	275	P	P	14 21 13.2	+0.1
	comp=Z,10nm,1.0s,baz=115,slow=7.6,SNR=7.6						
WRA	Warramunga Arr	44.06	275	P	P	14 21 12.3	-0.9
WRA				IAmb	IAmb	14 21 29.4	
	comp=Z,2.8nm,1.4s						
FORT	Forrest	45.29	258	P	P	14 21 21.6	-1.2
MTN	Manton Dam	50.22	281	P	P	14 22 01.2	-0.1
MTN				IAmb	IAmb	14 22 06.1	
	comp=Z,11nm,1.1s						
KNRA	Kununurra	50.75	276	P	P	14 22 04.7	-0.5
KNRA				IAmb	IAmb	14 22 20.5	
	comp=Z,12nm,0.9s						
FITZ	Fitzroy Crossi	52.21	272	P	P	14 22 16.3	+0.1
	comp=Z,4.6nm,0.8s,baz=131,slow=5.4,SNR=13						
FITZ	Fitzroy Crossi	52.21	272	IAmb	IAmb	14 22 17.3	
	comp=Z,7.3nm,0.9s						
CASY	Casey	52.90	209	P	P	14 22 20.6	0.0
CASY				IAmb	IAmb	14 22 43.7	
	comp=Z,9.0nm,0.9s						
QSPA	South Pole Qui	57.26	180	P	P	14 22 54.0	+1.7
	comp=Z,3.4nm,0.8s,baz=40,slow=2.0,SNR=3.6						
QSPA	South Pole Qui	57.26	180	IAmb	IAmb	14 23 13.0	
	comp=Z,6.8nm,0.7s						
MAW	Mawson	69.95	201	P	P	14 24 15.6	-0.3
GO10	Punta Arenas	73.66	143	P	P	14 24 37.8	-0.7
SNAA	Sanae	75.71	178	P	P	14 24 49.5	-0.6
SNAA	Sanae	75.71	178	P	P	14 24 49.5	-0.6
SNAA				IAmb	IAmb	14 25 02.4	
	comp=Z,8.1nm,1.1s						
VNA3	Neumayer Olymp	75.88	176	P	P	14 24 50.9	-0.1
VNA2	Neumayer--Watz	76.31	177	P	P	14 24 52.9	-0.5
	baz=182,slow=6.0						
VNA1	Neumayer--Stat	76.54	177	P	P	14 24 54.1	-0.6
PLCA	Paso Flores	80.98	133	P	P	14 25 21.6	+1.8
	comp=Z,3.3nm,1.0s,baz=223,slow=8.5,SNR=4.0						
PLCA	Paso Flores	80.98	133	P	P	14 25 20.5	+0.6
PLCA				IAmb	IAmb	14 25 21.9	
	comp=Z,6.5nm,1.1s						
NVAR	Mina Array Bea	90.16	43	P	P	14 26 07.2	+1.7
	comp=Z,0.7nm,0.7s,baz=232,slow=5.6,SNR=4.2						
NVAR	Mina Array Bea	90.16	43	P	P	14 26 06.1	+0.6
MKAR	Makanchi Array	119.19	309	PKP	PKPdf	14 31 53.7	-0.1
	comp=Z,1.2nm,0.8s,baz=41,slow=2.9,SNR=5.0						
MKAR	Makanchi Array	119.19	309		PKPdf	14 31 53.5	-0.4
KURK	Kurchatov	122.59	313		PKPdf	14 32 00.0	-0.2
KURBB	Kurchatov Arra	122.62	313	PKP	PKPdf	14 32 00.0	-0.2
	comp=Z,1.3nm,0.7s,baz=105,slow=2.0,SNR=9.2						
BVAR	Borovoye Array	128.01	314	PKP	PKPdf	14 32 10.8	+0.3
	comp=Z,1.0nm,0.5s,baz=196,slow=10,SNR=4.0						
KBZ	Khabaz	146.26	301	PKPbc	PKPdf	14 32 45.3	+1.0
	comp=Z,3.8nm,1.1s,baz=329,slow=5.9,SNR=2.3						
FIA1	FINESS Array S	147.37	338		PKPdf	14 32 47.4	+1.9
FINES	FINESS Array B	147.37	338	PKPbc	PKPbc	14 32 48.2	+0.2
	comp=Z,11nm,0.8s,baz=48,slow=2.8,SNR=11						
FINES	FINESS Array B	147.37	338		PKPbc	14 32 47.7	-0.3
NB2	NORSAR Subarra	151.14	350	PKP	PKPbc	14 32 57.9	+0.3
	comp=Z,7.5nm,1.1s,baz=20,slow=4.3						
NOA	NORSAR Array B	151.14	350	PKPbc	PKPbc	14 32 57.5	-0.1
	comp=Z,1.5nm,0.9s,baz=14,slow=3.7,SNR=3.3						
EIL	Elat	151.53	273	PKPbc	PKPbc	14 32 59.8	+0.3
	comp=Z,12nm,1.3s,baz=92,slow=4.8,SNR=4.3						
HFS	Hagfors	151.60	347	PKPbc	PKiKP	14 33 00.0	+1.0
	comp=Z,2.9nm,0.7s,baz=70,slow=4.7,SNR=2.7						
MMAI	Mount Meron Ar	151.85	280	PKPbc	PKPbc	14 33 00.7	+0.5
	comp=Z,0.6nm,0.3s,baz=180,slow=2.9,SNR=2.2						
AKASG	Malin Array Be	153.09	320	PKPbc	PKPbc	14 33 01.1	-1.1
	comp=Z,1.5nm,0.7s,baz=83,slow=1.9,SNR=4.7						

*IDC **07** 14:14:10.0±6.7, 33°.50S×178°.15W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.7/37, mbtmp4.0/2, Error ellipse: s-maj=304.9km s-min=63.5km az=162.0*

*NEIC **07** 14:14:11.9±0.6, 33°.7S±0°.4×178°.3W±0°.3, h10km±2km, mb4.6/4, Error ellipse: s-maj=63.1km s-min=36.3km az=203.0*

ISC 07 14:14:10.5±3.3**, 33°.7S**±0°.2×**178°.1W**±0°.5**, h10km, n9, σ0s.63**/9**, mb4.3**/4**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KHZ	Kahutara	10.91	214	Pn	Pn	14 16 46.6	-0.1
SANVU	Saraoutou	22.47	320	P	P	14 19 09.9	-0.1
ASAR	Alice Springs	42.92	271	P	P	14 22 10.7	+1.1
	2.4nm,0.9s,baz=105,slow=8.2,SNR=2.0						
ASAR	Alice Springs	42.92	271	P	P	14 22 08.8	-0.9
WB2	Warramunga Arr	44.19	276	P	P	14 22 20.1	+0.2
WB2				IAmb	IAmb	14 22 33.2	
	comp=Z,13nm,1.2s						
WRAB	Tennant Creek	44.19	276	P	P	14 22 19.5	-0.4
WRAB				IAmb	IAmb	14 22 47.1	
	comp=Z,12nm,1.3s						
WRA	Warramunga Arr	44.20	276	P	P	14 22 20.5	+0.5
	comp=Z,1.1nm,0.4s,baz=119,slow=7.7,SNR=2.3						
WRA	Warramunga Arr	44.20	276	P	P	14 22 19.9	0.0
FINES	FINESS Array B	148.15	338	PKPbc	PKPbc	14 33 55.8	0.0
	comp=Z,4.0nm,0.7s,baz=43,slow=2.5,SNR=1.4						

*IDC **07** 14:18:40.6±1.4, 33°.01S×178°.11W, h0km, mb4.4/4, mb1 4.5/6, mb1mx4.0/36, mbtmp4.4/6, ML3.9/2, Error ellipse: s-maj=41.9km s-min=28.3km az=147.0*

*WEL **07** 14:18:43.6±0.8, 33°S±8°×17°8W±2°0, h33km, M4.8/9, mB4.9/1, ML5.4/13, MLv4.8/9, Mw(mB)4.2/1, Error ellipse: s-maj=0.0km s-min=0.0km az=110.5*

*NEIC **07** 14:18:43.6±1.3, 32°.80S±0°.06×178°.3W±0°.2, h11km±5km, mb4.6/19, Error ellipse: s-maj=22.6km s-min=5.3km az=109.0*

ISC 07 14:18:42.5±0.8**, 32°.84S**±0°.07×**178°.3W**±0°.1**, h10km, n59, σ1s.38**/69**, mb4.6**/12**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.58	5	P	Pn	14 19 35.3	-2.7
GLKZ				S	Sn	14 20 16.4	-3.9
RAO	Raoul Island	3.59	5	Pn	Pn	14 19 39.0	+0.8
MXZ	Matakaoa Point	5.49	210	Pn	Pn	14 20 06.4	+2.2
WMGZ	Waiomatatini S	5.66	208	P	Pn	14 20 04.8	-1.8
WMGZ				S	Sn	14 21 12.1	+0.4
PKGZ	Pakihiroa	5.86	210	P	Pn	14 20 08.8	-0.6
PKGZ				S	Sn	14 21 14.7	-2.0
HAZ	Te Kaha	5.87	212	P	Pn	14 20 10.0	+0.4
HAZ				S	Sn	14 21 17.1	+0.1
PUZ	Puketiti	5.94	208	P	Pn	14 20 09.8	-0.7
PUZ				S	Sn	14 21 16.2	-2.4
RUGZ	Raukumara Rang	6.09	212	P	Pn	14 20 11.3	-1.4
RUGZ				S	Sn	14 21 23.0	+0.4
TWGZ	Tauwhareparae	6.14	209	P	Pn	14 20 13.5	+0.1
TWGZ				S	Sn	14 21 23.0	-0.6
CNGZ	Carnagh Statio	6.32	206	P	Pn	14 20 12.5	-3.2
TKGZ	Te Karaka	6.42	208	P	Pn	14 20 17.5	+0.5
TKGZ				S	Sn	14 21 28.3	-2.1
MWZ	Matawai	6.46	211	P	Pn	14 20 17.0	-0.8
MWZ				S	Sn	14 21 28.8	-2.8
OPRZ	Ohinepanea	6.55	219	P	Pn	14 20 20.4	+1.6
OPRZ				S	Sn	14 21 33.3	-0.2
URZ	Urewera	6.59	214	Pn	Pn	14 20 19.5	+0.1
	4.5nm,0.3s,baz=285,slow=5.2,SNR=8.6						
URZ				Sn	Sn	14 21 32.9	-1.7
	11nm,0.3s,baz=74,slow=22,SNR=8.6						
URZ	Urewera	6.59	214		Pn	14 20 18.2	-1.2
URZ	Urewera	6.59	214	P	Pn	14 20 19.0	-0.4
URZ				S	Sn	14 21 32.7	-1.9
TGRZ	Tauranga	6.62	221	P	Pn	14 20 20.5	+0.7
RAGZ	Rawiri	6.65	211	P	Pn	14 20 18.2	-2.1
RAGZ				S	Sn	14 21 32.6	-3.6
RIGZ	Rimuhau	6.69	208	P	Pn	14 20 21.4	+0.6
RIGZ				S	Sn	14 21 35.5	-1.5
SNGZ	Shannon Statio	6.92	210	P	Pn	14 20 24.4	+0.4
SNGZ				S	Sn	14 21 42.1	-0.7
MUGZ	Murupara	6.92	214	P	Pn	14 20 24.1	+0.1
MUGZ				S	Sn	14 21 40.7	-2.1
BKZ	Black Stump Fm	7.61	212	Pn	Pn	14 20 33.2	-0.3
RPZ	Rata Peaks	13.71	215	Pn	Pn	14 21 53.3	-3.6
PINNC	Pines Island,	16.22	305	P	P	14 22 35.2	+1.5
PINNC				IAmb	IAmb	14 22 39.2	
	comp=Z,54nm,1.0s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.28**	**305**	P	**P**	**14 22 46.3**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=72,slow=19,SNR=2.1						
DZM	**Mont Dzumac**	**17.28**	**305**	IAmb	IAmb	14 22 52.8	
	comp=Z,18nm,0.9s						
LHI	**Lord Howe Isla**	**19.23**	**268**	P	**P**	**14 23 03.6**	**-3.2**
RAR	**Rarotonga**	**20.10**	**59**	P	**P**	**14 23 16.5**	**+0.1**
RAR				IAmb	IAmb	14 23 31.4	
	comp=Z,33nm,1.2s						
EIDS	**Eidsvold**	**27.73**	**278**	P	**P**	**14 24 31.9**	**+0.7**
EIDS				IAmb	IAmb	14 24 42.9	
	comp=Z,6.5nm,1.1s						
TOO	**Toolangi**	**29.87**	**251**	P	**P**	**14 24 49.8**	**-0.4**
STKA	**Stephens Creek**	**33.78**	**261**	P	**P**	**14 25 26.6**	**+2.0**
CTA	**Charters Tower**	**34.04**	**283**	P	**P**	**14 25 29.3**	**+2.3**
	comp=Z,4.3nm,0.5s,baz=118,slow=9.5,SNR=12						
CTAO	**Charters Tower**	**34.04**	**283**	P	**P**	**14 25 28.9**	**+2.0**
BBOO	**Buckleboo**	**38.15**	**257**	P	**P**	**14 26 01.9**	**-0.2**
BBOO				IAmb	IAmb	14 26 05.0	
	comp=Z,19nm,1.1s						
AS31	**Alice Springs**	**42.81**	**270**	P	**P**	**14 26 41.0**	**+0.3**
ASAR	**Alice Springs**	**42.81**	**270**	P	**P**	**14 26 41.0**	**+0.2**
	comp=Z,4.4nm,0.8s,baz=107,slow=7.6,SNR=30						
ASAR	**Alice Springs**	**42.81**	**270**	P	**P**	**14 26 40.5**	**-0.2**
WR0	**Warramunga Arr**	**43.84**	**275**	P	**P**	**14 26 49.1**	**+0.1**
WR0				IAmb	IAmb	14 26 51.7	
	comp=Z,14nm,1.4s						
WB2	**Warramunga Arr**	**44.01**	**275**	P	**P**	**14 26 50.2**	**-0.2**
WB2				IAmb	IAmb	14 26 51.2	
	comp=Z,7.1nm,0.6s						
WRAB	**Tennant Creek**	**44.01**	**275**	P	**P**	**14 26 49.9**	**-0.5**
WRAB				IAmb	IAmb	14 26 51.1	
	comp=Z,6.0nm,0.7s						
WRA	**Warramunga Arr**	**44.02**	**275**	P	**P**	**14 26 50.6**	**+0.1**
	comp=Z,5.2nm,0.6s,baz=116,slow=7.6,SNR=52						
WRA	**Warramunga Arr**	**44.02**	**275**	P	**P**	**14 26 50.0**	**-0.5**
FORT	**Forrest**	**45.25**	**258**	P	**P**	**14 26 59.6**	**-0.6**
KNRA	**Kununurra**	**50.71**	**276**	P	**P**	**14 27 42.5**	**0.0**
KNRA				IAmb	IAmb	14 27 46.5	
	comp=Z,21nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.17**	**272**	P	**P**	**14 27 53.8**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=147,slow=8.1,SNR=9.6						
FITZ	**Fitzroy Crossi**	**52.17**	**272**	P	**P**	**14 27 53.7**	**+0.2**
FITZ				IAmb	IAmb	14 28 09.9	
	comp=Z,6.3nm,1.2s						
CASY	**Casey**	**52.89**	**209**	P	**P**	**14 27 58.9**	**+0.7**
CASY				IAmb	IAmb	14 28 16.3	
	comp=Z,7.9nm,1.2s						
QSPA	**South Pole Qui**	**57.28**	**180**	P	**P**	**14 28 31.3**	**+1.2**
QSPA				IAmb	IAmb	14 28 43.9	
	comp=Z,7.8nm,0.7s						
SNAA	**Sanae**	**75.73**	**179**	P	P	14 30 37.7	+10
VNA3	**Neumayer Olymp**	**75.89**	**176**	P	P	14 30 40.1	+11
VNA2	**Neumayer--Watz**	**76.32**	**177**	P	P	14 30 42.0	+11
	baz=169,slow=4.4						
MKAR	**Makanchi Array**	**119.15**	**309**	PKP	**PKPdf**	**14 37 31.2**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=83,slow=1.7,SNR=2.1						
KURK	**Kurchatov**	**122.55**	**313**		**PKPdf**	**14 37 37.6**	**-0.1**
KURBB	**Kurchatov Arra**	**122.58**	**313**	PKP	**PKPdf**	**14 37 37.6**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=118,slow=2.0,SNR=5.2						
FINES	**FINESS Array B**	**147.34**	**338**	PKPbc	**PKPbc**	**14 38 25.6**	**0.0**
	comp=Z,3.9nm,0.5s,baz=29,slow=3.2,SNR=13						
NB2	**NORSAR Subarra**	**151.12**	**350**	PKP	**PKPbc**	**14 38 35.8**	**+0.6**
	comp=Z,7.7nm,1.4s,baz=14,slow=4.0						
NOA	**NORSAR Array B**	**151.12**	**350**	PKPbc	**PKPbc**	**14 38 35.5**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=14,slow=4.5,SNR=1.8						
AKASG	**Malin Array Be**	**153.05**	**320**	PKPbc	**PKPbc**	**14 38 39.8**	**0.0**
	comp=Z,0.6nm,0.3s,baz=51,slow=4.9,SNR=5.9						
AKASG	**Malin Array Be**	**153.05**	**320**		**PKPbc**	**14 38 40.6**	**+0.8**

*IDC **07** 14:25:28.0±3.0, 32°.73S×178°.35W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/24, mbtmp3.8/3, ML3.4/1, Error ellipse: s-maj=71.3km s-min=45.4km az=124.0*

*NEIC **07** 14:25:28.9±0.9, 32°.9S±0°.3×178°.2W±0°.2, h10km±2km, mb4.3/8, Error ellipse: s-maj=50.9km s-min=14.3km az=156.0*

ISC 07 14:25:28.3±1.7**, 32°.9S**±0°.2×**178°.2W**±0°.3**, h10**km**, n17,** σ1s.09/16**, mb4.2**/5**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.56**	**214**	Pn	**Pn**	**14 27 05.9**	**+1.1**
	0.7nm,0.3s,baz=293,slow=23,SNR=6.1						
URZ	**Urewera**	**6.56**	**214**		**Pn**	**14 27 03.2**	**-1.6**
BKZ	**Black Stump Fm**	**7.58**	**213**	Pn	**Pn**	**14 27 16.4**	**-2.4**
PLWZ	**Palliser**	**10.09**	**209**	Pn	**Pn**	**14 27 54.5**	**+1.3**
NNZ	**Nelson**	**10.67**	**217**	Pn	**Pn**	**14 28 02.2**	**+1.1**
LHI	**Lord Howe Isla**	**19.31**	**268**	P	**P**	**14 29 53.7**	**+0.2**
AFI	**Afiamalu**	**19.81**	**19**	P	**P**	**14 29 59.0**	**-0.1**
RAR	**Rarotonga**	**20.08**	**59**	Pn	Pn	14 30 04.0	+0.2
RAR				IAmb	IAmb	14 30 21.1	
	comp=Z,8.5nm,0.8s						
AS31	**Alice Springs**	**42.89**	**270**	P	**P**	**14 33 27.2**	**0.0**
ASAR	**Alice Springs**	**42.89**	**270**	P	**P**	**14 33 27.4**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=110,slow=7.6,SNR=10						
ASAR	**Alice Springs**	**42.89**	**270**	P	**P**	**14 33 26.2**	**-1.0**
WR0	**Warramunga Arr**	**43.92**	**275**	P	**P**	**14 33 35.0**	**-0.6**
WR0				IAmb	IAmb	14 33 56.8	
	comp=Z,7.0nm,1.4s						
WB2	**Warramunga Arr**	**44.09**	**275**	P	**P**	**14 33 36.5**	**-0.3**
WB2				IAmb	IAmb	14 33 52.0	
	comp=Z,3.3nm,0.9s						
WRA	**Warramunga Arr**	**44.10**	**275**	P	**P**	**14 33 36.8**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=114,slow=7.9,SNR=17						
WRA	**Warramunga Arr**	**44.10**	**275**	P	**P**	**14 33 36.1**	**-0.9**
SOEI	**Soe**	**57.60**	**280**	P	**P**	**14 35 19.5**	**+0.6**
SOEI				IAmb	IAmb	14 35 30.0	
	comp=Z,8.0nm,1.0s						
FINES	**FINESS Array B**	**147.45**	**338**	PKPbc	**PKPbc**	**14 45 11.6**	**0.0**
	comp=Z,1.6nm,0.7s,baz=52,slow=3.4,SNR=7.1						

*TAP **07** 14:27:48.5, 24°.77N×122°.27E, h90km, ML2.8, C*

*JMA **07** 14:27:48.1±0.2, 24°.76N×122°.25E, h95km±3km, M2.0*

ISC 07 14:27:49.5±1.3**, 24°.73N**±0°.03×**122°.27E**±0°.02**, h84**km±6km**, n96,** σ0s.81/185**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.38**	**318**	P	**Pn**	**14 28 02.3**	**-0.4**
	baz=307						
TWB1				*e*S	**Sn**	**14 28 12.4**	**0.0**
	baz=307						
TWC	**Suao**	**0.40**	**253**	P	**Pn**	**14 28 02.8**	**0.0**
	baz=246						
TWC				S	**Sn**	**14 28 12.7**	**0.0**
	baz=246						
NTC	**Toucheng**	**0.42**	**288**	*e*P	**Pn**	**14 28 02.6**	**-0.3**
	baz=282						
NTC				*e*S	**Sn**	**14 28 12.8**	**-0.2**
	baz=282						
TIPB	**Shuangxi**	**0.47**	**301**	P	**Pn**	**14 28 03.2**	**-0.2**
	baz=296						
TIPB				S	**Sn**	**14 28 13.5**	**-0.3**
	baz=296						
NDS	**Dongshan**	**0.51**	**260**	P	**Pn**	**14 28 03.8**	**+0.1**
	baz=254						
NDS				S	**Sn**	**14 28 14.4**	**+0.1**
	baz=254						
EWUT	**Wuta**	**0.53**	**238**	P	**Pn**	**14 28 04.4**	**+0.5**
	baz=234						
EWUT				S	**Sn**	**14 28 15.1**	**+0.6**
	baz=234						
TWE	**Neicheng**	**0.55**	**270**	P	**Pn**	**14 28 04.0**	**0.0**
	baz=269						
TWE				*e*S	**Sn**	**14 28 14.9**	**+0.1**
	baz=269						
NWF	**Wu-fen Shan**	**0.56**	**308**	P	**Pn**	**14 28 04.0**	**-0.3**
	baz=297						
NWF				S	**Sn**	**14 28 15.0**	**-0.2**
	baz=297						
ENA	**Nanau**	**0.57**	**239**	P	**Pn**	**14 28 04.7**	**+0.5**
	baz=234						
ENA				S	**Sn**	**14 28 15.2**	**+0.2**
	baz=234						
JYNG	**Yonagunijimaku**	**0.67**	**114**	P	**Pn**	**14 28 05.2**	**+0.1**
JYNG				*e*S	**Sn**	**14 28 18.3**	**+1.5**
TWA	**Mucha**	**0.67**	**292**	*e*P	**Pn**	**14 28 05.0**	**-0.2**
	baz=289						
TWA				*e*S	**Sn**	**14 28 16.7**	**-0.2**
	baz=289						
NDT	**Datong Townshi**	**0.70**	**260**	P	**Pn**	**14 28 05.9**	**+0.4**
	baz=259						
NDT				*e*S	**Sn**	**14 28 17.6**	**+0.2**
	baz=259						
NHDH	**Xindian Distri**	**0.72**	**289**	*e*P	**Pn**	**14 28 05.7**	**+0.1**
	baz=286						
NHDH				*e*S	**Sn**	**14 28 17.2**	**-0.4**
	baz=286						
YOJ	**Yonaguni jima**	**0.72**	**111**	P	**Pn**	**14 28 05.7**	**0.0**
YOJ				*e*S	**Sn**	**14 28 18.4**	**+0.7**
YOJ	**Yonaguni jima**	**0.72**	**111**	*e*P	**Pn**	**14 28 05.7**	**0.0**
	baz=119						
YOJ				*e*S	**Sn**	**14 28 17.9**	**+0.1**
	baz=119						
YM01	**YM01**	**0.76**	**303**	P	**Pn**	**14 28 05.7**	**-0.4**
	baz=293						
YM01				S	**Sn**	**14 28 17.8**	**-0.8**
	baz=293						
YHNB	**Yeheng**	**0.82**	**266**	P	**Pn**	**14 28 07.1**	**+0.3**
	baz=270						
YHNB				S	**Sn**	**14 28 19.8**	**+0.1**
	baz=270						
TWY	**Chenhua**	**0.82**	**312**	*e*P	**Pn**	**14 28 06.6**	**-0.1**
	baz=303						
TWY				*e*S	**Sn**	**14 28 19.3**	**-0.2**
	baz=303						
ANP	**Anpu**	**0.82**	**304**	*e*P	**Pn**	**14 28 06.6**	**-0.2**
	baz=295						
ANP				*e*S	**Sn**	**14 28 18.9**	**-0.8**
	baz=295						
NACB	**Ninganchiao**	**0.83**	**228**	P	**Pn**	**14 28 06.3**	**-0.5**
	baz=218						
NACB				S	**Sn**	**14 28 19.1**	**-0.5**
	baz=218						
NSK	**Sanguang**	**0.83**	**267**	P	**Pn**	**14 28 07.0**	**+0.1**
	baz=270						
NSK				S	**Sn**	**14 28 20.0**	**+0.1**
	baz=270						
TWS1	**Kuangyinshan**	**0.86**	**296**	P	**Pn**	**14 28 06.0**	**-1.1**
	baz=293						
TWS1				*e*S	**Sn**	**14 28 19.2**	**-1.1**
	baz=293						
NTST	**Danshui**	**0.86**	**301**	*e*P	**Pn**	**14 28 07.4**	**+0.2**
	baz=297						
NTST				*e*S	**Sn**	**14 28 20.2**	**-0.2**
	baz=297						
NNS	**Nan Shan**	**0.87**	**251**	P	**Pn**	**14 28 07.7**	**+0.4**
	baz=240						
NNS				*e*S	**Sn**	**14 28 20.8**	**+0.1**
	baz=240						
ETLH	**Xiulin Townshi**	**0.89**	**234**	P	**Pn**	**14 28 07.4**	**-0.1**
	baz=239						
ETLH				S	**Sn**	**14 28 21.2**	**+0.2**
	baz=239						
TWD	**Chiawan**	**0.89**	**224**	P	**Pn**	**14 28 07.7**	**+0.2**
	baz=215						
TWD				*e*S	**Sn**	**14 28 21.2**	**+0.3**
	baz=215						
PCYT	**Pengchaiyu**	**0.92**	**349**	*e*P	**Pn**	**14 28 07.4**	**-0.4**
	baz=340						
PCYT				*e*S	**Sn**	**14 28 21.6**	**+0.1**
	baz=340						
HWA	**Hwalien**	**0.96**	**219**	*e*P	**Pn**	**14 28 08.7**	**+0.4**
	baz=210						
HWA				*e*S	**Sn**	**14 28 22.8**	**+0.4**
	baz=210						
NCU	**National Centr**	**1.01**	**284**	*e*P	**Pn**	**14 28 09.1**	**+0.1**
	baz=289						
NCU				*e*S	**Sn**	**14 28 23.6**	**+0.1**
	baz=289						
NCUH	**Zhongli**	**1.02**	**284**	*e*S	**Sn**	**14 28 23.9**	**+0.4**
	baz=289						
ETM	**Tongmen**	**1.04**	**223**	P	**Pn**	**14 28 08.9**	**-0.3**
	baz=231						
ETM				S	**Sn**	**14 28 23.5**	**-0.5**
	baz=231						
FUSS	**Fushou**	**1.05**	**243**	*e*P	**Pn**	**14 28 10.0**	**+0.4**
	baz=236						
FUSS				*e*S	**Sn**	**14 28 24.9**	**+0.3**
	baz=236						
WHF	**Hehuan Shan**	**1.08**	**238**	P	**Pn**	**14 28 10.3**	**+0.1**
	baz=236						
WHF				*e*S	**Sn**	**14 28 26.2**	**+0.6**
	baz=236						
TWT	**Tachien**	**1.10**	**245**	*e*P	**Pn**	**14 28 10.8**	**+0.6**
	baz=237						
TWT				*e*S	**Sn**	**14 28 26.2**	**+0.6**
	baz=237						
LIOB	**Emei**	**1.15**	**266**	P	**Pn**	**14 28 10.9**	**+0.4**
	baz=264						
LIOB				S	**Sn**	**14 28 26.8**	**+0.5**
	baz=264						
NSTT	**Nanjuang**	**1.16**	**266**	*e*P	**Pn**	**14 28 10.8**	**+0.1**
	baz=263						
NSTT				S	**Sn**	**14 28 26.7**	**+0.1**
	baz=263						
SBCB	**Hsinchu**	**1.17**	**273**	*e*P	**Pn**	**14 28 11.2**	**+0.5**
	baz=271						
SBCB				*e*S	**Sn**	**14 28 26.9**	**0.0**
	baz=271						
ESL	**Shilin**	**1.19**	**220**	*e*P	**Pn**	**14 28 10.4**	**-0.6**
	baz=227						
ESL				*e*S	**Sn**	**14 28 25.8**	**-1.4**
	baz=227						
CHGB	**Renai**	**1.20**	**237**	P	**Pn**	**14 28 11.6**	**+0.2**
	baz=228						
CHGB				S	**Sn**	**14 28 27.9**	**+0.1**
	baz=228						
OWD	**Renai**	**1.26**	**233**	P	**Pn**	**14 28 12.4**	**+0.3**
	baz=225						
OWD				S	**Sn**	**14 28 29.4**	**+0.3**
	baz=225						
WHP	**Taichung City**	**1.29**	**250**	P	**Pn**	**14 28 13.2**	**+0.9**
	baz=248						
WHP				S	**Sn**	**14 28 30.4**	**+0.8**
	baz=248						
EGFH	**Guangfu**	**1.30**	**216**	P	**Pn**	**14 28 12.9**	**+0.4**
	baz=224						
EGFH				S	**Sn**	**14 28 28.9**	**-0.8**
	baz=224						
NMLH	**Miaoli**	**1.36**	**262**	*e*P	**Pn**	**14 28 13.5**	**+0.4**
	baz=261						
NMLH				*e*S	**Sn**	**14 28 31.4**	**+0.3**
	baz=261						
IRIF	**Iriomote-Funau**	**1.39**	**106**	P	**Pn**	**14 28 13.2**	**-0.2**
IRIF				*e*S	**Sn**	**14 28 32.2**	**+0.6**
WCS	**Beigang Elemen**	**1.41**	**242**	P	**Pn**	**14 28 14.2**	**+0.4**
	baz=250						
WCS				S	**Sn**	**14 28 32.5**	**+0.4**
	baz=250						
TWQ1	**Liyutan**	**1.42**	**255**	*e*P	**Pn**	**14 28 14.3**	**+0.4**
	baz=253						
TWQ1				*e*S	**Sn**	**14 28 32.7**	**+0.4**
	baz=253						
HGSD	**Ruisui**	**1.45**	**212**	P	**Pn**	**14 28 15.0**	**+0.6**
	baz=203						
HGSD				S	**Sn**	**14 28 33.6**	**+0.5**
	baz=203						
EHY	**Hungye**	**1.49**	**216**	*e*P	**Pn**	**14 28 13.9**	**-0.9**
	baz=221						
EHY				*e*S	**Sn**	**14 28 32.9**	**-1.1**
	baz=221						
SMLT	**Sun Moon Lake**	**1.51**	**236**	*e*P	**Pn**	**14 28 16.3**	**+1.1**
	baz=235						
SMLT				*e*S	**Sn**	**14 28 35.4**	**+0.9**
	baz=235						
SSLB	**Suanglung**	**1.52**	**232**	P	**Pn**	**14 28 16.0**	**+0.7**
	baz=226						
SSLB				S	**Sn**	**14 28 36.1**	**+1.3**
	baz=226						
TYC	**Yuchr**	**1.53**	**238**	P	**Pn**	**14 28 16.8**	**+1.5**
	baz=232						
TYC				*e*S	**Sn**	**14 28 36.8**	**+1.9**
	baz=232						
WDJ	**Dajia District**	**1.53**	**256**	*e*P	**Pn**	**14 28 15.9**	**+0.6**
	baz=255						
WDJ				*e*S	**Sn**	**14 28 35.2**	**+0.3**
	baz=255						
YULB	**Yu-li**	**1.60**	**214**	P	**Pn**	**14 28 14.7**	**-1.5**
	baz=220						
YULB				*e*S	**Sn**	**14 28 35.0**	**-1.5**
	baz=220						
EYUL	**Yuli**	**1.62**	**213**	*e*P	**Pn**	**14 28 16.2**	**-0.4**
	baz=220						
EYUL				*e*S	**Sn**	**14 28 36.3**	**-0.8**
	baz=220						
WHYT	**Xinyi Township**	**1.65**	**232**	P	**Pn**	**14 28 18.3**	**+1.4**
	baz=240						
WHYT				S	**Sn**	**14 28 40.0**	**+2.3**
	baz=240						
JKRS	**Kuro-shima**	**1.66**	**107**	P	**Pn**	**14 28 17.4**	**+0.5**
JKRS				*e*S	**Sn**	**14 28 38.4**	**+0.6**
WNT	**Mingjian**	**1.68**	**240**	*e*P	**Pn**	**14 28 17.6**	**+0.4**
	baz=248						
WNT				*e*S	**Sn**	**14 28 38.9**	**+0.6**
	baz=248						
YUS	**Yu-Shan**	**1.72**	**225**	P	**Pn**	**14 28 18.4**	**+0.1**
	baz=215						
YUS				S	**Sn**	**14 28 40.1**	**0.0**
	baz=215						
JIJ	**Ishigaki jima**	**1.74**	**102**	P	**Pn**	**14 28 17.8**	**-0.3**
JIJ				*e*S	**Sn**	**14 28 39.7**	**-0.1**
FULB	**Fuli**	**1.76**	**211**	*e*P	**Pn**	**14 28 18.5**	**+0.1**
	baz=219						
FULB				S	**Sn**	**14 28 41.0**	**+0.7**
	baz=219						
ALS	**Alishan**	**1.81**	**228**	P	**Pn**	**14 28 20.3**	**+1.1**
	baz=219						
ALS				S	**Sn**	**14 28 42.8**	**+1.1**
	baz=219						
CHKT	**Chengkung**	**1.82**	**207**	P	**Pn**	**14 28 17.4**	**-1.7**
	baz=198						
CHKT				S	**Sn**	**14 28 39.8**	**-1.8**
	baz=198						
CHN5	**Tsauling**	**1.84**	**233**	P	**Pn**	**14 28 20.4**	**+1.0**
	baz=242						
CHN5				S	**Sn**	**14 28 44.1**	**+1.9**
	baz=242						
JISG	**Ishigakijimahi**	**1.86**	**94**	P	**Pn**	**14 28 20.0**	**+0.4**
JISG				*e*S	**Sn**	**14 28 42.1**	**-0.5**
WDLH	**Douliu**	**1.89**	**237**	*e*P	**Pn**	**14 28 20.8**	**+0.8**
	baz=236						
WDLH				*e*S	**Sn**	**14 28 44.1**	**+0.8**
	baz=236						
ELDTW	**Lidau**	**1.91**	**217**	P	**Pn**	**14 28 20.1**	**-0.4**
	baz=215						
ELDTW				S	**Sn**	**14 28 43.7**	**-0.2**
	baz=215						
WRL	**Guolierlin Hig**	**1.91**	**245**	*e*P	**Pn**	**14 28 20.8**	**+0.5**
	baz=252						
WRL				*e*S	**Sn**	**14 28 43.2**	**-0.6**
	baz=252						
EDH	**Donghe**	**1.96**	**207**	P	**Pn**	**14 28 20.2**	**-0.7**
	baz=216						
EDH				S	**Sn**	**14 28 43.8**	**-1.1**
	baz=216						
WTK	**Tuku**	**2.01**	**239**	*e*P	**Pn**	**14 28 22.3**	**+0.7**
	baz=238						
WTK				*e*S	**Sn**	**14 28 46.5**	**+0.5**
	baz=238						
CHN4	**Tsaushan**	**2.06**	**229**	*e*P	**Pn**	**14 28 22.9**	**+0.7**
	baz=238						
CHN4				*e*S	**Sn**	**14 28 49.3**	**+2.1**
	baz=238						
STYH	**Taoyuan**	**2.07**	**222**	*e*P	**Pn**	**14 28 23.1**	**+0.7**
	baz=220						
STYH				*e*S	**Sn**	**14 28 47.4**	**0.0**
	baz=220						
TPUB	**Ta-pu**	**2.07**	**227**	*e*P	**Pn**	**14 28 23.8**	**+1.4**
	baz=237						
TPUB				*e*S	**Sn**	**14 28 49.1**	**+1.6**
	baz=237						
LONT	**Longtian**	**2.09**	**210**	*e*P	**Pn**	**14 28 21.8**	**-1.0**
	baz=208						
LONT				*e*S	**Sn**	**14 28 46.7**	**-1.4**
	baz=208						
WTP	**Ta-pu**	**2.11**	**226**	*e*P	**Pn**	**14 28 23.6**	**+0.6**
	baz=225						
WTP				*e*S	**Sn**	**14 28 50.9**	**+2.2**
	baz=225						
WSF	**Szhu**	**2.16**	**240**	*e*P	**Pn**	**14 28 24.2**	**+0.6**
	baz=239						
WSF				*e*S	**Sn**	**14 28 50.1**	**+0.4**
	baz=239						
LDUT	**Ludao**	**2.17**	**200**	*e*P	**Pn**	**14 28 22.9**	**-0.8**
	baz=198						
LDUT				*e*S	**Sn**	**14 28 48.1**	**-1.8**
	baz=198						
TWK	**Hsinying**	**2.18**	**229**	*e*P	**Pn**	**14 28 24.4**	**+0.4**
	baz=217						
TWK				*e*S	**Sn**	**14 28 50.5**	**+0.1**
	baz=217						
TWGBT	**Beinan**	**2.19**	**210**	*e*P	**Pn**	**14 28 22.8**	**-1.2**
	baz=208						
TWGBT				*e*S	**Sn**	**14 28 49.1**	**-1.4**
	baz=208						
TWG	**Pinlang**	**2.19**	**210**	P	**Pn**	**14 28 23.4**	**-0.7**
	baz=208						
TWG				*e*S	**Sn**	**14 28 49.1**	**-1.4**
	baz=208						
CHN1	**Nanshi**	**2.21**	**226**	*e*P	**Pn**	**14 28 24.9**	**+0.5**
	baz=226						
CHN1				*e*S	**Sn**	**14 28 52.3**	**+1.3**
	baz=226						
JTJ	**Tarama**	**2.21**	**92**	*e*S	**Sn**	**14 28 52.0**	**+1.1**
ICHU	**Yijhu**	**2.27**	**234**	*e*P	**Pn**	**14 28 25.8**	**+0.7**
	baz=233						
ICHU				*e*S	**Sn**	**14 28 53.1**	**+0.7**
	baz=233						
SLGT	**Liugui**	**2.28**	**221**	*e*P	**Pn**	**14 28 25.9**	**+0.7**
	baz=220						
SLGT				*e*S	**Sn**	**14 28 52.4**	**-0.1**
	baz=220						
ECL	**Taimali**	**2.44**	**210**	*e*P	**Pn**	**14 28 26.2**	**-1.1**
	baz=203						
ECL				*e*S	**Sn**	**14 28 54.1**	**-2.2**
	baz=203						
SCST	**Cishan**	**2.45**	**222**	*e*P	**Pn**	**14 28 28.0**	**+0.5**
	baz=221						
SSD	**Sandimen**	**2.48**	**218**	*e*P	**Pn**	**14 28 28.8**	**+1.0**
	baz=216						
MATB	**Ma-tsu**	**2.54**	**305**	*e*P	**Pn**	**14 28 28.8**	**+0.2**
	baz=301						
MATB				*e*S	**Sn**	**14 28 58.4**	**-0.3**
	baz=301						
VWUC	**VWUC**	**2.58**	**276**	*e*P	**Pn**	**14 28 29.1**	**-0.1**
	baz=275						
VWUC				*e*S	**Sn**	**14 28 59.2**	**-0.4**
	baz=275						
MASBT	**Mashibuluo**	**2.58**	**216**	*e*P	**Pn**	**14 28 30.5**	**+1.2**
	baz=227						
MASBT				*e*S	**Sn**	**14 29 00.9**	**+1.0**
	baz=227						
JIRB	**Irabujima**	**2.64**	**87**	*e*S	**Sn**	**14 29 01.2**	**0.0**
EAST	**Anshuo**	**2.67**	**210**	*e*P	**Pn**	**14 28 31.2**	**+0.7**
	baz=201						
EAST				*e*S	**Sn**	**14 29 01.8**	**-0.2**
	baz=201						
PHUB	**P'eng-hu**	**2.75**	**244**	*e*P	**Pn**	**14 28 30.1**	**-1.3**
	baz=244						
PHUB				*e*S	**Sn**	**14 29 01.5**	**-2.2**
	baz=244						
JMJ2	**Miyako jima3**	**2.78**	**89**	*e*S	**Sn**	**14 29 04.8**	**+0.3**
WDGT	**Dungji**	**2.80**	**239**	*e*P	**Pn**	**14 28 31.3**	**-0.8**
	baz=239						
WDGT				*e*S	**Sn**	**14 29 03.8**	**-1.2**
	baz=239						
PTMZ	**Houxiangcun**	**2.88**	**277**	*e*P	**Pn**	**14 28 33.3**	**+0.1**
	baz=276						
PTMZ				*e*S	**Sn**	**14 29 06.5**	**-0.5**
	baz=276						
LYJJ	**Jianjiangzhen**	**2.90**	**309**	*e*P	**Pn**	**14 28 33.8**	**+0.3**
	baz=306						

WEL 07 14:28:07.6, 39°S±5°×**17°6E**±°**, h129**km±10km**, M2.8**/55**, ML2.0**/8**, MLv2.8**/55**, Error ellipse: s-maj=0.0km s-min=0.0km az=81.9, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WPRZ	**Whakapapatarin**	**0.05**	**84**	P	Pn	14 28 25.5	+0.4
GRRZ	**Galatos Road**	**0.17**	**2**	P	Pn	14 28 25.5	+0.2
ALRZ	**Allen Road**	**0.19**	**101**	P	Pn	14 28 25.8	+0.5
HRRZ	**Handcock Road**	**0.20**	**47**	P	Pn	14 28 25.7	+0.3
KUTZ	**Kaahu Road**	**0.22**	**279**	P	Pn	14 28 25.8	+0.4
HSRZ	**Hossack Road**	**0.24**	**28**	P	Pn	14 28 25.8	+0.4
HLRZ	**Highlands Stat**	**0.34**	**36**	P	Pn	14 28 26.4	+0.6
UTU	**Utuhina**	**0.35**	**12**	P	Pn	14 28 26.2	+0.3
RRRZ	**Republican Roa**	**0.37**	**60**	P	Pn	14 28 26.1	+0.1
MRHZ	**Matea Rd**	**0.40**	**142**	P	Pn	14 28 26.5	+0.4
NGRZ	**Ngongotaha**	**0.43**	**9**	P	Pn	14 28 26.3	0.0
RATZ	**Rangitukua**	**0.43**	**217**	P	Pn	14 28 26.8	+0.6
OMRZ	**Omania**	**0.47**	**27**	P	Pn	14 28 26.3	-0.1
TLZ	**Tolley Road**	**0.48**	**293**	P	Pn	14 28 26.8	+0.3
RITZ	**Rihia Road**	**0.49**	**203**	P	Pn	14 28 27.7	+1.2
KARZ	**Kaharoa**	**0.52**	**12**	P	Pn	14 28 26.5	-0.2
MUGZ	**Murupara**	**0.53**	**85**	P	Pn	14 28 26.6	-0.1
MTHZ	**Maungataniwha**	**0.66**	**120**	P	Pn	14 28 28.3	+0.7

TMVZ	**Te Maari**	**0.67 208**	P	Pn	14 28 28.5	+0.7
KRVZ	**Karewarewa**	**0.67 212**	P	Pn	14 28 27.7	-0.1
ETVZ	**East Tongariro**	**0.68 207**	P	Pn	14 28 28.7	+0.8
KMRZ	**Kaimai**	**0.69 349**	P	Pn	14 28 27.5	-0.4
RTZ	**Ruatahuna**	**0.69 98**	P	Pn	14 28 28.1	+0.2
MARZ	**Manawahe**	**0.70 40**	P	Pn	14 28 24.4	-3.6
BKZ	**Black Stump Fm**	**0.71 155**	P	Pn	14 28 28.6	+0.6
WTVZ	**West Tongariro**	**0.71 214**	P	Pn	14 28 28.7	+0.6
NNVZ	**North Ngauruho**	**0.72 212**	P	Pn	14 28 29.1	+0.9
OTVZ	**Oturere**	**0.72 208**	P	Pn	14 28 29.2	+0.9
SNVZ	**South Ngauruho**	**0.75 209**	P	Pn	14 28 29.2	+0.7
TWVZ	**Taurewa**	**0.75 223**	P	Pn	14 28 28.9	+0.5
NGZ	**Ngauruhoe**	**0.76 211**	P	Pn	14 28 29.3	+0.8
OPRZ	**Ohinepanea**	**0.77 28**	P	Pn	14 28 27.7	-0.6
NMHZ	**Naumai**	**0.79 136**	P	Pn	14 28 30.4	+1.7
TGRZ	**Tauranga**	**0.80 9**	P	Pn	14 28 28.1	-0.6
TUVZ	**Tukino**	**0.82 205**	P	Pn	14 28 29.7	+0.8
URZ	**Urewera**	**0.83 72**	P	Pn	14 28 28.2	-0.7
FWVZ	**Far West T-bar**	**0.85 210**	P	Pn	14 28 29.7	+0.4
WHVZ	**Whangaehu Hut**	**0.86 208**	P	Pn	14 28 29.9	+0.5
RAHZ	**Arahi**	**0.86 117**	P	Pn	14 28 30.4	+1.2
TRVZ	**Turoa**	**0.89 209**	P	Pn	14 28 30.2	+0.6
WNVZ	**Wahianoa**	**0.89 206**	P	Pn	14 28 30.2	+0.6
MOVZ	**Moawhango**	**0.92 197**	P	Pn	14 28 30.0	+0.2
TOZ	**Tahuroa Road**	**0.92 329**	P	Pn	14 28 29.2	-0.5
KWHZ	**Kaweka Forest**	**0.93 165**	P	Pn	14 28 30.7	+0.9
BHHZ	**Black Hill Sta**	**0.96 182**	P	Pn	14 28 30.6	+0.4
PKVZ	**Pokaka**	**0.97 217**	P	Pn	14 28 30.6	+0.4
HIZ	**Hauiti**	**0.98 270**	P	Pn	14 28 30.2	0.0
MTVZ	**Mangateitei**	**0.99 210**	P	Pn	14 28 31.0	+0.6
SNGZ	**Shannon Statio**	**1.00 105**	P	Pn	14 28 28.9	-1.6
MCHZ	**McNeill Hill**	**1.03 153**	P	Pn	14 28 32.0	+1.3
RAGZ	**Rawiri**	**1.03 89**	P	Pn	14 28 30.9	+0.1
MWZ	**Matawai**	**1.14 81**	P	Pn	14 28 31.4	-0.3
KRHZ	**Kereru**	**1.14 170**	P	Pn	14 28 32.4	+0.6
VRZ	**Vera Road**	**1.21 240**	P	Pn	14 28 32.9	+0.4
RUGZ	**Raukumara Rang**	**1.36 66**	P	Pn	14 28 32.7	-1.5
TKGZ	**Te Karaka**	**1.37 87**	P	Pn	14 28 34.4	+0.3
PNHZ	**Pukenui**	**1.39 177**	P	Pn	14 28 34.5	+0.1
KAHZ	**Kahuranaki**	**1.40 155**	P	Pn	14 28 35.3	+0.7
WAZ	**Wanganui**	**1.50 215**	P	Pn	14 28 35.9	+0.2
HAZ	**Te Kaha**	**1.53 60**	P	Pn	14 28 34.4	-1.5
TSZ	**Takapari Road**	**1.54 184**	P	Pn	14 28 36.0	0.0
WPHZ	**Waipukurau**	**1.56 170**	P	Pn	14 28 36.4	+0.1
MKAZ	**Moumakai**	**1.60 332**	P	Pn	14 28 35.5	-1.3
PXZ	**Pawanui**	**1.61 159**	P	Pn	14 28 37.1	+0.3
LREZ	**Lake Rotokare**	**1.62 234**	P	Pn	14 28 37.5	+0.5
CNGZ	**Carnagh Statio**	**1.65 89**	P	Pn	14 28 37.5	+0.2
PKGZ	**Pakihiroa**	**1.68 68**	P	Pn	14 28 36.9	-0.8
NEZ	**North Egmont**	**1.73 244**	P	Pn	14 28 38.8	+0.4
PUZ	**Puketiti**	**1.75 76**	P	Pn	14 28 37.7	-0.9
DVHZ	**Dannevirke**	**1.77 178**	P	Pn	14 28 38.3	-0.4
KHEZ	**Kahui Hut**	**1.80 244**	P	Pn	14 28 39.5	+0.3
KUZ	**Kuaotunu**	**1.80 350**	P	Pn	14 28 37.5	-1.6
ETAZ	**East Tamaki Re**	**1.82 329**	P	Pn	14 28 38.0	-1.4
AWAZ	**Awhitu Peninsu**	**1.86 321**	P	Pn	14 28 38.4	-1.4
POWZ	**Post Office Ro**	**1.88 188**	P	Pn	14 28 39.5	-0.6
WIAZ	**Waiheke Island**	**1.89 336**	P	Pn	14 28 38.8	-1.4
NBEZ	**Newall Road No**	**1.90 246**	P	Pn	14 28 40.3	+0.1
WMGZ	**Waiomatatini S**	**1.95 70**	P	Pn	14 28 39.7	-1.2
ANWZ	**Angora Road**	**1.95 172**	P	Pn	14 28 40.8	-0.1
MXZ	**Matakaoa Point**	**1.99 62**	P	Pn	14 28 40.3	-1.0
PRWZ	**Pori Road**	**2.03 183**	P	Pn	14 28 41.4	-0.5
BFZ	**Birch Farm**	**2.16 177**	P	Pn	14 28 42.5	-0.9
MRZ	**Mangatainoka R**	**2.17 191**	P	Pn	14 28 42.5	-1.1
TIWZ	**Tintock**	**2.25 184**	P	Pn	14 28 43.6	-1.1
OGWZ	**Otaki Gorge**	**2.40 197**	P	Pn	14 28 45.1	-1.3
HOWZ	**Holdsworth Sta**	**2.41 191**	P	Pn	14 28 45.0	-1.6
KIW	**Kapiti Island**	**2.51 201**	P	Pn	14 28 46.0	-1.9
TMWZ	**Te Maipa**	**2.58 184**	P	Pn	14 28 47.1	-1.7
MTW	**Mount Morrison**	**2.67 190**	P	Pn	14 28 47.8	-2.1
CAW	**Cannon Point**	**2.70 197**	P	Pn	14 28 48.4	-1.8
DUWZ	**D'Urville Isla**	**2.83 216**	P	Pn	14 28 49.9	-2.1
TRWZ	**Traveller**	**2.89 186**	P	Pn	14 28 50.7	-2.0
PAWZ	**Paruwai Farm**	**2.90 190**	P	Pn	14 28 50.6	-2.3
WEL	**Wellington**	**2.94 200**	P	Pn	14 28 51.1	-2.3
MSWZ	**Moikau Station**	**2.96 193**	P	Pn	14 28 51.0	-2.6
TCW	**Tory Channel**	**3.03 207**	P	Pn	14 28 52.2	-2.3
PLWZ	**Palliser**	**3.11 192**	P	Pn	14 28 53.0	-2.6
TUWZ	**Tuamarina**	**3.34 209**	P	Pn	14 28 55.7	-2.9
NNZ	**Nelson**	**3.41 217**	P	Pn	14 28 56.9	-2.6
QRZ	**Quartz Range**	**3.59 229**	P	Pn	14 28 58.7	-3.2
BSWZ	**Blackbirch Sta**	**3.62 207**	P	Pn	14 28 59.4	-2.8
THZ	**Tophouse**	**4.06 216**	P	Pn	14 29 04.9	-3.1
KHZ	**Kahutara**	**4.35 206**	P	Pn	14 29 08.5	-3.4
GVZ	**Greta Valley S**	**5.01 207**	P	Pn	14 29 16.8	-3.9
LTZ	**Lake Taylor**	**5.16 213**	P	Pn	14 29 18.2	-4.5
OKCZ	**Okains Bay**	**5.68 203**	P	Pn	14 29 25.5	-4.2
OXZ	**Oxford**	**5.70 211**	P	Pn	14 29 25.0	-5.0
MQZ	**McQueen's Vall**	**5.79 206**	P	Pn	14 29 25.9	-5.3
TMZ	**Timaru**	**6.99 212**	P	Pn	14 29 42.7	-4.7
ODZ	**Otahua Downs**	**7.68 210**	P	Pn	14 29 51.8	-4.8

MEX 07 14:34:41.3±0.4**, 17°.01N**×**94°.83W, h117**km±4km**, MD4.1, Chiapas**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.09 325**	*i* P	Pn	14 34 56.0	-1.4
CMIG			*e*S	Sn	14 35 07.5	-2.0
TGIG		**1.65 98**	*e*P	Pn	14 35 08.9	-1.5
TGIG			*e*S	Sn	14 35 30.3	-2.1
VHO	**Vista Hermosa**	**1.82 272**	*i* P	Pn	14 35 11.7	-0.9
VHO			*i* S	Sn	14 35 34.9	-1.6
PCIG		**2.02 130**	*e*P	Pn	14 35 12.4	-2.4
PCIG			*e*S	Sn	14 35 38.9	-1.6
TOIG	**Toxpalan**	**2.39 297**	*i* P	Pn	14 35 18.7	-1.0
TOIG			*i* S	Sn	14 35 46.6	-2.5
YOIG	**Yosondua**	**2.61 267**	*e*P	Pn	14 35 21.5	-1.2
YOIG			*e*S	Sn	14 35 52.1	-2.3

*IDC **07** 14:38:49.4±2.9, 32°.87S×178°.26W, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/34, mbtmp3.9/5, ML3.7/1, Error ellipse: s-maj=61.7km s-min=35.5km az=117.0*
*NEIC **07** 14:38:51.6±0.2, 32°.9S±0°.3×178°.3W±0°.3, h10km±2km, mb4.1/6, Error ellipse: s-maj=48.4km s-min=36.6km az=179.0*
ISC 07 14:38:52.7±2.4**, 32°.8S**±0°.1×**178°.5W**±0°.3**, h10**km**, n15, σ0s.77**/16**, mb3.9**/8**, South of Kermadec Islands**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.39 208**	Pn	**Pn**	**14 40 13.9**	**+0.7**
URZ	**Urewera**	**6.49 212**	Pn	**Pn**	**14 40 27.8**	**-0.4**
	1.7nm,0.3s,baz=218,slow=1.8,SNR=9.7					
URZ			Sn	**Sn**	**14 41 42.6**	**+0.3**
	1.6nm,0.3s,baz=127,slow=20,SNR=3.2					
BKZ	**Black Stump Fm**	**7.51 211**	Pn	**Pn**	**14 40 41.6**	**-0.7**
LHI	**Lord Howe Isla**	**19.05 268**	P	**Pn**	**14 43 16.1**	**+0.3**
CTA	**Charters Tower**	**33.86 283**	P	**P**	**14 45 36.7**	**+1.0**
	2.5nm,0.7s,baz=107,slow=14,SNR=1.8					
AS31	**Alice Springs**	**42.62 270**	P	**P**	**14 46 48.8**	**-0.7**
AS31			IAmb	IAmb	14 46 60.0	
	comp=Z,0.5nm,0.9s					
ASAR	**Alice Springs**	**42.62 270**	P	**P**	**14 46 49.0**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=114,slow=7.6,SNR=20					
ASAR	**Alice Springs**	**42.62 270**	P	**P**	**14 46 48.5**	**-1.0**
WR0	**Warramunga Arr**	**43.66 275**	P	**P**	**14 46 57.0**	**-0.8**
WR0			IAmb	IAmb	14 47 18.8	
	comp=Z,3.0nm,1.2s					
WB2	**Warramunga Arr**	**43.82 275**	P	**P**	**14 46 58.3**	**-0.9**
WB2			IAmb	IAmb	14 47 12.4	
	comp=Z,7.8nm,1.4s					
WRAB	**Tennant Creek**	**43.83 275**	P	**P**	**14 46 58.4**	**-0.8**
WRAB			IAmb	IAmb	14 47 02.0	
	comp=Z,9.3nm,1.4s					
WRA	**Warramunga Arr**	**43.83 275**	P	**P**	**14 46 58.7**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=114,slow=7.6,SNR=30					
WRA	**Warramunga Arr**	**43.83 275**	P	**P**	**14 46 58.3**	**-0.9**
FITZ	**Fitzroy Crossi**	**51.98 272**	P	**P**	**14 48 01.7**	**-0.7**
	comp=Z,1.2nm,0.9s,baz=142,slow=4.9,SNR=3.4					
FINES	**FINESS Array B**	**147.27 338**	PKPbc	**PKPdf**	**14 58 33.5**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=29,slow=4.4,SNR=9.2					

*NEIC **07** 14:45:50.1±1.4, 23°.3S±0°.1×179°.7W±0°.2, h513km±10km, mb4.4/37, Error ellipse: s-maj=22.3km s-min=16.5km az=112.0*
*IDC **07** 14:45:53.0±6.2, 23°.31S×179°.93W, h534km±71km, mb3.2/7, mb1 3.4/8, mb1mx3.1/25, mbtmp4.1/8, Error ellipse: s-maj=34.3km s-min=20.9km az=48.0*
ISC 07 14:45:52.0±0.6**, 23°.36S**±0°.09×**179°.7W**±0°.1**, h536**km**, n54, σ1s.14**/54**, mb4.3**/24**, South of Fiji Islands**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.97 339**	P	**P**	**14 47 32.2**	**+2.4**
NIUE	**Niue**	**10.07 67**	P	**P**	**14 48 07.7**	**-2.9**
URZ	**Urewera**	**15.10 190**	P	**P**	**14 49 02.3**	**-0.2**
	0.6nm,0.3s,baz=308,slow=20,SNR=2.5					
URZ	**Urewera**	**15.10 190**	P	**P**	**14 49 01.5**	**-1.0**
URZ			IAmb	IAmb	14 49 24.0	
	comp=Z,25nm,1.2s					
BKZ	**Black Stump Fm**	**16.09 191**	P	**P**	**14 49 09.8**	**-2.9**
BHW	**Baring Head**	**18.57 193**	P	**P**	**14 49 36.0**	**+0.5**
QRZ	**Quartz Range**	**18.60 199**	P	**P**	**14 49 36.4**	**+0.6**
NNZ	**Nelson**	**18.73 196**	P	**P**	**14 49 36.7**	**-0.3**
TUWZ	**Tuamarina**	**18.79 195**	P	**P**	**14 49 37.0**	**-0.4**
THZ	**Tophouse**	**19.36 197**	P	**P**	**14 49 43.4**	**+0.6**
LTZ	**Lake Taylor**	**20.48 197**	P	**P**	**14 49 52.0**	**-1.0**
LTZ			IAmb	IAmb	14 49 54.9	
	comp=Z,28nm,1.0s					
WKZ	**Wanaka**	**23.32 201**	P	**P**	**14 50 17.2**	**-1.2**
WHZ	**Wether Hill Ro**	**24.61 201**	P	**P**	**14 50 30.8**	**+1.0**
ARMA	**Armidale**	**26.46 248**	P	**P**	**14 50 46.7**	**+0.2**
ARMA			IAmb	IAmb	14 51 05.9	
	comp=Z,22nm,1.4s					
EIDS	**Eidsvold**	**26.65 260**	P	**P**	**14 50 48.1**	**-0.1**
CAN	**Canberra**	**29.64 239**	P	**P**	**14 51 15.0**	**+0.9**
CAN			IAmb	IAmb	14 51 25.1	
	comp=Z,8.7nm,1.1s					
CTAO	**Charters Tower**	**31.74 269**	P	**P**	**14 51 32.6**	**+0.3**
CTAO			IAmb	IAmb	14 51 33.5	
	comp=Z,9.8nm,0.7s					
TOO	**Toolangi**	**32.96 236**	P	**P**	**14 51 40.3**	**-2.1**
TOO			IAmb	IAmb	14 52 09.2	
	comp=Z,31nm,1.4s					
MCQ	**Macquarie Isla**	**34.96 202**	P	**P**	**14 51 59.5**	**+0.6**
STKA	**Stephens Creek**	**35.17 247**	P	**P**	**14 52 01.6**	**+0.6**
	comp=Z,2.4nm,0.5s,baz=88,slow=11,SNR=8.7					
STKA	**Stephens Creek**	**35.17 247**	P	**P**	**14 52 00.8**	**-0.2**
BBOO	**Buckleboo**	**39.90 246**	P	**P**	**14 52 38.5**	**-1.2**
BBOO			IAmb	IAmb	14 52 40.3	
	comp=Z,21nm,1.4s					
AS31	**Alice Springs**	**42.38 260**	P	**P**	**14 52 58.6**	**-1.0**
ASAR	**Alice Springs**	**42.38 260**	P	**P**	**14 52 59.0**	**-0.5**
	comp=Z,3.8nm,0.8s,baz=95,slow=6.9,SNR=48					
ASAR	**Alice Springs**	**42.38 260**	P	**P**	**14 52 58.2**	**-1.3**
WR0	**Warramunga Arr**	**42.52 265**	P	**P**	**14 52 59.5**	**-1.2**
WR0			IAmb	IAmb	14 53 18.7	
	comp=Z,9.3nm,1.5s					
WB2	**Warramunga Arr**	**42.69 265**	P	**P**	**14 53 01.1**	**-0.9**
WB2			IAmb	IAmb	14 53 02.1	
	comp=Z,4.3nm,0.7s					
WRAB	**Tennant Creek**	**42.70 265**	P	**P**	**14 53 01.0**	**-1.1**
WRAB			IAmb	IAmb	14 53 01.6	
	comp=Z,4.0nm,0.7s					
WRA	**Warramunga Arr**	**42.70 265**	P	**P**	**14 53 01.4**	**-0.8**
	comp=Z,3.7nm,0.6s,baz=101,slow=8.1,SNR=50					
WRA	**Warramunga Arr**	**42.70 265**	P	**P**	**14 53 01.1**	**-1.0**
FORT	**Forrest**	**46.74 249**	P	**P**	**14 53 32.1**	**-0.9**
FORT			IAmb	IAmb	14 53 33.3	
	comp=Z,15nm,0.7s					
MTN	**Manton Dam**	**47.67 274**	P	**P**	**14 53 39.4**	**-0.8**
MTN			IAmb	IAmb	14 53 54.7	
	comp=Z,17nm,1.4s					
KNRA	**Kununurra**	**48.95 269**	P	**P**	**14 53 49.6**	**-0.1**
KNRA			IAmb	IAmb	14 54 05.9	
	comp=Z,10nm,1.3s					
FITZ	**Fitzroy Crossi**	**51.13 265**	P	**P**	**14 54 05.4**	**-0.2**
VNDA	**Vanda**	**54.94 185**	P	**P**	**14 54 33.6**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=11,slow=5.2,SNR=5.2					
VNDA	**Vanda**	**54.94 185**	P	**P**	**14 54 33.5**	**+1.7**
PSA00	**Pilbara Seismi**	**55.52 259**	P	**P**	**14 54 36.1**	**-0.7**
MORW	**Morawa**	**57.30 250**	P	**P**	**14 54 48.5**	**-0.5**
MORW			IAmb	IAmb	14 54 49.2	
	comp=Z,24nm,1.5s					
CASY	**Casey**	**60.71 206**	P	**P**	**14 55 10.6**	**-0.6**
BKB	**Balikpapan**	**65.15 280**	P	**P**	**14 55 39.6**	**-1.0**
QSPA	**South Pole Qui**	**66.73 180**	P	**P**	**14 55 51.0**	**+1.3**
	comp=Z,1.4nm,0.8s,baz=34,slow=1.0					
QSPA	**South Pole Qui**	**66.73 180**	P	**P**	**14 55 49.8**	**+0.1**
MJB9	**Matsu-Tunnel**	**71.60 325**	P	**P**	**14 56 19.2**	**0.0**
MJB9			IAmb	IAmb	14 56 42.4	
	comp=Z,16nm,0.8s					
UNV	**Unalaska Valle**	**77.72 8**	P	**P**	**14 56 52.8**	**-0.3**
UNV			IAmb	IAmb	14 57 13.6	
	comp=Z,18nm,1.3s					
AKUT	**Akutan**	**78.10 8**	P	**P**	**14 56 53.4**	**-1.8**
MAW	**Mawson**	**78.35 200**	P	**P**	**14 56 57.5**	**+1.1**
PET	**Petropavlovsk**	**78.35 347**	P	**P**	**14 56 57.0**	**+0.5**
PET			IAmb	IAmb	14 56 57.2	
	comp=Z,19nm,1.0s					
PEA0B	**Petropavlovsk-**	**78.63 346**	P	**P**	**14 56 57.6**	**-0.4**
PEA0B			IAmb	IAmb	14 57 26.2	
	comp=Z,20nm,1.2s					
PETK	**Petropavlovsk-**	**78.63 346**	P	**P**	**14 56 59.0**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=177,slow=8.7,SNR=2.4					
PETK	**Petropavlovsk-**	**78.63 346**	P	**P**	**14 56 58.2**	**+0.2**
SDPT	**Sand Point**	**80.09 11**	P	**P**	**14 57 05.8**	**+0.1**
SDPT			IAmb	IAmb	14 57 25.8	
	comp=Z,41nm,1.4s					
TXAR	**Lajitas Array**	**89.92 58**	P	**P**	**14 57 56.7**	**+2.3**
	comp=Z,0.4nm,0.8s,baz=203,slow=5.9,SNR=5.1					
AKASG	**Malin Array Be**	**144.65 328**	PKP	**PKPdf**	**15 04 26.8**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=43,slow=5.3,SNR=4.9					
CLL	**Collm**	**150.41 344**	*e*PKPbc	**PKPbc**	**15 04 43.0**	**+0.3**

*INET **07** 14:45:47.5, 12°.05N×88°.58W, h15km, MW3.9*
*UCR **07** 14:45:56.3±1.2, 12°.39N×88°.59W, h14km±7km, ML3.5, mb4.3(NEIC)*
*SNET **07** 14:45:56.2±1.1, 12°.39N×88°.59W, h15km±6km, ML3.5*
*IDC **07** 14:45:58.7±2.2, 12°.58N×88°.32W, h48km±23km, mb3.7/7, mb1 4.0/9, mb1mx3.7/39, mbtmp3.9/9, ML3.3/2, Error ellipse: s-maj=43.1km s-min=14.4km az=47.0*
*NEIC **07** 14:45:58.5±1.3, 12°.44N±0°.08×88°.32W±0°.06, h50km±8km, mb4.3/86, Error ellipse: s-maj=12.3km s-min=7.2km az=214.0*
ISC 07 14:45:57.4±1.3**, 12°.40N**±0°.06×**88°.41W**±0°.05**, h46**km±11km**, n162, σ0s.96**/172**, mb4.3**/45**, Off coast of central America**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	**Jucuar¡n**	**0.86 11**	*e*P	**Pn**	**14 46 13.1**	**-0.1**
JUCU			*e*S	**Sn**	**14 46 26.9**	**+2.1**
JUCU			IAML		14 46 35.5	
	comp=Z,2μm,0.3s					
JUCU	**Jucuar¡n**	**0.86 11**	*e*P	**Pn**	**14 46 13.1**	**-0.1**
JUCU			*e*S	**Sn**	**14 46 26.9**	**+2.1**
JUCU			IAML		14 46 35.5	
	comp=Z,2μm,0.3s					
ALJI	**Alcalda de J**	**0.93 350**	*e*P	**Pn**	**14 46 13.4**	**-0.7**
ALJI			*e*S	**Sn**	**14 46 25.6**	**-0.7**
ALJI	**Alcalda de J**	**0.93 350**	*e*P	**Pn**	**14 46 13.4**	**-0.7**
ALJI			*e*S	**Sn**	**14 46 25.6**	**-0.7**
LCY	**Lacayo**	**1.02 6**	*e*P	**Pn**	**14 46 16.2**	**+0.8**
LCY	**Lacayo**	**1.02 6**	*e*P	**Pn**	**14 46 16.2**	**+0.8**
LCND	**La Caada**	**1.03 29**	*e*P	**Pn**	**14 46 15.7**	**+0.2**
LCND			IAML		14 46 44.8	
	comp=Z,1μm,0.4s					
LCND	**La Caada**	**1.03 29**	*e*P	**Pn**	**14 46 15.7**	**+0.2**
LCND			IAML		14 46 44.8	
	comp=Z,1μm,0.4s					
CNCH	**Conchagua**	**1.03 33**	*e*P	**Pn**	**14 46 16.1**	**+0.5**
CNCH	**Conchagua**	**1.03 33**	*e*P	**Pn**	**14 46 16.1**	**+0.5**
PACA	**Pacayal**	**1.06 5**	*e*P	**Pn**	**14 46 16.9**	**+0.9**
PACA	**Pacayal**	**1.06 5**	*e*P	**Pn**	**14 46 16.9**	**+0.9**
TECA	**Tecapa**	**1.09 355**	*e*P	**Pn**	**14 46 16.4**	**-0.1**
TECA	**Tecapa**	**1.09 355**	*e*P	**Pn**	**14 46 16.4**	**-0.1**
COEB	**Comit de Eme**	**1.09 354**	*e*P	**Pn**	**14 46 16.0**	**-0.4**
COEB			IAML		14 46 38.1	
	comp=Z,1μm,0.4s					
COEB	**Comit de Eme**	**1.09 354**	*e*P	**Pn**	**14 46 16.0**	**-0.4**
COEB			IAML		14 46 38.1	
	comp=Z,1μm,0.4s					
TECO	**Alcaldia de Te**	**1.18 342**	*e*P	**Pn**	**14 46 16.8**	**-0.8**
TECO			*e*S	**Sn**	**14 46 32.1**	**-0.5**
PQSS	**Presa 15 de Se**	**1.22 353**	*e*P	**Pn**	**14 46 18.3**	**+0.3**
PQSS			IAML		14 46 38.7	
	comp=Z,647nm,0.1s					
SNVI	**San Vicente**	**1.27 341**	*e*P	**Pn**	**14 46 18.3**	**-0.6**
SNVI	**San Vicente**	**1.27 341**	*e*P	**Pn**	**14 46 18.3**	**-0.6**
UESV	**Universidad de**	**1.28 343**	*e*P	**Pn**	**14 46 18.9**	**0.0**
UESV	**Universidad de**	**1.28 343**	*e*P	**Pn**	**14 46 18.9**	**0.0**
COEG	**Centro de Oper**	**1.29 339**	*e*P	**Pn**	**14 46 18.4**	**-0.7**
COEG			IAML		14 46 47.4	
	comp=Z,1μm,0.3s					
COEG	**Centro de Oper**	**1.29 339**	*e*P	**Pn**	**14 46 18.4**	**-0.7**
COEG			IAML		14 46 47.4	
	comp=Z,1μm,0.3s					
CRIN	**San Cristobal**	**1.36 77**		**Pn**	**14 46 19.9**	**-0.2**
CRIN			Sn	**Sn**	**14 46 34.1**	**-2.9**
LFRS	**El Faro**	**1.37 333**	*e*P	**Pn**	**14 46 19.4**	**-0.8**
LFRS	**El Faro**	**1.37 333**	*e*P	**Pn**	**14 46 19.4**	**-0.8**
LALI	**Alcalda de L**	**1.40 321**	*e*P	**Pn**	**14 46 19.2**	**-1.3**
LALI			IAML		14 46 43.7	
	comp=Z,528nm,0.5s					
LALI	**Alcalda de L**	**1.40 321**	*e*P	**Pn**	**14 46 19.2**	**-1.3**
LALI			IAML		14 46 43.7	
	comp=Z,528nm,0.5s					
PAVA	**Las Pavas**	**1.40 339**	*e*P	**Pn**	**14 46 20.4**	**-0.2**
PAVA			IAML		14 46 41.7	
	comp=Z,782nm,0.4s					
PAVA	**Las Pavas**	**1.40 339**	*e*P	**Pn**	**14 46 20.4**	**-0.2**
PAVA			IAML		14 46 41.7	
	comp=Z,782nm,0.4s					
LBRS	**Las Brisas**	**1.46 335**	*e*P	**Pn**	**14 46 20.9**	**-0.5**
LBRS	**Las Brisas**	**1.46 335**	*e*P	**Pn**	**14 46 20.9**	**-0.5**
LFU	**La Fuente**	**1.50 333**	*e*P	**Pn**	**14 46 21.9**	**-0.1**
LFU	**La Fuente**	**1.50 333**	*e*P	**Pn**	**14 46 21.9**	**-0.1**
SNET	**Serv Nac Est T**	**1.50 328**	Pn	**Pn**	**14 46 21.7**	**-0.3**
BOQS	**Boqueron**	**1.57 328**	*e*P	**Pn**	**14 46 22.8**	**-0.2**
BOQS	**Boqueron**	**1.57 328**	*e*P	**Pn**	**14 46 22.8**	**-0.2**
CNGN	**Cerro Negro**	**1.68 87**		**Pn**	**14 46 24.3**	**0.0**
CEVE	**Cerro Verde**	**1.84 320**	*e*P	**Pn**	**14 46 26.4**	**-0.4**
CEVE	**Cerro Verde**	**1.84 320**	*e*P	**Pn**	**14 46 26.4**	**-0.4**
SBLS	**San Blas**	**1.85 321**	*e*P	**Pn**	**14 46 26.7**	**-0.2**
SBLS	**San Blas**	**1.85 321**	*e*P	**Pn**	**14 46 26.7**	**-0.2**
SNJE	**San Jose**	**1.86 322**	*e*P	**Pn**	**14 46 26.4**	**-0.7**
SNJE			*e*S	**Sn**	**14 46 50.7**	**+1.2**
SNJE	**San Jose**	**1.86 322**	*e*P	**Pn**	**14 46 26.4**	**-0.7**
SNJE			*e*S	**Sn**	**14 46 50.7**	**+1.2**
TGUH	**Tegucigalpa,Un**	**1.98 34**		**Pn**	**14 46 29.8**	**+1.1**
SLOZ	**Alcaldia de Sa**	**2.09 321**	*e*P	**Pn**	**14 46 29.1**	**-1.0**
SLOZ			IAML		14 47 09.2	
	comp=Z,350nm,0.6s					
MTO3	**Montecristo**	**2.19 335**	*e*P	**Pn**	**14 46 31.9**	**+0.4**
MTO3	**Montecristo**	**2.19 335**	*e*P	**Pn**	**14 46 31.9**	**+0.4**
MTO3	**Montecristo**	**2.19 335**		**Pn**	**14 46 31.8**	**+0.3**
MASN	**Masaya**	**2.25 100**	Pn	**Pn**	**14 46 31.2**	**-0.9**
ESQI	**Esquipulas**	**2.33 337**	Pn	**Pn**	**14 46 34.1**	**+0.8**
ACON	**Acoyapa**	**3.20 97**		**Pn**	**14 46 43.7**	**-1.4**
HZTE	**Horizontes, Gu**	**3.23 121**		**Pn**	**14 46 44.9**	**-0.8**
ORTG	**Ortega, Santa**	**3.54 125**		**Pn**	**14 46 48.9**	**-1.0**
DUNO	**Dulce Nombre,**	**3.68 129**	Pn	**Pn**	**14 46 51.1**	**-0.7**
JTS	**Las Juntas de**	**3.99 121**	P	**Pn**	**14 46 57.1**	**+1.0**
	comp=Z,3.3nm,0.3s,baz=337,slow=19,SNR=7.2					
JTS			S	**Sn**	**14 47 43.6**	**+2.0**
	comp=Z,3.6nm,0.3s,baz=268,slow=20,SNR=3.5					
JTS	**Las Juntas de**	**3.99 121**		**Pn**	**14 46 55.7**	**-0.4**
CVTR	**Volcan Turrial**	**5.14 117**	Pn	**Pn**	**14 47 12.6**	**+0.3**
RIMA	**Rio Macho**	**5.18 120**		**Pn**	**14 47 12.8**	**+0.3**
PEZE	**Perez Zeledon,**	**5.54 122**		**Pn**	**14 47 17.7**	**+0.4**
SRBA	**San Rafael, Bu**	**5.88 122**		**Pn**	**14 47 22.4**	**+0.3**
RIOS	**Rincon, Osa**	**6.06 127**	Pn	**Pn**	**14 47 24.9**	**+0.4**
CMIG	**Matias Romero**	**7.80 307**	P	**Pn**	**14 47 48.4**	**0.0**
	comp=Z,0.2nm,0.3s,baz=113,slow=13,SNR=2.5					
CMIG			S	Sn	14 49 24.4	+8.9
	comp=Z,0.2nm,0.3s,baz=73,slow=17,SNR=1.9					
URIC	**Uribia, Colomb**	**16.07 91**	Pn	**Pn**	**14 49 39.6**	**-0.8**
URIC			IAmb	IAmb	14 50 08.4	
	comp=Z,56nm,1.2s					
545A	**Edgard**	**17.66 354**		**Pn**	**14 49 59.8**	**-0.2**
SDDR	**Presa de Saban**	**17.73 66**		**Pn**	**14 49 60.0**	**-1.1**
152A	**Waverly Hall**	**20.45 9**	Pn	Pn	14 50 33.3	-0.3
152A			IAmb	IAmb	14 50 34.6	
	comp=Z,6.9nm,0.6s					
JCT	**Junction City**	**20.85 331**	P	**P**	**14 50 35.6**	**+0.1**
JCT			IAmb	IAmb	14 50 37.1	
	comp=Z,18nm,1.2s					
GOGA	**Godfrey**	**21.39 11**	P	**P**	**14 50 42.2**	**+1.1**
Y49A	**Blount Mountai**	**21.43 5**	P	**P**	**14 50 43.2**	**+1.6**
TXAR	**Lajitas Array**	**22.02 322**	P	**P**	**14 50 49.8**	**+1.7**
	comp=Z,3.1nm,0.7s,baz=144,slow=12,SNR=45					
TXAR	**Lajitas Array**	**22.02 322**	P	**P**	**14 50 48.5**	**+0.4**
TX31	**Lajitas Ar. Si**	**22.02 322**	P	**P**	**14 50 48.6**	**+0.5**
TX31			IAmb	IAmb	14 50 51.3	
	comp=Z,8.4nm,0.6s					
TX32	**Lajitas Array**	**22.02 322**	P	**P**	**14 50 48.6**	**+0.5**
MIAR	**Mount Ida**	**22.54 349**	P	**P**	**14 50 53.5**	**+0.1**
MIAR			IAmb	IAmb	14 50 57.2	
	comp=Z,11nm,1.1s					
ABTX	**Abilene, Hawle**	**22.61 335**	P	**P**	**14 50 54.4**	**+0.1**
ABTX			IAmb	IAmb	14 50 56.4	
	comp=Z,9.9nm,0.7s					
X37A	**Clayton**	**22.98 345**	P	**P**	**14 50 59.3**	**+1.3**
X37A			IAmb	IAmb	14 51 13.8	
	comp=Z,16nm,1.4s					
WHAR	**Wooly Hollow**	**23.05 352**	P	**P**	**14 50 58.8**	**-0.1**
WHAR			IAmb	IAmb	14 51 00.8	
	comp=Z,9.8nm,0.8s					
W39A	**Magazine**	**23.21 349**	P	**P**	**14 51 01.1**	**+0.8**
BIRD	**Birdtown, Kers**	**23.29 17**	P	**P**	**14 51 01.8**	**+0.7**
BIRD			IAmb	IAmb	14 51 03.0	
	comp=Z,7.8nm,0.7s					
TKL	**Tuckaleechee C**	**23.53 9**	P	**P**	**14 51 04.8**	**+1.4**
	comp=Z,5.1nm,0.8s,baz=186,slow=12,SNR=9.1					
TKL	**Tuckaleechee C**	**23.53 9**	P	**P**	**14 51 04.2**	**+0.8**
FCAR	**Ozark Folk Cen**	**23.62 352**	P	**P**	**14 51 04.3**	**+0.1**
LCAR	**Lake Charles**	**23.69 354**	P	**P**	**14 51 05.7**	**+0.8**
X34A	**Smith Ranch, M**	**23.70 340**	P	**P**	**14 51 06.4**	**+1.3**
V53A	**Saluda**	**23.71 11**	P	**P**	**14 51 06.8**	**+1.6**
ABVI	**Anegada Island**	**24.02 72**	P	**P**	**14 51 07.7**	**-0.4**
U49A	**Red Boiling Sp**	**24.12 5**	P	**P**	**14 51 09.0**	**+0.1**
U49A			IAmb	IAmb	14 51 24.0	
	comp=Z,11nm,1.4s					
WMOK	**Wichita Mounta**	**24.15 339**	P	**P**	**14 51 09.3**	**+0.1**
FNO	**Franklin**	**24.17 342**	P	**P**	**14 51 09.0**	**-0.4**
U40A	**Yellville**	**24.18 351**	P	**P**	**14 51 09.2**	**-0.3**
U40A			IAmb	IAmb	14 51 12.4	
	comp=Z,13nm,0.7s					
T47A	**Sharon Grove**	**24.51 3**	P	**P**	**14 51 11.8**	**-0.6**
T47A			IAmb	IAmb	14 51 13.6	
	comp=Z,8.2nm,1.0s					
U38A	**Gravette**	**24.53 348**	P	**P**	**14 51 12.5**	**-0.1**
OK031	**S. Brethren Rd**	**24.65 343**	P	**P**	**14 51 13.6**	**-0.1**
OK029	**Liberty Lake**	**24.68 342**	P	**P**	**14 51 13.8**	**-0.3**
U54A	**Nelsons Funny**	**24.74 13**	P	**P**	**14 51 13.8**	**-0.7**
U54A			IAmb	IAmb	14 51 18.3	
	comp=Z,10nm,0.6s					
MNTX	**Cornudas Mount**	**24.76 324**	P	**P**	**14 51 14.9**	**+0.1**
V58A	**Windy Hill, Pi**	**24.76 18**	P	**P**	**14 51 14.6**	**-0.1**
V58A			IAmb	IAmb	14 51 16.3	
	comp=Z,8.6nm,0.7s					
QUOK	**Quay**	**24.82 344**	P	**P**	**14 51 14.8**	**-0.5**
MGMO	**Mountain Grove**	**24.89 353**	P	**P**	**14 51 15.8**	**-0.1**
MGMO			IAmb	IAmb	14 51 17.4	
	comp=Z,6.4nm,0.9s					
SMRT	**St. Maarten**	**25.07 74**	P	**P**	**14 51 16.0**	**-1.8**
MSTX	**Muleshoe**	**25.14 331**	P	**P**	**14 51 18.8**	**+0.4**
MSTX			IAmb	IAmb	14 51 20.3	
	comp=Z,18nm,1.2s					
S44A	**Carbondale**	**25.20 358**	P	**P**	**14 51 18.6**	**-0.1**
AMTX	**Amarillo**	**25.41 334**	P	**P**	**14 51 21.1**	**+0.4**
AMTX			IAmb	IAmb	14 51 22.8	
	comp=Z,10nm,0.6s					
T35A	**Sooner Cattle**	**25.47 345**	P	**P**	**14 51 21.4**	**+0.2**
BLOK	**Blackwell**	**25.51 343**	P	**P**	**14 51 21.5**	**0.0**
BLOK			IAmb	IAmb	14 51 22.2	
	comp=Z,11nm,0.6s					
S39A	**Bolivar**	**25.56 351**	P	**P**	**14 51 21.6**	**-0.4**
CCM	**Cathedral Cave**	**25.67 355**	P	**P**	**14 51 23.0**	**+0.1**
CCM			IAmb	IAmb	14 51 24.7	
	comp=Z,7.1nm,0.8s					
WCI	**Wyandotte Cave**	**25.79 4**	P	**P**	**14 51 23.9**	**-0.2**
OK032	**Salt Plains WL**	**25.84 342**	P	**P**	**14 51 24.2**	**-0.3**
OK032			IAmb	IAmb	14 51 25.3	
	comp=Z,13nm,0.9s					
KAN14	**Manchester OK**	**25.91 342**	P	**P**	**14 51 25.0**	**-0.1**
KAN17	**Caldwell West**	**25.93 343**	P	**P**	**14 51 24.9**	**-0.5**
R40A	**Maddies Statio**	**26.01 353**	P	**P**	**14 51 25.6**	**-0.5**
R40A			IAmb	IAmb	14 51 27.0	
	comp=Z,10nm,1.3s					

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
Q44A	Meyer Farm, Va	26.40	359	P	P	14 51 29.5	0.0
Q44A				IAmb	IAmb	14 51 30.1	
	comp=Z,9.4nm,0.9s						
R55A	Marlinton	26.81	15	P	P	14 51 34.0	+0.7
R55A				IAmb	IAmb	14 51 52.4	
	comp=Z,17nm,1.4s						
P40A	Paris	27.21	354	P	P	14 51 36.9	+0.1
P40A				IAmb	IAmb	14 51 37.7	
	comp=Z,6.0nm,0.8s						
Q54A	Coxs Mills	27.32	13	P	P	14 51 37.9	+0.1
Q54A				IAmb	IAmb	14 52 01.2	
	comp=Z,6.5nm,1.1s						
P38A	Dawn	27.49	351	P	P	14 51 39.2	-0.1
P38A				IAmb	IAmb	14 51 40.3	
	comp=Z,8.2nm,0.7s						
HDIL	Hopedale	28.05	359	P	P	14 51 41.8	-2.6
SSPA	Standing Stone	29.61	16	P	P	14 51 57.6	-0.6
M54A	Oil Creek Stat	29.99	13	P	P	14 52 02.1	+0.5
M54A				IAmb	IAmb	14 52 18.9	
	comp=Z,10nm,1.2s						
PV03	Paradox Valley	31.53	328	P	P	14 52 17.7	+2.2
PV12	Saucer Basin,	31.56	328	P	P	14 52 17.9	+2.2
PV12				IAmb	IAmb	14 52 19.4	
	comp=Z,4.7nm,0.7s						
PV18	Skein Mesa, Pa	31.56	328	P	P	14 52 17.8	+2.0
PV18				IAmb	IAmb	14 52 19.1	
	comp=Z,3.8nm,0.8s						
PV17	East Wray Mesa	31.61	328	P	P	14 52 18.2	+2.0
PV17				IAmb	IAmb	14 52 19.6	
	comp=Z,4.4nm,0.6s						
PV16	Nyswonger Mesa	31.61	328	P	P	14 52 18.1	+1.9
PV20	West Nyswonger	31.66	328	P	P	14 52 18.1	+1.5
ECSD	EROS Data Cent	32.01	349	P	P	14 52 18.1	-1.3
ECSD				IAmb	IAmb	14 52 19.8	
	comp=Z,3.9nm,1.1s						
M63A	Gales Ferry	32.25	23	P	P	14 52 19.2	-2.2
SAML	Samuel	32.84	129	P	P	14 52 25.9	-1.0
SPMN	Marine on St.	32.92	354	P	P	14 52 26.7	-0.6
SADO	Sadowa	33.22	12	P	P	14 52 29.1	-0.8
F36A	Milaca	33.63	354	P	P	14 52 32.4	-1.1
F36A				IAmb	IAmb	14 52 34.1	
	comp=Z,4.6nm,0.9s						
F33A	5 Mile Ranch,	33.99	350	P	P	14 52 35.6	-1.0
LPAZ	La Paz	34.86	144	P	P	14 52 48.1	+3.0
	comp=Z,0.5nm,0.4s,baz=23,slow=7.7,SNR=1.9						
PDAR	Pinedale Array	35.38	333	P	P	14 52 49.6	+0.7
	comp=Z,0.7nm,0.3s,baz=150,slow=12,SNR=3.3						
PDAR				PcP	PcP	14 55 19.7	+1.4
	comp=Z,0.3nm,0.7s,baz=193,slow=2.8,SNR=3.8						
EYMN	Ely	35.53	356	P	P	14 52 48.4	-1.5
EYMN				IAmb	IAmb	14 53 03.6	
	comp=Z,9.6nm,1.2s						
AGMN	Agassiz Nation	36.32	352	P	P	14 52 55.8	-0.8
REDW	Red Top Meadow	36.43	332	P	P	14 52 58.3	+0.4
REDW				IAmb	IAmb	14 53 07.2	
	comp=Z,3.3nm,0.9s						
FLWY	Flagg Ranch	36.92	333	P	P	14 53 01.2	-0.9
FLWY				IAmb	IAmb	14 53 11.0	
	comp=Z,8.0nm,1.3s						
NVAR	Mina Array Bea	37.12	320	P	P	14 53 03.9	0.0
	comp=Z,0.5nm,0.8s,baz=153,slow=8.1,SNR=2.9						
NVAR				PcP	PcP	14 55 25.8	+2.2
	comp=Z,0.6nm,0.6s,baz=132,slow=3.2,SNR=7.4						
GCMT	Greycliff	37.86	336	P	P	14 53 10.6	+0.7
ULM	Lac du Bonnet	38.23	352	P	P	14 53 11.7	-1.1
	comp=Z,6.4nm,0.6s,baz=163,slow=10.0,SNR=11						
ULM	Lac du Bonnet	38.23	352	P	P	14 53 11.1	-1.7
DGMT	Dagmar	38.28	343	P	P	14 53 14.0	+0.7
MCMT	McKenzie Canyo	38.48	332	P	P	14 53 16.6	+1.4
FFC	Flin Flon	43.55	349	P	P	14 53 56.1	-0.4
FFC				IAmb	IAmb	14 54 09.2	
	comp=Z,8.5nm,1.4s						
F04A	Amboy	44.10	326	P	P	14 54 01.0	-0.1
F04A				IAmb	IAmb	14 54 25.8	
	comp=Z,8.9nm,1.3s						
EDM	Edmonton	45.31	339	P	P	14 54 09.5	-1.2
EDM				IAmb	IAmb	14 54 13.8	
	comp=Z,9.3nm,1.0s						
YKA	Yellowknife Ar	53.41	345	P	P	14 55 11.8	-0.5
BCAR	Beaver Creek A	62.91	336	P	P	14 56 19.3	+0.6
IL31		65.69	336	P	P	14 56 36.5	-0.2
IL31				IAmb	IAmb	14 56 44.4	
	comp=Z,5.7nm,1.4s						
ILAR	Eielson Array	65.69	336	P	P	14 56 35.1	-1.6
	comp=Z,0.9nm,1.0s,baz=111,slow=4.0,SNR=7.0						
ILAR	Eielson Array	65.69	336	P	P	14 56 36.8	0.0
BMAR	Burnt Mountain	65.99	339	P	P	14 56 39.3	+0.5
MLY	Manley	67.31	336	P	P	14 56 46.6	-0.6
MLY				IAmb	IAmb	14 56 48.1	
	comp=Z,3.0nm,1.2s						
EUNU	Eureka	67.67	0	P	P	14 56 48.9	-0.4
TOLK	Toolik Lake Re	68.21	340	P	P	14 56 53.8	+0.9
TOLK				IAmb	IAmb	14 57 08.9	
	comp=Z,3.2nm,1.2s						
CHGN	Chignik	68.69	326	P	P	14 56 56.2	+0.3
ASCN	Ascension	76.31	101	P	P	14 57 40.4	-1.8
CMAR	Chiang Mai Arr	148.49	347	PKPbc	PKPdf	15 05 37.7	+1.3
	comp=Z,0.4nm,0.6s,baz=328,slow=1.4,SNR=2.4						

IDC 07 14:51:32.4±1.9, 33°.05S×178°.17W, h0km, mb4.2/3, mb1 4.4/4, mb1mx3.9/24, mbtmp4.2/4, ML3.8/1, Error ellipse: s-maj=51.2km s-min=32.0km az=133.0

NEIC 07 14:51:34.4±0.6, 32°.97S±0°.06×178°.2W±0°.2, h10km±1km, mb4.5/13, Error ellipse: s-maj=31.0km s-min=10.5km az=89.0

ISC 07 14:51:34.4±1.0, 32°.96S±0°.08×178°.3W±0°.2, h10km, n25, σ0s.75/26, mb4.4/10, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	3.72	6	Pn	Pn	14 52 31.8	0.0
MXZ	Matakaoa Point	5.35	210	Pn	Pn	14 52 54.4	+0.1
URZ	Urewera	6.45	214	Pn	Pn	14 53 09.6	+0.1
	2.0nm,0.3s,baz=267,slow=3.8,SNR=21						
URZ				Sn	Sn	14 54 22.2	-0.9
	6.5nm,0.3s,baz=151,slow=17,SNR=12						
BKZ	Black Stump Fm	7.47	213	Pn	Pn	14 53 22.1	-1.4
HIZ	Hauiti	7.83	223	Pn	Pn	14 53 28.5	+0.2
CTA	Charters Tower	34.01	283	P	P	14 58 20.3	+1.7
	2.4nm,0.5s,baz=110,slow=12						
CTAO	Charters Tower	34.01	283	P	P	14 58 20.2	+1.6
COEN	Coen	39.77	289	P	P	14 59 07.9	+0.3
COEN				IAmb	IAmb	14 59 28.3	
	comp=Z,24nm,1.4s						
AS31	Alice Springs	42.75	270	P	P	14 59 32.2	+0.1
ASAR	Alice Springs	42.75	270	P	P	14 59 32.5	+0.4
	comp=Z,1.3nm,0.5s,baz=110,slow=7.8,SNR=58						
ASAR	Alice Springs	42.75	270	P	P	14 59 31.9	-0.2
WR0	Warramunga Arr	43.79	275	P	P	14 59 40.4	-0.1
WR0				IAmb	IAmb	14 59 41.1	
	comp=Z,9.7nm,1.4s						
WB2	Warramunga Arr	43.96	275	P	P	14 59 41.8	-0.1
WB2				IAmb	IAmb	15 00 04.8	
	comp=Z,7.6nm,1.2s						
WRA	Warramunga Arr	43.97	275	P	P	14 59 42.3	+0.3
	comp=Z,2.4nm,0.4s,baz=115,slow=7.7,SNR=82						
WRA	Warramunga Arr	43.97	275	P	P	14 59 41.6	-0.4
FORT	Forrest	45.16	258	P	P	14 59 50.7	-0.7
MTN	Manton Dam	50.15	281	P	P	15 00 29.9	-0.3
KNRA	Kununurra	50.66	277	P	P	15 00 33.9	-0.2
KNRA				IAmb	IAmb	15 00 39.9	
	comp=Z,15nm,1.4s						
FITZ	Fitzroy Crossi	52.11	272	P	P	15 00 44.7	-0.3
CASY	Casey	52.75	209	P	P	15 00 49.2	+0.1
CASY				IAmb	IAmb	15 01 11.6	
	comp=Z,6.1nm,1.0s						
QSPA	South Pole Qui	57.16	180	P	P	15 01 22.7	+1.6
QSPA				IAmb	IAmb	15 01 40.4	
	comp=Z,4.9nm,0.9s						
SNAA	Sanae	75.61	179	P	P	15 03 18.7	-0.4
SNAA				IAmb	IAmb	15 03 26.7	
	comp=Z,5.6nm,1.5s						
MKAR	Makanchi Array	119.18	309	PKP	PKPdf	15 10 22.9	-0.4
	comp=Z,0.2nm,0.6s,baz=86,slow=1.9,SNR=3.2						
FINES	FINESS Array B	147.43	338	PKPbc	PKPbc	15 11 17.5	-0.2
	comp=Z,2.1nm,0.6s,baz=33,slow=4.4,SNR=14						
AKASG	Malin Array Be	153.11	319	PKPbc	PKPbc	15 11 31.3	-0.5
	comp=Z,0.3nm,0.3s,baz=66,slow=2.5,SNR=2.0						

IDC 07 14:53:17.3±5.1, 32°.54S×178°.33W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/23, mbtmp3.9/3, Error ellipse: s-maj=204.5km s-min=62.0km az=163.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	33.93	283	P	P	15 00 03.6	+1.3
	5.6nm,1.1s,baz=112,slow=5.4,SNR=1.9						
ASAR	Alice Springs	42.76	269	P	P	15 01 16.3	-0.4
	0.8nm,0.8s,baz=106,slow=7.6,SNR=4.0						
WRA	Warramunga Arr	43.94	275	P	P	15 01 25.3	-0.9
	0.7nm,0.4s,baz=112,slow=8.1,SNR=4.8						
FINES	FINESS Array B	147.04	339	PKPbc	PKPbc	15 13 00.6	-0.7
	1.8nm,0.8s,baz=44,slow=4.6,SNR=1.9						

IDC 07 14:57:10.2±3.4, 32°.75S×178°.48W, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/31, mbtmp3.7/4, ML3.3/1, Error ellipse: s-maj=73.9km s-min=49.0km az=120.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.56	212	Pn	Pn	14 58 46.4	-1.6
	0.6nm,0.3s,baz=308,slow=20,SNR=1.4						
URZ				Sn	Sn	14 59 57.4	-6.2
	1.3nm,0.3s,baz=114,slow=20,SNR=1.5						
ASAR	Alice Springs	42.63	270	P	P	15 05 08.6	+0.1
	0.3nm,0.5s,baz=110,slow=7.9,SNR=10						
WRA	Warramunga Arr	43.83	275	P	P	15 05 18.4	+0.1
	0.6nm,0.4s,baz=113,slow=7.9,SNR=12						
FITZ	Fitzroy Crossi	51.98	272	P	P	15 06 21.2	-0.2
	1.2nm,0.8s,baz=129,slow=5.3,SNR=1.1						
FINES	FINESS Array B	147.19	338	PKPbc	PKPbc	15 16 53.8	-0.8
	1.9nm,0.8s,baz=48,slow=6.2,SNR=3.3						

IDC 07 15:06:57.2±2.3, 1°.99N×126°.85E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/33, mbtmp3.4/3, Error ellipse: s-maj=176.4km s-min=27.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.00	162	P	P	15 12 04.1	+0.2
	0.8nm,0.3s,baz=341,slow=11,SNR=20						
ASAR	Alice Springs	26.41	165	P	P	15 12 35.7	-0.1
	0.3nm,0.4s,baz=338,slow=7.0,SNR=18						
MKAR	Makanchi Array	59.05	326	P	P	15 16 59.0	-0.2
	0.1nm,0.5s,baz=115,slow=7.5,SNR=2.1						

IDC 07 15:35:41.2±2.1, 32°.88S×178°.86W, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.5/20, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=62.7km s-min=37.8km az=146.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.29	210	Pn	Pn	15 37 14.7	-0.5
	0.9nm,0.3s,baz=128,slow=20,SNR=1.6						
ASAR	Alice Springs	42.31	270	P	P	15 43 37.0	+0.1
	0.3nm,0.8s,baz=112,slow=7.9,SNR=1.6						
WRA	Warramunga Arr	43.52	275	P	P	15 43 46.6	-0.1
	0.2nm,0.3s,baz=115,slow=8.0,SNR=6.1						
NVAR	Mina Array Bea	90.55	43	P	P	15 48 45.2	-0.1
	0.1nm,0.3s,baz=210,slow=5.2,SNR=2.0						

NOU 07 15:43:49.9, 32°.83S×176°.70W, h97km, mb4.4/6, South of Kermadec Islands

IDC 07 15:43:58.9±1.2, 32°.99S×178°.34W, h0km, mb4.2/6, mb1 4.4/7, mb1mx4.0/32, mbtmp4.2/7, ML4.3/1, Error ellipse: s-maj=30.8km s-min=25.3km az=119.0

NEIC 07 15:44:00.3±1.4, 32°.9S±0°.1×178°.2W±0°.2, h10km±1km, mb4.5/15, Error ellipse: s-maj=29.5km s-min=20.8km az=88.0

ISC 07 15:43:59.6±0.8, 33°.01S±0°.08×178°.2W±0°.1, h10km, n39, σ1s.20/35, mb4.4/14, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	3.75	4	Pn	Pn	15 44 54.9	-2.7
MXZ	Matakaoa Point	5.36	211	Pn	Pn	15 45 17.8	-1.8
URZ	Urewera	6.48	215	Pn	Pn	15 45 34.6	-0.3
	6.9nm,0.3s,baz=273,slow=3.7,SNR=34						
URZ				Sn	Sn	15 46 47.4	-1.4
	24nm,0.3s,baz=215,slow=23,SNR=15						
URZ	Urewera	6.48	215		Pn	15 45 34.4	-0.5
BKZ	Black Stump Fm	7.49	213	Pn	Pn	15 45 47.6	-1.3
BFZ	Birch Farm	8.85	209		Pn	15 46 04.0	-3.5
TUWZ	Tuamarina	10.47	214	Pn	Pn	15 46 26.6	-3.1
LTZ	Lake Taylor	12.31	215	Pn	Pn	15 46 51.6	-3.3
DZM	Mont Dzumac	17.41	305	P	P	15 48 07.9	+3.9
	0.6nm,0.3s,baz=160,slow=15,SNR=6.9						
EIDS	Eidsvold	27.80	278	P	P	15 49 49.3	+0.4
EIDS				IAmb	IAmb	15 50 13.6	
	comp=Z,8.0nm,1.4s						
STKA	Stephens Creek	33.80	261	P	P	15 50 40.9	-1.0
	comp=Z,1.6nm,0.9s,baz=129,slow=14,SNR=5.2						
CTA	Charters Tower	34.13	283	P	P	15 50 46.4	+1.6
	comp=Z,3.6nm,0.5s,baz=115,slow=9.7,SNR=12						
CTAO	Charters Tower	34.13	283	P	P	15 50 45.6	+0.9
BBOO	Buckleboo	38.16	257	P	P	15 51 18.6	-0.5
BBOO				IAmb	IAmb	15 51 19.9	
	comp=Z,11nm,1.2s						
COEN	Coen	39.88	289	P	P	15 51 34.6	+0.9
COEN				IAmb	IAmb	15 51 57.2	
	comp=Z,20nm,1.4s						
AS31	Alice Springs	42.86	270	P	P	15 51 58.0	-0.2
ASAR	Alice Springs	42.86	270	P	P	15 51 58.0	-0.2
	comp=Z,2.3nm,0.6s,baz=110,slow=7.9,SNR=100						
WR0	Warramunga Arr	43.90	275	P	P	15 52 06.3	-0.3
WR0				IAmb	IAmb	15 52 08.4	
	comp=Z,6.2nm,1.3s						
WB2	Warramunga Arr	44.07	275	P	P	15 52 07.8	-0.2
WB2				IAmb	IAmb	15 52 08.1	
	comp=Z,5.9nm,0.6s						
WRAB	Tennant Creek	44.08	275	P	P	15 52 07.1	-0.9
WRA	Warramunga Arr	44.08	275	P	P	15 52 07.7	-0.4
	comp=Z,3.7nm,0.4s,baz=116,slow=7.7,SNR=120						
WRA	Warramunga Arr	44.08	275	P	P	15 52 07.5	-0.6
FORT	Forrest	45.26	258	P	P	15 52 16.5	-0.8
MTN	Manton Dam	50.26	281	P	P	15 52 55.4	-0.9
MTN				IAmb	IAmb	15 53 14.2	
	comp=Z,8.7nm,1.1s						
KNRA	Kununurra	50.77	277	P	P	15 52 59.7	-0.4
KNRA				IAmb	IAmb	15 53 09.4	
	comp=Z,8.8nm,1.1s						
FITZ	Fitzroy Crossi	52.22	272	P	P	15 53 10.6	-0.4
FITZ				IAmb	IAmb	15 53 20.3	
	comp=Z,3.2nm,1.1s						
QSPA	South Pole Qui	57.11	180	P	P	15 53 48.0	+2.0
	comp=Z,1.1nm,0.9s,baz=20,slow=5.3,SNR=6.0						
QSPA	South Pole Qui	57.11	180	P	P	15 53 47.8	+1.8
QSPA				IAmb	IAmb	15 54 02.0	
	comp=Z,3.8nm,0.8s						
SNAA	Sanae	75.56	178	P	P	15 55 43.9	-0.1
VNA3	Neumayer Olymp	75.72	176	P	P	15 55 44.7	-0.2
VNA2	Neumayer--Watz	76.15	177	P	P	15 55 47.5	+0.2
VNA1	Neumayer--Stat	76.38	177	P	P	15 55 48.7	+0.1
PETK	Petropavlovsk-	88.29	346	P	P	15 56 51.4	+0.6
	comp=Z,1.6nm,0.9s,baz=142,slow=8.2,SNR=4.4						
MKAR	Makanchi Array	119.29	309	PKP	PKPdf	16 02 48.5	-0.3
	comp=Z,0.4nm,0.6s,baz=213,slow=1.0,SNR=4.3						
ARCES	ARCESS Array B	141.09	347	PKhKP	PKPpre	16 03 24.6	
	comp=Z,3.1nm,1.0s,baz=50,slow=1.4,SNR=1.8						
ARCES	ARCESS Array B	141.09	347		PKPpre	16 03 22.3	
FINES	FINESS Array B	147.51	338	PKPbc	PKPbc	16 03 43.3	+0.2
	comp=Z,8.0nm,0.7s,baz=56,slow=3.3,SNR=15						
NOA	NORSAR Array B	151.29	350	PKPab	PKPab	16 04 01.2	+0.5
	comp=Z,0.8nm,0.8s,baz=19,slow=4.2,SNR=3.6						
AKASG	Malin Array Be	153.21	319	PKPbc	PKPbc	16 03 56.9	-0.3
	comp=Z,0.4nm,0.4s,baz=42,slow=3.1,SNR=1.4						

IDC 07 15:54:37.3±3.0, 32°.73S×178°.32W, h0km, mb4.1/2, mb1 4.3/3, mb1mx3.8/33, mbtmp4.1/3, ML3.9/1, Error ellipse: s-maj=68.3km s-min=35.8km az=117.0

NEIC 07 15:54:39.2±1.0, 32°.5S±0°.1×178°.3W±0°.1, h10km±1km, mb4.4/12, Error ellipse: s-maj=18.4km s-min=14.4km az=167.0

WEL 07 15:54:40.3±0.8, 33°S±9°×17°8W±2°2, h33km, M4.5/13, mB4.9/4, ML4.7/19, MLv4.5/13, Mw(mB)4.2/4, Error ellipse: s-maj=0.0km s-min=0.0km az=110.8

ISC 07 15:54:40.4±1.0, 32°.65S±0°.08×178°.3W±0°.2, h33km, n43, σ1s.29/62, mb4.2/8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.39	5	P	Pn	15 55 29.6	-1.3
GLKZ				S	Sn	15 56 08.2	-1.8
RAO	Raoul Island	3.40	5	Pn	Pn	15 55 30.5	-0.6
MXZ	Matakaoa Point	5.65	209	Pn	Pn	15 56 01.0	-1.0
MXZ	Matakaoa Point	5.65	209	P	Pn	15 55 59.6	-2.4
MXZ				S	Sn	15 57 03.9	-1.8
WMGZ	Waiomatatini S	5.83	207	P	Pn	15 56 04.5	0.0
WMGZ				S	Sn	15 57 10.3	+0.1
PKGZ	Pakihiroa	6.02	209	P	Pn	15 56 06.5	-0.7
PKGZ				S	Sn	15 57 14.2	-0.8
HAZ	Te Kaha	6.04	211	P	Pn	15 56 08.1	+0.8
HAZ				S	Sn	15 57 17.1	+1.9
PUZ	Puketiti	6.11	207	P	Pn	15 56 06.7	-1.7
PUZ				S	Sn	15 57 15.7	-1.4
RUGZ	Raukumara Rang	6.26	211	P	Pn	15 56 10.3	-0.2
RUGZ				S	Sn	15 57 21.6	+0.8
TWGZ	Tauwhareparae	6.31	208	P	Pn	15 56 10.5	-0.6
TWGZ				S	Sn	15 57 21.4	-0.7
CNGZ	Carnagh Statio	6.49	205	P	Pn	15 56 12.0	-1.6
CNGZ				S	Sn	15 57 27.0	+0.5
TKGZ	Te Karaka	6.59	208	P	Pn	15 56 15.6	+0.7
TKGZ				S	Sn	15 57 27.8	-1.0
MWZ	Matawai	6.63	210	P	Pn	15 56 14.0	-1.5
MWZ				S	Sn	15 57 29.5	-0.5
URZ	Urewera	6.75	213	Pn	Pn	15 56 15.4	-1.7
	2.3nm,0.3s,baz=120,slow=23,SNR=12						
URZ				Sn	Sn	15 57 31.9	-1.0
	3.9nm,0.3s,baz=153,slow=19,SNR=3.8						
URZ	Urewera	6.75	213	P	Pn	15 56 16.3	-0.8
URZ				S	Sn	15 57 31.8	-1.0
RAGZ	Rawiri	6.81	210	P	Pn	15 56 16.9	-1.2
RIGZ	Rimuhau	6.85	207	P	Pn	15 56 19.3	+0.7
RIGZ				S	Sn	15 57 35.6	+0.1
MUGZ	Murupara	7.08	213	P	Pn	15 56 21.6	-0.1
MUGZ				S	Sn	15 57 40.7	-0.4
SNGZ	Shannon Statio	7.09	209	P	Pn	15 56 21.6	-0.1
SNGZ				S	Sn	15 57 39.7	-1.5
RAHZ	Arahi	7.31	210	P	Pn	15 56 25.5	+0.7
RAHZ				S	Sn	15 57 45.9	-0.7
MTHZ	Maungataniwha	7.36	211	P	Pn	15 56 26.1	+0.5
MTHZ				S	Sn	15 57 45.8	-2.1
NMHZ	Naumai	7.58	210	P	Pn	15 56 28.8	+0.2
NMHZ				S	Sn	15 57 52.6	-0.7
BKZ	Black Stump Fm	7.77	212	Pn	Pn	15 56 29.5	-1.6
BKZ	Black Stump Fm	7.77	212	P	Pn	15 56 31.1	0.0
BKZ				S	Sn	15 57 54.9	-3.1
KAHZ	Kahuranaki	8.14	207	P	Pn	15 56 35.1	-1.1
KAHZ				S	Sn	15 58 04.5	-2.6
KRHZ	Kereru	8.22	210	P	Pn	15 56 37.1	-0.2
KRHZ				S	Sn	15 58 05.4	-3.6
MHEZ	Mangahewa	8.79	221	P	Pn	15 56 52.4	+7.3
AS31	Alice Springs	42.81	269	P	P	16 02 36.3	+0.9
ASAR	Alice Springs	42.81	269	P	P	16 02 37.0	+1.7
	1.6nm,0.7s,baz=106,slow=7.5,SNR=27						
ASAR	Alice Springs	42.81	269	P	P	16 02 35.9	+0.5
WR0	Warramunga Arr	43.83	275	P	P	16 02 44.6	+1.1
WB2	Warramunga Arr	44.00	275	P	P	16 02 46.0	+1.1
WB2				IAmb	IAmb	16 02 58.8	
	comp=Z,3.8nm,1.0s						
WRA	Warramunga Arr	44.01	275	P	P	16 02 46.4	+1.4
	comp=Z,1.0nm,0.3s,baz=113,slow=8.1,SNR=34						
WRA	Warramunga Arr	44.01	275	P	P	16 02 46.0	+1.0
FORT	Forrest	45.30	257	P	P	16 02 55.8	+0.7
MTN	Manton Dam	50.15	281	P	P	16 03 34.0	+1.1
KNRA	Kununurra	50.69	276	P	P	16 03 38.3	+1.3
KNRA				IAmb	IAmb	16 03 43.6	
	comp=Z,4.8nm,1.0s						
CASY	Casey	53.06	209	P	P	16 03 54.7	+0.8
CASY				IAmb	IAmb	16 04 13.1	
	comp=Z,4.4nm,1.0s						
BYL	Byron's Ledge	56.25	26	P	P	16 04 18.7	+0.9
QSPA	South Pole Qui	57.47	180	P	P	16 04 29.8	+3.9
QSPA				IAmb	IAmb	16 04 44.3	
	comp=Z,3.3nm,1.1s						
MAW	Mawson	70.13	201	P	P	16 05 54.0	+5.0
MAW				IAmb	IAmb	16 06 01.5	
	comp=Z,4.9nm,0.7s						
SNAA	Sanae	75.92	179	P	P	16 06 24.0	+0.7
SNAA				IAmb	IAmb	16 06 28.3	
	comp=Z,3.8nm,1.4s						
FINES	FINESS Array B	147.16	339	PKPbc	PKiKP	16 14 21.0	-0.7
	comp=Z,4.2nm,0.8s,baz=23,slow=6.2,SNR=7.3						

IDC 07 15:55:45.5±0.7, 6°.75N×72°.95W, h156km±8km, mb3.5/5, mb1 3.8/8, mb1mx3.4/33, mbtmp4.1/8, Error ellipse: s-maj=26.0km s-min=7.6km az=132.0

NEIC 07 15:55:45.7±1.4, 6°.83N±0°.06×73°.06W±0°.08, h145km±6km, mb4.2/56, Error ellipse: s-maj=11.5km s-min=9.3km az=104.0

RSNC 07 15:55:46.5±1.3, 6°.80N×73°.13W, h144km±4km, ML3.7, Mw3.9, Fault plane solution: NP1:φs17.00000°, δ43.00000°, λ155.00000°.

ISC 07 15:55:45.6±0.6, 6°.84N±0°.03×73°.10W±0°.03, h150km±5km, n123, σ1s.17/159, mb4.2/32, 11C-9D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BARC	Barichara	0.26	200	⇑iP	Pn	15 56 06.2	-0.2
BARC				eS	Sn	15 56 20.8	-1.3
BARC				i		15 56 22.1	
	comp=Z,2μm,0.1s						
PAMC	Pamplona, Colo	0.63	38	⇓iP	Pn	15 56 09.1	+0.8
PAMC				i		15 56 09.4	
	comp=Z,1μm,0.2s						
PAMC				eS	Sn	15 56 25.8	+0.3
BRRC	Barranca, Sant	0.67	294	⇑iP	Pn	15 56 08.1	+0.2
BRRC				i		15 56 08.3	
	comp=Z,1μm,0.3s						
BRRC				eS	Sn	15 56 23.8	-1.0
RUSC	La Rusia	0.94	179	Pn	Pn	15 56 09.9	-0.5
RUSC				Sn	Sn	15 56 27.9	-1.4
RUSC	La Rusia	0.94	179	⇑eP	Pn	15 56 10.1	-0.4
RUSC				i		15 56 10.8	
	comp=Z,505nm,0.3s						
RUSC				eS	Sn	15 56 28.3	-1.0
TAMC	Tame, Arauca	1.35	107	⇓iP	Pn	15 56 14.6	+0.9
TAMC				i		15 56 14.6	
	comp=Z,579nm,0.2s						
TAMC				eS	Sn	15 56 34.9	-0.3
PTBC	PUERTO BERRIO,	1.38	258	⇑iP	Pn	15 56 12.7	-1.3
PTBC				eS	Sn	15 56 33.6	-2.1
PTBC				i		15 56 36.3	
	comp=Z,946nm,0.5s						
OCAC	Ocana	1.41	351	⇓iP	Pn	15 56 14.6	+0.2
OCAC				eS	Sn	15 56 35.9	-0.6
OCAC				i		15 56 39.5	
	comp=Z,929nm,0.4s						
SPBC	San Pablo de B	1.53	220	⇑iP	Pn	15 56 15.1	-0.4
SPBC				i		15 56 15.5	
	comp=Z,902nm,0.2s						
SPBC				eS	Sn	15 56 36.2	-2.2
ZARC	Zaragoza, Cauc	1.87	290	eP	Pn	15 56 19.2	+0.1
ZARC				eS	Sn	15 56 44.6	-0.3
ZARC				i		15 56 50.1	
	comp=Z,583nm,0.5s						
NORC	Norcasia	2.17	234	eP	Pn	15 56 21.6	-1.2
NORC				eS	Sn	15 56 49.8	-1.6
NORC				i		15 56 55.7	
	comp=Z,426nm,0.4s						
SMLC	San Martn de	2.18	334	eP	Pn	15 56 22.5	-0.3
SMLC				eS	Sn	15 56 50.2	-1.3
SMLC				i		15 56 59.5	
	comp=Z,282nm,0.3s						
CHIC	Chingaza	2.28	196	⇑eP	Pn	15 56 24.1	-0.4
CHIC				eS	Sn	15 56 53.3	-1.2
ROSC	El Rosal	2.33	212	P	Pn	15 56 26.1	+1.0
	comp=Z,101nm,0.3s,baz=333,slow=1.0,SNR=145						
ROSC				S	Sn	15 56 56.2	+0.8
	comp=Z,163nm,0.3s,baz=198,slow=21,SNR=7.7						
ROSC	El Rosal	2.33	212		Pn	15 56 25.6	+0.5
ROSC	El Rosal	2.33	212	⇑iP	Pn	15 56 25.9	+0.9
ROSC				eS	Sn	15 56 54.9	-0.5
ROSC				i		15 57 03.0	
	comp=Z,577nm,0.4s						
HELC	Santa Helena	2.50	255	⇓eP	Pn	15 56 26.5	-0.5
HELC				eS	Sn	15 56 57.9	-1.1

HELC *i* 15 57 05.0
comp=Z,435nm,0.3s
UREC San Jos de Ur 2.58 291 *e*P Pn 15 56 26.5 -1.2
UREC *e*S Sn **15 56 58.4 -1.9**
UREC *i* 15 57 08.8
comp=Z,320nm,0.3s
SOCV Socops 2.64 57 ||*e*P Pn 15 56 28.3 -0.2
SOCV *e*S Sn **15 56 59.2 -2.5**
LL2C La Loma 2 Cana 2.72 353 *e*P Pn 15 56 30.2 +0.8
LL2C *e*S Sn **15 57 04.2 +0.8**
LL2C *i* 15 57 13.3
comp=Z,249nm,0.3s
LL1C La Loma 1 Cana 2.73 350 ||*e*P Pn 15 56 30.9 +1.5
LL1C *e*S Sn **15 57 05.1 +1.6**
LL1C *i* 15 57 14.1
comp=Z,446nm,0.4s
GUY2C Guyana, Caldas 2.77 235 ||*e*P Pn 15 56 30.6 +0.1
GUY2C *e*S Sn **15 57 04.8 -0.3**
GUY2C *i* 15 57 11.3
comp=Z,268nm,0.3s
VILC Villavicencio, 2.77 192 *e*P Pn 15 56 29.5 -0.8
VILC *e*S Sn **15 57 03.7 -1.1**
VILC *i* 15 57 09.8
comp=Z,243nm,0.4s
PTGC Puerto Gaitan, 2.79 160 ||*e*P Pn 15 56 29.3 -1.0
PTGC *e*S Sn **15 57 02.2 -2.7**
PTGC *i* 15 57 04.5
comp=Z,228nm,0.2s
CBOC Ciudad Bolivar 3.06 252 *e*P Pn 15 56 34.4 +0.5
CBOC *e*S Sn **15 57 09.7 -1.4**
CBOC *i* 15 57 13.8
comp=Z,143nm,0.3s
DBBC Dabeiba 3.10 273 ||*e*P Pn 15 56 34.3 0.0
TOLC Tolima 3.15 225 *e*P Pn 15 56 35.6 +0.5
TOLC *e*S Sn **15 57 12.8 -0.7**
TOLC *i* 15 57 20.9
comp=Z,178nm,0.3s
SDV Santo Domingo 3.18 50 P Pn 15 56 36.1 +0.7
comp=Z,32nm,0.3s,baz=229,slow=11,SNR=23
SDV S Sn **15 57 12.9 -1.0**
comp=Z,40nm,0.3s,baz=255,slow=20,SNR=30
SDV Santo Domingo 3.18 50 Pn 15 56 35.8 +0.4
SDV Santo Domingo 3.18 50 *e*P Pn 15 56 36.0 +0.7
SDV *i* 15 56 36.4
comp=Z,113nm,0.2s
SDV *e*S Sn **15 57 12.6 -1.3**
ARGC Ariguani, Magd 3.21 339 *e*P Pn 15 56 36.9 +1.3
ARGC *e*S Sn **15 57 15.8 +1.4**
ARGC *i* 15 57 23.0
comp=Z,55nm,0.3s
PRAC Prado 3.58 210 ||*e*P Pn 15 56 39.5 -0.9
PRAC *e*S Sn **15 57 21.7 -1.3**
PRAC *i* 15 57 30.5
comp=Z,206nm,0.5s
ELOV Elorza 3.59 87 ||*i*P Pn 15 56 40.6 +0.2
ELOV *e*S Sn **15 57 21.4 -1.7**
ORTC Ortega, Tolima 3.61 216 *e*P Pn 15 56 40.3 -0.6
ORTC *e*S Sn **15 57 22.3 -1.5**
ORTC *i* 15 57 29.2
comp=Z,155nm,0.4s
CVALL Valledupar, Ce 3.65 357 *e*P Pn 15 56 40.9 -0.5
CVALL *e*S Sn **15 57 20.4 -4.3**
CVALL *i* 15 57 28.6
comp=Z,77nm,0.6s
SJCC San Jacinto, C 3.67 326 Pn 15 56 40.4 -1.3
SJCC San Jacinto, C 3.67 326 ||*e*P Pn 15 56 40.7 -1.0
SJCC *e*S Sn **15 57 21.3 -3.9**
SJCC *i* 15 57 26.4
comp=Z,90nm,0.5s
CRJC Cerrejon, Guaj 4.16 3 *e*P Pn 15 56 47.0 -1.0
CRJC *e*S Sn **15 57 32.7 -3.9**
CRJC *i* 15 57 35.6
comp=Z,76nm,0.2s
YOTC Yotoco, Valle 4.30 229 *e*P Pn 15 56 48.9 -1.0
SMRC Santa Marta, M 4.44 346 *e*P Pn 15 56 50.8 -0.9
SMRC *e*S Sn **15 57 39.3 -3.8**
SMRC *i* 15 57 43.5
comp=Z,28nm,0.3s
CAPC Capurgana 4.58 293 *e*P Pn 15 56 52.0 -1.4
CAPC *i* 15 57 46.0
comp=Z,56nm,0.6s
MACC Macarena, Meta 4.72 189 *e*P Pn 15 56 53.4 -2.0
MACC *i* 15 57 04.6
comp=Z,43nm,0.3s
MARP Paez Belalcaza 4.88 216 *e*P Pn 15 56 57.0 -0.8
URIC Uribia, Colomb 4.95 13 Pn Pn 15 56 57.1 -1.3
MALC Bahia Malaga 5.07 237 *e*P Pn 15 57 01.7 +1.8
GARC Garzon, Huila 5.20 207 *e*P Pn 15 57 00.4 -1.5
GARC *i* 15 57 03.4
comp=Z,78nm,0.2s
FLOC Florencia 5.81 206 Pn Pn 15 57 09.0 -0.8
FLOC Florencia 5.81 206 ||*e*P Pn 15 57 09.1 -0.7
FLOC *i* 15 58 48.7
comp=Z,18nm,0.7s
BBAC Balboa, Cauca 6.33 221 *e*P Pn 15 57 17.5 +0.7
BBAC *i* 15 58 29.9
comp=Z,27nm,0.5s
BCIP Isla Barro Col 7.07 290 Pn Pn 15 57 24.6 -1.9
PCRV Puerto La Cruz 9.00 68 P Pn 15 57 52.0 -0.3
comp=Z,1.6nm,0.3s,baz=289,slow=3.1,SNR=10
PLCV Puerto La Cruz 9.04 68 Pn 15 57 52.0 -0.8
RIMA Rio Macho 11.05 286 Pn Pn 15 58 19.9 +0.2
MTDJ Mount Denham 12.12 339 Pn Pn 15 58 33.6 0.0
Y49A Blount Mountai 29.58 337 P P 16 01 38.1 +1.7
Y49A IAmb IAmb 16 01 47.0
comp=Z,3.5nm,0.9s
W50A Signal Mountain 30.38 340 P P 16 01 45.1 +1.6
W50A IAmb IAmb 16 01 59.9
comp=Z,4.7nm,0.9s
WHAR Wooly Hollow 33.37 331 P P 16 02 10.0 +0.5
WHAR IAmb IAmb 16 02 12.0
comp=Z,2.5nm,0.8s
P52A Corning 33.65 347 P P 16 02 13.6 +1.7
P52A IAmb IAmb 16 02 14.5
comp=Z,5.5nm,0.8s
FCAR Ozark Folk Cen 33.77 332 P P 16 02 13.5 +0.4
FCAR IAmb IAmb 16 02 14.0
comp=Z,2.6nm,0.8s
SIUC Southern Illin 34.05 337 P P 16 02 16.3 +0.8
SIUC IAmb IAmb 16 02 17.2
comp=Z,5.2nm,0.8s
U40A Yellville 34.49 331 P P 16 02 19.9 +0.6
U40A IAmb IAmb 16 02 20.7
comp=Z,4.5nm,0.7s
KSPA Keystone Colle 34.66 356 P P 16 02 21.2 +0.6
KSPA IAmb IAmb 16 02 22.5
comp=Z,8.6nm,1.1s
M54A Oil Creek Stat 35.02 351 P P 16 02 24.7 +0.9
M54A IAmb IAmb 16 02 28.2
comp=Z,6.8nm,1.1s
CCM Cathedral Cave 35.17 335 P P 16 02 25.7 +0.7
CCM IAmb IAmb 16 02 26.3
comp=Z,4.3nm,0.7s
SFIN Lafayette 35.67 342 P P 16 02 30.3 +1.0
R40A Maddies Statio 35.80 334 P P 16 02 30.6 +0.1
R40A IAmb IAmb 16 02 31.2
comp=Z,1.9nm,0.5s
P43A Skaggs, Pawnee 35.85 338 P P 16 02 31.0 +0.2
QUOK Quay 36.32 327 P P 16 02 34.9 0.0
TXAR Lajitas Array 36.47 312 P P 16 02 37.2 +0.8
comp=Z,0.2nm,0.6s,baz=125,slow=9.3,SNR=5.4
TXAR PcP **PcP 16 04 58.5 +1.3**
comp=Z,0.2nm,0.5s,baz=120,slow=4.9,SNR=4.0
TXAR Lajitas Array 36.47 312 P P 16 02 36.6 +0.2
TX31 Lajitas Ar. Si 36.47 312 P P 16 02 36.5 +0.1
WMOK Wichita Mounta 36.48 323 P P 16 02 36.4 0.0
SADO Sadowa 38.15 353 P P 16 02 50.6 +0.4
SADO IAmb IAmb 16 03 00.8
comp=Z,8.2nm,1.1s
K43A Burlington 38.17 342 P P 16 02 50.4 -0.1
MNTX Cornudas Mount 38.98 314 P P 16 02 57.6 +0.2
JFWS Jewell Farm 38.99 340 P P 16 02 57.4 +0.1
JFWS IAmb IAmb 16 02 57.9
comp=Z,5.5nm,0.6s
I42A Draeger Farm, 39.43 342 P P 16 03 00.9 +0.1
I42A IAmb IAmb 16 03 28.9
comp=Z,10nm,1.2s
LMN Caledonia Moun 39.52 9 P P 16 03 01.8 +0.2
PQI Presque Isle 39.93 5 P P 16 03 06.0 +1.1
MT09 Talagante 40.44 177 P P 16 03 10.9 +1.4
E46A Sault Ste Mari 40.55 348 P P 16 03 11.2 +1.1
BATG Bathurst New B 40.74 7 P P 16 03 12.4 +0.8
ECSD EROS Data Cent 42.14 334 P P 16 03 23.4 +0.2
EYMN Ely 43.86 342 P P 16 03 36.8 -0.1
EYMN IAmb IAmb 16 03 37.5
comp=Z,4.9nm,0.6s
B35A Bob, Littlefor 44.94 341 P P 16 03 45.0 -0.4
ULM Lac du Bonnet 47.28 340 P P 16 04 03.0 -0.6
comp=Z,2.1nm,0.4s,baz=162,slow=9.3,SNR=4.7
ULM Lac du Bonnet 47.28 340 P P 16 04 03.1 -0.5
PDAR Pinedale Array 48.08 324 P P 16 04 10.8 +0.6
comp=Z,0.3nm,0.4s,baz=112,slow=11,SNR=4.4
SCHQ Schefferville 48.12 5 P P 16 04 11.0 +0.9
comp=Z,4.8nm,0.6s,baz=198,slow=6.4,SNR=4.5
SCHQ Schefferville 48.12 5 P P 16 04 10.5 +0.4
SCHQ IAmb IAmb 16 04 11.9
comp=Z,9.6nm,1.1s
BGU Big Grassy Mou 49.15 320 P P 16 04 18.8 +0.4
DGMT Dagmar 49.15 333 P P 16 04 19.0 +0.9
IMW Indian Meadow 49.56 324 P P 16 04 21.8 +0.1
BOZ Bozeman (W) 50.98 326 P P 16 04 30.0 -2.1
MCMT McKenzie Canyo 51.22 324 P P 16 04 32.2 -1.8
WVOR Wild Horse Val 53.53 319 P P 16 04 51.0 0.0
WVOR IAmb IAmb 16 05 13.0
comp=Z,3.6nm,1.4s
I07A Izee 54.87 320 P P 16 05 01.2 +0.6
G08A Pilot Rock 55.12 322 P P 16 05 02.9 +0.5
G08A IAmb IAmb 16 05 03.5
comp=Z,1.8nm,0.7s
YKA Yellowknife Ar 63.26 340 P P 16 05 57.6 -0.2
comp=Z,1.6nm,0.6s,baz=123,slow=7.7,SNR=5.8
SUMG Summit 68.97 11 P P 16 06 34.3 -0.3
CART Cartagena 71.68 53 P P 16 06 51.1 -0.1
A36M Sachs Harbour 72.42 345 P P 16 06 55.0 0.0
INK Inuvik 73.02 340 P P 16 06 58.5 -0.1
INK IAmb IAmb 16 07 09.6
comp=Z,5.2nm,1.5s
TABL Table Mountain 73.33 331 P P 16 06 59.4 -1.5
EPYK Eagle Plains 73.38 338 P P 16 07 01.2 +0.4
M27K Edge Creek, AK 74.20 333 P P 16 07 06.9 +1.0
M27K IAmb IAmb 16 07 19.0
comp=Z,4.4nm,1.2s
TGL Tana Glacier 74.22 331 P P 16 07 05.7 -0.2
TGL IAmb IAmb 16 07 06.6
comp=Z,4.3nm,0.7s
BCAR Beaver Creek A 74.36 334 P P 16 07 07.6 +1.0
CRQM Cirque 74.37 331 P P 16 07 07.3 +0.5
CRQM IAmb IAmb 16 07 31.3
comp=Z,5.1nm,1.0s
L27K Beaver Creek, 74.38 334 P P 16 07 07.2 +0.5
DOT Dot Lake 75.50 334 P P 16 07 13.8 +0.7
RIDG Independent Ri 75.86 334 P P 16 07 16.0 +0.8
RIDG IAmb IAmb 16 07 39.3
comp=Z,9.8nm,1.4s
SCM Sheep Creek Mo 76.58 332 P P 16 07 19.8 +0.5
SCM IAmb IAmb 16 07 40.4
comp=Z,4.2nm,1.1s
BMAR Burnt Mountain 76.65 338 P P 16 07 19.8 +0.2
GHO Glory Hole Cre 77.31 332 P P 16 07 23.8 +0.4
GHO IAmb IAmb 16 07 30.9
comp=Z,8.2nm,1.4s
RND Reindeer 77.55 333 P P 16 07 24.6 -0.1
RND IAmb IAmb 16 07 26.3
comp=Z,3.5nm,0.8s
M20K Styx River 79.31 332 P P 16 07 34.4 0.0
M20K IAmb IAmb 16 07 52.3
comp=Z,4.6nm,1.4s
K20K Telida 79.88 333 P P 16 07 36.8 -0.5
K20K IAmb IAmb 16 07 37.1
comp=Z,7.4nm,1.5s
J20K Nowinta River 79.98 334 P P 16 07 37.9 0.0
MKAR Makanchi Array 122.30 20 PKP PKPdf 16 14 21.7 -1.3
comp=Z,0.2nm,0.4s,baz=303,slow=2.1,SNR=4.9
ASAR Alice Springs 149.14 234 PKPbc PKPbc 16 15 15.8 -1.4
comp=Z,0.6nm,0.5s,baz=118,slow=3.3,SNR=28
WRA Warramunga Arr 150.37 241 PKPbc PKPbc 16 15 19.0 -1.1
comp=Z,0.8nm,0.4s,baz=117,slow=2.6,SNR=32
CMAR Chiang Mai Arr 153.67 17 PKPbc PKPbc 16 15 26.7 -0.9
comp=Z,0.6nm,0.5s,baz=324,slow=3.3,SNR=7.6

IDC 07 16:00:52.4±3.3, 33.00S×178.46W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.6/27, mbtmp3.7/3, ML3.4/1, Error ellipse: s-maj=74.9km s-min=38.0km az=116.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
	0.9nm,0.3s,baz=301,slow=19,SNR=1.8							
URZ	**Urewera**	**6.37**	**213**	Pn	Pn	Pn	16 02 28.6	+1.1
URZ				Sn	Sn	Sn	16 03 40.3	-0.7
	3.0nm,0.3s,baz=140,slow=21,SNR=7.2							
ASAR	**Alice Springs**	**42.64**	**270**	P	P	P	16 08 51.0	+0.2
	0.8nm,0.7s,baz=110,slow=7.6,SNR=13							
WRA	**Warramunga Arr**	**43.87**	**275**	P	P	P	16 09 00.4	-0.4
	0.8nm,0.6s,baz=120,slow=7.8,SNR=6.9							
FINES	**FINESS Array B**	**147.42**	**338**	PKPbc	PKPbc	PKPbc	16 20 36.4	-1.0
	2.0nm,0.8s,baz=71,slow=4.7,SNR=3.8							

*IDC **07** 16:06:47.4±2.4, 14.55N×93.28W, h0km, mb4.1/8, mb1 4.3/10, mb1mx4.0/36, mbtmp4.0/10, ML3.9/2, Error ellipse: s-maj=88.7km s-min=18.6km az=37.0*
*NEIC **07** 16:06:49.7±2.4, 14.24N±0.07×93.55W±0.06, h25km±6km, mb4.3/114, Md4.4/36(MEX), Error ellipse: s-maj=10.2km s-min=7.1km az=210.0*
*MEX **07** 16:06:49.2±1.8, 14.15N×93.59W, h10km±5km, MD4.4*
ISC 07 16:06:48.1±0.5, 14.18N±0.06×93.70W±0.03, h22km, n170, σ185/183, mb4.3/59, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
THIG		**1.57**	**62**	*i* P		**Pn**	**16 07 12.6**	**-2.0**
THIG				*e*S		**Sn**	**16 07 30.1**	**-4.2**
THIG		**1.57**	**62**			**Pn**	**16 07 12.6**	**-2.0**
THIG						**Sn**	**16 07 30.1**	**-4.2**
PCIG		**1.58**	**17**	*e*P		**Pn**	**16 07 12.0**	**-2.9**
PCIG				*e*S		**Sn**	**16 07 32.2**	**-2.5**
PCIG		**1.58**	**17**			**Pn**	**16 07 12.0**	**-2.9**
PCIG						**Sn**	**16 07 32.2**	**-2.5**
CCIG	**Comitan**	**2.58**	**36**	*e*P		**Pn**	**16 07 29.2**	**+0.5**
CCIG				*e*S		**Sn**	**16 07 57.7**	**-1.8**
CCIG	**Comitan**	**2.58**	**36**			**Pn**	**16 07 28.9**	**+0.1**
CCIG	**Comitan**	**2.58**	**36**			**Sn**	**16 07 57.7**	**-1.8**
TGIG		**2.64**	**12**	*e*P		**Pn**	**16 07 29.6**	**+0.1**
TGIG				*e*S		**Sn**	**16 08 00.7**	**-0.2**
TGIG		**2.64**	**12**			**Pn**	**16 07 29.6**	**+0.1**
TGIG						**Sn**	**16 08 00.7**	**-0.2**
CMIG	**Matias Romero**	**3.11**	**339**	Pn		**Pn**	**16 07 35.3**	**-0.5**
	10nm,0.3s,baz=184,slow=12,SNR=80							
CMIG				Sn		**Sn**	**16 08 09.6**	**-2.8**
	17nm,0.3s,baz=124,slow=9.7,SNR=7.0							
CMIG	**Matias Romero**	**3.11**	**339**	*e*P		**Pn**	**16 07 35.2**	**-0.6**
CMIG				*e*S		**Sn**	**16 08 10.8**	**-1.6**
CMIG	**Matias Romero**	**3.11**	**339**			**Pn**	**16 07 35.2**	**-0.6**
CMIG						**Sn**	**16 08 10.8**	**-1.6**
PEIG	**Puerto Escondi**	**3.79**	**299**	*e*P		**Pn**	**16 07 45.0**	**-0.3**
PEIG				*e*S		**Sn**	**16 08 23.4**	**-5.8**
VHO	**Vista Hermosa**	**4.10**	**315**	*e*P		**Pn**	**16 07 48.5**	**-1.2**
VHO				*e*S		**Sn**	**16 08 35.4**	**-1.7**
MTO3	**Montecristo**	**4.21**	**87**			**Pn**	**16 07 49.7**	**-1.6**
YOIG	**Yosondua**	**4.56**	**306**	*e*P		**Pn**	**16 07 58.2**	**+2.1**
YOIG				*e*S		**Sn**	**16 08 42.8**	**-5.8**
PNIG	**Pinotepa**	**4.80**	**298**	*e*P		**Pn**	**16 07 59.6**	**+0.4**
PNIG				*e*S		**Sn**	**16 08 47.0**	**-7.2**
PNIG	**Pinotepa**	**4.80**	**298**			**Pn**	**16 07 59.6**	**+0.4**
PNIG						**Sn**	**16 08 47.0**	**-7.2**
TOIG	**Toxpalan**	**5.06**	**321**	*e*P		**Pn**	**16 08 04.9**	**+2.1**
TOIG				*e*S		**Sb**	**16 09 11.2**	**-5.3**
SCIG	**Sabancuy**	**5.33**	**27**	*e*P		Pn	16 08 00.2	-6.2
SCIG				*e*S		**Sn**	**16 09 06.1**	**-1.2**
SCIG	**Sabancuy**	**5.33**	**27**			Pn	16 08 00.2	-6.2
SCIG						**Sn**	**16 09 06.1**	**-1.2**
HLIG	**Huajuapan de L**	**5.36**	**313**	*e*P		**Pn**	**16 08 09.4**	**+2.4**
HLIG				*e*S		**Sn**	**16 09 12.6**	**+4.4**
TLIG	**Tlapa**	**5.76**	**306**			**Pn**	**16 08 12.7**	**+0.2**
MASN	**Masaya**	**7.67**	**106**	Pn		**Pn**	**16 08 36.8**	**-1.9**
HZTE	**Horizontes, Gu**	**8.63**	**113**	Pn		**Pn**	**16 08 51.4**	**-0.5**
RIMA	**Rio Macho**	**10.58**	**113**	Pn		**Pn**	**16 09 19.2**	**+0.6**
SRBA	**San Rafael, Bu**	**11.26**	**115**	Pn		**Pn**	**16 09 27.2**	**-0.7**
SOR	**Soroa**	**13.27**	**48**	Pn		**Pn**	**16 09 55.1**	**-0.2**
KVTX	**Kingsville**	**13.86**	**344**	Pn		**Pn**	**16 10 05.0**	**+1.7**
435B	**Jarrell**	**16.90**	**348**	P		**P**	**16 10 47.1**	**+1.8**
435B				IAmb	IAmb	IAmb	16 10 51.9	
	comp=Z,14nm,0.4s							
TXAR	**Lajitas Array**	**17.68**	**330**	P		**P**	**16 10 53.9**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=150,slow=11,SNR=9.1							
TXAR Lajitas Array 17.68 330 P P 16 10 55.6 +1.7
TX31 Lajitas Ar. Si 17.68 330 P P 16 10 55.7 +1.7
TX31 IAmb IAmb 16 11 11.8
comp=Z,54nm,1.5s
TX32 Lajitas Array 17.68 330 P P 16 10 54.9 +1.0
250A Grady 18.97 20 P Pn 16 11 08.4 -0.4
250A IAmb IAmb 16 11 31.2
comp=Z,18nm,1.1s
Z47A Carrollton 19.61 14 P Pn 16 11 16.0 -0.5
ZARC Zaragoza, Cauc 19.66 108 *e*P P 16 11 15.1 -0.6
456A Hilliard 19.66 31 P P 16 11 13.9 -1.7
SMLC San Martn de 19.96 103 *e*P P 16 11 19.4 +0.3
GUY2C Guyana, Caldas 20.13 114 *e*P Pn 16 11 22.4 -0.9
MIAR Mount Ida 20.27 0 P P 16 11 22.1 -0.2
MIAR IAmb IAmb 16 11 44.3
comp=Z,13nm,1.2s
PTBC PUERTO BERRIO, 20.38 110 *e*P P 16 11 22.4 -1.3
MNTX Cornudas Mount 20.46 330 P P 16 11 25.1 +0.7
TOLC Tolima 20.47 116 *e*P Pn 16 11 27.2 0.0
Y49A Blount Mountai 20.67 17 P P 16 11 25.9 -0.7
ORTC Ortega, Tolima 20.87 118 *e*P P 16 11 30.0 +1.1
W39A Magazine 20.92 360 Pn 16 11 32.6 +0.7
W39A IAmb IAmb 16 11 33.6
comp=Z,8.9nm,0.8s
WMOK Wichita Mounta 20.97 348 P P 16 11 30.5 +0.6
WHAR Wooly Hollow 21.05 3 P P 16 11 30.4 -0.3
X48A Hartselle 21.06 15 P P 16 11 30.1 -0.6
FNO Franklin 21.25 352 P P 16 11 33.5 +0.7
GOGA Godfrey 21.28 24 P P 16 11 31.4 -1.8
MSTX Muleshoe 21.35 339 P P 16 11 34.6 +0.6
MSTX IAmb IAmb 16 11 50.0
comp=Z,17nm,1.1s
FPAL Fort Paine 21.55 18 P P 16 11 35.5 -0.6
FCAR Ozark Folk Cen 21.66 3 P P 16 11 38.5 +1.3
FCAR IAmb IAmb 16 11 40.2
comp=Z,9.2nm,0.7s
HSIG 21.75 316 P P 16 11 40.0 +1.7
OK029 Liberty Lake 21.79 352 P P 16 11 37.1 -1.4
OK029 IAmb IAmb 16 11 41.0
comp=Z,9.6nm,0.9s
FLOC Florencia 21.80 123 P P 16 11 38.2 -0.7
FLOC IAmb IAmb 16 11 51.9
comp=Z,21nm,1.3s
AMTX Amarillo 21.83 342 P P 16 11 39.6 +0.4
AMTX IAmb IAmb 16 11 48.9
comp=Z,21nm,1.1s
OK031 S. Brethren Rd 21.86 353 P P 16 11 38.6 -0.7
OK031 IAmb IAmb 16 11 41.9
comp=Z,9.4nm,0.8s
RUSC La Rusia 21.89 110 P P 16 11 38.0 -2.4
RUSC IAmb IAmb 16 11 51.4
comp=Z,21nm,1.2s
RUSC La Rusia 21.89 110 *e*P P 16 11 44.5 +4.0
LCAR Lake Charles 21.91 6 P P 16 11 38.8 -1.1
QUOK Quay 22.06 354 P P 16 11 41.7 +0.2
QUOK IAmb IAmb 16 11 54.5
comp=Z,12nm,0.8s
SWET Sewanee 22.08 17 P P 16 11 40.1 -1.7
U40A Yellville 22.09 2 P P 16 11 41.7 -0.2
U38A Gravette 22.17 359 P P 16 11 43.0 +0.3
U38A IAmb IAmb 16 11 44.5
comp=Z,7.7nm,0.7s
121A Cookes Peak, D 22.34 327 P P 16 11 46.7 +2.0
121A IAmb IAmb 16 11 49.9
comp=Z,13nm,0.9s
V48A Smith Brothers 22.34 15 P P 16 11 42.8 -1.7
GLAT Glass 22.35 9 P P 16 11 43.6 -1.0
WVT Waverly 22.48 13 P P 16 11 44.9 -1.2
PBMO Poplar Bluff 22.69 7 P P 16 11 47.4 -0.8
PBMO IAmb IAmb 16 11 49.3
comp=Z,9.7nm,0.6s
BLOK Blackwell 22.70 353 P P 16 11 47.0 -1.4
BLOK IAmb IAmb 16 12 14.6
comp=Z,9.2nm,0.9s
T35A Sooner Cattle 22.78 354 P P 16 11 47.6 -1.6
T35A IAmb IAmb 16 12 15.8
comp=Z,9.7nm,1.2s
CLTN Cedars of Leba 22.80 16 P P 16 11 47.6 -1.8
CLTN IAmb IAmb 16 12 05.1
comp=Z,8.3nm,1.2s
MGMO Mountain Grove 22.91 3 P P 16 11 49.0 -1.6
MGMO IAmb IAmb 16 11 52.4
comp=Z,4.8nm,0.7s
KAN13 South Haven SW 22.98 352 P P 16 11 51.3 0.0
BNM Barren Site 23.07 332 P P 16 11 54.4 +1.9
SDV Santo Domingo 23.20 101 P P 16 11 54.7 +0.8
comp=Z,7.9nm,0.4s,baz=310,slow=9.0,SNR=3.4
LENM Lemitar 23.24 331 P P 16 11 56.4 +2.2
U49A Red Boiling Sp 23.34 16 P P 16 11 53.4 -1.5
S39A Bolivar 23.41 1 P P 16 11 53.9 -1.8
S39A IAmb IAmb 16 11 56.7
comp=Z,8.0nm,0.9s
T47A Sharon Grove 23.46 13 P P 16 11 53.7 -2.4
T47A IAmb IAmb 16 11 56.1
comp=Z,8.9nm,0.7s
S44A Carbondale 23.75 9 P P 16 11 57.2 -1.6
S44A IAmb IAmb 16 11 59.2
comp=Z,11nm,1.0s
SIUC Southern Illin 23.77 9 P P 16 11 57.6 -1.5
SIUC IAmb IAmb 16 11 58.8
comp=Z,16nm,1.1s
TUC Tucson 23.85 322 P P 16 12 02.2 +2.1
CCM Cathedral Cave 23.88 5 P P 16 11 58.0 -2.1
CCM IAmb IAmb 16 11 59.7
comp=Z,6.6nm,0.7s
R40A Maddies Statio 24.05 3 P P 16 12 01.0 -0.7
R32A Long Quarter, 24.55 350 P P 16 12 05.9 -0.4
SLM Saint Louis 24.55 7 P P 16 12 05.1 -1.2
T25A Trinidad 24.78 339 P P 16 12 10.8 +2.2
T25A IAmb IAmb 16 12 13.2
comp=Z,8.4nm,0.8s
WCI Wyandotte Cave 24.83 14 P P 16 12 07.3 -1.6
P40A Paris 25.29 3 P P 16 12 11.3 -1.7
P40A IAmb IAmb 16 12 12.9
comp=Z,5.4nm,0.6s
P38A Dawn 25.34 0 P P 16 12 12.7 -0.8
P38A IAmb IAmb 16 12 14.2
comp=Z,6.2nm,1.0s
SDCO Great Sand Dun 25.70 338 P P 16 12 19.1 +2.0
P46A Rosedale 25.97 12 P P 16 12 17.2 -1.9
P46A IAmb IAmb 16 12 21.2
comp=Z,11nm,0.8s
P48A Milroy 26.21 15 P P 16 12 19.0 -2.4
P48A IAmb IAmb 16 12 20.7
comp=Z,5.5nm,0.7s
N38A Joes South For 26.51 1 P P 16 12 22.6 -1.5
N41A Harden Midland 26.54 5 P P 16 12 22.9 -1.5
N41A IAmb IAmb 16 12 25.9
comp=Z,5.8nm,0.9s
HDIL Hopedale 26.55 8 P P 16 12 22.7 -1.8
PV01 Paradox Valley 27.26 334 P P 16 12 32.5 +1.4
PV12 Saucer Basin, 27.51 334 P P 16 12 35.4 +2.0
PV12 IAmb IAmb 16 12 37.3
comp=Z,7.5nm,1.0s
SMCO Snowmass 27.51 337 P P 16 12 35.2 +1.7
PV11 David Mesa, Pa 27.53 334 P P 16 12 34.8 +1.3
PV11 IAmb IAmb 16 12 46.5
comp=Z,15nm,1.4s
PV16 Nyswonger Mesa 27.55 333 P P 16 12 34.4 +0.7
PV16 IAmb IAmb 16 13 02.6
comp=Z,6.6nm,1.2s
ISCO Idaho Springs 27.58 340 P P 16 12 34.9 +0.8
OGNE Ogallala 27.64 346 P P 16 12 35.0 +0.7
OGNE IAmb IAmb 16 12 36.8
comp=Z,10nm,0.8s
S61A Accomac 28.36 31 P P 16 12 38.7 -2.0
ABVI Anegada Island 28.51 77 P P 16 12 40.8 -1.3
ECSD EROS Data Cent 29.55 356 P P 16 12 50.3 -1.0
I42A Draeger Farm, 29.89 7 P P 16 12 53.1 -1.0
I42A IAmb IAmb 16 13 00.7
comp=Z,7.0nm,1.0s
PD31 Pinedale Array 31.59 337 P P 16 13 10.8 +1.3
PDAR Pinedale Array 31.59 337 P P 16 13 10.8 +1.3
comp=Z,0.7nm,0.7s,baz=138,slow=9.1,SNR=5.4
PDAR Pinedale Array 31.59 337 P P 16 13 11.0 +1.5
NVAR Mina Array Bea 32.51 323 P P 16 13 20.9 +3.3
comp=Z,1.6nm,0.8s,baz=142,slow=9.1,SNR=13
NVAR Mina Array Bea 32.51 323 P P 16 13 19.8 +2.2
E43A Lone Tree Farm 32.58 9 P P 16 13 16.1 -1.8
REDW Red Top Meadow 32.59 336 P P 16 13 20.2 +1.9
TPAW Teton Pass 32.74 336 P P 16 13 20.4 +0.8
TPAW IAmb IAmb 16 13 34.5
comp=Z,8.8nm,1.4s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
E28A	Huff	32.82	351	P	P	16 13 19.5	-0.5
RLMT	Red Lodge	33.55	340	P	P	16 13 27.9	+1.3
HLID	Hailey	34.24	333	P	P	16 13 34.1	+1.5
MCMT	McKenzie Canyo	34.61	336	P	P	16 13 38.1	+2.3
DLMT	Dillon	34.95	337	P	P	16 13 40.3	+1.6
DLMT				IAmb	IAmb	16 13 46.6	
	comp=Z,6.9nm,1.2s						
DGMT	Dagmar	35.27	348	P	P	16 13 41.7	+0.4
DGMT				IAmb	IAmb	16 14 11.3	
	comp=Z,5.5nm,0.7s						
HRY	Holter Researc	35.81	339	P	P	16 13 47.3	+1.3
PLID	Pearl Lake	36.14	333	P	P	16 13 50.3	+1.3
PLID				IAmb	IAmb	16 14 08.6	
	comp=Z,5.7nm,1.2s						
PTGA	Pitinga	36.54	111	P	P	16 13 52.5	0.0
	comp=Z,2.0nm,0.6s,baz=301,slow=8.7,SNR=6.7						
PTGA	Pitinga	36.54	111	IAmb	IAmb	16 13 54.9	
	comp=Z,2.6nm,0.8s						
F10A	Beach Ranch, E	37.38	333	P	P	16 14 00.6	+1.3
F10A				IAmb	IAmb	16 14 01.8	
	comp=Z,5.2nm,0.8s						
JTMT	Jette	37.58	337	P	P	16 14 01.6	+0.5
JTMT				IAmb	IAmb	16 14 13.7	
	comp=Z,3.5nm,0.9s						
SAML	Samuel	38.01	125	P	P	16 14 04.4	-0.6
LON	Longmire	40.09	330	P	P	16 14 22.9	+0.9
BATG	Bathurst New B	40.24	29	P	P	16 14 22.5	-0.8
FCC	Fort Churchill	44.50	360	P	P	16 14 57.5	-0.1
KKO	Keanakako`i	58.91	284	P	P	16 16 47.2	+1.0
GLB	Gilahina Butte	59.17	335	P	P	16 16 49.0	+1.8
BCAR	Beaver Creek A	59.21	337	P	P	16 16 49.0	+1.5
L27K	Beaver Creek,	59.23	337	P	P	16 16 49.2	+1.6
L27K				IAmb	IAmb	16 16 55.6	
	comp=Z,4.3nm,1.4s						
BMRM	Bremner River	59.28	334	P	P	16 16 49.6	+1.6
INK	Inuvik	59.80	344	P	P	16 16 52.2	+0.9
INK				IAmb	IAmb	16 17 00.8	
	comp=Z,3.0nm,1.1s						
HIN	Hinchinbrook I	59.84	333	P	P	16 16 54.0	+2.2
K27K	Chicken	59.85	338	P	P	16 16 53.3	+1.5
K27K				IAmb	IAmb	16 17 16.8	
	comp=Z,4.0nm,1.2s						
DOT	Dot Lake	60.40	337	P	P	16 16 57.2	+1.7
DOT				IAmb	IAmb	16 16 58.4	
	comp=Z,1.9nm,0.8s						
ILAR	Eielson Array	62.03	337	P	P	16 17 07.5	+1.0
	comp=Z,0.9nm,0.8s,baz=138,slow=4.2,SNR=9.7						
ILAR	Eielson Array	62.03	337	P	P	16 17 08.2	+1.6
SUA	Susitna One	62.17	333	P	P	16 17 08.8	+1.1
SUA				IAmb	IAmb	16 17 18.5	
	comp=Z,4.5nm,1.0s						
BMAR	Burnt Mountain	62.56	340	P	P	16 17 11.4	+1.2
RSO	Redoubt South	62.70	331	P	P	16 17 12.8	+1.4
SKT	Skwentna	62.71	333	P	P	16 17 12.2	+0.9
SKT				IAmb	IAmb	16 17 27.9	
	comp=Z,4.6nm,1.4s						
TRF	Thorofare Moun	62.77	335	P	P	16 17 13.2	+1.4
TRF				IAmb	IAmb	16 17 25.7	
	comp=Z,3.2nm,0.9s						
H24K	Noodor Dome	62.90	338	P	P	16 17 13.4	+1.0
H24K				IAmb	IAmb	16 17 17.4	
	comp=Z,2.9nm,1.1s						
KTH	Kantishna Hill	63.08	335	P	P	16 17 14.1	+0.5
BPAW	Bear Paw Mtn.	63.32	336	P	P	16 17 15.7	+0.5
BPAW				IAmb	IAmb	16 17 27.1	
	comp=Z,1.5nm,0.8s						
M20K	Styx River	63.38	333	P	P	16 17 17.1	+1.4
M20K				IAmb	IAmb	16 17 17.7	
	comp=Z,3.0nm,0.9s						
MLY	Manley	63.61	337	P	P	16 17 18.4	+1.3
MLY				IAmb	IAmb	16 17 18.8	
	comp=Z,2.0nm,0.8s						
N19K	Bonanza Creek	63.62	331	P	P	16 17 18.2	+0.8
O18K	Koktuh Hills	63.66	330	P	P	16 17 18.8	+1.3
SVW2	Sparrevohn	64.22	332	P	P	16 17 21.8	+0.6
SVW2				IAmb	IAmb	16 17 31.1	
	comp=Z,5.6nm,1.5s						
K20K	Telida	64.31	334	P	P	16 17 22.1	+0.3
K20K				IAmb	IAmb	16 17 23.0	
	comp=Z,2.2nm,0.8s						
TOLK	Toolik Lake Re	64.79	340	P	P	16 17 26.1	+1.2
TOLK				IAmb	IAmb	16 17 36.7	
	comp=Z,2.2nm,1.0s						
EUNU	Eureka	65.98	1	P	P	16 17 33.1	+0.7
ATKA	Atka Island	73.11	321	P	P	16 18 18.5	+1.8
KIWB	Kanaga Island	74.95	320	P	P	16 18 29.7	+2.1
AMKA	Amchitka	77.20	320	P	P	16 18 42.6	+2.2
ESDC	Sonseca Array	80.89	51	P	P	16 18 59.9	-1.1
	comp=Z,0.5nm,0.6s,baz=288,slow=5.1,SNR=2.8						
NB2	NORSAR Subarra	84.77	28	P	P	16 19 22.0	+1.4
	comp=Z,1.2nm,0.7s,baz=292,slow=5.1						
NOA	NORSAR Array B	84.77	28	P	P	16 19 21.5	+0.9
	comp=Z,1.6nm,0.8s,baz=296,slow=5.1,SNR=6.5						
ARCES	ARCESS Array B	86.48	18	P	P	16 19 29.1	+0.3
	comp=Z,2.6nm,0.9s,baz=336,slow=2.7,SNR=6.0						
CMAR	Chiang Mai Arr	145.25	339	PKPbc	PKPdf	16 26 25.9	+0.7
	comp=Z,2.5nm,0.8s,baz=334,slow=3.2,SNR=18						

*NOU **07** 16:27:28.9, 33°.63S×139°.05E, h0km, MLv3.0/6, Near Coast of South Australia*
*AUST **07** 16:27:28.4±0.8, 33°.70S×138°.92E, h3km±6km, Error ellipse: s-maj=6.5km s-min=4.4km az=86.0*
*IDC **07** 16:27:33.1±8.9, 33°.06S×138°.85E, h0km, mb1 3.0/3, mb1mx2.9/28, mbtmp2.7/3, ML2.6/3, Error ellipse: s-maj=111.1km s-min=31.0km az=17.0*
ISC 07 16:27:27.8±1.1, **33°.66S**±0°.04×**139°.03E**±0°.05, **h18**km±7km, **n15**, σ**2s40**/27, **Near coast of South Australia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HTT	Hallett	0.24	339	P	Pg	16 27 33.4	+0.1
	baz=0.3						
HTT				S	Sg	16 27 37.0	-0.2
	baz=0.3						
AUJCS	Jamestown Cent	0.57	322	P	Pg	16 27 39.2	0.0
	baz=0.6						
AUJCS				S	Sg	16 27 46.9	0.0
	baz=0.6						
AUMAR	Marden Senior	1.27	195	P	Pg	16 27 52.5	+0.2
	baz=1.2						
AUMAR				S	Sn	16 28 09.0	+1.7
	baz=1.2						
BBOO	Buckleboo	2.63	288	P	Pn	16 28 11.7	+2.3
	baz=2.6						
BBOO				S	Sn	16 28 43.1	+2.2
	baz=2.6						
STKA	Stephens Creek	2.80	51	P	Pb	16 28 15.7	-1.5
	baz=2.9						
STKA				S	Sb	16 28 53.1	+1.8
	baz=2.9						
STKA	Stephens Creek	2.80	51	Pn	Pb	16 28 16.0	-1.3
	0.7nm,0.3s,baz=221,slow=11,SNR=20						
STKA				Sn	Sb	16 28 51.6	+0.3
	1.0nm,0.3s,baz=282,slow=19,SNR=2.8						
AUCAS	Cummins Area S	2.81	257	S	Sn	16 28 47.7	+2.3
	baz=2.7						
LCRK	Leigh Creek	3.27	348	P	Pn	16 28 21.0	+2.7
	baz=3.3						
LCRK				S	Sn	16 29 00.5	+3.7
	baz=3.3						
ARPS	Mount Arapiles	3.86	144	P	Pn	16 28 28.0	+1.6
	baz=3.9						
ARPS				S	Sn	16 29 11.3	0.0
	baz=3.9						
MULG	Mulgathing	5.40	307	P	Pn	16 28 48.4	+1.0
	baz=5.4						
MULG				S	Sn	16 29 48.6	-0.6
	baz=5.4						
CMSA	Cobar Meteorol	6.01	71	P	Pn	16 28 57.8	+2.0
	baz=6.1						
CMSA				S	Sn	16 30 04.4	+0.3
	baz=6.1						
INKA	Innaminka	6.08	15	P	Pn	16 29 01.6	+4.8
	baz=6.2						
OOD	Oodnadatta	6.51	333	P	Pn	16 29 06.1	+3.4
	baz=6.5						
OOD				S	Sn	16 30 18.2	+1.6
	baz=6.5						
ASAR	Alice Springs	10.92	334	Pn	Pn	16 30 03.9	+0.6
	0.0nm,0.3s,baz=160,slow=11,SNR=7.6						
ASAR				Sn	Sn	16 31 59.2	-5.9
	0.0nm,0.3s,baz=156,slow=23,SNR=2.9						
WRA	Warramunga Arr	14.28	342	Pn	Pn	16 30 47.0	-2.3
	0.0nm,0.3s,baz=159,slow=14,SNR=1.2						

KMA 07 16:30:21.7±0.7, **33°.28N**×**127°.03E**, **h21**km±5km, **Error ellipse: s-maj=5.8km s-min=3.5km az=122.0, South Korea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSJJU	Jeju	0.43	290	P	Pb	16 30 30.7	+0.1
	SNR=30						
KSJJU	Jeju	0.43	290	P	Pb	16 30 30.7	+0.1
	SNR=30						
KSJJU	Jeju	0.43	290	P	Pb	16 30 30.7	+0.1
	SNR=30						
KSJJU				S	Sb	16 30 37.2	+0.6
KSSGP	Seogwipo	0.45	267	P	Pb	16 30 30.7	0.0
KSSGP				S	Sb	16 30 37.7	+0.8
KSSGP	Seogwipo	0.45	267	P	Pb	16 30 30.7	0.0
KSSGP				S	Sb	16 30 37.7	+0.8
HALB	Hallimjungang-	0.65	281	P	Pb	16 30 34.3	0.0
	SNR=12						
HALB	Hallimjungang-	0.65	281	P	Pb	16 30 34.3	0.0
	SNR=12						
HALB	Hallimjungang-	0.65	281	P	Pb	16 30 34.3	0.0
	SNR=12						
GOS1	Gosan-ri	0.69	272	P	Pb	16 30 34.9	-0.1
KSWAN	Wando	1.14	346	P	Pn	16 30 42.4	-0.1
KSWAN	Wando	1.14	346	P	Pn	16 30 42.4	-0.1
KSHAN	Haenam	1.34	344	P	Pn	16 30 45.0	-0.2
KSHAN	Haenam	1.34	344	P	Pn	16 30 45.0	-0.2
KOHB	KOHEUNG	1.35	9	P	Pn	16 30 45.4	+0.1
	SNR=18						
KOHB	KOHEUNG	1.35	9	P	Pn	16 30 45.4	+0.1
	SNR=18						
KOHB	KOHEUNG	1.35	9	P	Pn	16 30 45.4	+0.1
	SNR=18						
BOSB	Boseong-gun	1.49	6	P	Pn	16 30 47.7	+0.6
	SNR=8.7						
BOSB	Boseong-gun	1.49	6	P	Pn	16 30 47.7	+0.6
	SNR=8.7						
BOSB	Boseong-gun	1.49	6	P	Pn	16 30 47.7	+0.6
	SNR=8.7						
KSMOP	Mokpo	1.62	341	P	Pb	16 30 50.0	-0.8

IDC 07 16:31:06.9±3.3, **32°.90S**×**178°.36W**, **h0**km, **mb3.7**/2, **mb1 3.9**/3, **mb1mx3.6**/25, **mbtmp3.7**/3, **ML3.4**/1, **Error ellipse: s-maj=73.1km s-min=37.2km az=114.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.50	213	Pn	Pn	16 32 44.3	+0.6
	0.8nm,0.3s,baz=122,slow=23,SNR=8.7						
URZ				Sn	Sn	16 33 57.3	-1.2
	1.4nm,0.3s,baz=121,slow=19,SNR=3.1						
ASAR	Alice Springs	42.73	270	P	P	16 39 06.2	+0.2
	0.6nm,0.7s,baz=109,slow=7.9,SNR=13						
WRA	Warramunga Arr	43.95	275	P	P	16 39 15.7	-0.3
	0.8nm,0.5s,baz=116,slow=7.7,SNR=24						
FINES	FINESS Array B	147.37	338	PKPbc	PKPbc	16 50 50.8	-1.0
	2.5nm,0.9s,baz=5.7,slow=4.2,SNR=3.8						

*IDC **07** 16:40:02.8±1.8, 33°.20S×178°.16W, h0km, mb4.3/4, mb1 4.5/5, mb1mx3.9/29, mbtmp4.3/5, ML3.8/1, Error ellipse: s-maj=50.4km s-min=29.8km az=140.0*
*NEIC **07** 16:40:04.5±1.4, 33°.3S±0°.1×178°.1W±0°.2, h10km±1km, mb4.5/18, Error ellipse: s-maj=24.4km s-min=15.5km az=112.0*
*WEL **07** 16:40:06.5±0.6, 33°S±15°×18°0W±3°4, h33km, M4.7/6, ML5.0/7, MLv4.7/6, Error ellipse: s-maj=0.0km s-min=0.0km az=113.2*
ISC 07 16:40:04.5±0.8, **33°.21S**±0°.08×**178°.1W**±0°.1, **h10**km, **n65**, σ**1s43**/69, **mb4.5**/11, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.94	3	P	Pn	16 40 58.9	-6.1
GLKZ				S	Sn	16 41 41.6	-10
RAO	Raoul Island	3.95	3	Pn	Pn	16 41 06.5	+1.3
MXZ	Matakaoa Point	5.22	213	P	Pn	16 41 23.2	+0.6
MXZ				S	Sn	16 42 25.3	+2.4
WMGZ	Waiomatatini S	5.39	210	P	Pn	16 41 29.0	+4.1
WMGZ	Waiomatatini S	5.39	210	P	Pn	16 41 27.9	+3.0
WMGZ				S	Sn	16 42 30.8	+3.8
PKGZ	Pakihiroa	5.59	212	P	Pn	16 41 22.4	-5.4
PKGZ	Pakihiroa	5.59	212	P	Pn	16 41 26.3	-1.4
PKGZ				S	Sn	16 42 33.9	+1.7
HAZ	Te Kaha	5.62	215	P	Pn	16 41 29.1	+0.9
PUZ	Puketiti	5.67	210	P	Pn	16 41 28.5	-0.2
RUGZ	Raukumara Rang	5.84	215	P	Pn	16 41 31.6	+0.4
TWGZ	Tauwhareparae	5.88	211	P	Pn	16 41 32.4	+0.7
CNGZ	Carnagh Statio	6.04	208	P	Pn	16 41 34.1	+0.2
TKGZ	Te Karaka	6.15	211	P	Pn	16 41 37.9	+2.6
MWZ	Matawai	6.21	213	P	Pn	16 41 37.5	+1.3
URZ	Urewera	6.35	216	Pn	Pn	16 41 38.3	+0.2
	2.3nm,0.3s,baz=258,slow=2.6,SNR=16						
URZ				Sn	Sn	16 42 51.8	+1.2
	5.9nm,0.3s,baz=159,slow=19,SNR=9.1						
URZ	Urewera	6.35	216		Pn	16 41 37.0	-1.0
URZ	Urewera	6.35	216	P	Pn	16 41 38.9	+0.8
RIGZ	Rimuhau	6.41	210	P	Pn	16 41 40.3	+1.3
SNGZ	Shannon Statio	6.66	212	P	Pn	16 41 44.8	+2.4
MUGZ	Murupara	6.69	217	P	Pn	16 41 43.5	+0.8
RAHZ	Arahi	6.88	213	P	Pn	16 41 47.9	+2.5
MTHZ	Maungataniwha	6.95	214	P	Pn	16 41 48.8	+2.5
NMHZ	Naumai	7.16	213	P	Pn	16 41 47.2	-2.0
NMHZ				P	Sn	16 43 13.1	+2.5
BKZ	Black Stump Fm	7.36	215	Pn	Pn	16 41 51.0	-1.0
BKZ	Black Stump Fm	7.36	215	P	Pn	16 41 52.8	+0.8
BKZ	Black Stump Fm	7.36	215	P	Pn	16 41 51.8	-0.2
BKZ				S	Sn	16 43 15.3	-0.3
MCHZ	McNeill Hill	7.49	212	P	Pn	16 41 55.0	+1.3
MCHZ				S	Sn	16 43 19.8	+1.1
KWHZ	Kaweka Forest	7.60	214	P	Sn	16 43 22.4	+1.0
KAHZ	Kahuranaki	7.70	210	P	Pn	16 41 56.2	-0.5
KAHZ				S	Sn	16 43 23.2	-0.8
KRHZ	Kereru	7.80	213	P	Sn	16 43 26.1	-0.3
BHHZ	Black Hill Sta	7.82	215	P	Pn	16 41 59.0	+0.7
BHHZ				S	Sn	16 43 25.6	-1.3
MOVZ	Moawhango	7.91	217	P	Sn	16 43 28.1	-1.0
PNHZ	Pukenui	8.09	213	P	Sn	16 43 32.7	-0.9
TSZ	Takapari Road	8.32	213	P	Pn	16 42 05.8	+0.7
TSZ				S	Sn	16 43 35.8	-3.4
DVHZ	Dannevirke	8.42	211	P	Sn	16 43 40.0	-1.7
MSVF	Nonsavu	15.79	347		P	16 43 50.7	-0.2
MSVF				IAmb	IAmb	16 44 08.5	
	comp=Z,39nm,1.5s						
NIUE	Niue	15.88	30	Pn	Pn	16 43 49.5	+1.4
NIUE				IAmb	IAmb	16 44 03.8	
	comp=Z,50nm,1.2s						
STKA	Stephens Creek	33.83	261	P	P	16 46 50.1	+3.2
	comp=Z,3.7nm,1.1s,baz=95,slow=11,SNR=2.8						
STKA	Stephens Creek	33.83	261	P	P	16 46 47.2	+0.3
CTA	Charters Tower	34.23	283	P	P	16 46 51.5	+0.9
	comp=Z,2.8nm,0.5s,baz=120,slow=9.2,SNR=12						
CTAO	Charters Tower	34.23	283	P	P	16 46 51.3	+0.7
CTAO				IAmb	IAmb	16 46 53.4	
	comp=Z,19nm,1.4s						
BBOO	Buckleboo	38.17	258	P	P	16 47 22.5	-1.7
BBOO				IAmb	IAmb	16 47 23.1	
	comp=Z,24nm,1.4s						
COEN	Coen	40.01	289	P	P	16 47 39.6	-0.1
COEN				IAmb	IAmb	16 47 49.0	
	comp=Z,15nm,1.2s						
AS31	Alice Springs	42.91	270	P	P	16 48 02.8	-0.7
ASAR	Alice Springs	42.91	270	P	P	16 48 03.0	-0.5
	comp=Z,3.5nm,0.7s,baz=111,slow=8.1,SNR=55						
ASAR	Alice Springs	42.91	270	P	P	16 48 02.6	-0.9
WR0	Warramunga Arr	43.98	275	P	P	16 48 11.3	-0.9
WB2	Warramunga Arr	44.15	275	P	P	16 48 12.4	-1.1
WB2				IAmb	IAmb	16 48 13.4	
	comp=Z,8.0nm,1.0s						
WRA	Warramunga Arr	44.16	275	P	P	16 48 12.7	-0.9
	comp=Z,4.3nm,0.5s,baz=116,slow=7.8,SNR=97						
WRA	Warramunga Arr	44.16	275	P	P	16 48 12.3	-1.3
FORT	Forrest	45.28	258	P	P	16 48 21.4	-1.0
MTN	Manton Dam	50.36	281	P	P	16 49 01.6	-0.3
KNRA	Kununurra	50.85	277	P	P	16 49 04.9	-0.7
FITZ	Fitzroy Crossi	52.29	272	P	P	16 49 15.5	-0.9
	comp=Z,0.8nm,0.4s,baz=131,slow=3.8,SNR=11						
FITZ	Fitzroy Crossi	52.29	272	IAmb	IAmb	16 49 16.0	
	comp=Z,6.4nm,1.4s						
CASY	Casey	52.62	209	P	P	16 49 17.3	-0.8
CASY				IAmb	IAmb	16 49 28.2	
	comp=Z,9.6nm,1.4s						
QSPA	South Pole Qui	56.91	180	P	P	16 49 48.0	-1.4
QSPA				IAmb	IAmb	16 50 05.5	
	comp=Z,3.8nm,0.8s						
TOLI2	Tolitoli	66.74	288	P	P	16 50 55.2	-1.0
SNAA	Sanae	75.36	178	P	P	16 51 48.0	+0.3
SNAA				IAmb	IAmb	16 52 14.2	
	comp=Z,5.5nm,1.3s						
VNA3	Neumayer Olymp	75.52	176	P	P	16 52 02.9	+14
VNA2	Neumayer--Watz	75.95	177	P	P	16 52 05.3	+14
	baz=182,slow=5.2						
KBZ	Khabaz	146.50	300	PKPbc	PKPbc	16 59 45.5	-0.2
	comp=Z,1.3nm,0.7s,baz=198,slow=3.2,SNR=2.2						
FINES	FINESS Array B	147.72	338	PKPbc	PKPbc	16 59 48.1	-0.5
	comp=Z,4.8nm,0.7s,baz=48,slow=4.0,SNR=11						
NOA	NORSAR Array B	151.50	350	PKPbc	PKPbc	16 59 57.1	-0.9
	comp=Z,1.1nm,0.9s,baz=12,slow=4.1,SNR=3.0						
AKASG	Malin Array Be	153.40	319	PKPbc	PKiKP	17 00 02.9	+0.3
	comp=Z,0.4nm,0.3s,baz=75,slow=1.0,SNR=1.4						

*IDC **07** 16:52:05.2±1.8, 21°.52S×173°.40W, h0km, mb4.0/4, mb1 4.2/6, mb1mx3.8/28, mbtmp4.1/6, ML3.5/2, Error ellipse: s-maj=55.4km s-min=29.6km az=154.0*
*NEIC **07** 16:52:09.9±1.1, 21°.44S±0°.09×173°.4W±0°.1, h29km±7km, mb4.5/12, Error ellipse: s-maj=16.9km s-min=8.8km az=126.0*
ISC 07 16:52:09.9±0.7, **21°.34S**±0°.08×**173°.37W**±0°.08, **h38**km, **n23**, σ**1s16**/23, **mb4.2**/9, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIUE	Niue	3.94	56		Pn	16 53 08.7	+1.0
AFI	Afiamalu	7.54	12	Pn	Pn	16 53 58.9	+1.6
	0.8nm,0.3s,baz=225,slow=19,SNR=1.3						
AFI				Sn	Sn	16 55 18.0	-3.6
	2.0nm,0.3s,baz=23,slow=15,SNR=2.1						
RAO	Raoul Island	8.89	207	Pn	Pn	16 54 14.4	-1.3
RAR	Rarotonga	12.68	92	Pn	Pn	16 55 07.1	-0.5
	2.2nm,0.3s,baz=263,slow=10,SNR=16						
RAR				Sn	Sn	16 57 15.8	-12
	0.5nm,0.3s,baz=76,slow=17,SNR=1.5						
FUNA	Funafuti	14.62	330	P	P	16 55 40.8	+0.9
LIFNC	LIFOU	18.11	268	P	Pn	16 56 18.1	-0.4
TUWZ	Tuamarina	22.72	205	P	P	16 57 08.1	-0.3
CTA	Charters Tower	37.72	264	P	P	16 59 22.8	+0.6
	2.5nm,0.9s,baz=90,slow=8.1,SNR=1.6						
CTAO	Charters Tower	37.72	264	P	P	16 59 22.6	+0.4
CTAO				IAmb	IAmb	16 59 51.2	
	comp=Z,16nm,1.4s						
STKA	Stephens Creek	41.36	246	P	P	16 59 52.7	+0.3
	comp=Z,1.9nm,0.8s,baz=101,slow=10,SNR=1.9						
STKA	Stephens Creek	41.36	246	IAmb	IAmb	17 00 01.1	
	comp=Z,2.1nm,1.5s						
BBOO	Buckleboo	46.08	245	P	P	17 00 29.2	-1.1
AS31	Alice Springs	48.54	257	P	P	17 00 49.9	+0.2
ASAR	Alice Springs	48.54	257	P	P	17 00 50.1	+0.5
	comp=Z,1.6nm,0.6s,baz=100,slow=7.6,SNR=40						
ASAR	Alice Springs	48.54	257	P	P	17 00 49.7	+0.1
WR0	Warramunga Arr	48.58	262	P	P	17 00 49.8	-0.1
WR0				IAmb	IAmb	17 01 09.9	
	comp=Z,2.6nm,1.1s						
WB2	Warramunga Arr	48.76	262	P	P	17 00 51.0	-0.3
WB2				IAmb	IAmb	17 00 52.4	
	comp=Z,3.7nm,0.9s						
WRAB	Tennant Creek	48.76	262	P	P	17 00 51.3	-0.1
WRAB				IAmb	IAmb	17 00 51.6	
	comp=Z,8.4nm,0.7s						
WRA	Warramunga Arr	48.77	262	P	P	17 00 51.1	-0.3
	comp=Z,0.6nm,0.4s,baz=101,slow=8.4,SNR=20						
WRA	Warramunga Arr	48.77	262	P	P	17 00 51.3	-0.1
KNRA	Kununurra	54.92	265	P	P	17 01 38.1	+0.9
KNRA				IAmb	IAmb	17 02 03.7	
	comp=Z,9.7nm,1.1s						
FITZ	Fitzroy Crossi	57.20	262	P	P	17 01 55.3	+1.8
FITZ				IAmb	IAmb	17 01 59.3	
	comp=Z,2.8nm,1.2s						
RPN	Rapa Nui	58.14	109	P	P	17 02 01.0	+1.0

IDC 07 17:04:24.7±6.7, **31°.42S**×**178°.77W**, **h0**km, **mb3.2**/2, **mb1 3.5**/2, **mb1mx3.3**/27, **mbtmp3.2**/2, **Error ellipse: s-maj=269.4km s-min=63.9km az=157.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.41	268	P	P	17 12 20.9	-0.4
	0.2nm,0.8s,baz=108,slow=7.3,SNR=5.7						
WRA	Warramunga Arr	43.49	274	P	P	17 12 30.1	+0.1
	0.2nm,0.3s,baz=114,slow=7.7,SNR=7.3						
FINES	FINESS Array B	145.86	339	PKPbc	PKPdf	17 24 04.4	-0.2
	5.0nm,1.1s,baz=58,slow=5.2,SNR=2.7						

*KRNET **07** 17:04:56.6±0.1, 41°.71N×71°.70E, h19km, mb2.0*
*SOME **07** 17:04:58.7, 41°.80N×71°.73E, h10km*
*NNC **07** 17:05:00.5±1.5, 41°.93N×71°.74E, h0km, mb2.5, mpv3.1, Error ellipse: s-maj=14.9km s-min=5.8km az=1.0*
ISC 07 17:04:56.6±1.1, **41°.70N**±0°.03×**71°.76E**±0°.02, **h13**km±12km, **n17**, σ**0s53**/31, **13C-6D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRKS	Terek-Say	0.49	250	⇑iP	Pg	17 05 05.8	-0.6
	baz=38						
TRKS				⇑iS	Sg	17 05 12.2	-0.8
	baz=38						
MNAS	Manas	0.96	35	⇑iP	Pg	17 05 15.4	+0.2
	baz=37						
MNAS				⇑iS	Sn	17 05 28.7	-1.0
	baz=37						
IUG	Iuzhnay	1.36	290	eP	Pg	17 05 23.6	+0.7
	104nm,0.2s						
IUG				eS	Sg	17 05 40.6	0.0
	14nm,0.3s						
IUG	Iuzhnay	1.36	290	P	Pg	17 05 23.6	+0.7
	104nm,0.2s						
IUG				S	Sg	17 05 40.3	-0.3
	14nm,0.3s						
OHH	Osh	1.41	146	⇑iP	Pb	17 05 23.1	+0.2
	baz=45						
OHH				⇑iS	Sg	17 05 42.8	+0.8
	baz=45						
AML	Almayashu	1.51	73	⇑iP	Pb	17 05 24.9	+0.2
	baz=73						
AML				⇑iS	Sg	17 05 45.4	+0.2
	baz=73						
MRKS	Merke	1.51	46	eP	Pg	17 05 26.0	+0.4
	2.1nm,0.1s						
MRKS				eS	Sg	17 05 45.0	-0.2
	10nm,0.4s						
MRKS	Merke	1.51	46	P	Pg	17 05 26.0	+0.4
	2.1nm,0.1s						
MRKS				S	Sg	17 05 45.0	-0.2
	10nm,0.4s						
KK31	Karatay Array	1.68	327	⇑P	Pb	17 05 27.5	0.0
	1.0nm,0.3s,baz=135,slow=14,SNR=14						
KK31				⇓S	Sb	17 05 48.8	+0.3
	1.0nm,0.2s,baz=138,slow=29,SNR=13						
EKS2	Erkin-Say	1.78	57	⇑iP	Pb	17 05 29.8	+0.6
	baz=58						
EKS2				⇑iS	Sg	17 05 53.8	-0.1
	baz=58						
BTK	Batken	1.79	204	⇓eP	Pb	17 05 29.4	0.0
	baz=2.0						
BTK				⇓iS	Sb	17 05 52.4	+0.6
	baz=2.0						
ARLS	Aral	1.92	84	⇓iP	Pb	17 05 32.1	+0.4
	baz=85						
ARLS				⇓iS	Sg	17 05 58.2	-0.3
	baz=85						
BRLS	Boroldday	1.95	314	eP	Pb	17 05 32.4	+0.3
	2.5nm,0.2s						
BRLS				eS	Sb	17 05 56.0	-0.3
	7.4nm,0.1s						
BRLS	Boroldday	1.95	314	P	Pb	17 05 32.4	+0.3
	2.5nm,0.2s						
BRLS				S	Sb	17 05 56.6	+0.3
	7.4nm,0.1s						
AAK	Ala-Archa	2.24	64	⇑Pn	Pg	17 05 38.8	-0.8
	2.0nm,0.8s						
AAK				⇓Sn	Sg	17 06 07.5	-1.1
	1.4nm,0.3s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SGDS	**Sogindy**	**2.75**	**50**	Pg	**Pb**	**17 05 46.1**	**+0.4**
	1.5nm,0.1s						
SGDS				Lg	Lg	17 06 21.3	
	3.8nm,0.2s						
TKM2	**Tokmak 2**	**3.10**	**66**	⇑Lg	Lg	17 06 36.1	
	1.2nm,0.3s						

IDC 07 17:07:34.3±3.0**,32°.91S**×**178°.34W,h0**km**,mb4.0**/2**, mb1 4.2**/3**,mb1mx3.7**/22**,mbtmp4.0**/3**,ML3.7**/1**,Error ellipse: s-maj=69.3km s-min=36.3km az=119.0,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.50**	**214**	Pn	Pn	17 09 11.8	+0.6
	1.5nm,0.3s,baz=121,slow=23,SNR=5.3						
URZ				Sn	Sn	17 10 25.3	-0.7
	1.5nm,0.3s,baz=308,slow=20,SNR=2.8						
ASAR	**Alice Springs**	**42.75**	**270**	P	P	17 15 33.4	-0.2
	1.0nm,0.6s,baz=109,slow=7.4,SNR=19						
WRA	**Warramunga Arr**	**43.97**	**275**	P	P	17 15 43.4	0.0
	1.6nm,0.6s,baz=116,slow=7.5,SNR=25						
FINES	**FINESS Array B**	**147.38**	**338**	PKPbc	PKPbc	17 27 18.4	-0.8
	2.1nm,0.6s,baz=57,slow=5.1,SNR=7.9						

*IDC **07** 17:15:41.8±1.2, 43°.95N×151°.14E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.5/41, mbtmp3.6/5, Error ellipse: s-maj=40.1km s-min=29.5km az=88.0*
*SKHL **07** 17:15:45.8±0.5, 44°.00N×150°.80E, h36km±2km, mb4.3/2*
ISC 07 17:15:48.1±1.1**,44°.1N**±0°.1×**150°.75E**±0°.08**,h42**km**,n21, σ1§03**/31**,mb3.6**/5**,East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.37**	**300**	*e*P	**Pn**	**17 16 23.0**	**-1.4**
KUR				AMB	AMB	17 16 29.0	
	32nm,0.3s						
KUR				*e*S	**Sn**	**17 16 51.0**	**-1.1**
KUR				A	A	17 16 57.0	
	140nm,0.2s						
KUR				A	A	17 16 57.0	
	60nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**3.53**	**271**	*e*P	**Pn**	**17 16 41.4**	**+1.1**
YUK				AMB	AMB	17 16 44.8	
	70nm,0.5s						
YUK				*e*S	**Sn**	**17 17 19.1**	**-1.6**
YUK				A	A	17 17 26.0	
	190nm,0.6s						
YUK				A	A	17 17 26.0	
	95nm,0.6s						
GRPR	**Tuman**	**3.59**	**271**	*e*P	**Pn**	**17 16 41.0**	**-0.2**
GRPR				*e*S	**Sn**	**17 17 22.0**	**-0.4**
GRPR				A	A	17 17 27.0	
	127nm,0.3s						
GRPR				A	A	17 17 27.0	
	131nm,0.4s						
NEM2	**Nemuro 2**	**3.70**	**261**	P	**Pn**	**17 16 41.9**	**-0.8**
NEM2				*e*S	**Sn**	**17 17 24.7**	**-0.3**
NMR	**Nemuro--Hokkai**	**3.71**	**261**	*i* P	**Pn**	**17 16 42.0**	**-0.8**
NMR				*e*S	**Sn**	**17 17 24.0**	**-1.2**
GLVR	**Golovnino**	**3.80**	**267**	*e*P	**Pn**	**17 16 43.0**	**-1.0**
GLVR				*e*S	**Sn**	**17 17 28.0**	**+0.6**
GLVR				A	A	17 17 29.0	
	118nm,0.5s						
GLVR				A	A	17 17 29.0	
	114nm,0.5s						
JRA	**Rausu**	**4.07**	**270**	P	**Pn**	**17 16 48.6**	**+0.9**
JNK	**Nakash**	**4.39**	**266**	P	**Pn**	**17 16 52.1**	**-0.1**
JAK	**Akkeshi**	**4.53**	**258**	P	**Pn**	**17 16 53.8**	**-0.3**
JAR	**Ashorobuto**	**5.12**	**264**	P	**Pn**	**17 17 02.8**	**+0.6**
JAR				*e*S	**Sn**	**17 18 01.3**	**+1.2**
JOB	**Onbets**	**5.17**	**259**	P	**Pn**	**17 17 02.6**	**-0.2**
JCH	**Churui**	**5.58**	**257**	P	**Pn**	**17 17 08.6**	**+0.1**
JCH				*e*S	**Sn**	**17 18 10.3**	**-1.1**
JNBK	**Urakawa-nobuka**	**6.12**	**256**	P	**Pn**	**17 17 16.0**	**+0.1**
JNBK				*e*S	**Sn**	**17 18 23.7**	**-0.8**
JNB	**Noboribetsu**	**7.27**	**261**	P	**Pn**	**17 17 32.0**	**+0.3**
JNB				*e*S	**Sn**	**17 18 52.4**	**-0.5**
JKB	**Kayabe**	**7.46**	**256**	*e*S	**Sn**	**17 18 55.0**	**-2.4**
JYM2	**Yakumo 2**	**7.85**	**259**	P	**Pn**	**17 17 40.1**	**+0.5**
MKAR	**Makanchi Array**	**46.73**	**299**	P	**P**	**17 24 14.2**	**+1.4**
	0.5nm,0.6s,baz=73,slow=8.0,SNR=5.4						
NVAR	**Mina Array Bea**	**65.18**	**60**	P	**P**	**17 26 23.6**	**-1.5**
	0.2nm,0.5s,baz=310,slow=5.8,SNR=2.5						
WRA	**Warramunga Arr**	**65.45**	**197**	P	**P**	**17 26 26.2**	**-0.4**
	0.6nm,0.7s,baz=19,slow=6.7,SNR=4.6						
FINES	**FINESS Array B**	**65.75**	**334**	P	**P**	**17 26 29.8**	**+1.8**
	2.9nm,0.9s,baz=28,slow=9.6,SNR=5.7						
ASAR	**Alice Springs**	**69.15**	**197**	P	**P**	**17 26 50.0**	**0.0**
	0.4nm,1.0s,baz=13,slow=6.8,SNR=2.9						

MEX 07 17:19:10.0±1.2**,15°.14N**×**93°.98W,h29**km±19km**,MD4.1, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		**0.92**	**52**	*e*P	Pn	17 19 24.6	-2.5
PCIG				*e*S	Sn	17 19 36.0	-3.3
TGIG		**1.82**	**27**	*e*P	Pn	17 19 37.3	-2.2
TGIG				*e*S	Sn	17 19 59.6	-2.0
CCIG	**Comitan**	**2.10**	**57**	*i* P	Pn	17 19 43.7	+0.3
CCIG				*e*S	Sn	17 20 06.0	-2.8
CMIG	**Matias Romero**	**2.13**	**336**	*e*P	Pn	17 19 40.7	-2.9
CMIG				*e*S	Sn	17 20 04.4	-4.7

MEX 07 17:21:07.1±0.5**,17°.28N**×**95°.14W,h137**km±5km**,MD4.1, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.31**	**128**	*i* P	Pn	17 21 24.8	-1.3
CMIG				*e*S	Sn	17 21 38.2	-2.3
VHO	**Vista Hermosa**	**1.54**	**262**	*e*P	Pn	17 21 35.1	-1.2
VHO				*e*S	Sn	17 21 57.5	-1.1
TGIG		**1.99**	**104**	*i* P	Pn	17 21 40.3	-1.2
TGIG				*e*S	Sn	17 22 05.8	-1.9
TOIG	**Toxpalan**	**2.01**	**294**	*i* P	Pn	17 21 40.2	-1.5
TOIG				*e*S	Sn	17 22 04.9	-3.2
PEIG	**Puerto Escondi**	**2.31**	**237**	*e*P	Pn	17 21 43.7	-1.6
PEIG				*e*S	Sn	17 22 15.1	+0.5
YOIG	**Yosondua**	**2.34**	**260**	*e*P	Pn	17 21 45.2	-0.7
YOIG				*i* S	Sn	17 22 14.5	-1.1
PCIG		**2.42**	**130**	*e*P	Pn	17 21 49.4	+2.8
PCIG				*e*S	Sn	17 22 16.4	-0.6
HLIG	**Huajuapan de L**	**2.60**	**282**	*e*P	Pn	17 21 56.3	+7.2
HLIG				*e*S	Sn	17 22 17.9	-3.5

*IDC **07** 17:23:54.8±1.6, 33°.11S×178°.17W, h0km, mb4.5/3, mb1 4.6/5, mb1mx4.0/32, mbtmp4.5/5, ML4.1/2, Error ellipse: s-maj=42.6km s-min=28.7km az=141.0*
*NEIC **07** 17:23:56.9±2.3, 33°.0S±0°.1×178°.26W±0°.08, h10km±1km, mb4.6/13, Error ellipse: s-maj=19.4km s-min=10.2km az=155.0*
*WEL **07** 17:23:57.3±1.0, 33°S±9°×17°8W±2°6, h33km, M4.5/6, mB4.8/5, ML4.7/11, MLv4.7/6, Mw(mB)4.1/5, Error ellipse: s-maj=0.0km s-min=0.0km az=109.0*
ISC 07 17:23:55.9±0.8**,32°.95S**±0°.06×**178°.2W**±0°.1**,h10**km**,n52, σ1§73**/59**,mb4.6**/10**,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.68**	**4**	P	**Pn**	**17 24 50.3**	**-2.5**
GLKZ				S	**Sn**	**17 25 30.4**	**-6.0**
RAO	**Raoul Island**	**3.69**	**4**	Pn	**Pn**	**17 24 54.0**	**+1.0**
MXZ	**Matakaoa Point**	**5.42**	**211**	Pn	**Pn**	**17 25 14.4**	**-2.3**
MXZ	**Matakaoa Point**	**5.42**	**211**	P	**Pn**	**17 25 16.2**	**-0.5**
MXZ				S	**Sn**	**17 26 18.7**	**-0.4**
WMGZ	**Waiomatatini S**	**5.59**	**209**	P	**Pn**	**17 25 21.2**	**+2.2**
WMGZ				S	**Sn**	**17 26 25.3**	**+2.0**
PKGZ	**Pakihiroa**	**5.79**	**211**	P	**Pn**	**17 25 21.3**	**-0.5**
PKGZ				S	**Sn**	**17 26 27.7**	**-0.6**
HAZ	**Te Kaha**	**5.81**	**213**	P	**Pn**	**17 25 22.5**	**+0.4**
HAZ				S	**Sn**	**17 26 28.9**	**+0.1**
PUZ	**Puketiti**	**5.87**	**208**	P	**Pn**	**17 25 22.3**	**-0.6**
PUZ				S	**Sn**	**17 26 28.1**	**-2.2**
RUGZ	**Raukumara Rang**	**6.03**	**213**	P	**Pn**	**17 25 24.9**	**-0.3**
RUGZ				S	**Sn**	**17 26 32.3**	**-2.0**
TWGZ	**Tauwhareparae**	**6.07**	**210**	P	**Pn**	**17 25 26.9**	**+1.1**
TWGZ				S	**Sn**	**17 26 35.3**	**0.0**
CNGZ	**Carnagh Statio**	**6.25**	**207**	P	**Pn**	**17 25 27.3**	**-0.8**
CNGZ				S	**Sn**	**17 26 38.5**	**-1.0**
KUZ	**Kuaotunu**	**6.27**	**231**	P	**Pn**	**17 25 30.0**	**+1.7**
TKGZ	**Te Karaka**	**6.35**	**209**	P	**Pn**	**17 25 30.9**	**+1.5**
TKGZ				S	**Sn**	**17 26 40.0**	**-2.1**
MWZ	**Matawai**	**6.40**	**212**	P	**Pn**	**17 25 30.3**	**+0.1**
MWZ				S	**Sn**	**17 26 41.7**	**-1.6**
URZ	**Urewera**	**6.53**	**214**	Pn	**Pn**	**17 25 32.2**	**+0.3**
	5.6nm,0.3s,baz=278,slow=4.2,SNR=30						
URZ				Sn	**Sn**	**17 26 43.0**	**-3.4**
	12nm,0.3s,baz=127,slow=22,SNR=8.8						
URZ	**Urewera**	**6.53**	**214**		**Pn**	**17 25 30.7**	**-1.2**
RIGZ	**Rimuhau**	**6.61**	**209**	P	**Pn**	**17 25 31.1**	**-2.1**
RIGZ				S	**Sn**	**17 26 45.8**	**-2.8**
OUZ	**Omahuta**	**7.17**	**249**	Pn	**Pn**	**17 25 40.5**	**-0.3**
BKZ	**Black Stump Fm**	**7.54**	**213**	Pn	**Pn**	**17 25 43.8**	**-2.2**
BFZ	**Birch Farm**	**8.91**	**208**	Pn	**Pn**	**17 26 00.8**	**-3.8**
TUWZ	**Tuamarina**	**10.53**	**214**	Pn	**Pn**	**17 26 24.4**	**-2.4**
THZ	**Tophouse**	**11.28**	**216**	Pn	**Pn**	**17 26 35.4**	**-1.7**
DZM	**Mont Dzumac**	**17.38**	**305**	P	**P**	**17 28 02.0**	**+2.1**
	0.4nm,0.3s,baz=148,slow=13,SNR=3.7						
DZM	**Mont Dzumac**	**17.38**	**305**	IAmb	IAmb	17 28 09.7	
	comp=Z,23nm,1.1s						
CTA	**Charters Tower**	**34.12**	**283**	P	**P**	**17 30 42.8**	**+1.8**
	comp=Z,4.0nm,0.5s,baz=103,slow=9.1,SNR=9.5						
CTAO	**Charters Tower**	**34.12**	**283**	P	**P**	**17 30 41.3**	**+0.3**
AS31	**Alice Springs**	**42.86**	**270**	P	**P**	**17 31 54.7**	**+0.2**
ASAR	**Alice Springs**	**42.86**	**270**	P	**P**	**17 31 54.7**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=108,slow=7.7,SNR=77						
ASAR	**Alice Springs**	**42.86**	**270**	P	**P**	**17 31 54.0**	**-0.6**
WR0	**Warramunga Arr**	**43.90**	**275**	P	**P**	**17 32 02.8**	**-0.1**
WR0				IAmb	IAmb	17 32 04.1	
	comp=Z,4.0nm,0.5s						
WB2	**Warramunga Arr**	**44.07**	**275**	P	**P**	**17 32 04.2**	**-0.1**
WB2				IAmb	IAmb	17 32 04.7	
	comp=Z,7.5nm,0.5s						
WRA	**Warramunga Arr**	**44.08**	**275**	P	**P**	**17 32 04.3**	**0.0**
	comp=Z,4.5nm,0.4s,baz=116,slow=7.8,SNR=127						
WRA	**Warramunga Arr**	**44.08**	**275**	P	**P**	**17 32 04.1**	**-0.2**
FORT	**Forrest**	**45.28**	**258**	P	**P**	**17 32 11.9**	**-1.9**
MTN	**Manton Dam**	**50.25**	**281**	P	**P**	**17 32 51.7**	**-0.8**
MTN				IAmb	IAmb	17 32 56.0	
	comp=Z,7.9nm,1.1s						
KNRA	**Kununurra**	**50.77**	**277**	P	**P**	**17 32 55.4**	**-1.0**
KNRA				IAmb	IAmb	17 33 19.4	
	comp=Z,6.8nm,1.1s						
FITZ	**Fitzroy Crossi**	**52.23**	**272**		**P**	**17 33 05.8**	**-1.5**
CASY	**Casey**	**52.82**	**209**	P	**P**	**17 33 11.9**	**+0.8**
CASY				IAmb	IAmb	17 33 27.5	
	comp=Z,6.3nm,1.1s						
QSPA	**South Pole Qui**	**57.17**	**180**		**P**	**17 33 44.8**	**+2.1**
QSPA				IAmb	IAmb	17 33 57.1	
	comp=Z,5.7nm,0.7s						
SNAA	**Sanae**	**75.62**	**178**	P	P	17 35 52.0	+11
SNAA	**Sanae**	**75.62**	**178**	P	**P**	**17 35 40.2**	**-0.4**
SNAA				IAmb	IAmb	17 36 05.5	
	comp=Z,5.3nm,1.5s						
VNA3	**Neumayer Olymp**	**75.78**	**176**	P	P	17 35 53.5	+12
VNA2	**Neumayer--Watz**	**76.21**	**177**	P	P	17 35 56.0	+12
	baz=175,slow=5.0						
VNA1	**Neumayer--Stat**	**76.44**	**177**	P	P	17 35 57.5	+12
JGF	**Kuroka**	**79.89**	**325**	P	**P**	**17 36 06.5**	**+1.7**
ARCES	**ARCESS Array B**	**141.03**	**347**	PKhKP	PKPpre	17 43 20.9	
	comp=Z,2.1nm,0.9s,baz=50,slow=1.4,SNR=4.4						
FINES	**FINESS Array B**	**147.46**	**338**	PKPbc	**PKPbc**	**17 43 39.6**	**+0.3**
	comp=Z,4.5nm,0.6s,baz=41,slow=4.4,SNR=39						
NB2	**NORSAR Subarra**	**151.23**	**350**	PKP	**PKiKP**	**17 43 50.5**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=17,slow=4.3						
NOA	**NORSAR Array B**	**151.23**	**350**	PKPbc	**PKPbc**	**17 43 50.2**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=16,slow=4.1,SNR=3.9						
HFS	**Hagfors**	**151.69**	**347**	PKPbc	**PKPbc**	**17 43 50.1**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=46,slow=4.2,SNR=1.5						
AKASG	**Malin Array Be**	**153.17**	**320**	PKPbc	**PKPbc**	**17 43 54.0**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=45,slow=3.3,SNR=2.5						
CLL	**Collm**	**159.90**	**339**	*e*PKPab	**PKPab**	**17 44 36.0**	**+2.0**

*IDC **07** 17:35:30.9±0.7, 6°.74N×72°.92W, h162km±6km, mb3.6/12, mb1 3.9/15, mb1mx3.6/39, mbtmp4.2/15, Error ellipse: s-maj=13.4km s-min=7.6km az=131.0*
*RSNC **07** 17:35:31.7±1.0, 6°.82N×73°.15W, h150km±3km, ML4.4, Mw4.4, Fault plane solution: NP1:φs30.00000°, δ54.00000°, λ-22.00000°.*
*NEIC **07** 17:35:31.5±1.9, 6°.84N±0°.06×73°.07W±0°.07, h152km±6km, mb4.4/178, Error ellipse: s-maj=10.6km s-min=9.0km az=105.0*
*VAO **07** 17:35:33.0±0.4, 6°.23N×72°.56W, h74km, mb4.4*
ISC 07 17:35:30.4±0.6**,6°.83N**±0°.02×**73°.08W**±0°.03**,h152**km±5km**, n303,σ1§39**/350**,mb4.3**/96**,16C-15D,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.26**	**204**	⇓*i*P	**Pn**	**17 35 52.2**	**+0.8**
BARC				*e*S	**Sn**	**17 36 06.9**	**-0.6**
BARC				*i*		17 36 10.0	
	comp=Z,6μm,0.3s						
PAMC	**Pamplona, Colo**	**0.63**	**37**	⇑*i*P	**Pn**	**17 35 55.0**	**+1.6**
PAMC				*i*		17 35 55.3	
	comp=Z,9μm,0.2s						
PAMC				*e*S	**Sn**	**17 36 11.9**	**+1.1**
BRRC	**Barranca, Sant**	**0.69**	**294**	⇑*i*P	**Pn**	**17 35 54.0**	**+0.8**
BRRC				*e*S	**Sn**	**17 36 10.5**	**+0.1**
BRRC				*i*		17 36 14.9	
	comp=Z,4μm,0.3s						
RUSC	**La Rusia**	**0.93**	**180**	Pn	**Pn**	**17 35 55.7**	**+0.2**
RUSC	**La Rusia**	**0.93**	**180**	⇓*i*P	**Pn**	**17 35 56.0**	**+0.6**
RUSC				*e*S	**Sn**	**17 36 14.6**	**+0.1**
RUSC				*i*		17 36 16.2	
	comp=Z,3μm,0.3s						
TAMC	**Tame, Arauca**	**1.34**	**107**	⇑*i*P	**Pn**	**17 36 00.6**	**+2.0**
TAMC				*i*		17 36 21.5	
	comp=Z,2μm,0.4s						
TAMC				*e*S	**Sn**	**17 36 21.7**	**+1.6**
PTBC	**PUERTO BERRIO,**	**1.40**	**258**	⇓*i*P	**Pn**	**17 35 58.5**	**-0.6**
PTBC				*e*S	**Sn**	**17 36 19.5**	**-1.6**
PTBC				*i*		17 36 25.0	
	comp=Z,2μm,0.4s						
OCAC	**Ocana**	**1.42**	**350**	⇑*i*P	**Pn**	**17 36 00.2**	**+0.7**
OCAC				*e*S	**Sn**	**17 36 22.4**	**+0.5**
OCAC				*i*		17 36 30.4	
	comp=Z,6μm,0.4s						
SPBC	**San Pablo de B**	**1.53**	**220**	⇓*e*P	**Pn**	**17 36 00.8**	**+0.2**
SPBC				*e*S	**Sn**	**17 36 23.1**	**-0.6**
SPBC				*i*		17 36 28.0	
	comp=Z,4μm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.88**	**291**	⇑*i*P	**Pn**	**17 36 04.2**	**-0.2**
ZARC				*e*S	**Sn**	**17 36 29.6**	**-0.8**
ZARC				*i*		17 36 35.4	
	comp=Z,3μm,0.7s						
NORC	**Norcasia**	**2.18**	**235**	⇑*i*P	**Pn**	**17 36 08.0**	**+0.1**
NORC				*e*S	**Sn**	**17 36 36.2**	**-0.5**
NORC				*i*		17 36 41.2	
	comp=Z,2μm,0.4s						
SMLC	**San Martn de**	**2.19**	**333**	⇓*e*P	**Pn**	**17 36 08.2**	**+0.2**
SMLC				*e*S	**Sn**	**17 36 36.9**	**-0.1**
SMLC				*i*		17 36 40.4	
	comp=Z,2μm,0.2s						
CHIC	**Chingaza**	**2.28**	**197**	⇓*e*P	**Pn**	**17 36 10.0**	**+0.6**
CHIC				*e*S	**Sn**	**17 36 39.2**	**-0.2**
CHIC				*i*		17 36 44.7	
	comp=Z,2μm,0.4s						
ROSC	**El Rosal**	**2.33**	**212**	P	**Pn**	**17 36 11.7**	**+1.7**
	comp=Z,431nm,0.3s,baz=68,slow=0.6,SNR=414						
ROSC				S	**Sn**	**17 36 42.4**	**+1.9**
	comp=Z,275nm,0.3s,baz=207,slow=17,SNR=6.8						
ROSC	**El Rosal**	**2.33**	**212**	⇓*i*P	**Pn**	**17 36 11.6**	**+1.7**
ROSC				*e*S	**Sn**	**17 36 40.8**	**+0.3**
ROSC				*i*		17 36 46.7	
	comp=Z,5μm,0.5s						
HELC	**Santa Helena**	**2.52**	**256**	⇑*e*P	**Pn**	**17 36 11.6**	**-0.6**
HELC				*e*S	**Sn**	**17 36 44.2**	**-0.2**
HELC				*i*		17 36 50.8	
	comp=Z,2μm,0.3s						
UREC	**San Jos de Ur**	**2.60**	**291**	⇑*e*P	**Pn**	**17 36 11.7**	**-1.3**
UREC				*e*S	**Sn**	**17 36 42.6**	**-3.1**
UREC				*i*		17 36 54.3	
	comp=Z,2μm,0.2s						
SOCV	**Socops**	**2.64**	**57**	⇑*i*P	**Pn**	**17 36 14.0**	**+0.6**
SOCV				*e*S	**Sn**	**17 36 43.9**	**-2.7**
LL2C	**La Loma 2 Cana**	**2.73**	**353**	*e*P	**Pn**	**17 36 15.4**	**+0.9**
LL2C				*e*S	**Sn**	**17 36 49.5**	**+0.8**
LL2C				*i*		17 36 59.4	
	comp=Z,3μm,0.6s						
LL1C	**La Loma 1 Cana**	**2.74**	**350**	*e*P	**Pn**	**17 36 16.9**	**+2.3**
LL1C				*e*S	**Sn**	**17 36 51.5**	**+2.6**
LL1C				*i*		17 37 01.5	
	comp=Z,4μm,0.6s						
VILC	**Villavicencio,**	**2.77**	**193**	⇓*i*P	**Pn**	**17 36 15.4**	**+0.3**
VILC				*e*S	**Sn**	**17 36 49.5**	**-0.2**
VILC				*i*		17 36 59.5	
	comp=Z,2μm,0.5s						
GUY2C	**Guyana, Caldas**	**2.78**	**235**	⇑*e*P	**Pn**	**17 36 15.9**	**+0.3**
GUY2C				*e*S	**Sn**	**17 36 49.6**	**-0.8**
GUY2C				*i*		17 36 58.4	
	comp=Z,2μm,0.7s						
PTGC	**Puerto Gaitan,**	**2.78**	**160**	⇓*i*P	**Pn**	**17 36 15.3**	**+0.2**
PTGC				*i*		17 36 15.7	
	comp=Z,3μm,0.2s						
PTGC				*e*S	**Sn**	**17 36 48.6**	**-1.1**
CBOC	**Ciudad Bolivar**	**3.07**	**252**	⇑*i*P	**Pn**	**17 36 19.3**	**+0.4**
CBOC				*i*		17 37 12.9	
	comp=Z,436nm,0.5s						
DBBC	**Dabeiba**	**3.11**	**274**	⇑*i*P	**Pn**	**17 36 19.5**	**+0.1**
TOLC	**Tolima**	**3.15**	**225**	⇓*e*P	**Pn**	**17 36 20.1**	**-0.1**
TOLC				*e*S	**Sn**	**17 36 58.3**	**-0.3**
TOLC				*i*		17 37 08.4	
	comp=Z,1μm,0.4s						
SDV	**Santo Domingo**	**3.17**	**50**	P	**Pn**	**17 36 21.7**	**+1.4**
	comp=Z,304nm,0.3s,baz=233,slow=7.9,SNR=164						
SDV				S	**Sn**	**17 36 59.1**	**+0.3**
	comp=Z,76nm,0.3s,baz=250,slow=23,SNR=12						
SDV	**Santo Domingo**	**3.17**	**50**	Pn	**Pn**	**17 36 21.5**	**+1.2**
SDV	**Santo Domingo**	**3.17**	**50**	⇑*i*P	**Pn**	**17 36 21.6**	**+1.4**
SDV				*i*		17 36 22.4	
	comp=Z,762nm,0.2s						
SDV				*e*S	**Sn**	**17 36 58.6**	**-0.3**
SDV	**Santo Domingo**	**3.17**	**50**	*e*P	**Pn**	**17 36 21.7**	**+1.4**
SDV				*e*S	**Sn**	**17 36 59.4**	**+0.5**
ARGC	**Ariguani, Magd**	**3.22**	**339**	⇓*i*P	**Pn**	**17 36 22.1**	**+1.3**
ARGC				*e*S	**Sn**	**17 37 00.4**	**+0.6**
ARGC				*i*		17 37 07.9	
	comp=Z,406nm,0.7s						
ELOV	**Elorza**	**3.58**	**87**	⇑*i*P	**Pn**	**17 36 26.5**	**+1.2**
ELOV				*e*S	**Sn**	**17 37 07.4**	**-0.4**
PRAC	**Prado**	**3.58**	**210**	⇓*e*P	**Pn**	**17 36 25.0**	**-0.4**
PRAC				*e*S	**Sn**	**17 37 07.3**	**-0.7**
PRAC				*i*		17 37 14.2	
	comp=Z,1μm,0.6s						
ORTC	**Ortega, Tolima**	**3.61**	**217**	*e*P	**Pn**	**17 36 25.8**	**0.0**
ORTC				*e*S	**Sn**	**17 37 08.6**	**-0.2**
ORTC				*i*		17 37 16.0	
	comp=Z,739nm,0.4s						
CVALL	**Valledupar, Ce**	**3.66**	**357**	*e*P	**Pn**	**17 36 26.1**	**-0.3**
CVALL				*e*S	**Sn**	**17 37 07.5**	**-2.4**
CVALL				*i*		17 37 14.9	
	comp=Z,719nm,0.3s						
SJCC	**San Jacinto, C**	**3.69**	**326**	Pn	**Pn**	**17 36 25.7**	**-1.1**
SJCC	**San Jacinto, C**	**3.69**	**326**	⇓*e*P	**Pn**	**17 36 25.8**	**-1.1**
SJCC				*e*S	**Sn**	**17 37 06.6**	**-4.0**
SJCC				*i*		17 37 21.9	
	comp=Z,547nm,0.7s						
LCBC	**Los crdobas,**	**3.83**	**302**	*e*P	**Pn**	**17 36 28.8**	**+0.3**
LCBC				*e*S	**Sn**	**17 37 11.6**	**-2.2**
LCBC				*i*		17 37 17.9	
	comp=Z,490nm,0.2s						
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	*e*P	**Pn**	**17 36 32.5**	**-0.6**
CRJC				*e*S	**Sn**	**17 37 18.9**	**-3.0**
CRJC				*i*		17 37 30.6	
	comp=Z,508nm,0.3s						
GUVC	**San Jose del G**	**4.28**	**174**	*e*P	**Pn**	**17 36 34.1**	**-0.4**
GUVC				*e*S	**Sn**	**17 37 23.7**	**-0.6**
GUVC				*i*		17 37 29.8	
	comp=Z,516nm,0.3s						
YOTC	**Yotoco, Valle**	**4.31**	**229**	*e*P	**Pn**	**17 36 34.5**	**-0.5**
YOTC				*e*S	**Sn**	**17 37 23.6**	**-1.5**
SOLC	**Bahia Solano**	**4.34**	**262**	*e*P	**Pn**	**17 36 35.8**	**+0.5**
SOLC				*e*S	**Sn**	**17 37 25.0**	**-0.7**
SMRC	**Santa Marta, M**	**4.45**	**345**	*e*P	**Pn**	**17 36 36.9**	**+0.2**
SMRC				*e*S	**Sn**	**17 37 24.6**	**-3.8**
SMRC				*i*		17 37 29.5	
	comp=Z,296nm,0.4s						
CAPC	**Capurgana**	**4.60**	**293**	*e*P	Pn	17 36 36.0	-2.6
CAPC				*e*S	Sn	17 37 24.2	-7.6
CAPC				*i*		17 37 32.0	
	comp=Z,175nm,0.2s						
PTAC	**Punta Ardita,**	**4.71**	**274**	*e*P	**Pn**	**17 36 39.1**	**-0.9**
MACC	**Macarena, Meta**	**4.71**	**189**	⇓*i*P	**Pn**	**17 36 39.0**	**-1.1**
MACC				*e*S	**Sn**	**17 37 30.2**	**-4.4**
MACC				*i*		17 37 36.6	
	comp=Z,398nm,0.8s						
DABV	**Dabajuro**	**4.73**	**31**	⇑*i*P	**Pn**	**17 36 41.0**	**+0.6**
DABV				*e*S	**Sn**	**17 37 32.2**	**-2.7**
BETC	**Betania**	**4.74**	**210**	*e*P	**Pn**	**17 36 40.4**	**-0.3**
BETC				*e*S	Sn	17 37 28.8	-6.6
BETC				*i*		17 37 44.5	
	comp=Z,244nm,0.5s						
MARP	**Paez Belalcaza**	**4.89**	**216**	*e*P	**Pn**	**17 36 42.8**	**+0.1**
MARP				*e*S	**Sn**	**17 37 36.3**	**-2.7**
URIC	**Uribia, Colomb**	**4.96**	**12**		**Pn**	**17 36 42.3**	**-1.1**
URIC	**Uribia, Colomb**	**4.96**	**12**	⇓*e*P	**Pn**	**17 36 42.7**	**-0.7**
URIC				*e*S	**Sn**	**17 37 35.7**	**-4.6**
URIC				*i*		17 37 45.0	
	comp=Z,138nm,0.5s						
MALC	**Bahia Malaga**	**5.08**	**237**	*e*P	**Pn**	**17 36 46.3**	**+1.4**
MALC				*e*S	**Sn**	**17 37 42.1**	**-1.0**
MALC				*i*		17 37 58.0	
	comp=Z,114nm,0.7s						
GARC	**Garzon, Huila**	**5.20**	**208**	*e*P	**Pn**	**17 36 46.3**	**-0.5**
GARC				*e*S	**Sn**	**17 37 41.3**	**-5.1**
GARC				*i*		17 37 48.3	
	comp=Z,281nm,0.2s						
PCON	**Cinco Dias**	**5.56**	**217**	*e*P	**Pn**	**17 36 53.3**	**+1.4**
PCON				*e*S	**Sn**	**17 37 55.4**	**0.0**
PCON				*i*		17 38 21.2	
	comp=Z,110nm,0.4s						
POPC	**Popayan, Colom**	**5.57**	**220**	⇑*i*P	**Pn**	**17 36 51.6**	**0.0**
POPC				*e*S	Sn	17 37 49.5	-5.6
FLOC	**Florencia**	**5.81**	**206**		**Pn**	**17 36 54.5**	**-0.2**
FLOC	**Florencia**	**5.81**	**206**	*e*P	**Pn**	**17 36 54.5**	**-0.2**
FLOC				*e*S	**Sn**	**17 38 01.1**	**+0.5**
FLOC				*i*		17 38 05.1	
	comp=Z,112nm,0.4s						
SOTA	**Rioblanco**	**5.84**	**217**	*e*P	**Pn**	**17 36 56.8**	**+1.2**
SOTA				*e*S	**Sn**	**17 38 01.5**	**-0.5**
SOTA				*i*		17 38 13.8	
	comp=Z,84nm,0.5s						
BBAC	**Balboa, Cauca**	**6.33**	**221**	*e*P	**Pn**	**17 37 01.9**	**+0.1**
BBAC				*e*S	**Sn**	**17 38 12.1**	**-1.2**
BCIP	**Isla Barro Col**	**7.08**	**290**	Pn	**Pn**	**17 37 09.7**	**-2.0**
BCIP	**Isla Barro Col**	**7.08**	**290**	*e*P	Pn	17 37 09.4	-2.2
BCIP				*e*S	**Sn**	**17 38 26.6**	**-4.5**
BCIP				*i*		17 38 44.0	
	comp=Z,36nm,0.8s						
TUMC	**Tumaco**	**7.51**	**229**	Pn	**Pn**	**17 37 18.1**	**+0.7**
OTAV	**Otavalo**	**8.46**	**220**		**Pn**	**17 37 30.7**	**+0.3**
OTAV	**Otavalo**	**8.46**	**220**	*e*P	**Pn**	**17 37 30.8**	**+0.3**
PCRV	**Puerto La Cruz**	**8.99**	**68**	P	**Pn**	**17 37 35.3**	**-1.8**
	comp=Z,5.3nm,0.3s,baz=262,slow=1.3,SNR=14						
SRBA	**San Rafael, Bu**	**10.46**	**284**	Pn	**Pn**	**17 37 57.6**	**+1.0**
BANI	**BANI**	**11.80**	**13**	Pn	**Pn**	**17 38 16.0**	**+1.8**
MTDJ	**Mount Denham**	**12.13**	**339**	Pn	**Pn**	**17 38 20.3**	**+1.8**
SDDR	**Presa de Saban**	**12.21**	**8**		**Pn**	**17 38 22.3**	**+2.9**
JTS	**Las Juntas de**	**12.23**	**287**	P	**Pn**	**17 38 23.6**	**+3.8**
	comp=Z,0.7nm,0.3s,baz=105,slow=12,SNR=3.5						
DR12	**Loma Pena Alta**	**12.42**	**17**	Pn	**Pn**	**17 38 22.9**	**+0.7**
CRPR	**Cabo Rojo, PR**	**12.54**	**27**	Pn	**Pn**	**17 38 24.1**	**+0.4**
AOPR	**Arecibo Observ**	**13.00**	**28**	Pn	**Pn**	**17 38 29.2**	**-0.5**
PDPR	**Patillas Dam,**	**13.08**	**31**	Pn	**Pn**	**17 38 29.4**	**-1.2**
TOSP	**Speyside**	**13.16**	**69**	Pn	**P**	**17 38 33.3**	**-2.8**
GTBY	**Guantanamo Bay**	**13.17**	**352**		**P**	**17 38 34.8**	**-1.3**
BOAV	**Boa Vista**	**13.27**	**109**	*e*P	**Pn**	**17 38 29.4**	**-3.6**
GCPR	**Guaynabo City**	**13.29**	**30**	Pn	**Pn**	**17 38 33.1**	**-0.3**
CBYP	**Canovanas**	**13.38**	**31**	Pn	**Pn**	**17 38 33.4**	**-1.1**
MTP	**Monte Pirata**	**13.39**	**33**	Pn	**Pn**	**17 38 33.9**	**-0.7**
CDVI	**St. Croix**	**13.55**	**36**	Pn	**Pn**	**17 38 37.2**	**+0.5**
STVI	**Saint Thomas**	**13.92**	**34**	P	**Pn**	**17 38 41.0**	**-0.3**
CBCY	**The Bluff, Cay**	**14.38**	**334**		**P**	**17 38 50.3**	**+0.7**
LCCY	**Blossom Villag**	**14.46**	**333**	P	**P**	**17 38 51.0**	**+0.4**
ABVI	**Anegada Island**	**14.58**	**35**	P	**P**	**17 38 50.6**	**-1.2**
PTGA	**Pitinga**	**15.09**	**119**	P	**P**	**17 38 58.4**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=305,slow=14,SNR=5.7						
PTGA				S	**Sn**	**17 41 36.0**	**-7.8**
	comp=Z,0.9nm,0.3s,baz=99,slow=5.2,SNR=5.9						
ETMB	**Extrema**	**17.89**	**157**	*e*P	**P**	**17 39 28.4**	**0.0**
SAML	**Samuel**	**18.52**	**148**	P	**P**	**17 39 34.9**	**-0.4**

SAML IAmb IAmb 17 40 04.5
comp=Z,8.0nm,0.7s
SAML Samuel 18.52 148 eP **P** 17 39 35.3 **0.0**
ITTB Itaituba 20.58 122 eP **P** 17 39 58.6 **+1.0**
MCPB Macapa, AP 22.16 108 eP **P** 17 40 16.8 **+2.6**
NPGB Novo Progresso 22.42 128 eP **P** 17 40 16.9 **+0.1**
VILB Vilhena 23.45 147 eP **P** 17 40 27.6 **+1.3**
LPAZ La Paz 23.48 168 P **P** 17 40 26.5 **-0.7**
comp=Z,1.0nm,0.6s,baz=80,slow=13,SNR=3.8
LPAZ La Paz 23.48 168 IAmb IAmb 17 40 29.8
comp=Z,2.3nm,0.9s
152A Waverly Hall 27.90 339 P **P** 17 41 07.4 **+1.2**
152A IAmb IAmb 17 41 09.0
comp=Z,7.7nm,0.7s
HODGE Hodges 28.56 344 P **P** 17 41 13.4 **+1.4**
HODGE IAmb IAmb 17 41 14.5
comp=Z,4.8nm,0.6s
SNDB Serra Nova Dou 28.61 131 eP **P** 17 41 13.1 **+0.4**
Z51A Franklin 28.65 339 P **P** 17 41 14.6 **+1.8**
LRAL Lakeview Retre 29.11 335 P **P** 17 41 18.8 **+1.9**
LRAL IAmb IAmb 17 41 19.7
comp=Z,6.0nm,1.1s
Y49A Blount Mountai 29.59 337 P **P** 17 41 22.4 **+1.2**
Y49A IAmb IAmb 17 41 23.7
comp=Z,8.0nm,0.7s
FPAL Fort Paine 29.91 339 P **P** 17 41 23.1 **-0.9**
FPAL IAmb IAmb 17 41 26.4
comp=Z,7.4nm,1.1s
X48A Hartselle 30.36 337 P **P** 17 41 29.4 **+1.5**
X48A IAmb IAmb 17 41 30.5
comp=Z,7.5nm,0.7s
CPCT Cooper Cave 30.36 341 P **P** 17 41 29.9 **+1.9**
CPCT IAmb IAmb 17 41 30.4
comp=Z,5.0nm,0.7s
W50A Signal Mountai 30.40 340 P **P** 17 41 30.1 **+1.9**
W50A IAmb IAmb 17 41 31.1
comp=Z,6.1nm,0.8s
U54A Nelsons Funny 30.62 346 P **P** 17 41 31.2 **+1.0**
V51A Loudon 30.64 342 P **P** 17 41 31.9 **+1.5**
V51A IAmb IAmb 17 41 33.1
comp=Z,10.0nm,0.9s
Y45A Yeager Farm, C 30.92 333 P **P** 17 41 35.2 **+2.3**
PLAL Pickwick Lake 31.24 336 P **P** 17 41 37.1 **+1.5**
PLAL IAmb IAmb 17 41 38.1
comp=Z,8.8nm,0.8s
V48A Smith Brothers 31.42 338 P **P** 17 41 38.7 **+1.5**
CLTN Cedars of Leba 31.55 339 P **P** 17 41 40.0 **+1.6**
CLTN IAmb IAmb 17 41 40.6
comp=Z,4.8nm,0.6s
U49A Red Boiling Sp 31.75 340 P **P** 17 41 42.0 **+1.9**
U49A IAmb IAmb 17 41 42.0
comp=Z,3.3nm,0.7s
W45A Hickory Valley 31.85 334 P **P** 17 41 42.0 **+1.0**
WVT Waverly 32.14 337 P **P** 17 41 44.4 **+0.8**
T47A Sharon Grove 32.63 339 P **P** 17 41 48.8 **+1.0**
R50A Paris 32.93 344 P **P** 17 41 52.6 **+2.2**
R50A IAmb IAmb 17 41 53.4
comp=Z,11nm,1.1s
X40A Basin Creek Fa 33.01 329 P **P** 17 41 51.7 **+0.6**
X40A IAmb IAmb 17 41 52.7
comp=Z,5.0nm,0.8s
435B Jarrell 33.10 319 P **P** 17 41 52.1 **+0.1**
435B IAmb IAmb 17 41 53.9
comp=Z,9.5nm,0.8s
WHAR Wooly Hollow 33.38 331 P **P** 17 41 55.4 **+1.0**
WHAR IAmb IAmb 17 41 55.5
comp=Z,5.5nm,0.5s
BDFB Brasilia 33.39 132 P **P** 17 41 52.7 **-2.1**
comp=Z,1.7nm,0.5s,baz=288,slow=9.6,SNR=3.5
BDFB Brasilia 33.39 132 P **P** 17 41 55.4 **+0.6**
BDFB IAmb IAmb 17 42 22.7
comp=Z,9.3nm,1.3s
WCI Wyandotte Cave 33.48 341 P **P** 17 41 56.0 **+0.9**
LCAR Lake Charles 33.48 333 P **P** 17 41 55.9 **+0.7**
LCAR IAmb IAmb 17 41 57.6
comp=Z,8.5nm,1.2s
P52A Corning 33.66 347 P **P** 17 41 58.3 **+1.6**
P51A Williamsport 33.73 346 P **P** 17 41 59.3 **+2.0**
PBMO Poplar Bluff 33.76 334 P **P** 17 41 58.5 **+0.9**
FCAR Ozark Folk Cen 33.79 332 P **P** 17 41 58.3 **+0.4**
FCAR IAmb IAmb 17 41 59.1
comp=Z,12nm,1.1s
W39A Magazine 34.05 329 P **P** 17 42 01.3 **+1.2**
W39A IAmb IAmb 17 42 01.9
comp=Z,7.1nm,0.8s
S44A Carbondale 34.06 337 P **P** 17 42 00.6 **+0.5**
O52A Adamsville 34.06 348 P **P** 17 42 01.6 **+1.4**
O52A IAmb IAmb 17 42 02.9
comp=Z,9.6nm,0.8s
SIUC Southern Illin 34.06 337 P **P** 17 42 01.1 **+0.9**
O53A New Philadelph 34.07 349 P **P** 17 42 02.0 **+1.8**
BLO Bloomington 34.41 341 P **P** 17 42 04.2 **+1.0**
U40A Yellville 34.51 331 P **P** 17 42 04.7 **+0.6**
OLIL Olney 34.54 339 P **P** 17 42 04.7 **+0.3**
KSPA Keystone Colle 34.67 356 P **P** 17 42 06.9 **+1.6**
MGMO Mountain Grove 34.88 333 P **P** 17 42 07.6 **+0.3**
MGMO IAmb IAmb 17 42 08.8
comp=Z,6.1nm,1.0s
P46A Rosedale 35.03 341 P **P** 17 42 09.0 **+0.5**
CCM Cathedral Cave 35.18 335 P **P** 17 42 10.1 **+0.3**
PCMB Pacaembu 35.45 143 eP **P** 17 42 15.9 **+3.6**
ABTX Abilene, Hawle 35.62 320 P **P** 17 42 13.6 **-0.2**
ABTX IAmb IAmb 17 42 15.2
comp=Z,8.6nm,1.1s
SFIN Lafayette 35.69 342 P **P** 17 42 14.7 **+0.6**
N47A Urbana 35.73 344 P **P** 17 42 15.2 **+0.8**
N47A IAmb IAmb 17 42 16.8
comp=Z,13nm,1.1s
S39A Bolivar 35.81 332 P **P** 17 42 14.9 **-0.2**
S39A IAmb IAmb 17 42 16.9
comp=Z,5.3nm,0.7s
R40A Maddies Statio 35.82 334 P **P** 17 42 15.5 **+0.2**
R40A IAmb IAmb 17 42 16.4
comp=Z,17nm,1.3s
P43A Skaggs, Pawnee 35.86 338 P **P** 17 42 16.2 **+0.6**
OK031 S. Brethren Rd 36.25 326 P **P** 17 42 18.9 **-0.1**
QUOK Quay 36.34 327 P **P** 17 42 19.5 **-0.2**
OK029 Liberty Lake 36.48 326 P **P** 17 42 20.0 **-0.9**
OK029 IAmb IAmb 17 42 21.5
comp=Z,11nm,1.1s
TXAR Lajitas Array 36.49 312 P **P** 17 42 21.8 **+0.6**
comp=Z,1.0nm,0.4s,baz=127,slow=9.2,SNR=24
TXAR PcP **PcP** 17 44 43.3 **+1.4**
comp=Z,0.3nm,0.5s,baz=141,slow=5.8,SNR=4.3
TXAR Lajitas Array 36.49 312 P **P** 17 42 22.0 **+0.8**
TX31 Lajitas Ar. Si 36.49 312 P **P** 17 42 21.8 **+0.6**
TX31 IAmb IAmb 17 42 22.8
comp=Z,5.3nm,0.8s
TX32 Lajitas Array 36.49 312 P **P** 17 42 21.8 **+0.5**
WMOK Wichita Mounta 36.50 323 P **P** 17 42 20.8 **-0.3**
WMOK IAmb IAmb 17 42 22.3
comp=Z,8.1nm,1.4s
HDIL Hopedale 36.58 339 P **P** 17 42 21.5 **-0.2**
P40A Paris 36.76 335 P **P** 17 42 23.2 **-0.1**
T35A Sooner Cattle 36.79 328 P **P** 17 42 23.2 **-0.4**
T35A IAmb IAmb 17 42 24.0
comp=Z,5.7nm,0.7s
N41A Harden Midland 37.29 337 P **P** 17 42 27.2 **-0.5**
N41A IAmb IAmb 17 42 28.4
comp=Z,10nm,0.8s
P38A Dawn 37.48 334 P **P** 17 42 29.2 **-0.1**
RCLB Rio Claro- Sao 38.35 140 eP **P** 17 42 40.9 **+4.0**
AMTX Amarillo 38.37 321 P **P** 17 42 37.0 **0.0**
AMTX IAmb IAmb 17 42 39.0
comp=Z,7.3nm,0.7s
KSU1 Kansas State U 38.50 330 P **P** 17 42 37.5 **-0.4**
KSU1 IAmb IAmb 17 42 38.6
comp=Z,8.8nm,0.7s
MSTX Muleshoe 38.50 319 P **P** 17 42 38.3 **+0.1**
MSTX IAmb IAmb 17 42 39.3
comp=Z,13nm,1.4s
L40A Anamosa 38.60 338 P **P** 17 42 37.9 **-0.7**
L40A IAmb IAmb 17 42 39.2
comp=Z,7.1nm,0.7s
MNTX Cornudas Mount 39.00 314 P **P** 17 42 42.7 **+0.5**
MNTX IAmb IAmb 17 42 44.4
comp=Z,5.6nm,1.1s
JFWS Jewell Farm 39.00 340 P **P** 17 42 42.1 **+0.1**
VAO Valinhos 39.13 140 eP **P** 17 42 47.2 **+3.8**
RCBR Riachuelo 39.17 108 eP P 17 42 48.6 **+4.7**
BSCB Bom Sucesso 39.21 136 eP **P** 17 42 48.5 **+4.4**
SCIA State Center 39.24 336 P **P** 17 42 43.4 **-0.6**
N35A Tabor 39.42 333 P **P** 17 42 45.2 **-0.3**
N35A IAmb IAmb 17 42 46.0
comp=Z,8.4nm,0.8s
I42A Draeger Farm, 39.44 342 P **P** 17 42 44.9 **-0.7**
TIJ01 Guaruva-PR 39.62 145 eP **P** 17 42 51.3 **+3.9**
K38A Parkersburg 39.69 337 P **P** 17 42 47.8 **+0.1**
K38A IAmb IAmb 17 42 48.3
comp=Z,19nm,1.4s
I40A Norwalk 39.99 340 P **P** 17 42 50.3 **+0.1**
PARB Paraibuna 40.24 139 eP **P** 17 42 55.2 **+2.7**
E46A Sault Ste Mari 40.56 348 P **P** 17 42 55.9 **+1.1**
L34A Svendsen Farm, 40.64 333 P **P** 17 42 55.1 **-0.5**
L34A IAmb IAmb 17 43 03.4
comp=Z,10nm,0.8s
NAN01 Guarapari, ES 40.74 127 eP **P** 17 42 59.5 **+2.9**
NBRF Rio Formoso - 40.85 112 eP P 17 43 02.3 **+4.7**
F42A Maple Grove Fa 40.92 344 P **P** 17 42 57.6 **-0.1**
F42A IAmb IAmb 17 42 59.0
comp=Z,8.2nm,0.7s
VAS01 Vassouras-RJ 40.98 136 eP **P** 17 43 02.5 **+3.9**
G40A Rib Lake 41.08 342 P **P** 17 42 59.5 **+0.4**
G40A IAmb IAmb 17 43 01.4
comp=Z,6.8nm,1.1s
T25A Trinidad 41.51 321 P **P** 17 43 03.2 **+0.2**
ECSD EROS Data Cent 42.16 334 P **P** 17 43 07.5 **-0.5**
ECSD IAmb IAmb 17 43 08.4
comp=Z,5.7nm,1.0s
K31A O'Neill 42.25 332 P **P** 17 43 08.5 **-0.2**
SDCO Great Sand Dun 42.57 321 P **P** 17 43 13.2 **+1.5**
SUSD Miller 43.75 333 P **P** 17 43 20.1 **-0.6**
EYMN Ely 43.88 342 P **P** 17 43 21.4 **-0.3**
ISCO Idaho Springs 43.92 323 P **P** 17 43 23.3 **+0.8**
MVCO Mesa Verde 44.18 318 P **P** 17 43 25.8 **+1.3**
MVCO IAmb IAmb 17 43 26.3
comp=Z,11nm,1.4s
214A Organ Pipe Nat 44.66 309 P **P** 17 43 27.5 **-0.6**
PV01 Paradox Valley 44.75 319 P **P** 17 43 30.7 **+1.7**
PV15 Paradox Valley 44.81 320 P **P** 17 43 30.8 **+1.3**
PV15 IAmb IAmb 17 43 32.1
comp=Z,10nm,1.0s
PV02 Paradox Valley 44.90 319 P **P** 17 43 31.3 **+1.1**
PV02 IAmb IAmb 17 43 32.2
comp=Z,3.7nm,0.6s
PV13 Radium Mtn., P 44.92 319 P **P** 17 43 31.8 **+1.4**
PV13 IAmb IAmb 17 43 32.6
comp=Z,5.5nm,0.8s
B35A Bob, Littlefor 44.95 341 P **P** 17 43 29.8 **-0.4**
B35A IAmb IAmb 17 43 30.9
comp=Z,7.1nm,0.7s
PV03 Paradox Valley 45.00 319 P **P** 17 43 32.4 **+1.4**
PV12 Saucer Basin, 45.00 319 P **P** 17 43 32.3 **+1.3**
PV12 IAmb IAmb 17 43 33.4
comp=Z,4.5nm,0.8s
PV22 Blue Mesa, Par 45.12 320 P **P** 17 43 33.1 **+1.2**
WUAZ Wupatki 45.24 315 P **P** 17 43 34.0 **+1.1**
WUAZ IAmb IAmb 17 43 35.8
comp=Z,6.4nm,0.9s
AGMN Agassiz Nation 45.63 339 P **P** 17 43 35.1 **-0.4**
AGMN IAmb IAmb 17 43 36.4
comp=Z,5.9nm,0.6s
Y14A Wickenburg 45.67 312 P **P** 17 43 37.1 **+0.9**
U15A North Rim 46.34 315 P **P** 17 43 43.1 **+1.5**
SRU San Rafael Swe 46.56 319 P **P** 17 43 43.7 **+0.5**
GLA Glamis 46.66 310 P **P** 17 43 44.8 **+0.9**
RDMU Red Mountain 46.79 322 P **P** 17 43 45.2 **+0.2**
P17A Butcher Ranch, 46.90 320 P **P** 17 43 46.9 **+1.1**
P17A IAmb IAmb 17 43 47.8
comp=Z,7.0nm,1.0s
KNB Kanab 47.01 316 P **P** 17 43 47.4 **+0.8**
KNB IAmb IAmb 17 43 49.7
comp=Z,7.4nm,1.2s
MTPU Mount Pierson 47.09 317 P **P** 17 43 48.6 **+1.1**
ULM Lac du Bonnet 47.29 340 P **P** 17 43 48.1 **-0.3**
comp=Z,8.0nm,0.5s,baz=150,slow=7.3,SNR=14
ULM Lac du Bonnet 47.29 340 P **P** 17 43 48.0 **-0.5**
LCMT Little Creek M 47.30 315 P **P** 17 43 50.7 **+1.8**
LCMT IAmb IAmb 17 43 51.2
comp=Z,5.2nm,1.0s
MSU Marysvale 47.33 318 P **P** 17 43 50.5 **+1.3**
MVU Marysvale 47.35 318 P **P** 17 43 50.9 **+1.5**
TCRU Three Creeks R 47.56 318 P **P** 17 43 53.0 **+1.9**
TCRU IAmb IAmb 17 43 53.8
comp=Z,6.5nm,0.9s
MPU Maple Canyon 47.78 320 P **P** 17 43 53.8 **+1.2**
MPU IAmb IAmb 17 43 54.5
comp=Z,5.4nm,1.1s
NLU North Lily Min 48.03 319 P **P** 17 43 55.5 **+0.9**
PD31 Pinedale Array 48.10 324 P **P** 17 43 55.3 **+0.2**
PD31 IAmb IAmb 17 43 56.5
comp=Z,6.5nm,1.4s
PDAR Pinedale Array 48.10 324 P **P** 17 43 55.6 **+0.6**
comp=Z,1.2nm,0.5s,baz=114,slow=6.8,SNR=7.3
PDAR Pinedale Array 48.10 324 P **P** 17 43 55.4 **+0.4**
BW06 Boulder Array 48.10 324 P **P** 17 43 55.0 **0.0**
BW06 IAmb IAmb 17 43 56.5
comp=Z,5.8nm,1.3s
SCHQ Schefferville 48.13 5 P **P** 17 43 55.1 **+0.3**
comp=Z,3.1nm,0.5s,baz=244,slow=2.4,SNR=4.0
TCUT Toone Canyon 48.25 321 P **P** 17 43 54.7 **-1.6**
TCUT IAmb IAmb 17 43 58.0
comp=Z,8.7nm,0.6s
HWUT Hardware Ranch 48.62 322 P **P** 17 43 59.5 **+0.4**
LAO LASA Array 48.85 330 P **P** 17 44 00.9 **+0.4**
AHID Auburn Hatcher 49.01 323 P **P** 17 44 01.4 **-0.6**
SPR3 Spring Creek 3 49.02 317 P **P** 17 44 03.4 **+1.0**
DGMT Dagmar 49.16 333 P **P** 17 44 04.0 **+1.1**
BGU Big Grassy Mou 49.16 320 P **P** 17 44 03.9 **+0.7**
BGU IAmb IAmb 17 44 05.1
comp=Z,5.1nm,1.0s
REDW Red Top Meadow 49.21 324 P **P** 17 44 04.3 **+0.8**
REDW IAmb IAmb 17 44 05.2
comp=Z,4.7nm,0.7s
LOHW Long Hollow 49.22 324 P **P** 17 44 04.4 **+0.8**
LOHW IAmb IAmb 17 44 05.2
comp=Z,3.0nm,0.6s
TPAW Teton Pass 49.35 324 P **P** 17 44 04.4 **-0.2**
TPAW IAmb IAmb 17 44 05.6
comp=Z,2.5nm,0.6s
MOOW Moose Ponds 49.38 324 P **P** 17 44 05.4 **+0.5**
TPNV Topopah Spring 49.39 314 P **P** 17 44 05.9 **+0.9**
HVU Hansel Valley 49.47 321 P **P** 17 44 05.9 **+0.5**
FXWY Fox Creek 49.48 324 P **P** 17 44 05.8 **+0.2**
R11A Troy Canyon, C 49.57 316 P **P** 17 44 07.1 **+0.8**
IMW Indian Meadow 49.58 324 P **P** 17 44 07.0 **+0.6**
YPP Pitchstone Pla 49.73 325 P **P** 17 44 09.5 **+2.0**
YPP IAmb IAmb 17 44 10.9
comp=Z,7.2nm,0.7s
ELK Elko 50.50 319 P **P** 17 44 13.4 **+0.1**
BOZ Bozeman (W) 51.00 326 P **P** 17 44 17.2 **+0.4**
MCMT McKenzie Canyo 51.24 324 P **P** 17 44 19.2 **+0.4**
HLID Hailey 51.46 322 P **P** 17 44 21.1 **+0.7**
NVAR Mina Array Bea 51.51 315 P **P** 17 44 22.0 **+1.1**
comp=Z,0.7nm,0.6s,baz=120,slow=6.8,SNR=7.1
NVAR Mina Array Bea 51.51 315 P **P** 17 44 21.6 **+0.7**
LRM Limekiln Ridge 51.59 326 P **P** 17 44 21.4 **0.0**
KVN Kaiserville 51.64 315 P **P** 17 44 22.0 **+0.2**
HRY Holter Researc 51.79 327 P **P** 17 44 22.7 **0.0**
MFID Camas Ranch 52.25 321 P **P** 17 44 26.7 **+0.5**
MFID IAmb IAmb 17 44 28.6
comp=Z,4.1nm,0.7s
YERR Yerington 52.41 315 P **P** 17 44 28.3 **+0.8**
YERR IAmb IAmb 17 44 32.2
comp=Z,4.3nm,1.1s
PAHR Pah Rah Range 52.82 316 P **P** 17 44 31.1 **+0.6**
WVOR Wild Horse Val 53.55 319 P **P** 17 44 36.0 **+0.2**
WVOR IAmb IAmb 17 44 39.2
comp=Z,4.1nm,1.0s
F10A Beach Ranch, E 54.44 323 P **P** 17 44 42.0 **-0.1**
F10A IAmb IAmb 17 44 42.9
comp=Z,3.0nm,0.6s
I07A Izee 54.89 320 P **P** 17 44 46.0 **+0.7**
G08A Pilot Rock 55.14 322 P **P** 17 44 47.8 **+0.7**
G08A IAmb IAmb 17 44 48.6
comp=Z,4.4nm,0.7s
NEW Newport 55.61 326 P **P** 17 44 50.7 **+0.3**
PINE Pine Mountain 55.67 319 P **P** 17 44 52.1 **+1.0**
PINE IAmb IAmb 17 44 53.2
comp=Z,7.0nm,0.8s
C09A Chrisman Ranch 56.01 325 P **P** 17 44 53.8 **+0.6**
C09A IAmb IAmb 17 44 54.6
comp=Z,4.6nm,0.7s
EDM Edmonton 56.64 332 P **P** 17 44 57.1 **-0.5**
H04A Detroit Lake 56.87 320 P **P** 17 44 59.6 **+0.2**
H04A IAmb IAmb 17 45 03.7
comp=Z,5.8nm,0.8s
B08A Colville Reser 56.91 325 P **P** 17 44 59.7 **+0.2**
B08A IAmb IAmb 17 45 00.6
comp=Z,2.5nm,0.8s
LTY Liberty 57.14 323 P **P** 17 45 01.9 **+0.6**
LTY IAmb IAmb 17 45 03.2
comp=Z,6.0nm,1.2s
YKA Yellowknife Ar 63.27 340 P **P** 17 45 42.7 **+0.1**
comp=Z,4.6nm,0.7s,baz=126,slow=7.7,SNR=14
DBIC Dimbokro 67.69 86 P **P** 17 46 09.3 **-2.5**
comp=Z,0.8nm,0.4s,baz=258,slow=6.3,SNR=1.4
DBIC Dimbokro 67.69 86 IAmb IAmb 17 46 34.6
comp=Z,13nm,1.5s
SUMG Summit 68.97 11 P **P** 17 46 19.5 **+0.2**
SUMG IAmb IAmb 17 46 33.5
comp=Z,14nm,1.3s
NEEM North Greenlan 71.54 5 *i* P **P** 17 46 35.2 **+0.5**
NEEM IAmb IAmb 17 46 35.7
comp=Z,7.2nm,0.7s
A36M Sachs Harbour 72.44 345 P **P** 17 46 40.1 **+0.4**
INK Inuvik 73.04 340 P **P** 17 46 43.8 **+0.6**
TORD Torodi Ar. Bea 73.70 78 P **P** 17 46 46.5 **-1.7**
comp=Z,0.2nm,0.3s,baz=285,slow=5.9,SNR=2.1
M27K Edge Creek, AK 74.22 333 P **P** 17 46 51.0 **+0.5**
M27K IAmb IAmb 17 46 53.0
comp=Z,7.9nm,1.2s
BCAR Beaver Creek A 74.37 334 P **P** 17 46 52.3 **+1.0**
L27K Beaver Creek, 74.39 334 P **P** 17 46 52.4 **+1.0**
GLB Gilahina Butte 74.87 332 **P** 17 46 55.1 **+0.9**
RAGM Ragged Mountai 75.04 331 P **P** 17 46 56.5 **+1.3**
RAGM IAmb IAmb 17 46 58.0
comp=Z,16nm,1.3s
DOT Dot Lake 75.52 334 P **P** 17 46 59.0 **+1.2**
DOT IAmb IAmb 17 47 00.3
comp=Z,10nm,1.3s
SCRK Sand Creek 75.56 335 P **P** 17 46 59.2 **+1.0**
RIDG Independent Ri 75.88 334 P **P** 17 47 00.5 **+0.6**
RIDG IAmb IAmb 17 47 02.3
comp=Z,4.5nm,0.9s
HIN Hinchinbrook I 75.93 331 P **P** 17 47 01.1 **+0.9**
SCM Sheep Creek Mo 76.59 332 P **P** 17 47 04.9 **+0.9**
SCM IAmb IAmb 17 47 05.8
comp=Z,6.2nm,1.0s
BMAR Burnt Mountain 76.67 338 P **P** 17 47 05.0 **+0.7**
PWL Port Wells 76.90 331 P **P** 17 47 06.0 **+0.4**
PWL IAmb IAmb 17 47 06.8
comp=Z,5.3nm,1.0s
HDA Harding Lake 76.93 335 P **P** 17 47 06.4 **+0.7**
ILAR Eielson Array 76.97 335 P **P** 17 47 06.2 **+0.2**
comp=Z,0.8nm,0.7s,baz=103,slow=3.6,SNR=5.8
GHO Glory Hole Cre 77.33 332 P **P** 17 47 08.6 **+0.5**
GHO IAmb IAmb 17 47 10.1
comp=Z,5.6nm,0.9s
RND Reindeer 77.57 333 P **P** 17 47 10.3 **+0.9**
RND IAmb IAmb 17 47 11.4
comp=Z,4.6nm,0.7s
SUA Susitna One 78.14 331 P **P** 17 47 13.5 **+0.8**
SUA IAmb IAmb 17 47 14.1
comp=Z,4.6nm,0.8s
KTH Kantishna Hill 78.51 333 P **P** 17 47 14.8 **+0.2**
SKT Skwentna 78.58 332 P **P** 17 47 15.1 **+0.1**
BPAW Bear Paw Mtn. 78.61 334 P **P** 17 47 15.6 **+0.5**
MLY Manley 78.64 335 P **P** 17 47 15.6 **+0.3**
OHAK Old Harbor 78.99 327 **P** 17 47 17.3 **+0.1**
OHAK IAmb IAmb 17 47 17.8
comp=Z,14nm,1.1s
PPLA Purkeypile 78.99 333 P **P** 17 47 17.5 **+0.1**
PPLA IAmb IAmb 17 47 18.1
comp=Z,3.6nm,0.6s
M20K Styx River 79.32 332 P **P** 17 47 19.4 **+0.3**
K20K Telida 79.89 333 P **P** 17 47 21.8 **-0.2**
ARCES ARCESS Array B 86.65 20 P **P** 17 47 56.0 **-0.5**
comp=Z,1.6nm,0.9s,baz=292,slow=4.8,SNR=0.9
ARCES ARCESS Array B 86.65 20 P **P** 17 47 57.0 **+0.5**
ARCES IAmb IAmb 17 48 09.4
comp=Z,11nm,1.4s
ASAR Alice Springs 149.15 234 PKP **PKPdf** 17 54 56.8 **-0.7**
comp=Z,1.0nm,0.7s,baz=116,slow=3.5,SNR=5.1
ASAR PKPbc **PKPbc** 17 55 00.6 **-1.1**
comp=Z,1.1nm,0.7s,baz=114,slow=3.7,SNR=14
ASAR Alice Springs 149.15 234 **PKPdf** 17 54 57.1 **-0.3**
WRA Warramunga Arr 150.38 241 PKP **PKPdf** 17 54 59.4 **0.0**
comp=Z,0.7nm,0.4s,baz=119,slow=2.8,SNR=2.0
WRA PKPbc **PKPbc** 17 55 04.0 **-0.8**
comp=Z,1.3nm,0.5s,baz=123,slow=2.9,SNR=35
WRA Warramunga Arr 150.38 241 **PKPbc** 17 55 03.7 **-1.1**
CMAR Chiang Mai Arr 153.67 17 PKPbc **PKPbc** 17 55 12.3 **+0.1**
comp=Z,0.4nm,0.5s,baz=319,slow=3.0,SNR=4.6

*SOME **07** 17:50:54.3, 37.62N×71.65E, h15km*
*IDC **07** 17:50:60.0±2.2, 36.39N×70.92E, h169km±21km, mb3.6/19, mb1 3.7/24, mb1mx3.5/56, mbtmp4.2/24, Error ellipse: s-maj=14.4km s-min=10.1km az=21.0*
*MOS **07** 17:51:01.6±1.1, 36.55N×70.91E, h195km, mb4.2/11, Error ellipse: s-maj=8.6km s-min=4.5km az=85.8*
*NEIC **07** 17:51:02.4±1.8, 36.54N±0.05×70.80E±0.07, h194km±5km, mb4.1/37, Error ellipse: s-maj=8.1km s-min=7.8km az=109.0*
*BJI **07** 17:51:04.2±0.0, 36.46N×71.18E, h194km, mb4.2/6*
*NNC **07** 17:51:05.8±2.7, 36.88N×70.86E, h208km±31km, mb3.3, mpv4.3, Error ellipse: s-maj=24.9km s-min=16.8km az=20.0*

ISC 07 17:51:01.4±0.5,**36.52N**±0.04×**70.91E**±0.04,**h181**km±4km, **h182**km:**pP-P**,**n183**,σ1§**70**/209,**mb4.1**/37,**19C-3D**,**Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.49**	**218**	PN	**Pn**	**17 51 45.4**	**+1.1**
KBL	**Kabul**	**2.49**	**218**	Pn	**Pn**	**17 51 45.4**	**+1.1**
KBL				Sn	**Sn**	**17 52 16.6**	**-1.1**
GAR	**Garm**	**2.52**	**349**		**Pn**	**17 51 45.7**	**+1.2**
GAR				Sn	**Sn**	**17 52 17.4**	**-0.8**
CHGR	**Chuyangaron**	**2.55**	**327**	Pn	**Pn**	**17 51 45.6**	**+0.8**
CHGR				Sn	**Sn**	**17 52 16.6**	**-2.0**
CEP	**Cherat**	**2.81**	**163**	P	**Pn**	**17 51 49.9**	**+1.9**
CEP				S	**Sn**	**17 52 25.0**	**+0.8**
DRK	**Karamyk**	**3.04**	**13**		**Pn**	**17 51 52.5**	**+1.7**
CHCP	**Chirah Chowk**	**3.44**	**145**	P	**Pn**	**17 51 58.0**	**+2.4**
NIL	**Nilore**	**3.44**	**146**	PN	**Pn**	**17 51 57.8**	**+2.2**
NIL	**Nilore**	**3.44**	**146**		**Pn**	**17 51 57.8**	**+2.2**
BTK	**Batken**	**3.54**	**359**	PN	**Pn**	**17 51 58.4**	**+1.7**
BTK	**Batken**	**3.54**	**359**	Pn	**Pn**	**17 51 58.4**	**+1.7**
THW	**Thamme Wali**	**3.78**	**169**	P	**Pn**	**17 52 01.1**	**+1.3**
TAS	**Tashkent**	**4.96**	**346**	PN	**Pn**	**17 52 15.8**	**+1.0**
TAS	**Tashkent**	**4.96**	**346**	Pn	**Pn**	**17 52 15.8**	**+1.0**
KSH	**Kashi**	**4.99**	**52**	P	**Pn**	**17 52 12.9**	**-2.4**
KSH				S	Sn	17 52 58.7	-15
KSH				smax	smax		
	comp=N,290nm,0.5s						
KSH				smax	smax		
	comp=E,110nm,0.5s						
JMU	**Jammu**	**5.02**	**138**	*eP*	Pn	17 52 10.0	-5.6
JMU				*eS*	Sn	17 53 05.0	-8.9
ARSB	**Arslanbob**	**5.06**	**18**	PN	**Pn**	**17 52 16.1**	**-0.1**
ARSB	**Arslanbob**	**5.06**	**18**	Pn	**Pn**	**17 52 16.1**	**-0.1**
IUG	**Iuzhnay**	**5.66**	**353**	*eP*	**Pn**	**17 52 25.0**	**+1.0**
	2μm,0.1s						
IUG				*eS*	**Sn**	**17 53 27.1**	**-2.0**
	2μm,0.5s						
THN	**Thein Dam**	**5.69**	**134**	*eP*	**Pn**	**17 52 25.5**	**+1.2**
THN				*eS*	**Sn**	**17 53 28.5**	**-1.0**
AML	**Almayashu**	**6.00**	**20**	P	**Pn**	**17 52 29.4**	**+0.6**
	SNR=68						
DHRM	**DHARAMSHALA**	**6.16**	**132**	*eP*	**Pn**	**17 52 31.8**	**+1.1**
DHRM				*eS*	**Sn**	**17 53 39.4**	**-1.7**
DHRM				IAML		17 53 41.2	
	comp=N,659nm,0.6s						
DHRM				IAML		17 53 41.3	
	comp=E,488nm,0.0s						
MRKS	**Merke**	**6.47**	**15**	*eP*	**Pn**	**17 52 34.9**	**+0.4**
	comp=E,39nm,0.5s						
MRKS				*eS*	**Sn**	**17 53 44.9**	**-3.2**
	comp=E,167nm,0.8s						
KZA	**Kyzart**	**6.49**	**30**	P	**Pn**	**17 52 36.5**	**+1.4**
	SNR=6.0						
EKS2	**Erkin-Say**	**6.52**	**19**	P	**Pn**	**17 52 36.0**	**+0.8**
	SNR=26						
BRLS	**Boroldaу**	**6.56**	**353**	*eP*	**Pn**	**17 52 32.5**	**-3.1**
	comp=E,8.3nm,0.1s						
BRLS				*eS*	Sn	17 53 39.7	-10
	comp=E,228nm,0.2s						
KK31	**Karatay Array**	**6.58**	**357**	⇑P	**Pn**	**17 52 36.2**	**+0.2**

comp=E,13nm,0.3s,baz=189,slow=14,SNR=386
KK31 ⇑S **Sn** **17 53 46.8 -3.9**
comp=E,88nm,0.5s,baz=174,slow=16,SNR=4.7
KK31 Karatay Array 6.58 357 PN **Pn** **17 52 36.2 +0.2**
KK31 Karatay Array 6.58 357 Pn **Pn** **17 52 36.2 +0.2**
KKAR Karatay Array 6.58 357 PN **Pn** **17 52 36.1 +0.1**
KKAR Karatay Array 6.58 357 Pn **Pn** **17 52 36.0 +0.1**
KKAR Karatay Array 6.58 357 **Pn** **17 52 36.2 +0.3**
AAK Ala-Archa 6.71 23 P **Pn** **17 52 38.6 +0.9**
comp=E,7.7nm,0.3s,baz=188,slow=4.6,SNR=45
AAK S **Sn** **17 53 52.9 -0.9**
comp=E,3.5nm,0.3s,baz=212,slow=17,SNR=3.9
AAK Ala-Archa 6.71 23 P **Pn** **17 52 38.5 +0.9**
SNR=23
AAK Ala-Archa 6.71 23 ⇑P **Pn** **17 52 38.3 +0.6**
comp=E,8.9nm,0.3s
AAK ⇑S **Sn** **17 53 53.8 0.0**
comp=E,60nm,0.7s
AAK Ala-Archa 6.71 23 PN **Pn** **17 52 38.7 +1.0**
BHK Bhakra 6.84 136 *eP* **Pn** **17 52 35.0 -4.4**
BHK *eS* **Sn** **17 53 49.8 -7.1**
KBK Karagaybulak 6.88 26 P **Pn** **17 52 41.9 +1.9**
SNR=11
FRU1 Bishkek 6.91 23 PN **Pn** **17 52 41.4 +1.2**
FRU1 Bishkek 6.91 23 **Pn** **17 52 41.4 +1.2**
CHMS Chumysh 7.11 23 P **Pn** **17 52 43.8 +0.9**
SNR=6.0
BOOM Boomskoye usch 7.12 32 PN **Pn** **17 52 44.9 +1.8**
BOOM Boomskoye usch 7.12 32 Pn **Pn** **17 52 44.9 +1.8**
USP Ospenovka 7.28 21 P **Pn** **17 52 45.5 +0.3**
SNR=8.6
TKM2 Tokmak 2 7.34 28 P **Pn** **17 52 46.7 +0.6**
SNR=23
TKM2 Tokmak 2 7.34 28 ⇑P **Pn** **17 52 46.5 +0.4**
comp=E,16nm,0.6s
TKM2 ⇑S **Sn** **17 54 06.4 -2.5**
comp=E,24nm,0.8s
TKM2 Tokmak 2 7.34 28 PN **Pn** **17 52 46.5 +0.4**
KDJ Kajisay 7.41 39 PN **Pn** **17 52 46.5 -0.5**
KDJ Kajisay 7.41 39 Pn **Pn** **17 52 46.5 -0.5**
TARG Taragay, Kyrgy 7.46 44 **Pn** **17 52 48.5 +0.5**
SMLA Simla 7.48 134 *eP* **Pn** **17 52 48.0 +0.2**
SMLA *eS* **Sn** **17 54 08.7 -3.3**
SMLA IAML 17 54 13.0
comp=N,248nm,0.5s
SMLA IAML 17 54 13.3
comp=E,180nm,0.3s
KST Kastek 7.59 29 *eP* **Pn** **17 52 50.2 +1.0**
comp=E,4.2nm,0.6s
KST *eS* **Sn** **17 54 12.1 -2.5**
comp=E,5.4nm,1.0s
MDOK Medeo 8.14 34 P **Pn** **17 52 57.7 +1.1**
comp=E,6.0nm,0.8s
MDOK Medeo 8.14 34 PN **Pn** **17 52 57.7 +1.1**
DDI Dehra Dun 8.59 134 *ex* **Sn** **17 54 30.7 -7.9**
DDI IAML 17 54 35.2
comp=E,151nm,0.6s
DDI IAML 17 54 35.3
comp=N,185nm,0.3s
NDI New Delhi 9.45 144 *eP* **Pn** **17 53 15.0 +1.3**
NDI *eS* **Sn** **17 54 56.0 -3.1**
PDGK Podgornoye 9.46 41 ⇑P **Pn** **17 53 14.5 +0.6**
comp=N,1.4nm,0.7s
PDGK Podgornoye 9.46 41 P **Pn** **17 53 14.5 +0.6**
GEYT Alibeck 10.30 282 P **Pn** **17 53 23.6 -1.2**
comp=N,0.4nm,0.3s,baz=77,slow=14,SNR=1.8
GEYT S **Sn** **17 55 15.6 -3.9**
comp=N,1.8nm,0.3s,baz=123,slow=16,SNR=2.9
GYA0B ALIBECK ARRAY 10.30 282 Pn **Pn** **17 53 23.6 -1.2**
OTUK Ortayu 11.77 5 ⇑P **Pn** **17 53 41.9 -1.7**
comp=N,3.9nm,1.1s
OTUK Ortayu 11.77 5 P **Pn** **17 53 41.9 -1.7**
MAKZ Makanchi 13.18 35 ⇓P **Pn** **17 54 00.8 -0.8**
comp=N,4.4nm,1.0s
MAKZ Makanchi 13.18 35 P **Pn** **17 54 01.7 +0.1**
MAKZ Makanchi 13.18 35 **Pn** **17 54 01.7 +0.1**
PYUN Piuthan 13.21 126 *eP* **Pn** **17 54 02.3 -0.1**
comp=N,48nm,0.2s
PYUN *eS* Sn 17 56 19.0 -10
MK31 Makanchi Array 13.32 36 ⇑P **Pn** **17 54 03.4 +0.1**
comp=N,3.5nm,1.0s,baz=216,slow=12,SNR=11
MK31 Makanchi Array 13.32 36 ⇓*eP* **Pn** **17 54 03.9 +0.6**
MK31 Makanchi Array 13.32 36 Pn **Pn** **17 54 04.3 +0.9**
MKAR Makanchi Array 13.32 36 P **Pn** **17 54 02.7 -0.7**
comp=N,0.1nm,0.3s,baz=226,slow=7.8,SNR=6.1
MKAR Makanchi Array 13.32 36 P **Pn** **17 54 03.6 +0.3**
MKAR Makanchi Array 13.32 36 **Pn** **17 54 03.6 +0.3**
DANN Dangsing 13.56 123 *eP* **Pn** **17 54 06.8 0.0**
comp=N,37nm,0.4s
DANN *eS* Sn 17 56 27.7 -10
KOLN Koldanda 13.83 126 *eP* **Pn** **17 54 09.7 -0.4**
comp=N,25nm,0.4s
KOLN *eS* Sn 17 56 34.7 -10
GKN Gorkha 14.37 122 *eP* **Pn** **17 54 17.8 +1.0**
comp=N,64nm,0.4s
GKN *eS* Sn 17 56 45.9 -11
BHPL Bhopal 14.38 155 *eP* **P** **17 54 19.7 +1.1**
BHPL *eS* Sn 17 56 46.7 -11
DMN Daman 14.94 122 *eP* **Pn** **17 54 24.1 +0.2**
comp=N,32nm,0.4s
DMN *eS* Sn 17 57 00.8 -10
KKN Kakani 14.95 122 *eP* **Pn** **17 54 24.6 +0.6**
comp=N,36nm,0.4s
AB31 Akbulak array 15.03 331 P **Pn** **17 54 23.7 -0.9**
comp=N,12nm,0.6s,baz=145,slow=12,SNR=136
AB31 S **Sn** **17 57 05.5 -6.8**
comp=N,1.9nm,0.3s,baz=154,slow=22,SNR=7.3
AB31 Akbulak array 15.03 331 P **Pn** **17 54 23.7 -0.9**
AB31 S **Sn** **17 57 05.5 -6.8**
ABKAR Akbulak array 15.03 331 P **Pn** **17 54 23.7 -0.8**
ABKAR Akbulak array 15.03 331 P **Pn** **17 54 23.8 -0.8**
KURBB Kurchatov Arra 15.13 19 P **Pn** **17 54 24.9 -0.8**
comp=N,0.2nm,0.3s,baz=211,slow=10,SNR=8.8
PKIN Phulchoki 15.16 122 *eP* **P** **17 54 28.1 +0.6**
comp=N,106nm,0.6s
PKI Pulchoki 15.17 122 *eP* **P** **17 54 28.4 +0.7**
comp=N,100nm,0.5s
KURK Kurchatov 15.23 19 P **Pn** **17 54 25.0 -2.1**
KURK Kurchatov 15.23 19 P **Pn** **17 54 24.9 -2.1**
JIRN Jiri 15.66 120 *eP* **P** **17 54 34.7 +1.6**
comp=N,59nm,0.4s
RAMN Ramite 16.38 121 *eP* **Pn** **17 54 43.0 +1.5**
comp=N,28nm,0.4s
BVAR Borovoye Array 16.51 359 P **Pn** **17 54 42.8 +0.4**
comp=N,1.7nm,0.3s,baz=181,slow=14,SNR=28
BRVK Borovoye 16.54 359 ⇑P **Pn** **17 54 42.9 0.0**
comp=N,5.7nm,0.6s
BRVK Borovoye 16.54 359*ceP* **P** **17 54 42.4 +0.2**
BRVK pmax pmax
comp=Z,7.0nm,0.7s
BRVK Borovoye 16.54 359 **Pn** **17 54 42.6 -0.3**
BRVK IAmb IAmb 17 54 44.3
comp=Z,8.2nm,0.7s
AKTO Aktyubinsk 16.73 330 P **Pn** **17 54 45.8 +0.6**
comp=Z,4.0nm,0.3s,baz=141,slow=11,SNR=98
AKTO Aktyubinsk 16.73 330 ⇓P **Pn** **17 54 45.1 -0.1**
comp=Z,41nm,0.9s
TAPN Taplejung 16.92 118 *eP* **Pn** **17 54 49.4 +1.5**
comp=Z,33nm,0.5s
ODAN Odare 16.99 120 *eP* **Pn** **17 54 49.7 +1.0**
comp=Z,34nm,0.6s
UOSS Minazif 17.09 232 P **P** **17 54 47.6 -1.0**
UOSS IAmb IAmb 17 55 13.7
comp=Z,12nm,1.1s
DGZ Jazzator, Alta 17.81 37 *i* P **Pn** **17 54 58.2 +0.1**
DGZ pmax pmax
comp=Z,2.0nm,0.3s
LSA Lhasa 18.25 106 P **Pn** **17 55 04.1 +0.3**
LSA pmax pmax
comp=Z,8.0nm,0.7s
LSA Lhasa 18.25 106 P **Pn** **17 55 04.1 +0.3**
LSA IAmb IAmb 17 55 06.3
comp=Z,8.2nm,0.7s
ZAA0 Zalesovo Array 19.93 25 P **P** **17 55 19.6 +0.6**
ZAA0 IAmb IAmb 17 55 20.3
comp=Z,4.2nm,0.7s
ZALV Zalesovo Beam 19.93 25 P **P** **17 55 20.1 +1.1**
comp=Z,4.0nm,0.6s,baz=216,slow=10,SNR=15
ZALV Zalesovo Beam 19.93 25 *i* P **P** **17 55 19.7 +0.7**
ZALV pmax pmax
comp=Z,4.0nm,0.6s
ZALV Zalesovo Beam 19.93 25 P **P** **17 55 18.9 -0.1**
GNI Garni 20.82 288 P **P** **17 55 29.5 +0.6**
comp=Z,3.4nm,0.5s,baz=50,slow=7.9,SNR=2.9
GNI Garni 20.82 288*ceP* **P** **17 55 31.3 +2.4**
GNI pmax pmax
comp=Z,5.0nm,0.7s
GNI Garni 20.82 288 IAmb IAmb 17 55 38.2
comp=Z,8.4nm,0.9s
SHL Shillong 20.98 115 P **P** **17 55 32.1 +1.4**
SHL pmax pmax
comp=Z,18nm,1.1s
SHL Shillong 20.98 115 P **P** **17 55 32.1 +1.4**
SVE Sverdlovsk 21.46 344 *eP* **P** **17 55 36.5 +1.3**
SVE pmax pmax
comp=Z,10.0nm,1.1s
ARU Arti 21.59 341 P **P** **17 55 37.5 +0.9**
comp=Z,0.7nm,0.3s,baz=155,slow=13,SNR=8.6
ARU Arti 21.59 341*c i* P **P** **17 55 37.5 +0.9**
ARU *PP **pP** **17 56 08.9 +0.5**
ARU 17 56 18.1
ARU S **S** **17 59 24.2 +0.6**
ARU pmax pmax
comp=Z,12nm,1.1s
ARU Arti 21.59 341 P **P** **17 55 37.1 +0.5**
ARU IAmb IAmb 17 55 39.3
comp=Z,11nm,1.1s
ONI Oni 21.97 294 P **P** **17 55 39.6 -1.1**
ONI pmax pmax
comp=Z,4.0nm,1.0s
ONI Oni 21.97 294 P **P** **17 55 39.6 -1.1**
KBZ Khabaz 22.53 297 P **P** **17 55 46.4 +0.5**
comp=Z,1.3nm,0.8s,baz=84,slow=10,SNR=3.7
GTA Gaotai 22.93 74 *eP* **P** **17 55 52.0 +2.3**
KIRV Kirov 26.19 334*ceP* **P** **17 56 19.7 +0.9**
SONM Songino Array 28.38 55 P **P** **17 56 40.2 +1.5**
comp=Z,0.4nm,0.5s,baz=260,slow=4.4,SNR=4.1
OBN Obninsk 29.88 319 *eP* **P** **17 56 52.5 +0.9**
OBN pmax pmax
comp=Z,3.0nm,0.8s
CMAR Chiang Mai Arr 30.52 119 P **P** **17 56 58.6 +0.9**
comp=Z,1.7nm,0.8s,baz=301,slow=8.5,SNR=10
CMAR Chiang Mai Arr 30.52 119*ceP* **P** **17 56 59.4 +1.7**
CMAR pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 32.88 309 P **P** **17 57 18.5 +0.6**
comp=Z,1.8nm,0.5s,baz=81,slow=6.8,SNR=9.7
AKASG PP **PnPn** **17 58 34.5 +0.4**
comp=Z,0.3nm,0.4s,baz=93,slow=10,SNR=5.0
AKASG Malin Array Be 32.88 309*ceP* **P** **17 57 18.2 +0.3**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 32.88 309 P **P** **17 57 17.5 -0.4**
AKBB pmax pmax
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 32.88 309 P **P** **17 57 17.5 -0.4**
AKBB IAmb IAmb 17 57 18.9
comp=Z,2.3nm,0.7s
MNK Minsk 34.44 315 *i* P **P** **17 57 30.8 -0.5**
MNK *i* *PP **pP** **17 58 12.2 +2.6**
MNK *i* 17 58 53.3
MNK *i* S **S** **18 02 44.9 -0.8**
MNK *i* *SS **sS** **18 03 59.0 +5.1**
MNK *i* 18 07 30.2
MNK pmax pmax
comp=N,6.0nm,0.6s
MNK pmax pmax
comp=E,1.0nm,0.6s
MNK pmax pmax
comp=Z,6.0nm,0.6s
MNK MLR MLR
comp=E,3.0nm,16.0s
MNK MLR MLR
comp=N,39nm,16.0s
MNK MLR MLR
comp=Z,163nm,16.0s
MNK Minsk 34.44 315 *i* P **P** **17 57 30.8 -0.5**
comp=E,1.0nm,0.7s
MNK *i* P **P** **17 57 30.8 -0.5**
comp=N,6.0nm,0.7s
MNK *i* P **P** **17 57 30.8 -0.5**
comp=Z,6.0nm,0.7s,baz=284
MNK *i* pP **pP** **17 58 12.2 +2.6**
MNK *i* sP **sP** **17 58 27.2 -3.3**
MNK *i* PP **PnPn** **17 58 53.4 +0.2**
MNK *i* S **S** **18 02 45.0 -0.8**
MNK *i* sS **sS** **18 03 59.0 +5.1**
MNK *i* SS **SS** **18 05 21.2 +0.7**
MNK *i* LRM MLR 18 11 20.8
comp=E,3.0nm,15.7s
MNK *i* LRM MLR 18 11 21.5
comp=N,39nm,15.7s
MNK *i* LRM MLR 18 11 23.5
comp=Z,163nm,15.7s
MLR Muntele Rosu 34.71 299 P **P** **17 57 36.1 +2.2**
comp=Z,2.3nm,0.7s,baz=198,slow=6.4,SNR=4.2
MLR Muntele Rosu 34.71 299 IAmb IAmb 17 57 37.5
comp=Z,3.1nm,0.9s
BURAR Bucovina Array 35.22 303 P **P** **17 57 38.8 +0.5**
SUW Suwalki 37.05 314 P **P** **17 57 51.9 -1.7**
SUW pmax pmax
comp=Z,40nm,0.9s
SUW Suwalki 37.05 314 P **P** **17 57 51.9 -1.7**
FINES FINESS Array B 37.43 326 P **P** **17 57 57.4 +0.8**
comp=Z,1.4nm,0.5s,baz=118,slow=8.7,SNR=10
ARCES ARCESS Array B 41.10 338 P **P** **17 58 28.1 +1.1**
comp=Z,2.3nm,0.6s,baz=114,slow=8.7,SNR=16
ARCES ARCESS Array B 41.10 338 IAmb IAmb 17 58 28.8
comp=Z,7.5nm,1.1s
PSI Prapat 42.34 136 P **P** **17 58 37.7 -0.1**
comp=Z,4.7nm,0.4s,baz=4.9,slow=6.7,SNR=5.1
RPSI Rantau Prapat 42.43 136 P **P** **17 58 37.7 -0.7**
GSI Gunungsitoli 42.85 139 P **P** **17 58 43.0 +1.3**
NORES NORESS Array B 44.13 323 P **P** **17 58 53.9 +2.4**
NB201 NORSAR Array S 44.29 323 P **P** **17 58 51.5 -1.2**
NB2 NORSAR Subarra 44.32 323 P **P** **17 58 52.9 -0.1**
comp=Z,1.3nm,0.6s,baz=96,slow=7.9
NOA NORSAR Array B 44.32 323 P **P** **17 58 53.2 +0.2**
comp=Z,1.5nm,0.6s,baz=96,slow=7.8,SNR=8.4
NBO00 NORSAR Array S 44.53 323 P **P** **17 58 53.7 -1.0**
NC204 NORSAR Array S 44.56 323 P **P** **17 58 54.7 -0.3**
NC204 IAmb IAmb 17 59 06.2
comp=Z,11nm,1.0s
TIXI Tiksi 45.78 22 P **P** **17 59 05.0 +0.8**
comp=Z,4.0nm,0.6s,baz=279,slow=9.4,SNR=2.2
TIXI Tiksi 45.78 22 IAmb IAmb 17 59 30.7
comp=Z,6.1nm,0.9s
KMBO Kilima Mbogo 48.79 227 P **P** **17 59 29.2 +0.7**
comp=Z,0.7nm,0.5s,baz=49,slow=9.3,SNR=3.8
KMBO Kilima Mbogo 48.79 227 *i* P **P** **17 59 30.2 +1.7**
KMBO pmax pmax
comp=Z,1.0nm,0.5s
MBAR Mbarara 52.46 234*ceP* **P** **17 59 57.7 +1.8**
BILL Bilibino 58.62 26 *eP* **P** **18 00 38.6 -0.2**
BILL pmax pmax
comp=Z,3.0nm,0.7s
TORD Torodi Ar. Bea 65.65 269 P **P** **18 01 24.9 -1.4**
comp=Z,1.1nm,0.4s,baz=51,slow=6.4,SNR=8.7
TORD Torodi Ar. Bea 65.65 269 IAmb IAmb 18 01 25.9
comp=Z,1.2nm,0.6s
TOLK Toolik Lake Re 70.92 15 P **P** **18 01 57.9 -0.5**
TOLK IAmb IAmb 18 02 16.1
comp=Z,7.0nm,1.5s
COLD Coldfoot 71.97 16 P **P** **18 02 05.2 +0.6**
IMAR Indian Mountai 72.18 18 P **P** **18 02 05.4 -0.4**
BMAR Burnt Mountain 72.94 14 P **P** **18 02 11.8 +1.4**
H23K Yukon River 73.29 16 P **P** **18 02 12.2 -0.3**
J20K Nowinta River 73.53 19 P **P** **18 02 13.3 -0.6**
J20K IAmb IAmb 18 02 17.3
comp=Z,3.4nm,1.2s
INK Inuvik 73.90 9 P **P** **18 02 16.4 +0.6**
INK pmax pmax
comp=Z,3.0nm,1.1s
INK Inuvik 73.90 9 P **P** **18 02 16.4 +0.6**
K20K Telida 74.22 19 P **P** **18 02 18.9 +1.1**
K20K IAmb IAmb 18 02 29.4
comp=Z,4.1nm,1.3s
LBTB Lobatse 74.65 222 P **P** **18 02 20.2 -0.7**
LBTB pmax pmax
comp=Z,11nm,1.4s
LBTB Lobatse 74.65 222 P **P** **18 02 20.2 -0.7**
FITZ Fitzroy Crossi 74.96 126 P **P** **18 02 21.1 -1.6**
comp=Z,1.2nm,0.8s,baz=331,slow=4.2,SNR=2.1
KNRA Kununurra 75.30 123 P **P** **18 02 24.2 -0.4**
SCRK Sand Creek 76.10 15 P **P** **18 02 28.7 0.0**
SCRK IAmb IAmb 18 02 43.7
comp=Z,4.0nm,1.5s
PAX Paxson 76.66 16 P **P** **18 02 32.0 +0.1**
PAX pmax pmax
comp=Z,4.0nm,1.5s
PAX Paxson 76.66 16 P **P** **18 02 32.0 +0.1**
SML Sawmill 76.99 18 P **P** **18 02 33.8 +0.1**
SML IAmb IAmb 18 02 51.2
comp=Z,5.5nm,1.2s
SCM Sheep Creek Mo 77.21 18 P **P** **18 02 34.6 -0.3**
SCM pmax pmax
comp=Z,17nm,1.5s
SCM Sheep Creek Mo 77.21 18 P **P** **18 02 34.6 -0.3**
L27K Beaver Creek, 77.36 15 P **P** **18 02 36.7 +1.0**
L27K IAmb IAmb 18 02 52.9
comp=Z,4.9nm,1.5s
BCAR Beaver Creek A 77.36 15 P **P** **18 02 36.4 +0.7**
BOSA Boshof 77.72 220 P **P** **18 02 37.3 -0.9**
BOSA pmax pmax
comp=Z,7.0nm,1.1s
BOSA Boshof 77.72 220 P **P** **18 02 37.3 -0.9**
BOSA IAmb IAmb 18 02 49.2
comp=Z,7.3nm,1.1s
YKA Yellowknife Ar 81.23 3 P **P** **18 02 57.0 +0.4**
comp=Z,1.0nm,0.7s,baz=6.5,slow=5.4,SNR=4.8
YKA Yellowknife Ar 81.23 3*ceP* **P** **18 02 56.2 -0.4**
YKA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 82.06 122 P **P** **18 03 00.4 -1.2**
comp=Z,3.6nm,0.6s,baz=324,slow=4.9,SNR=58
WRA Warramunga Arr 82.06 122 IAmb IAmb 18 03 01.0
comp=Z,0.3nm,0.8s
WRAB Tennant Creek 82.06 122*ceP* **P** **18 03 01.5 0.0**
WRAB pmax pmax
comp=Z,15nm,2.5s
ASAR Alice Springs 84.32 125 P **P** **18 03 11.8 -1.3**
comp=Z,3.1nm,0.6s,baz=310,slow=5.0,SNR=98

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*NOU **07** 17:55:08.7,31.°24S×174.°55W,h51km,mb4.9/7, Kermadec Islands Region*
*IDC **07** 17:55:49.0±0.8,32.°59S×178.°40W,h0km,mb4.2/8, mb1 4.4/10,mb1mx4.1/29,mbtmp4.3/10,ML4.4/2,MS3.7/6, Ms1 3.7/6,ms1mx3.4/25,Error ellipse: s-maj=26.1km s-min=19.0km az=100.0*
*NEIC **07** 17:55:50.0±1.8,32.°64S±0.°09×178.°3W±0.°2,h7km±4km, mb4.7/22,Error ellipse: s-maj=24.2km s-min=13.0km az=97.0*
*WEL **07** 17:55:50.1±1.1,33.°5S±8.°×17.°8W±2.°4,h33km,M4.8/9, mB5.2/6,ML5.2/11,MLv5.0/9,Mw(mB)4.5/6,Error ellipse: s-maj=0.0km s-min=0.0km az=107.4*
ISC 07 17:55:52.5±0.6,**32.°76S**±0.°05×**178.°3W**±0.°1,**h32**km,**n90,** σ1s**96**/83,**mb4.6**/18,**MS3.5**/8,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
GLKZ	**Green Lake**	**3.50**	**5**	P	**Pn**	**17 56 42.4**	**-2.4**
GLKZ				S	**Sn**	**17 57 22.4**	**-2.7**
RAO	**Raoul Island**	**3.51**	**5**	Pn	**Pn**	**17 56 41.4**	**-3.5**
	36nm,0.3s,baz=270,slow=20,SNR=1.8						
RAO				Sn	**Sn**	**17 57 23.4**	**-1.9**
	173nm,0.3s,baz=90,slow=23,SNR=5.0						
RAO	**Raoul Island**	**3.51**	**5**		**Pn**	**17 56 41.6**	**-3.3**
RIZ	**Raoul Island**	**3.52**	**5**	P	**Pn**	**17 56 43.1**	**-1.9**
RIZ				S	**Sn**	**17 57 24.3**	**-1.2**
MXZ	**Matakaoa Point**	**5.54**	**209**	Pn	**Pn**	**17 57 10.6**	**-2.2**
MXZ	**Matakaoa Point**	**5.54**	**209**	P	**Pn**	**17 57 10.5**	**-2.3**
MXZ				S	**Sn**	**17 58 13.9**	**-1.5**
WMGZ	**Waiomatatini S**	**5.72**	**207**	P	**Pn**	**17 57 14.1**	**-1.1**
WMGZ				S	**Sn**	**17 58 18.7**	**-1.1**
PKGZ	**Pakihiroa**	**5.92**	**209**	P	**Pn**	**17 57 16.0**	**-2.0**
PKGZ				S	**Sn**	**17 58 22.0**	**-2.7**
HAZ	**Te Kaha**	**5.93**	**212**	P	**Pn**	**17 57 16.3**	**-1.8**
HAZ				S	**Sn**	**17 58 24.5**	**-0.5**
PUZ	**Puketiti**	**6.00**	**207**	P	**Pn**	**17 57 16.3**	**-2.8**
PUZ				S	**Sn**	**17 58 25.3**	**-1.5**
RUGZ	**Raukumara Rang**	**6.15**	**211**	P	**Pn**	**17 57 19.4**	**-1.8**
RUGZ				S	**Sn**	**17 58 29.4**	**-1.2**
TWGZ	**Tauwhareparae**	**6.20**	**208**	P	**Pn**	**17 57 20.3**	**-1.6**
TWGZ				S	**Sn**	**17 58 30.2**	**-1.5**
KUZ	**Kuaotunu**	**6.33**	**229**	P	**Pn**	**17 57 24.5**	**+0.8**
CNGZ	**Carnagh Statio**	**6.38**	**206**	P	**Pn**	**17 57 22.1**	**-2.3**
CNGZ				S	**Sn**	**17 58 35.1**	**-1.0**
TKGZ	**Te Karaka**	**6.48**	**208**	P	**Pn**	**17 57 25.2**	**-0.5**
TKGZ				S	**Sn**	**17 58 35.9**	**-2.6**
MWZ	**Matawai**	**6.52**	**210**	P	**Pn**	**17 57 23.6**	**-2.7**
OPRZ	**Ohinepanea**	**6.60**	**218**	P	**Pn**	**17 57 27.1**	**-0.1**
URZ	**Urewera**	**6.65**	**213**	Pn	**Pn**	**17 57 27.4**	**-0.6**
	7.4nm,0.3s,baz=301,slow=23,SNR=24						
URZ				Sn	**Sn**	**17 58 40.1**	**-2.5**
	18nm,0.3s,baz=212,slow=22,SNR=8.8						
URZ	**Urewera**	**6.65**	**213**		**Pn**	**17 57 26.0**	**-1.9**
RAGZ	**Rawiri**	**6.71**	**210**	P	**Pn**	**17 57 26.6**	**-2.2**
OUZ	**Omahuta**	**7.17**	**248**		**Pn**	**17 57 37.8**	**+2.6**
BKZ	**Black Stump Fm**	**7.67**	**212**		**Pn**	**17 57 38.9**	**-3.0**
HIZ	**Hauiti**	**8.01**	**222**	Pn	**Pn**	**17 57 42.9**	**-3.7**
KHZ	**Kahutara**	**11.61**	**212**	Pn	**Pn**	**17 58 32.8**	**-3.1**
LTZ	**Lake Taylor**	**12.47**	**214**	Pn	**Pn**	**17 58 43.6**	**-4.2**
RPZ	**Rata Peaks**	**13.76**	**214**	Pn	**Pn**	17 58 59.3	-6.1
MSVF	**Nonsavu**	**15.32**	**347**	LR	LR	18 04 31.1	
	comp=Z,281nm,18.4s,baz=196,slow=34						
WKZ	**Wanaka**	**15.57**	**216**	Pn	**Pn**	**17 59 24.9**	**-4.8**
MLZ	**Mavora Lakes**	**16.40**	**216**	Pn	**Pn**	**17 59 36.8**	**-3.5**
DZM	**Mont Dzumac**	**17.22**	**304**	*e*LR	LR	18 03 44.2	
	comp=Z,635nm,24.1s						
DZM	**Mont Dzumac**	**17.22**	**304**	P	**P**	**17 59 54.3**	**+2.2**
	0.1nm,0.3s,baz=142,slow=19,SNR=4.2						
RAR	**Rarotonga**	**20.08**	**60**	LR	LR	18 08 54.8	
	comp=Z,122nm,18.2s,baz=251,slow=39						
SANVU	**Saraoutou**	**21.70**	**319**	P	**P**	**18 00 35.4**	**-5.5**
SANVU				IAmb	IAmb	18 00 49.1	
	comp=Z,45nm,0.9s						
TBI	**Tubuai**	**27.04**	**77**	*e*LR	LR	18 08 14.2	
	comp=Z,136nm,31.5s						
EIDS	**Eidsvold**	**27.70**	**277**	P	**P**	**18 01 38.2**	**+0.3**
EIDS				IAmb	IAmb	18 01 40.5	
	comp=Z,9.5nm,1.1s						
TOO	**Toolangi**	**29.88**	**250**	P	**P**	**18 01 57.5**	**+0.3**
PPT2	**Papeete2**	**29.93**	**67**	*e*LR	LR	18 09 32.0	
	comp=Z,162nm,28.2s						
PPT	**Papeete**	**29.94**	**67**	LR	LR	18 10 53.1	
	comp=Z,70nm,21.2s,baz=226,slow=30						
STKA	**Stephens Creek**	**33.78**	**260**	P	**P**	**18 02 32.0**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=128,slow=9.6,SNR=1.2						
STKA				LR	LR	18 15 42.7	
	comp=Z,249nm,18.2s,baz=36,slow=35						
CTAO	**Charters Tower**	**34.01**	**283**	P	**P**	**18 02 35.7**	**+2.1**
BBOO	**Buckleboo**	**38.15**	**257**	P	**P**	**18 03 07.9**	**-1.0**
BBOO				IAmb	IAmb	18 03 09.8	
	comp=Z,32nm,1.5s						
COEN	**Coen**	**39.74**	**289**		**P**	**18 03 23.0**	**+0.6**
COEN				IAmb	IAmb	18 03 27.2	
	comp=Z,20nm,1.1s						
AS31	**Alice Springs**	**42.79**	**270**	P	**P**	**18 03 47.5**	**+0.1**
ASAR	**Alice Springs**	**42.80**	**270**	P	**P**	**18 03 48.1**	**+0.7**
	comp=Z,6.2nm,0.6s,baz=108,slow=7.5,SNR=106						
ASAR	**Alice Springs**	**42.80**	**270**	P	**P**	**18 03 46.8**	**-0.6**
WR0	**Warramunga Arr**	**43.82**	**275**	P	**P**	**18 03 55.5**	**-0.3**
WR0				IAmb	IAmb	18 04 04.9	
	comp=Z,11nm,1.1s						
WB2	**Warramunga Arr**	**43.99**	**275**	P	**P**	**18 03 56.9**	**-0.2**
WRA	**Warramunga Arr**	**44.00**	**275**	P	**P**	**18 03 57.5**	**+0.3**
	comp=Z,9.4nm,0.6s,baz=118,slow=7.7,SNR=151						
WRA	**Warramunga Arr**	**44.00**	**275**	P	**P**	**18 03 56.6**	**-0.6**
FORT	**Forrest**	**45.25**	**257**	P	**P**	**18 04 06.4**	**-0.7**
VNDA	**Vanda**	**45.73**	**186**	P	**P**	**18 04 13.2**	**+3.0**
	comp=Z,0.5nm,0.7s,baz=3.3,slow=6.3,SNR=2.5						
JAY	**Jayapura**	**48.80**	**299**	P	**P**	**18 04 35.5**	**+0.5**
	comp=Z,3.0nm,0.8s,baz=60,slow=20,SNR=1.5						
MTN	**Manton Dam**	**50.15**	**281**	P	**P**	**18 04 43.7**	**-1.6**
MTN				IAmb	IAmb	18 04 59.6	
	comp=Z,12nm,0.8s						
KNRA	**Kununurra**	**50.68**	**276**	P	**P**	**18 04 48.7**	**-0.5**
KNRA				IAmb	IAmb	18 04 55.7	
	comp=Z,9.3nm,1.1s						
FITZ	**Fitzroy Crossi**	**52.15**	**272**	P	**P**	**18 05 00.2**	**0.0**
	comp=Z,4.5nm,0.7s,baz=145,slow=7.6,SNR=22						
FITZ	**Fitzroy Crossi**	**52.15**	**272**	P	**P**	**18 05 00.1**	**-0.1**
FITZ				IAmb	IAmb	18 05 01.1	
	comp=Z,4.8nm,0.7s						
CASY	**Casey**	**52.95**	**209**	P	**P**	**18 05 06.3**	**+0.9**
CASY				IAmb	IAmb	18 05 19.5	
	comp=Z,5.8nm,0.8s						
QSPA	**South Pole Qui**	**57.35**	**180**	P	**P**	**18 05 40.2**	**+2.8**
	comp=Z,2.0nm,1.0s,baz=0.1,slow=1.9,SNR=5.8						
QSPA	**South Pole Qui**	**57.35**	**180**	P	**P**	**18 05 39.6**	**+2.1**
QSPA				IAmb	IAmb	18 06 01.3	
	comp=Z,10nm,1.0s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	59.07	104	LR	LR	18 25 32.2	
	comp=Z,42nm,19.1s,baz=276,slow=30						
MAW	Mawson	70.02	201	P	P	18 07 02.0	+1.3
USHA	Ushuaia	74.11	146	LR	LR	18 31 15.1	
	comp=Z,965nm,19.8s,baz=319,slow=29						
SNAA	Sanae	75.81	179	P	P	18 07 44.8	+10
SNAA	Sanae	75.81	179	P	P	18 07 35.3	+0.3
SNAA				IAmb	IAmb	18 07 54.3	
	comp=Z,4.0nm,0.9s						
VNA3	Neumayer Olymp	75.97	176	P	P	18 07 46.4	+11
VNA2	Neumayer--Watz	76.40	177	P	P	18 07 48.5	+10
	baz=172,slow=5.6						
VNA1	Neumayer--Stat	76.63	177	P	P	18 07 50.3	+11
H03S2	Juan Fernandez	79.37	123	T	T	19 36 39.0	
	baz=236,slow=74,SNR=4.3						
H03S1	Juan Fernandez	79.38	123	T	T	19 36 36.1	
	baz=236,slow=74,SNR=3.6						
H03S3	Juan Fernandez	79.39	123	T	T	19 36 38.7	
	baz=236,slow=74,SNR=3.2						
H03N3	Juan Fernandez	79.58	123	T	T	19 36 53.0	
	baz=240,slow=74,SNR=3.2						
H03N2	Juan Fernandez	79.58	123	T	T	19 36 52.9	
	baz=240						
H03N1	Juan Fernandez	79.59	123	T	T	19 36 52.9	
	baz=240,slow=74,SNR=4.9						
PLCA	Paso Flores	81.08	133	LR	LR	18 38 30.8	
	comp=Z,53nm,19.7s,baz=172,slow=32						
PETK	Petropavlovsk-	88.03	346	P	P	18 08 41.0	+1.9
	comp=Z,0.8nm,0.6s,baz=108,slow=7.0,SNR=6.6						
PAHR	Pah Rah Range	90.40	41	P	P	18 08 51.3	+0.6
PAHR				IAmb	IAmb	18 08 53.1	
	comp=Z,3.2nm,0.6s						
MKAR	Makanchi Array	119.09	309	PKP	PKiKP	18 14 38.0	+0.2
	comp=Z,0.5nm,0.6s,baz=221,slow=2.2,SNR=6.0						
ZALV	Zalesovo Beam	119.62	318	PKP	PKiKP	18 14 38.5	0.0
	comp=Z,0.7nm,0.6s,baz=152,slow=6.5,SNR=2.3						
ARCES	ARCESS Array B	140.83	347	PKhKP	PKPpre	18 15 13.3	
	comp=Z,4.3nm,1.1s,baz=337,slow=2.8,SNR=3.6						
ARCES				PKP	PKiKP	18 15 20.7	-0.1
	comp=Z,1.1nm,0.7s,baz=2.4,slow=2.2,SNR=5.0						
KBZ	Khabaz	146.17	301	PKPbc	PKPab	18 15 29.8	-0.2
	comp=Z,1.3nm,0.6s,baz=80,slow=2.0,SNR=4.4						
FINES	FINESS Array B	147.26	339	PKPbc	PKPab	18 15 32.6	-1.1
	comp=Z,16nm,0.9s,baz=51,slow=3.6,SNR=39						
FINES	FINESS Array B	147.26	339		PKPab	18 15 32.3	-1.4
NB2	NORSAR Subarra	151.04	350	PKP	PKiKP	18 15 42.6	+0.5
	comp=Z,1.4nm,0.6s,baz=16,slow=2.6						
NOA	NORSAR Array B	151.04	350	PKPbc	PKiKP	18 15 42.6	+0.5
	comp=Z,1.7nm,0.8s,baz=15,slow=4.6,SNR=9.5						
AKASG	Malin Array Be	152.98	320	PKPbc	PKiKP	18 15 46.5	+0.1
	comp=Z,2.0nm,0.5s,baz=46,slow=2.6,SNR=14						
AKASG	Malin Array Be	152.98	320		PKiKP	18 15 47.1	+0.8
BRTR	Keskin Array B	153.43	294	PKPbc	PKiKP	18 15 49.0	+1.2
	comp=Z,2.2nm,0.5s,baz=140,slow=5.1,SNR=6.7						
CLL	Collm	159.70	339	ePKPab	PKPab	18 16 26.0	-0.3
	comp=Z,17nm,1.8s						
TORD	Torodi Ar. Bea	160.48	180	PKPab	PKPab	18 16 32.4	+1.9
	comp=Z,1.0nm,1.0s,baz=200,slow=3.8,SNR=3.7						
GERES	GERESS Array B	161.59	334	PKPab	PKPab	18 16 35.4	+0.7
	comp=Z,0.2nm,0.4s,baz=355,slow=5.2,SNR=2.2						

IDC 07 18:00:50.8±11.0, 16°.61S×174°.21W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/25, mbtmp3.7/3, Error ellipse: s-maj=519.2km s-min=41.3km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	48.82	258	P	P	18 09 37.6	-0.7
	0.3nm,0.4s,baz=89,slow=7.7,SNR=4.8						
ASAR	Alice Springs	49.00	253	P	P	18 09 40.0	+0.3
	1.5nm,0.6s,baz=89,slow=7.7,SNR=29						
ILAR	Eielson Array	83.78	11	P	P	18 13 21.5	0.0
	0.2nm,0.5s,baz=213,slow=4.3,SNR=2.2						

IDC 07 18:12:44.4±3.1, 33°.01S×178°.24W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/24, mbtmp3.8/3, ML3.8/1, Error ellipse: s-maj=72.3km s-min=36.7km az=118.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.46	215	Pn	Pn	18 14 20.9	+0.2
	1.9nm,0.3s,baz=121,slow=23,SNR=10						
URZ				Sn	Sn	18 15 34.4	-0.8
	1.3nm,0.3s,baz=301,slow=20,SNR=2.3						
ASAR	Alice Springs	42.84	270	P	P	18 20 44.4	0.0
	0.6nm,0.7s,baz=109,slow=7.5,SNR=10						
WRA	Warramunga Arr	44.06	275	P	P	18 20 54.2	0.0
	0.9nm,0.5s,baz=115,slow=7.8,SNR=20						
FINES	FINESS Array B	147.50	338	PKPbc	PKPbc	18 32 28.7	-0.9
	2.6nm,1.0s,baz=26,slow=4.7,SNR=5.3						

IDC 07 18:17:34.8±3.3, 32°.64S×178°.35W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/24, mbtmp3.7/3, ML3.3/1, Error ellipse: s-maj=74.0km s-min=38.0km az=114.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.72	212	Pn	Pn	18 19 14.8	+0.1
	0.5nm,0.3s,baz=127,slow=20,SNR=2.7						
URZ				Sn	Sn	18 20 30.2	-1.7
	0.5nm,0.3s,baz=128,slow=20,SNR=2.0						
ASAR	Alice Springs	42.74	270	P	P	18 25 34.2	+0.2
	0.5nm,0.6s,baz=104,slow=7.6,SNR=14						
WRA	Warramunga Arr	43.93	275	P	P	18 25 43.6	-0.1
	0.5nm,0.3s,baz=114,slow=7.9,SNR=9.3						
FINES	FINESS Array B	147.13	339	PKPbc	PKPbc	18 37 18.0	-1.0
	3.3nm,1.0s,baz=46,slow=4.0,SNR=3.7						

*NEIC **07** 18:18:37.4±1.2, 23°.4S±0°.1×175°.8W±0°.1, h40km±8km, mb4.4/14, Error ellipse: s-maj=21.2km s-min=16.4km az=139.0*

*IDC **07** 18:18:43.2±5.4, 23°.88S×176°.00W, h82km±45km, mb3.7/7, mb1 4.0/8, mb1mx3.7/25, mbtmp4.1/8, ML5.1/1, MS3.3/3, Ms1 3.3/3, ms1mx3.0/26, Error ellipse: s-maj=35.1km s-min=27.3km az=132.0*

ISC 07 18:18:36.8±0.8, 23°.69S±0°.08×175°.8W±0°.1, h33km, n29, σ1s.67/26, mb4.3/13, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.85	198	Pn	Pn	18 20 04.3	+3.0
RAO				Sn	Sn	18 21 05.3	-1.9
NIUE	Niue	7.14	51	Pn	Pn	18 20 12.5	-6.5
NIUE					Sn	18 21 20.8	-18
MSVF	Nonsavu	8.26	315	P	Pn	18 20 41.0	+6.6
	0.8nm,0.3s,baz=130,slow=18,SNR=5.8						
MSVF				LR	LR	18 23 29.4	
	comp=Z,308nm,20.0s,baz=157,slow=35						
MSVF	Nonsavu	8.26	315		Pn	18 20 37.4	+3.0
URZ	Urewera	15.73	201	Pn	Pn	18 22 15.7	-0.3
URZ				IAmb	IAmb	18 22 33.6	
	comp=Z,35nm,1.3s						
DZM	Mont Dzumac	16.44	272	LR	LR	18 27 24.7	
	comp=Z,99nm,18.2s,baz=154,slow=32						
PPT	Papeete	25.26	81	LR	LR	18 33 03.3	
	comp=Z,43nm,19.7s,baz=228,slow=34						
EIDS	Eidsvold	30.14	260	P	P	18 24 41.9	-1.9
EIDS				IAmb	IAmb	18 25 01.5	
	comp=Z,4.8nm,1.1s						
CTAO	Charters Tower	35.33	268	P	P	18 25 28.4	-0.9
AS31	Alice Springs	45.86	259	P	P	18 26 55.2	-1.1
ASAR	Alice Springs	45.86	259	P	P	18 26 55.4	-0.9
	comp=Z,1.4nm,0.7s,baz=89,slow=6.8,SNR=17						
WR0	Warramunga Arr	46.07	265	P	P	18 26 56.7	-1.2
WR0				IAmb	IAmb	18 26 58.6	
	comp=Z,4.3nm,1.1s						
WB2	Warramunga Arr	46.25	265	P	P	18 26 57.5	-1.8
WB2				IAmb	IAmb	18 27 00.0	
	comp=Z,4.8nm,0.9s						
WRA	Warramunga Arr	46.26	265	P	P	18 26 58.2	-1.2
	comp=Z,1.8nm,0.5s,baz=99,slow=8.5,SNR=28						
WRA	Warramunga Arr	46.26	265	P	P	18 26 58.1	-1.3
MTN	Manton Dam	51.28	272	P	P	18 27 37.1	-0.9
MTN				IAmb	IAmb	18 28 00.1	
	comp=Z,5.8nm,1.1s						
KNRA	Kununurra	52.54	268	P	P	18 27 46.2	-1.1
KNRA				IAmb	IAmb	18 27 47.9	
	comp=Z,9.4nm,1.1s						
FITZ	Fitzroy Crossi	54.68	264	P	P	18 28 03.1	+0.1
FITZ				IAmb	IAmb	18 28 20.3	
	comp=Z,6.0nm,1.4s						
QSPA	South Pole Qui	66.39	180	P	P	18 29 23.9	+1.5
	comp=Z,1.7nm,1.1s,baz=337,slow=3.3,SNR=2.3						
QSPA	South Pole Qui	66.39	180	P	P	18 29 23.7	+1.3
QSPA				IAmb	IAmb	18 29 24.6	
	comp=Z,4.0nm,1.3s						
MAW	Mawson	79.26	199	P	P	18 30 36.7	-1.7
	comp=Z,2.6nm,0.8s,baz=90,slow=5.1,SNR=4.5						
MAW	Mawson	79.26	199	P	P	18 30 39.5	+1.1
PET	Petropavlovsk	79.56	345	P	P	18 30 37.5	-2.6
TXAR	Lajitas Array	87.08	56	P	P	18 31 20.5	+0.9
	comp=Z,0.7nm,1.1s,baz=198,slow=6.4,SNR=4.7						
TXAR	Lajitas Array	87.08	56	P	P	18 31 17.4	-2.2
ILAR	Eielson Array	90.98	12	P	P	18 31 37.7	+0.7
	comp=Z,0.4nm,0.8s,baz=218,slow=5.7,SNR=2.7						
CMAR	Chiang Mai Arr	93.08	289	P	P	18 31 49.7	+1.9
	comp=Z,2.8nm,1.0s,baz=135,slow=3.4,SNR=13						
CHTO	Chiang Mai	93.23	289	P	P	18 31 47.1	-1.4
AKASG	Malin Array Be	146.78	331	PKPbc	PKPbc	18 38 15.6	+0.3
	comp=Z,1.5nm,0.5s,baz=42,slow=3.8,SNR=11						

IDC 07 18:31:41.2±7.0, 32°.51S×178°.56W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/19, mbtmp3.6/2, Error ellipse: s-maj=307.4km s-min=63.9km az=160.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.57	269	P	P	18 39 38.9	-0.2
	0.4nm,0.6s,baz=98,slow=7.5,SNR=5.2						
WRA	Warramunga Arr	43.75	275	P	P	18 39 48.5	-0.2
	0.6nm,0.5s,baz=117,slow=7.4,SNR=11						
FINES	FINESS Array B	146.95	338	PKPbc	PKPbc	18 51 24.2	-0.7
	3.2nm,1.0s,baz=46,slow=4.0,SNR=1.6						

MEX 07 18:47:38.1±0.9, 17°.52N×103°.42W, h16km±173km, MD3.9, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.76	5	*i* P	Pg	18 47 49.5	-3.5
MMIG				*i* S	Sg	18 47 59.1	-4.0
COIG	Colima	1.67	351	*e*P	Pn	18 48 03.5	-3.3
COIG				*e*S	Sn	18 48 23.0	-4.9
R15V		1.72	342	*e*P	Pn	18 48 04.0	-3.5
R15V				*e*S	Sn	18 48 24.0	-5.3
EZ5V		1.95	355	*e*P	Pn	18 48 07.6	-3.3
EZ5V				*e*S	Sn	18 48 31.1	-4.1
CJM	Chamela	2.50	322	*e*P	Pn	18 48 12.5	-5.6
CJM				*e*S	Sn	18 48 42.7	-5.5

MEX 07 18:49:47.2±0.6, 15°.34N×94°.20W, h87km±37km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.02	69	*e*P	Pn	18 50 05.4	-1.5
PCIG				*e*S	Sn	18 50 20.1	-1.5
TGIG		1.77	36	*e*P	Pn	18 50 17.9	+1.5
TGIG				*e*S	Sn	18 50 42.9	+4.4
CMIG	Matias Romero	1.86	339	*e*P	Pn	18 50 16.3	-1.3
CMIG				*e*S	Sn	18 50 39.2	-1.5

*IDC **07** 19:01:45.0±1.6, 50°.33N×97°.83E, h0km, mb3.7/1, mb1 3.3/6, mb1mx3.1/52, mbtmp3.3/6, ML2.8/5, Error ellipse: s-maj=49.6km s-min=14.9km az=13.0*

ISC 07 19:01:47.0±0.8, 50°.76N±0°.07×98°.10E±0°.04, h10km, n20, σ1s.87/32, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERNS	Erzin	1.95	256	P	Pn	19 02 19.6	-0.5
ERNS				S	Sn	19 02 46.2	+1.5
MOY	Mondy	2.03	62	P	Pb	19 02 23.8	-0.2
MOY				S	Sb	19 02 51.0	+1.6
KZLR	Kyzyl	2.48	294	P	Pn	19 02 29.4	+1.9
KZLR				S	Sb	19 03 01.5	-0.7
ZAK	Zakamensk	3.32	95	P	Pb	19 02 46.6	+0.6
ZAK				S	Sb	19 03 28.7	+2.2
IRK	Irkutsk	4.13	67	S	Sb	19 03 50.5	+0.9
TRG	Tyrgan	5.50	65	P	Pb	19 03 20.8	-2.2
TRG				S	Sb	19 04 27.8	-1.1
SHRR	Shira	6.11	311	P	Pn	19 03 19.3	+2.1
SHRR				S	Sn	19 04 29.2	+2.1
SONM	Songino Array	6.16	115	Pn	Pn	19 03 18.5	+0.3
	0.4nm,0.3s,baz=294,slow=14,SNR=12						
SONM				Pg	Pb	19 03 35.5	+1.1
	2.2nm,0.3s,baz=294,slow=17,SNR=9.3						
SONM				Lg	Lg	19 05 00.7	
	12nm,0.3s,baz=296,slow=31,SNR=15						
CUR	Chagan-Uzun	6.27	268	P	Pn	19 03 19.4	-0.2
CUR				S	Sn	19 04 32.2	+1.0
LUZB	Luzhba, Kemero	6.36	301	P	Pn	19 03 22.5	+1.9
LUZB				S	Sn	19 04 34.2	+1.0
ULGR	Ulagan, Altay	6.45	273	S	Sn	19 04 39.2	+3.6
TASR	Tashtagol	6.66	291	P	Pn	19 03 26.5	+1.8
TASR				S	Sn	19 04 40.6	+0.1
AKAR	Aktash	6.70	270	P	Pn	19 03 28.9	+3.4
AKAR				S	Sn	19 04 43.9	+2.1
CHBI	Chibit, Altay	6.77	270	P	Pn	19 03 27.1	+0.7
CHBI				S	Sn	19 04 45.7	+2.1
ARTR	Artybash	6.87	283	S	Sn	19 04 45.4	-0.5
ZALV	Zalesovo Beam	8.73	297	Pn	Pn	19 03 54.5	+1.3
	0.4nm,0.3s,baz=112,slow=17,SNR=2.8						
ZALV				Lg	Lg	19 06 13.4	
	0.8nm,0.3s,baz=104,slow=25,SNR=6.6						
MKAR	Makanchi Array	11.16	255	Pn	Pn	19 04 23.1	-3.4
	0.0nm,0.3s,baz=70,slow=13,SNR=1.6						
MKAR				Pg		19 05 06.2	
	0.2nm,0.3s,baz=69,slow=20,SNR=4.1						
MKAR				Lg	Lg	19 07 28.7	
	0.1nm,0.3s,baz=66,slow=30,SNR=1.6						
KURBB	Kurchatov Arra	12.41	277	Pn	Pn	19 04 41.2	-2.4
	0.0nm,0.3s,baz=81,slow=15,SNR=2.3						
KURBB				Lg	Lg	19 08 12.1	
	0.0nm,0.3s,baz=87,slow=31,SNR=5.1						
BVAR	Borovoye Array	17.21	288	P	Pn	19 05 46.8	-0.5
	0.2nm,0.3s,baz=96,slow=10.0,SNR=2.5						
AKTO	Aktyubinsk	25.23	285	P	P	19 07 10.0	-2.8
	1.2nm,0.7s,baz=81,slow=8.5,SNR=6.3						

*TUL **07** 19:12:15.5±1.6, 35°.59N±0°.01×97°.40W±0°.01, h4km±3km, ML2.5, mb_Lg2.3/10(NEIC), Error ellipse: s-maj=2.2km s-min=1.2km az=148.0*

NEIC 07 19:12:15.5±1.4, 35°.61N±0°.01×97°.42W±0°.02, h5km±3km, Error ellipse: s-maj=2.9km s-min=1.8km az=109.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	Oakdale Elemen	0.03	191		Pg	19 12 16.5	0.0
OK009				Sg	Sg	19 12 17.5	+0.3
OK025	Westminster Rd	0.07	113		Pg	19 12 17.0	0.0
OK025				Sg	Sg	19 12 18.4	+0.2
OK001	Jones High Sch	0.11	115	Pg	Pg	19 12 17.5	-0.3
OK001				Sg	Sg	19 12 19.7	+0.3
OK029	Liberty Lake	0.19	351		Pg	19 12 19.7	+0.5
OK029				Sg	Sg	19 12 22.9	+1.1
OKCFA	Oklahoma City	0.20	188		Pg	19 12 19.3	-0.1
OKCFA				Sg	Sg	19 12 22.5	+0.6
OKCSW	OKLAHOMA CITY	0.20	185		Pg	19 12 18.9	-0.5
OKCSW				Sg	Sg	19 12 22.7	+0.5
FNO	Franklin	0.35	178		Pg	19 12 22.2	-0.1
FNO				Sg	Sg	19 12 27.5	+0.6
OK031	S. Brethren Rd	0.58	54		Pg	19 12 26.6	-0.1
OK031				Sg	Sg	19 12 34.8	+0.5
QUOK	Quay	0.80	46		Pg	19 12 30.5	-0.4
CROK	Carrier	1.00	333		Pg	19 12 34.7	-0.1
X34A	Smith Ranch, M	1.06	199	Pg	Pg	19 12 34.8	-1.0
BLOK	Blackwell	1.16	8		Pg	19 12 37.2	-0.6
GC02	Grant County #	1.29	344		Pn	19 12 39.5	-0.7
OK032	Salt Plains WL	1.35	332		Pn	19 12 40.5	-0.6
KAN14	Manchester OK	1.42	342		Pn	19 12 41.6	-0.3
WMOK	Wichita Mounta	1.42	233		Pn	19 12 40.9	-1.0
KAN17	Caldwell West	1.46	349		Pn	19 12 42.5	-0.1
T35A	Sooner Cattle	1.50	29		Pn	19 12 42.7	-0.3
U32A	Winter Ranch,	1.50	301	Pn	Pn	19 12 42.9	-0.2
U32A					Sg	19 13 03.5	-0.1
KAN05	Bluff City Nor	1.54	346	Pn	Pb	19 12 44.2	-0.3
KS20	Mayfield South	1.62	356	Pn	Pb	19 12 45.5	-0.4
LOOK	Love County	1.62	173		Pn	19 12 44.6	-0.1
KAN08	Anthony NE Sta	1.68	345	Pn	Pn	19 12 46.0	+0.5
KS21	Milan North St	1.69	353	IAmb_Lg		19 13 09.0	
	comp=Z,26nm,1.2s						
X37A	Clayton	1.96	121	Pn	Pn	19 12 50.1	+0.7
X37A				IAmb_Lg		19 13 19.8	
	comp=Z,12nm,0.8s						
Z35A	Perchaven, San	2.28	177		Pb	19 12 55.9	-1.1
U38A	Gravette	2.59	70	Pn	Pn	19 12 58.3	+0.2
R32A	Long Quarter,	2.99	340		Pn	19 13 04.0	+0.3
W39A	Magazine	3.00	97	Pn	Pn	19 13 03.5	-0.1
U40A	Yellville	3.77	77	IAmb_Lg		19 14 12.5	
	comp=Z,2.7nm,0.8s						
X40A	Basin Creek Fa	3.92	105	IAmb_Lg		19 14 26.0	
	comp=Z,12nm,1.2s						
N35A	Tabor	5.43	14	IAmb_Lg		19 15 14.7	
	comp=Z,10.0nm,0.7s						
PBMO	Poplar Bluff	5.77	76	IAmb_Lg		19 15 27.9	
	comp=Z,3.1nm,0.7s						

NOU 07 19:12:33.3, 14°.74S×173°.12W, h223km, MLv3.8/5, Samoa Islands Region, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.54	58	P	Pn	19 13 09.2	-0.3
AFI	Afiamalu	1.54	58	P	Pn	19 13 09.9	+0.4

*IDC **07** 19:14:53.7±0.6, 27°.00N×143°.75E, h0km, mb4.1/19, mb1 4.3/23, mb1mx4.2/43, mbtmp4.1/23, ML3.7/4, MS3.0/5, Ms1 3.0/5, ms1mx2.7/39, Error ellipse: s-maj=16.2km s-min=14.3km az=98.0*

*JMA **07** 19:14:56.2, 27°.37N×143°.64E, h18km±3km, M4.1*

*NIED **07** 19:14:56.3, 27°.37N×143°.64E, h18km, MW4.2, Moment Tensor Solution. s1 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.03; $M_{\theta\theta}$0.72; $M_{\phi\phi}$0.31; $M_{r\theta}$-2.15; $M_{\theta\phi}$-0.50; $M_{\phi r}$0.71; Fault plane solution: $M_0$2.49000×10^{15} NP1: ϕ_s110.00000°, δ78.00000°, λ-96.00000°. NP2: ϕ_s317.00000°, δ13.00000°, λ-64.00000°.*

*NEIC **07** 19:14:59.5±1.6, 27°.17N±0°.07×143°.62E±0°.07, h30km±4km, mb4.7/89 Error ellipse: s-maj=10.9km s-min=9.1km az=158.0*

ISC 07 19:14:59.3±0.5, 27°.18N±0°.05×143°.66E±0°.07, h35km, n139, σ1s.37/147, mb4.6/64, MS3.5/3, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.32	267	P	Pn	19 15 20.0	-1.2
CBIJ				S	Sn	19 15 37.1	-0.5
JCJ	Chichijima	1.32	266	Pn	Pn	19 15 20.1	-1.1
	128nm,0.3s,baz=19,slow=7.0,SNR=36						
JCJ				Sn	Sn	19 15 36.3	-1.3
	423nm,0.3s,baz=287,slow=23,SNR=11						
JHH2	Haha-jima-NKT2	1.44	248	*e*S	Sn	19 15 41.7	+1.2
JHJ2	Mitsune	6.78	332	Pn	Pn	19 16 35.5	-0.8
JHJ	Hachijo jima 2	6.80	331	Pn	Pn	19 16 33.8	-2.8
	12nm,0.3s,baz=256,slow=23,SNR=8.9						
JHJ				Sn	Sn	19 17 48.7	-4.1
	12nm,0.3s,baz=252,slow=15,SNR=2.3						
BSO3	Boso 3	8.06	341	P	Pn	19 16 53.2	-0.4
JHU	Hanno	9.41	338	P	Pn	19 17 11.7	-0.7
JYT	Yasato	9.49	343	Pn	Pn	19 17 12.5	-0.9
JRY	Ryogami san	9.69	336	P	Pn	19 17 15.5	-0.8
JAG	Ashikaga	9.88	340	P	Pn	19 17 16.8	-2.1
MJAR	Matsushiro Arr	10.41	335	Pn	Pn	19 17 25.3	-0.9
	1.0nm,0.3s,baz=162,slow=11,SNR=54						
MJAR				Sn	Sn	19 19 18.0	-3.7
	0.1nm,0.3s,baz=151,slow=26,SNR=3.2						
MJAR	Matsushiro Arr	10.41	335	Pn	Pn	19 17 25.1	-1.1
MAJO	Matsushiro	10.42	335	Pn	Pn	19 17 26.4	+0.2
MAT	Matsushiro	10.42	335	P	Pn	19 17 25.9	-0.3
MAT				*e*S	Sn	19 19 19.1	-2.6
MJB9	Matsu-Tunnel	10.42	335		Pn	19 17 26.6	+0.3
JMM	Marumori	10.92	348		Pn	19 17 30.1	-2.9
ANA2	Anatahan	10.96	170	Pn	Pn	19 17 33.6	-0.1
JSD	Sado	11.74	339	Pn	Pn	19 17 42.4	-1.9
JOW	Kunigami	13.72	272	LR	LR	19 22 24.1	
	comp=Z,62nm,21.5s,baz=6.5,slow=33						
KSRS	Korea Array	16.76	312	Pn	P	19 18 53.5	+0.2
	0.3nm,0.3s,baz=120,slow=11,SNR=10						
KSRS				LR	LR	19 25 24.4	
	comp=Z,15nm,18.8s,baz=135,slow=37						
JKA	Kamikawa-asahi	16.92	357		Pn	19 18 52.3	-0.9
ASAJ	Asahikawa	16.92	357	P	Pn	19 18 52.3	-0.9
	0.5nm,0.3s,baz=208,slow=8.3,SNR=5.7						
ASAJ				LR	LR	19 24 39.7	
	comp=Z,52nm,20.7s,baz=194,slow=34						
USRK	Ussuriysk Ar.	19.41	334	P	Pn	19 19 23.7	0.0
	baz=146,slow=10,SNR=13						
USRK	Ussuriysk Ar.	19.41	334	P	P	19 19 22.4	0.0
YULB	Yu-li	20.56	264	P	P	19 19 30.9	-4.3
SSLB	Suanglung	20.77	266		P	19 19 38.8	+1.4
SSLB				IAmb	IAmb	19 19 51.5	
	comp=Z,26nm,0.9s						
KLR	Kul'dur	23.86	340	P	P	19 20 11.1	+1.7
	comp=Z,7.1nm,0.7s,baz=141,slow=7.2,SNR=28						
PETK	Petropavlovsk-	27.93	18	LR	LR	19 30 16.8	
	comp=Z,34nm,21.5s,baz=202,slow=33						
TOLI2	Tolitoli	33.97	224	P	P	19 21 40.0	+0.3
TOLI2				IAmb	IAmb	19 21 40.8	
	comp=Z,7.2nm,0.9s						
SONM	Songino Array	35.57	315	P	P	19 21 55.2	+1.8
	comp=Z,0.9nm,0.5s,baz=120,slow=7.7,SNR=7.8						
YAK	Yakutsk	36.07	349	P	P	19 21 58.0	+0.7
YAK				IAmb	IAmb	19 22 12.3	
	comp=Z,6.6nm,1.0s						
SEY	Seymchan	36.21	7	P	P	19 21 59.9	+1.4
	comp=Z,1.7nm,0.7s,baz=146,slow=8.1,SNR=5.0						
MTN	Manton Dam	41.61	199	P	P	19 22 42.8	-1.3
MTN				IAmb	IAmb	19 22 44.7	
	comp=Z,23nm,1.2s						
CMMT	Chiang Mai	41.81	268	P	P	19 22 47.8	+1.8
	comp=Z,5.0nm,1.6s						
CHTO	Chiang Mai	41.82	268	P	P	19 22 47.9	+1.9
	comp=Z,5.1nm,1.6s						
CHTO	Chiang Mai	41.82	268	P	P	19 22 46.5	+0.5
CMAR	Chiang Mai Arr	41.94	268	P	P	19 22 47.3	+0.3
	comp=Z,0.5nm,0.7s,baz=54,slow=9.3,SNR=6.2						
TIXI	Tiksi	45.27	353	P	P	19 23 12.0	-1.0
TIXI				IAmb	IAmb	19 23 14.6	
	comp=Z,5.9nm,0.8s						
WR0	Warramunga Arr	47.69	192	P	P	19 23 30.5	-2.1
WB2	Warramunga Arr	47.71	192	P	P	19 23 30.9	-1.8
WB2				IAmb	IAmb	19 23 33.5	
	comp=Z,8.3nm,0.9s						
WRA	Warramunga Arr	47.71	192	P	P	19 23 30.9	-1.8
	comp=Z,4.5nm,0.7s,baz=11,slow=8.8,SNR=32						
WRA	Warramunga Arr	47.71	192	P	P	19 23 31.0	-1.8
FITZ	Fitzroy Crossi	48.29	203	P	P	19 23 35.5	-1.7
FITZ				IAmb	IAmb	19 23 39.0	
	comp=Z,6.5nm,1.0s						
SDPT	Sand Point	48.81	39		P	19 23 40.1	-0.7
CHGN	Chignik	50.14	38	P	P	19 23 50.0	-0.9
ZALV	Zalesovo Beam	50.28	319	P	P	19 23 53.2	+1.1
	comp=Z,0.9nm,0.7s,baz=78,slow=8.8,SNR=3.5						
ASAR	Alice Springs	51.42	191	P	P	19 23 59.2	-1.8
	comp=Z,0.5nm,0.7s,baz=6.7,slow=6.2,SNR=12						
MK31	Makanchi Array	51.43	310	P	P	19 24 01.5	+0.5
MKAR	Makanchi Array	51.43	310	P	P	19 24 01.9	+0.9
	comp=Z,1.5nm,0.6s,baz=90,slow=8.2,SNR=15						
MKAR				PcP	PcP	19 25 15.6	+0.5
	comp=Z,0.9nm,0.8s,baz=90,slow=4.8,SNR=2.5						
MAKZ	Makanchi	51.65	310	P	P	19 24 03.7	+1.1
O18K	Koktuh Hills	52.46	34	P	P	19 24 09.3	+0.9
O18K				IAmb	IAmb	19 24 11.2	
	comp=Z,8.0nm,0.9s						
N19K	Bonanza Creek	52.98	33	P	P	19 24 13.6	+1.3
N19K				IAmb	IAmb	19 25 05.3	
	comp=Z,8.9nm,1.4s						
NRIK	Noril'sk	53.05	338	P	P	19 24 14.1	+1.5
	comp=Z,2.6nm,0.5s,baz=110,slow=10,SNR=3.6						
NRIK	Noril'sk	53.05	338	P	P	19 24 14.2	+1.7
NRIK				IAmb	IAmb	19 24 14.7	
	comp=Z,7.6nm,1.1s						
OHAK	Old Harbor	53.07	37	P	P	19 24 13.2	+0.4
L19K	White Mountain	53.07	31	P	P	19 24 13.1	+0.2
P19K	Oil Pt	53.41	34	P	P	19 24 15.9	+0.4
KDAK	Kodiak Island	53.51	37	P	P	19 24 16.3	+0.3
	comp=Z,4.2nm,0.6s,baz=272,slow=6.4,SNR=14						

K20K	Telida	53.67	30	P	P	19 24 18.7	+1.5
K20K				IAmb	IAmb	19 24 19.7	
	comp=Z,5.8nm,0.7s						
J20K	Nowinta River	53.81	29	P	P	19 24 19.8	+1.6
J20K				IAmb	IAmb	19 24 20.7	
	comp=Z,7.3nm,0.7s						
CNPM	China Poot	54.40	35	P	P	19 24 22.9	+0.3
SKT	Skwentna	54.58	32	P	P	19 24 24.4	+0.5
SKT				IAmb	IAmb	19 24 35.5	
	comp=Z,12nm,1.7s						
I21K	Tanana	54.92	28	P	P	19 24 28.0	+1.7
I21K				IAmb	IAmb	19 24 29.4	
	comp=Z,6.1nm,1.1s						
RC01	Rabbit Creek A	55.32	33	P	P	19 24 29.4	+0.2
RC01				IAmb	IAmb	19 26 10.8	
	comp=Z,19nm,1.7s						
SEW	Seward	55.36	34	P	P	19 24 29.6	+0.1
SEW				IAmb	IAmb	19 24 40.2	
	comp=Z,8.9nm,1.0s						
TRF	Thorofare Moun	55.36	30	P	P	19 24 30.5	+0.9
TRF				IAmb	IAmb	19 24 32.2	
	comp=Z,4.8nm,0.6s						
MLY	Manley	55.41	28	P	P	19 24 31.1	+1.2
PMR	Palmer	55.66	32	P	P	19 24 31.9	+0.3
PMR				IAmb	IAmb	19 24 32.4	
	comp=Z,5.4nm,0.8s						
KNK	Knik Glacier	55.96	33	P	P	19 24 34.3	+0.4
PWL	Port Wells	55.97	33	P	P	19 24 34.0	0.0
RND	Reindeer	55.99	30	P	P	19 24 34.3	+0.2
RND				IAmb	IAmb	19 24 34.9	
	comp=Z,5.0nm,0.8s						
I23K	Minto, Yukon-K	56.01	28	P	P	19 24 35.8	+1.7
I23K				IAmb	IAmb	19 25 09.3	
	comp=Z,13nm,1.7s						
COLD	Coldfoot	56.02	25	P	P	19 24 35.9	+1.7
COLD				IAmb	IAmb	19 24 37.2	
	comp=Z,5.4nm,0.9s						
H23K	Yukon River	56.04	27	P	P	19 24 35.9	+1.6
NEA2	Nenana	56.05	29	P	P	19 24 35.6	+1.1
NEA2				IAmb	IAmb	19 24 36.2	
	comp=Z,4.6nm,0.7s						
SML	Sawmill	56.06	32	P	P	19 24 35.3	+0.7
SML				IAmb	IAmb	19 24 40.1	
	comp=Z,4.7nm,0.8s						
MDM	Murphy Dome	56.46	28	P	P	19 24 38.6	+1.2
MDM				IAmb	IAmb	19 24 42.5	
	comp=Z,16nm,1.9s						
TOLK	Toolik Lake Re	56.53	24	P	P	19 24 39.0	+1.2
TOLK				IAmb	IAmb	19 24 51.5	
	comp=Z,20nm,1.9s						
SCM	Sheep Creek Mo	56.54	32	P	P	19 24 38.8	+0.8
GLI	Glacier Island	56.58	33	P	P	19 24 38.8	+0.6
H24K	Noodor Dome	56.72	27	P	P	19 24 40.7	+1.4
H24K				IAmb	IAmb	19 24 56.2	
	comp=Z,14nm,1.8s						
HIN	Hinchinbrook I	56.84	34	P	P	19 24 41.1	+0.9
FID	Port Fidalgo	56.88	33	P	P	19 24 40.8	+0.4
FID				IAmb	IAmb	19 25 32.7	
	comp=Z,12nm,1.2s						
HDA	Harding Lake	56.94	29	P	P	19 24 40.5	-0.3
HDA				IAmb	IAmb	19 26 26.7	
	comp=Z,12nm,1.7s						
IL31		57.01	29	P	P	19 24 41.1	0.0
ILAR	Eielson Array	57.01	29	P	P	19 24 41.1	-0.1
	comp=Z,2.3nm,0.8s,baz=259,slow=6.2,SNR=20						
KLU	Klutina	57.18	33	P	P	19 24 43.5	+0.9
PAX	Paxson	57.48	31	P	P	19 24 45.5	+0.8
PAX				IAmb	IAmb	19 24 46.1	
	comp=Z,9.4nm,1.6s						
BMRM	Bremner River	57.80	33	P	P	19 24 47.3	+0.4
RIDG	Independent Ri	57.81	30	P	P	19 24 47.5	+0.5
DOT	Dot Lake	58.15	30	P	P	19 24 49.5	+0.1
SCRK	Sand Creek	58.20	30	P	P	19 24 50.1	+0.3
SCRK				IAmb	IAmb	19 24 51.1	
	comp=Z,6.2nm,0.7s						
BMAR	Burnt Mountain	58.21	26	P	P	19 24 51.3	+1.6
BERG	Berg Lake	58.23	34	P	P	19 24 50.9	+1.0
L26K	Log Cabin Wild	58.45	31	P	P	19 24 52.5	+1.1
MCARA	McCarthy VSAT	58.57	33	P	P	19 24 53.1	+0.8
MCARA				IAmb	IAmb	19 24 54.1	
	comp=Z,6.5nm,0.8s						
STKA	Stephens Creek	58.77	182	P	P	19 24 51.9	-2.0
	comp=Z,2.1nm,0.9s,baz=23,slow=13,SNR=2.3						
GRNC	Granite Creek	59.20	33	P	P	19 24 57.7	+0.8
EGAK	Eagle	59.45	29	P	P	19 24 58.7	+0.4
EGAK				IAmb	IAmb	19 26 11.6	
	comp=Z,13nm,1.6s						
KK31	Karatay Array	60.10	306	P	P	19 25 04.2	+1.0
KK31				IAmb	IAmb	19 25 05.2	
	comp=Z,4.0nm,0.8s						
KKAR	Karatay Array	60.10	306	P	P	19 25 04.3	+1.2
KKAR				IAmb	IAmb	19 25 05.2	
	comp=Z,4.0nm,0.8s						
KKAR	Karatay Array	60.10	306	P	P	19 25 04.2	+1.0
DAWY	Dawson	60.23	30	P	P	19 25 05.0	+1.3
DAWY				IAmb	IAmb	19 25 05.7	
	comp=Z,4.2nm,0.9s						
EPYK	Eagle Plains	61.28	27	P	P	19 25 12.0	+1.2
CHGR	Chuyangaron	62.03	301	P	P	19 25 17.8	+1.4
INK	Inuvik	62.40	25	P	P	19 25 18.8	+0.6
	comp=Z,2.4nm,0.5s,baz=294,slow=3.3,SNR=9.6						
INK	Inuvik	62.40	25	IAmb	IAmb	19 25 19.8	
	comp=Z,6.8nm,1.2s						
WHY	Whitehorse	62.57	33	P	P	19 25 20.1	+0.4
WHY				IAmb	IAmb	19 25 22.0	
	comp=Z,3.5nm,0.7s						
JIS	Juneau Island	63.15	36	P	P	19 25 24.5	+1.1
ARU	Arti	65.16	322	P	P	19 25 37.4	+0.8
ARU				IAmb	IAmb	19 25 38.5	
	comp=Z,7.5nm,1.0s						
ABKAR	Akbulak array	65.97	315	P	P	19 25 42.8	+0.8
ABKAR				IAmb	IAmb	19 25 46.1	
	comp=Z,7.7nm,1.8s						
ABKAR	Akbulak array	65.97	315	P	P	19 25 42.7	+0.7
B08A	Colville Reser	74.57	43	P	P	19 26 35.1	+0.4
PINE	Pine Mountain	75.36	48	P	P	19 26 41.2	+1.6
C09A	Chrisman Ranch	75.44	44	P	P	19 26 40.4	+0.7
C09A				IAmb	IAmb	19 26 41.5	
	comp=Z,8.9nm,1.3s						
K05A	Summer Lake	75.82	49	P	P	19 26 43.7	+1.4
K05A				IAmb	IAmb	19 26 44.5	
	comp=Z,7.5nm,1.1s						
E09A	Wood Farm, Sta	76.06	45	P	P	19 26 44.2	+1.0
BMO	Blue Mountains	77.30	46	P	P	19 26 51.5	+1.1
BEKR	Beckworth	77.37	52	P	P	19 26 51.6	+0.6
PAHR	Pah Rah Range	78.12	51	P	P	19 26 54.9	-0.2
PAHR				IAmb	IAmb	19 29 33.7	
	comp=Z,16nm,2.0s						
FINES	FINESS Array B	78.44	334	P	P	19 26 57.8	+1.6
	comp=Z,2.6nm,1.0s,baz=64,slow=4.4,SNR=6.7						
YERR	Yerington	78.53	52	P	P	19 26 58.0	+0.5
KBZ	Khabaz	78.91	313	P	P	19 27 00.4	+1.2
	comp=Z,2.7nm,0.8s,baz=138,slow=4.7,SNR=6.8						
KVN	Kaiserville	79.30	52	P	P	19 27 02.2	+0.5
NVAR	Mina Array Bea	79.43	52	P	P	19 27 03.5	+1.0
	comp=Z,1.3nm,0.7s,baz=286,slow=5.9,SNR=5.1						
NVAR	Mina Array Bea	79.43	52	P	P	19 27 03.0	+0.5
LRM	Limekiln Ridge	79.90	44	P	P	19 27 05.3	+0.4
MNK	Minsk	81.77	328	*i* P	P	19 27 11.8	-2.5
	comp=E,1.0nm,1.1s						
MNK				*i* P	P	19 27 11.8	-2.5
	comp=N,10.0nm,1.1s						
MNK				*i* P	P	19 27 11.8	-2.5
	comp=Z,3.0nm,1.1s,baz=54						
MNK				*i* PcP	PcP	19 27 17.1	-2.9
MNK				*i* PP	PP	19 30 19.2	-1.9
MNK				*i* PPP	PPP	19 32 09.2	
MNK				*i* S	S	19 37 26.2	+1.5
MNK				*i* SS	SS	19 42 46.3	+4.3
MNK				*i* SSS	SSS	19 46 14.4	
MNK				*i* LQ	LQ	19 53 38.4	
MNK				*i* LR	LR	19 59 57.9	
MNK				*i* LRM	MLR	20 05 33.9	
	comp=Z,74nm,15.3s						
MNK				*i* LRM	MLR	20 05 35.2	
	comp=N,37nm,15.3s						
MNK				*i* LRM	MLR	20 05 37.7	
	comp=E,16nm,15.3s						
YNE	Yellowstone No	81.80	43	P	P	19 27 13.5	-1.6
YNE				IAmb	IAmb	19 28 43.1	
	comp=Z,7.4nm,0.7s						
RLMT	Red Lodge	82.20	43	P	P	19 27 18.3	+1.2
RLMT				IAmb	IAmb	19 29 27.4	
	comp=Z,18nm,1.9s						
PDAR	Pinedale Array	83.22	45	P	P	19 27 22.4	-0.1
	comp=Z,0.4nm,0.5s,baz=306,slow=3.5,SNR=4.0						
AKASG	Malin Array Be	83.32	324	P	P	19 27 22.0	-0.4
	comp=Z,1.0nm,0.4s,baz=44,slow=5.1,SNR=4.8						
AKASG	Malin Array Be	83.32	324	P	P	19 27 22.1	-0.4
PV14	Lion Creek, Pa	85.84	49	P	P	19 27 35.8	-0.1
PV14				IAmb	IAmb	19 28 02.0	
	comp=Z,5.2nm,0.9s						
PV13	Radium Mtn., P	86.09	49	P	P	19 27 37.1	+0.1
SCHQ	Schefferville	94.21	17	LR	LR	20 14 27.0	
	comp=Z,18nm,20.2s,baz=0.5,slow=38						
TXAR	Lajitas Array	94.49	54	P	P	19 28 16.8	+0.3
	comp=Z,0.3nm,0.7s,baz=276,slow=3.6,SNR=4.4						
LPAZ	La Paz	148.63	76	PKPbc	PKPbc	19 34 44.0	-0.1
	comp=Z,2.5nm,0.8s,baz=252,slow=2.5,SNR=9.2						
LPAZ	La Paz	148.63	76		PKPbc	19 34 43.6	-0.6

*KRSZO **07** 19:16:02.8±0.8, 44.°96N×14.°90E, h9km±5km, ML2.5/7, Error ellipse: s-maj=2.8km s-min=2.5km az=60.0*
*LDG **07** 19:16:02.4±0.1, 44.°94N×14.°82E, h2km, Ml2.7/6, Error ellipse: s-maj=3.8km s-min=1.9km az=142.0*
*RHSSO **07** 19:16:03.7±0.5, 44.°99N×14.°88E, h6km±3km, ML2.4/7*
*PRU **07** 19:16:05.4±0.0, 45.°13N×15.°39E, h0km*
ISC 07 19:16:03.4±1.0**, 44.°98N**±0.°02×**14.°85E**±0.°02**, h11**km±8km**, n61, σ2.s04**/106**, 1C, Adriatic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NVLJ	Novalja	0.41	178	*e*Pg	Pg	19 16 11.2	-0.3
NVLJ				Sg	Sg	19 16 17.8	+0.8
RIY	Rijeka	0.44	323	*i* Pg	Pg	19 16 11.4	-0.6
RIY				Sg	Sg	19 16 18.0	+0.2
GBRS	Gornja Briga	0.56	357	*i* Pg	Pg	19 16 13.5	-0.8
GBRS				*i* Sg	Sg	19 16 22.0	+0.4
GBRS				IAML		19 16 22.1	
	comp=Z,87nm,0.3s						
BOJS	Bojanci	0.60	28	*e*Pg	Pg	19 16 13.9	-1.1
BOJS				*e*Sg	Sg	19 16 22.6	-0.3
BOJS	Bojanci	0.60	28	*i* Pg	Pg	19 16 14.0	-1.0
BOJS				*i* Sg	Sg	19 16 22.7	-0.2
BOJS				IAML		19 16 23.7	
	comp=Z,82nm,0.2s						
KNDS	Knezji Dol	0.64	329	*i* Pg	Pg	19 16 15.0	-0.9
KNDS				*i* Sg	Sg	19 16 25.4	+1.0
KNDS				IAML		19 16 27.3	
	comp=Z,66nm,0.2s						
OZLJ	Ozalj	0.77	34	*e*Pg	Pg	19 16 17.2	-1.1
OZLJ				Sg	Sg	19 16 27.4	-1.1
BRJN	Brijuni	0.79	265	*e*Pg	Pg	19 16 18.6	0.0
BRJN				Sg	Sb	19 16 30.6	+0.9
UDBI	Udbina	0.79	124	*i* Pg	Pg	19 16 18.4	-0.3
UDBI				Sg	Sb	19 16 29.8	-0.2
CEY	Cerknica	0.82	339	*e*Pg	Pg	19 16 17.7	-1.5
CEY				*e*Sg	Sg	19 16 30.3	+0.4
CEY	Cerknica	0.82	339	*i* Pg	Pg	19 16 18.1	-1.1
CEY				*i* Sg	Sb	19 16 30.9	+0.1
CEY				IAML		19 16 33.3	
	comp=Z,48nm,0.1s						
SKDS	Skadanscina	0.82	314	*e*Pg	Pg	19 16 18.2	-1.0
SKDS				*e*Sg	Sg	19 16 30.2	+0.2
VISS	Visnje	0.83	359	*i* Pg	Pg	19 16 18.2	-1.2
VISS				*i* Sg	Sb	19 16 30.9	-0.1
VISS				IAML		19 16 33.3	
	comp=Z,25nm,0.1s						
CRES	Cresnjev	0.95	26	*e*Pg	Pg	19 16 20.4	-1.3
CRES				*e*Sg	Sg	19 16 33.3	-0.8
DUGI	Dugi Otok	0.99	171	*e*Pg	Pg	19 16 21.7	-0.8
DUGI				Sg	Sb	19 16 36.8	+1.1
LEGS	Legarje	1.03	18	*i* Pg	Pg	19 16 22.3	-0.9
GCIS	Gornji Cirnik	1.05	31	*i* Pg	Pg	19 16 22.9	-0.6
GCIS				*i* Sg	Sb	19 16 37.4	+0.2
GCIS				IAML		19 16 41.7	
	comp=Z,23nm,0.2s						
TRI	Trieste	1.06	314	Pn	Pb	19 16 24.7	+0.9
	comp=Z,0.3nm,SNR=7.1						
TRI				Lg	Lg	19 16 39.3	
PDKS	Podkum	1.09	5	*i* Pg	Pg	19 16 23.5	-0.9
PDKS				*i* Sg	Sn	19 16 40.1	+0.2
PDKS				IAML		19 16 44.4	
	comp=Z,23nm,0.2s						
LJU	Ljubljana	1.09	348	*e*Pg	Pg	19 16 23.2	-1.2
LJU				*e*Sg	Sg	19 16 38.6	0.0
ZAG	Zagreb	1.17	43	Sg	Sg	19 16 40.4	-0.6
PTJ	Puntijarka	1.22	40	*e*Pg	Pg	19 16 25.6	-1.2
PTJ				Sg	Sb	19 16 42.4	+0.1
PTJ	Puntijarka	1.22	40	Pg	Pg	19 16 26.5	-0.4
	comp=Z,0.5nm,SNR=26						
PTJ				Sg	Sg	19 16 42.0	-0.6
MORI	Morici	1.27	151	*e*Pg	Pn	19 16 26.8	-0.3
MORI				Sg	Sn	19 16 45.2	+1.2
PRIJ	Prijedor	1.32	89	*e*Pg	Pn	19 16 26.6	-1.2
PRIJ				*e*Sg	Sb	19 16 45.5	+0.3
ZIRJ	Zirje	1.44	156	*e*Pn	Pn	19 16 29.7	+0.3
ZIRJ				Sn	Sg	19 16 51.4	+1.8
MRAK	Mrakovica	1.45	88⇑	*i*Pg	Pn	19 16 30.0	+0.3
MRAK				*e*Sg	Sb	19 16 49.2	+0.1
OBKA	Obir	1.55	352	*i* Pn	Pb	19 16 32.3	+0.1
	comp=Z,6.2nm,0.2s,SNR=23						
OBKA				*e*Sg	Sg	19 16 54.7	+1.5
	comp=Z,25nm,0.3s						
OBKA	Obir	1.55	352	Pg	Pb	19 16 32.3	+0.1
	comp=Z,0.1nm,SNR=6.6						
OBKA				Sg	Sg	19 16 55.1	+1.9
KALN	Kalnik	1.61	44	*e*Pn	Pn	19 16 31.9	+0.1
KALN				Sg	Sb	19 16 53.7	0.0
BLY	Banja Luka	1.67	97	*e*Pn	Pn	19 16 32.7	0.0
BLY				*e*Sn	Sn	19 16 54.8	+0.7
BLY	Banja Luka	1.67	97	Pn	Pn	19 16 33.3	+0.6
	comp=Z,0.1nm,SNR=6.0						
MGRS	Mrkonjic Grad	1.69	109	*e*Pn	Pn	19 16 32.6	-0.3
MGRS				*e*Sn	Sn	19 16 54.9	+0.4
SOKA	Soboth	1.71	4	*e*Pn	Pn	19 16 33.9	+0.7
	comp=Z,4.1nm,0.2s,SNR=21						
SOKA				*e*Sn	Sg	19 16 57.7	-0.6
	comp=Z,7.9nm,0.4s						
KOGS	Kog	1.77	33	Pg	Pg	19 16 36.7	-0.6
	comp=Z,0.5nm,SNR=7.0						
KOGS				Lg	Lg	19 16 59.5	
MYKA	Terra Mystica	1.86	333	*e*Pn	Pb	19 16 37.4	0.0
	comp=Z,5.7nm,0.4s,SNR=5.5						
MYKA				*e*Sn	Sb	19 17 01.7	+1.0
	comp=Z,12nm,0.2s						
BEHE	Becsehely	2.01	41	*e*Pn	Pn	19 16 37.9	+0.6
BEHE				*e*Sn	Sn	19 17 03.2	+0.7
ARSA	Arzberg	2.32	11	*e*Pn	Pn	19 16 42.8	+1.2
	comp=Z,1.7nm,0.2s						
ARSA				*e*Sn	Sb	19 17 13.8	-0.2
	comp=Z,1.9nm,0.3s						
ARSA	Arzberg	2.32	11	Pn	Pn	19 16 43.3	+1.6
	SNR=2.2						
ABTA	Abfaltersbach	2.41	318	*e*Pg	Pn	19 16 44.5	+1.7
	comp=Z,1.5nm,0.2s						
ABTA				*e*Sn	Sn	19 17 15.6	+3.1
	comp=Z,4.0nm,0.2s						
KOVH	Kovagotottos	2.54	63	*e*P	Pn	19 16 44.0	-0.5
KOVH	Kovagotottos	2.54	63	Pn	Pn	19 16 44.0	-0.5
	SNR=3.0						
MOA	Molln	2.90	352	*e*Pn	Pn	19 16 51.6	+2.0
	comp=Z,0.6nm,0.2s						
STON	Ston	2.94	135	*e*Pn	Pn	19 16 51.6	+1.5
STON				*e*Sn	Sn	19 17 26.9	+1.5
CONA	Conrad Observa	3.04	13	*i* Pn	Pn	19 16 52.4	+1.0
	comp=Z,0.9nm,0.3s						
CONA				*i* Sn	Sn	19 17 27.8	0.0
	comp=Z,0.6nm,0.2s						
WTTA	Wattenberg	3.20	317	*i* Pn	Pn	19 16 57.4	+3.6
	comp=Z,1.3nm,0.3s						
WTTA				*e*Sn	Sb	19 17 37.6	-1.9
	comp=Z,5.2nm,0.4s						
BBLS	Lazići	3.45	107	*e*Sn	Sn	19 17 38.4	+0.4
MOTA	Moosalm	3.52	314	*i* Pn	Pn	19 17 02.4	+4.2
	comp=Z,0.4nm,0.2s						
MOTA				*e*Sn	Sn	19 17 43.5	+3.6
	comp=Z,6.2nm,0.6s						
FETA	Feichten	3.53	307	*i* Pn	Pn	19 16 59.2	+0.9
	comp=Z,0.7nm,0.4s						
FETA				Sn	Sn	19 17 45.3	+5.2
	comp=Z,2.4nm,0.4s						
KHC	Kasperske Hory	4.25	349	*e*SN	Sn	19 17 58.7	+1.0
PGF	Pioggiola	4.88	242	*e*P	Pn	19 17 18.3	+1.4
SBF	Sospel	5.43	261	*e*P	Pn	19 17 26.3	+2.0
SBF				*e*Sn	Sn	19 18 20.8	-6.0
	comp=Z,1.7nm,0.3s						
LPG	La Plagne	5.74	278	*e*P	Pn	19 17 31.0	+2.1
LPG				*e*Sn	Sn	19 18 28.8	-6.1
	comp=Z,2.3nm,0.6s						
MBDF	Montbardon	5.75	270	*e*P	Pn	19 17 30.8	+2.0
MBDF				*e*Sn	Sn	19 18 28.5	-6.4
	comp=Z,1.8nm,0.4s						
LPL	La Plagne	5.76	278	*e*P	Pn	19 17 30.9	+1.9
LPL				*e*Sn	Sn	19 18 29.4	-5.8
	comp=Z,1.0nm,0.3s						
FRF	La Foret Royal	6.06	259	*e*Pn	Pn	19 17 30.3	-2.6
LMR	La Mourre	6.22	258	*e*Pn	Pn	19 17 32.7	-2.5
LMR	La Mourre	6.22	258	*e*P	Pn	19 17 37.0	+1.8
LMR				*e*Sn	Sn	19 18 40.2	-6.1
	comp=Z,0.4nm,0.2s						
ORIF	Oris-en-Rattie	6.37	273	*e*P	Pn	19 17 39.8	+2.5
ORIF				*e*Sn	Sn	19 18 43.2	-6.8
	comp=Z,3.7nm,0.6s						
VIVF	Saint-Julien-l	7.23	273	*e*Pn	Pn	19 17 46.7	-2.3
LOR	Lormes	7.97	291	*e*P	Pn	19 18 01.2	+2.0
	baz=104						

IDC 07 19:24:02.4±5.4**, 26.°99N×143.°03E, h0**km**, mb3.2**/3**, mb1 3.4**/4**, mb1mx3.3**/37**, mbtmp3.2**/4**, ML2.7**/1**, Error ellipse: s-maj=215.5km s-min=29.2km az=75.0, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	10.37	338	Pn	Pn	19 26 30.4	-2.1
	0.1nm,0.3s,baz=159,slow=12,SNR=1.9						
WRA	Warramunga Arr	47.41	191	P	P	19 32 37.8	-0.9
	0.6nm,0.9s,baz=12,slow=7.6,SNR=2.7						
ASAR	Alice Springs	51.12	191	P	P	19 33 07.3	+0.2
	0.1nm,0.8s,baz=10,slow=6.6,SNR=1.7						
MKAR	Makanchi Array	51.13	310	P	P	19 33 07.9	+0.8
	0.2nm,0.6s,baz=85,slow=10.0,SNR=1.8						

*IDC **07** 19:38:37.1±0.8, 27.°02N×143.°79E, h0km, mb3.9/13, mb1 4.1/17, mb1mx3.9/34, mbtmp3.9/17, ML3.2/4, MS3.7/2, Ms1 3.7/2, ms1mx2.7/44, Error ellipse: s-maj=19.6km s-min=17.2km az=91.0*
*JMA **07** 19:38:39.7, 27.°22N×143.°75E, h56km, M4.0*
*NEIC **07** 19:38:40.6±2.1, 27.°0N±0.°1×143.°65E±0.°08, h20km±4km, mb4.5/27, Error ellipse: s-maj=17.8km s-min=9.5km az=166.0*
ISC 07 19:38:42.7±0.7**, 27.°18N**±0.°07×**143.°67E**±0.°07**, h35**km**, n64, σ1.s41**/69**, mb4.3**/27**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	Chichijima	1.33	267	Pn	Pn	19 39 03.9	-0.8
	46nm,0.3s,baz=82,slow=23,SNR=13						
JCJ				Sn	Sn	19 39 19.5	-1.7
	230nm,0.3s,baz=280,slow=23,SNR=11						
JCJ	Chichijima	1.33	267		Pn	19 39 03.6	-1.1
CBIJ	Chichi jima	1.33	267	P	Pn	19 39 03.4	-1.3
CBIJ				*e*S	Sn	19 39 20.8	-0.4
JHH2	Haha-jima-NKT2	1.44	248	P	Pn	19 39 05.1	-1.2
JHH2				*e*S	Sn	19 39 23.9	-0.1
JHJ2	Mitsune	6.79	332	Pn	Pn	19 40 18.5	-1.3
JHJ	Hachijo jima 2	6.81	331	Pn	Pn	19 40 18.1	-2.0
	4.3nm,0.3s,baz=13,slow=20,SNR=1.4						
JHJ				Sn	Sn	19 41 33.1	-3.3
	6.1nm,0.3s,baz=47,slow=23,SNR=2.4						
JHU	Hanno	9.42	338	P	Pn	19 40 55.2	-0.7
JYT	Yasato	9.49	343	Pn	Pn	19 40 57.0	+0.1
JRY	Ryogami san	9.70	336	P	Pn	19 40 59.2	-0.6
JAG	Ashikaga	9.89	340	P	Pn	19 41 01.1	-1.2
MJAR	Matsushiro Arr	10.42	335	Pn	Pn	19 41 08.7	-1.0
	0.4nm,0.3s,baz=160,slow=11,SNR=20						
MJAR				Sn	Sn	19 43 03.5	-1.7
	0.1nm,0.3s,baz=165,slow=10,SNR=1.9						
MJAR	Matsushiro Arr	10.42	335		Pn	19 41 08.5	-1.2
MAJO	Matsushiro	10.43	335		Pn	19 41 09.8	+0.1
MAT	Matsushiro	10.43	335	P	Pn	19 41 09.6	-0.1
MAT				*e*S	Sn	19 43 02.1	-3.2
JMM	Marumori	10.93	348	Pn	Pn	19 41 13.7	-2.9
KSRS	Korea Array	16.78	312	Pn	P	19 42 37.7	+0.9
	0.1nm,0.3s,baz=121,slow=11,SNR=8.3						
ASAJ	Asahikawa	16.93	357	P	Pn	19 42 37.0	+0.3
	0.2nm,0.3s,baz=156,slow=23,SNR=1.6						
USRK	Ussuriysk Ar.	19.42	334	P	Pn	19 43 08.5	+1.3
	baz=148,slow=9.4,SNR=7.4						
USRK	Ussuriysk Ar.	19.42	334	P	P	19 43 06.1	+0.3
KLR	Kul'dur	23.87	340	P	P	19 43 55.0	+2.2
	2.8nm,0.7s,baz=141,slow=7.4,SNR=12						
DAV	Davao City (W)	26.36	224	LR	LR	19 56 16.0	
	comp=Z,71nm,18.7s,baz=108,slow=40						
SONM	Songino Array	35.58	315	P	P	19 45 38.9	+2.1
	0.6nm,0.6s,baz=112,slow=7.1,SNR=4.5						
CMAR	Chiang Mai Arr	41.95	268	P	P	19 46 31.4	+1.0
	0.5nm,0.8s,baz=67,slow=6.9,SNR=2.2						
WB2	Warramunga Arr	47.70	192	P	P	19 47 12.8	-3.3
WB2				IAmb	IAmb	19 47 25.2	
	comp=Z,3.3nm,0.8s						
WRA	Warramunga Arr	47.70	192	P	P	19 47 14.9	-1.2
	comp=Z,2.5nm,0.9s,baz=12,slow=8.7,SNR=11						
WRA	Warramunga Arr	47.70	192	P	P	19 47 13.0	-3.1
FITZ	Fitzroy Crossi	48.28	203	P	P	19 47 18.2	-2.4
FITZ				IAmb	IAmb	19 47 22.5	
	comp=Z,6.7nm,1.2s						
ZALV	Zalesovo Beam	50.30	319	P	P	19 47 36.0	+0.4
	comp=Z,0.9nm,0.6s,baz=86,slow=7.7,SNR=4.5						
ZALV				PcP	PcP	19 48 52.9	-1.1
	comp=Z,1.0nm,0.5s,baz=83,slow=3.8,SNR=5.1						
ASAR	Alice Springs	51.42	191	P	P	19 47 43.0	-1.3
	comp=Z,0.4nm,0.7s,baz=16,slow=9.9,SNR=7.6						
MKAR	Makanchi Array	51.44	310	P	P	19 47 45.1	+0.7
	comp=Z,1.0nm,0.7s,baz=91,slow=8.5,SNR=8.8						
MAKZ	Makanchi	51.66	310	P	P	19 47 47.1	+1.1
SII	Sitkinak Islan	52.50	38	P	P	19 47 52.0	-0.1
SVW2	Sparrevohn	52.51	32	P	P	19 47 51.7	-0.4
SVW2				IAmb	IAmb	19 48 16.3	
	comp=Z,6.0nm,1.4s						
OHAK	Old Harbor	53.07	37	P	P	19 47 55.9	-0.3
P19K	Oil Pt	53.41	34	P	P	19 47 59.1	+0.3
K20K	Telida	53.67	30	P	P	19 48 02.4	+1.8
K20K				IAmb	IAmb	19 48 03.3	
	comp=Z,2.5nm,0.8s						
J20K	Nowinta River	53.81	29	P	P	19 48 03.6	+2.0
J20K				IAmb	IAmb	19 48 04.7	
	comp=Z,3.3nm,0.8s						
IMAR	Indian Mountai	54.38	27	P	P	19 48 07.3	+1.6
CNPM	China Poot	54.40	35	P	P	19 48 06.2	+0.2
CNPM				IAmb	IAmb	19 48 15.9	
	comp=Z,12nm,1.4s						
SKT	Skwentna	54.58	32	P	P	19 48 08.2	+1.0
RND	Reindeer	55.99	30	P	P	19 48 18.2	+0.7
RND				IAmb	IAmb	19 48 19.2	
	comp=Z,4.7nm,1.2s						
H23K	Yukon River	56.04	27	P	P	19 48 19.3	+1.6
MDM	Murphy Dome	56.46	28	P	P	19 48 21.5	+0.8
SCM	Sheep Creek Mo	56.54	32	P	P	19 48 22.1	+0.7
SCM				IAmb	IAmb	19 48 23.0	
	comp=Z,4.7nm,0.7s						
GLI	Glacier Island	56.58	33	P	P	19 48 22.1	+0.5
HIN	Hinchinbrook I	56.85	34	P	P	19 48 24.2	+0.7
ILAR	Eielson Array	57.01	29	P	P	19 48 24.8	+0.2
	comp=Z,0.9nm,0.8s,baz=260,slow=6.5,SNR=8.5						
KLU	Klutina	57.19	33	P	P	19 48 27.2	+1.2
KLU				IAmb	IAmb	19 48 27.9	
	comp=Z,3.6nm,0.6s						
SCRK	Sand Creek	58.20	30	P	P	19 48 34.0	+0.8
SCRK				IAmb	IAmb	19 48 34.7	
	comp=Z,3.3nm,0.8s						
KK31	Karatay Array	60.11	306	P	P	19 48 48.0	+1.5
KK31				IAmb	IAmb	19 48 58.7	
	comp=Z,2.4nm,0.7s						
KKAR	Karatay Array	60.11	306	P	P	19 48 47.9	+1.3
KKAR				IAmb	IAmb	19 48 58.7	
	comp=Z,2.4nm,0.7s						
CHGR	Chuyangaron	62.04	301	P	P	19 49 00.4	+0.6
INK	Inuvik	62.40	25	P	P	19 49 02.4	+0.8
	comp=Z,2.7nm,1.1s,baz=309,slow=7.5,SNR=3.5						
INK	Inuvik	62.40	25	P	P	19 49 02.8	+1.2
INK				IAmb	IAmb	19 49 17.2	
	comp=Z,3.8nm,1.4s						
ARU	Arti	65.17	322	P	P	19 49 21.4	+1.4
ARU				IAmb	IAmb	19 49 22.1	
	comp=Z,5.2nm,1.2s						
ABKAR	Akbulak array	65.98	315	P	P	19 49 25.2	-0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ABKAR	Akbulak array	65.98	315	P	P	19 49 25.9	+0.5
ABKAR				IAmb	IAmb	19 49 48.8	
	comp=Z,1.5nm,1.0s						
WSAR	Wadi Sarin	75.58	289	LR	LR	20 26 00.5	
	comp=Z,131nm,21.8s,baz=166,slow=38						
FINES	FINESS Array B	78.45	334	P	P	19 50 38.9	-0.8
	comp=Z,2.4nm,0.9s,baz=57,slow=5.1,SNR=4.6						
KBZ	Khabaz	78.92	313	P	P	19 50 44.5	+1.9
	comp=Z,1.1nm,0.8s,baz=154,slow=8.3,SNR=3.6						
NVAR	Mina Array Bea	79.42	52	P	P	19 50 46.3	+0.5
	comp=Z,0.7nm,0.7s,baz=284,slow=5.6,SNR=6.7						
AHID	Auburn Hatcher	82.24	46	P	P	19 50 58.9	-1.8
AHID				IAmb	IAmb	19 51 06.1	
	comp=Z,6.0nm,0.7s						
TXAR	Lajitas Array	94.49	54	P	P	19 51 59.2	-0.6
	comp=Z,0.1nm,0.6s,baz=335,slow=4.0,SNR=1.9						
TORD	Torodi Ar. Bea	125.52	313	PKP	PKiKP	19 57 41.5	+0.2
	comp=Z,0.5nm,0.9s,baz=29,slow=3.3,SNR=2.9						

IDC 07 19:47:29.0±7.1, 27°.13N×143°.89E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.3/38, mbtmp3.4/5, ML3.1/1, Error ellipse: s-maj=276.3km s-min=26.3km az=74.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	10.55	334	Pn	Pn	19 50 00.4	-1.2
	0.1nm,0.3s,baz=158,slow=11,SNR=6.2						
WRA	Warramunga Arr	47.70	192	P	P	19 56 07.2	-0.3
	0.3nm,0.6s,baz=13,slow=8.1,SNR=2.1						
ASAR	Alice Springs	51.41	192	P	P	19 56 35.7	-0.1
	0.1nm,0.5s,baz=3.7,slow=5.8,SNR=1.4						
MKAR	Makanchi Array	51.63	310	P	P	19 56 37.0	-0.3
	0.2nm,0.7s,baz=99,slow=8.3,SNR=2.1						
KURBB	Kurchatov Arra	54.10	314	P	P	19 56 56.0	+0.5
	0.3nm,0.2s,baz=89,slow=8.5,SNR=3.1						

ISN 07 19:49:15.2±0.3, 32°.60N×47°.88E, h2km±3km, ML3.0
TEH 07 19:49:16.0, 32°.54N×47°.89E, h8km, ML3.5
THR 07 19:49:18.1±0.4, 32°.52N×47°.95E, h18km±9km, ML3.6
ISC 07 19:49:15.8±1.3, 32°.55N±0°.03×47°.88E±0°.03, h0km±12km, n55, σ1s.37/62, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	Dehloran	0.52	285	*e*Pg	Pg	19 49 25.9	0.0
DHL1				*e*Sg	Sb	19 49 35.0	-1.0
IKFM	Kafar-mosalman	0.98	358	*e*Pg	Pg	19 49 34.3	-0.3
IKFM				*e*		19 49 56.8	
	comp=Z,20μm,0.5s						
IDOB	Doab	1.26	11	*e*Pg	Pg	19 49 40.4	+0.3
BMDN	Meydan	1.37	35	*e*Pg	Pg	19 49 43.1	+0.9
AHWZ	Ahwaz	1.38	152	*e*Pg	Pg	19 49 42.8	+0.6
AHWZ				*e*Sg	Sg	19 50 01.9	+1.9
IBDR	Badra	1.73	289	*e*Pn	Pb	19 49 48.0	-0.6
IBDR				*e*Sn	Sg	19 50 12.0	+0.4
IBDR				AML	AML	19 50 14.7	
	comp=E,126nm,0.6s						
IBDR				AML	AML	19 50 15.3	
	comp=N,93nm,0.6s						
HSAM	Samen	1.77	20	*e*Pn	Pg	19 49 49.5	-0.3
HSAM				*e*		19 49 53.1	
	comp=Z,2μm,0.5s						
KCHF	Cheshme Sefid,	1.86	338	*e*Pn	Pb	19 49 50.6	-0.3
KCHF				*e*		19 50 23.7	
	comp=Z,3μm,0.8s						
IBZA	Bozab	1.92	360	*e*Pn	Pb	19 49 51.4	-0.5
KER	Kermanshah	1.94	341	*e*Pg	Pg	19 49 52.8	-0.2
IGHG	Ghaleghazi	2.09	329	*e*Pn	Pb	19 49 53.6	-1.2
IGHG				*e*		19 50 36.6	
	comp=Z,4μm,0.9s						
KHMZ	Khomeyn	2.11	55	*e*Pn	Pb	19 49 54.3	-0.8
KHMZ	Khomeyn	2.11	55	*e*Pn	Pb	19 49 54.3	-0.8
NSR	Nassriya	2.13	225	*e*Pn	Pn	19 49 53.1	+0.5
NSR				*e*Sn	Sb	19 50 21.0	-1.3
NSR				AML	AML	19 50 29.9	
	comp=E,255nm,0.4s						
IALM	Almabolaq	2.32	6	*e*Pn	Pb	19 49 57.2	-1.5
IDHR	Dehrash	2.48	330	*e*Pn	Pn	19 49 58.6	+0.9
IDHR				*e*		19 50 39.6	
	comp=Z,2μm,0.5s						
ILIN	Lien	2.49	342	*e*Pn	Pb	19 49 59.6	-1.9
HAGD	Aghdareh	2.50	24	*e*Pn	Pn	19 49 59.2	+1.2
HAGD				*e*		19 50 48.0	
	comp=Z,2μm,0.7s						
IPIR	Pirpir	2.55	86	*e*Pn	Pb	19 50 00.4	-2.2
IPIR				*e*		19 50 44.3	
	comp=Z,2μm,0.4s						
SHK1	Shahrekord	2.55	94	*e*Pn	Pn	19 49 59.4	+0.7
ASAO	Ashtian	2.68	41	*e*Pn	Pb	19 50 02.3	-2.6
ASAO				*e*Sg	Sg	19 50 41.7	-0.4
ASAO	Ashtian	2.68	41	*e*Pn	Pb	19 50 02.3	-2.6
ABEH	Behbahan	2.81	133	*e*Pn	Pn	19 50 03.4	+1.4
BHD	Baghdad	3.03	285	*e*Pn	Pn	19 50 06.0	+1.0
BHD				*e*Sn	Sn	19 50 43.0	+1.0
BHD				AML	AML	19 51 07.1	
	comp=E,165nm,0.7s						
RST	Umm Al-Ruwaisa	3.13	194	*e*P	Pn	19 50 06.7	+0.3
IKLH	Kolahrood	3.21	75	*e*Pn	Pn	19 50 09.1	+1.4
IKLH				*e*		19 51 11.3	
	comp=Z,984nm,0.8s						
IRAZ	Razeghan	3.32	30	*e*Pn	Pn	19 50 11.5	+2.3
GHVR	GHOM	3.44	55	*e*Pn	Pn	19 50 12.2	+1.5
GHVR	GHOM	3.44	55	*e*Pn	Pn	19 50 12.3	+1.5
QABG	Abgarm-Qazvin	3.46	24	*e*Pn	Pn	19 50 12.1	+1.0
IQOM	Qom	3.51	48	*e*Pn	Pn	19 50 13.2	+1.3
KLNJ	Kolanjah	3.51	115	*e*Pn	Pn	19 50 11.9	-0.1
KLNJ				*e*		19 51 23.3	
	comp=Z,1μm,0.6s						
IGAR	Gharneh	3.52	91	*e*Pn	Pn	19 50 12.5	+0.5
RDF	Al-Radifah	3.62	185	*e*P	Pn	19 50 14.1	+0.9
IZEF	Zefreh	3.77	83	*e*Pn	Pn	19 50 16.6	+1.2
QRN	Al-Qurain	3.79	179	*e*P	Pn	19 50 16.0	+0.5
IRAM	Ramesheh	3.89	100	*e*Pn	Pn	19 50 17.5	+0.5
IVRN	Varamin	4.03	52	*e*Pn	Pn	19 50 20.4	+1.5
ISFB	Sefidab	4.07	63	*e*Pn	Pn	19 50 19.9	+0.5
QSDN	Sirdan	4.09	15	*e*Pn	Pn	19 50 21.7	+1.9
IKRK	Kirkuk	4.09	315	*e*Pn	Pn	19 50 20.5	+0.8
IKRK				*e*Sn	Sn	19 51 08.0	-0.3
IKRK				AML	AML	19 51 17.9	
	comp=N,40nm,0.7s						
IKRK				AML	AML	19 51 24.9	
	comp=E,46nm,0.4s						
ZNJK	Zanjan	4.17	9	*e*Pn	Pn	19 50 23.6	+2.7
ZNJK	Zanjan	4.17	9	*e*Pn	Pn	19 50 23.6	+2.7
CHTH	Charan	4.30	38	*e*Pn	Pn	19 50 24.7	+2.0
CHTH	Charan	4.30	38	*e*Pn	Pn	19 50 24.7	+2.0
JIR1	Jirandeh	4.44	20	*e*Pn	Pn	19 50 24.6	0.0
QALM	Alamut, Qazvin	4.50	30	*e*Pn	Pn	19 50 26.8	+1.3
IDMV	Damavand	4.58	48	*e*Pn	Pn	19 50 27.1	+0.4
AHBU	AHRAM	4.70	140	*e*Pn	Pn	19 50 29.6	+1.6
ANAR	Anarak	4.96	81	*e*Pn	Pn	19 50 32.3	+0.5
IFIR	Firoozkooh	5.09	51	*e*Pn	Pn	19 50 34.2	+0.6
IPRN	Peran	5.21	44	*e*Pn	Pn	19 50 37.2	+2.0
ISHM	Shahmirzad	5.54	53	*e*Pn	Pn	19 50 41.8	+2.0
IHRS	Heris	5.80	353	*e*Pn	Pn	19 50 43.9	+0.6
IGLO	Ghaloghah	6.30	50	*e*Pn	Pn	19 50 52.6	+2.4

IDC 07 19:58:44.5±1.2, 44°.31N×83°.77E, h0km, mb3.5/2, mb1 3.5/5, mb1mx3.3/39, mbtmp3.3/5, ML2.6/3, MS2.6/1, Ms1 2.6/1, ms1mx2.1/47, Error ellipse: s-maj=22.8km s-min=11.8km az=63.0
SOME 07 19:58:47.2, 44°.28N×83°.57E, h10km
NNC 07 19:58:48.3±1.1, 44°.31N×83°.52E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=10.1km s-min=3.9km az=127.0
ISC 07 19:58:46.6±1.1, 44°.26N±0°.05×83°.68E±0°.06, h10km, n38, σ2s.31/49, 10C-9D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	2.54	252	*e*P	Pb	19 59 33.6	+1.2
	9.0nm,0.4s						
KTMS				*e*S	Sg	20 00 07.2	-0.9
	225nm,0.5s						
KTMS	Ketmen	2.54	252	Pg	Pb	19 59 33.5	+1.2
	9.0nm,0.4s						
KTMS				Lg	Lg	20 00 06.5	
	225nm,0.5s						
MK31	Makanchi Array	2.71	339	⇑Pn	Pn	19 59 32.2	+2.0
	0.3nm,0.3s,baz=224,slow=32,SNR=326						
MK31				⇓Pg	Pb	19 59 35.7	+0.5
	3.2nm,0.3s,baz=156,slow=16,SNR=18						
MK31				⇑Lg	Lg	20 00 10.2	
	14nm,0.2s,baz=168,slow=32,SNR=3.6						
MKAR	Makanchi Array	2.71	339	Pn	Pn	19 59 30.9	+0.6
	3.8nm,0.3s,baz=159,slow=14,SNR=132						
MKAR				Pg	Pb	19 59 36.0	+0.9
	6.8nm,0.3s,baz=154,slow=18,SNR=72						
MKAR				Lg	Lg	20 00 10.2	
	56nm,0.3s,baz=155,slow=32,SNR=42						
DJR	Jarkent	2.79	273	*e*P	Pg	19 59 38.2	-1.8
	2.3nm,0.3s						
DJR				*e*S	Sg	20 00 15.1	-1.1
	9.1nm,0.5s						
DJR	Jarkent	2.79	273	Pg	Pg	19 59 38.9	-1.1
	2.3nm,0.3s						
DJR				Lg	Lg	20 00 15.1	
	9.1nm,0.5s						
MAKZ	Makanchi	2.81	335	⇑Pn	Pn	19 59 33.4	+1.9
	1.0nm,0.7s						
MAKZ				⇓Pg	Pb	19 59 37.8	+1.0
	12nm,0.5s						
MAKZ				⇓Lg	Lg	20 00 13.6	
	34nm,0.5s						
PDGK	Podgornoye	3.17	254	Pg	Pb	19 59 44.5	+1.4
	3.6nm,0.2s						
PDGK				Lg	Lg	20 00 24.9	
	52nm,0.6s						
PDGK	Podgornoye	3.17	254	⇑Pn	Pn	19 59 39.0	+2.3
	0.4nm,0.5s						
PDGK				⇑Pg	Pb	19 59 44.2	+1.2
	8.6nm,0.5s						
PDGK				⇑Lg	Lg	20 00 24.6	
	47nm,0.5s						
KAPS	Kapalarasan	3.24	290	*e*P	Pg	19 59 47.6	-1.0
	0.3nm,0.2s						
KAPS				*e*S	Sg	20 00 30.8	+0.2
	3.3nm,0.5s						
KAPS	Kapalarasan	3.24	290	Pg	Pg	19 59 47.9	-0.8
	0.3nm,0.2s						
KAPS				Lg	Lg	20 00 31.1	
	3.3nm,0.5s						
SHLS	Shalkode	3.25	252	*e*P	Pn	19 59 40.4	+2.7
	48nm,0.5s						
SHLS				*e*S	Sn	20 00 18.5	+2.0
	302nm,0.5s						
SHLS	Shalkode	3.25	252	Pg	Pn	19 59 40.5	+2.8
	48nm,0.5s						
SHLS				Lg	Lg	20 00 18.0	
	302nm,0.5s						
ZSN	Zaisan	3.29	14	*e*P	Pb	19 59 46.5	+1.4
	22nm,0.2s						
ZSN				*e*S	Sb	20 00 29.2	+4.0
	85nm,0.4s						
ZSN	Zaisan	3.29	14	Pg	Pb	19 59 46.8	+1.7
	22nm,0.2s						
ZSN				Lg	Lg	20 00 29.0	
	85nm,0.4s						
UZB	Uzynbulak	3.55	253	*e*P	Pb	19 59 49.9	+0.3
	5.9nm,0.5s						
UZB				*e*S	Sb	20 00 34.7	+1.9
	36nm,0.4s						
UZB	Uzynbulak	3.55	253	Pg	Pb	19 59 49.6	0.0
	5.9nm,0.5s						
UZB				Lg	Lg	20 00 34.6	
	36nm,0.4s						
KPKS	Kokpek	3.70	259	*e*P	Pb	19 59 53.2	+1.2
	11nm,0.1s						
KPKS				*e*S	Sg	20 00 40.8	-4.5
	118nm,0.3s						
TDK	Taldyqorghan	3.83	283	*e*P	Pg	19 59 59.6	-0.4
	22nm,0.3s						
TDK				*e*S	Sg	20 00 51.8	+2.2
	166nm,0.6s						
TDK	Taldyqorghan	3.83	283	Pg	Pg	19 59 57.6	-2.4
	25nm,0.2s						
TDK				Lg	Lg	20 00 48.4	
	166nm,0.6s						
SATY	Saty	4.01	254	*e*P	Pb	19 59 59.5	+2.1
	3.2nm,0.2s						
SATY				*e*S	Sg	20 00 51.9	-3.4
	48nm,0.4s						
SATY	Saty	4.01	254	Pg	Pg	20 00 00.5	-2.8
	3.2nm,0.2s						
SATY				Lg	Lg	20 00 52.0	
	48nm,0.4s						
ARXS	Arharly	4.20	271	*e*P	Pg	20 00 05.6	-1.4
	21nm,0.6s						
ARXS				*e*S	Sg	20 01 02.4	+0.9
	47nm,0.5s						
MDOK	Medeo	4.93	259	⇓Pg	Pb	20 00 15.5	+2.5
	7.5nm,0.7s						
MDOK				⇑Lg	Lg	20 01 19.7	
	35nm,0.8s						
KNDC	Almaty	4.97	260	⇓Lg	Lg	20 01 21.2	
	69nm,0.7s						
KTBS	Karatobe	5.08	266	*e*P	Pg	20 00 20.4	-3.3
	4.1nm,0.6s						
KTBS				*e*S	Sg	20 01 27.9	-1.6
	42nm,0.8s						
TKM2	Tokmak 2	6.02	260	⇑Pg	Pb	20 00 35.3	+3.7
	4.1nm,0.8s						
TKM2				⇓Lg	Lg	20 01 57.2	
	16nm,0.7s						
AAK	Ala-Archa	6.88	260	Pg	Pb	20 00 50.4	+4.2
	0.2nm,0.3s,baz=122,slow=9.5,SNR=1.7						
AAK				Lg	Lg	20 02 24.6	
	0.2nm,0.3s,baz=9.3,slow=23,SNR=3.5						
AAK				LR	LR	20 03 13.2	
	comp=Z,50nm,21.4s,baz=151,slow=39						
AAK	Ala-Archa	6.88	260	⇓Pg	Pb	20 00 51.5	+5.3
	2.5nm,0.6s						
AAK				⇑Lg	Lg	20 02 22.8	
	5.1nm,0.6s						
KURBB	Kurchatov Arra	7.25	333	Pn	Pn	20 00 32.3	-0.2
	0.0nm,0.3s,baz=149,slow=11,SNR=2.1						
KURBB				Pg	Pb	20 00 55.5	+3.0
	0.1nm,0.3s,baz=144,slow=13,SNR=1.9						
KURBB				Lg	Lg	20 02 34.4	
	0.3nm,0.3s,baz=147,slow=36,SNR=4.0						
KURBB	Kurchatov Arra	7.25	333	Lg	Lg	20 02 33.7	
	40nm,0.7s						
OTUK	Ortayu	8.81	301	⇑Lg	Lg	20 03 23.2	
	5.1nm,0.7s						
KK31	Karatay Array	9.61	268	⇓Lg	Lg	20 03 50.4	
	4.8nm,0.8s,baz=74,slow=28,SNR=5.8						
ZALV	Zalesovo Beam	9.72	4	Pn	Pn	20 01 04.5	-1.9
	0.3nm,0.3s,baz=182,slow=16,SNR=4.2						
ZALV				Sn	Sn	20 02 50.6	-5.0
	1.0nm,0.3s,baz=171,slow=26,SNR=12						
BVAR	Borovoye Array	12.39	320	Sn	Sn	20 03 56.0	-5.0
	0.1nm,0.3s,baz=137,slow=20,SNR=2.9						
BRVK	Borovoye	12.46	320	⇓Lg	Lg	20 05 18.0	
	2.1nm,0.8s						
WRA	Warramunga Arr	78.89	132	P	P	20 10 49.9	-0.2
	0.3nm,0.5s,baz=326,slow=3.8,SNR=6.8						
ASAR	Alice Springs	81.73	135	P	P	20 11 05.2	-0.2
	0.3nm,0.7s,baz=320,slow=4.2,SNR=4.1						

NNC 07 20:09:27.6±5.0, 36°.82N×70°.59E, h0km, mb3.8, mpv3.6, 2C, Error ellipse: s-maj=60.5km s-min=40.2km az=74.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.28	359	P	Pn	20 11 02.9	+1.4
	1.4nm,0.3s,baz=175,slow=12,SNR=50						
KK31				⇑S	Sn	20 12 14.9	+1.0
	1.3nm,0.4s,baz=182,slow=24,SNR=5.8						
AAK	Ala-Archa	6.54	26	⇑P	Pn	20 11 04.5	-0.7
	2.1nm,0.3s						
AB31	Akbulak array	14.65	331	P	Pn	20 12 54.4	-1.6
	0.3nm,0.3s,baz=148,slow=14,SNR=18						

NEIC 07 20:13:35.9±0.9, 37°.24N±0°.01×97°.56W±0°.01, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.0km az=12.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KS20	Mayfield South	0.01	170	Pg	Pg	20 13 36.8	0.0
KS20					Sg	20 13 37.6	+0.1
KS21	Milan North St	0.10	298		Pg	20 13 39.5	+1.5
KS21	Milan North St	0.10	298	IAML		20 13 39.6	
	1μm,0.2s						
KS21				IAML		20 13 39.6	
	1μm,0.1s						
KAN13	South Haven SW	0.24	164	Pg	Pg	20 13 40.9	+0.3
KAN13				Sg	Sg	20 13 44.2	+0.6
KAN13				IAML		20 13 44.5	
	comp=E,221nm,1.8s						
KAN13				IAML		20 13 47.7	
	comp=N,150nm,0.3s						
KAN06	Argonia West S	0.24	272		Pg	20 13 40.7	+0.1
KAN06					Sg	20 13 44.2	+0.4
KAN17	Caldwell West	0.26	220	Pg	Pg	20 13 40.9	0.0
KAN17				Sg	Sg	20 13 44.1	-0.2
KAN17				IAML		20 13 46.5	
	comp=N,147nm,0.3s						
KAN17				IAML		20 13 48.3	
	comp=E,135nm,0.3s						
KAN05	Bluff City Nor	0.28	243	Pg	Pg	20 13 41.2	-0.3
KAN05				Sg	Sg	20 13 45.7	+0.5
KAN05				IAML		20 13 45.9	
	comp=N,234nm,0.2s						
KAN05				IAML		20 13 46.0	
	comp=E,218nm,0.2s						
KAN08	Anthony NE Sta	0.33	268	Pg	Pg	20 13 42.1	-0.2
KAN08				Sg	Sg	20 13 47.1	+0.4
KAN08				IAML		20 13 47.2	
	comp=E,158nm,0.2s						
KAN12	Harper NE Stat	0.36	279	Pg	Pg	20 13 42.6	-0.2
KAN12				Sg	Sg	20 13 47.4	-0.1
KAN12				IAML		20 13 54.0	
	comp=N,121nm,0.3s						
KAN12				IAML		20 13 55.6	
	comp=E,136nm,0.4s						
KAN14	Manchester OK	0.43	229	Pg	Pg	20 13 42.7	-1.5
KAN14					Sg	20 13 50.3	+0.5
KAN14				IAML		20 13 50.5	
	comp=N,71nm,0.2s						
KAN14				IAML		20 13 50.5	
	comp=E,70nm,0.1s						
KAN10	Anthony SW Sta	0.45	255	Pg	Pg	20 13 44.2	-0.3
GC02	Grant County #	0.46	212	Pg	Pg	20 13 44.8	+0.1
GC02				Sg	Sg	20 13 50.7	0.0
BLOK	Blackwell	0.55	150	Pg	Pg	20 13 46.4	-0.2
BLOK				Sg	Sg	20 13 54.1	+0.4
BLOK				IAML		20 13 54.7	
	comp=E,74nm,0.2s						
BLOK				IAML		20 13 55.1	
	comp=N,88nm,0.2s						
OK032	Salt Plains WL	0.68	230		Sg	20 13 58.2	+0.4
CROK	Carrier	0.81	205	Pg	Pg	20 13 51.2	-0.2
CROK				Sg	Sg	20 14 02.2	+0.2
CROK				IAML		20 14 08.1	
	comp=N,47nm,0.2s						
CROK				IAML		20 14 09.1	
	comp=E,49nm,0.3s						
T35A	Sooner Cattle	0.90	111	Pg	Pg	20 13 52.8	-0.3
T35A				Sg	Sg	20 14 04.8	+0.1
QUOK	Quay	1.27	147	Pn	Pg	20 13 59.1	-1.1
OK031	S. Brethren Rd	1.41	156		Pn	20 14 01.3	-0.9
OK029	Liberty Lake	1.44	177	Pn	Pn	20 14 02.0	-0.7
R32A	Long Quarter,	1.49	323	Pn	Pn	20 14 02.7	-0.7

IDC 07 20:21:03.3±3.3, 32°.77S×178°.27W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/34, mbtmp3.6/3, ML3.3/1, Error ellipse: s-maj=78.2km s-min=49.0km az=122.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.65	213	Pn	Pn	20 22 42.0	-0.1
	0.6nm,0.3s,baz=120,slow=23,SNR=1.2						
URZ				Sn	Sn	20 23 53.4	-5.2
	1.0nm,0.3s,baz=300,slow=20,SNR=2.4						
ASAR	Alice Springs	42.81	270	P	P	20 29 03.1	+0.1
	0.4nm,0.5s,baz=113,slow=7.1,SNR=4.4						
WRA	Warramunga Arr	44.01	275	P	P	20 29 12.5	-0.3
	0.4nm,0.5s,baz=116,slow=7.7,SNR=9.0						
FINES	FINESS Array B	147.27	339	PKPbc	PKPbc	20 40 47.1	-0.8
	3.1nm,1.0s,baz=336,slow=4.2,SNR=3.7						

IDC 07 20:21:22.4±1.8, 33°.03S×178°.27W, h0km, mb4.2/5, mb1 4.3/6, mb1mx3.9/34, mbtmp4.2/6, ML3.8/1, Error ellipse: s-maj=50.5km s-min=28.0km az=137.0
NEIC 07 20:21:24.2±0.6, 32°.8S±0°.2×178°.23W±0°.06, h10km±2km, mb4.0/5, Error ellipse: s-maj=27.0km s-min=8.6km az=184.0
WEL 07 20:21:27.6±0.6, 33°S±14°×17°9W±3°4, h33km, M4.3/10, mB4.7/6, ML4.7/14, MLv4.5/10, Mw(mB)4.0/6, Error ellipse: s-maj=0.0km s-min=0.0km az=111.6
ISC 07 20:21:26.9±1.3, 32°.81S±0°.10×178°.3W±0°.2, h32km, n37, σ1s.29/56, mb4.2/8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.56	6	P	Pn	20 22 16.4	-3.4
GLKZ				S	Sn	20 22 59.8	-1.0
RAO	Raoul Island	3.57	6	Pn	Pn	20 22 19.6	-0.5
MXZ	Matakaoa Point	5.48	209	Pn	Pn	20 22 44.4	-1.9
MXZ	Matakaoa Point	5.48	209	P	Pn	20 22 45.4	-0.8
MXZ				S	Sn	20 23 47.4	-0.7
WMGZ	Waiomatatini S	5.66	207	P	Pn	20 22 50.4	+1.7
WMGZ				S	Sn	20 23 53.0	+0.5
PKGZ	Pakihiroa	5.85	209	P	Pn	20 22 50.9	-0.5
PKGZ				S	Sn	20 23 56.0	-1.3
HAZ	Te Kaha	5.86	212	P	Pn	20 22 51.6	+0.1
HAZ				S	Sn	20 23 58.0	+0.4
PUZ	Puketiti	5.94	207	P	Pn	20 22 52.2	-0.3
PUZ				S	Sn	20 23 58.0	-1.4
RUGZ	Raukumara Rang	6.08	211	P	Pn	20 22 54.5	-0.2
RUGZ				S	Sn	20 24 04.0	+0.8
TWGZ	Tauwhareparae	6.14	208	P	Pn	20 22 55.7	+0.4
TWGZ				S	Sn	20 24 05.0	+0.6
CNGZ	Carnagh Statio	6.32	205	P	Pn	20 22 56.5	-1.2
TKGZ	Te Karaka	6.41	208	P	Pn	20 22 59.3	+0.3
TKGZ				S	Sn	20 24 10.6	-0.6
MWZ	Matawai	6.46	210	P	Pn	20 22 58.9	-0.8
MWZ				S	Sn	20 24 11.4	-0.9
URZ	Urewera	6.58	213	Pn	Pn	20 22 59.6	-1.7
	2.3nm,0.3s,baz=308,slow=20,SNR=18						
URZ				Sn	Sn	20 24 12.2	-3.0
	2.1nm,0.3s,baz=108,slow=19,SNR=1.9						
URZ	Urewera	6.58	213	P	Pn	20 23 01.2	-0.2
URZ				S	Sn	20 24 12.2	-3.0
RAGZ	Rawiri	6.64	210	P	Pn	20 23 03.4	+1.1
RAGZ				S	Sn	20 24 16.5	-0.4
RIGZ	Rimuhau	6.68	207	P	Pn	20 23 03.2	+0.4
RIGZ				S	Sn	20 24 16.1	-1.7
SNGZ	Shannon Statio	6.91	209	P	Pn	20 23 06.2	+0.3
SNGZ				S	Sn	20 24 23.1	-0.4
RTZ	Ruatahuna	6.93	212	P	Pn	20 23 05.8	-0.4
RTZ				S	Sn	20 24 20.8	-3.2
RAHZ	Arahi	7.13	210	P	Pn	20 23 09.9	+0.9
RAHZ				S	Sn	20 24 27.4	-1.5
MTHZ	Maungataniwha	7.18	212	P	Pn	20 23 10.0	+0.3
MTHZ				S	Sn	20 24 29.5	-0.8
BKZ	Black Stump Fm	7.60	212	Pn	Pn	20 23 13.7	-1.7
BKZ	Black Stump Fm	7.60	212	P	Pn	20 23 15.9	+0.5
BKZ				S	Sn	20 24 38.6	-1.7
CTA	Charters Tower	33.98	283	P	P	20 28 09.9	+2.2
	2.7nm,0.5s,baz=115,slow=11,SNR=6.8						
AS31	Alice Springs	42.75	270	P	P	20 29 22.0	+0.5
AS31				IAmb	IAmb	20 29 34.0	
	comp=Z,0.8nm,0.8s						
ASAR	Alice Springs	42.75	270	P	P	20 29 22.0	+0.5
	comp=Z,1.1nm,0.5s,baz=110,slow=7.5,SNR=20						
WR0	Warramunga Arr	43.78	275	P	P	20 29 30.2	+0.5
WR0				IAmb	IAmb	20 29 31.8	
	comp=Z,6.4nm,1.2s						
WB2	Warramunga Arr	43.95	275	P	P	20 29 31.3	+0.2
WB2				IAmb	IAmb	20 29 32.6	
	comp=Z,3.8nm,0.9s						
WRA	Warramunga Arr	43.96	275	P	P	20 29 31.5	+0.3
	comp=Z,3.4nm,0.6s,baz=118,slow=7.7,SNR=26						
WRA	Warramunga Arr	43.96	275	P	P	20 29 31.5	+0.3
KNRA	Kununurra	50.65	276	P	P	20 30 22.8	-0.5
FITZ	Fitzroy Crossi	52.11	272	P	P	20 30 34.1	-0.1
	comp=Z,1.0nm,0.7s,baz=156,slow=6.1,SNR=6.0						
FITZ	Fitzroy Crossi	52.11	272	P	P	20 30 33.9	-0.4
PETK	Petropavlovsk-	88.07	346	P	P	20 34 15.5	+1.9
	comp=Z,0.9nm,0.6s,baz=101,slow=6.0,SNR=1.9						
FINES	FINESS Array B	147.29	338	PKPbc	PKPab	20 41 06.9	-1.2
	comp=Z,2.5nm,0.5s,baz=48,slow=3.8,SNR=11						
NOA	NORSAR Array B	151.08	350	PKPbc	PKiKP	20 41 16.9	+0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,0.4nm,0.7s,baz=14,slow=4.1,SNR=3.8						
AKASG	Malin Array Be	153.00	320	PKPbc	PKiKP	20 41 21.5	+0.8
	comp=Z,0.6nm,0.4s,baz=47,slow=1.9,SNR=2.3						

IDC 07 20:23:46.5±2.3, 32°.88S×178°.36W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/32, mbtmp3.9/3, Error ellipse: s-maj=68.4km s-min=40.4km az=139.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.51	213	Pn	Pn	20 25 23.1	-0.4
	baz=127,slow=23,SNR=1.0						
ASAR	Alice Springs	42.73	270	P	P	20 31 46.1	+0.5
	0.8nm,0.6s,baz=109,slow=7.5,SNR=6.1						
WRA	Warramunga Arr	43.94	275	P	P	20 31 54.9	-0.6
	1.2nm,0.5s,baz=116,slow=7.8,SNR=9.7						
FINES	FINESS Array B	147.35	338	PKPbc	PKPbc	20 43 30.8	-0.6
	2.4nm,0.8s,baz=46,slow=5.5,SNR=5.1						
NOA	NORSAR Array B	151.15	350	PKPbc	PKPbc	20 43 40.5	-0.5
	0.7nm,0.8s,baz=341,slow=6.9,SNR=3.3						

*BJI **07** 20:24:54.9±0.0, 32°.86S×178°.02W, h8km, mB5.7/27, mb5.1/24, Ms5.2/27, Ms7 4.9/27*

*IDC **07** 20:24:55.9±0.4, 32°.86S×178°.37W, h0km, mb4.8/22, mb1 4.9/27, mb1mx4.8/36, mbtmp4.8/27, ML4.9/4, MS4.9/9, Ms1 4.9/9, ms1mx4.5/18, Error ellipse: s-maj=14.6km s-min=13.9km az=116.0*

*MOS **07** 20:24:57.9±1.0, 32°.80S×178°.52W, h17km, mb5.3/7, MS5.1/10, Error ellipse: s-maj=12.0km s-min=9.2km az=99.3*

*WEL **07** 20:24:57.5±0.7, 33°S±6°×17°8W±1°5, h33km, M5.1/25, mB5.5/19, ML5.8/25, MLv5.5/25, Mw(mB)5.0/19, Error ellipse: s-maj=0.0km s-min=0.0km az=109.2*

*NOU **07** 20:24:58.7, 33°.53S×177°.34W, h68km, mb5.1/18, South of Kermadec Islands*

*NEIC **07** 20:24:59.0±2.0, 32°.77S±0°.08×178°.4W±0°.1, h14km±3km, mb5.2/87, Error ellipse: s-maj=15.4km s-min=11.3km az=92.0*

*GCMT **07** 20:25:00.0±0.1, 33°.04S±0°.01×177°.83W±0°.01, h18km, MW5.3/129, Moment Tensor Solution. s92,c139; s129,c215; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.78±.02; $M_{\theta\theta}$-0.09±.01; $M_{\phi\phi}$-0.68±.01; $M_{r\theta}$0.15±.03; $M_{\theta\phi}$-0.21±.01; $M_{\phi r}$0.91±.04; Best double couple: $M_0$1.19400×10^{17} NP1:ϕ_s203.00000°,δ20.00000°, λ101.00000°. NP2:ϕ_s11.00000°,δ70.00000°,λ86.00000°. Principal axes: T 1.2120, Plg65.0000°, Azm275.0000°; N -0.0350, Plg4.0000°, Azm13.0000°; P -1.1770, Plg25.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **07** 20:25:03.4±0.0, 33°.03S×177°.95W, h33km*

ISC 07 20:25:00.3±0.3, 32°.94S±0°.04×178°.32W±0°.05, h32km, n570, σ1s95/561, mb5.2/79, MS5.1/31, 23C-10D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.68	5	P	Pn	20 25 50.6	-4.5
GLKZ				S	Sn	20 26 34.9	-2.4
RAO	Raoul Island	3.69	5	Pn	Pn	20 25 52.0	-3.2
	84nm,0.3s,baz=90,slow=23,SNR=2.8						
RAO				Sn	Sn	20 26 34.1	-3.5
	116nm,0.3s,baz=174,slow=14,SNR=4.5						
RAO	Raoul Island	3.69	5	P	Pn	20 25 52.0	-3.2
RAO	Raoul Island	3.69	5	Pn	Pn	20 25 51.4	-3.8
RAO				Sn	Sn	20 26 33.8	-3.8
RIZ	Raoul Island	3.70	5	P	Pn	20 25 51.8	-3.4
RIZ				S	Sn	20 26 34.9	-2.8
MXZ	Matakaoa Point	5.38	210	Pn	Pn	20 26 14.9	-3.4
MXZ				Sn	Sn	20 27 16.1	-2.9
MXZ	Matakaoa Point	5.38	210	P	Pn	20 26 15.7	-2.5
MXZ				S	Sn	20 27 16.0	-3.0
WMGZ	Waiomatatini S	5.55	208	P	Pn	20 26 17.5	-3.2
WMGZ				S	Sn	20 27 24.2	+0.8
PKGZ	Pakihiroa	5.75	210	P	Pn	20 26 20.8	-2.6
PKGZ				S	Sn	20 27 26.9	-1.4
HAZ	Te Kaha	5.76	212	P	Pn	20 26 23.3	-0.2
HAZ				S	Sn	20 27 29.8	+1.2
PUZ	Puketiti	5.83	208	P	Pn	20 26 21.3	-3.3
PUZ				S	Sn	20 27 29.0	-1.4
RUGZ	Raukumara Rang	5.98	212	P	Pn	20 26 25.0	-1.7
RUGZ				S	Sn	20 27 33.7	-0.5
TWGZ	Tauwhareparae	6.03	209	P	Pn	20 26 25.3	-2.1
TWGZ				S	Sn	20 27 35.7	+0.4
CNGZ	Carnagh Statio	6.21	206	P	Pn	20 26 27.3	-2.4
CNGZ				S	Sn	20 27 39.7	0.0
WHRZ	Whale Island	6.23	217	P	Pn	20 26 31.8	+1.8
WHRZ				S	Sn	20 27 39.7	-0.5
TKGZ	Te Karaka	6.31	209	P	Pn	20 26 29.4	-1.7
TKGZ				S	Sn	20 27 40.7	-1.4
MWZ	Matawai	6.36	211	P	Pn	20 26 30.9	-0.9
MWZ				S	Sn	20 27 40.7	-2.6
OPRZ	Ohinepanea	6.44	219	P	Pn	20 26 33.8	+0.9
OPRZ				S	Sn	20 27 45.6	+0.4
URZ	Urewera	6.48	214	Pn	Pn	20 26 31.4	-2.0
	14nm,0.3s,baz=269,slow=3.5,SNR=20						
URZ				Sn	Sn	20 27 42.1	-4.3
	36nm,0.3s,baz=233,slow=5.1,SNR=11						
URZ	Urewera	6.48	214	Pn	Pn	20 26 31.1	-2.3
URZ				Sn	Sn	20 27 42.0	-4.3
URZ	Urewera	6.48	214	P	Pn	20 26 31.3	-2.2
URZ				S	Sn	20 27 44.6	-1.7
TGRZ	Tauranga	6.51	221	P	Pn	20 26 35.3	+1.4
RAGZ	Rawiri	6.54	211	P	Pn	20 26 32.0	-2.4
RAGZ				S	Sn	20 27 45.6	-2.2
RIGZ	Rimuhau	6.57	208	P	Pn	20 26 33.1	-1.7
RIGZ				S	Sn	20 27 46.6	-2.1
PRGZ	Paritu Road	6.72	206	P	Pn	20 26 33.3	-3.4
PRGZ				S	Sn	20 27 48.6	-3.6
OMRZ	Omania	6.73	219	P	Pn	20 26 40.0	+3.1
SNGZ	Shannon Statio	6.81	210	P	Pn	20 26 36.6	-1.4
MUGZ	Murupara	6.82	214	P	Pn	20 26 36.1	-2.0
RTZ	Ruatahuna	6.83	213	P	Pn	20 26 36.3	-2.0
RRRZ	Republican Roa	6.83	217	P	Pn	20 26 37.7	-0.6
MHGZ	Mahia Peninsul	6.91	205	P	Pn	20 26 35.6	-3.7
RAHZ	Arahi	7.03	211	P	Pn	20 26 40.6	-0.5
OUZ	Omahuta	7.08	249		Pn	20 26 40.8	-0.9
MTHZ	Maungataniwha	7.09	212	P	Pn	20 26 40.1	-1.7
WHHZ	Waihua	7.10	209	P	Pn	20 26 42.1	+0.1
MRHZ	Matea Rd	7.27	215	P	Pn	20 26 42.2	-2.1
ARHZ	Aropaoanui	7.36	210	P	Pn	20 26 44.4	-1.1
BKZ	Black Stump Fm	7.50	213		Pn	20 26 44.4	-3.1
BKZ	Black Stump Fm	7.50	213	P	Pn	20 26 45.8	-1.7
RATZ	Rangitukua	7.61	217	P	Pn	20 26 52.7	+3.7
MCHZ	McNeill Hill	7.64	210	P	Pn	20 26 47.1	-2.3
RITZ	Rihia Road	7.65	216	P	Pn	20 26 49.9	+0.3
TMVZ	Te Maari	7.83	216	P	Pn	20 26 51.8	-0.4
ETVZ	East Tongariro	7.85	216	P	Pn	20 26 50.7	-1.6
HIZ	Hauiti	7.86	223	Pn	Pn	20 26 48.2	-4.1
HIZ	Hauiti	7.86	223	P	Pn	20 26 53.9	+1.6
KAHZ	Kahuranaki	7.86	208	P	Pn	20 26 47.7	-4.8
NNVZ	North Ngauruho	7.89	217	P	Pn	20 26 53.1	+0.1
WTVZ	West Tongariro	7.89	217	P	Pn	20 26 52.3	-0.7
SNVZ	South Ngauruho	7.92	216	P	Pn	20 26 52.9	-0.5
NGZ	Ngauruhoe	7.93	217	P	Pn	20 26 52.8	-0.7
KRHZ	Kereru	7.94	211	P	Pn	20 26 50.1	-3.4
BHHZ	Black Hill Sta	7.96	213	P	Pn	20 26 52.1	-1.6
TUVZ	Tukino	7.98	216	P	Pn	20 26 53.4	-0.7
FWVZ	Far West T-bar	8.02	216	P	Pn	20 26 54.6	-0.2
WHVZ	Whangaehu Hut	8.02	216	P	Pn	20 26 54.7	-0.1
MOVZ	Moawhango	8.04	215	P	Pn	20 26 52.9	-2.0
WNVZ	Wahianoa	8.05	216	P	Pn	20 26 54.3	-0.8
PXZ	Pawanui	8.07	207	P	Pn	20 26 53.8	-1.4
PNHZ	Pukenui	8.24	211	P	Pn	20 26 54.0	-3.7
TSZ	Takapari Road	8.46	211	P	Pn	20 26 57.5	-3.2
DVHZ	Dannevirke	8.58	210	P	Pn	20 26 58.6	-3.6
WAZ	Wanganui	8.68	217	P	Pn	20 27 02.4	-1.3
BFZ	Birch Farm	8.87	208	P	Pn	20 27 01.9	-4.3
PRWZ	Pori Road	8.87	209	P	Pn	20 27 04.6	-1.6
MRZ	Mangatainoka R	9.12	211	P	Pn	20 27 04.9	-4.8
HOWZ	Holdsworth Sta	9.35	210	P	Pn	20 27 09.3	-3.5
TMWZ	Te Maipa	9.37	208	P	Pn	20 27 08.3	-4.8
OGWZ	Otaki Gorge	9.43	212	P	Pn	20 27 09.9	-4.0
KIW	Kapiti Island	9.58	213	P	Pn	20 27 11.4	-4.6
DUWZ	D'Urville Isla	10.01	216	P	Pn	20 27 19.2	-2.6
TUWZ	Tuamarina	10.48	214	P	Pn	20 27 24.7	-3.5
CMWZ	Cape Campbell	10.61	212	Pn	Pn	20 27 28.3	-1.7
BSWZ	Blackbirch Sta	10.73	213	Pn	Pn	20 27 27.3	-4.5
THZ	Tophouse	11.23	216	P	Pn	20 27 34.9	-3.7
KHZ	Kahutara	11.44	212	P	Pn	20 27 39.0	-2.4
GVZ	Greta Valley S	12.11	212	P	Pn	20 27 46.2	-4.3
LTZ	Lake Taylor	12.31	214	Pn	Pn	20 27 48.4	-5.0
LTZ	Lake Taylor	12.31	214	P	Pn	20 27 49.5	-3.9
INZ	Inchbonnie	12.67	217	P	Pn	20 27 55.5	-2.7
OXZ	Oxford	12.84	213	Pn	Pn	20 27 54.3	-6.2
OXZ	Oxford	12.84	213	P	Pn	20 27 55.5	-5.0
MQZ	McQueen's Vall	12.87	211	Pn	Pn	20 27 56.8	-4.0
WVZ	Waitaha Valley	13.29	217	P	Pn	20 28 04.3	-2.2
RPZ	Rata Peaks	13.60	215	P	Pn	20 28 06.7	-4.2
FOZ	Fox Glacier	14.08	218	Pn	Pn	20 28 11.2	-6.3
TMZ	Timaru	14.13	213	P	Pn	20 28 12.3	-5.9
LBZ	Lake Benmore	14.52	215	Pn	Pn	20 28 16.6	-6.8
LBZ	Lake Benmore	14.52	215	P	Pn	20 28 17.8	-5.7
JCZ	Jackson Bay	14.99	218	P	Pn	20 28 25.1	-4.8
WKZ	Wanaka	15.41	216	Pn	Pn	20 28 28.2	-7.1
WKZ				IAmb	IAmb	20 29 11.4	
	comp=Z,185nm,1.5s						
WKZ	Wanaka	15.41	216	P	Pn	20 28 32.1	-3.2
MSVF	Nonsavu	15.49	347	Pn	Pn	20 28 35.0	-1.6
	comp=Z,0.4nm,0.3s,baz=163,slow=12,SNR=5.4						
MSVF				LR	LR	20 32 52.8	
	comp=Z,2µm,19.8s,baz=173,slow=31						
MSVF	Nonsavu	15.49	347	⇑iP	Pn	20 28 35.9	-0.7
MSVF	Nonsavu	15.49	347	P	Pn	20 28 35.7	-0.9
MSVF	Nonsavu	15.49	347	P	P	20 28 42.2	+1.5
MLZ	Mavora Lakes	16.24	216	Pn	Pn	20 28 45.6	-0.4
MLZ	Mavora Lakes	16.24	216	P	Pn	20 28 41.7	-4.3
PINNC	Pines Island,	16.25	306	P	P	20 28 46.9	-2.1
PINNC				IAmb	IAmb	20 28 54.8	
	comp=Z,278nm,1.2s						
MARNC	Mare, Loyalty	16.65	310	P	Pn	20 28 50.6	-0.6
WHZ	Wether Hill Ro	16.70	215	Pn	Pn	20 28 47.5	-4.2
WHZ	Wether Hill Ro	16.70	215	P	Pn	20 28 47.7	-4.0
OUENC	Ouen Island, N	16.79	305		Pn	20 28 50.8	-2.3
OUENC				IAmb	IAmb	20 29 01.4	
	comp=Z,436nm,1.3s						
OUENC	Ouen Island, N	16.79	305	P	P	20 29 02.2	+7.2
YATNC	Mamie plateau,	17.00	306	P	P	20 29 04.8	+7.5
ONTNC	Ouen Toro	17.14	304	P	P	20 28 59.5	+0.7
ONTNC				IAmb	IAmb	20 29 05.9	
	comp=Z,176nm,1.1s						
DZM	Mont Dzumac	17.30	305	eP	P	20 29 04.0	+3.3
	comp=Z,409nm,1.2s						
DZM				eLR	LR	20 33 06.4	
	comp=Z,7µm,24.6s						
DZM	Mont Dzumac	17.30	305	Pn	P	20 28 60.0	-0.7
	comp=Z,0.1nm,0.3s,baz=341,slow=17,SNR=5.0						
DZM				LR	LR	20 34 39.3	
	comp=Z,9µm,18.3s,baz=127,slow=34						
DZM	Mont Dzumac	17.30	305	P	P	20 29 03.0	+2.3
DZM				IAmb	IAmb	20 29 08.4	
	comp=Z,210nm,1.2s						
DZM	Mont Dzumac	17.30	305	P	P	20 29 07.9	+7.2
APZ	The Paps	17.37	213	P	P	20 29 00.1	-1.2
LIFNC	LIFOU	17.66	310	P	P	20 29 03.0	-1.7
AFI	Afiamalu	19.86	19	P	P	20 29 26.7	-2.2
	comp=Z,2.7nm,0.3s,baz=178,slow=8.1,SNR=9.5						
AFI				S	S	20 32 54.7	-16
	comp=Z,3.3nm,0.3s,baz=209,slow=18,SNR=2.3						
AFI	Afiamalu	19.86	19		P	20 29 26.5	-2.4
AFI				IAmb	IAmb	20 29 38.0	
	comp=Z,160nm,1.1s						
RAR	Rarotonga	20.19	59	P	P	20 29 30.7	-1.6
	comp=Z,47nm,1.0s,baz=257,slow=6.0,SNR=7.1						
RAR				LR	LR	20 36 47.7	
	comp=Z,3µm,19.1s,baz=220,slow=35						
RAR	Rarotonga	20.19	59	P	P	20 29 28.7	-3.6
RAR				IAmb	IAmb	20 29 44.1	
	comp=Z,159nm,1.4s						
ARMA	Armidale	25.66	267	P	P	20 30 30.5	+3.1
	baz=26,SNR=4.6						
ARMA	Armidale	25.66	267	P	P	20 30 27.1	-0.3
ARMA				IAmb	IAmb	20 30 51.5	
	comp=Z,85nm,1.4s						
TBI	Tubuai	27.11	77	eLR	LR	20 37 20.2	
	comp=Z,2µm,21.0s,baz=244						
TBI	Tubuai	27.11	77	eT	T	20 58 28.2	
	comp=Z,9.4nm,0.4s						
EIDS	Eidsvold	27.70	278	P	P	20 30 46.8	+1.1
	baz=28,SNR=4.6						
EIDS	Eidsvold	27.70	278	P	P	20 30 44.6	-1.1
RMQ	Roma	29.23	274	P	P	20 31 00.8	+1.5
	baz=30,SNR=40						
TOO	Toolangi	29.79	251	P	P	20 31 05.1	+0.8
TOO				pmax	pmax		
	comp=Z,33nm,1.3s						
TOO	Toolangi	29.79	251	P	P	20 31 05.1	+0.8
PAE	Paea	29.98	67	eT	T	21 02 05.0	
	comp=Z,2.2nm,0.3s						
PPT2	Papeete2	30.02	66	eLR	LR	20 38 47.7	
	comp=Z,2µm,20.8s,baz=230						
PPT	Papeete	30.04	66	LR	LR	20 41 12.9	
	comp=Z,3µm,18.6s,baz=240,slow=32						
TIAR	Tiarei	30.22	67	eP	P	20 31 08.0	-0.1
	comp=Z,15nm,0.9s						
HNR	Honiara	30.82	315	LR	LR	20 42 33.7	
	comp=Z,833nm,18.5s,baz=162,slow=34						
ARPS	Mount Arapiles	32.76	252	P	P	20 31 32.3	+2.1
	baz=33,SNR=6.0						
VAH	Vaihoa	32.93	65	eP	P	20 31 31.8	-0.1
	comp=Z,141nm,1.3s						
VAH	Vaihoa	32.93	65	eT	T	21 05 45.7	
	comp=Z,7.9nm,0.3s						
QLP	Quilpie	33.00	271	P	P	20 31 35.2	+2.7
	baz=34,SNR=11						
STKA	Stephens Creek	33.72	261	P	P	20 31 38.4	-0.4
	comp=Z,3.6nm,1.0s,baz=112,slow=8.0,SNR=6.0						
STKA				LR	LR	20 44 52.2	
	comp=Z,4µm,18.3s,baz=93,slow=36						
STKA	Stephens Creek	33.72	261	P	P	20 31 38.2	-0.6
CTA	Charters Tower	34.02	283	P	P	20 31 42.4	+0.8
	comp=Z,22nm,0.6s,baz=114,slow=11,SNR=29						
CTA				LR	LR	20 45 21.2	
	comp=Z,2µm,18.3s,baz=147,slow=36						
CTAO	Charters Tower	34.02	283	P	P	20 31 41.7	+0.2
CTAO				pmax	pmax		
	comp=Z,176nm,1.9s						
CTAO	Charters Tower	34.02	283	P	P	20 31 41.7	+0.2
HTT	Hallett	35.61	257	P	P	20 31 56.9	+1.8
	baz=36,SNR=5.2						
MTSU	Mount Surprise	36.59	284	P	P	20 32 05.7	+2.1
	baz=37,SNR=8.1						
BBOO	Buckleboo	38.09	257	P	P	20 32 14.7	-1.5
BBOO				IAmb	IAmb	20 32 17.8	
	comp=Z,59nm,1.6s						
QIS	Mount Isa	39.30	278	P	P	20 32 27.7	+1.2
	baz=40,SNR=12						
RABL	Rabaul	39.73	310	P	P	20 32 29.4	-0.6
COEN	Coen	39.78	289	P	P	20 32 31.4	+0.9
COEN				IAmb	IAmb	20 32 33.6	
	comp=Z,69nm,1.4s						
TAOE	Nuku Hiva Isla	42.60	64	eS	S	20 39 15.1	+0.3
	comp=Z,484nm,23.4s						
TAOE				eLR	LR	20 44 37.2	
	comp=Z,1µm,21.4s						
AS31	Alice Springs	42.77	270	P	P	20 32 53.8	-1.2
ASAR	Alice Springs	42.77	270	P	P	20 32 54.6	-0.4
	comp=Z,24nm,0.8s,baz=114,slow=7.8,SNR=70						
ASAR				S	S	20 39 15.3	-1.8
	comp=Z,3.0nm,1.0s,baz=113,slow=15,SNR=4.9						
ASAR	Alice Springs	42.77	270	P	P	20 32 53.4	-1.7
WR0	Warramunga Arr	43.81	275	P	P	20 33 02.3	-1.1
WR0				IAmb	IAmb	20 33 04.8	
	comp=Z,65nm,1.2s						
WB2	Warramunga Arr	43.98	275	P	P	20 33 03.9	-0.9
WRAB	Tennant Creek	43.98	275	ceP	P	20 33 03.4	-1.4
WRAB				pmax	pmax		
	comp=Z,56nm,1.4s						
WRAB	Tennant Creek	43.98	275	P	P	20 33 04.2	-0.6
WRAB				IAmb	IAmb	20 33 06.1	
	comp=Z,91nm,1.3s						
WRA	Warramunga Arr	43.98	275	P	P	20 33 04.2	-0.7
	comp=Z,16nm,0.4s,baz=113,slow=7.8,SNR=50						
WRA				S	S	20 39 30.8	-4.1
	comp=Z,3.0nm,1.1s,baz=124,slow=12,SNR=3.0						
WRA	Warramunga Arr	43.98	275	P	P	20 33 02.6	-2.3
FORT	Forrest	45.19	258	P	P	20 33 13.7	-0.6
	baz=46,SNR=20						
FORT	Forrest	45.19	258	P	P	20 33 12.4	-1.9
SBA	Scott Base	45.49	184	P	P	20 33 19.7	+3.6
SBA				pmax	pmax		
	comp=Z,77nm,1.8s						
SBA	Scott Base	45.49	184	P	P	20 33 19.7	+3.6
SBA				IAmb	IAmb	20 33 32.1	
	comp=Z,77nm,1.8s						
VNDA	Vanda	45.55	186	P	P	20 33 18.7	+2.2
	comp=Z,1.4nm,0.7s,baz=12,slow=6.5,SNR=10						
VNDA	Vanda	45.55	186	P	P	20 33 19.2	+2.7
WRKA	Warakurna	46.95	265	P	P	20 33 26.8	-1.4
	baz=48,SNR=31						
JAY	Jayapura	48.87	300	P	P	20 33 43.5	+0.3
	comp=Z,326nmcomp=Z,22nm,1.1s						
KDU	Kakadu	49.14	282	P	P	20 33 45.1	-0.1
	baz=50,SNR=8.7						
GENI	Genyem	49.21	299	P	P	20 33 46.8	+1.0
	comp=Z,2µmcomp=Z,142nm,0.5s						
MTN	Manton Dam	50.16	281	P	P	20 33 52.5	-0.6
	baz=51,SNR=6.7						
MTN	Manton Dam	50.16	281	P	P	20 33 51.9	-1.2
MTN				IAmb	IAmb	20 33 54.1	
	comp=Z,66nm,1.4s						
KNRA	Kununurra	50.68	277	P	P	20 33 56.8	-0.1
	baz=51,SNR=31						
KNRA	Kununurra	50.68	277	P	P	20 33 55.9	-1.1
FITZ	Fitzroy Crossi	52.13	272	P	P	20 34 07.5	-0.3
	baz=53,SNR=20						
FITZ	Fitzroy Crossi	52.13	272	P	P	20 34 07.5	-0.3
	comp=Z,14nm,0.9s,baz=165,slow=10,SNR=20						
FITZ	Fitzroy Crossi	52.13	272	P	P	20 34 06.7	-1.1
FITZ				IAmb	IAmb	20 34 09.1	
	comp=Z,58nm,1.4s						
CASY	Casey	52.78	209	P	P	20 34 13.8	+1.8
CASY				IAmb	IAmb	20 34 26.1	
	comp=Z,40nm,1.1s						
BAKI	Biak	53.16	297	P	P	20 34 15.7	+0.3
	comp=Z,47nm,1.0s						
NWAO	Narrogin (SRO)	53.29	251	P	P	20 34 15.9	-0.3
	comp=Z,5.5nm,0.9s,baz=266,slow=9.8,SNR=1.9						
MEEK	Meekatharra	54.39	259	P	P	20 34 23.5	-0.9
	baz=55,SNR=3.9						
PSA00	Pilbara Seismi	55.44	265	P	P	20 34 30.3	-1.8
MORW	Morawa	55.59	255	P	P	20 34 32.7	-0.3
	baz=56,SNR=3.5						
SIJI	Sorong	57.05	293	LR	LR	20 58 54.1	
	comp=Z,1µm,19.1s,baz=265,slow=36						
SIJI	Sorong	57.05	293	P	P	20 34 42.6	-1.0
	comp=Z,17nm,1.4s						
QSPA	South Pole Qui	57.18	180	P	P	20 34 44.5	+0.6
	comp=Z,13nm,1.0s,baz=32,slow=2.8,SNR=17						
QSPA				LR	LR	20 57 59.8	
	comp=Z,2µm,18.1s,baz=38,slow=35						
QSPA	South Pole Qui	57.18	180	P	P	20 34 45.3	+1.3
SOEI	Soe	57.49	280	P	P	20 34 46.8	0.0
SOEI	Soe	57.49	280	P	P	20 34 47.4	+0.6
	comp=Z,61nm,1.1s						
BATI	Baumata	57.75	279	P	P	20 34 48.2	-0.3
	comp=Z,28nm,0.9s,baz=200,slow=19,SNR=8.1						
BATI	Baumata	57.75	279	P	P	20 34 49.5	+1.0
	comp=Z,27nm,1.3s						
KRAI	Karang Ratu	57.80	289	P	P	20 34 47.6	-1.2
	comp=Z,904nmcomp=Z,17nm,1.1s						
GUMO	Guam	58.11	317	P	P	20 34 51.7	+0.8
	comp=Z,24nm,0.3s,baz=219,slow=22,SNR=4.5						
GUMO	Guam	58.11	317	P	P	20 34 50.5	-0.4
GUMO				pmax	pmax		
	comp=Z,326nm,1.6s						
GUMO	Guam	58.11	317	P	P	20 34 50.5	-0.4
MMRI	Maumere	59.77	280	P	P	20 35 02.5	-0.1
MMRI	Maumere	59.77	280	P	P	20 35 02.1	-0.5
	comp=Z,2µmcomp=Z,99nm,1.4s						
EDFI	Ende, Flores	60.17	279	P	P	20 35 04.0	-1.4
	comp=Z,15nm,1.2s						
SANI	Sanana	60.47	288	P	P	20 35 05.3	-2.1
	comp=Z,48nm,1.3s						
BKSI	Bulukumba	63.35	282	P	P	20 35 25.4	-1.3
MAW	Mawson	69.84	201	P	P	20 36 08.1	+0.8
	baz=70,SNR=9.2						
MAW	Mawson	69.84	201	P	P	20 36 08.7	+1.4
	comp=Z,7.5nm,0.8s,baz=139,slow=7.6,SNR=11						
MAW	Mawson	69.84	201	P	P	20 36 07.2	-0.2
SYO	Syowa Base	74.59	193	⇑eP	P	20 36 36.2	+0.6
SYO	Syowa Base	74.59	193	⇓epP	pP	20 36 41.2	-2.7
SYO	Syowa Base	74.59	193	⇑esP	sP	20 36 43.0	-3.8
SNAA	Sanae	75.63	179	P	P	20 36 42.4	+0.6
SNAA	Sanae	75.63	179	PcP	PcP	20 36 53.4	-1.1
SNAA	Sanae	75.63	179	ceP	P	20 36 43.0	+1.2
SNAA				pmax	pmax		
	comp=Z,21nm,2.5s						
SNAA	Sanae	75.63	179	P	P	20 36 40.2	-1.6
SNAA				IAmb	IAmb	20 36 54.5	
	comp=Z,45nm,1.2s						
VNA3	Neumayer Olymp	75.80	176	P	P	20 36 43.0	+0.3
VNA3	Neumayer Olymp	75.80	176	PcP	PcP	20 36 55.0	-0.2
VNA2	Neumayer--Watz	76.22	177	P	P	20 36 45.8	+0.7
	baz=167,slow=6.1						
VNA2	Neumayer--Watz	76.22	177	PcP	PcP	20 36 57.6	+0.6
VNA1	Neumayer--Stat	76.46	177	P	P	20 36 47.2	+0.9
VNA1	Neumayer--Stat	76.46	177	PcP	PcP	20 36 57.8	-0.2
LL02	Futaleuf	78.77	134	P	P	20 37 01.0	+1.2
LL04	Puerto Octay	79.72	132	P	P	20 37 05.1	+0.1
LL04				IAmb	IAmb	20 37 09.8	
	comp=Z,19nm,0.9s						
MJAR	Matsushiro Arr	80.18	326	P	P	20 37 06.8	-0.6
	comp=Z,3.9nm,1.1s,baz=165,slow=5.4,SNR=5.8						
PLCA	Paso Flores	80.98	133	P	P	20 37 12.1	+0.2
	comp=Z,17nm,1.0s,baz=206,slow=5.9,SNR=11						
PLCA	Paso Flores	80.98	133	P	P	20 37 12.8	+0.9
PLCA				pmax	pmax		
	comp=Z,30nm,1.2s						
PLCA	Paso Flores	80.98	133	P	P	20 37 12.8	+0.9
PLCA				IAmb	IAmb	20 37 16.0	
	comp=Z,30nm,1.1s						
LC01	Cunco	81.21	131	P	P	20 37 13.3	+0.2
QZH	Quanzhou	83.19	305	P	P	20 37 22.8	-0.7
QZH				S	S	20 47 41.0	-0.5
QZH				LR	LR		
	comp=Z,250nm,16.1s						
YUK	Yuzh-Kuril'sk	83.29	335	eP	P	20 37 23.7	+0.2
YUK				eS	S	20 47 44.2	+2.6
YUK				eSS	SS	20 53 10.0	+2.1
YUK				eSSS	SSS	20 56 39.5	
YUK				pmax	pmax		
	comp=Z,227nm,1.3s						
YUK				pmax	pmax		
	comp=Z,171nm,1.1s						
KUR	Kuril'sk	83.64	337	eP	P	20 37 26.4	+1.1
KUR				e		20 37 30.5	
KUR				S	S	20 47 48.5	+3.3
KUR				MLR	MLR		
	comp=Z,706nm,18.0s						
BO02	Sierra Bellavi	84.32	128	P	P	20 37 29.8	+0.4
BO02				IAmb	IAmb	20 37 32.0	
	comp=Z,26nm,0.9s						
MT01	Popeta	84.56	127	P	P	20 37 30.6	+0.1
MT09	Talagante	84.79	127	P	P	20 37 31.5	-0.4
QIZ	Qiongzhong	85.84	296	P	P	20 37 36.5	-0.5
QIZ				sP	PcP	20 37 41.6	+1.8
QIZ				S	S	20 48 11.5	+3.3
QIZ				SS	SS	20 53 51.0	+4.7
QIZ				pmax	pmax		
	comp=Z,120nm,3.7s						
QIZ				LR	LR		
	comp=Z,220nm,11.8s						
QIZ				LR	LR		
	comp=Z,170nm,15.1s						
QIZ				LR	LR		
	comp=Z,220nm,16.9s						
KSRS	Korea Array	86.11	320	P	P	20 37 38.0	+0.2
	comp=Z,2.9nm,0.8s,baz=150,slow=5.8,SNR=4.5						
CO02	Combarbal	86.30	125	P	P	20 37 39.5	+0.1
CO03	El Pedregal	86.73	125	P	P	20 37 41.4	-0.1
YSS	Yuzh-Sakhalins	86.91	334	ceP	P	20 37 42.2	+0.6
YSS				e		20 48 08.7	
YSS				eS	S	20 48 17.5	+0.1
YSS				pmax	pmax		
	comp=Z,300nm,3.6s						
YSS				MLR	MLR		
	comp=Z,600nm,16.0s						
SMMC	Simmler	87.15	44	P	P	20 37 48.3	+5.2
	baz=226						
ZON	Zonda	87.68	126	P	P	20 37 47.5	+1.4
ZON				pmax	pmax		
	comp=Z,35nm,1.3s						
ZON	Zonda	87.68	126	P	P	20 37 47.5	+1.4
NJ2	Nanjing	87.69	311	eP	P	20 37 47.7	+2.0

NJ2 SKS **SKSac** **20 48 15.5 +4.1**
NJ2 S **ScS** **20 48 30.7 -1.5**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
NJ2 pmax pmax
comp=Z,210nm,9.5s
NJ2 LR LR
comp=Z,310nm,14.7s
NJ2 LR LR
comp=Z,220nm,14.2s
NJ2 LR LR
comp=Z,550nm,20.8s
PET Petropavlovsk 87.93 346 *e*P **P** **20 37 45.2 -1.1**
PET *e*S **S** **20 48 27.0 +0.2**
PET *e*PS 20 49 33.9
PET MLR MLR
comp=Z,1µm,20.0s
EDW2 Edwards Air Fo 88.04 46 P **P** **20 37 49.8 +2.4**
baz=227
SWSC Sam W. Stewart 88.09 48 P **P** **20 37 50.8 +3.2**
baz=228
TPFO Pinon Flats 88.12 47 P **P** **20 37 51.4 +3.4**
baz=228
PFO Pinyon Flats O 88.12 47 P **P** **20 37 51.2 +3.2**
baz=228
PEA0B Petropavlovsk- 88.20 346*ce*P **P** **20 37 49.1 +1.5**
PEA0B Petropavlovsk- 88.20 346 P **P** **20 37 48.2 +0.6**
PETK Petropavlovsk- 88.20 346 P **P** **20 37 48.4 +0.7**
comp=Z,12nm,1.1s,baz=126,slow=7.5,SNR=14
PETK Petropavlovsk- 88.20 346 P **P** **20 37 48.7 +1.1**
PETK Petropavlovsk- 88.20 346 P **P** **20 37 48.7 +1.1**
ISA Isabella, Lake 88.29 45 P **P** **20 37 49.5 +0.9**
ISA pmax pmax
comp=Z,26nm,1.3s
ISA Isabella, Lake 88.29 45 P **P** **20 37 49.5 +0.9**
ISA IAmb IAmb 20 37 59.1
comp=Z,26nm,1.3s
ISA Isabella, Lake 88.29 45 P **P** **20 37 52.3 +3.7**
baz=227
LRMC Laurel Mtn Rad 88.64 45 P **P** **20 37 53.0 +2.6**
baz=227
BELC Belle Mtn. Jos 88.67 47 P **P** **20 37 54.0 +3.5**
baz=228
BC3 Big Chuckawall 88.78 48 P P 20 37 54.9 +3.9
baz=228
UGL Uglegorsk 88.96 335 *e*P P 20 37 44.9 -6.4
UGL *e*S **S** **20 48 31.0 -5.8**
UGL pmax pmax
comp=Z,90nm,1.3s
UGL smax smax
comp=N,1µm,13.0s
UGL smax smax
comp=E,1µm,13.0s
UGL MLR MLR
comp=N,700nm,14.0s
HEC Hector,Ludlow 89.01 47 P **P** **20 37 54.5 +2.5**
baz=228
O02D Mt. Diablo Mer 89.03 39 P **P** **20 37 55.6 +3.6**
baz=224
GSC Goldstone, Bar 89.04 46 P **P** **20 37 52.5 +0.3**
GSC pmax pmax
comp=Z,59nm,2.0s
GSC Goldstone, Bar 89.04 46 P **P** **20 37 52.5 +0.3**
GSC Goldstone, Bar 89.04 46 P **P** **20 37 54.7 +2.5**
baz=228
CWC Cottonwood Cre 89.05 44 P **P** **20 37 54.9 +2.6**
baz=227
USA0B Ussuriysk Arra 89.13 327 *e*P **P** **20 37 52.7 +0.5**
USA0B Ussuriysk Arra 89.13 327 P **P** **20 37 52.8 +0.5**
USA0B IAmb IAmb 20 37 54.7
comp=Z,20nm,1.2s
USRK Ussuriysk Ar. 89.13 327 P **P** **20 37 53.6 +1.4**
comp=Z,9.0nm,1.0s,baz=147,slow=3.9,SNR=13
USRK Ussuriysk Ar. 89.13 327 P **P** **20 37 52.6 +0.4**
USRK Ussuriysk Ar. 89.13 327 P **P** **20 37 52.6 +0.4**
MPMC Manual Prospec 89.14 45 P **P** **20 37 56.5 +3.7**
baz=227
MDPB Devils Postpil 89.29 43 P **P** **20 37 54.7 +1.2**
IRM Iron Mountain 89.30 48 P **P** **20 37 56.9 +3.5**
baz=229
GMRC Granite Mounta 89.39 47 P **P** **20 37 57.0 +3.0**
baz=228
O03E Paynes Creek 89.64 40 P P 20 37 58.9 +4.0
baz=224
WHN Wuhan 89.66 307 ⇑P P 20 38 07.5 +12
TUQ Turquoise Moun 89.67 46 P **P** **20 37 58.5 +3.3**
baz=228
SHOC Shoshone, Teco 89.76 46 P **P** **20 37 58.9 +3.4**
baz=228
M02C Callahan 89.87 38 P P 20 37 59.9 +4.0
baz=224
PNTR Pine Nut 90.00 42 P **P** **20 37 58.7 +1.9**
PNTR IAmb IAmb 20 38 04.3
comp=Z,18nm,1.1s
LHV Little Huntoon 90.04 43 P **P** **20 37 57.7 +1.1**
LHV IAmb IAmb 20 38 06.9
comp=Z,20nm,1.4s
YERR Yerington 90.13 42 P **P** **20 37 57.1 -0.2**
AC02 Maricunga 90.22 122 P **P** **20 37 59.9 +1.2**
AC02 IAmb IAmb 20 38 08.5
comp=Z,21nm,1.4s
NVAR Mina Array Bea 90.28 43 P **P** **20 37 60.0 +1.9**
comp=Z,3.3nm,0.8s,baz=213,slow=7.8,SNR=15
NVAR Mina Array Bea 90.28 43 P **P** **20 37 58.9 +0.8**
RYN Ryan 90.29 43 P **P** **20 37 59.9 +1.9**
RYN IAmb IAmb 20 38 08.0
comp=Z,26nm,1.8s
NV11 Mina Array Sit 90.37 43 P **P** **20 37 58.6 +0.2**
NV11 IAmb IAmb 20 38 08.4
comp=Z,29nm,1.9s
NONG Nongkai 90.45 291 P **P** **20 38 02.1 +3.1**
TPNV Topopah Spring 90.48 45 **P** **20 38 00.9 +2.0**
Y14A Wickenburg 90.50 49 P **P** **20 38 00.7 +1.7**
Y14A IAmb IAmb 20 38 29.5
comp=Z,27nm,1.8s
PAHR Pah Rah Range 90.55 41 P **P** **20 38 00.4 +1.2**
PAHR IAmb IAmb 20 38 09.1
comp=Z,25nm,1.7s
MDJ Mudanjiang 90.56 326 P **P** **20 37 59.7 +0.8**
MDJ sP pP 20 38 05.0 -2.4
MDJ SKS **SKSac** **20 48 32.0 +4.2**
MDJ S **ScS** **20 48 58.0 +2.5**
MDJ pmax pmax
comp=Z,14nm,1.3s
MDJ pmax pmax
comp=Z,310nm,5.7s
MDJ LR LR
comp=Z,330nm,20.6s
MDJ LR LR
comp=Z,270nm,21.4s
MDJ LR LR
comp=Z,670nm,19.8s
TPH Tonopah 90.66 44 P **P** **20 38 00.4 +0.6**
TPH pmax pmax
comp=Z,50nm,1.2s
TPH Tonopah 90.66 44 P **P** **20 38 00.4 +0.6**
W13A Hualapai Mount 90.70 48 P **P** **20 38 01.9 +1.8**
KVN Kaiserville 90.82 43 P **P** **20 38 00.7 +0.1**
KVN pmax pmax
comp=Z,8.0nm,1.2s
KVN Kaiserville 90.82 43 P **P** **20 38 00.7 +0.1**
SHPR Sheep Range 90.84 46 P **P** **20 38 02.4 +1.7**
SHPR IAmb IAmb 20 38 11.4
comp=Z,23nm,1.8s
TUC Tucson 90.90 52 P **P** **20 38 02.7 +1.8**
TUC pmax pmax
comp=Z,22nm,1.6s
TUC Tucson 90.90 52 P **P** **20 38 02.7 +1.8**
TUC IAmb IAmb 20 38 31.8
comp=Z,22nm,1.6s
TUC Tucson 90.90 52 P **P** **20 38 04.4 +3.5**
baz=231
PRN Pahroc Range 91.50 45 P **P** **20 38 06.4 +2.7**
PRN IAmb IAmb 20 38 44.9
comp=Z,32nm,1.8s
R11A Troy Canyon, C 91.80 44 P **P** **20 38 06.9 +1.8**
baz=228
K05A Summer Lake 91.85 38 P **P** **20 38 06.7 +1.5**
K05A IAmb IAmb 20 38 35.5
comp=Z,26nm,1.4s
BMN Battle Mountai 92.26 42 P **P** **20 38 09.1 +2.0**
BMN pmax pmax
comp=Z,10.0nm,1.3s
BMN Battle Mountai 92.26 42 P **P** **20 38 09.1 +2.0**
BMN IAmb IAmb 20 38 17.6
comp=Z,9.7nm,1.3s

WUAZ Wupatki 92.54 49 P P 20 38 12.7 +4.2
baz=231
U15A North Rim 92.55 48 P **P** **20 38 10.6 +1.8**
U15A IAmb IAmb 20 38 24.2
comp=Z,7.8nm,1.1s
PINE Pine Mountain 92.58 38 P **P** **20 38 09.9 +1.4**
PINE IAmb IAmb 20 38 15.8
comp=Z,10nm,1.0s
H04A Detroit Lake 92.58 36 P **P** **20 38 09.3 +1.0**
H04A IAmb IAmb 20 38 38.0
comp=Z,14nm,1.3s
GYA Guiyang 92.58 300 ⇓P **P** **20 38 09.2 +0.3**
GYA pP pP 20 38 14.7 -2.7
GYA PP **PP** **20 41 53.2 +2.2**
GYA SKS **SKSac** **20 48 43.0 +2.6**
GYA S **ScS** **20 49 15.3 +1.9**
GYA pmax pmax
comp=Z,8.0nm,1.6s
GYA LR LR
comp=Z,150nm,10.1s
GYA LR LR
comp=Z,210nm,15.2s
GYA LR LR
comp=Z,200nm,13.0s
KNB Kanab 92.59 47 P **P** **20 38 11.3 +2.5**
KNB pmax pmax
comp=Z,23nm,1.7s
KNB Kanab 92.59 47 P **P** **20 38 11.3 +2.5**
KNB IAmb IAmb 20 38 19.5
comp=Z,23nm,1.7s
CCUT Cedar City 92.61 46 P **P** **20 38 10.6 +1.6**
CCUT IAmb IAmb 20 38 19.9
comp=Z,15nm,1.7s
LVC Limon Verde 92.94 119 P **P** **20 38 11.1 0.0**
LVC pmax pmax
comp=Z,9.0nm,1.0s
LVC Limon Verde 92.94 119 P **P** **20 38 11.1 0.0**
LVC IAmb IAmb 20 38 15.8
comp=Z,8.8nm,1.0s
KLR Kul'dur 93.09 330*ce*P **P** **20 38 11.7 +1.2**
KLR pmax pmax
comp=Z,9.0nm,1.3s
PB09 IPOC Station P 93.19 118 P **P** **20 38 14.2 +2.1**
PB01 IPOC Station P 93.46 118 P **P** **20 38 13.2 0.0**
PB01 IAmb IAmb 20 38 17.1
comp=Z,11nm,1.1s
ELK Elko 93.59 43 P **P** **20 38 15.0 +1.6**
ELK pmax pmax
comp=Z,13nm,1.8s
ELK Elko 93.59 43 P **P** **20 38 15.0 +1.6**
MTPU Mount Pierson 93.64 46 P **P** **20 38 14.7 +0.9**
MTPU IAmb IAmb 20 38 41.3
comp=Z,9.7nm,1.4s
TX31 Lajitas Ar. Si 93.98 58 P **P** **20 38 16.5 +1.3**
TX32 Lajitas Array 93.98 58 P **P** **20 38 15.8 +0.6**
TX32 IAmb IAmb 20 38 20.9
comp=Z,24nm,2.0s
TXAR Lajitas Array 93.98 58 P **P** **20 38 17.1 +1.9**
comp=Z,0.9nm,0.9s,baz=201,slow=6.7,SNR=7.9
CMAR Chiang Mai Arr 93.98 289 P **P** **20 38 16.6 +1.3**
comp=Z,0.4nm,0.4s,baz=145,slow=4.7,SNR=5.1
CMMT Chiang Mai 94.17 290 P P 20 38 26.2 +10
CHTO Chiang Mai 94.18 290 P P 20 38 26.3 +10
O18K Koktub Hills 94.41 11 P P 20 38 20.5 +4.2
baz=199
G08A Pilot Rock 94.64 38 P **P** **20 38 18.2 +0.3**
G08A IAmb IAmb 20 38 47.7
comp=Z,8.2nm,1.2s
MFID Camas Ranch 95.03 40 P **P** **20 38 20.2 +0.5**
ANMO Albuquerque 95.37 52*ce*P **P** **20 38 23.1 +1.5**
ANMO pmax pmax
comp=Z,1.0nm,1.0s
HVU Hansel Valley 95.67 43 P **P** **20 38 23.8 +1.0**
HVU pmax pmax
comp=Z,7.0nm,1.4s
HVU Hansel Valley 95.67 43 P **P** **20 38 23.8 +1.0**
HLJD Hailey 95.90 41 P **P** **20 38 25.0 +1.2**
F10A Beach Ranch, E 95.99 38 P **P** **20 38 25.2 +1.1**
LPAZ La Paz 97.34 115 P Pdif 20 38 32.9 +1.1
comp=Z,2.0nm,1.0s,baz=219,slow=4.4,SNR=3.2
LPAZ La Paz 97.34 115 IAmb IAmb 20 38 49.1
comp=Z,15nm,1.8s
HHC Hu-ho-hao-te 97.80 314 *e*P Pdif 20 38 33.9 +1.5
HHC SKS **SKSac** **20 49 11.5 +4.0**
HHC pmax pmax
comp=Z,20nm,0.8s
HHC pmax pmax
comp=Z,89nm,6.6s
PDAR Pinedale Array 98.15 44 P Pdif 20 38 36.1 +2.0
comp=Z,0.3nm,0.3s,baz=204,slow=1.8,SNR=1.9
SEY Seymchan 98.38 347 *i* P Pdif 20 38 35.0 +0.7
LZH Lanzhou 100.02 306 *e*P **Pdif** **20 38 43.3 +0.8**
LZH sP sP 20 38 52.0 -2.1
LZH SKS **SKSac** **20 49 19.5 +0.5**
LZH pmax pmax
comp=Z,20nm,1.1s
LZH pmax pmax
comp=Z,100nm,4.3s
LZH LR LR
comp=Z,1µm,13.3s
LZH LR LR
comp=Z,1µm,12.7s
LZH LR LR
comp=Z,1µm,14.6s
BILL Bilibino 101.33 354 *e*P **Pdif** **20 38 46.6 -0.7**
BILL *e* 20 42 54.0
BILL *e*PPP PPP 20 45 04.0
BILL pmax pmax
comp=Z,4.0nm,0.9s
GTA Gaotai 104.48 308 *e*P **PKiKP** **20 43 19.5 +1.2**
GTA pP PP 20 43 24.5 +2.6
GTA sP 20 43 28.4
GTA pmax pmax
comp=Z,2.0nm,1.0s
WMQ Urumqi 114.57 307 *e*PKP **PKiKP** **20 43 36.5 -0.5**
WMQ AMB AMB
comp=Z,190nm,4.9s
WMQ LR LR
comp=Z,280nm,16.1s
WMQ LR LR
comp=Z,230nm,18.5s
WMQ LR LR
comp=Z,150nm,20.3s
DGZ Jazzator, Alta 116.88 313 *i* PKiKP **PKiKP** **20 43 40.4 -1.0**
MK31 Makanchi Array 119.18 309 PKiKP **PKiKP** **20 43 45.1 -0.7**
MK31 Makanchi Array 119.18 309 PKPdf **PKiKP** **20 43 45.1 -0.7**
MKAR Makanchi Array 119.18 309 PKP **PKiKP** **20 43 45.6 -0.2**
comp=Z,3.1nm,0.9s,baz=85,slow=2.7,SNR=16
MKAR PKKPbc **PKKPbc** **20 53 58.3 -1.2**
comp=Z,0.8nm,1.0s,baz=284,slow=5.8,SNR=3.6
MKAR Makanchi Array 119.18 309 PKiKP **PKiKP** **20 43 45.3 -0.5**
MKAR Makanchi Array 119.18 309 PKPdf **PKiKP** **20 43 45.3 -0.5**
MAKZ Makanchi 119.39 309 PKiKP **PKiKP** **20 43 45.7 -0.5**
MAKZ Makanchi 119.39 309 **PKiKP** **20 43 45.7 -0.5**
ZALV Zalesovo Beam 119.73 317 PKP **PKiKP** **20 43 46.0 -0.6**
comp=Z,0.7nm,0.3s,baz=96,slow=2.9,SNR=3.7
ZALV Zalesovo Beam 119.73 317 PKiKP **PKPdf** **20 43 45.5 -1.0**
ZALV Zalesovo Beam 119.73 317 PKPdf **PKPdf** **20 43 45.5 -1.0**
KSH Kashi 121.27 299 PKP **PKiKP** **20 43 50.0 -0.3**
KSH LR LR
comp=Z,310nm,19.4s
KSH LR LR
comp=Z,380nm,16.1s
KSH LR LR
comp=Z,340nm,15.2s
NRIK Noril'sk 121.83 335 PKP **PKiKP** **20 43 49.4 -0.9**
comp=Z,3.5nm,0.8s,baz=348,slow=2.0,SNR=4.4
NRIK Noril'sk 121.83 335*c* *i* PKiKP **PKiKP** **20 43 50.6 +0.3**
NRIK Noril'sk 121.83 335 **PKiKP** **20 43 50.0 -0.3**
BOOM Boomskoye usch 122.21 303 PKiKP **PKiKP** **20 43 52.7 +0.6**
BOOM Boomskoye usch 122.21 303 PKPdf **PKiKP** **20 43 52.7 +0.6**
KURK Kurchatov 122.59 313 PKiKP **PKiKP** **20 43 52.0 -0.3**
KURBB Kurchatov Arra 122.62 313 PKP **PKiKP** **20 43 52.0 -0.4**
comp=Z,6.4nm,0.9s,baz=104,slow=2.0,SNR=40
AAK Ala-Archa 123.27 303 PKP **PKiKP** **20 43 54.1 0.0**
comp=Z,0.6nm,0.3s,baz=143,slow=4.1,SNR=4.2
AAK Ala-Archa 123.27 303*c* *i* PKiKP **PKiKP** **20 43 54.7 +0.5**
AAK pmax pmax
comp=Z,8.0nm,1.0s
KK31 Karatay Array 126.22 302 PKiKP **PKiKP** **20 43 58.7 -1.1**
KK31 Karatay Array 126.22 302 PKPdf **PKiKP** **20 43 58.6 -1.1**
KKAR Karatay Array 126.22 302 PKiKP **PKiKP** **20 43 58.9 -0.9**
KKAR 20 43 59.5
KKAR Karatay Array 126.22 302 PKPdf **PKiKP** **20 43 58.9 -0.9**
BVAR Borovoye Array 128.01 314 PKP **PKiKP** **20 44 03.0 0.0**
comp=Z,3.5nm,0.7s,baz=190,slow=7.5,SNR=13
BVAR Borovoye Array 128.01 314 PKiKP **PKiKP** **20 44 03.0 0.0**
BRVK Borovoye 128.08 314*c* *i* PKiKP **PKiKP** **20 44 03.7 +0.6**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BRVK Borovoye 128.08 314 PKPdf **PKiKP** **20 44 03.2 0.0**
SVE Sverdlovsk 133.67 319 *e*PKiKP **PKiKP** **20 44 14.5 +0.2**
SVE pmax pmax
comp=Z,12nm,1.0s
ABKAR Akbulak array 134.32 309 **PKiKP** **20 44 14.8 -1.0**
ARU Arti 134.85 319 PKP **PKiKP** **20 44 16.4 -0.2**
comp=Z,1.8nm,0.5s,baz=90,slow=0.3,SNR=8.9
ARU Arti 134.85 319 *i* PKiKP **PKiKP** **20 44 16.1 -0.6**
ARU 20 46 45.8
ARU SS SS 21 04 36.2 -4.6
ARU Arti 134.85 319 PKPdf **PKiKP** **20 44 16.0 -0.7**
AKTO Aktyubinsk 135.58 311 PKP **PKiKP** **20 44 17.3 -1.1**
comp=Z,2.5nm,0.8s,baz=82,slow=2.4,SNR=6.0
PRGR Permogore 139.88 329 *e*PKiKP PKPpre 20 44 19.4
ARCES ARCESS Array B 141.00 347 PKhKP PKPpre 20 44 21.5
comp=Z,4.3nm,0.9s,baz=37,slow=2.7,SNR=6.4
KLMR Klimovskoe 142.85 330 *e*PKHKP PKPpre 20 44 24.2
KLMR *e* 20 47 48.9
KLMR pmax pmax
comp=Z,35nm,1.3s
KLMR Klimovskoe 142.85 330 *e*PKPdf PKPpre 20 44 24.3
KLMR AMP 20 44 27.9
comp=Z,35nm,1.3s
KLMR *e*PP PP 20 47 49.0 +10
GROC Groznyy 144.16 300 *e*PKiKP **PKPdf** **20 44 30.7 -1.9**
GROC *e* 20 47 49.6
GNI Garni 144.94 294 PKiKP **PKPdf** **20 44 33.8 -0.5**
GNI Garni 144.94 294 PKPdf **PKPdf** **20 44 33.8 -0.5**
ZEI Tsey 145.56 299 *i* PKP2 **PKPdf** **20 44 34.4 -0.9**
ZEI pmax pmax
comp=Z,15nm,1.4s
VRH Novokhopyorsk 145.66 314 *e*PKiKP **PKPab** **20 44 34.9 -0.7**
VRH pmax pmax
comp=Z,50nm,1.2s
ONI Oni 145.90 299 PKP2 **PKPab** **20 44 37.0 0.0**
ONI Oni 145.90 299 **PKPab** **20 44 37.0 0.0**
AKH Akhalkalaki 145.90 297 ⇑P **PKPab** **20 44 37.1 -0.1**
GOF Gofitskoye 146.01 303⇑*e*PKP2 **PKPab** **20 44 37.2 0.0**
GOF pmax pmax
comp=Z,70nm,0.8s
KBZ Khabaz 146.24 301 PKPbc **PKPab** **20 44 37.5 -0.6**
comp=Z,15nm,1.1s,baz=24,slow=1.6,SNR=19
KBZ Khabaz 146.24 301*ce* PKiKP **PKPbc** **20 44 36.2 -1.1**
KBZ *i* 20 44 37.5
MOS Moscow 146.24 323 *i* PKP2 **PKPab** **20 44 37.0 -0.7**
MOS *e* 20 48 07.5
MOS pmax pmax
comp=Z,209nm,1.1s
KIV Kislovodsk 146.37 301 ⇑P **PKPab** **20 44 37.6 -1.1**
KIV Kislovodsk 146.37 301 *i* PKP2 **PKiKP** **20 44 39.1 -1.7**
KIV *e* 20 47 58.1
KIV pmax pmax
comp=Z,31nm,1.1s
KIV Kislovodsk 146.37 301 PKPdf **PKPab** **20 44 37.4 -1.4**
GURO Guryumak-BITLI 146.97 291 **PKPbc** **20 44 38.5 -1.3**
OBN Obninsk 147.06 323 PKPbc **PKPab** **20 44 39.0 -1.8**
comp=Z,3.4nm,0.4s,baz=66,slow=2.6,SNR=17
OBN Obninsk 147.06 323 *e*PKP2 **PKPbc** **20 44 38.5 -0.8**
OBN *e* 20 48 03.9
OBN *e*PPP PPP 20 51 20.4
OBN pmax pmax
comp=Z,123nm,1.7s
OBN Obninsk 147.06 323 **PKPbc** **20 44 38.3 -1.0**
PUL Pulkovo 147.16 333*c* *i* PKP2 **PKiKP** **20 44 41.2 -0.6**
PUL pmax pmax
comp=Z,144nm,1.0s
VORD Divnogorie 147.19 315 *e*PKP2 **PKPab** **20 44 40.1 -1.4**
VORD pmax pmax
comp=Z,70nm,1.4s
BCA Borcka 147.31 297 ⇓P **PKPdf** **20 44 34.4 -3.7**
FIA1 FINESS Array S 147.42 338 **PKPbc** **20 44 39.6 -0.5**
FINES FINESS Array B 147.42 338 PKPbc **PKPbc** **20 44 39.6 -0.5**
comp=Z,33nm,0.8s,baz=39,slow=3.8,SNR=48
FINES FINESS Array B 147.42 338 PKPdf **PKPdf** **20 44 37.7 +0.1**
MARD Mardin 147.89 289 PKPdf **PKPdf** **20 44 39.1 -0.2**
KOPT Kop Dagi 148.19 294 PKPab **PKiKP** **20 44 44.4 -0.6**
SOC Sochi 148.55 301 *e*PKHKP PKPpre 20 44 36.4
SOC *i* **PKPdf** **20 44 41.3 +1.3**
SOC *e*SS SS 21 07 12.8 -8.1
SOC *e*SSS SSS 21 12 58.1
SOC pmax pmax
comp=Z,28nm,1.0s
SOC MLR MLR
comp=Z,294nm,19.0s
MEF Metsahovi 148.89 338 *e*P **PKPbc** **20 44 43.6 -0.4**
RAF Rauma 149.01 341 *e*P **PKiKP** **20 44 44.2 -1.4**
VSU Vasula 149.41 334 *e*P **PKiKP** **20 44 45.8 -0.7**
AAL Aland 150.20 342 *e*P **PKPbc** **20 44 45.8 -1.4**
MTSE Matsula 150.25 337 *e*P **PKiKP** **20 44 47.0 -1.1**
GAZ Gaziantep 150.72 288 **PKPbc** **20 44 48.3 -1.0**
NC303 NORSAR Array S 151.01 350 **PKiKP** **20 44 48.7 -1.0**
NC204 NORSAR Array S 151.04 351 **PKiKP** **20 44 50.1 +0.2**
NC405 NORSAR Array S 151.07 350 **PKPbc** **20 44 46.1 -3.2**
UPP Uppsala 151.08 343 *e*P **PKiKP** **20 44 48.6 -1.3**
NB201 NORSAR Array S 151.19 350 **PKPbc** **20 44 46.8 -2.9**
NB2 NORSAR Subarra 151.21 350 PKP **PKiKP** **20 44 50.1 -0.1**
comp=Z,2.3nm,0.6s,baz=16,slow=2.6
NOA NORSAR Array B 151.21 350 PKPbc **PKPbc** **20 44 48.9 -0.8**
comp=Z,7.8nm,1.0s,baz=15,slow=4.6,SNR=13
NBO00 NORSAR Array S 151.28 351 **PKPbc** **20 44 48.8 -1.0**
NC602 NORSAR Array S 151.46 350 **PKPbc** **20 44 48.8 -1.4**
MNK Minsk 151.60 327 *i* PKiKP **PKPdf** **20 44 42.2 -2.2**
MNK *i* 20 48 27.9
MNK *i* PPP PPP 20 51 51.8
MNK *i* SS SS 21 07 52.9 -0.5
MNK *i* SSS SSS 21 13 38.7
MNK pmax pmax
comp=E,1.0nm,1.0s
MNK pmax pmax
comp=N,15nm,1.0s
MNK pmax pmax
comp=Z,46nm,1.0s
MNK Minsk 151.60 327 *i* PKP **PKPdf** **20 44 42.3 -2.2**
comp=E,1.0nm,1.0s
MNK *i* PKP **PKPdf** **20 44 42.3 -2.2**
comp=N,15nm,1.0s
MNK *i* PKP **PKPdf** **20 44 42.3 -2.2**
comp=Z,46nm,1.0s,baz=52
MNK *i* SKP 20 48 15.7
MNK *i* PKS PP 20 48 16.9 -14
MNK *i* PP PP 20 48 28.0 -2.7
MNK *i* PPP PPP 20 51 51.8
MNK *i* SKKS 21 00 38.3
MNK *i* SS **SS** **21 07 53.0 -0.4**
MNK *i* SSS SSS 21 13 38.8
MNK *i* LQ LQ 21 45 27.2
MNK *i* LR LR 21 50 36.0
MNK *i* LRM MLR 21 56 09.8
comp=E,46nm,20.6s
MNK *i* LRM MLR 21 56 09.8
comp=N,79nm,20.6s
MNK *i* LRM MLR 21 56 09.8
comp=Z,411nm,20.6s
ISAL Salakas 151.67 330 *e*P **PKiKP** **20 44 52.3 +1.1**
BNN Bunyan 151.81 292 **PKiKP** **20 44 51.9 -0.4**
NACGM Naroch 151.84 329 *i* PKP **PKiKP** **20 44 51.9 +0.3**
PABE Paberze 152.59 332 *e*P **PKiKP** **20 44 53.3 +0.2**
PABE Paberze 152.59 332 **PKiKP** **20 44 52.4 -0.7**
AKASG Malin Array Be 153.10 319 PKPbc **PKPbc** **20 44 53.0 -1.1**
comp=Z,10.0nm,1.2s,baz=75,slow=1.6,SNR=4.3
AKASG Malin Array Be 153.10 319 PKIKP **PKPdf** **20 44 46.7 -0.1**
AKASG Malin Array Be 153.10 319 **PKPdf** **20 44 46.7 -0.1**
AKBB Malin Array Si 153.10 319 PKIKP **PKPdf** **20 44 48.3 +1.5**
AKBB Malin Array Si 153.10 319 PKPdf **PKPdf** **20 44 48.3 +1.5**
DBIC Dimbokro 153.16 165 PKPbc **PKiKP** **20 44 58.0 +2.3**
comp=Z,10nm,1.1s,baz=128,slow=2.2,SNR=4.3
DBIC Dimbokro 153.16 165 PKIKP **PKiKP** **20 44 55.6 0.0**
DBIC Dimbokro 153.16 165 **PKiKP** **20 44 55.6 0.0**
ILGA Ilgaz 153.28 297 **PKiKP** **20 44 56.0 +0.6**
BRTR Keskin Array B 153.48 294 PKPbc **PKiKP** **20 44 56.8 +1.1**
comp=Z,2.0nm,0.5s,baz=121,slow=4.8,SNR=8.5
BRTR PKPab **PKPab** **20 45 07.5 -0.6**
comp=Z,4.0nm,0.8s,baz=167,slow=6.2,SNR=5.5
BRTR Keskin Array B 153.48 294 PKIKP **PKiKP** **20 44 54.9 -0.8**
BRTR Keskin Array B 153.48 294 **PKiKP** **20 44 54.9 -0.8**
CSS Mathiatis 153.72 283 **PKiKP** **20 44 55.9 -0.3**
SUW Suwalki 153.98 330 *e*P **PKiKP** **20 44 56.7 +0.7**
LEF Lefka 154.10 284 ⇑P **PKiKP** **20 44 56.4 -0.5**

SORM Soroca 154.85 315 ⇓P PKPbc 20 44 55.6 -2.5
TESR Tescani 156.62 313 ⇑P PKPab 20 45 14.1 -6.9
VRI Vrincioaia 156.85 311 ⇑P PKPab 20 45 15.5 -6.5
PLOR Plostina 156.91 311 ⇑P PKPab 20 45 16.2 -6.1
BUR08 Bucovina Ar. S 156.94 316 PKPdf PKPdf 20 44 50.7 -1.6
BUR08 PKPab 20 45 22.4 -0.1
BURAR Bucovina Array 156.95 316 ⇓P PKPab 20 45 15.6 -6.9
KWP Kalwaria Pacla 157.15 323 ePKPab PKPab 20 45 23.6 +0.4
KWP Kalwaria Pacla 157.15 323 PKP2 PKPab 20 45 23.0 -0.2
KWP Kalwaria Pacla 157.15 323 PKPab 20 45 23.0 -0.2
KOLS Kolonicke sedl 157.81 322 ePKP2 PKPab 20 45 26.6 +0.5
KOLS Kolonicke sedl 157.81 322 ePKP PKPab 20 45 26.6 +0.5
UZH Uzhgorod 157.99 321 ePKIKP PKPdf 20 45 06.6 +13
UZH e 20 45 15.4
UZH e 20 45 22.6
BSEG Bad Segeberg 158.13 346 ePKPab PKPab 20 45 27.5 +0.4
baz=25,slow=4.4
OJC Ojcow 158.15 328 ePKPab PKPab 20 45 27.8 +0.4
CRVS Cervenica-Dubn 158.25 323 ePKP2 PKPab 20 45 28.9 +0.9
CRVS Cervenica-Dubn 158.25 323 ePKP PKPab 20 45 28.9 +0.9
ARR Arges 158.39 312 ⇓P PKPab 20 45 24.5 -4.3
NIE Niedzica 158.48 325 ePKPab PKPab 20 45 30.4 +1.4
DRGR 158.83 317 ⇑P PKPab 20 45 30.7 0.0
LANS Liptovska Anna 159.06 326 ePKP2 PKPab 20 45 32.6 +1.1
LANS Liptovska Anna 159.06 326 ePKP PKPab 20 45 32.6 +1.1
KSP Ksiaz 159.13 333 ePKPab PKPab 20 45 32.5 +0.8
OKC Ostrava-Krasne 159.16 329 AMS AMS 21 58 00.0
comp=Z,400nm,22.5s
OSTC Ostas 159.39 333 AMS AMS 22 13 50.0
comp=Z,400nm,16.0s
FLTG Flechtingen 159.42 343 ePKPab PKPab 20 45 32.9 +0.1
baz=25,slow=4.4
CHVC Chvalec 159.43 333 ePKPAB PKPab 20 45 37.6 +4.6
CHVC AMS AMS 22 16 00.0
comp=Z,500nm,18.2s
UPC Upice 159.51 333 AMS AMS 22 16 10.0
comp=Z,400nm,16.3s
DPC Dobruska-Polom 159.52 332 ePKP2 PKPab 20 45 34.7 +1.3
DPC MLR MLR
comp=Z,300nm,17.8s
DPC Dobruska-Polom 159.52 332 ePKPAB PKPab 20 45 34.7 +1.3
DPC AMS AMS 22 02 10.0
comp=Z,300nm,17.8s
KRLC Kraliky 159.55 331 AMS AMS 22 13 40.0
comp=Z,500nm,18.4s
VYHS Vyhne 159.81 325 ePKP2 PKPab 20 45 34.9 +0.1
VYHS Vyhne 159.81 325 ePKP PKPab 20 45 34.9 +0.1
CLL Collm 159.86 339 ePKPdf PKPdf 20 44 51.0 -4.5
CLL e 20 45 07.0
CLL ⇓iPKPab PKPab 20 45 35.1 +0.3
comp=Z,44nm,1.5s
CLL ePP PP 20 49 16.0 -0.3
CLL ePPP PPP 20 52 54.0
CLL ePPPP 20 55 30.0
CLL eSKKSac SKKSac 20 56 05.0 +2.3
CLL e 20 56 44.0
CLL ePSKS 20 59 39.0
CLL eSKKSdf SKKSdf 21 00 24.0 +1.9
CLL ePPS PPS 21 02 47.0
CLL e 21 03 30.0
CLL e 21 05 54.0
CLL eSS SS 21 09 24.0 +2.0
CLL ePSS PSS 21 10 16.0
CLL eSSS SSS 21 15 30.0
CLL ePSSrev 21 17 23.0
CLL eSSSS 21 19 24.0
CLL e 21 22 24.0
CLL LmV 22 11 00.0
comp=Z,300nm,19.4s
CLL LmH 22 16 00.0
comp=N,200nm,19.8s
CLL LmH 22 16 00.0
comp=E,200nm,19.6s
CLL Collm 159.86 339⇓ePKIKP PKPdf 20 44 51.0 -4.5
CLL i 20 45 35.1
CLL pmax pmax
comp=Z,44nm,1.5s
CLL MLR MLR
comp=Z,300nm,19.4s
CLL Collm 159.86 339 PKPab PKPab 20 45 34.5 -0.3
BRG Berggiesshubel 159.94 337 ePKPab PKPab 20 45 35.9 +0.8
baz=25,slow=4.4
BRG Berggiesshubel 159.94 337 ePKP PKPab 20 45 36.5 +1.3
BRG Amp 20 45 38.2
comp=Z,31nm,1.4s
BRG PP PP 20 49 07.2 -10
BRG Amp 20 49 08.8
comp=Z,14nm,1.5s
KOLL Kolacno 159.96 326 ePKP PKPab 20 45 37.2 +1.8
PVCC Panska Ves 160.02 335 ePKP2 PKPab 20 45 40.3 +4.8
PVCC MLR MLR
comp=Z,300nm,17.4s
PVCC Panska Ves 160.02 335 ePKPAB PKPab 20 45 40.3 +4.8
PVCC AMS AMS 22 14 20.0
comp=Z,300nm,17.4s
CLZ Clausthal 160.08 344 ePKPab PKPab 20 45 36.1 +0.4
baz=25,slow=4.4
FBE Freiberg 160.09 338 ePKPab PKPab 20 45 36.3 +0.5
baz=25,slow=4.4
JAVC Velka Javorina 160.09 328 ePKP PKPab 20 45 36.8 +0.8
IBBN Ibbenburen 160.15 349 ePKPab PKPab 20 45 36.6 +0.6
baz=25,slow=4.4
VRAC Vranov 160.22 330 ePKP PKPab 20 45 36.6 +0.1
TORD Torodi Ar. Bea 160.30 180 PKP PKPdf 20 44 56.9 -0.3
comp=Z,1.1nm,1.0s,baz=157,slow=1.7,SNR=5.2
TORD PKPab PKPab 20 45 38.2 +0.6
comp=Z,2.8nm,0.8s,baz=186,slow=3.3,SNR=3.3
TORD Torodi Ar. Bea 160.30 180 PKPdf 20 44 57.2 0.0
NEUB Neuenburg 160.30 341 ePKPab PKPab 20 45 37.1 +0.4
baz=25,slow=4.4
GTTG Gottingen 160.45 344 ePKPab PKPab 20 45 38.1 +0.7
baz=25,slow=4.4
PRA Prague 160.45 335 AMS AMS 22 09 00.0
comp=Z,500nm,23.2s
SMOL Smolenice 160.46 327 ePKP2 PKPab 20 45 38.7 +1.2
SMOL Smolenice 160.46 327 ePKP PKPab 20 45 38.7 +1.2
PRU Pruhonice 160.48 335 AMS AMS 22 09 00.0
comp=Z,600nm,19.3s
MDVR Moldovita 160.49 313 ⇓P PKPab 20 45 36.2 -1.7
KRUC Moravsky 160.50 330 ePKP PKPab 20 45 37.8 +0.1
TREC Trest 160.69 332 AMS AMS 22 15 00.0
comp=Z,400nm,18.1s
TANN Tannenbergstha 160.81 339 ePKPab PKPab 20 45 39.7 +0.7
baz=25,slow=4.4
WERD Werda 160.83 339 ePKPab PKPab 20 45 39.6 +0.5
baz=25,slow=4.4
PLN Plauen 160.84 339 ePKPab PKPab 20 45 39.9 +0.8
baz=25,slow=4.4
MOX Moxa 160.85 340 ePKPab PKPab 20 45 39.9 +0.7
baz=25,slow=4.4
GUNZ Gunzen 160.90 339 ePKPab PKPab 20 45 40.2 +0.8
baz=25,slow=4.4
WERN Wernitzgruen 160.95 339 ePKPab PKPab 20 45 40.2 +0.6
baz=25,slow=4.4
NKC Novy Kostel 160.97 338 ePKP2 PKPab 20 45 41.1 +1.4
NKC MLR MLR
comp=Z,500nm,17.0s
NKC Novy Kostel 160.97 338 ePKPAB PKPab 20 45 41.1 +1.4
NKC AMS AMS 22 19 10.0
comp=Z,500nm,17.0s
KASTN Kahler Asten 161.09 347 ePKPab PKPab 20 45 41.1 +0.8
baz=25,slow=4.4
UBBA Unterbreizbach 161.12 344 ePKPab PKPab 20 45 40.8 +0.7
baz=25,slow=4.4
FRGS Fruska Gora 161.42 316 ⇓P PKPab 20 45 39.3 -2.6
ROTZ Rotzenmuhle 161.46 338 ePKPab PKPab 20 45 42.5 +0.6
baz=25,slow=4.4
CKRC Cesky Krumlov 161.53 333 ePKPAB PKPab 20 45 43.0 +0.8
CKRC AMS AMS 22 12 00.0
comp=Z,500nm,16.4s
KHC Kasperske Hory 161.54 335 ePKP2 PKPab 20 45 43.2 +0.9
KHC MLR MLR
comp=Z,500nm,18.9s
KHC Kasperske Hory 161.54 335 ePKPAB PKPab 20 45 43.2 +0.9
KHC AMS AMS 22 03 10.0
comp=Z,500nm,18.9s
CONA Conrad Observa 161.59 329 eP PKPab 20 45 43.9 +1.2
comp=Z,9.0nm,1.1s
GEC2 GERESS Array S 161.74 334 PKPab 20 45 42.9 -0.3
GERES GERESS Array B 161.74 334 PKP PKPdf 20 44 58.2 +0.4
comp=Z,0.2nm,0.3s,baz=72,slow=2.5,SNR=3.7
GERES PKPab PKPab 20 45 42.7 -0.5
comp=Z,2.6nm,1.0s,baz=58,slow=5.5,SNR=11
GERES GERESS Array B 161.74 334 PKIKP PKPdf 20 44 57.7 -0.1
GERES GERESS Array B 161.74 334 PKPdf 20 44 57.7 -0.1
WET Wettzell 161.78 336 ePKPab PKPab 20 45 44.3 +1.0
baz=25,slow=4.4
GRA1 Grafenberg Arr 161.82 340 PKPab 20 45 44.0 +0.6
GRF Grafenberg Arr 161.82 340 PKP2 PKPab 20 45 44.0 +0.6
GRF Grafenberg Arr 161.82 340 ePKPab PKPab 20 45 44.0 +0.6
baz=25,slow=4.4
GRFO Grafenberg 161.82 340 PKP2 PKPab 20 45 44.6 +1.2
GRFO Grafenberg 161.82 340 PKPab 20 45 44.5 +1.2
TNS Taunus Mts 162.02 346 ePKPab PKPab 20 45 45.0 +0.6
baz=25,slow=4.4
MILB Miltenberg 162.21 344 ePKPab PKPab 20 45 45.3 +0.3
baz=25,slow=4.4
ARSA Arzberg 162.25 328 eP PKPab 20 45 46.2 +0.8
comp=Z,2.4nm,0.7s
MOA Molln 162.33 331 eP PKPab 20 45 46.9 +1.1
comp=Z,4.1nm,1.0s
SOKA Soboth 162.91 327 eP PKPab 20 45 48.9 +0.5
comp=Z,10nm,1.3s
WLF Walferdange 162.96 350 ePKPab PKPab 20 45 49.7 +1.3
baz=25,slow=4.4
FUR Furstenfeldbru 163.16 337 ePKPab PKPab 20 45 49.9 +0.6
baz=25,slow=4.4
WTTA Wattenberg 163.82 335 eP PKPab 20 45 52.6 +0.1
comp=Z,14nm,1.6s
BFO Black Forest 163.83 344 PKP2 PKPab 20 45 52.7 +0.4
BFO Black Forest 163.83 344 PKPab 20 45 52.7 +0.4
BFO Black Forest 163.83 344 ePKPab PKPab 20 45 52.5 +0.2
baz=25,slow=4.4
RETA Reutte 163.92 337 eP PKPab 20 45 54.2 +1.4
comp=Z,21nm,1.1s,SNR=7.7
ABTA Abfaltersbach 163.92 332 eP PKPab 20 45 52.9 +0.1
comp=Z,8.8nm,1.2s
MOTA Moosalm 163.93 336 eP PKPab 20 45 54.0 +1.0
comp=Z,13nm,1.2s,SNR=7.0
UBR Ueberruh 163.95 339 ePKPab PKPab 20 45 53.2 +0.3
baz=25,slow=4.4
SQTA Sankt Quirin 164.00 336 eP PKPab 20 45 54.3 +1.1
comp=Z,7.2nm,1.1s
FETA Feichten 164.34 337 eP PKPab 20 45 54.7 -0.1
comp=Z,9.4nm,1.2s
DAVA Damuels 164.37 339 eP PKPab 20 45 56.3 +1.4
comp=Z,24nm,1.2s,SNR=7.1
SENIN Lac Senin/Sane 165.92 344 PKPab PKPab 20 46 00.8 -1.0
BNI Bardonecchia 167.30 344 PKP2 PKPab 20 46 06.8 -1.0
BNI Bardonecchia 167.30 344 PKPab PKPab 20 46 06.8 -1.0
PGAV Gavieira, Arco 168.02 38 eSS SS 21 11 03.3 +16
PGAV Gavieira, Arco 168.02 38 eLR LR 21 48 28.5
comp=Z,542nm,20.0s
POLO Lamas de Olo 168.69 39 eSS SS 21 11 02.5 +8.7
PCAS Casmilo, Conde 169.16 46 eSS SS 21 11 15.5 +17
MVO Moncorvo 169.24 38 eSS SS 21 11 17.9 +19
MVO Moncorvo 169.24 38 eLR LR 21 50 26.8
comp=Z,509nm,20.0s
PMAFR Mafra 169.28 53 eSS SS 21 11 17.3 +17
PSBE So Bento 169.30 49 eSS SS 21 11 10.0 +10
MTE Manteigas 169.50 42 eSS SS 21 11 19.5 +17
MTE Manteigas 169.50 42 eLR LR 21 49 25.0
comp=Z,873nm,18.0s
PCBR Castelo Branco 169.91 44 ePKP PKPdf 20 45 06.7 +2.1
PMTG Montargil 169.91 50 eSS SS 21 11 13.6 +7.2
PNCL Nicolau / Gran 170.21 55 eSS SS 21 11 19.5 +10
PMRV Marv??o 170.22 46 eSS SS 21 11 20.9 +12
PMRV Marv??o 170.22 46 eLR LR 21 50 56.9
comp=Z,631nm,18.0s
PESTR Estremoz 170.44 49 eSS SS 21 11 25.1 +14
MORF Marmelete 170.48 60 ePKPdf PKPdf 20 45 06.1 +1.1
MORF ePP PP 20 50 13.3 +0.5
MORF IAMs_20 IAMs_20 22 00 20.1
comp=Z,883nm,21.3s
MORF Marmelete 170.48 60 ePKIKP PKPdf 20 45 06.1 +1.1
MORF e 20 50 13.3
MESJ Messejana 170.56 56 ePKPdf PKPdf 20 45 06.1 +1.1
MESJ ePP PP 20 50 13.9 +0.9
MESJ IAMs_20 IAMs_20 22 06 05.8
comp=Z,802nm,24.8s
MESJ Messejana 170.56 56 ePKIKP PKPdf 20 45 06.1 +1.1
MESJ e 20 50 13.8
PBDV Barranco-do-Ve 171.03 59 ePKP PKPdf 20 45 11.2 +5.9
PBDV Barranco-do-Ve 171.03 59 eSS SS 21 11 36.3 +18
PVAQ Vaqueiros 171.11 57 eSS SS 21 11 33.1 +14
PVAQ Vaqueiros 171.11 57 eLR LR 21 49 13.6
comp=Z,550nm,18.0s
PBAR Barrancos 171.18 51 ePKP PKPdf 20 45 11.2 +5.9
ESDC Sonseca Array 171.88 33 PKP PKPdf 20 45 06.4 +0.7
comp=Z,1.5nm,1.2s,baz=307,slow=4.8,SNR=2.1
ESDC Sonseca Array 171.88 33 PKPdf 20 45 04.4 -1.3

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*IDC **07** 20:26:27.2±5.0, 32°.87S×178°.40W, h0km, mb4.5/3, mb1 4.7/3, mb1mx4.1/28, mbtmp4.5/3, MS5.0/1, Ms1 5.0/1, ms1mx3.9/23, Error ellipse: s-maj=207.5km s-min=60.7km az=165.0*

ISC 07 20:26:27.0±3.5, **33°.0S**±0°.2×**178°.3W**±0°.5, **h10**km, **n7**, σ1s44/6, **mb4.5**/3, **South of Kermadec Islands**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res ISC
RAO Raoul Island 3.71 4 Sn Sn 20 28 06.7 -1.5
36nm,0.3s,baz=286,slow=22,SNR=1.1
URZ Urewera 6.50 214 Sn Sn 20 29 15.2 -1.6
12nm,0.3s,baz=164,slow=20,SNR=1.3
CTA Charters Tower 34.09 283 P P 20 33 12.4 +0.5
3.1nm,0.5s,baz=116,slow=11,SNR=1.0
ASAR Alice Springs 42.82 270 P P 20 34 26.1 +0.7
4.8nm,0.7s,baz=110,slow=7.6,SNR=1.6
WRA Warramunga Arr 44.04 275 P P 20 34 35.6 +0.3
5.5nm,0.5s,baz=117,slow=7.7,SNR=2.0
BATI Baumata 57.80 279 LR LR 21 02 44.8
comp=Z,1μm,18.2s,baz=136,slow=38
FINES FINESS Array B 147.46 338 PKPbc PKPbc 20 46 11.2 +0.7
5.0nm,0.5s,baz=33,slow=3.2,SNR=4.2

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*IDC **07** 20:28:26.4±0.6, 32°.89S×178°.33W, h0km, mb4.5/13, mb1 4.6/15, mb1mx4.4/30, mbtmp4.4/15, ML4.0/2, Error ellipse: s-maj=22.3km s-min=19.3km az=7.0*
*WEL **07** 20:28:28.2±0.6, 33°S±9°×17°9W±1°9, h33km, M5.3/10, mB5.4/3, ML5.7/12, MLv5.3/10, Mw(mB)4.8/3, Error ellipse: s-maj=0.0km s-min=0.0km az=113.8*
*NEIC **07** 20:28:28.2±1.4, 32°.89S±0°.06×178°.3W±0°.2, h8km±4km, mb4.9/13, Error ellipse: s-maj=24.9km s-min=8.7km az=94.0*

ISC 07 20:28:27.7±0.5, **32°.97S**±0°.05×**178°.36W**±0°.09, **h10**km, **n89**, σ1s90/98, **mb4.6**/16, **1C-1D**, **South of Kermadec Islands**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res ISC
GLKZ Green Lake 3.71 6 P Pn 20 29 10.6 -15
GLKZ S Sn 20 30 04.3 -4.6
RAO Raoul Island 3.73 6 Sn Sn 20 30 05.6 -3.7
103nm,0.3s,baz=111,slow=22,SNR=2.2
RAO Raoul Island 3.73 6 Pn Pn 20 29 24.8 -0.5
RIZ Raoul Island 3.73 6 P Pn 20 29 25.5 +0.1
RIZ S Sn 20 30 06.9 -2.5
MXZ Matakaoa Point 5.33 210 P Pn 20 29 47.6 +0.2
MXZ S Sn 20 30 48.9 0.0
WMGZ Waiomatatini S 5.51 208 P Pn 20 29 51.8 +2.0
WMGZ S Sn 20 30 53.9 +0.7
PKGZ Pakihiroa 5.71 210 P Pn 20 29 51.8 -0.8
PKGZ S Sn 20 30 56.4 -1.7
HAZ Te Kaha 5.72 212 P Pn 20 29 52.6 -0.1
HAZ S Sn 20 31 00.6 +2.2
PUZ Puketiti 5.79 208 P Pn 20 29 53.4 -0.3
PUZ S Sn 20 30 59.8 -0.4
RUGZ Raukumara Rang 5.94 212 P Pn 20 29 56.8 +0.9
RUGZ S Sn 20 31 04.8 +0.8
URZ Urewera 6.44 214 Pn Pn 20 30 02.7 +0.2
13nm,0.3s,baz=277,slow=4.1,SNR=7.0
URZ Sn Sn 20 31 13.6 -2.4
31nm,0.3s,baz=257,slow=23,SNR=7.9
RAHZ Arahi 6.99 211 P Pn 20 30 11.0 +0.8
RAHZ S Sn 20 31 29.1 -0.6
OUZ Omahuta 7.04 249 Pn Pn 20 30 12.6 +1.7
MTHZ Maungataniwha 7.04 212 P Pn 20 30 10.2 -0.8
MTHZ S Sn 20 31 27.4 -3.7
WHHZ Waihua 7.06 209 P Pn 20 30 09.3 -1.8
WHHZ P Sn 20 31 30.1 -1.4
NMHZ Naumai 7.26 211 P Pn 20 30 13.5 -0.4
NMHZ S Sn 20 31 34.1 -2.3
ARHZ Aropaoanui 7.32 210 P Pn 20 30 14.4 -0.2
ARHZ P Sn 20 31 36.4 -1.4
BKZ Black Stump Fm 7.46 213 P Pn 20 30 15.2 -1.4
BKZ S Sn 20 31 35.8 -5.4
MCHZ McNeill Hill 7.59 210 P Sn 20 31 42.0 -2.6
KWHZ Kaweka Forest 7.70 212 P Sn 20 31 44.4 -2.8
TMVZ Te Maari 7.79 216 P Sn 20 31 48.3 -1.3
ETVZ East Tongariro 7.80 216 P Sn 20 31 48.6 -1.3
KAHZ Kahuranaki 7.82 208 P Pn 20 30 19.4 -2.2
KAHZ S Sn 20 31 45.1 -5.1
WTVZ West Tongariro 7.85 217 P Sn 20 31 50.5 -0.5
TWVZ Taurewa 7.89 218 P Sn 20 31 42.4 -10
KRHZ Kereru 7.90 211 P Sn 20 31 48.5 -3.6
BHHZ Black Hill Sta 7.91 213 P Pn 20 30 21.1 -1.8
BHHZ S Sn 20 31 50.1 -2.4
TUVZ Tukino 7.93 216 P Sn 20 31 45.8 -7.3
MOVZ Moawhango 7.99 215 P Pn 20 30 22.8 -1.2
MOVZ S Sn 20 31 49.3 -5.2
WNVZ Wahianoa 8.01 216 P Sn 20 31 51.6 -3.4
PXZ Pawanui 8.03 207 P Sn 20 31 46.6 -8.5
PNHZ Pukenui 8.20 211 P Sn 20 31 54.9 -4.6
WPHZ Waipukurau 8.22 209 P Sn 20 31 56.7 -3.4
TSZ Takapari Road 8.42 211 P Sn 20 31 59.2 -5.7
DVHZ Dannevirke 8.53 209 P Sn 20 32 00.8 -6.9
THZ Tophouse 11.19 216 Pn Pn 20 31 04.6 -3.2
KHZ Kahutara 11.40 212 Pn Pn 20 31 07.4 -3.1
DZM Mont Dzumac 17.29 305 P P 20 32 30.6 -0.2
0.1nm,0.3s,baz=108,slow=22,SNR=1.4
DZM Mont Dzumac 17.29 305 IAmb IAmb 20 32 47.0
comp=Z,42nm,1.0s
STKA Stephens Creek 33.68 261 P P 20 35 10.2 +1.2
comp=Z,4.5nm,0.9s,baz=127,slow=9.2,SNR=2.8
STKA Stephens Creek 33.68 261 IAmb IAmb 20 35 17.0
comp=Z,3.0nm,1.2s
CTA Charters Tower 34.00 283 P P 20 35 13.4 +1.6
comp=Z,7.3nm,0.5s,baz=102,slow=11,SNR=7.8
CTAO Charters Tower 34.00 283 P P 20 35 13.9 +2.1
CTAO IAmb IAmb 20 35 33.0
comp=Z,16nm,1.1s
AS31 Alice Springs 42.73 270 P P 20 36 25.8 +0.5
ASAR Alice Springs 42.73 270 P P 20 36 25.9 +0.6
comp=Z,8.0nm,0.5s,baz=109,slow=7.9,SNR=15
ASAR Alice Springs 42.73 270 P P 20 36 25.0 -0.3
WR0 Warramunga Arr 43.77 275 P P 20 36 33.8 +0.1
WR0 IAmb IAmb 20 36 49.7
comp=Z,21nm,1.1s
WB2 Warramunga Arr 43.94 275 P P 20 36 35.4 +0.3
WRAB Tennant Creek 43.95 275 P P 20 36 35.1 0.0
WRAB IAmb IAmb 20 36 53.1
comp=Z,19nm,0.8s
WRA Warramunga Arr 43.95 275 P P 20 36 35.4 +0.2
comp=Z,10nm,0.5s,baz=116,slow=7.8,SNR=18
WRA ScP ScP 20 42 12.7 -0.3
comp=Z,0.7nm,1.1s,baz=120,slow=3.8,SNR=1.6
WRA Warramunga Arr 43.95 275 P P 20 36 34.8 -0.4
FITZ Fitzroy Crossi 52.10 272 P P 20 37 38.4 +0.1
comp=Z,4.8nm,0.9s,baz=107,slow=2.9,SNR=6.2
FITZ Fitzroy Crossi 52.10 272 P P 20 37 37.9 -0.3
FITZ IAmb IAmb 20 37 54.3
comp=Z,22nm,1.2s
CASY Casey 52.74 209 P P 20 37 42.5 +0.2
CASY IAmb IAmb 20 38 05.0
comp=Z,16nm,0.9s
QSPA South Pole Qui 57.15 180 P P 20 38 16.2 +1.8
comp=Z,11nm,1.0s,baz=307,slow=7.7,SNR=3.6
QSPA South Pole Qui 57.15 180 P P 20 38 15.7 +1.3
SOEI Soe 57.46 280 P P 20 38 17.8 +0.5
BATI Baumata 57.72 279 P P 20 38 19.4 +0.4
baz=90,slow=2.0
MAW Mawson 69.80 201 P P 20 39 38.1 +0.3
comp=Z,4.1nm,0.9s,baz=110,slow=8.0,SNR=3.3
MAW Mawson 69.80 201 P P 20 39 38.5 +0.7
SYO Syowa Base 74.55 193⇑eP P 20 40 06.2 0.0
SYO Syowa Base 74.55 193⇓eX P 20 40 13.6 +7.4
SNAA Sanae 75.60 179 P P 20 40 11.3 -1.1
VNA3 Neumayer Olymp 75.77 176 P P 20 40 13.0 -0.3
VNA2 Neumayer--Watz 76.20 177 P P 20 40 15.9 +0.2
baz=184,slow=4.5
PLCA Paso Flores 80.98 133 P P 20 40 44.9 +2.1
comp=Z,3.1nm,0.9s,baz=236,slow=4.3,SNR=3.3
PLCA Paso Flores 80.98 133 IAmb IAmb 20 41 04.7
comp=Z,12nm,1.4s
KSRS Korea Array 86.11 320 P P 20 41 07.9 -0.8
comp=Z,0.8nm,0.8s,baz=142,slow=6.0,SNR=2.3
PETK Petropavlovsk- 88.22 346 P P 20 41 20.1 +1.5
comp=Z,1.6nm,0.6s,baz=169,slow=8.9,SNR=3.8
PETK Petropavlovsk- 88.22 346 P P 20 41 19.7 +1.1
USRK Ussuriysk Ar. 89.13 327 P P 20 41 23.5 +0.4
comp=Z,2.4nm,1.0s,baz=145,slow=14,SNR=4.4
NVAR Mina Array Bea 90.33 43 P P 20 41 30.8 +1.6
comp=Z,1.4nm,1.0s,baz=247,slow=5.8,SNR=3.8
TXAR Lajitas Array 94.03 58 P P 20 41 46.2 -0.1
comp=Z,0.5nm,0.9s,baz=245,slow=3.6,SNR=3.1
ZALV Zalesovo Beam 119.73 317 PKP PKPdf 20 47 15.6 -1.8
comp=Z,0.9nm,0.6s,baz=139,slow=6.8,SNR=1.3
KURK Kurchatov 122.58 313 PKPdf 20 47 22.5 -0.6
KURBB Kurchatov Arra 122.61 313 PKP PKPdf 20 47 22.5 -0.6
comp=Z,1.1nm,0.7s,baz=114,slow=2.0,SNR=5.0
BVAR Borovoye Array 128.00 314 PKP PKPdf 20 47 32.5 -0.9
comp=Z,0.6nm,0.5s,baz=128,slow=2.4,SNR=3.1
KMBO Kilima Mbogo 132.28 232 PKP PKPdf 20 47 41.6 -1.4
comp=Z,13nm,1.2s,baz=142,slow=3.2,SNR=14
ARU Arti 134.85 319 PKP PKPdf 20 47 46.8 +0.6
comp=Z,0.9nm,0.5s,baz=78,slow=20,SNR=5.8
ARCES ARCESS Array B 141.02 347 PKP PKPdf 20 47 55.5 -1.7
comp=Z,2.1nm,0.7s,baz=64,slow=2.1,SNR=2.6
KBZ Khabaz 146.22 301 PKPbc PKPbc 20 48 08.3 +0.2
comp=Z,4.5nm,1.1s,baz=240,slow=2.1,SNR=3.6
FINES FINESS Array B 147.43 338 PKPbc PKPbc 20 48 11.1 0.0
comp=Z,14nm,0.6s,baz=48,slow=4.0,SNR=11
NB2 NORSAR Subarra151.23 350 PKP PKPbc 20 48 20.6 -0.1
comp=Z,1.3nm,0.6s,baz=9.2,slow=2.5
NOA NORSAR Array B 151.23 350 PKPbc PKPbc 20 48 19.5 -1.1
comp=Z,7.5nm,1.1s,baz=14,slow=4.1,SNR=4.7
AKASG Malin Array Be 153.10 319 PKPbc PKPbc 20 48 24.3 -0.9
comp=Z,1.0nm,0.5s,baz=50,slow=2.6,SNR=4.7
BRTR Keskin Array B 153.46 294 PKPbc PKiKP 20 48 27.1 +0.5
comp=Z,1.1nm,0.6s,baz=151,slow=3.3,SNR=2.6
BRTR PKPab PKPab 20 48 39.8 +0.9
comp=Z,1.9nm,0.6s,baz=179,slow=4.9,SNR=4.2
CLL Collm 159.88 339 i PKPab PKPab 20 49 05.8 +0.1
comp=Z,13nm,1.4s
TORD Torodi Ar. Bea 160.27 180 PKPab PKPab 20 49 08.9 +0.6
comp=Z,1.9nm,0.9s,baz=164,slow=2.9,SNR=3.8
GERES GERESS Array B 161.75 334 PKPab PKPab 20 49 12.7 -1.5
comp=Z,0.4nm,0.5s,baz=45,slow=4.6,SNR=2.3

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*IDC **07** 20:30:06.0±3.1, 33°.14S×178°.33W, h0km, mb4.3/4, mb1 4.6/5, mb1mx4.0/31, mbtmp4.4/5, Error ellipse: s-maj=67.0km s-min=37.5km az=117.0*

ISC 07 20:30:06.8±3.0, **33°.2S**±0°.2×**178°.2W**±0°.4, **h10**km, **n6**, σ0s97/7, **mb4.3**/4, **South of Kermadec Islands**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res ISC
URZ Urewera 6.37 216 Pn Pn 20 31 41.5 +0.8
baz=345,slow=18,SNR=1.2
URZ Sn Sn 20 32 52.8 -0.7
11nm,0.3s,baz=84,slow=14,SNR=1.2
CTA Charters Tower 34.18 283 P P 20 36 53.5 +1.0
4.0nm,0.5s,baz=119,slow=12,SNR=2.5
ASAR Alice Springs 42.88 270 P P 20 38 05.2 -0.3
2.7nm,0.5s,baz=110,slow=8.0,SNR=5.0
WRA Warramunga Arr 44.11 275 P P 20 38 14.8 -0.7
2.9nm,0.5s,baz=121,slow=8.0,SNR=5.3
FITZ Fitzroy Crossi 52.25 272 P P 20 39 17.6 -0.9
1.2nm,0.6s,baz=114,slow=7.1,SNR=0.9
FINES FINESS Array B 147.65 338 PKPbc PKPbc 20 49 50.4 -0.4
4.8nm,0.7s,baz=62,slow=3.0,SNR=5.1

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*IDC **07** 20:37:26.7±1.2, 32°.63S×178°.15W, h0km, mb4.2/5, mb1 4.3/7, mb1mx4.0/37, mbtmp4.2/7, ML3.6/2, MS4.2/1, Ms1 4.2/1, ms1mx3.5/29, Error ellipse: s-maj=33.3km s-min=30.4km az=19.0*
*NEIC **07** 20:37:28.8±1.5, 32°.69S±0°.06×178°.2W±0°.2, h10km±2km, mb4.5/12, Error ellipse: s-maj=24.1km s-min=10.3km az=91.0*
*WEL **07** 20:37:29.3±0.9, 33°S±10°×17°8W±2°5, h33km, M4.5/8, mB4.8/6, ML5.0/13, MLv4.8/8, Mw(mB)4.0/6, Error ellipse: s-maj=0.0km s-min=0.0km az=110.3*

ISC 07 20:37:28.9±0.8, **32°.74S**±0°.06×**178°.1W**±0°.1, **h20**km, **n56**, σ1s64/67, **mb4.4**/9, **South of Kermadec Islands**

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

GLKZ	Green Lake	3.47	2	P	Pn	20 38 18.6	-3.2
GLKZ				S	Sn	20 38 58.4	-3.9
RAO	Raoul Island	3.48	2	Sn	Sn	20 39 00.5	-2.0
	75nm,0.3s,baz=82,slow=22,SNR=2.3						
RAO	Raoul Island	3.48	2	Pn	Pn	20 38 22.4	+0.4
MXZ	Matakaoa Point	5.65	211	Pn	Pn	20 38 54.1	+2.4
MXZ	Matakaoa Point	5.65	211	P	Pn	20 38 50.5	-1.2
MXZ				S	Sn	20 39 53.7	-2.2
PKGZ	Pakihiroa	6.02	210	P	Pn	20 38 55.9	-0.9
PKGZ				S	Sn	20 40 03.0	-2.2
HAZ	Te Kaha	6.04	213	P	Pn	20 38 58.0	+0.9
HAZ				S	Sn	20 40 07.1	+1.5
PUZ	Puketiti	6.10	208	P	Pn	20 38 59.6	+1.6
PUZ				S	Sn	20 40 05.8	-1.4
RUGZ	Raukumara Rang	6.26	212	P	Pn	20 38 58.9	-1.4
RUGZ				S	Sn	20 40 11.4	+0.2
TWGZ	Tauwhareparae	6.30	210	P	Pn	20 39 01.5	+0.7
TWGZ				S	Sn	20 40 11.9	-0.3
CNGZ	Carnagh Statio	6.48	207	P	Pn	20 39 01.7	-1.4
CNGZ				S	Sn	20 40 15.4	-1.0
TKGZ	Te Karaka	6.58	209	S	Sn	20 40 18.9	0.0
MWZ	Matawai	6.63	211	P	Pn	20 39 03.2	-2.0
MWZ				S	Sn	20 40 19.1	-1.1
URZ	Urewera	6.76	214	Pn	Pn	20 39 06.8	-0.1
	2.3nm,0.3s,baz=251,slow=3.3,SNR=8.9						
URZ				Sn	Sn	20 40 21.5	-1.8
	14nm,0.3s,baz=266,slow=23,SNR=13						
URZ	Urewera	6.76	214		Sn	20 40 18.2	-5.1
URZ	Urewera	6.76	214	P	Pn	20 39 06.0	-1.0
URZ				S	Sn	20 40 21.0	-2.3
RAGZ	Rawiri	6.81	211	P	Pn	20 39 07.2	-0.6
RAGZ				S	Sn	20 40 23.4	-1.3
RIGZ	Rimuhau	6.84	208	P	Pn	20 39 08.2	0.0
RIGZ				S	Sn	20 40 24.5	-1.0
PRGZ	Paritu Road	6.98	207	P	Pn	20 39 04.3	-5.8
PRGZ				S	Sn	20 40 26.0	-2.9
RTZ	Ruatahuna	7.10	213	P	Pn	20 39 10.9	-0.9
RTZ				S	Sn	20 40 28.9	-3.1
RAHZ	Arahi	7.30	211	P	Pn	20 39 13.9	-0.6
RAHZ				S	Sn	20 40 34.8	-2.0
OUZ	Omahuta	7.34	248	Pn	Pn	20 39 17.2	+2.3
MTHZ	Maungataniwha	7.36	213	P	Pn	20 39 15.5	+0.2
MTHZ				S	Sn	20 40 37.6	-0.6
BKZ	Black Stump Fm	7.77	213	Pn	Pn	20 39 19.2	-1.8
BKZ	Black Stump Fm	7.77	213	P	Pn	20 39 22.1	+1.2
BKZ				S	Sn	20 40 45.1	-3.3
BFZ	Birch Farm	9.14	208	Pn	Pn	20 39 38.5	-1.1
THZ	Tophouse	11.51	216	Pn	Pn	20 40 12.0	-0.2
DZM	Mont Dzumac	17.35	304	P	Pn	20 41 30.4	+0.4
	0.1nm,0.3s,baz=223,slow=16,SNR=1.7						
DZM	Mont Dzumac	17.35	304	IAmb	IAmb	20 41 38.3	
	comp=Z,17nm,0.9s						
RAR	Rarotonga	19.92	59	P	P	20 42 00.5	+1.1
EIDS	Eidsvold	27.87	277	P	P	20 43 18.6	+1.2
EIDS				IAmb	IAmb	20 44 17.3	
	comp=Z,29nm,1.8s						
STKA	Stephens Creek	33.95	260	P	P	20 44 12.1	+1.2
	comp=Z,1.4nm,0.6s,baz=104,slow=7.4,SNR=3.7						
STKA	Stephens Creek	33.95	260	IAmb	IAmb	20 44 59.6	
	comp=Z,7.4nm,2.0s						
CTA	Charters Tower	34.17	283	P	P	20 44 13.4	+0.5
	comp=Z,3.4nm,0.5s,baz=115,slow=8.9,SNR=9.9						
CTAO	Charters Tower	34.17	283	P	P	20 44 13.5	+0.5
CTAO				IAmb	IAmb	20 44 19.3	
	comp=Z,6.5nm,0.8s						
AS31	Alice Springs	42.96	269	P	P	20 45 27.3	+0.4
ASAR	Alice Springs	42.96	269	P	P	20 45 27.1	+0.2
	comp=Z,4.8nm,0.7s,baz=106,slow=7.7,SNR=48						
ASAR				PcP	PcP	20 47 15.1	-2.1
	comp=Z,0.5nm,0.8s,baz=123,slow=3.4,SNR=1.5						
WR0	Warramunga Arr	43.98	275	P	P	20 45 35.0	-0.1
WR0				IAmb	IAmb	20 45 40.5	
	comp=Z,6.6nm,1.1s						
WB2	Warramunga Arr	44.15	275	P	P	20 45 36.4	0.0
WB2				IAmb	IAmb	20 45 37.3	
	comp=Z,7.5nm,1.0s						
WRA	Warramunga Arr	44.16	275	P	P	20 45 36.5	0.0
	comp=Z,3.6nm,0.6s,baz=114,slow=8.1,SNR=31						
WRA	Warramunga Arr	44.16	275	P	P	20 45 36.4	-0.1
FORT	Forrest	45.42	257	P	P	20 45 46.3	-0.2
KNRA	Kununurra	50.85	276	P	P	20 46 27.7	-0.8
FITZ	Fitzroy Crossi	52.32	272	P	P	20 46 38.7	-0.9
FITZ				IAmb	IAmb	20 46 42.2	
	comp=Z,10nm,1.6s						
QSPA	South Pole Qui	57.38	180	P	P	20 47 18.6	+3.0
	comp=Z,0.7nm,0.8s,baz=53,slow=3.8,SNR=2.2						
GUMO	Guam	58.10	316	LR	LR	21 11 42.4	
	comp=Z,167nm,18.0s,baz=90,slow=36						
SNAA	Sanae	75.83	178	P	P	20 49 24.3	+11
VNA3	Neumayer Olymp	75.98	176	P	P	20 49 26.7	+13
VNA2	Neumayer--Watz	76.41	177	P	P	20 49 29.3	+13
	baz=175,slow=5.2						
VNA1	Neumayer--Stat	76.64	177	P	P	20 49 30.8	+13
MKAR	Makanchi Array	119.20	309	PKP	PKPdf	20 56 15.9	-0.3
	comp=Z,0.2nm,0.7s,baz=98,slow=2.9,SNR=2.2						
KURK	Kurchatov	122.59	313		PKPdf	20 56 23.1	+0.6
KURBB	Kurchatov Arra	122.63	313	PKP	PKPdf	20 56 23.1	+0.5
	comp=Z,0.8nm,0.7s,baz=106,slow=1.9,SNR=9.1						
KBZ	Khabaz	146.30	301	PKPbc	PKPbc	20 57 08.2	+0.3
	comp=Z,2.1nm,1.0s,baz=225,slow=2.4,SNR=3.0						
FINES	FINESS Array B	147.30	339	PKPbc	PKPbc	20 57 11.2	+0.9
	comp=Z,3.9nm,0.6s,baz=57,slow=3.0,SNR=17						
AKASG	Malin Array Be	153.08	320	PKPbc	PKiKP	20 57 25.5	+0.7
	comp=Z,0.4nm,0.3s,baz=56,slow=2.3,SNR=1.4						

NEIC 07 20:42:03.7±0.6, 35°.609N±0°.007×97°.41W±0°.02, h7km±2km, mb_Lg2.1/5, Error ellipse: s-maj=2.3km s-min=0.6km az=112.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK009	Oakdale Elemen	0.03	199		Pg	20 42 04.9	-0.2
OK009				Sg	Sg	20 42 05.8	-0.3
OK025	Westminster Rd	0.07	115	Pg	Pg	20 42 05.4	-0.2
OK025				Sg	Sg	20 42 06.7	-0.2
OK001	Jones High Sch	0.11	116	Pg	Pg	20 42 06.2	0.0
OK001				Sg	Sg	20 42 07.9	0.0
OK029	Liberty Lake	0.19	349	Pg	Pg	20 42 08.2	+0.6
OK029				Sg	Sg	20 42 11.5	+1.3
OKCFA	Oklahoma City	0.20	190	Pg	Pg	20 42 07.8	+0.2
OKCFA				Sg	Sg	20 42 10.7	+0.4
OKCSW	OKLAHOMA CITY	0.20	186	Pg	Pg	20 42 07.7	-0.1
OKCSW				Sg	Sg	20 42 10.8	+0.2
FNO	Franklin	0.35	179	Pg	Pg	20 42 10.5	-0.1
FNO				Sg	Sg	20 42 15.5	+0.3
OK031	S. Brethren Rd	0.58	53	Pg	Pg	20 42 14.9	0.0
OK031				Sg	Sg	20 42 23.0	+0.6
QUOK	Quay	0.80	45	Pg	Pg	20 42 18.8	-0.3
QUOK				Sg	Sg	20 42 29.9	+0.3
CROK	Carrier	1.01	333	Pg	Pg	20 42 23.0	0.0
X34A	Smith Ranch, M	1.06	199	Pg	Pg	20 42 24.0	-0.1
X34A				Sg	Sb	20 42 38.6	+0.1
BLOK	Blackwell	1.16	8	Pg	Pg	20 42 25.6	-0.4
BLOK				Sg	Sb	20 42 41.5	+0.2
GC02	Grant County #	1.29	344		Pn	20 42 27.9	-0.2
OK032	Salt Plains WL	1.36	332	Pn	Pn	20 42 28.9	-0.1
KAN14	Manchester OK	1.42	342	Pn	Pn	20 42 29.9	0.0
WMOK	Wichita Mounta	1.42	233		Pn	20 42 29.4	-0.6
KAN17	Caldwell West	1.46	349	Pn	Pn	20 42 30.4	-0.1
T35A	Sooner Cattle	1.49	29	Pn	Pn	20 42 30.8	-0.2
U32A	Winter Ranch,	1.50	301	Pn	Pn	20 42 31.4	+0.4
LOOK	Love County	1.62	173	Pn	Pn	20 42 32.9	+0.2
KAN12	Harper NE Stat	1.75	344	Pn	Pn	20 42 34.4	-0.1
X37A	Clayton	1.96	121	Pn	Pn	20 42 37.2	-0.1
X37A				IAmb_Lg		20 43 09.6	
	comp=Z,6.5nm,0.7s						
CCAR	Cane Creek	4.94	108	IAmb_Lg		20 44 40.7	
	comp=Z,9.6nm,0.8s						
CCM	Cathedral Cave	5.52	62	IAmb_Lg		20 45 02.2	
	comp=Z,1.5nm,1.0s						

*IDC **07** 20:44:10.7±0.9, 32°.76S×178°.34W, h0km, mb4.2/7, mb1 4.3/9, mb1mx4.1/39, mbtmp4.2/9, ML3.8/2, MS4.2/1, Ms1 4.2/1, ms1mx3.3/37, Error ellipse: s-maj=28.0km s-min=21.1km az=60.0*

*WEL **07** 20:44:11.7±0.9, 33°S±8°×17°8W±2°0, h33km, M4.7/12, mB5.1/8, ML5.2/14, MLv5.0/12, Mw(mB)4.4/8, Error ellipse: s-maj=0.0km s-min=0.0km az=110.1*

*NEIC **07** 20:44:12.6±0.5, 32°.9S±0°.1×178°.3W±0°.1, h10km±2km, mb4.5/8, Error ellipse: s-maj=24.0km s-min=9.0km az=35.0*

ISC 07 20:44:11.5±0.7, 32°.87S±0°.06×178°.3W±0°.1, h10km, n73, σ1s.73/85, mb4.4/11, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.61	5	P	Pn	20 45 05.9	-1.6
GLKZ				S	Sn	20 45 47.4	-2.8
RAO	Raoul Island	3.62	5	Sn	Sn	20 45 48.2	-2.2
	130nm,0.3s,baz=87,slow=23,SNR=2.3						
RAO	Raoul Island	3.62	5	Pn	Pn	20 45 08.6	+0.9
MXZ	Matakaoa Point	5.44	210	P	Pn	20 45 31.5	-1.2
MXZ				S	Sn	20 46 32.8	-2.6
WMGZ	Waiomatatini S	5.62	208	P	Pn	20 45 35.9	+0.8
WMGZ				S	Sn	20 46 38.1	-1.6
PKGZ	Pakihiroa	5.82	210	P	Pn	20 45 35.7	-2.2
PKGZ				S	Sn	20 46 43.6	-1.1
HAZ	Te Kaha	5.83	212	P	Pn	20 45 36.6	-1.5
HAZ				S	Sn	20 46 44.1	-0.8
PUZ	Puketiti	5.90	207	P	Pn	20 45 36.5	-2.5
PUZ				S	Sn	20 46 45.8	-0.9
RUGZ	Raukumara Rang	6.05	212	P	Pn	20 45 40.0	-1.1
RUGZ				S	Sn	20 46 50.1	-0.4
TWGZ	Tauwhareparae	6.10	209	P	Pn	20 45 40.6	-1.2
TWGZ				S	Sn	20 46 50.1	-1.6
CNGZ	Carnagh Statio	6.28	206	P	Pn	20 45 42.4	-1.8
CNGZ				S	Sn	20 46 57.0	+1.0
WHRZ	Whale Island	6.30	216	P	Pn	20 45 45.8	+1.3
WHRZ				S	Sn	20 46 58.7	+2.2
TKGZ	Te Karaka	6.38	208	P	Pn	20 45 45.5	-0.1
TKGZ				S	Sn	20 46 56.1	-2.3
MWZ	Matawai	6.42	211	P	Pn	20 45 44.2	-2.0
MWZ				S	Sn	20 46 58.7	-0.9
URZ	Urewera	6.55	214	Pn	Pn	20 45 47.7	-0.2
	7.9nm,0.3s,baz=293,slow=23,SNR=22						
URZ				Sn	Sn	20 46 59.8	-2.8
	22nm,0.3s,baz=295,slow=20,SNR=10						
URZ	Urewera	6.55	214		Pn	20 45 45.6	-2.2
URZ	Urewera	6.55	214	P	Pn	20 45 46.8	-1.1
URZ				S	Sn	20 46 59.5	-3.1
RAGZ	Rawiri	6.61	211	P	Pn	20 45 47.5	-1.2
RAGZ				S	Sn	20 47 00.4	-3.8
RIGZ	Rimuhau	6.64	208	P	Pn	20 45 46.9	-2.3
RIGZ				S	Sn	20 47 02.1	-2.9
PRGZ	Paritu Road	6.79	206	P	Pn	20 45 48.1	-3.1
PRGZ				S	Sn	20 47 04.7	-3.9
SNGZ	Shannon Statio	6.88	210	P	Pn	20 45 52.4	0.0
MUGZ	Murupara	6.88	214	P	Pn	20 45 52.0	-0.5
RTZ	Ruatahuna	6.90	212	P	Pn	20 45 51.3	-1.4
RAHZ	Arahi	7.10	211	P	Pn	20 45 55.5	+0.1
MTHZ	Maungataniwha	7.15	212	P	Pn	20 45 54.9	-1.4
NMHZ	Naumai	7.37	211	P	Pn	20 45 58.7	-0.6
ARHZ	Aropaoanui	7.43	210	P	Pn	20 45 59.2	-0.7
BKZ	Black Stump Fm	7.57	212		Pn	20 46 00.2	-1.7
BKZ	Black Stump Fm	7.57	212	P	Pn	20 46 00.5	-1.4
MCHZ	McNeill Hill	7.71	210	P	Pn	20 46 03.3	-0.5
KWHZ	Kaweka Forest	7.81	212	P	Pn	20 46 04.6	-0.6
TMVZ	Te Maari	7.90	216	P	Pn	20 46 05.2	-1.3
NNVZ	North Ngauruho	7.96	217	P	Pn	20 46 09.8	+2.4
NGZ	Ngauruhoe	8.00	216	P	Pn	20 46 07.4	-0.6
KRHZ	Kereru	8.01	211	P	Pn	20 46 05.6	-2.4
MOVZ	Moawhango	8.10	215	P	Pn	20 46 09.4	+0.1
WNVZ	Wahianoa	8.12	216	P	Pn	20 46 09.0	-0.6
PNHZ	Pukenui	8.31	211	P	Pn	20 46 10.0	-2.1
TSZ	Takapari Road	8.53	211	P	Pn	20 46 12.2	-3.0
BFZ	Birch Farm	8.94	208	P	Pn	20 46 18.2	-2.5
THZ	Tophouse	11.30	216	Pn	Pn	20 46 49.2	-3.8
DZM	Mont Dzumac	17.27	305	P	Pn	20 48 14.0	+1.1
	0.1nm,0.3s,baz=314,slow=23,SNR=1.4						
DZM				LR	LR	20 53 39.8	
	comp=Z,775nm,18.2s,baz=142,slow=33						
STKA	Stephens Creek	33.75	261	P	P	20 50 53.8	+0.4
	0.5nm,0.5s,baz=82,slow=10,SNR=1.1						
STKA	Stephens Creek	33.75	261	IAmb	IAmb	20 51 00.0	
	comp=Z,1.6nm,1.1s						
CTA	Charters Tower	34.02	283	P	P	20 50 57.6	+1.8
	comp=Z,6.1nm,0.7s,baz=112,slow=10.0,SNR=13						
AS31	Alice Springs	42.78	270	P	P	20 52 09.6	+0.1
AS31				IAmb	IAmb	20 52 10.3	
	comp=Z,2.3nm,0.8s						
ASAR	Alice Springs	42.78	270	P	P	20 52 09.5	0.0
	comp=Z,4.6nm,0.6s,baz=107,slow=7.4,SNR=72						
ASAR				PcP	PcP	20 53 58.6	-2.3
	comp=Z,0.4nm,0.7s,baz=116,slow=3.5,SNR=1.4						
WR0	Warramunga Arr	43.82	275	P	P	20 52 18.1	+0.2
WR0				IAmb	IAmb	20 52 18.9	
	comp=Z,17nm,1.4s						
WB2	Warramunga Arr	43.98	275	P	P	20 52 19.1	-0.2
WRAB	Tennant Creek	43.99	275	P	P	20 52 19.0	-0.3
WRAB				IAmb	IAmb	20 52 19.9	
	comp=Z,9.8nm,0.7s						
WRA	Warramunga Arr	43.99	275	P	P	20 52 19.2	-0.2
	comp=Z,7.8nm,0.5s,baz=118,slow=7.6,SNR=109						
WRA	Warramunga Arr	43.99	275	P	P	20 52 18.2	-1.1
VNDA	Vanda	45.62	186	P	P	20 52 34.2	+2.7
	comp=Z,0.7nm,0.8s,baz=32,slow=7.3,SNR=2.5						
KNRA	Kununurra	50.68	277	P	P	20 53 11.0	-0.5
KNRA				IAmb	IAmb	20 53 17.1	
	comp=Z,16nm,1.4s						
FITZ	Fitzroy Crossi	52.14	272	P	P	20 53 22.1	-0.2
QSPA	South Pole Qui	57.25	180	P	P	20 54 00.8	+1.9
	comp=Z,1.1nm,0.7s,baz=314,slow=0.9,SNR=11						
QSPA	South Pole Qui	57.25	180	P	P	20 54 00.1	+1.2
MAW	Mawson	69.91	201	P	P	20 55 23.4	+1.1
	comp=Z,1.7nm,0.7s,baz=184,slow=6.9,SNR=4.6						
SNAA	Sanae	75.70	179	P	P	20 56 07.1	+10
VNA3	Neumayer Olymp	75.86	176	P	P	20 56 08.5	+11
VNA2	Neumayer--Watz	76.29	177	P	P	20 56 11.0	+11
	baz=174,slow=4.8						
VNA1	Neumayer--Stat	76.53	177	P	P	20 56 12.6	+11
BVAR	Borovoye Array	127.97	314	PKP	PKPdf	21 03 17.7	+0.5
	comp=Z,0.7nm,0.6s,baz=188,slow=9.0,SNR=5.1						
ARCES	ARCESS Array B	140.94	347	PKhKP	PKPpre	21 03 37.4	
	comp=Z,2.4nm,0.9s,baz=326,slow=1.7,SNR=4.3						
ARCES	ARCESS Array B	140.94	347		PKPdf	21 03 38.2	-2.7
FINES	FINESS Array B	147.36	338	PKPbc	PKPbc	21 03 54.7	+0.1
	comp=Z,7.9nm,0.6s,baz=37,slow=3.8,SNR=41						
NB2	NORSAR Subarra	151.14	350	PKP	PKPbc	21 04 03.3	-1.0
	comp=Z,2.9nm,0.9s,baz=17,slow=2.6						
NOA	NORSAR Array B	151.14	350	PKPbc	PKPbc	21 04 04.0	-0.3
	comp=Z,2.2nm,1.0s,baz=20,slow=4.7,SNR=5.2						
AKASG	Malin Array Be	153.06	320	PKPbc	PKPbc	21 04 08.8	0.0
	comp=Z,0.9nm,0.5s,baz=55,slow=2.6,SNR=5.7						
DBIC	Dimbokro	153.23	165	PKPbc	PKiKP	21 04 11.9	+1.4
	comp=Z,2.3nm,0.9s,baz=158,slow=11,SNR=1.5						
BRTR	Keskin Array B	153.46	294	PKPbc	PKPbc	21 04 11.1	+0.7
	comp=Z,0.6nm,0.4s,baz=149,slow=4.3,SNR=2.5						
TORD	Torodi Ar. Bea	160.37	180	PKPab	PKPab	21 04 54.3	+1.8
	comp=Z,1.1nm,1.1s,baz=192,slow=2.7,SNR=2.2						
GERES	GERESS Array B	161.68	334	PKPab	PKPab	21 04 57.8	+0.2
	comp=Z,0.4nm,0.6s,baz=64,slow=3.4,SNR=3.2						

IDC 07 20:49:25.5±3.5, 32°.77S×177°.79W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/30, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=82.7km s-min=49.8km az=124.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.88	216	Pn	Pn	20 51 06.5	-1.0
	0.7nm,0.3s,baz=294,slow=22,SNR=1.8						
URZ				Sn	Sn	20 52 17.6	-8.9
	1.4nm,0.3s,baz=125,slow=22,SNR=2.3						
ASAR	Alice Springs	43.22	269	P	P	20 57 28.6	0.0
	0.2nm,0.4s,baz=112,slow=7.6,SNR=4.8						
WRA	Warramunga Arr	44.42	274	P	P	20 57 38.4	+0.1
	0.5nm,0.3s,baz=114,slow=7.9,SNR=9.1						
FINES	FINESS Array B	147.43	339	PKPbc	PKPbc	21 09 09.7	-0.8
	2.3nm,0.9s,baz=43,slow=6.3,SNR=2.1						

IDC 07 20:50:51.4±8.2, 32°.62S×178°.46W, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.5/31, mbtmp3.4/2, Error ellipse: s-maj=380.9km s-min=63.8km az=160.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.68	211	Sn	Sn	20 53 43.5	-4.1
	0.4nm,0.3s,baz=121,slow=24,SNR=1.2						
ASAR	Alice Springs	42.64	270	P	P	20 58 49.9	0.0
	0.3nm,0.7s,baz=113,slow=7.7,SNR=2.1						
WRA	Warramunga Arr	43.83	275	P	P	20 58 59.2	-0.3
	0.3nm,0.4s,baz=116,slow=8.0,SNR=1.5						
FINES	FINESS Array B	147.08	338	PKPbc	PKPbc	21 10 34.7	-0.8
	2.7nm,0.9s,baz=45,slow=4.1,SNR=4.5						

IDC 07 20:54:11.8±3.2, 32°.75S×178°.45W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.5/28, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=76.3km s-min=48.3km az=121.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.58	212	Pn	Pn	20 55 49.6	-0.2
	0.7nm,0.3s,baz=300,slow=23,SNR=1.9						
URZ				Sn	Sn	20 57 01.0	-4.5
	0.5nm,0.3s,baz=125,slow=23,SNR=1.5						
ASAR	Alice Springs	42.65	270	P	P	21 02 10.1	-0.2
	0.4nm,0.8s,baz=104,slow=7.7,SNR=2.9						
WRA	Warramunga Arr	43.85	275	P	P	21 02 20.0	-0.1
	0.4nm,0.5s,baz=116,slow=8.1,SNR=9.1						
FINES	FINESS Array B	147.20	338	PKPbc	PKPbc	21 13 55.5	-0.7
	2.6nm,0.8s,baz=31,slow=3.6,SNR=4.5						

IDC 07 21:15:58.6±3.5, 33°.06S×178°.32W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/31, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=77.3km s-min=38.5km az=116.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.38	214	Pn	Pn	21 17 34.4	+0.5
	0.8nm,0.3s,baz=122,slow=24,SNR=1.8						
URZ				Sn	Sn	21 18 46.6	-0.9
	1.1nm,0.3s,baz=116,slow=22,SNR=2.3						
ASAR	Alice Springs	42.77	270	P	P	21 23 58.2	+0.1
	0.4nm,0.5s,baz=111,slow=7.7,SNR=8.0						
WRA	Warramunga Arr	43.99	275	P	P	21 24 07.8	-0.2
	0.3nm,0.4s,baz=116,slow=7.9,SNR=11						
FINES	FINESS Array B	147.53	338	PKPbc	PKPbc	21 35 42.9	-1.0
	2.3nm,0.9s,baz=67,slow=3.6,SNR=1.1						

DJA 07 21:18:26.6±0.3, 7°S±4°×10°6E±°, h79km±6km, M4.0/16, mb4.2/6, MLv3.9/16, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKJI	Sukabumi	0.59	74	P	Pn	21 18 43.1	+2.0
SKJI				S	Sn	21 18 53.0	+1.1
DBJI	Dramaga	0.98	51	P	Pn	21 18 46.0	+0.6
DBJI				S	Sn	21 19 00.3	+0.9
SBJI	Serang	1.05	8	P	Pn	21 18 46.5	+0.2
SBJI				S	Sn	21 19 01.0	+0.1
CBJI	Citeko	1.14	49	P	Pn	21 18 47.9	+0.6
CBJI				S	Sn	21 19 02.4	-0.4
CNJI	Cibinong	1.15	97	P	Pn	21 18 47.9	+0.5
CNJI				S	Sn	21 19 03.5	+0.5
LEM	Lembang	1.66	78	P	Pn	21 18 54.3	+0.2
LEM				S	Sn	21 19 15.5	+0.5
CISI	Cisompet, Garu	1.86	102	P	Pn	21 18 56.7	0.0
CISI				S	Sn	21 19 18.9	-0.7
BLSI	Bandar Lampung	1.93	338	P	Pn	21 18 57.7	+0.1
CMJI	Cimerak	2.52	104	P	Pn	21 19 05.6	+0.1
LWLI	Liwa	2.87	318	P	Pn	21 19 10.4	+0.1
KPJI	Karang Pucung	2.93	93	P	Pn	21 19 12.0	+1.0
MDSI	Maura Dua	3.21	326	P	Pn	21 19 14.8	0.0
EGSI	Enggano, Bengk	4.10	296	P	Pn	21 19 28.1	+1.2
LHSI	Lahat	4.12	324	P	Pn	21 19 26.4	-0.9
UGM	Wanagama	4.56	100	P	Pn	21 19 32.8	-0.5
PCJI	Pacitan	5.25	102	P	Pn	21 19 42.8	+0.2
	0.4nm34nm,1.1s						
MASI	Maura Aman, Be	5.47	317	P	Pn	21 19 45.7	+0.1
	0.5nm133nm,0.6s						
PWJI	Pagerwojo	5.83	99	P	Pn	21 19 50.4	-0.2
	0.2nm26nm,1.7s						
JAGI	Jajag, Banyuwa	8.20	100	P	Pn	21 20 23.1	+0.2
	26nm,1.6s						
TWSI	Taliwang, Sumb	10.91	99	P	Pn	21 20 58.5	-1.4

*IDC **07** 21:21:21.0±3.4, 22°.23N×144°.37E, h128km±31km, mb3.1/7, mb1 3.3/9, mb1mx3.2/39, mbtmp3.7/9, Error ellipse: s-maj=83.6km s-min=18.8km az=75.0*

ISC 07 21:21:19.6±2.2, 22°.1N±0°.1×144°.1E±0°.4, h100km, n12, σ1s.59/10, mb3.5/6, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	Chichijima	5.31	341	P	Pn	21 22 38.9	+2.4
	18nm,0.3s,baz=162,slow=20,SNR=5.6						
JCJ				S	Sn	21 23 35.4	-0.9
	8.8nm,0.3s,baz=117,slow=18,SNR=1.3						
MJAR	Matsushiro Arr	15.31	342	P	Pn	21 24 49.0	-1.2
	0.1nm,0.3s,baz=160,slow=11,SNR=2.1						
KSRS	Korea Array	20.75	321	P	P	21 25 53.4	+1.2
	2.2nm,0.8s,baz=142,slow=11,SNR=3.8						
H11S3	WAKE ISLAND Hy	21.48	95	T	T	21 48 54.9	
	baz=282						
H11S1	WAKE ISLAND Hy	21.49	95	T	T	21 48 55.9	
	baz=282						
H11S2	WAKE ISLAND Hy	21.50	95	T	T	21 48 58.8	
	baz=282						
SONM	Songino Array	39.60	320	P	P	21 28 40.9	-0.4
	0.4nm,0.5s,baz=136,slow=7.4,SNR=4.4						
CMAR	Chiang Mai Arr	42.40	274	P	P	21 29 05.2	+0.7
	0.3nm,0.4s,baz=81,slow=6.6,SNR=1.7						
WRA	Warramunga Arr	42.82	194	P	P	21 29 07.6	-0.2
	0.3nm,0.3s,baz=9.4,slow=8.0,SNR=8.9						
ASAR	Alice Springs	46.52	193	P	P	21 29 37.8	+0.6
	0.3nm,0.7s,baz=13,slow=8.9,SNR=2.1						
ZALV	Zalesovo Beam	54.45	321	P	P	21 30 35.3	-1.2
	0.8nm,0.5s,baz=109,slow=8.0,SNR=3.5						
MKAR	Makanchi Array	55.08	312	P	P	21 30 38.9	-2.3
	0.2nm,0.5s,baz=93,slow=8.0,SNR=4.5						

MEX 07 21:31:53.5±1.0, 18°.90N×102°.51W, h57km±29km, MD3.7, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMIG	Aquila	1.00	232	*i* P	Pn	21 32 10.0	-1.4
MMIG				*e*S	Sn	21 32 22.6	-2.0
COIG	Colima	1.15	284	*e*P	Pn	21 32 11.6	-1.9
COIG				*e*S	Sn	21 32 25.5	-2.8
EZ5V		1.18	299	*e*P	Pn	21 32 12.7	-1.4
EZ5V				*e*S	Sn	21 32 27.4	-1.9
R15V		1.42	281	*e*P	Pn	21 32 16.0	-1.0
R15V				*e*S	Sn	21 32 32.7	-2.0
ZIIG	Zihuatanejo	1.63	142	*e*P	Pn	21 32 18.1	-1.8
ZIIG				*e*S	Sn	21 32 44.4	+4.6
ARIG	Puente Sto Nin	2.15	106	*e*P	Pn	21 32 29.7	+2.8
ARIG				*e*S	Sn	21 33 00.4	+7.9

RSNC 07 21:58:14.1±1.0, 4°.86N×77°.68W, h35km±6km, ML3.5, Mw3.7, 7C-3D, Fault plane solution: NP1:ϕ_s145.00000°, δ88.00000°, λ98.00000°., Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PIZC	Pizarro, Choco	0.34	72	⇓*i*P	Pn	21 58 21.8	-0.7
PIZC				*e*S	Sn	21 58 28.2	0.0
MALC	Bahia Malaga	0.91	158	⇓*i*P	Pn	21 58 30.2	-0.3
MALC				*e*S	Sn	21 58 41.9	-0.5
MALC				*i*		21 58 44.1	
	comp=Z,3μm,0.3s						
SOLC	Bahia Solano	1.38	11	⇓*e*P	Pn	21 58 36.3	-0.6
SOLC				*e*S	Sn	21 58 53.5	-0.5
SOLC				*i*		21 58 55.8	
	comp=Z,821nm,0.3s						
YOTC	Yotoco, Valle	1.59	123	⇑*i*P	Pn	21 58 38.3	-1.6
YOTC				*e*S	Sn	21 58 56.2	-3.1
YOTC				*i*		21 59 02.5	
	comp=Z,548nm,0.4s						
GR1C	Gorgona, Isla	1.91	195	*e*P	Pn	21 58 43.3	-0.8
CBOC	Ciudad Bolivar	1.94	59	⇑*e*P	Pn	21 58 43.5	-1.2
CBOC				*e*S	Sn	21 59 04.8	-3.1
CBOC				*i*		21 59 16.9	
	comp=Z,195nm,0.5s						
PTAC	Punta Ardita,	2.28	357	*e*P	Pn	21 58 48.6	-0.6
PTAC				*e*S	Sn	21 59 13.3	-2.8
PTAC				*i*		21 59 14.6	

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,490nm,0.2s						
GUY2C	**Guyana, Caldas**	**2.33**	**81**	⇑iP	Pn	21 58 50.0	-0.4
GUY2C				eS	Sn	21 59 17.3	-0.9
GUY2C				i		21 59 20.9	
	comp=Z,271nm,0.7s						
TOLC	**Tolima**	**2.37**	**97**	⇑iP	Pn	21 58 50.6	-0.2
TOLC				eS	Sn	21 59 17.9	-0.9
TOLC				i		21 59 25.6	
	comp=Z,223nm,0.6s						
CIBA1	**Ibague, SGC**	**2.47**	**99**	eP	Pn	21 58 53.5	+1.4
CIBA1				eS	Sn	21 59 20.6	-0.5
POPC	**Popayan, Colom**	**2.51**	**156**	eP	Pn	21 58 52.3	-0.4
POPC				eS	Sn	21 59 20.8	-1.5
POPC				i		21 59 22.6	
	comp=Z,92nm,0.3s						
HELC	**Santa Helena**	**2.52**	**58**	eP	Pn	21 58 52.7	-0.1
HELC				eS	Sn	21 59 21.9	-0.6
HELC				i		21 59 27.2	
	comp=Z,98nm,0.4s						
DBBC	**Dabeiba**	**2.59**	**34**	eP	Pn	21 58 54.2	+0.5
DBBC				eS	Sn	21 59 23.9	-0.2
DBBC				i		21 59 28.0	
	comp=Z,301nm,0.4s						
ORTC	**Ortega, Tolima**	**2.60**	**111**	⇑iP	Pn	21 58 54.3	+0.5
ORTC				eS	Sn	21 59 24.1	-0.2
ORTC				i		21 59 27.8	
	comp=Z,220nm,0.3s						
MARP	**Paez Belalcaza**	**2.64**	**139**	eP	Pn	21 58 54.9	+0.4
MARP				eS	Sn	21 59 25.9	+0.3
MARP				i		21 59 30.7	
	comp=Z,69nm,0.4s						
PCON	**Cinco Dias**	**2.82**	**153**	eP	Pn	21 58 58.7	+1.4
PCON				eS	Sn	21 59 29.9	-0.4
PCON				i		21 59 39.9	
	comp=Z,156nm,0.6s						
BBAC	**Balboa, Cauca**	**2.85**	**171**	eP	Pn	21 58 56.3	-1.1
BBAC				eS	Sn	21 59 29.9	-0.7
BBAC				i		21 59 36.6	
	comp=Z,202nm,0.3s						
NORC	**Norcasia**	**2.89**	**76**	eP	Pn	21 58 58.7	+1.0
NORC				eS	Sn	21 59 30.9	-0.3
NORC				i		21 59 33.6	
	comp=Z,115nm,0.4s						
SOTA	**Rioblanco**	**2.91**	**158**	eP	Pn	21 58 58.9	+0.5
SOTA				eS	Sn	21 59 32.1	-0.3
SOTA				i		21 59 36.1	
	comp=Z,358nm,0.6s						
PRAC	**Prado**	**3.01**	**112**	⇑iP	Pn	21 59 00.2	+0.8
PRAC				eS	Sn	21 59 34.4	+0.1
PRAC				i		21 59 38.2	
	comp=Z,206nm,0.4s						
BETC	**Betania**	**3.11**	**134**	eP	Pn	21 59 02.7	+1.9
BETC				eS	Sn	21 59 36.5	-0.2
BETC				i		21 59 41.2	
	comp=Z,291nm,0.5s						
ROSC	**El Rosal**	**3.35**	**90**	eP	Pn	21 59 07.3	+3.0
CRUC	**La Cruz**	**3.35**	**167**	eP	Pn	21 59 04.8	+0.4
CRUC				eS	Sn	21 59 42.4	-0.7
CRUC				i		21 59 51.8	
	comp=Z,95nm,0.4s						
GARC	**Garzon, Huila**	**3.44**	**140**	eP	Pn	21 59 05.7	+0.3
GARC				eS	Sn	21 59 45.0	-0.1
GARC				i		21 59 48.0	
	comp=Z,200nm,0.3s						
UREC	**San Jos de Ur**	**3.58**	**37**	eP	Pn	21 59 09.1	+1.9
PTBC	**PUERTO BERRIO,**	**3.62**	**62**	⇑eP	Pn	21 59 09.0	+1.3
PTBC				eS	Sn	21 59 49.2	0.0
PTBC				i		21 59 54.1	
	comp=Z,45nm,0.4s						
SPBC	**San Pablo de B**	**3.68**	**77**	eP	Pn	21 59 09.7	+1.1
SPBC				eS	Sn	21 59 50.5	-0.4
CAPC	**Capurgana**	**3.77**	**5**	eP	Pn	21 59 10.0	+0.3
CAPC				eS	Sn	21 59 51.7	-1.1
CAPC				i		22 00 00.4	
	comp=Z,52nm,0.4s						
FLOC	**Florencia**	**3.83**	**148**	eP	Pn	21 59 12.5	+1.8
FLOC				eS	Sn	21 59 54.9	+0.3
FLOC				i		21 59 57.5	
	comp=Z,64nm,0.7s						
ZARC	**Zaragoza, Cauc**	**3.84**	**47**	eP	Pn	21 59 12.6	+1.9
ZARC				eS	Sn	21 59 53.4	-1.2
ZARC				i		22 00 00.4	
	comp=Z,38nm,0.4s						
CHIC	**Chingaza**	**3.94**	**93**	eP	Pn	21 59 14.9	+2.4
CHIC				eS	Sn	21 59 56.7	-1.1
CHIC				i		22 00 06.2	
	comp=Z,29nm,0.4s						
VILC	**Villavicencio,**	**4.04**	**100**	eP	Pn	21 59 15.9	+2.3
VILC				eS	Sn	21 59 58.9	-1.1
VILC				i		22 00 06.7	
	comp=Z,122nm,0.6s						
BRRC	**Barranca, Sant**	**4.54**	**60**	eS	Sn	22 00 11.0	-0.8
CUSE	**Cuicocha Este**	**4.58**	**189**	eP	Pn	21 59 20.7	-0.6
CUSE				eS	Sn	22 00 10.8	-2.8
CUSE				i		22 00 12.1	
	comp=Z,143nm,0.3s						
OTAV	**Otavalo**	**4.66**	**190**	eP	Pn	21 59 21.6	-0.8
OTAV				eS	Sn	22 00 10.6	-4.8
OTAV				i		22 00 16.2	
	comp=Z,26nm,0.7s						
MACC	**Macarena, Meta**	**4.68**	**125**	eP	Pn	21 59 22.8	+0.4
MACC				eS	Sn	22 00 13.9	-1.6
MACC				i		22 00 37.7	
	comp=Z,60nm,0.5s						
RUSC	**La Rusia**	**4.69**	**77**	eP	Pn	21 59 23.6	+0.7
RUSC				eS	Sn	22 00 16.3	-0.1
RUSC				i		22 00 33.8	
	comp=Z,14nm,0.6s						
BARC	**Barichara**	**4.80**	**69**	eP	Pn	21 59 25.4	+1.3
BARC				eS	Sn	22 00 18.4	-0.2
BARC				i		22 00 28.6	
	comp=Z,27nm,0.4s						
SMLC	**San Martn de**	**5.31**	**42**	eP	Pn	21 59 32.4	+1.5
SMLC				eS	Sn	22 00 29.5	-1.4
OCAC	**Ocana**	**5.48**	**52**	eP	Pn	21 59 36.1	+2.7
OCAC				eS	Sn	22 00 34.6	-0.8
PAMC	**Pamplona, Colo**	**5.53**	**63**	eP	Pn	21 59 35.8	+1.3
PAMC				eS	Sn	22 00 37.4	+0.2
PAMC				i		22 00 48.6	
	comp=Z,20nm,0.4s						
GUVC	**San Jose del G**	**5.54**	**114**	eP	Pn	21 59 33.6	-0.6
GUVC				eS	Sn	22 00 34.9	-1.8
GUVC				i		22 00 38.7	
	comp=Z,88nm,0.4s						

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*SOME **07** 22:14:29.1, 39°.35N×73°.33E, h10km*
*NNC **07** 22:14:33.1±4.6, 39°.29N×74°.17E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=33.7km s-min=22.3km az=162.0*
ISC 07 22:14:36.8±3.0**, 39°.4N**±0°.2×**74°.1E**±0°.1**, h10km, n7, σ1.s55**/11**, 2D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MRKS	**Merke**	**3.37**	**349**	eP	**Pb**	**22 15 35.9**	**-0.8**
	4.8nm,0.2s						
MRKS				eS	**Sg**	**22 16 23.7**	**-1.4**
	3.4nm,0.2s						
MRKS	**Merke**	**3.37**	**349**	Pg	**Pb**	**22 15 35.9**	**-0.8**
	4.8nm,0.2s						
MRKS				Lg	Lg	22 16 23.7	
	3.4nm,0.2s						
KST	**Kastek**	**3.88**	**21**	eP	**Pb**	**22 15 45.6**	**+0.2**
	0.5nm,0.2s						
KST				eS	**Sg**	**22 16 40.8**	**-0.6**
	0.8nm,0.8s						
KST	**Kastek**	**3.88**	**21**	Pg	**Pb**	**22 15 45.6**	**+0.2**
	0.5nm,0.2s						
KST				Lg	Lg	22 16 40.8	
	0.8nm,0.8s						
IUG	**Iuzhnay**	**4.09**	**313**	eP	**Pn**	**22 15 38.8**	**-0.8**
	18nm,0.2s						
IUG				eS	**Sn**	**22 16 28.5**	**+0.8**
	17nm,0.3s						
IUG	**Iuzhnay**	**4.09**	**313**	Pg	**Pn**	**22 15 38.8**	**-0.8**
	18nm,0.2s						
IUG				Lg	Lg	22 16 28.5	
	17nm,0.3s						
KK31	**Karatay Array**	**4.54**	**325**	⇓Pn	**Pn**	**22 15 46.0**	**+0.3**
	0.5nm,0.5s,baz=144,slow=12,SNR=8.1						
KK31				⇓Sn	**Sn**	**22 16 42.2**	**+3.6**
	1.1nm,0.4s,baz=145,slow=21,SNR=9.5						

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*IDC **07** 22:17:12.2±2.9, 33°.08S×178°.25W, h0km, mb4.1/2, mb1 4.3/3, mb1mx3.8/23, mbtmp4.0/3, ML3.7/1, Error ellipse: s-maj=69.4km s-min=35.8km az=121.0*
*NEIC **07** 22:17:21.9±0.9, 32°.65S±0°.10×179°.4W±0°.2, h10km±1km, mb4.4/12, Error ellipse: s-maj=27.5km s-min=9.8km az=119.0*
ISC 07 22:17:21.1±0.8**, 32°.80S**±0°.08×**179°.3W**±0°.1**, h10km, n22, σ2.s00**/22**, mb4.3**/7**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.73**	**19**	Pn	**Pn**	**22 18 17.6**	**-1.1**
MXZ	**Matakaoa Point**	**5.14**	**202**	Pn	**Pn**	**22 18 36.6**	**-1.6**
URZ	**Urewera**	**6.19**	**207**	Pn	Pn	22 18 48.3	-4.2
	1.6nm,0.3s,baz=302,slow=23,SNR=8.8						
URZ				Sn	**Sn**	**22 20 01.3**	**-2.0**
	1.1nm,0.3s,baz=299,slow=23,SNR=2.5						
OUZ	**Omahuta**	**6.38**	**246**		**Pn**	**22 18 57.3**	**+2.2**
BKZ	**Black Stump Fm**	**7.21**	**207**	Pn	**Pn**	**22 19 08.8**	**+2.2**
NIUE	**Niue**	**16.04**	**34**		**Pn**	**22 21 05.7**	**-1.1**
NIUE				IAmb	IAmb	22 21 34.5	
	comp=Z,58nm,1.2s						
ARMA	**Armidale**	**24.85**	**268**	P	**P**	**22 22 43.0**	**-0.9**
ARMA				IAmb	IAmb	22 22 52.3	
	comp=Z,9.4nm,1.2s						
CTAO	**Charters Tower**	**33.20**	**284**	P	**P**	**22 23 57.8**	**-0.4**
BBOO	**Buckleboo**	**37.31**	**258**	P	**P**	**22 24 33.4**	**-0.1**
AS31	**Alice Springs**	**41.95**	**270**	P	**P**	**22 25 12.8**	**+0.5**
ASAR	**Alice Springs**	**41.95**	**270**	P	**P**	**22 25 12.1**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=108,slow=7.3,SNR=17						
ASAR	**Alice Springs**	**41.95**	**270**	P	**P**	**22 25 12.2**	**-0.1**
WR0	**Warramunga Arr**	**42.98**	**276**	P	**P**	**22 25 20.2**	**-0.5**
WB2	**Warramunga Arr**	**43.15**	**275**	P	**P**	**22 25 21.8**	**-0.3**
WB2				IAmb	IAmb	22 25 22.0	
	comp=Z,8.8nm,1.3s						
WRA	**Warramunga Arr**	**43.16**	**275**	P	**P**	**22 25 21.8**	**-0.4**
	comp=Z,1.9nm,0.4s,baz=117,slow=7.6,SNR=25						
WRA	**Warramunga Arr**	**43.16**	**275**	P	**P**	**22 25 21.6**	**-0.6**
MTN	**Manton Dam**	**49.33**	**282**	P	**P**	**22 26 09.3**	**-1.5**
FITZ	**Fitzroy Crossi**	**51.31**	**272**	P	**P**	**22 26 24.3**	**-1.4**
FITZ				IAmb	IAmb	22 26 50.2	
	comp=Z,5.4nm,1.4s						
QSPA	**South Pole Qui**	**57.32**	**180**	P	**P**	**22 27 12.8**	**+3.8**
QSPA				IAmb	IAmb	22 27 24.6	
	comp=Z,4.7nm,1.4s						
SNAA	**Sanae**	**75.79**	**179**	P	**P**	**22 29 08.3**	**+1.5**
SNAA				IAmb	IAmb	22 29 11.4	
	comp=Z,3.4nm,1.2s						
FINES	**FINESS Array B**	**146.98**	**338**	PKPbc	**PKPdf**	**22 36 56.8**	**-4.4**
	comp=Z,1.5nm,0.7s,baz=48,slow=4.1,SNR=9.9						
FINES	**FINESS Array B**	**146.98**	**338**		**PKPdf**	**22 36 57.2**	**-4.0**

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*JMA **07** 22:36:33.2±0.5, 30°.99N×142°.34E, h34km, M3.8*
*IDC **07** 22:36:38.0±1.0, 31°.29N×141°.89E, h0km, mb3.8/7, mb1 3.9/11, mb1mx3.7/47, mbtmp3.8/11, ML3.3/4, Error ellipse: s-maj=36.2km s-min=15.1km az=74.0*
*NEIC **07** 22:36:40.8±1.5, 31°.35N±0°.08×142°.0E±0°.2, h14km±7km, mb4.4/7, Error ellipse: s-maj=24.5km s-min=9.0km az=71.0*
ISC 07 22:36:42.3±0.8**, 31°.29N**±0°.06×**141°.9E**±0°.1**, h29km, n33, σ1.s35**/37**, mb4.0**/12**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.58**	**316**	Pn	**Pn**	**22 37 21.4**	**-0.7**
	6.6nm,0.3s,baz=148,slow=13,SNR=2.2						
JHJ				Sn	**Sn**	**22 37 52.1**	**-0.3**
	9.8nm,0.3s,baz=245,slow=22,SNR=1.4						
BSO1	**Boso 1**	**3.45**	**347**	P	**Pn**	**22 37 31.5**	**-2.1**
BSO1				eS	**Sn**	**22 38 15.6**	**+2.3**
BSO3	**Boso 3**	**3.70**	**342**	P	**Pn**	**22 37 35.9**	**-1.4**
BSO3				eS	**Sn**	**22 38 22.5**	**+2.7**
BSO4	**Boso 4**	**3.93**	**341**	eS	**Sn**	**22 38 28.0**	**+2.4**
JCJ	**Chichijima**	**4.18**	**177**	Pn	**Pn**	**22 37 44.0**	**-0.2**
	8.5nm,0.3s,baz=260,slow=21,SNR=1.9						
JCJ				Sn	**Sn**	**22 38 32.9**	**+0.8**
	8.1nm,0.3s,baz=295,slow=22,SNR=2.0						
JCJ	**Chichijima**	**4.18**	**177**	Pn	**Pn**	**22 37 44.9**	**+0.7**
JHU	**Hanno**	**5.06**	**335**	P	**Pn**	**22 37 55.0**	**-1.2**
JRY	**Ryogami san**	**5.35**	**333**	P	**Pn**	**22 37 59.8**	**-0.4**
JHO	**Hitachi**	**5.43**	**348**	P	**Pn**	**22 37 59.5**	**-1.8**
JAG	**Ashikaga**	**5.53**	**339**	P	**Pn**	**22 38 01.2**	**-1.4**
INU	**Inuyama**	**5.77**	**316**	Pn	**Pn**	**22 38 02.8**	**-3.2**
MJAR	**Matsushiro Arr**	**6.09**	**330**	Pn	**Pn**	**22 38 09.9**	**-0.4**
	0.3nm,0.3s,baz=155,slow=11,SNR=18						
MJAR	**Matsushiro Arr**	**6.09**	**330**	Pn	**Pn**	**22 38 10.2**	**-0.2**
MAJO	**Matsushiro**	**6.09**	**330**	Pn	**Pn**	**22 38 11.8**	**+1.5**
JMM	**Marumori**	**6.63**	**352**	Pn	**Pn**	**22 38 15.2**	**-2.6**
KLR	**Kul'dur**	**19.50**	**340**	P	**P**	**22 41 05.2**	**-1.8**
	0.1nm,0.3s,baz=173,slow=8.1,SNR=2.2						
SONM	**Songino Array**	**31.65**	**312**	P	**P**	**22 43 03.5**	**+0.4**
	0.3nm,0.4s,baz=100,slow=7.5,SNR=3.7						
SEY	**Seymchan**	**32.36**	**9**	P	**P**	**22 43 08.8**	**-0.1**
	1.4nm,0.5s,baz=184,slow=15,SNR=4.9						
ZALV	**Zalesovo Beam**	**46.24**	**317**	P	**P**	**22 45 04.2**	**-0.5**
	0.6nm,0.5s,baz=94,slow=8.6,SNR=2.6						
MKAR	**Makanchi Array**	**47.72**	**307**	P	**P**	**22 45 15.8**	**-0.6**
	0.3nm,0.6s,baz=91,slow=9.3,SNR=4.7						
MKAR	**Makanchi Array**	**47.72**	**307**	P	**P**	**22 45 16.4**	**0.0**
MAKZ	**Makanchi**	**47.93**	**307**	P	**P**	**22 45 18.3**	**+0.2**
MAKZ				IAmb	IAmb	22 45 44.9	
	comp=Z,1.7nm,0.8s						
WR0	**Warramunga Arr**	**51.44**	**189**	P	**P**	**22 45 44.9**	**-0.1**
WR0				IAmb	IAmb	22 45 53.1	
	comp=Z,4.9nm,1.2s						
WRAB	**Tennant Creek**	**51.44**	**189**	P	**P**	**22 45 43.5**	**-1.4**
WRA	**Warramunga Arr**	**51.45**	**189**	P	**P**	**22 45 44.8**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=5.5,slow=7.7,SNR=10						
WRA	**Warramunga Arr**	**51.45**	**189**	P	**P**	**22 45 46.0**	**+1.0**
FITZ	**Fitzroy Crossi**	**51.53**	**200**	P	**P**	**22 45 46.1**	**+0.5**
FITZ				IAmb	IAmb	22 45 55.0	
	comp=Z,5.1nm,1.4s						
ASAR	**Alice Springs**	**55.18**	**189**	P	**P**	**22 46 12.6**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=7.0,slow=6.3,SNR=11						
KK31	**Karatay Array**	**56.52**	**304**	P	**P**	**22 46 22.7**	**+0.8**
KK31				IAmb	IAmb	22 46 22.8	
	comp=Z,2.2nm,0.5s						
KKAR	**Karatay Array**	**56.52**	**304**	P	**P**	**22 46 22.7**	**+0.8**
CHGR	**Chuyangaron**	**58.67**	**299**	P	**P**	**22 46 37.6**	**+0.4**
CHGR				IAmb	IAmb	22 46 38.5	
	comp=Z,4.7nm,0.7s						
ABKAR	**Akbulak array**	**62.06**	**313**	P	**P**	**22 46 59.9**	**-0.2**
TXAR	**Lajitas Array**	**93.27**	**53**	P	**P**	**22 49 55.5**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=267,slow=1.8,SNR=4.9						

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*NEIC **07** 22:40:60.0±2.9, 32°.84S±0°.10×178°.2W±0°.2, h10km±1km, mb4.5/14, Error ellipse: s-maj=25.9km s-min=16.3km az=95.0*
*IDC **07** 22:40:59.2±1.1, 32°.82S×178°.47W, h0km, mb4.3/3, mb1 4.5/6, mb1mx4.0/35, mbtmp4.3/6, ML4.0/3, MS3.3/4, Ms1 3.3/4, ms1mx3.1/23, Error ellipse: s-maj=31.7km s-min=24.2km az=85.0*
*WEL **07** 22:41:00.5±1.0, 33°S±8°×17°8W±2°5, h33km, M4.5/16, mB5.0/10, ML5.1/19, MLv4.8/16, Mw(mB)4.3/10, Error ellipse: s-maj=0.0km s-min=0.0km az=107.2*
ISC 07 22:40:59.5±0.7**, 32°.92S**±0°.05×**178°.2W**±0°.1**, h10km, n61, σ1.s69**/63**, mb4.4**/10**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.66**	**4**	P	**Pn**	**22 41 54.6**	**-1.6**
GLKZ				S	**Sn**	**22 42 37.5**	**-1.8**
RAO	**Raoul Island**	**3.67**	**4**	Pn	**Pn**	**22 41 54.5**	**-1.7**
	28nm,0.3s,baz=92,slow=23,SNR=1.4						
RAO				Sn	**Sn**	**22 42 35.6**	**-4.0**
	106nm,0.3s,baz=110,slow=23,SNR=2.8						
RIZ	**Raoul Island**	**3.67**	**4**	S	**Sn**	**22 42 37.5**	**-2.2**
MXZ	**Matakaoa Point**	**5.43**	**211**	Pn	**Pn**	**22 42 19.3**	**-1.2**
MXZ	**Matakaoa Point**	**5.43**	**211**	P	**Pn**	**22 42 19.4**	**-1.0**
MXZ				S	**Sn**	**22 43 20.2**	**-2.8**
WMGZ	**Waiomatatini S**	**5.60**	**208**	P	**Pn**	**22 42 22.7**	**-0.1**
WMGZ				S	**Sn**	**22 43 26.8**	**-0.5**
PKGZ	**Pakihiroa**	**5.80**	**210**	P	**Pn**	**22 42 22.9**	**-2.7**
PKGZ				S	**Sn**	**22 43 30.3**	**-2.0**
HAZ	**Te Kaha**	**5.82**	**213**	P	**Pn**	**22 42 25.2**	**-0.7**
HAZ				S	**Sn**	**22 43 32.0**	**-0.7**
PUZ	**Puketiti**	**5.88**	**208**	P	**Pn**	**22 42 23.7**	**-3.0**
RUGZ	**Raukumara Rang**	**6.04**	**212**	P	**Pn**	**22 42 28.3**	**-0.6**
TWGZ	**Tauwhareparae**	**6.09**	**209**	P	**Pn**	**22 42 29.8**	**+0.3**
CNGZ	**Carnagh Statio**	**6.26**	**207**	P	**Pn**	**22 42 30.9**	**-1.0**
WHRZ	**Whale Island**	**6.29**	**217**	P	**Pn**	**22 42 33.0**	**+0.7**
TKGZ	**Te Karaka**	**6.36**	**209**	P	**Pn**	**22 42 32.7**	**-0.6**
TKGZ				S	**Sn**	**22 43 41.6**	**-4.4**
MWZ	**Matawai**	**6.41**	**211**	P	**Pn**	**22 42 32.2**	**-1.8**
MWZ				S	**Sn**	**22 43 44.2**	**-3.1**
OPRZ	**Ohinepanea**	**6.50**	**219**	P	**Pn**	**22 42 36.0**	**+0.8**
URZ	**Urewera**	**6.54**	**214**	Pn	**Pn**	**22 42 34.3**	**-1.4**
	6.5nm,0.3s,baz=124,slow=23,SNR=24						
URZ				Sn	**Sn**	**22 43 45.9**	**-4.4**
	13nm,0.3s,baz=153,slow=17,SNR=6.7						
URZ	**Urewera**	**6.54**	**214**		**Pn**	**22 42 34.7**	**-1.1**
URZ	**Urewera**	**6.54**	**214**	P	**Pn**	**22 42 34.6**	**-1.1**
RAGZ	**Rawiri**	**6.59**	**211**	P	**Pn**	**22 42 36.6**	**0.0**
RIGZ	**Rimuhau**	**6.63**	**208**	P	**Pn**	**22 42 36.0**	**-0.9**
PRGZ	**Paritu Road**	**6.77**	**207**	P	**Pn**	**22 42 37.4**	**-1.5**
SNGZ	**Shannon Statio**	**6.87**	**210**	P	**Pn**	**22 42 39.6**	**-0.6**
RTZ	**Ruatahuna**	**6.89**	**213**	P	Pn	22 42 37.1	-3.5
RAHZ	**Arahi**	**7.09**	**211**	P	**Pn**	**22 42 42.8**	**-0.4**
MTHZ	**Maungataniwha**	**7.14**	**213**	P	**Pn**	**22 42 43.2**	**-0.9**
OUZ	**Omahuta**	**7.16**	**249**	Pn	**Pn**	**22 42 46.4**	**+2.1**
BKZ	**Black Stump Fm**	**7.56**	**213**	Pn	**Pn**	**22 42 48.0**	**-1.8**
BKZ	**Black Stump Fm**	**7.56**	**213**	P	**Pn**	**22 42 48.0**	**-1.8**
KAHZ	**Kahuranaki**	**7.91**	**209**	P	Pn	22 42 51.3	-3.3
KRHZ	**Kereru**	**8.00**	**211**	P	Pn	22 42 52.7	-3.1
MSVF	**Nonsavu**	**15.49**	**347**	LR	LR	22 49 28.9	
	comp=Z,142nm,20.9s,baz=192,slow=33						
MLZ	**Mavora Lakes**	**16.30**	**216**	Pn	**Pn**	**22 44 50.8**	**+2.3**
DZM	**Mont Dzumac**	**17.35**	**305**	P	**Pn**	**22 45 00.3**	**-1.6**
	0.1nm,0.3s,baz=162,slow=19,SNR=1.3						
DZM				LR	LR	22 49 36.9	
	comp=Z,69nm,19.0s,baz=73,slow=30						
EIDS	**Eidsvold**	**27.77**	**278**	P	**P**	**22 46 50.4**	**+1.8**
EIDS				IAmb	IAmb	22 47 07.6	
	comp=Z,7.5nm,1.1s						
PPT	**Papeete**	**29.96**	**66**	LR	LR	22 59 36.3	
	comp=Z,40nm,18.0s,baz=200,slow=37						
STKA	**Stephens Creek**	**33.80**	**261**	LR	LR	22 59 49.4	
	comp=Z,77nm,18.0s,baz=52,slow=34						
CTAO	**Charters Tower**	**34.09**	**283**	P	**P**	**22 47 45.8**	**+1.4**
BBOO	**Buckleboo**	**38.16**	**257**	P	**P**	**22 48 18.3**	**-0.9**
COEN	**Coen**	**39.84**	**289**	P	**P**	**22 48 34.9**	**+1.6**
COEN				IAmb	IAmb	22 48 45.4	
	comp=Z,18nm,1.3s						
AS31	**Alice Springs**	**42.84**	**270**	P	**P**	**22 48 58.0**	**+0.1**
ASAR	**Alice Springs**	**42.84**	**270**	P	**P**	**22 48 57.5**	**-0.4**
	comp=Z,3.5nm,0.7s,baz=111,slow=7.5,SNR=29						
ASAR	**Alice Springs**	**42.84**	**270**	P	**P**	**22 48 58.6**	**+0.7**
WR0	**Warramunga Arr**	**43.88**	**275**	P	**P**	**22 49 06.2**	**-0.2**
WR0				IAmb	IAmb	22 49 20.8	
	comp=Z,8.3nm,1.3s						
WB2	**Warramunga Arr**	**44.05**	**275**	P	**P**	**22 49 07.7**	**-0.1**
WB2				IAmb	IAmb	22 49 08.1	
	comp=Z,6.1nm,1.0s						
WRA	**Warramunga Arr**	**44.06**	**275**	P	**P**	**22 49 07.5**	**-0.3**
	comp=Z,2.9nm,0.4s,baz=116,slow=7.7,SNR=40						
WRA	**Warramunga Arr**	**44.06**	**275**	P	**P**	**22 49 07.5**	**-0.3**
FORT	**Forrest**	**45.26**	**258**	P	**P**	**22 49 16.2**	**-1.1**
FITZ	**Fitzroy Crossi**	**52.20**	**272**	P	**P**	**22 50 10.3**	**-0.5**
FITZ				IAmb	IAmb	22 50 29.3	
	comp=Z,5.5nm,1.2s						
CASY	**Casey**	**52.83**	**209**	P	**P**	**22 50 14.9**	**+0.1**
CASY				IAmb	IAmb	22 50 32.0	
	comp=Z,6.4nm,0.9s						
QSPA	**South Pole Qui**	**57.20**	**180**	P	**P**	**22 50 48.7**	**+2.2**
	comp=Z,1.8nm,0.7s,baz=151,slow=1.6,SNR=12						
QSPA	**South Pole Qui**	**57.20**	**180**	P	**P**	**22 50 48.8**	**+2.3**
QSPA				IAmb	IAmb	22 51 12.7	
	comp=Z,14nm,1.5s						
SNAA	**Sanae**	**75.65**	**178**	P	**P**	**22 52 45.2**	**+0.7**
SNAA				IAmb	IAmb	22 53 07.5	
	comp=Z,4.3nm,1.1s						
ARCES	**ARCESS Array B**	**141.00**	**347**	PKhKP	PKPpre	23 00 26.2	
	comp=Z,0.9nm,0.8s,baz=354,slow=0.9,SNR=4.0						
FINES	**FINESS Array B**	**147.43**	**338**	PKPbc	**PKPbc**	**23 00 43.4**	**+0.6**
	comp=Z,5.1nm,0.6s,baz=36,slow=3.7,SNR=27						
NB2	**NORSAR Subarra**	**151.20**	**350**	PKP	**PKiKP**	**23 00 53.3**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=12,slow=2.4						
NOA	**NORSAR Array B**	**151.20**	**350**	PKPbc	**PKiKP**	**23 00 53.0**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=14,slow=4.1,SNR=4.5						
AKASG	**Malin Array Be**	**153.14**	**320**	PKPbc	**PKiKP**	**23 00 58.6**	**+1.5**
	comp=Z,0.5nm,0.4s,baz=65,slow=2.5,SNR=2.2						
AKASG	**Malin Array Be**	**153.14**	**320**	PKPdf	**PKPdf**	**23 00 50.7**	**+1.2**
BRTR	**Keskin Array B**	**153.54**	**294**	PKPbc	**PKPbc**	**23 00 58.8**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=161,slow=4.4,SNR=2.5						
TORD	**Torodi Ar. Bea**	**160.32**	**180**	PKPab	**PKPab**	**23 01 41.8**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=184,slow=3.9,SNR=4.9						

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*AEIC **07** 22:46:42.6±3.0, 52°.38N±0°.05×169°.42W±0°.09, h5km±4km, Error ellipse: s-maj=9.0km s-min=5.6km az=120.0*
NEIC 07 22:46:41.6±2.1**, 52°.26N**±0°.04×**169°.5W**±0°.1**, h12km**±**8km, mb3.6**/6**, ML2.9**/18(AEIC)**, Error ellipse: s-maj=9.2km s-min=5.4km az=100.0, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.80**	**27**		Pg	22 46 56.4	-0.7
NIKH	**Nikolski High**	**0.80**	**27**		Sg	22 47 07.3	-0.2
OKSP	**Okmok Steeple**	**1.22**	**35**		Pn	22 47 03.8	-0.7
OKSO	**Okmok South**	**1.35**	**35**		Sb	22 47 23.1	-1.0
OKCE	**Okmok Cone E**	**1.41**	**33**		Pn	22 47 07.2	+0.2
OKTU	**Okmok Mt. Tuli**	**1.41**	**37**		Pn	22 47 06.5	-0.7
MSW	**Makushin Switc**	**2.31**	**43**		Pn	22 47 19.9	+0.5
MSW					Sn	22 47 49.4	+1.6
MNAT	**Makushin Natee**	**2.33**	**45**		Pn	22 47 20.2	+0.4
UNV	**Unalaska Valle**	**2.38**	**47**		Pn	22 47 20.5	+0.1
UNV	**Unalaska Valle**	**2.38**	**47**		Sn	22 47 49.1	-0.4
MTBL	**Makushin Table**	**2.39**	**43**		Pn	22 47 21.1	+0.4
AKBBA	**Akutan Broad B**	**2.81**	**48**		Pn	22 47 27.3	+1.1
AKUT	**Akutan**	**2.90**	**48**	Pn	Pn	22 47 27.5	-0.1
ATKA	**Atka Island**	**2.92**	**271**	Pn	Pn	22 47 27.5	-0.2
GSTR	**Great Sitkin T**	**4.07**	**270**	Pn	Pn	22 47 44.1	+0.5
ADK	**Adak**	**4.48**	**268**	Pn	Pn	22 47 49.1	0.0
KIWB	**Kanaga Island**	**4.77**	**268**	Pn	Pn	22 47 53.1	-0.1
SPIA	**Saint Paul Isl**	**4.95**	**355**	Pn	Pn	22 47 56.3	+0.7
SDPT	**Sand Point**	**6.15**	**56**	Pn	Pn	22 48 13.9	+1.8
CHGN	**Chignik**	**7.62**	**54**	Pn	Pn	22 48 33.1	+0.8
KDAK	**Kodiak Island**	**11.14**	**54**	Pn	Pn	22 49 18.8	-1.7
L19K	**White Mountain**	**12.67**	**33**	Pn	Pn	22 49 43.2	+1.8
PWL	**Port Wells**	**14.42**	**45**	Pn	Pn	22 50 03.6	-1.7
GLI	**Glacier Island**	**14.97**	**46**	P	P	22 50 17.3	-1.0
HIN	**Hinchinbrook I**	**15.04**	**48**	Pn	Pn	22 50 11.3	-2.5
BPAW	**Bear Paw Mtn.**	**15.27**	**32**		P	22 50 19.6	-2.0
BPAW				IAmb	IAmb	22 50 39.6	
	comp=Z,5.9nm,1.4s						
SCM	**Sheep Creek Mo**	**15.31**	**43**	Pn	Pn	22 50 17.4	+0.1
SCM				IAmb	IAmb	22 50 38.5	
	comp=Z,4.1nm,1.2s						
KLU	**Klutina**	**15.75**	**45**	Pn	Pn	22 50 21.3	-1.7
KLU				IAmb	IAmb	22 50 34.6	
	comp=Z,3.3nm,1.0s						
MLY	**Manley**	**15.99**	**30**	P	P	22 50 28.9	-0.7
HYT	**Haines Junctio**	**19.41**	**51**	P	Pn	22 51 08.1	-0.4
HYT				IAmb	IAmb	22 51 10.3	
	comp=Z,3.7nm,0.8s						
BMAR	**Burnt Mountain**	**19.45**	**29**	P	Pn	22 51 09.5	+0.6

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*TIF **07** 23:00:36.9, 40°.37N×46°.73E, h33km±1km*
*DDA **07** 23:00:38.8, 40°.37N×46°.44E, h6km±3km, ML2.2*
*DRS **07** 23:00:41.1±0.0, 40°.80N×46°.46E, h12km, ML3.0/4*
ISC 07 23:00:37.9±1.6**, 40°.35N**±0°.06×**46°.47E**±0°.04**, h1km**±11km**, n28, σ1.s30**/56**, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DDFL	**Dedoflistskaro**	**1.13**	**346**	P	**Pg**	**23 01 00.3**	**+0.8**
DDFL				S	**Sn**	**23 01 18.4**	**+1.1**
DDFL	**Dedoflistskaro**	**1.13**	**346**	i P	**Pg**	**23 01 00.2**	**+0.7**
DDFL				IAML		23 01 18.0	
	comp=E,216nm,0.4s						
DDFL				i S	**Sn**	**23 01 18.3**	**+1.1**
DDFL				IAML		23 01 22.0	
	comp=N,166nm,0.4s						
DGRG	**David-gareji**	**1.38**	**323**	P	**Pn**	**23 01 03.8**	**-0.7**
DGRG				S	**Sn**	**23 01 23.5**	**+0.1**
DGRG	**David-gareji**	**1.38**	**323**	i P	**Pn**	**23 01 03.7**	**-0.7**
DGRG				i S	**Sn**	**23 01 23.6**	**+0.1**
DGRG				IAML		23 01 27.0	
	comp=E,41nm,0.3s						
DGRG				IAML		23 01 27.0	
	comp=N,23nm,0.3s						
AKT	**Akhty**	**1.48**	**40**	ePg	**Pn**	**23 01 03.9**	**-2.0**

	comp=N,57nm,0.2s						
AKT				i Sg	Sb	23 01 23.0	-2.7
	comp=N,207nm,0.2s						
KSMR	Kasumkent	1.77	44	ePg	Pn	23 01 09.8	0.0
	comp=N,50nm,0.2s						
KSMR				eSg	Sb	23 01 34.2	+0.1
	comp=N,23nm,0.5s						
BTNK	Botanikuri	1.84	317	P	Pn	23 01 06.9	-3.8
BTNK				S	Sn	23 01 31.1	-3.6
KZRT	Kazreti	1.88	304	P	Pn	23 01 11.4	+0.1
KZRT				S	Sn	23 01 35.0	-0.8
SEAG	Tbilisi Sea	1.90	319	P	Pn	23 01 11.4	-0.1
SEAG				S	Sn	23 01 36.3	+0.3
IGDI	IGDIR	1.90	256	i P	Pg	23 01 13.9	-0.4
IGDI				i S	Sg	23 01 40.3	+1.4
IGDI				IAML		23 01 42.0	
	comp=N,12nm,0.8s						
IGDI				IAML		23 01 42.0	
	comp=E,14nm,0.4s						
DMNI	Dmanisi	1.99	300	P	Pn	23 01 13.3	+0.4
DMNI				S	Sn	23 01 39.0	+0.5
URKR	Urkarakh	2.02	25	i Pg	Pn	23 01 14.4	+1.1
	comp=E,23nm,0.5s						
URKR				i Sg	Sb	23 01 42.0	+0.8
	comp=E,79nm,0.4s						
TRLG	Trialeti	2.15	304	P	Pn	23 01 15.3	+0.1
TRLG				S	Sn	23 01 43.4	+0.8
XNZR	Khunzakh	2.20	5	ePg	Pn	23 01 16.4	+0.6
	comp=E,13nm,0.4s						
XNZR				eSg	Sn	23 01 45.5	+1.7
	comp=E,8.0nm,0.5s						
EAK	Akyaka	2.21	280	i P	Pb	23 01 19.5	+0.7
EAK				i S	Sg	23 01 49.1	+0.2
EAK				IAML		23 01 50.0	
	comp=N,39nm,0.8s						
EAK				IAML		23 01 50.0	
	comp=E,39nm,0.5s						
ARKR	Arakani	2.29	10	ePg	Pn	23 01 17.9	+0.9
	comp=E,8.0nm,0.3s						
ARKR				i Sg	Sb	23 01 48.1	-0.8
	comp=E,33nm,0.4s						
SGKR	Sergokala	2.29	23	ePg	Pn	23 01 17.6	+0.7
	comp=E,3.0nm,0.6s						
SGKR				eSg	Sb	23 01 49.1	+0.1
	comp=E,2.0nm,0.7s						
BTLR	Botlikh	2.32	355	i Pg	Pn	23 01 18.5	+1.1
	comp=E,8.0nm,0.5s						
BTLR				i Sg	Sn	23 01 48.8	+2.2
	comp=E,31nm,0.5s						
BGD	Bogdanovka	2.36	294	P	Pb	23 01 22.2	+0.8
BGD				S	Sg	23 01 53.5	-0.4
BRNG	Burnasheti	2.37	303	P	Pb	23 01 20.2	-1.4
BRNG				S	Sb	23 01 51.0	-0.5
AKH	Akhalkalaki	2.50	296	P	Pb	23 01 22.8	-0.9
AKH				S	Sb	23 01 54.9	-0.1
GUDG	Gudauri	2.59	325	P	Pn	23 01 19.6	-1.6
GUDG				S	Sn	23 01 54.8	+1.3
BKRG	Bakuriani	2.64	303	P	Pn	23 01 23.8	+2.0
BKRG				S	Sb	23 01 59.4	+0.3
PNSH	Pansheti	2.68	329	P	Pn	23 01 22.5	+0.1
PNSH				S	Sn	23 01 55.6	0.0
DLMR	Dylym	2.72	2	ePn	Pb	23 01 26.8	-0.7
	comp=E,17nm,0.1s						
DLMR				eSn	Sg	23 02 05.3	0.0
ABS	Abastumani	3.10	298	P	Pb	23 01 33.0	-1.0
ABS				S	Sb	23 02 13.6	+1.1
ONI	Oni	3.19	316	P	Pn	23 01 30.6	+1.3
ONI				S	Sb	23 02 15.1	+0.3
TKB	Tkibuli	3.29	309	P	Pb	23 01 34.1	-3.1
TKB				S	Sb	23 02 17.2	-0.6

*NEIC **07** 23:12:48.8±0.7, 33°.1S±0°.1×177°.39W±0°.10, h10km±2km, mb4.7/11, Error ellipse: s-maj=25.9km s-min=6.1km az=149.0*

*IDC **07** 23:12:52.8±1.2, 32°.99S×178°.29W, h0km, mb4.3/5, mb1 4.5/7, mb1mx4.1/35, mbtmp4.3/7, ML3.7/2, MS3.4/2, Ms1 3.4/2, ms1mx2.9/24, Error ellipse: s-maj=33.6km s-min=27.6km az=37.0*

*WEL **07** 23:12:55.9±0.8, 33°S±9°×17°8W±2°1, h33km, M4.5/13, mB4.9/9, ML5.1/16, MLv4.8/13, Mw(mB)4.2/9, Error ellipse: s-maj=0.0km s-min=0.0km az=111.5*

ISC 07 23:12:52.9±0.9**, 33°.06S**±0°.06×**178°.1W**±0°.1**, h10**km**, n56, σ2s.04**/68**, mb4.6**/10**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.79	2	P	Pn	23 13 49.5	-1.8
GLKZ				S	Sn	23 14 31.6	-4.4
RAO	Raoul Island	3.80	2	Sn	Sn	23 14 30.5	-5.7
	43nm,0.3s,baz=140,slow=21,SNR=2.0						
MXZ	Matakaoa Point	5.37	212	Pn	Pn	23 14 13.0	-0.1
MXZ	Matakaoa Point	5.37	212	P	Pn	23 14 12.9	-0.2
MXZ				S	Sn	23 15 14.3	-0.7
WMGZ	Waiomatatini S	5.54	210	P	Pn	23 14 17.9	+2.4
WMGZ				S	Sn	23 15 18.9	-0.3
PKGZ	Pakihiroa	5.74	212	P	Pn	23 14 17.7	-0.6
PKGZ				S	Sn	23 15 22.5	-1.8
HAZ	Te Kaha	5.77	215	P	Pn	23 14 20.6	+2.0
HAZ				S	Sn	23 15 24.6	-0.3
PUZ	Puketiti	5.82	210	P	Pn	23 14 17.3	-2.1
PUZ				S	Sn	23 15 22.5	-3.6
RUGZ	Raukumara Rang	5.99	214	P	Pn	23 14 22.6	+0.9
RUGZ				S	Sn	23 15 31.2	+0.8
TWGZ	Tauwhareparae	6.03	211	P	Pn	23 14 24.1	+1.9
TWGZ				S	Sn	23 15 30.2	-1.1
CNGZ	Carnagh Statio	6.19	208	P	Pn	23 14 25.8	+1.4
WHRZ	Whale Island	6.25	219	P	Pn	23 14 27.0	+1.8
WHRZ				S	Sn	23 15 38.6	+1.8
MWZ	Matawai	6.36	213	P	Pn	23 14 28.0	+1.3
MWZ				S	Sn	23 15 36.6	-2.8
URZ	Urewera	6.49	216	Pn	Pn	23 14 28.7	+0.2
	6.7nm,0.3s,baz=302,slow=23,SNR=18						
URZ				Sn	Sn	23 15 37.4	-5.3
	2.8nm,0.3s,baz=307,slow=23,SNR=2.6						
URZ	Urewera	6.49	216		Pn	23 14 28.4	-0.1
URZ	Urewera	6.49	216	P	Pn	23 14 28.8	+0.2
URZ				S	Sn	23 15 40.7	-1.9
RAGZ	Rawiri	6.54	213	P	Pn	23 14 29.8	+0.5
RAGZ				S	Sn	23 15 42.2	-1.8
RIGZ	Rimuhau	6.56	210	P	Pn	23 14 30.0	+0.5
RIGZ				S	Sn	23 15 42.8	-1.6
PRGZ	Paritu Road	6.70	208	P	Pn	23 14 28.3	-3.1
PRGZ				S	Sn	23 15 44.8	-3.0
SNGZ	Shannon Statio	6.81	212	P	Pn	23 14 33.9	+1.0
SNGZ				S	Sn	23 15 47.9	-2.5
RTZ	Ruatahuna	6.84	214	P	Pn	23 14 33.1	-0.2
RTZ				S	Sn	23 15 50.2	-1.1
RAHZ	Arahi	7.03	212	P	Pn	23 14 36.2	+0.2
RAHZ				S	Sn	23 15 54.9	-1.1
MTHZ	Maungataniwha	7.09	214	P	Pn	23 14 37.3	+0.5
MTHZ				S	Sn	23 15 56.0	-1.5
OUZ	Omahuta	7.22	250	Pn	Pn	23 14 41.6	+3.1
BKZ	Black Stump Fm	7.50	214	P	Pn	23 14 43.0	+0.5
BKZ				S	Sn	23 16 02.6	-5.1
KAHZ	Kahuranaki	7.85	210	P	Pn	23 14 45.9	-1.3
KAHZ				S	Sn	23 16 10.5	-5.6
BFZ	Birch Farm	8.86	209	Pn	Pn	23 14 59.5	-1.5
DZM	Mont Dzumac	17.52	305	P	Pn	23 16 56.8	-0.7
	0.1nm,0.3s,baz=150,slow=20,SNR=1.8						
DZM				LR	LR	23 22 08.2	
	comp=Z,149nm,19.7s,baz=239,slow=32						
RAR	Rarotonga	20.09	59	LR	LR	23 25 26.2	
	comp=Z,92nm,18.8s,baz=188,slow=37						
CTA	Charters Tower	34.23	283	P	P	23 19 40.4	+1.3
	5.5nm,0.5s,baz=118,slow=11,SNR=12						
CTAO	Charters Tower	34.23	283	P	P	23 19 40.2	+1.1
CTAO				IAmb	IAmb	23 19 41.9	
	comp=Z,6.7nm,0.7s						
BBOO	Buckleboo	38.24	257	P	P	23 20 12.2	-1.0
BBOO				IAmb	IAmb	23 20 19.1	
	comp=Z,32nm,1.5s						
AS31	Alice Springs	42.95	270	P	P	23 20 52.2	-0.2
ASAR	Alice Springs	42.95	270	P	P	23 20 52.0	-0.3
	comp=Z,4.9nm,0.7s,baz=108,slow=7.4,SNR=47						
WR0	Warramunga Arr	44.01	275	P	P	23 21 00.8	0.0
WR0				IAmb	IAmb	23 21 15.2	
	comp=Z,15nm,1.5s						
WB2	Warramunga Arr	44.17	275	P	P	23 21 02.0	-0.2
WRA	Warramunga Arr	44.18	275	P	P	23 21 01.9	-0.3
	comp=Z,5.2nm,0.6s,baz=119,slow=7.8,SNR=54						
WRA	Warramunga Arr	44.18	275	P	P	23 21 01.5	-0.7
FORT	Forrest	45.35	258	P	P	23 21 10.5	-0.9
MTN	Manton Dam	50.37	281	P	P	23 21 49.7	-0.8
MTN				IAmb	IAmb	23 21 56.9	
	comp=Z,9.9nm,1.1s						
KNRA	Kununurra	50.88	277	P	P	23 21 53.8	-0.5
KNRA				IAmb	IAmb	23 22 05.7	
	comp=Z,5.3nm,0.8s						
FITZ	Fitzroy Crossi	52.32	272	P	P	23 22 04.3	-0.9
	comp=Z,1.7nm,0.7s,baz=148,slow=5.4,SNR=5.8						
FITZ	Fitzroy Crossi	52.32	272	IAmb	IAmb	23 22 20.2	
	comp=Z,8.5nm,1.4s						
CASY	Casey	52.77	209	P	P	23 22 07.4	-0.4
CASY				IAmb	IAmb	23 22 24.7	
	comp=Z,15nm,1.3s						
QSPA	South Pole Qui	57.06	180	P	P	23 22 41.3	+2.2
	comp=Z,1.0nm,0.7s,baz=104,slow=11,SNR=1.6						
SNAA	Sanae	75.51	178	P	P	23 24 49.3	+12
VNA3	Neumayer Olymp	75.67	176	P	P	23 24 50.7	+13
VNA2	Neumayer--Watz	76.10	177	P	P	23 24 53.4	+13
	baz=174,slow=4.4						
VNA1	Neumayer--Stat	76.33	177	P	P	23 24 54.7	+13
ARCES	ARCESS Array B	141.16	347	PKP	PKPdf	23 32 21.4	-1.3
	comp=Z,2.9nm,0.9s,baz=100,slow=2.7,SNR=2.2						
FINES	FINESS Array B	147.59	338	PKPbc	PKPdf	23 32 37.5	+3.4
	comp=Z,5.7nm,0.6s,baz=43,slow=4.0,SNR=22						
NB2	NORSAR Subarra	151.35	351	PKP	PKPbc	23 32 47.5	+1.3
	comp=Z,2.1nm,0.8s,baz=31,slow=2.6						
NOA	NORSAR Array B	151.35	351	PKPbc	PKPbc	23 32 47.1	+0.9
	comp=Z,0.7nm,0.7s,baz=13,slow=4.0,SNR=2.9						
AKASG	Malin Array Be	153.31	319	PKPbc	PKPbc	23 32 51.8	+1.0
	comp=Z,0.7nm,0.5s,baz=53,slow=2.3,SNR=2.3						
BRTR	Keskin Array B	153.69	294	PKPbc	PKPbc	23 32 52.7	+0.5
	comp=Z,0.9nm,0.5s,baz=272,slow=4.2,SNR=2.8						
TORD	Torodi Ar. Bea	160.18	179	PKPab	PKPab	23 33 35.1	+2.0
	comp=Z,0.4nm,0.7s,baz=172,slow=3.1,SNR=2.0						

NOU 07 23:13:49.7, 36°.06S×177°.55E, h171km, MLv3.9/4, Off E. Coast of N. Island, N.Z., Off east coast of North Island

IDC 07 23:22:34.8±16.0**, 4°.98S×150°.80E, h118**km±145km**, mb3.6**/4**, mb1 3.9**/4**, mb1mx3.3**/31**, mbtmp3.9**/4**, MS4.4**/1**, Ms1 4.4**/1**, ms1mx3.0**/27**, Error ellipse: s-maj=100.8km s-min=52.9km az=152.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.86	226	P	P	23 27 18.6	+0.3
	3.4nm,0.7s,baz=49,slow=10,SNR=14						
ASAR	Alice Springs	24.71	220	P	P	23 27 44.6	-0.6
	3.2nm,0.7s,baz=55,slow=9.0,SNR=33						
FITZ	Fitzroy Crossi	27.83	240	P	P	23 28 13.8	+0.4
	1.3nm,0.6s,baz=60,slow=10,SNR=5.3						
PSI	Prapat	52.40	277	LR	LR	23 57 03.4	
	comp=Z,366nm,18.0s,baz=266,slow=40						
NVAR	Mina Array Bea	93.76	52	P	P	23 35 38.8	-0.2
	0.1nm,0.4s,baz=262,slow=6.3,SNR=2.0						
TORD	Torodi Ar. Bea	148.46	287	PKPbc	PKPbc	23 42 08.3	-0.4
	0.4nm,0.7s,baz=97,slow=2.1,SNR=2.4						

*IDC **07** 23:28:35.4±11.0, 37°.51N×73°.37E, h418km±346km, mb2.7/1, mb1 2.5/3, mb1mx2.3/33, mbtmp3.4/3, Error ellipse: s-maj=721.2km s-min=85.9km az=125.0*

ISC 07 23:28:15.1±1.9**, 37°.3N**±0°.1×**72°.2E**±0°.2**, h150**km**, n5, σ2s.27**/7**, 2C-1D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAK	Ala-Archa	5.62	18	⇓P	Pn	23 29 39.0	+2.3
	2.0nm,0.4s						
AAK				⇑S	Sn	23 30 39.6	-1.0
	3.8nm,0.6s						
KK31	Karatay Array	5.93	348	⇑P	Pn	23 29 43.4	+2.6
	0.2nm,0.2s,baz=165,slow=9.1,SNR=4.0						
KK31				S	Sn	23 30 45.8	-2.0
	1.7nm,0.3s,baz=158,slow=18,SNR=14						
MKAR	Makanchi Array	12.09	35	P	P	23 31 07.9	-0.9
	0.1nm,0.3s,baz=213,slow=11,SNR=1.7						
ZALV	Zalesovo Beam	18.80	24	P	P	23 32 21.3	-1.5
	0.3nm,0.3s,baz=225,slow=10,SNR=7.5						
TORD	Torodi Ar. Bea	66.67	269	P	P	23 38 49.3	-0.7
	0.2nm,0.4s,baz=50,slow=6.2,SNR=4.1						

*IDC **07** 23:38:03.7±3.3, 36°.13N×71°.37E, h73km±30km, mb3.6/14, mb1 3.8/17, mb1mx3.5/42, mbtmp4.0/17, MS2.6/1, Ms1 2.6/1, ms1mx2.2/45, Error ellipse: s-maj=21.6km s-min=18.5km az=3.0*

*SOME **07** 23:38:03.0, 36°.38N×71°.35E, h0km*

*BJI **07** 23:38:06.4±0.0, 36°.34N×71°.52E, h86km, mB4.8/5, mb4.7/8*

*NEIC **07** 23:38:08.0±1.6, 36°.43N±0°.06×71°.27E±0°.07, h105km±7km, mb4.4/20, Error ellipse: s-maj=9.2km s-min=8.5km az=145.0*

*MOS **07** 23:38:07.3±1.3, 36°.47N×71°.43E, h110km, mb4.3/5, Error ellipse: s-maj=8.9km s-min=4.1km az=83.7*

*NNC **07** 23:38:10.8±3.4, 36°.70N×71°.26E, h127km±31km, mb3.9, mpv4.8, Error ellipse: s-maj=30.2km s-min=19.5km az=31.0*

ISC 07 23:38:06.8±0.5**, 36°.43N**±0°.05×**71°.36E**±0°.04**, h100**km**, n162, σ2s.06**/179**, mb4.1**/24**, 15C-5D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBL	Kabul	2.67	226	PN	Pn	23 38 51.3	+3.0
KBL	Kabul	2.67	226	Pn	Pn	23 38 49.4	+1.1
GAR	Garm	2.70	343		Pn	23 38 49.7	+1.1
GAR				Sn	Sn	23 39 21.6	+0.8
CHGR	Chuyangaron	2.83	323	Pn	Pn	23 38 50.7	+0.4
DRK	Karamyk	3.07	6		Pn	23 38 55.4	+1.7
CHCP	Chirah Chowk	3.17	150	P	Pn	23 38 57.5	+2.6
NIL	Nilore	3.18	150	PN	Pn	23 38 57.2	+2.2
NIL	Nilore	3.18	150	Pn	Pn	23 38 57.1	+2.2
THW	Thamme Wali	3.64	175	P	Pn	23 39 02.2	+1.1
BTK	Batken	3.65	354	PN	Pn	23 39 03.5	+2.2
BTK	Batken	3.65	354		Pn	23 39 03.5	+2.2
JMU	Jammu	4.72	141	ex	x	23 40 00.0	
KSH	Kashi	4.78	48	P	Pn	23 39 14.2	-2.4
KSH				S	Sn	23 40 01.7	-9.1
KSH				smax	smax		
	comp=N,510nm,0.5s						
KSH				smax	smax		
	comp=E,390nm,0.7s						
TAS	Tashkent	5.15	342	PN	Pn	23 39 21.9	+0.4
TAS	Tashkent	5.15	342	Pn	Pn	23 39 21.9	+0.4
THN	Thein Dam	5.37	137	eP	Pn	23 39 27.5	+3.0
THN				eS	Sn	23 40 25.0	-0.1
IUG	Iuzhnay	5.80	350	eP	Pn	23 39 31.5	+1.0
	677nm,0.4s						
IUG				eS	Sn	23 40 36.3	+0.6
	128nm,0.4s						
IUG	Iuzhnay	5.80	350	ePN	Pn	23 39 31.3	+0.8
DHRM	DHARAMSHALA	5.84	134	eP	Pn	23 39 31.6	+0.5
DHRM				eS	Sn	23 40 33.7	-3.1
DHRM				IAML		23 40 36.7	
	comp=N,289nm,0.4s						
DHRM				IAML		23 40 36.7	
	comp=Z,137nm,0.4s						
AML	Almayashu	5.98	17	P	Pn	23 39 34.5	+1.4
	SNR=284						
KZA	Kyzart	6.40	27	P	Pn	23 39 41.1	+2.3
	SNR=25						
DZA	Taraz	6.46	360	eP	Pn	23 39 40.8	+1.5
	comp=Z,302nm,0.3s						
DZA				eS	Sn	23 40 51.5	0.0
	comp=Z,148nm,0.6s						
MRKS	Merke	6.47	12	eP	Pn	23 39 41.0	+1.5
	comp=Z,44nm,0.4s						
MRKS				eS	Sn	23 40 52.1	+0.1
	comp=Z,41nm,0.3s						
EKS2	Erkin-Say	6.50	16	P	Pn	23 39 41.6	+1.7
	SNR=94						
BHK	Bhakra	6.53	138	eS	Sn	23 40 45.2	-8.2
AAK	Ala-Archa	6.66	20	P	Pn	23 39 43.9	+1.7
	comp=Z,14nm,0.3s,baz=187,slow=7.6,SNR=184						
AAK				S	Sn	23 40 56.6	+0.1
	baz=340,slow=22,SNR=1.4						
AAK				LR	LR	23 42 29.7	
	comp=Z,45nm,20.6s,baz=172,slow=38						
AAK	Ala-Archa	6.66	20	P	Pn	23 39 44.0	+1.9
	SNR=74						
AAK	Ala-Archa	6.66	20	⇑P	Pn	23 39 43.7	+1.5
	comp=Z,45nm,0.5s						
AAK				⇑S	Sn	23 40 55.7	-0.9
	comp=Z,34nm,0.7s						
AAK	Ala-Archa	6.66	20	cePN	Pn	23 39 43.8	+1.7
AAK				pmax	pmax		
	comp=Z,211nm,0.8s						
BRLS	Borolday	6.70	350	eP	Pn	23 39 39.7	-2.8
	comp=Z,8.8nm,0.3s						
BRLS				eS	Sn	23 40 50.0	-7.4
	comp=Z,25nm,0.3s						
KK31	Karatay Array	6.70	355	⇓P	Pn	23 39 43.2	+0.7
	comp=Z,62nm,0.4s,baz=214,slow=41,SNR=3.6						
KK31				⇓S	Sn	23 40 56.1	-1.2
	comp=Z,20nm,0.5s,baz=168,slow=18,SNR=6.0						
KK31	Karatay Array	6.70	355	PN	Pn	23 39 43.3	+0.7
KK31	Karatay Array	6.70	355	Pn	Pn	23 39 43.3	+0.7
KKAR	Karatay Array	6.70	355	PN	Pn	23 39 43.1	+0.6
KKAR	Karatay Array	6.70	355	Pn	Pn	23 39 43.1	+0.6
KKAR	Karatay Array	6.70	355		Pn	23 39 43.3	+0.7
KBK	Karagaybulak	6.81	23	P	Pn	23 39 46.3	+2.1
	SNR=8.9						
FRU1	Bishkek	6.86	21	PN	Pn	23 39 47.0	+2.3
FRU1	Bishkek	6.86	21		Pn	23 39 47.0	+2.3
ULHL	Ulahol	6.93	32	P	Pn	23 39 48.2	+2.3
	SNR=7.6						
BOOM	Boomskoye usch	7.02	29	PN	Pn	23 39 48.6	+1.6
BOOM	Boomskoye usch	7.02	29	Pn	Pn	23 39 48.6	+1.6
CHMS	Chumysh	7.07	21	P	Pn	23 39 49.2	+1.6
	SNR=20						
SMLA	Simla	7.16	136	eP	Pn	23 39 48.7	-0.2
SMLA				eS	Sn	23 41 03.2	-5.5
SMLA				IAML		23 41 07.7	
	comp=N,203nm,0.1s						
SMLA				IAML		23 41 07.7	
	comp=E,100nm,0.5s						
USP	Ospenovka	7.25	19	P	Pn	23 39 51.9	+1.9
	SNR=44						
TKM2	Tokmak 2	7.26	25	P	Pn	23 39 52.4	+2.0
	SNR=25						
TKM2	Tokmak 2	7.26	25	⇓P	Pn	23 39 52.0	+1.5
	comp=E,48nm,0.6s						
TKM2	Tokmak 2	7.26	25	PN	Pn	23 39 51.9	+1.5
KDJ	Kajisay	7.27	37	PN	Pn	23 39 51.7	+1.3
KDJ	Kajisay	7.27	37	Pn	Pn	23 39 51.7	+1.3
TARG	Taragay, Kyrgy	7.29	41	Pn	Pn	23 39 51.6	+0.7
SGDS	Sogindy	7.45	19	ePN	Pn	23 39 53.5	+0.7
KST	Kastek	7.50	27	eP	Pn	23 39 55.4	+1.8
	comp=E,17nm,0.4s						
KST				eS	Sn	23 41 16.1	-0.9
	comp=E,3.3nm,0.8s						
DGS	Degeres	7.61	25	eP	Pn	23 39 56.4	+1.4
	comp=E,32nm,0.6s						
DGS				eS	Sn	23 41 18.5	-1.0
	comp=E,6.3nm,0.4s						
HRA	Herat	7.71	257		Pn	23 39 56.2	-0.4
IZV	Izvestkoviy	7.74	30	eP	Pn	23 39 58.6	+1.7
	comp=E,16nm,0.4s						
IZV				eS	Sn	23 41 22.7	-0.3
	comp=E,9.3nm,0.7s						
MDOK	Medeo	8.03	31	⇑P	Pn	23 40 03.0	+2.3
	comp=E,12nm,0.6s						
MDOK	Medeo	8.03	31	PN	Pn	23 40 03.0	+2.3
KNDC	Almaty	8.04	31	⇑P	Pn	23 40 03.4	+2.6
	comp=E,41nm,0.5s						
KNDC	Almaty	8.04	31	PN	Pn	23 40 03.4	+2.6
PRZ	Przheval'sk	8.14	40	PN	Pn	23 40 03.4	+1.1
PRZ	Przheval'sk	8.14	40		Pn	23 40 03.4	+1.1
KTBS	Karatobe	8.34	28	eP	Pn	23 40 05.0	+0.1
	comp=E,3.6nm,0.4s						
KTBS				eS	Sn	23 41 33.3	-4.0
	comp=E,3.8nm,0.7s						
KUU	Kurty	8.38	26	eP	Pn	23 40 05.4	+0.1
	comp=E,8.0nm,0.6s						
KUU				eS	Sn	23 41 33.9	-4.2
	comp=E,3.5nm,0.7s						
CHKK	Chushkaly	8.58	28	eP	Pn	23 40 08.6	+0.5
	comp=E,8.9nm,0.7s						
CHKK				eS	Sn	23 41 40.0	-3.1
	comp=E,3.2nm,0.3s						
BTLS	Baital	8.84	12	eP	Pn	23 40 11.6	0.0
	comp=E,6.9nm,0.6s						
BTLS				eS	Sn	23 41 45.4	-4.1
	comp=E,3.5nm,0.9s						
BTLS	Baital	8.84	12	ePN	Pn	23 40 11.8	+0.1
ARXS	Arharly	9.21	30	eP	Pn	23 40 16.9	+0.1
	comp=E,24nm,0.7s						
ARXS				eS	Sn	23 41 53.9	-4.7
	comp=E,3.6nm,0.5s						
ARXS	Arharly	9.21	30	eP	Pn	23 40 16.2	-0.5
PDGK	Podgornoye	9.30	40	⇑P	Pn	23 40 17.5	-0.5
	comp=E,7.1nm,0.7s						
PDGK	Podgornoye	9.30	40	P	Pn	23 40 17.5	-0.5
GEYT	Alibeck	10.67	282	P	Pn	23 40 33.7	-2.9
	comp=E,0.9nm,0.3s,baz=110,slow=13,SNR=8.7						
GEYT				S	Sn	23 42 29.2	-4.9
	comp=E,3.1nm,0.3s,baz=115,slow=28,SNR=8.5						
OTUK	Ortayu	11.83	3	⇑P	Pn	23 40 50.5	-1.6
	comp=E,8.6nm,0.7s						
OTUK	Ortayu	11.83	3	P	Pn	23 40 50.5	-1.6
PYUN	Piuthan	12.87	127	eP	Pn	23 41 03.8	-2.4
	comp=E,40nm,0.5s						
PYUN				eS	Sn	23 43 17.0	-11
MAKZ	Makanchi	13.05	34	⇑P	Pn	23 41 06.4	-1.8
	comp=E,5.7nm,1.1s						
MAKZ	Makanchi	13.05	34	P	Pn	23 41 07.9	-0.3
MAKZ	Makanchi	13.05	34		Pn	23 41 07.9	-0.3
MK31	Makanchi Array	13.18	35	P	Pn	23 41 09.7	-0.3
	comp=E,1.6nm,0.6s,baz=224,slow=14,SNR=20						
MK31	Makanchi Array	13.18	35	i P	Pn	23 41 10.5	+0.5
MK31	Makanchi Array	13.18	35	Pn	Pn	23 41 10.3	+0.3
MKAR	Makanchi Array	13.18	35	P	Pn	23 41 10.1	+0.1
	comp=E,0.3nm,0.3s,baz=223,slow=13,SNR=20						
MKAR	Makanchi Array	13.18	35	P	Pn	23 41 10.5	+0.5
MKAR	Makanchi Array	13.18	35	Pn	Pn	23 41 10.5	+0.5
DANN	Dangsing	13.21	124	eP	Pn	23 41 07.4	-3.3
DANN				eS	Sn	23 43 24.4	-12
KOLN	Koldanda	13.49	126	eP	Pn	23 41 11.6	-2.7
GKN	Gorkha	14.02	123	eP	Pn	23 41 18.1	-3.1
	comp=E,14nm,0.3s						
GKN				eS	Sn	23 43 43.5	-12
BHPL	Bhopal	14.15	157	eS	Sn	23 43 47.3	-11
WMQ	Urumqi	14.51	54	eP	P	23 41 30.7	-0.3
WMQ				pmax	pmax		
	comp=E,33nm,0.7s						
WMQ				pmax	pmax		
	comp=E,97nm,3.9s						
DMN	Daman	14.59	123	eP	Pn	23 41 26.0	-2.6
	comp=E,8.9nm,0.5s						
DMN				eS	Sn	23 43 57.6	-12
KKN	Kakani	14.60	122	eS	Sn	23 43 57.3	-12
PKIN	Phulchoki	14.81	123	eP	Pn	23 41 29.0	-2.4
	comp=E,7.8nm,0.3s						
PKIN				eS	Sn	23 44 02.9	-12
PKI	Pulchoki	14.82	123	eP	Pn	23 41 29.3	-2.3
	comp=E,8.4nm,0.5s						
KURBB	Kurchatov Arra	15.10	18	P	P	23 41 37.5	+0.1
	comp=E,0.5nm,0.3s,baz=206,slow=10,SNR=19						
KURBB	Kurchatov Arra	15.10	18	⇑P	P	23 41 37.3	-0.1
	comp=E,8.1nm,0.6s						
KURBB	Kurchatov Arra	15.10	18	P	P	23 41 37.3	-0.1
KURK	Kurchatov	15.21	18	P	Pn	23 41 37.5	+1.6
KURK	Kurchatov	15.21	18	P	Pn	23 41 37.5	+1.6
AB31	Akbulak array	15.29	331	P	Pn	23 41 35.3	-1.7
	comp=E,3.8nm,0.4s,baz=137,slow=12,SNR=304						
AB31				S	Sn	23 44 18.8	-6.8
	comp=E,3.4nm,0.6s,baz=146,slow=24,SNR=6.4						
AB31	Akbulak array	15.29	331	P	Pn	23 41 35.3	-1.7
AB31				S	Sn	23 44 18.8	-6.8
ABKAR	Akbulak array	15.29	331	Pn	Pn	23 41 34.9	-2.0
ABKAR	Akbulak array	15.29	331		Pn	23 41 35.2	-1.8
ABKAR				IAmb	IAmb	23 41 37.1	
	comp=Z,8.6nm,0.5s						
JIRN	Jiri	15.30	121	eP	Pn	23 41 35.2	-2.5
	comp=Z,20nm,0.4s						
RAMN	Ramite	16.03	122	eP	Pn	23 41 44.7	-2.0
	comp=Z,8.9nm,0.4s						
BVAR	Borovoye Array	16.61	358	P	Pn	23 41 52.5	-0.9
	comp=Z,0.5nm,0.3s,baz=185,slow=16,SNR=15						
BRVK	Borovoye	16.65	358	ceP	Pn	23 41 52.4	-1.4
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BRVK	Borovoye	16.65	358	Pn	Pn	23 41 52.6	-1.3
AKTO	Aktyubinsk	16.99	330	P	Pn	23 41 58.0	0.0
	comp=Z,0.9nm,0.3s,baz=137,slow=13,SNR=21						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKTO				S	Sn	23 44 55.5	-11
	comp=Z,0.2nm,0.3s,baz=152,slow=22,SNR=3.2						
AKTO	Aktyubinsk	16.99	330	⇑P	Pn	23 41 58.1	0.0
	comp=Z,8.6nm,0.6s						
DGZ	Jazzator, Alta	17.67	36	d iP	P	23 42 05.6	-0.4
ZAA0	Zalesovo Array	19.86	24	⇓P	P	23 42 30.0	+0.3
	comp=Z,1.1nm,0.7s						
ZAA0	Zalesovo Array	19.86	24	P	P	23 42 30.2	+0.5
ZAA0				IAmb	IAmb	23 42 31.1	
	comp=Z,13nm,1.1s						
ZALV	Zalesovo Beam	19.86	24	P	P	23 42 30.3	+0.5
	comp=Z,8.2nm,0.4s,baz=205,slow=11,SNR=38						
GNI	Garni	21.19	288	P	P	23 42 48.6	+4.3
	comp=Z,7.1nm,0.8s,baz=84,slow=10,SNR=6.6						
GNI	Garni	21.19	288	⇑iP	P	23 42 48.4	+4.1
GNI				pmax	pmax		
	comp=Z,14nm,1.2s						
GNI	Garni	21.19	288	P	P	23 42 44.3	0.0
GNI				IAmb	IAmb	23 42 54.5	
	comp=Z,12nm,1.1s						
SVE	Sverdlovsk	21.64	344	eP	P	23 42 49.8	+1.0
ARU	Arti	21.80	341	P	P	23 42 52.1	+1.7
	comp=Z,1.0nm,0.5s,baz=150,slow=8.5,SNR=7.3						
ARU	Arti	21.80	341	c iP	P	23 42 51.8	+1.4
ARU						23 43 22.8	
ARU				S	S	23 46 46.3	+1.0
ARU				pmax	pmax		
	comp=Z,17nm,1.5s						
ARU	Arti	21.80	341	P	P	23 42 51.3	+0.9
ONI	Oni	22.33	295	P	P	23 42 57.3	+1.0
ONI				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ONI	Oni	22.33	295	P	P	23 42 57.3	+1.0
KARS	Kars	22.47	289	P	P	23 42 57.9	0.0
KARS				pmax	pmax		
	comp=Z,14nm,0.6s						
KARS	Kars	22.47	289	P	P	23 42 57.9	0.0
KARS				IAmb	IAmb	23 43 01.6	
	comp=Z,14nm,0.6s						
KBZ	Khabaz	22.89	297	P	P	23 43 03.2	+1.4
	comp=Z,1.4nm,0.8s,baz=97,slow=8.1,SNR=2.8						
KVAR	Kislovodsk Arr	23.07	298	P	P	23 43 06.3	+2.5
	comp=Z,2.7nm,1.1s,baz=116,slow=13,SNR=2.1						
KIV	Kislovodsk	23.08	298	eP	P	23 43 05.2	+1.4
KIV				pmax	pmax		
	comp=Z,3.0nm,1.0s						
LZH	Lanzhou	26.14	81	eP	P	23 43 36.6	+4.9
LZH				pP	pP	23 43 58.2	+2.9
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
KIRV	Kirov	26.43	334	P	P	23 43 36.1	+2.2
	comp=Z,5.7nm,0.7s,baz=160,slow=5.7,SNR=6.0						
KIRV	Kirov	26.43	334	ceP	P	23 43 36.9	+3.0
OBN	Obninsk	30.18	319	eP	P	23 44 08.1	+0.9
OBN				e		23 45 12.4	
OBN				e		23 47 08.6	
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ANTO	Ankara	30.36	288	P	P	23 44 09.0	-0.2
ANTO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ANTO	Ankara	30.36	288	P	P	23 44 09.0	-0.2
ANTO				IAmb	IAmb	23 44 23.0	
	comp=Z,5.0nm,0.8s						
HHC	Hu-ho-hao-te	31.52	70	eP	P	23 44 23.4	+4.0
HHC				pmax	pmax		
	comp=Z,11nm,0.7s						
HHC				pmax	pmax		
	comp=Z,100nm,6.6s						
AKASG	Malin Array Be	33.22	309	P	P	23 44 35.4	+1.5
	comp=Z,0.9nm,0.6s,baz=82,slow=7.1,SNR=3.5						
NRIK	Noril'sk	34.15	10	P	P	23 44 43.4	+1.6
	comp=Z,0.7nm,0.3s,baz=198,slow=6.4,SNR=2.2						
PANO	Nakornpanom	35.11	114	P	P	23 44 51.3	+0.7
FIA1	FINESS Array S	37.70	326	P	P	23 45 11.8	-0.4
FINES	FINESS Array B	37.70	326	P	P	23 45 14.2	+2.0
	comp=Z,3.5nm,1.0s,baz=130,slow=9.8,SNR=9.2						
FINES	FINESS Array B	37.70	326	ceP	P	23 45 14.5	+2.3
FINES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
FINES	FINESS Array B	37.70	326	P	P	23 45 13.8	+1.6
LIT	Litokhoron	38.16	291	P	P	23 45 18.1	+1.7
LIT	Litokhoron	38.16	291	P	P	23 45 18.1	+1.7
ARCES	ARCESS Array B	41.32	338	P	P	23 45 44.1	+2.0
	comp=Z,0.7nm,0.5s,baz=116,slow=8.6,SNR=11						
ARCES	ARCESS Array B	41.32	338	P	P	23 45 43.3	+1.1
ARCES				IAmb	IAmb	23 45 51.6	
	comp=Z,13nm,1.4s						
NC405	NORSAR Array S	44.38	323	P	P	23 46 07.7	+0.8
NC602	NORSAR Array S	44.42	323	P	P	23 46 07.7	+0.4
NC602				IAmb	IAmb	23 46 14.9	
	comp=Z,15nm,1.1s						
NORES	NORESS Array B	44.42	323	P	P	23 46 10.9	+3.6
NC303	NORSAR Array S	44.55	323	P	P	23 46 10.0	+1.7
NC303				IAmb	IAmb	23 46 25.3	
	comp=Z,15nm,1.3s						
NB201	NORSAR Array S	44.57	323	P	P	23 46 09.8	+1.2
NB2	NORSAR Subarra	44.61	323	P	P	23 46 09.9	+1.1
	comp=Z,1.3nm,0.5s,baz=96,slow=7.9						
NB2	NORSAR Subarra	44.61	323	P	P	23 46 09.8	+1.0
NOA	NORSAR Array B	44.61	323	P	P	23 46 10.2	+1.4
	comp=Z,1.2nm,0.6s,baz=96,slow=7.7,SNR=9.7						
NBO00	NORSAR Array S	44.82	323	P	P	23 46 10.7	+0.3
NC204	NORSAR Array S	44.85	323	P	P	23 46 12.1	+1.3
BILL	Bilibino	58.55	26	eP	P	23 47 53.5	+1.1
BILL				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TORD	Torodi Ar. Bea	66.00	269	P	P	23 48 41.3	-1.6
	comp=Z,0.8nm,0.4s,baz=49,slow=6.1,SNR=12						
TORD	Torodi Ar. Bea	66.00	269	IAmb	IAmb	23 48 46.4	
	comp=Z,1.2nm,1.2s						
BOSA	Boshof	77.88	220	P	P	23 49 53.6	0.0
	comp=Z,1.6nm,0.8s,baz=0.0,slow=5.1,SNR=4.4						
BOSA	Boshof	77.88	220	IAmb	IAmb	23 50 08.9	
	comp=Z,17nm,1.5s						
WRA	Warramunga Arr	81.71	122	P	P	23 50 13.2	-1.2
	comp=Z,0.3nm,0.5s,baz=332,slow=6.3,SNR=2.0						
ASAR	Alice Springs	83.98	125	P	P	23 50 25.4	-0.6
	comp=Z,0.3nm,0.6s,baz=308,slow=4.8,SNR=4.8						

MEX 07 23:40:26.0±0.7, 16°37N×98°24W, h12km±3km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.11	80	i P	Pg	23 40 28.2	-0.9
PNIG				i S	Sg	23 40 31.0	-0.2
YOIG	Yosondua	0.82	54	eP	Pg	23 40 39.4	-2.5
YOIG				eS	Sg	23 40 50.1	-2.6
MGIG	Malinaltepec	0.94	336	eP	Pg	23 40 41.1	-3.0
MGIG				eS	Sg	23 40 53.3	-3.1
PEIG	Puerto Escondi	1.11	110	eP	Pb	23 40 43.8	-3.4
PEIG				eS	Sb	23 40 57.1	-4.5
TLIG	Tlapa	1.22	345	eP	Pn	23 40 43.7	-5.3
TLIG				eS	Sb	23 41 00.7	-4.2
DAIG	Los Arroyos	1.50	296	eP	Pn	23 40 49.2	-3.5
DAIG				eS	Sn	23 41 07.2	-4.9
HLIG	Huajuapan de L	1.51	16	eP	Pn	23 40 50.0	-3.0
HLIG				eS	Sn	23 41 07.2	-5.4
VHO	Vista Hermosa	1.60	64	eP	Pn	23 40 49.8	-4.5
VHO				eS	Sn	23 41 09.4	-5.5
MEIG	Mezcala	2.03	320	eP	Pn	23 40 57.6	-2.5
MEIG				eS	Sn	23 41 23.3	-2.1
TOIG	Toxpalan	2.05	33	eP	Pn	23 40 59.6	-0.7
TOIG				eS	Sn	23 41 23.9	-1.9

IDC 07 23:54:56.1±4.2, 6°79S×125°46E, h521km±58km, mb3.0/2, mb1 3.1/6, mb1mx2.8/39, mbtmp3.9/6, Error ellipse: s-maj=129.5km s-min=21.4km az=55.0

NEIC 07 23:54:57.5±1.1, 6°9S±0°1×125°47E±0°10, h534km±13km, mb4.5/9, Error ellipse: s-maj=20.1km s-min=11.7km az=150.0

ISC 07 23:54:56.3±0.8, 6°8S±0°1×125°5E±0°1, h511km, n22, σ1s31/24, mb3.9/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SOEI	Soe	3.17	203	P	P	23 56 11.3	+1.8
SOEI				S	S	23 57 09.5	+0.6
BATI	Baumata	3.83	208	P	P	23 56 16.1	+1.9
	18nm,0.3s,baz=37,slow=2.5,SNR=8.2						
BATI				S	S	23 57 18.4	+0.8
	5.5nm,0.3s,baz=95,slow=18,SNR=2.0						
KAPI	Kappang	6.00	287	P	P	23 56 35.1	+2.0
FAKI	Fak Fak	7.75	60	P	P	23 56 52.6	+2.2
MTN	Manton Dam	8.15	138	P	P	23 56 55.9	+1.3
KNRA	Kununurra	9.36	160	P	P	23 57 08.2	+1.1
FITZ	Fitzroy Crossi	11.21	179	P	P	23 57 26.5	0.0
	0.4nm,0.3s,baz=11,slow=11,SNR=24						
FITZ	Fitzroy Crossi	11.21	179	P	P	23 57 26.7	+0.2
WRAB	Tennant Creek	15.61	148	P	P	23 58 13.1	+0.4
WRA	Warramunga Arr	15.61	148	P	P	23 58 12.1	-0.7
	0.6nm,0.3s,baz=317,slow=9.5,SNR=16						
WRA	Warramunga Arr	15.61	148	P	P	23 58 12.8	+0.1
WB2	Warramunga Arr	15.62	148	P	P	23 58 12.5	-0.3
WB2				IAmb	IAmb	23 58 30.5	
	comp=Z,31nm,1.9s						
WR0	Warramunga Arr	15.73	147	P	P	23 58 13.7	-0.3
WR0				IAmb	IAmb	23 58 15.2	
	comp=Z,12nm,1.6s						
AS31	Alice Springs	18.59	155	P	P	23 58 41.9	+0.3
ASAR	Alice Springs	18.59	155	P	P	23 58 41.7	+0.1
	comp=Z,0.6nm,0.3s,baz=346,slow=15,SNR=36						
ASAR	Alice Springs	18.59	155	P	P	23 58 42.0	+0.4
COEN	Coen	18.76	114	P	P	23 58 43.3	+0.2
COEN				IAmb	IAmb	23 59 14.0	
	comp=Z,39nm,1.6s						
FORT	Forrest	23.96	175	P	P	23 59 28.0	-1.9
FORT				IAmb	IAmb	23 59 31.2	
	comp=Z,8.3nm,0.9s						
CTAO	Charters Tower	24.06	125	P	P	23 59 31.1	+0.1
CTAO				IAmb	IAmb	23 59 42.5	
	comp=Z,31nm,1.8s						
NIUE	Niue	63.79	108	P	P	00 04 35.6	-2.7
MKAR	Makanchi Array	65.70	329	P	P	00 04 48.9	-1.0
	comp=Z,0.3nm,0.4s,baz=120,slow=7.4,SNR=7.7						
ZALV	Zalesovo Beam	69.52	336	P	P	00 05 11.2	-1.9
	comp=Z,0.6nm,0.3s,baz=131,slow=6.5,SNR=4.1						

NOU 07 23:56:30.4, 33°00S×176°50W, h0km, mb4.9/9, South of Kermadec Islands

IDC 07 23:56:44.3±0.6, 33°00S×178°65W, h0km, mb4.4/15, mb1 4.5/18, mb1mx4.4/38, mbtmp4.4/18, ML4.5/2, MS4.1/10, Ms1 4.1/10, ms1mx3.7/27, Error ellipse: s-maj=18.9km s-min=16.0km az=127.0

WEL 07 23:56:45.8±0.7, 33°S±7°×17°8W±1°5, h33km, M4.8/12, mB5.2/7, ML5.2/13, MLv5.1/12, Mw(mB)4.6/7, Error ellipse: s-maj=0.0km s-min=0.0km az=112.9

NEIC 07 23:56:45.0±2.5, 33°10S±0°07×178°3W±0°1, h10km±1km, mb4.7/27, Error ellipse: s-maj=20.2km s-min=9.1km az=114.0

ISC 07 23:56:48.5±0.4, 33°07S±0°05×178°41W±0°07, h32km, n157, σ1s79/188, mb4.7/25, MS4.0/11, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.82	6	P	Pn	23 57 39.2	-5.8
GLKZ				S	Sn	23 58 22.9	-5.9
RAO	Raoul Island	3.83	7	Pn	Pn	23 57 43.9	-1.3
	35nm,0.3s,baz=98,slow=23,SNR=1.6						
RAO				Sn	Sn	23 58 23.9	-5.2
	50nm,0.3s,baz=96,slow=21,SNR=1.8						
RAO	Raoul Island	3.83	7		Pn	23 57 45.4	+0.2
RAO				Sn	Sn	23 58 28.6	-0.4
MXZ	Matakaoa Point	5.22	210	Pn	Pn	23 58 03.1	-1.2
MXZ	Matakaoa Point	5.22	210	P	Pn	23 58 01.9	-2.4
MXZ				S	Sn	23 59 04.0	+0.5
WMGZ	Waiomatatini S	5.40	208	P	Pn	23 58 06.3	-0.4
WMGZ				S	Sn	23 59 08.5	+0.7
PKGZ	Pakihiroa	5.60	210	P	Pn	23 58 07.4	-2.1
PKGZ				S	Sn	23 59 11.9	-0.8
HAZ	Te Kaha	5.61	213	P	Pn	23 58 08.6	-1.1
HAZ				S	Sn	23 59 15.3	+2.3
PUZ	Puketiti	5.68	208	P	Pn	23 58 08.1	-2.5
PUZ				S	Sn	23 59 13.6	-1.1
RUGZ	Raukumara Rang	5.83	212	P	Pn	23 58 11.4	-1.4
RUGZ				S	Sn	23 59 19.6	+1.0
TWGZ	Tauwhareparae	5.88	209	P	Pn	23 58 13.0	-0.5
TWGZ				S	Sn	23 59 19.6	-0.1
CNGZ	Carnagh Statio	6.06	206	P	Pn	23 58 13.5	-2.3
CNGZ				S	Sn	23 59 23.9	-0.2
MYRZ	Mayor Island	6.07	225	P	Pn	23 58 19.1	+3.2
WHRZ	Whale Island	6.08	217	P	Pn	23 58 18.1	+2.0
WHRZ				S	Sn	23 59 27.3	+2.8
TKGZ	Te Karaka	6.16	208	P	Pn	23 58 17.7	+0.5
TKGZ				S	Sn	23 59 25.6	-0.9
MWZ	Matawai	6.20	211	P	Pn	23 58 15.5	-2.3
MWZ				S	Sn	23 59 27.3	-0.3
OPRZ	Ohinepanea	6.29	219	P	Pn	23 58 20.1	+1.1
URZ	Urewera	6.33	214	Pn	Pn	23 58 17.8	-1.7
	13nm,0.3s,baz=301,slow=20,SNR=38						
URZ				Sn	Sn	23 59 30.1	-0.6
	25nm,0.3s,baz=190,slow=1.7,SNR=9.2						
URZ	Urewera	6.33	214	Pn	Pn	23 58 18.0	-1.5
URZ					Sn	23 59 31.0	+0.3
URZ	Urewera	6.33	214	P	Pn	23 58 19.3	-0.2
URZ				S	Sn	23 59 29.9	-0.8
RAGZ	Rawiri	6.39	211	P	Pn	23 58 18.9	-1.5
RAGZ				S	Sn	23 59 32.5	+0.2
RIGZ	Rimuhau	6.42	208	P	Pn	23 58 20.5	-0.3
RIGZ				S	Sn	23 59 31.6	-1.5
PRGZ	Paritu Road	6.57	206	P	Pn	23 58 19.8	-3.0
PRGZ				S	Sn	23 59 34.9	-1.7
SNGZ	Shannon Statio	6.66	210	P	Pn	23 58 24.3	+0.2
SNGZ				S	Sn	23 59 38.3	-0.6
MUGZ	Murupara	6.67	215	P	Pn	23 58 22.5	-1.6
MUGZ				S	Sn	23 59 38.3	-0.7
RTZ	Ruatahuna	6.68	213	P	Pn	23 58 23.4	-1.0
RTZ				S	Sn	23 59 39.2	-0.3
TOZ	Tahuroa Road	6.80	225	P	Pn	23 58 28.3	+2.3
RAHZ	Arahi	6.88	211	P	Pn	23 58 26.7	-0.4
RAHZ				S	Sn	23 59 43.4	-0.8
MTHZ	Maungataniwha	6.94	212	P	Pn	23 58 27.4	-0.4
MTHZ				S	Sn	23 59 45.2	-0.5
OUZ	Omahuta	6.96	250	Pn	Pn	23 58 29.0	+0.8
NMHZ	Naumai	7.15	211	P	Pn	23 58 30.5	-0.3
NMHZ				S	Sn	23 59 49.4	-1.6
ARHZ	Aropaoanui	7.21	210	P	Pn	23 58 30.9	-0.7
ARHZ				S	Sn	23 59 49.4	-2.9
BKZ	Black Stump Fm	7.35	213		Pn	23 58 32.1	-1.4
BKZ	Black Stump Fm	7.35	213	P	Pn	23 58 32.1	-1.4
BKZ				S	Sn	23 59 55.5	-0.4
MCHZ	McNeill Hill	7.49	210	P	Pn	23 58 33.6	-1.8
MCHZ				S	Sn	23 59 58.0	-1.2
TMVZ	Te Maari	7.68	217	P	Pn	23 58 37.6	-0.6
TMVZ				S	Sn	00 00 03.2	-1.0
ETVZ	East Tongariro	7.70	216	P	Pn	23 58 37.7	-0.7
ETVZ				S	Sn	00 00 04.9	+0.4
HIZ	Hauiti	7.71	223	Pn	Pn	23 58 36.8	-1.6
HIZ	Hauiti	7.71	223	P	Pn	23 58 41.7	+3.3
KAHZ	Kahuranaki	7.71	208	P	Pn	23 58 37.1	-1.4
KAHZ				S	Sn	00 00 03.2	-1.5
OTVZ	Oturere	7.74	217	P	Pn	23 58 38.1	-1.0
OTVZ				S	Sn	00 00 06.6	+1.0
SNVZ	South Ngauruho	7.77	217	P	Pn	23 58 38.8	-0.6
SNVZ				S	Sn	00 00 04.0	-2.4
NGZ	Ngauruhoe	7.78	217	P	Pn	23 58 40.5	+0.9
NGZ				S	Sn	00 00 04.0	-2.6
KRHZ	Kereru	7.79	211	P	Pn	23 58 36.7	-3.0
KRHZ				S	Sn	00 00 04.0	-2.7
BHHZ	Black Hill Sta	7.80	213	P	Pn	23 58 39.8	0.0
BHHZ				S	Sn	00 00 05.7	-1.4
MOVZ	Moawhango	7.89	215	P	Pn	23 58 40.1	-0.9
MOVZ				S	Sn	00 00 05.1	-4.0
WNVZ	Wahianoa	7.90	216	P	Pn	23 58 42.0	+0.7
WNVZ				S	Sn	00 00 07.4	-2.1
PXZ	Pawanui	7.92	207	P	Pn	23 58 38.5	-2.8
PXZ				S	Sn	00 00 05.7	-4.0
TSZ	Takapari Road	8.31	211	P	Pn	23 58 44.4	-2.4
TSZ				S	Sn	00 00 14.8	-4.8
BFZ	Birch Farm	8.72	208	Pn	Pn	23 58 50.4	-1.9
BFZ	Birch Farm	8.72	208	P	Pn	23 58 48.9	-3.4
BFZ				S	Sn	00 00 23.0	-6.4
PLWZ	Palliser	9.87	209	Pn	Pn	23 59 08.0	-0.1
SNZO	South Karori	9.88	212	Pn	Pn	23 59 09.3	+1.1
TUWZ	Tuamarina	10.33	214	Pn	Pn	23 59 12.5	-1.8
CMWZ	Cape Campbell	10.46	212	Pn	Pn	23 59 14.3	-1.8
BSWZ	Blackbirch Sta	10.58	213	Pn	Pn	23 59 12.8	-5.1
QRZ	Quartz Range	10.60	221	Pn	Pn	23 59 15.3	-2.7
THZ	Tophouse	11.08	216	Pn	Pn	23 59 23.1	-1.6
KHZ	Kahutara	11.29	212	Pn	Pn	23 59 26.7	-0.8
LTZ	Lake Taylor	12.16	214	Pn	Pn	23 59 37.4	-2.0
OXZ	Oxford	12.69	213	Pn	Pn	23 59 45.2	-1.4
MQZ	McQueen's Vall	12.71	211	Pn	Pn	23 59 44.9	-2.0
RPZ	Rata Peaks	13.45	215	Pn	Pn	23 59 53.2	-3.7
FOZ	Fox Glacier	13.93	218	Pn	Pn	00 00 00.0	-3.5
LBZ	Lake Benmore	14.37	215	Pn	Pn	00 00 04.6	-4.9
ODZ	Otahua Downs	14.65	212	Pn	Pn	00 00 10.9	-2.5
WKZ	Wanaka	15.26	216	Pn	Pn	00 00 18.4	-3.0
MSVF	Nonsavu	15.60	347	LR	LR	00 05 14.7	
	comp=Z,1μm,18.0s,baz=321,slow=33						
MSVF	Nonsavu	15.60	347	Pn	Pn	00 00 25.1	-1.0
NIUE	Niue	15.87	31	Pn	Pn	00 00 28.0	-1.6
NIUE				IAmb	IAmb	00 00 40.4	
	comp=Z,47nm,1.1s						
MLZ	Mavora Lakes	16.09	216	Pn	Pn	00 00 29.1	-3.1
PINNC	Pines Island,	16.26	306	Pn	Pn	00 00 33.4	-1.1
PINNC				IAmb	IAmb	00 00 35.2	
	comp=Z,86nm,1.3s						
WHZ	Wether Hill Ro	16.55	215	Pn	Pn	00 00 36.3	-1.7
OUENC	Ouen Island, N	16.80	305		Pn	00 00 40.1	-1.2
OUENC				IAmb	IAmb	00 00 48.6	
	comp=Z,50nm,1.0s						
OUENC	Ouen Island, N	16.80	305	P	P	00 00 44.3	+1.1
DZM	Mont Dzumac	17.30	305	ePn	P	00 00 52.8	+3.9
	comp=Z,97nm,1.0s						
DZM				eLR	LR	00 04 51.4	
	comp=Z,738nm,22.5s						
DZM	Mont Dzumac	17.30	305	P	Pn	00 00 45.6	-2.1
	baz=87,slow=20,SNR=1.6						
DZM				LR	LR	00 06 26.2	
	comp=Z,950nm,18.6s,baz=300,slow=34						
DZM	Mont Dzumac	17.30	305	P	Pn	00 00 46.8	-1.0
DZM	Mont Dzumac	17.30	305	P	P	00 00 49.6	+0.7
AFI	Afiamalu	20.01	19	P	P	00 01 18.6	0.0
	comp=Z,13nm,0.3s,baz=241,slow=17,SNR=3.7						
AFI	Afiamalu	20.01	19	P	P	00 01 18.0	-0.6
AFI				IAmb	IAmb	00 01 31.2	
	comp=Z,57nm,1.1s						
RAR	Rarotonga	20.33	59	P	Pn	00 01 23.8	-0.4
	comp=Z,11nm,0.7s,baz=270,slow=14,SNR=2.3						
RAR				LR	LR	00 08 56.2	
	comp=Z,186nm,18.8s,baz=275,slow=36						
ARMA	Armidale	25.57	268	P	P	00 02 15.2	+0.5
ARMA				IAmb	IAmb	00 02 23.3	
	comp=Z,19nm,1.3s						
TBI	Tubuai	27.21	77	eLR	LR	00 08 57.0	
	comp=Z,175nm,21.8s						
EIDS	Eidsvold	27.64	278	P	P	00 02 34.5	+1.2
EIDS				IAmb	IAmb	00 02 43.2	
	comp=Z,10nm,0.9s						
TOO	Toolangi	29.67	251	P	P	00 02 51.9	+0.6
TOO				IAmb	IAmb	00 03 07.2	
	comp=Z,16nm,1.1s						
PPT2	Papeete2	30.15	66	eLR	LR	00 10 11.7	
	comp=Z,160nm,20.8s						
PPT	Papeete	30.16	66	LR	LR	00 15 26.1	
	comp=Z,164nm,18.2s,baz=187,slow=37						
STKA	Stephens Creek	33.62	261	P	P	00 03 25.2	-0.9
	comp=Z,2.4nm,0.7s,baz=111,slow=8.6,SNR=3.7						
STKA				LR	LR	00 16 46.9	
	comp=Z,419nm,18.1s,baz=49,slow=36						
CTA	Charters Tower	33.97	283	LR	LR	00 16 49.7	
	comp=Z,244nm,18.6s,baz=154,slow=36						
CTAO	Charters Tower	33.97	283	P	P	00 03 31.1	+1.8
BBOO	Buckleboo	37.98	258	P	P	00 04 03.0	-0.4
BBOO				IAmb	IAmb	00 04 03.4	
	comp=Z,12nm,0.9s						
COEN	Coen	39.74	289	P	P	00 04 19.5	+1.2
COEN				IAmb	IAmb	00 04 25.6	
	comp=Z,35nm,1.4s						
AS31	Alice Springs	42.68	270	P	P	00 04 42.8	+0.3
ASAR	Alice Springs	42.68	270	P	P	00 04 42.4	-0.1
	comp=Z,13nm,0.7s,baz=108,slow=7.3,SNR=121						
ASAR				PcP	PcP	00 06 33.2	-0.8
	comp=Z,1.8nm,0.8s,baz=117,slow=4.6,SNR=2.0						
ASAR				S	S	00 11 02.2	-1.8
	comp=Z,1.5nm,1.0s,baz=113,slow=16,SNR=8.3						
ASAR	Alice Springs	42.68	270	P	P	00 04 42.7	+0.2
TAOE	Nuku Hiva Isla	42.73	64	eLR	LR	00 16 03.9	
	comp=Z,196nm,27.4s						
WR0	Warramunga Arr	43.74	275	P	P	00 04 51.0	0.0
WR0				IAmb	IAmb	00 04 52.6	
	comp=Z,18nm,1.1s						
WB2	Warramunga Arr	43.90	275	P	P	00 04 52.4	+0.1
WRA	Warramunga Arr	43.91	275	P	P	00 04 51.9	-0.6
	comp=Z,13nm,0.6s,baz=118,slow=7.6,SNR=96						
WRA				PcP	PcP	00 06 37.3	-0.9
	comp=Z,1.0nm,0.7s,baz=94,slow=2.5,SNR=2.1						
WRA	Warramunga Arr	43.91	275	P	P	00 04 52.3	-0.2
FORT	Forrest	45.08	258	P	P	00 05 01.0	-0.6
JAY	Jayapura	48.86	300	P	P	00 05 30.6	-0.7
	comp=Z,6.7nm,0.8s,baz=177,slow=19,SNR=3.5						
MTN	Manton Dam	50.10	281	P	P	00 05 40.5	-0.3
KNRA	Kununurra	50.61	277	P	P	00 05 44.6	+0.1
KNRA				IAmb	IAmb	00 05 45.2	
	comp=Z,13nm,1.0s						
FITZ	Fitzroy Crossi	52.05	272	P	P	00 05 54.9	-0.5
	comp=Z,5.4nm,0.8s,baz=155,slow=10.0,SNR=14						
FITZ	Fitzroy Crossi	52.05	272	P	P	00 05 55.3	-0.1
FITZ				IAmb	IAmb	00 05 55.9	
	comp=Z,6.9nm,0.8s						
CASY	Casey	52.63	209	P	P	00 05 59.8	+0.8
CASY				IAmb	IAmb	00 06 00.6	
	comp=Z,11nm,0.7s						
PSA00	Pilbara Seismi	55.35	265	P	P	00 06 18.1	-1.4
PSA00				IAmb	IAmb	00 06 30.0	
	comp=Z,19nm,1.5s						
MORW	Morawa	55.47	255	P	P	00 06 19.2	-1.2
MORW				IAmb	IAmb	00 06 23.0	
	comp=Z,18nm,1.4s						
QSPA	South Pole Qui	57.05	180	P	P	00 06 32.4	+1.3
	comp=Z,1.9nm,0.6s,baz=56,slow=1.2,SNR=17						
SOEI	Soe	57.43	280	P	P	00 06 35.0	+0.4
MAW	Mawson	69.69	201	P	P	00 07 55.4	+0.9
	comp=Z,2.2nm,0.7s,baz=191,slow=5.2,SNR=2.0						
MAW				LR	LR	00 37 46.2	
	comp=Z,156nm,19.8s,baz=66,slow=35						
PMSA	Palmer Station	69.99	155	LR	LR	00 34 56.3	
	comp=Z,93nm,18.8s,baz=244,slow=33						
SNAA	Sanae	75.50	179	P	P	00 08 29.6	+0.5
VNA3	Neumayer Olymp	75.67	176	P	P	00 08 30.3	+0.2
VNA2	Neumayer--Watz	76.10	177	P	P	00 08 33.2	+0.7
	baz=178,slow=4.3						
VNA1	Neumayer--Stat	76.33	177	P	P	00 08 34.5	+0.7
PLCA	Paso Flores	80.95	133	P	P	00 09 02.9	+3.0
	comp=Z,4.6nm,1.1s,baz=217,slow=8.2,SNR=4.2						
KSRS	Korea Array	86.15	320	P	P	00 09 26.9	+0.7
	comp=Z,1.7nm,0.8s,baz=138,slow=7.0,SNR=3.0						
KSRS				LR	LR	00 46 27.5	
	comp=Z,58nm,18.1s,baz=206,slow=35						
PETK	Petropavlovsk-	88.30	346	P	P	00 09 34.8	-1.5
	comp=Z,5.4nm,1.0s,baz=157,slow=7.8,SNR=6.1						
USRK	Ussuriysk Ar.	89.19	327	P	P	00 09 41.3	+0.7
	comp=Z,2.5nm,0.8s,baz=129,slow=3.9,SNR=5.3						
USRK	Ussuriysk Ar.	89.19	327	P	P	00 09 38.9	-1.7
NVAR	Mina Array Bea	90.43	43	P	P	00 09 50.1	+3.2
	comp=Z,0.8nm,0.9s,baz=214,slow=8.4,SNR=3.8						
KLR	Kul'dur	93.16	330	P	P	00 09 56.6	-2.4
	comp=Z,1.7nm,1.0s,baz=121,slow=10,SNR=4.1						
TXAR	Lajitas Array	94.12	58	P	P	00 10 07.3	+3.3
	comp=Z,0.2nm,0.9s,baz=251,slow=5.6,SNR=2.1						
HHC	Hu-ho-hao-te	97.83	314	eP	Pdif	00 10 26.9	+6.2
HHC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,140nm,7.6s						
CPUP	Villa Florida	98.60	129	LR	LR	00 49 33.0	
	comp=Z,74nm,18.2s,baz=214,slow=32						
LZH	Lanzhou	100.02	307	eP	Pdif	00 10 34.1	+3.4
LZH				pP	pP	00 10 39.9	+0.8
LZH				sP	sP	00 10 43.1	+0.9
LZH				pmax	pmax		
	comp=Z,15nm,0.9s						
WMQ	Urumqi	114.58	307	eP	PKiKP	00 15 30.4	+5.2
WMQ				pmax	pmax		
	comp=Z,71nm,3.9s						
MKAR	Makanchi Array	119.19	309	PKP	PKPdf	00 15 32.4	-1.5
	comp=Z,0.4nm,0.8s,baz=67,slow=4.8,SNR=4.0						
MKAR	Makanchi Array	119.19	309		PKPdf	00 15 32.7	-1.2
ZALV	Zalesovo Beam	119.77	317	PKP	PKPdf	00 15 33.3	-1.4
	comp=Z,0.4nm,0.5s,baz=112,slow=6.4,SNR=2.3						
KKAR	Karatay Array	126.22	302	PKPdf	PKPdf	00 15 47.5	-0.1
ARCES	ARCESS Array B	141.11	347	PKhKP	PKPpre	00 16 10.5	
	comp=Z,2.9nm,0.9s,baz=60,slow=2.2,SNR=5.6						
KBZ	Khabaz	146.23	301	PKPbc	PKPbc	00 16 25.4	0.0

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,6.3nm,0.9s,baz=121,slow=3.0,SNR=8.6						
FINES	FINESS Array B	147.50	338	PKPbc	PKPbc	00 16 28.3	-0.2
	comp=Z,19nm,0.8s,baz=41,slow=3.6,SNR=51						
MARD	Mardin	147.85	289	PKPbc	PKPbc	00 16 30.0	-0.4
VSU	Vasula	149.49	334	*e*P	PKPbc	00 16 33.7	0.0
UPP	Uppsala	151.18	343	*e*P	PKPab	00 16 45.1	-0.5
NB2	NORSAR Subarra	151.32	350	PKP	PKPbc	00 16 37.9	-0.2
	comp=Z,21nm,1.7s,baz=22,slow=2.8						
NOA	NORSAR Array B	151.32	350	PKPbc	PKPbc	00 16 37.5	-0.5
	comp=Z,3.0nm,0.8s,baz=14,slow=4.1,SNR=9.2						
BNN	Bunyan	151.78	292		PKiKP	00 16 40.6	+0.2
IIGN	Ignalina	151.85	330	*e*P	PKPbc	00 16 39.4	0.0
PABE	Paberze	152.66	332	*e*P	PKiKP	00 16 41.3	-0.1
AKASG	Malin Array Be	153.15	319	PKPbc	PKPbc	00 16 42.3	-0.1
	comp=Z,2.1nm,0.7s,baz=67,slow=1.9,SNR=7.6						
AKASG	Malin Array Be	153.15	319	PKPbc	PKiKP	00 16 42.9	+0.3
BRTR	Keskin Array B	153.45	294	PKPbc	PKiKP	00 16 44.0	+0.2
	comp=Z,1.5nm,0.5s,baz=171,slow=4.1,SNR=4.1						
CSS	Mathiatis	153.67	283		PKiKP	00 16 44.2	0.0
DPC	Dobruska-Polom	159.59	332	*e*PKPAB	PKPab	00 17 21.7	-0.2
DPC				*e*x	x	00 17 33.0	
KRLC	Kraliky	159.62	331	*e*PKPAB	PKPab	00 17 21.5	-0.5
CLL	Collm	159.95	339	*e*PKPab	PKPab	00 17 21.0	-2.3
	comp=Z,7.0nm,1.1s						
TORD	Torodi Ar. Bea	160.17	180	PKPab	PKPab	00 17 25.6	+0.5
	comp=Z,0.7nm,0.7s,baz=170,slow=3.4,SNR=4.7						
NKC	Novy Kostel	161.06	338	*e*PKPAB	PKPab	00 17 28.4	+0.1
CKRC	Cesky Krumlov	161.60	333	*e*PKPAB	PKPab	00 17 30.3	-0.4
CKRC				*e*x	x	00 17 35.0	
KHC	Kasperske Hory	161.62	334	*e*PKPAB	PKPab	00 17 30.5	-0.3
GERES	GERESS Array B	161.81	334	PKPab	PKPab	00 17 31.5	-0.2
	comp=Z,0.7nm,0.7s,baz=59,slow=6.4,SNR=6.7						

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*IDC **08** 00:03:44.8±0.6, 17.38S×176.25E, h0km, mb4.2/13, mb1 4.4/13, mb1mx4.2/36, mbtmp4.2/13, MS3.7/6, Ms1 3.7/6, ms1mx3.5/21, Error ellipse: s-maj=21.9km s-min=15.5km az=168.0*

*NEIC **08** 00:03:50.5±2.3, 17.3S±0.1×176.43E±0.07, h36km±8km, mb4.6/14, Error ellipse: s-maj=20.7km s-min=8.7km az=191.0*

ISC 08 00:03:50.4±0.5**, 17.4S**±0.1×**176.30E**±0.08**, h35km, n41, σ0.99**/36**, mb4.4**/19**, MS3.7**/6**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	1.71	103	Pn	Pn	00 04 16.0	-1.7
	60nm,0.3s,baz=264,slow=17,SNR=312						
MSVF				Sn	Sn	00 04 39.1	+0.8
	130nm,0.3s,baz=269,slow=24,SNR=7.7						
DZM	Mont Dzumac	10.40	242	*e*LR	LR	00 08 51.9	
	comp=Z,409nm,24.9s						
AFI	Afiamalu	11.98	75	LR	LR	00 10 21.9	
	comp=Z,313nm,19.7s,baz=224,slow=33						
HNR	Honiara	17.75	294	LR	LR	00 13 25.8	
	comp=Z,115nm,19.0s,baz=157,slow=33						
URZ	Urewera	20.83	178	P	P	00 08 27.1	-1.8
	2.7nm,0.6s,baz=128,slow=20,SNR=1.4						
URZ	Urewera	20.83	178	IAmb	IAmb	00 08 41.6	
	comp=Z,23nm,1.1s						
LHI	Lord Howe Isla	21.05	225	P	P	00 08 32.5	+1.1
PPT2	Papeete2	32.52	96	*e*LR	LR	00 19 09.8	
	comp=Z,184nm,26.8s						
TBI	Tubuai	32.59	106	*e*LR	LR	00 19 07.1	
	comp=Z,109nm,33.8s						
STKA	Stephens Creek	34.53	239	P	P	00 10 34.6	-0.9
	comp=Z,4.4nm,0.8s,baz=74,slow=12,SNR=6.0						
STKA	Stephens Creek	34.53	239	P	P	00 10 36.3	+0.7
BBOO	Buckleboo	39.30	239	P	P	00 11 16.6	+0.5
WR0	Warramunga Arr	39.58	260	P	P	00 11 17.6	-1.1
WR0				IAmb	IAmb	00 11 36.4	
	comp=Z,4.8nm,1.1s						
WB2	Warramunga Arr	39.76	260	P	P	00 11 19.2	-1.0
WB2				IAmb	IAmb	00 11 19.6	
	comp=Z,5.9nm,0.8s						
WRA	Warramunga Arr	39.77	260	P	P	00 11 18.5	-1.8
	comp=Z,3.6nm,0.7s,baz=93,slow=9.0,SNR=19						
WRA				PcP	PcP	00 13 26.2	0.0
	comp=Z,0.5nm,0.7s,baz=72,slow=2.7,SNR=1.8						
WRA	Warramunga Arr	39.77	260	P	P	00 11 18.8	-1.4
AS31	Alice Springs	40.09	254	P	P	00 11 22.1	-0.8
ASAR	Alice Springs	40.09	254	P	P	00 11 21.9	-0.9
	comp=Z,6.4nm,0.8s,baz=82,slow=9.0,SNR=44						
ASAR				PcP	PcP	00 13 26.0	-1.2
	comp=Z,0.6nm,0.8s,baz=101,slow=2.9,SNR=2.9						
ASAR	Alice Springs	40.09	254	P	P	00 11 22.2	-0.7
MTN	Manton Dam	43.77	269	P	P	00 11 52.3	-0.6
MTN				IAmb	IAmb	00 11 52.9	
	comp=Z,14nm,0.9s						
KNRA	Kununurra	45.52	265	P	P	00 12 06.3	-0.6
KNRA				IAmb	IAmb	00 12 07.0	
	comp=Z,9.5nm,0.8s						
FORT	Forrest	45.70	244	P	P	00 12 09.1	+0.9
FITZ	Fitzroy Crossi	48.14	261	P	P	00 12 26.7	-0.6
	comp=Z,2.6nm,0.4s,baz=75,slow=9.9,SNR=27						
VNDA	Vanda	60.61	184	P	P	00 13 57.0	-0.2
	comp=Z,0.5nm,0.8s,baz=7.0,slow=7.6,SNR=3.9						
SBA	Scott Base	60.70	182	P	P	00 13 59.6	+1.9
SBA				IAmb	IAmb	00 14 00.8	
	comp=Z,5.5nm,0.9s						
PETK	Petropavlovsk-	72.00	348	P	P	00 15 10.0	-0.3
	comp=Z,3.2nm,0.9s,baz=140,slow=9.4,SNR=4.6						
PETK	Petropavlovsk-	72.00	348	P	P	00 15 10.6	+0.3
QSPA	South Pole Qui	72.68	180	P	P	00 15 15.1	+0.5
QSPA				IAmb	IAmb	00 15 18.3	
	comp=Z,7.0nm,1.1s						
L19K	White Mountain	82.50	13	P	P	00 16 09.5	+0.4
L19K				IAmb	IAmb	00 16 12.3	
	comp=Z,8.0nm,1.2s						
NVAR	Mina Array Bea	82.61	46	P	P	00 16 11.8	+1.5
	comp=Z,1.1nm,0.8s,baz=232,slow=8.2,SNR=7.9						
NVAR				LR	LR	00 47 44.3	
	comp=Z,69nm,18.6s,baz=269,slow=32						
MAW	Mawson	82.62	201	P	P	00 16 10.3	+0.7
	comp=Z,1.1nm,0.7s,baz=141,slow=2.6,SNR=4.1						
CMAR	Chiang Mai Arr	83.97	291	P	P	00 16 17.7	+0.1
	comp=Z,1.3nm,0.3s,baz=126,slow=4.0,SNR=6.2						
CMAR				LR	LR	00 56 57.9	
	comp=Z,18nm,18.0s,baz=215,slow=38						
ILAR	Eielson Array	86.58	15	P	P	00 16 28.1	-1.4
	comp=Z,0.4nm,0.6s,baz=211,slow=6.4,SNR=4.2						
SONM	Songino Array	89.90	321	P	P	00 16 45.3	-0.6
	comp=Z,0.4nm,0.5s,baz=130,slow=4.6,SNR=4.2						
SONM				LR	LR	00 57 29.2	
	comp=Z,36nm,18.6s,baz=168,slow=36						
TXAR	Lajitas Array	90.01	59	P	P	00 16 47.6	+0.8
	comp=Z,1.2nm,1.0s,baz=220,slow=5.4,SNR=9.0						
PDAR	Pinedale Array	90.49	45	LR	LR	00 52 18.2	
	comp=Z,71nm,18.2s,baz=281,slow=32						
OSTC	Ostas	143.24	339	*e*PKP	PKPab	00 23 15.2	-1.4
PRU	Pruhonice	144.29	340	*e*PKP	PKPdf	00 23 22.1	-0.6
KHC	Kasperske Hory	145.35	340	*e*PKP	PKPab	00 23 24.8	+0.2
CKRC	Cesky Krumlov	145.37	339	*e*PKP	PKPab	00 23 24.9	+0.2
GERES	GERESS Array B	145.56	340	PKPbc	PKPdf	00 23 24.9	-0.1
	comp=Z,1.7nm,0.9s,baz=29,slow=3.0,SNR=8.8						

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*IDC **08** 00:06:44.0±4.7, 3.68S×149.22E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/37, mbtmp3.9/4, MS3.5/1, Ms1 3.5/1, ms1mx2.8/31, Error ellipse: s-maj=129.9km s-min=36.6km az=102.0*

*NEIC **08** 00:06:46.9±3.0, 3.52S±0.07×149.3E±0.1, h35km±2km, mb4.4/16, Error ellipse: s-maj=22.5km s-min=6.0km az=60.0*

ISC 08 00:06:43.4±0.8**, 3.6S**±0.1×**149.47E**±0.10**, h20km, n23, σ1.81**/23**, mb4.5**/9**, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	Rabaul	2.75	102	Pn	Pb	00 07 31.8	-0.2
MTN	Manton Dam	20.32	242	P	P	00 11 18.9	+0.5
MTN				IAmb	IAmb	00 11 31.2	
	comp=Z,6.8nm,1.1s						
WR0	Warramunga Arr	21.82	221	P	P	00 11 34.4	-0.2
WRAB	Tennant Creek	21.92	221	P	P	00 11 38.5	+2.7
WB2	Warramunga Arr	21.93	221	P	P	00 11 35.6	-0.2
WRA	Warramunga Arr	21.94	221	P	P	00 11 35.3	-0.6
	comp=Z,2.4nm,0.6s,baz=46,slow=9.9,SNR=21						
WRA				LR	LR	00 21 45.9	
	comp=Z,116nm,19.9s,baz=105,slow=42						
WRA	Warramunga Arr	21.94	221	P	P	00 11 34.7	-1.2
KNRA	Kununurra	23.64	238	P	P	00 11 53.5	-0.1
ONTNC	Ouen Toro	24.83	140	P	P	00 12 04.8	+0.2
AS31	Alice Springs	24.97	216	P	P	00 12 08.2	+2.3
ASAR	Alice Springs	24.97	216	P	P	00 12 08.4	+2.5
	comp=Z,2.3nm,0.8s,baz=42,slow=8.1,SNR=12						
ASAR	Alice Springs	24.97	216	P	P	00 12 08.5	+2.6
SOEI	Soe	25.75	255	P	P	00 12 10.3	-2.8
SOEI				IAmb	IAmb	00 12 10.8	
	comp=Z,9.7nm,0.8s						
FITZ	Fitzroy Crossi	27.42	237	P	P	00 12 30.3	+2.3
	comp=Z,2.6nm,0.4s,baz=53,slow=11,SNR=6.4						
FITZ	Fitzroy Crossi	27.42	237	P	P	00 12 30.1	+2.1
FITZ	Fitzroy Crossi	27.42	237	P	P	00 12 28.8	+0.8
FITZ				IAmb	IAmb	00 12 31.0	
	comp=Z,2.0nm,0.5s						
FORT	Forrest	33.74	214	P	P	00 13 24.3	+0.5
FORT				IAmb	IAmb	00 13 32.6	
	comp=Z,13nm,1.1s						
NACB	Ninganchiao	38.71	317	P	P	00 14 05.4	-1.0
SSLB	Suanglung	38.90	316	P	P	00 14 07.0	-0.9
SSLB				IAmb	IAmb	00 14 22.9	
	comp=Z,12nm,1.0s						
NWAO	Narrogin (SRO)	41.94	222	P	P	00 14 30.3	-2.7
NWAO				IAmb	IAmb	00 14 31.4	
	comp=Z,10nm,1.1s						
RPZ	Rata Peaks	44.27	158	P	P	00 14 51.1	-0.7
JKA	Kamikawa-asahi	47.91	353	P	P	00 15 19.6	-0.7
JKA				IAmb	IAmb	00 15 36.8	
	comp=Z,5.1nm,0.9s						
MKAR	Makanchi Array	77.26	320	P	P	00 18 39.5	+3.0
	comp=Z,0.1nm,0.4s,baz=126,slow=7.3,SNR=2.2						

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*ISK **08** 00:16:39.7, 35.01N×26.67E, h3km, ML3.1/16*

*NIC **08** 00:16:40.6±0.0, 35.02N×26.65E, h13km±1km, Ml3.4/4*

*DDA **08** 00:16:41.1, 35.05N×26.99E, h1km±2km, ML2.5*

*THE **08** 00:16:42.2, 35.10N×26.62E, h1km±2km, ML2.9/5, Error ellipse: s-maj=6.9km s-min=1.2km az=160.0*

*ATH **08** 00:16:42.8, 35.16N×26.61E, h7km±2km, ML3.0/13, Error ellipse: s-maj=4.8km s-min=1.0km az=159.0*

ISC 08 00:16:40.5±1.2**, 35.00N**±0.05×**26.67E**±0.02**, h7km**±9km**, n69, σ0.98**/91**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZKR	Zakros	0.39	287	P	Pg	00 16 48.5	+0.4
ZKR				S	Sb	00 16 54.5	-1.5
	3µm,0.4s						
ZKR	Zakros	0.39	287	P	Pg	00 16 48.6	+0.5
ZKR				S	Sg	00 16 53.9	+0.7
ZKR				AML	AML	00 16 55.0	
	comp=N,3547µm,0.3s						
ZKR				AML	AML	00 16 58.8	
	comp=E,5215µm,0.3s						
ZKR	Zakros	0.39	287	PG	Pg	00 16 48.3	+0.2
ZKR				SG	Sg	00 16 54.3	+1.1
ZKR	Zakros	0.39	287	P	Pg	00 16 48.3	+0.2
ZKR				S	Sg	00 16 54.0	+0.8
STIA	Sitia Lasithi	0.52	293	P	Pg	00 16 50.7	+0.2
STIA				S	Sb	00 16 58.4	-1.2
KARP	Karpathos	0.68	36	P	Pg	00 16 53.4	-0.2
KARP				S	Sb	00 17 03.9	-0.4
	comp=E,3µm,0.6s						
KARP	Karpathos	0.68	36	P	Pg	00 16 53.4	-0.2
KARP				S	Sg	00 17 02.1	-0.3
KARP	Karpathos	0.68	36	PG	Pg	00 16 53.3	-0.2
KARP				SG	Sb	00 17 03.7	-0.6
KARP	Karpathos	0.68	36	P	Pg	00 16 53.3	-0.2
KARP				S	Sb	00 17 03.9	-0.4
KARP				AML	AML	00 17 05.6	
	comp=E,5.6nm,0.3s						
KARP				AML	AML	00 17 05.6	
	comp=E,5.6nm,0.3s						
KARP				AML	AML	00 17 07.1	
	comp=E,7.5nm,0.4s						
KARP				AML	AML	00 17 07.1	
	comp=E,7.5nm,0.4s						
FRMA	Ierapetra Chan	0.77	271	P	Pg	00 16 53.7	-1.6
FRMA				S	Sg	00 17 04.2	-1.1
	comp=E,768nm,0.6s						
NPS	Neapolis	0.91	287	P	Pg	00 16 58.0	+0.1
NPS				S	Sb	00 17 10.9	0.0
	comp=E,1µm,0.4s						
NPS	Neapolis	0.91	287	P	Pg	00 16 58.1	+0.1
NPS				S	Sg	00 17 08.4	-1.3
NPS				AML	AML	00 17 14.3	
	comp=E,3122µm,0.4s						
NPS				AML	AML	00 17 15.5	
	comp=N,2149µm,0.4s						
HRKL	Herakleio	1.32	284	P	Pn	00 17 06.8	+1.4
HRKL	Herakleio	1.32	284	PN	Pg	00 17 05.6	-0.3
KSTL	Kastelli Herak	1.34	283	P	Pg	00 17 02.0	-4.3
IDI	Anoyia	1.49	282	P	Pb	00 17 08.8	+0.2
IDI	Anoyia	1.49	282	P	Pb	00 17 08.7	+0.2
IDI				S	Sb	00 17 27.8	+0.1
IDI				AML	AML	00 17 35.8	
	comp=N,515µm,0.4s						
IDI				AML	AML	00 17 44.7	
	comp=E,496µm,0.4s						
SIVA	Sivas	1.53	271	P	Pb	00 17 09.8	+0.6
SIVA				AML	AML	00 17 46.8	
	comp=N,1638µm,0.6s						
SIVA				AML	AML	00 17 47.7	
	comp=E,1652µm,0.7s						
NIS1	Nisyros Isl.	1.65	14	P	Pn	00 17 11.0	+1.0
NIS1				AML	AML	00 17 46.2	
	comp=N,961µm,0.7s						
NIS1				AML	AML	00 17 47.8	
	comp=E,1156µm,0.4s						
NIS1	Nisyros Isl.	1.65	14	PN	Pn	00 17 10.2	+0.2
SANT	Santorini	1.68	325	P	Pn	00 17 09.9	-0.6
SANT				AML	AML	00 17 38.9	
	comp=N,309µm,0.5s						
SANT				AML	AML	00 17 39.1	
	comp=E,1236µm,0.4s						
SANT	Santorini	1.68	325	PN	Pn	00 17 10.7	+0.2
ARG	Arkhangelos	1.69	44	P	Pb	00 17 12.1	0.0
ARG				S	Sn	00 17 33.5	+0.9
	comp=E,355nm,0.9s						
ARG	Arkhangelos	1.69	44	P	Pb	00 17 12.1	0.0
ARG				S	Sg	00 17 35.0	-0.1
ARG				AML	AML	00 17 44.0	
	comp=E,831µm,0.5s						
ARG				AML	AML	00 17 46.3	
	comp=N,576µm,0.9s						
ARG	Arkhangelos	1.69	44	PN	Pn	00 17 11.6	+1.0
ARG	Arkhangelos	1.69	44	S	Sn	00 17 31.8	-0.8
THR7	Fira-Santorini	1.74	325	P	Pn	00 17 11.9	+0.7
SNT5	Nea Kammeni, S	1.74	324	P	Pn	00 17 11.6	+0.4
THR3	Thira Island,	1.74	324	P	Pn	00 17 11.6	+0.4
THR3	Thira Island,	1.74	324	P	Pn	00 17 11.7	+0.4
KOSK	Kos Island	1.76	8	PN	Pn	00 17 12.3	+0.8
THR5	Thira Island,	1.77	323	P	Pn	00 17 12.5	+0.8
THR5	Thira Island,	1.77	323	P	Pn	00 17 12.3	+0.6
CMBO	Columbo, Santo	1.79	325	P	Pn	00 17 12.3	+0.4
CMBO				AML	AML	00 17 42.3	
	comp=E,1673µm,0.5s						
CMBO				AML	AML	00 17 45.9	
	comp=N,1315µm,0.6s						
DAT	Datca	1.87	23	P	Pn	00 17 13.7	+0.5
DAT				S	Sn	00 17 36.6	-0.6
DAT	Datca	1.87	23	*i* P	Pn	00 17 13.7	+0.5
DAT				*i* S	Sn	00 17 38.0	+0.8
DAT				IAML		00 17 48.0	
	comp=E,35nm,0.4s						
DAT				IAML		00 17 48.0	
	comp=N,32nm,0.7s						
DAT	Datca	1.87	23	PN	Pn	00 17 14.0	+0.8
VAM	Vamos	2.06	282	P	Pb	00 17 17.6	-0.7
VAM				AML	AML	00 17 50.9	
	comp=N,474µm,0.6s						
VAM				AML	AML	00 17 55.3	
	comp=E,519µm,0.7s						
BODT	Bodrum	2.12	14	PN	Pn	00 17 17.3	+0.8
GVD	Gavdhos	2.13	266	P	Pg	00 17 21.1	-0.3
GVD				AML	AML	00 18 09.9	
	comp=E,415µm,0.7s						
GVD				AML	AML	00 18 10.3	
	comp=N,365µm,0.7s						
BDRM	Kayabasi	2.15	17	*i* P	Pn	00 17 18.3	+1.4
BDRM				*i* S	Sg	00 17 48.4	-1.2
BDRM				IAML		00 17 50.0	
	comp=N,44nm,0.7s						
BDRM				IAML		00 17 57.0	
	comp=E,24nm,0.5s						
TURN	Turunc	2.18	35	*i* P	Pn	00 17 18.8	+1.5
TURN				*i* S	Sb	00 17 47.6	-0.1
TURN				IAML		00 17 58.0	
	comp=E,40nm,0.5s						
TURN				IAML		00 18 00.0	
	comp=N,48nm,0.5s						
TURN	Turunc	2.18	35	PN	Pn	00 17 17.4	+0.1
IMMV	Iera Moni Meta	2.25	282	P	Pn	00 17 19.2	+1.0
IMMV	Iera Moni Meta	2.25	282	P	Pn	00 17 20.3	+2.1
IMMV				S	Sb	00 17 49.9	+0.3
IMMV				AML	AML	00 18 09.6	
	comp=N,398µm,0.6s						
IMMV				AML	AML	00 18 20.7	
	comp=E,361µm,1.1s						
APE	Apeiranthos	2.26	336	P	Pn	00 17 19.1	+0.7
APE				AML	AML	00 17 51.1	
	comp=E,328µm,0.7s						
APE				AML	AML	00 17 54.1	
	comp=N,234µm,0.3s						
APE	Apeiranthos	2.26	336	PN	Pn	00 17 19.1	+0.7
APE	Apeiranthos	2.26	336	S	Sn	00 17 46.0	-0.6
DALY	Dalyan (Mula)	2.42	41	*i* P	Pn	00 17 22.6	+2.0
DALY				IAML		00 18 07.0	
	comp=E,38nm,0.6s						
DALY				IAML		00 18 10.0	
	comp=N,55nm,0.6s						
DALY	Dalyan (Mula)	2.42	41	PN	Pn	00 17 21.6	+1.0
MLSB	Milas	2.46	21	PN	Pn	00 17 22.2	+1.1
MHLO	Agia Marina, M	2.50	313	P	Pn	00 17 23.7	+2.1
MHLO				AML	AML	00 18 04.5	
	comp=E,1030µm,0.7s						
MHLO				AML	AML	00 18 07.6	
	comp=N,848µm,0.4s						
YER	Yerkesik	2.50	31	PN	Pn	00 17 22.6	+0.9
FETY	Fethiye	2.55	50	*i* P	Pn	00 17 23.4	+1.0
FETY	Fethiye	2.55	50	PN	Pn	00 17 23.0	+0.6
KSL	Kastellorizon	2.64	63	P	Pn	00 17 24.1	+0.5
KSL				S	Sn	00 17 56.6	+0.8
AKAS	Kas	2.69	62	PN	Pn	00 17 25.1	+0.7
CAME	Cameli-Denizli	2.88	47	PN	Pn	00 17 28.4	+1.3
TAVA	DENIZLI_Tavas	3.05	36	*i* P	Pn	00 17 31.4	+2.0
TAVA				*i* S	Sb	00 18 11.9	-1.0
TAVA				IAML		00 18 27.0	
	comp=N,24nm,0.5s						
TAVA				IAML		00 18 29.0	
	comp=E,17nm,0.5s						
ELL	Elmali	3.15	56	PN	Pn	00 17 31.8	+1.0
ELL	Elmali	3.15	56	P	Pn	00 17 31.8	+1.0
KORT	Korkueli	3.59	55	PN	Pn	00 17 38.4	+1.6
AKMS	Akamas	4.65	88	P	Pn	00 17 52.2	+0.9
AKMS				AML	AML	00 18 45.0	
	comp=E,0.2nm,0.4s						
AKMS				AML	AML	00 18 45.6	
	comp=E,0.1nm,0.5s						
NATA	Nata	4.85	91	P	Pn	00 17 54.2	+0.2
ALFC	Alefka	4.86	87	P	Pn	00 17 54.0	-0.2
ALFC				AML	AML	00 18 49.7	
	comp=E,0.2nm,0.7s						
ALFC				AML	AML	00 18 50.2	
	comp=E,0.3nm,0.5s						
SZAC	Souni	5.11	91	P	Pn	00 17 57.8	+0.1
SZAC				AML	AML	00 18 55.9	
SZAC				AML	AML	00 18 56.2	
	comp=E,0.1nm,0.4s						
ASGA	Asgata	5.41	90	P	Pn	00 18 01.8	+0.1
CSS	Mathiatis	5.47	89	P	Pn	00 18 02.5	0.0
MVOU	Mavrovouni	5.71	88	P	Pn	00 18 06.9	+1.1

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*IDC **08** 00:21:18.2±2.9, 33.15S×178.33W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/23, mbtmp3.9/3, ML3.7/1, Error ellipse: s-maj=69.5km s-min=35.7km az=121.0*

*NEIC **08** 00:21:21.1±0.6, 33.2S±0.1×178.4W±0.2, h10km±2km, mb4.1/8, Error ellipse: s-maj=32.1km s-min=17.4km az=115.0*

ISC 08 00:21:21.0±2.5**, 33.2S**±0.1×**178.5W**±0.3**, h10km, n19, σ0.76**/16**, mb4.1**/5**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.23	214	Pn	Pn	00 22 53.1	0.0
	1.5nm,0.3s,baz=296,slow=19,SNR=6.9						
URZ				Sn	Sn	00 24 05.1	+0.8
	2.9nm,0.3s,baz=334,slow=24,SNR=5.4						
URZ	Urewera	6.23	214	Pn	Pn	00 22 53.3	+0.3
BKZ	Black Stump Fm	7.25	213	Pn	Pn	00 23 06.6	-0.4
DZM	Mont Dzumac	17.32	306		Pn	00 25 23.8	+0.7
DZM				IAmb	IAmb	00 25 26.3	
	comp=Z,11nm,1.0s						
ARMA	Armidale	25.53	268	P	P	00 26 50.0	+0.1
CTAO	Charters Tower	33.95	284	P	P	00 28 05.4	+0.7
BBOO	Buckleboo	37.92	258	P	P	00 28 37.2	-1.4
BBOO				IAmb	IAmb	00 28 42.1	
	comp=Z,5.1nm,1.1s						
ASAR	Alice Springs	42.64	270	P	P	00 29 17.6	-0.3
	comp=Z,0.8nm,0.5s,baz=110,slow=7.6,SNR=11						
WR0	Warramunga Arr	43.70	275	P	P	00 29 26.3	-0.1
WB2	Warramunga Arr	43.87	275	P	P	00 29 26.5	-1.3
WB2				IAmb	IAmb	00 29 33.7	
	comp=Z,3.1nm,0.8s						
WRA	Warramunga Arr	43.88	275	P	P	00 29 27.4	-0.6
	comp=Z,1.1nm,0.4s,baz=118,slow=7.9,SNR=17						
WRA	Warramunga Arr	43.88	275	P	P	00 29 27.5	-0.4
FORT	Forrest	45.02	258	P	P	00 29 36.3	-0.5
FITZ	Fitzroy Crossi	52.02	272	P	P	00 30 30.5	-0.4
FITZ				IAmb	IAmb	00 30 47.2	
	comp=Z,3.2nm,1.1s						
SNAA	Sanae	75.42	179	P	P	00 33 14.9	+10
VNA3	Neumayer Olymp	75.59	176	P	P	00 33 16.3	+11
VNA2	Neumayer--Watz	76.01	177	P	P	00 33 18.3	+10
	baz=176,slow=4.5						
VNA1	Neumayer--Stat	76.25	177	P	P	00 33 19.8	+11
FINES	FINESS Array B	147.57	338	PKPbc	PKPdf	00 41 02.9	+0.8
	comp=Z,2.5nm,0.7s,baz=51,slow=2.7,SNR=11						

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*IDC **08** 00:25:55.5±1.3, 32.91S×178.44W, h0km, mb4.2/4, mb1 4.4/6, mb1mx4.0/23, mbtmp4.2/6, ML3.7/2, Error ellipse: s-maj=34.5km s-min=29.3km az=50.0*

*NEIC **08** 00:25:57.8±2.1, 33.1S±0.1×178.6W±0.2, h10km±2km, mb4.4/10, Error ellipse: s-maj=23.2km s-min=19.3km az=70.0*

*WEL **08** 00:25:58.1±0.7, 33°S±8°×17°9W±2°1, h33km, M4.4/17, mB4.8/11, ML5.0/18, MLv4.8/17, Mw(mB)4.1/11, Error ellipse: s-maj=0.0km s-min=0.0km az=110.7*

ISC 08 00:25:55.9±0.8**, 32.97S**±0.06×**178.4W**±0.1**, h10km, n57, σ1.60**/79**, mb4.3**/7**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.72	7	P	Pn	00 26 51.2	-2.2
GLKZ				S	Sn	00 27 34.4	-3.0
RAO	Raoul Island	3.73	7	Sn	Sn	00 27 33.5	-4.1
	42nm,0.3s,baz=90,slow=20,SNR=1.5						
RIZ	Raoul Island	3.74	7	S	Sn	00 27 35.1	-2.7
MXZ	Matakaoa Point	5.30	209	Pn	Pn	00 27 13.7	-1.4
MXZ	Matakaoa Point	5.30	209	P	Pn	00 27 13.7	-1.4
MXZ				S	Sn	00 28 15.4	-0.9
WMGZ	Waiomatatini S	5.48	207	P	Pn	00 27 17.9	+0.3
WMGZ				S	Sn	00 28 21.4	+0.7
PKGZ	Pakihiroa	5.67	209	P	Pn	00 27 19.5	-0.9
PKGZ				S	Sn	00 28 24.0	-1.5
HAZ	Te Kaha	5.69	212	P	Pn	00 27 20.8	+0.3
HAZ				S	Sn	00 28 27.1	+1.3
PUZ	Puketiti	5.76	207	P	Pn	00 27 20.7	-0.8
PUZ				S	Sn	00 28 25.6	-2.1
RUGZ	Raukumara Rang	5.91	211	P	Pn	00 27 23.3	-0.3
RUGZ				S	Sn	00 28 31.1	-0.4
TWGZ	Tauwhareparae	5.96	208	P	Pn	00 27 24.3	0.0
TWGZ				S	Sn	00 28 30.6	-2.0
CNGZ	Carnagh Statio	6.14	206	P	Pn	00 27 25.1	-1.6
CNGZ				S	Sn	00 28 36.8	-0.2
WHRZ	Whale Island	6.15	216	P	Pn	00 27 29.7	+2.9
WHRZ				S	Sn	00 28 38.2	+1.0
MWZ	Matawai	6.28	210	P	Pn	00 27 28.8	+0.1
MWZ				S	Sn	00 28 38.7	-1.8
URZ	Urewera	6.41	213	Pn	Pn	00 27 30.6	+0.3
	3.2nm,0.3s,baz=114,slow=23,SNR=4.7						
URZ				Sn	Sn	00 28 41.0	-2.4
	6.7nm,0.3s,baz=145,slow=22,SNR=6.3						
URZ	Urewera	6.41	213		Pn	00 27 29.4	-0.9
URZ	Urewera	6.41	213	P	Pn	00 27 30.9	+0.6
URZ				S	Sn	00 28 41.9	-1.6
RAGZ	Rawiri	6.46	210	P	Pn	00 27 29.9	-1.3

RAGZ				S	Sn	00 28 43.0	-2.1
RIGZ	Rimuhau	6.50	207	P	Pn	00 27 31.9	+0.2
RIGZ				S	Sn	00 28 43.6	-2.4
SNGZ	Shannon Statio	6.74	209	P	Pn	00 27 35.8	+0.9
SNGZ				S	Sn	00 28 49.7	-2.1
MUGZ	Murupara	6.74	214	P	Pn	00 27 35.7	+0.7
MUGZ				S	Sn	00 28 50.2	-1.5
RTZ	Ruatahuna	6.75	212	P	Pn	00 27 35.7	+0.5
RTZ				S	Sn	00 28 50.2	-2.0
RAHZ	Arahi	6.96	210	P	Pn	00 27 39.0	+1.0
RAHZ				S	Sn	00 28 56.0	-1.2
OUZ	Omahuta	6.99	249	Pn	Pn	00 27 39.0	+0.7
MTHZ	Maungataniwha	7.01	212	P	Pn	00 27 39.0	+0.3
MTHZ				S	Sn	00 28 56.4	-2.1
BKZ	Black Stump Fm	7.42	212	Pn	Pn	00 27 43.0	-1.3
BKZ	Black Stump Fm	7.42	212	P	Pn	00 27 45.9	+1.5
BKZ				S	Sn	00 29 04.3	-4.3
KAHZ	Kahuranaki	7.79	208	P	Pn	00 27 48.4	-1.0
KAHZ				S	Sn	00 29 14.3	-3.3
TSZ	Takapari Road	8.39	211	P	Pn	00 28 00.1	+2.5
CMWZ	Cape Campbell	10.53	212	Pn	Pn	00 28 25.8	-1.2
LTZ	Lake Taylor	12.23	214	Pn	Pn	00 28 50.0	-0.2
WHZ	Wether Hill Ro	16.62	215	Pn	Pn	00 29 46.9	-2.1
WHZ				IAmb	IAmb	00 29 56.7	
	comp=Z,20nm,1.1s						
OUENC	Ouen Island, N	16.73	305	Pn	Pn	00 29 49.6	-0.9
OUENC				IAmb	IAmb	00 30 00.1	
	comp=Z,25nm,1.0s						
DZM	Mont Dzumac	17.24	305	P	Pn	00 29 58.2	+1.2
	comp=Z,0.2nm,0.3s,baz=110,slow=18,SNR=2.2						
STKA	Stephens Creek	33.62	261	P	P	00 32 37.9	+1.2
	comp=Z,1.5nm,0.6s,baz=170,slow=22,SNR=2.9						
COEN	Coen	39.70	289	P	P	00 33 27.9	-0.7
COEN				IAmb	IAmb	00 33 40.1	
	comp=Z,9.6nm,1.0s						
AS31	Alice Springs	42.67	270	P	P	00 33 53.8	+0.8
ASAR	Alice Springs	42.67	270	P	P	00 33 53.8	+0.7
	comp=Z,2.6nm,0.6s,baz=111,slow=7.6,SNR=25						
ASAR				S	S	00 40 15.2	-1.4
	comp=Z,0.4nm,0.8s,baz=119,slow=17,SNR=5.0						
ASAR	Alice Springs	42.67	270	P	P	00 33 53.4	+0.3
WR0	Warramunga Arr	43.72	275	P	P	00 34 02.2	+0.7
WR0				IAmb	IAmb	00 34 18.4	
	comp=Z,4.0nm,0.8s						
WB2	Warramunga Arr	43.88	275	P	P	00 34 03.5	+0.7
WB2				IAmb	IAmb	00 34 04.9	
	comp=Z,5.9nm,0.5s						
WRAB	Tennant Creek	43.89	275	P	P	00 34 03.3	+0.4
WRA	Warramunga Arr	43.89	275	P	P	00 34 03.9	+1.0
	comp=Z,3.9nm,0.4s,baz=117,slow=7.8,SNR=48						
WRA	Warramunga Arr	43.89	275	P	P	00 34 02.3	-0.6
FORT	Forrest	45.09	258	P	P	00 34 12.4	+0.1
QSPA	South Pole Qui	57.15	180	P	P	00 35 44.0	+1.4
	comp=Z,2.0nm,1.0s,baz=5.6,slow=3.7,SNR=4.5						
QSPA	South Pole Qui	57.15	180	P	P	00 35 44.3	+1.7
QSPA				IAmb	IAmb	00 35 58.1	
	comp=Z,4.3nm,0.8s						
SNAA	Sanae	75.60	179	P	P	00 37 38.5	-2.1
VNA3	Neumayer Olymp	75.77	176	P	P	00 37 41.2	-0.3
VNA2	Neumayer--Watz	76.20	177	P	P	00 37 43.3	-0.6
	baz=179,slow=4.9						
VNA1	Neumayer--Stat	76.43	177	P	P	00 37 44.6	-0.6
ARCES	ARCESS Array B	141.01	347	PKP	PKPdf	00 45 26.6	+1.2
	comp=Z,2.8nm,0.9s,baz=352,slow=1.8,SNR=2.1						
KBZ	Khabaz	146.17	301	PKPbc	PKPdf	00 45 36.1	+0.9
	comp=Z,1.3nm,0.8s,baz=207,slow=6.8,SNR=4.1						
FINES	FINESS Array B	147.41	338	PKPbc	PKPdf	00 45 39.5	+2.8
	comp=Z,2.7nm,0.4s,baz=46,slow=4.4,SNR=22						
NB2	NORSAR Subarra	151.22	350	PKP	PKPbc	00 45 50.2	+1.3
	comp=Z,0.9nm,0.8s,baz=17,slow=2.6						
NOA	NORSAR Array B	151.22	350	PKPbc	PKPbc	00 45 49.0	+0.1
	comp=Z,1.1nm,0.9s,baz=18,slow=4.2,SNR=3.0						
TORD	Torodi Ar. Bea	160.27	180	PKPab	PKPab	00 46 38.9	+2.4
	comp=Z,0.9nm,1.1s,baz=174,slow=4.2,SNR=2.5						

*NEIC **08** 00:43:42.9±1.3, 32°.57S±0°.08×177°.6W±0°.2, h10km±1km, mb4.6/13, Error ellipse: s-maj=23.8km s-min=12.2km az=108.0*

*IDC **08** 00:43:44.1±1.1, 32°.63S×178°.08W, h0km, mb4.2/4, mb1 4.4/5, mb1mx4.0/24, mbtmp4.2/5, ML4.0/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/39, Error ellipse: s-maj=32.4km s-min=30.6km az=96.0*

*WEL **08** 00:43:47.3±0.8, 32°S±10°×17°8W±2°6, h33km, M4.6/10, mB4.8/6, ML4.9/13, MLv4.9/10, Mw(mB)4.1/6, Error ellipse: s-maj=0.0km s-min=0.0km az=110.3*

ISC 08 00:43:45.8±0.7**, 32°.56S**±0°.06×**178°.1W**±0°.1**, h20**km**, n60, σ2s.13**/73**, mb4.5**/9**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.29	2	P	Pn	00 44 35.0	-1.1
GLKZ				S	Sn	00 45 14.2	-0.5
RAO	Raoul Island	3.30	2	Pn	Pn	00 44 33.9	-2.5
	44nm,0.3s,baz=90,slow=20,SNR=1.5						
RAO				Sn	Sn	00 45 13.7	-1.3
	81nm,0.3s,baz=90,slow=20,SNR=2.9						
MXZ	Matakaoa Point	5.81	210	Pn	Pn	00 45 10.0	-0.8
MXZ	Matakaoa Point	5.81	210	P	Pn	00 45 08.9	-1.9
MXZ				S	Sn	00 46 13.4	-3.5
WMGZ	Waiomatatini S	5.99	208	P	Pn	00 45 14.8	+1.6
WMGZ				S	Sn	00 46 22.9	+1.7
PKGZ	Pakihiroa	6.18	210	P	Pn	00 45 14.0	-2.0
PKGZ				S	Sn	00 46 24.9	-1.2
HAZ	Te Kaha	6.20	212	P	Pn	00 45 16.6	+0.5
HAZ				S	Sn	00 46 26.5	0.0
PUZ	Puketiti	6.27	208	P	Pn	00 45 13.7	-3.4
PUZ				S	Sn	00 46 27.1	-1.1
RUGZ	Raukumara Rang	6.42	212	P	Pn	00 45 19.6	+0.3
RUGZ				S	Sn	00 46 30.5	-1.5
TWGZ	Tauwhareparae	6.47	209	P	Pn	00 45 17.1	-2.8
TWGZ				S	Sn	00 46 32.3	-0.9
CNGZ	Carnagh Statio	6.65	206	P	Pn	00 45 21.0	-1.3
CNGZ				S	Sn	00 46 37.2	-0.2
MWZ	Matawai	6.79	211	P	Pn	00 45 24.2	-0.1
MWZ				S	Sn	00 46 39.1	-2.0
URZ	Urewera	6.92	213	Pn	Pn	00 45 25.5	-0.5
	3.0nm,0.3s,baz=116,slow=19,SNR=9.9						
URZ				Sn	Sn	00 46 42.2	-1.9
	6.2nm,0.3s,baz=167,slow=21,SNR=7.6						
URZ	Urewera	6.92	213		Pn	00 45 26.6	+0.6
URZ	Urewera	6.92	213	P	Pn	00 45 25.4	-0.5
URZ				S	Sn	00 46 41.7	-2.4
RAGZ	Rawiri	6.97	211	P	Pn	00 45 22.0	-4.9
RAGZ				S	Sn	00 46 44.0	-1.7
RIGZ	Rimuhau	7.01	208	P	Pn	00 45 27.3	0.0
RIGZ				S	Sn	00 46 46.5	0.0
MUGZ	Murupara	7.25	214	P	Pn	00 45 33.5	+2.9
MUGZ				S	Sn	00 46 50.1	-2.2
OUZ	Omahuta	7.42	247	Pn	Pn	00 45 37.0	+4.0
MTHZ	Maungataniwha	7.52	212	P	Pn	00 45 34.4	+0.1
MTHZ				S	Sn	00 46 58.2	-0.9
BKZ	Black Stump Fm	7.93	212	Pn	Pn	00 45 39.9	-0.2
BKZ	Black Stump Fm	7.93	212	P	Pn	00 45 37.5	-2.6
BKZ				S	Sn	00 47 05.8	-3.4
TSZ	Takapari Road	8.90	211	S	Sn	00 47 27.2	-5.7
ANWZ	Angora Road	9.02	208	P	Pn	00 45 49.7	-5.2
BFZ	Birch Farm	9.30	208	P	Pn	00 45 56.6	-2.1
BFZ				S	Sn	00 47 34.6	-8.2
MLZ	Mavora Lakes	16.67	216	Pn	P	00 47 39.2	-1.3
DZM	Mont Dzumac	17.26	303	LR	LR	00 52 59.3	
	comp=Z,162nm,19.4s,baz=232,slow=32						
CTAO	Charters Tower	34.15	282	P	P	00 50 31.9	+2.2
AS31	Alice Springs	42.98	269	P	P	00 51 45.1	+1.3
ASAR	Alice Springs	42.98	269	P	P	00 51 45.1	+1.2
	5.6nm,0.8s,baz=110,slow=7.5,SNR=40						
ASAR	Alice Springs	42.98	269	P	P	00 51 44.7	+0.8
WR0	Warramunga Arr	43.99	275	P	P	00 51 53.3	+1.3
WR0				IAmb	IAmb	00 51 54.1	
	comp=Z,9.6nm,1.1s						
WB2	Warramunga Arr	44.15	274	P	P	00 51 54.6	+1.3
WB2				IAmb	IAmb	00 51 55.4	
	comp=Z,9.5nm,0.9s						
WRA	Warramunga Arr	44.16	274	P	P	00 51 54.5	+1.1
	comp=Z,4.2nm,0.5s,baz=113,slow=8.0,SNR=32						
WRA	Warramunga Arr	44.16	274	P	P	00 51 54.1	+0.7
FORT	Forrest	45.48	257	P	P	00 52 04.3	+0.6
FORT				IAmb	IAmb	00 52 23.0	
	comp=Z,13nm,1.1s						
JOHN	Johnston Islan	49.69	11	P	P	00 52 33.9	-2.5
MTN	Manton Dam	50.30	281	P	P	00 52 41.6	+0.4
KNRA	Kununurra	50.84	276	P	P	00 52 46.2	+0.9
KNRA				IAmb	IAmb	00 52 47.6	
	comp=Z,6.9nm,0.9s						
FITZ	Fitzroy Crossi	52.33	272	P	P	00 52 57.6	+1.1
	comp=Z,2.7nm,0.9s,baz=152,slow=7.5,SNR=4.0						
FITZ	Fitzroy Crossi	52.33	272	IAmb	IAmb	00 52 58.9	
	comp=Z,7.8nm,1.2s						
CASY	Casey	53.22	209	P	P	00 53 02.2	-0.2
CASY				IAmb	IAmb	00 53 07.5	
	comp=Z,6.1nm,0.8s						
QSPA	South Pole Qui	57.56	180	P	P	00 53 35.3	+1.5
	comp=Z,0.9nm,0.8s,baz=306,slow=1.6,SNR=1.7						
QSPA	South Pole Qui	57.56	180	IAmb	IAmb	00 53 50.7	
	comp=Z,9.0nm,1.0s						
SNAA	Sanae	76.00	178	P	P	00 55 31.7	+0.6
VNA3	Neumayer Olymp	76.16	176	P	P	00 55 33.9	+2.0
VNA2	Neumayer--Watz	76.59	177	P	P	00 55 36.3	+1.9
	baz=166,slow=4.3						
VNA1	Neumayer--Stat	76.82	177	P	P	00 55 38.9	+3.2
MKAR	Makanchi Array	119.10	309	PKP	PKiKP	01 02 34.2	+1.2
	comp=Z,0.5nm,0.8s,baz=87,slow=3.2,SNR=4.4						
KBZ	Khabaz	146.22	301	PKPbc	PKiKP	01 03 26.6	-1.0
	comp=Z,4.1nm,1.0s,baz=333,slow=1.1,SNR=5.9						
FINES	FINESS Array B	147.14	339	PKPbc	PKPab	01 03 27.8	-0.5
	comp=Z,13nm,0.9s,baz=66,slow=5.0,SNR=17						
NB2	NORSAR Subarra	150.87	351	PKP	PKiKP	01 03 37.4	+0.6
	comp=Z,2.6nm,1.1s,baz=17,slow=2.6						
NOA	NORSAR Array B	150.87	351	PKPbc	PKiKP	01 03 37.0	+0.2
	comp=Z,0.2nm,0.6s,baz=27,slow=3.6,SNR=1.0						
AKASG	Malin Array Be	152.95	320	PKPbc	PKiKP	01 03 43.5	+2.1
	comp=Z,0.3nm,0.2s,baz=62,slow=2.0,SNR=1.9						
DPC	Dobruska-Polom	159.28	333	ePKPAB	PKPab	01 04 22.3	+2.6
KRLC	Kraliky	159.32	332	ePKPAB	PKPab	01 04 14.0	-5.9
TORD	Torodi Ar. Bea	160.68	179	PKPab	PKPab	01 04 26.9	+0.4
	comp=Z,0.7nm,0.8s,baz=179,slow=3.6,SNR=5.8						
CKRC	Cesky Krumlov	161.28	334	ePKPAB	PKPab	01 04 29.7	+1.3
KHC	Kasperske Hory	161.29	336	ePKPAB	PKPab	01 04 30.6	+2.2
GERES	GERESS Array B	161.48	335	PKPab	PKPab	01 04 30.7	+1.3
	comp=Z,0.3nm,0.6s,baz=28,slow=4.4,SNR=5.8						

*UCR **08** 00:50:11.4±1.8, 12°.25N×87°.14W, h59km±30km, ML3.5, MW4.0*

*INET **08** 00:50:11.1, 12°.30N×87°.03W, h56km, MW4.4*

*SNET **08** 00:50:12.1±1.8, 12°.21N×87°.39W, h11km±24km, ML3.5*

ISC 08 00:50:12.2±1.2**, 12°.29N**±0°.10×**87°.08W**±0°.09**, h50**km**, n30, σ0s.79**/50**, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LCND	La Caada	1.29	322	eP	Pn	00 50 33.4	-0.5
LCND				eS	Sn	00 50 50.1	+0.1
LCND				IAML		00 50 52.6	
	comp=Z,1μm,0.3s						
LCND	La Caada	1.29	322	eP	Pn	00 50 33.4	-0.5
LCND				eS	Sn	00 50 50.1	+0.1
LCND				IAML		00 50 52.6	
	comp=Z,1μm,0.3s						
JUCU	Jucuar¡n	1.49	310	eP	Pn	00 50 36.1	-0.6
JUCU				eS	Sn	00 50 54.5	-0.5
JUCU				IAML		00 50 57.7	
	comp=Z,2μm,0.3s						
JUCU	Jucuar¡n	1.49	310	eP	Pn	00 50 36.1	-0.6
JUCU				eS	Sn	00 50 54.5	-0.5
JUCU				IAML		00 50 57.7	
	comp=Z,2μm,0.3s						
ALJI	Alcalda de J	1.78	306	eP	Pn	00 50 40.0	-0.5
ALJI				eS	Sn	00 51 02.1	+0.1
ALJI				IAML		00 51 07.2	
	comp=Z,521nm,0.3s						
ALJI	Alcalda de J	1.78	306	eP	Pn	00 50 40.0	-0.5
ALJI				eS	Sn	00 51 02.1	+0.1
ALJI				IAML		00 51 07.2	
	comp=Z,521nm,0.3s						
COEB	Comit de Eme	1.86	311	eP	Pn	00 50 41.9	+0.2
COEB				eS	Sn	00 51 05.1	+1.0
COEB				IAML		00 51 10.9	
	comp=Z,401nm,0.4s						
COEB	Comit de Eme	1.86	311	eP	Pn	00 50 41.9	+0.2
COEB				eS	Sn	00 51 05.1	+1.0
COEB				IAML		00 51 10.9	
	comp=Z,401nm,0.4s						
ACON	Acoyapa	1.89	99	eP	Pn	00 50 42.0	-0.1
TECO	Alcaldia de Te	2.07	307	eP	Pn	00 50 44.0	-0.6
TECO				eS	Sn	00 51 08.1	-1.1
COEG	Centro de Oper	2.20	307	eP	Pn	00 50 45.9	-0.4
COEG				eS	Sn	00 51 11.9	-0.6
COEG				IAML		00 51 15.4	
	comp=Z,339nm,0.4s						
COEG	Centro de Oper	2.20	307	eP	Pn	00 50 45.9	-0.4
COEG				eS	Sn	00 51 11.9	-0.6
COEG				IAML		00 51 15.4	
	comp=Z,339nm,0.4s						
GB1A	Borinquen Arri	2.20	131	i P	Pn	00 50 45.9	-0.6
GB1A				i S	Sn	00 51 12.4	-0.2
BUEV	Buena Vista	2.21	132	eP	Pn	00 50 46.4	-0.1
BUEV				i S	Sn	00 51 13.8	+1.1
GPS2	Hotel Rincn d	2.28	132	eP	Pn	00 50 47.5	0.0
SJTE	Alcalda de S	2.29	305	eP	Pn	00 50 47.2	-0.5
SJTE				eS	Sn	00 51 13.5	-1.3
SJTE				IAML		00 51 15.6	
	comp=Z,131nm,0.4s						
SJTE	Alcalda de S	2.29	305	eP	Pn	00 50 47.2	-0.5
SJTE				eS	Sn	00 51 13.5	-1.3
SJTE				IAML		00 51 15.6	
	comp=Z,131nm,0.4s						
PAVA	Las Pavas	2.30	308	eP	Pn	00 50 47.4	-0.3
PAVA				eS	Sn	00 51 15.6	+0.6
PAVA				IAML		00 51 20.5	
	comp=Z,276nm,0.5s						
PAVA	Las Pavas	2.30	308	eP	Pn	00 50 47.4	-0.3
PAVA				eS	Sn	00 51 15.6	+0.6
PAVA				IAML		00 51 20.5	
	comp=Z,276nm,0.5s						
GUAB	Guayabo de Bag	2.40	131	i P	Pn	00 50 49.7	+0.6
HORNC	Hornillas	2.44	130	i P	Pn	00 50 49.3	-0.4
COLC	Colonia	2.45	131	i P	Pn	00 50 50.2	+0.5
CUI	Cuipilapa	2.48	131	i P	Pn	00 50 50.4	+0.2
GUAI	GUAI	2.53	142	i P	Pn	00 50 51.0	+0.2
PLVR	Palo Verde	2.57	138	eP	Pn	00 50 52.0	+0.5
PLVR				eS	Sn	00 51 20.8	-0.8
SAJU	San Juanillo,	2.58	148	eP	Pn	00 50 50.9	-0.7
GRZA	Playa Garza	2.75	149	eP	Pn	00 50 53.1	-0.7
JTS	Las Juntas de	2.88	133	eP	Pn	00 50 55.5	-0.2
CEVE	Cerro Verde	2.91	302	eP	Pn	00 50 57.0	+0.7
CEVE				eS	Sn	00 51 32.7	+2.4
CEVE				IAML		00 51 49.8	
	comp=Z,328nm,0.4s						
CEVE	Cerro Verde	2.91	302	eP	Pn	00 50 57.0	+0.7
CEVE				eS	Sn	00 51 32.7	+2.4
CEVE				IAML		00 51 49.8	
	comp=Z,328nm,0.4s						

MEX 08 00:53:22.4±0.8**, 17°.36N**×**100°.67W, h60**km±17km**, MD3.7, 1D, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.80	288	eP	Pn	00 53 36.3	-1.6
ZIIG				i S	Sn	00 53 47.6	-1.7
ARIG	Puente Sto Nin	0.97	18	eP	Pn	00 53 38.2	-1.8
ARIG				i S	Sn	00 53 51.0	-2.1
DAIG	Los Arroyos	1.03	109	i P	Pn	00 53 39.4	-1.4
DAIG				eS	Sn	00 53 52.3	-2.2
MEIG	Mezcala	1.15	60	i P	Pn	00 53 41.4	-1.0
MEIG				i S	Sn	00 53 55.8	-1.6
PLIG	Platanillo	1.51	47 ⇓	eP	Pn	00 53 46.7	-0.6
PLIG				eS	Sn	00 54 07.7	+1.5
MGIG	Malinaltepec	1.95	93	eP	Pn	00 53 56.3	+3.0
MGIG				eS	Sn	00 54 18.4	+1.6
TLIG	Tlapa	2.02	84	eP	Pn	00 53 59.5	+5.3
TLIG				eS	Sn	00 54 18.2	-0.2

IDC 08 00:57:32.7±3.4**, 33°.08S**×**178°.56W, h0**km**, mb3.5**/2**, mb1 3.7**/3**, mb1mx3.5**/40**, mbtmp3.5**/3**, ML3.3**/1**, Error ellipse: s-maj=80.1km s-min=49.0km az=118.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.25	213	Pn	Pn	00 59 05.6	-0.6
	0.6nm,0.3s,baz=113,slow=15,SNR=6.0						
URZ				Sn	Sn	01 00 15.0	-3.4
	0.6nm,0.3s,baz=309,slow=20,SNR=2.4						
ASAR	Alice Springs	42.56	270	P	P	01 05 30.7	+0.2
	0.6nm,0.6s,baz=108,slow=8.2,SNR=6.3						
WRA	Warramunga Arr	43.79	275	P	P	01 05 40.0	-0.4
	0.3nm,0.5s,baz=113,slow=7.6,SNR=1.8						
FINES	FINESS Array B	147.47	338	PKPbc	PKPbc	01 17 17.1	-0.7
	4.0nm,1.1s,baz=122,slow=5.2,SNR=1.8						

*IDC **08** 01:00:39.7±3.0, 32°.66S×178°.31W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/42, mbtmp4.0/4, ML4.0/1, MS4.0/1, Ms1 4.0/1, ms1mx2.9/38, Error ellipse: s-maj=68.6km s-min=36.3km az=116.0*

*NEIC **08** 01:00:44.7±0.8, 32°.8S±0°.1×178°.5W±0°.2, h20km±6km, mb4.3/9, Error ellipse: s-maj=21.4km s-min=16.5km az=77.0*

ISC 08 01:00:46.3±1.3**, 32°.7S**±0°.1×**178°.6W**±0°.2**, h33**km**, n18, σ0s.78**/20**, mb4.2**/6**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.54	211	Pn	Pn	01 02 19.8	-0.4
	3.0nm,0.3s,baz=300,slow=22,SNR=8.6						
URZ				Sn	Sn	01 03 36.1	+2.4
	2.9nm,0.3s,baz=305,slow=21,SNR=5.3						
URZ	Urewera	6.54	211	Pn	Pn	01 02 19.5	-0.7
URZ				Sn	Sn	01 03 33.9	+0.3
BKZ	Black Stump Fm	7.57	210	Pn	Pn	01 02 33.0	-1.2
BKZ				Sn	Sn	01 03 58.4	-0.5
BFZ	Birch Farm	8.96	206	Pn	Pn	01 02 52.6	-0.7
WHZ	Wether Hill Ro	16.75	214	Pn	Pn	01 04 37.9	-0.4
WHZ				IAmb	IAmb	01 04 53.9	
	comp=Z,43nm,1.4s						
ASAR	Alice Springs	42.54	270	P	P	01 08 39.4	+0.3
	comp=Z,0.7nm,0.5s,baz=111,slow=7.8,SNR=7.9						
WR0	Warramunga Arr	43.56	275	P	P	01 08 47.4	+0.1
WR0				IAmb	IAmb	01 08 51.6	
	comp=Z,5.3nm,1.4s						
WB2	Warramunga Arr	43.73	275	P	P	01 08 48.8	+0.2
WB2				IAmb	IAmb	01 09 06.1	
	comp=Z,9.9nm,1.4s						
WRA	Warramunga Arr	43.74	275	P	P	01 08 48.6	-0.1
	comp=Z,1.5nm,0.3s,baz=112,slow=8.1,SNR=17						
WRA	Warramunga Arr	43.74	275	P	P	01 08 48.9	+0.1
MTN	Manton Dam	49.89	281	P	P	01 09 36.8	-0.1
FITZ	Fitzroy Crossi	51.90	272	P	P	01 09 51.9	0.0
	comp=Z,1.2nm,0.9s,baz=115,slow=5.0,SNR=2.0						
FITZ	Fitzroy Crossi	51.90	272	P	P	01 09 52.4	+0.4
FITZ				IAmb	IAmb	01 10 03.3	
	comp=Z,7.1nm,1.5s						
CASY	Casey	52.86	209	P	P	01 09 58.0	-0.4
QSPA	South Pole Qui	57.40	180	P	P	01 10 31.3	-0.1
GUMO	Guam	57.80	317	LR	LR	01 30 04.6	
	comp=Z,132nm,21.0s,baz=44,slow=30						
SNAA	Sanae	75.85	179	P	P	01 12 29.6	+0.8
SNAA				IAmb	IAmb	01 12 43.0	
	comp=Z,4.7nm,1.3s						
FINES	FINESS Array B	147.13	338	PKPbc	PKPdf	01 20 23.1	+0.2
	comp=Z,0.9nm,0.4s,baz=35,slow=5.8,SNR=6.6						

*IDC **08** 01:06:21.6±1.1, 8°.13S×112°.97E, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.6/63, mbtmp3.8/7, ML3.7/2, Error ellipse: s-maj=52.7km s-min=19.5km az=36.0*

*DJA **08** 01:06:24.8±0.2, 8°S±3°×11°3E±°, h10km, M4.4/18, mb4.8/3, MLv4.2/18*

*NEIC **08** 01:06:27.3±1.4, 8°.4S±0°.1×112°.88E±0°.03, h31km±8km, mb4.0/7, Error ellipse: s-maj=14.8km s-min=3.7km az=181.0*

ISC 08 01:06:24.7±1.1**, 8°.47S**±0°.05×**112°.77E**±0°.03**, h18**km±3km**, n42, σ1s.20**/54**, mb4.0**/7**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRKI	Karangkates	0.44	314	P	Pg	01 06 33.5	-0.3
KRKI				S	Sg	01 06 39.5	-0.4
PWJI	Pagerwojo	1.05	295	P	Pb	01 06 43.3	-1.1
PWJI				S	Sb	01 06 56.5	-1.4
SJI	Sawahan	1.23	306	P	Pn	01 06 46.2	-0.9
SJI				S	Sb	01 07 02.8	-0.3
JAGI	Jajag, Banyuwa	1.37	90	Pn	Pn	01 06 48.6	-0.3
JAGI				Sg	Sn	01 07 06.2	-0.4
JAGI	Jajag, Banyuwa	1.37	90	P	Pn	01 06 48.9	0.0
JAGI				S	Sb	01 07 07.1	+0.2
GRJI	Gresik	1.57	349	P	Pn	01 06 52.6	+0.9
GRJI				S	Sb	01 07 12.8	0.0
BYJI	Banyuwangi	1.59	81	P	Pb	01 06 54.1	+0.6
ABJI	Asem Bagus	1.60	65	P	Pb	01 06 53.9	+0.2
ABJI				S	Sg	01 07 16.6	+0.3
PCJI	Pacitan	1.60	280	P	Pn	01 06 52.8	+0.7
PCJI				S	Sb	01 07 13.6	0.0
KMMI	Kalianget	1.84	40	P	Pn	01 06 56.1	+0.7
TBJI	Tambak Boyo	1.88	331	P	Pn	01 06 56.9	+1.0
UGM	Wanagama	2.29	284	Pn	Pn	01 07 03.7	+2.1
UGM				Sn	Sb	01 07 33.1	-0.5
UGM	Wanagama	2.29	284	P	Pn	01 07 03.4	+1.8
DNP	Denpasar	2.42	95	P	Pb	01 07 06.8	-1.0
SRBI	Singaraja	2.45	81	P	Pb	01 07 06.8	-1.4
YOGI	Yogyakarta	2.54	285	P	Pn	01 07 05.6	+0.6
SMRI	Semarang	2.71	301	Pn	Pn	01 07 09.1	+1.7
SMRI				Sn	Sn	01 07 41.5	+1.8
SMRI	Semarang	2.71	301	P	Pn	01 07 08.6	+1.3
KLNI	Mataram	3.29	89	P	Pn	01 07 17.1	+1.8
KPJI	Karang Pucung	3.97	286	P	Pn	01 07 26.8	+2.1
TWSI	Taliwang, Sumb	4.08	94	P	Pn	01 07 27.9	+1.8
CMJI	Cimerak	4.33	279	P	Pn	01 07 29.7	0.0
PLAI	Plampang	4.96	94	P	Pn	01 07 41.1	+2.7
	0.4nm51nm,0.8s						
CISI	Cisompet, Garu	4.99	280	Pn	Pn	01 07 39.5	+0.6
CISI				Sn	Sn	01 08 36.4	+0.3
CISI	Cisompet, Garu	4.99	280	P	Pn	01 07 39.4	+0.6
LEM	Lembang	5.36	287	Pn	Pn	01 07 46.0	+1.9
	4.3nm,0.3s,baz=143,slow=20,SNR=1.5						
LEM				Sn	Sn	01 08 48.2	+2.9
	6.0nm,0.3s,baz=28,slow=14,SNR=3.6						
GIRL	Giralia	14.16	174	Pn	Pn	01 09 43.5	-1.0
FITZ	Fitzroy Crossi	15.75	129	Pn	Pn	01 10 06.0	+0.2
	0.2nm,0.3s,baz=309,slow=7.1,SNR=6.0						
FITZ				Sn	Sn	01 12 47.6	-12
	0.1nm,0.3s,baz=212,slow=13,SNR=1.8						
FITZ	Fitzroy Crossi	15.75	129		Pn	01 10 05.3	-0.5
FITZ				IAmb	IAmb	01 10 24.1	
	comp=Z,6.0nm,1.3s						
MTN	Manton Dam	18.56	105		P	01 10 41.0	+0.2
MTN				IAmb	IAmb	01 10 53.9	
	comp=Z,20nm,1.4s						
WRA	Warramunga Arr	23.78	121	P	P	01 11 36.0	-0.5
	comp=Z,1.6nm,0.5s,baz=292,slow=11,SNR=16						
WRA	Warramunga Arr	23.78	121	P	P	01 11 36.1	-0.4
WB2	Warramunga Arr	23.79	121	P	P	01 11 36.3	-0.3
WB2				IAmb	IAmb	01 11 47.5	
	comp=Z,12nm,1.5s						
WR0	Warramunga Arr	23.96	121	P	P	01 11 37.7	-0.5
WR0				IAmb	IAmb	01 11 46.4	
	comp=Z,4.4nm,1.0s						
ASAR	Alice Springs	25.26	129	P	P	01 11 50.5	+0.5
	comp=Z,2.4nm,0.7s,baz=306,slow=9.1,SNR=25						
FORT	Forrest	26.39	149	P	P	01 12 00.5	+0.3
STKA	Stephens Creek	35.49	135	P	P	01 13 21.4	+1.0
	comp=Z,2.0nm,0.5s,baz=322,slow=6.9,SNR=6.8						
STKA	Stephens Creek	35.49	135	P	P	01 13 22.2	+1.7
STKA				IAmb	IAmb	01 13 36.8	
	comp=Z,2.0nm,1.4s						
MKAR	Makanchi Array	61.35	337	P	P	01 16 37.6	-1.8
	comp=Z,0.2nm,0.6s,baz=144,slow=8.1,SNR=4.1						
VNDA	Vanda	73.52	170	P	P	01 17 57.0	+1.1
	comp=Z,0.5nm,0.8s,baz=300,slow=6.4,SNR=3.9						
TXAR	Lajitas Array	140.02	54	PKP	PKPdf	01 25 51.1	-1.7
	comp=Z,0.1nm,0.7s,baz=297,slow=4.0,SNR=1.8						
CPUP	Villa Florida	144.10	195	PKP	PKPdf	01 25 59.5	-0.7
	comp=Z,1.7nm,0.7s,baz=205,slow=1.2,SNR=4.2						

*IDC **08** 01:18:26.6±0.7, 28°.61N×57°.05E, h0km, mb4.0/24, mb1 4.0/32, mb1mx3.9/65, mbtmp3.9/32, ML3.8/7, MS3.0/3, Ms1 3.0/3, ms1mx2.6/61, Error ellipse: s-maj=17.5km s-min=13.4km az=4.0*

*TEH **08** 01:18:27.9, 28°.55N×57°.23E, h8km, ML4.2*

*THR **08** 01:18:28.8±0.7, 28°.60N×57°.20E, h14km±5km, ML4.1*

*OMAN **08** 01:18:29.8±0.1, 28°.50N×57°.14E, h10km, mb5.4/8, Error ellipse: s-maj=1.2km s-min=0.8km az=41.0*

NEIC 08 01:18:29.5±2.0, 28.59N±0.04×57.24E±0.05, h20km±6km, Error ellipse: s-maj=7.1km s-min=4.2km az=128.0
DSN 08 01:18:29.2±1.4, 28.57N×57.12E, h10km, ML3.7/13, Error ellipse: s-maj=19.7km s-min=12.6km az=86.0
ISC 08 01:18:27.8±1.2, **28.59N**±0.03×**57.22E**±0.03, **h10**km±8km, **n221**, σ1s**67**/257, **mb4.1**/46, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	Kahnooj	0.77	146	Pg	Pg	01 18 41.5	-1.2
KHNJ	Kahnooj	0.77	146	ePg	Pg	01 18 41.5	-1.2
NGRK	Negar Kerman	1.13	338		Pg	01 18 49.0	-0.7
NGRK	Negar Kerman	1.13	338	ePg	Pg	01 18 49.3	-0.4
NGRK				e		01 19 08.8	
	comp=Z,67µm,0.2s						
KBAM	BAM	1.21	63	ePg	Pb	01 18 50.6	-0.3
KBAM				eSg	Sg	01 19 07.1	+0.2
KBAM				e		01 19 13.7	
	comp=Z,63µm,0.4s						
CHMN	Cheshme madani	1.30	12		Pn	01 18 52.8	+0.5
CHMN	Cheshme madani	1.30	12	ePn	Pn	01 18 52.9	+0.6
CHMN				e		01 19 18.9	
	comp=Z,33µm,0.4s						
KRBR	Kerman	1.44	344	ePg	Pn	01 18 54.9	+0.6
KRBR				eSg	Sn	01 19 14.6	+1.2
KRBR				IAML		01 19 17.0	
	comp=N,2µm,0.2s						
KRBR				IAML		01 19 19.4	
	comp=E,3µm,0.4s						
KRBR	Kerman	1.44	344	ePg	Pn	01 18 54.9	+0.6
TVBK	TV Kerman	1.45	344		Pn	01 18 54.9	+0.5
TVBK	TV Kerman	1.45	344	ePg	Pn	01 18 55.1	+0.7
GENO	Geno	1.50	218	Pn	Pb	01 18 55.8	-0.1
GENO	Geno	1.50	218	ePg	Pg	01 18 56.1	-0.6
GENO				e		01 19 25.0	
	comp=Z,20µm,0.5s						
BNDS	Bandar-Abbas	1.50	218	ePg	Pg	01 18 56.1	-0.6
BNDS				eSg	Sg	01 19 17.1	+0.8
BNDS				IAML		01 19 24.6	
	comp=N,1µm,0.6s						
BNDS	Bandar-Abbas	1.50	218	ePg	Pg	01 18 56.1	-0.6
KHGB	Koh Gabri	1.89	340	Pn	Pn	01 19 01.8	+1.4
KHGB	Koh Gabri	1.89	340	ePn	Pn	01 19 02.0	+1.6
KHGB				e		01 19 29.6	
	comp=Z,22µm,0.4s						
LAR1	LAR	2.67	251	Pn	Pn	01 19 12.3	+1.3
LAR1	LAR	2.67	251	ePn	Pn	01 19 12.5	+1.5
LAR1				e		01 20 17.1	
	comp=Z,10µm,0.4s						
SHME	Shamm	2.71	201	eP	Pn	01 19 12.4	+1.0
	SNR=24						
SHME	Shamm	2.71	201	ePn	Pn	01 19 12.8	+1.4
SHME	Shamm	2.71	201	P	Pn	01 19 11.9	+0.6
	SNR=24						
SHME				S	Sn	01 19 46.2	+2.0
BANOM	Banah	2.78	197	eP	Pn	01 19 13.1	+0.7
	SNR=54						
BANOM				S	Sn	01 19 47.5	+1.5
BANOM	Banah	2.78	197	ePn	Pn	01 19 13.5	+1.1
BANOM	Banah	2.78	197	P	Pn	01 19 13.1	+0.7
	SNR=54						
BANOM				S	Sn	01 19 47.5	+1.5
	SNR=48						
JHRM	Jahrom	3.20	269	ePn	Pn	01 19 20.5	+2.2
ZHDN	Zahedan	3.25	75	Pn	Pn	01 19 21.0	+2.0
ZHDN	Zahedan	3.25	75	ePn	Pn	01 19 20.7	+1.7
ZHSF	Zahedan	3.27	71	ePn	Pn	01 19 22.4	+3.0
ZHSF	Zahedan	3.27	71	ePn	Pn	01 19 22.4	+3.0
IBAF	Bafgh	3.31	335	ePn	Pn	01 19 23.6	+3.7
MASF	Masafi	3.34	197	P	Pn	01 19 21.7	+1.5
MASF				S	Sn	01 20 01.9	+1.9
MSFE	Esma-Masafi	3.35	197	P	Pn	01 19 22.1	+1.7
MSFE	Esma-Masafi	3.35	197	ePn	Pn	01 19 22.0	+1.7
MDH	Madha	3.38	194	P	Pn	01 19 20.7	0.0
MDH	Madha	3.38	194	ePn	Pn	01 19 21.0	+0.4
MDH	Madha	3.38	194	P	Pn	01 19 20.9	+0.3
MDH				S	Sn	01 20 04.1	+3.3
IMEH	Mehriz	3.59	322	ePn	Pn	01 19 26.7	+2.9
QIR1	Qir	3.67	269	ePn	Pn	01 19 27.1	+2.4
QIR1				e		01 20 57.3	
	comp=Z,5µm,0.5s						
NHDN	Nehbandan	3.72	41	Pn	Pn	01 19 28.4	+3.0
NHDN	Nehbandan	3.72	41	ePn	Pn	01 19 28.5	+3.0
UOSS	Minazif	3.74	194	P	Pn	01 19 27.1	+1.5
UOSS	Minazif	3.74	194		Pn	01 19 27.2	+1.5
UOSS				Sn	Sn	01 20 08.9	-0.8
UOSS	Minazif	3.74	194	ePn	Pn	01 19 26.6	+1.0
UOSS	Minazif	3.74	194	P	Pn	01 19 27.3	+1.6
UOSS				S	Sn	01 20 12.6	+2.9
BSRN	Basiran	3.75	26	ePn	Pn	01 19 28.4	+2.6
BSRN	Basiran	3.75	26	ePn	Pn	01 19 28.4	+2.6
NAZ	Nazwa, Dubai	3.85	202	P	Pn	01 19 28.3	+1.3
NAZ	Nazwa, Dubai	3.85	202	ePn	Pn	01 19 28.7	+1.6
NAZ	Nazwa, Dubai	3.85	202	P	Pn	01 19 28.4	+1.3
NAZ				S	Sn	01 20 14.0	+1.6
HATD	Hatta, Dubai	3.87	195	P	Pn	01 19 28.6	+1.2
HATD	Hatta, Dubai	3.87	195	ePn	Pn	01 19 29.0	+1.6
HATD	Hatta, Dubai	3.87	195	P	Pn	01 19 29.6	+2.1
HATD				S	Sn	01 20 15.9	+2.9
ASHO	Ashiyiah	4.03	195	i P	Pn	01 19 31.0	+1.5
	SNR=36						
ASHO	Ashiyiah	4.03	195	ePn	Pn	01 19 31.4	+1.8
ASHO	Ashiyiah	4.03	195	P	Pn	01 19 31.3	+1.7
	SNR=36						
ASHO				S	Sn	01 20 19.7	+2.9
FAQ	Al Faqa, Dubai	4.10	201	i P	Pn	01 19 31.7	+1.2
	SNR=21						
FAQ	Al Faqa, Dubai	4.10	201	ePn	Pn	01 19 32.2	+1.7
FAQ	Al Faqa, Dubai	4.10	201	P	Pn	01 19 31.7	+1.2
	SNR=8.2						
FAQ				S	Sn	01 20 18.7	+0.2
IKOO	Kooshah	4.12	22	ePn	Pn	01 19 34.2	+3.2
IKOO				e		01 20 44.3	
	comp=Z,4µm,0.3s						
CHBR	Chabahar	4.17	135	ePn	Pn	01 19 33.8	+2.4
ASUD	Al Ashush, Dub	4.29	204	i P	Pn	01 19 34.7	+1.4
	SNR=87						
ASUD	Al Ashush, Dub	4.29	204	ePn	Pn	01 19 35.2	+2.0
ASUD	Al Ashush, Dub	4.29	204	P	Pn	01 19 34.9	+1.7
	SNR=87						
ASUD				S	Sn	01 20 25.9	+2.5
ICHK	Chekchek	4.38	327	ePn	Pn	01 19 37.7	+3.1
YZKH	Yazd	4.41	330	ePn	Pn	01 19 37.6	+2.6
YZKH	Yazd	4.41	330	ePn	Pn	01 19 37.6	+2.6
TPRV	Parvadeh(Tabas	4.45	354	ePn	Pn	01 19 38.8	+3.4
SOHO	SOHO	4.48	188	i P	Pn	01 19 34.7	-1.1
	SNR=20						
SOHO	SOHO	4.48	188	ePn	Pn	01 19 35.0	-0.8
SOHO	SOHO	4.48	188	P	Pn	01 19 35.0	-0.8
AJN	Ajban	4.48	207	i P	Pn	01 19 37.1	+1.4
	SNR=17						
AJN	Ajban	4.48	207	ePn	Pn	01 19 37.0	+1.2
AJN	Ajban	4.48	207	S	Sn	01 20 28.5	+0.5
ITEG	Tejag	4.49	17	ePn	Pn	01 19 38.4	+2.3
ITEG				e		01 21 00.7	
	comp=Z,2µm,0.5s						
ISAD	Sadrabad	4.51	318	ePn	Pn	01 19 39.2	+2.8
ALNE	Al Ain	4.70	197	P	Pn	01 19 40.5	+1.7
ALNE	Al Ain	4.70	197	ePn	Pn	01 19 40.6	+1.7
ALNE	Al Ain	4.70	197	P	Pn	01 19 40.2	+1.4
ALNE				S	Sn	01 20 34.4	+0.9
SRVN	Saravan	4.73	103	Pn	Pn	01 19 41.6	+2.3
SRVN	Saravan	4.73	103	ePn	Pn	01 19 41.2	+1.9
HOQ	Hoqain	4.99	179	S	Sn	01 20 39.3	-1.2
TKDS	Koohdasht(Taba	5.01	359	ePn	Pn	01 19 45.8	+2.7
TABS	Tabas	5.04	359	ePn	Pn	01 19 46.1	+2.5
TABS				IAML		01 21 30.9	
	comp=N,80nm,0.7s						
TABS	Tabas	5.04	359	ePn	Pn	01 19 46.1	+2.5
AFRZ	Afriz	5.06	17	ePn	Pn	01 19 46.7	+2.8
BIDO	Bidbid	5.11	171	ePn	Pn	01 19 44.5	+0.1
BIDO	Bidbid	5.11	171	P	Pn	01 19 44.6	+0.1
	SNR=11						
BIDO				S	Sn	01 20 42.1	-1.5
AHBU	AHRAM	5.21	274	ePn	Pn	01 19 47.7	+1.9
IRAM	Ramesheh	5.27	309	Pn	Pn	01 19 49.6	+2.7
IRAM	Ramesheh	5.27	309	ePn	Pn	01 19 50.1	+3.2
JRN	Qarnain Island	5.33	228	ePn	Pn	01 19 49.4	+1.9
JRN	Qarnain Island	5.33	228	P	Pn	01 19 47.8	+0.4
	SNR=7.0						
JRN				S	Sn	01 20 49.4	+0.5
TNSJ	Nastanj	5.38	355	ePn	Pn	01 19 51.3	+3.1
KLNJ	Kolanjah	5.45	298	ePn	Pn	01 19 52.2	+2.8
ANAR	Anarak	5.48	328	ePn	Pn	01 19 53.0	+3.4
WSAR	Wadi Sarin	5.48	166	Pn	Pn	01 19 50.3	+0.8
	comp=N,10nm,0.3s,baz=354,slow=8.9,SNR=151						
WSAR				Sn	Sn	01 20 50.5	-2.1
	comp=N,21nm,0.3s,baz=135,slow=22,SNR=12						
WSAR	Wadi Sarin	5.48	166	P	Pn	01 19 50.3	+0.8
	SNR=136						
WSAR				S	Sn	01 20 51.6	-1.0
SMDO	Samad	5.56	172	S	Sn	01 20 54.0	-0.7
NASN	Na'in	5.66	319	ePn	Pn	01 19 54.7	+2.5
NASN	Na'in	5.66	319	ePn	Pn	01 19 54.7	+2.5
MZWR	Madinat Zayed	5.67	213	ePn	Pn	01 19 53.8	+1.7
SHRT	Shahrakht	5.69	27	ePn	Pn	01 19 55.4	+3.0
SHRT	Shahrakht	5.69	27	ePn	Pn	01 19 55.4	+3.0
BSY	Bisya	5.82	180	S	Sn	01 21 03.4	+2.3
IZEF	Zefreh	6.01	317	ePn	Pn	01 19 59.8	+2.8
GHWR	Ruwais	6.04	221	ePn	Pn	01 19 57.7	+0.6
GHWR	Ruwais	6.04	221	P	Pn	01 19 57.9	+0.8
GHWR				S	Sn	01 21 04.2	-2.1
WBK	Wadi Bani Khal	6.16	165	P	Pn	01 19 59.3	+0.4
	SNR=69						
WBK				S	Sn	01 21 08.1	-1.4
SHMA	Al-Shehemyia	6.20	245	P	Pn	01 20 00.9	+1.6
SHMA				S	Sn	01 21 10.2	0.0
JMDO	Jabal Madar	6.25	172	S	Sn	01 21 12.4	+0.9
SAKB	Bahrain	6.49	248	P	Pn	01 20 04.6	+1.3
SAKB				S	Sn	01 21 16.6	-0.9
TRNA	Turayna	6.60	236	P	Pn	01 20 05.6	+0.7
TRNA				S	Sn	01 21 18.8	-1.5
SLWR	Sila	6.70	229	ePn	Pn	01 20 06.7	+0.5
SLWR	Sila	6.70	229	P	Pn	01 20 06.1	-0.1
SLWR				S	Sn	01 21 20.0	-2.6
JLN	Jalan Bani Buh	6.71	162	P	Pn	01 20 07.2	+0.8
JLN				S	Sn	01 21 20.8	-2.1
IKLH	Kolahrood	6.76	316	ePn	Pn	01 20 10.1	+2.8
IPIR	Pirpir	6.81	308	ePn	Pn	01 20 11.3	+3.3
ISFB	Sefidab	7.14	325	ePn	Pn	01 20 15.5	+3.1
HRA	Herat	7.20	35	Pn	Pn	01 20 12.9	-0.4
MHTO	MHTO	7.60	175	P	Pn	01 20 19.8	+1.1
	SNR=8.1						
MHTO				S	Sn	01 21 43.4	-1.5
GHVR	GHOM	7.75	321	ePn	Pn	01 20 24.3	+3.6
GHVR	GHOM	7.75	321	ePn	Pn	01 20 24.3	+3.6
SBZV	Sabzevar	7.78	2	ePn	Pn	01 20 25.3	+4.0
KHMZ	Khomeyn	8.06	311	ePn	Pn	01 20 28.2	+3.0
KHMZ	Khomeyn	8.06	311	ePn	Pn	01 20 28.2	+3.0
QRN	Al-Qurain	8.17	273	eP	Pn	01 20 26.7	+0.2
KBD	Kabd	8.37	276	eP	Pn	01 20 29.7	+0.5
UMR	Umm Al-Rimmam	8.37	279	eP	Pn	01 20 29.4	+0.2
ISFR	Sfrayin	8.47	4	ePn	Pn	01 20 34.9	+4.2
RDF	Al-Radifah	8.49	275	eP	Pn	01 20 31.1	+0.2
RST	Umm Al-Ruwaisa	8.99	278	eP	Pn	01 20 37.9	+0.2
DOK	Doka	10.32	197	P	Pn	01 20 55.3	-0.7
	SNR=7.5						
WHFO	Wadi Hawf	11.08	197	P	Pn	01 21 05.0	-1.5
	SNR=51						
GNI	Garni	15.44	322	Pn	Pn	01 22 05.1	-0.7
	comp=N,0.3nm,0.3s,baz=139,slow=9.3,SNR=1.8						
GNI				LR	LR	01 29 16.8	
	comp=N,28nm,19.4s,baz=118,slow=42						
GNI	Garni	15.44	322	Pn	Pn	01 22 05.0	-0.9
GNI				IAmb	IAmb	01 22 15.2	
	comp=Z,5.2nm,0.8s						
GURO	Guroymak-BITLI	16.07	312	Pn	Pn	01 22 13.8	-0.2
ASF	Jabal al Asfar	17.89	287	P	Pn	01 22 35.1	-1.7
	comp=Z,0.4nm,0.3s,baz=20,slow=14,SNR=3.2						
ASF				S	Sn	01 25 46.5	-10
	comp=Z,0.2nm,0.3s,baz=98,slow=7.9,SNR=4.3						
KK31	Karatay Array	18.02	33		Pn	01 22 37.6	-0.7
KKAR	Karatay Array	18.02	33	P	Pn	01 22 37.8	-0.5
KKAR	Karatay Array	18.02	33		Pn	01 22 38.0	-0.3
KKAR				IAmb	IAmb	01 22 44.5	
	comp=Z,4.1nm,0.7s						
KSH	Kashi	18.94	50	P	P	01 22 49.2	+0.1
KBZ	Khabaz	18.98	327	P	P	01 22 49.2	-0.1
	comp=Z,0.1nm,0.3s,baz=148,slow=10,SNR=1.8						
MMAI	Mount Meron Ar	19.24	289	P	P	01 22 52.1	-0.3
	comp=Z,0.4nm,0.3s,baz=90,slow=14,SNR=3.6						
KVAR	Kislovodsk Arr	19.25	327	P	P	01 22 53.0	+0.6
	baz=130,slow=16,SNR=2.0						
EIL	Elat	19.48	279	P	P	01 22 53.6	-1.3
	comp=Z,0.2nm,0.3s,baz=89,slow=10,SNR=2.0						
AAK	Ala-Archa	19.79	40	P	P	01 22 58.7	+0.3
	comp=Z,0.3nm,0.3s,baz=225,slow=5.7,SNR=2.0						
AAK	Ala-Archa	19.79	40	P	P	01 22 57.4	-0.9
AAK				IAmb	IAmb	01 23 12.1	
	comp=Z,8.9nm,1.4s						
ABKAR	Akbulak array	20.74	5	P	P	01 23 08.4	-0.1
ABKAR	Akbulak array	20.74	5	P	P	01 23 08.7	+0.2
ABKAR				IAmb	IAmb	01 23 15.0	
	comp=Z,8.1nm,0.9s						
AKTO	Aktyubinsk	21.82	1	P	P	01 23 19.2	-1.0
	comp=Z,2.9nm,0.5s,baz=188,slow=10,SNR=13						
AKTO				LR	LR	01 32 19.0	
	comp=Z,48nm,19.1s,baz=149,slow=38						
BRTR	Keskin Array B	22.39	306	P	P	01 23 26.4	0.0
	comp=Z,1.7nm,0.6s,baz=128,slow=11,SNR=6.7						
BRTR				LR	LR	01 33 34.1	
	comp=Z,83nm,20.6s,baz=121,slow=41						
PYUN	Piuthan	22.68	85	eP	P	01 23 32.5	+2.8
	comp=Z,16nm,0.6s						
KOLN	Koldanda	23.26	86	eP	P	01 23 38.1	+2.4
DANN	Dangsing	23.32	84	eP	P	01 23 39.5	+3.0
	comp=Z,59nm,0.8s						
DMN	Daman	24.60	86	eP	P	01 23 50.9	+2.3
KKN	Kakani	24.73	85	eP	P	01 23 52.5	+2.8
PKIN	Phulchoki	24.86	86	eP	P	01 23 53.0	+2.1
PKI	Pulchoki	24.87	86	eP	P	01 23 52.9	+1.8
JIRN	Jiri	25.54	85	eP	P	01 23 59.3	+2.1
BVAR	Borovoye Array	26.28	18	P	P	01 24 04.9	+1.7
	comp=Z,2.8nm,0.7s,baz=212,slow=14,SNR=18						
BRVK	Borovoye	26.28	18	P	P	01 24 02.9	-0.4
BRVK				IAmb	IAmb	01 24 07.4	
	comp=Z,2.4nm,0.9s						
MKAR	Makanchi Array	26.72	40	P	P	01 24 09.4	+2.0
	comp=Z,0.7nm,0.5s,baz=229,slow=8.7,SNR=8.7						
MKAR	Makanchi Array	26.72	40	P	P	01 24 07.0	-0.3
KURBB	Kurchatov Arra	27.27	30	P	P	01 24 14.1	+1.9
	comp=Z,0.7nm,0.9s,baz=231,slow=9.1,SNR=8.7						
IDI	Anoyia	28.15	292	P	P	01 24 20.8	+0.5
	comp=Z,4.1nm,0.9s,baz=170,slow=11,SNR=2.1						
AKASG	Malin Array Be	30.55	324	P	P	01 24 40.6	-0.7
	comp=Z,0.2nm,0.3s,baz=228,slow=28,SNR=2.4						
AKASG				PcP	PcP	01 27 39.2	-0.7
	comp=Z,0.3nm,0.4s,baz=69,slow=3.1,SNR=1.3						
AKASG	Malin Array Be	30.55	324	P	P	01 24 40.6	-0.7
ZALV	Zalesovo Beam	32.37	31	P	P	01 24 58.3	+1.0
	comp=Z,1.8nm,0.7s,baz=246,slow=9.8,SNR=6.5						
ZALV	Zalesovo Beam	32.37	31	P	P	01 24 56.5	-0.8
MORC	Moravsky Berou	36.75	316	P	P	01 25 35.0	-0.3
MORC				IAmb	IAmb	01 25 37.0	
	comp=Z,1.2nm,0.8s						
FIA1	FINESS Array S	38.81	337	P	P	01 25 52.7	+0.2
FINES	FINESS Array B	38.81	337	P	P	01 25 51.9	-0.6
	comp=Z,2.9nm,0.6s,baz=141,slow=10,SNR=16						
FINES	FINESS Array B	38.81	337	P	P	01 25 51.6	-0.9
GERES	GERESS Array B	38.86	314	P	P	01 25 52.5	-0.7
	comp=Z,0.4nm,0.5s,baz=111,slow=7.3,SNR=4.6						
GERES				PcP	PcP	01 28 03.6	-0.6
	comp=Z,0.9nm,0.6s,baz=116,slow=2.3,SNR=7.7						
GERES	GERESS Array B	38.86	314	P	P	01 25 53.5	+0.3
KHC	Kasperske Hory	39.01	314	eP	P	01 25 54.0	-0.5
ZCCA	Zocca	39.83	306	P	P	01 26 01.2	-0.1
WTTA	Wattenberg	39.84	311	i P	P	01 26 00.7	-0.9
	comp=Z,1.5nm,0.4s						
WTTA				i P	PcP	01 28 07.3	-0.2
	comp=Z,1.7nm,0.4s						
WATA	Walderalm	39.90	311	eP	P	01 26 01.2	-0.8
	comp=Z,1.8nm,0.4s						
WATA				i P	PcP	01 28 07.7	+0.2
	comp=Z,2.2nm,0.4s						
SQTA	Sankt Quirin	40.12	310	eP	P	01 26 02.7	-1.1
	comp=Z,2.4nm,0.6s						
SQTA				i P	PcP	01 28 08.2	-0.1
	comp=Z,3.8nm,0.5s						
MOTA	Moosalm	40.22	311	eP	PcP	01 28 08.5	-0.1
	comp=Z,2.0nm,0.5s						
FETA	Feichten	40.41	310	eP	P	01 26 04.9	-1.3
	comp=Z,4.4nm,1.1s						
RETA	Reutte	40.47	311	i P	P	01 26 05.8	-0.8
	comp=Z,1.5nm,0.8s						
RETA				eP	PcP	01 28 09.2	-0.1
	comp=Z,1.7nm,0.5s						
KEST	Kesra	40.82	293	P	P	01 26 09.2	-0.5
	comp=Z,1.6nm,0.7s,baz=66,slow=2.8,SNR=5.2						
KEST	Kesra	40.82	293	P	P	01 26 08.0	-1.7
KEST				IAmb	IAmb	01 26 23.1	
	comp=Z,3.6nm,1.1s						
MSSA	Maissana	40.86	306	P	P	01 26 09.5	-0.4
DAVOX	Davos/Dischmat	40.94	310	P	P	01 26 10.0	-0.6
	comp=Z,1.6nm,0.4s,baz=117,slow=6.2,SNR=7.3						
DAVA	Damuels	41.02	310	eP	P	01 26 09.4	-2.0
	comp=Z,4.8nm,0.9s						
DAVA				i P	PcP	01 28 11.3	+0.1
	comp=Z,1.5nm,0.5s						
SENIN	Lac Senin/Sane	42.65	309	P	P	01 26 23.4	-1.2
SENIN				IAmb	IAmb	01 26 34.1	
	comp=Z,2.7nm,1.0s						
BNI	Bardonecchia	42.95	307	P	P	01 26 26.2	-0.9
BNI				IAmb	IAmb	01 26 27.5	
	comp=Z,5.3nm,0.7s						
HFS	Hagfors	43.01	330	P	P	01 26 26.2	-0.9
	comp=Z,2.3nm,0.5s,baz=123,slow=11,SNR=14						
NOA	NORSAR Array B	44.51	330	P	P	01 26 38.1	-1.1
	comp=Z,0.3nm,0.5s,baz=127,slow=5.7,SNR=3.3						
ARCES	ARCESS Array B	44.87	345	P	P	01 26 41.3	-0.7
	comp=Z,2.3nm,0.8s,baz=135,slow=7.3,SNR=8.7						
ARCES				PcP	PcP	01 28 22.8	-0.6
	comp=Z,3.0nm,1.0s,baz=144,slow=2.0,SNR=4.4						
ARCES	ARCESS Array B	44.87	345	P	P	01 26 43.0	+1.1
EKA	Eskdalemuir Ar	50.28	320	P	P	01 27 23.1	-1.1
	comp=Z,0.4nm,0.3s,baz=109,slow=7.2,SNR=6.4						
ESBB	Sonseca Array	50.96	299	P	P	01 27 29.9	+0.2
ESDC	Sonseca Array	50.96	299	P	P	01 27 29.3	-0.3
	comp=Z,1.4nm,0.5s,baz=73,slow=7.0,SNR=25						
ESDC	Sonseca Array	50.96	299	P	P	01 27 29.5	-0.2
ESDC				IAmb	IAmb	01 27 30.6	
	comp=Z,2.2nm,1.0s						
PAB	San Pablo	51.27	299	P	P	01 27 32.0	0.0
PAB				IAmb	IAmb	01 27 33.2	
	comp=Z,3.2nm,0.7s						
MVO	Moncorvo	53.08	302	eP	P	01 27 45.7	+0.2
	comp=Z,17nm,1.7s						
PBAR	Barrancos	53.55	298	eP	P	01 27 49.1	+0.2
	comp=Z,10nm,1.0s						
PVRL	Vila Real	53.58	302	eP	P	01 27 49.9	+0.8
	comp=Z,61nm,1.5s						
PCBR	Castelo Branco	53.62	300	eP	P	01 27 49.6	+0.3
	comp=Z,16nm,0.9s						
PMRV	Marv??o	53.62	300	eP	P	01 27 49.6	+0.2
TORD	Torodi Ar. Bea	53.66	265	P	P	01 27 48.5	-1.5
	comp=Z,4.0nm,0.5s,baz=62,slow=7.5,SNR=88						
PVIS	Viseu	53.80	301	eP	P	01 27 50.7	0.0
	comp=Z,11nm,1.6s						
EVO	Evora	54.25	299	i P	P	01 27 54.4	+0.5
COI	Coimbra	54.27	301	eP	P	01 27 55.0	+1.0
	comp=Z,18nm,0.8s						
PCAS	Casmilo, Conde	54.36	301	eP	P	01 27 55.1	+0.4
	comp=Z,32nm,1.7s						
PSBE	So Bento	54.67	300	eP	P	01 27 57.9	+0.8
	comp=Z,16nm,2.2s						
PNCL	Nicolau / Gran	54.72	298	eP	P	01 27 57.9	+0.5
	comp=Z,10nm,2.1s						
SEY	Seymchan	67.22	30	P	P	01 29 22.6	+0.6
	comp=Z,1.3nm,0.5s,baz=275,slow=7.5,SNR=7.9						
FITZ	Fitzroy Crossi	80.76	116	P	P	01 30 42.5	+0.7
	comp=Z,1.1nm,0.7s,baz=284,slow=4.2,SNR=2.3						
ILAR	Eielson Array	85.06	10	P	P	01 31 02.3	-1.1
	comp=Z,0.3nm,0.6s,baz=323,slow=5.1,SNR=8.9						
ILAR	Eielson Array	85.06	10	P	P	01 31 02.8	-0.7
WRA	Warramunga Arr	88.68	113	P	P	01 31 23.9	+2.1
	comp=Z,0.6nm,0.9s,baz=291,slow=7.0,SNR=1.7						
WRA	Warramunga Arr	88.68	113	P	P	01 31 20.2	-1.6
YKA	Yellowknife Ar	89.00	356	P	P	01 31 22.6	0.0
	comp=Z,0.9nm,0.6s,baz=18,slow=5.9,SNR=3.7						
YKA	Yellowknife Ar	89.00	356	P	P	01 31 21.5	-1.0
ASAR	Alice Springs	90.25	117	P	P	01 31 30.8	+1.7
	comp=Z,0.3nm,0.5s,baz=304,slow=5.0,SNR=2.3						

IDC 08 01:21:59.9±3.0, **33.06S**×**178.39W**, **h0**km, **mb4.0**/2, **mb1 4.2**/3, **mb1mx3.8**/32, **mbtmp4.0**/3, **ML3.6**/1, **Error ellipse: s-maj=69.3km s-min=35.9km az=118.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.35	214	Pn	Pn	01 23 34.9	+0.1
	1.4nm,0.3s,baz=281,slow=8.5,SNR=8.2						
URZ				Sn	Sn	01 24 47.6	-0.4
	2.6nm,0.3s,baz=114,slow=22,SNR=5.9						
ASAR	Alice Springs	42.70	270	P	P	01 29 58.9	0.0
	1.2nm,0.6s,baz=114,slow=7.6,SNR=12						
WRA	Warramunga Arr	43.93	275	P	P	01 30 08.6	-0.2
	1.4nm,0.4s,baz=115,slow=7.7,SNR=22						
FINES	FINESS Array B	147.50	338	PKPbc	PKPbc	01 41 44.3	-0.8
	2.5nm,0.7s,baz=29,slow=3.2,SNR=7.9						

IDC 08 01:30:01.6±0.7, 54.60N×168.63E, h0km, mb3.9/19, mb1 4.1/20, mb1mx3.9/64, mbtmp3.9/20, ML2.9/1, Error ellipse: s-maj=22.4km s-min=12.6km az=167.0
KRSC 08 01:30:04.0±1.8, 54.28N×168.21E, h17km±29km, ML4.2
NEIC 08 01:30:07.7±1.1, 54.6N±0.1×168.6E±0.1, h39km±7km, mb4.2/63, Error ellipse: s-maj=21.0km s-min=10.3km az=186.0
ISC 08 01:30:04.8±0.5, **54.40N**±0.07×**168.64E**±0.05, **h24**km, **n123**, σ1s**06**/125, **mb4.2**/46, **Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	1.75	299	eP	Pn	01 30 31.8	-1.7
BKI				eS	Sn	01 30 53.2	-1.8
SMY	Shemya	3.66	115		Pn	01 30 58.2	-1.6
SMY					Sn	01 31 41.5	-0.6
KBTR	Krutoberegovo	3.79	301	eP	Pn	01 31 01.9	+0.2
MKZ	Mys Kozlova	4.04	275	eP	Pn	01 31 05.3	+0.3
MKZ				eS	Sn	01 31 50.2	-1.2
SMKR	Semkarok	4.63	301	eP	Pn	01 31 16.3	+3.0
BDR	Baidarnaya	4.76	300	eP	Pn	01 31 16.3	+1.3
SRKR	Sorokina	4.81	301	eP	Pn	01 31 17.9	+2.2
KZV	Kizimen	4.89	282	eP	Pn	01 31 18.0	+1.1
TUMR	Tumrok	4.99	284	eP	Pn	01 31 19.6	+1.3
TUMR				eS	Sn	01 32 16.1	+0.9
KMNR	Kamenistaya	5.02	289	eP	Pn	01 31 21.9	+3.3
SPN	Mys Shipunski	5.28	259	eP	Pn	01 31 22.3	+0.2
SPN				eS	Sn	01 32 19.5	-2.6
KOZ	Kozyrevsk	5.29	292	eP	Pn	01 31 24.0	+1.8
NLC	Nalytchevo	5.65	261	eS	Sn	01 32 29.0	-2.1
SDLR	Sedlovina	5.89	263	eP	Pn	01 31 31.3	+0.8
SMAR	Somma	5.94	263	eP	Pn	01 31 33.5	+2.2
UGLR	Uglovaya	5.94	262	eP	Pn	01 31 32.4	+1.1
KRER	Koryakskii	5.96	263	eP	Pn	01 31 32.0	+0.4
AVH	Avacha	5.97	263	eP	Pn	01 31 33.8	+2.1
KRX	Arik	6.00	264	eP	Pn	01 31 33.1	+0.9
KOK	Koryaka	6.03	263	eP	Pn	01 31 33.2	+0.8
GNL	Ganaly	6.34	268	eP	Pn	01 31 37.6	+0.8
RUS	Russkaya	6.37	256	eP	Pn	01 31 38.4	+1.4
RUS				eS	Sn	01 32 47.8	-1.1
MTVR	Mutnovka	6.54	257	eP	Pn	01 31 40.3	+0.8
MTVR				eS	Sn	01 32 50.4	-2.9
PEA0B	Petropavlovsk-	6.62	263	Pn	Pn	01 31 42.5	+2.0
PETK	Petropavlovsk-	6.62	263	Pn	Pn	01 31 42.3	+1.8
	1.3nm,0.3s,baz=77,slow=15,SNR=14						
PETK				Sn	Sn	01 32 55.0	-0.2
	1.5nm,0.3s,baz=86,slow=24,SNR=6.3						
ASAK	Asacha	6.74	257	eP	Pn	01 31 43.3	+1.1
O18K	Koktuh Hills	20.18	60	P	P	01 34 38.2	+0.9
O18K				IAmb	IAmb	01 34 39.4	
	comp=Z,9.2nm,0.9s						
L19K	White Mountain	20.46	53	P	P	01 34 40.9	+0.6
L19K				IAmb	IAmb	01 34 42.5	
	comp=Z,14nm,0.8s						
N19K	Bonanza Creek	20.55	57	P	P	01 34 41.9	+0.5
N19K				IAmb	IAmb	01 34 43.4	
	comp=Z,11nm,0.8s						
M19K	Big River Lodg	20.65	54	P	P	01 34 42.6	+0.2
M19K				IAmb	IAmb	01 34 44.5	
	comp=Z,8.4nm,0.9s						
K20K	Telida	20.96	50	P	P	01 34 45.7	0.0
K20K				IAmb	IAmb	01 34 47.4	
	comp=Z,8.8nm,0.8s						
Q19K	Cape Douglas,	21.01	62	P	P	01 34 46.8	+0.5
J20K	Nowinta River	21.05	47	P	P	01 34 47.0	+0.3
J20K				IAmb	IAmb	01 34 52.2	
	comp=Z,7.1nm,0.8s						
P19K	Oil Pt	21.18	60	P	P	01 34 48.8	+0.7
P19K				IAmb	IAmb	01 34 50.9	
	comp=Z,21nm,1.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
M20K	**Styx River**	**21.25**	**54**	P	**P**	**01 34 49.2**	**+0.3**
OHAK	**Old Harbor**	**21.39**	**67**	P	**P**	**01 34 49.3**	**-1.0**
OHAK				IAmb	IAmb	01 34 50.5	
	comp=Z,16nm,0.9s						
IMAR	**Indian Mountai**	**21.60**	**43**	P	**P**	**01 34 52.8**	**+0.3**
KDAK	**Kodiak Island**	**21.69**	**65**	P	**P**	**01 34 52.1**	**-1.4**
	comp=Z,6.6nm,0.5s,baz=289,slow=8.1,SNR=20						
KDAK	**Kodiak Island**	**21.69**	**65**	P	**P**	**01 34 52.7**	**-0.8**
KDAK				IAmb	IAmb	01 34 55.6	
	comp=Z,25nm,1.4s						
PPLA	**Purkeypile**	**21.76**	**51**	P	**P**	**01 34 54.7**	**+0.3**
PPLA				IAmb	IAmb	01 34 58.2	
	comp=Z,13nm,1.1s						
SKT	**Skwentna**	**22.01**	**54**	P	**P**	**01 34 57.1**	**+0.2**
I21K	**Tanana**	**22.15**	**45**	P	**P**	**01 34 58.7**	**+0.3**
KTH	**Kantishna Hill**	**22.39**	**50**	P	**P**	**01 35 01.0**	**-0.1**
KTH				IAmb	IAmb	01 35 03.5	
	comp=Z,11nm,1.2s						
BPAW	**Bear Paw Mtn.**	**22.41**	**48**	P	**P**	**01 35 01.6**	**+0.3**
MLY	**Manley**	**22.64**	**46**	P	**P**	**01 35 04.1**	**+0.3**
TRF	**Thorofare Moun**	**22.66**	**50**	P	**P**	**01 35 04.4**	**+0.3**
TRF				IAmb	IAmb	01 35 05.9	
	comp=Z,12nm,0.8s						
KLR	**Kul'dur**	**23.20**	**272**	P	**P**	**01 35 09.8**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=94,slow=10,SNR=4.3						
I23K	**Minto, Yukon-K**	**23.24**	**46**	P	**P**	**01 35 10.2**	**+0.3**
I23K				IAmb	IAmb	01 35 10.7	
	comp=Z,4.8nm,0.7s						
H23K	**Yukon River**	**23.26**	**44**	P	**P**	**01 35 10.4**	**+0.3**
COLD	**Coldfoot**	**23.28**	**40**	P	**P**	**01 35 10.4**	**+0.2**
COLD				IAmb	IAmb	01 35 12.1	
	comp=Z,5.9nm,0.8s						
MCK	**McKinley**	**23.29**	**49**	P	**P**	**01 35 10.4**	**0.0**
NEA2	**Nenana**	**23.30**	**47**	P	**P**	**01 35 09.3**	**-1.1**
RND	**Reindeer**	**23.30**	**50**	P	**P**	**01 35 09.8**	**-0.8**
RND				IAmb	IAmb	01 35 11.6	
	comp=Z,8.5nm,0.9s						
SML	**Sawmill**	**23.52**	**54**	P	**P**	**01 35 12.2**	**-0.6**
PWL	**Port Wells**	**23.56**	**57**	P	**P**	**01 35 11.6**	**-1.4**
MDM	**Murphy Dome**	**23.69**	**46**	P	**P**	**01 35 13.9**	**-0.5**
WRH	**Wood River Hil**	**23.71**	**48**	P	**P**	**01 35 14.0**	**-0.4**
WRH				IAmb	IAmb	01 35 16.1	
	comp=Z,10.0nm,0.9s						
TCOL	**CIGO, UAF Yank**	**23.84**	**47**	P	**P**	**01 35 15.8**	**+0.2**
CCB	**Clear Creek Bu**	**23.85**	**47**	P	**P**	**01 35 15.7**	**0.0**
CCB				IAmb	IAmb	01 35 17.3	
	comp=Z,9.5nm,0.8s						
COLA	**College**	**23.85**	**47**	P	**P**	**01 35 15.7**	**-0.1**
TOLK	**Toolik Lake Re**	**23.86**	**37**	P	**P**	**01 35 15.6**	**-0.3**
H24K	**Noodor Dome**	**23.94**	**44**	P	**P**	**01 35 15.8**	**-0.9**
SCM	**Sheep Creek Mo**	**24.00**	**54**	P	**P**	**01 35 16.8**	**-0.5**
GLI	**Glacier Island**	**24.16**	**57**	P	**P**	**01 35 18.5**	**-0.3**
GLI				IAmb	IAmb	01 35 18.8	
	comp=Z,8.3nm,0.7s						
HDA	**Harding Lake**	**24.20**	**48**	P	**P**	**01 35 18.4**	**-0.7**
HDA				IAmb	IAmb	01 35 21.6	
	comp=Z,7.6nm,0.9s						
IL31		**24.25**	**47**	P	**P**	**01 35 18.7**	**-0.8**
IL31				IAmb	IAmb	01 35 20.8	
	comp=Z,5.1nm,0.8s						
ILAR	**Eielson Array**	**24.25**	**47**	P	**P**	**01 35 18.3**	**-1.2**
	comp=Z,3.3nm,0.7s,baz=254,slow=7.2,SNR=49						
ILAR	**Eielson Array**	**24.25**	**47**	P	**P**	**01 35 19.1**	**-0.4**
M24K	**Tolsona, Glenn**	**24.53**	**53**	P	**P**	**01 35 22.2**	**+0.1**
KLU	**Klutina**	**24.68**	**55**	P	**P**	**01 35 23.2**	**-0.4**
KLU				IAmb	IAmb	01 35 24.8	
	comp=Z,13nm,1.2s						
PRP	**Porcupine Dome**	**24.88**	**45**	P	**P**	**01 35 24.9**	**-0.5**
FYU	**Fort Yukon**	**25.10**	**43**	P	**P**	**01 35 27.4**	**+0.2**
RIDG	**Independent Ri**	**25.10**	**50**	P	**P**	**01 35 26.0**	**-1.3**
RIDG				IAmb	IAmb	01 35 28.4	
	comp=Z,5.2nm,0.8s						
N25K	**Chitina, Valde**	**25.31**	**55**	P	**P**	**01 35 29.3**	**+0.1**
DOT	**Dot Lake**	**25.45**	**50**	P	**P**	**01 35 29.1**	**-1.3**
BMAR	**Burnt Mountain**	**25.46**	**41**	P	**P**	**01 35 31.1**	**+0.6**
SCRK	**Sand Creek**	**25.48**	**49**	P	**P**	**01 35 29.8**	**-1.0**
SCRK				IAmb	IAmb	01 35 30.3	
	comp=Z,4.2nm,0.8s						
MENT	**Mentasta**	**25.63**	**51**	P	**P**	**01 35 32.4**	**+0.3**
MENT				IAmb	IAmb	01 35 35.4	
	comp=Z,4.2nm,0.7s						
GLB	**Gilahina Butte**	**25.70**	**55**	P	**P**	**01 35 32.4**	**-0.4**
L26K	**Log Cabin Wild**	**25.80**	**51**	P	**P**	**01 35 34.5**	**+0.9**
VRDI	**Verde Repeater**	**25.89**	**55**	P	**P**	**01 35 34.6**	**-0.1**
VRDI				IAmb	IAmb	01 35 35.3	
	comp=Z,4.5nm,0.7s						
K27K	**Chicken**	**26.32**	**49**	P	**P**	**01 35 38.0**	**-0.3**
K27K				IAmb	IAmb	01 35 41.5	
	comp=Z,5.9nm,1.0s						
L27K	**Beaver Creek,**	**26.49**	**51**	P	**P**	**01 35 40.0**	**+0.2**
L27K				IAmb	IAmb	01 35 41.1	
	comp=Z,7.0nm,0.8s						
BCAR	**Beaver Creek A**	**26.50**	**51**	P	**P**	**01 35 40.5**	**+0.5**
EGAK	**Eagle**	**26.70**	**47**	P	**P**	**01 35 40.7**	**-1.0**
EGAK				IAmb	IAmb	01 35 41.3	
	comp=Z,7.5nm,0.8s						
DAWY	**Dawson**	**27.50**	**49**	P	**P**	**01 35 49.1**	**+0.2**
DAWY				IAmb	IAmb	01 35 53.2	
	comp=Z,7.2nm,0.8s						
EPYK	**Eagle Plains**	**28.50**	**44**	P	**P**	**01 35 58.1**	**+0.3**
EPYK				IAmb	IAmb	01 35 58.8	
	comp=Z,5.2nm,0.7s						
JHJ	**Hachijo jima 2**	**29.43**	**236**	P	**P**	**01 36 07.9**	**+1.6**
	comp=Z,95nm,0.3s,baz=75,slow=20,SNR=1.6						
INK	**Inuvik**	**29.68**	**39**	P	**P**	**01 36 08.0**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=268,slow=8.5,SNR=8.8						
H11N2	**WAKE ISLAND Hy**	**34.63**	**183**	T	T	02 13 23.4	
	baz=1.6,slow=76						
H11N3	**WAKE ISLAND Hy**	**34.64**	**183**	T	T	02 13 29.7	
	baz=1.6,slow=76						
H11N1	**WAKE ISLAND Hy**	**34.65**	**183**	T	T	02 13 28.9	
	baz=1.6,slow=76						
H11S1	**WAKE ISLAND Hy**	**35.85**	**183**	T	T	02 14 58.9	
	baz=1.9,slow=76						
H11S3	**WAKE ISLAND Hy**	**35.87**	**183**	T	T	02 14 59.7	
	baz=1.9,slow=76						
H11S2	**WAKE ISLAND Hy**	**35.87**	**183**	T	T	02 14 58.2	
	baz=1.9,slow=76						
SONM	**Songino Array**	**38.47**	**287**	P	**P**	**01 37 25.8**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=54,slow=7.3,SNR=2.7						
SONM	**Songino Array**	**38.47**	**287**	P	**P**	**01 37 24.8**	**+0.1**
YKA	**Yellowknife Ar**	**38.68**	**46**	P	**P**	**01 37 26.3**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=297,slow=8.1,SNR=3.3						
ZAA0	**Zalesovo Array**	**46.25**	**306**	P	**P**	**01 38 27.9**	**+0.2**
ZAA0				IAmb	IAmb	01 38 39.1	
	comp=Z,2.7nm,1.0s						
PNTR	**Pine Nut**	**49.32**	**77**	P	**P**	**01 38 52.2**	**+0.3**
NVAR	**Mina Array Bea**	**50.51**	**77**	P	**P**	**01 39 01.3**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=300,slow=7.7,SNR=12						
NVAR	**Mina Array Bea**	**50.51**	**77**	P	**P**	**01 39 01.7**	**+0.7**
KURK	**Kurchatov**	**51.24**	**305**	P	**P**	**01 39 05.6**	**-0.4**
KURBB	**Kurchatov Arra**	**51.35**	**305**	P	**P**	**01 39 05.6**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=51,slow=7.6,SNR=8.0						
MKAR	**Makanchi Array**	**52.05**	**300**	P	**P**	**01 39 10.6**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=48,slow=7.4,SNR=3.7						
MKAR	**Makanchi Array**	**52.05**	**300**	P	**P**	**01 39 11.5**	**-0.7**
PDAR	**Pinedale Array**	**52.39**	**67**	P	**P**	**01 39 14.2**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=298,slow=6.2,SNR=3.6						
BVAR	**Borovoye Array**	**53.43**	**312**	P	**P**	**01 39 21.5**	**-0.8**
	comp=Z,2.1nm,0.6s,baz=101,slow=2.3,SNR=14						
BRVK	**Borovoye**	**53.45**	**312**	P	**P**	**01 39 22.2**	**-0.2**
ARCES	**ARCESS Array B**	**53.50**	**345**	P	**P**	**01 39 21.5**	**-1.1**
	comp=Z,3.0nm,0.8s,baz=35,slow=7.3,SNR=9.4						
ARCES	**ARCESS Array B**	**53.50**	**345**	P	**P**	**01 39 20.6**	**-2.0**
PV05	**Paradox Valley**	**55.92**	**71**	P	**P**	**01 39 41.4**	**+0.6**
PV05				IAmb	IAmb	01 39 49.5	
	comp=Z,3.1nm,0.8s						
PV13	**Radium Mtn., P**	**56.01**	**71**	P	**P**	**01 39 41.6**	**+0.1**
FINES	**FINESS Array B**	**60.77**	**340**	P	**P**	**01 40 13.0**	**-1.0**
	comp=Z,2.5nm,0.9s,baz=24,slow=7.6,SNR=3.4						
NB2	**NORSAR Subarra**	**63.52**	**348**	P	**P**	**01 40 32.4**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=15,slow=6.9						
NOA	**NORSAR Array B**	**63.52**	**348**	P	**P**	**01 40 32.1**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=16,slow=6.7,SNR=9.4						
TXAR	**Lajitas Array**	**65.42**	**74**	P	**P**	**01 40 45.8**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=304,slow=4.8,SNR=12						
AKASG	**Malin Array Be**	**69.90**	**334**	P	**P**	**01 41 12.9**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=26,slow=6.0,SNR=2.8						
GERES	**GERESS Array B**	**74.99**	**343**	P	**P**	**01 41 43.0**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=12,slow=5.0,SNR=3.9						
GERES	**GERESS Array B**	**74.99**	**343**	P	**P**	**01 41 42.9**	**-0.9**
WRA	**Warramunga Arr**	**79.67**	**213**	P	**P**	**01 42 11.3**	**+1.2**
	comp=Z,0.7nm,0.9s,baz=30,slow=5.1,SNR=3.9						
WRA	**Warramunga Arr**	**79.67**	**213**	P	**P**	**01 42 11.5**	**+1.4**
ASAR	**Alice Springs**	**83.29**	**212**	P	**P**	**01 42 30.8**	**+1.6**
	comp=Z,0.6nm,0.9s,baz=15,slow=5.6,SNR=3.4						

IDC ***08*** *01:41:20.8±0.5, 3°.23S×130°.65E, h0^{km}, mb4.3/19, mb1 4.4/22, mb1mx4.3/45, mbtmp4.4/22, ML3.8/3, MS3.7/16, Ms1 3.7/16, ms1mx3.4/55, Error ellipse: s-maj=19.8km s-min=12.1km az=82.0*

NEIC ***08*** *01:41:23.6±1.7, 3°.28S±0°.10×130°.58E±0°.08, h15^{km}±4^{km}, mb4.7/29, Error ellipse: s-maj=14.8km s-min=10.8km az=159.0*

DJA ***08*** *01:41:26.1±0.4, 3°S±3°×13°1E±°, h37^{km}±5^{km}, M4.6/18, mB5.3/6, mb4.7/18, MLv4.4/6, Mw(mB)4.7/6*

ISC 08 01:41:24.8±0.4**, 3°.33S**±0°.04×**130°.65E**±0°.05**, h31**^{km}**, n111,** σ1^{s}**91**/104**, mb4.6**/35**, MS3.7**/12**, 1D, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.40**	**212**	P	**Pb**	**01 41 52.2**	**+1.9**
FAKI	**Fak Fak**	**1.65**	**76**	Pn	**Pn**	**01 41 51.8**	**+0.2**
FAKI				Sn	**Sb**	**01 42 14.2**	**-0.8**
FAKI	**Fak Fak**	**1.65**	**76**	P	**Pn**	**01 41 51.7**	**+0.1**
FAKI				S	**Sn**	**01 42 12.3**	**+0.5**
MSAI	**Masohi**	**1.72**	**270**	P	**Pb**	**01 41 54.8**	**-1.0**
KRAI	**Karang Ratu**	**2.25**	**270**	P	**Pn**	**01 42 01.9**	**+2.0**
SIJI	**Sorong**	**2.52**	**14**	Pn	**Pn**	**01 42 00.7**	**-3.0**
	24nm,0.3s,baz=251,slow=23,SNR=50						
SIJI				Sn	**Sn**	**01 42 28.5**	**-4.9**
	62nm,0.3s,baz=287,slow=19,SNR=6.3						
SIJI				LR	LR	01 42 55.1	
	comp=Z,1µm,18.8s,baz=72,slow=39						
SIJI	**Sorong**	**2.52**	**14**	P	**Pn**	**01 42 00.7**	**-3.0**
SWI	**Sorong**	**2.53**	**14**	P	**Pn**	**01 42 01.4**	**-2.3**
SANI	**Sanana**	**4.83**	**285**	P	**Pn**	**01 42 35.1**	**-0.3**
BAKI	**Biak**	**5.85**	**69**	P	**Pn**	**01 42 49.2**	**-0.3**
	1.3nm3µm397nm,0.9s						
GTOI	**Gorontalo**	**8.60**	**297**	P	**Pn**	**01 43 29.0**	**+1.9**
	510nm21nm,0.6s						
SOEI	**Soe**	**8.99**	**225**	P	**Pn**	**01 43 36.3**	**+3.6**
	2µm65nm,1.3s						
APSI	**Ampana**	**9.31**	**285**	P	**Pn**	**01 43 36.6**	**-0.4**
	1µm82nm,0.9s						
GENI	**Genyem**	**9.53**	**86**	P	**Pn**	**01 43 42.4**	**+2.4**
	54nm,0.8s						
BATI	**Baumata**	**9.73**	**225**	LR	LR	01 48 20.9	
	comp=Z,900nm,19.2s,baz=56,slow=43						
JAY	**Jayapura**	**10.07**	**86**	Pn	**Pn**	**01 43 46.0**	**-1.5**
	0.3nm,0.3s,baz=253,slow=11,SNR=1.9						
JAY	**Jayapura**	**10.07**	**86**	P	**Pn**	**01 43 48.4**	**+0.9**
	9.5nm,0.9s						
EDFI	**Ende, Flores**	**10.41**	**238**	P	**Pn**	**01 43 56.7**	**+4.6**
	16nm,0.8s						
BKSI	**Bulukumba**	**10.68**	**259**	P	**Pn**	**01 44 00.4**	**+4.6**
	78nm,0.9s						
KAPI	**Kappang**	**11.00**	**261**	Pn	**Pn**	**01 43 59.1**	**-1.0**
	1.5nm,0.3s,baz=148,slow=12,SNR=2.3						
KAPI				LR	LR	01 49 32.9	
	comp=Z,613nm,18.7s,baz=102,slow=45						
DAV	**Davao City (W)**	**11.51**	**334**	LR	LR	01 49 25.0	
	comp=Z,418nm,19.4s,baz=347,slow=42						
KNRA	**Kununurra**	**12.41**	**188**	Pn	**Pn**	**01 44 17.7**	**-1.6**
PLAI	**Plampang**	**13.91**	**246**	P	**Pn**	**01 44 43.3**	**+3.3**
	86nm,1.0s						
TWSI	**Taliwang, Sumb**	**14.70**	**248**	P	**P**	**01 44 55.0**	**-1.5**
	22nm,0.8s						
KLNI	**Mataram**	**15.33**	**250**	P	**Pn**	**01 45 00.4**	**+1.3**
	34nm,1.1s						
FITZ	**Fitzroy Crossi**	**15.47**	**198**	Pn	**Pn**	**01 44 58.3**	**-2.6**
	0.5nm,0.3s,baz=27,slow=10.0,SNR=18						
FITZ				Sn	**Sn**	**01 47 43.2**	**-8.2**
	0.1nm,0.3s,baz=133,slow=18,SNR=1.0						
FITZ	**Fitzroy Crossi**	**15.47**	**198**	Pn	**Pn**	**01 44 58.0**	**-2.9**
WRA	**Warramunga Arr**	**16.90**	**168**	Pn	**Pn**	**01 45 17.6**	**-1.4**
	1.3nm,0.3s,baz=345,slow=9.8,SNR=30						
WRA				Sn	**Sn**	**01 48 17.2**	**-8.8**
	0.7nm,0.3s,baz=345,slow=22,SNR=5.4						
WRA	**Warramunga Arr**	**16.90**	**168**		**Pn**	**01 45 17.8**	**-1.3**
WB2	**Warramunga Arr**	**16.90**	**168**	Pn	**Pn**	**01 45 17.6**	**-1.5**
WB2				IAmb	IAmb	01 45 29.9	
	comp=Z,60nm,1.3s						
WR0	**Warramunga Arr**	**16.95**	**167**	Pn	**Pn**	**01 45 18.1**	**-1.8**
STKI	**Sintang**	**19.46**	**280**	P	**Pn**	**01 45 50.6**	**+0.1**
AS31	**Alice Springs**	**20.46**	**171**	P	Pn	01 46 01.6	-0.7
AS31				IAmb	IAmb	01 46 10.1	
	comp=Z,22nm,0.8s						
ASAR	**Alice Springs**	**20.46**	**171**	P	Pn	01 46 01.6	-0.6
	comp=Z,22nm,0.4s,baz=352,slow=11,SNR=304						
ASAR				S	**S**	**01 49 46.1**	**-1.5**
	comp=Z,5.3nm,1.0s,baz=356,slow=25,SNR=4.6						
ASAR	**Alice Springs**	**20.46**	**171**	P	Pn	01 46 01.4	-0.8
PSA00	**Pilbara Seismi**	**20.95**	**209**		**P**	**01 46 04.4**	**-0.9**
GUMO	**Guam**	**21.95**	**40**	LR	LR	01 54 35.7	
	comp=Z,115nm,18.3s,baz=305,slow=36						
CTA	**Charters Tower**	**22.56**	**139**	P	**P**	**01 46 23.9**	**+1.3**
	comp=Z,2.6nm,0.4s,baz=301,slow=9.8,SNR=2.0						
LEM	**Lembang**	**23.20**	**260**	LR	LR	01 56 25.1	
	comp=Z,352nm,20.1s,baz=92,slow=39						
JOW	**Kunigami**	**30.08**	**356**	LR	LR	01 57 32.5	
	comp=Z,116nm,20.7s,baz=54,slow=32						
STKA	**Stephens Creek**	**30.20**	**161**	P	**P**	**01 47 33.6**	**+1.1**
	comp=Z,2.0nm,0.4s,baz=354,slow=8.4,SNR=7.1						
STKA				LR	LR	02 00 42.5	
	comp=Z,223nm,20.9s,baz=344,slow=38						
STKA	**Stephens Creek**	**30.20**	**161**	P	**P**	**01 47 34.5**	**+1.9**
NWAO	**Narrogin (SRO)**	**32.01**	**202**	P	**P**	**01 47 48.2**	**-0.3**
	comp=Z,5.3nm,0.6s,baz=30,slow=5.2,SNR=2.3						
RPSI	**Rantau Prapat**	**32.27**	**280**	P	**P**	**01 47 50.8**	**-0.3**
PSI	**Prapat**	**32.29**	**281**	P	**P**	**01 47 50.8**	**-0.6**
	comp=Z,5.6nm,0.7s,baz=216,slow=1.1,SNR=4.3						
PSI	**Prapat**	**32.29**	**281**	P	**P**	**01 47 51.5**	**+0.1**
	comp=Z,11nm,0.9s						
JNU	**Nakatsue**	**36.26**	**0**	LR	LR	02 04 06.1	
	comp=Z,99nm,18.6s,baz=182,slow=38						
CMAR	**Chiang Mai Arr**	**38.00**	**306**	P	**P**	**01 48 40.9**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=132,slow=7.6,SNR=11						
CMMT	**Chiang Mai**	**38.18**	**306**	P	**P**	**01 48 44.2**	**+2.3**
	comp=Z,8.2nm,1.2s						
CMMT	**Chiang Mai**	**38.18**	**306**	P	**P**	**01 48 43.3**	**+1.4**
	comp=Z,7.8nm,1.2s						
CHTO	**Chiang Mai**	**38.19**	**306**	P	**P**	**01 48 44.3**	**+2.4**
	comp=Z,8.4nm,1.2s						
CHTO	**Chiang Mai**	**38.19**	**306**	P	**P**	**01 48 41.8**	**-0.2**
CHTO				IAmb	IAmb	01 49 00.6	
	comp=Z,15nm,1.4s						
CHTO	**Chiang Mai**	**38.19**	**306**	P	**P**	**01 48 42.4**	**+0.5**
	comp=Z,4.7nm,1.2s						
MJAR	**Matsushiro Arr**	**40.29**	**9**	P	**P**	**01 48 57.5**	**-1.7**
	comp=Z,2.1nm,0.6s,baz=193,slow=8.0,SNR=4.2						
KSRS	**Korea Array**	**40.66**	**357**	P	**P**	**01 49 01.9**	**-0.3**
	comp=Z,3.0nm,0.7s,baz=175,slow=9.3,SNR=11						
KSRS				LR	LR	02 05 24.7	
	comp=Z,85nm,20.5s,baz=176,slow=36						
USRK	**Ussuriysk Ar.**	**47.33**	**1**	P	**P**	**01 49 55.7**	**0.0**
	comp=Z,2.4nm,0.6s,baz=194,slow=6.8,SNR=7.9						
USRK	**Ussuriysk Ar.**	**47.33**	**1**	P	**P**	**01 49 56.2**	**+0.5**
ASAJ	**Asahikawa**	**48.44**	**11**	LR	LR	02 09 12.3	
	comp=Z,83nm,20.9s,baz=165,slow=35						
RAMN	**Ramite**	**52.09**	**308**	*e*P	**P**	**01 50 33.0**	**+0.5**
	comp=Z,27nm,0.5s						
KLR	**Kul'dur**	**52.36**	**1**	P	**P**	**01 50 33.6**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=188,slow=3.2,SNR=7.5						
JIRN	**Jiri**	**52.75**	**309**	*e*P	**P**	**01 50 36.9**	**-0.6**
PKI	**Pulchoki**	**53.32**	**308**	*e*P	**P**	**01 50 41.8**	**+0.1**
DMN	**Daman**	**53.57**	**308**	*e*P	**P**	**01 50 43.9**	**+0.4**
GKN	**Gorkha**	**54.12**	**308**	*e*P	**P**	**01 50 47.7**	**+0.3**
KOLN	**Koldanda**	**54.83**	**307**	*e*P	**P**	**01 50 52.9**	**+0.3**
	comp=Z,40nm,0.9s						
DANN	**Dangsing**	**54.97**	**308**	*e*P	**P**	**01 50 53.6**	**-0.1**
	comp=Z,29nm,0.8s						
ULN	**Ulaanbaatar**	**55.02**	**341**	P	**P**	**01 50 53.9**	**+0.4**
ULN				IAmb	IAmb	01 50 55.5	
	comp=Z,6.9nm,0.8s						
ULN	**Ulaanbaatar**	**55.02**	**341**	P	**P**	**01 50 54.2**	**+0.7**
	comp=Z,32nm,1.0s						
SONM	**Songino Array**	**55.21**	**340**	P	**P**	**01 50 55.0**	**+0.1**
	comp=Z,2.6nm,0.8s,baz=151,slow=8.6,SNR=12						
SONM	**Songino Array**	**55.21**	**340**	P	**P**	**01 50 55.8**	**+0.9**
PYUN	**Piuthan**	**55.46**	**308**	*e*P	**P**	**01 50 57.6**	**+0.4**
PETK	**Petropavlovsk-**	**60.66**	**18**	P	**P**	**01 51 33.4**	**+0.5**
	comp=Z,2.6nm,0.7s,baz=201,slow=7.6,SNR=5.0						
YAK	**Yakutsk**	**65.19**	**359**	LR	LR	02 21 55.8	
	comp=Z,52nm,18.2s,baz=258,slow=37						
MK31	**Makanchi Array**	**65.56**	**326**	P	**P**	**01 52 06.3**	**+0.8**
MK31				IAmb	IAmb	01 52 07.2	
	comp=Z,5.1nm,0.8s						
MKAR	**Makanchi Array**	**65.56**	**326**	P	**P**	**01 52 06.2**	**+0.7**
	comp=Z,6.4nm,0.7s,baz=122,slow=7.8,SNR=59						
MKAR				LR	LR	02 23 44.8	
	comp=Z,37nm,18.1s,baz=120,slow=39						
MKAR	**Makanchi Array**	**65.56**	**326**	P	**P**	**01 52 05.7**	**+0.1**
MAKZ	**Makanchi**	**65.74**	**326**	P	**P**	**01 52 07.3**	**+0.6**
SEY	**Seymchan**	**68.11**	**11**	P	**P**	**01 52 22.1**	**+0.7**
	comp=Z,7.1nm,0.7s,baz=216,slow=4.9,SNR=15						
SEY				LR	LR	02 22 36.9	
	comp=Z,43nm,18.9s,baz=182,slow=36						
ZAA0	**Zalesovo Array**	**68.62**	**333**	P	**P**	**01 52 24.3**	**-0.4**
ZAA0				IAmb	IAmb	01 52 25.6	
	comp=Z,4.2nm,0.9s						
ZALV	**Zalesovo Beam**	**68.62**	**333**	P	**P**	**01 52 24.4**	**-0.4**
	comp=Z,3.2nm,0.8s,baz=123,slow=5.5,SNR=11						
ZALV	**Zalesovo Beam**	**68.62**	**333**	P	**P**	**01 52 24.6**	**-0.2**
GAR	**Garm**	**69.59**	**314**	P	**P**	**01 52 31.1**	**-0.1**
KK31	**Karatay Array**	**71.05**	**318**	P	**P**	**01 52 39.9**	**-0.1**
KK31				IAmb	IAmb	01 52 47.9	
	comp=Z,8.7nm,1.3s						
KKAR	**Karatay Array**	**71.05**	**318**	P	**P**	**01 52 40.3**	**+0.2**
KKAR				IAmb	IAmb	01 52 47.9	
	comp=Z,8.7nm,1.3s						
KKAR	**Karatay Array**	**71.05**	**318**	P	**P**	**01 52 40.0**	**-0.1**
BRVK	**Borovoye**	**75.41**	**327**	P	**P**	**01 53 06.4**	**+0.9**
VNDA	**Vanda**	**75.99**	**173**	P	**P**	**01 53 10.0**	**+1.6**
	comp=Z,1.1nm,0.9s,baz=333,slow=2.9,SNR=4.2						
NRIK	**Noril'sk**	**78.19**	**346**	P	**P**	**01 53 21.4**	**+0.6**
	comp=Z,3.7nm,0.5s,baz=138,slow=7.2,SNR=7.4						
NRIK				LR	LR	02 35 14.9	
	comp=Z,37nm,18.1s,baz=108,slow=41						
NRIK	**Noril'sk**	**78.19**	**346**	P	**P**	**01 53 20.2**	**-0.6**
NRIK				IAmb	IAmb	01 53 37.7	
	comp=Z,6.9nm,0.9s						
GEYT	**Alibeck**	**78.37**	**310**	P	**P**	**01 53 23.5**	**+0.9**
	comp=Z,4.0nm,0.8s,baz=83,slow=12,SNR=6.1						
MAW	**Mawson**	**78.58**	**201**	P	**P**	**01 53 24.9**	**+1.8**
	comp=Z,0.7nm,0.4s,baz=49,slow=4.8,SNR=3.9						
ABKAR	**Akbulak array**	**80.07**	**321**	P	**P**	**01 53 31.9**	**+0.3**
ABKAR	**Akbulak array**	**80.07**	**321**	P	**P**	**01 53 32.5**	**+1.0**
ABKAR				IAmb	IAmb	01 53 35.8	
	comp=Z,4.8nm,0.8s						
N19K	**Bonanza Creek**	**85.56**	**28**	P	**P**	**01 54 00.8**	**+0.8**
L19K	**White Mountain**	**85.75**	**27**	P	**P**	**01 54 01.5**	**+0.8**
M19K	**Big River Lodg**	**85.88**	**27**	P	**P**	**01 54 01.7**	**+0.3**
K20K	**Telida**	**86.40**	**26**	P	**P**	**01 54 04.8**	**+0.9**
K20K				IAmb	IAmb	01 54 08.2	
	comp=Z,3.4nm,0.9s						
M20K	**Styx River**	**86.46**	**27**	P	**P**	**01 54 05.2**	**+0.9**
M20K				IAmb	IAmb	01 54 22.4	
	comp=Z,8.2nm,1.2s						
J20K	**Nowinta River**	**86.58**	**25**	P	**P**	**01 54 05.7**	**+1.0**
SYO	**Syowa Base**	**87.29**	**201**	⇓*e*pP	pP	01 54 15.9	-2.2
SUA	**Susitna One**	**87.47**	**28**	P	**P**	**01 54 09.2**	**-0.2**
MLY	**Manley**	**88.20**	**25**	P	**P**	**01 54 13.5**	**+0.8**
MLY				IAmb	IAmb	01 54 16.2	
	comp=Z,3.0nm,0.9s						
ILAR	**Eielson Array**	**89.78**	**25**	P	**P**	**01 54 19.8**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=260,slow=4.7,SNR=6.7						
GURO	**Guroymak-BITLI**	**90.97**	**308**	P	**P**	**01 54 25.9**	**-0.4**
GURO				IAmb	IAmb	01 54 29.1	
	comp=Z,4.2nm,0.9s						
L27K	**Beaver Creek,**	**91.82**	**27**	P	**P**	**01 54 30.5**	**+0.9**
L27K				IAmb	IAmb	01 54 48.7	
	comp=Z,3.0nm,0.9s						
SPITS	**Spitsbergen Ar**	**98.12**	**349**	LR	LR	02 40 55.8	
	comp=Z,35nm,21.3s,baz=265,slow=36						
TORD	**Torodi Ar. Bea**	**128.65**	**284**	PKP	**PKiKP**	**02 00 30.7**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=116,slow=2.1,SNR=4.8						
CPUP	**Villa Florida**	**149.52**	**166**	PKPbc	**PKiKP**	**02 01 12.7**	**-0.3**
	comp=Z,2.4nm,0.9s,baz=176,slow=0.5,SNR=3.9						
CPUP	**Villa Florida**	**149.52**	**166**		**PKPbc**	**02 01 11.6**	**-0.3**
LPAZ	**La Paz**	**153.08**	**137**	PKPbc	**PKiKP**	**02 01 23.4**	**+2.1**
	comp=Z,2.6nm,0.9s,baz=196,slow=2.3,SNR=8.8						
LPAZ	**La Paz**	**153.08**	**137**		**PKPbc**	**02 01 19.8**	**-1.4**

TUL ***08*** *01:45:59.5±1.4, 36°.20N±0°.01×97°.00W±0°.02, h6^{km}±7^{km}, ML2.5, mb_Lg2.2/15(NEIC), Error ellipse: s-maj=1.9km s-min=1.5km az=49.0*

NEIC 08 01:45:59.8±1.3**, 36°.20N**±0°.01×**97°.02W**±0°.01**, h3**^{km}±7^{km}**, Error ellipse: s-maj=1.9km s-min=1.7km az=200.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.25**	**97**	Pg	Pg	01 46 04.8	+0.1
QUOK				Sg	Sg	01 46 08.4	+0.5
OK031	**S. Brethren Rd**	**0.29**	**149**	Pg	Pg	01 46 05.5	+0.2
OK031				Sg	Sg	01 46 09.6	+0.5
OK029	**Liberty Lake**	**0.54**	**221**	Pg	Pg	01 46 10.2	+0.2
OK029				Sg	Sg	01 46 17.6	+0.6
BLOK	**Blackwell**	**0.58**	**344**	Pg	Pg	01 46 10.9	-0.1
BLOK				Sg	Sg	01 46 18.7	+0.2
OK025	**Westminster Rd**	**0.67**	**203**	Pg	Pg	01 46 12.6	0.0
OK025				Sg	Sg	01 46 21.9	+0.6
T35A	**Sooner Cattle**	**0.82**	**30**	Pg	Pg	01 46 15.2	-0.4
CROK	**Carrier**	**0.84**	**292**	Pg	Pg	01 46 15.6	-0.2
CROK				Sg	Sg	01 46 27.1	+0.4
OKCFA	**Oklahoma City**	**0.86**	**204**	Pg	Pg	01 46 15.8	-0.4
OKCFA				Sg	Sg	01 46 27.9	+0.5
OKCSW	**OKLAHOMA CITY**	**0.86**	**203**	Pg	Pg	01 46 15.7	-0.6
KAN13	**South Haven SW**	**0.89**	**336**	Pg	Pg	01 46 16.4	-0.5
KAN13				Sg	Sg	01 46 28.5	0.0
GC02	**Grant County #**	**0.94**	**314**	Pg	Pg	01 46 17.4	-0.4
GC02				Sg	Sg	01 46 29.8	-0.2
FNO	**Franklin**	**0.99**	**198**	Pg	Pg	01 46 17.9	-0.9
FNO				Sg	Sg	01 46 31.8	+0.1
KAN17	**Caldwell West**	**1.03**	**325**	Pg	Pg	01 46 19.1	-0.5
KAN14	**Manchester OK**	**1.07**	**315**	Pg	Pg	01 46 19.8	-0.5
KAN14				Sg	Sg	01 46 33.8	-0.4
KS20	**Mayfield South**	**1.11**	**337**	Pg	Pg	01 46 20.5	-0.6
KS20				Sg	Sg	01 46 35.1	-0.4
OK032	**Salt Plains WL**	**1.13**	**302**	Pg	Pg	01 46 20.8	-0.7
OK032				Sg	Sg	01 46 36.2	0.0
KAN05	**Bluff City Nor**	**1.14**	**323**	Pg	Pg	01 46 21.0	-0.5
KAN05				Sg	Sg	01 46 35.9	-0.5
KAN10	**Anthony SW Sta**	**1.26**	**317**		Pg	01 46 23.3	-0.7
U32A	**Winter Ranch,**	**1.61**	**277**	Pn	Pn	01 46 29.1	0.0
X34A	**Smith Ranch, M**	**1.73**	**203**		Pn	01 46 30.9	+0.2
WMOK	**Wichita Mounta**	**2.05**	**225**	Pn	Pn	01 46 34.9	-0.2
WMOK				IAmb_Lg		01 47 04.2	
	comp=Z,14nm,0.8s						
X37A	**Clayton**	**2.10**	**140**	Pn	Pn	01 46 36.3	+0.6
U38A	**Gravette**	**2.14**	**83**	Pn	Pn	01 46 36.7	+0.3
R32A	**Long Quarter,**	**2.60**	**329**	IAmb_Lg		01 47 29.1	
	comp=Z,8.2nm,0.8s						
KSU1	**Kansas State U**	**2.91**	**6**	IAmb_Lg		01 47 36.7	
	comp=Z,9.4nm,1.3s						
MIAR	**Mount Ida**	**3.26**	**119**	Pn	Pn	01 46 52.2	+0.5
S39A	**Bolivar**	**3.31**	**62**	Pn	Pn	01 46 52.7	+0.3
S39A				IAmb_Lg		01 47 43.2	
	comp=Z,3.9nm,0.8s						
U40A	**Yellville**	**3.37**	**86**	Pn	Pn	01 46 53.4	+0.2
X40A	**Basin Creek Fa**	**3.82**	**115**	Pn	Pn	01 47 01.0	+1.6
X40A				IAmb_Lg		01 48 08.3	
	comp=Z,3.4nm,0.7s						
WHAR	**Wooly Hollow**	**3.95**	**102**	Pn	Pn	01 47 02.3	+1.1
FCAR	**Ozark Folk Cen**	**3.98**	**93**	IAmb_Lg		01 48 08.9	
	comp=Z,5.3nm,0.8s						
AMTX	**Amarillo**	**4.02**	**252**	IAmb_Lg		01 48 13.8	
	comp=Z,11nm,1.0s						
CCM	**Cathedral Cave**	**4.97**	**66**	IAmb_Lg		01 48 47.2	
	comp=Z,5.8nm,0.8s						
SIUC	**Southern Illin**	**6.43**	**74**	IAmb_Lg		01 49 23.1	
	comp=Z,6.7nm,0.7s						

NEIC ***08*** *01:49:04.9±1.4, 11°.72S±0°.08×166°.9E±0°.2, h214^{km}±7^{km}, mb4.2/17, Error ellipse: s-maj=25.3km s-min=10.9km az=94.0*

IDC ***08*** *01:49:10.6±3.6, 11°.92S×166°.62E, h272^{km}±37^{km}, mb3.5/12, mb1 3.6/14, mb1mx3.4/47, mbtmp4.2/14, Error ellipse: s-maj=21.2km s-min=19.1km az=71.0*

NOU ***08*** *01:49:14.2, 12°.62S×165°.99E, h0^{km}, mb4.8/11, Santa Cruz Islands*

ISC 08 01:49:03.5±0.6**, 11°.71S**±0°.07×**166°.6E**±0°.1**, h200**^{km}**, n65,** σ1^{s}**62**/67**, mb4.0**/19**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**3.76**	**172**		**Pn**	**01 50 03.5**	**+1.2**
SANVU				Sn	**Sn**	**01 50 48.2**	**-0.4**
SANVU	**Saraoutou**	**3.76**	**172**	P	**Pn**	**01 50 04.1**	**+1.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DVP	Devils Point	6.17	166	P	Pn	01 50 37.6	+4.6
	85µm,0.9s						
LIFNC	LIFOU	9.04	176	P	Pn	01 51 13.3	+3.0
	115nm,0.9s						
KOUNC	Koumac, New Ca	9.08	194	P	Pn	01 51 12.1	+1.3
MARNC	Mare, Loyalty	9.81	172	Pn	Pn	01 51 19.9	-0.4
YATNC	Mamie plateau,	10.30	179	P	Pn	01 51 29.8	+3.2
DZM	Mont Dzumac	10.31	181	P	Pn	01 51 31.2	+4.3
	8.4nm,0.3s,baz=11,slow=18,SNR=58						
DZM				S	Sn	01 53 21.5	-0.5
	0.3nm,0.3s,baz=126,slow=23,SNR=1.5						
DZM	Mont Dzumac	10.31	181	Pn	Pn	01 51 31.3	+4.5
DZM	Mont Dzumac	10.31	181	P	Pn	01 51 31.3	+4.5
NOUC	Port Laguerre	10.34	182	P	P	01 51 32.4	-2.3
ONTNC	Ouen Toro	10.54	181	P	P	01 51 35.2	-1.7
OUENC	Ouen Island, N	10.65	179	P	P	01 51 36.2	-2.0
MSVF	Nonsavu	12.56	120	P	P	01 52 00.1	+0.7
	0.7nm,0.3s,baz=298,slow=20,SNR=4.3						
EIDS	Eidsvold	20.02	225	P	P	01 53 22.6	+1.4
EIDS				IAmb	IAmb	01 53 23.4	
	comp=Z,4.3nm,0.6s						
ARMA	Armidale	23.25	215	P	P	01 53 53.7	+0.4
ARMA				IAmb	IAmb	01 53 56.4	
	comp=Z,3.7nm,1.1s						
OUZ	Omahuta	24.25	166	P	P	01 54 02.6	+0.5
OUZ				IAmb	IAmb	01 54 09.1	
	comp=Z,16nm,1.2s						
HIZ	Hauiti	27.68	166	P	P	01 54 33.5	+0.5
HAZ	Te Kaha	27.80	161	P	P	01 54 33.8	-0.1
URZ	Urewera	28.05	162	P	P	01 54 35.4	-0.7
	comp=Z,5.1nm,0.4s,baz=118,slow=23,SNR=8.8						
URZ	Urewera	28.05	162	P	P	01 54 35.5	-0.7
URZ				IAmb	IAmb	01 54 37.6	
	comp=Z,6.7nm,0.5s						
URZ	Urewera	28.05	162	P	P	01 54 35.8	-0.4
MWZ	Matawai	28.24	162	P	P	01 54 37.3	-0.7
RTZ	Ruatahuna	28.34	163	P	P	01 54 38.3	-0.6
TWVZ	Taurewa	28.35	165	P	P	01 54 39.7	+0.7
RAGZ	Rawiri	28.36	162	P	P	01 54 38.7	-0.4
MRHZ	Matea Rd	28.39	164	P	P	01 54 39.1	-0.2
WTVZ	West Tongariro	28.43	165	P	P	01 54 41.2	+1.4
TMVZ	Te Maari	28.46	165	P	P	01 54 42.1	+2.1
NGZ	Ngauruhoe	28.49	165	P	P	01 54 41.7	+1.4
OTVZ	Oturere	28.50	165	P	P	01 54 41.3	+0.9
SNVZ	South Ngauruho	28.51	165	P	P	01 54 42.7	+2.2
MTHZ	Maungataniwha	28.52	163	P	P	01 54 39.9	-0.6
WNVZ	Wahianoa	28.64	165	P	P	01 54 43.2	+1.6
BKZ	Black Stump Fm	28.72	164	P	P	01 54 41.7	-0.5
BKZ	Black Stump Fm	28.72	164	P	P	01 54 41.4	-0.8
NMHZ	Naumai	28.74	163	P	P	01 54 42.3	-0.1
MOVZ	Moawhango	28.75	165	P	P	01 54 42.2	-0.3
BHHZ	Black Hill Sta	28.91	165	P	P	01 54 43.4	-0.5
KWHZ	Kaweka Forest	28.94	164	P	P	01 54 43.9	-0.3
MCHZ	McNeill Hill	29.03	164	P	P	01 54 44.4	-0.5
KRHZ	Kereru	29.13	164	P	P	01 54 44.4	-1.4
BFZ	Birch Farm	30.08	165	P	P	01 54 52.2	-1.9
WRA	Warramunga Arr	32.09	251	P	P	01 55 11.4	-0.7
	comp=Z,0.4nm,0.7s,baz=85,slow=10,SNR=1.5						
RPZ	Rata Peaks	32.12	174	P	P	01 55 11.3	-0.7
LBZ	Lake Benmore	32.70	175	P	P	01 55 15.7	-1.4
LBZ				IAmb	IAmb	01 55 29.2	
	comp=Z,16nm,1.1s						
ASAR	Alice Springs	33.29	245	P	P	01 55 21.4	-1.1
	comp=Z,0.2nm,0.4s,baz=66,slow=10,SNR=2.0						
FITZ	Fitzroy Crossi	40.06	256	P	P	01 56 20.1	+0.4
	comp=Z,1.0nm,0.8s,baz=83,slow=8.1,SNR=1.7						
FITZ	Fitzroy Crossi	40.06	256	P	P	01 56 20.4	+0.7
PSA00	Pilbara Seismi	45.74	251	P	P	01 57 05.8	+0.6
PSA00				IAmb	IAmb	01 57 19.0	
	comp=Z,11nm,1.1s						
USRK	Ussuriysk Ar.	63.93	333	P	P	01 59 16.0	+0.9
	comp=Z,1.6nm,0.6s,baz=146,slow=8.1,SNR=4.1						
USRK	Ussuriysk Ar.	63.93	333	P	P	01 59 15.3	+0.2
VNDA	Vanda	65.85	181	P	P	01 59 25.6	-1.5
	comp=Z,1.5nm,0.8s,baz=350,slow=8.6,SNR=5.8						
VNDA	Vanda	65.85	181	P	P	01 59 25.9	-1.2
KLR	Kul'dur	68.01	336	P	P	01 59 41.8	+0.7
	comp=Z,0.6nm,0.4s,baz=84,slow=3.6,SNR=7.5						
CMAR	Chiang Mai Arr	73.18	293	P	P	02 00 14.2	+1.3
	comp=Z,0.9nm,0.3s,baz=108,slow=5.9,SNR=1.6						
QSPA	South Pole Qui	78.30	180	P	P	02 00 39.7	-1.6
QSPA				IAmb	IAmb	02 00 40.5	
	comp=Z,1.5nm,0.7s						
ULN	Ulaanbaatar	79.35	324	P	P	02 00 47.9	+0.6
ULN				IAmb	IAmb	02 00 48.1	
	comp=Z,2.7nm,0.5s						
SONM	Songino Array	79.72	324	P	P	02 00 49.6	+0.4
	comp=Z,1.1nm,0.8s,baz=123,slow=5.3,SNR=3.8						
SONM	Songino Array	79.72	324	P	P	02 00 49.0	-0.2
FID	Port Fidalgo	81.19	21	P	P	02 00 55.3	-1.3
FID				IAmb	IAmb	02 01 10.1	
	comp=Z,5.3nm,1.1s						
J20K	Nowinta River	81.31	16	P	P	02 00 56.8	-0.3
ILAR	Eielson Array	83.86	18	P	P	02 01 09.3	-1.0
	comp=Z,1.7nm,0.6s,baz=240,slow=5.0,SNR=30						
INK	Inuvik	90.24	19	P	P	02 01 42.4	+1.4
	comp=Z,1.3nm,1.0s,baz=166,slow=8.4,SNR=3.3						
MKAR	Makanchi Array	94.60	317	P	P	02 02 01.0	-0.7
	comp=Z,0.8nm,0.5s,baz=96,slow=6.5,SNR=8.9						

*IDC **08** 01:56:30.0±2.9, 17.45S×179.04W, h570km±18km, mb3.3/4, mb1 3.5/5, mb1mx3.0/39, mbtmp4.2/5, Error ellipse: s-maj=99.2km s-min=31.9km az=143.0*

ISC 08 01:56:28.6±2.8**, 18.2S**±0.6×**178.8W**±0.5**, h550**km**, n6,** σ1.59/7**, mb3.9**/4**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.08	278	P	P	01 57 45.5	+1.2
	5.1nm,0.3s,baz=103,slow=3.2,SNR=38						
STKA	Stephens Creek	38.20	241	P	P	02 03 03.0	+1.2
	2.3nm,0.4s,baz=89,slow=11,SNR=7.5						
WRA	Warramunga Arr	44.26	260	P	P	02 03 48.3	-1.7
	1.4nm,0.5s,baz=94,slow=6.8,SNR=19						
ASAR	Alice Springs	44.40	255	P	P	02 03 50.4	-0.6
	12nm,0.6s,baz=89,slow=8.1,SNR=147						
ASAR				PcP	PcP	02 05 21.2	-1.7
	0.7nm,0.6s,baz=99,slow=4.4,SNR=3.7						
FITZ	Fitzroy Crossi	52.66	261	P	P	02 04 51.4	-1.0
	0.8nm,0.4s,baz=94,slow=5.8,SNR=8.8						
GERES	GERESS Array B	147.81	344	PKPbc	PKPdf	02 15 08.8	+0.5
	0.7nm,0.5s,baz=31,slow=4.0,SNR=6.5						

IDC 08 01:59:30.0±3.5**, 33.05S**×**178.00W, h0**km**, mb3.6**/2**, mb1 3.9**/3**, mb1mx3.6**/35**, mbtmp3.7**/3**, ML3.8**/1**, Error ellipse: s-maj=80.8km s-min=38.1km az=117.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.55	216	Pn	Pn	02 01 07.9	+0.4
	1.8nm,0.3s,baz=270,slow=3.5,SNR=8.2						
URZ				Sn	Sn	02 02 21.1	-1.8
	0.7nm,0.3s,baz=118,slow=23,SNR=1.2						
ASAR	Alice Springs	43.03	270	P	P	02 07 31.6	+0.1
	0.3nm,0.5s,baz=115,slow=7.7,SNR=4.8						
WRA	Warramunga Arr	44.26	275	P	P	02 07 41.5	0.0
	0.7nm,0.5s,baz=114,slow=8.0,SNR=7.3						
FINES	FINESS Array B	147.61	339	PKPbc	PKPbc	02 19 14.4	-1.1
	5.4nm,1.1s,baz=42,slow=6.4,SNR=1.0						

*IDC **08** 02:08:42.5±0.5, 32.84S×178.45W, h0km, mb4.6/11, mb1 4.6/14, mb1mx4.4/40, mbtmp4.6/14, ML5.0/4, MS3.9/4, Ms1 3.9/4, ms1mx3.5/24, Error ellipse: s-maj=20.6km s-min=14.8km az=107.0*

*WEL **08** 02:08:44.9±0.7, 33°S±6°×17°8W±1°5, h33km, M5.0/18, mB5.4/12, ML5.5/18, MLv5.3/18, Mw(mB)4.8/12, Error ellipse: s-maj=0.0km s-min=0.0km az=109.7*

*NEIC **08** 02:08:46.0±1.1, 32.99S±0.07×178.4W±0.1, h20km±4km, mb4.7/18, Error ellipse: s-maj=18.0km s-min=8.6km az=107.0*

ISC 08 02:08:46.5±0.4**, 32.95S**±0.05×**178.36W**±0.08**, h32**km**, n126,** σ1.46/141**, mb4.7**/20**, MS3.8**/7**, 1C-1D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.70	6	P	Pn	02 09 39.0	-2.4
GLKZ				S	Sn	02 10 20.9	-3.0
RAO	Raoul Island	3.71	6	Pn	Pn	02 09 40.8	-0.8
	114nm,0.3s,baz=252,slow=20,SNR=2.8						
RAO				Sn	Sn	02 10 21.9	-2.2
	266nm,0.3s,baz=138,slow=21,SNR=4.4						
RAO	Raoul Island	3.71	6	Pn	Pn	02 09 42.2	+0.6
RAO					Sn	02 10 22.6	-1.6
RIZ	Raoul Island	3.71	6	S	Sn	02 10 23.5	-0.8
MXZ	Matakaoa Point	5.35	210	P	Pn	02 10 02.0	-2.0
MXZ				S	Sn	02 11 01.9	-2.6
WMGZ	Waiomatatini S	5.52	208	P	Pn	02 10 05.0	-1.5
WMGZ				S	Sn	02 11 09.2	+0.4
PKGZ	Pakihiroa	5.72	210	P	Pn	02 10 07.0	-2.2
PKGZ				S	Sn	02 11 12.0	-1.8
HAZ	Te Kaha	5.74	212	P	Pn	02 10 08.1	-1.2
HAZ				S	Sn	02 11 14.9	+0.9
PUZ	Puketiti	5.80	207	P	Pn	02 10 07.5	-2.9
PUZ				S	Sn	02 11 13.8	-2.0
RUGZ	Raukumara Rang	5.95	212	P	Pn	02 10 11.3	-1.2
RUGZ				S	Sn	02 11 18.5	-1.1
TWGZ	Tauwhareparae	6.00	209	P	Pn	02 10 12.3	-0.9
TWGZ				S	Sn	02 11 19.0	-1.8
CNGZ	Carnagh Statio	6.18	206	P	Pn	02 10 16.2	+0.6
WHRZ	Whale Island	6.20	217	P	Pn	02 10 17.2	+1.5
WHRZ				S	Sn	02 11 26.0	+0.5
TKGZ	Te Karaka	6.28	208	P	Pn	02 10 16.5	-0.4
TKGZ				S	Sn	02 11 24.9	-2.7
MWZ	Matawai	6.33	211	P	Pn	02 10 15.1	-2.4
MWZ				S	Sn	02 11 26.5	-2.2
OPRZ	Ohinepanea	6.41	219	P	Pn	02 10 19.1	+0.5
URZ	Urewera	6.45	214	Pn	Pn	02 10 17.6	-1.6
	15nm,0.3s,baz=128,slow=20,SNR=56						
URZ				Sn	Sn	02 11 28.9	-2.8
	50nm,0.3s,baz=311,slow=19,SNR=11						
URZ	Urewera	6.45	214		Pn	02 10 17.1	-2.1
URZ					Sn	02 11 30.7	-1.0
URZ	Urewera	6.45	214	P	Pn	02 10 17.9	-1.3
URZ				S	Sn	02 11 29.6	-2.1
RAGZ	Rawiri	6.51	211	P	Pn	02 10 17.9	-2.2
RIGZ	Rimuhau	6.55	208	P	Pn	02 10 17.9	-2.6
RIGZ				S	Sn	02 11 30.6	-3.6
PRGZ	Paritu Road	6.69	206	P	Pn	02 10 21.5	-1.0
WCZ	Waipu Caves	6.72	242	P	Pn	02 10 25.1	+2.2
SNGZ	Shannon Statio	6.78	210	P	Pn	02 10 23.0	-0.8
SNGZ				S	Sn	02 11 37.7	-2.2
RTZ	Ruatahuna	6.80	212	P	Pn	02 10 22.2	-1.9
RRRZ	Republican Roa	6.80	216	P	Pn	02 10 24.3	+0.2
MHGZ	Mahia Peninsul	6.88	205	P	Pn	02 10 24.1	-1.1
PRRZ	Plateau Road	6.99	216	S	Sn	02 11 43.0	-2.0
RAHZ	Arahi	7.00	211	P	Pn	02 10 26.4	-0.4
RAHZ				S	Sn	02 11 41.7	-3.7
OUZ	Omahuta	7.04	249		Pn	02 10 28.7	+1.3
MTHZ	Maungataniwha	7.06	212	P	Pn	02 10 26.3	-1.3
MTHZ				S	Sn	02 11 45.6	-1.1
WHHZ	Waihua	7.08	209	S	Sn	02 11 44.1	-3.0
BKZ	Black Stump Fm	7.47	212		Pn	02 10 31.5	-1.8
THZ	Tophouse	11.20	216	Pn	Pn	02 11 23.6	-0.8
MSVF	Nonsavu	15.49	347	Pn	Pn	02 12 21.5	-1.3
	0.5nm,0.3s,baz=190,slow=17,SNR=2.1						
OUENC	Ouen Island, N	16.77	305		P	02 12 41.0	+0.1
OUENC				IAmb	IAmb	02 12 47.2	
	comp=Z,31nm,0.9s						
DZM	Mont Dzumac	17.27	305	ePn	P	02 12 49.7	+3.1
	comp=Z,128nm,1.4s						
DZM				eLR	LR	02 16 37.4	
	comp=Z,1µm,22.9s						
DZM	Mont Dzumac	17.27	305	P	P	02 12 49.8	+3.1
	comp=Z,0.4nm,0.3s,baz=110,slow=12,SNR=7.7						
DZM	Mont Dzumac	17.27	305	Pn	Pn	02 12 45.6	+0.2
DZM				IAmb	IAmb	02 12 55.6	
	comp=Z,52nm,1.1s						
AFI	Afiamalu	19.89	19	P	Pn	02 13 16.3	-0.8
	comp=Z,2.3nm,0.3s,baz=240,slow=13,SNR=3.1						
RAR	Rarotonga	20.23	59	P	Pn	02 13 20.8	-0.2
	comp=Z,13nm,0.8s,baz=220,slow=14,SNR=2.5						
TBI	Tubuai	27.15	77	eLR	LR	02 21 15.5	
	comp=Z,266nm,28.8s						
EIDS	Eidsvold	27.66	278	P	P	02 14 32.2	+0.6
EIDS				IAmb	IAmb	02 14 34.9	
	comp=Z,14nm,0.8s						
PPT2	Papeete2	30.07	66	eLR	LR	02 22 45.6	
	comp=Z,203nm,24.5s						
STKA	Stephens Creek	33.68	261	P	P	02 15 25.4	+0.8
	comp=Z,1.3nm,0.5s,baz=112,slow=11,SNR=3.6						
STKA				PcP	PcP	02 18 04.0	0.0
	comp=Z,1.6nm,0.6s,baz=282,slow=11,SNR=3.1						
STKA				LR	LR	02 28 34.2	
	comp=Z,546nm,18.3s,baz=61,slow=35						
STKA	Stephens Creek	33.68	261	P	P	02 15 22.8	-1.9
CTA	Charters Tower	33.99	283	P	P	02 15 28.4	+0.9
	comp=Z,7.8nm,0.5s,baz=114,slow=10,SNR=19						
CTAO	Charters Tower	33.99	283	P	P	02 15 25.7	-1.7
COEN	Coen	39.74	289	P	P	02 16 16.5	+0.1
COEN				IAmb	IAmb	02 16 30.2	
	comp=Z,12nm,0.8s						
TAOE	Nuku Hiva Isla	42.64	64	eLR	LR	02 28 21.3	
	comp=Z,150nm,26.5s						
AS31	Alice Springs	42.73	270	P	P	02 16 41.2	+0.3
ASAR	Alice Springs	42.73	270	P	P	02 16 40.9	-0.1
	comp=Z,14nm,0.7s,baz=111,slow=7.5,SNR=117						
ASAR				PcP	PcP	02 18 32.8	+0.6
	comp=Z,1.2nm,0.8s,baz=123,slow=5.0,SNR=1.7						
ASAR				S	S	02 23 00.7	-2.0
	comp=Z,0.8nm,0.9s,baz=116,slow=14,SNR=4.9						
ASAR				LR	LR	02 33 17.8	
	comp=Z,102nm,21.9s,baz=125,slow=35						
ASAR	Alice Springs	42.73	270	P	P	02 16 41.3	+0.4
WR0	Warramunga Arr	43.77	275	P	P	02 16 49.7	+0.4
WR0				IAmb	IAmb	02 17 02.3	
	comp=Z,27nm,1.1s						
WB2	Warramunga Arr	43.94	275	P	P	02 16 51.0	+0.4
WRA	Warramunga Arr	43.95	275	P	P	02 16 50.6	-0.2
	comp=Z,14nm,0.6s,baz=117,slow=7.6,SNR=153						
WRA				S	S	02 23 17.5	-3.0
	comp=Z,1.2nm,0.9s,baz=129,slow=13,SNR=4.1						
WRA				LR	LR	02 34 11.2	
	comp=Z,141nm,18.6s,baz=125,slow=35						
WRA	Warramunga Arr	43.95	275	P	P	02 16 51.0	+0.3
FORT	Forrest	45.15	258	P	P	02 16 59.5	-0.6
VNDA	Vanda	45.53	186	P	P	02 17 05.5	+2.9
	comp=Z,0.3nm,0.6s,baz=335,slow=5.1,SNR=1.5						
JAY	Jayapura	48.84	300	LR	LR	02 37 28.0	
	comp=Z,96nm,18.8s,baz=165,slow=35						
KNRA	Kununurra	50.64	277	P	P	02 17 43.1	+0.3
KNRA				IAmb	IAmb	02 17 58.1	
	comp=Z,14nm,0.8s						
FITZ	Fitzroy Crossi	52.09	272	P	P	02 17 53.8	0.0
FITZ				IAmb	IAmb	02 18 06.4	
	comp=Z,8.0nm,0.8s						
CASY	Casey	52.75	209	P	P	02 17 58.5	+0.6
CASY				IAmb	IAmb	02 18 14.1	
	comp=Z,9.5nm,0.6s						
QSPA	South Pole Qui	57.17	180	P	P	02 18 32.0	+1.9
	comp=Z,11nm,0.7s,baz=30,slow=1.1,SNR=20						
QSPA	South Pole Qui	57.17	180	P	P	02 18 30.9	+0.9
EDFI	Ende, Flores	60.13	279	P	P	02 18 50.3	-1.1
	comp=Z,6.1nm,0.9s						
GAMI	Galela, Maluku	61.41	293	P	P	02 18 58.2	-1.7
	comp=Z,2µmcomp=Z,33nm,0.7s						
MAW	Mawson	69.82	201	P	P	02 19 56.0	+2.6
	comp=Z,2.4nm,0.6s,baz=128,slow=8.0,SNR=2.9						
MAW	Mawson	69.82	201		P	02 19 54.4	+1.1
SYO	Syowa Base	74.57	193	eP	P	02 20 22.4	+0.7
SYO	Syowa Base	74.57	193	epP	pP	02 20 28.0	-1.9
SNAA	Sanae	75.62	179	P	P	02 20 29.3	+1.4
SNAA	Sanae	75.62	179	PcP	PcP	02 20 39.4	-1.2
SNAA	Sanae	75.62	179	P	P	02 20 28.8	+0.9
SNAA				IAmb	IAmb	02 20 38.8	
	comp=Z,6.6nm,0.9s						
VNA3	Neumayer Olymp	75.79	176	P	P	02 20 30.3	+1.5
VNA3	Neumayer Olymp	75.79	176	PcP	PcP	02 20 39.9	-1.4
VNA2	Neumayer--Watz	76.22	177	P	P	02 20 32.2	+1.0
	baz=188,slow=4.2						
VNA2	Neumayer--Watz	76.22	177	PcP	PcP	02 20 42.3	-0.8
VNA1	Neumayer--Stat	76.45	177	P	P	02 20 33.5	+1.0
VNA1	Neumayer--Stat	76.45	177	PcP	PcP	02 20 43.6	-0.6
H03S2	Juan Fernandez	79.32	123	T	T	03 49 42.1	
	baz=235						
H03S1	Juan Fernandez	79.33	123	T	T	03 49 53.1	
	baz=235						
H03S3	Juan Fernandez	79.34	123	T	T	03 49 58.0	
	baz=235						
MJAR	Matsushiro Arr	80.16	326	P	P	02 20 52.3	-1.2
	comp=Z,0.8nm,0.3s,baz=165,slow=7.7,SNR=1.9						
MJAR	Matsushiro Arr	80.16	326	P	P	02 20 52.2	-1.2
MJAR				IAmb	IAmb	02 20 52.6	
	comp=Z,5.6nm,1.1s						
KSRS	Korea Array	86.09	320	P	P	02 21 24.8	+0.8
	comp=Z,1.7nm,0.6s,baz=131,slow=5.1,SNR=5.8						
PETK	Petropavlovsk-	88.20	346	P	P	02 21 34.6	+0.8
	comp=Z,5.2nm,0.9s,baz=165,slow=7.7,SNR=7.2						
PETK	Petropavlovsk-	88.20	346	P	P	02 21 35.4	+1.6
USRK	Ussuriysk Ar.	89.11	327	P	P	02 21 39.9	+1.6
	comp=Z,3.3nm,0.7s,baz=118,slow=3.7,SNR=9.9						
USRK	Ussuriysk Ar.	89.11	327	P	P	02 21 39.8	+1.4
MKAR	Makanchi Array	119.15	309	PKP	PKPdf	02 27 31.5	-0.4
	comp=Z,0.3nm,0.6s,baz=86,slow=2.0,SNR=3.0						
ZALV	Zalesovo Beam	119.71	317	PKP	PKiKP	02 27 32.5	-0.3
	comp=Z,0.5nm,0.4s,baz=122,slow=1.9,SNR=1.3						
NRIK	Noril'sk	121.83	335	PKP	PKPdf	02 27 35.5	-0.7
	comp=Z,1.9nm,0.4s,baz=25,slow=1.9,SNR=1.8						
ARU	Arti	134.83	319	PKP	PKiKP	02 28 03.2	+0.4
	comp=Z,0.5nm,0.3s,baz=138,slow=7.2,SNR=3.0						
AKTO	Aktyubinsk	135.55	310	PKP	PKPdf	02 28 02.7	-0.3
	comp=Z,0.7nm,0.5s,baz=85,slow=6.5,SNR=1.8						
ARCES	ARCESS Array B	141.00	347	PKhKP	PKPpre	02 28 09.1	
	comp=Z,2.4nm,0.9s,baz=17,slow=1.6,SNR=2.0						
KBZ	Khabaz	146.21	301	PKPbc	PKPab	02 28 23.4	-0.8
	comp=Z,3.7nm,0.9s,baz=174,slow=3.6,SNR=7.2						
KVAR	Kislovodsk Arr	146.34	301	PKPbc	PKPab	02 28 24.2	-0.6
	comp=Z,2.5nm,0.7s,baz=156,slow=12,SNR=1.6						
OBN	Obninsk	147.05	323	PKPbc	PKPab	02 28 26.0	-1.0
	comp=Z,2.8nm,0.4s,baz=262,slow=4.2,SNR=4.3						
FINES	FINESS Array B	147.41	338	PKPbc	PKPbc	02 28 26.9	+0.7
	comp=Z,17nm,0.7s,baz=42,slow=3.7,SNR=47						
FINES	FINESS Array B	147.41	338		PKPbc	02 28 26.7	+0.5
ASF	Jabal al Asfar	150.35	278	PKPbc	PKiKP	02 28 35.5	-0.1
	comp=Z,6.7nm,0.8s,baz=65,slow=1.7,SNR=16						
NB2	NORSAR Subarra	151.21	350	PKP	PKiKP	02 28 36.8	+0.4
	comp=Z,3.2nm,0.6s,baz=17,slow=2.6						
NOA	NORSAR Array B	151.21	350	PKPbc	PKPbc	02 28 35.5	-0.3
	comp=Z,4.8nm,0.7s,baz=14,slow=4.1,SNR=20						
EIL	Elat	151.42	272	PKPbc	PKiKP	02 28 38.0	+0.3
	comp=Z,14nm,0.8s,baz=139,slow=2.2,SNR=17						
HFS	Hagfors	151.67	347	PKPbc	PKiKP	02 28 37.3	0.0
	comp=Z,9.0nm,0.7s,baz=104,slow=4.7,SNR=15						
MMAI	Mount Meron Ar	151.74	279	PKPbc	PKiKP	02 28 39.4	+1.0
	comp=Z,13nm,0.6s,baz=83,slow=6.8,SNR=22						
AKASG	Malin Array Be	153.09	319	PKPbc	PKiKP	02 28 40.6	+0.1
	comp=Z,0.6nm,0.3s,baz=52,slow=2.5,SNR=9.1						
AKASG	Malin Array Be	153.09	319		PKiKP	02 28 41.9	+1.4
DBIC	Dimbokro	153.16	166	PKPbc	PKiKP	02 28 43.3	+1.5
	comp=Z,2.6nm,0.8s,baz=269,slow=6.4,SNR=3.8						
DBIC	Dimbokro	153.16	166		PKiKP	02 28 41.5	-0.3
BRTR	Keskin Array B	153.44	294	PKPbc	PKiKP	02 28 41.8	-0.1
	comp=Z,3.3nm,0.6s,baz=161,slow=3.6,SNR=7.9						
BRTR				PKPab	PKPab	02 28 54.7	+0.6
	comp=Z,2.2nm,0.5s,baz=150,slow=5.4,SNR=5.1						
EKA	Eskdalemuir Ar	157.37	7	PKPab	PKPab	02 29 10.2	+0.1
	comp=Z,0.5nm,0.2s,baz=335,slow=3.1,SNR=2.1						
MLR	Muntele Rosu	157.48	311	PKPab	PKPab	02 29 12.2	+1.1
	comp=Z,1.4nm,0.6s,baz=129,slow=6.5,SNR=2.3						
DPC	Dobruska-Polom	159.51	332	ePKPAB	PKPab	02 29 19.4	-0.2
CLL	Collm	159.86	339	i PKPab	PKPab	02 29 21.2	+0.2
	comp=Z,7.0nm,0.8s						
CLL				i sPKPab	sPKPab	02 29 33.1	+0.6
	comp=Z,4.0nm,0.7s						
BRG	Berggiesshubel	159.94	337	eP	PKPab	02 29 21.9	+0.6
BRG				Amp		02 29 23.9	
	comp=Z,4.3nm,0.9s						
BRG	Berggiesshubel	159.94	337	P	PKPab	02 29 34.0	+13
BRG				Amp		02 29 35.8	
	comp=Z,3.3nm,0.8s						
TORD	Torodi Ar. Bea	160.29	180	PKPab	PKPab	02 29 24.2	+0.5
	comp=Z,1.5nm,0.8s,baz=178,slow=4.0,SNR=6.3						
TORD	Torodi Ar. Bea	160.29	180		PKPab	02 29 24.0	+0.3
NKC	Novy Kostel	160.97	338	ePKPAB	PKPab	02 29 26.4	+0.5
CKRC	Cesky Krumlov	161.52	333	ePKPAB	PKPab	02 29 29.1	+0.7
KHC	Kasperske Hory	161.53	335	ePKPAB	PKPab	02 29 29.0	+0.6
GERES	GERESS Array B	161.73	334	PKPab	PKPab	02 29 29.1	-0.2
	comp=Z,1.4nm,0.9s,baz=45,slow=4.3,SNR=8.1						
DAVOX	Davos/Dischmat	164.82	338	PKPab	PKPab	02 29 42.0	-1.2
	comp=Z,2.0nm,0.8s,baz=346,slow=12,SNR=3.7						
ESDC	Sonseca Array	171.91	32	PKPab	PKPab	02 30 14.7	+0.2
	comp=Z,0.1nm,0.4s,baz=290,slow=2.1,SNR=1.3						

*ANF **08** 02:15:15.7±0.3, 38.82N×119.00W, h0km, ML4.3/36, Error ellipse: s-maj=4.4km s-min=2.2km az=51.0*

*NEIC **08** 02:15:20.0±1.6, 38.66N±0.02×118.80W±0.02, h5km±6km, Error ellipse: s-maj=2.9km s-min=2.1km az=186.0*

*IDC **08** 02:15:19.9±0.8, 38.67N×118.84W, h0km, mb3.4/2, mb1 3.8/8, mb1mx3.6/65, mbtmp3.5/8, ML3.7/6, MS3.0/7, Ms1 3.0/7, ms1mx2.8/28, Error ellipse: s-maj=8.2km s-min=4.9km az=51.0*

*REN **08** 02:15:20.0±1.7, 38.65N±0.04×118.81W±0.04, h6km±7km, ML4.4/10, ML4.1/87(NEIC), Mwr4.0/60(NEIC), Error ellipse: s-maj=7.3km s-min=2.2km az=209.0*

*NEIC **08** 02:15:20, 38.66N×118.81W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.17; $M_{\theta\theta}$-0.56; $M_{\phi\phi}$0.74; $M_{r\theta}$-0.14; $M_{\theta\phi}$0.78; $M_{\phi r}$0.20; Fault plane solution: $M_0$1.06000×10^{15} NP1:ϕ_s161.12000°, δ83.61000°, λ-165.49000°. NP2:ϕ_s69.47000°, δ75.58000°, λ-6.60000°. Principal axes: T 1.1174, Plg6.0000°, Azm295.0000°; N -0.1277, Plg74.0000°, Azm184.0000°; P -0.9896, Plg15.0000°, Azm26.0000°;*

ISC 08 02:15:20.5±0.6**, 38.62N**±0.02×**118.83W**±0.02**, h10**km**, n100,** σ1.65/126**, California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RYN	Ryan	0.24	87		Pg	02 15 24.6	-0.8
RYN				Sg	Sg	02 15 27.9	-0.9
RYN				IAML		02 15 28.5	
	comp=N,60µm,0.5s						
RYN				IAML		02 15 28.6	
	comp=E,59µm,0.4s						
LHV	Little Huntoon	0.45	145		Pb	02 15 29.3	-1.1
LHV				Sg	Sb	02 15 35.8	-1.2
NVAR	Mina Array Bea	0.45	114	Pg	Pg	02 15 28.7	-0.7
	comp=E,2µm,0.3s,baz=289,slow=17						
NVAR				Lg	Lg	02 15 35.6	
	comp=E,2µm,0.3s,baz=267,slow=33,SNR=10						
YERR	Yerington	0.49	319		Pg	02 15 29.4	-0.7
YERR				Sg	Sg	02 15 36.2	-0.4
YERR				IAML		02 15 37.0	
	comp=N,18µm,0.6s						
YERR				IAML		02 15 41.0	
	comp=E,19µm,0.4s						
NV11	Mina Array Sit	0.56	109		Pg	02 15 30.6	-0.7
NV11				Sg	Sg	02 15 38.3	-0.4
KVN	Kaiserville	0.71	52		Pg	02 15 32.9	-1.5
KVN				Sg	Sg	02 15 42.2	-1.6
KVN				IAML		02 15 42.5	
	comp=N,12µm,0.5s						
KVN				IAML		02 15 42.8	
	comp=E,9µm,0.5s						
PNTR	Pine Nut	0.77	308	Pg	Pg	02 15 34.6	-0.7
PNTR				Sg	Sg	02 15 44.9	-0.4
PNTR				IAML		02 15 46.0	
	comp=N,8µm,0.9s						
PNTR				IAML		02 15 50.2	
	comp=E,10µm,0.7s						
VCNR	Virginia City	0.93	317		Pg	02 15 37.5	-1.0
MLAC	Mammoth, Mammo	0.98	180	P	Pb	02 15 39.5	-0.3
	baz=1.3						
MLAC				S	Sn	02 15 55.8	+1.0
	baz=1.3						
MDPB	Devils Postpil	1.00	192		Pb	02 15 39.5	-0.6
RUBR	Rubicon Trail	1.12	293		Pg	02 15 41.3	-0.8
RUBR				IAML		02 16 00.7	
	comp=N,7µm,0.8s						
RUBR				IAML		02 16 01.5	
	comp=E,6µm,0.6s						
PAHR	Pah Rah Range	1.17	338	Pg	Pb	02 15 41.5	-1.4
PAHR				IAML		02 15 59.7	
	comp=E,6µm,0.9s						
PAHR				IAML		02 16 02.6	
	comp=N,3µm,0.9s						
CMB	Columbia Colle	1.36	245		Pg	02 15 45.7	-0.9
TPH	Tonopah	1.37	113		Pn	02 15 44.9	-1.0
TIN	Tinemaha, Big	1.63	163	P	Pb	02 15 49.7	-1.0
	baz=344						
TIN				S	Sg	02 16 13.9	+1.0
	baz=344						
BEKR	Beckworth	1.72	317	Pn	Pn	02 15 50.1	-0.6
BEKR				IAML		02 16 15.8	
	comp=E,1µm,0.7s						
GRAC	Grapevine Rang	1.99	144	P	Pn	02 15 54.4	+0.1
	baz=326						

GRAC				S	Sg	02 16 24.4	0.0
	baz=326						
BMN	Battle Mountai	2.20	34	Pn	Pn	02 15 55.4	-1.8
BMN				IAML		02 16 30.0	
	comp=E,1µm,0.5s						
BMN				IAML		02 16 30.6	
	comp=N,808nm,0.4s						
CWC	Cottonwood Cre	2.25	164	P	Pn	02 15 58.8	+0.8
	baz=346						
CWC				S	Sg	02 16 31.6	-1.3
	baz=346						
VOG	Valley Oaks Go	2.33	191	Pg	Pb	02 16 03.4	+0.7
	baz=11						
VOG				Sb	Sg	02 16 34.5	-1.0
	baz=11						
R11A	Troy Canyon, C	2.56	95		Pn	02 16 00.7	-1.5
R11A				IAML		02 16 41.2	
	comp=E,650nm,1.1s						
R11A	Troy Canyon, C	2.56	95	P	Pn	02 16 00.8	-1.5
	baz=278						
R11A				Sb	Sb	02 16 39.5	+1.3
	baz=278						
TPNV	Topopah Spring	2.63	128		Pn	02 16 02.9	-0.4
TPNV				IAML		02 16 49.5	
	comp=E,724nm,0.8s						
TPNV				IAML		02 16 54.1	
	comp=E,696nm,1.1s						
TPNV	Topopah Spring	2.63	128	P	Pn	02 16 03.0	-0.2
	baz=311						
TPNV				Sb	Sg	02 16 44.6	-0.5
	baz=311						
FURC	Furnace Creek,	2.65	143	P	Pn	02 16 03.8	+0.5
	baz=325						
FURC				Sb	Sg	02 16 46.3	+0.6
	baz=325						
MPMC	Manual Prospec	2.77	157	P	Pn	02 16 05.4	+0.3
	baz=338						
MPMC				Sb	Sg	02 16 48.3	-1.1
	baz=338						
VES	Vestal, Richgr	2.78	184	Pb	Pb	02 16 10.6	+0.4
	baz=4.4						
VES				Sb	Sg	02 16 48.3	-1.4
	baz=4.4						
O03E	Paynes Creek	2.85	307	Pg	Pn	02 16 06.5	+0.4
	baz=124,SNR=253						
PMPB	Monarch Peak	2.87	214	Pn	Pb	02 16 09.4	-2.3
PMPB				IAML		02 16 54.5	
	comp=N,1µm,0.7s						
ISA	Isabella, Lake	2.96	174	Pn	Pn	02 16 08.6	+0.9
ISA				IAML		02 16 58.0	
	comp=E,407nm,1.0s						
ISA	Isabella, Lake	2.96	174	Pb	Pb	02 16 14.1	+0.7
	baz=355						
ISA				Sb	Sg	02 16 53.7	-1.9
	baz=355						
GDXM	Geysers	3.11	275	Pn	Pn	02 16 10.3	+0.6
PRN	Pahroc Range	3.22	111		Pn	02 16 10.6	-0.7
PRN				IAML		02 17 06.6	
	comp=N,759nm,0.4s						
PRN				IAML		02 17 19.8	
	comp=E,812nm,0.8s						
LRMC	Laurel Mtn Rad	3.26	163	Sb	Sg	02 17 04.0	-1.3
	baz=344						
SHOC	Shoshone, Teco	3.39	142	Pb	Pb	02 16 21.4	+0.7
	baz=324						
SHOC				Sb	Sg	02 17 09.3	-0.1
	baz=324						
SMMC	Simmler	3.43	196	Pb	Pb	02 16 18.7	-2.6
	baz=16						
SMMC				Sb	Sg	02 17 06.5	-4.1
	baz=16						
O02D	Mt. Diablo Mer	3.44	298	Pb	Pn	02 16 13.9	-0.4
	baz=115,SNR=19						
ARVC	Arvin	3.48	180	Pb	Pb	02 16 21.6	-0.6
	baz=0.3						
ARVC				Sb	Sg	02 17 09.5	-2.8
	baz=0.3						
ELK	Elko	3.49	51	Pn	Pn	02 16 13.8	-1.3
	comp=E,21nm,0.3s,baz=242,slow=13,SNR=389						
ELK				Pg	Pb	02 16 22.0	-0.5
	comp=E,58nm,0.3s,baz=242,slow=16,SNR=33						
ELK				Sn	Sn	02 16 56.0	-0.6
	comp=E,19nm,0.3s,baz=212,slow=19,SNR=1.8						
ELK				Lg	Lg	02 17 08.1	
	comp=E,162nm,0.3s,baz=284,slow=12,SNR=35						
ELK				LR	LR	02 18 05.3	
	comp=E,97nm,20.2s,baz=249,slow=48						
ELK	Elko	3.49	51	Pn	Pn	02 16 13.8	-1.3
ELK				IAML		02 17 10.8	
	comp=E,424nm,0.6s						
ELK				IAML		02 17 11.7	
	comp=E,327nm,0.6s						
SPR3	Spring Creek 3	3.53	82		Pn	02 16 14.6	-1.1
SPR3				IAML		02 17 12.6	
	comp=N,647nm,0.7s						
SHPR	Sheep Range	3.60	125	Pn	Pn	02 16 16.3	-0.2
SHPR				IAML		02 17 16.6	
	comp=N,223nm,0.7s						
SHPR				IAML		02 17 17.2	
	comp=E,227nm,0.9s						
GSC	Goldstone, Bar	3.68	153	Pn	Pn	02 16 18.1	+0.6
GSC	Goldstone, Bar	3.68	153	Pb	Pb	02 16 26.5	+0.7
	baz=335						
GSC				Sb	Sg	02 17 17.3	-1.5
	baz=335						
EDW2	Edwards Air Fo	3.79	170	Pb	Pb	02 16 28.0	+0.5
	baz=350						
EDW2				Sb	Sg	02 17 20.0	-2.2
	baz=350						
N02D	Trinity Center	3.80	309	Pb	Pn	02 16 19.2	0.0
	baz=127,SNR=20						
PKM	Mcpherson Peak	3.80	192	Pb	Pb	02 16 24.7	-3.2
	baz=12						
PKM				Sb	Sb	02 17 17.8	+3.7
	baz=12						
WVOR	Wild Horse Val	3.82	2		Pn	02 16 19.1	-0.3
WVOR				IAML		02 17 19.6	
	comp=E,258nm,1.0s						
WVOR				IAML		02 17 26.8	
	comp=E,223nm,1.0s						
KCPM	Cahto Peak	3.85	288	Pn	Pn	02 16 21.0	+1.1
PSUT	Pine Spring	3.90	90		Pn	02 16 20.1	-0.6
M04C	Macdoel	3.91	325	Pb	Pn	02 16 22.8	+2.0
	baz=142,SNR=12						
TUQ	Turquoise Moun	3.93	143	P	Pn	02 16 21.0	-0.1
	baz=325						
OSI	Osito Audit: C	4.00	179	Pb	Pb	02 16 29.6	-1.4
	baz=359						
OSI				Sb	Sg	02 17 25.6	-3.2
	baz=359						
M02C	Callahan	4.15	313	Pb	Pn	02 16 25.4	+1.4
	baz=130,SNR=20						
HEC	Hector,Ludlow	4.28	151	P	Pn	02 16 26.2	+0.5
	baz=333						
HEC				Sb	Sg	02 17 35.5	-2.3
	baz=333						
YBH	Yreka Blue Hor	4.30	318	Pn	Pn	02 16 27.8	+1.7
	comp=E,2.3nm,0.3s,baz=49,slow=6.3,SNR=35						
YBH				Lg	Lg	02 17 33.9	
	baz=104,slow=17,SNR=1.0						
YBH				LR	LR	02 18 24.2	
	comp=E,254nm,19.3s,baz=162,slow=43						
DECC	Green Verdugo	4.37	175	Sb	Sg	02 17 38.4	-2.5
	baz=355						
K05A	Summer Lake	4.39	340	Pn	Pn	02 16 28.8	+1.4
K05A				IAML		02 17 42.2	
	comp=N,264nm,0.6s						
K05A				IAML		02 17 44.3	
	comp=E,200nm,0.8s						
KHMM	Horse Mountain	4.40	302	Pn	Pn	02 16 28.5	+1.0
MWC	Mount Wilson	4.43	172	Pn	Pn	02 16 29.5	+1.6
MWC				IAML		02 17 47.5	
	comp=E,138nm,1.7s						
CCUT	Cedar City	4.44	102	Pn	Pn	02 16 27.1	-1.0
CCUT				IAML		02 17 40.6	
	comp=N,289nm,0.6s						
CCUT				IAML		02 17 48.1	
	comp=E,176nm,0.8s						
L04D	Klamath Falls	4.47	325	Pb	Pn	02 16 31.0	+2.6
	baz=142,SNR=19						
K04D	Chiloquin, OR	4.58	332	Pb	Pn	02 16 32.6	+2.6
	baz=150,SNR=6.6						
GMRC	Granite Mounta	4.59	145	Pb	Pb	02 16 42.9	+1.6
	baz=328						
GMRC				Sb	Sg	02 17 42.9	-5.1
	baz=328						
SZCU	Shurtz Canyon	4.64	101		Pn	02 16 31.4	+0.5
SZCU				IAML		02 17 52.6	
	comp=E,194nm,0.5s						
SZCU				IAML		02 17 52.9	
	comp=N,173nm,0.7s						
LCMT	Little Creek M	4.70	108		Pn	02 16 30.9	-0.7
J08A	Circle Bar Ran	4.74	3	Pn	Pn	02 16 32.7	+0.5
J08A				IAML		02 17 54.2	
	comp=N,145nm,0.8s						
J08A				IAML		02 18 01.5	
	comp=E,213nm,0.9s						
KRMB	Red Mountain	4.86	308	Pn	Pn	02 16 34.7	+0.9
DUG	Dugway, Tooele	4.92	69		Pn	02 16 34.0	-0.5
DUG	Dugway, Tooele	4.92	69	P	Pn	02 16 34.1	-0.5
	baz=253						
TCRU	Three Creeks R	5.00	88	Pn	Pn	02 16 32.7	-3.1
TCRU				IAML		02 18 01.9	
	comp=E,200nm,1.0s						
TCRU				IAML		02 18 02.5	
	comp=N,218nm,0.8s						
J05D	Fort Rock, OR	5.01	339	Pb	Pn	02 16 39.0	+3.2
	baz=158,SNR=11						
J05D				Sg	Sg	02 17 55.1	-6.1
	baz=158						
KNB	Kanab	5.02	107		Pn	02 16 35.5	-0.5
KNB				IAML		02 18 10.6	
	comp=N,141nm,1.4s						
BGU	Big Grassy Mou	5.03	61		Pn	02 16 35.3	-0.8
BGU				IAML		02 18 03.1	
	comp=N,213nm,0.8s						
L02E	Cave Junction	5.08	316	Pb	Pn	02 16 40.6	+4.0
	baz=132						
NEE2	Needles Airpor	5.12	137	P	Pn	02 16 37.4	+0.2
	baz=320						
BELC	Belle Mtn. Jos	5.14	153	P	Pn	02 16 38.4	+0.7
	baz=335						
MVU	Marysvale	5.19	89	Pn	Pn	02 16 39.3	+0.9
MSU	Marysvale	5.21	89	Pn	Pn	02 16 40.4	+1.7
PFO	Pinyon Flats O	5.35	158	Pn	Pn	02 16 41.7	+1.2
	comp=N,0.6nm,0.3s,baz=342,slow=12,SNR=6.8						
PFO				Sn	Sn	02 17 42.0	-0.3
	comp=N,0.7nm,0.3s,baz=255,slow=20,SNR=1.1						
PFO				Lg	Lg	02 18 09.3	
	comp=N,0.1nm,0.3s,baz=253,slow=20,SNR=1.1						
PFO				LR	LR	02 19 07.4	
	comp=N,84nm,19.0s,baz=48,slow=42						
PFO	Pinyon Flats O	5.35	158	Pn	Pn	02 16 41.8	+1.3
IRM	Iron Mountain	5.35	145	P	Pn	02 16 41.8	+1.3
	baz=328						
TPFO	Pinon Flats	5.36	158	P	Pn	02 16 41.6	+1.0
	baz=340						
NLU	North Lily Min	5.41	74		Pn	02 16 42.0	+0.7
K02D	Willamette Mer	5.49	319	Pb	Pn	02 16 45.9	+3.5
	baz=136						
SPUT	South Promonto	5.59	59		Pn	02 16 43.6	-0.3
HVU	Hansel Valley	5.61	54		Pn	02 16 43.5	-0.5
U15A	North Rim	5.63	111	Pn	Pn	02 16 44.8	+0.2
I04A	Tendick Farm,	5.83	334	Pb	Pn	02 16 51.5	+4.4
	baz=151						
I05D	Terrebonne, OR	6.02	343	Pb	Pn	02 16 53.2	+3.5
	baz=161						
I03D	Drain, OR	6.12	328	Pb	Pn	02 16 56.1	+5.3
	baz=144						
PDAR	Pinedale Array	8.17	57	Pn	Pn	02 17 21.8	+2.4
	comp=N,0.5nm,0.3s,baz=237,slow=12,SNR=18						
PDAR				Lg	Lg	02 19 31.8	
	comp=N,1.2nm,0.3s,baz=230,slow=20,SNR=6.8						
NEW	Newport	9.72	7	Pn	Pn	02 17 42.9	+2.5
	comp=N,0.1nm,0.3s,baz=191,slow=16,SNR=2.7						
NEW				Lg	Lg	02 20 20.1	
	comp=N,0.1nm,0.3s,baz=234,slow=19,SNR=2.2						
NEW				LR	LR	02 22 12.5	
	comp=N,94nm,18.1s,baz=212,slow=43						
ANMO	Albuquerque	10.57	106	Pg	Pn	02 18 30.3	+38
	comp=N,0.1nm,0.3s,baz=292,slow=8.0,SNR=4.2						
ANMO				Lg	Lg	02 20 51.6	
	comp=N,0.1nm,0.3s,baz=10,slow=19,SNR=1.5						
ANMO				LR	LR	02 22 44.1	
	comp=N,34nm,20.5s,baz=309,slow=42						
319A	Douglas	10.65	130	Pn	Pn	02 17 51.6	-1.6
BNM	Barren Site	10.79	111	Pn	Pn	02 17 55.0	-0.3
TXAR	Lajitas Array	15.60	122	Pn	P	02 19 04.3	-0.5
	comp=N,0.0nm,0.3s,baz=302,slow=8.4,SNR=3.1						
LPIG	La Paz	16.18	151	LR	LR	02 25 17.8	
	comp=N,69nm,20.1s,baz=342,slow=37						
DLBC	Dease Lake	21.12	344	P	P	02 20 07.2	+2.0
	comp=N,2.7nm,1.1s,baz=157,slow=17,SNR=2.6						
DLBC				LR	LR	02 28 22.3	
	comp=N,128nm,18.6s,baz=132,slow=37						
ILAR	Eielson Array	30.92	337	P	P	02 21 38.0	+0.9
	comp=N,0.3nm,0.8s,baz=134,slow=9.1,SNR=3.2						

*IDC **08** 02:15:51.5±0.7, 37°.39N×141°.24E, h0km, mb3.9/18, mb1 4.0/22, mb1mx3.9/69, mbtmp3.9/22, ML3.5/3, MS2.9/5, Ms1 2.9/5, ms1mx2.7/49, Error ellipse: s-maj=17.2km s-min=13.0km az=136.0*

*JMA **08** 02:15:54.9±0.1, 37°.40N×141°.34E, h30km±1km, M4.1 JMA Felt II J1.*

*NIED **08** 02:15:54.9, 37°.40N×141°.34E, h30km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-4.89; $M_{\theta\theta}$6.45; $M_{\phi\phi}$-1.57; $M_{r\theta}$4.65; $M_{\theta\phi}$-3.58; $M_{\phi r}$3.23; Fault plane solution: $M_0 8.87000\times10^{14}$ NP1: ϕ_s258.00000°, δ68.00000°, λ-127.00000°. NP2: ϕ_s142.00000°, δ42.00000°, λ-34.00000°.*

*NEIC **08** 02:15:58.0±1.8, 37°.57N±0°.06×141°.16E±0°.09, h38km±8km, mb4.3/6 Error ellipse: s-maj=10.5km s-min=8.6km az=79.0*

ISC 08 02:15:54.8±0.7**, 37°.40N**±0°.03×**141°.31E**±0°.06**, h22**km±5km**, n67, σ1s.17**/71**, mb4.0**/21**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JFK	Kawauchi	0.34	265	P	Pn	02 16 03.2	-1.4
JFK				S	Sn	02 16 08.7	-2.2
JMST	Minamisoumatoc	0.47	315	P	Pb	02 16 04.6	+0.2
JMST				S	Sb	02 16 11.5	+0.7
ONAJ	Iwakimizuishiy	0.50	234	P	Pb	02 16 05.4	+0.4
ONAJ				S	Sb	02 16 12.7	+0.9
JMM	Marumori	0.62	319	P	Pb	02 16 07.0	-0.1
JMM				S	Sb	02 16 15.5	+0.1
JMM	Marumori	0.62	319		Pb	02 16 07.0	-0.1
JMM				Sn	Sb	02 16 14.0	-1.4
JFFD	Fukushimafurud	0.67	243	P	Pb	02 16 08.0	+0.2
JFFD				S	Sb	02 16 17.0	+0.3
JFT	Otama	0.78	279	P	Pn	02 16 10.5	-0.1
JFT				S	Sn	02 16 21.2	-0.4
JHO	Hitachi	0.98	217	P	Pb	02 16 11.6	-1.5
JHO				S	Sb	02 16 24.0	-1.6
JIO	Ouri	1.06	2	P	Pn	02 16 12.9	-1.5
JIO				S	Sb	02 16 26.5	-1.3
JOU	Okura	1.09	333	P	Pb	02 16 14.8	-0.3
JOU				S	Sn	02 16 29.3	0.0
JFY	Yanaizu	1.27	271	P	Pb	02 16 18.0	-0.2
JFY				S	Sb	02 16 35.4	+1.3
JYS	Shirataka	1.28	310	P	Pb	02 16 18.4	+0.1
JYS				S	Sb	02 16 35.5	+1.2
JSD	Sado	2.50	286		Pn	02 16 34.5	+0.4
MJAR	Matsushiro Arr	2.62	252	Pn	Pn	02 16 36.3	+0.4
	3.0nm,0.3s,baz=87,slow=16,SNR=31						
MJAR				Pg	Pb	02 16 43.5	+2.4
	3.4nm,0.3s,baz=75,slow=15,SNR=32						
MJAR				Lg	Lg	02 17 13.3	
	1.8nm,0.3s,baz=54,slow=33,SNR=7.2						
MJAR	Matsushiro Arr	2.62	252		Pn	02 16 37.6	+1.7
MAJO	Matsushiro	2.62	252		Pn	02 16 37.5	+1.5
MAT	Matsushiro	2.62	252	P	Pn	02 16 37.6	+1.7
MAT				S	Sb	02 17 11.6	-1.3
JTM	Tenmabayashi	3.39	357		Pn	02 16 47.0	+0.5
JGF	Kuroka	3.65	242		Pn	02 16 52.2	+2.1
INU	Inuyama	4.02	241		Pn	02 16 57.4	+2.3
JHJ	Hachijo jima 2	4.45	197	LR	LR	02 18 16.2	
	comp=Z,97nm,21.9s,baz=336,slow=33						
ASAJ	Asahikawa	6.79	8	Pn	Pn	02 17 30.6	-2.5
	2.7nm,0.3s,baz=234,slow=14,SNR=6.3						
ASAJ				Sn	Sn	02 18 50.6	+1.0
	0.2nm,0.3s,baz=238,slow=34,SNR=1.1						
ASAJ				LR	LR	02 19 46.8	
	comp=Z,36nm,21.7s,baz=267,slow=35						
JKA	Kamikawa-asahi	6.79	8		Pn	02 17 32.6	-0.5
USRK	Ussuriysk Ar.	9.80	317	Pn	Pn	02 18 12.2	-2.2
	baz=127,slow=12,SNR=2.4						
USRK				LR	LR	02 21 50.1	
	comp=Z,102nm,18.7s,baz=105,slow=37						
USRK	Ussuriysk Ar.	9.80	317		Pn	02 18 12.9	-1.5
KSRS	Korea Array	10.64	274	Pn	Pn	02 18 22.3	-3.7
	0.2nm,0.3s,baz=83,slow=14,SNR=1.4						
KSRS				LR	LR	02 21 45.5	
	comp=Z,84nm,19.2s,baz=150,slow=33						
KLR	Kul'dur	13.71	333	LR	LR	02 24 06.6	
	comp=Z,89nm,19.8s,baz=212,slow=36						
PETK	Petropavlovsk-	19.42	31	P	P	02 20 20.2	+0.8
	0.1nm,0.3s,baz=239,slow=17,SNR=3.7						
MA2	Magadan	23.02	12	P	P	02 20 58.8	+0.7
	4.5nm,0.5s,baz=187,slow=9.9,SNR=3.7						
SEY	Seymchan	26.45	11	P	P	02 21 31.5	+1.6
	3.6nm,0.2s,baz=214,slow=9.3,SNR=5.6						
SONM	Songino Array	27.51	303	P	P	02 21 40.1	+0.3
	0.4nm,0.3s,baz=108,slow=9.3,SNR=1.9						
H11N2	WAKE ISLAND Hy	28.41	121	T	T	02 51 56.8	
	baz=315,slow=75,SNR=284						
H11N1	WAKE ISLAND Hy	28.42	121	T	T	02 51 57.6	
	baz=315,slow=75,SNR=386						
H11N3	WAKE ISLAND Hy	28.43	121	T	T	02 51 58.3	
	baz=315,slow=75,SNR=317						
H11S1	WAKE ISLAND Hy	29.13	123	T	T	02 52 49.5	
	baz=316,slow=76,SNR=218						
H11S3	WAKE ISLAND Hy	29.13	123	T	T	02 52 49.6	
	baz=316,slow=76,SNR=166						
H11S2	WAKE ISLAND Hy	29.14	123	T	T	02 52 50.7	
	baz=316,slow=76,SNR=169						
ZALV	Zalesovo Beam	41.61	312	P	P	02 23 40.6	-0.3
	0.7nm,0.3s,baz=36,slow=7.5,SNR=2.4						
MKAR	Makanchi Array	43.85	302	P	P	02 23 59.2	-0.1
	0.9nm,0.7s,baz=78,slow=11,SNR=6.6						
ILAR	Eielson Array	49.24	33	P	P	02 24 41.7	+0.5
	0.3nm,0.7s,baz=262,slow=5.6,SNR=4.5						
BCAR	Beaver Creek A	51.65	34	P	P	02 25 00.6	+1.1
ISLE	Juniper Island	51.78	38	P	P	02 25 00.6	-0.1
GRNC	Granite Creek	52.04	37	P	P	02 25 04.2	+1.4
GRNC				IAmb	IAmb	02 25 14.4	
	comp=Z,8.2nm,1.1s						
INK	Inuvik	54.10	27	P	P	02 25 18.6	+1.1
	comp=Z,0.9nm,0.9s,baz=296,slow=6.0,SNR=4.3						
INK	Inuvik	54.10	27	P	P	02 25 18.5	+1.0
INK				IAmb	IAmb	02 25 32.4	
	comp=Z,2.4nm,1.1s						
ARU	Arti	56.03	318	P	P	02 25 30.6	-1.0
	comp=Z,0.7nm,0.4s,baz=150,slow=15,SNR=2.3						
WR0	Warramunga Arr	57.40	188	P	P	02 25 41.4	-0.3
WR0				IAmb	IAmb	02 25 54.7	
	comp=Z,4.0nm,1.2s						
WB2	Warramunga Arr	57.41	188	P	P	02 25 41.4	-0.3
WB2				IAmb	IAmb	02 26 00.2	
	comp=Z,2.6nm,0.8s						
WRA	Warramunga Arr	57.41	188	P	P	02 25 40.8	-0.9
	comp=Z,0.9nm,0.6s,baz=8.8,slow=6.4,SNR=9.2						
WRA	Warramunga Arr	57.41	188	P	P	02 25 41.5	-0.2
ABKAR	Akbulak array	57.64	310	P	P	02 25 42.6	-0.5
ASAR	Alice Springs	61.13	188	P	P	02 26 07.5	0.0
	comp=Z,0.2nm,0.5s,baz=2.3,slow=4.9,SNR=5.4						
FINES	FINESS Array B	68.45	332	P	P	02 26 54.4	-0.4
	comp=Z,2.3nm,0.7s,baz=66,slow=11,SNR=4.4						
STKA	Stephens Creek	68.92	180	P	P	02 26 58.5	+0.6
	comp=Z,0.9nm,0.3s,baz=349,slow=14,SNR=2.1						
HFS	Hagfors	73.72	336	P	P	02 27 26.3	-0.4
	comp=Z,3.3nm,1.0s,baz=93,slow=10,SNR=2.0						
NB2	NORSAR Subarra	73.82	337	P	P	02 27 27.1	-0.3
	comp=Z,0.4nm,0.5s,baz=38,slow=6.5						
NOA	NORSAR Array B	73.82	337	P	P	02 27 26.9	-0.4
	comp=Z,0.7nm,0.6s,baz=39,slow=6.2,SNR=4.3						
AKASG	Malin Array Be	73.96	322	P	P	02 27 27.5	-0.8
	comp=Z,0.5nm,0.5s,baz=52,slow=4.4,SNR=1.7						
NVAR	Mina Array Bea	74.84	53	P	P	02 27 34.7	+0.7
	comp=Z,0.2nm,0.4s,baz=282,slow=14,SNR=1.2						
PDAR	Pinedale Array	77.47	45	P	P	02 27 49.5	+0.6
	comp=Z,0.2nm,0.5s,baz=290,slow=2.7,SNR=2.2						
PDAR	Pinedale Array	77.47	45	P	P	02 27 48.4	-0.5
TXAR	Lajitas Array	89.97	52	P	P	02 28 53.4	+0.6
	comp=Z,0.3nm,0.5s,baz=315,slow=3.1,SNR=4.7						
TXAR	Lajitas Array	89.97	52	P	P	02 28 53.0	+0.1
LPAZ	La Paz	146.58	59	PKPbc	PKPbc	02 35 35.4	-0.4
	comp=Z,0.4nm,0.5s,baz=290,slow=6.2,SNR=2.4						
H03N2	Juan Fernandez	147.15	95	T	T	05 20 24.4	
	baz=294,slow=76,SNR=14						
H03N3	Juan Fernandez	147.16	95	T	T	05 20 18.8	
	baz=294,slow=76,SNR=17						
H03N1	Juan Fernandez	147.16	95	T	T	05 20 21.9	
	baz=294,slow=76,SNR=21						

*NEIC **08** 02:21:30.9±1.2, 38°.66N±0°.02×118°.84W±0°.03, h6km±6km, Error ellipse: s-maj=4.2km s-min=1.5km az=220.0*

*REN **08** 02:21:31.1±0.7, 38°.65N±0°.02×118°.80W±0°.02, h6km±7km, ML3.5/11, ML3.3/44(NEIC), Error ellipse: s-maj=3.7km s-min=2.0km az=212.0*

*ANF **08** 02:21:31.7±1.2, 38°.60N×118°.75W, h1km±5km, ML3.3/7, Error ellipse: s-maj=11.7km s-min=3.0km az=141.0*

ISC 08 02:21:31.1±1.4**, 38°.67N**±0°.03×**118°.80W**±0°.03**, h2**km±15km**, n28, σ0s.81**/30**, California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RYN	Ryan	0.22	101	Pg	Pg	02 21 35.9	+0.5
RYN				IAML		02 21 39.3	
	comp=N,5µm,0.5s						
RYN				IAML		02 21 39.4	
	comp=E,5µm,0.3s						
NVAR	Mina Array Bea	0.46	121	Pg	Pg	02 21 38.8	-1.1
YERR	Yerington	0.47	313		Pg	02 21 40.5	+0.5
YERR				IAML		02 21 57.4	
	comp=N,2µm,0.5s						
YERR				IAML		02 21 57.6	
	comp=E,2µm,0.2s						
LHV	Little Huntoon	0.48	151	Pg	Pg	02 21 40.5	+0.2
NV11	Mina Array Sit	0.56	115	Pg	Pg	02 21 41.9	+0.1
NV11				Sg	Sg	02 21 49.5	+0.5
KVN	Kaiserville	0.67	55	Pg	Pg	02 21 44.1	+0.2
PNTR	Pine Nut	0.75	304	Pg	Pg	02 21 45.8	+0.3
VCNR	Virginia City	0.91	314		Pg	02 21 48.7	+0.2
MLAC	Mammoth, Mammo	1.04	182	P	Pg	02 21 50.5	-0.4
	baz=1.5						
MDPB	Devils Postpil	1.06	192	Pg	Pg	02 21 50.7	-0.7
RUBR	Rubicon Trail	1.12	290		Pb	02 21 52.5	-0.8
PAHR	Pah Rah Range	1.13	337		Pb	02 21 52.7	-0.7
CMB	Columbia Colle	1.40	244		Pn	02 21 56.8	-0.9
BEKR	Beckworth	1.70	315	Pn	Pn	02 22 01.6	-0.4
GRAC	Grapevine Rang	2.02	145	Pb	Pb	02 22 08.0	-0.5
	baz=326						
CWC	Cottonwood Cre	2.30	165	P	Pn	02 22 10.0	-0.2
	baz=346						
VOG	Valley Oaks Go	2.39	191	Sb	Sb	02 22 45.7	+1.0
	baz=11						
R11A	Troy Canyon, C	2.54	96	Pn	Pn	02 22 12.7	-0.9
R11A				IAML		02 23 00.7	
	comp=N,183nm,0.9s						
R11A				IAML		02 23 01.6	
	comp=E,96nm,0.5s						
R11A	Troy Canyon, C	2.54	96	Sb	Sb	02 22 50.9	+1.5
	baz=278						
TPNV	Topopah Spring	2.65	130	Pn	Pn	02 22 15.0	0.0
TPNV				IAML		02 23 14.4	
	comp=E,118nm,0.7s						
TPNV				IAML		02 23 17.3	
	comp=E,86nm,0.7s						
TPNV	Topopah Spring	2.65	130	Pb	Pb	02 22 18.7	-0.7
	baz=311						
ISA	Isabella, Lake	3.01	175		Pb	02 22 25.8	+0.3
ISA				IAML		02 23 15.9	
	comp=E,56nm,0.4s						
ISA	Isabella, Lake	3.01	175	Pb	Pb	02 22 25.8	+0.3
	baz=355						
ISA				Sb	Sb	02 23 04.7	+1.9
	baz=355						
PRN	Pahroc Range	3.22	112	Pn	Pn	02 22 21.8	-1.0
ELK	Elko	3.44	52	Pn	Pn	02 22 25.1	-0.8
ELK				IAML		02 23 31.2	
	comp=E,49nm,0.5s						
ELK				IAML		02 23 32.1	
	comp=E,43nm,0.4s						
SPR3	Spring Creek 3	3.51	83		Pn	02 22 26.1	-0.8
SHPR	Sheep Range	3.61	126		Pn	02 22 27.4	-0.8
BGU	Big Grassy Mou	4.98	61		Pn	02 22 46.8	-0.2
BGU				IAML		02 24 22.4	
	comp=E,28nm,0.6s						
BGU				IAML		02 24 23.5	
	comp=N,18nm,0.8s						

*REN **08** 02:21:40.4±1.1, 38˚652N±0˚006×118˚80W±0˚02, h7km±6km, ML3.4/6, ML3.3/26(NEIC), Error ellipse: s-maj=2.2km s-min=0.7km az=102.0*

NEIC 08 02:21:40.4±0.5, 38˚66N±0˚01×118˚83W±0˚02, h7km±6km, Error ellipse: s-maj=2.0km s-min=1.7km az=165.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RYN	Ryan	0.24	98	Pg	Pg	02 21 45.1	-0.1
RYN				Sg	Sg	02 21 48.4	0.0
RYN				IAML		02 21 48.6	
	comp=N,12µm,0.5s						
RYN				IAML		02 21 48.9	
	comp=E,12µm,0.3s						
NVAR	Mina Array Bea	0.47	119	Pg	Pg	02 21 49.3	-0.3
LHV	Little Huntoon	0.48	148	Pg	Pg	02 21 49.7	0.0
LHV				Sg	Sg	02 21 56.2	+0.2
LHV				IAML		02 21 56.6	
	comp=E,8µm,0.3s						
LHV				IAML		02 21 56.7	
	comp=N,7µm,0.6s						
NV11	Mina Array Sit	0.57	113	Pg	Pg	02 21 51.1	-0.4
NV11				Sg	Sg	02 21 58.8	-0.2
KVN	Kaiserville	0.69	55	Pg	Pg	02 21 53.3	-0.3
KVN				Sg	Sg	02 22 02.7	+0.1
KVN				IAML		02 22 02.9	
	comp=N,2µm,0.4s						
KVN				IAML		02 22 05.2	
	comp=E,2µm,0.2s						
PNTR	Pine Nut	0.74	305	Pg	Pg	02 21 55.1	+0.5
PNTR				IAML		02 22 10.6	
	comp=E,965nm,0.5s						
PNTR				IAML		02 22 11.4	
	comp=N,720nm,0.6s						
VCNR	Virginia City	0.90	315	Pg	Pg	02 21 57.7	0.0
VCNR				IAML		02 22 14.2	
	comp=E,2µm,0.4s						
VCNR				IAML		02 22 14.9	
	comp=N,2µm,0.5s						
VCNR	Virginia City	0.90	315	Sg	Pg	02 21 57.9	+0.2
MDPB	Devils Postpil	1.05	191	Pg	Pg	02 22 00.3	-0.2
RUBR	Rubicon Trail	1.11	291	Pg	Pg	02 22 01.7	0.0
RUBR				IAML		02 22 21.0	
	comp=N,484nm,0.8s						
RUBR				IAML		02 22 21.8	
	comp=E,493nm,0.6s						
PAHR	Pah Rah Range	1.13	338	Pg	Pb	02 22 02.2	-0.1
PAHR				IAML		02 22 18.8	
	comp=N,381nm,0.4s						
PAHR				IAML		02 22 19.2	
	comp=E,515nm,0.3s						
TPH	Tonopah	1.39	114		Pn	02 22 05.9	-0.4
BEKR	Beckworth	1.69	316		Pb	02 22 11.8	-0.1
U15A	North Rim	5.65	111	Pn	Pn	02 23 04.5	-0.5
PV17	East Wray Mesa	7.75	90	Pn	Pn	02 23 32.5	-1.3

*VIE **08** 02:22:50.8±0.4, 50˚22N×18˚97E, h0km, mb2.4/2, ml2.6/3, Error ellipse: s-maj=7.9km s-min=2.9km az=163.0 3 km SSW of Katowice Suspected Mining induced.*

*IPEC **08** 02:22:50.7±0.2, 50˚25N×18˚97E, h1km, ML2.3/3, Error ellipse: s-maj=2.4km s-min=1.1km az=168.0*

*PRU **08** 02:22:51.1±0.0, 50˚17N×18˚96E, h0km*

*IDC **08** 02:22:52.4±1.9, 50˚18N×18˚85E, h0km, mb1 3.5/5, mb1mx3.2/44, mbtmp3.4/5, ML2.6/5, Error ellipse: s-maj=33.6km s-min=9.4km az=131.0*

ISC 08 02:22:50.0±0.7, 50˚24N±0˚03×18˚97E±0˚02, h0km, n52, σ0s95/82, 5C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.52	253	ePG	Pb	02 23 02.7	+0.7
RAC				eSG	Sb	02 23 10.7	+0.6
OJC	Ojcow	0.54	92	ePg	Pg	02 23 01.1	+0.9
OJC				eSg	Sg	02 23 08.4	+1.3
OKC	Ostrava-Krasne	0.67	233	ePG	Pg	02 23 03.0	+0.3
OKC				eSG	Sg	02 23 10.8	-0.5
	comp=Z,48nm,0.6s						
MORC	Moravsky Berou	1.03	244	⇓P	Pg	02 23 10.6	+0.9
MORC	Moravsky Berou	1.03	244	⇑S	Sb	02 23 24.7	-0.1
MORC	Moravsky Berou	1.03	244	ePg	Pg	02 23 10.4	+0.7
	baz=62						
MORC				eSg	Sg	02 23 23.2	+0.2
	65nm,0.3s,baz=62						
MORC	Moravsky Berou	1.03	244	ePG	Pg	02 23 10.4	+0.7
MORC				eSG	Sg	02 23 23.2	+0.2
LANS	Liptovska Anna	1.14	163	ePG	Pb	02 23 13.0	+0.4
LANS				eSG	Sb	02 23 28.1	+0.2
LANS				eLG	Lg	02 23 31.5	
NIE	Niedzica	1.20	133	ePg	Pb	02 23 14.1	+0.6
NIE				eSg	Sn	02 23 31.1	+0.2
KRLC	Kraliky	1.42	264	ePG	Pn	02 23 16.8	-0.2
KRLC				eSG	Sb	02 23 36.4	+0.6
	comp=Z,35nm,0.4s						
JAVC	Velka Javorina	1.62	212	ePn	Pn	02 23 20.4	+0.6
	baz=31						
JAVC	Velka Javorina	1.62	212	ePN	Pn	02 23 20.4	+0.6
DPC	Dobruska-Polom	1.70	275	ePG	Pn	02 23 21.3	+0.4
DPC				eSG	Sg	02 23 44.9	+0.4
	comp=Z,26nm,0.3s						
VYHS	Vyhne	1.75	183	ePN	Pn	02 23 21.7	+0.1
VYHS				eSN	Sn	02 23 44.3	-0.3
VYHS				eLG	Lg	02 23 45.3	
OSTC	Ostas	1.79	281	ePG	Pn	02 23 22.5	+0.4
OSTC				eSG	Sg	02 23 48.9	+1.5
	comp=Z,17nm,0.6s						
VRAC	Vranov	1.80	240	⇓P	Pn	02 23 23.0	+0.8
VRAC	Vranov	1.80	240	⇑S	Sn	02 23 46.8	+1.0
VRAC	Vranov	1.80	240	Pn	Pn	02 23 22.8	+0.5
	3.5nm,0.3s,baz=60,slow=13,SNR=24						
VRAC				Lg	Lg	02 23 47.2	
	9.0nm,0.3s,baz=166,slow=19,SNR=16						
VRAC	Vranov	1.80	240	ePn	Pn	02 23 22.8	+0.5
	baz=58						
VRAC				eSg	Sb	02 23 47.1	+0.2
	28nm,0.3s,baz=58						
VRAC	Vranov	1.80	240	ePN	Pn	02 23 22.8	+0.5
VRAC				eSG	Sb	02 23 47.2	+0.3
KSP	Ksiaz	1.81	290	ePb	Pn	02 23 22.9	+0.5
KSP				ePg	Pg	02 23 25.5	+0.9
KSP				eSg	Sg	02 23 50.2	+2.1
CHVC	Chvalec	1.89	282	ePG	Pn	02 23 24.5	+0.9
CHVC				eSG	Sg	02 23 51.9	+1.1
	comp=Z,13nm,0.4s						
UPC	Upice	1.91	279	ePG	Pb	02 23 25.6	-0.1
UPC				eSG	Sg	02 23 52.1	+0.8
	comp=Z,12nm,0.7s						
KECS	Kecovo	2.02	150	ePN	Pg	02 23 28.9	+0.2
KRUC	Moravsky	2.05	236	ePn	Pn	02 23 26.1	+0.5
	baz=54						
KRUC				eSg	Sb	02 23 54.9	+1.0
	15nm,0.4s,baz=54						
KRUC	Moravsky	2.05	236	ePN	Pn	02 23 26.2	+0.6
KRUC				eSG	Sb	02 23 55.0	+1.0
CRVS	Cervenica-Dubn	2.11	129	ePN	Pg	02 23 30.2	-0.1
PSZ	Piszkesteto	2.41	165	⇓P	Pn	02 23 31.4	+0.8
PSZ	Piszkesteto	2.41	165	eP	Pn	02 23 31.2	+0.6
TREC	Trest	2.45	249	ePG	Pn	02 23 33.2	+2.0
TREC				eSG	Sb	02 24 07.0	+1.5
	comp=Z,21nm,0.8s						
KOLS	Kolonicke sedl	2.52	120	ePG	Pg	02 23 40.1	+1.9
KOLS				eSN	Sn	02 24 03.1	-0.5
PVCC	Panska Ves	2.83	277	eSG	Sg	02 24 22.1	+1.3
	comp=Z,21nm,0.3s						
PRU	Pruhonice	2.86	267	ePG	Pb	02 23 41.6	-0.2
PRU				eSG	Sg	02 24 21.4	-0.4
	comp=Z,13nm,0.7s						
CONA	Conrad Observa	3.09	223	i Pn	Pn	02 23 40.6	+0.6
	0.3nm,0.1s						
CONA				i Sn	Sn	02 24 17.1	-0.6
	2.9nm,0.3s						
PBCC	Pribram	3.26	262	eSG	Sg	02 24 34.6	+0.1
	comp=Z,4.0nm,0.4s						
BRG	Berggiesshubel	3.27	283	Pg	Pg	02 23 52.9	+0.4
BRG				Sg	Sg	02 24 35.3	+0.5
BRG				Amp		02 24 38.5	
	comp=Z,8.8nm,0.5s						
CKRC	Cesky Krumlov	3.35	247	ePN	Pn	02 23 44.2	+0.6
CKRC				ePG	Pb	02 23 51.2	+1.0
CKRC				eSG	Sg	02 24 36.0	-1.5
KHC	Kasperske Hory	3.67	254	ePN	Pn	02 23 48.3	+0.3
KHC				eSN	Sn	02 24 31.5	-0.5
KHC				eSG	Sg	02 24 46.3	-1.5
	comp=Z,19nm,1.0s						
GERES	GERESS Array B	3.70	250	Pn	Pn	02 23 50.2	+1.7
	comp=Z,0.3nm,0.3s,baz=66,slow=14,SNR=7.6						
GERES				Pg	Pb	02 23 56.8	+0.5
	comp=Z,0.5nm,0.3s,baz=70,slow=16,SNR=5.9						
GERES				Lg	Lg	02 24 45.1	
	comp=Z,2.5nm,0.3s,baz=63,slow=29,SNR=10						
MOA	Molln	3.91	234	i Sn	Sn	02 24 38.8	+0.9
	comp=Z,1.4nm,0.2s						
CLL	Collm	3.93	288	ePg	Pg	02 24 06.0	+0.7
CLL				eSg	Sg	02 24 56.0	-0.2
	comp=Z,8.0nm,0.5s						
NKC	Novy Kostel	4.18	272	eSG	Sg	02 25 04.4	+0.1
	comp=Z,8.2nm,0.5s						
DRGR		4.26	143	⇑P	Pn	02 23 57.6	+1.5
BURAR	Bucovina Array	4.89	120	⇑P	Pn	02 24 05.4	+0.6
BZS	Buzias	4.96	158	⇓P	Pn	02 24 06.5	+0.8
GZR	Gura Zlata	5.49	151	⇑P	Pn	02 24 13.6	+0.6
AKASG	Malin Array Be	6.57	82	Lg	Lg	02 26 09.8	
	comp=Z,0.3nm,0.3s,baz=298,slow=28,SNR=1.8						
DEL	Delary	6.94	336	i P	Pn	02 24 33.2	+0.3
DEL				i		02 24 37.4	
DAVOX	Davos/Dischmat	6.96	244	Pn	Pn	02 24 33.0	-0.3
	comp=Z,0.2nm,0.3s,baz=332,slow=21,SNR=1.6						
DAVOX				Sn	Sn	02 25 51.2	-2.0
	comp=Z,0.1nm,0.3s,baz=345,slow=20,SNR=1.1						
DAVOX				Lg	Lg	02 26 31.5	
	comp=Z,0.2nm,0.3s,baz=350,slow=23,SNR=1.9						
HFS	Hagfors	10.36	345	Pn	Pn	02 25 17.5	-2.1
	comp=Z,0.1nm,0.3s,baz=156,slow=13,SNR=1.7						
FINES	FINESS Array B	11.91	17	Pn	Pn	02 25 38.6	-2.2
	comp=Z,0.2nm,0.3s,baz=202,slow=12,SNR=7.4						
ARCES	ARCESS Array B	19.61	7	Pn	P	02 27 17.2	-2.2
	baz=187,slow=14,SNR=4.3						

*IDC **08** 02:25:33.7±6.9, 13˚93S×166˚94E, h195km±68km, mb3.7/5, mb1 3.8/6, mb1mx3.4/32, mbtmp4.1/6, Error ellipse: s-maj=65.9km s-min=27.2km az=157.0*

ISC 08 02:25:33.7±1.1, 14˚1S±0˚1×167˚1E±0˚2, h200km, n9, σ1s56/10, mb4.0/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.94	184	P	Pn	02 27 28.8	+2.4
	0.5nm,0.3s,baz=98,slow=19,SNR=1.4						
DZM				S	Sn	02 28 53.1	-2.9
	0.0nm,0.3s,baz=330,slow=20,SNR=2.0						
STKA	Stephens Creek	29.26	229	P	P	02 31 17.9	+0.7
	4.7nm,0.5s,baz=53,slow=8.0,SNR=18						
WRA	Warramunga Arr	31.80	255	P	P	02 31 39.5	-0.3
	1.9nm,0.5s,baz=83,slow=9.5,SNR=28						
ASAR	Alice Springs	32.73	248	P	P	02 31 47.2	-0.6
	2.4nm,0.4s,baz=77,slow=9.3,SNR=51						
ILAR	Eielson Array	86.00	18	P	P	02 37 50.6	-0.5
	0.2nm,0.6s,baz=236,slow=4.2,SNR=2.6						
MKAR	Makanchi Array	96.63	316	P	P	02 38 41.2	+0.2
	0.3nm,0.4s,baz=97,slow=5.0,SNR=4.0						
ARCES	ARCESS Array B	119.61	345	PKP	PKiKP	02 43 58.7	-0.5
	0.4nm,0.3s,baz=59,slow=2.2,SNR=10						
FINES	FINESS Array B	125.08	338	PKP	PKiKP	02 44 09.1	-1.1
	2.9nm,0.9s,baz=79,slow=7.4,SNR=4.0						
KEST	Kesra	150.62	321	PKPbc	PKiKP	02 45 03.4	+0.3
	2.3nm,0.7s,baz=115,slow=2.9,SNR=4.8						

*LDG **08** 02:34:55.8±0.2, 50˚12N×18˚53E, h1km, Ml3.4/3, Error ellipse: s-maj=5.4km s-min=3.0km az=24.0, Suspected Mining induced.*

*VIE **08** 02:34:56.9±0.3, 50˚11N×18˚42E, h0km, mb2.4/4, ml3.0/4, Error ellipse: s-maj=5.1km s-min=2.4km az=157.0 33 km NNE of Ostrava Suspected Mining induced.*

*IDC **08** 02:34:57.9±0.9, 49˚99N×18˚47E, h0km, mb1 3.3/7, mb1mx3.2/42, mbtmp3.2/7, ML2.7/7, Error ellipse: s-maj=15.7km s-min=7.1km az=145.0*

*BGR **08** 02:34:57.8±0.3, 50˚13N×18˚42E, h1km, ML3.1/7, Error ellipse: s-maj=6.7km s-min=4.4km az=2.0*

*IPEC **08** 02:34:57.4±0.2, 50˚08N×18˚47E, h0km±2km, ML2.8/3, Error ellipse: s-maj=1.9km s-min=1.1km az=163.0*

ISC 08 02:34:55.4±0.6, 50˚14N±0˚02×18˚46E±0˚02, h0km, n77, σ1s65/127, 6C-5D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.18	251	ePG	Pg	02 35 01.7	+2.9
RAC				eSG	Sg	02 35 04.8	+3.7
OKC	Ostrava-Krasne	0.36	213	ePG	Pg	02 35 03.9	+1.5
OKC				eSG	Sg	02 35 07.8	+0.7
	comp=Z,420nm,0.5s						
OKC	Ostrava-Krasne	0.36	213	ePg	Pg	02 35 04.0	+1.7
OKC				eSg	Sg	02 35 08.9	+1.9
MORC	Moravsky Berou	0.69	238	⇑P	Pb	02 35 10.1	-0.3
MORC				⇑S	Sg	02 35 19.3	+1.6
MORC	Moravsky Berou	0.69	238	ePg	Pg	02 35 10.0	+1.3
	baz=63						
MORC				eSg	Sg	02 35 18.2	+0.5
	248nm,0.4s,baz=63						
MORC	Moravsky Berou	0.69	238	ePG	Pb	02 35 10.1	-0.3
MORC				eSG	Sg	02 35 18.2	+0.5
MORC	Moravsky Berou	0.69	238	ePg	Pb	02 35 10.2	-0.3
MORC				eSg	Sg	02 35 19.7	+2.1
OJC	Ojcow	0.87	84	ePg	Pb	02 35 14.0	+0.7
OJC				eSg	Sb	02 35 26.5	+1.0
OJC	Ojcow	0.87	84	ePg	Pb	02 35 14.0	+0.7
OJC				eSg	Sb	02 35 26.5	+1.0
KRLC	Kraliky	1.08	267	ePG	Pb	02 35 17.1	+0.1
KRLC				eSG	Sg	02 35 30.8	+0.8
	comp=Z,202nm,0.6s						
LANS	Liptovska Anna	1.19	146	ePG	Pn	02 35 19.5	+0.1
LANS				eSG	Sn	02 35 36.3	0.0
LANS				eLG	Lg	02 35 38.9	
JAVC	Velka Javorina	1.38	202	ePg	Pb	02 35 22.6	+0.5
	baz=23						
JAVC	Velka Javorina	1.38	202	ePG	Pb	02 35 22.6	+0.5
DPC	Dobruska-Polom	1.39	279	ePG	Pb	02 35 23.4	+1.2
DPC				eSG	Sn	02 35 41.5	+0.4
	comp=Z,194nm,0.3s						
DPC	Dobruska-Polom	1.39	279	ePg	Pb	02 35 23.4	+1.2
DPC				eSg	Sn	02 35 42.3	+1.2
NIE	Niedzica	1.40	121	ePg	Pb	02 35 23.9	+1.5
NIE				eSg	Sn	02 35 43.5	+2.1
VRAC	Vranov	1.47	236	⇑P	Pb	02 35 24.1	+0.5
VRAC	Vranov	1.47	236	⇓S	Sg	02 35 42.5	-0.1
VRAC	Vranov	1.47	236	Pg	Pb	02 35 24.1	+0.5
	8.9nm,0.3s,baz=62,slow=15,SNR=68						
VRAC				Lg	Lg	02 35 42.5	
	32nm,0.3s,baz=131,slow=20,SNR=35						
VRAC	Vranov	1.47	236	ePg	Pg	02 35 23.9	+0.4
	baz=57						
VRAC				eSg	Sg	02 35 42.4	-0.1
	108nm,0.4s,baz=57						
VRAC	Vranov	1.47	236	ePG	Pg	02 35 23.9	+0.4
VRAC				eSG	Sg	02 35 42.5	-0.1
OSTC	Ostas	1.49	287	ePG	Pg	02 35 24.7	+0.7
OSTC				eSG	Sn	02 35 45.6	+1.9
	comp=Z,106nm,0.8s						
KSP	Ksiaz	1.55	298	ePg	Pg	02 35 25.6	+0.6
KSP				eSg	Sg	02 35 47.3	+2.2
KSP	Ksiaz	1.55	298	ePg	Pg	02 35 25.7	+0.6
KSP				eSg	Sg	02 35 47.5	+2.3
CHVC	Chvalec	1.60	287	ePG	Pg	02 35 26.7	+0.6
CHVC				eSG	Sg	02 35 48.4	+1.6
	comp=Z,61nm,0.5s						
UPC	Upice	1.61	284	ePG	Pg	02 35 26.8	+0.6
UPC				eSG	Sg	02 35 48.8	+1.8
	comp=Z,90nm,0.4s						
VYHS	Vyhne	1.67	171	ePG	Pn	02 35 26.6	+0.7
VYHS				eSG	Sb	02 35 48.9	+0.3
VYHS				eLG	Lg	02 35 53.1	
KRUC	Moravsky	1.72	232	ePn	Pb	02 35 28.1	+0.2
	baz=52						
KRUC				eSg	Sb	02 35 50.4	+0.3
	82nm,0.4s,baz=52						
KRUC	Moravsky	1.72	232	ePN	Pb	02 35 28.1	+0.2
KRUC				eSG	Sb	02 35 50.4	+0.3
SMOL	Smolenice	1.76	203	ePN	Pn	02 35 27.7	+0.5
SMOL				eSN	Sn	02 35 50.4	+0.1
SMOL				eLG	Lg	02 35 53.3	
TREC	Trest	2.10	247	ePG	Pb	02 35 34.0	-0.4
TREC				eSG	Sb	02 36 01.5	+0.4
	comp=Z,61nm,0.4s						
KECS	Kecovo	2.13	141	eSN	Sb	02 36 00.9	-0.8
ZST	Bratislava	2.14	205	ePN	Pn	02 35 33.7	+1.3
ZST				eSN	Sn	02 35 58.7	-0.9
CRVS	Cervenica-Dubn	2.32	121	ePN	Pg	02 35 40.2	+0.4
CRVS				eSG	Sg	02 36 12.1	+2.2
CRVS				eLG	Lg	02 36 15.2	
SRO	Srobarova	2.33	182	ePG	Pg	02 35 41.5	+1.4
PSZ	Piszkesteto	2.42	156	⇓P	Pn	02 35 35.9	-0.3
PSZ	Piszkesteto	2.42	156	eP	Pn	02 35 37.1	+0.9
PSZ	Piszkesteto	2.42	156	ePG	Pg	02 35 42.9	+1.1
PSZ	Piszkesteto	2.42	156	eS	Sn	02 36 07.4	+0.8
PVCC	Panska Ves	2.52	280	ePG	Pg	02 35 44.0	+0.3
PVCC				eSG	Sg	02 36 17.7	+1.4
	comp=Z,78nm,0.4s						
PRU	Pruhonice	2.53	268	ePG	Pb	02 35 42.1	+0.5
PRU				eSG	Sg	02 36 15.4	-1.1
	comp=Z,42nm,0.7s						
PRA	Prague	2.59	270	ePG	Pg	02 35 44.4	-0.6
PRA				eSG	Sg	02 36 17.6	-1.0
	comp=Z,44nm,0.5s						
KOLS	Kolonicke sedl	2.77	114	ePG	Pg	02 35 49.7	+1.3
KOLS				eSN	Sn	02 36 16.2	+1.1
CONA	Conrad Observa	2.80	219	Pn	Pn	02 35 42.6	+1.1
	2.0nm,0.2s						
CONA				Sn	Sn	02 36 14.6	-1.3
	9.1nm,0.3s						
PBCC	Pribram	2.92	263	eSG	Sg	02 36 28.4	-0.7
BRG	Berggiesshubel	2.97	286	ePg	Pg	02 35 52.3	-0.1
BRG				eSg	Sg	02 36 31.1	+0.3
BRG	Berggiesshubel	2.97	286	Pg	Pg	02 35 52.5	+0.2
BRG				Sg	Sg	02 36 31.6	+0.8
BRG				Amp		02 36 34.5	
	comp=Z,28nm,0.4s						
CKRC	Cesky Krumlov	3.01	245	ePN	Pn	02 35 46.3	+2.0
CKRC				ePG	Pb	02 35 51.5	+1.6
CKRC				eSG	Sb	02 36 30.0	+2.8
KHC	Kasperske Hory	3.33	254	ePN	Pn	02 35 49.9	+1.2
KHC				ePG	Pb	02 35 56.9	+1.6
KHC				eSG	Sg	02 36 40.6	-1.6
	comp=Z,41nm,0.4s						
FBE	Freiberg	3.35	285	ePg	Pg	02 36 00.9	+1.4
TRPA	Tarpa	3.35	125	⇑P	Pn	02 35 49.5	+0.5
TRPA	Tarpa	3.35	125	ePG	Pg	02 36 02.0	+2.3
GERES	GERESS Array B	3.36	249	Pn	Pn	02 35 52.0	+2.8
	comp=Z,0.3nm,0.3s,baz=68,slow=13,SNR=7.2						
GERES				Pg	Pg	02 35 58.6	-1.2
	comp=Z,1.6nm,0.3s,baz=64,slow=18,SNR=16						
GERES				Lg	Lg	02 36 38.4	
	comp=Z,4.1nm,0.3s,baz=71,slow=25,SNR=3.9						
ARSA	Arzberg	3.48	215	ePn	Pn	02 35 52.0	+1.1
	comp=Z,1.8nm,0.3s						
MOA	Molln	3.59	232	i Pn	Pn	02 35 52.9	+0.6
	comp=Z,0.6nm,0.1s						
MOA				i Sn	Sn	02 36 36.7	+1.4
	comp=Z,6.0nm,0.3s						
CLL	Collm	3.66	291	ePg	Pg	02 36 08.0	+2.6
CLL				eSg	Sg	02 36 55.0	+2.2
	comp=Z,28nm,0.6s						
TANN	Tannenbergstha	3.85	276	ePn	Pn	02 35 56.7	+0.7
TANN				eSg	Sg	02 36 58.7	-0.4
NKC	Novy Kostel	3.86	274	ePG	Pb	02 36 07.1	+2.7
NKC				eSG	Sg	02 36 59.2	-0.2
	comp=Z,32nm,0.4s						
WERD	Werda	3.95	277	ePn	Pn	02 35 58.7	+1.4
ROTZ	Rotzenmuhle	4.05	267	ePg	Pg	02 36 13.8	+0.8
KOVH	Kovagotottos	4.06	183	eP	Pn	02 35 59.8	+1.0
MANZ	Manzenberg	4.09	270	ePg	Pg	02 36 12.8	-1.0
MANZ				eSg	Sg	02 37 05.2	-1.6
DRGR		4.39	138	⇓P	Pn	02 36 04.1	+0.7
DRGR		4.39	138	⇑S	Sn	02 36 52.3	-2.8
BZS	Buzias	5.00	154	⇑P	Pn	02 36 11.2	-0.5
BZS	Buzias	5.00	154	⇓S	Sn	02 37 06.4	-3.8
BURAR	Bucovina Array	5.13	117	⇓P	Pn	02 36 14.3	+0.8
DAVOX	Davos/Dischmat	6.62	243	Pn	Pn	02 36 35.2	+1.1
	comp=Z,0.3nm,0.3s,baz=67,slow=15,SNR=2.5						
DAVOX				Sn	Sn	02 37 52.1	+1.8
	comp=Z,0.2nm,0.3s,baz=49,slow=19,SNR=1.9						
DAVOX				Lg	Lg	02 38 25.2	
	comp=Z,0.5nm,0.3s,baz=325,slow=11,SNR=3.9						
AKASG	Malin Array Be	6.91	81	Pn	Pn	02 36 36.7	-1.1
	comp=Z,0.5nm,0.3s,baz=271,slow=12,SNR=2.0						
AKASG				Sn	Sn	02 37 54.7	-2.3
	comp=Z,1.4nm,0.3s,baz=266,slow=22,SNR=5.3						
AKASG				Lg	Lg	02 38 27.9	
	comp=Z,0.8nm,0.3s,baz=269,slow=28,SNR=4.6						
DEL	Delary	6.91	338	e	Pn	02 36 38.5	+0.7
	baz=164,slow=10						
DEL				i P	Pn	02 36 39.2	+1.5
DEL				eS	Sn	02 37 52.6	-4.4
DEL				IAML		02 38 03.6	
	comp=Z,0.5nm,0.4s						
CDF	Champ du Feu	7.51	261	eSg	Sg	02 38 51.8	-4.8
	comp=Z,10nm,0.6s						
HINF	Hinteralfeld	7.98	257	eSg	Sg	02 39 07.6	-3.9
	comp=Z,5.4nm,0.6s						
HAU	Haudompre	8.23	260	eSg	Sg	02 39 14.8	-4.8
	comp=Z,3.5nm,0.4s						
HFS	Hagfors	10.37	347	Pn	Pn	02 37 25.4	+0.1
	comp=Z,0.1nm,0.3s,baz=161,slow=15,SNR=2.0						
NOA	NORSAR Array B	11.65	342	Pn	Pn	02 37 41.6	-1.2
	comp=Z,0.0nm,0.3s,baz=159,slow=12,SNR=1.3						
FINES	FINESS Array B	12.10	18	Pn	Pn	02 37 47.6	-1.3
	comp=Z,0.4nm,0.3s,baz=201,slow=11,SNR=19						
FINES				Sn	Sn	02 39 57.7	-6.6
	comp=Z,0.1nm,0.3s,baz=203,slow=19,SNR=1.4						
ARCES	ARCESS Array B	19.75	7	Pn	P	02 39 26.2	-0.2
	baz=191,slow=14,SNR=7.7						

*NOU **08** 02:47:23.6, 33˚04S×177˚07W, h99km, mb4.7/10, South of Kermadec Islands*

*IDC **08** 02:47:29.9±0.6, 33˚00S×178˚54W, h0km, mb4.5/15, mb1 4.6/18, mb1mx4.5/39, mbtmp4.5/18, ML4.8/3, Error ellipse: s-maj=17.9km s-min=15.9km az=132.0*

*WEL **08** 02:47:30.9±0.7, 33˚S±5˚×17˚8W±1˚2, h33km, M4.9/26, mB5.4/17, ML5.6/26, MLv5.3/26, Mw(mB)4.8/17, Error ellipse: s-maj=0.0km s-min=0.0km az=110.4*

*NEIC **08** 02:47:31.2±1.3, 33˚09S±0˚06×178˚4W±0˚1, h10km±1km, mb4.7/23, Error ellipse: s-maj=17.4km s-min=9.5km az=111.0*

ISC 08 02:47:30.5±0.4, 33˚13S±0˚05×178˚37W±0˚07, h10km, n130, σ1s57/145, mb4.7/24, 1C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.87	6	P	Pn	02 48 27.9	-2.2
GLKZ				S	Sn	02 49 11.5	-4.2
RAO	Raoul Island	3.88	6	Pn	Pn	02 48 27.8	-2.5
	63nm,0.3s,baz=103,slow=23,SNR=2.0						
RAO				Sn	Sn	02 49 13.7	-2.2
	127nm,0.3s,baz=91,slow=23,SNR=2.5						
RAO	Raoul Island	3.88	6		Pn	02 48 27.4	-2.9
RAO					Sn	02 49 13.8	-2.2
RIZ	Raoul Island	3.89	6	P	Pn	02 48 28.0	-2.4
MXZ	Matakaoa Point	5.19	211	Pn	Pn	02 48 47.8	-0.5
MXZ				Sn	Sn	02 49 49.3	+1.1
MXZ	Matakaoa Point	5.19	211	P	Pn	02 48 47.7	-0.5
MXZ				S	Sn	02 49 46.7	-1.5
WMGZ	Waiomatatini S	5.37	208	P	Pn	02 48 51.4	+0.8
WMGZ				S	Sn	02 49 52.5	0.0
PKGZ	Pakihiroa	5.57	210	P	Pn	02 48 52.5	-0.9
PKGZ				S	Sn	02 49 56.2	-1.3
HAZ	Te Kaha	5.59	213	P	Pn	02 48 53.4	-0.2
HAZ				S	Sn	02 50 00.7	+2.8
PUZ	Puketiti	5.65	208	P	Pn	02 48 53.3	-1.2
PUZ				S	Sn	02 49 59.2	-0.2
RUGZ	Raukumara Rang	5.80	213	P	Pn	02 48 56.9	+0.1
RUGZ				S	Sn	02 50 04.5	+1.0
TWGZ	Tauwhareparae	5.85	210	P	Pn	02 48 56.8	-0.5
TWGZ				S	Sn	02 50 04.1	-0.4
CNGZ	Carnagh Statio	6.03	207	P	Pn	02 48 58.9	-0.8
KUZ	Kuaotunu	6.05	232	P	Pn	02 49 02.4	+2.4
WHRZ	Whale Island	6.06	218	P	Pn	02 49 03.0	+2.8
TKGZ	Te Karaka	6.13	209	P	Pn	02 49 01.1	0.0
TKGZ				S	Sn	02 50 09.8	-1.4
MWZ	Matawai	6.17	212	P	Pn	02 49 01.6	-0.2
MWZ				S	Sn	02 50 11.7	-0.8
OPRZ	Ohinepanea	6.27	220	P	Pn	02 49 03.8	+0.8
OPRZ				S	Sn	02 50 15.1	+0.3
URZ	Urewera	6.30	214	Pn	Pn	02 49 02.5	-1.0
	28nm,0.3s,baz=304,slow=23,SNR=75						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
URZ				Sn	**Sn**	**02 50 13.6**	**-1.9**
	46nm,0.3s,baz=127,slow=20,SNR=10.0						
URZ	**Urewera**	**6.30**	**214**	Pn	**Pn**	**02 49 03.6**	**+0.1**
URZ				Sn	**Sn**	**02 50 13.9**	**-1.7**
URZ	**Urewera**	**6.30**	**214**	P	**Pn**	**02 49 03.2**	**-0.3**
URZ				S	**Sn**	**02 50 14.0**	**-1.6**
RAGZ	**Rawiri**	**6.36**	**211**	P	**Pn**	**02 49 03.6**	**-0.7**
RIGZ	**Rimuhau**	**6.39**	**208**	P	**Pn**	**02 49 03.7**	**-1.1**
RIGZ				S	**Sn**	**02 50 16.2**	**-1.6**
PRGZ	**Paritu Road**	**6.53**	**207**	P	**Pn**	**02 49 05.3**	**-1.4**
PRGZ				S	**Sn**	**02 50 18.3**	**-3.0**
MKAZ	**Moumakai**	**6.62**	**231**	P	Pn	02 49 13.3	+5.4
SNGZ	**Shannon Statio**	**6.63**	**210**	P	**Pn**	**02 49 09.2**	**+1.2**
SNGZ				S	**Sn**	**02 50 21.9**	**-1.8**
WCZ	**Waipu Caves**	**6.64**	**243**	P	**Pn**	**02 49 12.2**	**+4.2**
RTZ	**Ruatahuna**	**6.65**	**213**	P	**Pn**	**02 49 08.1**	**-0.2**
MHGZ	**Mahia Peninsul**	**6.73**	**206**	P	**Pn**	**02 49 08.2**	**-1.1**
TOZ	**Tahuroa Road**	**6.79**	**226**	P	**Pn**	**02 49 13.6**	**+3.3**
RAHZ	**Arahi**	**6.85**	**211**	P	**Pn**	**02 49 11.9**	**+0.9**
MTHZ	**Maungataniwha**	**6.91**	**213**	P	**Pn**	**02 49 11.8**	**-0.1**
WHHZ	**Waihua**	**6.92**	**210**	P	**Pn**	**02 49 13.5**	**+1.5**
OUZ	**Omahuta**	**6.98**	**250**	Pn	**Pn**	**02 49 15.5**	**+2.7**
OUZ	**Omahuta**	**6.98**	**250**	P	**Pn**	**02 49 16.6**	**+3.8**
MRHZ	**Matea Rd**	**7.09**	**215**	P	**Pn**	**02 49 13.9**	**-0.5**
NMHZ	**Naumai**	**7.12**	**212**	P	**Pn**	**02 49 15.1**	**+0.3**
NMHZ				S	**Sn**	**02 50 34.3**	**-1.6**
ARHZ	**Aropaoanui**	**7.18**	**210**	P	**Pn**	**02 49 16.3**	**+0.7**
ARHZ				S	**Sn**	**02 50 35.4**	**-1.7**
BKZ	**Black Stump Fm**	**7.32**	**213**		**Pn**	**02 49 16.8**	**-0.7**
BKZ	**Black Stump Fm**	**7.32**	**213**	P	**Pn**	**02 49 16.8**	**-0.7**
BKZ				S	**Sn**	**02 50 38.2**	**-2.4**
MCHZ	**McNeill Hill**	**7.46**	**211**	P	**Pn**	**02 49 19.2**	**-0.2**
MCHZ				S	**Sn**	**02 50 41.8**	**-2.2**
KWHZ	**Kaweka Forest**	**7.56**	**212**	P	**Pn**	**02 49 19.5**	**-1.4**
NNZ	**Nelson**	**10.41**	**217**	Pn	**Pn**	**02 49 59.0**	**-0.9**
QRZ	**Quartz Range**	**10.58**	**221**	Pn	**Pn**	**02 50 01.6**	**-0.6**
QRZ					**Sn**	**02 51 58.2**	**-2.5**
LTZ	**Lake Taylor**	**12.14**	**215**	Pn	**Pn**	**02 50 21.6**	**-1.8**
RPZ	**Rata Peaks**	**13.42**	**215**	Pn	**Pn**	**02 50 37.3**	**-3.7**
PINNC	**Pines Island,**	**16.33**	**306**	P	**Pn**	**02 51 17.0**	**-2.9**
OUENC	**Ouen Island, N**	**16.87**	**305**	Pn	**Pn**	**02 51 25.4**	**-1.3**
OUENC	**Ouen Island, N**	**16.87**	**305**	P	**Pn**	**02 51 23.0**	**-3.8**
DZM	**Mont Dzumac**	**17.37**	**306**	*e*Pn	**P**	**02 51 37.0**	**+2.5**
	143nm,1.2s						
DZM				*e*LR	LR	02 55 34.5	
	comp=Z,3μm,24.0s						
DZM	**Mont Dzumac**	**17.37**	**306**	P	**P**	**02 51 35.7**	**+1.2**
	0.2nm,0.3s,baz=112,slow=15,SNR=4.9						
DZM	**Mont Dzumac**	**17.37**	**306**	Pn	**Pn**	**02 51 31.9**	**-1.3**
DZM	**Mont Dzumac**	**17.37**	**306**	P	**Pn**	**02 51 29.6**	**-3.6**
AFI	**Afiamalu**	**20.05**	**19**	P	**P**	**02 52 03.9**	**-0.1**
	1.7nm,0.3s,baz=196,slow=20,SNR=1.8						
AFI	**Afiamalu**	**20.05**	**19**	P	**P**	**02 52 03.9**	**-0.1**
AFI				IAmb	IAmb	02 52 09.6	
	comp=Z,23nm,0.8s						
RAR	**Rarotonga**	**20.32**	**59**	P	**P**	**02 52 07.8**	**+1.1**
	comp=Z,17nm,0.9s,baz=167,slow=6.8,SNR=3.6						
ARMA	**Armidale**	**25.61**	**268**	P	**P**	**02 53 01.4**	**+1.1**
TBI	**Tubuai**	**27.19**	**76**	*e*LQ	LQ	02 58 41.0	
	comp=Z,716nm,25.0s						
TBI				*e*LR	LR	03 00 00.9	
	comp=Z,723nm,22.0s						
EIDS	**Eidsvold**	**27.69**	**278**	P	**P**	**02 53 18.9**	**+0.1**
EIDS				IAmb	IAmb	02 53 28.5	
	comp=Z,13nm,1.2s						
PPT2	**Papeete2**	**30.14**	**66**	*e*LQ	LQ	03 00 01.7	
	comp=Z,286nm,20.0s						
PPT2				*e*LR	LR	03 01 18.8	
	comp=Z,539nm,21.2s						
STKA	**Stephens Creek**	**33.65**	**261**	P	**P**	**02 54 10.4**	**-1.1**
	comp=Z,3.1nm,1.0s,baz=100,slow=6.1,SNR=3.1						
CTA	**Charters Tower**	**34.03**	**283**	P	**P**	**02 54 15.7**	**+0.9**
	comp=Z,9.6nm,0.5s,baz=114,slow=10,SNR=22						
CTAO	**Charters Tower**	**34.03**	**283**	P	**P**	**02 54 14.7**	**-0.2**
AS31	**Alice Springs**	**42.73**	**270**	P	**P**	**02 55 28.3**	**+0.2**
AS31				IAmb	IAmb	02 55 28.8	
	comp=Z,5.0nm,0.7s						
ASAR	**Alice Springs**	**42.73**	**270**	P	**P**	**02 55 28.1**	**0.0**
	comp=Z,15nm,0.8s,baz=109,slow=7.7,SNR=158						
ASAR				S	**S**	**03 01 46.8**	**-5.1**
	comp=Z,2.0nm,0.9s,baz=110,slow=16,SNR=4.1						
ASAR	**Alice Springs**	**42.73**	**270**	P	**P**	**02 55 28.3**	**+0.2**
WR0	**Warramunga Arr**	**43.78**	**275**	P	**P**	**02 55 36.8**	**+0.2**
WR0				IAmb	IAmb	02 55 40.6	
	comp=Z,19nm,1.2s						
WB2	**Warramunga Arr**	**43.95**	**275**	P	**P**	**02 55 38.1**	**+0.2**
WB2				IAmb	IAmb	02 55 38.3	
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**43.96**	**275**	P	**P**	**02 55 37.7**	**-0.4**
	comp=Z,9.9nm,0.7s,baz=114,slow=7.6,SNR=75						
WRA	**Warramunga Arr**	**43.96**	**275**	P	**P**	**02 55 37.7**	**-0.4**
FORT	**Forrest**	**45.11**	**258**	P	**P**	**02 55 46.6**	**-0.5**
VNDA	**Vanda**	**45.36**	**186**	P	P	02 55 55.1	+6.7
	comp=Z,1.7nm,1.1s,baz=19,slow=10,SNR=2.9						
JAY	**Jayapura**	**48.92**	**300**	P	**P**	**02 56 16.4**	**-0.7**
	comp=Z,8.0nm,0.8s,baz=135,slow=7.1,SNR=12						
JAY	**Jayapura**	**48.92**	**300**	P	**P**	**02 56 16.3**	**-0.7**
	comp=Z,12nm,0.9s						
MTN	**Manton Dam**	**50.16**	**281**	P	**P**	**02 56 25.7**	**-0.8**
MTN				IAmb	IAmb	02 56 28.3	
	comp=Z,8.3nm,0.9s						
KNRA	**Kununurra**	**50.66**	**277**	P	**P**	**02 56 30.2**	**0.0**
KNRA				IAmb	IAmb	02 56 34.1	
	comp=Z,9.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.10**	**272**	P	**P**	**02 56 40.5**	**-0.6**
	comp=Z,4.1nm,0.7s,baz=156,slow=7.1,SNR=13						
FITZ	**Fitzroy Crossi**	**52.10**	**272**	P	**P**	**02 56 40.9**	**-0.1**
FITZ				IAmb	IAmb	02 56 41.1	
	comp=Z,6.5nm,0.9s						
CASY	**Casey**	**52.60**	**209**	P	**P**	**02 56 45.1**	**+1.1**
QSPA	**South Pole Qui**	**56.99**	**180**	P	**P**	**02 57 18.4**	**+2.3**
	comp=Z,9.7nm,0.9s,baz=13,slow=1.1,SNR=34						
QSPA	**South Pole Qui**	**56.99**	**180**	P	**P**	**02 57 17.6**	**+1.6**
QSPA				IAmb	IAmb	02 57 26.7	
	comp=Z,14nm,0.9s						
MAW	**Mawson**	**69.66**	**201**	P	**P**	**02 58 40.1**	**+0.4**
	comp=Z,3.6nm,0.9s,baz=129,slow=7.3,SNR=2.5						
MAW	**Mawson**	**69.66**	**201**	P	**P**	**02 58 41.3**	**+1.6**
SYO	**Syowa Base**	**74.40**	**193**⇑	*e*P	**P**	**02 59 08.8**	**+0.7**
SNAA	**Sanae**	**75.44**	**179**	P	**P**	**02 59 14.1**	**-0.1**
SNAA	**Sanae**	**75.44**	**179**	PcP	**PcP**	**02 59 25.0**	**-2.4**
SNAA	**Sanae**	**75.44**	**179**	P	**P**	**02 59 15.1**	**+0.8**
SNAA				IAmb	IAmb	02 59 21.6	
	comp=Z,12nm,1.4s						
VNA3	**Neumayer Olymp**	**75.61**	**176**	P	**P**	**02 59 16.5**	**+1.4**
VNA3	**Neumayer Olymp**	**75.61**	**176**	PcP	**PcP**	**02 59 26.4**	**-1.6**
VNA2	**Neumayer--Watz**	**76.04**	**177**	P	**P**	**02 59 18.5**	**+0.9**
	baz=170,slow=5.6						
VNA2	**Neumayer--Watz**	**76.04**	**177**	PcP	**PcP**	**02 59 29.1**	**-0.7**
VNA1	**Neumayer--Stat**	**76.27**	**177**	P	**P**	**02 59 20.8**	**+1.9**
VNA1	**Neumayer--Stat**	**76.27**	**177**	PcP	**PcP**	**02 59 30.5**	**-0.3**
H03S2	**Juan Fernandez**	**79.23**	**123**	T	T	04 28 23.8	
	baz=238						
H03S1	**Juan Fernandez**	**79.24**	**123**	T	T	04 28 55.0	
	baz=238						
H03S3	**Juan Fernandez**	**79.24**	**123**	T	T	04 29 00.5	
	baz=238						
H03N3	**Juan Fernandez**	**79.43**	**123**	T	T	04 28 54.2	
	baz=241						
H03N2	**Juan Fernandez**	**79.44**	**123**	T	T	04 28 46.8	
	baz=241						
H03N1	**Juan Fernandez**	**79.45**	**123**	T	T	04 28 54.8	
	baz=241						
PLCA	**Paso Flores**	**80.88**	**133**	P	**P**	**02 59 47.2**	**+2.2**
	comp=Z,6.1nm,1.2s,baz=239,slow=7.9,SNR=3.7						
PLCA	**Paso Flores**	**80.88**	**133**	P	**P**	**02 59 45.7**	**+0.7**
PLCA				IAmb	IAmb	02 59 49.3	
	comp=Z,7.3nm,1.1s						
MT01	**Popeta**	**84.48**	**127**	P	**P**	**03 00 04.3**	**+0.6**
KSRS	**Korea Array**	**86.22**	**320**	P	**P**	**03 00 12.3**	**+0.3**
	comp=Z,4.3nm,0.7s,baz=156,slow=5.2,SNR=2.2						
PETK	**Petropavlovsk-**	**88.37**	**346**	P	**P**	**03 00 22.7**	**+0.6**
	comp=Z,3.0nm,0.9s,baz=169,slow=8.8,SNR=5.5						
ISA	**Isabella, Lake**	**88.45**	**45**	P	**P**	**03 00 23.6**	**+0.6**
ISA				IAmb	IAmb	03 00 29.8	
	comp=Z,3.9nm,1.0s						
USRK	**Ussuriysk Ar.**	**89.26**	**327**	P	**P**	**03 00 26.6**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=90,slow=2.9,SNR=2.4						
USRK	**Ussuriysk Ar.**	**89.26**	**327**	P	**P**	**03 00 27.1**	**+0.7**
NVAR	**Mina Array Bea**	**90.44**	**43**	P	**P**	**03 00 34.5**	**+2.0**
	comp=Z,0.5nm,0.6s,baz=219,slow=7.5,SNR=6.4						
NONG	**Nongkai**	**90.48**	**291**	P	P	03 00 42.6	+10
TPNV	**Topopah Spring**	**90.64**	**45**	P	**P**	**03 00 33.4**	**0.0**
TPNV				IAmb	IAmb	03 00 42.7	
	comp=Z,4.5nm,1.1s						
TXAR	**Lajitas Array**	**94.11**	**58**	P	**P**	**03 00 51.0**	**+1.5**
	comp=Z,0.9nm,1.1s,baz=195,slow=10.0,SNR=3.0						
TXAR	**Lajitas Array**	**94.11**	**58**	P	**P**	**03 00 49.7**	**+0.2**
OTAV	**Otavalo**	**98.44**	**95**	P	**P**	**03 01 09.3**	**-0.7**
MKAR	**Makanchi Array**	**119.26**	**309**	PKP	**PKPdf**	**03 06 18.9**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=57,slow=0.9,SNR=4.7						
MKAR	**Makanchi Array**	**119.26**	**309**		**PKPdf**	**03 06 19.2**	**-0.4**
ARCES	**ARCESS Array B**	**141.18**	**347**	PKhKP	PKPpre	03 06 54.3	
	comp=Z,2.8nm,0.8s,baz=353,slow=5.3,SNR=1.7						
KBZ	**Khabaz**	**146.30**	**300**	PKPbc	**PKPdf**	**03 07 10.4**	**+0.4**
	comp=Z,3.5nm,1.0s,baz=21,slow=5.6,SNR=5.6						
FINES	**FINESS Array B**	**147.57**	**338**	PKPbc	**PKPbc**	**03 07 13.8**	**-0.4**
	comp=Z,15nm,0.7s,baz=55,slow=3.2,SNR=31						
FINES	**FINESS Array B**	**147.57**	**338**		**PKPdf**	**03 07 13.3**	**+1.8**
NB2	**NORSAR Subarra**	**151.39**	**350**	PKP	**PKPbc**	**03 07 23.8**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**151.39**	**350**	PKPbc	**PKPbc**	**03 07 23.7**	**-0.1**
	comp=Z,2.3nm,0.6s,baz=14,slow=4.1,SNR=17						
AKASG	**Malin Array Be**	**153.22**	**319**	PKPbc	**PKPbc**	**03 07 27.8**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=62,slow=2.5,SNR=9.2						
AKASG				PKPab	**pPKPab**	**03 07 41.7**	**+0.2**
	comp=Z,3.1nm,0.6s,baz=49,slow=3.1,SNR=5.1						
BRTR	**Keskin Array B**	**153.51**	**294**	PKPbc	**PKPbc**	**03 07 29.6**	**+0.2**
	comp=Z,2.4nm,0.5s,baz=147,slow=4.8,SNR=9.6						
CLL	**Collm**	**160.02**	**339**	*e*PKPab	**PKPab**	**03 08 09.0**	**-0.1**
	comp=Z,8.0nm,1.1s						
CLL				*e*		03 08 14.0	
CLL				*e*		03 08 22.0	
BRG	**Berggiesshubel**	**160.10**	**337**	*e*P	**PKPab**	**03 08 11.0**	**+1.5**
BRG				Amp		03 08 14.7	
	comp=Z,2.6nm,0.7s						
BRG	**Berggiesshubel**	**160.10**	**337**	P	PKPab	03 08 19.5	+10
BRG				Amp		03 08 20.5	
	comp=Z,4.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**160.11**	**180**	PKP	**PKPdf**	**03 07 32.5**	**+1.8**
	comp=Z,0.7nm,1.0s,baz=188,slow=2.2,SNR=2.4						
TORD				PKPab	**pPKPab**	**03 08 12.2**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=101,slow=3.0,SNR=10.0						
GERES	**GERESS Array B**	**161.88**	**334**	PKPab	**PKPab**	**03 08 16.8**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=60,slow=8.0,SNR=5.4						
GRF	**Grafenberg Arr**	**161.98**	**340**	*e*PKPab	**PKPab**	**03 08 17.9**	**+0.1**
	baz=32,slow=3.9						
ESDC	**Sonseca Array**	**172.06**	**33**	PKP	**PKPdf**	**03 07 40.6**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=343,slow=4.0,SNR=3.0						

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*IDC **08** 02:49:47.6±2.2, 32°.51S×178°.09W, h0km, mb4.2/3, mb1 4.4/4, mb1mx3.9/39, mbtmp4.3/4, Error ellipse: s-maj=50.4km s-min=44.1km az=47.0*

ISC 08 02:49:49.6±2.2**, 32°.5S**±0°.2×**177°.9W**±0°.3**, h20**km**, n6,** σ**0.86**/6**, mb4.2**/3**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.02**	**214**	Pn	**Pn**	**02 51 31.1**	**-0.2**
	baz=127,slow=20,SNR=0.5						
CTA	**Charters Tower**	**34.24**	**282**	P	**P**	**02 56 35.2**	**+0.9**
	1.9nm,0.4s,baz=121,slow=13,SNR=1.8						
ASAR	**Alice Springs**	**43.09**	**269**	P	**P**	**02 57 48.1**	**-0.5**
	1.5nm,0.6s,baz=106,slow=7.8,SNR=2.1						
WRA	**Warramunga Arr**	**44.27**	**274**	P	**P**	**02 57 57.6**	**-0.5**
	1.1nm,0.3s,baz=112,slow=8.0,SNR=7.0						
FINES	**FINESS Array B**	**147.13**	**339**	PKPbc	**PKPab**	**03 09 31.5**	**-0.7**
	4.0nm,0.8s,baz=46,slow=2.8,SNR=2.3						
TORD	**Torodi Ar. Bea**	**160.72**	**179**	PKPab	**PKPab**	**03 10 31.2**	**+0.6**
	0.5nm,0.9s,baz=179,slow=3.0,SNR=1.5						

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*IDC **08** 02:50:55.9±0.5, 32°.69S×178°.48W, h0km, mb4.7/20, mb1 4.8/24, mb1mx4.7/42, mbtmp4.7/24, ML4.9/4, MS4.8/4, Ms1 4.8/4, ms1mx4.1/16, Error ellipse: s-maj=16.5km s-min=14.7km az=128.0*

*BJI **08** 02:50:55.0±0.0, 32°.28S×177°.89W, h7km, mB5.6/11, mb5.2/19, Ms5.1/9, Ms7 4.8/10*

*NEIC **08** 02:50:57.8±1.9, 32°.72S±0°.06×178°.5W±0°.1, h10km±1km, mb5.0/51, Error ellipse: s-maj=15.4km s-min=8.8km az=109.0*

*WEL **08** 02:50:57.0, 32°.73S×178°.44W, h10km, M5.0/33, mB5.5/21, ML5.8/34, MLv5.4/33, Mw(mB)4.9/21*

*MOS **08** 02:50:58.0±1.1, 32°.57S×178°.63W, h16km, mb5.3/16, Error ellipse: s-maj=12.5km s-min=9.0km az=96.1*

*GCMT **08** 02:51:00.8±0.2, 32°.69S±0°.02×178°.06W±0°.02, h24km, MW5.2/114, Moment Tensor Solution. s67,c85; s114,c172; Duration: 1s.0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.70±.03; $M_{\theta\theta}$-0.14±.01; $M_{\phi\phi}$-0.56±.02; $M_{r\theta}$-0.01±.02; $M_{\theta\phi}$-0.08±.01; $M_{\phi r}$0.42±.02; Best double couple: $M_0$0.76100×10^{17} NP1:ϕ_s194.00000°, δ29.00000°, λ98.00000°. NP2:ϕ_s5.00000°, δ62.00000°, λ86.00000°. Principal axes: T 0.8250, Plg73.0000°, Azm264.0000°; N -0.1280, Plg4.0000°, Azm7.0000°; P -0.6970, Plg17.0000°, Azm98.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NOU **08** 02:51:07.1, 32°.94S×178°.24W, h97km, mb5.2/42, South of Kermadec Islands*

*BGR **08** 02:51:16.3±0.0, 32°.84S×178°.80W, h33km*

ISC 08 02:51:00.4±0.3**, 32°.77S**±0°.04×**178°.46W**±0°.06**, h32**km**, n395,** σ**1.63**/414**, mb5.0**/56**, MS4.7**/11**, 15C-3D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.52**	**8**	P	**Pn**	**02 51 48.9**	**-4.1**
GLKZ				S	**Sn**	**02 52 29.1**	**-4.4**
RAO	**Raoul Island**	**3.53**	**8**	Pn	**Pn**	**02 51 51.6**	**-1.5**
	119nm,0.3s,baz=145,slow=21,SNR=3.0						
RAO				Sn	**Sn**	**02 52 31.2**	**-2.6**
	366nm,0.3s,baz=239,slow=19,SNR=4.2						
RAO	**Raoul Island**	**3.53**	**8**	P	**Pn**	**02 51 52.0**	**-1.1**
RAO						02 52 31.9	
RAO	**Raoul Island**	**3.53**	**8**	Pn	**Pn**	**02 51 52.0**	**-1.1**
RAO					**Sn**	**02 52 31.9**	**-1.9**
RIZ	**Raoul Island**	**3.54**	**8**	P	**Pn**	**02 51 49.5**	**-3.7**
RIZ				S	**Sn**	**02 52 31.6**	**-2.3**
MXZ	**Matakaoa Point**	**5.47**	**208**	Pn	**Pn**	**02 52 18.9**	**-0.8**
MXZ	**Matakaoa Point**	**5.47**	**208**	P	**Pn**	**02 52 17.2**	**-2.4**
MXZ				S	**Sn**	**02 53 21.9**	**+0.5**
WMGZ	**Waiomatatini S**	**5.65**	**206**	P	**Pn**	**02 52 20.7**	**-1.5**
WMGZ				S	**Sn**	**02 53 26.1**	**+0.1**
PKGZ	**Pakihiroa**	**5.84**	**208**	P	**Pn**	**02 52 22.6**	**-2.2**
PKGZ				S	**Sn**	**02 53 29.1**	**-1.6**
HAZ	**Te Kaha**	**5.85**	**211**	P	**Pn**	**02 52 23.7**	**-1.2**
HAZ				S	**Sn**	**02 53 31.5**	**+0.7**
PUZ	**Puketiti**	**5.93**	**206**	P	**Pn**	**02 52 23.1**	**-2.9**
PUZ				S	**Sn**	**02 53 32.0**	**-1.0**
RUGZ	**Raukumara Rang**	**6.07**	**210**	P	**Pn**	**02 52 26.5**	**-1.5**
TWGZ	**Tauwhareparae**	**6.13**	**207**	P	**Pn**	**02 52 27.2**	**-1.5**
TWGZ				S	**Sn**	**02 53 37.0**	**-0.8**
WHRZ	**Whale Island**	**6.30**	**215**	P	**Pn**	**02 52 32.8**	**+1.7**
CNGZ	**Carnagh Statio**	**6.32**	**204**	P	**Pn**	**02 52 28.8**	**-2.5**
TKGZ	**Te Karaka**	**6.41**	**207**	P	**Pn**	**02 52 30.8**	**-1.7**
TKGZ				S	**Sn**	**02 53 41.5**	**-3.1**
MWZ	**Matawai**	**6.45**	**209**	P	**Pn**	**02 52 31.1**	**-2.1**
MWZ				S	**Sn**	**02 53 43.5**	**-2.1**
OPRZ	**Ohinepanea**	**6.50**	**217**	P	**Pn**	**02 52 33.4**	**-0.4**
OPRZ				S	**Sn**	**02 53 50.3**	**+3.5**
URZ	**Urewera**	**6.56**	**212**	Pn	**Pn**	**02 52 32.7**	**-2.0**
	19nm,0.3s,baz=17,slow=11,SNR=13						
URZ				Sn	**Sn**	**02 53 45.8**	**-2.5**
	32nm,0.3s,baz=317,slow=19,SNR=9.5						
URZ	**Urewera**	**6.56**	**212**	Pn	**Pn**	**02 52 33.7**	**-1.0**
URZ					**Sn**	**02 53 48.1**	**-0.3**
URZ	**Urewera**	**6.56**	**212**	P	**Pn**	**02 52 33.1**	**-1.6**
URZ				S	**Sn**	**02 53 47.0**	**-1.3**
RAGZ	**Rawiri**	**6.63**	**209**	P	**Pn**	**02 52 33.5**	**-2.2**
RAGZ				S	**Sn**	**02 53 48.5**	**-1.6**
RIGZ	**Rimuhau**	**6.67**	**206**	P	**Pn**	**02 52 33.7**	**-2.6**
RIGZ				S	**Sn**	**02 53 50.3**	**-0.9**
PRGZ	**Paritu Road**	**6.82**	**205**	P	**Pn**	**02 52 34.7**	**-3.6**
PRGZ				S	**Sn**	**02 53 52.1**	**-2.7**
MUGZ	**Murupara**	**6.89**	**213**	P	**Pn**	**02 52 39.0**	**-0.3**
SNGZ	**Shannon Statio**	**6.90**	**208**	P	**Pn**	**02 52 36.1**	**-3.3**
RTZ	**Ruatahuna**	**6.91**	**211**	P	**Pn**	**02 52 38.3**	**-1.3**
MHGZ	**Mahia Peninsul**	**7.02**	**204**	P	**Pn**	**02 52 38.8**	**-2.2**
OUZ	**Omahuta**	**7.04**	**247**	Pn	**Pn**	**02 52 40.4**	**-0.8**
RAHZ	**Arahi**	**7.12**	**209**	P	**Pn**	**02 52 42.0**	**-0.4**
MTHZ	**Maungataniwha**	**7.17**	**211**	P	**Pn**	**02 52 42.2**	**-0.9**
WHHZ	**Waihua**	**7.20**	**208**	P	**Pn**	**02 52 42.8**	**-0.7**
MRHZ	**Matea Rd**	**7.34**	**213**	P	**Pn**	**02 52 44.3**	**-1.2**
NMHZ	**Naumai**	**7.39**	**210**	P	**Pn**	**02 52 45.4**	**-0.8**
ARHZ	**Aropaoanui**	**7.45**	**208**	P	**Pn**	**02 52 45.9**	**-1.0**
BKZ	**Black Stump Fm**	**7.58**	**211**	Pn	**Pn**	**02 52 47.4**	**-1.3**
BKZ	**Black Stump Fm**	**7.58**	**211**	P	**Pn**	**02 52 47.7**	**-1.0**
MCHZ	**McNeill Hill**	**7.73**	**209**	P	**Pn**	**02 52 49.2**	**-1.5**
KWHZ	**Kaweka Forest**	**7.83**	**210**	P	**Pn**	**02 52 50.2**	**-1.9**
HIZ	**Hauiti**	**7.90**	**222**	Pn	**Pn**	**02 52 52.5**	**-0.6**
TMVZ	**Te Maari**	**7.91**	**215**	P	**Pn**	**02 52 52.4**	**-0.9**
ETVZ	**East Tongariro**	**7.92**	**215**	P	**Pn**	**02 52 52.6**	**-0.8**
KAHZ	**Kahuranaki**	**7.96**	**207**	P	Pn	02 52 48.5	-5.4
NNVZ	**North Ngauruho**	**7.96**	**215**	P	**Pn**	**02 52 54.6**	**+0.6**
OTVZ	**Oturere**	**7.96**	**215**	P	**Pn**	**02 52 52.8**	**-1.2**
SNVZ	**South Ngauruho**	**7.99**	**215**	P	**Pn**	**02 52 53.2**	**-1.3**
NGZ	**Ngauruhoe**	**8.00**	**215**	P	**Pn**	**02 52 53.7**	**-0.9**
KRHZ	**Kereru**	**8.03**	**210**	P	**Pn**	**02 52 52.7**	**-2.1**
BHHZ	**Black Hill Sta**	**8.04**	**212**	P	**Pn**	**02 52 53.0**	**-2.0**
FWVZ	**Far West T-bar**	**8.09**	**215**	P	**Pn**	**02 52 55.1**	**-0.7**
MOVZ	**Moawhango**	**8.11**	**214**	P	**Pn**	**02 52 54.4**	**-1.6**
WNVZ	**Wahianoa**	**8.12**	**215**	P	**Pn**	**02 52 55.5**	**-0.7**
PXZ	**Pawanui**	**8.17**	**206**	P	**Pn**	**02 52 54.1**	**-2.7**
PNHZ	**Pukenui**	**8.33**	**210**	P	**Pn**	**02 52 55.6**	**-3.4**
BFZ	**Birch Farm**	**8.97**	**207**	Pn	**Pn**	**02 53 05.1**	**-2.6**
MSWZ	**Moikau Station**	**9.98**	**208**	Pn	**Pn**	**02 53 21.0**	**-0.6**
PLWZ	**Palliser**	**10.11**	**208**	Pn	**Pn**	**02 53 23.3**	**-0.2**
BHW	**Baring Head**	**10.13**	**210**	Pn	**Pn**	**02 53 23.9**	**+0.3**
TUWZ	**Tuamarina**	**10.56**	**213**	Pn	**Pn**	**02 53 29.1**	**-0.4**
QRZ	**Quartz Range**	**10.80**	**219**	Pn	**Pn**	**02 53 32.5**	**-0.3**
THZ	**Tophouse**	**11.30**	**215**	Pn	**Pn**	**02 53 39.5**	**-0.2**
KHZ	**Kahutara**	**11.53**	**211**	Pn	**Pn**	**02 53 39.7**	**-3.0**
NFK	**Norfolk Island**	**12.25**	**284**	P	**P**	**02 54 01.1**	**-3.6**
LTZ	**Lake Taylor**	**12.39**	**214**	Pn	**Pn**	**02 53 52.1**	**-2.5**
MSVF	**Nonsavu**	**15.30**	**347**	Pn	**Pn**	**02 54 31.0**	**-3.2**
	0.3nm,0.3s,baz=179,slow=14,SNR=3.9						
MSVF				LR	LR	02 59 37.0	
	comp=Z,5μm,18.0s,baz=170,slow=34						
MSVF	**Nonsavu**	**15.30**	**347**	*i* P	**Pn**	**02 54 32.5**	**-1.7**
MSVF	**Nonsavu**	**15.30**	**347**		**Pn**	**02 54 32.7**	**-1.4**
MSVF	**Nonsavu**	**15.30**	**347**	P	**P**	**02 54 38.9**	**+0.3**
WKZ	**Wanaka**	**15.48**	**215**	Pn	**Pn**	**02 54 34.3**	**-2.0**
PINNC	**Pines Island,**	**16.05**	**306**	P	**Pn**	**02 54 44.8**	**+1.0**
PINNC				IAmb	IAmb	02 54 52.3	
	comp=Z,164nm,1.1s						
PINNC	**Pines Island,**	**16.05**	**306**	P	**P**	**02 54 51.1**	**+4.2**
MLZ	**Mavora Lakes**	**16.31**	**216**	Pn	**Pn**	**02 54 46.8**	**-0.2**
MARNC	**Mare, Loyalty**	**16.44**	**310**	P	**P**	**02 54 55.2**	**+4.0**
OUENC	**Ouen Island, N**	**16.59**	**305**	P	**P**	**02 54 52.0**	**-0.9**
OUENC				IAmb	IAmb	02 54 58.8	
	comp=Z,151nm,1.2s						
OUENC	**Ouen Island, N**	**16.59**	**305**	P	**P**	**02 54 57.9**	**+5.0**
WHZ	**Wether Hill Ro**	**16.77**	**215**	Pn	**Pn**	**02 54 50.0**	**-2.8**
YATNC	**Mamie plateau,**	**16.80**	**306**	P	**P**	**02 54 59.4**	**+4.2**
ONTNC	**Ouen Toro**	**16.94**	**304**	Pn	**Pn**	**02 54 54.5**	**-0.6**
ONTNC				IAmb	IAmb	02 55 03.8	
	comp=Z,96nm,1.1s						
ONTNC	**Ouen Toro**	**16.94**	**304**	P	**P**	**02 55 00.9**	**+4.2**
DZM	**Mont Dzumac**	**17.10**	**305**	*e*Pn	**P**	**02 55 01.9**	**+3.3**
	comp=Z,392nm,1.2s						
DZM				*e*LR	LR	02 59 03.5	
	comp=Z,6μm,22.7s						
DZM	**Mont Dzumac**	**17.10**	**305**	P	**P**	**02 55 00.5**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=114,slow=12,SNR=8.0						
DZM				LR	LR	03 00 31.3	
	comp=Z,6μm,19.6s,baz=145,slow=34						
DZM	**Mont Dzumac**	**17.10**	**305**	Pn	**Pn**	**02 54 56.4**	**-0.8**
DZM	**Mont Dzumac**	**17.10**	**305**	P	**P**	**02 55 02.7**	**+4.1**
NOUC	**Port Laguerre**	**17.18**	**304**	P	**P**	**02 55 03.5**	**+4.1**
KOUNC	**Koumac, New Ca**	**19.61**	**304**	P	**Pn**	**02 55 30.0**	**+2.4**
AFI	**Afiamalu**	**19.74**	**20**	P	**P**	**02 55 26.6**	**-1.1**
	comp=Z,2.6nm,0.3s,baz=227,slow=19,SNR=2.0						
AFI				S	S	02 58 47.3	-21
	comp=Z,2.0nm,0.3s,baz=239,slow=22,SNR=1.3						
AFI	**Afiamalu**	**19.74**	**20**	P	**P**	**02 55 27.6**	**0.0**
AFI				pmax	pmax		
	comp=Z,62nm,1.0s						
AFI	**Afiamalu**	**19.74**	**20**	P	**P**	**02 55 27.6**	**0.0**
AFI				IAmb	IAmb	02 55 34.5	
	comp=Z,62nm,1.0s						
AFI	**Afiamalu**	**19.74**	**20**	P	**Pn**	**02 55 28.7**	**-0.6**
RAR	**Rarotonga**	**20.21**	**60**	P	**P**	**02 55 33.1**	**+0.5**
	comp=Z,26nm,0.9s,baz=205,slow=19,SNR=1.7						
RAR				LR	LR	03 01 14.8	
	comp=Z,893nm,20.9s,baz=196,slow=31						
RAR	**Rarotonga**	**20.21**	**60**	P	**P**	**02 55 29.9**	**-2.7**
RAR				IAmb	IAmb	02 55 38.0	
	comp=Z,101nm,1.4s						
RAR	**Rarotonga**	**20.21**	**60**	P	Pn	02 55 35.2	+0.5
SANVU	**Saraoutou**	**21.60**	**320**	P	**P**	**02 55 46.4**	**-1.3**
SANVU				IAmb	IAmb	02 55 55.8	
	comp=Z,54nm,0.8s						
SANVU	**Saraoutou**	**21.60**	**320**	P	**P**	**02 55 52.8**	**+5.1**
CNB	**Canberra Magne**	**26.72**	**256**	P	**P**	**02 56 39.4**	**+2.3**
	baz=27						
TBI	**Tubuai**	**27.18**	**77**	*e*LR	LR	03 03 25.3	
	comp=Z,2μm,28.5s,baz=241						
TBI	**Tubuai**	**27.18**	**77**	*e*T	T	03 24 55.7	
	comp=Z,18nm,0.4s						
EIDS	**Eidsvold**	**27.56**	**278**	P	**P**	**02 56 46.8**	**+2.3**
	baz=27,SNR=9.3						
EIDS	**Eidsvold**	**27.56**	**278**	P	**P**	**02 56 43.9**	**-0.7**
EIDS				IAmb	IAmb	02 56 47.6	
	comp=Z,29nm,0.8s						
YNG	**Young**	**27.61**	**258**	P	**P**	**02 56 47.8**	**+2.9**
	baz=28,SNR=5.0						
TAU	**Tasmania Unive**	**28.69**	**239**	P	**P**	**02 56 52.0**	**-2.4**
TAU				pmax	pmax		
	comp=Z,44nm,1.1s						
TAU	**Tasmania Unive**	**28.69**	**239**	P	**P**	**02 56 52.0**	**-2.4**
TAU				IAmb	IAmb	02 56 56.2	
	comp=Z,44nm,1.1s						
RMQ	**Roma**	**29.10**	**274**	P	**P**	**02 56 59.8**	**+1.5**
	baz=29,SNR=10.0						
TOO	**Toolangi**	**29.74**	**251**	P	**P**	**02 57 03.5**	**-0.4**
TOO				pmax	pmax		
	comp=Z,14nm,1.2s						
TOO	**Toolangi**	**29.74**	**251**	P	**P**	**02 57 03.5**	**-0.4**
TOO				IAmb	IAmb	02 57 11.4	
	comp=Z,14nm,1.1s						
PAE	**Paea**	**30.02**	**67**	*e*T	T	03 28 23.7	
	comp=Z,3.3nm,0.3s						
PPT2	**Papeete2**	**30.07**	**67**	*e*LR	LR	03 04 41.2	
	comp=Z,2μm,27.2s,baz=230						
PPT2	**Papeete2**	**30.07**	**67**	*e*T	T	03 28 27.9	
	comp=Z,4.2nm,0.3s						
CMSA	**Cobar Meteorol**	**30.29**	**263**	P	**P**	**02 57 11.0**	**+2.2**
	baz=30,SNR=18						
ARPS	**Mount Arapiles**	**32.70**	**252**	P	**P**	**02 57 31.7**	**+1.8**
	baz=33						
QLP	**Quilpie**	**32.87**	**271**	P	**P**	**02 57 33.9**	**+2.4**
	baz=33,SNR=3.8						
VAH	**Vaihoa**	**32.96**	**65**	*e*T	T	03 32 02.2	
	comp=Z,8.7nm,0.3s						
STKA	**Stephens Creek**	**33.63**	**260**	P	**P**	**02 57 40.1**	**+2.0**
	baz=34,SNR=3.7						
STKA	**Stephens Creek**	**33.63**	**260**	P	**P**	**02 57 38.2**	**+0.1**
	comp=Z,6.6nm,0.9s,baz=122,slow=9.2,SNR=4.5						
STKA	**Stephens Creek**	**33.63**	**260**	P	**P**	**02 57 37.3**	**-0.8**
CTA	**Charters Tower**	**33.87**	**283**	P	**P**	**02 57 42.0**	**+1.7**
	comp=Z,33nm,0.9s,baz=113,slow=11,SNR=21						
CTA				LR	LR	03 11 05.7	
	comp=Z,1μm,18.0s,baz=133,slow=36						
CTAO	**Charters Tower**	**33.87**	**283**	P	**P**	**02 57 40.4**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,106nm,1.4s						
CTAO	**Charters Tower**	**33.87**	**283**	P	**P**	**02 57 40.4**	**+0.1**
MTSU	**Mount Surprise**	**36.43**	**284**	P	**P**	**02 58 04.4**	**+2.1**
	baz=36,SNR=17						
BBOO	**Buckleboo**	**38.00**	**257**	P	**P**	**02 58 14.9**	**-0.7**
QIS	**Mount Isa**	**39.16**	**277**	P	**P**	**02 58 26.0**	**+0.6**
	baz=39,SNR=7.4						
COEN	**Coen**	**39.60**	**289**	P	**P**	**02 58 29.4**	**+0.2**
COEN				IAmb	IAmb	02 58 37.4	
	comp=Z,24nm,0.9s						
TAOE	**Nuku Hiva Isla**	**42.63**	**65**	*e*LR	LR	03 10 30.6	
	comp=Z,772nm,27.9s						
ASAR	**Alice Springs**	**42.65**	**270**	P	**P**	**02 58 54.8**	**+0.6**
	comp=Z,17nm,0.7s,baz=110,slow=7.6,SNR=25						
ASAR				S	**S**	**03 05 13.6**	**-1.8**
	comp=Z,3.8nm,0.9s,baz=109,slow=16,SNR=9.5						
ASAR	**Alice Springs**	**42.65**	**270**	P	**P**	**02 58 52.7**	**-1.5**
WR0	**Warramunga Arr**	**43.67**	**275**	P	**P**	**02 59 02.3**	**-0.2**
WR0				IAmb	IAmb	02 59 04.6	
	comp=Z,74nm,1.4s						
WC3	**Warramunga Arr**	**43.81**	**275**	P	**P**	**02 59 03.8**	**+0.2**
	baz=44						

WB2 Warramunga Arr 43.84 275 P **P** 02 59 01.4 -2.4
WRAB Tennant Creek 43.84 275 *i* P **P** 02 59 02.2 -1.6
WRAB pmax pmax
comp=Z,32nm,0.7s
WRAB Tennant Creek 43.84 275 P **P** 02 59 03.4 -0.4
WRA Warramunga Arr 43.85 275 P **P** 02 59 03.7 -0.2
comp=Z,34nm,0.7s,baz=121,slow=7.8,SNR=35
WRA S **S** 03 05 32.0 -1.0
comp=Z,4.3nm,1.2s,baz=118,slow=14,SNR=5.4
WRA Warramunga Arr 43.85 275 P **P** 02 59 03.1 -0.8
FORT Forrest 45.11 258 P **P** 02 59 13.3 -0.5
baz=45,SNR=11
FORT Forrest 45.11 258 P **P** 02 59 13.4 -0.5
PATS Pohnpei 45.16 326 P **P** 02 59 14.3 0.0
SBA Scott Base 45.66 184 P **P** 02 59 21.3 +3.8
SBA pmax pmax
comp=Z,5.0nm,1.3s
VNDA Vanda 45.71 186 P **P** 02 59 20.0 +2.1
comp=Z,1.1nm,0.7s,baz=59,slow=8.7,SNR=2.5
WRKA Warakurna 46.84 265 P **P** 02 59 26.9 -0.7
baz=47,SNR=13
JAY Jayapura 48.67 300 P **P** 02 59 41.9 +0.1
comp=Z,32nm,1.1s,baz=104,slow=5.9,SNR=6.2
JAY Jayapura 48.67 300 P **P** 02 59 40.9 -1.0
comp=Z,397nmcomp=Z,24nm,1.2s
KDU Kakadu 48.98 282 P **P** 02 59 44.8 +0.6
baz=49,SNR=6.9
KNRA Kununurra 50.54 277 P **P** 02 59 56.2 +0.2
baz=50,SNR=3.8
KNRA Kununurra 50.54 277 P **P** 02 59 56.4 +0.4
KNRA IAmb IAmb 02 59 57.0
comp=Z,23nm,1.0s
FITZ Fitzroy Crossi 52.00 272 P **P** 03 00 06.9 -0.1
baz=52,SNR=17
FITZ Fitzroy Crossi 52.00 272 P **P** 03 00 06.4 -0.6
comp=Z,18nm,0.8s,baz=144,slow=7.2,SNR=19
FITZ Fitzroy Crossi 52.00 272 P **P** 03 00 07.2 +0.2
FITZ IAmb IAmb 03 00 07.8
comp=Z,21nm,0.8s
BAKI Biak 52.97 297 P **P** 03 00 11.8 -2.4
comp=Z,1µmcomp=Z,48nm,1.8s
WAKE Wake Island 53.68 342 P **P** 03 00 19.5 +0.3
MEEK Meekatharra 54.31 259 P **P** 03 00 23.2 -0.7
baz=54,SNR=3.7
FAKI Fak Fak 54.83 292 P **P** 03 00 27.2 -0.5
PSA00 Pilbara Seismi 55.34 265 P **P** 03 00 30.3 -1.1
PSA00 Pilbara Seismi 55.34 265 P **P** 03 00 30.2 -1.2
PSA00 IAmb IAmb 03 00 35.3
comp=Z,21nm,1.4s
MORW Morawa 55.51 255 P **P** 03 00 32.0 -0.6
MORW IAmb IAmb 03 00 38.7
comp=Z,24nm,1.2s
HMH Humu'ula Sheep 56.52 26 P **P** 03 00 39.5 -0.6
QSPA South Pole Qui 57.35 180 P **P** 03 00 47.9 +2.6
comp=Z,3.9nm,0.8s,baz=104,slow=1.9,SNR=3.2
QSPA South Pole Qui 57.35 180 P **P** 03 00 46.6 +1.3
QSPA IAmb IAmb 03 00 55.2
comp=Z,20nm,1.2s
KRAI Karang Ratu 57.62 289 P **P** 03 00 45.3 -2.4
GIRL Giralia 59.57 261 P **P** 03 01 00.9 -0.3
MMRI Maumere 59.62 280 P **P** 03 01 00.5 -1.2
MMRI Maumere 59.62 280 P **P** 03 01 00.9 -0.8
comp=Z,3µmcomp=Z,54nm,0.8s
EDFI Ende, Flores 60.02 279 P **P** 03 01 03.3 -1.2
comp=Z,12nm,1.1s
SANI Sanana 60.30 288 P **P** 03 01 03.3 -3.0
comp=Z,39nm,1.4s
TOLI2 Tolitoli 66.35 288 P **P** 03 01 45.6 -0.8
TOLI2 IAmb IAmb 03 01 46.6
comp=Z,14nm,0.9s
MAW Mawson 69.96 201 P **P** 03 02 09.3 +1.1
baz=70,SNR=5.9
MAW Mawson 69.96 201 P **P** 03 02 08.5 +0.4
comp=Z,15nm,1.1s,baz=124,slow=6.1,SNR=8.3
MAW Mawson 69.96 201 P **P** 03 02 08.9 +0.7
MAW pmax pmax
comp=Z,5.0nm,1.3s
MAW Mawson 69.96 201 P **P** 03 02 08.9 +0.7
SYO Syowa Base 74.73 193⇑ *e*P **P** 03 02 36.7 +0.1
SYO Syowa Base 74.73 193⇓ *es*P sP 03 02 42.6 -5.5
SNAA Sanae 75.81 179 P **P** 03 02 43.3 +0.4
SNAA Sanae 75.81 179 PcP **PcP** 03 02 52.4 -3.0
SNAA Sanae 75.81 179 *ce*P P 03 02 48.2 +5.3
SNAA pmax pmax
comp=Z,35nm,1.3s
SNAA Sanae 75.81 179 P **P** 03 02 43.3 +0.4
SNAA IAmb IAmb 03 02 52.3
comp=Z,8.6nm,0.9s
VNA3 Neumayer Olymp 75.98 176 P **P** 03 02 44.0 +0.2
VNA3 Neumayer Olymp 75.98 176 PcP **PcP** 03 02 53.9 -2.2
VNA2 Neumayer--Watz 76.41 177 P **P** 03 02 46.8 +0.6
baz=169,slow=5.5
VNA2 Neumayer--Watz 76.41 177 PcP **PcP** 03 02 56.4 -1.5
VNA1 Neumayer--Stat 76.64 177 P **P** 03 02 47.6 +0.2
VNA1 Neumayer--Stat 76.64 177 PcP **PcP** 03 02 57.8 -1.0
H03S2 Juan Fernandez 79.49 123 T T 04 31 53.9
baz=236,slow=74,SNR=7.2
H03S1 Juan Fernandez 79.50 123 T T 04 31 51.5
baz=236,slow=74,SNR=5.5
H03S3 Juan Fernandez 79.51 123 T T 04 31 50.0
baz=236,slow=74,SNR=6.7
H03N3 Juan Fernandez 79.70 123 T T 04 32 02.1
baz=239,slow=72,SNR=9.1
H03N2 Juan Fernandez 79.70 123 T T 04 31 59.3
baz=239,slow=72,SNR=6.8
H03N1 Juan Fernandez 79.71 123 T T 04 31 52.6
baz=239,slow=72,SNR=10.0
MJAR Matsushiro Arr 79.97 326 P **P** 03 03 05.5 -0.9
comp=Z,1.1nm,0.5s,baz=96,slow=9.9,SNR=2.5
MJAR Matsushiro Arr 79.97 326 P **P** 03 03 05.4 -0.9
MAJO Matsushiro 79.97 326 *i* P **P** 03 03 05.5 -0.8
MAJO pmax pmax
comp=Z,6.0nm,1.0s
PLCA Paso Flores 81.19 133 P **P** 03 03 14.3 +1.2
comp=Z,9.7nm,1.1s,baz=254,slow=3.4,SNR=5.9
LC01 Cunco 81.42 131 P **P** 03 03 14.9 +0.6
LC01 IAmb IAmb 03 03 16.8
comp=Z,12nm,0.8s
YUK Yuzh-Kuril'sk 83.08 335 *e*P **P** 03 03 23.1 +0.6
YUK *e* 03 06 33.8
YUK *e*PPP PPP 03 08 25.1
YUK *e*S **S** 03 13 43.2 +3.6
YUK *e*SS **SS** 03 19 08.4 +3.5
YUK *e*SSS SSS 03 22 36.8
YUK pmax pmax
comp=Z,198nm,1.3s
YUK pmax pmax
comp=Z,188nm,1.3s
YUK pmax pmax
comp=N,115nm,1.4s
YUK MLR MLR
comp=Z,189nm,17.0s
YUK MLR MLR
comp=E,493nm,12.0s
YUK MLR MLR
comp=N,138nm,14.0s
ADK Adak 84.30 1 P **P** 03 03 28.4 -0.2
ADK pmax pmax
comp=Z,74nm,1.5s
ADK Adak 84.30 1 P **P** 03 03 28.4 -0.2
JKA Kamikawa-asahi 84.36 333 P **P** 03 03 29.9 +0.9
JKA IAmb IAmb 03 03 37.8
comp=Z,11nm,1.0s
ASAJ Asahikawa 84.36 333 P **P** 03 03 30.6 +1.5
comp=Z,1.8nm,0.3s,baz=216,slow=8.7,SNR=1.8
MT01 Popeta 84.76 127 P **P** 03 03 32.6 +1.0
MT01 IAmb IAmb 03 03 34.4
comp=Z,18nm,0.9s
KSRS Korea Array 85.90 320 P **P** 03 03 37.3 +0.4
comp=Z,2.1nm,0.8s,baz=144,slow=5.1,SNR=5.9
CO02 Combarbal 86.50 125 P **P** 03 03 40.1 -0.4
CO02 IAmb IAmb 03 03 43.0
comp=Z,18nm,0.9s
YSS Yuzh-Sakhalins 86.70 335 *e*P **P** 03 03 41.2 +0.5
YSS pmax pmax
comp=Z,20nm,0.6s
YSS MLR MLR
comp=Z,500nm,14.0s
NJ2 Nanjing 87.49 311 *e*P **P** 03 03 47.2 +2.3
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
PET Petropavlovsk 87.73 346 *ce*P **P** 03 03 44.7 -0.8
PET pmax pmax
comp=Z,53nm,2.5s
PEA0B Petropavlovsk- 88.00 346 *ce*P **P** 03 03 47.2 +0.4
comp=Z,6.9nm,0.9s,baz=169,slow=3.0,SNR=7.8
PETK Petropavlovsk- 88.00 346 P **P** 03 03 46.0 -0.8
EDW2 Edwards Air Fo 88.01 46 P **P** 03 03 48.8 +1.4
baz=227
VES Vestal, Richgr 88.01 44 P **P** 03 03 48.5 +1.2
baz=226
SWSC Sam W. Stewart 88.06 48 P **P** 03 03 49.3 +1.7
baz=228
PFO Pinyon Flats O 88.09 47 P **P** 03 03 49.5 +1.6
baz=228
TPFO Pinon Flats 88.09 48 P **P** 03 03 49.4 +1.5
baz=228
ISA Isabella, Lake 88.25 45 P **P** 03 03 50.0 +1.4
baz=227
LRMC Laurel Mtn Rad 88.60 45 P **P** 03 03 51.8 +1.5
baz=227
BELC Belle Mtn. Jos 88.64 47 P **P** 03 03 52.6 +2.1
baz=228
GLA Glamis 88.75 49 P **P** 03 03 53.6 +2.7
baz=229
BC3 Big Chuckawall 88.75 48 P **P** 03 03 53.3 +2.3
baz=228
USRK Ussuriysk Ar. 88.92 327 P **P** 03 03 52.0 +0.6
comp=Z,3.5nm,0.9s,baz=132,slow=2.8,SNR=5.9
USRK Ussuriysk Ar. 88.92 327 P **P** 03 03 52.0 +0.6
USRK Ussuriysk Ar. 88.92 327 P **P** 03 03 50.3 -1.0
HEC Hector,Ludlow 88.98 47 P **P** 03 03 54.3 +2.3
baz=229
GSC Goldstone, Bar 89.01 46 P **P** 03 03 53.7 +1.5
baz=228
CWC Cottonwood Cre 89.01 45 P **P** 03 03 53.6 +1.3
baz=227
MPMC Manual Prospec 89.11 45 P **P** 03 03 54.4 +1.6
baz=227
IRM Iron Mountain 89.27 48 P **P** 03 03 55.6 +2.3
baz=229
GMRC Granite Mounta 89.36 47 P **P** 03 03 55.4 +1.5
baz=228
TUQ Turquoise Moun 89.63 46 P **P** 03 03 56.9 +1.8
baz=228
FURC Furnace Creek, 89.75 45 P **P** 03 03 57.3 +1.8
baz=228
GRAC Grapevine Rang 89.81 44 P **P** 03 03 57.8 +2.0
baz=227
TYV Tymovskoe 90.06 337 *e*P **P** 03 03 57.6 +1.1
TYV pmax pmax
comp=Z,21nm,0.8s
TYV pmax pmax
comp=Z,300nm,2.8s
NVAR Mina Array Bea 90.24 43 P **P** 03 03 58.6 +0.6
comp=Z,3.7nm,0.9s,baz=220,slow=7.6,SNR=13
CHGN Chignik 90.34 11 P **P** 03 03 57.0 -0.7
MDJ Mudanjiang 90.35 326 P **P** 03 03 58.4 +0.3
MDJ pmax pmax
comp=Z,13nm,1.2s
MDJ pmax pmax
comp=Z,140nm,3.8s
TPNV Topopah Spring 90.44 45 P **P** 03 04 00.7 +1.8
baz=228
W13A Hualapai Mount 90.67 48 P **P** 03 04 00.9 +0.8
TUC Tucson 90.89 52 P **P** 03 04 03.4 +2.4
baz=231
I04A Tendick Farm, 91.76 37 P **P** 03 04 05.8 +1.1
baz=224
X16A Lo Mia Camp, P 91.78 50 P **P** 03 04 04.9 -0.3
X16A IAmb IAmb 03 04 08.6
comp=Z,4.0nm,0.9s
CN2 Changchun 91.79 323 *e*P **P** 03 04 03.0 -1.8
CN2 S **S** 03 14 57.7 -5.6
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,200nm,19.0s
J05D Fort Rock, OR 92.00 38 P **P** 03 04 07.3 +1.3
baz=225
H04A Detroit Lake 92.51 36 P **P** 03 04 08.6 +0.4
H04A IAmb IAmb 03 04 10.7
comp=Z,18nm,1.4s
PINE Pine Mountain 92.51 38 P **P** 03 04 09.0 +0.6
PINE IAmb IAmb 03 04 15.3
comp=Z,13nm,1.2s
U15A North Rim 92.52 48 P **P** 03 04 09.0 +0.3
U15A IAmb IAmb 03 04 11.4
comp=Z,4.4nm,0.9s
KLR Kul'dur 92.88 330 P **P** 03 04 09.8 +0.1
comp=Z,2.6nm,1.0s,baz=166,slow=4.2,SNR=3.9
KLR Kul'dur 92.88 330 *ce*P **P** 03 04 09.5 -0.2
KLR pmax pmax
comp=Z,2.0nm,0.9s
I07A Izee 93.46 38 P **P** 03 04 13.6 +1.0
TXAR Lajitas Array 93.99 58 P **P** 03 04 15.5 0.0
comp=Z,0.5nm,0.9s,baz=194,slow=9.8,SNR=4.6
TXAR Lajitas Array 93.99 58 P **P** 03 04 15.3 -0.1
O18K Koktuh Hills 94.26 12 P **P** 03 04 16.0 +0.2
O18K IAmb IAmb 03 04 18.4
comp=Z,5.4nm,0.9s
ANMO Albuquerque 95.35 52 *ce*P **P** 03 04 21.9 +0.2
ANMO pmax pmax
comp=Z,1.0nm,0.8s
HHC Hu-ho-hao-te 97.59 314 *e*P Pdif 03 04 32.9 +1.3
HHC S **S** 03 16 00.4 +6.0
HHC SS **SS** 03 22 37.2 +1.9
HHC pmax pmax
comp=Z,15nm,1.3s
HHC pmax pmax
comp=Z,67nm,7.3s
HHC LR LR
comp=Z,200nm,19.0s
HHC LR LR
comp=Z,250nm,18.6s
HHC LR LR
comp=Z,300nm,18.0s
PDAR Pinedale Array 98.11 44 P **P** 03 04 33.5 -0.6
comp=Z,0.4nm,0.7s,baz=193,slow=2.8,SNR=2.4
PDAR Pinedale Array 98.11 44 P **P** 03 04 33.8 -0.2
LZH Lanzhou 99.81 307 *e*P **Pdif** 03 04 45.3 +3.6
LZH pP pP 03 04 49.0 -1.8
LZH sP sP 03 04 52.3 -1.8
LZH pmax pmax
comp=Z,16nm,1.1s
ILAR Eielson Array 100.31 13 P **Pdif** 03 04 44.9 +1.9
comp=Z,0.6nm,1.1s,baz=234,slow=6.2,SNR=2.5
ILAR Eielson Array 100.31 13 **Pdif** 03 04 44.8 +1.7
BILL Bilibino 101.15 354 *de*P **Pdif** 03 04 47.4 +0.8
BILL *e* 03 09 01.6
BILL *e*SS SS 03 23 24.8 +1.1
BILL pmax pmax
comp=Z,5.0nm,0.9s
WMQ Urumqi 114.36 308 *e*PKP **PKiKP** 03 09 38.3 +1.5
DGZ Jazzator, Alta 116.67 314 *i* PKiKP **PKiKP** 03 09 41.6 +0.5
MK31 Makanchi Array 118.97 309 *i* PKiKP **PKPdf** 03 09 45.4 -0.1
MK31 Makanchi Array 118.97 309 PKPdf **PKPdf** 03 09 45.2 -0.3
MKAR Makanchi Array 118.97 309 PKP **PKPdf** 03 09 45.1 -0.3
comp=Z,1.7nm,0.6s,baz=107,slow=1.5,SNR=14
MKAR PKKPbc **PKKPab** 03 20 01.5 +1.0
comp=Z,0.5nm,0.7s,baz=306,slow=4.8,SNR=3.8
MKAR Makanchi Array 118.97 309 *c i*PKiKP **PKPdf** 03 09 45.0 -0.5
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MAKZ Makanchi 119.18 309 PKiKP **PKPdf** 03 09 44.9 -1.0
MAKZ Makanchi 119.18 309 **PKPdf** 03 09 44.9 -1.0
ZALV Zalesovo Beam 119.52 318 PKP **PKPdf** 03 09 46.1 -0.1
comp=Z,1.7nm,0.7s,baz=144,slow=3.3,SNR=5.0
NRIK Noril'sk 121.62 335 PKP **PKPdf** 03 09 49.3 -0.5
comp=Z,3.7nm,0.6s,baz=114,slow=4.8,SNR=5.3
NRIK Noril'sk 121.62 335 *c i*PKiKP **PKiKP** 03 09 50.9 +1.0
NRIK Noril'sk 121.62 335 **PKiKP** 03 09 51.0 +1.0
BOOM Boomskoye usch 122.01 303 PKiKP **PKiKP** 03 09 51.9 +0.1
BOOM Boomskoye usch 122.01 303 PKPdf **PKiKP** 03 09 51.9 +0.1
AAK Ala-Archa 123.08 303 *c i*PKiKP **PKPdf** 03 09 53.4 -0.3
AAK pmax pmax
comp=Z,8.0nm,1.0s
AAK Ala-Archa 123.08 303 PKPdf **PKPdf** 03 09 53.6 -0.1
KBL Kabul 124.76 292 PKiKP **PKPdf** 03 09 57.4 +0.2
KBL Kabul 124.76 292 PKPdf **PKPdf** 03 09 57.4 +0.2
GAR Garm 125.12 297 **PKiKP** 03 09 58.0 -0.1
CHGR Chuyangaron 125.89 297 PKPdf **PKPdf** 03 09 59.1 0.0
KK31 Karatay Array 126.03 302 PKiKP **PKPdf** 03 09 59.2 +0.1
KK31 Karatay Array 126.03 302 PKPdf **PKPdf** 03 09 59.2 +0.1
KKAR Karatay Array 126.03 302 PKiKP **PKPdf** 03 09 59.0 -0.1
KKAR Karatay Array 126.03 302 PKPdf **PKPdf** 03 09 59.0 -0.1
BRVK Borovoye 127.87 315 *c i*PKiKP **PKPdf** 03 10 01.6 -0.7
BRVK pmax pmax
comp=Z,23nm,1.7s
BRVK Borovoye 127.87 315 PKPdf **PKPdf** 03 10 02.1 -0.1
SCHQ Schefferville 128.24 43 PKP **PKiKP** 03 10 04.6 +1.0
comp=Z,2.1nm,0.5s,baz=282,slow=4.0,SNR=2.3
KMBO Kilima Mbogo 132.33 232 PKP **PKiKP** 03 10 13.2 -0.2
comp=Z,3.0nm,1.0s,baz=71,slow=3.6,SNR=4.7
KMBO Kilima Mbogo 132.33 232 *c i*PKiKP **PKiKP** 03 10 13.4 0.0
KMBO pmax pmax
comp=Z,3.0nm,1.0s
ABKAR Akbulak array 134.12 309 PKPdf **PKPdf** 03 10 14.5 +0.2
GEYT Alibeck 134.16 293 PKP **PKPdf** 03 10 14.8 0.0
comp=Z,25nm,0.9s,baz=61,slow=12,SNR=3.9
ARU Arti 134.64 319 *i* PKiKP **PKiKP** 03 10 16.3 -0.1
ARU 03 12 48.0
ARU SS SS 03 30 34.7 -3.7
ARU Arti 134.64 319 PKPdf **PKiKP** 03 10 16.2 -0.1
KIRV Kirov 139.01 324 *c i*PKiKP **PKiKP** 03 10 26.9 +1.7
PRGR Permogore 139.66 329 *e*PKiKP **PKiKP** 03 10 26.3 -0.1
PRGR pmax pmax
comp=Z,59nm,1.5s
ARCES ARCESS Array B 140.81 347 PKhKP PKPpre 03 10 20.4
comp=Z,4.0nm,0.9s,baz=46,slow=2.0,SNR=6.8
ARCES PKP **PKiKP** 03 10 28.1 -0.6
comp=Z,5.7nm,0.7s,baz=351,slow=1.6,SNR=6.0
KLMR Klimovskoe 142.64 330 *e*PKHKP PKPpre 03 10 15.1
KLMR pmax pmax
comp=Z,25nm,1.7s
GROC Groznyy 143.97 300 *e*PKiKP PKPbc 03 10 30.3 0.0
GROC *e* 03 13 47.2
GROC pmax pmax
comp=Z,17nm,0.7s
GNI Garni 144.75 295 PKiKP **PKPab** 03 10 32.6 -0.4
GNI Garni 144.75 295 PKPdf **PKPab** 03 10 32.6 -0.4
ZEI Tsey 145.37 299 *e*PKHKP PKPpre 03 10 30.4
ZEI pmax pmax
comp=Z,10.0nm,0.6s
VRH Novokhopyorsk 145.45 314 *e*PKP2 **PKPdf** 03 10 33.9 -0.8
VRH pmax pmax
comp=Z,50nm,1.0s
GOF Gofitskoye 145.81 303⇑ *e*PKiKP **PKPbc** 03 10 36.1 0.0
GOF pmax pmax
comp=Z,44nm,0.7s
MOS Moscow 146.03 323 *i* PKiKP **PKPdf** 03 10 35.1 -0.4
MOS pmax pmax
comp=Z,141nm,0.8s
KBZ Khabaz 146.04 301 PKPbc **PKPbc** 03 10 36.7 -0.1
comp=Z,17nm,1.1s,baz=15,slow=0.2,SNR=9.2
KBZ Khabaz 146.04 301 *i* PKP2 **PKPdf** 03 10 36.0 +0.1
KIV Kislovodsk 146.18 301 *i* PKP2 **PKiKP** 03 10 40.1 -0.5
KIV pmax pmax
comp=Z,15nm,1.1s
OBN Obninsk 146.85 323 *i* PKP2 **PKPbc** 03 10 37.9 -0.9
OBN *e* 03 14 01.8
OBN pmax pmax
comp=Z,219nm,2.1s
OBN Obninsk 146.85 323 **PKPbc** 03 10 38.5 -0.3
PUL Pulkovo 146.95 333 *c i*PKP2 **PKPab** 03 10 40.0 -0.4
PUL pmax pmax
comp=Z,100nm,0.7s
VORD Divnogorie 146.98 315 *e*PKP2 **PKPbc** 03 10 38.6 -0.7
VORD pmax pmax
comp=Z,30nm,0.9s
FIA1 FINESS Array S 147.21 338 **PKPbc** 03 10 38.6 -1.1
FINES FINESS Array B 147.21 338 PKPbc **PKPbc** 03 10 39.2 -0.4
comp=Z,46nm,0.7s,baz=47,slow=4.0,SNR=42
FINES FINESS Array B 147.21 338 *c i*PKP2 **PKPbc** 03 10 39.5 -0.1
FINES pmax pmax
comp=Z,47nm,0.7s
FINES FINESS Array B 147.21 338 PKPdf **PKPbc** 03 10 38.8 -0.8
MARD Mardin 147.71 289 PKPdf **PKPdf** 03 10 39.6 +0.4
KOPT Kop Dagi 148.01 294 PKPdf **PKPdf** 03 10 40.5 +0.7
SOC Sochi 148.36 301 *e*PKHKP PKPpre 03 10 38.7
SOC *e* 03 14 10.7
MEF Metsahovi 148.68 338 *e*P **PKPbc** 03 10 43.9 +0.3
RAF Rauma 148.81 341 *e*P **PKPab** 03 10 47.8 0.0
VSU Vasula 149.20 334 *e*P **PKPbc** 03 10 43.9 -1.0
MTJZ Matsula 150.04 337 *e*P **PKiKP** 03 10 47.6 -0.2
GAZ Gaziantep 150.55 289 PKPdf **PKPdf** 03 10 43.9 +0.3
NC303 NORSAR Array S 150.82 350 PKPdf **PKPdf** 03 10 44.4 +1.2
NC405 NORSAR Array S 150.88 350 PKPdf **PKPdf** 03 10 44.9 +1.6
UPP Uppsala 150.88 343 *e*P **PKPab** 03 10 53.7 -2.6
NB201 NORSAR Array S 151.00 350 PKPdf **PKPdf** 03 10 44.7 +1.2
NB2 NORSAR Subarra 151.02 350 PKP **PKPbc** 03 10 48.8 -0.6
comp=Z,162nm,2.5s,baz=18,slow=2.6
NB2 NORSAR Subarra 151.02 350 PKP **PKPbc** 03 10 48.8 -0.6
baz=18,slow=2.6
NOA NORSAR Array B 151.02 350 PKPbc **PKPbc** 03 10 49.4 0.0
comp=Z,10nm,0.7s,baz=13,slow=4.1,SNR=36
NB000 NORSAR Array S 151.09 351 **PKPdf** 03 10 45.6 +2.0
GHAJ Ghor Haditha 151.19 276 PKPdf **PKPdf** 03 10 45.2 +0.5
NAO01 NORSAR Array S 151.25 350 PKPdf **PKPdf** 03 10 45.4 +1.5
NC602 NORSAR Array S 151.26 350 PKPdf **PKPdf** 03 10 45.4 +1.5
MNK Minsk 151.39 327 *i* PKiKP **PKPdf** 03 10 44.5 +0.2
MNK *i* 03 14 28.6
MNK *i* PPP PPP 03 17 51.6
MNK *i* 03 17 52.4
MNK *i* SS SS 03 33 51.6 +0.4
MNK *i* SSS SSS 03 39 33.1
MNK pmax pmax
comp=E,4.0nm,1.5s
MNK pmax pmax
comp=Z,68nm,1.5s
MNK pmax pmax
comp=N,18nm,1.0s
MNK Minsk 151.39 327 *i* PKP **PKPdf** 03 10 44.6 +0.3
comp=E,4.0nm,1.5s
MNK *i* PKP **PKPdf** 03 10 44.6 +0.3
comp=N,18nm,1.1s,baz=52
MNK *i* PKP **PKPbc** 03 10 44.9 -5.4
comp=Z,68nm,1.5s
MNK *i* SKP 03 14 18.1
MNK *i* PKS **PKSdf** 03 14 19.7 +1.1
MNK *i* PP **PP** 03 14 28.6 -0.9
MNK *i* PPP PPP 03 17 51.6
MNK *i* SKS **SKSdf** 03 17 52.4 +3.3
MNK *i* SKKS **SKKSdf** 03 26 42.0 +3.1
MNK *i* SS **SS** 03 33 51.7 +0.5
MNK *i* SSS SSS 03 39 33.2
MNK *i* LQ LQ 04 10 54.4
MNK *i* LR LR 04 18 12.0
MNK *i* LRM MLR 04 20 13.2
comp=N,92nm,28.4s
MNK *i* LRM MLR 04 20 24.8
comp=E,25nm,14.2s
MNK *i* LRM MLR 04 20 48.0
comp=Z,299nm,21.9s
ISAL Salakas 151.46 330 *e*P **PKiKP** 03 10 51.7 +0.8
NACGM Naroch 151.62 329 *i* PKP **PKiKP** 03 10 51.2 0.0
BNN Bunyan 151.63 292 PKPdf **PKPdf** 03 10 45.8 +0.5
SIM Simferopol' 152.06 305 *de*PKiKP **PKPbc** 03 10 51.1 -1.1
SIM pmax pmax
comp=Z,24nm,0.7s
PABE Paberze 152.38 332 *e*P **PKPbc** 03 10 52.2 -0.3
AKASG Malin Array Be 152.89 320 PKPbc **PKPbc** 03 10 53.9 0.0
comp=Z,3.1nm,0.4s,baz=51,slow=2.4,SNR=29
AKASG Malin Array Be 152.89 320 PKiKP **PKPdf** 03 10 47.5 +0.9
AKASG Malin Array Be 152.89 320 PKPdf **PKPdf** 03 10 47.5 +0.9
LIC Lamto 152.89 166 *e*P **PKPbc** 03 10 54.8 -0.2
comp=Z,61nm,1.5s
KIC Kosan Boka 153.08 166 *e*P **PKiKP** 03 10 57.1 +1.5
comp=Z,48nm,1.4s
ILGA Ilgaz 153.09 297 PKPdf **PKPdf** 03 10 47.7 +0.1
BR131 Keskin Array S 153.29 294 PKiKP **PKPdf** 03 10 48.1 +0.3
BR131 Keskin Array S 153.29 294 PKPdf **PKPdf** 03 10 48.1 +0.3
BRTR Keskin Array B 153.29 294 PKPbc **PKPbc** 03 10 55.0 -0.4
comp=Z,8.1nm,0.9s,baz=134,slow=3.6,SNR=14
BRTR Keskin Array B 153.29 294 PKiKP **PKPdf** 03 10 48.3 +0.5
BRTR Keskin Array B 153.29 294 PKPdf **PKPdf** 03 10 48.3 +0.5
TIC Toumodi 153.30 165 *e*P **PKiKP** 03 10 56.6 +0.5
DBIC Dimbokro 153.36 166 PKPbc **PKiKP** 03 10 56.4 +0.2
comp=Z,3.9nm,0.8s,baz=210,slow=5.2,SNR=4.5
DBIC Dimbokro 153.36 166 PKiKP **PKPdf** 03 10 47.7 -0.7
DBIC Dimbokro 153.36 166 PKPdf **PKPdf** 03 10 47.7 -0.7
CSS Mathiatis 153.57 284 PKPdf **PKPdf** 03 10 48.7 +0.5
SUW Suwalki 153.77 330 *e*PKPbc **PKiKP** 03 10 56.2 +0.5
SUW Suwalki 153.77 330 *e*P **PKiKP** 03 10 56.8 +1.0
SUW Suwalki 153.77 330 PKiKP **PKPdf** 03 10 48.9 +1.1
SUW Suwalki 153.77 330 PKPdf **PKPdf** 03 10 48.9 +1.1
ANTO Ankara 153.93 295 PKiKP **PKPdf** 03 10 48.7 +0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANTO	Ankara	153.93	295	PKPdf	PKPdf	03 10 48.7	+0.1
CRVS	Cervenica-Dubn	158.03	323	ePKP2	PKPab	03 11 27.3	+0.1
KSP	Ksiaz	158.92	333	ePKPab	PKPab	03 11 30.7	-0.2
CHVC	Chvalec	159.22	333	ePKPAB	PKPab	03 11 31.5	-0.7
DPC	Dobruska-Polom	159.31	332	ePKP2	PKPab	03 11 32.5	-0.1
DPC	Dobruska-Polom	159.31	332	ePKPAB	PKPab	03 11 32.5	-0.1
KRLC	Kraliky	159.34	331	ePKP2	PKPab	03 11 31.4	-1.4
KRLC	Kraliky	159.34	331	ePKPAB	PKPab	03 11 31.4	-1.4
VYHS	Vyhne	159.60	325	ePKP2	PKPab	03 11 33.9	-0.1
CLL	Collm	159.66	339	e(PKPdf)	PKPdf	03 11 00.0	+4.6
CLL				i PKPab	PKPab	03 11 32.9	-1.1
	comp=Z,13nm,1.0s						
CLL				esPKPab	pPKPab	03 11 41.0	-1.7
CLL				ePP	PP	03 15 13.0	-2.3
CLL				ePPP	PPP	03 19 00.0	
CLL				ePSKS		03 25 42.0	
CLL				ePPS	PPS	03 28 30.0	
CLL				e		03 31 53.0	
CLL				e		03 32 54.0	
CLL				eSS	SS	03 35 12.0	-7.9
CLL				ePSS	PSS	03 36 12.0	
CLL				e		03 37 30.0	
CLL				eSSS	SSS	03 41 30.0	
CLL				ePSSrev		03 43 24.0	
CLL				eSSSS		03 45 36.0	
CLL				Lm	MLR	04 31 00.0	
	comp=Z,200nm,19.2s						
CLL	Collm	159.66	339	PKIKP	PKPdf	03 10 56.4	+1.0
CLL	Collm	159.66	339	PKPdf	PKPdf	03 10 56.4	+1.0
BRG	Berggiesshubel	159.73	337	P	PKPab	03 11 41.5	+7.1
BRG				Amp		03 11 43.0	
	comp=Z,12nm,1.2s						
PVCC	Panska Ves	159.81	335	ePKP2	PKPab	03 11 34.6	-0.1
PVCC	Panska Ves	159.81	335	ePKPAB	PKPab	03 11 34.6	-0.1
PRU	Pruhonice	160.27	335	ePKP2	PKPab	03 11 36.8	0.0
PRU	Pruhonice	160.27	335	ePKPAB	PKPab	03 11 36.8	0.0
TORD	Torodi Ar. Bea	160.47	180	PKP	PKPdf	03 10 57.7	+0.2
	comp=Z,2.1nm,1.0s,baz=142,slow=5.4,SNR=3.5						
TORD				PKPab	PKPab	03 11 38.2	-0.2
	comp=Z,2.1nm,0.9s,baz=173,slow=3.1,SNR=5.0						
TORD	Torodi Ar. Bea	160.47	180		PKPab	03 11 38.7	+0.3
NKC	Novy Kostel	160.77	338	ePKP2	PKPab	03 11 38.8	-0.2
NKC	Novy Kostel	160.77	338	ePKPAB	PKPab	03 11 38.8	-0.2
CKRC	Cesky Krumlov	161.32	333	ePKPDF	PKPdf	03 10 57.6	+0.2
CKRC				ePKPAB	PKPab	03 11 40.2	-1.2
KHC	Kasperske Hory	161.33	335	ePKIKP	PKPdf	03 10 57.2	-0.2
KHC				e		03 11 41.0	
KHC	Kasperske Hory	161.33	335	ePKPDF	PKPdf	03 10 57.2	-0.2
KHC				ePKPAB	PKPab	03 11 41.0	-0.5
CONA	Conrad Observa	161.38	329	eP	PKPab	03 11 42.1	+0.3
	comp=Z,6.7nm,1.0s						
GERES	GERESS Array B	161.53	334	PKPab	PKPab	03 11 42.1	-0.3
	comp=Z,1.6nm,0.7s,baz=20,slow=4.4,SNR=7.5						
GRF	Grafenberg Arr	161.62	340	ePKPab	PKPab	03 11 42.8	+0.2
	baz=36,slow=4.0						
ARSA	Arzberg	162.04	328	eP	PKPab	03 11 43.7	-0.9
	comp=Z,3.3nm,1.0s						
MOA	Molln	162.12	331	eP	PKPab	03 11 44.9	0.0
	comp=Z,5.4nm,1.1s						
WATA	Walderalm	163.57	335	eP	PKPab	03 11 49.5	-2.0
	comp=Z,5.7nm,1.0s						
WTTA	Wattenberg	163.61	335	i P	PKPab	03 11 51.7	0.0
	comp=Z,4.5nm,0.9s						
ABTA	Abfaltersbach	163.71	332	eP	PKPab	03 11 50.8	-1.2
	comp=Z,9.8nm,1.6s						
RETA	Reutte	163.71	337	eP	PKPab	03 11 52.3	+0.3
	comp=Z,7.5nm,0.9s						
MOTA	Moosalm	163.72	336	eP	PKPab	03 11 52.1	0.0
	comp=Z,11nm,1.2s						
SQTA	Sankt Quirin	163.79	336	eP	PKPab	03 11 52.5	+0.1
	comp=Z,5.9nm,0.8s						
FETA	Feichten	164.13	336	eP	PKPab	03 11 54.2	+0.3
	comp=Z,13nm,1.2s						
DAVA	Damuels	164.17	339	i P	PKPab	03 11 54.4	+0.3
	comp=Z,8.0nm,0.9s						
ESDC	Sonseca Array	171.80	31	PKP	PKPdf	03 11 06.5	+0.8
	comp=Z,0.3nm,0.3s,baz=335,slow=0.8,SNR=4.8						
ESDC				PKPab	PKPab	03 12 27.6	-0.3
	comp=Z,0.7nm,1.1s,baz=320,slow=5.0,SNR=2.1						
ESDC	Sonseca Array	171.80	31		PKPdf	03 11 06.2	+0.4

IDC 08 02:51:58.7±0.8, 5°.18S×103°.66E, h0km, mb4.6/21, mb1 4.6/22, mb1mx4.4/49, mbtmp4.6/22, ML4.2/1, Error ellipse: s-maj=28.0km s-min=13.4km az=49.0
DJA 08 02:52:03.4±0.3, 6°S±3°×10°4E±°, h62km±4km, M4.6/20, mB5.9/1, mb4.5/14, MLv4.6/20, Mw(mB)5.5/1
NEIC 08 02:52:05.8±0.9, 5°.6S±0°.2×104°.0E±0°.1, h72km±9km, mb4.8/25, Error ellipse: s-maj=26.8km s-min=11.9km az=207.0
ISC 08 02:52:02.8±1.0, 5°.84S±0°.07×103°.84E±0°.05, h59km±8km, n115, σ1s.12/111, mb4.7/41, Southern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KASI	Kota Agung	0.73	64	P	Pn	02 52 17.0	-0.3
KASI				S	Sn	02 52 27.4	-0.5
LWLI	Liwa	0.85	15	P	Pn	02 52 19.4	+0.4
LWLI				S	Sn	02 52 31.0	+0.2
MDSI	Maura Dua	1.39	14	P	Pn	02 52 27.1	+1.1
BLSI	Bandar Lampung	1.48	72	P	Pn	02 52 27.7	+0.5
BLSI				S	Sn	02 52 47.2	+1.7
EGSI	Enggano, Bengk	1.63	287	P	Pn	02 52 29.9	+0.7
EGSI				S	Sn	02 52 49.3	+0.1
LHSI	Lahat	2.02	351	P	Pn	02 52 36.7	+2.1
SBJI	Serang	2.30	97	P	Pn	02 52 38.9	+0.6
KSI	Kapahiang	2.50	330	P	Pn	02 52 42.6	+1.4
KSI				S	Sn	02 53 11.6	+1.0
UBSI	University, Be	2.59	323	P	Pn	02 52 43.9	+1.6
UBSI				S	Sn	02 53 13.3	+0.7
SKJI	Sukabumi	2.94	113	P	Pn	02 52 48.6	+1.5
DBJI	Dramaga	2.98	104	P	Pn	02 52 50.3	+2.7
CBJI	Citeko	3.05	101	P	Pn	02 52 51.9	+3.3
MASI	Maura Aman, Be	3.12	329	P	Pn	02 52 51.2	+1.6
MASI				S	Sn	02 53 27.1	+1.4
CNJI	Cibinong	3.58	114	P	Pn	02 52 57.3	+1.5
LEM	Lembang	3.88	105	Pn	Pn	02 53 05.2	+5.1
	12nm,0.3s,baz=196,slow=18,SNR=4.2						
LEM				Sn	Sn	02 53 44.9	+0.3
	11nm,0.3s,baz=298,slow=22,SNR=3.8						
CISI	Cisompet, Garu	4.30	114		Pn	02 53 06.9	+1.1
CISI	Cisompet, Garu	4.30	114	P	Pn	02 53 06.6	+0.8
PPBI	Pangkal Pinang	4.31	32	P	Pn	02 53 07.2	+1.3
KRJI	Kerinci	4.42	327	P	Pn	02 53 07.0	-0.4
TPI	Tanjungpandan	4.88	51	P	Pn	02 53 15.8	+2.1
CMJI	Cimerak	4.97	113	P	Pn	02 53 15.7	+0.8
KPJI	Karang Pucung	5.27	107	P	Pn	02 53 21.7	+2.7
	0.3nm34nm,1.2s						
DSRI	Dabo	5.38	8	P	Pn	02 53 21.6	+1.1
	0.2nm49nm,0.6s						
PDSI	Padang	5.94	325	P	Pn	02 53 27.6	-0.7
UGM	Wanagama	6.95	108	P	Pn	02 53 43.7	+1.6
	0.9nm159nm,2.1s						
PCJI	Pacitan	7.65	108	P	Pn	02 53 53.2	+1.6
	0.4nm65nm,1.7s						
PWJI	Pagerwojo	8.20	106	P	Pn	02 53 59.5	+0.3
	40nm,1.8s						
GSI	Gunungsitoli	9.46	318	P	Pn	02 54 14.4	-2.0
	6μm36nm,1.0s						
JAGI	Jajag, Banyuwa	10.56	105		Pn	02 54 32.6	+1.1
JAGI	Jajag, Banyuwa	10.56	105	P	Pn	02 54 30.6	-0.9
	66nm,0.9s						
SRBI	Singaraja	11.51	102	P	Pn	02 54 45.7	+1.3
	62nm,1.3s						
PLAI	Plampang	14.14	103	P	Pn	02 55 18.9	-1.3
WBSI	Waikabubak, Su	15.86	105	P	Pn	02 55 43.3	+0.8
	42nm,0.9s						
TTSI	Tana Toraja	16.17	81	P	Pn	02 55 47.5	+1.1
	18nm,0.4s						
BKSI	Bulukumba	16.21	89	P	P	02 55 48.7	-0.4
	22nm,1.0s						
BNSI	Bone	16.27	86	P	Pn	02 55 48.0	+0.4
	21nm,1.3s						
EDFI	Ende, Flores	17.94	100	P	P	02 56 07.1	-1.2
	12nm,0.6s						
EDFI				S	Pn	02 56 06.6	-1.8
	12nm,0.6s						
TOLI2	Tolitoli	18.27	68	P	P	02 56 11.7	-0.2
BATI	Baumata	20.10	104	P	P	02 56 32.5	+0.7
	50nm,0.5s,baz=279,slow=3.8,SNR=7.3						
BATI				S	S	03 00 11.6	-3.0
	14nm,0.4s,baz=280,slow=11,SNR=2.2						
SOEI	Soe	20.61	102	P	P	02 56 38.1	+0.6
SOEI				IAmb	IAmb	02 56 50.7	
	comp=Z,51nm,0.9s						
SOEI	Soe	20.61	102	P	P	02 56 36.9	-0.6
	comp=Z,69nm,0.9s						
FITZ	Fitzroy Crossi	24.52	122	P	P	02 57 24.9	+7.9
	comp=Z,5.6nm,0.9s,baz=308,slow=6.3,SNR=1.7						
CMAR	Chiang Mai Arr	24.62	349	P	P	02 57 16.6	-1.2
	comp=Z,5.9nm,0.6s,baz=181,slow=8.7,SNR=29						
CMMT	Chiang Mai	24.97	349	P	P	02 57 19.9	-1.1
	comp=Z,7.9nm,0.8s						
CHTO	Chiang Mai	24.97	349	P	P	02 57 19.9	-1.1
CHTO	Chiang Mai	24.97	349	P	P	02 57 19.9	-1.1
H01W3	Cape Leeuwin H	30.43	163	T	T	03 30 27.2	
	baz=340,slow=76						
H01W2	Cape Leeuwin H	30.44	163	T	T	03 30 36.8	
	baz=340,slow=76						
H01W1	Cape Leeuwin H	30.44	163	T	T	03 30 38.0	
	baz=340,slow=76						
H08S2	Diego Garcia H	31.18	265	T	T	03 31 55.9	
	baz=92						
H08S3	Diego Garcia H	31.19	265	T	T	03 31 55.9	
	baz=92						
H08S1	Diego Carcia H	31.20	265	T	T	03 31 49.5	
	baz=92						
WRA	Warramunga Arr	32.78	118	P	P	02 58 31.8	-0.1
	comp=Z,1.9nm,0.8s,baz=291,slow=9.6,SNR=4.0						
WRA	Warramunga Arr	32.78	118	P	P	02 58 37.8	+7.1
	comp=Z,1.3nm,0.4s,baz=294,slow=10,SNR=9.0						
WRA	Warramunga Arr	32.78	118	P	P	02 58 31.2	+0.5
ASPA	Alice Springs	33.92	125	P	P	02 58 50.0	+10
	baz=42						
ASAR	Alice Springs	33.92	125	P	P	02 58 41.6	-0.5
	comp=Z,0.9nm,0.6s,baz=295,slow=7.3,SNR=2.8						
ASAR	Alice Springs	33.92	125	P	P	02 58 50.0	+9.4
	comp=Z,1.9nm,0.3s,baz=301,slow=7.9,SNR=19						
ODAN	Odare	36.20	335	eP	P	02 58 59.6	-0.7
	comp=Z,15nm,0.5s						
RAMN	Ramite	36.62	334	eP	P	02 59 03.8	-0.1
	comp=Z,13nm,0.3s						
JIRN	Jiri	37.42	334	eP	P	02 59 09.5	-1.3
	comp=Z,12nm,0.4s						
PKI	Pulchoki	37.69	333	eP	P	02 59 12.4	-0.6
	comp=Z,4.4nm,0.3s						
PKIN	Phulchoki	37.70	333	eP	P	02 59 12.6	-0.5
	comp=Z,6.8nm,0.4s						
KKN	Kakani	37.94	333	eP	P	02 59 14.6	-0.4
	comp=Z,13nm,0.4s						
KOLN	Koldanda	38.71	331	eP	P	02 59 21.9	+0.4
	comp=Z,4.4nm,0.3s						
DANN	Dangsing	39.12	331	eP	P	02 59 25.2	+0.2
	comp=Z,20nm,0.3s						
PYUN	Piuthan	39.29	330	eP	P	02 59 27.2	+0.9
	comp=Z,11nm,0.4s						
XAN	Xi'an	39.95	7	P	P	02 59 30.7	-0.9
XAN				pP	pP	02 59 37.1	-9.0
XAN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
STKA	Stephens Creek	43.75	131	P	P	03 00 04.4	+0.1
	comp=Z,5.5nm,0.6s,baz=309,slow=7.3,SNR=11						
STKA	Stephens Creek	43.75	131	P	P	03 00 11.6	+8.9
	comp=Z,1.2nm,0.3s,baz=315,slow=6.8,SNR=10						
STKA	Stephens Creek	43.75	131	P	P	03 00 04.4	+1.7
KSRS	Korea Array	48.58	26	P	P	03 00 40.9	+0.5
	comp=Z,6.6nm,0.7s,baz=221,slow=7.5,SNR=10						
NIL	Nilore	48.80	326	P	P	03 00 42.0	-0.3
MJAR	Matsushiro Arr	53.03	35	P	P	03 01 12.8	-1.1
	comp=Z,2.6nm,0.7s,baz=209,slow=8.4,SNR=5.4						
MJAR	Matsushiro Arr	53.03	35	P	P	03 01 12.9	-1.1
SONM	Songino Array	53.49	2	P	P	03 01 17.6	+0.4
	comp=Z,7.9nm,0.7s,baz=178,slow=9.0,SNR=44						
SONM				PcP	PcP	03 02 23.8	+0.3
	comp=Z,1.5nm,0.3s,baz=196,slow=4.2,SNR=5.9						
SONM	Songino Array	53.49	2	P	P	03 01 16.8	-0.5
SONM				IAmb	IAmb	03 01 18.8	
	comp=Z,6.3nm,0.8s						
KDJ	Kajisay	53.57	335	P	P	03 01 16.6	-1.4
GAR	Garm	54.34	328	P	P	03 01 22.7	-0.9
GAR				IAmb	IAmb	03 01 24.6	
	comp=Z,12nm,0.7s						
CHGR	Chuyangaron	54.71	327	P	P	03 01 25.2	-1.1
CHGR				IAmb	IAmb	03 01 26.4	
	comp=Z,16nm,0.9s						
BTK	Batken	54.87	329	P	P	03 01 27.1	-0.3
BTK				IAmb	IAmb	03 01 28.6	
	comp=Z,10.0nm,0.6s						
MK31	Makanchi Array	55.78	342	P	P	03 01 33.4	-0.3
MK31				IAmb	IAmb	03 01 34.4	
	comp=Z,5.2nm,0.7s						
MKAR	Makanchi Array	55.78	342	P	P	03 01 33.6	-0.1
	comp=Z,6.7nm,0.5s,baz=148,slow=8.7,SNR=74						
MKAR	Makanchi Array	55.78	342	P	P	03 01 33.5	-0.2
MAKZ	Makanchi	55.89	342	P	P	03 01 34.1	-0.4
USA0B	Ussuriysk Arra	55.90	24	P	P	03 01 33.8	-0.7
USRK	Ussuriysk Ar.	55.90	24	P	P	03 01 34.9	+0.4
	comp=Z,18nm,0.6s,baz=210,slow=5.6,SNR=37						
USRK	Ussuriysk Ar.	55.90	24	P	P	03 01 33.9	-0.6
KKAR	Karatay Array	57.32	331	P	P	03 01 44.7	-0.1
KLR	Kul'dur	60.00	21	P	P	03 02 03.0	-0.2
	comp=Z,9.2nm,0.6s,baz=222,slow=5.7,SNR=31						
ASAJ	Asahikawa	60.75	31	P	P	03 02 08.0	-0.5
	comp=Z,4.3nm,0.3s,baz=237,slow=9.7,SNR=3.3						
JKA	Kamikawa-asahi	60.75	31	P	P	03 02 07.8	-0.6
JKA				IAmb	IAmb	03 02 09.2	
	comp=Z,14nm,1.0s						
GEYT	Alibeck	60.83	320	P	P	03 02 10.1	+0.9
	comp=Z,8.4nm,0.5s,baz=64,slow=6.8,SNR=4.4						
ZAA0	Zalesovo Array	61.68	347	P	P	03 02 14.2	-0.3
ZALV	Zalesovo Beam	61.68	347	P	P	03 02 14.0	-0.5
	comp=Z,11nm,0.5s,baz=156,slow=4.7,SNR=33						
ZALV	Zalesovo Beam	61.68	347	P	P	03 02 14.2	-0.3
BRVK	Borovoye	65.18	338	P	P	03 02 37.0	-0.6
BRVK				IAmb	IAmb	03 02 38.0	
	comp=Z,5.9nm,0.6s						
ABKAR	Akbulak array	66.84	330	P	P	03 02 48.4	+0.1
ARU	Arti	72.25	336	P	P	03 03 22.1	+0.5
ARU				IAmb	IAmb	03 03 23.3	
	comp=Z,11nm,1.1s						
KBZ	Khabaz	73.70	319	P	P	03 03 31.4	+1.0
	comp=Z,2.4nm,0.8s,baz=136,slow=2.1,SNR=4.8						
NRIK	Noril'sk	75.85	354	P	P	03 03 41.4	-0.9
	comp=Z,2.9nm,0.4s,baz=105,slow=3.8,SNR=4.4						
NRIK	Noril'sk	75.85	354	P	P	03 03 41.0	-1.4
NRIK				IAmb	IAmb	03 03 42.3	
	comp=Z,4.0nm,0.5s						
SEY	Seymchan	77.79	21	P	P	03 03 53.0	-0.4
	comp=Z,1.7nm,0.6s,baz=232,slow=6.4,SNR=4.1						
BRTR	Keskin Array B	78.72	312	P	P	03 03 59.8	+0.5
	comp=Z,2.3nm,0.7s,baz=120,slow=7.3,SNR=6.0						
BRTR	Keskin Array B	78.72	312	P	P	03 04 00.0	+0.7
AKASG	Malin Array Be	84.85	322	P	P	03 04 31.4	+0.4
	comp=Z,2.8nm,0.7s,baz=80,slow=4.6,SNR=9.3						
BURAR	Bucovina Array	86.66	318	P	P	03 04 41.2	+1.0
BURAR				IAmb	IAmb	03 04 43.6	
	comp=Z,3.9nm,0.7s						
BUR08	Bucovina Ar. S	86.67	318	P	P	03 04 40.9	+0.6
BUR08				IAmb	IAmb	03 04 44.5	
	comp=Z,3.6nm,0.9s						
KOLS	Kolonicke sedl	88.84	319	eP	P	03 04 53.2	+2.7
FINES	FINESS Array B	89.27	332	P	P	03 04 53.2	+1.0
	comp=Z,2.3nm,0.5s,baz=117,slow=5.7,SNR=22						
ARCES	ARCESS Array B	91.37	340	P	P	03 05 02.3	+0.5
	comp=Z,1.4nm,0.7s,baz=90,slow=2.4,SNR=5.9						
PDAR	Pinedale Array	132.85	34	PKP	PKiKP	03 11 13.6	+0.5
	comp=Z,0.3nm,0.5s,baz=140,slow=0.6,SNR=2.9						
PDAR	Pinedale Array	132.85	34		PKPdf	03 11 10.7	-1.3
TXAR	Lajitas Array	145.06	45	PKP	PKPdf	03 11 35.6	+1.2
	comp=Z,5.9nm,0.7s,baz=265,slow=1.2,SNR=69						
TXAR	Lajitas Array	145.06	45		PKPdf	03 11 35.2	+0.8

IDC 08 02:54:16.2±3.2, 32°.81S×178°.49W, h0km, mb4.2/2, mb1 4.5/3, mb1mx3.8/39, mbtmp4.3/3, ML4.0/1, Error ellipse: s-maj=77.1km s-min=37.8km az=115.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.51	212	Pn	Pn	02 55 54.4	+1.2
	2.9nm,0.3s,baz=131,slow=20,SNR=0.8						
URZ				Sn	Sn	02 57 07.4	-0.8
	baz=300,slow=20,SNR=1.2						
ASAR	Alice Springs	42.62	270	P	P	03 02 14.3	-0.1
	1.7nm,0.6s,baz=108,slow=7.8,SNR=1.0						
WRA	Warramunga Arr	43.83	275	P	P	03 02 24.2	-0.1
	3.4nm,0.7s,baz=118,slow=7.8,SNR=5.2						
FINES	FINESS Array B	147.24	338	PKPbc	PKPbc	03 13 59.7	-1.0
	8.3nm,0.9s,baz=41,slow=3.0,SNR=4.2						

IDC 08 02:54:43.0±3.4, 32°.76S×178°.39W, h0km, mb4.2/2, mb1 4.5/3, mb1mx3.9/38, mbtmp4.3/3, ML3.8/1, Error ellipse: s-maj=79.8km s-min=48.1km az=117.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.60	212	Pn	Pn	02 56 21.7	+0.5
	2.0nm,0.3s,baz=273,slow=3.7,SNR=6.2						
URZ				Sn	Sn	02 57 32.4	-4.7
	4.7nm,0.3s,baz=308,slow=20,SNR=1.9						
ASAR	Alice Springs	42.70	270	P	P	03 02 41.9	0.0
	1.5nm,0.5s,baz=109,slow=7.3,SNR=1.9						
WRA	Warramunga Arr	43.91	275	P	P	03 02 51.2	-0.4
	3.9nm,0.7s,baz=118,slow=7.7,SNR=4.1						
FINES	FINESS Array B	147.22	338	PKPbc	PKPbc	03 14 26.6	-0.8
	5.9nm,0.8s,baz=64,slow=3.2,SNR=3.4						

IDC 08 03:01:23.3±3.2, 32°.69S×178°.67W, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.8/31, mbtmp3.8/4, ML3.4/1, Error ellipse: s-maj=70.4km s-min=37.2km az=115.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.53	211	Pn	Pn	03 03 00.8	+0.2
	0.8nm,0.3s,baz=120,slow=20,SNR=1.6						
URZ				Sn	Sn	03 04 15.4	-0.5
	3.1nm,0.3s,baz=260,slow=23,SNR=7.4						
STKA	Stephens Creek	33.47	260	P	P	03 08 04.0	-0.2
	1.8nm,0.6s,baz=45,slow=8.6,SNR=3.9						
ASAR	Alice Springs	42.47	270	P	P	03 09 20.3	0.0
	0.7nm,0.6s,baz=108,slow=7.6,SNR=7.5						
WRA	Warramunga Arr	43.67	275	P	P	03 09 29.9	-0.1
	0.5nm,0.5s,baz=113,slow=7.2,SNR=6.0						
FINES	FINESS Array B	147.08	338	PKPbc	PKPbc	03 21 06.5	-0.8
	2.3nm,0.9s,baz=72,slow=2.2,SNR=4.2						

IDC 08 03:03:11.7±0.8, 22°.90S×64°.29W, h0km, mb4.1/5, mb1 4.3/9, mb1mx4.1/22, mbtmp4.0/9, ML4.1/4, MS3.0/3, Ms1 3.1/3, ms1mx3.0/19, Error ellipse: s-maj=29.6km s-min=16.6km az=36.0
SJA 08 03:03:14±1.9, 22°.90S±0°.08×64°.20W±0°.07, h36km±1km, Md3.9, mb4.6/39(NEIC), Error ellipse: s-maj=11.4km s-min=8.7km az=182.0
NEIC 08 03:03:15.0±1.5, 22°.87S±0°.08×64°.23W±0°.07, h14km±4km, Error ellipse: s-maj=11.9km s-min=8.6km az=173.0
VAO 08 03:03:18.0±0.2, 22°.53S×64°.03W, h10km, mb4.3
ISC 08 03:03:14.6±0.5, 22°.71S±0°.05×64°.31W±0°.05, h10km, n118, σ1s.42/123, mb4.7/25, Salta Province

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AF01	San Pedro de A	3.58	265		Pn	03 04 12.2	+1.7
AF01				Sn	Sn	03 04 53.9	+0.9
LVC	Limon Verde	4.25	271		Pn	03 04 20.6	+0.9
LVC	Limon Verde	4.25	271	eP	Pn	03 04 25.7	+5.9
PB15	IPOC Station P	4.78	263		Pn	03 04 28.3	+1.3
PB06	IPOC Station P	4.86	269		Pn	03 04 30.0	+2.0
PB01	IPOC Station P	5.09	288	Pn	Pn	03 04 32.6	+1.6
PB08	IPOC Station P	5.19	299		Pn	03 04 36.1	+3.4
PB07	IPOC Station P	5.26	280		Pn	03 04 35.7	+2.2
PB04	IPOC Station P	5.41	273	Pn	Pn	03 04 36.1	+0.5
PB11	IPOC Station P	5.79	300	Pn	Pn	03 04 44.3	+3.5
TA01	Diego Aracena	5.87	290		Pn	03 04 43.9	+2.3
PB14	IPOC Station P	5.90	250		Pn	03 04 43.6	+1.2
PSGCX	Pisagua	6.25	299	Pn	Pn	03 04 48.9	+1.9
CPUP	Villa Florida	7.30	121	Pn	Pn	03 04 58.2	-3.2
	3.0nm,0.3s,baz=311,slow=11,SNR=52						
CPUP				Pg	Pb	03 05 23.9	+2.4
	3.6nm,0.3s,baz=312,slow=11,SNR=7.8						
CPUP				Lg	Lg	03 06 59.8	
	2.0nm,0.3s,baz=30,slow=20,SNR=1.6						
CPUP				LR	LR	03 08 22.6	
	comp=Z,131nm,20.5s,baz=314,slow=43						
CPUP	Villa Florida	7.30	121	Pn	Pn	03 04 58.5	-2.9
LPAZ	La Paz	7.34	330	Pn	Pn	03 05 04.2	+1.7
	0.7nm,0.3s,baz=111,slow=8.6,SNR=15						
LPAZ				Sn	Sn	03 06 29.2	+3.0
	2.7nm,0.3s,baz=246,slow=18,SNR=5.7						
LPAZ				LR	LR	03 07 41.0	
	comp=Z,35nm,20.9s,baz=100,slow=36						
LPAZ	La Paz	7.34	330	Pn	Pn	03 05 03.9	+1.4
LPAZ	La Paz	7.34	330	eP	Pn	03 05 05.0	+2.6
LPAZ				eS	Sn	03 06 29.4	+3.3
AQDB	Aquidauana	8.31	76	Pn	Pn	03 05 15.1	-0.2
AQDB	Aquidauana	8.31	76	eP	Pn	03 05 14.5	-0.8
AQDB				eS	Sn	03 06 47.0	-2.3
PTLB	Pontes e Lacer	8.72	35	eP	Pn	03 05 22.1	+1.2
PTLB				eS	Sn	03 06 56.9	-2.5
ITQB	Itaqui	9.78	137	eP	Pn	03 05 38.3	+3.0
ITQB				eS	Sn	03 07 28.8	+3.6
PP1B	Ponte de Pedra	10.21	62	eP	Pn	03 05 40.7	-0.6
VILB	Vilhena	10.46	23	eP	Pn	03 05 45.4	+0.5
SALV	Santo Antonio	10.58	52	eP	Pn	03 05 45.3	-1.1
TRCB	Terra Rica	10.78	93		Pn	03 05 46.7	-2.4
PTGB	Pitanga	11.39	102	eP	Pn	03 05 57.5	-0.1
PCMB	Pacaembu	12.14	87	eP	Pn	03 06 04.8	-2.9
CPSB	Cacapava Do Su	12.38	131	eP	Pn	03 06 14.6	+3.7
ETMB	Extrema	12.95	352	eP	Pn	03 06 19.1	+0.2
PLTB	Pedras Altas	13.10	136	eP	Pn	03 06 23.6	+2.7
ITRB	Iturama	13.35	80	eP	Pn	03 06 24.6	+0.3
FRTB	Fartura	13.59	96	eP	Pn	03 06 27.3	-0.3
ARAG	Araguaiana, MT	13.70	62	eP	Pn	03 06 26.5	-2.6
SAML	Samuel	13.73	5		Pn	03 06 28.9	-0.6
SAML	Samuel	13.73	5	eP	Pn	03 06 28.5	-0.9
CNLB	Canela	13.76	121	eP	Pn	03 06 31.7	+1.8
CLDB	Colider	14.31	36	eP	Pn	03 06 36.1	-1.3
BB19B	Bebedouro	14.74	87	eP	Pn	03 06 42.2	-1.2
TER01	Tubaro-SC	14.86	116	eP	Pn	03 06 46.4	+1.5
TRQA	Tornquist	15.42	173	eP	P	03 06 57.3	+0.4
IPMB	Ipameri, GO	15.81	76	eP	Pn	03 06 57.7	+0.2
VAO	Valinhos	15.99	94	eP	Pn	03 07 00.5	+0.6
SNDB	Serra Nova Dou	16.37	51	eP	Pn	03 07 04.2	-0.5
BDFB	Brasilia	16.91	68	Pn	Pn	03 07 11.0	-0.7
	0.5nm,0.3s,baz=234,slow=14,SNR=5.5						
BDFB				Sn	Sn	03 10 21.8	+1.9
	0.2nm,0.3s,baz=98,slow=17,SNR=1.7						
BDFB	Brasilia	16.91	68	Pn	Pn	03 07 11.8	+0.1
BDFB					Sn	03 10 19.2	-0.7
PARB	Paraibuna	17.21	96	eP	P	03 07 16.3	-0.7
NPGB	Novo Progresso	17.80	30	eP	Pn	03 07 22.6	-0.1
PEXB	Peixe	18.55	58	eP	P	03 07 32.0	+0.4
PLCA	Paso Flores	18.72	195	P	P	03 07 29.7	-3.8
	0.1nm,0.3s,baz=351,slow=13,SNR=1.4						
PLCA				LR	LR	03 15 25.4	
	comp=Z,173nm,20.1s,baz=337,slow=40						
MACA	Manacapuru-AM	19.75	11	eP	P	03 07 45.9	+1.1
DIAM	Diamantina, MG	19.82	81	eP	Pn	03 07 46.4	-0.9
ITTB	Itaituba	20.04	26	eP	P	03 07 48.7	+0.8
DUB01	Friburgo-RJ	20.29	92	eP	Pn	03 07 51.5	-1.2
JANB	Januaria	20.38	72	eP	P	03 07 51.0	-0.7
SDBA	SAO DESIDERIO	21.12	64	eP	P	03 08 00.3	+0.5
SMTB	Santa Maria do	21.15	52	eP	P	03 07 59.9	-0.1
PRPB	Parauapebas	21.59	43	eP	P	03 08 05.5	+0.8
PTGA	Pitinga	22.25	12	P	P	03 08 12.3	+0.4
GUA01	Guaratinga, BA	23.85	80	eP	P	03 08 29.1	+0.9
GDU01	Guandu, BA	25.11	73	eP	P	03 08 39.8	0.0
MCPB	Macapa, AP	25.21	30	eP	P	03 08 42.0	+1.3
BOAV	Boa Vista	25.23	9	eP	P	03 08 42.2	+1.4
NBPS	Pedro II - PI	28.65	54	eP	P	03 09 12.1	+0.3
V55A	Taylorsville	60.41	344	P	P	03 13 23.5	-0.7
FPAL	Fort Paine	60.43	340	P	P	03 13 23.3	-1.1
FPAL				IAmb	IAmb	03 13 28.9	
	comp=Z,5.2nm,0.8s						
X48A	Hartselle	60.82	339	P	P	03 13 25.7	-1.3
TKL	Tuckaleechee C	60.91	342	P	P	03 13 26.6	-1.1
W50A	Signal Mountai	60.95	340	P	P	03 13 27.0	-0.9
W50A				IAmb	IAmb	03 13 27.7	
	comp=Z,6.6nm,0.9s						
V52A	Sevierville	61.03	342	P	P	03 13 27.5	-0.9
V52A				IAmb	IAmb	03 13 28.1	
	comp=Z,7.9nm,0.9s						
SWET	Sewanee	61.16	340	P	P	03 13 28.4	-0.9
U54A	Nelsons Funny	61.19	344	P	P	03 13 29.1	-0.6
WVT	Waverly	62.61	339	P	P	03 13 37.8	-1.3
MCWV	Mont Chateau	63.72	347		S	03 22 20.9	-0.1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBMO	Poplar Bluff	64.10	337	P	P	03 13 48.0	-0.9
PBMO				IAmb	IAmb	03 13 48.8	
	comp=Z,9.4nm,1.1s						
TXAR	Lajitas Array	64.13	322	P	P	03 13 49.1	-0.4
	comp=Z,0.3nm,0.8s,baz=150,slow=11,SNR=3.4						
N49A	Columbus Grove	65.95	344	P	P	03 13 59.5	-1.4
S39A	Bolivar	65.99	335	P	P	03 14 01.1	-0.2
S39A				IAmb	IAmb	03 14 05.6	
	comp=Z,3.4nm,0.7s						
MNTX	Cornudas Mount	66.88	322	P	P	03 14 06.9	-0.2
MSTX	Muleshoe	67.21	326	P	P	03 14 09.2	0.0
121A	Cookes Peak, D	68.87	321		P	03 14 20.1	+0.4
121A				IAmb	IAmb	03 14 26.3	
	comp=Z,6.8nm,0.9s						
G45A	Suttons Bay	70.19	344		P	03 14 26.6	-0.8
SDCO	Great Sand Dun	71.53	327	P	P	03 14 36.4	+0.2
SDCO				IAmb	IAmb	03 14 42.4	
	comp=Z,3.2nm,0.8s						
SMCO	Snowmass	73.37	327	P	P	03 14 47.0	-0.2
SMCO				IAmb	IAmb	03 14 53.7	
	comp=Z,2.8nm,0.7s						
PV01	Paradox Valley	73.42	325	P	P	03 14 47.9	+0.6
PV13	Radium Mtn., P	73.57	325	P	P	03 14 48.5	+0.3
TORD	Torodi Ar. Bea	73.80	68	P	P	03 14 48.8	-0.9
	comp=Z,4.0nm,0.8s,baz=256,slow=6.0,SNR=17						
TORD	Torodi Ar. Bea	73.80	68	P	P	03 14 48.9	-0.9
TORD				IAmb	IAmb	03 14 49.6	
	comp=Z,4.7nm,0.9s						
U15A	North Rim	74.25	321	P	P	03 14 52.6	+0.3
O20A	White River Ci	74.73	327	P	P	03 14 55.2	+0.2
O20A				IAmb	IAmb	03 15 01.3	
	comp=Z,6.3nm,0.9s						
KNB	Kanab	74.96	322	P	P	03 14 56.5	+0.2
KNB				IAmb	IAmb	03 15 03.4	
	comp=Z,8.7nm,1.0s						
SRU	San Rafael Swe	75.17	324	P	P	03 14 57.5	0.0
SRU				IAmb	IAmb	03 15 03.6	
	comp=Z,6.2nm,0.7s						
MTPU	Mount Pierson	75.32	323		P	03 14 58.8	+0.3
MSU	Marysvale	75.65	323	P	P	03 15 00.6	+0.3
JLU	Jordanelle	76.74	325	P	P	03 15 07.0	+0.5
JLU				IAmb	IAmb	03 15 12.9	
	comp=Z,5.0nm,0.6s						
PDAR	Pinedale Array	77.35	328	P	P	03 15 10.1	+0.2
	comp=Z,1.7nm,0.5s,baz=135,slow=7.2,SNR=20						
PDAR	Pinedale Array	77.35	328	P	P	03 15 10.0	+0.2
R11A	Troy Canyon, C	77.47	321	P	P	03 15 10.5	-0.1
SPUT	South Promonto	77.78	325	P	P	03 15 12.8	+0.7
SPUT				IAmb	IAmb	03 15 18.3	
	comp=Z,4.2nm,0.6s						
ULM	Lac du Bonnet	77.84	340	P	P	03 15 10.0	-2.0
	comp=Z,2.9nm,0.8s,baz=150,slow=21,SNR=2.4						
ULM				LR	LR	03 50 34.9	
	comp=Z,274nm,18.9s,baz=264,slow=36						
AHID	Auburn Hatcher	78.12	327	P	P	03 15 13.6	-0.6
AHID				IAmb	IAmb	03 15 20.1	
	comp=Z,6.9nm,0.8s						
LOHW	Long Hollow	78.49	328	P	P	03 15 16.7	+0.6
IMW	Indian Meadow	78.86	328	P	P	03 15 18.9	+0.6
IMW				IAmb	IAmb	03 15 24.5	
	comp=Z,4.5nm,0.7s						
NVAR	Mina Array Bea	79.12	320	P	P	03 15 20.0	+0.2
	comp=Z,0.5nm,0.8s,baz=147,slow=6.0,SNR=5.0						
NVAR	Mina Array Bea	79.12	320	P	P	03 15 20.4	+0.7
YNE	Yellowstone No	79.23	329	P	P	03 15 21.0	+0.8
YNE				IAmb	IAmb	03 15 26.2	
	comp=Z,3.9nm,0.8s						
KVN	Kaiserville	79.41	320	P	P	03 15 20.6	-0.7
KVN				IAmb	IAmb	03 15 27.2	
	comp=Z,3.4nm,0.7s						
YHH	Holmes Hill	79.47	328	P	P	03 15 22.2	+0.6
YHH				IAmb	IAmb	03 15 28.2	
	comp=Z,4.5nm,0.8s						
PNTR	Pine Nut	80.32	320	P	P	03 15 27.0	+0.7
PNTR				IAmb	IAmb	03 15 32.9	
	comp=Z,8.9nm,0.8s						
HLID	Hailey	80.39	326	P	P	03 15 27.2	+0.7
HLID				IAmb	IAmb	03 15 33.2	
	comp=Z,5.3nm,0.7s						
MCMT	McKenzie Canyo	80.48	327	P	P	03 15 27.1	0.0
ASAR	Alice Springs	130.61	202	PKP	PKPdf	03 22 24.5	-2.1
	comp=Z,0.5nm,0.7s,baz=152,slow=2.1,SNR=7.9						
ASAR	Alice Springs	130.61	202		PKPdf	03 22 25.4	-1.2
WRA	Warramunga Arr	133.86	205	PKP	PKPdf	03 22 31.1	-1.7
	comp=Z,0.6nm,0.7s,baz=169,slow=1.9,SNR=7.1						
WRA	Warramunga Arr	133.86	205		PKPdf	03 22 31.3	-1.5
MKAR	Makanchi Array	143.96	40	PKP	PKPab	03 22 47.2	-0.4
	comp=Z,0.8nm,0.7s,baz=292,slow=3.8,SNR=6.7						
MKAR	Makanchi Array	143.96	40		PKPab	03 22 47.4	-0.2
KLR	Kul'dur	150.65	338	PKPbc	PKPbc	03 23 05.8	-0.9
	comp=Z,2.2nm,0.8s,baz=329,slow=7.8,SNR=4.4						

TIF 08 03:10:23.4, 42°.53N×43°.52E, h15km±1km, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.08	319	P	Pg	03 10 26.8	+0.3
ONI				S	Sg	03 10 28.7	+0.1
TKB	Tkibuli	0.43	246	P	Pb	03 10 32.9	+0.2
TKB				S	Sb	03 10 39.3	+0.3
BKRG	Bakuriani	0.77	180	P	Pb	03 10 38.9	+0.3
BKRG				S	Sb	03 10 49.8	+0.8
PNSH	Pansheti	0.81	82	P	Pb	03 10 39.7	+0.3
ABS	Abastumani	0.94	215	S	Sn	03 10 54.9	-0.5
ABS	Abastumani	0.94	215	P	Pg	03 10 41.8	+0.3
AKH	Akhalkalaki	1.12	181	P	Pg	03 10 45.0	0.0
BGD	Bogdanovka	1.27	177	P	Pg	03 10 49.2	+1.4
BGD				S	Sg	03 11 05.7	+1.4
BTNK	Botanikuri	1.27	131	P	Pn	03 10 44.9	-1.8
BTNK				S	Sb	03 11 03.0	-0.3
DMNI	Dmanisi	1.30	157	P	Pb	03 10 47.9	+0.3
DMNI				S	Sg	03 11 05.3	-0.1
DGRG	David-gareji	1.75	127	P	Pg	03 10 57.3	+0.3
DGRG				S	Sg	03 11 23.4	+3.6

MDD 08 03:11:26.0±3.7, 35°.89N×0°.39E, h0km, mb2.8/4, Error ellipse: s-maj=32.0km s-min=31.5km az=0.0, PRXIMO SIN SOLUCIN

ISC 08 03:11:27.8±3.2, 35°.99N±0°.08×0°.3E±0°.2, h14km, n5, σ1.s02/10, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBER	Berja	2.76	290	P	Pn	03 12 10.8	-1.0
	0.4nm,0.2s,SNR=7.9						
EBER				S	Sn	03 12 44.5	-0.5
	0.2nm,0.2s,SNR=7.9						
JBK	JBK	2.90	236	P	Pb	03 12 18.9	-0.5
JBK				S	Sn	03 12 49.8	+1.3
ETOB	Tobarra	3.05	331	P	Pn	03 12 15.9	+0.3
	0.2nm,0.2s,SNR=7.1						
ETOB				S	Sn	03 12 51.1	-0.9
	0.1nm,0.2s,SNR=7.9						
SESP	Santiago Espad	3.14	313	P	Pn	03 12 17.2	+0.3
	0.3nm,0.1s,SNR=7.9						
SESP				S	Sn	03 12 56.0	+1.6
	0.8nm,0.2s,SNR=7.9						
EQES	Quesada	3.28	304	P	Pn	03 12 19.2	+0.4
	0.2nm,0.1s,SNR=7.9						
EQES				S	Sn	03 12 58.3	+0.6
	0.1nm,0.1s,SNR=7.9						

SKO 08 03:13:13.7, 41°.91N×23°.11E, h23km
SOF 08 03:13:13.3, 41°.93N×23°.14E, h16km, MD2.5
IASPEI 08 03:13:13.8±0.9, 41°.93N±0°.02×23°.10E±0°.03, h12km±7km, Error ellipse: s-maj=4.7km s-min=3.0km az=85.7, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009
BEO 08 03:13:15.6±0.3, 41°.96N×23°.02E, h8km±4km, ML1.7/6
THE 08 03:13:16.0, 41°.84N×23°.17E, h2km±20km, ML1.9/5, Error ellipse: s-maj=20.0km s-min=0.9km az=0.0
ATH 08 03:13:16.6, 41°.80N×23°.17E, h7km±2km, ML2.1/4, Error ellipse: s-maj=3.6km s-min=1.9km az=168.0

ISC 08 03:13:14.2±0.9, 41°.93N±0°.02×23°.10E±0°.03, h9km±7km, n29, σ0.s88/51, 4C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	Krupnik	0.06	191	*i* P	Pg	03 13 16.7	+0.5
MMB	Musomiste	0.58	125	*i* P	Pg	03 13 25.7	+0.3
VTS	Vitosha	0.70	8	*e*Pg	Pg	03 13 27.6	-0.1
VTS				*e*Sg	Sg	03 13 36.5	-0.3
VTS	Vitosha	0.70	8	*i* P	Pg	03 13 27.6	-0.1
VTS	Vitosha	0.70	8	⇑*i*Pg	Pg	03 13 27.6	-0.1
VTS				*i* Sg	Sg	03 13 36.7	-0.2
VAY	Valandovo	0.72	213	*e*Pg	Pb	03 13 29.1	+0.2
VAY				*e*Sg	Sb	03 13 38.8	-0.1
VAY	Valandovo	0.72	213	*i* Pg	Pg	03 13 28.2	+0.1
VAY				*i* Sg	Sb	03 13 38.8	-0.1
VAY				*e*Lg	Lg	03 13 39.0	
	comp=E,27nm,0.4s						
VAY				*e*Lg	Lg	03 13 39.9	
	comp=N,21nm,0.4s						
BOSS	Bosilegrad	0.73	321	*e*Pg	Pg	03 13 28.6	+0.3
BOSS				*e*Sg	Sb	03 13 39.4	+0.2
KNT	Kendrikon	0.78	191	P	Pg	03 13 29.2	0.0
KNT				S	Sg	03 13 39.3	0.0
	comp=N,110nm,0.3s						
KNT	Kendrikon	0.78	191	P	Pg	03 13 29.2	0.0
KNT				S	Sg	03 13 38.7	-0.7
KNT	Kendrikon	0.78	191	⇑*i*Pg	Pg	03 13 29.2	0.0
KNT				*i* Sg	Sg	03 13 39.4	0.0
NVR	Nevrokopi	0.81	135	P	Pg	03 13 29.5	-0.3
NVR				S	Sg	03 13 39.8	-0.6
	comp=N,132nm,0.2s						
NVR	Nevrokopi	0.81	135	P	Pg	03 13 29.3	-0.5
NVR				S	Sg	03 13 39.5	-0.9
NVR				AML	AML	03 13 40.5	
	comp=N,256μm,0.2s						
NVR				AML	AML	03 13 40.8	
	comp=E,266μm,0.2s						
SRS	Serrai	0.89	155	P	Pg	03 13 31.0	-0.3
SRS				S	Sg	03 13 42.5	-0.4
	comp=E,75nm,0.1s						
SRS	Serrai	0.89	155	P	Pg	03 13 30.9	-0.3
SRS				S	Sg	03 13 41.5	-1.4
SRS				AML	AML	03 13 46.6	
	comp=E,140μm,0.1s						
SRS				AML	AML	03 13 47.0	
	comp=N,158μm,0.2s						
SRS	Serrai	0.89	155	⇑*i*Pg	Pg	03 13 31.1	-0.3
SRS				*i* Sg	Sg	03 13 42.9	0.0
SOH	Sokhos	1.12	170	P	Pg	03 13 35.4	-0.3
SOH				S	Sg	03 13 50.3	0.0
	comp=N,100nm,0.5s						
SOH	Sokhos	1.12	170	P	Pg	03 13 35.3	-0.4
SOH				S	Sg	03 13 49.1	-1.1
SOH				AML	AML	03 13 52.9	
	comp=E,208μm,0.4s						
SOH				AML	AML	03 13 54.2	
	comp=N,297μm,0.6s						
SOH	Sokhos	1.12	170	⇑*i*Pg	Pg	03 13 35.4	-0.3
SOH				*i* Sg	Sg	03 13 50.7	+0.4
PLD	Plovdiv	1.21	81	*e*Pg	Pn	03 13 38.7	+1.5
PLD				*e*Sg	Sn	03 13 55.1	+1.4
RZN	Rozhen	1.23	101	*i* P	Pg	03 13 35.7	-2.1
BARS	Barje	1.30	313	*e*Pg	Pn	03 13 35.8	-2.7
BARS				*e*Sg	Sg	03 13 53.5	-2.6
HORT	Hortiatis	1.33	180	P	Pn	03 13 39.2	+0.3
HORT				S	Sn	03 13 57.6	+0.8
	comp=N,40nm,0.4s						
HORT	Hortiatis	1.33	180	P	Pn	03 13 39.3	+0.3
HORT				S	Sb	03 13 54.7	-1.7
ZAPS	Zavoj	1.39	346	*e*Pg	Pg	03 13 41.0	+0.2
ZAPS				*e*Sg	Sb	03 13 58.5	+0.3
KAVA	Kavala	1.41	131	P	Pn	03 13 40.9	+0.9
KAVA				S	Sb	03 13 58.0	-0.8
KAVA				AML	AML	03 14 00.5	
	comp=E,296μm,0.4s						
KAVA				AML	AML	03 14 00.9	
	comp=N,190μm,0.2s						
SELS	Selova	1.95	312	*e*Pn	Pn	03 13 48.0	+0.5
BOVS	Bovan	1.99	329	*e*Pn	Pn	03 13 49.0	+1.0
IVAS	Ivanjica	2.73	308	*e*Pn	Pn	03 13 58.9	+0.8

MEX 08 03:21:53.3±1.1, 21°.44N×104°.35W, h98km±29km, MD4.0, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAIG	Aguscalientes	1.91	74	*e*P	Pn	03 22 23.3	-1.5
AAIG				*i* S	Sn	03 22 47.7	-1.1
CJM	Chamela	2.04	199	*e*P	Pn	03 22 25.7	-0.6
CJM				*i* S	Sn	03 22 50.1	-1.4
EZ5V		2.07	160	*e*P	Pn	03 22 25.3	-1.7
EZ5V				*e*S	Sn	03 22 50.9	-1.8
ZAIG	Zacatecas	2.12	51	*i* P	Pn	03 22 30.2	+2.6
ZAIG				*e*S	Sn	03 22 57.6	+3.8
R15V		2.28	171	*e*P	Pn	03 22 25.7	-3.9
R15V				*e*S	Sn	03 22 54.0	-3.3
COIG	Colima	2.33	164	*e*P	Pn	03 22 28.4	-1.8
COIG				*e*S	Sn	03 22 55.2	-3.3

TUL 08 03:34:22.5±1.1, 36°.53N±0°.02×98°.49W±0°.04, h5km±7km, ML3.0, mb_Lg2.6/36(NEIC), Error ellipse: s-maj=4.6km s-min=1.9km az=79.0

NEIC 08 03:34:23.0±0.9, 36°.517N±0°.006×98°.48W±0°.04, h5km±2km, Error ellipse: s-maj=5.9km s-min=3.0km az=84.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	Salt Plains WL	0.36	37	Pg	Pg	03 34 30.0	0.0
OK032				Sg	Sg	03 34 35.1	+0.5
CROK	Carrier	0.40	92	Pg	Pg	03 34 30.9	+0.2
CROK				Sg	Sg	03 34 36.8	+0.8
U32A	Winter Ranch,	0.44	252	Pg	Pg	03 34 31.4	-0.2
GC02	Grant County #	0.60	56	Pg	Pg	03 34 34.4	-0.1
GC02				Sg	Sg	03 34 42.8	+0.5
KAN14	Manchester OK	0.60	43	Pg	Pg	03 34 34.4	-0.2
KAN14				Sg	Sg	03 34 42.8	+0.3
KAN10	Anthony SW Sta	0.68	27	Pg	Pg	03 34 35.7	-0.3
KAN10				Sg	Sg	03 34 45.1	+0.2
KAN05	Bluff City Nor	0.77	39	Pg	Pg	03 34 36.5	-1.1
KAN05				Sg	Sg	03 34 47.8	+0.2
KAN17	Caldwell West	0.78	47	Pg	Pg	03 34 37.6	-0.3
KAN17				Sg	Sg	03 34 48.2	+0.2
KAN13	South Haven SW	0.94	58	Pg	Pg	03 34 40.6	-0.4
KAN13				Sg	Sg	03 34 53.3	0.0
BLOK	Blackwell	1.04	76		Pg	03 34 42.4	-0.6
OK029	Liberty Lake	1.10	131		Pg	03 34 43.4	-0.6
OK029				Sg	Sg	03 34 58.4	+0.2
OK025	Westminster Rd	1.31	135		Pn	03 34 47.3	-0.7
OKCSW	OKLAHOMA CITY	1.39	142		Pn	03 34 48.3	-0.8
OK031	S. Brethren Rd	1.44	113		Pn	03 34 49.3	-0.4
QUOK	Quay	1.47	103		Pn	03 34 50.0	-0.2
FNO	Franklin	1.53	145		Pn	03 34 51.0	0.0
T35A	Sooner Cattle	1.63	75		Pn	03 34 52.4	+0.1
WMOK	Wichita Mounta	1.79	188		Pn	03 34 54.4	-0.2
R32A	Long Quarter,	1.91	354	Pn	Pn	03 34 57.1	+0.9
X37A	Clayton	3.18	126	IAmb_Lg		03 36 11.2	
	comp=Z,23nm,0.7s						
U38A	Gravette	3.30	90	IAmb_Lg		03 36 13.9	
	comp=Z,13nm,1.0s						
W39A	Magazine	4.03	108	IAmb_Lg		03 36 35.2	
	comp=Z,11nm,0.7s						
KSCO	Kaye Shedlock'	4.12	308	IAmb_Lg		03 36 37.8	
	comp=Z,19nm,0.9s						
MSTX	Muleshoe	4.34	235	IAmb_Lg		03 36 46.8	
	comp=Z,9.8nm,0.8s						
P38A	Dawn	4.99	50	IAmb_Lg		03 37 07.8	
	comp=Z,10nm,0.8s						
WHAR	Wooly Hollow	5.17	102	IAmb_Lg		03 37 09.6	
	comp=Z,12nm,1.2s						
WLAR	White Oak Lake	5.23	121	IAmb_Lg		03 37 18.7	
	comp=Z,7.5nm,0.7s						
L34A	Svendsen Farm,	5.68	16	IAmb_Lg		03 37 33.7	
	comp=Z,20nm,0.7s						
435B	Jarrell	5.77	172	IAmb_Lg		03 37 35.1	
	comp=Z,6.7nm,0.7s						
CCM	Cathedral Cave	5.97	73	IAmb_Lg		03 37 35.2	
	comp=Z,9.6nm,0.9s						
K31A	O'Neill	6.10	358	IAmb_Lg		03 37 46.2	
	comp=Z,9.0nm,0.8s						
JCT	Junction City	6.12	191	IAmb_Lg		03 37 43.5	
	comp=Z,12nm,1.1s						
HBAR	Harrisburg	6.41	96	IAmb_Lg		03 37 45.2	
	comp=Z,15nm,0.7s						
PBMO	Poplar Bluff	6.48	85	IAmb_Lg		03 37 49.7	
	comp=Z,6.7nm,0.7s						
143A	Socs Landing,	6.96	121	IAmb_Lg		03 38 16.1	
	comp=Z,9.3nm,0.7s						
S44A	Carbondale	7.46	78	IAmb_Lg		03 38 27.1	
	comp=Z,9.8nm,0.9s						
SIUC	Southern Illin	7.50	78	IAmb_Lg		03 38 19.6	
	comp=Z,9.2nm,0.8s						

IDC 08 04:24:58.2±3.5, 33°.06S×178°.22W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/20, mbtmp3.5/3, ML3.2/1, MS3.5/1, Ms1 3.4/1, ms1mx2.6/24, Error ellipse: s-maj=82.8km s-min=38.7km az=117.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.43	215	Pn	Pn	04 26 33.0	-1.1
	0.5nm,0.3s,baz=122,slow=23,SNR=1.6						
URZ				Sn	Sn	04 27 51.5	+3.3
	1.4nm,0.3s,baz=141,slow=21,SNR=1.8						
STKA	Stephens Creek	33.78	261	LR	LR	04 43 48.1	
	comp=Z,66nm,18.6s,baz=267,slow=33						
ASAR	Alice Springs	42.85	270	P	P	04 32 58.4	+0.1
	0.6nm,0.5s,baz=112,slow=8.0,SNR=4.5						
WRA	Warramunga Arr	44.08	275	P	P	04 33 07.8	-0.4
	0.5nm,0.5s,baz=117,slow=7.6,SNR=1.3						
FINES	FINESS Array B	147.56	338	PKPbc	PKPbc	04 44 43.0	-0.5
	4.5nm,0.9s,baz=72,slow=4.5,SNR=3.0						

IDC 08 04:26:45.4±3.4, 32°.96S×178°.85W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/21, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=77.1km s-min=38.2km az=111.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.23	211	Pn	Pn	04 28 18.6	0.0
	1.1nm,0.3s,baz=293,slow=21,SNR=1.6						
URZ				Sn	Sn	04 29 29.4	-1.1
	2.2nm,0.3s,baz=124,slow=23,SNR=3.4						
ASAR	Alice Springs	42.32	270	P	P	04 34 41.0	-0.2
	0.3nm,0.5s,baz=109,slow=7.4,SNR=2.5						
WRA	Warramunga Arr	43.54	275	P	P	04 34 51.3	+0.2
	0.4nm,0.4s,baz=113,slow=7.7,SNR=5.7						
FINES	FINESS Array B	147.26	338	PKPbc	PKPbc	04 46 29.1	-0.9
	2.4nm,0.9s,baz=57,slow=5.1,SNR=1.4						

IDC 08 04:29:16.0±3.3, 32°.57S×178°.33W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/20, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=77.7km s-min=49.0km az=120.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.79	212	Pn	Pn	04 30 56.5	-0.3
	1.1nm,0.3s,baz=308,slow=20,SNR=1.7						
URZ				Sn	Sn	04 32 08.8	-6.0
	1.3nm,0.3s,baz=131,slow=19,SNR=2.2						
ASAR	Alice Springs	42.76	269	P	P	04 37 15.4	0.0
	0.4nm,0.5s,baz=110,slow=7.6,SNR=4.6						
WRA	Warramunga Arr	43.94	275	P	P	04 37 24.7	-0.2
	0.2nm,0.3s,baz=115,slow=7.6,SNR=6.5						
FINES	FINESS Array B	147.07	339	PKPbc	PKPbc	04 48 59.3	-0.8
	2.1nm,0.8s,baz=69,slow=2.7,SNR=3.8						

IDC 08 04:41:05.8±3.1, 32°.81S×178°.36W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/24, mbtmp3.9/3, ML3.5/1, Error ellipse: s-maj=70.6km s-min=36.4km az=116.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.57	213	Pn	Pn	04 42 44.4	+0.8
	1.0nm,0.3s,baz=275,slow=7.1,SNR=10						
URZ				Sn	Sn	04 43 59.5	+0.3
	3.1nm,0.3s,baz=320,slow=23,SNR=6.5						
ASAR	Alice Springs	42.73	270	P	P	04 49 04.8	-0.1
	0.8nm,0.6s,baz=108,slow=7.5,SNR=14						
WRA	Warramunga Arr	43.94	275	P	P	04 49 14.4	-0.3
	1.7nm,0.6s,baz=118,slow=7.6,SNR=16						
FINES	FINESS Array B	147.28	338	PKPbc	PKPbc	05 00 49.5	-0.9
	1.1nm,0.6s,baz=48,slow=2.8,SNR=5.4						

TAP 08 05:05:04.4, 24°.44N×121°.91E, h24km, ML3.5, C
JMA 08 05:05:04.4±0.1, 24°.42N×121°.94E, h15km, M2.9

ISC 08 05:05:04.5±0.9, 24°.43N±0°.01×121°.94E±0°.02, h19km±2km, n86, σ0.s70/157, 8C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	Wuta	0.14	278	P	Pg	05 05 09.1	+0.2
	baz=274						
EWUT				S	Sg	05 05 12.0	+0.2
	baz=274						
ENA	Nanau	0.18	271	⇓*i*P	Pg	05 05 09.5	+0.2
	baz=266						
ENA				*i* S	Sg	05 05 13.1	+0.6
	baz=266						
TWC	Suao	0.20	337	⇓*i*P	Pg	05 05 09.9	+0.4
	baz=343						
TWC				*i* S	Sg	05 05 13.3	+0.3
	baz=343						
EHP	Heping Village	0.21	237	*e*P	Pg	05 05 09.6	-0.1
	baz=229						
NDS	Dongshan	0.29	316	⇑*i*P	Pb	05 05 11.3	+0.3
	baz=317						
NDS				S	Sg	05 05 15.5	+0.1
	baz=317						
ILA	Ilan	0.38	333	⇑*i*P	Pb	05 05 13.0	+0.3
	baz=329						
ILA				S	Sb	05 05 18.6	+0.3
	baz=329						
TWE	Neicheng	0.38	320	⇑*i*P	Pb	05 05 12.7	-0.1
	baz=323						
TWE				*i* S	Sb	05 05 17.9	-0.4
	baz=323						
ETL	Fush Village	0.39	227	P	Pb	05 05 12.7	-0.1
	baz=228						
ETL				S	Sb	05 05 19.1	+0.6
	baz=228						
NACB	Ninganchiao	0.40	231	⇓*i*P	Pg	05 05 12.7	-0.2
	baz=232						
NACB				S	Sb	05 05 18.9	+0.1
	baz=232						
EGS		0.42	360	*e*P	Pb	05 05 13.7	+0.4
	baz=4.0						
EGS				*e*S	Sb	05 05 19.7	+0.4
	baz=4.0						
NDT	Datong Townshi	0.42	295	⇑*i*P	Pb	05 05 13.5	0.0
	baz=295						
NDT				S	Sb	05 05 19.4	-0.1
	baz=295						
NTC	Toucheng	0.44	347	P	Pb	05 05 13.6	-0.1
	baz=350						
NTC				S	Sg	05 05 19.3	-0.3
	baz=350						
TWD	Chiawan	0.46	222	⇑*i*P	Pb	05 05 14.2	+0.1
	baz=219						
TWD				S	Sn	05 05 22.4	-1.3
	baz=219						
ETLH	Xiulin Townshi	0.47	242	⇓*i*P	Pg	05 05 13.8	-0.3
	baz=244						
ETLH				S	Sn	05 05 22.2	-1.8
	baz=244						
NNS	Nan Shan	0.51	272	⇑*i*P	Pg	05 05 15.0	0.0
	baz=276						
NNS				S	Sb	05 05 22.0	0.0
	baz=276						
HWA	Hwalien	0.54	214	*e*P	Pn	05 05 16.7	-0.4
	baz=219						
HWA				*e*S	Sn	05 05 26.3	+0.7
	baz=219						
TIPB	Shuangxi	0.55	350	P	Pg	05 05 15.7	0.0
	baz=357						
TIPB				S	Sb	05 05 22.7	-0.3
	baz=357						
YHNB	Yeheng	0.56	296	⇑*i*P	Pg	05 05 15.7	-0.1
	baz=295						
YHNB				S	Sb	05 05 23.1	-0.3
	baz=295						
TWB1	Santiao Chiao	0.58	5	P	Pb	05 05 15.8	-0.1
	baz=2.0						

TWB1 S Sb 05 05 23.6 -0.2
baz=2.0
NSK Sanguang 0.58 295 ⇑ *i* P Pg 05 05 15.9 -0.3
baz=295
NSK S Sb 05 05 23.2 -0.6
baz=295
ETM Tongmen 0.61 222 P Pg 05 05 16.6 -0.1
baz=228
ETM *e*S Sn 05 05 26.2 -1.2
baz=228
TWA Mucha 0.64 330 P Pg 05 05 17.4 +0.2
baz=322
TWA S Sg 05 05 26.0 +0.2
baz=322
NHDH Xindian Distri 0.65 325 P Pg 05 05 17.7 +0.2
baz=319
NHDH S Sb 05 05 25.5 -0.4
baz=319
FUSS Fushou 0.66 254 P Pb 05 05 17.3 -0.1
baz=258
FUSS S Sg 05 05 26.7 +0.3
baz=258
NWF Wu-fen Shan 0.66 348 *i* P Pg 05 05 17.8 +0.2
baz=342
NWF S Sg 05 05 26.5 +0.1
baz=342
WFSB Wu-fen Shan 0.66 348 *e*P Pg 05 05 17.4 -0.1
baz=342
WFSB *e*S Sg 05 05 26.6 +0.2
baz=342
WHF Hehuan Shan 0.67 246 ⇓ *i* P Pb 05 05 17.6 -0.2
baz=250
WHF S Sg 05 05 27.2 +0.1
baz=250
TATO Taipei 0.68 323 *e*P Pg 05 05 17.9 -0.1
baz=318
TATO *e*S Sg 05 05 26.8 -0.3
baz=318
TWT Tachien 0.71 256 P Pn 05 05 19.2 -0.5
baz=255
TWT S Sn 05 05 29.3 -1.0
baz=255
TAP Taipei 0.73 327 *e*P Pn 05 05 19.4 -0.2
baz=322
TAP S Sg 05 05 28.9 +0.4
baz=322
TDCB Techi 0.73 257 P Pg 05 05 18.9 0.0
baz=255
TDCB S Sg 05 05 29.1 +0.4
baz=255
ESL Shilin 0.76 217 P Pg 05 05 19.4 -0.1
baz=221
ESL S Sn 05 05 30.7 -0.5
baz=221
CHGB Renai 0.79 243 P Pg 05 05 19.9 -0.1
baz=247
CHGB S Sg 05 05 30.9 +0.4
baz=247
YM01 YM01 0.79 335 P Pn 05 05 20.3 -0.4
baz=336
YM01 S Sg 05 05 30.4 -0.2
baz=336
TEGC Jichi Village 0.80 207 *e*P Pn 05 05 20.8 +0.1
baz=204
TEGC *e*S Sn 05 05 35.1 +3.1
baz=204
TWS1 Kuangyinshan 0.82 325 P Pb 05 05 19.9 -0.2
baz=322
TWS1 S Sg 05 05 31.7 +0.2
baz=322
OWD Renai 0.84 236 P Pg 05 05 20.9 0.0
baz=235
OWD *e*S Sn 05 05 33.1 -0.1
baz=235
ANP Anpu 0.85 334 *e*P Pg 05 05 21.0 -0.1
baz=335
LIOB Emei 0.87 285 P Pn 05 05 21.9 +0.3
baz=285
LIOB *e*S Sg 05 05 32.8 -0.2
baz=285
NCU National Centr 0.87 309 *e*P Pn 05 05 22.3 +0.6
baz=313
NCU *e*S Sn 05 05 33.7 -0.2
baz=313
NCUH Zhongli 0.87 308 *e*P Pn 05 05 21.4 -0.3
baz=312
NCUH *e*S Sn 05 05 33.4 -0.5
baz=312
NSTT Nanjuang 0.88 284 P Pn 05 05 21.9 +0.1
baz=284
NSTT S Sn 05 05 33.6 -0.4
baz=284
EGFH Guangfu 0.89 212 *e*P Pn 05 05 21.9 0.0
baz=225
EGFH *e*S Sn 05 05 35.6 +1.5
baz=225
TWY Chenhua 0.90 340 P Pn 05 05 22.4 +0.3
baz=342
TWY S Sn 05 05 34.5 -0.1
baz=342
WHP Taichung City 0.92 261 *e*P Pn 05 05 22.8 +0.4
baz=265
WHP *e*S Sg 05 05 34.5 0.0
baz=265
JYNG Yonagunijimaku 0.92 88 *e*S Sg 05 05 34.5 -0.1
SBCB Hsinchu 0.94 293 *e*P Pg 05 05 22.6 -0.2
baz=293
SBCB *e*S Sn 05 05 36.8 +1.2
baz=293
YOJ Yonaguni jima 0.98 88 P Pb 05 05 23.0 +0.2
YOJ S Sn 05 05 36.2 -0.3
YOJ Yonaguni jima 0.98 88 *e*P Pn 05 05 23.1 -0.1
baz=82
YOJ *e*S Sn 05 05 36.3 -0.3
baz=82
WCS Beigang Elemen 1.00 249 P Pg 05 05 24.1 +0.1
baz=253
WCS S Sg 05 05 38.6 +1.4
baz=253
HGSD Ruisui 1.04 207 P Pg 05 05 25.5 +0.7
baz=219
NMLH Miaoli 1.05 276 *e*P Pg 05 05 25.6 +0.7
baz=276
NMLH *e*S Sg 05 05 40.2 +1.5
baz=276
TWQ1 Liyutan 1.06 266 P Pg 05 05 26.2 +1.1
baz=265
TWQ1 S Sg 05 05 40.5 +1.4
baz=265
NSY Sanyi 1.07 270 *e*P Pg 05 05 26.0 +0.7
baz=272
NSY *e*S Sg 05 05 42.5 +3.0
baz=272
EHY Hungye 1.07 212 *e*P Pb 05 05 24.1 -0.4
baz=210
SMLT Sun Moon Lake 1.09 241 *e*P Pg 05 05 25.8 +0.1
baz=247
SMLT *e*S Sg 05 05 40.3 +0.3
baz=247
SSLB Suanglung 1.10 235 *e*P Pg 05 05 25.3 -0.6
baz=225
SSLB *e*S Sn 05 05 39.6 +0.1
baz=225
TYC Yuchr 1.11 242 *e*P Pg 05 05 25.5 -0.6
baz=249
TYC *e*S Sg 05 05 41.0 +0.3
baz=249
YULB Yu-li 1.18 210 *e*P Pb 05 05 26.3 -0.1
baz=207
YULB *e*S Sg 05 05 42.6 -0.3
baz=207
EYUL Yuli 1.21 208 *e*P Pg 05 05 28.2 +0.2
baz=219
WHYT Xinyi Township 1.23 234 *e*P Pg 05 05 29.4 +1.2
baz=233
WHYT *e*S Sg 05 05 46.0 +1.6
baz=233
WJS Zhushan 1.26 242 *e*P Pg 05 05 28.9 +0.1
baz=242
WJS *e*S Sg 05 05 47.2 +1.9
baz=242
FULB Fuli 1.35 206 *e*P Pg 05 05 29.9 -0.8
baz=217
ALS Alishan 1.38 229 *e*P Pg 05 05 31.2 +0.1
baz=215
CHN5 Tsauling 1.42 235 P Pg 05 05 31.5 -0.3
baz=233
CHN5 S Sg 05 05 51.0 +0.7
baz=233
WDLH Douliu 1.47 240 *e*P Pb 05 05 31.7 +0.5
baz=239
WDLH *e*S Sg 05 05 52.8 +0.6
baz=239
ELDTW Lidau 1.49 215 *e*P Pb 05 05 31.2 -0.4
baz=200
WRL Guoliierlin Hig 1.52 250 *e*P Pb 05 05 31.7 -0.3
baz=260
WRL *e*S Sg 05 05 52.6 -0.9
baz=260
EDH Donghe 1.56 202 *e*P Pn 05 05 30.9 -0.2
baz=187
EDH *e*S Sn 05 05 50.2 -0.6
baz=187
WTK Tuku 1.59 243 *e*P Pn 05 05 31.6 0.0
baz=241
CHN4 Tsaushan 1.63 229 *e*P Pn 05 05 32.7 +0.6
baz=228
CHN4 *e*S Sg 05 05 55.9 -1.3
baz=228
IRIF Iriomote-Funau 1.64 93 P Pn 05 05 32.0 -0.2
IRIF S Sn 05 05 53.1 +0.3
TPUB Ta-pu 1.64 227 *e*P Pb 05 05 34.9 +0.8
baz=225
TPUB *e*S Sg 05 05 56.6 -0.8
baz=225
STYH Taoyuan 1.64 221 *e*P Pb 05 05 34.1 0.0
baz=207
STYH *e*S Sg 05 05 57.4 -0.1
baz=207
WTP Ta-pu 1.69 226 *e*P Pb 05 05 35.6 +0.7
baz=224
WTP *e*S Sg 05 05 59.1 +0.1
baz=224
HATJ Haterumа jima 1.75 102 *e*S Sb 05 05 57.0 -0.4
TWK Hsinying 1.76 229 *e*P Pb 05 05 36.5 +0.4
baz=227
TWK *e*S Sg 05 06 00.5 -0.8
baz=227
CHN1 Nanshi 1.79 227 *e*P Pb 05 05 36.3 -0.3
baz=224
CHN1 *e*S Sg 05 06 01.6 -0.5
baz=224
JKRS Kuro-shima 1.90 95 P Pn 05 05 36.3 +0.5
JKRS *e*S Sn 05 05 59.4 +0.1
JIJ Ishigaki jima 2.01 91 P Pn 05 05 37.9 +0.5
JIJ *e*S Sn 05 06 01.5 -0.5
MASBT Mashibuluo 2.17 214 *e*P Pb 05 05 41.4 -1.7
baz=212
JISG Ishigakijimahi 2.17 85 P Pn 05 05 39.5 0.0
JISG *e*S Sn 05 06 04.9 -1.0
MATB Ma-tsu 2.49 314 *e*P Pn 05 05 44.1 +0.2
baz=314
JTJ Tarama 2.53 85 P Pn 05 05 46.2 +1.7
JTJ S Sn 05 06 16.0 +1.2
LYJJ Jianjiangzhen 2.89 318 *e*P Pn 05 05 48.4 -1.0
baz=318
XPSS Daxiqiu 2.95 328 *e*P Pn 05 05 48.8 -1.5
baz=328

*IDC **08** 05:08:29.0±0.8, 17.˚14N×147.˚33E, h0km, mb4.2/13, mb1 4.4/14, mb1mx4.0/51, mbtmp4.2/14, ML4.2/1, MS3.6/3, Ms1 3.6/3, ms1mx2.9/47, Error ellipse: s-maj=26.9km s-min=15.3km az=102.0*

ISC 08 05:08:34.8±0.8, 17.˚14N±0.˚10×147.˚3E±0.˚2, h41km, n25, σ0§83/17, mb4.3/12, MS3.5/3, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.25**	**214**	Pn	P	**Pn**	**05 09 36.9**	**-0.1**
	14nm,0.3s,baz=66,slow=10.0,SNR=2.2							
GUMO				Sn		**Sn**	**05 10 26.0**	**+0.6**
	15nm,0.3s,baz=165,slow=20,SNR=2.1							
H11S3	**WAKE ISLAND Hy**	**18.48**	**83**	T	T	T	05 31 30.6	
	baz=276,slow=74							
H11S1	**WAKE ISLAND Hy**	**18.50**	**83**	T	T	T	05 31 32.1	
	baz=276							
H11S2	**WAKE ISLAND Hy**	**18.50**	**83**	T	T	T	05 31 34.2	
	baz=276,slow=74							
H11N1	**WAKE ISLAND Hy**	**18.74**	**79**	T	T	T	05 31 47.3	
	baz=265,slow=74,SNR=12							
H11N2	**WAKE ISLAND Hy**	**18.75**	**79**	T	T	T	05 31 47.9	
	baz=265,slow=74,SNR=8.0							
H11N3	**WAKE ISLAND Hy**	**18.76**	**79**	T	T	T	05 31 48.9	
	baz=265,slow=74,SNR=11							
MJAR	**Matsushiro Arr**	**20.95**	**339**	P	P	**P**	**05 13 12.5**	**-1.7**
	3.9nm,0.7s,baz=163,slow=10.0,SNR=6.5							
SIJI	**Sorong**		**23.89**	**223**	P	**P**	**05 13 43.4**	**-1.5**
	23nm,0.4s,baz=28,slow=19,SNR=4.1							
HNR	**Honiara**		**29.20**	**154**	LR	LR	05 26 13.3	
	comp=Z,50nm,18.1s,baz=322,slow=36							
WRA	**Warramunga Arr**	**38.99**	**200**	P	P	**P**	**05 15 56.8**	**-0.6**
	3.7nm,0.7s,baz=23,slow=8.6,SNR=17							
ASAR	**Alice Springs**	**42.62**	**198**	P	P	**P**	**05 16 27.1**	**-0.2**
	0.6nm,0.6s,baz=46,slow=5.3,SNR=5.2							
SONM	**Songino Array**	**45.33**	**322**	P	P	**P**	**05 16 49.1**	**+0.2**
	0.9nm,0.5s,baz=140,slow=8.3,SNR=4.7							
CMAR	**Ching Mai Arr**	**45.98**	**279**	P	P	**P**	**05 16 55.9**	**+1.5**
	1.8nm,0.4s,baz=73,slow=6.5,SNR=6.7							
NWAO	**Narrogin (SRO)**	**57.50**	**210**	P	P	**P**	**05 18 19.9**	**-0.1**
	4.0nm,0.6s,baz=59,slow=8.0,SNR=1.8							
ZALV	**Zalesovo Beam**	**60.19**	**323**	P	P	**P**	**05 18 38.0**	**-0.4**
	1.7nm,0.5s,baz=107,slow=9.0,SNR=4.5							
ZALV				LR	LR		05 44 10.9	
	comp=Z,36nm,18.5s,baz=81,slow=36							
MKAR	**Makanchi Array**	**60.66**	**314**	P	P	**P**	**05 18 42.2**	**+0.4**
	1.2nm,0.5s,baz=90,slow=7.6,SNR=8.6							
RAR	**Rarotonga**	**64.35**	**124**	LR	LR		05 38 36.5	
	comp=Z,154nm,21.4s,baz=352,slow=28							
ILAR	**Eielson Array**	**64.36**	**26**	P	P	**P**	**05 19 06.3**	**+0.1**
	1.2nm,1.1s,baz=248,slow=5.1,SNR=4.4							
NVAR	**Mina Array Bea**	**82.88**	**52**	P	P	**P**	**05 20 56.3**	**+0.6**
	0.4nm,0.5s,baz=283,slow=5.2,SNR=4.2							
ARCES	**ARCESS Array B**	**84.44**	**343**	P	P	**P**	**05 21 03.2**	**+0.5**
	2.4nm,0.8s,baz=65,slow=6.8,SNR=9.3							
FINES	**FINESS Array B**	**88.98**	**336**	P	P	**P**	**05 21 24.6**	**-0.2**
	2.8nm,0.8s,baz=58,slow=5.1,SNR=8.5							
TORD	**Torodi Ar. Bea**	**134.64**	**309**	PKP	**PKPdf**	**05 27 49.4**	**-0.4**
	0.4nm,0.6s,baz=27,slow=2.3,SNR=2.7							
DBIC	**Dimbokro**	**143.73**	**308**	PKP	PKPbc	05 28 04.4	+0.4
	1.8nm,0.6s,baz=133,slow=1.7,SNR=4.6							
LPAZ	**La Paz**	**146.06**	**94**	PKPbc	**PKPab**	**05 28 13.1**	**+0.4**
	1.3nm,0.6s,baz=308,slow=4.7,SNR=9.0							

*IDC **08** 05:16:51.2±2.9, 32.˚78S×178.˚49W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/35, mbtmp3.9/3, ML3.7/1, Error ellipse: s-maj=68.4km s-min=36.0km az=117.0*
*WEL **08** 05:16:55.8±0.9, 33.˚S±20.˚×17.˚8W±3.˚1, h33km, M4.1/12, mB4.6/7, ML4.6/14, MLv4.4/12, Mw(mB)3.8/7, Error ellipse: s-maj=0.0km s-min=0.0km az=122.1*

ISC 08 05:16:53.1±2.2, 32.˚9S±0.˚1×178.˚4W±0.˚3, h10km, n23, σ1§10/38, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.41**	**209**	P	P	**Pn**	**05 18 14.4**	**+0.6**
MXZ				Sn	S	**Sn**	**05 19 15.3**	**-0.8**
WMGZ	**Waiomatatini S**	**5.59**	**207**	P	P	**Pn**	**05 18 17.3**	**+1.1**
WMGZ				Sn	S	**Sn**	**05 19 21.5**	**+1.1**
PKGZ	**Pakihiroa**	**5.78**	**209**	P	P	**Pn**	**05 18 19.1**	**+0.2**
PKGZ				Sn	S	**Sn**	**05 19 25.0**	**-0.4**
HAZ	**Te Kaha**	**5.79**	**211**	P	P	**Pn**	**05 18 19.5**	**+0.5**
HAZ				Sn	S	**Sn**	**05 19 28.9**	**+3.4**
PUZ	**Puketiti**	**5.87**	**207**	P	P	**Pn**	**05 18 18.9**	**-1.2**
PUZ				Sn	S	**Sn**	**05 19 27.2**	**-0.2**
RUGZ	**Raukumara Rang**	**6.01**	**211**	P	P	**Pn**	**05 18 21.8**	**-0.4**
RUGZ				Sn	S	**Sn**	**05 19 32.6**	**+1.5**
CNGZ	**Carnagh Statio**	**6.25**	**205**	P	P	**Pn**	**05 18 24.5**	**-0.9**
MWZ	**Matawai**	**6.39**	**210**	P	P	**Pn**	**05 18 26.9**	**-0.3**
MWZ				Sn	S	**Sn**	**05 19 39.9**	**-0.3**
URZ	**Urewera**	**6.51**	**213**	Pn	P	**Pn**	**05 18 29.3**	**+0.5**
	1.6nm,0.3s,baz=301,slow=19,SNR=6.8							
URZ				Sn		**Sn**	**05 19 42.7**	**-0.4**
	2.1nm,0.3s,baz=119,slow=23,SNR=2.1							
RAGZ	**Rawiri**	**6.57**	**210**	P	P	**Pn**	**05 18 30.6**	**+0.8**
RAGZ				Sn	S	**Sn**	**05 19 43.5**	**-1.3**
RIGZ	**Rimuhau**	**6.61**	**207**	P	P	**Pn**	**05 18 29.9**	**-0.4**
RIGZ				Sn	S	**Sn**	**05 19 45.3**	**-0.4**
MUGZ	**Murupara**	**6.84**	**214**	P	P	**Pn**	**05 18 33.4**	**-0.1**
MUGZ				Sn	S	**Sn**	**05 19 50.4**	**-1.0**
SNGZ	**Shannon Statio**	**6.84**	**209**	P	P	**Pn**	**05 18 34.1**	**+0.6**
SNGZ				Sn	S	**Sn**	**05 19 52.0**	**+0.6**

RTZ Ruatahuna 6.86 212 P Pn 05 18 34.6 +0.8
MTHZ Maungataniwha 7.11 211 P Pn 05 18 37.9 +0.7
MTHZ S Sn 05 19 58.5 +0.4
NMHZ Naumai 7.33 211 P Pn 05 18 40.8 +0.6
NMHZ S Sn 05 20 03.0 -0.5
TLZ Tolley Road 7.35 220 P Pb 05 18 55.0 -5.8
BKZ Black Stump Fm 7.53 212 P Pn 05 18 43.7 +0.8
BKZ S Sn 05 20 07.5 -0.8
KWHZ Kaweka Forest 7.77 211 P Pn 05 18 47.4 +1.1
KWHZ S Sn 05 20 11.7 -2.6
WNVZ Wahianoa 8.07 215 P Pn 05 18 52.3 +1.8
ASAR Alice Springs 42.68 270 P P 05 24 49.6 -0.8
0.7nm,0.5s,baz=108,slow=7.7,SNR=10
WRA Warramunga Arr 43.90 275 P P 05 24 59.0 -1.0
1.1nm,0.5s,baz=116,slow=7.6,SNR=12
FINES FINESS Array B 147.31 338 PKPbc **PKPdf** 05 36 34.8 +1.0
1.1nm,0.5s,baz=46,slow=4.0,SNR=8.8

*NEIC **08** 05:24:18.6±1.7, 5.˚6S±0.˚1×149.˚77E±0.˚09, h145km±7km, mb4.4/41, Error ellipse: s-maj=15.4km s-min=12.9km az=204.0*
*DJA **08** 05:24:19.4±0.4, 5.˚S±5.˚×15.˚0E±.˚, h211km±8km, M4.5/12, mB4.8/2, mb4.4/12, MLv4.5/2, Mw(mB)4.0/2*
*IDC **08** 05:24:21.8±2.1, 5.˚74S×149.˚66E, h181km±18km, mb3.9/18, mb1 4.0/18, mb1mx3.9/44, mbtmp4.4/18, Error ellipse: s-maj=18.0km s-min=10.2km az=108.0*

ISC 08 05:24:18.2±0.5, 5.˚67S±0.˚07×149.˚70E±0.˚08, h147km, n72, σ1§35/67, mb4.3/33, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.86**	**59**		P	**Pn**	**05 25 02.6**	**-1.1**
MANU	**Manus Island**	**4.29**	**327**	Pn	P	**Pn**	**05 25 22.6**	**+0.4**
JAY	**Jayapura**	**9.50**	**289**	P	P	**Pn**	**05 26 31.3**	**-0.5**
	1µm12nm,1.2s							
MMPI	**Merauke**	**9.65**	**253**	P	P	**Pn**	**05 26 37.9**	**+4.2**
	359nm,0.9s							
CTA	**Charters Tower**	**14.72**	**193**	P	P	**P**	**05 27 44.3**	**+2.7**
	0.8nm,0.3s,baz=14,slow=13,SNR=18							
CTAO	**Charters Tower**	**14.72**	**193**			**P**	**05 27 43.8**	**+2.3**
EIDS	**Eidsvold**	**19.63**	**176**			**Pn**	**05 28 37.3**	**-1.1**
EIDS					IAmb	IAmb	05 28 42.3	
	comp=Z,21nm,0.9s							
MTN	**Manton Dam**	**19.65**	**247**		P	**P**	**05 28 34.8**	**-0.9**
MTN					IAmb	IAmb	05 28 35.8	
	comp=Z,10nm,0.7s							
WR0	**Warramunga Arr**	**20.47**	**225**			**P**	**05 28 45.1**	**+0.5**
WB2	**Warramunga Arr**	**20.59**	**225**			**P**	**05 28 46.1**	**+0.2**
WRA	**Warramunga Arr**	**20.60**	**225**	P	P	**P**	**05 28 46.3**	**+0.4**
	comp=Z,5.5nm,0.3s,baz=51,slow=9.9,SNR=81							
WRA					S	**S**	**05 32 24.4**	**-4.0**
	comp=Z,5.3nm,0.9s,baz=45,slow=17,SNR=8.5							
WRA					ScP	**ScP**	**05 36 11.2**	**-2.7**
	comp=Z,1.6nm,1.0s,baz=34,slow=1.9,SNR=6.8							
WRA	**Warramunga Arr**	**20.60**	**225**		P	**P**	**05 28 47.0**	**+1.0**
KNRA	**Kununurra**	**22.83**	**243**		P	**P**	**05 29 07.8**	**-0.9**
KNRA					IAmb	IAmb	05 29 09.9	
	comp=Z,19nm,0.7s							
DZM	**Mont Dzumac**	**22.98**	**137**	P	P	**P**	**05 29 12.0**	**+1.7**
	comp=Z,18nm,0.9s,baz=301,slow=8.4,SNR=8.5							
DZM	**Mont Dzumac**	**22.98**	**137**	P	P	**P**	**05 29 11.3**	**+1.1**
DZM					IAmb	IAmb	05 29 12.8	
	comp=Z,24nm,1.0s							
AS31	**Alice Springs**	**23.48**	**219**	P	P	**P**	**05 29 15.9**	**+1.1**
ASAR	**Alice Springs**	**23.48**	**219**	P	P	**P**	**05 29 15.6**	**+0.7**
	comp=Z,2.2nm,0.3s,baz=54,slow=8.3,SNR=42							
ASAR					PcP	**PcP**	**05 32 56.3**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=58,slow=3.5,SNR=2.7							
ASAR					S	**S**	**05 33 14.0**	**-3.6**
	comp=Z,0.9nm,0.7s,baz=50,slow=12,SNR=5.1							
ASAR					ScP	**ScP**	**05 36 19.3**	**-2.0**
	comp=Z,1.0nm,1.0s,baz=35,slow=4.2,SNR=5.3							
ARMA	**Armidale**	**24.69**	**176**	P	P	**P**	**05 29 25.5**	**-0.2**
ARMA					IAmb	IAmb	05 29 28.3	
	comp=Z,26nm,1.2s							
FITZ	**Fitzroy Crossi**	**26.54**	**240**	P	P	**P**	**05 29 42.1**	**-0.4**
	comp=Z,8.8nm,0.3s,baz=62,slow=9.8,SNR=108							
FITZ	**Fitzroy Crossi**	**26.54**	**240**		P	**P**	**05 29 42.0**	**-0.5**
FORT	**Forrest**	**32.21**	**217**		P	**P**	**05 30 33.0**	**+0.5**
FORT					IAmb	IAmb	05 30 33.8	
	comp=Z,7.5nm,0.7s							
PSA00	**Pilbara Seismi**	**32.94**	**238**		P	**P**	**05 30 37.8**	**-1.2**
PSA00					IAmb	IAmb	05 30 38.9	
	comp=Z,6.8nm,1.1s							
GIRL	**Giralia**	**38.15**	**240**		P	**P**	**05 31 23.9**	**+0.4**
MORW	**Morawa**	**39.41**	**230**		P	**P**	**05 31 33.1**	**-0.8**
MORW					IAmb	IAmb	05 31 40.0	
	comp=Z,9.1nm,1.1s							
NACB	**Ninganchiao**	**40.38**	**318**		P	**P**	**05 31 42.0**	**+0.1**
JNU	**Nakatsue**	**42.51**	**336**		P	**P**	**05 32 00.2**	**+1.0**
	comp=Z,8.2nm,0.6s,baz=72,slow=3.2,SNR=4.3							
JNU	**Nakatsue**	**42.51**	**336**		IAmb	IAmb	05 32 02.9	
	comp=Z,50nm,1.3s							
MJAR	**Matsushiro Arr**	**43.35**	**346**	P	P	**P**	**05 32 07.0**	**+1.2**
	comp=Z,2.2nm,0.6s,baz=161,slow=9.3,SNR=4.4							
MJAR	**Matsushiro Arr**	**43.35**	**346**		IAmb	IAmb	05 32 08.9	
	comp=Z,4.7nm,1.0s							
MJB9	**Matsu-Tunnel**	**43.35**	**346**		P	**P**	**05 32 05.5**	**-0.4**
JTM	**Tenmabayashi**	**46.90**	**351**		P	**P**	**05 32 35.4**	**+1.6**
KSRS	**Korea Array**	**47.47**	**336**		P	**P**	**05 32 39.1**	**+0.9**
	comp=Z,5.9nm,0.7s,baz=155,slow=8.0,SNR=19							
USRK	**Ussuriysk Ar.**	**52.14**	**344**		P	**P**	**05 33 14.9**	**+1.5**
	comp=Z,1.9nm,0.5s,baz=149,slow=7.8,SNR=6.4							
KLR	**Kul'dur**	**56.87**	**346**	P	P	**P**	**05 33 48.4**	**+1.0**
	comp=Z,2.1nm,0.5s,baz=163,slow=8.6,SNR=8.3							
PEA0B	**Petropavlovsk-**	**58.95**	**6**	P	P	**P**	**05 34 02.2**	**+0.4**
PETK	**Petropavlovsk-**	**58.95**	**6**	P	P	**P**	**05 34 02.7**	**+0.8**
	comp=Z,4.6nm,0.5s,baz=163,slow=5.7,SNR=10							
PETK	**Petropavlovsk-**	**58.95**	**6**	P	P	**P**	**05 34 02.2**	**+0.4**
SONM	**Songino Array**	**65.45**	**329**	P	P	**P**	**05 34 46.1**	**+0.6**
	comp=Z,2.3nm,0.7s,baz=147,slow=6.1,SNR=9.1							
SONM	**Songino Array**	**65.45**	**329**		IAmb	IAmb	05 34 48.3	
	comp=Z,2.1nm,0.7s							
UNV	**Unalaska Valle**	**69.72**	**26**		P	**P**	**05 35 11.6**	**-0.3**
CHIR	**Chirikof Islan**	**75.89**	**28**		P	**P**	**05 35 48.4**	**0.0**
OHAK	**Old Harbor**	**77.74**	**28**		P	**P**	**05 35 58.9**	**+0.2**
KDAK	**Kodiak Island**	**78.35**	**28**		P	**P**	**05 36 02.0**	**0.0**
	comp=Z,3.8nm,1.0s,baz=270,slow=6.1,SNR=2.4							
KDAK	**Kodiak Island**	**78.35**	**28**		IAmb	IAmb	05 36 15.7	
	comp=Z,16nm,1.4s							
Q19K	**Cape Douglas,**	**78.47**	**26**		P	**P**	**05 36 01.9**	**-0.8**
MK31	**Makanchi Array**	**78.97**	**320**		P	**P**	**05 36 05.7**	**-0.1**
MKAR	**Makanchi Array**	**78.97**	**320**		P	**P**	**05 36 05.4**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=101,slow=8.2,SNR=9.9							
MKAR	**Makanchi Array**	**78.97**	**320**		P	**P**	**05 36 05.5**	**-0.2**
P19K	**Oil Pt**	**79.04**	**26**		P	**P**	**05 36 05.3**	**-0.5**
P19K					IAmb	IAmb	05 36 05.8	
	comp=Z,6.4nm,0.6s							
L19K	**White Mountain**	**79.74**	**23**		P	**P**	**05 36 10.0**	**+0.4**
L19K					IAmb	IAmb	05 36 10.7	
	comp=Z,5.4nm,1.0s							
CNPM	**China Poot**	**79.84**	**26**		P	**P**	**05 36 10.0**	**-0.2**
CNPM					IAmb	IAmb	05 36 11.2	
	comp=Z,15nm,1.3s							
ZALV	**Zalesovo Beam**	**80.18**	**327**		P	**P**	**05 36 11.6**	**-0.5**
	comp=Z,2.3nm,0.3s,baz=116,slow=5.8,SNR=11							
ZALV	**Zalesovo Beam**	**80.18**	**327**		P	**P**	**05 36 11.4**	**-0.6**
KURK	**Kurchatov**	**82.56**	**323**		P	**P**	**05 36 24.3**	**-0.4**
KURBB	**Kurchatov Arra**	**82.59**	**323**		P	**P**	**05 36 24.3**	**-0.5**
	comp=Z,9nm,0.6s,baz=111,slow=4.1,SNR=11							
RND	**Reindeer**	**82.74**	**23**		P	**P**	**05 36 24.0**	**-1.4**
RND					IAmb	IAmb	05 36 25.2	
	comp=Z,7.4nm,0.8s							
MLY	**Manley**	**82.81**	**22**		P	**P**	**05 36 25.1**	**-0.6**
MLY					IAmb	IAmb	05 36 25.8	
	comp=Z,3.4nm,0.7s							
MCK	**McKinley**	**82.86**	**23**		IAmb	IAmb	05 36 25.4	
	comp=Z,6.5nm,0.8s							
IL31		**84.13**	**23**		IAmb	IAmb	05 36 31.2	
	comp=Z,3.4nm,0.8s							
ILAR	**Eielson Array**	**84.13**	**23**	P	P	**P**	**05 36 30.7**	**-1.7**
	comp=Z,2.8nm,0.7s,baz=248,slow=5.1,SNR=30							
DOT	**Dot Lake**	**84.77**	**24**		P	**P**	**05 36 35.2**	**-0.5**
K27K	**Chicken**	**85.73**	**24**		IAmb	IAmb	05 36 41.7	
	comp=Z,3.5nm,0.8s							
EGAK	**Eagle**	**86.38**	**24**		P	**P**	**05 36 43.6**	**0.0**
EGAK					IAmb	IAmb	05 36 44.6	
	comp=Z,7.0nm,1.4s							
DAWY	**Dawson**	**86.85**	**25**		IAmb	IAmb	05 36 46.9	
	comp=Z,3.2nm,0.9s							
EPYK	**Eagle Plains**	**88.65**	**23**		IAmb	IAmb	05 36 57.4	
	comp=Z,10nm,1.4s							
INK	**Inuvik**	**90.37**	**21**		P	**P**	**05 37 01.5**	**-0.8**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,1.7nm,0.9s,baz=270,slow=3.0,SNR=2.8						
INK	Inuvik	90.37	21	IAmb	IAmb	05 37 02.5	
	comp=Z,4.2nm,1.1s						
NVAR	Mina Array Bea	95.05	52	P	P	05 37 24.5	-0.4
	comp=Z,0.2nm,0.5s,baz=272,slow=6.2,SNR=3.1						
SIV	San Ignacio	142.71	126	PKP	PKPdf	05 43 31.5	-3.5
	comp=Z,1.6nm,0.6s,baz=212,slow=2.5,SNR=13						
TORD	Torodi Ar. Bea	147.60	286	PKPbc	PKPdf	05 43 43.8	+0.3
	comp=Z,0.8nm,0.4s,baz=65,slow=2.8,SNR=19						
TORD	Torodi Ar. Bea	147.60	286		PKPbc	05 43 45.7	-0.7
BDFB	Brasilia	152.50	141	PKPbc	PKPbc	05 43 57.5	-0.8
	comp=Z,2.6nm,0.6s,baz=312,slow=1.9,SNR=6.9						

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*IDC **08** 05:40:02.6±1.9, 32°.39S×178°.47W, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.8/32, mbtmp4.0/4, ML3.8/1, MS3.6/4, Ms1 3.6/4, ms1mx3.1/34, Error ellipse: s-maj=43.6km s-min=32.8km az=86.0*

*WEL **08** 05:40:04.8±0.9, 32°S±17°×17°9W±4°6, h33km, M4.5/6, mB4.7/3, ML4.8/10, MLv4.5/6, Mw(mB)3.9/3, Error ellipse: s-maj=0.1km s-min=0.0km az=109.8*

ISC 08 05:40:05.6±1.0**, 32°.28S**±0°.08×**178°.5W**±0°.2**, h33km, n29, σ1ˢ42**/32**, mb4.0**/3**, MS3.3**/4**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.04	9	P	Pn	05 40 48.6	-2.9
GLKZ				S	Sn	05 41 25.8	-1.0
MXZ	Matakaoa Point	5.90	206	P	Pn	05 41 29.6	-1.1
MXZ				S	Sn	05 42 35.5	-1.6
WMGZ	Waiomatatini S	6.09	204	P	Pn	05 41 32.5	-0.8
WMGZ				S	Sn	05 42 41.3	-0.6
HAZ	Te Kaha	6.27	208	P	Pn	05 41 34.8	-1.0
HAZ				S	Sn	05 42 47.3	+1.0
PKGZ	Pakihiroa	6.27	206	P	Pn	05 41 34.4	-1.5
PKGZ				S	Sn	05 42 45.9	-0.6
PUZ	Puketiti	6.37	204	P	Pn	05 41 38.3	+1.1
PUZ				S	Sn	05 42 46.8	-2.1
RUGZ	Raukumara Rang	6.50	208	P	Pn	05 41 37.3	-1.7
MWZ	Matawai	6.87	207	P	Pn	05 41 43.2	-0.9
MWZ				S	Sn	05 42 59.0	-2.2
URZ	Urewera	6.98	210	Pn	Pn	05 41 44.8	-0.7
	1.6nm,0.3s,baz=126,slow=22,SNR=7.3						
URZ				Sn	Sn	05 43 02.7	-1.0
	1.9nm,0.3s,baz=113,slow=23,SNR=5.9						
URZ	Urewera	6.98	210	P	Pn	05 41 44.9	-0.6
URZ				S	Sn	05 43 02.2	-1.5
RAGZ	Rawiri	7.06	207	P	Pn	05 41 47.1	+0.5
RAGZ				S	Sn	05 43 03.9	-1.9
RIGZ	Rimuhau	7.11	205	P	Pn	05 41 45.4	-2.0
RIGZ				S	Sn	05 43 05.2	-1.8
MUGZ	Murupara	7.31	211	P	Pn	05 41 50.1	+0.1
MSVF	Nonsavu	14.83	347	LR	LR	05 48 24.9	
	comp=Z,248nm,18.4s,baz=126,slow=34						
DZM	Mont Dzumac	16.83	303	eLR	LR	05 48 09.5	
	comp=Z,339nm,22.8s						
DZM	Mont Dzumac	16.83	303	LR	LR	05 49 36.5	
	comp=Z,426nm,18.4s,baz=51,slow=34						
RAR	Rarotonga	19.96	61	LR	LR	05 52 56.9	
	comp=Z,96nm,18.2s,baz=284,slow=39						
TBI	Tubuai	27.08	78	eLR	LR	05 51 53.2	
	comp=Z,87nm,25.5s						
PPT2	Papeete2	29.87	68	eLR	LR	05 53 02.9	
	comp=Z,89nm,27.8s						
PPT	Papeete	29.89	68	LR	LR	05 58 00.1	
	comp=Z,84nm,18.6s,baz=234,slow=36						
ASAR	Alice Springs	42.66	269	P	P	05 48 01.1	+1.8
	2.2nm,0.8s,baz=111,slow=7.7,SNR=10						
WRA	Warramunga Arr	43.82	274	P	P	05 48 10.4	+1.7
	2.7nm,0.7s,baz=115,slow=7.6,SNR=26						
QSPA	South Pole Qui	57.83	180	P	P	05 49 55.3	+1.5
	1.4nm,1.0s,baz=342,slow=2.0,SNR=2.2						
USHA	Ushuaia	74.59	146	LR	LR	06 16 34.1	
	comp=Z,1μm,21.0s,baz=262,slow=29						
SNAA	Sanae	76.29	179	P	P	05 51 51.3	+0.6
VNA3	Neumayer Olymp	76.46	176	P	P	05 51 52.3	+0.7
VNA2	Neumayer--Watz	76.89	177	P	P	05 51 54.6	+0.6
	baz=174,slow=4.6						
VNA1	Neumayer--Stat	77.12	177	P	P	05 51 56.2	+1.0
FINES	FINESS Array B	146.76	339	PKPbc	PKPab	05 59 44.8	+0.2
	4.1nm,0.8s,baz=56,slow=3.5,SNR=7.5						

IDC 08 05:41:13.6±3.2**, 32°.91S**×**178°.56W, h0km, mb3.8**/2**, mb1 4.0**/3**, mb1mx3.7**/32**, mbtmp3.8**/3**, ML3.7**/1**, MS3.5**/2**, Ms1 3.5**/2**, ms1mx3.0**/37**, Error ellipse: s-maj=78.6km s-min=37.7km az=115.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.40	212	Pn	Pn	05 42 48.9	-0.2
	1.6nm,0.3s,baz=125,slow=23,SNR=2.4						
URZ				Sn	Sn	05 44 03.4	+0.5
	0.6nm,0.3s,baz=141,slow=22,SNR=1.0						
AFI	Afiamalu	19.90	20	LR	LR	05 52 55.2	
	comp=Z,51nm,21.9s,baz=207,slow=35						
ASAR	Alice Springs	42.56	270	P	P	05 49 10.7	-0.7
	0.6nm,0.6s,baz=117,slow=8.0,SNR=1.6						
WRA	Warramunga Arr	43.78	275	P	P	05 49 21.8	+0.5
	0.9nm,0.5s,baz=115,slow=7.6,SNR=1.8						
KAPI	Kappang	63.62	282	LR	LR	06 21 17.2	
	comp=Z,82nm,18.3s,baz=48,slow=38						
FINES	FINESS Array B	147.31	338	PKPbc	PKPbc	06 00 57.5	-0.8
	1.7nm,0.6s,baz=62,slow=5.4,SNR=4.4						

MEX 08 05:46:34.6±0.5**, 15°.18N**×**93°.09W, h82km**±5km**, MD4.0, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		0.53	347	iP	Pn	05 46 47.2	-1.7
PCIG				iS	Sn	05 46 57.7	-1.7
THIG		0.84	109	eP	Pn	05 46 50.5	-1.5
THIG				iS	Sn	05 47 03.5	-1.4
CCIG	Comitan	1.43	40	iP	Pn	05 47 00.1	+0.8
CCIG				iS	Sn	05 47 18.3	+0.4
TGIG		1.59	359	eP	Pn	05 46 60.0	-1.3
TGIG				iS	Sn	05 47 19.5	-1.9
CMIG	Matias Romero	2.56	318	eP	Pn	05 47 13.2	-0.8
CMIG				iS	Sn	05 47 43.1	-1.3

MEX 08 05:56:44.2±0.8**, 16°.89N**×**93°.80W, h162km**±6km**, MD4.2, Chiapas**

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*IDC **08** 06:11:46.2±1.2, 8°.82S×127°.28E, h0km, mb4.1/4, mb1 4.3/8, mb1mx4.0/34, mbtmp4.2/8, ML4.1/4, MS3.4/1, Ms1 3.4/1, ms1mx2.5/50, Error ellipse: s-maj=35.1km s-min=22.6km az=80.0*

ISC 08 06:11:50.6±0.9**, 9°.02S**±0°.08×**127°.37E**±0°.09**, h35km, n10, σ1ˢ35**/13**, mb4.1**/4**, Timor Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	3.84	252	Pn	Pn	06 12 47.7	+0.4
	9.3nm,0.3s,baz=284,slow=6.9,SNR=1.8						
BATI				Sn	Sn	06 13 31.5	+0.2
	32nm,0.3s,baz=283,slow=21,SNR=9.1						
FITZ	Fitzroy Crossi	9.18	190	Pn	Pn	06 14 01.3	+0.7
	2.2nm,0.3s,baz=30,slow=11,SNR=50						
FITZ				Sn	Sn	06 15 42.2	-0.6
	2.9nm,0.3s,baz=294,slow=18,SNR=8.6						
WRA	Warramunga Arr	12.78	149	Pn	Pn	06 14 51.9	+1.9
	0.8nm,0.3s,baz=318,slow=15,SNR=12						
WRA				Sn	Sn	06 17 09.9	-1.2
	0.5nm,0.3s,baz=326,slow=26,SNR=5.3						
ASAR	Alice Springs	15.85	158	Pn	P	06 15 33.6	-1.0
	0.9nm,0.3s,baz=325,slow=11,SNR=58						
ASAR				Sn	Sn	06 18 24.6	-1.4
	0.3nm,0.3s,baz=314,slow=22,SNR=5.8						
CMAR	Chiang Mai Arr	39.14	314	P	P	06 19 14.2	-1.0
	1.4nm,0.3s,baz=141,slow=6.7,SNR=4.7						
JNU	Nakatsue	42.03	4	LR	LR	06 35 49.5	
	comp=Z,53nm,21.5s,baz=82,slow=34						
SONM	Songino Array	59.58	344	P	P	06 21 51.2	+0.3
	0.4nm,0.4s,baz=142,slow=7.3,SNR=1.6						
MKAR	Makanchi Array	68.52	328	P	P	06 22 48.6	-1.0
	0.7nm,0.5s,baz=129,slow=7.3,SNR=13						
ZALV	Zalesovo Beam	72.27	335	P	P	06 23 11.3	-0.9
	1.3nm,0.4s,baz=153,slow=5.1,SNR=4.8						
TORD	Torodi Ar. Bea	126.61	280	PKP	PKPdf	06 30 53.7	+2.4
	0.4nm,0.6s,baz=62,slow=2.7,SNR=3.2						

WEL 08 06:13:40.0, 38°S±19°×**17°7E**±3°6**, h119km**±37km**, M2.3**/3**, ML2.4**/6**, MLv2.3**/3**, Error ellipse: s-maj=0.1km s-min=0.0km az=94.4, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	0.62	148	P	Pn	06 13 58.6	0.0
URZ				S	Sn	06 14 14.7	+2.0
MUGZ	Murupara	0.74	176	P	Pn	06 13 59.9	+0.2
RUGZ	Raukumara Rang	0.81	107	P	Pn	06 13 59.9	-0.4
HAZ	Te Kaha	0.86	92	P	Pn	06 14 00.7	+0.1
HAZ				S	Sn	06 14 18.3	+2.1
MWZ	Matawai	0.89	133	P	Pn	06 14 01.4	+0.4
MWZ				S	Sn	06 14 19.0	+2.2
RTZ	Ruatahuna	0.91	166	P	Pn	06 14 01.2	0.0
SNGZ	Shannon Statio	1.16	154	P	Pn	06 14 03.6	-0.1
RAHZ	Arahi	1.22	166	P	Pn	06 14 07.5	+3.3
RIGZ	Rimuhau	1.28	139	P	Pn	06 14 05.0	+0.1
RIGZ				S	Sn	06 14 25.1	+1.2
WMGZ	Waiomatatini S	1.36	94	P	Pn	06 14 05.9	+0.1
CNGZ	Carnagh Statio	1.41	123	P	Pn	06 14 12.0	+5.8
BKZ	Black Stump Fm	1.44	186	P	Pn	06 14 05.8	-0.9

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*IDC **08** 06:19:48.0±1.2, 10°.20N×126°.37E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.8/44, mbtmp4.0/9, MS3.0/1, Ms1 3.0/1, ms1mx2.5/54, Error ellipse: s-maj=121.9km s-min=15.9km az=71.0*

*MAN **08** 06:19:55.4, 10°.09N×126°.08E, h12km, mb4.8, ML3.7, MS3.6*

ISC 08 06:19:50.3±0.9**, 10°.24N**±0°.06×**126°.36E**±0°.07**, h10km, n20, σ1ˢ85**/19**, mb4.0**/9**, 5C-1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	0.97	242⇑	eP	Pg	06 20 08.4	-0.6
SCPH				eS	Sg	06 20 19.0	-2.7
BIPH	Bislig	2.04	180⇑	eP	Pn	06 20 27.7	+2.9
BIPH				eS	Sn	06 20 51.2	+0.9
LLP	Lapu-Lapu	2.36	272⇓	eP	Pn	06 20 30.5	+1.4
LLP				iS	Sn	06 20 59.1	+1.0
BUKP	Musuan	2.67	209⇑	iP	Pn	06 20 35.3	+1.8
BUKP				iS	Sn	06 21 07.8	+1.8
SNPH	Sibulan	3.20	254	eP	Pn	06 20 42.3	+1.5
SNPH				eS	Sn	06 21 21.6	+2.5
DAV	Davao City (W)	3.24	194	LR	LR	06 22 16.1	
	comp=Z,211nm,18.4s,baz=162,slow=46						
KCP	Kidapawan	3.45	201⇑	eP	Pn	06 20 46.6	+2.4
RCP	Roxas	3.79	291⇑	eP	Pn	06 20 51.9	+3.1
FITZ	Fitzroy Crossi	28.16	181	P	P	06 25 41.9	-1.2
	0.6nm,0.4s,baz=1.5,slow=5.7,SNR=6.9						
WRA	Warramunga Arr	31.00	165	P	P	06 26 06.5	-1.7
	1.0nm,0.7s,baz=342,slow=9.7,SNR=12						
ASAR	Alice Springs	34.49	168	P	P	06 26 37.6	-1.2
	1.0nm,0.5s,baz=356,slow=7.1,SNR=15						
H11N1	WAKE ISLAND Hy	40.18	72	T	T	07 10 47.3	
	baz=264,slow=74,SNR=33						
H11N2	WAKE ISLAND Hy	40.19	72	T	T	07 10 48.7	
	baz=264,slow=74,SNR=36						
H11N3	WAKE ISLAND Hy	40.20	72	T	T	07 10 48.8	
	baz=264,slow=74,SNR=38						
SONM	Songino Array	41.08	340	P	P	06 27 32.7	-1.6
	0.3nm,0.3s,baz=158,slow=9.9,SNR=2.2						
STKA	Stephens Creek	44.34	161	P	P	06 28 00.2	-0.6
	1.9nm,0.6s,baz=348,slow=8.7,SNR=4.2						
MKAR	Makanchi Array	52.10	323	P	P	06 29 00.2	-0.5
	0.6nm,0.5s,baz=119,slow=8.1,SNR=10						
ZALV	Zalesovo Beam	54.70	331	P	P	06 29 19.1	-0.4
	0.9nm,0.5s,baz=126,slow=10,SNR=2.8						
ARCES	ARCESS Array B	84.25	340	P	P	06 32 21.8	-0.1
	2.0nm,0.8s,baz=74,slow=6.7,SNR=1.3						
FINES	FINESS Array B	85.96	332	P	P	06 32 30.6	0.0
	3.0nm,0.9s,baz=53,slow=4.2,SNR=5.5						

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*IDC **08** 06:31:48.2±1.5, 30°.50S×177°.76W, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.8/28, mbtmp4.0/6, ML3.2/1, Error ellipse: s-maj=36.3km s-min=24.0km az=91.0*

ISC 08 06:31:49.2±1.5**, 30°.48S**±0°.07×**177°.8W**±0°.2**, h10km, n15, σ1ˢ72**/11**, mb4.1**/5**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	1.23	353	Pn	Pg	06 32 12.9	0.0
	101nm,0.3s,baz=266,slow=22,SNR=2.0						
RAO				Sn	Sb	06 32 26.1	-2.4
	247nm,0.3s,baz=110,slow=23,SNR=5.7						
URZ	Urewera	8.84	207	Pn	Pn	06 33 55.7	-1.4
	0.3nm,0.3s,baz=303,slow=23,SNR=1.4						
URZ				Sn	Sn	06 35 34.3	-2.5
	0.8nm,0.3s,baz=297,slow=23,SNR=2.0						
CTA	Charters Tower	34.02	279	P	P	06 38 35.3	+1.7
	1.6nm,0.5s,baz=98,slow=12,SNR=2.4						
STKA	Stephens Creek	34.67	257	P	P	06 38 40.8	+1.8
	1.1nm,0.4s,baz=105,slow=12,SNR=3.2						
ASAR	Alice Springs	43.32	267	P	P	06 39 51.6	0.0
	0.4nm,0.5s,baz=105,slow=7.2,SNR=8.4						
WRA	Warramunga Arr	44.31	272	P	P	06 39 59.2	-0.4
	1.1nm,0.5s,baz=108,slow=7.9,SNR=20						
MAW	Mawson	72.31	201	P	P	06 43 14.8	+0.2
	0.8nm,0.4s,baz=112,slow=5.4,SNR=9.6						
H03S2	Juan Fernandez	80.24	123	T	T	08 13 11.1	
	baz=238,slow=74,SNR=13						
H03S1	Juan Fernandez	80.25	123	T	T	08 13 12.0	
	baz=238,slow=74,SNR=11						
H03S3	Juan Fernandez	80.26	123	T	T	08 13 11.1	
	baz=238,slow=74,SNR=13						
H10N3	ASCENSION HYDR	38.65	154	T	T	09 26 45.8	
	baz=203,slow=74,SNR=19						
H10N1	ASCENSION HYDR	38.65	154	T	T	09 26 44.4	
	baz=203,slow=74,SNR=12						
H10N2	ASCENSION HYDR	38.66	154	T	T	09 26 47.0	
	baz=203,slow=74,SNR=20						
FINES	FINESS Array B	145.29	340	PKPbc	PKPdf	06 51 25.6	-0.9
	0.7nm,0.4s,baz=58,slow=5.2,SNR=6.8						
TORD	Torodi Ar. Bea	162.74	178	PKPab	PKPab	06 52 42.3	+1.6
	0.5nm,1.0s,baz=186,slow=1.4,SNR=3.7						

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*INET **08** 06:33:34.4, 10°.09N×85°.79W, h115km, MW3.5*

UCR 08 06:33:42.9±2.9**, 10°.36N**×**85°.84W, h12km**±10km**, MW3.7, 9C-3D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAJU	San Juanillo,	0.32	156	eP	Pb	06 33 50.4	-0.2
SAJU				eS	Sb	06 33 56.0	+0.4
GUAI	GUAI	0.34	105⇓	iP	Pb	06 33 50.3	-0.5
GUAI				iS	Sb	06 33 55.9	-0.3
ORTG	Ortega, Santa	0.38	89	eP	Pg	06 33 50.9	+0.5
HZTE	Horizontes, Gu	0.43	34	eP	Pb	06 33 52.7	+0.2
HZTE				eS	Sb	06 33 59.4	+0.5
DUNO	Dulce Nombre,	0.44	129	eP	Pg	06 33 51.7	+0.1
PLVR	Palo Verde	0.48	91	eP	Pg	06 33 52.4	0.0
GRZA	Playa Garza	0.48	155	eP	Pg	06 33 52.5	+0.1
GBS3	Finca Las Img	0.57	42⇑	iP	Pg	06 33 54.2	+0.2
GBS3				iS	Sb	06 34 02.4	-0.5
LAPC	Finca la Perla	0.57	44⇑	iP	Pg	06 33 54.2	+0.1
INDI	Punta indio, G	0.59	146	eP	Pg	06 33 53.9	-0.6
BUEV	Buena Vista	0.61	44⇑	iP	Pg	06 33 54.9	0.0
BUEV				eS	Sb	06 34 03.7	-0.6
GPS3	Bodega del ICE	0.61	50⇑	iP	Pg	06 33 54.9	+0.1
GPS3				iS	Sb	06 34 04.0	-0.3
GPS2	Hotel Rincn d	0.62	51⇑	iP	Pg	06 33 55.1	+0.1
GPS2				iS	Sb	06 34 04.0	-0.5
GB1A	Borinquen Arri	0.63	43⇑	iP	Pg	06 33 55.2	0.0
LIM1	Limonal	0.67	60⇑	iP	Pg	06 33 55.7	-0.3
GUAB	Guayabo de Bag	0.69	60⇑	iP	Pg	06 33 55.9	-0.5
COLC	Colonia	0.70	64	iP	Pg	06 33 56.0	-0.4
COLC				iS	Sg	06 34 05.5	-0.1
BUAI	Buenos Aires	0.72	44	iP	Pg	06 33 56.6	-0.3
CUI	Cuipilapa	0.73	66⇑	iP	Pg	06 33 56.6	-0.4
CUI				iS	Sg	06 34 06.5	-0.2
HORNC	Hornillas	0.74	61	iP	Pg	06 33 56.6	-0.7
JTS	Las Juntas de	0.88	94	eP	Pg	06 33 58.3	-1.6
PTEN	Parque Tenorio	0.91	67	iP	Pg	06 33 59.4	-1.1
LAFE	Finca La Fe, P	1.07	121	eP	Pb	06 34 00.2	-3.1
CASO	Castillo	1.09	86⇓	iP	Pb	06 34 02.2	-1.6
ARE1	Arenal 1	1.11	85	eP	Pb	06 34 02.8	-1.3
ARE1				eS	Sb	06 34 17.7	-0.8
CEDE	Laguna Cedeo	1.12	83	iP	Pb	06 34 03.1	-1.3
CEDE				eS	Sb	06 34 18.1	-1.0
FORC	Fortuna	1.16	84⇓	iP	Pb	06 34 03.0	-1.9
SRA1	San Ramn	1.37	101	eP	Pn	06 34 06.2	-1.8
COVE	Coope Vega, Sa	1.46	76	eP	Pn	06 34 07.7	-1.4
CRPO	Crater poas	1.60	96	eP	Pn	06 34 09.8	-1.5
ACON	Acoyapa	1.73	22	eP	Pn	06 34 11.6	-1.3

DJA 08 06:43:27.7±0.6**, 9°S**±7°×**12°4E**±°**, h72km**±10km**, M3.7**/7**, mb3.9**/3**, MLv3.6**/7**, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SOEI	Soe	0.64	185	P	Pn	06 43 43.5	+1.2
SOEI				S	Sn	06 43 54.9	+1.9
BATI	Baumata	1.27	211	P	Pn	06 43 49.7	-0.1
BATI				S	Sn	06 44 07.3	+1.0
MMRI	Maumere	2.11	283	P	Pn	06 44 01.4	+0.5
EDFI	Ende, Flores	2.62	278	P	Pn	06 44 07.4	-0.5
PLAI	Plampang	6.47	272	P	Pn	06 45 00.2	-0.2
	0.1nm23nm,1.6s						

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*WEL **08** 06:48:00, 33°.04S×178°.55W, h12km, ML5.7, Mw5.7, Moment Tensor Solution. s6 Moment tensor: Scale 10¹⁷ Nm; Mrr1.97; Mθθ1.59; Mφφ-3.56; Mrθ1.24; Mθφ0.27; Mφr1.41; Fault plane solution: M₀3.59000×10¹⁷ NP1: φs143.00000°, δ44.00000°, λ33.00000°. NP2:φs28.00000°, δ67.00000°, λ129.00000°. Principal axes: T 32715.0200, Plg51.0000°, Azm344.0000°; N 6304.4300, Plg36.0000°, Azm190.0000°; P -39019.4500, Plg14.0000°, Azm91.0000°;*

*BJI **08** 06:48:29.0±0.0, 32°.74S×177°.90W, h9km, mB5.9/55, mb5.4/39, Ms5.7/62, Ms7 5.4/59*

*IDC **08** 06:48:30.7±0.3, 32°.91S×178°.55W, h0km, mb5.1/29, mb1 5.1/32, mb1mx5.0/47, mbtmp5.1/32, ML5.5/3, MS5.4/28, Ms1 5.5/28, ms1mx5.4/36, Error ellipse: s-maj=13.3km s-min=11.3km az=175.0*

*MOS **08** 06:48:31.6±1.1, 32°.85S×178°.61W, h10km, mb5.7/25, MS5.6/29, Error ellipse: s-maj=9.7km s-min=7.7km az=99.7*

*NEIC **08** 06:48:32.9±2.3, 33°.03S±0°.05×178°.53W±0°.08, h10km±1km, mb5.5/178, Ms_20 5.8/783, Mwb5.8/39, Mww5.8, Mwc5.8(GCMT), Error ellipse: s-maj=11.7km s-min=8.9km az=78.0*

*NOU **08** 06:48:33.4, 33°.37S×177°.87W, h37km, ML5.8/77, South of Kermadec Islands*

*NEIC **08** 06:48:33.3, 33°.07S×178°.52W, h6km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr2.12; Mθθ-2.19; Mφφ0.07; Mrθ1.73; Mθφ0.74; Mφr5.53; Fault plane solution: M₀6.23000×10¹⁷ NP1:φs204.47000°, δ4.50000°, λ96.71000°. NP2:φs17.73000°, δ85.53000°, λ89.47000°. Principal axes: T 7.0721, Plg49.0000°, Azm287.0000°; N -2.4112, Plg1.0000°, Azm18.0000°; P -4.6608, Plg41.0000°, Azm108.0000°;*

*BGR **08** 06:48:33.6±0.0, 33°.04S×178°.31W, h33km, Ms6.0*

*WEL **08** 06:48:33.0, 33°.04S×178°.55W, h10km, M5.7/30, mB6.0/27, ML6.3/30, MLv5.9/30, Mw(mB)5.7/27*

*GCMT **08** 06:48:35.9±0.1, 33°.07S±0°.01×178°.15W±0°.01, h18km, MW5.7/154, Moment Tensor Solution. s140,c262; s154,c415; Duration: 1ˢ8 Moment tensor: Scale 10¹⁷ Nm; Mrr2.80±.04; Mθθ-0.14±.02; Mφφ-2.66±.03; Mrθ0.60±.07; Mθφ-0.74±.02; Mφr4.27±.12; Best double couple: M₀5.15800×10¹⁷ NP1:φs201.00000°, δ17.00000°, λ102.00000°. NP2:φs9.00000°, δ73.00000°, λ86.00000°. Principal axes: T 5.1440, Plg61.0000°, Azm274.0000°; N 0.0330, Plg3.0000°, Azm10.0000°; P -5.1730, Plg28.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **08** 06:48:37, 33°.07S×178°.12W, h18km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr2.75; Mθθ-0.04; Mφφ-2.70; Mrθ0.69; Mθφ-0.82; Mφr4.52; Fault plane solution: M₀5.39000×10¹⁷ NP1:φs203.00000°, δ16.00000°, λ103.00000°. NP2:φs10.00000°, δ74.00000°, λ86.00000°. Principal axes: T 5.3083, Plg61.0000°, Azm274.0000°; N 0.1519, Plg3.0000°, Azm11.0000°; P -5.4602, Plg29.0000°, Azm103.0000°;*

*NEIC **08** 06:48:43, 33°.44S×177°.95W, h14km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr2.57; Mθθ-0.25; Mφφ-2.32; Mrθ1.80; Mθφ-1.15; Mφr5.22; Fault plane solution: M₀6.15000×10¹⁷ NP1:φs210.00000°, δ13.00000°, λ100.00000°. NP2:φs19.00000°, δ77.00000°, λ88.00000°. Principal axes: T 6.0246, Plg58.0000°, Azm286.0000°; N 0.2386, Plg2.0000°, Azm20.0000°; P -6.2632, Plg32.0000°, Azm111.0000°;*

ISC 08 06:48:32.2±0.4**, 33°.11S**±0°.04×**178°.44W**±0°.04**, h11km**±2km**, h11km:pP-P, n1446, σ2ˢ52**/1226**, mb5.5**/153**, MS5.8**/451**, 94C-44D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.87	7	P	Pn	06 49 27.4	-4.1
GLKZ				S	Sn	06 50 10.6	-6.3
RAO	Raoul Island	3.88	7	Pn	Pn	06 49 27.6	-4.1
	290nm,0.3s,baz=85,slow=8.2,SNR=12						
RAO				Sn	Sn	06 50 09.9	-7.2
	338nm,0.3s,baz=302,slow=23,SNR=4.9						
RAO	Raoul Island	3.88	7	P	Pn	06 49 28.2	-3.5
RAO	Raoul Island	3.88	7		Pn	06 49 28.2	-3.5
RAO	Raoul Island	3.88	7	⇓P	Pn	06 49 28.1	-3.6
RIZ	Raoul Island	3.88	7	P	Pn	06 49 27.9	-3.8
RIZ				S	Sn	06 50 11.2	-6.1
MXZ	Matakaoa Point	5.17	210		Pn	06 49 49.2	-0.3
MXZ	Matakaoa Point	5.17	210	P	Pn	06 49 49.1	-0.4
MXZ				S	Sn	06 50 49.6	+0.4
WMGZ	Waiomatatini S	5.35	208	P	Pn	06 49 52.2	+0.2
PKGZ	Pakihiroa	5.55	210	P	Pn	06 49 54.5	-0.2
PKGZ				S	Sn	06 50 59.1	+0.6
HAZ	Te Kaha	5.56	213	P	Pn	06 49 55.5	+0.7
HAZ				S	Sn	06 51 00.9	+2.1
PUZ	Puketiti	5.63	208	P	Pn	06 49 54.5	-1.4
PUZ				S	Sn	06 51 00.3	-0.1
RUGZ	Raukumara Rang	5.78	212	P	Pn	06 49 57.3	-0.7
RUGZ				S	Sn	06 51 05.9	+1.6
TWGZ	Tauwhareparae	5.83	209	P	Pn	06 49 58.2	-0.4
TWGZ				S	Sn	06 51 07.0	+1.6
CNGZ	Carnagh Statio	6.01	206	P	Pn	06 49 60.0	-1.0
CNGZ				S	Sn	06 51 11.9	+2.1
KUZ	Kuaotunu	6.01	231	P	Pn	06 50 03.9	+2.9
WHRZ	Whale Island	6.03	217	P	Pn	06 50 04.2	+2.9
WHRZ				S	Sn	06 51 11.9	+1.6
TKGZ	Te Karaka	6.11	209	P	Pn	06 50 02.0	-0.3
TKGZ				S	Sn	06 51 10.7	-1.6
MWZ	Matawai	6.16	211	P	Pn	06 50 01.8	-1.2
MWZ				S	Sn	06 51 13.6	+0.2
URZ	Urewera	6.28	214	Pn	Pn	06 50 05.8	+1.1
	47nm,0.3s,baz=121,slow=23,SNR=137						
URZ				Sn	Sn	06 51 16.4	-0.1
	175nm,0.3s,baz=168,slow=21,SNR=10.0						
URZ	Urewera	6.28	214		Pn	06 50 04.1	-0.7
URZ	Urewera	6.28	214	P	Pn	06 50 04.0	-0.8
URZ				S	Sn	06 51 16.0	-0.5
URZ	Urewera	6.28	214	⇑P	Pn	06 50 03.4	-1.3
MARZ	Manawahe	6.28	218	P	Pn	06 50 07.3	+2.5
MARZ				S	Sn	06 51 20.6	+4.0
RAGZ	Rawiri	6.34	211	P	Pn	06 50 04.2	-1.4
RAGZ				S	Sn	06 51 17.9	-0.1
EDRZ	Edgecumbe	6.34	217	P	Pn	06 50 07.5	+1.9
EDRZ				S	Sn	06 51 20.6	+2.5
RIGZ	Rimuhau	6.37	208	P	Pn	06 50 04.7	-1.4
RIGZ				S	Sn	06 51 19.2	+0.4
MKRZ	Makatiti	6.51	218	P	Pn	06 50 11.5	+3.6
PRGZ	Paritu Road	6.52	206	P	Pn	06 50 06.0	-2.0
PRGZ				S	Sn	06 51 20.7	-1.6
OMRZ	Omania	6.53	219	P	Pn	06 50 11.7	+3.5
KARZ	Kaharoa	6.54	220	P	Pn	06 50 10.7	+2.4
TARZ	Mount Tarawera	6.56	217	P	Pn	06 50 11.1	+2.4
SNGZ	Shannon Statio	6.61	210	P	Pn	06 50 08.2	-1.1
SNGZ				S	Sn	06 51 25.6	+1.0
MUGZ	Murupara	6.62	215	P	Pn	06 50 09.0	-0.3
RTZ	Ruatahuna	6.63	213	P	Pn	06 50 09.6	0.0
RRRZ	Republican Roa	6.63	217	P	Pn	06 50 11.6	+2.0
HLRZ	Highlands Stat	6.65	218	P	Pn	06 50 12.9	+3.0
UTU	Utuhina	6.68	219	P	Pn	06 50 18.4	+8.2
KNZ	Kokohu	6.68	207	P	Pn	06 50 08.8	-1.4

MHGZ Mahia Peninsul 6.71 205 P Pn **06 50 09.4 -1.2**
HSRZ Hossack Road 6.75 218 P Pn **06 50 13.4 +2.2**
HRRZ Handcock Road 6.79 218 P Pn **06 50 14.0 +2.2**
PRRZ Plateau Road 6.82 217 P Pn **06 50 13.5 +1.3**
RAHZ Arahi 6.83 211 P Pn **06 50 13.2 +0.9**
MTHZ Maungataniwha 6.89 212 P Pn **06 50 14.2 +1.1**
ALRZ Allen Road 6.89 216 P Pn **06 50 14.4 +1.3**
WHHZ Waihua 6.90 209 P Pn **06 50 14.7 +1.4**
OUZ Omahuta 6.93 250 Pn Pn **06 50 17.4 +3.8**
OUZ Omahuta 6.93 250 ⇑P Pn **06 50 16.8 +3.2**
NMHZ Naumai 7.10 211 P Pn **06 50 15.3 -0.8**
KUTZ Kaahu Road 7.11 219 P Pn **06 50 17.9 +1.8**
TLZ Tolley Road 7.14 222 P Pn **06 50 19.0 +2.4**
ARHZ Aropaoanui 7.16 210 P Pn **06 50 16.6 -0.2**
WHTZ Whakaora 7.17 218 P Pn **06 50 19.6 +2.6**
BKZ Black Stump Fm 7.30 213 Pn **06 50 17.5 -1.3**
BKZ Black Stump Fm 7.30 213 P Pn **06 50 17.1 -1.7**
WATZ Wairara 7.31 219 P Pn **06 50 21.0 +2.0**
RATZ Rangitukua 7.41 218 P Pn **06 50 21.6 +1.2**
MCHZ McNeill Hill 7.44 210 P Pn **06 50 20.8 +0.2**
RITZ Rihia Road 7.45 217 P Pn **06 50 21.4 +0.5**
CKHZ Cape Kidnapper 7.46 208 P Pn **06 50 18.5 -2.5**
KWHZ Kaweka Forest 7.54 212 P Pn **06 50 21.2 -0.9**
TMVZ Te Maari 7.64 217 P Pn **06 50 22.9 -0.5**
NTVZ North Tongarir 7.64 217 P Pn **06 50 23.3 -0.2**
ETVZ East Tongariro 7.65 217 P Pn **06 50 23.8 +0.1**
KRVZ Karewarewa 7.65 217 P Pn **06 50 24.0 +0.3**
HIZ Hauiti 7.66 223 Pn Pn **06 50 25.1 +1.4**
HIZ Hauiti 7.66 223 P Pn **06 50 26.5 +2.8**
KAHZ Kahuranaki 7.66 208 P Pn **06 50 20.1 -3.6**
OTVZ Oturere 7.69 217 P Pn **06 50 23.9 -0.3**
NNVZ North Ngauruho 7.69 217 P Pn **06 50 24.7 +0.4**
WTVZ West Tongariro 7.69 217 P Pn **06 50 24.7 +0.5**
SNVZ South Ngauruho 7.72 217 P Pn **06 50 24.4 -0.3**
NGZ Ngauruhoe 7.73 217 P Pn **06 50 25.6 +0.8**
TWVZ Taurewa 7.74 218 P Pn **06 50 24.9 +0.1**
KRHZ Kereru 7.74 211 P Pn **06 50 23.4 -1.4**
BHHZ Black Hill Sta 7.76 213 P Pn **06 50 23.9 -1.1**
TUVZ Tukino 7.78 216 P Pn **06 50 25.9 +0.5**
FWVZ Far West T-bar 7.82 217 P Pn **06 50 25.9 -0.2**
WHVZ Whangaehu Hut 7.82 216 P Pn **06 50 26.4 +0.4**
MOVZ Moawhango 7.84 215 P Pn **06 50 25.1 -1.1**
WNVZ Wahianoa 7.85 216 P Pn **06 50 25.5 -0.9**
TRVZ Turoa 7.85 216 P Pn **06 50 27.4 +0.9**
PXZ Pawanui 7.87 207 P Pn **06 50 25.6 -0.9**
PKVZ Pokaka 7.95 217 P Pn **06 50 28.7 +1.0**
MTVZ Mangateitei 7.96 216 P Pn **06 50 27.2 -0.6**
PNHZ Pukenui 8.04 211 P Pn **06 50 27.2 -1.8**
VRZ Vera Road 8.14 221 P Pn **06 50 34.6 +4.4**
DVHZ Dannevirke 8.38 210 P Pn **06 50 31.3 -2.2**
ANWZ Angora Road 8.39 208 P Pn **06 50 32.7 -0.9**
WAZ Wanganui 8.48 217 P Pn **06 50 34.0 -0.9**
NEZ North Egmont 8.61 222 P Pn 06 50 41.8 +5.0
PKE Pukeiti 8.62 223 P Pn 06 50 45.3 +8.5
POWZ Post Office Ro 8.62 211 P Pn **06 50 36.5 -0.3**
BFZ Birch Farm 8.67 208 Pn Pn **06 50 35.5 -2.0**
BFZ Birch Farm 8.67 208 P Pn **06 50 32.9 -4.5**
KHEZ Kahui Hut 8.67 223 P Pn 06 50 43.1 +5.5
PRWZ Pori Road 8.67 209 P Pn **06 50 35.6 -1.9**
NBEZ Newall Road No 8.74 223 P Pn 06 50 44.9 +6.5
TIWZ Tintock 8.89 209 P Pn **06 50 39.5 -1.1**
MRZ Mangatainoka R 8.93 211 P Pn **06 50 37.5 -3.5**
HOWZ Holdsworth Sta 9.15 210 P Pn **06 50 40.5 -3.6**
TMWZ Te Maipa 9.17 208 P Pn **06 50 40.0 -4.4**
OGWZ Otaki Gorge 9.23 212 P Pn **06 50 42.6 -2.6**
MTW Mount Morrison 9.37 209 P Pn **06 50 43.3 -3.8**
KIW Kapiti Island 9.38 213 P Pn **06 50 42.7 -3.6**
TRWZ Traveller 9.50 208 P Pn **06 50 46.5 -2.4**
CAW Cannon Point 9.51 211 P Pn **06 50 46.5 -2.5**
PAWZ Paruwai Farm 9.59 209 P Pn **06 50 46.2 -4.0**
MSWZ Moikau Station 9.69 209 P Pn **06 50 48.9 -2.6**
PLWZ Palliser 9.82 209 P Pn **06 50 50.5 -2.8**
TCW Tory Channel 9.95 214 P Pn **06 50 51.3 -3.8**
TUWZ Tuamarina 10.28 214 Pn **06 50 57.1 -2.4**
TUWZ Tuamarina 10.28 214 P Pn **06 50 55.0 -4.6**
NNZ Nelson 10.39 217 P Pn **06 50 57.9 -3.2**
CTZ Chatham Island 10.70 173 P Pn **06 51 04.3 -1.0**
THZ Tophouse 11.03 216 Pn **06 51 07.5 -2.4**
THZ Tophouse 11.03 216 P Pn **06 51 05.5 -4.5**
KHZ Kahutara 11.24 212 P Pn **06 51 11.2 -1.5**
KHZ Kahutara 11.24 212 ⇓S Sn **06 53 11.5 -6.8**
DSZ Denniston Nort 11.58 219 P Pn **06 51 14.9 -2.6**
GVZ Greta Valley S 11.91 212 P Pn **06 51 19.0 -2.9**
LTZ Lake Taylor 12.11 214 Pn Pn **06 51 21.5 -3.2**
LTZ Lake Taylor 12.11 214 P Pn **06 51 20.5 -4.1**
NFK Norfolk Island 12.36 286 P Pn **06 51 28.3 +0.2**
baz=12,SNR=3.3
INZ Inchbonnie 12.47 217 P Pn **06 51 27.0 -2.5**
OXZ Oxford 12.64 213 Pn **06 51 29.6 -2.2**
OXZ Oxford 12.64 213 P Pn **06 51 28.0 -3.9**
MQZ McQueen's Vall 12.66 211 P Pn 06 51 25.9 -6.3
MHCZ Mount Hutt 13.02 214 P Pn **06 51 33.4 -3.7**
RPZ Rata Peaks 13.40 215 Pn Pn **06 51 41.2 -1.0**
FOZ Fox Glacier 13.88 218 Pn Pn **06 51 49.3 +0.5**
ODZ Otahua Downs 14.60 212 ⇑P Pn **06 51 56.4 -2.3**
ODZ ⇑S Sn 06 54 27.3 -13
MSVF Nonsavu 15.64 347 Pn Pn **06 52 09.8 -2.9**
1.4nm,0.3s,baz=162,slow=13,SNR=12
MSVF LR LR 06 57 10.6
comp=Z,24µm,19.5s,baz=171,slow=34
MSVF Nonsavu 15.64 347 P Pn **06 52 12.0 -0.7**
MSVF pmax pmax
comp=Z,789nm,2.0s
MSVF Nonsavu 15.64 347 Pn Pn **06 52 12.0 -0.7**
MSVF IAmb IAmb 06 52 25.5
comp=Z,789nm,2.0s
MSVF Nonsavu 15.64 347 ⇑P Pn **06 52 11.0 -1.6**
MSVF Nonsavu 15.64 347 P Pn **06 52 13.1 +0.5**
MLZ Mavora Lakes 16.04 216 Pn Pn **06 52 16.2 -1.4**
PINNC Pines Island, 16.27 306 P P **06 52 26.0 +2.3**
MARNC Mare, Loyalty 16.68 311 P P **06 52 27.9 -0.3**
MARNC Mare, Loyalty 16.68 311 ⇑P Pn **06 52 26.8 +0.9**
MARNC Mare, Loyalty 16.68 311 P P **06 52 32.3 +4.1**
OUENC Ouen Island, N 16.81 306 P P **06 52 31.3 +1.7**
OUENC Ouen Island, N 16.81 306 P P **06 52 32.3 +2.6**
YATNC Mamie plateau, 17.02 307 P P **06 52 36.5 +4.5**
ONTNC Ouen Toro 17.15 305 P P **06 52 36.1 +2.7**
ONTNC IAmb IAmb 06 53 01.6
comp=Z,268nm,1.0s
ONTNC Ouen Toro 17.15 305 P P **06 52 37.2 +3.8**
DZM Mont Dzumac 17.31 306 *e*Pn P **06 52 37.7 +2.4**
comp=Z,754nm,1.4s
DZM *e*LQ LQ 06 56 04.5
comp=Z,19µm,26.4s
DZM eLR LR 06 56 49.6
comp=Z,41µm,22.7s
DZM Mont Dzumac 17.31 306 P P **06 52 37.8 +2.4**
comp=Z,2.0nm,0.3s,baz=123,slow=13,SNR=45
DZM LR LR 06 58 19.9
comp=Z,55µm,18.1s,baz=130,slow=34
DZM Mont Dzumac 17.31 306 P P **06 52 37.9 +2.6**
DZM IAmb IAmb 06 52 45.0
comp=Z,583nm,1.5s
DZM Mont Dzumac 17.31 306 ⇑P P **06 52 37.8 +2.4**
DZM Mont Dzumac 17.31 306 P P **06 52 38.9 +3.5**
NOUC Port Laguerre 17.39 305 P P **06 52 39.9 +3.8**
LIFNC LIFOU 17.69 310 P P **06 52 41.8 +2.3**
LIFNC LIFOU 17.69 310 P P **06 52 43.2 +3.7**
KOUNC Koumac, New Ca 19.82 305 ⇑P Pn **06 53 05.8 +1.4**
KOUNC Koumac, New Ca 19.82 305 P Pn **06 53 06.6 +2.2**
AFI Afiamalu 20.06 19 P P **06 53 00.8 -4.7**
comp=Z,5.6nm,0.3s,baz=70,slow=7.4,SNR=7.5
AFI S S 06 56 29.4 -22
comp=Z,1.1nm,0.3s,baz=24,slow=19,SNR=3.2
AFI Afiamalu 20.06 19 P P **06 53 04.1 -1.5**
AFI pmax pmax
comp=Z,233nm,1.0s
AFI MLR MLR
comp=Z,11µm,20.0s
AFI Afiamalu 20.06 19 P P **06 53 04.1 -1.5**
AFI IAmb IAmb 06 53 08.2
comp=Z,233nm,0.9s
AFI Afiamalu 20.06 19 ⇑P P **06 53 02.0 -3.5**
AFI Afiamalu 20.06 19 P P **06 53 03.3 -2.2**
RAR Rarotonga 20.37 59 P P **06 53 07.2 -1.6**
comp=Z,27nm,0.5s,baz=232,slow=9.2,SNR=13
RAR S S 06 56 34.9 -22
comp=Z,17nm,0.8s,baz=80,slow=19,SNR=2.9
RAR LR LR 07 01 05.1
comp=Z,6µm,18.4s,baz=222,slow=37
RAR Rarotonga 20.37 59 P P **06 53 08.4 -0.4**
RAR pmax pmax
comp=Z,175nm,1.2s
RAR MLR MLR
comp=Z,10µm,19.0s
RAR Rarotonga 20.37 59 P **06 53 08.4 -0.4**
RAR Rarotonga 20.37 59 ⇓P P **06 53 08.3 -0.5**
RAR Rarotonga 20.37 59 P P **06 53 06.7 -2.1**
SANVU Saraoutou 21.88 320 P P **06 53 26.7 +1.6**
SANVU IAmb IAmb 06 53 34.2
comp=Z,183nm,0.8s
SANVU Saraoutou 21.88 320 ⇑P P **06 53 24.1 -1.0**
SANVU Saraoutou 21.88 320 P P **06 53 30.0 +4.9**
RIV Riverview 25.33 260 P P **06 54 02.5 +3.5**
RIV pmax pmax
comp=Z,173nm,2.8s
ARMA Armidale 25.55 268 P P **06 54 02.9 +1.8**
baz=26,SNR=11
ARMA Armidale 25.55 268 P P **06 54 03.7 +2.6**
ARMA IAmb IAmb 06 54 07.4
comp=Z,113nm,1.2s
ARMA Armidale 25.55 268 ⇑P P **06 54 04.1 +3.0**
CNB Canberra Magne 26.66 256 P P **06 54 13.6 +2.5**
baz=27,SNR=9.1
MCQ Macquarie Isla 26.67 210 IAMs_20 IAMs_20 07 05 42.2
comp=Z,18µm,18.0s
MILA Mila 26.74 252 P P **06 54 14.0 +2.2**
baz=27,SNR=3.4
CAN Canberra 26.95 256 P P **06 54 15.9 +2.2**
CAN pmax pmax
comp=Z,109nm,2.1s
CAN Canberra 26.95 256 IAmb IAmb 06 54 17.9
comp=Z,233nm,1.7s
CAN IAMs_20 IAMs_20 07 04 01.8
comp=Z,28µm,19.0s
CAN Canberra 26.95 256 ⇑P P **06 54 15.8 +2.0**
TBI Tubuai 27.25 77 *e*S S **06 58 48.4 -7.0**
comp=Z,1µm,26.5s
TBI *e*LQ LQ 06 59 43.7
comp=Z,6µm,23.2s
TBI *e*LR LR 07 00 49.4
comp=Z,11µm,29.2s,baz=238
TBI Tubuai 27.25 77 *e*T T 07 22 00.4
comp=Z,13nm,0.3s
YNG Young 27.55 258 P P **06 54 21.5 +2.4**
baz=28,SNR=6.6
EIDS Eidsvold 27.62 278 P P **06 54 21.6 +1.9**
baz=28,SNR=22
EIDS Eidsvold 27.62 278 P P **06 54 20.9 +1.1**
EIDS IAmb IAmb 06 54 23.4
comp=Z,166nm,0.9s
EIDS Eidsvold 27.62 278 ⇑P P **06 54 21.1 +1.3**
TAU Tasmania Unive 28.53 240 P P **06 54 28.2 +0.6**
TAU pmax pmax
comp=Z,73nm,0.9s
TAU MLR MLR
comp=Z,25µm,18.0s
TAU Tasmania Unive 28.53 240 P P **06 54 28.2 +0.6**
TAU IAmb IAmb 06 54 30.4
comp=Z,73nm,0.8s
TAU Tasmania Unive 28.53 240 IAMs_20 IAMs_20 07 06 33.6
comp=Z,25µm,18.0s
TAU Tasmania Unive 28.53 240 ⇓P P **06 54 29.0 +1.3**
MOO Moorlands 28.55 241 P P **06 54 29.5 +1.6**
baz=29,SNR=8.3
RMQ Roma 29.14 274 P P **06 54 35.6 +2.3**
baz=29,SNR=55
TOO Toolangi 29.64 251 P P **06 54 39.4 +1.7**
baz=30,SNR=4.6
TOO Toolangi 29.64 251 P P **06 54 37.7 0.0**
TOO pmax pmax
comp=Z,83nm,1.2s
TOO MLR MLR
comp=Z,14µm,19.0s
TOO Toolangi 29.64 251 P P **06 54 37.7 0.0**
TOO IAmb IAmb 06 54 41.2
comp=Z,83nm,1.2s
TOO Toolangi 29.64 251 ⇑P P **06 54 39.0 +1.3**
PAE Paea 30.14 66 *e*T T 07 25 33.3
comp=Z,3.8nm,0.3s
PPT2 Papeete2 30.19 66 *e*S S **06 59 34.5 -7.4**
comp=Z,1µm,25.0s
PPT2 *e*LQ LQ 07 00 58.1
comp=Z,5µm,21.2s
PPT2 *e*LR LR 07 02 15.9
comp=Z,7µm,22.2s,baz=230
PPT2 Papeete2 30.19 66 *e*T T 07 25 37.6
comp=Z,3.8nm,0.3s
PPT Papeete 30.20 66 LR LR 07 04 10.5
comp=Z,5µm,19.7s,baz=245,slow=31
CMSA Cobar Meteorol 30.26 263 P P **06 54 44.8 +1.6**
baz=30,SNR=68
HNR Honiara 30.87 315 LR LR 07 06 16.0
comp=Z,6µm,18.3s,baz=161,slow=35
ARPS Mount Arapiles 32.60 252 P P **06 55 05.5 +1.7**
baz=33,SNR=18
QLP Quilpie 32.90 271 P P **06 55 07.8 +1.4**
baz=33,SNR=20
QLP Quilpie 32.90 271 ⇑P P **06 55 07.5 +1.0**
VAH Vaihoa 33.09 65 *e*T T 07 29 13.2
comp=Z,9.6nm,0.2s
STKA Stephens Creek 33.59 261 P P **06 55 13.5 +1.0**
baz=34,SNR=14
STKA Stephens Creek 33.59 261 P P **06 55 13.2 +0.7**
comp=Z,7.9nm,0.7s,baz=98,slow=11,SNR=14
STKA PcP PcP **06 57 52.7 -0.1**
comp=Z,15nm,0.7s,baz=54,slow=6.2,SNR=6.8
STKA LR LR 07 08 22.9
comp=Z,23µm,18.4s,baz=97,slow=36
STKA Stephens Creek 33.59 261 P P **06 55 13.4 +1.0**
STKA pmax pmax
comp=Z,20nm,1.5s
STKA MLR MLR
comp=Z,5µm,19.0s
STKA Stephens Creek 33.59 261 P P **06 55 13.4 +1.0**
CTA Charters Tower 33.96 284 P P **06 55 16.2 +0.4**
comp=Z,74nm,0.6s,baz=116,slow=10,SNR=93
CTA S S **07 00 41.6 +0.9**
comp=Z,3.8nm,0.7s,baz=249,slow=18,SNR=7.3
CTA LR LR 07 07 39.8
comp=Z,6µm,18.6s,baz=129,slow=34
CTAO Charters Tower 33.96 284 P P **06 55 17.1 +1.3**
CTAO pmax pmax
comp=Z,569nm,1.7s
CTAO MLR MLR
comp=Z,7µm,19.0s
CTAO Charters Tower 33.96 284 P P **06 55 17.1 +1.3**
CTAO Charters Tower 33.96 284 ⇑P P **06 55 16.9 +1.1**
HTT Hallett 35.47 257 P P **06 55 29.6 +0.9**
baz=36,SNR=15
HTT Hallett 35.47 257 ⇑P P **06 55 28.9 +0.1**
MTSU Mount Surprise 36.53 285 P P **06 55 39.3 +1.4**
baz=36,SNR=45
BBOO Buckleboo 37.95 258 P P **06 55 49.5 -0.3**
baz=38,SNR=33
BBOO Buckleboo 37.95 258 P P **06 55 48.8 -1.0**
BBOO IAMs_20 IAMs_20 07 11 16.8
comp=Z,14µm,18.0s
QIS Mount Isa 39.22 278 P P **06 56 01.3 +0.6**
baz=39,SNR=28
COEN Coen 39.73 289 P P **06 56 04.8 -0.1**
COEN IAmb IAmb 06 56 20.8
comp=Z,224nm,1.4s
COEN Coen 39.73 289 ⇑P P **06 56 05.6 +0.6**
RABL Rabaul 39.76 310 P P **06 56 05.6 +0.5**
RABL Rabaul 39.76 310 P P **06 56 08.5 +3.4**
XMAS Kiritimati 40.20 34 IAMs_20 IAMs_20 07 10 59.6
comp=Z,12µm,20.0s
AS31 Alice Springs 42.66 270 P P **06 56 28.7 -0.4**
ASAR Alice Springs 42.66 270 P P **06 56 28.6 -0.4**
comp=Z,102nm,0.7s,baz=112,slow=7.6,SNR=448
ASAR PcP PcP **06 58 21.1 +0.2**
comp=Z,20nm,0.9s,baz=122,slow=5.0,SNR=4.5
ASAR ScP ScP **07 02 12.7 +1.0**
comp=Z,1.6nm,0.7s,baz=128,slow=6.0,SNR=3.1
ASAR S S **07 02 49.2 -3.0**
comp=Z,8.6nm,1.0s,baz=115,slow=15,SNR=12
ASAR ScS ScS **07 06 28.1 -2.6**
comp=Z,0.8nm,0.8s,baz=123,slow=6.7,SNR=4.6
ASAR Alice Springs 42.66 270 P P **06 56 28.2 -0.8**
TAOE Nuku Hiva Isla 42.77 64 *e*S S **07 02 47.8 -6.2**
comp=Z,2µm,24.2s
TAOE *e*LQ LQ 07 06 16.5
comp=Z,5µm,27.3s
TAOE *e*LR LR 07 07 56.5
comp=Z,5µm,27.1s,baz=230
WR0 Warramunga Arr 43.72 275 IAmb IAmb 06 56 39.0
comp=Z,120nm,0.9s
WRAB Tennant Creek 43.89 275 *c i*P P **06 56 38.1 -0.9**
WRAB pmax pmax
comp=Z,148nm,0.8s
WRAB MLR MLR
comp=Z,8µm,15.0s
WRAB Tennant Creek 43.89 275 P P **06 56 37.1 -1.8**
WRAB Tennant Creek 43.89 275 ⇑P P **06 56 38.0 -1.0**
WRA Warramunga Arr 43.90 275 P P **06 56 38.2 -0.8**
comp=Z,107nm,0.7s,baz=118,slow=7.6,SNR=472
WRA ScP **ScP 07 02 16.8 0.0**
comp=Z,8.3nm,1.0s,baz=100,slow=4.0,SNR=6.7
WRA S **S 07 03 06.8 -3.6**
comp=Z,6.4nm,1.0s,baz=120,slow=14,SNR=5.3
WRA Warramunga Arr 43.90 275 P P **06 56 37.9 -1.1**
FORT Forrest 45.05 258 P P **06 56 47.2 -0.8**
baz=45,SNR=23
FORT Forrest 45.05 258 P P **06 56 46.9 -1.2**
FORT IAMs_20 IAMs_20 07 15 10.9
comp=Z,12µm,18.0s
FORT Forrest 45.05 258 ⇑P P **06 56 46.7 -1.4**
SBA Scott Base 45.31 184 P P **06 56 53.4 +3.9**
SBA pmax pmax
comp=Z,134nm,1.4s
SBA Scott Base 45.31 184 P P **06 56 53.4 +3.9**
SBA IAmb IAmb 06 57 12.1
comp=Z,134nm,1.4s
VNDA Vanda 45.37 186 P P **06 56 53.4 +3.5**
comp=Z,2.1nm,0.7s,baz=11,slow=6.6,SNR=10
VNDA LR LR 07 13 03.4
comp=Z,4µm,19.1s,baz=22,slow=32
VNDA Vanda 45.37 186 P P **06 56 53.5 +3.5**
VNDA pmax pmax
comp=Z,64nm,1.5s
VNDA Vanda 45.37 186 P P **06 56 53.5 +3.6**
VNDA IAmb IAmb 06 57 25.3
comp=Z,64nm,1.4s
PATS Pohnpei 45.46 327 IAMs_20 IAMs_20 07 12 22.4
comp=Z,10µm,20.0s
WRKA Warakurna 46.83 265 P P **06 57 01.2 -1.0**
baz=47,SNR=79
WRKA Warakurna 46.83 265 ⇑P P **06 57 00.8 -1.5**
JAY Jayapura 48.86 300 P P **06 57 17.7 -0.3**
comp=Z,102nm,0.9s,baz=126,slow=4.9,SNR=14
JAY LR LR 07 17 53.9
comp=Z,4µm,18.3s,baz=137,slow=36
JAY Jayapura 48.86 300 P P **06 57 16.4 -1.7**
comp=Z,1µmcomp=Z,82nm,1.0s
KDU Kakadu 49.08 283 P P **06 57 18.8 -0.9**
baz=49,SNR=20
KDU Kakadu 49.08 283 ⇑P P **06 57 18.4 -1.3**
GENI Genyem 49.20 299 P P **06 57 20.4 -0.2**
comp=Z,4µmcomp=Z,4µmcomp=Z,222nm,0.9s
MTN Manton Dam 50.09 281 P P **06 57 26.4 -1.0**
baz=50,SNR=12
MTN Manton Dam 50.09 281 P P **06 57 26.1 -1.3**
MTN IAMs_20 IAMs_20 07 19 20.7
comp=Z,9µm,18.0s
MTN Manton Dam 50.09 281 ⇑P P **06 57 25.7 -1.7**
JOHN Johnston Islan 50.29 11 P P **06 57 28.9 +0.2**
KNRA Kununurra 50.59 277 P P **06 57 30.7 -0.5**
baz=50,SNR=25
KNRA Kununurra 50.59 277 P P **06 57 29.9 -1.4**
KNRA IAMs_20 IAMs_20 07 18 09.9
comp=Z,8µm,19.0s
FITZ Fitzroy Crossi 52.03 272 P P **06 57 41.2 -0.8**
baz=52,SNR=68
FITZ Fitzroy Crossi 52.03 272 P P **06 57 41.2 -0.8**
baz=136,slow=7.1
FITZ S S **07 05 03.1 -2.6**
comp=Z,2.5nm,0.9s,baz=20,slow=22,SNR=5.6
FITZ Fitzroy Crossi 52.03 272 P P **06 57 40.7 -1.3**
FITZ IAmb IAmb 06 57 43.3
comp=Z,68nm,0.9s
FITZ IAMs_20 IAMs_20 07 19 31.0
comp=Z,11µm,19.0s
FITZ Fitzroy Crossi 52.03 272 ⇑P P **06 57 41.1 -1.0**
CASY Casey 52.58 209 P P **06 57 45.2 -0.2**
CASY IAmb IAmb 06 58 13.7
comp=Z,68nm,0.8s
CASY Casey 52.58 209 ⇑P P **06 57 45.6 +0.2**
NWAO Narrogin (SRO) 53.13 251 P P **06 57 48.7 -1.3**
baz=53,SNR=6.9
NWAO Narrogin (SRO) 53.13 251 P P **06 57 48.5 -1.5**
comp=Z,8.8nm,0.6s,baz=119,slow=6.9,SNR=11
NWAO LR LR 07 18 52.5
comp=Z,3µm,19.6s,baz=99,slow=34
NWAO Narrogin (SRO) 53.13 251 IAMs_20 IAMs_20 07 21 24.9
comp=Z,7µm,18.0s
BAKI Biak 53.14 297 P P **06 57 50.1 -0.1**
MEEK Meekatharra 54.26 259 P P **06 57 56.8 -1.6**
baz=54,SNR=28
MUN Mundaring 54.27 252 P P **06 57 58.5 +0.1**
baz=54,SNR=5.1
BLDU Ballidu 54.34 254 P P **06 57 56.9 -1.9**
baz=54,SNR=6.6
FAKI Fak Fak 54.97 292 P P **06 58 02.4 -1.3**
FAKI IAMs_20 IAMs_20 07 23 47.6
comp=Z,6µm,18.0s
FAKI Fak Fak 54.97 292 ⇑P P **06 58 01.8 -1.9**
FAKI Fak Fak 54.97 292 P P **06 58 01.5 -2.1**
comp=Z,3µmcomp=Z,2µmcomp=Z,150nm,0.9s
PSAD2 Pilbara Seismi 55.21 265 IAMs_20 IAMs_20 07 22 49.0
comp=Z,8µm,20.0s
PSAC2 Pilbara Seismi 55.28 265 IAMs_20 IAMs_20 07 22 51.0
comp=Z,8µm,18.0s
PSAB3 Pilbara Seismi 55.31 265 IAMs_20 IAMs_20 07 22 53.7
comp=Z,7µm,19.0s
PSAA3 Pilbara Seismi 55.31 265 IAMs_20 IAMs_20 07 23 08.9
comp=Z,9µm,18.0s
PSAB2 Pilbara Seismi 55.32 265 IAMs_20 IAMs_20 07 23 09.0
comp=Z,8µm,18.0s
PSA00 Pilbara Seismi 55.32 265 P P **06 58 03.9 -2.2**
PSA00 Pilbara Seismi 55.32 265 IAmb IAmb 06 58 06.2
comp=Z,54nm,0.9s
PSA00 IAMs_20 IAMs_20 07 23 01.1
comp=Z,9µm,18.0s
PSAB1 Pilbara Seismi 55.35 265 IAMs_20 IAMs_20 07 22 53.7
comp=Z,7µm,19.0s
PSAD3 Pilbara Seismi 55.35 265 IAMs_20 IAMs_20 07 23 10.8
comp=Z,10µm,18.0s
PSAC1 Pilbara Seismi 55.37 265 IAMs_20 IAMs_20 07 23 11.4
comp=Z,9µm,18.0s
PSAD1 Pilbara Seismi 55.39 265 IAMs_20 IAMs_20 07 23 02.8
comp=Z,9µm,18.0s
MORW Morawa 55.44 255 P P **06 58 05.6 -1.3**
baz=56,SNR=13
MORW Morawa 55.44 255 IAmb IAmb 06 58 10.8
comp=Z,39nm,1.1s
MORW IAMs_20 IAMs_20 07 21 33.1
comp=Z,10µm,19.0s
MORW Morawa 55.44 255 ⇓P P **06 58 05.5 -1.4**
BNDI Bandanaira 55.83 289 P P **06 58 07.1 -2.7**
comp=Z,222nm,0.9s
KHLU Kahalu`u 56.66 26 P P **06 58 16.4 +0.7**
QSPA South Pole Qui 57.01 180 P P **06 58 19.7 +2.0**
comp=Z,52nm,0.9s,baz=36,slow=2.7,SNR=96
QSPA LR LR 07 20 03.8
comp=Z,6µm,19.4s,baz=39,slow=33
QSPA South Pole Qui 57.01 180 P P **06 58 19.9 +2.3**
QSPA South Pole Qui 57.01 180 IAMs_20 IAMs_20 07 21 32.6
comp=Z,6µm,18.0s
SIJI Sorong 57.02 294 P P **06 58 16.4 -1.9**
comp=Z,43nm,0.8s,baz=56,slow=3.9,SNR=11
SIJI Sorong 57.02 294 P P **06 58 16.4 -1.9**
comp=Z,2µmcomp=Z,54nm,1.5s
SWI Sorong 57.03 294 P P **06 58 17.5 -0.9**
comp=Z,2µmcomp=Z,106nm,1.4s
HPAH Hawaii Prepara 57.14 26 P P **06 58 19.0 0.0**
MSAI Masohi 57.31 289 P P **06 58 18.4 -2.0**
comp=Z,2µmcomp=Z,13nm,0.8s
SOEI Soe 57.41 280 P P **06 58 21.1 -0.2**
SOEI IAMs_20 IAMs_20 07 22 05.7
comp=Z,8µm,20.0s
SOEI Soe 57.41 280 ⇑P P **06 58 21.6 +0.3**
SOEI Soe 57.41 280 P P **06 58 21.2 0.0**
comp=Z,4µmcomp=Z,184nm,0.9s
KRAI Karang Ratu 57.75 289 P P **06 58 21.6 -1.9**
comp=Z,55nm,1.0s
RPN Rapa Nui 59.11 104 LR LR 07 20 51.1
comp=Z,6µm,18.0s,baz=270,slow=33
GIRL Giralia 59.53 261 P P **06 58 36.1 +0.3**
baz=60,SNR=6.0
MMRI Maumere 59.70 280 P P **06 58 35.9 -1.2**
comp=Z,3µmcomp=Z,128nm,0.9s
EDFI Ende, Flores 60.09 279 P P **06 58 37.9 -2.0**
comp=Z,984nmcomp=Z,34nm,1.9s
SANI Sanana 60.43 289 ⇑P P **06 58 40.2 -1.9**

SANI	Sanana	60.43	289	P	P	06 58 39.7	-2.3
	comp=Z,4µmcomp=Z,2µmcomp=Z,104nm,0.9s						
MIDW	Midway	61.00	1	IAMs_20	IAMs_20	07 22 48.0	
	comp=Z,7µm,19.0s						
BKSI	Bulukumba	63.28	282	P	P	06 58 59.7	-1.5
PLAI	Plampang	63.30	277	P	P	06 58 59.7	-1.7
	comp=Z,74nm,2.0s						
KAPI	Kappang	63.76	282	P	P	06 59 03.1	-1.3
	comp=Z,21nm,0.9s,baz=194,slow=6.6,SNR=8.0						
KAPI	Kappang	63.76	282	P	P	06 59 02.9	-1.4
KAPI				IAmb	IAmb	06 59 24.6	
	comp=Z,45nm,1.1s						
KAPI	Kappang	63.76	282	⇑P	P	06 59 03.5	-0.9
KAPI	Kappang	63.76	282	P	P	06 59 02.6	-1.8
	comp=Z,1µmcomp=Z,38nm,1.9s						
BNSI	Bone	63.81	283	P	P	06 59 03.2	-1.5
	comp=Z,2µmcomp=Z,41nm,1.6s						
TWSI	Taliwang, Sumb	64.09	277	P	P	06 59 04.7	-1.9
	comp=Z,957nmcomp=Z,46nm,0.9s						
TTSI	Tana Toraja	64.82	284	P	P	06 59 08.6	-2.8
MRSI	Marisa	65.17	288	P	P	06 59 10.7	-2.9
SRBI	Singaraja	65.83	276	P	P	06 59 17.1	-0.8
	comp=Z,89nm,1.1s						
DAV	Davao City (W)	66.45	296	LR	LR	07 28 10.4	
	comp=Z,2µm,19.4s,baz=137,slow=36						
TOLI2	Tolitoli	66.47	288	P	P	06 59 19.4	-2.7
TOLI2				IAmb	IAmb	06 59 21.5	
	comp=Z,28nm,1.0s						
JAGI	Jajag, Banyuwa	66.52	275	IAMs_20	IAMs_20	07 28 03.8	
	comp=Z,4µm,18.0s						
MPSI	Mapaga	66.72	287	P	P	06 59 21.9	-1.7
BBKI	Banjar Baru	68.67	280	P	P	06 59 34.9	-1.1
	comp=Z,8µmcomp=Z,61nm,1.1s						
PWJI	Pagerwojo	68.72	274	P	P	06 59 33.7	-2.5
	comp=Z,49nm,1.3s						
PCJI	Pacitan	69.15	274	P	P	06 59 36.5	-2.4
	comp=Z,183nm,1.5s						
MAW	Mawson	69.65	201	P	P	06 59 42.2	+1.0
	baz=70,SNR=32						
MAW	Mawson	69.65	201	P	P	06 59 42.2	+1.0
	comp=Z,10nm,0.8s,baz=116,slow=7.7,SNR=25						
MAW				LR	LR	07 28 50.7	
	comp=Z,7µm,20.2s,baz=114,slow=35						
MAW	Mawson	69.65	201	P	P	06 59 42.2	+1.0
MAW	Mawson	69.65	201	⇑P	P	06 59 42.0	+0.9
UGM	Wanagama	69.85	274	IAMs_20	IAMs_20	07 30 42.1	
	comp=Z,4µm,20.0s						
PMSA	Palmer Station	69.96	155	IAMs_20	IAMs_20	07 27 08.5	
	comp=Z,4µm,18.0s						
SPMM	Sapulut	72.07	288	P	P	06 59 57.0	+0.3
LEM	Lembang	72.86	273	P	P	07 00 00.7	-1.0
	comp=Z,26nm,0.5s,baz=26,slow=12,SNR=3.9						
LEM				LR	LR	07 33 30.9	
	comp=Z,5µm,19.4s,baz=152,slow=37						
SBUM	Sibu	74.17	284	P	P	07 00 10.0	+0.8
SYO	Syowa Base	74.39	193	⇑eP	P	07 00 08.9	-0.7
SYO	Syowa Base	74.39	193	⇓ipP	pP	07 00 11.0	-0.6
KSM	Kuching	75.18	282	P	P	07 00 15.0	0.0
SNAA	Sanae	75.46	179	P	P	07 00 17.2	+1.4
SNAA	Sanae	75.46	179	PcP	PcP	07 00 26.2	-2.7
SNAA	Sanae	75.46	179c	iP	P	07 00 16.1	+0.3
SNAA				pmax	pmax		
	comp=Z,167nm,1.9s						
SNAA				MLR	MLR		
	comp=Z,5µm,18.0s						
SNAA	Sanae	75.46	179	P	P	07 00 16.2	+0.3
SNAA				IAmb	IAmb	07 00 28.1	
	comp=Z,94nm,1.1s						
SNAA				IAMs_20	IAMs_20	07 33 59.0	
	comp=Z,6µm,18.0s						
SNAA	Sanae	75.46	179	⇑P	P	07 00 16.2	+0.3
VNA3	Neumayer Olymp	75.63	176	P	P	07 00 17.8	+1.0
VNA3	Neumayer Olymp	75.63	176	PcP	PcP	07 00 28.1	-1.5
VNA2	Neumayer--Watz	76.06	177	P	P	07 00 19.8	+0.7
	baz=178,slow=4.5						
VNA2	Neumayer--Watz	76.06	177	PcP	PcP	07 00 29.4	-2.0
VNA1	Neumayer--Stat	76.29	177	P	P	07 00 21.3	+0.8
VNA1	Neumayer--Stat	76.29	177	PcP	PcP	07 00 30.9	-1.5
JHJ	Hachijo jima 2	76.73	325	LR	LR	07 31 25.0	
	comp=Z,1µm,18.6s,baz=122,slow=34						
MDSI	Maura Dua	77.00	273	P	P	07 00 22.3	-3.1
	comp=Z,26nm,0.8s						
COYC	Coyhaique	77.23	136	IAMs_20	IAMs_20	07 26 53.4	
	comp=Z,4µm,21.0s						
COYC	Coyhaique	77.23	136	IAmb	IAmb	07 00 44.4	
	comp=Z,61nm,1.3s						
KSI	Kapahiang	78.77	273	P	P	07 00 33.3	-2.1
	comp=Z,65nm,0.6s						
COCO	West Island	79.08	263	IAMs_20	IAMs_20	07 38 24.4	
	comp=Z,4µm,19.0s						
H03S2	Juan Fernandez	79.29	123	T	T	08 27 43.9	
	baz=235						
H03S1	Juan Fernandez	79.30	123	T	T	08 27 40.3	
	baz=235						
H03S3	Juan Fernandez	79.30	123	T	T	08 27 40.8	
	baz=235						
MASI	Maura Aman, Be	79.34	273	P	P	07 00 34.6	-3.9
	comp=Z,2µmcomp=Z,148nm,0.8s						
H03N3	Juan Fernandez	79.49	123	T	T	08 27 54.8	
	baz=237,slow=72						
H03N2	Juan Fernandez	79.50	123	T	T	08 27 54.1	
	baz=237,slow=72						
H03N1	Juan Fernandez	79.51	123	T	T	08 27 55.1	
	baz=237,slow=72						
MJAR	Matsushiro Arr	80.26	326	P	P	07 00 41.1	-1.7
	comp=Z,11nm,0.9s,baz=158,slow=5.2,SNR=5.8						
MJAR				LR	LR	07 32 30.7	
	comp=Z,1µm,20.4s,baz=155,slow=33						
MJAR	Matsushiro Arr	80.26	326	P	P	07 00 41.5	-1.3
MJAR				pmax	pmax		
	comp=Z,11nm,1.0s						
MJAR	Matsushiro Arr	80.26	326	P	P	07 00 41.5	-1.3
MAJO	Matsushiro	80.26	326	⇑eP	P	07 00 41.6	-1.2
MAJO				pmax	pmax		
	comp=Z,54nm,2.1s						
MAJO				MLR	MLR		
	comp=Z,2µm,18.0s						
MAT	Matsushiro	80.26	326	P	P	07 00 41.5	-1.3
MAT				eS	S	07 10 49.8	+1.8
JWT	Wachi	80.62	323	P	P	07 00 44.2	-0.6
JWT	Wachi	80.62	323	⇑P	P	07 00 44.6	-0.1
EFI	East Falkland	80.72	147	IAMs_20	IAMs_20	07 33 52.7	
	comp=Z,4µm,18.0s						
PLCA	Paso Flores	80.94	133	P	P	07 00 49.1	+2.3
	comp=Z,13nm,1.0s,baz=225,slow=6.1,SNR=9.1						
PLCA	Paso Flores	80.94	133	P	P	07 00 48.0	+1.3
PLCA				IAmb	IAmb	07 00 52.5	
	comp=Z,94nm,1.6s						
JNU	Nakatsue	81.34	319	P	P	07 00 48.0	-0.8
	comp=Z,25nm,1.0s,baz=113,slow=7.0,SNR=4.6						
JNU	Nakatsue	81.34	319	P	P	07 00 49.7	+1.0
JNU				IAmb	IAmb	07 02 35.0	
	comp=Z,78nm,1.4s						
JHS	Saijyo	81.57	322	P	P	07 00 49.1	-0.8
JHS				IAmb	IAmb	07 00 51.1	
	comp=Z,54nm,0.9s						
JHS	Saijyo	81.57	322	⇓P	P	07 00 49.6	-0.2
JRMM	Jerantut	82.99	279	P	P	07 00 56.0	-1.8
QZH	Quanzhou	83.21	305	⇑iP	P	07 00 56.3	-2.3
QZH				S	S	07 11 19.6	+0.8
QZH				pmax	pmax		
	comp=Z,820nm,11.6s						
QZH				LR	LR		
	comp=Z,910nm,19.9s						
QZH				LR	LR		
	comp=Z,620nm,18.7s						
QZH				LR	LR		
	comp=Z,1µm,19.0s						
YUK	Yuzh-Kuril'sk	83.40	335	eP	P	07 00 59.7	+0.6
YUK				e		07 04 10.1	
YUK				ePPP	PPP	07 06 02.3	
YUK				eS	S	07 11 20.6	+0.7
YUK				eSS	SS	07 16 46.6	+0.3
YUK				eSSS	SSS	07 20 15.9	
YUK				pmax	pmax		
	comp=Z,201nm,1.0s						
YUK				pmax	pmax		
	comp=N,197nm,1.1s						
YUK				pmax	pmax		
	comp=E,150nm,0.6s						
YUK				pmax	pmax		
	comp=Z,262nm,1.2s						
YUK				MLR	MLR		
	comp=N,2µm,18.0s						
YUK				MLR	MLR		
	comp=Z,2µm,18.0s						
YUK				MLR	MLR		
	comp=E,584nm,17.0s						
KUR	Kuril'sk	83.76	337d	iP	P	07 01 03.0	+2.1
KUR				iS	S	07 11 27.4	+3.9
BO01	Tunca	84.34	128	IAmb	IAmb	07 01 09.4	
	comp=Z,63nm,1.5s						
MT01	Popeta	84.54	127	P	P	07 01 06.9	+1.4
KIWB	Kanaga Island	84.61	1	P	P	07 01 04.9	-0.2
ADK	Adak	84.65	1	P	P	07 01 05.0	-0.3
ADK				pmax	pmax		
	comp=Z,263nm,1.6s						
ADK	Adak	84.65	1	P	P	07 01 05.0	-0.3
ADK	Adak	84.65	1	⇑P	P	07 01 04.7	-0.6
JKA	Kamikawa-asahi	84.67	333	IAmb	IAmb	07 01 08.1	
	comp=Z,42nm,0.9s						
ASAJ	Asahikawa	84.67	333	P	P	07 01 05.9	+0.3
	comp=Z,34nm,0.9s,baz=234,slow=11,SNR=12						
ASAJ				LR	LR	07 35 41.2	
	comp=Z,2µm,19.1s,baz=167,slow=34						
MT09	Talagante	84.77	127	IAmb	IAmb	07 01 11.5	
	comp=Z,65nm,1.2s						
ATKA	Atka Island	85.03	3	P	P	07 01 06.4	-0.8
ATKA	Atka Island	85.03	3	⇓P	P	07 01 07.0	-0.2
ATKA				⇑P	pP	07 01 07.3	-1.9
MT05	Renca	85.16	127	P	P	07 01 10.2	+1.4
KULM	Kulim	85.28	279	P	P	07 01 07.0	-2.5
RPSI	Rantau Prapat	85.29	276	P	P	07 01 07.5	-2.1
RPSI				IAmb	IAmb	07 04 26.0	
	comp=Z,48nm,1.7s						
RPSI				IAMs_20	IAMs_20	07 39 33.5	
	comp=Z,4µm,20.0s						
PSI	Prapat	85.35	276	P	P	07 01 07.2	-2.7
	comp=Z,7.7nm,0.8s,baz=178,slow=11						
PSI				PP	PP	07 04 24.4	-3.7
	comp=Z,9.2nm,0.9s,baz=177,slow=8.0,SNR=8.1						
PSI	Prapat	85.35	276	P	P	07 01 07.5	-2.5
PSI				pmax	pmax		
	comp=Z,48nm,1.7s						
PSI				MLR	MLR		
	comp=Z,4µm,20.0s						
SSE	Sheshan	85.61	312	P	P	07 01 11.0	+0.3
SSE				PP	PP	07 04 24.6	-5.3
SSE				S	SKSac	07 11 35.5	-0.4
SSE				pmax	pmax		
	comp=Z,19nm,0.7s						
SSE				pmax	pmax		
	comp=Z,310nm,5.0s						
SSE				LR	LR		
	comp=Z,380nm,18.3s						
GSI	Gunungsitoli	85.66	274	P	P	07 01 10.3	-1.1
GSI				IAMs_20	IAMs_20	07 38 34.3	
	comp=Z,3µm,20.0s						
GSI	Gunungsitoli	85.66	274	⇑P	P	07 01 11.0	-0.4
VA03	San Esteban	85.66	126	P	P	07 01 11.6	+0.3
TJN	Taejon	85.69	319de	P	P	07 01 11.9	+1.0
QIZ	Qiongzhong	85.82	296	P	P	07 01 12.6	+0.6
QIZ				PP	PP	07 04 32.0	+0.2
QIZ				S	S	07 11 43.6	-1.6
QIZ				SS	SS	07 17 24.6	+1.8
QIZ				pmax	pmax		
	comp=Z,760nm,9.6s						
QIZ				LR	LR		
	comp=Z,300nm,12.7s						
QIZ				LR	LR		
	comp=Z,750nm,16.5s						
QIZ				LR	LR		
	comp=Z,930nm,18.1s						
NIKH	Nikolski High	86.13	6	P	P	07 01 11.5	-1.2
	baz=188						
CO06	Fray Jorge	86.16	124	P	P	07 01 14.6	+0.9
KSRS	Korea Array	86.17	320	P	P	07 01 13.7	+0.4
	comp=Z,14nm,0.8s,baz=141,slow=5.6,SNR=45						
KSRS				LR	LR	07 39 09.1	
	comp=Z,757nm,18.0s,baz=129,slow=35						
SNCC	San Nicolas Is	86.19	46	IAMs_20	IAMs_20	07 36 33.5	
	comp=Z,5µm,18.0s						
SNCC	San Nicolas Is	86.19	46	P	P	07 01 14.1	+0.6
	baz=226						
KS19	Wonju Array Si	86.24	320	P	P	07 01 12.6	-1.1
KS19				IAmb	IAmb	07 03 02.6	
	comp=Z,84nm,1.7s						
SLBS	Sierra La Lagu	86.28	59	IAMs_20	IAMs_20	07 35 10.3	
	comp=Z,5µm,19.0s						
CO02	Combarbal	86.29	125	P	P	07 01 15.4	+1.0
SKR	Severo-Kuril's	86.41	344	eP	P	07 01 12.5	-1.6
SKR				eS	S	07 11 46.2	-3.3
SKR				pmax	pmax		
	comp=Z,16nm,0.7s						
SKR				pmax	pmax		
	comp=Z,500nm,7.1s						
SKR				pmax	pmax		
	comp=Z,400nm,9.8s						
SKR				MLR	MLR		
	comp=Z,1µm,18.0s						
SCI2	San Clemente I	86.60	47	P	P	07 01 15.0	-0.5
	baz=227						
SCZ2	Santa Cruz Isl	86.64	45	P	P	07 01 14.4	-1.4
	baz=226						
SBC	Santa Barbara	86.91	45	P	P	07 01 16.8	-0.2
	baz=226						
HOPE	Hope Point	86.97	159	iP	P	07 01 16.1	-1.0
HOPE	Hope Point	86.97	159	IAMs_20	IAMs_20	07 38 35.0	
	comp=Z,5µm,18.0s						
CIS	Catalina Islan	86.97	47	P	P	07 01 15.4	-1.9
	baz=227						
CIS				S	S	07 11 58.4	+2.5
	baz=227						
CCX	Cicese	87.02	49	IAMs_20	IAMs_20	07 36 48.4	
	comp=Z,3µm,18.0s						
YSS	Yuzh-Sakhalins	87.02	335c	iP	P	07 01 17.5	+0.4
YSS				e		07 11 43.5	
YSS				eS	S	07 11 54.6	-1.0
YSS				pmax	pmax		
	comp=Z,140nm,0.8s						
YSS				pmax	pmax		
	comp=Z,1µm,4.8s						
YSS	Yuzh-Sakhalins	87.02	335	P	P	07 01 17.6	+0.4
YSS				IAMs_20	IAMs_20	07 37 24.4	
	comp=Z,4µm,20.0s						
YSS	Yuzh-Sakhalins	87.02	335	⇑P	P	07 01 17.6	+0.4
YSS				⇑P	pP	07 01 18.4	-0.8
PKM	Mcpherson Peak	87.16	45	P	P	07 01 17.2	-1.3
	baz=226						
PKM				S	S	07 12 02.7	+4.8
	baz=226						
TJX	Tijuana	87.20	48	IAMs_20	IAMs_20	07 37 11.4	
	comp=Z,4µm,18.0s						
UNV	Unalaska Valle	87.22	7	P	P	07 01 17.7	-0.2
	baz=190						
UNV				S	S	07 12 00.1	+3.0
	baz=190						
FMP	Fort Macarthur	87.26	46	P	P	07 01 17.9	-0.8
	baz=227						
SMMC	Simmler	87.35	44	P	P	07 01 19.3	+0.2
	baz=226						
SMMC				S	S	07 12 05.6	+6.2
	baz=226						
109C	Camp Elliot, M	87.43	48	IAMs_20	IAMs_20	07 36 53.3	
	comp=Z,4µm,18.0s						
109C	Camp Elliot, M	87.43	48	P	P	07 01 17.9	-1.7
	baz=228						
109C				S	S	07 12 05.7	+5.4
	baz=228						
TRTT	Trang	87.48	281	P	P	07 01 24.8	+4.5
PAGB	Antelope Grade	87.49	44	IAMs_20	IAMs_20	07 39 57.7	
	comp=Z,4µm,18.0s						
TKX	Tecate	87.52	48	IAMs_20	IAMs_20	07 42 37.8	
	comp=Z,3µm,19.0s						
BAR	Barrett	87.56	48	P	P	07 01 21.5	+1.3
BAR				IAmb	IAmb	07 01 37.6	
	comp=Z,48nm,1.6s						
BAR				IAMs_20	IAMs_20	07 37 23.7	
	comp=Z,4µm,18.0s						
DECC	Green Verdugo	87.60	46	P	P	07 01 18.2	-2.2
	baz=227						
DECC				S	S	07 12 08.5	+6.6
	baz=227						
OSI	Osito Audit: C	87.61	45	IAMs_20	IAMs_20	07 37 18.1	
	comp=Z,5µm,18.0s						
OSI	Osito Audit: C	87.61	45	P	P	07 01 20.3	-0.2
	baz=226						
OSI				S	S	07 12 07.9	+5.8
	baz=226						
SFX	San Felipe	87.62	50	IAMs_20	IAMs_20	07 36 41.5	
	comp=Z,3µm,19.0s						
PASC	Pasadena Art C	87.64	46	IAmb	IAmb	07 01 35.9	
	comp=Z,20nm,1.0s						
ZON	Zonda	87.66	126	P	P	07 01 21.9	+0.8
ZON				pmax	pmax		
	comp=Z,65nm,1.0s						
ZON	Zonda	87.66	126	P	P	07 01 21.9	+0.8
ZON				IAMs_20	IAMs_20	07 35 23.8	
	comp=Z,4µm,19.0s						
NJ2	Nanjing	87.73	311	eP	P	07 01 21.2	+0.2
NJ2				pP	sP	07 01 26.1	+2.4
NJ2				S	S	07 12 03.0	-0.1
NJ2				sS	sS	07 12 07.3	+0.9
NJ2				SS	SS	07 17 54.2	+3.8
NJ2				pmax	pmax		
	comp=Z,30nm,1.2s						
NJ2				pmax	pmax		
	comp=Z,920nm,10.1s						
NJ2				LR	LR		
	comp=Z,1µm,19.4s						
NJ2				LR	LR		
	comp=Z,1µm,19.0s						
NJ2				LR	LR		
	comp=Z,2µm,21.8s						
MWC	Mount Wilson	87.75	46	IAMs_20	IAMs_20	07 37 39.7	
	comp=Z,5µm,18.0s						
TRQA	Tornquist	87.79	135	IAMs_20	IAMs_20	07 38 54.6	
	comp=Z,3µm,18.0s						
LCO	Las Campanas	87.80	123	⇓P	P	07 01 24.8	+2.7
TEY	Ternei	87.84	330de	P	P	07 01 20.1	-1.1
TEY				e		07 01 21.1	
TEY				e		07 11 42.3	
TEY				pmax	pmax		
	comp=Z,100nm,4.3s						
MURC	Murrieta	87.85	47	P	P	07 01 20.2	-1.5
	baz=227,SNR=6.3						
MURC				S	S	07 12 10.4	+6.0
	baz=227						
MONP2	Monument Peak	87.85	48	P	P	07 01 19.6	-2.3
	baz=228,SNR=11						
MONP2				S	S	07 12 09.4	+4.6
	baz=228						
RMX	La Rumorosa	87.88	48	IAMs_20	IAMs_20	07 37 06.1	
	comp=Z,4µm,18.0s						
IKP	In-Ko-Pah, Jac	87.89	48	P	P	07 01 19.8	-2.1
	baz=228						
IKP				S	S	07 12 09.9	+5.0
	baz=228						
ARVC	Arvin	87.90	45	P	P	07 01 21.6	-0.1
	baz=226						
ARVC				S	S	07 12 11.3	+6.6
	baz=226						
BFSC	Mount Baldy Ra	88.00	46	P	P	07 01 21.7	-0.8
	baz=227,SNR=12						
BFSC				S	S	07 12 12.1	+6.1
	baz=227						
PET	Petropavlovsk	88.07	346	eP	P	07 01 18.7	-3.4
PET				e		07 11 47.2	
PET				eS	S	07 11 58.0	-7.4
PET				ePS	PnS	07 13 02.0	-6.3
PET				pmax	pmax		
	comp=Z,44nm,1.3s						
PET				pmax	pmax		
	comp=Z,900nm,9.5s						
PET				pmax	pmax		
	comp=Z,900nm,8.2s						
PET	Petropavlovsk	88.07	346	IAMs_20	IAMs_20	07 37 21.1	
	comp=Z,3µm,19.0s						
PAYG	Puerto Ayora	88.09	90	IAMs_20	IAMs_20	07 35 07.3	
	comp=Z,4µm,18.0s						
EDW2	Edwards Air Fo	88.23	46	P	P	07 01 24.0	+0.5
	baz=227,SNR=24						
EDW2				S	S	07 12 11.9	+3.8
	baz=227						
GDXM	Geysers	88.24	40	P	P	07 01 23.3	-0.1
GDXM				IAmb	IAmb	07 01 44.3	
	comp=Z,72nm,1.6s						
VES	Vestal, Richgr	88.25	44	P	P	07 01 24.3	+0.9
	baz=226,SNR=10						
VES				S	S	07 12 13.3	+5.4
	baz=226						
SWSC	Sam W. Stewart	88.28	48	P	P	07 01 23.8	+0.2
	baz=228						
UABX	UABC, Campus M	88.30	49	IAMs_20	IAMs_20	07 42 47.3	
	comp=Z,3µm,22.0s						
GUVIX	Guadalupe Vict	88.31	49	IAMs_20	IAMs_20	07 37 03.7	
	comp=Z,3µm,19.0s						
TPFO	Pinon Flats	88.31	47	P	P	07 01 22.6	-1.3
	baz=228,SNR=8.6						
TPFO				S	S	07 12 15.2	+6.3
	baz=228						
PFO	Pinyon Flats O	88.31	47	P	P	07 01 25.3	+1.3
	comp=Z,7.5nm,0.9s,baz=250,slow=2.4,SNR=13						
PFO	Pinyon Flats O	88.31	47	P	P	07 01 24.6	+0.6
PFO				IAmb	IAmb	07 01 41.6	
	comp=Z,77nm,1.6s						
PFO	Pinyon Flats O	88.31	47	IAMs_20	IAMs_20	07 37 45.7	
	comp=Z,5µm,19.0s						
PFO	Pinyon Flats O	88.31	47	P	P	07 01 22.3	-1.6
	baz=228,SNR=9.2						
PFO				S	S	07 12 14.2	+5.3
	baz=228						
LHMI	Lhok Sumawe	88.32	277	IAMs_20	IAMs_20	07 46 19.9	
	comp=Z,4µm,18.0s						
PEA0B	Petropavlovsk-	88.34	346c	iP	P	07 01 23.1	-0.3
PETK	Petropavlovsk-	88.34	346	P	P	07 01 23.1	-0.3
	comp=Z,45nm,0.9s,baz=155,slow=7.8,SNR=53						
PETK				LR	LR	07 37 15.3	
	comp=Z,2µm,19.6s,baz=167,slow=33						
MSHR	Mys Shultsa	88.36	325ce	P	P	07 01 22.6	-1.1
MSHR				pmax	pmax		
	comp=Z,30nm,1.6s						
MSHR				MLR	MLR		
	comp=Z,792nm,18.0s						
VOG	Valley Oaks Go	88.40	44	P	P	07 01 22.8	-1.3
	baz=226						
VLA	Vladivostok	88.43	326ce	P	P	07 01 23.0	-1.0
BBRC	Big Bear Solar	88.47	47	P	P	07 01 23.9	-0.9
	baz=228						
BBRC				S	S	07 12 16.6	+6.0
	baz=228						
ISA	Isabella, Lake	88.48	45	P	P	07 01 25.1	+0.5
ISA				pmax	pmax		
	comp=Z,58nm,1.2s						
ISA				MLR	MLR		
	comp=Z,4µm,18.0s						
ISA	Isabella, Lake	88.48	45	P	P	07 01 25.1	+0.5
ISA				IAmb	IAmb	07 01 42.1	
	comp=Z,58nm,1.2s						
ISA				IAMs_20	IAMs_20	07 42 13.1	
	comp=Z,4µm,18.0s						
ISA	Isabella, Lake	88.48	45	P	P	07 01 25.3	+0.7
	baz=227,SNR=18						
ISA				S	S	07 12 15.1	+4.7
	baz=227						
FALS	False Pass	88.56	9	P	P	07 01 24.0	-0.4
	baz=193						
FALS				S	S	07 12 13.6	+3.6
	baz=193						
CRZF	Crozet Islands	88.75	212	IAMs_20	IAMs_20	07 38 54.3	
	comp=Z,2µm,18.0s						
LRMC	Laurel Mtn Rad	88.83	45	P	P	07 01 25.6	-0.7
	baz=227,SNR=6.6						
LRMC				S	S	07 12 19.0	+5.3
	baz=227						
BELC	Belle Mtn. Jos	88.86	47	P	P	07 01 25.4	-1.1
	baz=228,SNR=18						
BELC				S	S	07 12 18.8	+4.7
	baz=228						
GLA	Glamis	88.96	49	IAMs_20	IAMs_20	07 37 58.9	
	comp=Z,4µm,18.0s						
GLA	Glamis	88.96	49	P	P	07 01 26.2	-0.7
	baz=229						
GLA				S	S	07 12 18.9	+4.0
	baz=229						
BC3	Big Chuckawall	88.97	48	P	P	07 01 24.6	-2.4
	baz=228,SNR=14						
GO03	Copiap	88.98	123	P	P	07 01 27.3	-0.1
CNBA	Chernabura Isl	89.07	11	P	P	07 01 26.2	-0.5
CNBA				IAmb	IAmb	07 01 29.0	
	comp=Z,35nm,0.8s						
CNBA				IAMs_20	IAMs_20	07 44 16.6	
	comp=Z,3µm,19.0s						
UGL	Uglegorsk	89.07	335	eP	P	07 01 26.1	-0.8
UGL				eS	SKSac	07 11 58.9	+2.8
UGL				pmax	pmax		
	comp=Z,1µm,3.7s						
UGL				smax	smax		
	comp=N,2µm,8.1s						

UGL MLR MLR
comp=E,1µm,16.0s
CHNA Chernabura Isl 89.08 11 P **P** **07 01 26.8 0.0**
CHNA baz=196 S **S** **07 12 19.4 +4.5**
baz=196
SKNT Sakolnakorn 89.14 291 P **P** **07 01 27.6 -0.4**
comp=E,29nm,1.3s
HEC Hector,Ludlow 89.20 47 P **P** **07 01 28.6 +0.6**
baz=228
HEC S **S** **07 12 21.5 +4.2**
baz=228
USA0B Ussuriysk Arra 89.21 327*c i*P **P** **07 01 26.8 -0.9**
USA0B Ussuriysk Arra 89.21 327 IAmb IAmb 07 01 29.6
comp=Z,37nm,1.0s
USRK Ussuriysk Ar. 89.21 327 P **P** **07 01 27.9 +0.1**
comp=Z,20nm,0.8s,baz=146,slow=3.4,SNR=30
USRK LR LR 07 35 29.2
comp=Z,1µm,20.7s,baz=128,slow=32
O02D Mt. Diablo Mer 89.23 39 P **P** **07 01 29.4 +1.4**
baz=224,SNR=12
O02D S **S** **07 12 21.7 +4.4**
baz=224
GSC Goldstone, Bar 89.23 46 P **P** **07 01 29.2 +1.0**
GSC pmax pmax
comp=Z,80nm,1.6s
GSC Goldstone, Bar 89.23 46 P **P** **07 01 29.1 +1.0**
GSC IAmb IAmb 07 01 45.8
comp=Z,80nm,1.6s
GSC Goldstone, Bar 89.23 46 P **P** **07 01 28.8 +0.6**
baz=228,SNR=12
GSC S **S** **07 12 22.6 +5.1**
baz=228
KHMM Horse Mountain 89.24 38 IAMs_20 IAMs_20 07 36 09.8
comp=Z,5µm,20.0s
CWC Cottonwood Cre 89.25 45 P **P** **07 01 28.8 +0.4**
baz=227
CWC S **S** **07 12 22.7 +5.0**
baz=227
MPMC Manual Prospec 89.34 45 P **P** **07 01 27.7 -1.1**
baz=227,SNR=14
MPMC S **S** **07 12 23.8 +5.1**
baz=227
SDPT Sand Point 89.44 10 P **P** **07 01 28.3 -0.1**
baz=195
SDPT S **S** **07 12 22.7 +4.5**
baz=195
113A Mohawk Valley, 89.45 50 P **P** **07 01 29.6 +0.5**
113A IAmb IAmb 07 01 46.9
comp=Z,68nm,1.7s
113A IAMs_20 IAMs_20 07 37 47.9
comp=Z,4µm,18.0s
MDPB Devils Postpil 89.48 43 IAmb IAmb 07 01 46.8
comp=Z,38nm,1.5s
MDPB IAMs_20 IAMs_20 07 41 28.5
comp=Z,4µm,18.0s
IRM Iron Mountain 89.49 48 P **P** **07 01 29.2 -0.1**
baz=229,SNR=24
IRM S **S** **07 12 23.8 +4.0**
baz=229
214A Organ Pipe Nat 89.54 51 IAmb IAmb 07 01 46.4
comp=Z,88nm,2.0s
214A IAMs_20 IAMs_20 07 40 23.4
comp=Z,3µm,18.0s
214A Organ Pipe Nat 89.54 51 P **P** **07 01 30.2 +0.6**
baz=230
214A S **S** **07 12 26.0 +5.6**
baz=230
TIN Tinemaha, Big 89.58 44 P **P** **07 01 27.5 -2.3**
baz=227
TIN S **S** **07 12 26.6 +5.9**
baz=227
GMRC Granite Mounta 89.59 47 P **P** **07 01 29.7 -0.2**
baz=228,SNR=12
GMRC S **S** **07 12 24.9 +4.0**
baz=228
KRMB Red Mountain 89.62 38 IAMs_20 IAMs_20 07 36 58.9
comp=Z,5µm,20.0s
MLAC Mammoth, Mammo 89.62 43 P **P** **07 01 29.9 -0.3**
baz=226
MLAC S **S** **07 12 26.8 +5.5**
baz=226
O03E Paynes Creek 89.84 40 P **P** **07 01 28.5 -2.4**
baz=224,SNR=6.1
O03E S **S** **07 12 27.5 +4.6**
baz=224
N02D Trinity Center 89.85 39 P **P** **07 01 29.6 -1.3**
baz=224
N02D S **S** **07 12 28.9 +6.0**
baz=224
TUQ Turquoise Moun 89.86 46 P **P** **07 01 30.1 -1.0**
baz=228
TUQ S **S** **07 12 27.5 +4.1**
baz=228
RUBR Rubicon Trail 89.86 41 IAMs_20 IAMs_20 07 35 54.5
comp=Z,4µm,20.0s
SHOC Shoshone, Teco 89.96 46 P **P** **07 01 30.3 -1.1**
baz=228,SNR=8.1
SHOC S **S** **07 12 29.7 +5.6**
baz=228
KBO Bosley Butte 89.96 37 IAMs_20 IAMs_20 07 36 57.9
comp=Z,5µm,19.0s
FURC Furnace Creek, 89.98 45 P **P** **07 01 29.6 -1.9**
baz=228,SNR=7.5
FURC S **S** **07 12 30.5 +6.4**
baz=228
GRAC Grapevine Rang 90.05 44 P **P** **07 01 29.7 -2.2**
baz=227,SNR=10
GRAC S **S** **07 12 30.5 +5.6**
baz=227
M02C Callahan 90.07 38 P **P** **07 01 29.3 -2.6**
baz=224
M02C S **S** **07 12 30.3 +5.3**
baz=224
CHAI Chaiyaphum 90.11 289 P **P** **07 01 33.6 +1.0**
comp=Z,326nmcomp=Z,13nm,0.9s
PNTR Pine Nut 90.20 42 IAmb IAmb 07 01 48.0
comp=Z,21nm,0.9s
PNTR IAMs_20 IAMs_20 07 39 18.4
comp=Z,4µm,19.0s
PDMCI Parker Dam,Lak 90.21 48 P **P** **07 01 32.3 -0.3**
baz=229,SNR=8.8
PDMCI S **S** **07 12 31.5 +5.1**
baz=229
NEE2 Needles Airpor 90.22 48 P **P** **07 01 32.6 -0.1**
baz=229
NEE2 S **S** **07 12 31.9 +5.4**
baz=229
AC02 Maricunga 90.22 123 P **P** **07 01 33.1 -0.7**
AC02 IAmb IAmb 07 01 42.1
comp=Z,39nm,1.5s
L02E Cave Junction 90.24 37 S **S** **07 12 33.8 +7.4**
baz=223
VCNR Virginia City 90.31 42 P **P** **07 01 33.9 +0.6**
VCNR IAMs_20 IAMs_20 07 36 18.4
comp=Z,4µm,19.0s
BEKR Beckworth 90.32 41 IAMs_20 IAMs_20 07 36 27.6
comp=Z,4µm,19.0s
YERR Yerington 90.33 42 IAMs_20 IAMs_20 07 45 05.8
comp=Z,4µm,18.0s
TYV Tymovskoe 90.38 337*e*P **P** **07 01 33.7 +0.7**
TYV *e*S **S** **07 12 28.8 +1.6**
TYV pmax pmax
comp=Z,1µm,4.2s
TYV pmax pmax
comp=Z,81nm,1.1s
TYV smax smax
comp=N,3µm,7.2s
TYV smax smax
comp=E,2µm,6.5s
YBH Yreka Blue Hor 90.39 38 P **P** **07 01 33.6 +0.1**
comp=E,5.2nm,1.0s,baz=285,slow=2.2,SNR=5.9
KEBM Edson Butte 90.39 37 IAMs_20 IAMs_20 07 37 30.2
comp=Z,4µm,20.0s
NVAR Mina Array Bea 90.48 43 P **P** **07 01 34.9 +0.8**
comp=Z,7.3nm,0.9s,baz=218,slow=7.9,SNR=33
NVAR LR LR 07 37 59.5
comp=Z,2µm,18.4s,baz=233,slow=33
RYN Ryan 90.49 43 P **P** **07 01 34.7 +0.6**
RYN IAmb IAmb 07 01 57.3
comp=Z,32nm,1.7s
RYN IAMs_20 IAMs_20 07 43 43.1
comp=Z,3µm,18.0s
NV11 Mina Array Sit 90.56 43 IAMs_20 IAMs_20 07 43 37.1
comp=Z,4µm,18.0s
K02D Willamette Mer 90.60 37 P **P** **07 01 32.6 -1.8**
baz=223
K02D S **S** **07 12 35.5 +5.7**
baz=223
MDJ Mudanjiang 90.65 326 P **P** **07 01 35.5 +1.1**
MDJ sP sP 07 01 40.1 +3.0
MDJ PP **PP** **07 05 13.0 +2.9**
MDJ S **S** **07 12 34.4 +4.5**
MDJ pmax pmax
comp=Z,29nm,1.0s
MDJ pmax pmax
comp=Z,750nm,5.7s
MDJ LR LR
comp=Z,1µm,18.1s
MDJ LR LR
comp=Z,1µm,21.1s
MDJ LR LR
comp=Z,2µm,18.0s
TPNV Topopah Spring 90.67 45 P **P** **07 01 35.7 +0.7**
TPNV pmax pmax
comp=Z,56nm,1.6s
TPNV Topopah Spring 90.67 45 P **P** **07 01 35.7 +0.7**
TPNV IAmb IAmb 07 01 52.5
comp=Z,56nm,1.6s
TPNV IAMs_20 IAMs_20 07 39 01.1
comp=Z,4µm,18.0s
TPNV Topopah Spring 90.67 45 ⇓P **P** **07 01 36.3 +1.3**
TPNV ⇓P **sP** **07 01 39.6 +1.8**
TPNV Topopah Spring 90.67 45 P **P** **07 01 33.1 -1.9**
baz=228,SNR=11
TPNV S **S** **07 12 36.4 +5.5**
baz=228
CHGN Chignik 90.68 11 P **P** **07 01 33.8 -0.4**
CHGN Chignik 90.68 11 P **P** **07 01 33.0 -1.2**
baz=197
DL2 Dalian 90.69 318*i*P **P** **07 01 34.2 -0.5**
DL2 SKS **SKSac** **07 12 04.0 -2.1**
DL2 S **S** **07 12 27.6 -2.9**
DL2 pmax pmax
comp=Z,21nm,1.0s
DL2 pmax pmax
comp=Z,690nm,7.5s
DL2 LR LR
comp=Z,930nm,19.1s
DL2 LR LR
comp=Z,480nm,17.0s
DL2 LR LR
comp=Z,1µm,19.1s
Y14A Wickenburg 90.69 49 IAMs_20 IAMs_20 07 39 01.8
comp=Z,4µm,18.0s
CHIR Chirikof Islan 90.70 13 IAMs_20 IAMs_20 07 38 24.6
comp=Z,4µm,20.0s
CHIR Chirikof Islan 90.70 13 P **P** **07 01 33.9 -0.4**
baz=199
CHIR S **S** **07 12 34.0 +4.1**
baz=199
PAHR Pah Rah Range 90.75 41 IAmb IAmb 07 01 51.2
comp=Z,27nm,1.3s
J01E Myrtle Point 90.81 37 P **P** **07 01 34.6 -0.6**
baz=223
J01E S **S** **07 12 34.7 +3.3**
baz=223
M04C Macdoel 90.88 39 P **P** **07 01 32.8 -3.0**
baz=224
M04C S **S** **07 12 36.8 +4.2**
baz=224
W13A Hualapai Mount 90.89 48 P **P** **07 01 37.3 +1.2**
W13A IAmb IAmb 07 01 53.8
comp=Z,46nm,1.6s
W13A IAMs_20 IAMs_20 07 39 18.0
comp=Z,3µm,18.0s
HUMO Hull Mountain 90.90 37 ⇓P **P** **07 01 37.7 +2.0**
L04D Klamath Falls 90.95 38 P **P** **07 01 33.1 -3.0**
baz=224
L04D S **S** **07 12 37.4 +4.2**
baz=224
KVN Kaiserville 91.02 43 IAMs_20 IAMs_20 07 44 10.0
comp=Z,4µm,18.0s
SHPR Sheep Range 91.03 46 IAmb IAmb 07 01 54.4
comp=Z,51nm,1.7s
SHPR IAMs_20 IAMs_20 07 40 00.7
comp=Z,4µm,18.0s
TUC Tucson 91.09 52 P **P** **07 01 38.5 +1.6**
TUC pmax pmax
comp=Z,80nm,1.9s
TUC Tucson 91.09 52 P **P** **07 01 38.5 +1.6**
TUC IAmb IAmb 07 01 44.8
comp=Z,80nm,1.9s
TUC Tucson 91.09 52 IAMs_20 IAMs_20 07 40 12.4
comp=Z,3µm,18.0s
TUC Tucson 91.09 52 ⇓P **P** **07 01 38.7 +1.7**
TUC ⇓P **sP** **07 01 41.5 +1.8**
TUC Tucson 91.09 52 P **P** **07 01 33.9 -3.0**
baz=231
TUC S **S** **07 12 39.3 +4.5**
baz=231
ZAIG Zacatecas 91.16 64 P **P** **07 01 40.2 +2.5**
ZAIG IAMs_20 IAMs_20 07 38 49.6
comp=Z,3µm,18.0s
TLIG Tlapa 91.28 70 IAMs_20 IAMs_20 07 39 27.0
comp=Z,3µm,18.0s
I03D Drain, OR 91.49 37 P **P** **07 01 35.6 -2.7**
baz=224
I03D S **S** **07 12 44.3 +6.7**
baz=224
319A Douglas 91.51 53 IAmb IAmb 07 01 46.6
comp=Z,74nm,1.9s
319A IAMs_20 IAMs_20 07 40 22.5
comp=Z,3µm,18.0s
K04D Chiloquin, OR 91.53 38 P **P** **07 01 35.5 -3.2**
baz=225
K04D S **S** **07 12 44.5 +6.1**
baz=225
I02D Swisshome 91.54 36 P **P** **07 01 37.2 -1.4**
baz=223
I02D S **S** **07 12 44.2 +6.1**
baz=223
TIA Tai'an 91.54 313 ⇓P **P** **07 01 39.3 +0.5**
TIA pmax pmax
comp=Z,19nm,1.8s
TIA pmax pmax
comp=Z,620nm,10.6s
TIA LR LR
comp=Z,990nm,19.6s
TIA LR LR
comp=Z,1µm,18.6s
TIA LR LR
comp=Z,1µm,16.9s
SNY Shenyang 91.64 321 ⇑P **P** **07 01 37.8 -1.3**
SNY SS SS 07 18 43.5 -3.4
SNY pmax pmax
comp=Z,520nm,8.1s
SNY LR LR
comp=Z,490nm,19.2s
SNY LR LR
comp=Z,790nm,22.5s
SNY LR LR
comp=Z,1µm,19.9s
SII Sitkinak Islan 91.67 13 IAMs_20 IAMs_20 07 45 39.2
comp=Z,2µm,18.0s
SII Sitkinak Islan 91.67 13 P **P** **07 01 37.0 -1.9**
baz=200
SII S **S** **07 12 44.5 +5.8**
baz=200
PRN Pahroc Range 91.69 45 IAMs_20 IAMs_20 07 39 51.1
comp=Z,4µm,18.0s
J04D Umpqua Nationa 91.78 37 P **P** **07 01 40.5 +0.5**
baz=224,SNR=5.9
J04D S **S** **07 12 46.6 +5.8**
baz=224
UNM Universidad Na 91.79 68 IAMs_20 IAMs_20 07 38 59.5
comp=Z,3µm,18.0s
UTHA Uthaitani 91.95 287 P **P** **07 01 44.3 +3.2**
comp=Z,12nm,0.9s
X16A Lo Mia Camp, P 92.00 50 IAmb IAmb 07 01 56.6
comp=Z,23nm,1.4s
X16A IAMs_20 IAMs_20 07 39 17.3
comp=Z,3µm,18.0s
R11A Troy Canyon, C 92.00 44 IAMs_20 IAMs_20 07 42 56.1
comp=Z,4µm,18.0s
R11A Troy Canyon, C 92.00 44 P **P** **07 01 41.7 +0.6**
baz=228
R11A S **S** **07 12 49.3 +6.3**
baz=228
I04A Tendick Farm, 92.03 37 P **P** **07 01 40.0 -0.9**
baz=224
I04A S **S** **07 12 47.4 +4.8**
baz=224
BUCK Buck Mountain 92.03 36 IAMs_20 IAMs_20 07 36 31.5
comp=Z,4µm,20.0s
K05A Summer Lake 92.05 38 IAMs_20 IAMs_20 07 38 14.1
comp=Z,4µm,19.0s
CN2 Changchun 92.07 323*e*P **P** **07 01 40.4 -0.7**
CN2 SS SS 07 18 56.3 +3.2
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,500nm,9.6s
CN2 LR LR
comp=Z,800nm,18.0s
CN2 LR LR
comp=Z,700nm,18.0s
CN2 LR LR
comp=Z,800nm,19.0s
PB15 IPOC Station P 92.17 119 IAMs_20 IAMs_20 07 39 38.2
comp=Z,2µm,18.0s
J05D Fort Rock, OR 92.26 38 P **P** **07 01 41.1 -1.1**
baz=225
J05D S **S** **07 12 49.9 +4.8**
baz=225
H04D Lebanon 92.39 36 P **P** **07 01 41.6 -0.9**
baz=224
H04D S **S** **07 12 51.5 +5.7**
baz=224
BMN Battle Mountai 92.45 42 IAmb IAmb 07 01 60.0
comp=Z,45nm,1.6s
OHAK Old Harbor 92.47 13 IAmb IAmb 07 01 44.5
comp=Z,18nm,1.0s
OHAK Old Harbor 92.47 13 S **S** **07 12 50.5 +4.8**
baz=201
GRNR Gornyy 92.53 333⇓*i*P **P** **07 01 43.6 +0.6**
GRNR pmax pmax
comp=Z,10.0nm,1.0s
GYA Guiyang 92.57 300⇑*i*P **P** **07 01 42.9 -1.1**
GYA PP **PP** **07 05 26.5 +0.7**
GYA SKS **SKSac** **07 12 19.2 +1.5**
GYA S **S** **07 12 48.8 +0.3**
GYA pmax pmax
comp=Z,430nm,6.0s
GYA LR LR
comp=Z,760nm,16.3s
GYA LR LR
comp=Z,770nm,21.0s
GYA LR LR
comp=Z,1µm,18.4s
G03D McMinnville, O 92.63 36 P **P** **07 01 42.9 -0.7**
baz=224
G03D S **S** **07 12 52.9 +5.1**
baz=224
WUAZ Wupatki 92.73 49 P **P** **07 01 46.2 +1.7**
WUAZ IAmb IAmb 07 02 02.3
comp=Z,34nm,1.4s
WUAZ IAMs_20 IAMs_20 07 42 24.8
comp=Z,2µm,18.0s
WUAZ Wupatki 92.73 49 ⇑P P 07 01 50.0 +5.4
WUAZ Wupatki 92.73 49 P **P** **07 01 46.4 +1.9**
baz=231
WUAZ S **S** **07 12 57.3 +7.7**
baz=231
U15A North Rim 92.74 48 IAmb IAmb 07 02 06.1
comp=Z,17nm,1.1s
U15A IAMs_20 IAMs_20 07 44 16.8
comp=Z,2µm,18.0s
PINE Pine Mountain 92.77 38 IAmb IAmb 07 02 00.6
comp=Z,27nm,0.9s
PINE IAMs_20 IAMs_20 07 39 12.3
comp=Z,4µm,19.0s
H04A Detroit Lake 92.78 36 IAMs_20 IAMs_20 07 37 05.3
comp=Z,4µm,20.0s
KNB Kanab 92.79 47 IAmb IAmb 07 02 02.5
comp=Z,26nm,1.3s
ENH Enshi 92.82 305 P **P** **07 01 43.9 -1.0**
ENH IAmb IAmb 07 01 51.1
comp=Z,22nm,0.8s
I05D Terrebonne, OR 92.96 37 P **P** **07 01 44.8 -0.4**
baz=225
I05D S **S** **07 12 57.8 +6.8**
baz=225
NKL Nikolayevsk 92.97 337*e*P **P** **07 01 42.5 -2.4**
NKL pmax pmax
comp=E,4.0nm,0.8s
NKL pmax pmax
comp=N,595nm,1.1s
NKL pmax pmax
comp=Z,28nm,1.1s
SZCU Shurtz Canyon 93.00 46 IAmb IAmb 07 02 03.5
comp=Z,20nm,1.4s
X18A Snowflake 93.02 50 P **P** **07 01 47.9 +1.9**
X18A IAmb IAmb 07 02 03.7
comp=Z,28nm,1.6s
X18A IAMs_20 IAMs_20 07 42 31.5
comp=Z,3µm,18.0s
NNA Nana 93.03 106 IAMs_20 IAMs_20 07 37 33.6
comp=Z,5µm,19.0s
WVOR Wild Horse Val 93.04 40 P **P** **07 01 45.6 -0.2**
WVOR pmax pmax
comp=Z,31nm,1.5s
WVOR Wild Horse Val 93.04 40 P **P** **07 01 45.6 -0.2**
WVOR IAmb IAmb 07 02 02.7
comp=Z,31nm,1.4s
KDAK Kodiak Island 93.13 14 S **S** **07 12 59.3 +7.7**
baz=202
PSUT Pine Spring 93.14 45 P **P** **07 01 47.3 +0.8**
KLR Kul'dur 93.19 330 P **P** **07 01 46.0 -0.1**
comp=Z,13nm,1.0s,baz=81,slow=2.0,SNR=26
KLR LR LR 07 40 27.9
comp=Z,1µm,18.9s,baz=144,slow=34
KLR Kul'dur 93.19 330*c i*P **P** **07 01 45.6 -0.5**
KLR pmax pmax
comp=Z,17nm,1.0s
KLR MLR MLR
comp=Z,2µm,19.0s
121A Cookes Peak, D 93.22 53 P **P** **07 01 46.3 -0.6**
baz=232
121A S **S** **07 13 00.5 +6.4**
baz=232
PKCU Pink Cliffs 93.37 47 IAmb IAmb 07 02 02.4
comp=Z,30nm,1.4s
F04D Rainier, OR 93.38 35 P **P** **07 01 46.5 -0.6**
baz=224
F04D S **S** **07 13 01.4 +7.0**
baz=224
E03A Lebam 93.45 34 IAmb IAmb 07 02 02.2
comp=Z,26nm,1.1s
E03A IAMs_20 IAMs_20 07 37 57.0
comp=Z,3µm,20.0s
W18A Petrified Fore 93.53 50 IAMs_20 IAMs_20 07 40 22.8
comp=Z,3µm,18.0s
W18A Petrified Fore 93.53 50 P **P** **07 01 47.0 -1.2**
baz=232
W18A S **S** **07 13 03.6 +6.9**
baz=232
F04A Amboy 93.56 35 IAmb IAmb 07 02 03.9
comp=Z,13nm,0.9s
F04A IAMs_20 IAMs_20 07 38 35.9
comp=Z,4µm,19.0s
G05D Wamic, OR 93.61 36 P **P** **07 01 46.4 -1.7**
baz=225
G05D S **S** **07 13 03.5 +6.9**
baz=225
EPT El Paso 93.62 54 IAMs_20 IAMs_20 07 40 30.6
comp=Z,2µm,18.0s
I07A Izee 93.72 38 P **P** **07 01 47.5 -1.4**
I07A IAmb IAmb 07 02 05.9
comp=Z,22nm,1.4s
I07A IAMs_20 IAMs_20 07 39 45.3
comp=Z,3µm,19.0s
J08A Circle Bar Ran 93.76 39 P **P** **07 01 49.5 +0.5**
J08A IAmb IAmb 07 02 05.8
comp=Z,34nm,1.4s
ELK Elko 93.78 43 P **P** **07 01 49.8 +0.4**
comp=Z,2.0nm,0.9s,baz=212,slow=2.1,SNR=8.3
ELK Elko 93.78 43 IAMs_20 IAMs_20 07 45 41.3
comp=Z,4µm,18.0s
MTPU Mount Pierson 93.83 46 IAmb IAmb 07 02 14.2
comp=Z,42nm,1.7s
NLWA Neilton Lookou 93.92 34 IAMs_20 IAMs_20 07 46 01.4
comp=Z,4µm,18.0s
E04D Cinebar 93.93 35 P **P** **07 01 49.8 +0.2**
baz=224
CMAR Chiang Mai Arr 93.94 289 P **P** **07 01 49.8 -0.5**
comp=Z,0.8nm,0.3s,baz=206,slow=31,SNR=1.6
CMAR PP **PP** **07 05 35.5 -1.0**
comp=Z,5.4nm,0.9s,baz=137,slow=6.6,SNR=9.5
CMAR LR LR 07 46 26.8
comp=Z,736nm,19.8s,baz=130,slow=37
F05D White Salmon 93.99 36 P **P** **07 01 51.9 +2.0**

baz=225
F05D S **S** **07 13 05.2 +5.3**
baz=225
Q19K Cape Douglas, 94.00 13 S **S** **07 13 05.6 +6.2**
baz=201
TX31 Lajitas Ar. Si 94.16 58 IAmb IAmb 07 02 07.4
comp=Z,62nm,1.5s
TXAR Lajitas Array 94.16 58 P **P** **07 01 51.5 +0.3**
comp=Z,1.4nm,1.1s,baz=224,slow=5.2,SNR=6.4
TXAR PKKPbc **PKKPbc** **07 18 53.1 +0.7**
comp=Z,0.3nm,0.7s,baz=46,slow=6.4,SNR=2.1
D04E Lakebay 94.28 34 S **S** **07 13 08.2 +6.0**
baz=224
MNTX Cornudas Mount 94.35 55 P **P** **07 01 52.1 +0.2**
MNTX IAMs_20 IAMs_20 07 40 37.9
comp=Z,3µm,19.0s
MNTX Cornudas Mount 94.35 55 P **P** **07 01 51.0 -0.9**
baz=234
MNTX S **S** **07 13 07.7 +4.0**
baz=234
BJI Beijing 94.59 316 P **P** **07 01 52.9 +0.2**
BJI PP **PP** **07 05 36.8 -4.4**
BJI SKS **SKSac** **07 12 28.1 +0.3**
BJI S **ScS** **07 13 09.0 +2.6**
BJI pmax pmax
comp=Z,11nm,1.0s
BJI pmax pmax
comp=Z,440nm,8.3s
BJI LR LR
comp=Z,1µm,18.2s
BJI LR LR
comp=Z,1µm,20.6s
BJI LR LR
comp=Z,2µm,20.0s
O18K Koktuh Hills 94.60 12 IAmb IAmb 07 01 55.3
comp=Z,19nm,1.0s
O18K Koktuh Hills 94.60 12 P **P** **07 01 51.9 -0.4**
baz=200
O18K S **S** **07 13 10.7 +6.2**
baz=200
D05A Enumclaw 94.66 35 P **P** **07 01 53.4 +0.5**
D05A IAmb IAmb 07 02 09.0
comp=Z,49nm,1.6s
KMI Kunming 94.71 297 ⇑P **P** **07 01 52.8 -1.2**
KMI pP sP 07 01 58.5 +1.8
KMI PP **PP** **07 05 43.4 +0.7**
KMI SKS **SKSac** **07 12 28.8 -0.9**
KMI S **S** **07 13 05.2 -2.3**
KMI sS sS 07 13 14.2 +3.3
KMI pmax pmax
comp=Z,10.0nm,0.5s
KMI pmax pmax
comp=Z,300nm,8.5s
KMI LR LR
comp=Z,740nm,20.2s
KMI LR LR
comp=Z,1µm,18.8s
KMI LR LR
comp=Z,1µm,20.2s
Y22D IRIS PASSCAL I 94.73 52 IAMs_20 IAMs_20 07 41 14.7
comp=Z,4µm,18.0s
P19K Oil Pt 94.75 13 IAMs_20 IAMs_20 07 41 05.6
comp=Z,3µm,20.0s
P19K Oil Pt 94.75 13 P **P** **07 01 52.1 -0.9**
baz=201
P19K S **S** **07 13 11.7 +5.8**
baz=201
F07A Phinny Hill Vi 94.76 37 IAMs_20 IAMs_20 07 38 09.8
comp=Z,4µm,20.0s
DIB Dawson Inlet, 94.78 26 IAMs_20 IAMs_20 07 43 44.8
comp=Z,3µm,18.0s
DUG Dugway, Tooele 94.83 44 IAMs_20 IAMs_20 07 41 44.1
comp=Z,4µm,18.0s
DUG Dugway, Tooele 94.83 44 S **S** **07 13 12.7 +4.9**
baz=230
G08A Pilot Rock 94.83 38 IAMs_20 IAMs_20 07 40 35.8
comp=Z,3µm,19.0s
CNPM China Poot 95.01 14 IAMs_20 IAMs_20 07 37 53.5
comp=Z,3µm,21.0s
HOM Homer 95.06 13 IAMs_20 IAMs_20 07 38 05.6
comp=Z,2µm,19.0s
O19K Port Alsworth 95.07 12 IAmb IAmb 07 02 19.0
comp=Z,30nm,1.2s
O19K Port Alsworth 95.07 12 P **P** **07 01 54.9 +0.5**
baz=200
O19K S **S** **07 13 15.2 +6.7**
baz=200
RTAL Retalhuleu 95.13 76 IAMs_20 IAMs_20 07 40 16.0
comp=Z,3µm,18.0s
TMUT Trail Mountain 95.22 46 P **P** **07 01 57.2 +1.2**
MFID Camas Ranch 95.22 41 P **P** **07 01 55.8 0.0**
MFID IAMs_20 IAMs_20 07 43 56.3
comp=Z,2µm,18.0s
E07A Sunnyside 95.26 36 P **P** **07 01 56.1 +0.4**
E07A IAmb IAmb 07 02 03.8
comp=Z,39nm,1.8s
O20K Slope Mountain 95.26 13 P **P** **07 01 56.3 +0.9**
baz=202
O20K S **S** **07 13 15.4 +5.0**
baz=202
N18K Kilae Creek 95.27 11 P **P** **07 01 54.5 -0.9**
baz=199
N18K S **S** **07 13 16.4 +6.1**
baz=199
BRLK Bradley Lake 95.30 14 IAMs_20 IAMs_20 07 48 37.8
comp=Z,3µm,18.0s
HAWA Hanford 95.31 37 IAmb IAmb 07 02 27.9
comp=Z,22nm,1.6s
BRSE Bradley Lake S 95.31 14 S **S** **07 13 18.3 +7.6**
baz=203
LTY Liberty 95.35 35 IAMs_20 IAMs_20 07 45 28.2
comp=Z,4µm,18.0s
B05A Bryant 95.38 34 P **P** **07 01 56.8 +0.7**
baz=225
B05A S **S** **07 13 16.9 +5.1**
baz=225
BMO Blue Mountains 95.39 39 IAmb IAmb 07 02 01.6
comp=Z,29nm,1.9s
TIY Taiyuan 95.40 312 *e*P **P** **07 01 57.7 +1.1**
TIY SKS **SKSac** **07 12 31.0 -1.4**
TIY S **ScS** **07 13 18.0 +4.5**
TIY pmax pmax
comp=Z,310nm,10.6s
TIY LR LR
comp=Z,2µm,25.0s
TIY LR LR
comp=Z,220nm,10.6s
TIY LR LR
comp=Z,1µm,19.6s
A04D Lummi Island 95.42 33 P **P** **07 01 57.0 +0.7**
baz=224
A04D S S 07 13 21.5 +9.4
baz=224
XAN Xi'an 95.45 307 P **P** **07 01 56.3 -0.6**
XAN pP pwP 07 02 04.7 -1.6
XAN SKS **SKSac** **07 12 30.6 -2.3**
XAN S **ScS** **07 13 16.1 +2.0**
XAN pmax pmax
comp=Z,10.0nm,2.4s
XAN pmax pmax
comp=Z,540nm,7.8s
XAN LR LR
comp=Z,810nm,19.0s
XAN LR LR
comp=Z,790nm,17.8s
XAN LR LR
comp=Z,2µm,19.1s
ANMO Albuquerque 95.55 52 P **P** **07 01 56.9 -0.7**
comp=Z,1.0nm,0.8s,baz=234,slow=6.9,SNR=2.1
ANMO Albuquerque 95.55 52⇑*e*P **P** **07 02 01.9 +4.3**
ANMO pmax pmax
comp=Z,19nm,2.7s
ANMO MLR MLR
comp=Z,3µm,17.0s
ANMO Albuquerque 95.55 52 P **P** **07 01 59.2 +1.6**
ANMO IAmb IAmb 07 02 13.5
comp=Z,30nm,2.0s
ANMO Albuquerque 95.55 52 IAMs_20 IAMs_20 07 41 44.6
comp=Z,4µm,18.0s
ANMO Albuquerque 95.55 52 P **P** **07 01 56.5 -1.0**
baz=233
ANMO S **S** **07 13 19.2 +4.8**
baz=233
MVCO Mesa Verde 95.60 49 IAMs_20 IAMs_20 07 41 49.7
comp=Z,4µm,19.0s
MVCO Mesa Verde 95.60 49 P **P** **07 01 57.7 -0.1**
baz=232
MVCO S **S** **07 13 19.2 +4.3**
baz=232
E08A Dider Farm, El 95.61 37 IAMs_20 IAMs_20 07 38 45.3
comp=Z,4µm,20.0s
N19K Bonanza Creek 95.62 12 IAmb IAmb 07 05 47.9
comp=Z,20nm,1.4s
N19K IAMs_20 IAMs_20 07 41 42.6
comp=Z,2µm,19.0s
N19K Bonanza Creek 95.62 12 P P 07 01 50.1 -7.0
baz=200
BBB Bella Bella 95.66 28 IAMs_20 IAMs_20 07 46 54.0
comp=Z,2µm,18.0s
CCIG Comitan 95.71 74 IAMs_20 IAMs_20 07 41 16.5
comp=Z,3µm,18.0s
PV05 Paradox Valley 95.75 48 IAMs_20 IAMs_20 07 47 36.0
comp=Z,3µm,18.0s
SPUT South Promonto 95.76 44 P **P** **07 01 58.7 +0.4**
MA2 Magadan 95.80 345 LR LR 07 39 57.1
comp=Z,2µm,21.5s,baz=176,slow=32
MA2 Magadan 95.80 345*c i*P **P** **07 01 56.5 -1.3**
MA2 pmax pmax
comp=Z,16nm,1.5s
B06A Marblemount 95.85 34 IAMs_20 IAMs_20 07 47 05.4
comp=Z,3µm,18.0s
SEW Seward 95.90 14 S **S** **07 13 19.6 +3.9**
baz=204
Q23K Middleton Isla 95.96 16 IAMs_20 IAMs_20 07 45 49.9
comp=Z,4µm,18.0s
PV19 Morning Glory 95.97 48 IAMs_20 IAMs_20 07 42 12.4
comp=Z,3µm,18.0s
PV10 Paradox Valley 95.97 48 IAMs_20 IAMs_20 07 49 17.1
comp=Z,4µm,20.0s
PV18 Skein Mesa, Pa 95.97 48 IAMs_20 IAMs_20 07 42 13.6
comp=Z,3µm,18.0s
PV13 Radium Mtn., P 95.98 48 IAMs_20 IAMs_20 07 42 04.6
comp=Z,3µm,18.0s
PV14 Lion Creek, Pa 95.98 48 IAMs_20 IAMs_20 07 42 39.7
comp=Z,4µm,18.0s
PV16 Nyswonger Mesa 96.01 48 IAMs_20 IAMs_20 07 42 05.5
comp=Z,3µm,18.0s
E09A Wood Farm, Sta 96.08 37 IAMs_20 IAMs_20 07 39 11.9
comp=Z,3µm,21.0s
PV12 Saucer Basin, 96.08 48 IAMs_20 IAMs_20 07 42 16.5
comp=Z,4µm,18.0s
HLID Hailey 96.09 41 P **P** **07 01 58.3 -1.5**
HLID IAMs_20 IAMs_20 07 42 57.4
comp=Z,2µm,18.0s
HLID Hailey 96.09 41 P **P** **07 01 60.0 +0.2**
baz=229
HLID S **S** **07 13 22.8 +4.1**
baz=229
PV21 Cone Mtn., Par 96.13 48 IAMs_20 IAMs_20 07 43 01.6
comp=Z,3µm,19.0s
CAPN Captain Cook N 96.18 13 IAMs_20 IAMs_20 07 42 11.4
comp=Z,3µm,18.0s
CAPN Captain Cook N 96.18 13 S **S** **07 13 25.9 +7.8**
baz=203
F10A Beach Ranch, E 96.19 38 IAMs_20 IAMs_20 07 41 19.7
comp=Z,2µm,19.0s
TCUT Toone Canyon 96.24 44 P **P** **07 02 00.7 0.0**
PV07 Paradox Valley 96.25 48 IAMs_20 IAMs_20 07 42 58.1
comp=Z,3µm,19.0s
CRAG Craig 96.37 24 IAMs_20 IAMs_20 07 44 41.6
comp=Z,2µm,19.0s
CRAG Craig 96.37 24 S **S** **07 13 28.8 +8.8**
baz=217
RUBB Prince Rupert 96.48 26 IAMs_20 IAMs_20 07 44 38.8
comp=Z,2µm,18.0s
833A Chaparral WMA, 96.66 61 S **S** **07 13 28.9 +5.0**
baz=236
M19K Big River Lodg 96.67 11 P **P** **07 02 01.2 -0.5**
baz=200
M19K S **S** **07 13 28.8 +6.4**
baz=200
SNET Serv Nac Est T 96.69 78 IAMs_20 IAMs_20 07 38 52.6
comp=Z,3µm,20.0s
RC01 Rabbit Creek A 96.75 14 S **S** **07 13 28.8 +5.7**
baz=204
B08A Colville Reser 96.76 35 IAMs_20 IAMs_20 07 41 23.6
comp=Z,3µm,19.0s
HIN Hinchinbrook I 96.80 15 IAMs_20 IAMs_20 07 42 44.8
comp=Z,3µm,20.0s
PWL Port Wells 96.82 14 IAmb IAmb 07 02 05.6
comp=Z,12nm,1.0s
PWL IAMs_20 IAMs_20 07 46 48.4
comp=Z,2µm,18.0s
L19K White Mountain 96.85 11 IAmb IAmb 07 02 12.4
comp=Z,12nm,1.1s
L19K White Mountain 96.85 11 P **P** **07 02 03.4 +0.8**
baz=200
L19K S **S** **07 13 30.6 +6.6**
baz=200
KAIM Kaak Island 96.86 16 IAMs_20 IAMs_20 07 42 00.5
comp=Z,3µm,19.0s
M20K Styx River 96.86 12 S **S** **07 13 30.6 +6.4**
baz=201
SUA Susitna One 96.90 13 IAmb IAmb 07 02 05.9
comp=Z,9.6nm,0.8s
SUA IAMs_20 IAMs_20 07 42 45.4
comp=Z,3µm,20.0s
SUA Susitna One 96.90 13 P **P** **07 02 04.1 +1.2**
baz=203
SIT Sitka 96.93 22 S **S** **07 13 33.3 +8.6**
baz=215
S22A 4UR Ranch, Cre 96.98 49 S **S** **07 13 32.1 +5.3**
baz=233
EYAK Cordova Ski Ar 97.10 16 P Pdif 07 02 04.5 +0.8
baz=207
EYAK S **S** **07 13 32.4 +6.3**
baz=207
GLI Glacier Island 97.10 15 P **P** **07 02 02.8 -0.9**
GLI IAmb IAmb 07 02 07.6
comp=Z,17nm,1.0s
GLI IAMs_20 IAMs_20 07 38 56.9
comp=Z,2µm,21.0s
GLI Glacier Island 97.10 15 P Pdif 07 02 04.1 +0.3
baz=206
GLI S **S** **07 13 31.7 +5.6**
baz=206
FID Port Fidalgo 97.12 15 IAMs_20 IAMs_20 07 43 04.2
comp=Z,3µm,20.0s
SUCK Suckling Hills 97.14 17 IAMs_20 IAMs_20 07 42 09.0
comp=Z,3µm,20.0s
LLLB Lillooet 97.14 32 IAMs_20 IAMs_20 07 49 06.6
comp=Z,3µm,18.0s
CD2 Chengdu 97.21 302 P **P** **07 02 04.3 -0.7**
CD2 PP **PP** **07 06 03.4 +1.6**
CD2 SKS **SKSac** **07 12 38.6 -3.6**
CD2 S **ScS** **07 13 29.9 +1.0**
CD2 SS **SS** **07 20 09.3 +2.4**
CD2 pmax pmax
comp=Z,550nm,10.1s
CD2 LR LR
comp=Z,690nm,18.7s
CD2 LR LR
comp=Z,1µm,20.1s
CD2 LR LR
comp=Z,1µm,18.7s
SKT Skwentna 97.23 12 S **S** **07 13 33.3 +6.1**
baz=203
HMT Hamilton 97.26 16 IAMs_20 IAMs_20 07 49 46.1
comp=Z,4µm,18.0s
L20K Farewell, AK 97.29 11 S **S** **07 13 33.9 +6.2**
baz=201
KNK Knik Glacier 97.30 14 S **S** **07 13 34.6 +6.8**
baz=205
PMR Palmer 97.33 14 P Pdif 07 02 05.1 +0.4
baz=204
PMR S **S** **07 13 35.4 +7.5**
baz=204
KVTX Kingsville 97.34 62 IAMs_20 IAMs_20 07 40 58.3
comp=Z,2µm,18.0s
LPAZ La Paz 97.37 115 P Pdif 07 02 07.2 +0.3
comp=Z,2.2nm,0.8s,baz=231,slow=5.1,SNR=6.6
LPAZ LR LR 07 37 45.7
comp=Z,884nm,21.2s,baz=219,slow=30
LPAZ La Paz 97.37 115 IAmb IAmb 07 02 20.2
comp=Z,25nm,1.9s
WRAK Wrangell Islan 97.39 24 IAMs_20 IAMs_20 07 45 22.1
comp=Z,3µm,19.0s
WRAK Wrangell Islan 97.39 24 S **S** **07 13 36.4 +7.7**
baz=218
BERG Berg Lake 97.44 17 IAMs_20 IAMs_20 07 42 40.0
comp=Z,3µm,20.0s
AHID Auburn Hatcher 97.45 43 P Pdif 07 02 08.7 +2.6
AHID IAMs_20 IAMs_20 07 46 54.5
comp=Z,2µm,18.0s
MSTX Muleshoe 97.45 54 IAMs_20 IAMs_20 07 43 48.1
comp=Z,2µm,18.0s
MSTX Muleshoe 97.45 54 S **S** **07 13 37.5 +6.9**
baz=235
GHO Glory Hole Cre 97.53 14 IAmb IAmb 07 02 20.8
comp=Z,7.2nm,0.8s
O20A White River Ci 97.53 47 IAMs_20 IAMs_20 07 43 43.8
comp=Z,3µm,18.0s
O20A White River Ci 97.53 47 S **S** **07 13 36.6 +5.3**
baz=233
JCT Junction City 97.57 59 S **S** **07 13 34.3 +2.6**
baz=236
DIV Divide 97.61 15 IAmb IAmb 07 02 25.0
comp=Z,9.3nm,1.0s
MESA MESA 97.68 17 IAMs_20 IAMs_20 07 42 25.4
comp=Z,3µm,20.0s
SML Sawmill 97.68 14 P Pdif 07 02 09.9 +3.5
baz=205
SML S **S** **07 13 37.7 +6.5**
baz=205
WAX Waxell Ridge 97.69 17 IAMs_20 IAMs_20 07 42 36.7
comp=Z,4µm,19.0s
BMRM Bremner River 97.73 16 IAMs_20 IAMs_20 07 49 47.7
comp=Z,3µm,18.0s
BMRM Bremner River 97.73 16 P Pdif 07 02 08.7 +2.1
baz=208
BMRM S **S** **07 13 37.6 +5.9**
baz=208
SMCO Snowmass 97.74 48 IAMs_20 IAMs_20 07 43 12.4
comp=Z,3µm,18.0s
NEW Newport 97.78 36 S **S** **07 13 37.1 +4.5**
baz=228
SDCO Great Sand Dun 97.83 50 IAMs_20 IAMs_20 07 43 11.8
comp=Z,2µm,18.0s
SDCO Great Sand Dun 97.83 50 S **S** **07 13 39.9 +5.8**
baz=234
HHC Hu-ho-hao-te 97.84 314 *e*P **P** **07 02 07.2 -0.5**
HHC PP **PP** **07 06 13.3 +6.7**
HHC SKS **SKSac** **07 12 45.5 +0.4**
HHC S **S** **07 13 28.6 -5.1**
HHC pmax pmax
comp=Z,20nm,1.4s
HHC pmax pmax
comp=Z,280nm,8.9s
HHC LR LR
comp=Z,770nm,17.7s
HHC LR LR
comp=Z,1µm,17.7s
HHC LR LR
comp=Z,2µm,18.2s
CUT Chulitna 97.85 13 IAMs_20 IAMs_20 07 43 25.7
comp=Z,2µm,20.0s
PETF Flores 97.89 75 IAMs_20 IAMs_20 07 42 58.2
comp=Z,2µm,18.0s
CRQM Cirque 97.89 17 IAMs_20 IAMs_20 07 42 34.1
comp=Z,3µm,20.0s
YAH Yahtse 97.89 17 IAMs_20 IAMs_20 07 42 32.9
comp=Z,3µm,20.0s
ANM Nome 97.89 6 IAMs_20 IAMs_20 07 43 43.4
comp=Z,3µm,20.0s
KLU Klutina 97.91 15 S **S** **07 13 38.7 +5.5**
baz=207
ISLE Juniper Island 97.95 17 IAMs_20 IAMs_20 07 42 25.6
comp=Z,3µm,20.0s
TGL Tana Glacier 97.97 17 IAMs_20 IAMs_20 07 42 44.9
comp=Z,3µm,19.0s
REDW Red Top Meadow 97.97 43 IAMs_20 IAMs_20 07 41 08.0
comp=Z,2µm,19.0s
CAO2 Cobano, Puntar 97.99 84 IAMs_20 IAMs_20 07 39 35.9
comp=Z,2µm,18.0s
TPAW Teton Pass 97.99 43 IAMs_20 IAMs_20 07 39 29.6
comp=Z,2µm,19.0s
ORTG Ortega, Santa 98.05 83 IAMs_20 IAMs_20 07 40 03.6
comp=Z,2µm,19.0s
K20K Telida 98.09 11 IAmb IAmb 07 06 06.2
comp=Z,22nm,1.6s
K20K Telida 98.09 11 P Pdif 07 02 10.3 +2.1
baz=201
K20K S **S** **07 13 40.1 +5.7**
baz=201
SNOW Snow King Moun 98.09 43 IAmb IAmb 07 02 25.6
comp=Z,8.7nm,1.0s
SNOW IAMs_20 IAMs_20 07 48 46.1
comp=Z,2µm,18.0s
BCPM Bancas Point 98.09 19 IAMs_20 IAMs_20 07 42 36.3
comp=Z,3µm,19.0s
TABL Table Mountain 98.11 18 IAMs_20 IAMs_20 07 42 29.8
comp=Z,3µm,20.0s
735A Kenedy 98.12 61 IAMs_20 IAMs_20 07 43 40.9
comp=Z,2µm,18.0s
T25A Trinidad 98.18 51 S **S** **07 13 41.5 +4.5**
baz=235
GRNC Granite Creek 98.21 17 IAMs_20 IAMs_20 07 42 32.4
comp=Z,3µm,20.0s
JIS Juneau Island 98.22 22 IAMs_20 IAMs_20 07 41 41.8
comp=Z,2µm,18.0s
DLMT Dillon 98.25 41 IAMs_20 IAMs_20 07 44 03.3
comp=Z,2µm,19.0s
IMW Indian Meadow 98.25 42 IAMs_20 IAMs_20 07 44 27.5
comp=Z,2µm,19.0s
N25K Chitina, Valde 98.30 16 IAMs_20 IAMs_20 07 50 41.7
comp=Z,3µm,18.0s
N25K Chitina, Valde 98.30 16 P Pdif 07 02 09.9 +0.6
baz=208
MASN Masaya 98.34 81 P Pdif 07 02 11.3 +0.9
BW06 Boulder Array 98.35 44 P **P** **07 02 09.6 -0.5**
baz=232
BW06 S **S** **07 13 43.3 +5.1**
baz=232
PDAR Pinedale Array 98.35 44 P Pdif 07 02 10.1 0.0
comp=Z,0.5nm,0.7s,baz=221,slow=3.4,SNR=5.8
PDAR PP **PP** **07 06 12.2 +1.6**
comp=Z,0.2nm,0.7s,baz=219,slow=7.0,SNR=2.1
PDAR PKKPbc **PKKPbc** **07 18 42.4 +0.6**
comp=Z,0.4nm,0.6s,baz=85,slow=4.2,SNR=4.4
M24K Tolsona, Glenn 98.40 15 P **P** **07 02 08.0 -1.6**
baz=207
M24K S **S** **07 13 46.3 +9.0**
baz=207
ZEA Zeya 98.42 331 *e*P **P** **07 02 07.9 -1.9**
ZEA *e* 07 12 48.3
ZEA pmax pmax
comp=Z,100nm,4.8s
JTS Las Juntas de 98.44 83 IAMs_20 IAMs_20 07 39 56.8
comp=Z,2µm,18.0s
MSO Missoula 98.47 39 S **S** **07 13 40.5 +1.8**
baz=230
MCARA McCarthy VSAT 98.47 16 P Pdif 07 02 11.5 +1.7
baz=210
MCARA S **S** **07 13 43.9 +6.1**
baz=210
LOGN Logan Glacier 98.48 18 IAMs_20 IAMs_20 07 42 52.5
comp=Z,3µm,19.0s
FLWY Flagg Ranch 98.50 42 IAMs_20 IAMs_20 07 41 25.1
comp=Z,3µm,19.0s
WAT6 Susitna Watana 98.50 14 P Pdif 07 02 10.8 +0.6
baz=206
WAT6 S **S** **07 13 43.3 +5.0**
baz=206
BARN Barnard Glacie 98.52 17 IAMs_20 IAMs_20 07 43 02.5
comp=Z,2µm,20.0s
SEY Seymchan 98.53 347 LR LR 07 42 10.5
comp=Z,2µm,21.0s,baz=155,slow=33
WAT1 Susitna Watana 98.57 13 P Pdif 07 02 11.5 +1.2
baz=205
WAT1 S **S** **07 13 45.3 +6.7**
baz=205
CPUP Villa Florida 98.59 129 PKKPbc PKKPbc 07 18 39.9 +0.3
comp=Z,3.6nm,0.8s,baz=34,slow=3.4,SNR=10
CPUP LR LR 07 41 58.7
comp=Z,3.6nm,18.2s,baz=232,slow=32
AMTX Amarillo 98.72 54 IAMs_20 IAMs_20 07 49 16.4
comp=Z,3µm,18.0s
YMR Madison River 98.72 42 P Pdif 07 02 14.1 +2.4
YMR IAmb IAmb 07 02 44.2
comp=Z,33nm,1.8s
H17A Grant Village 98.76 42 IAMs_20 IAMs_20 07 47 00.1
comp=Z,3µm,18.0s
Q24A Divide 98.77 49 S **S** **07 13 46.8 +4.7**
baz=234
KTH Kantishna Hill 98.79 12 IAMs_20 IAMs_20 07 40 54.5
comp=Z,3µm,22.0s
TRF Thorofare Moun 98.81 12 IAmb IAmb 07 02 26.7
comp=Z,6.8nm,0.8s
TRF IAMs_20 IAMs_20 07 43 57.0
comp=Z,3µm,20.0s
TRF Thorofare Moun 98.81 12 P Pdif 07 02 12.1 +0.6
baz=204
TRF S **S** **07 13 47.1 +6.1**

baz=204
J20K **Nowinta River** 98.84 11 P Pdif 07 02 12.7 +1.3
baz=200
CHUM **Lake Minchumin** 98.86 11 S **S** **07 13 46.6 +5.7**
baz=202
ABTX **Abilene, Hawle** 98.87 57 P **P** **07 02 09.0 -3.4**
baz=236
ABTX S **S** **07 13 45.1 +2.6**
baz=236
HARP **HAARP** 98.88 15 S **S** **07 13 46.7 +5.5**
baz=208
SKAG **Skagway** 98.89 21 S **S** **07 13 48.1 +6.8**
baz=216
BOZ **Bozeman (W)** 98.92 41 IAMs_20 IAMs_20 07 46 15.2
comp=Z,2µm,18.0s
BOZ **Bozeman (W)** 98.92 41 P Pdif 07 02 13.1 +0.6
baz=231
ISCO **Idaho Springs** 98.96 48 IAMs_20 IAMs_20 07 44 03.6
comp=Z,3µm,18.0s
PEZE **Perez Zeledon,** 99.02 85 IAMs_20 IAMs_20 07 41 30.2
comp=Z,3µm,18.0s
RND **Reindeer** 99.04 13 IAMs_20 IAMs_20 07 51 43.9
comp=Z,3µm,18.0s
RIMA **Rio Macho** 99.07 84 IAMs_20 IAMs_20 07 40 38.5
comp=Z,3µm,18.0s
RWWY **Rawlins** 99.09 46 IAMs_20 IAMs_20 07 44 58.9
comp=Z,3µm,18.0s
ACON **Acoyapa** 99.14 82 IAMs_20 IAMs_20 07 40 39.3
comp=Z,3µm,19.0s
SRBA **San Rafael, Bu** 99.21 85 IAMs_20 IAMs_20 07 41 02.1
comp=Z,4µm,18.0s
BPAW **Bear Paw Mtn.** 99.29 12 IAMs_20 IAMs_20 07 50 17.5
comp=Z,2µm,19.0s
CVTR **Volcan Turrial** 99.29 84 IAMs_20 IAMs_20 07 40 28.3
comp=Z,3µm,18.0s
MCK **McKinley** 99.32 13 IAmb IAmb 07 02 19.1
comp=Z,8.4nm,1.0s
MCK IAMs_20 IAMs_20 07 51 55.4
comp=Z,3µm,18.0s
MCK **McKinley** 99.32 13 P **Pdif** **07 02 15.3 +1.6**
baz=205
435B **Jarrell** 99.33 59 IAMs_20 IAMs_20 07 43 03.9
comp=Z,3µm,18.0s
435B **Jarrell** 99.33 59 P **Pdif** **07 02 16.1 +1.6**
baz=237
M26K **Nabesna, AK** 99.36 16 IAMs_20 IAMs_20 07 50 41.8
comp=Z,2µm,19.0s
M26K **Nabesna, AK** 99.36 16 P **Pdif** **07 02 15.9 +2.0**
baz=210
YUK3 **Moose Creek** 99.43 17 P **Pdif** **07 02 13.9 -0.5**
baz=212
M27K **Edge Creek, AK** 99.59 16 P **Pdif** **07 02 15.1 +0.1**
baz=210
BWN **Browne** 99.62 12 IAMs_20 IAMs_20 07 44 22.2
comp=Z,3µm,20.0s
BATAN **Batan** 99.65 84 IAMs_20 IAMs_20 07 44 38.9
comp=Z,2µm,18.0s
L26K **Log Cabin Wild** 99.83 15 IAMs_20 IAMs_20 07 44 44.1
comp=Z,3µm,20.0s
WALA **Waterton Lakes** 99.91 37 IAMs_20 IAMs_20 07 41 41.1
comp=Z,3µm,20.0s
PHWY **Pilot Hill** 99.93 47 IAMs_20 IAMs_20 07 45 02.2
comp=Z,2µm,18.0s
RLMT **Red Lodge** 99.95 42 IAMs_20 IAMs_20 07 45 16.4
comp=Z,3µm,19.0s
LZH **Lanzhou** 100.03 307 *e*P **Pdif** **07 02 16.0 -1.7**
LZH sP pwP 07 02 28.4 +1.4
LZH S **Sdif** **07 13 52.4 -0.1**
LZH sS sS 07 13 56.7 +0.9
LZH pmax pmax
comp=Z,19nm,1.2s
LZH pmax pmax
comp=Z,290nm,5.7s
LZH LR LR
comp=Z,640nm,13.0s
LZH LR LR
comp=Z,970nm,14.9s
LZH LR LR
comp=Z,950nm,15.5s
NEA2 **Nenana** 100.08 12 IAMs_20 IAMs_20 07 44 35.4
comp=Z,3µm,20.0s
NEA2 **Nenana** 100.08 12 P **Pdif** **07 02 17.7 +0.8**
baz=205
I21K **Tanana** 100.12 11 P **Pdif** **07 02 17.9 +0.8**
baz=202
RIDG **Independent Ri** 100.14 14 IAMs_20 IAMs_20 07 41 16.1
comp=Z,2µm,20.0s
RIDG **Independent Ri** 100.14 14 P **Pdif** **07 02 17.5 +0.2**
baz=208
WRH **Wood River Hil** 100.15 13 IAMs_20 IAMs_20 07 49 03.3
comp=Z,2µm,18.0s
MLY **Manley** 100.19 12 P **Pdif** **07 02 17.7 +0.2**
baz=203
L27K **Beaver Creek,** 100.21 16 P **Pdif** **07 02 18.8 +1.1**
baz=211
HDA **Harding Lake** 100.31 13 P **Pdif** **07 02 18.7 +0.8**
baz=206
CCB **Clear Creek Bu** 100.36 13 IAMs_20 IAMs_20 07 52 25.9
comp=Z,3µm,18.0s
KSCO **Kaye Shedlock'** 100.41 50 IAMs_20 IAMs_20 07 46 19.0
comp=Z,2µm,18.0s
SCRK **Sand Creek** 100.53 15 P **Pdif** **07 02 20.1 +1.0**
baz=209
I23K **Minto, Yukon-K** 100.53 12 IAMs_20 IAMs_20 07 51 35.5
comp=Z,3µm,20.0s
TCOL **CIGO, UAF Yank** 100.55 13 IAMs_20 IAMs_20 07 45 00.0
comp=Z,2µm,21.0s
MDM **Murphy Dome** 100.56 13 IAMs_20 IAMs_20 07 51 34.3
comp=Z,2µm,18.0s
WMOK **Wichita Mounta** 100.62 56 IAMs_20 IAMs_20 07 44 49.0
comp=Z,3µm,18.0s
ILAR **Eielson Array** 100.65 13 P **Pdif** **07 02 18.7 -0.8**
comp=Z,0.8nm,0.8s,baz=226,slow=5.0,SNR=7.4
ILAR PP PP 07 06 16.1 -11
comp=Z,0.9nm,0.9s,baz=227,slow=7.3,SNR=4.6
POKR **Poker Plat Res** 100.85 13 IAMs_20 IAMs_20 07 44 59.0
comp=Z,2µm,20.0s
K27K **Chicken** 100.99 15 IAMs_20 IAMs_20 07 48 47.8
comp=Z,3µm,19.0s
K27K **Chicken** 100.99 15 P **Pdif** **07 02 23.6 +2.6**
baz=210
J26K **Charley River,** 101.08 14 P **Pdif** **07 02 22.6 +1.1**
baz=209
H23K **Yukon River** 101.12 12 IAMs_20 IAMs_20 07 42 16.0
comp=Z,3µm,21.0s
237A **Washetta, Mont** 101.26 59 IAMs_20 IAMs_20 07 44 14.1
comp=Z,2µm,18.0s
LOOK **Love County** 101.34 57 IAMs_20 IAMs_20 07 43 00.0
comp=Z,3µm,19.0s
H24K **Noodor Dome** 101.42 12 IAMs_20 IAMs_20 07 52 11.0
comp=Z,4µm,19.0s
EGMT **Eagleton** 101.43 40 P **Pdif** **07 02 23.2 -0.2**
baz=233
BILL **Bilibino** 101.50 354‖ *e*P **Pdif** **07 02 26.9 +3.7**
BILL *e* 07 06 37.9
BILL *e*PPP PPP 07 08 44.6
BILL pmax pmax
comp=Z,5.0nm,0.4s
BILL MLR MLR
comp=Z,1µm,19.0s
RDOG **Red Dog Mine** 101.53 6 IAMs_20 IAMs_20 07 45 58.5
comp=Z,3µm,20.0s
PRP **Porcupine Dome** 101.58 13 IAMs_20 IAMs_20 07 49 27.1
comp=Z,2µm,18.0s
DAWY **Dawson** 101.64 16 P **Pdif** **07 02 23.7 -0.3**
baz=213
DGAR **Diego Garcia** 101.70 253 IAMs_20 IAMs_20 07 48 03.6
comp=Z,4µm,18.0s
EGAK **Eagle** 101.84 15 IAMs_20 IAMs_20 07 52 56.1
comp=Z,2µm,18.0s
EGAK **Eagle** 101.84 15 P **Pdif** **07 02 26.0 +1.2**
baz=211
NATX **Nacogdoches** 101.97 60 IAMs_20 IAMs_20 07 44 48.8
comp=Z,2µm,19.0s
OK025 **Westminster Rd** 102.07 55 IAMs_20 IAMs_20 07 45 45.4
comp=Z,3µm,18.0s
OK029 **Liberty Lake** 102.11 55 IAMs_20 IAMs_20 07 48 43.2
comp=Z,2µm,18.0s
CROK **Carrier** 102.12 54 IAMs_20 IAMs_20 07 46 30.5
comp=Z,4µm,19.0s
OK032 **Salt Plains WL** 102.12 54 IAMs_20 IAMs_20 07 46 10.6
comp=Z,3µm,18.0s
CBKS **Cedar Bluff** 102.18 52 IAMs_20 IAMs_20 07 48 10.0
comp=Z,4µm,18.0s
LAO **LASA Array** 102.59 42 IAMs_20 IAMs_20 07 47 23.2
comp=Z,2µm,18.0s
OK031 **S. Brethren Rd** 102.61 55 IAMs_20 IAMs_20 07 49 16.7
comp=Z,2µm,18.0s
R32A **Long Quarter,** 102.65 52 IAMs_20 IAMs_20 07 47 42.4
comp=Z,2µm,18.0s
KS21 **Milan North St** 102.75 54 IAMs_20 IAMs_20 07 51 27.2
comp=Z,3µm,18.0s
KS20 **Mayfield South** 102.79 54 IAMs_20 IAMs_20 07 46 42.4
comp=Z,3µm,18.0s
AGT **Agartala** 102.89 290 *i* x **PP** **07 06 42.9 -2.1**
SHL **Shillong** 103.24 292 *e*P **PP** **07 06 46.0 -1.8**
T35A **Sooner Cattle** 103.34 55 IAMs_20 IAMs_20 07 47 52.9
comp=Z,3µm,18.0s
WLAR **White Oak Lake** 104.07 59 IAMs_20 IAMs_20 07 46 14.6
comp=Z,3µm,18.0s
545A **Edgard** 104.17 63 IAMs_20 IAMs_20 07 58 44.3
comp=Z,3µm,18.0s
MIAR **Mount Ida** 104.17 58 IAMs_20 IAMs_20 07 48 57.2
comp=Z,3µm,18.0s
EPYK **Eagle Plains** 104.19 16 IAMs_20 IAMs_20 07 50 56.3
comp=Z,2µm,18.0s
EPYK **Eagle Plains** 104.19 16 P **Pdif** **07 02 37.2 +2.0**
baz=215
KSU1 **Kansas State U** 104.40 53 IAMs_20 IAMs_20 07 45 55.9
comp=Z,2µm,19.0s
ROSC **El Rosal** 104.45 94 IAMs_20 IAMs_20 07 44 28.0
comp=Z,3µm,19.0s
X40A **Basin Creek Fa** 104.67 58 IAMs_20 IAMs_20 07 46 30.4
comp=Z,2µm,18.0s
N33A **J Bar K, Exete** 104.69 51 IAMs_20 IAMs_20 07 47 31.4
comp=Z,3µm,18.0s
DGMT **Dagmar** 104.72 41 IAMs_20 IAMs_20 07 46 27.7
comp=Z,3µm,19.0s
SONM **Songino Array** 104.89 318 Pdiff **Pdif** **07 02 38.3 -0.7**
comp=Z,0.5nm,0.8s,baz=163,slow=1.5,SNR=1.5
SONM PKKP **PKKPab** **07 18 36.4 -0.9**
comp=Z,1.9nm,0.9s,baz=270,slow=2.5,SNR=6.9
WHAR **Wooly Hollow** 105.46 58 IAMs_20 IAMs_20 07 48 07.3
comp=Z,3µm,18.0s
SUSD **Miller** 105.65 47 IAMs_20 IAMs_20 07 48 42.5
comp=Z,2µm,18.0s
E28A **Huff** 105.71 44 IAMs_20 IAMs_20 07 48 19.0
comp=Z,3µm,18.0s
N35A **Tabor** 105.93 51 IAMs_20 IAMs_20 07 48 10.4
comp=Z,3µm,18.0s
MGMO **Mountain Grove** 106.39 56 IAMs_20 IAMs_20 07 48 28.8
comp=Z,3µm,18.0s
SOR **Soroa** 106.42 73 IAMs_20 IAMs_20 07 49 05.3
comp=Z,3µm,18.0s
P38A **Dawn** 106.73 53 IAMs_20 IAMs_20 07 53 49.5
comp=Z,3µm,18.0s
ECSD **EROS Data Cent** 106.74 49 IAMs_20 IAMs_20 07 48 49.6
comp=Z,3µm,18.0s
HDBT **Hernando Brdge** 106.99 59 IAMs_20 IAMs_20 07 59 28.8
comp=Z,3µm,20.0s
MDND **Maddock** 107.00 44 IAMs_20 IAMs_20 07 50 20.2
comp=Z,3µm,19.0s
LPAR **Lepanto** 107.03 58 IAMs_20 IAMs_20 07 49 16.9
comp=Z,3µm,18.0s
BOK **Bokaro** 107.11 288 *i* x x 07 07 09.6
OXF **Oxford** 107.15 60 IAMs_20 IAMs_20 07 48 12.1
comp=Z,2µm,18.0s
N38A **Joes South For** 107.49 52 IAMs_20 IAMs_20 07 49 03.7
comp=Z,3µm,18.0s
PEBM **Pemiscott Bayo** 107.59 58 IAMs_20 IAMs_20 07 49 03.6
comp=Z,3µm,19.0s
P40A **Paris** 107.69 54 IAMs_20 IAMs_20 07 50 09.0
comp=Z,3µm,18.0s
LNXT **Lenox** 107.85 58 IAMs_20 IAMs_20 07 49 39.4
comp=Z,3µm,18.0s
HALT **Halls** 107.87 59 IAMs_20 IAMs_20 07 49 07.9
comp=Z,3µm,19.0s
F33A **5 Mile Ranch,** 107.98 47 IAMs_20 IAMs_20 07 51 26.1
comp=Z,2µm,18.0s
SCIA **State Center** 108.04 51 IAMs_20 IAMs_20 07 52 35.1
comp=Z,3µm,18.0s
YKA **Yellowknife Ar** 108.04 26 PKKPbc PKKPbc 07 18 10.1 -2.9
comp=Z,1.6nm,0.8s,baz=58,slow=3.6,SNR=5.8
GLAT **Glass** 108.07 58 IAMs_20 IAMs_20 07 49 54.4
comp=Z,3µm,19.0s
D32A **Dogwood Acres,** 108.17 45 IAMs_20 IAMs_20 07 49 41.1
comp=Z,3µm,18.0s
HICK **Hickman** 108.24 58 IAMs_20 IAMs_20 07 49 31.8
comp=Z,3µm,18.0s
MTDJ **Mount Denham** 108.66 80 IAMs_20 IAMs_20 07 45 54.6
comp=Z,3µm,19.0s
K38A **Sparkersburg** 108.68 51 IAMs_20 IAMs_20 07 52 40.0
comp=Z,3µm,18.0s
I37A **Lemond, Waseca** 108.91 49 IAMs_20 IAMs_20 07 52 38.1
comp=Z,2µm,18.0s
WVT **Waverly** 109.05 59 IAMs_20 IAMs_20 07 50 04.3
comp=Z,2µm,18.0s
AGMN **Agassiz Nation** 109.41 45 IAMs_20 IAMs_20 07 55 18.9
comp=Z,3µm,18.0s
L40A **Anamosa** 109.42 52 IAMs_20 IAMs_20 07 47 40.8
comp=Z,2µm,19.0s
P43A **Skaggs, Pawnee** 109.47 55 IAMs_20 IAMs_20 07 50 24.1
comp=Z,3µm,18.0s
SDV **Santo Domingo** 109.70 92 IAMs_20 IAMs_20 07 50 47.9
comp=Z,3µm,18.0s
Z51A **Franklin** 109.71 63 IAMs_20 IAMs_20 07 52 30.0
comp=Z,2µm,19.0s
SPMN **Marine on St.** 109.85 49 IAMs_20 IAMs_20 07 56 12.8
comp=Z,3µm,18.0s
T47A **Shon Grove** 109.96 58 IAMs_20 IAMs_20 07 49 58.4
comp=Z,3µm,19.0s
SWET **Sewanee** 110.01 61 IAMs_20 IAMs_20 07 50 19.8
comp=Z,3µm,18.0s
HDIL **Hopedale** 110.04 54 IAMs_20 IAMs_20 07 51 59.1
comp=Z,2µm,18.0s
OLIL **Olney** 110.04 56 IAMs_20 IAMs_20 07 50 33.4
comp=Z,3µm,18.0s
CLTN **Cedars of Leba** 110.11 60 IAMs_20 IAMs_20 07 50 50.5
comp=Z,3µm,18.0s
ULM **Lac du Bonnet** 110.31 43 IAMs_20 IAMs_20 07 52 29.7
comp=Z,2µm,19.0s
VOI **Vohitsoka** 110.31 225 IAMs_20 IAMs_20 07 46 19.0
comp=Z,2µm,19.0s
O44A **Mansfield** 110.42 55 IAMs_20 IAMs_20 07 50 36.4
comp=Z,3µm,18.0s
JFWS **Jewell Farm** 110.45 52 IAMs_20 IAMs_20 07 50 44.0
comp=Z,3µm,18.0s
W50A **Signal Mountai** 110.46 61 IAMs_20 IAMs_20 07 51 29.7
comp=Z,3µm,18.0s
060A **Indiantown** 110.55 71 IAMs_20 IAMs_20 07 50 52.5
comp=Z,2µm,18.0s
I40A **Norwalk** 110.64 51 IAMs_20 IAMs_20 07 59 13.0
comp=Z,2µm,18.0s
U49A **Red Boiling Sp** 110.70 59 IAMs_20 IAMs_20 07 51 08.0
comp=Z,3µm,18.0s
B35A **Bob, Littlefor** 110.70 45 IAMs_20 IAMs_20 07 51 34.2
comp=Z,2µm,18.0s
TIXI **Tiksi** 110.77 344‖ *i* PKIKP **PKiKP** **07 07 04.7 +0.7**
TIXI **Tiksi** 110.77 344 IAMs_20 IAMs_20 07 47 06.8
comp=Z,2µm,21.0s
CPCT **Cooper Cave** 111.15 61 IAMs_20 IAMs_20 07 51 14.9
comp=Z,3µm,18.0s
M44A **Midewin, Midew** 111.25 54 IAMs_20 IAMs_20 07 53 21.3
comp=Z,2µm,18.0s
W52A **Murphy** 111.43 61 IAMs_20 IAMs_20 07 51 02.4
comp=Z,2µm,19.0s
G40A **Rib Lake** 111.52 49 IAMs_20 IAMs_20 07 51 31.0
comp=Z,3µm,19.0s
HQIL **Hanson Quary C** 111.56 54 IAMs_20 IAMs_20 07 56 48.4
comp=Z,2µm,18.0s
K43A **Burlington** 111.63 52 IAMs_20 IAMs_20 07 51 30.1
comp=Z,3µm,18.0s
L44A **Lake County Fo** 111.68 53 IAMs_20 IAMs_20 07 51 56.6
comp=Z,3µm,18.0s
I42A **Draeger Farm,** 111.75 51 IAMs_20 IAMs_20 07 56 20.4
comp=Z,3µm,18.0s
V52A **Sevierville** 112.00 61 IAMs_20 IAMs_20 07 52 16.4
comp=Z,3µm,19.0s
ABPO **Ambohimpanom** 112.26 227 IAMs_20 IAMs_20 07 50 10.7
comp=Z,3µm,18.0s
TZTN **Tazewell** 112.33 60 IAMs_20 IAMs_20 07 52 21.2
comp=Z,3µm,18.0s
TZTN **Tazewell** 112.33 60 P **PKiKP** **07 07 10.2 +2.1**
baz=245
V53A **Saluda** 112.50 61 IAMs_20 IAMs_20 07 52 52.7
comp=Z,3µm,18.0s
OPO **Ambohidratompo** 112.62 227 PKiKP **PKiKP** **07 07 10.4 +1.0**
comp=Z,4.1nm,1.0s,baz=63,slow=4.5,SNR=3.9
H43A **Windswept, Lux** 112.74 51 IAMs_20 IAMs_20 07 54 40.5
comp=Z,3µm,18.0s
S51A **Beattyville** 112.76 59 IAMs_20 IAMs_20 07 52 17.6
comp=Z,3µm,18.0s
HATO **Hato, Curacao** 112.81 90 IAMs_20 IAMs_20 07 49 14.5
comp=Z,2µm,20.0s
F42A **Maple Grove Fa** 113.04 50 IAMs_20 IAMs_20 07 52 27.3
comp=Z,2µm,18.0s
PTGA **Pitinga** 113.15 107 IAMs_20 IAMs_20 07 49 39.9
comp=Z,3µm,18.0s
KMSC **Kings Mountain** 113.37 62 IAMs_20 IAMs_20 07 53 22.8
comp=Z,3µm,18.0s
Q51A **Peebles** 113.52 58 IAMs_20 IAMs_20 07 51 57.5
comp=Z,3µm,18.0s
I45A **Fountain** 113.57 52 IAMs_20 IAMs_20 07 55 21.6
comp=Z,3µm,18.0s
U54A **Nelsons Funny** 113.58 61 IAMs_20 IAMs_20 07 52 11.5
comp=Z,3µm,19.0s
E43A **Lone Tree Farm** 114.02 49 IAMs_20 IAMs_20 07 53 07.1
comp=Z,3µm,19.0s
J47A **Sunmer** 114.19 53 IAMs_20 IAMs_20 07 58 37.1
comp=Z,2µm,18.0s
R53A **Hurricane** 114.23 59 IAMs_20 IAMs_20 07 52 34.4
comp=Z,3µm,18.0s
Q52A **Bidwell** 114.26 58 IAMs_20 IAMs_20 07 52 31.1
comp=Z,3µm,18.0s
G45A **Suttons Bay** 114.35 51 IAMs_20 IAMs_20 07 55 38.1
comp=Z,2µm,18.0s
W57A **Gilead** 114.37 63 IAMs_20 IAMs_20 07 54 06.4
comp=Z,2µm,18.0s
U56A **King** 114.57 62 IAMs_20 IAMs_20 07 52 55.6
comp=Z,3µm,18.0s
WMQ **Urumqi** 114.59 307 *e*PKP **PKiKP** **07 07 13.4 +1.1**
WMQ LR LR
comp=Z,680nm,18.7s
WMQ LR LR
comp=Z,550nm,19.5s
WMQ LR LR
comp=Z,550nm,21.1s
AAM **Ann Arbor** 114.61 54 IAMs_20 IAMs_20 07 54 59.3
comp=Z,3µm,18.0s
SC01 **Santiago de lo** 114.88 82 IAMs_20 IAMs_20 07 48 50.5
comp=Z,2µm,19.0s
GLMI **Grayling** 114.95 52 IAMs_20 IAMs_20 07 59 24.9
comp=Z,2µm,18.0s
V58A **Windy Hill, Pi** 115.29 63 IAMs_20 IAMs_20 07 53 53.6
comp=Z,2µm,19.0s
Q54A **Coxs Mills** 115.29 59 IAMs_20 IAMs_20 07 53 22.5
comp=Z,3µm,19.0s
K50A **Casco** 115.50 54 IAMs_20 IAMs_20 07 55 52.8
comp=Z,3µm,18.0s
R55A **Marlinton** 115.53 60 IAMs_20 IAMs_20 08 00 52.0
comp=Z,2µm,18.0s
E46A **Sault Ste Mari** 115.73 50 IAMs_20 IAMs_20 07 59 46.6
comp=Z,3µm,18.0s
I49A **Point Hope** 115.80 53 IAMs_20 IAMs_20 07 56 01.7
comp=Z,3µm,18.0s
CNNC **Cliffs of the** 115.98 64 IAMs_20 IAMs_20 07 55 08.1
comp=Z,2µm,18.0s
U59A **Littleton** 116.49 62 IAMs_20 IAMs_20 07 54 01.5
comp=Z,3µm,19.0s
Q56A **Snyder Ridge,** 116.50 59 IAMs_20 IAMs_20 07 53 55.5
comp=Z,3µm,19.0s
N54A **Moraine State** 116.65 57 P **PKPdf** **07 07 16.2 0.0**
baz=248
T59A **Double "B" Far** 116.91 62 IAMs_20 IAMs_20 07 54 44.5
comp=Z,3µm,18.0s
DGZ **Jazzator, Alta** 116.92 313⇑ *i* PKIKP **PKiKP** **07 07 17.2 +0.5**
DGZ MLR MLR
comp=Z,1µm,19.0s
V61A **Roper** 117.18 63 IAMs_20 IAMs_20 07 55 40.9
comp=Z,2µm,18.0s
SMLA **Simla** 117.30 291 *i* x **PKPdf** **07 07 16.9 -0.8**
P57A **Homestead Farm** 117.51 59 IAMs_20 IAMs_20 07 58 48.2
comp=Z,3µm,18.0s
T60A **Surry** 117.58 62 IAMs_20 IAMs_20 07 55 15.2
comp=Z,3µm,18.0s
ZSN **Zaisan** 117.76 310 *e*PKP **PKPdf** **07 07 17.2 -0.9**
baz=310
ZSN **Zaisan** 117.76 310 *e*PKIKP **PKPdf** **07 07 17.2 -0.9**
S61A **Accomac** 118.56 62 IAMs_20 IAMs_20 07 55 34.3
comp=Z,3µm,18.0s
SADO **Sadowa** 118.57 53 IAMs_20 IAMs_20 07 54 58.8
comp=Z,2µm,18.0s
N58A **Sunbury** 118.92 58 IAMs_20 IAMs_20 07 58 05.5
comp=Z,3µm,18.0s
MK31 **Makanchi Array** 119.21 309 *d* *i* PKIKP **PKPdf** **07 07 19.7 -1.3**
MKAR **Makanchi Array** 119.21 309 PKP **PKPdf** **07 07 20.0 -1.0**
comp=Z,3.1nm,0.9s,baz=191,slow=0.9,SNR=21
MKAR **Makanchi Array** 119.21 309 **PKPdf** **07 07 19.8 -1.2**
P60A **Greenville** 119.34 60 IAMs_20 IAMs_20 07 56 09.8
comp=Z,2µm,19.0s
MAKZ **Makanchi** 119.42 309 PKIKP **PKPdf** **07 07 17.9 -3.5**
DELO **Deloro Mine** 119.51 54 IAMs_20 IAMs_20 07 58 15.9
comp=Z,2µm,18.0s
N59A **State Game Lan** 119.62 58 P **PKiKP** **07 07 22.3 +0.3**
baz=250
PECO **Prince Edward** 119.75 55 IAMs_20 IAMs_20 07 56 32.3
comp=Z,2µm,18.0s
ZALV **Zalesovo Beam** 119.79 317 PKP **PKPdf** **07 07 20.5 -1.3**
comp=Z,3.3nm,0.7s,baz=156,slow=0.7,SNR=9.4
BINY **Binghamton** 119.89 57 P **PKiKP** **07 07 22.8 +0.3**
baz=251
RES **Resolute Bay** 119.94 18 PKP **PKPdf** **07 07 20.4 -1.1**
comp=Z,13nm,0.9s,baz=294,slow=3.6,SNR=4.4
SHLS **Shalkode** 119.95 304 *e*PKP **PKPdf** **07 07 21.5 -1.2**
baz=304
SHLS **Shalkode** 119.95 304 *e*PKIKP **PKPdf** **07 07 21.4 -1.2**
PDGK **Podgornoye** 119.99 305 PKIKP **PKPdf** **07 07 21.8 -0.9**
PLVO **Plevna** 120.05 53 IAMs_20 IAMs_20 07 58 56.0
comp=Z,3µm,18.0s
UZB **Uzynbulak** 120.25 304 *e*PKP **PKPdf** **07 07 22.3 -1.0**
baz=304
UZB **Uzynbulak** 120.25 304 *e*PKIKP **PKPdf** **07 07 22.3 -1.0**
KPKS **Kokpek** 120.59 304 *e*PKP **PKPdf** **07 07 22.6 -1.2**
baz=304
KPKS **Kokpek** 120.59 304 *e*PKIKP **PKPdf** **07 07 22.6 -1.2**
BIM **Bigot** 120.60 92 IAMs_20 IAMs_20 07 56 27.2
comp=Z,2µm,18.0s
FDF **Fort de France** 120.64 92 IAMs_20 IAMs_20 07 58 27.2
comp=Z,2µm,18.0s
SATY **Saty** 120.66 304 *e*PKP **PKPdf** **07 07 23.2 -0.9**
baz=304
SATY **Saty** 120.66 304 *e*PKIKP **PKPdf** **07 07 23.1 -0.9**
SVN **Savane Anatole** 120.68 92 IAMs_20 IAMs_20 07 58 19.2
comp=Z,2µm,19.0s
ILAM **Ilet Lapin Mar** 120.90 92 IAMs_20 IAMs_20 07 56 06.8
comp=Z,2µm,18.0s
KSH **Kashi** 121.27 299 PKP **PKiKP** **07 07 25.4 -0.1**
KSH PP **PP** **07 08 55.0 -1.5**
KSH SKS **SKSdf** **07 14 34.5 -2.8**
KSH AMB AMB
comp=Z,430nm,5.2s
KSH LR LR
comp=Z,520nm,18.5s
KSH LR LR
comp=Z,720nm,18.9s
KSH LR LR
comp=Z,820nm,21.8s
NIL **Nilore** 121.32 292 IAMs_20 IAMs_20 08 10 14.1
comp=Z,2µm,18.0s
KSCT **Kent School, K** 121.51 58 IAMs_20 IAMs_20 07 56 48.1
comp=Z,3µm,19.0s
MDOK **Medeo** 121.63 304 *e*PKP **PKPdf** **07 07 25.3 -0.7**
baz=304
MDOK **Medeo** 121.63 304 *e*PKIKP **PKPdf** **07 07 25.2 -0.7**
TNSS **Tian-Shan** 121.67 304 *e*PKP **PKPdf** **07 07 24.9 -1.4**
baz=304
CHKK **Chushkaly** 121.88 304 *e*PKP **PKPdf** **07 07 24.9 -1.3**
baz=304
ULHL **Ulahol** 121.93 302 P **PKiKP** **07 07 27.3 +0.5**
SNR=6.5
NRIK **Noril'sk** 121.95 335 PKP **PKPdf** **07 07 24.7 -0.8**
comp=Z,14nm,0.9s,baz=99,slow=3.5,SNR=18
NRIK **Noril'sk** 121.95 335 *c* *i* PKIKP **PKPdf** **07 07 24.9 -0.6**
NRIK MLR MLR
comp=Z,2µm,20.0s
MTBS **Maitube** 122.06 304 *e*PKP **PKPdf** **07 07 26.3 -0.4**
baz=304
I60A **Shoreham** 122.28 56 P **PKPdf** **07 07 26.5 -0.5**
baz=253
KUU **Kurty** 122.34 304 *e*PKP **PKPdf** **07 07 26.2 -0.9**
baz=304
KUU **Kurty** 122.34 304 *e*PKIKP **PKPdf** **07 07 26.2 -0.9**
UCCT **U. Connecticut** 122.43 58 IAMs_20 IAMs_20 07 57 23.4
comp=Z,3µm,19.0s
TKM2 **Tokmak 2** 122.58 303 P **PKPdf** **07 07 27.9 +0.1**
SNR=7.0
TKM2 **Tokmak 2** 122.58 303 PKIKP **PKPdf** **07 07 26.8 -1.1**
KZA **Kyzart** 122.58 302 P **PKiKP** **07 07 29.2 +0.9**
SNR=8.5
KURK **Kurchatov** 122.63 313 PKIKP **PKPdf** **07 07 26.6 -0.8**
KURK **Kurchatov** 122.63 313 **PKPdf** **07 07 26.6 -0.8**
KURBB **Kurchatov Arra** 122.66 313 PKP **PKPdf** **07 07 26.6 -0.8**
comp=Z,6.9nm,0.7s,baz=107,slow=2.0,SNR=61

HNH Hanover 122.94 56 IAMs_20 IAMs_20 07 59 28.6
comp=Z,3µm,18.0s
BRYW Bryant College 122.95 58 IAMs_20 IAMs_20 07 57 48.3
comp=Z,3µm,19.0s
J62A Henniker 123.13 57 P PKiKP 07 07 29.0 +0.2
baz=254
UCH Uchtor 123.15 302 P PKiKP 07 07 30.4 +0.9
SNR=12
K63A Dunstable 123.18 57 P PKiKP 07 07 29.1 +0.2
baz=254
AAK Ala-Archa 123.28 302 PKP PKiKP 07 07 29.3 -0.1
comp=Z,3.8nm,0.6s,baz=140,slow=3.6,SNR=8.7
AAK Ala-Archa 123.28 302 PKPdf PKPdf 07 07 28.9 -0.2
AAK Ala-Archa 123.28 302c *i*PKIKP PKPdf 07 07 28.1 -1.0
AAK MLR MLR
comp=Z,2µm,20.0s
AAK Ala-Archa 123.28 302 PKPdf PKiKP 07 07 29.8 +0.4
BCX Boston College 123.34 58 IAMs_20 IAMs_20 07 57 52.4
comp=Z,3µm,20.0s
SGDS Sogindy 123.41 303 *e*PKP PKPdf 07 07 28.3 -0.9
baz=304
USP Ospenovka 123.45 303 P PKPdf 07 07 28.5 -0.8
SNR=8.4
AML Almayashu 123.70 302 P PKiKP 07 07 31.3 +0.7
SNR=11
AML Almayashu 123.70 302 PKPdf PKPdf 07 07 29.1 -1.2
EKS2 Erkin-Say 123.79 302 P PKiKP 07 07 31.0 +0.7
SNR=5.9
I63A Otisfield 124.22 56 P PKPdf 07 07 30.6 0.0
baz=255
BTLS Baital 124.23 305 *e*PKP PKPdf 07 07 29.6 -1.1
baz=305
BTLS Baital 124.23 305 *e*PKIKP PKPdf 07 07 29.5 -1.1
G62A West of Eustis 124.54 55 P PKPdf 07 07 30.8 -0.5
baz=256
KBL Kabul 124.90 292 PKIKP PKPdf 07 07 31.4 -1.1
KBL Kabul 124.90 292 PKPdf PKPdf 07 07 31.4 -1.1
F62A Pittston Farm, 125.09 54 IAMs_20 IAMs_20 08 01 01.5
comp=Z,2µm,18.0s
F62A Pittston Farm, 125.09 54 P PKiKP 07 07 32.7 +0.1
baz=257
PKME Peaks-Kenny Pk 125.41 55 PKiKP 07 07 33.2 0.0
PKME Peaks-Kenny Pk 125.41 55 P PKPdf 07 07 32.4 -0.5
baz=257
E62A Clayton Lake 125.55 53 IAMs_20 IAMs_20 08 02 55.7
comp=Z,2µm,18.0s
E62A Clayton Lake 125.55 53 P PKPdf 07 07 32.2 -0.9
baz=258
DZA Taraz 125.59 302 *e*PKP PKPdf 07 07 33.4 0.0
baz=302
DZA Taraz 125.59 302 *e*PKIKP PKPdf 07 07 33.3 0.0
D62A Allapoint, All 125.97 53 IAMs_20 IAMs_20 07 58 20.6
comp=Z,2µm,20.0s
ALE Alert 125.98 8 IAMs_20 IAMs_20 08 02 41.5
comp=Z,2µm,19.0s
KK31 Karatay Array 126.23 302 PKIKP PKPdf 07 07 33.0 -1.6
E63A Oxbow 126.25 54 IAMs_20 IAMs_20 08 02 19.5
comp=Z,3µm,18.0s
IUG Iuzhnay 126.34 301 *e*PKP PKPdf 07 07 34.6 -0.4
baz=301
IUG Iuzhnay 126.34 301 *e*PKIKP PKPdf 07 07 34.5 -0.4
TULEG Thule 126.48 16 IAMs_20 IAMs_20 08 06 33.4
comp=Z,2µm,19.0s
PQI Presque Isle 126.58 53 IAMs_20 IAMs_20 08 02 47.8
comp=Z,2µm,18.0s
BVAR Borovoye Array 128.05 314 PKP PKPdf 07 07 37.8 +0.1
comp=Z,6.4nm,0.7s,baz=194,slow=5.5,SNR=25
BRVK Borovoye 128.12 314c *i*PKIKP PKPdf 07 07 36.8 -1.0
BRVK pmax pmax
comp=Z,31nm,1.7s
BRVK MLR MLR
comp=Z,1µm,19.0s
BRVK Borovoye 128.12 314 IAMs_20 IAMs_20 08 04 43.1
comp=Z,1µm,19.0s
WSAR Wadi Sarin 129.27 274 PKP PKPdf 07 07 41.1 +0.2
comp=Z,18nm,1.1s,baz=205,slow=6.1,SNR=5.0
NEEM North Greenlan 129.94 13 *i* P PKPdf 07 07 41.0 0.0
NEEM IAmb IAmb 07 07 42.2
comp=Z,18nm,0.8s
KIBK Kibwezi 130.71 232 IAMs_20 IAMs_20 08 03 16.6
comp=Z,2µm,18.0s
SOHO SOHO 131.39 274 *i* PKPdf PKPdf 07 07 43.0 -2.0
SNR=7.9
UOSS Minazif 131.98 275 *i* PKPdf PKPdf 07 07 44.1 -1.9
SNR=8.8
UOSS Minazif 131.98 275 PKPdf PKPdf 07 07 46.2 +0.2
HATD Hatta, Dubai 132.00 275 *i* PKPdf PKPdf 07 07 44.4 -1.7
SNR=7.0
ASHO Ashiyiah 132.00 275 *i* PKPdf PKPdf 07 07 44.0 -2.1
SNR=5.5
ALNE Al Ain 132.01 274 PKPdf PKPdf 07 07 44.2 -1.9
MDH Madha 132.04 276 *i* PKPdf PKPdf 07 07 44.0 -2.2
SNR=8.2
KMBO Kilima Mbogo 132.13 232 PKP PKPdf 07 07 46.5 -0.5
comp=Z,2.0nm,0.8s,baz=64,slow=0.4,SNR=5.1
KMBO SKPbc SKPab 07 11 15.3 +1.0
comp=Z,13nm,0.9s,baz=68,slow=3.2,SNR=20
KMBO Kilima Mbogo 132.13 232 *i* PKIKP PKiKP 07 07 48.9 +0.8
KMBO pmax pmax
comp=Z,2.0nm,0.8s
MSFE Esma-Masafi 132.18 276 *i* PKPdf PKPdf 07 07 44.8 -1.7
SNR=8.1
BANOM Banah 132.28 276 *i* PKPdf PKPdf 07 07 45.7 -0.9
SNR=7.3
FAQ Al Faqa, Dubai 132.42 275 *i* PKPdf PKPdf 07 07 45.2 -1.7
SNR=8.4
NAZ Nazwa, Dubai 132.45 275 *i* PKPdf PKPdf 07 07 45.2 -1.7
SNR=6.7
ASUD Al Ashush, Dub 132.59 274 PKPdf PKPdf 07 07 43.1 -4.1
SVE Sverdlovsk 133.73 319 *i* PKIKP PKiKP 07 07 49.0 -0.6
GEYT Alibeck 134.31 293 PKP PKPdf 07 07 50.6 +0.5
comp=Z,90nm,0.8s,baz=204,slow=3.3,SNR=10
GEYT SKPbc SKPbc 07 11 19.9 +0.3
comp=Z,7.7nm,0.7s,baz=210,slow=12,SNR=6.6
ARU Arti 134.91 319 *i* PKIKP PKPdf 07 07 49.5 -1.1
ARU MLR MLR
comp=Z,2µm,19.0s
ARU Arti 134.91 319 PKPdf PKPdf 07 07 50.2 -0.4
ARU IAMs_20 IAMs_20 08 09 21.3
comp=Z,2µm,19.0s
SUMG Summit 135.41 16 *i* P PKiKP 07 07 53.0 -0.1
SUMG IAmb IAmb 07 07 54.8
comp=Z,14nm,1.1s
SUMG Summit 135.41 16 PKIKP PKPdf 07 07 52.2 +0.7
SUMG Summit 135.41 16 PKPdf PKPdf 07 07 52.2 +0.7
AKTO Aktyubinsk 135.61 310 PKP PKPdf 07 07 51.9 -0.2
baz=158,slow=3.9
DY2G Dye2 136.40 26 *i* P PKPdf 07 07 51.0 -2.4
DY2G IAmb IAmb 07 07 52.3
comp=Z,9.3nm,0.9s
ASCN Ascension 136.46 157 IAMs_20 IAMs_20 08 11 18.7
comp=Z,2µm,18.0s
LODK Lodwar 136.75 234 IAMs_20 IAMs_20 08 12 17.4
comp=Z,2µm,19.0s
ICESG Greenland Ices 137.23 20 *i* P PKiKP 07 07 56.1 -0.7
ICESG IAmb IAmb 07 07 58.4
comp=Z,8.9nm,0.6s
DBG Daneborg 137.33 9 *i* P PKPdf 07 07 54.9 +0.3
DBG IAmb IAmb 07 07 56.0
comp=Z,8.1nm,0.9s
FURI Furi 138.14 243 IAMs_20 IAMs_20 08 07 05.9
comp=Z,2µm,19.0s
KIRV Kirov 139.30 323c*e*PKIKP PKPdf 07 07 58.7 +0.1
PRGR Permogore 139.97 329 *e*PKHKP PKPpre 07 07 51.3
PRGR pmax pmax
comp=Z,43nm,1.1s
QRN Al-Qurain 140.24 276 *e*P PKPdf 07 08 00.2 -1.1
LVZ Lovozero 140.30 341 IAMs_20 IAMs_20 08 11 18.4
comp=Z,2µm,20.0s
SCO Scoresbysund 140.42 12 IAMs_20 IAMs_20 08 16 36.4
comp=Z,2µm,19.0s
KBD Kabd 140.56 277 *e*P PKPdf 07 08 01.0 -0.8
RDF Al-Radifah 140.61 277 *e*P PKPdf 07 08 00.4 -1.6
KEV Kevo 140.67 346 IAMs_20 IAMs_20 08 12 06.1
comp=Z,2µm,20.0s
APA Apatity 140.87 341⇓*i*PKIKP PKPdf 07 07 56.5 -4.7
APA pmax pmax
comp=Z,9.0nm,0.9s
MIB Mutribah 141.04 278 *e*P PKPdf 07 08 01.0 -1.7
ARA0 ARCESS Array S 141.15 347 *e* PKPdf 07 07 58.0 -3.7
ARCES ARCESS Array B 141.15 347 PKhKP PKPpre 07 07 57.0
comp=Z,19nm,1.0s,baz=58,slow=2.1,SNR=13
ARCES SKPbc SKiKP 07 11 40.7 +0.3
comp=Z,6.0nm,0.7s,baz=329,slow=1.4,SNR=7.0
MAK Makhachkala 142.90 299 *e*PKIKP PKPdf 07 08 01.6 -4.0
MAK *e*PPP PPP 07 14 20.4
MAK *e* 07 15 12.5
MAK pmax pmax
comp=Z,172nm,1.3s
KLMR Klimovskoe 142.94 330 *e*PKHKP PKPpre 07 07 59.6
KLMR *e* 07 11 11.9
KLMR pmax pmax
comp=Z,43nm,1.1s
KLMR Klimovskoe 142.94 330 *e*PKPdf PKPpre 07 07 59.7
KLMR AMP 07 08 02.8
comp=Z,43nm,1.1s
KLMR *e*PP PP 07 11 11.9 -2.9
KLMR SKP 07 11 35.5
GROC Groznyy 144.15 299 *e*PKIKP PKPbc 07 08 05.8 -0.1
GROC *e* 07 11 20.2
GROC *e* 07 15 16.9
GROC pmax pmax
comp=Z,19nm,0.5s
STEI Steigen 144.25 351 *e*PKPdf PKPbc 07 08 05.2 -0.2
LOF Lofoten 144.26 352 *e*PKPdf PKPbc 07 08 05.5 +0.1
FAUS Fauske 144.76 351 *e*PKPbc PKPab 07 08 06.5 -0.4
GNI Garni 144.91 294 PKPbc PKPab 07 08 07.5 -1.1
GNI Garni 144.91 294 *e*P PKPab 07 08 07.5 -1.1
GNI Garni 144.91 294c *i*PKIKP PKPab 07 08 07.1 -1.5
GNI MLR MLR
comp=Z,757nm,21.0s
TASB TASBURUN-IGDIR 145.29 294 *e*P PKPbc 07 08 09.3 -0.5
ZEI Tsey 145.55 299 *i* PKP2 PKPdf 07 08 08.4 -2.1
ZEI pmax pmax
comp=Z,24nm,1.5s
VRH Novokhopyorsk 145.71 314 *e*PKP2 PKPdf 07 08 09.0 -1.2
VRH pmax pmax
comp=Z,160nm,0.9s
NBB13 Alf Garage 145.73 352 *e*PKPdf PKPdf 07 08 09.2 -0.5
NCK Nalchik 145.75 300⇓*i*PKIKP PKPdf 07 08 10.5 -0.1
KONS Konsvik 145.88 352 *e*PKPdf PKPbc 07 08 10.7 0.0
AKH Akhalkalaki 145.88 296 ⇑P PKPbc 07 08 11.5 -0.3
AKH Akhalkalaki 145.88 296 *e*P PKPdf 07 08 10.9 -0.2
ONI Oni 145.89 298 PKIKP PKPdf 07 08 11.2 +0.3
ONI Oni 145.89 298 PKPdf 07 08 11.2 +0.3
GOF Gofitskoye 146.02 303⇑*i*PKP2 PKPdf 07 08 10.9 -0.1
GOF pmax pmax
comp=Z,300nm,1.1s
MOR8 Moi Rana 146.02 351 *e*PKPdf PKPdf 07 08 09.9 -0.5
KARS Kars 146.20 295 *e*P PKPdf 07 08 11.4 -0.2
AGRB Hanur-Agry 146.24 293 *e*P PKPdf 07 08 11.8 0.0
KBZ Khabaz 146.24 301 PKPbc PKPdf 07 08 11.5 +0.2
comp=Z,43nm,0.9s,baz=99,slow=2.3,SNR=52
KBZ Khabaz 146.24 301c *i*PKIKP PKPdf 07 08 10.4 -0.9
MOS Moscow 146.31 323 *i* PKIKP PKPdf 07 08 10.1 -1.0
MOS *e* 07 11 32.9
MOS pmax pmax
comp=Z,424nm,1.1s
KIV Kislovodsk 146.37 301 ⇓P PKPdf 07 08 12.0 +0.3
KIV Kislovodsk 146.37 301 *i* PKPdf PKPdf 07 08 10.5 -1.3
SNR=22
KIV Kislovodsk 146.37 301 *e*P PKPdf 07 08 10.6 -1.1
KIV Kislovodsk 146.37 301 *i* PKIKP PKPdf 07 08 10.8 -0.9
KIV pmax pmax
comp=Z,42nm,1.0s
KIV Kislovodsk 146.37 301 PKPbc 07 08 12.6 -0.5
NEY Neytrino 146.40 300d *i*PKP2 PKPbc 07 08 13.1 -0.1
SENK Senkaya-Erzuru 146.75 295 *e*P PKPdf 07 08 12.6 0.0
CHVG Ch'k'valeri 146.90 299 ⇑P PKPbc 07 08 14.7 +0.3
CHVG Ch'k'valeri 146.90 299 ⇑PKP2 PKPbc 07 08 14.7 +0.3
VORR Voronezh 147.06 316 *e*PKHKP PKPpre 07 08 10.0
VORR pmax pmax
comp=Z,250nm,1.8s
KOPR Koprukoy-ERZUR 147.12 294 *e*P PKPbc 07 08 15.1 -0.3
OBN Obninsk 147.14 323 ⇑P PKPbc 07 08 14.7 0.0
OBN Obninsk 147.14 323 PKPbc PKPbc 07 08 13.9 -0.8
comp=Z,19nm,0.7s,baz=79,slow=1.9,SNR=22
OBN Obninsk 147.14 323d*e*PKIKP PKPdf 07 08 12.8 +0.3
OBN *e* 07 11 42.9
OBN pmax pmax
comp=Z,202nm,1.2s
OBN Obninsk 147.14 323 PKPdf 07 08 12.3 -0.2
OBN IAMs_20 IAMs_20 08 28 24.3
comp=Z,1µm,21.0s
BATM Batumi 147.23 297 ⇓P PKPbc 07 08 15.0 -0.4
BATM Batumi 147.23 297 *e*P PKPdf 07 08 12.0 -1.1
BATM Batumi 147.23 297 ⇓PKP2 PKPbc 07 08 15.0 -0.4
VORD Divnogorie 147.24 314 *e*PKP2 PKPdf 07 08 13.9 +1.1
VORD pmax pmax
comp=Z,120nm,1.3s
PUL Pulkovo 147.27 333⇓*i*PKP2 PKPbc 07 08 14.9 0.0
PUL MLR MLR
comp=Z,1µm,20.0s
BCA Borcka 147.29 296 ⇑P PKPdf 07 08 13.8 +0.5
BCA Borcka 147.29 296 *e*P PKPdf 07 08 12.2 -1.1
FINES FINESS Array B 147.54 338 PKPbc PKPbc 07 08 15.1 -0.5
comp=Z,161nm,0.8s,baz=53,slow=2.9,SNR=111
FINES FINESS Array B 147.54 338 PKP2 PKPbc 07 08 14.6 -1.0
FINES FINESS Array B 147.54 338 PKPbc 07 08 14.6 -1.0
MARD Mardin 147.84 289 PKPbc 07 08 16.8 -0.6
NSS Namsos 147.91 352 *e*PKPdf PKPdf 07 08 14.7 +1.2
CHOM Cayeli-Rize 147.95 296 *e*P PKPdf 07 08 13.6 -0.8
BNGB Bingl 148.01 292 *e*P PKPdf 07 08 14.4 -0.3
MAZI Mazidag 148.12 289 *e*P PKPdf 07 08 13.9 -1.0
YEDI Yedisu-Bingol 148.13 293 *e*P PKPdf 07 08 14.2 -0.7
SOC Sochi 148.55 301 *e*PKIKP PKPdf 07 08 14.1 -1.1
SOC *i* 07 08 18.5
SOC *e* 07 11 45.6
SOC *e*PPP PPP 07 15 03.8
SOC *e*SSS SSS 07 36 29.7
KTUT Trabzon 148.71 296 ⇑P PKPbc 07 08 18.2 -1.1
KTUT Trabzon 148.71 296 *e*P PKPdf 07 08 14.6 -0.9
MEF Metsahovi 149.01 338 *e*P PKPbc 07 08 18.5 -0.9
SVRC Sivrice-ELAZID 149.07 291 *e*P PKPdf 07 08 16.2 -0.3
RAF Rauma 149.14 341 *e*P PKPbc 07 08 18.8 -1.0
URFA Urfa 149.41 289 *e*P PKPdf 07 08 16.1 -0.8
VSU Vasula 149.52 334 *e*P PKPbc 07 08 20.0 -0.8
VSU Vasula 149.52 334c *i*PKP2 PKPbc 07 08 20.0 -0.8
VSU MLR MLR
comp=Z,3µm,20.0s
ILIC ilic-Erzincan 149.66 293 *e*P PKPdf 07 08 16.3 -1.0
ARPR Arapgir-MALATY 149.84 292 *e*P PKPdf 07 08 17.5 -0.2
ANN Anapa 150.00 303 *e*PKIKP PKPdf 07 08 16.6 -0.9
AAL Aland 150.33 341 *e*P PKPbc 07 08 21.0 -1.7
MTSE Matsula 150.36 336 *e*P PKPbc 07 08 22.7 -0.1
DARE Darende-Malaty 150.50 291 *e*P PKPdf 07 08 18.4 -0.2
RSDY Resadiye-TOKAT 150.58 295 *e*P PKPdf 07 08 17.5 -1.1
GAZ Gaziantep 150.68 288 *e*P PKPbc 07 08 23.3 -1.1
SVSK Karacayir 150.86 294 *e*P PKPdf 07 08 18.2 -0.8
SACV Santiago Islan 150.89 122 IAMs_20 IAMs_20 08 18 15.8
comp=Z,2µm,18.0s
TOKT Tokat 151.19 295 *e*P PKPdf 07 08 17.7 -1.9
GHAJ Ghor Haditha 151.24 276 IAMs_20 IAMs_20 08 11 34.8
comp=Z,2µm,20.0s
SARI SarD1z-Kayseri 151.34 291 *e*P PKPdf 07 08 16.1 -3.9
NB201 NORSAR Array S 151.34 350 PKPbc 07 08 23.5 -1.6
NB2 NORSAR Subarra 151.36 350 PKP PKPbc 07 08 24.7 -0.5
comp=Z,181nm,1.4s,baz=17,slow=2.6
NB2 NORSAR Subarra 151.36 350 PKPac PKPbc 07 08 24.7 -0.5
baz=17,slow=2.6
NOA NORSAR Array B 151.36 350 PKPbc PKPbc 07 08 24.5 -0.7
comp=Z,35nm,0.7s,baz=14,slow=4.1,SNR=115
FOO Floro 151.41 357 *e*PKPbc PKPbc 07 08 25.3 +0.1
RCY Rachaya 151.43 280 *e*P PKPbc 07 08 25.9 -0.5
HWQ Hawqa 151.44 282 *e*P PKPbc 07 08 25.6 -0.8
TAHT Tahtakopru-Hat 151.45 286 *e*P PKPdf 07 08 18.8 -1.2
KVT Kavak 151.51 296 *e*P PKPdf 07 08 18.6 -1.4
QRWL Qaraoun 151.56 280 *e*P PKPbc 07 08 26.6 0.0
MMLI Mount Malkishu 151.59 278 *e*P PKPdf 07 08 19.4 -1.0
NAO01 NORSAR Array S 151.59 350 *e*PKPdf PKPdf 07 08 20.4 +0.9
BHL Bhannes 151.63 281 *e*P PKPbc 07 08 26.3 -0.5
DQRL Deir Qamar 151.68 281 *e*P PKiKP 07 08 27.3 0.0
MNK Minsk 151.69 327 *i* PKIKP PKPdf 07 08 18.5 -1.3
MNK *i* 07 12 05.1
MNK *i* 07 15 25.7
MNK *i* PPP PPP 07 15 29.5
MNK *i* SS SS 07 31 32.1 +0.6
MNK *i* SSS SSS 07 37 18.7
MNK pmax pmax
comp=E,6.0nm,0.8s
MNK pmax pmax
comp=Z,58nm,0.8s
MNK pmax pmax
comp=N,44nm,0.8s
MNK Minsk 151.69 327 *i* PKP PKPdf 07 08 18.5 -1.3
comp=E,6.0nm,0.8s
MNK *i* PKP PKPdf 07 08 18.5 -1.3
comp=N,44nm,0.8s
MNK *i* PKP PKPdf 07 08 18.5 -1.3
comp=Z,58nm,0.8s,baz=52
MNK *i* SKP 07 11 51.9
MNK *i* PKS PKSdf 07 11 53.2 -0.9
MNK *i* PP PP 07 12 05.1 -1.1
MNK *i* SKS SKSdf 07 15 25.8 -1.1
MNK *i* PPP PPP 07 15 29.5
MNK *i* SKKS SKKSdf 07 24 13.8 -1.8
MNK *i* SS SS 07 31 32.1 +0.6
MNK *i* SSS SSS 07 37 18.7
MNK *i* LQ LQ 08 08 33.1
MNK *i* LR LR 08 15 02.4
MNK *i* LRM MLR 08 21 16.4
comp=E,116nm,15.9s
MNK *i* LRM MLR 08 21 24.0
comp=Z,1µm,17.8s
MNK *i* LRM MLR 08 21 58.4
comp=N,466nm,16.5s
ISAL Salakas 151.77 330 *e*P PKPbc 07 08 25.9 -0.3
HYA Hoyanger 151.77 355 *e*PKPbc PKiKP 07 08 26.5 +0.1
BNN Bunyan 151.78 292 *e*P PKPdf 07 08 17.9 -2.7
CEYT Ceyhan 151.84 288 *e*P PKPdf 07 08 17.7 -2.9
IIGN Ignalina 151.88 330 *e*P PKPbc 07 08 26.4 -0.1
NACGM Naroch 151.93 328 *i* PKP PKiKP 07 08 27.0 0.0
SUE Sulen 151.97 357 *e* PKiKP 07 08 26.8 0.0
SKAR Skarslia 152.07 353 *e* PKPbc 07 08 25.4 -1.5
YOZ Yozgat 152.16 293 *e*P PKPdf 07 08 19.2 -2.0
SIM Simferopol' 152.27 305d *i*PKIKP PKPbc 07 08 27.2 -0.5
SIM pmax pmax
comp=Z,45nm,0.8s
CMRD Camardi-Nigde 152.46 289 *e*P PKPbc 07 08 28.2 -0.4
ASK Askoy 152.51 356 *e*PKPbc PKiKP 07 08 28.2 +0.3
LIC Lamto 152.55 166 *e*P PKiKP 07 08 29.7 +0.1
comp=Z,75nm,1.0s
BER Bergen 152.61 356 *e*PKPbc PKiKP 07 08 28.3 +0.1
CORM Corum 152.66 294 *e*P PKPdf 07 08 19.4 -2.5
PABE Paberze 152.69 332 *e*P PKiKP 07 08 28.6 +0.1
KIC Kosan Boka 152.74 166 *e*P PKiKP 07 08 31.1 +1.1
comp=Z,49nm,1.1s
MERS Mersin 152.81 287 *e*P PKPdf 07 08 20.7 -1.5
KONO Kongsberg 152.92 351 *e*PKPbc PKPbc 07 08 28.6 -0.1
KONO Kongsberg 152.92 351 IAMs_20 IAMs_20 08 19 03.0
comp=Z,2µm,20.0s
TIC Toumodi 152.96 165 *e*P PKiKP 07 08 31.1 +0.7
DBIC Dimbokro 153.02 166 PKPbc PKPbc 07 08 30.2 -0.2
comp=Z,3.0nm,0.6s,baz=198,slow=1.1,SNR=5.0
DBIC Dimbokro 153.02 166 PKIKP PKPdf 07 08 25.2 +2.2
DBIC Dimbokro 153.02 166 PKPdf 07 08 25.2 +2.2
EREN Erenkoy 153.03 284 *e*P PKPdf 07 08 21.2 -1.2
PBUR Paburge 153.08 334 *e*P PKPbc 07 08 28.8 -0.3
KIZK Mersin 153.10 286 *e*P PKPdf 07 08 20.9 -1.6
AKASG Malin Array Be 153.16 319 PKP PKPdf 07 08 20.8 -1.3
comp=Z,0.5nm,0.5s,baz=83,slow=1.3,SNR=4.9
AKASG PKPbc PKPbc 07 08 29.1 -0.4
comp=Z,29nm,1.0s,baz=59,slow=2.3,SNR=32
CANT Cankiri 153.39 296 *e*P PKPdf 07 08 21.7 -1.2
YESY Yesilyurt 153.45 289 *e*P PKPdf 07 08 14.2 -8.9
KEBE Keben-Mersin 153.45 286 *e*P PKPdf 07 08 21.9 -1.2
BRTR Keskin Array B 153.45 294 PKPbc PKPbc 07 08 30.1 -0.7
comp=Z,35nm,0.9s,baz=125,slow=3.4,SNR=45
BRTR Keskin Array B 153.45 294 *e*P PKPdf 07 08 20.6 -2.5
IKL Isikli 153.46 286 *e*P PKPdf 07 08 21.4 -1.6
BLS5 Blasjo 153.48 354 *e*PKPbc PKiKP 07 08 30.2 +0.1
LFK Lefkose 153.52 284 *e*P PKPdf 07 08 20.9 -2.3
AKKU Akkuyu-Mersin 153.57 286 *e*P PKPdf 07 08 21.2 -2.0
CSS Mathiatis 153.66 283 *e*P PKPdf 07 08 21.4 -2.0
CSS Mathiatis 153.66 283 PKPbc 07 08 29.5 -1.6
TEVE Tevekalti-Mers 153.66 286 *e*P PKPdf 07 08 21.8 -1.6
BERE Bereket-Mersin 153.84 286 *e*P PKPdf 07 08 22.1 -1.6
TEKE Tekeli-Mersin 153.92 286 *e*P PKPdf 07 08 21.4 -2.3
KULU Kulu 153.99 292 *e*P PKPbc 07 08 30.9 -1.0
SUW Suwalki 154.08 330 *e*PKPdf PKPdf 07 08 23.1 -0.2
SUW *e*PKPbc PKiKP 07 08 32.1 +0.7
SUW *e*PKPab PKPab 07 08 44.3 -0.7
ANTO Ankara 154.09 294 *e*P PKPdf 07 08 22.2 -1.7
ANTO Ankara 154.09 294 PKiKP 07 08 32.5 +0.4
ANTO IAMs_20 IAMs_20 08 22 47.8
comp=Z,1µm,19.0s
LOD Lodumlu 154.11 294 *e*P PKPdf 07 08 21.7 -2.2
HOMB Homborsund 154.40 351 *i* P PKPbc 07 08 31.8 -0.2
HOMB IAmb IAmb 07 08 33.4
comp=Z,31nm,0.8s
HOMB Homborsund 154.40 351 *e*PKPbc PKPbc 07 08 31.7 -0.2
SNART Snartemo 154.48 353 *i* P PKiKP 07 08 32.5 +0.4
SNART Snartemo 154.48 353 *e*PKPbc PKiKP 07 08 32.5 +0.4
LADK Ladik-KONYA 154.53 290 *e*P PKPdf 07 08 21.9 -2.7
GAZI Gazipasa 154.57 286 *e*P PKPdf 07 08 20.8 -3.8
ONAU Onsala 154.70 347 *i* P PKPbc 07 08 32.2 -0.4
BLEU Blekinge 154.80 341 *i* P PKPbc 07 08 31.1 -1.7
KIZT Kizilcal 154.87 292 *e*P PKPdf 07 08 23.3 -1.8
SORM Soroca 154.90 315 ⇑P PKiKP 07 08 34.8 +1.5
FABU Falkenberg 154.91 346 *i* P PKPbc 07 08 32.5 -0.5
KIS Kishinev 155.10 312 *e*PKP PKPdf 07 08 23.0 -1.9
comp=Z,240nm,8.8s
KIS Kishinev 155.10 312 *i* PP PP 07 12 35.0 +9.1
KIS *e*LR LR 08 15 49.0
comp=Z,600nm,17.0s
KIS Kishinev 155.10 312 *i* PKIKP PKPdf 07 08 23.0 -1.9
KIS pmax pmax
comp=Z,240nm,8.8s
DEL Delary 155.14 344 *i* P PKPdf 07 08 34.2 +10
DEL IAmb IAmb 07 08 36.8
comp=Z,15nm,1.1s
MDUB Mudurnu 155.24 296 PKPdf 07 08 32.6 +7.1
SRCK Saricakaya, Es 155.72 295 *e*P PKPdf 07 08 24.1 -1.9
BORA Eskisehir 155.88 295 *e*P PKPdf 07 08 24.3 -2.1
BCK Bucak 155.96 289 *e*P PKPdf 07 08 23.8 -2.7
ISP Isparta 156.00 289 *e*P PKPdf 07 08 24.5 -2.1
ISP Isparta 156.00 289 IAMs_20 IAMs_20 08 33 05.0
comp=Z,2µm,18.0s
KORT Korkueli 156.16 287 *e*P PKPdf 07 08 25.4 -1.5
CFR Carcaliu 156.24 308 ⇑P PKPdf 07 08 36.4 +10
ADVT Abdulvahap 156.34 296 *e*P PKPdf 07 08 24.3 -2.5
LVV L'vov 156.43 322 *i* PKIKP PKPdf 07 08 25.0 -1.6
LVV *e* 07 08 51.6
LVV *e* 07 15 29.5
LVV *e*PPP PPP 07 16 09.7
ELL Elmali 156.51 287 *e*P PKPdf 07 08 26.6 -0.8
YLV Yalova 156.59 297 *e*P PKPdf 07 08 25.6 -1.7
BEL Belsk 156.65 329 *e*PKPab PKPab 07 08 55.8 -0.2
TESR Tescani 156.66 312 ⇑P PKPab 07 08 51.8 -4.5
TVSB Tavsanli 156.69 294 *e*P PKPdf 07 08 25.8 -1.7
AKAS Kas 156.76 286 *e*P PKPdf 07 08 25.9 -1.8
BIZ Bicaz 156.80 314 ⇑P PKPdf 07 08 28.3 +1.1
VRI Vrincioaia 156.88 311 ⇑P PKPab 07 08 59.7 +2.4
PLOR Plostina 156.94 311 ⇑P PKPab 07 08 55.6 -2.0
PLOR Plostina 156.94 311 ⇑PKP2 PKPab 07 08 55.6 -2.0
ARMT Armutlu 156.98 297 *e*P PKPdf 07 08 25.8 -1.9
BURAR Bucovina Array 157.00 316 ⇑P PKPdf 07 08 30.9 +3.3
BURAR Bucovina Array 157.00 316 ⇑PKIKP PKPdf 07 08 30.9 +3.3
RGN Rugen 157.01 342 IAMs_20 IAMs_20 08 18 58.3
comp=Z,1µm,20.0s
COVR Voineasa-Covas 157.23 311 ⇑P PKPab 07 09 04.0 +5.2
KWP Kalwaria Pacla 157.23 323 *e*PKPab PKPab 07 08 58.1 -0.5
NEHR Nehoiu 157.34 310 ⇑P PKPab 07 09 01.5 +2.1
MLR Muntele Rosu 157.54 311 ⇑P PKPab 07 09 02.9 +2.6
KOLS Kolonicke sedl 157.88 322 *e*PKP PKPdf 07 08 35.6 +7.1
KOLS *e* 07 09 01.8
VOIR 158.13 311 ⇑P PKPab 07 08 59.9 -2.9
VOIR 158.13 311 ⇑PKP2 PKPab 07 08 59.9 -2.9
OJC Ojcow 158.24 327 *e*PKPdf PKPdf 07 08 29.2 +0.3
OJC *e*PKPab PKPab 07 08 58.7 -4.2
BSEG Bad Segeberg 158.27 346 *e*PKPab PKPab 07 09 02.4 -0.5
baz=25,slow=4.4
CRVS Cervenica-Dubn 158.32 323 *e*PKP2 PKPab 07 09 03.9 +0.5
ARR Arges 158.43 311 ⇑P PKPab 07 09 05.8 +1.7
NIE Niedzica 158.56 325 *e*PKPdf PKPdf 07 08 29.4 0.0
NIE *e*PKPab PKPab 07 09 04.6 +0.2
KARP Karpathos 158.74 284 IAMs_20 IAMs_20 08 37 15.0
comp=Z,2µm,19.0s
DRGR 158.88 317 ⇑P PKPab 07 09 05.6 -0.4
DRGR 158.88 317 ⇑PKP2 PKPab 07 09 05.6 -0.4
DSB Dublin 159.09 13 IAMs_20 IAMs_20 08 37 03.2
comp=Z,1µm,18.0s
LANS Liptovska Anna 159.14 325 *e*PKP PKPdf 07 08 36.7 +6.6
KSP Ksiaz 159.24 333 *e*PKPdf PKPdf 07 08 30.9 +0.8
KSP *e*PKPab PKPab 07 09 07.3 +0.1
OKC Ostrava-Krasne 159.25 329 *e*PKP2 PKPab 07 09 06.9 -0.4
OKC MLR MLR
comp=Z,2µm,18.7s
OKC Ostrava-Krasne 159.25 329 *e*PKPAB PKPab 07 09 06.9 -0.4
OSTC Ostas 159.50 333 *e*PKPAB PKPab 07 09 08.9 +0.5

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHVC	**Chvalec**	**159.53**	**333**	*e*PKPAB	**PKPab**	**07 09 08.4**	**-0.2**
FLTG	**Flechtingen**	**159.56**	**343**	*e*PKPab	**PKPab**	**07 09 07.5**	**-1.0**
	baz=25,slow=4.4						
MORC	**Moravsky Berou**	**159.56**	**329**	⇑P	**PKPdf**	**07 08 38.2**	**+7.6**
MORC	**Moravsky Berou**	**159.56**	**329**	*e*PKP	**PKPdf**	**07 08 29.2**	**-1.4**
MORC				*e*		07 09 09.1	
DPC	**Dobruska-Polom**	**159.62**	**332**	*e*PKIKP	**PKPdf**	**07 08 34.0**	**+3.4**
DPC				*e*		07 09 08.6	
DPC	**Dobruska-Polom**	**159.62**	**332**	*e*PKPDF	**PKPdf**	**07 08 34.0**	**+3.4**
DPC				*e*PKPAB	**PKPab**	**07 09 08.6**	**-0.4**
KRLC	**Kraliky**	**159.65**	**331**	*e*PKP2	**PKPab**	**07 09 07.7**	**-1.4**
KRLC				MLR	MLR		
	comp=Z,2µm,19.7s						
KRLC	**Kraliky**	**159.65**	**331**	*e*PKPAB	**PKPab**	**07 09 07.7**	**-1.4**
NRDL	**Niedersach Rie**	**159.67**	**345**	*e*PKPab	**PKPab**	**07 09 08.1**	**-0.8**
	baz=25,slow=4.4						
PSZ	**Piszkesteto**	**159.75**	**322**	IAMs_20	IAMs_20	08 32 06.1	
	comp=Z,2µm,19.0s						
SIRR	**Siria**	**159.78**	**316**	⇑P	**PKPab**	**07 09 12.9**	**+3.1**
ASSE	**Asse, Remlinge**	**159.88**	**344**	*e*PKPab	**PKPab**	**07 09 08.8**	**-1.0**
	baz=25,slow=4.4						
VYHS	**Vyhne**	**159.90**	**325**	*e*PKP2	**PKPab**	**07 09 09.9**	**-0.3**
CLL	**Collm**	**159.98**	**339**	*e*PKPdf	**PKPdf**	**07 08 31.0**	**+0.1**
CLL				*e*PKPdiff	**sPKPdf**	**07 08 44.0**	**+10**
CLL				*e*		07 08 55.0	
CLL				*i* PKPab	**PKPab**	**07 09 09.3**	**-1.1**
	comp=Z,46nm,0.8s						
CLL				*e*pPKPab	**sPKPab**	**07 09 14.0**	**+0.8**
CLL				*e*		07 09 22.0	
CLL				*e*PP	**PP**	**07 12 53.0**	**+1.0**
CLL				*e*PPP	PPP	07 16 34.0	
CLL				*e*SKKSac	SKKSac	07 19 42.0	+1.3
CLL				*e*		07 20 27.0	
CLL				*e*PSKS		07 23 18.0	
CLL				*e*(SKKSdf)		07 24 10.0	
CLL				*e*PPS	PPS	07 26 12.0	
CLL				*e*		07 27 42.0	
CLL				*e*SS	**SS**	**07 32 54.0**	**-6.4**
CLL				*e*PSS	PSS	07 33 48.0	
CLL				*e*SSS	SSS	07 39 06.0	
CLL				*e*		07 40 57.0	
CLL				LmH		08 20 00.0	
	comp=N,500nm,20.1s						
CLL				LmH		08 20 00.0	
	comp=E,2µm,18.9s						
CLL				LmV		08 23 00.0	
	comp=Z,1µm,21.5s						
CLL	**Collm**	**159.98**	**339**	*e*PKIKP	**PKPdf**	**07 08 31.0**	**+0.1**
CLL				*i*		07 09 09.3	
CLL				pmax	pmax		
	comp=Z,46nm,0.8s						
CLL				MLR	MLR		
	comp=Z,1µm,21.5s						
CLL	**Collm**	**159.98**	**339**	IAMs_20	IAMs_20	08 23 57.0	
	comp=Z,1µm,21.0s						
HERR	**Herculane**	**160.04**	**312**	⇓P	**PKPab**	**07 09 14.1**	**+3.1**
BRG	**Berggiesshubel**	**160.06**	**337**	*e*PKPab	**PKPab**	**07 09 10.0**	**-0.8**
	baz=25,slow=4.4						
BRG	**Berggiesshubel**	**160.06**	**337**	⇓*e*PKPf	**PKPdf**	**07 08 30.7**	**-0.3**
BRG				Amp		07 08 35.0	
	comp=Z,7.0nm,1.1s						
BRG	**Berggiesshubel**	**160.06**	**337**	P	**PKPdf**	**07 08 38.6**	**+7.6**
BRG				Amp		07 08 40.6	
	comp=Z,22nm,1.5s						
BRG				*i* PKPab	**PKPab**	**07 09 10.6**	**-0.1**
BRG				Amp		07 09 13.0	
	comp=Z,50nm,1.2s						
BRG	**Berggiesshubel**	**160.06**	**337**	P	**PKPab**	**07 09 16.4**	**+5.7**
BRG				Amp		07 09 17.4	
	comp=Z,28nm,1.2s						
TORD	**Torodi Ar. Bea**	**160.12**	**180**	PKP	**PKPdf**	**07 08 33.2**	**+1.0**
	comp=Z,1.7nm,1.0s,baz=343,slow=2.7,SNR=5.9						
TORD				PKPab	**PKPab**	**07 09 12.4**	**+0.5**
	comp=Z,6.0nm,0.9s,baz=148,slow=1.9,SNR=4.8						
TORD	**Torodi Ar. Bea**	**160.12**	**180**		**PKPdf**	**07 08 32.2**	**0.0**
PVCC	**Panska Ves**	**160.13**	**335**	*e*PKP2	**PKPab**	**07 09 11.0**	**-0.1**
PVCC	**Panska Ves**	**160.13**	**335**	*e*PKPAB	**PKPab**	**07 09 11.0**	**-0.1**
BZS	**Buzias**	**160.16**	**315**	⇑P	**PKPdf**	**07 08 32.0**	**+0.7**
BZS	**Buzias**	**160.16**	**315**	⇑PKIKP	**PKPdf**	**07 08 32.0**	**+0.7**
JAVC	**Velka Javorina**	**160.18**	**327**	*e*PKP	**PKPdf**	**07 08 30.5**	**-0.8**
JAVC				*e*		07 09 11.8	
FBE	**Freiberg**	**160.21**	**338**	*e*PKPab	**PKPab**	**07 09 10.4**	**-1.0**
	baz=25,slow=4.4						
CLZ	**Clausthal**	**160.22**	**344**	*e*PKPab	**PKPab**	**07 09 10.4**	**-1.1**
	baz=25,slow=4.4						
IBBN	**Ibbenburen**	**160.30**	**349**	*e*PKPab	**PKPab**	**07 09 11.5**	**-0.2**
	baz=25,slow=4.4						
VRAC	**Vranov**	**160.32**	**330**	⇑P	**PKPab**	**07 09 08.2**	**-3.8**
VRAC	**Vranov**	**160.32**	**330**	⇑PKP2	**PKPab**	**07 09 08.2**	**-3.8**
VRAC	**Vranov**	**160.32**	**330**	*e*PKP	**PKPdf**	**07 08 29.4**	**-2.0**
VRAC				*e*		07 09 11.2	
NEUB	**Neuenburg**	**160.43**	**341**	*e*PKPab	**PKPab**	**07 09 11.3**	**-1.1**
	baz=25,slow=4.4						
SMOL	**Smolenice**	**160.54**	**327**	*e*PKP2	**PKPab**	**07 09 13.1**	**+0.1**
PRA	**Prague**	**160.56**	**334**	*e*PKP2	**PKPab**	**07 09 12.9**	**-0.1**
PRA	**Prague**	**160.56**	**334**	*e*PKPAB	**PKPab**	**07 09 12.9**	**-0.1**
GTTG	**Gottingen**	**160.59**	**344**	*e*PKPab	**PKPab**	**07 09 12.0**	**-1.1**
	baz=25,slow=4.4						
PRU	**Pruhonice**	**160.59**	**334**	*e*PKP2	**PKPab**	**07 09 12.4**	**-0.7**
PRU	**Pruhonice**	**160.59**	**334**	*e*PKPAB	**PKPab**	**07 09 12.4**	**-0.7**
KRUC	**Moravsky**	**160.59**	**330**	*e*PKP	**PKPdf**	**07 08 30.8**	**-0.9**
KRUC				*e*		07 09 12.6	
TREC	**Trest**	**160.79**	**331**	*e*PKP2	**PKPab**	**07 09 13.6**	**-0.5**
TREC	**Trest**	**160.79**	**331**	*e*PKPAB	**PKPab**	**07 09 13.6**	**-0.5**
TANN	**Tannenbergstha**	**160.93**	**338**	*e*PKPab	**PKPab**	**07 09 14.0**	**-0.7**
	baz=25,slow=4.4						
WERD	**Werda**	**160.95**	**339**	*e*PKPab	**PKPab**	**07 09 13.8**	**-0.9**
	baz=25,slow=4.4						
PLN	**Plauen**	**160.96**	**339**	*e*PKPab	**PKPab**	**07 09 14.1**	**-0.7**
	baz=25,slow=4.4						
MOX	**Moxa**	**160.98**	**340**	*e*PKPab	**PKPab**	**07 09 14.1**	**-0.8**
	baz=25,slow=4.4						
MOX				*e*L	L	08 32 44.9	
	comp=Z,2µm,18.7s						
GUNZ	**Gunzen**	**161.02**	**338**	*e*PKPab	**PKPab**	**07 09 14.4**	**-0.6**
	baz=25,slow=4.4						
PBCC	**Pribram**	**161.04**	**335**	*e*PKPAB	**PKPab**	**07 09 14.3**	**-0.8**
WERN	**Wernitzgruen**	**161.07**	**338**	*e*PKPab	**PKPab**	**07 09 14.7**	**-0.5**
	baz=25,slow=4.4						
NKC	**Novy Kostel**	**161.09**	**338**	*e*PKP2	**PKPab**	**07 09 14.6**	**-0.8**
NKC	**Novy Kostel**	**161.09**	**338**	*e*PKPAB	**PKPab**	**07 09 14.6**	**-0.8**
BUG	**Bochum--Univer**	**161.22**	**349**	*e*PKPab	**PKPab**	**07 09 16.0**	**+0.2**
	baz=25,slow=4.4						
KASTN	**Kahler Asten**	**161.24**	**346**	*e*PKPab	**PKPab**	**07 09 15.7**	**-0.3**
	baz=25,slow=4.4						
UBBA	**Unterbreizbach**	**161.25**	**343**	*e*PKPab	**PKPab**	**07 09 15.5**	**-0.4**
	baz=25,slow=4.4						
MANZ	**Manzenberg**	**161.42**	**338**	*e*PKPab	**PKPab**	**07 09 16.1**	**-0.7**
	baz=25,slow=4.4						
FRGS	**Fruska Gora**	**161.47**	**316**	⇑P	**PKPab**	**07 09 15.7**	**-1.6**
ROTZ	**Rotzenmuhle**	**161.58**	**338**	*e*PKPab	**PKPab**	**07 09 16.8**	**-0.7**
	baz=25,slow=4.4						
CKRC	**Cesky Krumlov**	**161.63**	**332**	*e*PKPAB	**PKPab**	**07 09 17.3**	**-0.5**
KHC	**Kasperske Hory**	**161.65**	**334**	*e*PKIKP	**PKPdf**	**07 08 33.7**	**+0.8**
KHC				*e*		07 09 17.2	
KHC				*e*		07 12 59.0	
KHC	**Kasperske Hory**	**161.65**	**334**	*e*PKPDF	**PKPdf**	**07 08 33.7**	**+0.8**
KHC				*e*PKPAB	**PKPab**	**07 09 17.2**	**-0.7**
KHC				*e*x	x	07 09 28.0	
KHC				*e*PP	**PP**	**07 12 59.0**	**-2.2**
CONA	**Conrad Observa**	**161.68**	**328**	*e*P	**PKPdf**	**07 08 33.5**	**+0.6**
	comp=Z,4.4nm,1.0s						
CONA				*e*P	**PKPab**	**07 09 18.0**	**-0.1**
	comp=Z,23nm,1.0s,SNR=7.8						
GEC2	**GERESS Array S**	**161.84**	**334**	*e*PKPab	**PKPab**	**07 09 18.7**	**-0.1**
	baz=25,slow=4.4						
GERES	**GERESS Array B**	**161.84**	**334**	PKP	**PKPdf**	**07 08 33.3**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=325,slow=1.6,SNR=6.5						
GERES				PKPab	**PKPab**	**07 09 18.1**	**-0.7**
	comp=Z,13nm,0.9s,baz=39,slow=5.1,SNR=20						
WET	**Wettzell**	**161.89**	**336**	*e*PKPab	**PKPab**	**07 09 18.2**	**-0.7**
	baz=25,slow=4.4						
GRF	**Grafenberg Arr**	**161.95**	**339**	*e*PKPab	**PKPab**	**07 09 18.1**	**-0.9**
	baz=25,slow=4.4						
GRF				*e*L	L	08 28 58.6	
	comp=Z,2µm,18.2s						
GRFO	**Grafenberg**	**161.95**	**339**	PKP2	**PKPab**	**07 09 19.6**	**+0.5**
GRFO	**Grafenberg**	**161.95**	**339**		**PKPab**	**07 09 19.6**	**+0.5**
BEBN	**Eben Emael**	**162.07**	**351**	*d*PKP	**PKPab**	**07 09 18.7**	**-0.8**
AHRW	**Bad Neuenahr-A**	**162.12**	**348**	*e*PKPab	**PKPab**	**07 09 18.8**	**-0.9**
	baz=25,slow=4.4						
TNS	**Taunus Mts**	**162.16**	**345**	*e*PKPab	**PKPab**	**07 09 19.3**	**-0.7**
	baz=25,slow=4.4						
MEM	**Membach**	**162.21**	**351**	*d*PKP	**PKPab**	**07 09 19.2**	**-0.9**
BTNL	**Ternell**	**162.22**	**350**	*d*PKP	**PKPab**	**07 09 19.2**	**-1.0**
ARSA	**Arzberg**	**162.34**	**327**	*i* P	**PKPdf**	**07 08 34.3**	**+0.7**
	comp=Z,9.6nm,1.4s						
ARSA				*e*P	**PKPab**	**07 09 21.4**	**+0.4**
	comp=Z,8.0nm,0.9s						
MOA	**Molln**	**162.43**	**331**	*i* P	**PKPdf**	**07 08 34.8**	**+1.1**
	comp=Z,7.0nm,1.5s						
MOA				*e*P	**PKPab**	**07 09 20.9**	**-0.4**
	comp=Z,14nm,1.1s						
BHOU	**Houvegnez**	**162.46**	**351**	*d*x	x	07 08 48.2	
BHOU				*d*PKP	**PKPab**	**07 09 20.7**	**-0.6**
BCLA	**Clavier**	**162.49**	**352**	*d*PKP	**PKPab**	**07 09 20.4**	**-1.0**
SNF	**Seneffe**	**162.50**	**354**	*d*PKP	**PKPab**	**07 09 20.9**	**-0.5**
BGES	**Gesves**	**162.55**	**352**	*d*PKP	**PKPab**	**07 09 20.8**	**-0.8**
BMRD	**Maredsous**	**162.66**	**353**	*d*PKP	**PKPab**	**07 09 21.1**	**-1.1**
DOU	**Dourbes**	**162.88**	**353**	*d*PKP	**PKPab**	**07 09 23.2**	**+0.1**
SOKA	**Soboth**	**162.99**	**327**	*e*P	**PKPdf**	**07 08 35.3**	**+0.9**
	comp=Z,11nm,1.2s						
SOKA				*e*P	**PKPab**	**07 09 24.1**	**+0.2**
	comp=Z,18nm,1.4s						
RJOB	**Jochberg**	**163.10**	**333**	*e*PKPab	**PKPab**	**07 09 23.9**	**-0.4**
	baz=25,slow=4.4						
WLF	**Walferdange**	**163.11**	**350**	*d*PKP	**PKPab**	**07 09 23.7**	**-0.4**
WLF	**Walferdange**	**163.11**	**350**	*e*PKPab	**PKPab**	**07 09 23.9**	**-0.3**
	baz=25,slow=4.4						
FUR	**Furstenfeldbru**	**163.28**	**337**	*e*PKPab	**PKPab**	**07 09 24.1**	**-0.9**
	baz=25,slow=4.4						
KBA	**Koelnbreinsper**	**163.42**	**331**	*e*P	**PKPdf**	**07 08 35.7**	**+0.9**
	comp=Z,9.0nm,1.1s						
KBA				*e*P	**PKPab**	**07 09 25.6**	**-0.2**
	comp=Z,11nm,1.1s						
MYKA	**Terra Mystica**	**163.65**	**329**	*e*P	**PKPdf**	**07 08 35.5**	**+0.6**
	comp=Z,8.7nm,1.4s						
MYKA				*e*P	**PKPab**	**07 09 26.3**	**-0.4**
	comp=Z,14nm,1.0s						
LJU	**Ljubljana**	**163.70**	**326**	*e*PKPdf	**PKPdf**	**07 08 33.7**	**-1.2**
LJU				*e*PP	**PP**	**07 13 06.1**	**-6.1**
VISS	**Visnje**	**163.73**	**325**	*e*PKPdf	**PKPdf**	**07 08 33.4**	**-1.6**
WATA	**Walderalm**	**163.89**	**335**	*e*P	**PKPdf**	**07 08 35.3**	**0.0**
	comp=Z,5.5nm,1.0s						
WATA				*e*P	**PKPab**	**07 09 28.2**	**+0.3**
	comp=Z,15nm,0.9s						
WTTA	**Wattenberg**	**163.93**	**335**	*i* P	**PKPdf**	**07 08 35.9**	**+0.6**
	comp=Z,12nm,1.3s						
WTTA				*i* P	**PKPab**	**07 09 28.6**	**+0.5**
	comp=Z,17nm,0.9s						
BFO	**Black Forest**	**163.97**	**343**	*e*PKPab	**PKPab**	**07 09 26.9**	**-1.1**
	baz=25,slow=4.4						
ABTA	**Abfaltersbach**	**164.02**	**332**	*e*P	**PKPdf**	**07 08 36.3**	**+1.0**
	comp=Z,16nm,1.4s						
ABTA				*e*P	**PKPab**	**07 09 27.3**	**-1.1**
	comp=Z,20nm,1.0s						
RETA	**Reutte**	**164.04**	**337**	*e*P	**PKPab**	**07 09 28.4**	**0.0**
	comp=Z,40nm,0.9s,SNR=11						
MOTA	**Moosalm**	**164.04**	**336**	*e*P	**PKPdf**	**07 08 36.4**	**+1.0**
	comp=Z,6.9nm,1.0s						
MOTA				*i* P	**PKPab**	**07 09 28.1**	**-0.4**
	comp=Z,21nm,0.8s						
SQTA	**Sankt Quirin**	**164.12**	**335**	*e*P	**PKPab**	**07 09 28.4**	**-0.4**
	comp=Z,19nm,0.8s						
KNDS	**Knezji Dol**	**164.15**	**325**	*e*PKPdf	**PKPdf**	**07 08 34.7**	**-0.7**
FETA	**Feichten**	**164.45**	**336**	*e*P	**PKPab**	**07 09 30.2**	**-0.2**
	comp=Z,37nm,1.0s						
DAVA	**Damuels**	**164.50**	**338**	*e*P	**PKPab**	**07 09 30.4**	**-0.1**
	comp=Z,22nm,0.8s,SNR=8.3						
PCAS	**Casmilo, Conde**	**169.36**	**47**	*e*PKP	**PKPdf**	**07 08 39.8**	**+0.3**
MVO	**Moncorvo**	**169.44**	**38**	*e*PKP	**PKPdf**	**07 08 39.8**	**+0.2**
PSBE	**So Bento**	**169.49**	**50**	*e*PKP	**PKPdf**	**07 08 39.7**	**+0.1**
LIS	**Lisbon**	**169.68**	**54**	*e*PKPdf	**PKPdf**	**07 08 40.8**	**+1.1**
LIS				*e*SS	SS	07 34 43.7	+2.3
LIS				IAMs_20	IAMs_20	08 42 38.5	
	comp=Z,4µm,23.3s						
LIS	**Lisbon**	**169.68**	**54**	*e*PKIKP	**PKPdf**	**07 08 40.7**	**+1.1**
LIS				*e*SS	SS	07 34 43.7	+2.3
EVO	**Evora**	**170.53**	**52**	*e*PKP	**PKPdf**	**07 08 40.6**	**+0.4**
PFVI	**Vila Bisbo**	**170.60**	**62**	*e*PKP	**PKPdf**	**07 08 40.7**	**+0.4**
MORF	**Marmelete**	**170.66**	**61**	*e*PKPdf	**PKPdf**	**07 08 41.4**	**+1.1**
MORF				*e*SS	SS	07 34 53.6	+2.0
MORF				IAMs_20	IAMs_20	08 42 14.3	
	comp=Z,4µm,19.4s						
MORF	**Marmelete**	**170.66**	**61**	*e*PKIKP	**PKPdf**	**07 08 41.4**	**+1.1**
MORF				*e*SS	SS	07 34 53.6	+2.0
MESJ	**Messejana**	**170.74**	**57**	*e*PKPdf	**PKPdf**	**07 08 41.4**	**+1.0**
MESJ				*e*SS	SS	07 34 54.4	+2.4
MESJ				IAMs_20	IAMs_20	08 27 23.5	
	comp=Z,3µm,18.8s						
MESJ	**Messejana**	**170.74**	**57**	*e*PKIKP	**PKPdf**	**07 08 41.3**	**+1.0**
MESJ				*e*SS	SS	07 34 54.4	+2.3
MESJ	**Messejana**	**170.74**	**57**	*e*PKP	**PKPdf**	**07 08 40.8**	**+0.5**
PCVE	**Castro Verde**	**170.96**	**57**	*e*PKP	**PKPdf**	**07 08 41.5**	**+1.1**
PBDV	**Barranco-do-Ve**	**171.21**	**59**	*e*PKP	**PKPdf**	**07 08 40.8**	**+0.2**
PVAQ	**Vaqueiros**	**171.29**	**58**	*e*PKP	**PKPdf**	**07 08 40.8**	**+0.2**
PBAR	**Barrancos**	**171.37**	**52**	*e*PKP	**PKPdf**	**07 08 41.1**	**+0.5**
PAB	**San Pablo**	**172.01**	**35**	PKIKP	**PKPdf**	**07 08 40.9**	**-0.1**
PAB	**San Pablo**	**172.01**	**35**		**PKPdf**	**07 08 40.9**	**-0.1**
ESDC	**Sonseca Array**	**172.08**	**33**	PKP	**PKPdf**	**07 08 39.3**	**-1.7**
	comp=Z,0.7nm,0.5s,baz=278,slow=33,SNR=2.6						
ESDC	**Sonseca Array**	**172.08**	**33**		**PKPdf**	**07 08 41.8**	**+0.8**
KEST	**Kesra**	**173.06**	**294**	PKP	**PKPdf**	**07 08 43.1**	**+1.5**
	comp=Z,8.9nm,1.2s,baz=253,slow=9.2,SNR=3.3						

IDC 08 06:51:26.6±3.0**,53°.70N**×**88°.26E,h0**km**,mb1 3.1**/3**, mb1mx3.0**/67**,mbtmp3.1**/3**,ML2.6**/3**,4C-2D,Error ellipse: s-maj=27.8km s-min=19.4km az=82.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.06**	**278**	*i*		07 04 10.0	
	baz=91,slow=322,SNR=9.1						
ZALV	**Zalesovo Beam**	**2.06**	**278**	Pn	Pn	06 52 01.6	-0.7
	2.9nm,0.3s,baz=100,slow=12,SNR=23						
ZALV				Sn	Sb	06 52 30.2	-0.6
	5.5nm,0.3s,baz=98,slow=25,SNR=16						
KURBB	**Kurchatov Arra**	**6.73**	**247**	Pn	Pn	06 53 06.9	+0.4
	0.3nm,0.3s,baz=61,slow=14,SNR=9.6						
KURBB				Sn	Sn	06 54 23.4	-0.5
	0.0nm,0.3s,baz=64,slow=20,SNR=1.1						
KURBB				Lg	Lg	06 54 58.5	
	0.1nm,0.3s,baz=64,slow=32,SNR=11						
KURBB	**Kurchatov Arra**	**6.73**	**247**	⇓Pn	Pn	06 53 06.9	+0.3
	1.4nm,0.3s						
KURBB				⇓Sn	Sn	06 54 21.6	-2.2
	4.4nm,0.6s						
KURBB				⇑Lg	Lg	06 54 57.1	
	5.6nm,0.6s						
MK31	**Makanchi Array**	**7.90**	**211**	⇑Pn	Pn	06 53 24.4	+1.8
	0.3nm,0.6s,baz=28,slow=13,SNR=11						
MK31				⇑Sn	Sn	06 54 52.9	+0.3
	0.8nm,0.6s						
MK31				⇑Lg	Lg	06 55 34.6	
	2.3nm,0.8s,baz=30,slow=24,SNR=3.6						
MKAR	**Makanchi Array**	**7.90**	**211**	Pn	Pn	06 53 24.0	+1.5
	0.2nm,0.3s,baz=28,slow=13,SNR=9.2						
MKAR				Sn	Sn	06 54 51.8	-0.8
	0.2nm,0.3s,baz=32,slow=25,SNR=5.7						
MKAR				Lg	Lg	06 55 36.4	
	0.1nm,0.3s,baz=33,slow=29,SNR=6.0						

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*JMA **08** 06:57:45.5±0.1,33°.24N×140°.98E,h57km±3km,M3.6*
*IDC **08** 06:57:48.4±2.4,33°.13N×140°.71E,h66km±19km,mb3.6/6, mb1 3.8/7,mb1mx3.4/63,mbtmp3.8/7,Error ellipse: s-maj=38.3km s-min=20.0km az=84.0*
ISC 08 06:57:46.1±1.5**,33°.22N**±0°.05×**140°.97E**±0°.09**,h51**km±14km**, n32,**σ1s**16**/38**,mb4.0**/6**,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.97**	**264**	P	**Pn**	**06 58 03.6**	**+0.2**
JHJ2				S	**Sn**	**06 58 16.5**	**+0.4**
JHCJ	**Hachijojimakas**	**0.99**	**262**	P	**Pn**	**06 58 03.6**	**-0.1**
JHJ	**Hachijo jima 2**	**1.00**	**264**	P	**Pn**	**06 58 03.6**	**-0.1**
	808nm,0.3s,baz=171,slow=22,SNR=233						
JHJ				S	**Sn**	**06 58 16.3**	**-0.5**
	910nm,0.3s,baz=75,slow=24,SNR=12						
JAOM	**Aogashimamukai**	**1.26**	**234**	P	**Pn**	**06 58 07.6**	**+0.2**
JAOM				*e*S	**Sn**	**06 58 23.8**	**+0.5**
JMKN	**Mikurajimanish**	**1.33**	**301**	P	**Pn**	**06 58 08.1**	**-0.2**
JMKN				S	**Sn**	**06 58 24.5**	**-0.4**
BSO1	**Boso 1**	**1.43**	**0**	P	**Pn**	**06 58 09.2**	**+0.1**
BSO1				*e*S	**Sn**	**06 58 26.6**	**+0.1**
BSO3	**Boso 3**	**1.62**	**347**	P	**Pn**	**06 58 11.9**	**-0.1**
BSO3				S	**Sn**	**06 58 31.7**	**+0.1**
JKO	**Kozu shima**	**1.80**	**303**	P	**Pn**	**06 58 14.6**	**-0.1**
JKO				*e*S	**Sn**	**06 58 36.4**	**0.0**
BSO4	**Boso 4**	**1.84**	**344**	P	**Pn**	**06 58 15.5**	**+0.4**
BSO4				*e*S	**Sn**	**06 58 37.0**	**-0.2**
JIM2	**Oshima 3**	**1.96**	**320**	P	**Pn**	**06 58 16.8**	**-0.2**
JIZS	**Izushimoda**	**2.29**	**311**	P	**Pn**	**06 58 22.0**	**+0.6**
JIZS				S	**Sn**	**06 58 48.3**	**-0.1**
JOD2	**Odawara 2**	**2.56**	**323**	P	**Pn**	**06 58 25.3**	**+0.1**
TK02	**Tokai 2**	**2.77**	**286**	P	**Pn**	**06 58 29.2**	**+1.4**
TK04	**Tokai 4**	**2.82**	**295**	P	**Pn**	**06 58 30.0**	**+1.4**
SHZ3	**Shizuoka 3**	**2.93**	**310**	P	**Pn**	**06 58 31.7**	**+1.4**
JYN	**Shimob**	**3.03**	**319**	P	**Pn**	**06 58 32.4**	**+0.8**
JYN				*e*S	**Sn**	**06 59 07.3**	**+0.7**
JRY	**Ryogami san**	**3.27**	**329**	P	**Pn**	**06 58 35.8**	**+1.0**
JRY				*e*S	**Sn**	**06 59 13.2**	**+0.7**
MJAR	**Matsushiro Arr**	**4.01**	**326**	P	**Pn**	**06 58 46.2**	**+1.1**
	0.6nm,0.3s,baz=151,slow=11,SNR=10.0						
MAT	**Matsushiro**	**4.01**	**326**	P	**Pn**	**06 58 47.4**	**+2.3**
MAT				*e*S	**Sn**	**06 59 26.1**	**-4.8**
H11N2	**WAKE ISLAND Hy**	**26.73**	**114**	T	T	07 32 22.4	
	baz=306,slow=75,SNR=57						
H11N1	**WAKE ISLAND Hy**	**26.74**	**114**	T	T	07 32 23.3	
	baz=306,slow=75,SNR=38						
H11N3	**WAKE ISLAND Hy**	**26.75**	**114**	T	T	07 32 22.1	
	baz=306,slow=75,SNR=40						
H11S3	**WAKE ISLAND Hy**	**27.30**	**116**	T	T	07 32 55.7	
	baz=307,slow=75,SNR=4.3						
H11S1	**WAKE ISLAND Hy**	**27.30**	**116**	T	T	07 32 56.7	
	baz=307,slow=75,SNR=3.3						
H11S2	**WAKE ISLAND Hy**	**27.32**	**116**	T	T	07 32 58.2	
	baz=307,slow=75,SNR=4.7						
MKAR	**Makanchi Array**	**45.92**	**305**	P	**P**	**07 06 03.6**	**-0.1**
	0.2nm,0.5s,baz=81,slow=9.3,SNR=2.4						
KURBB	**Kurchatov Arra**	**48.13**	**311**	P	**P**	**07 06 20.4**	**-0.4**
	0.5nm,0.4s,baz=89,slow=7.7,SNR=4.2						
FITZ	**Fitzroy Crossi**	**53.09**	**198**	P	**P**	**07 06 56.6**	**-1.9**
	2.0nm,1.0s,baz=38,slow=7.6,SNR=1.8						
WRA	**Warramunga Arr**	**53.24**	**188**	P	**P**	**07 06 59.6**	**0.0**
	3.3nm,0.5s,baz=3.6,slow=7.5,SNR=59						
ASAR	**Alice Springs**	**56.97**	**188**	P	**P**	**07 07 26.6**	**+0.2**
	0.7nm,0.3s,baz=4.6,slow=5.6,SNR=26						
TXAR	**Lajitas Array**	**92.74**	**52**	P	**P**	**07 10 54.8**	**+1.5**
	0.4nm,0.8s,baz=265,slow=2.7,SNR=4.4						
LPAZ	**La Paz**	**148.81**	**64**	PKPbc	**PKiKP**	**07 17 30.6**	**-0.2**
	0.3nm,0.4s,baz=29,slow=5.8,SNR=2.3						

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*IDC **08** 07:03:34.6±0.9,27°.03S×176°.09W,h0km,mb3.9/8, mb1 4.1/9,mb1mx4.0/32,mbtmp3.9/9,ML4.6/2,Error ellipse: s-maj=30.3km s-min=19.4km az=144.0*
*NEIC **08** 07:03:35.9±1.0,27°.0S±0°.1×175°.9W±0°.2,h21km±7km, mb4.4/14,Error ellipse: s-maj=24.0km s-min=11.6km az=118.0*
ISC 08 07:03:34.7±0.6**,26°.99S**±0°.09×**176°.0W**±0°.1**,h10**km**,n39, **σ1s**58**/40**,mb4.0**/12**,South of Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.83**	**217**	Pn	**Pn**	**07 04 19.1**	**-1.0**
	312nm,0.3s,baz=179,slow=23,SNR=5.9						
RAO				Sn	**Sn**	**07 04 55.5**	**+1.2**
	503nm,0.3s,baz=66,slow=23,SNR=16						
RAO	**Raoul Island**	**2.83**	**217**		**Pn**	**07 04 18.9**	**-1.2**
NIUE	**Niue**	**9.64**	**37**	Pn	**Pn**	**07 05 49.3**	**-4.3**
URZ	**Urewera**	**12.65**	**206**	Pn	**Pn**	**07 06 33.4**	**-1.3**
	0.9nm,0.3s,baz=300,slow=23,SNR=2.7						
URZ				Sn	Sn	07 08 45.7	-10
	2.9nm,0.3s,baz=252,slow=22,SNR=6.9						
AFI	**Afiamalu**	**13.59**	**18**	Pn	**Pn**	**07 06 45.5**	**-2.2**
	3.0nm,0.3s,baz=147,slow=9.1,SNR=4.9						
AFI	**Afiamalu**	**13.59**	**18**		**Pn**	**07 06 46.4**	**-1.3**
BKZ	**Black Stump Fm**	**13.68**	**206**	Pn	**Pn**	**07 06 46.3**	**-2.5**
BFZ	**Birch Farm**	**15.10**	**203**	Pn	**Pn**	**07 07 09.3**	**+1.2**
BFZ				IAmb	IAmb	07 07 27.6	
	comp=Z,56nm,1.3s						
TUWZ	**Tuamarina**	**16.63**	**207**	Pn	**Pn**	**07 07 27.7**	**-0.1**
THZ	**Tophouse**	**17.34**	**209**	Pn	**Pn**	**07 07 32.5**	**-4.4**
THZ				IAmb	IAmb	07 07 55.6	
	comp=Z,31nm,1.4s						
CTA	**Charters Tower**	**35.20**	**273**	P	**P**	**07 10 31.1**	**+1.7**
	comp=Z,3.5nm,0.5s,baz=105,slow=9.9,SNR=13						
CTAO	**Charters Tower**	**35.20**	**273**	P	**P**	**07 10 28.8**	**-0.5**
CTAO				IAmb	IAmb	07 10 33.2	
	comp=Z,17nm,1.5s						
STKA	**Stephens Creek**	**37.10**	**252**	P	**P**	**07 10 47.3**	**+1.8**
	comp=Z,0.8nm,0.4s,baz=19,slow=6.3,SNR=2.9						
STKA	**Stephens Creek**	**37.10**	**252**	P	**P**	**07 10 44.4**	**-1.1**
COEN	**Coen**	**40.22**	**280**	P	**P**	**07 11 11.1**	**-0.7**
COEN				IAmb	IAmb	07 11 35.4	
	comp=Z,25nm,1.5s						
ASAR	**Alice Springs**	**45.19**	**263**	P	**P**	**07 11 51.9**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=97,slow=7.2,SNR=11						
WR0	**Warramunga Arr**	**45.69**	**268**	P	**P**	**07 11 55.4**	**-0.7**
WR0				IAmb	IAmb	07 12 18.0	
	comp=Z,5.9nm,1.2s						
WB2	**Warramunga Arr**	**45.87**	**268**	P	**P**	**07 11 56.8**	**-0.7**
WB2				IAmb	IAmb	07 12 10.3	
	comp=Z,9.2nm,1.5s						
WRA	**Warramunga Arr**	**45.88**	**268**	P	**P**	**07 11 57.0**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=103,slow=8.8,SNR=12						
WRA	**Warramunga Arr**	**45.88**	**268**	P	**P**	**07 11 56.9**	**-0.7**
FORT	**Forrest**	**48.72**	**252**	P	**P**	**07 12 18.9**	**-0.8**
VNDA	**Vanda**	**51.66**	**186**	P	**P**	**07 12 41.2**	**0.0**
VNDA				IAmb	IAmb	07 12 46.9	
	comp=Z,1.9nm,1.4s						
FITZ	**Fitzroy Crossi**	**54.24**	**266**	P	**P**	**07 13 02.6**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=135,slow=9.6,SNR=1.0						
FITZ	**Fitzroy Crossi**	**54.24**	**266**	P	**P**	**07 13 00.2**	**-0.9**
FITZ				IAmb	IAmb	07 13 19.0	
	comp=Z,3.2nm,1.2s						
CASY	**Casey**	**58.98**	**207**	P	**P**	**07 13 33.3**	**-0.7**
QSPA	**South Pole Qui**	**63.11**	**180**	P	**P**	**07 14 02.4**	**0.0**
MAW	**Mawson**	**76.11**	**200**	P	**P**	**07 15 24.4**	**+2.1**
	comp=Z,1.0nm,0.6s,baz=159,slow=10,SNR=7.1						
MAW	**Mawson**	**76.11**	**200**	P	**P**	**07 15 22.6**	**+0.3**
SNAA	**Sanae**	**81.50**	**178**	P	**P**	**07 15 51.5**	**-0.5**
VNA3	**Neumayer Olymp**	**81.57**	**176**	P	**P**	**07 15 52.3**	**0.0**
VNA2	**Neumayer--Watz**	**82.03**	**176**	P	**P**	**07 15 54.6**	**-0.1**
	baz=179,slow=3.5						
VNA1	**Neumayer--Stat**	**82.25**	**176**	P	**P**	**07 15 55.7**	**-0.1**
NVAR	**Mina Array Bea**	**84.53**	**42**	P	**P**	**07 16 11.0**	**+2.8**
	comp=Z,0.5nm,0.6s,baz=216,slow=8.1,SNR=4.5						
TXAR	**Lajitas Array**	**89.04**	**56**	P	**P**	**07 16 32.2**	**+1.9**
	comp=Z,0.5nm,0.8s,baz=202,slow=6.5,SNR=5.9						
ZALV	**Zalesovo Beam**	**116.64**	**319**	PKP	**PKPdf**	**07 22 18.5**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=50,slow=2.3,SNR=2.2						
MKAR	**Makanchi Array**	**116.91**	**311**	PKP	**PKPdf**	**07 22 20.2**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=193,slow=1.6,SNR=8.5						
NB2	**NORSAR Subarra**	**145.61**	**354**	PKP	**PKPab**	**07 23 14.7**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=9.3,slow=3.3						
NOA	**NORSAR Array B**	**145.61**	**354**	PKPbc	**PKPbc**	**07 23 14.2**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=14,slow=3.2,SNR=4.1						
TORD	**Torodi Ar. Bea**	**166.06**	**171**	PKPab	**PKPab**	**07 24 41.5**	**+0.7**
	comp=Z,1.7nm,1.0s,baz=200,slow=4.2,SNR=5.6						

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*IDC **08** 07:10:09.5±1.4,32°.97S×178°.35W,h0km,mb4.4/5, mb1 4.5/6,mb1mx4.0/27,mbtmp4.4/6,ML4.1/1,MS5.1/1, Ms1 5.1/1,ms1mx3.7/27,Error ellipse: s-maj=35.9km s-min=28.0km az=67.0*
*WEL **08** 07:10:13.9±1.2,33°S±21°×17°8W±2°5,h152km±39km, M4.1/14,mB4.6/10,ML4.9/22,MLv4.6/14,Mw(mB)3.8/10, Error ellipse: s-maj=0.0km s-min=0.0km az=129.3*
*NEIC **08** 07:10:16.5±0.9,33°.11S±0°.05×178°.7W±0°.2,h36km±12km, mb4.5/13,Error ellipse: s-maj=21.1km s-min=5.0km az=103.0*
ISC 08 07:10:15.2±1.0**,33°.12S**±0°.07×**178°.6W**±0°.1**,h32**km**,n61, σ1s**27**/72,mb4.5**/10**,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.90**	**8**		**Pn**	**07 11 13.8**	**+0.9**
MXZ	**Matakaoa Point**	**5.11**	**209**	Pn	**Pn**	**07 11 29.6**	**0.0**
MXZ	**Matakaoa Point**	**5.11**	**209**	P	**Pn**	**07 11 29.9**	**+0.3**
MXZ				S	**Sn**	**07 12 28.6**	**+1.1**
WMGZ	**Waiomatatini S**	**5.29**	**207**	P	**Pn**	**07 11 31.5**	**-0.5**
PKGZ	**Pakihiroa**	**5.49**	**209**	P	**Pn**	**07 11 33.3**	**-1.4**
PKGZ				S	**Sn**	**07 12 38.1**	**+1.3**
HAZ	**Te Kaha**	**5.50**	**212**	P	**Pn**	**07 11 34.8**	**-0.1**
HAZ				S	**Sn**	**07 12 40.7**	**+3.7**
PUZ	**Puketiti**	**5.57**	**207**	P	**Pn**	**07 11 33.8**	**-2.1**
PUZ				S	**Sn**	**07 12 40.0**	**+1.1**
RUGZ	**Raukumara Rang**	**5.72**	**211**	P	**Pn**	**07 11 37.5**	**-0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWGZ	Tauwhareparae	5.77	208	P	Pn	07 11 38.6	-0.1
TWGZ				S	Sn	07 12 44.9	+1.0
CNGZ	Carnagh Statio	5.96	205	P	Pn	07 11 39.6	-1.6
TKGZ	Te Karaka	6.05	208	P	Pn	07 11 42.0	-0.4
TKGZ				S	Sn	07 12 50.6	0.0
MWZ	Matawai	6.09	210	P	Pn	07 11 41.8	-1.3
MWZ				S	Sn	07 12 52.4	+0.7
URZ	Urewera	6.21	213	Pn	Pn	07 11 44.0	-0.7
	3.9nm,0.3s,baz=120,slow=24,SNR=18						
URZ				Sn	Sn	07 12 54.9	+0.2
	4.1nm,0.3s,baz=166,slow=18,SNR=4.4						
URZ	Urewera	6.21	213	P	Pn	07 11 44.0	-0.7
URZ				S	Sn	07 12 55.2	+0.6
RAGZ	Rawiri	6.28	210	P	Pn	07 11 44.1	-1.5
RAGZ				S	Sn	07 12 55.8	-0.5
RIGZ	Rimuhau	6.32	207	P	Pn	07 11 45.5	-0.7
RIGZ				S	Sn	07 12 57.7	+0.4
MUGZ	Murupara	6.55	214	P	Pn	07 11 48.8	-0.5
MUGZ				S	Sn	07 13 03.3	+0.4
SNGZ	Shannon Statio	6.55	209	P	Pn	07 11 49.4	0.0
SNGZ				S	Sn	07 13 03.7	+0.7
RTZ	Ruatahuna	6.56	212	P	Pn	07 11 48.9	-0.7
RTZ				S	Sn	07 13 03.3	-0.1
RAHZ	Arahi	6.77	210	P	Pn	07 11 52.5	+0.1
MTHZ	Maungataniwha	6.82	212	P	Pn	07 11 53.5	+0.4
MTHZ				S	Sn	07 13 10.1	+0.4
OUZ	Omahuta	6.83	250	Pn	Pn	07 11 52.9	-0.2
NMHZ	Naumai	7.04	211	P	Pn	07 11 55.7	-0.4
NMHZ				S	Sn	07 13 16.0	+0.9
BKZ	Black Stump Fm	7.23	212	Pn	Pn	07 11 57.8	-1.0
BKZ	Black Stump Fm	7.23	212	P	Pn	07 11 57.8	-1.0
KWHZ	Kaweka Forest	7.48	211	P	Pn	07 12 00.6	-1.5
TMVZ	Te Maari	7.56	216	P	Pn	07 12 03.6	+0.2
ETVZ	East Tongariro	7.58	216	P	Pn	07 12 04.8	+1.3
KAHZ	Kahuranaki	7.60	208	P	Pn	07 12 00.2	-3.6
OTVZ	Oturere	7.62	216	P	Pn	07 12 03.6	-0.6
BHHZ	Black Hill Sta	7.69	213	P	Pn	07 12 05.7	+0.7
WNVZ	Wahianoa	7.78	216	P	Pn	07 12 07.4	+1.0
BFZ	Birch Farm	8.61	207	Pn	Pn	07 12 18.7	+1.1
MRZ	Mangatainoka R	8.86	210	P	Pn	07 12 18.0	-3.0
TUWZ	Tuamarina	10.21	214	Pn	Pn	07 12 39.5	0.0
STKA	Stephens Creek	33.49	261	P	P	07 16 50.4	-1.2
CTA	Charters Tower	33.87	284	P	P	07 16 56.5	+1.5
	2.7nm,0.5s,baz=114,slow=8.9,SNR=8.5						
CTAO	Charters Tower	33.87	284	P	P	07 16 54.4	-0.7
CTAO				IAmb	IAmb	07 16 57.9	
	comp=Z,4.6nm,0.7s						
BBOO	Buckleboo	37.84	258	P	P	07 17 28.1	-0.9
COEN	Coen	39.64	290	P	P	07 17 43.0	-1.2
COEN				IAmb	IAmb	07 18 10.7	
	comp=Z,16nm,1.2s						
AS31	Alice Springs	42.56	270	P	P	07 18 07.6	-0.7
ASAR	Alice Springs	42.56	270	P	P	07 18 08.2	0.0
	comp=Z,2.9nm,0.7s,baz=107,slow=7.3,SNR=27						
ASAR	Alice Springs	42.56	270	P	P	07 18 07.6	-0.7
WR0	Warramunga Arr	43.62	275	P	P	07 18 16.4	-0.4
WR0				IAmb	IAmb	07 18 43.1	
	comp=Z,11nm,1.4s						
WB2	Warramunga Arr	43.78	275	P	P	07 18 17.5	-0.7
WB2				IAmb	IAmb	07 18 18.5	
	comp=Z,9.9nm,1.3s						
WRA	Warramunga Arr	43.79	275	P	P	07 18 18.0	-0.2
	comp=Z,3.1nm,0.6s,baz=115,slow=7.9,SNR=64						
WRA	Warramunga Arr	43.79	275	P	P	07 18 17.6	-0.6
FORT	Forrest	44.95	258	P	P	07 18 26.4	-0.9
MTN	Manton Dam	49.99	282	P	P	07 19 06.0	-0.7
FITZ	Fitzroy Crossi	51.93	272	P	P	07 19 20.6	-0.6
FITZ				IAmb	IAmb	07 19 24.9	
	comp=Z,5.2nm,1.2s						
CASY	Casey	52.52	209	P	P	07 19 25.7	+0.8
CASY				IAmb	IAmb	07 19 39.8	
	comp=Z,10nm,1.2s						
NWAO	Narrogin (SRO)	53.03	251	LR	LR	07 38 36.0	
	comp=Z,2µm,18.3s,baz=48,slow=32						
QSPA	South Pole Qui	56.99	180	P	P	07 19 58.1	+0.5
	comp=Z,4.2nm,0.5s,baz=63,slow=4.5,SNR=43						
QSPA	South Pole Qui	56.99	180	P	P	07 19 58.7	+1.2
QSPA				IAmb	IAmb	07 20 02.9	
	comp=Z,7.5nm,1.2s						
SNAA	Sanae	75.45	179	P	P	07 22 05.2	+10
VNA3	Neumayer Olymp	75.63	176	P	P	07 22 06.8	+10
VNA2	Neumayer--Watz	76.05	177	P	P	07 22 09.3	+10
	baz=178,slow=4.6						
VNA1	Neumayer--Stat	76.29	177	P	P	07 22 10.8	+10
PETK	Petropavlovsk-	88.33	346	P	P	07 23 01.7	-1.5
	comp=Z,2.9nm,1.1s,baz=126,slow=6.3,SNR=4.8						
FINES	FINESS Array B	147.51	338	PKPbc	PKPbc	07 29 53.6	-1.6
	comp=Z,4.3nm,0.8s,baz=29,slow=3.2,SNR=11						
CLL	Collm	159.96	338	e(PKPab)	PKPab	07 30 55.0	+4.9
	comp=Z,9.0nm,1.5s						

IDC 08 07:11:14.8±1.0, 30°.26S×177°.71W, h0km, mb4.6/6, mb1 4.7/6, mb1mx4.2/26, mbtmp4.6/6, Error ellipse: s-maj=28.2km s-min=17.2km az=89.0

ISC 08 07:11:16.4±1.0, 30°.30S±0°.08×177°.7W±0°.2, h10km, n24, σ1^{s}37/16, mb4.8/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.07	348	Pn	Pn	07 11 37.1	-0.3
	180nm,0.3s,baz=104,slow=12,SNR=11						
RAO				Sn	Sn	07 11 53.8	+1.6
	4µm,0.3s,baz=116,slow=22,SNR=18						
RAO	Raoul Island	1.07	348		Sn	07 11 53.5	+1.2
CTA	Charters Tower	34.06	279	P	P	07 18 02.2	+1.1
	7.5nm,0.4s,baz=106,slow=11,SNR=14						
STKA	Stephens Creek	34.78	257	P	P	07 18 07.6	+0.5
	28nm,1.1s,baz=103,slow=9.5,SNR=23						
ASAR	Alice Springs	43.40	267	P	P	07 19 18.4	-1.0
	2.3nm,0.5s,baz=106,slow=7.2,SNR=16						
WRA	Warramunga Arr	44.38	272	P	P	07 19 25.6	-1.7
	4.9nm,0.3s,baz=112,slow=8.2,SNR=42						
QSPA	South Pole Qui	59.81	180	P	P	07 21 23.8	+2.2
	3.4nm,0.5s,baz=46,slow=2.2,SNR=3.3						
MAW	Mawson	72.50	200	P	P	07 22 42.7	-0.2
	1.8nm,0.8s,baz=152,slow=5.2,SNR=5.1						
H03S2	Juan Fernandez	80.28	123	T	T	08 52 38.2	
	baz=238,slow=74,SNR=20						
H03S1	Juan Fernandez	80.29	123	T	T	08 52 40.7	
	baz=238,slow=74,SNR=18						
H03S3	Juan Fernandez	80.30	123	T	T	08 52 45.2	
	baz=238,slow=74,SNR=17						
H03N3	Juan Fernandez	80.47	123	T	T	08 52 47.0	
	baz=241,slow=72,SNR=7.9						
H03N2	Juan Fernandez	80.47	123	T	T	08 52 47.6	
	baz=241,slow=72,SNR=9.4						
H03N1	Juan Fernandez	80.49	123	T	T	08 52 45.7	
	baz=241,slow=72,SNR=12						
MKAR	Makanchi Array	117.93	310	PKP	PKPdf	07 30 01.7	-1.3
	0.3nm,0.7s,baz=129,slow=0.5,SNR=2.0						
KURBB	Kurchatov Arra	121.22	314	PKP	PKPdf	07 30 07.9	-1.3
	1.7nm,0.2s,baz=111,slow=1.7,SNR=2.7						
H10N3	ASCENSION HYDR	138.78	154	T	T	10 06 18.9	
	baz=203,slow=75,SNR=29						
H10N1	ASCENSION HYDR	138.78	154	T	T	10 06 29.9	
	baz=203,slow=75,SNR=38						
H10N2	ASCENSION HYDR	138.79	154	T	T	10 06 30.5	
	baz=203,slow=75,SNR=35						
FINES	FINESS Array B	145.15	340	PKPbc	PKPdf	07 30 52.4	-1.0
	4.5nm,0.4s,baz=46,slow=4.2,SNR=13						
NB2	NORSAR Subarra	148.69	352	PKP	PKPbc	07 31 03.0	-0.2
	comp=Z,0.8nm,0.4s,baz=15,slow=4.3						
NOA	NORSAR Array B	148.69	352	PKPbc	PKPbc	07 31 01.2	-2.0
	comp=Z,1.1nm,0.6s,baz=18,slow=4.2,SNR=2.0						
AKASG	Malin Array Be	151.39	323	PKPbc	PKPbc	07 31 09.4	-0.6
	comp=Z,1.3nm,0.5s,baz=42,slow=2.8,SNR=5.2						
TORD	Torodi Ar. Bea	162.92	178	PKPab	PKPab	07 32 09.7	+1.1
	comp=Z,0.2nm,0.3s,baz=178,slow=3.5,SNR=2.6						

IDC 08 07:22:46.4±3.0, 32°.85S×178°.49W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/34, mbtmp3.7/3, ML3.8/1, MS4.2/1, Ms1 4.2/1, ms1mx3.6/25, Error ellipse: s-maj=71.8km s-min=45.7km az=122.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.48	212	Pn	Pn	07 24 22.3	-0.7
	1.9nm,0.3s,baz=300,slow=23,SNR=8.9						
URZ				Sn	Sn	07 25 34.3	-3.3
	1.0nm,0.3s,baz=122,slow=23,SNR=1.6						
ASAR	Alice Springs	42.62	270	P	P	07 30 44.9	+0.2
	0.6nm,0.8s,baz=103,slow=7.5,SNR=6.0						
WRA	Warramunga Arr	43.83	275	P	P	07 30 54.2	-0.3
	0.9nm,0.5s,baz=115,slow=7.6,SNR=16						
QSPA	South Pole Qui	57.27	180	LR	LR	07 53 31.4	
	comp=Z,217nm,18.9s,baz=72,slow=32						
FINES	FINESS Array B	147.28	338	PKPbc	PKPbc	07 42 30.3	-0.7
	2.9nm,0.8s,baz=45,slow=4.3,SNR=6.1						

IDC 08 07:26:07.7±2.8, 32°.91S×178°.39W, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.7/33, mbtmp4.0/3, ML4.0/1, Error ellipse: s-maj=69.8km s-min=43.7km az=126.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.47	213	Pn	Pn	07 27 43.7	-0.5
	3.2nm,0.3s,baz=303,slow=23,SNR=14						
URZ				Sn	Sn	07 28 55.5	-3.3
	2.3nm,0.3s,baz=300,slow=24,SNR=2.5						
ASAR	Alice Springs	42.70	270	P	P	07 34 06.5	-0.1
	0.8nm,0.6s,baz=111,slow=7.0,SNR=9.3						
WRA	Warramunga Arr	43.92	275	P	P	07 34 16.4	-0.1
	1.2nm,0.4s,baz=115,slow=7.6,SNR=31						
FINES	FINESS Array B	147.36	338	PKPbc	PKPbc	07 45 51.9	-0.7
	5.5nm,0.9s,baz=46,slow=4.2,SNR=12						

IDC 08 07:27:07.3±3.0, 41°.74N×128°.46E, h0km, mb1 2.8/2, mb1mx2.7/51, mbtmp2.8/2, ML2.1/2, Error ellipse: s-maj=47.5km s-min=14.9km az=116.0, North Korea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I45RU	USSURIYSK INFR	3.57	45	i		07 50 40.0	
	baz=225,slow=322,SNR=3.6						
USRK	Ussuriysk Ar.	3.57	45	Pn	Pn	07 28 03.8	-0.1
	baz=224,slow=14,SNR=10						
USRK				Pg	Pb	07 28 11.8	+0.5
	baz=232,slow=14,SNR=13						
USRK				Lg	Lg	07 29 00.8	
	baz=223,slow=28,SNR=6.9						
KSRS	Korea Array	4.30	186	Pn	Pn	07 28 16.1	+2.2
	0.3nm,0.3s,baz=9.1,slow=13,SNR=2.3						
KSRS				Pg	Pb	07 28 24.9	+1.3
	0.7nm,0.3s,baz=6.1,slow=18,SNR=5.2						
KSRS				Lg	Lg	07 29 23.5	
	1.0nm,0.3s,baz=359,slow=30,SNR=5.7						

ISK 08 07:29:57.8, 37°.05N×32°.25E, h6km, ML2.8/21
DDA 08 07:29:58.4, 37°.09N×32°.23E, h7km±2km, ML2.4
ISC 08 07:29:58.4±1.0, 37°.06N±0°.02×32°.24E±0°.02, h9km±10km, n38, σ0^{s}47/59, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SEYD	Seydisehir-KON	0.47	317	PG	Pg	07 30 07.9	+0.3
SEYD				SG	Sg	07 30 14.4	+0.5
KEPZ	Antalya-Kepez	0.53	253	i P	Pb	07 30 09.5	-0.4
KEPZ				i S	Sb	07 30 16.7	-1.0
KEPZ				IAML		07 30 18.0	
	comp=N,248nm,0.7s						
KEPZ				IAML		07 30 18.0	
	comp=E,303nm,0.6s						
SEDI	Konya, Seydise	0.55	316	i P	Pg	07 30 09.3	+0.2
SEDI				i S	Sg	07 30 16.5	+0.1
SEDI				IAML		07 30 20.0	
	comp=N,199nm,0.4s						
SEDI				IAML		07 30 20.0	
	comp=E,272nm,0.7s						
KKBE	Karaman, Kazim	0.58	74	i P	Pg	07 30 09.9	+0.2
KKBE				i S	Sb	07 30 18.1	-1.1
KKBE				IAML		07 30 19.0	
	comp=E,244nm,0.2s						
KKBE				IAML		07 30 20.0	
	comp=N,189nm,0.2s						
ERMK	Ermenek	0.68	127	i P	Pg	07 30 11.8	+0.2
ERMK				i S	Sb	07 30 22.6	+0.5
ERMK				IAML		07 30 24.0	
	comp=N,306nm,0.3s						
ERMK				IAML		07 30 25.0	
	comp=E,279nm,0.2s						
KMER	Konya-Meram	0.72	8	i P	Pb	07 30 12.5	-0.6
KMER				i S	Sg	07 30 21.6	0.0
KMER				IAML		07 30 24.0	
	comp=N,265nm,0.3s						
KMER				IAML		07 30 25.0	
	comp=E,203nm,0.3s						
GAZI	Gazipasa	0.82	176	i P	Pb	07 30 14.9	0.0
GAZI				i S	Sb	07 30 25.8	-0.3
GAZI				IAML		07 30 28.0	
	comp=N,218nm,0.3s						
GAZI				IAML		07 30 28.0	
	comp=E,229nm,0.2s						
GAZI	Gazipasa	0.82	176	PG	Pg	07 30 14.4	+0.1
GAZI				SG	Sb	07 30 25.7	-0.3
KRMN	Karaman	0.83	82	PG	Pb	07 30 14.6	-0.4
KRMN				SG	Sb	07 30 26.0	-0.2
KONT	Konya--Tatoy	0.89	6	i P	Pb	07 30 15.9	-0.1
KONT				i S	Sb	07 30 27.2	-0.8
KONT	Konya--Tatoy	0.89	6	PG	Pb	07 30 15.9	-0.1
KONT				SG	Sb	07 30 28.5	+0.5
BERE	Bereket-Mersin	1.06	132	PG	Pg	07 30 18.4	-0.4
BERE				SG	Sg	07 30 32.9	+0.2
BOZY	Bozyazi-Mersin	1.12	148	PN	Pg	07 30 19.5	-0.4
DOGA	KONYA_Doganhis	1.14	337	i P	Pb	07 30 20.1	-0.2
DOGA				i S	Sb	07 30 35.3	0.0
DOGA				IAML		07 30 39.0	
	comp=N,137nm,0.4s						
DOGA				IAML		07 30 39.0	
	comp=E,141nm,0.3s						
LADK	Ladik-KONYA	1.14	5	PN	Pb	07 30 20.1	-0.3
LADK				SN	Sn	07 30 36.6	+0.1
TEVE	Tevekalti-Mers	1.15	122	PN	Pg	07 30 20.1	-0.4
TEVE				SN	Sn	07 30 36.4	-0.2
TEKE	Tekeli-Mersin	1.15	142	PN	Pg	07 30 19.9	-0.7
YORU	Yoruktepe-Mers	1.30	134	PN	Pn	07 30 22.8	+0.1
KEBE	Keben-Mersin	1.33	117	PN	Pn	07 30 23.2	0.0
KEBE				SN	Sn	07 30 42.2	+1.2
GULN	MERSIN_Gulnar	1.36	129	i P	Pb	07 30 24.0	-0.1
GULN				i S	Sb	07 30 41.0	-0.6
GULN				IAML		07 30 48.0	
	comp=N,40nm,0.3s						
GULN				IAML		07 30 48.0	
	comp=E,57nm,0.4s						
AKKU	Akkuyu-Mersin	1.39	130	PN	Pn	07 30 23.9	0.0
AKK2	Akkuyu-Mersin	1.40	131	PN	Pn	07 30 24.4	+0.4
YESY	Yesilyurt	1.40	58	PN	Pb	07 30 24.5	-0.2
YESI	Yesilovacik-Me	1.42	127	PN	Pn	07 30 24.6	+0.3
IKL	Isikli	1.42	125	PN	Pn	07 30 24.6	+0.3
YVAC	Isparta, Yalva	1.45	327	i P	Pn	07 30 24.9	0.0
YVAC				i S	Sg	07 30 44.9	0.0
YVAC				IAML		07 30 48.0	
	comp=E,25nm,0.6s						
YVAC				IAML		07 30 48.0	
	comp=N,28nm,0.5s						
KDHN	Kadinhani	1.46	356	i P	Pb	07 30 25.7	-0.1
KDHN				i S	Sg	07 30 45.6	+0.1
KDHN				IAML		07 30 48.0	
	comp=N,30nm,0.4s						
KDHN				IAML		07 30 49.0	
	comp=E,37nm,0.6s						
TISA	Tisan-Mersin	1.46	127	PN	Pn	07 30 25.3	+0.4
KORT	Korkueli	1.51	268	PN	Pb	07 30 26.5	-0.2
SULT	Sultanhani-AKS	1.52	41	PN	Pb	07 30 26.4	-0.5
KERG	Konya-Eregli	1.55	76	i P	Pb	07 30 26.8	-0.5
KERG				i S	Sg	07 30 48.0	-0.2
KERG				IAML		07 30 49.0	
	comp=E,68nm,0.3s						
KERG				IAML		07 30 50.0	
	comp=N,120nm,0.6s						
KIZK	Mersin	1.64	110	i P	Pn	07 30 27.9	+0.6
KIZK				i S	Sb	07 30 49.4	0.0
KIZK				IAML		07 30 57.0	
	comp=E,28nm,0.2s						
KIZK				IAML		07 30 57.0	
	comp=N,42nm,0.3s						
KIZK	Mersin	1.64	110	PN	Pn	07 30 27.7	+0.4
MERS	Mersin	1.84	95	PN	Pn	07 30 30.8	+0.6
KIZT	Kizilcal	1.84	351	PN	Pb	07 30 31.2	-1.1
EREN	Erenkoy	2.18	134	PN	Pn	07 30 35.5	+0.7
CSS	Mathiatis	2.27	157	PN	Pn	07 30 36.5	+0.4
CMRD	Camardi-Nigde	2.27	74	PN	Pn	07 30 36.9	+0.7

IDC 08 07:30:02.5±2.6, 53°.70N×86°.82E, h0km, mb1 3.0/2, mb1mx2.9/47, mbtmp3.0/2, ML2.7/2, 4C-1D, Error ellipse: s-maj=23.4km s-min=14.0km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.21	283	i		07 37 40.0	
	baz=101,slow=324,SNR=1.8						
ZALV	Zalesovo Beam	1.21	282	Pg	Pg	07 30 24.2	-1.5
	1.9nm,0.3s,baz=102,slow=19,SNR=8.2						
ZALV				Lg	Lg	07 30 42.1	
	2.6nm,0.3s,baz=99,slow=29,SNR=11						
KURBB	Kurchatov Arra	5.96	242	Pn	Pn	07 31 34.2	+2.3
	0.1nm,0.3s,baz=57,slow=13,SNR=4.6						
KURBB				Lg	Lg	07 33 08.7	
	0.1nm,0.3s,baz=60,slow=32,SNR=1.4						
KURBB	Kurchatov Arra	5.96	242	⇑Pn	Pn	07 31 33.4	+1.6
	1.2nm,0.6s						
KURBB				⇑Sn	Sn	07 32 40.6	-0.2
	1.9nm,0.7s						
KURBB				⇓Lg	Lg	07 33 12.6	
	3.0nm,0.6s						
MK31	Makanchi Array	7.50	205	Pn	Pn	07 31 53.9	+0.8
	0.1nm,0.3s,baz=22,slow=12,SNR=11						
MK31				⇑Sn	Sn	07 33 19.8	+1.0
	0.3nm,0.5s						
MK31				⇑Lg	Lg	07 34 00.3	
	0.2nm,0.5s,baz=21,slow=30						
MKAR	Makanchi Array	7.50	205	Pn	Pn	07 31 53.8	+0.7
	0.2nm,0.3s,baz=25,slow=12,SNR=7.1						
MKAR				Lg	Lg	07 33 59.4	
	0.0nm,0.3s,baz=29,slow=33,SNR=2.3						

IDC 08 07:32:25.0±2.0, 33°.09S×178°.49W, h0km, mb4.2/3, mb1 4.4/4, mb1mx3.9/31, mbtmp4.2/4, ML3.9/1, Error ellipse: s-maj=46.9km s-min=34.4km az=60.0
WEL 08 07:32:25.7±1.0, 33°S±10°×17°8W±2°4, h33km, M4.3/7, mB4.6/4, ML4.6/11, MLv4.4/7, Mw(mB)3.8/4, Error ellipse: s-maj=0.0km s-min=0.0km az=110.4
NEIC 08 07:32:26.9±0.7, 33°.3S±0°.1×178°.4W±0°.2, h10km±8km, mb4.4/9, Error ellipse: s-maj=25.8km s-min=20.0km az=75.0
ISC 08 07:32:25.4±1.2, 33°.15S±0°.07×178°.3W±0°.2, h10km, n39, σ1^{s}39/47, mb4.3/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.89	5	P	Pn	07 33 22.4	-2.8
GLKZ				S	Sn	07 34 06.9	-4.1
MXZ	Matakaoa Point	5.19	211	S	Sn	07 34 42.1	-0.8
WMGZ	Waiomatatini S	5.36	209	P	Pn	07 33 44.3	-1.1
WMGZ				S	Sn	07 34 48.9	+1.7
PKGZ	Pakihiroa	5.56	211	P	Pn	07 33 46.6	-1.6
PKGZ				S	Sn	07 34 51.2	-1.0
HAZ	Te Kaha	5.58	214	P	Pn	07 33 48.6	+0.2
HAZ				S	Sn	07 34 54.5	+1.9
PUZ	Puketiti	5.64	209	P	Pn	07 33 46.8	-2.5
PUZ				S	Sn	07 34 53.3	-0.8
RUGZ	Raukumara Rang	5.80	213	P	Pn	07 33 50.8	-0.7
RUGZ				S	Sn	07 34 56.8	-1.4
TWGZ	Tauwhareparae	5.84	210	P	Pn	07 33 50.8	-1.3
TWGZ				S	Sn	07 34 59.1	-0.1
CNGZ	Carnagh Statio	6.02	207	P	Pn	07 33 53.5	-0.9
TKGZ	Te Karaka	6.12	209	P	Pn	07 33 54.2	-1.6
TKGZ				S	Sn	07 35 03.4	-2.5
MWZ	Matawai	6.17	212	P	Pn	07 33 55.7	-0.9
MWZ				S	Sn	07 35 05.5	-1.7
URZ	Urewera	6.30	215	Pn	Pn	07 33 58.5	+0.2
	2.8nm,0.3s,baz=301,slow=23,SNR=13						
URZ				Sn	Sn	07 35 08.6	-1.8
	2.6nm,0.3s,baz=138,slow=22,SNR=4.0						
URZ	Urewera	6.30	215		Pn	07 33 58.3	-0.1
RAGZ	Rawiri	6.35	212	P	Pn	07 33 57.5	-1.6
RAGZ				S	Sn	07 35 10.3	-1.4
RIGZ	Rimuhau	6.38	209	P	Pn	07 33 59.6	+0.1
RIGZ				S	Sn	07 35 10.1	-2.4
MUGZ	Murupara	6.64	215	P	Pn	07 34 03.1	+0.2
MUGZ				S	Sn	07 35 17.0	-1.7
OUZ	Omahuta	7.00	251	Pn	Pn	07 34 07.8	-0.1
BKZ	Black Stump Fm	7.32	213	Pn	Pn	07 34 11.8	-0.5
TUWZ	Tuamarina	10.30	214	Pn	Pn	07 34 52.9	-0.3
BSWZ	Blackbirch Sta	10.55	214	Pn	Pn	07 34 55.9	-0.7
CTAO	Charters Tower	34.06	283	P	P	07 39 11.2	+1.2
CTAO				IAmb	IAmb	07 39 14.9	
	comp=Z,5.1nm,1.1s						
AS31	Alice Springs	42.75	270	P	P	07 40 23.3	+0.1
ASAR	Alice Springs	42.75	270	P	P	07 40 23.2	+0.1
	comp=Z,4.1nm,0.8s,baz=107,slow=7.4,SNR=32						
ASAR	Alice Springs	42.75	270	P	P	07 40 22.9	-0.3
WR0	Warramunga Arr	43.81	275	P	P	07 40 31.2	-0.5
WR0				IAmb	IAmb	07 40 54.1	
	comp=Z,7.1nm,1.3s						
WB2	Warramunga Arr	43.98	275	P	P	07 40 32.7	-0.3
WB2				IAmb	IAmb	07 40 34.6	
	comp=Z,5.8nm,1.1s						
WRAB	Tennant Creek	43.98	275	P	P	07 40 34.0	+0.9
WRA	Warramunga Arr	43.99	275	P	P	07 40 33.0	-0.1
	comp=Z,3.0nm,0.9s,baz=119,slow=7.5,SNR=18						
WRA	Warramunga Arr	43.99	275	P	P	07 40 33.0	-0.1
FORT	Forrest	45.13	258	P	P	07 40 41.9	-0.2
FITZ	Fitzroy Crossi	52.13	272	P	P	07 41 36.0	0.0
FITZ				IAmb	IAmb	07 41 56.9	
	comp=Z,4.4nm,1.2s						
QSPA	South Pole Qui	56.97	180	P	P	07 42 12.7	+1.9
	comp=Z,2.9nm,1.1s,baz=210,slow=0.1,SNR=5.5						
QSPA	South Pole Qui	56.97	180	P	P	07 42 11.8	+1.1
QSPA				IAmb	IAmb	07 42 26.0	
	comp=Z,8.5nm,1.2s						
SNAA	Sanae	75.42	179	P	P	07 44 19.7	+11
VNA3	Neumayer Olymp	75.59	176	P	P	07 44 21.6	+12
VNA2	Neumayer--Watz	76.02	177	P	P	07 44 24.1	+12
	baz=173,slow=5.0						
VNA1	Neumayer--Stat	76.25	177	P	P	07 44 25.6	+12
FINES	FINESS Array B	147.61	338	PKPbc	PKPdf	07 52 09.1	+2.7
	comp=Z,3.9nm,0.8s,baz=62,slow=4.5,SNR=6.2						
FINES	FINESS Array B	147.61	338		PKPdf	07 52 06.8	+0.3

IDC 08 07:47:47.0±1.9, 33°.09S×178°.68W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/25, mbtmp4.0/4, ML3.7/1, Error ellipse: s-maj=43.0km s-min=32.9km az=86.0
WEL 08 07:47:48.0±0.9, 33°S±15°×17°9W±3°8, h33km, M4.2/6, mB4.6/3, ML4.6/8, MLv4.3/6, Mw(mB)3.7/3, Error ellipse: s-maj=0.1km s-min=0.0km az=110.7
ISC 08 07:47:47.1±1.4, 33°.0S±0°.1×178°.7W±0°.2, h10km, n17, σ1^{s}76/28, mb3.7/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.78	11	S	Sn	07 49 25.3	-4.7
MXZ	Matakaoa Point	5.16	207	P	Pn	07 49 02.5	-1.9
MXZ				S	Sn	07 50 04.7	+0.6
WMGZ	Waiomatatini S	5.35	205	P	Pn	07 49 06.0	-1.1
WMGZ				S	Sn	07 50 08.2	-0.5
PKGZ	Pakihiroa	5.54	207	P	Pn	07 49 08.1	-1.6
PKGZ				S	Sn	07 50 12.3	-1.1
TKGZ	Te Karaka	6.11	206	P	Pn	07 49 16.9	-0.5
TKGZ				S	Sn	07 50 26.1	-1.2
URZ	Urewera	6.25	212	Pn	Pn	07 49 17.9	-1.5
	1.7nm,0.3s,baz=224,slow=2.3,SNR=22						
URZ				Sn	Sn	07 50 30.3	-0.6
	2.4nm,0.3s,baz=120,slow=23,SNR=2.4						
RAGZ	Rawiri	6.32	209	P	Pn	07 49 21.7	+1.2
RAGZ				S	Sn	07 50 33.0	+0.2
RIGZ	Rimuhau	6.37	205	P	Pn	07 49 20.2	-0.9
RIGZ				S	Sn	07 50 33.1	-0.9
PRGZ	Paritu Road	6.52	204	S	Sn	07 50 35.9	-1.8
MUGZ	Murupara	6.58	212	P	Pn	07 49 20.5	-3.5
MUGZ				S	Sn	07 50 36.8	-2.3
SNGZ	Shannon Statio	6.60	208	P	Pn	07 49 23.6	-0.6
SNGZ				S	Sn	07 50 37.2	-2.3
MTHZ	Maungataniwha	6.86	210	P	Pn	07 49 28.5	+0.7
MTHZ				S	Sn	07 50 45.5	-0.5
NMHZ	Naumai	7.08	209	P	Pn	07 49 31.6	+0.6
NMHZ				S	Sn	07 50 50.6	-0.9
ASAR	Alice Springs	42.41	270	P	P	07 55 44.4	+2.2
	1.1nm,0.7s,baz=110,slow=7.7,SNR=12						
WRA	Warramunga Arr	43.64	275	P	P	07 55 53.9	+1.8
	0.6nm,0.4s,baz=115,slow=7.6,SNR=15						
QSPA	South Pole Qui	57.13	180	P	P	07 57 35.2	+1.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	4.3nm,1.2s,baz=330,slow=2.0,SNR=3.2						
FINES	**FINESS Array B**	**147.33**	**338**	PKPbc	**PKPbc**	**08 07 30.5**	**+0.3**
	2.0nm,0.8s,baz=60,slow=4.6,SNR=6.5						

IDC **08** *08:03:52.5±0.4, 14°.61N×93°.81W, h0km, mb4.9/31, mb1 5.0/35, mb1mx5.0/40, mbtmp4.9/35, ML4.2/4, MS5.3/39, Ms1 5.4/39, ms1mx5.2/57, Error ellipse: s-maj=15.3km s-min=9.5km az=54.0*

MOS **08** *08:03:53.7±1.0, 14°.66N×93°.91W, h10km, mb5.7/95, MS5.5/28, Error ellipse: s-maj=6.2km s-min=3.8km az=99.9*

NEIC **08** *08:03:53.5, 14°.34N×94°.14W, h9km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; Mrr3.79; Mθθ-2.51; Mφφ-1.27; Mrθ2.36; Mθφ1.46; Mφr-0.70; Fault plane solution: M0 4.40000×10^{17} NP1:φs114.63000°, δ62.04000°, λ82.30000°. NP2:φs310.72000°, δ28.92000°, λ104.17000°. Principal axes: T 4.5790, Plg72.0000°, Azm7.0000°; N -0.3931, Plg7.0000°, Azm118.0000°; P -4.1859, Plg17.0000°, Azm210.0000°;*

MEX **08** *08:03:53.5±2.2, 14°.34N×94°.14W, h5km, MD5.6*

NEIC **08** *08:03:54.8, 14°.65N×93°.90W, h9km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; Mrr3.24; Mθθ-1.81; Mφφ-1.43; Mrθ3.01; Mθφ1.30; Mφr-1.40; Fault plane solution: M0 4.53000×10^{17} NP1:φs119.68000°, δ68.68000°, λ82.85000°. NP2:φs318.71000°, δ22.44000°, λ107.68000°. Principal axes: T 4.7277, Plg66.0000°, Azm17.0000°; N -0.4148, Plg7.0000°, Azm122.0000°; P -4.3130, Plg23.0000°, Azm215.0000°;*

NEIC **08** *08:03:55.1±1.9, 14°.61N±0°.05×93°.91W±0°.04, h8km±1km Error ellipse: s-maj=8.0km s-min=5.8km az=157.0*

SNET **08** *08:03:55.5±1.1, 13°.68N×94°.06W, h34km±999km, ML5.4*

UCR **08** *08:03:56.2±1.6, 14°.90N×93°.59W, h0km±401km, ML4.8, mb5.7(NEIC)*

GCMT **08** *08:03:57.5±0.1, 14°.66N±0°.01×94°.20W±0°.01, h12km, MW5.8/147, Moment Tensor Solution. s137,c252; s147,c331; Duration: 1s9 Moment tensor: Scale 10^{17} Nm; Mrr3.54±.03; Mθθ-2.05±.03; Mφφ-1.49±.03; Mrθ3.07±.09; Mθφ1.47±.03; Mφr-3.85±.10; Best double couple: M0 5.98200×10^{17} NP1:φs303.00000°, δ18.00000°, λ74.00000°. NP2:φs139.00000°, δ73.00000°, λ95.00000°. Principal axes: T 6.1620, Plg62.0000°, Azm57.0000°; N -0.3590, Plg5.0000°, Azm318.0000°; P -5.8030, Plg28.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC **08** *08:03:58, 14°.64N×94°.18W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; Mrr3.65; Mθθ-2.17; Mφφ-1.48; Mrθ3.78; Mθφ1.58; Mφr-3.70; Fault plane solution: M0 6.37000×10^{17} NP1:φs305.00000°, δ17.00000°, λ82.00000°. NP2:φs133.00000°, δ73.00000°, λ92.00000°. Principal axes: T 6.4820, Plg62.0000°, Azm47.0000°; N -0.2287, Plg2.0000°, Azm313.0000°; P -6.2533, Plg28.0000°, Azm221.0000°;*

NEIC **08** *08:04:01, 14°.57N×94°.09W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; Mrr3.12; Mθθ-1.78; Mφφ-1.35; Mrθ2.27; Mθφ1.35; Mφr-2.22; Fault plane solution: M0 4.39000×10^{17} NP1:φs308.00000°, δ22.00000°, λ85.00000°. NP2:φs133.00000°, δ68.00000°, λ92.00000°. Principal axes: T 4.4886, Plg67.0000°, Azm47.0000°; N -0.1985, Plg2.0000°, Azm313.0000°; P -4.2900, Plg23.0000°, Azm222.0000°;*

BGR **08** *08:04:07.3±0.0, 15°.00N×93°.12W, h33km, mb6.1, mB_BB6.5, Ms5.8*

ISC 08 08:03:53.5±0.8**, 14°.56N**±0°.03×**94°.04W**±0°.03**, h3**km±4km**, n1802,** σ**1s62**/1717**, mb5.5**/388**, MS5.6**/219**, 111C-43D, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.39**	**35**	⇑eP	**Pn**	**08 04 18.4**	**-1.3**
PCIG				eS	**Sn**	**08 04 39.0**	**+0.5**
PCIG		**1.39**	**35**		**Pn**	**08 04 18.4**	**-1.3**
PCIG					**Sn**	**08 04 39.0**	**+0.5**
THIG		**1.75**	**78**	⇑iP	Pn	08 04 23.1	-1.6
THIG				i S	**Sn**	**08 04 45.8**	**-1.8**
THIG		**1.75**	**78**		Pn	08 04 23.1	-1.6
THIG					**Sn**	**08 04 45.8**	**-1.8**
RTAL	**Retalhuleu**	**2.27**	**91**	Pn	Pn	08 04 31.0	-1.0
TGIG		**2.38**	**22**	⇑eP	**Pn**	**08 04 33.9**	**+0.5**
TGIG				eS	**Sn**	**08 05 04.4**	**+1.3**
TGIG		**2.38**	**22**		**Pn**	**08 04 33.9**	**+0.5**
TGIG					**Sn**	**08 05 04.4**	**+1.3**
TGBT	**Tuxtla Gutierr**	**2.39**	**22**	⇑eP	**Pn**	**08 04 34.5**	**+1.0**
TGBT				i S	**Sn**	**08 05 05.9**	**+2.6**
TGBT	**Tuxtla Gutierr**	**2.39**	**22**		**Pn**	**08 04 34.5**	**+1.0**
CCIG	**Comitan**	**2.51**	**47**	⇑eP	**Pn**	**08 04 36.4**	**+1.0**
CCIG				⇓iS	**Sn**	**08 05 12.3**	**+5.7**
CCIG	**Comitan**	**2.51**	**47**		**Pn**	**08 04 36.6**	**+1.2**
CCIG	**Comitan**	**2.51**	**47**		**Sn**	**08 05 12.3**	**+5.7**
HUEH	**Huehuetenango**	**2.57**	**73**		**Pn**	**08 04 36.4**	**+0.2**
PANG	**Puerto Angel**	**2.59**	**295**	i P	**Pn**	**08 04 35.5**	**-0.8**
PANG				i S	**Sn**	**08 05 01.9**	**-6.4**
CMIG	**Matias Romero**	**2.64**	**342**	Pn	**Pn**	**08 04 36.4**	**-0.5**
	74nm,0.3s,baz=179,slow=14,SNR=526						
CMIG				Sn	**Sn**	**08 05 08.5**	**-1.1**
	153nm,0.3s,baz=139,slow=17,SNR=7.9						
CMIG				LR	LR	08 05 19.1	
	comp=Z,27μm,20.9s,baz=190,slow=32						
CMIG	**Matias Romero**	**2.64**	**342**	⇑eP	**Pn**	**08 04 36.5**	**-0.5**
CMIG				⇓eS	**Sn**	**08 05 09.9**	**+0.3**
CMIG	**Matias Romero**	**2.64**	**342**		**Pn**	**08 04 36.5**	**-0.5**
CMIG					**Sn**	**08 05 09.9**	**+0.3**
PEIG	**Puerto Escondi**	**3.32**	**296**	eP	**Pn**	**08 04 44.9**	**-1.5**
PEIG				i S	**Sn**	**08 05 19.8**	**-6.5**
TUIG	**Tuzandepetl**	**3.47**	**354**	⇑eP	**Pn**	**08 04 48.7**	**+0.3**
TUIG	**Tuzandepetl**	**3.47**	**354**		**Pn**	**08 04 48.7**	**+0.3**
OXBJ	**Oaxaca**	**3.59**	**314**	eP	**Pn**	**08 04 53.4**	**+3.2**
OXBJ				i S	**Sn**	**08 05 28.9**	**-4.3**
VHO	**Vista Hermosa**	**3.60**	**314**	eP	**Pn**	**08 04 51.4**	**+1.1**
YOIG	**Yosondua**	**4.07**	**305**	eP	**Pn**	**08 04 58.1**	**+1.1**
SLOZ	**Alcaldia de Sa**	**4.16**	**97**	eP	Pn	08 04 57.6	-0.4
PNIG	**Pinotepa**	**4.34**	**295**	i P	**Pn**	**08 05 00.1**	**-0.3**
PNIG	**Pinotepa**	**4.34**	**295**		**Pn**	**08 05 00.1**	**-0.3**
CEVE	**Cerro Verde**	**4.35**	**99**	eP	Pn	08 04 59.5	-1.2
CEVE				eS	**Sn**	**08 05 50.6**	**-1.4**
CEVE				IAML		08 06 17.9	
	comp=Z,4μm,0.7s						
CEVE	**Cerro Verde**	**4.35**	**99**	eP	Pn	08 04 59.5	-1.2
CEVE				eS	**Sn**	**08 05 50.6**	**-1.4**
CEVE				IAML		08 06 17.9	
	comp=Z,4μm,0.7s						
MTO3	**Montecristo**	**4.54**	**91**	Pn	Pn	08 05 02.7	-0.6
ESQI	**Esquipulas**	**4.55**	**89**	Pn	Pn	08 05 03.1	-0.3
PETF	**Flores**	**4.65**	**59**	Pn	**Pn**	**08 05 04.7**	**0.0**
LALI	**Alcalda de L**	**4.71**	**103**	eP	Pn	08 05 03.9	-1.4
LALI	**Alcalda de L**	**4.71**	**103**	eP	Pn	08 05 03.9	-1.4
SNET	**Serv Nac Est T**	**4.75**	**100**	Pn	Pn	08 05 05.1	-0.9
HLIG	**Huajuapan de L**	**4.86**	**312**	eP	**Pn**	**08 05 10.2**	**+2.5**
TPIG	**Tehuac#an**	**4.99**	**321**	eP	**Pn**	**08 05 10.8**	**+1.4**
TPIG	**Tehuac#an**	**4.99**	**321**		**Pn**	**08 05 10.8**	**+1.4**
PAVA	**Las Pavas**	**5.02**	**99**	eP	Pn	08 05 08.5	-1.4
PAVA	**Las Pavas**	**5.02**	**99**	eP	Pn	08 05 08.5	-1.4
COEG	**Centro de Oper**	**5.09**	**100**	eP	Pn	08 05 10.1	-0.8
COEG	**Centro de Oper**	**5.09**	**100**	eP	Pn	08 05 10.1	-0.8
MGIG	**Malinaltepec**	**5.16**	**302**	i P	**Pn**	**08 05 13.5**	**+1.7**
TECO	**Alcaldia de Te**	**5.21**	**101**	eP	Pn	08 05 11.0	-1.3
TLIG	**Tlapa**	**5.28**	**305**	eP	**Pn**	**08 05 15.7**	**+2.4**
TLIG	**Tlapa**	**5.28**	**305**	Pn	**Pn**	**08 05 15.1**	**+1.7**
ALJI	**Alcalda de J**	**5.45**	**102**	eP	Pn	08 05 13.3	-2.4
ALJI				eS	Sn	08 06 14.0	-4.9
ALJI	**Alcalda de J**	**5.45**	**102**	eP	Pn	08 05 13.3	-2.4
ALJI				eS	Sn	08 06 14.0	-4.9
COEB	**Comit de Eme**	**5.45**	**101**	eP	Pn	08 05 14.5	-1.3
COEB	**Comit de Eme**	**5.45**	**101**	eP	Pn	08 05 14.5	-1.3
LVIG	**Laguna Verde**	**5.61**	**336**	⇓eP	**Pn**	**08 05 18.6**	**+0.7**
LVIG	**Laguna Verde**	**5.61**	**336**		**Pn**	**08 05 18.6**	**+0.7**
PLIG	**Platanillo**	**6.48**	**307**	eP	**Pn**	**08 05 31.7**	**+1.8**
PLIG				i S	Sb	08 06 52.6	-12
PLIG	**Platanillo**	**6.48**	**307**		**Pn**	**08 05 31.7**	**+1.8**
PLIG					Sb	08 06 52.6	-12
TGUH	**Tegucigalpa,Un**	**6.58**	**94**	Pn	Pn	08 05 30.6	-0.7
TGUH	**Tegucigalpa,Un**	**6.58**	**94**	⇑P	Pn	08 05 29.8	-1.5
MAVM	**Malinalco, Edo**	**6.81**	**311**	eP	**Pn**	**08 05 38.4**	**+3.9**
UNM	**Universidad Na**	**6.83**	**315**	P	**Pn**	**08 05 37.1**	**+2.3**
UNM	**Universidad Na**	**6.83**	**315**	Pn	**Pn**	**08 05 37.1**	**+2.3**
UNM	**Universidad Na**	**6.83**	**315**	⇑P	Pn	08 05 39.8	+5.0
PBVM	**Pinon**	**6.84**	**316**	eP	**Pn**	**08 05 33.2**	**-1.5**
CVM	**Colonia del Va**	**6.87**	**315**	eP	Pn	08 05 43.2	+8.2
PTVM	**Pico Tres Padr**	**6.97**	**317**	eP	Pn	08 05 41.8	+5.1
CRIN	**San Cristobal**	**7.04**	**104**	Pn	Pn	08 05 36.9	-0.7
TOVM	**TOLUCA**	**7.15**	**312**	eP	**Pn**	**08 05 42.8**	**+3.5**
CNGN	**Cerro Negro**	**7.43**	**105**	Pn	Pn	08 05 41.2	-1.7
MASN	**Masaya**	**8.10**	**107**	Pn	Pn	08 05 51.0	-1.0
ACON	**Acoyapa**	**9.01**	**106**	eP	Pn	08 06 02.1	-2.4
ACON	**Acoyapa**	**9.01**	**106**	Pn	Pn	08 06 03.2	-1.3
HZTE	**Horizontes, Gu**	**9.09**	**114**		Pn	08 06 05.4	-0.2
SAJU	**San Juanillo,**	**9.29**	**118**	eP	**Pn**	**08 06 09.4**	**+1.1**
ORTG	**Ortega, Santa**	**9.36**	**115**	Pn	Pn	08 06 10.0	+0.5
DUNO	**Dulce Nombre,**	**9.46**	**117**	Pn	Pn	08 06 11.0	+0.2
INDI	**Punta indio, G**	**9.56**	**118**	eP	**Pn**	**08 06 13.3**	**+1.2**
JTS	**Las Juntas de**	**9.84**	**115**	Pn	Pn	08 06 14.8	-1.1
	comp=Z,2.7nm,0.3s,baz=9.6,slow=22,SNR=17						
JTS	**Las Juntas de**	**9.84**	**115**	c iP	**Pn**	**08 06 16.8**	**+0.8**
JTS	**Las Juntas de**	**9.84**	**115**	eP	Pn	08 06 16.2	+0.3
JTS	**Las Juntas de**	**9.84**	**115**	Pn	**Pn**	**08 06 16.6**	**+0.7**
JTS	**Las Juntas de**	**9.84**	**115**	⇑iP	**Pn**	**08 06 16.7**	**+0.8**
JTS	**Las Juntas de**	**9.84**	**115**	⇑P	**Pn**	**08 06 17.2**	**+1.2**
ARE1	**Arenal 1**	**9.97**	**113**	eP	**Pn**	**08 06 18.7**	**+0.9**
CAO2	**Cobano, Puntar**	**9.99**	**118**	Pn	Pn	08 06 17.1	-0.9
LAFE	**Finca La Fe, P**	**10.10**	**117**	eP	**Pn**	**08 06 20.2**	**+0.7**
COVE	**Coope Vega, Sa**	**10.15**	**111**	eP	Pn	08 06 18.9	-1.3
COVE	**Coope Vega, Sa**	**10.15**	**111**	Pn	Pn	08 06 19.0	-1.2
COIG	**Colima**	**10.31**	**298**	eP	**Pn**	**08 06 25.8**	**+3.3**
SRA1	**San Ramn**	**10.35**	**114**	eP	**Pn**	**08 06 23.9**	**+0.9**
EZ5V		**10.37**	**299**	eP	Pn	08 06 28.2	+4.8
EZ5V		**10.37**	**299**		Pn	08 06 28.2	+4.8
R15V		**10.56**	**297**	eP	**Pn**	**08 06 30.1**	**+4.3**
R15V		**10.56**	**297**		**Pn**	**08 06 30.1**	**+4.3**
HDC	**Heredia**	**10.71**	**114**	eP	Pn	08 06 28.1	+0.1
HDC	**Heredia**	**10.71**	**114**		Pn	08 06 28.1	+0.1
HDC	**Heredia**	**10.71**	**114**	⇑P	Pn	08 06 27.6	-0.4
LCR2	**La Lucha 2**	**10.92**	**115**	eP	Pn	08 06 29.6	-1.3
CVTR	**Volcan Turrial**	**11.01**	**113**	Pn	Pn	08 06 32.2	-0.2
RIMA	**Rio Macho**	**11.03**	**114**	eP	**Pn**	**08 06 33.7**	**+1.3**
RIMA	**Rio Macho**	**11.03**	**114**		Pn	08 06 32.5	+0.1
BATAN	**Batan**	**11.32**	**112**	Pn	Pn	08 06 36.6	+0.3
PEZE	**Perez Zeledon,**	**11.37**	**116**		Pn	08 06 37.3	+0.3
ZAIG	**Zacatecas**	**11.48**	**317**		**Pn**	**08 06 39.0**	**+0.3**
SRBA	**San Rafael, Bu**	**11.72**	**116**	Pn	Pn	08 06 42.2	+0.4
EDPN	**Palmar Norte**	**11.76**	**117**	eP	Pn	08 06 42.4	+0.1
EDBA	**Buenos Aires**	**11.82**	**116**	eP	**Pn**	**08 06 44.7**	**+1.6**
RIOS	**Rincon, Osa**	**11.84**	**118**	Pn	Pn	08 06 43.9	+0.5
PRVC	**Isla de Provid**	**12.36**	**94**	eP	**Pn**	**08 06 51.0**	**+0.5**
CDITO	**Canoas**	**12.45**	**117**	Pn	Pn	08 06 51.5	-0.2
FSCY	**Frank Sound, G**	**13.18**	**67**	Pn	Pn	08 07 00.5	-1.1
SOR	**Soroa**	**13.27**	**50**	P	Pn	08 07 00.3	-2.6
SOR	**Soroa**	**13.27**	**50**	Pn	Pn	08 07 00.3	-2.6
LCCY	**Blossom Villag**	**14.28**	**67**		Pn	08 07 14.6	-2.0
833A	**Chaparral WMA,**	**14.57**	**341**	P	**Pn**	**08 07 21.3**	**+0.6**
	baz=159,SNR=69						
CBCY	**The Bluff, Cay**	**14.59**	**67**	Pn	Pn	08 07 19.7	-1.2
735A	**Kenedy**	**14.65**	**347**		**Pn**	**08 07 21.1**	**-0.6**
PNME	**Penonome**	**14.73**	**113**	eP	Pn	08 07 21.6	-1.3
CACAO	**El Cacao, Vera**	**14.79**	**118**	eP	Pn	08 07 22.3	-1.4
BCIP	**Isla Barro Col**	**14.90**	**110**	eP	Pn	08 07 18.8	-6.4
AZU	**Azuero**	**15.08**	**115**	eP	**Pn**	**08 07 25.9**	**-1.7**
UPA	**Univ. de Panam**	**15.24**	**110**	⇑iP	Pn	08 07 27.2	-2.6
HKT	**Hockley**	**15.40**	**354**	i P	**Pn**	**08 07 30.9**	**-0.9**
HKT	**Hockley**	**15.40**	**354**	Pn	**Pn**	**08 07 31.7**	**0.0**
HKT				IAmb	IAmb	08 07 50.7	
	comp=Z,532nm,1.8s						
HKT	**Hockley**	**15.40**	**354**	⇑P	**Pn**	**08 07 31.1**	**-0.7**
PAYG	**Puerto Ayora**	**15.59**	**166**	P	**Pn**	**08 07 35.4**	**+1.1**
PAYG	**Puerto Ayora**	**15.59**	**166**	eP	**Pn**	**08 07 39.8**	**+5.4**
441A	**DeRidder**	**16.13**	**3**		**Pn**	**08 07 39.4**	**-1.9**
MTDJ	**Mount Denham**	**16.25**	**75**		**Pn**	**08 07 41.0**	**-1.9**
MTDJ				IAmb	IAmb	08 08 13.9	
	comp=Z,400nm,1.4s						
MTDJ	**Mount Denham**	**16.25**	**75**	eP	Pn	08 07 39.4	-3.6
MTDJ	**Mount Denham**	**16.25**	**75**	⇑P	Pn	08 07 39.3	-3.7
HPIG		**16.41**	**320**		**P**	**08 07 47.9**	**-0.1**
435B	**Jarrell**	**16.47**	**349**	P	**Pn**	**08 07 46.5**	**+0.9**
435B				IAmb	IAmb	08 08 02.6	
	comp=Z,345nm,1.1s						
435B	**Jarrell**	**16.47**	**349**	P	**Pn**	**08 07 44.4**	**-1.3**
	baz=167,SNR=15						
061Z	**Ochoppi**	**16.67**	**46**		**Pn**	**08 07 45.7**	**-2.5**
061Z				IAmb	IAmb	08 08 28.9	
	comp=Z,726nm,1.4s						
JCT	**Junction City**	**16.71**	**342**	⇑P	**Pn**	**08 07 48.7**	**0.0**
JCT	**Junction City**	**16.71**	**342**	P	**Pn**	**08 07 48.0**	**-0.7**
	baz=160,SNR=82						
UPD2	**Meteti**	**16.80**	**109**	eP	**Pn**	**08 07 48.5**	**-1.3**
342A	**Flagon Creek P**	**16.81**	**5**		**Pn**	**08 07 49.8**	**-0.1**
342A				IAmb	IAmb	08 08 19.1	
	comp=Z,698nm,1.8s						
344A	**Westbrook Farm**	**17.09**	**10**		**Pn**	**08 07 53.2**	**-0.2**
344A				IAmb	IAmb	08 08 06.1	
	comp=Z,687nm,1.5s						
NATX	**Nacogdoches**	**17.13**	**358**		**Pn**	**08 07 53.9**	**-0.1**
NATX	**Nacogdoches**	**17.13**	**358**	P	**Pn**	**08 07 51.6**	**-2.4**
	baz=178						
TXAR	**Lajitas Array**	**17.18**	**330**	P	**Pn**	**08 07 56.1**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=150,slow=10,SNR=68						
TXAR				LR	LR	08 15 14.1	
	comp=Z,8μm,21.7s,baz=0.0,slow=40						
TXAR	**Lajitas Array**	**17.18**	**330**	P	**Pn**	**08 07 56.3**	**+1.5**
TXAR	**Lajitas Array**	**17.18**	**330**		**Pn**	**08 07 56.2**	**+1.5**
TX31	**Lajitas Ar. Si**	**17.18**	**330**	P	**P**	**08 07 56.6**	**+0.1**
TX31	**Lajitas Ar. Si**	**17.18**	**330**	⇑P	**Pn**	**08 07 56.1**	**+1.4**
TX32	**Lajitas Array**	**17.18**	**330**		**P**	**08 07 56.6**	**+0.2**
TX32				IAmb	IAmb	08 08 14.4	
	comp=Z,531nm,1.8s						
346A	**Big Creek Wild**	**17.27**	**13**		**Pn**	**08 07 55.1**	**-0.5**
CAPC	**Capurgana**	**17.37**	**108**	eP	**Pn**	**08 07 56.3**	**-0.8**
237A	**Washetta, Mont**	**17.44**	**355**	P	**Pn**	**08 07 58.3**	**+0.5**
237A				IAmb	IAmb	08 08 10.8	
	comp=Z,589nm,1.6s						
SLBS	**Sierra La Lagu**	**17.54**	**304**	P	**P**	**08 08 02.4**	**+2.0**
SLBS	**Sierra La Lagu**	**17.54**	**304**	⇓P	**P**	**08 08 04.9**	**+4.5**
PTAC	**Punta Ardita,**	**17.55**	**113**	eP	**Pn**	**08 07 59.2**	**-0.2**
WHTX	**Lake Whitney,**	**17.63**	**350**	P	**Pn**	**08 08 00.1**	**0.0**
WHTX	**Lake Whitney,**	**17.63**	**350**	P	**Pn**	**08 07 59.6**	**-0.5**
	baz=169,SNR=27						
451A	**Vernon**	**17.71**	**24**	P	**Pn**	**08 08 00.2**	**-0.9**
BRAL	**Brewton**	**17.73**	**20**	P	**Pn**	**08 08 01.6**	**+0.2**
BRAL	**Brewton**	**17.73**	**20**	⇑P	**Pn**	**08 08 00.4**	**-1.1**
BRAL	**Brewton**	**17.73**	**20**	P	**Pn**	**08 08 00.6**	**-0.8**
	baz=202,SNR=23						
060A	**Indiantown**	**17.80**	**44**	P	**Pn**	**08 08 01.8**	**-0.5**
060A				IAmb	IAmb	08 08 28.4	
	comp=Z,910nm,1.5s						
DWPF	**Disney Wildern**	**17.86**	**39**	P	**Pn**	**08 08 02.3**	**-0.7**
DWPF	**Disney Wildern**	**17.86**	**39**	⇑P	Pn	08 07 57.0	-6.0
DWPF	**Disney Wildern**	**17.86**	**39**	P	**Pn**	**08 08 00.6**	**-2.5**
	baz=223						
VBMS	**Vicksburg**	**17.87**	**10**	P	**Pn**	**08 08 02.5**	**-0.6**
VBMS				IAmb	IAmb	08 08 21.9	
	comp=Z,789nm,1.7s						
VBMS	**Vicksburg**	**17.87**	**10**	P	**Pn**	**08 08 01.8**	**-1.3**
	baz=191,SNR=8.3						
LPIG	**La Paz**	**18.03**	**304**	P	**Pn**	**08 08 05.7**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=114,slow=18,SNR=1.2						
LPIG				LR	LR	08 14 18.9	
	comp=Z,6μm,18.0s,baz=117,slow=34						
656A	**Willston**	**18.17**	**34**	P	**Pn**	**08 08 05.4**	**-1.5**
656A				IAmb	IAmb	08 08 17.7	
	comp=Z,321nm,1.1s						
143A	**Socs Landing,**	**18.22**	**7**	P	**Pn**	**08 08 05.9**	**-1.6**
SOLC	**Bahia Solano**	**18.32**	**115**	eP	**P**	**08 08 10.8**	**+1.8**
146A	**Union**	**18.56**	**13**	P	**P**	**08 08 10.5**	**-1.0**
146A				IAmb	IAmb	08 09 03.3	
	comp=Z,759nm,1.7s						
Z38A	**Mt. Pleasant**	**18.64**	**358**	P	**P**	**08 08 12.5**	**+0.2**
Z38A				IAmb	IAmb	08 08 43.3	
	comp=Z,373nm,1.4s						
Z41A	**Richland Creek**	**18.65**	**3**	P	**P**	**08 08 11.6**	**-0.9**
	baz=183,SNR=14						
ABTX	**Abilene, Hawle**	**18.69**	**345**	P	**P**	**08 08 13.8**	**+0.9**
ABTX				IAmb	IAmb	08 08 28.2	
	comp=Z,238nm,1.0s						
ABTX	**Abilene, Hawle**	**18.69**	**345**	P	**P**	**08 08 13.3**	**+0.3**
	baz=162,SNR=47						
250A	**Grady**	**18.74**	**21**	P	**P**	**08 08 13.1**	**-0.3**
352A	**Blakely**	**18.80**	**25**	P	**P**	**08 08 13.2**	**-0.9**
352A				IAmb	IAmb	08 08 26.4	
	comp=Z,477nm,1.4s						
GTBY	**Guantanamo Bay**	**18.85**	**71**	P	**P**	**08 08 13.9**	**-0.8**
GTBY				IAmb	IAmb	08 08 56.4	
	comp=Z,772nm,1.9s						
GTBY	**Guantanamo Bay**	**18.85**	**71**	⇑iP	P	08 08 11.5	-3.2
GTBY	**Guantanamo Bay**	**18.85**	**71**	⇑P	**P**	**08 08 12.4**	**-2.3**
Z35A	**Perchaven, San**	**18.91**	**352**	P	**P**	**08 08 15.4**	**+0.1**
PIZC	**Pizarro, Choco**	**18.99**	**118**	eP	**P**	**08 08 18.5**	**+2.2**
SJCC	**San Jacinto, C**	**19.00**	**102**	P	**P**	**08 08 14.4**	**-2.2**
SJCC	**San Jacinto, C**	**19.00**	**102**	⇑iP	P	08 08 12.5	-4.1
DBBC	**Dabeiba**	**19.04**	**111**	eP	**P**	**08 08 17.5**	**+0.5**
WLAR	**White Oak Lake**	**19.06**	**2**	P	**P**	**08 08 16.6**	**-0.3**
WLAR				IAmb	IAmb	08 08 38.1	
	comp=Z,484nm,1.3s						
Z47A	**Carrollton**	**19.33**	**15**	P	**P**	**08 08 18.8**	**-1.1**
TIGA	**Tifton**	**19.34**	**28**	P	**P**	**08 08 18.7**	**-1.4**
TIGA				IAmb	IAmb	08 09 08.3	
	comp=Z,624nm,1.6s						
TIGA	**Tifton**	**19.34**	**28**	P	**P**	**08 08 18.1**	**-1.9**
	baz=212						
UREC	**San Jos de Ur**	**19.37**	**108**	⇑iP	**P**	**08 08 18.2**	**-2.4**
CCAR	**Cane Creek**	**19.38**	**6**	P	**P**	**08 08 20.1**	**-0.4**
CCAR				IAmb	IAmb	08 08 36.0	
	comp=Z,415nm,1.5s						
GR1C	**Gorgona, Isla**	**19.42**	**125**	eP	**P**	**08 08 22.9**	**+1.8**
LRAL	**Lakeview Retre**	**19.48**	**18**	P	**P**	**08 08 21.0**	**-0.5**
LRAL	**Lakeview Retre**	**19.48**	**18**	P	**P**	**08 08 19.2**	**-2.3**
	baz=200,SNR=15						
PTGL	**Punta Galera**	**19.48**	**133**	eP	**Pn**	**08 08 28.9**	**+6.0**
456A	**Hilliard**	**19.52**	**32**	P	**P**	**08 08 20.6**	**-1.4**
MALC	**Bahia Malaga**	**19.52**	**121**	eP	**P**	**08 08 25.9**	**+3.8**
LOOK	**Love County**	**19.55**	**352**	P	**P**	**08 08 23.1**	**+0.8**
LOOK				IAmb	IAmb	08 09 03.4	
	comp=Z,206nm,1.0s						
SMRC	**Santa Marta, M**	**19.61**	**98**	⇑iP	P	08 08 19.6	-3.5
Y45A	**Yeager Farm, C**	**19.65**	**11**	P	**P**	**08 08 23.3**	**-0.1**
Y45A				IAmb	IAmb	08 09 00.7	
	comp=Z,372nm,1.2s						
CBOC	**Ciudad Bolivar**	**19.72**	**114**	⇑iP	**P**	**08 08 25.9**	**+1.4**
TUMC	**Tumaco**	**19.72**	**129**	eP	**P**	**08 08 27.7**	**+3.3**
X40A	**Basin Creek Fa**	**19.87**	**3**	P	**P**	**08 08 25.4**	**-0.5**
X40A				IAmb	IAmb	08 09 05.8	
	comp=Z,475nm,1.9s						
X40A	**Basin Creek Fa**	**19.87**	**3**	P	**P**	**08 08 24.3**	**-1.5**
	baz=183,SNR=18						
ARGC	**Ariguani, Magd**	**19.90**	**101**	eP	P	08 08 19.9	-6.4
MIAR	**Mount Ida**	**19.90**	**1**	P	**P**	**08 08 25.3**	**-0.9**
MIAR				pmax	pmax		
	comp=Z,312nm,1.5s						
MIAR				MLR	MLR		
	comp=Z,5μm,22.0s						
MIAR	**Mount Ida**	**19.90**	**1**	P	**P**	**08 08 25.3**	**-0.9**
MIAR				IAmb	IAmb	08 09 06.4	
	comp=Z,312nm,1.4s						
MIAR	**Mount Ida**	**19.90**	**1**	⇑P	**P**	**08 08 25.0**	**-1.2**
MIAR	**Mount Ida**	**19.90**	**1**	P	**P**	**08 08 25.6**	**-0.6**
	baz=181,SNR=40						
152A	**Waverly Hall**	**19.93**	**24**	P	**P**	**08 08 24.8**	**-1.7**
MNTX	**Cornudas Mount**	**19.97**	**331**	P	**P**	**08 08 28.0**	**+1.1**
MNTX	**Cornudas Mount**	**19.97**	**331**	P	**P**	**08 08 28.7**	**+1.7**
	baz=146,SNR=93						
X37A	**Clayton**	**19.98**	**357**	P	**P**	**08 08 27.2**	**+0.2**
X37A				IAmb	IAmb	08 09 22.7	
	comp=Z,381nm,1.4s						
HELC	**Santa Helena**	**20.01**	**113**	⇑iP	**P**	**08 08 29.1**	**+1.2**
ZARC	**Zaragoza, Cauc**	**20.09**	**108**	⇑iP	**P**	**08 08 26.6**	**-1.8**
X34A	**Smith Ranch, M**	**20.25**	**351**	P	**P**	**08 08 28.9**	**-1.1**
X34A				IAmb	IAmb	08 08 50.5	
	comp=Z,302nm,1.1s						
255A	**Hazlehurst**	**20.26**	**29**		**P**	**08 08 28.3**	**-1.8**
255A				IAmb	IAmb	08 08 41.9	
	comp=Z,318nm,1.1s						
OXF	**Oxford**	**20.30**	**11**	P	**P**	**08 08 28.5**	**-2.0**
OXF				pmax	pmax		
	comp=Z,423nm,1.3s						
OXF	**Oxford**	**20.30**	**11**	P	**P**	**08 08 28.5**	**-2.0**
OXF				IAmb	IAmb	08 09 05.7	
	comp=Z,423nm,1.3s						
OXF	**Oxford**	**20.30**	**11**	P	**P**	**08 08 28.5**	**-2.0**
	baz=193,SNR=16						
Z51A	**Franklin**	**20.34**	**22**	P	**P**	**08 08 29.3**	**-1.6**
YOTC	**Yotoco, Valle**	**20.36**	**119**	⇑iP	**P**	**08 08 31.9**	**+0.4**
SMLC	**San Martn de**	**20.37**	**104**	⇑iP	P	08 08 28.8	-2.7
Y49A	**Blount Mountai**	**20.42**	**18**	P	**P**	**08 08 30.8**	**-1.0**
Y49A				IAmb	IAmb	08 09 16.5	
	comp=Z,415nm,1.9s						
WMOK	**Wichita Mounta**	**20.54**	**349**	P	**P**	**08 08 32.8**	**-0.4**
WMOK				pmax	pmax		
	comp=Z,73nm,1.1s						
WMOK				MLR	MLR		
	comp=Z,7μm,20.0s						
WMOK	**Wichita Mounta**	**20.54**	**349**	P	**P**	**08 08 32.8**	**-0.4**
WMOK	**Wichita Mounta**	**20.54**	**349**	⇑P	**P**	**08 08 32.6**	**-0.5**
WMOK	**Wichita Mounta**	**20.54**	**349**	P	**P**	**08 08 32.0**	**-1.2**
	baz=166,SNR=57						
W39A	**Magazine**	**20.55**	**1**	P	**P**	**08 08 32.1**	**-1.1**
W39A				IAmb	IAmb	08 09 06.0	
	comp=Z,259nm,1.4s						
W39A	**Magazine**	**20.55**	**1**	P	**P**	**08 08 32.7**	**-0.5**
	baz=180,SNR=38						
154A	**Montrose**	**20.55**	**27**	P	**P**	**08 08 30.9**	**-2.3**
154A				IAmb	IAmb	08 09 28.2	
	comp=Z,383nm,1.2s						
EPT	**El Paso**	**20.58**	**328**	IAMs_20	IAMs_20	08 17 12.4	
	comp=Z,16μm,18.0s						
GUY2C	**Guyana, Caldas**	**20.59**	**115**	⇑iP	**P**	**08 08 35.5**	**+1.2**
W41B	**Gary Mavity, V**	**20.59**	**4**	P	**P**	**08 08 31.8**	**-1.8**
	baz=185,SNR=32						
LL1C	**La Loma 1 Cana**	**20.64**	**102**	eP	**P**	**08 08 33.0**	**-1.3**
WHAR	**Wooly Hollow**	**20.70**	**4**	P	**P**	**08 08 33.9**	**-1.0**
WHAR				IAmb	IAmb	08 09 14.2	
	comp=Z,300nm,1.4s						
PAC1	**Pacto, Paraso**	**20.72**	**132**	eP	**P**	**08 08 36.5**	**+1.1**
BBAC	**Balboa, Cauca**	**20.75**	**125**	⇑iP	**P**	**08 08 35.5**	**-0.2**
LL2C	**La Loma 2 Cana**	**20.75**	**102**	eP	P	08 08 26.8	-8.8
X48A	**Hartselle**	**20.79**	**16**	P	**P**	**08 08 34.5**	**-1.3**
PTBC	**PUERTO BERRIO,**	**20.82**	**110**	⇑iP	**P**	**08 08 36.2**	**-0.2**
FNO	**Franklin**	**20.83**	**352**	P	**P**	**08 08 36.2**	**0.0**
NORC	**Norcasia**	**20.87**	**113**	⇑iP	**P**	**08 08 37.9**	**+0.9**
MSTX	**Muleshoe**	**20.88**	**339**	P	**P**	**08 08 36.7**	**-0.2**
MSTX	**Muleshoe**	**20.88**	**339**	P	**P**	**08 08 37.2**	**+0.3**
	baz=155,SNR=101						
POPC	**Popayan, Colom**	**20.89**	**123**	⇑iP	**P**	**08 08 38.7**	**+1.3**
CRJC	**Cerrejon, Guaj**	**20.93**	**97**	eP	P	08 08 33.0	-4.6
TOLC	**Tolima**	**20.93**	**116**	eP	**P**	**08 08 39.9**	**+1.9**
W45A	**Hickory Valley**	**20.97**	**11**	P	**P**	**08 08 36.2**	**-1.6**
W45A				IAmb	IAmb	08 09 17.1	
	comp=Z,380nm,1.4s						
CUSE	**Cuicocha Este**	**20.98**	**131**	eP	**P**	**08 08 40.2**	**+1.7**
OKCSW	**OKLAHOMA CITY**	**20.98**	**352**	P	**P**	**08 08 38.4**	**+0.5**
OTAV	**Otavalo**	**20.98**	**131**	P	**P**	**08 08 38.9**	**+0.4**
OTAV				pmax	pmax		
	comp=Z,215nm,1.5s						
OTAV				MLR	MLR		
	comp=Z,6μm,21.0s						
OTAV	**Otavalo**	**20.98**	**131**	P	**P**	**08 08 38.9**	**+0.4**
OTAV	**Otavalo**	**20.98**	**131**	⇑iP	**P**	**08 08 39.1**	**+0.6**
OTAV	**Otavalo**	**20.98**	**131**	⇑P	**P**	**08 08 39.0**	**+0.4**
OTAV	**Otavalo**	**20.98**	**131**	eP	**P**	**08 08 37.2**	**-1.4**
OKCFA	**Oklahoma City**	**20.99**	**352**	P	**P**	**08 08 38.2**	**+0.2**
PLAL	**Pickwick Lake**	**21.03**	**14**	P	**P**	**08 08 37.9**	**-0.6**
PLAL				IAmb	IAmb	08 08 55.1	
	comp=Z,324nm,1.6s						
GOGA	**Godfrey**	**21.08**	**25**	P	**P**	**08 08 37.0**	**-1.9**
GOGA				pmax	pmax		
	comp=Z,67nm,0.9s						
GOGA				MLR	MLR		
	comp=Z,17μm,20.0s						
GOGA	**Godfrey**	**21.08**	**25**	P	**P**	**08 08 37.0**	**-1.9**
GOGA	**Godfrey**	**21.08**	**25**	IAMs_20	IAMs_20	08 18 05.3	
	comp=Z,17μm,20.0s						
GOGA	**Godfrey**	**21.08**	**25**	P	**P**	**08 08 34.8**	**-4.1**
	baz=209,SNR=8.5						
HBAR	**Harrisburg**	**21.12**	**8**	P	**P**	**08 08 39.5**	**+0.1**
HBAR				IAmb	IAmb	08 09 26.1	
	comp=Z,272nm,1.2s						
OK025	**Westminster Rd**	**21.14**	**353**	P	**P**	**08 08 39.4**	**-0.2**
OK025				IAmb	IAmb	08 08 53.1	
	comp=Z,262nm,0.9s						
TULM	**Tulcn-Chalpat**	**21.16**	**129**	⇑iP	**P**	**08 08 41.5**	**+1.0**
SRIG	**Santa Rosalia**	**21.18**	**310**	P	**P**	**08 08 40.7**	**+0.6**
SOTA	**Rioblanco**	**21.18**	**124**	i P	**P**	**08 08 41.9**	**+1.1**
Y52A	**Lilburn**	**21.24**	**23**	P	**P**	**08 08 38.8**	**-1.9**

PCON Cinco Dias 21.24 123 *e*P P **08 08 43.6 +2.1**
OCAC Ocana 21.25 105 *e*P P 08 08 38.0 -3.2
CRUC La Cruz 21.25 126 *e*P P **08 08 42.4 +1.0**
HSIG 21.25 315 P P **08 08 42.9 +1.9**
BRRC Barranca, Sant 21.28 108⇑ *i*P P **08 08 40.3 -1.0**
FPAL Fort Paine 21.30 19 P P **08 08 39.7 -1.7**
FPAL IAmb IAmb 08 08 56.7
comp=Z,228nm,1.2s
FCAR Ozark Folk Cen 21.31 4 P P **08 08 40.6 -0.8**
FCAR IAmb IAmb 08 09 11.1
comp=Z,385nm,1.7s
MARP Paez Belalcaza 21.31 121 *e*P P **08 08 43.7 +1.8**
TUL1 Leonard 21.32 356 P P **08 08 39.5 -2.0**
baz=175,SNR=21
ORTC Ortega, Tolima 21.34 118⇑ *i*P P **08 08 42.8 +0.8**
OK029 Liberty Lake 21.37 352 P P **08 08 41.6 -0.4**
OK029 IAmb IAmb 08 08 54.8
comp=Z,250nm,1.0s
AMTX Amarillo 21.38 343 P P **08 08 42.0 -0.2**
AMTX Amarillo 21.38 343 P P **08 08 42.6 +0.3**
baz=159
OK031 S. Brethren Rd 21.45 354 P P **08 08 41.3 -1.6**
SPBC San Pablo de B 21.54 112⇑ *i*P P **08 08 43.9 -0.3**
LCAR Lake Charles 21.57 6 P P **08 08 42.6 -1.6**
LCAR IAmb IAmb 08 09 12.7
comp=Z,254nm,1.4s
X51A Calhoun 21.58 21 P P **08 08 43.4 -0.9**
GNAR Gosnell 21.62 9 P P **08 08 43.0 -1.7**
QUOK Quay 21.65 354 P P **08 08 43.6 -1.6**
QUOK IAmb IAmb 08 09 17.9
comp=Z,195nm,1.1s
URIC Uribia, Colomb 21.66 95 P P **08 08 43.2 -2.1**
URIC Uribia, Colomb 21.66 95 *e*P P **08 08 43.0 -2.4**
HALT Halls 21.67 10 P P **08 08 43.7 -1.6**
ROSC El Rosal 21.69 114 P P **08 08 43.9 -2.2**
comp=Z,11nm,0.7s,baz=311,slow=15,SNR=3.5
ROSC El Rosal 21.69 114 P P **08 08 47.0 +0.9**
ROSC pmax pmax
comp=Z,1µm,1.6s
ROSC El Rosal 21.69 114 P P **08 08 47.0 +0.9**
ROSC El Rosal 21.69 114⇑ *i*P P **08 08 48.2 +2.1**
U40A Yellville 21.73 3 P P **08 08 45.3 -0.7**
U40A IAmb IAmb 08 09 14.0
comp=Z,458nm,2.0s
U40A Yellville 21.73 3 P P **08 08 44.7 -1.3**
baz=183,SNR=57
PRAC Prado 21.74 118⇑ *i*P P **08 08 47.0 +0.7**
PEBM Pemiscott Bayo 21.79 9 P P **08 08 45.5 -1.1**
U38A Gravette 21.79 359 P P **08 08 45.3 -1.3**
319A Douglas 21.80 323 P P **08 08 48.3 +1.5**
319A IAmb IAmb 08 09 10.6
comp=Z,240nm,1.2s
SWET Sewanee 21.82 18 P P **08 08 44.7 -2.4**
SWET IAmb IAmb 08 09 17.7
comp=Z,224nm,1.3s
BETC Betania 21.82 121 *e*P P **08 08 49.2 +2.0**
LNXT Lenox 21.84 10 P P **08 08 47.5 +0.4**
LNXT IAmb IAmb 08 09 17.9
comp=Z,318nm,1.1s
121A Cookes Peak, D 21.84 327 P P **08 08 48.9 +1.6**
121A Cookes Peak, D 21.84 327 P P **08 08 50.1 +2.7**
baz=142,SNR=217
BARC Barichara 21.96 109 *e*P P **08 08 49.6 +0.7**
W50A Signal Mountai 22.00 19 P P **08 08 47.8 -1.2**
W50A IAmb IAmb 08 09 18.2
comp=Z,310nm,1.3s
GLAT Glass 22.03 10 P P **08 08 48.3 -0.9**
GARC Garzon, Huila 22.06 122 *e*P P **08 08 51.3 +1.4**
V48A Smith Brothers 22.06 16 P P **08 08 47.9 -1.7**
V48A IAmb IAmb 08 09 18.6
comp=Z,153nm,1.1s
CROK Carrier 22.14 352 P P **08 08 49.7 -0.7**
CROK IAmb IAmb 08 08 53.8
comp=Z,196nm,1.1s
PENMO Penman 22.15 9 P P **08 08 49.9 -0.6**
PENMO IAmb IAmb 08 09 20.0
comp=Z,299nm,1.2s
U32A Winter Ranch, 22.18 349 P P **08 08 51.4 +0.6**
UTMT University of 22.18 11 P P **08 08 49.9 -0.8**
UTMT IAmb IAmb 08 09 19.4
comp=Z,288nm,1.1s
WVT Waverly 22.19 13 P P **08 08 50.2 -0.6**
WVT pmax pmax
comp=Z,106nm,1.0s
WVT Waverly 22.19 13 P P **08 08 50.2 -0.6**
WVT Waverly 22.19 13⇑ P P **08 08 49.1 -1.7**
WVT Waverly 22.19 13 P P **08 08 47.4 -3.4**
baz=196
SDDR Presa de Saban 22.22 75 P P **08 08 50.1 -1.3**
SDDR IAmb IAmb 08 09 08.9
comp=Z,216nm,1.4s
SDDR Presa de Saban 22.22 75⇑ *i*P P **08 08 48.7 -2.8**
SDDR Presa de Saban 22.22 75 ⇑P P **08 08 49.9 -1.5**
FLOC Florencia 22.28 124 P P **08 08 52.7 +0.6**
FLOC Florencia 22.28 124⇑ *i*P P **08 08 52.4 +0.4**
BLOK Blackwell 22.29 353 P P **08 08 50.6 -1.3**
BLOK IAmb IAmb 08 09 36.5
comp=Z,192nm,1.2s
HODGE Hodges 22.30 26 P P **08 08 50.1 -2.0**
HODGE IAmb IAmb 08 09 39.1
comp=Z,189nm,1.5s
CHIC Chingaza 22.30 114⇑ *i*P P **08 08 54.0 +1.3**
HICK Hickman 22.31 10 P P **08 08 52.5 +0.4**
CSU Charleston Sou 22.31 32 P P **08 08 51.1 -1.1**
RUSC La Rusia 22.33 111⇑ *i*P P **08 08 51.1 -2.1**
PARMO Parma 22.34 9 P P **08 08 52.3 -0.2**
PARMO IAmb IAmb 08 09 14.2
comp=Z,174nm,1.0s
NHSC New Hope 22.35 32 P P **08 08 50.3 -2.4**
NHSC IAMs_20 IAMs_20 08 18 16.0
comp=Z,22µm,18.0s
NHSC New Hope 22.35 32 P P **08 08 50.6 -2.0**
baz=217
PBMO Poplar Bluff 22.36 8 P P **08 08 51.0 -1.7**
PBMO IAmb IAmb 08 09 26.9
comp=Z,158nm,1.2s
T35A Sooner Cattle 22.37 355 P P **08 08 51.7 -1.2**
T35A IAmb IAmb 08 09 15.7
comp=Z,434nm,1.7s
W52A Murphy 22.38 22 P P **08 08 51.1 -1.9**
GC02 Grant County # 22.46 352 P P **08 08 52.9 -0.9**
OK032 Salt Plains WL 22.46 351 P P **08 08 52.7 -1.1**
CPCT Cooper Cave 22.49 21 P P **08 08 52.4 -1.8**
CPCT IAmb IAmb 08 09 43.2
comp=Z,219nm,1.6s
CLTN Cedars of Leba 22.53 16 P P **08 08 52.4 -2.1**
CLTN IAmb IAmb 08 09 23.7
comp=Z,208nm,1.3s
MGMO Mountain Grove 22.56 4 P P **08 08 54.0 -0.8**
MGMO IAmb IAmb 08 09 08.4
comp=Z,210nm,1.3s
KAN13 South Haven SW 22.57 353 P P **08 08 53.9 -1.1**
KAN14 Manchester OK 22.58 352 P P **08 08 53.9 -1.1**
VILC Villavicencio, 22.58 115 *e*P P **08 08 58.1 +2.7**
BNM Barren Site 22.58 332 P P **08 08 56.7 +1.3**
KAN17 Caldwell West 22.64 352 P P **08 08 55.2 -0.5**
KAN17 IAmb IAmb 08 09 18.6
comp=Z,161nm,1.1s
Y22D IRIS PASSCAL I 22.66 331 P P **08 08 57.7 +1.7**
Y22D IAmb IAmb 08 09 21.0
comp=Z,248nm,1.0s
Y22D IRIS PASSCAL I 22.66 331 P P **08 08 58.5 +2.4**
baz=146
BG3 Lake Jocassee 22.67 24 P P **08 08 54.0 -2.1**
BG3 IAmb IAmb 08 09 26.2
comp=Z,187nm,1.3s
KAN05 Bluff City Nor 22.71 352 P P **08 08 56.0 -0.5**
KAN05 IAmb IAmb 08 09 03.8
comp=Z,148nm,0.7s
LENM Lemitar 22.75 331 P P **08 08 58.6 +1.4**
JSC Jenkinsville 22.78 28 P P **08 08 55.3 -1.9**
JSC pmax pmax
comp=Z,84nm,1.1s
JSC Jenkinsville 22.78 28 P P **08 08 55.3 -1.9**
KS20 Mayfield South 22.79 353 P P **08 08 57.4 +0.1**
SC01 Santiago de lo 22.81 74 P P **08 08 56.6 -1.0**
V51A Loudon 22.87 21 P P **08 08 56.5 -1.7**
V51A IAmb IAmb 08 09 26.8
comp=Z,190nm,1.4s
KAN12 Harper NE Stat 22.92 352 P P **08 08 57.3 -1.4**
KAN12 IAmb IAmb 08 09 13.1
comp=Z,240nm,1.1s
TKL Tuckaleechee C 22.94 22 P P **08 08 56.4 -2.5**
comp=Z,14nm,0.8s,baz=199,slow=13,SNR=13
TKL S S **08 13 03.2 -6.7**
comp=Z,6.9nm,1.0s,baz=234,slow=12,SNR=1.7
TKL LR LR 08 19 58.5
comp=Z,13µm,18.8s,baz=197,slow=42
TKL Tuckaleechee C 22.94 22 P P **08 08 57.6 -1.3**
TKL pmax pmax
comp=Z,157nm,1.3s
TKL Tuckaleechee C 22.94 22 P P **08 08 57.6 -1.3**
TKL IAmb IAmb 08 09 30.8
comp=Z,157nm,1.3s
Y57A Sumter 22.98 30 P P **08 08 58.6 -0.7**
Y57A IAmb IAmb 08 09 19.7
comp=Z,206nm,1.4s
PAULI Pauline 22.99 26 P P **08 08 58.0 -1.4**
S39A Bolivar 23.05 1 P P **08 08 58.3 -1.7**
S39A IAmb IAmb 08 09 01.9
comp=Z,103nm,0.8s
U49A Red Boiling Sp 23.07 17 P P **08 08 58.7 -1.6**
U49A IAmb IAmb 08 09 18.0
comp=Z,255nm,1.4s
V52A Sevierville 23.17 22 P P **08 08 59.8 -1.5**
V52A IAmb IAmb 08 09 35.8
comp=Z,312nm,1.6s
ANMO Albuquerque 23.18 333 P P **08 09 02.0 +0.4**
comp=Z,9.9nm,0.7s,baz=141,slow=10,SNR=48
ANMO LR LR 08 19 33.6
comp=Z,8µm,18.8s,baz=156,slow=40
ANMO Albuquerque 23.18 333 *c i*P P **08 09 02.8 +1.2**
ANMO pmax pmax
comp=Z,119nm,1.6s
ANMO MLR MLR
comp=Z,8µm,17.0s
ANMO Albuquerque 23.18 333 P P **08 09 01.9 +0.4**
ANMO Albuquerque 23.18 333 ⇑P P **08 09 02.6 +1.0**
ANMO Albuquerque 23.18 333 P P **08 09 02.8 +1.2**
baz=148
T47A Sharon Grove 23.18 14 P P **08 08 59.8 -1.5**
T47A IAmb IAmb 08 09 02.5
comp=Z,73nm,0.7s
Y58A Scranton 23.25 32 P P **08 09 00.5 -1.6**
TAMC Tame, Arauca 23.30 108⇑ *i*P P **08 09 02.2 -0.6**
V53A Saluda 23.31 24 P P **08 09 01.4 -1.3**
V53A IAmb IAmb 08 09 43.3
comp=Z,114nm,1.1s
TUC Tucson 23.35 322 P P **08 09 05.2 +1.9**
TUC pmax pmax
comp=Z,427nm,1.6s
TUC MLR MLR
comp=Z,15µm,19.0s
TUC Tucson 23.35 322 P P **08 09 05.2 +1.9**
TUC Tucson 23.35 322 IAMs_20 IAMs_20 08 18 05.3
comp=Z,15µm,19.0s
TUC Tucson 23.35 322 ⇑P P **08 09 05.1 +1.8**
TUC Tucson 23.35 322 P P **08 09 05.4 +2.1**
baz=135
S44A Carbondale 23.43 10 P P **08 09 02.1 -1.7**
S44A IAmb IAmb 08 09 27.9
comp=Z,239nm,1.2s
MACC Macarena, Meta 23.45 120⇑ *i*P P **08 09 04.8 +0.5**
BIRD Birdtown, Kers 23.45 29 P P **08 09 02.7 -1.4**
BIRD IAmb IAmb 08 09 42.5
comp=Z,333nm,1.7s
SIUC Southern Illin 23.46 10 P P **08 09 02.3 -1.8**
KMSC Kings Mountain 23.47 27 P P **08 09 02.2 -2.0**
KMSC IAmb IAmb 08 09 38.1
comp=Z,141nm,1.2s
KMSC Kings Mountain 23.47 27 P P **08 09 00.7 -3.6**
baz=212,SNR=14
CCM Cathedral Cave 23.53 6 P P **08 09 03.5 -1.4**
CCM pmax pmax
comp=Z,328nm,1.8s
CCM Cathedral Cave 23.53 6 P P **08 09 03.5 -1.4**
CCM IAmb IAmb 08 09 05.2
comp=Z,328nm,1.8s
CCM Cathedral Cave 23.53 6 ⇑P P **08 09 02.4 -2.5**
CCM Cathedral Cave 23.53 6 P P **08 09 02.7 -2.2**
baz=186
SOCV Socops 23.55 103 *e*P P 08 09 00.6 -4.8
SDV Santo Domingo 23.59 101 P P **08 09 04.5 -1.4**
comp=Z,24nm,0.6s,baz=288,slow=5.4,SNR=10
SDV LR LR 08 19 43.5
comp=Z,4µm,18.2s,baz=288,slow=41
SDV Santo Domingo 23.59 101 P P **08 09 05.3 -0.6**
SDV Santo Domingo 23.59 101 *i* P P 08 09 02.9 -3.0
SDV Santo Domingo 23.59 101 *e*P P **08 09 06.6 +0.6**
R40A Maddies Statio 23.69 3 P P **08 09 04.5 -1.9**
R40A IAmb IAmb 08 09 14.1
comp=Z,186nm,1.4s
PTLC Puerto Leguiza 23.81 125 *i*P P **08 09 10.0 +2.2**
TZTN Tazewell 23.82 21 P P **08 09 05.8 -1.9**
TZTN Tazewell 23.82 21 P P **08 09 04.1 -3.6**
baz=206,SNR=12
PTGC Puerto Gaitan, 23.91 113⇑ *i*P P **08 09 09.2 +0.3**
DR12 Loma Pena Alta 23.99 77 P P **08 09 07.3 -2.3**
W57A Gilead 24.09 29 P P **08 09 08.3 -2.0**
W57A IAmb IAmb 08 09 35.0
comp=Z,280nm,1.8s
V55A Taylorsville 24.12 26 P P **08 09 08.6 -2.0**
V55A IAmb IAmb 08 09 57.5
comp=Z,183nm,1.4s
R32A Long Quarter, 24.12 351 P P **08 09 10.2 -0.4**
SLM Saint Louis 24.21 7 P P **08 09 09.6 -1.8**
SLM pmax pmax
comp=Z,207nm,1.4s
SLM Saint Louis 24.21 7 P P **08 09 09.6 -1.8**
SLM IAmb IAmb 08 09 43.1
comp=Z,207nm,1.4s
GUVC San Jose del G 24.27 117 *e*P P **08 09 14.5 +2.3**
T25A Trinidad 24.31 340 P P **08 09 13.3 +0.7**
T25A Trinidad 24.31 340 P P **08 09 14.5 +1.9**
baz=155,SNR=100
214A Organ Pipe Nat 24.37 318 P P **08 09 14.3 +1.3**
214A IAmb IAmb 08 09 18.0
comp=Z,112nm,1.1s
214A Organ Pipe Nat 24.37 318 P P **08 09 15.0 +2.1**
baz=131,SNR=98
U54A Nelsons Funny 24.45 24 P P **08 09 11.8 -1.9**
U54A IAmb IAmb 08 09 55.1
comp=Z,113nm,1.0s
HATO Hato, Curacao 24.52 93 IAMs_20 IAMs_20 08 19 40.3
comp=Z,17µm,20.0s
X18A Snowflake 24.52 327 P P **08 09 15.9 +1.3**
KSU1 Kansas State U 24.55 355 P P **08 09 13.3 -1.2**
KSU1 IAmb IAmb 08 09 58.3
comp=Z,80nm,0.9s
KSU1 Kansas State U 24.55 355 ⇑P P **08 09 12.9 -1.6**
KSU1 Kansas State U 24.55 355 P P **08 09 12.9 -1.6**
baz=174,SNR=17
WCI Wyandotte Cave 24.55 15 P P **08 09 12.3 -2.2**
WCI pmax pmax
comp=Z,124nm,1.1s
WCI Wyandotte Cave 24.55 15 P P **08 09 12.2 -2.2**
WCI IAmb IAmb 08 09 30.2
comp=Z,124nm,1.1s
WCI Wyandotte Cave 24.55 15 ⇑P P **08 09 11.6 -2.9**
WCI Wyandotte Cave 24.55 15 P P **08 09 11.4 -3.1**
baz=198
OLIL Olney 24.64 11 P P **08 09 13.7 -1.6**
Q44A Meyer Farm, Va 24.65 9 P P **08 09 14.2 -1.2**
Q44A IAmb IAmb 08 10 03.5
comp=Z,149nm,1.3s
CBKS Cedar Bluff 24.68 349 P P **08 09 15.6 -0.1**
CBKS pmax pmax
comp=Z,402nm,1.7s
CBKS Cedar Bluff 24.68 349 P P **08 09 15.6 -0.1**
CBKS Cedar Bluff 24.68 349 ⇑P P **08 09 15.3 -0.4**
CBKS Cedar Bluff 24.68 349 P P **08 09 15.8 +0.1**
baz=166,SNR=15
S51A Beattyville 24.79 20 P P **08 09 15.4 -1.3**
W18A Petrified Fore 24.87 328 P P **08 09 18.9 +1.3**
W18A IAmb IAmb 08 09 38.3
comp=Z,94nm,1.2s
W18A Petrified Fore 24.87 328 P P **08 09 19.5 +1.9**
baz=141,SNR=23
U56A King 24.90 27 P P **08 09 16.5 -1.2**
U56A IAmb IAmb 08 09 48.1
comp=Z,216nm,1.6s
R49A Shelbyville 24.91 17 P P **08 09 15.8 -1.9**
P40A Paris 24.93 4 P P **08 09 16.4 -1.5**
P38A Dawn 24.97 1 P P **08 09 17.3 -1.0**
V58A Windy Hill, Pi 25.03 30 P P **08 09 17.2 -1.6**
R50A Paris 25.14 18 P P **08 09 17.8 -2.1**
R50A IAmb IAmb 08 09 56.4
comp=Z,130nm,1.3s
SFX San Felipe 25.16 314 P P **08 09 21.0 +0.9**
CNNC Cliffs of the 25.20 32 IAMs_20 IAMs_20 08 19 52.3
comp=Z,18µm,19.0s
CNNC Cliffs of the 25.20 32 P P 08 09 15.3 -5.0
baz=219
SDCO Great Sand Dun 25.23 338 P P **08 09 21.7 +0.7**
SDCO Great Sand Dun 25.23 338 P P **08 09 22.4 +1.4**
baz=153,SNR=61
ELOV Elorza 25.25 105 *e*P P **08 09 20.9 -0.1**
X16A Lo Mia Camp, P 25.25 325 P P **08 09 22.1 +1.0**
X16A IAmb IAmb 08 09 47.8
comp=Z,129nm,1.4s
P43A Skaggs, Pawnee 25.30 8 P P **08 09 19.6 -1.6**
P43A IAmb IAmb 08 09 56.5
comp=Z,133nm,1.4s
BLO Bloomington 25.39 14 P P **08 09 20.7 -1.4**
BLO pmax pmax
comp=Z,63nm,0.7s
BLO Bloomington 25.39 14 P P **08 09 20.7 -1.4**
BLO IAmb IAmb 08 09 22.6
comp=Z,63nm,0.7s
KSCO Kaye Shedlock' 25.50 344 P P **08 09 24.0 +0.8**
KSCO IAmb IAmb 08 10 14.1
comp=Z,198nm,1.4s
KSCO Kaye Shedlock' 25.50 344 P P **08 09 23.6 +0.4**
baz=160,SNR=12
113A Mohawk Valley, 25.51 319 P P **08 09 24.8 +1.6**
113A IAmb IAmb 08 09 35.9
comp=Z,197nm,1.5s
BLA Blacksburg 25.61 26 P P **08 09 22.8 -1.4**
BLA pmax pmax
comp=Z,171nm,1.4s
BLA MLR MLR
comp=Z,10µm,20.0s
BLA Blacksburg 25.61 26 P P **08 09 22.8 -1.4**
BLA IAmb IAmb 08 09 58.1
comp=Z,171nm,1.4s
BLA Blacksburg 25.61 26 P P **08 09 21.6 -2.5**
baz=212
P46A Rosedale 25.67 12 P P **08 09 23.1 -1.6**
P46A IAmb IAmb 08 09 57.0
comp=Z,130nm,1.1s
S22A 4UR Ranch, Cre 25.73 336 P P **08 09 26.8 +1.2**
baz=150,SNR=20
S54A Dingess, Beckl 25.76 24 P P **08 09 23.9 -1.5**
S54A IAmb IAmb 08 10 22.5
comp=Z,140nm,1.4s
Y14A Wickenburg 25.82 322 P P **08 09 27.4 +1.2**
Y14A IAmb IAmb 08 09 32.7
comp=Z,90nm,1.1s
P48A Milroy 25.93 15 P P **08 09 24.8 -2.2**
P48A IAmb IAmb 08 10 16.4
comp=Z,92nm,1.1s
T57A Hurt 25.94 28 P P **08 09 25.1 -2.0**
O44A Mansfield 25.96 10 P P **08 09 25.4 -1.8**
O44A IAmb IAmb 08 10 16.5
comp=Z,94nm,1.2s
MVCO Mesa Verde 25.97 333 P P **08 09 28.8 +1.1**
MVCO IAmb IAmb 08 09 39.0
comp=Z,123nm,1.1s
MVCO Mesa Verde 25.97 333 P P **08 09 29.4 +1.8**
baz=146,SNR=68
R53A Hurricane 25.98 22 P P **08 09 25.8 -1.7**
R53A IAmb IAmb 08 10 12.5
comp=Z,284nm,1.9s
WUAZ Wupatki 26.03 326 P P **08 09 29.6 +1.4**
WUAZ IAmb IAmb 08 09 35.1
comp=Z,128nm,1.1s
WUAZ Wupatki 26.03 326 ⇑P P **08 09 29.9 +1.8**
WUAZ Wupatki 26.03 326 P P **08 09 29.1 +1.0**
baz=139,SNR=94
U59A Littleton 26.12 31 P P **08 09 27.9 -0.8**
U59A IAmb IAmb 08 10 08.1
comp=Z,265nm,1.9s
Q51A Peebles 26.13 19 P P **08 09 26.8 -2.1**
Q51A IAmb IAmb 08 10 17.1
comp=Z,90nm,1.1s
N38A Joes South For 26.14 1 P P **08 09 27.5 -1.4**
P49A Miami Univ. Ec 26.19 16 P P **08 09 27.4 -1.9**
P49A IAmb IAmb 08 10 22.5
comp=Z,176nm,1.7s
P49A Miami Univ. Ec 26.19 16 P P **08 09 26.3 -3.1**
baz=200
N41A Harden Midland 26.20 5 P P **08 09 28.3 -1.1**
N41A IAmb IAmb 08 10 08.4
comp=Z,187nm,1.4s
Q24A Divide 26.21 340 P P **08 09 31.4 +1.5**
baz=155
HDIL Hopedale 26.23 8 P P **08 09 27.6 -2.0**
HDIL IAmb IAmb 08 10 06.2
comp=Z,169nm,1.4s
HDIL Hopedale 26.23 8 P P **08 09 27.4 -2.3**
baz=190,SNR=11
N35A Tabor 26.24 357 P P **08 09 29.6 -0.2**
N35A IAmb IAmb 08 09 30.5
comp=Z,98nm,0.7s
N33A J Bar K, Exete 26.25 354 P P **08 09 29.9 0.0**
N33A IAmb IAmb 08 10 12.7
comp=Z,127nm,1.1s
GLA Glamis 26.38 318 P P **08 09 32.5 +1.4**
GLA pmax pmax
comp=Z,88nm,1.1s
GLA Glamis 26.38 318 P P **08 09 32.5 +1.4**
GLA IAmb IAmb 08 09 35.3
comp=Z,88nm,1.1s
GLA Glamis 26.38 318 P P **08 09 32.6 +1.4**
baz=129,SNR=17
SFIN Lafayette 26.43 12 P P **08 09 29.2 -2.3**
SFIN IAmb IAmb 08 10 21.6
comp=Z,201nm,1.6s
SFIN Lafayette 26.43 12 P P **08 09 28.4 -3.1**
baz=195,SNR=18
Q52A Bidwell 26.43 21 P P **08 09 29.9 -1.6**
Q52A IAmb IAmb 08 10 14.8
comp=Z,110nm,1.2s
ATAH Atahualpa 26.56 143 P P **08 09 32.6 -0.8**
comp=Z,124nm,1.2s,baz=326,slow=8.1,SNR=32
ATAH LR LR 08 17 16.6
comp=Z,5µm,21.7s,baz=325,slow=30
P51A Williamsport 26.64 19 P P **08 09 32.2 -1.2**
P51A IAmb IAmb 08 10 16.6
comp=Z,123nm,1.4s
R55A Marlinton 26.65 25 P P **08 09 31.5 -2.0**
S57A Dark Hollow, R 26.71 27 P P **08 09 32.5 -1.5**
T59A Double "B" Far 26.72 30 P P **08 09 33.2 -0.9**
T59A IAmb IAmb 08 10 18.0
comp=Z,148nm,1.4s
PDMCI Parker Dam,Lak 26.76 321 P P **08 09 36.0 +1.5**
baz=132,SNR=45
PV01 Paradox Valley 26.77 334 P P **08 09 35.6 +0.7**
PV01 IAmb IAmb 08 09 41.6
comp=Z,116nm,1.0s
PV13 Radium Mtn., P 26.90 334 P P **08 09 37.0 +0.9**
O49A Covington 26.91 17 P P **08 09 34.0 -1.8**
O49A IAmb IAmb 08 10 03.5
comp=Z,142nm,1.4s
RMX La Rumorosa 26.93 316 P P **08 09 36.6 +0.3**
SWSC Sam W. Stewart 26.95 317 P P **08 09 38.0 +1.7**
baz=128,SNR=23
Q54A Coxs Mills 26.97 23 P P **08 09 34.2 -2.2**
IKP In-Ko-Pah, Jac 26.98 316 P P **08 09 38.5 +1.8**
baz=126,SNR=15
SJG San Juan 26.99 79 *e*P P 08 09 30.4 -6.3
BGNE Belgrade 26.99 353 P P **08 09 36.1 -0.4**
BGNE IAmb IAmb 08 10 28.4
comp=Z,79nm,0.9s
BGNE Belgrade 26.99 353 P P **08 09 35.8 -0.7**
baz=171
SMCO Snowmass 27.04 338 P P **08 09 38.8 +1.3**
SMCO IAmb IAmb 08 09 55.1
comp=Z,95nm,1.2s
P52A Corning 27.08 20 P P **08 09 37.0 -0.4**
P52A IAmb IAmb 08 10 33.0
comp=Z,105nm,1.3s
P52A IAMs_20 IAMs_20 08 22 09.1
comp=Z,14µm,18.0s
P52A Corning 27.08 20 P P **08 09 33.9 -3.5**
baz=206
PV19 Morning Glory 27.10 334 P P **08 09 39.2 +1.4**
PV19 IAmb IAmb 08 09 50.1
comp=Z,215nm,1.8s
ISCO Idaho Springs 27.11 340 P P **08 09 37.6 -0.4**
ISCO pmax pmax
comp=Z,38nm,1.1s
ISCO MLR MLR
comp=Z,3µm,21.0s
ISCO Idaho Springs 27.11 340 P P **08 09 37.6 -0.4**

ISCO Idaho Springs 27.11 340 P **P** **08 09 38.7 +0.7**
baz=155,SNR=49
W13A Hualapai Mount 27.15 322 P **P** **08 09 39.7 +1.4**
CBX Cerro Bola 27.16 314 P **P** **08 09 39.4 +1.1**
BC3 Big Chuckawall 27.16 318 P **P** **08 09 39.9 +1.6**
baz=129,SNR=92
OGNE Ogallala 27.19 347 P **P** **08 09 39.1 +0.6**
OGNE Ogallala 27.19 347 P **P** **08 09 39.3 +0.8**
baz=163,SNR=7.7
P53A Whipple 27.21 22 P **P** **08 09 36.4 -2.1**
P53A IAmb IAmb 08 10 12.2
comp=Z,133nm,1.4s
U15A North Rim 27.21 326 P **P** **08 09 40.4 +1.5**
U15A IAmb IAmb 08 09 55.4
comp=Z,186nm,1.7s
N47A Urbana 27.21 14 P **P** **08 09 37.0 -1.5**
M44A Midewin, Midew 27.23 10 P **P** **08 09 36.6 -2.1**
SCIA State Center 27.26 1 P **P** **08 09 37.3 -1.6**
SCIA State Center 27.26 1 P **P** **08 09 36.8 -2.1**
baz=182,SNR=36
TKX Tecate 27.27 315 P **P** **08 09 38.7 -0.5**
HUMP Col San Antoni 27.27 79 P **P** **08 09 37.7 -1.6**
HUMP PcP **PcP** **08 12 58.6 -0.7**
IRM Iron Mountain 27.29 319 P **P** **08 09 39.6 +0.3**
baz=130,SNR=56
MONP2 Monument Peak 27.33 316 P **P** **08 09 41.0 +1.0**
baz=126,SNR=17
ACSO Alum Creek Sta 27.34 19 P **P** **08 09 38.6 -1.2**
ACSO IAmb IAmb 08 10 25.2
comp=Z,208nm,1.6s
ACSO Alum Creek Sta 27.34 19 P **P** **08 09 37.2 -2.5**
baz=204
NEE2 Needles Airpor 27.36 321 P **P** **08 09 41.6 +1.7**
baz=132,SNR=7.7
BAR Barrett 27.38 315 P **P** **08 09 41.6 +1.4**
L34A Svendsen Farm, 27.38 356 P **P** **08 09 39.4 -0.7**
L34A IAmb IAmb 08 09 55.5
comp=Z,98nm,0.8s
L40A Anamosa 27.51 5 P **P** **08 09 40.0 -1.2**
L42A Oliver, Polo 27.61 7 P **P** **08 09 40.3 -1.8**
L42A IAmb IAmb 08 10 18.6
comp=Z,110nm,1.2s
O52A Adamsville 27.61 20 P **P** **08 09 40.3 -1.9**
N49A Columbus Grove 27.63 16 P **P** **08 09 40.3 -2.0**
N49A IAmb IAmb 08 10 26.3
comp=Z,82nm,1.2s
HQIL Hanson Quary C 27.67 10 P **P** **08 09 41.8 -0.8**
HQIL IAmb IAmb 08 10 28.7
comp=Z,107nm,1.3s
Q56A Snyder Ridge, 27.68 25 P **P** **08 09 41.0 -1.7**
Q56A IAmb IAmb 08 10 27.4
comp=Z,80nm,1.3s
BELC Belle Mtn. Jos 27.73 318 P **P** **08 09 45.0 +1.5**
baz=129,SNR=33
TPFO Pinon Flats 27.79 317 P **P** **08 09 45.2 +1.3**
baz=128,SNR=21
CBN Corbin Frederi 27.79 29 IAMs_20 IAMs_20 08 20 51.9
comp=Z,13µm,21.0s
CBN Corbin Frederi 27.79 29 P **P** **08 09 41.4 -2.3**
baz=216
PFO Pinyon Flats O 27.79 317 P **P** **08 09 44.6 +0.6**
comp=Z,17nm,1.1s,baz=115,slow=7.0,SNR=17
PFO PcP **PcP** **08 13 00.2 -0.3**
comp=Z,7.0nm,1.0s,baz=137,slow=1.8,SNR=4.5
PFO LR LR 08 21 14.5
comp=Z,11µm,18.2s,baz=132,slow=37
PFO Pinyon Flats O 27.79 317*ce*P **P** **08 09 46.2 +2.2**
PFO Pinyon Flats O 27.79 317 P **P** **08 09 45.4 +1.4**
PFO Pinyon Flats O 27.79 317 P **P** **08 09 45.5 +1.5**
baz=128,SNR=20
109C Camp Elliot, M 27.80 315 P **P** **08 09 45.6 +1.8**
109C Camp Elliot, M 27.80 315 P **P** **08 09 45.1 +1.2**
baz=125,SNR=6.5
KNB Kanab 27.93 327 P **P** **08 09 45.8 +0.6**
KNB pmax pmax
comp=Z,55nm,1.0s
KNB Kanab 27.93 327 P **P** **08 09 45.8 +0.6**
MCWV Mont Chateau 27.94 24 IAMs_20 IAMs_20 08 22 15.8
comp=Z,12µm,18.0s
MCWV Mont Chateau 27.94 24 P **P** **08 09 41.7 -3.3**
baz=210
O53A New Philadelph 27.95 21 P **P** **08 09 43.7 -1.4**
O53A IAmb IAmb 08 10 48.4
comp=Z,95nm,1.3s
O53A New Philadelph 27.95 21 P **P** **08 09 43.4 -1.8**
baz=207
PKCU Pink Cliffs 27.98 328 P **P** **08 09 47.3 +1.4**
PKCU IAmb IAmb 08 09 53.9
comp=Z,212nm,1.8s
K38A Parkersburg 28.01 2 P **P** **08 09 44.2 -1.4**
GMRC Granite Mounta 28.02 320 P **P** **08 09 47.5 +1.5**
baz=130,SNR=48
L44A Lake County Fo 28.02 10 P **P** **08 09 45.5 -0.3**
L44A Lake County Fo 28.02 10 P **P** **08 09 43.0 -2.8**
baz=192
LCMT Little Creek M 28.15 326 P **P** **08 09 48.3 +1.1**
O54A Avella 28.19 23 P **P** **08 09 45.5 -1.8**
N23A Red Feather La 28.21 341 P **P** **08 09 48.3 +0.5**
baz=155,SNR=11
K31A O'Neill 28.26 353 P **P** **08 09 48.1 +0.2**
MURC Murrieta 28.27 316 P **P** **08 09 50.1 +1.9**
baz=126,SNR=10
O20A White River Ci 28.35 337 P **P** **08 09 50.2 +1.2**
O20A IAmb IAmb 08 10 26.9
comp=Z,86nm,1.4s
O20A White River Ci 28.35 337 P **P** **08 09 49.1 +0.1**
baz=150,SNR=16
MTPU Mount Pierson 28.38 329 P **P** **08 09 50.8 +1.4**
PHWY Pilot Hill 28.43 342 P **P** **08 09 50.2 +0.4**
SRU San Rafael Swe 28.44 332 P **P** **08 09 51.1 +1.3**
SRU pmax pmax
comp=Z,44nm,1.1s
SRU San Rafael Swe 28.44 332 P **P** **08 09 51.1 +1.3**
JFWS Jewell Farm 28.44 6 P **P** **08 09 48.4 -1.1**
JFWS pmax pmax
comp=Z,84nm,1.1s
JFWS Jewell Farm 28.44 6 P **P** **08 09 48.4 -1.1**
JFWS IAmb IAmb 08 10 22.0
comp=Z,84nm,1.1s
JFWS Jewell Farm 28.44 6 P **P** **08 09 47.3 -2.2**
baz=188,SNR=31
HEC Hector,Ludlow 28.47 319 P **P** **08 09 50.8 +0.9**
baz=130,SNR=34
K43A Burlington 28.47 9 P **P** **08 09 48.0 -1.8**
K43A IAmb IAmb 08 10 48.0
comp=Z,87nm,1.3s
BBRC Big Bear Solar 28.49 318 P **P** **08 09 52.4 +2.1**
baz=128,SNR=20
SZCU Shurtz Canyon 28.50 327 P **P** **08 09 51.8 +1.4**
L48A N Adams 28.53 15 P **P** **08 09 48.5 -1.8**
P57A Homestead Farm 28.55 27 P **P** **08 09 48.9 -1.5**
N53A Lisbon 28.57 21 P **P** **08 09 49.6 -1.1**
Q16A Castle Valley 28.58 331 P **P** **08 09 52.6 +1.6**
TUQ Turquoise Moun 28.61 321 P **P** **08 09 53.0 +1.7**
baz=131,SNR=24
CCUT Cedar City 28.61 327 P **P** **08 09 51.6 +0.2**
MSU Marysvale 28.74 329 P **P** **08 09 52.9 +0.4**
MSU Marysvale 28.74 329 P **P** **08 09 52.9 +0.4**
MVU Marysvale 28.75 329 P **P** **08 09 54.0 +1.4**
P17A Butcher Ranch, 28.83 333 P **P** **08 09 54.2 +0.9**
SCI2 San Clemente I 28.85 314 P **P** **08 09 54.4 +1.2**
baz=124
SHPR Sheep Range 28.87 323 P **P** **08 09 54.3 +0.7**
SHPR PcP **PcP** **08 13 03.2 0.0**
TMUT Trail Mountain 28.90 332 P **P** **08 09 54.4 +0.4**
RRX Edison Barstow 28.92 318 P **P** **08 09 55.1 +1.2**
baz=128
BFSC Mount Baldy Ra 28.96 317 P **P** **08 09 55.7 +1.3**
baz=127,SNR=17
O56A Blue Knob Stat 28.97 25 IAMs_20 IAMs_20 08 22 19.1
comp=Z,13µm,19.0s
CIS Catalina Islan 28.99 315 P **P** **08 09 56.6 +2.0**
baz=124
N54A Moraine State 29.01 22 P **P** **08 09 52.9 -1.7**
N54A IAmb IAmb 08 23 04.3
comp=Z,14µm,18.0s
N54A Moraine State 29.01 22 P P 08 09 52.0 -2.7
baz=209
PCRV Puerto La Cruz 29.04 95 P P 08 09 53.3 -1.9
comp=Z,9.8nm,1.0s,baz=250,slow=10.0,SNR=2.5
PCRV LR LR 08 23 11.2
comp=Z,13µm,18.6s,slow=40
AAM Ann Arbor 29.06 16 P P 08 09 52.0 -3.0
baz=201
GSC Goldstone, Bar 29.07 319 P **P** **08 09 56.7 +1.4**
GSC pmax pmax
comp=Z,27nm,1.2s
GSC Goldstone, Bar 29.07 319 P **P** **08 09 56.6 +1.4**
GSC Goldstone, Bar 29.07 319 P **P** **08 09 57.1 +1.8**
baz=129,SNR=17
FMP Fort Macarthur 29.08 315 P **P** **08 09 56.2 +0.9**
baz=125
SHOC Shoshone, Teco 29.12 321 P **P** **08 09 56.9 +1.2**
baz=131,SNR=7.6
ECSD EROS Data Cent 29.16 356 P **P** **08 09 54.7 -1.1**
ECSD IAmb IAmb 08 09 57.1
comp=Z,47nm,0.7s
ECSD EROS Data Cent 29.16 356 P **P** **08 09 54.8 -1.1**
baz=175,SNR=57
M53A WI Miller and 29.19 21 P **P** **08 09 55.4 -0.8**
M53A IAmb IAmb 08 11 00.3
comp=Z,176nm,1.6s
M53A IAMs_20 IAMs_20 08 23 21.9
comp=Z,16µm,18.0s
M53A WI Miller and 29.19 21 P P 08 09 53.3 -2.9
baz=207
MWC Mount Wilson 29.22 316 P **P** **08 09 58.5 +1.7**
MWC pmax pmax
comp=Z,64nm,1.2s
MWC Mount Wilson 29.22 316 P **P** **08 09 58.5 +1.7**
RDMU Red Mountain 29.25 335 P **P** **08 09 58.4 +1.5**
PASC Pasadena Art C 29.28 316 P **P** **08 09 57.3 +0.2**
PASC IAmb IAmb 08 10 03.5
comp=Z,153nm,1.8s
RWWY Rawlins 29.34 340 P **P** **08 09 58.8 +0.9**
I37A Lemond, Waseca 29.36 1 P **P** **08 09 57.0 -0.7**
I40A Norwalk 29.38 5 P **P** **08 09 56.1 -1.8**
I40A IAmb IAmb 08 10 34.1
comp=Z,76nm,1.3s
DECC Green Verdugo 29.42 316 P **P** **08 10 00.0 +1.6**
baz=126,SNR=14
PRN Pahroc Range 29.43 324 P **P** **08 09 58.8 +0.2**
PRN Pahroc Range 29.43 324 ⇓P **P** **08 10 01.1 +2.5**
SSPA Standing Stone 29.56 25 IAMs_20 IAMs_20 08 22 34.7
comp=Z,13µm,20.0s
SSPA Standing Stone 29.56 25 P **P** **08 09 58.2 -1.3**
baz=213
I42A Draeger Farm, 29.56 8 P **P** **08 09 58.3 -1.2**
EDW2 Edwards Air Fo 29.57 317 P **P** **08 10 01.1 +1.4**
baz=127,SNR=15
PSUT Pine Spring 29.61 327 P **P** **08 10 01.3 +1.1**
M54A Oil Creek Stat 29.61 22 IAMs_20 IAMs_20 08 23 22.0
comp=Z,14µm,19.0s
M54A Oil Creek Stat 29.61 22 P P 08 09 57.2 -2.7
baz=209
MPU Maple Canyon 29.67 332 P **P** **08 10 02.1 +1.3**
SNCC San Nicolas Is 29.68 313 P **P** **08 10 01.2 +0.6**
baz=123
MVL Millersville 29.70 28 P **P** **08 09 59.2 -1.5**
LRMC Laurel Mtn Rad 29.74 319 P **P** **08 10 03.7 +2.4**
baz=128,SNR=9.8
TPNV Topopah Spring 29.81 322 P **P** **08 10 02.7 +0.8**
TPNV pmax pmax
comp=Z,69nm,1.4s
TPNV MLR MLR
comp=Z,29µm,21.0s
TPNV Topopah Spring 29.81 322 P **P** **08 10 02.7 +0.8**
TPNV Topopah Spring 29.81 322 ⇑P **P** **08 10 04.1 +2.2**
TPNV ⇓P **PcP** **08 13 07.5 +2.0**
TPNV Topopah Spring 29.81 322 P **P** **08 10 04.3 +2.4**
baz=132,SNR=38
NLU North Lily Min 29.83 331 P **P** **08 10 03.0 +0.9**
FURC Furnace Creek, 29.86 321 P **P** **08 10 03.6 +1.5**
baz=131,SNR=28
P60A Greenville 29.89 29 IAMs_20 IAMs_20 08 24 12.4
comp=Z,12µm,19.0s
P60A Greenville 29.89 29 P P 08 09 59.2 -3.2
baz=218
OSI Osito Audit: C 29.90 316 P **P** **08 10 03.8 +1.1**
OSI IAmb IAmb 08 10 15.4
comp=Z,98nm,1.6s
OSI Osito Audit: C 29.90 316 P **P** **08 10 03.3 +0.7**
baz=126,SNR=5.4
SMRT St. Maarten 29.91 79 *e*P P 08 09 53.9 -8.9
M55A Ridgway 29.91 23 P **P** **08 10 00.5 -2.1**
MPMC Manual Prospec 29.98 320 P **P** **08 10 05.1 +1.6**
baz=129,SNR=55
SEUS St. Eustatius 29.98 80 *e*P P 08 09 58.7 -4.8
K22A Casper 29.99 341 P **P** **08 10 04.0 +0.5**
K22A IAmb IAmb 08 10 41.0
comp=Z,156nm,1.7s
K22A Casper 29.99 341 P **P** **08 10 04.3 +0.8**
baz=155,SNR=25
ERPA Erie 30.03 21 P P 08 10 00.4 -3.2
baz=208
JLU Jordanelle 30.07 333 P **P** **08 10 05.3 +1.1**
SUSD Miller 30.07 353 P **P** **08 10 03.4 -0.6**
SUSD Miller 30.07 353 P **P** **08 10 03.1 -1.0**
baz=170
I45A Fountain 30.12 11 P **P** **08 10 02.8 -1.6**
SCZ2 Santa Cruz Isl 30.16 314 P **P** **08 10 05.8 +0.9**
baz=124
SPR3 Spring Creek 3 30.20 328 P **P** **08 10 06.7 +1.1**
ARVC Arvin 30.27 317 P **P** **08 10 08.2 +2.3**
baz=126,SNR=17
CTU Camp Tracy 30.27 333 P **P** **08 10 06.6 +0.6**
H43A Windswept, Lux 30.28 9 P **P** **08 10 04.7 -1.2**
H43A IAmb IAmb 08 11 13.8
comp=Z,115nm,1.9s
TBTG Tabatinga, AM 30.32 126⇑*i*P P 08 10 05.3 -1.2
TBTG Tabatinga, AM 30.32 126 *e*P **P** **08 10 06.6 +0.1**
ISA Isabella, Lake 30.36 318 P **P** **08 10 08.4 +1.7**
ISA pmax pmax
comp=Z,90nm,1.5s
ISA Isabella, Lake 30.36 318 P **P** **08 10 08.4 +1.7**
ISA IAmb IAmb 08 10 20.0
comp=Z,90nm,1.6s
ISA PcP **PcP** **08 13 06.5 -0.4**
ISA Isabella, Lake 30.36 318 P **P** **08 10 09.2 +2.5**
baz=128,SNR=12
DUG Dugway, Tooele 30.36 331 P **P** **08 10 07.8 +1.0**
DUG pmax pmax
comp=Z,94nm,1.6s
DUG MLR MLR
comp=Z,11µm,18.0s
DUG Dugway, Tooele 30.36 331 P **P** **08 10 07.8 +1.0**
DUG IAmb IAmb 08 10 20.0
comp=Z,94nm,1.6s
DUG IAMs_20 IAMs_20 08 21 59.6
comp=Z,11µm,18.0s
DUG Dugway, Tooele 30.36 331 P **P** **08 10 08.6 +1.9**
baz=142,SNR=18
R11A Troy Canyon, C 30.40 325 P **P** **08 10 08.7 +1.5**
R11A Troy Canyon, C 30.40 325 P **P** **08 10 08.1 +0.9**
baz=135,SNR=42
SBC Santa Barbara 30.47 315 P **P** **08 10 10.5 +3.0**
baz=124
TCUT Toone Canyon 30.47 334 P **P** **08 10 09.3 +1.5**
GRAC Grapevine Rang 30.51 321 P **P** **08 10 10.5 +2.5**
baz=131,SNR=73
SPMN Marine on St. 30.58 2 P **P** **08 10 06.8 -1.7**
SPMN Marine on St. 30.58 2 P **P** **08 10 06.1 -2.3**
baz=182,SNR=35
CWC Cottonwood Cre 30.59 320 P **P** **08 10 10.1 +1.2**
baz=129
CZSB Cruzeiro do Su 30.63 135 *e*P **P** **08 10 09.7 +0.5**
RSSD Black Hills 30.67 346 P **P** **08 10 10.0 +0.5**
RSSD pmax pmax
comp=Z,31nm,1.3s
RSSD MLR MLR
comp=Z,5µm,19.0s
RSSD Black Hills 30.67 346 P **P** **08 10 10.0 +0.5**
RSSD Black Hills 30.67 346 ⇑P **P** **08 10 11.0 +1.5**
RSSD Black Hills 30.67 346 P **P** **08 10 10.2 +0.7**
baz=161
N59A State Game Lan 30.70 28 IAMs_20 IAMs_20 08 23 25.1
comp=Z,12µm,20.0s
N59A State Game Lan 30.70 28 P P 08 10 07.3 -2.3
baz=216
G40A Rib Lake 30.78 5 P **P** **08 10 08.6 -1.6**
PKM Mcpherson Peak 30.79 316 P **P** **08 10 12.3 +1.6**
baz=124,SNR=8.1
VES Vestal, Richgr 30.86 318 P **P** **08 10 12.9 +1.9**
baz=127,SNR=44
HWUT Hardware Ranch 30.94 334 P **P** **08 10 13.0 +1.1**
L56A Greenwood 30.95 24 P **P** **08 10 10.4 -1.4**
L56A IAmb IAmb 08 11 08.0
comp=Z,98nm,1.9s
BGU Big Grassy Mou 31.04 331 P **P** **08 10 14.1 +1.4**
BGU IAmb IAmb 08 10 24.2
comp=Z,119nm,1.8s
TIN Tinemaha, Big 31.07 321 P **P** **08 10 15.7 +2.6**
baz=130,SNR=14
SPUT South Promonto 31.08 333 P **P** **08 10 14.1 +0.9**
SPUT IAmb IAmb 08 10 24.6
comp=Z,118nm,1.6s
BW06 Boulder Array 31.12 338 P **P** **08 10 14.3 +0.7**
BW06 Boulder Array 31.12 338 P **P** **08 10 14.1 +0.5**
baz=150,SNR=16
PD31 Pinedale Array 31.12 338 P **P** **08 10 14.7 +1.2**
PD31 Pinedale Array 31.12 338 ⇑P **P** **08 10 14.6 +1.1**
PDAR Pinedale Array 31.12 338 P **P** **08 10 13.6 0.0**
comp=Z,3.1nm,0.9s,baz=144,slow=8.5,SNR=28
PDAR PcP **PcP** **08 13 08.1 -0.8**
comp=Z,5.8nm,1.1s,baz=132,slow=4.0,SNR=3.3
PDAR LR LR 08 23 36.0
comp=Z,3µm,19.0s,baz=154,slow=38
PDAR Pinedale Array 31.12 338 P **P** **08 10 14.1 +0.5**
PDAR **PcP** **08 13 08.3 -0.6**
ANWB Willy Bob 31.12 80 *eP* P 08 10 05.8 -7.7
ANBD Bethesda, Anti 31.14 81 *eP* P 08 10 06.8 -6.8
TPH Tonopah 31.14 323 P **P** **08 10 15.0 +1.3**
TPH pmax pmax
comp=Z,198nm,1.1s
TPH Tonopah 31.14 323 P **P** **08 10 15.0 +1.3**
SMMC Simmler 31.15 316 P **P** **08 10 16.0 +2.3**
baz=125,SNR=14
G45A Suttons Bay 31.20 12 P **P** **08 10 12.0 -1.9**
G45A IAmb IAmb 08 11 02.6
comp=Z,120nm,1.7s
F36A Milaca 31.20 1 P **P** **08 10 12.4 -1.5**
F36A IAmb IAmb 08 10 14.2
comp=Z,102nm,1.5s
GLMI Grayling 31.21 13 P **P** **08 10 13.3 -0.7**
GLMI IAmb IAmb 08 10 24.4
comp=Z,76nm,0.9s
GLMI Grayling 31.21 13 P **P** **08 10 14.0 0.0**
baz=198
F33A 5 Mile Ranch, 31.24 357 P **P** **08 10 12.8 -1.5**
TDBA Terre de Bas, 31.28 83 *eP* P 08 10 08.8 -6.2
MMNY Mt. Morris Dam 31.32 23 P **P** **08 10 13.8 -1.3**
VOG Valley Oaks Go 31.34 318 P **P** **08 10 16.7 +1.5**
baz=127
NNA Nana 31.40 146 P **P** **08 10 16.5 +0.5**
NNA pmax pmax
comp=Z,96nm,1.2s
NNA Nana 31.40 146 P **P** **08 10 16.5 +0.5**
NNA IAmb IAmb 08 10 18.4
comp=Z,96nm,1.1s
ABD La Joyeuse, An 31.41 82 *eP* P 08 10 14.8 -1.3
DSLB Salisbury 31.51 84 *eP* P 08 10 13.9 -3.0
PAGB Antelope Grade 31.56 317 P **P** **08 10 18.7 +1.5**
PAGB IAmb IAmb 08 10 30.7
comp=Z,137nm,1.6s
GRGR Grenville 31.59 90 *eP* P 08 10 07.7 -10
HVU Hansel Valley 31.61 333 P **P** **08 10 18.6 +0.9**
HVU pmax pmax
comp=Z,100nm,1.2s
HVU Hansel Valley 31.61 333 P **P** **08 10 18.6 +0.9**
HVU IAmb IAmb 08 10 21.8
comp=Z,100nm,1.2s
PAL Palisades 31.64 30 IAMs_20 IAMs_20 08 23 50.9
comp=Z,12µm,18.0s
PAL Palisades 31.64 30 P **P** **08 10 18.2 +0.3**
baz=219
BINY Binghamton 31.65 26 IAMs_20 IAMs_20 08 23 38.1
comp=Z,12µm,20.0s
BINY Binghamton 31.65 26 P **P** **08 10 19.0 +1.0**
baz=215
DLPL La Plaine 31.68 84 *eP* **P** **08 10 21.2 +2.7**
AHID Auburn Hatcher 31.71 336 P **P** **08 10 18.9 +0.2**
AHID IAmb IAmb 08 10 22.2
comp=Z,195nm,2.0s
GCMP Grenada, Carri 31.77 90 *eP* P 08 10 14.8 -4.4
SVN Savane Anatole 31.78 85 IAMs_20 IAMs_20 08 23 11.7
comp=Z,9µm,19.0s
FDF Fort de France 31.81 85 *eP* P 08 10 16.1 -3.6
FDF Fort de France 31.81 85 IAMs_20 IAMs_20 08 24 15.4
comp=Z,12µm,18.0s
MLAC Mammoth, Mammo 31.81 321 P **P** **08 10 21.9 +2.2**
baz=130,SNR=24
SVB Belmont 31.84 88 *eP* P 08 10 13.9 -6.0
BIM Bigot 31.90 86 *eP* P 08 10 12.4 -8.1
NV11 Mina Array Sit 31.92 323 P **P** **08 10 22.3 +1.7**
MDPB Devils Postpil 31.96 321 P **P** **08 10 22.4 +1.3**
MDPB IAmb IAmb 08 10 25.6
comp=Z,66nm,1.0s
ELK Elko 31.97 329 P **P** **08 10 22.1 +1.1**
ELK pmax pmax
comp=Z,48nm,1.1s
ELK Elko 31.97 329 P **P** **08 10 22.1 +1.1**
ELK IAmb IAmb 08 10 25.5
comp=Z,48nm,1.1s
NVAR Mina Array Bea 32.01 322 P **P** **08 10 23.4 +2.0**
comp=Z,69nm,1.0s,baz=138,slow=7.4,SNR=198
NVAR PcP **PcP** **08 13 11.3 -0.1**
comp=Z,14nm,1.0s,baz=135,slow=3.3,SNR=9.3
NVAR LR LR 08 23 03.7
comp=Z,9µm,18.2s,baz=135,slow=36
NVAR Mina Array Bea 32.01 322 P **P** **08 10 22.6 +1.2**
NVAR **PcP** **08 13 11.1 -0.3**
LHV Little Huntoon 32.01 322 P **P** **08 10 22.4 +1.3**
E38A The Farm, Brul 32.01 3 P **P** **08 10 19.7 -1.4**
E38A IAmb IAmb 08 10 28.3
comp=Z,125nm,1.4s
SLBI Saint Lucia, B 32.03 87 *eP* P 08 10 19.9 -1.7
WSPT Westport, CT 32.05 30 IAMs_20 IAMs_20 08 24 02.7
comp=Z,14µm,19.0s
ILAM Ilet Lapin Mar 32.07 85 *eP* P 08 10 18.9 -3.0
MCLT Moule a Chique 32.09 87 *eP* P 08 10 10.0 -12
MPOM Morne Pois Mar 32.11 86 *eP* **P** **08 10 25.4 +3.1**
REDW Red Top Meadow 32.12 337 P **P** **08 10 23.0 +0.7**
SNOW Snow King Moun 32.17 337 P **P** **08 10 23.9 +1.1**
PMPB Monarch Peak 32.20 317 P **P** **08 10 24.2 +1.2**
PMPB IAmb IAmb 08 10 27.2
comp=Z,110nm,1.1s
LOHW Long Hollow 32.24 337 P **P** **08 10 23.7 +0.3**
E43A Lone Tree Farm 32.26 9 P **P** **08 10 20.9 -2.4**
TPAW Teton Pass 32.27 337 P **P** **08 10 23.9 +0.2**
TPAW IAmb IAmb 08 10 36.6
comp=Z,127nm,1.4s
RYN Ryan 32.27 323 P **P** **08 10 25.0 +1.4**
RYN IAmb IAmb 08 10 28.3
comp=Z,49nm,1.1s
KVN Kaiserville 32.30 324 P **P** **08 10 25.2 +1.2**
KVN pmax pmax
comp=Z,53nm,1.1s
KVN Kaiserville 32.30 324 P **P** **08 10 25.2 +1.2**
KVN IAmb IAmb 08 10 28.4
comp=Z,53nm,1.1s
E28A Huff 32.40 351 P **P** **08 10 23.9 -0.6**
MOOW Moose Ponds 32.41 337 P **P** **08 10 24.9 +0.1**
MOOW IAmb IAmb 08 10 35.7
comp=Z,75nm,1.4s
MOOW IAMs_20 IAMs_20 08 25 29.2
comp=Z,10µm,19.0s
FXWY Fox Creek 32.42 337 P **P** **08 10 25.9 +0.9**
FXWY IAmb IAmb 08 10 28.7
comp=Z,131nm,1.9s
D32A Dogwood Acres, 32.57 356 P **P** **08 10 24.6 -1.4**
D32A IAmb IAmb 08 10 25.9
comp=Z,38nm,0.7s
IMW Indian Meadow 32.61 337 P **P** **08 10 27.6 +0.9**
IMW IAmb IAmb 08 10 37.7
comp=Z,91nm,1.6s
J57A Williamstown 32.65 25 P **P** **08 10 24.9 -1.8**
SADO Sadowa 32.66 20 P **P** **08 10 24.4 -2.4**
comp=Z,5.2nm,0.7s,baz=269,slow=18,SNR=6.1
SADO Sadowa 32.66 20 P **P** **08 10 25.7 -1.0**
SADO Sadowa 32.66 20 ⇑P **P** **08 10 25.0 -1.7**
FLWY Flagg Ranch 32.68 338 P **P** **08 10 28.1 +1.0**
FLWY IAmb IAmb 08 10 42.6
comp=Z,174nm,1.8s
FLWY IAMs_20 IAMs_20 08 25 32.4
comp=Z,10µm,18.0s
D41A Chassel 32.72 7 P **P** **08 10 26.3 -1.0**
D41A IAmb IAmb 08 10 26.8
comp=Z,94nm,1.5s
BMN Battle Mountai 32.77 326 P **P** **08 10 29.7 +1.7**
BMN pmax pmax
comp=Z,56nm,1.1s
BMN Battle Mountai 32.77 326 P **P** **08 10 29.7 +1.7**
BMN IAmb IAmb 08 10 32.4
comp=Z,56nm,1.1s
YPP Pitchstone Pla 32.88 338 P **P** **08 10 30.0 +1.0**
H17A Grant Village 32.90 338 P **P** **08 10 30.1 +0.9**

H17A **Grant Village** 32.90 338 P P 08 10 30.8 +1.6
baz=149,SNR=14
YERR **Yerington** 32.92 322 P P 08 10 31.0 +1.6
YERR IAmb IAmb 08 10 34.0
comp=Z,69nm,1.1s
DELO **Deloro Mine** 32.97 22 P P 08 10 28.1 -1.3
LKWY **Lake** 32.98 338 IAMs_20 IAMs_20 08 24 42.5
comp=Z,11µm,19.0s
YMP **Mirror Lake Pl** 33.05 339 P P 08 10 31.4 +0.8
YMP IAmb IAmb 08 11 08.1
comp=Z,122nm,1.5s
RLMT **Red Lodge** 33.08 340 P P 08 10 30.9 +0.2
RLMT **Red Lodge** 33.08 340 P P 08 10 30.1 -0.7
baz=152,SNR=34
TRY **Troy** 33.10 28 IAMs_20 IAMs_20 08 23 55.5
comp=Z,10µm,22.0s
PNTR **Pine Nut** 33.20 322 P P 08 10 32.9 +1.0
PNTR IAmb IAmb 08 10 36.6
comp=Z,79nm,1.0s
YNR **Norris Junctio** 33.21 338 P P 08 10 31.5 -0.4
YNR IAmb IAmb 08 10 43.2
comp=Z,103nm,1.6s
YNE **Yellowstone No** 33.23 339 P P 08 10 32.3 +0.3
YNE IAmb IAmb 08 10 38.2
comp=Z,68nm,1.2s
K61A **Williamstown** 33.23 29 P P 08 10 29.2 -2.7
baz=219
YMR **Madison River** 33.28 338 P P 08 10 33.4 +1.0
YMR IAmb IAmb 08 10 44.0
comp=Z,133nm,1.5s
YHH **Holmes Hill** 33.34 338 P P 08 10 33.8 +0.7
YHH IAmb IAmb 08 10 37.2
comp=Z,86nm,1.6s
L61B **Northampton** 33.34 29 P P 08 10 30.4 -2.4
baz=220
EYMN **Ely** 33.35 3 P P 08 10 31.4 -1.4
EYMN IAmb IAmb 08 10 32.5
comp=Z,105nm,1.6s
EYMN **Ely** 33.35 3 P P 08 10 30.4 -2.4
baz=184,SNR=12
QUA2 **Belchertown** 33.37 30 IAMs_20 IAMs_20 08 25 01.5
comp=Z,10µm,18.0s
VCNR **Virginia City** 33.37 322 P P 08 10 34.3 +1.0
M64A **Tiverton** 33.39 32 P P 08 10 31.9 -1.3
baz=223
L63A **North Scituate** 33.42 31 P P 08 10 28.1 -5.4
baz=222
YHB **Horse Butte** 33.43 338 P P 08 10 34.3 +0.5
PAHR **Pah Rah Range** 33.48 323 P P 08 10 36.0 +1.8
BBGH **Gun Hill** 33.49 88 eP P 08 10 26.0 -8.4
BBGH **Gun Hill** 33.49 88 IAMs_20 IAMs_20 08 25 28.7
comp=Z,11µm,20.0s
BRYW **Bryant College** 33.50 31 IAMs_20 IAMs_20 08 25 05.9
comp=Z,11µm,19.0s
MDND **Maddock** 33.51 353 P P 08 10 33.5 -0.6
MDND **Maddock** 33.51 353 P P 08 10 33.1 -1.1
baz=170,SNR=25
RUBR **Rubicon Trail** 33.51 322 P P 08 10 35.2 +0.6
QLMT **Earthquake Lak** 33.59 337 P P 08 10 36.1 +1.0
LAO **LASA Array** 33.62 345 P P 08 10 35.1 0.0
LAO **LASA Array** 33.62 345 P P 08 10 35.5 +0.4
baz=158,SNR=13
AGMN **Agassiz Nation** 33.67 358 P P 08 10 34.3 -1.3
AGMN IAmb IAmb 08 11 02.8
comp=Z,56nm,1.1s
AGMN **Agassiz Nation** 33.67 358 P P 08 10 34.0 -1.6
baz=177,SNR=28
M65A **Busby, Falmout** 33.69 32 P P 08 10 33.3 -2.5
baz=224
B35A **Bob, Littlefor** 33.70 0 P P 08 10 34.1 -1.7
B35A IAmb IAmb 08 10 35.7
comp=Z,137nm,1.4s
K62A **Royalston** 33.72 30 IAMs_20 IAMs_20 08 25 02.8
comp=Z,8µm,20.0s
HLID **Hailey** 33.76 333 P P 08 10 37.3 +0.7
HLID **Hailey** 33.76 333 P P 08 10 38.3 +1.7
baz=142,SNR=44
GCMT **Greycliff** 33.80 340 P P 08 10 36.7 -0.3
L64A **Middleborough** 33.86 32 P P 08 10 32.8 -4.5
baz=223
HRV **Adam Dziewonsk** 33.92 30 IAMs_20 IAMs_20 08 25 17.3
comp=Z,9µm,19.0s
HRV **Adam Dziewonsk** 33.92 30 P P 08 10 34.5 -3.3
baz=221
WES **Weston** 33.95 31 IAMs_20 IAMs_20 08 25 27.9
comp=Z,9µm,19.0s
K63A **Dunstable** 34.08 30 IAMs_20 IAMs_20 08 25 22.3
comp=Z,10µm,18.0s
K63A **Dunstable** 34.08 30 P P 08 10 36.4 -2.7
baz=221
J61A **Chester** 34.09 28 P P 08 10 34.8 -4.4
baz=219
MCMT **McKenzie Canyo** 34.13 336 P P 08 10 41.5 +1.6
I60A **Shoreham** 34.15 27 P P 08 10 36.2 -3.5
baz=217
BEKR **Beckworth** 34.16 323 P P 08 10 41.4 +1.3
BEKR IAmb IAmb 08 10 44.6
comp=Z,53nm,1.1s
LONY **Lake Ozonia** 34.22 25 P P 08 10 38.5 -1.9
LONY IAMs_20 IAMs_20 08 25 17.1
comp=Z,11µm,20.0s
LONY **Lake Ozonia** 34.22 25 P P 08 10 38.7 -1.7
baz=215
MFID **Camas Ranch** 34.28 331 P P 08 10 42.3 +1.2
MFID IAmb IAmb 08 10 47.1
comp=Z,87nm,1.5s
MFID IAMs_20 IAMs_20 08 26 31.4
comp=Z,10µm,18.0s
BOZ **Bozeman (W)** 34.31 338 P P 08 10 42.2 +0.8
BOZ pmax pmax
comp=Z,110nm,1.8s
BOZ MLR MLR
comp=Z,4µm,18.0s
BOZ **Bozeman (W)** 34.31 338 P P 08 10 42.2 +0.8
BOZ IAmb IAmb 08 10 45.4
comp=Z,110nm,1.8s
BOZ **Bozeman (W)** 34.31 338 P P 08 10 43.1 +1.7
baz=149,SNR=23
L65A **Cape Cod Natio** 34.34 32 P P 08 10 37.4 -4.0
baz=224
J62A **Henniker** 34.34 29 P P 08 10 39.1 -2.4
baz=220
DLMT **Dillon** 34.48 337 P P 08 10 44.2 +1.4
DLMT IAmb IAmb 08 10 54.4
comp=Z,141nm,1.4s
HNH **Hanover** 34.49 28 IAMs_20 IAMs_20 08 25 39.2
comp=Z,11µm,19.0s
FFD **Franklin Falls** 34.60 29 IAMs_20 IAMs_20 08 24 57.3
comp=Z,9µm,20.0s
J63A **Strafford** 34.74 30 P P 08 10 41.8 -3.0
baz=221
VT1 **Waterbury** 34.77 27 IAMs_20 IAMs_20 08 25 20.4
comp=Z,11µm,21.0s
LRM **Limekiln Ridge** 34.81 337 P P 08 10 46.8 +1.0
DGMT **Dagmar** 34.84 348 P P 08 10 45.7 -0.1
DGMT IAmb IAmb 08 10 57.0
comp=Z,82nm,1.1s
DGMT **Dagmar** 34.84 348 P P 08 10 45.6 -0.1
baz=162,SNR=16
WVOR **Wild Horse Val** 34.94 327 P P 08 10 48.3 +1.5
WVOR pmax pmax
comp=Z,142nm,1.3s
WVOR MLR MLR
comp=Z,6µm,20.0s
WVOR **Wild Horse Val** 34.94 327 P P 08 10 48.3 +1.5
WVOR IAmb IAmb 08 10 53.6
comp=Z,142nm,1.3s
WVOR **Wild Horse Val** 34.94 327 ⇑P P 08 10 48.0 +1.1
GDXM **Geysers** 35.00 319 P P 08 10 47.9 +0.6
I62A **Tamworth** 35.06 29 IAMs_20 IAMs_20 08 25 55.4
comp=Z,8µm,18.0s
I62A **Tamworth** 35.06 29 P P 08 10 45.0 -2.7
baz=220
LBNH **Lisbon** 35.07 28 IAMs_20 IAMs_20 08 25 15.6
comp=Z,11µm,20.0s
LBNH **Lisbon** 35.07 28 P P 08 10 46.2 -1.5
baz=219
BOAV **Boa Vista** 35.22 107 eP P 08 10 49.0 -0.4
O03E **Paynes Creek** 35.28 322 P P 08 10 49.0 -0.7
baz=129,SNR=11
HRY **Holter Researc** 35.34 339 P P 08 10 50.9 +0.7
J08A **Circle Bar Ran** 35.52 329 P P 08 10 52.7 +0.9
J08A IAmb IAmb 08 10 55.6
comp=Z,127nm,1.2s
I63A **Otisfield** 35.55 30 IAMs_20 IAMs_20 08 25 25.4
comp=Z,7µm,19.0s

I63A **Otisfield** 35.55 30 P P 08 10 47.7 -4.2
baz=221
ULM **Lac du Bonnet** 35.62 358 P P 08 10 50.4 -2.0
comp=Z,13nm,0.6s,baz=172,slow=10,SNR=26
ULM LR LR 08 27 50.3
comp=Z,4µm,18.6s,baz=169,slow=40
ULM **Lac du Bonnet** 35.62 358 P P 08 10 51.0 -1.4
ULM pmax pmax
comp=Z,36nm,1.1s
ULM **Lac du Bonnet** 35.62 358 P P 08 10 51.0 -1.4
ULM **Lac du Bonnet** 35.62 358 ⇓P P 08 10 50.5 -2.0
PLID **Pearl Lake** 35.66 333 P P 08 10 53.5 +0.4
PLID IAmb IAmb 08 10 56.3
comp=Z,83nm,1.1s
O02D **Mt. Diablo Mer** 35.80 321 P P 08 10 53.6 -0.6
baz=127
EGMT **Eagleton** 35.82 342 P P 08 10 54.9 +0.7
EGMT IAmb IAmb 08 10 57.5
comp=Z,140nm,1.4s
EGMT **Eagleton** 35.82 342 P P 08 10 55.0 +0.8
baz=153,SNR=23
WDC **Whiskeytown Da** 35.90 322 ⇓P P 08 10 55.7 +0.8
BMO **Blue Mountains** 36.06 331 P P 08 10 57.0 +0.6
BMO pmax pmax
comp=Z,43nm,1.4s
BMO MLR MLR
comp=Z,11µm,18.0s
BMO **Blue Mountains** 36.06 331 P P 08 10 57.0 +0.6
BMO IAMs_20 IAMs_20 08 27 41.6
comp=Z,11µm,18.0s
MSO **Missoula** 36.22 337 P P 08 10 58.1 +0.5
MSO IAMs_20 IAMs_20 08 28 36.0
comp=Z,11µm,18.0s
MSO **Missoula** 36.22 337 P P 08 10 58.7 +1.0
baz=146,SNR=22
N02D **Trinity Center** 36.24 322 P P 08 10 58.2 +0.3
baz=128
M04C **Macdoel** 36.25 324 P P 08 10 59.8 +1.7
baz=130,SNR=7.6
KMRM **Mail Ridge** 36.40 320 P P 08 10 60.0 +0.7
KMRM IAmb IAmb 08 11 03.6
comp=Z,84nm,1.1s
G62A **West of Eustis** 36.46 28 IAMs_20 IAMs_20 08 26 50.3
comp=Z,11µm,18.0s
G62A **West of Eustis** 36.46 28 P P 08 10 56.6 -3.0
baz=220
I07A **Izee** 36.56 329 P P 08 11 01.7 +1.1
M02C **Callahan** 36.59 323 P P 08 11 01.8 +0.9
baz=128
ETMB **Extrema** 36.72 130 eP P 08 11 00.9 -1.3
K04D **Chiloquin, OR** 36.75 325 P P 08 11 02.9 +0.6
baz=131,SNR=9.3
L04D **Klamath Falls** 36.79 324 P P 08 11 03.3 +0.6
baz=130,SNR=8.7
KHMM **Horse Mountain** 36.80 321 P P 08 11 03.5 +0.7
KHMM IAmb IAmb 08 11 06.8
comp=Z,69nm,0.9s
F10A **Beach Ranch, E** 36.89 333 P P 08 11 03.9 +0.5
F10A **Beach Ranch, E** 36.89 333 ⇑P P 08 11 04.0 +0.5
J05D **Fort Rock, OR** 36.91 326 P P 08 11 03.5 -0.1
baz=132,SNR=7.9
PTGA **Pitinga** 36.98 111 P P 08 11 03.2 -1.3
PTGA IAmb IAmb 08 11 13.2
comp=Z,150nm,1.4s
PTGA **Pitinga** 36.98 111 eP P 08 11 02.2 -2.3
PTGA **Pitinga** 36.98 111 ⇑P P 08 11 03.4 -1.1
PKME **Peaks-Kenny Pk** 37.07 29 IAMs_20 IAMs_20 08 26 20.5
comp=Z,7µm,20.0s
PKME **Peaks-Kenny Pk** 37.07 29 P P 08 11 02.7 -2.1
baz=222
PINE **Pine Mountain** 37.09 327 P P 08 11 06.3 +0.9
JTMT **Jette** 37.11 337 P P 08 11 06.3 +1.0
G08A **Pilot Rock** 37.17 331 P P 08 11 06.7 +0.9
F62A **Pittston Farm,** 37.23 28 P P 08 11 03.8 -2.4
baz=220
J04D **Umpqua Nationa** 37.35 325 P P 08 11 08.5 +0.9
baz=131,SNR=16
MACA **Manacapuru-AM** 37.45 115 eP P 08 11 08.3 -0.2
F63A **Nahmakanta, Br** 37.48 29 IAMs_20 IAMs_20 08 27 17.5
comp=Z,7µm,19.0s
F63A **Nahmakanta, Br** 37.48 29 P P 08 11 05.9 -2.5
baz=222
L02E **Cave Junction** 37.50 323 P P 08 11 09.5 +0.9
baz=128
I05D **Terrebonne, OR** 37.68 327 P P 08 11 10.8 +0.6
baz=133,SNR=8.1
E09A **Wood Farm, Sta** 37.71 333 P P 08 11 10.4 +0.1
G65A **Princeton** 37.87 31 P P 08 11 09.4 -2.2
baz=224
K02D **Willamette Mer** 37.88 324 P P 08 11 12.1 +0.2
baz=129
I04A **Tendick Farm,** 37.88 326 P P 08 11 12.0 +0.2
baz=131,SNR=9.6
KBO **Bosley Butte** 37.90 323 P P 08 11 12.8 +0.8
F64A **Sherman** 37.96 30 P P 08 11 10.5 -1.9
baz=223
E62A **Clayton Lake** 37.98 28 P P 08 11 10.1 -2.4
baz=221
F07A **Phinny Hill Vi** 38.08 330 P P 08 11 13.7 +0.3
WALA **Waterton Lakes** 38.08 339 P P 08 11 14.5 +1.0
HAWA **Hanford** 38.25 331 P P 08 11 15.4 +0.5
HAWA IAMs_20 IAMs_20 08 28 00.5
comp=Z,6µm,19.0s
G05D **Wamic, OR** 38.29 329 P P 08 11 16.4 +1.1
baz=134,SNR=16
J01E **Myrtle Point** 38.32 324 P P 08 11 15.7 +0.3
baz=129,SNR=7.5
I03D **Drain, OR** 38.33 325 P P 08 11 16.0 +0.5
baz=130,SNR=9.9
I03D S S 08 17 12.4 +1.7
baz=130
E63A **Oxbow** 38.34 29 IAMs_20 IAMs_20 08 27 42.5
comp=Z,6µm,19.0s
H04A **Detroit Lake** 38.36 327 P P 08 11 15.6 -0.2
H04A IAmb IAmb 08 11 19.0
comp=Z,105nm,1.2s
KEBM **Edson Butte** 38.37 323 P P 08 11 15.9 -0.1
BUCK **Buck Mountain** 38.46 326 P P 08 11 17.2 +0.5
BUCK IAmb IAmb 08 11 27.0
comp=Z,125nm,1.4s
D08A **Wollman Farm,** 38.47 332 P P 08 11 15.9 -0.8
SAML **Samuel** 38.50 126 P P 08 11 15.4 -1.9
SAML pmax pmax
comp=Z,74nm,1.5s
SAML **Samuel** 38.50 126 P P 08 11 15.4 -1.9
SAML **Samuel** 38.50 126 eP P 08 11 10.0 -7.3
SAML **Samuel** 38.50 126 eP P 08 11 15.9 -1.3
E07A **Sunnyside** 38.53 331 P P 08 11 18.1 +0.9
D62A **Allapoint, All** 38.54 28 IAMs_20 IAMs_20 08 27 55.4
comp=Z,10µm,20.0s
D62A **Allapoint, All** 38.54 28 P P 08 11 14.6 -2.7
baz=221
H04D **Lebanon** 38.54 327 P P 08 11 17.8 +0.5
baz=132,SNR=10
H04D S S 08 17 12.7 -1.2
baz=132
NEW **Newport** 38.64 335 P P 08 11 18.6 +0.4
NEW pmax pmax
comp=Z,46nm,1.5s
NEW MLR MLR
comp=Z,10µm,21.0s
NEW **Newport** 38.64 335 P P 08 11 18.6 +0.4
NEW **Newport** 38.64 335 IAMs_20 IAMs_20 08 29 14.0
comp=Z,10µm,21.0s
NEW **Newport** 38.64 335 P P 08 11 18.1 -0.1
baz=142,SNR=16
NEW S S 08 17 14.9 -0.5
baz=142
C09A **Chrisman Ranch** 38.76 334 P P 08 11 19.7 +0.6
F05D **White Salmon** 38.82 329 P P 08 11 21.4 +1.8
baz=135,SNR=25
F05D S S 08 17 21.7 +3.8
baz=135
I02D **Swisshome** 38.87 325 P P 08 11 21.0 +0.9
baz=130
I02D S S 08 17 20.8 +2.0
baz=130
COR **Corvallis** 38.89 326 P P 08 11 20.7 +0.5
COR pmax pmax
comp=Z,164nm,1.4s
COR MLR MLR
comp=Z,7µm,18.0s
COR **Corvallis** 38.89 326 P P 08 11 20.7 +0.5
COR IAmb IAmb 08 11 23.8
comp=Z,164nm,1.4s
COR **Corvallis** 38.89 326 IAMs_20 IAMs_20 08 27 48.9
comp=Z,7µm,18.0s
COR **Corvallis** 38.89 326 ⇓P P 08 11 22.7 +2.5
G03D **McMinnville, O** 39.28 327 P P 08 11 23.2 -0.2
baz=132,SNR=8.6
G03D S S 08 17 25.6 +0.7
baz=132
F04A **Amboy** 39.33 328 P P 08 11 25.4 +1.6
LTY **Liberty** 39.42 331 P P 08 11 25.5 +0.7
LON **Longmire** 39.60 330 P P 08 11 27.3 +1.1
LON pmax pmax
comp=Z,27nm,0.9s
LON **Longmire** 39.60 330 P P 08 11 27.3 +1.1
B08A **Colville Reser** 39.64 333 P P 08 11 27.4 +0.9
F04D **Rainier, OR** 39.73 328 P P 08 11 28.6 +1.4
baz=133,SNR=6.3
F04D S S 08 17 33.8 +2.0
baz=133
E04D **Cinebar** 39.84 329 P P 08 11 29.0 +0.9
baz=134,SNR=8.2
E04D S S 08 17 35.6 +2.3
baz=134
LPAZ **La Paz** 39.93 139 P P 08 11 29.0 -0.9
comp=Z,14nm,0.7s,baz=329,slow=6.9,SNR=40
LPAZ **La Paz** 39.93 139 P P 08 11 29.9 0.0
LPAZ pmax pmax
comp=Z,24nm,0.9s
LPAZ **La Paz** 39.93 139 P P 08 11 29.9 0.0
LPAZ **La Paz** 39.93 139 eP P 08 11 17.4 -13
LPAZ **La Paz** 39.93 139 ⇓P P 08 11 29.0 -0.9
LPAZ **La Paz** 39.93 139 eP P 08 11 29.3 -0.6
D05A **Enumclaw** 39.99 330 P P 08 11 30.0 +0.6
C06D **Leavenworth** 40.01 332 P P 08 11 30.4 +0.8
baz=137,SNR=5.2
C06D S S 08 17 37.5 +1.6
baz=137
E03A **Lebam** 40.33 328 P P 08 11 33.0 +0.8
D04E **Lakebay** 40.37 330 P P 08 11 33.4 +0.9
baz=134,SNR=7.6
FFC **Flin Flon** 40.55 353 P P 08 11 34.2 +0.3
FFC pmax pmax
comp=Z,50nm,1.4s
FFC **Flin Flon** 40.55 353 P P 08 11 34.2 +0.3
FFC **Flin Flon** 40.55 353 ⇓P P 08 11 34.7 +0.8
B06A **Marblemount** 40.72 332 P P 08 11 36.2 +0.8
B05A **Bryant** 40.81 331 P P 08 11 35.4 -0.7
baz=136,SNR=6.2
NLWA **Neilton Lookou** 41.06 329 P P 08 11 39.8 +1.6
NLWA **Neilton Lookou** 41.06 329 ⇑P P 08 11 40.2 +1.9
PSGCX **Pisagua** 41.31 145 P P 08 11 40.8 +0.1
A04D **Lummi Island** 41.42 331 P P 08 11 41.6 +0.4
baz=135,SNR=9.0
A04D S S 08 17 57.8 +1.0
baz=135
EDM **Edmonton** 41.49 343 P P 08 11 41.4 -0.3
EDM **Edmonton** 41.49 343 P P 08 11 41.4 -0.3
PGC **Sidney** 41.72 331 P P 08 11 43.8 +0.2
PGC IAmb IAmb 08 11 54.4
comp=Z,147nm,1.9s
TA02 **Huaiquique** 41.84 145 P P 08 11 44.5 -0.5
TA01 **Diego Aracena** 42.05 146 P P 08 11 46.0 -0.7
TA01 IAmb IAmb 08 11 48.7
comp=Z,98nm,1.2s
PB08 **IPOC Station P** 42.29 144 P P 08 11 49.2 +0.2
ITTB **Itaituba** 42.38 113 eP P 08 11 47.9 -1.6
LLLB **Lillooet** 42.43 334 P P 08 11 50.1 +0.7
MALB **Monte Alegre** 42.63 109 eP P 08 11 50.1 -1.4
VILB **Vilhena** 43.25 128 eP P 08 11 55.4 -1.1
RPN **Rapa Nui** 44.02 200 LR LR 08 25 34.4
comp=Z,3µm,21.9s,baz=359,slow=30
LVC **Limon Verde** 44.39 146 P P 08 12 06.1 +0.1
LVC pmax pmax
comp=Z,43nm,1.2s
LVC **Limon Verde** 44.39 146 P P 08 12 06.1 +0.1
LVC **Limon Verde** 44.39 146 ⇓P P 08 12 06.5 +0.5
LVC **Limon Verde** 44.39 146 eP P 08 12 06.2 +0.2
AF01 **San Pedro de A** 45.07 145 P P 08 12 12.6 +1.3
PB14 **IPOC Station P** 45.27 149 P P 08 12 12.9 0.0
PB14 IAmb IAmb 08 12 14.6
comp=Z,90nm,1.3s
SCHQ **Schefferville** 45.41 22 P P 08 12 10.5 -2.8
comp=Z,4.1nm,0.7s,baz=232,slow=11,SNR=5.4
SCHQ LR LR 08 32 26.5
comp=Z,11µm,20.0s,baz=219,slow=38
SCHQ **Schefferville** 45.41 22 P P 08 12 12.7 -0.7
SCHQ IAmb IAmb 08 12 29.3
comp=Z,94nm,1.9s
CLDB **Colider** 45.56 122 eP P 08 12 14.2 -0.9
PTLB **Pontes e Lacer** 45.60 129 eP P 08 12 13.8 -1.5
AC02 **Maricunga** 47.74 149 P P 08 12 33.0 +0.6
GO03 **Copiap** 47.84 151 P P 08 12 32.2 -0.6
GO03 IAmb IAmb 08 12 33.8
comp=Z,62nm,1.4s
PRPB **Parauapebas** 48.46 112 eP P 08 12 36.4 -1.3
SALV **Santo Antonio** 48.50 127 eP P 08 12 36.4 -1.6
TMAB **Tom-Au,PA,Br** 48.51 107 eP P 08 12 38.5 +0.3
LCO **Las Campanas** 48.84 153 ⇑P P 08 12 40.0 -0.7
CO05 **La Serena** 49.39 154 P P 08 12 44.8 +0.3
CO05 IAmb IAmb 08 12 57.3
comp=Z,95nm,1.3s
GO04 **Tololo Observa** 49.80 153 P P 08 12 48.2 +0.3
GO04 IAmb IAmb 08 12 52.0
comp=Z,70nm,1.1s
CO06 **Fray Jorge** 49.88 155 P P 08 12 48.3 +0.1
SNDB **Serra Nova Dou** 49.89 120 eP P 08 12 47.6 -1.1
YKA **Yellowknife Ar** 50.04 348 P P 08 12 48.6 -0.5
comp=Z,36nm,0.9s,baz=146,slow=8.3,SNR=64
YKA PcP PcP 08 14 09.4 +0.5
comp=Z,5.5nm,0.9s,baz=144,slow=5.7,SNR=1.9
PP1B **Ponte de Pedra** 50.13 128 eP P 08 12 48.9 -1.6
CRAG **Craig** 50.70 332 P P 08 12 56.3 +2.1
baz=128
CRAG S S 08 20 16.7 +6.7
baz=128
WRAK **Wrangell Islan** 50.95 334 IAMs_20 IAMs_20 08 37 08.6
comp=Z,4µm,19.0s
WRAK **Wrangell Islan** 50.95 334 P P 08 12 58.8 +2.7
baz=129
WRAK S S 08 20 21.0 +7.6
baz=129
AQDB **Aquidauana** 51.31 132 P P 08 12 58.0 -1.2
AQDB IAmb IAmb 08 13 06.5
comp=Z,86nm,1.6s
AQDB **Aquidauana** 51.31 132 eP P 08 12 57.2 -2.0
DLBC **Dease Lake** 51.35 337 P P 08 12 59.8 +0.7
DLBC IAmb IAmb 08 13 03.6
comp=Z,99nm,1.2s
ARAG **Araguaiana, MT** 51.44 124 eP P 08 12 58.9 -1.4
SMTB **Santa Maria do** 51.61 114 eP P 08 12 59.9 -1.8
ZON **Zonda** 51.91 152 P P 08 13 03.7 +0.1
ZON pmax pmax
comp=Z,141nm,1.3s
ZON **Zonda** 51.91 152 P P 08 13 03.7 +0.1
WTLY **Watson Lake, Y** 52.07 339 P P 08 13 05.8 +1.4
baz=136
WTLY S S 08 20 32.2 +3.3
baz=136
VA03 **San Esteban** 52.15 155 P P 08 13 05.2 -0.2
ROSB **Rosrio** 52.40 105 eP P 08 13 07.3 -0.3
PEXB **Peixe** 52.49 118 eP P 08 13 07.3 -1.0
MT05 **Renca** 52.62 155 P P 08 13 09.3 +0.5
SIT **Sitka** 52.64 333 P P 08 13 08.7 0.0
baz=126
SIT S S 08 20 44.3 +7.6
baz=126
WRGLY **Wrigley** 52.79 344 P P 08 13 10.2 +0.5
baz=143,SNR=13
WRGLY S S 08 20 39.9 +1.3
baz=143
TGTN **Hyland Airport** 52.92 340 P P 08 13 11.7 +0.9
baz=137,SNR=15
TGTN S S 08 20 44.8 +4.2
baz=137
JIS **Juneau Island** 52.98 335 P P 08 13 11.8 +0.7
BO01 **Tunca** 53.36 156 P P 08 13 13.8 -0.4
BO01 IAmb IAmb 08 13 15.2
comp=Z,80nm,1.2s
BESE **Bessie Mountai** 53.36 335 P P 08 13 14.3 +0.2
BESE IAmb IAmb 08 13 18.1
comp=Z,69nm,1.6s
CPUP **Villa Florida** 54.10 139 P P 08 13 16.9 -2.9
comp=Z,51nm,1.2s,baz=326,slow=7.8,SNR=26
CPUP LR LR 08 37 08.9
comp=Z,2µm,18.3s,baz=330,slow=37
CPUP **Villa Florida** 54.10 139 P P 08 13 18.4 -1.4
CPUP pmax pmax

comp=Z,80nm,1.3s
CPUP Villa Florida 54.10 139 P P 08 13 18.4 -1.4
CPUP IAmb IAmb 08 13 19.8
comp=Z,80nm,1.2s
CPUP Villa Florida 54.10 139 ⇓P P 08 13 17.8 -2.1
CPUP Villa Florida 54.10 139 *e*P P 08 13 17.9 -1.9
SKAG Skagway 54.10 335 P **P** **08 13 20.1 +0.7**
SKAG IAmb IAmb 08 13 23.1
comp=Z,63nm,1.6s
SKAG Skagway 54.10 335 P **P** **08 13 19.9 +0.5**
baz=128
SKAG S **S** **08 21 01.7 +5.3**
baz=128
ML02 Panimavida 54.44 157 P **P** **08 13 21.5 -0.6**
BDFB Brasilia 54.50 122 P P 08 13 21.3 -1.7
comp=Z,26nm,0.7s,baz=294,slow=8.8,SNR=35
BDFB Brasilia 54.50 122 P P 08 13 21.9 -1.1
BDFB pmax pmax
comp=Z,63nm,1.0s
BDFB Brasilia 54.50 122 P P 08 13 21.9 -1.2
BDFB IAmb IAmb 08 13 24.1
comp=Z,63nm,1.0s
WHY Whitehorse 54.67 337 P **P** **08 13 23.8 +0.1**
WHY Whitehorse 54.67 337 P **P** **08 13 24.3 +0.6**
baz=129,SNR=7.8
WHY S **S** **08 21 07.8 +3.3**
baz=129
MMPY Sheldon Lake, 54.69 340 P **P** **08 13 24.6 +0.8**
baz=134,SNR=35
MMPY S **S** **08 21 09.3 +4.8**
baz=134
ITRB Iturama 54.83 127 *e*P P 08 13 24.2 -1.2
TRCB Terra Rica 54.98 132 P P 08 13 24.6 -1.8
TRCB IAmb IAmb 08 13 25.2
comp=Z,102nm,1.6s
FARO Faro, Yukon 55.13 339 P **P** **08 13 27.6 +0.6**
baz=132,SNR=21
FARO S **S** **08 21 14.0 +3.6**
baz=132
PCMB Pacaembu 55.26 130 *e*P P 08 13 26.6 -1.7
NBPS Pedro II - PI 55.43 106 *e*P **P** **08 13 29.9 0.0**
SDBA SAO DESIDERIO 55.56 116 *e*P **P** **08 13 29.9 -0.9**
IPMB Ipameri, GO 55.56 124 *e*P **P** 08 13 29.5 -1.2
HYT Haines Junctio 55.80 336 P **P** **08 13 32.4 +0.5**
HYT IAmb IAmb 08 13 36.0
comp=Z,118nm,1.6s
HYT Haines Junctio 55.80 336 P **P** **08 13 33.0 +1.2**
baz=126,SNR=23
HYT S **S** **08 21 25.1 +5.6**
baz=126
BCPM Bancas Point 56.16 334 P **P** **08 13 34.4 +0.1**
BCPM IAmb IAmb 08 13 38.2
comp=Z,50nm,1.2s
YUK6 Outpost Mounta 56.20 336 P **P** **08 13 36.9 +2.0**
baz=125,SNR=15
YUK6 S **S** **08 21 30.9 +5.8**
baz=125
NBMO Morrinhos-CE 56.37 104 *e*P **P** **08 13 37.2 +0.8**
PINM Pinnacle 56.50 334 P **P** **08 13 37.8 +1.0**
baz=123,SNR=6.4
PINM S **S** **08 21 36.4 +7.7**
baz=123
PCA Pinnacle 56.50 334 P **P** **08 13 36.2 -0.6**
PCA IAmb IAmb 08 13 40.7
comp=Z,51nm,1.0s
YUK4 Talbot Arm 56.55 336 P **P** **08 13 39.0 +1.6**
baz=126,SNR=12
YUK4 S **S** **08 21 35.4 +5.7**
baz=126
PTGB Pitanga 56.58 133 *e*P P 08 13 36.1 -1.8
ITQB Itaqui 56.89 141 P P 08 13 38.4 -1.5
ITQB Itaqui 56.89 141 *e*P P 08 13 38.8 -1.1
MAYO Mayo, Yukon 56.91 339 P **P** **08 13 40.2 +0.6**
baz=129,SNR=11
MAYO S **S** **08 21 38.3 +4.3**
baz=129
BB19B Bebedouro 57.01 127 *e*P **P** **08 13 40.1 -0.9**
TABL Table Mountain 57.06 334 P **P** **08 13 41.0 0.0**
TABL IAmb IAmb 08 13 47.9
comp=Z,74nm,1.3s
TABL IAMs_20 IAMs_20 08 39 17.0
comp=Z,5µm,19.0s
LOGN Logan Glacier 57.21 335 P **P** **08 13 42.5 +0.6**
LOGN IAmb IAmb 08 13 45.8
comp=Z,70nm,1.4s
LOGN IAMs_20 IAMs_20 08 41 40.0
comp=Z,5µm,18.0s
MESA MESA 57.26 334 P **P** **08 13 44.6 +2.2**
baz=121
YAH Yahtse 57.27 334 P **P** **08 13 43.5 +1.1**
YAH IAmb IAmb 08 13 46.7
comp=Z,52nm,1.1s
JANB Januaria 57.31 119 *e*P **P** **08 13 42.6 -0.6**
CTGM Chitina Glacie 57.42 335 P **P** **08 13 43.9 +0.5**
CTGM IAMs_20 IAMs_20 08 38 16.7
comp=Z,5µm,18.0s
CTG Chitna Glacier 57.42 335 P **P** **08 13 45.0 +1.6**
baz=122,SNR=15
CTG S **S** **08 21 46.3 +5.3**
baz=122
GRNC Granite Creek 57.47 334 P **P** **08 13 44.5 +0.7**
GRNC IAmb IAmb 08 13 47.6
comp=Z,59nm,1.0s
YUK3 Moose Creek 57.51 336 P **P** **08 13 44.9 +0.8**
baz=124,SNR=17
YUK3 S **S** **08 21 46.0 +3.6**
baz=124
FRTB Fartura 57.55 130 *e*P P 08 13 43.5 -1.2
NBPB Pedra_Branca-C 57.57 106 *e*P **P** **08 13 44.8 -0.2**
BARN Barnard Glacie 57.60 335 P **P** **08 13 43.9 -0.9**
BARN IAMs_20 IAMs_20 08 41 54.5
comp=Z,5µm,18.0s
ISLE Juniper Island 57.65 334 P **P** **08 13 46.0 +1.0**
WAX Waxell Ridge 57.79 334 P **P** **08 13 46.5 +0.6**
TGL Tana Glacier 57.93 334 P **P** **08 13 47.2 +0.3**
TGL IAmb IAmb 08 13 50.7
comp=Z,56nm,1.2s
TGL IAMs_20 IAMs_20 08 38 46.1
comp=Z,5µm,19.0s
SUCK Suckling Hills 58.00 333 IAMs_20 IAMs_20 08 36 43.8
comp=Z,4µm,18.0s
BVCY Beaver Creek 58.02 336 P **P** **08 13 48.1 +0.6**
baz=124
BVCY S **S** **08 21 52.0 +3.3**
baz=124
CRQE Cirque 58.04 334 P **P** **08 13 49.2 +1.4**
baz=120,SNR=8.0
CRQM Cirque 58.06 334 P **P** **08 13 49.2 +1.2**
CRQM IAmb IAmb 08 13 51.4
comp=Z,51nm,1.2s
CRQM IAMs_20 IAMs_20 08 38 48.0
comp=Z,5µm,19.0s
BERG Berg Lake 58.12 334 P **P** **08 13 48.7 +0.5**
BERG IAmb IAmb 08 13 52.2
comp=Z,63nm,1.2s
BERG IAMs_20 IAMs_20 08 43 40.1
comp=Z,4µm,18.0s
KAIM Kayak Island 58.21 333 IAMs_20 IAMs_20 08 40 08.3
comp=Z,5µm,18.0s
KAIM Kayak Island 58.21 333 P **P** **08 13 50.9 +2.2**
baz=118
KAIM S **S** **08 21 56.2 +5.2**
baz=118
NBCL Cascavel-CE 58.32 104 *e*P **P** **08 13 51.1 +0.8**
HMT Hamilton 58.34 333 P **P** **08 13 50.0 +0.2**
HMT IAmb IAmb 08 13 53.5
comp=Z,62nm,1.2s
HMT IAMs_20 IAMs_20 08 37 38.8
comp=Z,4µm,18.0s
MCARA McCarthy VSAT 58.34 335 P **P** **08 13 50.7 +1.0**
MCARA IAmb IAmb 08 13 53.6
comp=Z,59nm,1.0s
MCARA IAMs_20 IAMs_20 08 39 12.9
comp=Z,5µm,18.0s
MCARA McCarthy VSAT 58.34 335 P **P** **08 13 51.0 +1.3**
baz=121,SNR=18
MCARA S **S** **08 21 56.1 +3.4**
baz=121
M27K Edge Creek, AK 58.39 336 P **P** **08 13 50.9 +0.7**
M27K IAmb IAmb 08 13 53.8
comp=Z,47nm,1.4s
M27K IAMs_20 IAMs_20 08 37 15.3
comp=Z,4µm,18.0s
M27K Edge Creek, AK 58.39 336 P **P** **08 13 51.1 +0.9**
baz=122,SNR=14
M27K S **S** **08 21 57.0 +3.3**
baz=122
MC01 Montes Claros 58.41 120 *e*P P 08 13 50.0 -0.9
DAWY Dawson 58.42 338 P **P** **08 13 51.4 +1.1**
DAWY Dawson 58.42 338 P **P** **08 13 49.7 -0.6**
baz=126,SNR=12
DAWY S **S** **08 21 55.7 +1.8**
baz=126
VRDI Verde Repeater 58.44 334 P **P** **08 13 51.3 +0.8**
VRDI IAmb IAmb 08 13 54.1
comp=Z,46nm,1.2s
VRDI IAMs_20 IAMs_20 08 39 13.5
comp=Z,5µm,19.0s
RCLB Rio Claro- Sao 58.54 128 *e*P **P** **08 13 51.3 -0.4**
RAGM Ragged Mountai 58.54 333 P **P** **08 13 51.0 -0.1**
RAGM IAmb IAmb 08 13 55.0
comp=Z,58nm,1.1s
GLB Gilahina Butte 58.69 335 P **P** **08 13 53.0 +0.7**
GLB IAmb IAmb 08 13 55.8
comp=Z,50nm,1.1s
GLB IAMs_20 IAMs_20 08 39 22.3
comp=Z,5µm,19.0s
POHA Pohakuloa 58.72 284 P **P** **08 13 54.4 +1.1**
BCAR Beaver Creek A 58.74 337 P **P** **08 13 53.4 +0.9**
L27K Beaver Creek, 58.75 337 P **P** **08 13 53.2 +0.7**
L27K IAmb IAmb 08 13 55.9
comp=Z,74nm,1.4s
L27K IAMs_20 IAMs_20 08 42 27.0
comp=Z,5µm,21.0s
L27K Beaver Creek, 58.75 337 P **P** **08 13 53.1 +0.5**
baz=123,SNR=42
L27K S **S** **08 22 00.9 +2.7**
baz=123
BMRM Bremner River 58.79 334 P **P** **08 13 54.0 +1.1**
BMRM Bremner River 58.79 334 P **P** **08 13 54.6 +1.7**
baz=119,SNR=12
BMRM S **S** **08 22 02.7 +3.9**
baz=119
Q23K Middleton Isla 58.85 332 IAMs_20 IAMs_20 08 39 19.0
comp=Z,3µm,19.0s
Q23K Middleton Isla 58.85 332 S **S** **08 22 04.0 +4.7**
baz=116
HPAH Hawaii Prepara 58.85 285 P **P** **08 13 54.5 +0.5**
M26K Nabesna, AK 58.85 336 P **P** **08 13 53.8 +0.4**
M26K IAmb IAmb 08 13 56.7
comp=Z,76nm,1.4s
M26K Nabesna, AK 58.85 336 P **P** **08 13 54.1 +0.8**
baz=121,SNR=25
M26K S **S** **08 22 02.6 +3.0**
baz=121
EPYK Eagle Plains 58.96 341 P **P** **08 13 54.2 +0.3**
EPYK IAmb IAmb 08 14 53.5
comp=Z,61nm,1.4s
EPYK Eagle Plains 58.96 341 P **P** **08 13 54.1 +0.1**
baz=130,SNR=11
EPYK S **S** **08 22 02.8 +2.0**
baz=130
NBMA Muriti-CE 58.99 108 *e*P **P** **08 13 55.5 +0.5**
NBPN Ponto Novo - B 59.04 112 *e*P **P** **08 13 55.8 +0.6**
EYAK Cordova Ski Ar 59.09 333 P **P** **08 13 56.0 +1.2**
EYAK Cordova Ski Ar 59.09 333 P **P** **08 13 56.4 +1.6**
baz=118
EYAK S **S** **08 22 06.7 +4.2**
baz=118
N25K Chitina, Valde 59.10 335 P **P** **08 13 55.9 +0.8**
N25K IAmb IAmb 08 13 58.9
comp=Z,51nm,1.1s
N25K IAMs_20 IAMs_20 08 39 33.1
comp=Z,5µm,18.0s
N25K Chitina, Valde 59.10 335 P **P** **08 13 56.7 +1.6**
baz=119,SNR=23
N25K S **S** **08 22 07.3 +4.4**
baz=119
PLCA Paso Flores 59.17 159 P **P** **08 13 54.6 -1.2**
comp=Z,28nm,1.1s,baz=336,slow=8.0,SNR=17
PLCA LR LR 08 33 16.7
comp=Z,2µm,20.4s,baz=346,slow=30
PLCA Paso Flores 59.17 159 P **P** **08 13 55.4 -0.4**
PLCA pmax pmax
comp=Z,55nm,1.3s
PLCA Paso Flores 59.17 159 P **P** **08 13 55.4 -0.4**
PLCA IAmb IAmb 08 13 56.6
comp=Z,55nm,1.2s
PLCA Paso Flores 59.17 159 ⇑P **P** **08 13 55.4 -0.4**
PLCA Paso Flores 59.17 159 *e*P P 08 13 54.3 -1.5
SPB Sao Paulo 59.28 129 *e*P **P** **08 13 56.6 -0.2**
VAO Valinhos 59.30 128 *e*P **P** **08 13 56.2 -0.8**
L26K Log Cabin Wild 59.32 336 P **P** **08 13 56.5 0.0**
L26K IAmb IAmb 08 13 59.8
comp=Z,58nm,1.3s
L26K Log Cabin Wild 59.32 336 P **P** **08 13 57.1 +0.6**
baz=121,SNR=25
L26K S **S** **08 22 09.7 +4.2**
baz=121
HIN Hinchinbrook I 59.35 333 P **P** **08 13 57.4 +0.7**
HIN IAMs_20 IAMs_20 08 38 17.5
comp=Z,4µm,19.0s
INK Inuvik 59.35 344 LR LR 08 42 06.7
comp=Z,6µm,19.6s,baz=146,slow=39
INK Inuvik 59.35 344 P **P** **08 13 56.4 -0.1**
INK pmax pmax
comp=Z,67nm,1.2s
INK Inuvik 59.35 344 P **P** **08 13 56.4 -0.1**
INK IAmb IAmb 08 13 58.9
comp=Z,67nm,1.1s
INK Inuvik 59.35 344 ⇑P **P** **08 13 56.4 -0.1**
INK Inuvik 59.35 344 P **P** **08 13 56.7 +0.2**
baz=134,SNR=28
INK S **S** **08 22 05.4 -0.2**
baz=134
DIV Divide 59.37 334 P **P** **08 13 57.8 +0.9**
DIV IAmb IAmb 08 14 00.4
comp=Z,61nm,1.2s
K27K Chicken 59.38 338 P **P** **08 13 57.1 +0.3**
K27K Chicken 59.38 338 P **P** **08 13 57.8 +0.9**
baz=123
K27K S **S** **08 22 11.5 +5.4**
baz=123
CPSB Cacapava Do Su 59.38 139 *e*P P 08 13 55.5 -1.9
DIAM Diamantina, MG 59.42 122 *e*P **P** **08 13 57.7 -0.2**
MENT Mentasta 59.42 336 P **P** **08 13 57.3 +0.1**
MENT IAmb IAmb 08 14 00.4
comp=Z,64nm,1.4s
EGAK Eagle 59.46 339 P **P** **08 13 57.5 +0.1**
EGAK IAmb IAmb 08 13 59.5
comp=Z,32nm,1.1s
EGAK IAMs_20 IAMs_20 08 41 00.9
comp=Z,4µm,18.0s
EGAK Eagle 59.46 339 P **P** **08 13 57.1 -0.3**
baz=124,SNR=24
EGAK S **S** **08 22 07.3 0.0**
baz=124
FID Port Fidalgo 59.50 333 P **P** **08 13 58.8 +1.0**
SFJD Kangerlussuaq 59.59 18 LR LR 08 41 14.0
comp=Z,5µm,18.7s,baz=221,slow=38
KLU Klutina 59.60 334 P **P** **08 13 59.8 +1.2**
KLU IAmb IAmb 08 14 02.0
comp=Z,61nm,1.1s
KLU IAMs_20 IAMs_20 08 41 09.3
comp=Z,4µm,19.0s
KLU Klutina 59.60 334 P **P** **08 13 59.5 +0.9**
baz=118,SNR=33
KLU S **S** **08 22 12.2 +2.8**
baz=118
HARP HAARP 59.72 335 P **P** **08 13 59.8 +0.6**
baz=119,SNR=15
HARP S **S** **08 22 14.9 +4.2**
baz=119
PET01 Itanhaem-SP 59.80 130 *e*P **P** **08 14 00.4 +0.1**
GLI Glacier Island 59.83 333 P **P** **08 14 00.5 +0.5**
GLI IAmb IAmb 08 14 11.6
comp=Z,72nm,1.8s
GLI Glacier Island 59.83 333 P **P** **08 14 00.1 0.0**
baz=116
GLI S **S** **08 22 15.7 +3.6**
baz=116
BSCB Bom Sucesso 59.91 125 *e*P **P** **08 14 00.8 -0.5**
DOT Dot Lake 59.92 337 P **P** **08 14 01.3 +0.7**
M24K Tolsona, Glenn 60.00 335 P **P** **08 14 02.3 +1.1**
M24K IAMs_20 IAMs_20 08 40 10.8
comp=Z,4µm,18.0s
M24K Tolsona, Glenn 60.00 335 P **P** **08 14 02.7 +1.4**
baz=118,SNR=10
M24K S **S** **08 22 18.3 +3.9**
baz=118
SCRK Sand Creek 60.06 337 P **P** **08 14 02.1 +0.4**
SCRK IAmb IAmb 08 14 04.9
comp=Z,72nm,1.3s
SCRK Sand Creek 60.06 337 P **P** **08 14 01.9 +0.2**
baz=121,SNR=29
SCRK S **S** **08 22 18.7 +3.4**
baz=121
RES Resolute Bay 60.12 360 LR LR 08 41 58.6
comp=Z,2µm,19.3s,baz=191,slow=38
RES Resolute Bay 60.12 360 P **P** **08 14 02.1 +0.3**
RES pmax pmax
comp=Z,187nm,1.9s
RES Resolute Bay 60.12 360 P **P** **08 14 02.1 +0.3**
RES Resolute Bay 60.12 360 ⇑P **P** **08 14 01.2 -0.5**
PAX Paxson 60.13 336 P **P** **08 14 01.3 -0.9**
PAX pmax pmax
comp=Z,54nm,1.1s
PAX Paxson 60.13 336 P **P** **08 14 01.3 -0.9**
PAX IAmb IAmb 08 14 04.9
comp=Z,54nm,1.1s
PAX Paxson 60.13 336 P **P** **08 14 02.4 +0.2**
baz=119,SNR=32
PAX S **S** **08 22 19.6 +3.6**
baz=119
PLTB Pedras Altas 60.21 140 P P 08 14 02.0 -1.0
PLTB IAmb IAmb 08 14 03.1
comp=Z,45nm,1.1s
PLTB Pedras Altas 60.21 140 *e*P P 08 14 01.7 -1.3
RIDG Independent Ri 60.27 337 P **P** **08 14 02.7 -0.3**
RIDG Independent Ri 60.27 337 P **P** **08 14 03.3 +0.3**
baz=120,SNR=56
RIDG S **S** **08 22 19.6 +1.8**
baz=120
J26K Charley River, 60.30 338 P **P** **08 14 03.5 +0.2**
baz=122,SNR=67
J26K S **S** **08 22 19.8 +1.6**
baz=122
A36M Sachs Harbour 60.32 349 IAMs_20 IAMs_20 08 44 26.1
comp=Z,3µm,19.0s
A36M Sachs Harbour 60.32 349 P **P** **08 14 02.0 -1.2**
baz=145
A36M S **S** **08 22 18.3 +0.3**
baz=145
CNLB Canela 60.34 137 *e*P **P** **08 14 03.4 -0.6**
SCM Sheep Creek Mo 60.36 334 P **P** **08 14 04.6 +0.9**
SCM pmax pmax
comp=Z,83nm,1.5s
SCM MLR MLR
comp=Z,4µm,18.0s
SCM Sheep Creek Mo 60.36 334 P **P** **08 14 04.6 +0.9**
SCM IAmb IAmb 08 14 24.7
comp=Z,83nm,1.5s
SCM IAMs_20 IAMs_20 08 41 21.2
comp=Z,4µm,18.0s
PWL Port Wells 60.37 333 P **P** **08 14 03.6 -0.2**
PWL IAmb IAmb 08 14 09.5
comp=Z,58nm,1.6s
TRQA Tornquist 60.37 151 P **P** **08 14 03.5 -0.5**
TRQA pmax pmax
comp=Z,105nm,1.5s
TRQA Tornquist 60.37 151 P **P** **08 14 03.5 -0.5**
TRQA Tornquist 60.37 151 ⇓P **P** **08 14 03.1 -0.9**
TRQA Tornquist 60.37 151 *e*P **P** **08 14 03.6 -0.4**
SEW Seward 60.55 332 P **P** **08 14 05.5 +0.6**
SEW IAmb IAmb 08 14 14.3
comp=Z,45nm,1.2s
SEW Seward 60.55 332 P **P** **08 14 05.8 +0.9**
baz=114,SNR=7.8
SEW S **S** **08 22 21.6 +0.3**
baz=114
SEW S S 08 22 24.1 +2.7
baz=114
KNK Knik Glacier 60.66 333 P **P** **08 14 07.0 +1.3**
KNK IAmb IAmb 08 14 08.6
comp=Z,50nm,1.1s
KNK Knik Glacier 60.66 333 P **P** **08 14 05.8 +0.1**
baz=115,SNR=14
KNK S **S** **08 22 24.2 +1.5**
baz=115
DY2G Dye2 60.66 20 *i*P **P** **08 14 05.5 -0.4**
DY2G IAMs_20 IAMs_20 08 40 03.9
comp=Z,8µm,24.9s
NBLV Livramento - P 60.69 107 *e*P **P** **08 14 07.2 +0.5**
SML Sawmill 60.77 334 P **P** **08 14 07.7 +1.2**
SML Sawmill 60.77 334 P **P** **08 14 07.7 +1.2**
SML Sawmill 60.77 334 P **P** **08 14 06.8 +0.3**
baz=116,SNR=23
SML S **S** **08 22 27.5 +3.1**
baz=116
GDU01 Guandu, BA 60.79 115 *e*P **P** **08 14 07.2 -0.1**
O22K Cooper Landing 60.83 332 P **P** **08 14 08.0 +1.2**
O22K IAmb IAmb 08 14 44.0
comp=Z,65nm,1.3s
O22K IAMs_20 IAMs_20 08 38 37.6
comp=Z,4µm,19.0s
O22K Cooper Landing 60.83 332 P **P** **08 14 06.9 +0.1**
baz=114
WAT6 Susitna Watana 60.87 335 P **P** **08 14 07.4 +0.1**
baz=117,SNR=61
WAT6 S **S** **08 22 27.6 +1.9**
baz=117
BRSE Bradley Lake S 61.01 331 P **P** **08 14 08.7 +0.5**
baz=112,SNR=7.9
BRSE S **S** **08 22 30.1 +2.8**
baz=112
TER01 Tubaro-SC 61.01 135 *e*P **P** **08 14 07.6 -1.0**
GHO Glory Hole Cre 61.01 334 P **P** **08 14 07.9 -0.2**
PMR Palmer 61.02 333 P **P** **08 14 08.1 -0.1**
PMR pmax pmax
comp=Z,42nm,1.1s
PMR Palmer 61.02 333 P **P** **08 14 08.1 -0.1**
PMR IAmb IAmb 08 14 10.8
comp=Z,42nm,1.1s
PMR Palmer 61.02 333 P **P** **08 14 07.4 -0.8**
baz=115,SNR=27
PMR S **S** **08 22 28.7 +1.3**
baz=115
RC01 Rabbit Creek A 61.08 333 P **P** **08 14 10.0 +1.4**
RC01 IAmb IAmb 08 14 11.3
comp=Z,43nm,1.0s
RC01 IAMs_20 IAMs_20 08 39 03.4
comp=Z,3µm,19.0s
RC01 Rabbit Creek A 61.08 333 P **P** **08 14 08.2 -0.4**
baz=114,SNR=14
RC01 S **S** **08 22 31.5 +3.4**
baz=114
BRLK Bradley Lake 61.09 331 P **P** **08 14 08.8 +0.1**
BRLK IAmb IAmb 08 14 11.6
comp=Z,59nm,1.0s
BRLK IAMs_20 IAMs_20 08 38 39.5
comp=Z,4µm,19.0s
RCBR Riachuelo 61.10 105 P **P** **08 14 09.5 0.0**
RCBR pmax pmax
comp=Z,145nm,1.7s
RCBR MLR MLR
comp=Z,6µm,18.0s
RCBR Riachuelo 61.10 105 P **P** **08 14 09.5 0.0**
RCBR Riachuelo 61.10 105 ⇑P **P** **08 14 09.3 -0.2**
RCBR Riachuelo 61.10 105 *e*P **P** **08 14 10.4 +0.9**
CNPM China Poot 61.16 331 P **P** **08 14 10.0 +0.8**
CNPM IAMs_20 IAMs_20 08 40 42.3
comp=Z,5µm,18.0s
KDAK Kodiak Island 61.20 329 LR LR 08 40 53.0
comp=Z,3µm,18.0s,baz=144,slow=36
KDAK Kodiak Island 61.20 329 P **P** **08 14 10.9 +1.5**
KDAK pmax pmax
comp=Z,70nm,1.6s
KDAK MLR MLR
comp=Z,4µm,18.0s
KDAK Kodiak Island 61.20 329 P **P** **08 14 10.9 +1.5**
KDAK IAmb IAmb 08 14 12.2
comp=Z,70nm,1.6s
KDAK Kodiak Island 61.20 329 IAMs_20 IAMs_20 08 41 08.3
comp=Z,4µm,18.0s
KDAK Kodiak Island 61.20 329 ⇓P **P** **08 14 11.3 +1.8**
KDAK Kodiak Island 61.20 329 P **P** **08 14 10.1 +0.6**
baz=109
KDAK S **S** **08 22 30.9 +1.2**
baz=109
ESAR Angra dos Reis 61.25 127 *e*P **P** **08 14 10.1 -0.2**
NBLA Lagarto - SE 61.26 111 *e*P **P** **08 14 10.8 +0.3**
WAT1 Susitna Watana 61.31 335 P **P** **08 14 09.5 -0.6**
baz=116
WAT1 S **S** **08 22 31.6 +0.5**
baz=116
FIS Fire Island 61.32 333 P **P** **08 14 11.8 +1.6**
FIS IAMs_20 IAMs_20 08 38 58.5
comp=Z,4µm,18.0s

OHAK Old Harbor 61.38 328 P P 08 14 11.7 +1.1
OHAK IAmb IAmb 08 14 15.9
comp=Z,65nm,1.4s
OHAK Old Harbor 61.38 328 P P 08 14 11.0 +0.4
baz=108,SNR=8.0
OHAK S S **08 22 34.1 +2.1**
baz=108
HDA Harding Lake 61.40 337 P P 08 14 11.2 +0.5
HDA Harding Lake 61.40 337 P P 08 14 10.3 -0.4
baz=118,SNR=34
HDA S S **08 22 31.2 -1.0**
baz=118
HDA S S **08 22 31.2 -1.0**
baz=118
HOM Homer 61.40 331 P P 08 14 11.6 +0.9
HOM IAMs_20 IAMs_20 08 38 36.8
comp=Z,3µm,20.0s
HOM Homer 61.40 331 P P 08 14 10.8 +0.1
baz=111
HOM S S **08 22 33.7 +1.5**
baz=111
PRP Porcupine Dome 61.42 338 P P 08 14 11.7 +0.7
PRP Porcupine Dome 61.42 338 P P 08 14 10.6 -0.3
baz=120,SNR=29
PRP S S **08 22 33.7 +1.1**
baz=120
CMC01 Camacan, BA 61.55 117 *e*P **P 08 14 12.3 -0.1**
IL31 61.55 337 P **P 08 14 11.6 -0.1**
ILAR Eielson Array 61.55 337 P **P 08 14 11.3 -0.3**
comp=Z,37nm,1.0s,baz=138,slow=4.6,SNR=117
ILAR LR LR 08 41 56.3
comp=Z,4µm,18.5s,baz=138,slow=37
CAPN Captain Cook N 61.59 332 IAMs_20 IAMs_20 08 38 50.8
comp=Z,3µm,19.0s
CAPN Captain Cook N 61.59 332 P P 08 14 13.5 +1.5
baz=112
CAPN S S **08 22 36.9 +2.3**
baz=112
VAS01 Vassouras-RJ 61.63 126 *e*P **P 08 14 13.3 +0.4**
SII Sitkinak Islan 61.64 327 P **P 08 14 12.1 -0.4**
SII IAMs_20 IAMs_20 08 40 05.8
comp=Z,4µm,19.0s
SII Sitkinak Islan 61.64 327 P P 08 14 13.5 +1.0
baz=107,SNR=7.2
SII S S **08 22 39.8 +4.3**
baz=107
SJMB Sao Joao De Ma 61.67 121 *e*P **P 08 14 13.3 +0.1**
SUA Susitna One 61.68 333 P **P 08 14 12.9 +0.2**
baz=113,SNR=21
SUA S S **08 22 39.9 +3.9**
baz=113
RND Reindeer 61.69 335 P P 08 14 12.9 +0.2
RND pmax pmax
comp=Z,150nm,1.1s
RND Reindeer 61.69 335 P P 08 14 12.9 +0.2
RND IAMs_20 IAMs_20 08 39 33.6
comp=Z,4µm,20.0s
CCB Clear Creek Bu 61.84 337 P P 08 14 13.5 -0.1
CCB IAmb IAmb 08 14 23.2
comp=Z,70nm,1.7s
GUA01 Guaratinga, BA 61.85 118 *e*P **P 08 14 14.4 0.0**
CUT Chulitna 61.85 334 P **P 08 14 13.8 +0.1**
CUT IAMs_20 IAMs_20 08 42 59.7
comp=Z,4µm,19.0s
CUT Chulitna 61.85 334 P P 08 14 14.1 +0.3
baz=114,SNR=12
CUT S S **08 22 40.5 +2.7**
baz=114
FYU Fort Yukon 61.85 339 P P 08 14 14.7 +1.0
FYU IAMs_20 IAMs_20 08 44 18.1
comp=Z,5µm,20.0s
MCK McKinley 61.87 336 P P 08 14 14.0 +0.1
MCK pmax pmax
comp=Z,72nm,1.1s
MCK McKinley 61.87 336 P P 08 14 14.0 +0.1
MCK IAMs_20 IAMs_20 08 40 23.2
comp=Z,3µm,19.0s
MCK McKinley 61.87 336 P P 08 14 13.7 -0.2
baz=116,SNR=19
MCK S S **08 22 38.7 +0.6**
baz=116
WRH Wood River Hil 61.87 337 P P 08 14 14.4 +0.5
WRH IAmb IAmb 08 14 18.0
comp=Z,44nm,1.4s
WRH IAMs_20 IAMs_20 08 44 57.3
comp=Z,5µm,18.0s
NBPV Pedro Velho 61.87 106 *e*P **P 08 14 15.2 +0.5**
POKR Poker Plat Res 61.92 337 P **P 08 14 14.3 +0.1**
POKR IAMs_20 IAMs_20 08 46 02.8
comp=Z,4µm,18.0s
POKR Poker Plat Res 61.92 337 P P 08 14 14.0 -0.2
baz=118,SNR=8.4
POKR S S **08 22 40.0 +1.3**
baz=118
NUUG Nuugaatsiaq 61.95 14 *e*P **P 08 14 13.7 -0.6**
COLA College 61.96 337 *ce*P **P 08 14 14.8 +0.4**
COLA pmax pmax
comp=Z,45nm,1.0s
COLA College 61.96 337 P P 08 14 14.6 +0.2
COLA IAmb IAmb 08 14 16.5
comp=Z,41nm,0.9s
COLA College 61.96 337 IAMs_20 IAMs_20 08 41 57.0
comp=Z,4µm,18.0s
COLA College 61.96 337 ⇑P **P 08 14 14.1 -0.3**
COLA College 61.96 337 P P 08 14 14.8 +0.4
baz=118
COLA S S **08 22 38.9 -0.3**
baz=118
TCOL CIGO, UAF Yank 61.97 337 P P 08 14 14.5 +0.1
TCOL IAmb IAmb 08 14 16.5
comp=Z,42nm,0.9s
TCOL IAMs_20 IAMs_20 08 41 57.0
comp=Z,4µm,18.0s
TCOL CIGO, UAF Yank 61.97 337 P P 08 14 14.6 +0.1
baz=118,SNR=15
TCOL S S **08 22 39.3 +0.1**
baz=118
BSFB Barra de Sao F 62.01 121 *e*P **P 08 14 15.8 +0.3**
O20K Slope Mountain 62.02 331 P **P 08 14 15.7 +0.7**
baz=110,SNR=17
O20K S S **08 22 40.7 +0.5**
baz=110
BMAR Burnt Mountain 62.09 340 P P 08 14 15.6 +0.2
Q19K Cape Douglas, 62.11 330 P P 08 14 16.1 +0.4
Q19K Cape Douglas, 62.11 330 P P 08 14 15.9 +0.2
baz=109
Q19K S S **08 22 42.9 +1.5**
baz=109
NBAN Anadia - AL 62.13 109 *e*P **P 08 14 16.1 -0.3**
MDM Murphy Dome 62.15 337 P **P 08 14 15.6 -0.1**
MDM IAMs_20 IAMs_20 08 42 01.7
comp=Z,3µm,20.0s
NAN01 Guarapari, ES 62.15 119 *e*P **P 08 14 17.3 +0.8**
P19K Oil Pt 62.16 330 P **P 08 14 16.2 +0.3**
P19K Oil Pt 62.16 330 P **P 08 14 16.4 +0.5**
baz=110,SNR=5.9
P19K S S **08 22 44.1 +2.2**
baz=110
CHIR Chirikof Islan 62.20 326 P P 08 14 16.8 +0.6
CHIR IAmb IAmb 08 14 18.6
comp=Z,44nm,1.0s
CHIR IAMs_20 IAMs_20 08 38 43.6
comp=Z,4µm,19.0s
CHIR Chirikof Islan 62.20 326 P P 08 14 16.8 +0.6
baz=106
CHIR S S **08 22 45.0 +2.5**
baz=106
RSO Redoubt South 62.21 331 P P 08 14 17.3 +0.9
SKT Skwentna 62.23 333 IAMs_20 IAMs_20 08 39 55.6
comp=Z,4µm,20.0s
SKT Skwentna 62.23 333 P P 08 14 16.4 0.0
baz=112,SNR=30
SKT S S **08 22 44.0 +1.4**
baz=112
SPCR Spurr Chakacha 62.23 332 P P 08 14 16.9 +0.4
baz=112,SNR=6.5
SPCR S S **08 22 44.1 +1.2**
baz=112
BWN Browne 62.27 336 P P 08 14 16.8 +0.3
BWN IAMs_20 IAMs_20 08 40 35.2
comp=Z,4µm,19.0s
TRF Thorofare Moun 62.29 335 P P 08 14 17.0 +0.1
TRF IAMs_20 IAMs_20 08 42 37.4
comp=Z,4µm,19.0s
TRF Thorofare Moun 62.29 335 P P 08 14 16.8 -0.1
baz=114,SNR=52
TRF S S **08 22 44.0 +0.2**
baz=114
NEA2 Nenana 62.30 336 P P 08 14 17.5 +0.7
NEA2 IAmb IAmb 08 14 19.0
comp=Z,56nm,1.4s
NEA2 IAMs_20 IAMs_20 08 41 40.7
comp=Z,4µm,21.0s
NEA2 Nenana 62.30 336 P P 08 14 16.3 -0.4
baz=116,SNR=21
NEA2 S S **08 22 43.5 0.0**
baz=116
DUB01 Friburgo-RJ 62.38 125 *e*P **P 08 14 18.2 +0.3**
H24K Noodor Dome 62.43 338 P P 08 14 17.1 -0.5
H24K Noodor Dome 62.43 338 P P 08 14 17.8 +0.2
baz=118,SNR=52
H24K S S **08 22 45.3 +0.1**
baz=118
KTH Kantishna Hill 62.59 335 P P 08 14 18.6 -0.2
KTH IAMs_20 IAMs_20 08 40 48.4
comp=Z,4µm,18.0s
RIB01 Linhares ES 62.62 121 *e*P **P 08 14 19.2 -0.4**
I23K Minto, Yukon-K 62.66 337 P P 08 14 19.7 +0.6
I23K Minto, Yukon-K 62.66 337 P P 08 14 19.2 +0.1
baz=116,SNR=77
I23K S S **08 22 48.3 +0.4**
baz=116
NBRF Rio Formoso - 62.82 108 *e*P **P 08 14 21.8 +0.8**
CAM01 Campos-RJ 62.82 124 *e*P **P 08 14 21.1 +0.2**
BPAW Bear Paw Mtn. 62.84 336 P P 08 14 20.3 -0.1
BPAW IAmb IAmb 08 14 22.6
comp=Z,52nm,1.0s
BPAW IAMs_20 IAMs_20 08 45 49.1
comp=Z,4µm,18.0s
BPAW Bear Paw Mtn. 62.84 336 P P 08 14 20.0 -0.4
baz=114,SNR=31
BPAW S S **08 22 51.0 +0.6**
baz=114
O19K Port Alsworth 62.85 331 P P 08 14 20.0 -0.5
O19K IAmb IAmb 08 14 22.5
comp=Z,42nm,1.1s
O19K IAMs_20 IAMs_20 08 41 28.1
comp=Z,4µm,18.0s
O19K Port Alsworth 62.85 331 P P 08 14 20.8 +0.3
baz=109,SNR=10.0
O19K S S **08 22 52.1 +1.6**
baz=109
PPLA Purkeypile 62.86 334 P P 08 14 21.4 +0.7
PPLA Purkeypile 62.86 334 P P 08 14 20.6 -0.1
baz=112,SNR=22
PPLA S S **08 22 51.7 +0.8**
baz=112
M20K Styx River 62.89 333 P P 08 14 21.5 +0.6
M20K IAMs_20 IAMs_20 08 42 11.2
comp=Z,4µm,18.0s
M20K Styx River 62.89 333 P P 08 14 20.8 -0.1
baz=111,SNR=18
M20K S S **08 22 52.9 +1.6**
baz=111
ALF01 Guarapari-ES 62.97 123 *e*P **P 08 14 21.8 -0.1**
H23K Yukon River 63.03 338 P P 08 14 21.9 +0.3
H23K Yukon River 63.03 338 P P 08 14 21.4 -0.2
baz=116,SNR=15
H23K S S **08 22 53.2 +0.5**
baz=116
COYC Coyhaique 63.07 163 P P 08 14 21.3 -0.7
COYC IAmb IAmb 08 14 22.4
comp=Z,33nm,1.1s
N19K Bonanza Creek 63.13 331 P P 08 14 22.0 -0.5
N19K IAmb IAmb 08 14 24.7
comp=Z,43nm,0.9s
N19K IAMs_20 IAMs_20 08 41 49.5
comp=Z,3µm,18.0s
N19K Bonanza Creek 63.13 331 P P 08 14 21.7 -0.8
baz=109,SNR=24
N19K S S **08 22 55.9 +1.7**
baz=109
MLY Manley 63.13 337 P P 08 14 21.8 -0.6
MLY Manley 63.13 337 P P 08 14 22.8 +0.4
baz=115,SNR=72
MLY S S **08 22 54.4 +0.3**
baz=115
O18K Koktuh Hills 63.17 330 P P 08 14 22.1 -0.6
O18K IAmb IAmb 08 14 24.9
comp=Z,41nm,0.9s
O18K IAMs_20 IAMs_20 08 42 02.3
comp=Z,4µm,18.0s
O18K Koktuh Hills 63.17 330 P P 08 14 22.7 0.0
baz=108,SNR=20
O18K S S **08 22 56.2 +1.6**
baz=108
CHUM Lake Minchumin 63.30 335 P P 08 14 22.5 -0.8
baz=113,SNR=10
CHUM S S **08 22 55.5 -0.5**
baz=113
L20K Farewell, AK 63.43 333 P P 08 14 24.1 -0.2
baz=110,SNR=33
L20K S S **08 22 55.5 -2.4**
baz=110
M19K Big River Lodg 63.46 333 P P 08 14 24.3 -0.2
M19K IAmb IAmb 08 14 27.1
comp=Z,64nm,1.3s
M19K IAMs_20 IAMs_20 08 40 15.1
comp=Z,4µm,21.0s
M19K Big River Lodg 63.46 333 P P 08 14 24.5 -0.1
baz=110
M19K S S **08 22 59.0 +0.9**
baz=110
I21K Tanana 63.68 336 P P 08 14 26.4 +0.6
I21K IAMs_20 IAMs_20 08 42 29.1
comp=Z,5µm,19.0s
I21K Tanana 63.68 336 P P 08 14 25.9 +0.1
baz=114,SNR=22
I21K S S **08 23 00.4 -0.3**
baz=114
SVW2 Sparrevohn 63.73 332 P P 08 14 26.1 -0.2
SVW2 IAmb IAmb 08 14 27.5
comp=Z,31nm,1.2s
N18K Kilae Creek 63.75 331 P P 08 14 27.2 +0.7
N18K IAmb IAmb 08 14 28.0
comp=Z,34nm,1.2s
N18K IAMs_20 IAMs_20 08 42 05.7
comp=Z,3µm,18.0s
N18K Kilae Creek 63.75 331 P P 08 14 26.2 -0.2
baz=108,SNR=16
N18K S S **08 23 02.4 +0.6**
baz=108
L19K White Mountain 63.76 333 P P 08 14 26.3 -0.2
L19K IAmb IAmb 08 14 27.9
comp=Z,31nm,1.3s
L19K IAMs_20 IAMs_20 08 42 47.1
comp=Z,3µm,18.0s
L19K White Mountain 63.76 333 P P 08 14 26.3 -0.2
baz=109,SNR=13
L19K S S **08 23 00.5 -1.4**
baz=109
K20K Telida 63.83 334 IAMs_20 IAMs_20 08 40 54.9
comp=Z,3µm,18.0s
K20K Telida 63.83 334 P P 08 14 26.7 -0.2
baz=111,SNR=36
K20K S S **08 23 01.4 -1.3**
baz=111
CHGN Chignik 63.84 326 P P 08 14 27.2 +0.1
CHGN IAmb IAmb 08 14 29.0
comp=Z,44nm,1.0s
CHGN Chignik 63.84 326 P P 08 14 26.8 -0.3
baz=103
COLD Coldfoot 63.89 339 P P 08 14 28.2 +1.0
COLD Coldfoot 63.89 339 P P 08 14 28.0 +0.7
baz=116,SNR=29
COLD S S **08 23 05.7 +2.3**
baz=116
J20K Nowinta River 64.15 335 P P 08 14 28.8 -0.2
J20K IAmb IAmb 08 14 31.0
comp=Z,54nm,1.1s
J20K IAMs_20 IAMs_20 08 46 29.6
comp=Z,3µm,19.0s
J20K Nowinta River 64.15 335 P P 08 14 28.4 -0.7
baz=111,SNR=23
J20K S S **08 23 06.5 -0.2**
baz=111
CNBA Chernabura Isl 64.17 324 IAMs_20 IAMs_20 08 41 03.5
comp=Z,3µm,20.0s
CHNA Chernabura Isl 64.17 324 P P 08 14 29.6 +0.3
baz=102
CHNA S S **08 23 09.2 +2.1**
baz=102
ICESG Greenland Ices 64.18 19 *i* P **P 08 14 28.9 -0.6**
ICESG IAMs_20 IAMs_20 08 44 50.3
comp=Z,7µm,16.6s
TOLK Toolik Lake Re 64.33 340 P P 08 14 30.4 +0.3
TOLK IAmb IAmb 08 14 32.9
comp=Z,64nm,1.3s
TOLK Toolik Lake Re 64.33 340 P P 08 14 30.8 +0.6
baz=118,SNR=19
TTA Tatalina 64.51 333 S **S 08 23 10.8 -0.5**
baz=105
IMAR Indian Mountai 64.67 337 P P 08 14 32.3 -0.1
SDPT Sand Point 64.77 325 P P 08 14 33.3 +0.1
SDPT Sand Point 64.77 325 P P 08 14 34.1 +0.9
baz=101
SDPT S S **08 23 15.1 +0.5**
baz=101
EUNU Eureka 65.61 1 P P 08 14 37.9 -0.5
EUNU IAmb IAmb 08 14 48.0
comp=Z,40nm,0.9s
EUNU Eureka 65.61 1 ⇓P **P 08 14 38.5 +0.1**
SUMG Summit 66.23 16 *i* P **P 08 14 41.8 -1.0**
SUMG IAMs_20 IAMs_20 08 48 44.6
comp=Z,6µm,13.6s
SUMG Summit 66.23 16 P P 08 14 42.8 -0.1
SUMG pmax pmax
comp=Z,519nm,2.0s
SUMG MLR MLR
comp=Z,4µm,18.0s
SUMG Summit 66.23 16 P P 08 14 42.8 -0.1
SUMG IAMs_20 IAMs_20 08 45 41.2
comp=Z,4µm,18.0s
SUMG Summit 66.23 16 ⇓P **P 08 14 42.5 -0.4**
FALS False Pass 66.36 324 P P 08 14 44.2 +0.7
FALS False Pass 66.36 324 P P 08 14 43.5 0.0
baz=98,SNR=6.8
NEEM North Greenlan 66.50 9 ⇑*i* P **P 08 14 44.0 -0.4**
NEEM IAMs_20 IAMs_20 08 49 21.0
comp=Z,6µm,20.9s
A21K Barrow 67.65 342 IAMs_20 IAMs_20 08 50 03.5
comp=Z,3µm,18.0s
UNV Unalaska Valle 68.03 322 P P 08 14 54.9 +0.8
UNV Unalaska Valle 68.03 322 P P 08 14 54.3 +0.2
baz=95,SNR=6.2
UNV S S **08 23 52.8 -1.3**
baz=95
RDOG Red Dog Mine 68.73 338 P P 08 15 00.2 +2.0
RDOG IAmb IAmb 08 15 02.2
comp=Z,56nm,1.3s
RDOG IAMs_20 IAMs_20 08 45 38.8
comp=Z,3µm,19.0s
RDOG Red Dog Mine 68.73 338 P P 08 14 59.9 +1.6
baz=104
ANM Nome 68.95 334 IAMs_20 IAMs_20 08 46 24.4
comp=Z,3µm,18.0s
ANM Nome 68.95 334 S S 08 24 05.2 +0.4
baz=100
NIKH Nikolski High 69.37 321 P P 08 15 01.1 -1.3
baz=93
NIKH S S **08 24 09.4 -0.6**
baz=93
BORG Borgarnes 69.57 26 LR LR 08 45 41.1
comp=Z,3µm,18.2s,baz=269,slow=36
TNA Tin City 70.18 335 P P 08 15 08.0 +0.7
baz=98
TNA S S **08 24 21.5 +2.3**
baz=98
GAMB Gambell 71.59 333 P P 08 15 16.8 +1.0
baz=94
DBG Daneborg 71.71 16 ⇑*i* P **P 08 15 15.8 -0.6**
DBG IAMs_20 IAMs_20 08 50 43.5
comp=Z,10µm,16.9s
DAG Danmarks Havn 72.58 14 ⇑*i* P **P 08 15 20.5 -1.1**
DAG IAMs_20 IAMs_20 08 52 25.7
comp=Z,5µm,15.2s
DAG Danmarks Havn 72.58 14 P P 08 15 21.9 +0.3
DAG Danmarks Havn 72.58 14 ⇑⇑P **P 08 15 20.2 -1.4**
DAG ⇑⇑P **pP 08 15 20.9 -0.5**
ATKA Atka Island 72.61 321 P P 08 15 22.2 0.0
ATKA IAmb IAmb 08 15 23.4
comp=Z,41nm,1.0s
EFI East Falkland 73.00 158 IAMs_20 IAMs_20 08 44 23.5
comp=Z,2µm,19.0s
RAR Rarotonga 73.65 242 P P 08 15 30.1 +1.3
comp=Z,5.4nm,0.5s,baz=339,slow=14,SNR=1.6
NOR Nord 73.84 9 ⇑*i* P **P 08 15 28.7 -0.3**
NOR IAMs_20 IAMs_20 08 53 06.9
comp=Z,6µm,14.3s
ADK Adak 74.16 320 P P 08 15 31.5 +0.1
ADK pmax pmax
comp=Z,68nm,1.0s
ADK Adak 74.16 320 P P 08 15 31.5 +0.1
ADK IAmb IAmb 08 15 32.8
comp=Z,68nm,0.9s
ADK Adak 74.16 320 ⇑P **P 08 15 31.9 +0.5**
JMIC Jan Mayen 74.89 20 LR LR 08 48 23.1
comp=Z,5µm,22.0s,baz=270,slow=36
PMAFR Mafra 76.97 53 *e*P **P 08 15 47.1 -0.7**
PMST Lisbon--Monsan 77.08 53 *e*P **P 08 15 48.3 -0.1**
LIS Lisbon 77.11 53 *e*P **P 08 15 48.3 -0.3**
LIS Lisbon 77.11 53 *e*P **P 08 15 48.2 -0.3**
PSBE So Bento 77.27 52 *e*P **P 08 15 49.9 +0.4**
PGAV Gavieira, Arco 77.31 50 *e*P P 08 15 47.8 -1.9
PCAS Casmilo, Conde 77.42 52 *e*P **P 08 15 50.4 +0.1**
PFVI Vila Bisbo 77.60 55 *e*P **P 08 15 51.5 +0.2**
PNCL Nicolau / Gran 77.68 54 *e*P **P 08 15 49.9 -1.9**
MORF Marmelete 77.71 54 *e*P **P 08 15 51.6 -0.4**
MORF IAmb IAmb 08 16 06.1
comp=Z,17nm,1.1s
MORF Marmelete 77.71 54 *e*P **P 08 15 51.6 -0.4**
MORF Marmelete 77.71 54 *e*P **P 08 15 52.2 +0.2**
POLO Lamas de Olo 77.75 50 *e*P **P 08 15 51.8 -0.4**
PMTG Montargil 77.77 53 *e*P **P 08 15 50.4 -1.8**
MESJ Messejana 77.97 54 *e*P **P 08 15 53.1 -0.2**
MESJ IAmb IAmb 08 15 56.0
comp=Z,127nm,2.2s
MESJ Messejana 77.97 54 *e*P **P 08 15 53.1 -0.2**
MESJ Messejana 77.97 54 *e*P **P 08 15 53.3 0.0**
EVO Evora 78.02 53 *e*P **P 08 15 53.8 +0.2**
MTE Manteigas 78.08 51 *e*P **P 08 15 53.6 -0.5**
MTE Manteigas 78.08 51 IAMs_20 IAMs_20 08 46 08.6
comp=Z,3µm,20.0s
PCVE Castro Verde 78.14 54 *e*P **P 08 15 55.0 +0.7**
PBDV Barranco-do-Ve 78.29 54 *e*P **P 08 15 54.4 -0.8**
PESTR Estremoz 78.29 53 *e*P **P 08 15 55.0 -0.2**
MVO Moncorvo 78.35 50 *e*P **P 08 15 55.4 -0.1**
PMRV Marv??o 78.36 52 *e*P P 08 15 53.2 -2.3
PVAQ Vaqueiros 78.43 54 *e*P P 08 15 53.9 -2.0
PBRG Braganca 78.46 50 *e*P **P 08 15 54.8 -1.3**
ESK Eskdalemuir 78.64 36 P **P 08 15 56.0 -0.7**
ESK pmax pmax
comp=Z,41nm,1.0s
ESK Eskdalemuir 78.64 36 P **P 08 15 56.0 -0.7**
ESK IAmb IAmb 08 16 05.5
comp=Z,41nm,1.0s
EKA Eskdalemuir Ar 78.67 36 LR LR 08 51 23.9
comp=Z,4µm,18.0s,baz=70,slow=36
EKA Eskdalemuir Ar 78.67 36 P P 08 15 53.7 -3.2
KBS Kingsbay 78.84 11 IAMs_20 IAMs_20 08 55 48.3
comp=Z,3µm,19.0s
QUIF Quistinic 79.93 43 *e*P **P 08 16 03.1 -0.8**
QUIF pmax pmax
comp=Z,67nm,1.6s
ZHG ZHG 79.99 58 P **P 08 16 07.1 +2.4**
ZHG ZHG 79.99 58 P **P 08 16 07.1 +2.4**
BILL Bilibino 80.20 338 *d*/*P* **P 08 16 05.2 +0.2**
BILL *e* 08 19 09.1
BILL *i* S **S 08 26 12.9 +2.3**
BILL pmax pmax
comp=Z,93nm,1.2s
BILL MLR MLR
comp=Z,2µm,17.0s
BILL Bilibino 80.20 338 IAMs_20 IAMs_20 08 53 46.9
comp=Z,2µm,18.0s
HSPB Hornsund (broa 80.22 12 *e*P **P 08 16 05.9 +1.0**
HSPB *e*L L 08 51 54.9
comp=Z,6µm,20.9s
RSA Sarsar 80.39 56 P **P 08 16 09.2 +2.4**
RSA Sarsar 80.39 56 P **P 08 16 09.2 +2.4**
PAB San Pablo 80.65 52 P **P 08 16 08.0 -0.1**
PAB pmax pmax
comp=Z,59nm,1.6s
PAB MLR MLR
comp=Z,3µm,18.0s
PAB San Pablo 80.65 52 P **P 08 16 08.0 -0.1**
PAB IAmb IAmb 08 16 09.9
comp=Z,59nm,1.6s

PAB San Pablo 80.65 52 P **P 08 16 08.5 +0.4**
ESDC Sonseca Array 80.92 51 P **P 08 16 08.8 -0.7**
comp=Z,5.7nm,0.9s,baz=291,slow=5.4,SNR=18
ESDC LR LR 08 50 00.1
comp=Z,2µm,18.3s,baz=265,slow=34
ESDC Sonseca Array 80.92 51 P **P 08 16 08.4 -1.1**
ESBB Sonseca Array 80.92 51 P **P 08 16 08.8 -0.7**
GRR Gorron 81.35 42 *eP* **P 08 16 11.0 -0.5**
GRR pmax pmax
comp=Z,121nm,1.6s
CZD Col de Zad 81.39 58 P **P 08 16 15.0 +2.5**
CZD Col de Zad 81.39 58 P **P 08 16 15.0 +2.5**
LCRM LCR 81.41 57 P **P 08 16 16.0 +3.6**
LCRM LCR 81.41 57 P **P 08 16 16.0 +3.6**
FLN La Foliniere 81.52 42 *eP* **P 08 16 12.0 -0.4**
FLN pmax pmax
comp=Z,12nm,0.6s
FOO Floro 81.59 29 *eP* **P 08 16 12.3 -0.1**
SUE Sulen 81.59 29 *eP* **P 08 16 12.8 +0.3**
LDF La Druitiere 81.78 42 *eP* **P 08 16 13.3 -0.5**
LDF pmax pmax
comp=Z,76nm,1.6s
MDT Midelt 81.79 58 LR LR 08 51 10.2
comp=Z,969nm,18.2s,baz=320,slow=35
MDT Midelt 81.79 58 P **P 08 16 16.2 +1.9**
MDT Midelt 81.79 58 P **P 08 16 16.2 +1.9**
AFI Afiamalu 81.95 253 P **P 08 16 16.0 +0.7**
comp=Z,35nm,1.0s,baz=82,slow=23,SNR=3.9
AFI Afiamalu 81.95 253 P **P 08 16 15.4 +0.1**
AFI pmax pmax
comp=Z,54nm,1.1s
AFI Afiamalu 81.95 253 P **P 08 16 15.4 +0.1**
AFI IAmb IAmb 08 16 17.0
comp=Z,54nm,1.1s
BER Bergen 82.04 30 *eP* **P 08 16 14.7 -0.2**
MFF Saint Martin d 82.21 44 *eP* **P 08 16 16.6 +0.5**
MFF pmax pmax
comp=Z,23nm,1.2s
SJPF Ste Jean 82.22 48 *eP* **P 08 16 19.0 +2.7**
SJPF pmax pmax
comp=Z,18nm,1.1s
AKN Aaknes 82.32 28 *eP* **P 08 16 16.0 -0.4**
PMSA Palmer Station 82.32 168 LR LR 08 44 49.8
comp=Z,787nm,20.8s,baz=356,slow=30
PMSA Palmer Station 82.32 168 P **P 08 16 16.8 +0.8**
PMSA IAmb IAmb 08 16 18.3
comp=Z,47nm,1.2s
PMSA Palmer Station 82.32 168 *eP* **P 08 16 16.8 +0.8**
ETSF Etsaut 82.75 48 *eP* **P 08 16 18.7 -0.4**
ETSF pmax pmax
comp=Z,59nm,1.7s
BLS5 Blasjo 82.85 30 *eP* **P 08 16 19.1 -0.1**
LOF Lofoten 82.99 21 *eP* **P 08 16 20.6 +0.9**
JBK JBK 83.13 56 P **P 08 16 23.0 +1.6**
JBK JBK 83.13 56 P **P 08 16 23.0 +1.6**
LFF La Frestale 83.19 45 *eP* **P 08 16 20.6 -0.6**
LFF pmax pmax
comp=Z,51nm,1.3s
EPF Esparros 83.36 47 *eP* **P 08 16 22.9 +0.6**
EPF pmax pmax
comp=Z,19nm,1.1s
SKAR Skarslia 83.36 29 *eP* **P 08 16 21.5 -0.4**
CLF Chambon-Foret 83.46 42 P **P 08 16 22.6 0.0**
CART Cartagena 83.63 53 IAMs_20 IAMs_20 08 46 16.5
comp=Z,3µm,19.0s
RJF Les Rejaudoux 83.64 45 *eP* **P 08 16 22.8 -0.8**
RJF pmax pmax
comp=Z,47nm,1.5s
STEI Steigen 83.66 21 *eP* **P 08 16 24.4 +1.3**
NSS Namsos 83.70 25 *eP* **P 08 16 24.4 +1.0**
TDRA Tendrara 83.86 58 P **P 08 16 27.0 +1.8**
TDRA Tendrara 83.86 58 P **P 08 16 27.0 +1.8**
TCF Toulx Ste Croi 83.86 44 *eP* **P 08 16 24.8 +0.1**
TCF pmax pmax
comp=Z,74nm,1.8s
FAUS Fauske 83.89 22 *eP* **P 08 16 24.9 +0.6**
SNF Seneffe 84.10 39 *dP* **P 08 16 24.4 -1.4**
CAF Calviac 84.11 45 *eP* **P 08 16 25.2 -0.8**
CAF pmax pmax
comp=Z,135nm,2.4s
HOPE Hope Point 84.13 150 P **P 08 16 26.4 +0.8**
HOPE pmax pmax
comp=Z,130nm,1.2s
HOPE Hope Point 84.13 150 P **P 08 16 26.4 +0.8**
TRO Tromso 84.16 19 *eP* **P 08 16 25.4 -0.3**
BAIF Baives 84.18 40 *eP* **P 08 16 27.5 +1.3**
BAIF pmax pmax
comp=Z,140nm,2.0s
HOMB Homborsund 84.21 31 *eP* **P 08 16 25.9 -0.2**
KONO Kongsberg 84.30 30 P **P 08 16 27.5 +0.9**
KONO pmax pmax
comp=Z,239nm,1.7s
KONO MLR MLR
comp=Z,5µm,20.0s
KONO Kongsberg 84.30 30 P **P 08 16 27.5 +0.9**
NC204 NORSAR Array S 84.31 28 P **P 08 16 27.4 +0.7**
NBO00 NORSAR Array S 84.40 28 P **P 08 16 27.3 +0.2**
DOU Dourbes 84.41 40 *dP* **P 08 16 26.7 -0.6**
comp=Z,72nm,4.2s
BMRD Maredsous 84.46 40 *dP* **P 08 16 27.3 -0.3**
AVF Avril sur Loir 84.50 43 *eP* **P 08 16 26.5 -1.4**
AVF pmax pmax
comp=Z,11nm,0.8s
NAO01 NORSAR Array S 84.51 28 P **P 08 16 28.3 +0.6**
SSF Saint Saulge 84.53 43 *eP* **P 08 16 28.5 +0.4**
SSF pmax pmax
comp=Z,26nm,1.1s
GIVF Givet 84.55 40 *eP* **P 08 16 28.2 +0.1**
GIVF pmax pmax
comp=Z,204nm,2.0s
NB2 NORSAR Subarra 84.59 28 P **P 08 16 28.1 0.0**
comp=Z,37nm,1.2s,baz=292,slow=4.8
NB2 NORSAR Subarra 84.59 28 P **P 08 16 26.2 -1.9**
NB2 NORSAR Subarra 84.59 28 P **P 08 16 28.1 0.0**
baz=292,slow=4.8
NOA NORSAR Array B 84.59 28 P **P 08 16 27.6 -0.6**
comp=Z,20nm,1.0s,baz=296,slow=5.1,SNR=28
NOA LR LR 08 53 03.1
comp=Z,3µm,20.1s,baz=285,slow=35
NC303 NORSAR Array S 84.60 28 P **P 08 16 29.2 +1.1**
MTLF Montolieu 84.62 47 *eP* **P 08 16 28.0 -0.6**
MTLF pmax pmax
comp=Z,100nm,1.6s
NB201 NORSAR Array S 84.62 28 P **P 08 16 27.9 -0.4**
BGES Gesves 84.63 39 *dP* **P 08 16 28.3 -0.2**
JETT Jettan, Norway 84.66 19 *eP* **P 08 16 31.0 +2.7**
FIGM Figuig 84.70 58 P **P 08 16 31.1 +1.7**
FIGM Figuig 84.70 58 P **P 08 16 31.1 +1.7**
LOR Lormes 84.70 43 *eP* **P 08 16 28.1 -0.9**
LOR pmax pmax
comp=Z,17nm,0.9s
OSL Oslo 84.74 29 *eP* **P 08 16 28.9 +0.1**
BCLA Clavier 84.75 39 *dP* **P 08 16 28.4 -0.7**
RCHB Rochefort 84.78 40 *dP* **P 08 16 28.2 -1.1**
comp=Z,100nm,4.0s
NC405 NORSAR Array S 84.80 28 P **P 08 16 29.2 0.0**
NC602 NORSAR Array S 84.85 28 P **P 08 16 29.6 +0.3**
SMF Signal de Mont 84.86 43 *eP* **P 08 16 30.4 +0.6**
SMF pmax pmax
comp=Z,36nm,1.5s
BSTI Sart Tilman 84.87 39 *dP* **P 08 16 29.9 +0.2**
BEBN Eben Emael 84.88 39 *dP* **P 08 16 28.9 -0.8**
HAMF Hammerfest 85.11 17 *eP* **P 08 16 30.5 +0.1**
MEM Membach 85.13 39 *dP* **P 08 16 30.4 -0.6**
MUD Monsted U'grnd 85.13 33 *iP* **P 08 16 32.0 +1.2**
MUD IAMs_20 IAMs_20 08 52 37.5
comp=Z,4µm,17.7s
BHOU Houvegnez 85.20 39 *dP* **P 08 16 31.2 -0.2**
BTNL Ternell 85.21 39 *dP* **P 08 16 31.3 -0.1**
WLF Walferdange 85.50 40 *dP* **P 08 16 33.0 +0.2**
comp=Z,84nm,2.0s
WLF Walferdange 85.50 40 P **P 08 16 32.8 0.0**
WLF pmax pmax
comp=Z,137nm,1.5s
WLF Walferdange 85.50 40 P **P 08 16 32.8 0.0**
WLF Walferdange 85.50 40 *eP* **P 08 16 33.3 +0.4**
comp=Z,194nm,1.6s,baz=290,slow=4.8
BUG Bochum--Univer 85.64 38 *eP* **P 08 16 33.8 +0.3**
comp=Z,220nm,1.8s,baz=290,slow=4.8
IBBN Ibbenburen 85.66 37 *eP* **P 08 16 34.1 +0.5**
comp=Z,274nm,1.7s,baz=290,slow=4.8
SSB Saint Sauveur 85.70 44 P **P 08 16 33.9 -0.2**
SSB pmax pmax
comp=Z,28nm,1.3s

SSB Saint Sauveur 85.70 44 P **P 08 16 33.9 -0.2**
AHRW Bad Neuenahr-A 85.80 39 *eP* **P 08 16 34.7 +0.4**
comp=Z,160nm,1.4s,baz=290,slow=4.8
KTK1 Kautokeino 85.80 19 *eP* **P 08 16 34.2 +0.2**
HAU Haudompre 86.11 41 *eP* **P 08 16 35.5 -0.5**
HAU pmax pmax
comp=Z,89nm,1.3s
ARA0 ARCESS Array S 86.22 18 *eP* **P 08 16 36.2 +0.1**
ARCES ARCESS Array B 86.22 18 P **P 08 16 34.6 -1.4**
comp=Z,4.6nm,0.6s,baz=302,slow=4.3,SNR=26
ARCES LR LR 08 55 28.8
comp=Z,4µm,19.8s,baz=285,slow=36
ARCES ARCESS Array B 86.22 18 P **P 08 16 36.1 0.0**
ARCES pmax pmax
comp=Z,61nm,1.6s
ARCES ARCESS Array B 86.22 18 P **P 08 16 36.1 0.0**
ARCES IAmb IAmb 08 18 35.7
comp=Z,61nm,1.6s
CABF La Chapelle 86.36 43 *eP* **P 08 16 38.0 +0.7**
CABF pmax pmax
comp=Z,138nm,1.8s
KASTN Kahler Asten 86.40 38 *eP* **P 08 16 37.6 +0.2**
comp=Z,172nm,1.7s,baz=290,slow=4.8
KOWA Kowa 86.46 76 P **P 08 16 37.3 -1.0**
KOWA Kowa 86.46 76 P **P 08 16 39.7 +1.4**
KOWA Kowa 86.46 76 P **P 08 16 39.7 +1.4**
HINF Hinteralfeld 86.49 42 *eP* **P 08 16 37.1 -0.8**
HINF pmax pmax
comp=Z,132nm,1.8s
CDF Champ du Feu 86.58 41 *eP* **P 08 16 37.4 -1.0**
CDF pmax pmax
comp=Z,174nm,2.0s
BSEG Bad Segeberg 86.59 35 *eP* **P 08 16 38.3 +0.2**
comp=Z,218nm,1.6s,baz=290,slow=4.8
ORIF Oris-en-Rattie 86.72 45 *eP* **P 08 16 39.6 +0.5**
ORIF pmax pmax
comp=Z,56nm,1.5s
TNS Taunus Mts 86.73 39 *eP* **P 08 16 39.2 +0.1**
comp=Z,110nm,1.3s,baz=290,slow=4.8
NRDL Niedersach Rie 86.96 36 *eP* **P 08 16 40.2 +0.2**
baz=290,slow=4.8
LPG La Plagne 87.13 44 *eP* **P 08 16 42.0 +0.6**
LPG pmax pmax
comp=Z,156nm,1.9s
GTTG Gottingen 87.20 37 *eP* **P 08 16 41.3 +0.1**
baz=290,slow=4.8
BNI Bardonecchia 87.22 44 P **P 08 16 41.4 -0.2**
BNI pmax pmax
comp=Z,99nm,1.7s
BNI Bardonecchia 87.22 44 P **P 08 16 41.4 -0.2**
SENIN Lac Senin/Sane 87.23 43 P **P 08 16 41.9 +0.2**
BFO Black Forest 87.27 41 P **P 08 16 41.4 -0.3**
BFO pmax pmax
comp=Z,60nm,1.5s
BFO Black Forest 87.27 41 P **P 08 16 41.4 -0.3**
BFO IAmb IAmb 08 16 43.0
comp=Z,60nm,1.5s
BFO Black Forest 87.27 41 *eP* **P 08 16 41.4 -0.3**
baz=290,slow=4.8
CLZ Clausthal 87.34 37 *eP* **P 08 16 41.7 -0.2**
comp=Z,208nm,1.9s,baz=290,slow=4.8
MILB Miltenberg 87.38 39 *eP* **P 08 16 42.2 +0.1**
baz=290,slow=4.8
MBDF Montbardon 87.38 44 *eP* **P 08 16 42.4 0.0**
MBDF pmax pmax
comp=Z,18nm,0.9s
TIC Toumodi 87.41 84 *eP* **P 08 16 43.6 +0.6**
ASSE Asse, Remlinge 87.42 37 *eP* **P 08 16 42.1 -0.1**
comp=Z,241nm,2.1s,baz=290,slow=4.8
SEY Seymchan 87.42 335 *c iP* **P 08 16 42.2 +0.2**
UBBA Unterbreizbach 87.47 38 *eP* **P 08 16 42.3 -0.1**
comp=Z,332nm,2.3s,baz=290,slow=4.8
LIC Lamto 87.51 84 *eP* **P 08 16 43.1 -0.3**
comp=Z,416nm,2.1s
DBIC Dimbokro 87.56 84 P P 08 16 42.0 -1.7
comp=Z,18nm,1.0s,baz=293,slow=2.2,SNR=12
DBIC LR LR 08 53 27.0
comp=Z,1µm,20.6s,baz=302,slow=34
DBIC Dimbokro 87.56 84 P **P 08 16 42.6 -1.1**
DBIC pmax pmax
comp=Z,128nm,1.5s
DBIC Dimbokro 87.56 84 P **P 08 16 42.6 -1.1**
LMR La Mourre 87.62 46 *eP* **P 08 16 44.3 +0.9**
LMR pmax pmax
comp=Z,111nm,1.6s
FRF La Foret Royal 87.65 46 *eP* **P 08 16 43.1 -0.5**
FRF pmax pmax
comp=Z,236nm,2.1s
FLTG Flechtingen 87.67 36 *eP* **P 08 16 43.3 -0.1**
comp=Z,359nm,2.3s,baz=290,slow=4.8
STU Stuttgart 87.67 40 *eP* **P 08 16 43.4 -0.2**
baz=290,slow=4.8
KIC Kosan Boka 87.75 84 *eP* **P 08 16 45.1 +0.5**
comp=Z,101nm,1.2s
NEUB Neuenburg 88.39 37 *eP* **P 08 16 46.9 0.0**
comp=Z,154nm,1.9s,baz=290,slow=4.8
MOX Moxa 88.49 38 *eP* **P 08 16 47.5 0.0**
comp=Z,326nm,2.6s,baz=290,slow=4.8
MOX *eL* L 08 57 14.7
comp=Z,5µm,18.9s
PET Petropavlovsk 88.56 325 *eP* **P 08 16 47.4 -0.2**
PET *e* 08 27 18.3
PET *eS* SKSac 08 27 28.6 +11
PET *eSS* **SS 08 33 28.1 +3.7**
PET pmax pmax
comp=Z,600nm,8.5s
GRFO Grafenberg 88.60 39 IAMs_20 IAMs_20 08 56 57.5
comp=Z,3µm,20.0s
GRF Grafenberg Arr 88.60 39 *eP* **P 08 16 47.9 0.0**
comp=Z,326nm,2.2s,baz=290,slow=4.8
GRF *eL* L 08 53 00.3
comp=Z,3µm,21.6s
DAVA Damuels 88.60 41 *eP* **P 08 16 47.9 -0.3**
comp=Z,24nm,1.0s,SNR=7.0
UBR Ueberruh 88.61 41 *eP* **P 08 16 47.8 -0.3**
comp=Z,365nm,2.6s,baz=290,slow=4.8
PLN Plauen 88.87 38 *eP* **P 08 16 49.2 0.0**
comp=Z,377nm,2.8s,baz=290,slow=4.8
WERD Werda 88.98 38 *eP* **P 08 16 50.0 +0.2**
comp=Z,368nm,2.8s,baz=290,slow=4.8
GUNZ Gunzen 89.02 38 *eP* **P 08 16 50.1 +0.1**
comp=Z,372nm,2.7s,baz=290,slow=4.8
MANZ Manzenberg 89.03 38 *eP* **P 08 16 50.1 +0.1**
comp=Z,229nm,2.4s,baz=290,slow=4.8
PEA0B Petropavlovsk- 89.06 325‖ *eP* **P 08 16 51.4 +1.4**
PETK Petropavlovsk- 89.06 325 P **P 08 16 50.1 +0.1**
comp=Z,6.0nm,1.0s,baz=78,slow=6.8,SNR=8.8
PETK Petropavlovsk- 89.06 325 P **P 08 16 50.9 +0.9**
PETK Petropavlovsk- 89.06 325 P **P 08 16 50.9 +0.9**
CLL Collm 89.06 37 *i* P **P 08 16 50.2 +0.1**
comp=Z,293nm,2.8s
CLL *i* 08 16 57.3
CLL LmV 08 56 00.0
comp=Z,3µm,21.1s
CLL Collm 89.06 37 *i* P **P 08 16 50.2 +0.1**
CLL *i* 08 16 57.3
CLL pmax pmax
comp=Z,293nm,2.8s
CLL MLR MLR
comp=Z,3µm,21.1s
CLL Collm 89.06 37 *eP* **P 08 16 50.3 +0.3**
comp=Z,293nm,2.8s,baz=290,slow=4.8
WERN Wernitzgruen 89.08 38 *eP* **P 08 16 50.3 +0.1**
comp=Z,411nm,2.7s,baz=290,slow=4.8
TANN Tannenbergstha 89.08 38 *eP* **P 08 16 50.4 +0.1**
comp=Z,390nm,2.7s,baz=290,slow=4.8
RETA Reutte 89.09 41 *eP* **P 08 16 49.6 -0.8**
comp=Z,26nm,1.4s,SNR=10
NKC Novy Kostel 89.14 38 *eP* **P 08 16 50.4 -0.1**
NKC *eS* **SKSac 08 27 27.6 +6.2**
NKC MLR MLR
comp=Z,4µm,18.3s
NKC Novy Kostel 89.14 38 *eP* **P 08 16 50.4 -0.1**
NKC *eSKS* **SKSac 08 27 27.6 +6.2**
NKC AMS AMS 08 57 20.0
comp=Z,4µm,18.3s
ROTZ Rotzenmuhle 89.17 39 *eP* **P 08 16 50.9 +0.3**
comp=Z,435nm,3.0s,baz=290,slow=4.8
FETA Feichten 89.24 41 *i* P **P 08 16 50.8 -0.4**
comp=Z,15nm,1.3s,SNR=6.6
TIXI Tiksi 89.29 348 *c iP* **P 08 16 49.7 -1.0**
TIXI Tiksi 89.29 348 P **P 08 16 50.1 -0.7**
TIXI IAmb IAmb 08 16 52.1
comp=Z,53nm,1.4s
TIXI IAMs_20 IAMs_20 09 05 03.8
comp=Z,2µm,19.0s

MOTA Moosalm 89.36 41 *eP* **P 08 16 50.9 -0.8**
comp=Z,22nm,1.5s,SNR=8.3
FBE Freiberg 89.42 37 *eP* **P 08 16 52.2 +0.4**
comp=Z,520nm,2.8s,baz=290,slow=4.8
SQTA Sankt Quirin 89.47 41 *eP* **P 08 16 52.1 -0.2**
comp=Z,4.2nm,0.5s
WATA Walderalm 89.67 41 *eP* **P 08 16 52.5 -0.7**
comp=Z,19nm,1.6s
MA2 Magadan 89.69 333 *ceP* **P 08 16 53.7 +0.8**
MA2 pmax pmax
comp=Z,31nm,1.5s
MA2 Magadan 89.69 333 P **P 08 16 52.9 0.0**
MA2 IAmb IAmb 08 16 55.3
comp=Z,61nm,1.6s
APA Apatity 89.73 18‖ *iP* P 08 16 59.3 +6.5
APA pmax pmax
comp=Z,5.0nm,0.8s
WTTA Wattenberg 89.73 41 *eP* **P 08 16 53.2 -0.4**
comp=Z,19nm,1.5s
BRG Berggiesshubel 89.78 37 *eP* **P 08 16 53.7 +0.3**
baz=290,slow=4.8
BRG Berggiesshubel 89.78 37 *eP* **P 08 16 52.8 -0.7**
BRG Amp 08 16 55.4
comp=Z,30nm,1.3s
BRG Berggiesshubel 89.78 37 P P 08 17 02.5 +9.0
BRG Amp 08 17 03.4
comp=Z,16nm,1.2s
WET Wettzell 89.81 39 *eP* **P 08 16 54.0 +0.3**
comp=Z,395nm,2.7s,baz=290,slow=4.8
LVZ Lovozero 89.88 17‖ *eP* **P 08 16 54.3 +0.7**
LVZ pmax pmax
comp=Z,45nm,1.8s
CTI Castel Tesino 90.18 42 P **P 08 16 56.1 +0.5**
CTI pmax pmax
comp=Z,35nm,1.5s
CTI Castel Tesino 90.18 42 P **P 08 16 56.1 +0.5**
CTI IAmb IAmb 08 16 58.3
comp=Z,35nm,1.5s
KHC Kasperske Hory 90.24 39 *eP* **P 08 16 56.1 +0.4**
KHC *eS* **SKSac 08 27 37.7 +10**
KHC MLR MLR
comp=Z,4µm,19.0s
KHC Kasperske Hory 90.24 39 *eP* **P 08 16 56.1 +0.4**
KHC *eSKS* **SKSac 08 27 37.7 +10**
KHC AMS AMS 08 57 30.0
comp=Z,4µm,19.0s
PBCC Pribram 90.27 38 *eP* **P 08 16 56.3 +0.5**
PVCC Panska Ves 90.28 37 *eSKS* **SKSac 08 27 35.1 +7.1**
PVCC AMS AMS 08 58 10.0
comp=Z,3µm,19.1s
RJOB Jochberg 90.29 40 *eP* **P 08 16 56.0 +0.1**
comp=Z,1µm,2.9s,baz=290,slow=4.8
ZCCA Zocca 90.34 44 P **P 08 16 57.2 +0.9**
ZCCA IAmb IAmb 08 16 58.3
comp=Z,44nm,1.1s
PRA Prague 90.38 38 *eS* **S 08 27 49.1 -2.7**
PRA AMS AMS 08 50 00.0
comp=Z,2µm,23.7s
GEC2 GERESS Array S 90.42 39 P **P 08 16 55.4 -1.2**
GEC2 IAmb IAmb 08 16 58.4
comp=Z,45nm,1.4s
GEC2 GERESS Array S 90.42 39 *eP* **P 08 16 56.8 +0.1**
comp=Z,50nm,1.5s,baz=290,slow=4.8
GERES GERESS Array B 90.42 39 P **P 08 16 55.6 -1.0**
comp=Z,5.5nm,0.9s,baz=304,slow=3.1,SNR=28
GERES PKKPbc **PKKPdf 08 34 24.1 +2.5**
comp=Z,0.2nm,0.3s,baz=140,slow=4.7,SNR=4.6
GERES LR LR 08 54 26.7
comp=Z,3µm,21.8s,baz=292,slow=34
GERES GERESS Array B 90.42 39 P **P 08 16 56.3 -0.3**
GERES GERESS Array B 90.42 39 P **P 08 16 56.3 -0.3**
ABTA Abfaltersbach 90.48 41 *eP* **P 08 16 56.2 -0.7**
comp=Z,17nm,1.3s,SNR=5.5
PRU Pruhonice 90.48 38 *eP* **P 08 16 57.4 +0.7**
PRU *eS* **S 08 27 56.8 +4.1**
PRU MLR MLR
comp=Z,2µm,19.0s
PRU Pruhonice 90.48 38 *eP* **P 08 16 57.4 +0.7**
PRU *eS* **S 08 27 56.8 +4.1**
PRU AMS AMS 08 50 30.0
comp=Z,2µm,19.0s
STAL STALIGIAL 90.79 42 P **P 08 16 58.3 0.0**
STAL IAmb IAmb 08 17 02.8
comp=Z,34nm,1.4s
CKRC Cesky Krumlov 90.80 39 *eSKP* **SKSac 08 27 28.0 -3.2**
FINES FINESS Array B 90.82 25 P **P 08 16 57.1 -1.0**
comp=Z,4.6nm,0.8s,baz=343,slow=3.1,SNR=12
FINES FINESS Array B 90.82 25 P **P 08 16 57.5 -0.5**
FINES FINESS Array B 90.82 25 P **P 08 16 57.5 -0.5**
ZOU Zoufplan 90.84 41 P **P 08 16 58.8 0.0**
ZOU IAmb IAmb 08 17 01.5
comp=Z,28nm,1.4s
KBA Koelnbreinsper 90.88 41 *i* P **P 08 16 58.0 -0.9**
comp=Z,17nm,1.4s
VSL Villasalto 90.89 49 IAMs_20 IAMs_20 08 53 49.7
comp=Z,2µm,18.0s
CHVC Chvalec 91.12 37 AMS AMS 08 52 40.0
comp=Z,3µm,22.1s
UPC Upice 91.13 37 *eP* **P 08 17 00.7 +0.9**
UPC *eS* **SKSac 08 27 35.4 +2.5**
UPC MLR MLR
comp=Z,3µm,21.4s
UPC Upice 91.13 37 *eP* **P 08 17 00.7 +0.9**
UPC *eSKS* **SKSac 08 27 35.4 +2.5**
UPC AMS AMS 08 52 40.0
comp=Z,3µm,21.4s
KSP Ksiaz 91.15 36 *eP* **P 08 16 59.9 0.0**
KSP *eL* L 08 53 09.1
comp=Z,4µm,23.7s
MOA Molln 91.16 40 *i* P **P 08 16 59.8 -0.2**
comp=Z,14nm,1.3s,SNR=5.0
OSTC Ostas 91.23 37 *eP* **P 08 17 00.3 +0.1**
OSTC *eS* **SKSac 08 27 33.5 0.0**
OSTC AMS AMS 08 52 40.0
comp=Z,3µm,22.2s
MYKA Terra Mystica 91.24 41 *eP* **P 08 16 59.3 -1.1**
comp=Z,20nm,1.6s
TREC Trest 91.32 38 AMS AMS 08 58 30.0
comp=Z,3µm,17.6s
DPC Dobruska-Polom 91.38 37 *eP* **P 08 17 01.1 +0.1**
DPC *eS* **S 08 27 57.5 -3.5**
DPC MLR MLR
comp=Z,2µm,21.3s
DPC Dobruska-Polom 91.38 37 *eP* **P 08 17 01.1 +0.1**
DPC *eS* **S 08 27 57.5 -3.5**
DPC AMS AMS 08 52 10.0
comp=Z,2µm,21.3s
CADS Cadrg 91.46 41 *i* P **P 08 17 00.4 -1.0**
KRLC Kraliky 91.76 37 *eSKS* **SKSac 08 27 39.4 +2.8**
KRLC AMS AMS 08 57 40.0
comp=Z,2µm,19.7s
JAVS Javornik 91.80 42 *eP* **P 08 17 02.0 -1.1**
OBKA Obir 91.86 41 *iP* **P 08 17 02.3 -1.1**
comp=Z,19nm,1.3s
KRUC Moravsky 91.96 38 *eP* **P 08 17 03.9 +0.3**
VRAC Vranov 91.97 38‖ **P 08 17 04.9 +1.2**
VRAC Vranov 91.97 38 LR LR 08 59 04.9
comp=Z,3µm,18.8s,baz=293,slow=36
VRAC Vranov 91.97 38‖ **P 08 17 04.9 +1.2**
VRAC Vranov 91.97 38 *eP* **P 08 17 04.0 +0.3**
VRAC Vranov 91.97 38 *e* 08 40 33.5
LJU Ljubljana 92.03 41 *eP* **P 08 17 03.6 -0.4**
SOKA Soboth 92.10 41 *iP* **P 08 17 03.3 -1.2**
comp=Z,20nm,1.6s,SNR=6.8
CONA Conrad Observa 92.11 39 *iP* **P 08 17 03.1 -1.4**
comp=Z,28nm,1.6s,SNR=12
KEST Kesra 92.13 52 P **P 08 17 03.0 -1.8**
comp=Z,3.9nm,0.8s,baz=157,slow=4.9,SNR=6.3
KEST LR LR 08 56 41.3
comp=Z,941nm,18.0s,baz=250,slow=34
KEST Kesra 92.13 52 P **P 08 17 04.0 -0.8**
TORD Torodi Ar. Bea 92.17 76 P **P 08 17 03.7 -1.5**
comp=Z,1.8nm,0.5s,baz=288,slow=5.2,SNR=15
TORD PKKPbc **PKKPdf 08 34 20.9 +2.7**
comp=Z,1.4nm,0.9s,baz=75,slow=0.8,SNR=6.3
TORD LR LR 08 59 26.9
comp=Z,1µm,19.4s,baz=290,slow=36
TORD Torodi Ar. Bea 92.17 76 P **P 08 17 03.9 -1.3**
TORD IAmb IAmb 08 17 04.6
comp=Z,38nm,1.9s
ARSA Arzberg 92.18 40 *eP* **P 08 17 03.8 -0.9**
comp=Z,11nm,1.4s
PDKS Podkum 92.33 41 *eP* **P 08 17 04.4 -1.1**
MORC Moravsky Berou 92.33 37⇑ **P 08 17 07.1 +1.7**
MORC Moravsky Berou 92.33 37 P **P 08 17 06.8 +1.4**

MORC	Moravsky Berou	92.33	37	P	P	08 17 05.1	-0.3
MORC	Moravsky Berou	92.33	37	eP	P	08 17 06.1	+0.7
MSVF	Nonsavu	92.40	252	P	P	08 17 06.4	+0.1
	comp=Z,19nm,0.9s,baz=121,slow=7.5,SNR=4.3						
MSVF				LR	LR	08 47 51.4	
	comp=Z,1µm,20.8s,baz=89,slow=28						
MSVF	Nonsavu	92.40	252	ceP	P	08 17 09.7	+3.4
MSVF				pmax	pmax		
	comp=Z,54nm,1.3s						
MSVF	Nonsavu	92.40	252	P	P	08 17 06.8	+0.5
LEGS	Legarje	92.58	41	i P	P	08 17 06.0	-0.6
OKC	Ostrava-Krasne	92.66	37	eS	SKSac	08 27 51.6	+10
OKC				AMS	AMS	08 58 40.0	
	comp=Z,2µm,18.7s						
ZST	Bratislava	92.75	39	eP	P	08 17 08.7	+1.4
ZST				pmax	pmax		
	comp=Z,489nm,1.9s						
ZST	Bratislava	92.75	39	eP	P	08 17 08.7	+1.4
JAVC	Velka Javorina	92.81	38	eP	P	08 17 08.7	+1.1
SMOL	Smolenice	92.81	38	eP	P	08 17 08.9	+1.3
SMOL				pmax	pmax		
	comp=Z,52nm,1.8s						
SMOL	Smolenice	92.81	38	eP	P	08 17 08.9	+1.3
BEL	Belsk	93.23	34	eP	P	08 17 10.5	+1.0
SUW	Suwalki	93.42	32	eP	P	08 17 10.5	+0.3
OJC	Ojcow	93.44	36	eP	P	08 17 11.5	+1.1
OJC				eL	L	08 54 28.8	
	comp=Z,3µm,23.8s						
SRO	Srobarova	93.65	39	eP	P	08 17 12.6	+1.2
SRO	Srobarova	93.65	39	eP	P	08 17 12.6	+1.2
VYHS	Vyhne	93.66	38	eP	P	08 17 12.1	+0.6
VYHS				pmax	pmax		
	comp=Z,78nm,1.8s						
VYHS	Vyhne	93.66	38	eP	P	08 17 12.1	+0.6
LANS	Liptovska Anna	93.74	37	eP	P	08 17 13.8	+1.9
LANS				pmax	pmax		
	comp=Z,18nm,1.6s						
LANS	Liptovska Anna	93.74	37	eP	P	08 17 13.8	+1.9
NIE	Niedzica	94.10	37	eP	P	08 17 15.9	+2.4
KOVH	Kovagotottos	94.28	40	eP	P	08 17 14.6	+0.2
PSZ	Piszkesteto	94.55	38	⇓P	P	08 17 17.5	+1.8
PSZ	Piszkesteto	94.55	38	eP	P	08 17 15.8	+0.1
PSZ	Piszkesteto	94.55	38	P	P	08 17 16.7	+1.0
PSZ				pmax	pmax		
	comp=Z,135nm,1.7s						
PSZ	Piszkesteto	94.55	38	P	P	08 17 16.7	+1.0
KECS	Kecovo	94.64	37	eP	P	08 17 17.2	+1.2
KECS	Kecovo	94.64	37	eP	P	08 17 17.2	+1.2
CRVS	Cervenica-Dubn	95.01	37	eP	P	08 17 19.2	+1.5
CRVS				pmax	pmax		
	comp=Z,83nm,1.6s						
CRVS	Cervenica-Dubn	95.01	37	eP	P	08 17 19.2	+1.5
KWP	Kalwaria Pacla	95.37	36	eP	P	08 17 19.6	+0.2
KOLS	Kolonicke sedl	95.47	36	eP	P	08 17 21.0	+1.2
MNK	Minsk	95.49	30	i P	P	08 17 17.5	-2.2
MNK				i		08 21 07.6	
MNK				i PPP	PPP	08 23 09.9	
MNK				i S	SKSac	08 27 50.4	-6.3
MNK				i SS	SS	08 34 58.1	-5.7
MNK				i SSS	SSS	08 38 42.2	
MNK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MNK				pmax	pmax		
	comp=E,4.0nm,1.1s						
MNK				pmax	pmax		
	comp=N,13nm,0.9s						
MNK				MLR	MLR		
	comp=E,335nm,19.0s						
MNK				MLR	MLR		
	comp=Z,3µm,17.0s						
MNK				MLR	MLR		
	comp=N,956nm,21.0s						
MNK	Minsk	95.49	30	i P	P	08 17 17.6	-2.1
	comp=E,4.0nm,1.1s						
MNK				i P	P	08 17 17.6	-2.1
	comp=N,13nm,0.9s						
MNK				i P	P	08 17 17.6	-2.1
	comp=Z,10.0nm,0.9s,baz=304						
MNK				i PP	PP	08 21 07.6	-2.2
MNK				i PPP	PPP	08 23 09.9	
MNK				i S	SKSac	08 27 50.5	-6.2
MNK				i SS	SS	08 34 58.2	-5.6
MNK				i SSS	SSS	08 38 42.3	
MNK				i LQ	LQ	08 54 23.0	
MNK				i LR	LR	08 56 27.1	
MNK				i LRM	MLR	09 00 08.8	
	comp=E,335nm,19.1s						
MNK				i LRM	MLR	09 00 16.4	
	comp=Z,3µm,17.2s						
MNK				i LRM	MLR	09 00 33.7	
	comp=N,956nm,21.1s						
UZH	Uzhgorod	95.62	37	⇓eP	P	08 17 21.2	+0.7
UZH				e		08 17 23.5	
FRGS	Fruska Gora	95.77	41	⇑P	P	08 17 22.7	+1.4
LVV	L'vov	96.02	35	eP	P	08 17 22.4	+0.2
LVV				e		08 21 20.9	
LVV				e		08 27 56.4	
LVV				eS	S	08 28 35.9	-6.0
LVV				ePS	PS	08 30 40.0	+39
LVV				MLR	MLR		
	comp=E,3µm,19.0s						
LVV				MLR	MLR		
	comp=N,800nm,22.0s						
LVV				MLR	MLR		
	comp=Z,3µm,19.0s						
KLMR	Klimovskoe	96.25	21	eP	P	08 17 21.1	-1.9
KLMR				pmax	pmax		
	comp=Z,27nm,1.5s						
KLMR	Klimovskoe	96.25	21	eP	P	08 17 21.1	-1.9
KLMR				AMP		08 17 35.8	
	comp=Z,27nm,1.5s						
YAK	Yakutsk	96.29	341	IAMs_20	IAMs_20	09 03 42.2	
	comp=Z,2µm,19.0s						
NRIK	Noril'sk	96.31	359	P	P	08 17 21.8	-1.4
	comp=Z,1.4nm,0.3s,baz=57,slow=2.4,SNR=7.1						
NRIK				PP	PP	08 21 16.7	+0.9
	comp=Z,1.7nm,0.3s,baz=40,slow=2.6,SNR=4.7						
NRIK				LR	LR	09 06 10.9	
	comp=Z,1µm,18.2s,baz=10,slow=39						
NRIK	Noril'sk	96.31	359	c iP	P	08 17 22.3	-0.9
NRIK				pmax	pmax		
	comp=Z,19nm,1.7s						
NRIK	Noril'sk	96.31	359	P	P	08 17 23.0	-0.1
NRIK				IAmb	IAmb	08 17 24.4	
	comp=Z,36nm,1.8s						
TIP	Timpagrande	96.32	47	IAMs_20	IAMs_20	09 09 14.1	
	comp=Z,2µm,19.0s						
SIRR	Siria	96.39	39	⇑P	P	08 17 25.6	+1.5
BZS	Buzias	96.68	40	⇑P	P	08 17 25.9	+0.5
BZS	Buzias	96.68	40	⇑P	P	08 17 25.9	+0.5
DRGR		96.78	38	⇑P	P	08 17 27.0	+1.2
DRGR		96.78	38	⇑P	P	08 17 27.0	+1.2
MDVR	Moldovita	97.14	40	⇑P	P	08 17 28.7	+1.2
GZR	Gura Zlata	97.50	39	⇑P	P	08 17 29.3	+0.1
GZR	Gura Zlata	97.50	39	⇑P	P	08 17 29.3	+0.1
PRGR	Permogore	97.64	18	eP	P	08 17 28.0	-1.3
PRGR				pmax	pmax		
	comp=Z,42nm,1.0s						
BURAR	Bucovina Array	97.83	37	P	P	08 17 30.9	+0.3
URZ	Urewera	97.97	233	LR	LR	08 50 33.7	
	comp=Z,782nm,20.9s,baz=31,slow=28						
BELA	Belgrano 2	98.05	169	P	P	08 17 30.2	-0.5
AKASG	Malin Array Be	98.33	33	P	P	08 17 31.5	-1.1
	comp=Z,0.6nm,0.5s,baz=281,slow=2.4,SNR=6.5						
AKASG				PKKPbc	PKKPbc	08 34 02.5	-2.7
	comp=Z,1.4nm,0.8s,baz=89,slow=2.4,SNR=5.3						
AKASG				LR	LR	09 05 11.6	
	comp=Z,2µm,18.3s,baz=285,slow=38						
AKASG	Malin Array Be	98.33	33	i P	P	08 17 31.8	-0.9
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	98.33	33	P	P	08 17 31.5	-1.1
AKBB	Malin Array Si	98.33	33	c iP	P	08 17 30.4	-2.3
AKBB				pmax	pmax		
	comp=Z,24nm,2.8s						
BIZ	Bicaz	98.70	37	⇑P	P	08 17 34.5	0.0
VOIR		98.86	39	⇑P	P	08 17 36.2	+0.9
VOIR		98.86	39	⇑P	P	08 17 36.2	+0.9
OBN	Obninsk	99.07	26	LR	LR	09 04 28.6	
	comp=Z,191nm,18.8s,baz=308,slow=37						
OBN	Obninsk	99.07	26	⇓eP	Pdif	08 17 36.1	+0.3
OBN				e		08 21 40.9	
OBN				pmax	pmax		
	comp=Z,16nm,0.5s						
OBN				MLR	MLR		
	comp=Z,1µm,15.0s						
MLR	Muntele Rosu	99.37	38	⇓P	Pdif	08 17 38.6	+1.0
MLR	Muntele Rosu	99.37	38	⇓P	Pdif	08 17 38.6	+1.0
KIRV	Kirov	101.22	19	ceP	Pdif	08 17 44.0	-1.3
VNA3	Neumayer Olymp	101.87	161	Pdiff	Pdif	08 17 47.2	-0.7
VNA1	Neumayer--Stat	102.23	160	Pdiff	Pdif	08 17 49.2	-0.3
VNA2	Neumayer--Watz	102.55	160	Pdiff	Pdif	08 17 50.0	-0.9
SANT	Santorini	103.73	46	IAMs_20	IAMs_20	09 11 04.3	
	comp=Z,1µm,19.0s						
SNAA	Sanae	104.09	161	Pdiff	Pdif	08 17 56.8	-1.0
ISP	Isparta	106.41	43	IAMs_20	IAMs_20	09 06 09.4	
	comp=Z,1µm,21.0s						
ANTO	Ankara	106.69	40	IAMs_20	IAMs_20	09 05 52.4	
	comp=Z,2µm,22.0s						
MDJ	Mudanjiang	109.00	329	IAMs_20	IAMs_20	09 14 18.3	
	comp=Z,2µm,18.0s						
KIV	Kislovodsk	109.66	32	IAMs_20	IAMs_20	09 11 26.2	
	comp=Z,1µm,19.0s						
HIA	Hailar	109.78	337	IAMs_20	IAMs_20	09 10 36.8	
	comp=Z,1µm,19.0s						
ZALV	Zalesovo Beam	111.76	1	PP	PP	08 23 09.7	-1.1
	comp=Z,1.1nm,0.4s,baz=14,slow=9.2,SNR=5.4						
MAK	Makhachkala	112.77	30	i P	Pdif	08 18 32.5	-4.6
MAK				e	SKSac	08 29 11.3	-5.5
MAK				ePS	PS	08 32 52.3	-1.3
MAK				eSS	SS	08 38 57.8	-3.2
MAK				eSSS	SSS	08 43 09.6	
MAK				pmax	pmax		
	comp=Z,139nm,1.3s						
GNI	Garni	113.44	33	IAMs_20	IAMs_20	09 10 37.5	
	comp=Z,2µm,22.0s						
KSRS	Korea Array	114.94	324	PKP	PKiKP	08 22 36.1	-0.2
	comp=Z,3.0nm,0.8s,baz=8.6,slow=0.5,SNR=10						
SONM	Songino Array	115.26	345	PKP	PKiKP	08 22 36.2	-0.6
	comp=Z,1.2nm,0.8s,baz=36,slow=1.1,SNR=5.7						
SONM				PKKPbc	PKKPbc	08 33 10.1	-2.8
	comp=Z,1.4nm,1.0s,baz=204,slow=3.2,SNR=5.0						
INCN	Inchon	115.64	325	IAMs_20	IAMs_20	09 20 40.4	
	comp=Z,1µm,18.0s						
DGZ	Jazzator, Alta	116.01	359	⇓iPKIKP	PKiKP	08 22 37.5	-0.7
ZSN	Zaisan	118.27	1	i PP	PP	08 23 55.0	-1.8
	baz=1.1						
MAKZ	Makanchi	118.81	3	PKIKP	PKPdf	08 22 42.8	-0.7
MAKZ	Makanchi	118.81	3		PKPdf	08 22 42.8	-0.7
MAKZ				IAMs_20	IAMs_20	09 20 36.4	
	comp=Z,2µm,21.0s						
MK31	Makanchi Array	118.84	3	d iPKIKP	PKPdf	08 22 43.2	-0.4
MKAR	Makanchi Array	118.84	3	PKP	PKPdf	08 22 43.2	-0.4
	comp=Z,2.3nm,0.8s,baz=357,slow=2.4,SNR=13						
MKAR				PKKPbc	PKKPbc	08 32 57.2	-2.9
	comp=Z,1.5nm,0.9s,baz=160,slow=4.6,SNR=8.1						
MKAR	Makanchi Array	118.84	3	PKIKP	PKPdf	08 22 42.3	-1.3
MKAR	Makanchi Array	118.84	3	PKPdf	PKPdf	08 22 42.3	-1.3
BTLS	Baital	119.70	10	ePP	PP	08 24 04.4	-2.3
	baz=9.9						
HHC	Hu-ho-hao-te	119.97	338	eP	PKPdf	08 22 39.3	-6.7
HHC				PP	PP	08 24 10.0	+1.1
HHC				LR	LR		
	comp=N,2µm,20.7s						
HHC				LR	LR		
	comp=E,960nm,21.2s						
HHC				LR	LR		
	comp=Z,3µm,20.9s						
KUU	Kurty	121.17	8	ePKP	PKPdf	08 22 46.2	-2.0
	baz=8.4						
KUU				ePP	PP	08 24 15.9	-0.8
	baz=8.4						
KUU	Kurty	121.17	8	ePKIKP	PKPdf	08 22 46.1	-2.0
KUU				e		08 24 15.9	
CHKK	Chushkaly	121.29	8	ePKP	PKPdf	08 22 47.5	-0.9
	baz=7.8						
SGDS	Sogindy	121.35	10	ePKP	PKPdf	08 22 47.7	-0.8
	baz=9.9						
SGDS				ePP	PP	08 24 15.9	-2.2
	baz=9.9						
GEYT	Alibeck	121.61	26	PKP	PKPdf	08 22 48.5	-0.7
	comp=Z,32nm,0.8s,baz=205,slow=21,SNR=3.8						
IUG	Iuzhnay	121.70	14	ePKP	PKPdf	08 22 48.8	-0.6
	baz=14						
IUG				i PP	PP	08 24 19.1	-1.4
	baz=14						
IUG	Iuzhnay	121.70	14	ePKIKP	PKPdf	08 22 48.7	-0.6
IUG				i		08 24 19.1	
WMQ	Urumqi	121.88	359	ePKP	PKPdf	08 22 50.5	+0.9
WMQ				LR	LR		
	comp=Z,2µm,18.9s						
WMQ				LR	LR		
	comp=Z,960nm,19.3s						
WMQ				LR	LR		
	comp=Z,2µm,25.7s						
MTBS	Maitube	121.93	8	ePKP	PKPdf	08 22 46.0	-3.7
	baz=8.5						
MTBS				ePP	PP	08 24 22.4	+0.4
	baz=8.5						
MDOK	Medeo	121.98	8	ePKP	PKPdf	08 22 48.6	-1.4
	baz=7.9						
MDOK				ePP	PP	08 24 22.0	-0.4
	baz=7.9						
MDOK	Medeo	121.98	8	ePKIKP	PKPdf	08 22 48.5	-1.4
MDOK				e		08 24 22.0	
TNSS	Tian-Shan	122.09	8	ePKP	PKPdf	08 22 49.9	-0.6
	baz=8.0						
AAK	Ala-Archa	122.12	10	⇑iPKIKP	PKPdf	08 22 50.9	+0.7
UZB	Uzynbulak	122.22	6	ePKP	PKPdf	08 22 49.6	-0.7
	baz=6.2						
UZB	Uzynbulak	122.22	6	ePKIKP	PKPdf	08 22 49.6	-0.7
SATY	Saty	122.25	7	ePKP	PKPdf	08 22 48.9	-1.5
	baz=6.8						
SATY				ePP	PP	08 24 19.1	-5.1
	baz=6.8						
SATY	Saty	122.25	7	ePKIKP	PKPdf	08 22 48.8	-1.5
SHLS	Shalkode	122.26	6	ePKP	PKPdf	08 22 49.5	-1.0
	baz=5.5						
SHLS	Shalkode	122.26	6	ePKIKP	PKPdf	08 22 49.4	-1.0
BOSA	Boshof	122.39	115	PKP	PKPdf	08 22 50.4	-0.6
	comp=Z,8.8nm,0.9s,baz=218,slow=2.0,SNR=9.3						
CTA	Charters Tower	122.43	255	PKP	PKPdf	08 22 50.1	-1.0
	comp=Z,4.2nm,0.8s,baz=325,slow=1.7,SNR=4.7						
CTAO	Charters Tower	122.43	255	PKIKP	PKPdf	08 22 50.7	-0.4
CTAO	Charters Tower	122.43	255	PKPdf	PKPdf	08 22 50.7	-0.4
BOOM	Boomskoye usch	122.49	9	PKIKP	PKPdf	08 22 50.2	-0.7
BOOM	Boomskoye usch	122.49	9	PKPdf	PKPdf	08 22 50.1	-0.7
SSE	Sheshan	123.37	324	PKP	PKPdf	08 22 51.2	-1.5
SSE				PP	PP	08 24 36.9	+4.5
SSE				SS	SS	08 41 23.5	+4.4
SSE				AMB	AMB		
	comp=Z,170nm,6.4s						
SSE				LR	LR		
	comp=Z,460nm,18.0s						
SSE				LR	LR		
	comp=Z,420nm,17.5s						
TARG	Taragay, Kyrgy	123.49	7	PKPdf	PKPdf	08 22 52.3	-0.9
NJ2	Nanjing	123.95	326	ePKP	PKPdf	08 22 53.8	+0.1
NJ2				PP	PP	08 24 41.7	+5.5
NJ2				SKS	SKSdf	08 30 01.2	-5.7
NJ2				AMB	AMB		
	comp=Z,500nm,12.0s						
NJ2				LR	LR		
	comp=Z,1µm,18.9s						
NJ2				LR	LR		
	comp=Z,930nm,18.0s						
NJ2				LR	LR		
	comp=Z,800nm,19.4s						
GTA	Gaotai	124.77	347	⇑PKP	PKPdf	08 22 55.6	+0.3
GTA				PP	PP	08 24 45.0	+3.7
GTA				AMB	AMB		
	comp=Z,380nm,9.1s						
GTA				LR	LR		
	comp=Z,2µm,18.9s						
GTA				LR	LR		
	comp=Z,790nm,20.0s						
GTA				LR	LR		
	comp=Z,3µm,19.6s						
CHGR	Chuyangaron	124.77	16	PKPdf	PKPdf	08 22 55.2	-0.1
MAW	Mawson	124.90	169	PKP	PKPdf	08 22 53.0	-1.4
	comp=Z,9.0nm,1.1s,baz=301,slow=1.6,SNR=13						
MAW	Mawson	124.90	169	PKIKP	PKPdf	08 22 53.3	-1.1
MAW	Mawson	124.90	169	PKPdf	PKPdf	08 22 53.3	-1.1
KSH	Kashi	125.40	9	PKP	PKPdf	08 22 58.5	+2.0
KSH				PP	PP	08 24 51.4	+5.9
KSH				LR	LR		
	comp=Z,2µm,20.8s						
KSH				LR	LR		
	comp=Z,2µm,18.0s						
KSH				LR	LR		
	comp=Z,3µm,20.4s						
STKA	Stephens Creek	126.60	241	PKP	PKPdf	08 22 58.2	-0.6
	comp=Z,17nm,1.0s,baz=77,slow=3.1,SNR=19						
STKA	Stephens Creek	126.60	241	PKIKP	PKPdf	08 22 57.8	-1.0
STKA	Stephens Creek	126.60	241	PKPdf	PKPdf	08 22 57.8	-1.0
LZH	Lanzhou	126.86	342	ePKP	PKPdf	08 23 00.1	+0.6
XAN	Xi'an	126.95	336	PKP	PKPdf	08 22 59.6	+0.1
XAN				PP	PP	08 24 56.8	+0.8
XAN				LR	LR		
	comp=Z,2µm,16.1s						
XAN				LR	LR		
	comp=Z,2µm,19.3s						
XAN				LR	LR		
	comp=Z,2µm,20.8s						
WHN	Wuhan	127.48	329	PKP	PKPdf	08 23 00.9	+0.3
WHN				PP	PP	08 25 03.2	+3.6
WHN				LR	LR		
	comp=Z,3µm,19.2s						
ATD	Arta Tunnel	130.03	61	IAMs_20	IAMs_20	09 32 35.7	
	comp=Z,1µm,19.0s						
KMBO	Kilima Mbogo	130.07	79	i PKIKP	PKPdf	08 23 08.3	+2.1
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CD2	Chengdu	131.66	339	PKP	PKPdf	08 23 07.2	-1.4
WR0	Warramunga Arr	133.42	256	PKPdf	PKPdf	08 23 11.8	-0.2
WB2	Warramunga Arr	133.60	256	PKPdf	PKPdf	08 23 12.2	-0.2
WRAB	Tennant Creek	133.60	256	d iPKIKP	PKPdf	08 23 11.9	-0.5
WRAB	Tennant Creek	133.60	256		PKPdf	08 23 12.1	-0.3
WRA	Warramunga Arr	133.61	256	PKhKP	PKPpre	08 23 01.7	
	comp=Z,0.8nm,0.8s,baz=109,slow=2.3,SNR=5.8						
WRA				PKP	PKPdf	08 23 12.1	-0.3
	comp=Z,11nm,1.0s,baz=105,slow=2.0,SNR=18						
WRA	Warramunga Arr	133.61	256	PKIKP	PKPdf	08 23 11.1	-1.3
WRA	Warramunga Arr	133.61	256		PKPdf	08 23 11.1	-1.3
SMLA	Simla	133.79	10	i x	x	08 23 11.7	
SMLA				ex	PP	08 25 35.5	-4.5
AS31	Alice Springs	133.98	251	PKPdf	PKPdf	08 23 12.7	-0.3
ASAR	Alice Springs	133.98	251	PKhKP	PKPpre	08 22 55.7	
	comp=Z,0.5nm,0.9s,baz=104,slow=3.9,SNR=2.5						
ASAR				PKP	PKPdf	08 23 12.0	-1.0
	comp=Z,11nm,1.1s,baz=100,slow=1.8,SNR=19						
ASAR	Alice Springs	133.98	251	PKIKP	PKPdf	08 23 12.5	-0.6
ASAR	Alice Springs	133.98	251	PKPdf	PKPdf	08 23 12.5	-0.6
GYA	Guiyang	134.53	334	⇑PKP	PKPdf	08 23 15.8	+1.6
GYA				PP	PP	08 25 47.7	+2.4
GYA				PKS	PKSdf	08 26 43.1	-7.7
GYA				SKKS		08 32 43.4	
GYA				SS	SS	08 43 40.9	+4.2
GYA				LR	LR		
	comp=Z,360nm,17.8s						
GYA				LR	LR		
	comp=Z,760nm,17.9s						
GYA				LR	LR		
	comp=Z,1µm,20.8s						
DDI	Dehra Dun	134.73	10	i x	x	08 23 14.4	
DDI				ex	PP	08 25 41.7	-4.4
MTN	Manton Dam	136.13	267	PKPdf	PKPdf	08 23 16.4	-0.8
LKP	Lekhapani	137.26	347	i P	PKPdf	08 23 15.3	-3.8
KMI	Kunming	137.30	337	⇑PKP	PKPdf	08 23 19.7	+0.2
KMI				PP	PP	08 26 06.6	+3.9
KMI				SS	SS	08 44 15.7	+5.8
KMI				LR	LR		
	comp=Z,1µm,19.1s						
KMI				LR	LR		
	comp=Z,1µm,18.1s						
KMI				LR	LR		
	comp=Z,2µm,19.1s						
DIBR	DIBRUGARH	137.33	348	i P	PKPdf	08 23 18.4	-0.8
ITAN	ITANAGAR	137.86	350	i P	PKPdf	08 23 18.8	-1.4
ITAN				ex	PP	08 26 06.4	+0.7
JORH	JORHAT	138.16	349	i x	x	08 23 21.9	
JORH				ex	PP	08 26 06.8	-0.7
FORT	Forrest	138.21	240	PKPdf	PKPdf	08 23 20.3	-0.3
GTK	Tadong	138.29	356	i P	PKPdf	08 23 20.6	-0.6
GTK				ex	PP	08 26 06.8	-1.6
MOKO	MOKOCHONG	138.52	348	i P	PKPdf	08 23 21.0	-0.6
MOKO				ex	PP	08 26 09.5	-0.5
QIZ	Qiongzhong	139.16	324	PKP	PKPdf	08 23 22.3	-0.5
QIZ				PP	PP	08 26 14.7	+0.2
QIZ				LR	LR		
	comp=Z,210nm,14.6s						
QIZ				LR	LR		
	comp=Z,720nm,18.7s						
QIZ				LR	LR		
	comp=Z,850nm,21.2s						
QIZ	Qiongzhong	139.16	324	IAMs_20	IAMs_20	09 36 18.1	
	comp=Z,1µm,21.0s						
BHUJ	Bhuj	139.17	23	i P	PKPdf	08 23 21.4	-1.2
KOHI	KOHIMA	139.18	349	i P	PKPdf	08 23 23.6	+0.8
SHL	Shillong	139.70	352	ex	PP	08 26 12.6	-4.7
IMP	Imphal	140.08	349	i P	PKPdf	08 23 23.2	-1.2
AGT	Agartala	141.44	352	i P	PKPdf	08 23 24.1	-2.7
AGT				ePP	PP	08 26 26.7	-1.0
BHPL	Bhopal	141.51	13	ex	PP	08 26 26.7	-1.6
FITZ	Fitzroy Crossi	141.81	259	PKhKP	PKPpre	08 23 21.3	
	comp=Z,6.8nm,0.9s,baz=358,slow=0.4,SNR=12						
FITZ	Fitzroy Crossi	141.81	259	PKPdf	PKPdf	08 23 26.2	-1.3
ABPO	Ambohimpanom	142.71	102	PKIKP	PKPdf	08 23 27.2	-2.2
ABPO	Ambohimpanom	142.71	102	PKPdf	PKPdf	08 23 27.2	-2.2
NONG	Nongkai	143.42	332	PKP	PKPab	08 23 28.3	+1.8
CMMT	Chiang Mai	144.45	339	PKP	PKPab	08 23 30.2	-0.2
CHTO	Chiang Mai	144.45	339	PKIKP	PKPab	08 23 30.7	+0.3
CHTO	Chiang Mai	144.45	339	PKP	PKPab	08 23 30.3	-0.1
CHTO	Chiang Mai	144.45	339	PKPdf	PKPab	08 23 30.7	+0.3
CHTO	Chiang Mai	144.45	339	IAMs_20	IAMs_20	09 39 28.9	
	comp=Z,904nm,20.0s						
CMAR	Chiang Mai Arr	144.78	338	PKP	PKPab	08 23 31.4	-0.2
	comp=Z,48nm,1.0s,baz=348,slow=3.4,SNR=95						
CMAR	Chiang Mai Arr	144.78	338	PKIKP	PKPab	08 23 30.9	-0.7
CMAR	Chiang Mai Arr	144.78	338	PKPdf	PKPab	08 23 30.9	-0.7
UTTA	Uttaradit	144.82	335	PKP	PKPab	08 23 32.2	+0.5
CM05	Chiang Mai Arr	144.83	338	PKP	PKPab	08 23 31.9	+0.1
POO	Poona	145.02	20	i P	PKPab	08 23 31.1	-1.3
KAPI	Kappang	145.42	282	PKPbc	PKPbc	08 23 33.8	-0.1
	comp=Z,81nm,1.0s,baz=71,slow=1.8,SNR=16						
KAPI	Kappang	145.42	282	c iPKIKP	PKPbc	08 23 34.7	+0.8
KAPI	Kappang	145.42	282		PKPbc	08 23 32.0	-1.9
CHAI	Chaiyaphum	145.84	332	PKP	PKPdf	08 23 35.4	+0.7
NWAO	Narrogin (SRO)	146.22	232	PKPbc	PKPdf	08 23 35.3	+0.4
	comp=Z,47nm,0.9s,baz=124,slow=4.6,SNR=16						
NWAO	Narrogin (SRO)	146.22	232	PKIKP	PKPdf	08 23 34.1	-0.8
NWAO	Narrogin (SRO)	146.22	232	PKPdf	PKPdf	08 23 34.1	-0.8
PSA00	Pilbara Seismi	147.09	253		PKPdf	08 23 38.1	+1.5
PSA00	Pilbara Seismi	147.09	253	PKPdf	PKPdf	08 23 35.1	-1.5
UTHA	Uthaitani	147.24	335	PKP	PKPdf	08 23 39.2	+2.2
HYB	Hyderabad	147.40	13	i P	PKPdf	08 23 34.2	-3.1
HYB	Hyderabad	147.40	13	i PKP	PKPdf	08 23 37.0	-0.3
H01W1	Cape Leeuwin H	147.54	226	PKPbc	PKPdf	08 23 38.4	+1.7
	baz=136,slow=5.2,SNR=4.5						
H01W2	Cape Leeuwin H	147.55	226	PKPbc	PKPdf	08 23 39.3	+2.6
	baz=136,slow=5.2,SNR=5.8						
H01W3	Cape Leeuwin H	147.56	226	PKPbc	PKPdf	08 23 37.7	+1.0
	baz=136,slow=5.2,SNR=3.8						
VIS	Vishakhapatnam	147.82	5	i P	PKPdf	08 23 36.5	-1.4
SRDT	SRDT	148.46	335	PKP	PKPbc	08 23 43.3	+0.8
MORW	Morawa	148.68	238		PKPdf	08 23 41.4	+2.3
PHET	Kaeng Krachan	149.53	333	PKP	PKPbc	08 23 47.0	+1.7
MDRS	Chennai	151.97	12	i P	PKPdf	08 23 44.4	-0.2
SURA	Surathani	152.81	329	PKP	PKPab	08 24 05.8	+2.2
SURT	Suratani	153.39	331	PKP	PKiKP	08 23 58.6	+4.2
KRAB	Krabi	153.83	329	PKP	PKPdf	08 23 48.8	+1.5

*NCEDC **08** 08:13:42.9±2.2, 41°.99N±0°.03×120°.16W±0°.03, h9km±4km, ML3.5/22, ML3.3/97(NEIC), ML3.7/6(REN), ML3.5/52(SEA), Error ellipse: s-maj=5.6km s-min=2.4km az=146.0*

*SEA **08** 08:13:42.9±2.4, 41°.99N±0°.03×120°.16W±0°.03, h2km±6km, Error ellipse: s-maj=4.3km s-min=3.3km az=181.0*

*NEIC **08** 08:13:43.4±2.8, 41°.911N±0°.008×120°.14W±0°.04, h11km±4km, Error ellipse: s-maj=4.5km s-min=1.1km az=91.0*

*ANF **08** 08:13:43.5±0.4, 41°.93N×120°.19W, h15km, ML3.6/18, Error ellipse: s-maj=3.4km s-min=2.6km az=110.0*

*REN **08** 08:13:43.1±1.9, 41°.98N±0°.04×120°.17W±0°.04, h9km±5km, Error ellipse: s-maj=5.7km s-min=3.8km az=160.0*

ISC 08 08:13:42.8±0.9, **41°.96N**±0°.02×**120°.16W**±0°.03, **h11**km±7km, **n145**, σ1s.06/157, **Northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MOD	Modoc Plateau	0.12	242		Pg	08 13 46.0	+0.1
MOD					Sg	08 13 48.6	+0.4

LKVW	Lakeview	0.30	330		Pg	08 13 48.8	-0.2
LKVW					Sg	08 13 53.5	+0.3
K05A	Summer Lake	0.94	325		Pg	08 14 00.6	-0.3
K05A	Summer Lake	0.94	325	IAML		08 14 18.2	
	comp=E,1μm,0.6s						
LASM	Arnica Sink	1.12	252		Pb	08 14 03.4	-1.0
WVOR	Wild Horse Val	1.23	67		Pn	08 14 05.2	-0.8
WVOR				IAML		08 14 24.6	
	comp=E,519nm,0.7s						
WVOR				IAML		08 14 25.4	
	comp=E,576nm,0.8s						
WVOR	Wild Horse Val	1.23	67		Sb	08 14 22.0	+0.1
M04C	Macdoel	1.27	262		Pn	08 14 06.2	-0.4
M04C					Sn	08 14 24.4	+0.6
M04C	Macdoel	1.27	262	P	Pn	08 14 06.2	-0.4
	baz=80,SNR=115						
M04C				S	Sn	08 14 24.1	+0.3
	baz=80						
LTIM	Timbered Crate	1.27	232		Pn	08 14 06.6	0.0
K04D	Chiloquin, OR	1.36	300		Pn	08 14 07.8	-0.1
K04D	Chiloquin, OR	1.36	300	P	Pn	08 14 07.8	-0.1
	baz=118,SNR=55						
K04D				S	Sg	08 14 26.6	+0.1
	baz=118						
LBCM	Butte Creek Ri	1.44	219		Pn	08 14 09.0	0.0
HATC	Hat Creek Radi	1.51	221		Pn	08 14 10.0	+0.2
J05D	Fort Rock, OR	1.54	329		Pb	08 14 11.6	+0.1
J05D	Fort Rock, OR	1.54	329	P	Pn	08 14 10.9	+0.4
	baz=148,SNR=122						
J05D				S	Sg	08 14 32.2	-0.2
	baz=148						
LHEM	Herd Peak	1.58	259		Pn	08 14 11.2	+0.2
L04D	Klamath Falls	1.62	280		Pn	08 14 11.2	-0.3
L04D	Klamath Falls	1.62	280	P	Pn	08 14 11.0	-0.4
	baz=98,SNR=55						
L04D				Sb	Sg	08 14 34.1	-0.7
	baz=98						
M03C	McCloud	1.62	246		Pn	08 14 12.2	+0.7
B040	Montague	1.69	266		Pn	08 14 11.8	-0.6
LMEM	Manzanita Entr	1.78	217		Pn	08 14 14.2	+0.5
TMBU	Tom Butte, New	1.79	336		Pb	08 14 16.4	+0.6
LSHM	Sage Hen Hill	1.83	231		Pn	08 14 14.2	-0.2
SVIC	Surveyors Ice	1.86	335		Pb	08 14 17.0	0.0
J08A	Circle Bar Ran	1.87	41		Pn	08 14 14.2	-0.7
NCOR	Newberry Crate	1.89	338		Pb	08 14 17.7	+0.4
PINE	Pine Mountain	1.92	343		Pb	08 14 18.1	+0.2
PINE	Pine Mountain	1.92	343	IAML		08 14 54.9	
	comp=N,259nm,0.9s						
PINE				IAML		08 14 55.0	
	comp=E,393nm,0.9s						
YBH	Yreka Blue Hor	1.92	264		Pn	08 14 15.0	-0.6
J04D	Umpqua Nationa	1.93	312		Pb	08 14 18.1	+0.1
J04D	Umpqua Nationa	1.93	312	P	Pn	08 14 16.2	+0.4
	baz=130,SNR=103						
KWBU	Kawak Butte, N	1.98	335		Pg	08 14 20.0	-0.8
ASBU	Astronaut Butt	2.06	335		Pb	08 14 20.5	+0.2
O03E	Paynes Creek	2.08	217	P	Pn	08 14 17.9	+0.2
	baz=36,SNR=189						
O03E				Sb	Sb	08 14 46.6	+0.1
	baz=36						
LCMM	Colby Mountain	2.08	210		Pb	08 14 20.7	-0.1
BEKR	Beckworth	2.10	184	Pn	Pb	08 14 20.3	-0.7
M02C	Callahan	2.10	255		Pb	08 14 19.8	-1.1
M02C	Callahan	2.10	255	P	Pn	08 14 17.6	-0.4
	baz=73,SNR=13						
M02C				Sb	Sb	08 14 48.3	+1.3
	baz=73						
N02D	Trinity Center	2.15	244		Pb	08 14 20.6	-1.3
N02D	Trinity Center	2.15	244	P	Pn	08 14 18.6	-0.1
	baz=61						
I07A	Izee	2.17	13		Pb	08 14 22.7	+0.5
I07A	Izee	2.17	13	IAML		08 14 58.5	
	comp=E,181nm,0.7s						
I07A				IAML		08 14 59.2	
	comp=N,263nm,0.9s						
HUMO	Hull Mountain	2.17	288		Pn	08 14 18.6	-0.4
WDC	Whiskeytown Da	2.27	233		Pn	08 14 20.0	-0.2
LTCM	Tuscan Springs	2.30	221		Pn	08 14 21.4	+0.8
PAHR	Pah Rah Range	2.33	165		Pb	08 14 24.8	-0.1
PAHR				IAML		08 15 01.6	
	comp=E,168nm,0.6s						
HBO	Huckleberry Mo	2.46	321		Pb	08 14 28.0	+0.8
I04A	Tendick Farm,	2.47	319	Sb	Sg	08 15 00.4	-1.8
	baz=137						
HUOR	Husband	2.49	331		Pb	08 14 28.2	+0.6
I05D	Terrebonne, OR	2.53	340	Pb	Pb	08 14 28.6	+0.3
	baz=160						
I05D				Sb	Sg	08 15 02.9	-1.1
	baz=160						
DBO	Dodson Butte	2.56	298		Pb	08 14 27.9	-0.8
VIPM	Ingram Point	2.57	353		Pb	08 14 28.7	-0.3
L02E	Cave Junction	2.57	276	P	Pn	08 14 24.6	+0.2
	baz=93						
L02E				Sb	Sb	08 15 02.0	+1.4
	baz=93						
ORV	Oroville	2.61	203		Pn	08 14 26.6	+1.6
O02D	Mt. Diablo Mer	2.67	229	P	Pn	08 14 26.0	+0.1
	baz=47						
O02D				Sb	Sb	08 15 05.2	+1.7
	baz=47						
VCNR	Virginia City	2.69	172		Pb	08 14 29.9	-1.2
BMN	Battle Mountai	2.69	124		Pn	08 14 26.8	+0.6
BMN				IAML		08 15 12.7	
	comp=E,101nm,0.6s						
K02D	Willamette Mer	2.70	287	P	Pn	08 14 26.7	+0.4
	baz=104						
KRMB	Red Mountain	2.84	262		Pb	08 14 31.0	-2.6
KRMB				IAML		08 15 20.5	
	comp=E,69nm,1.4s						
KHMM	Horse Mountain	2.90	249		Pn	08 14 29.7	+0.6
KHMM				IAML		08 15 23.6	
	comp=E,88nm,0.8s						
KHMM				IAML		08 15 28.7	
	comp=N,118nm,0.9s						
PNTR	Pine Nut	2.90	171		Pn	08 14 29.5	+0.4
RUBR	Rubicon Trail	2.91	180		Pn	08 14 30.1	+0.8
RUBR				IAML		08 15 28.2	
	comp=N,144nm,1.1s						
I03D	Drain, OR	2.92	308	Pb	Pb	08 14 35.1	+0.3
	baz=125						
I03D				Sb	Sb	08 15 13.4	+2.8
	baz=125						
KBO	Bosley Butte	3.04	276		Pn	08 14 31.3	+0.4
KBO				IAML		08 15 35.5	
	comp=N,134nm,1.6s						
BUCK	Buck Mountain	3.05	318		Pn	08 14 32.6	+1.6
YERR	Yerington	3.05	166		Pn	08 14 31.2	0.0
YERR				IAML		08 15 24.6	
	comp=N,111nm,0.8s						
H04A	Detroit Lake	3.10	332		Pn	08 14 32.9	+1.2
KMRM	Mail Ridge	3.20	238		Pn	08 14 34.6	+1.5
KEBM	Edson Butte	3.22	288		Pn	08 14 32.3	-1.1
KVN	Kaiserville	3.30	151		Pn	08 14 35.1	+0.4
KVN				IAML		08 15 30.4	
	comp=N,79nm,0.8s						
KVN				IAML		08 15 31.2	
	comp=E,55nm,0.8s						
G05D	Wamic, OR	3.39	346	Sb	Sg	08 15 28.4	-3.1
	baz=165						
G08A	Pilot Rock	3.44	14		Pn	08 14 37.3	+0.8
KCPM	Cahto Peak	3.45	230	Pn	Pn	08 14 38.2	+1.5
KCPM				IAML		08 15 41.4	
	comp=N,86nm,1.1s						
KCPM				IAML		08 15 48.7	
	comp=E,81nm,2.3s						
COR	Corvallis	3.49	320		Pn	08 14 37.4	+0.4
COR				IAML		08 15 50.2	
	comp=E,41nm,1.2s						
MFID	Camas Ranch	3.51	64	Pn	Pn	08 14 37.2	-0.2
MFID				IAML		08 15 37.1	
	comp=E,88nm,0.4s						
RYN	Ryan	3.56	159		Pn	08 14 38.9	+0.8
RYN				IAML		08 15 40.6	
	comp=N,54nm,1.0s						
RYN				IAML		08 15 42.3	
	comp=E,64nm,0.6s						
BMO	Blue Mountains	3.56	35		Pn	08 14 38.5	+0.5
NVAR	Mina Array Bea	3.80	157		Pn	08 14 42.6	+1.0
NV11	Mina Array Sit	3.84	156		Pn	08 14 42.7	+0.6
NV11				IAML		08 15 47.6	
	comp=N,33nm,0.6s						
NV11				IAML		08 15 47.7	
	comp=E,36nm,0.8s						
ELK	Elko	3.90	107		Pn	08 14 43.0	+0.1
LHV	Little Huntoon	3.92	161		Pn	08 14 43.6	+0.8
CMB	Columbia Colle	3.93	183		Pn	08 14 46.9	+3.8
F07A	Phinny Hill Vi	3.94	2		Pn	08 14 43.2	+0.1
F07A				IAML		08 15 55.1	
	comp=N,31nm,1.4s						
F07A				IAML		08 15 58.0	
	comp=E,43nm,0.9s						
G03D	McMinnville, O	3.96	326	Pb	Pb	08 14 53.1	+0.5
	baz=144						
F05D	White Salmon	4.03	347	Pb	Pb	08 14 55.5	+1.7
	baz=166						
F05D				Sb	Sg	08 15 47.8	-4.5
	baz=166						
F04A	Amboy	4.29	338		Pn	08 14 48.0	-0.1
PLID	Pearl Lake	4.35	43		Pn	08 14 49.8	+0.7
MDPB	Devils Postpil	4.40	169		Pn	08 14 51.3	+1.4
MDPB				IAML		08 16 16.3	
	comp=N,29nm,0.7s						
MDPB				IAML		08 16 24.7	
	comp=E,25nm,1.0s						
HAWA	Hanford	4.45	6		Pn	08 14 50.3	0.0
SEPW	September Lobe	4.48	342		Pn	08 14 50.7	-0.2
TPH	Tonopah	4.49	149		Pn	08 14 51.5	+0.5
HLID	Hailey	4.52	67	Pn	Pn	08 14 51.6	+0.2
HLID				IAML		08 16 18.9	
	comp=E,30nm,0.9s						
HLID				IAML		08 16 19.1	
	comp=E,21nm,0.8s						
HLID	Hailey	4.52	67	P	Pn	08 14 51.7	+0.4
	baz=252						
F10A	Beach Ranch, E	4.53	27		Pn	08 14 51.3	-0.2
F10A				IAML		08 16 12.4	
	comp=N,42nm,1.3s						
E08A	Dider Farm, El	4.60	10	Pn	Pn	08 14 51.0	-1.2
E08A				IAML		08 16 19.4	
	comp=E,29nm,2.8s						
E07A	Sunnyside	4.60	3		Pn	08 14 51.7	-0.6
E07A				IAML		08 16 15.6	
	comp=N,22nm,0.8s						
E07A				IAML		08 16 23.6	
	comp=E,35nm,2.3s						
E09A	Wood Farm, Sta	4.78	17		Pn	08 14 54.3	-0.4
E09A				IAML		08 16 24.1	
	comp=E,16nm,1.0s						
E09A				IAML		08 16 25.0	
	comp=N,16nm,1.6s						
LON	Longmire	4.93	347		Pn	08 14 57.2	+0.3
RCM	Mount Rainier-	5.00	348		Pb	08 15 11.9	+1.4
R11A	Troy Canyon, C	5.03	134		Pn	08 14 59.1	+0.8
D08A	Wollman Farm,	5.17	9	Pn	Pn	08 15 00.8	+0.7
D08A				IAML		08 16 46.2	
	comp=E,21nm,3.7s						
D08A				IAML		08 17 34.9	
	comp=N,13nm,4.7s						
E03A	Lebam	5.20	333	Pn	Pn	08 15 00.5	+0.1
E03A				IAML		08 15 46.7	
	comp=N,18nm,3.5s						
E03A				IAML		08 17 15.1	
	comp=E,18nm,4.8s						
GHW	Garrison Hill	5.30	344		Pn	08 15 01.5	-0.4
LTY	Liberty	5.31	356	Pn	Pn	08 15 02.0	-0.1
LTY				IAML		08 16 05.5	
	comp=N,14nm,3.9s						
LTY				IAML		08 16 50.9	
	comp=E,15nm,1.6s						
SPR3	Spring Creek 3	5.34	122	Pn	Pn	08 15 02.4	-0.3
SPR3				IAML		08 16 35.1	
	comp=N,24nm,2.9s						
SPR3				IAML		08 16 44.5	
	comp=E,23nm,0.8s						
D05A	Enumclaw	5.39	347	Pn	Pn	08 15 03.8	+0.7
D05A				IAML		08 16 14.5	
	comp=N,24nm,5.0s						
D05A				IAML		08 18 17.1	
	comp=E,22nm,4.7s						
BGU	Big Grassy Mou	5.46	99		Pn	08 15 02.8	-1.4
HVU	Hansel Valley	5.51	89		Pn	08 15 05.3	+0.3
PMPB	Monarch Peak	5.76	185	Pn	Pn	08 15 08.5	+0.2
SPUT	South Promonto	5.81	94		Pn	08 15 09.6	+0.5
DUG	Dugway, Tooele	5.82	105		Pn	08 15 10.0	+0.8
TPNV	Topopah Spring	5.85	148	Pn	Pn	08 15 09.3	-0.3
PSUT	Pine Spring	5.91	123		Pn	08 15 11.6	+1.1
PRN	Pahroc Range	6.02	137	Pn	Pn	08 15 12.6	+0.8
MCMT	McKenzie Canyo	6.05	59		Pn	08 15 13.2	+0.8
OSD	Olympics--Snow	6.38	338		Pn	08 15 18.8	+1.9
OSD					Pb	08 15 30.7	-3.2
B08A	Colville Reser	6.42	5	Pn	Pn	08 15 15.5	-1.9
HWUT	Hardware Ranch	6.43	90		Pn	08 15 16.2	-1.5
NLU	North Lily Min	6.44	105	Pn	Pn	08 15 17.4	-0.3
DLMT	Dillon	6.45	56		Pn	08 15 16.5	-1.4
MSO	Missoula	6.59	40	Pn	Pn	08 15 21.6	+1.8
AHID	Auburn Hatcher	6.76	80		Pn	08 15 21.4	-0.7
LRM	Limekiln Ridge	6.77	53	Pn	Pn	08 15 22.6	+0.2
TCRU	Three Creeks R	6.78	117	Pn	Pn	08 15 24.1	+1.6
CCUT	Cedar City	6.84	128		Pn	08 15 24.4	+1.1
FXWY	Fox Creek	6.92	73		Pn	08 15 22.8	-1.6
TPAW	Teton Pass	6.95	74		Pn	08 15 24.2	-0.6
SZCU	Shurtz Canyon	6.97	126	Pn	Pn	08 15 28.3	+3.2
MVU	Marysvale	6.99	117	Pn	Pn	08 15 25.7	+0.4
REDW	Red Top Meadow	7.00	75		Pn	08 15 25.6	+0.1
MSU	Marysvale	7.01	117	Pn	Pn	08 15 26.0	+0.4
IMW	Indian Meadow	7.04	71		Pn	08 15 25.2	-0.8
SNOW	Snow King Moun	7.09	75		Pn	08 15 26.1	-0.5
YHB	Horse Butte	7.10	64	Pn	Pn	08 15 28.2	+1.4
MOOW	Moose Ponds	7.14	72		Pn	08 15 26.7	-0.7
BOZ	Bozeman (W)	7.16	57	Pn	Pn	08 15 28.4	+0.7
LOHW	Long Hollow	7.22	74		Pn	08 15 28.0	-0.5
YMR	Madison River	7.23	65	Pn	Pn	08 15 29.6	+0.9
FLWY	Flagg Ranch	7.25	70	Pn	Pn	08 15 28.8	-0.1
MTPU	Mount Pierson	7.26	120	Pn	Pn	08 15 30.4	+1.1
LCMT	Little Creek M	7.28	130	Pn	Pn	08 15 28.9	-0.3
YHH	Holmes Hill	7.35	64		Pn	08 15 31.4	+1.1
KNB	Kanab	7.52	129	Pn	Pn	08 15 32.4	-0.2
PKCU	Pink Cliffs	7.54	124	Pn	Pn	08 15 32.3	-0.8

BJI ***08*** *08:19:51.9±0.0, 32.°74S×177.°84W, h17^{km}, mB5.8/27, mb5.3/29, Ms5.7/30, Ms7 5.5/30*
MOS ***08*** *08:19:52.2±1.1, 33.°02S×178.°31W, h10^{km}, mb5.7/28, Error ellipse: s-maj=10.0km s-min=7.9km az=88.6*
IDC ***08*** *08:19:52.4±0.4, 32.°94S×178.°51W, h0^{km}, mb5.0/24, mb1 5.1/28, mb1mx5.0/43, mbtmp5.0/28, ML5.2/4, MS5.1/23, Ms1 5.2/23, ms1mx5.0/39, Error ellipse: s-maj=14.4km s-min=12.9km az=125.0*
WEL ***08*** *08:19:53.0, 33.°14S×178.°22W, h11^{km}, M5.5/17, mB5.9/14, ML6.1/17, MLv5.8/17, Mw(mB)5.5/14*
NEIC ***08*** *08:19:53.8±1.4, 33.°12S±0.°06×178.°2W±0.°1, h13^{km}±3^{km}, mb5.5/98, Ms_20 5.5/146, Mww5.5, Mwc5.5(GCMT), Error ellipse: s-maj=13.4km s-min=8.8km az=108.0*
GCMT ***08*** *08:19:58.8±0.1, 33.°11S±0.°01×178.°11W±0.°01, h21^{km}, MW5.5/139, Moment Tensor Solution. s104,c162; s139,c254; Duration: 1.s4 Moment tensor: Scale 10^{17} Nm; M_{rr}1.81±.04; $M_{\theta\theta}$-0.20±.03; $M_{\phi\phi}$-1.61±.03; $M_{r\theta}$0.23±.06; $M_{\theta\phi}$-0.38±.02; $M_{\phi r}$1.80±.07; Best double couple: $M_0$2.52500×10^{17} NP1:ϕ_s198.00000°, δ22.00000°, λ98.00000°. NP2:ϕ_s9.00000°, δ68.00000°, λ87.00000°. Principal axes: T 2.5840, Plg67.0000°, Azm273.0000°; N -0.1130, Plg3.0000°, Azm11.0000°; P -2.4670, Plg23.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NOU ***08*** *08:19:59.0, 33.°36S×178.°10W, h62^{km}, ML5.6/64, South of Kermadec Islands*
NEIC ***08*** *08:19:59, 33.°12S×178.°09W, h20^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.75; $M_{\theta\theta}$-0.13; $M_{\phi\phi}$-1.62; $M_{r\theta}$0.24; $M_{\theta\phi}$-0.41; $M_{\phi r}$1.94; Fault plane solution: $M_0$2.62000×10^{17} NP1:ϕ_s199.00000°, δ21.00000°, λ100.00000°. NP2:ϕ_s9.00000°, δ69.00000°, λ86.00000°. Principal axes: T 2.6360, Plg66.0000°, Azm273.0000°; N -0.0411, Plg3.0000°, Azm10.0000°; P -2.5949, Plg24.0000°, Azm102.0000°;*
ISC 08 08:19:54.9±0.5**, 33.°11S**±0.°04×**178.°29W**±0.°05**, h20**^{km}±2^{km}**, h21**^{km}**:pP-P, n855,** σ1.s70/828**, mb5.5**/90**, MS5.4**/108**, 69C-46D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.85	5	P	Pn	08 20 50.2	-2.8
GLKZ				S	Sn	08 21 34.4	-3.1
RAO	Raoul Island	3.86	5	Pn	Pn	08 20 51.0	-2.1
	255nm,0.3s,baz=84,slow=12,SNR=12						
RAO				Sn	Sn	08 21 34.0	-3.9
	231nm,0.3s,baz=247,slow=23,SNR=2.0						
RAO	Raoul Island	3.86	5	P	Pn	08 20 51.0	-2.1
RAO	Raoul Island	3.86	5		Pn	08 20 52.6	-0.5
RIZ	Raoul Island	3.87	5	P	Pn	08 20 51.5	-1.6
RIZ				S	Sn	08 21 35.8	-2.2
MXZ	Matakaoa Point	5.24	211	Pn	Pn	08 21 12.5	+0.4
MXZ	Matakaoa Point	5.24	211	P	Pn	08 21 09.7	-2.4
MXZ				S	Sn	08 22 11.6	-0.2
WMGZ	Waiomatatini S	5.41	209	P	Pn	08 21 13.9	-0.5
PKGZ	Pakihiroa	5.61	211	P	Pn	08 21 15.2	-2.1
HAZ	Te Kaha	5.63	214	P	Pn	08 21 16.9	-0.6
PUZ	Puketiti	5.69	209	P	Pn	08 21 16.4	-1.9
RUGZ	Raukumara Rang	5.85	213	P	Pn	08 21 19.8	-0.8
TWGZ	Tauwhareparae	5.90	210	P	Pn	08 21 20.1	-1.0
CNGZ	Carnagh Statio	6.07	207	P	Pn	08 21 21.6	-1.8
TKGZ	Te Karaka	6.17	209	P	Pn	08 21 26.1	+1.3
MWZ	Matawai	6.22	212	P	Pn	08 21 23.9	-1.7
MWZ				S	Sn	08 22 35.2	-1.0
URZ	Urewera	6.36	215	Pn	Pn	08 21 26.6	-0.8
	37nm,0.3s,baz=235,slow=0.9,SNR=44						
URZ				Sn	Sn	08 22 38.3	-1.0
	80nm,0.3s,baz=172,slow=19,SNR=11						
URZ	Urewera	6.36	215	⇓P	Pn	08 21 25.9	-1.5
RAHZ	Arahi	6.90	212	P	Pn	08 21 34.3	-0.6
WHHZ	Waihua	6.97	210	P	Pn	08 21 35.9	+0.1
OUZ	Omahuta	7.04	250	Pn	Pn	08 21 38.3	+1.5
OUZ	Omahuta	7.04	250	⇑P	Pn	08 21 38.7	+1.8
NMHZ	Naumai	7.17	212	P	Pn	08 21 37.8	-0.8
ARHZ	Aropaoanui	7.22	210	P	Pn	08 21 37.6	-1.7
BKZ	Black Stump Fm	7.37	213		Pn	08 21 41.4	+0.1
MCHZ	McNeill Hill	7.50	211	P	Pn	08 21 42.2	-1.0
KWHZ	Kaweka Forest	7.61	213	P	Pn	08 21 42.9	-1.8
TMVZ	Te Maari	7.71	217	P	Pn	08 21 44.9	-1.2
NTVZ	North Tongarir	7.71	218	P	Pn	08 21 45.0	-1.2
KAHZ	Kahuranaki	7.72	209	P	Pn	08 21 41.2	-5.0
KAHZ				S	Sn	08 23 08.6	-4.5
ETVZ	East Tongariro	7.72	217	P	Pn	08 21 45.0	-1.3
KRVZ	Karewarewa	7.73	218	P	Pn	08 21 45.9	-0.5
HIZ	Hauiti	7.75	224		Pn	08 21 46.6	+0.1
OTVZ	Oturere	7.77	217	P	Pn	08 21 45.6	-1.3
NNVZ	North Ngauruho	7.77	218	P	Pn	08 21 46.6	-0.4
WTVZ	West Tongariro	7.77	218	P	Pn	08 21 46.3	-0.7
SNVZ	South Ngauruho	7.80	217	P	Pn	08 21 46.3	-1.0
KRHZ	Kereru	7.81	212	P	Pn	08 21 44.1	-3.3
KRHZ	Kereru	7.81	212	P	Pn	08 21 45.0	-2.4
KRHZ				S	Sn	08 23 09.8	-5.4
NGZ	Ngauruhoe	7.81	217	P	Pn	08 21 46.9	-0.6
TWVZ	Taurewa	7.82	219	P	Pn	08 21 47.1	-0.5
BHHZ	Black Hill Sta	7.83	214	P	Pn	08 21 45.5	-2.1
TUVZ	Tukino	7.85	217	P	Pn	08 21 46.2	-1.9
FWVZ	Far West T-bar	7.89	217	P	Pn	08 21 45.9	-2.8
WHVZ	Whangaehu Hut	7.90	217	P	Pn	08 21 45.7	-3.1
MOVZ	Moawhango	7.91	216	P	Pn	08 21 44.0	-4.8
WNVZ	Wahianoa	7.93	217	P	Pn	08 21 45.0	-4.1
PXZ	Pawanui	7.93	208	P	Pn	08 21 46.7	-2.3
PXZ	Pawanui	7.93	208	P	Pn	08 21 46.7	-2.3
PXZ				S	Sn	08 23 12.4	-5.7
PNHZ	Pukenui	8.11	212	S	Sn	08 23 17.5	-5.0
VRZ	Vera Road	8.22	221	P	Pn	08 21 44.2	-8.8
BFZ	Birch Farm	8.73	208	Pn	Pn	08 21 59.9	-0.1
KHZ	Kahutara	11.31	212	P	Pn	08 22 32.4	-2.9
KHZ				S	Sn	08 24 28.2	-13
LTZ	Lake Taylor	12.19	215	S	Sn	08 24 48.6	-14
NFK	Norfolk Island	12.48	285	P	Pn	08 22 55.3	+4.0
	baz=12,SNR=7.2						
NFK	Norfolk Island	12.48	285	⇓P	P	08 22 58.1	-4.9
OXZ	Oxford	12.71	214		Pn	08 22 53.9	-0.5
RPZ	Rata Peaks	13.47	215	Pn	Pn	08 23 04.2	-0.6
ODZ	Otahua Downs	14.67	212	⇓P	Pn	08 23 18.4	-2.8
MSVF	Nonsavu	15.66	347	Pn	Pn	08 23 30.8	-3.7
	0.9nm,0.3s,baz=168,slow=12,SNR=11						
MSVF				LR	LR	08 28 33.3	
	comp=Z,10μm,19.6s,baz=171,slow=34						
MSVF	Nonsavu	15.66	347	*ce*P	Pn	08 23 33.3	-1.2
MSVF				pmax	pmax		
	comp=Z,311nm,1.6s						
MSVF	Nonsavu	15.66	347	Pn	Pn	08 23 34.1	-0.5
MSVF	Nonsavu	15.66	347	⇓P	Pn	08 23 33.9	-0.6
NIUE	Niue	15.86	30	P	P	08 23 41.0	+0.4
MLZ	Mavora Lakes	16.12	217	Pn	Pn	08 23 40.2	0.0
PINNC	Pines Island,	16.36	306	P	P	08 23 45.8	-0.5
PINNC				IAmb	IAmb	08 24 02.5	
	comp=Z,505nm,1.3s						
PINNC	Pines Island,	16.36	306	P	P	08 23 48.1	+1.9
MARNC	Mare, Loyalty	16.77	310	P	P	08 23 51.2	+0.4
MARNC	Mare, Loyalty	16.77	310	⇑P	P	08 23 53.2	+2.5
MARNC	Mare, Loyalty	16.77	310	P	P	08 23 54.1	+3.4
OUENC	Ouen Island, N	16.91	305		P	08 23 52.3	+0.1
OUENC				IAmb	IAmb	08 23 57.3	
	comp=Z,854nm,1.4s						
OUENC	Ouen Island, N	16.91	305	P	P	08 23 54.5	+2.3
YATNC	Mamie plateau,	17.12	306	P	P	08 23 57.7	+3.1
ONTNC	Ouen Toro	17.25	305		P	08 23 56.5	+0.5
ONTNC				IAmb	IAmb	08 24 03.7	
	comp=Z,337nm,1.1s						
ONTNC	Ouen Toro	17.25	305	P	P	08 23 59.3	+3.3
DZM	Mont Dzumac	17.41	305	*e*Pn	P	08 23 59.6	+1.7
	comp=Z,1μm,1.4s						
DZM				*e*LR	LR	08 27 57.9	
	comp=Z,19μm,22.7s						
DZM	Mont Dzumac	17.41	305	P	P	08 23 58.6	+0.6
	comp=Z,1.0nm,0.3s,baz=116,slow=15,SNR=28						
DZM				LR	LR	08 29 41.8	
	comp=Z,25μm,18.0s,baz=130,slow=34						
DZM	Mont Dzumac	17.41	305	P	P	08 23 58.3	+0.4
DZM				IAmb	IAmb	08 24 06.6	
	comp=Z,605nm,1.2s						
DZM	Mont Dzumac	17.41	305	⇑P	P	08 24 00.1	+2.2
LIFNC	LIFOU	17.79	310		P	08 24 02.6	+0.6
LIFNC				IAmb	IAmb	08 24 10.9	
	comp=Z,750nm,1.3s						
KOUNC	Koumac, New Ca	19.92	305	⇑P	Pn	08 24 28.1	+1.1
KOUNC	Koumac, New Ca	19.92	305	P	Pn	08 24 28.7	+1.6
AFI	Afiamalu	20.01	19	P	P	08 24 24.7	-1.8
	comp=Z,1.3nm,0.3s,baz=174,slow=11,SNR=4.6						
AFI				S	S	08 27 53.8	-17
	comp=Z,1.5nm,0.3s,baz=218,slow=23,SNR=3.7						
AFI	Afiamalu	20.01	19	P	P	08 24 25.9	-0.6
AFI				IAmb	IAmb	08 24 38.0	
	comp=Z,257nm,1.1s						
AFI	Afiamalu	20.01	19	⇑P	P	08 24 27.0	+0.5
AFI	Afiamalu	20.01	19	P	Pn	08 24 28.7	+0.4
RAR	Rarotonga	20.26	59	P	P	08 24 29.5	+0.5
	comp=Z,58nm,1.1s,baz=236,slow=8.3,SNR=8.3						
RAR				LR	LR	08 32 27.8	
	comp=Z,2μm,18.4s,baz=218,slow=37						
RAR	Rarotonga	20.26	59	P	P	08 24 28.0	-1.1
RAR				pmax	pmax		
	comp=Z,321nm,1.6s						
RAR	Rarotonga	20.26	59	P	P	08 24 28.0	-1.1
RAR				IAmb	IAmb	08 24 32.5	
	comp=Z,321nm,1.6s						
RAR	Rarotonga	20.26	59	⇑P	Pn	08 24 31.2	+0.1
RAR	Rarotonga	20.26	59	P	P	08 24 29.3	+0.2
SANVU	Saraoutou	21.96	320	P	P	08 24 47.3	-0.1
SANVU				IAmb	IAmb	08 25 08.4	
	comp=Z,197nm,0.8s						
SANVU	Saraoutou	21.96	320	⇓P	P	08 24 49.6	+2.2
SANVU	Saraoutou	21.96	320	P	P	08 24 50.8	+3.4
RIV	Riverview	25.45	260	P	P	08 25 21.8	+0.3
	baz=25						
ARMA	Armidale	25.67	268	P	P	08 25 25.9	+2.3
	baz=26,SNR=15						
ARMA	Armidale	25.67	268	P	P	08 25 24.4	+0.7
ARMA				IAMs_20	IAMs_20	08 34 22.8	
	comp=Z,8μm,19.0s						
ARMA	Armidale	25.67	268	⇑P	P	08 25 25.4	+1.8
CNB	Canberra Magne	26.78	256	P	P	08 25 35.6	+2.1
	baz=27,SNR=9.6						
CAN	Canberra	27.07	256	P	P	08 25 36.2	0.0
CAN				pmax	pmax		
	comp=Z,153nm,1.7s						
CAN				MLR	MLR		
	comp=Z,12μm,19.0s						
CAN	Canberra	27.07	256	P	P	08 25 36.2	0.0
CAN				IAmb	IAmb	08 25 52.2	
	comp=Z,153nm,1.7s						
CAN				IAMs_20	IAMs_20	08 35 22.8	
	comp=Z,12μm,19.0s						
CAN	Canberra	27.07	256	⇓P	P	08 25 38.2	+2.0
TBI	Tubuai	27.12	76	*e*LQ	LQ	08 30 53.2	

comp=Z,3µm,24.8s
TBI eLR LR 08 32 24.2
comp=Z,5µm,29.5s,baz=238
TBI Tubuai 27.12 76 eT T 08 53 24.6
comp=Z,11nm,0.3s
YNG Young 27.67 258 P **P** **08 25 43.6 +2.1**
baz=28,SNR=8.0
EIDS Eidsvold 27.74 278 P **P** **08 25 43.3 +1.1**
baz=28,SNR=33
EIDS Eidsvold 27.74 278 P **P** **08 25 42.8 +0.6**
EIDS IAmb IAmb 08 25 44.7
comp=Z,109nm,1.1s
EIDS Eidsvold 27.74 278 ⇑P **P** **08 25 43.1 +0.9**
TAU Tasmania Unive 28.64 240 P **P** **08 25 49.8 -0.2**
TAU pmax pmax
comp=Z,127nm,1.3s
TAU MLR MLR
comp=Z,12µm,18.0s
TAU Tasmania Unive 28.64 240 P **P** **08 25 49.8 -0.2**
TAU IAmb IAmb 08 25 51.6
comp=Z,127nm,1.3s
TAU Tasmania Unive 28.64 240 IAMs_20 IAMs_20 08 37 54.3
comp=Z,12µm,18.0s
TAU Tasmania Unive 28.64 240 ⇓P **P** **08 25 50.7 +0.8**
MOO Moorlands 28.66 241 P **P** **08 25 51.2 +1.0**
baz=29,SNR=5.1
RMQ Roma 29.26 274 P **P** **08 25 57.9 +2.1**
baz=29,SNR=65
TOO Toolangi 29.76 251 P **P** **08 26 00.7 +0.6**
TOO pmax pmax
comp=Z,38nm,2.1s
TOO Toolangi 29.76 251 ⇓P **P** **08 26 01.5 +1.5**
PAE Paea 30.03 66 eT T 08 56 58.3
comp=Z,2.8nm,0.3s
PPT2 Papeete2 30.07 66 eLQ LQ 08 32 11.9
comp=Z,2µm,21.8s
PPT2 eLR LR 08 33 35.7
comp=Z,6µm,25.8s,baz=227
PPT2 Papeete2 30.07 66 eT T 08 57 02.4
comp=Z,2.7nm,0.3s
CMSA Cobar Meteorol 30.39 263 P **P** **08 26 06.7 +1.1**
baz=30,SNR=35
ARPS Mount Arapiles 32.72 252 P **P** **08 26 27.2 +1.1**
baz=33,SNR=7.9
VAH Vaihoa 32.98 65 eT T 09 00 40.0
comp=Z,6.7nm,0.3s
QLP Quilpie 33.02 271 P **P** **08 26 30.7 +1.8**
baz=33,SNR=10
STKA Stephens Creek 33.72 261 P **P** **08 26 35.8 +0.9**
baz=34,SNR=8.0
STKA Stephens Creek 33.72 261 P **P** **08 26 34.5 -0.4**
comp=Z,11nm,1.0s,baz=106,slow=10.0,SNR=9.6
STKA PcP **PcP** **08 29 14.1 -0.2**
comp=Z,9.3nm,0.9s,baz=112,slow=9.3,SNR=4.0
STKA ScP **ScP** **08 32 58.5 +0.7**
comp=Z,7.9nm,1.0s,baz=72,slow=5.4,SNR=5.8
STKA LR LR 08 39 44.1
comp=Z,10µm,18.4s,baz=98,slow=36
STKA Stephens Creek 33.72 261 P **P** **08 26 34.4 -0.4**
CTA Charters Tower 34.08 283 P **P** **08 26 38.2 +0.1**
comp=Z,52nm,0.8s,baz=113,slow=10,SNR=45
CTA LR LR 08 39 01.5
comp=Z,3µm,19.1s,baz=120,slow=34
CTAO Charters Tower 34.08 283 P **P** **08 26 38.5 +0.3**
CTAO pmax pmax
comp=Z,217nm,1.3s
CTAO MLR MLR
comp=Z,3µm,19.0s
CTAO Charters Tower 34.08 283 P **P** **08 26 38.5 +0.3**
CTAO Charters Tower 34.08 283 ⇑P **P** **08 26 39.1 +1.0**
TARA Tarawa 35.27 345 IAMs_20 IAMs_20 08 38 30.9
comp=Z,5µm,19.0s
HTT Hallett 35.59 257 P **P** **08 26 50.9 -0.2**
baz=36,SNR=7.8
HTT Hallett 35.59 257 ⇑P **P** **08 26 51.1 0.0**
HTT Hallett 35.59 257 ⇑P **P** **08 26 51.1 0.0**
MTSU Mount Surprise 36.65 285 P **P** **08 27 01.3 +1.1**
baz=36,SNR=32
BBOO Buckleboo 38.07 258 P **P** **08 27 11.1 -1.1**
baz=38,SNR=16
BBOO Buckleboo 38.07 258 P **P** **08 27 11.1 -1.1**
BBOO PcP **PcP** **08 29 25.7 -1.4**
BBOO IAMs_20 IAMs_20 08 42 38.4
comp=Z,7µm,18.0s
QIS Mount Isa 39.35 278 P **P** **08 27 22.8 -0.2**
baz=39,SNR=22
COEN Coen 39.85 289 P **P** **08 27 27.7 +0.5**
COEN Coen 39.85 289 ⇑P **P** **08 27 27.9 +0.7**
RABL Rabaul 39.85 310 P **P** **08 27 26.4 -0.9**
RABL Rabaul 39.85 310 P **P** **08 27 30.3 +3.1**
comp=Z,479nm,1.0s
TAOE Nuku Hiva Isla 42.65 64 eS **S** **08 34 10.8 -1.9**
comp=Z,729nm,24.4s
TAOE eLQ LQ 08 37 40.8
comp=Z,2µm,26.6s
TAOE eLR LR 08 39 29.6
comp=Z,3µm,27.2s,baz=233
AS31 Alice Springs 42.79 270 P **P** **08 27 50.9 -0.5**
ASAR Alice Springs 42.79 270 P **P** **08 27 50.8 -0.6**
comp=Z,40nm,0.8s,baz=111,slow=7.7,SNR=220
ASAR PcP **PcP** **08 29 42.2 -0.3**
comp=Z,11nm,0.9s,baz=114,slow=4.5,SNR=2.9
ASAR ScP **ScP** **08 33 34.2 +1.8**
comp=Z,1.6nm,0.8s,baz=116,slow=3.4,SNR=3.3
ASAR S S 08 34 02.3 -12
comp=Z,3.2nm,1.1s,baz=116,slow=16,SNR=4.1
ASAR LR LR 08 44 05.0
comp=Z,2µm,20.6s,baz=116,slow=34
ASAR Alice Springs 42.79 270 P **P** **08 27 50.4 -0.9**
ASPA Alice Springs 42.79 270 P **P** **08 27 50.7 -0.7**
baz=43
WR0 Warramunga Arr 43.84 275 P **P** **08 27 59.2 -0.7**
WR0 IAmb IAmb 08 28 14.8
comp=Z,92nm,0.8s
WR0 IAMs_20 IAMs_20 08 44 44.0
comp=Z,3µm,19.0s
WR8 Warramunga Arr 43.88 275 IAMs_20 IAMs_20 08 44 44.9
comp=Z,3µm,19.0s
WR4 Warramunga Arr 43.96 275 IAMs_20 IAMs_20 08 44 38.1
comp=Z,4µm,21.0s
WC3 Warramunga Arr 43.98 275 P **P** **08 28 00.8 -0.3**
baz=44
WC2 Warramunga Arr 44.01 275 IAMs_20 IAMs_20 08 44 39.3
comp=Z,4µm,22.0s
WB2 Warramunga Arr 44.01 275 P **P** **08 28 00.6 -0.7**
WC4 Warramunga Arr 44.01 275 IAMs_20 IAMs_20 08 44 47.4
comp=Z,4µm,21.0s
WRAB Tennant Creek 44.02 275*c i*P **P** **08 28 00.3 -1.0**
WRAB pmax pmax
comp=Z,207nm,2.2s
WRAB Tennant Creek 44.02 275 P **P** **08 28 00.5 -0.7**
WRAB Tennant Creek 44.02 275 ⇑P **P** **08 28 00.2 -1.0**
WR1 Warramunga Arr 44.02 275 IAMs_20 IAMs_20 08 47 16.7
comp=Z,5µm,19.0s
WRA Warramunga Arr 44.02 275 P **P** **08 28 00.4 -0.9**
comp=Z,49nm,0.8s,baz=119,slow=7.8,SNR=175
WRA PcP **PcP** **08 29 46.9 +0.2**
comp=Z,9.2nm,0.9s,baz=111,slow=2.9,SNR=2.4
WRA ScP **ScP** **08 33 37.4 0.0**
comp=Z,5.2nm,1.0s,baz=131,slow=4.6,SNR=5.5
WRA S **S** **08 34 27.0 -5.6**
comp=Z,7.6nm,1.0s,baz=109,slow=15,SNR=6.1
WRA LR LR 08 45 00.9
comp=Z,3µm,20.9s,baz=125,slow=34
WRA Warramunga Arr 44.02 275 P **P** **08 28 00.6 -0.7**
WRA pmax pmax
comp=Z,16nm,0.9s
WRA Warramunga Arr 44.02 275 P **P** **08 28 00.6 -0.7**
MANU Manus Island 44.62 307 P **P** **08 28 05.3 -0.8**
FORT Forrest 45.17 258 P **P** **08 28 09.0 -1.4**
baz=45,SNR=15
FORT Forrest 45.17 258 P **P** **08 28 09.8 -0.5**
FORT IAMs_20 IAMs_20 08 46 32.5
comp=Z,5µm,18.0s
FORT Forrest 45.17 258 ⇑P **P** **08 28 08.8 -1.5**
VNDA Vanda 45.38 186 P **P** **08 28 13.5 +2.1**
comp=Z,1.6nm,0.8s,baz=8.5,slow=7.1,SNR=5.1
VNDA Vanda 45.38 186 P **P** **08 28 11.7 +0.3**
VNDA pmax pmax
comp=Z,23nm,1.2s
VNDA Vanda 45.38 186 P **P** **08 28 11.7 +0.3**
PATS Pohnpei 45.52 326 IAMs_20 IAMs_20 08 43 55.3
comp=Z,5µm,19.0s
WRKA Warakurna 46.95 265 P **P** **08 28 22.7 -1.8**
baz=47,SNR=62
WRKA Warakurna 46.95 265 ⇑P **P** **08 28 22.8 -1.8**
JAY Jayapura 48.97 300 P **P** **08 28 39.0 -1.1**
comp=Z,106nm,1.0s,baz=146,slow=2.2,SNR=16
JAY LR LR 08 49 15.2
comp=Z,2µm,18.1s,baz=152,slow=36
JAY Jayapura 48.97 300 P **P** **08 28 40.6 +0.4**
comp=Z,925nmcomp=Z,68nm,1.0s
KDU Kakadu 49.20 282 P **P** **08 28 40.5 -1.4**
baz=49,SNR=8.7
KDU Kakadu 49.20 282 ⇑P **P** **08 28 40.6 -1.4**
GENI Genyem 49.31 299 P **P** **08 28 42.0 -0.7**
comp=Z,3µmcomp=Z,189nm,1.1s
MTN Manton Dam 50.21 281 P **P** **08 28 48.5 -1.2**
baz=50,SNR=7.4
MTN Manton Dam 50.21 281 P **P** **08 28 48.4 -1.2**
MTN IAmb IAmb 08 29 05.7
comp=Z,90nm,1.2s
MTN IAMs_20 IAMs_20 08 50 33.0
comp=Z,4µm,18.0s
MTN Manton Dam 50.21 281 ⇑P **P** **08 28 48.5 -1.2**
KNRA Kununurra 50.72 277 P **P** **08 28 53.1 -0.4**
baz=51,SNR=6.9
KNRA Kununurra 50.72 277 P **P** **08 28 52.6 -0.8**
KNRA IAmb IAmb 08 29 08.0
comp=Z,65nm,0.8s
KNRA IAMs_20 IAMs_20 08 49 59.2
comp=Z,4µm,18.0s
FITZ Fitzroy Crossi 52.16 272 P **P** **08 29 03.2 -1.0**
baz=52,SNR=21
FITZ Fitzroy Crossi 52.16 272 P **P** **08 29 03.2 -1.0**
comp=Z,40nm,1.0s,baz=133,slow=7.6,SNR=45
FITZ LR LR 08 51 13.3
comp=Z,5µm,18.3s,baz=111,slow=36
FITZ Fitzroy Crossi 52.16 272 P **P** **08 29 04.0 -0.2**
FITZ IAmb IAmb 08 29 18.6
comp=Z,65nm,0.9s
FITZ IAMs_20 IAMs_20 08 50 52.7
comp=Z,5µm,18.0s
FITZ Fitzroy Crossi 52.16 272 ⇑P **P** **08 29 03.2 -1.0**
CASY Casey 52.64 209 P **P** **08 29 07.5 +0.3**
CASY IAmb IAmb 08 29 23.7
comp=Z,79nm,0.8s
CASY Casey 52.64 209 IAMs_20 IAMs_20 08 50 13.9
comp=Z,2µm,18.0s
CASY Casey 52.64 209 ⇑P **P** **08 29 07.6 +0.4**
SRPI Serui, Papua 52.70 296 P **P** **08 29 07.7 -0.6**
BAKI Biak 53.25 297 P **P** **08 29 12.0 -0.3**
NWAO Narrogin (SRO) 53.25 251 LR LR 08 49 44.0
comp=Z,845nm,19.7s,baz=150,slow=34
NWAO Narrogin (SRO) 53.25 251 IAMs_20 IAMs_20 08 52 45.6
comp=Z,3µm,18.0s
MEEK Meekatharra 54.38 259 P **P** **08 29 19.3 -1.3**
baz=54,SNR=14
FAKI Fak Fak 55.09 292 P **P** **08 29 24.5 -1.2**
FAKI IAMs_20 IAMs_20 08 55 00.9
comp=Z,3µm,18.0s
FAKI Fak Fak 55.09 292 ⇑P **P** **08 29 23.6 -2.2**
FAKI Fak Fak 55.09 292 P **P** **08 29 24.1 -1.6**
comp=Z,2µmcomp=Z,110nm,0.9s
PSAB3 Pilbara Seismi 55.43 265 IAMs_20 IAMs_20 08 54 40.2
comp=Z,5µm,20.0s
PSAC3 Pilbara Seismi 55.44 265 IAMs_20 IAMs_20 08 54 30.9
comp=Z,4µm,19.0s
PSA00 Pilbara Seismi 55.45 265 P **P** **08 29 28.0 -0.3**
PSA00 Pilbara Seismi 55.45 265 P **P** **08 29 27.4 -0.9**
PSA00 IAmb IAmb 08 29 41.0
comp=Z,30nm,0.8s
PSA00 IAMs_20 IAMs_20 08 54 39.6
comp=Z,4µm,19.0s
PSAA2 Pilbara Seismi 55.45 265 IAMs_20 IAMs_20 08 54 31.7
comp=Z,4µm,21.0s
PSAA1 Pilbara Seismi 55.45 265 IAMs_20 IAMs_20 08 54 15.8
comp=Z,5µm,21.0s
PSAB1 Pilbara Seismi 55.47 265 IAMs_20 IAMs_20 08 54 41.2
comp=Z,4µm,19.0s
PSAD3 Pilbara Seismi 55.47 265 IAMs_20 IAMs_20 08 54 50.2
comp=Z,4µm,20.0s
PSAD1 Pilbara Seismi 55.51 265 IAMs_20 IAMs_20 08 54 16.3
comp=Z,4µm,18.0s
MORW Morawa 55.56 255 P **P** **08 29 27.0 -2.0**
baz=55,SNR=5.7
MORW Morawa 55.56 255 P **P** **08 29 28.1 -1.0**
MORW IAmb IAmb 08 29 48.9
comp=Z,38nm,1.0s
MORW IAMs_20 IAMs_20 08 54 07.0
comp=Z,4µm,18.0s
MORW Morawa 55.56 255 ⇓P **P** **08 29 27.3 -1.8**
KKO Keanakako`i 56.66 26 IAMs_20 IAMs_20 08 48 06.7
comp=Z,3µm,19.0s
BYL Byron's Ledge 56.67 26 IAMs_20 IAMs_20 08 55 38.1
comp=Z,3µm,19.0s
SBLHI Steaming Bluff 56.68 26 IAMs_20 IAMs_20 08 48 28.4
comp=Z,4µm,20.0s
HMH Humu'ula Sheep 56.77 26 P **P** **08 29 36.7 -1.2**
QSPA South Pole Qui 57.01 180 P **P** **08 29 41.5 +2.5**
comp=Z,53nm,1.0s,baz=33,slow=3.8,SNR=67
QSPA LR LR 08 50 35.9
comp=Z,1µm,19.6s,baz=31,slow=32
QSPA South Pole Qui 57.01 180 P **P** **08 29 39.7 +0.7**
QSPA South Pole Qui 57.01 180 IAMs_20 IAMs_20 08 52 46.0
comp=Z,3µm,18.0s
SIJI Soong 57.14 293 P **P** **08 29 38.5 -1.9**
comp=Z,1µmcomp=Z,47nm,1.0s
SOEI Soe 57.54 280 P **P** **08 29 43.6 +0.2**
SOEI IAMs_20 IAMs_20 08 55 11.5
comp=Z,4µm,19.0s
SOEI Soe 57.54 280 ⇑P **P** **08 29 43.7 +0.3**
SOEI Soe 57.54 280 P **P** **08 29 44.0 +0.6**
comp=Z,2µmcomp=Z,196nm,1.0s
BATI Baumata 57.79 279 P **P** **08 29 44.0 -1.1**
comp=Z,76nm,0.8s,baz=73,slow=11,SNR=1.7
KRAI Kang Ratu 57.87 289 P **P** **08 29 41.2 -4.4**
comp=Z,53nm,1.2s
RPN Rapa Nui 58.99 104 LR LR 08 50 32.4
comp=Z,1µm,18.7s,baz=286,slow=31
MMRI Maumere 59.82 280 P **P** **08 29 58.6 -0.6**
MMRI IAMs_20 IAMs_20 08 57 10.6
comp=Z,2µm,18.0s
MMRI Maumere 59.82 280 P **P** **08 29 57.8 -1.4**
SANI Sanana 60.55 288 ⇑P **P** **08 30 02.3 -1.8**
JAGI Jajag, Banyuwa 66.64 275 IAMs_20 IAMs_20 08 59 32.6
comp=Z,2µm,21.0s
BELA Belgrano 2 67.14 172 P **P** **08 30 47.2 +0.6**
BELA IAmb IAmb 08 31 02.0
comp=Z,39nm,1.0s
MAW Mawson 69.69 201 P **P** **08 31 03.8 +1.2**
baz=70,SNR=20
MAW Mawson 69.69 201 P **P** **08 31 03.9 +1.2**
comp=Z,9.1nm,1.0s,baz=119,slow=8.9,SNR=15
MAW Mawson 69.69 201 P **P** **08 31 02.9 +0.2**
MAW pmax pmax
comp=Z,13nm,1.4s
MAW Mawson 69.69 201 P **P** **08 31 02.9 +0.2**
MAW Mawson 69.69 201 ⇑P **P** **08 31 03.8 +1.2**
SYO Syowa Base 74.43 193⇑*e*P **P** **08 31 29.0 -2.0**
SYO Syowa Base 74.43 193 ⇓*i*pP **P** **08 31 32.4 +1.4**
SYO Syowa Base 74.43 193 ⇓*i*sP sP 08 31 35.2 -2.3
SNAA Sanae 75.46 179 P **P** **08 31 37.9 +0.8**
SNAA Sanae 75.46 179*ce*P **P** **08 31 37.9 +0.8**
SNAA pmax pmax
comp=Z,73nm,1.7s
SNAA Sanae 75.46 179 P **P** **08 31 36.6 -0.5**
SNAA IAmb IAmb 08 32 04.0
comp=Z,68nm,1.2s
SNAA IAMs_20 IAMs_20 09 04 43.4
comp=Z,2µm,20.0s
SNAA Sanae 75.46 179 ⇑P **P** **08 31 37.9 +0.8**
VNA3 Neumayer Olymp 75.63 176 P **P** **08 31 39.3 +1.3**
VNA3 Neumayer Olymp 75.63 176 PcP **PcP** **08 31 49.1 -1.6**
VNA2 Neumayer--Watz 76.06 177 P **P** **08 31 41.5 +1.1**
baz=174,slow=4.9
VNA2 Neumayer--Watz 76.06 177 PcP **PcP** **08 31 51.2 -1.4**
VNA1 Neumayer--Stat 76.29 177 P **P** **08 31 43.7 +2.0**
VNA1 Neumayer--Stat 76.29 177 PcP **PcP** **08 31 52.8 -0.8**
JOW Kunigami 78.31 313 IAMs_20 IAMs_20 09 05 19.4
comp=Z,1µm,18.0s
H03S2 Juan Fernandez 79.19 123 T T 10 00 50.4
baz=235,slow=74,SNR=5.5
H03S1 Juan Fernandez 79.20 123 T T 10 00 57.3
baz=235,slow=74,SNR=7.2
H03S3 Juan Fernandez 79.20 123 T T 10 00 50.8
baz=235,slow=74,SNR=6.0
H03N3 Juan Fernandez 79.39 123 T T 10 01 17.6
baz=239,slow=72,SNR=7.4
H03N2 Juan Fernandez 79.39 123 T T 10 01 14.8
baz=239,slow=72,SNR=5.8
H03N1 Juan Fernandez 79.41 123 T T 10 00 53.8
baz=239,slow=72,SNR=10
INU Inuyama 79.94 324 IAMs_20 IAMs_20 09 05 31.1
comp=Z,2µm,19.0s
JMM Marumori 80.23 328 IAMs_20 IAMs_20 09 01 23.6
comp=Z,2µm,20.0s
MJAR Matsushiro Arr 80.33 326 P **P** **08 32 02.0 -2.4**
comp=Z,7.6nm,0.9s,baz=162,slow=5.1,SNR=10.0
MJAR Matsushiro Arr 80.33 326 P **P** **08 32 04.0 -0.5**
MAJO Matsushiro 80.33 326⇓*e*P **P** **08 32 03.9 -0.5**
MAJO Matsushiro 80.33 326 P **P** **08 32 04.1 -0.3**
MAJO Matsushiro 80.33 326 IAMs_20 IAMs_20 09 08 02.5
comp=Z,1µm,20.0s
MAT Matsushiro 80.33 326 P **P** **08 32 02.0 -2.4**
MJB9 Matsu-Tunnel 80.33 326 IAMs_20 IAMs_20 09 07 35.3
comp=Z,1µm,18.0s
JSU Suzuyama 80.45 318 IAMs_20 IAMs_20 09 07 41.0
comp=Z,1µm,19.0s
PLCA Paso Flores 80.85 133 P **P** **08 32 08.7 +1.1**
comp=Z,9.9nm,1.1s,baz=234,slow=7.4,SNR=6.0
PLCA LR LR 09 01 25.5
comp=Z,1µm,18.0s,baz=294,slow=31
PLCA Paso Flores 80.85 133 P **P** **08 32 07.3 -0.2**
PLCA pmax pmax
comp=Z,41nm,1.5s
PLCA Paso Flores 80.85 133 P **P** **08 32 07.3 -0.2**
PLCA IAmb IAmb 08 32 13.3
comp=Z,41nm,1.4s
JHS Saijyo 81.64 322 P **P** **08 32 11.3 -0.2**
JHS IAmb IAmb 08 32 13.6
comp=Z,50nm,1.0s
JTM Tennabayashi 82.54 330 IAMs_20 IAMs_20 09 04 34.1
comp=Z,2µm,21.0s
BO02 Sierra Bellavi 84.20 128 P **P** **08 32 25.3 +0.2**
BO02 IAmb IAmb 08 32 27.8
comp=Z,38nm,1.1s
MT01 Popeta 84.44 127 P **P** **08 32 26.6 +0.3**
MT01 IAmb IAmb 08 32 49.0
comp=Z,28nm,0.9s
KIWB Kanaga Island 84.61 1 P **P** **08 32 26.9 +0.6**
ADK Adak 84.64 1 P **P** **08 32 26.5 0.0**
ADK pmax pmax
comp=Z,155nm,1.5s
ADK Adak 84.64 1 P **P** **08 32 26.5 0.0**
ADK Adak 84.64 1 ⇓P **P** **08 32 27.5 +1.0**
MT09 Talagante 84.67 127 P **P** **08 32 26.2 -1.4**
MT09 IAmb IAmb 08 33 03.0
comp=Z,44nm,1.4s
JKA Kamikawa-asahi 84.72 333 P **P** **08 32 27.5 +0.4**
JKA IAmb IAmb 08 32 29.6
comp=Z,42nm,1.1s
JKA IAMs_20 IAMs_20 09 09 12.4
comp=Z,2µm,19.0s
ASAJ Asahikawa 84.73 333 P **P** **08 32 26.6 -0.5**
comp=Z,23nm,0.9s,baz=228,slow=10,SNR=11
ATKA Atka Island 85.03 3 P **P** **08 32 28.8 +0.4**
RPSI Rantau Prapat 85.42 276 IAMs_20 IAMs_20 09 11 14.3
comp=Z,2µm,20.0s
TJN Taejon 85.77 319⇓*i*P **P** **08 32 34.2 +1.7**
GSI Gunungsitoli 85.78 274 P **P** **08 32 33.0 -0.3**
SNCC San Nicolas Is 86.10 46 P **P** **08 32 34.3 0.0**
baz=226
NIKH Nikolski High 86.11 6 P **P** **08 32 34.7 +0.9**
NIKH Nikolski High 86.11 6 P **P** **08 32 34.4 +0.6**
baz=188
KSRS Korea Array 86.25 320 P **P** **08 32 35.2 +0.3**
comp=Z,7.0nm,0.9s,baz=140,slow=5.5,SNR=16
KSRS PP **PP** **08 35 55.1 -1.2**
comp=Z,1.3nm,0.9s,baz=146,slow=12,SNR=2.3
KSRS LR LR 09 09 25.5
comp=Z,579nm,18.9s,baz=40,slow=35
KSAR Wonju Array Be 86.26 320 P **P** **08 32 34.6 -0.4**
KSAR Wonju Array Be 86.26 320 P **P** **08 32 34.6 -0.4**
KS19 Wonju Array Si 86.31 320 P **P** **08 32 35.4 +0.2**
KS19 IAmb IAmb 08 32 52.7
comp=Z,31nm,1.2s
SKR Severo-Kuril's 86.44 344*e*P **P** **08 32 35.4 -0.1**
SKR *e*S **S** **08 43 08.0 -2.0**
SKR pmax pmax
comp=Z,34nm,1.4s
SKR pmax pmax
comp=Z,300nm,12.4s
SKR pmax pmax
comp=Z,200nm,7.9s
SKR MLR MLR
comp=Z,700nm,19.0s
SCI2 San Clemente I 86.51 47 P **P** **08 32 36.4 +0.1**
baz=226
CO03 El Pedregal 86.62 125 P **P** **08 32 37.2 -0.1**
CO03 IAmb IAmb 08 32 40.4
comp=Z,22nm,1.1s
SBC Santa Barbara 86.82 45 P **P** **08 32 38.3 +0.6**
baz=226
PKM Mcpherson Peak 87.07 45 P **P** **08 32 40.4 +1.1**
baz=226
YSS Yuzh-Sakhalins 87.07 334*c i*P **P** **08 32 39.8 +1.1**
YSS pmax pmax
comp=Z,81nm,1.0s
YSS Yuzh-Sakhalins 87.07 334 P **P** **08 32 39.6 +1.0**
YSS IAMs_20 IAMs_20 09 09 05.4
comp=Z,2µm,20.0s
YSS Yuzh-Sakhalins 87.07 334 ⇓P **P** **08 32 40.3 +1.6**
FMP Fort Macarthur 87.17 46 P **P** **08 32 40.2 +0.8**
baz=226
SMMC Simmler 87.26 44 P **P** **08 32 40.8 +0.9**
baz=225
109C Camp Elliot, M 87.33 48 IAMs_20 IAMs_20 09 07 49.3
comp=Z,2µm,19.0s
109C Camp Elliot, M 87.33 48 P **P** **08 32 41.7 +1.4**
baz=227
PAGB Antelope Grade 87.40 44 IAMs_20 IAMs_20 09 13 01.2
comp=Z,2µm,18.0s
DECC Green Verdugo 87.51 46 P **P** **08 32 42.2 +1.0**
baz=226
TRTT Trang 87.60 281 P **P** **08 32 45.2 +3.1**
MURC Murrieta 87.76 47 P **P** **08 32 42.9 +0.5**
baz=227,SNR=5.7
MONP2 Monument Peak 87.76 48 P **P** **08 32 42.2 -0.4**
baz=228,SNR=5.1
IKP In-Ko-Pah, Jac 87.79 48 P **P** **08 32 43.1 +0.4**
baz=228
ARVC Arvin 87.81 45 P **P** **08 32 43.0 +0.4**
baz=226
NJ2 Nanjing 87.82 311*e*P **P** **08 32 44.2 +1.6**
NJ2 S **S** **08 43 19.4 -4.8**
NJ2 pmax pmax
comp=Z,15nm,0.5s
NJ2 pmax pmax
comp=Z,500nm,11.4s
NJ2 LR LR
comp=Z,750nm,17.0s
NJ2 LR LR
comp=Z,780nm,15.6s
NJ2 LR LR
comp=Z,750nm,18.5s
BFSC Mount Baldy Ra 87.91 46 P **P** **08 32 44.5 +1.3**
baz=227,SNR=11
PET Petropavlovsk 88.10 346*ce*P **P** **08 32 43.6 +0.2**
PET pmax pmax
comp=Z,65nm,2.0s
EDW2 Edwards Air Fo 88.14 46 P **P** **08 32 44.9 +0.7**
baz=227,SNR=9.0
VES Vestal, Richgr 88.16 44 P **P** **08 32 45.4 +1.2**
baz=226,SNR=12
SWSC Sam W. Stewart 88.18 48 P **P** **08 32 45.0 +0.6**
baz=226
PFO Pinyon Flats O 88.22 47 P **P** **08 32 46.5 +1.8**
comp=Z,8.6nm,1.1s,baz=216,slow=2.8,SNR=5.8
PFO Pinyon Flats O 88.22 47 P **P** **08 32 43.2 -1.5**
PFO pmax pmax
comp=Z,18nm,1.1s
PFO Pinyon Flats O 88.22 47 P **P** **08 32 43.2 -1.5**
PFO IAmb IAmb 08 33 02.6
comp=Z,18nm,1.1s
PFO Pinyon Flats O 88.22 47 P **P** **08 32 45.7 +1.0**
baz=228,SNR=6.8
TPFO Pinon Flats 88.22 47 P **P** **08 32 46.4 +1.6**
baz=228,SNR=8.0
PEA0B Petropavlovsk- 88.37 346*c i*P **P** **08 32 45.4 +0.7**
PEA0B Petropavlovsk- 88.37 346 P **P** **08 32 45.1 +0.4**
PEA0B IAMs_20 IAMs_20 09 07 07.9
comp=Z,2µm,20.0s
PETK Petropavlovsk- 88.37 346 P **P** **08 32 45.4 +0.7**
comp=Z,24nm,0.9s,baz=157,slow=8.0,SNR=42
PETK Petropavlovsk- 88.37 346 P **P** **08 32 45.1 +0.4**
BBRC Big Bear Solar 88.37 47 P **P** **08 32 46.4 +0.8**
baz=227
ISA Isabella, Lake 88.39 45 P **P** **08 32 46.1 +0.7**

ISA pmax pmax
comp=Z,26nm,1.1s
ISA MLR MLR
comp=Z,2µm,18.0s
ISA Isabella, Lake 88.39 45 P **P 08 32 46.0 +0.7**
ISA IAmb IAmb 08 33 05.7
comp=Z,26nm,1.1s
ISA IAMs_20 IAMs_20 09 13 54.5
comp=Z,2µm,18.0s
ISA Isabella, Lake 88.39 45 P **P 08 32 46.2 +0.8**
baz=226,SNR=13
MSHR Mys Shultsa 88.43 325 *de*P **P 08 32 46.9 +1.6**
MSHR pmax pmax
comp=Z,21nm,1.2s
LRMC Laurel Mtn Rad 88.74 45 P **P 08 32 48.2 +1.0**
baz=227
BELC Belle Mtn. Jos 88.76 47 P **P 08 32 48.6 +1.3**
baz=228,SNR=13
GLA Glamis 88.87 49 P **P 08 32 48.9 +1.2**
baz=228
BC3 Big Chuckawall 88.87 48 P **P 08 32 48.8 +1.0**
baz=228,SNR=9.9
CNBA Chernabura Isl 89.04 11 P **P 08 32 47.3 -0.6**
CHNA Chernabura Isl 89.05 11 P **P 08 32 50.1 +2.2**
baz=196
HEC Hector,Ludlow 89.11 47 P **P 08 32 50.4 +1.6**
baz=228,SNR=7.2
UGL Uglegorsk 89.12 335 ⇓*i*P **P 08 32 48.7 +0.4**
UGL *e*S **S 08 43 33.0 -2.7**
UGL pmax pmax
comp=Z,130nm,1.2s
UGL smax smax
comp=N,2µm,14.0s
GSC Goldstone, Bar 89.14 46 P **P 08 32 49.0 0.0**
GSC pmax pmax
comp=Z,33nm,1.4s
GSC Goldstone, Bar 89.14 46 P **P 08 32 49.0 0.0**
GSC IAmb IAmb 08 33 13.3
comp=Z,33nm,1.4s
GSC Goldstone, Bar 89.14 46 P **P 08 32 50.8 +1.8**
baz=227,SNR=9.1
O02D Mt. Diablo Mer 89.15 39 P **P 08 32 50.5 +1.7**
baz=224,SNR=5.9
CWC Cottonwood Cre 89.16 44 P **P 08 32 50.3 +1.1**
baz=227
KHMM Horse Mountain 89.16 38 IAMs_20 IAMs_20 09 07 50.9
comp=Z,2µm,20.0s
MPMC Manual Prospec 89.25 45 P **P 08 32 50.7 +1.1**
baz=227,SNR=8.8
USA0B Ussuriysk Arra 89.28 327 *c i*P **P 08 32 49.5 +0.3**
USA0B Ussuriysk Arra 89.28 327 P **P 08 32 49.4 +0.2**
USA0B IAmb IAmb 08 32 55.7
comp=Z,40nm,1.4s
USRK Ussuriysk Ar. 89.28 327 P **P 08 32 48.8 -0.4**
comp=Z,6.1nm,0.7s,baz=166,slow=3.8,SNR=16
USRK LR LR 09 06 39.9
comp=Z,1µm,21.1s,baz=41,slow=32
USRK Ussuriysk Ar. 89.28 327 P **P 08 32 49.2 -0.1**
IRM Iron Mountain 89.40 48 P **P 08 32 51.5 +1.3**
baz=228,SNR=14
MDPB Devils Postpil 89.40 43 P **P 08 32 50.8 +0.4**
MDPB IAmb IAmb 08 33 10.2
comp=Z,21nm,1.2s
MDPB IAMs_20 IAMs_20 09 12 43.1
comp=Z,2µm,18.0s
SDPT Sand Point 89.42 10 P **P 08 32 51.9 +2.3**
baz=195
214A Organ Pipe Nat 89.44 51 P **P 08 32 51.3 +0.9**
baz=230
GMRC Granite Mounta 89.50 47 P **P 08 32 52.5 +1.8**
baz=228,SNR=7.0
MLAC Mammoth, Mammo 89.54 43 P **P 08 32 52.2 +1.2**
baz=226
KRMB Red Mountain 89.54 38 IAMs_20 IAMs_20 09 07 45.1
comp=Z,2µm,20.0s
O03E Paynes Creek 89.76 40 P **P 08 32 53.2 +1.5**
baz=224
TUQ Turquoise Moun 89.77 46 P **P 08 32 53.2 +1.2**
baz=228
N02D Trinity Center 89.77 39 P **P 08 32 53.4 +1.6**
baz=224
RUBR Rubicon Trail 89.78 41 IAMs_20 IAMs_20 09 07 07.2
comp=Z,2µm,19.0s
SHOC Shoshone, Teco 89.86 46 P **P 08 32 53.9 +1.7**
baz=228,SNR=5.9
FURC Furnace Creek, 89.89 45 P **P 08 32 53.9 +1.6**
baz=227
GRAC Grapevine Rang 89.96 44 P **P 08 32 54.9 +2.2**
baz=227,SNR=10
M02C Callahan 89.99 38 P **P 08 32 54.6 +1.9**
baz=224
PNTR Pine Nut 90.11 42 P **P 08 32 53.1 -0.5**
PNTR IAmb IAmb 08 33 30.9
comp=Z,42nm,1.3s
AC02 Maricunga 90.12 122 P **P 08 32 52.8 -1.7**
AC02 IAmb IAmb 08 33 40.1
comp=Z,25nm,1.4s
PDMCI Parker Dam,Lak 90.12 48 P **P 08 32 55.3 +1.9**
baz=229,SNR=6.3
NEE2 Needles Airpor 90.12 48 P **P 08 32 55.0 +1.6**
baz=229
CHAI Chaiyaphum 90.22 289 P P 08 33 07.8 +13
YERR Yerington 90.24 42 IAMs_20 IAMs_20 09 12 44.5
comp=Z,2µm,18.0s
NVAR Mina Array Bea 90.39 43 P **P 08 32 55.6 +0.7**
comp=Z,6.6nm,1.0s,baz=219,slow=7.6,SNR=24
NVAR PKPPKP **P'P'df 08 58 33.4 +4.5**
comp=Z,0.1nm,0.5s,baz=66,slow=1.1,SNR=1.7
NVAR LR LR 09 05 35.7
comp=Z,1µm,20.5s,baz=244,slow=30
TYV Tymovskoe 90.43 336 *e*P **P 08 32 55.7 +1.3**
TYV *e*S **S 08 43 51.5 +3.7**
TYV pmax pmax
comp=Z,700nm,4.8s
TYV pmax pmax
comp=Z,70nm,1.1s
TYV smax smax
comp=E,300nm,9.2s
TYV smax smax
comp=N,700nm,9.2s
NONG Nongkai 90.53 291 P **P 08 32 56.0 +0.3**
comp=N,69nm,0.9s
TPNV Topopah Spring 90.58 45 P **P 08 32 56.1 +0.3**
TPNV pmax pmax
comp=Z,11nm,1.0s
TPNV Topopah Spring 90.58 45 P **P 08 32 56.1 +0.3**
TPNV IAMs_20 IAMs_20 09 11 05.4
comp=Z,2µm,18.0s
TPNV Topopah Spring 90.58 45 P **P 08 32 57.5 +1.8**
baz=228,SNR=9.6
CHGN Chignik 90.65 11 P **P 08 32 56.0 +0.7**
CHGN Chignik 90.65 11 P **P 08 32 58.2 +2.9**
baz=196
PAHR Pah Rah Range 90.66 41 P **P 08 32 55.6 -0.4**
PAHR IAmb IAmb 08 33 19.7
comp=Z,31nm,1.5s
MDJ Mudanjiang 90.71 326 P **P 08 32 56.7 +0.8**
MDJ sP pP 08 33 01.4 +0.5
MDJ S **S 08 43 56.9 +6.1**
MDJ pmax pmax
comp=Z,12nm,0.9s
MDJ pmax pmax
comp=Z,580nm,7.8s
MDJ LR LR
comp=Z,1µm,16.7s
MDJ LR LR
comp=Z,1µm,16.2s
MDJ LR LR
comp=Z,2µm,14.5s
J01E Myrtle Point 90.73 36 P **P 08 32 58.7 +2.6**
baz=223
DL2 Dalian 90.77 317 ⇑P **P 08 32 56.5 +0.2**
DL2 S **S 08 43 53.1 +1.6**
DL2 pmax pmax
comp=Z,30nm,1.1s
DL2 pmax pmax
comp=Z,470nm,5.5s
DL2 LR LR
comp=Z,940nm,15.8s
DL2 LR LR
comp=Z,510nm,14.8s
DL2 LR LR
comp=Z,1µm,18.1s
TPH Tonopah 90.77 44 P **P 08 32 57.0 +0.3**
TPH pmax pmax
comp=Z,85nm,1.2s
TPH Tonopah 90.77 44 P **P 08 32 57.0 +0.3**

M04C Macdoel 90.80 39 P **P 08 32 58.4 +1.8**
baz=224
L04D Klamath Falls 90.87 38 P **P 08 32 58.8 +1.9**
baz=224
TUC Tucson 90.99 51 P **P 08 32 59.1 +1.4**
baz=231
I03D Drain, OR 91.41 36 P **P 08 33 01.4 +2.2**
baz=223
K04D Chiloquin, OR 91.45 38 P **P 08 33 01.3 +1.7**
baz=224
TIA Tai'an 91.63 313 *e*P **P 08 33 00.9 +0.5**
TIA pmax pmax
comp=Z,21nm,1.3s
TIA LR LR
comp=Z,850nm,21.1s
TIA LR LR
comp=Z,900nm,20.6s
TIA LR LR
comp=Z,1µm,19.6s
SII Sitkinak Islan 91.64 13 P **P 08 33 02.2 +2.3**
baz=200
J04D Umpqua Nationa 91.71 37 P **P 08 33 03.4 +2.5**
baz=224
R11A Troy Canyon, C 91.91 44 P **P 08 33 02.8 +0.9**
baz=228
I04A Tendick Farm, 91.95 37 P **P 08 33 03.2 +1.4**
baz=224
CN2 Changchun 92.15 323 *e*P **P 08 33 02.4 -0.2**
CN2 S **S 08 43 59.5 -4.3**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,100nm,5.0s
CN2 LR LR
comp=Z,1µm,16.0s
CN2 LR LR
comp=Z,1µm,16.0s
CN2 LR LR
comp=Z,700nm,17.1s
J05D Fort Rock, OR 92.19 38 P **P 08 33 04.7 +1.7**
baz=225
H04D Lebanon 92.31 36 P **P 08 33 05.4 +2.0**
baz=224
BMN Battle Mountai 92.37 42 P **P 08 33 03.6 -0.4**
BMN pmax pmax
comp=Z,15nm,1.1s
BMN Battle Mountai 92.37 42 P **P 08 33 03.5 -0.4**
BMN IAmb IAmb 08 33 27.6
comp=Z,15nm,1.1s
OHAK Old Harbor 92.43 13 P **P 08 33 02.8 -0.8**
OHAK Old Harbor 92.43 13 P **P 08 33 05.8 +2.2**
baz=201
LCMT Little Creek M 92.43 47 P **P 08 33 03.2 -1.1**
G03D McMinnville, O 92.55 35 P **P 08 33 06.3 +1.9**
baz=223
GRNR Gornyy 92.58 333 ⇑*i*P **P 08 33 05.3 +0.8**
GRNR pmax pmax
comp=Z,10.0nm,1.1s
GRNR MLR MLR
comp=N,360nm,13.0s
WUAZ Wupatki 92.64 49 P **P 08 33 06.5 +1.2**
baz=230
GYA Guiyang 92.68 300 ⇑P **P 08 33 02.6 -3.1**
GYA PP **PP 08 36 46.2 -1.8**
GYA SKS **SKSac 08 43 38.5 0.0**
GYA S **S 08 44 06.3 -3.4**
GYA SS **SS 08 50 27.0 +4.0**
GYA pmax pmax
comp=N,15nm,1.1s
GYA LR LR
comp=N,410nm,17.5s
GYA LR LR
comp=N,360nm,11.4s
GYA LR LR
comp=N,680nm,17.4s
KNB Kanab 92.69 47 P **P 08 33 04.1 -1.5**
KNB pmax pmax
comp=Z,8.0nm,0.9s
KNB Kanab 92.69 47 P **P 08 33 04.1 -1.5**
PINE Pine Mountain 92.69 38 P **P 08 33 05.9 +0.5**
PINE IAmb IAmb 08 33 33.4
comp=Z,33nm,1.1s
H04A Detroit Lake 92.70 36 P **P 08 33 04.5 -0.7**
H04A IAmb IAmb 08 33 43.9
comp=Z,37nm,1.5s
I05D Terrebonne, OR 92.88 37 P **P 08 33 08.2 +2.1**
baz=225
NNA Nana 92.91 106 LR LR 09 09 08.2
comp=Z,2µm,18.0s,baz=258,slow=32
ENH Enshi 92.92 304 P **P 08 33 06.3 -0.3**
ENH IAmb IAmb 08 33 28.7
comp=Z,33nm,1.3s
WVOR Wild Horse Val 92.96 40 P **P 08 33 06.0 -0.6**
WVOR pmax pmax
comp=Z,28nm,1.4s
WVOR Wild Horse Val 92.96 40 P **P 08 33 06.0 -0.6**
WVOR IAmb IAmb 08 33 30.1
comp=Z,28nm,1.4s
KDAK Kodiak Island 93.09 13 P **P 08 33 07.1 +0.5**
comp=Z,3.7nm,1.1s,baz=192,slow=10,SNR=1.5
KLR Kul'dur 93.24 330 P **P 08 33 07.8 +0.2**
comp=Z,7.4nm,1.0s,baz=81,slow=2.7,SNR=16
KLR Kul'dur 93.24 330 *c i*P **P 08 33 07.5 0.0**
KLR pmax pmax
comp=Z,12nm,1.1s
F04D Rainier, OR 93.31 35 P **P 08 33 09.2 +1.3**
baz=224
W18A Petrified Fore 93.43 50 P **P 08 33 10.0 +1.0**
baz=231
F04A Amboy 93.48 35 P **P 08 33 08.2 -0.5**
F04A IAMs_20 IAMs_20 09 09 08.3
comp=Z,2µm,19.0s
G05D Wamic, OR 93.53 36 P **P 08 33 10.4 +1.4**
baz=225
I07A Izee 93.64 38 P **P 08 33 08.8 -0.9**
I07A IAmb IAmb 08 33 33.1
comp=Z,17nm,1.3s
J08A Circle Bar Ran 93.68 39 P **P 08 33 08.7 -1.1**
J08A IAmb IAmb 08 33 37.0
comp=Z,16nm,1.2s
ELK Elko 93.70 43 P **P 08 33 09.0 -1.2**
ELK pmax pmax
comp=Z,8.0nm,1.4s
ELK Elko 93.70 43 P **P 08 33 09.0 -1.2**
E04D Cinebar 93.86 35 P **P 08 33 12.1 +1.7**
baz=224
F05D White Salmon 93.92 36 P **P 08 33 12.0 +1.3**
baz=225
Q19K Cape Douglas, 93.97 13 P **P 08 33 13.0 +2.3**
baz=200
TX31 Lajitas Ar. Si 94.05 58 P **P 08 33 10.3 -1.6**
TX32 Lajitas Array 94.05 58 P **P 08 33 10.3 -1.6**
TX32 IAmb IAmb 08 34 48.6
comp=Z,22nm,1.1s
TXAR Lajitas Array 94.05 58 P **P 08 33 13.4 +1.5**
comp=Z,1.7nm,1.1s,baz=220,slow=6.9,SNR=9.3
TXAR PKKP **PKKPbc 08 50 18.6 +4.7**
comp=Z,0.5nm,0.8s,baz=71,slow=5.4,SNR=6.1
TXAR LR LR 09 10 02.7
comp=Z,804nm,18.0s,baz=0.0,slow=32
CMAR Chiang Mai Arr 94.06 289 PP **PP 08 36 56.6 -2.1**
comp=Z,2.8nm,0.7s,baz=135,slow=6.3,SNR=12
CMAR LR LR 09 17 28.8
comp=Z,349nm,19.9s,baz=10.0,slow=37
MNTX Cornudas Mount 94.25 55 P **P 08 33 13.6 +1.0**
baz=233
LON Longmire 94.36 35 IAMs_20 IAMs_20 09 10 17.6
comp=Z,2µm,19.0s
ATAH Atahualpa 94.36 101 LR LR 09 09 19.6
comp=Z,969nm,18.1s,baz=285,slow=31
O18K Koktuh Hills 94.57 11 P **P 08 33 13.3 -0.1**
O18K IAmb IAmb 08 33 35.8
comp=Z,29nm,1.1s
O18K Koktuh Hills 94.57 11 P **P 08 33 15.3 +1.9**
baz=199
D05A Enumclaw 94.59 35 P **P 08 33 13.9 +0.1**
D05A IAmb IAmb 08 33 43.5
comp=Z,36nm,1.4s
Y22D IRIS PASSCAL I 94.63 52 P **P 08 33 14.2 -0.3**
baz=233
BJT Baijiatuau 94.67 315 IAMs_20 IAMs_20 09 17 47.4
comp=Z,2µm,20.0s
BJI Beijing 94.67 315 P **P 08 33 10.2 -4.1**
BJI SKS **SKSac 08 43 46.9 -1.5**
BJI sS **sS 08 44 37.8 +3.0**
BJI pmax pmax
comp=Z,8.0nm,0.5s
BJI pmax pmax
comp=Z,310nm,7.3s
BJI LR LR
comp=Z,1µm,19.8s
BJI LR LR
comp=Z,1µm,19.8s
BJI LR LR
comp=Z,2µm,19.6s
P19K Oil Pt 94.72 12 P **P 08 33 16.9 +2.8**
baz=201
DUG Dugway, Tooele 94.74 44 IAMs_20 IAMs_20 09 17 22.6
comp=Z,2µm,18.0s
G08A Pilot Rock 94.75 38 P **P 08 33 14.2 -0.6**
HOM Homer 95.02 13 P **P 08 33 17.7 +2.3**
baz=202
O19K Port Alsworth 95.04 12 P **P 08 33 15.3 -0.1**
O19K IAmb IAmb 08 33 37.8
comp=Z,25nm,1.1s
O19K Port Alsworth 95.04 12 P **P 08 33 18.0 +2.5**
baz=200
MFID Camas Ranch 95.14 40 P **P 08 33 16.3 -0.3**
MFID IAMs_20 IAMs_20 09 06 22.1
comp=Z,1µm,21.0s
O20K Slope Mountain 95.23 13 P **P 08 33 18.3 +1.8**
baz=201
N18K Kilae Creek 95.24 11 P **P 08 33 18.2 +1.8**
baz=199
BRSE Bradley Lake S 95.28 14 P **P 08 33 19.1 +2.4**
baz=203
B05A Bryant 95.31 34 P **P 08 33 19.4 +2.4**
baz=224
ANMO Albuquerque 95.45 52 ⇓*e*P **P 08 33 19.5 +1.2**
ANMO pmax pmax
comp=Z,11nm,2.8s
ANMO Albuquerque 95.45 52 P **P 08 33 19.0 +0.7**
baz=233
MVCO Mesa Verde 95.50 49 P **P 08 33 19.7 +1.1**
baz=232
N19K Bonanza Creek 95.59 11 P **P 08 33 20.5 +2.3**
baz=200
HVU Hansel Valley 95.78 43 P **P 08 33 18.3 -1.3**
HVU pmax pmax
comp=Z,12nm,1.0s
HVU Hansel Valley 95.78 43 P **P 08 33 18.3 -1.3**
D08A Wollman Farm, 95.99 36 P **P 08 33 20.2 0.0**
HLID Hailey 96.01 41 P **P 08 33 19.2 -1.4**
HLID Hailey 96.01 41 P **P 08 33 22.3 +1.7**
baz=229
F10A Beach Ranch, E 96.11 38 P **P 08 33 20.1 -0.8**
O22K Cooper Landing 96.16 14 P **P 08 33 22.5 +1.9**
baz=204
M19K Big River Lodg 96.64 11 P **P 08 33 25.0 +2.2**
baz=200
L19K White Mountain 96.83 11 P **P 08 33 24.0 +0.3**
L19K IAmb IAmb 08 33 46.5
comp=Z,15nm,1.1s
L19K White Mountain 96.83 11 P **P 08 33 26.2 +2.6**
baz=200
SUA Susitna One 96.87 13 P **P 08 33 23.7 -0.2**
SUA Susitna One 96.87 13 P **P 08 33 26.7 +2.8**
baz=203
GLI Glacier Island 97.07 15 P Pdif 08 33 27.1 +2.2
baz=206
SKT Skwentna 97.20 12 P Pdif 08 33 27.7 +2.3
baz=202
LPAZ La Paz 97.25 115 P Pdif 08 33 29.7 +2.1
comp=Z,0.9nm,0.8s,baz=195,slow=7.7,SNR=3.8
LPAZ LR LR 09 07 21.1
comp=Z,494nm,21.1s,baz=290,slow=29
LPAZ La Paz 97.25 115 P **P 08 33 25.3 -2.2**
LPAZ pmax pmax
comp=Z,12nm,1.8s
LPAZ La Paz 97.25 115 P **P 08 33 25.3 -2.2**
L20K Farewell, AK 97.26 11 P Pdif 08 33 28.0 +2.3
baz=200
KNK Knik Glacier 97.27 14 P Pdif 08 33 27.6 +1.9
baz=205
PMR Palmer 97.30 14 P Pdif 08 33 27.9 +2.1
baz=204
CUT Chulitna 97.82 13 P Pdif 08 33 30.6 +2.5
baz=203
HHC Hu-ho-hao-te 97.93 314 *e*P **P 08 33 27.6 -1.7**
HHC pmax pmax
comp=Z,23nm,1.3s
HHC pmax pmax
comp=Z,380nm,7.3s
HHC LR LR
comp=Z,880nm,20.5s
HHC LR LR
comp=Z,1µm,19.2s
HHC LR LR
comp=Z,2µm,17.1s
FXWY Fox Creek 97.95 43 IAMs_20 IAMs_20 09 24 41.6
comp=Z,2µm,18.0s
CNGN Cerro Negro 98.03 80 IAMs_20 IAMs_20 09 09 55.2
comp=Z,2µm,21.0s
BW06 Boulder Array 98.26 44 IAMs_20 IAMs_20 09 23 36.6
comp=Z,2µm,18.0s
PDAR Pinedale Array 98.26 44 P Pdif 08 33 32.2 +1.3
comp=Z,0.4nm,0.8s,baz=186,slow=2.8,SNR=4.3
PDAR PKKPbc **PKKPbc 08 50 01.9 -1.2**
comp=Z,0.3nm,0.8s,baz=74,slow=4.8,SNR=2.6
PDAR LR LR 09 10 09.9
comp=Z,954nm,20.1s,baz=314,slow=31
N25K Chitina, Valde 98.26 16 P Pdif 08 33 31.5 +1.3
baz=208
WAT6 Susitna Watana 98.47 14 P Pdif 08 33 33.4 +2.2
baz=205
CPUP Villa Florida 98.49 129 PKKPbc PKKPbc 08 50 00.6 -0.5
comp=Z,1.8nm,1.0s,baz=31,slow=5.9,SNR=3.8
CPUP LR LR 09 13 29.5
comp=Z,1µm,18.1s,baz=240,slow=33
WAT1 Susitna Watana 98.54 13 P Pdif 08 33 33.6 +2.2
baz=205
SEY Seymchan 98.55 347 P **P 08 33 29.8 -1.5**
comp=Z,3.2nm,1.0s,baz=95,slow=3.0,SNR=6.3
SEY Seymchan 98.55 347 ⇓*i*P **P 08 33 31.2 -0.1**
TRF Thorofare Moun 98.78 12 P Pdif 08 33 33.8 +1.2
baz=203
JTMT Jette 98.80 38 IAMs_20 IAMs_20 09 14 54.0
comp=Z,1µm,19.0s
J20K Nowinta River 98.82 10 P Pdif 08 33 33.5 +1.0
baz=200
BOZ Bozeman (W) 98.84 41 P **P 08 33 33.2 -0.1**
baz=231
RND Reindeer 99.00 13 P **Pdif 08 33 34.3 +0.8**
RND pmax pmax
comp=Z,16nm,1.3s
RND Reindeer 99.00 13 P **Pdif 08 33 34.2 +0.8**
RND IAmb IAmb 08 33 57.3
comp=Z,16nm,1.3s
MCK McKinley 99.29 13 P **Pdif 08 33 38.0 +3.3**
baz=204
HYT Haines Junctio 99.36 19 P **Pdif 08 33 38.7 +3.5**
baz=214
YUK3 Moose Creek 99.39 17 P **Pdif 08 33 38.9 +3.5**
baz=211
M27K Edge Creek, AK 99.55 16 P **Pdif 08 33 39.1 +3.1**
baz=210
MLY Manley 100.16 12 P **Pdif 08 33 40.4 +1.8**
baz=203
HDA Harding Lake 100.28 13 P **Pdif 08 33 42.4 +3.3**
baz=206
SCRK Sand Creek 100.49 15 P **Pdif 08 33 42.8 +2.6**
baz=209
I23K Minto, Yukon-K 100.50 12 P **Pdif 08 33 41.9 +1.9**
baz=204
TCOL CIGO, UAF Yank 100.52 13 P **Pdif 08 33 43.5 +3.4**
baz=206
COLA College 100.53 13 P **Pdif 08 33 42.0 +1.9**
baz=206
ILAR Eielson Array 100.61 13 P **Pdif 08 33 40.4 -0.1**
comp=Z,0.3nm,0.7s,baz=219,slow=5.7,SNR=2.2
ILAR PP **PP 08 37 47.9 -0.4**
comp=Z,0.8nm,1.0s,baz=217,slow=8.5,SNR=1.9
POKR Poker Plat Res 100.82 13 P **Pdif 08 33 43.8 +2.4**
baz=206
K27K Chicken 100.95 15 P **Pdif 08 33 42.9 +0.9**
baz=210
J26K Charley River, 101.05 14 P **Pdif 08 33 42.4 -0.2**
baz=209
BILL Bilibino 101.50 354 ⇑*e*P **Pdif 08 33 43.9 -0.5**
BILL *e* 08 37 53.2
BILL pmax pmax
comp=Z,5.0nm,0.4s
OGNE Ogallala 101.77 49 IAMs_20 IAMs_20 09 17 20.4
comp=Z,2µm,19.0s

BCIP Isla Barro Col 102.00 87 IAMs_20 IAMs_20 09 12 19.2
comp=Z,2µm,19.0s
OK029 Liberty Lake 102.00 55 IAMs_20 IAMs_20 09 18 12.7
comp=Z,1µm,20.0s
KS21 Milan North St 102.65 54 IAMs_20 IAMs_20 09 22 48.8
comp=Z,2µm,18.0s
PALK Pallekele 103.14 270 IAMs_20 IAMs_20 09 24 03.2
comp=Z,2µm,18.0s
SONM Songino Array 104.97 318 PKKP PKKPdf 08 49 55.5 +1.2
comp=Z,0.4nm,0.3s,baz=339,slow=3.7,SNR=4.0
LSA Lhasa 105.97 295 IAMs_20 IAMs_20 09 29 18.0
comp=Z,2µm,22.0s
INK Inuvik 106.45 16 PKiKP PKiKP 08 38 17.4 +0.2
comp=Z,1.7nm,1.0s,baz=207,slow=4.7,SNR=3.1
YKA Yellowknife Ar 107.99 26 PKKPab PKKPab 08 49 44.6 +0.7
comp=Z,1.5nm,0.7s,baz=52,slow=4.0,SNR=3.4
AGMN Agassiz Nation 109.32 45 IAMs_20 IAMs_20 09 22 08.3
comp=Z,1µm,19.0s
JFWS Jewell Farm 110.35 52 IAMs_20 IAMs_20 09 25 30.7
comp=Z,1µm,18.0s
VOI Vohitsoka 110.40 225 IAMs_20 IAMs_20 09 26 41.5
comp=Z,2µm,18.0s
TIXI Tiksi 110.80 344⇑*i*PKIKP PKiKP 08 38 24.4 -0.8
ABPO Ambohimpanom 112.35 227 IAMs_20 IAMs_20 09 30 54.4
comp=Z,2µm,18.0s
WMQ Urumqi 114.69 307 *e*PKP PKPdf 08 38 33.6 0.0
WMQ LR LR
comp=Z,2µm,16.9s
WMQ LR LR
comp=Z,1µm,18.5s
WMQ LR LR
comp=Z,1µm,17.9s
DGZ Jazzator, Alta 117.01 313⇑*i*PKIKP PKiKP 08 38 38.5 +0.5
ZSN Zaisan 117.85 310 *e*PKP PKiKP 08 38 40.4 +0.8
baz=310
ZSN Zaisan 117.85 310 *e*PKIKP PKiKP 08 38 40.3 +0.8
MK31 Makanchi Array 119.30 309⇓*i*PKIKP PKPdf 08 38 41.7 -0.6
MK31 Makanchi Array 119.30 309 PKPdf PKPdf 08 38 41.9 -0.4
MKAR Makanchi Array 119.30 309 PKP PKPdf 08 38 41.9 -0.5
comp=Z,1.2nm,0.6s,baz=201,slow=1.0,SNR=11
MKAR SKKP SKKPdf 08 53 02.0 +0.8
comp=Z,0.3nm,0.8s,baz=323,slow=2.2,SNR=1.9
MKAR Makanchi Array 119.30 309 PKIKP PKPdf 08 38 41.1 -1.2
MKAR Makanchi Array 119.30 309 PKPdf PKPdf 08 38 41.1 -1.2
MAKZ Makanchi 119.51 309 PKIKP PKPdf 08 38 41.3 -1.4
MAKZ Makanchi 119.51 309 PKPdf 08 38 41.3 -1.4
ZALV Zalesovo Beam 119.87 317 PKP PKiKP 08 38 43.2 0.0
comp=Z,1.5nm,0.6s,baz=132,slow=2.2,SNR=4.6
ZALV Zalesovo Beam 119.87 317 PKIKP PKPdf 08 38 42.0 -1.1
ZALV Zalesovo Beam 119.87 317 PKPdf PKPdf 08 38 42.0 -1.1
SHLS Shalkode 120.05 304 *e*PKP PKPdf 08 38 42.4 -1.6
baz=304
SHLS Shalkode 120.05 304 *e*PKIKP PKPdf 08 38 42.4 -1.6
UZB Uzynbulak 120.36 304 *e*PKP PKPdf 08 38 44.2 -0.5
baz=304
UZB Uzynbulak 120.36 304 *e*PKIKP PKPdf 08 38 44.1 -0.5
SMRT St. Maarten 120.51 87 IAMs_20 IAMs_20 09 33 29.6
comp=Z,580nm,18.0s
KPKS Kokpek 120.69 304 *e*PKP PKPdf 08 38 45.1 -0.2
baz=304
KPKS Kokpek 120.69 304 *e*PKIKP PKPdf 08 38 45.0 -0.2
SATY Saty 120.76 304 *e*PKP PKPdf 08 38 42.6 -2.8
baz=304
SATY Saty 120.76 304 *e*PKIKP PKPdf 08 38 42.6 -2.8
TARG Taragay, Kyrgy 120.76 302 PKPdf 08 38 44.4 -1.4
KSH Kashi 121.37 299 PKP PKiKP 08 38 48.0 +1.2
KSH LR LR
comp=Z,1µm,17.1s
KSH LR LR
comp=Z,3µm,16.6s
KSH LR LR
comp=Z,1µm,17.5s
NIL Nilore 121.43 292 IAMs_20 IAMs_20 09 25 32.6
comp=Z,2µm,20.0s
YLE Yale 121.67 59 IAMs_20 IAMs_20 09 42 07.3
comp=Z,1µm,20.0s
MDOK Medeo 121.73 304 *e*PKP PKPdf 08 38 46.4 -0.9
baz=304
MDOK Medeo 121.73 304 *e*PKIKP PKPdf 08 38 46.4 -0.9
TNSS Tian-Shan 121.77 303 *e*PKP PKPdf 08 38 47.1 -0.6
baz=304
CHKK Chushkaly 121.98 304 *e*PKP PKPdf 08 38 47.3 -0.2
baz=304
NRIK Noril'sk 122.00 335 PKP PKPdf 08 38 46.1 -0.7
comp=Z,5.4nm,0.8s,baz=46,slow=1.3,SNR=6.4
NRIK Noril'sk 122.00 335⇓*i*PKIKP PKiKP 08 38 47.2 +0.2
NRIK Noril'sk 122.00 335 PKPdf PKiKP 08 38 46.9 -0.1
ULHL Ulahol 122.03 302 P PKiKP 08 38 49.4 +1.2
SNR=6.2
MTBS Maitube 122.16 303 *e*PKP PKPdf 08 38 47.5 -0.5
baz=304
BOOM Boomskoye usch 122.31 303 PKIKP PKPdf 08 38 47.8 -0.7
BOOM Boomskoye usch 122.31 303 PKPdf PKPdf 08 38 47.8 -0.7
KUU Kurty 122.44 304 *e*PKP PKPdf 08 38 47.8 -0.7
baz=304
KUU Kurty 122.44 304 *e*PKIKP PKPdf 08 38 47.7 -0.7
KZA Kyzart 122.68 302 P PKiKP 08 38 50.0 +0.2
SNR=8.3
KURK Kurchatov 122.72 313 PKIKP PKPdf 08 38 48.2 -0.5
KURBB Kurchatov Arra 122.75 312 PKP PKPdf 08 38 48.2 -0.6
comp=Z,5.2nm,0.9s,baz=110,slow=2.0,SNR=28
UCH Uchtor 123.25 302 P PKiKP 08 38 51.4 +0.5
SNR=10.0
AAK Ala-Archa 123.38 302 PKP PKiKP 08 38 51.4 +0.7
comp=Z,1.9nm,0.5s,baz=269,slow=2.8,SNR=6.1
AAK Ala-Archa 123.38 302⇑*i*PKIKP PKPdf 08 38 50.5 0.0
AAK pmax pmax
comp=Z,9.0nm,0.8s
AAK Ala-Archa 123.38 302 PKPdf PKPdf 08 38 50.3 -0.2
SGDS Sogindy 123.51 303 *e*PKP PKPdf 08 38 49.7 -0.9
baz=304
AML Almayashu 123.81 302 P PKiKP 08 38 51.9 0.0
SNR=15
EKS2 Erkin-Say 123.90 302 P PKiKP 08 38 52.9 +1.2
SNR=6.4
BTLS Baital 124.33 305 *e*PKP PKPdf 08 38 51.4 -0.6
baz=305
BTLS Baital 124.33 305 *e*PKIKP PKPdf 08 38 51.4 -0.6
KBL Kabul 125.02 292 PKIKP PKPdf 08 38 53.4 -0.6
KBL Kabul 125.02 292 PKPdf PKPdf 08 38 53.4 -0.6
BTK Batken 125.32 298 PKIKP PKPdf 08 38 54.0 -0.2
BTK Batken 125.32 298 PKPdf 08 38 54.0 -0.2
GAR Garm 125.40 297 PKPdf 08 38 53.3 -1.2
CHGR Chuyangaron 126.17 296 PKPdf PKPdf 08 38 54.8 -1.1
KK31 Karatay Array 126.33 302 PKIKP PKPdf 08 38 55.7 -0.2
KK31 Karatay Array 126.33 302 PKPdf PKPdf 08 38 55.7 -0.2
KKAR Karatay Array 126.33 302 PKIKP PKPdf 08 38 54.6 -1.3
KKAR 08 38 55.1
KKAR Karatay Array 126.33 302 PKPdf PKPdf 08 38 54.6 -1.3
IUG Iuzhnay 126.44 301 *e*PKP PKPdf 08 38 56.2 -0.1
baz=301
IUG Iuzhnay 126.44 301 *e*PKIKP PKPdf 08 38 56.2 -0.1
BVAR Borovoye Array 128.14 314 PKP PKPdf 08 38 58.6 -0.5
comp=Z,6.4nm,0.9s,baz=191,slow=7.1,SNR=16
BRVK Borovoye 128.21 314*ce*PKIKP PKPdf 08 38 58.9 -0.3
BRVK Borovoye 128.21 314 PKPdf PKPdf 08 38 58.8 -0.3
HRA Herat 130.32 289 PKPdf 08 39 03.1 -1.0
KMBO Kilima Mbogo 132.23 232 PKP PKiKP 08 39 09.6 +0.1
comp=Z,0.6nm,0.3s,baz=124,slow=4.8,SNR=1.5
KMBO SKPbc SKPab 08 42 35.4 +0.6
comp=Z,21nm,1.1s,baz=27,slow=1.8,SNR=14
SPITS Spitsbergen Ar 134.38 356 PKP PKiKP 08 39 11.3 -0.3
comp=Z,20nm,1.0s,baz=45,slow=11,SNR=2.9
GEYT Alibeck 134.43 293 PKP PKiKP 08 39 12.3 -0.6
comp=Z,13nm,0.7s,baz=222,slow=2.0,SNR=5.9
GEYT SKPbc SKPbc 08 42 40.7 +0.6
comp=Z,2.8nm,0.4s,baz=193,slow=6.1,SNR=3.8
ARU Arti 134.99 319 PKP PKPdf 08 39 10.5 -1.4
comp=Z,1.3nm,0.2s,baz=192,slow=2.1,SNR=8.1
ARU SKPbc SKPbc 08 42 41.9 +0.7
comp=Z,1.9nm,0.2s,baz=71,slow=24,SNR=5.7
ARU Arti 134.99 319⇓*e*PKIKP PKPdf 08 39 12.5 +0.6
ARU Arti 134.99 319 PKPdf 08 39 11.8 0.0
AKTO Aktyubinsk 135.70 310 PKP PKPdf 08 39 12.8 -0.6
comp=Z,3.5nm,0.7s,baz=150,slow=1.2,SNR=8.9
AKTO SKPbc SKPbc 08 42 45.9 +2.3
comp=Z,1.5nm,0.6s,baz=328,slow=22,SNR=5.6
KIRV Kirov 139.37 323 PKP PKPdf 08 39 20.5 +0.6
comp=Z,7.8nm,0.5s,baz=104,slow=8.1,SNR=4.6
KIRV Kirov 139.37 323⇑*e*PKIKP PKiKP 08 39 21.2 -1.0
PRGR Permogore 140.03 329 *e*PKIKP PKPdf 08 39 21.4 +0.4
PRGR pmax pmax
comp=Z,29nm,0.9s
LVZ Lovozero 140.33 341⇓*e*PKIKP PKPdf 08 39 19.1 -2.4
QRN Al-Qurain 140.37 276 *e*P SKiKP 08 43 00.9 +0.7
KBD Kabd 140.69 277 *e*P SKiKP 08 43 01.8 +1.0

RDF Al-Radifah 140.73 277 *e*P SKiKP 08 43 01.9 +1.0
UMR Umm Al-Rimmam 140.78 278 *e*P SKiKP 08 43 02.2 +1.1
APA Apatity 140.90 341⇓*i*PKIKP PKPdf 08 39 19.8 -2.6
APA pmax pmax
comp=Z,11nm,1.1s
ARCES ARCESS Array B 141.17 347 PKhKP PKPpre 08 39 19.3
comp=Z,7.3nm,0.8s,baz=22,slow=2.8,SNR=9.4
ARCES SKP SKPbc 08 42 58.4 -0.2
comp=Z,2.7nm,0.7s,baz=35,slow=3.3,SNR=1.7
ARCES ARCESS Array B 141.17 347 PKIKP PKPdf 08 39 21.2 -1.7
ARCES ARCESS Array B 141.17 347 PKPdf PKPdf 08 39 21.2 -1.7
RST Umm Al-Ruwaisa 141.36 277 *e*P SKiKP 08 43 03.2 +0.9
BELG Belogornoye 141.95 314 PKhKP PKPpre 08 39 18.8
comp=Z,23nm,0.9s,baz=124,slow=3.0,SNR=5.1
BELG SKPbc SKiKP 08 43 03.2 +0.6
comp=Z,24nm,0.9s,baz=127,slow=11,SNR=4.6
KLMR Klimovskoe 143.00 330 *e*PKHKP PKPpre 08 39 20.6
KLMR pmax pmax
comp=Z,54nm,1.2s
KLMR Klimovskoe 143.00 330 *e*PKPdf PKPpre 08 39 20.6
KLMR AMP 08 39 36.1
comp=Z,54nm,1.2s
MAK Makhachkala 143.01 299 *e*PKHKP PKPpre 08 39 22.5
MAK *e* 08 42 31.9
MAK pmax pmax
comp=Z,140nm,1.2s
STEI Steigen 144.26 351 *e*PKPdf PKPbc 08 39 27.2 +0.6
FAUS Fauske 144.78 351 *e*PKPab PKPbc 08 39 28.5 +0.2
GNI Garni 145.03 294 PKPdf PKPbc 08 39 29.8 -0.5
GNI Garni 145.03 294*c i*PKIKP PKPbc 08 39 29.7 -0.5
GNI Garni 145.03 294 PKPbc 08 39 29.4 -0.9
BORG Borgarnes 145.33 17 PKPbc PKPab 08 39 30.4 +0.1
comp=Z,30nm,0.8s,baz=320,slow=2.7,SNR=3.7
BORG Borgarnes 145.33 17 PKIKP PKPbc 08 39 29.9 -0.2
BORG Borgarnes 145.33 17 PKPbc 08 39 29.9 -0.2
NBB30 Finnes 145.36 352 *e*PKPbc PKPdf 08 39 30.3 0.0
NBB17 Glomfjord B¥r 145.48 351 *e*PKPab PKPab 08 39 31.1 +0.2
NBB15 Halsa Church 145.60 352 *e*PKPab PKPab 08 39 32.0 +0.8
ZEI Tsey 145.66 299 *i* PKIKP PKPdf 08 39 31.5 -0.4
ZEI pmax pmax
comp=Z,23nm,1.2s
NBB13 Alf Garage 145.74 352 *e*PKPab PKPab 08 39 31.7 -0.1
VRH Novokhopyorsk 145.79 314 *e*PKIKP PKPdf 08 39 30.3 -1.2
VRH pmax pmax
comp=Z,110nm,1.0s
NCK Nalchik 145.85 300⇓*i*PKP2 PKPab 08 39 32.9 -0.1
NBB40 Tonnes 145.89 352 *e*PKPbc PKPbc 08 39 32.1 +0.2
KONS Konsvik 145.89 352 *e*PKPab PKPab 08 39 32.6 +0.3
AKH Akhalkalaki 146.00 296 ⇑P PKPdf 08 39 32.5 0.0
ONI Oni 146.00 298 PKIKP PKPdf 08 39 31.1 -1.2
ONI Oni 146.00 298 PKPdf 08 39 31.1 -1.2
MOR8 Moi Rana 146.03 351 *e*PKPdf PKPdf 08 39 31.6 0.0
GOF Gofitskoye 146.12 303⇑*i*PKP2 PKPbc 08 39 33.3 0.0
GOF pmax pmax
comp=Z,144nm,0.7s
KARS Kars 146.31 295 PKIKP PKPdf 08 39 31.2 -1.8
KARS Kars 146.31 295 PKPdf 08 39 31.1 -1.8
KBZ Khabaz 146.34 301 PKPbc PKPbc 08 39 33.7 -0.2
comp=Z,26nm,0.9s,baz=77,slow=2.5,SNR=39
KBZ Khabaz 146.34 301*c i*PKP2 PKPdf 08 39 33.2 +0.5
MOS Moscow 146.39 323 *i* PKP2 PKPbc 08 39 33.1 -0.6
MOS pmax pmax
comp=Z,362nm,1.2s
KIV Kislovodsk 146.48 301 ⇑P PKPpre 08 39 25.3
KIV Kislovodsk 146.48 301 *i* PKPbc PKPdf 08 39 33.5 +0.4
SNR=12
KIV Kislovodsk 146.48 301 *i* PKP2 PKPbc 08 39 34.1 -0.5
KIV pmax pmax
comp=Z,29nm,1.0s
KIV Kislovodsk 146.48 301 PKPbc 08 39 34.0 -0.5
NEY Neytrino 146.50 300*d i*PKP2 PKPab 08 39 35.5 -0.2
CHVG Ch'k'valeri 147.00 299 ⇑P PKPdf 08 39 33.2 -0.7
CHVG Ch'k'valeri 147.00 299 ⇑PKIKP PKPdf 08 39 33.2 -0.7
GURO Guroymak-BITLI 147.05 291 PKPdf 08 39 34.5 +0.3
VORR Voronezh 147.14 316 *e*PKIKP PKPdf 08 39 32.0 -1.8
VORR pmax pmax
comp=Z,350nm,1.6s
OBN Obninsk 147.21 323 PKPbc PKPbc 08 39 35.7 -0.3
baz=48,slow=5.2
OBN Obninsk 147.21 323*c i*PKP2 PKPbc 08 39 36.1 +0.1
OBN *e* 08 43 06.2
OBN pmax pmax
comp=Z,222nm,1.6s
OBN MLR MLR
comp=Z,495nm,18.0s
PUL Pulkovo 147.32 333⇓*e*PKP2 PKPbc 08 39 36.0 -0.2
VORD Divnogorie 147.32 314 *e*PKP2 PKPbc 08 39 35.8 -0.7
VORD pmax pmax
comp=Z,100nm,1.3s
BATM Batumi 147.34 297 ⇑P PKPbc 08 39 37.3 +0.4
BATM Batumi 147.34 297 ⇑PKP2 PKPbc 08 39 37.3 +0.4
BCA Borcka 147.40 296 ⇑P PKPbc 08 39 36.9 -0.2
FIA1 FINESS Array S 147.58 338 PKPbc 08 39 35.8 -1.1
FINES FINESS Array B 147.58 338 PKPbc PKPbc 08 39 36.8 -0.1
comp=Z,54nm,0.7s,baz=50,slow=2.6,SNR=61
FINES FINESS Array B 147.58 338 PKPbc 08 39 36.5 -0.4
NSS Namsos 147.92 352 *e*pPKPdf PKPbc 08 39 38.0 +0.3
MARD Mardin 147.96 289 PKPdf PKPdf 08 39 33.7 -2.1
KOPT Kop Dagi 148.28 294 PKPdf 08 39 37.4 +1.0
SOC Sochi 148.65 301 *i* PKP2 PKPbc 08 39 39.6 -0.7
SOC *e* 08 43 10.5
SOC *e*PPP PPP 08 46 47.3
KTUT Trabzon 148.81 296 ⇓P PKiKP 08 39 41.9 -0.3
MEF Metsahovi 149.05 338 *e*P PKiKP 08 39 41.5 -0.5
RAF Rauma 149.18 341 *e*P PKiKP 08 39 41.9 -0.4
VSU Vasula 149.57 334 *e*P PKiKP 08 39 43.0 -0.1
VSU Vasula 149.57 334*c i*PKP2 PKPbc 08 39 41.8 -0.3
MOL Molde 150.29 355 *e*PKPbc PKiKP 08 39 44.9 +0.4
AAL Aland 150.37 342 *e*P PKiKP 08 39 44.4 -0.4
MTSE Matsula 150.41 337 *e*P PKiKP 08 39 45.1 +0.3
GAZ Gaziantep 150.79 288 PKPbc 08 39 44.2 -1.7
NC303 NORSAR Array S 151.18 350 *e*PKPbc PKiKP 08 39 46.4 0.0
NC303 NORSAR Array S 151.18 350 PKPbc 08 39 45.3 -0.6
NC204 NORSAR Array S 151.21 351 *e*PKPbc PKiKP 08 39 46.5 0.0
NC204 NORSAR Array S 151.21 351 PKPbc 08 39 45.4 -0.7
NC405 NORSAR Array S 151.24 350 PKPbc 08 39 45.0 -1.1
NC405 PKPab PKPab 08 39 53.8 -0.3
UPP Uppsala 151.24 343 *e*P PKiKP 08 39 47.2 +0.7
NB201 NORSAR Array S 151.36 350 *e*PKPbc PKiKP 08 39 46.8 0.0
NB201 NORSAR Array S 151.36 350 PKPbc 08 39 45.4 -1.0
NB201 PKPab PKPab 08 39 54.6 +0.1
NB2 NORSAR Subarra 151.38 350 PKP PKPbc 08 39 46.5 +0.1
comp=Z,81nm,1.2s,baz=16,slow=2.6
NB2 NORSAR Subarra 151.38 350 PKIKP PKPbc 08 39 44.0 -2.4
NB2 pmax pmax
comp=Z,103nm,1.7s
NB2 NORSAR Subarra 151.38 350 PKPab PKPbc 08 39 46.5 +0.1
baz=16,slow=2.6
NOA NORSAR Array B 151.38 350 PKPbc PKPbc 08 39 46.6 +0.2
comp=Z,20nm,0.8s,baz=14,slow=4.1,SNR=57
NBO00 NORSAR Array S 151.45 351 *e*PKPbc PKPbc 08 39 46.2 -0.4
NBO00 NORSAR Array S 151.45 351 PKPbc 08 39 46.0 -0.6
EIL Elat 151.48 272 PKPbc PKiKP 08 39 48.1 +0.1
comp=Z,80nm,0.9s,baz=138,slow=4.3,SNR=47
RCY Rachaya 151.55 280 *e*P PKiKP 08 39 48.3 0.0
NAO01 NORSAR Array S 151.61 351 PKPbc 08 39 45.1 -1.8
NAO01 PKPab PKPab 08 39 55.4 -0.2
NC602 NORSAR Array S 151.62 350 *e*PKPbc PKPbc 08 39 46.7 -0.2
NC602 NORSAR Array S 151.62 350 PKPbc 08 39 46.2 -0.7
NC602 PKPab sPKPbc 08 39 53.9 +0.2
BHL Bhannes 151.75 281 *e*P PKiKP 08 39 48.8 +0.2
MNK Minsk 151.76 327 *i* PKIKP PKPbc 08 39 44.5 -2.9
MNK *i* 08 43 34.4
MNK *i* 08 46 51.5
MNK *i* PPP PPP 08 46 56.7
MNK *i* SS SS 09 02 59.0 +6.5
MNK *i* SSS SSS 09 08 42.6
MNK pmax pmax
comp=N,34nm,1.0s
MNK pmax pmax
comp=Z,51nm,0.8s
MNK pmax pmax
comp=E,6.0nm,1.5s
MNK Minsk 151.76 327 *i* PKP PKPbc 08 39 44.5 -2.9
comp=E,6.0nm,1.5s,baz=52
MNK *i* PKP pPKPdf 08 39 45.0 -1.0
comp=N,34nm,1.0s
MNK *i* PKP sPKPdf 08 39 45.8 -2.0
comp=Z,51nm,0.8s
MNK *i* SKP 08 43 17.6
MNK *i* PKS PKSdf 08 43 20.5 +5.1
MNK *i* PP PP 08 43 34.5 +6.6
MNK *i* SKS SKSdf 08 46 51.6 +4.5

MNK *i* PPP PPP 08 46 56.8
MNK *i* SKKS SKKSdf 08 55 40.1 +4.5
MNK *i* SS SS 09 02 59.0 +6.5
MNK *i* SSS SSS 09 08 42.7
MNK *i* LQ LQ 09 40 14.3
MNK *i* LR LR 09 51 03.1
MNK *i* LRM MLR 09 56 11.0
comp=E,29nm,21.6s
MNK *i* LRM MLR 09 56 11.0
comp=Z,819nm,26.7s
MNK *i* LRM MLR 09 56 19.9
comp=N,365nm,22.9s
DQRL Deir Qamar 151.80 281 *e*P PKiKP 08 39 49.1 +0.3
ISAL Salakas 151.83 330 *e*P PKiKP 08 39 49.7 +1.8
BNN Bunyan 151.89 292 PKPbc 08 39 47.0 -1.5
IIGN Ignalina 151.94 330 *e*P PKiKP 08 39 49.5 +1.3
NACGM Naroch 151.99 329 *i* PKP PKiKP 08 39 48.9 +0.7
SKAR Skarslia 152.08 353 *e*PKPbc PKiKP 08 39 48.7 +0.3
SIM Simferopol' 152.37 305*d i*PKIKP PKPbc 08 39 49.1 0.0
SIM pmax pmax
comp=Z,48nm,1.1s
LIC Lamto 152.53 165 *e*PKIKP PKiKP 08 39 51.5 +0.8
comp=Z,133nm,1.1s
KIC Kosan Boka 152.72 166 *e*PKIKP PKiKP 08 39 52.0 +0.9
comp=Z,139nm,1.3s
PABE Paberze 152.75 332 *e*P PKiKP 08 39 50.6 +0.8
PABE Paberze 152.75 332 PKPbc 08 39 47.9 -1.6
TIC Toumodi 152.94 165 *e*PKIKP PKiKP 08 39 52.3 +0.8
KONO Kongsberg 152.94 351 *e*PKPbc PKiKP 08 39 50.8 +0.7
KONO Kongsberg 152.94 351 PKPbc 08 39 49.3 -0.6
KONO PKPab PKPab 08 40 00.2 -1.0
DBIC Dimbokro 152.99 166 PKPbc PKiKP 08 39 52.7 +1.0
comp=Z,6.0nm,1.0s,baz=194,slow=3.2,SNR=4.9
DBIC Dimbokro 152.99 166 PKIKP PKPdf 08 39 40.4 -3.8
DBIC 08 39 49.1
DBIC 08 39 59.2
DBIC Dimbokro 152.99 166 PKPdf PKPdf 08 39 40.4 -3.8
DBIC PKPbc pPKPdf 08 39 49.0 -0.2
DBIC PKPab sPKPbc 08 39 59.2 +1.0
PBUR Paburge 153.13 335 *e*P PKiKP 08 39 51.6 +1.0
AKASG Malin Array Be 153.24 319 PKPbc PKiKP 08 39 51.2 +0.2
comp=Z,11nm,0.7s,baz=55,slow=2.5,SNR=41
AKASG Malin Array Be 153.24 319 PKPbc 08 39 49.1 -1.7
AKASG PKPab PKPab 08 40 01.7 -1.0
AKBB Malin Array Si 153.24 319 PKPbc 08 39 50.2 -0.7
ILGA Ilgaz 153.37 297 PKPbc 08 39 50.6 -1.2
BR131 Keskin Array S 153.56 294 PKPbc 08 39 51.1 -1.1
BRTR Keskin Array B 153.56 294 PKPbc PKPbc 08 39 52.2 0.0
comp=Z,16nm,0.8s,baz=204,slow=2.7,SNR=31
BRTR PKPab PKPab 08 40 04.5 -0.2
comp=Z,14nm,0.7s,baz=117,slow=4.3,SNR=9.0
BRTR Keskin Array B 153.56 294 PKPdf 08 39 43.0 -1.5
BRTR sPKPdf 08 39 50.7 -0.5
BRTR PKPab PKPab 08 40 02.9 -1.8
CSS Mathiatis 153.78 283 PKPbc 08 39 50.6 -2.0
SUW Suwalki 154.14 330 *e*PKPbc PKiKP 08 39 53.3 +0.6
ANTO Ankara 154.20 294 PKIKP PKPdf 08 39 42.8 -2.4
ANTO Ankara 154.20 294 PKPdf PKPdf 08 39 42.8 -2.4
ANTO sPKPdf 08 39 52.3 +0.4
SORM Soroca 154.98 315 ⇓P PKiKP 08 39 55.7 +1.0
MDUB Mudurnu 155.34 296 PKPdf 08 39 53.6 +6.7
BIZ Bicaz 156.89 314 ⇑P PKPab 08 40 08.8 -10
VRI Vrincioaia 156.98 311 ⇑P PKPab 08 40 13.2 -5.7
VRI Vrincioaia 156.98 311 ⇑PKP2 PKPab 08 40 13.2 -5.7
PLOR Plostina 157.03 311 ⇑P PKPab 08 40 19.4 +0.2
BURAR Bucovina Array 157.08 316 ⇓P PKPab 08 40 08.7 -11
BURAR Bucovina Array 157.08 316 ⇓PKP2 PKPab 08 40 08.7 -11
BISRR Bisoca 157.12 310 ⇑P PKPab 08 40 13.0 -6.6
KWP Kalwaria Pacla 157.30 323 *e*PKPab PKPab 08 40 25.6 +5.5
EKA Eskdalemuir Ar 157.52 7 PKPab PKPab 08 40 21.2 +0.4
comp=Z,1.8nm,0.5s,baz=353,slow=2.6,SNR=5.1
MLR Muntele Rosu 157.63 311 ⇑P PKPab 08 40 16.1 -5.8
MLR Muntele Rosu 157.63 311 ⇑PKP2 PKPab 08 40 16.1 -5.8
VOIR 158.22 311 ⇑P PKPab 08 40 18.8 -5.6
VOIR 158.22 311 ⇑PKP2 PKPab 08 40 18.8 -5.6
BSEG Bad Segeberg 158.30 346 *e*PKPab PKPab 08 40 24.2 0.0
baz=25,slow=4.4
OJC Ojcow 158.30 327 *e*PKPdf PKPdf 08 39 49.5 -0.7
OJC *e*PKPab PKPab 08 40 17.3 -7.2
CRVS Cervenica-Dubn 158.39 323 *e*PKP2 PKPab 08 40 25.5 +0.6
CRVS Cervenica-Dubn 158.39 323 *e*PKP PKPab 08 40 25.5 +0.6
DRGR 158.97 317 ⇑P PKPab 08 40 27.7 +0.2
DRGR 158.97 317 ⇑PKP2 PKPab 08 40 27.7 +0.2
LANS Liptovska Anna 159.21 326 *e*PKP2 PKPab 08 40 29.3 +0.8
LANS Liptovska Anna 159.21 326 *e*PKP PKPab 08 40 29.3 +0.8
KSP Ksiaz 159.29 333 *e*PKPab PKPab 08 40 28.8 +0.1
OSTC Ostas 159.55 333 *e*PKPAB PKPab 08 40 29.0 -0.9
FLTG Flechtingen 159.59 343 *e*PKPab PKPab 08 40 28.8 -1.0
baz=25,slow=4.4
CHVC Chvalec 159.59 333 *e*PKPAB PKPab 08 40 30.1 +0.1
MORC Moravsky Berou 159.62 329 ⇑P PKPab 08 40 19.4 -11
MORC Moravsky Berou 159.62 329 *e*PKP PKPdf 08 39 52.8 +1.0
MORC *e* 08 40 30.5
GZR Gura Zlata 159.66 313 ⇓P PKPab 08 40 30.4 -0.2
GZR Gura Zlata 159.66 313 ⇓PKP2 PKPab 08 40 30.4 -0.2
UPC Upice 159.67 333 *e*PKP2 PKPab 08 40 30.7 +0.3
UPC Upice 159.67 333 *e*PKPAB PKPab 08 40 30.7 +0.3
DPC Dobruska-Polom 159.68 332 *e*PKP2 PKPab 08 40 30.3 -0.1
DPC Dobruska-Polom 159.68 332 *e*PKPAB PKPab 08 40 30.3 -0.1
KRLC Kraliky 159.71 331 *e*PKP2 PKPab 08 40 30.1 -0.5
KRLC Kraliky 159.71 331 *e*PKPAB PKPab 08 40 30.1 -0.5
SIRR Siria 159.86 317 ⇓P PKPab 08 40 36.0 +4.6
VYHS Vyhne 159.96 325 *e*PKP2 PKPab 08 40 32.1 +0.4
VYHS Vyhne 159.96 325 *e*PKP PKPab 08 40 32.1 +0.4
CLL Collm 160.03 339 *i* PKPab PKPab 08 40 31.0 -0.8
comp=Z,44nm,1.2s
CLL *e*pPKPab pPKPab 08 40 36.0 -0.8
CLL *e*PP PP 08 44 14.0 +0.5
CLL LmH 09 55 00.0
comp=Z,700nm,21.0s
CLL Collm 160.03 339 *i* PKP2 PKPab 08 40 31.0 -0.8
CLL pmax pmax
comp=Z,44nm,1.2s
CLL MLR MLR
comp=Z,700nm,21.0s
CLL Collm 160.03 339 PKPab PKPab 08 40 31.3 -0.5
CLL Collm 160.03 339 *e*PKPab PKPab 08 40 30.9 -0.8
baz=25,slow=4.4
BRG Berggiesshubel 160.10 337 *e*PKPab PKPab 08 40 31.6 -0.6
baz=25,slow=4.4
BRG Berggiesshubel 160.10 337 P PKPdf 08 39 59.3 +7.1
BRG Amp 08 40 00.9
comp=Z,14nm,1.4s
BRG *e*PKPab PKPab 08 40 32.5 +0.3
BRG Amp 08 40 33.9
comp=Z,40nm,1.2s
BRG Berggiesshubel 160.10 337 P PKPab 08 40 38.4 +6.2
BRG Amp 08 40 38.9
comp=Z,14nm,0.9s
BRG Amp 08 57 56.0
comp=N,1.6nm,20.6s
BRG Amp 08 58 03.0
comp=Z,3.0nm,19.0s
BRG Amp 08 58 09.0
comp=E,1.8nm,18.6s
BRG Berggiesshubel 160.10 337⇓*e*PKPf PKPdf 08 39 51.2 -1.1
BRG Berggiesshubel 160.10 337 Amp 08 39 57.6
comp=Z,9.6nm,1.4s
TORD Torodi Ar. Bea 160.13 180 PKP PKPdf 08 39 54.2 +0.9
comp=Z,2.1nm,1.1s,baz=197,slow=0.6,SNR=5.9
TORD PKPab PKPab 08 40 34.4 +1.3
comp=Z,7.9nm,1.0s,baz=174,slow=2.7,SNR=8.0
TORD PP PP 08 44 16.9 +3.2
comp=Z,3.2nm,1.1s,baz=205,slow=4.4,SNR=3.8
TORD SKKPbc 08 50 01.9
comp=Z,1.4nm,0.9s,baz=19,slow=3.2,SNR=3.7
TORD Torodi Ar. Bea 160.13 180 PKPdf PKPdf 08 39 50.6 -2.7
TORD PKPab PKPab 08 40 30.4 -2.7
HERR Herculane 160.13 312 ⇑P PKPab 08 40 33.5 +0.9
PVCC Panska Ves 160.18 335 *e*PKP2 PKPab 08 40 32.8 +0.2
PVCC Panska Ves 160.18 335 *e*PKPAB PKPab 08 40 32.8 +0.2
CLZ Clausthal 160.25 344 *e*PKPab PKPab 08 40 31.6 -1.3
baz=25,slow=4.4
JAVC Velka Javorina 160.25 327 *e*PKP PKPdf 08 39 54.3 +1.8
JAVC *e* 08 40 33.8
FBE Freiberg 160.25 338 *e*PKPab PKPab 08 40 32.6 -0.2
baz=25,slow=4.4
IBBN Ibbenburen 160.32 349 *e*PKPab PKPab 08 40 33.5 +0.5
baz=25,slow=4.4
NEUB Neuenburg 160.47 341 *e*PKPab PKPab 08 40 33.0 -0.8
baz=25,slow=4.4
GTTG Gottingen 160.62 344 *e*PKPab PKPab 08 40 33.7 -0.7
baz=25,slow=4.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MDVR	Moldovita	160.62	313	⇑P	PKPab	08 40 36.9	+2.1
PRU	Pruhonice	160.64	334	ePKP2	PKPab	08 40 34.0	-0.6
PRU	Pruhonice	160.64	334	ePKPAB	PKPab	08 40 34.0	-0.6
KRUC	Moravsky	160.65	330	ePKP	PKPdf	08 39 53.9	+1.0
KRUC				e		08 40 34.5	
KOWA	Kowa	160.75	163	PKP	PKPdf	08 39 54.8	+0.8
	comp=Z,1.0nm,0.3s,baz=105,slow=2.2,SNR=3.8						
KOWA	Kowa	160.75	163	PKPdf	PKPdf	08 39 51.2	-2.8
KOWA				PKPab	PKPab	08 40 32.4	-3.5
TANN	Tannenbergstha	160.97	339	ePKPab	PKPab	08 40 35.8	-0.3
	baz=25,slow=4.4						
WERD	Werda	160.99	339	ePKPab	PKPab	08 40 36.0	-0.1
	baz=25,slow=4.4						
PLN	Plauen	161.00	339	ePKPab	PKPab	08 40 35.8	-0.4
	baz=25,slow=4.4						
MOX	Moxa	161.02	340	ePKPab	PKPab	08 40 35.8	-0.4
	baz=25,slow=4.4						
GUNZ	Gunzen	161.06	339	ePKPab	PKPab	08 40 36.3	-0.1
	baz=25,slow=4.4						
WERN	Wernitzgruen	161.11	338	ePKPab	PKPab	08 40 36.8	+0.1
	baz=25,slow=4.4						
NKC	Novy Kostel	161.14	338	ePKP2	PKPab	08 40 36.6	-0.2
NKC	Novy Kostel	161.14	338	ePKPAB	PKPab	08 40 36.6	-0.2
MANZ	Manzenberg	161.46	339	ePKPab	PKPab	08 40 37.8	-0.4
	baz=25,slow=4.4						
FRGS	Fruska Gora	161.56	316	⇑P	PKPab	08 40 38.2	-0.7
ROTZ	Rotzenmuhle	161.62	338	ePKPab	PKPab	08 40 38.8	0.0
	baz=25,slow=4.4						
CKRC	Cesky Krumlov	161.69	333	ePKPDF	PKPdf	08 40 01.1	+7.1
CKRC				ePKPAB	PKPab	08 40 39.3	+0.1
KHC	Kasperske Hory	161.70	335	ePKPDF	PKPdf	08 39 57.7	+3.6
KHC				ePKPAB	PKPab	08 40 39.4	+0.1
CONA	Conrad Observa	161.75	328	eP	PKPdf	08 39 54.5	+0.3
	comp=Z,9.2nm,1.5s						
CONA				eP	PKPab	08 40 40.3	+0.7
	comp=Z,15nm,1.0s						
GEC2	GERESS Array S	161.90	334		PKPab	08 40 39.9	-0.4
GEC2	GERESS Array S	161.90	334	ePKPab	PKPab	08 40 39.1	-1.1
	baz=25,slow=4.4						
GERES	GERESS Array B	161.90	334	PKP	PKPdf	08 39 54.5	+0.2
	comp=Z,0.3nm,0.3s,baz=151,slow=3.0,SNR=4.8						
GERES				PKPab	PKPab	08 40 40.4	+0.1
	comp=Z,9.8nm,1.0s,baz=48,slow=4.3,SNR=15						
GERES	GERESS Array B	161.90	334	PKIKP	PKPdf	08 39 53.4	-1.0
GERES						08 40 39.1	
GERES	GERESS Array B	161.90	334	PKPdf	PKPdf	08 39 53.4	-1.0
GERES				PKPab	PKPab	08 40 39.1	-1.1
WET	Wettzell	161.94	336	ePKPab	PKPab	08 40 40.0	-0.3
	baz=25,slow=4.4						
GRA1	Grafenberg Arr	161.99	340		PKPab	08 40 39.3	-1.2
GRF	Grafenberg Arr	161.99	340	PKP2	PKPab	08 40 39.3	-1.2
GRF	Grafenberg Arr	161.99	340	ePKPab	PKPab	08 40 39.6	-0.9
	baz=25,slow=4.4						
GRFO	Grafenberg	161.99	340	PKP2	PKPab	08 40 38.9	-1.6
GRFO	Grafenberg	161.99	340		PKPab	08 40 38.9	-1.6
BEBN	Eben Emael	162.09	352	dPKP	PKPab	08 40 41.0	+0.3
AHRW	Bad Neuenahr-A	162.14	349	ePKPab	PKPab	08 40 40.9	-0.1
	baz=25,slow=4.4						
MEM	Membach	162.23	351	dPKP	PKPab	08 40 41.5	+0.1
BTNL	Ternell	162.24	351	dPKP	PKPab	08 40 41.6	+0.1
ARSA	Arzberg	162.41	327	eP	PKPab	08 40 41.5	-0.9
	comp=Z,3.9nm,0.7s						
BHOU	Houvegnez	162.48	351	dPKP	PKPab	08 40 43.1	+0.5
MOA	Molln	162.48	331	eP	PKPab	08 40 43.2	+0.5
	comp=Z,14nm,1.0s						
BCLA	Clavier	162.50	352	dPKP	PKPab	08 40 42.5	-0.1
SNF	Seneffe	162.51	355	dPKP	PKPab	08 40 43.1	+0.4
BGES	Gesves	162.56	353	dPKP	PKPab	08 40 43.0	+0.1
BMRD	Maredsous	162.67	353	dPKP	PKPab	08 40 43.6	+0.3
DOU	Dourbes	162.89	354	dPKP	PKPab	08 40 44.5	+0.1
SOKA	Soboth	163.06	327	i P	PKPdf	08 39 54.1	-1.4
	comp=Z,12nm,1.3s						
SOKA				eP	PKPab	08 40 45.2	-0.2
	comp=Z,13nm,1.5s						
WLF	Walferdange	163.13	350	dPKP	PKPab	08 40 46.2	+0.7
WLF	Walferdange	163.13	350	ePKPab	PKPab	08 40 45.5	+0.1
	baz=25,slow=4.4						
RJOB	Jochberg	163.15	333	ePKPab	PKPab	08 40 45.6	-0.1
	baz=25,slow=4.4						
KBA	Koelnbreinsper	163.48	331	eP	PKPdf	08 39 54.3	-1.8
	comp=Z,3.7nm,0.6s						
MYKA	Terra Mystica	163.71	329	eP	PKPdf	08 39 54.9	-1.3
	comp=Z,8.1nm,1.6s						
MYKA				eP	PKPab	08 40 47.5	-0.7
	comp=Z,5.1nm,0.8s						
WATA	Walderalm	163.94	335	eP	PKPab	08 40 49.5	+0.3
	comp=Z,5.5nm,0.7s						
WTTA	Wattenberg	163.98	335	eP	PKPdf	08 39 57.0	+0.5
	comp=Z,8.4nm,1.1s						
WTTA				i P	PKPab	08 40 50.0	+0.5
	comp=Z,13nm,1.0s						
BFO	Black Forest	164.00	344	PKP2	PKPab	08 40 48.6	-0.8
BFO	Black Forest	164.00	344	PKPab	PKPab	08 40 48.6	-0.8
BFO	Black Forest	164.00	344	ePKPab	PKPab	08 40 48.9	-0.5
	baz=25,slow=4.4						
ABTA	Abfaltersbach	164.08	332	eP	PKPdf	08 39 56.8	+0.3
	comp=Z,7.5nm,1.0s						
ABTA				eP	PKPab	08 40 49.1	-0.7
	comp=Z,12nm,1.0s						
RETA	Reutte	164.08	337	eP	PKPdf	08 39 57.1	+0.6
	comp=Z,1.2nm,0.5s						
RETA				eP	PKPab	08 40 50.0	+0.2
	comp=Z,33nm,1.1s						
MOTA	Moosalm	164.09	336	eP	PKPdf	08 39 56.7	+0.1
	comp=Z,3.5nm,0.7s						
MOTA				eP	PKPab	08 40 50.5	+0.5
	comp=Z,24nm,1.1s						
UBR	Ueberruh	164.12	339	ePKPab	PKPab	08 40 49.3	-0.7
	baz=25,slow=4.4						
SQTA	Sankt Quirin	164.16	336	eP	PKPab	08 40 50.6	+0.4
	comp=Z,21nm,1.1s						
FETA	Feichten	164.50	336	eP	PKPdf	08 39 58.1	+1.1
	comp=Z,6.5nm,1.1s						
FETA				eP	PKPab	08 40 51.0	-0.8
	comp=Z,20nm,1.0s						
DAVA	Damuels	164.54	339	eP	PKPab	08 40 51.2	-0.7
	comp=Z,35nm,1.2s						
SENIN	Lac Senin/Sane	166.09	344	PKPab	PKPab	08 40 58.1	-0.8
BNI	Bardonecchia	167.47	344	PKP2	PKPab	08 41 03.0	-1.9
BNI	Bardonecchia	167.47	344		PKPab	08 41 03.0	-1.9
MVO	Moncorvo	169.36	38	ePKP	PKPdf	08 40 03.2	+2.5
PCBR	Castelo Branco	170.01	45	ePKP	PKPdf	08 40 03.2	+2.2
PNCL	Nicolau / Gran	170.29	56	ePKP	PKPdf	08 40 02.6	+1.4
EVO	Evora	170.43	53	ePKP	PKPdf	08 40 03.4	+2.1
PCVE	Castro Verde	170.85	58	ePKP	PKPdf	08 40 04.4	+2.8
PBDV	Barranco-do-Ve	171.10	60	ePKP	PKPdf	08 40 04.3	+2.6
ESDC	Sonseca Array	172.01	33	PKP	PKPdf	08 40 03.6	+1.5
	comp=Z,1.9nm,1.0s,baz=28,slow=2.5,SNR=8.8						
ESDC				PKPab	PKPab	08 41 26.4	+1.3
	comp=Z,0.8nm,0.7s,baz=336,slow=2.5,SNR=1.6						
ESDC	Sonseca Array	172.01	33		PKPdf	08 40 00.3	-1.8
ESDC					PKPab	08 41 22.4	-2.7
MDT	Midelt	174.68	91	PKP	PKPdf	08 40 06.1	+2.6
	comp=Z,2.4nm,0.9s,baz=3.0,slow=3.0,SNR=5.5						

*NEIC **08** 08:19:58, 33.°13S×178.°34W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.96; $M_{\theta\theta}$-0.39; $M_{\phi\phi}$-1.57; $M_{r\theta}$0.61; $M_{\theta\phi}$-0.69; $M_{\phi r}$1.43; Fault plane solution: $M_0$2.47000×10^{17} NP1:ϕ_s206.00000°, δ26.00000°, λ92.00000°. NP2:ϕ_s24.00000°, δ64.00000°, λ89.00000°. Principal axes: T 2.5091, Plg71.0000°, Azm292.0000°; N -0.0702, Plg1.0000°, Azm24.0000°; P -2.4389, Plg19.0000°, Azm114.0000°;*

WEL 08 08:21:10.1, 41°S±2°×17°5E±°, h31km±3km, M2.8/13, ML3.0/13, MLv2.8/13 Error ellipse: s-maj=0.0km s-min=0.0km az=127.5, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TCW	Tory Channel	0.19	258	P	Pn	08 21 17.0	+0.1
TCW				S	Sn	08 21 21.6	+0.6
WEL	Wellington	0.22	121	P	Pn	08 21 17.7	+0.4
BHW	Baring Head	0.35	132	P	Pn	08 21 19.2	0.0
BHW				S	Sn	08 21 25.7	+0.6
CAW	Cannon Point	0.42	81	P	Pn	08 21 20.1	+0.1
CAW				S	Sn	08 21 27.4	+0.7
KIW	Kapiti Island	0.43	44	P	Pn	08 21 19.9	-0.2
KIW				S	Sn	08 21 27.1	+0.1
TUWZ	Tuamarina	0.51	239	P	Pb	08 21 20.6	0.0
TUWZ				S	Sb	08 21 27.9	0.0
DUWZ	D'Urville Isla	0.58	309	P	Pb	08 21 22.1	+0.2
MSWZ	Moikau Station	0.60	114	P	Pn	08 21 22.6	0.0
MSWZ				S	Sn	08 21 32.2	+0.9
OGWZ	Otaki Gorge	0.61	54	P	Pn	08 21 22.7	+0.1
OGWZ				S	Sn	08 21 32.0	+0.6
CMWZ	Cape Campbell	0.62	202	P	Pn	08 21 23.8	+1.0
CMWZ				S	Sn	08 21 34.3	+2.6
PLWZ	Palliser	0.68	126	P	Pb	08 21 23.5	0.0
PLWZ				S	Sn	08 21 33.7	+0.4
PAWZ	Paruwai Farm	0.71	107	P	Pn	08 21 24.2	0.0
PAWZ				S	Sn	08 21 34.3	+0.2
BSWZ	Blackbirch Sta	0.73	222	P	Pn	08 21 24.2	-0.1
BSWZ				S	Sn	08 21 35.2	+0.8
MTW	Mount Morrison	0.74	89	P	Pn	08 21 24.4	0.0
MTW				S	Sn	08 21 35.4	+0.7
HOWZ	Holdsworth Sta	0.80	70	P	Pn	08 21 25.4	+0.1
HOWZ				S	Sn	08 21 36.9	+0.6
NNZ	Nelson	0.86	267	P	Pb	08 21 26.4	-0.1
NNZ				S	Sn	08 21 37.4	-0.3
MRZ	Mangatainoka R	0.95	58	P	Pn	08 21 27.6	+0.3
MRZ				S	Sb	08 21 41.6	+1.3
NMEZ	Namu Road	1.82	344	P	Pb	08 21 42.0	-0.8
KHEZ	Kahui Hut	1.92	348	P	Pb	08 21 42.6	-1.8
LTZ	Lake Taylor	2.32	225	P	Pb	08 21 49.2	-2.1

IDC 08 08:27:37.0±3.2, 33.°18S×178.°35W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/41, mbtmp3.8/3, ML3.8/1, Error ellipse: s-maj=76.2km s-min=37.0km az=117.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.27	215	Pn	Pn	08 29 10.3	-0.4
	2.4nm,0.3s,baz=292,slow=9.1,SNR=8.5						
URZ				Sn	Sn	08 30 22.6	-0.5
	0.7nm,0.3s,baz=127,slow=23,SNR=1.5						
ASAR	Alice Springs	42.74	270	P	P	08 35 36.5	+0.3
	0.6nm,0.6s,baz=108,slow=7.6,SNR=1.0						
WRA	Warramunga Arr	43.98	275	P	P	08 35 46.1	-0.2
	0.6nm,0.4s,baz=115,slow=8.1,SNR=8.5						
FINES	FINESS Array B	147.63	338	PKPbc	PKPbc	08 47 21.7	-0.8
	5.3nm,1.1s,baz=35,slow=5.1,SNR=4.5						

*IDC **08** 08:30:30.8±0.6, 14.°56N×93.°77W, h0km, mb4.4/26, mb1 4.5/29, mb1mx4.4/63, mbtmp4.4/29, ML3.9/3, MS4.7/1, Ms1 4.7/1, ms1mx3.6/48, Error ellipse: s-maj=25.7km s-min=10.1km az=49.0*

*MEX **08** 08:30:34.3±0.9, 14.°40N×94.°08W, h20km±56km, MD4.6*

*NEIC **08** 08:30:39.2±1.2, 14.°73N±0.°08×93.°91W±0.°07, h47km±6km, Error ellipse: s-maj=12.6km s-min=8.2km az=217.0*

ISC 08 08:30:35.3±2.0, 14.°51N±0.°05×94.°02W±0.°04, h28km±14km, n603, σ1.°39/622, mb4.6/145, 2C, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		1.42	33	i P	Pn	08 30 57.5	-1.7
PCIG				i S	Sn	08 31 15.8	-1.1
PCIG		1.42	33		Pn	08 30 57.5	-1.7
THIG		1.75	77	eP	Pn	08 31 02.3	-1.3
THIG				i S	Sn	08 31 25.3	+0.3
TGIG		2.42	21	eP	Pn	08 31 12.8	-0.2
TGIG				i S	Sn	08 31 42.2	+0.5
TGBT	Tuxtla Gutierr	2.43	22	i P	Pn	08 31 12.6	-0.5
TGBT				i S	Sn	08 31 44.1	+2.3
CCIG	Comitan	2.53	46	eP	Pn	08 31 16.1	+1.5
CCIG				i S	Sn	08 31 46.7	+2.0
CCIG	Comitan	2.53	46	Pn	Pn	08 31 15.7	+1.0
CMIG	Matias Romero	2.70	342	Pn	Pn	08 31 15.3	-1.5
	26nm,0.3s,baz=164,slow=10,SNR=414						
CMIG				Sn	Sn	08 31 47.1	-1.4
	84nm,0.3s,baz=111,slow=14,SNR=8.8						
CMIG	Matias Romero	2.70	342	i P	Pn	08 31 15.4	-1.4
CMIG				eS	Sn	08 31 47.6	-0.9
CMIG	Matias Romero	2.70	342		Pn	08 31 15.4	-1.4
CMIG					Sn	08 31 47.6	-0.9
PEIG	Puerto Escondi	3.36	297	eP	Pn	08 31 23.3	-2.6
PEIG				i S	Sn	08 31 57.8	-7.1
TUIG	Tuzandepetl	3.52	354	eP	Pn	08 31 28.7	+0.6
TUIG				i S	Sb	08 32 16.3	-3.1
VHO	Vista Hermosa	3.65	315	eP	Pn	08 31 29.8	-0.2
VHO				i S	Sn	08 32 08.8	-3.4
YOIG	Yosondua	4.12	305	eP	Pn	08 31 36.5	-0.1
PNIG	Pinotepa	4.38	296	eP	Pn	08 31 38.0	-1.9
MTO3	Montecristo	4.52	91		Pn	08 31 42.8	+0.8
TOIG	Toxpalan	4.61	321	eP	Pn	08 31 45.0	+1.8
TOIG				i S	Sn	08 32 41.9	+6.0
SNET	Serv Nac Est T	4.72	99		Pn	08 31 46.2	+1.5
HLIG	Huajuapan de L	4.91	313	eP	Pn	08 31 49.1	+1.7
HLIG				i S	Sn	08 32 46.3	+3.0
TPIG	Tehuac#an	5.04	321	i P	Pn	08 31 45.8	-3.3
TPIG				i S	Sn	08 32 49.9	+3.4
MGIG	Malinaltepec	5.20	302	⇑eP	Pn	08 31 51.8	+0.5
MGIG				i S	Sn	08 32 49.6	-0.9
TLIG	Tlapa	5.32	305	eP	Pn	08 31 53.8	+0.9
TLIG				i S	Sn	08 32 48.9	-4.6
TLIG	Tlapa	5.32	305	Pn	Pn	08 31 53.7	+0.7
LVIG	Laguna Verde	5.67	337	eP	Pn	08 31 51.5	-6.1
LVIG				eS	Sn	08 32 59.1	-2.7
DAIG	Los Arroyos	5.97	295	eP	Pn	08 32 01.2	-0.5
PPM	Popocatepetl	6.32	316	eP	Pn	08 32 09.7	+2.6
PPM				i S	Sn	08 33 27.4	+8.7
MEIG	Mezcala	6.36	303	eP	Pn	08 32 08.6	+1.3
PLIG	Platanillo	6.52	307	i P	Pn	08 32 07.1	-2.4
PLIG				i S	Sn	08 33 17.4	-5.6
TGUH	Tegucigalpa,Un	6.56	93	Pn	Pn	08 32 11.2	+1.2
MAVM	Malinalco, Edo	6.86	311	i P	Pn	08 32 16.4	+2.2
MAVM				i S	Sn	08 33 35.5	+4.0
UNM	Universidad Na	6.88	315		Pn	08 32 17.0	+2.5
CRIN	San Cristobal	7.01	104		Pn	08 32 17.8	+1.6
ARIG	Puente Sto Nin	7.13	303	i P	Pn	08 32 19.9	+2.1
ARIG				i S	Sn	08 33 38.8	+0.8
CNGN	Cerro Negro	7.40	105		Pn	08 32 23.6	+2.1
DEIG	Demacu	7.49	321	i P	Pn	08 32 25.6	+2.7
DEIG				i S	Sn	08 33 52.8	+5.8
ZIIG	Zihuatanejo	7.79	294	⇑iP	Pn	08 32 27.7	+0.9
ZIIG				i S	Sn	08 33 53.8	-0.3
RPIG	Rio Verde	9.27	323	i P	Pn	08 32 56.2	+9.1
RPIG				i S	Sn	08 34 34.8	+4.2
ORTG	Ortega, Santa	9.32	115		Pn	08 32 50.1	+2.1
JTS	Las Juntas de	9.80	114	Pn	Pn	08 32 51.3	-3.1
	0.4nm,0.3s,baz=115,slow=20,SNR=1.5						
JTS				Sn	Sn	08 34 43.7	+0.1
	0.2nm,0.3s,baz=47,slow=22,SNR=0.8						
JTS				Lg	Lg	08 35 16.1	
	0.1nm,0.3s,baz=179,slow=24,SNR=2.6						
JTS	Las Juntas de	9.80	114	Pn	Pn	08 32 57.7	+3.2
CAO2	Cobano, Puntar	9.95	118	Pn	Pn	08 32 59.0	+2.6
EZ5V		10.41	300	eP	Pn	08 33 06.9	+4.0
AAIG	Aguscalientes	10.86	314	eP	Pn	08 33 12.0	+2.9
RIMA	Rio Macho	10.99	114		Pn	08 33 12.8	+1.9
PEZE	Perez Zeledon,	11.33	116		Pn	08 33 18.1	+2.7
ZAIG	Zacatecas	11.53	317		Pn	08 33 18.8	+0.5
SRBA	San Rafael, Bu	11.68	116		Pn	08 33 20.2	0.0
RIOS	Rincon, Osa	11.80	118		Pn	08 33 24.1	+2.3
CDITO	Canoas	12.41	117		Pn	08 33 32.6	+2.5
FSCY	Frank Sound, G	13.18	67	Pn	Pn	08 33 40.8	+0.2
SOR	Soroa	13.29	50	Pn	Pn	08 33 41.5	-0.6
CBCY	The Bluff, Cay	14.59	67		Pn	08 33 59.4	-0.5
833A	Chaparral WMA,	14.62	341	P	Pn	08 34 01.0	+0.7
	baz=158						
HKT	Hockley	15.46	354	Pn	Pn	08 34 11.0	-0.3
HPIG		16.46	321	P	P	08 34 25.7	-1.3
435B	Jarrell	16.52	349		Pn	08 34 24.9	-0.2
435B	Jarrell	16.52	349	P	P	08 34 26.7	-0.8
	baz=167						
JCT	Junction City	16.76	342		Pn	08 34 28.0	-0.1
JCT	Junction City	16.76	342	P	Pn	08 34 27.9	-0.2
	baz=160,SNR=15						
344A	Westbrook Farm	17.13	10	P	Pn	08 34 31.9	-0.8
344A				IAmb	IAmb	08 34 44.8	
	comp=Z,55nm,1.4s						
NATX	Nacogdoches	17.18	358	P	Pn	08 34 33.4	+0.1
NATX	Nacogdoches	17.18	358	P	Pn	08 34 33.6	+0.3
	baz=178						
TXAR	Lajitas Array	17.24	330	P	Pn	08 34 34.5	+0.4
	comp=Z,0.1nm,0.3s,baz=147,slow=7.5,SNR=13						
TXAR	Lajitas Array	17.24	330	P	P	08 34 35.7	+0.2
TX31	Lajitas Ar. Si	17.24	330	P	P	08 34 35.5	0.0
TX31				IAmb	IAmb	08 34 48.6	
	comp=Z,63nm,1.1s						
TX32	Lajitas Array	17.24	330	P	P	08 34 35.4	-0.1
237A	Washetta, Mont	17.49	355	P	Pn	08 34 36.9	-0.2
WHTX	Lake Whitney,	17.68	350	P	Pn	08 34 38.3	-1.2
WHTX	Lake Whitney,	17.68	350	P	Pn	08 34 39.4	-0.1
	baz=169						
BRAL	Brewton	17.77	20	P	Pn	08 34 40.3	-0.3
	baz=202						
DWPF	Disney Wildern	17.89	39	P	Pn	08 34 40.7	-1.4
	baz=223						
VBMS	Vicksburg	17.92	10	P	Pn	08 34 41.7	-0.7
	baz=191						
LPIG	La Paz	18.07	304	S	S	08 38 08.7	-1.8
	comp=Z,1.7nm,0.3s,baz=172,slow=1.7,SNR=2.0						
143A	Socs Landing,	18.27	7	P	P	08 34 45.4	-1.2
Z41A	Richland Creek	18.70	3	P	P	08 34 51.0	-0.4
	baz=183						
ABTX	Abilene, Hawle	18.75	345	P	P	08 34 51.9	-0.1
ABTX				IAmb	IAmb	08 34 54.1	
	comp=Z,40nm,1.0s						
ABTX	Abilene, Hawle	18.75	345	P	Pn	08 34 52.4	-0.2
	baz=162,SNR=9.5						
250A	Grady	18.78	21	P	P	08 34 50.4	-1.9
352A	Blakely	18.84	25	P	P	08 34 52.1	-0.8
352A				IAmb	IAmb	08 35 05.6	
	comp=Z,53nm,1.3s						
Z35A	Perchaven, San	18.97	352	P	P	08 34 53.5	-0.9
Z35A				IAmb	IAmb	08 35 02.6	
	comp=Z,32nm,1.0s						
DBBC	Dabeiba	19.01	111	eP	Pn	08 34 56.3	+0.4
WLAR	White Oak Lake	19.11	2		P	08 34 55.9	0.0
WLAR				IAmb	IAmb	08 35 03.4	
	comp=Z,48nm,0.8s						
UREC	San Jos de Ur	19.34	108	eP	Pn	08 34 59.9	+0.1
TIGA	Tifton	19.37	28	P	P	08 34 57.7	-1.1
	baz=212						
Z47A	Carrollton	19.38	15	P	P	08 34 57.2	-1.7
LRAL	Lakeview Retre	19.52	18	P	P	08 34 59.3	-1.1
LRAL	Lakeview Retre	19.52	18	P	P	08 35 00.1	-0.3
	baz=201						
LOOK	Love County	19.61	352	P	P	08 35 00.2	-1.2
LOOK				IAmb	IAmb	08 35 23.8	
	comp=Z,24nm,0.7s						
CBOC	Ciudad Bolivar	19.68	114	eP	Pn	08 35 05.1	+1.0
Y45A	Yeager Farm, C	19.69	11	P	P	08 35 01.5	-0.8
Y45A				IAmb	IAmb	08 35 12.1	
	comp=Z,65nm,1.2s						
X40A	Basin Creek Fa	19.92	3	P	P	08 35 03.0	-1.8
X40A	Basin Creek Fa	19.92	3	P	P	08 35 04.5	-0.3
	baz=183						
MIAR	Mount Ida	19.95	1	P	P	08 35 04.1	-1.0
MIAR				IAmb	IAmb	08 35 10.4	
	comp=Z,19nm,0.8s						
MIAR	Mount Ida	19.95	1	P	P	08 35 04.1	-1.0
	baz=181,SNR=19						
152A	Waverly Hall	19.97	24	P	P	08 35 03.2	-2.1
HELC	Santa Helena	19.97	113	eP	Pn	08 35 07.8	+0.1
MNTX	Cornudas Mount	20.02	331	P	P	08 35 06.4	+0.5
MNTX	Cornudas Mount	20.02	331	P	Pn	08 35 07.0	-0.8
	baz=146,SNR=30						
X37A	Clayton	20.03	357	P	P	08 35 05.6	-0.4
X37A				IAmb	IAmb	08 35 24.1	
	comp=Z,19nm,0.8s						
X34A	Smith Ranch, M	20.30	351	P	P	08 35 08.4	-0.5
X34A				IAmb	IAmb	08 35 30.3	
	comp=Z,30nm,0.8s						
YOTC	Yotoco, Valle	20.32	119	eP	Pn	08 35 10.3	-1.3
OXF	Oxford	20.35	11	P	P	08 35 08.6	-0.8
OXF				IAmb	IAmb	08 35 28.2	
	comp=Z,34nm,1.0s						
OXF	Oxford	20.35	11	P	P	08 35 09.2	-0.3
	baz=193						
Y49A	Blount Mountai	20.46	18	P	P	08 35 09.8	-0.9
GUY2C	Guyana, Caldas	20.55	115	eP	Pn	08 35 14.6	0.0
154A	Montrose	20.59	27	P	P	08 35 10.4	-1.6
154A				IAmb	IAmb	08 35 39.3	
	comp=Z,29nm,0.9s						
WMOK	Wichita Mounta	20.59	349	P	P	08 35 11.2	-0.9
WMOK	Wichita Mounta	20.59	349	P	P	08 35 11.7	-0.5
	baz=166,SNR=9.4						
W39A	Magazine	20.60	1	P	P	08 35 10.5	-1.6
W39A				IAmb	IAmb	08 35 17.1	
	comp=Z,29nm,1.1s						
W39A	Magazine	20.60	1	P	P	08 35 11.2	-1.0
	baz=180,SNR=11						
W41B	Gary Mavity, V	20.64	4	P	P	08 35 11.5	-1.1
	baz=185						
WHAR	Wooly Hollow	20.75	4	P	P	08 35 13.1	-0.7
PTBC	PUERTO BERRIO,	20.79	110	eP	Pn	08 35 15.5	-1.4
NORC	Norcasia	20.83	113	eP	Pn	08 35 16.4	-1.1
X48A	Hartselle	20.83	16	P	P	08 35 13.7	-1.0
X48A				IAmb	IAmb	08 35 24.3	
	comp=Z,16nm,0.8s						
FNO	Franklin	20.88	352	P	P	08 35 14.4	-0.9
TOLC	Tolima	20.89	116	eP	Pn	08 35 18.2	-0.3
MSTX	Muleshoe	20.93	339	P	P	08 35 15.7	-0.2
MSTX	Muleshoe	20.93	339	P	P	08 35 16.5	+0.6
	baz=155,SNR=23						
W45A	Hickory Valley	21.02	11	P	P	08 35 15.0	-1.7
W45A				IAmb	IAmb	08 35 27.1	
	comp=Z,42nm,1.1s						
OKCFA	Oklahoma City	21.04	352	P	P	08 35 16.7	-0.3
PLAL	Pickwick Lake	21.08	14	P	P	08 35 15.9	-1.4
GOGA	Godfrey	21.12	25	P	P	08 35 16.4	-1.4
GOGA	Godfrey	21.12	25	P	P	08 35 16.4	-1.4
	baz=209						
OK025	Westminster Rd	21.19	353	P	P	08 35 17.9	-0.6
OK025				IAmb	IAmb	08 35 19.2	
	comp=Z,38nm,0.8s						
MARP	Paez Belalcaza	21.27	121	eP	P	08 35 21.6	+1.8
Y52A	Lilburn	21.28	23	P	P	08 35 18.7	-0.8
Y52A				IAmb	IAmb	08 35 38.3	
	comp=Z,36nm,1.2s						
ORTC	Ortega, Tolima	21.30	118	eP	P	08 35 21.9	+2.0
FPAL	Fort Paine	21.34	19	P	P	08 35 19.7	-0.5
FPAL				IAmb	IAmb	08 35 39.1	
	comp=Z,28nm,1.2s						
FCAR	Ozark Folk Cen	21.36	4	P	P	08 35 19.1	-1.2
FCAR				IAmb	IAmb	08 35 23.3	
	comp=Z,24nm,0.8s						
TUL1	Leonard	21.37	356	P	P	08 35 19.8	-0.6
	baz=175						
OK029	Liberty Lake	21.42	352	P	P	08 35 20.5	-0.5
OK029				IAmb	IAmb	08 35 20.9	
	comp=Z,32nm,0.8s						
AMTX	Amarillo	21.43	343	P	P	08 35 20.9	-0.3
AMTX	Amarillo	21.43	343	P	P	08 35 21.8	+0.6
	baz=159						
OK031	S. Brethren Rd	21.50	354	P	P	08 35 21.2	-0.7
OK031				IAmb	IAmb	08 35 37.9	
	comp=Z,18nm,0.8s						
X51A	Calhoun	21.62	21	P	P	08 35 22.7	-0.4
X51A				IAmb	IAmb	08 35 37.7	
	comp=Z,21nm,1.1s						
LCAR	Lake Charles	21.62	6	P	P	08 35 22.3	-0.8
ROSC	El Rosal	21.65	114	P	P	08 35 22.3	-1.8
	comp=Z,22nm,0.8s,baz=285,slow=18,SNR=2.4						
ROSC	El Rosal	21.65	114	P	P	08 35 25.2	+1.2
ROSC				IAmb	IAmb	08 35 31.3	
	comp=Z,24nm,0.8s						
GNAR	Gosnell	21.67	9	P	P	08 35 21.1	-2.5
GNAR				IAmb	IAmb	08 35 40.7	
	comp=Z,31nm,1.0s						
PRAC	Prado	21.70	118	eP	P	08 35 25.4	+1.2
QUOK	Quay	21.71	354	P	P	08 35 23.0	-1.1
QUOK				IAmb	IAmb	08 35 27.7	
	comp=Z,29nm,0.7s						
U40A	Yellville	21.78	3	P	P	08 35 24.7	-0.2
U40A				IAmb	IAmb	08 35 26.8	
	comp=Z,16nm,0.8s						
U40A	Yellville	21.78	3	P	P	08 35 25.2	+0.3
	baz=183,SNR=17						
U38A	Gravette	21.84	359	P	P	08 35 25.3	-0.3
319A	Douglas	21.85	323	P	P	08 35 27.0	+1.3
319A				IAmb	IAmb	08 35 29.3	
	comp=Z,23nm,1.0s						
SWET	Sewanee	21.87	18	P	P	08 35 24.7	-1.1
121A	Cookes Peak, D	21.89	327	P	P	08 35 27.1	+0.7
121A	Cookes Peak, D	21.89	327	P	P	08 35 29.2	+2.9
	baz=142,SNR=34						
BARC	Barichara	21.93	109	eP	P	08 35 29.5	+2.6
W50A	Signal Mountai	22.04	19	P	P	08 35 26.5	-1.2
V48A	Smith Brothers	22.11	16	P	P	08 35 26.4	-2.0
CROK	Carrier	22.19	352	P	P	08 35 27.9	-1.4
U32A	Winter Ranch,	22.23	349	P	P	08 35 30.1	+0.3
U32A				IAmb	IAmb	08 35 43.7	
	comp=Z,16nm,0.9s						
WVT	Waverly	22.23	13	P	P	08 35 28.6	-1.1

WVT Waverly 22.23 13 P P 08 35 29.1 -0.6
baz=196
CHIC Chingaza 22.26 114 eP P 08 35 34.6 +3.9
RUSC La Rusia 22.30 110 P P 08 35 31.9 +0.7
RUSC La Rusia 22.30 110 eP P 08 35 32.8 +1.7
HODGE Hodges 22.33 26 P P 08 35 28.5 -2.3
BLOK Blackwell 22.34 353 P P 08 35 29.7 -1.2
BLOK IAmb IAmb 08 35 34.9
comp=Z,36nm,1.3s
PBMO Poplar Bluff 22.41 8 P P 08 35 30.4 -1.2
PBMO IAmb IAmb 08 35 32.7
comp=Z,14nm,0.8s
T35A Sooner Cattle 22.43 355 P P 08 35 30.2 -1.6
T35A IAmb IAmb 08 35 51.3
comp=Z,18nm,1.0s
OK032 Salt Plains WL 22.52 351 P P 08 35 31.5 -1.2
OK032 IAmb IAmb 08 35 34.0
comp=Z,30nm,0.8s
CLTN Cedars of Leba 22.57 16 P P 08 35 31.5 -1.9
CLTN IAmb IAmb 08 35 55.6
comp=Z,18nm,1.2s
MGMO Mountain Grove 22.61 4 P P 08 35 33.1 -0.6
MGMO IAmb IAmb 08 35 35.0
comp=Z,24nm,0.9s
KAN13 South Haven SW 22.62 353 P P 08 35 33.9 0.0
KAN13 IAmb IAmb 08 35 34.8
comp=Z,21nm,1.1s
BNM Barren Site 22.64 332 P P 08 35 34.9 +0.6
KAN17 Caldwell West 22.69 352 P P 08 35 33.2 -1.4
KAN17 IAmb IAmb 08 35 35.4
comp=Z,24nm,1.1s
Y22D IRIS PASSCAL I 22.71 331 P P 08 35 36.1 +1.1
Y22D IRIS PASSCAL I 22.71 331 P P 08 35 36.6 +1.6
baz=146
BG3 Lake Jocassee 22.71 24 P P 08 35 33.4 -1.5
BG3 IAmb IAmb 08 35 51.1
comp=Z,16nm,1.1s
LENM Lemitar 22.81 331 P P 08 35 36.6 +0.5
KS20 Mayfield South 22.85 353 P P 08 35 33.9 -2.3
KS20 IAmb IAmb 08 35 39.6
comp=Z,38nm,1.4s
V51A Loudon 22.91 21 P P 08 35 35.3 -1.6
KAN12 Harper NE Stat 22.97 352 P P 08 35 36.1 -1.5
KAN12 IAmb IAmb 08 35 49.9
comp=Z,33nm,0.9s
TKL Tuckaleechee C 22.98 22 P P 08 35 36.7 -1.0
comp=Z,5.7nm,1.1s,baz=179,slow=11,SNR=5.0
TKL Tuckaleechee C 22.98 22 P P 08 35 36.9 -0.8
S39A Bolivar 23.10 1 P P 08 35 37.6 -1.2
U49A Red Boiling Sp 23.12 17 P P 08 35 36.5 -2.6
U49A IAmb IAmb 08 35 56.2
comp=Z,22nm,1.1s
V52A Sevierville 23.21 22 P P 08 35 39.1 -0.9
T47A Sharon Grove 23.22 14 P P 08 35 38.6 -1.4
T47A IAmb IAmb 08 35 39.9
comp=Z,28nm,0.8s
ANMO Albuquerque 23.23 333 P P 08 35 41.1 +0.7
comp=Z,3.2nm,0.6s,baz=142,slow=11,SNR=16
ANMO Albuquerque 23.23 333 P P 08 35 40.8 +0.4
ANMO Albuquerque 23.23 333 P P 08 35 41.1 +0.7
baz=148
TAMC Tame, Arauca 23.27 108 eP P 08 35 39.4 -1.4
V53A Saluda 23.35 24 P P 08 35 39.9 -1.5
TUC Tucson 23.41 322 P P 08 35 43.0 +0.9
TUC IAmb IAmb 08 35 45.6
comp=Z,21nm,1.1s
TUC Tucson 23.41 322 P P 08 35 43.0 +0.9
baz=135
S44A Carbondale 23.48 10 P P 08 35 41.4 -1.2
S44A IAmb IAmb 08 35 57.8
comp=Z,33nm,1.1s
SIUC Southern Illin 23.50 10 P P 08 35 41.8 -1.0
KMSC Kings Mountain 23.51 27 P P 08 35 42.0 -0.9
KMSC Kings Mountain 23.51 27 P P 08 35 42.2 -0.7
baz=212
SDV Santo Domingo 23.57 101 P P 08 35 41.8 -2.1
comp=Z,9.4nm,0.3s,baz=330,slow=8.6,SNR=1.7
CCM Cathedral Cave 23.58 5 P P 08 35 42.1 -1.4
CCM IAmb IAmb 08 35 42.9
comp=Z,12nm,0.8s
CCM Cathedral Cave 23.58 5 P P 08 35 41.8 -1.8
baz=186
R40A Maddies Statio 23.74 3 P P 08 35 43.9 -1.2
R40A IAmb IAmb 08 35 45.1
comp=Z,15nm,0.8s
TZTN Tazewell 23.86 21 P P 08 35 45.4 -0.9
TZTN Tazewell 23.86 21 P P 08 35 45.5 -0.9
baz=206
R32A Long Quarter, 24.18 351 P P 08 35 48.4 -0.8
T25A Trinidad 24.36 340 P P 08 35 51.2 0.0
T25A IAmb IAmb 08 35 54.5
comp=Z,22nm,1.1s
T25A Trinidad 24.36 340 P P 08 35 52.5 +1.3
baz=155,SNR=15
214A Organ Pipe Nat 24.42 319 P P 08 35 51.9 +0.3
214A IAmb IAmb 08 35 55.4
comp=Z,16nm,0.9s
214A Organ Pipe Nat 24.42 319 P P 08 35 53.3 +1.7
baz=131,SNR=12
X18A Snowflake 24.58 327 P P 08 35 53.6 +0.5
X18A IAmb IAmb 08 35 56.9
comp=Z,11nm,1.0s
WCI Wyandotte Cave 24.60 15 P P 08 35 51.9 -1.2
WCI Wyandotte Cave 24.60 15 P P 08 35 51.7 -1.4
baz=198
KSU1 Kansas State U 24.60 355 P P 08 35 51.5 -1.5
KSU1 IAmb IAmb 08 35 53.3
comp=Z,17nm,0.8s
KSU1 Kansas State U 24.60 355 P P 08 35 52.5 -0.6
baz=174,SNR=5.4
OLIL Olney 24.69 11 P P 08 35 52.1 -1.8
OLIL IAmb IAmb 08 35 53.8
comp=Z,21nm,0.8s
Q44A Meyer Farm, Va 24.70 9 P P 08 35 52.5 -1.4
Q44A IAmb IAmb 08 35 54.5
comp=Z,9.6nm,0.7s
CBKS Cedar Bluff 24.73 349 P P 08 35 54.2 -0.1
CBKS Cedar Bluff 24.73 349 P P 08 35 54.8 +0.5
baz=166,SNR=5.9
S51A Beattyville 24.83 20 P P 08 35 54.2 -0.9
W18A Petrified Fore 24.92 328 P P 08 35 56.1 -0.2
W18A IAmb IAmb 08 36 15.1
comp=Z,15nm,1.1s
W18A Petrified Fore 24.92 328 P P 08 35 57.8 +1.6
baz=141
U56A King 24.94 27 P P 08 35 55.4 -0.8
U56A IAmb IAmb 08 35 56.5
comp=Z,11nm,0.9s
R49A Shelbyville 24.95 17 P P 08 35 54.5 -1.7
R49A IAmb IAmb 08 35 56.0
comp=Z,16nm,1.1s
P40A Paris 24.98 4 P P 08 35 55.2 -1.3
P38A Dawn 25.02 1 P P 08 35 55.2 -1.6
P38A IAmb IAmb 08 35 56.1
comp=Z,16nm,0.8s
SFX San Felipe 25.21 314 P P 08 35 59.8 +1.1
SDCO Great Sand Dun 25.29 338 P P 08 35 59.2 -0.4
SDCO Great Sand Dun 25.29 338 P P 08 36 00.3 +0.6
baz=153,SNR=18
X16A Lo Mia Camp, P 25.31 325 P P 08 36 00.1 +0.4
X16A IAmb IAmb 08 36 07.7
comp=Z,11nm,1.0s
BLO Bloomington 25.44 14 P P 08 35 58.6 -2.1
BLO IAmb IAmb 08 35 60.0
comp=Z,14nm,0.7s
KSCO Kaye Shedlock* 25.56 344 P P 08 36 03.1 +1.2
baz=160
113A Mohawk Valley, 25.56 319 P P 08 36 02.6 +0.7
P46A Rosedale 25.72 12 P P 08 36 01.6 -1.6
S22A 4UR Ranch, Cre 25.79 336 P P 08 36 05.3 +1.1
baz=150,SNR=7.9
Y14A Wickenburg 25.87 322 P P 08 36 05.0 +0.3
Y14A IAmb IAmb 08 36 10.0
comp=Z,13nm,1.0s
P48A Milroy 25.98 15 P P 08 36 03.4 -2.1
P48A IAmb IAmb 08 36 04.4
comp=Z,15nm,0.8s
MVCO Mesa Verde 26.02 333 P P 08 36 06.5 +0.2
MVCO IAmb IAmb 08 36 09.0
comp=Z,16nm,0.9s
MVCO Mesa Verde 26.02 333 P P 08 36 07.5 +1.2
baz=146,SNR=10.0
WUAZ Wupatki 26.09 326 P P 08 36 06.9 +0.1
WUAZ IAmb IAmb 08 36 13.0
comp=Z,21nm,1.0s
WUAZ Wupatki 26.09 326 P P 08 36 08.5 +1.7
baz=139,SNR=14
N38A Joes South For 26.20 1 P P 08 36 06.1 -1.4
P49A Miami Univ. Ec 26.24 16 P P 08 36 05.4 -2.5
baz=201
N41A Harden Midland 26.25 5 P P 08 36 06.0 -1.9
N41A IAmb IAmb 08 36 08.6
comp=Z,17nm,1.0s
Q24A Divide 26.26 340 P P 08 36 09.2 +0.7
baz=155
HDIL Hopedale 26.28 8 P P 08 36 06.2 -2.0
HDIL IAmb IAmb 08 36 10.6
comp=Z,13nm,0.8s
HDIL Hopedale 26.28 8 P P 08 36 06.3 -2.0
baz=190
N35A Tabor 26.29 357 P P 08 36 07.0 -1.3
GLA Glamis 26.43 318 P P 08 36 10.8 +1.1
GLA IAmb IAmb 08 36 12.7
comp=Z,15nm,0.9s
GLA Glamis 26.43 318 P P 08 36 10.6 +0.8
baz=129
SFIN Lafayette 26.48 12 P P 08 36 08.0 -2.0
SFIN Lafayette 26.48 12 P P 08 36 08.4 -1.6
baz=195
PDMCI Parker Dam,Lak 26.81 321 P P 08 36 14.5 +1.4
baz=132,SNR=7.1
PV01 Paradox Valley 26.83 334 P P 08 36 13.7 +0.2
PV01 IAmb IAmb 08 36 18.6
comp=Z,16nm,0.9s
O49A Covington 26.95 17 P P 08 36 12.2 -2.1
O49A IAmb IAmb 08 36 12.9
comp=Z,10nm,0.9s
SWSC Sam W. Stewart 27.00 317 P P 08 36 16.3 +1.5
baz=127
IKP In-Ko-Pah, Jac 27.03 316 P P 08 36 17.1 +1.9
baz=126
SMCO Snowmass 27.09 338 P P 08 36 15.4 -0.7
P52A Corning 27.12 20 P P 08 36 15.3 -0.5
baz=206
ISCO Idaho Springs 27.17 340 P P 08 36 16.2 -0.5
ISCO IAmb IAmb 08 36 18.9
comp=Z,9.3nm,0.9s
ISCO Idaho Springs 27.17 340 P P 08 36 17.6 +0.9
baz=154,SNR=14
W13A Hualapai Mount 27.20 322 P P 08 36 17.8 +0.9
BC3 Big Chuckawall 27.21 318 P P 08 36 18.8 +1.9
baz=129,SNR=14
OGNE Ogallala 27.25 347 P P 08 36 16.6 -0.5
OGNE Ogallala 27.25 347 P P 08 36 18.3 +1.2
baz=163
U15A North Rim 27.26 326 P P 08 36 17.4 -0.1
SCIA State Center 27.31 1 P P 08 36 16.1 -1.4
SCIA State Center 27.31 1 P P 08 36 16.5 -1.0
baz=182,SNR=7.2
IRM Iron Mountain 27.34 319 P P 08 36 19.6 +1.7
baz=130,SNR=7.0
MONP2 Monument Peak 27.38 316 P P 08 36 20.7 +2.2
baz=126
NEE2 Needles Airpor 27.41 321 P P 08 36 20.6 +2.1
baz=132
L40A Anamosa 27.56 5 P P 08 36 18.1 -1.7
L40A IAmb IAmb 08 36 19.5
comp=Z,17nm,0.8s
L42A Oliver, Polo 27.66 7 P P 08 36 18.9 -1.7
L42A IAmb IAmb 08 36 20.0
comp=Z,14nm,0.9s
BELC Belle Mtn. Jos 27.78 318 P P 08 36 23.9 +1.8
baz=129
TPFO Pinon Flats 27.84 317 P P 08 36 23.5 +1.0
baz=127
PFO Pinyon Flats O 27.84 317 P P 08 36 23.4 +0.9
comp=Z,2.1nm,0.7s,baz=111,slow=4.3,SNR=4.1
PFO Pinyon Flats O 27.84 317 P P 08 36 24.0 +1.4
baz=127
KNB Kanab 27.98 327 P P 08 36 24.1 +0.3
KNB IAmb IAmb 08 36 27.0
comp=Z,8.1nm,0.9s
K38A Parkersburg 28.06 2 P P 08 36 22.4 -1.8
K38A IAmb IAmb 08 36 23.7
comp=Z,14nm,0.8s
GMRC Granite Mounta 28.07 320 P P 08 36 26.3 +1.7
baz=130,SNR=5.9
L44A Lake County Fo 28.07 10 P P 08 36 23.9 -0.5
baz=192
N23A Red Feather La 28.27 341 P P 08 36 27.3 +0.9
baz=155
MURC Murrieta 28.32 316 P P 08 36 27.3 +0.5
baz=126
O20A White River Ci 28.40 337 P P 08 36 27.9 +0.4
baz=156
MTPU Mount Pierson 28.43 329 P P 08 36 28.5 +0.5
JFWS Jewell Farm 28.49 6 P P 08 36 26.1 -2.0
JFWS IAmb IAmb 08 36 31.1
comp=Z,14nm,1.0s
JFWS Jewell Farm 28.49 6 P P 08 36 26.6 -1.5
baz=188,SNR=7.1
SRU San Rafael Swe 28.49 332 P P 08 36 28.7 +0.4
HEC Hector,Ludlow 28.52 319 P P 08 36 30.4 +1.9
baz=129
BBRC Big Bear Solar 28.54 318 P P 08 36 30.9 +2.0
baz=128
SZCU Shurtz Canyon 28.55 327 P P 08 36 30.1 +1.1
SZCU IAmb IAmb 08 36 32.4
comp=Z,10nm,1.0s
L48A N Adams 28.57 15 P P 08 36 27.3 -1.5
L48A IAmb IAmb 08 36 32.2
comp=Z,9.1nm,0.8s
Q16A Castle Valley 28.63 331 P P 08 36 30.6 +1.0
Q16A IAmb IAmb 08 36 32.6
comp=Z,9.8nm,1.0s
TUQ Turquoise Moun 28.66 321 P P 08 36 31.6 +1.8
baz=131
CCUT Cedar City 28.67 327 P P 08 36 30.7 +0.7
P17A Butcher Ranch, 28.88 333 P P 08 36 32.6 +0.8
P17A IAmb IAmb 08 36 34.5
comp=Z,11nm,0.9s
SHPR Sheep Range 28.92 323 P P 08 36 32.6 +0.5
TMUT Trail Mountain 28.95 332 P P 08 36 33.2 +0.6
TMUT IAmb IAmb 08 36 35.3
comp=Z,7.2nm,0.8s
O56A Blue Knob Stat 29.01 25 P P 08 36 31.5 -1.2
baz=212
BFSC Mount Baldy Ra 29.02 317 P P 08 36 34.5 +1.5
baz=126
N54A Moraine State 29.05 22 P P 08 36 31.8 -1.3
baz=209
ECSD EROS Data Cent 29.21 356 P P 08 36 32.9 -1.6
ECSD IAmb IAmb 08 36 34.5
comp=Z,13nm,0.7s
ECSD EROS Data Cent 29.21 356 P P 08 36 33.6 -0.9
baz=175,SNR=15
MWC Mount Wilson 29.27 316 P P 08 36 35.7 +0.3
MWC IAmb IAmb 08 36 38.4
comp=Z,9.0nm,1.1s
RDMU Red Mountain 29.30 335 P P 08 36 35.7 +0.2
RWWY Rawlins 29.40 340 P P 08 36 36.0 -0.5
I42A Draeger Farm, 29.61 7 P P 08 36 37.1 -0.9
EDW2 Edwards Air Fo 29.62 317 P P 08 36 39.6 +1.3
baz=127
PSUT Pine Spring 29.66 327 P P 08 36 39.0 +0.3
PSUT IAmb IAmb 08 36 42.0
comp=Z,10.0nm,0.9s
MPU Maple Canyon 29.73 332 P P 08 36 39.6 +0.3
LRMC Laurel Mtn Rad 29.79 319 P P 08 36 41.7 +1.8
TPNV Topopah Spring 29.86 323 P P 08 36 41.2 +0.7
TPNV Topopah Spring 29.86 323 P P 08 36 42.7 +2.2
baz=132
NLU North Lily Min 29.88 331 P P 08 36 41.6 +0.9
FURC Furnace Creek, 29.91 321 P P 08 36 42.8 +2.1
baz=131,SNR=5.4
MPMC Manual Prospec 30.03 320 P P 08 36 43.8 +1.7
baz=129,SNR=8.1
K22A Casper 30.04 341 P P 08 36 42.0 0.0
K22A IAmb IAmb 08 36 44.1
comp=Z,12nm,1.1s
K22A Casper 30.04 341 P P 08 36 43.4 +1.3
baz=155
SUSD Miller 30.13 353 P P 08 36 41.4 -1.2
SUSD IAmb IAmb 08 36 45.2
comp=Z,11nm,0.7s
SUSD Miller 30.13 353 P P 08 36 42.6 0.0
baz=170
SPR3 Spring Creek 3 30.25 328 P P 08 36 44.9 +0.7
SPR3 IAmb IAmb 08 36 46.7
comp=Z,8.5nm,0.9s
ARVC Arvin 30.32 317 P P 08 36 46.2 +1.8
baz=126
ISA Isabella, Lake 30.41 318 P P 08 36 47.1 +1.8
baz=127
DUG Dugway, Tooele 30.42 331 P P 08 36 47.0 +1.7
baz=142
R11A Troy Canyon, C 30.45 325 P P 08 36 46.1 +0.4
R11A Troy Canyon, C 30.45 325 P P 08 36 47.6 +1.9
baz=135,SNR=5.2
TCUT Toone Canyon 30.52 334 P P 08 36 47.2 +0.8
GRAC Grapevine Rang 30.56 321 P P 08 36 49.1 +2.6
baz=131,SNR=6.8
SPMN Marine on St. 30.63 2 P P 08 36 45.6 -1.4
SPMN Marine on St. 30.63 2 P P 08 36 46.0 -1.1
baz=182,SNR=13
CWC Cottonwood Cre 30.64 320 P P 08 36 48.8 +1.4
baz=129
RSSD Black Hills 30.73 346 P P 08 36 49.2 +1.1
baz=161
PKM Mcpherson Peak 30.84 316 P P 08 36 51.1 +1.9
baz=124
VES Vestal, Richgr 30.91 318 P P 08 36 51.8 +2.2
baz=127,SNR=7.0
HWUT Hardware Ranch 30.99 334 P P 08 36 49.7 -0.8
HWUT IAmb IAmb 08 37 12.3
comp=Z,9.6nm,1.4s
BGU Big Grassy Mou 31.09 331 P P 08 36 51.4 +0.1
SPUT South Promonto 31.14 333 P P 08 36 50.8 -0.9
BW06 Boulder Array 31.18 338 P P 08 36 52.9 +0.8
baz=150
PDAR Pinedale Array 31.18 338 P P 08 36 53.0 +0.9
comp=Z,1.0nm,0.8s,baz=151,slow=8.5,SNR=7.3
PDAR PcP PcP 08 39 46.7 0.0
comp=Z,0.4nm,0.7s,baz=119,slow=3.2,SNR=2.4
PDAR Pinedale Array 31.18 338 P P 08 36 52.2 0.0
TPH Tonopah 31.19 323 P P 08 36 52.8 +0.5
SMMC Simmler 31.20 316 P P 08 36 54.2 +2.0
baz=125
F36A Milaca 31.26 1 P P 08 36 51.0 -1.6
F36A IAmb IAmb 08 36 51.6
comp=Z,9.5nm,0.9s
HVU Hansel Valley 31.66 333 P P 08 36 56.5 +0.1
HVU IAmb IAmb 08 36 59.2
comp=Z,12nm,1.0s
AHID Auburn Hatcher 31.77 336 P P 08 36 55.9 -1.4
AHID IAmb IAmb 08 37 03.5
comp=Z,7.5nm,1.2s
NV11 Mina Array Sit 31.98 323 P P 08 36 59.4 +0.3
MDPB Devils Postpil 32.01 321 P P 08 37 00.2 +0.6
MDPB IAmb IAmb 08 37 03.0
comp=Z,11nm,0.9s
ELK Elko 32.02 329 P P 08 36 59.9 +0.3
ELK IAmb IAmb 08 37 02.9
comp=Z,9.8nm,0.9s
NVAR Mina Array Bea 32.06 323 P P 08 37 01.3 +1.3
comp=Z,12nm,0.9s,baz=144,slow=9.0,SNR=50
NVAR PcP PcP 08 39 50.8 +1.6
comp=Z,1.5nm,0.7s,baz=134,slow=4.2,SNR=6.9
NVAR Mina Array Bea 32.06 323 P P 08 37 00.1 +0.1
LHV Little Huntoon 32.06 322 P P 08 37 00.1 +0.5
LHV IAmb IAmb 08 37 11.8
comp=Z,12nm,1.0s
E38A The Farm, Brul 32.06 3 P P 08 36 58.5 -1.1
E38A IAmb IAmb 08 36 59.2
comp=Z,7.2nm,0.8s
REDW Red Top Meadow 32.17 337 P P 08 37 01.2 +0.3
SNOW Snow King Moun 32.22 337 P P 08 37 01.0 -0.4
LOHW Long Hollow 32.29 337 P P 08 37 01.1 -0.8
LOHW IAmb IAmb 08 37 10.3
comp=Z,7.6nm,0.6s
TPAW Teton Pass 32.32 337 P P 08 37 02.0 -0.2
TPAW IAmb IAmb 08 37 07.1
comp=Z,14nm,1.2s
RYN Ryan 32.32 323 P P 08 37 03.0 +0.9
RYN IAmb IAmb 08 37 05.7
comp=Z,7.2nm,0.9s
KVN Kaiserville 32.36 324 P P 08 37 03.3 +0.8
KVN IAmb IAmb 08 37 05.8
comp=Z,9.2nm,1.0s
E28A Huff 32.45 351 P P 08 37 02.7 -0.4
MOOW Moose Ponds 32.46 337 P P 08 37 03.3 -0.2
FXWY Fox Creek 32.47 337 P P 08 37 04.4 +0.8
IMW Indian Meadow 32.66 337 P P 08 37 05.9 +0.6
FLWY Flagg Ranch 32.73 338 P P 08 37 06.0 +0.3
FLWY IAmb IAmb 08 37 10.5
comp=Z,8.4nm,0.7s
BMN Battle Mountai 32.82 326 P P 08 37 07.5 +0.9
BMN IAmb IAmb 08 37 09.8
comp=Z,8.0nm,0.9s
H17A Grant Village 32.95 338 P P 08 37 06.7 -1.1
H17A IAmb IAmb 08 37 16.6
comp=Z,19nm,1.5s
H17A Grant Village 32.95 338 P P 08 37 05.8 -1.9
baz=149,SNR=5.8
YERR Yerington 32.98 322 P P 08 37 08.4 +0.4
YERR IAmb IAmb 08 37 11.4
comp=Z,10nm,1.0s
YMP Mirror Lake Pl 33.10 339 P P 08 37 08.8 -0.3
YMP IAmb IAmb 08 37 31.4
comp=Z,11nm,1.0s
RLMT Red Lodge 33.13 340 P P 08 37 09.7 +0.4
RLMT Red Lodge 33.13 340 P P 08 37 10.4 +1.2
baz=152,SNR=8.0
PNTR Pine Nut 33.26 322 P P 08 37 10.8 +0.4
YNE Yellowstone No 33.28 339 P P 08 37 10.7 +0.1
YNE IAmb IAmb 08 37 31.6
comp=Z,10nm,1.0s
YMR Madison River 33.33 338 P P 08 37 11.1 +0.1
YMR IAmb IAmb 08 37 14.9
comp=Z,11nm,1.2s
YHH Holmes Hill 33.39 338 P P 08 37 12.0 +0.4
EYMN Ely 33.40 3 P P 08 37 09.4 -1.9
baz=184
VCNR Virginia City 33.42 322 P P 08 37 12.4 +0.6
M64A Tiverton 33.43 32 P P 08 37 11.8 +0.2
baz=223
L63A North Scituate 33.45 31 P P 08 37 11.8 0.0
baz=222
PAHR Pah Rah Range 33.53 323 P P 08 37 13.3 +0.6
MDND Maddock 33.56 353 P P 08 37 11.9 -0.8
MDND Maddock 33.56 353 P P 08 37 12.1 -0.6
baz=170,SNR=6.7
RUBR Rubicon Trail 33.56 322 P P 08 37 13.8 +0.6
QLMT Earthquake Lak 33.64 337 P P 08 37 13.3 -0.4
LAO LASA Array 33.67 345 P P 08 37 13.3 -0.4
LAO IAmb IAmb 08 37 14.7
comp=Z,16nm,1.2s
LAO LASA Array 33.67 345 P P 08 37 13.9 +0.2
baz=158
AGMN Agassiz Nation 33.73 358 P P 08 37 12.6 -1.5
AGMN Agassiz Nation 33.73 358 P P 08 37 12.7 -1.5
baz=177,SNR=10
B35A Bob, Littlefor 33.75 0 P P 08 37 12.6 -1.8
HLID Hailey 33.81 333 P P 08 37 15.0 -0.1
HLID IAmb IAmb 08 37 17.7
comp=Z,6.2nm,0.9s
HLID Hailey 33.81 333 P P 08 37 16.5 +1.3
baz=142,SNR=8.9
GCMT Greycliff 33.86 340 P P 08 37 16.0 +0.5
K63A Dunstable 34.11 30 P P 08 37 17.2 -0.3
baz=221
J61A Chester 34.13 28 P P 08 37 17.2 -0.4
baz=219
MCMT McKenzie Canyo 34.18 336 P P 08 37 19.2 +0.8
BEKR Beckworth 34.21 323 P P 08 37 19.3 +0.6
BEKR IAmb IAmb 08 37 21.9
comp=Z,9.3nm,1.1s
BOZ Bozeman (W) 34.37 338 P P 08 37 20.5 +0.6
BOZ IAmb IAmb 08 37 25.7
comp=Z,6.7nm,1.1s
BOZ Bozeman (W) 34.37 338 P P 08 37 21.5 +1.6
baz=148
DLMT Dillon 34.53 337 P P 08 37 20.8 -0.6
DLMT IAmb IAmb 08 37 24.4
comp=Z,17nm,1.2s
LRM Limekiln Ridge 34.86 337 P P 08 37 24.4 +0.1
DGMT Dagmar 34.89 348 P P 08 37 24.0 -0.2
DGMT IAmb IAmb 08 37 25.7
comp=Z,13nm,0.9s
DGMT Dagmar 34.89 348 P P 08 37 25.0 +0.7
baz=162
WVOR Wild Horse Val 34.99 327 P P 08 37 25.4 +0.1
WVOR IAmb IAmb 08 37 28.1
comp=Z,14nm,1.1s
O03E Paynes Creek 35.34 322 P P 08 37 29.5 +1.3

baz=128
HRY Holter Researc 35.40 339 P P 08 37 28.7 0.0
J08A Circle Bar Ran 35.57 329 P P 08 37 31.0 +0.7
ULM Lac du Bonnet 35.68 358 P P 08 37 28.7 -2.2
comp=Z,7.5nm,0.8s,baz=198,slow=8.1,SNR=6.5
ULM Lac du Bonnet 35.68 358 P P 08 37 29.9 -1.0
ULM IAmb IAmb 08 37 30.2
comp=Z,9.8nm,1.1s
PLID Pearl Lake 35.71 333 P P 08 37 31.6 0.0
EGMT Eagleton 35.87 342 P P 08 37 32.2 -0.5
EGMT IAmb IAmb 08 37 34.4
comp=Z,12nm,1.0s
EGMT Eagleton 35.87 342 P P 08 37 33.8 +1.0
baz=153,SNR=7.9
BMO Blue Mountains 36.12 332 P P 08 37 34.8 -0.1
MSO Missoula 36.27 337 P P 08 37 37.3 +1.1
baz=146
M02C Callahan 36.64 323 P P 08 37 39.2 -0.2
baz=128
YBH Yreka Blue Hor 36.77 323 P P 08 37 40.1 -0.5
comp=Z,1.9nm,0.7s,baz=56,slow=9.1,SNR=6.3
K04D Chiloquin, OR 36.80 325 P P 08 37 41.6 +0.8
baz=131
L04D Klamath Falls 36.85 324 P P 08 37 42.0 +0.8
baz=130
F10A Beach Ranch, E 36.94 333 P P 08 37 42.2 +0.2
F10A IAmb IAmb 08 37 44.2
comp=Z,14nm,0.8s
PTGA Pitinga 36.95 111 P P 08 37 39.5 -2.7
comp=Z,9.0nm,0.9s,baz=305,slow=7.7,SNR=17
PTGA Pitinga 36.95 111 P P 08 37 43.1 +0.8
PTGA IAmb IAmb 08 37 48.1
comp=Z,9.8nm,0.8s
J05D Fort Rock, OR 36.96 326 P P 08 37 42.8 +0.6
baz=132
JTMT Jette 37.16 337 P P 08 37 44.6 +0.8
JTMT IAmb IAmb 08 37 45.7
comp=Z,10nm,0.9s
J04D Umpqua Nationa 37.40 326 P P 08 37 47.1 +1.0
baz=131
F63A Nahmakanta, Br 37.52 29 P P 08 37 46.1 -0.6
baz=222
E09A Wood Farm, Sta 37.77 333 P P 08 37 48.7 -0.1
I04A Tendick Farm, 37.94 326 P P 08 37 51.1 +0.7
baz=131
G05D Wamic, OR 38.35 329 P P 08 37 55.0 +1.3
baz=134
J01E Myrtle Point 38.37 324 P P 08 37 55.5 +1.5
baz=129
I03D Drain, OR 38.39 325 P P 08 37 55.2 +1.2
baz=130
H04A Detroit Lake 38.41 327 P P 08 37 54.8 +0.5
H04A IAmb IAmb 08 37 56.4
comp=Z,11nm,1.0s
SAML Samuel 38.45 125 P P 08 37 54.9 -0.1
H04D Lebanon 38.59 327 P P 08 37 56.3 +0.4
baz=132
NEW Newport 38.70 335 P P 08 37 56.9 +0.2
baz=142
C09A Chrisman Ranch 38.81 334 P P 08 37 58.1 +0.5
C09A IAmb IAmb 08 37 59.6
comp=Z,12nm,1.0s
F05D White Salmon 38.87 329 P P 08 37 60.0 +1.9
baz=134,SNR=6.1
I02D Swisshome 38.92 325 P P 08 37 60.0 +1.4
baz=130
G03D McMinnville, O 39.33 327 P P 08 38 03.3 +1.3
baz=132
LTY Liberty 39.47 331 P P 08 38 03.8 +0.6
LON Longmire 39.65 330 P P 08 38 05.7 +1.0
LON IAmb IAmb 08 38 08.1
comp=Z,8.3nm,0.8s
LPAZ La Paz 39.88 139 P P 08 38 06.2 -1.3
comp=Z,1.4nm,0.7s,baz=306,slow=7.2,SNR=6.6
LPAZ La Paz 39.88 139 P P 08 38 07.5 -0.1
D05A Enumclaw 40.05 330 P P 08 38 09.1 +1.2
D05A IAmb IAmb 08 38 11.0
comp=Z,14nm,0.9s
C06D Leavenworth 40.06 332 P P 08 38 09.3 +1.2
baz=137
E03A Lebam 40.38 328 P P 08 38 11.7 +1.0
E03A IAmb IAmb 08 38 14.6
comp=Z,18nm,1.0s
B05A Bryant 40.87 331 P P 08 38 15.3 +0.7
baz=136
A04D Lummi Island 41.48 331 P P 08 38 20.9 +1.3
baz=135
EDM Edmonton 41.54 343 P P 08 38 20.2 +0.1
EDM IAmb IAmb 08 38 21.1
comp=Z,16nm,0.9s
LLLB Lillooet 42.48 334 P P 08 38 28.1 +0.2
LLLB IAmb IAmb 08 38 30.1
comp=Z,15nm,1.1s
LVC Limon Verde 44.34 146 LR LR 08 54 16.8
comp=Z,774nm,18.8s,baz=14,slow=32
SIV San Ignacio 44.48 132 P P 08 38 43.3 -1.1
comp=Z,2.0nm,0.9s,baz=293,slow=7.7,SNR=7.9
SIV PcP PcP 08 40 28.3 +0.7
comp=Z,1.7nm,0.7s,baz=316,slow=5.9,SNR=4.3
AC02 Maricunga 47.69 149 P P 08 39 12.4 +2.4
AC02 IAmb IAmb 08 39 12.6
comp=Z,4.5nm,0.8s
YKA Yellowknife Ar 50.10 348 P P 08 39 27.4 -0.1
comp=Z,10nm,0.9s,baz=146,slow=8.1,SNR=26
YKA Yellowknife Ar 50.10 348 P P 08 39 27.8 +0.3
CRAG Craig 50.75 332 P P 08 39 34.5 +2.0
baz=128
WRGLY Wrigley 52.85 344 P P 08 39 48.3 +0.2
baz=143
TGTN Hyland Airport 52.98 340 P P 08 39 50.8 +1.6
baz=137
CPUP Villa Florida 54.05 139 P P 08 39 50.8 -2.8
comp=Z,1.8nm,0.8s,baz=320,slow=7.1,SNR=4.5
CPUP Villa Florida 54.05 139 P P 08 39 59.1 +1.7
CPUP IAmb IAmb 08 40 03.4
comp=Z,9.3nm,1.3s
BDFB Brasilia 54.45 122 P P 08 39 59.4 -1.3
comp=Z,7.9nm,0.8s,baz=302,slow=7.1,SNR=12
BDFB Brasilia 54.45 122 P P 08 40 01.0 +0.4
BDFB IAmb IAmb 08 40 02.0
comp=Z,7.5nm,0.8s
WHY Whitehorse 54.73 337 P P 08 40 02.3 +0.2
baz=129
MMPY Sheldon Lake, 54.74 340 P P 08 40 03.7 +1.6
baz=134,SNR=9.1
FARO Faro, Yukon 55.19 339 P P 08 40 06.4 +1.2
baz=132
HYT Haines Junctio 55.85 336 P P 08 40 11.7 +1.6
baz=126
YUK6 Outpost Mounta 56.26 336 P P 08 40 13.7 +0.5
baz=125
PINM Pinnacle 56.55 334 P P 08 40 15.6 +0.5
baz=123
YUK4 Talbot Arm 56.60 336 P P 08 40 16.7 +1.1
baz=125
MAYO Mayo, Yukon 56.97 339 P P 08 40 19.2 +1.3
baz=129
MESA MESA 57.32 334 P P 08 40 21.7 +1.0
baz=121
CTG Chitna Glacier 57.48 335 P P 08 40 23.1 +1.4
baz=122
YUK3 Moose Creek 57.56 336 P P 08 40 23.6 +1.2
baz=124
BVCY Beaver Creek 58.08 336 P P 08 40 27.2 +1.4
baz=124
MCARA McCarthy VSAT 58.39 335 P P 08 40 28.1 +0.2
MCARA McCarthy VSAT 58.39 335 P P 08 40 30.2 +2.3
baz=121
M27K Edge Creek, AK 58.44 336 P P 08 40 29.9 +1.4
baz=122
DAWY Dawson 58.48 338 P P 08 40 29.0 +0.5
baz=126
BCAR Beaver Creek A 58.79 337 P P 08 40 31.2 +0.5
L27K Beaver Creek, 58.81 337 P P 08 40 31.9 +1.1
baz=123,SNR=5.5
BMRM Bremner River 58.85 334 P P 08 40 32.6 +1.4
baz=119
M26K Nabesna, AK 58.91 336 P P 08 40 33.0 +1.4
baz=121
EPYK Eagle Plains 59.02 341 P P 08 40 33.1 +0.8
baz=130
EYAK Cordova Ski Ar 59.14 333 P P 08 40 34.7 +1.5
baz=118
N25K Chitina, Valde 59.16 335 P P 08 40 33.3 -0.1
N25K Chitina, Valde 59.16 335 P P 08 40 35.1 +1.7
baz=119
L26K Log Cabin Wild 59.37 336 P P 08 40 35.3 +0.6
L26K IAmb IAmb 08 40 37.2
comp=Z,9.7nm,1.2s
L26K Log Cabin Wild 59.37 336 P P 08 40 35.6 +0.9
baz=121,SNR=5.1
INK Inuvik 59.41 344 P P 08 40 35.1 +0.3
comp=Z,6.7nm,0.8s,baz=122,slow=6.3,SNR=11
INK Inuvik 59.41 344 P P 08 40 35.0 +0.1
INK IAmb IAmb 08 40 36.3
comp=Z,7.6nm,0.8s
INK Inuvik 59.41 344 P P 08 40 35.6 +0.7
baz=134,SNR=6.7
K27K Chicken 59.43 338 P P 08 40 35.5 +0.4
K27K IAmb IAmb 08 40 49.1
comp=Z,7.3nm,1.2s
K27K Chicken 59.43 338 P P 08 40 36.6 +1.4
baz=123
EGAK Eagle 59.52 339 P P 08 40 35.8 +0.1
EGAK IAmb IAmb 08 40 40.8
comp=Z,4.2nm,0.9s
EGAK Eagle 59.52 339 P P 08 40 36.2 +0.5
baz=124
KLU Klutina 59.66 334 P P 08 40 37.8 +1.0
KLU Klutina 59.66 334 P P 08 40 38.1 +1.3
baz=118,SNR=5.4
HARP HAARP 59.78 335 P P 08 40 39.0 +1.4
baz=119
DOT Dot Lake 59.97 337 P P 08 40 39.9 +1.0
SCRK Sand Creek 60.12 337 P P 08 40 41.0 +1.1
baz=121,SNR=7.6
PAX Paxson 60.18 336 P P 08 40 41.1 +0.7
PAX IAmb IAmb 08 40 42.2
comp=Z,7.4nm,0.9s
PAX Paxson 60.18 336 P P 08 40 41.4 +1.0
baz=119
RIDG Independent Ri 60.32 337 P P 08 40 42.5 +1.1
baz=120,SNR=9.6
J26K Charley River, 60.35 338 P P 08 40 42.8 +1.2
baz=122,SNR=12
SEW Seward 60.61 332 P P 08 40 44.3 +1.1
baz=114
KNK Knik Glacier 60.71 333 P P 08 40 44.7 +0.7
KNK Knik Glacier 60.71 333 P P 08 40 45.1 +1.1
baz=115
SML Sawmill 60.83 334 P P 08 40 45.7 +0.9
baz=116
WAT6 Susitna Watana 60.92 335 P P 08 40 46.0 +0.5
baz=116,SNR=7.2
GHO Glory Hole Cre 61.07 334 P P 08 40 47.3 +0.8
PMR Palmer 61.08 333 P P 08 40 46.2 -0.1
PMR IAmb IAmb 08 40 48.2
comp=Z,6.1nm,0.9s
PMR Palmer 61.08 333 P P 08 40 47.0 +0.6
baz=115
RC01 Rabbit Creek A 61.14 333 P P 08 40 47.2 +0.4
RC01 Rabbit Creek A 61.14 333 P P 08 40 48.0 +1.2
baz=114
BRLK Bradley Lake 61.14 331 P P 08 40 47.8 +0.9
KDAK Kodiak Island 61.26 329 P P 08 40 46.9 -0.8
comp=Z,3.4nm,0.8s,baz=74,slow=4.9,SNR=4.3
WAT1 Susitna Watana 61.37 335 P P 08 40 48.9 +0.5
baz=116
HDA Harding Lake 61.46 337 P P 08 40 49.6 +0.6
baz=118,SNR=6.1
PRP Porcupine Dome 61.47 338 P P 08 40 49.8 +0.6
PRP Porcupine Dome 61.47 338 P P 08 40 49.8 +0.6
baz=120,SNR=10
IL31 61.61 337 P P 08 40 50.1 +0.2
ILAR Eielson Array 61.61 337 P P 08 40 50.2 +0.3
comp=Z,7.2nm,1.0s,baz=138,slow=4.6,SNR=39
ILAR Eielson Array 61.61 337 P P 08 40 49.9 0.0
SII Sitkinak Islan 61.70 327 P P 08 40 51.7 +1.0
baz=107
SUA Susitna One 61.73 333 P P 08 40 51.9 +0.9
SUA Susitna One 61.73 333 P P 08 40 51.9 +0.9
baz=113,SNR=5.4
RND Reindeer 61.74 335 P P 08 40 51.4 +0.4
CCB Clear Creek Bu 61.90 337 P P 08 40 52.3 +0.4
CCB IAmb IAmb 08 40 53.3
comp=Z,3.0nm,0.8s
CUT Chulitna 61.91 334 P P 08 40 52.9 +0.9
baz=114
MCK McKinley 61.92 336 P P 08 40 52.7 +0.6
MCK McKinley 61.92 336 P P 08 40 53.0 +0.8
baz=116
COLA College 62.02 337 P P 08 40 53.4 +0.8
COLA College 62.02 337 P P 08 40 53.2 +0.5
baz=118
TCOL CIGO, UAF Yank 62.02 337 P P 08 40 53.4 +0.7
TCOL CIGO, UAF Yank 62.02 337 P P 08 40 52.9 +0.2
baz=118
O20K Slope Mountain 62.07 331 P P 08 40 54.3 +1.1
baz=110
BMAR Burnt Mountain 62.15 340 P P 08 40 54.7 +1.1
RSO Redoubt South 62.27 331 P P 08 40 55.2 +0.5
SKT Skwentna 62.28 333 P P 08 40 54.6 0.0
SKT Skwentna 62.28 333 P P 08 40 55.2 +0.6
baz=112,SNR=6.6
SPCR Spurr Chakacha 62.29 332 P P 08 40 55.1 +0.5
baz=112
BWN Browne 62.32 336 P P 08 40 55.4 +0.6
TRF Thorofare Moun 62.35 335 P P 08 40 55.4 +0.3
TRF Thorofare Moun 62.35 335 P P 08 40 55.9 +0.8
baz=114,SNR=9.0
NEA2 Nenana 62.36 336 P P 08 40 55.6 +0.6
baz=116
H24K Noodor Dome 62.48 338 P P 08 40 55.8 -0.1
H24K Noodor Dome 62.48 338 P P 08 40 56.7 +0.8
baz=118,SNR=11
KTH Kantishna Hill 62.65 335 P P 08 40 57.4 +0.3
I23K Minto, Yukon-K 62.71 337 P P 08 40 57.8 +0.5
I23K Minto, Yukon-K 62.71 337 P P 08 40 58.1 +0.8
baz=116,SNR=12
BPAW Bear Paw Mtn. 62.90 336 P P 08 40 58.8 +0.2
BPAW Bear Paw Mtn. 62.90 336 P P 08 40 58.9 +0.3
baz=114,SNR=7.6
O19K Port Alsworth 62.91 331 P P 08 40 59.4 +0.7
baz=109
PPLA Purkeypile 62.92 334 P P 08 40 59.6 +0.7
baz=112
M20K Styx River 62.95 333 P P 08 40 59.6 +0.6
M20K IAmb IAmb 08 41 00.1
comp=Z,5.5nm,0.9s
M20K Styx River 62.95 333 P P 08 40 59.6 +0.6
baz=111,SNR=6.4
H23K Yukon River 63.09 338 P P 08 41 00.4 +0.6
baz=116
N19K Bonanza Creek 63.19 331 P P 08 41 01.2 +0.5
N19K Bonanza Creek 63.19 331 P P 08 41 01.1 +0.3
baz=109,SNR=6.2
MLY Manley 63.19 337 P P 08 41 00.7 +0.1
MLY Manley 63.19 337 P P 08 41 00.8 +0.2
baz=115,SNR=17
O18K Koktuh Hills 63.22 330 P P 08 41 01.1 +0.2
O18K Koktuh Hills 63.22 330 P P 08 41 01.1 +0.2
baz=108
CHUM Lake Minchumin 63.35 335 P P 08 41 01.8 +0.2
baz=113
L20K Farewell, AK 63.49 333 P P 08 41 02.9 +0.3
baz=110,SNR=7.2
M19K Big River Lodg 63.51 333 P P 08 41 03.1 +0.3
baz=110
I21K Tanana 63.73 336 P P 08 41 04.7 +0.6
I21K Tanana 63.73 336 P P 08 41 04.7 +0.6
baz=114
N18K Kilae Creek 63.80 331 P P 08 41 04.6 0.0
baz=108
L19K White Mountain 63.81 333 P P 08 41 05.2 +0.5
baz=109
K20K Telida 63.88 334 P P 08 41 05.3 +0.2
K20K Telida 63.88 334 P P 08 41 05.0 -0.2
baz=111,SNR=6.7
COLD Coldfoot 63.95 339 P P 08 41 06.6 +1.1
COLD IAmb IAmb 08 41 08.0
comp=Z,7.1nm,1.0s
COLD Coldfoot 63.95 339 P P 08 41 06.5 +0.9
baz=116,SNR=6.0
J20K Nowinta River 64.21 335 P P 08 41 07.8 +0.5
J20K Nowinta River 64.21 335 P P 08 41 07.6 +0.3
baz=111,SNR=5.1
ICESG Greenland Ices 64.22 19 *i* P P 08 41 07.7 0.0
ICESG IAmb IAmb 08 41 12.1
comp=Z,16nm,0.8s
TOLK Toolik Lake Re 64.38 340 P P 08 41 09.0 +0.6
baz=118
EUNU Eureka 65.66 1 P P 08 41 17.3 +0.7
SUMG Summit 66.27 16 *i* P P 08 41 20.1 -0.9
SUMG IAmb IAmb 08 41 22.0
comp=Z,16nm,1.0s
SUMG Summit 66.27 16 P P 08 41 21.4 +0.4
FALS False Pass 66.41 324 P P 08 41 22.1 +0.4
baz=98
NEEM North Greenlan 66.55 9 *i* P P 08 41 22.8 +0.2
NEEM IAmb IAmb 08 41 25.8
comp=Z,12nm,0.8s
UNV Unalaska Valle 68.08 322 P P 08 41 33.5 +1.2
baz=95
NOR Nord 73.89 9 *i* P P 08 42 06.8 -0.3
NOR IAmb IAmb 08 42 08.1
comp=Z,5.4nm,0.8s
EKA Eskdalemuir Ar 78.70 36 P P 08 42 33.6 -1.2
comp=Z,1.4nm,0.6s,baz=284,slow=5.1,SNR=5.4
ESDC Sonseca Array 80.94 51 P P 08 42 46.0 -1.4
comp=Z,3.0nm,0.9s,baz=291,slow=5.6,SNR=6.0
NB2 NORSAR Subarra 84.63 28 P P 08 43 06.7 +0.6
comp=Z,11nm,1.0s,baz=292,slow=4.8
NB2 NORSAR Subarra 84.63 28 P P 08 43 06.7 +0.6
baz=292,slow=4.8
NOA NORSAR Array B 84.63 28 P P 08 43 04.8 -1.2
comp=Z,6.4nm,0.9s,baz=292,slow=4.9,SNR=7.2
KOWA Kowa 86.45 76 P P 08 43 14.0 -2.0
comp=Z,7.9nm,0.9s,baz=264,slow=8.2,SNR=6.1
KOWA Kowa 86.45 76 P P 08 43 15.9 -0.1
TIC Toumodi 87.40 84 *eP* P 08 43 21.3 +0.6
SEY Seymchan 87.47 335 P P 08 43 20.8 +0.8
comp=Z,3.0nm,0.8s,baz=87,slow=5.7,SNR=8.0
LIC Lamto 87.50 84 *eP* P 08 43 20.9 -0.2
comp=Z,33nm,1.3s
KIC Kosan Boka 87.74 84 *eP* P 08 43 22.6 +0.3
comp=Z,12nm,0.9s
GERES GERESS Array B 90.45 39 P P 08 43 35.1 +0.6
comp=Z,1.3nm,0.7s,baz=297,slow=4.3,SNR=4.1
FINES FINESS Array B 90.86 25 P P 08 43 34.7 -1.3
comp=Z,2.6nm,0.9s,baz=333,slow=5.2,SNR=1.2
TORD Torodi Ar. Bea 92.16 76 P P 08 43 42.1 -0.9
comp=Z,1.2nm,0.9s,baz=299,slow=5.9,SNR=1.8
MKAR Makanchi Array 118.89 3 PKP PKPdf 08 49 16.9 -4.4
comp=Z,1.0nm,0.9s,baz=336,slow=3.2,SNR=4.6
MKAR Makanchi Array 118.89 3 PKPdf 08 49 20.3 -1.0
HHC Hu-ho-hao-te 120.03 338 *eP* PKPdf 08 49 25.8 +2.0
BOSA Boshof 122.35 115 PKP PKiKP 08 49 28.8 +0.1
comp=Z,5.3nm,0.9s,baz=208,slow=1.5,SNR=5.2
BOSA Boshof 122.35 115 PKPdf 08 49 28.2 -0.3
MAW Mawson 124.84 169 PKP PKPdf 08 49 31.7 -0.2
comp=Z,0.9nm,0.8s,baz=297,slow=2.3,SNR=2.1
STKA Stephens Creek 126.59 241 PKP PKiKP 08 49 37.0 +0.1
comp=Z,2.3nm,0.8s,baz=341,slow=24,SNR=4.2
STKA Stephens Creek 126.59 241 PKPdf 08 49 35.8 -0.5
WRA Warramunga Arr 133.61 256 PKP PKPdf 08 49 50.4 +0.4
comp=Z,1.3nm,0.7s,baz=104,slow=2.1,SNR=17
ASAR Alice Springs 133.98 251 PKhKP PKPpre 08 49 37.2
comp=Z,0.2nm,0.7s,baz=90,slow=4.6,SNR=1.7
ASAR PKP PKPdf 08 49 50.1 -0.6
comp=Z,0.7nm,0.7s,baz=91,slow=1.7,SNR=9.4
ASAR Alice Springs 133.98 251 PKPdf 08 49 49.4 -1.3
CMAR Chiang Mai Arr 144.84 338 PKP PKPab 08 50 09.4 -0.1
comp=Z,7.8nm,0.9s,baz=321,slow=2.4,SNR=27
CMAR Chiang Mai Arr 144.84 338 PKPab 08 50 09.2 -0.3

IDC ***08*** *08:32:56.4±2.8, 33°.17S×178°.36W, h0km, mb4.2/3, mb1 4.3/4, mb1mx3.8/36, mbtmp4.2/4, ML4.0/1, MS4.9/2, Ms1 4.9/2, ms1mx4.1/29, Error ellipse: s-maj=61.8km s-min=35.2km az=119.0*
WEL ***08*** *08:32:58.8±0.7, 33°.S±15°×17°.9W±3°.7, h33km, M4.6/6, mB4.5/2, ML5.0/10, MLv4.6/6, Mw(mB)3.7/2, Error ellipse: s-maj=0.1km s-min=0.0km az=112.2*

ISC 08 08:32:55.9±1.3, 33.08S±0.09×178.3W±0.2, h10km, n24, σ2.503/35, mb4.2/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	Green Lake	3.81	5	P	Pn	08 33 52.3	-2.4
GLKZ				S	Sn	08 34 35.5	-4.0
MXZ	Matakaoa Point	5.27	211	P	Pn	08 34 17.0	+2.3
MXZ				S	Sn	08 35 13.3	-2.3
WMGZ	Waiomatatini S	5.45	209	P	Pn	08 34 19.0	+2.0
WMGZ				S	Sn	08 35 18.7	-1.1
PKGZ	Pakihiroa	5.64	211	P	Pn	08 34 18.9	-1.0
PKGZ				S	Sn	08 35 24.8	0.0
URZ	Urewera	6.39	215	Pn	Pn	08 34 29.7	-0.3
	3.7nm,0.3s,baz=122,slow=22,SNR=18						
URZ				Sn	Sn	08 35 42.4	-0.6
	6.4nm,0.3s,baz=104,slow=21,SNR=6.4						
RAHZ	Arahi	6.93	211	P	Pn	08 34 38.5	+1.0
RAHZ				S	Sn	08 35 54.0	-2.4
MTHZ	Maungataniwha	6.99	213	P	Pn	08 34 38.5	+0.2
MTHZ				S	Sn	08 35 56.0	-1.8
NMHZ	Naumai	7.20	212	P	Pn	08 34 41.9	+0.6
NMHZ				S	Sn	08 36 04.3	+1.1
BKZ	Black Stump Fm	7.40	213	P	Pn	08 34 41.9	-2.1
BKZ				S	Sn	08 36 05.7	-2.4
MCHZ	McNeill Hill	7.54	211	P	Pn	08 34 46.0	+0.2
MCHZ				S	Sn	08 36 10.5	-0.9
KWHZ	Kaweka Forest	7.64	212	P	Pn	08 34 45.4	-1.9
KWHZ				S	Sn	08 36 11.8	-2.1
KAHZ	Kahuranaki	7.75	209	P	Pn	08 34 47.4	-1.4
KAHZ				S	Sn	08 36 13.2	-3.5
KRHZ	Kereru	7.84	212	P	Pn	08 34 48.1	-1.9
KRHZ				S	Sn	08 36 14.6	-4.3
MOVZ	Moawhango	7.94	216	P	Sn	08 36 18.4	-3.0
CTA	Charters Tower	34.08	283	P	P	08 39 42.9	+2.2
	2.7nm,0.7s,baz=105,slow=9.0,SNR=3.3						
ASAR	Alice Springs	42.79	270	P	P	08 40 55.4	+1.4
	1.8nm,0.6s,baz=106,slow=7.4,SNR=32						
WRA	Warramunga Arr	44.02	275	P	P	08 41 05.4	+1.5
	1.9nm,0.5s,baz=114,slow=7.8,SNR=44						
VNDA	Vanda	45.42	186	LR	LR	08 58 00.4	
	comp=Z,837nm,19.0s,baz=84,slow=33						
SNAA	Sanae	75.50	179	P	PcP	08 44 52.4	-0.5
VNA3	Neumayer Olymp	75.66	176	P	PcP	08 44 53.9	+0.3
VNA2	Neumayer--Watz	76.09	177	P	PcP	08 44 56.4	+1.0
	baz=179,slow=3.9						
VNA1	Neumayer--Stat	76.32	177	P	PcP	08 44 58.0	+1.6
KLR	Kul'dur	93.22	330	LR	LR	09 25 26.7	
	comp=Z,668nm,18.4s,baz=6.0,slow=34						
FINES	FINESS Array B	147.55	338	PKPbc	PKPbc	08 52 41.2	+1.7
	1.6nm,0.5s,baz=58,slow=3.3,SNR=11						

IDC ***08*** *08:35:38.0±3.2, 32°.96S×178°.45W, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.7/35, mbtmp3.9/4, ML3.6/1, Error ellipse: s-maj=68.5km s-min=48.6km az=120.0*

ISC 08 08:35:42.1±3.0, 33°.1S±0°.2×178°.4W±0°.4, h32km, n5, σ0.529/6, mb3.8/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	6.29	214	Pn	Pn	08 37 12.6	0.0
	1.4nm,0.3s,baz=122,slow=23,SNR=1.2						
URZ				Sn	Sn	08 38 23.3	0.0
	2.4nm,0.3s,baz=125,slow=21,SNR=2.8						
CTA	Charters Tower	34.01	283	P	P	08 42 22.9	-0.3
	1.1nm,0.5s,baz=110,slow=12,SNR=1.7						
ASAR	Alice Springs	42.71	270	P	P	08 43 36.3	0.0
	0.9nm,0.6s,baz=107,slow=7.3,SNR=10						
WRA	Warramunga Arr	43.94	275	P	P	08 43 46.7	+0.4
	0.7nm,0.4s,baz=114,slow=7.9,SNR=13						
FINES	FINESS Array B	147.57	338	PKPbc	PKPbc	08 55 22.2	0.0
	2.1nm,0.9s,baz=42,slow=4.3,SNR=3.7						

MEX 08 08:36:06.5±1.0, 14.30N×94.04W, h9km±42km, MD4.3, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		1.61	30	*eP*	Pn	08 36 31.2	-3.9
PCIG				*i* S	Sn	08 36 51.2	-4.7
TGIG		2.62	20	*i* P	Pn	08 36 47.8	-1.2
TGIG				*i* S	Sn	08 37 18.0	-3.0
CCIG	Comitan	2.69	43	*i* P	Pn	08 36 49.5	-0.7
CCIG				*i* S	Sn	08 37 20.4	-2.7
CCIG				*i* S	Sb	08 37 20.8	-7.5
CMIG	Matias Romero	2.89	344	*eP*	Pn	08 36 50.1	-2.7
CMIG				*eS*	Sn	08 37 20.9	-6.8
CMIG				*i* S	Sb	08 37 22.9	-11

WEL 08 08:38:56.3±1.3, 33°S±22°×17°9W±4°2, h33km, M4.1/3, mB4.5/2, ML4.3/9, MLv4.1/3, Mw(mB)3.7/2, Error ellipse:

s-maj=0.1km s-min=0.0km az=117.3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.20**	**206**	S	Sn	08 41 11.7	+1.2
WMGZ	**Waiomatatini S**	**5.39**	**204**	P	Pn	08 40 16.1	+1.8
WMGZ				S	Sn	08 41 16.7	+1.5
HAZ	**Te Kaha**	**5.57**	**209**	P	Pn	08 40 17.6	+0.9
HAZ				S	Sn	08 41 22.2	+2.6
PKGZ	**Pakihiroa**	**5.57**	**206**	P	Pn	08 40 15.4	-1.4
PKGZ				S	Sn	08 41 20.6	+0.9
PUZ	**Puketiti**	**5.67**	**204**	P	Pn	08 40 16.1	-2.1
PUZ				S	Sn	08 41 22.0	-0.1
RUGZ	**Raukumara Rang**	**5.79**	**208**	P	Pn	08 40 20.1	+0.2
RUGZ				S	Sn	08 41 26.7	+1.5
MWZ	**Matawai**	**6.17**	**208**	P	Pn	08 40 25.2	+0.1
MWZ				S	Sn	08 41 34.5	+0.1
URZ	**Urewera**	**6.27**	**211**	P	Pn	08 40 26.6	+0.2
URZ				S	Sn	08 41 38.0	+1.0
RAGZ	**Rawiri**	**6.35**	**208**	P	Pn	08 40 27.2	-0.5
RAGZ				S	Sn	08 41 38.6	-0.5
MUGZ	**Murupara**	**6.60**	**211**	P	Pn	08 40 31.3	+0.2
MUGZ				S	Sn	08 41 44.0	-1.1
SNGZ	**Shannon Statio**	**6.63**	**207**	P	Pn	08 40 31.3	-0.1
SNGZ				S	Sn	08 41 46.1	+0.3
MTHZ	**Maungataniwha**	**6.89**	**209**	P	Pn	08 40 35.6	+0.6
MTHZ				S	Sn	08 41 53.8	+1.6

MEX 08 08:48:54.2±0.7**, 14°.37N**×**94°.11W, h6**km±28km**, MD4.3, 1C, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.58**	**33**	*e*P	Pn	08 49 18.7	-4.0
PCIG				*i* S	Sn	08 49 38.8	-4.6
TGIG		**2.57**	**22**	*e*P	Pn	08 49 34.1	-2.4
CCIG	**Comitan**	**2.69**	**45**	*i* P	Pn	08 49 37.0	-1.2
CCIG				*i* S	Sn	08 50 06.3	-4.9
CMIG	**Matias Romero**	**2.80**	**345**	*e*P	Pn	08 49 36.7	-3.0
CMIG				⇑*i*S	Sn	08 50 08.0	-5.8

MEX 08 08:57:19.5±1.3**, 14°.38N**×**94°.05W, h16**km±631km**, MD4.1, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.54**	**31**	*i* P	Pn	08 57 42.3	-4.0
PCIG				*e*S	Sn	08 58 01.2	-4.9
TGIG		**2.55**	**20**	*e*P	Pn	08 57 58.7	-1.5
TGIG				*e*S	Sn	08 58 29.1	-1.9
CCIG	**Comitan**	**2.64**	**44**	*e*P	Pn	08 58 00.2	-1.5
CCIG				*i* S	Sn	08 58 29.5	-4.0
CMIG	**Matias Romero**	**2.82**	**343**	*e*P	Pn	08 58 00.5	-3.5
CMIG				*i* S	Sn	08 58 31.8	-5.8

IDC 08 08:59:16.6±1.0, 21°.28S×67°.88W, h134km±11km, mb3.2/3, mb1 3.5/5, mb1mx3.2/28, mbtmp3.7/5, Error ellipse: s-maj=28.9km s-min=11.6km az=107.0

GUC 08 08:59:18.0±0.7, 21°.23S×68°.19W, h147km±6km, ML3.4

ISC 08 08:59:17.4±0.9**, 21°.21S**±0°.05×**68°.18W**±0°.08**, h141**km±9km**, n21,** σ1s**08**/34**, mb3.4**/3**, 4C-3D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**1.23**	**277**	*e*P	**Pn**	**08 59 43.7**	**+0.1**
PB01				*i* S	**Sn**	**09 00 03.9**	**+0.4**
PB01				IAML		09 00 05.8	
	comp=N,500nm,0.2s						
PB08	**IPOC Station P**	**1.40**	**319**	⇓*i*P	**Pn**	**08 59 46.5**	**+0.9**
PB08				*i* S	**Sn**	**09 00 08.6**	**+1.5**
PB08				IAML		09 00 09.5	
	comp=E,186nm,0.5s						
LVC	**Limon Verde**	**1.55**	**206**	P	**Pn**	**08 59 47.5**	**+0.2**
	comp=E,27nm,0.3s,baz=29,slow=8.4,SNR=110						
LVC				S	**Sn**	**09 00 09.9**	**-0.2**
	comp=E,14nm,0.3s,baz=326,slow=12,SNR=19						
LVC	**Limon Verde**	**1.55**	**206**	⇑*i*P	**Pn**	**08 59 47.5**	**+0.2**
LVC				*i* S	**Sn**	**09 00 10.3**	**+0.2**
PB02	**IPOC Station P**	**1.60**	**266**	⇑*i*P	**Pn**	**08 59 47.8**	**+0.3**
PB02				*i* S	**Sn**	**09 00 10.7**	**+0.2**
PB02				IAML		09 00 12.1	
	comp=E,808nm,0.5s						
PB07	**IPOC Station P**	**1.67**	**252**	⇑*i*P	**Pn**	**08 59 48.4**	**+0.1**
PB07				*i* S	**Sn**	**09 00 11.9**	**0.0**
PB07				IAML		09 00 14.8	
	comp=E,414nm,0.5s						
PB03	**IPOC Station P**	**1.68**	**240**	*e*P	**Pn**	**08 59 48.6**	**+0.2**
PB03				*i* S	**Sn**	**09 00 12.5**	**+0.2**
PB03				IAML		09 00 13.2	
	comp=E,397nm,0.1s						
AF01	**San Pedro de A**	**1.74**	**180**	⇑*i*P	**Pn**	**08 59 50.2**	**+1.0**
HMBC	**Humberstone**	**1.84**	**300**	*e*P	**Pn**	**08 59 50.6**	**+0.3**
HMBC				*e*S	**Sn**	**09 00 15.2**	**-0.3**
HMBC				IAML		09 00 16.8	
	comp=N,467nm,0.3s						
TA01	**Diego Aracena**	**1.97**	**289**	⇓*i*P	**Pn**	**08 59 51.7**	**0.0**
TA01				*i* S	**Sn**	**09 00 17.6**	**-0.3**
TA01				IAML		09 00 19.3	
	comp=E,366nm,0.2s						
PB11	**IPOC Station P**	**1.99**	**316**	⇓*i*P	**Pn**	**08 59 52.4**	**+0.2**
PB11				*i* S	**Sn**	**09 00 19.3**	**+0.6**
PB11				IAML		09 00 20.8	
	comp=E,280nm,0.3s						
TA02	**Huaiquique**	**2.05**	**297**	*e*P	**Pn**	**08 59 52.6**	**+0.1**
TA02				*i* S	**Sn**	**09 00 19.0**	**-0.5**
TA02				IAML		09 00 25.9	
	comp=N,727nm,0.1s						
PB04	**IPOC Station P**	**2.14**	**238**	*e*P	**Pn**	**08 59 53.7**	**-0.2**
PB04				IAML		09 00 25.3	
	comp=N,208nm,0.1s						
PSGC	**Pisagua**	**2.42**	**311**	*e*P	**Pn**	**08 59 56.9**	**-0.4**
PSGC				*i* S	**Sn**	**09 00 26.7**	**-1.3**
PSGC				IAML		09 00 34.3	
	comp=E,85nm,0.5s						
PB05	**IPOC Station P**	**2.49**	**228**	*e*P	**Pn**	**08 59 58.0**	**0.0**
PB05				IAML		09 00 37.4	
	comp=E,77nm,0.4s						
LPAZ	**La Paz**	**4.89**	**1**	P	**Pn**	**09 00 31.7**	**+1.8**
	comp=E,1.5nm,0.3s,baz=175,slow=8.2,SNR=32						
LPAZ				S	**Sn**	**09 01 27.2**	**+1.0**
	comp=E,0.2nm,0.3s,baz=337,slow=15,SNR=3.9						
SIV	**San Ignacio**	**8.51**	**54**	P	**Pn**	**09 01 13.2**	**-4.5**
	comp=E,3.8nm,0.3s,baz=250,slow=10,SNR=82						
TXAR	**Lajitas Array**	**60.78**	**324**	P	**P**	**09 09 15.7**	**+1.1**
	comp=E,0.1nm,0.6s,baz=150,slow=9.4,SNR=2.6						
TORD	**Torodi Ar. Bea**	**76.62**	**70**	P	**P**	**09 10 51.7**	**-1.3**
	comp=E,0.5nm,0.6s,baz=254,slow=5.8,SNR=5.3						
YKA	**Yellowknife Ar**	**91.14**	**340**	P	**P**	**09 12 06.3**	**+0.6**
	comp=E,0.2nm,0.4s,baz=124,slow=5.8,SNR=5.1						
MKAR	**Makanchi Array**	**145.00**	**36**	PKP	**PKPdf**	**09 18 38.1**	**+0.2**
	comp=E,0.4nm,0.4s,baz=329,slow=1.7,SNR=8.3						

MEX 08 09:07:39.6±0.8**, 14°.32N**×**94°.17W, h10**km**, MD4.2, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.66**	**33**	*i* P	Pn	09 08 04.9	-3.8
PCIG				*e*S	Sn	09 08 25.2	-4.9
TGIG		**2.65**	**22**	*e*P	Pn	09 08 20.7	-1.8
TGIG				*i* S	Sn	09 08 52.0	-2.6
CCIG	**Comitan**	**2.77**	**45**	*e*P	Pn	09 08 23.2	-1.0
CCIG				*i* S	Sn	09 08 59.2	+1.5
CMIG	**Matias Romero**	**2.84**	**346**	*e*P	Pn	09 08 22.9	-2.2
CMIG				*e*S	Sn	09 08 53.2	-6.2

IDC 08 09:07:48.7±1.6, 33°.06N×93°.57E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.5/54, mbtmp3.7/5, ML3.0/1, MS4.3/1, Ms1 4.3/1, ms1mx3.5/69, Error ellipse: s-maj=75.7km s-min=22.8km az=66.0

NEIC 08 09:07:52.2±2.3, 33°.42N±0°.09×93°.9E±0°.1, h10km±1km, mb4.3/11, Error ellipse: s-maj=19.8km s-min=8.5km az=311.0

ISC 08 09:07:55.3±0.7**, 33°.37N**±0°.10×**93°.8E**±0°.1**, h35**km**, n21,** σ1s**17**/19**, mb3.9**/9**, Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.32**	**213**	Pn	**Pn**	**09 08 59.6**	**+0.8**
SONM	**Songino Array**	**17.27**	**30**	P	**P**	**09 11 55.9**	**+1.0**
	0.1nm,0.3s,baz=225,slow=12,SNR=3.7						
SONM	**Songino Array**	**17.27**	**30**		**Pn**	**09 11 52.3**	**-1.5**
KURBB	**Kurchatov Arra**	**20.58**	**331**	P	**P**	**09 12 30.9**	**-0.1**
	0.9nm,0.7s,baz=137,slow=11,SNR=10						
KURK	**Kurchatov**	**20.62**	**332**	P	**P**	**09 12 30.9**	**-0.5**
CHGR	**Chuyangaron**	**20.62**	**292**	P	**P**	**09 12 30.6**	**-1.1**
CHGR				IAmb	IAmb	09 12 32.5	
	comp=Z,5.2nm,0.5s						
ZALV	**Zalesovo Beam**	**21.55**	**345**	P	**P**	**09 12 42.1**	**+0.8**
	comp=Z,1.8nm,0.3s,baz=159,slow=16,SNR=3.0						
ZALV	**Zalesovo Beam**	**21.55**	**345**	P	**P**	**09 12 39.6**	**-1.6**
KNMB	**Chin-men Tao**	**23.21**	**106**	P	**P**	**09 12 59.0**	**-0.1**
ABKAR	**Akbulak array**	**29.69**	**312**	P	**P**	**09 13 57.0**	**-0.7**
ABKAR				IAmb	IAmb	09 14 24.6	
	comp=Z,0.9nm,0.7s						
MAJO	**Matsushiro**	**36.26**	**72**	P	**P**	**09 14 55.2**	**0.0**
MAJO				IAmb	IAmb	09 15 08.7	
	comp=Z,6.4nm,1.0s						
VRAC	**Vranov**	**57.67**	**311**	LR	LR	09 43 43.4	
	comp=Z,261nm,19.8s,baz=42,slow=37						
FITZ	**Fitzroy Crossi**	**59.51**	**144**	P	**P**	**09 17 54.6**	**-0.5**
FITZ				IAmb	IAmb	09 18 11.1	
	comp=Z,6.4nm,1.4s						
GEC2	**GERESS Array S**	**59.62**	**311**	P	**P**	**09 17 56.6**	**+0.8**
GEC2				IAmb	IAmb	09 17 57.3	
	comp=Z,3.6nm,0.8s						
WRA	**Warramunga Arr**	**65.61**	**138**	P	**P**	**09 18 33.2**	**-2.6**
	comp=Z,0.9nm,0.9s,baz=323,slow=5.5,SNR=3.8						
WRA	**Warramunga Arr**	**65.61**	**138**	IAmb	IAmb	09 18 38.0	
	comp=Z,0.3nm,1.4s						
WB2	**Warramunga Arr**	**65.61**	**138**	P	**P**	**09 18 36.1**	**+0.2**
WB2				IAmb	IAmb	09 18 41.1	
	comp=Z,8.3nm,1.4s						
AS31	**Alice Springs**	**68.37**	**141**	P	**P**	**09 18 53.2**	**-0.2**
AS31				IAmb	IAmb	09 18 58.9	
	comp=Z,0.5nm,0.9s						
ASAR	**Alice Springs**	**68.37**	**141**	P	**P**	**09 18 52.1**	**-1.2**
	comp=Z,0.8nm,0.7s,baz=325,slow=6.5,SNR=13						
BMAR	**Burnt Mountain**	**70.37**	**20**	P	**P**	**09 19 06.9**	**+1.7**
KDAK	**Kodiak Island**	**73.56**	**31**	P	**P**	**09 19 25.2**	**+0.8**

IDC 08 09:23:29.3±9.6, 15°.10N×92°.96W, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/39, mbtmp3.1/3, ML3.2/1, Error ellipse: s-maj=331.6km s-min=129.2km az=38.0

MEX 08 09:23:31.9±1.3, 14°.45N×94°.07W, h20km±56km, MD4.4

ISC 08 09:23:36.0±1.7**, 14°.9N**±0°.1×**94°.12W**±0°.05**, h33**km**, n9,** σ**2s01**/14**, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.19**	**47**	*i* P	**Pn**	**09 23 54.3**	**-2.0**
PCIG				*i* S	**Sb**	**09 24 12.3**	**-0.8**
TGIG		**2.11**	**27**	*e*P	**Pn**	**09 24 09.5**	**+0.5**
TGIG				*i* S	**Sb**	**09 24 41.2**	**+1.7**
CMIG	**Matias Romero**	**2.31**	**342**	*e*P	**Pn**	**09 24 12.1**	**+0.3**
CMIG				*i* S	**Sb**	**09 24 43.5**	**-1.6**
CCIG	**Comitan**	**2.36**	**54**	*i* P	**Pn**	**09 24 12.8**	**+0.1**
CCIG				*i* S	**Sb**	**09 24 44.9**	**-2.0**
PEIG	**Puerto Escondi**	**3.12**	**291**	*e*S	**Sn**	**09 24 54.4**	**-4.6**
VHO	**Vista Hermosa**	**3.32**	**311**	*i* P	**Pn**	**09 24 25.9**	**+0.1**
VHO				*i* S	**Sn**	**09 25 03.2**	**-1.0**
TXAR	**Lajitas Array**	**16.86**	**330**	P	**P**	**09 27 32.2**	**+0.8**
	0.0nm,0.3s,baz=140,slow=13,SNR=1.3						
NVAR	**Mina Array Bea**	**31.70**	**322**	P	**P**	**09 29 59.6**	**+2.7**
	0.5nm,0.9s,baz=130,slow=11,SNR=2.5						
ILAR	**Eielson Array**	**61.22**	**337**	P	**P**	**09 33 47.6**	**+0.2**
	0.5nm,0.9s,baz=126,slow=4.6,SNR=2.8						

MEX 08 09:32:11.8±0.9**, 14°.08N**×**94°.20W, h12**km**, MD4.2, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.87**	**30**	*i* P	Pn	09 32 39.5	-4.2
PCIG				*i* S	Sn	09 33 02.8	-4.4
TGIG		**2.88**	**21**	*e*P	Pn	09 32 55.1	-2.4
TGIG				*i* S	Sn	09 33 27.0	-5.1
CCIG	**Comitan**	**2.96**	**42**	*e*P	Pn	09 32 58.5	-0.2
CMIG	**Matias Romero**	**3.07**	**348**	*i* P	Pn	09 32 57.9	-2.2
CMIG				*i* S	Sn	09 33 29.7	-7.1

IDC 08 09:32:51.0±3.5**, 32°.73S**×**178°.30W, h0**km**, mb3.5**/2**, mb1 3.9**/3**, mb1mx3.6**/37**, mbtmp3.7**/3**, ML3.1**/1**, Error ellipse: s-maj=80.1km s-min=49.9km az=120.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.67**	**213**	Pn	Pn	09 34 29.5	-0.6
	0.4nm,0.3s,baz=114,slow=20,SNR=2.1						
URZ				Sn	Sn	09 35 40.5	-6.3
	0.8nm,0.3s,baz=313,slow=21,SNR=1.0						
ASAR	**Alice Springs**	**42.79**	**270**	P	P	09 40 50.8	+0.2
	0.3nm,0.5s,baz=107,slow=7.2,SNR=4.1						
WRA	**Warramunga Arr**	**43.98**	**275**	P	P	09 40 60.0	-0.3
	0.9nm,0.8s,baz=114,slow=7.6,SNR=6.5						
FINES	**FINESS Array B**	**147.23**	**339**	PKPbc	PKPbc	09 52 34.7	-0.7
	3.5nm,1.1s,baz=46,slow=4.0,SNR=2.0						

PGC 08 09:38:01.3±0.0, 50°.50N×130°.37W, h10km, MLSn3.6/43, Mw4.5, 209km west of Pt. Hardy, Bc Vancouver Island, Canada Region

IDC 08 09:38:03.5±1.5, 50°.62N×129°.88W, h0km, mb4.1/3, mb1 4.2/12, mb1mx3.9/58, mbtmp3.9/12, ML3.8/6, MS4.0/6, Ms1 4.0/6, ms1mx3.6/48, Error ellipse: s-maj=23.0km s-min=9.8km az=75.0

NEIC 08 09:38:04.2±2.7, 50°.74N±0°.08×130°.1W±0°.1, h14km±6km, mb4.3/99, Mwr4.5(OTT), Error ellipse: s-maj=14.2km s-min=6.9km az=217.0

NEIC 08 09:38:09.6, 50°.50N×130°.37W, h7km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-2.83; $M_{\theta\theta}$-1.88; $M_{\phi\phi}$4.24; $M_{r\theta}$-5.01; $M_{\theta\phi}$2.34; $M_{\phi r}$-3.14; Fault plane solution: $M_0$7.40000×10^{15} NP1:ϕ_s52.00000°, δ78.00000°, λ-61.00000°. NP2:ϕ_s163.00000°, δ31.00000°, λ-156.00000°. Principal axes: T 7.5586, Plg27.0000°, Azm120.0000°; N -0.2709, Plg28.0000°, Azm225.0000°; P -7.2876, Plg49.0000°, Azm354.0000°;

ISC 08 09:38:01.6±0.7**, 50°.59N**±0°.05×**130°.26W**±0°.06**, h10**km**, n435,** σ1s**57**/419**, mb4.4**/20**, MS4.1**/4**, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.36**	**87**	P	**Pn**	**09 38 25.2**	**-1.5**
HOLB				S	**Sn**	**09 38 41.5**	**-3.2**
HOLB	**Holberg**	**1.36**	**87**		**Pn**	**09 38 25.2**	**-1.5**
HOLB					**Sn**	**09 38 41.5**	**-3.2**
BPBC	**Brooks Peninsu**	**1.65**	**104**	Pn	**Pn**	**09 38 28.7**	**-2.0**
PACB	**Port Alice, BC**	**1.77**	**94**	Pn	**Pn**	**09 38 30.8**	**-1.5**
PACB				Sn	**Sn**	**09 38 50.6**	**-4.3**
PACB	**Port Alice, BC**	**1.77**	**94**	Pn	**Pn**	**09 38 30.8**	**-1.5**
PACB				Sn	**Sn**	**09 38 50.6**	**-4.3**
PHC	**Port Hardy**	**1.81**	**85**	Pn	**Pn**	**09 38 31.5**	**-1.2**
PHC				Sn	**Sn**	**09 38 53.0**	**-2.6**
HG4B	**Hotspring**	**1.81**	**341**	Pn	**Pn**	**09 38 31.0**	**-1.7**
HG4B				Sn	**Sn**	**09 38 53.4**	**-2.3**
HG4B	**Hotspring**	**1.81**	**341**	Pn	**Pn**	**09 38 31.0**	**-1.7**
MAYB	**Maynard**	**1.98**	**94**	Pn	**Pn**	**09 38 34.0**	**-1.3**
FHRB	**Fair Harbour**	**2.08**	**104**	Pn	**Pn**	**09 38 35.0**	**-1.6**
FHRB	**Fair Harbour**	**2.08**	**104**	Pn	**Pn**	**09 38 35.0**	**-1.6**
BBB	**Bella Bella**	**2.09**	**39**	Pn	**Pn**	**09 38 36.2**	**-0.4**
	9.1nm,0.3s,baz=233,slow=6.6,SNR=294						
BBB				Sn	**Sn**	**09 39 00.1**	**-2.6**
	50nm,0.3s,baz=250,slow=13,SNR=7.3						
BBB	**Bella Bella**	**2.09**	**39**	Pn	**Pn**	**09 38 36.1**	**-0.4**
BBB				Sn	**Sn**	**09 39 01.1**	**-1.6**
BBB	**Bella Bella**	**2.09**	**39**		**Pn**	**09 38 36.3**	**-0.4**
EDB	**Eliza Dome**	**2.14**	**108**	Pn	**Pn**	**09 38 35.5**	**-1.9**
EDB	**Eliza Dome**	**2.14**	**108**	Pn	**Pn**	**09 38 35.5**	**-1.9**
TLCB	**Telegraph Cove**	**2.19**	**90**	Pn	**Pn**	**09 38 37.3**	**-0.6**
TLCB				Sn	**Sn**	**09 39 03.1**	**-1.9**
BNB	**Barry Inlet**	**2.20**	**336**	Pn	**Pn**	**09 38 36.8**	**-1.4**
WOSB	**Woss**	**2.40**	**99**	Pn	**Pn**	**09 38 40.2**	**-0.8**
HG1B	**Mitchell Dam**	**2.62**	**334**	Pn	**Pn**	**09 38 43.3**	**-0.7**
ETB	**Estevan Point**	**2.69**	**115**	Pn	**Pn**	**09 38 43.6**	**-1.3**
NCRB	**Newcastle Ridg**	**2.69**	**92**	Pn	**Pn**	**09 38 44.3**	**-0.8**
BUTB	**Butedale**	**2.72**	**24**	Pn	**Pn**	**09 38 45.3**	**-0.1**
BUTB				Sn	**Sn**	**09 39 17.1**	**-1.3**
BNKB	**Banks Island**	**2.76**	**4**	Pn	**Pn**	**09 38 44.8**	**-1.0**
MOBC	**Moresby Island**	**2.77**	**338**	Pn	**Pn**	**09 38 44.8**	**-1.3**
MOBC	**Moresby Island**	**2.77**	**338**	Pn	**Pn**	**09 38 45.5**	**-0.6**
GDR	**Gold River**	**2.83**	**105**	Pn	**Pn**	**09 38 45.7**	**-1.2**
BNAB	**Bonilla**	**2.92**	**356**	Pn	**Pn**	**09 38 47.4**	**-0.6**
DIB	**Dawson Inlet,**	**2.96**	**333**	Pn	**Pn**	**09 38 47.5**	**-1.0**
DIB	**Dawson Inlet,**	**2.96**	**333**	Pn	**Pn**	**09 38 47.6**	**-1.0**
H02S1	**DAWSON INLET T**	**2.96**	**333**	Pn	**Pn**	**09 38 46.8**	**-1.7**
	SNR=129						
H02S1				Sn	**Sn**	**09 39 21.7**	**-2.3**
H02S1	**DAWSON INLET T**	**2.96**	**333**		**Pn**	**09 38 46.8**	**-1.7**
SPLB	**Strathcona Par**	**3.04**	**101**	Pn	**Pn**	**09 38 49.3**	**-0.4**
HWKB	**Hawksbury Isla**	**3.09**	**12**	Pn	**Pn**	**09 38 50.0**	**-0.5**
HWKB				Sn	**Sn**	**09 39 25.9**	**-1.7**
TOFB	**Tofino**	**3.16**	**115**	Pn	**Pn**	**09 38 49.8**	**-1.5**
CBB	**Campbell River**	**3.19**	**98**	Pn	**Pn**	**09 38 51.3**	**-0.4**
BTB	**Buttle Lake**	**3.25**	**108**	Pn	**Pn**	**09 38 52.0**	**-0.9**
GRNB	**Grenville Isla**	**3.27**	**3**	Pn	**Pn**	**09 38 52.2**	**-0.7**
GRNB				Sn	**Sn**	**09 39 30.2**	**-1.7**
MWAB	**Mount Washingt**	**3.30**	**103**	Pn	**Pn**	**09 38 53.1**	**-0.2**
B012	**Ucluelet**	**3.48**	**117**	P	**Pn**	**09 38 54.5**	**-1.3**
OZB	**Mount Ozzard**	**3.49**	**116**	P	**Pn**	**09 38 54.4**	**-1.6**
KITB	**Kitimat**	**3.63**	**15**	P	**Pn**	**09 38 57.7**	**-0.1**
RUBB	**Prince Rupert**	**3.75**	**0**	P	**Pn**	**09 38 58.2**	**-1.1**
RUBB	**Prince Rupert**	**3.75**	**0**	Pn	**Pn**	**09 38 59.2**	**-0.1**
B928	**Bamfield**	**3.76**	**116**	P	**Pn**	**09 38 58.4**	**-1.1**
BFSB	**Bamfield**	**3.76**	**116**	P	**Pn**	**09 38 58.6**	**-1.0**
B927	**Port Alberni**	**3.78**	**109**	P	**Pn**	**09 38 59.4**	**-0.4**
TXB	**Texada**	**3.85**	**101**	P	**Pn**	**09 39 00.6**	**-0.3**
MGB	**Mount Grey**	**3.94**	**112**	P	**Pn**	**09 39 01.1**	**-1.1**
GHNB	**Nanoose**	**4.10**	**106**	P	**Pn**	**09 39 03.8**	**-0.4**
SHB	**Sechelt**	**4.23**	**101**	P	**Pn**	**09 39 06.2**	**0.0**
NLLB	**Nanaimo Lost L**	**4.28**	**106**	P	**Pn**	**09 39 06.0**	**-0.7**
PFB	**Port Renfrew**	**4.29**	**116**	P	**Pn**	**09 39 05.8**	**-1.1**
OCP	**Olym-Cheeka Pk**	**4.33**	**120**	P	**Pn**	**09 39 07.5**	**0.0**
B926	**Mesachie Lake**	**4.35**	**112**	P	**Pn**	**09 39 07.9**	**+0.1**
UBRB	**Upper Baezaeko**	**4.48**	**57**	P	**Pn**	**09 39 11.2**	**+1.6**
WPB	**Watts Point**	**4.63**	**99**	P	**Pn**	**09 39 12.3**	**+0.7**
BIB	**Bowen Island**	**4.64**	**102**	P	**Pn**	**09 39 11.6**	**-0.1**
GOBB	**Galiano Island**	**4.67**	**108**	P	**Pn**	**09 39 12.8**	**+0.7**
WSLR	**Whistler**	**4.72**	**93**	P	**Pn**	**09 39 13.8**	**+0.9**
OBC	**Olympics--Boni**	**4.78**	**120**	P	**Pn**	**09 39 14.7**	**+0.9**
B010	**North Saanich**	**4.83**	**111**	P	**Pn**	**09 39 14.1**	**-0.2**
B009	**North Saanich**	**4.83**	**111**	P	**Pn**	**09 39 14.2**	**-0.2**
PGC	**Sidney**	**4.83**	**111**	P	**Pn**	**09 39 14.0**	**-0.3**
PGC	**Sidney**	**4.83**	**111**		**Pn**	**09 39 14.0**	**-0.3**
PA12	**PA12 Sannich**	**4.83**	**111**	P	**Pn**	**09 39 13.9**	**-0.4**
B011	**North Saanich**	**4.83**	**111**	P	**Pn**	**09 39 14.2**	**-0.2**
SNB	**Saturna Island**	**4.95**	**109**	P	**Pn**	**09 39 17.8**	**+1.8**
STW	**Striped Peak**	**4.95**	**117**	P	**Pn**	**09 39 16.2**	**+0.3**
VGZ	**Gonzales**	**5.02**	**113**	P	**Pn**	**09 39 16.6**	**-0.3**
HNBB	**Haney**	**5.13**	**102**	P	**Pn**	**09 39 18.8**	**+0.3**
CRAG	**Craig**	**5.19**	**342**	Pn	**Pn**	**09 39 18.9**	**-0.2**
CRAG	**Craig**	**5.19**	**342**	P	**Pn**	**09 39 19.3**	**+0.2**
	baz=160						
MCW	**Mount Constitu**	**5.19**	**109**	P	**Pn**	**09 39 20.7**	**+1.3**
A04D	**Lummi Island**	**5.25**	**108**	P	**Pn**	**09 39 21.5**	**+1.5**
	baz=293,SNR=22						
NLWA	**Neilton Lookou**	**5.28**	**125**		**Pn**	**09 39 21.7**	**+1.1**
FSB	**Fort Saint Jam**	**5.32**	**41**	P	**Pn**	**09 39 22.4**	**+1.3**
LLLB	**Lillooet**	**5.34**	**87**	P	**Pn**	**09 39 22.1**	**+0.7**
LLLB	**Lillooet**	**5.34**	**87**	Pn	**Pn**	**09 39 22.2**	**+0.9**
VDB	**Vedder Mountai**	**5.51**	**103**	P	**Pn**	**09 39 24.9**	**+1.3**
WISH	**Wishkah**	**5.51**	**127**	P	**Pn**	**09 39 24.5**	**+0.8**
HDW	**Hoodsport**	**5.57**	**119**	P	**Pn**	**09 39 25.5**	**+0.9**
MBW	**Mount Baker**	**5.72**	**105**	P	**Pn**	**09 39 28.0**	**+1.3**
CMW	**Cultus Mountai**	**5.73**	**109**	P	**Pn**	**09 39 28.0**	**+1.2**
GNW	**Green Mountain**	**5.75**	**119**	P	**Pn**	**09 39 28.2**	**+1.3**
B05A	**Bryant**	**5.81**	**110**	P	**Pn**	**09 39 28.9**	**+1.1**
	baz=296,SNR=82						
HOPB	**Hope**	**5.83**	**98**	P	**Pn**	**09 39 29.1**	**+1.1**
CPW	**Capitol Peak**	**5.94**	**125**	P	**Pn**	**09 39 29.8**	**+0.2**
JCW	**Jim Creek**	**5.94**	**111**	P	**Pn**	**09 39 30.5**	**+0.9**
D04E	**Lakebay**	**6.00**	**122**	P	**Pn**	**09 39 32.3**	**+2.0**
	baz=306						
E03A	**Lebam**	**6.01**	**130**	P	**Pn**	**09 39 31.5**	**+1.0**
E03A	**Lebam**	**6.01**	**130**	Pn	**Pn**	**09 39 31.4**	**+0.9**
B06A	**Marblemount**	**6.08**	**107**	P	**Pn**	**09 39 32.0**	**+0.6**
B06A	**Marblemount**	**6.08**	**107**	Pn	**Pn**	**09 39 32.9**	**+1.5**
D05A	**Enumclaw**	**6.43**	**119**	P	**Pn**	**09 39 38.8**	**+2.5**
D05A	**Enumclaw**	**6.43**	**119**		**Pn**	**09 39 38.3**	**+2.0**
GPW	**Glacier Peak**	**6.45**	**109**	P	**Pn**	**09 39 38.5**	**+1.7**
E04D	**Cinebar**	**6.50**	**125**	P	**Pn**	**09 39 39.5**	**+2.2**
	baz=310,SNR=17						
F04D	**Rainier, OR**	**6.61**	**130**	P	**Pn**	**09 39 40.0**	**+1.3**
	baz=315						
C06D	**Leavenworth**	**6.69**	**110**	P	**Pn**	**09 39 41.1**	**+1.3**
	baz=296,SNR=11						
FMW	**Mount Fremont**	**6.75**	**119**	P	**Pn**	**09 39 42.9**	**+1.9**
LON	**Longmire**	**6.79**	**121**	P	**Pn**	**09 39 42.8**	**+1.6**
LON	**Longmire**	**6.79**	**121**		**Pn**	**09 39 43.3**	**+2.1**
PNT	**Penticton**	**6.99**	**96**	P	**Pn**	**09 39 45.4**	**+1.4**
F04A	**Amboy**	**7.00**	**129**	Pn	**Pn**	**09 39 46.4**	**+2.3**
LTY	**Liberty**	**7.14**	**114**	P	**Pn**	**09 39 47.6**	**+1.5**
LTY	**Liberty**	**7.14**	**114**		**Pn**	**09 39 48.0**	**+1.9**
G03D	**McMinnville, O**	**7.14**	**136**	P	**Pn**	**09 39 47.8**	**+1.7**
	baz=321						
BMBC	**Bull Mountain**	**7.32**	**39**	P	**Pn**	**09 39 51.0**	**+2.5**
B08A	**Colville Reser**	**7.46**	**103**	P	**Pn**	**09 39 51.6**	**+1.1**
B08A	**Colville Reser**	**7.46**	**103**	Pn	**Pn**	**09 39 51.3**	**+0.9**
F05D	**White Salmon**	**7.53**	**125**	P	**Pn**	**09 39 53.8**	**+2.5**
	baz=311,SNR=24						
MNB	**Mounoet Dainar**	**7.61**	**73**	P	**Pn**	**09 39 55.8**	**+3.2**
COR	**Corvallis**	**7.62**	**139**		Pn	09 39 57.6	+5.0
SLEB	**Sale Mountain**	**7.70**	**81**	P	**Pn**	**09 39 55.4**	**+1.6**
DLBC	**Dease Lake**	**7.87**	**1**	Pn	**Pn**	**09 39 59.3**	**+3.2**
	0.4nm,0.3s,baz=188,slow=15,SNR=11						
DLBC				Sn	**Sn**	**09 41 22.9**	**-2.2**
	0.1nm,0.3s,baz=188,slow=14,SNR=1.2						
DLBC				Lg	Lg	09 42 06.4	
	0.1nm,0.3s,baz=319,slow=14,SNR=1.7						
DLBC				LR	LR	09 42 22.1	
	comp=Z,681nm,18.2s,baz=184,slow=33						
DLBC	**Dease Lake**	**7.87**	**1**	P	**Pn**	**09 39 59.3**	**+3.2**
DLBC	**Dease Lake**	**7.87**	**1**		**Pn**	**09 39 59.0**	**+2.9**
H04D	**Lebanon**	**7.92**	**137**	P	**Pn**	**09 39 57.5**	**+0.8**
	baz=322						
E07A	**Sunnyside**	**7.99**	**116**	Pn	**Pn**	**09 39 59.1**	**+1.4**
H04A	**Detroit Lake**	**8.04**	**134**	Pn	**Pn**	**09 40 01.2**	**+2.8**
G05D	**Wamic, OR**	**8.04**	**128**	P	**Pn**	**09 39 59.7**	**+1.3**
	baz=314						
JIS	**Juneau Island**	**8.07**	**344**	Pn	**Pn**	**09 39 60.0**	**+1.3**
BUCK	**Buck Mountain**	**8.07**	**140**	Pn	**Pn**	**09 40 02.8**	**+3.9**
NBC5	**NorthernBC 5**	**8.25**	**30**	P	**Pn**	**09 40 03.9**	**+2.5**
HAWA	**Hanford**	**8.27**	**116**	Pn	**Pn**	**09 40 02.4**	**+0.9**
D08A	**Wollman Farm,**	**8.27**	**111**	Pn	**Pn**	**09 40 01.9**	**+0.3**
C09A	**Chrisman Ranch**	**8.33**	**105**	P	**Pn**	**09 40 03.9**	**+1.5**
C09A	**Chrisman Ranch**	**8.33**	**105**	Pn	**Pn**	**09 40 03.1**	**+0.7**
F07A	**Phinny Hill Vi**	**8.34**	**120**		**Pn**	**09 40 04.9**	**+2.4**
I03D	**Drain, OR**	**8.35**	**143**	P	**Pn**	**09 40 03.8**	**+1.2**
	baz=327						
E08A	**Dider Farm, El**	**8.49**	**115**		**Pn**	**09 40 04.8**	**+0.3**
J01E	**Myrtle Point**	**8.60**	**147**	P	**Pn**	**09 40 07.6**	**+1.6**
	baz=331						
I04A	**Tendick Farm,**	**8.64**	**139**	P	**Pn**	**09 40 07.7**	**+1.0**
	baz=324						
I05D	**Terrebonne, OR**	**8.69**	**133**	P	**Pn**	**09 40 09.3**	**+1.9**
	baz=318						
KEBM	**Edson Butte**	**8.72**	**150**	Pn	**Pn**	**09 40 08.8**	**+1.0**
NEW	**Newport**	**8.88**	**100**	Pn	**Pn**	**09 40 09.8**	**0.0**
	2.7nm,0.3s,baz=298,slow=12,SNR=54						
NEW				Lg	Lg	09 42 28.7	
	baz=170,slow=10,SNR=2.3						
NEW				LR	LR	09 43 33.8	
	comp=Z,443nm,21.0s,baz=306,slow=38						
NEW	**Newport**	**8.88**	**100**	Pn	**Pn**	**09 40 10.7**	**+0.8**
NEW	**Newport**	**8.88**	**100**	P	**Pn**	**09 40 11.1**	**+1.2**
	baz=290,SNR=15						
E09A	**Wood Farm, Sta**	**9.01**	**112**		**Pn**	**09 40 12.2**	**+0.5**
K02D	**Willamette Mer**	**9.10**	**148**	P	**Pn**	**09 40 13.3**	**+0.3**
	baz=332						
J04D	**Umpqua Nationa**	**9.22**	**140**	P	**Pn**	**09 40 16.2**	**+1.4**
	baz=325,SNR=5.8						
G08A	**Pilot Rock**	**9.25**	**121**		**Pn**	**09 40 16.9**	**+1.9**
PINE	**Pine Mountain**	**9.29**	**133**		**Pn**	**09 40 17.4**	**+1.6**
J05D	**Fort Rock, OR**	**9.56**	**136**	P	**Pn**	**09 40 18.8**	**-0.6**
	baz=322						

L02E **Cave Junction** 9.60 149 P Pn 09 40 19.6 -0.2
baz=333
I07A **Izee** 9.78 128 Pn 09 40 24.8 +2.5
F10A **Beach Ranch, E** 9.84 113 Pn 09 40 24.2 +1.2
K04D **Chiloquin, OR** 9.88 140 P Pn 09 40 23.3 -0.4
baz=326
L04D **Klamath Falls** 10.01 144 P Pn 09 40 25.5 0.0
baz=329
PRDA **Priddis** 10.13 82 P Pn 09 40 30.2 +3.1
YBH **Yreka Blue Hor** 10.28 147 Pn Pn 09 40 32.7 +3.5
0.1nm,0.3s,baz=360,slow=12,SNR=7.2
WHY **Whitehorse** 10.42 347 Pn Pn 09 40 32.9 +1.8
WHY **Whitehorse** 10.42 347 P Pn 09 40 32.5 +1.4
baz=164
BHMT **Big Hole Peak** 10.43 101 P Pn 09 40 33.8 +2.5
YKU2 **Yakutat** 10.43 333 Pn Pn 09 40 30.3 -0.8
BMO **Blue Mountains** 10.44 118 Pn 09 40 33.2 +1.9
BSMT **Bassoo Peak** 10.49 99 P Pn 09 40 34.2 +2.2
M02C **Callahan** 10.54 148 P Pn 09 40 32.4 -0.2
baz=333
M04C **Macdoel** 10.56 143 P Pn 09 40 33.6 +0.6
baz=329
WALA **Waterton Lakes** 10.68 92 P Pn 09 40 37.9 +3.2
WALA **Waterton Lakes** 10.68 92 Pn Pn 09 40 37.2 +2.6
EDM **Edmonton** 10.78 69 P Pn 09 40 39.2 +3.4
EDM **Edmonton** 10.78 69 Pn Pn 09 40 38.7 +2.8
J08A **Circle Bar Ran** 10.81 127 Pn 09 40 39.0 +2.5
JTMT **Jette** 10.84 99 P Pn 09 40 38.8 +1.9
JTMT **Jette** 10.84 99 Pn 09 40 38.5 +1.6
FBMT **Ferry Basin** 10.88 101 P Pn 09 40 39.2 +1.7
N02D **Trinity Center** 10.96 148 P Pn 09 40 39.3 +0.8
baz=333
PLID **Pearl Lake** 11.04 114 Pn 09 40 41.4 +1.7
SWMT **Swartz Lake** 11.11 100 P Pn 09 40 42.0 +1.5
MSO **Missoula** 11.42 103 Pn 09 40 45.8 +1.0
MSO **Missoula** 11.42 103 P Pn 09 40 44.4 -0.3
baz=295
WVOR **Wild Horse Val** 11.42 131 Pn 09 40 48.0 +3.3
SLMT **Seeley Lake** 11.53 100 P Pn 09 40 47.5 +1.2
O02D **Mt. Diablo Mer** 11.65 150 P Pn 09 40 49.6 +1.6
baz=335
O03E **Paynes Creek** 11.88 147 P Pn 09 40 49.4 -1.6
baz=332
BPMT **Black Pine Rid** 11.89 104 P Pn 09 40 52.9 +1.5
OVMT **Ovando** 11.91 101 P Pn 09 40 52.6 +1.1
MMPY **Sheldon Lake,** 12.07 358 P Pn 09 40 53.1 -0.5
baz=177
MFID **Camas Ranch** 12.18 121 Pn 09 40 56.6 +1.5
ELMT **Elliston** 12.45 102 P Pn 09 41 00.7 +1.8
HBMT **Mount Humbug** 12.71 105 P Pn 09 41 03.6 +1.1
BEKR **Beckworth** 12.78 143 Pn Pn 09 41 04.2 +0.8
HRY **Holter Researc** 12.78 101 P Pn 09 41 04.8 +1.4
HRY **Holter Researc** 12.78 101 Pn 09 41 03.9 +0.5
LRM **Limekiln Ridge** 12.79 105 P Pn 09 41 04.8 +1.1
LRM **Limekiln Ridge** 12.79 105 Pn 09 41 04.6 +1.0
HLID **Hailey** 12.87 117 Pn 09 41 06.8 +2.1
HLID **Hailey** 12.87 117 P Pn 09 41 04.8 +0.2
baz=308,SNR=13
DLMT **Dillon** 12.93 107 Pn 09 41 07.0 +1.6
MCARA **McCarthy VSAT** 12.93 332 Pn Pn 09 41 06.1 +0.8
MCMT **McKenzie Canyo** 13.05 109 Pn 09 41 08.1 +1.3
PAHR **Pah Rah Range** 13.30 141 Pn 09 41 10.7 +4.2
BOZ **Bozeman (W)** 13.41 105 Pn 09 41 12.8 +0.9
BOZ **Bozeman (W)** 13.41 105 P Pn 09 41 11.6 -0.3
baz=298,SNR=12
MOMT **Monida** 13.45 110 P Pn 09 41 16.0 +3.3
VCNR **Virginia City** 13.54 142 Pn 09 41 17.5 +3.6
EGMT **Eagleton** 13.62 93 Pn 09 41 18.0 +3.3
EGMT **Eagleton** 13.62 93 P Pn 09 41 14.3 -0.4
baz=288
TPMT **Tepee Creek** 13.82 108 P Pn 09 41 20.3 +2.6
BZMT **Bozeman Pass** 13.90 103 P Pn 09 41 20.6 +1.9
QLMT **Earthquake Lak** 13.91 107 P Pn 09 41 20.3 +1.4
QLMT **Earthquake Lak** 13.91 107 Pn 09 41 20.3 +1.4
YERR **Yerington** 13.97 142 P 09 41 24.8 -3.1
YHB **Horse Butte** 14.09 107 Pn 09 41 20.4 -1.0
YMR **Madison River** 14.28 107 Pn 09 41 26.1 +2.1
YHH **Holmes Hill** 14.29 106 Pn Pn 09 41 26.1 +2.0
ELK **Elko** 14.37 127 Pn Pn 09 41 27.8 +2.6
0.1nm,0.3s,baz=315,slow=9.0,SNR=3.7
ELK **Elko** 14.37 127 Pn 09 41 24.9 -0.3
GCMT **Greycliff** 14.54 101 Pn Pn 09 41 28.2 +0.9
RYN **Ryan** 14.57 141 Pn Pn 09 41 29.0 +1.2
YPP **Pitchstone Pla** 14.59 108 Pn 09 41 29.2 +1.0
H17A **Grant Village** 14.66 107 P Pn 09 41 29.4 +0.3
baz=302,SNR=6.8
YKA **Yellowknife Ar** 14.67 30 Pn Pn 09 41 27.3 -1.6
0.1nm,0.3s,baz=229,slow=14,SNR=5.3
YKA Lg Lg 09 45 32.1
0.1nm,0.3s,baz=212,slow=33,SNR=1.7
YKA **Yellowknife Ar** 14.67 30 Pn 09 41 26.7 -2.2
LKWY **Lake** 14.68 107 Pn Pn 09 41 31.2 +1.8
YNE **Yellowstone No** 14.69 105 Pn Pn 09 41 30.2 +0.6
IMW **Indian Meadow** 14.71 110 Pn Pn 09 41 31.6 +1.8
YMP **Mirror Lake Pl** 14.74 106 Pn Pn 09 41 31.3 +1.1
FLWY **Flagg Ranch** 14.75 109 Pn Pn 09 41 31.6 +1.2
FXWY **Fox Creek** 14.80 111 Pn Pn 09 41 33.2 +2.1
NVAR **Mina Array Bea** 14.82 141 Pn P 09 41 34.6 -2.8
baz=321,slow=12,SNR=8.3
LHV **Little Huntoon** 14.90 141 Pn Pn 09 41 32.7 +0.6
TPAW **Teton Pass** 14.93 111 Pn Pn 09 41 34.9 +2.0
HVU **Hansel Valley** 14.95 119 Pn Pn 09 41 33.7 +0.7
SNOW **Snow King Moun** 15.06 111 Pn Pn 09 41 35.6 +0.9
RLMT **Red Lodge** 15.10 103 Pn Pn 09 41 36.8 +1.8
RLMT IAmb IAmb 09 41 59.2
comp=Z,24nm,1.4s
RLMT **Red Lodge** 15.10 103 P Pn 09 41 34.8 -0.2
baz=298,SNR=7.7
SCRK **Sand Creek** 15.28 337 Pn Pn 09 41 38.2 +0.9
SPUT **South Promonto** 15.44 120 P P 09 41 42.8 -1.3
SPUT IAmb IAmb 09 41 47.9
comp=Z,12nm,1.2s
TPH **Tonopah** 15.57 138 P P 09 41 44.5 -1.1
TPH IAmb IAmb 09 41 50.5
comp=Z,30nm,1.0s
HWUT **Hardware Ranch** 15.74 118 P P 09 41 46.7 -0.7
HWUT IAmb IAmb 09 41 49.4
comp=Z,29nm,1.4s
DUG **Dugway, Tooele** 16.03 124 P P 09 41 50.0 -0.6
DUG IAmb IAmb 09 41 55.0
comp=Z,14nm,1.0s
DUG **Dugway, Tooele** 16.03 124 P Pn 09 41 48.5 +1.3
baz=316,SNR=10.0
RSO **Redoubt South** 16.04 317 P Pn 09 41 47.2 0.0
TIN **Tinemaha, Big** 16.04 143 P Pn 09 41 48.3 +1.0
baz=331,SNR=12
R11A **Troy Canyon, C** 16.07 134 P P 09 41 50.6 -0.5
R11A **Troy Canyon, C** 16.07 134 P Pn 09 41 48.4 +0.7
baz=324
SPR3 **Spring Creek 3** 16.15 130 P P 09 41 53.6 +1.5
BW06 **Boulder Array** 16.18 111 P P 09 41 52.9 +0.5
BW06 IAmb IAmb 09 41 54.3
comp=Z,29nm,1.1s
BW06 **Boulder Array** 16.18 111 P Pn 09 41 50.2 +1.1
baz=306,SNR=30
PD31 **Pinedale Array** 16.18 111 P P 09 41 52.5 +0.1
PD31 IAmb IAmb 09 41 54.3
comp=Z,26nm,1.1s
PDAR **Pinedale Array** 16.18 111 Pn P 09 41 52.2 -0.2
comp=Z,0.3nm,0.3s,baz=312,slow=12,SNR=85
PDAR **Pinedale Array** 16.18 111 P 09 41 51.7 -0.7
CTU **Camp Tracy** 16.25 120 P P 09 41 52.8 -0.3
LAO **LASA Array** 16.34 94 P Pn 09 41 52.6 +1.6
LAO IAmb IAmb 09 41 54.5
comp=Z,34nm,1.0s
LAO **LASA Array** 16.34 94 P Pn 09 41 52.2 +1.2
baz=292,SNR=18
GRAC **Grapevine Rang** 16.43 141 P Pn 09 41 53.0 +0.8
baz=330,SNR=8.8
JLU **Jordanelle** 16.48 120 P P 09 41 55.7 -0.1
PAGB **Antelope Grade** 16.52 150 P P 09 41 55.7 -0.3
PAGB IAmb IAmb 09 42 02.0
comp=Z,32nm,1.3s
NLU **North Lily Min** 16.59 123 P P 09 41 57.2 +0.2
NLU IAmb IAmb 09 42 01.1
comp=Z,11nm,0.8s
CWC **Cottonwood Cre** 16.64 144 P P 09 41 55.9 -1.6
baz=332
ILAR **Eielson Array** 16.68 335 Pn P 09 41 59.2 +1.7
baz=148,slow=9.1,SNR=1.6
ILAR **Eielson Array** 16.68 335 P P 09 41 57.3 -0.2
PSUT **Pine Spring** 16.74 130 P P 09 42 00.2 +1.6
MPU **Maple Canyon** 16.79 122 P P 09 42 01.9 +2.8
VES **Vestal, Richgr** 16.81 147 P Pn 09 41 56.8 -0.1
baz=334
TPNV **Topopah Spring** 16.94 138 P P 09 42 02.1 +1.3
TPNV IAmb IAmb 09 42 06.1
comp=Z,30nm,1.4s
TPNV **Topopah Spring** 16.94 138 P Pn 09 41 59.1 +0.4
baz=328,SNR=14
SMMC **Simmler** 16.99 150 P P 09 42 00.1 -1.1
baz=337
DGMT **Dagmar** 17.03 87 P 09 42 01.4 -0.1
DGMT IAmb IAmb 09 42 03.4
comp=Z,34nm,0.8s
DGMT **Dagmar** 17.03 87 P P 09 42 01.3 -0.2
baz=287,SNR=12
PRN **Pahroc Range** 17.08 135 P P 09 42 03.6 +1.3
FURC **Furnace Creek,** 17.09 141 P P 09 42 01.1 -1.1
baz=330,SNR=5.5
ISA **Isabella, Lake** 17.19 146 P P 09 42 03.1 -0.3
baz=334,SNR=10
MPMC **Manual Prospec** 17.20 143 P P 09 42 02.6 -1.1
baz=331,SNR=7.5
TMUT **Trail Mountain** 17.53 123 P P 09 42 09.2 +1.8
ARVC **Arvin** 17.54 147 P P 09 42 06.7 -0.5
baz=335
FFC **Flin Flon** 17.59 65 P P 09 42 08.7 +1.1
FFC IAmb IAmb 09 42 10.9
comp=Z,16nm,1.1s
MVU **Marysvale** 17.59 126 P P 09 42 09.4 +1.4
MVU IAmb IAmb 09 42 13.2
comp=Z,50nm,1.3s
MSU **Marysvale** 17.60 126 P 09 42 09.5 +1.4
LRMC **Laurel Mtn Rad** 17.64 144 P P 09 42 08.2 -0.3
baz=332
CCUT **Cedar City** 17.76 131 P 09 42 10.0 +0.1
SHPR **Sheep Range** 17.78 137 P 09 42 12.2 +2.2
Q16A **Castle Valley** 17.83 124 P Pn 09 42 10.0 +0.2
SZCU **Shurtz Canyon** 17.85 130 P P 09 42 12.4 +1.5
SZCU IAmb IAmb 09 42 16.3
comp=Z,12nm,1.0s
MTPU **Mount Pierson** 17.96 127 P P 09 42 12.6 +0.4
MLY **Manley** 17.99 331 P P 09 42 13.2 +1.2
SRU **San Rafael Swe** 18.03 122 P P 09 42 14.5 +1.7
SRU IAmb IAmb 09 42 18.6
comp=Z,9.6nm,0.9s
EDW2 **Edwards Air Fo** 18.06 146 P P 09 42 13.3 +0.3
baz=334
K22A **Casper** 18.08 107 P P 09 42 13.5 +0.2
K22A IAmb IAmb 09 42 24.1
comp=Z,16nm,0.8s
K22A **Casper** 18.08 107 P Pn 09 42 12.4 -0.5
baz=304,SNR=13
GSC **Goldstone, Bar** 18.13 142 P 09 42 16.8 +2.9
GSC **Goldstone, Bar** 18.13 142 P P 09 42 13.1 -0.7
baz=331,SNR=8.3
RWWY **Rawlins** 18.22 110 P P 09 42 16.2 +1.2
RWWY IAmb IAmb 09 42 20.1
comp=Z,13nm,1.1s
LCMT **Little Creek M** 18.24 132 P P 09 42 15.5 +0.4
PKCU **Pink Cliffs** 18.36 129 P P 09 42 19.6 +3.1
TUQ **Turquoise Moun** 18.37 140 P P 09 42 16.8 +0.3
baz=330,SNR=6.6
KNB **Kanab** 18.44 131 P Pn 09 42 20.4 +3.0
I21K **Tanana** 18.48 330 P P 09 42 14.3 -3.0
baz=139
O20A **White River Ci** 18.60 116 Pn 09 42 20.9 +1.5
O20A IAmb IAmb 09 42 24.4
comp=Z,20nm,1.1s
O20A **White River Ci** 18.60 116 P Pn 09 42 21.1 +1.8
baz=311,SNR=14
MWC **Mount Wilson** 18.63 147 P Pn 09 42 23.2 +3.5
MWC IAmb IAmb 09 42 24.8
comp=Z,14nm,0.9s
HEC **Hector,Ludlow** 18.73 142 P Pn 09 42 21.3 +0.5
baz=331,SNR=6.5
BFSC **Mount Baldy Ra** 18.76 146 P Pn 09 42 22.0 +0.8
baz=334,SNR=5.6
RSSD **Black Hills** 18.85 100 P 09 42 20.9 -1.0
RSSD IAmb IAmb 09 42 29.4
comp=Z,6.9nm,0.7s
RSSD **Black Hills** 18.85 100 P Pn 09 42 23.6 +1.3
baz=299
BBRC **Big Bear Solar** 19.01 144 P Pn 09 42 25.2 +0.9
baz=333,SNR=7.2
GMRC **Granite Mounta** 19.04 141 P Pn 09 42 24.1 -0.5
baz=330
SNCC **San Nicolas Is** 19.04 151 P Pn 09 42 26.3 +1.8
baz=338
PV21 **Cone Mtn., Par** 19.27 120 P Pn 09 42 28.7 +1.2
PV21 IAmb IAmb 09 42 35.1
comp=Z,8.1nm,0.7s
COLD **Coldfoot** 19.44 336 Pn 09 42 29.5 +0.4
COLD **Coldfoot** 19.44 336 P P 09 42 27.2 -0.7
baz=140
N23A **Red Feather La** 19.46 110 P Pn 09 42 30.4 +0.6
baz=308,SNR=6.3
PV17 **East Wray Mesa** 19.48 121 P Pn 09 42 31.1 +1.1
PV17 IAmb IAmb 09 42 37.5
comp=Z,14nm,0.9s
MURC **Murrieta** 19.50 146 P Pn 09 42 31.8 +1.8
baz=334
PHWY **Pilot Hill** 19.51 109 P Pn 09 42 31.0 +0.7
PHWY IAmb IAmb 09 42 33.1
comp=Z,16nm,1.0s
W13A **Hualapai Mount** 19.52 136 P Pn 09 42 29.9 -0.6
BELC **Belle Mtn. Jos** 19.59 142 P Pn 09 42 32.8 +1.6
baz=332,SNR=6.9
PFO **Pinyon Flats O** 19.76 144 P Pn 09 42 33.6 +0.4
comp=Z,0.1nm,0.3s,baz=331,slow=10,SNR=3.6
PFO **Pinyon Flats O** 19.76 144 P Pn 09 42 32.1 -1.1
PFO IAmb IAmb 09 42 38.9
comp=Z,7.9nm,1.0s
PFO **Pinyon Flats O** 19.76 144 P Pn 09 42 34.6 +1.4
baz=333
TPFO **Pinon Flats** 19.77 144 P Pn 09 42 35.0 +1.7
baz=333
IRM **Iron Mountain** 19.79 140 P Pn 09 42 32.5 -1.0
baz=330
PV01 **Paradox Valley** 19.80 121 P Pn 09 42 35.0 +1.2
PV01 IAmb IAmb 09 42 40.5
comp=Z,8.3nm,0.8s
SMCO **Snowmass** 19.97 116 P Pn 09 42 35.6 -0.4
SMCO IAmb IAmb 09 42 44.8
comp=Z,7.1nm,0.9s
PDMCI **Parker Dam,Lak** 20.09 138 P Pn 09 42 36.6 -0.3
baz=329,SNR=7.9
BC3 **Big Chuckawall** 20.11 142 P Pn 09 42 37.7 +0.3
baz=332
MDND **Maddock** 20.14 86 P 09 42 36.5 +0.8
MDND **Maddock** 20.14 86 P Pn 09 42 39.4 +1.9
baz=289,SNR=15
109C **Camp Elliot, M** 20.17 146 P Pn 09 42 38.1 +0.1
baz=335
WUAZ **Wupatki** 20.34 131 P Pn 09 42 41.1 +1.0
WUAZ IAmb IAmb 09 42 42.6
comp=Z,13nm,1.1s
WUAZ **Wupatki** 20.34 131 P Pn 09 42 39.5 -0.7
baz=323,SNR=7.3
ISCO **Idaho Springs** 20.35 113 P Pn 09 42 41.0 +0.7
ISCO **Idaho Springs** 20.35 113 P Pn 09 42 40.0 -0.4
baz=310
FALS **False Pass** 20.41 295 P Pn 09 42 40.7 0.0
baz=89
MONP2 **Monument Peak** 20.41 145 P Pn 09 42 39.7 -1.4
baz=334,SNR=7.2
MVCO **Mesa Verde** 20.51 122 P Pn 09 42 42.8 +0.6
MVCO IAmb IAmb 09 42 46.6
comp=Z,30nm,1.4s
MVCO **Mesa Verde** 20.51 122 P Pn 09 42 41.3 -0.8
baz=317,SNR=12
BAR **Barrett** 20.52 146 P Pn 09 42 43.6 +1.6
BAR IAmb IAmb 09 42 48.0
comp=Z,11nm,1.1s
SWSC **Sam W. Stewart** 20.60 143 P Pn 09 42 42.5 -0.5
baz=333,SNR=7.8
IKP **In-Ko-Pah, Jac** 20.75 144 P Pn 09 42 44.3 -0.5
baz=334,SNR=10.0
CBX **Cerro Bola** 20.85 146 P Pn 09 42 47.3 +1.2
GLA **Glamis** 20.89 141 P Pn 09 42 46.1 -0.2
GLA IAmb IAmb 09 42 48.4
comp=Z,18nm,1.1s
GLA **Glamis** 20.89 141 P Pn 09 42 46.1 -0.3
baz=331,SNR=6.7
Y14A **Wickenburg** 20.89 136 P Pn 09 42 47.2 +0.8
Y14A IAmb IAmb 09 42 51.2
comp=Z,10.0nm,0.8s
S22A **4UR Ranch, Cre** 21.04 119 P P 09 42 46.8 +1.0
baz=315,SNR=15
X16A **Lo Mia Camp, P** 21.20 132 P P 09 42 51.1 +3.6
X16A IAmb IAmb 09 42 54.8
comp=Z,9.6nm,0.9s
W18A **Petrified Fore** 21.47 128 P P 09 42 52.5 +2.2
W18A IAmb IAmb 09 42 57.5
comp=Z,20nm,1.1s
W18A **Petrified Fore** 21.47 128 P P 09 42 51.6 +1.4
baz=322
SDCO **Great Sand Dun** 21.79 117 P P 09 42 56.1 +2.2
SDCO **Great Sand Dun** 21.79 117 P P 09 42 55.4 +1.6
baz=314,SNR=11
ULM **Lac du Bonnet** 21.80 77 P P 09 42 53.1 -0.5
comp=Z,7.8nm,0.7s,baz=289,slow=10,SNR=7.8
ULM **Lac du Bonnet** 21.80 77 P P 09 42 54.6 +1.0
ULM **Lac du Bonnet** 21.80 77 P P 09 42 52.6 -0.9
ULM IAmb IAmb 09 43 00.2
comp=Z,10nm,0.8s
X18A **Snowflake** 21.83 130 P P 09 42 57.0 +2.9
X18A IAmb IAmb 09 43 00.4
comp=Z,16nm,0.9s
SUSD **Miller** 21.91 94 P P 09 42 55.7 +0.9
SUSD **Miller** 21.91 94 P P 09 42 57.0 +2.2
baz=297
AGMN **Agassiz Nation** 22.37 82 P P 09 43 00.4 +0.7
AGMN **Agassiz Nation** 22.37 82 P P 09 43 02.0 +2.4
baz=289,SNR=9.7
KSCO **Kaye Shedlock'** 22.63 110 P P 09 43 04.9 +2.2
KSCO **Kaye Shedlock'** 22.63 110 P P 09 43 04.9 +2.2
baz=310,SNR=17
214A **Organ Pipe Nat** 22.67 139 P P 09 43 03.9 +0.9
214A IAmb IAmb 09 43 08.0
comp=Z,12nm,0.9s
214A **Organ Pipe Nat** 22.67 139 P P 09 43 05.0 +2.0
baz=330,SNR=12
T25A **Trinidad** 22.84 116 P P 09 43 06.2 +1.3
baz=314
K31A **O'Neill** 22.93 98 P P 09 43 05.5 -0.1
F33A **5 Mile Ranch,** 23.00 89 P P 09 43 07.9 +1.6
F33A IAmb IAmb 09 43 10.1
comp=Z,14nm,0.9s
TUC **Tucson** 23.26 134 P P 09 43 11.4 +2.3
TUC IAmb IAmb 09 43 13.9
comp=Z,13nm,1.1s
TUC **Tucson** 23.26 134 P P 09 43 12.1 +2.9
baz=327
ANMO **Albuquerque** 23.30 123 P P 09 43 10.7 +1.0
comp=Z,5.3nm,0.9s,baz=318,slow=10,SNR=23
ANMO **Albuquerque** 23.30 123 P P 09 43 10.1 +0.4
ANMO IAmb IAmb 09 43 13.3
comp=Z,7.9nm,1.0s
ANMO **Albuquerque** 23.30 123 P P 09 43 12.2 +2.5
baz=319
LENM **Lemitar** 23.62 125 P P 09 43 12.6 -0.3
B35A **Bob, Littlefor** 23.69 81 P P 09 43 13.3 +0.1
ECSD **EROS Data Cent** 23.73 94 P P 09 43 15.1 +1.3
ECSD **EROS Data Cent** 23.73 94 P P 09 43 15.1 +1.3
baz=298,SNR=15
BNM **Barren Site** 23.82 125 P P 09 43 16.6 +1.7
SOLO **Sioux Lookout** 24.22 76 P P 09 43 19.5 +1.2
CBKS **Cedar Bluff** 24.50 107 P P 09 43 21.2 +0.3
baz=308
121A **Cookes Peak, D** 24.50 129 P P 09 43 22.6 +1.5
121A IAmb IAmb 09 43 26.2
comp=Z,9.0nm,0.9s
121A **Cookes Peak, D** 24.50 129 P P 09 43 21.0 -0.1
baz=324,SNR=6.8
319A **Douglas** 24.73 133 P P 09 43 25.8 +2.7
319A IAmb IAmb 09 43 29.4
comp=Z,12nm,1.0s
F36A **Milaca** 24.75 87 P P 09 43 25.0 +1.9
F36A IAmb IAmb 09 43 31.6
comp=Z,7.3nm,0.9s
N33A **J Bar K, Exete** 24.77 101 P P 09 43 25.7 +2.4
L34A **Svendsen Farm,** 24.77 97 P P 09 43 23.4 +0.1
EYMN **Ely** 25.24 81 P P 09 43 29.6 +2.0
EYMN IAmb IAmb 09 43 40.1
comp=Z,7.6nm,0.8s
EYMN **Ely** 25.24 81 P P 09 43 29.4 +1.9
baz=290,SNR=5.3
SPMN **Marine on St.** 25.48 88 P P 09 43 32.1 +2.3
SPMN IAmb IAmb 09 43 43.1
comp=Z,7.1nm,0.8s
SPMN **Marine on St.** 25.48 88 P P 09 43 32.0 +2.3
baz=296
N35A **Tabor** 25.84 99 P P 09 43 34.5 +1.5
AMTX **Amarillo** 25.99 116 P P 09 43 36.7 +2.2
AMTX **Amarillo** 25.99 116 P P 09 43 36.8 +2.2
baz=316
MSTX **Muleshoe** 26.04 119 P P 09 43 35.2 +0.2
MSTX IAmb IAmb 09 43 40.2
comp=Z,10nm,1.2s
MSTX **Muleshoe** 26.04 119 P P 09 43 35.2 +0.2
baz=318
MNTX **Cornudas Mount** 26.39 126 P P 09 43 40.9 +2.9
MNTX IAmb IAmb 09 43 41.8
comp=Z,7.7nm,0.9s
MNTX **Cornudas Mount** 26.39 126 P P 09 43 39.4 +1.4
baz=323,SNR=13
N38A **Joes South For** 27.40 97 P P 09 43 49.2 +2.2
T35A **Sooner Cattle** 27.68 107 P P 09 43 51.2 +1.7
WMOK **Wichita Mounta** 27.78 113 P P 09 43 52.4 +1.9
WMOK **Wichita Mounta** 27.78 113 P P 09 43 51.7 +1.1
baz=314,SNR=12
P38A **Dawn** 27.87 99 P P 09 43 52.6 +1.3
OK031 **S. Brethren Rd** 28.11 108 P P 09 43 55.6 +2.2
JFWS **Jewell Farm** 28.19 90 P P 09 43 53.5 -0.6
baz=300
FNO **Franklin** 28.24 110 P P 09 43 56.8 +2.1
TUL1 **Leonard** 28.77 107 P P 09 43 59.9 +0.6
baz=311
ABTX **Abilene, Hawle** 28.80 117 P P 09 43 58.3 -1.3
baz=318
L42A **Oliver, Polo** 29.02 91 P P 09 44 03.5 +2.0
TX31 **Lajitas Ar. Si** 29.16 127 P P 09 44 04.4 +1.4
TX32 **Lajitas Array** 29.16 127 P P 09 44 04.3 +1.3
TX32 IAmb IAmb 09 44 06.9
comp=Z,5.5nm,1.1s
TXAR **Lajitas Array** 29.16 127 P P 09 44 05.2 +2.2
comp=Z,3.7nm,1.0s,baz=324,slow=6.4,SNR=27
TXAR **Lajitas Array** 29.16 127 P P 09 44 04.6 +1.6
Z35A **Perchaven, San** 29.67 113 P P 09 44 08.1 +0.8
CCM **Cathedral Cave** 30.24 99 P P 09 44 11.2 -1.1
baz=307
U40A **Yellville** 30.29 104 P P 09 44 11.5 -1.3
baz=310,SNR=5.3
JCT **Junction City** 30.32 120 P P 09 44 13.7 +0.5
baz=320
W39A **Magazine** 30.47 106 P P 09 44 13.9 -0.5
baz=312
WHTX **Lake Whitney,** 30.52 115 P P 09 44 14.0 -0.9
baz=317
MIAR **Mount Ida** 31.03 107 P P 09 44 18.3 -1.1
baz=312,SNR=5.2
FCAR **Ozark Folk Cen** 31.04 103 P P 09 44 20.8 +1.4
435B **Jarrell** 31.33 117 P P 09 44 22.4 +0.4
baz=318
W41B **Gary Mavity, V** 31.43 105 P P 09 44 22.0 -0.9
baz=311
LCAR **Lake Charles** 31.53 102 P P 09 44 24.3 +0.6
LCAR IAmb IAmb 09 44 33.8
comp=Z,3.6nm,0.8s
833A **Chaparral WMA,** 32.22 122 P P 09 44 29.4 -0.4
baz=322
WVT **Waverly** 33.57 99 P P 09 44 40.7 -1.0
baz=309
OXF **Oxford** 33.62 103 P P 09 44 43.1 +1.0
OXF **Oxford** 33.62 103 P P 09 44 41.7 -0.3
baz=311,SNR=7.4
PLAL **Pickwick Lake** 34.15 101 P P 09 44 47.7 +1.1
PLAL IAmb IAmb 09 44 54.6
comp=Z,5.2nm,0.9s
SADO **Sadowa** 34.33 79 LR LR 09 59 14.6
comp=Z,296nm,19.1s,baz=338,slow=37
VBMS **Vicksburg** 34.48 107 P P 09 44 51.9 +2.3
baz=314
N54A **Moraine State** 35.74 86 P P 09 44 59.9 -0.4
baz=303
FPAL **Fort Paine** 35.98 99 P P 09 45 03.3 +0.8
FPAL IAmb IAmb 09 45 10.5
comp=Z,5.9nm,0.9s
TZTN **Tazewell** 36.02 95 P P 09 45 02.7 -0.2
baz=308
TKL **Tuckaleechee C** 36.43 96 LR LR 10 00 07.5
comp=Z,271nm,19.6s,baz=338,slow=37
MCWV **Mont Chateau** 36.55 87 P P 09 45 06.4 -0.9
baz=304

250A	Grady	37.27	103	P	P	09 45 14.7	+1.3
GOGA	Godfrey	38.06	99	P	P	09 45 19.8	-0.4
	baz=311						
H11N2	WAKE ISLAND Hy	57.81	262	T	T	10 50 24.3	
	baz=42,slow=76,SNR=1081						
H11N3	WAKE ISLAND Hy	57.82	262	T	T	10 50 30.3	
	baz=42,slow=76,SNR=932						
H11N1	WAKE ISLAND Hy	57.83	262	T	T	10 50 25.5	
	baz=42,slow=76,SNR=1137						
H11S1	WAKE ISLAND Hy	58.84	261	T	T	10 51 55.9	
	baz=40,slow=75,SNR=39						
H11S2	WAKE ISLAND Hy	58.85	261	T	T	10 51 47.3	
	baz=40,slow=75,SNR=35						
H11S3	WAKE ISLAND Hy	58.86	261	T	T	10 51 42.9	
	baz=40,slow=75,SNR=25						
RPN	Rapa Nui	79.56	161	LR	LR	10 18 19.0	
	comp=Z,114nm,20.4s,baz=263,slow=30						
CPUP	Villa Florida	99.90	119	LR	LR	10 42 23.4	
	comp=Z,132nm,19.0s,baz=76,slow=39						

MEX 08 09:41:07.8±0.8, 14°.44N×94°.06W, h28km±14km, MD4.3, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		1.49	33	eP	Pn	09 41 30.2	-2.5
PCIG				i S	Sn	09 41 48.4	-2.9
TGIG		2.49	21	eP	Pn	09 41 45.7	-0.9
TGIG				i S	Sn	09 42 17.0	+0.9
CCIG	Comitan	2.60	45	eP	Pn	09 41 49.1	+0.9
CMIG	Matias Romero	2.75	343	eP	Pn	09 41 48.3	-1.8
CMIG				i S	Sn	09 42 19.7	-2.8

WEL 08 09:46:32.1±0.9, 34°S±18°×17°7W±2°1, h33km, M4.5/28, mB5.0/18, ML5.3/30, MLv5.0/28, Mw(mB)4.3/18, Error ellipse: s-maj=0.0km s-min=0.0km az=129.7
IDC 08 09:46:33.6±0.7, 33°.11S×178°.89W, h0km, mb4.1/10, mb1 4.2/11, mb1mx4.0/39, mbtmp4.1/11, ML4.4/2, Error ellipse: s-maj=23.1km s-min=19.2km az=137.0
NEIC 08 09:46:34.3±1.8, 33°.17S±0°.09×178°.6W±0°.2, h17km±4km, mb4.5/14, Error ellipse: s-maj=24.2km s-min=10.6km az=107.0
ISC 08 09:46:33.8±0.6, 33°.18S±0°.06×178°.6W±0°.1, h10km, n97, σ1s.83/99, mb4.2/15, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	3.96	9	Pn	Pn	09 47 34.3	-0.3
	37nm,0.3s,baz=103,slow=22,SNR=1.5						
RAO				Sn	Sn	09 48 17.9	-3.2
	107nm,0.3s,baz=291,slow=23,SNR=2.5						
RAO	Raoul Island	3.96	9		Pn	09 47 32.3	-2.3
MXZ	Matakaoa Point	5.05	209	Pn	Pn	09 47 49.4	-0.2
PKGZ	Pakihiroa	5.42	209	P	Pn	09 47 53.1	-1.7
PKGZ				S	Sn	09 48 58.5	+1.2
HAZ	Te Kaha	5.43	212	P	Pn	09 47 54.6	-0.3
HAZ				S	Sn	09 49 01.3	+3.8
PUZ	Puketiti	5.51	207	P	Pn	09 47 53.5	-2.5
RUGZ	Raukumara Rang	5.65	211	P	Pn	09 47 57.0	-1.0
TWGZ	Tauwhareparae	5.71	208	P	Pn	09 47 57.3	-1.4
CNGZ	Carnagh Statio	5.89	205	P	Pn	09 47 58.9	-2.3
TKGZ	Te Karaka	5.99	208	P	Pn	09 48 01.2	-1.3
TKGZ				S	Sn	09 49 10.1	-0.9
MWZ	Matawai	6.03	210	P	Pn	09 48 01.0	-2.1
OPRZ	Ohinepanea	6.10	219	P	Pn	09 48 04.6	+0.6
URZ	Urewera	6.15	213	Pn	Pn	09 48 03.6	-1.1
	5.3nm,0.3s,baz=269,slow=4.4,SNR=54						
URZ				Sn	Sn	09 49 14.3	-0.8
	2.4nm,0.3s,baz=167,slow=19,SNR=2.0						
URZ	Urewera	6.15	213		Pn	09 48 04.5	-0.2
URZ	Urewera	6.15	213	P	Pn	09 48 03.6	-1.1
URZ				S	Sn	09 49 17.4	+2.3
TGRZ	Tauranga	6.17	221	P	Pn	09 48 06.5	+1.4
RAGZ	Rawiri	6.21	210	P	Pn	09 48 03.9	-1.8
RAGZ				S	Sn	09 49 16.9	+0.2
RIGZ	Rimuhau	6.25	207	P	Pn	09 48 04.3	-1.9
RIGZ				S	Sn	09 49 17.2	-0.5
PRGZ	Paritu Road	6.40	205	P	Pn	09 48 08.1	0.0
MKAZ	Moumakai	6.43	231	P	Pb	09 48 19.3	-6.6
MUGZ	Murupara	6.48	214	P	Pn	09 48 08.1	-1.3
MUGZ				S	Sn	09 49 22.6	-0.8
SNGZ	Shannon Statio	6.48	209	P	Pn	09 48 08.8	-0.6
SNGZ				S	Sn	09 49 23.4	0.0
RRRZ	Republican Roa	6.50	216	P	Pn	09 48 13.4	+3.9
RTZ	Ruatahuna	6.50	212	P	Pn	09 48 09.0	-0.6
TOZ	Tahuroa Road	6.61	225	P	Pn	09 48 16.4	+5.3
RAHZ	Arahi	6.70	210	P	Pn	09 48 12.4	0.0
MTHZ	Maungataniwha	6.76	212	P	Pn	09 48 12.4	-0.7
NMHZ	Naumai	6.97	211	P	Pn	09 48 15.5	-0.6
NMHZ				S	Sn	09 49 35.8	+0.3
BKZ	Black Stump Fm	7.17	212		Pn	09 48 17.2	-1.6
BKZ	Black Stump Fm	7.17	212	P	Pn	09 48 16.9	-1.8
MCHZ	McNeill Hill	7.31	210	P	Pn	09 48 20.0	-0.7
KWHZ	Kaweka Forest	7.41	211	P	Pn	09 48 21.6	-0.5
TMVZ	Te Maari	7.50	216	P	Pn	09 48 22.7	-0.7
NTVZ	North Tongarir	7.50	216	P	Pn	09 48 22.9	-0.5
ETVZ	East Tongariro	7.51	216	P	Pn	09 48 23.8	+0.2
HIZ	Hauiti	7.51	223	Pn	Pn	09 48 22.9	-0.5
HIZ	Hauiti	7.51	223	P	Pn	09 48 25.4	+1.9
KAHZ	Kahuranaki	7.54	208	P	Pn	09 48 21.9	-1.9
OTVZ	Oturere	7.55	216	P	Pn	09 48 23.6	-0.6
NGZ	Ngauruhoe	7.60	216	P	Pn	09 48 25.7	+1.0
KRHZ	Kereru	7.62	211	P	Pn	09 48 22.5	-2.4
BHHZ	Black Hill Sta	7.62	213	P	Pn	09 48 23.6	-1.5
MOVZ	Moawhango	7.70	215	P	Pn	09 48 27.1	+0.9
WNVZ	Wahianoa	7.71	216	P	Pn	09 48 26.1	-0.3
PNHZ	Pukenui	7.91	210	P	Pn	09 48 26.2	-2.8
VRZ	Vera Road	8.00	220	P	Pn	09 48 33.3	+3.2
BFZ	Birch Farm	8.54	207	Pn	Pn	09 48 35.3	-2.3
BFZ	Birch Farm	8.54	207	P	Pn	09 48 35.4	-2.3
MRZ	Mangatainoka R	8.80	210	P	Pn	09 48 39.1	-2.0
NNZ	Nelson	10.25	216	P	Pn	09 49 03.9	+3.0
LTZ	Lake Taylor	11.98	214	P	Pn	09 49 22.7	-2.0
OXZ	Oxford	12.51	213	P	Pn	09 49 32.5	+0.7
MSVF	Nonsavu	15.67	348	Pn	Pn	09 50 13.8	-1.1
MSVF				IAmb	IAmb	09 50 34.6	
	comp=Z,24nm,1.1s						
DZM	Mont Dzumac	17.23	306	P	P	09 50 42.3	+6.0
	comp=Z,0.2nm,0.3s,baz=351,slow=15,SNR=3.5						
RAR	Rarotonga	20.52	59	P	Pn	09 51 14.7	+0.2
	comp=Z,7.3nm,0.5s,baz=202,slow=17,SNR=2.3						
EIDS	Eidsvold	27.49	278	P	P	09 52 20.4	0.0
EIDS				IAmb	IAmb	09 52 29.6	
	comp=Z,9.0nm,1.1s						
STKA	Stephens Creek	33.44	261	P	P	09 53 12.6	-0.4
	comp=Z,1.1nm,0.8s,baz=110,slow=12,SNR=1.5						
STKA	Stephens Creek	33.44	261	P	P	09 53 11.3	-1.7
CTA	Charters Tower	33.84	284	P	P	09 53 16.6	0.0
	comp=Z,3.2nm,0.7s,baz=112,slow=7.6,SNR=7.6						
CTAO	Charters Tower	33.84	284	P	P	09 53 16.6	0.0
BBOO	Buckleboo	37.79	258	P	P	09 53 48.0	-2.3
BBOO				IAmb	IAmb	09 54 12.7	
	comp=Z,9.5nm,1.0s						
COEN	Coen	39.62	290	P	P	09 54 04.0	-1.9
COEN				IAmb	IAmb	09 54 28.1	
	comp=Z,16nm,1.3s						
AS31	Alice Springs	42.52	270	P	P	09 54 27.7	-2.0
ASAR	Alice Springs	42.52	270	P	P	09 54 28.5	-1.2
	comp=Z,3.2nm,0.7s,baz=110,slow=7.6,SNR=44						
ASAR				S	S	10 00 47.2	-4.9
	comp=Z,0.5nm,0.9s,baz=118,slow=14,SNR=3.2						
WR0	Warramunga Arr	43.58	275	P	P	09 54 37.1	-1.2
WR0				IAmb	IAmb	09 54 44.8	
	comp=Z,6.4nm,0.7s						
WB2	Warramunga Arr	43.75	275	P	P	09 54 38.3	-1.4
WB2				IAmb	IAmb	09 54 46.1	
	comp=Z,10nm,0.7s						
WRA	Warramunga Arr	43.76	275	P	P	09 54 38.3	-1.5
	comp=Z,3.2nm,0.7s,baz=115,slow=8.0,SNR=35						
WRA				S	S	10 01 06.2	-4.2
	comp=Z,0.3nm,0.8s,baz=119,slow=10,SNR=1.8						
WRA	Warramunga Arr	43.76	275	P	P	09 54 38.6	-1.1
FORT	Forrest	44.90	258	P	P	09 54 47.5	-1.2
FITZ	Fitzroy Crossi	51.89	272	P	P	09 55 41.1	-1.7
	comp=Z,2.4nm,1.1s,baz=132,slow=16,SNR=2.0						
FITZ	Fitzroy Crossi	51.89	272	IAmb	IAmb	09 55 48.7	
	comp=Z,5.7nm,1.0s						
CASY	Casey	52.46	209	P	P	09 55 45.4	-0.9
CASY				IAmb	IAmb	09 56 10.3	
	comp=Z,14nm,1.1s						
QSPA	South Pole Qui	56.94	180	P	P	09 56 19.6	+0.5
	comp=Z,2.1nm,0.7s,baz=32,slow=0.9,SNR=16						
QSPA	South Pole Qui	56.94	180	P	P	09 56 18.6	-0.5
MAW	Mawson	69.53	201	P	P	09 57 44.8	+2.5
	comp=Z,0.8nm,0.8s,baz=107,slow=11,SNR=2.1						
SNAA	Sanae	75.40	179	P	P	09 58 22.7	+5.3
VNA3	Neumayer Olymp	75.58	176	P	P	09 58 24.1	+5.8
VNA2	Neumayer--Watz	76.00	177	P	P	09 58 25.9	+5.2
	baz=176,slow=4.7						
VNA1	Neumayer--Stat	76.24	177	P	P	09 58 28.3	+6.3
H03N3	Juan Fernandez	79.58	123	T	T	11 27 44.8	
	baz=242						
H03N2	Juan Fernandez	79.58	123	T	T	11 27 49.1	
	baz=242						
H03N1	Juan Fernandez	79.59	123	T	T	11 27 35.3	
	baz=242						
PETK	Petropavlovsk-	88.37	346	P	P	09 59 24.4	-1.0
	comp=Z,0.8nm,0.7s,baz=111,slow=6.3,SNR=2.3						
NVAR	Mina Array Bea	90.62	43	P	P	09 59 38.5	+1.9
	comp=Z,0.1nm,0.3s,baz=233,slow=4.1,SNR=2.0						
MKAR	Makanchi Array	119.13	309	PKP	PKiKP	10 05 25.3	+2.6
	comp=Z,0.2nm,0.4s,baz=75,slow=1.4,SNR=3.7						
MKAR	Makanchi Array	119.13	309	PKPdf	PKPdf	10 05 22.9	+0.2
ARCES	ARCESS Array B	141.18	347	PKhKP	PKPpre	10 05 58.1	
	comp=Z,2.3nm,0.8s,baz=42,slow=4.2,SNR=2.0						
ARCES				PKP	PKiKP	10 06 06.6	+0.2
	comp=Z,2.2nm,0.7s,baz=7.8,slow=2.0,SNR=4.9						
KBZ	Khabaz	146.15	300	PKPbc	PKPab	10 06 15.9	+1.2
	comp=Z,2.3nm,0.6s,baz=27,slow=2.3,SNR=2.7						
FINES	FINESS Array B	147.54	338	PKPbc	PKPdf	10 06 15.3	+0.4
	comp=Z,3.2nm,0.6s,baz=46,slow=4.0,SNR=11						
FINES	FINESS Array B	147.54	338	PKPdf	PKPdf	10 06 14.6	-0.3
NB2	NORSAR Subarra	151.40	350	PKP	PKiKP	10 06 31.0	+3.3
	comp=Z,6.5nm,1.2s,baz=15,slow=4.0						
NOA	NORSAR Array B	151.40	350	PKPbc	PKiKP	10 06 28.7	+1.0
	comp=Z,1.6nm,0.6s,baz=14,slow=4.1,SNR=9.3						
AKASG	Malin Array Be	153.12	319	PKPbc	PKiKP	10 06 34.0	+2.6
	comp=Z,0.8nm,0.5s,baz=48,slow=2.5,SNR=2.6						
BRTR	Keskin Array B	153.34	293	PKPbc	PKiKP	10 06 35.1	+2.6
	comp=Z,0.7nm,0.4s,baz=182,slow=2.7,SNR=4.9						
BRTR	Keskin Array B	153.34	293	PKPdf	PKPdf	10 06 24.0	-0.8
TORD	Torodi Ar. Bea	160.06	181	PKPab	PKPab	10 07 15.1	+1.6
	comp=Z,1.1nm,0.7s,baz=177,slow=2.6,SNR=4.8						
TORD	Torodi Ar. Bea	160.06	181		PKPab	10 07 11.7	-1.8

IDC 08 09:50:53.8±3.4, 32°.79S×178°.43W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.6/34, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=78.5km s-min=38.2km az=114.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.55	212	Pn	Pn	09 52 31.1	-0.3
	0.9nm,0.3s,baz=315,slow=21,SNR=1.1						
URZ				Sn	Sn	09 53 45.7	-1.1
	0.7nm,0.3s,baz=292,slow=23,SNR=1.6						
ASAR	Alice Springs	42.67	270	P	P	09 58 52.4	0.0
	0.3nm,0.5s,baz=111,slow=7.3,SNR=2.8						
WRA	Warramunga Arr	43.88	275	P	P	09 59 02.3	+0.1
	0.5nm,0.4s,baz=113,slow=7.8,SNR=5.6						
FINES	FINESS Array B	147.24	338	PKPbc	PKPbc	10 10 37.4	-0.9
	2.1nm,0.8s,baz=35,slow=5.1,SNR=3.4						

IDC 08 09:56:48.0±3.1, 32°.82S×178°.41W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/28, mbtmp3.8/3, ML3.8/1, Error ellipse: s-maj=70.6km s-min=36.5km az=114.0
WEL 08 09:56:51.9±0.8, 33°S±9°×17°9W±2°2, h33km, M4.1/8, mB4.6/6, ML4.6/17, MLv4.3/8, Mw(mB)3.9/6, Error ellipse: s-maj=0.0km s-min=0.0km az=110.9
ISC 08 09:56:49.6±1.9, 32°.83S±0°.10×178°.0W±0°.2, h34km, n27, σ1s.50/48, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.56	1	S	Sn	09 58 21.9	-1.4
MXZ	Matakaoa Point	5.61	212	P	Pn	09 58 12.5	+1.9
MXZ				S	Sn	09 59 12.8	-1.0
WMGZ	Waiomatatini S	5.78	210	P	Pn	09 58 15.9	+3.0
WMGZ				S	Sn	09 59 19.6	+1.5
PKGZ	Pakihiroa	5.98	211	P	Pn	09 58 18.3	+2.5
PKGZ				S	Sn	09 59 22.9	-0.3
HAZ	Te Kaha	6.01	214	P	Pn	09 58 18.6	+2.5
HAZ				S	Sn	09 59 26.2	+2.5
PUZ	Puketiti	6.06	209	P	Pn	09 58 16.3	-0.5
PUZ				S	Sn	09 59 23.6	-1.4
RUGZ	Raukumara Rang	6.23	214	P	Pn	09 58 19.6	+0.5
RUGZ				S	Sn	09 59 29.0	-0.2
TWGZ	Tauwhareparae	6.27	211	P	Pn	09 58 21.6	+2.0
TWGZ				S	Sn	09 59 29.5	-0.6
CNGZ	Carnagh Statio	6.43	208	P	Pn	09 58 21.5	-0.3
CNGZ				S	Sn	09 59 35.1	+1.0
KUZ	Kuaotunu	6.49	231	P	Pn	09 58 24.2	+1.5
TKGZ	Te Karaka	6.54	210	P	Pn	09 58 23.8	+0.4
TKGZ				S	Sn	09 59 35.2	-1.5
MWZ	Matawai	6.60	212	P	Pn	09 58 25.5	+1.3
MWZ				S	Sn	09 59 35.5	-2.7
URZ	Urewera	6.73	215	Pn	Pn	09 58 26.2	+0.3
	1.9nm,0.3s,baz=114,slow=19,SNR=14						
URZ				Sn	Sn	09 59 40.0	-1.4
	2.3nm,0.3s,baz=37,slow=20,SNR=3.6						
URZ	Urewera	6.73	215	P	Pn	09 58 25.6	-0.4
URZ				S	Sn	09 59 40.5	-0.9
RAGZ	Rawiri	6.78	212	P	Pn	09 58 27.7	+1.0
RAGZ				S	Sn	09 59 42.0	-0.7
RIGZ	Rimuhau	6.80	209	P	Pn	09 58 27.4	+0.4
RIGZ				S	Sn	09 59 40.6	-2.7
SNGZ	Shannon Statio	7.05	211	P	Pn	09 58 30.7	+0.4
SNGZ				S	Sn	09 59 48.5	-0.8
MUGZ	Murupara	7.07	216	P	Pn	09 58 31.1	+0.5
MUGZ				S	Sn	09 59 47.5	-2.3
RAHZ	Arahi	7.27	212	P	Pn	09 58 35.1	+1.7
RAHZ				S	Sn	09 59 53.6	-1.2
MTHZ	Maungataniwha	7.33	214	P	Pn	09 58 34.4	+0.2
MTHZ				S	Sn	09 59 54.0	-2.3
NMHZ	Naumai	7.54	213	P	Pn	09 58 37.6	+0.4
NMHZ				S	Sn	10 00 00.6	-0.9
BKZ	Black Stump Fm	7.74	214	P	Pn	09 58 40.0	+0.1
BKZ				S	Sn	10 00 03.8	-2.6
KAHZ	Kahuranaki	8.09	209	P	Pn	09 58 44.3	-0.4
KAHZ				S	Sn	10 00 12.3	-2.6
KRVZ	Karewarewa	8.11	218	P	Pn	09 58 45.3	+0.3
ASAR	Alice Springs	43.05	270	P	P	10 04 47.0	+0.6
	0.6nm,0.6s,baz=108,slow=7.7,SNR=12						
WRA	Warramunga Arr	44.26	275	P	P	10 04 56.4	+0.3
	0.8nm,0.5s,baz=117,slow=7.8,SNR=20						
FINES	FINESS Array B	147.42	339	PKPbc	PKiKP	10 16 31.7	+0.4
	6.6nm,1.1s,baz=66,slow=3.4,SNR=4.9						

PGC 08 09:59:18.1±0.0, 50°.52N×130°.44W, h10km, MLSn3.1/35, Mw3.7/35, 214km west of Pt. Hardy, Bc Vancouver Island, Canada Region
IDC 08 09:59:20.7±1.6, 50°.68N×129°.91W, h0km, mb3.5/3, mb1 3.9/9, mb1mx3.6/45, mbtmp3.5/9, ML3.6/5, MS3.4/1, Ms1 3.4/1, ms1mx2.7/54, Error ellipse: s-maj=23.7km s-min=10.5km az=71.0
ISC 08 09:59:19.0±3.5, 50°.66N±0°.05×130°.20W±0°.06, h7km±25km, n90, σ1s.48/97, mb3.5/3, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOLB	Holberg	1.32	90	P	Pb	09 59 42.5	-1.6
HOLB				S	Sb	09 59 58.9	-2.3
BPBC	Brooks Peninsu	1.64	107	Pn	Pn	09 59 45.9	-2.4
PACB	Port Alice, BC	1.75	96	Pn	Pn	09 59 48.0	-1.6
HG4B	Hotspring	1.75	340	Pn	Pn	09 59 47.2	-2.5
HG4B				Sn	Sn	10 00 09.2	-3.0
PHC	Port Hardy	1.76	88	Pn	Pn	09 59 49.0	-0.9
PHC				Sn	Sn	10 00 10.3	-2.3
MAYB	Maynard	1.95	97	Pn	Pn	09 59 51.2	-1.4
BBB	Bella Bella	2.01	40	Pn	Pn	09 59 53.0	-0.3
	24nm,0.3s,baz=232,slow=13,SNR=61						
BBB				Sn	Sn	10 00 16.6	-2.1
	55nm,0.3s,baz=318,slow=21,SNR=17						
BBB	Bella Bella	2.01	40	Pn	Pn	09 59 53.0	-0.3
BBB				Sn	Sb	10 00 17.7	-3.3
EDB	Eliza Dome	2.13	111	Pn	Pn	09 59 53.1	-1.8
BNB	Barry Inlet	2.14	334	Pn	Pn	09 59 53.1	-2.1
TLCB	Telegraph Cove	2.15	92	Pn	Pn	09 59 54.5	-0.7
TLCB				Sn	Sn	10 00 20.6	-1.5
WOSB	Woss	2.38	101	Pn	Pn	09 59 57.6	-0.9
HG1B	Mitchell Dam	2.57	333	Pn	Pn	09 59 59.5	-1.5
BUTB	Butedale	2.63	24	Pn	Pn	10 00 01.9	-0.1
BUTB				Sn	Sn	10 00 33.3	-0.9
NCRB	Newcastle Ridg	2.66	94	Pn	Pn	10 00 01.4	-0.9
BNKB	Banks Island	2.68	4	Pn	Pn	10 00 01.5	-1.0
BNKB				Sn	Sn	10 00 33.3	-1.9
MOBC	Moresby Island	2.71	337	Pn	Pn	10 00 01.3	-1.8
MOBC				Sn	Sn	10 00 34.2	-1.9
GDR	Gold River	2.82	107	Pn	Pn	10 00 03.0	-1.4
BNAB	Bonilla	2.85	355	Pn	Pn	10 00 03.7	-1.1
DIB	Dawson Inlet,	2.91	332	Pn	Pn	10 00 03.7	-1.9
HWKB	Hawksbury Isla	3.01	12	Pn	Pn	10 00 06.7	-0.5
HWKB				Sn	Sn	10 00 43.3	-0.1
SPLB	Strathcona Par	3.02	103	Pn	Pn	10 00 06.4	-0.8
TOFB	Tofino	3.16	117	Pn	Pn	10 00 07.7	-1.4
CBB	Campbell River	3.16	100	Pn	Pn	10 00 08.5	-0.6
GRNB	Grenville Isla	3.19	3	Pn	Pn	10 00 09.0	-0.5
GRNB				Sn	Sn	10 00 45.6	-2.3
BTB	Buttle Lake	3.25	110	Pn	Pn	10 00 09.2	-1.3
MWAB	Mount Washingt	3.28	104	Pn	Pn	10 00 10.5	-0.4
OZB	Mount Ozzard	3.50	117	Pn	Pn	10 00 11.9	-1.8
KITB	Kitimat	3.55	15	Pn	Pn	10 00 14.4	-0.1
RUBB	Prince Rupert	3.67	360	Pn	Pn	10 00 16.0	-0.1
BFSB	Bamfield	3.76	117	Pn	Pn	10 00 16.6	-0.8
B928	Bamfield	3.76	117	Pn	Pn	10 00 16.5	-0.8
TXB	Texada	3.83	102	Pn	Pn	10 00 17.8	-0.5
MGB	Mount Grey	3.94	113	Pn	Pn	10 00 18.9	-1.1
SHB	Sechelt	4.21	102	Pn	Pn	10 00 23.2	-0.4
NLLB	Nanaimo Lost L	4.26	107	Pn	Pn	10 00 24.1	-0.1
PFB	Port Renfrew	4.29	117	Pn	Pn	10 00 23.9	-0.8
OCP	Olym-Cheeka Pk	4.34	121	Pn	Pn	10 00 25.0	-0.3
UBRB	Upper Baezaeko	4.41	57	Pn	Pn	10 00 28.4	+2.0
UBRB				Sn	Sn	10 01 18.2	+0.2
WPB	Watts Point	4.61	100	P	Pn	10 00 29.3	+0.3
BIB	Bowen Island	4.62	103	P	Pn	10 00 29.4	+0.2
WSLR	Whistler	4.69	94	P	Pn	10 00 31.0	+0.7
OBC	Olympics--Boni	4.79	121	P	Pn	10 00 32.4	+0.8
B010	North Saanich	4.83	112	P	Pn	10 00 32.3	+0.3
PGC	Sidney	4.83	112	P	Pn	10 00 32.2	+0.2
B009	North Saanich	4.83	112	P	Pn	10 00 32.8	+0.8
B011	North Saanich	4.83	112	P	Pn	10 00 32.6	+0.5
PA12	PA12 Sannich	4.83	112	P	Pn	10 00 32.2	+0.2
SNB	Saturna Island	4.94	110	P	Pn	10 00 35.0	+1.4
STW	Striped Peak	4.95	118	P	Pn	10 00 34.2	+0.5
VGZ	Gonzales	5.01	114	P	Pn	10 00 35.0	+0.4
HNBB	Haney	5.11	103	P	Pn	10 00 37.3	+1.4
MCW	Mount Constitu	5.18	110	P	Pn	10 00 38.4	+1.5
FSB	Fort Saint Jam	5.24	41	P	Pn	10 00 39.1	+1.5
LLLB	Lillooet	5.30	87	P	Pn	10 00 39.3	+0.8
VDB	Vedder Mountai	5.49	104	P	Pn	10 00 42.7	+1.5
HDW	Hoodsport	5.58	120	P	Pn	10 00 43.4	+1.0
MBW	Mount Baker	5.71	106	P	Pn	10 00 45.8	+1.5
CMW	Cultus Mountai	5.72	110	P	Pn	10 00 46.0	+1.6
GNW	Green Mountain	5.75	120	P	Pn	10 00 45.9	+1.2
HOPB	Hope	5.80	99	P	Pn	10 00 46.7	+1.3
JCW	Jim Creek	5.94	111	P	Pn	10 00 48.5	+1.3
E03A	Lebam	6.03	131	P	Pn	10 00 49.3	+0.8
B06A	Marblemount	6.06	107	P	Pn	10 00 50.2	+1.3
D05A	Enumclaw	6.43	120	P	Pn	10 00 56.1	+2.1
GPW	Glacier Peak	6.44	110	P	Pn	10 00 56.2	+1.8
FMW	Mount Fremont	6.76	120	P	Pn	10 01 00.3	+1.6
LON	Longmire	6.79	122	P	Pn	10 01 00.7	+1.6
LTY	Liberty	7.14	115	P	Pn	10 01 05.4	+1.5
BMBC	Bull Mountain	7.24	39	P	Pn	10 01 07.4	+2.2
B08A	Colville Reser	7.44	104	P	Pn	10 01 09.3	+1.3
NBC4	NorthernBC 4	7.62	45	P	Pn	10 01 12.7	+2.2
DLBC	Dease Lake	7.79	1	Pn	Pn	10 01 15.5	+2.8
	0.5nm,0.3s,baz=192,slow=15,SNR=7.7						
DLBC				Sn	Sn	10 02 41.2	0.0
	0.1nm,0.3s,baz=309,slow=25,SNR=1.5						
DLBC				Lg	Lg	10 03 31.9	
	0.1nm,0.3s,baz=320,slow=15,SNR=2.0						
DLBC	Dease Lake	7.79	1	P	Pn	10 01 15.3	+2.6
NBC5	NorthernBC 5	8.17	30	P	Pn	10 01 20.0	+2.0
NEW	Newport	8.85	101	Pn	Pn	10 01 27.9	+0.6
	0.3nm,0.3s,baz=294,slow=13,SNR=7.6						
NEW				Lg	Lg	10 03 48.4	
	0.0nm,0.3s,baz=146,slow=23,SNR=1.4						
NEW				LR	LR	10 04 38.2	
	comp=Z,220nm,18.2s,baz=331,slow=37						
FNBB	Fort Nelson	9.23	24	P	Pn	10 01 33.7	+1.3
YKA	Yellowknife Ar	14.59	30	Pn	Pn	10 02 44.4	-1.2
	0.2nm,0.3s,baz=218,slow=12,SNR=5.2						
NVAR	Mina Array Bea	14.86	141	Pn	Pn	10 02 51.5	+1.9
	baz=322,slow=13,SNR=1.4						
PDAR	Pinedale Array	16.18	111	Pn	Pn	10 03 08.8	+1.9
	0.1nm,0.3s,baz=317,slow=11,SNR=18						
ILAR	Eielson Array	16.63	335	Pn	P	10 03 17.4	+2.7
	0.0nm,0.3s,baz=143,slow=11,SNR=12						
ULM	Lac du Bonnet	21.75	78	P	P	10 04 10.2	-0.6
	2.2nm,0.7s,baz=277,slow=10,SNR=2.2						
ANMO	Albuquerque	23.31	123	P	P	10 04 28.6	+1.0
	0.7nm,0.7s,baz=63,slow=9.1,SNR=4.5						
TXAR	Lajitas Array	29.18	127	P	P	10 05 22.6	+1.7
	0.9nm,1.0s,baz=338,slow=3.0,SNR=6.2						
H11N2	WAKE ISLAND Hy	57.86	262	T	T	11 11 40.1	
	baz=42,slow=76,SNR=62						
H11N3	WAKE ISLAND Hy	57.86	262	T	T	11 11 39.4	
	baz=42,slow=76,SNR=281						
H11N1	WAKE ISLAND Hy	57.88	262	T	T	11 11 38.4	
	baz=42,slow=76,SNR=48						
H11S1	WAKE ISLAND Hy	58.89	261	T	T	11 13 01.5	
	baz=40,slow=75,SNR=21						
H11S2	WAKE ISLAND Hy	58.90	261	T	T	11 12 56.1	
	baz=40,slow=75,SNR=14						
H11S3	WAKE ISLAND Hy	58.91	261	T	T	11 12 59.7	
	baz=40,slow=75,SNR=8.2						

NOU 08 10:17:34.6, 33°.20S×176°.85W, h62km, mb4.8/12, South of Kermadec Islands
IDC 08 10:17:36.5±0.6, 32°.87S×178°.33W, h0km, mb4.4/9, mb1 4.5/14, mb1mx4.3/35, mbtmp4.5/14, ML4.6/5, MS4.1/6, Ms1 4.1/6, ms1mx3.6/34, Error ellipse: s-maj=22.2km s-min=17.4km az=121.0
WEL 08 10:17:42.0, 32°.98S×178°.58W, h22km, M4.8/13, mB5.2/10, ML5.1/13, MLv5.1/13, Mw(mB)4.7/10
NEIC 08 10:17:44.0±2.2, 32°.91S±0°.05×178°.7W±0°.2, h33km±4km, mb4.8/27, Error ellipse: s-maj=19.2km s-min=6.4km az=95.0
ISC 08 10:17:41.4±0.7, 32°.85S±0°.05×178°.25W±0°.07, h32km±4km, h31km:pP-P, n137, σ1s.64/160, mb4.8/23, MS3.9/8, 1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.59	5	P	Pn	10 18 30.7	-4.2
GLKZ				S	Sn	10 19 11.0	-5.2
RAO	Raoul Island	3.60	5	Pn	Pn	10 18 35.0	0.0
	60nm,0.3s,baz=204,slow=20,SNR=1.8						
RAO				Sn	Sn	10 19 11.5	-5.0
	171nm,0.3s,baz=107,slow=19,SNR=4.7						
RAO	Raoul Island	3.60	5	Pn	Pn	10 18 38.6	+3.6
MXZ	Matakaoa Point	5.48	210	Pn	Pn	10 18 58.4	-2.4
MXZ	Matakaoa Point	5.48	210	P	Pn	10 18 58.9	-1.9
PKGZ	Pakihiroa	5.85	210	P	Pn	10 19 03.6	-2.3
HAZ	Te Kaha	5.87	212	P	Pn	10 19 07.5	+1.4
HAZ				S	Sn	10 20 13.6	+1.2
PUZ	Puketiti	5.94	208	P	Pn	10 19 05.1	-2.0
RUGZ	Raukumara Rang	6.09	212	P	Pn	10 19 09.0	-0.3
TWGZ	Tauwhareparae	6.14	209	P	Pn	10 19 09.5	-0.4
TWGZ				S	Sn	10 20 19.7	+0.7
KUZ	Kuaotunu	6.30	230	P	Pn	10 19 13.6	+1.5
CNGZ	Carnagh Statio	6.32	206	P	Pn	10 19 10.4	-1.9
WHRZ	Whale Island	6.33	217	P	Pn	10 19 14.2	+1.6
WHRZ				S	Sn	10 20 26.2	+2.4
TKGZ	Te Karaka	6.42	209	P	Pn	10 19 13.8	+0.2
TKGZ				S	Sn	10 20 25.7	-0.1
MWZ	Matawai	6.46	211	P	Pn	10 19 13.9	-0.5
MWZ				S	Sn	10 20 26.6	-0.4
URZ	Urewera	6.59	214	Pn	Pn	10 19 14.6	-1.4
	11nm,0.3s,baz=330,slow=5.0,SNR=26						
URZ				Sn	Sn	10 20 29.2	-0.8
	24nm,0.3s,baz=164,slow=20,SNR=8.8						
URZ	Urewera	6.59	214	Pn	Pn	10 19 14.1	-1.9
URZ	Urewera	6.59	214	P	Pn	10 19 14.9	-1.1
URZ				S	Sn	10 20 29.0	-1.0
TGRZ	Tauranga	6.62	221	P	Pn	10 19 17.1	+0.6
RAGZ	Rawiri	6.64	211	P	Pn	10 19 16.3	-0.6
RAGZ				S	Sn	10 20 30.2	-1.3
RIGZ	Rimuhau	6.68	208	P	Pn	10 19 17.0	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRGZ	**Paritu Road**	**6.82**	**206**	P	**Pn**	**10 19 17.5**	**-1.7**
PRGZ				S	**Sn**	**10 20 34.6**	**-1.3**
SNGZ	**Shannon Statio**	**6.92**	**210**	P	**Pn**	**10 19 20.2**	**-0.4**
RTZ	**Ruatahuna**	**6.94**	**213**	P	**Pn**	**10 19 19.5**	**-1.4**
RTZ				S	**Sn**	**10 20 36.8**	**-1.9**
TOZ	**Tahuroa Road**	**7.05**	**225**	P	**Pn**	**10 19 24.6**	**+2.2**
RAHZ	**Arahi**	**7.14**	**211**	P	**Pn**	**10 19 23.8**	**+0.3**
RAHZ				S	**Sn**	**10 20 42.1**	**-1.5**
OUZ	**Omahuta**	**7.17**	**249**	P	**Pn**	**10 19 27.0**	**+3.0**
MTHZ	**Maungataniwha**	**7.19**	**212**	P	**Pn**	**10 19 25.5**	**+1.1**
NMHZ	**Naumai**	**7.41**	**211**	P	**Pn**	**10 19 27.3**	**0.0**
ARHZ	**Aropaoanui**	**7.46**	**210**	P	**Pn**	**10 19 27.9**	**-0.2**
BKZ	**Black Stump Fm**	**7.60**	**213**		**Pn**	**10 19 28.3**	**-1.7**
MCHZ	**McNeill Hill**	**7.74**	**210**	P	**Pn**	**10 19 31.6**	**-0.3**
ETVZ	**East Tongariro**	**7.95**	**216**	P	**Pn**	**10 19 34.2**	**-0.7**
KAHZ	**Kahuranaki**	**7.96**	**208**	P	**Pn**	**10 19 31.4**	**-3.6**
OTVZ	**Oturere**	**8.00**	**216**	P	**Pn**	**10 19 35.1**	**-0.5**
NNVZ	**North Ngauruho**	**8.00**	**217**	P	**Pn**	**10 19 35.7**	**+0.1**
MSVF	**Nonsavu**	**15.42**	**347**	Pn	**Pn**	**10 21 16.5**	**-0.3**
	0.3nm,0.3s,baz=177,slow=16,SNR=2.2						
MSVF				LR	LR	10 26 27.1	
	comp=Z,777nm,18.5s,baz=181,slow=34						
MSVF	**Nonsavu**	**15.42**	**347**	IAmb	IAmb	10 21 35.5	
	comp=Z,67nm,1.5s						
ONTNC	**Ouen Toro**	**17.13**	**304**	Pn	**Pn**	**10 21 35.5**	**-2.9**
ONTNC				IAmb	IAmb	10 21 49.8	
	comp=Z,57nm,1.1s						
DZM	**Mont Dzumac**	**17.30**	**305**	*e*Pn	**P**	**10 21 44.8**	**+3.0**
	comp=Z,66nm,1.1s						
DZM				*e*LR	LR	10 25 50.5	
	comp=Z,1μm,22.6s						
DZM	**Mont Dzumac**	**17.30**	**305**	P	**Pn**	**10 21 40.7**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=121,slow=15,SNR=6.4						
DZM				LR	LR	10 27 13.6	
	comp=Z,2μm,18.4s,baz=182,slow=34						
DZM	**Mont Dzumac**	**17.30**	**305**	Pn	**Pn**	**10 21 38.4**	**-2.2**
DZM				IAmb	IAmb	10 21 58.8	
	comp=Z,83nm,1.4s						
AFI	**Afiamalu**	**19.76**	**19**	P	**P**	**10 22 09.8**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=221,slow=18,SNR=1.4						
KOUNC	**Koumac, New Ca**	**19.80**	**304**	P	**Pn**	**10 22 11.6**	**+0.6**
RAR	**Rarotonga**	**20.10**	**59**	P	**P**	**10 22 13.3**	**+0.8**
	comp=Z,8.4nm,0.8s,baz=233,slow=10,SNR=2.0						
RAR				LR	LR	10 30 16.2	
	comp=Z,229nm,18.4s,baz=242,slow=38						
ARMA	**Armidale**	**25.72**	**267**	P	**P**	**10 23 11.3**	**+2.2**
	baz=26,SNR=5.6						
TBI	**Tubuai**	**27.03**	**77**	*e*LR	LR	10 29 40.0	
	comp=Z,396nm,27.0s						
EIDS	**Eidsvold**	**27.74**	**278**	P	**P**	**10 23 28.6**	**+1.4**
	baz=28,SNR=3.5						
EIDS	**Eidsvold**	**27.74**	**278**	P	**P**	**10 23 28.2**	**+1.0**
RMQ	**Roma**	**29.28**	**274**	P	**P**	**10 23 42.7**	**+1.7**
	baz=29,SNR=13						
TOO	**Toolangi**	**29.88**	**251**	P	**P**	**10 23 44.9**	**-1.2**
TOO				IAmb	IAmb	10 23 58.0	
	comp=Z,25nm,1.4s						
PPT2	**Papeete2**	**29.94**	**66**	*e*LR	LR	10 31 02.5	
	comp=Z,317nm,25.8s						
PPT	**Papeete**	**29.95**	**66**	LR	LR	10 37 25.0	
	comp=Z,129nm,18.0s,baz=246,slow=40						
CMSA	**Cobar Meteorol**	**30.45**	**263**	P	**P**	**10 23 52.4**	**+1.1**
	baz=31,SNR=11						
ARPS	**Mount Arapiles**	**32.84**	**252**	P	**P**	**10 24 12.8**	**+0.6**
	baz=33,SNR=7.3						
STKA	**Stephens Creek**	**33.79**	**261**	P	**P**	**10 24 19.9**	**-0.7**
	comp=Z,2.8nm,1.0s,baz=116,slow=16,SNR=3.6						
STKA				LR	LR	10 37 31.6	
	comp=Z,498nm,18.2s,baz=89,slow=35						
STKA	**Stephens Creek**	**33.79**	**261**	P	**P**	**10 24 20.4**	**-0.1**
CTA	**Charters Tower**	**34.06**	**283**	P	**P**	**10 24 23.0**	**0.0**
	comp=Z,20nm,0.6s,baz=117,slow=10.0,SNR=36						
CTAO	**Charters Tower**	**34.06**	**283**	P	**P**	**10 24 24.1**	**+1.2**
HTT	**Hallett**	**35.68**	**257**	P	**P**	**10 24 36.4**	**-0.5**
	baz=36,SNR=3.4						
MTSU	**Mount Surprise**	**36.62**	**284**	P	**P**	**10 24 45.7**	**+0.7**
	baz=37,SNR=9.9						
BBOO	**Buckleboo**	**38.16**	**257**	P	**P**	**10 24 56.9**	**-1.0**
	baz=38,SNR=6.8						
BBOO	**Buckleboo**	**38.16**	**257**	P	**P**	**10 24 56.8**	**-1.1**
BBOO				IAmb	IAmb	10 25 20.9	
	comp=Z,20nm,1.2s						
QIS	**Mount Isa**	**39.35**	**277**	P	**P**	**10 25 07.8**	**-0.2**
	baz=40,SNR=6.3						
COEN	**Coen**	**39.80**	**289**	P	**P**	**10 25 12.1**	**+0.3**
COEN				IAmb	IAmb	10 25 26.2	
	comp=Z,21nm,1.1s						
AS31	**Alice Springs**	**42.82**	**270**	P	**P**	**10 25 36.0**	**-0.6**
ASAR	**Alice Springs**	**42.82**	**270**	P	**P**	**10 25 36.0**	**-0.7**
	comp=Z,12nm,0.7s,baz=107,slow=7.5,SNR=128						
ASAR				PcP	**PcP**	**10 27 26.9**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=124,slow=4.6,SNR=1.5						
ASAR				ScP	**ScP**	**10 31 17.6**	**+1.5**
	comp=Z,0.6nm,1.0s,baz=119,slow=4.0,SNR=2.7						
ASAR				S	**S**	**10 31 56.6**	**-2.4**
	comp=Z,0.7nm,0.8s,baz=117,slow=15,SNR=5.4						
ASAR	**Alice Springs**	**42.82**	**270**	P	**P**	**10 25 35.0**	**-1.6**
WR0	**Warramunga Arr**	**43.86**	**275**	P	**P**	**10 25 43.8**	**-1.2**
WR0				IAmb	IAmb	10 25 58.5	
	comp=Z,13nm,0.7s						
WB2	**Warramunga Arr**	**44.02**	**275**	P	**P**	**10 25 45.3**	**-1.0**
WRAB	**Tennant Creek**	**44.03**	**275**	P	**P**	**10 25 45.2**	**-1.1**
WRA	**Warramunga Arr**	**44.03**	**275**	P	**P**	**10 25 45.2**	**-1.2**
	comp=Z,15nm,0.6s,baz=118,slow=7.6,SNR=134						
WRA				ScP	**ScP**	**10 31 22.8**	**+1.8**
	comp=Z,1.3nm,1.0s,baz=116,slow=4.1,SNR=5.1						
WRA				S	**S**	**10 32 13.8**	**-3.0**
	comp=Z,1.0nm,0.8s,baz=124,slow=14,SNR=5.5						
WRA				LR	LR	10 42 47.8	
	comp=Z,186nm,20.3s,baz=130,slow=34						
WRA	**Warramunga Arr**	**44.03**	**275**	P	**P**	**10 25 44.8**	**-1.6**
MANU	**Manus Island**	**44.49**	**306**	P	**P**	**10 25 48.9**	**-1.2**
MANU				IAmb	IAmb	10 25 50.2	
	comp=Z,18nm,1.0s						
FORT	**Forrest**	**45.26**	**258**	P	**P**	**10 25 54.6**	**-1.4**
	baz=45,SNR=32						
FORT	**Forrest**	**45.26**	**258**	P	**P**	**10 25 54.7**	**-1.4**
VNDA	**Vanda**	**45.64**	**186**	P	**P**	**10 25 58.4**	**0.0**
	comp=Z,0.4nm,0.5s,baz=48,slow=12,SNR=2.1						
WRKA	**Warakurna**	**47.01**	**265**	P	**P**	**10 26 08.0**	**-1.9**
	baz=47,SNR=22						
KDU	**Kakadu**	**49.18**	**282**	P	**P**	**10 26 26.1**	**-0.6**
	baz=49,SNR=6.2						
GENI	**Genyem**	**49.21**	**299**	P	**P**	**10 26 27.9**	**+0.9**
	comp=Z,35nm,0.9s						
MTN	**Manton Dam**	**50.20**	**281**	P	**P**	**10 26 34.3**	**-0.2**
	baz=50,SNR=3.7						
MTN	**Manton Dam**	**50.20**	**281**	P	**P**	**10 26 33.6**	**-0.9**
KNRA	**Kununurra**	**50.72**	**276**	P	**P**	**10 26 37.5**	**-0.9**
	baz=51,SNR=4.8						
KNRA	**Kununurra**	**50.72**	**276**	P	**P**	**10 26 37.6**	**-0.8**
KNRA				IAmb	IAmb	10 26 51.6	
	comp=Z,17nm,1.0s						
FITZ	**Fitzroy Crossi**	**52.19**	**272**	P	**P**	**10 26 48.1**	**-1.2**
	baz=52,SNR=15						
FITZ	**Fitzroy Crossi**	**52.19**	**272**	P	**P**	**10 26 48.4**	**-0.9**
FITZ				IAmb	IAmb	10 26 49.0	
	comp=Z,9.3nm,0.8s						
CASY	**Casey**	**52.89**	**209**	P	**P**	**10 26 53.4**	**-0.4**
CASY				IAmb	IAmb	10 26 55.3	
	comp=Z,15nm,1.2s						
MEEK	**Meekatharra**	**54.47**	**259**	P	**P**	**10 27 04.2**	**-1.9**
	baz=55,SNR=4.9						
FAKI	**Fak Fak**	**55.02**	**292**	P	**P**	**10 27 07.3**	**-2.9**
PSA00	**Pilbara Seismi**	**55.51**	**265**	P	**P**	**10 27 11.0**	**-2.7**
PSA00				IAmb	IAmb	10 27 11.6	
	comp=Z,7.1nm,1.2s						
MORW	**Morawa**	**55.66**	**255**	P	**P**	**10 27 11.8**	**-2.9**
MORW				IAmb	IAmb	10 27 16.3	
	comp=Z,18nm,1.4s						
BELA	**Belgrano 2**	**67.39**	**172**	P	**P**	**10 28 36.0**	**+2.9**
BELA				IAmb	IAmb	10 28 46.5	
	comp=Z,8.2nm,1.0s						
MAW	**Mawson**	**69.95**	**201**	P	**P**	**10 28 49.3**	**+0.3**
	comp=Z,2.2nm,1.0s,baz=124,slow=7.6,SNR=3.7						
MAW	**Mawson**	**69.95**	**201**	P	**P**	**10 28 50.3**	**+1.2**
SYO	**Syowa Base**	**74.69**	**193**	⇓*e*P	**P**	**10 29 16.0**	**-1.3**
SNAA	**Sanae**	**75.72**	**179**	P	**P**	**10 29 24.2**	**+0.8**
SNAA	**Sanae**	**75.72**	**179**	PcP	**PcP**	**10 29 33.5**	**-2.5**
SNAA	**Sanae**	**75.72**	**179**	P	**P**	**10 29 24.0**	**+0.6**
SNAA				IAmb	IAmb	10 29 34.8	
	comp=Z,9.0nm,1.0s						
VNA3	**Neumayer Olymp**	**75.88**	**176**	P	**P**	**10 29 25.9**	**+1.7**
VNA3	**Neumayer Olymp**	**75.88**	**176**	PcP	**PcP**	**10 29 35.1**	**-1.6**
VNA2	**Neumayer--Watz**	**76.31**	**177**	P	**P**	**10 29 27.3**	**+0.6**
	baz=176,slow=4.6						
VNA2	**Neumayer--Watz**	**76.31**	**177**	PcP	**PcP**	**10 29 37.4**	**-1.1**
VNA1	**Neumayer--Stat**	**76.54**	**177**	P	**P**	**10 29 29.5**	**+1.6**
VNA1	**Neumayer--Stat**	**76.54**	**177**	PcP	**PcP**	**10 29 38.8**	**-0.6**
NJ2	**Nanjing**	**87.68**	**311**	*e*P	**P**	**10 30 30.0**	**+3.2**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
PETK	**Petropavlovsk-**	**88.13**	**346**	P	**P**	**10 30 28.8**	**+0.4**
	comp=Z,1.6nm,0.5s,baz=142,slow=7.3,SNR=3.6						
USRK	**Ussuriysk Ar.**	**89.08**	**327**	P	**P**	**10 30 32.8**	**-0.4**
	comp=Z,1.9nm,0.9s,baz=167,slow=7.0,SNR=2.8						
HHC	**Hu-ho-hao-te**	**97.78**	**314**	*e*P	Pdif	10 31 14.9	+1.4
HHC	**Hu-ho-hao-te**	**97.78**	**314**	S	**S**	**10 42 42.8**	**+5.8**
HHC				pmax	pmax		
	comp=Z,22nm,1.4s						
HHC				pmax	pmax		
	comp=Z,87nm,7.3s						
HHC				LR	LR		
	comp=N,200nm,18.1s						
HHC				LR	LR		
	comp=E,160nm,17.2s						
HHC				LR	LR		
	comp=Z,200nm,18.0s						
LZH	**Lanzhou**	**100.01**	**306**	*e*P	**Pdif**	**10 31 27.9**	**+4.3**
LZH				pP	pPdif	10 31 32.6	+0.6
LZH				sP	sPdif	10 31 35.5	+0.5
LZH				pmax	pmax		
	comp=Z,19nm,1.2s						
WMQ	**Urumqi**	**114.56**	**307**	*e*P	**PKiKP**	**10 36 20.3**	**+2.2**
WMQ				pmax	pmax		
	comp=Z,220nm,8.7s						
MK31	**Makanchi Array**	**119.17**	**309**	PKPdf	**PKPdf**	**10 36 27.1**	**+0.3**
MKAR	**Makanchi Array**	**119.17**	**309**	PKP	**PKPdf**	**10 36 26.1**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=99,slow=4.8,SNR=11						
MKAR	**Makanchi Array**	**119.17**	**309**		**PKPdf**	**10 36 26.6**	**-0.2**
ZALV	**Zalesovo Beam**	**119.70**	**318**	PKP	**PKPdf**	**10 36 26.8**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=125,slow=1.7,SNR=3.8						
KKAR	**Karatay Array**	**126.22**	**302**	PKPdf	**PKPdf**	**10 36 41.1**	**+0.6**
ARCES	**ARCESS Array B**	**140.93**	**347**	PKhKP	PKPpre	10 37 01.3	
	comp=Z,3.6nm,1.0s,baz=72,slow=4.0,SNR=5.1						
ARCES				PKP	**PKPdf**	**10 37 07.4**	**+0.2**
	comp=Z,3.5nm,0.9s,baz=42,slow=2.0,SNR=5.7						
KBZ	**Khabaz**	**146.24**	**301**	PKPbc	**PKPdf**	**10 37 18.0**	**+0.7**
	comp=Z,3.9nm,0.9s,baz=63,slow=2.3,SNR=6.1						
FIA1	**FINESS Array S**	**147.35**	**338**		**PKPbc**	**10 37 20.7**	**-0.3**
FINES	**FINESS Array B**	**147.35**	**338**	PKPbc	**PKPbc**	**10 37 20.7**	**-0.4**
	comp=Z,16nm,0.7s,baz=46,slow=5.5,SNR=20						
MARD	**Mardin**	**147.91**	**289**		**PKPbc**	**10 37 23.2**	**-0.4**
ASF	**Jabal al Asfar**	**150.43**	**278**	PKPbc	**PKPbc**	**10 37 29.4**	**-0.6**
	comp=Z,5.4nm,0.7s,baz=100,slow=6.1,SNR=4.4						
NB2	**NORSAR Subarra**	**151.13**	**350**	PKP	**PKPbc**	**10 37 30.1**	**-0.5**
	comp=Z,5.9nm,0.9s,baz=16,slow=4.1						
NOA	**NORSAR Array B**	**151.13**	**350**	PKPbc	**PKPbc**	**10 37 30.3**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=14,slow=4.1,SNR=10						
EIL	**Elat**	**151.51**	**273**	PKPbc	**PKPbc**	**10 37 32.1**	**-0.3**
	baz=113,slow=7.7						
MNK	**Minsk**	**151.56**	**327**	*i* PKP	**PKPdf**	**10 37 24.2**	**-1.3**
	comp=E,3.0nm,0.9s						
MNK				*i* PKP	**PKPdf**	**10 37 24.2**	**-1.3**
	comp=N,18nm,1.0s						
MNK				*i* PKP	**PKPdf**	**10 37 24.2**	**-1.3**
	comp=Z,20nm,1.2s,baz=50						
MNK				*i* SKP		10 40 56.6	
MNK				*i* PKS	**PKSdf**	**10 40 59.1**	**-0.8**
MNK				*i* PP	PP	10 41 03.5	-8.0
MNK				*i* PPP	PPP	10 44 24.6	
MNK				*i* SKS	**SKSdf**	**10 44 31.7**	**+1.4**
MNK				*i* SKKS	**SKKSdf**	**10 53 23.6**	**+4.0**
MNK				*i* SS	SS	11 00 18.2	-16
MNK				*i* SSS	SSS	11 05 58.1	
MNK				*i* LQ	LQ	11 37 02.9	
MNK				*i* LR	LR	11 43 58.7	
MNK				*i* LRM	MLR	11 48 01.5	
	comp=Z,209nm,14.1s						
MNK				*i* LRM	MLR	11 48 07.8	
	comp=N,31nm,13.4s						
MNK				*i* LRM	MLR	11 48 21.9	
	comp=E,12nm,23.0s						
HFS	**Hagfors**	**151.59**	**347**	PKPbc	**PKPbc**	**10 37 31.1**	**-0.5**
	comp=E,7.3nm,0.7s,baz=95,slow=3.6,SNR=9.2						
HFS				PKPab	**pPKPbc**	**10 37 39.6**	**-0.6**
	comp=E,4.7nm,0.8s,baz=27,slow=3.5,SNR=4.1						
NACGM	**Naroch**	**151.79**	**329**	*i* PKP	**PKPbc**	**10 37 32.6**	**+0.3**
AKASG	**Malin Array Be**	**153.07**	**320**	PKPbc	**PKPbc**	**10 37 35.0**	**-0.2**
	comp=E,3.6nm,0.6s,baz=52,slow=2.3,SNR=12						
AKASG				PKPab	**sPKPbc**	**10 37 48.0**	**+1.2**
	comp=E,6.6nm,0.7s,baz=61,slow=2.4,SNR=8.7						
AKASG	**Malin Array Be**	**153.07**	**320**		**PKPbc**	**10 37 35.0**	**-0.2**
AKASG				PKPab	**sPKPbc**	**10 37 49.5**	**+2.7**
AKBB	**Malin Array Si**	**153.07**	**320**		**PKPbc**	**10 37 35.5**	**+0.3**
AKBB				PKPab	**sPKPbc**	**10 37 49.3**	**+2.5**
DBIC	**Dimbokro**	**153.23**	**165**	PKPbc	**PKPbc**	**10 37 37.2**	**+0.5**
	comp=E,3.1nm,0.8s,baz=180,slow=4.0,SNR=2.1						
BRTR	**Keskin Array B**	**153.49**	**294**	PKPbc	**PKPbc**	**10 37 36.5**	**-0.3**
	comp=E,2.8nm,0.6s,baz=84,slow=2.9,SNR=7.4						
BRTR				PKPab	**sPKPbc**	**10 37 48.0**	**-0.3**
	comp=E,2.1nm,0.5s,baz=69,slow=4.8,SNR=3.6						
BRTR	**Keskin Array B**	**153.49**	**294**		**PKPbc**	**10 37 36.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**160.39**	**180**	PKP	**PKPdf**	**10 37 38.1**	**-0.2**
	comp=E,1.2nm,1.1s,baz=189,slow=2.8,SNR=3.7						
TORD				PKPab	**PKPab**	**10 38 20.7**	**+1.6**
	comp=E,0.6nm,0.7s,baz=185,slow=4.2,SNR=1.8						
TORD	**Torodi Ar. Bea**	**160.39**	**180**	PKPab	**PKPab**	**10 38 20.6**	**+1.5**
GERES	**GERESS Array B**	**161.68**	**334**	PKPab	**PKPab**	**10 38 23.2**	**-0.9**
	comp=E,1.7nm,0.9s,baz=22,slow=4.3,SNR=4.5						

WEL 08 10:28:18.6±1.0**,34°S**±7°×**17°6W**±1°1**,h33**km**,M4.2**/6, **mB4.8**/4**,ML4.5**/13**,MLv4.2**/6**,Mw(mB)4.1**/4**,Error ellipse: s-maj=0.0km s-min=0.0km az=116.4,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.14**	**346**	S	Sn	10 30 33.2	+1.8
MXZ	**Matakaoa Point**	**5.36**	**231**	P	Pn	10 29 36.6	+0.4
MXZ				S	Sn	10 30 36.7	-0.1
WMGZ	**Waiomatatini S**	**5.45**	**228**	P	Pn	10 29 40.4	+2.9
WMGZ				S	Sn	10 30 43.6	+4.6
PKGZ	**Pakihiroa**	**5.70**	**229**	P	Pn	10 29 39.9	-1.1
PKGZ				S	Sn	10 30 47.1	+1.8
PUZ	**Puketiti**	**5.71**	**227**	P	Pn	10 29 40.5	-0.5
PUZ				S	Sn	10 30 47.4	+2.0
HAZ	**Te Kaha**	**5.81**	**232**	P	Pn	10 29 40.6	-1.8
HAZ				S	Sn	10 30 48.0	+0.1
TWGZ	**Tauwhareparae**	**5.94**	**227**	P	Pn	10 29 45.4	+1.1
TWGZ				S	Sn	10 30 53.5	+2.3
RUGZ	**Raukumara Rang**	**6.00**	**230**	P	Pn	10 29 43.4	-1.8
RUGZ				S	Sn	10 30 54.3	+1.5
CNGZ	**Carnagh Statio**	**6.01**	**224**	P	Pn	10 29 45.5	+0.3
MWZ	**Matawai**	**6.32**	**228**	P	Pn	10 29 47.8	-1.6
MWZ				S	Sn	10 31 00.3	-0.2
RIGZ	**Rimuhau**	**6.42**	**225**	P	Pn	10 29 52.3	+1.5
RIGZ				S	Sn	10 31 07.0	+4.1
RAGZ	**Rawiri**	**6.49**	**228**	P	Pn	10 29 52.4	+0.6
RAGZ				S	Sn	10 31 05.4	+0.7
URZ	**Urewera**	**6.54**	**231**	P	Pn	10 29 49.9	-2.5
URZ				S	Sn	10 31 04.0	-1.7
SNGZ	**Shannon Statio**	**6.71**	**226**	P	Pn	10 29 55.5	+0.7
SNGZ				S	Sn	10 31 13.4	+3.2
RTZ	**Ruatahuna**	**6.83**	**229**	P	Pn	10 29 55.3	-1.2
RTZ				S	Sn	10 31 11.4	-1.7
MUGZ	**Murupara**	**6.88**	**230**	P	Pn	10 29 54.8	-2.4
MUGZ				S	Sn	10 31 10.7	-3.6
MTHZ	**Maungataniwha**	**7.06**	**228**	P	Pn	10 29 59.1	-0.5
UTU	**Utuhina**	**7.09**	**235**	P	Pn	10 30 03.0	+3.0

*IDC **08** 10:56:56.0±1.7, 14°27N×144°49E, h142km±8km, mb3.1/5, mb1 3.3/5, mb1mx3.0/58, mbtmp3.5/5, MS3.8/1, Ms1 3.8/1, ms1mx2.8/19, Error ellipse: s-maj=45.1km s-min=23.9km az=111.0*

ISC 08 10:56:56.7±1.4**,14°3N**±0°2×**144°6E**±0°3**,h150**km**,n8, σ0s75**/8**,mb3.4**/5**,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.72**	**158**	P	**Pn**	**10 57 19.9**	**+0.5**
	97nm,0.3s,baz=328,slow=2.4,SNR=38						
GUMO				S	**Sn**	**10 57 35.6**	**-1.0**
	173nm,0.3s,baz=1.4,slow=22,SNR=8.6						
CTA	**Charters Tower**	**34.17**	**177**	LR	LR	11 16 39.9	
	comp=Z,138nm,19.1s,baz=240,slow=35						
WRA	**Warramunga Arr**	**35.45**	**197**	P	**P**	**11 03 38.2**	**-0.5**
	0.4nm,0.6s,baz=15,slow=8.1,SNR=11						
FITZ	**Fitzroy Crossi**	**37.19**	**211**	P	**P**	**11 03 53.9**	**+0.4**
	0.6nm,0.7s,baz=26,slow=12,SNR=1.4						
ASAR	**Alice Springs**	**39.11**	**196**	P	**P**	**11 04 09.4**	**-0.2**
	0.2nm,0.5s,baz=16,slow=13,SNR=7.5						
DZM	**Mont Dzumac**	**41.98**	**149**	P	**P**	**11 04 34.1**	**+0.8**
	baz=317,slow=19						
STKA	**Stephens Creek**	**45.96**	**184**	P	**P**	**11 05 04.1**	**-0.6**
	1.0nm,0.3s,baz=357,slow=9.7,SNR=3.8						
ILAR	**Eielson Array**	**68.08**	**25**	P	**P**	**11 07 39.6**	**-0.3**
	0.1nm,0.4s,baz=251,slow=5.8,SNR=1.8						

WEL 08 10:57:31.1±0.8**,33°S**±14°×**17°9W**±3°4**,h33**km**,M4.1**/5, **mB4.5**/1**,ML4.4**/9**,MLv4.1**/5**,Mw(mB)3.7**/1**,Error ellipse: s-maj=0.0km s-min=0.0km az=111.5,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.83**	**15**	S	Sn	10 59 11.7	+0.1
MXZ	**Matakaoa Point**	**5.06**	**204**	P	Pn	10 58 43.5	-1.1
MXZ				S	Sn	10 59 41.0	-0.8
WMGZ	**Waiomatatini S**	**5.25**	**202**	P	Pn	10 58 48.8	+1.5
WMGZ				S	Sn	10 59 49.8	+3.1
HAZ	**Te Kaha**	**5.42**	**207**	P	Pn	10 58 51.1	+1.5
HAZ				S	Sn	10 59 53.3	+2.5
PUZ	**Puketiti**	**5.53**	**202**	P	Pn	10 58 51.5	+0.3
PUZ				S	Sn	10 59 52.5	-1.2
RUGZ	**Raukumara Rang**	**5.64**	**207**	P	Pn	10 58 54.1	+1.3
RUGZ				S	Sn	10 59 58.9	+2.4
CNGZ	**Carnagh Statio**	**5.93**	**201**	P	Pn	10 58 54.3	-2.2
TKGZ	**Te Karaka**	**6.00**	**204**	P	Pn	10 58 58.5	+1.0
TKGZ				S	Sn	11 00 05.2	+0.1
MWZ	**Matawai**	**6.02**	**206**	P	Pn	10 58 58.4	+0.5
MWZ				S	Sn	11 00 05.6	-0.1
URZ	**Urewera**	**6.12**	**209**	P	Pn	10 58 59.7	+0.4
URZ				S	Sn	11 00 08.3	+0.2
MUGZ	**Murupara**	**6.45**	**210**	P	Pn	10 59 04.2	+0.4
MUGZ				S	Sn	11 00 16.2	0.0
SNGZ	**Shannon Statio**	**6.49**	**206**	P	Pn	10 59 04.3	0.0
SNGZ				S	Sn	11 00 16.6	-0.5

WEL 08 11:02:09.5±1.2**,33°S**±25°×**17°8W**±3°7**,h33**km**,M4.5**/3, **mB4.7**/3**,ML4.5**/9**,MLv4.5**/2**,Mw(mB)3.9**/3**,Error ellipse: s-maj=0.1km s-min=0.0km az=123.4,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.43**	**212**	P	Pn	11 03 30.2	+2.0
MXZ				S	Sn	11 04 31.7	+2.2
HAZ	**Te Kaha**	**5.83**	**214**	P	Pn	11 03 35.2	+1.6
HAZ				S	Sn	11 04 42.0	+2.7
PUZ	**Puketiti**	**5.88**	**210**	P	Pn	11 03 34.2	-0.1
PUZ				S	Sn	11 04 41.0	+0.4
RUGZ	**Raukumara Rang**	**6.05**	**214**	P	Pn	11 03 37.3	+0.6
RUGZ				S	Sn	11 04 47.3	+2.4
TWGZ	**Tauwhareparae**	**6.09**	**211**	P	Pn	11 03 36.7	-0.5
TWGZ				S	Sn	11 04 45.3	-0.4
CNGZ	**Carnagh Statio**	**6.25**	**208**	P	Pn	11 03 39.4	0.0
MWZ	**Matawai**	**6.42**	**213**	P	Pn	11 03 41.5	-0.2
MWZ				S	Sn	11 04 53.9	+0.1
URZ	**Urewera**	**6.56**	**216**	P	Pn	11 03 43.4	-0.1
URZ				S	Sn	11 04 56.7	-0.4
SNGZ	**Shannon Statio**	**6.87**	**212**	P	Pn	11 03 49.3	+1.4
SNGZ				S	Sn	11 05 05.8	+0.9
MUGZ	**Murupara**	**6.89**	**216**	P	Pn	11 03 49.0	+0.8
MUGZ				S	Sn	11 05 04.9	-0.6
KWHZ	**Kaweka Forest**	**7.81**	**213**	P	Pn	11 03 55.4	-5.4

IDC 08 11:02:21.0±2.8**,6°98S**×**129°18E,h134**km±40km**,mb3.1**/1, **mb1 3.4**/5**,mb1mx3.1**/49**,mbtmp3.7**/5**,Error ellipse: s-maj=63.6km s-min=17.0km az=94.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.42**	**19**	P	Pn	11 03 55.2	+1.9
	0.8nm,0.3s,baz=204,slow=20,SNR=13						
SIJI				S	Sn	11 05 04.3	-1.1
	0.9nm,0.3s,baz=201,slow=19,SNR=6.9						
FITZ	**Fitzroy Crossi**	**11.57**	**197**	P	Pn	11 05 01.6	-0.7
	0.1nm,0.3s,baz=15,slow=12,SNR=9.8						
FITZ				S	Sn	11 07 01.9	-8.0
	0.3nm,0.3s,baz=321,slow=20,SNR=6.6						
WRA	**Warramunga Arr**	**13.82**	**159**	P	Pn	11 05 31.8	+0.3
	0.9nm,0.3s,baz=342,slow=12,SNR=40						
WRA				S	Sn	11 07 52.6	-12
	0.6nm,0.3s,baz=336,slow=21,SNR=9.2						
ASAR	**Alice Springs**	**17.20**	**165**	P	P	11 06 12.3	-0.4
	0.3nm,0.3s,baz=343,slow=9.3,SNR=19						
ASAR				S	S	11 09 10.0	-15
	0.1nm,0.3s,baz=238,slow=38,SNR=2.2						
MKAR	**Makanchi Array**	**67.77**	**327**	P	P	11 13 04.5	+0.2
	0.3nm,0.5s,baz=114,slow=7.9,SNR=2.7						

*IDC **08** 11:06:31.3±2.0, 33°23S×178°24W, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.8/30, mbtmp4.0/5, ML3.6/1, Error ellipse: s-maj=45.1km s-min=34.9km az=59.0*

ISC 08 11:06:33.3±1.3**,33°3S**±0°1×**178°3W**±0°2**,h10**km**,n10, σ0s77**/11**,mb4.0**/4**,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.16**	**216**	Pn	**Pn**	**11 08 03.8**	**-0.4**
	1.4nm,0.3s,baz=344,slow=20,SNR=12						
URZ				Sn	**Sn**	**11 09 14.6**	**0.0**
	3.4nm,0.3s,baz=156,slow=20,SNR=4.6						
CTA	**Charters Tower**	**34.12**	**284**	P	**P**	**11 13 19.3**	**+0.9**
	1.7nm,0.5s,baz=111,slow=9.1,SNR=2.3						
ASAR	**Alice Springs**	**42.77**	**270**	P	**P**	**11 14 31.1**	**-0.1**
	2.6nm,0.8s,baz=109,slow=7.4,SNR=28						
WRA	**Warramunga Arr**	**44.02**	**275**	P	**P**	**11 14 41.0**	**-0.4**
	0.9nm,0.5s,baz=114,slow=8.1,SNR=21						
QSPA	**South Pole Qui**	**56.78**	**180**	P	**P**	**11 16 17.9**	**+0.5**
	1.1nm,1.0s,baz=47,slow=1.4,SNR=2.2						
SNAA	**Sanae**	**75.23**	**179**	P	**PcP**	**11 18 28.5**	**-0.7**
VNA3	**Neumayer Olymp**	**75.40**	**176**	P	**PcP**	**11 18 30.0**	**+0.1**
VNA2	**Neumayer--Watz**	**75.83**	**177**	P	**PcP**	**11 18 32.2**	**+0.5**
	baz=185,slow=4.2						
VNA1	**Neumayer--Stat**	**76.06**	**177**	P	**PcP**	**11 18 33.7**	**+1.0**
FINES	**FINESS Array B**	**147.79**	**338**	PKPbc	**PKPbc**	**11 26 16.3**	**-1.3**
	2.4nm,0.9s,baz=25,slow=3.0,SNR=8.3						

IDC 08 11:09:47.9±3.1**,32°97S**×**178°87W,h0**km**,mb3.5**/2, **mb1 3.8**/3**,mb1mx3.5**/35**,mbtmp3.6**/3**,ML3.4**/1**,Error ellipse: s-maj=73.7km s-min=37.3km az=114.0,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.21**	**211**	Pn	Pn	11 11 20.7	-0.1
	1.0nm,0.3s,baz=128,slow=20,SNR=1.8						
URZ				Sn	Sn	11 12 33.6	+1.1
	1.4nm,0.3s,baz=114,slow=20,SNR=2.4						
ASAR	**Alice Springs**	**42.30**	**270**	P	P	11 17 43.6	0.0
	0.4nm,0.7s,baz=105,slow=6.6,SNR=2.0						
WRA	**Warramunga Arr**	**43.52**	**275**	P	P	11 17 53.2	-0.3
	0.5nm,0.6s,baz=116,slow=7.6,SNR=5.4						
FINES	**FINESS Array B**	**147.27**	**338**	PKPbc	PKPbc	11 29 31.8	-0.7
	2.6nm,0.8s,baz=20,slow=4.4,SNR=5.4						

*SOME **08** 11:12:40.8, 43°77N×69°63E*

*KRNET **08** 11:12:40.5±0.1, 43°69N×69°45E, mb2.9*

*NNC **08** 11:12:43.1±1.8, 43°64N×69°69E, h0km, mb3.8, mpv3.2, Error ellipse: s-maj=12.5km s-min=6.2km az=132.0, Suspected Mining explosion.*

ISC 08 11:12:39.5±2.3**,43°84N**±0°09×**69°74E**±0°09**,h0**km**,n16, σ1s10**/23**,10C-2D,Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.81**	**175**	P	**Pn**	**11 12 58.3**	**+0.1**
	0.9nm,0.2s						
BRLS				S	**Sn**	**11 13 10.9**	**-0.2**
	16nm,0.3s						
KK31	**Karatay Array**	**0.93**	**142**	⇓P	**Pb**	**11 12 58.1**	**-0.4**
	1.0nm,0.3s,baz=287,slow=16,SNR=67						
KK31				⇓S	**Sg**	**11 13 09.5**	**+0.2**
	5.3nm,0.3s,baz=291,slow=31,SNR=31						

IUG	Iuzhnay	1.71	173	P	Pb	11 13 11.9	+0.1
	284nm,0.3s						
IUG				S	Sg	11 13 33.9	-0.4
	50nm,0.4s						
MNAS	Manas	2.43	123	⇑iP	Pg	11 13 25.3	-0.8
	baz=17						
MNAS				⇑iS	Sg	11 13 57.9	+0.2
	baz=17						
TRKS	Terek-Say	2.53	155	⇑iP	Pb	11 13 25.5	-0.4
	baz=50						
TRKS				⇑iS	Sb	11 13 58.6	+1.0
	baz=50						
MRKS	Merke	2.77	112	Pg	Pg	11 13 32.9	+0.3
	2.1nm,0.3s						
MRKS				Lg	Lg	11 14 10.9	
EKS2	Erkin-Say	3.18	110	⇑iP	Pb	11 13 36.3	-0.6
	baz=7.0						
EKS2				⇑iS	Sb	11 14 16.7	+0.5
	baz=7.0						
USP	Ospenovka	3.51	98	⇑iP	Pb	11 13 41.4	-1.1
	baz=95						
USP				⇑iS	Sb	11 14 25.9	+0.3
	baz=95						
SGDS	Sogindy	3.57	95	Pg	Pg	11 13 50.4	+2.4
	2.0nm,0.3s						
SGDS				Lg	Lg	11 14 41.1	
	5.4nm,0.6s						
AAK	Ala-Archa	3.68	107	Pg	Pg	11 13 48.6	-1.4
	2.6nm,0.5s						
AAK				Lg	Lg	11 14 39.2	
	2.6nm,0.6s						
KRBS	Karabastau	4.30	90	Pg	Pg	11 14 01.4	-0.5
	2.2nm,0.3s						
KRBS				Lg	Lg	11 14 59.4	
	7.2nm,0.3s						
TKM2	Tokmak 2	4.37	100	⇑Pg	Pg	11 14 06.4	+3.2
	1.3nm,0.6s						
TKM2				⇑Lg	Lg	11 14 59.8	
	5.6nm,0.6s						
KST	Kastek	4.60	98	Pg	Pg	11 14 07.6	-0.1
	1.4nm,0.2s						
KST				Lg	Lg	11 15 10.1	
	2.9nm,0.7s						
KUU	Kurty	4.77	87	Pg	Pg	11 14 11.2	+0.3
	0.6nm,0.1s						
KUU				Lg	Lg	11 15 16.1	
	8.3nm,0.5s						
CHKK	Chushkaly	5.24	87	Pg	Pg	11 14 19.9	0.0
	2.1nm,0.3s						
CHKK				Lg	Lg	11 15 30.8	
	8.0nm,0.4s						
TNSS	Tian-Shan	5.31	96	Pg	Pg	11 14 19.9	-1.3
	1.4nm,0.4s						
TNSS				Lg	Lg	11 15 31.2	
	2.2nm,0.5s						

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*IDC **08** 11:20:46.1±5.2, 5.°37S×146.°94E, h124^{km}±43^{km}, mb3.8/7, mb1 4.1/10, mb1mx3.7/45, mbtmp4.4/10, MS4.2/2, Ms1 4.2/2, ms1mx3.0/41, Error ellipse: s-maj=42.9km s-min=18.7km az=88.0*

*NEIC **08** 11:20:51.6±1.7, 5.°39S±0.°09×146.°68E±0.°09, h162^{km}±7^{km}, mb4.5/24, Error ellipse: s-maj=13.5km s-min=12.3km az=99.0*

ISC 08 11:20:49.9±0.5**, 5.°38S**±0.°07×**146.°60E**±0.°07**, h150**^{km}**, n46, σ1^{s}04**/46**, mb4.2**/13**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	3.40	13		Pn	11 21 43.2	+0.8
RABL	Rabaul	5.67	78		Pn	11 22 11.6	-0.7
JAY	Jayapura	6.53	296	P	Pn	11 22 23.5	-0.2
	4.5nm,0.3s,baz=165,slow=10,SNR=27						
JAY				S	Sn	11 23 36.5	-0.8
	0.6nm,0.3s,baz=125,slow=5.9,SNR=1.2						
COEN	Coen	9.17	201	Pn	Pn	11 23 00.9	+2.0
HNR	Honiara	13.84	108	P	Pn	11 24 02.2	+2.4
CTA	Charters Tower	14.62	181	P	P	11 24 13.4	+1.4
	0.6nm,0.3s,baz=356,slow=14,SNR=13						
CTAO	Charters Tower	14.62	181	P	P	11 24 12.8	+0.7
SIJI	Sorong	15.95	286	P	Pn	11 24 27.0	+0.8
	2.0nm,0.3s,baz=192,slow=20,SNR=4.2						
MTN	Manton Dam	16.97	243	P	P	11 24 37.8	-0.1
MTN				IAmb	IAmb	11 24 45.3	
	comp=Z,13nm,1.2s						
WR0	Warramunga Arr	18.64	218	P	P	11 24 57.3	+1.0
WR0				IAmb	IAmb	11 24 58.1	
	comp=Z,20nm,0.6s						
WRAB	Tennant Creek	18.74	218	P	P	11 24 58.1	+0.8
WRAB				IAmb	IAmb	11 24 59.2	
	comp=Z,16nm,0.6s						
WB2	Warramunga Arr	18.75	218	P	P	11 24 58.6	+1.2
WB2				IAmb	IAmb	11 24 59.3	
	comp=Z,18nm,0.6s						
WRA	Warramunga Arr	18.76	218	P	P	11 24 58.4	+0.9
	comp=Z,3.4nm,0.3s,baz=42,slow=11,SNR=270						
WRA				S	S	11 28 21.3	-1.9
	comp=Z,0.2nm,0.3s,baz=47,slow=18,SNR=4.6						
WRA	Warramunga Arr	18.76	218	P	P	11 24 57.6	+0.1
KNRA	Kununurra	20.28	238	P	P	11 25 13.9	-0.1
KNRA				IAmb	IAmb	11 25 29.3	
	comp=Z,10nm,1.1s						
EIDS	Eidsvold	20.34	168	P	P	11 25 14.6	+0.1
EIDS				IAmb	IAmb	11 25 18.1	
	comp=Z,11nm,1.1s						
AS31	Alice Springs	21.91	213	P	P	11 25 32.1	+0.8
ASAR	Alice Springs	21.91	213	P	P	11 25 32.1	+0.7
	comp=Z,5.3nm,0.4s,baz=49,slow=8.4,SNR=174						
ASAR				S	S	11 29 23.5	+0.2
	comp=Z,2.2nm,0.8s,baz=34,slow=23,SNR=8.9						
ASAR	Alice Springs	21.91	213	P	P	11 25 32.0	+0.7
ASAR					PcP	11 29 24.0	-0.7
FITZ	Fitzroy Crossi	24.06	237	P	P	11 25 52.0	+0.5
	comp=Z,3.8nm,0.5s,baz=46,slow=9.0,SNR=34						
FITZ	Fitzroy Crossi	24.06	237	P	P	11 25 52.1	+0.6
ARMA	Armidale	25.36	170	P	P	11 26 03.5	+0.3
ARMA				IAmb	IAmb	11 26 29.0	
	comp=Z,28nm,1.4s						
STKA	Stephens Creek	26.77	189	P	P	11 26 15.4	-0.4
	comp=Z,3.2nm,0.5s,baz=1.9,slow=7.9,SNR=13						
STKA	Stephens Creek	26.77	189	P	P	11 26 15.2	-0.6
BBOO	Buckleboo	29.01	199	P	P	11 26 35.0	-0.7
BBOO				IAmb	IAmb	11 26 36.1	
	comp=Z,8.6nm,0.9s						
FORT	Forrest	30.70	212	P	P	11 26 51.1	+0.4
TOO	Toolangi	32.06	182	P	P	11 27 02.0	-0.5
TOO				IAmb	IAmb	11 27 12.2	
	comp=Z,18nm,1.2s						
MORW	Morawa	37.29	227	P	P	11 27 47.8	+0.2
MORW				IAmb	IAmb	11 27 59.3	
	comp=Z,7.5nm,1.4s						
QRZ	Quartz Range	42.26	150	P	P	11 28 26.8	-1.7
BKZ	Black Stump Fm	43.15	145	P	P	11 28 35.0	-0.7
TUWZ	Tuamarina	43.41	150	P	P	11 28 37.3	-0.4
RPZ	Rata Peaks	43.84	154	P	P	11 28 40.9	-0.2
JSD	Sado	43.88	350	P	P	11 28 42.1	+0.6
LBZ	Lake Benmore	44.02	156	P	P	11 28 40.8	-1.7
PSI	Prapat	48.31	279	LR	LR	11 56 27.3	
	comp=Z,172nm,18.1s,baz=278,slow=44						
CASY	Casey	65.75	195	P	P	11 31 17.8	-0.5
CASY				IAmb	IAmb	11 31 34.0	
	comp=Z,17nm,1.5s						
YAK	Yakutsk	68.47	352	LR	LR	12 02 51.4	
	comp=Z,220nm,18.1s,baz=84,slow=37						
VNDA	Vanda	72.55	177	P	P	11 31 59.2	-0.8
	comp=Z,1.5nm,0.5s,baz=331,slow=7.7,SNR=15						
VNDA	Vanda	72.55	177	IAmb	IAmb	11 32 00.1	
	comp=Z,1.7nm,0.7s						
MKAR	Makanchi Array	76.77	321	P	P	11 32 26.8	+1.9
	comp=Z,1.1nm,0.7s,baz=79,slow=7.8,SNR=5.1						
MAW	Mawson	82.66	203	P	P	11 32 55.5	-0.7
	comp=Z,1.3nm,0.6s,baz=104,slow=7.0,SNR=12						
MAW	Mawson	82.66	203	IAmb	IAmb	11 32 59.2	
	comp=Z,1.5nm,1.4s						
QSPA	South Pole Qui	84.58	180	P	P	11 33 05.0	-1.2
QSPA				IAmb	IAmb	11 33 16.0	
	comp=Z,6.7nm,1.4s						
ILAR	Eielson Array	85.07	23	P	P	11 33 06.4	-2.1
	comp=Z,0.8nm,0.6s,baz=250,slow=4.7,SNR=4.5						
TORD	Torodi Ar. Bea	144.55	285	PKP	PKPab	11 40 07.5	-0.9
	comp=Z,0.3nm,0.5s,baz=105,slow=4.7,SNR=2.6						
TORD	Torodi Ar. Bea	144.55	285		PKPab	11 40 07.1	-1.3

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*BJI **08** 11:22:36.0±0.0, 34.°70N×138.°50E, h20^{km}, mB4.8/27, mb4.4/38, Ms4.1/20, Ms7 3.8/16*

*MOS **08** 11:22:37.4±1.2, 34.°69N×138.°43E, h29^{km}, mb4.7/23, Error ellipse: s-maj=9.9km s-min=5.3km az=107.2*

*JMA **08** 11:22:38.0±0.1, 34.°70N×138.°52E, h23^{km}±2^{km}, M4.6*

JMA Felt III J1.

*IDC **08** 11:22:38.9±2.0, 34.°66N×138.°49E, h36^{km}±17^{km}, mb3.8/23, mb1 4.0/29, mb1mx3.9/64, mbtmp4.0/29, ML3.8/5, MS3.6/13, Ms1 3.6/13, ms1mx3.3/82, Error ellipse: s-maj=14.2km s-min=11.9km az=75.0*

*NIED **08** 11:22:38.0, 34.°70N×138.°52E, h23^{km}, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.06; $M_{\theta\theta}$-0.56; $M_{\phi\phi}$0.50; $M_{r\theta}$0.55; $M_{\theta\phi}$3.70; $M_{\phi r}$1.35; Fault plane solution: $M_0$4.00000×10^{15} NP1: ϕ_s355.00000°, δ82.00000°, λ161.00000°. NP2: ϕ_s87.00000°, δ71.00000°, λ8.00000°.*

*NEIC **08** 11:22:40.2±2.2, 34.°68N±0.°04×138.°41E±0.°05, h33^{km}±4^{km}, mb4.5/47 Error ellipse: s-maj=6.5km s-min=5.9km az=203.0*

ISC 08 11:22:38.9±0.8**, 34.°71N**±0.°03×**138.°50E**±0.°03**, h28**^{km}±5^{km}**, n199, σ1^{s}45**/211**, mb4.4**/62**, MS3.7**/15**, 12C-19D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSG	Sagara	0.26	262	⇓P	Pb	11 22 44.7	-1.0
JSG	Sagara	0.26	262		Pb	11 22 44.7	-1.0
JSG					Sb	11 22 50.3	0.0
JIZS	Izushimoda	0.31	89	⇑P	Pb	11 22 44.6	-1.7
JIZS				S	Sb	11 22 49.5	-1.9
SHZ3	Shizuoka 3	0.43	326	P	Pb	11 22 47.0	-1.1
SHZ3				eS	Sb	11 22 53.8	-0.6
JFNN	Fujinakano	0.50	17	⇓P	Pb	11 22 48.0	-1.3
KTJ3	Kamata3	0.52	65	⇓P	Pb	11 22 48.4	-1.1
TK04	Tokai 4	0.61	238	⇓P	Pb	11 22 49.9	-1.1
JTHY	Toshimahigashi	0.68	106	P	Pb	11 22 51.2	-0.9
JOD2	Odawara 2	0.73	41	⇓P	Pb	11 22 51.7	-1.4
JOD2				S	Sb	11 23 02.2	-0.5
JIM2	Oshima 3	0.77	89	⇓P	Pb	11 22 52.6	-1.0
JYN	Shimob	0.78	2	⇑P	Pb	11 22 52.8	-1.2
JYN				S	Sn	11 23 04.0	-0.9
TK02	Tokai 2	0.98	219	⇓P	Pn	11 22 54.3	-2.2
TK02				S	Sb	11 23 08.0	-1.6
JGF	Kuroka	1.29	314	Pn	Pn	11 23 00.9	-0.1
JGF				Sn	Sb	11 23 17.7	-1.0
INU	Inuyama	1.37	298		Pn	11 23 01.1	-1.0
INU				Sn	Sn	11 23 19.2	-0.2
MJAR	Matsushiro Arr	1.84	353	Pn	Pn	11 23 09.2	+0.6
	126nm,0.3s,baz=169,slow=15,SNR=2414						
MJAR				Sn	Sb	11 23 32.4	-2.1
	53nm,0.3s,baz=171,slow=25,SNR=10						
MJAR				LR	LR	11 23 39.6	
	comp=Z,158nm,20.7s,baz=150,slow=32						
MJAR	Matsushiro Arr	1.84	353	Pn	Pn	11 23 09.4	+0.8
MAJO	Matsushiro	1.84	353	c iP	Pb	11 23 10.4	-1.5
MAJO	Matsushiro	1.84	353		Pb	11 23 10.3	-1.6
MAJO				Sn	Sb	11 23 35.7	+1.2
MAT	Matsushiro	1.84	353	P	Pb	11 23 10.1	-1.8
MAT				S	Sb	11 23 35.3	+0.8
MJB9	Matsu-Tunnel	1.84	353		Pb	11 23 10.3	-1.6
MJB9				Sn	Sb	11 23 35.5	+0.8
JHJ	Hachijo jima 2	1.91	146	Pn	Pn	11 23 09.4	-0.2
	132nm,0.3s,baz=301,slow=5.9,SNR=14						
JHJ				Sn	Sn	11 23 32.4	-0.3
	330nm,0.3s,baz=64,slow=23,SNR=5.2						
JHJ2	Mitsune	1.94	145		Pn	11 23 09.5	-0.4
JYT	Yasato	2.05	42	Pn	Pn	11 23 11.9	+0.5
JWT	Wachi	2.61	283	Pn	Pn	11 23 18.9	-0.2
JSD	Sado	3.32	357	Pn	Pn	11 23 30.4	+1.4
JMM	Marumori	3.65	30		Pn	11 23 35.4	+2.0
JMN	Monobe	3.96	257	Pn	Pn	11 23 38.8	+1.1
JHS	Saijyo	4.44	275	Pn	Pn	11 23 44.7	+0.4
JTM	Tenmabayashi	6.39	18	Pn	Pn	11 24 13.3	+2.2
JNU	Nakatsue	6.53	258	Pn	Pn	11 24 13.2	+0.1
	4.3nm,0.3s,baz=75,slow=4.3,SNR=22						
JNU	Nakatsue	6.53	258	Pn	Pn	11 24 13.4	+0.3
JSU	Suzuyama	7.47	247	Pn	Pn	11 24 26.3	+0.3
JEM	Erimo	8.15	25	Pn	Pb	11 24 58.0	-1.3
JCJ	Chichijima	8.22	156	Pn	Pn	11 24 36.2	0.0
	3.0nm,0.3s,baz=264,slow=19,SNR=1.5						
JCJ	Chichijima	8.22	156	Pn	Pn	11 24 37.9	+1.6
JEW	Eniwo	8.43	15	Pn	Pn	11 24 42.0	+2.9
KSRS	Korea Array	8.99	291	Pn	Pn	11 24 47.4	+0.6
	0.2nm,0.3s,baz=109,slow=14,SNR=3.2						
KSRS				LR	LR	11 28 13.4	
	comp=Z,125nm,21.6s,baz=109,slow=37						
KSAR	Wonju Array Be	9.02	291	P	Pn	11 24 47.9	+0.8
KSAR	Wonju Array Be	9.02	291	Pn	Pn	11 24 47.9	+0.8
KS19	Wonju Array Si	9.04	291	Pn	Pn	11 24 49.4	+1.9
VLA	Vladivostok	9.85	330	⇓eP	Pn	11 24 57.3	-1.2
VLA				pmax	pmax		
	comp=Z,13nm,0.8s						
ASAJ	Asahikawa	9.91	17	Pn	Pn	11 24 58.5	-0.8
	comp=Z,0.8nm,0.3s,baz=236,slow=12,SNR=9.6						
ASAJ				LR	LR	11 28 47.7	
	comp=Z,194nm,21.6s,baz=224,slow=37						
ASAJ	Asahikawa	9.91	17	P	Pn	11 25 01.1	+1.8
JKA	Kamikawa-asahi	9.91	17	Pn	Pn	11 25 01.1	+1.8
INCN	Inchon	9.99	289	P	Pn	11 25 01.4	+0.8
INCN	Inchon	9.99	289	Pn	Pn	11 25 01.4	+0.8
USA0B	Ussuriysk Arra	10.72	334	P	Pn	11 25 10.3	-0.2
USA0B	Ussuriysk Arra	10.72	334	Pn	Pn	11 25 10.3	-0.2
USRK	Ussuriysk Ar.	10.72	334	Pn	Pn	11 25 09.8	-0.6
	baz=151,slow=13,SNR=2.7						
USRK				LR	LR	11 29 13.5	
	comp=Z,223nm,20.0s,baz=146,slow=37						
MDJ	Mudanjiang	12.03	328	P	Pn	11 25 30.0	+1.7
MDJ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,200nm,4.1s						
YSS	Yuzh-Sakhalins	12.64	13	eP	Pn	11 25 37.3	+0.6
YSS	Yuzh-Sakhalins	12.64	13	Pn	Pn	11 25 37.2	+0.5
SSE	Sheshan	14.99	261	P	Pn	11 26 05.3	-3.4
SSE				S	Sn	11 28 53.7	0.0
SSE				pmax	pmax		
	comp=Z,11nm,0.9s						
SSE				pmax	pmax		
	comp=Z,130nm,4.7s						
SSE				LR	LR		
	comp=Z,400nm,18.6s						
SSE				LR	LR		
	comp=Z,270nm,18.5s						
KLR	Kul'dur	15.34	343	Pn	Pn	11 26 12.7	-0.6
	comp=Z,0.3nm,0.3s,baz=140,slow=10,SNR=9.2						
KLR				LR	LR	11 32 18.5	
	comp=Z,151nm,19.3s,baz=158,slow=38						
KLR	Kul'dur	15.34	343	ceP	Pn	11 26 13.6	+0.3
KLR				pmax	pmax		
	comp=Z,7.0nm,1.3s						
TYV	Tymovskoe	16.42	9	eP	Pn	11 26 22.6	-4.5
NJ2	Nanjing	16.63	266	eP	Pn	11 26 29.8	0.0
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,260nm,6.4s						
NJ2				LR	LR		
	comp=Z,460nm,15.6s						
NJ2				LR	LR		
	comp=Z,140nm,7.6s						
NJ2				LR	LR		
	comp=Z,180nm,9.9s						
ZEA	Zeya	20.61	341	eP	P	11 27 14.2	-1.4
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WHN	Wuhan	20.75	265	⇓P	Pn	11 27 19.5	-0.3
WHN				pP	sP	11 27 26.1	-2.3
GUMO	Guam	21.81	163	LR	LR	11 34 28.8	
	comp=Z,127nm,20.6s,baz=268,slow=33						
HHC	Hu-ho-hao-te	22.11	294	eP	P	11 27 31.6	-0.4
HHC				pmax	pmax		
	comp=Z,11nm,1.0s						
HHC				pmax	pmax		
	comp=Z,81nm,4.8s						
HHC				LR	LR		
	comp=Z,230nm,13.5s						
HHC				LR	LR		
	comp=Z,160nm,13.2s						
HHC				LR	LR		
	comp=Z,230nm,12.0s						
PEA0B	Petropavlovsk-	22.88	31	⇓eP	P	11 27 41.6	+1.6
PEA0B	Petropavlovsk-	22.88	31	P	P	11 27 41.0	+1.0
PEA0B				IAmb	IAmb	11 27 51.3	
	comp=Z,11nm,0.9s						
PETK	Petropavlovsk-	22.88	31	P	P	11 27 39.6	-0.4
	comp=Z,6.3nm,1.0s,baz=224,slow=6.2,SNR=7.0						
XAN	Xi'an	24.39	277	P	P	11 27 55.7	+0.9
XAN				pP	pP	11 28 00.6	-2.3
XAN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MA2	Magadan	26.15	14	P	P	11 28 09.4	-1.0
	comp=Z,6.6nm,0.7s,baz=179,slow=9.7,SNR=7.4						
MA2	Magadan	26.15	14	⇓eP	P	11 28 11.5	+1.1
MA2				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MA2	Magadan	26.15	14	P	P	11 28 10.5	+0.1
MA2				IAmb	IAmb	11 28 18.9	
	comp=Z,11nm,0.7s						
ULN	Ulaanbaatar	26.83	309	⇓eP	P	11 28 19.3	+2.4
ULN				pmax	pmax		
	comp=Z,4.0nm,1.3s						
SONM	Songino Array	27.25	309	P	P	11 28 19.4	-1.1
	comp=Z,1.5nm,0.6s,baz=113,slow=9.0,SNR=8.1						
SONM				LR	LR	11 39 46.8	
	comp=Z,193nm,18.1s,baz=126,slow=38						
SONM	Songino Array	27.25	309	P	P	11 28 20.6	0.0
SONM				pmax	pmax		
	comp=Z,5.0nm,1.2s						
SONM	Songino Array	27.25	309	P	P	11 28 20.6	0.0
YAK	Yakutsk	27.91	351	LR	LR	11 40 20.1	
	comp=Z,87nm,18.1s,baz=218,slow=38						
YAK	Yakutsk	27.91	351	eP	P	11 28 26.3	+0.1
YAK				pmax	pmax		
	comp=Z,16nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.1s						
YAK	Yakutsk	27.91	351	P	P	11 28 26.2	+0.1
YAK				IAmb	IAmb	11 28 41.4	
	comp=Z,15nm,0.8s						
H11N2	WAKE ISLAND Hy	29.20	113	T	T	11 58 53.1	
	baz=308,slow=75,SNR=943						
H11N1	WAKE ISLAND Hy	29.21	113	T	T	11 58 53.4	
	baz=308,slow=75,SNR=507						
H11N3	WAKE ISLAND Hy	29.22	113	T	T	11 58 47.9	
	baz=308,slow=75,SNR=505						
H11S3	WAKE ISLAND Hy	29.79	116	T	T	11 59 45.6	
	baz=310,slow=76,SNR=40						
H11S1	WAKE ISLAND Hy	29.80	116	T	T	11 59 42.7	
	baz=310,slow=76,SNR=47						
H11S2	WAKE ISLAND Hy	29.81	116	T	T	11 59 47.5	
	baz=310,slow=76,SNR=44						
DAV	Davao City (W)	29.98	206	LR	LR	11 38 13.6	
	comp=Z,55nm,20.3s,baz=154,slow=31						
GTA	Gaotai	31.06	290	⇓P	P	11 28 54.5	-0.1
GTA				pP	sP	11 29 06.6	+0.4
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,43nm,4.7s						
GTA				LR	LR		
	comp=Z,140nm,16.0s						
GTA				LR	LR		
	comp=Z,110nm,14.9s						
GTA				LR	LR		
	comp=Z,120nm,17.4s						
BILL	Bilibino	36.92	17	⇑eP	P	11 29 49.6	+4.7
BILL				e		11 31 10.5	
BILL				iS	S	11 35 20.8	-7.0
BILL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BILL				MLR	MLR		
	comp=Z,911nm,15.0s						
TIXI	Tiksi	37.35	355	deP	P	11 29 48.3	-0.1
TIXI	Tiksi	37.35	355	P	P	11 29 47.5	-0.9
TIXI				IAmb	IAmb	11 29 48.9	
	comp=Z,7.6nm,1.1s						
CMAR	Chiang Mai Arr	38.63	256	P	P	11 29 56.7	-3.1
	comp=Z,0.7nm,0.5s,baz=44,slow=7.4,SNR=6.1						
CMAR				LR	LR	11 48 26.0	
	comp=Z,52nm,18.4s,baz=195,slow=40						
CMAR	Chiang Mai Arr	38.63	256	iP	P	11 30 00.1	+0.3
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WMQ	Urumqi	39.83	299	eP	P	11 30 11.3	+1.6
DGZ	Jazzator, Alta	39.89	308	⇑eP	P	11 30 11.3	+1.0
ZAA0	Zalesovo Array	41.79	314	P	P	11 30 24.9	-0.7
ZALV	Zalesovo Beam	41.79	314	P	P	11 30 22.8	-2.8
	comp=Z,1.4nm,0.7s,baz=109,slow=7.1,SNR=4.7						
ZALV				PcP	PcP	11 32 20.7	-0.6
	comp=Z,2.8nm,0.7s,baz=98,slow=2.7,SNR=6.5						
ZALV				LR	LR	11 47 38.2	
	comp=Z,60nm,20.0s,baz=114,slow=36						
ZALV	Zalesovo Beam	41.79	314	iP	P	11 30 26.7	+1.1
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZALV	Zalesovo Beam	41.79	314	P	P	11 30 24.7	-0.9
MK31	Makanchi Array	43.39	304	c iP	P	11 30 39.0	+0.2
MK31	Makanchi Array	43.39	304	P	P	11 30 39.2	+0.4
MKAR	Makanchi Array	43.39	304	P	P	11 30 38.0	-0.8
	comp=Z,3.3nm,0.8s,baz=89,slow=10.0,SNR=22						
MKAR				LR	LR	11 49 30.0	
	comp=Z,76nm,19.2s,baz=94,slow=37						
MKAR	Makanchi Array	43.39	304	iP	P	11 30 39.2	+0.4
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MKAR	Makanchi Array	43.39	304	P	P	11 30 39.2	+0.4
MAKZ	Makanchi	43.61	304	P	P	11 30 40.6	+0.1
MAKZ				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MAKZ	Makanchi	43.61	304	P	P	11 30 40.6	+0.1
NRIK	Noril'sk	44.42	337	⇓eP	P	11 30 50.1	+3.4
NRIK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
NRIK	Noril'sk	44.42	337	P	P	11 30 47.7	+1.0
NRIK				IAmb	IAmb	11 30 52.0	
	comp=Z,6.0nm,1.1s						
KSH	Kashi	49.22	295	P	P	11 31 29.2	+4.4
AAK	Ala-Archa	49.53	299	⇓iP	P	11 31 28.0	+0.8
AAK				pmax	pmax		
	comp=Z,17nm,2.5s						
J20K	Nowinta River	49.57	32	P	P	11 31 29.9	+2.9
J20K				IAmb	IAmb	11 31 43.1	
	comp=Z,4.8nm,1.1s						
K20K	Telida	49.57	33	P	P	11 31 29.6	+2.6
K20K				IAmb	IAmb	11 31 53.7	
	comp=Z,5.1nm,1.1s						
JOHN	Johnston Islan	49.57	97	P	P	11 31 28.7	+1.1
IMAR	Indian Mountai	49.84	30	P	P	11 31 29.3	+0.3
KDAK	Kodiak Island	50.40	40	P	P	11 31 31.9	-1.4
	comp=Z,2.2nm,0.8s,baz=285,slow=12,SNR=1.7						
KDAK	Kodiak Island	50.40	40	P	P	11 31 33.9	+0.6
KDAK				pmax	pmax		
	comp=Z,22nm,1.5s						
KDAK	Kodiak Island	50.40	40	P	P	11 31 33.9	+0.6
BRVK	Borovoye	50.47	313	c iP	P	11 31 34.3	+0.4
BRVK				pmax	pmax		
	comp=Z,12nm,1.0s						
BRVK	Borovoye	50.47	313	P	P	11 31 34.4	+0.5
BPAW	Bear Paw Mtn.	50.95	32	P	P	11 31 37.4	0.0
KNRA	Kununurra	50.96	192	P	P	11 31 36.9	-1.0
KNRA				IAmb	IAmb	11 31 44.9	
	comp=Z,6.6nm,0.8s						
MLY	Manley	51.06	31	P	P	11 31 37.9	-0.4
SUA	Susitna One	51.12	36	P	P	11 31 39.4	+0.5
SUA				IAmb	IAmb	11 32 02.6	
	comp=Z,5.4nm,1.0s						
SEW	Seward	51.84	37	P	P	11 31 45.0	+0.9
SEW				IAmb	IAmb	11 31 58.0	
	comp=Z,16nm,1.3s						
RND	Reindeer	51.92	33	P	P	11 31 47.6	+2.9
RND				pmax	pmax		
	comp=Z,7.0nm,1.2s						
RND	Reindeer	51.92	33	P	P	11 31 47.6	+2.9
RND				IAmb	IAmb	11 32 13.3	
	comp=Z,6.6nm,1.2s						
GHO	Glory Hole Cre	51.98	35	P	P	11 31 47.4	+2.2
GHO				IAmb	IAmb	11 32 13.4	
	comp=Z,5.9nm,1.0s						
MDM	Murphy Dome	52.13	31	P	P	11 31 47.3	+1.1
MDM				IAmb	IAmb	11 32 02.7	
	comp=Z,4.8nm,0.8s						
KK31	Karatay Array	52.26	301	P	P	11 31 48.5	+1.0
KK31				pmax	pmax		
	comp=Z,14nm,1.3s						
KK31	Karatay Array	52.26	301		P	11 31 48.5	+1.0
KK31				IAmb	IAmb	11 31 49.2	
	comp=Z,14nm,1.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KKAR	**Karatay Array**	**52.26**	**301**	P	**P**	**11 31 48.1**	**+0.6**
KKAR	**Karatay Array**	**52.26**	**301**		**P**	**11 31 48.1**	**+0.6**
POKR	**Poker Plat Res**	**52.46**	**31**	P	**P**	**11 31 49.4**	**+0.7**
POKR				IAmb	IAmb	11 32 12.2	
	comp=Z,8.7nm,1.1s						
IL31		**52.71**	**31**	P	**P**	**11 31 53.1**	**+2.7**
ILAR	**Eielson Array**	**52.71**	**31**	P	**P**	**11 31 48.6**	**-1.9**
	comp=Z,0.3nm,0.8s,baz=268,slow=5.0,SNR=2.7						
ILAR				PcP	**PcP**	**11 32 58.6**	**-1.3**
	comp=Z,0.5nm,0.9s,baz=270,slow=5.2,SNR=1.0						
ILAR	**Eielson Array**	**52.71**	**31**	P	**P**	**11 31 50.5**	**0.0**
ILAR	**Eielson Array**	**52.71**	**31**	P	**P**	**11 31 50.5**	**0.0**
SCM	**Sheep Creek Mo**	**52.73**	**35**	P	**P**	**11 31 52.6**	**+1.8**
SCM				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SCM	**Sheep Creek Mo**	**52.73**	**35**	P	**P**	**11 31 52.5**	**+1.8**
SCM				IAmb	IAmb	11 32 14.3	
	comp=Z,8.1nm,1.0s						
BMAR	**Burnt Mountain**	**53.49**	**28**	P	**P**	**11 31 58.0**	**+1.7**
HMT	**Hamilton**	**54.39**	**37**	P	**P**	**11 32 02.6**	**-0.3**
WB2	**Warramunga Arr**	**54.50**	**185**	P	**P**	**11 32 03.1**	**-0.9**
WB2				IAmb	IAmb	11 32 29.4	
	comp=Z,6.4nm,1.2s						
WRA	**Warramunga Arr**	**54.50**	**185**	P	**P**	**11 32 02.2**	**-1.8**
	comp=Z,0.4nm,0.4s,baz=1.0,slow=7.5,SNR=11						
WRA	**Warramunga Arr**	**54.50**	**185**	P	**P**	**11 32 03.5**	**-0.6**
WRA	**Warramunga Arr**	**54.50**	**185**	P	**P**	**11 32 03.5**	**-0.6**
WR0	**Warramunga Arr**	**54.50**	**185**	P	**P**	**11 32 03.7**	**-0.4**
WR0				IAmb	IAmb	11 32 20.2	
	comp=Z,5.8nm,1.1s						
CHGR	**Chuyangaron**	**54.54**	**296**	P	**P**	**11 32 03.7**	**-0.7**
K27K	**Chicken**	**54.86**	**32**	P	**P**	**11 32 08.0**	**+1.8**
K27K				IAmb	IAmb	11 32 34.7	
	comp=Z,3.2nm,1.0s						
BCAR	**Beaver Creek A**	**55.13**	**33**	P	**P**	**11 32 08.9**	**+0.6**
EGAK	**Eagle**	**55.15**	**31**	P	**P**	**11 32 09.0**	**+0.7**
M27K	**Edge Creek, AK**	**55.20**	**34**	P	**P**	**11 32 09.5**	**+0.6**
M27K				IAmb	IAmb	11 32 38.1	
	comp=Z,6.0nm,1.1s						
ARU	**Arti**	**56.55**	**319***c*	*i*P	**P**	**11 32 18.7**	**+0.3**
ARU						11 33 18.6	
ARU						11 34 21.7	
ARU				pmax	pmax		
	comp=Z,26nm,1.0s						
ARU	**Arti**	**56.55**	**319**	P	**P**	**11 32 17.4**	**-1.0**
EPYK	**Eagle Plains**	**56.70**	**29**	P	**P**	**11 32 20.8**	**+1.3**
INK	**Inuvik**	**57.52**	**26**	P	**P**	**11 32 23.3**	**-1.8**
	comp=Z,1.1nm,0.9s,baz=240,slow=14,SNR=1.7						
INK	**Inuvik**	**57.52**	**26**	P	**P**	**11 32 26.0**	**+0.9**
INK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
INK	**Inuvik**	**57.52**	**26**	P	**P**	**11 32 26.0**	**+0.9**
INK				IAmb	IAmb	11 32 53.4	
	comp=Z,4.2nm,1.1s						
HYT	**Haines Junctio**	**57.56**	**35**	P	**P**	**11 32 26.0**	**+0.3**
HYT				IAmb	IAmb	11 32 42.9	
	comp=Z,3.1nm,0.8s						
ABKAR	**Akbulak array**	**57.63**	**311**	P	**P**	**11 32 26.6**	**+0.3**
ASAR	**Alice Springs**	**58.22**	**185**	P	**P**	**11 32 28.8**	**-1.8**
	comp=Z,0.4nm,0.8s,baz=19,slow=11,SNR=3.5						
PALK	**Pallekele**	**59.55**	**257**	LR	LR	11 59 35.9	
	comp=Z,70nm,18.7s,baz=151,slow=37						
KIRV	**Kirov**	**60.67**	**323**⇓	*e*P	**P**	**11 32 48.0**	**+0.9**
SPITS	**Spitsbergen Ar**	**62.33**	**349**	LR	LR	12 01 46.6	
	comp=Z,347nm,18.0s,baz=350,slow=38						
EUNU	**Eureka**	**62.82**	**8**	P	**P**	**11 33 02.2**	**+0.8**
BELG	**Belogornoye**	**63.88**	**317***d*	*i*P	**P**	**11 33 08.8**	**+0.1**
BELG				pmax	pmax		
	comp=Z,5.0nm,1.2s						
SGF	**Sodankyl**	**66.17**	**337**	P	**P**	**11 33 24.2**	**+0.9**
SGF				pmax	pmax		
	comp=Z,18nm,22.7s						
YKA	**Yellowknife Ar**	**66.99**	**29**	P	**P**	**11 33 26.8**	**-1.9**
	comp=Z,0.3nm,0.6s,baz=309,slow=5.3,SNR=2.2						
FIA1	**FINESS Array S**	**69.75**	**332**	P	**P**	**11 33 46.5**	**+0.6**
FINES	**FINESS Array B**	**69.75**	**332**	P	**P**	**11 33 46.1**	**+0.2**
	comp=Z,6.0nm,0.5s,baz=77,slow=5.3,SNR=36						
FINES	**FINESS Array B**	**69.75**	**332**	P	**P**	**11 33 46.4**	**+0.5**
FINES	**FINESS Array B**	**69.75**	**332**	P	**P**	**11 33 46.4**	**+0.5**
KBZ	**Khabaz**	**70.60**	**310**	P	**P**	**11 33 51.0**	**-0.5**
	comp=Z,4.1nm,0.8s,baz=30,slow=3.1,SNR=7.5						
KBZ	**Khabaz**	**70.60**	**310***d*	*i*P	**P**	**11 33 52.4**	**+1.0**
KBZ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KIV	**Kislovodsk**	**70.62**	**310**	*e*P	**P**	**11 33 53.1**	**+1.4**
KIV				pmax	pmax		
	comp=Z,11nm,1.0s						
KIV				MLR	MLR		
	comp=Z,40nm,18.0s						
GNI	**Garni**	**71.18**	**306***ce*	P	**P**	**11 33 56.8**	**+1.5**
GNI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
VSU	**Vasula**	**71.24**	**329**⇑	*e*P	**P**	**11 33 58.8**	**+3.8**
VSU				pmax	pmax		
	comp=Z,77nm,1.6s						
SUMG	**Summit**	**72.98**	**359**	P	**P**	**11 34 07.3**	**+1.5**
SUMG				pmax	pmax		
	comp=Z,5.0nm,1.1s						
SUMG	**Summit**	**72.98**	**359**	P	**P**	**11 34 07.3**	**+1.5**
SUMG				IAmb	IAmb	11 34 11.3	
	comp=Z,5.1nm,1.1s						
MNK	**Minsk**	**73.07**	**325**	*i* P	**P**	**11 34 05.6**	**-0.5**
MNK				*i*		11 34 22.3	
MNK				*i*		11 36 47.6	
MNK				*i* PPP	PPP	11 38 32.3	
MNK				*i* S	**S**	**11 43 30.1**	**-1.2**
MNK				*i*		11 44 12.5	
MNK				*i* SS	**SS**	**11 48 09.1**	**-2.5**
MNK				pmax	pmax		
	comp=Z,12nm,0.6s						
MNK				pmax	pmax		
	comp=N,23nm,1.0s						
MNK				pmax	pmax		
	comp=E,2.0nm,1.0s						
MNK				MLR	MLR		
	comp=E,20nm,12.0s						
MNK				MLR	MLR		
	comp=N,130nm,15.0s						
MNK				MLR	MLR		
	comp=Z,232nm,28.0s						
MNK	**Minsk**	**73.07**	**325**	*i* P	**P**	**11 34 05.6**	**-0.4**
	comp=E,2.0nm,1.0s						
MNK				*i* P	**P**	**11 34 05.6**	**-0.4**
	comp=N,23nm,1.0s						
MNK				*i* P	**P**	**11 34 05.6**	**-0.4**
	comp=Z,12nm,0.6s,baz=54						
MNK				*i* PcP	**PcP**	**11 34 22.4**	**-0.4**
MNK				*i* PP	**PP**	**11 36 47.7**	**-0.7**
MNK				*i* PPP	PPP	11 38 32.4	
MNK				*i* S	**S**	**11 43 30.1**	**-1.2**
MNK				*i* SS	**SS**	**11 48 09.1**	**-2.5**
MNK				*i* SSS	SSS	11 51 32.3	
MNK				*i* LQ	LQ	12 01 14.2	
MNK				*i* LR	LR	12 04 40.7	
MNK				*i* LRM	MLR	12 10 30.5	
	comp=E,20nm,12.1s						
MNK				*i* LRM	MLR	12 10 36.9	
	comp=N,130nm,14.6s						
MNK				*i* LRM	MLR	12 10 38.2	
	comp=Z,232nm,28.0s						
NEW	**Newport**	**73.44**	**42**	P	**P**	**11 34 10.2**	**+1.8**
NEW				pmax	pmax		
	comp=Z,4.0nm,1.2s						
NEW	**Newport**	**73.44**	**42**	P	**P**	**11 34 10.2**	**+1.8**
NEW				IAmb	IAmb	11 34 12.8	
	comp=Z,4.0nm,1.1s						
AKASG	**Malin Array Be**	**74.66**	**322**	P	**P**	**11 34 14.3**	**-1.1**
	comp=Z,1.4nm,0.6s,baz=52,slow=5.2,SNR=6.3						
AKASG	**Malin Array Be**	**74.66**	**322**	*i* P	**P**	**11 34 15.3**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**74.66**	**322**	IAmb	IAmb	11 34 21.0	
	comp=Z,2.8nm,1.4s						
AKBB	**Malin Array Si**	**74.66**	**322**⇑	*e*P	**P**	**11 34 17.4**	**+1.9**
AKBB				pmax	pmax		
	comp=Z,6.0nm,1.3s						
HFS	**Hagfors**	**75.20**	**335**	P	**P**	**11 34 18.6**	**+0.2**
	comp=Z,4.2nm,0.6s,baz=62,slow=3.7,SNR=12						
NC204	**NORSAR Array S**	**75.36**	**337**	P	**P**	**11 34 19.9**	**+0.5**
NB2	**NORSAR Subarra**	**75.39**	**336**	P	**P**	**11 34 19.4**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=42,slow=5.9						
NOA	**NORSAR Array B**	**75.39**	**336**	P	**P**	**11 34 19.8**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=42,slow=5.7,SNR=17						
BEKR	**Beckworth**	**76.15**	**51**	P	**P**	**11 34 26.1**	**+1.6**
KVN	**Kaiserville**	**78.05**	**51**	P	**P**	**11 34 36.6**	**+1.4**
KVN				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KVN	**Kaiserville**	**78.05**	**51**	P	**P**	**11 34 36.6**	**+1.4**
KVN				IAmb	IAmb	11 35 00.4	
	comp=Z,4.4nm,1.2s						
NVAR	**Mina Array Bea**	**78.28**	**51**	P	**P**	**11 34 37.1**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=298,slow=4.2,SNR=9.5						
BRTR	**Keskin Array B**	**78.59**	**310**	P	**P**	**11 34 37.9**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=128,slow=2.4,SNR=5.4						
BRTR	**Keskin Array B**	**78.59**	**310**	P	**P**	**11 34 38.4**	**+0.3**
BRTR	**Keskin Array B**	**78.59**	**310**	P	**P**	**11 34 38.4**	**+0.3**
PDAR	**Pinedale Array**	**80.97**	**44**	P	**P**	**11 34 49.5**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=253,slow=5.6,SNR=3.1						
CLL	**Collm**	**81.89**	**329**	*e*P	**P**	**11 34 56.0**	**+0.5**
	comp=Z,6.0nm,0.8s						
CLL	**Collm**	**81.89**	**329**	*e*P	**P**	**11 34 56.0**	**+0.5**
CLL				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GERES	**GERESS Array B**	**83.40**	**327**	P	**P**	**11 35 03.0**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=48,slow=9.9,SNR=5.0						
GERES	**GERESS Array B**	**83.40**	**327**	P	**P**	**11 35 03.0**	**-0.5**
EKA	**Eskdalemuir Ar**	**84.49**	**339**	P	**P**	**11 35 08.2**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=37,slow=4.5,SNR=7.2						
TXAR	**Lajitas Array**	**93.41**	**51**	P	**P**	**11 35 50.6**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=286,slow=3.7,SNR=6.2						

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*IDC **08** 11:34:35.9±0.5, 57.16N×157.18W, $h0^{km}$, mb4.3/41, mb1 4.4/44, mb1mx4.3/93, mbtmp4.3/44, ML4.3/3, MS4.2/34, Ms1 4.2/34, ms1mx4.0/60, Error ellipse: s-maj=15.8km s-min=8.6km az=15.0*

*AEIC **08** 11:34:38±1.7, 57.05N±0.03×157.12W±0.06, $h5^{km}\pm3^{km}$, ML4.7, mb4.7/230(NEIC), ML4.9/42(NEIC), Mwr4.9/32(NEIC), Error ellipse: s-maj=5.2km s-min=3.9km az=132.0*

*NEIC **08** 11:34:39.7±1.7, 57.06N±0.03×157.10W±0.06, $h13^{km}\pm3^{km}$, Error ellipse: s-maj=5.3km s-min=4.1km az=132.0*

*GCMT **08** 11:34:39.2±0.2, 57.08N±0.01×157.09W±0.02, $h20^{km}\pm1^{km}$, MW5.0/110, Moment Tensor Solution. s23,c29; s110,c170; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.76±.14; $M_{\theta\theta}$1.51±.13; $M_{\phi\phi}$-0.75±.10; $M_{r\theta}$-0.94±.22; $M_{\theta\phi}$-3.29±.10; $M_{\phi r}$-0.59±.20; Best double couple: $M_0$3.69300×10^{16} NP1:ϕ_s349.00000°, δ72.00000°, λ-11.00000°. NP2:ϕ_s82.00000°, δ79.00000°, λ-161.00000°. Principal axes: T 3.8950, Plg5.0000°, Azm215.0000°; N -0.4070, Plg69.0000°, Azm111.0000°; P -3.4910, Plg21.0000°, Azm307.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **08** 11:34:41, 57.03N×156.85W, $h17^{km}$, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.63; $M_{\theta\theta}$-0.19; $M_{\phi\phi}$-1.44; $M_{r\theta}$-0.66; $M_{\theta\phi}$-2.15; $M_{\phi r}$-0.89; Fault plane solution: $M_0$2.87000×10^{16} NP1:ϕ_s38.30000°, δ32.34000°, λ91.92000°. NP2:ϕ_s216.02000°, δ57.68000°, λ88.78000°. Principal axes: T 1.8807, Plg77.0000°, Azm122.0000°; N 1.4184, Plg1.0000°, Azm217.0000°; P -3.2991, Plg13.0000°, Azm307.0000°;*

ISC 08 11:34:38.9±0.3**, 57.07N**±0.04×**157.02W**±0.03**, $h10^{km}$, n729, σ1§18**/689**, mb4.7**/163**, MS4.3**/35**, 55C-34D, Fault plane solution: NP1:**ϕ_s334.61639°, δ73.55326°, λ-5.23141°. **NP2:**ϕ_s66.10134°, δ84.98320°, λ-163.48821°. **Principal axes:** T Plg7.9532°, Azm199.3000°**;** N Plg72.7632°**,** Azm82.5372°**;** P Plg15.1908°, Azm291.4740°**; Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANNE	**Aniakchak Nort**	**0.59**	**255**		**Pg**	**11 34 49.2**	**-1.1**
PLK3	**Peulik 3**	**0.75**	**33**		**Pg**	**11 34 53.0**	**-0.2**
PLK1	**Peulik 1**	**0.77**	**17**		**Pg**	**11 34 53.5**	**-0.3**
PLK5	**Peulik 5**	**0.94**	**5**		**Pg**	**11 34 57.0**	**+0.1**
CHGN	**Chignik**	**1.08**	**226**	Pg	Pb	11 34 57.1	-2.6
CHGN	**Chignik**	**1.08**	**226**		**Sg**	**11 35 11.4**	**-2.3**
CHGN	**Chignik**	**1.08**	**226**	IAML		11 35 14.8	
	comp=N,11μm,0.7s						
CHGN				IAML		11 35 15.2	
	comp=E,10μm,0.5s						
CHGN	**Chignik**	**1.08**	**226**	P	Pb	11 34 57.0	-2.7
	baz=43,SNR=322						
KJL	**Kejulik**	**1.26**	**38**		**Pn**	**11 35 02.1**	**-0.5**
CAHL	**Cahill**	**1.36**	**42**		**Pn**	**11 35 03.5**	**-0.5**
ANCK	**Angle Creek**	**1.40**	**35**		**Pn**	**11 35 04.7**	**+0.1**
VNHG	**Veniaminof 1**	**1.46**	**235**		Pn	11 35 03.7	-1.6
CHIR	**Chirikof Islan**	**1.47**	**147**	Pn	Pn	11 35 04.1	-1.2
CHIR	**Chirikof Islan**	**1.47**	**147**		**Sn**	**11 35 24.1**	**-0.5**
CHIR	**Chirikof Islan**	**1.47**	**147**	IAML		11 35 27.6	
	comp=E,8μm,0.9s						
CHIR				IAML		11 35 30.2	
	comp=N,5μm,0.7s						
CHIR	**Chirikof Islan**	**1.47**	**147**	P	Pn	11 35 04.4	-1.0
	baz=327,SNR=421						
VNSG	**Veniaminof 6**	**1.48**	**231**		**Pn**	**11 35 04.6**	**-1.0**
KABU	**Katmai Buttres**	**1.53**	**37**		**Pn**	**11 35 06.4**	**+0.1**
KABU					**Sn**	**11 35 28.0**	**+1.8**
KABR	**Katmai Barrier**	**1.54**	**45**		**Pn**	**11 35 06.2**	**-0.2**
KCE	**Katmai Mt Cerb**	**1.54**	**39**		**Pn**	**11 35 07.3**	**+0.9**
VNFG	**Fog Glacier, M**	**1.60**	**242**		**Pn**	**11 35 07.6**	**+0.3**
KVTA	**Katmai Vly 10**	**1.61**	**34**		**Pn**	**11 35 07.7**	**+0.3**
KAKN	**Katmai Knife C**	**1.62**	**40**		**Pn**	**11 35 07.8**	**+0.2**
KAKN					**Sn**	**11 35 28.5**	**-0.1**
SII	**Sitkinak Islan**	**1.64**	**107**		**Pn**	**11 35 07.5**	**-0.2**
SII					**Sn**	**11 35 28.8**	**-0.1**
SII	**Sitkinak Islan**	**1.64**	**107**	IAML		11 35 38.1	
	comp=N,22μm,0.7s						
SII	**Sitkinak Islan**	**1.64**	**107**	P	**Pn**	**11 35 07.6**	**-0.2**
	baz=288,SNR=1000						
KAWH	**Katmai**	**1.78**	**41**		**Pn**	**11 35 10.0**	**+0.3**
OHAK	**Old Harbor**	**2.04**	**84**	Pn	**Pn**	**11 35 13.3**	**+0.1**
OHAK	**Old Harbor**	**2.04**	**84**		**Sn**	**11 35 38.4**	**-0.3**
OHAK	**Old Harbor**	**2.04**	**84**	IAML		11 35 47.0	
	comp=E,6μm,1.3s						
OHAK				IAML		11 35 47.9	
	comp=N,7μm,1.0s						
OHAK	**Old Harbor**	**2.04**	**84**	P	**Pn**	**11 35 13.6**	**+0.3**
	baz=267,SNR=1000						
KDAK	**Kodiak Island**	**2.50**	**71**	Pn	**Pn**	**11 35 19.4**	**-0.2**
	comp=N,247nm,0.3s,baz=241,slow=4.2,SNR=6212						
KDAK				Sn	**Sn**	**11 35 50.3**	**+0.2**
	comp=N,99nm,0.3s,baz=247,slow=14,SNR=1.9						
KDAK	**Kodiak Island**	**2.50**	**71**		**Pn**	**11 35 20.3**	**+0.7**
KDAK	**Kodiak Island**	**2.50**	**71**	P	**Pn**	**11 35 20.4**	**+0.7**
	baz=255						
SDPT	**Sand Point**	**2.58**	**230**	Pn	**Pn**	**11 35 19.7**	**-1.0**
SDPT	**Sand Point**	**2.58**	**230**		**Sn**	**11 35 52.3**	**+0.2**
SDPT	**Sand Point**	**2.58**	**230**	IAML		11 36 03.3	
	comp=N,4μm,0.9s						
SDPT				IAML		11 36 05.0	
	comp=E,6μm,1.2s						
SDPT	**Sand Point**	**2.58**	**230**	P	**Pn**	**11 35 20.0**	**-0.7**
	baz=46,SNR=49						
Q19K	**Cape Douglas,**	**2.59**	**42**		**Pn**	**11 35 21.5**	**+0.6**
Q19K	**Cape Douglas,**	**2.59**	**42**	P	**Pn**	**11 35 21.5**	**+0.6**
	baz=226,SNR=397						
CHNA	**Chernabura Isl**	**2.67**	**214**	P	**Pn**	**11 35 21.0**	**-0.8**
	baz=31,SNR=168						
CNBA	**Chernabura Isl**	**2.67**	**214**	Pn	**Pn**	**11 35 21.1**	**-0.8**
CNBA				IAML		11 36 07.4	
	comp=E,3μm,1.1s						
O18K	**Koktuh Hills**	**2.96**	**18**		**Pn**	**11 35 26.1**	**+0.2**
O18K	**Koktuh Hills**	**2.96**	**18**	IAML		11 36 16.6	
	comp=N,3μm,0.7s						
O18K				IAML		11 36 18.3	
	comp=E,4μm,1.1s						
O18K	**Koktuh Hills**	**2.96**	**18**	P	**Pn**	**11 35 26.1**	**+0.2**
	baz=200,SNR=166						
AUW	**Augustine West**	**2.98**	**38**		**Pn**	**11 35 27.2**	**+1.1**
AUCH	**Augustine Cone**	**2.98**	**38**		**Pn**	**11 35 27.3**	**+1.1**
AGU	**Augustine-Summ**	**2.98**	**38**		**Pn**	**11 35 27.2**	**+0.9**
AUQ	**Augustine Qik'**	**2.99**	**38**		**Pn**	**11 35 27.6**	**+1.3**
AUL	**Augustine Lava**	**3.00**	**38**		**Pn**	**11 35 27.4**	**+1.0**
AU22	**Augustine Moun**	**3.02**	**38**		**Pn**	**11 35 27.6**	**+1.0**
PS4A	**Pavlof South-4**	**3.20**	**239**		**Pn**	**11 35 30.2**	**+0.9**
HAG	**Hague Volcano**	**3.24**	**239**		**Pn**	**11 35 31.1**	**+1.4**
OPT	**Oil Point**	**3.27**	**36**		**Pn**	**11 35 31.2**	**+1.0**
P19K	**Oil Pt**	**3.27**	**36**		**Pn**	**11 35 30.9**	**+0.7**
P19K				IAML		11 36 34.0	
	comp=E,4μm,1.2s						
P19K				IAML		11 36 34.5	
	comp=N,3μm,0.7s						
P19K	**Oil Pt**	**3.27**	**36**	P	**Pn**	**11 35 30.9**	**+0.7**
	baz=220,SNR=74						
O19K	**Port Alsworth**	**3.44**	**23**		**Pn**	**11 35 33.1**	**+0.7**
O19K	**Port Alsworth**	**3.44**	**23**	P	**Pn**	**11 35 33.0**	**+0.6**
	baz=206,SNR=211						
DT1	**Dutton Round H**	**3.54**	**239**		**Pn**	**11 35 34.9**	**+1.1**
ILS	**Iliamna Low So**	**3.57**	**34**		**Pn**	**11 35 35.2**	**+1.0**
IVE	**Iliamna Volcan**	**3.63**	**34**		**Pn**	**11 35 36.1**	**+0.9**
N18K	**Kilae Creek**	**3.67**	**9**		**Pn**	**11 35 35.8**	**+0.1**
N18K	**Kilae Creek**	**3.67**	**9**	IAML		11 36 39.1	
	comp=E,3μm,1.4s						
N18K				IAML		11 36 50.2	
	comp=N,1μm,1.1s						
N18K	**Kilae Creek**	**3.67**	**9**	P	**Pn**	**11 35 36.0**	**+0.3**
	baz=190,SNR=274						
O20K	**Slope Mountain**	**3.80**	**35**		**Pn**	**11 35 38.8**	**+1.3**
O20K	**Slope Mountain**	**3.80**	**35**	P	**Pn**	**11 35 38.3**	**+0.8**
	baz=220,SNR=201						
HOM	**Homer**	**3.84**	**45**		**Pn**	**11 35 39.2**	**+1.3**
HOM				IAML		11 36 48.4	
	comp=E,3μm,1.5s						
HOM				IAML		11 37 07.9	
	comp=N,2μm,1.7s						
HOM	**Homer**	**3.84**	**45**	P	**Pn**	**11 35 39.3**	**+1.3**
	baz=230,SNR=46						
CNPM	**China Poot**	**3.92**	**49**		**Pn**	**11 35 40.5**	**+1.3**
CNPM	**China Poot**	**3.92**	**49**	IAML		11 36 35.8	
	comp=E,988nm,0.7s						
N19K	**Bonanza Creek**	**3.98**	**18**		**Pn**	**11 35 40.6**	**+0.6**
N19K	**Bonanza Creek**	**3.98**	**18**	IAML		11 36 43.0	
	comp=E,3μm,1.1s						
N19K				IAML		11 36 58.0	
	comp=N,2μm,0.9s						
N19K	**Bonanza Creek**	**3.98**	**18**	P	**Pn**	**11 35 40.7**	**+0.7**
	baz=201,SNR=184						
RED	**Redoubt Volcan**	**4.03**	**32**		**Pn**	**11 35 41.7**	**+1.1**
RDWB	**Redoubt West**	**4.06**	**31**		**Pn**	**11 35 42.2**	**+1.0**
RSO	**Redoubt South**	**4.07**	**31**		**Pn**	**11 35 42.3**	**+1.0**
NCT	**North Crescent**	**4.10**	**30**		**Pn**	**11 35 42.8**	**+1.1**
SVW2	**Sparrevohn**	**4.11**	**10**		**Pn**	**11 35 42.0**	**+0.3**
SVW2	**Sparrevohn**	**4.11**	**10**	IAML		11 36 56.4	
	comp=N,1μm,1.0s						
SVW2				IAML		11 36 59.8	
	comp=E,2μm,1.4s						
DFR	**Drift River**	**4.19**	**31**		**Pn**	**11 35 43.9**	**+1.0**
BRLK	**Bradley Lake**	**4.21**	**47**		**Pn**	**11 35 43.8**	**+0.7**
FALS	**False Pass**	**4.22**	**241**		**Pn**	**11 35 44.4**	**+1.2**
FALS	**False Pass**	**4.22**	**241**	P	**Pn**	**11 35 43.4**	**+0.2**
	baz=56,SNR=27						
BRSE	**Bradley Lake S**	**4.26**	**48**		**Pn**	**11 35 44.5**	**+0.9**
BRSE	**Bradley Lake S**	**4.26**	**48**	P	**Pn**	**11 35 44.4**	**+0.7**
	baz=234,SNR=100						
CAPN	**Captain Cook N**	**4.80**	**37**		**Pn**	**11 35 53.5**	**+2.4**
SPCR	**Spurr Chakacha**	**4.83**	**29**		**Pn**	**11 35 53.4**	**+1.7**
SPCR	**Spurr Chakacha**	**4.83**	**29**	P	**Pn**	**11 35 52.8**	**+1.1**
	baz=213,SNR=55						
SPBG	**Spurr Blockage**	**4.84**	**28**		**Pn**	**11 35 53.7**	**+2.0**
SPU	**Mount Spurr**	**4.86**	**30**		**Pn**	**11 35 53.4**	**+1.5**
SPCN	**Chakachatna No**	**4.86**	**29**		**Pn**	**11 35 54.0**	**+2.0**
SPCP	**Crater Peak Br**	**4.90**	**29**		**Pn**	**11 35 54.5**	**+1.9**
SLKM	**Skilak Lake**	**4.94**	**43**		**Pn**	**11 35 54.8**	**+1.7**
SPCG	**Spurr Capps Gl**	**4.96**	**29**		**Pn**	**11 35 55.0**	**+1.6**
SEW	**Seward**	**5.00**	**49**	Pn	**Pn**	**11 35 55.0**	**+1.2**
SEW	**Seward**	**5.00**	**49**	P	**Pn**	**11 35 54.1**	**+0.3**
	baz=236,SNR=58						
M19K	**Big River Lodg**	**5.04**	**14**	P	**Pn**	**11 35 55.1**	**+0.7**
	baz=197						
O22K	**Cooper Landing**	**5.11**	**45**		**Pn**	**11 35 56.7**	**+1.3**
O22K	**Cooper Landing**	**5.11**	**45**	P	**Pn**	**11 35 56.3**	**+0.9**
	baz=231,SNR=75						
STLK	**Strandline Lak**	**5.18**	**29**		**Pn**	**11 35 58.4**	**+2.0**
M20K	**Styx River**	**5.22**	**21**		**Pn**	**11 35 58.4**	**+1.3**
M20K	**Styx River**	**5.22**	**21**	IAML		11 37 28.0	
	comp=E,914nm,2.0s						
M20K				IAML		11 37 39.8	
	comp=N,850nm,1.8s						
M20K	**Styx River**	**5.22**	**21**	P	**Pn**	**11 35 58.1**	**+1.1**
	baz=204,SNR=150						
L19K	**White Mountain**	**5.25**	**11**		**Pn**	**11 35 58.2**	**+0.9**
L19K				IAML		11 37 27.1	
	comp=E,1μm,1.3s						
L19K	**White Mountain**	**5.25**	**11**	P	**Pn**	**11 35 57.8**	**+0.5**
	baz=194,SNR=262						
FIS	**Fire Island**	**5.39**	**38**		**Pn**	**11 36 01.4**	**+2.3**
SUA	**Susitna One**	**5.46**	**33**	Pn	**Pn**	**11 36 02.0**	**+1.7**
SUA	**Susitna One**	**5.46**	**33**	P	**Pn**	**11 36 01.9**	**+1.6**
	baz=219,SNR=167						
RC01	**Rabbit Creek A**	**5.51**	**40**		**Pn**	**11 36 01.9**	**+1.0**
RC01	**Rabbit Creek A**	**5.51**	**40**	P	**Pn**	**11 36 01.6**	**+0.7**
	baz=226,SNR=76						
L20K	**Farewell, AK**	**5.66**	**15**	P	**Pn**	**11 36 03.6**	**+0.7**
	baz=198,SNR=108						
SKT	**Skwentna**	**5.67**	**27**	Pn	**Pn**	**11 36 05.4**	**+2.3**
SKT	**Skwentna**	**5.67**	**27**	P	**Pn**	**11 36 04.5**	**+1.5**
	baz=212,SNR=70						
AKUT	**Akutan**	**5.76**	**243**		**Pn**	**11 36 06.1**	**+1.8**
PWL	**Port Wells**	**5.89**	**46**		**Pn**	**11 36 06.5**	**+0.4**
TTA	**Tatalina**	**5.91**	**4**		**Pn**	**11 36 04.9**	**-1.5**
TTA	**Tatalina**	**5.91**	**4**	P	**Pn**	**11 36 07.3**	**+0.9**
	baz=186						
PMR	**Palmer**	**6.07**	**38**	Pn	**Pn**	**11 36 10.6**	**+2.0**
PMR	**Palmer**	**6.07**	**38**	P	**Pn**	**11 36 09.8**	**+1.3**
	baz=225,SNR=92						
Q23K	**Middleton Isla**	**6.11**	**63**	P	**Pn**	**11 36 09.8**	**+0.7**
	baz=252						
KNK	**Knik Glacier**	**6.19**	**42**	Pn	**Pn**	**11 36 10.7**	**+0.5**
KNK	**Knik Glacier**	**6.19**	**42**	P	**Pn**	**11 36 10.7**	**+0.5**
	baz=229,SNR=69						
GHO	**Glory Hole Cre**	**6.27**	**38**		**Pn**	**11 36 11.5**	**+0.1**
UNV	**Unalaska Valle**	**6.29**	**243**		**Pn**	**11 36 12.2**	**+0.7**
UNV	**Unalaska Valle**	**6.29**	**243**	P	**Pn**	**11 36 12.8**	**+1.3**
	baz=55						
PPLA	**Purkeypile**	**6.33**	**20**		**Pn**	**11 36 14.1**	**+1.8**
PPLA	**Purkeypile**	**6.33**	**20**	P	**Pn**	**11 36 14.0**	**+1.8**
	baz=205,SNR=31						
CUT	**Chulitna**	**6.35**	**30**		**Pn**	**11 36 15.3**	**+3.0**
CUT	**Chulitna**	**6.35**	**30**	P	**Pn**	**11 36 14.0**	**+1.6**
	baz=216,SNR=34						
GLI	**Glacier Island**	**6.40**	**49**		**Pn**	**11 36 12.3**	**-0.7**
GLI	**Glacier Island**	**6.40**	**49**	P	**Pn**	**11 36 13.6**	**+0.6**
	baz=238						
HIN	**Hinchinbrook I**	**6.41**	**54**		**Pn**	**11 36 13.8**	**+0.4**
K20K	**Telida**	**6.48**	**12**		**Pn**	**11 36 14.8**	**+0.6**
K20K	**Telida**	**6.48**	**12**	P	**Pn**	**11 36 14.5**	**+0.3**
	baz=195,SNR=108						
SML	**Sawmill**	**6.50**	**39**		**Pn**	**11 36 14.4**	**-0.1**
SML	**Sawmill**	**6.50**	**39**	P	**Pn**	**11 36 14.5**	**+0.1**
	baz=227,SNR=18						
FID	**Port Fidalgo**	**6.59**	**52**		**Pn**	**11 36 14.8**	**-0.9**
EYAK	**Cordova Ski Ar**	**6.81**	**54**		**Pn**	**11 36 19.5**	**+0.7**
EYAK	**Cordova Ski Ar**	**6.81**	**54**	P	**Pn**	**11 36 18.9**	**+0.1**
	baz=244,SNR=16						
SCM	**Sheep Creek Mo**	**6.87**	**42**		**Pn**	**11 36 20.6**	**+1.0**
DIV	**Divide**	**7.08**	**50**		**Pn**	**11 36 23.2**	**+0.7**
WAT7	**Susitna Watana**	**7.09**	**32**		**Pn**	**11 36 23.5**	**+0.9**
WAT1	**Susitna Watana**	**7.17**	**33**		**Pn**	**11 36 24.2**	**+0.5**
WAT1	**Susitna Watana**	**7.17**	**33**	P	**Pn**	**11 36 24.5**	**+0.8**
	baz=220						
KTH	**Kantishna Hill**	**7.18**	**22**		**Pn**	**11 36 25.8**	**+2.0**
KAIM	**Kayak Island**	**7.20**	**61**		**Pn**	**11 36 25.1**	**+1.1**
KAIM	**Kayak Island**	**7.20**	**61**	P	**Pn**	**11 36 25.2**	**+1.1**
	baz=252,SNR=7.7						
SPIA	**Saint Paul Isl**	**7.20**	**276**		**Pn**	**11 36 24.7**	**+0.7**
SPIA	**Saint Paul Isl**	**7.20**	**276**	P	**Pn**	**11 36 24.8**	**+0.7**
	baz=86						
KLU	**Klutina**	**7.21**	**47**		**Pn**	**11 36 24.1**	**-0.1**
KLU	**Klutina**	**7.21**	**47**	P	**Pn**	**11 36 24.4**	**+0.1**
	baz=237,SNR=47						
CHUM	**Lake Minchumin**	**7.22**	**17**		**Pn**	**11 36 25.8**	**+1.5**
CHUM	**Lake Minchumin**	**7.22**	**17**	P	**Pn**	**11 36 25.5**	**+1.2**
	baz=201,SNR=61						
TRF	**Thorofare Moun**	**7.22**	**25**		**Pn**	**11 36 26.9**	**+2.4**
TRF	**Thorofare Moun**	**7.22**	**25**	P	**Pn**	**11 36 26.4**	**+1.9**
	baz=211,SNR=83						
WAT6	**Susitna Watana**	**7.24**	**36**		**Pn**	**11 36 24.9**	**+0.2**
WAT6	**Susitna Watana**	**7.24**	**36**	P	**Pn**	**11 36 24.7**	**0.0**
	baz=225,SNR=53						
J20K	**Nowinta River**	**7.27**	**10**		**Pn**	**11 36 25.6**	**+0.6**
J20K	**Nowinta River**	**7.27**	**10**	P	**Pn**	**11 36 25.5**	**+0.5**
	baz=193,SNR=19						
HMT	**Hamilton**	**7.41**	**58**		**Pn**	**11 36 26.9**	**-0.1**
M24K	**Tolsona, Glenn**	**7.47**	**43**		**Pn**	**11 36 28.5**	**+0.7**
M24K	**Tolsona, Glenn**	**7.47**	**43**	P	**Pn**	**11 36 29.0**	**+1.2**
	baz=232,SNR=18						
BMRM	**Bremner River**	**7.50**	**53**		**Pn**	**11 36 28.3**	**0.0**
BMRM	**Bremner River**	**7.50**	**53**	P	**Pn**	**11 36 28.7**	**+0.4**

baz=244,SNR=15
NICHA Nichawak Mount 7.51 60 Pn Pn 11 36 28.7 +0.4
RND Reindeer 7.54 29 Pn Pn 11 36 29.8 +1.0
SUCK Suckling Hills 7.55 61 Pn Pn 11 36 30.0 +1.1
BPAW Bear Paw Mtn. 7.65 20 Pn Pn 11 36 31.5 +1.2
BPAW Bear Paw Mtn. 7.65 20 P Pn 11 36 31.7 +1.4
baz=206,SNR=137
BERG Berg Lake 7.69 59 Pn Pn 11 36 30.6 -0.1
MCK McKinley 7.79 28 Pn Pn 11 36 35.0 +2.9
MCK McKinley 7.79 28 P Pn 11 36 33.8 +1.7
baz=215,SNR=14
N25K Chitina, Valde 7.81 49 Pn Pn 11 36 33.8 +1.3
N25K Chitina, Valde 7.81 49 P Pn 11 36 33.6 +1.1
baz=240,SNR=18
GRIN Grindle Hills 7.83 60 Pn Pn 11 36 33.5 +0.7
KHIT Khitrov Hills 7.92 59 Pn Pn 11 36 34.0 +0.1
NIKH Nikolski High 7.94 244 Pn Pn 11 36 35.0 +0.8
HARP HAARP 8.03 43 Pn Pn 11 36 36.4 +1.3
HARP HAARP 8.03 43 P Pn 11 36 36.4 +1.0
baz=234,SNR=14
BWN Browne 8.03 24 Pn Pn 11 36 38.3 +2.8
GLB Gilahina Butte 8.06 52 Pn Pn 11 36 35.5 -0.4
CRQM Cirque 8.08 57 Pn Pn 11 36 36.0 -0.2
CRQE Cirque 8.10 57 P Pn 11 36 36.8 +0.4
baz=249,SNR=23
KULT Kultieth River 8.11 61 Pn Pn 11 36 37.2 +0.6
WAX Waxell Ridge 8.11 59 Pn Pn 11 36 37.0 +0.4
VRDI Verde Repeater 8.12 53 Pn Pn 11 36 37.5 +0.6
TGL Tana Glacier 8.22 57 Pn Pn 11 36 38.0 -0.1
BARK Barkley Ridge 8.26 60 Pn Pn 11 36 39.2 +0.5
PAX Paxson 8.27 40 Pn Pn 11 36 40.6 +1.8
PAX Paxson 8.27 40 P Pn 11 36 40.0 +1.2
baz=230,SNR=22
MCARA McCarthy VSAT 8.38 53 Pn Pn 11 36 42.0 +1.9
MCARA McCarthy VSAT 8.38 53 P Pn 11 36 40.6 +0.5
baz=245,SNR=9.7
ISLE Juniper Island 8.40 59 Pn Pn 11 36 40.7 +0.1
MESA MESA 8.46 62 Pn Pn 11 36 42.2 +0.7
MESA MESA 8.46 62 P Pn 11 36 41.9 +0.4
baz=255,SNR=7.1
NEA2 Nenana 8.48 24 Pn Pn 11 36 42.4 +0.7
NEA2 Nenana 8.48 24 P Pn 11 36 42.1 +0.4
baz=211,SNR=36
I21K Tanana 8.50 15 Pn Pn 11 36 42.4 +0.6
I21K Tanana 8.50 15 P Pn 11 36 42.2 +0.4
baz=199,SNR=41
MLY Manley 8.55 18 Pn Pn 11 36 43.6 +1.0
MLY Manley 8.55 18 P Pn 11 36 43.4 +0.9
baz=204,SNR=62
ANM Nome 8.55 335 Pn Pn 11 36 44.0 +1.5
ANM Nome 8.55 335 P Pn 11 36 43.3 +0.7
baz=148
YAH Yahtse 8.61 61 Pn Pn 11 36 44.0 +0.5
WRH Wood River Hil 8.61 27 Pn Pn 11 36 43.5 +0.2
GRNC Granite Creek 8.71 59 Pn Pn 11 36 45.2 +0.2
CCB Clear Creek Bu 8.82 27 Pn Pn 11 36 46.3 0.0
HDA Harding Lake 8.86 30 Pn Pn 11 36 46.8 +0.1
HDA Harding Lake 8.86 30 P Pn 11 36 47.1 +0.3
baz=219,SNR=51
BARN Barnard Glacie 8.86 57 Pn Pn 11 36 47.6 +0.6
M26K Nabesna, AK 8.87 47 Pn Pn 11 36 47.8 +0.9
M26K Nabesna, AK 8.87 47 P Pn 11 36 47.4 +0.5
baz=239,SNR=32
MENT Mentasta 8.88 43 Pn Pn 11 36 48.7 +1.6
I23K Minto, Yukon-K 8.91 21 Pn Pn 11 36 48.5 +1.1
I23K Minto, Yukon-K 8.91 21 P Pn 11 36 48.7 +1.3
baz=208,SNR=46
TABL Table Mountain 8.91 61 Pn Pn 11 36 48.3 +0.5
CTG Chitna Glacier 8.98 58 P Pn 11 36 48.9 +0.4
baz=251,SNR=51
CTGM Chitina Glacie 8.98 58 Pn Pn 11 36 49.3 +0.7
MDM Murphy Dome 8.99 25 Pn Pn 11 36 49.1 +0.6
RIDG Independent Ri 8.99 37 Pn Pn 11 36 49.8 +1.1
RIDG Independent Ri 8.99 37 P Pn 11 36 49.7 +1.1
baz=228,SNR=30
TCOL CIGO, UAF Yank 9.00 26 Pn Pn 11 36 50.1 +1.4
TCOL CIGO, UAF Yank 9.00 26 P Pn 11 36 49.8 +1.1
baz=214,SNR=24
COLA College 9.00 26 Pn Pn 11 36 49.9 +1.2
COLA College 9.00 26 P Pn 11 36 49.6 +0.9
baz=214
L26K Log Cabin Wild 9.07 43 Pn Pn 11 36 51.4 +1.7
L26K Log Cabin Wild 9.07 43 P Pn 11 36 50.8 +1.1
baz=235,SNR=31
IMAR Indian Mountai 9.08 9 Pn Pn 11 36 50.0 +0.2
LOGN Logan Glacier 9.09 59 Pn Pn 11 36 50.5 +0.4
IL31 9.16 28 Pn Pn 11 36 51.1 +0.3
ILAR Eielson Array 9.16 28 Pn Pn 11 36 50.2 -0.7
comp=E,3.8nm,0.3s,baz=217,slow=13,SNR=133
ILAR Sn Sn 11 38 28.8 -5.1
baz=220,slow=14,SNR=1.5
ILAR Lg Lg 11 39 28.6
baz=236,slow=25,SNR=4.6
ILAR LR LR 11 40 45.3
comp=E,618nm,21.7s,baz=228,slow=40
ILAR Eielson Array 9.16 28 Pn Pn 11 36 50.6 -0.3
DOT Dot Lake 9.20 39 Pn Pn 11 36 51.9 +0.5
PCA Pinnacle 9.26 64 Pn Pn 11 36 52.8 +0.4
PINM Pinnacle 9.27 64 P Pn 11 36 52.6 +0.2
baz=258,SNR=15
M27K Edge Creek, AK 9.30 49 Pn Pn 11 36 54.1 +1.2
M27K Edge Creek, AK 9.30 49 P Pn 11 36 53.7 +0.7
baz=242,SNR=9.1
POKR Poker Plat Res 9.30 26 Pn Pn 11 36 54.3 +1.4
POKR Poker Plat Res 9.30 26 P Pn 11 36 53.3 +0.4
baz=214,SNR=21
SCRK Sand Creek 9.44 37 Pn Pn 11 36 56.1 +1.3
SCRK Sand Creek 9.44 37 P Pn 11 36 55.5 +0.8
baz=229,SNR=13
H23K Yukon River 9.48 19 Pn Pn 11 36 56.3 +1.0
H23K Yukon River 9.48 19 P Pn 11 36 56.4 +1.1
baz=206,SNR=79
YUK3 Moose Creek 9.66 54 P Pn 11 36 58.6 +0.6
baz=248,SNR=75
L27K Beaver Creek, 9.67 45 Pn Pn 11 36 58.5 +0.6
L27K Beaver Creek, 9.67 45 P Pn 11 36 58.4 +0.5
baz=239,SNR=15
BCAR Beaver Creek A 9.69 45 Pn Pn 11 36 58.1 -0.1
BVCY Beaver Creek 9.75 50 P Pn 11 36 58.9 -0.1
baz=244
H24K Noodor Dome 9.82 23 Pn Pn 11 37 00.2 +0.2
H24K Noodor Dome 9.82 23 P Pn 11 37 00.1 +0.2
baz=211,SNR=38
J26K Charley River, 9.89 35 P Pn 11 37 00.6 -0.4
baz=227,SNR=35
TNA Tin City 9.99 333 Pn Pn 11 37 04.1 +1.9
TNA Tin City 9.99 333 P Pn 11 37 02.4 +0.2
baz=144
PRP Porcupine Dome 10.10 28 Pn Pn 11 37 03.7 -0.2
PRP Porcupine Dome 10.10 28 P Pn 11 37 04.0 0.0
baz=219
K27K Chicken 10.12 40 Pn Pn 11 37 04.9 +0.8
K27K Chicken 10.12 40 P Pn 11 37 04.3 +0.2
baz=233
YUK4 Talbot Arm 10.34 58 P Pn 11 37 08.4 +1.2
baz=253,SNR=32
YUK6 Outpost Mounta 10.37 60 P Pn 11 37 07.9 +0.2
baz=256,SNR=8.2
COLD Coldfoot 10.68 14 Pn Pn 11 37 13.4 +1.8
COLD Coldfoot 10.68 14 P Pn 11 37 12.7 +1.0
baz=201,SNR=67
HYT Haines Junctio 10.75 61 Pn Pn 11 37 13.7 +0.9
HYT Haines Junctio 10.75 61 P Pn 11 37 13.3 +0.5
baz=258,SNR=18
EGAK Eagle 10.89 38 Pn Pn 11 37 16.0 +1.4
EGAK Eagle 10.89 38 P Pn 11 37 15.4 +0.7
baz=232,SNR=20
FYU Fort Yukon 11.02 25 Pn Pn 11 37 16.7 +0.4
DAWY Dawson 11.12 44 Pn Pn 11 37 18.3 +0.5
DAWY Dawson 11.12 44 P Pn 11 37 18.3 +0.5
baz=239,SNR=14
SKAG Skagway 11.66 69 Pn Pn 11 37 25.6 +0.5
SKAG Skagway 11.66 69 P Pn 11 37 25.7 +0.7
baz=268,SNR=16
BMAR Burnt Mountain 11.87 24 Pn Pn 11 37 27.6 -0.4
BESE Bessie Mountai 11.90 73 Pn Pn 11 37 26.5 -2.0
WHY Whitehorse 11.99 63 Pn Pn 11 37 29.9 +0.2
WHY Whitehorse 11.99 63 P Pn 11 37 30.1 +0.3
baz=262,SNR=15
TOLK Toolik Lake Re 12.09 13 Pn Pn 11 37 32.1 +1.1
TOLK Toolik Lake Re 12.09 13 P Pn 11 37 30.7 -0.3
baz=200,SNR=17
JIS Juneau Island 12.17 75 Pn Pn 11 37 32.8 +0.8
MAYO Mayo, Yukon 12.30 49 P Pn 11 37 34.8 +1.0
baz=248
ADK Adak 12.54 254 Pn Pn 11 37 41.8 +4.6
FARO Faro, Yukon 13.00 57 P Pn 11 37 43.7 +0.3
baz=257,SNR=13
EPYK Eagle Plains 13.33 37 Pn Pn 11 37 49.3 +1.4
EPYK Eagle Plains 13.33 37 P Pn 11 37 48.1 +0.2
baz=235,SNR=9.1
CRAG Craig 13.36 87 P Pn 11 37 49.1 +0.8
baz=287
WRAK Wrangell Islan 13.54 82 Pn Pn 11 37 49.0 -1.7
WRAK Wrangell Islan 13.54 82 P Pn 11 37 51.5 +0.8
baz=283
MMPY Sheldon Lake, 14.03 56 P Pn 11 37 59.0 +1.5
baz=258,SNR=44
DLBC Dease Lake 14.44 73 Pn Pn 11 38 01.2 -2.0
comp=E,0.4nm,0.3s,baz=276,slow=11,SNR=16
DLBC Sn Sn 11 40 40.2 -3.0
comp=E,0.2nm,0.3s,baz=272,slow=16,SNR=2.1
DLBC LR LR 11 43 30.3
comp=E,1μm,18.4s,baz=276,slow=37
DLBC Dease Lake 14.44 73 P Pn 11 38 04.0 +0.9
TGTN Hyland Airport 15.27 61 P Pn 11 38 15.5 +1.1
baz=266,SNR=9.8
INK Inuvik 15.46 34 Pn Pn 11 38 13.8 -2.8
comp=E,0.7nm,0.3s,baz=226,slow=15,SNR=24
INK Sn Sn 11 41 09.4 +1.8
comp=E,0.1nm,0.3s,baz=320,slow=32,SNR=0.8
INK LR LR 11 44 38.5
comp=E,955nm,20.1s,baz=214,slow=39
INK Inuvik 15.46 34 Pn Pn 11 38 15.4 -1.2
INK Inuvik 15.46 34 P Pn 11 38 15.2 -1.4
baz=235
BBB Bella Bella 17.36 94 LR LR 11 43 47.1
comp=E,370nm,21.8s,baz=300,slow=32
WRGLY Wrigley 17.65 56 P Pn 11 38 45.3 +0.8
baz=265
BILL Bilibino 19.81 318 P P 11 39 08.3 -0.8
BILL IAmb IAmb 11 39 14.8
comp=Z,65nm,1.2s
LLLB Lillooet 21.53 92 P P 11 39 26.5 -1.4
LLLB IAmb IAmb 11 39 48.2
comp=Z,21nm,1.0s
YKA Yellowknife Ar 21.70 58 P P 11 39 28.2 -1.4
comp=Z,2.5nm,0.6s,baz=275,slow=8.6,SNR=40
YKA LR LR 11 48 07.9
comp=Z,1μm,21.9s,baz=0.0,slow=37
YKA Yellowknife Ar 21.70 58 P P 11 39 29.6 0.0
B05A Bryant 22.71 98 P P 11 39 41.3 +0.8
baz=306,SNR=6.4
D05A Enumclaw 23.42 100 P P 11 39 49.3 +1.5
D05A IAmb IAmb 11 40 16.7
comp=Z,33nm,1.3s
E04D Cinebar 23.50 102 P P 11 39 50.3 +1.7
baz=309,SNR=7.0
LON Longmire 23.79 101 P P 11 39 50.5 -1.0
F04A Amboy 23.98 103 P P 11 39 55.6 +2.4
F04A IAmb IAmb 11 40 13.8
comp=Z,18nm,1.2s
G03D McMinnville, O 24.00 105 P P 11 39 54.2 +0.7
baz=312
LTY Liberty 24.09 98 P P 11 39 56.7 +2.4
B08A Colville Reser 24.16 95 P P 11 39 57.0 +2.1
COR Corvallis 24.40 106 P P 11 39 59.7 +2.6
COR IAmb IAmb 11 40 26.4
comp=Z,37nm,1.4s
I02D Swisshome 24.45 108 P P 11 39 59.4 +1.8
baz=314
F05D White Salmon 24.52 102 P P 11 40 00.1 +1.9
baz=310
H04D Lebanon 24.74 106 P P 11 40 01.8 +1.6
baz=313
EDM Edmonton 24.93 80 P P 11 40 02.5 +0.7
H04A Detroit Lake 24.93 105 P P 11 40 02.2 +0.2
H04A IAmb IAmb 11 40 31.3
comp=Z,19nm,1.0s
E07A Sunnyside 24.96 99 P P 11 40 03.0 +0.8
E07A IAmb IAmb 11 40 16.3
comp=Z,12nm,0.8s
G05D Wamic, OR 25.02 103 P P 11 40 03.7 +1.0
baz=311
C09A Chrisman Ranch 25.06 95 P P 11 40 02.8 -0.3
J01E Myrtle Point 25.07 109 P P 11 40 05.1 +1.9
baz=315
D08A Wollman Farm, 25.16 97 P P 11 40 03.5 -0.5
HAWA Hanford 25.23 99 P P 11 40 06.5 +1.8
HAWA IAmb IAmb 11 40 22.2
comp=Z,14nm,1.1s
PET Petropavlovsk 25.37 280 P P 11 40 05.3 -0.4
PET IAmb IAmb 11 40 21.5
comp=Z,37nm,1.2s
SEY Seymchan 25.38 304 P P 11 40 02.9 -3.0
comp=Z,4.8nm,0.5s,baz=90,slow=9.3,SNR=24
SEY LR LR 11 50 12.9
comp=Z,622nm,20.7s,baz=110,slow=37
NEW Newport 25.42 93 P P 11 40 05.1 -1.3
comp=Z,2.0nm,0.7s,baz=328,slow=6.9,SNR=4.4
NEW LR LR 11 49 53.9
comp=Z,159nm,18.9s,baz=295,slow=36
NEW Newport 25.42 93 P P 11 40 07.1 +0.7
NEW Newport 25.42 93 P P 11 40 05.5 -0.9
baz=305
E08A Dider Farm, El 25.43 98 P P 11 40 05.5 -0.9
E08A IAmb IAmb 11 40 21.2
comp=Z,27nm,1.4s
PEA0B Petropavlovsk- 25.84 281 P P 11 40 10.7 +0.6
PEA0B IAmb IAmb 11 40 39.4
comp=Z,36nm,1.5s
PETK Petropavlovsk- 25.84 281 P P 11 40 06.0 -4.1
comp=Z,0.4nm,0.3s,baz=132,slow=8.6,SNR=2.3
PETK Petropavlovsk- 25.84 281 P P 11 40 10.3 +0.2
E09A Wood Farm, Sta 25.91 97 P P 11 40 12.8 +2.0
E09A IAmb IAmb 11 40 23.0
comp=Z,13nm,1.0s
J04D Umpqua Nationa 25.96 107 P P 11 40 12.7 +1.2
baz=314
PINE Pine Mountain 26.19 105 P P 11 40 15.5 +2.0
PINE IAmb IAmb 11 40 27.3
comp=Z,23nm,1.4s
G08A Pilot Rock 26.25 100 P P 11 40 15.0 +1.0
J05D Fort Rock, OR 26.38 106 P P 11 40 17.0 +1.8
baz=314,SNR=11
K04D Chiloquin, OR 26.58 108 P P 11 40 19.4 +2.4
baz=315
L04D Klamath Falls 26.58 109 P P 11 40 19.1 +2.1
baz=316
WALA Waterton Lakes 26.72 89 P P 11 40 19.0 +0.8
WALA IAmb IAmb 11 40 33.3
comp=Z,17nm,1.2s
YBH Yreka Blue Hor 26.72 110 P P 11 40 17.2 -1.1
comp=Z,3.3nm,0.8s,baz=341,slow=7.2,SNR=1.8
YBH LR LR 11 48 42.7
comp=Z,407nm,20.5s,baz=314,slow=32
F10A Beach Ranch, E 26.75 97 P P 11 40 20.0 +1.5
F10A IAmb IAmb 11 40 40.3
comp=Z,23nm,1.4s
I07A Izee 26.75 103 P P 11 40 16.3 -2.3
M02C Callahan 26.90 111 P P 11 40 22.4 +2.5
baz=317
K05A Summer Lake 26.95 107 P P 11 40 20.8 +0.3
K05A IAmb IAmb 11 40 49.9
comp=Z,20nm,1.2s
MA2 Magadan 26.95 297 P P 11 40 17.8 -2.3
comp=Z,5.5nm,0.7s,baz=87,slow=8.5,SNR=3.4
MA2 LR LR 11 51 56.6
comp=Z,576nm,18.2s,baz=96,slow=39
MA2 Magadan 26.95 297 P P 11 40 20.4 +0.3
MA2 IAmb IAmb 11 40 25.3
comp=Z,17nm,1.0s
M04C Macdoel 27.13 109 P P 11 40 24.4 +2.3
baz=316
JTMT Jette 27.27 92 P P 11 40 24.2 +1.0
JTMT IAmb IAmb 11 40 33.8
comp=Z,16nm,1.4s
N02D Trinity Center 27.28 111 P P 11 40 25.6 +2.3
baz=318
J08A Circle Bar Ran 27.79 103 P P 11 40 29.6 +1.6
O02D Mt. Diablo Mer 27.84 113 P P 11 40 29.1 +0.8
baz=319
MSO Missoula 28.00 93 P P 11 40 29.6 -0.1
baz=307
O03E Paynes Creek 28.25 111 P P 11 40 32.6 +0.6
baz=318
WVOR Wild Horse Val 28.34 104 P P 11 40 35.7 +2.9
RES Resolute Bay 28.91 29 LR LR 11 54 48.2
comp=Z,629nm,18.9s,baz=257,slow=42
MFID Camas Ranch 29.17 100 P P 11 40 42.5 +2.3
HRY Holter Researc 29.23 91 P P 11 40 41.1 +0.4
BEKR Beckworth 29.30 110 P P 11 40 43.3 +1.9
HLID Hailey 29.83 98 P P 11 40 48.4 +2.3
HLID Hailey 29.83 98 P P 11 40 47.2 +1.1
baz=312
MCMT McKenzie Canyo 29.85 95 P P 11 40 47.4 +1.0
PAHR Pah Rah Range 29.92 109 P P 11 40 48.2 +1.2
PAHR IAmb IAmb 11 40 51.8
comp=Z,14nm,1.4s
BOZ Bozeman (W) 30.03 93 P P 11 40 48.7 +0.9
baz=309
VCNR Virginia City 30.09 110 P P 11 40 50.0 +1.5
VCNR IAmb IAmb 11 41 02.0
comp=Z,6.8nm,0.8s
FFC Flin Flon 30.25 71 P P 11 40 50.1 +0.6
FFC IAmb IAmb 11 41 16.7
comp=Z,16nm,1.4s
PNTR Pine Nut 30.27 110 P P 11 40 50.2 +0.1
PNTR IAmb IAmb 11 41 13.4
comp=Z,13nm,0.8s
BMN Battle Mountai 30.52 106 P P 11 40 52.4 +0.2
YERR Yerington 30.54 110 P P 11 40 52.5 +0.1
YERR IAmb IAmb 11 41 05.7
comp=Z,8.9nm,0.9s
YHB Horse Butte 30.80 94 P P 11 40 53.6 -1.2
YHB IAmb IAmb 11 41 10.5
comp=Z,6.2nm,0.9s
YHH Holmes Hill 30.97 93 P P 11 40 55.8 -0.4
YMR Madison River 30.98 94 P P 11 40 56.4 +0.1
YMR IAmb IAmb 11 41 08.1
comp=Z,20nm,1.4s
KVN Kaiserville 31.07 109 P P 11 40 58.6 +1.5
RYN Ryan 31.17 110 P P 11 40 58.7 +0.7
ELK Elko 31.34 103 P P 11 40 59.5 0.0
comp=Z,2.7nm,0.9s,baz=302,slow=8.6,SNR=12
ELK LR LR 11 51 40.8
comp=Z,263nm,20.6s,baz=314,slow=33
ELK Elko 31.34 103 P P 11 41 00.9 +1.3
YMP Mirror Lake Pl 31.38 93 P P 11 41 00.5 +0.7
NVAR Mina Array Bea 31.44 110 P P 11 41 00.4 0.0
comp=Z,3.0nm,0.7s,baz=302,slow=8.9,SNR=35
NVAR PcP PcP 11 43 53.8 +0.4
comp=Z,0.4nm,0.5s,baz=291,slow=3.8,SNR=2.5
NVAR LR LR 11 51 49.8
comp=Z,597nm,19.2s,baz=314,slow=33
NVAR Mina Array Bea 31.44 110 P P 11 41 02.2 +1.8
LHV Little Huntoon 31.47 110 P P 11 41 00.6 +0.2
LHV IAmb IAmb 11 41 14.2
comp=Z,9.4nm,1.0s
IMW Indian Meadow 31.50 95 P P 11 41 00.2 -0.7
IMW IAmb IAmb 11 41 12.4
comp=Z,7.1nm,1.0s
FLWY Flagg Ranch 31.51 94 P P 11 41 02.5 +1.6
FLWY IAmb IAmb 11 41 31.2
comp=Z,15nm,1.2s
NV11 Mina Array Sit 31.51 109 P P 11 41 01.2 +0.3
NV11 IAmb IAmb 11 41 13.6
comp=Z,10.0nm,1.4s
RLMT Red Lodge 31.62 91 P P 11 41 02.9 +1.0
baz=310
FXWY Fox Creek 31.62 95 P P 11 41 02.5 +0.6
MDPB Devils Postpil 31.64 112 P P 11 41 02.7 +0.4
MDPB IAmb IAmb 11 41 25.7
comp=Z,12nm,1.2s
TPAW Teton Pass 31.76 95 P P 11 41 04.3 +1.1
REDW Red Top Meadow 31.90 95 P P 11 41 05.4 +1.0
REDW IAmb IAmb 11 41 20.6
comp=Z,9.0nm,1.4s
HVU Hansel Valley 31.93 99 P P 11 41 06.8 +2.1
TPH Tonopah 32.26 109 P P 11 41 07.5 0.0
LAO LASA Array 32.30 87 P P 11 41 08.6 +0.9
baz=308
DGMT Dagmar 32.34 82 P P 11 41 07.0 -1.0
DGMT IAmb IAmb 11 41 15.6
comp=Z,9.0nm,0.8s
DGMT Dagmar 32.34 82 P P 11 41 09.4 +1.4
baz=306
TIXI Tiksi 32.66 326 P P 11 41 08.5 -2.0
comp=Z,1.2nm,0.3s,baz=38,slow=4.8,SNR=2.2
TIXI PcP PcP 11 43 54.9 -1.0
comp=Z,3.9nm,0.7s,baz=51,slow=3.0,SNR=5.8
TIXI Tiksi 32.66 326 P P 11 41 09.7 -0.8
TIXI IAmb IAmb 11 41 17.3
comp=Z,16nm,1.5s
TIXI PcP 11 43 54.8 -1.0
HWUT Hardware Ranch 32.70 98 P P 11 41 10.8 -0.6
R11A Troy Canyon, C 32.91 107 P P 11 41 15.3 +2.0
R11A IAmb IAmb 11 41 23.0
comp=Z,5.4nm,0.8s
R11A Troy Canyon, C 32.91 107 P P 11 41 14.6 +1.4
baz=318,SNR=15
SMMC Simmler 33.00 115 P P 11 41 16.0 +2.1
baz=323
BW06 Boulder Array 33.00 95 P P 11 41 15.2 +1.1
BW06 Boulder Array 33.00 95 P P 11 41 14.7 +0.6
baz=312
PD31 Pinedale Array 33.00 95 P P 11 41 14.7 +0.6
PDAR Pinedale Array 33.00 95 P P 11 41 13.5 -0.6
comp=Z,0.8nm,0.7s,baz=320,slow=5.0,SNR=11
PDAR Pinedale Array 33.00 95 P P 11 41 15.1 +1.0
GRAC Grapevine Rang 33.01 110 P P 11 41 15.8 +1.9
baz=320
DUG Dugway, Tooele 33.03 102 P P 11 41 13.2 -1.0
DUG IAmb IAmb 11 41 41.1
comp=Z,11nm,1.4s
DUG Dugway, Tooele 33.03 102 P P 11 41 15.1 +0.9
baz=316
CWC Cottonwood Cre 33.07 112 P P 11 41 16.1 +1.4
baz=321
SPR3 Spring Creek 3 33.09 105 P P 11 41 16.7 +1.8
CTU Camp Tracy 33.24 100 P P 11 41 16.6 +0.5
PKM Mcpherson Peak 33.43 116 P P 11 41 19.9 +2.1
baz=323
ISA Isabella, Lake 33.48 113 P P 11 41 19.8 +1.7
ISA IAmb IAmb 11 41 22.5
comp=Z,9.6nm,1.2s
ISA Isabella, Lake 33.48 113 P P 11 41 19.6 +1.5
baz=322
NLU North Lily Min 33.59 101 P P 11 41 19.3 0.0
TPNV Topopah Spring 33.62 109 P P 11 41 21.0 +1.6
baz=320,SNR=7.7
MPMC Manual Prospec 33.67 112 P P 11 41 23.1 +3.2
baz=321,SNR=6.2
FURC Furnace Creek, 33.67 110 P P 11 41 22.0 +2.4
baz=321
PSUT Pine Spring 33.68 105 P P 11 41 20.8 +0.8
LRMC Laurel Mtn Rad 34.02 112 P P 11 41 24.3 +1.4
baz=322
TCRU Three Creeks R 34.37 103 P P 11 41 25.9 -0.1
TCRU IAmb IAmb 11 41 36.3
comp=Z,6.8nm,0.7s
SHOC Shoshone, Teco 34.41 110 P P 11 41 27.9 +1.8
baz=321,SNR=5.0
MVU Marysvale 34.57 103 P P 11 41 29.0 +1.2
MSU Marysvale 34.59 103 P P 11 41 29.9 +2.0
GSC Goldstone, Bar 34.61 112 P P 11 41 30.5 +2.6
GSC IAmb IAmb 11 41 32.8
comp=Z,13nm,1.1s
GSC Goldstone, Bar 34.61 112 P P 11 41 29.3 +1.4
baz=322,SNR=5.7
P17A Butcher Ranch, 34.66 100 P P 11 41 32.2 +3.8
CCUT Cedar City 34.67 105 P P 11 41 30.8 +2.2
SZCU Shurtz Canyon 34.78 105 P P 11 41 30.9 +1.3
Q16A Castle Valley 34.83 101 P P 11 41 30.2 +0.3
Q16A IAmb IAmb 11 41 34.6
comp=Z,16nm,1.5s
TUQ Turquoise Moun 34.95 110 P P 11 41 31.9 +1.0
baz=321
BFSC Mount Baldy Ra 35.01 114 P P 11 41 33.3 +1.8
baz=323
SRU San Rafael Swe 35.03 101 P P 11 41 32.3 +0.6
SRU IAmb IAmb 11 41 47.3
comp=Z,20nm,1.0s
RSSD Black Hills 35.12 88 P P 11 41 33.4 +1.0
RSSD IAmb IAmb 11 41 46.0
comp=Z,12nm,0.8s
RSSD Black Hills 35.12 88 P P 11 41 33.6 +1.1
baz=311
LCMT Little Creek M 35.14 106 P P 11 41 33.7 +1.2
PKCU Pink Cliffs 35.30 104 P P 11 41 36.7 +2.5
PKCU IAmb IAmb 11 42 00.3
comp=Z,11nm,1.2s
KNB Kanab 35.35 105 P P 11 41 35.3 +0.8
O20A White River Ci 35.53 97 P P 11 41 37.6 +1.6
O20A IAmb IAmb 11 42 04.9

comp=Z,13nm,0.9s
O20A White River Ci 35.53 97 P **P** **11 41 37.2 +1.2**
baz=315
SCI2 San Clemente I 35.58 116 P **P** **11 41 38.2 +1.9**
baz=324
GMRC Granite Mounta 35.59 111 P **P** **11 41 38.2 +1.7**
baz=322,SNR=5.5
YAK Yakutsk 35.64 309 P P 11 41 34.2 -2.2
comp=Z,4.9nm,0.4s,baz=137,slow=3.4,SNR=1.8
YAK Yakutsk 35.64 309 P **P** **11 41 36.2 -0.1**
ULM Lac du Bonnet 35.76 74 P **P** **11 41 36.3 -1.3**
comp=Z,8.4nm,0.6s,baz=297,slow=9.0,SNR=8.3
ULM Lac du Bonnet 35.76 74 P **P** **11 41 37.9 +0.3**
ULM IAmb IAmb 11 41 42.4
comp=Z,11nm,0.8s
BELC Belle Mtn. Jos 36.04 112 P **P** **11 41 41.7 +1.4**
baz=322
U15A North Rim 36.08 105 P **P** **11 41 41.3 +0.5**
U15A IAmb IAmb 11 42 02.1
comp=Z,12nm,1.5s
PFO Pinyon Flats O 36.12 113 P **P** **11 41 40.2 -0.7**
comp=Z,1.2nm,0.8s,baz=252,slow=9.6,SNR=2.0
PFO Pinyon Flats O 36.12 113 P **P** **11 41 41.8 +0.9**
PFO Pinyon Flats O 36.12 113 P **P** **11 41 42.0 +1.1**
baz=323
TPFO Pinon Flats 36.12 113 P **P** **11 41 42.2 +1.2**
baz=323
W13A Hualapai Mount 36.26 109 P **P** **11 41 43.5 +1.2**
PV21 Cone Mtn., Par 36.27 100 P **P** **11 41 42.1 -0.3**
PV23 Carpenter Ridg 36.33 100 P **P** **11 41 42.4 -0.4**
IRM Iron Mountain 36.35 111 P **P** **11 41 44.7 +1.9**
baz=322,SNR=11
PV17 East Wray Mesa 36.48 100 P **P** **11 41 44.4 +0.3**
BC3 Big Chuckawall 36.59 112 P **P** **11 41 45.8 +0.8**
baz=323
MONP2 Monument Peak 36.71 114 P **P** **11 41 47.6 +1.5**
baz=324
PDMCI Parker Dam,Lak 36.75 110 P **P** **11 41 47.2 +1.0**
baz=322
PV01 Paradox Valley 36.79 100 P **P** **11 41 46.6 -0.3**
AGMN Agassiz Nation 36.92 77 P **P** **11 41 48.3 +0.8**
AGMN IAmb IAmb 11 41 55.9
comp=Z,14nm,0.8s
AGMN Agassiz Nation 36.92 77 P **P** **11 41 48.4 +0.8**
baz=307,SNR=11
CBX Cerro Bola 37.05 114 P **P** **11 41 49.2 +0.3**
IKP In-Ko-Pah, Jac 37.06 114 P **P** **11 41 49.4 +0.5**
baz=324
WUAZ Wupatki 37.25 105 P **P** **11 41 51.4 +0.7**
baz=320
GLA Glamis 37.38 112 P **P** **11 41 52.4 +0.8**
baz=323
MVCO Mesa Verde 37.51 101 P **P** **11 41 52.7 -0.2**
baz=318
Y14A Wickenburg 37.62 109 P **P** **11 41 54.8 +1.2**
SUSD Miller 37.68 84 P **P** **11 41 54.2 +0.1**
baz=311
B35A Bob, Littlefor 38.02 75 P **P** **11 41 57.6 +0.9**
B35A IAmb IAmb 11 42 01.3
comp=Z,9.7nm,0.9s
S22A 4UR Ranch, Cre 38.02 99 P **P** **11 41 58.7 +1.4**
baz=317
X16A Lo Mia Camp, P 38.06 107 P **P** **11 41 58.1 +0.5**
113A Mohawk Valley, 38.15 111 P **P** **11 42 00.1 +2.0**
OGNE Ogallala 38.35 91 P **P** **11 42 01.0 +1.2**
OGNE IAmb IAmb 11 42 10.3
comp=Z,8.7nm,0.8s
OGNE Ogallala 38.35 91 P **P** **11 42 00.7 +0.9**
baz=314
SDCO Great Sand Dun 38.73 97 P **P** **11 42 03.4 +0.1**
SDCO Great Sand Dun 38.73 97 P **P** **11 42 03.7 +0.4**
baz=317
X18A Snowflake 38.76 105 **P** **11 42 03.5 +0.1**
SFX San Felipe 38.99 114 P **P** **11 42 05.7 +0.6**
214A Organ Pipe Nat 39.28 111 P **P** **11 42 09.3 +1.6**
214A Organ Pipe Nat 39.28 111 P **P** **11 42 09.8 +2.1**
baz=323
KSCO Kaye Shedlock' 39.38 93 P **P** **11 42 09.4 +0.9**
KSCO Kaye Shedlock' 39.38 93 P **P** **11 42 09.8 +1.3**
baz=316
ECSD EROS Data Cent 39.41 83 P **P** **11 42 08.2 -0.4**
ECSD EROS Data Cent 39.41 83 P **P** **11 42 07.8 -0.8**
baz=312
EYMN Ely 39.45 74 P **P** **11 42 09.3 +0.5**
EYMN IAmb IAmb 11 42 13.6
comp=Z,19nm,0.9s
EYMN Ely 39.45 74 P **P** **11 42 09.1 +0.2**
baz=309,SNR=12
F36A Milaca 39.69 78 P **P** **11 42 11.9 +1.0**
F36A IAmb IAmb 11 42 24.1
comp=Z,20nm,1.3s
T25A Trinidad 39.77 97 P **P** **11 42 12.9 +1.0**
baz=317
TUC Tucson 40.05 108 P **P** **11 42 16.1 +2.0**
TUC Tucson 40.05 108 P **P** **11 42 15.4 +1.4**
baz=322
BGNE Belgrade 40.15 87 P **P** **11 42 14.7 0.0**
BGNE Belgrade 40.15 87 P **P** **11 42 15.8 +1.0**
baz=314
ANMO Albuquerque 40.30 101 P **P** **11 42 14.9 -1.3**
comp=Z,0.3nm,0.4s,baz=0.0,slow=12,SNR=1.3
ANMO Albuquerque 40.30 101 P **P** **11 42 17.2 +1.0**
baz=319
SPMN Marine on St. 40.49 79 P **P** **11 42 18.2 +0.8**
SPMN IAmb IAmb 11 42 30.3
comp=Z,15nm,0.9s
SPMN Marine on St. 40.49 79 P **P** **11 42 17.6 +0.1**
baz=311
Y22D IRIS PASSCAL I 40.71 103 P **P** **11 42 19.6 -0.1**
baz=320
I37A Lemond, Waseca 40.97 80 P **P** **11 42 21.6 +0.1**
N33A J Bar K, Exete 41.00 87 P **P** **11 42 21.3 -0.5**
N35A Tabor 41.90 86 P **P** **11 42 29.6 +0.5**
K38A Parkersburg 42.23 81 P **P** **11 42 32.2 +0.4**
I40A Norwalk 42.54 78 P **P** **11 42 34.4 +0.1**
I40A IAmb IAmb 11 42 43.1
comp=Z,23nm,1.1s
F42A Maple Grove Fa 42.62 75 P **P** **11 42 35.5 +0.6**
F42A IAmb IAmb 11 42 44.2
comp=Z,16nm,0.9s
E43A Lone Tree Farm 42.81 73 P **P** **11 42 37.0 +0.5**
E43A IAmb IAmb 11 42 41.2
comp=Z,15nm,0.8s
MSTX Muleshoe 43.02 99 P **P** **11 42 39.0 +0.6**
MSTX Muleshoe 43.02 99 P **P** **11 42 38.2 -0.2**
baz=320
N38A Joes South For 43.25 84 P **P** **11 42 40.8 +0.7**
N38A IAmb IAmb 11 42 53.0
comp=Z,31nm,1.1s
MNTX Cornudas Mount 43.37 103 P **P** **11 42 43.0 +1.9**
MNTX Cornudas Mount 43.37 103 P **P** **11 42 42.2 +1.0**
baz=322
JFWS Jewell Farm 43.40 79 P **P** **11 42 41.2 -0.1**
JFWS IAmb IAmb 11 42 52.5
comp=Z,14nm,0.8s
JFWS Jewell Farm 43.40 79 P **P** **11 42 41.2 -0.1**
baz=313
I42A Draeger Farm, 43.45 77 P **P** **11 42 42.5 +0.8**
I42A IAmb IAmb 11 42 51.0
comp=Z,12nm,0.8s
L40A Anamosa 43.46 81 P **P** **11 42 42.2 +0.4**
L40A IAmb IAmb 11 42 53.5
comp=Z,22nm,0.9s
H43A Windswept, Lux 43.67 76 P **P** **11 42 43.3 -0.1**
H43A IAmb IAmb 11 42 47.9
comp=Z,20nm,0.9s
P38A Dawn 43.91 85 P **P** **11 42 45.0 -0.4**
E46A Sault Ste Mari 44.22 71 P **P** **11 42 48.4 +0.6**
E46A IAmb IAmb 11 42 54.9
comp=Z,16nm,1.0s
L42A Oliver, Polo 44.34 80 P **P** **11 42 48.2 -0.7**
L42A IAmb IAmb 11 42 54.8
comp=Z,11nm,0.8s
K43A Burlington 44.57 78 P **P** **11 42 51.0 +0.4**
N41A Harden Midland 44.60 82 P **P** **11 42 50.4 -0.5**
USRK Ussuriysk Ar. 44.77 285 LR LR 12 01 24.1
comp=Z,354nm,21.5s,baz=49,slow=36
P40A Paris 44.79 84 P **P** **11 42 53.0 +0.6**
P40A IAmb IAmb 11 43 04.3
comp=Z,21nm,1.1s
TUL1 Leonard 45.37 91 P **P** **11 42 57.1 0.0**
baz=318
S39A Bolivar 45.41 87 P **P** **11 42 57.6 +0.1**
S39A IAmb IAmb 11 43 08.4
comp=Z,7.3nm,0.9s
HDIL Hopedale 45.55 81 P **P** **11 42 58.7 +0.2**
baz=315
R40A Maddies Statio 45.55 86 P **P** **11 42 58.2 -0.3**
NRIK Noril'sk 45.59 333 P P 11 42 55.9 -2.5
comp=Z,10.0nm,0.9s,baz=86,slow=9.2,SNR=7.0
NRIK LR LR 12 03 55.8
comp=Z,340nm,19.9s,baz=50,slow=39
NRIK Noril'sk 45.59 333 P **P** **11 42 58.2 -0.2**
NRIK IAmb IAmb 11 43 01.8
comp=Z,11nm,0.9s
M44A Midewin, Midew 45.64 79 P **P** **11 42 59.7 +0.5**
ABTX Abilene, Hawle 45.74 97 P **P** **11 43 00.2 +0.1**
ABTX Abilene, Hawle 45.74 97 P **P** **11 42 59.6 -0.5**
baz=320
P43A Skaggs, Pawnee 46.08 82 P **P** **11 43 03.0 +0.3**
TX31 Lajitas Ar. Si 46.13 104 P **P** **11 43 04.5 +1.2**
TX32 Lajitas Array 46.13 104 P **P** **11 43 04.8 +1.4**
TX32 IAmb IAmb 11 43 14.9
comp=Z,6.3nm,1.1s
TXAR Lajitas Array 46.14 104 P **P** **11 43 02.5 -0.9**
comp=Z,1.7nm,0.7s,baz=316,slow=5.6,SNR=16
TXAR LR LR 12 01 32.9
comp=Z,308nm,18.8s,baz=0.0,slow=35
TXAR Lajitas Array 46.14 104 P **P** **11 43 04.3 +0.9**
CCM Cathedral Cave 46.28 85 P **P** **11 43 03.9 -0.5**
CCM IAmb IAmb 11 43 15.8
comp=Z,7.4nm,0.9s
CCM Cathedral Cave 46.28 85 P **P** **11 43 03.8 -0.5**
baz=316
MGMO Mountain Grove 46.38 87 P **P** **11 43 06.0 +0.9**
MGMO IAmb IAmb 11 43 15.8
comp=Z,6.5nm,0.9s
X37A Clayton 46.58 92 P **P** **11 43 07.3 +0.6**
I49A Point Hope 46.63 73 P **P** **11 43 07.3 +0.4**
U40A Yellville 46.64 88 P **P** **11 43 08.1 +0.9**
U40A IAmb IAmb 11 43 19.0
comp=Z,8.4nm,1.1s
U40A Yellville 46.64 88 P **P** **11 43 06.2 -0.9**
baz=318
MJAR Matsushiro Arr 46.84 273 P P 11 43 06.2 -2.5
comp=Z,4.0nm,0.9s,baz=45,slow=5.7,SNR=5.9
MJAR LR LR 12 01 38.3
comp=Z,262nm,21.8s,baz=85,slow=35
MJAR Matsushiro Arr 46.84 273 IAmb IAmb 11 43 09.4
comp=Z,4.4nm,1.0s
SFIN Lafayette 46.86 80 P **P** **11 43 09.3 +0.6**
SFIN Lafayette 46.86 80 P **P** **11 43 08.1 -0.7**
baz=315
Q44A Meyer Farm, Va 46.88 82 P **P** **11 43 08.9 0.0**
SCHQ Schefferville 46.99 52 P **P** **11 43 08.2 -1.4**
comp=Z,6.9nm,0.5s,baz=317,slow=8.0,SNR=21
SCHQ Schefferville 46.99 52 P **P** **11 43 09.8 +0.1**
W39A Magazine 46.99 90 P **P** **11 43 12.7 +2.8**
W39A Magazine 46.99 90 P **P** **11 43 09.4 -0.5**
baz=318
N47A Urbana 47.26 78 P **P** **11 43 11.7 -0.2**
JCT Junction City 47.31 99 P **P** **11 43 13.6 +1.1**
JCT IAmb IAmb 11 43 19.0
comp=Z,9.5nm,0.8s
JCT Junction City 47.31 99 P **P** **11 43 13.5 +1.1**
baz=321
P46A Rosedale 47.34 80 P **P** **11 43 15.9 +3.4**
FCAR Ozark Folk Cen 47.39 88 P **P** **11 43 13.0 +0.1**
FCAR IAmb IAmb 11 43 24.1
comp=Z,8.4nm,0.8s
OLIL Olney 47.50 82 P **P** **11 43 14.2 +0.4**
MIAR Mount Ida 47.59 90 P **P** **11 43 15.2 +0.6**
MIAR Mount Ida 47.59 90 P **P** **11 43 15.0 +0.4**
baz=319
S44A Carbondale 47.63 84 P **P** **11 43 15.1 +0.3**
PBMO Poplar Bluff 47.66 85 P **P** **11 43 15.7 +0.7**
SADO Sadowa 47.96 70 P **P** **11 43 16.1 -1.2**
comp=Z,6.3nm,0.7s,baz=335,slow=7.0,SNR=3.2
SADO Sadowa 47.96 70 IAmb IAmb 11 43 25.1
comp=Z,23nm,1.4s
N49A Columbus Grove 48.03 77 P **P** **11 43 18.1 +0.2**
P48A Milroy 48.41 79 P **P** **11 43 20.4 -0.4**
CN2 Changchun 48.46 289 *e*P P 11 43 18.8 -2.4
CN2 *e*S S 11 50 12.9 -8.9
CN2 Changchun 48.46 289 SS SS 11 53 48.3 -2.7
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=N,300nm,18.0s
CN2 LR LR
comp=E,300nm,18.0s
CN2 LR LR
comp=Z,300nm,20.0s
JHJ Hachijo jima 2 48.53 268 LR LR 12 02 08.3
comp=Z,177nm,19.6s,baz=281,slow=34
P49A Miami Univ. Ec 48.74 79 P **P** **11 43 23.2 -0.2**
baz=316
DELO Deloro Mine 48.92 69 P **P** **11 43 25.3 +0.6**
DELO IAmb IAmb 11 43 32.2
comp=Z,9.8nm,0.9s
X43A Marvell 49.09 88 P **P** **11 43 24.9 -1.1**
baz=319
J54A Appleton 49.27 71 P **P** **11 43 27.6 +0.3**
T47A Sharon Grove 49.31 83 P **P** **11 43 27.4 -0.4**
T47A IAmb IAmb 11 43 40.5
comp=Z,15nm,1.0s
ERPA Erie 49.39 73 P **P** **11 43 28.4 +0.1**
ERPA Erie 49.39 73 P **P** **11 43 27.7 -0.7**
baz=316
M53A WI Miller and 49.52 74 P **P** **11 43 29.4 +0.1**
M53A WI Miller and 49.52 74 P **P** **11 43 28.8 -0.5**
baz=316
WVT Waverly 49.55 84 P **P** **11 43 30.4 +0.8**
WVT IAmb IAmb 11 43 41.9
comp=Z,14nm,0.8s
WVT Waverly 49.55 84 P **P** **11 43 29.8 +0.2**
baz=318
ALLY Alegheny Colle 49.65 73 P **P** **11 43 30.5 +0.2**
J55A Hilton 49.70 70 P **P** **11 43 30.8 +0.1**
Q51A Peebles 49.84 78 P **P** **11 43 31.4 -0.4**
R50A Paris 49.86 79 P **P** **11 43 31.6 -0.4**
OXF Oxford 49.89 87 P **P** **11 43 31.8 -0.4**
baz=319
M54A Oil Creek Stat 50.00 73 P **P** **11 43 33.3 +0.3**
M54A IAmb IAmb 11 43 36.5
comp=Z,12nm,0.8s
M54A Oil Creek Stat 50.00 73 P **P** **11 43 31.9 -1.1**
baz=316
MMNY Mt. Morris Dam 50.03 71 P **P** **11 43 32.7 -0.5**
MMNY IAmb IAmb 11 43 37.2
comp=Z,9.9nm,0.6s
N54A Moraine State 50.22 74 P **P** **11 43 34.7 0.0**
N54A IAmb IAmb 11 43 38.5
comp=Z,14nm,0.8s
N54A Moraine State 50.22 74 P **P** **11 43 34.3 -0.4**
baz=316
PLAL Pickwick Lake 50.27 85 P **P** **11 43 34.9 -0.2**
PLAL IAmb IAmb 11 43 46.0
comp=Z,16nm,0.9s
LONY Lake Ozonia 50.38 67 P **P** **11 43 35.5 -0.4**
LONY IAmb IAmb 11 43 39.1
comp=Z,8.7nm,0.9s
LONY Lake Ozonia 50.38 67 P **P** **11 43 35.3 -0.5**
baz=315
V48A Smith Brothers 50.38 84 P **P** **11 43 35.8 -0.2**
V48A IAmb IAmb 11 43 42.6
comp=Z,6.3nm,0.8s
CLTN Cedars of Leba 50.39 83 P **P** **11 43 35.5 -0.5**
M55A Ridgway 50.49 72 P **P** **11 43 36.5 -0.3**
J57A Williamstown 50.53 69 P **P** **11 43 37.2 +0.2**
J57A IAmb IAmb 11 43 41.2
comp=Z,16nm,0.9s
O54A Avella 50.58 75 P **P** **11 43 37.3 -0.1**
L56A Greenwood 50.64 71 P **P** **11 43 38.2 +0.3**
S51A Beattyville 50.72 79 P **P** **11 43 38.5 -0.1**
S51A IAmb IAmb 11 43 50.3
comp=Z,18nm,1.1s
FRNY Flat Rock 50.73 66 P **P** **11 43 37.6 -0.9**
FRNY IAmb IAmb 11 43 41.5
comp=Z,16nm,1.0s
J58A Remsen 50.93 68 P **P** **11 43 39.8 -0.1**
J58A IAmb IAmb 11 43 44.2
comp=Z,13nm,0.8s
MOQ Mont Orford 51.05 65 P **P** **11 43 40.0 -0.9**
X48A Hartselle 51.23 85 P **P** **11 43 41.7 -0.6**
X48A IAmb IAmb 11 43 54.4
comp=Z,8.0nm,0.9s
SWET Sewanee 51.26 83 P **P** **11 43 43.2 +0.6**
SWET IAmb IAmb 11 43 54.2
comp=Z,8.5nm,0.9s
D62A Allapoint, All 51.34 61 P **P** **11 43 42.6 -0.4**
baz=316
BINY Binghamton 51.41 70 P **P** **11 43 44.9 +1.3**
BINY IAmb IAmb 11 43 48.1
comp=Z,15nm,0.8s
BINY Binghamton 51.41 70 P **P** **11 43 42.9 -0.7**
baz=316
M57A Sunshine Farm, 51.44 71 P **P** **11 43 44.3 +0.5**
M57A IAmb IAmb 11 43 53.3
comp=Z,7.9nm,0.7s
E62A Clayton Lake 51.44 62 P **P** **11 43 43.1 -0.7**
baz=316
O56A Blue Knob Stat 51.47 73 P **P** **11 43 44.0 -0.1**
O56A IAmb IAmb 11 43 47.7
comp=Z,11nm,0.7s
O56A Blue Knob Stat 51.47 73 P **P** **11 43 43.4 -0.7**
baz=317
SSPA Standing Stone 51.55 73 P **P** **11 43 45.5 +0.8**
SSPA IAmb IAmb 11 43 48.8
comp=Z,12nm,0.7s
SSPA Standing Stone 51.55 73 P **P** **11 43 44.9 +0.2**
baz=317
TZTN Tazewell 51.56 80 P **P** **11 43 45.3 +0.5**
TZTN IAmb IAmb 11 43 51.3
comp=Z,12nm,1.0s
TZTN Tazewell 51.56 80 P **P** **11 43 44.3 -0.5**
baz=318
I60A Shoreham 51.59 67 P **P** **11 43 44.5 -0.3**
baz=316
W50A Signal Mountai 51.61 83 P **P** **11 43 45.8 +0.6**
W50A IAmb IAmb 11 43 57.7
comp=Z,11nm,0.8s
ACCN Adirondack Com 51.73 67 P **P** **11 43 47.0 +1.1**
ACCN IAmb IAmb 11 43 50.1
comp=Z,6.7nm,0.8s
KSRS Korea Array 51.73 282 P **P** **11 43 44.8 -1.3**
comp=Z,4.1nm,0.7s,baz=54,slow=7.2,SNR=6.1
KSRS LR LR 12 05 54.4
comp=Z,115nm,19.4s,baz=48,slow=36
F62A Pittston Farm, 51.75 63 P **P** **11 43 45.8 -0.3**
baz=316
KSAR Wonju Array Be 51.76 282 P **P** **11 43 45.7 -0.6**
S54A Dingess, Beckl 51.83 78 P **P** **11 43 46.7 -0.2**
S54A IAmb IAmb 11 44 00.5
comp=Z,7.4nm,0.9s
CPCT Cooper Cave 51.85 82 P **P** **11 43 47.1 +0.1**
CPCT IAmb IAmb 11 43 57.2
comp=Z,7.1nm,1.1s
L59A Walton 51.89 69 P **P** **11 43 48.0 +0.7**
FPAL Fort Paine 51.94 84 P **P** **11 43 48.6 +0.9**
G62A West of Eustis 51.96 64 P **P** **11 43 48.2 +0.5**
G62A IAmb IAmb 11 43 51.5
comp=Z,10nm,0.8s
G62A West of Eustis 51.96 64 P **P** **11 43 47.4 -0.3**
baz=316
LBNH Lisbon 51.98 65 P **P** **11 43 47.8 0.0**
baz=316
Y49A Blount Mountai 52.02 85 P **P** **11 43 47.9 -0.3**
Y49A IAmb IAmb 11 43 55.4
comp=Z,7.5nm,0.8s
V52A Sevierville 52.05 81 P **P** **11 43 48.7 +0.2**
V52A IAmb IAmb 11 44 01.0
comp=Z,16nm,1.4s
TKL Tuckaleechee C 52.09 81 P P 11 43 46.8 -2.0
comp=Z,4.8nm,0.7s,baz=270,slow=3.0,SNR=6.2
TKL Tuckaleechee C 52.09 81 P **P** **11 43 49.4 +0.6**
TKL IAmb IAmb 11 44 17.4
comp=Z,9.2nm,1.0s
E63A Oxbow 52.11 61 P **P** **11 43 47.7 -1.1**
baz=316
F63A Nahmakanta, Br 52.31 62 P **P** **11 43 49.7 -0.6**
baz=316
J61A Chester 52.31 67 P **P** **11 43 50.5 +0.1**
baz=317
LRAL Lakeview Retre 52.32 86 P **P** **11 43 50.6 +0.1**
baz=320
P57A Homestead Farm 52.33 74 P **P** **11 43 49.9 -0.7**
W52A Murphy 52.44 82 P **P** **11 43 51.1 -0.2**
W52A IAmb IAmb 11 44 03.7
comp=Z,10nm,0.8s
K61A Williamstown 52.45 68 P **P** **11 43 51.2 -0.1**
baz=317
PAGS Pennsylvania G 52.46 72 P **P** **11 43 51.9 +0.4**
PAGS IAmb IAmb 11 43 55.2
comp=Z,8.7nm,0.8s
U54A Nelsons Funny 52.50 79 P **P** **11 43 51.9 0.0**
U54A IAmb IAmb 11 44 09.0
comp=Z,11nm,0.8s
F64A Sherman 52.55 62 P P 11 43 50.2 -1.8
baz=317
V53A Saluda 52.60 80 P **P** **11 43 52.9 +0.2**
V53A IAmb IAmb 11 44 05.3
comp=Z,12nm,0.9s
BLA Blacksburg 52.74 77 P **P** **11 43 53.2 -0.4**
baz=318
LUPA Lehigh Univers 52.89 71 P **P** **11 43 54.5 -0.1**
ODNJ Ogdensburg 52.93 70 P **P** **11 43 55.6 +0.7**
ODNJ IAmb IAmb 11 44 01.5
comp=Z,9.6nm,0.8s
K62A Royalston 52.97 67 P P 11 43 53.5 -1.7
baz=317
BG3 Lake Jocassee 53.05 81 P **P** **11 43 56.5 +0.6**
BG3 IAmb IAmb 11 44 08.4
comp=Z,13nm,1.0s
J63A Strafford 53.10 66 P **P** **11 43 54.5 -1.6**
baz=317
V55A Taylorsville 53.33 79 P **P** **11 43 57.9 0.0**
V55A IAmb IAmb 11 44 04.5
comp=Z,6.8nm,0.9s
G65A Princeton 53.41 62 P **P** **11 43 58.5 +0.1**
baz=317
ARCES ARCESS Array B 53.69 359 P P 11 43 57.1 -3.0
comp=Z,4.6nm,0.8s,baz=337,slow=14,SNR=2.4
ARCES LR LR 12 07 14.0
comp=Z,160nm,19.5s,baz=355,slow=36
KMSC Kings Mountain 53.80 80 P **P** **11 44 01.5 +0.1**
baz=319
GOGA Godfrey 53.95 83 P **P** **11 44 02.6 +0.1**
baz=320
HODGE Hodges 53.99 81 P **P** **11 44 02.0 -0.7**
M63A Gales Ferry 53.99 68 P **P** **11 44 03.6 +0.9**
M64A Tiverton 54.31 67 P **P** **11 44 04.8 -0.2**
baz=318
T59A Double "B" Far 54.44 75 P **P** **11 44 06.0 0.0**
T59A IAmb IAmb 11 44 18.7
comp=Z,9.8nm,1.1s
V58A Windy Hill, Pi 54.49 78 P **P** **11 44 06.7 +0.3**
V58A IAmb IAmb 11 44 16.7
comp=Z,14nm,1.1s
SONM Songino Array 54.78 305 P P 11 44 06.3 -2.2
comp=Z,4.9nm,0.9s,baz=49,slow=6.5,SNR=15
SONM PcP **PcP** **11 45 08.9 -1.9**
comp=Z,0.7nm,0.3s,baz=18,slow=5.2,SNR=1.6
SONM LR LR 12 09 14.5
comp=Z,605nm,20.4s,baz=34,slow=38
SONM Songino Array 54.78 305 P **P** **11 44 08.2 -0.4**
SONM IAmb IAmb 11 44 11.6
comp=Z,7.6nm,1.2s
U59A Littleton 54.78 76 P **P** **11 44 08.8 +0.3**
U59A IAmb IAmb 11 44 12.5
comp=Z,9.1nm,0.8s
HHC Hu-ho-hao-te 57.62 296 *e*P **P** **11 44 30.0 +1.1**
HHC S **S** **11 52 24.6 -2.3**
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,130nm,5.3s
HHC LR LR
comp=N,370nm,15.4s
HHC LR LR
comp=E,400nm,17.8s
HHC LR LR
comp=Z,450nm,15.7s
ZALV Zalesovo Beam 58.45 322 LR LR 12 10 37.3
comp=Z,196nm,18.8s,baz=30,slow=37
NJ2 Nanjing 60.67 284 *e*P **P** **11 44 50.7 +0.7**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
NJ2 LR LR
comp=N,370nm,20.4s
NJ2 LR LR
comp=E,430nm,21.8s
NJ2 LR LR
comp=Z,560nm,17.1s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KLMR	Klimovskoe	61.70	351	eP	P	11 44 56.5	0.0
KLMR				AMP		11 45 01.9	
	comp=Z,22nm,2.1s						
FINES	FINESS Array B	61.80	358	P	P	11 44 55.9	-1.3
	comp=Z,5.2nm,1.0s,baz=4.3,slow=7.6,SNR=5.1						
FINES				LR	LR	12 13 09.4	
	comp=Z,106nm,19.0s,baz=50,slow=38						
FINES	FINESS Array B	61.80	358	P	P	11 44 57.0	-0.1
NB2	NORSAR Subarra	61.87	6	P	P	11 44 58.5	+0.7
	comp=Z,3.5nm,0.9s,baz=352,slow=7.4						
NOA	NORSAR Array B	61.87	6	P	P	11 44 56.2	-1.5
	comp=Z,0.2nm,0.4s,baz=69,slow=11,SNR=1.6						
KIRV	Kirov	62.79	345	LR	LR	12 15 28.2	
	comp=Z,241nm,19.1s,baz=13,slow=39						
HFS	Hagfors	62.91	5	P	P	11 45 03.6	-1.1
	comp=Z,2.5nm,0.7s,baz=33,slow=8.6,SNR=2.4						
HFS				LR	LR	12 12 19.1	
	comp=Z,79nm,19.6s,baz=1.5,slow=36						
KURK	Kurchatov	63.22	324	P	P	11 45 06.2	-0.6
ARU	Arti	63.28	339	P	P	11 45 05.5	-1.7
	comp=Z,1.0nm,0.4s,baz=27,slow=10,SNR=7.0						
ARU	Arti	63.28	339	P	P	11 45 07.4	+0.2
KURBB	Kurchatov Arra	63.33	324	P	P	11 45 06.2	-1.3
	comp=Z,1.4nm,0.2s,baz=23,slow=6.5,SNR=4.7						
BRVK	Borovoye	63.62	330	P	P	11 45 10.2	+0.7
BRVK				IAmb	IAmb	11 45 11.7	
	comp=Z,4.6nm,0.9s						
BVAR	Borovoye Array	63.63	330	P	P	11 45 07.2	-2.3
	comp=Z,2.8nm,0.8s,baz=164,slow=2.7,SNR=11						
XAN	Xi'an	64.24	293	P	P	11 45 18.1	+4.2
XAN				pP	sP	11 45 24.7	+6.2
XAN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
GTA	Gaotai	64.33	303	eP	P	11 45 15.0	+0.5
GTA				pP	pP	11 45 20.3	+2.5
GTA				sP	sP	11 45 23.4	+4.3
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,58nm,4.7s						
GTA				LR	LR		
	comp=N,310nm,16.7s						
GTA				LR	LR		
	comp=E,430nm,17.1s						
GTA				LR	LR		
	comp=Z,330nm,16.7s						
LZH	Lanzhou	65.11	298	eP	P	11 45 21.5	+1.8
LZH				pP	sP	11 45 27.6	+3.3
LZH				sP	pP	11 45 31.0	+8.0
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
MK31	Makanchi Array	65.35	319	P	P	11 45 20.4	-0.5
MKAR	Makanchi Array	65.35	319	P	P	11 45 18.8	-2.1
	comp=Z,0.9nm,0.7s,baz=36,slow=6.9,SNR=7.1						
MKAR				LR	LR	12 16 08.6	
	comp=Z,250nm,18.2s,baz=24,slow=38						
MKAR	Makanchi Array	65.35	319	P	P	11 45 22.5	+1.5
WMQ	Urumqi	65.85	314	eP	P	11 45 28.2	+3.9
WMQ				LR	LR		
	comp=N,450nm,16.7s						
WMQ				LR	LR		
	comp=E,700nm,20.3s						
WMQ				LR	LR		
	comp=Z,490nm,19.1s						
TGUH	Tegucigalpa,Un	67.31	99	P	P	11 45 32.9	-1.1
AKTO	Aktyubinsk	69.03	337	P	P	11 45 40.8	-3.3
	comp=Z,4.0nm,0.9s,baz=34,slow=4.4,SNR=11						
AKTO				LR	LR	12 20 06.8	
	comp=Z,224nm,18.8s,baz=22,slow=40						
ABKAR	Akbulak array	69.71	335	P	P	11 45 47.0	-1.3
ABKAR				IAmb	IAmb	11 45 50.8	
	comp=Z,3.7nm,0.8s						
GYA	Guiyang	71.50	290	⇓P	P	11 45 59.4	-0.4
GYA				pP	pP	11 46 04.4	+1.2
GYA				pmax	pmax		
	comp=Z,12nm,0.9s						
CLL	Collm	71.68	7	e(P)	P	11 46 05.0	+4.7
	comp=Z,5.0nm,0.5s						
CLL				LmV		12 20 00.0	
	comp=Z,100nm,18.5s						
AKASG	Malin Array Be	72.47	356	P	P	11 46 02.9	-2.2
	comp=Z,2.2nm,0.4s,baz=6.5,slow=6.4,SNR=14						
AKBB	Malin Array Si	72.47	356	P	P	11 46 03.7	-1.4
AKBB				IAmb	IAmb	11 46 10.8	
	comp=Z,5.0nm,0.7s						
KK31	Karatay Array	72.53	326	P	P	11 46 06.0	+0.4
KK31				IAmb	IAmb	11 46 08.8	
	comp=Z,6.8nm,1.3s						
KKAR	Karatay Array	72.53	326	P	P	11 46 05.4	-0.2
KHC	Kasperske Hory	73.88	6	eP	P	11 46 15.5	+2.0
GERES	GERESS Array B	74.18	6	P	P	11 46 13.5	-1.8
	comp=Z,0.5nm,0.4s,baz=22,slow=1.4,SNR=2.7						
GERES	GERESS Array B	74.18	6	P	P	11 46 16.9	+1.6
GAR	Garm	76.32	324	P	P	11 46 27.6	-0.3
CHGR	Chuyangaron	77.00	325	P	P	11 46 30.6	-1.0
SLVN	Son La	77.14	289	P	P	11 46 31.9	-0.8
SLVN				IAmb	IAmb	11 46 35.7	
	comp=Z,15nm,1.2s						
MSVF	Nonsavu	77.38	204	LR	LR	12 12 17.6	
	comp=Z,236nm,21.4s,baz=27,slow=29						
KVAR	Kislovodsk Arr	78.00	346	LR	LR	12 26 33.9	
	comp=Z,127nm,18.5s,baz=274,slow=40						
KBZ	Khabaz	78.19	345	P	P	11 46 36.5	-1.6
	comp=Z,7.0nm,1.0s,baz=318,slow=2.9,SNR=9.4						
KBZ				LR	LR	12 27 17.0	
	comp=Z,106nm,18.2s,baz=6.5,slow=40						
GEYT	Alibeck	80.82	333	P	P	11 46 50.1	-2.5
	comp=Z,3.1nm,0.4s,baz=337,slow=9.7,SNR=1.8						
GEYT				LR	LR	12 27 21.7	
	comp=Z,168nm,18.1s,baz=210,slow=39						
ESBB	Sonseca Array	80.98	21	P	P	11 46 52.9	-0.5
ESBB				IAmb	IAmb	11 46 56.9	
	comp=Z,10nm,1.1s						
ESDC	Sonseca Array	80.98	21	P	P	11 46 53.2	-0.2
	comp=Z,4.4nm,0.8s,baz=341,slow=4.8,SNR=16						
ESDC	Sonseca Array	80.98	21	P	P	11 46 54.0	+0.6
ESDC				IAmb	IAmb	11 46 57.0	
	comp=Z,5.4nm,1.1s						
GNI	Garni	81.43	343	LR	LR	12 28 39.9	
	comp=Z,107nm,19.5s,baz=18,slow=40						
CHTO	Chiang Mai	81.78	292	P	P	11 47 00.2	+2.3
	comp=Z,5.6nm,0.9s						
CM09	Chiang Mai Arr	82.06	292	P	P	11 46 59.3	-0.1
	comp=Z,72nmcomp=Z,9.2nm,0.9s						
CMAR	Chiang Mai Arr	82.08	292	P	P	11 46 57.7	-1.7
	comp=Z,4.6nm,0.7s,baz=15,slow=5.4,SNR=27						
CMAR	Chiang Mai Arr	82.08	292	P	P	11 46 58.2	-1.3
CM15	Chiang Mai Arr	82.09	292	P	P	11 46 59.3	-0.2
	comp=Z,8.9nm,0.8s						
CM02	Chiang Mai Arr	82.09	292	P	P	11 46 59.0	-0.5
	comp=Z,87nmcomp=Z,13nm,0.9s						
BRTR	Keskin Array B	83.16	352	P	P	11 47 02.8	-2.1
	comp=Z,2.8nm,0.9s,baz=354,slow=2.5,SNR=6.5						
BRTR				LR	LR	12 29 17.8	
	comp=Z,86nm,20.5s,baz=20,slow=40						
BNN	Bunyan	83.83	350	P	P	11 47 08.4	0.0
UTHA	Uthaitani	84.26	290	P	P	11 47 13.4	+2.7
KEST	Kesra	86.84	11	P	P	11 47 21.2	-2.2
	comp=Z,4.0nm,0.9s,baz=333,slow=2.3,SNR=3.1						
MDT	Midelt	87.47	23	P	P	11 47 24.9	-1.7
	comp=Z,4.4nm,1.0s,baz=284,slow=2.8,SNR=3.6						
MDT				LR	LR	12 29 23.2	
	comp=Z,105nm,18.0s,baz=358,slow=38						
CTA	Charters Tower	90.25	232	P	P	11 47 37.5	-1.9
	comp=Z,2.5nm,0.7s,baz=356,slow=9.4,SNR=2.3						
PSI	Prapat	95.27	283	P	P	11 48 01.0	-2.1
	comp=Z,5.2nm,0.6s,baz=21,slow=1.0						
RPSI	Rantau Prapat	95.36	283	P	P	11 48 01.0	-2.3
WRA	Warramunga Arr	95.56	242	P	P	11 48 02.7	-1.3
	comp=Z,1.3nm,0.7s,baz=37,slow=4.4,SNR=2.3						
ASAR	Alice Springs	98.94	240	LR	LR	12 29 20.6	
	comp=Z,102nm,20.8s,baz=36,slow=33						
QSPA	South Pole Qui	146.85	180	PKPbc	PKPdf	11 54 18.8	+0.9
	comp=Z,8.2nm,0.9s,baz=48,slow=2.7,SNR=14						
BOSA	Boshof	151.52	356	PKPbc	PKPdf	11 54 31.8	+5.1
	comp=Z,3.4nm,0.6s,baz=6.3,slow=2.9,SNR=5.1						
MAW	Mawson	159.11	224	PKPab	PKPab	11 55 10.9	-1.6
	comp=Z,5.8nm,0.9s,baz=83,slow=6.1,SNR=8.2						
MAW	Mawson	159.11	224	PKPdf	PKPdf	11 54 33.5	-1.9
MAW					PKPab	11 55 14.4	+1.9
VNA3	Neumayer Olymp	160.28	149	PKPab	PKPab	11 55 17.5	-0.1
VNA1	Neumayer--Stat	160.98	148	PKPab	PKPab	11 55 20.5	-0.1
VNA2	Neumayer--Watz	161.08	149	PKPab	PKPab	11 55 21.8	+0.7
SNAA	Sanae	161.84	154	PKPab	PKPab	11 55 23.6	-0.8

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*NEIC **08** 11:35:09.0±2.9, 7.92S±0.09×150.76E±0.07, h28km±9km, mb4.0/10 Error ellipse: s-maj=13.2km s-min=9.9km az=177.0*

*IDC **08** 11:35:09.2±6.3, 8.06S×150.66E, h31km±49km, mb3.5/7, mb1 3.8/11, mb1mx3.6/53, mbtmp3.9/11, ML4.1/4, Error ellipse: s-maj=25.7km s-min=20.0km az=2.0*

ISC 08 11:35:09.5±0.6**, 7.93S**±0.09×**150.72E**±0.06**, h35km, n26, σ1.30**/26**, mb3.5**/6**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RABL	Rabaul	3.98	21	Pn	Pn	11 36 06.7	-1.4
HNR	Honiara	9.24	100	Pn	Pn	11 37 19.4	-1.0
	7.5nm,0.3s,baz=279,slow=13,SNR=2.2						
HNR				Sn	Sn	11 39 05.7	+2.5
	4.1nm,0.3s,baz=246,slow=20,SNR=1.7						
HNR	Honiara	9.24	100		Pn	11 37 19.9	-0.5
COEN	Coen	9.53	230	Pn	Pn	11 37 27.4	+3.0
JAY	Jayapura	11.33	298	Pn	Pn	11 37 49.5	+0.4
	0.9nm,0.3s,baz=98,slow=4.4,SNR=5.3						
CTA	Charters Tower	12.84	199	Pn	Pn	11 38 09.0	-0.7
	0.5nm,0.3s,baz=31,slow=14,SNR=8.8						
CTAO	Charters Tower	12.84	199	Pn	Pn	11 38 10.5	+0.9
WR0	Warramunga Arr	19.72	231	P	P	11 39 35.6	-0.6
WR0				IAmb	IAmb	11 39 44.6	
	comp=Z,9.2nm,1.2s						
WB2	Warramunga Arr	19.85	231	P	P	11 39 37.0	-0.7
WB2				IAmb	IAmb	11 39 43.5	
	comp=Z,18nm,1.5s						
WRA	Warramunga Arr	19.86	231	P	P	11 39 37.0	-0.9
	comp=Z,0.4nm,0.3s,baz=57,slow=10,SNR=39						
WRA	Warramunga Arr	19.86	231	P	P	11 39 36.1	-1.7
MTN	Manton Dam	19.87	254	P	Pn	11 39 38.9	-0.8
MTN				IAmb	IAmb	11 39 46.2	
	comp=Z,21nm,1.3s						
SIJI	Sorong	20.62	289	P	P	11 39 45.9	-0.1
	comp=Z,9.1nm,0.7s,baz=180,slow=11,SNR=2.2						
DZM	Mont Dzumac	20.66	135	P	P	11 39 46.9	+0.3
	comp=Z,6.2nm,0.8s,baz=319,slow=19,SNR=2.4						
AS31	Alice Springs	22.47	224	P	P	11 40 05.2	-0.7
ASAR	Alice Springs	22.47	224	P	P	11 40 04.0	-1.9
	comp=Z,0.4nm,0.5s,baz=57,slow=9.1,SNR=18						
ASAR	Alice Springs	22.47	224	P	P	11 40 05.7	-0.2
KNRA	Kununurra	22.82	248	P	P	11 40 11.3	+1.7
KNRA				IAmb	IAmb	11 40 26.9	
	comp=Z,14nm,1.2s						
STKA	Stephens Creek	25.30	198	P	P	11 40 31.0	-1.9
	comp=Z,0.3nm,0.3s,baz=10.0,slow=17,SNR=1.5						
STKA	Stephens Creek	25.30	198	IAmb	IAmb	11 40 55.5	
	comp=Z,1.2nm,1.3s						
FITZ	Fitzroy Crossi	26.41	245	P	P	11 40 42.4	-0.7
	comp=Z,1.7nm,0.5s,baz=64,slow=7.6,SNR=16						
FITZ	Fitzroy Crossi	26.41	245	P	P	11 40 42.8	-0.3
FITZ				IAmb	IAmb	11 41 01.7	
	comp=Z,2.8nm,0.8s						
MSVF	Nonsavu	28.33	113	P	P	11 41 00.7	+0.2
MKAR	Makanchi Array	81.34	320	P	P	11 47 22.6	+0.1
	comp=Z,0.4nm,0.7s,baz=140,slow=9.1,SNR=1.7						
ILAR	Eielson Array	85.82	22	P	P	11 47 46.6	+1.5
	comp=Z,0.3nm,0.9s,baz=243,slow=4.0,SNR=2.1						
TORD	Torodi Ar. Bea	149.13	282	PKPbc	PKPbc	11 54 55.0	-0.3
	comp=Z,0.3nm,0.7s,baz=112,slow=3.4,SNR=2.1						

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*MEX **08** 11:35:15.7±0.9, 14.82N×94.78W, h20km±59km, MD4.4*

*IDC **08** 11:35:15.1±2.8, 15.20N×94.90W, h0km, mb3.8/2, mb1 4.2/3, mb1mx3.7/63, mbtmp3.8/3, ML3.5/1, MS3.7/2, Ms1 3.7/2, ms1mx2.8/50, Error ellipse: s-maj=73.5km s-min=41.5km az=85.0*

*NEIC **08** 11:35:17.0±1.3, 15.08N±0.05×94.64W±0.04, h17km±6km, Error ellipse: s-maj=7.7km s-min=5.8km az=196.0*

ISC 08 11:35:18.9±1.0**, 15.20N**±0.09×**94.65W**±0.06**, h28km, n34, σ1.28**/40**, mb4.1**/5**, 1C, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCIG		1.47	70	*i* P	Pn	11 35 41.9	-1.6
PCIG				*i* S	Sb	11 36 02.2	-1.7
PCIG		1.47	70		Pn	11 35 41.9	-1.6
PCIG					Sb	11 36 02.2	-1.7
CMIG	Matias Romero	1.89	353	Pn	Pn	11 35 48.7	-0.7
	15nm,0.3s,baz=177,slow=12,SNR=110						
CMIG				Sn	Sb	11 36 14.9	-1.1
	62nm,0.3s,baz=171,slow=13,SNR=34						
CMIG	Matias Romero	1.89	353	eP	Pn	11 35 48.7	-0.7
CMIG				eS	Sb	11 36 15.2	-0.8
CMIG	Matias Romero	1.89	353		Pn	11 35 48.7	-0.7
CMIG					Sb	11 36 15.2	-0.8
TGIG		2.15	43	eP	Pn	11 35 53.9	+0.9
TGIG				eS	Sb	11 36 24.0	+0.5
TGIG		2.15	43		Pn	11 35 53.9	+0.9
TGIG					Sb	11 36 24.0	+0.5
CCIG	Comitan	2.65	66	eP	Pn	11 36 00.3	+0.3
CCIG				eS	Sb	11 36 37.1	-0.8
CCIG	Comitan	2.65	66		Pn	11 36 00.7	+0.8
CCIG	Comitan	2.65	66		Sb	11 36 37.1	-0.8
TLIG	Tlapa	4.43	303		Pn	11 36 21.5	-2.9
MTO3	Montecristo	5.18	98		Pn	11 36 32.2	-2.6
TX32	Lajitas Array	16.34	331		Pn	11 39 06.2	-0.3
TXAR	Lajitas Array	16.34	331	Pn	Pn	11 39 07.0	+0.4
	0.0nm,0.3s,baz=153,slow=13,SNR=21						
TXAR	Lajitas Array	16.34	331	Pn	Pn	11 39 06.7	+0.2
TX31	Lajitas Ar. Si	16.34	331		Pn	11 39 06.3	-0.2
TX31				IAmb	IAmb	11 39 07.8	
	comp=Z,11nm,1.1s						
SJCC	San Jacinto, C	19.72	103	P	P	11 39 44.6	-1.9
SJCC				IAmb	IAmb	11 39 58.7	
	comp=Z,21nm,1.3s						
DBBC	Dabeiba	19.83	112	eP	P	11 39 47.0	-0.7
CBOC	Ciudad Bolivar	20.52	115	⇑eP	P	11 39 54.1	-1.3
GUY2C	Guyana, Caldas	21.39	116	eP	P	11 40 03.4	-1.7
TOLC	Tolima	21.75	117	eP	P	11 40 10.9	+2.2
ORTC	Ortega, Tolima	22.16	118	eP	P	11 40 13.1	+0.2
TKL	Tuckaleechee C	22.58	24	LR	LR	11 50 58.1	
	comp=Z,77nm,18.4s,baz=183,slow=42						
CHIC	Chingaza	23.10	115	eP	P	11 40 22.2	-1.1
T25A	Trinidad	23.51	340	P	P	11 40 27.5	+0.6
T25A				IAmb	IAmb	11 40 38.6	
	comp=Z,5.8nm,0.9s						
X16A	Lo Mia Camp, P	24.39	325	P	P	11 40 35.1	-0.1
X16A				IAmb	IAmb	11 40 37.2	
	comp=Z,4.6nm,1.0s						
113A	Mohawk Valley,	24.64	319	P	P	11 40 36.5	-0.7
WUAZ	Wupatki	25.18	327	P	P	11 40 42.5	+0.3
WUAZ				IAmb	IAmb	11 40 45.7	
	comp=Z,7.1nm,1.1s						
N38A	Joes South For	25.53	2	P	P	11 40 44.7	-0.4
ANWB	Willy Bob	31.60	81	eP	P	11 41 41.9	+2.3
E28A	Huff	31.68	352	P	P	11 41 40.0	+0.1
ILAR	Eielson Array	60.73	337	P	P	11 45 26.7	-1.0
	comp=Z,0.7nm,0.8s,baz=134,slow=6.4,SNR=4.8						
NOA	NORSAR Array B	84.31	28	P	P	11 47 50.2	+2.1
	comp=Z,0.9nm,0.7s,baz=292,slow=5.3,SNR=3.8						
VAE	Valguarnera	95.34	49	LR	LR	12 30 57.1	
	comp=Z,72nm,18.9s,baz=151,slow=35						

IDC 08 11:37:00.5±3.1**, 32.82S**×**178.33W, h0km, mb3.8**/2**, mb1 4.1**/3**, mb1mx3.6**/45**, mbtmp3.9**/3**, ML3.8**/1**, Error ellipse: s-maj=72.3km s-min=45.9km az=122.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.58	213	Pn	Pn	11 38 37.9	-0.5
	1.8nm,0.3s,baz=65,slow=5.9,SNR=12						
ASAR	Alice Springs	42.76	270	P	P	11 44 59.9	+0.1
	0.6nm,0.6s,baz=108,slow=7.4,SNR=13						
WRA	Warramunga Arr	43.96	275	P	P	11 45 09.4	-0.2
	1.1nm,0.4s,baz=115,slow=7.8,SNR=27						
FINES	FINESS Array B	147.30	338	PKPbc	PKPbc	11 56 44.4	-0.8
	1.5nm,0.6s,baz=52,slow=2.5,SNR=5.1						

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*BJI **08** 11:37:22.8±0.0, 32.22S×177.68W, h9km, mB5.6/9, mb5.2/14, Ms5.0/5, Ms7 4.7/5*

*IDC **08** 11:37:22.5±0.4, 32.76S×178.41W, h0km, mb4.7/25, mb1 4.7/29, mb1mx4.7/47, mbtmp4.6/29, ML4.5/4, MS4.6/5, Ms1 4.5/5, ms1mx4.2/12, Error ellipse: s-maj=14.9km s-min=13.4km az=150.0*

*WEL **08** 11:37:25.0, 32.77S×178.35W, h10km, M5.1/20, mB5.5/18, ML5.8/19, MLv5.5/20, Mw(mB)5.0/18*

*NEIC **08** 11:37:26.4±1.8, 32.70S±0.06×178.4W±0.1, h17km±3km, mb5.0/86, Error ellipse: s-maj=15.1km s-min=8.6km az=105.0*

*GCMT **08** 11:37:28.4±0.2, 32.84S±0.02×178.02W±0.02, h21km, MW5.1/98, Moment Tensor Solution. s60,c75; s98,c151; Duration: 0 Moment tensor: Scale 10[16]Nm; Mrr4.64±.21; Mθθ-0.58±.12; Mφφ-4.07±.13; Mrθ0.76±.25; Mθφ-0.81±.08; Mφr3.55±.22; Best double couple: M0 5.73800×10[16] NP1:φs193.00000°, δ25.00000°, λ90.00000°. NP2: φs12.00000°, δ65.00000°, λ90.00000°. Principal axes: T 5.9340, Plg70.0000°, Azm282.0000°; N -0.4000, Plg0.0000°, Azm12.0000°; P -5.5410, Plg20.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NOU **08** 11:37:32.6, 33.31S×178.22W, h70km, mb5.1/32, South of Kermadec Islands*

ISC 08 11:37:28.0±0.3**, 32.81S**±0.04×**178.38W**±0.05**, h32km, n376, σ1.63**/384**, mb5.0**/68**, MS4.4**/10**, 24C-7D, Fault plane solution: NP1:**φs22.72259°**, **δ59.51351°**, **λ82.74056°. **NP2:**φs216.81725°**, **δ31.25781°**, **λ102.11397°. **Principal axes:** T Plg74.4089°**,** Azm273.3053°**;** N Plg6.2515°**,** Azm26.4203°**;** P Plg14.2246°**,** Azm118.0115°**; South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.56	7	P	Pn	11 38 16.5	-4.5
GLKZ				S	Sn	11 38 56.6	-5.3
RAO	Raoul Island	3.57	7	Pn	Pn	11 38 14.1	-7.0
	383nm,0.3s,baz=162,slow=20,SNR=7.0						
RAO				Sn	Sn	11 38 57.6	-4.5
	405nm,0.3s,baz=102,slow=20,SNR=6.7						
RAO	Raoul Island	3.57	7	Pn	Pn	11 38 14.6	-6.5
RAO				Sn	Sn	11 38 58.7	-3.5
RAO	Raoul Island	3.57	7	P	Pb	11 38 31.9	+1.5
RIZ	Raoul Island	3.58	6	P	Pn	11 38 14.2	-6.9
MXZ	Matakaoa Point	5.46	209	Pn	Pn	11 38 44.3	-2.8
MXZ	Matakaoa Point	5.46	209	P	Pn	11 38 44.2	-2.9
MXZ				S	Sn	11 39 48.3	-0.5
WMGZ	Waiomatatini S	5.64	207	P	Pn	11 38 48.8	-0.7
WMGZ				S	Sn	11 39 53.6	+0.4
PKGZ	Pakihiroa	5.83	209	P	Pn	11 38 50.0	-2.2
PKGZ				S	Sn	11 39 57.4	-0.7
HAZ	Te Kaha	5.85	211	P	Pn	11 38 53.3	+0.9
HAZ				S	Sn	11 39 59.6	+1.3
PUZ	Puketiti	5.92	207	P	Pn	11 38 50.4	-3.0
PUZ				S	Sn	11 39 59.5	-0.7
RUGZ	Raukumara Rang	6.07	211	P	Pn	11 38 55.4	-0.2
RUGZ				S	Sn	11 40 03.3	-0.6
TWGZ	Tauwhareparae	6.12	208	P	Pn	11 38 55.5	-0.7
TWGZ				S	Sn	11 40 04.0	-1.1
MYRZ	Mayor Island	6.27	223	P	Pn	11 39 01.7	+3.5
WHRZ	Whale Island	6.30	216	P	Pn	11 39 00.0	+1.4
WHRZ				S	Sn	11 40 12.1	+2.5
CNGZ	Carnagh Statio	6.30	205	P	Pn	11 38 55.8	-2.9
TKGZ	Te Karaka	6.40	208	P	Pn	11 38 58.0	-2.0
TKGZ				S	Sn	11 40 09.8	-2.1
MWZ	Matawai	6.44	210	P	Pn	11 38 58.3	-2.3
MWZ				S	Sn	11 40 12.3	-0.7
OPRZ	Ohinepanea	6.51	218	P	Pn	11 39 01.5	+0.1
OPRZ				S	Sn	11 40 15.8	+1.3
URZ	Urewera	6.56	213	Pn	Pn	11 38 59.8	-2.4
	12nm,0.3s,baz=323,slow=20,SNR=38						
URZ				Sn	Sn	11 40 14.8	-1.0
	46nm,0.3s,baz=300,slow=20,SNR=10						
URZ	Urewera	6.56	213	Pn	Pn	11 39 00.8	-1.4
URZ	Urewera	6.56	213	P	Pn	11 39 01.0	-1.2
URZ				S	Sn	11 40 14.9	-0.9
TGRZ	Tauranga	6.58	220	P	Pn	11 39 04.1	+1.7
RAGZ	Rawiri	6.62	210	P	Pn	11 39 01.5	-1.6
RAGZ				S	Sn	11 40 16.5	-1.0
RIGZ	Rimuhau	6.67	207	P	Pn	11 39 02.5	-1.2
RIGZ				S	Sn	11 40 17.6	-0.9
PRGZ	Paritu Road	6.81	205	P	Pn	11 39 02.8	-2.8
PRGZ				S	Sn	11 40 19.9	-2.2
MUGZ	Murupara	6.89	214	P	Pn	11 39 05.4	-1.4
MUGZ				S	Sn	11 40 22.5	-1.6
SNGZ	Shannon Statio	6.90	209	P	Pn	11 39 06.3	-0.5
SNGZ				S	Sn	11 40 22.5	-1.7
RRRZ	Republican Roa	6.91	216	P	Pn	11 39 07.4	+0.5
RRRZ				S	Sn	11 40 23.9	-0.5
RAHZ	Arahi	7.12	210	P	Pn	11 39 09.4	-0.5
MTHZ	Maungataniwha	7.17	211	P	Pn	11 39 10.0	-0.5
MTHZ				S	Sn	11 40 29.9	-1.0
MRHZ	Matea Rd	7.34	214	P	Pn	11 39 11.2	-1.8
MRHZ				S	Sn	11 40 32.9	-2.3
BKZ	Black Stump Fm	7.58	212	Pn	Pn	11 39 14.1	-2.1
MSVF	Nonsavu	15.35	347	Pn	Pn	11 40 59.1	-3.3
	0.2nm,0.3s,baz=155,slow=13,SNR=4.5						
MSVF	Nonsavu	15.35	347	Pn	Pn	11 41 01.8	-0.6
MSVF				IAmb	IAmb	11 41 21.4	
	comp=Z,50nm,1.0s						
NIUE	Niue	15.64	31	Pn	Pn	11 41 03.5	-2.5
PINNC	Pines Island,	16.13	305	Pn	Pn	11 41 08.6	-3.7
PINNC				IAmb	IAmb	11 41 20.2	
	comp=Z,138nm,1.1s						
PINNC	Pines Island,	16.13	305	P	P	11 41 21.1	+5.8
MARNC	Mare, Loyalty	16.52	310	Pn	Pn	11 41 16.3	-1.0
MARNC	Mare, Loyalty	16.52	310	P	P	11 41 25.4	+5.8
OUENC	Ouen Island, N	16.67	305	Pn	Pn	11 41 17.2	-2.0
OUENC				IAmb	IAmb	11 41 27.4	
	comp=Z,131nm,1.1s						
OUENC	Ouen Island, N	16.67	305	P	P	11 41 27.4	+6.1
WHZ	Wether Hill Ro	16.77	215	Pn	Pn	11 41 17.6	-2.8
WHZ				IAmb	IAmb	11 41 54.1	
	comp=Z,308nm,2.0s						
YATNC	Mamie plateau,	16.88	306	P	P	11 41 29.2	+5.6
DZM	Mont Dzumac	17.18	305	ePn	P	11 41 29.4	+2.4
	comp=Z,175nm,1.1s						
DZM				eLR	LR	11 45 15.2	
	comp=Z,4μm,22.6s						
DZM	Mont Dzumac	17.18	305	P	Pn	11 41 23.1	-2.5
	comp=Z,0.2nm,0.3s,baz=195,slow=18,SNR=1.8						
DZM				LR	LR	11 47 00.4	
	comp=Z,5μm,18.4s,baz=134,slow=34						
DZM	Mont Dzumac	17.18	305		Pn	11 41 21.5	-4.1
DZM				IAmb	IAmb	11 41 33.8	
	comp=Z,91nm,1.1s						
DZM	Mont Dzumac	17.18	305	P	P	11 41 31.7	+4.7
NOUC	Port Laguerre	17.26	304	P	P	11 41 32.3	+4.5
KOUNC	Koumac, New Ca	19.69	304	P	Pn	11 42 00.4	+4.3
AFI	Afiamalu	19.76	19	P	P	11 41 53.3	-2.0
	comp=Z,1.8nm,0.3s,baz=180,slow=4.0,SNR=4.5						
AFI				S	S	11 45 16.0	-20
	comp=Z,1.1nm,0.3s,baz=241,slow=23,SNR=3.1						
AFI	Afiamalu	19.76	19		P	11 41 53.9	-1.5
AFI				IAmb	IAmb	11 42 18.6	
	comp=Z,66nm,0.9s						
AFI	Afiamalu	19.76	19	P	Pn	11 42 02.2	+5.2
RAR	Rarotonga	20.17	60	P	P	11 41 58.4	-1.4
	comp=Z,21nm,0.9s,baz=146,slow=6.4,SNR=4.9						
ARMA	Armidale	25.61	267	P	P	11 42 57.9	+3.3
	baz=26						
CNB	Canberra Magne	26.78	256	P	P	11 43 07.3	+2.2
	baz=27						
TBI	Tubuai	27.13	77	eLQ	LQ	11 48 19.2	
	comp=Z,752nm,24.8s						
TBI				eLR	LR	11 49 48.8	
	comp=Z,995nm,31.0s,baz=242						
TBI	Tubuai	27.13	77	eT	T	12 10 55.4	
	comp=Z,6.5nm,0.3s						
EIDS	Eidsvold	27.63	278	P	P	11 43 14.7	+2.0
	baz=28,SNR=9.5						
EIDS	Eidsvold	27.63	278	P	P	11 43 13.9	+1.2
EIDS				IAmb	IAmb	11 43 15.5	
	comp=Z,27nm,1.0s						
RMQ	Roma	29.17	274	P	P	11 43 29.0	+2.6
	baz=29,SNR=16						
PAE	Paea	29.98	67	eT	T	12 14 29.2	
	comp=Z,1.2nm,0.3s						
PPT2	Papeete2	30.02	67	eLQ	LQ	11 49 25.6	
	comp=Z,647nm,23.2s						
PPT2				eLR	LR	11 50 53.4	
	comp=Z,1μm,27.8s,baz=227						
PPT2	Papeete2	30.02	67	eT	T	12 14 31.7	
	comp=Z,1.8nm,0.3s						
CMSA	Cobar Meteorol	30.35	263	P	P	11 43 38.0	+1.2
	baz=31,SNR=18						
HNR	Honiara	30.69	314	LR	LR	11 55 04.7	
	comp=Z,673nm,18.1s,baz=172,slow=35						

ARPS	Mount Arapiles	32.74	252	P	**P**	11 43 58.9	+1.1
	baz=33,SNR=7.2						
VAH	Vaihoa	32.92	65	*e*T	T	12 18 09.6	
	comp=Z,4.1nm,0.2s						
QLP	Quilpie	32.94	271	P	**P**	11 44 01.1	+1.4
	baz=33,SNR=11						
STKA	Stephens Creek	33.69	261	P	**P**	11 44 07.6	+1.5
	baz=34,SNR=3.9						
STKA	Stephens Creek	33.69	261	P	**P**	11 44 05.5	-0.6
	comp=Z,3.9nm,0.8s,baz=93,slow=11,SNR=5.5						
STKA				LR	LR	11 57 17.1	
	comp=Z,2µm,18.2s,baz=91,slow=36						
STKA	Stephens Creek	33.69	261	P	**P**	11 44 06.2	0.0
CTA	Charters Tower	33.94	283	P	**P**	11 44 08.6	+0.2
	comp=Z,78nm,1.2s,baz=110,slow=11,SNR=20						
CTAO	Charters Tower	33.94	283	P	**P**	11 44 09.1	+0.6
MTSU	Mount Surprise	36.50	284	P	**P**	11 44 32.3	+1.8
	baz=37,SNR=12						
BBOO	Buckleboo	38.06	257	P	**P**	11 44 43.3	-0.3
	baz=38,SNR=5.4						
BBOO	Buckleboo	38.06	257	P	**P**	11 44 43.0	-0.5
BBOO				IAmb	IAmb	11 44 45.3	
	comp=Z,30nm,1.3s						
QIS	Mount Isa	39.23	277	P	**P**	11 44 54.6	+1.0
	baz=40,SNR=13						
RABL	Rabaul	39.60	310	P	**P**	11 44 57.0	+0.4
COEN	Coen	39.68	289	P	**P**	11 44 58.4	+1.1
COEN				IAmb	IAmb	11 45 12.4	
	comp=Z,26nm,0.9s						
TAOE	Nuku Hiva Isla	42.59	65	*e*S	**S**	11 51 44.5	+2.2
	comp=Z,168nm,25.1s						
TAOE				*e*LR	LR	11 56 41.1	
	comp=Z,543nm,28.0s						
AS31	Alice Springs	42.71	270	P	**P**	11 45 22.1	-0.1
ASAR	Alice Springs	42.71	270	P	**P**	11 45 22.1	-0.1
	comp=Z,19nm,0.8s,baz=111,slow=7.6,SNR=108						
ASAR				S	**S**	11 51 37.9	-6.0
	comp=Z,1.6nm,0.9s,baz=100,slow=14,SNR=4.5						
ASAR	Alice Springs	42.71	270	P	**P**	11 45 21.7	-0.5
ASPA	Alice Springs	42.71	270	P	**P**	11 45 22.0	-0.2
	baz=43						
WR0	Warramunga Arr	43.74	275	P	**P**	11 45 30.2	-0.3
WR0				IAmb	IAmb	11 45 44.7	
	comp=Z,23nm,0.8s						
WC3	Warramunga Arr	43.88	275	P	**P**	11 45 31.3	-0.4
	baz=44						
WB2	Warramunga Arr	43.91	275	P	**P**	11 45 31.6	-0.3
WRAB	Tennant Creek	43.91	275	P	**P**	11 45 31.6	-0.3
WRA	Warramunga Arr	43.92	275	P	**P**	11 45 30.9	-1.1
	comp=Z,18nm,0.7s,baz=123,slow=8.1,SNR=82						
WRA				ScP	**ScP**	11 51 08.8	+1.7
	comp=Z,1.1nm,0.7s,baz=104,slow=4.0,SNR=4.7						
WRA				S	**S**	11 51 57.8	-3.8
	comp=Z,3.3nm,0.9s,baz=124,slow=14,SNR=6.7						
WRA	Warramunga Arr	43.92	275	P	**P**	11 45 30.7	-1.2
FORT	Forrest	45.16	258	P	**P**	11 45 41.6	-0.1
	baz=45,SNR=12						
FORT	Forrest	45.16	258	P	**P**	11 45 40.5	-1.2
SBA	Scott Base	45.62	184	P	**P**	11 45 46.7	+2.0
SBA				IAmb	IAmb	11 45 58.0	
	comp=Z,25nm,1.1s						
VNDA	Vanda	45.67	186	P	**P**	11 45 44.5	-0.7
	comp=Z,1.0nm,0.6s,baz=19,slow=7.6,SNR=7.4						
VNDA	Vanda	45.67	186	P	**P**	11 45 46.6	+1.4
VNDA				IAmb	IAmb	11 46 10.0	
	comp=Z,28nm,1.9s						
WRKA	Warakurna	46.90	265	P	**P**	11 45 54.3	-1.2
	baz=47,SNR=20						
JAY	Jayapura	48.75	300	P	**P**	11 46 08.7	-1.3
	comp=Z,15nm,0.9s,baz=87,slow=5.2,SNR=4.7						
JAY	Jayapura	48.75	300	P	**P**	11 46 08.3	-1.7
	comp=Z,19nm,1.0s						
KDU	Kakadu	49.06	282	P	**P**	11 46 11.7	-0.6
	baz=49,SNR=8.2						
GENI	Genyem	49.09	299	P	**P**	11 46 12.1	-0.5
	comp=Z,3µmcomp=Z,38nm,0.8s						
MTN	Manton Dam	50.08	281	P	**P**	11 46 19.7	-0.4
	baz=50,SNR=6.1						
MTN	Manton Dam	50.08	281	P	**P**	11 46 19.3	-0.8
KNRA	Kununurra	50.61	277	P	**P**	11 46 23.7	-0.3
	baz=51,SNR=9.0						
KNRA	Kununurra	50.61	277	P	**P**	11 46 23.8	-0.3
FITZ	Fitzroy Crossi	52.07	272	P	**P**	11 46 34.5	-0.6
	baz=52,SNR=16						
FITZ	Fitzroy Crossi	52.07	272	P	**P**	11 46 33.7	-1.3
	comp=Z,17nm,0.8s,baz=161,slow=7.1,SNR=33						
FITZ	Fitzroy Crossi	52.07	272	P	**P**	11 46 34.4	-0.6
FITZ				IAmb	IAmb	11 46 35.6	
	comp=Z,20nm,0.8s						
CASY	Casey	52.87	209	P	**P**	11 46 40.5	+0.2
CASY				IAmb	IAmb	11 46 41.2	
	comp=Z,21nm,0.9s						
NWAO	Narrogin (SRO)	53.28	251	P	**P**	11 46 42.3	-1.5
	comp=Z,4.0nm,0.7s,baz=180,slow=11,SNR=2.2						
NWAO	Narrogin (SRO)	53.28	251	P	**P**	11 46 42.9	-0.9
NWAO				IAmb	IAmb	11 46 54.7	
	comp=Z,44nm,1.7s						
MEEK	Meekatharra	54.36	259	P	**P**	11 46 50.9	-0.9
	baz=55,SNR=6.2						
FAKI	Fak Fak	54.90	292	P	**P**	11 46 54.8	-1.1
PSA00	Pilbara Seismi	55.40	265	P	**P**	11 46 57.5	-1.8
PSA00	Pilbara Seismi	55.40	265	P	**P**	11 46 57.5	-1.8
PSA00				IAmb	IAmb	11 47 52.0	
	comp=Z,35nm,1.5s						
KHU	Kahuku	56.16	26	P	**P**	11 47 03.9	-1.1
SIJI	Sorong	56.95	293	P	**P**	11 47 09.5	-1.0
	comp=Z,10.0nm,0.7s,baz=113,slow=9.9,SNR=4.2						
SIJI	Sorong	56.95	293	P	**P**	11 47 07.8	-2.7
	comp=Z,14nm,1.5s						
QSPA	South Pole Qui	57.31	180	P	**P**	11 47 13.3	+0.8
	comp=Z,8.9nm,1.1s,baz=44,slow=1.5,SNR=5.3						
QSPA	South Pole Qui	57.31	180	P	**P**	11 47 13.7	+1.2
SOEI	Soe	57.41	280	P	**P**	11 47 14.5	+0.6
SOEI	Soe	57.41	280	P	**P**	11 47 14.2	+0.3
	comp=Z,65nm,1.1s						
KRAI	Karang Ratu	57.70	289	P	**P**	11 47 14.2	-1.6
	comp=Z,16nm,0.9s						
RPN	Rapa Nui	59.14	104	LR	LR	12 12 03.2	
	comp=Z,350nm,18.2s,baz=286,slow=35						
EDFI	Ende, Flores	60.09	279	P	**P**	11 47 30.3	-2.2
	comp=Z,11nm,1.2s						
SANI	Sanana	60.38	288	P	**P**	11 47 32.0	-2.4
	comp=Z,30nm,0.9s						
BELA	Belgrano 2	67.45	172	P	**P**	11 48 20.1	+0.1
BELA				IAmb	IAmb	11 48 39.9	
	comp=Z,16nm,1.1s						
MAW	Mawson	69.94	201	P	**P**	11 48 36.6	+1.0
	baz=70,SNR=7.0						
MAW	Mawson	69.94	201	P	**P**	11 48 35.2	-0.4
	comp=Z,12nm,1.1s,baz=106,slow=9.0,SNR=16						
MAW	Mawson	69.94	201	P	**P**	11 48 36.7	+1.1
SYO	Syowa Base	74.70	193⇓	*e*P	**P**	11 49 03.0	-0.9
SYO	Syowa Base	74.70	193⇑	*e*pP	pP	11 49 09.0	-3.3
TPI	Tanjungpandan	75.04	276	P	P	11 48 56.9	-10
SNAA	Sanae	75.76	179	P	**P**	11 49 10.1	0.0
SNAA	Sanae	75.76	179	PcP	**PcP**	11 49 19.4	-3.3
SNAA	Sanae	75.76	179	P	**P**	11 49 10.2	+0.1
SNAA				IAmb	IAmb	11 49 20.8	
	comp=Z,22nm,1.1s						
VNA3	Neumayer Olymp	75.93	176	P	**P**	11 49 10.9	-0.1
VNA3	Neumayer Olymp	75.93	176	PcP	**PcP**	11 49 21.7	-1.7
VNA2	Neumayer--Watz	76.36	177	P	**P**	11 49 13.7	+0.2
	baz=172,slow=5.1						
VNA2	Neumayer--Watz	76.36	177	PcP	**PcP**	11 49 23.5	-1.7
VNA1	Neumayer--Stat	76.59	177	P	**P**	11 49 15.0	+0.3
VNA1	Neumayer--Stat	76.59	177	PcP	**PcP**	11 49 25.0	-1.2
MJAR	Matsushiro Arr	80.04	326	P	**P**	11 49 31.7	-2.5
	comp=Z,0.9nm,0.5s,baz=170,slow=4.5,SNR=2.2						
MJAR	Matsushiro Arr	80.04	326	P	**P**	11 49 32.3	-1.9
PLCA	Paso Flores	81.11	133	P	**P**	11 49 39.9	-0.4
	comp=Z,11nm,1.0s,baz=223,slow=7.5,SNR=8.3						
PLCA	Paso Flores	81.11	133	P	**P**	11 49 40.3	0.0
PLCA				IAmb	IAmb	11 49 42.9	
	comp=Z,23nm,1.2s						
ADK	Adak	84.34	1	P	**P**	11 49 56.0	-0.3
BO02	Sierra Bellavi	84.45	128	P	**P**	11 49 57.6	-0.1
MT01	Popeta	84.68	127	P	**P**	11 49 58.6	-0.2
QIZ	Qiongzhong	85.73	296	P	**P**	11 50 05.6	+1.5
QIZ				S	**S**	12 00 38.2	+3.4
QIZ				LR	LR		
	comp=Z,92nm,15.8s						
QIZ				LR	LR		
	comp=Z,260nm,18.0s						
QIZ				LR	LR		
	comp=Z,110nm,13.3s						
KSRS	Korea Array	85.97	320	P	**P**	11 50 03.5	-1.3

	comp=Z,2.3nm,0.9s,baz=145,slow=5.5,SNR=6.7						
SCZ2	Santa Cruz Isl	86.40	45	P	**P**	11 50 09.1	+2.0
	baz=226						
SBC	Santa Barbara	86.66	45	P	**P**	11 50 09.9	+1.6
	baz=226						
CIS	Catalina Islan	86.73	47	P	**P**	11 50 10.3	+1.6
	baz=227						
YSS	Yuzh-Sakhalins	86.77	334	P	**P**	11 50 09.6	+1.1
CO03	El Pedregal	86.85	125	P	**P**	11 50 09.7	0.0
CO03				IAmb	IAmb	11 50 11.0	
	comp=Z,16nm,1.1s						
PKM	Mcpherson Peak	86.91	45	P	**P**	11 50 11.5	+1.7
	baz=226						
FMP	Fort Macarthur	87.01	46	P	**P**	11 50 11.7	+1.7
	baz=227						
SMMC	Simmler	87.10	44	P	**P**	11 50 11.2	+0.7
	baz=226						
NJ2	Nanjing	87.57	311	*e*P	**P**	11 50 15.9	+3.1
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MURC	Murrieta	87.61	47	P	**P**	11 50 14.0	+1.0
	baz=228						
MONP2	Monument Peak	87.62	48	P	**P**	11 50 14.2	+0.9
	baz=228						
IKP	In-Ko-Pah, Jac	87.65	48	P	**P**	11 50 13.9	+0.6
	baz=228						
ARVC	Arvin	87.66	45	P	**P**	11 50 14.6	+1.4
	baz=226						
BFSC	Mount Baldy Ra	87.76	46	P	**P**	11 50 14.5	+0.7
	baz=227,SNR=6.9						
EDW2	Edwards Air Fo	87.99	46	P	**P**	11 50 15.7	+0.9
	baz=227,SNR=9.6						
VES	Vestal, Richgr	88.00	44	P	**P**	11 50 15.8	+1.0
	baz=226						
SWSC	Sam W. Stewart	88.04	48	P	**P**	11 50 16.1	+1.1
	baz=228						
PEA0B	Petropavlovsk-	88.06	346	P	**P**	11 50 15.0	+0.3
PETK	Petropavlovsk-	88.06	346	P	**P**	11 50 14.0	-0.6
	comp=Z,6.8nm,1.0s,baz=129,slow=5.9,SNR=12						
PETK	Petropavlovsk-	88.06	346	P	**P**	11 50 14.8	+0.1
PFO	Pinyon Flats O	88.07	47	P	**P**	11 50 14.7	-0.7
	comp=Z,6.1nm,1.1s,baz=295,slow=5.2,SNR=7.0						
PFO	Pinyon Flats O	88.07	47	P	**P**	11 50 16.1	+0.8
PFO				IAmb	IAmb	11 50 17.6	
	comp=Z,7.3nm,1.1s						
PFO	Pinyon Flats O	88.07	47	P	**P**	11 50 16.4	+1.1
	baz=228,SNR=6.3						
TPFO	Pinon Flats	88.07	47	P	**P**	11 50 16.4	+1.0
	baz=228,SNR=5.1						
ISA	Isabella, Lake	88.23	45	P	**P**	11 50 16.0	0.0
ISA				IAmb	IAmb	11 50 18.3	
	comp=Z,15nm,1.1s						
ISA	Isabella, Lake	88.23	45	P	**P**	11 50 16.9	+0.9
	baz=227,SNR=12						
FALS	False Pass	88.26	9	P	**P**	11 50 17.8	+2.4
	baz=192						
LRMC	Laurel Mtn Rad	88.58	45	P	**P**	11 50 18.7	+1.0
	baz=227,SNR=11						
BELC	Belle Mtn. Jos	88.62	47	P	**P**	11 50 19.3	+1.4
	baz=228,SNR=9.8						
GLA	Glamis	88.73	49	P	**P**	11 50 19.8	+1.4
	baz=229						
BC3	Big Chuckawall	88.73	48	P	**P**	11 50 19.8	+1.3
	baz=228,SNR=12						
HEC	Hector,Ludlow	88.96	47	P	**P**	11 50 20.6	+1.1
	baz=228						
O02D	Mt. Diablo Mer	88.97	39	P	**P**	11 50 20.9	+1.5
	baz=224						
USA0B	Ussuriysk Arra	88.99	327	P	**P**	11 50 19.1	0.0
USA0B				IAmb	IAmb	11 50 20.7	
	comp=Z,11nm,1.0s						
USRK	Ussuriysk Ar.	88.99	327	P	**P**	11 50 19.9	+0.7
	comp=Z,6.2nm,0.9s,baz=142,slow=6.5,SNR=12						
USRK	Ussuriysk Ar.	88.99	327	P	**P**	11 50 19.4	+0.2
GSC	Goldstone, Bar	88.99	46	P	**P**	11 50 20.1	+0.5
GSC				IAmb	IAmb	11 50 22.4	
	comp=Z,13nm,1.2s						
GSC	Goldstone, Bar	88.99	46	P	**P**	11 50 20.4	+0.8
	baz=228,SNR=10						
CWC	Cottonwood Cre	89.00	44	P	**P**	11 50 20.6	+0.9
	baz=227						
MPMC	Manual Prospec	89.09	45	P	**P**	11 50 21.1	+0.9
	baz=227,SNR=6.4						
SDPT	Sand Point	89.14	10	P	**P**	11 50 21.7	+2.1
	baz=195						
113A	Mohawk Valley,	89.22	50	P	**P**	11 50 21.6	+1.0
113A				IAmb	IAmb	11 50 30.9	
	comp=Z,10nm,1.4s						
MDPB	Devils Postpil	89.23	43	P	**P**	11 50 20.5	-0.3
IRM	Iron Mountain	89.25	48	P	**P**	11 50 22.4	+1.6
	baz=229,SNR=17						
214A	Organ Pipe Nat	89.31	51	P	**P**	11 50 22.4	+1.3
	baz=230						
GMRC	Granite Mounta	89.35	47	P	**P**	11 50 22.6	+1.2
	baz=228,SNR=6.5						
O03E	Paynes Creek	89.58	40	P	**P**	11 50 23.4	+1.2
	baz=225						
N02D	Trinity Center	89.58	39	P	**P**	11 50 23.4	+1.2
	baz=224						
TUQ	Turquoise Moun	89.62	46	P	**P**	11 50 23.7	+1.2
	baz=228,SNR=7.7						
SHOC	Shoshone, Teco	89.71	46	P	**P**	11 50 23.7	+0.8
	baz=228,SNR=9.0						
FURC	Furnace Creek,	89.74	45	P	**P**	11 50 24.4	+1.5
	baz=228						
GRAC	Grapevine Rang	89.80	44	P	**P**	11 50 24.6	+1.4
	baz=227						
M02C	Callahan	89.81	38	P	**P**	11 50 24.8	+1.6
	baz=224						
PNTR	Pine Nut	89.94	42	P	**P**	11 50 24.1	0.0
PNTR				IAmb	IAmb	11 50 37.8	
	comp=Z,16nm,1.3s						
PDMCI	Parker Dam,Lak	89.98	48	P	**P**	11 50 25.6	+1.5
	baz=229						
NEE2	Needles Airpor	89.98	48	P	**P**	11 50 25.8	+1.7
	baz=229						
LHV	Little Huntoon	89.99	43	P	**P**	11 50 24.5	+0.5
LHV				IAmb	IAmb	11 50 30.3	
	comp=Z,8.1nm,1.1s						
VCNR	Virginia City	90.06	42	P	**P**	11 50 23.4	-1.2
BEKR	Beckworth	90.06	41	P	**P**	11 50 24.4	-0.2
YERR	Yerington	90.07	42	P	**P**	11 50 25.1	+0.4
YBH	Yreka Blue Hor	90.12	38	P	**P**	11 50 25.9	+1.2
	comp=Z,3.5nm,1.1s,baz=135,slow=10.0,SNR=3.1						
NVAR	Mina Array Bea	90.22	43	P	**P**	11 50 25.7	+0.2
	comp=Z,4.2nm,1.0s,baz=219,slow=7.6,SNR=26						
NVAR	Mina Array Bea	90.22	43	P	**P**	11 50 25.2	-0.3
RYN	Ryan	90.23	43	P	**P**	11 50 26.2	+0.7
NV11	Mina Array Sit	90.31	43	P	**P**	11 50 26.4	+0.6
NONG	Nongkai	90.35	291	P	**P**	11 50 28.1	+1.9
	comp=Z,18nm,1.0s						
MDJ	Mudanjiang	90.42	326	P	**P**	11 50 27.7	+1.8
MDJ				pmax	pmax		
	comp=Z,12nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,130nm,6.5s						
TPNV	Topopah Spring	90.43	45	P	**P**	11 50 27.1	+0.7
TPNV	Topopah Spring	90.43	45	P	**P**	11 50 27.5	+1.1
	baz=228,SNR=6.4						
Y14A	Wickenburg	90.46	49	P	**P**	11 50 27.4	+0.9
Y14A				IAmb	IAmb	11 50 28.8	
	comp=Z,8.4nm,1.2s						
PAHR	Pah Rah Range	90.49	41	P	**P**	11 50 26.4	-0.1
PAHR				IAmb	IAmb	11 51 00.2	
	comp=Z,24nm,2.0s						
TPH	Tonopah	90.61	44	P	**P**	11 50 27.6	+0.4
W13A	Hualapai Mount	90.65	48	P	**P**	11 50 29.0	+1.4
W13A				IAmb	IAmb	11 50 30.0	
	comp=Z,7.9nm,1.2s						
L04D	Klamath Falls	90.68	38	P	**P**	11 50 28.7	+1.3
	baz=224						
KVN	Kaiserville	90.76	43	P	**P**	11 50 28.1	+0.2
SHPR	Sheep Range	90.79	46	P	**P**	11 50 28.5	+0.4
TUC	Tucson	90.86	52	P	**P**	11 50 29.3	+0.9
TUC				IAmb	IAmb	11 50 31.8	
	comp=Z,9.7nm,1.3s						
TUC	Tucson	90.86	52	P	**P**	11 50 29.6	+1.2
	baz=231						
I03D	Drain, OR	91.22	36	P	**P**	11 50 30.8	+1.2
	baz=224						
SII	Sitkinak Islan	91.36	13	P	**P**	11 50 31.4	+1.4
	baz=200						
PRN	Pahroc Range	91.45	45	P	**P**	11 50 30.9	-0.2
PRN				IAmb	IAmb	11 50 48.8	
	comp=Z,7.9nm,1.2s						
J04D	Umpqua Nationa	91.52	37	P	**P**	11 50 31.8	+0.5
	baz=224						

R11A	Troy Canyon, C	91.75	44	P	**P**	11 50 32.8	+0.3
	baz=228						
I04A	Tendick Farm,	91.76	37	P	**P**	11 50 33.0	+0.7
	baz=224						
X16A	Lo Mia Camp, P	91.76	50	P	**P**	11 50 32.9	+0.2
X16A				IAmb	IAmb	11 50 35.3	
	comp=Z,6.5nm,1.0s						
K05A	Summer Lake	91.78	38	P	**P**	11 50 34.0	+1.5
CN2	Changchun	91.86	323	*e*P	**P**	11 50 30.9	-1.7
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
J05D	Fort Rock, OR	92.00	38	P	**P**	11 50 34.3	+0.8
	baz=225						
H04D	Lebanon	92.12	36	P	**P**	11 50 35.2	+1.4
	baz=224						
BMN	Battle Mountai	92.20	42	P	**P**	11 50 34.5	0.0
BMN				IAmb	IAmb	11 50 36.0	
	comp=Z,7.6nm,1.2s						
LCMT	Little Creek M	92.28	47	P	**P**	11 50 35.8	+0.8
G03D	McMinnville, O	92.35	35	P	**P**	11 50 36.4	+1.6
	baz=224						
WUAZ	Wupatki	92.50	49	P	**P**	11 50 36.5	+0.5
WUAZ				IAmb	IAmb	11 50 38.5	
	comp=Z,7.1nm,1.3s						
WUAZ	Wupatki	92.50	49	P	**P**	11 50 36.7	+0.7
	baz=231						
U15A	North Rim	92.50	48	P	**P**	11 50 37.5	+1.4
U15A				IAmb	IAmb	11 50 53.6	
	comp=Z,4.6nm,0.9s						
PINE	Pine Mountain	92.50	38	P	**P**	11 50 36.6	+0.7
H04A	Detroit Lake	92.51	36	P	**P**	11 50 35.6	0.0
H04A				IAmb	IAmb	11 50 36.9	
	comp=Z,13nm,1.3s						
KNB	Kanab	92.55	47	P	**P**	11 50 36.9	+0.7
KNB				IAmb	IAmb	11 50 38.6	
	comp=Z,4.9nm,1.0s						
CCUT	Cedar City	92.56	46	P	**P**	11 50 37.2	+0.9
I05D	Terrebonne, OR	92.69	37	P	**P**	11 50 37.3	+0.8
	baz=225						
SZCU	Shurtz Canyon	92.75	46	P	**P**	11 50 37.5	+0.2
WVOR	Wild Horse Val	92.78	40	P	**P**	11 50 37.1	+0.1
WVOR				IAmb	IAmb	11 51 00.9	
	comp=Z,5.6nm,1.1s						
NNA	Nana	93.07	106	P	**P**	11 50 38.6	-0.5
	comp=Z,4.8nm,0.4s,baz=189,slow=8.2,SNR=1.7						
PKCU	Pink Cliffs	93.13	47	P	**P**	11 50 40.9	+1.7
PKCU				IAmb	IAmb	11 50 57.6	
	comp=Z,8.1nm,1.1s						
G05D	Wamic, OR	93.34	36	P	**P**	11 50 40.4	+1.0
	baz=225						
I07A	Izee	93.45	38	P	**P**	11 50 40.5	+0.4
I07A				IAmb	IAmb	11 50 42.0	
	comp=Z,5.9nm,1.1s						
J08A	Circle Bar Ran	93.50	39	P	**P**	11 50 40.5	+0.1
J08A				IAmb	IAmb	11 50 42.0	
	comp=Z,3.5nm,0.8s						
ELK	Elko	93.53	43	P	**P**	11 50 40.9	+0.2
	comp=Z,1.5nm,0.9s,baz=210,slow=3.6,SNR=5.9						
ELK	Elko	93.53	43	P	**P**	11 50 40.9	+0.2
MTPU	Mount Pierson	93.59	46	P	**P**	11 50 41.9	+0.6
MTPU				IAmb	IAmb	11 51 25.0	
	comp=Z,20nm,2.0s						
E04D	Cinebar	93.66	35	P	**P**	11 50 42.6	+1.8
	baz=224						
CMAR	Chiang Mai Arr	93.89	289	PP	**PP**	11 54 28.1	-0.7
	comp=Z,0.6nm,0.5s,baz=149,slow=6.6,SNR=7.2						
TXAR	Lajitas Array	93.96	58	P	**P**	11 50 42.6	-0.2
	comp=Z,0.9nm,1.0s,baz=206,slow=8.3,SNR=4.6						
O18K	Koktuh Hills	94.29	11	P	**P**	11 50 43.8	+0.4
	baz=199						
G08A	Pilot Rock	94.56	38	P	**P**	11 50 43.0	-2.2
MFID	Camas Ranch	94.96	40	P	**P**	11 50 46.8	-0.3
MFID				IAmb	IAmb	11 50 48.6	
	comp=Z,5.0nm,1.1s						
B05A	Bryant	95.10	34	P	**P**	11 50 48.3	+0.9
	baz=225						
SPUT	South Promonto	95.50	44	P	**P**	11 50 50.1	+0.4
HLID	Hailey	95.84	41	P	**P**	11 50 52.0	+0.8
	baz=229						
F10A	Beach Ranch, E	95.92	38	P	**P**	11 50 50.3	-1.0
F10A				IAmb	IAmb	11 51 00.7	
	comp=Z,8.5nm,1.4s						
L19K	White Mountain	96.55	11	P	**P**	11 50 55.6	+1.9
	baz=200						
EYAK	Cordova Ski Ar	96.80	16	P	**P**	11 50 57.7	+2.9
	baz=207						
SDCO	Great Sand Dun	97.60	50	P	Pdif	11 51 00.4	+0.9
	baz=234						
HHC	Hu-ho-hao-te	97.67	314	*e*P	**P**	11 50 58.8	-0.6
HHC				pmax	pmax		
	comp=Z,14nm,1.3s						
HHC				pmax	pmax		
	comp=Z,92nm,7.1s						
HHC				LR	LR		
	comp=Z,190nm,16.9s						
HHC				LR	LR		
	comp=Z,180nm,18.2s						
HHC				LR	LR		
	comp=Z,200nm,17.5s						
PDAR	Pinedale Array	98.10	44	P	**P**	11 50 59.3	-2.2
	comp=Z,0.1nm,0.4s,baz=240,slow=7.2,SNR=3.3						
SEY	Seymchan	98.24	347	P	**P**	11 51 01.1	-0.2
	comp=Z,1.2nm,0.9s,baz=172,slow=14,SNR=2.5						
WAT1	Susitna Watana	98.26	13	P	Pdif	11 51 04.1	+2.6
	baz=205						
J20K	Nowinta River	98.54	10	P	Pdif	11 51 04.0	+1.4
	baz=200						
CHUM	Lake Minchumin	98.56	11	P	Pdif	11 51 04.1	+1.4
	baz=202						
HARP	HAARP	98.58	15	P	Pdif	11 51 04.7	+1.8
	baz=208						
BOZ	Bozeman (W)	98.67	41	P	Pdif	11 51 05.2	+1.3
	baz=231						
PAX	Paxson	99.02	15	P	**Pdif**	11 51 06.2	+1.3
	baz=208						
DLBC	Dease Lake	99.46	23	LR	LR	12 28 11.8	
	comp=Z,64nm,20.7s,baz=244,slow=31						
HDA	Harding Lake	100.00	13	P	**Pdif**	11 51 12.0	+2.9
	baz=206						
I23K	Minto, Yukon-K	100.23	12	P	**Pdif**	11 51 13.0	+2.9
	baz=204						
ILAR	Eielson Array	100.34	13	PP	**PP**	11 55 20.1	+2.5
	comp=Z,1.4nm,1.1s,baz=213,slow=8.5,SNR=5.3						
J26K	Charley River,	100.78	14	P	**Pdif**	11 51 14.5	+1.8
	baz=209						
EGMT	Eagleton	101.17	40	P	**Pdif**	11 51 17.4	+2.5
	baz=233						
WMQ	Urumqi	114.44	308	*e*PKP	**PKiKP**	11 56 05.3	+0.9
SSPA	Standing Stone	117.81	58	P	**PKiKP**	11 56 12.8	+1.8
	baz=249						
MK31	Makanchi Array	119.05	309	PKPdf	**PKPdf**	11 56 12.3	-0.8
MKAR	Makanchi Array	119.05	309	PKP	**PKPdf**	11 56 11.0	-2.2
	comp=Z,2.6nm,0.9s,baz=99,slow=1.6,SNR=14						
MKAR	Makanchi Array	119.05	309	PKPdf	**PKPdf**	11 56 12.3	-0.9
MAKZ	Makanchi	119.26	309		**PKPdf**	11 56 12.5	-1.0
ZALV	Zalesovo Beam	119.60	318	PKP	**PKPdf**	11 56 11.3	-2.6
	comp=Z,1.5nm,0.7s,baz=158,slow=1.6,SNR=4.5						
ZALV	Zalesovo Beam	119.60	318		**PKPdf**	11 56 12.7	-1.2
KSH	Kashi	121.16	299	PKP	**PKiKP**	11 56 18.8	+1.1
NRIK	Noril'sk	121.69	335	PKP	**PKPdf**	11 56 16.1	-1.4
	comp=Z,1.5nm,0.4s,baz=78,slow=3.2,SNR=3.9						
NRIK	Noril'sk	121.69	335		**PKPdf**	11 56 16.2	-1.2
KURK	Kurchatov	122.46	313		**PKPdf**	11 56 18.8	-0.7
KZA	Kyzart	122.46	302	P	**PKiKP**	11 56 21.6	+1.0
	SNR=6.6						
K62A	Royalston	122.47	57	P	**PKiKP**	11 56 22.0	+2.0
	baz=254						
KURBB	Kurchatov Arra	122.49	313	PKP	**PKPdf**	11 56 18.8	-0.8
	comp=Z,4.6nm,0.9s,baz=104,slow=2.0,SNR=14						
UCH	Uchtor	123.03	302	P	**PKiKP**	11 56 22.7	+1.0
	SNR=10						
AAK	Ala-Archa	123.16	303	PKP	**PKPdf**	11 56 19.2	-2.1
	comp=Z,2.3nm,0.8s,baz=158,slow=11,SNR=4.6						
AAK	Ala-Archa	123.16	303		**PKiKP**	11 56 21.9	+0.3
M66A	Nantucket	123.58	59	P	**PKiKP**	11 56 23.3	+1.1
	baz=254						
AML	Almayashu	123.59	302	P	**PKiKP**	11 56 23.6	+0.9
	SNR=6.1						
EKS2	Erkin-Say	123.67	302	P	**PKiKP**	11 56 23.2	+0.7
	SNR=5.5						
KBL	Kabul	124.84	292		**PKiKP**	11 56 25.2	0.0
GAR	Garm	125.20	297		**PKiKP**	11 56 25.9	+0.2
CHGR	Chuyangaron	125.97	297	PKPdf	**PKPdf**	11 56 26.2	-0.6
F64A	Sherman	125.97	54	P	**PKiKP**	11 56 27.8	+1.0
	baz=258						
E63A	Oxbow	126.04	54	P	**PKiKP**	11 56 27.1	+0.2

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	baz=258						
KK31	Karatay Array	126.11	302	PKPdf	PKPdf	11 56 27.0	+0.2
KKAR	Karatay Array	126.11	302	PKPdf	PKPdf	11 56 26.6	-0.2
G65A	Princeton	126.37	55	P	PKiKP	11 56 27.8	+0.2
	baz=258						
BVAR	Borovoye Array	127.88	314	PKP	PKPdf	11 56 29.3	-0.6
	comp=Z,4.3nm,0.8s,baz=193,slow=6.1,SNR=18						
BRVK	Borovoye	127.94	315	PKPdf	PKPdf	11 56 29.6	-0.4
KMBO	Kilima Mbogo	132.36	232	SKPbc	SKPab	12 00 08.0	+2.5
	comp=Z,5.8nm,1.0s,baz=144,slow=5.4,SNR=10						
ABKAR	Akbulak array	134.20	309	PKPdf	PKiKP	11 56 42.7	-0.5
ARU	Arti	134.72	319	PKP	PKPdf	11 56 41.8	-0.8
	comp=Z,1.7nm,0.7s,baz=243,slow=0.3,SNR=7.4						
ARU	Arti	134.72	319	PKPdf	PKPdf	11 56 42.9	+0.3
AKTO	Aktyubinsk	135.45	311	PKP	PKPdf	11 56 43.3	-0.9
	comp=Z,3.9nm,0.9s,baz=62,slow=1.2,SNR=9.5						
KIRV	Kirov	139.09	324	PKP	PKPdf	11 56 49.8	-0.8
	comp=Z,4.6nm,0.4s,baz=127,slow=5.1,SNR=1.8						
ARCES	ARCESS Array B	140.86	347	PKhKP	PKPpre	11 56 49.4	
	comp=Z,2.0nm,0.8s,baz=54,slow=3.1,SNR=3.9						
ARCES	ARCESS Array B	140.86	347	PKPdf	PKPdf	11 56 54.8	+1.2
BELG	Belogornoye	141.68	315	PKP	PKPdf	11 56 55.0	-0.6
	comp=Z,19nm,0.8s,baz=215,slow=2.5,SNR=3.6						
KLMR	Klimovskoe	142.71	330	ePKPdf	PKPpre	11 56 50.8	
KLMR				AMP		11 56 54.3	
	comp=Z,21nm,1.4s						
AKH	Akhalkalaki	145.79	297	⇑P	PKPab	11 57 04.2	-0.2
KBZ	Khabaz	146.12	301	PKPbc	PKPbc	11 57 04.3	-0.3
	comp=Z,11nm,0.9s,baz=130,slow=2.4,SNR=18						
OBN	Obninsk	146.93	323	PKPbc	PKPbc	11 57 06.7	+0.2
	comp=Z,5.8nm,0.3s,baz=61,slow=4.4,SNR=14						
BCA	Borcka	147.20	297	⇑P	PKPbc	11 57 07.4	-0.5
FIA1	FINESS Array S	147.27	338	PKPbc	PKPbc	11 57 07.2	-0.2
FINES	FINESS Array B	147.28	338	PKPbc	PKPbc	11 57 07.2	-0.2
	comp=Z,56nm,0.9s,baz=62,slow=4.5,SNR=49						
MEF	Metsahovi	148.75	338	eP	PKPbc	11 57 11.1	-0.2
VSU	Vasula	149.27	334	eP	PKPbc	11 57 13.0	+0.3
MTSE	Matsula	150.10	337	eP	PKPbc	11 57 14.6	0.0
ASF	Jabal al Asfar	150.32	278	PKPbc	PKiKP	11 57 16.7	-0.3
	comp=Z,14nm,0.9s,baz=178,slow=3.0,SNR=18						
NC204	NORSAR Array S	150.91	351		PKiKP	11 57 17.5	+0.3
NB2	NORSAR Subarra	151.07	350	PKP	PKPbc	11 57 16.8	-0.2
	comp=Z,3.3nm,0.6s,baz=17,slow=2.6						
NOA	NORSAR Array B	151.07	350	PKPbc	PKPbc	11 57 16.1	-0.8
	comp=Z,10nm,0.9s,baz=13,slow=4.1,SNR=23						
EIL	Elat	151.39	273	PKPbc	PKPbc	11 57 18.3	-0.4
	comp=Z,26nm,0.9s,baz=163,slow=2.8,SNR=20						
HFS	Hagfors	151.53	347	PKPbc	PKPbc	11 57 17.4	-0.6
	comp=Z,18nm,0.8s,baz=70,slow=1.7,SNR=16						
ISAL	Salakas	151.53	330	eP	PKiKP	11 57 20.2	+1.6
IIGN	Ignalina	151.64	330	eP	PKiKP	11 57 19.0	+0.2
NACGM	Naroch	151.70	329	i PKP	PKiKP	11 57 19.3	+0.4
MMAI	Mount Meron Ar	151.70	280	PKPbc	PKPbc	11 57 19.5	+0.1
	comp=Z,27nm,0.8s,baz=77,slow=8.6,SNR=13						
LIC	Lamto	152.83	165	eP	PKPbc	11 57 22.4	0.0
	comp=Z,44nm,1.1s						
AKASG	Malin Array Be	152.97	320	PKPbc	PKPbc	11 57 19.9	-1.6
	comp=Z,9.0nm,0.8s,baz=53,slow=2.5,SNR=37						
AKASG	Malin Array Be	152.97	320		PKPbc	11 57 21.4	-0.2
KIC	Kosan Boka	153.03	166	eP	PKiKP	11 57 23.9	+0.9
	comp=Z,35nm,1.1s						
TIC	Toumodi	153.24	165	eP	PKiKP	11 57 24.4	+0.9
DBIC	Dimbokro	153.30	166	PKPbc	PKPbc	11 57 22.7	-0.7
	comp=Z,3.6nm,0.6s,baz=221,slow=2.4,SNR=6.0						
DBIC	Dimbokro	153.30	166		PKPbc	11 57 23.2	-0.2
BRTR	Keskin Array B	153.37	294	PKPbc	PKPbc	11 57 22.4	-0.7
	comp=Z,11nm,1.0s,baz=151,slow=2.8,SNR=18						
VRI	Vrincioaia	156.72	311	⇑P	PKPab	11 58 01.0	+12
PLOR	Plostina	156.78	311	⇑P	PKPab	11 57 38.4	-11
BURAR	Bucovina Array	156.81	317	⇑P	PKPdf	11 57 28.2	+8.4
EKA	Eskdalemuir Ar	157.23	7	PKPab	PKPab	11 57 50.5	-0.4
	comp=Z,0.2nm,0.2s,baz=325,slow=3.6,SNR=3.2						
DRGR		158.70	317	⇑P	PKPab	11 57 58.0	+0.3
VYHS	Vyhne	159.68	325	ePKP	PKPab	11 58 01.8	0.0
CLL	Collm	159.72	339	ePKPdf	PKPdf	11 57 23.0	0.0
CLL				ePKPab	PKPab	11 58 01.0	-0.8
CLL				Lm	MLR	13 17 00.0	
	comp=Z,100nm,20.6s						
JAVC	Velka Javorina	159.95	328	ePKP	PKPab	11 58 03.6	+0.6
VRAC	Vranov	160.08	330	PKPab	PKPab	11 58 03.4	-0.1
	comp=Z,1.4nm,0.3s,baz=12,slow=2.4,SNR=5.4						
VRAC	Vranov	160.08	330	ePKP	PKPab	11 58 03.6	+0.1
KRUC	Moravsky	160.35	330	ePKP	PKPab	11 58 03.2	-1.5
MDVR	Moldovita	160.36	313	⇓P	PKPab	11 58 07.8	+2.9
TORD	Torodi Ar. Bea	160.43	180	PKP	PKPdf	11 57 24.8	-0.2
	comp=Z,3.6nm,1.1s,baz=203,slow=0.2,SNR=8.6						
TORD				PKPab	PKPab	11 58 05.9	+0.1
	comp=Z,3.6nm,1.1s,baz=163,slow=2.9,SNR=5.0						
TORD				PP	PP	12 01 50.1	+3.4
	comp=Z,1.7nm,1.1s,baz=160,slow=3.3,SNR=3.8						
TORD	Torodi Ar. Bea	160.43	180		PKPdf	11 57 25.2	+0.3
TORD				PKPab	PKPab	11 58 05.0	-0.8
GERES	GERESS Array B	161.59	334	PKP	PKPdf	11 57 24.1	-1.2
	comp=Z,0.2nm,0.2s,baz=134,slow=2.8,SNR=4.5						
GERES				PKPab	PKPab	11 58 09.0	-1.2
	comp=Z,1.3nm,0.7s,baz=48,slow=6.0,SNR=8.3						
GERES	GERESS Array B	161.59	334	PKPab	PKPab	11 58 09.1	-1.1
DAVOX	Davos/Dischmat	164.68	338	PKPab	PKPab	11 58 22.7	-1.3
	comp=Z,2.1nm,0.5s,baz=342,slow=7.4,SNR=3.9						
ESDC	Sonseca Array	171.80	32	PKP	PKPdf	11 57 33.0	-0.4
	comp=Z,1.6nm,1.1s,baz=315,slow=3.1,SNR=6.1						
KEST	Kesra	172.97	297	PKP	PKPdf	11 57 35.3	+1.3
	comp=Z,3.2nm,0.9s,baz=301,slow=5.9,SNR=3.5						

NNC 08 11:39:10.9±10.0, 37°.11N×69°.76E, h0km, mb4.0, mpv3.7, 3C-3D Error ellipse: s-maj=92.3km s-min=65.5km az=158.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	5.86	30	P	Pn	11 40 40.2	+0.8
	SNR=22						
KK31	Karatay Array	6.02	5	⇓P	Pn	11 40 43.4	+2.2
	0.6nm,0.3s,baz=187,slow=13,SNR=20						
KK31				⇑S	Sn	11 41 53.6	+2.8
	1.2nm,0.3s,baz=191,slow=25,SNR=7.9						
UCH	Uchtor	6.29	34	P	Pn	11 40 45.5	+0.1
	SNR=13						
EKS2	Erkin-Say	6.35	28	P	Pn	11 40 48.0	+2.2
	SNR=7.0						
KZA	Kyzart	6.53	39	P	Pn	11 40 47.8	-0.7
	SNR=16						
AAK	Ala-Archa	6.61	32	P	Pn	11 40 50.2	+0.7
	SNR=8.9						
AAK	Ala-Archa	6.61	32	⇓P	Pn	11 40 49.5	0.0
	5.1nm,0.4s						
AAK				⇓S	Sn	11 42 07.6	+2.0
	5.0nm,0.4s						
ULHL	Ulahol	7.16	42	P	Pn	11 40 55.3	-1.8
	SNR=9.0						
TKM2	Tokmak 2	7.33	36	P	Pn	11 40 58.4	-1.0
	SNR=5.6						
TKM2	Tokmak 2	7.33	36	⇑P	Pn	11 40 57.7	-1.6
	3.1nm,0.5s						
TKM2				⇑S	Sn	11 42 21.8	-1.6
	4.2nm,0.8s						

IDC 08 11:42:03.6±3.4, 32°.98S×178°.60W, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/41, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=75.5km s-min=48.3km az=116.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.32	212	Pn	Pn	11 43 37.1	-0.9
	2.2nm,0.3s,baz=120,slow=8.1,SNR=6.1						
URZ				Sn	Sn	11 44 47.2	-3.8
	3.7nm,0.3s,baz=108,slow=20,SNR=2.8						
ASAR	Alice Springs	42.53	270	P	P	11 50 01.9	+0.8
	0.7nm,0.7s,baz=109,slow=7.5,SNR=5.0						
WRA	Warramunga Arr	43.75	275	P	P	11 50 10.7	-0.3
	0.3nm,0.3s,baz=114,slow=7.9,SNR=5.6						
FITZ	Fitzroy Crossi	51.90	272	P	P	11 51 13.4	-0.8
	2.1nm,1.0s,baz=120,slow=8.1,SNR=1.8						
FINES	FINESS Array B	147.36	338	PKPbc	PKPbc	12 01 47.8	-0.7
	3.1nm,1.0s,baz=31,slow=3.2,SNR=2.2						

IDC 08 11:42:28.0±3.1, 32°.86S×178°.33W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/40, mbtmp4.0/4, ML4.1/1, Error ellipse: s-maj=74.9km s-min=47.4km az=125.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.55	213	Pn	Pn	11 44 05.1	-0.5
	4.3nm,0.3s,baz=112,slow=19,SNR=2.1						
URZ				Sn	Sn	11 45 16.8	-4.2
	3.7nm,0.3s,baz=115,slow=21,SNR=2.8						
ASAR	Alice Springs	42.76	270	P	P	11 50 27.6	+0.1
	0.2nm,0.3s,baz=109,slow=7.8,SNR=1.7						
WRA	Warramunga Arr	43.97	275	P	P	11 50 37.3	+0.1
	0.9nm,0.4s,baz=115,slow=7.7,SNR=7.8						
FITZ	Fitzroy Crossi	52.12	272	P	P	11 51 39.8	-0.5
	2.6nm,1.0s,baz=104,slow=8.3,SNR=2.2						
FINES	FINESS Array B	147.34	338	PKPbc	PKPbc	12 02 12.1	-0.7
	0.9nm,0.4s,baz=29,slow=3.2,SNR=5.6						

MEX 08 11:45:27.9±0.7, 14°.13N×93°.94W, h20km±893km, MD4.2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TGIG		2.75	17	i P	Pn	11 46 07.0	-3.9
TGIG				eS	Sn	11 46 37.0	-6.5
CCIG	Comitan	2.76	39	eP	Pn	11 46 08.7	-2.5
CCIG				eS	Sn	11 46 40.6	-3.5

*IDC **08** 11:45:57.8±1.4, 34°.35N×25°.62E, h0km, mb3.7/2, mb1 3.9/6, mb1mx3.5/58, mbtmp3.8/6, ML4.3/4, Error ellipse: s-maj=25.3km s-min=18.5km az=50.0*
*ISK **08** 11:46:00.7, 34°.44N×25°.70E, h96km, ML3.3/11*
*NIC **08** 11:46:01.8±0.0, 34°.22N×25°.85E, h15km±1km, Ml3.4/4*
*ATH **08** 11:46:01.4, 34°.34N×25°.59E, h10km±31km, ML3.3/6, Error ellipse: s-maj=31.6km s-min=1.7km az=0.0*
*THE **08** 11:46:02.8, 34°.40N×25°.60E, h5km±3km, ML3.1/4, Error ellipse: s-maj=3.4km s-min=1.1km az=54.0*
*HLW **08** 11:46:03.4, 34°.25N×25°.93E, h7km±22km, Md3.9*
ISC 08 11:45:58.8±1.4, 34°.37N±0°.03×25°.69E±0°.03, h6km±10km, n66, σ1.48/84, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FRMA	Ierapetra Chan	0.65	3	P	Pn	11 46 15.3	+0.7
FRMA				S	Sn	11 46 25.3	+0.2
	1μm,0.5s						
ZKR	Zakros	0.86	30	P	Pn	11 46 19.6	+2.0
ZKR				S	Sn	11 46 32.0	+1.5
	3μm,0.6s						
ZKR	Zakros	0.86	30	P	Pn	11 46 19.4	+1.8
ZKR				S	Sn	11 46 31.8	+1.2
ZKR				AML	AML	11 46 34.3	
	comp=E,7823μm,0.5s						
ZKR				AML	AML	11 46 38.5	
	comp=N,2615μm,0.3s						
ZKR	Zakros	0.86	30	PG	Pn	11 46 19.3	+1.8
ZKR				SG	Sn	11 46 33.1	+2.6
ZKR	Zakros	0.86	30	P	Pn	11 46 19.4	+1.8
ZKR				S	Sn	11 46 33.7	+3.2
NPS	Neapolis	0.90	356	P	Pn	11 46 19.0	+1.0
NPS				S	Sn	11 46 31.3	0.0
	comp=N,2μm,0.6s						
NPS	Neapolis	0.90	356	P	Pn	11 46 18.7	+0.7
NPS				S	Sn	11 46 31.1	-0.3
NPS				AML	AML	11 46 34.8	
	comp=E,4486μm,0.9s						
NPS				AML	AML	11 46 36.3	
	comp=N,3641μm,0.4s						
STIA	Sitia Lasithi	0.90	22	P	Pn	11 46 19.5	+1.5
STIA				S	Sn	11 46 33.8	+2.5
HRKL	Herakleio	1.06	333	PG	Pn	11 46 21.6	+1.4
KSTL	Kastelli Herak	1.06	332	P	Pg	11 46 19.1	-0.1
KSTL				S	Sg	11 46 32.1	-1.0
IDI	Anoyia	1.13	325	Pn	Pb	11 46 21.9	+1.1
	comp=N,46nm,0.3s,baz=156,slow=19,SNR=116						
IDI				Sn	Sn	11 46 37.4	+0.2
	comp=N,74nm,0.3s,baz=95,slow=22,SNR=9.5						
IDI	Anoyia	1.13	325	P	Pn	11 46 22.2	+0.9
IDI				S	Sn	11 46 37.4	+0.2
	comp=N,930nm,0.4s						
IDI	Anoyia	1.13	325	P	Pn	11 46 22.3	+1.0
IDI				S	Sn	11 46 37.4	+0.2
IDI				AML	AML	11 46 44.0	
	comp=N,1935μm,0.6s						
IDI				AML	AML	11 46 44.0	
	comp=E,1782μm,0.4s						
GVD	Gavdhos	1.40	290	P	Pn	11 46 26.2	+1.3
GVD	Gavdhos	1.40	290	P	Pn	11 46 26.3	+1.4
GVD				S	Sn	11 46 44.2	+0.4
GVD				AML	AML	11 46 54.4	
	comp=N,3293μm,0.9s						
GVD				AML	AML	11 46 56.6	
	comp=E,2630μm,0.4s						
VAM	Vamos	1.60	311	P	Pn	11 46 29.4	+1.7
VAM	Vamos	1.60	311	P	Pn	11 46 29.3	+1.5
VAM				S	Sn	11 46 50.1	+1.4
VAM				AML	AML	11 46 57.4	
	comp=N,1781μm,0.3s						
VAM				AML	AML	11 47 06.9	
	comp=E,1517μm,0.6s						
KARP	Karpathos	1.69	45	P	Pg	11 46 32.4	+1.2
KARP	Karpathos	1.69	45	P	Pg	11 46 32.4	+1.2
KARP	Karpathos	1.69	45	PN	Pb	11 46 29.5	-0.8
KARP	Karpathos	1.69	45	P	Pg	11 46 31.2	0.0
KARP				S	Sg	11 46 53.4	+0.3
KARP				AML	AML	11 47 16.0	
	comp=E,1.2nm,0.6s						
KARP				AML	AML	11 47 16.0	
	comp=E,1.2nm,0.6s						
KARP				AML	AML	11 47 24.1	
	comp=E,1.3nm,0.9s						
KARP				AML	AML	11 47 24.1	
	comp=E,1.3nm,0.9s						
IMMV	Iera Moni Meta	1.78	308	P	Pn	11 46 31.8	+1.7
IMMV	Iera Moni Meta	1.78	308	P	Pn	11 46 31.9	+1.7
IMMV				S	Sn	11 46 54.8	+1.8
IMMV				AML	AML	11 47 03.9	
	comp=E,1439μm,0.8s						
IMMV				AML	AML	11 47 05.3	
	comp=N,1185μm,0.5s						
SANT	Santorini	2.01	355	PN	Pn	11 46 33.5	+0.2
SANT				SN	Sn	11 46 57.2	-1.6
ANKY	Antikythira Is	2.46	308	P	Pn	11 46 41.2	+1.7
APE	Apeiranthos	2.70	357	PN	Pn	11 46 42.6	-0.2
ARG	Arkhangelos	2.72	47	PN	Pn	11 46 42.9	-0.1
ARG	Arkhangelos	2.72	47	P	Pb	11 46 46.1	-1.7
DAT	Datca	2.82	33	PN	Pn	11 46 44.1	-0.4
SLUM	Salum	2.89	188	P	Pn	11 46 47.9	+2.5
	baz=193						
SLUM				S	Sn	11 47 19.9	-0.6
	baz=193						
TURN	Turunc	3.18	40	PN	Pn	11 46 49.3	-0.1
DALY	Dalyan (Mula)	3.44	44	PN	Pn	11 46 52.9	0.0
YER	Yerkesik	3.48	37	PN	Pn	11 46 53.2	-0.3
KSL	Kastellorizon	3.65	60	P	Pn	11 46 57.7	+1.8
KSL				S	Sn	11 47 40.9	+1.7
KSL				AML	AML	11 47 44.9	
	comp=N,0.1nm,0.4s						
KSL				AML	AML	11 47 44.9	
	comp=N,0.1nm,0.4s						
KSL				AML	AML	11 47 45.5	
	comp=N,0.2nm,0.3s						
KSL				AML	AML	11 47 45.5	
	comp=N,0.2nm,0.3s						
CAME	Cameli-Denizli	3.91	48	PN	Pn	11 46 58.8	-0.7
AYDB	Zeytinkoy-Aydi	3.99	26	PN	Pn	11 47 00.2	-0.5
KORT	Korkueli	4.62	54	PN	Pn	11 47 08.7	-0.6
OSC1	CSNet OBS 1	4.72	99	P	Pn	11 47 11.2	+0.6
OSC1				S	Sn	11 48 05.2	-0.6
SWA2		5.11	182	P	Pn	11 47 18.3	+2.4
	baz=185						
SWA2				S	Sn	11 48 13.4	-1.9
	baz=185						
AKMS	Akamas	5.51	81	P	Pn	11 47 22.7	+1.2
AKMS				AML	AML	11 48 21.4	
	comp=N,0.3nm,0.4s						
AKMS				AML	AML	11 48 22.3	
	comp=N,0.2nm,0.8s						
OSC2	CSNet OBS 4	5.63	101	P	Pn	11 47 23.2	+0.2
NATA	Nata	5.69	84	P	Pn	11 47 25.2	+1.3
ALFC	Alefka	5.74	80	P	Pn	11 47 25.4	+0.7
ALFC				AML	AML	11 48 26.2	
	comp=N,0.3nm,0.6s						
ALFC				AML	AML	11 48 27.4	
	comp=N,0.3nm,0.5s						
SZAC	Souni	5.95	84	P	Pn	11 47 29.0	+1.5
ASGA	Asgata	6.25	84	P	Pn	11 47 32.7	+1.1
CSS	Mathiatis	6.33	82	P	Pn	11 47 34.2	+1.6
RYAN	Fayoum	6.56	142	P	Pn	11 47 38.2	+2.4
	baz=143						
HSAF	As Saff	6.87	132	P	Pn	11 47 42.6	+2.5
	baz=132						
GLL	Jalalah	7.00	131	P	Pn	11 47 42.9	+1.0
	baz=131						
HFRF	Wahat Farafira	7.54	162	P	Pn	11 47 51.9	+2.6
	baz=163						
SUZ	Suez	7.55	125	P	Pn	11 47 50.6	+1.1
	baz=125						
MMAI	Mount Meron Ar	8.21	97	Pn	Pn	11 47 59.3	+0.8
	comp=N,0.7nm,0.3s,baz=287,slow=10,SNR=2.0						
GRB	Gharib	8.59	133	P	Pn	11 48 04.8	+1.1
	baz=133						
HRDS	Abu Rudays	8.60	129	P	Pn	11 48 05.3	+1.5
	baz=129						
TR2	Tor 2	9.09	129	P	Pn	11 48 11.1	+0.5
	baz=129						
EIL	Elat	9.15	118	Pn	Pn	11 48 12.4	+1.1
	comp=N,1.0nm,0.3s,baz=239,slow=12,SNR=11						
HDK1	Dakhla	9.36	159	P	Pn	11 48 17.4	+3.1
	baz=159						
HHRG	Al Ghardaqah	9.83	134	P	Pn	11 48 24.3	+3.6
	baz=135						
STON	Ston	10.54	326	ePn	Pn	11 48 27.4	-2.9
STON				Sn	Sn	11 50 15.4	-13
MLR	Muntele Rosu	11.11	1	Pn	Pn	11 48 37.5	-0.9
	comp=N,2.2nm,0.3s,baz=180,slow=8.1,SNR=5.3						
KIJV	Kijevo	12.01	326	ePn	Pn	11 48 46.4	-4.1
ZIRJ	Zirje	12.12	323	ePn	Pn	11 48 47.7	-4.2
DUGI	Dugi Otok	12.65	323	ePn	Pn	11 48 55.2	-4.1
AKASG	Malin Array Be	16.53	8	Pn	Pn	11 49 50.6	-0.5
	comp=N,0.6nm,0.3s,baz=198,slow=11,SNR=2.9						
TORD	Torodi Ar. Bea	30.32	232	P	P	11 52 10.1	-1.1
	comp=N,0.9nm,0.6s,baz=39,slow=8.9,SNR=6.5						
MKAR	Makanchi Array	43.85	56	P	P	11 54 06.0	+0.2
	comp=N,0.4nm,0.5s,baz=273,slow=7.1,SNR=5.5						

*WEL **08** 11:52:00.8±0.6, 34°S±7°×18°0W±1°3, h297km±6km, M4.2/55, mB4.8/34, ML4.9/25, MLv5.0/55, Mw(mB)4.1/34, Error ellipse: s-maj=0.0km s-min=0.0km az=112.5*
*NEIC **08** 11:52:03.7±0.8, 33°.74S±0°.08×179°.6E±0°.1, h240km±10km, mb4.1/15, Error ellipse: s-maj=14.5km s-min=10.1km az=63.0*
*IDC **08** 11:52:04.4±1.6, 33°.80S×179°.42E, h253km±15km, mb3.6/5, mb1 3.8/8, mb1mx3.4/39, mbtmp4.3/8, Error ellipse: s-maj=28.2km s-min=16.9km az=124.0*
*NOU **08** 11:52:19.4, 34°.91S×178°.33E, h267km, mb4.3/8, South of Kermadec Islands*
ISC 08 11:52:03.4±0.6, 33°.79S±0°.06×179°.66E±0°.09, h250km, n133, σ2.24/144, mb3.9/13, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.92	196	Pn	Pn	11 53 06.8	+0.7
MXZ	Matakaoa Point	3.92	196	P	Pn	11 53 06.6	+0.4
MXZ				S	S	11 53 54.8	-1.3
WMGZ	Waiomatatini S	4.14	194	P	Pn	11 53 10.0	+1.3
HAZ	Te Kaha	4.24	201	P	Pn	11 53 10.6	+0.7
HAZ				S	S	11 54 02.4	-0.4
PKGZ	Pakihiroa	4.28	197	P	Pn	11 53 11.1	+0.6
KUZ	Kuaotunu	4.37	226	P	Pn	11 53 12.2	+0.8
PUZ	Puketiti	4.42	195	P	Pn	11 53 12.4	+0.3
RUGZ	Raukumara Rang	4.46	201	P	Pn	11 53 13.4	+0.7
TWGZ	Tauwhareparae	4.58	197	P	Pn	11 53 14.7	+0.6
WHRZ	Whale Island	4.60	208	P	Pn	11 53 17.8	+3.5
CNGZ	Carnagh Statio	4.83	194	P	Pn	11 53 17.6	+0.7
MARZ	Manawahe	4.83	209	P	Pn	11 53 19.6	+2.5
MWZ	Matawai	4.85	200	P	Pn	11 53 17.5	+0.2
TKGZ	Te Karaka	4.86	197	P	Pn	11 53 17.5	+0.2
URZ	Urewera	4.91	204	P	Pn	11 53 17.6	-0.4
	23nm,0.3s,baz=297,slow=23,SNR=82						
URZ				S	S	11 54 16.9	-0.6
	5.9nm,0.3s,baz=121,slow=24,SNR=3.5						
URZ	Urewera	4.91	204	Pn	Pn	11 53 17.7	-0.2
URZ	Urewera	4.91	204	P	Pn	11 53 17.9	-0.1
URZ				S	S	11 54 16.6	-0.9
GLKZ	Green Lake	4.97	25	S	S	11 54 12.6	-6.3
RAGZ	Rawiri	5.03	201	P	Pn	11 53 19.5	0.0
HLRZ	Highlands Stat	5.19	210	P	Pn	11 53 23.7	+2.2
OUZ	Omahuta	5.21	252	Pn	Pn	11 53 21.2	-0.4
HSRZ	Hossack Road	5.29	211	P	Pn	11 53 26.0	+3.4
MHGZ	Mahia Peninsul	5.53	194	P	Pn	11 53 25.5	-0.1
KUTZ	Kaahu Road	5.62	212	P	Pn	11 53 29.4	+2.7
TLZ	Tolley Road	5.62	215	P	Pn	11 53 28.5	+1.7
WATZ	Wairara	5.84	212	P	Pn	11 53 31.3	+1.8
BKZ	Black Stump Fm	5.94	205	P	Pn	11 53 30.0	-0.7
RATZ	Rangitukua	5.96	211	P	Pn	11 53 32.2	+1.3
RITZ	Rihia Road	6.01	210	P	Pn	11 53 32.3	+0.7
MCHZ	McNeill Hill	6.12	202	P	Pn	11 53 32.1	-0.9
NTVZ	North Tongarir	6.19	210	P	Pn	11 53 33.7	-0.2
KWHZ	Kaweka Forest	6.19	204	P	Pn	11 53 33.0	-0.9
TMVZ	Te Maari	6.19	210	P	Pn	11 53 33.3	-0.6
KRVZ	Karewarewa	6.20	210	P	Pn	11 53 35.1	+1.0
ETVZ	East Tongariro	6.21	210	P	Pn	11 53 33.4	-0.7
NNVZ	North Ngauruho	6.25	210	P	Pn	11 53 35.6	+0.9
OTVZ	Oturere	6.25	210	P	Pn	11 53 33.8	-0.9
TWVZ	Taurewa	6.27	212	P	Pn	11 53 35.9	+1.0
SNVZ	South Ngauruho	6.28	210	P	Pn	11 53 34.3	-0.8
NGZ	Ngauruhoe	6.29	210	P	Pn	11 53 35.7	+0.5
TUVZ	Tukino	6.34	209	P	Pn	11 53 36.0	+0.1
FWVZ	Far West T-bar	6.38	210	P	Pn	11 53 36.4	+0.1
BHHZ	Black Hill Sta	6.38	206	P	Pn	11 53 34.7	-1.5
WHVZ	Whangaehu Hut	6.38	210	P	Pn	11 53 36.5	0.0
KAHZ	Kahuranaki	6.39	200	P	Pn	11 53 35.2	-1.2
KAHZ				S	S	11 54 49.1	-1.7
KRHZ	Kereru	6.41	203	P	Pn	11 53 34.9	-1.6
KRHZ				S	S	11 54 47.0	-4.2
WNVZ	Wahianoa	6.42	209	P	Pn	11 53 36.1	-0.7
WNVZ				S	S	11 54 51.3	-0.3
MOVZ	Moawhango	6.42	208	P	Pn	11 53 36.0	-0.8
MTVZ	Mangateitei	6.52	210	P	Pn	11 53 37.5	-0.5
PXZ	Pawanui	6.62	199	P	Pn	11 53 37.3	-1.7
PXZ				S	S	11 54 51.6	-4.3
VRZ	Vera Road	6.62	215	P	Pn	11 53 40.5	+1.3
PNHZ	Pukenui	6.71	203	P	Pn	11 53 38.1	-2.2
PNHZ				S	S	11 54 53.4	-4.6
WPHZ	Waipukurau	6.77	201	P	Pn	11 53 39.5	-1.5
WPHZ				S	S	11 54 55.9	-3.5
TSZ	Takapari Road	6.92	204	P	Pn	11 53 40.5	-2.5
DREZ	Durham Road	6.95	218	P	Pn	11 53 45.6	+2.2
WAZ	Wanganui	7.03	211	P	Pn	11 53 43.4	-1.0
LREZ	Lake Rotokare	7.06	215	P	Pn	11 53 46.1	+1.4
PKE	Pukeiti	7.07	219	P	Pn	11 53 47.1	+2.3
NEZ	North Egmont	7.07	218	P	Pn	11 53 46.8	+2.0
DVHZ	Dannevirke	7.07	202	P	Pn	11 53 42.1	-2.7
PREZ	Palmer Road	7.09	217	P	Pn	11 53 46.7	+1.6
KHEZ	Kahui Hut	7.12	218	P	Pn	11 53 47.4	+1.8
NBEZ	Newall Road No	7.18	219	P	Pn	11 53 48.8	+2.5
POWZ	Post Office Ro	7.28	204	P	Pn	11 53 46.4	-1.1
PRWZ	Pori Road	7.36	202	P	Pn	11 53 47.2	-1.3
BFZ	Birch Farm	7.39	201	P	Pn	11 53 46.5	-2.4
MRZ	Mangatainoka R	7.59	204	P	Pn	11 53 48.3	-3.1
TIWZ	Tintock	7.59	202	P	Pn	11 53 49.9	-1.5
CPWZ	Castlepoint	7.62	200	P	Pn	11 53 48.1	-3.6
HOWZ	Holdsworth Sta	7.82	204	P	Pn	11 53 51.7	-2.6
OGWZ	Otaki Gorge	7.87	206	P	Pn	11 53 52.0	-2.9
TMWZ	Te Maipa	7.89	201	P	Pn	11 53 52.1	-3.1
KIW	Kapiti Island	8.00	207	P	Pn	11 53 53.6	-3.1
MTW	Mount Morrison	8.06	203	P	Pn	11 53 54.2	-3.1
CAW	Cannon Point	8.16	205	P	Pn	11 53 55.3	-3.3
TRWZ	Traveller	8.22	201	P	Pn	11 53 57.5	-1.9
PAWZ	Paruwai Farm	8.29	203	P	Pn	11 53 57.6	-2.6
DUWZ	D'Urville Isla	8.36	211	P	Pn	11 53 57.7	-3.4
MSWZ	Moikau Station	8.37	203	P	Pn	11 53 58.5	-2.8
WEL	Wellington	8.43	206	P	Pn	11 53 59.3	-2.6
BHW	Baring Head	8.50	205	P	Pn	11 54 00.2	-2.7
PLWZ	Palliser	8.51	203	P	Pn	11 54 00.5	-2.6
TCW	Tory Channel	8.55	208	P	Pn	11 54 00.2	-3.3
TUWZ	Tuamarina	8.87	209	P	Pn	11 54 04.0	-3.5
NNZ	Nelson	8.93	212	P	Pn	11 54 04.5	-3.8
QRZ	Quartz Range	9.03	217	P	Pn	11 54 06.4	-3.1
CMWZ	Cape Campbell	9.03	207	P	Pn	11 54 07.4	-2.2
BSWZ	Blackbirch Sta	9.14	208	P	Pn	11 54 08.2	-2.7
THZ	Tophouse	9.58	212	P	Pn	11 54 13.1	-3.5
KHZ	Kahutara	9.86	207	P	Pn	11 54 16.8	-3.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DSZ	Denniston Nort	10.08	216	P	Pn	11 54 17.9	-5.0
GVZ	Greta Valley S	10.53	208	P	Pn	11 54 24.9	-3.5
LTZ	Lake Taylor	10.68	211	P	Pn	11 54 26.8	-3.7
AMCZ	Amberley	10.86	208	P	Pn	11 54 30.4	-2.1
INZ	Inchbonnie	11.00	213	P	Pn	11 54 30.5	-3.9
OKCZ	Okains Bay	11.17	205	P	Pn	11 54 34.1	-2.3
OXZ	Oxford	11.23	210	P	Pn	11 54 33.3	-3.9
MQZ	McQueen's Vall	11.30	207	P	Pn	11 54 34.6	-3.5
MHCZ	Mount Hutt	11.59	211	P	Pn	11 54 38.4	-3.4
WVZ	Waitaha Valley	11.60	214	P	Pn	11 54 38.6	-3.2
WACZ	Wakanui South	11.82	209	P	Pn	11 54 42.0	-2.5
RPZ	Rata Peaks	11.96	212	P	Pn	11 54 42.8	-3.6
GCSZ	Gaunt Creek Bo	11.98	215	P	Pn	11 54 43.1	-3.5
ARCZ	Arundel	12.10	211	P	Pn	11 54 44.8	-3.3
TMZ	Timaru	12.52	210	P	Pn	11 54 50.3	-3.0
MSVF	Nonsavu	16.06	354	P	P	11 55 35.1	+0.1
	3.6nm,0.3s,baz=190,slow=5.7,SNR=25						
MSVF	Nonsavu	16.06	354	Pn	Pn	11 55 36.0	-0.4
DZM	Mont Dzumac	16.50	312	P	P	11 55 37.4	-2.4
	0.4nm,0.3s,baz=125,slow=16,SNR=2.2						
DZM	Mont Dzumac	16.50	312	IAmb	IAmb	11 55 53.6	
	comp=Z,15nm,1.1s						
AFI	Afiamalu	21.27	23	P	P	11 56 31.6	+0.9
	comp=Z,17nm,0.7s,baz=117,slow=9.0,SNR=2.4						
AFI	Afiamalu	21.27	23	P	P	11 56 31.0	+0.3
AS31	Alice Springs	41.09	272	P	P	11 59 23.5	+0.4
ASAR	Alice Springs	41.09	272	P	P	11 59 22.6	-0.6
	comp=Z,2.8nm,0.7s,baz=112,slow=7.8,SNR=31						
ASAR				PcP	PcP	12 01 16.4	-1.2
	comp=Z,0.3nm,0.7s,baz=115,slow=4.9,SNR=2.2						
ASAR				ScP	ScP	12 04 41.3	-2.0
	comp=Z,0.6nm,1.0s,baz=115,slow=3.2,SNR=3.3						
ASAR	Alice Springs	41.09	272	P	P	11 59 23.2	+0.1
WR0	Warramunga Arr	42.22	277	P	P	11 59 32.0	-0.3
WR0				IAmb	IAmb	12 00 00.7	
	comp=Z,8.5nm,1.3s						
WB2	Warramunga Arr	42.38	277	P	P	11 59 33.3	-0.3
WB2				IAmb	IAmb	11 59 34.6	
	comp=Z,5.1nm,0.9s						
WRAB	Tennant Creek	42.39	277	P	P	11 59 33.4	-0.3
WRAB				IAmb	IAmb	11 59 37.6	
	comp=Z,10nm,0.8s						
WRA	Warramunga Arr	42.39	277	P	P	11 59 33.3	-0.4
	comp=Z,1.7nm,0.4s,baz=118,slow=7.8,SNR=56						
WRA				ScP	ScP	12 04 45.7	-2.9
	comp=Z,0.7nm,1.0s,baz=123,slow=3.9,SNR=2.6						
WRA	Warramunga Arr	42.39	277	P	P	11 59 32.9	-0.8
TAOE	Nuku Hiva Isla	44.49	66	P	P	11 59 50.4	-0.1
SBA	Scott Base	44.52	184	P	P	11 59 50.5	+0.7
MTN	Manton Dam	48.69	283	P	P	12 00 23.3	+0.4
MTN				IAmb	IAmb	12 00 43.1	
	comp=Z,27nm,1.4s						
KNRA	Kununurra	49.11	279	P	P	12 00 26.0	-0.1
KNRA				IAmb	IAmb	12 00 41.5	
	comp=Z,4.6nm,0.9s						
FITZ	Fitzroy Crossi	50.48	274	P	P	12 00 36.6	+0.2
FITZ				IAmb	IAmb	12 00 48.7	
	comp=Z,5.3nm,1.4s						
MORW	Morawa	53.74	257	P	P	12 01 00.2	0.0
MORW				IAmb	IAmb	12 01 11.4	
	comp=Z,11nm,1.3s						
QSPA	South Pole Qui	56.32	180	P	P	12 01 21.0	+2.8
QSPA				IAmb	IAmb	12 01 27.5	
	comp=Z,3.0nm,0.8s						
SNAA	Sanae	74.81	179	P	P	12 03 19.4	+3.5
VNA3	Neumayer Olymp	75.05	177	P	P	12 03 21.2	+4.1
VNA2	Neumayer--Watz	75.45	178	P	P	12 03 23.3	+3.9
	baz=180,slow=5.1						
VNA1	Neumayer--Stat	75.70	177	P	P	12 03 24.2	+3.5
PETK	Petropavlovsk-	88.63	347	P	P	12 04 28.2	+0.6
	comp=Z,0.6nm,0.5s,baz=104,slow=6.1,SNR=4.0						
NVAR	Mina Array Bea	92.06	44	P	P	12 04 47.4	+3.2
	comp=Z,0.1nm,0.5s,baz=222,slow=5.6,SNR=1.9						
FINES	FINESS Array B	147.55	337	PKPbc	PKPbc	12 11 17.6	+0.3
	comp=Z,2.8nm,0.9s,baz=96,slow=1.9,SNR=3.5						

IDC 08 12:03:08.5±3.6, 53°.56N×91°.28E, h0km, mb1 3.4/3, mb1mx3.1/73, mbtmp3.4/3, ML2.8/3, 5C-1D, Error ellipse: s-maj=33.1km s-min=28.5km az=98.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	3.85	278	*i*		12 27 55.0	
	baz=93,slow=327,SNR=5.8						
ZALV	Zalesovo Beam	3.85	278	Pn	Pn	12 04 10.9	+1.9
	1.1nm,0.3s,baz=95,slow=15,SNR=10						
ZALV				Lg	Lg	12 05 05.2	
	1.6nm,0.3s,baz=101,slow=28,SNR=9.1						
KURBB	Kurchatov Arra	8.38	255	Pn	Pn	12 05 09.7	-1.5
	0.2nm,0.3s,baz=66,slow=15,SNR=4.9						
KURBB				Sn	Sn	12 06 45.1	-1.3
	0.1nm,0.3s,baz=67,slow=26,SNR=13						
KURBB				Lg	Lg	12 07 32.0	
	0.1nm,0.3s,baz=60,slow=33,SNR=10.0						
KURBB	Kurchatov Arra	8.38	255	⇑Pn	Pn	12 05 09.6	-1.6
	1.9nm,0.4s						
KURBB				⇑Sn	Sn	12 06 41.1	-5.4
	16nm,0.8s						
KURBB				⇑Lg	Lg	12 07 29.9	
	20nm,0.8s						
MK31	Makanchi Array	8.89	224	⇑Pn	Pn	12 05 19.2	+1.0
	0.2nm,0.3s,baz=41,slow=14,SNR=6.3						
MK31				⇓Sn	Sn	12 06 58.9	-0.1
	1.7nm,0.8s						
MK31				⇑Lg	Lg	12 07 53.2	
	3.5nm,0.8s						
MKAR	Makanchi Array	8.89	224	Pn	Pn	12 05 19.3	+1.1
	0.2nm,0.3s,baz=40,slow=14,SNR=9.6						
MKAR				Sn	Sn	12 06 58.1	-0.9
	0.1nm,0.3s,baz=31,slow=23,SNR=3.0						
MKAR				Lg	Lg	12 07 48.2	
	0.1nm,0.3s,baz=40,slow=25,SNR=3.1						
SONM	Songino Array	11.16	115	Lg	Lg	12 09 06.3	
	0.4nm,0.3s,baz=293,slow=29,SNR=6.1						

IDC 08 12:06:45.5±1.0, 32°.91S×178°.48W, h0km, mb4.3/3, mb1 4.5/4, mb1mx3.9/34, mbtmp4.3/4, ML4.2/1, MS3.5/1, Ms1 3.5/1, ms1mx2.9/27, Error ellipse: s-maj=34.1km s-min=29.4km az=76.0

NEIC 08 12:06:47.0±0.6, 33°.2S±0°.1×178°.3W±0°.2, h10km±2km, mb4.6/10, Error ellipse: s-maj=25.9km s-min=21.8km az=135.0

ISC 08 12:06:50.4±0.8, 33°.2S±0°.1×178°.4W±0°.1, h32km, n38, σ1s.58/38, mb4.5/8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.06	211	Pn	Pn	12 08 03.6	-0.5
URZ	Urewera	6.18	215	Pn	Pn	12 08 19.4	+0.1
	5.7nm,0.3s,baz=270,slow=3.9,SNR=22						
URZ				Sn	Sn	12 09 29.6	+0.7
	9.6nm,0.3s,baz=155,slow=20,SNR=8.8						
URZ	Urewera	6.18	215		Pn	12 08 19.6	+0.2
BKZ	Black Stump Fm	7.19	213		Pn	12 08 32.9	-0.5
HIZ	Hauiti	7.57	224	Pn	Pn	12 08 40.2	+1.7
TUWZ	Tuamarina	10.17	214	Pn	Pn	12 09 12.7	-1.5
RPZ	Rata Peaks	13.29	215	Pn	Pn	12 09 54.5	-2.4
DZM	Mont Dzumac	17.39	306	LR	LR	12 16 13.4	
	comp=Z,162nm,21.3s,baz=18,slow=33						
CTAO	Charters Tower	34.00	284		P	12 13 32.5	+1.0
CTAO				IAmb	IAmb	12 13 47.4	
	comp=Z,4.2nm,0.6s						
ASAR	Alice Springs	42.67	270	P	P	12 14 44.0	-0.4
	comp=Z,1.9nm,0.6s,baz=112,slow=7.8,SNR=48						
ASAR				PcP	PcP	12 16 35.4	-0.6
	comp=Z,0.2nm,0.4s,baz=107,slow=4.9,SNR=1.2						
WR0	Warramunga Arr	43.74	275	P	P	12 14 52.5	-0.5
WR0				IAmb	IAmb	12 15 07.0	
	comp=Z,12nm,1.4s						
WB2	Warramunga Arr	43.90	275	P	P	12 14 54.0	-0.3
WB2				IAmb	IAmb	12 15 07.7	
	comp=Z,5.8nm,0.7s						
WRA	Warramunga Arr	43.91	275	P	P	12 14 53.8	-0.7
	comp=Z,1.8nm,0.4s,baz=115,slow=7.9,SNR=60						
WRA	Warramunga Arr	43.91	275	P	P	12 14 54.1	-0.3
FORT	Forrest	45.03	258	P	P	12 15 02.2	-0.9
FORT				IAmb	IAmb	12 15 08.3	
	comp=Z,10nm,1.0s						
MTN	Manton Dam	50.12	282	P	P	12 15 41.8	-1.1
KNRA	Kununurra	50.61	277	P	P	12 15 46.0	-0.6
KNRA				IAmb	IAmb	12 15 46.2	
	comp=Z,15nm,1.4s						
FITZ	Fitzroy Crossi	52.05	272	P	P	12 15 57.0	-0.4
QSPA	South Pole Qui	56.87	180	P	P	12 16 34.3	+2.4
	comp=Z,4.8nm,1.0s,baz=4.6,slow=1.0,SNR=12						
QSPA	South Pole Qui	56.87	180	P	P	12 16 34.1	+2.2
QSPA				IAmb	IAmb	12 16 36.1	
	comp=Z,6.3nm,1.0s						
PMSA	Palmer Station	69.83	155	P	P	12 17 57.1	-0.3
SNAA	Sanae	75.33	179	P	P	12 18 29.6	-0.5
SNAA	Sanae	75.33	179	PcP	PcP	12 18 39.5	-3.9
VNA3	Neumayer Olymp	75.50	176	P	P	12 18 31.4	+0.3
VNA3	Neumayer Olymp	75.50	176	PcP	PcP	12 18 42.1	-1.9
VNA2	Neumayer--Watz	75.93	177	P	P	12 18 35.0	+1.5
	baz=169,slow=4.0						
VNA2	Neumayer--Watz	75.93	177	PcP	PcP	12 18 43.6	-2.3
VNA1	Neumayer--Stat	76.16	177	P	P	12 18 36.8	+2.0
VNA1	Neumayer--Stat	76.16	177	PcP	PcP	12 18 44.3	-2.5
ARCES	ARCESS Array B	141.28	347	PKhKP	PKPpre	12 26 09.3	
	comp=Z,2.1nm,0.8s,baz=48,slow=1.3,SNR=1.5						
FINES	FINESS Array B	147.66	338	PKPbc	PKPbc	12 26 29.9	-0.9
	comp=Z,2.8nm,0.5s,baz=43,slow=2.6,SNR=15						
NB2	NORSAR Subarra	151.49	350	PKP	PKPbc	12 26 39.2	-1.2
	comp=Z,1.3nm,0.7s,baz=13,slow=4.3						
NOA	NORSAR Array B	151.49	350	PKPbc	PKPbc	12 26 39.1	-1.4
	comp=Z,0.7nm,0.7s,baz=14,slow=4.1,SNR=3.6						
MMAI	Mount Meron Ar	151.73	279	PKPbc	PKiKP	12 26 42.6	+0.3
	comp=Z,1.8nm,0.4s,baz=81,slow=9.2,SNR=3.7						
HFS	Hagfors	151.94	347	PKPbc	PKPbc	12 26 39.6	-1.9
	comp=Z,1.4nm,0.5s,baz=104,slow=11,SNR=5.1						
BRTR	Keskin Array B	153.51	293	PKPbc	PKPbc	12 26 45.5	-0.3
	comp=Z,1.1nm,0.5s,baz=166,slow=5.7,SNR=2.8						
TORD	Torodi Ar. Bea	160.00	180	PKPab	PKPab	12 27 28.8	+2.5
	comp=Z,0.4nm,0.7s,baz=176,slow=4.3,SNR=2.5						
CLL	Collm	160.11	339	*e*PKPab	PKPab	12 27 29.0	+3.0

WEL 08 12:14:48.3, 40°S±5°×17°4E±°, h93km±12km, M3.3/34, ML3.6/28, MLv3.3/34, Error ellipse: s-maj=0.0km s-min=0.0km az=47.3, Cook Strait

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DUWZ	D'Urville Isla	0.65	189	P	Pn	12 15 05.3	+0.8
DUWZ				S	Sn	12 15 19.2	+2.4
LREZ	Lake Rotokare	0.75	21	P	Pn	12 15 06.3	+0.8
LREZ				S	Sn	12 15 21.6	+3.2
NMEZ	Namu Road	0.76	349	P	Pn	12 15 05.9	+0.3
NMEZ				S	Sn	12 15 20.7	+2.1
WAZ	Wanganui	0.82	60	P	Pn	12 15 07.7	+1.5
WAZ				S	Sn	12 15 24.2	+4.6
PREZ	Palmer Road	0.82	5	P	Pn	12 15 06.5	+0.2
PREZ				S	Sn	12 15 21.5	+1.8
KHEZ	Kahui Hut	0.87	358	P	Pn	12 15 06.8	0.0
NEZ	North Egmont	0.89	2	P	Pn	12 15 06.8	-0.2
NEZ				S	Sn	12 15 22.0	+0.9
NBEZ	Newall Road No	0.91	350	P	Pn	12 15 07.1	0.0
KIW	Kapiti Island	0.95	137	P	Pn	12 15 08.6	+1.0
KIW				S	Sn	12 15 23.8	+1.7
OHWZ	Ohakea	0.96	93	P	Pn	12 15 09.4	+1.7
OHWZ				S	Sn	12 15 26.2	+3.9
PKE	Pukeiti	0.97	357	P	Pn	12 15 07.6	-0.2
DREZ	Durham Road	0.98	6	P	Pn	12 15 07.9	-0.1
TCW	Tory Channel	1.06	171	P	Pn	12 15 09.7	+0.9
TCW				S	Sn	12 15 25.7	+1.5
OGWZ	Otaki Gorge	1.07	128	P	Pn	12 15 10.0	+1.1
MHEZ	Mangahewa	1.10	11	P	Pn	12 15 09.4	+0.1
VRZ	Vera Road	1.17	28	P	Pn	12 15 09.9	-0.2
NNZ	Nelson	1.17	206	P	Pn	12 15 10.0	-0.2
CAW	Cannon Point	1.21	141	P	Pn	12 15 11.5	+0.9
WEL	Wellington	1.24	155	P	Pn	12 15 11.9	+0.9
MRZ	Mangatainoka R	1.26	114	P	Pn	12 15 11.9	+0.7
TUWZ	Tuamarina	1.27	184	P	Pn	12 15 11.2	-0.1
PKVZ	Pokaka	1.32	49	P	Pn	12 15 12.3	+0.3
POWZ	Post Office Ro	1.33	100	P	Pn	12 15 12.6	+0.6
HOWZ	Holdsworth Sta	1.33	124	P	Pn	12 15 12.6	+0.6
MTVZ	Mangateitei	1.34	55	P	Pn	12 15 12.6	+0.4
QRZ	Quartz Range	1.34	240	P	Pn	12 15 10.5	-1.6
TRVZ	Turoa	1.44	53	P	Pn	12 15 13.9	+0.3
WNVZ	Wahianoa	1.45	55	P	Pn	12 15 13.6	-0.1
TSZ	Takapari Road	1.46	86	P	Pn	12 15 13.7	0.0
FWVZ	Far West T-bar	1.47	52	P	Pn	12 15 13.9	0.0
WHVZ	Whangaehu Hut	1.47	54	P	Pn	12 15 14.1	+0.1
MTW	Mount Morrison	1.48	133	P	Pn	12 15 14.3	+0.4
MOVZ	Moawhango	1.51	60	P	Pn	12 15 13.8	-0.5
PRWZ	Pori Road	1.51	106	P	Pn	12 15 14.7	+0.4
TIWZ	Tintock	1.52	114	P	Pn	12 15 15.0	+0.6
TUVZ	Tukino	1.52	54	P	Pn	12 15 14.4	-0.1
TWVZ	Taurewa	1.52	45	P	Pn	12 15 14.2	-0.4
MSWZ	Moikau Station	1.54	145	P	Pn	12 15 14.4	-0.3
NGZ	Ngauruhoe	1.54	51	P	Pn	12 15 14.5	-0.4
BSWZ	Blackbirch Sta	1.56	185	P	Pn	12 15 15.0	+0.1
SNVZ	South Ngauruho	1.56	52	P	Pn	12 15 14.8	-0.3
WTVZ	West Tongariro	1.58	49	P	Pn	12 15 14.8	-0.4
NNVZ	North Ngauruho	1.58	50	P	Pn	12 15 14.9	-0.4
CMWZ	Cape Campbell	1.59	176	P	Pn	12 15 15.9	+0.7
OTVZ	Oturere	1.59	52	P	Pn	12 15 15.2	-0.3
PAWZ	Paruwai Farm	1.60	140	P	Pn	12 15 15.7	+0.3
DVHZ	Dannevirke	1.62	95	P	Pn	12 15 15.6	0.0
KRVZ	Karewarewa	1.62	49	P	Pn	12 15 16.0	+0.2
ETVZ	East Tongariro	1.64	52	P	Pn	12 15 15.7	-0.3
NTVZ	North Tongarir	1.64	50	P	Pn	12 15 16.3	+0.2
TMVZ	Te Maari	1.64	51	P	Pn	12 15 15.9	-0.2
PNHZ	Pukenui	1.66	82	P	Pn	12 15 15.9	-0.3
PLWZ	Palliser	1.67	148	P	Pn	12 15 16.5	+0.2
PLWZ				S	Sn	12 15 37.4	-0.2
TMWZ	Te Maipa	1.68	125	P	Pn	12 15 16.7	+0.2
TMWZ				S	Sn	12 15 37.7	-0.1
BHHZ	Black Hill Sta	1.68	67	P	Pn	12 15 15.7	-0.8
TRWZ	Traveller	1.75	135	P	Pn	12 15 17.3	0.0
BFZ	Birch Farm	1.75	108	P	Pn	12 15 17.2	0.0
BFZ				S	Sn	12 15 39.0	-0.3
HIZ	Hauiti	1.76	21	P	Pn	12 15 16.2	-1.3
HIZ				S	Sn	12 15 38.8	-0.8
THZ	Tophouse	1.82	208	P	Pn	12 15 17.2	-1.1
WPHZ	Waipukurau	1.83	88	P	Pn	12 15 18.1	-0.2
KRHZ	Kereru	1.85	74	P	Pn	12 15 18.0	-0.6
ANWZ	Angora Road	1.87	100	P	Pn	12 15 18.9	+0.1
KWHZ	Kaweka Forest	1.96	69	P	Pn	12 15 20.0	-0.1
BKZ	Black Stump Fm	2.12	63	P	Pn	12 15 20.9	-1.3
MCHZ	McNeill Hill	2.15	71	P	Pn	12 15 22.0	-0.5
PXZ	Pawanui	2.15	87	P	Pn	12 15 22.2	-0.4
TLZ	Tolley Road	2.16	33	P	Pn	12 15 21.4	-1.3
KAHZ	Kahuranaki	2.19	81	P	Pn	12 15 22.6	-0.6
MRHZ	Matea Rd	2.25	55	P	Pn	12 15 22.1	-1.9
KHZ	Kahutara	2.29	190	P	Pn	12 15 23.3	-1.0
DSZ	Denniston Nort	2.33	227	P	Pn	12 15 22.7	-2.2
NMHZ	Naumai	2.37	64	P	Pn	12 15 25.1	-0.4
TOZ	Tahuroa Road	2.68	25	P	Pn	12 15 27.5	-2.0
GVZ	Greta Valley S	2.91	195	P	Pn	12 15 30.2	-2.4
LTZ	Lake Taylor	2.94	207	P	Pn	12 15 30.5	-2.6
AWAZ	Awhitu Peninsu	3.13	9	P	Pn	12 15 34.1	-1.4
MKAZ	Moumakai	3.17	16	P	Pn	12 15 34.5	-1.7
AMCZ	Amberley	3.19	199	P	Pn	12 15 33.5	-2.8
INZ	Inchbonnie	3.23	217	P	Pn	12 15 34.2	-2.6
ETAZ	East Tamaki Re	3.28	12	P	Pn	12 15 36.0	-1.5
TKGZ	Te Karaka	3.41	61	P	Pn	12 15 36.5	-2.8
RVAZ	Riverhead Bore	3.41	7	P	Pn	12 15 39.4	0.0
MBAZ	Motutapu North	3.45	11	P	Pn	12 15 37.2	-2.7
WIAZ	Waiheke Island	3.47	14	P	Pn	12 15 38.6	-1.5
OXZ	Oxford	3.50	205	P	Pn	12 15 36.7	-3.9
OKCZ	Okains Bay	3.63	192	P	Pn	12 15 39.3	-3.1
TWGZ	Tauwhareparae	3.63	58	P	Pn	12 15 39.9	-2.6
KUZ	Kuaotunu	3.65	21	P	Pn	12 15 40.1	-2.5
MQZ	McQueen's Vall	3.69	196	P	Pn	12 15 38.8	-4.3
WVZ	Waitaha Valley	3.83	220	P	Pn	12 15 41.7	-3.3
RACZ	Rakaia	3.84	201	P	Pn	12 15 41.2	-3.8
MHCZ	Mount Hutt	3.85	208	P	Pn	12 15 41.2	-4.0
WACZ	Wakanui South	4.12	203	P	Pn	12 15 45.1	-3.9
RPZ	Rata Peaks	4.20	211	P	Pn	12 15 46.1	-3.9
GCSZ	Gaunt Creek Bo	4.21	220	P	Pn	12 15 46.7	-3.4
ARCZ	Arundel	4.35	209	P	Pn	12 15 48.3	-3.7
FOZ	Fox Glacier	4.62	222	P	Pn	12 15 51.7	-4.1
TMZ	Timaru	4.79	207	P	Pn	12 15 53.4	-4.6
OUZ	Omahuta	4.95	356	P	Pn	12 15 58.5	-1.8
ODZ	Otahua Downs	5.49	206	P	Pn	12 16 03.1	-4.4
JCZ	Jackson Bay	5.54	223	P	Pn	12 16 03.7	-4.5
CTZ	Chatham Island	7.81	120	P	Pn	12 16 39.1	+0.1
PYZ	Puysegur Point	8.06	220	P	Pn	12 16 40.4	-2.1

IDC 08 12:19:17.5±0.8, 53°.94N×162°.81W, h0km, mb3.9/17, mb1 4.1/21, mb1mx3.9/65, mbtmp3.9/21, ML4.0/4, Error ellipse: s-maj=22.1km s-min=12.9km az=176.0

NEIC 08 12:19:21.8±2.5, 53°.88N±0°.06×162°.57W±0°.02, h29km±6km, Error ellipse: s-maj=8.7km s-min=1.6km az=171.0

AEIC 08 12:19:21±2.5, 53°.87N±0°.06×162°.58W±0°.07, h42km±6km, ML3.6/62, mb4.0/20(NEIC), ML3.7/8(NEIC), Error ellipse: s-maj=8.6km s-min=5.7km az=174.0

ISC 08 12:19:21.2±1.9, 53°.87N±0°.07×162°.56W±0°.04, h27km±13km, n280, σ1s.41/285, mb4.0/22, 1D, South of Alaska

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ISLZ	Isanotski Laza	1.09	323		Pn	12 19 40.8	0.0
ISLZ					Sn	12 19 54.8	-0.2
FALS	False Pass	1.11	334	Pn	Pn	12 19 41.1	+0.2
FALS	False Pass	1.11	334		Sn	12 19 54.5	-0.9
FALS	False Pass	1.11	334	P	Pn	12 19 41.2	+0.2
	baz=153,SNR=171						
FALS				S	Sn	12 19 55.9	+0.5
	baz=153						
SSLS	Shishaldin Sou	1.20	316		Pn	12 19 42.7	+0.5
ISNN	Isanotski Nort	1.20	324		Pb	12 19 43.2	-0.2
DT1	Dutton Round H	1.26	7		Pn	12 19 42.9	-0.1
WESP	Westdahl Peak	1.42	297		Pn	12 19 45.4	+0.1
WECS	Westdahl Cape	1.46	298		Pn	12 19 46.3	+0.5
WECS					Sn	12 20 04.5	+0.4
WEBT	Westdahl Beart	1.48	300		Pn	12 19 46.7	+0.7
HAG	Hague Volcano	1.50	14		Pn	12 19 47.4	+1.0
PS4A	Pavlof South-4	1.54	15		Pn	12 19 47.8	+0.9
PVV	Pavlof Volcano	1.58	16		Pn	12 19 48.4	+1.0
AKSA	Akutan Strait	1.87	280		Pn	12 19 51.6	+0.2
AKUT	Akutan	1.91	279		Pn	12 19 52.1	+0.1
AKUT					Sn	12 20 15.0	-0.1
AKUT				IAML		12 20 18.7	
	comp=N,503nm,0.6s						
AKUT				IAML		12 20 19.9	
	comp=E,598nm,0.3s						
SDPT	Sand Point	1.92	38		Pn	12 19 52.9	+0.8
SDPT	Sand Point	1.92	38	P	Pn	12 19 52.8	+0.8
	baz=220,SNR=48						
SDPT				S	Sn	12 20 15.8	+0.5
	baz=220						
CNBA	Chernabura Isl	1.99	60		Pn	12 19 52.7	-0.3
CNBA	Chernabura Isl	1.99	60		Sn	12 20 16.1	-0.9
CNBA	Chernabura Isl	1.99	60	IAML		12 20 18.3	
	comp=N,407nm,0.3s						
CNBA				IAML		12 20 18.7	
	comp=E,447nm,0.4s						
CHNA	Chernabura Isl	1.99	60	P	Pn	12 19 52.7	-0.3
	baz=242,SNR=11						
CHNA				S	Sn	12 20 16.2	-0.9
	baz=242						
AKBBA	Akutan Broad B	2.00	278		Pn	12 19 53.7	+0.5
AKLV	Akutan Long Va	2.02	280		Pn	12 19 54.1	+0.6
AKMO	Akutan Morgan	2.05	278		Pn	12 19 54.3	+0.5
AKGG	Akutan Green G	2.05	281		Pn	12 19 54.6	+0.8
AKRB	Akutan Reef Bi	2.09	279		Pn	12 19 55.1	+0.7
UNV	Unalaska Valle	2.33	271		Pn	12 19 57.5	-0.3
UNV	Unalaska Valle	2.33	271	P	Pn	12 19 57.4	-0.3
	baz=88,SNR=19						
UNV				S	Sn	12 20 25.6	+0.1
	baz=88						
MTBL	Makushin Table	2.44	274		Pn	12 19 59.7	+0.4
MNAT	Makushin Natee	2.44	272		Pn	12 19 59.5	+0.3
MSW	Makushin Switc	2.50	273		Pn	12 20 00.2	+0.2
MAPS	Pakushin South	2.59	271		Pn	12 20 01.8	+0.5
VNFG	Fog Glacier, M	2.98	34		Pn	12 20 08.7	+2.0
VNSG	Veniaminof 6	3.02	40		Pn	12 20 08.7	+1.4
VNHG	Veniaminof 1	3.07	38		Pn	12 20 09.6	+1.7
OKFG	Magazine Ridge	3.22	264		Pn	12 20 10.6	+0.7
OKTU	Okmok Mt. Tuli	3.30	264		Pn	12 20 12.0	+1.0
OKNC	Okmok New Cone	3.33	265		Pn	12 20 12.6	+1.1
OKCE	Okmok Cone E	3.36	265		Pn	12 20 13.4	+1.5
OKSO	Okmok South	3.37	264		Pn	12 20 12.6	+0.6
CHGN	Chignik	3.41	43		Pn	12 20 13.8	+1.2
CHGN				IAML		12 20 55.9	
	comp=N,189nm,0.3s						
CHGN	Chignik	3.41	43	P	Pn	12 20 13.4	+0.9
	baz=226,SNR=22						
CHGN				S	Sn	12 20 52.7	+0.6
	baz=226						
OKSP	Okmok Steeple	3.47	262		Pn	12 20 14.0	+0.6
NIKH	Nikolski High	3.87	259	Pn	Pn	12 20 19.2	+0.3
NIKH	Nikolski High	3.87	259	P	Pn	12 20 19.0	+0.1
	baz=74,SNR=5.1						
NIKH				S	Sn	12 21 01.1	-2.2
	baz=74						
ANNE	Aniakchak Nort	3.99	38		Pn	12 20 21.8	+1.2
CHIR	Chirikof Islan	4.46	61		Pn	12 20 26.8	-0.2
CHIR				IAML		12 21 21.3	
	comp=E,97nm,0.6s						
CHIR	Chirikof Islan	4.46	61	P	Pn	12 20 26.8	-0.2
	baz=247						
CHIR				S	Sn	12 21 13.7	-4.3
	baz=247						
SPIA	Saint Paul Isl	5.48	310	Pn	Pn	12 20 42.4	+1.4
SII	Sitkinak Islan	5.50	57		Pn	12 20 41.2	-0.1
SII	Sitkinak Islan	5.50	57	P	Pn	12 20 41.0	-0.3
	baz=244,SNR=6.8						
CAHL	Cahill	5.85	41		Pn	12 20 47.0	+0.9
KABU	Katmai Buttres	6.01	40		Pn	12 20 49.4	+1.1
KABR	Katmai Barrier	6.03	42		Pn	12 20 49.3	+0.7
KVTA	Katmai Vly 10	6.08	39		Pn	12 20 50.5	+1.2
OHAK	Old Harbor	6.25	54		Pn	12 20 50.6	-0.9
OHAK	Old Harbor	6.25	54	P	Pn	12 20 50.6	-0.9
	baz=241,SNR=8.1						
OHAK				S	Sn	12 21 56.0	-5.9
	baz=241						
KDAK	Kodiak Island	6.86	51	Pn	Pn	12 20 58.9	-0.9
	comp=E,2.8nm,0.3s,baz=225,slow=5.2,SNR=26						
KDAK				Sn	Sn	12 22 11.8	-5.1
	comp=E,1.7nm,0.3s,baz=146,slow=21,SNR=7.4						
KDAK	Kodiak Island	6.86	51	P	Pn	12 20 58.8	-1.0
	baz=239						
Q19K	Cape Douglas,	7.08	41		Pn	12 21 03.6	+0.5
Q19K	Cape Douglas,	7.08	41	P	Pn	12 21 03.4	+0.3
	baz=228,SNR=6.6						
KOFP	Korovin Flat P	7.13	262		Pn	12 21 05.5	+1.8
ATKA	Atka Island	7.21	261	Pn	Pn	12 21 05.9	+1.2
O18K	Koktuh Hills	7.23	31		Pn	12 21 06.9	+1.9
O18K	Koktuh Hills	7.23	31	P	Pn	12 21 06.8	+1.8
	baz=217,SNR=27						
O18K				S	Sn	12 22 26.4	+0.3
	baz=217						
N18K	Kilae Creek	7.73	25		Pn	12 21 13.2	+1.4
N18K	Kilae Creek	7.73	25	P	Pn	12 21 11.8	0.0
	baz=211						
P19K	Oil Pt	7.74	38	Pn	Pn	12 21 13.8	+1.9
O19K	Port Alsworth	7.77	32		Pn	12 21 14.3	+1.9
O19K	Port Alsworth	7.77	32	P	Pn	12 21 14.4	+1.9
	baz=219,SNR=9.3						
O19K				S	Sn	12 22 39.7	+0.3
	baz=219						
SVW2	Sparrevohn	8.16	25		Pn	12 21 19.1	+1.3
N19K	Bonanza Creek	8.22	29		Pn	12 21 20.3	+1.7
N19K	Bonanza Creek	8.22	29	P	Pn	12 21 20.5	+1.9
	baz=216,SNR=14						
N19K				S	Sn	12 22 50.0	-0.5
	baz=216						
O20K	Slope Mountain	8.26	37	S	Sn	12 22 51.4	-0.1
	baz=225						
GSTR	Great Sitkin T	8.34	263	Pn	Pn	12 21 22.0	+1.7
HOM	Homer	8.34	42	Pn	Pn	12 21 21.2	+1.1
GSTD	Great Sitkin T	8.40	263		Pn	12 21 22.6	+1.5
CNPM	China Poot	8.42	43		Pn	12 21 21.5	+0.2
RSO	Redoubt South	8.49	35		Pn	12 21 23.5	+1.1
NCT	North Crescent	8.50	34		Pn	12 21 24.0	+1.5
DFR	Drift River	8.60	34		Pn	12 21 26.0	+2.1
BRLK	Bradley Lake	8.71	43	Pn	Pn	12 21 25.4	+0.1
BRSE	Bradley Lake S	8.75	43	P	Pn	12 21 25.1	-0.7
	baz=233						
ADK	Adak	8.77	263	Pn	Pn	12 21 27.0	+0.9
KIWB	Kanaga Island	9.05	263		Pn	12 21 30.1	+0.1
KIKV	Kanaga Island	9.06	263		Pn	12 21 31.2	+1.1
M19K	Big River Lodg	9.15	25		Pn	12 21 33.2	+1.9
SPCR	Spurr Chakacha	9.21	33	P	Pn	12 21 33.1	+0.9
	baz=222,SNR=6.8						
SPU	Mount Spurr	9.25	33		Pn	12 21 34.2	+1.5
L19K	White Mountain	9.28	23		Pn	12 21 33.3	+0.3
L19K	White Mountain	9.28	23	P	Pn	12 21 33.0	0.0
	baz=210						
M20K	Styx River	9.47	28		Pn	12 21 38.1	+2.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
M20K	Styx River	9.47	28	P	Pn	12 21 38.0	+2.2
	baz=216,SNR=14						
SEW	Seward	9.49	44	Pn	Pn	12 21 35.8	-0.1
SEW	Seward	9.49	44	P	Pn	12 21 35.5	-0.5
	baz=235						
SEW				S	Sn	12 23 17.4	-4.1
	baz=235						
O22K	Cooper Landing	9.61	41	Pn	Pn	12 21 38.4	+0.9
O22K	Cooper Landing	9.61	41	P	Pn	12 21 37.4	-0.1
	baz=232						
L20K	Farewell, AK	9.77	24	P	Pn	12 21 39.9	+0.1
	baz=212						
FIS	Fire Island	9.85	37	Pn	Pn	12 21 41.7	+0.8
SUA	Susitna One	9.89	35	Pn	Pn	12 21 41.6	+0.1
SUA	Susitna One	9.89	35	P	Pn	12 21 41.1	-0.4
	baz=225,SNR=31						
RC01	Rabbit Creek A	9.99	38		Pn	12 21 42.9	+0.1
RC01	Rabbit Creek A	9.99	38	P	Pn	12 21 42.1	-0.6
	baz=229,SNR=5.5						
SKT	Skwentna	10.02	31	Pn	Pn	12 21 44.1	+1.0
SKT	Skwentna	10.02	31	P	Pn	12 21 43.7	+0.6
	baz=221,SNR=8.7						
PWL	Port Wells	10.38	42		Pn	12 21 46.9	-1.3
K20K	Telida	10.49	21		Pn	12 21 50.3	+0.7
K20K	Telida	10.49	21	P	Pn	12 21 49.9	+0.3
	baz=209						
MID	Middleton Isla	10.51	52	Pn	Pn	12 21 51.3	+1.4
PMR	Palmer	10.54	37		Pn	12 21 48.7	-1.6
PPLA	Purkeypile	10.55	27	Pn	Pn	12 21 52.8	+2.2
PPLA	Purkeypile	10.55	27	P	Pn	12 21 53.8	+3.2
	baz=216						
KNK	Knik Glacier	10.67	39	Pn	Pn	12 21 51.9	-0.3
KNK	Knik Glacier	10.67	39	P	Pn	12 21 51.2	-0.9
	baz=231						
CUT	Chulitna	10.73	32		Pn	12 21 52.8	-0.1
CUT	Chulitna	10.73	32	P	Pn	12 21 52.4	-0.4
	baz=223						
GHO	Glory Hole Cre	10.74	37		Pn	12 21 51.4	-1.6
ANM	Nome	10.83	354	Pn	Pn	12 21 54.6	+0.4
HIN	Hinchinbrook I	10.89	47		Pn	12 21 54.3	-0.8
GLI	Glacier Island	10.89	44	Pn	Pn	12 21 53.6	-1.6
GLI	Glacier Island	10.89	44	P	Pn	12 21 53.5	-1.6
	baz=237						
SML	Sawmill	10.97	38		Pn	12 21 53.8	-2.5
SML	Sawmill	10.97	38	P	Pn	12 21 54.7	-1.6
	baz=230						
FID	Port Fidalgo	11.08	45	Pn	Pn	12 21 56.4	-1.3
J20K	Nowinta River	11.20	19		Pn	12 21 59.7	+0.4
J20K	Nowinta River	11.20	19	P	Pn	12 21 59.4	+0.1
	baz=206						
EYAK	Cordova Ski Ar	11.29	47	Pn	Pn	12 21 59.7	-0.8
EYAK	Cordova Ski Ar	11.29	47	P	Pn	12 21 59.2	-1.2
	baz=241						
AMKA	Amchitka	11.30	265	Pn	Pn	12 22 00.5	-0.2
CHUM	Lake Minchumin	11.34	24	P	Pn	12 22 01.4	+0.2
	baz=212						
SCM	Sheep Creek Mo	11.36	39	Pn	Pn	12 21 59.6	-1.9
KTH	Kantishna Hill	11.42	27	Pn	Pn	12 22 03.9	+1.5
TRF	Thorofare Moun	11.52	29	Pn	Pn	12 22 04.0	+0.2
TRF	Thorofare Moun	11.52	29	P	Pn	12 22 03.3	-0.4
	baz=219						
DIV	Divide	11.57	44	Pn	Pn	12 22 03.2	-1.3
KAIM	Kayak Island	11.61	51	Pn	Pn	12 22 05.7	+0.8
KAIM	Kayak Island	11.61	51	P	Pn	12 22 04.5	-0.4
	baz=246						
RAGM	Ragged Mountai	11.69	49	Pn	Pn	12 22 05.4	-0.6
WAT6	Susitna Watana	11.69	36	P	Pn	12 22 03.4	-2.8
	baz=228						
KLU	Klutina	11.71	43		Pn	12 22 05.3	-1.0
KLU	Klutina	11.71	43	P	Pn	12 22 05.1	-1.2
	baz=237,SNR=21						
BPAW	Bear Paw Mtn.	11.85	25		Pn	12 22 08.8	+0.7
HMT	Hamilton	11.85	50	Pn	Pn	12 22 07.9	-0.3
RND	Reindeer	11.91	31		Pn	12 22 07.5	-1.5
M24K	Tolsona, Glenn	11.96	40		Pn	12 22 08.0	-1.8
M24K	Tolsona, Glenn	11.96	40	P	Pn	12 22 07.6	-2.2
	baz=234,SNR=11						
SUCK	Suckling Hills	11.96	51	Pn	Pn	12 22 10.5	+0.7
BMRM	Bremner River	11.98	46		Pn	12 22 08.5	-1.6
BMRM	Bremner River	11.98	46	P	Pn	12 22 08.5	-1.6
	baz=242						
TNA	Tin City	12.03	349	Pn	Pn	12 22 10.0	-0.6
MCK	McKinley	12.12	30	Pn	Pn	12 22 11.8	-0.2
BERG	Berg Lake	12.13	50	Pn	Pn	12 22 11.3	-0.7
N25K	Chitina, Valde	12.30	44		Pn	12 22 14.0	-0.4
N25K	Chitina, Valde	12.30	44	P	Pn	12 22 13.4	-1.0
	baz=239						
HARP	HAARP	12.52	40	P	Pn	12 22 16.0	-1.3
	baz=235						
I21K	Tanana	12.53	21		Pn	12 22 19.3	+1.9
I21K	Tanana	12.53	21	P	Pn	12 22 17.7	+0.3
	baz=210						
CRQM	Cirque	12.53	49	Pn	Pn	12 22 17.0	-0.7
WAX	Waxell Ridge	12.54	50	Pn	Pn	12 22 17.0	-0.6
CRQE	Cirque	12.55	49	P	Pn	12 22 16.7	-1.2
	baz=245						
GLB	Gilahina Butte	12.55	45	Pn	Pn	12 22 17.1	-0.7
VRDI	Verde Repeater	12.60	47		Pn	12 22 17.9	-0.8
TGL	Tana Glacier	12.67	49	Pn	Pn	12 22 19.0	-0.4
MLY	Manley	12.68	23		Pn	12 22 20.6	+1.1
MLY	Manley	12.68	23	P	Pn	12 22 17.8	-1.8
	baz=214						
PAX	Paxson	12.74	38		Pn	12 22 19.0	-1.4
PAX	Paxson	12.74	38	P	Pn	12 22 18.3	-2.2
	baz=232,SNR=13						
NEA2	Nenana	12.75	27	Pn	Pn	12 22 17.9	-2.5
ISLE	Juniper Island	12.83	50		Pn	12 22 21.1	-0.6
MESA	MESA	12.85	52	Pn	Pn	12 22 22.2	+0.1
MCARA	McCarthy VSAT	12.86	46	Pn	Pn	12 22 21.3	-0.6
MCARA	McCarthy VSAT	12.86	46	P	Pn	12 22 20.4	-1.5
	baz=243						
IMAR	Indian Mountai	12.91	16	Pn	Pn	12 22 24.7	+2.0
WRH	Wood River Hil	12.93	29		Pn	12 22 20.1	-2.8
YAH	Yahtse	13.01	52		Pn	12 22 23.7	-0.5
I23K	Minto, Yukon-K	13.11	25		Pn	12 22 22.8	-2.6
I23K	Minto, Yukon-K	13.11	25	P	Pn	12 22 23.6	-1.7
	baz=217						
CCB	Clear Creek Bu	13.14	29		Pn	12 22 22.4	-3.3
GRNC	Granite Creek	13.14	50		Pn	12 22 25.3	-0.7
HDA	Harding Lake	13.22	31		Pn	12 22 23.7	-3.1
HDA	Harding Lake	13.22	31	P	Pn	12 22 23.6	-3.2
	baz=224,SNR=8.9						
MDM	Murphy Dome	13.26	27	Pn	Pn	12 22 25.0	-2.5
BARN	Barnard Glacie	13.31	49	Pn	Pn	12 22 28.1	-0.3
TABL	Table Mountain	13.32	52		Pn	12 22 29.0	+0.5
M26K	Nabesna, AK	13.36	42		Pn	12 22 28.2	-0.7
M26K	Nabesna, AK	13.36	42	P	Pn	12 22 27.8	-1.1
	baz=239						
MENT	Mentasta	13.37	40		Pn	12 22 27.9	-1.1
CTG	Chitna Glacier	13.42	50	P	Pn	12 22 28.7	-1.1
	baz=248						
CTGM	Chitina Glacie	13.42	50	Pn	Pn	12 22 29.4	-0.4
RIDG	Independent Ri	13.44	36		Pn	12 22 27.4	-2.6
RIDG	Independent Ri	13.44	36	P	Pn	12 22 27.0	-3.0
	baz=231,SNR=16						
IL31		13.50	30		Pn	12 22 27.5	-3.1
ILAR	Eielson Array	13.50	30	Pn	Pn	12 22 27.3	-3.4
	comp=E,0.4nm,0.3s,baz=206,slow=13,SNR=16						
ILAR	Eielson Array	13.50	30		Pn	12 22 27.8	-2.9
LOGN	Logan Glacier	13.52	50	Pn	Pn	12 22 30.9	-0.2
L26K	Log Cabin Wild	13.56	40	Pn	Pn	12 22 30.8	-0.7
POKR	Poker Plat Res	13.60	28	Pn	Pn	12 22 31.1	-0.9
H23K	Yukon River	13.62	23	Pn	Pn	12 22 31.8	-0.6
H23K	Yukon River	13.62	23	P	Pn	12 22 31.1	-1.3
	baz=214,SNR=6.2						
PCA	Pinnacle	13.63	54	Pn	Pn	12 22 33.1	+0.6
PINM	Pinnacle	13.63	54	P	Pn	12 22 32.2	-0.3
	baz=253						
DOT	Dot Lake	13.66	37		Pn	12 22 31.0	-1.9
M27K	Edge Creek, AK	13.79	44		Pn	12 22 33.9	-0.9
M27K	Edge Creek, AK	13.79	44	P	Pn	12 22 33.0	-1.8
	baz=241						
BCPM	Bancas Point	13.88	55		Pn	12 22 35.8	-0.1
SCRK	Sand Creek	13.89	36		Pn	12 22 33.4	-2.7
SCRK	Sand Creek	13.89	36	P	Pn	12 22 32.7	-3.4
	baz=232						
H24K	Noodor Dome	14.04	25		Pn	12 22 36.6	-1.4
H24K	Noodor Dome	14.04	25	P	Pn	12 22 36.6	-1.4
	baz=218						
YUK3	Moose Creek	14.13	47	P	Pn	12 22 38.3	-1.2
	baz=246						
L27K	Beaver Creek,	14.16	41		Pn	12 22 38.2	-1.6
L27K	Beaver Creek,	14.16	41	P	Pn	12 22 38.2	-1.6
	baz=239,SNR=8.2						
BCAR	Beaver Creek A	14.18	41		Pn	12 22 38.2	-1.9
J26K	Charley River,	14.32	34	P	Pn	12 22 39.8	-2.2
	baz=230						
K27K	Chicken	14.60	38		Pn	12 22 44.1	-1.6
K27K	Chicken	14.60	38	P	Pn	12 22 43.7	-2.0
	baz=235						
COLD	Coldfoot	14.67	19	Pn	Pn	12 22 47.3	+0.7
COLD	Coldfoot	14.67	19	P	Pn	12 22 46.9	+0.3
	baz=210,SNR=11						
YUK4	Talbot Arm	14.78	50	P	Pn	12 22 47.6	-0.7
	baz=250						
YUK6	Outpost Mounta	14.78	52	P	Pn	12 22 46.8	-1.5
	baz=252						
HYT	Haines Junctio	15.14	53		Pn	12 22 54.4	+1.3
HYT				IAmb	IAmb	12 23 03.3	
	comp=Z,6.5nm,0.6s						
HYT	Haines Junctio	15.14	53	P	Pn	12 22 52.5	-0.7
	baz=254						
FYU	Fort Yukon	15.29	27		Pn	12 22 56.7	+1.8
FYU				IAmb	IAmb	12 23 16.7	
	comp=Z,14nm,1.4s						
EGAK	Eagle	15.36	36	Pn	Pn	12 22 53.2	-2.5
EGAK	Eagle	15.36	36	P	Pn	12 22 55.6	-0.2
	baz=235						
DAWY	Dawson	15.62	40		Pn	12 22 57.7	-1.5
DAWY				IAmb	IAmb	12 23 07.3	
	comp=Z,7.1nm,0.5s						
DAWY	Dawson	15.62	40	P	Pn	12 22 57.0	-2.2
	baz=240						
SKAG	Skagway	15.91	58		Pn	12 23 04.6	+1.7
TOLK	Toolik Lake Re	16.02	17		Pn	12 23 05.0	+0.5
TOLK	Toolik Lake Re	16.02	17	P	Pn	12 23 05.2	+0.8
	baz=209						
BMAR	Burnt Mountain	16.11	25		Pn	12 23 05.6	+0.1
JIS	Juneau Island	16.27	63		P	12 23 09.3	-1.1
WHY	Whitehorse	16.35	54		Pn	12 23 09.4	+0.7
WHY				IAmb	IAmb	12 23 16.2	
	comp=Z,7.4nm,0.8s						
WHY	Whitehorse	16.35	54	P	Pn	12 23 08.7	0.0
	baz=258						
EPYK	Eagle Plains	17.78	35		Pn	12 23 26.2	-0.2
EPYK	Eagle Plains	17.78	35	P	Pn	12 23 24.8	-1.6
	baz=238						
DLBC	Dease Lake	18.57	63	P	Pn	12 23 37.9	+1.7
	comp=Z,0.2nm,0.3s,baz=264,slow=14,SNR=3.5						
INK	Inuvik	19.86	32	P	P	12 23 48.7	-1.0
	comp=Z,0.6nm,0.3s,baz=238,slow=11,SNR=22						
INK				PcP	PcP	12 28 06.2	+0.3
	comp=Z,0.2nm,0.3s,baz=238,slow=1.1,SNR=5.6						
INK	Inuvik	19.86	32	P	P	12 23 48.6	-1.2
INK				IAmb	IAmb	12 23 57.0	
	comp=Z,8.6nm,1.3s						
INK	Inuvik	19.86	32	P	P	12 23 47.3	-2.5
	baz=238						
PET	Petropavlovsk	22.93	284	P	P	12 24 22.7	-0.1
PEA0B	Petropavlovsk-	23.45	284	P	P	12 24 26.7	-1.4
PETK	Petropavlovsk-	23.45	284	P	P	12 24 26.6	-1.4
	comp=Z,14nm,0.5s,baz=83,slow=13,SNR=37						
PETK	Petropavlovsk-	23.45	284	P	P	12 24 26.9	-1.1
SEY	Seymchan	24.79	309	P	P	12 24 39.2	-1.2
	comp=Z,0.3nm,0.3s,baz=164,slow=16,SNR=4.5						
YKA	Yellowknife Ar	26.13	52	P	P	12 24 55.2	+2.6
	comp=Z,0.3nm,0.3s,baz=276,slow=8.6,SNR=13						
NVAR	Mina Array Bea	33.71	99	P	P	12 26 01.9	+1.8
	comp=Z,0.3nm,0.6s,baz=302,slow=9.2,SNR=4.4						
ELK	Elko	34.01	93	P	P	12 26 04.8	+2.0
	comp=Z,0.7nm,0.6s,baz=262,slow=17,SNR=3.9						
ELK	Elko	34.01	93	IAmb	IAmb	12 26 22.0	
	comp=Z,1.9nm,1.1s						
H11N2	WAKE ISLAND Hy	41.33	226	T	T	13 11 41.1	
	baz=27,slow=76,SNR=75						
H11N3	WAKE ISLAND Hy	41.34	226	T	T	13 11 32.9	
	baz=27,slow=76,SNR=71						
H11N1	WAKE ISLAND Hy	41.35	226	T	T	13 11 26.4	
	baz=27,slow=76,SNR=67						
H11S1	WAKE ISLAND Hy	42.50	226	T	T	13 13 09.8	
	baz=26,slow=76,SNR=63						
H11S2	WAKE ISLAND Hy	42.51	226	T	T	13 13 06.7	
	baz=26,slow=76,SNR=46						
H11S3	WAKE ISLAND Hy	42.52	226	T	T	13 13 10.2	
	baz=26,slow=76,SNR=41						
TX31	Lajitas Ar. Si	48.71	96	P	P	12 28 04.5	+1.3
TX31				IAmb	IAmb	12 28 28.0	
	comp=Z,3.8nm,1.0s						
TX32	Lajitas Array	48.71	96	P	P	12 28 04.7	+1.4
TX32				IAmb	IAmb	12 28 28.0	
	comp=Z,1.3nm,1.0s						
TXAR	Lajitas Array	48.71	96	P	P	12 28 04.5	+1.3
	comp=Z,0.6nm,0.6s,baz=304,slow=5.8,SNR=11						
TXAR				PcP	PcP	12 29 28.3	+0.2
	comp=Z,0.4nm,0.4s,baz=222,slow=1.3,SNR=13						
KSRS	Korea Array	49.24	280	P	P	12 28 06.9	-0.2
	comp=Z,3.1nm,0.8s,baz=44,slow=7.5,SNR=9.2						
SONM	Songino Array	53.97	304	P	P	12 28 42.4	-0.1
	comp=Z,1.4nm,0.5s,baz=44,slow=6.9,SNR=8.3						
HHC	Hu-ho-hao-te	56.13	294	eP	P	12 28 58.4	+0.3
HHC				pmax	pmax		
	comp=Z,13nm,1.1s						
HHC				pmax	pmax		
	comp=Z,57nm,5.2s						
ZALV	Zalesovo Beam	58.98	320	P	P	12 29 17.4	-0.4
	comp=Z,0.8nm,0.4s,baz=36,slow=7.9,SNR=1.2						
GTA	Gaotai	63.34	301	⇓P	P	12 29 47.1	-0.7
GTA				pP	sP	12 29 59.8	+1.2
GTA				sP	pwP	12 30 03.9	+5.6
GTA				pmax	pmax		
	comp=Z,3.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,80nm,6.2s						
GTA				LR	LR		
	comp=N,94nm,16.4s						
GTA				LR	LR		
	comp=E,84nm,16.0s						
GTA				LR	LR		
	comp=Z,100nm,18.2s						
FINES	FINESS Array B	64.83	355	P	P	12 29 56.8	-0.2
	comp=Z,1.9nm,0.8s,baz=305,slow=14,SNR=3.3						
FINES	FINESS Array B	64.83	355	P	P	12 29 56.9	-0.1
MKAR	Makanchi Array	65.64	317	P	P	12 30 02.2	-0.3
	comp=Z,0.7nm,0.4s,baz=40,slow=7.4,SNR=7.3						
WMQ	Urumqi	65.72	312	eP	P	12 30 04.9	+1.7
EKA	Eskdalemuir Ar	69.85	12	P	P	12 30 29.7	+0.8
	comp=Z,0.5nm,0.5s,baz=320,slow=3.2,SNR=10						
ABKAR	Akbulak array	71.18	332	P	P	12 30 37.0	0.0
AKASG	Malin Array Be	75.34	352	P	P	12 31 00.5	-1.0
	comp=Z,0.7nm,0.4s,baz=12,slow=5.8,SNR=2.8						
AKASG	Malin Array Be	75.34	352	IAmb	IAmb	12 31 10.4	
	comp=Z,1.4nm,1.1s						
GERES	GERESS Array B	77.61	3	P	P	12 31 14.8	+0.1
	comp=Z,0.6nm,0.5s,baz=18,slow=7.4,SNR=2.1						
CMAR	Chiang Mai Arr	80.18	288	P	P	12 31 29.1	0.0
	comp=Z,1.5nm,0.8s,baz=13,slow=5.0,SNR=8.8						
GEYT	Alibeck	82.07	329	P	P	12 31 38.4	-0.5
	comp=Z,59nm,1.1s,baz=7.3,slow=16,SNR=4.1						
ESDC	Sonseca Array	85.02	16	P	P	12 31 54.8	+0.8
	comp=Z,0.6nm,0.8s,baz=0.0,slow=6.5,SNR=2.8						
ESDC	Sonseca Array	85.02	16	IAmb	IAmb	12 32 21.4	
	comp=Z,2.4nm,1.4s						
ASAR	Alice Springs	94.56	235	P	P	12 32 38.7	-0.4
	comp=Z,0.5nm,0.7s,baz=27,slow=4.7,SNR=4.7						
H03N2	Juan Fernandez	112.77	116	T	T	14 40 50.6	
	baz=323,slow=77,SNR=42						
H03N1	Juan Fernandez	112.78	116	T	T	14 40 46.4	
	baz=323,slow=77,SNR=41						
H03N3	Juan Fernandez	112.78	116	T	T	14 40 55.9	
	baz=323,slow=77,SNR=32						

*IDC **08** 12:22:40.0±1.2, 35°.81N×140°.73E, h0km, mb3.5/4, mb1 3.8/6, mb1mx3.5/52, mbtmp3.5/6, ML3.7/1, Error ellipse: s-maj=27.6km s-min=25.4km az=30.0*
*JMA **08** 12:22:41.5±0.1, 35°.87N×140°.90E, h14km±2km, M3.7*
JMA Felt I J1.
ISC 08 12:22:41.8±1.0**, 35°.87N**±0°.04×**140°.85E**±0°.06**, h12**km±7km**, n21, σ0.84**/22**, mb3.5**/4**, 2C-1D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.17	178	⇑P	Pg	12 22 45.5	-0.1
CHOJ				S	Sg	12 22 48.6	+0.3
JIHU	Itakohorinouch	0.28	289	⇑P	Pb	12 22 48.7	0.0
JSMT	Sammumatsuo	0.40	235	P	Pb	12 22 50.7	-0.1
JSMT				eS	Sb	12 22 57.0	+0.2
JHYU	Hitachinakayam	0.51	335	⇓P	Pg	12 22 52.2	+0.4
JHYU				S	Sg	12 22 59.4	+0.8
JYT	Yasato	0.64	304	P	Pg	12 22 54.2	0.0
JYT				eS	Sg	12 23 02.6	0.0
JCN	Nagara	0.70	230	P	Pb	12 22 56.8	+1.0
JHO	Hitachi	0.77	343	P	Pg	12 22 56.0	-0.7
JHO				eS	Sg	12 23 06.7	-0.1
BSO3	Boso 3	1.10	195	P	Pb	12 23 02.0	-0.6
MJAR	Matsushiro Arr	2.24	288	Pn	Pn	12 23 18.1	-0.6
	0.7nm,0.3s,baz=93,slow=15,SNR=25						
MJAR				Sn	Sn	12 23 44.7	-1.5
	0.9nm,0.3s,baz=77,slow=22,SNR=4.2						
MAT	Matsushiro	2.24	288	P	Pn	12 23 18.3	-0.4
MAT				eS	Sn	12 23 47.0	+0.7
ASAJ	Asahikawa	8.34	9	Pn	Pn	12 24 41.4	-1.1
	1.1nm,0.3s,baz=206,slow=6.9,SNR=9.9						
H11N2	WAKE ISLAND Hy	27.97	118	T	T	12 57 37.0	
	baz=311,slow=75,SNR=63						
H11N1	WAKE ISLAND Hy	27.98	118	T	T	12 57 38.7	
	baz=311,slow=75,SNR=80						
H11N3	WAKE ISLAND Hy	27.99	118	T	T	12 57 39.5	
	baz=311,slow=75,SNR=81						
H11S1	WAKE ISLAND Hy	28.64	120	T	T	12 58 27.5	
	baz=313,slow=76,SNR=103						
H11S3	WAKE ISLAND Hy	28.64	120	T	T	12 58 27.1	
	baz=313,slow=76,SNR=63						
H11S2	WAKE ISLAND Hy	28.66	120	T	T	12 58 26.1	
	baz=313,slow=76,SNR=50						
MKAR	Makanchi Array	44.36	303	P	P	12 30 51.2	-0.6
	0.3nm,0.5s,baz=90,slow=8.6,SNR=1.2						
ILAR	Eielson Array	50.72	32	P	P	12 31 41.6	+0.6
	0.3nm,0.7s,baz=277,slow=6.4,SNR=2.9						
WRA	Warramunga Arr	55.85	187	P	P	12 32 18.3	-0.9
	0.4nm,0.4s,baz=1.1,slow=7.4,SNR=8.2						
TXAR	Lajitas Array	91.19	52	P	P	12 35 49.1	+2.0
	0.2nm,0.7s,baz=308,slow=4.4,SNR=2.3						

*NEIC **08** 12:25:04.9±1.2, 56°.98N±0°.03×157°.09W±0°.07, h5km±8km, Error ellipse: s-maj=5.5km s-min=3.6km az=71.0*
AEIC 08 12:25:05±1.8**, 56°.98N**±0°.04×**157°.19W**±0°.08**, h1**km±2km**, ML3.0, ML3.1**/39(NEIC)**, Error ellipse: s-maj=7.8km s-min=6.9km az=277.0, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANNE	Aniakchak Nort	0.48	263		Pb	12 25 15.6	-0.8
PLK3	Peulik 3	0.87	34		Pb	12 25 22.3	-0.6
PLK1	Peulik 1	0.89	20		Pg	12 25 21.5	-0.4
CHGN	Chignik	0.96	226		Pg	12 25 23.6	+0.2
CHGN				IAML		12 25 40.7	
	comp=E,594nm,0.1s						
VNHG	Veniaminof 1	1.33	236		Pg	12 25 30.0	-0.4
VNSG	Veniaminof 6	1.35	232		Pn	12 25 31.1	0.0
KJL	Kejulik	1.39	38		Pn	12 25 31.1	-0.5
CHIR	Chirikof Islan	1.45	142		Pn	12 25 31.1	-1.2
CHIR				IAML		12 25 54.2	
	comp=E,217nm,0.7s						
CHIR				IAML		12 25 58.1	
	comp=N,198nm,0.5s						
CHIR	Chirikof Islan	1.45	142		Sg	12 25 50.6	-0.8
CAHL	Cahill	1.48	42		Pn	12 25 32.3	-0.5
KABR	Katmai Barrier	1.66	45		Pn	12 25 35.0	-0.4
KCE	Katmai Mt Cerb	1.67	39		Pb	12 25 36.1	-0.4
SII	Sitkinak Islan	1.70	103		Pn	12 25 34.4	-1.5
SII	Sitkinak Islan	1.70	103		Sn	12 25 55.8	-2.5
KVTA	Katmai Vly 10	1.74	35		Pn	12 25 36.1	-0.2
OHAK	Old Harbor	2.14	82		Pn	12 25 40.1	-1.7
OHAK				IAML		12 26 13.6	
	comp=E,157nm,1.3s						
OHAK	Old Harbor	2.14	82		Sn	12 26 06.6	-2.4
SDPT	Sand Point	2.46	230	Pn	Pn	12 25 46.7	+0.5
SDPT				IAML		12 26 38.6	
	comp=N,85nm,0.9s						
SDPT				IAML		12 26 48.5	
	comp=E,109nm,1.4s						
CNBA	Chernabura Isl	2.55	213	Pn	Pn	12 25 48.6	+1.2
CNBA				IAML		12 26 31.1	
	comp=N,65nm,0.5s						
CNBA				IAML		12 26 41.3	
	comp=E,68nm,0.6s						
KDAK	Kodiak Island	2.62	70	Pn	Pn	12 25 46.9	-1.5
KDAK				IAML		12 26 26.7	
	comp=E,71nm,0.7s						
KDAK				IAML		12 26 26.9	
	comp=E,95nm,1.1s						
Q19K	Cape Douglas,	2.72	42	Pn	Pn	12 25 48.2	-1.6
Q19K				IAML		12 26 22.8	
	comp=N,100nm,0.8s						
O18K	Koktuh Hills	3.07	19	Pn	Pn	12 25 53.8	-0.8
O18K				IAML		12 26 43.8	
	comp=N,40nm,0.7s						
P19K	Oil Pt	3.40	36	Pn	Pn	12 26 00.7	+1.6
P19K				IAML		12 26 59.6	
	comp=E,38nm,0.9s						
P19K				IAML		12 27 20.4	
	comp=N,40nm,0.9s						
O19K	Port Alsworth	3.56	24		Pn	12 25 59.8	-1.5
N18K	Kilae Creek	3.78	10	Pn	Pn	12 26 02.6	-1.7
HOM	Homer	3.97	45	Pn	Pn	12 26 06.1	-0.8
CNPM	China Poot	4.05	48		Pn	12 26 07.1	-1.0
N19K	Bonanza Creek	4.10	19	Pn	Pn	12 26 07.4	-1.4
N19K				IAML		12 27 14.1	
	comp=E,23nm,0.7s						
N19K				IAML		12 27 15.8	
	comp=N,19nm,0.7s						
RSO	Redoubt South	4.19	32	Pn	Pn	12 26 09.1	-1.1
SVW2	Sparrevohn	4.22	11	Pn	Pn	12 26 08.8	-1.5
BRLK	Bradley Lake	4.34	47	Pn	Pn	12 26 11.9	-0.2
SPU	Mount Spurr	4.98	30	Pn	Pn	12 26 19.6	-1.3
M19K	Big River Lodg	5.14	15	Pn	Pn	12 26 21.4	-1.6
M19K				IAML		12 27 55.6	
	comp=E,12nm,2.6s						
M19K				IAML		12 28 12.3	
	comp=N,10nm,2.4s						
M20K	Styx River	5.34	21	Pn	Pn	12 26 24.8	-1.0
M20K				IAML		12 28 20.0	
	comp=E,8.6nm,2.6s						
L19K	White Mountain	5.35	12	Pn	Pn	12 26 24.9	-1.1
L19K				IAML		12 27 52.7	
	comp=E,13nm,1.2s						
FIS	Fire Island	5.51	38	Pn	Pn	12 26 28.2	+0.1
SUA	Susitna One	5.58	34	Pn	Pn	12 26 27.8	-1.4
PWL	Port Wells	6.01	46	Pn	Pn	12 26 33.3	-1.7
PMR	Palmer	6.20	38	Pn	Pn	12 26 36.6	-0.9
KNK	Knik Glacier	6.31	42	Pn	Pn	12 26 38.9	-0.2
PPLA	Purkeypile	6.45	21	Pn	Pn	12 26 40.9	-0.2
HIN	Hinchinbrook I	6.54	54	Pn	Pn	12 26 40.5	-1.7
K20K	Telida	6.59	12	Pn	Pn	12 26 41.5	-1.4
FID	Port Fidalgo	6.72	51	Pn	Pn	12 26 42.7	-1.9
EYAK	Cordova Ski Ar	6.94	54	Pn	Pn	12 26 45.9	-1.7
KAIM	Kayak Island	7.32	61	Pn	Pn	12 26 51.6	-1.3
KLU	Klutina	7.33	47	Pn	Pn	12 26 51.7	-1.5
J20K	Nowinta River	7.38	10	Pn	Pn	12 26 53.0	-0.7
BPAW	Bear Paw Mtn.	7.77	21	Pn	Pn	12 26 58.4	-0.7
GLB	Gilahina Butte	8.19	51	Pn	Pn	12 27 03.8	-1.1
TGL	Tana Glacier	8.34	57	Pn	Pn	12 27 05.5	-1.5
I21K	Tanana	8.61	15	Pn	Pn	12 27 09.6	-0.9
YAH	Yahtse	8.73	61	Pn	Pn	12 27 10.7	-1.7
GRNC	Granite Creek	8.83	58	Pn	Pn	12 27 12.0	-1.9
I23K	Minto, Yukon-K	9.03	22	Pn	Pn	12 27 16.5	+0.3
TABL	Table Mountain	9.04	61	Pn	Pn	12 27 14.9	-1.7
IMAR	Indian Mountai	9.19	9	Pn	Pn	12 27 18.2	-0.3
IL31		9.28	28	Pn	Pn	12 27 19.9	+0.2

WEL 08 12:28:07.5±0.7**, 35°S**±9°×**17°9E**±1°2**, h313**km±7km**, M3.7**/34**, mB4.4**/12**, ML4.3**/31**, MLv4.1**/34**, Mw(mB)3.6**/12**, Error ellipse: s-maj=0.0km s-min=0.0km az=119.7, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.68	198	P	Pn	12 28 60.0	-1.0
MXZ				S	S	12 29 42.8	-0.9
WMGZ	Waiomatatini S	2.90	194	P	Pn	12 29 03.3	+0.2
WMGZ				S	S	12 29 48.5	+1.0
HAZ	Te Kaha	3.01	204	P	Pn	12 29 03.3	-0.8
HAZ				S	S	12 29 49.2	-0.2
PKGZ	Pakihiroa	3.04	199	P	Pn	12 29 04.3	-0.2
PKGZ				S	S	12 29 51.1	+0.9
PUZ	Puketiti	3.17	195	P	Pn	12 29 05.6	-0.2
PUZ				S	S	12 29 52.4	-0.1
RUGZ	Raukumara Rang	3.23	204	P	Pn	12 29 05.6	-0.8
RUGZ				S	S	12 29 52.4	-1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWGZ	Tauwhareparae	3.34	199	P	Pn	12 29 08.3	+0.9
TWGZ				S	S	12 29 55.6	+0.1
KUZ	Kuaotunu	3.40	238	P	Pn	12 29 05.2	-2.8
CNGZ	Carnagh Statio	3.58	194	P	Pn	12 29 10.7	+0.9
MWZ	Matawai	3.62	203	P	Pn	12 29 10.3	0.0
TKGZ	Te Karaka	3.62	199	P	Pn	12 29 10.3	+0.1
TKGZ				S	S	12 30 00.4	-0.2
URZ	Urewera	3.70	208	P	Pn	12 29 10.4	-0.6
URZ				S	S	12 30 01.5	-0.6
RAGZ	Rawiri	3.80	203	P	Pn	12 29 12.5	+0.3
RAGZ				S	S	12 30 06.2	+2.0
RIGZ	Rimuhau	3.90	198	P	Pn	12 29 13.3	+0.1
RIGZ				S	S	12 30 07.4	+1.5
MUGZ	Murupara	4.02	210	P	Pn	12 29 14.2	-0.4
RTZ	Ruatahuna	4.06	207	P	Pn	12 29 14.6	-0.4
SNGZ	Shannon Statio	4.09	202	P	Pn	12 29 15.7	+0.4
SNGZ				S	S	12 30 11.7	+2.1
TOZ	Tahuroa Road	4.11	228	P	Pn	12 29 15.9	+0.5
RAHZ	Arahi	4.29	204	P	Pn	12 29 17.7	+0.3
RAHZ				S	S	12 30 15.2	+1.5
MTHZ	Maungataniwha	4.32	207	P	Pn	12 29 17.7	-0.1
KUTZ	Kaahu Road	4.47	218	P	Pn	12 29 20.7	+1.3
MRHZ	Matea Rd	4.47	211	P	Pn	12 29 20.1	+0.7
TLZ	Tolley Road	4.50	221	P	Pn	12 29 21.0	+1.2
NMHZ	Naumai	4.55	206	P	Pn	12 29 20.9	+0.5
NMHZ				S	S	12 30 20.7	+1.8
ARHZ	Aropaoanui	4.64	203	P	Pn	12 29 21.6	+0.3
BKZ	Black Stump Fm	4.73	208	P	Pn	12 29 22.3	0.0
BKZ				S	S	12 30 23.9	+1.4
MCHZ	McNeill Hill	4.90	205	P	Pn	12 29 24.6	+0.4
HIZ	Hauiti	5.01	224	P	Pn	12 29 27.6	+2.1
NTVZ	North Tongarir	5.02	215	P	Pn	12 29 26.1	+0.4
TMVZ	Te Maari	5.02	214	P	Pn	12 29 25.7	0.0
ETVZ	East Tongariro	5.03	214	P	Pn	12 29 26.1	+0.2
NNVZ	North Ngauruho	5.07	215	P	Pn	12 29 27.1	+0.7
OTVZ	Oturere	5.08	214	P	Pn	12 29 26.3	-0.1
OTVZ				S	S	12 30 30.2	+0.3
SNVZ	South Ngauruho	5.11	214	P	Pn	12 29 26.8	0.0
KAHZ	Kahuranaki	5.16	202	P	Pn	12 29 27.8	+0.6
TUVZ	Tukino	5.16	214	P	Pn	12 29 27.7	+0.3
BHHZ	Black Hill Sta	5.17	209	P	Pn	12 29 27.0	-0.4
BHHZ				S	S	12 30 31.1	-0.7
KRHZ	Kereru	5.19	206	P	Pn	12 29 27.2	-0.4
KRHZ				S	S	12 30 31.3	-0.8
FWVZ	Far West T-bar	5.20	214	P	Pn	12 29 28.1	+0.2
WHVZ	Whangaehu Hut	5.21	214	P	Pn	12 29 28.4	+0.4
WNVZ	Wahianoa	5.24	214	P	Pn	12 29 28.3	0.0
PKVZ	Pokaka	5.33	215	P	Pn	12 29 29.7	+0.6
PXZ	Pawanui	5.38	201	P	Pn	12 29 29.7	-0.1
PNHZ	Pukenui	5.49	206	P	Pn	12 29 30.4	-0.6
PNHZ				S	S	12 30 37.6	-0.9
VRZ	Vera Road	5.50	220	P	Pn	12 29 32.5	+1.4
WPHZ	Waipukurau	5.54	204	P	Pn	12 29 31.8	+0.2
WPHZ				S	S	12 30 40.0	+0.5
TSZ	Takapari Road	5.71	207	P	Pn	12 29 32.8	-0.7
DVHZ	Dannevirke	5.84	204	P	Pn	12 29 35.2	0.0
WAZ	Wanganui	5.86	215	P	Pn	12 29 35.5	+0.1
ANWZ	Angora Road	5.89	202	P	Pn	12 29 37.3	+1.6
NEZ	North Egmont	5.96	223	P	Pn	12 29 38.5	+1.9
POWZ	Post Office Ro	6.07	207	P	Pn	12 29 37.8	0.0
PRWZ	Pori Road	6.14	205	P	Pn	12 29 39.4	+0.7
BFZ	Birch Farm	6.16	202	P	Pn	12 29 39.5	+0.5
TIWZ	Tintock	6.37	204	P	Pn	12 29 41.8	+0.4
MRZ	Mangatainoka R	6.37	207	P	Pn	12 29 40.7	-0.7
HOWZ	Holdsworth Sta	6.60	206	P	Pn	12 29 43.8	-0.4
TMWZ	Te Maipa	6.66	203	P	Pn	12 29 45.0	+0.1
OGWZ	Otaki Gorge	6.66	208	P	Pn	12 29 43.7	-1.1
KIW	Kapiti Island	6.80	210	P	Pn	12 29 45.8	-0.8
MTW	Mount Morrison	6.84	205	P	Pn	12 29 46.5	-0.4
CAW	Cannon Point	6.95	208	P	Pn	12 29 47.3	-1.0
TRWZ	Traveller	6.99	203	P	Pn	12 29 48.8	0.0
PLWZ	Palliser	7.29	205	P	Pn	12 29 52.0	-0.4
TCW	Tory Channel	7.36	211	P	Pn	12 29 51.8	-1.4
TUWZ	Tuamarina	7.68	212	P	Pn	12 29 55.8	-1.3
NNZ	Nelson	7.77	215	P	Pn	12 29 56.2	-2.0
BSWZ	Blackbirch Sta	7.95	211	P	Pn	12 29 59.7	-0.6

*ISU **08** 12:30:52, 40°.90N×69°.40E, h5km*
*SOME **08** 12:30:56.7, 41°.00N×70°.28E, h0km*
*KRNET **08** 12:30:57.5±0.1, 41°.11N×70°.14E, h5km, mb2.9*
*NNC **08** 12:30:58.3±2.5, 40°.87N×70°.35E, h0km, mb3.5, mpv3.4, Error ellipse: s-maj=18.6km s-min=9.4km az=24.0*
ISC 08 12:30:58.4±0.9, 41°.01N±0°.03×69°.82E±0°.04, h10km, n23, σ3s.02/39, 9C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TAS	Tashkent	0.50	309	⇓iP	Pn	12 31 10.7	-1.0
	baz=89						
TAS				⇓iS	Sn	12 31 19.9	-0.5
	baz=89						
CHMG	Chimgan	0.56	15	eP	Pg	12 31 08.0	-1.3
CHMG				eS	Sn	12 31 20.0	-2.0
CHRV	Charvak	0.64	9	eP	Pg	12 31 10.0	-0.8
CHRV				eS	Sn	12 31 22.0	-1.8
MINT	Mingtut	1.03	121	eP	Pg	12 31 18.0	-0.3
MINT				eS	Sn	12 31 41.0	+7.5
TRKS	Terek-Say	1.12	62	⇑iP	Pg	12 31 13.3	-6.7
	baz=65						
TRKS				⇑iS	Sg	12 31 25.9	-8.7
	baz=65						
IUG	Iuzhnay	1.15	8	eP	Pn	12 31 22.7	+2.1
	433nm,0.2s						
IUG				eS	Sn	12 31 41.9	+5.5
	163nm,0.6s						
IUG	Iuzhnay	1.15	8	P	Pn	12 31 23.1	+2.5
	433nm,0.2s						
IUG				S	Sn	12 31 41.9	+5.5
	163nm,0.6s						
BTK	Batken	1.22	141	⇑eP	Pn	12 31 19.4	-2.2
	baz=54						
BTK				⇑iS	Sb	12 31 36.3	-1.1
	baz=54						
FRG	Fergana	1.63	112	eP	Pg	12 31 27.0	-0.5
FRG				eS	Sg	12 31 50.0	+2.8
BRLS	Borolday	2.02	0	eP	Pn	12 31 32.5	0.0
	7.0nm,0.2s						
BRLS				eS	Sn	12 31 58.1	+0.3
	24nm,0.6s						
BRLS	Borolday	2.02	0	Pg	Pn	12 31 32.6	0.0
	7.0nm,0.2s						
BRLS				Lg	Lg	12 31 58.1	
	24nm,0.6s						
GAR	Garm	2.04	169	⇑iP	Pb	12 31 35.1	-0.6
	baz=76						
GAR				⇑iS	Sg	12 32 03.8	-0.3
	baz=76						
KK31	Karatay Array	2.15	14	⇑Pn	Pb	12 31 36.6	-0.9
	3.3nm,0.4s,baz=184,slow=14,SNR=25						
KK31				Sn	Sg	12 32 06.8	-0.8
	9.7nm,0.6s,baz=180,slow=26,SNR=7.1						
MNAS	Manas	2.49	53	⇑eP	Pn	12 31 37.0	-2.2
	baz=51						
MNAS				⇑iS	Sn	12 32 07.1	-2.6
	baz=51						
MRKS	Merke	3.08	55	eP	Pb	12 31 50.6	-2.7
	7.1nm,0.6s						
MRKS				eS	Sb	12 32 29.5	-1.5
	15nm,0.8s						
MRKS	Merke	3.08	55	Pg	Pb	12 31 50.6	-2.7
	7.1nm,0.6s						
MRKS				Lg	Lg	12 32 29.5	
	15nm,0.8s						
SGDS	Sogindy	4.33	54	Pg	Pb	12 32 12.5	-2.1
	0.7nm,0.2s						
SGDS				Lg	Lg	12 33 06.6	
	3.5nm,0.5s						
KST	Kastek	5.01	64	eP	Pb	12 32 25.7	-0.5
	1.0nm,0.5s						
KST				eS	Sb	12 33 28.9	+2.4
	4.0nm,0.6s						
KST	Kastek	5.01	64	Pg	Pb	12 32 25.7	-0.5
	1.0nm,0.5s						
KST				Lg	Lg	12 33 28.9	
	4.0nm,0.6s						
BTLS	Baital	5.08	36	eP	Pb	12 32 28.4	+1.0
	1.7nm,0.4s						
BTLS				eS	Sb	12 33 33.4	+4.9
	2.8nm,0.7s						
BTLS	Baital	5.08	36	Pg	Pb	12 32 28.4	+1.0
	1.7nm,0.4s						
BTLS				Lg	Lg	12 33 33.4	
	2.8nm,0.7s						
KUU	Kurty	5.62	57	eP	Pb	12 32 37.7	+1.1
	1.1nm,0.1s						
KUU				eS	Sb	12 33 49.6	+5.7
	2.4nm,0.3s						
KUU	Kurty	5.62	57	Pg	Pb	12 32 37.7	+1.1
	1.1nm,0.1s						
KUU				Lg	Lg	12 33 49.6	
	2.4nm,0.3s						

*IDC **08** 12:41:38.7±1.1, 16°.87S×173°.71W, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.7/34, mbtmp3.9/5, ML3.6/1, Error ellipse: s-maj=53.6km s-min=21.1km az=140.0*
ISC 08 12:41:45.0±1.0, 16°.7S±0°.2×173°.7W±0°.3, h50km, n6, σ2s.01/7, mb4.2/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.33	34	Pn	Pn	12 42 35.0	+0.3
	5.5nm,0.3s,baz=207,slow=4.5,SNR=14						
AFI				Sn	Sn	12 43 10.4	-2.7
	34nm,0.3s,baz=108,slow=20,SNR=14						
URZ	Urewera	22.96	199	P	P	12 46 42.8	-2.3
	7.5nm,0.8s,baz=308,slow=19,SNR=2.0						
WRA	Warramunga Arr	49.27	258	P	P	12 50 29.3	0.0
	0.8nm,0.5s,baz=92,slow=6.8,SNR=8.3						
ASAR	Alice Springs	49.44	253	P	P	12 50 30.4	-0.1
	2.7nm,0.7s,baz=88,slow=8.8,SNR=10						
LPIG	La Paz	73.96	58	P	P	12 53 16.9	+1.4
	40nm,0.4s,baz=259,slow=5.2,SNR=4.5						
NVAR	Mina Array Bea	75.48	42	P	P	12 53 25.6	+1.3
	0.2nm,0.6s,baz=222,slow=6.6,SNR=2.7						

MAN 08 12:46:05.5, 17°.09N×121°.37E, h22km, mb4.0, ML2.8, MS2.4, Luzon

IDC 08 12:46:42.0±2.8, 32°.75S×178°.32W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/28, mbtmp3.9/4, ML3.9/1, MS2.9/1, Ms1 2.9/1, ms1mx2.6/43, Error ellipse: s-maj=63.2km s-min=43.7km az=125.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.64	213	Pn	Pn	12 48 20.3	-0.4
	2.6nm,0.3s,baz=298,slow=22,SNR=14						
URZ				Sn	Sn	12 49 35.0	-2.2
	2.4nm,0.3s,baz=173,slow=15,SNR=4.4						
AFI	Afiamalu	19.68	19	LR	LR	12 59 02.6	
	comp=Z,30nm,18.7s,baz=183,slow=38						
CTA	Charters Tower	33.98	283	P	P	12 53 28.8	+1.4
	1.9nm,0.6s,baz=112,slow=14,SNR=2.2						
ASAR	Alice Springs	42.77	270	P	P	12 54 41.0	-0.5
	0.4nm,0.3s,baz=110,slow=7.8,SNR=3.6						
WRA	Warramunga Arr	43.97	275	P	P	12 54 50.5	-0.6
	1.0nm,0.5s,baz=114,slow=7.7,SNR=30						
FINES	FINESS Array B	147.24	338	PKPbc	PKPbc	13 06 25.7	-0.7
	0.8nm,0.4s,baz=50,slow=4.3,SNR=13						

*NOU **08** 12:54:26.7, 33°.24S×174°.63W, h52km, mb4.7/9, South of Kermadec Islands*
*IDC **08** 12:54:46.9±0.7, 32°.68S×178°.26W, h0km, mb4.4/9, mb1 4.5/10, mb1mx4.3/26, mbtmp4.4/10, ML4.5/1, MS3.8/13, Ms1 3.8/13, ms1mx3.5/44, Error ellipse: s-maj=27.9km s-min=19.8km az=157.0*
*WEL **08** 12:54:47.6±0.8, 33°S±5°×17°8W±1°3, h33km, M4.8/19, mB5.2/9, ML5.2/18, MLv5.0/19, Mw(mB)4.6/9, Error ellipse: s-maj=0.0km s-min=0.0km az=109.1*
*NEIC **08** 12:54:54.7±1.6, 33°.00S±0°.07×178°.9W±0°.2, h23km±7km, mb4.6/27, Error ellipse: s-maj=21.3km s-min=4.9km az=113.0*
ISC 08 12:54:51.1±0.5, 32°.83S±0°.05×178°.06W±0°.08, h34km, n121, σ1s.85/123, mb4.6/19, MS3.8/12, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.56	2	P	Pn	12 55 41.0	-2.9
GLKZ				S	Sn	12 56 21.5	-3.3
RAO	Raoul Island	3.57	2	Sn	Sn	12 56 24.0	-1.0
	115nm,0.3s,baz=277,slow=23,SNR=2.0						
RAO	Raoul Island	3.57	2	Pn	Pb	12 55 51.9	-1.6
MXZ	Matakaoa Point	5.58	211	Pn	Pn	12 56 07.5	-4.1
MXZ	Matakaoa Point	5.58	211	P	Pn	12 56 08.3	-3.4
MXZ				S	Sn	12 57 11.9	-2.7
WMGZ	Waiomatatini S	5.75	209	P	Pn	12 56 13.4	-0.7
WMGZ				S	Sn	12 57 18.6	-0.3
PKGZ	Pakihiroa	5.95	211	P	Pn	12 56 14.4	-2.4
PKGZ				S	Sn	12 57 23.7	-0.2
HAZ	Te Kaha	5.97	213	P	Pn	12 56 15.4	-1.7
HAZ				S	Sn	12 57 25.5	+1.1
PUZ	Puketiti	6.03	209	P	Pn	12 56 14.7	-3.2
PUZ				S	Sn	12 57 24.9	-0.8
RUGZ	Raukumara Rang	6.19	213	P	Pn	12 56 18.7	-1.5
RUGZ				S	Sn	12 57 28.8	-1.1
TWGZ	Tauwhareparae	6.24	210	P	Pn	12 56 19.3	-1.4
TWGZ				S	Sn	12 57 31.1	+0.2
CNGZ	Carnagh Statio	6.41	207	P	Pn	12 56 20.2	-2.8
KUZ	Kuaotunu	6.43	231	P	Pn	12 56 23.9	+0.5
WHRZ	Whale Island	6.45	218	P	Pn	12 56 24.2	+0.6
TKGZ	Te Karaka	6.51	210	P	Pn	12 56 21.9	-2.5
TKGZ				S	Sn	12 57 35.9	-1.6
MWZ	Matawai	6.56	212	P	Pn	12 56 22.2	-3.0
MWZ				S	Sn	12 57 37.3	-1.6
OPRZ	Ohinepanea	6.66	220	P	Pn	12 56 25.4	-1.1
OPRZ				S	Sn	12 57 42.1	+0.9
URZ	Urewera	6.70	215	Pn	Pn	12 56 23.3	-3.7
	8.6nm,0.3s,baz=28,slow=4.2,SNR=40						
URZ				Sn	Sn	12 57 38.7	-3.4
	12nm,0.3s,baz=96,slow=17,SNR=9.9						
URZ	Urewera	6.70	215		Pn	12 56 24.8	-2.2
URZ	Urewera	6.70	215	P	Pn	12 56 24.4	-2.6
URZ				S	Sn	12 57 38.2	-3.8
TGRZ	Tauranga	6.74	222	P	Pn	12 56 27.1	-0.6
RAGZ	Rawiri	6.75	212	P	Pn	12 56 24.3	-3.4
RAGZ				S	Sn	12 57 41.5	-1.9
RIGZ	Rimuhau	6.78	209	P	Pn	12 56 25.0	-3.1
PRGZ	Paritu Road	6.91	207	P	Pn	12 56 26.8	-3.2
WCZ	Waipu Caves	7.00	242	P	Pn	12 56 32.0	+0.8
MUGZ	Murupara	7.03	215	P	Pn	12 56 29.4	-2.3
MUGZ				S	Sn	12 57 46.6	-3.8
RTZ	Ruatahuna	7.04	214	P	Pn	12 56 30.1	-1.8
RTZ				S	Sn	12 57 48.0	-2.7
TOZ	Tahuroa Road	7.18	225	P	Pn	12 56 33.6	0.0
OUZ	Omahuta	7.32	249	P	Pn	12 56 37.6	+2.0
BKZ	Black Stump Fm	7.71	213		Pn	12 56 38.8	-2.1
MSVF	Nonsavu	15.43	346	LR	LR	13 03 38.3	
	comp=Z,432nm,18.3s,baz=187,slow=35						
MSVF	Nonsavu	15.43	346	Pn	P	12 58 29.8	-0.8
MSVF				IAmb	IAmb	12 58 42.2	
	comp=Z,35nm,1.3s						
MLZ	Mavora Lakes	16.46	216	Pn	Pn	12 58 37.1	-2.2
MARNC	Mare, Loyalty	16.74	309	P	P	12 58 44.5	-0.5
OUENC	Ouen Island, N	16.91	304	P	Pn	12 58 44.6	-0.5
OUENC				IAmb	IAmb	12 58 51.1	
	comp=Z,57nm,1.1s						
ONTNC	Ouen Toro	17.25	304	P	P	12 58 50.2	-0.5
ONTNC				IAmb	IAmb	12 59 14.2	
	comp=Z,51nm,1.2s						
DZM	Mont Dzumac	17.41	304	ePn	P	12 58 56.7	+4.2
	comp=Z,81nm,1.4s						
DZM				eLR	LR	13 02 59.6	
	comp=Z,527nm,22.1s						
DZM	Mont Dzumac	17.41	304	P	P	12 58 54.0	+1.5
	comp=Z,0.6nm,0.3s,baz=129,slow=16,SNR=7.0						
DZM				LR	LR	13 04 33.3	
	comp=Z,1µm,18.0s,baz=175,slow=34						
DZM	Mont Dzumac	17.41	304	P	Pn	12 58 51.3	-0.2
DZM				IAmb	IAmb	12 59 09.4	
	comp=Z,31nm,1.0s						
DZM	Mont Dzumac	17.41	304	P	P	12 58 56.8	+4.2
	comp=Z,38nm,1.0s						
AFI	Afiamalu	19.69	18	P	P	12 59 17.2	-0.4
	comp=Z,1.3nm,0.3s,baz=253,slow=19,SNR=1.7						
KOUNC	Koumac, New Ca	19.92	303	P	Pn	12 59 22.2	+0.4
	comp=Z,42nm,0.9s						
RAR	Rarotonga	19.95	59	P	Pn	12 59 21.7	-0.4
	comp=Z,6.2nm,0.6s,baz=275,slow=18,SNR=1.6						
RAR				LR	LR	13 07 40.9	
	comp=Z,111nm,18.3s,baz=270,slow=39						
ARMA	Armidale	25.88	267	P	P	13 00 21.5	+1.6
	baz=26						
TBI	Tubuai	26.87	77	eLR	LR	13 07 14.7	
	comp=Z,184nm,29.5s						
EIDS	Eidsvold	27.90	277	P	P	13 00 36.3	-1.7
EIDS				IAmb	IAmb	13 00 53.9	
	comp=Z,9.5nm,1.1s						
RMQ	Roma	29.44	274	P	P	13 00 53.4	+1.7
	baz=29,SNR=5.5						
PPT2	Papeete2	29.78	66	eLR	LR	13 08 31.0	
	comp=Z,144nm,26.5s						
PPT	Papeete	29.80	66	LR	LR	13 12 43.0	
	comp=Z,81nm,18.3s,baz=198,slow=36						
TOO	Toolangi	30.03	251	P	P	13 00 55.4	-1.5
TOO				IAmb	IAmb	13 01 07.3	
	comp=Z,18nm,1.3s						
CMSA	Cobar Meteorol	30.61	262	P	P	13 01 02.6	+0.6
	baz=30,SNR=6.1						
HNR	Honiara	30.89	314	P	P	13 01 06.5	+1.9
QLP	Quilpie	33.21	271	P	P	13 01 25.2	+0.4
	baz=33,SNR=6.1						
STKA	Stephens Creek	33.95	260	P	P	13 01 32.5	+1.3
	comp=Z,1.1nm,0.5s,baz=123,slow=12,SNR=3.9						
STKA				LR	LR	13 14 41.8	
	comp=Z,295nm,18.2s,baz=38,slow=35						
STKA	Stephens Creek	33.95	260	P	P	13 01 29.8	-1.5
CTA	Charters Tower	34.21	283	P	P	13 01 33.8	+0.2
	comp=Z,11nm,0.5s,baz=119,slow=10,SNR=35						
CTAO	Charters Tower	34.21	283	P	P	13 01 34.1	+0.5
HTT	Hallett	35.84	257	P	P	13 01 47.3	-0.3
	baz=36,SNR=3.5						
MTSU	Mount Surprise	36.77	284	P	P	13 01 55.9	+0.3
	baz=36,SNR=15						
BBOO	Buckleboo	38.32	257	P	P	13 02 07.3	-1.3
BBOO				IAmb	IAmb	13 02 31.8	
	comp=Z,15nm,1.4s						
COEN	Coen	39.94	289	P	P	13 02 21.8	-0.6
COEN				IAmb	IAmb	13 02 38.9	
	comp=Z,10nm,0.8s						
AS31	Alice Springs	42.98	270	P	P	13 02 45.8	-1.5
ASAR	Alice Springs	42.98	270	P	P	13 02 46.0	-1.2
	comp=Z,6.9nm,0.7s,baz=114,slow=7.5,SNR=120						
ASAR	Alice Springs	42.98	270	P	P	13 02 45.6	-1.7
ASPA	Alice Springs	42.98	270	P	P	13 02 45.7	-1.6
	baz=43						
WR0	Warramunga Arr	44.01	275	P	P	13 02 53.6	-2.0
WR0				IAmb	IAmb	13 03 09.2	
	comp=Z,10nm,1.0s						
WC3	Warramunga Arr	44.15	275	P	P	13 02 55.1	-1.6
	baz=44						
WB2	Warramunga Arr	44.18	275	P	P	13 02 55.7	-1.2
WRAB	Tennant Creek	44.18	275	P	P	13 02 55.1	-1.8
WRAB				IAmb	IAmb	13 03 10.4	
	comp=Z,14nm,0.8s						
WRA	Warramunga Arr	44.19	275	P	P	13 02 55.6	-1.4
	comp=Z,9.7nm,0.5s,baz=114,slow=7.6,SNR=267						
WRA	Warramunga Arr	44.19	275	P	P	13 02 55.1	-1.9
FORT	Forrest	45.42	257	P	P	13 03 05.0	-1.7
	baz=45,SNR=13						
FORT	Forrest	45.42	257	P	P	13 03 04.9	-1.7
SBA	Scott Base	45.62	184	P	P	13 03 12.7	+5.1
SBA				IAmb	IAmb	13 03 40.2	
	comp=Z,8.8nm,1.2s						
VNDA	Vanda	45.68	186	P	P	13 03 11.6	+3.5
WRKA	Warakurna	47.17	265	P	P	13 03 18.4	-2.2
	baz=47,SNR=29						
JAY	Jayapura	49.00	299	LR	LR	13 23 52.3	
	comp=Z,75nm,18.1s,baz=249,slow=36						
KDU	Kakadu	49.33	282	P	P	13 03 36.0	-1.2
	baz=49,SNR=5.5						
MTN	Manton Dam	50.35	281	P	P	13 03 44.0	-1.0
	baz=50,SNR=4.7						
MTN	Manton Dam	50.35	281	P	P	13 03 43.0	-1.9
KNRA	Kununurra	50.88	276	P	P	13 03 47.7	-1.2
	baz=50,SNR=7.2						
KNRA	Kununurra	50.88	276	P	P	13 03 47.7	-1.2
KNRA				IAmb	IAmb	13 03 48.7	
	comp=Z,10nm,1.0s						
FITZ	Fitzroy Crossi	52.34	272	P	P	13 03 58.7	-1.2
	baz=52,SNR=14						
FITZ	Fitzroy Crossi	52.34	272	LR	LR	13 25 22.5	
	comp=Z,132nm,18.2s,baz=99,slow=35						
FITZ	Fitzroy Crossi	52.34	272	P	P	13 03 58.8	-1.1
FITZ				IAmb	IAmb	13 03 59.0	
	comp=Z,4.2nm,0.8s						
CASY	Casey	52.98	209	P	P	13 04 04.4	+0.4
CASY				IAmb	IAmb	13 04 28.7	
	comp=Z,14nm,1.3s						
MEEK	Meekatharra	54.62	259	P	P	13 04 14.8	-1.9
	baz=54,SNR=4.0						
QSPA	South Pole Qui	57.29	180	P	P	13 04 37.6	+2.4
	comp=Z,3.4nm,0.9s,baz=63,slow=16,SNR=6.7						
QSPA	South Pole Qui	57.29	180	P	P	13 04 38.3	+3.0
KAPI	Kappang	64.01	281	LR	LR	13 32 06.1	
	comp=Z,86nm,18.3s,baz=82,slow=35						
BELA	Belgrano 2	67.39	172	P	P	13 05 48.7	+6.2
BELA				IAmb	IAmb	13 06 09.1	
	comp=Z,4.9nm,0.9s						
MAW	Mawson	70.02	201	P	P	13 06 00.9	+2.0
SNAA	Sanae	75.74	178	P	PcP	13 06 44.0	-1.5
VNA3	Neumayer Olymp	75.89	176	P	PcP	13 06 45.5	-0.5
VNA2	Neumayer--Watz	76.33	177	P	PcP	13 06 48.0	0.0
	baz=172,slow=5.1						
VNA1	Neumayer--Stat	76.56	177	P	PcP	13 06 49.3	+0.4
ASAJ	Asahikawa	84.56	333	LR	LR	13 37 20.7	
	comp=Z,52nm,20.4s,baz=162,slow=30						
KSRS	Korea Array	86.16	320	P	P	13 07 29.3	+0.7
	comp=Z,1.7nm,0.8s,baz=155,slow=5.4,SNR=4.7						
KSRS				LR	LR	13 44 25.4	
	comp=Z,27nm,18.0s,baz=65,slow=35						
PETK	Petropavlovsk-	88.14	346	P	P	13 07 38.4	+0.6
	comp=Z,2.0nm,0.8s,baz=68,slow=12,SNR=4.3						
PETK				LR	LR	13 41 16.4	
	comp=Z,34nm,19.6s,baz=169,slow=32						
NVAR	Mina Array Bea	90.05	43	P	P	13 07 49.5	+1.9
	comp=Z,1.3nm,0.9s,baz=219,slow=8.1,SNR=10						
NNA	Nana	92.81	106	LR	LR	13 42 57.9	
	comp=Z,35nm,20.1s,baz=232,slow=31						
LVC	Limon Verde	92.81	119	LR	LR	13 41 58.3	
	comp=Z,33nm,21.1s,baz=248,slow=30						
MKAR	Makanchi Array	119.27	309	PKP	PKiKP	13 13 37.0	+0.6
	comp=Z,0.5nm,0.5s,baz=139,slow=2.9,SNR=7.0						
ZALV	Zalesovo Beam	119.79	317	PKP	PKPdf	13 13 36.9	-0.2
	comp=Z,0.6nm,0.3s,baz=187,slow=3.8,SNR=1.7						
KURBB	Kurchatov Arra	122.70	313	PKP	PKPdf	13 13 42.8	-0.1
	comp=Z,1.2nm,0.6s,baz=110,slow=1.9,SNR=12						
BVAR	Borovoye Array	128.08	314	PKP	PKiKP	13 13 54.1	+0.4
	comp=Z,1.0nm,0.5s,baz=165,slow=6.0,SNR=3.9						
AKTO	Aktyubinsk	135.66	311	PKP	PKiKP	13 14 09.2	+0.1
	comp=Z,0.9nm,0.5s,baz=100,slow=4.2,SNR=2.4						
ARCES	ARCESS Array B	140.94	347	PKhKP	PKPpre	13 14 12.3	
	comp=Z,3.7nm,0.9s,baz=76,slow=3.8,SNR=3.9						
KBZ	Khabaz	146.36	301	PKPbc	PKPdf	13 14 27.1	+0.3
	comp=Z,1.8nm,0.6s,baz=178,slow=7.3,SNR=4.5						
FINES	FINESS Array B	147.39	339	PKPbc	PKPbc	13 14 30.8	+0.3
	comp=Z,6.0nm,0.4s,baz=42,slow=4.0,SNR=70						
NB2	NORSAR Subarra	151.13	351	PKP	PKiKP	13 14 40.6	+0.1
	comp=Z,0.9nm,0.6s,baz=17,slow=2.6						
NOA	NORSAR Array B	151.13	351	PKPbc	PKiKP	13 14 40.7	+0.2
	comp=Z,1.4nm,0.7s,baz=14,slow=4.1,SNR=8.5						
HFS	Hagfors	151.60	348	PKPbc	PKiKP	13 14 41.2	-0.2
	comp=Z,4.4nm,0.7s,baz=81,slow=4.7,SNR=6.7						
NACGM	Naroch	151.85	329	i PKP	PKiKP	13 14 42.8	+0.7
LIC	Lamto	152.75	165	ePKP2	PKiKP	13 14 46.1	+0.8
	comp=Z,25nm,0.7s						
KIC	Kosan Boka	152.94	165	ePKP2	PKiKP	13 14 47.0	+1.3
	comp=Z,7.5nm,0.6s						
AKASG	Malin Array Be	153.16	320	PKPbc	PKiKP	13 14 45.3	+0.3
	comp=Z,1.5nm,0.5s,baz=73,slow=2.0,SNR=12						
TIC	Toumodi	153.16	165	ePKP2	PKiKP	13 14 47.9	+1.8
BRTR	Keskin Array B	153.62	294	PKPbc	PKPbc	13 14 46.5	0.0
	comp=Z,2.1nm,0.5s,baz=117,slow=4.3,SNR=4.9						
CLL	Collm	159.83	340	i PKPab	PKPab	13 15 35.2	+10
	comp=Z,35nm,2.3s						
TORD	Torodi Ar. Bea	160.41	179	PKPab	PKPab	13 15 29.8	+1.3
	comp=Z,1.5nm,0.8s,baz=198,slow=2.9,SNR=2.8						

*IDC **08** 12:57:51.9±7.2, 35°.84N×142°.45E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.2/45, mbtmp3.2/3, ML2.1/1, MS2.6/1, Ms1 2.6/1, ms1mx2.2/30, Error ellipse: s-maj=167.5km s-min=41.8km az=41.0*
*JMA **08** 12:58:01.2±0.1, 35°.06N×141°.14E, h40km±3km, M2.6*
ISC 08 12:58:02.9±1.5, 35°.04N±0°.07×141°.10E±0°.10, h35km, n16,

σ1^{s}31/11, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	Boso 1	0.40	195	P	Pn	12 58 10.7	-0.9
BSO1				X		12 58 18.2	
BSO3	Boso 3	0.54	244	P	Pn	12 58 13.1	-0.8
BSO3				X		12 58 23.2	
KTR	Katsuura	0.65	280	P	Pn	12 58 14.7	-1.0
KTR				eS	Sn	12 58 24.3	-0.4
CHOJ	Chosi	0.69	343	P	Pn	12 58 14.5	-1.7
JKUC	kamogawauchiur	0.75	279	P	Pn	12 58 15.9	-1.1
JKUC				eS	Sn	12 58 26.5	-0.6
JOD2	Odawara 2	1.66	278	P	Pn	12 58 28.7	-0.9
MJAR	Matsushiro Arr	2.79	303	Pn	Pn	12 58 47.1	+2.1
	0.2nm,0.3s,baz=98,slow=15,SNR=7.6						
KSRS	Korea Array	10.91	287	LR	LR	13 04 21.2	
	comp=Z,26nm,19.0s,baz=315,slow=33						
H11N2	WAKE ISLAND Hy	27.41	117	T	T	13 32 49.4	
	baz=310,slow=75,SNR=6.1						
H11N1	WAKE ISLAND Hy	27.41	117	T	T	13 32 46.1	
	baz=310,slow=75,SNR=4.7						
H11N3	WAKE ISLAND Hy	27.43	117	T	T	13 32 50.4	
	baz=310,slow=75,SNR=5.0						
H11S1	WAKE ISLAND Hy	28.05	119	T	T	13 33 39.1	
	baz=312,slow=76,SNR=5.3						
H11S3	WAKE ISLAND Hy	28.05	119	T	T	13 33 36.0	
	baz=312,slow=76,SNR=5.2						
H11S2	WAKE ISLAND Hy	28.06	119	T	T	13 33 37.3	
	baz=312,slow=76,SNR=4.1						
WRA	Warramunga Arr	55.05	188	P	P	13 07 32.1	+0.8
	0.4nm,0.6s,baz=6.6,slow=8.9,SNR=2.5						
ASAR	Alice Springs	58.78	188	P	P	13 07 58.6	+0.9
	0.1nm,0.4s,baz=359,slow=5.7,SNR=1.3						

*UPP **08** 13:02:33.5±1.5, 60°.14N×10°.70E, h0^{km}, ML2.5, Suspected explosion*
*DNK **08** 13:02:33.7±0.5, 60°.16N×10°.67E, h0^{km}, ML2.5(UPP), Suspected explosion*
*BER **08** 13:02:34.4±1.8, 60°.15N×10°.82E, h0^{km}, ML1.3, Suspected explosion*
ISC 08 13:02:33.6±0.9, **60°.17N**±0°.02×**10°.74E**±0°.04, **h0**^{km}, **n14**, σ**0^{s}50**/24, **Southern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OSL	Oslo	0.23	182	eP	Pg	13 02 38.2	+0.2
OSL				eS	Sg	13 02 41.2	+0.3
OSL				IAML		13 02 44.6	
	comp=Z,132nm,0.7s						
NAO01	NORSAR Array S	0.68	6	eP	Pg	13 02 46.4	-0.2
NAO01				eS	Sg	13 02 56.0	+0.6
NAO01				IAML		13 02 58.2	
	comp=Z,7.3nm,0.6s						
NC602	NORSAR Array S	0.69	35	eP	Pg	13 02 46.4	-0.5
NC602				eS	Sg	13 02 56.3	+0.4
NC602				IAML		13 03 04.8	
	comp=Z,4.5nm,0.7s						
NBO00	NORSAR Array S	0.87	1	eS	Sg	13 03 00.9	-0.5
NB201	NORSAR Array S	0.93	17	eP	Pg	13 02 51.2	-0.1
NB201				eS	Sg	13 03 04.0	+0.7
NB201				IAML		13 03 08.8	
	comp=Z,13nm,0.6s						
NC204	NORSAR Array S	1.11	1	eP	Pg	13 02 54.4	-0.4
NC204				eS	Sg	13 03 08.9	-0.3
STRU	Stroemstad	1.16	169	S	Sg	13 03 10.0	-0.7
STRU	Stroemstad	1.16	169	S	Sg	13 03 10.0	-0.7
SKAR	Skarslia	1.31	294	ePg	Pn	13 02 59.4	+0.2
SKAR				eS	Sg	13 03 14.8	-0.9
SKAR				eSg	Sn	13 03 18.3	+0.9
SKAR				IAML		13 03 21.2	
	comp=Z,12nm,0.6s						
UDD	Uddeholm	1.44	92	P	Pn	13 03 00.4	-0.5
UDD				S	Sg	13 03 19.7	0.0
NASU	Vaermlandsnaes	1.76	134	P	Pn	13 03 05.7	+0.4
NASU	Vaermlandsnaes	1.76	134	P	Pn	13 03 05.7	+0.4
VANU	Vaenersborg	1.82	157	P	Pn	13 03 05.9	-0.1
VANU				S	Sn	13 03 30.0	+0.3
VANU	Vaenersborg	1.82	157	P	Pn	13 03 05.9	-0.1
VANU				S	Sn	13 03 30.0	+0.3

NOU 08 13:04:37.1, 15°.01S×169°.08E, h188^{km}, MLv4.8/14, **Vanuatu Islands, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.86	256	P	Pn	13 05 13.9	+0.6
DVP	Devils Point	2.83	197	P	Pn	13 05 24.0	-0.1
RTV	Rentapao	2.84	193	P	Pn	13 05 25.5	+1.3
MARNC	Mare, Loyalty	6.51	189	P	Pn	13 06 10.0	-0.9
KOUNC	Koumac, New Ca	7.16	219	P	Pn	13 06 20.3	+1.0
YATNC	Mamie plateau,	7.31	196	P	Pn	13 06 20.9	-0.5
DZM	Mont Dzumac	7.46	199	P	Pn	13 06 22.7	-0.6
NOUC	Port Laguerre	7.53	200	P	Pn	13 06 23.8	-0.4
OUENC	Ouen Island, N	7.67	196	P	Pn	13 06 26.3	+0.3
ONTNC	Ouen Toro	7.67	199	P	Pn	13 06 26.2	+0.1
PINNC	Pines Island,	7.72	191	P	Pn	13 06 27.3	+0.6

*AUST **08** 13:07:12.6±1.6, 32°.56S×138°.03E, h12^{km}±12^{km}, Error ellipse: s-maj=12.1km s-min=8.7km az=43.0*
*IDC **08** 13:07:13.6±6.5, 32°.16S×138°.19E, h0^{km}, mb1 3.0/3, mb1mx2.9/42, mbtmp2.7/3, ML2.8/3, Error ellipse: s-maj=99.5km s-min=20.7km az=19.0*
ISC 08 13:07:09.7±1.9, **32°.47S**±0°.07×**138°.18E**±0°.05, **h5**^{km}±17^{km}, **n11**, σ**1^{s}61**/17, **Near coast of South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AUJCS	Jamestown Cent	0.82	154	P	Pn	13 07 28.3	+0.4
	baz=0.8						
AUJCS				S	Sn	13 07 39.6	-0.9
	baz=0.8						
HTT	Hallett	1.15	147	P	Pn	13 07 33.6	+1.1
	baz=1.1						
HTT				S	Sn	13 07 50.7	+2.0
	baz=1.1						
BBOO	Buckleboo	1.82	259	P	Pb	13 07 42.1	-1.4
	baz=1.7						
BBOO				S	Sn	13 08 03.8	-1.3
	baz=1.7						
LCRK	Leigh Creek	2.01	1	P	Pg	13 07 47.5	-0.7
	baz=2.1						
LCRK				S	Sg	13 08 16.0	+1.7
	baz=2.1						
STKA	Stephens Creek	2.96	79	P	Pg	13 08 06.0	-0.4
	baz=3.1						
STKA	Stephens Creek	2.96	79	Pn	Pb	13 08 01.1	-1.8
	0.9nm,0.3s,baz=221,slow=11,SNR=16						
STKA				Pg	Pg	13 08 07.0	+0.6
	1.5nm,0.3s,baz=260,slow=14,SNR=7.6						
STKA				Sn	Sb	13 08 37.4	-1.9
	1.4nm,0.3s,baz=251,slow=8.9,SNR=4.3						
STKA				Lg	Lg	13 08 45.4	
	1.5nm,0.3s,baz=192,slow=17,SNR=6.4						
MULG	Mulgathing	4.14	301	P	Pn	13 08 14.3	+0.7
	baz=4.1						
ARPS	Mount Arapiles	5.25	146	P	Pn	13 08 29.9	+1.1
	baz=5.2						
ASAR	Alice Springs	9.54	336	Pn	Pn	13 09 29.7	+1.9
	0.1nm,0.3s,baz=156,slow=12,SNR=4.4						
ASPA	Alice Springs	9.54	336	P	Pn	13 09 30.5	+2.6
	baz=9.6						
WRA	Warramunga Arr	12.94	344	Pn	Pn	13 10 13.3	-0.9
	0.1nm,0.3s,baz=171,slow=13,SNR=1.7						

*IDC **08** 13:11:16.5±1.1, 30°.19N×101°.38E, h0^{km}, mb3.7/6, mb1 3.8/7, mb1mx3.5/70, mbtmp3.7/7, MS3.5/2, Ms1 3.5/2, ms1mx2.8/50, Error ellipse: s-maj=42.9km s-min=18.8km az=59.0*
ISC 08 13:11:21.7±1.4, **30°.3N**±0°.2×**101°.5E**±0°.2, **h35**^{km}, **n9**, σ**1^{s}05**/7, **mb3.6**/6, **Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.01	192	LR	LR	13 19 17.0	
	comp=Z,59nm,19.5s,baz=205,slow=40						
SONM	Songino Array	17.91	11	P	Pn	13 15 26.7	-1.3
	baz=197,slow=14,SNR=3.7						
MKAR	Makanchi Array	22.17	323	P	P	13 16 15.4	+0.8
	0.9nm,0.8s,baz=132,slow=12,SNR=5.0						
KSRS	Korea Array	23.05	65	P	P	13 16 25.0	+1.1
	1.6nm,0.9s,baz=257,slow=9.6,SNR=3.2						
ZALV	Zalesovo Beam	26.52	338	P	P	13 16 56.5	+0.8
	1.6nm,0.5s,baz=134,slow=6.2,SNR=3.2						
KURBB	Kurchatov Arra	26.57	326	P	P	13 16 56.1	-0.1
	0.9nm,0.7s,baz=131,slow=10.0,SNR=5.2						
WRA	Warramunga Arr	59.13	143	P	P	13 21 18.4	-0.5
	2.0nm,0.7s,baz=325,slow=5.7,SNR=28						
ASAR	Alice Springs	62.04	146	P	P	13 21 38.6	-0.1
	0.3nm,0.6s,baz=328,slow=6.7,SNR=6.6						
TSUM	Tsumeb	94.41	250	LR	LR	14 07 18.0	
	comp=Z,62nm,18.2s,baz=124,slow=36						

*WEL **08** 13:15:15.9±1.0, 33°S±6°×17°8W±2°0, h33^{km}, M4.4/18, mB4.8/11, ML5.0/22, MLv4.8/18, Mw(mB)4.1/11, Error ellipse: s-maj=0.0km s-min=0.0km az=106.4*
*IDC **08** 13:15:15.2±1.0, 32°.72S×178°.37W, h0^{km}, mb4.3/6, mb1 4.5/7, mb1mx4.1/40, mbtmp4.3/7, ML4.2/1, MS3.5/5, Ms1 3.5/5, ms1mx3.2/25, Error ellipse: s-maj=29.5km s-min=28.4km az=170.0*
*NEIC **08** 13:15:16.1±2.3, 32°.7S±0°.1×178°.2W±0°.2, h10^{km}±1^{km}, mb4.5/12, Error ellipse: s-maj=32.3km s-min=18.2km az=86.0*
ISC 08 13:15:15.4±0.7, **32°.78S**±0°.06×**178°.1W**±0°.1, **h10**^{km}, **n77**, σ**1^{s}52**/76, **mb4.4**/10, **MS3.2**/5, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.51	3	P	Pn	13 16 08.4	-1.6
GLKZ				S	Sn	13 16 48.2	-3.4
RAO	Raoul Island	3.52	3	Pn	Pn	13 16 10.2	0.0
RIZ	Raoul Island	3.53	3	S	Sn	13 16 49.8	-2.1
MXZ	Matakaoa Point	5.59	210	P	Pn	13 16 38.1	-0.4
MXZ				S	Sn	13 17 40.9	-2.0
WMGZ	Waiomatatini S	5.76	208	P	Pn	13 16 41.9	+1.0
WMGZ				S	Sn	13 17 46.9	-0.3
PKGZ	Pakihiroa	5.96	210	P	Pn	13 16 41.9	-1.9
PKGZ				S	Sn	13 17 50.2	-2.0
HAZ	Te Kaha	5.98	213	P	Pn	13 16 43.0	-1.0
HAZ				S	Sn	13 17 52.9	+0.5
PUZ	Puketiti	6.04	208	P	Pn	13 16 42.7	-2.2
PUZ				S	Sn	13 17 52.6	-1.5
RUGZ	Raukumara Rang	6.20	212	P	Pn	13 16 45.8	-1.3
RUGZ				S	Sn	13 17 58.0	-0.1
TWGZ	Tauwhareparae	6.25	209	P	Pn	13 16 47.0	-0.6
TWGZ				S	Sn	13 17 58.1	-1.0
CNGZ	Carnagh Statio	6.42	207	P	Pn	13 16 51.3	+1.3
TKGZ	Te Karaka	6.53	209	P	Pn	13 16 50.3	-1.1
MWZ	Matawai	6.57	211	P	Pn	13 16 50.4	-1.7
MWZ				S	Sn	13 18 04.2	-2.9
OPRZ	Ohinepanea	6.66	219	P	Pn	13 16 54.0	+0.8
URZ	Urewera	6.70	214	Pn	Pn	13 16 52.0	-1.8
	5.1nm,0.3s,baz=121,slow=23,SNR=31						
URZ				Sn	Sn	13 18 07.2	-3.0
	7.5nm,0.3s,baz=192,slow=16,SNR=7.3						
URZ	Urewera	6.70	214		Pn	13 16 52.3	-1.5
URZ	Urewera	6.70	214	P	Pn	13 16 52.0	-1.8
TGRZ	Tauranga	6.74	221	P	Pn	13 16 56.8	+2.5
RAGZ	Rawiri	6.75	211	P	Pn	13 16 53.2	-1.4
RIGZ	Rimuhau	6.79	208	P	Pn	13 16 54.0	-1.1
SNGZ	Shannon Statio	7.03	210	P	Pn	13 16 58.6	+0.3
MUGZ	Murupara	7.04	215	P	Pn	13 16 57.2	-1.2
RTZ	Ruatahuna	7.05	213	P	Pn	13 16 57.5	-1.2
TOZ	Tahuroa Road	7.17	225	P	Pn	13 17 02.5	+2.2
RAHZ	Arahi	7.25	211	P	Pn	13 17 01.4	+0.1
MTHZ	Maungataniwha	7.30	213	P	Pn	13 17 02.3	+0.2
BKZ	Black Stump Fm	7.72	213	Pn	Pn	13 17 05.7	-2.1
BKZ	Black Stump Fm	7.72	213	P	Pn	13 17 06.9	-0.9
ETVZ	East Tongariro	8.07	216	P	Pn	13 17 13.3	+0.6
KAHZ	Kahuranaki	8.07	208	P	Pn	13 17 11.0	-1.7
HIZ	Hauiti	8.08	223	P	Pn	13 17 15.0	+2.3
OTVZ	Oturere	8.11	216	P	Pn	13 17 12.8	-0.5
MOVZ	Moawhango	8.26	215	P	Pn	13 17 14.7	-0.5
MRZ	Mangatainoka R	9.34	211	P	Pn	13 17 26.9	-3.2
THZ	Tophouse	11.45	216	Pn	Pn	13 17 54.8	-4.2
THZ	Tophouse	11.45	216	P	Pn	13 17 56.4	-2.6
OXZ	Oxford	13.06	213	Pn	Pn	13 18 17.8	-3.1
DZM	Mont Dzumac	17.33	304	eLR	LR	13 23 41.7	
	comp=Z,259nm,22.4s						
DZM	Mont Dzumac	17.33	304	LR	LR	13 24 34.8	
	comp=Z,296nm,19.1s,baz=174,slow=33						
RAR	Rarotonga	19.98	59	LR	LR	13 28 33.2	
	comp=Z,53nm,18.0s,baz=149,slow=40						
TBI	Tubuai	26.92	77	eLR	LR	13 27 38.6	
	comp=Z,67nm,24.0s						
EIDS	Eidsvold	27.83	277	P	P	13 21 06.4	+1.4
EIDS				IAmb	IAmb	13 21 17.3	
	comp=Z,11nm,1.3s						
PPT2	Papeete2	29.82	66	eLR	LR	13 28 53.4	
	comp=Z,73nm,26.8s						
PPT	Papeete	29.84	66	LR	LR	13 33 37.4	
	comp=Z,48nm,18.4s,baz=220,slow=37						
STKA	Stephens Creek	33.90	260	LR	LR	13 35 29.0	
	comp=Z,130nm,18.1s,baz=40,slow=36						
CTA	Charters Tower	34.13	283	P	P	13 22 02.0	+1.4
	comp=Z,5.4nm,0.5s,baz=121,slow=10.0,SNR=15						
CTAO	Charters Tower	34.13	283	P	P	13 22 02.1	+1.5
AS31	Alice Springs	42.92	270	P	P	13 23 13.8	-0.7
ASAR	Alice Springs	42.92	270	P	P	13 23 14.2	-0.3
	comp=Z,3.9nm,0.7s,baz=112,slow=7.7,SNR=77						
ASAR	Alice Springs	42.92	270	P	P	13 23 13.5	-1.0
WR0	Warramunga Arr	43.94	275	P	P	13 23 22.1	-0.7
WR0				IAmb	IAmb	13 23 23.1	
	comp=Z,12nm,1.4s						
WB2	Warramunga Arr	44.11	275	P	P	13 23 23.5	-0.6
WRAB	Tennant Creek	44.12	275	P	P	13 23 23.7	-0.5
WRAB				IAmb	IAmb	13 23 47.3	
	comp=Z,8.5nm,0.8s						
WRA	Warramunga Arr	44.12	275	P	P	13 23 23.7	-0.5
	comp=Z,4.8nm,0.5s,baz=115,slow=7.8,SNR=93						
WRA	Warramunga Arr	44.12	275	P	P	13 23 22.7	-1.5
FORT	Forrest	45.37	257	P	P	13 23 33.0	-1.0
VNDA	Vanda	45.73	186	P	P	13 23 36.3	+0.2
FITZ	Fitzroy Crossi	52.28	272	P	P	13 24 26.3	-0.9
	comp=Z,1.6nm,0.7s,baz=147,slow=7.8,SNR=11						
FITZ	Fitzroy Crossi	52.28	272	IAmb	IAmb	13 24 43.4	
	comp=Z,6.3nm,1.3s						
QSPA	South Pole Qui	57.34	180	P	P	13 25 06.1	+2.7
	comp=Z,1.0nm,0.9s,baz=82,slow=2.5,SNR=2.0						
QSPA	South Pole Qui	57.34	180	IAmb	IAmb	13 25 17.4	
	comp=Z,5.3nm,0.7s						
GUMO	Guam	58.10	316	LR	LR	13 47 26.7	
	comp=Z,47nm,20.4s,baz=98,slow=33						
SNAA	Sanae	75.79	178	P	PcP	13 27 12.1	-1.6
SNAA	Sanae	75.79	178	P	P	13 27 01.5	+0.4
SNAA				IAmb	IAmb	13 27 19.9	
	comp=Z,3.3nm,1.1s						
VNA3	Neumayer Olymp	75.95	176	P	PcP	13 27 13.5	-0.8
VNA2	Neumayer--Watz	76.38	177	P	PcP	13 27 16.0	-0.2
	baz=171,slow=4.6						
VNA1	Neumayer--Stat	76.61	177	P	PcP	13 27 17.6	+0.5
PETK	Petropavlovsk-	88.08	346	P	P	13 28 06.2	+0.7
	comp=Z,1.3nm,0.9s,baz=105,slow=7.9,SNR=6.5						
MKAR	Makanchi Array	119.19	309	PKP	PKPdf	13 34 03.5	-0.9
	comp=Z,0.2nm,0.5s,baz=57,slow=5.3,SNR=1.9						
KBZ	Khabaz	146.28	301	PKPbc	PKPbc	13 34 56.5	+0.5
	comp=Z,1.1nm,0.5s,baz=177,slow=14,SNR=2.3						
FINES	FINESS Array B	147.32	339	PKPbc	PKPbc	13 34 58.9	+0.5
	comp=Z,4.7nm,0.6s,baz=47,slow=3.9,SNR=34						
NB2	NORSAR Subarra	151.07	351	PKP	PKPbc	13 35 08.5	+0.5
	comp=Z,0.8nm,0.7s,baz=30,slow=2.6						
NOA	NORSAR Array B	151.07	351	PKPbc	PKiKP	13 35 10.1	+1.6
	comp=Z,0.3nm,0.5s,baz=26,slow=4.0,SNR=3.8						
AKASG	Malin Array Be	153.08	320	PKPbc	PKPbc	13 35 12.9	+0.1
	comp=Z,0.4nm,0.4s,baz=57,slow=2.1,SNR=4.0						
AKASG	Malin Array Be	153.08	320		PKiKP	13 35 13.9	+1.1
BRTR	Keskin Array B	153.55	294	PKPbc	PKPbc	13 35 14.7	+0.4
	comp=Z,1.5nm,0.8s,baz=182,slow=3.3,SNR=4.0						
TORD	Torodi Ar. Bea	160.46	180	PKPab	PKPab	13 35 59.1	+2.4
	comp=Z,0.6nm,0.9s,baz=164,slow=4.0,SNR=3.0						

MEX 08 13:23:28.5±0.5, **15°.03N**×**94°.01W**, **h107**^{km}±87^{km}, **MD4.0**, **Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		1.02	48	i P	Pn	13 23 48.3	-1.3
PCIG				eS	Sn	13 24 03.8	-1.7
TGIG		1.94	26	eP	Pn	13 24 05.9	+5.2
TGIG				eS	Sn	13 24 35.7	+11
CCIG	Comitan	2.19	55	eP	Pn	13 24 08.5	+4.6
CCIG				eS	Sn	13 24 38.5	+7.4
CMIG	Matias Romero	2.22	338	eP	Pn	13 24 07.8	+3.6
CMIG				eS	Sn	13 24 39.5	+7.9

MEX 08 13:25:27.8±1.4, **14°.59N**×**94°.03W**, **h20**^{km}, **MD4.0**, **Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		1.36	35	eP	Pn	13 25 49.0	-2.6
PCIG				eS	Sn	13 26 04.0	-5.1
TGIG		2.35	22	eP	Pn	13 26 03.4	-1.9
TGIG				i S	Sn	13 26 29.0	-4.6
CCIG	Comitan	2.48	47	eP	Pn	13 26 05.0	-2.3

IDC 08 13:25:36.6±3.5, **32°.71S**×**177°.92W**, **h0**^{km}, **mb3.4**/2, **mb1 3.7**/3, **mb1mx3.5**/43, **mbtmp3.5**/3, **ML3.6**/1, **Error ellipse: s-maj=79.3km s-min=47.8km az=120.0**, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.86	215	Pn	Pn	13 27 17.8	-0.7
	1.2nm,0.3s,baz=289,slow=6.8,SNR=11						
URZ				Sn	Sn	13 28 31.9	-5.3
	1.2nm,0.3s,baz=293,slow=23,SNR=1.8						
ASAR	Alice Springs	43.10	269	P	P	13 33 38.9	0.0
	0.5nm,0.8s,baz=110,slow=7.5,SNR=8.7						
WRA	Warramunga Arr	44.30	274	P	P	13 33 48.4	-0.1
	0.3nm,0.4s,baz=115,slow=7.9,SNR=7.0						
FINES	FINESS Array B	147.33	339	PKPbc	PKPbc	13 45 20.5	-0.8
	1.0nm,0.7s,baz=29,slow=3.5,SNR=1.3						

IDC 08 13:35:45.0±379.0, **57°.61N**×**30°.33E**, **h0**^{km}, **Error ellipse: s-maj=96.9km s-min=50.2km az=153.0**, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	3.86	100	i		14 00 30.0	
	baz=286,slow=312,SNR=6.3						
I37NO	I37NO	12.62	340	i		14 54 20.0	
	baz=150,slow=325,SNR=0.7						
I26DE	FREYUNG INFRAS	13.23	236	i		14 59 10.0	
	baz=42,slow=331,SNR=2.0						
I31KZ	AKTYUBINSK INF	17.71	102	i		15 25 10.0	
	baz=306,slow=317,SNR=0.7						

*NEIC **08** 13:47:10.9±1.2, 19°.55N±0°.06×67°.95W±0°.04, h9^{km}±9^{km}, Error ellipse: s-maj=9.5km s-min=4.8km az=199.0*
*OSPL **08** 13:47:11.2±1.5, 19°.75N×68°.05W, h32^{km}±999^{km}, ML3.0*
*RSPR **08** 13:47:11.6, 19°.76N×68°.05W, h16^{km}±9^{km}, MD3.3/6*
ISC 08 13:47:11.1±1.7, **19°.57N**±0°.09×**67°.90W**±0°.04, **h21**^{km}, **n38**, σ**1^{s}03**/40, **7C-1D**, **Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	1.15	203	⇑eP	Pn	13 47 32.0	0.0
PCDR	Punta Cana, DR	1.15	203	eS	Sb	13 47 47.7	+1.0
PCDR	Punta Cana, DR	1.15	203		Pn	13 47 32.0	0.0
PCDR					Sb	13 47 47.7	+1.0
PCDR	Punta Cana, DR	1.15	203	IAML		13 47 53.6	
	comp=N,334nm,0.4s						
PCDR				IAML		13 47 55.2	
	comp=E,224nm,0.6s						
PCDR	Punta Cana, DR	1.15	203	i P	Pn	13 47 31.4	-0.5
PCDR				eS	Sb	13 47 46.4	-0.3
PCDR				IAML		13 47 56.1	
	comp=Z,264nm,1.1s						
IDE	Isla Desecheo	1.25	161	⇑eP	Pn	13 47 32.3	-1.1
AGPR	Aguadilla, PR	1.33	146		Pn	13 47 34.0	-0.5
AGPR				IAML		13 47 59.8	
	comp=N,300nm,0.3s						
AGPR	Aguadilla, PR	1.33	146	i P	Pn	13 47 34.7	+0.2
AGPR				IAML		13 47 57.2	
	comp=Z,152nm,0.2s						
LSP	Las Mesas	1.59	151	⇑eP	Pb	13 47 39.2	-0.7
DR12	Loma Pena Alta	1.60	241		Pb	13 47 41.0	+1.0
AOPR	Arecibo Observ	1.64	138	⇑eP	Pb	13 47 40.0	-0.6
AOPR	Arecibo Observ	1.64	138	eS	Sb	13 48 02.2	+1.4
AOPR	Arecibo Observ	1.64	138		Pn	13 47 38.8	+0.1
AOPR				IAML		13 48 10.1	
	comp=N,192nm,0.6s						
AOPR	Arecibo Observ	1.64	138		Sb	13 48 02.2	+1.4
EMPR	Esperanza - Ma	1.70	130	⇑eP	Pb	13 47 41.0	-0.7
EMPR	Esperanza - Ma	1.70	130		Pb	13 47 41.0	-0.7
EMPR	Esperanza - Ma	1.70	130	IAML		13 48 16.9	
	comp=N,142nm,0.9s						
EMPR				IAML		13 48 21.1	
	comp=E,190nm,0.5s						
CRPR	Cabo Rojo, PR	1.73	154	⇑eP	Pb	13 47 41.3	-0.9
CRPR	Cabo Rojo, PR	1.73	154	eS	Sb	13 48 03.9	+0.4
CRPR	Cabo Rojo, PR	1.73	154		Pb	13 47 41.3	-0.9
CRPR					Sb	13 48 03.9	+0.4
CRPR	Cabo Rojo, PR	1.73	154	i P	Pb	13 47 41.9	-0.3
CRPR				IAML		13 48 07.7	
	comp=Z,335nm,0.6s						
MLPR	Magueyes Islan	1.79	153	⇑eP	Pb	13 47 42.6	-0.7
MLPR	Magueyes Islan	1.79	153	eS	Sb	13 48 06.4	+1.2
MLPR	Magueyes Islan	1.79	153		Pn	13 47 41.1	+0.3
MLPR				IAML		13 48 07.7	
	comp=E,197nm,0.8s						
MLPR				IAML		13 48 10.3	
	comp=N,177nm,0.4s						
MLPR	Magueyes Islan	1.79	153		Sb	13 48 06.4	+1.2
CELP	Cerrillos	1.95	140	⇓eP	Pb	13 47 44.6	-1.3
CELP	Cerrillos	1.95	140	eS	Sb	13 48 10.3	+0.5
CELP	Cerrillos	1.95	140		Pb	13 47 44.6	-1.3
CELP					Sb	13 48 10.3	+0.5
OBIP	Obispado Ponce	1.96	141		Pn	13 47 43.4	+0.2
OBIP				IAML		13 48 11.9	
	comp=E,117nm,0.7s						
OBIP				IAML		13 48 19.2	
	comp=N,89nm,0.5s						
ICMP	Isla Caja de M	2.13	142		Pb	13 47 47.3	-1.6
ICMP				IAML		13 48 20.9	
	comp=N,78nm,1.0s						
ICMP				IAML		13 49 14.7	
	comp=E,86nm,0.1s						
GCPR	Guaynabo City	2.13	126		Pb	13 47 47.3	-1.8
SJG	San Juan	2.21	131		Pb	13 47 48.2	-2.2
SJG				IAML		13 48 24.3	
	comp=E,87nm,0.3s						
SJG				IAML		13 48 25.9	
	comp=E,84nm,0.2s						
CBYP	Canovanas	2.33	123		Pn	13 47 49.7	+1.3
PDPR	Patillas Dam,	2.36	131		Pn	13 47 49.8	+1.2
HUMP	Col San Antoni	2.41	126	Pn	Pn	13 47 51.1	+1.7
HUMP				IAML		13 48 33.7	
	comp=E,58nm,0.2s						
MTP	Monte Pirata	2.67	123	Pn	Pn	13 47 53.6	+0.8
CUPR	Culebra, Puert	2.78	117	Pn	Pn	13 47 54.9	+0.4
SDDR	Presa de Saban	3.25	260	Pn	Pn	13 47 59.8	-1.2
SDDR				IAML		13 49 06.4	
	comp=E,36nm,0.7s						
SDDR				IAML		13 49 07.0	
	comp=E,44nm,1.4s						

*MEX **08** 13:52:28.0±0.3, 32°.34N×116°.57W, h20^{km}, MD3.4*
ECX 08 13:52:26.0±0.4, **32°.14N**×**116°.69W**, **h11**^{km}±5^{km}, **MD1.2**, **ML1.1**, **1C-2D**, **California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBX	Cerro Bola	0.17	8	i P	Pg	13 52 29.5	-0.5
CBX				i S	Sg	13 52 33.1	+0.4
CBX	Cerro Bola	0.17	8	⇓iP	Pg	13 52 29.6	-0.4
CBX				eS	Sg	13 52 32.8	+0.1
TJIG	Tijuana	0.29	3	eP	Pg	13 52 31.4	-0.5
TJIG				i S	Sg	13 52 35.8	-0.1
TJIG	Tijuana	0.29	3	eP	Pg	13 52 31.5	-0.4
TJIG				eS	Sg	13 52 35.8	-0.1
BAR	Barrett	0.54	2	⇑iP	Pg	13 52 35.8	-0.7
BAR				eS	Sg	13 52 43.1	-0.5
BAR				IAML		13 52 43.5	
	comp=E,14nm,0.1s						
BAR				⇓e		13 52 43.5	
YUH2	Yuha Desert	0.82	52	eP	Pg	13 52 40.6	-1.3
YUH2				eS	Sg	13 52 51.5	-1.1
MBIG	Mexicali	1.29	78	eP	Pg	13 52 55.0	+4.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MBIG				*i* S	Sb	13 52 59.9	-6.9

IDC 08 14:12:04.2±5.1**, 0°66N**×**16°09W, h0km, mb3.3**/1**, mb1 3.6**/2**, mb1mx3.3**/31**, mbtmp3.7**/2**, ML3.9**/1**, Error ellipse: s-maj=328.7km s-min=60.9km az=145.0, North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.58**	**169**	T	T	14 22 53.2	
	baz=341,slow=74,SNR=87						
H10N3	**ASCENSION HYDR**	**8.59**	**169**	T	T	14 22 57.7	
	baz=341,slow=74,SNR=81						
H10N1	**ASCENSION HYDR**	**8.60**	**169**	T	T	14 22 56.0	
	baz=341,slow=74,SNR=156						
DBIC	**Dimbokro**	**12.70**	**62**	Pn	Pn	14 15 06.3	0.0
	0.7nm,0.3s,baz=250,slow=12,SNR=7.3						
DBIC				Sn	Sn	14 17 30.1	+1.6
	0.3nm,0.3s,baz=338,slow=9.3,SNR=3.2						
TORD	**Torodi Ar. Bea**	**21.55**	**54**	P	P	14 16 55.4	0.0
	0.8nm,0.6s,baz=231,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**142.99**	**130**	PKP	PKPdf	14 31 40.5	-0.5
	0.2nm,0.7s,baz=242,slow=2.0,SNR=1.3						

*NEIC **08** 14:21:04.8±0.8, 32°7S±0°3×177°4W±0°2, h10km±2km, mb4.4/9, Error ellipse: s-maj=47.5km s-min=30.6km az=17.0*
*IDC **08** 14:21:08.3±3.4, 32°63S×178°26W, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.7/21, mbtmp4.0/3, ML3.4/1, Error ellipse: s-maj=74.3km s-min=38.1km az=113.0*
*WEL **08** 14:21:11.8±0.9, 33°S±11°×17°8W±2°8, h33km, M4.4/8, mB4.6/2, ML4.5/13, MLv4.4/8, Mw(mB)3.8/2, Error ellipse: s-maj=0.0km s-min=0.0km az=110.1*
ISC 08 14:21:07.0±1.7**, 32°64S**±0°09×**177°9W**±0°3**, h10km, n31, σ1s15**/45**, mb4.2**/7**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.37**	**360**	P	**Pn**	**14 21 59.4**	**-0.2**
GLKZ				S	**Sn**	**14 22 39.7**	**0.0**
RAO	**Raoul Island**	**3.38**	**360**	Pn	**Pn**	**14 21 58.8**	**-1.0**
MXZ	**Matakaoa Point**	**5.80**	**211**	Pn	**Pn**	**14 22 33.3**	**+0.2**
MXZ	**Matakaoa Point**	**5.80**	**211**	P	**Pn**	**14 22 33.7**	**+0.6**
MXZ				S	**Sn**	**14 23 38.5**	**-1.3**
WMGZ	**Waiomatatini S**	**5.98**	**209**	P	**Pn**	**14 22 37.9**	**+2.4**
PKGZ	**Pakihiroa**	**6.18**	**211**	P	**Pn**	**14 22 38.4**	**0.0**
PKGZ				S	**Sn**	**14 23 47.7**	**-1.4**
HAZ	**Te Kaha**	**6.20**	**213**	P	**Pn**	**14 22 39.5**	**+0.9**
HAZ				S	**Sn**	**14 23 51.3**	**+1.7**
PUZ	**Puketiti**	**6.26**	**209**	P	**Pn**	**14 22 40.0**	**+0.6**
PUZ				S	**Sn**	**14 23 50.6**	**-0.4**
RUGZ	**Raukumara Rang**	**6.42**	**213**	P	**Pn**	**14 22 41.8**	**+0.1**
RUGZ				S	**Sn**	**14 23 54.6**	**-0.5**
TWGZ	**Tauwhareparae**	**6.46**	**210**	P	**Pn**	**14 22 42.5**	**+0.3**
TWGZ				S	**Sn**	**14 23 55.5**	**-0.6**
CNGZ	**Carnagh Statio**	**6.63**	**207**	P	**Pn**	**14 22 44.9**	**+0.4**
MWZ	**Matawai**	**6.79**	**212**	P	**Pn**	**14 22 48.6**	**+1.9**
MWZ				S	**Sn**	**14 24 02.9**	**-1.2**
URZ	**Urewera**	**6.92**	**214**	Pn	**Pn**	**14 22 48.2**	**-0.3**
	0.8nm,0.3s,baz=324,slow=22,SNR=2.0						
URZ				Sn	**Sn**	**14 24 05.9**	**-1.4**
	2.0nm,0.3s,baz=107,slow=23,SNR=5.1						
RIGZ	**Rimuhau**	**7.00**	**209**	P	**Pn**	**14 22 51.1**	**+1.4**
RIGZ				S	**Sn**	**14 24 08.7**	**-0.6**
SNGZ	**Shannon Statio**	**7.24**	**211**	P	**Pn**	**14 22 54.8**	**+1.8**
SNGZ				S	**Sn**	**14 24 15.0**	**-0.3**
MUGZ	**Murupara**	**7.26**	**215**	P	**Pn**	**14 22 54.4**	**+1.2**
MUGZ				S	**Sn**	**14 24 13.2**	**-2.4**
MTHZ	**Maungataniwha**	**7.52**	**213**	P	**Pn**	**14 22 58.4**	**+1.6**
MTHZ				S	**Sn**	**14 24 20.3**	**-1.8**
BKZ	**Black Stump Fm**	**7.94**	**213**	P	**Pn**	**14 23 02.9**	**+0.4**
BKZ				S	**Sn**	**14 24 29.3**	**-3.0**
CTAO	**Charters Tower**	**34.29**	**282**	P	**P**	**14 27 55.2**	**+1.5**
AS31	**Alice Springs**	**43.10**	**269**	P	**P**	**14 29 07.7**	**0.0**
ASAR	**Alice Springs**	**43.11**	**269**	P	**P**	**14 29 08.2**	**+0.5**
	1.2nm,0.7s,baz=108,slow=7.6,SNR=25						
ASAR	**Alice Springs**	**43.11**	**269**	P	**P**	**14 29 07.5**	**-0.2**
WR0	**Warramunga Arr**	**44.12**	**274**	P	**P**	**14 29 16.0**	**+0.2**
WR0				IAmb	IAmb	14 29 32.1	
	comp=Z,3.7nm,1.1s						
WB2	**Warramunga Arr**	**44.28**	**274**	P	**P**	**14 29 17.2**	**+0.1**
WB2				IAmb	IAmb	14 29 33.4	
	comp=Z,5.6nm,1.1s						
WRA	**Warramunga Arr**	**44.30**	**274**	P	**P**	**14 29 17.8**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=114,slow=8.1,SNR=24						
WRA	**Warramunga Arr**	**44.30**	**274**	P	**P**	**14 29 17.4**	**+0.1**
MTN	**Manton Dam**	**50.43**	**281**	P	**P**	**14 30 04.5**	**-0.5**
KNRA	**Kununurra**	**50.98**	**276**	P	**P**	**14 30 09.1**	**-0.1**
KNRA				IAmb	IAmb	14 30 09.7	
	comp=Z,5.8nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.46**	**272**	P	**P**	**14 30 20.9**	**+0.7**
FITZ				IAmb	IAmb	14 30 49.3	
	comp=Z,4.2nm,1.3s						
CASY	**Casey**	**53.21**	**209**	P	**P**	**14 30 24.6**	**-0.5**
CASY				IAmb	IAmb	14 30 41.8	
	comp=Z,8.0nm,1.1s						
FINES	**FINESS Array B**	**147.26**	**339**	PKPbc	**PKiKP**	**14 40 51.8**	**-0.5**
	comp=Z,2.9nm,0.9s,baz=72,slow=4.5,SNR=2.1						

*MDD **08** 14:24:09.8±1.0, 36°72N×9°71W, h23km±11km, mbLg3.2/47, Error ellipse: s-maj=13.5km s-min=6.4km az=40.0, PRXIMO*
*CNRM **08** 14:24:10.3, 36°53N×9°52W, h66km, ml2.9*
*IGIL **08** 14:24:10.7, 36°67N×9°68W, h27km, ML2.9*
*INMG **08** 14:24:10.6±1.0, 36°67N×9°68W, h26km±4km, MD3.1, ML2.9, Error ellipse: s-maj=3.3km s-min=2.1km az=49.0*
*LDG **08** 14:24:10.7, 36°72N×9°74W, h30km*
ISC 08 14:24:08.6±1.4**, 36°69N**±0°04×**9°66W**±0°06**, h35km, n118, σ2s03**/212**, 10C, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSVI	**Cabo S. Vicent**	**0.63**	**57**	*e*P	**Pn**	**14 24 23.2**	**+2.2**
PSVI				*e*S	**Sn**	**14 24 32.6**	**+2.8**
PFVI	**Vila Bisbo**	**0.80**	**56**	⇑P	**Pn**	**14 24 25.0**	**+1.6**
	128nm,0.1s,SNR=18						
PFVI				S	**Sn**	**14 24 35.3**	**+1.2**
	224nm,0.1s,SNR=11						
PFVI	**Vila Bisbo**	**0.80**	**56**	⇑*i*P	**Pn**	**14 24 25.0**	**+1.6**
PFVI				*e*S	**Sn**	**14 24 35.7**	**+1.6**
PFVI				A	A	14 24 36.5	
	256nm,0.3s						
PFVI	**Vila Bisbo**	**0.80**	**56**	P	**Pn**	**14 24 25.0**	**+1.6**
PLAGO	**Lagos**	**0.88**	**62**	*e*S	**Sn**	**14 24 38.0**	**+2.0**
PALJ	**Aljezur**	**0.93**	**47**	*e*P	**Pn**	**14 24 26.9**	**+1.7**
PALJ				*e*S	**Sn**	**14 24 39.2**	**+1.9**
PPOR	**Portimao**	**1.00**	**63**	*e*S	**Sn**	**14 24 40.9**	**+1.9**
MORF	**Marmelete**	**1.01**	**52**	*e*P	**Pn**	**14 24 28.1**	**+1.7**
MORF				*e*S	**Sn**	**14 24 40.8**	**+1.3**
MORF				IAML		14 24 42.6	
	comp=E,237nm,0.1s						
MORF	**Marmelete**	**1.01**	**52**	P	**Pn**	**14 24 28.1**	**+1.7**
MORF				S	**Sn**	**14 24 40.8**	**+1.3**
MORF	**Marmelete**	**1.01**	**52**	⇑*i*P	**Pn**	**14 24 28.1**	**+1.7**
MORF				*e*S	**Sn**	**14 24 41.2**	**+1.7**
MORF				A	A	14 24 41.3	
	comp=E,200nm,0.1s						
PTEO	**Sao Teotonio**	**1.14**	**41**	P	**Pn**	**14 24 29.7**	**+1.7**
PTEO				S	**Sn**	**14 24 44.0**	**+1.6**
	comp=E,59nm,0.2s						
PTEO	**Sao Teotonio**	**1.14**	**41**	⇑*e*P	**Pn**	**14 24 29.7**	**+1.7**
PTEO				*e*S	**Sn**	**14 24 44.0**	**+1.6**
PTEO				A	A	14 24 44.9	
	comp=E,118nm,0.2s						
PALBU	**Albufeira**	**1.20**	**70**	*e*P	**Pn**	**14 24 30.6**	**+1.7**
PALBU				*e*S	**Sn**	**14 24 45.4**	**+1.5**
PBDV	**Barranco-do-Ve**	**1.49**	**68**	P	**Pn**	**14 24 34.7**	**+1.8**
PBDV				S	**Sn**	**14 24 52.5**	**+1.4**
	comp=E,33nm,0.3s						
PBDV	**Barranco-do-Ve**	**1.49**	**68**	⇑*i*P	**Pn**	**14 24 34.7**	**+1.8**
PBDV				*e*S	**Sn**	**14 24 52.5**	**+1.4**
PBDV				A	A	14 24 56.8	
	comp=E,33nm,0.3s						
PCVE	**Castro Verde**	**1.60**	**53**	P	**Pn**	**14 24 36.3**	**+1.9**
PCVE				S	**Sn**	**14 24 55.6**	**+1.8**
	comp=E,90nm,0.3s						
PCVE	**Castro Verde**	**1.60**	**53**	⇑*e*P	**Pn**	**14 24 36.3**	**+1.9**
PCVE				*e*S	**Sn**	**14 24 55.6**	**+1.8**
PCVE				A	A	14 24 57.5	
	comp=E,90nm,0.3s						
MESJ	**Messejana**	**1.62**	**44**	*e*P	**Pn**	**14 24 36.4**	**+1.7**
MESJ				*e*S	**Sn**	**14 24 55.3**	**+0.9**
MESJ				IAML		14 24 58.8	
	comp=E,89nm,0.1s						
MESJ	**Messejana**	**1.62**	**44**	P	**Pn**	**14 24 36.4**	**+1.7**
MESJ				S	**Sn**	**14 24 55.3**	**+0.9**
MESJ	**Messejana**	**1.62**	**44**	*e*Pn	**Pn**	**14 24 36.4**	**+1.7**
MESJ				*e*Sn	**Sn**	**14 24 55.9**	**+1.5**
MESJ				A	A	14 24 59.2	
	comp=E,66nm,0.5s						
PTAV	**Tavira**	**1.66**	**74**	*e*Sn	**Sn**	**14 24 56.3**	**+1.0**
PNCL	**Nicolau / Gran**	**1.68**	**32**	P	**Pn**	**14 24 36.9**	**+1.4**
PNCL				S	**Sn**	**14 24 56.8**	**+1.0**
	comp=E,67nm,0.1s						
PNCL	**Nicolau / Gran**	**1.68**	**32**	⇑*e*Pn	**Pn**	**14 24 36.9**	**+1.4**
PNCL				*e*Sn	**Sn**	**14 24 56.8**	**+1.0**
PNCL				A	A	14 25 00.0	
	comp=E,67nm,0.1s						
PVAQ	**Vaqueiros**	**1.71**	**65**	P	**Pn**	**14 24 37.6**	**+1.7**
PVAQ				S	**Sn**	**14 24 57.6**	**+1.1**
	comp=E,44nm,0.1s						
PVAQ	**Vaqueiros**	**1.71**	**65**	⇑*i*Pn	**Pn**	**14 24 37.6**	**+1.7**
PVAQ				*e*Sn	**Sn**	**14 24 57.6**	**+1.1**
PVAQ				A	A	14 25 00.9	
	comp=E,44nm,0.1s						
PVAQ	**Vaqueiros**	**1.71**	**65**	P	**Pn**	**14 24 37.1**	**+1.3**
PVAQ				S	**Sn**	**14 24 57.9**	**+1.4**
EGRO	**El Granado**	**1.93**	**63**	P	**Pn**	**14 24 40.5**	**+1.6**
	comp=E,3.3nm,0.1s,SNR=22						
EGRO				S	**Sn**	**14 25 02.9**	**+0.9**
	comp=E,43nm,0.1s,SNR=7.3						
PBEJ	**Beja**	**1.96**	**46**	P	**Pn**	**14 24 40.6**	**+1.3**
PBEJ				S	**Sn**	**14 25 03.6**	**+1.0**
	comp=E,15nm,0.2s						
PBEJ	**Beja**	**1.96**	**46**	*e*Pn	**Pn**	**14 24 40.6**	**+1.3**
PBEJ				*e*Sn	**Sn**	**14 25 03.6**	**+1.0**
PBEJ				A	A	14 25 05.5	
	comp=E,31nm,0.2s						
PMST	**Lisbon--Monsan**	**2.08**	**10**	*e*Pn	**Pn**	**14 24 42.2**	**+1.2**
PMST				*e*Sn	**Sn**	**14 25 06.6**	**+0.9**
PMST				A	A	14 25 08.4	
	comp=E,73nm,0.1s						
EVO	**Evora**	**2.26**	**35**	P	**Pn**	**14 24 44.8**	**+1.4**
EVO				S	**Sn**	**14 25 10.7**	**+0.7**
	comp=E,90nm,0.1s						
EVO	**Evora**	**2.26**	**35**	P	**Pn**	**14 24 43.1**	**-0.4**
EVO				S	**Sn**	**14 25 10.3**	**+0.2**
EVO	**Evora**	**2.26**	**35**	*e*Pn	**Pn**	**14 24 44.8**	**+1.4**
EVO				*e*Sn	**Sn**	**14 25 10.7**	**+0.7**
EVO				A	A	14 25 11.4	
	comp=E,90nm,0.1s						
PMAFR	**Mafra**	**2.28**	**7**	P	**Pn**	**14 24 44.8**	**+1.0**
	comp=E,41nm,0.1s,SNR=52						
PMAFR				S	**Sn**	**14 25 11.4**	**+0.7**
	comp=E,190nm,0.1s,SNR=6.9						
PMAFR	**Mafra**	**2.28**	**7**	*e*Pn	**Pn**	**14 24 44.8**	**+1.0**
PMAFR				*e*Sn	**Sn**	**14 25 11.4**	**+0.7**
PMAFR				A	A	14 25 13.2	
	comp=E,208nm,0.2s						
ARNO	**Arenosillo**	**2.38**	**79**	S	**Sn**	**14 25 13.9**	**+0.8**
PBAR	**Barrancos**	**2.56**	**54**	P	**Pn**	**14 24 49.0**	**+1.4**
PBAR				S	**Sn**	**14 25 18.2**	**+0.7**
	comp=E,18nm,0.4s						
PBAR	**Barrancos**	**2.56**	**54**	*e*Pn	**Pn**	**14 24 49.0**	**+1.4**
PBAR				*e*Sn	**Sn**	**14 25 18.2**	**+0.7**
PBAR				A	A	14 25 19.5	
	comp=E,18nm,0.4s						
EMIN	**Mina Concepcio**	**2.62**	**65**	P	**Pn**	**14 24 49.6**	**+1.2**
	comp=E,1.8nm,0.1s,SNR=18						
EMIN				S	**Sn**	**14 25 19.5**	**+0.6**
	comp=E,16nm,0.1s,SNR=5.7						
PMTG	**Montargil**	**2.63**	**25**	P	**Pn**	**14 24 50.1**	**+1.5**
PMTG				S	**Sn**	**14 25 19.4**	**+0.1**
	comp=E,48nm,0.1s						
PMTG	**Montargil**	**2.63**	**25**	*e*Pn	**Pn**	**14 24 50.1**	**+1.5**
PMTG				*e*Sn	**Sn**	**14 25 19.4**	**+0.1**
PMTG				A	A	14 25 21.3	
	comp=E,48nm,0.1s						
PESTR	**Estremoz**	**2.72**	**36**	*e*Pn	**Pn**	**14 24 50.8**	**+0.9**
PESTR				*e*Sn	**Sn**	**14 25 21.7**	**+0.1**
PESTR				A	A	14 25 24.1	
	comp=E,17nm,0.2s						
PESTR	**Estremoz**	**2.72**	**36**	P	**Pn**	**14 24 53.0**	**+3.2**
PESTR				S	**Sn**	**14 25 24.1**	**+2.5**
PSBE	**So Bento**	**2.90**	**13**	*e*Pn	**Pn**	**14 24 53.6**	**+1.3**
PSBE				*e*Sn	**Sn**	**14 25 25.8**	**-0.2**
PSBE				A	A	14 25 29.1	
	comp=E,34nm,0.2s						
EBAD	**Badajoz**	**2.94**	**45**	⇑P	**Pn**	**14 24 53.8**	**+1.0**
	comp=E,1.9nm,0.1s,SNR=18						
EBAD				S	**Sn**	**14 25 26.8**	**-0.2**
	comp=E,45nm,0.1s,SNR=4.6						
ESPR	**Espera**	**3.06**	**85**	P	**Pn**	**14 24 55.9**	**+1.5**
	comp=E,7.9nm,0.1s,SNR=11						
ESPR				S	**Sn**	**14 25 30.1**	**+0.4**
	comp=E,103nm,0.2s,SNR=9.7						
PMRV	**Marv??o**	**3.27**	**32**	P	**Pn**	**14 24 58.7**	**+1.3**
PMRV				S	**Sn**	**14 25 34.4**	**-0.6**
	comp=E,43nm,0.2s						
PMRV	**Marv??o**	**3.27**	**32**	*e*Pn	**Pn**	**14 24 58.7**	**+1.3**
PMRV				*e*Sn	**Sn**	**14 25 34.4**	**-0.6**
PMRV				A	A	14 25 36.5	
	comp=E,43nm,0.2s						
CEU	**Ceuta**	**3.55**	**102**	S	**Sn**	**14 25 44.0**	**+2.1**
CEU	**Ceuta**	**3.55**	**102**	S	**Sn**	**14 25 44.0**	**+2.1**
PCBR	**Castelo Branco**	**3.58**	**28**	P	**Pn**	**14 25 03.4**	**+1.7**
PCBR				S	**Sn**	**14 25 42.2**	**-0.6**
	comp=E,8.1nm,0.1s						
PCBR	**Castelo Branco**	**3.58**	**28**	*e*Pn	**Pn**	**14 25 03.4**	**+1.7**
PCBR				*e*Sn	**Sn**	**14 25 42.2**	**-0.6**
PCBR				A	A	14 25 45.4	
	comp=E,16nm,0.1s						
RSA	**Sarsar**	**3.60**	**119**	P	**Pn**	**14 25 02.9**	**+1.0**
RSA				S	**Sn**	**14 25 42.3**	**-0.9**
COI	**Coimbra**	**3.65**	**15**	S	**Sn**	**14 25 44.4**	**+0.1**
	comp=E,18nm,0.2s						
COI	**Coimbra**	**3.65**	**15**	*e*Sn	**Sn**	**14 25 44.4**	**+0.1**
COI				A	A	14 25 47.0	
	comp=E,36nm,0.2s						
ECAB	**El Cabril**	**3.65**	**66**	P	**Pn**	**14 25 03.9**	**+1.3**
	comp=E,0.3nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**14 25 44.3**	**-0.1**
	comp=E,9.9nm,0.2s,SNR=7.1						
CHEFC	**Chefchaouen**	**3.84**	**113**	P	**Pn**	**14 25 05.5**	**+0.2**
CHEFC				S	**Sn**	**14 25 48.1**	**-1.2**
AVE	**Averroes**	**3.85**	**151**	P	**Pn**	**14 25 06.3**	**+0.9**
AVE				S	**Sn**	**14 25 50.0**	**+0.6**
AVE	**Averroes**	**3.85**	**151**	P	**Pn**	**14 25 06.2**	**+0.9**
AVE				S	**Sn**	**14 25 51.1**	**+1.8**
EMIJ	**Mijas**	**3.93**	**90**	S	**Sn**	**14 25 50.6**	**-0.7**
	comp=E,3.3nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**4.06**	**23**	P	**Pn**	**14 25 09.7**	**+1.4**
MTE				S	**Sn**	**14 25 54.3**	**-0.3**
	comp=E,7.2nm,0.4s						
MTE	**Manteigas**	**4.06**	**23**	*e*Pn	**Pn**	**14 25 09.7**	**+1.4**
MTE				*e*Sn	**Sn**	**14 25 54.3**	**-0.3**
MTE				A	A	14 25 58.4	
	comp=E,14nm,0.4s						
EMAL	**Malaga-Limoner**	**4.20**	**87**	S	**Sn**	**14 25 57.9**	**0.0**
EMAL	**Malaga-Limoner**	**4.20**	**87**	S	**Sn**	**14 25 57.9**	**0.0**
PVIS	**Viseu**	**4.25**	**18**	P	**Pn**	**14 25 11.8**	**+0.9**
PVIS				S	**Sn**	**14 25 58.4**	**-0.9**
	comp=E,14nm,0.1s						
PVIS	**Viseu**	**4.25**	**18**	⇑*e*Pn	**Pn**	**14 25 11.8**	**+0.9**
PVIS				*e*Sn	**Sn**	**14 25 58.4**	**-0.9**
PVIS				A	A	14 26 02.0	
	comp=E,29nm,0.1s						
EADA	**Adamuz**	**4.30**	**68**	P	**Pn**	**14 25 13.0**	**+1.4**
	comp=E,2.0nm,0.1s,SNR=21						
EADA				S	**Sn**	**14 26 00.4**	**-0.2**
	comp=E,8.2nm,0.1s						
EPLA	**Plasencia**	**4.39**	**39**	P	**Pn**	**14 25 14.0**	**+1.3**
	comp=E,0.8nm,0.1s,SNR=12						
EPLA				S	**Sn**	**14 26 01.4**	**-1.3**
	comp=E,33nm,0.2s						
EGOR	**Sierra Gorda,**	**4.47**	**83**	S	**Sn**	**14 26 04.5**	**-0.2**
	comp=E,4.6nm,0.3s,SNR=7.9						
PVRL	**Vila Real**	**4.83**	**18**	S	**Sn**	**14 26 11.6**	**-1.8**
	comp=E,22nm,0.1s						
PVRL	**Vila Real**	**4.83**	**18**	*e*Sn	**Sn**	**14 26 11.6**	**-1.8**
PVRL				A	A	14 26 14.6	
	comp=E,44nm,0.1s						
ELGU	**Los Guajares,**	**4.84**	**86**	P	**Pn**	**14 25 23.5**	**+4.5**
	comp=E,0.4nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**14 26 16.6**	**+2.7**
	comp=E,14nm,0.3s,SNR=7.9						
IFR	**Ifrane**	**4.88**	**129**	P	**Pn**	**14 25 17.1**	**-2.6**
IFR				S	**Sn**	**14 26 09.5**	**-5.5**
POLO	**Lamas de Olo**	**4.90**	**17**	P	**Pn**	**14 25 20.7**	**+0.9**
POLO				S	**Sn**	**14 26 13.4**	**-1.9**
	comp=E,5.6nm,0.3s						
POLO	**Lamas de Olo**	**4.90**	**17**	*e*Pn	**Pn**	**14 25 20.7**	**+0.9**
POLO				*e*Sn	**Sn**	**14 26 13.4**	**-1.9**
POLO				A	A	14 26 16.5	
	comp=E,5.6nm,0.3s						
MVO	**Moncorvo**	**4.92**	**24**	P	**Pn**	**14 25 21.3**	**+1.2**
	comp=E,6.4nm,0.2s,SNR=9.4						
MVO				S	**Sn**	**14 26 13.6**	**-2.1**
	comp=E,11nm,0.1s						
MVO	**Moncorvo**	**4.92**	**24**	*e*Pn	**Pn**	**14 25 21.1**	**+1.0**
MVO				*e*Sn	**Sn**	**14 26 14.1**	**-1.7**
MVO				A	A	14 26 17.0	
	comp=E,20nm,0.4s						
LCRM	**LCR**	**4.94**	**126**	P	**Pn**	**14 25 20.4**	**0.0**
LCRM				S	**Sn**	**14 26 12.9**	**-3.6**
EQUE	**Quentar**	**5.01**	**82**	S	**Sn**	**14 26 18.8**	**+0.8**
	comp=E,1.9nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**5.07**	**54**	P	**Pn**	**14 25 23.6**	**+1.5**
	comp=E,1.0nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**14 26 18.1**	**-1.4**
	comp=E,3.0nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**5.17**	**14**	P	**Pn**	**14 25 24.4**	**+0.9**
PCAB				S	**Sn**	**14 26 19.6**	**-2.4**
	comp=E,5.8nm,0.1s						
PCAB	**Cabril**	**5.17**	**14**	*e*Pn	**Pn**	**14 25 24.4**	**+0.9**
PCAB				*e*Sn	**Sn**	**14 26 19.6**	**-2.4**
PCAB				A	A	14 26 23.9	
	comp=E,12nm,0.1s						
CZD	**Col de Zad**	**5.26**	**133**	P	**Pn**	**14 25 25.5**	**+0.6**
CZD				S	**Sn**	**14 26 22.4**	**-2.2**
ELOB	**Lobios**	**5.32**	**13**	P	**Pn**	**14 25 26.2**	**+0.7**
	comp=E,1.7nm,0.1s,SNR=16						
ELOB				S	**Sn**	**14 26 22.9**	**-2.8**
	comp=E,9.5nm,0.2s						
EQES	**Quesada**	**5.37**	**76**	P	**Pn**	**14 25 27.9**	**+1.6**
	comp=E,0.7nm,0.1s,SNR=8.9						
EQES				S	**Sn**	**14 26 26.7**	**-0.2**
	comp=E,7.5nm,0.1s,SNR=15						
PGAV	**Gavieira, Arco**	**5.38**	**11**	P	**Pn**	**14 25 27.3**	**+0.9**
PGAV				S	**Sn**	**14 26 24.8**	**-2.4**
	comp=E,13nm,0.2s						
PGAV	**Gavieira, Arco**	**5.38**	**11**	*e*Pn	**Pn**	**14 25 27.3**	**+0.9**
PGAV				*e*Sn	**Sn**	**14 26 24.8**	**-2.4**
PGAV				A	A	14 26 28.4	
	comp=E,13nm,0.2s						
ESDC	**Sonseca Array**	**5.39**	**55**	P	**Pn**	**14 25 27.9**	**+1.4**
	comp=E,1.9nm,0.2s,baz=239,slow=13,SNR=38						
ESDC				S	**Sn**	**14 26 27.0**	**-0.3**
	comp=E,7.1nm,0.3s,baz=241,slow=24,SNR=65						
EBER	**Berja**	**5.43**	**86**	S	**Sn**	**14 26 28.9**	**+0.2**
	comp=E,3.2nm,0.2s,SNR=7.9						
EZAM	**Zamans**	**5.51**	**7**	P	**Pn**	**14 25 28.6**	**+0.6**
	comp=E,1.1nm,0.1s,SNR=7.9						
EZAM				S	**Sn**	**14 26 28.3**	**-1.8**
	comp=E,6.5nm,0.3s,SNR=7.9						
MD31	**MD31**	**5.54**	**132**	P	**Pn**	**14 25 28.3**	**-0.4**
MD31				S	**Sn**	**14 26 26.0**	**-5.3**
PBRG	**Braganca**	**5.59**	**23**	P	**Pn**	**14 25 30.4**	**+1.1**
PBRG				S	**Sn**	**14 26 29.9**	**-2.4**
	comp=E,4.0nm,0.2s						
PBRG	**Braganca**	**5.59**	**23**	*e*Pn	**Pn**	**14 25 30.4**	**+1.1**
PBRG				*e*Sn	**Sn**	**14 26 29.9**	**-2.4**
PBRG				A	A	14 26 34.0	
	comp=E,8.0nm,0.2s						
OUK	**Oukaimeden**	**5.66**	**164**	P	**Pn**	**14 25 29.8**	**-0.8**
OUK				S	**Sn**	**14 26 30.6**	**-4.0**
MDT	**Midelt**	**5.67**	**131**	P	**Pn**	**14 25 30.1**	**-0.4**
MDT				S	**Sn**	**14 26 30.1**	**-4.3**
ECAL	**Calabor**	**5.71**	**22**	P	**Pn**	**14 25 32.0**	**+1.0**
	comp=E,0.8nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**14 26 33.4**	**-1.9**
	comp=E,9.8nm,0.2s,SNR=9.2						
SESP	**Santiago Espad**	**5.84**	**74**	P	**Pn**	**14 25 33.4**	**+0.6**
	comp=E,0.4nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**14 26 36.9**	**-1.7**
	comp=E,8.4nm,0.1s,SNR=7.9						
GUD	**Guadarrama**	**5.84**	**46**	P	**Pn**	**14 25 35.4**	**+2.5**
	comp=E,1.0nm,0.1s,SNR=4.0						
GUD				S	**Sn**	**14 26 38.9**	**+0.3**
	comp=E,5.1nm,0.3s,SNR=7.9						
TTIG	**Tnine Tigouga,**	**6.21**	**170**	P	Pn	14 25 33.3	-4.5
JBK	**JBK**	**6.24**	**110**	P	**Pn**	**14 25 37.9**	**-0.4**
JBK				S	**Sn**	**14 26 44.6**	**-4.0**
EMAZ	**Mazaricos**	**6.28**	**5**	P	**Pn**	**14 25 38.4**	**-0.3**
	comp=E,5.3nm,0.1s,SNR=7.9						
EMAZ				S	**Sn**	**14 26 44.1**	**-5.0**
	comp=E,7.9nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**6.72**	**71**	P	**Pn**	**14 25 46.3**	**+1.4**
	comp=E,0.7nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**14 26 58.2**	**-2.0**
	comp=E,0.9nm,0.2s,SNR=7.9						
TZRR	**Tazzarine**	**6.80**	**149**	P	**Pn**	**14 25 46.5**	**+0.6**
TZRR				S	**Sn**	**14 26 58.1**	**-4.1**
EPON	**Pontenova**	**6.91**	**15**	P	**Pn**	**14 25 46.9**	**-0.4**
	comp=E,1.2nm,0.1s,SNR=7.9						
EPON				S	**Sn**	**14 27 01.4**	**-3.2**
	comp=E,1.9nm,0.1s,SNR=7.9						
ETOR	**Torete**	**7.23**	**53**	P	**Pn**	**14 25 53.2**	**+1.3**
	comp=E,6.0nm,0.2s,SNR=8.7						
ETOR				S	**Sn**	**14 27 09.1**	**-3.6**
	comp=E,19nm,0.4s,SNR=7.9						
TDRA	**Tendrara**	**7.25**	**118**	P	**Pn**	**14 25 52.4**	**+0.3**
TDRA				S	**Sn**	**14 27 09.8**	**-3.6**
EARI	**Arriondas**	**7.43**	**26**	P	**Pn**	**14 25 55.6**	**+1.0**
	comp=E,0.2nm,0.2s,SNR=7.9						
EARI				S	**Sn**	**14 27 14.6**	**-3.1**
	comp=E,0.5nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**8.08**	**60**	P	**Pn**	**14 26 06.1**	**+2.6**
	comp=E,0.4nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**14 27 32.4**	**-1.3**
	comp=E,1.2nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**9.12**	**43**	*e*Pn	**Pn**	**14 26 18.2**	**+0.6**
SJPF				*e*Sn	**Sn**	**14 27 52.7**	**-6.3**
	comp=E,1.1nm,0.2s						
SJPF	**Ste Jean**	**9.12**	**43**	P	**Pn**	**14 26 18.2**	**+0.6**
SJPF				S	**Sn**	**14 27 52.7**	**-6.3**
	comp=E,0.6nm,0.2s						
ETSF	**Etsaut**	**9.35**	**46**	*e*Pn	**Pn**	**14 26 21.6**	**+0.7**
ETSF				*e*Sn	**Sn**	**14 27 58.7**	**-6.1**
	comp=E,1.7nm,0.4s						
ETSF	**Etsaut**	**9.35**	**46**	P	**Pn**	**14 26 21.6**	**+0.7**
ETSF				S	**Sn**	**14 27 58.7**	**-6.1**
	comp=E,0.9nm,0.4s						
ECHI	**Chisagues Biel**	**9.66**	**49**	S	**Sn**	**14 28 07.4**	**-5.0**
	comp=E,1.1nm,0.1s,SNR=7.9						
EPF	**Esparros**	**9.96**	**47**	*e*Pn	**Pn**	**14 26 29.9**	**+0.8**
EPF	**Esparros**	**9.96**	**47**	*e*P	Pn	14 26 35.1	+6.0
EPF				*e*Sn	**Sn**	**14 28 13.0**	**-6.6**
	comp=E,2.2nm,0.4s						
EPF	**Esparros**	**9.96**	**47**	P	**Pn**	**14 26 29.9**	**+0.8**
EPF				S	**Sn**	**14 28 13.0**	**-6.6**
	comp=E,1.1nm,0.4s						
LASF	**Ste Croix**	**12.66**	**50**	*e*Pn	**Pn**	**14 27 06.6**	**+0.5**
LASF	**Ste Croix**	**12.66**	**50**	P	**Pn**	**14 27 06.6**	**+0.5**

IDC 08 14:37:05.5±395.0**, 67°49N**×**41°52E, h0km, Error ellipse: s-maj=159.4km s-min=26.6km az=111.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I37NO	**I37NO**	**8.62**	**291**	*i*		15 32 20.0	
	baz=90,slow=333,SNR=0.6						
I31KZ	**AKTYUBINSK INF**	**19.01**	**146**	*i*		16 33 30.0	
	baz=338,slow=325,SNR=1.3						
I46RU	**ZALESOVO INFRA**	**24.49**	**102**	*i*		17 10 10.0	
	baz=322,slow=329,SNR=1.2						

*IDC **08** 14:38:51.8±1.0, 33°06S×178°64W, h0km, mb4.4/4, mb1 4.6/5, mb1mx4.1/27, mbtmp4.5/5, ML4.3/1, MS3.8/2, Ms1 3.8/2, ms1mx3.0/39, Error ellipse: s-maj=33.0km s-min=24.8km az=100.0*
*NEIC **08** 14:38:53.5±1.7, 33°07S±0°10×178°55W±0°07, h10km±1km, mb4.5/21, Error ellipse: s-maj=17.2km s-min=7.4km az=157.0*
*WEL **08** 14:38:54.2±0.9, 33°S±9°×17°9W±2°0, h94km±62km,*

M4.3/18, mB4.9/12, ML5.0/20, MLv4.8/18, Mw(mB)4.1/12, Error ellipse: s-maj=0.0km s-min=0.0km az=111.9

ISC 08 14:38:55.4±0.6**, 33°.10S**±0°.06×**178°.5W**±0°.1**, h32**km**, n82, σ1s60**/102**, mb4.5**/12**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.85**	**7**	P	Pn	14 39 48.6	-3.8
GLKZ				S	**Sn**	**14 40 33.8**	**-2.7**
RAO	**Raoul Island**	**3.86**	**7**	Pn	**Pn**	**14 39 48.8**	**-3.7**
MXZ	**Matakaoa Point**	**5.18**	**210**	Pn	**Pn**	**14 40 07.4**	**-3.2**
MXZ	**Matakaoa Point**	**5.18**	**210**	P	**Pn**	**14 40 08.1**	**-2.5**
MXZ				S	**Sn**	**14 41 07.5**	**-1.8**
WMGZ	**Waiomatatini S**	**5.36**	**208**	P	**Pn**	**14 40 13.2**	**+0.1**
WMGZ				S	**Sn**	**14 41 14.3**	**+0.7**
PKGZ	**Pakihiroa**	**5.55**	**210**	P	**Pn**	**14 40 13.6**	**-2.2**
PKGZ				S	**Sn**	**14 41 17.7**	**-0.9**
HAZ	**Te Kaha**	**5.57**	**212**	P	**Pn**	**14 40 14.6**	**-1.4**
HAZ				S	**Sn**	**14 41 20.8**	**+2.0**
PUZ	**Puketiti**	**5.64**	**207**	P	**Pn**	**14 40 14.2**	**-2.7**
PUZ				S	**Sn**	**14 41 19.8**	**-0.8**
RUGZ	**Raukumara Rang**	**5.79**	**212**	P	**Pn**	**14 40 17.8**	**-1.3**
RUGZ				S	**Sn**	**14 41 24.1**	**-0.3**
TWGZ	**Tauwhareparae**	**5.84**	**209**	P	**Pn**	**14 40 18.3**	**-1.4**
TWGZ				S	**Sn**	**14 41 25.6**	**+0.1**
CNGZ	**Carnagh Statio**	**6.02**	**206**	P	**Pn**	**14 40 20.3**	**-1.9**
CNGZ				S	**Sn**	**14 41 30.8**	**+0.8**
WHRZ	**Whale Island**	**6.03**	**217**	P	**Pn**	**14 40 24.6**	**+2.2**
TKGZ	**Te Karaka**	**6.12**	**208**	P	**Pn**	**14 40 23.6**	**+0.1**
TKGZ				S	**Sn**	**14 41 30.6**	**-1.7**
MWZ	**Matawai**	**6.16**	**211**	P	**Pn**	**14 40 21.6**	**-2.5**
MWZ				S	**Sn**	**14 41 32.0**	**-1.6**
OPRZ	**Ohinepanea**	**6.24**	**219**	P	**Pn**	**14 40 26.4**	**+1.1**
URZ	**Urewera**	**6.29**	**214**	Pn	**Pn**	**14 40 24.5**	**-1.3**
	7.8nm,0.3s,baz=281,slow=3.6,SNR=41						
URZ				Sn	**Sn**	**14 41 36.2**	**-0.3**
	14nm,0.3s,baz=196,slow=19,SNR=8.3						
URZ	**Urewera**	**6.29**	**214**		**Pn**	**14 40 23.3**	**-2.5**
URZ	**Urewera**	**6.29**	**214**	P	**Pn**	**14 40 24.5**	**-1.3**
URZ				S	**Sn**	**14 41 34.3**	**-2.2**
RAGZ	**Rawiri**	**6.34**	**211**	P	**Pn**	**14 40 26.6**	**-0.2**
RIGZ	**Rimuhau**	**6.38**	**208**	P	**Pn**	**14 40 25.3**	**-1.8**
RIGZ				S	**Sn**	**14 41 37.4**	**-1.5**
PRGZ	**Paritu Road**	**6.52**	**206**	P	**Pn**	**14 40 29.2**	**+0.1**
SNGZ	**Shannon Statio**	**6.62**	**210**	P	**Pn**	**14 40 29.9**	**-0.5**
SNGZ				S	**Sn**	**14 41 43.8**	**-1.0**
MUGZ	**Murupara**	**6.62**	**214**	P	**Pn**	**14 40 29.3**	**-1.1**
MUGZ				S	**Sn**	**14 41 43.3**	**-1.5**
RTZ	**Ruatahuna**	**6.63**	**213**	P	**Pn**	**14 40 29.6**	**-1.1**
RRRZ	**Republican Roa**	**6.64**	**217**	P	**Pn**	**14 40 30.4**	**-0.3**
MHGZ	**Mahia Peninsul**	**6.72**	**205**	P	**Pn**	**14 40 30.2**	**-1.6**
TOZ	**Tahuroa Road**	**6.76**	**225**	P	**Pn**	**14 40 34.5**	**+2.2**
RAHZ	**Arahi**	**6.84**	**211**	P	**Pn**	**14 40 33.3**	**-0.1**
RAHZ				S	**Sn**	**14 41 48.1**	**-2.0**
MTHZ	**Maungataniwha**	**6.89**	**212**	P	**Pn**	**14 40 33.4**	**-0.7**
MTHZ				S	**Sn**	**14 41 50.4**	**-1.1**
MRHZ	**Matea Rd**	**7.07**	**214**	P	**Pn**	**14 40 35.9**	**-0.8**
MRHZ				S	**Sn**	**14 41 53.9**	**-2.1**
NMHZ	**Naumai**	**7.11**	**211**	P	**Pn**	**14 40 36.9**	**-0.3**
NMHZ				S	**Sn**	**14 41 56.2**	**-0.6**
TLZ	**Tolley Road**	**7.14**	**221**	P	**Pn**	**14 40 38.5**	**+0.8**
BKZ	**Black Stump Fm**	**7.30**	**213**	Pn	**Pn**	**14 40 36.9**	**-3.0**
MCHZ	**McNeill Hill**	**7.44**	**210**	P	**Pn**	**14 40 40.7**	**-1.0**
MCHZ				S	**Sn**	**14 42 03.5**	**-1.5**
OTVZ	**Oturere**	**7.69**	**216**	P	**Pn**	**14 40 43.8**	**-1.6**
OTVZ				S	**Sn**	**14 42 09.4**	**-2.1**
KRHZ	**Kereru**	**7.75**	**211**	P	**Pn**	**14 40 43.2**	**-2.7**
KRHZ				S	**Sn**	**14 42 08.0**	**-4.6**
LTZ	**Lake Taylor**	**12.12**	**214**	Pn	**Pn**	**14 41 42.7**	**-3.0**
MSVF	**Nonsavu**	**15.62**	**348**	P	**P**	**14 42 37.5**	**+0.3**
MSVF				IAmb	IAmb	14 42 53.5	
	comp=Z,32nm,1.3s						
DZM	**Mont Dzumac**	**17.29**	**306**	LR	LR	14 48 22.6	
	comp=Z,269nm,19.4s,baz=66,slow=33						
AFI	**Afiamalu**	**20.05**	**19**	P	**P**	**14 43 27.6**	**+1.6**
AFI				IAmb	IAmb	14 43 48.4	
	comp=Z,31nm,0.9s						
SANVU	**Saraoutou**	**21.85**	**320**	P	**P**	**14 43 43.6**	**-1.7**
EIDS	**Eidsvold**	**27.60**	**278**	P	**P**	**14 44 42.0**	**+2.1**
EIDS				IAmb	IAmb	14 44 43.1	
	comp=Z,11nm,1.1s						
TAU	**Tasmania Unive**	**28.52**	**240**	P	**P**	**14 44 49.9**	**+2.0**
HNR	**Honiara**	**30.84**	**315**	P	**P**	**14 45 08.1**	**-0.5**
STKA	**Stephens Creek**	**33.58**	**261**	LR	LR	14 58 22.5	
	comp=Z,167nm,18.3s,baz=35,slow=35						
CTAO	**Charters Tower**	**33.94**	**284**	P	**P**	**14 45 35.7**	**-0.2**
CTAO				IAmb	IAmb	14 45 39.0	
	comp=Z,11nm,1.2s						
BBOO	**Buckleboo**	**37.93**	**258**	P	**P**	**14 46 09.6**	**-0.3**
BBOO				IAmb	IAmb	14 46 13.8	
	comp=Z,16nm,1.4s						
COEN	**Coen**	**39.71**	**289**	P	**P**	**14 46 26.6**	**+1.6**
COEN				IAmb	IAmb	14 46 38.6	
	comp=Z,13nm,1.1s						
AS31	**Alice Springs**	**42.64**	**270**	P	**P**	**14 46 48.8**	**-0.3**
ASAR	**Alice Springs**	**42.64**	**270**	P	**P**	**14 46 49.2**	**+0.1**
	comp=Z,6.0nm,0.7s,baz=110,slow=7.5,SNR=128						
ASAR	**Alice Springs**	**42.64**	**270**	P	**P**	**14 46 48.7**	**-0.4**
WR0	**Warramunga Arr**	**43.70**	**275**	P	**P**	**14 46 57.5**	**-0.2**
WB2	**Warramunga Arr**	**43.87**	**275**	P	**P**	**14 46 59.0**	**+0.1**
WB2				IAmb	IAmb	14 47 00.9	
	comp=Z,6.0nm,0.8s						
WRA	**Warramunga Arr**	**43.88**	**275**	P	**P**	**14 46 58.9**	**-0.1**
	comp=Z,5.1nm,0.8s,baz=119,slow=7.8,SNR=43						
WRA	**Warramunga Arr**	**43.88**	**275**	P	**P**	**14 46 59.0**	**-0.1**
FORT	**Forrest**	**45.03**	**258**	P	**P**	**14 47 07.9**	**-0.3**
MTN	**Manton Dam**	**50.07**	**281**	P	**P**	**14 47 46.4**	**-1.1**
MTN				IAmb	IAmb	14 48 05.4	
	comp=Z,6.7nm,0.9s						
KNRA	**Kununurra**	**50.57**	**277**	P	**P**	**14 47 50.9**	**-0.3**
KNRA				IAmb	IAmb	14 48 00.6	
	comp=Z,8.3nm,1.1s						
FITZ	**Fitzroy Crossi**	**52.01**	**272**	P	**P**	**14 48 01.6**	**-0.5**
CASY	**Casey**	**52.59**	**209**	P	**P**	**14 48 03.5**	**-2.0**
QSPA	**South Pole Qui**	**57.02**	**180**	P	**P**	**14 48 40.2**	**+2.3**
	comp=Z,3.9nm,0.9s,baz=31,slow=1.5,SNR=9.1						
QSPA	**South Pole Qui**	**57.02**	**180**	P	**P**	**14 48 40.1**	**+2.2**
QSPA				IAmb	IAmb	14 48 52.6	
	comp=Z,3.9nm,0.7s						
PMSA	**Palmer Station**	**69.98**	**155**	P	**P**	**14 50 04.8**	**+1.5**
SNAA	**Sanae**	**75.48**	**179**	P	**P**	**14 50 37.1**	**+1.1**
SNAA	**Sanae**	**75.48**	**179**	PcP	**PcP**	**14 50 46.1**	**-2.8**
SNAA	**Sanae**	**75.48**	**179**	P	**P**	**14 50 36.7**	**+0.7**
SNAA				IAmb	IAmb	14 50 46.6	
	comp=Z,4.4nm,1.1s						
VNA3	**Neumayer Olymp**	**75.65**	**176**	P	**P**	**14 50 38.6**	**+1.7**
VNA3	**Neumayer Olymp**	**75.65**	**176**	PcP	**PcP**	**14 50 47.5**	**-2.1**
VNA2	**Neumayer--Watz**	**76.08**	**177**	P	**P**	**14 50 40.1**	**+0.8**
	baz=185,slow=4.6						
VNA2	**Neumayer--Watz**	**76.08**	**177**	PcP	**PcP**	**14 50 50.2**	**-1.2**
VNA1	**Neumayer--Stat**	**76.31**	**177**	P	**P**	**14 50 42.1**	**+1.6**
VNA1	**Neumayer--Stat**	**76.31**	**177**	PcP	**PcP**	**14 50 51.6**	**-0.8**
PETK	**Petropavlovsk-**	**88.32**	**346**	P	**P**	**14 51 44.4**	**+1.1**
	comp=Z,2.3nm,0.9s,baz=127,slow=7.5,SNR=12						
FINES	**FINESS Array B**	**147.51**	**338**	PKPbc	**PKPbc**	**14 58 35.8**	**+0.4**
	comp=Z,3.5nm,0.6s,baz=45,slow=4.1,SNR=15						
FINES	**FINESS Array B**	**147.51**	**338**	PKPdf	**PKPbc**	**14 58 35.0**	**-0.4**
NB2	**NORSAR Subarra**	**151.34**	**350**	PKP	**PKiKP**	**14 58 45.9**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=24,slow=2.9						
NOA	**NORSAR Array B**	**151.34**	**350**	PKPbc	**PKiKP**	**14 58 46.3**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=13,slow=4.1,SNR=4.6						
AKASG	**Malin Array Be**	**153.14**	**319**	PKPbc	**PKiKP**	**14 58 51.1**	**+1.6**
	comp=Z,0.8nm,0.4s,baz=43,slow=3.1,SNR=3.1						
AKASG	**Malin Array Be**	**153.14**	**319**		**PKiKP**	**14 58 50.2**	**+0.7**
BRTR	**Keskin Array B**	**153.43**	**294**	PKPbc	**PKiKP**	**14 58 51.4**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=156,slow=5.0,SNR=4.8						
BRTR	**Keskin Array B**	**153.43**	**294**		**PKPbc**	**14 58 50.5**	**-0.1**
TORD	**Torodi Ar. Bea**	**160.14**	**180**	PKPab	**PKPab**	**14 59 32.0**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=156,slow=3.5,SNR=4.0						

RSNC 08 14:42:44.6±1.2**, 3°.86N**×**71°.37W, h10**km±5km**, ML3.3, Mw3.5, 1C-5D, Fault plane solution: NP1:**φs118.00000°, δ3.00000°, λ-164.00000°.**, Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTGC	**Puerto Gaitan,**	**0.83**	**294**⇑	*i*P	Pg	14 42 58.4	-2.3
PTGC				*e*S	Sg	14 43 10.5	-1.2
PTGC				*i*		14 43 20.6	
	comp=Z,449nm,0.2s						
GUVC	**San Jose del G**	**1.82**	**224**	*e*P	Pn	14 43 14.8	-1.2
GUVC				*e*S	Sn	14 43 37.1	-2.0
GUVC				*i*		14 43 43.2	
	comp=Z,462nm,0.2s						
VILC	**Villavicencio,**	**2.33**	**276**	*e*P	Pn	14 43 22.7	-0.5
VILC				*e*S	Sn	14 43 51.5	-0.5
CHIC	**Chingaza**	**2.48**	**288**⇓	*e*P	Pn	14 43 24.8	-0.7
CHIC				*e*S	Sn	14 43 55.3	-0.7
CHIC				*i*		14 44 13.2	
	comp=Z,164nm,0.4s						
TAMC	**Tame, Arauca**	**2.59**	**351**	*e*P	Pn	14 43 26.1	-0.5
TAMC				*e*S	Sn	14 43 56.8	-1.4
TAMC				*i*		14 44 16.1	
	comp=Z,193nm,0.3s						
RUSC	**La Rusia**	**2.64**	**320**⇓	*e*P	Pn	14 43 27.4	-0.4
RUSC				*e*S	Sn	14 43 59.4	-0.8
RUSC				*i*		14 44 11.0	
	comp=Z,46nm,0.6s						
MACC	**Macarena, Meta**	**3.01**	**236**⇓	*e*P	Pn	14 43 33.6	+1.2
MACC				*e*S	Sn	14 44 10.2	+1.7
MACC				*i*		14 44 25.5	
	comp=Z,132nm,0.4s						
ROSC	**El Rosal**	**3.10**	**288**	*e*P	Pn	14 43 36.0	+2.0
ROSC				*e*S	Sn	14 44 12.3	+0.9
ROSC				*i*		14 44 31.5	
	comp=Z,64nm,0.5s						
SPBC	**San Pablo de B**	**3.23**	**303**	*e*P	Pn	14 43 34.4	-1.1
SPBC				*e*S	Sn	14 44 12.9	-1.2
SPBC				*i*		14 44 29.4	
	comp=Z,50nm,0.4s						
BARC	**Barichara**	**3.26**	**326**	*e*P	Pn	14 43 34.8	-1.2
BARC				*e*S	Sn	14 44 14.3	-0.8
BARC				*i*		14 44 31.3	
	comp=Z,70nm,0.3s						
PRAC	**Prado**	**3.52**	**268**⇓	*e*P	Pn	14 43 40.0	+0.6
PRAC				*e*S	Sn	14 44 20.2	-0.9
PRAC				*i*		14 44 48.3	
	comp=Z,67nm,0.4s						
ELOV	**Elorza**	**3.64**	**31**	*e*P	Pb	14 43 46.6	-2.4
ELOV				*e*S	Sn	14 44 21.8	-2.2
PAMC	**Pamplona, Colo**	**3.70**	**339**	*e*S	Sn	14 44 25.2	-1.0
PAMC				*i*		14 44 46.3	
	comp=Z,70nm,0.4s						
ORTC	**Ortega, Tolima**	**3.87**	**271**	*e*P	Pn	14 43 44.8	+0.6
ORTC				*e*S	Sn	14 44 29.0	-0.9
ORTC				*i*		14 44 48.8	
	comp=Z,92nm,0.5s						
NORC	**Norcasia**	**3.88**	**296**	*e*P	Pn	14 43 43.7	-0.7
NORC				*e*S	Sn	14 44 27.1	-3.0
NORC				*i*		14 44 52.3	
	comp=Z,112nm,1.0s						
TOLC	**Tolima**	**4.01**	**280**	*e*P	Pn	14 43 45.4	-1.0
TOLC				*e*S	Sn	14 44 33.0	-0.7
TOLC				*i*		14 44 56.3	
	comp=Z,52nm,0.4s						
PTBC	**PUERTO BERRIO,**	**4.07**	**311**⇓	*e*P	Pn	14 43 46.2	-0.7
PTBC				*e*S	Sn	14 44 32.6	-2.1
PTBC				*i*		14 44 55.5	
	comp=Z,24nm,0.4s						
GUY2C	**Guyana, Caldas**	**4.21**	**289**	*e*P	Pn	14 43 48.4	-1.0
GUY2C				*e*S	Sn	14 44 38.1	-0.7
GUY2C				*i*		14 45 05.5	
	comp=Z,23nm,0.5s						
GARC	**Garzon, Huila**	**4.45**	**248**	*e*P	Pn	14 43 52.3	0.0
GARC				*e*S	Sn	14 44 42.3	-2.1
MARP	**Paez Belalcaza**	**4.69**	**258**	*e*P	Pn	14 43 55.0	-0.7
MARP				*i*		14 45 09.2	
	comp=Z,11nm,0.3s						
FLOC	**Florencia**	**4.84**	**242**	*e*P	Pn	14 43 58.7	+1.1
FLOC				*e*S	Sn	14 45 00.1	+6.2
FLOC				*i*		14 45 21.3	
	comp=Z,60nm,0.5s						
SDV	**Santo Domingo**	**5.04**	**8**	*e*S	Sn	14 44 54.5	-4.5

MEX 08 14:46:23.5±1.2**, 14°.43N**×**94°.23W, h16**km±323km**, MD4.4, 2C, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		**1.60**	**37**	*e*P	Pn	14 46 47.9	-3.3
PCIG				*i* S	Sn	14 47 06.3	-5.1
THIG		**1.96**	**76**	*i* P	Pn	14 46 52.4	-3.6
THIG				*i* S	Sn	14 47 14.7	-5.6
TGIG		**2.56**	**24**	*e*P	Pn	14 47 02.0	-2.5
TGIG				*i* S	Sn	14 47 34.2	-1.3
CMIG	**Matias Romero**	**2.72**	**347**⇑	*e*P	Pn	14 47 04.2	-2.4
CMIG				*i* S	Sn	14 47 36.3	-2.9
CCIG	**Comitan**	**2.73**	**47**	*i* P	Pn	14 47 08.7	+1.8
CCIG				*i* S	Sn	14 47 38.7	-1.0
PEIG	**Puerto Escondi**	**3.22**	**299**	*i* P	Pn	14 47 12.9	-0.6
PEIG				*i* S	Sn	14 47 45.6	-6.1
YOIG	**Yosondua**	**4.01**	**307**⇑	*i*P	Pn	14 47 26.6	+2.0
YOIG				*i* S	Sn	14 48 09.3	-2.1
PNIG	**Pinotepa**	**4.24**	**298**	*i* P	Pn	14 47 29.1	+1.5
PNIG				*i* S	Sn	14 48 12.8	-4.0

*JMA **08** 15:15:55.5±0.1, 22°.50N×121°.54E, h6km±3km, M4.1*
*NIED **08** 15:15:55.6, 22°.50N×121°.54E, h6km, MW3.8, Moment Tensor Solution. s2 Moment tensor: Scale 10^14Nm; Mrr-2.05; Mθθ3.91; Mφφ-1.86; Mrθ-1.84; Mθφ-1.70; Mφr2.65; Fault plane solution: M0 4.94000×10^14 NP1: φs139.00000°, δ74.00000°, λ-52.00000°. NP2: φs248.00000°, δ41.00000°, λ-156.00000°.*
*NEIC **08** 15:15:56.3±2.2, 22°.42N±0°.05×121°.40E±0°.05, h21km±5km Error ellipse: s-maj=9.0km s-min=4.7km az=223.0*
*TAP **08** 15:15:56.3, 22°.41N×121°.37E, h20km, ML4.3, C*
*IDC **08** 15:16:01.5±3.6, 22°.17N×122°.07E, h108km±38km, mb3.4/11, mb1 3.4/13, mb1mx3.3/63, mbtmp3.7/13, MS3.3/6, Ms1 3.3/6, ms1mx3.0/33, Error ellipse: s-maj=25.0km s-min=15.6km az=74.0*

ISC 08 15:15:54.7±1.1**, 22°.41N**±0°.02×**121°.46E**±0°.02**, h12**km±7km**, n155, σ1s11**/202**, mb3.9**/18**, MS3.3**/4**, 6C-15D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LDUT	**Ludao**	**0.26**	**2**⇑	*i*P	**Pb**	**15 16 02.9**	**+1.5**
	baz=28						
LDUT				*i* S	**Sb**	**15 16 07.5**	**+1.6**
	baz=28						
LAY	**Lan-yu**	**0.38**	**167**⇓	*i*P	**Pb**	**15 16 04.2**	**+0.8**
	baz=155						
LAY				S	**Sb**	**15 16 10.7**	**+1.5**
	baz=155						
TTN	**Taitung**	**0.45**	**320**⇑	*i*P	**Pb**	**15 16 05.8**	**+1.2**
	baz=337						
TTN				*e*S	**Sb**	**15 16 13.2**	**+2.0**
	baz=337						
ECL	**Taimali**	**0.51**	**292**⇓	*i*P	**Pb**	**15 16 05.2**	**-0.4**
	baz=297						
ECL				*i* S	**Sg**	**15 16 11.9**	**+0.6**
	baz=297						
TAW	**Tawu**	**0.53**	**264**⇓	*i*P	**Pb**	**15 16 05.3**	**-0.6**
	baz=263						
TAW				*i* S	**Sg**	**15 16 11.6**	**-0.4**
	baz=263						
TWGBT	**Beinan**	**0.54**	**319**⇓	*i*P	**Pb**	**15 16 06.5**	**+0.4**
	baz=313						
TWGBT				S	**Sb**	**15 16 13.7**	**-0.1**
	baz=313						
TWG	**Pinlang**	**0.55**	**319**⇓	*i*P	**Pb**	**15 16 06.5**	**+0.2**
	baz=313						
TWG				S	**Sb**	**15 16 14.2**	**+0.2**
	baz=313						
TWG	**Pinlang**	**0.55**	**319**	Pg	**Pb**	**15 16 06.3**	**+0.1**
TWG				Sg	**Sg**	**15 16 12.5**	**-0.1**
EAST	**Anshuo**	**0.57**	**267**⇓	*i*P	**Pg**	**15 16 06.0**	**+0.2**
	baz=267						
EAST				*i* S	**Sg**	**15 16 12.9**	**-0.5**
	baz=267						
EDH	**Donghe**	**0.58**	**345**	P	**Pb**	**15 16 07.3**	**+0.5**
	baz=4.0						
EDH				*e*S	**Sb**	**15 16 15.6**	**+0.6**
	baz=4.0						
LONT	**Longtian**	**0.58**	**328**	P	**Pb**	**15 16 07.5**	**+0.7**
	baz=320						
LONT				*e*S	**Sb**	**15 16 16.6**	**+1.5**
	baz=320						
SLIU	**Shizi**	**0.64**	**253**⇓	*i*P	**Pg**	**15 16 07.2**	**-0.1**
	baz=250						
SLIU				S	**Sg**	**15 16 14.8**	**-0.9**
	baz=250						
CHKT	**Chengkung**	**0.69**	**353**⇓	*i*P	**Pb**	**15 16 09.2**	**+0.5**
	baz=9.0						
CHKT				S	**Sb**	**15 16 18.7**	**+0.5**
	baz=9.0						
ECS	**Chishang**	**0.72**	**342**	*e*P	**Pn**	**15 16 10.6**	**-0.1**
	baz=334						
ECS				*e*S	**Sn**	**15 16 22.4**	**+0.7**
	baz=334						
TSEB	**Hengchuen, Pin**	**0.73**	**226**⇑	*i*P	**Pb**	**15 16 09.5**	**+0.2**
	baz=234						
TSEB				*i* S	**Sb**	**15 16 19.2**	**0.0**
	baz=234						
TWKBT	**Hengchun**	**0.76**	**232**⇑	*i*P	**Pb**	**15 16 09.4**	**-0.5**
	baz=228						
TWKBT				*i* S	**Sg**	**15 16 18.8**	**-0.7**
	baz=228						
TWK1	**Hengchun**	**0.77**	**233**⇑	*i*P	**Pg**	**15 16 09.4**	**-0.1**
	baz=228						
TWK1				*i* S	**Sg**	**15 16 18.8**	**-0.8**
	baz=228						
SCZT	**Fangliau**	**0.78**	**267**⇓	*i*P	**Pg**	**15 16 09.4**	**-0.4**
	baz=276						
HEN	**Hengchun**	**0.78**	**239**	P	**Pb**	**15 16 10.0**	**-0.3**
	baz=225						
HEN				S	**Sg**	**15 16 19.4**	**-0.7**
	baz=225						
MASBT	**Mashibuluo**	**0.79**	**285**⇓	*i*P	**Pg**	**15 16 09.6**	**-0.4**
	baz=287						
FULB	**Fuli**	**0.80**	**349**	*e*P	**Pb**	**15 16 11.0**	**+0.4**
	baz=339						
FULB				*e*S	**Sb**	**15 16 22.5**	**+1.1**
	baz=339						
TSMG	**Majia**	**0.81**	**291**	P	**Pg**	**15 16 10.0**	**-0.4**
	baz=295						
SSD	**Sandimen**	**0.84**	**294**⇓	*i*P	**Pg**	**15 16 10.3**	**-0.6**
	baz=305						
ELDTW	**Lidau**	**0.88**	**332**	P	**Pg**	**15 16 11.2**	**-0.5**
	baz=338						
ECBN	**Changbin**	**0.90**	**359**	*e*P	**Pb**	**15 16 12.8**	**+0.5**
	baz=14						
EYUL	**Yuli**	**0.94**	**352**	*e*P	**Pn**	**15 16 14.0**	**+0.2**
	baz=344						
SGLT	**Jiouru**	**0.95**	**289**	*e*P	**Pb**	**15 16 13.3**	**+0.2**
	baz=292						
TWF1	**Yuli**	**0.95**	**351**	*e*P	**Pn**	**15 16 13.7**	**-0.2**
	baz=343						
STYH	**Taoyuan**	**0.99**	**320**	*e*P	**Pg**	**15 16 13.7**	**-0.1**
	baz=336						
YULB	**Yu-li**	**0.99**	**351**	*e*P	**Pg**	**15 16 13.8**	**-0.1**
	baz=344						
YULB	**Yu-li**	**0.99**	**351**		**Pn**	**15 16 14.3**	**-0.1**
STYT	**Tauyuan**	**0.99**	**319**	*e*P	**Pg**	**15 16 13.6**	**-0.3**
	baz=335						
WLCH	**Liuqiu**	**1.00**	**267**	*e*P	**Pn**	**15 16 15.7**	**+1.1**
	baz=253						
SCST	**Cishan**	**1.01**	**298**	*e*P	**Pb**	**15 16 14.4**	**+0.3**
	baz=306						
SGST	**Jiashian**	**1.05**	**310**	⇓P	**Pg**	**15 16 14.5**	**-0.5**
	baz=317						
SGST				S	**Sn**	**15 16 30.2**	**+0.3**
	baz=317						
HGSD	**Ruisui**	**1.08**	**358**	*e*P	**Pn**	**15 16 15.9**	**+0.2**
	baz=10.0						
KAU	**Kaohsiung**	**1.08**	**279**	*e*P	**Pn**	**15 16 17.2**	**+1.6**
	baz=279						
KAU				*e*S	**Sn**	**15 16 33.1**	**+2.6**
	baz=279						
SNJT	**Kaohsiung City**	**1.10**	**288**	*e*P	**Pn**	**15 16 17.1**	**+1.2**
	baz=291						
EHY	**Hungye**	**1.10**	**353**	P	**Pb**	**15 16 15.2**	**-0.5**
	baz=345						
WTP	**Ta-pu**	**1.14**	**317**⇓	*i*P	**Pn**	**15 16 17.0**	**+0.4**
	baz=331						
WTP				S	**Sn**	**15 16 34.3**	**+2.1**
	baz=331						
CHN1	**Nanshi**	**1.16**	**312**⇓	*i*P	**Pn**	**15 16 17.5**	**+0.7**
	baz=315						
CHN1				S	**Sn**	**15 16 34.3**	**+1.8**
	baz=315						
TPUB	**Ta-pu**	**1.17**	**319**	⇓P	**Pg**	**15 16 17.4**	**+0.1**
	baz=323						
TPUB				S	**Sn**	**15 16 33.7**	**+0.8**
	baz=323						
TPUB	**Ta-pu**	**1.17**	**319**	Pn	**Pg**	**15 16 17.4**	**+0.1**
TPUB				Sn	**Sb**	**15 16 31.2**	**-0.9**
YUS	**Yu-Shan**	**1.17**	**336**	P	**Pg**	**15 16 17.2**	**-0.2**
	baz=341						
SNST	**Tainan City**	**1.20**	**312**	P	**Pg**	**15 16 18.5**	**+0.6**
	baz=316						
SNST				*e*S	**Sn**	**15 16 35.7**	**+2.1**
	baz=316						
CHN3	**Shinhua**	**1.21**	**303**	P	**Pg**	**15 16 19.7**	**+1.7**
	baz=306						
CHN3				*e*S	**Sn**	**15 16 36.9**	**+3.1**
	baz=306						
CHN4	**Tsaushan**	**1.23**	**320**	P	**Pn**	**15 16 16.1**	**-1.7**
	baz=335						
CHN4				*e*S	**Sg**	**15 16 34.6**	**+0.1**
	baz=335						
TWK	**Hsinying**	**1.24**	**314**	*i* P	**Pg**	**15 16 18.6**	**0.0**
	baz=329						
TWK				S	**Sn**	**15 16 35.1**	**+0.5**
	baz=329						
ALS	**Alishan**	**1.25**	**331**	P	**Pn**	**15 16 18.4**	**0.0**
	baz=335						
ALS				*e*S	**Sn**	**15 16 38.1**	**+2.8**
	baz=335						
EGFH	**Guangfu**	**1.25**	**359**	*e*P	**Pn**	**15 16 18.3**	**+0.3**
	baz=349						
CHN5	**Tsauling**	**1.39**	**329**	*e*P	**Pg**	**15 16 21.0**	**-0.3**
	baz=332						
CHN5				*e*S	**Sg**	**15 16 41.4**	**+2.0**
	baz=332						
SCLT	**Jiali**	**1.40**	**303**	P	**Pb**	**15 16 20.7**	**0.0**
	baz=305						
SCLT				S	**Sg**	**15 16 39.3**	**-0.4**
	baz=305						
ESL	**Shilin**	**1.40**	**359**	*e*P	**Pn**	**15 16 20.3**	**+0.2**
	baz=351						
WHYT	**Xinyi Township**	**1.40**	**336**	*e*P	**Pg**	**15 16 21.5**	**-0.1**
	baz=340						
WHYT				*e*S	**Sg**	**15 16 41.7**	**+1.9**
	baz=340						
CHN2	**Minshiung**	**1.44**	**321**	*e*P	**Pg**	**15 16 22.4**	**0.0**
	baz=324						
CHN2				*e*S	**Sg**	**15 16 41.4**	**+0.3**
	baz=324						
ICHU	**Yijhu**	**1.44**	**311**	*e*P	**Pb**	**15 16 21.3**	**-0.2**
	baz=314						
ICHU				*e*S	**Sn**	**15 16 39.5**	**-0.1**
	baz=314						
CHY	**Chiayi**	**1.45**	**319**	*e*P	**Pg**	**15 16 22.1**	**-0.3**
	baz=322						
CHY				*e*S	**Sg**	**15 16 40.9**	**-0.4**
	baz=322						
SSLB	**Suanglung**	**1.45**	**341**	*e*P	**Pb**	**15 16 22.0**	**+0.3**
	baz=355						
SSLB	**Suanglung**	**1.45**	**341**	Pn	**Pn**	**15 16 21.2**	**+0.4**
CHN8	**Yiju**	**1.48**	**309**	*e*P	**Pb**	**15 16 22.0**	**-0.2**
	baz=312						
CHN8				*e*S	**Sb**	**15 16 41.2**	**+0.2**
	baz=312						
WDLH	**Douliu**	**1.53**	**326**	*e*P	**Pb**	**15 16 23.5**	**+0.5**
	baz=329						
WDLH				*e*S	**Sg**	**15 16 43.6**	**-0.4**
	baz=329						
ETM	**Tongmen**	**1.55**	**1**	*e*P	**Pn**	**15 16 22.4**	**+0.3**
	baz=353						
SMLT	**Sun Moon Lake**	**1.56**	**341**	P	**Pb**	**15 16 23.8**	**+0.2**
	baz=345						
SMLT				*e*S	**Sg**	**15 16 44.9**	**0.0**
	baz=345						
OWD	**Renai**	**1.56**	**350**	*e*P	**Pb**	**15 16 23.5**	**-0.1**
	baz=6.0						
WJS	**Zhushan**	**1.56**	**334**	*e*P	**Pg**	**15 16 24.8**	**+0.1**
	baz=338						
WJS				*e*S	**Sg**	**15 16 45.4**	**+0.4**
	baz=338						
TYC	**Yuchr**	**1.59**	**340**	*e*P	**Pb**	**15 16 24.6**	**+0.6**
	baz=354						
WTK	**Tuku**	**1.61**	**322**	*e*P	**Pb**	**15 16 24.3**	**-0.1**
	baz=325						
WTK				*e*S	**Sb**	**15 16 45.0**	**+0.3**
	baz=325						
WNT	**Mingjian**	**1.63**	**334**	P	**Pg**	**15 16 25.5**	**-0.4**
	baz=338						
WNT				*e*S	**Sg**	**15 16 47.1**	**0.0**
	baz=338						
CHGB	**Renai**	**1.66**	**351**	*e*P	**Pb**	**15 16 24.8**	**-0.6**

	baz=7.0						
TWD	**Chiawan**	**1.67**	**4**	*e*P	**Pn**	**15 16 24.6**	**+0.8**
	baz=355						
WSF	**Szhu**	**1.67**	**317**	*e*P	**Pn**	**15 16 24.8**	**+1.0**
	baz=320						
WSF				*e*S	**Sb**	**15 16 46.3**	**-0.2**
	baz=320						
WCS	**Beigang Elemen**	**1.72**	**343**	*e*P	**Pb**	**15 16 26.5**	**+0.3**
	baz=346						
WHF	**Hehuan Shan**	**1.74**	**354**	*e*P	**Pn**	**15 16 25.7**	**+0.6**
	baz=10.0						
NACB	**Ninganchiao**	**1.76**	**4**	*e*P	**Pn**	**15 16 24.9**	**-0.1**
	baz=355						
NACB	**Ninganchiao**	**1.76**	**4**	Pn	**Pn**	**15 16 24.9**	**-0.1**
ETLH	**Xiulin Townshi**	**1.79**	**1**	*e*P	**Pb**	**15 16 27.0**	**-0.5**
	baz=4.0						
WRL	**Guolierlin Hig**	**1.79**	**326**	*e*P	**Pb**	**15 16 26.6**	**-0.8**
	baz=329						
WTCT	**Ta-ch'eng**	**1.81**	**323**	*e*P	**Pb**	**15 16 27.6**	**-0.2**
	baz=326						
FUSS	**Fushou**	**1.84**	**354**	*e*P	**Pn**	**15 16 27.6**	**+1.2**
	baz=8.0						
TDCB	**Techi**	**1.86**	**351**	*e*P	**Pb**	**15 16 29.2**	**+0.5**
	baz=6.0						
WCHH	**Zhanghua**	**1.86**	**334**	*e*P	**Pb**	**15 16 28.7**	**+0.1**
	baz=318						
WHP	**Taichung City**	**1.92**	**346**	*e*P	**Pb**	**15 16 30.1**	**+0.4**
	baz=360						
NNS	**Nan Shan**	**2.02**	**358**	*e*P	**Pb**	**15 16 31.0**	**-0.5**
	baz=10.0						
ENA	**Nanau**	**2.03**	**7**	*e*P	**Pn**	**15 16 29.5**	**+0.8**
	baz=358						
TWQ1	**Liyutan**	**2.03**	**342**	*e*P	**Pb**	**15 16 31.5**	**-0.1**
	baz=345						
TWQ1				*e*S	**Sb**	**15 16 57.2**	**+0.4**
	baz=345						
EWUT	**Wuta**	**2.05**	**8**	*e*P	**Pb**	**15 16 32.7**	**+0.9**
	baz=358						
PHUB	**P'eng-hu**	**2.06**	**303**	*e*P	**Pn**	**15 16 28.5**	**-0.6**
	baz=305						
WDJ	**Dajia District**	**2.07**	**339**	*e*P	**Pb**	**15 16 31.8**	**-0.5**
	baz=341						
NSY	**Sanyi**	**2.10**	**342**	*e*P	**Pb**	**15 16 32.9**	**+0.1**
	baz=345						
PNG	**Penghu**	**2.10**	**304**	*e*P	**Pn**	**15 16 28.7**	**-1.0**
	baz=306						
TWC	**Suao**	**2.22**	**9**	*e*P	**Pb**	**15 16 33.7**	**-1.1**
	baz=360						
NDS	**Dongshan**	**2.23**	**6**	*e*P	**Pb**	**15 16 33.7**	**-1.2**
	baz=358						
NSTT	**Nanjuang**	**2.25**	**349**	*e*P	**Pb**	**15 16 34.3**	**-1.1**
	baz=335						
YHNB	**Yeheng**	**2.25**	**358**	*e*P	**Pb**	**15 16 33.9**	**-1.5**
	baz=14						
YHNB	**Yeheng**	**2.25**	**358**	Pn	**Pn**	**15 16 32.4**	**+0.6**
NSK	**Sanguang**	**2.26**	**358**	*e*P	**Pn**	**15 16 33.8**	**+1.9**
	baz=14						
LIOB	**Emei**	**2.26**	**350**	*e*P	**Pb**	**15 16 34.2**	**-1.4**
	baz=336						
TWE	**Neicheng**	**2.31**	**5**	*e*P	**Pb**	**15 16 35.8**	**-0.5**
	baz=8.0						
JYNG	**Yonagunijimaku**	**2.45**	**34**	P	**Pn**	**15 16 36.6**	**+2.1**
JYNG				S	**Sn**	**15 17 04.8**	**+0.5**
YOJ	**Yonaguni jima**	**2.49**	**35**	P	**Pn**	**15 16 37.0**	**+1.9**
YOJ				*e*S	**Sn**	**15 17 06.2**	**+0.8**
YOJ	**Yonaguni jima**	**2.49**	**35**	Pn	**Pn**	**15 16 36.7**	**+1.6**
TATO	**Taipei**	**2.55**	**1**	Pn	**Pn**	**15 16 36.3**	**+0.4**
NWF	**Wu-fen Shan**	**2.67**	**6**	*e*P	**Pn**	**15 16 40.0**	**+2.4**
	baz=9.0						
HATJ	**Hateruma jima**	**2.71**	**52**	P	**Pn**	**15 16 39.4**	**+1.3**
HATJ				S	**Sn**	**15 17 09.5**	**-1.3**
YM01	**YM01**	**2.73**	**2**	*e*P	**Pn**	**15 16 41.0**	**+2.6**
	baz=5.0						
IRIF	**Iriomote-Funau**	**2.83**	**47**	P	**Pn**	**15 16 41.3**	**+1.6**
IRIF				*e*S	**Sn**	**15 17 14.0**	**+0.2**
JKRS	**Kuro-shima**	**2.96**	**52**	P	**Pn**	**15 16 43.2**	**+1.6**
JKRS				*e*S	**Sn**	**15 17 17.4**	**+0.3**
JIJ	**Ishigaki jima**	**3.14**	**51**	P	**Pn**	**15 16 45.0**	**+1.0**
JIJ				*e*S	**Sn**	**15 17 21.8**	**+0.4**
JISG	**Ishigakijimahi**	**3.40**	**50**	P	**Pn**	**15 16 47.8**	**+0.3**
JISG				*e*S	**Sn**	**15 17 27.8**	**0.0**
KNMB	**Chin-men Tao**	**3.49**	**307**	Pn	**Pn**	**15 16 48.3**	**-0.4**
JTJ	**Tarama**	**3.71**	**53**	P	**Pn**	**15 16 53.5**	**+1.6**
JTJ				S	**Sn**	**15 17 35.9**	**+0.4**
JIRB	**Irabujima**	**4.17**	**54**	P	**Pn**	**15 16 59.8**	**+1.7**
JIRB				S	**Sn**	**15 17 46.2**	**-0.6**
JMJ2	**Miyako jima3**	**4.24**	**56**	P	**Pn**	**15 17 00.7**	**+1.6**
JMJ2				S	**Sn**	**15 17 49.2**	**+0.7**
JIKM	**Ikemajima**	**4.28**	**53**	P	**Pn**	**15 17 01.2**	**+1.5**
JIKM				*e*S	**Sn**	**15 17 49.5**	**0.0**
JOGS	**Gusukube**	**4.31**	**56**	P	**Pn**	**15 17 01.7**	**+1.6**
JOGS				*e*S	**Sn**	**15 17 51.2**	**+0.9**
APYP	**Conner**	**4.53**	**183⇑**	*e*P	**Pn**	**15 17 04.8**	**+1.7**
APYP				*i* S	**Sn**	**15 17 58.6**	**+2.9**
JOW	**Kunigami**	**7.60**	**53**	P	**Pn**	**15 17 44.4**	**-1.0**
	1.2nm,0.3s,baz=2.2,slow=19,SNR=1.2						
JOW				S	**Sn**	**15 19 08.8**	**-2.6**
	0.8nm,0.3s,baz=42,slow=23,SNR=1.3						
JOW	**Kunigami**	**7.60**	**53**	Pn	**Pn**	**15 17 44.8**	**-0.6**
DAV	**Davao City (W)**	**15.76**	**165**	LR	LR	15 25 48.0	
	comp=Z,81nm,20.4s,baz=334,slow=38						
KSRS	**Korea Array**	**16.00**	**19**	P	**P**	**15 19 42.4**	**-0.7**
	0.0nm,0.3s,baz=199,slow=12,SNR=2.2						
KSRS				LR	LR	15 25 22.7	
	comp=Z,45nm,19.6s,baz=195,slow=35						
CMAR	**Chiang Mai Arr**	**21.46**	**264**	P	**P**	**15 20 46.9**	**+3.7**
	0.7nm,0.8s,baz=68,slow=7.9,SNR=5.0						
CMAR				LR	LR	15 31 01.0	
	comp=Z,67nm,18.2s,baz=250,slow=41						
USRK	**Ussuriysk Ar.**	**23.41**	**19**	P	**P**	**15 21 00.5**	**-2.9**
	0.5nm,0.5s,baz=213,slow=8.2,SNR=1.4						
USRK	**Ussuriysk Ar.**	**23.41**	**19**	P	**P**	**15 21 05.5**	**+2.1**
FAKI	**Fak Fak**	**27.29**	**156**	P	**P**	**15 21 40.1**	**+0.8**
SONM	**Songino Array**	**28.10**	**338**	P	**P**	**15 21 46.0**	**-0.4**
	0.3nm,0.4s,baz=164,slow=7.5,SNR=2.8						
SONM				LR	LR	15 33 45.2	
	comp=Z,131nm,19.3s,baz=136,slow=37						
KNRA	**Kununurra**	**38.52**	**169**	P	**P**	**15 23 15.1**	**-2.0**
KNRA				IAmb	IAmb	15 23 43.0	
	comp=Z,14nm,1.4s						
MK31	**Makanchi Array**	**39.80**	**317**	P	**P**	**15 23 28.7**	**+1.0**
MKAR	**Makanchi Array**	**39.80**	**317**	P	**P**	**15 23 28.9**	**+1.2**
	comp=Z,1.6nm,0.9s,baz=110,slow=9.0,SNR=11						
MKAR	**Makanchi Array**	**39.80**	**317**	P	**P**	**15 23 29.2**	**+1.6**
FITZ	**Fitzroy Crossi**	**40.47**	**174**	P	P	15 23 27.6	-5.8
	comp=Z,0.5nm,0.5s,baz=329,slow=7.9,SNR=1.8						
ZALV	**Zalesovo Beam**	**41.87**	**328**	P	**P**	**15 23 44.9**	**+0.3**
	comp=Z,2.0nm,0.6s,baz=76,slow=6.3,SNR=6.1						
ZALV				LR	LR	15 41 18.6	
	comp=Z,29nm,18.8s,baz=83,slow=36						
ZALV	**Zalesovo Beam**	**41.87**	**328**	P	**P**	**15 23 45.3**	**+0.6**
H11N1	**WAKE ISLAND Hy**	**42.36**	**85**	T	T	16 09 18.9	
	baz=282,slow=75,SNR=53						
H11N2	**WAKE ISLAND Hy**	**42.36**	**85**	T	T	16 09 19.0	
	baz=282,slow=75,SNR=104						
H11N3	**WAKE ISLAND Hy**	**42.38**	**85**	T	T	16 09 22.4	
	baz=282,slow=75,SNR=65						
H11S3	**WAKE ISLAND Hy**	**42.44**	**87**	T	T	16 09 26.5	
	baz=284,slow=74,SNR=320						
H11S1	**WAKE ISLAND Hy**	**42.45**	**87**	T	T	16 09 27.2	
	baz=284,slow=74,SNR=341						
H11S2	**WAKE ISLAND Hy**	**42.45**	**87**	T	T	16 09 27.8	
	baz=284,slow=74,SNR=225						
KURBB	**Kurchatov Arra**	**43.63**	**321**	P	**P**	**15 23 59.8**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=112,slow=6.3,SNR=3.5						
WRA	**Warramunga Arr**	**43.93**	**162**	P	P	15 23 54.8	-6.8
	comp=Z,0.4nm,0.6s,baz=345,slow=8.6,SNR=2.5						
WRA	**Warramunga Arr**	**43.93**	**162**	P	**P**	**15 23 59.8**	**-1.9**
WB2	**Warramunga Arr**	**43.94**	**162**	P	**P**	**15 23 59.5**	**-2.2**
WB2				IAmb	IAmb	15 24 21.1	
	comp=Z,6.7nm,1.4s						
WR0	**Warramunga Arr**	**44.01**	**162**	P	**P**	**15 24 00.1**	**-2.2**
WR0				IAmb	IAmb	15 24 11.0	
	comp=Z,4.4nm,1.2s						
GIRL	**Giralia**	**45.33**	**189**	P	**P**	**15 24 13.1**	**+0.4**
AS31	**Alice Springs**	**47.37**	**164**	P	**P**	**15 24 27.7**	**-1.1**
AS31				IAmb	IAmb	15 24 53.2	
	comp=Z,0.9nm,1.1s						
ASAR	**Alice Springs**	**47.37**	**164**	P	P	15 24 21.4	-7.5
	comp=Z,0.2nm,0.8s,baz=351,slow=10,SNR=1.8						
ASAR	**Alice Springs**	**47.37**	**164**	P	**P**	**15 24 27.5**	**-1.4**
ABKAR	**Akbulak array**	**54.87**	**315**	P	**P**	**15 25 24.4**	**-0.5**
GEYT	**Alibeck**	**55.92**	**301**	P	**P**	**15 25 32.2**	**-0.6**
BBOO	**Buckleboo**	**56.65**	**165**	P	**P**	**15 25 36.8**	**-1.1**
BBOO				IAmb	IAmb	15 25 43.4	
	comp=Z,24nm,1.4s						
STKA	**Stephens Creek**	**57.32**	**160**	P	**P**	**15 25 42.2**	**-0.4**
STKA				IAmb	IAmb	15 26 03.3	
	comp=Z,1.4nm,1.2s						
KDAK	**Kodiak Island**	**69.20**	**35**	P	**P**	**15 27 02.0**	**+0.9**
KDAK				IAmb	IAmb	15 27 08.5	
	comp=Z,15nm,1.4s						
ARCES	**ARCESS Array B**	**71.27**	**338**	P	**P**	**15 27 11.5**	**-2.1**
	comp=Z,4.6nm,1.0s,baz=180,slow=38,SNR=1.9						
FINES	**FINESS Array B**	**73.10**	**330**	P	**P**	**15 27 22.2**	**-2.4**
	comp=Z,3.5nm,1.0s,baz=195,slow=36,SNR=1.9						
NOA	**NORSAR Array B**	**79.91**	**332**	LR	LR	16 06 20.4	
	comp=Z,18nm,20.0s,baz=305,slow=38						

MOS ***08*** *15:20:40.8±0.9, 48°.45N×155°.77E, h56km, mb4.3/14, MS3.1/4, Error ellipse: s-maj=10.3km s-min=3.7km az=80.4*

KRSC ***08*** *15:20:40.0±2.2, 48°.48N×155°.81E, h110km±34km, ML4.4*

SKHL ***08*** *15:20:41.4±0.6, 48°.40N×156°.00E, h73km±6km, mb4.7/10*

IDC ***08*** *15:20:44.3±2.5, 48°.58N×155°.40E, h55km±21km, mb3.6/15, mb1 3.7/22, mb1mx3.6/73, mbtmp3.9/22, ML4.0/5, MS3.3/9, Ms1 3.3/9, ms1mx3.0/53, Error ellipse: s-maj=21.7km s-min=13.0km az=131.0*

NEIC ***08*** *15:20:49.0±1.5, 49°.0N±0°.1×154°.6E±0°.1, h59km±6km, mb4.4/34, Error ellipse: s-maj=18.3km s-min=12.8km az=153.0*

ISC 08 15:20:42.9±0.6**, 48°.46N**±0°.06×**155°.73E**±0°.07**, h50**km**, n196,** σ**1s.36**/204**, mb4.2**/39**, MS3.6**/6**, 7C-3D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.24**	**6**	*e*PN	**Pn**	**15 21 16.5**	**-1.1**
SKR				*e*S	**Sn**	**15 21 47.5**	**+3.5**
SKR				pmax	pmax		
	comp=Z,25nm,0.2s						
SKR				smax	smax		
	comp=N,422nm,0.8s						
SKR				smax	smax		
	comp=E,420nm,0.7s						
SKR				MLR	MLR		
	comp=Z,400nm,14.0s						
SKR				MLR	MLR		
	comp=Z,200nm,16.0s						
SKR	**Severo-Kuril's**	**2.24**	**6**	*e*P	**Pn**	**15 21 16.4**	**-1.1**
SKR				*e*S	**Sn**	**15 21 43.3**	**-0.7**
SKR	**Severo-Kuril's**	**2.24**	**6**	*e*P	**Pn**	**15 21 16.4**	**-1.1**
SKR				AMB	AMB	15 21 16.8	
	comp=Z,50nm,0.2s						
SKR				*e*S	**Sn**	**15 21 42.7**	**-1.3**
SKR				A	A	15 21 51.4	
	comp=Z,610nm,0.4s						
SKR				A	A	15 21 51.4	
	comp=Z,420nm,0.4s						
ALID	**Alaid**	**2.42**	**357**	PN	**Pn**	**15 21 20.2**	**+0.1**
ALID	**Alaid**	**2.42**	**357**	*e*P	**Pn**	**15 21 20.2**	**+0.1**
PAU	**Pauzhetka**	**3.09**	**13**	PN	**Pn**	**15 21 29.1**	**-0.1**
PAU				S	**Sn**	**15 22 05.1**	**+0.2**
PAU	**Pauzhetka**	**3.09**	**13**	*e*P	**Pn**	**15 21 29.1**	**-0.1**
PAU				*e*S	**Sn**	**15 22 05.1**	**+0.2**
PAU	**Pauzhetka**	**3.09**	**13**	*e*P	**Pn**	**15 21 28.6**	**-0.6**
PAU				AMB	AMB	15 21 32.7	
	comp=Z,60nm,0.3s						
PAU				*e*S	**Sn**	**15 22 03.6**	**-1.3**
PAU				A	A	15 22 07.0	
	comp=Z,210nm,0.3s						
PAU				A	A	15 22 07.0	
	comp=Z,380nm,0.3s						
KDTR	**Khodutka, Kamc**	**3.68**	**23**	PN	**Pn**	**15 21 36.1**	**-1.1**
KDTR				S	**Sn**	**15 22 16.6**	**-2.7**
KDTR	**Khodutka, Kamc**	**3.68**	**23**	*e*P	**Pn**	**15 21 36.1**	**-1.1**
KDTR				*e*S	**Sn**	**15 22 16.6**	**-2.7**
MIPR	**Malaya Ipel'ka**	**3.88**	**9**	PN	**Pn**	**15 21 39.6**	**-0.4**
MIPR	**Malaya Ipel'ka**	**3.88**	**9**	*e*P	**Pn**	**15 21 39.6**	**-0.4**
ASAK	**Asacha**	**4.17**	**19**	PN	**Pn**	**15 21 43.7**	**-0.3**
ASAK	**Asacha**	**4.17**	**19**	*e*P	**Pn**	**15 21 43.7**	**-0.3**
MTVR	**Mutnovka**	**4.33**	**20**	PN	**Pn**	**15 21 45.4**	**-0.8**
MTVR				S	**Sn**	**15 22 34.4**	**-1.0**
MTVR	**Mutnovka**	**4.33**	**20**	*e*P	**Pn**	**15 21 45.4**	**-0.8**
MTVR				*e*S	**Sn**	**15 22 34.4**	**-1.0**
RUS	**Russkaya**	**4.36**	**23**	PN	**Pn**	**15 21 45.3**	**-1.3**
RUS				S	**Sn**	**15 22 33.7**	**-2.3**
RUS	**Russkaya**	**4.36**	**23**	*e*P	**Pn**	**15 21 45.3**	**-1.3**
RUS				*e*S	**Sn**	**15 22 33.7**	**-2.3**
RUS	**Russkaya**	**4.36**	**23**	*e*P	**Pn**	**15 21 45.3**	**-1.3**
GRL	**Gorelyy**	**4.36**	**19**	PN	**Pn**	**15 21 46.4**	**-0.4**
GRL				S	**Sn**	**15 22 36.5**	**+0.2**
GRL	**Gorelyy**	**4.36**	**19**	*e*P	**Pn**	**15 21 46.4**	**-0.4**
GRL				*e*S	**Sn**	**15 22 36.5**	**+0.2**
APC	**Apacha**	**4.56**	**11**	PN	**Pn**	**15 21 49.5**	**+0.1**
APC	**Apacha**	**4.56**	**11**	*e*P	**Pn**	**15 21 49.5**	**+0.1**
KRMR	**Karymshinskiy**	**4.64**	**18**	PN	**Pn**	**15 21 51.4**	**+1.0**
KRMR	**Karymshinskiy**	**4.64**	**18**	*e*P	**Pn**	**15 21 51.4**	**+1.0**
PEA0B	**Petropavlovsk-**	**4.82**	**14**	*ce*PN	**Pn**	**15 21 53.2**	**+0.3**
PEA0B	**Petropavlovsk-**	**4.82**	**14**	Pn	**Pn**	**15 21 51.5**	**-1.4**
PETK	**Petropavlovsk-**	**4.82**	**14**	P	**Pn**	**15 21 53.2**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=360,slow=16,SNR=15						
PETK				S	**Sn**	**15 22 48.4**	**+0.9**
	baz=101,slow=38,SNR=1.9						
PETK				LR	LR	15 24 02.6	
	comp=Z,199nm,18.7s,baz=190,slow=42						
PETK	**Petropavlovsk-**	**4.82**	**14**	Pn	**Pn**	**15 21 51.6**	**-1.3**
PET	**Petropavlovsk**	**4.94**	**21**	*e*PN	**Pn**	**15 21 53.7**	**-0.7**
PET				*e*S	**Sn**	**15 22 49.4**	**-0.7**
PET				pmax	pmax		
	comp=Z,45nm,0.5s						
PET				smax	smax		
	comp=E,98nm,0.6s						
PET				smax	smax		
	comp=N,87nm,0.5s						
PET	**Petropavlovsk**	**4.94**	**21**	*e*P	**Pn**	**15 21 53.6**	**-0.8**
PET				*e*S	**Sn**	**15 22 48.9**	**-1.2**
PET	**Petropavlovsk**	**4.94**	**21**		**Pn**	**15 21 53.5**	**-1.0**
PET	**Petropavlovsk**	**4.94**	**21**	*e*P	**Pn**	**15 21 53.7**	**-0.7**
PET				AMB	AMB	15 22 07.9	
	comp=N,50nm,0.5s						
PET				*e*S	**Sn**	**15 22 49.4**	**-0.7**
PET				A	A	15 22 51.5	
	comp=N,87nm,0.5s						
PET				A	A	15 22 51.5	
	comp=N,98nm,0.5s						
UGLR	**Uglovaya**	**5.15**	**21**	PN	**Pn**	**15 21 56.2**	**-1.3**
UGLR	**Uglovaya**	**5.15**	**21**	*e*P	**Pn**	**15 21 56.2**	**-1.3**
UGLR				*e*S	**Sn**	**15 22 51.8**	**-3.7**
AVH	**Avacha**	**5.18**	**20**	PN	**Pn**	**15 21 58.5**	**+0.6**
AVH				S	**Sn**	**15 22 54.6**	**-1.7**
AVH	**Avacha**	**5.18**	**20**	*e*P	**Pn**	**15 21 58.5**	**+0.6**
AVH				*e*S	**Sn**	**15 22 54.6**	**-1.7**
AVH	**Avacha**	**5.18**	**20**	*e*P	**Pn**	**15 21 58.5**	**+0.6**
KOK	**Koryaka**	**5.18**	**20**	PN	**Pn**	**15 21 58.6**	**+0.7**
KOK	**Koryaka**	**5.18**	**20**	*e*P	**Pn**	**15 21 58.6**	**+0.7**
KOK	**Koryaka**	**5.18**	**20**	*e*P	**Pn**	**15 21 58.6**	**+0.7**
SMAR	**Somma**	**5.19**	**21**	PN	**Pn**	**15 21 59.0**	**+0.8**
SMAR	**Somma**	**5.19**	**21**	*e*P	**Pn**	**15 21 59.0**	**+0.8**
KRER	**Koryakskii**	**5.22**	**20**	PN	**Pn**	**15 21 58.4**	**-0.1**
KRER	**Koryakskii**	**5.22**	**20**	*e*P	**Pn**	**15 21 58.4**	**-0.1**
SDLR	**Sedlovina**	**5.22**	**21**	PN	**Pn**	**15 21 57.4**	**-1.1**
SDLR	**Sedlovina**	**5.22**	**21**	*e*P	**Pn**	**15 21 57.4**	**-1.1**
KRX	**Arik**	**5.24**	**20**	PN	**Pn**	**15 21 58.9**	**+0.1**
KRX				S	**Sn**	**15 22 56.3**	**-1.7**
KRX	**Arik**	**5.24**	**20**	*e*P	**Pn**	**15 21 58.9**	**+0.1**
KRX				*e*S	**Sn**	**15 22 56.3**	**-1.7**
NLC	**Nalytchevo**	**5.25**	**25**	PN	**Pn**	**15 21 56.3**	**-2.4**
NLC	**Nalytchevo**	**5.25**	**25**	*e*P	**Pn**	**15 21 56.3**	**-2.4**
NLC				*e*S	**Sn**	**15 22 53.7**	**-4.1**
SPN	**Mys Shipunski**	**5.39**	**29**	PN	**Pn**	**15 21 59.7**	**-0.9**
SPN				S	**Sn**	**15 22 59.3**	**-1.9**
SPN	**Mys Shipunski**	**5.39**	**29**	*e*P	**Pn**	**15 21 59.7**	**-0.9**
SPN				*e*S	**Sn**	**15 22 59.3**	**-1.9**
SPN	**Mys Shipunski**	**5.39**	**29**	*e*P	**Pn**	**15 21 59.7**	**-0.9**
GNL	**Ganaly**	**5.43**	**14**	PN	**Pn**	**15 22 01.9**	**+0.6**
GNL	**Ganaly**	**5.43**	**14**	*e*P	**Pn**	**15 22 01.9**	**+0.6**
KII	**Karymskiy**	**6.05**	**21**	PN	**Pn**	**15 22 09.8**	**-0.1**
KII	**Karymskiy**	**6.05**	**21**	P	**Pn**	**15 22 09.8**	**-0.1**
KUR	**Kuril'sk**	**6.28**	**242**	*e*PN	**Pn**	**15 22 12.5**	**-0.4**
KUR				pmax	pmax		
	comp=Z,93nm,0.6s						
KUR				pmax	pmax		
	comp=N,28nm,0.5s						
KUR				pmax	pmax		
	comp=E,15nm,0.3s						
KUR	**Kuril'sk**	**6.28**	**242**	*e*P	**Pn**	**15 22 12.6**	**-0.4**
KUR				AMB	AMB	15 22 19.0	
	comp=E,120nm,0.5s						
KUR				*i* S	**Sn**	**15 23 21.4**	**-1.9**
KUR				A	A	15 23 32.5	
	comp=E,32nm,0.6s						
KUR				A	A	15 23 32.5	
	comp=E,50nm,0.6s						
MKZ	**Mys Kozlova**	**7.16**	**29**	PN	**Pn**	**15 22 24.0**	**-0.9**
MKZ	**Mys Kozlova**	**7.16**	**29**	*e*P	**Pn**	**15 22 24.0**	**-0.9**
KZV	**Kizimen**	**7.24**	**21**	PN	**Pn**	**15 22 25.8**	**-0.4**
KZV	**Kizimen**	**7.24**	**21**	*e*P	**Pn**	**15 22 25.8**	**-0.4**
TUMR	**Tumrok**	**7.36**	**20**	PN	**Pn**	**15 22 28.1**	**+0.3**
TUMR	**Tumrok**	**7.36**	**20**	*e*P	**Pn**	**15 22 28.1**	**+0.3**
KMNR	**Kamenistaya**	**7.82**	**19**	PN	**Pn**	**15 22 32.8**	**-1.2**
KMNR	**Kamenistaya**	**7.82**	**19**	*e*P	**Pn**	**15 22 32.8**	**-1.2**
YUK	**Yuzh-Kuril'sk**	**8.14**	**241**	*e*P	**Pn**	**15 22 41.1**	**+2.7**
YUK				AMB	AMB	15 22 45.1	
	comp=E,60nm,0.4s						
YUK				*e*S	**Sn**	**15 24 08.1**	**-0.9**
YUK				A	A	15 24 10.1	
	comp=E,50nm,0.4s						
YUK				A	A	15 24 10.1	
	comp=E,70nm,0.4s						
NMR	**Nemuro--Hokkai**	**8.63**	**238**	*e*P	**Pn**	**15 22 42.2**	**-2.9**
NMR				*e*S	**Sn**	**15 24 19.5**	**-1.4**
TYV	**Tymovskoe**	**8.82**	**291**	*e*PN	**Pn**	**15 22 50.0**	**+2.4**
TYV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TYV				pmax	pmax		
	comp=Z,100nm,2.6s						
TYV	**Tymovskoe**	**8.82**	**291**	*e*P	**Pn**	**15 22 49.3**	**+1.7**
TYV				AMB	AMB	15 22 50.4	
	comp=Z,6.0nm,0.5s						
TYV				*e*S	**Sn**	**15 24 25.1**	**-0.4**
YSS	**Yuzh-Sakhalins**	**8.88**	**265**	*e*PN	**Pn**	**15 22 49.5**	**+1.0**
YSS				MLR	MLR		
	comp=Z,100nm,16.0s						
YSS	**Yuzh-Sakhalins**	**8.88**	**265**	Pn	Pn	15 22 43.8	-4.8
YSS	**Yuzh-Sakhalins**	**8.88**	**265**	*e*P	**Pn**	**15 22 49.5**	**+1.0**
YSS				AMB	AMB	15 22 53.7	
	comp=Z,10.0nm,0.5s						
KBTR	**Krutoberegovo**	**8.89**	**27**	PN	**Pn**	**15 22 49.2**	**+0.6**
KBTR	**Krutoberegovo**	**8.89**	**27**	*e*P	**Pn**	**15 22 49.2**	**+0.6**
BKI	**Bering**	**9.26**	**39**	*e*S	Sn	15 24 26.3	-10
AKK	**Akkeshi**	**9.35**	**238**	*e*P	**Pn**	**15 22 54.5**	**-0.5**
OKH	**Okha**	**9.54**	**307**	*e*P	**Pn**	**15 23 00.9**	**+3.4**
OKH				AMB	AMB	15 23 09.9	
	comp=Z,40nm,0.8s						
OKH				*e*S	**Sn**	**15 24 45.6**	**+2.5**
JKA	**Kamikawa-asahi**	**10.07**	**249**	Pn	**Pn**	**15 23 04.5**	**-0.3**
JKA	**Kamikawa-asahi**	**10.07**	**249**	*e*P	**Pn**	**15 23 04.8**	**0.0**
ASAJ	**Asahikawa**	**10.07**	**249**	P	**Pn**	**15 23 04.8**	**0.0**
	comp=Z,1.0nm,0.3s,baz=87,slow=17,SNR=12						
ASAJ				LR	LR	15 26 40.1	
	comp=Z,163nm,19.0s,baz=100,slow=36						
MA2	**Magadan**	**11.51**	**347**	P	**Pn**	**15 23 23.9**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=84,slow=18,SNR=1.8						
SEY	**Seymchan**	**14.63**	**354**	P	**Pn**	**15 24 06.9**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=122,slow=21,SNR=2.1						
SEY				LR	LR	15 30 19.5	
	comp=Z,65nm,19.4s,baz=168,slow=40						
SEY	**Seymchan**	**14.63**	**354⇑**	*e*P	**Pn**	**15 24 07.4**	**+0.8**
SEY	**Seymchan**	**14.63**	**354**	*e*P	**Pn**	**15 24 07.4**	**+0.8**
EKMR	**Ekimchan**	**15.11**	**296**	*e*P	**Pn**	**15 24 11.9**	**-1.1**
EKMR				AMB	AMB	15 24 25.0	
	comp=Z,5.0nm,0.6s						
KLR	**Kul'dur**	**15.79**	**282**	P	**Pn**	**15 24 21.4**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=81,slow=14,SNR=6.4						
KLR				LR	LR	15 30 59.7	
	comp=Z,143nm,18.2s,baz=50,slow=40						
KLR	**Kul'dur**	**15.79**	**282⇑**	*e*P	**P**	**15 24 24.8**	**-0.1**
KLR				pmax	pmax		
	comp=Z,7.0nm,1.4s						
KLR				MLR	MLR		
	comp=Z,179nm,14.0s						
KLR	**Kul'dur**	**15.79**	**282**	*e*P	**Pn**	**15 24 23.1**	**+1.3**
JSD	**Sado**	**16.41**	**237**	Pn	**Pn**	**15 24 30.1**	**+0.4**
JSD				IAmb	IAmb	15 24 53.2	
	comp=Z,53nm,1.4s						
USRK	**Ussuriysk Ar.**	**16.92**	**264**	P	**Pn**	**15 24 35.3**	**-0.7**
	baz=76,slow=14,SNR=2.6						
ZEA	**Zeya**	**18.58**	**297**	*e*P	**Pn**	**15 24 57.8**	**+1.5**
YAK	**Yakutsk**	**19.94**	**323**	P	**P**	**15 25 07.2**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=80,slow=2.4,SNR=2.7						
YAK				LR	LR	15 32 43.6	
	comp=Z,56nm,18.9s,baz=90,slow=36						
YAK	**Yakutsk**	**19.94**	**323⇑**	*e*P	**P**	**15 25 11.4**	**+1.1**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
YAK	**Yakutsk**	**19.94**	**323**	*e*P	**P**	**15 25 11.4**	**+1.1**
JWT	**Wachi**	**19.98**	**236**	P	Pn	15 25 12.5	-0.6
JWT				IAmb	IAmb	15 25 23.4	
	comp=Z,31nm,1.3s						
BILL	**Bilibino**	**20.35**	**11⇑**	*e*P	**P**	**15 25 13.8**	**-0.9**
BILL				*e*		15 25 32.0	
BILL				pmax	pmax		
	comp=Z,6.0nm,1.3s						
BILL				MLR	MLR		
	comp=Z,66nm,17.0s						
BILL	**Bilibino**	**20.35**	**11**	P	Pn	15 25 15.7	-1.5
BILL	**Bilibino**	**20.35**	**11**	*e*P	**P**	**15 25 13.8**	**-0.9**
KSRS	**Korea Array**	**23.01**	**252**	P	**P**	**15 25 42.0**	**-1.4**
	comp=Z,2.3nm,0.6s,baz=49,slow=11,SNR=9.3						
KSRS				LR	LR	15 33 46.4	
	comp=Z,35nm,18.8s,baz=105,slow=34						
KSRS	**Korea Array**	**23.01**	**252**	*e*P	**P**	**15 25 45.0**	**+1.6**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KSRS	**Korea Array**	**23.01**	**252**	*e*P	**P**	**15 25 45.0**	**+1.6**
KSAR	**Wonju Array Be**	**23.04**	**252**	P	**P**	**15 25 41.6**	**-2.1**
KSAR	**Wonju Array Be**	**23.04**	**252**	P	**P**	**15 25 41.6**	**-2.1**
AKUT	**Akutan**	**24.50**	**62**	P	P	15 26 06.3	+9.1
TNA	**Tin City**	**25.62**	**35**	P	**P**	**15 26 12.4**	**+5.1**
TIK	**Tiksi**	**26.36**	**341**	*e*P	**P**	**15 26 12.5**	**-1.4**
TIXI	**Tiksi**	**26.37**	**341**	P	**P**	**15 26 11.2**	**-2.8**
	comp=Z,2.1nm,0.6s,baz=119,slow=10.0,SNR=4.8						
TIXI	**Tiksi**	**26.37**	**341⇑**	*i*P	**P**	**15 26 12.5**	**-1.5**
TIXI	**Tiksi**	**26.37**	**341**	P	**P**	**15 26 11.7**	**-2.3**
H11N2	**WAKE ISLAND Hy**	**30.04**	**159**	T	T	15 58 43.7	
	baz=345,slow=77,SNR=10						
H11N1	**WAKE ISLAND Hy**	**30.06**	**159**	T	T	15 58 50.1	
	baz=345,slow=77,SNR=8.7						
H11N3	**WAKE ISLAND Hy**	**30.06**	**159**	T	T	15 58 43.2	
	baz=345,slow=77,SNR=5.7						
H11S1	**WAKE ISLAND Hy**	**31.18**	**160**	T	T	16 00 09.1	
	baz=345,slow=76,SNR=99						
H11S3	**WAKE ISLAND Hy**	**31.18**	**160**	T	T	16 00 04.9	
	baz=345,slow=76,SNR=107						
H11S2	**WAKE ISLAND Hy**	**31.19**	**160**	T	T	16 00 10.4	
	baz=345,slow=76,SNR=80						
IMAR	**Indian Mountai**	**31.34**	**37**	P	P	15 27 04.8	+6.6
HHC	**Hu-ho-hao-te**	**31.96**	**273**	*e*P	**P**	**15 27 00.5**	**-3.5**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,65nm,4.1s						
HHC				LR	LR		
	comp=N,97nm,13.9s						
HHC				LR	LR		
	comp=E,130nm,13.2s						
HHC				LR	LR		
	comp=Z,130nm,12.1s						
NJ2	**Nanjing**	**32.19**	**253**	*e*P	**P**	**15 27 07.3**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
SONM	**Songino Array**	**32.47**	**288**	P	**P**	**15 27 06.6**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=81,slow=8.9,SNR=2.5						
BCAR	**Beaver Creek A**	**36.45**	**43**	P	P	15 27 50.2	+7.6
EGAK	**Eagle**	**36.56**	**40**	P	P	15 27 49.5	+6.1
EGAK				IAmb	IAmb	15 27 55.6	
	comp=Z,2.6nm,1.2s						
GTA	**Gaotai**	**40.46**	**279**	*e*P	**P**	**15 28 16.4**	**-0.2**
GTA				pP	pP	15 28 28.8	-0.4
GTA				sP	sP	15 28 34.1	-0.7
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
DGZ	**Jazzator, Alta**	**43.33**	**298⇑**	*e*P	**P**	**15 28 39.3**	**-0.7**
DGZ				pmax	pmax		
	comp=Z,3.0nm,1.4s						
WMQ	**Urumqi**	**45.96**	**291**	*e*P	**P**	**15 29 01.4**	**+0.5**
EUNU	**Eureka**	**47.09**	**12**	P	**P**	**15 29 11.2**	**+1.9**
EUNU				IAmb	IAmb	15 29 40.0	
	comp=Z,18nm,1.3s						
QIZ	**Qiongzhong**	**47.14**	**248**	P	**P**	**15 29 12.0**	**+1.8**
KMI	**Kunming**	**47.29**	**260**	⇓P	**P**	**15 29 11.1**	**-0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MK31	Makanchi Array	47.73	297⇓	eP	P	15 29 12.6	-2.0
MK31	Makanchi Array	47.73	297	P	P	15 29 12.8	-1.8
MK31				IAmb	IAmb	15 29 14.6	
	comp=Z,2.3nm,0.6s						
MKAR	Makanchi Array	47.73	297	P	P	15 29 13.8	-0.8
	comp=Z,2.2nm,0.7s,baz=68,slow=8.2,SNR=27						
MKAR	Makanchi Array	47.73	297	P	P	15 29 13.2	-1.4
MAKZ	Makanchi	47.91	297	P	P	15 29 14.9	-1.1
MAKZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MAKZ	Makanchi	47.91	297	P	P	15 29 14.9	-1.1
BOOM	Boomskoye usch	53.88	296	P	P	15 30 01.0	-0.1
BOOM				pmax	pmax		
	comp=Z,16nm,1.1s						
BOOM	Boomskoye usch	53.88	296	P	P	15 30 01.0	-0.1
CHTO	Chiang Mai	54.23	258	P	P	15 30 03.6	0.0
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CHTO	Chiang Mai	54.23	258	P	P	15 30 03.6	0.0
CHTO				IAmb	IAmb	15 30 06.4	
	comp=Z,3.2nm,0.6s						
CMAR	Chiang Mai Arr	54.48	257	P	P	15 30 06.0	+0.5
	comp=Z,1.1nm,0.7s,baz=28,slow=8.0,SNR=7.6						
CMAR	Chiang Mai Arr	54.48	257	eP	P	15 30 06.7	+1.2
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AAK	Ala-Archa	54.66	297⇓	eP	P	15 30 05.0	-1.7
AAK				pmax	pmax		
	comp=Z,18nm,2.9s						
AAK	Ala-Archa	54.66	297	eP	P	15 30 05.0	-1.7
KK31	Karatay Array	56.72	299	P	P	15 30 19.6	-1.7
KK31				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KK31	Karatay Array	56.72	299	P	P	15 30 19.6	-1.7
KKAR	Karatay Array	56.72	299	P	P	15 30 19.5	-1.8
KKAR	Karatay Array	56.72	299	P	P	15 30 19.5	-1.8
ARCES	ARCESS Array B	56.81	341	P	P	15 30 20.1	-1.5
	comp=Z,8.7nm,1.2s,baz=42,slow=8.2,SNR=4.6						
ARCES	ARCESS Array B	56.81	341	eP	P	15 30 20.5	-1.0
ARCES				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ARCES	ARCESS Array B	56.81	341	P	P	15 30 20.6	-1.0
ARCES				IAmb	IAmb	15 30 22.8	
	comp=Z,13nm,1.2s						
ABKAR	Akbulak array	58.68	310	P	P	15 30 33.8	-1.1
ABKAR				IAmb	IAmb	15 30 34.7	
	comp=Z,2.7nm,1.4s						
NVAR	Mina Array Bea	60.09	65	P	P	15 30 46.9	+1.8
	comp=Z,0.3nm,0.7s,baz=312,slow=8.3,SNR=2.5						
CHGR	Chuyangaron	60.30	296	P	P	15 30 46.0	-0.4
CHGR				IAmb	IAmb	15 30 47.0	
	comp=Z,4.9nm,0.9s						
PRN	Pahroc Range	62.70	64	P	P	15 31 09.1	+6.4
SNCC	San Nicolas Is	62.72	70	P	P	15 31 10.4	+7.7
FINES	FINESS Array B	63.23	336	P	P	15 31 05.2	-0.4
	comp=Z,1.1nm,0.7s,baz=50,slow=6.0,SNR=4.5						
FINES				LR	LR	16 01 26.5	
	comp=Z,56nm,20.3s,baz=42,slow=39						
FINES	FINESS Array B	63.23	336	eP	P	15 31 04.2	-1.4
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	FINESS Array B	63.23	336	P	P	15 31 04.8	-0.8
PBA	Port Blair	63.51	257	P	P	15 31 08.7	+0.6
NB201	NORSAR Array S	67.14	342	P	P	15 31 30.8	-0.1
NOA	NORSAR Array B	67.17	342	P	P	15 31 31.0	-0.1
	comp=Z,0.3nm,0.5s,baz=24,slow=6.4,SNR=2.1						
NOA	NORSAR Array B	67.17	342	P	P	15 31 31.0	-0.1
W18A	Petrified Fore	67.41	62	P	P	15 31 40.6	+7.4
W18A				IAmb	IAmb	15 31 41.3	
	comp=Z,4.0nm,1.4s						
MSVF	Nonsavu	68.84	157	LR	LR	15 55 01.8	
	comp=Z,37nm,21.9s,baz=162,slow=30						
LIFNC	LIFOU	69.68	169	P	P	15 31 56.2	+9.0
WRA	Warramunga Arr	70.73	201	P	P	15 31 53.0	-0.6
	comp=Z,0.4nm,0.8s,baz=11,slow=5.7,SNR=1.8						
AKASG	Malin Array Be	71.09	327	P	P	15 31 54.4	-1.2
	comp=Z,1.5nm,0.5s,baz=30,slow=6.3,SNR=4.4						
AKASG	Malin Array Be	71.09	327	eP	P	15 31 55.2	-0.3
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	Malin Array Be	71.09	327	P	P	15 31 55.6	+0.1
AKBB	Malin Array Si	71.09	327	P	P	15 31 55.2	-0.3
AKBB				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKBB	Malin Array Si	71.09	327	P	P	15 31 55.2	-0.3
AKBB				IAmb	IAmb	15 31 57.5	
	comp=Z,2.2nm,0.7s						
ASAR	Alice Springs	74.41	201	P	P	15 32 16.5	+1.0
	comp=Z,0.3nm,0.7s,baz=15,slow=5.9,SNR=4.3						
BUR08	Bucovina Ar. S	75.09	328	P	P	15 32 19.3	-0.1
BUR08				IAmb	IAmb	15 32 22.5	
	comp=Z,1.7nm,0.8s						
BURAR	Bucovina Array	75.11	328	P	P	15 32 19.3	-0.2
BURAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BURAR	Bucovina Array	75.11	328	P	P	15 32 19.3	-0.2
TXAR	Lajitas Array	75.12	63	P	P	15 32 21.8	+2.0
	comp=Z,0.5nm,0.5s,baz=298,slow=4.6,SNR=9.3						
CLL	Collm	75.62	337	i P	P	15 32 23.0	+0.8
CLL	Collm	75.62	337	eP	P	15 32 20.0	-2.2
PSZ	Piszkesteto	76.65	331	P	P	15 32 28.3	+0.1
PSZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PSZ	Piszkesteto	76.65	331	P	P	15 32 28.2	+0.1
PSZ				IAmb	IAmb	15 32 30.8	
	comp=Z,3.2nm,0.8s						
KHC	Kasperske Hory	77.44	336	eP	P	15 32 34.3	+1.7
KHC	Kasperske Hory	77.44	336	eP	P	15 32 34.3	+1.7
GEC2	GERESS Array S	77.67	335	P	P	15 32 34.1	+0.1
GEC2				IAmb	IAmb	15 32 38.9	
	comp=Z,2.8nm,1.3s						
GERES	GERESS Array B	77.67	335	P	P	15 32 34.4	+0.5
	comp=Z,0.9nm,0.6s,baz=56,slow=5.0,SNR=5.6						
GERES	GERESS Array B	77.67	335	eP	P	15 32 35.2	+1.3
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GERES	GERESS Array B	77.67	335	P	P	15 32 34.2	+0.3
BRTR	Keskin Array B	78.33	318	P	P	15 32 38.8	+1.0
	comp=Z,1.3nm,0.7s,baz=90,slow=2.9,SNR=3.7						
BRTR	Keskin Array B	78.33	318	P	P	15 32 38.5	+0.7
BRTR	Keskin Array B	78.33	318	P	P	15 32 38.5	+0.7
WVL	Waterville	79.18	31	P	P	15 32 46.1	+4.0
WVL				IAmb	IAmb	15 32 49.8	
	comp=Z,18nm,1.4s						
DIVS	Divibare	79.98	329	P	P	15 32 46.6	-0.1
DIVS				IAmb	IAmb	15 32 48.0	
	comp=Z,2.6nm,0.8s						
VTS	Vitosha	80.12	326	P	P	15 32 47.4	-0.2
VTS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VTS	Vitosha	80.12	326	P	P	15 32 47.4	-0.2
VTS				IAmb	IAmb	15 32 50.1	
	comp=Z,3.6nm,0.8s						
STKA	Stephens Creek	80.97	192	LR	LR	16 06 20.4	
	comp=Z,26nm,20.5s,baz=24,slow=34						
BIRD	Birdtown, Kers	83.29	44	P	P	15 33 08.4	+4.2
BIRD				IAmb	IAmb	15 33 09.5	
	comp=Z,7.8nm,0.8s						

IDC 08 15:25:01.1±2.0, 32.87S×178.47W, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/45, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=44.9km s-min=34.3km az=86.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.47	213	Pn	Pn	15 26 37.0	-0.6
	0.8nm,0.3s,baz=122,slow=23,SNR=2.0						
URZ				Sn	Sn	15 27 53.1	+1.0
	0.6nm,0.3s,baz=126,slow=19,SNR=1.5						
ASAR	Alice Springs	42.63	270	P	P	15 32 59.8	+0.3
	0.4nm,0.7s,baz=112,slow=7.5,SNR=8.3						
WRA	Warramunga Arr	43.85	275	P	P	15 33 08.9	-0.3
	0.6nm,0.7s,baz=117,slow=7.8,SNR=7.3						
QSPA	South Pole Qui	57.25	180	P	P	15 34 50.4	+0.2
	0.7nm,0.9s,baz=86,slow=6.2,SNR=1.8						
FINES	FINESS Array B	147.30	338	PKPbc	PKPbc	15 44 44.7	-1.1
	1.4nm,0.9s,baz=26,slow=5.5,SNR=4.5						

MEX 08 15:26:23.0±0.7, 15.91N×92.65W, h216km±7km, MD4.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCIG		0.58	249	eP	Pn	15 26 51.2	-1.1
PCIG				eS	S	15 27 12.3	-2.6
CCIG	Comitan	0.62	53	eP	Pn	15 26 51.2	-1.4
CCIG				eS	S	15 27 13.2	-2.5
TGIG		0.97	332	eS	S	15 27 15.9	-2.8
CMIG	Matias Romero	2.44	299	i P	Pn	15 27 05.7	-1.5
CMIG				eS	S	15 27 38.6	-2.9

IDC 08 15:31:24.3±1.0, 14.97N×147.13E, h0km, mb4.1/13, mb1 4.2/14, mb1mx3.9/50, mbtmp4.2/14, ML4.0/1, MS3.3/4, Ms1 3.4/4, ms1mx2.8/54, Error ellipse: s-maj=29.5km s-min=13.9km az=104.0
NEIC 08 15:31:30.1±1.7, 14.93N±0.07×147.11E±0.09, h37km±2km, mb4.7/28, Error ellipse: s-maj=13.2km s-min=10.2km az=104.0
ISC 08 15:31:28.7±0.6, 14.93N±0.06×147.13E±0.09, h32km, n55, σ0.77/52, mb4.5/26, MS3.7/3, Mariana Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANA2	Anatahan	1.96	316	Pn	Pn	15 32 00.5	+0.7
GUMO	Guam	2.56	239	Pn	Pn	15 32 07.9	-0.1
	30nm,0.3s,baz=115,slow=6.6,SNR=14						
GUMO				Sn	Sn	15 32 38.7	+0.6
	34nm,0.3s,baz=9.9,slow=22,SNR=5.8						
GUMO				LR	LR	15 33 12.1	
	comp=Z,190nm,21.2s,baz=147,slow=42						
GUMO	Guam	2.56	239		Pn	15 32 07.7	-0.3
JCJ	Chichijima	12.96	340	Pn	Pn	15 34 30.4	-0.3
PATS	Pohnpei	13.60	125	Pn	Pn	15 34 34.5	-5.0
JOW	Kunigami	21.20	307	P	P	15 36 12.8	+1.2
JOW				IAmb	IAmb	15 36 26.5	
	comp=Z,28nm,0.9s						
SIJI	Sorong	22.19	226	P	P	15 36 24.3	+1.8
	comp=Z,28nm,1.1s,baz=30,slow=9.6,SNR=5.7						
JMN	Monobe	22.23	330	P	P	15 36 22.1	-0.7
JMN				IAmb	IAmb	15 36 44.7	
	comp=Z,43nm,1.4s						
JWT	Wachi	22.85	335	P	P	15 36 29.5	+0.3
JWT				IAmb	IAmb	15 36 39.6	
	comp=Z,65nm,1.5s						
MJAR	Matsushiro Arr	22.95	341	LR	LR	15 44 07.7	
	comp=Z,63nm,20.9s,baz=120,slow=33						
JNU	Nakatsue	23.36	324	P	P	15 36 34.5	0.0
JNU				IAmb	IAmb	15 36 49.5	
	comp=Z,58nm,1.5s						
SSLB	Suanglung	26.18	294	P	P	15 37 00.6	0.0
SSLB				IAmb	IAmb	15 37 02.2	
	comp=Z,12nm,0.8s						
KSRS	Korea Array	28.18	326	P	P	15 37 17.5	-0.7
	comp=Z,1.7nm,0.7s,baz=147,slow=8.4,SNR=6.1						
ASAJ	Asahikawa	29.35	353	P	P	15 37 29.7	+1.1
	comp=Z,3.3nm,0.7s,baz=143,slow=6.2,SNR=4.4						
MTN	Manton Dam	31.81	211	P	P	15 37 51.2	+0.6
MTN				IAmb	IAmb	15 38 18.2	
	comp=Z,14nm,1.3s						
MIDW	Midway	35.42	62	P	P	15 38 21.3	-0.7
QIZ	Qiongzhong	35.85	282	P	P	15 38 24.2	-1.6
KLR	Kul'dur	36.46	343	P	P	15 38 29.6	-1.0
	comp=Z,2.5nm,0.6s,baz=150,slow=7.8,SNR=11						
WR0	Warramunga Arr	36.81	200	P	P	15 38 34.3	+0.4
WRAB	Tennant Creek	36.85	200	P	P	15 38 35.0	+0.7
WRAB				IAmb	IAmb	15 38 37.6	
	comp=Z,11nm,0.8s						
WB2	Warramunga Arr	36.86	200	P	P	15 38 34.9	+0.6
WB2				IAmb	IAmb	15 38 37.8	
	comp=Z,5.4nm,0.9s						
WRA	Warramunga Arr	36.86	200	P	P	15 38 34.6	+0.3
	comp=Z,2.4nm,0.8s,baz=20,slow=9.3,SNR=15						
WRA				PcP	PcP	15 40 56.9	+1.1
	comp=Z,0.9nm,1.2s,baz=340,slow=28,SNR=2.3						
WRA	Warramunga Arr	36.86	200	P	P	15 38 32.9	-1.4
FITZ	Fitzroy Crossi	39.06	214	P	P	15 38 53.0	+0.1
	comp=Z,11nm,1.5s,baz=13,slow=7.5,SNR=3.1						
AS31	Alice Springs	40.47	199	P	P	15 39 04.2	-0.4
ASAR	Alice Springs	40.48	199	P	P	15 39 04.7	0.0
	comp=Z,0.9nm,0.7s,baz=21,slow=7.3,SNR=16						
ASAR	Alice Springs	40.48	199	P	P	15 39 04.3	-0.3
DZM	Mont Dzumac	41.36	152	LR	LR	15 53 24.8	
	comp=Z,124nm,20.6s,baz=202,slow=32						
PSA00	Pilbara Seismi	45.08	217	P	P	15 39 41.2	-0.8
PSA00				IAmb	IAmb	15 40 08.8	
	comp=Z,8.6nm,1.2s						
ARMA	Armidale	45.29	175	P	P	15 39 43.7	+0.1
CMAR	Chiang Mai Arr	46.19	281	P	P	15 39 51.6	+0.7
	comp=Z,1.8nm,1.0s,baz=79,slow=5.7,SNR=7.2						
SONM	Songino Array	46.95	323	P	P	15 39 56.5	-0.1
	comp=Z,1.3nm,0.6s,baz=131,slow=7.4,SNR=7.5						
SONM	Songino Array	46.95	323	P	P	15 39 56.1	-0.5
SEY	Seymchan	48.09	3	P	P	15 40 04.9	-0.1
	comp=Z,1.0nm,0.8s,baz=172,slow=15,SNR=3.3						
BBOO	Buckleboo	48.63	192	P	P	15 40 09.7	+0.1
BBOO				IAmb	IAmb	15 40 18.1	
	comp=Z,12nm,1.1s						
YAK	Yakutsk	48.66	349	P	P	15 40 08.4	-1.1
KDAK	Kodiak Island	61.78	32	P	P	15 41 44.7	+0.6
	comp=Z,1.4nm,0.7s,baz=155,slow=14,SNR=1.7						
KDAK	Kodiak Island	61.78	32	IAmb	IAmb	15 41 56.5	
	comp=Z,13nm,1.4s						
N19K	Bonanza Creek	61.87	28	P	P	15 41 46.3	+1.4
N19K				IAmb	IAmb	15 42 03.3	
	comp=Z,7.4nm,1.4s						
MK31	Makanchi Array	62.07	315	P	P	15 41 46.7	+0.4
MKAR	Makanchi Array	62.07	315	P	P	15 41 46.9	+0.5
	comp=Z,1.1nm,0.4s,baz=92,slow=8.3,SNR=24						
MKAR	Makanchi Array	62.07	315	P	P	15 41 46.4	0.0
MAKZ	Makanchi	62.29	315	P	P	15 41 48.0	+0.2
MAKZ				IAmb	IAmb	15 41 52.5	
	comp=Z,3.1nm,0.6s						
CNPM	China Poot	62.98	30	P	P	15 41 52.8	+0.6
BMAR	Burnt Mountain	68.03	23	P	P	15 42 26.1	+1.4
ARSB	Arslanbob	68.45	309	P	P	15 42 27.3	-0.7
KK31	Karatay Array	70.24	311	P	P	15 42 38.6	-0.2
KKAR	Karatay Array	70.24	311	P	P	15 42 38.6	-0.2
KKAR	Karatay Array	70.24	311	P	P	15 42 38.7	-0.2
KKAR				IAmb	IAmb	15 42 40.1	
	comp=Z,3.1nm,0.9s						
GAR	Garm	70.59	306	P	P	15 42 41.2	0.0
GAR				IAmb	IAmb	15 42 42.4	
	comp=Z,6.7nm,1.1s						
ABKAR	Akbulak array	77.03	318	P	P	15 43 17.8	-0.8
ARCES	ARCESS Array B	86.48	343	P	P	15 44 09.4	+1.4
	comp=Z,2.0nm,0.9s,baz=357,slow=4.5,SNR=1.3						
PDAR	Pinedale Array	89.47	46	LR	LR	16 22 28.3	
	comp=Z,29nm,19.0s,baz=338,slow=34						
DBIC	Dimbokro	144.90	306	PKP	PKPdf	15 51 03.0	-0.6
	comp=Z,5.8nm,1.1s,baz=51,slow=3.2,SNR=4.9						
DBIC	Dimbokro	144.90	306		PKPab	15 51 01.8	-1.0

IDC 08 15:35:13.5±3.2, 33.12S×178.89W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.6/32, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=70.8km s-min=36.8km az=112.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.08	211	Pn	Pn	15 36 44.2	-0.3
	1.1nm,0.3s,baz=264,slow=5.1,SNR=15						
URZ				Sn	Sn	15 37 54.9	+0.2
	0.9nm,0.3s,baz=318,slow=23,SNR=2.2						
ASAR	Alice Springs	42.28	270	P	P	15 43 09.4	+0.4
	0.6nm,0.8s,baz=111,slow=8.1,SNR=18						
WRA	Warramunga Arr	43.52	275	P	P	15 43 18.4	-0.6
	0.4nm,0.4s,baz=116,slow=7.7,SNR=7.9						
FINES	FINESS Array B	147.40	338	PKPbc	PKPbc	15 54 57.7	-0.8
	2.0nm,0.8s,baz=76,slow=5.9,SNR=4.0						

IDC 08 15:45:40.4±3.1, 33.12S×179.31W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/23, mbtmp3.8/3, ML3.8/1, Error ellipse: s-maj=67.5km s-min=36.2km az=108.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	5.89	209	Pn	Pn	15 47 08.7	-0.3
	2.6nm,0.3s,baz=188,slow=1.1,SNR=20						
URZ				Sn	Sn	15 48 18.8	+1.5
	3.7nm,0.3s,baz=137,slow=12,SNR=7.0						
ASAR	Alice Springs	41.93	271	P	P	15 53 33.3	+0.2
	1.2nm,0.7s,baz=111,slow=7.4,SNR=29						
WRA	Warramunga Arr	43.17	276	P	P	15 53 42.6	-0.5
	0.9nm,0.7s,baz=124,slow=8.1,SNR=10						
FINES	FINESS Array B	147.27	338	PKPbc	PKPbc	16 05 24.3	-0.7
	1.3nm,0.8s,baz=49,slow=6.3,SNR=4.4						

JMA 08 15:48:07.2±0.4, 32.02N×139.14E, h263km, M3.6
IDC 08 15:48:11.6±0.7, 32.31N×138.97E, h262km±9km, mb3.4/11, mb1 3.4/16, mb1mx3.3/41, mbtmp4.0/16, Error ellipse: s-maj=31.7km s-min=10.9km az=74.0
ISC 08 15:48:11.1±1.0, 32.37N±0.10×138.9E±0.1, h250km, n30, σ1.52/30, mb3.6/11, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	1.04	44	P	Pn	15 48 49.2	+2.9
	2.8nm,0.3s,baz=103,slow=21,SNR=1.2						
JHJ				S	S	15 49 17.7	+3.6
	33nm,0.3s,baz=219,slow=22,SNR=1.4						
TK02	Tokai 2	1.85	328	P	Pn	15 48 53.7	+1.8
TTO3	TONANKAI O.B.S	1.96	320	P	Pn	15 48 54.7	+1.7
TTO1	TONANKAI O.B.S	2.18	305	P	Pn	15 48 56.3	+1.4
HMMJ	Hamamatsu 2	2.67	338	P	Pn	15 49 01.5	+1.5
JIE	Ise	2.73	318	P	Pn	15 49 02.0	+1.3
BSO3	Boso 3	2.76	28	S	S	15 49 41.2	+1.2
BSO1	Boso 1	2.85	37	eS	S	15 49 42.0	+0.8
JKN2	Miekihoku	2.89	311	P	Pn	15 49 03.4	+1.0
JNY	Yasuok	3.10	344	P	Pn	15 49 06.8	+2.1
JTNC	Tanabenakahech	3.13	298	P	Pn	15 49 05.6	+0.6
JHU	Hanno	3.48	5	P	Pn	15 49 09.8	+0.9
JYT	Yasato	3.99	15	eS	S	15 50 01.0	-4.2
MJAR	Matsushiro Arr	4.20	352	P	Pn	15 49 17.5	+0.3
	0.3nm,0.3s,baz=20,slow=19,SNR=13						
MAT	Matsushiro	4.20	352	P	Pn	15 49 18.4	+1.2
MAT				eS	S	15 50 10.8	+1.0
KSRS	Korea Array	10.35	302	P	Pn	15 50 36.0	+2.0
	0.3nm,0.3s,baz=111,slow=12,SNR=9.7						
ASAJ	Asahikawa	12.07	13	P	Pn	15 50 54.5	-0.9
	0.8nm,0.3s,baz=212,slow=12,SNR=15						
USRK	Ussuriysk Ar.	12.99	337	P	Pn	15 51 06.8	0.0
	baz=151,slow=10,SNR=7.2						
KLR	Kul'dur	17.68	344	P	P	15 51 59.7	-0.3
	1.0nm,0.3s,baz=172,slow=9.8,SNR=16						
SONM	Songino Array	29.02	312	P	P	15 53 48.1	0.0
	1.0nm,0.6s,baz=132,slow=13,SNR=7.0						
ZALV	Zalesovo Beam	43.69	316	P	P	15 55 51.0	-0.2
	1.0nm,0.4s,baz=91,slow=8.0,SNR=5.4						
MKAR	Makanchi Array	45.01	306	P	P	15 56 01.5	-0.4
	1.3nm,0.5s,baz=86,slow=9.5,SNR=26						
NRIK	Noril'sk	46.71	338	P	P	15 56 14.4	-0.3
	2.0nm,0.5s,baz=112,slow=11,SNR=3.8						
WRA	Warramunga Arr	52.20	185	P	P	15 56 55.0	-1.7
	0.5nm,0.4s,baz=360,slow=7.7,SNR=21						
ASAR	Alice Springs	55.93	186	P	P	15 57 22.2	-1.3
	0.3nm,0.4s,baz=24,slow=11,SNR=17						
ARCES	ARCESS Array B	67.63	340	P	P	15 58 41.1	+0.4
	2.7nm,0.8s,baz=56,slow=7.2,SNR=9.4						
FINES	FINESS Array B	71.97	332	P	P	15 59 07.1	-0.1
	1.0nm,0.4s,baz=62,slow=6.0,SNR=11						
KBZ	Khabaz	72.38	311	P	P	15 59 10.3	+0.4
	0.9nm,0.4s,baz=24,slow=1.6,SNR=4.2						
AKASG	Malin Array Be	76.71	322	P	P	15 59 34.0	-0.6
	0.5nm,0.4s,baz=50,slow=5.7,SNR=2.5						
NOA	NORSAR Array B	77.67	337	P	P	15 59 39.5	-0.3
	1.2nm,0.8s,baz=44,slow=5.6,SNR=3.6						

NEIC 08 15:50:22.6±1.4, 18.3N±0.1×68.92W±0.04, h154km±6km, Error ellipse: s-maj=21.3km s-min=4.6km az=188.0
RSPR 08 15:50:24.0, 18.07N×68.92W, h140km±3km, MD3.6/7
OSPL 08 15:50:26.4±0.8, 18.12N×68.98W, h125km±22km, ML2.6
ISC 08 15:50:22.8±1.3, 18.25N±0.09×68.93W±0.04, h150km, n47, σ0.75/52, 7C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.58	63⇓	eP	Pn	15 50 45.1	+0.5
PCDR	Punta Cana, DR	0.58	63	eS	Sn	15 51 01.1	0.0
PCDR	Punta Cana, DR	0.58	63		Pn	15 50 45.1	+0.5
PCDR					Sn	15 51 01.1	0.0
PCDR	Punta Cana, DR	0.58	63	IAML		15 51 05.2	
	comp=E,157nm,0.5s						
PCDR				IAML		15 51 05.3	
	comp=N,358nm,0.7s						
PCDR	Punta Cana, DR	0.58	63	i P	Pn	15 50 45.1	+0.5
PCDR				IAML		15 51 06.6	
	comp=Z,158nm,0.2s						
DR12	Loma Pena Alta	0.69	322		Pn	15 50 44.5	-0.8
SDD	Santo Domingo	0.96	283	Pn	Pn	15 50 47.3	+0.1
SDD				IAML		15 51 06.1	
	comp=N,179nm,0.4s						
SDD				IAML		15 51 11.9	
	comp=E,141nm,1.9s						
BANI	BANI	1.37	276		Pn	15 50 51.2	+0.1
IDE	Isla Desecheo	1.39	84⇑	eP	Pn	15 50 51.7	+0.5
AGPR	Aguadilla, PR	1.74	82⇑	eP	Pn	15 50 55.4	+0.4
AGPR	Aguadilla, PR	1.74	82	eS	Sn	15 51 20.5	+0.9
AGPR	Aguadilla, PR	1.74	82		Pn	15 50 55.4	+0.4
AGPR					Sn	15 51 20.5	+0.9
AGPR	Aguadilla, PR	1.74	82	IAML		15 51 25.3	
	comp=E,126nm,0.6s						
AGPR				IAML		15 51 28.6	
	comp=N,104nm,0.5s						
AGPR	Aguadilla, PR	1.74	82	i P	Pn	15 50 56.9	+1.9
AGPR				IAML		15 51 30.2	
	comp=Z,40nm,0.2s						
CRPR	Cabo Rojo, PR	1.75	98⇑	eP	Pn	15 50 54.5	-0.5
CRPR	Cabo Rojo, PR	1.75	98	eS	Sn	15 51 19.4	-0.3
CRPR	Cabo Rojo, PR	1.75	98		Pn	15 50 54.5	-0.5
CRPR					Sn	15 51 19.4	-0.3
CRPR	Cabo Rojo, PR	1.75	98	i P	Pn	15 50 55.7	+0.7
CRPR				IAML		15 51 27.4	
	comp=Z,38nm,0.2s						
MLPR	Magueyes Islan	1.81	98	Pn	Pn	15 50 55.8	0.0
LOBA2	Hotel Casa Bon	2.06	266	i P	Pn	15 50 59.1	+0.4
LOBA2				IAML		15 51 28.5	
	comp=Z,62nm,0.3s						
AOPR	Arecibo Observ	2.07	87⇑	eP	Pn	15 50 59.2	+0.5
AOPR	Arecibo Observ	2.07	87	eS	Sn	15 51 26.2	-0.2
AOPR	Arecibo Observ	2.07	87		Pn	15 50 59.2	+0.5
AOPR					Sn	15 51 26.2	-0.2
SC01	Santiago de lo	2.07	305	Pn	Pn	15 50 58.1	-0.6
OBIP	Obispado Ponce	2.22	95	Pn	Pn	15 50 58.4	-2.1
CELP	Cerrillos	2.24	94⇓	eP	Pn	15 51 01.4	+0.6
CELP	Cerrillos	2.24	94	eS	Sn	15 51 30.5	+0.5
CELP	Cerrillos	2.24	94		Pn	15 51 01.4	+0.6
CELP					Sn	15 51 30.5	+0.5
EMPR	Esperanza - Ma	2.29	84	Pn	Pn	15 51 01.4	+0.1
EMPR				IAML		15 51 40.0	
	comp=E,96nm,0.8s						
EMPR				IAML		15 51 40.0	
	comp=N,85nm,0.8s						
SDDR	Presa de Saban	2.35	288		Pn	15 51 01.9	-0.3
SDDR				IAML		15 51 37.0	
	comp=N,54nm,0.7s						
SDDR				IAML		15 51 39.3	
	comp=N,36nm,0.4s						
SDDR	Presa de Saban	2.35	288	i P	Pn	15 51 02.8	+0.6
SDDR				IAML		15 51 40.2	
	comp=Z,24nm,1.3s						
LONE2	Loma La Sidra	2.44	278	i P	Pn	15 51 03.5	+0.2
LONE2				IAML		15 51 39.2	
	comp=Z,7.3nm,0.1s						
SJG	San Juan	2.65	92	Pn	Pn	15 51 05.7	0.0
SJG				IAML		15 51 41.9	
	comp=Z,46nm,0.2s						
SJG				IAML		15 51 45.3	
	comp=Z,64nm,0.5s						
GCPR	Guaynabo City	2.70	88	Pn	Pn	15 51 05.8	-0.7
GCPR				IAML		15 51 44.8	
	comp=N,41nm,0.8s						
GCPR				IAML		15 51 46.2	
	comp=E,31nm,1.2s						
PDPR	Patillas Dam,	2.77	94	Pn	Pn	15 51 07.5	+0.2
PDPR				IAML		15 52 36.6	
	comp=E,48nm,2.5s						
CBYP	Canovanas	2.92	89⇑	eP	Pn	15 51 08.2	-1.0
CBYP	Canovanas	2.92	89	eS	Sn	15 51 44.2	-0.9
CBYP	Canovanas	2.92	89		Pn	15 51 08.2	-1.0
CBYP					Sn	15 51 44.2	-0.9
HUMP	Col San Antoni	2.93	92	Pn	Pn	15 51 09.2	0.0
HUMP				IAML		15 51 51.8	
	comp=N,59nm,0.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HUMP				IAML		15 51 53.5	
	comp=E,78nm,0.2s						
MTP	**Monte Pirata**	**3.21**	**92**⇑	eP	**Pn**	**15 51 13.9**	**+1.1**
MTP	**Monte Pirata**	**3.21**	**92**	eS	**Sn**	**15 51 52.7**	**+1.1**
MTP	**Monte Pirata**	**3.21**	**92**		**Pn**	**15 51 13.9**	**+1.1**
MTP					**Sn**	**15 51 52.7**	**+1.1**
CUPR	**Culebra, Puert**	**3.46**	**88**	Pn	**Pn**	**15 51 14.8**	**-1.3**
CUPR				IAML		15 52 00.8	
	comp=N,16nm,0.8s						
STVI	**Saint Thomas**	**3.78**	**88**	Pn	**Pn**	**15 51 19.8**	**-0.3**
STVI				IAML		15 52 08.6	
	comp=E,29nm,0.5s						
STVI				IAML		15 52 09.6	
	comp=N,31nm,0.6s						
ABV	**Anegada**	**4.39**	**83**⇑	eP	**Pn**	**15 51 27.1**	**-1.0**
ABVI	**Anegada Island**	**4.39**	**83**		**Pn**	**15 51 27.1**	**-1.0**
HATO	**Hato, Curacao**	**6.03**	**180**	Pn	**Pn**	**15 51 49.5**	**-0.4**

IDC 08 15:54:08.2±3.4,**33°.11S**×**178°.29W**,**h0**km,**mb3.4**/2, **mb1 3.6**/3,**mb1mx3.4**/29,**mbtmp3.4**/3,**ML3.2**/1,**Error ellipse: s-maj=78.2km s-min=48.5km az=120.0,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.36**	**215**	Pn	Pn	15 55 43.2	+0.1
	0.5nm,0.3s,baz=293,slow=12,SNR=6.9						
URZ				Sn	Sn	15 56 53.6	-2.7
	0.8nm,0.3s,baz=301,slow=23,SNR=1.0						
ASAR	**Alice Springs**	**42.79**	**270**	P	P	16 02 07.7	-0.1
	0.4nm,0.7s,baz=111,slow=8.0,SNR=11						
WRA	**Warramunga Arr**	**44.02**	**275**	P	P	16 02 17.6	-0.1
	0.2nm,0.4s,baz=119,slow=8.3,SNR=7.3						
FINES	**FINESS Array B**	**147.58**	**338**	PKPbc	PKPbc	16 13 52.8	-0.8
	2.4nm,0.9s,baz=33,slow=4.7,SNR=1.2						

MEX 08 15:57:12.5±1.0,**14°.77N**×**93°.91W**,**h20**km±460km,**MD4.1**, **1D,Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.14**	**36**⇓	eP	Pn	15 57 30.7	-2.7
PCIG				eS	Sb	15 57 43.8	-4.2
TGIG		**2.13**	**21**	eP	Pn	15 57 43.6	-3.5
TGIG				eS	Sn	15 58 10.8	-2.3
CCIG	**Comitan**	**2.27**	**48**	eP	Pn	15 57 47.9	-1.2
CCIG				eS	Sn	15 58 14.4	-2.3

*IDC **08** 16:02:40.9±0.4,31°.34S×67°.55W,h0km,mb4.6/20, mb1 4.7/24,mb1mx4.6/36,mbtmp4.6/24,ML4.4/4,MS3.6/10, Ms1 3.6/10,ms1mx3.4/26,Error ellipse: s-maj=17.8km s-min=11.4km az=87.0*

*SJA **08** 16:02:41.1±1.0,31°.33S×67°.68W,h10km±3km,ML4.6, MW4.3*

*VAO **08** 16:02:42.3±0.3,31°.49S×67°.69W,h10km,mb4.6*

*NEIC **08** 16:02:42.1±1.5,31°.34S±0°.05×67°.64W±0°.04,h10km±1km, mb4.9/215,Md4.6(SJA),Error ellipse: s-maj=8.4km s-min=5.2km az=5.0*

*GUC **08** 16:02:43.6±0.4,31°.25S×67°.64W,h13km±17km,MW5.0*

ISC 08 16:02:42.1±0.7,**31°.36S**±0°.02×**67°.69W**±0°.02,**h9**km±4km, **n436**,σ**1s.55**/471,**mb4.9**/116,**MS3.7**/8,**9C-3D,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.67**	**272**	eP	**Pg**	**16 02 54.6**	**-0.5**
AVFE	**Valle Fertil**	**0.72**	**16**	eP	**Pg**	**16 02 55.1**	**-1.0**
AVFE				i S	**Sg**	**16 03 04.6**	**-1.0**
AVFE				IAML		16 03 06.0	
	comp=Z,4μm,0.3s						
ZON	**Zonda**	**0.86**	**257**		**Pg**	**16 02 57.6**	**-1.1**
ZON				Sg	**Sg**	**16 03 10.1**	**+0.2**
ZON	**Zonda**	**0.86**	**257**	i P	**Pg**	**16 02 58.0**	**-0.7**
ZON				i S	**Sb**	**16 03 10.8**	**-0.1**
ZON				IAML		16 03 12.3	
	comp=Z,9μm,0.8s						
RTCV	**Cerro Valdivia**	**0.88**	**235**	i P	**Pg**	**16 02 58.5**	**-0.6**
ACHE	**Chepes**	**0.90**	**78**	i P	**Pg**	**16 02 58.1**	**-1.4**
ACAN	**Cantantal**	**1.01**	**155**	i P	**Pg**	**16 02 58.5**	**-3.0**
ACCO	**Cerro Coronel**	**1.41**	**303**	eP	**Pb**	**16 03 08.2**	**-0.5**
RTLS	**Leoncito**	**1.44**	**252**	i P	**Pb**	**16 03 09.0**	**-0.2**
RTLS				i S	**Sg**	**16 03 29.1**	**+0.7**
RTLS				IAML		16 03 29.8	
	comp=Z,5μm,0.8s						
ASAL	**Salagasta**	**1.57**	**218**	eP	**Pb**	**16 03 11.5**	**+0.2**
ASAL				IAML		16 03 58.1	
	comp=Z,2μm,1.2s						
AUSP	**Uspallata**	**1.68**	**239**⇓	eP	**Pb**	**16 03 13.4**	**0.0**
AUSP				i S	**Sg**	**16 03 36.5**	**+0.3**
ACDV	**Cuesta del Vie**	**1.70**	**314**	eP	**Pb**	**16 03 13.1**	**-0.6**
ARCO	**CERRO ARCO**	**1.81**	**215**	eP	**Pg**	**16 03 16.6**	**-0.3**
ARCO				eS	**Sb**	**16 03 38.9**	**+0.4**
ARCO				IAML		16 03 45.7	
	comp=Z,19μm,0.3s						
AROD	**Rodeo**	**1.94**	**307**	eP	**Pb**	**16 03 17.7**	**-0.1**
AROD				i S	**Sg**	**16 03 43.2**	**-1.2**
AAGR	**Agrelo**	**1.97**	**209**	i P	**Pb**	**16 03 18.7**	**+0.5**
AAGR				IAML		16 04 25.6	
	comp=Z,2μm,1.9s						
AGUA	**GUANDACOL**	**1.99**	**340**	eP	**Pb**	**16 03 18.6**	**+0.1**
AGUA				eS	**Sg**	**16 03 47.5**	**+1.5**
AGUA				IAML		16 03 50.8	
	comp=Z,1μm,0.2s						
MRA	**San Martin**	**1.99**	**123**	eP	**Pn**	**16 03 17.2**	**+1.2**
MRA				i S	**Sb**	**16 03 43.5**	**+0.2**
MRA				IAML		16 03 47.0	
	comp=Z,7μm,1.3s						
AVIZ	**Vizcacheras**	**2.22**	**198**	eP	**Pb**	**16 03 21.5**	**-1.0**
CO03	**El Pedregal**	**2.62**	**281**	eP	**Pb**	**16 03 29.1**	**-0.2**
CO03				eS	**Sb**	**16 04 03.5**	**+1.9**
CO03	**El Pedregal**	**2.62**	**281**		**Pb**	**16 03 28.5**	**-0.7**
CO03	**El Pedregal**	**2.62**	**281**	i P	**Pb**	**16 03 29.0**	**-0.3**
CO03				eS	**Sb**	**16 04 03.5**	**+1.9**
VCA	**Vinchina**	**2.65**	**350**	i P	**Pb**	**16 03 29.0**	**-0.8**
VCA				eS	**Sb**	**16 04 03.4**	**+0.9**
VCA				IAML		16 04 15.7	
	comp=Z,2μm,1.0s						
TCA	**Tanti**	**2.65**	**90**	eP	**Pn**	**16 03 26.4**	**+1.3**
TCA				eS	**Sn**	**16 03 58.1**	**+0.7**
VA03	**San Esteban**	**2.80**	**239**⇑	iP	**Pb**	**16 03 31.9**	**-0.4**
VA03				eS	**Sg**	**16 04 09.7**	**-2.4**
VA03	**San Esteban**	**2.80**	**239**		**Pb**	**16 03 31.8**	**-0.6**
VA03	**San Esteban**	**2.80**	**239**	i P	**Pb**	**16 03 32.2**	**-0.2**
GO04	**Tololo Observa**	**2.92**	**293**⇑	iP	**Pb**	**16 03 33.3**	**-1.2**
GO04	**Tololo Observa**	**2.92**	**293**		**Pb**	**16 03 33.1**	**-1.4**
GO04	**Tololo Observa**	**2.92**	**293**	eP	**Pb**	**16 03 33.6**	**-0.9**
GO04				eS	**Sg**	**16 04 13.0**	**-3.0**
ROCH	**El Roble**	**3.24**	**239**⇑	iP	**Pb**	**16 03 36.6**	**-3.3**
ROC1	**El Roble**	**3.25**	**239**	eP	**Pb**	**16 03 36.8**	**-3.2**
ROC1				eS	**Sb**	**16 04 18.8**	**-0.9**
LMEL	**Las Melosas**	**3.26**	**220**⇑	iP	**Pn**	**16 03 36.8**	**+3.2**
LMEL				eS	**Sg**	**16 04 25.1**	**-1.9**
PIL	**Pilar**	**3.27**	**96**	eP	**Pn**	**16 03 35.1**	**+1.5**
PIL				eS	**Sn**	**16 04 14.2**	**+1.6**
PIL				IAML		16 04 31.2	
	comp=Z,6μm,0.7s						
MT05	**Renca**	**3.28**	**231**	i P	**Pb**	**16 03 37.4**	**-3.0**
MT05				eS	**Sb**	**16 04 21.5**	**+1.0**
MT05	**Renca**	**3.28**	**231**	Pn	**Pb**	**16 03 37.5**	**-3.0**
MT05	**Renca**	**3.28**	**231**	i P	**Pb**	**16 03 38.0**	**-2.5**
CYA	**Choya**	**3.34**	**30**	i P	**Pn**	**16 03 36.0**	**+1.5**
CYA				eS	**Sn**	**16 04 16.1**	**+1.8**
CYA				IAML		16 04 38.9	
	comp=Z,1μm,1.3s						
CO05	**La Serena**	**3.37**	**294**	eP	**Pb**	**16 03 38.4**	**-3.7**
CO05	**La Serena**	**3.37**	**294**	Pn	**Pn**	**16 03 37.1**	**+2.2**
CO06	**Fray Jorge**	**3.45**	**280**⇑	iP	**Pn**	**16 03 38.4**	**+2.4**
CO06	**Fray Jorge**	**3.45**	**280**		**Pn**	**16 03 38.1**	**+2.1**
LCO	**Las Campanas**	**3.50**	**311**	eP	**Pb**	**16 03 40.4**	**-4.0**
LCO	**Las Campanas**	**3.50**	**311**	i P	**Pb**	**16 03 41.0**	**-3.4**
LCO				i S	**Sb**	**16 04 29.6**	**+2.5**
LCO				IAML		16 04 30.7	
	comp=Z,10μm,0.9s						
MT09	**Talagante**	**3.68**	**228**⇑	iP	**Pn**	**16 03 42.3**	**+3.0**
MT09				eS	**Sb**	**16 04 28.7**	**-3.5**
MT09	**Talagante**	**3.68**	**228**		**Pn**	**16 03 42.1**	**+2.8**
VA01	**Torpederas**	**3.74**	**243**	eS	**Sb**	**16 04 32.2**	**-1.5**
VA01	**Torpederas**	**3.74**	**243**		**Pn**	**16 03 41.7**	**+1.8**
VA01	**Torpederas**	**3.74**	**243**	eP	**Pn**	**16 03 42.2**	**+2.2**
VA01				eS	**Sn**	**16 04 27.7**	**+3.6**
LAMA	**Las Malvinas**	**3.79**	**199**	eP	**Pn**	**16 03 42.5**	**+1.8**
LAMA				eS	**Sn**	**16 04 22.7**	**-2.7**
MT01	**Popeta**	**3.91**	**229**	i P	**Pn**	**16 03 44.7**	**+2.4**
MT01				eS	**Sn**	**16 04 31.6**	**+3.4**
MT01	**Popeta**	**3.91**	**229**		**Pn**	**16 03 44.5**	**+2.2**
MT01	**Popeta**	**3.91**	**229**	eP	**Pn**	**16 03 44.9**	**+2.7**
MT01				eS	**Sn**	**16 04 32.2**	**+4.0**
VA05	**Santo Domingo**	**4.03**	**234**		**Pn**	**16 03 45.9**	**+1.9**
COIS	**El Sosneado**	**4.07**	**203**	i P	**Pn**	**16 03 45.0**	**+0.5**
BO01	**Tunca**	**4.16**	**222**⇑	iP	**Pn**	**16 03 48.5**	**+2.8**
BO01	**Tunca**	**4.16**	**222**		**Pn**	**16 03 48.3**	**+2.6**
BO01	**Tunca**	**4.16**	**222**	i P	**Pn**	**16 03 48.7**	**+3.0**
BO02	**Sierra Bellavi**	**4.29**	**216**	eP	**Pn**	**16 03 51.7**	**+4.0**
BO02	**Sierra Bellavi**	**4.29**	**216**		**Pn**	**16 03 50.7**	**+3.1**
BO02	**Sierra Bellavi**	**4.29**	**216**⇑	iP	**Pn**	**16 03 52.1**	**+4.5**
AC04	**Llanos de Chal**	**4.30**	**316**	eP	**Pn**	**16 03 50.4**	**+2.7**
AC04	**Llanos de Chal**	**4.30**	**316**	Pn	**Pn**	**16 03 50.1**	**+2.4**
AC04	**Llanos de Chal**	**4.30**	**316**	eP	**Pn**	**16 03 50.5**	**+2.8**
GO03	**Copiap**	**4.36**	**329**	i P	**Pn**	**16 03 51.5**	**+3.0**
GO03	**Copiap**	**4.36**	**329**	Pn	**Pn**	**16 03 51.3**	**+2.8**
GO03	**Copiap**	**4.36**	**329**	eP	**Pn**	**16 03 51.7**	**+3.2**
GO03				i S	**Sn**	**16 04 43.7**	**+4.3**
AC02	**Maricunga**	**4.68**	**344**	Pn	**Pn**	**16 03 57.5**	**+4.2**
AC02	**Maricunga**	**4.68**	**344**	i P	Pn	16 03 58.0	+4.7
AC02				eS	**Sb**	**16 04 55.7**	**-5.5**
BO03	**Pichilemu**	**4.76**	**228**	eP	**Pn**	**16 03 55.6**	**+1.6**
AHML	**Horco Molle**	**5.00**	**25**	eP	**Pn**	**16 03 58.7**	**+1.3**
AHML				i S	**Sn**	**16 04 55.8**	**+0.4**
AHML				IAML		16 05 31.7	
	comp=Z,374nm,0.6s						
GO05	**Huala**	**5.09**	**223**	eP	**Pn**	**16 04 00.1**	**+1.6**
GO05	**Huala**	**5.09**	**223**	Pn	**Pn**	**16 03 60.0**	**+1.4**
GO05	**Huala**	**5.09**	**223**	eP	**Pn**	**16 04 00.4**	**+1.9**
GO05				eS	**Sn**	**16 05 04.2**	**+6.8**
ML02	**Panimavida**	**5.38**	**214**	Pn	**Pn**	**16 04 04.3**	**+1.7**
FSA	**Cafayete**	**5.44**	**16**	eP	**Pn**	**16 04 06.2**	**+2.7**
PB14	**IPOC Station P**	**7.12**	**340**		**Pn**	**16 04 28.0**	**+1.3**
PB14	**IPOC Station P**	**7.12**	**340**	eP	**Pn**	**16 04 29.0**	**+2.3**
PB14				eS	**Sn**	**16 05 52.1**	**+4.2**
PB14				IAML		16 06 01.5	
	comp=Z,147nm,1.4s						
AZAP	**Zapla**	**7.48**	**19**	eP	**Pn**	**16 04 33.5**	**+1.9**
AZAP				IAML		16 06 38.8	
	comp=Z,180nm,1.0s						
ASTB	**Santa Barbara**	**7.92**	**22**	eP	**Pn**	**16 04 39.4**	**+1.8**
ASTB				IAML		16 06 24.5	
	comp=Z,9.4nm,4.0s						
TRQA	**Tornquist**	**8.17**	**146**	Pn	**Pn**	**16 04 40.3**	**-0.6**
TRQA	**Tornquist**	**8.17**	**146**	eP	**Pn**	**16 04 39.6**	**-1.3**
TRQA	**Tornquist**	**8.17**	**146**	i P	**Pn**	**16 04 41.0**	**+0.1**
TRQA				IAML		16 06 49.2	
	comp=Z,80nm,0.8s						
ALOL	**LOMAS DE OLMED**	**8.20**	**25**	eP	**Pn**	**16 04 43.1**	**+1.8**
PB10	**IPOC Station P**	**8.22**	**341**		**Pn**	**16 04 41.6**	**+0.1**
PB15	**IPOC Station P**	**8.27**	**349**		**Pn**	**16 04 43.6**	**+1.2**
PB15	**IPOC Station P**	**8.27**	**349**	eP	**Pn**	**16 04 44.0**	**+1.6**
PB15				IAML		16 06 47.7	
	comp=Z,76nm,1.6s						
HJA	**Humahuaca**	**8.37**	**15**	eP	**Pn**	**16 04 47.2**	**+3.2**
HJA				IAML		16 06 25.6	
	comp=Z,24nm,0.6s						
AF01	**San Pedro de A**	**8.38**	**357**		**Pn**	**16 04 45.9**	**+1.8**
PB06	**IPOC Station P**	**8.78**	**349**		**Pn**	**16 04 49.6**	**+0.3**
PB06	**IPOC Station P**	**8.78**	**349**	eP	**Pn**	**16 04 50.1**	**+0.7**
PB06				eS	**Sn**	**16 06 31.5**	**+3.0**
PB06				IAML		16 07 06.7	
	comp=Z,46nm,0.9s						
LVC	**Limon Verde**	**8.78**	**353**	Pn	**Pn**	**16 04 50.9**	**+1.4**
	comp=Z,4.3nm,0.3s,baz=192,slow=5.5,SNR=21						
LVC				Lg	Lg	16 07 11.5	
	comp=Z,2.4nm,0.3s,baz=332,slow=16,SNR=3.4						
LVC	**Limon Verde**	**8.78**	**353**		**Pn**	**16 04 50.2**	**+0.7**
LVC	**Limon Verde**	**8.78**	**353**	eP	**Pn**	**16 04 50.8**	**+1.2**
LVC	**Limon Verde**	**8.78**	**353**	i P	**Pn**	**16 04 51.0**	**+1.4**
LVC				IAML		16 07 14.2	
	comp=Z,20nm,1.1s						
LPA	**La Plata**	**8.92**	**116**	eP	**Pn**	**16 04 54.7**	**+3.6**
LPA				PPP	PPP	16 05 07.3	
LPA				sP	**Pg**	**16 05 33.7**	**+0.8**
LPA				S	**Sn**	**16 06 25.5**	**-6.1**
LPA				SS	**SnSn**	**16 06 47.7**	**+4.5**
LPA				SSS	SSS	16 07 17.5	
LPA				sS	**Sg**	**16 07 35.8**	**+7.5**
LPA				PCP	**PcP**	**16 11 15.3**	**-0.8**
LPA				SCS	**ScS**	**16 18 21.3**	**-1.0**
LPA				PKIKP	**PKiKP**	**16 19 20.1**	**+3.8**
LPA				SKIKP		16 22 44.0	
LPA				SKIKS		16 26 18.4	
PB04	**IPOC Station P**	**9.25**	**346**		**Pn**	**16 04 55.4**	**-0.5**
PB09	**IPOC Station P**	**9.62**	**351**	Pn	**Pn**	**16 05 01.1**	**+0.1**
PLCA	**Paso Flores**	**9.64**	**193**	Pn	**Pn**	**16 05 03.2**	**+2.3**
	comp=Z,0.7nm,0.3s,baz=14,slow=11,SNR=21						
PLCA				Lg	Lg	16 07 41.2	
	comp=Z,2.4nm,0.3s,baz=96,slow=17,SNR=3.0						
PLCA	**Paso Flores**	**9.64**	**193**	Pn	**Pn**	**16 05 03.5**	**+2.5**
PLCA	**Paso Flores**	**9.64**	**193**	eP	**Pn**	**16 04 58.7**	**-2.3**
PLCA	**Paso Flores**	**9.64**	**193**	eP	**Pn**	**16 05 03.6**	**+2.6**
PLCA				IAML		16 07 05.5	
	comp=Z,32nm,0.6s						
VA04	**Juan Fernndez**	**9.68**	**253**		**Pn**	**16 05 02.5**	**+1.0**
ITQB	**Itaqui**	**9.70**	**83**	Pn	**Pn**	**16 05 00.8**	**-1.0**
ITQB	**Itaqui**	**9.70**	**83**	eP	**Pn**	**16 05 01.5**	**-0.2**
PB07	**IPOC Station P**	**9.79**	**348**		**Pn**	**16 05 02.2**	**-1.1**
LL04	**Puerto Octay**	**10.26**	**200**	Pn	**Pn**	**16 05 08.3**	**-1.2**
CPUP	**Villa Florida**	**10.37**	**64**	Pn	**Pn**	**16 05 09.3**	**-1.7**
	comp=Z,1.8nm,0.3s,baz=239,slow=11,SNR=21						
CPUP				Lg	Lg	16 07 58.2	
	comp=Z,2.2nm,0.3s,baz=151,slow=19,SNR=1.9						
CPUP	**Villa Florida**	**10.37**	**64**		**Pn**	**16 05 08.6**	**-2.5**
CPUP	**Villa Florida**	**10.37**	**64**	eP	**Pn**	**16 05 10.1**	**-0.9**
PB01	**IPOC Station P**	**10.40**	**351**		**Pn**	**16 05 10.4**	**-1.1**
LL03	**Petrohue**	**10.47**	**200**		**Pn**	**16 05 11.4**	**-0.9**
TA01	**Diego Aracena**	**10.98**	**348**	Pn	**Pn**	**16 05 16.5**	**-2.8**
LL05	**Los Muermos**	**11.05**	**203**	Pn	**Pn**	**16 05 17.7**	**-2.6**
PB08	**IPOC Station P**	**11.25**	**353**		**Pn**	**16 05 22.3**	**-1.1**
LL01	**San Ignacio de**	**11.63**	**198**	Pn	**Pn**	**16 05 25.7**	**-2.4**
PB11	**IPOC Station P**	**11.68**	**351**	Pn	**Pn**	**16 05 26.6**	**-2.6**
PSGCX	**Pisagua**	**11.91**	**349**	Pn	**Pn**	**16 05 28.7**	**-3.6**
PLTB	**Pedras Altas**	**12.03**	**96**		**Pn**	**16 05 30.7**	**-3.0**
PLTB	**Pedras Altas**	**12.03**	**96**	eP	**Pn**	**16 05 35.0**	**+1.3**
LL02	**Futaleuf**	**12.26**	**194**	Pn	**Pn**	**16 05 35.7**	**-1.1**
CPSB	**Cacapava Do Su**	**12.28**	**89**	eP	**Pn**	**16 05 39.2**	**+2.0**
GO07	**Milladeo Hill,**	**12.66**	**200**	Pn	**Pn**	**16 05 39.7**	**-2.5**
AP01	**Chacalluta**	**13.15**	**349**	Pn	**Pn**	**16 05 45.2**	**-3.9**
CNLB	**Canela**	**14.69**	**86**	eP	**Pn**	**16 06 08.5**	**-1.7**
LPAZ	**La Paz**	**15.01**	**358**	Pn	**Pn**	**16 06 17.2**	**+2.3**
	comp=Z,2.8nm,0.3s,baz=179,slow=7.5,SNR=20						
LPAZ				LR	LR	16 12 29.6	
	comp=Z,267nm,18.8s,baz=130,slow=39						
LPAZ	**La Paz**	**15.01**	**358**		**Pn**	**16 06 15.0**	**0.0**
LPAZ	**La Paz**	**15.01**	**358**	eP	**Pn**	**16 06 16.7**	**+1.7**
AQDB	**Aquidauana**	**15.28**	**48**	Pn	**Pn**	**16 06 16.7**	**-1.3**
AQDB	**Aquidauana**	**15.28**	**48**	eP	**Pn**	**16 06 19.9**	**+1.9**
TRCB	**Terra Rica**	**15.88**	**61**		**Pn**	**16 06 24.4**	**-1.6**
TRCB				IAmb	IAmb	16 06 29.4	
	comp=Z,82nm,1.2s						
TER01	**Tubaro-SC**	**16.34**	**85**	eP	**Pn**	**16 06 31.4**	**-0.3**
SIV	**San Ignacio**	**16.45**	**23**	Pn	**Pn**	**16 06 31.0**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=221,slow=12,SNR=10.0						
SIV				Lg	Lg	16 11 15.4	
	comp=Z,0.1nm,0.3s,baz=307,slow=13,SNR=2.1						
SIV				LR	LR	16 14 05.9	
	comp=Z,215nm,20.6s,baz=129,slow=42						
TIJ01	**Guaruva-PR**	**17.51**	**75**	eP	**Pn**	**16 06 45.2**	**-1.4**
PCMB	**Pacaembu**	**17.61**	**60**	eP	**Pn**	**16 06 48.2**	**+0.4**
PTLB	**Pontes e Lacer**	**17.66**	**28**	eP	**P**	**16 06 49.3**	**-0.1**
FRTB	**Fartura**	**17.96**	**68**	eP	**P**	**16 06 52.7**	**0.0**
PP1B	**Ponte de Pedra**	**17.97**	**43**	eP	**P**	**16 06 53.4**	**+0.7**
SALV	**Santo Antonio**	**18.89**	**38**	eP	**Pn**	**16 07 05.0**	**+1.6**
ITRB	**Iturama**	**19.45**	**57**	eP	**Pn**	**16 07 10.6**	**+0.4**
SPB	**Sao Paulo**	**19.55**	**72**	P	**P**	**16 07 07.5**	**-2.6**
SPB	**Sao Paulo**	**19.55**	**72**	eP	**P**	**16 07 10.0**	**-0.2**
VILB	**Vilhena**	**19.57**	**22**	eP	**Pn**	**16 07 12.4**	**+0.7**
BB19B	**Bebedouro**	**19.99**	**64**	eP	**Pn**	**16 07 16.3**	**-0.4**
RCLB	**Rio Claro- Sao**	**20.04**	**69**	eP	**P**	**16 07 15.7**	**+0.1**
VAO	**Valinhos**	**20.21**	**71**	eP	**P**	**16 07 17.9**	**+0.5**
NNA	**Nana**	**21.05**	**334**	LR	LR	16 15 11.7	
	comp=Z,44nm,18.5s,baz=163,slow=36						
PARB	**Paraibuna**	**21.15**	**73**	eP	**P**	**16 07 28.0**	**+0.5**
ARAG	**Araguaiana, MT**	**21.28**	**47**	eP	**P**	**16 07 29.2**	**+0.3**
MG02	**Cerro Sombrero**	**21.44**	**183**	P	**P**	**16 07 30.1**	**-0.2**
ETMB	**Extrema**	**21.48**	**4**	eP	**P**	**16 07 32.0**	**+1.0**
EFI	**East Falkland**	**21.51**	**163**	P	**P**	**16 07 30.0**	**-1.1**
GO10	**Punta Arenas**	**21.92**	**185**	P	**P**	**16 07 36.0**	**+0.4**
IPMB	**Ipameri, GO**	**22.11**	**58**	eP	**P**	**16 07 37.8**	**-0.1**
SAML	**Samuel**	**22.69**	**12**	P	**P**	**16 07 42.6**	**-1.4**
SAML	**Samuel**	**22.69**	**12**	eP	**P**	**16 07 44.6**	**+0.6**
BSCB	**Bom Sucesso**	**22.97**	**69**	eP	**P**	**16 07 47.7**	**+0.7**
USHA	**Ushuaia**	**23.47**	**181**	P	**P**	**16 07 50.6**	**-1.1**
	comp=Z,20nm,0.3s,baz=1.4,slow=2.6,SNR=2.3						
BDFB	**Brasilia**	**23.82**	**53**	P	**P**	**16 07 53.6**	**-2.0**
	comp=Z,6.4nm,0.5s,baz=222,slow=6.9,SNR=7.9						
BDFB				LR	LR	16 16 57.2	
	comp=Z,335nm,19.8s,baz=193,slow=36						
BDFB	**Brasilia**	**23.82**	**53**	P	**P**	**16 07 54.3**	**-1.3**
CZSB	**Cruzeiro do Su**	**23.97**	**348**	eP	**P**	**16 07 57.7**	**+0.8**
SNDB	**Serra Nova Dou**	**24.52**	**42**	eP	**P**	**16 08 03.6**	**+1.6**
ATAH	**Atahualpa**	**26.09**	**335**	P	**P**	**16 08 18.0**	**+1.3**
	comp=Z,4.1nm,0.7s,baz=87,slow=19,SNR=2.1						
PEXB	**Peixe**	**26.22**	**47**	eP	**P**	**16 08 19.2**	**+1.8**
NPGB	**Novo Progresso**	**26.80**	**28**	eP	**P**	**16 08 24.4**	**+1.8**
SJMB	**Sao Joao De Ma**	**27.04**	**69**	eP	**P**	**16 08 25.5**	**+0.7**
TBTG	**Tabatinga, AM**	**27.11**	**355**	eP	**P**	**16 08 26.2**	**+0.9**
MACA	**Manacapuru-AM**	**28.82**	**15**	eP	**P**	**16 08 41.8**	**+1.1**
ITTB	**Itaituba**	**29.11**	**25**	eP	**P**	**16 08 44.0**	**+0.8**
SMTB	**Santa Maria do**	**29.18**	**44**	eP	**P**	**16 08 45.8**	**+1.9**
PTGA	**Pitinga**	**31.33**	**15**	P	**P**	**16 09 02.1**	**-0.8**
	comp=Z,4.9nm,0.7s,baz=194,slow=11,SNR=9.3						
PTGA	**Pitinga**	**31.33**	**15**	P	**P**	**16 09 02.1**	**-0.8**
PTGA	**Pitinga**	**31.33**	**15**	eP	**P**	**16 09 02.9**	**0.0**
HOPE	**Hope Point**	**31.95**	**145**	P	**P**	**16 09 07.7**	**-0.3**
OTAV	**Otavalo**	**33.04**	**340**	eP	**P**	**16 09 19.4**	**+1.0**
PMSA	**Palmer Station**	**33.52**	**177**	P	**P**	**16 09 22.2**	**+0.6**
	comp=Z,14nm,0.8s,baz=30,slow=3.5,SNR=4.2						
PMSA				LR	LR	16 23 18.8	
	comp=Z,108nm,20.3s,baz=328,slow=37						
PMSA	**Palmer Station**	**33.52**	**177**	P	**P**	**16 09 21.8**	**+0.3**
PMSA				IAmb	IAmb	16 09 22.9	
	comp=Z,24nm,1.0s						
BOAV	**Boa Vista**	**34.25**	**13**	eP	**P**	**16 09 29.2**	**+0.7**
BBAC	**Balboa, Cauca**	**34.42**	**343**	eP	**P**	**16 09 31.2**	**+1.0**
POPC	**Popayan, Colom**	**34.78**	**344**	eP	**P**	**16 09 34.4**	**+1.2**
YOTC	**Yotoco, Valle**	**36.10**	**345**	eP	**P**	**16 09 45.4**	**+0.9**
TOLC	**Tolima**	**36.48**	**347**	eP	**P**	**16 09 49.8**	**+1.9**
VA02	**Isla de Pascua**	**36.50**	**266**	P	**P**	**16 09 47.6**	**-0.2**
GUY2C	**Guyana, Caldas**	**37.11**	**347**	eP	**P**	**16 09 54.3**	**+0.8**
RUSC	**La Rusia**	**37.40**	**351**	P	**P**	**16 09 54.5**	**-1.4**
RUSC				IAmb	IAmb	16 09 58.3	
	comp=Z,23nm,0.9s						
CBOC	**Ciudad Bolivar**	**37.86**	**346**	eP	**P**	**16 10 01.2**	**+1.7**
HELC	**Santa Helena**	**38.08**	**347**	eP	**P**	**16 10 01.6**	**0.0**
PTBC	**PUERTO BERRIO,**	**38.23**	**349**	eP	**P**	**16 09 60.0**	**-2.6**
MDP	**Montagnes des**	**39.00**	**24**	P	**P**	**16 10 08.5**	**-0.5**
	comp=Z,20nm,1.0s,baz=197,slow=6.7,SNR=4.9						
DBBC	**Dabeiba**	**39.02**	**346**	eP	**P**	**16 10 10.1**	**+0.9**
ZARC	**Zaragoza, Cauc**	**39.23**	**349**	eP	**P**	**16 10 08.9**	**-2.0**
SMLC	**San Martn de**	**40.40**	**350**	eP	**P**	**16 10 18.2**	**-2.4**
SJCC	**San Jacinto, C**	**41.64**	**349**	P	**P**	**16 10 30.2**	**-0.7**
SJCC				IAmb	IAmb	16 10 32.8	
	comp=Z,30nm,1.2s						
ILAM	**Ilet Lapin Mar**	**46.33**	**9**	P	**P**	**16 11 06.3**	**-2.1**
BELA	**Belgrano 2**	**48.88**	**171**	P	**P**	**16 11 27.4**	**-0.2**
BELA				IAmb	IAmb	16 11 28.4	
	comp=Z,9.0nm,0.7s						
TGUH	**Tegucigalpa,Un**	**48.91**	**334**	P	**P**	**16 11 27.5**	**-1.2**
ANWB	**Willy Bob**	**49.07**	**7**	P	**P**	**16 11 28.6**	**-1.1**
CUPR	**Culebra, Puert**	**49.43**	**3**	P	**P**	**16 11 30.2**	**-2.3**
CUPR				IAmb	IAmb	16 11 32.3	
	comp=Z,11nm,0.8s						
MTO3	**Montecristo**	**50.03**	**332**	P	**P**	**16 11 37.5**	**+0.2**
MTO3				IAmb	IAmb	16 11 39.4	
	comp=Z,13nm,1.0s						
VNA3	**Neumayer Olymp**	**50.47**	**159**	P	**P**	**16 11 40.0**	**+0.2**
VNA3	**Neumayer Olymp**	**50.47**	**159**	pP	pP	16 11 42.8	-0.2
VNA3	**Neumayer Olymp**	**50.47**	**159**	sP	sP	16 11 45.8	+1.5
VNA1	**Neumayer--Stat**	**50.71**	**158**	P	**P**	**16 11 42.8**	**+1.3**
VNA2	**Neumayer--Watz**	**51.07**	**158**	P	**P**	**16 11 44.5**	**+0.2**
	baz=283,slow=8.6						
VNA2	**Neumayer--Watz**	**51.07**	**158**	pP	pP	16 11 46.9	-0.6
VNA2	**Neumayer--Watz**	**51.07**	**158**	sP	sP	16 11 49.6	+0.8
CBCY	**The Bluff, Cay**	**52.11**	**346**	P	**P**	**16 11 53.0**	**+0.4**
SNAA	**Sanae**	**52.68**	**159**	P	**P**	**16 11 56.3**	**-0.1**
SNAA	**Sanae**	**52.68**	**159**	P	**P**	**16 11 56.4**	**-0.1**
	comp=Z,6.2nm,0.5s,baz=280,slow=7.0,SNR=154						
SNAA	**Sanae**	**52.68**	**159**	P	**P**	**16 11 56.2**	**-0.3**
SNAA				IAmb	IAmb	16 11 57.6	
	comp=Z,18nm,1.1s						
SOR	**Soroa**	**55.81**	**343**	P	**P**	**16 12 19.4**	**-0.2**
QSPA	**South Pole Qui**	**58.87**	**180**	P	**P**	**16 12 41.3**	**+0.2**
	comp=Z,12nm,0.9s,baz=161,slow=1.4,SNR=83						
QSPA	**South Pole Qui**	**58.87**	**180**	P	**P**	**16 12 41.3**	**+0.2**
QSPA				IAmb	IAmb	16 12 50.7	
	comp=Z,14nm,0.9s						
152A	**Waverly Hall**	**65.69**	**344**	P	**P**	**16 13 26.0**	**-0.7**
152A				IAmb	IAmb	16 13 27.1	
	comp=Z,9.8nm,1.1s						
Y60A	**Bolivia**	**65.77**	**350**	P	**P**	**16 13 27.9**	**+0.7**
GOGA	**Godfrey**	**66.12**	**346**	P	**P**	**16 13 28.6**	**-0.9**
GOGA				IAmb	IAmb	16 13 29.5	
	comp=Z,7.8nm,1.0s						
SBA	**Scott Base**	**66.38**	**191**	P	**P**	**16 13 31.5**	**+0.7**
JSC	**Jenkinsville**	**66.53**	**348**	P	**P**	**16 13 30.7**	**-1.4**
JSC				IAmb	IAmb	16 13 33.0	
	comp=Z,8.2nm,0.8s						
LRAL	**Lakeview Retre**	**66.59**	**342**	P	**P**	**16 13 31.5**	**-1.1**
HODGE	**Hodges**	**66.67**	**347**	P	**P**	**16 13 32.5**	**-0.5**
HODGE				IAmb	IAmb	16 13 33.8	
	comp=Z,8.7nm,1.1s						
Y52A	**Lilburn**	**66.69**	**345**	P	**P**	**16 13 32.5**	**-0.7**
Y52A				IAmb	IAmb	16 13 33.8	
	comp=Z,11nm,0.9s						
SYO	**Syowa Base**	**66.95**	**158**⇑	epP	**P**	**16 13 34.2**	**-0.3**
SYO	**Syowa Base**	**66.95**	**158**⇓	esP	sP	16 13 37.0	-2.0
W57A	**Gilead**	**67.16**	**349**	P	**P**	**16 13 34.4**	**-1.7**
W57A				IAmb	IAmb	16 13 37.2	
	comp=Z,11nm,0.9s						
Y49A	**Blount Mountai**	**67.23**	**343**	P	**P**	**16 13 35.2**	**-1.5**
VNDA	**Vanda**	**67.38**	**190**	P	**P**	**16 13 38.1**	**+1.0**
	comp=Z,3.4nm,0.9s,baz=124,slow=4.5,SNR=14						
VNDA	**Vanda**	**67.38**	**190**	P	**P**	**16 13 38.0**	**+0.9**
X51A	**Calhoun**	**67.54**	**345**	P	**P**	**16 13 37.6**	**-0.9**
BG3	**Lake Jocassee**	**67.54**	**346**	P	**P**	**16 13 37.8**	**-0.8**
BG3				IAmb	IAmb	16 13 39.0	
	comp=Z,8.7nm,1.1s						
V58A	**Windy Hill, Pi**	**67.65**	**350**	P	**P**	**16 13 38.9**	**-0.3**
V58A				IAmb	IAmb	16 13 40.3	
	comp=Z,9.9nm,0.8s						
FPAL	**Fort Paine**	**67.69**	**344**	P	**P**	**16 13 38.6**	**-1.0**
FPAL				IAmb	IAmb	16 13 40.1	
	comp=Z,7.8nm,0.9s						
W52A	**Murphy**	**67.84**	**346**	P	**P**	**16 13 39.7**	**-0.8**
W52A				IAmb	IAmb	16 13 40.8	
	comp=Z,7.5nm,0.9s						
X48A	**Hartselle**	**67.95**	**343**	P	**P**	**16 13 40.5**	**-0.7**
X48A				IAmb	IAmb	16 13 42.1	
	comp=Z,12nm,1.0s						
V55A	**Taylorsville**	**68.05**	**348**	P	**P**	**16 13 41.2**	**-0.5**
V55A				IAmb	IAmb	16 13 42.4	
	comp=Z,7.5nm,0.8s						
V53A	**Saluda**	**68.17**	**347**	P	**P**	**16 13 42.0**	**-0.6**
V53A				IAmb	IAmb	16 13 43.3	
	comp=Z,8.5nm,1.0s						
W50A	**Signal Mountai**	**68.25**	**345**	P	**P**	**16 13 42.5**	**-0.6**
CPCT	**Cooper Cave**	**68.31**	**345**	P	**P**	**16 13 42.6**	**-0.8**
CPCT				IAmb	IAmb	16 13 44.0	
	comp=Z,12nm,1.0s						
TKL	**Tuckaleechee C**	**68.35**	**346**	P	**P**	**16 13 42.7**	**-0.9**
TKL				IAmb	IAmb	16 13 44.0	
	comp=Z,10nm,1.1s						
HPIG		**68.36**	**324**	P	**P**	**16 13 44.1**	**-0.1**
HPIG				IAmb	IAmb	16 13 49.9	
	comp=Z,13nm,1.3s						
U56A	**King**	**68.39**	**349**	P	**P**	**16 13 43.1**	**-0.8**
U56A				IAmb	IAmb	16 13 44.8	
	comp=Z,8.7nm,0.9s						
SWET	**Sewanee**	**68.41**	**344**	P	**P**	**16 13 43.5**	**-0.6**
V52A	**Sevierville**	**68.49**	**346**	P	**P**	**16 13 43.4**	**-1.2**
V52A				IAmb	IAmb	16 13 44.9	
	comp=Z,14nm,1.2s						
T59A	**Double "B" Far**	**68.60**	**352**	P	**P**	**16 13 44.1**	**-1.0**
T59A				IAmb	IAmb	16 13 46.6	
	comp=Z,11nm,0.9s						
JCT	**Junction City**	**68.64**	**330**	P	**P**	**16 13 45.9**	**+0.3**
JCT				IAmb	IAmb	16 13 46.9	
	comp=Z,7.3nm,0.9s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PLAL	Pickwick Lake	68.72	342	P	P	16 13 44.9	-1.1
U54A	Nelsons Funny	68.81	348	P	P	16 13 46.0	-0.6
WHTX	Lake Whitney,	69.02	333	P	P	16 13 47.2	-0.7
WHTX				IAmb	IAmb	16 13 48.9	
	comp=Z,5.9nm,0.7s						
V48A	Smith Brothers	69.12	343	P	P	16 13 47.7	-0.7
BLA	Blacksburg	69.24	349	P	P	16 13 49.5	+0.3
BLA				IAmb	IAmb	16 14 18.0	
	comp=Z,16nm,1.4s						
CLTN	Cedars of Leba	69.34	344	P	P	16 13 48.7	-1.1
CLTN				IAmb	IAmb	16 13 50.4	
	comp=Z,8.5nm,0.9s						
JSRW	J. Sargeant Re	69.35	351	P	P	16 13 49.4	-0.5
TXAR	Lajitas Array	69.38	327	P	P	16 13 51.1	+0.8
	comp=Z,2.1nm,0.8s,baz=141,slow=8.1,SNR=16						
TXAR	Lajitas Array	69.38	327	P	P	16 13 50.6	+0.3
TX31	Lajitas Ar. Si	69.38	327	P	P	16 13 50.7	+0.3
TX31				IAmb	IAmb	16 13 51.9	
	comp=Z,13nm,1.1s						
TX32	Lajitas Array	69.38	327	P	P	16 13 50.9	+0.5
S57A	Dark Hollow, R	69.56	350	P	P	16 13 51.1	-0.1
R58B	Mineral	69.62	351	P	P	16 13 51.8	+0.4
WVT	Waverly	69.74	343	P	P	16 13 51.3	-1.0
S54A	Dingess, Beckl	69.97	349	P	P	16 13 52.7	-1.0
S54A				IAmb	IAmb	16 13 54.0	
	comp=Z,13nm,0.9s						
Z35A	Perchaven, San	70.14	334	P	P	16 13 54.8	0.0
WHAR	Wooly Hollow	70.21	339	P	P	16 13 54.8	-0.4
WHAR				IAmb	IAmb	16 13 57.5	
	comp=Z,16nm,1.5s						
R55A	Marlinton	70.25	350	P	P	16 13 55.7	+0.3
T47A	Sharon Grove	70.38	344	P	P	16 13 55.1	-1.1
T47A				IAmb	IAmb	16 13 57.8	
	comp=Z,8.5nm,0.9s						
X37A	Clayton	70.58	336	P	P	16 13 56.9	-0.6
X37A				IAmb	IAmb	16 13 58.9	
	comp=Z,21nm,1.4s						
LCAR	Lake Charles	70.59	340	P	P	16 13 56.5	-1.0
LCAR				IAmb	IAmb	16 13 58.4	
	comp=Z,12nm,0.8s						
W39A	Magazine	70.60	338	P	P	16 13 57.9	+0.4
W39A				IAmb	IAmb	16 14 00.4	
	comp=Z,9.7nm,1.0s						
DBIC	Dimbokro	70.84	69	P	P	16 13 59.1	-0.4
	comp=Z,6.1nm,0.7s,baz=256,slow=3.0,SNR=4.0						
DBIC				LR	LR	16 41 08.8	
	comp=Z,80nm,21.6s,baz=201,slow=33						
DBIC	Dimbokro	70.84	69	P	P	16 13 57.9	-1.6
DBIC				IAmb	IAmb	16 14 04.4	
	comp=Z,8.6nm,0.9s						
Q56A	Snyder Ridge,	70.85	351	P	P	16 13 59.3	+0.2
Q56A				IAmb	IAmb	16 14 01.1	
	comp=Z,12nm,1.1s						
R50A	Paris	71.00	346	P	P	16 13 58.9	-1.1
R50A				IAmb	IAmb	16 14 00.4	
	comp=Z,8.0nm,0.9s						
Q54A	Coxs Mills	71.04	349	P	P	16 13 59.5	-0.7
Q54A				IAmb	IAmb	16 14 00.4	
	comp=Z,7.4nm,0.8s						
PBMO	Poplar Bluff	71.05	341	P	P	16 13 58.8	-1.5
P57A	Homestead Farm	71.13	352	P	P	16 14 00.9	+0.2
R49A	Shelbyville	71.18	346	P	P	16 13 59.8	-1.2
R49A				IAmb	IAmb	16 14 02.5	
	comp=Z,17nm,1.2s						
Q52A	Bidwell	71.26	348	P	P	16 14 00.3	-1.2
Q52A				IAmb	IAmb	16 14 02.2	
	comp=Z,12nm,0.9s						
WUPA	West Chester U	71.31	354	P	P	16 14 01.8	+0.1
WUPA				IAmb	IAmb	16 14 03.6	
	comp=Z,10nm,1.3s						
WCI	Wyandotte Cave	71.37	345	P	P	16 14 01.2	-1.0
U40A	Yellville	71.37	339	P	P	16 14 01.8	-0.4
U40A				IAmb	IAmb	16 14 03.3	
	comp=Z,9.8nm,1.1s						
X34A	Smith Ranch, M	71.48	334	P	P	16 14 03.1	+0.1
Q51A	Peebles	71.52	347	P	P	16 14 02.3	-0.8
Q51A				IAmb	IAmb	16 14 03.7	
	comp=Z,18nm,1.2s						
S44A	Carbondale	71.59	342	P	P	16 14 02.4	-1.1
S44A				IAmb	IAmb	16 14 03.5	
	comp=Z,9.0nm,0.6s						
SIUC	Southern Illin	71.60	342	P	P	16 14 02.5	-1.0
SIUC				IAmb	IAmb	16 14 04.0	
	comp=Z,16nm,1.1s						
P53A	Whipple	71.62	349	P	P	16 14 03.4	-0.3
HHAR	Hobbs	71.65	338	P	P	16 14 03.1	-0.8
P52A	Corning	71.89	348	P	P	16 14 04.4	-0.9
P52A				IAmb	IAmb	16 14 05.8	
	comp=Z,14nm,0.9s						
P51A	Williamsport	71.91	348	P	P	16 14 04.5	-0.9
P51A				IAmb	IAmb	16 14 06.4	
	comp=Z,12nm,0.9s						
MGMO	Mountain Grove	71.93	340	P	P	16 14 05.3	-0.4
MGMO				IAmb	IAmb	16 14 06.8	
	comp=Z,12nm,1.1s						
WMOK	Wichita Mounta	71.96	333	P	P	16 14 04.8	-1.1
O56A	Blue Knob Stat	71.97	351	P	P	16 14 05.0	-0.8
O56A				IAmb	IAmb	16 14 11.4	
	comp=Z,10nm,1.1s						
MNTX	Cornudas Mount	72.16	327	P	P	16 14 06.1	-1.0
OK025	Westminster Rd	72.17	335	P	P	16 14 06.6	-0.5
P49A	Miami Univ. Ec	72.28	346	P	P	16 14 06.5	-1.2
O53A	New Philadelph	72.34	349	P	P	16 14 07.2	-0.7
O53A				IAmb	IAmb	16 14 08.8	
	comp=Z,12nm,1.2s						
WSPT	Westport, CT	72.35	356	P	P	16 14 07.5	-0.5
WSPT				IAmb	IAmb	16 14 09.6	
	comp=Z,9.9nm,1.0s						
P48A	Milroy	72.36	346	P	P	16 14 06.7	-1.4
P48A				IAmb	IAmb	16 14 08.2	
	comp=Z,15nm,1.0s						
ODNJ	Ogdensburg	72.36	355	P	P	16 14 08.1	0.0
ODNJ				IAmb	IAmb	16 14 09.7	
	comp=Z,13nm,1.2s						
OK029	Liberty Lake	72.41	335	P	P	16 14 07.6	-0.9
OK029				IAmb	IAmb	16 14 08.9	
	comp=Z,15nm,0.9s						
CCM	Cathedral Cave	72.47	341	P	P	16 14 07.6	-1.1
CCM				IAmb	IAmb	16 14 09.7	
	comp=Z,10nm,0.8s						
ACSO	Alum Creek Sta	72.63	348	P	P	16 14 09.1	-0.6
S39A	Bolivar	72.75	339	P	P	16 14 10.1	-0.4
O49A	Covington	72.84	347	P	P	16 14 10.1	-0.9
SUR	Sutherland	72.85	118	P	P	16 14 12.5	+0.8
	comp=Z,6.1nm,0.5s,baz=221,slow=7.4,SNR=17						
P46A	Rosedale	72.91	344	P	P	16 14 10.6	-0.8
P46A				IAmb	IAmb	16 14 11.9	
	comp=Z,13nm,0.8s						
MSTX	Muleshoe	72.91	330	P	P	16 14 11.5	-0.2
MSTX				IAmb	IAmb	16 14 12.9	
	comp=Z,11nm,0.8s						
R40A	Maddies Statio	72.98	340	P	P	16 14 11.4	-0.4
T35A	Sooner Cattle	73.08	336	P	P	16 14 12.0	-0.5
T35A				IAmb	IAmb	16 14 13.3	
	comp=Z,8.9nm,1.1s						
M55A	Ridgway	73.18	351	P	P	16 14 12.6	-0.3
AMTX	Amarillo	73.24	331	P	P	16 14 12.9	-0.6
AMTX				IAmb	IAmb	16 14 14.9	
	comp=Z,12nm,1.1s						
M54A	Oil Creek Stat	73.34	351	P	P	16 14 13.2	-0.7
M54A				IAmb	IAmb	16 14 14.5	
	comp=Z,13nm,1.1s						
P43A	Skaggs, Pawnee	73.49	343	P	P	16 14 14.1	-0.7
L59A	Walton	73.50	354	P	P	16 14 15.3	+0.4
L59A				IAmb	IAmb	16 14 16.7	
	comp=Z,15nm,1.0s						
KAN13	South Haven SW	73.51	336	P	P	16 14 14.6	-0.4
KAN13				IAmb	IAmb	16 14 16.4	
	comp=Z,15nm,0.9s						
N49A	Columbus Grove	73.52	347	P	P	16 14 13.9	-1.0
M52A	Chesterland	73.62	349	P	P	16 14 14.8	-0.8
KAN14	Manchester OK	73.63	335	P	P	16 14 15.0	-0.7
KAN14				IAmb	IAmb	16 14 35.3	
	comp=Z,9.2nm,0.6s						
KAN17	Caldwell West	73.64	335	P	P	16 14 15.5	-0.2
KAN17				IAmb	IAmb	16 14 17.1	
	comp=Z,7.4nm,0.6s						
L56A	Greenwood	73.69	352	P	P	16 14 15.5	-0.5
L56A				IAmb	IAmb	16 14 17.3	
	comp=Z,14nm,1.0s						
KAN05	Bluff City Nor	73.73	335	P	P	16 14 15.9	-0.4
KAN05				IAmb	IAmb	16 14 17.3	
	comp=Z,16nm,1.0s						
M50A	Fremont	73.77	348	P	P	16 14 15.6	-0.8
N47A	Urbana	73.78	346	P	P	16 14 15.0	-1.5
319A	Douglas	73.80	324	P	P	16 14 16.5	-0.5
121A	Cookes Peak, D	74.00	326	P	P	16 14 17.4	-0.8
121A				IAmb	IAmb	16 14 20.9	
	comp=Z,13nm,0.9s						
P40A	Paris	74.07	341	P	P	16 14 17.6	-0.6
P40A				IAmb	IAmb	16 14 19.1	
	comp=Z,12nm,0.8s						
P38A	Dawn	74.59	340	P	P	16 14 20.8	-0.4
MAW	Mawson	74.63	162	P	P	16 14 21.2	0.0
	comp=Z,7.3nm,0.8s,baz=205,slow=6.0,SNR=22						
MAW				LR	LR	16 48 32.6	
	comp=Z,36nm,19.3s,baz=232,slow=37						
MAW	Mawson	74.63	162	P	P	16 14 20.9	-0.3
J56A	Wolcott	74.75	353	P	P	16 14 21.9	-0.1
J56A				IAmb	IAmb	16 14 23.0	
	comp=Z,15nm,0.9s						
J57A	Williamstown	74.79	354	P	P	16 14 22.0	-0.3
J57A				IAmb	IAmb	16 14 23.5	
	comp=Z,13nm,1.0s						
HNH	Hanover	74.82	357	P	P	16 14 21.9	-0.6
HNH				IAmb	IAmb	16 14 24.3	
	comp=Z,20nm,1.2s						
LENM	Lemitar	74.95	327	P	P	16 14 23.8	+0.1
ANMO	Albuquerque	75.36	328	P	P	16 14 25.9	-0.2
PECO	Prince Edward	75.41	353	P	P	16 14 25.2	-0.6
PECO				IAmb	IAmb	16 14 27.0	
	comp=Z,11nm,0.9s						
EMMW	East Machias	75.70	0	P	P	16 14 26.4	-1.1
EMMW				IAmb	IAmb	16 14 30.4	
	comp=Z,14nm,0.8s						
FRNY	Flat Rock	76.02	356	P	P	16 14 28.4	-1.0
FRNY				IAmb	IAmb	16 14 30.9	
	comp=Z,9.4nm,0.9s						
214A	Organ Pipe Nat	76.09	322	P	P	16 14 30.2	+0.1
214A				IAmb	IAmb	16 14 32.9	
	comp=Z,12nm,1.1s						
L40A	Anamosa	76.20	342	P	P	16 14 29.4	-1.1
G62A	West of Eustis	76.26	358	P	P	16 14 31.0	+0.3
PKME	Peaks-Kenny Pk	76.27	359	P	P	16 14 30.5	-0.2
T25A	Trinidad	76.31	331	P	P	16 14 32.1	+0.6
TSUM	Tsumeb	76.36	104	P	P	16 14 32.2	+0.1
	comp=Z,5.6nm,1.0s,baz=328,slow=8.5,SNR=4.0						
N35A	Tabor	76.37	339	P	P	16 14 30.8	-0.6
MOQ	Mont Orford	76.42	357	P	P	16 14 31.7	0.0
SADO	Sadowa	76.48	352	P	P	16 14 31.3	-0.6
SADO				IAmb	IAmb	16 14 32.8	
	comp=Z,12nm,1.1s						
PLVO	Plevna	76.51	353	P	P	16 14 31.3	-0.8
PLVO				IAmb	IAmb	16 14 33.4	
	comp=Z,7.8nm,0.9s						
LMN	Caledonia Moun	76.89	2	P	P	16 14 33.7	-0.5
W18A	Petrified Fore	77.04	326	P	P	16 14 36.0	+0.4
W18A				IAmb	IAmb	16 14 38.1	
	comp=Z,13nm,1.1s						
KSCO	Kaye Shedlock'	77.19	333	P	P	16 14 36.0	-0.3
X16A	Lo Mia Camp, P	77.32	324	P	P	16 14 37.7	+0.5
X16A				IAmb	IAmb	16 14 39.8	
	comp=Z,12nm,1.1s						
I42A	Draeger Farm,	77.36	344	P	P	16 14 35.5	-1.5
I42A				IAmb	IAmb	16 14 37.2	
	comp=Z,12nm,0.9s						
L34A	Svendsen Farm,	77.60	339	P	P	16 14 37.6	-0.7
L34A				IAmb	IAmb	16 14 39.0	
	comp=Z,10nm,0.7s						
E62A	Clayton Lake	77.63	359	P	P	16 14 39.1	+0.7
Y14A	Wickenburg	77.74	323	P	P	16 14 40.2	+0.8
I40A	Norwalk	77.77	343	P	P	16 14 39.1	-0.1
I40A				IAmb	IAmb	16 14 39.8	
	comp=Z,9.7nm,0.8s						
BOSA	Boshof	78.00	116	P	P	16 14 40.8	-0.5
	comp=Z,9.1nm,0.8s,baz=249,slow=5.0,SNR=18						
BOSA				LR	LR	16 47 21.4	
	comp=Z,33nm,18.0s,baz=193,slow=34						
BOSA	Boshof	78.00	116	P	P	16 14 40.7	-0.5
BOSA				IAmb	IAmb	16 14 42.8	
	comp=Z,12nm,0.8s						
WUAZ	Wupatki	78.16	325	P	P	16 14 42.7	+0.9
WUAZ				IAmb	IAmb	16 14 44.5	
	comp=Z,9.5nm,1.1s						
MVCO	Mesa Verde	78.16	328	P	P	16 14 42.9	+1.0
I37A	Lemond, Waseca	78.61	341	P	P	16 14 43.4	-0.4
E46A	Sault Ste Mari	78.81	348	P	P	16 14 44.0	-0.9
E46A				IAmb	IAmb	16 14 45.6	
	comp=Z,18nm,1.1s						
PV01	Paradox Valley	78.95	328	P	P	16 14 46.3	+0.1
ISCO	Idaho Springs	79.06	331	P	P	16 14 46.7	-0.2
PV15	Paradox Valley	79.08	328	P	P	16 14 47.6	+0.7
PV13	Radium Mtn., P	79.08	328	P	P	16 14 46.7	-0.3
W13A	Hualapai Mount	79.09	323	P	P	16 14 47.7	+0.6
SMCO	Snowmass	79.11	330	P	P	16 14 48.1	+0.8
PV05	Paradox Valley	79.14	328	P	P	16 14 47.5	+0.2
PV03	Paradox Valley	79.17	328	P	P	16 14 47.8	+0.3
PV18	Skein Mesa, Pa	79.19	328	P	P	16 14 48.0	+0.4
PV11	David Mesa, Pa	79.22	328	P	P	16 14 48.6	+0.9
PV11				IAmb	IAmb	16 14 49.8	
	comp=Z,16nm,1.5s						
ECSD	EROS Data Cent	79.28	339	P	P	16 14 47.0	-0.6
ECSD				IAmb	IAmb	16 14 48.0	
	comp=Z,9.0nm,0.9s						
PFO	Pinyon Flats O	79.32	320	P	P	16 14 49.0	+0.8
U15A	North Rim	79.33	325	P	P	16 14 49.3	+0.9
PV14	Lion Creek, Pa	79.35	328	P	P	16 14 48.4	0.0
PV23	Carpenter Ridg	79.41	328	P	P	16 14 49.0	+0.2
TORD	Torodi Ar. Bea	79.84	68	P	P	16 14 51.3	0.0
	comp=Z,12nm,0.8s,baz=259,slow=4.8,SNR=60						
TORD				LR	LR	16 46 53.9	
	comp=Z,82nm,21.7s,baz=215,slow=33						
TORD	Torodi Ar. Bea	79.84	68	P	P	16 14 50.6	-0.7
TORD				IAmb	IAmb	16 14 55.1	
	comp=Z,18nm,0.9s						
LBTB	Lobatse	80.03	113	P	P	16 14 51.3	-1.1
LBTB				IAmb	IAmb	16 14 52.7	
	comp=Z,8.5nm,0.7s						
KNB	Kanab	80.06	325	P	P	16 14 52.4	+0.2
KNB				IAmb	IAmb	16 14 54.9	
	comp=Z,17nm,1.2s						
LCMT	Little Creek M	80.26	325	P	P	16 14 53.6	+0.3
MTPU	Mount Pierson	80.56	326	P	P	16 14 55.2	+0.1
SRU	San Rafael Swe	80.63	328	P	P	16 14 55.5	+0.2
CCUT	Cedar City	80.74	325	P	P	16 14 56.8	+0.9
CCUT				IAmb	IAmb	16 14 58.9	
	comp=Z,12nm,1.2s						
MSU	Marysvale	80.93	326	P	P	16 14 56.6	-0.3
MVU	Marysvale	80.94	326	P	P	16 14 56.6	-0.4
PRN	Pahroc Range	81.47	324	P	P	16 14 59.8	+0.1
TPNV	Topopah Spring	81.74	323	P	P	16 15 01.3	+0.1
PSUT	Pine Spring	81.75	325	P	P	16 15 00.8	-0.5
K22A	Casper	81.83	332	P	P	16 15 01.6	+0.1
K22A				IAmb	IAmb	16 15 03.7	
	comp=Z,12nm,1.1s						
SPR3	Spring Creek 3	82.35	325	P	P	16 15 04.2	-0.3
SPR3				IAmb	IAmb	16 15 06.5	
	comp=Z,10nm,1.3s						
R11A	Troy Canyon, C	82.47	324	P	P	16 15 05.1	+0.1
CASY	Casey	82.67	179	P	P	16 15 05.5	0.0
CASY				IAmb	IAmb	16 15 07.0	
	comp=Z,12nm,1.0s						
TPH	Tonopah	83.10	323	P	P	16 15 08.4	+0.1
BW06	Boulder Array	83.18	330	P	P	16 15 07.8	-0.8
PD31	Pinedale Array	83.18	330	P	P	16 15 08.3	-0.4
PDAR	Pinedale Array	83.18	330	P	P	16 15 08.8	+0.2
	comp=Z,1.3nm,0.8s,baz=132,slow=4.2,SNR=10						
NVAR	Mina Array Bea	83.92	322	P	P	16 15 13.9	+1.3
	comp=Z,1.6nm,0.9s,baz=156,slow=6.6,SNR=11						
ELK	Elko	84.14	326	P	P	16 15 13.5	-0.2
KVN	Kaiserville	84.28	323	P	P	16 15 14.2	-0.2
YERR	Yerington	84.83	322	P	P	16 15 15.9	-1.2
YERR				IAmb	IAmb	16 15 26.7	
	comp=Z,12nm,1.5s						
ULM	Lac du Bonnet	85.00	342	P	P	16 15 17.1	-0.4
	comp=Z,5.9nm,0.8s,baz=210,slow=4.8,SNR=4.1						
ULM	Lac du Bonnet	85.00	342	IAmb	IAmb	16 15 19.8	
	comp=Z,5.4nm,0.8s						
YHH	Holmes Hill	85.36	331	P	P	16 15 19.5	-0.3
YHH				IAmb	IAmb	16 15 21.9	
	comp=Z,11nm,1.4s						
PAHR	Pah Rah Range	85.43	323	P	P	16 15 20.0	-0.1
HLID	Hailey	85.94	328	P	P	16 15 22.7	+0.2
BEKR	Beckworth	86.06	322	P	P	16 15 23.1	-0.2
BEKR				IAmb	IAmb	16 15 25.3	
	comp=Z,13nm,1.5s						
MCMT	McKenzie Canyo	86.25	330	P	P	16 15 24.5	+0.4
DLMT	Dillon	86.56	330	P	P	16 15 25.2	-0.3
LRM	Limekiln Ridge	86.87	330	P	P	16 15 26.8	-0.3
J08A	Circle Bar Ran	87.69	326	P	P	16 15 31.2	+0.2
K05A	Summer Lake	88.42	324	P	P	16 15 34.9	+0.3
PINE	Pine Mountain	89.22	325	P	P	16 15 38.8	+0.4
PINE				IAmb	IAmb	16 15 40.2	
	comp=Z,9.6nm,1.0s						
ESDC	Sonseca Array	92.12	44	P	P	16 15 51.3	-0.5
	comp=Z,0.7nm,0.8s,baz=244,slow=5.5,SNR=4.6						
ESDC				LR	LR	16 53 26.7	
	comp=Z,22nm,21.9s,baz=260,slow=33						
ESDC	Sonseca Array	92.12	44	IAmb	IAmb	16 15 55.8	
	comp=Z,1.4nm,1.1s						
ASAR	Alice Springs	121.51	203	PKP	PKPdf	16 21 35.8	-0.8
	comp=Z,2.2nm,0.7s,baz=136,slow=1.8,SNR=41						
WRA	Warramunga Arr	124.78	205	PKP	PKPdf	16 21 42.3	-0.6
	comp=Z,8.1nm,0.8s,baz=169,slow=2.0,SNR=54						
WRA	Warramunga Arr	124.78	205		PKPdf	16 21 41.6	-1.3
KLMR	Klimovskoe	125.13	35	*e*PKPdf	PKPdf	16 21 41.1	-1.0
KLMR				AMP		16 21 43.0	
	comp=Z,15nm,1.1s						
BVAR	Borovoye Array	142.86	42	PKP	PKPdf	16 22 13.4	-2.2
	comp=Z,0.3nm,0.4s,baz=172,slow=40,SNR=2.5						
HYB	Hyderabad	146.42	106	*i* PKP	PKPdf	16 22 23.0	+0.2
HYB				*e*pPKP	pPKPdf	16 22 26.5	+0.2
AAK	Ala-Archa	148.02	59	PKPbc	PKPbc	16 22 28.8	+0.7
	comp=Z,4.7nm,0.8s,baz=215,slow=5.3,SNR=9.2						
AAK	Ala-Archa	148.02	59	PKPbc	PKPbc	16 22 27.0	-1.1
KURBB	Kurchatov Arra	148.44	43	PKP	PKPdf	16 22 25.6	+0.5
	comp=Z,9.0nm,0.8s,baz=294,slow=3.1,SNR=48						
KURBB				PKPbc	pPKPdf	16 22 29.1	+0.5
	comp=Z,10nm,0.7s,baz=289,slow=3.2,SNR=68						
KURK	Kurchatov	148.46	42		PKPbc	16 22 29.1	+0.4
KSH	Kashi	149.46	64	PKPbc	PKPbc	16 22 32.2	+0.5
KSH				PKPbc	PKPbc	16 22 32.3	+0.5
ZALV	Zalesovo Beam	150.03	33	PKPbc	PKiKP	16 22 33.0	-0.4
	comp=Z,15nm,0.8s,baz=301,slow=2.9,SNR=38						
ZALV	Zalesovo Beam	150.03	33		PKPbc	16 22 32.1	-0.4
MKAR	Makanchi Array	152.28	48	PKPbc	PKPbc	16 22 37.9	-0.1
	comp=Z,8.2nm,0.8s,baz=296,slow=2.0,SNR=66						
MKAR	Makanchi Array	152.28	48		PKPbc	16 22 37.6	-0.5
WMQ	Urumqi	156.97	50	*e*P	PKPdf	16 22 37.4	-0.5
WMQ	Urumqi	156.97	50	pmax	pmax		
	comp=Z,130nm,6.1s						
MJAR	Matsushiro Arr	157.93	291	PKPab	PKPab	16 23 12.4	0.0
	comp=Z,4.2nm,0.9s,baz=108,slow=2.2,SNR=7.3						
USRK	Ussuriysk Ar.	159.90	315	PKPab	PKPab	16 23 21.5	+0.8
	comp=Z,1.4nm,0.7s,baz=54,slow=4.8,SNR=4.3						
CMAR	Chiang Mai Arr	162.36	134	PKP	PKPdf	16 22 45.0	+0.3
	comp=Z,1.4nm,0.8s,baz=258,slow=2.6,SNR=11						
CMAR				PKPab	PKPab	16 23 31.1	-1.0
	comp=Z,1.0nm,0.8s,baz=236,slow=5.2,SNR=4.4						
CMAR	Chiang Mai Arr	162.36	134	PKPdf	PKPdf	16 22 43.7	-1.1
UTTA	Uttaradit	162.76	139	PKP	PKPdf	16 22 46.7	+1.6
SONM	Songino Array	162.94	14	PKP	PKPdf	16 22 43.6	-1.0
	comp=Z,0.3nm,0.6s,baz=11,slow=1.5,SNR=2.5						
SONM				PKPab	PKPab	16 23 34.1	+0.2
	comp=Z,1.6nm,0.8s,baz=325,slow=5.0,SNR=9.3						
GTA	Gaotai	167.03	48	⇓PKP	PKPdf	16 22 49.4	+1.0
GTA				PKPab	PKPab	16 23 53.1	+0.8
GTA				LR	LR		
	comp=N,170nm,16.7s						
GTA				LR	LR		
	comp=E,230nm,17.4s						
GTA				LR	LR		
	comp=Z,310nm,18.2s						

MEX 08 16:04:52.0±1.0, 14.03N×92.26W, h79km±28km, MD4.2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.87	360	*i* P	Pn	16 05 08.0	-1.5
THIG				*i* S	Sn	16 05 20.2	-2.2
PCIG		1.90	331	*i* P	Pn	16 05 20.9	-1.6
PCIG				*e*S	Sn	16 05 44.3	-1.5
CCIG	Comitan	2.24	3	*i* P	Pn	16 05 30.8	+3.5
CCIG				*i* S	Sn	16 06 01.1	+6.9
TGIG		2.85	343	*e*P	Pn	16 05 36.2	+0.8
TGIG				*i* S	Sn	16 06 09.7	+0.9
CMIG	Matias Romero	3.95	321	*e*P	Pn	16 05 49.3	-1.0
CMIG				*i* S	Sn	16 06 34.0	-1.5

TUL 08 16:05:18.9±0.6, 36.18N±0.02×97.49W±0.02, h5km±7km, ML2.6, mb_Lg2.6/34(NEIC), Error ellipse: s-maj=2.5km s-min=1.8km az=216.0

NEIC 08 16:05:18.8±0.5, 36.18N±0.01×97.49W±0.01, h5km±7km, Error ellipse: s-maj=2.0km s-min=1.5km az=137.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.39	176		Pg	16 05 26.4	+0.2
CROK	Carrier	0.51	309	Pg	Pg	16 05 29.1	+0.4
OK031	S. Brethren Rd	0.58	113	Pg	Pg	16 05 30.0	+0.1
OK025	Westminster Rd	0.61	168		Pg	16 05 30.7	+0.1
OK025				IAmb_Lg		16 05 38.8	
	comp=Z,70nm,0.8s						
BLOK	Blackwell	0.62	21	Pg	Pg	16 05 31.0	+0.3
QUOK	Quay	0.63	91	Pg	Pg	16 05 31.1	+0.1
QUOK				Sg	Sg	16 05 39.2	-0.1
GC02	Grant County #	0.73	336	Pg	Pg	16 05 32.9	0.0
OKCFA	Oklahoma City	0.77	178		Pg	16 05 33.6	0.0
OKCFA				IAmb_Lg		16 05 43.9	
	comp=Z,62nm,0.9s						
OKCSW	OKLAHOMA CITY	0.78	177		Pg	16 05 33.5	-0.2
KAN13	South Haven SW	0.83	1	Pg	Pg	16 05 34.8	+0.1
OK032	Salt Plains WL	0.85	317	Pg	Pg	16 05 35.0	-0.2
KAN14	Manchester OK	0.86	334	Pg	Pg	16 05 35.4	0.0
KAN17	Caldwell West	0.89	346	Pg	Pg	16 05 35.8	-0.1
FNO	Franklin	0.93	175		Pg	16 05 36.2	-0.4
KAN05	Bluff City Nor	0.97	342	Pg	Pg	16 05 37.4	-0.2
KS20	Mayfield South	1.05	357	Pg	Pg	16 05 38.7	-0.3
T35A	Sooner Cattle	1.08	47	Pg	Pg	16 05 39.1	-0.4
KAN08	Anthony NE Sta	1.11	340	Pg	Pg	16 05 39.9	-0.3
KAN12	Harper NE Stat	1.19	340	Pg	Pg	16 05 41.1	-0.5
U32A	Winter Ranch,	1.24	280	Pg	Pg	16 05 42.1	-0.4
X34A	Smith Ranch, M	1.60	190	Pn	Pn	16 05 47.5	-0.3
WMOK	Wichita Mounta	1.79	217		Pn	16 05 50.4	+0.1
LOOK	Love County	2.20	173		Pn	16 05 55.9	-0.1
X37A	Clayton	2.35	132	Pn	Pn	16 05 58.1	0.0
X37A				IAmb_Lg		16 06 38.6	
	comp=Z,17nm,0.8s						
U38A	Gravette	2.52	83	IAmb_Lg		16 06 42.0	
	comp=Z,17nm,0.7s						
MIAR	Mount Ida	3.59	116	Pn	Pn	16 06 15.5	+0.3
MIAR				IAmb_Lg		16 07 17.2	
	comp=Z,15nm,0.8s						
AMTX	Amarillo	3.65	250	Pn	Pn	16 06 15.8	-0.3
AMTX				IAmb_Lg		16 07 19.4	
	comp=Z,17nm,1.1s						
U40A	Yellville	3.75	86	IAmb_Lg		16 07 15.9	
	comp=Z,10nm,1.0s						
ABTX	Abilene, Hawle	3.97	207	IAmb_Lg		16 07 25.2	
	comp=Z,12nm,0.7s						
X40A	Basin Creek Fa	4.17	113	IAmb_Lg		16 07 35.3	
	comp=Z,15nm,0.7s						
MGMO	Mountain Grove	4.31	75	IAmb_Lg		16 07 34.6	
	comp=Z,12nm,0.7s						
WHAR	Wooly Hollow	4.33	100	IAmb_Lg		16 07 39.3	
	comp=Z,14nm,0.8s						
P38A	Dawn	4.65	41	IAmb_Lg		16 07 54.1	
	comp=Z,8.3nm,0.8s						
R40A	Maddies Statio	4.67	62		Pn	16 06 29.7	-0.2
R40A				IAmb_Lg		16 07 50.8	
	comp=Z,10.0nm,0.9s						
KSCO	Kaye Shedlock'	4.96	306	IAmb_Lg		16 07 52.9	
	comp=Z,7.9nm,0.7s						
LCAR	Lake Charles	5.13	89	IAmb_Lg		16 08 02.0	
	comp=Z,7.0nm,0.8s						
T25A	Trinidad	5.64	282	IAmb_Lg		16 08 32.9	
	comp=Z,12nm,1.1s						
PBMO	Poplar Bluff	5.72	82	IAmb_Lg		16 08 24.8	
	comp=Z,12nm,0.7s						
JCT	Junction City	6.01	199	IAmb_Lg		16 08 44.8	
	comp=Z,14nm,0.8s						

IDC 08 16:10:57.1±4.2, 3.69S×150.75E, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.3/34, mbtmp3.3/2, Error ellipse: s-maj=159.2km s-min=52.0km az=114.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.74**	**223**	P	P	16 16 01.5	+0.5
	1.1nm,0.6s,baz=48,slow=9.9,SNR=18						
ASAR	**Alice Springs**	**25.68**	**218**	P	P	16 16 28.6	-0.5
	0.3nm,0.8s,baz=51,slow=8.2,SNR=6.4						
TORD	**Torodi Ar. Bea**	**148.02**	**289**	PKPbc	PKPbc	16 30 45.1	-0.7
	0.2nm,0.5s,baz=74,slow=2.9,SNR=1.8						

*VIE **08** 16:22:00.6±0.7, 51.°47N×16.°46E, h0km, mb2.4/4, ml3.1/4, Error ellipse: s-maj=5.3km s-min=3.9km az=67.0 57 km NW of Wroclaw Suspected Mining induced.*
*IDC **08** 16:22:03.3±0.8, 51.°34N×15.°98E, h0km, mb1 3.2/5, mb1mx3.0/58, mbtmp3.1/5, ML2.8/5, Error ellipse: s-maj=10.8km s-min=7.6km az=104.0*
*PRU **08** 16:22:03.4±0.0, 51.°48N×16.°20E, h0km*
*BGR **08** 16:22:05.4±0.5, 51.°34N×16.°22E, h1km, ML2.9/7, Error ellipse: s-maj=15.6km s-min=5.6km az=16.0*
*DNK **08** 16:22:08.3±2.4, 51.°85N×15.°98E, h0km±150km, ML2.1*
ISC 08 16:22:01.8±0.7**, 51.°51N**±0.°03×**16.°25E**±0.°02**, h0km, n50, σ1.°83**/96**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**178**	*e*Pg	**Pb**	**16 22 17.2**	**+0.8**
KSP				*e*Sg	**Sb**	**16 22 25.7**	**-0.5**
KSP	**Ksiaz**	**0.67**	**178**	*e*Pg	**Pg**	**16 22 13.2**	**-1.5**
CHVC	**Chvalec**	**0.93**	**188**	*e*PG	**Pg**	**16 22 19.6**	**-0.1**
CHVC				*e*SG	**Sg**	**16 22 32.8**	**+1.0**
	comp=Z,99nm,0.6s						
OSTC	**Ostas**	**0.96**	**181**	*e*PG	**Pg**	**16 22 19.4**	**-0.7**
OSTC				*e*SG	**Sg**	**16 22 33.3**	**+0.8**
	comp=Z,108nm,0.5s						
UPC	**Upice**	**1.02**	**188**	*e*PG	**Pg**	**16 22 20.8**	**-0.5**
UPC				*e*SG	**Sg**	**16 22 35.2**	**+0.7**
	comp=Z,175nm,0.4s						
DPC	**Dobruska-Polom**	**1.17**	**178**	*e*PG	**Pg**	**16 22 23.0**	**-1.1**
DPC				*e*SG	**Sg**	**16 22 39.4**	**+0.2**
	comp=Z,72nm,0.5s						
DPC	**Dobruska-Polom**	**1.17**	**178**	*e*Pg	**Pg**	**16 22 22.1**	**-2.0**
PVCC	**Panska Ves**	**1.45**	**228**	*e*PG	**Pn**	**16 22 28.6**	**-0.7**
PVCC				*e*SG	**Sn**	**16 22 49.6**	**+0.7**
	comp=Z,258nm,0.7s						
KRLC	**Kraliky**	**1.48**	**167**	*e*PG	**Pn**	**16 22 28.7**	**-1.0**
KRLC				*e*SG	**Sg**	**16 22 49.6**	**+0.3**
	comp=Z,72nm,0.5s						
BRG	**Berggiesshubel**	**1.58**	**247**	*e*Pn	**Pn**	**16 22 30.4**	**-0.8**
BRG	**Berggiesshubel**	**1.58**	**247**	Pn	**Pn**	**16 22 30.2**	**-0.9**
BRG				Pg	**Pg**	**16 22 34.3**	**+2.1**
BRG				Sg	**Sg**	**16 22 54.8**	**+2.1**
BRG				Amp		16 22 58.0	
	comp=Z,73nm,0.4s						
PRU	**Pruhonice**	**1.87**	**216**	*e*PG	**Pn**	**16 22 35.8**	**+0.7**
PRU				*e*SG	**Sg**	**16 23 02.3**	**+0.4**
	comp=Z,64nm,0.5s						
FBE	**Freiberg**	**1.91**	**253**	*e*Pn	**Pn**	**16 22 36.3**	**+0.6**
FBE				*e*Pg	**Pg**	**16 22 40.4**	**+1.9**
FBE				*e*Sg	**Sg**	**16 23 03.2**	**-0.1**
MORC	**Moravsky Berou**	**1.92**	**154**	*e*PN	**Pn**	**16 22 33.8**	**-2.0**
MORC				*e*SG	**Sn**	**16 23 01.0**	**+0.3**
MORC	**Moravsky Berou**	**1.92**	**154**	*e*Pn	**Pn**	**16 22 34.1**	**-1.8**
MORC				*e*Pg	**Pb**	**16 22 38.1**	**+0.3**
MORC				*e*Sg	**Sn**	**16 23 01.4**	**+0.6**
CLL	**Collm**	**2.04**	**266**	*e*Pn	**Pb**	**16 22 39.0**	**-0.8**
CLL				*e*Pg	**Pg**	**16 22 42.0**	**+1.1**
CLL				*e*		16 22 45.0	
CLL				*e*		16 23 00.0	
CLL				*e*Sg	**Sg**	**16 23 08.0**	**+0.6**
	comp=Z,60nm,0.6s						
CLL	**Collm**	**2.04**	**266**	*e*Pn	**Pn**	**16 22 38.7**	**+1.2**
CLL				*e*Pg	**Pg**	**16 22 42.6**	**+1.6**
OKC	**Ostrava-Krasne**	**2.07**	**143**	*e*PG	**Pb**	**16 22 40.2**	**0.0**
OKC				*e*SG	**Sg**	**16 23 09.0**	**+0.8**
	comp=Z,80nm,0.8s						
VRAC	**Vranov**	**2.22**	**174**	Pn	**Pn**	**16 22 39.2**	**-0.7**
	comp=Z,2.4nm,0.3s,baz=346,slow=15,SNR=15						
VRAC				Pg	**Pb**	**16 22 42.6**	**-0.2**
	comp=Z,2.4nm,0.3s,baz=338,slow=15,SNR=6.8						
VRAC				Lg	Lg	16 23 09.2	
	comp=Z,4.1nm,0.3s,baz=49,slow=21,SNR=6.4						
VRAC	**Vranov**	**2.22**	**174**	*e*PN	**Pn**	**16 22 38.3**	**-1.6**
VRAC				*e*SG	**Sg**	**16 23 13.7**	**+0.7**
TREC	**Trest**	**2.27**	**193**	*e*PG	**Pb**	**16 22 42.7**	**-1.0**
TREC				*e*SG	**Sg**	**16 23 15.8**	**+1.0**
	comp=Z,36nm,0.4s						
PBCC	**Pribram**	**2.33**	**219**	*e*SG	**Sg**	**16 23 18.0**	**+1.6**
	comp=Z,29nm,0.7s						
KRUC	**Moravsky**	**2.46**	**178**	*e*PN	**Pn**	**16 22 41.8**	**-1.3**
KRUC				*e*SG	**Sg**	**16 23 20.8**	**+0.2**
OJC	**Ojcow**	**2.60**	**119**	*e*Pg	**Pg**	**16 22 53.7**	**+2.1**
OJC				*e*Sg	**Sg**	**16 23 29.1**	**+3.9**
OJC	**Ojcow**	**2.60**	**119**	*e*Pg	**Pg**	**16 22 53.6**	**+2.1**
OJC				*e*Sg	**Sg**	**16 23 28.5**	**+3.3**
TANN	**Tannenbergstha**	**2.63**	**247**	*e*Pn	**Pn**	**16 22 47.7**	**+2.0**
TANN				*e*Pg	**Pg**	**16 22 54.4**	**+2.1**
TANN				*e*Sg	**Sg**	**16 23 28.6**	**+2.2**
NKC	**Novy Kostel**	**2.73**	**243**	*e*PN	**Pn**	**16 22 47.8**	**+0.9**
NKC				*e*PG	**Pb**	**16 22 51.8**	**+0.4**
NKC				*e*SG	**Sg**	**16 23 29.6**	**+0.2**
	comp=Z,40nm,0.3s						
KHC	**Kasperske Hory**	**2.93**	**217**	*e*PN	**Pn**	**16 22 51.2**	**+1.5**
KHC				*e*PG	**Pb**	**16 22 55.4**	**+0.4**
KHC				*e*SG	**Sg**	**16 23 36.6**	**+0.6**
	comp=Z,26nm,0.6s						
CKRC	**Cesky Krumlov**	**2.97**	**206**	*e*PN	**Pn**	**16 22 51.6**	**+1.4**
CKRC				*e*PG	**Pb**	**16 22 56.2**	**+0.6**
CKRC				*e*SG	**Sg**	**16 23 36.5**	**-0.7**
SMOL	**Smolenice**	**3.10**	**165**	*e*SG	**Sg**	**16 23 42.7**	**+1.4**
ROTZ	**Rotzenmuhle**	**3.11**	**237**	*e*Pn	**Pn**	**16 22 54.3**	**+2.2**
GEC2	**GERESS Array S**	**3.13**	**212**	*e*Pn	**Pn**	**16 22 55.2**	**+2.7**
GEC2				*e*Pg	**Pg**	**16 23 03.0**	**+1.2**
GERES	**GERESS Array B**	**3.13**	**212**	Pn	**Pn**	**16 22 51.5**	**-1.0**
	comp=Z,1.1nm,0.3s,baz=30,slow=13,SNR=21						
GERES				Pg	**Pn**	**16 22 55.2**	**+2.7**
	comp=Z,1.1nm,0.3s,baz=33,slow=13,SNR=18						
GERES				Lg	Lg	16 23 39.1	
	comp=Z,6.3nm,0.3s,baz=27,slow=27,SNR=9.5						
WET	**Wettzell**	**3.21**	**224**	*e*Pn	**Pn**	**16 22 55.4**	**+2.0**
KOLL	**Kolacno**	**3.25**	**154**	*e*SG	**Sg**	**16 23 46.5**	**+0.4**
ZST	**Bratislava**	**3.37**	**170**	*e*SG	**Sg**	**16 23 50.5**	**+0.6**
VYHS	**Vyhne**	**3.45**	**150**	*e*PN	**Pn**	**16 22 59.2**	**+2.4**
VYHS				*e*PG	**Pg**	**16 23 12.2**	**+4.3**
VYHS				*e*SG	**Sg**	**16 23 53.0**	**+0.3**
CONA	**Conrad Observa**	**3.60**	**184**	*i* Pn	**Pn**	**16 22 57.0**	**-1.9**
	comp=Z,0.5nm,0.1s						
CONA				Sg	**Sg**	**16 23 57.7**	**+0.4**
	comp=Z,28nm,0.6s						
BSD	**Bornholm Skovb**	**3.70**	**348**	*e*P	**Pn**	**16 23 02.7**	**+2.6**
BSD				*e*S	**Sn**	**16 23 40.6**	**-3.7**
BSD				IAML		16 23 59.0	
	comp=Z,2.6nm,0.4s						
MOA	**Molln**	**3.89**	**200**	*e*Pn	**Pn**	**16 23 01.2**	**-1.6**
	comp=Z,2.0nm,0.2s						
MOA				*e*Sg	**Sg**	**16 24 09.6**	**+3.0**
	comp=Z,14nm,0.3s						
ARSA	**Arzberg**	**4.29**	**187**	*e*Pn	**Pn**	**16 23 11.0**	**+2.6**
	comp=Z,1.2nm,0.3s						
ARSA				Sg	**Sg**	**16 24 19.5**	**-0.1**
	comp=Z,21nm,0.6s						
BLEU	**Blekinge**	**4.81**	**357**	*e*P	**Pn**	**16 23 18.1**	**+2.7**
BLEU				*i* S	**Sn**	**16 24 07.9**	**-3.9**
BJUU	**Bjuv**	**4.95**	**339**	*e*P	**Pn**	**16 23 18.4**	**+1.0**
BJUU				*i* S	**Sn**	**16 24 10.5**	**-4.8**
DEL	**Delary**	**5.16**	**345**	*i* P	**Pn**	**16 23 21.0**	**+0.8**
DEL				*e*P	**Pn**	**16 23 21.7**	**+1.4**
DEL				*e*S	**Sn**	**16 24 15.2**	**-5.2**
FABU	**Falkenberg**	**5.88**	**341**	*i* S	**Sn**	**16 24 35.3**	**-2.7**
DAVOX	**Davos/Dischmat**	**6.31**	**224**	Lg	Lg	16 25 16.4	
	comp=Z,0.4nm,0.3s,baz=182,slow=20,SNR=2.4						
AKASG	**Malin Array Be**	**8.21**	**91**	Pn	**Pn**	**16 24 01.8**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=279,slow=12,SNR=3.6						
AKASG				Sn	**Sn**	**16 25 32.6**	**-2.8**
	comp=Z,1.3nm,0.3s,baz=294,slow=11,SNR=3.9						
AKASG				Lg	Lg	16 26 29.9	
	baz=270,slow=28,SNR=1.3						
HFS	**Hagfors**	**8.76**	**352**	Pn	**Pn**	**16 24 11.1**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=169,slow=15,SNR=1.4						
HFS				Sn	**Sn**	**16 25 45.9**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=171,slow=29,SNR=1.6						
FINES	**FINESS Array B**	**11.32**	**25**	Pn	**Pn**	**16 24 45.5**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=215,slow=12,SNR=3.4						
ARCES	**ARCESS Array B**	**18.61**	**10**	P	**P**	**16 26 17.7**	**-2.6**
	baz=180,slow=11,SNR=2.0						

*IDC **08** 16:23:48.9±0.5, 30.°11N×143.°25E, h0km, mb4.5/33, mb1 4.6/39, mb1mx4.5/68, mbtmp4.5/39, ML3.5/6, MS3.5/27, Ms1 3.5/27, ms1mx3.3/60, Error ellipse: s-maj=13.6km s-min=11.6km az=103.0*
*BJI **08** 16:23:49.2±0.0, 30.°24N×143.°05E, h1km, mB4.8/33, mb4.6/47, Ms4.2/24, Ms7 3.9/23*
*MOS **08** 16:23:49.7±1.0, 30.°17N×143.°20E, h16km, mb4.9/27, Error ellipse: s-maj=7.6km s-min=4.3km az=113.0*
*JMA **08** 16:23:49.6±0.1, 30.°13N×143.°22E, h44km, M5.0*
*NEIC **08** 16:23:51.1±1.1, 30.°13N±0.°06×143.°24E±0.°10, h10km±1km, mb4.7/174, Error ellipse: s-maj=14.7km s-min=8.4km az=248.0*
ISC 08 16:23:53.9±0.3**, 30.°15N**±0.°04×**143.°26E**±0.°05**, h35km, n588, σ1.°27**/593**, mb4.7**/158**, MS3.7**/29**, 12C-23D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.19**	**198**	P	**Pn**	**16 24 38.4**	**-3.2**
JCJ	**Chichijima**	**3.19**	**198**	Pn	**Pn**	**16 24 38.6**	**-3.0**
	26nm,0.3s,baz=302,slow=23,SNR=8.5						
JCJ				Sn	**Sn**	**16 25 11.9**	**-6.4**
	94nm,0.3s,baz=290,slow=24,SNR=19						
JCJ	**Chichijima**	**3.19**	**198**	Pn	**Pn**	**16 24 38.2**	**-3.4**
JHCJ	**Hachijojimakas**	**4.15**	**315**	*e*S	**Sn**	**16 25 39.1**	**-2.8**
JHJ2	**Mitsune**	**4.16**	**316**	Pn	**Pn**	**16 24 53.5**	**-1.4**
JHJ	**Hachijo jima 2**	**4.19**	**316**	Pn	**Pn**	**16 24 52.6**	**-2.6**
	21nm,0.3s,baz=62,slow=22,SNR=2.0						
JHJ				Sn	**Sn**	**16 25 37.8**	**-5.2**
	76nm,0.3s,baz=79,slow=23,SNR=3.7						
JMKN	**Mikurajimanish**	**4.86**	**321**	*e*S	**Sn**	**16 25 56.8**	**-2.7**
BSO1	**Boso 1**	**4.88**	**337**	P	**Pn**	**16 25 02.5**	**-1.8**
BSO3	**Boso 3**	**5.18**	**334**	P	**Pn**	**16 25 07.2**	**-1.5**
JYT	**Yasato**	**6.58**	**338**	Pn	**Pn**	**16 25 25.4**	**-2.7**
JHU	**Hanno**	**6.59**	**331**	P	**Pn**	**16 25 26.3**	**-2.0**
JYN	**Shimob**	**6.64**	**325**	P	**Pn**	**16 25 29.3**	**+0.2**
JHO	**Hitachi**	**6.82**	**341**	P	**Pn**	**16 25 28.6**	**-2.8**
JRY	**Ryogami san**	**6.90**	**329**	P	**Pn**	**16 25 31.3**	**-1.2**
JGF	**Kuroka**	**7.36**	**319**	Pn	**Pn**	**16 25 38.5**	**-0.4**
INU	**Inuyama**	**7.38**	**316**		**Pn**	**16 25 38.3**	**-0.8**
JNG	**Nsakai**	**7.58**	**327**	P	**Pn**	**16 25 41.7**	**-0.3**
MJAR	**Matsushiro Arr**	**7.64**	**328**	Pn	**Pn**	**16 25 39.9**	**-2.8**
	1.0nm,0.3s,baz=147,slow=12,SNR=65						
MJAR				Sn	**Sn**	**16 27 01.9**	**-6.3**
	0.4nm,0.3s,baz=14,slow=32,SNR=2.1						
MJAR				LR	LR	16 30 44.1	
	comp=Z,172nm,18.4s,baz=195,slow=54						
MJAR	**Matsushiro Arr**	**7.64**	**328**	P	**Pn**	**16 25 40.9**	**-1.8**
MJAR						16 27 01.9	
MJAR	**Matsushiro Arr**	**7.64**	**328**	Pn	**Pn**	**16 25 40.9**	**-1.8**
MAJO	**Matsushiro**	**7.65**	**328**	*c i*P	**Pn**	**16 25 42.1**	**-0.7**
MAJO	**Matsushiro**	**7.65**	**328**	Pn	**Pn**	**16 25 41.8**	**-1.0**
MAT	**Matsushiro**	**7.65**	**328**	S	**Sn**	**16 27 03.8**	**-4.4**
MAT	**Matsushiro**	**7.65**	**328**	P	**Pn**	**16 25 41.9**	**-0.8**
MAT	**Matsushiro**	**7.65**	**328**	P	**Pn**	**16 25 42.0**	**-0.8**
MJB9	**Matsu-Tunnel**	**7.65**	**328**		**Pn**	**16 25 41.8**	**-1.0**
JMM	**Marumori**	**7.96**	**346**		**Pn**	**16 25 44.1**	**-2.9**
JWT	**Wachi**	**8.37**	**310**	Pn	**Pn**	**16 25 54.2**	**+1.6**
JSD	**Sado**	**8.89**	**334**	Pn	**Pn**	**16 25 57.8**	**-2.0**
JTM	**Tenmabayashi**	**10.76**	**351**	Pn	**Pn**	**16 26 22.5**	**-2.9**
JNU	**Nakatsue**	**10.96**	**289**	Pn	**Pn**	**16 26 28.4**	**+0.1**
	0.1nm,0.3s,baz=70,slow=6.6,SNR=3.0						
JNU				LR	LR	16 30 02.2	
	comp=Z,254nm,21.7s,baz=104,slow=34						
JEW	**Eniwo**	**12.74**	**354**	Pn	**Pn**	**16 26 50.8**	**-1.7**
JOW	**Kunigami**	**13.59**	**260**	LR	LR	16 32 48.0	
	comp=Z,91nm,18.3s,baz=100,slow=40						
JKA	**Kamikawa-asahi**	**13.95**	**358**	Pn	Pn	16 27 02.7	-6.2
ASAJ	**Asahikawa**	**13.95**	**358**	Pn	**Pn**	**16 27 04.7**	**-4.3**
	1.4nm,0.3s,baz=215,slow=13,SNR=16						
ASAJ				Sn	Sn	16 29 29.1	-13
	0.4nm,0.3s,baz=181,slow=31,SNR=2.6						
ASAJ				LR	LR	16 32 18.5	
	comp=Z,192nm,20.4s,baz=195,slow=36						
KSRS	**Korea Array**	**14.67**	**304**	Pn	**Pn**	**16 27 20.1**	**+1.2**
	0.5nm,0.3s,baz=109,slow=13,SNR=21						
KSRS				LR	LR	16 34 10.7	
	comp=Z,102nm,18.4s,baz=116,slow=42						
KSAR	**Wonju Array Be**	**14.70**	**304**	P	**Pn**	**16 27 19.9**	**+0.8**
KSAR	**Wonju Array Be**	**14.70**	**304**	Pn	**Pn**	**16 27 19.9**	**+0.8**
KS19	**Wonju Array Si**	**14.73**	**304**	Pn	**Pn**	**16 27 19.7**	**0.0**
KUR	**Kuril'sk**	**15.48**	**12**	P	**Pn**	**16 27 27.0**	**-2.5**
KUR				pmax	pmax		
	comp=Z,80nm,0.7s						
KUR				pmax	pmax		
	comp=E,13nm,0.9s						
KUR				pmax	pmax		
	comp=N,12nm,0.7s						
INCN	**Inchon**	**15.62**	**302**	P	**P**	**16 27 34.6**	**-0.6**
INCN				IAmb	IAmb	16 27 35.9	
	comp=Z,42nm,0.8s						
VLA	**Vladivostok**	**15.82**	**328**	⇑*e*P	**Pn**	**16 27 31.5**	**-2.3**
VLA				pmax	pmax		
	comp=Z,47nm,1.0s						
GUMO	**Guam**	**16.55**	**175**	LR	LR	16 32 25.5	
	comp=Z,72nm,20.8s,baz=303,slow=31						
USA0B	**Ussuriysk Arra**	**16.63**	**331**	*d i*P	**Pn**	**16 27 41.6**	**-2.5**
USA0B	**Ussuriysk Arra**	**16.63**	**331**		**Pn**	**16 27 41.7**	**-2.5**
USRK	**Ussuriysk Ar.**	**16.63**	**331**	Pn	**Pn**	**16 27 42.1**	**-2.0**
	baz=145,slow=12,SNR=16						
USRK				LR	LR	16 34 36.1	
	comp=Z,64nm,21.4s,baz=145,slow=39						
USRK	**Ussuriysk Ar.**	**16.63**	**331**		**Pn**	**16 27 41.5**	**-2.6**
YSS	**Yuzh-Sakhalins**	**16.78**	**359**	*e*P	**Pn**	**16 27 43.3**	**-2.7**
YSS				*e*S	**Sn**	**16 30 46.8**	**-4.4**
YSS				pmax	pmax		
	comp=Z,50nm,1.0s						
YSS				MLR	MLR		
	comp=Z,400nm,15.0s						
YSS	**Yuzh-Sakhalins**	**16.78**	**359**		**Pn**	**16 27 43.0**	**-3.0**
YSS				IAmb	IAmb	16 27 44.9	
	comp=Z,66nm,1.1s						
MDJ	**Mudanjiang**	**18.03**	**327**	P	**Pn**	**16 28 00.2**	**-1.3**
MDJ				pmax	pmax		
	comp=Z,24nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,130nm,3.6s						
MDJ	**Mudanjiang**	**18.03**	**327**	Pn	**Pn**	**16 27 58.4**	**-3.1**
CN2	**Changchun**	**19.64**	**319**	*e*P	**Pn**	**16 28 19.3**	**-1.7**
CN2				S	**S**	**16 31 51.5**	**-7.6**
CN2				pmax	pmax		
	comp=Z,20nm,1.4s						
CN2				pmax	pmax		
	comp=Z,100nm,5.0s						
CN2				LR	LR		
	comp=Z,300nm,15.0s						
CN2				LR	LR		
	comp=Z,200nm,15.0s						
CN2				LR	LR		
	comp=Z,200nm,12.0s						
DL2	**Dalian**	**19.81**	**302**	P	**Pn**	**16 28 26.5**	**+3.4**
DL2				pmax	pmax		
	comp=Z,29nm,1.2s						
DL2				LR	LR		
	comp=Z,430nm,14.7s						
DL2				LR	LR		
	comp=Z,210nm,14.3s						
DL2				LR	LR		
	comp=Z,200nm,11.6s						
YHNB	**Yeheng**	**20.17**	**260**	P	**P**	**16 28 24.8**	**-0.7**
YHNB				IAmb	IAmb	16 28 47.3	
	comp=Z,56nm,1.1s						
TYV	**Tymovskoe**	**20.69**	**359**	*e*P	Pn	16 28 34.6	+1.3
TYV				pmax	pmax		
	comp=Z,21nm,0.8s						
TYV				pmax	pmax		
	comp=Z,200nm,4.6s						
YULB	**Yu-li**	**20.72**	**256**	P	**P**	**16 28 29.7**	**-1.6**
YULB				IAmb	IAmb	16 28 36.7	
	comp=Z,26nm,0.8s						
SSLB	**Suanglung**	**20.85**	**258**	P	**P**	**16 28 32.5**	**-0.3**
SSLB				IAmb	IAmb	16 28 40.4	
	comp=Z,30nm,0.8s						
KLR	**Kul'dur**	**20.96**	**339**	P	Pn	16 28 34.6	-1.8
	comp=Z,10nm,1.0s,baz=150,slow=9.8,SNR=20						
KLR	**Kul'dur**	**20.96**	**339**	*de*P	Pn	16 28 35.1	-1.4
KLR				pmax	pmax		
	comp=Z,21nm,1.3s						
NJ2	**Nanjing**	**20.98**	**281**	*e*P	**P**	**16 28 33.6**	**-0.4**
NJ2				S	**S**	**16 32 28.1**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,15nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,320nm,4.5s						
NJ2				LR	LR		
	comp=Z,350nm,14.2s						
NJ2				LR	LR		
	comp=Z,390nm,15.6s						
NJ2				LR	LR		
	comp=Z,220nm,15.7s						
GRNR	**Gornyy**	**21.22**	**348**	⇓*i*P	**P**	**16 28 37.7**	**+1.2**
GRNR				*e*S	**S**	**16 32 28.7**	**-1.7**
GRNR				pmax	pmax		
	comp=N,4.0nm,0.6s						
GRNR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GRNR				smax	smax		
	comp=N,1.0nm,0.6s						
GRNR				MLR	MLR		
	comp=E,110nm,14.0s						
GRNR				MLR	MLR		
	comp=N,50nm,15.0s						
GRNR				MLR	MLR		
	comp=Z,140nm,12.0s						
BJI	**Beijing**	**24.18**	**301**	P	**P**	**16 29 06.5**	**-0.4**
BJI				pP	**pP**	**16 29 12.2**	**-2.8**
BJI				PP	**PnPn**	**16 29 42.4**	**+5.4**
BJI				S	**S**	**16 33 23.0**	**+0.3**
BJI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BJI				pmax	pmax		
	comp=Z,74nm,3.5s						
PEA0B	**Petropavlovsk-**	**25.25**	**21**	P	**P**	**16 29 17.3**	**+0.8**
PEA0B				pmax	pmax		
	comp=Z,15nm,1.2s						
PEA0B	**Petropavlovsk-**	**25.25**	**21**	P	**P**	**16 29 17.3**	**+0.8**
PETK	**Petropavlovsk-**	**25.25**	**21**	P	**P**	**16 29 17.1**	**+0.6**
	comp=Z,2.5nm,0.9s,baz=190,slow=6.8,SNR=6.4						
PETK				LR	LR	16 40 39.7	
	comp=Z,75nm,19.3s,baz=195,slow=40						
PETK	**Petropavlovsk-**	**25.25**	**21**	P	**P**	**16 29 17.6**	**+1.1**
PETK	**Petropavlovsk-**	**25.25**	**21**	P	**P**	**16 29 17.6**	**+1.1**
PET	**Petropavlovsk**	**25.48**	**22**	P	**P**	**16 29 19.8**	**+1.3**
PET				IAmb	IAmb	16 29 22.5	
	comp=Z,36nm,1.4s						
HIA	**Hailar**	**26.12**	**324**	*de*P	**P**	**16 29 25.6**	**+1.1**
HIA				pmax	pmax		
	comp=Z,21nm,0.7s						
HIA	**Hailar**	**26.12**	**324**	P	**P**	**16 29 25.2**	**+0.7**
ZEA	**Zeya**	**26.28**	**338**	*e*P	**P**	**16 29 26.6**	**+0.8**
ZEA				*e*		16 29 35.3	
ZEA				pmax	pmax		
	comp=N,10.0nm,0.5s						
ZEA				pmax	pmax		
	comp=Z,20nm,0.7s						
HHC	**Hu-ho-hao-te**	**27.79**	**301**	*e*P	**P**	**16 29 42.0**	**+2.4**
HHC				pmax	pmax		
	comp=Z,14nm,0.9s						
HHC				pmax	pmax		
	comp=Z,70nm,4.0s						
HHC				LR	LR		
	comp=Z,350nm,14.2s						
HHC				LR	LR		
	comp=Z,140nm,12.4s						
HHC				LR	LR		
	comp=Z,160nm,11.3s						
DAV	**Davao City (W)**	**28.34**	**219**	LR	LR	16 41 26.3	
	comp=Z,41nm,19.8s,baz=48,slow=37						
XAN	**Xi'an**	**29.27**	**287**	P	**P**	**16 29 54.0**	**+1.2**
XAN				pP	pP	16 29 57.7	-3.2
XAN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MA2	**Magadan**	**29.86**	**8**	P	**P**	**16 29 58.2**	**+0.5**
	comp=Z,4.0nm,0.8s,baz=264,slow=2.2,SNR=2.9						
MA2				LR	LR	16 41 03.4	
	comp=Z,47nm,20.0s,baz=184,slow=35						
MA2	**Magadan**	**29.86**	**8**	⇑*e*P	**P**	**16 29 57.8**	**+0.1**
MA2				pmax	pmax		
	comp=Z,16nm,1.7s						
MA2	**Magadan**	**29.86**	**8**	P	**P**	**16 29 58.0**	**+0.3**
JAY	**Jayapura**	**32.58**	**185**	LR	LR	16 44 25.0	
	comp=Z,68nm,18.2s,baz=160,slow=38						
ULN	**Ulaanbaatar**	**32.85**	**313**	*de*P	**P**	**16 30 26.3**	**+1.9**
ULN				pmax	pmax		
	comp=Z,11nm,1.7s						
ULN	**Ulaanbaatar**	**32.85**	**313**	P	**P**	**16 30 24.5**	**+0.1**
YAK	**Yakutsk**	**33.10**	**348**	*d i*P	**P**	**16 30 26.1**	**0.0**
YAK				pmax	pmax		
	comp=Z,19nm,1.0s						
YAK	**Yakutsk**	**33.10**	**348**	P	**P**	**16 30 26.1**	**0.0**
YAK				IAmb	IAmb	16 30 26.9	
	comp=Z,11nm,0.7s						
SONM	**Songino Array**	**33.26**	**313**	P	**P**	**16 30 29.4**	**+1.5**
	comp=Z,4.5nm,0.8s,baz=119,slow=8.7,SNR=25						
SONM				LR	LR	16 43 53.3	
	comp=Z,58nm,21.8s,baz=113,slow=36						
SONM	**Songino Array**	**33.26**	**313**	P	**P**	**16 30 28.9**	**+1.0**
SEY	**Seymchan**	**33.31**	**8**	P	**P**	**16 30 28.9**	**+0.9**
	comp=Z,7.6nm,1.0s,baz=189,slow=8.1,SNR=16						
SEY	**Seymchan**	**33.31**	**8**	*de*P	**P**	**16 30 29.2**	**+1.2**
BOD	**Bodaibo**	**34.25**	**332**	*e*P	**P**	**16 30 36.2**	**0.0**
BOD				pmax	pmax		
	comp=Z,12nm,0.8s						
ZAK	**Zakamensk**	**36.02**	**316**	*e*P	**P**	**16 30 53.3**	**+1.6**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
SLVN	**Son La**	**36.38**	**265**	P	**P**	**16 30 55.3**	**+0.3**
GTA	**Gaotai**	**36.56**	**297**	*e*P	**P**	**16 30 58.0**	**+1.5**
GTA				pP	sP	16 31 06.7	-1.6
GTA				sP	pwP	16 31 09.9	-3.0
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,42nm,5.5s						
GTA				LR	LR		
	comp=Z,110nm,14.9s						
GTA				LR	LR		
	comp=Z,120nm,14.2s						
GTA				LR	LR		
	comp=Z,130nm,15.6s						
ADK	**Adak**	**36.57**	**42**	P	**P**	**16 30 55.8**	**-0.4**
ADK				pmax	pmax		
	comp=Z,24nm,1.2s						
ADK	**Adak**	**36.57**	**42**	P	**P**	**16 30 55.8**	**-0.4**
ADK				IAmb	IAmb	16 30 58.4	
	comp=Z,24nm,1.1s						
SKNT	**Sakolnakorn**	**38.13**	**259**	P	**P**	**16 31 10.6**	**+0.7**
	comp=Z,20nm,0.9s						
NONG	**Nongkai**	**38.36**	**261**	P	**P**	**16 31 12.7**	**+1.0**
	comp=Z,28nm,0.9s						
BILL	**Bilibino**	**40.27**	**13**	*de*P	**P**	**16 31 28.4**	**+1.3**
BILL				*e*		16 33 01.9	
BILL				pmax	pmax		
	comp=Z,13nm,1.1s						
BILL				MLR	MLR		
	comp=Z,59nm,17.0s						
CHAI	**Chaiyaphum**	**40.32**	**259**	P	**P**	**16 31 28.3**	**+0.1**
	comp=Z,36nm,0.9s						
UTTA	**Uttaradit**	**40.72**	**262**	P	**P**	**16 31 32.3**	**+0.9**
	comp=Z,15nm,0.8s						
SRAK	**Srakaew**	**41.18**	**256**	P	**P**	**16 31 32.4**	**-2.9**
	comp=Z,191nm,0.9s						
NIKH	**Nikolski High**	**41.47**	**43**	P	**P**	**16 31 37.6**	**+0.5**
NIKH	**Nikolski High**	**41.47**	**43**	P	**P**	**16 31 35.7**	**-1.4**
	baz=256						
CMMT	**Chiang Mai**	**41.65**	**265**	P	**P**	**16 31 39.7**	**+0.6**
	comp=Z,7.6nm,1.1s						
CHTO	**Chiang Mai**	**41.65**	**265**	P	**P**	**16 31 37.8**	**-1.3**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CHTO	**Chiang Mai**	**41.65**	**265**	P	**P**	**16 31 39.8**	**+0.7**
	comp=Z,7.7nm,1.1s						
CHTO	**Chiang Mai**	**41.65**	**265**	P	**P**	**16 31 37.8**	**-1.3**
CMAR	**Chiang Mai Arr**	**41.80**	**264**	P	**P**	**16 31 40.2**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=70,slow=6.1,SNR=10						
CMAR				LR	LR	16 48 32.1	
	comp=Z,70nm,21.5s,baz=105,slow=36						
CMAR	**Chiang Mai Arr**	**41.80**	**264**	*ce*P	**P**	**16 31 41.0**	**+0.7**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SPIA	**Saint Paul Isl**	**41.93**	**36**	P	**P**	**16 31 39.7**	**-1.2**
	baz=250						
TIXI	**Tiksi**	**42.28**	**353**	⇓*i*P	**P**	**16 31 43.8**	**+0.3**
TIXI	**Tiksi**	**42.28**	**353**	P	**P**	**16 31 43.9**	**+0.3**
UNV	**Unalaska Valle**	**43.04**	**42**	P	**P**	**16 31 48.5**	**-1.4**
	baz=257						

MTN **Manton Dam** 44.32 197 P **P** 16 32 00.7 +0.2
MTN IAmb IAmb 16 32 14.8
comp=Z,13nm,1.1s
WMQ **Urumqi** 45.62 303 *e*P **P** 16 32 12.9 +2.0
WMQ pmax pmax
comp=Z,27nm,1.1s
WMQ pmax pmax
comp=Z,150nm,4.7s
DGZ **Jazzator, Alta** 45.90 312*de*P **P** 16 32 14.6 +1.6
DGZ pmax pmax
comp=Z,11nm,0.9s
TNA **Tin City** 46.23 26 P **P** 16 32 14.3 -0.9
baz=244
SDPT **Sand Point** 46.76 41 P **P** 16 32 18.2 -1.3
baz=261
CHNA **Chernabura Isl** 47.20 41 P **P** 16 32 21.6 -1.3
baz=263
ZSN **Zaisan** 47.54 308⇑ *i*P **P** 16 32 27.6 +1.9
comp=Z,10nm,1.2s,baz=308
ZSN **Zaisan** 47.54 308*c i*P **P** 16 32 27.6 +1.9
ZSN pmax pmax
comp=Z,10.0nm,1.2s
KNRA **Kununurra** 47.66 199 P **P** 16 32 26.9 0.0
KNRA IAmb IAmb 16 32 38.9
comp=Z,11nm,1.1s
ZALV **Zalesovo Beam** 47.85 317 P **P** 16 32 28.2 +0.1
comp=Z,2.5nm,0.8s,baz=119,slow=12,SNR=6.8
ZALV PcP **PcP** 16 33 56.9 +0.5
comp=Z,3.1nm,0.6s,baz=100,slow=4.4,SNR=6.3
ZALV LR LR 16 53 09.2
comp=Z,23nm,18.4s,baz=114,slow=37
ZALV **Zalesovo Beam** 47.85 317 P **P** 16 32 27.1 -1.0
RDOG **Red Dog Mine** 49.06 24 P **P** 16 32 37.4 +0.2
baz=248
MK31 **Makanchi Array** 49.31 308*d i*P **P** 16 32 40.4 +0.9
MK31 **Makanchi Array** 49.31 308 P **P** 16 32 39.4 -0.1
MKAR **Makanchi Array** 49.31 308 P **P** 16 32 40.3 +0.9
comp=Z,3.9nm,0.8s,baz=90,slow=8.6,SNR=34
MKAR PcP **PcP** 16 34 02.9 +1.0
comp=Z,1.5nm,0.8s,baz=69,slow=4.8,SNR=2.2
MKAR **Makanchi Array** 49.31 308*ce*P **P** 16 32 40.7 +1.2
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR **Makanchi Array** 49.31 308 P **P** 16 32 39.5 0.0
MAKZ **Makanchi** 49.53 308 P **P** 16 32 42.1 +1.0
MAKZ pmax pmax
comp=Z,8.0nm,1.4s
MAKZ **Makanchi** 49.53 308 P **P** 16 32 42.1 +1.0
CHIR **Chirikof Islan** 49.55 40 P **P** 16 32 39.9 -1.1
baz=265
PSI **Prapat** 49.98 246 P **P** 16 32 44.1 -0.9
comp=Z,3.1nm,0.4s,baz=346,slow=2.5,SNR=4.9
NRIK **Noril'sk** 50.17 338 P **P** 16 32 46.2 +0.5
comp=Z,12nm,0.9s,baz=107,slow=9.7,SNR=18
NRIK PcP **PcP** 16 34 05.3 +0.9
comp=Z,4.6nm,0.8s,baz=65,slow=2.2,SNR=2.3
NRIK LR LR 16 56 49.9
comp=Z,34nm,19.8s,baz=108,slow=40
NRIK **Noril'sk** 50.17 338*d i*P **P** 16 32 46.1 +0.5
NRIK pmax pmax
comp=Z,23nm,1.1s
NRIK **Noril'sk** 50.17 338 P **P** 16 32 46.1 +0.5
LEM **Lembang** 50.21 229 P **P** 16 32 46.7 -0.1
comp=Z,17nm,0.8s,baz=264,slow=5.9,SNR=4.6
O18K **Koktuh Hills** 50.22 35 P **P** 16 32 48.0 +1.9
O18K **Koktuh Hills** 50.22 35 P **P** 16 32 45.0 -1.2
baz=262
SVW2 **Sparrevohn** 50.22 34 P **P** 16 32 47.4 +1.3
SVW2 IAmb IAmb 16 32 49.1
comp=Z,8.6nm,1.0s
SII **Sitkinak Islan** 50.41 40 P **P** 16 32 48.4 +0.8
SII **Sitkinak Islan** 50.41 40 P **P** 16 32 46.5 -1.1
baz=266
WR0 **Warramunga Arr** 50.53 191 P **P** 16 32 48.6 -0.2
WR0 IAmb IAmb 16 32 51.3
comp=Z,14nm,1.2s
WRAB **Tennant Creek** 50.53 191⇓ *i*P **P** 16 32 48.6 -0.2
WRAB pmax pmax
comp=Z,25nm,1.7s
WB2 **Warramunga Arr** 50.54 191 P **P** 16 32 48.4 -0.5
WB2 IAmb IAmb 16 32 51.5
comp=Z,13nm,1.1s
WRA **Warramunga Arr** 50.54 191 P **P** 16 32 48.9 0.0
comp=Z,6.7nm,0.9s,baz=9.8,slow=8.0,SNR=22
WRA **Warramunga Arr** 50.54 191 P **P** 16 32 48.3 -0.7
O19K **Port Alsworth** 50.70 35 P **P** 16 32 51.0 +1.3
N19K **Bonanza Creek** 50.71 34 P **P** 16 32 50.3 +0.4
N19K IAmb IAmb 16 32 52.8
comp=Z,9.7nm,1.1s
N19K **Bonanza Creek** 50.71 34 P **P** 16 32 49.3 -0.6
baz=262
L19K **White Mountain** 50.74 32 P **P** 16 32 49.6 -0.4
baz=261
FITZ **Fitzroy Crossi** 50.89 202 P **P** 16 32 51.9 +0.3
comp=Z,1.7nm,0.9s,baz=2.2,slow=7.9,SNR=4.1
FITZ **Fitzroy Crossi** 50.89 202 P **P** 16 32 53.1 +1.6
Q19K **Cape Douglas,** 50.90 37 P **P** 16 32 50.1 -1.2
baz=264
M19K **Big River Lodg** 50.91 33 P **P** 16 32 50.2 -1.1
baz=261
OHAK **Old Harbor** 50.95 39 P **P** 16 32 52.4 +0.8
OHAK IAmb IAmb 16 32 52.8
comp=Z,9.1nm,1.0s
OHAK **Old Harbor** 50.95 39 P **P** 16 32 50.8 -0.8
baz=266
K20K **Telida** 51.29 31 P **P** 16 32 55.3 +1.2
K20K IAmb IAmb 16 32 57.3
comp=Z,9.7nm,0.9s
K20K **Telida** 51.29 31 P **P** 16 32 54.1 0.0
baz=260,SNR=7.1
KDAK **Kodiak Island** 51.37 38 P **P** 16 32 55.1 +0.4
comp=Z,21nm,1.2s,baz=256,slow=2.8,SNR=7.1
KDAK **Kodiak Island** 51.37 38 P **P** 16 32 55.3 +0.6
KDAK pmax pmax
comp=Z,31nm,1.3s
KDAK **Kodiak Island** 51.37 38 P **P** 16 32 55.3 +0.6
KDAK **Kodiak Island** 51.37 38 P **P** 16 32 54.0 -0.7
baz=266
J20K **Nowinta River** 51.40 30 P **P** 16 32 56.4 +1.5
J20K IAmb IAmb 16 32 57.9
comp=Z,11nm,1.1s
J20K **Nowinta River** 51.40 30 P **P** 16 32 54.6 -0.2
baz=260,SNR=5.3
M20K **Styx River** 51.50 33 P **P** 16 32 56.9 +1.1
M20K **Styx River** 51.50 33 P **P** 16 32 55.3 -0.4
baz=262
RSO **Redoubt South** 51.51 35 P **P** 16 32 56.7 +0.7
O20K **Slope Mountain** 51.53 35 P **P** 16 32 56.0 -0.1
baz=264
KURK **Kurchatov** 51.56 313 P **P** 16 32 56.9 +0.5
KURK **Kurchatov** 51.56 313 P **P** 16 32 56.9 +0.5
PDGK **Podgornoye** 51.61 303 P **P** 16 32 57.5 +0.5
KURBB **Kurchatov Arra** 51.63 313 P **P** 16 32 56.9 +0.1
baz=88,slow=7.8
SHLS **Shalkode** 51.65 303 *e*P **P** 16 32 55.0 -2.3
baz=303
SHLS **Shalkode** 51.65 303 *e*P **P** 16 32 55.0 -2.3
FUNA **Funafuti** 51.68 132 P **P** 16 32 60.0 +2.4
SPCR **Spurr Chakacha** 51.85 34 P **P** 16 32 57.8 -0.7
baz=264
IMAR **Indian Mountai** 51.90 28 P **P** 16 33 00.1 +1.4
UZB **Uzynbulak** 51.97 303 *e*P **P** 16 32 59.0 -0.8
baz=303
UZB **Uzynbulak** 51.97 303 *e*P **P** 16 32 58.9 -0.8
PPLA **Purkeypile** 52.06 32 P **P** 16 33 01.8 +1.7
PPLA IAmb IAmb 16 33 02.5
comp=Z,12nm,1.1s
PPLA **Purkeypile** 52.06 32 P **P** 16 32 59.2 -0.8
baz=263
CHUM **Lake Minchumin** 52.14 30 P **P** 16 33 00.6 +0.2
baz=262
KPKS **Kokpek** 52.17 304 *e*P **P** 16 32 59.8 -1.3
baz=304
KPKS **Kokpek** 52.17 304 *e*P **P** 16 32 59.8 -1.3
CNPM **China Poot** 52.19 36 P **P** 16 33 01.4 +0.5
CNPM IAmb IAmb 16 33 02.2
comp=Z,9.4nm,0.8s
SKT **Skwentna** 52.26 33 P **P** 16 33 02.0 +0.6
SKT IAmb IAmb 16 33 03.8
comp=Z,8.1nm,1.0s
SKT **Skwentna** 52.26 33 P **P** 16 33 00.8 -0.6
baz=264,SNR=6.7
CAPN **Captain Cook N** 52.32 34 P **P** 16 33 00.5 -1.3
baz=265
SATY **Saty** 52.43 303 *e*P **P** 16 33 01.5 -1.6
baz=303
SATY **Saty** 52.43 303 *e*P **P** 16 33 01.5 -1.6
BRSE **Bradley Lake S** 52.45 36 P **P** 16 33 01.8 -1.1
baz=266
I21K **Tanana** 52.48 29 P **P** 16 33 02.7 -0.2
baz=261
SUA **Susitna One** 52.58 34 P **P** 16 33 03.8 -0.1
SUA IAmb IAmb 16 33 06.4
comp=Z,6.3nm,0.8s
SUA **Susitna One** 52.58 34 P **P** 16 33 02.9 -1.0
baz=265,SNR=5.0
BPAW **Bear Paw Mtn.** 52.75 30 P **P** 16 33 06.2 +1.2
BPAW **Bear Paw Mtn.** 52.75 30 P **P** 16 33 05.3 +0.3
baz=263
CUT **Chulitna** 52.89 32 P **P** 16 33 05.1 -0.8
baz=265
MLY **Manley** 52.98 29 P **P** 16 33 08.2 +1.4
MLY **Manley** 52.98 29 P **P** 16 33 06.5 -0.3
baz=262,SNR=5.2
TRF **Thorofare Moun** 52.98 31 P **P** 16 33 07.2 +0.3
TRF **Thorofare Moun** 52.98 31 P **P** 16 33 06.5 -0.4
baz=264
OPA **Opana** 53.00 84 P **P** 16 33 08.0 +0.6
OPA pmax pmax
comp=Z,162nm,1.5s
OPA **Opana** 53.00 84 P **P** 16 33 08.0 +0.6
RC01 **Rabbit Creek A** 53.04 34 P **P** 16 33 06.9 -0.2
RC01 IAmb IAmb 16 33 09.2
comp=Z,8.4nm,1.0s
RC01 **Rabbit Creek A** 53.04 34 P **P** 16 33 06.9 -0.2
baz=266
SEW **Seward** 53.12 35 P **P** 16 33 07.8 0.0
SEW **Seward** 53.12 35 P **P** 16 33 07.0 -0.7
baz=267
CHKK **Chushkaly** 53.33 304 *e*P **P** 16 33 09.8 +0.2
baz=304
PMR **Palmer** 53.36 33 P **P** 16 33 09.2 -0.3
PMR pmax pmax
comp=Z,11nm,1.0s
PMR **Palmer** 53.36 33 P **P** 16 33 09.2 -0.3
PMR IAmb IAmb 16 33 10.9
comp=Z,11nm,1.0s
PMR **Palmer** 53.36 33 P **P** 16 33 08.9 -0.6
baz=266
MDOK **Medeo** 53.40 303 *e*P **P** 16 33 10.8 +0.6
baz=304
MDOK **Medeo** 53.40 303 *e*P **P** 16 33 10.8 +0.6
WMR **Waimanalo Ridg** 53.42 85 P **P** 16 33 09.6 -0.9
BWN **Browne** 53.42 30 P **P** 16 33 10.5 +0.5
KDJ **Kajisay** 53.47 302 P **P** 16 33 10.4 -0.5
KDJ pmax pmax
comp=Z,3.0nm,0.8s
KDJ **Kajisay** 53.47 302 P **P** 16 33 10.4 -0.5
TNSS **Tian-Shan** 53.49 303 *e*P **P** 16 33 11.6 +0.3
baz=303
COLD **Coldfoot** 53.51 26 P **P** 16 33 09.8 -0.8
baz=261
I23K **Minto, Yukon-K** 53.57 29 P **P** 16 33 10.0 -1.0
baz=264
H23K **Yukon River** 53.58 28 P **P** 16 33 11.2 +0.1
H23K **Yukon River** 53.58 28 P **P** 16 33 10.0 -1.0
baz=263
MCK **McKinley** 53.62 31 P **P** 16 33 11.7 +0.3
MCK pmax pmax
comp=Z,11nm,1.0s
MCK **McKinley** 53.62 31 P **P** 16 33 11.7 +0.3
MCK IAmb IAmb 16 33 13.2
comp=Z,11nm,1.0s
MCK **McKinley** 53.62 31 P **P** 16 33 10.2 -1.2
baz=265
RND **Reindeer** 53.62 31 P **P** 16 33 11.8 +0.3
RND pmax pmax
comp=Z,8.0nm,0.8s
RND **Reindeer** 53.62 31 P **P** 16 33 11.8 +0.3
RND IAmb IAmb 16 33 13.0
comp=Z,8.2nm,0.8s
NEA2 **Nenana** 53.64 30 P **P** 16 33 12.6 +1.1
NEA2 IAmb IAmb 16 33 13.9
comp=Z,12nm,1.0s
NEA2 **Nenana** 53.64 30 P **P** 16 33 11.1 -0.4
baz=264,SNR=5.2
KNK **Knik Glacier** 53.67 34 P **P** 16 33 12.6 +0.8
KNK **Knik Glacier** 53.67 34 P **P** 16 33 11.4 -0.5
baz=267,SNR=6.7
PWL **Port Wells** 53.71 34 P **P** 16 33 12.6 +0.5
WAT1 **Susitna Watana** 53.72 32 P **P** 16 33 11.7 -0.4
baz=266
SML **Sawmill** 53.76 33 P **P** 16 33 13.2 +0.7
SML IAmb IAmb 16 33 15.2
comp=Z,12nm,1.0s
SML **Sawmill** 53.76 33 P **P** 16 33 11.2 -1.3
baz=267,SNR=5.6
KUU **Kurty** 53.79 304 *e*P **P** 16 33 13.0 0.0
baz=304
KUU **Kurty** 53.79 304 *e*P **P** 16 33 12.9 0.0
MTBS **Maitube** 53.85 304 *e*P **P** 16 33 13.8 +0.4
baz=304
TOLK **Toolik Lake Re** 53.97 25 P **P** 16 33 14.8 +0.8
TOLK IAmb IAmb 16 33 16.8
comp=Z,10nm,1.1s
TOLK **Toolik Lake Re** 53.97 25 P **P** 16 33 13.4 -0.6
baz=261,SNR=5.2
MDM **Murphy Dome** 54.03 29 P **P** 16 33 15.2 +0.8
MDM IAmb IAmb 16 33 16.9
comp=Z,7.4nm,1.1s
WAT6 **Susitna Watana** 54.07 32 P **P** 16 33 13.5 -1.4
baz=267,SNR=7.0
TCOL **CIGO, UAF Yank** 54.18 29 P **P** 16 33 15.0 -0.4
baz=265
COLA **College** 54.19 29 P **P** 16 33 15.0 -0.4
baz=265
SCM **Sheep Creek Mo** 54.23 33 P **P** 16 33 17.1 +1.1
SCM pmax pmax
comp=Z,23nm,0.9s
SCM **Sheep Creek Mo** 54.23 33 P **P** 16 33 17.1 +1.1
AS31 **Alice Springs** 54.26 191 P **P** 16 33 16.4 -0.1
ASAR **Alice Springs** 54.26 191 P **P** 16 33 16.1 -0.4
comp=Z,3.3nm,1.0s,baz=9.7,slow=6.0,SNR=16
ASAR **Alice Springs** 54.26 191 P **P** 16 33 16.0 -0.5
H24K **Noodor Dome** 54.26 28 P **P** 16 33 17.2 +1.1
H24K IAmb IAmb 16 33 19.1
comp=Z,8.7nm,1.3s
H24K **Noodor Dome** 54.26 28 P **P** 16 33 15.6 -0.5
baz=264
GLI **Glacier Island** 54.31 34 P **P** 16 33 15.2 -1.3
baz=269
POKR **Poker Plat Res** 54.38 29 P **P** 16 33 17.0 0.0
baz=265
HDA **Harding Lake** 54.54 30 P **P** 16 33 17.8 -0.3
HDA **Harding Lake** 54.54 30 P **P** 16 33 16.8 -1.3
baz=266
IL31 54.59 30 P **P** 16 33 18.2 -0.1
ILAR **Eielson Array** 54.59 30 P **P** 16 33 18.2 -0.3
comp=Z,3.9nm,0.9s,baz=258,slow=6.2,SNR=29
ILAR **Eielson Array** 54.59 30 P **P** 16 33 18.3 -0.1
ILAR **Eielson Array** 54.59 30 P **P** 16 33 18.3 -0.1
Q23K **Middleton Isla** 54.68 36 P **P** 16 33 18.6 -0.5
baz=270
M24K **Tolsona, Glenn** 54.79 33 P **P** 16 33 18.5 -1.5
baz=269
KSH **Kashi** 54.87 299 P P 16 33 26.4 +5.4
KSH sP pwP 16 33 35.7 -2.1
KSH pmax pmax
comp=Z,18nm,0.8s
KSH LR LR
comp=Z,150nm,21.3s
KSH LR LR
comp=Z,130nm,20.8s
KLU **Klutina** 54.89 34 P **P** 16 33 21.7 +0.9
KLU IAmb IAmb 16 33 23.1
comp=Z,9.3nm,0.9s
KLU **Klutina** 54.89 34 P **P** 16 33 20.1 -0.6
baz=269,SNR=5.0
DIV **Divide** 54.96 34 P **P** 16 33 22.6 +1.3
DIV IAmb IAmb 16 33 24.3
comp=Z,8.8nm,1.0s
EYAK **Cordova Ski Ar** 54.97 35 P **P** 16 33 20.4 -0.8
baz=270
SGDS **Sogindy** 55.09 304 *e*P **P** 16 33 21.6 -0.9
baz=304
PAX **Paxson** 55.13 32 P **P** 16 33 22.5 0.0
PAX pmax pmax
comp=Z,9.0nm,1.2s
PAX **Paxson** 55.13 32 P **P** 16 33 22.5 0.0
PAX IAmb IAmb 16 33 24.6
comp=Z,9.0nm,1.2s
PAX **Paxson** 55.13 32 P **P** 16 33 22.1 -0.4
baz=269
PRP **Porcupine Dome** 55.21 29 P **P** 16 33 22.5 -0.5
baz=267
BTLS **Baital** 55.22 306 *e*P **P** 16 33 22.6 -0.7
baz=306
BTLS **Baital** 55.22 306 *e*P **P** 16 33 22.6 -0.7
HARP **HAARP** 55.27 33 P **P** 16 33 22.8 -0.6
baz=269
AAK **Ala-Archa** 55.34 303⇓ *e*P **P** 16 33 24.4 0.0
AAK pmax pmax
comp=Z,16nm,1.3s
AAK **Ala-Archa** 55.34 303 P **P** 16 33 24.7 +0.3
RIDG **Independent Ri** 55.43 31 P **P** 16 33 25.4 +0.8
RIDG IAmb IAmb 16 33 30.7
comp=Z,12nm,1.4s
RIDG **Independent Ri** 55.43 31 P **P** 16 33 23.9 -0.7
baz=269
N25K **Chitina, Valde** 55.53 33 P **P** 16 33 25.9 +0.5
N25K **Chitina, Valde** 55.53 33 P **P** 16 33 24.7 -0.7
baz=270
BMRM **Bremner River** 55.53 34 P **P** 16 33 26.5 +1.2
BMRM IAmb IAmb 16 33 27.8
comp=Z,12nm,1.0s
BMRM **Bremner River** 55.53 34 P **P** 16 33 23.2 -2.2
baz=271
KAIM **Kayak Island** 55.65 36 P **P** 16 33 25.4 -0.8
baz=272
BMAR **Burnt Mountain** 55.70 26 P **P** 16 33 28.4 +1.9
DOT **Dot Lake** 55.78 31 P **P** 16 33 27.4 +0.3
SCRK **Sand Creek** 55.82 31 P **P** 16 33 27.9 +0.4
SCRK **Sand Creek** 55.82 31 P **P** 16 33 27.1 -0.3
baz=269,SNR=5.2
J26K **Charley River,** 55.91 30 P **P** 16 33 27.0 -1.0
baz=269
GLB **Gilahina Butte** 55.91 34 P **P** 16 33 29.5 +1.4
GLB IAmb IAmb 16 33 30.5
comp=Z,7.4nm,1.0s
L26K **Log Cabin Wild** 56.10 32 P **P** 16 33 28.9 -0.4
baz=270
BGLC **Bering Glacier** 56.21 35 P **P** 16 33 29.1 -0.9
baz=272
CRQM **Cirque** 56.26 35 P **P** 16 33 32.4 +1.7
M26K **Nabesna, AK** 56.27 33 P **P** 16 33 30.3 -0.4
baz=271
CRQE **Cirque** 56.28 35 P **P** 16 33 30.7 -0.1
baz=272
MCARA **McCarthy VSAT** 56.29 34 P **P** 16 33 31.9 +1.2
MCARA IAmb IAmb 16 33 33.6
comp=Z,8.8nm,0.9s
MCARA **McCarthy VSAT** 56.29 34 P **P** 16 33 31.0 +0.3
baz=272
TGL **Tana Glacier** 56.41 34 P **P** 16 33 32.6 +1.0
BVAR **Borovoye Array** 56.47 316 P **P** 16 33 32.5 +0.4
comp=Z,4.2nm,0.7s,baz=141,slow=7.3,SNR=23
BRVK **Borovoye** 56.53 316⇓ *e*P **P** 16 33 33.5 +1.0
BRVK pmax pmax
comp=Z,12nm,1.3s
BRVK **Borovoye** 56.53 316 P **P** 16 33 33.2 +0.7
BRVK IAmb IAmb 16 33 34.5
comp=Z,6.6nm,0.8s
K27K **Chicken** 56.66 31 P **P** 16 33 33.5 +0.2
K27K IAmb IAmb 16 33 36.1
comp=Z,8.2nm,1.2s
K27K **Chicken** 56.66 31 P **P** 16 33 32.9 -0.4
baz=271
L27K **Beaver Creek,** 56.79 32 P **P** 16 33 35.4 +1.1
L27K **Beaver Creek,** 56.79 32 P **P** 16 33 33.2 -1.1
baz=272,SNR=6.4
M27K **Edge Creek, AK** 56.80 33 P **P** 16 33 34.4 -0.1
M27K IAmb IAmb 16 33 37.0
comp=Z,10nm,1.3s
M27K **Edge Creek, AK** 56.80 33 P **P** 16 33 34.2 -0.3
baz=272
BCAR **Beaver Creek A** 56.81 32 P **P** 16 33 34.2 -0.2
MESA **MESA** 56.87 35 P **P** 16 33 33.4 -1.7
baz=274
GRNC **Granite Creek** 56.94 34 P **P** 16 33 36.6 +1.1
GRNC IAmb IAmb 16 33 37.6
comp=Z,6.9nm,0.8s
BARN **Barnard Glacie** 56.96 34 P **P** 16 33 36.3 +0.6
BARN IAmb IAmb 16 33 38.4
comp=Z,9.7nm,1.2s
EGAK **Eagle** 57.04 30 P **P** 16 33 36.7 +0.7
EGAK **Eagle** 57.04 30 P **P** 16 33 36.1 +0.2
baz=271
CTG **Chitna Glacier** 57.12 34 P **P** 16 33 35.9 -0.9
baz=274
BVCY **Beaver Creek** 57.27 32 P **P** 16 33 36.7 -0.9
baz=273
YUK3 **Moose Creek** 57.49 33 P **P** 16 33 38.9 -0.6
baz=274
PINM **Pinnacle** 57.73 35 P **P** 16 33 40.2 -0.8
baz=275
DAWY **Dawson** 57.84 30 P **P** 16 33 41.9 +0.2
baz=273,SNR=6.8
KK31 **Karatay Array** 58.10 305 *i* P **P** 16 33 44.7 +0.9
KK31 **Karatay Array** 58.10 305 P **P** 16 33 44.4 +0.6
KK31 IAmb IAmb 16 33 46.0
comp=Z,8.6nm,0.8s
KKAR **Karatay Array** 58.10 305 P **P** 16 33 44.1 +0.3
KKAR 16 33 44.7
KKAR **Karatay Array** 58.10 305 P **P** 16 33 44.1 +0.3
KKAR **Karatay Array** 58.10 305 P **P** 16 33 44.7 +0.8
KKAR IAmb IAmb 16 33 46.0
comp=Z,8.6nm,0.8s
YUK4 **Talbot Arm** 58.40 34 P **P** 16 33 46.1 +0.3
baz=276,SNR=7.2
NIL **Nilore** 58.49 293 P **P** 16 33 47.2 +0.5
NIL pmax pmax
comp=Z,9.0nm,0.9s
NIL **Nilore** 58.49 293 P **P** 16 33 47.2 +0.5
NIL IAmb IAmb 16 33 52.2
comp=Z,8.9nm,0.8s
YUK6 **Outpost Mounta** 58.57 34 P **P** 16 33 47.1 0.0
baz=276
IUG **Iuzhnay** 58.67 304 *e*P **P** 16 33 47.9 -0.1
baz=304
IUG **Iuzhnay** 58.67 304 *e*P **P** 16 33 47.8 -0.1
EPYK **Eagle Plains** 58.81 28 P **P** 16 33 48.9 +0.5
EPYK **Eagle Plains** 58.81 28 P **P** 16 33 48.9 +0.5
baz=274,SNR=8.4
HYT **Haines Junctio** 59.00 34 P **P** 16 33 50.4 +0.5
HYT IAmb IAmb 16 33 53.6
comp=Z,5.4nm,0.9s
HYT **Haines Junctio** 59.00 34 P **P** 16 33 49.7 -0.2
baz=277,SNR=6.6
GAR **Garm** 59.26 300 P **P** 16 33 53.1 +1.1
INK **Inuvik** 59.87 25 P **P** 16 33 56.7 +1.1
INK pmax pmax
comp=Z,6.0nm,1.2s
INK **Inuvik** 59.87 25 P **P** 16 33 56.7 +1.1
INK IAmb IAmb 16 33 57.8
comp=Z,5.8nm,1.1s
INK **Inuvik** 59.87 25 P **P** 16 33 55.8 +0.2
baz=276
CHGR **Chuyangaron** 60.22 300 P **P** 16 33 59.7 +1.0
SKAG **Skagway** 60.28 36 P **P** 16 33 59.8 +1.3
SKAG IAmb IAmb 16 34 19.4
comp=Z,11nm,1.3s
SKAG **Skagway** 60.28 36 P **P** 16 33 59.2 +0.7
baz=280
WHY **Whitehorse** 60.30 34 P **P** 16 33 59.9 +1.0
WHY IAmb IAmb 16 34 01.8
comp=Z,6.3nm,0.9s
WHY **Whitehorse** 60.30 34 P **P** 16 33 58.9 0.0
baz=279
SIT **Sitka** 60.71 38 P **P** 16 34 00.9 -0.6
baz=281
FARO **Faro, Yukon** 60.77 32 P **P** 16 34 02.2 +0.2
baz=280
KBL **Kabul** 61.54 295 P **P** 16 34 08.3 +0.4
KBL pmax pmax
comp=Z,5.0nm,0.9s
KBL **Kabul** 61.54 295 P **P** 16 34 08.3 +0.4
KBL IAmb IAmb 16 34 10.4
comp=Z,5.4nm,0.8s
MMPY **Sheldon Lake,** 61.66 32 P **P** 16 34 07.9 -0.1
baz=281
FORT **Forrest** 62.30 195 P **P** 16 34 12.8 +0.3
ARU **Arti** 62.61 321 P **P** 16 34 14.8 +0.4
comp=Z,1.9nm,0.5s,baz=80,slow=4.4,SNR=12
ARU **Arti** 62.61 321*c i*P **P** 16 34 15.0 +0.6
ARU 16 34 54.5
ARU 16 36 33.1
ARU S **S** 16 42 45.7 +5.9
ARU SS **SS** 16 46 47.3 +3.4

ARU pmax pmax
comp=Z,24nm,1.4s
ARU Arti 62.61 321 P P 16 34 14.2 -0.2
TGTN Hyland Airport 63.27 32 P P 16 34 18.8 +0.1
baz=284
AB31 Akbulak array 63.67 313 *i* P P **16 34 21.5 0.0**
ABKAR Akbulak array 63.67 313 P P 16 34 21.4 -0.1
AKTO Aktyubinsk 64.52 315 P P 16 34 27.1 -0.1
comp=Z,1.9nm,0.7s,baz=65,slow=4.1,SNR=9.5
KIRV Kirov 66.71 325 P P 16 34 42.0 +1.0
comp=Z,26nm,0.8s,baz=217,slow=1.9,SNR=12
KIRV Kirov 66.71 325*d i*P P **16 34 41.9 +0.9**
EUNU Eureka 66.75 8 P P 16 34 42.1 +1.0
GEYT Alibeck 68.66 302 P P 16 34 54.1 +0.3
comp=Z,6.3nm,0.6s,baz=58,slow=3.7,SNR=4.6
YKA Yellowknife Ar 69.01 29 P P 16 34 55.8 +0.3
comp=Z,3.1nm,0.9s,baz=296,slow=5.6,SNR=8.6
YKA LR LR 17 04 59.3
comp=Z,28nm,20.6s,baz=0.0,slow=36
YKA Yellowknife Ar 69.01 29*ce*P P **16 34 56.4 +0.9**
YKA pmax pmax
comp=Z,3.0nm,0.9s
BELG Belogornoye 69.95 320 P P 16 35 02.1 +0.7
comp=Z,26nm,0.9s,baz=17,slow=2.0,SNR=12
BELG Belogornoye 69.95 320*d i*P P **16 35 02.3 +0.9**
KLMR Klimovskoe 70.42 330 *e*P P **16 35 02.9 -1.3**
KLMR pmax pmax
comp=Z,11nm,0.8s
KLMR Klimovskoe 70.42 330 *e*P P **16 35 02.9 -1.3**
KLMR AMP 16 35 05.6
comp=Z,11nm,0.8s
ARCES ARCESS Array B 70.97 341 LR LR 17 10 00.3
comp=Z,22nm,21.6s,baz=60,slow=39
D04E Lakebay 71.06 46 P P 16 35 08.7 +0.4
baz=294
E04D Cinebar 71.44 47 P P 16 35 09.3 -1.3
baz=294
I02D Swisshome 71.63 49 P P 16 35 11.6 -0.2
baz=294
C06D Leavenworth 71.91 45 P P 16 35 13.1 -0.3
baz=295
J01E Myrtle Point 71.96 50 P P 16 35 13.3 -0.6
baz=295
NEEM North Greenlan 72.30 3 *i* P P **16 35 16.7 +1.0**
K02D Willamette Mer 72.33 51 P P 16 35 15.8 -0.4
baz=295
H04A Detroit Lake 72.47 48 P P 16 35 17.8 +0.9
H04A IAmb IAmb 16 35 19.4
comp=Z,8.0nm,0.9s
B08A Colville Reser 72.67 44 P P 16 35 18.5 +0.5
B08A IAmb IAmb 16 35 20.3
comp=Z,7.5nm,1.0s
I04A Tendick Farm, 72.70 49 P P 16 35 18.2 -0.1
baz=295
DAG Danmarks Havn 72.74 356 *i* P P **16 35 18.7 +0.8**
DAG IAmb IAmb 16 35 19.7
comp=Z,13nm,1.1s
DAG Danmarks Havn 72.74 356 P P 16 35 19.1 +1.2
DAG pmax pmax
comp=Z,14nm,1.0s
G05D Wamic, OR 72.79 47 P P 16 35 18.0 -0.8
baz=296
J04D Umpqua Nationa 73.14 50 P P 16 35 20.5 -0.6
baz=296
YBH Yreka Blue Hor 73.39 51 LR LR 16 59 50.3
comp=Z,90nm,20.7s,baz=291,slow=29
PINE Pine Mountain 73.66 49 P P 16 35 25.5 +1.3
PINE IAmb IAmb 16 35 27.2
comp=Z,13nm,1.1s
J05D Fort Rock, OR 73.69 49 P P 16 35 23.8 -0.5
baz=296
N02D Trinity Center 73.72 52 P P 16 35 23.8 -0.6
baz=296
EDM Edmonton 73.81 38 P P 16 35 25.6 +0.9
EDM pmax pmax
comp=Z,9.0nm,1.1s
EDM Edmonton 73.81 38 P P 16 35 25.6 +0.9
EDM IAmb IAmb 16 35 26.6
comp=Z,9.0nm,1.1s
M04C Macdoel 73.95 51 P P 16 35 24.8 -1.0
baz=296
NEW Newport 74.03 43 P P 16 35 26.9 +0.9
NEW pmax pmax
comp=Z,6.0nm,0.9s
NEW Newport 74.03 43 P P 16 35 26.9 +0.9
NEW IAmb IAmb 16 35 28.2
comp=Z,6.0nm,0.9s
NEW Newport 74.03 43 P P 16 35 24.9 -1.2
baz=297
K05A Summer Lake 74.16 50 P P 16 35 28.6 +1.4
K05A IAmb IAmb 16 35 30.1
comp=Z,8.7nm,0.9s
E09A Wood Farm, Sta 74.21 45 P P 16 35 28.4 +1.3
E09A IAmb IAmb 16 35 29.5
comp=Z,6.7nm,1.0s
G08A Pilot Rock 74.26 47 P P 16 35 28.9 +1.3
OBN Obninsk 74.56 325*ll eP P* **16 35 30.2 +1.3**
OBN *e* 16 35 41.4
OBN *e* 16 38 19.2
OBN pmax pmax
comp=Z,26nm,1.1s
OBN MLR MLR
comp=Z,83nm,17.0s
J08A Circle Bar Ran 75.46 48 P P 16 35 35.9 +1.4
J08A IAmb IAmb 16 35 37.1
comp=Z,10nm,1.0s
BMO Blue Mountains 75.50 46 P P 16 35 35.7 +1.0
BMO pmax pmax
comp=Z,6.0nm,1.1s
BMO Blue Mountains 75.50 46 P P 16 35 35.7 +1.0
BMO IAmb IAmb 16 35 37.2
comp=Z,6.1nm,1.1s
WALA Waterton Lakes 75.52 41 P P 16 35 35.9 +1.1
WALA IAmb IAmb 16 35 36.8
comp=Z,9.3nm,1.2s
FIA1 FINESS Array S 75.63 334 P P 16 35 35.8 +0.9
FINES FINESS Array B 75.63 334 P P 16 35 36.0 +1.0
comp=Z,16nm,1.0s,baz=76,slow=6.3,SNR=14
FINES LR LR 17 14 02.6
comp=Z,62nm,18.0s,baz=274,slow=40
FINES FINESS Array B 75.63 334 P P 16 35 36.0 +1.0
BEKR Beckworth 75.81 52 P P 16 35 37.6 +0.9
BEKR IAmb IAmb 16 35 38.7
comp=Z,6.4nm,0.9s
JTMT Jette 75.95 43 P P 16 35 38.5 +1.2
JTMT IAmb IAmb 16 35 39.8
comp=Z,8.6nm,0.9s
NCK Nalchik 76.29 312*ll eP P* **16 35 40.6 +1.4**
NCK pmax pmax
comp=Z,9.0nm,0.4s
PAHR Pah Rah Range 76.56 52 P P 16 35 41.7 +0.8
PAHR IAmb IAmb 16 35 43.0
comp=Z,5.8nm,1.1s
MSO Missoula 76.61 43 P P 16 35 40.5 -0.5
baz=300
KBZ Khabaz 76.63 313 P P 16 35 42.6 +1.7
comp=Z,5.6nm,0.8s,baz=90,slow=5.4,SNR=14
KBZ Khabaz 76.63 313*de*P P **16 35 42.3 +1.3**
KBZ pmax pmax
comp=Z,10.0nm,0.9s
KIV Kislovodsk 76.65 313 *e*P P **16 35 40.3 -1.0**
KIV pmax pmax
comp=Z,5.0nm,0.9s
PNTR Pine Nut 76.70 53 P P 16 35 42.5 +0.7
PNTR IAmb IAmb 16 35 44.2
comp=Z,6.7nm,1.0s
YERR Yerington 76.99 52 P P 16 35 44.5 +1.1
MFID Camas Ranch 77.12 47 P P 16 35 45.2 +1.2
MFID IAmb IAmb 16 35 46.5
comp=Z,7.0nm,0.9s
VSU Vasula 77.18 331*ll eP P* **16 35 44.9 +1.1**
VSU pmax pmax
comp=Z,68nm,1.0s
SUMG Summit 77.54 1 *i* P P **16 35 47.6 +1.5**
SUMG IAmb IAmb 16 35 49.1
comp=Z,8.8nm,0.8s
SUMG Summit 77.54 1 P P 16 35 46.8 +0.7
SUMG pmax pmax
comp=Z,17nm,1.4s
SUMG Summit 77.54 1 P P 16 35 46.8 +0.7
KVN Kaiserville 77.74 52 P P 16 35 48.7 +1.1
KVN pmax pmax
comp=Z,6.0nm,0.9s
KVN Kaiserville 77.74 52 P P 16 35 48.7 +1.1
KVN IAmb IAmb 16 35 49.8
comp=Z,5.9nm,0.9s

PAGB Antelope Grade 77.82 56 P P 16 35 48.5 +0.6
LHV Little Huntoon 77.85 53 P P 16 35 49.0 +1.1
LHV IAmb IAmb 16 35 50.9
comp=Z,5.5nm,1.0s
NVAR Mina Array Bea 77.90 53 P P 16 35 50.1 +1.6
comp=Z,3.8nm,0.8s,baz=281,slow=5.5,SNR=27
NVAR LR LR 17 03 17.8
comp=Z,60nm,21.0s,baz=276,slow=30
NVAR Mina Array Bea 77.90 53 P P 16 35 49.2 +0.7
HLID Hailey 77.95 47 P P 16 35 48.4 -0.3
baz=300
NV11 Mina Array Sit 78.00 53 P P 16 35 50.1 +1.1
LRM Limekiln Ridge 78.01 44 P P 16 35 49.4 +0.4
EGMT Eagleton 78.43 41 P P 16 35 51.7 +0.6
EGMT IAmb IAmb 16 35 53.3
comp=Z,12nm,1.1s
EGMT Eagleton 78.43 41 P P 16 35 50.6 -0.5
baz=302
PKM Mcpherson Peak 78.54 56 P P 16 35 51.8 -0.3
baz=299
BOZ Bozeman (W) 78.61 44 P P 16 35 51.7 -0.5
baz=302
FFC Flin Flon 78.66 32 P P 16 35 52.5 +0.4
FFC pmax pmax
comp=Z,11nm,0.9s
FFC Flin Flon 78.66 32 P P 16 35 52.5 +0.4
FFC IAmb IAmb 16 35 54.1
comp=Z,11nm,0.9s
ELK Elko 78.83 49 P P 16 35 54.7 +1.1
ELK pmax pmax
comp=Z,5.0nm,1.1s
ELK Elko 78.83 49 P P 16 35 54.7 +1.1
CWC Cottonwood Cre 79.02 54 P P 16 35 54.2 -0.5
baz=299
MNK Minsk 79.08 328 *i* P P **16 35 53.4 -1.0**
MNK *i* 16 36 01.6
MNK *i* 16 38 52.1
MNK *i* PPP PPP 16 40 40.6
MNK *i* S **S** **16 45 53.2 +2.2**
MNK *i* 16 46 13.9
MNK *i* SS **SS** **16 50 58.6 +2.4**
MNK *i* SSS SSS 16 54 24.2
MNK pmax pmax
comp=Z,32nm,0.9s
MNK pmax pmax
comp=N,16nm,1.2s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK MLR MLR
comp=E,21nm,23.0s
MNK MLR MLR
comp=N,122nm,20.0s
MNK MLR MLR
comp=Z,123nm,19.0s
MNK Minsk 79.08 328 *i* P P **16 35 53.4 -1.0**
comp=E,3.0nm,0.8s
MNK *i* P P **16 35 53.4 -1.0**
comp=N,16nm,1.2s
MNK *i* P P **16 35 53.4 -1.0**
comp=Z,32nm,0.9s,baz=53
MNK *i* PcP **PcP** **16 36 01.6 -1.2**
MNK *i* PP **PP** **16 38 52.2 -1.1**
MNK *i* PPP PPP 16 40 40.7
MNK *i* S **S** **16 45 53.2 +2.2**
MNK *i* SS **SS** **16 50 58.6 +2.4**
MNK *i* SSS SSS 16 54 24.2
MNK *i* LQ LQ 17 05 40.5
MNK *i* LR LR 17 09 30.8
MNK *i* LRM MLR 17 12 25.8
MNK *i* LRM MLR 17 12 27.1
MNK *i* LRM MLR 17 12 32.2
ISA Isabella, Lake 79.12 55 P P 16 35 54.2 -0.9
baz=299
ISAL Salakas 79.22 329 *e*P P **16 35 56.2 +1.0**
YHB Horse Butte 79.32 44 P P 16 35 56.4 +0.1
NACGM Naroch 79.34 328 *i* P P **16 35 57.6 +1.8**
ANN Anapa 79.47 316 *e*P P **16 35 56.6 -0.1**
ANN pmax pmax
comp=Z,31nm,1.1s
MPMC Manual Prospec 79.62 54 P P 16 35 57.2 -0.8
baz=300
LRMC Laurel Mtn Rad 79.77 55 P P 16 35 58.2 -0.6
baz=300
R11A Troy Canyon, C 79.80 52 P P 16 35 59.2 +0.3
R11A Troy Canyon, C 79.80 52 P P 16 35 58.7 -0.2
baz=300
EDW2 Edwards Air Fo 79.85 56 P P 16 35 59.1 0.0
baz=300
FURC Furnace Creek, 79.86 54 P P 16 35 59.2 +0.2
baz=300
HVU Hansel Valley 79.89 47 P P 16 36 00.7 +1.3
HVU pmax pmax
comp=Z,3.0nm,0.8s
HVU Hansel Valley 79.89 47 P P 16 36 00.7 +1.3
IMW Indian Meadow 79.93 45 P P 16 36 00.1 +0.5
YMP Mirror Lake PI 79.95 44 P P 16 36 00.3 +0.5
YMP IAmb IAmb 16 36 27.0
comp=Z,13nm,1.1s
FXWY Fox Creek 80.01 45 P P 16 36 00.7 +0.6
TPNV Topopah Spring 80.05 53 P P 16 36 00.9 +0.6
TPNV pmax pmax
comp=Z,6.0nm,1.1s
TPNV Topopah Spring 80.05 53 P P 16 36 00.9 +0.6
TPNV Topopah Spring 80.05 53 P P 16 36 60.0 -0.3
baz=300
PABE Pabebe 80.22 330 *e*P P **16 36 01.5 +1.0**
CIS Catalina Islan 80.27 57 P P 16 36 01.3 0.0
baz=300
RLMT Red Lodge 80.28 43 P P 16 36 00.6 -0.8
baz=303
SCI2 San Clemente I 80.38 58 P P 16 36 02.2 +0.2
baz=300
BFSC Mount Baldy Ra 80.40 56 P P 16 36 01.8 -0.4
baz=300
GSC Goldstone, Bar 80.48 55 P P 16 36 01.7 -0.9
baz=300
SHOC Shoshone, Teco 80.56 54 P P 16 36 02.0 -0.9
baz=300
PRN Pahroc Range 80.64 52 P P 16 36 04.1 +0.7
PRN IAmb IAmb 16 36 06.2
comp=Z,6.5nm,1.0s
DUG Dugway, Tooele 80.70 49 P P 16 36 03.0 -0.6
baz=302
AKASG Malin Array Be 80.71 324 P P 16 36 04.0 +0.6
comp=Z,6.3nm,0.7s,baz=47,slow=5.9,SNR=28
AKASG LR LR 17 15 29.7
comp=Z,32nm,18.7s,baz=70,slow=38
AKASG Malin Array Be 80.71 324 P P 16 36 04.0 +0.6
AKASG Malin Array Be 80.71 324 P P 16 36 03.8 +0.5
AKBB Malin Array Si 80.71 324*de*P P **16 36 03.9 +0.6**
AKBB pmax pmax
comp=Z,10.0nm,0.9s
AKBB Malin Array Si 80.71 324 P P 16 36 03.6 +0.2
AKBB IAmb IAmb 16 36 05.0
comp=Z,9.6nm,0.8s
HWUT Hardware Ranch 80.76 47 P P 16 36 04.2 +0.2
HWUT IAmb IAmb 16 36 06.5
comp=Z,5.8nm,0.9s
PSUT Pine Spring 80.87 51 P P 16 36 05.3 +0.6
SHPR Sheep Range 81.03 53 P P 16 36 06.3 +0.8
TUQ Turquoise Moun 81.04 54 P P 16 36 05.1 -0.4
baz=301
HEC Hector,Ludlow 81.05 55 P P 16 36 04.7 -0.9
baz=300
MURC Murrieta 81.06 56 P P 16 36 04.7 -0.9
baz=300
NC204 NORSAR Array S 81.09 339 P P 16 36 05.9 +0.7
NB2 NORSAR Subarra 81.12 339 P P 16 36 05.4 0.0
comp=Z,2.0nm,0.7s,baz=41,slow=5.3
NOA NORSAR Array B 81.12 339 P P 16 36 05.8 +0.4
comp=Z,4.0nm,0.8s,baz=39,slow=5.0,SNR=16
NOA LR LR 17 16 47.2
comp=Z,43nm,21.3s,baz=50,slow=39
LAO LASA Array 81.17 41 P P 16 36 04.6 -1.4
baz=305
DGMT Dagmar 81.25 38 P P 16 36 05.4 -0.9
baz=306
BW06 Boulder Array 81.39 45 P P 16 36 06.4 -1.0
baz=303
PDAR Pinedale Array 81.39 45 P P 16 36 07.9 +0.5
comp=Z,0.5nm,0.4s,baz=258,slow=2.9,SNR=8.0
PDAR LR LR 17 06 43.0
comp=Z,37nm,19.7s,baz=306,slow=32

SUW Suwalki 81.53 329 *e*P P **16 36 08.9 +1.3**
SUW Suwalki 81.53 329 *e*P P **16 36 08.5 +0.9**
SUW Suwalki 81.53 329 P P **16 36 08.4 +0.8**
SUW pmax pmax
comp=Z,75nm,0.9s
SUW Suwalki 81.53 329 P P 16 36 08.3 +0.8
GMRC Granite Mounta 81.56 55 P P 16 36 07.3 -1.0
baz=301
PFO Pinyon Flats O 81.58 56 LR LR 17 03 19.1
comp=Z,57nm,21.2s,baz=298,slow=29
PFO Pinyon Flats O 81.58 56 P P 16 36 08.4 -0.1
baz=301
TPFO Pinon Flats 81.59 56 P P 16 36 08.7 +0.2
baz=301
BELC Belle Mtn. Jos 81.71 56 P P 16 36 09.2 0.0
baz=301
CCUT Cedar City 81.72 51 P P 16 36 10.1 +0.9
MONP2 Monument Peak 81.97 57 P P 16 36 10.5 -0.1
baz=301
MVU Marysvale 81.98 50 P P 16 36 12.0 +1.4
MSU Marysvale 82.00 50 P P 16 36 11.9 +1.2
MSU Marysvale 82.00 50 P P 16 36 11.9 +1.2
LCMT Little Creek M 82.08 52 P P 16 36 12.2 +1.2
LCMT IAmb IAmb 16 36 13.4
comp=Z,5.6nm,0.8s
IRM Iron Mountain 82.24 55 P P 16 36 12.3 +0.5
baz=301
MTPU Mount Pierson 82.25 50 P P 16 36 13.5 +1.3
BC3 Big Chuckawall 82.28 56 P P 16 36 12.5 +0.4
baz=301
IKP In-Ko-Pah, Jac 82.32 57 P P 16 36 11.5 -0.8
baz=301
KNB Kanab 82.36 52 P P 16 36 13.8 +1.2
KNB pmax pmax
comp=Z,11nm,0.9s
KNB Kanab 82.36 52 P P 16 36 13.8 +1.2
SWSC Sam W. Stewart 82.39 56 P P 16 36 12.3 -0.2
baz=301
Q16A Castle Valley 82.45 49 P P 16 36 14.0 +1.0
Q16A IAmb IAmb 16 36 15.6
comp=Z,9.4nm,1.3s
SRU San Rafael Swe 82.77 49 P P 16 36 15.4 +0.7
SRU pmax pmax
comp=Z,4.0nm,0.8s
SRU San Rafael Swe 82.77 49 P P 16 36 15.4 +0.7
SRU IAmb IAmb 16 36 16.6
comp=Z,3.9nm,0.8s
U15A North Rim 83.04 52 P P 16 36 17.2 +1.0
U15A IAmb IAmb 16 36 17.9
comp=Z,7.1nm,1.3s
K22A Casper 83.30 44 P P 16 36 17.1 -0.3
baz=305
O20A White River Ci 83.67 47 P P 16 36 19.4 +0.1
baz=304
PV23 Carpenter Ridg 84.12 49 P P 16 36 22.5 +0.7
WUAZ Wupatki 84.15 52 P P 16 36 22.5 +0.7
WUAZ IAmb IAmb 16 36 24.0
comp=Z,7.7nm,1.1s
WUAZ Wupatki 84.15 52 P P 16 36 21.4 -0.4
baz=303
PV14 Lion Creek, Pa 84.16 49 P P 16 36 22.5 +0.6
PV20 West Nyswonger 84.21 49 P P 16 36 22.8 +0.7
PV19 Morning Glory 84.22 49 P P 16 36 23.0 +0.8
PV04 Paradox Valley 84.22 49 P P 16 36 22.6 +0.4
PV04 IAmb IAmb 16 36 25.2
comp=Z,4.2nm,1.0s
PV17 East Wray Mesa 84.25 49 P P 16 36 22.9 +0.6
PV16 Nyswonger Mesa 84.26 49 P P 16 36 21.9 -0.5
PV16 IAmb IAmb 16 36 24.4
comp=Z,5.0nm,0.9s
PV05 Paradox Valley 84.27 49 P P 16 36 22.8 +0.3
PV05 IAmb IAmb 16 36 24.5
comp=Z,6.8nm,0.9s
PV11 David Mesa, Pa 84.29 49 P P 16 36 23.3 +0.8
PV11 IAmb IAmb 16 36 24.6
comp=Z,7.8nm,1.0s
PV18 Skein Mesa, Pa 84.30 49 P P 16 36 23.0 +0.4
PV18 IAmb IAmb 16 36 24.5
comp=Z,6.5nm,0.8s
PV12 Saucer Basin, 84.33 49 P P 16 36 22.5 -0.2
PV12 IAmb IAmb 16 36 25.6
comp=Z,5.8nm,0.9s
ULM Lac du Bonnet 84.38 34 P P 16 36 21.8 -0.7
comp=Z,8.0nm,1.1s,baz=346,slow=0.9,SNR=4.1
ULM LR LR 17 16 28.0
comp=Z,23nm,18.5s,baz=114,slow=37
ULM Lac du Bonnet 84.38 34 IAmb IAmb 16 36 23.7
comp=Z,10nm,1.1s
PV13 Radium Mtn., P 84.41 49 P P 16 36 23.7 +0.5
PV13 IAmb IAmb 16 36 25.0
comp=Z,6.2nm,0.9s
BRTR Keskin Array B 84.62 313 P P 16 36 25.4 +1.3
comp=Z,5.0nm,0.8s,baz=90,slow=6.2,SNR=11
BRTR Keskin Array B 84.62 313*ce*P P **16 36 25.3 +1.2**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 84.62 313 P P 16 36 24.4 +0.3
N23A Red Feather La 84.67 45 P P 16 36 23.4 -1.1
baz=306
BUR08 Bucovina Ar. S 84.68 323 P P 16 36 24.7 +0.5
BUR08 IAmb IAmb 16 36 26.6
comp=Z,7.6nm,1.5s
BURAR Bucovina Array 84.69 323 P P 16 36 24.6 +0.4
BURAR Bucovina Array 84.69 323 P P 16 36 24.6 +0.4
214A Organ Pipe Nat 85.06 56 P P 16 36 27.1 +0.8
214A IAmb IAmb 16 36 28.6
comp=Z,5.8nm,1.1s
214A Organ Pipe Nat 85.06 56 P P 16 36 26.6 +0.3
baz=303
MVCO Mesa Verde 85.15 50 P P 16 36 26.2 -0.7
baz=304
W18A Petrified Fore 85.49 52 P P 16 36 26.7 -1.9
baz=304
ISCO Idaho Springs 85.52 46 P P 16 36 27.3 -1.5
baz=306
OJC Ojcow 85.63 327 *e*P P **16 36 30.0 +1.3**
AGMN Agassiz Nation 85.68 35 P P 16 36 29.4 +0.4
baz=312
S22A 4UR Ranch, Cre 85.94 48 P P 16 36 30.3 -0.6
baz=305
TUC Tucson 86.31 55 P P 16 36 32.6 0.0
baz=304
SDCO Great Sand Dun 86.79 48 P P 16 36 34.8 -0.3
baz=306
OGNE Ogallala 87.02 44 P P 16 36 35.2 -0.7
baz=308
VYHS Vyhne 87.28 327 *e*P P **16 36 38.1 +1.2**
VYHS Vyhne 87.28 327 *e*P P **16 36 38.1 +1.2**
ANMO Albuquerque 87.80 50 P P 16 36 39.0 -0.9
baz=306
CLL Collm 87.84 331 *i* P P **16 36 40.1 +0.6**
CLL pmax pmax
comp=Z,7.0nm,1.2s
CLL Collm 87.84 331 *i* P P **16 36 40.1 +0.6**
CLL pmax pmax
comp=Z,7.0nm,1.2s
T25A Trinidad 87.85 48 P P 16 36 39.8 -0.3
baz=307
HERR Herculane 87.95 322 *ll* P P 16 36 54.8 +15
EYMN Ely 88.05 33 P P 16 36 40.0 -0.6
baz=315
121A Cookes Peak, D 88.29 53 P P 16 36 41.1 -1.1
baz=305
ECSD EROS Data Cent 88.33 39 P P 16 36 41.7 -0.3
baz=312
MDVR Moldovita 88.39 323 *ll* P P 16 36 51.6 +9.3
E38A The Farm, Brul 88.97 34 P P 16 36 45.3 +0.4
BOVS Bovan 89.17 322 *ll* P P 16 36 59.1 +13
GERES GERRESS Array B 89.38 329 P P 16 36 47.3 +0.4
comp=Z,0.8nm,0.7s,baz=55,slow=5.1,SNR=6.4
GERES LR LR 17 22 32.3
comp=Z,29nm,19.3s,baz=7.5,slow=39
CBKS Cedar Bluff 89.72 44 P P 16 36 48.3 -0.4
baz=310
MNTX Cornudas Mount 90.43 53 P P 16 36 51.6 -0.5
baz=306
AMTX Amarillo 90.97 48 P P 16 36 53.5 -1.2
baz=308
KSU1 Kansas State U 91.39 42 P P 16 36 55.4 -1.0
baz=312
SCHQ Schefferville 91.48 17 LR LR 17 22 49.6
comp=Z,24nm,19.0s,baz=120,slow=39
BFO Black Forest 92.06 332 P P 16 36 59.7 +0.4
BFO pmax pmax
comp=Z,11nm,1.1s
BFO Black Forest 92.06 332 P P 16 36 59.7 +0.4
WMOK Wichita Mounta 92.92 47 P P 16 37 02.3 -1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=310						
TX31	**Lajitas Ar. Si**	**93.02**	**54**	P	**P**	**16 37 04.7**	**+0.4**
TXAR	**Lajitas Array**	**93.02**	**54**	P	**P**	**16 37 05.0**	**+0.8**
	comp=Z,2.7nm,0.9s,baz=316,slow=3.5,SNR=20						
JCT	**Junction City**	**94.96**	**51**	P	**P**	**16 37 11.6**	**-1.4**
	baz=309						
CCM	**Cathedral Cave**	**95.17**	**40**	P	**P**	**16 37 12.7**	**-1.1**
	baz=315						
U40A	**Yellville**	**95.44**	**42**	P	**P**	**16 37 14.5**	**-0.6**
	baz=314						
SFIN	**Lafayette**	**95.72**	**36**	P	**P**	**16 37 15.0**	**-1.2**
	baz=318						
833A	**Chaparral WMA,**	**96.59**	**52**	P	**P**	**16 37 20.2**	**-0.3**
	baz=309						
W41B	**Gary Mavity, V**	**96.61**	**43**	P	**P**	**16 37 19.5**	**-0.9**
	baz=314						
F62A	**Pittston Farm,**	**98.53**	**23**	P	**P**	**16 37 27.0**	**-1.9**
	baz=331						
O53A	**New Philadelph**	**98.71**	**33**	P	**P**	**16 37 28.3**	**-1.5**
	baz=322						
P52A	**Corning**	**98.75**	**34**	P	Pdif	16 37 31.3	+1.3
G62A	**West of Eustis**	**98.93**	**23**	P	**P**	**16 37 29.7**	**-1.0**
	baz=331						
I60A	**Shoreham**	**99.11**	**26**	P	**Pdif**	**16 37 30.9**	**-0.6**
	baz=329						
LBNH	**Lisbon**	**99.28**	**25**	P	**Pdif**	**16 37 30.9**	**-1.3**
	baz=330						
PKME	**Peaks-Kenny Pk**	**99.31**	**23**	P	**Pdif**	**16 37 32.6**	**+0.3**
	baz=332						
I62A	**Tamworth**	**99.81**	**25**	P	**Pdif**	**16 37 33.8**	**-0.8**
	baz=330						
J61A	**Chester**	**99.82**	**26**	P	**Pdif**	**16 37 33.6**	**-1.0**
	baz=329						
SSPA	**Standing Stone**	**99.91**	**31**	P	**Pdif**	**16 37 34.1**	**-1.0**
	baz=325						
I63A	**Otisfield**	**99.93**	**24**	P	**Pdif**	**16 37 34.6**	**-0.5**
	baz=331						
M64A	**Tiverton**	**101.87**	**26**	P	**Pdif**	**16 37 43.2**	**-0.6**
	baz=330						
LPAZ	**La Paz**	**148.14**	**71**	PKPbc	**PKiKP**	**16 43 38.6**	**-0.5**
	comp=Z,4.6nm,0.9s,baz=320,slow=3.1,SNR=13						
LPAZ	**La Paz**	**148.14**	**71**	PKP2	**PKPbc**	**16 43 36.8**	**-0.6**
LPAZ	**La Paz**	**148.14**	**71**		**PKPbc**	**16 43 36.8**	**-0.6**
PLCA	**Paso Flores**	**150.66**	**120**	PKPbc	**PKiKP**	**16 43 43.5**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=352,slow=4.9,SNR=3.1						

JMA 08 16:24:55.3±0.1**,34.°18N**×**135.°66E,h58**km±1km**,M0.9, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWY	**Kouya**	**0.07**	**305**	P	Pn	16 25 04.2	+0.1
JWY				S	Sn	16 25 10.2	-0.3
JNTK	**Naratenkawa**	**0.21**	**64**	P	Pn	16 25 04.6	-0.1
JNTK				S	Sn	16 25 11.0	-0.4
JTNC	**Tanabenakahech**	**0.36**	**186**	P	Pn	16 25 05.7	-0.1
JTNC				S	Sn	16 25 13.2	-0.1
JWM	**Minabe**	**0.42**	**218**	P	Pn	16 25 06.1	-0.1
JWM				S	Sn	16 25 13.8	-0.3
JHE	**Heguri**	**0.47**	**2**	P	Pn	16 25 06.4	-0.5
JKN2	**Miekihoku**	**0.51**	**83**	P	Pn	16 25 07.2	0.0
JKS	**Kasai**	**1.05**	**320**	P	Pn	16 25 13.5	-0.4
JAI	**Aioi**	**1.08**	**249**	P	Pn	16 25 14.6	+0.3
JAI				S	Sn	16 25 28.2	-0.1

*IDC **08** 16:38:51.7±3.4, 36.°13N×135.°27E, h485km±78km, mb2.5/2, mb1 2.6/4, mb1mx2.3/50, mbtmp3.1/4, Error ellipse: s-maj=183.0km s-min=38.2km az=15.0*
*JMA **08** 16:38:59.1±0.2, 37.°27N×135.°17E, h372km, M3.1*
ISC 08 16:38:51.4±1.7**,36.°3N**±0.°3×**135.°4E**±0.°1**,h500**km**,n6,** σ**0.°80**/6**,Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**1.05**	**178**	P	**P**	**16 39 52.5**	**-0.4**
JYTA	**Yamagatataniai**	**1.34**	**123**	P	**P**	**16 39 53.6**	**-0.1**
MJAR	**Matsushiro Arr**	**2.32**	**84**	P	**P**	**16 39 58.0**	**-0.1**
	0.1nm,0.3s,baz=262,slow=6.8,SNR=4.9						
KSRS	**Korea Array**	**6.05**	**283**	P	**P**	**16 40 28.0**	**-0.1**
	0.2nm,0.3s,baz=91,slow=12,SNR=4.7						
WRA	**Warramunga Arr**	**55.98**	**181**	P	**P**	**16 47 41.2**	**-0.7**
	0.5nm,0.9s,baz=360,slow=7.3,SNR=4.8						
ASAR	**Alice Springs**	**59.69**	**182**	P	**P**	**16 48 08.2**	**+1.1**
	0.2nm,0.6s,baz=1.0,slow=5.6,SNR=1.6						

IDC 08 16:40:17.2±2.0**,2.°71N**×**127.°03E,h0**km**,mb3.5**/4**, mb1 3.7**/4**,mb1mx3.4**/44**,mbtmp3.5**/4**,Error ellipse: s-maj=116.1km s-min=24.6km az=69.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.72**	**184**	P	P	16 44 59.9	+0.5
	1.2nm,0.8s,baz=10,slow=11,SNR=2.2						
WRA	**Warramunga Arr**	**23.63**	**163**	P	P	16 45 30.2	-0.1
	1.6nm,0.5s,baz=342,slow=11,SNR=26						
ASAR	**Alice Springs**	**27.06**	**166**	P	P	16 46 01.9	+0.3
	0.3nm,0.4s,baz=345,slow=6.8,SNR=9.0						
MKAR	**Makanchi Array**	**58.56**	**325**	P	P	16 50 15.2	-0.5
	0.5nm,0.7s,baz=141,slow=7.1,SNR=5.3						

*IDC **08** 16:47:21.6±1.3, 34.°75S×178.°53W, h0km, mb4.3/6, mb1 4.4/7, mb1mx4.0/34, mbtmp4.3/7, ML3.9/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/42, Error ellipse: s-maj=34.2km s-min=26.3km az=53.0*
*NEIC **08** 16:47:22.9±2.2, 35.°0S±0.°1×178.°4W±0.°2, h10km±1km, mb4.5/15, Error ellipse: s-maj=28.9km s-min=24.3km az=73.0*
*WEL **08** 16:47:26.5±1.0, 35°S±10°×17°9W±2°1, h33km, M4.5/10, mB5.1/1, ML4.8/11, MLv4.5/10, Mw(mB)4.5/1, Error ellipse: s-maj=0.0km s-min=0.0km az=114.7*
*NOU **08** 16:47:27.9, 35.°18S×178.°20W, h91km, mb4.2/8, East of North Island, N.Z.*
ISC 08 16:47:22.2±0.8**,34.°82S**±0.°08×**178.°4W**±0.°1**,h10**km**,n51,** σ**1.°30**/65**,mb4.4**/13**,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.84**	**224**	Pn	**Pn**	**16 48 22.4**	**+1.0**
MXZ	**Matakaoa Point**	**3.84**	**224**	P	**Pn**	**16 48 22.4**	**+1.0**
MXZ				S	**Sn**	**16 49 05.3**	**-1.4**
WMGZ	**Waiomatatini S**	**3.97**	**220**	P	**Pn**	**16 48 24.8**	**+1.7**
WMGZ				S	**Sn**	**16 49 10.2**	**+0.5**
PKGZ	**Pakihiroa**	**4.20**	**222**	P	**Pn**	**16 48 27.9**	**+1.4**
PKGZ				S	**Sn**	**16 49 14.1**	**-1.5**
PUZ	**Puketiti**	**4.24**	**219**	P	**Pn**	**16 48 27.9**	**+1.0**
PUZ				S	**Sn**	**16 49 15.7**	**-0.8**
HAZ	**Te Kaha**	**4.28**	**226**	P	**Pn**	**16 48 29.4**	**+2.0**
HAZ				S	**Sn**	**16 49 17.9**	**+0.5**
TWGZ	**Tauwhareparae**	**4.46**	**220**	P	**Pn**	**16 48 31.4**	**+1.4**
TWGZ				S	**Sn**	**16 49 21.6**	**-0.4**
RUGZ	**Raukumara Rang**	**4.48**	**224**	P	**Pn**	**16 48 32.3**	**+2.0**
RUGZ				S	**Sn**	**16 49 22.3**	**-0.2**
CNGZ	**Carnagh Statio**	**4.58**	**216**	P	**Pn**	**16 48 32.7**	**+1.1**
CNGZ				S	**Sn**	**16 49 26.1**	**+1.2**
TKGZ	**Te Karaka**	**4.73**	**219**	P	**Pn**	**16 48 34.8**	**+1.2**
TKGZ				S	**Sn**	**16 49 27.2**	**-1.3**
MWZ	**Matawai**	**4.82**	**222**	P	**Pn**	**16 48 35.9**	**+0.9**
MWZ				S	**Sn**	**16 49 29.3**	**-1.6**
RIGZ	**Rimuhau**	**4.97**	**218**	P	**Pn**	**16 48 37.6**	**+0.6**
RIGZ				S	**Sn**	**16 49 32.2**	**-2.4**
RAGZ	**Rawiri**	**5.00**	**221**	P	**Pn**	**16 48 38.8**	**+1.3**
RAGZ				S	**Sn**	**16 49 33.9**	**-1.4**
URZ	**Urewera**	**5.01**	**225**	Pn	**Pn**	**16 48 38.7**	**+1.3**
	4.8nm,0.3s,baz=120,slow=24,SNR=29						
URZ				Sn	**Sn**	**16 49 33.1**	**-2.2**
	19nm,0.3s,baz=352,slow=23,SNR=7.3						
URZ				LR	LR	16 50 52.4	
	comp=Z,202nm,19.0s,baz=31,slow=42						
URZ	**Urewera**	**5.01**	**225**		**Pn**	**16 48 38.5**	**+1.1**
PRGZ	**Paritu Road**	**5.08**	**215**	P	**Pn**	**16 48 39.2**	**+0.7**
PRGZ				S	**Sn**	**16 49 35.7**	**-1.6**
GLKZ	**Green Lake**	**5.55**	**4**	S	**Sn**	**16 49 45.2**	**-3.6**
BKZ	**Black Stump Fm**	**5.98**	**222**	Pn	**Pn**	**16 48 51.0**	**+0.2**
HIZ	**Hauiti**	**6.58**	**234**	Pn	**Pn**	**16 49 01.8**	**+2.7**
TUWZ	**Tuamarina**	**8.96**	**220**	Pn	**Pn**	**16 49 30.0**	**-1.7**
LTZ	**Lake Taylor**	**10.79**	**220**	Pn	**Pn**	**16 49 55.0**	**-1.8**
MSVF	**Nonsavu**	**17.31**	**348**	P	**P**	**16 51 27.2**	**+1.7**
TAU	**Tasmania Unive**	**27.77**	**243**	P	**P**	**16 53 11.7**	**+0.6**
EIDS	**Eidsvold**	**27.97**	**281**	P	**P**	**16 53 14.4**	**+1.3**
EIDS				IAmb	IAmb	16 53 33.9	
	comp=Z,16nm,1.4s						
TOO	**Toolangi**	**29.19**	**254**	P	**P**	**16 53 25.0**	**+1.1**
TOO				IAmb	IAmb	16 53 44.1	
	comp=Z,16nm,1.2s						
CTA	**Charters Tower**	**34.45**	**286**	P	**P**	**16 54 11.1**	**+0.8**
	comp=Z,2.1nm,0.6s,baz=128,slow=8.9,SNR=5.5						
CTAO	**Charters Tower**	**34.45**	**286**	P	**P**	**16 54 11.0**	**+0.8**
CTAO				IAmb	IAmb	16 54 39.1	
	comp=Z,9.3nm,1.4s						
BBOO	**Buckleboo**	**37.67**	**260**	P	**P**	**16 54 37.4**	**-0.3**
BBOO				IAmb	IAmb	16 54 55.3	
	comp=Z,15nm,1.3s						
AS31	**Alice Springs**	**42.75**	**272**	P	**P**	**16 55 19.3**	**-0.7**
ASAR	**Alice Springs**	**42.75**	**272**	P	**P**	**16 55 19.5**	**-0.5**
	comp=Z,4.4nm,0.5s,baz=113,slow=8.2,SNR=154						
ASAR				PcP	**PcP**	**16 57 11.0**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=119,slow=4.5,SNR=1.6						
ASAR	**Alice Springs**	**42.75**	**272**	P	**P**	**16 55 18.9**	**-1.1**
WR0	**Warramunga Arr**	**43.97**	**277**	P	**P**	**16 55 28.6**	**-1.1**
WR0				IAmb	IAmb	16 55 30.0	
	comp=Z,3.3nm,0.8s						
WB2	**Warramunga Arr**	**44.13**	**277**	P	**P**	**16 55 30.0**	**-1.1**
WB2				IAmb	IAmb	16 55 30.8	
	comp=Z,4.7nm,0.6s						
WRA	**Warramunga Arr**	**44.14**	**277**	P	**P**	**16 55 30.4**	**-0.7**
	comp=Z,2.8nm,0.6s,baz=124,slow=7.7,SNR=40						
WRA	**Warramunga Arr**	**44.14**	**277**	P	**P**	**16 55 29.8**	**-1.4**
FORT	**Forrest**	**44.78**	**259**	P	**P**	**16 55 35.2**	**-1.0**
JAY	**Jayapura**	**49.77**	**301**	LR	LR	17 17 36.8	
	comp=Z,68nm,18.6s,baz=232,slow=37						
KNRA	**Kununurra**	**50.88**	**278**	P	**P**	**16 56 22.4**	**-1.2**
KNRA				IAmb	IAmb	16 56 22.9	
	comp=Z,6.2nm,1.1s						
FITZ	**Fitzroy Crossi**	**52.18**	**274**	P	**P**	**16 56 32.6**	**-0.7**
	comp=Z,1.8nm,0.6s,baz=125,slow=6.4,SNR=8.8						
FITZ	**Fitzroy Crossi**	**52.18**	**274**	P	**P**	**16 56 32.1**	**-1.2**
QSPA	**South Pole Qui**	**55.31**	**180**	P	**P**	**16 56 57.8**	**+2.0**
	comp=Z,4.2nm,1.0s,baz=58,slow=1.7,SNR=20						
QSPA	**South Pole Qui**	**55.31**	**180**	P	**P**	**16 56 55.1**	**-0.6**
QSPA				IAmb	IAmb	16 56 58.5	
	comp=Z,2.8nm,0.8s						
GIRL	**Giralia**	**59.36**	**262**	P	**P**	**16 57 24.3**	**-0.5**
SNAA	**Sanae**	**73.76**	**179**	P	**P**	**16 58 56.5**	**+0.3**
SNAA	**Sanae**	**73.76**	**179**	P	**P**	**16 58 56.3**	**+0.1**
SNAA				IAmb	IAmb	16 59 22.6	
	comp=Z,2.5nm,1.1s						
VNA3	**Neumayer Olymp**	**73.93**	**176**	P	**P**	**16 58 57.3**	**+0.1**
VNA2	**Neumayer--Watz**	**74.36**	**177**	P	**P**	**16 59 00.1**	**+0.5**
	baz=175,slow=5.8						
VNA1	**Neumayer--Stat**	**74.59**	**177**	P	**P**	**16 59 01.2**	**+0.2**
PETK	**Petropavlovsk-**	**90.00**	**346**	P	**P**	**17 00 22.5**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=128,slow=6.4,SNR=7.4						
FINES	**FINESS Array B**	**149.13**	**337**	PKPbc	**PKPbc**	**17 07 10.1**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=60,slow=4.6,SNR=5.1						
TORD	**Torodi Ar. Bea**	**158.43**	**180**	PKPab	**PKPab**	**17 07 54.4**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=170,slow=3.6,SNR=2.5						

MEX 08 16:59:37.2±0.7**,14.°36N**×**94.°09W,h23**km±35km**,MD4.2, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.58**	**32**	*i* P	Pn	17 00 01.0	-2.8
PCIG				*i* S	Sn	17 00 19.9	-3.7
CCIG	**Comitan**	**2.69**	**44**	*i* P	Pn	17 00 19.6	+0.4
CCIG				*i* S	Sn	17 00 51.7	+0.6
CMIG	**Matias Romero**	**2.82**	**344**	*i* P	Pn	17 00 18.8	-2.1
CMIG				*i* S	Sn	17 00 46.9	-7.3

*IDC **08** 16:59:42.0±1.8, 7.°30S×129.°55E, h124km±26km, mb3.1/1, mb1 3.7/6, mb1mx3.3/39, mbtmp4.0/6, Error ellipse: s-maj=35.9km s-min=15.3km az=103.0*
ISC 08 16:59:40.4±0.9**,7.°45S**±0.°06×**129.°64E**±0.°10**,h100**km**,n6,** σ**2.°81**/10**,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.51**	**245**	P	**Pn**	**17 01 16.1**	**+2.3**
	11nm,0.3s,baz=100,slow=4.0,SNR=20						
BATI				S	**Sn**	**17 02 24.4**	**-2.3**
	6.9nm,0.3s,baz=50,slow=22,SNR=13						
SIJI	**Sorong**	**6.73**	**14**	P	**Pn**	**17 01 18.1**	**+1.4**
	1.0nm,0.3s,baz=164,slow=23,SNR=28						
SIJI				S	**Sn**	**17 02 30.0**	**-2.0**
	2.1nm,0.3s,baz=285,slow=23,SNR=15						
FITZ	**Fitzroy Crossi**	**11.28**	**200**	P	**Pn**	**17 02 19.4**	**+0.8**
	1.0nm,0.3s,baz=43,slow=13,SNR=51						
FITZ				S	Sn	17 04 16.3	-6.4
	0.9nm,0.3s,baz=70,slow=14,SNR=3.8						
WRA	**Warramunga Arr**	**13.23**	**160**	P	**Pn**	**17 02 46.4**	**+1.9**
	0.6nm,0.3s,baz=340,slow=13,SNR=25						
WRA				S	**Sn**	**17 05 07.4**	**-2.7**
	1.7nm,0.3s,baz=341,slow=22,SNR=13						
ASAR	**Alice Springs**	**16.64**	**166**	P	**Pn**	**17 03 31.4**	**+3.7**
	0.5nm,0.3s,baz=337,slow=9.8,SNR=54						
ASAR				S	**Sn**	**17 06 29.5**	**-3.0**
	0.4nm,0.3s,baz=343,slow=25,SNR=6.8						
MKAR	**Makanchi Array**	**68.40**	**327**	P	**P**	**17 10 29.3**	**-2.1**
	0.2nm,0.3s,baz=128,slow=8.1,SNR=2.5						

IDC 08 17:18:31.4±2.2**,1.°79N**×**126.°28E,h0**km**,mb3.2**/3**, mb1 3.4**/3**,mb1mx3.2**/42**,mbtmp3.2**/3**,Error ellipse: s-maj=180.3km s-min=28.3km az=65.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.00**	**160**	P	P	17 23 38.0	-0.1
	0.4nm,0.4s,baz=339,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**26.36**	**164**	P	P	17 24 09.8	+0.2
	0.1nm,0.5s,baz=347,slow=7.7,SNR=1.5						
MKAR	**Makanchi Array**	**58.90**	**326**	P	P	17 28 32.2	-0.2
	0.3nm,0.7s,baz=125,slow=7.6,SNR=3.3						

*IDC **08** 17:21:15.5±0.7, 48.°55N×155.°37E, h0km, mb4.0/19, mb1 4.2/24, mb1mx4.0/61, mbtmp4.0/24, ML3.6/5, MS3.7/9, Ms1 3.7/9, ms1mx3.4/47, Error ellipse: s-maj=17.8km s-min=13.5km az=114.0*
*MOS **08** 17:21:16.1±1.1, 48.°25N×155.°87E, h29km, mb4.6/14, MS3.7/7, Error ellipse: s-maj=8.9km s-min=3.6km az=81.7*
*SKHL **08** 17:21:17.3±0.7, 48.°20N×156.°10E, h42km±9km, mb4.8/9*
*KRSC **08** 17:21:18.0±1.9, 48.°43N×155.°92E, h82km±31km, ML4.6*
*NEIC **08** 17:21:19.1±3.0, 48.°41N±0.°10×155.°7E±0.°1, h36km±8km, mb4.6/48, Error ellipse: s-maj=15.6km s-min=10.4km az=149.0*
ISC 08 17:21:21.6±0.7**,48.°51N**±0.°06×**155.°57E**±0.°05**,h53**km±4km**, h53**km**:pP-P,n260,**σ**1.°87**/280**,mb4.5**/78**,MS3.9**/12**,3C-11D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.20**	**9**	*e*PN	**Pn**	**17 21 54.7**	**-1.0**
SKR				*e*S	**Sn**	**17 22 28.1**	**+6.4**
SKR				pmax	pmax		
	comp=Z,10.0nm,0.2s						
SKR				smax	smax		
	comp=N,494nm,0.6s						
SKR				smax	smax		
	comp=E,759nm,1.1s						
SKR				MLR	MLR		
	comp=Z,900nm,13.0s						
SKR				MLR	MLR		
	comp=Z,1μm,16.0s						
SKR	**Severo-Kuril's**	**2.20**	**9**	*e*P	**Pn**	**17 21 54.5**	**-1.2**
SKR				*e*S	**Sn**	**17 22 22.5**	**+0.8**
SKR	**Severo-Kuril's**	**2.20**	**9**	*e*P	**Pn**	**17 21 54.6**	**-1.2**
SKR				AMB	AMB	17 22 00.9	
	comp=Z,190nm,0.5s						
SKR				*e*S	**Sn**	**17 22 22.6**	**+0.8**
SKR				A	A	17 22 29.7	
	comp=Z,590nm,0.4s						
SKR				A	A	17 22 29.7	
	comp=Z,340nm,0.4s						
ALID	**Alaid**	**2.36**	**360**	PN	**Pn**	**17 21 58.3**	**+0.3**
ALID	**Alaid**	**2.36**	**360**	*e*P	**Pn**	**17 21 58.3**	**+0.3**
PAU	**Pauzhetka**	**3.06**	**15**	PN	**Pn**	**17 22 07.1**	**-0.4**
PAU				S	**Sn**	**17 22 44.4**	**+1.5**
PAU	**Pauzhetka**	**3.06**	**15**	*e*P	**Pn**	**17 22 07.1**	**-0.4**
PAU				*e*S	**Sn**	**17 22 44.4**	**+1.5**
PAU	**Pauzhetka**	**3.06**	**15**	*e*P	**Pn**	**17 22 07.1**	**-0.4**
PAU				AMB	AMB	17 22 13.9	
	comp=Z,90nm,0.3s						
PAU				*e*S	**Sn**	**17 22 43.9**	**+1.0**
PAU				A	A	17 22 45.3	
	comp=Z,280nm,0.3s						
PAU				A	A	17 22 45.3	
	comp=Z,270nm,0.3s						
KDTR	**Khodutka, Kamc**	**3.67**	**25**	PN	**Pn**	**17 22 13.9**	**-1.9**
KDTR	**Khodutka, Kamc**	**3.67**	**25**	*e*P	**Pn**	**17 22 13.9**	**-1.9**
KDTR				*e*S	**Sn**	**17 22 55.8**	**-2.0**
MIPR	**Malaya Ipel'ka**	**3.84**	**11**	PN	**Pn**	**17 22 18.0**	**-0.2**
MIPR	**Malaya Ipel'ka**	**3.84**	**11**	*e*P	**Pn**	**17 22 18.0**	**-0.2**
ASAK	**Asacha**	**4.15**	**20**	PN	**Pn**	**17 22 22.3**	**-0.2**
ASAK	**Asacha**	**4.15**	**20**	*e*P	**Pn**	**17 22 22.3**	**-0.2**
MTVR	**Mutnovka**	**4.31**	**22**	PN	**Pn**	**17 22 24.0**	**-0.7**
MTVR	**Mutnovka**	**4.31**	**22**	*e*P	**Pn**	**17 22 24.0**	**-0.7**
MTVR				*e*S	**Sn**	**17 23 12.4**	**-1.4**
GRL	**Gorelyy**	**4.35**	**21**	PN	**Pn**	**17 22 24.9**	**-0.3**
GRL	**Gorelyy**	**4.35**	**21**	*e*P	**Pn**	**17 22 24.9**	**-0.3**
RUS	**Russkaya**	**4.35**	**25**	PN	**Pn**	**17 22 23.2**	**-1.9**
RUS	**Russkaya**	**4.35**	**25**	*e*P	**Pn**	**17 22 23.2**	**-1.9**
RUS				*e*S	**Sn**	**17 23 11.9**	**-2.6**
APC	**Apacha**	**4.53**	**12**	PN	**Pn**	**17 22 27.7**	**+0.1**
APC	**Apacha**	**4.53**	**12**	*e*P	**Pn**	**17 22 27.7**	**+0.1**
KRMR	**Karymshinskiy**	**4.62**	**20**	PN	**Pn**	**17 22 29.8**	**+1.0**
KRMR	**Karymshinskiy**	**4.62**	**20**	*e*P	**Pn**	**17 22 29.8**	**+1.0**
PEA0B	**Petropavlovsk-**	**4.80**	**16**	⇓*e*PN	**Pn**	**17 22 31.6**	**+0.3**
PEA0B	**Petropavlovsk-**	**4.80**	**16**	Pn	**Pn**	**17 22 30.6**	**-0.6**
PETK	**Petropavlovsk-**	**4.80**	**16**	Pn	**Pn**	**17 22 30.9**	**-0.3**
	comp=Z,2.1nm,0.3s,baz=185,slow=16,SNR=38						
PETK				LR	LR	17 24 41.3	
	comp=Z,884nm,19.8s,baz=201,slow=43						
PETK	**Petropavlovsk-**	**4.80**	**16**	PN	**Pn**	**17 22 31.0**	**-0.3**
PETK	**Petropavlovsk-**	**4.80**	**16**	Pn	**Pn**	**17 22 30.4**	**-0.9**
PET	**Petropavlovsk**	**4.92**	**22**	*e*PN	**Pn**	**17 22 32.2**	**-0.7**
PET				pmax	pmax		
	comp=Z,59nm,0.5s						
PET	**Petropavlovsk**	**4.92**	**22**	*e*P	**Pn**	**17 22 32.3**	**-0.7**
PET	**Petropavlovsk**	**4.92**	**22**		**Pn**	**17 22 31.1**	**-1.9**
PET	**Petropavlovsk**	**4.92**	**22**	*e*P	**Pn**	**17 22 32.1**	**-0.9**
PET				AMB	AMB	17 22 45.0	
	comp=Z,60nm,0.5s						
PET				A	A	17 23 42.9	
	comp=Z,140nm,0.5s						
UGLR	**Uglovaya**	**5.13**	**22**	PN	**Pn**	**17 22 36.1**	**+0.1**
UGLR	**Uglovaya**	**5.13**	**22**	*e*P	**Pn**	**17 22 36.1**	**+0.1**
AVH	**Avacha**	**5.16**	**22**	PN	**Pn**	**17 22 36.8**	**+0.4**
AVH	**Avacha**	**5.16**	**22**	*e*P	**Pn**	**17 22 36.8**	**+0.4**
KOK	**Koryaka**	**5.16**	**21**	PN	**Pn**	**17 22 36.9**	**+0.5**
KOK	**Koryaka**	**5.16**	**21**	*e*P	**Pn**	**17 22 36.9**	**+0.5**
KOK	**Koryaka**	**5.16**	**21**	*e*P	**Pn**	**17 22 36.9**	**+0.5**
SMAR	**Somma**	**5.18**	**22**	PN	**Pn**	**17 22 36.8**	**+0.1**
SMAR	**Somma**	**5.18**	**22**	*e*P	**Pn**	**17 22 36.8**	**+0.1**
KRER	**Koryakskii**	**5.20**	**22**	PN	**Pn**	**17 22 37.6**	**+0.6**
KRER	**Koryakskii**	**5.20**	**22**	*e*P	**Pn**	**17 22 37.6**	**+0.6**
SDLR	**Sedlovina**	**5.21**	**22**	PN	**Pn**	**17 22 35.9**	**-1.2**
SDLR	**Sedlovina**	**5.21**	**22**	*e*P	**Pn**	**17 22 35.9**	**-1.2**
KRX	**Arik**	**5.23**	**21**	PN	**Pn**	**17 22 37.8**	**+0.5**
KRX	**Arik**	**5.23**	**21**	*e*P	**Pn**	**17 22 37.8**	**+0.5**
NLC	**Nalytchevo**	**5.24**	**26**	*e*S	**Sn**	**17 23 33.1**	**-3.3**
SPN	**Mys Shipunski**	**5.39**	**30**	PN	**Pn**	**17 22 37.5**	**-1.9**
SPN	**Mys Shipunski**	**5.39**	**30**	*e*P	**Pn**	**17 22 37.5**	**-1.9**
SPN				*e*S	**Sn**	**17 23 37.5**	**-2.5**
SPN	**Mys Shipunski**	**5.39**	**30**	*e*P	**Pn**	**17 22 37.5**	**-1.9**
GNL	**Ganaly**	**5.40**	**15**	PN	**Pn**	**17 22 40.5**	**+0.9**
GNL	**Ganaly**	**5.40**	**15**	*e*P	**Pn**	**17 22 40.5**	**+0.9**
KII	**Karymskiy**	**6.04**	**22**	PN	**Pn**	**17 22 49.0**	**+0.6**
KII	**Karymskiy**	**6.04**	**22**	*e*P	**Pn**	**17 22 49.0**	**+0.6**
KUR	**Kuril'sk**	**6.21**	**241**	⇓*e*PN	**Pn**	**17 22 50.7**	**0.0**
KUR				pmax	pmax		
	comp=Z,105nm,0.7s						
KUR				pmax	pmax		
	comp=N,25nm,0.9s						
KUR				pmax	pmax		
	comp=E,38nm,0.7s						
KUR				MLR	MLR		
	comp=Z,1μm,15.0s						
KUR				MLR	MLR		
	comp=E,1μm,14.0s						
KUR				MLR	MLR		
	comp=N,2μm,16.0s						
KUR	**Kuril'sk**	**6.21**	**241**	*e*P	**Pn**	**17 22 50.2**	**-0.5**
KUR				AMB	AMB	17 23 08.0	
	comp=N,190nm,0.8s						
KUR				*e*S	**Sn**	**17 23 59.6**	**-0.7**
KUR				A	A	17 24 00.3	
	comp=N,70nm,0.5s						
KUR				A	A	17 24 00.3	
	comp=N,50nm,0.5s						
MKZ	**Mys Kozlova**	**7.17**	**30**	PN	**Pn**	**17 23 01.4**	**-2.3**
MKZ	**Mys Kozlova**	**7.17**	**30**	*e*P	**Pn**	**17 23 01.4**	**-2.3**
KZV	**Kizimen**	**7.23**	**22**	PN	**Pn**	**17 23 05.2**	**+0.5**
KZV	**Kizimen**	**7.23**	**22**	*e*P	**Pn**	**17 23 05.2**	**+0.5**
TUMR	**Tumrok**	**7.35**	**21**	PN	**Pn**	**17 23 07.1**	**+0.8**
TUMR	**Tumrok**	**7.35**	**21**	*e*P	**Pn**	**17 23 07.1**	**+0.8**
KMNR	**Kamenistaya**	**7.80**	**20**	PN	**Pn**	**17 23 11.3**	**-1.2**
KMNR	**Kamenistaya**	**7.80**	**20**	P	**Pn**	**17 23 11.3**	**-1.2**
YUK	**Yuzh-Kuril'sk**	**8.08**	**240**	*e*P	**Pn**	**17 23 16.3**	**+0.1**
YUK				AMB	AMB	17 23 24.4	
	comp=N,150nm,0.3s						
NMR	**Nemuro--Hokkai**	**8.57**	**237**	*e*P	**Pn**	**17 23 18.7**	**-4.2**
TYV	**Tymovskoe**	**8.70**	**291**	*e*PN	**Pn**	**17 23 28.2**	**+3.6**
TYV				pmax	pmax		
	comp=Z,10.0nm,1.2s						
TYV				pmax	pmax		
	comp=Z,200nm,3.2s						
TYV	**Tymovskoe**	**8.70**	**291**	*e*P	**Pn**	**17 23 28.0**	**+3.4**
TYV				AMB	AMB	17 23 30.4	
	comp=Z,10.0nm,1.0s						
YSS	**Yuzh-Sakhalins**	**8.78**	**265**	*e*PN	**Pn**	**17 23 28.7**	**+2.9**
YSS				pmax	pmax		
	comp=Z,30nm,1.1s						
YSS				MLR	MLR		
	comp=Z,700nm,15.0s						
YSS	**Yuzh-Sakhalins**	**8.78**	**265**	Pn	**Pn**	**17 23 25.4**	**-0.4**
YSS	**Yuzh-Sakhalins**	**8.78**	**265**	*e*P	**Pn**	**17 23 28.0**	**+2.2**
YSS				AMB	AMB	17 23 32.0	
	comp=Z,30nm,1.1s						
YSS				*e*S	**Sn**	**17 25 07.0**	**+3.8**
KBTR	**Krutoberegovo**	**8.89**	**27**	PN	**Pn**	**17 23 25.6**	**-1.6**
KBTR	**Krutoberegovo**	**8.89**	**27**	*e*P	**Pn**	**17 23 25.6**	**-1.6**
KBG	**Krutoberegovo**	**8.89**	**27**	*e*P	**Pn**	**17 23 25.5**	**-1.8**
UGL	**Uglegorsk**	**8.93**	**279**	*e*P	**Pn**	**17 23 30.9**	**+3.0**
UGL				AMB	AMB	17 23 33.0	
	comp=Z,50nm,0.5s						
AKK	**Akkeshi**	**9.29**	**238**	*e*P	**Pn**	**17 23 31.4**	**-1.4**
OKH	**Okha**	**9.42**	**307**	*e*P	**Pn**	**17 23 38.5**	**+4.0**
JKA	**Kamikawa-asahi**	**9.99**	**249**		**Pn**	**17 23 42.4**	**+0.1**
JKA	**Kamikawa-asahi**	**9.99**	**249**	*e*P	**Pn**	**17 23 42.4**	**+0.1**
ASAJ	**Asahikawa**	**9.99**	**249**	Pn	**Pn**	**17 23 42.8**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=58,slow=10,SNR=6.9						
ASAJ				LR	LR	17 27 27.4	
	comp=Z,626nm,18.0s,baz=70,slow=38						
ASAJ	**Asahikawa**	**9.99**	**249**	PN	**Pn**	**17 23 42.4**	**0.0**
JEW	**Eniwo**	**11.38**	**245**	Pn	**Pn**	**17 23 59.0**	**-2.4**
MA2	**Magadan**	**11.43**	**348**	Pn	**Pn**	**17 24 02.6**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=135,slow=19,SNR=1.9						
MA2				LR	LR	17 29 02.9	
	comp=Z,350nm,19.6s,baz=170,slow=41						
SMY	**Shemya**	**12.50**	**63**	PN	**Pn**	**17 24 13.0**	**-3.5**
SMY	**Shemya**	**12.50**	**63**	Pn	**Pn**	**17 24 12.9**	**-3.5**
JTM	**Tenmabayashi**	**12.88**	**239**	Pn	**Pn**	**17 24 17.2**	**-4.6**
SEY	**Seymchan**	**14.56**	**354**	Pn	**Pn**	**17 24 44.3**	**0.0**
	comp=Z,0.0nm,0.3s,baz=170,slow=10.0,SNR=3.9						
SEY				LR	LR	17 31 05.0	
	comp=Z,325nm,19.3s,baz=148,slow=41						
EKMR	**Ekimchan**	**14.99**	**296**	*e*P	**Pn**	**17 24 50.9**	**+0.9**
EKMR				AMB	AMB	17 25 03.0	
	comp=Z,12nm,1.0s						
KLR	**Kul'dur**	**15.68**	**282**	Pn	**P**	**17 25 00.6**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=80,slow=12,SNR=10						
KLR				LR	LR	17 31 29.4	
	comp=Z,434nm,18.2s,baz=85,slow=40						
KLR	**Kul'dur**	**15.68**	**282**	⇓*i*P	**P**	**17 25 01.2**	**-0.8**
KLR				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KLR				MLR	MLR		
	comp=Z,542nm,15.0s						
KLR	**Kul'dur**	**15.68**	**282**	*e*P	**P**	**17 25 01.2**	**-0.8**
USRK	**Ussuriysk Ar.**	**16.82**	**264**	Pn	**P**	**17 25 14.6**	**0.0**
	baz=82,slow=11,SNR=2.7						

USRK LR LR 17 31 24.5
comp=Z,92nm,18.3s,baz=44,slow=36
MJAR Matsushiro Arr 17.47 233 P **Pn 17 25 17.6 -3.8**
comp=Z,0.0nm,0.3s,baz=46,slow=14,SNR=4.6
MJAR Matsushiro Arr 17.47 233 IAmb IAmb 17 25 26.9
comp=Z,11nm,1.6s
MDJ Mudanjiang 18.25 267 P **P 17 25 28.0 -2.5**
MDJ pmax pmax
comp=Z,11nm,0.9s
MDJ pmax pmax
comp=Z,100nm,4.2s
MDJ LR LR
comp=Z,190nm,5.2s
MDJ LR LR
comp=Z,280nm,9.4s
MDJ LR LR
comp=Z,390nm,7.7s
MDJ Mudanjiang 18.25 267 P **P 17 25 28.9 -1.5**
ZEA Zeya 18.45 297 *e*P **Pn 17 25 35.6 +2.3**
ZEA *e*S **Sn 17 28 50.3 -8.2**
ZEA pmax pmax
comp=Z,100nm,1.1s
ZEA MLR MLR
comp=E,300nm,15.0s
ZEA MLR MLR
comp=Z,400nm,15.0s
ZEA Zeya 18.45 297 *e*P **Pn 17 25 35.6 +2.3**
ZEA AMB AMB 17 25 36.5
comp=Z,100nm,1.0s
YAK Yakutsk 19.83 323 P **P 17 25 45.5 -2.0**
comp=Z,0.0nm,0.3s,baz=117,slow=3.1,SNR=10
YAK Yakutsk 19.83 323 *d* *i*P **P 17 25 46.8 -0.8**
YAK pmax pmax
comp=Z,15nm,1.0s
YAK Yakutsk 19.83 323 P **P 17 25 46.4 -1.2**
BILL Bilibino 20.31 12⇓ *e*P **P 17 25 53.9 +1.1**
BILL *e* 17 26 12.5
BILL pmax pmax
comp=Z,8.0nm,0.5s
BILL MLR MLR
comp=Z,204nm,16.0s
BILL Bilibino 20.31 12 *e*P **P 17 25 53.9 +1.1**
CN2 Changchun 21.31 269 *e*P **P 17 26 00.9 -2.9**
CN2 S **S 17 29 48.6 -8.8**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,100nm,7.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,300nm,12.0s
KSRS Korea Array 22.92 251 P **P 17 26 20.4 -0.6**
comp=Z,4.6nm,1.0s,baz=49,slow=11,SNR=10
KSRS LR LR 17 34 50.1
comp=Z,276nm,18.6s,baz=58,slow=36
KSAR Wonju Array Be 22.95 251 P **P 17 26 18.6 -2.6**
KSAR Wonju Array Be 22.95 251 P **P 17 26 18.6 -2.6**
GAMB Gambell 23.42 37 P **P 17 26 23.4 -2.1**
AKUT Akutan 24.57 62 P **P 17 26 33.8 -2.4**
TIK Tiksi 26.27 341 *e*P **P 17 26 49.9 -1.6**
TIXI Tiksi 26.29 341 P **P 17 26 50.1 -1.5**
comp=Z,4.8nm,0.9s,baz=132,slow=8.8,SNR=9.4
TIXI Tiksi 26.29 341⇑ *i*P **P 17 26 49.9 -1.7**
TIXI Tiksi 26.29 341 P **P 17 26 49.5 -2.1**
MIDW Midway 29.09 124 P **P 17 27 15.6 -1.5**
SVW2 Sparrevohn 30.07 47 P **P 17 27 25.5 0.0**
SVW2 IAmb IAmb 17 27 45.5
comp=Z,12nm,1.6s
H11N2 WAKE ISLAND Hy 30.14 158 T T 17 59 27.3
baz=345
H11N1 WAKE ISLAND Hy 30.15 158 T T 17 59 26.6
baz=345
H11N3 WAKE ISLAND Hy 30.15 158 T T 17 59 27.7
baz=345
H11S1 WAKE ISLAND Hy 31.27 159 T T 18 00 46.5
baz=344
H11S3 WAKE ISLAND Hy 31.28 159 T T 18 00 51.1
baz=344
H11S2 WAKE ISLAND Hy 31.29 159 T T 18 00 42.9
baz=344
KDAK Kodiak Island 31.71 53 P **P 17 27 39.0 -0.9**
KDAK pmax pmax
comp=Z,18nm,1.4s
KDAK Kodiak Island 31.71 53 P **P 17 27 39.0 -0.9**
KDAK IAmb IAmb 17 28 09.3
comp=Z,18nm,1.4s
HHC Hu-ho-hao-te 31.84 273 *e*P **P 17 27 41.8 +0.4**
HHC pmax pmax
comp=Z,21nm,0.9s
HHC pmax pmax
comp=Z,130nm,5.0s
HHC LR LR
comp=Z,200nm,15.7s
HHC LR LR
comp=Z,240nm,12.8s
HHC LR LR
comp=Z,300nm,14.0s
ULN Ulaanbaatar 31.92 287 P **P 17 27 41.2 -0.9**
ULN pmax pmax
comp=Z,2.0nm,1.1s
ULN Ulaanbaatar 31.92 287 P **P 17 27 41.1 -0.9**
ULN Ulaanbaatar 31.92 287 *e*P **P 17 27 41.2 -0.9**
NJ2 Nanjing 32.10 253 *e*P **P 17 27 48.2 +4.6**
NJ2 pmax pmax
comp=Z,11nm,0.8s
NJ2 pmax pmax
comp=Z,310nm,4.3s
NJ2 LR LR
comp=Z,400nm,13.3s
NJ2 LR LR
comp=Z,360nm,8.2s
NJ2 LR LR
comp=Z,250nm,9.9s
SONM Songino Array 32.34 288 P **P 17 27 44.5 -1.3**
comp=Z,0.8nm,0.8s,baz=79,slow=7.5,SNR=3.8
RND Reindeer 33.27 43 P **P 17 27 53.8 +0.2**
RND IAmb IAmb 17 28 07.9
comp=Z,7.4nm,1.1s
TOLK Toolik Lake Re 33.37 33 P **P 17 27 53.0 -1.3**
TOLK IAmb IAmb 17 28 15.1
comp=Z,12nm,1.6s
SML Sawmill 33.55 46 P **P 17 27 56.9 +0.8**
MDM Murphy Dome 33.56 40 P **P 17 27 54.1 -1.9**
MDM IAmb IAmb 17 28 11.4
comp=Z,8.7nm,1.5s
WRH Wood River Hil 33.61 41 P **P 17 27 55.7 -0.8**
WRH IAmb IAmb 17 28 15.2
comp=Z,12nm,1.6s
CCB Clear Creek Bu 33.74 40 P **P 17 27 56.9 -0.6**
CCB IAmb IAmb 17 28 13.3
comp=Z,9.9nm,1.5s
SCM Sheep Creek Mo 34.02 45 P **P 17 27 59.0 -1.1**
SCM IAmb IAmb 17 28 16.2
comp=Z,7.1nm,1.0s
ILAR Eielson Array 34.13 40 P **P 17 27 58.6 -2.4**
PRP Porcupine Dome 34.71 39 P **P 17 28 04.2 -1.9**
FYU Fort Yukon 34.84 37 P **P 17 28 08.1 +1.1**
RIDG Independent Ri 35.05 42 P **P 17 28 07.6 -1.4**
RIDG IAmb IAmb 17 28 26.1
comp=Z,8.6nm,1.2s
BMAR Burnt Mountain 35.12 35 P **P 17 28 07.0 -2.6**
K27K Chicken 36.25 41 P **P 17 28 19.8 +0.6**
K27K IAmb IAmb 17 28 33.9
comp=Z,14nm,1.4s
L27K Beaver Creek, 36.46 43 P **P 17 28 20.5 -0.5**
L27K IAmb IAmb 17 28 38.8
comp=Z,6.0nm,1.1s
BCAR Beaver Creek A 36.48 43 P **P 17 28 21.4 +0.2**
EGAK Eagle 36.58 40 P **P 17 28 20.2 -1.8**
NRIK Noril'sk 38.13 328⇑ *e*P **P 17 28 36.3 +1.3**
ENH Enshi 39.32 260 P **P 17 28 44.8 -0.7**
ENH IAmb IAmb 17 28 46.9
comp=Z,6.3nm,0.9s
LZH Lanzhou 39.50 271 *e*P **P 17 28 50.3 +3.2**
LZH pP pP 17 29 03.6 +2.8
LZH pmax pmax
comp=Z,19nm,1.2s
GTA Gaotai 40.34 278 ⇓P **P 17 28 54.4 +0.4**
GTA pP pP 17 29 07.1 -0.6
GTA sP sP 17 29 12.2 -1.7
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,78nm,5.1s
GTA LR LR
comp=Z,170nm,15.6s
GTA LR LR
comp=Z,220nm,16.0s
GTA LR LR
comp=Z,310nm,17.8s
DGZ Jazzator, Alta 43.21 298⇓ *i*P **P 17 29 17.7 +0.4**
DGZ pmax pmax
comp=Z,5.0nm,1.1s
WMQ Urumqi 45.84 291 *e*P **P 17 29 39.5 +1.2**
WMQ LR LR
comp=Z,250nm,19.5s
WMQ LR LR
comp=Z,450nm,14.1s
WMQ LR LR
comp=Z,190nm,18.7s
MK31 Makanchi Array 47.61 297 P **P 17 29 50.9 -1.1**
MK31 pmax pmax
comp=Z,5.0nm,1.0s
MK31 Makanchi Array 47.61 297 P **P 17 29 50.9 -1.1**
MK31 IAmb IAmb 17 29 53.5
comp=Z,4.7nm,1.0s
MKAR Makanchi Array 47.61 297 P **P 17 29 52.2 +0.2**
comp=Z,6.3nm,1.0s,baz=67,slow=8.1,SNR=31
MKAR LR LR 17 51 11.2
comp=Z,128nm,21.1s,baz=348,slow=38
MKAR Makanchi Array 47.61 297 P **P 17 29 50.8 -1.2**
MAKZ Makanchi 47.79 297 P **P 17 29 52.3 -1.1**
MAKZ pmax pmax
comp=Z,3.0nm,0.9s
MAKZ Makanchi 47.79 297 P **P 17 29 52.3 -1.1**
YKA Yellowknife Ar 48.52 38 P **P 17 30 00.9 +2.2**
comp=Z,0.4nm,0.6s,baz=310,slow=6.4,SNR=3.8
NEEM North Greenlan 53.22 7 *i*P **P 17 30 35.0 +0.8**
NEEM IAmb IAmb 17 30 36.2
comp=Z,10.0nm,1.1s
SHL Shillong 54.07 269 P **P 17 30 40.5 -0.5**
SHL pmax pmax
comp=Z,8.0nm,0.9s
SHL Shillong 54.07 269 P **P 17 30 40.5 -0.5**
SHL IAmb IAmb 17 30 42.5
comp=Z,7.8nm,0.9s
CMMT Chiang Mai 54.13 257 P **P 17 30 43.4 +2.1**
comp=Z,9.6nm,1.0s
CHTO Chiang Mai 54.13 257 P **P 17 30 41.3 0.0**
CHTO pmax pmax
comp=Z,6.0nm,0.9s
CHTO Chiang Mai 54.13 257 P **P 17 30 43.5 +2.2**
comp=Z,9.7nm,1.0s
CHTO Chiang Mai 54.13 257 P **P 17 30 41.3 0.0**
CHTO IAmb IAmb 17 30 45.2
comp=Z,5.7nm,0.8s
CM09 Chiang Mai Arr 54.37 257 P **P 17 30 46.9 +3.9**
comp=Z,4.9nm,1.0s
CM31 Chiang Mai Arr 54.39 257 P **P 17 30 44.1 +1.0**
CM31 IAmb IAmb 17 30 46.4
comp=Z,5.9nm,1.1s
CMAR Chiang Mai Arr 54.39 257 P **P 17 30 44.5 +1.3**
comp=Z,2.8nm,0.8s,baz=31,slow=7.4,SNR=16
CMAR Chiang Mai Arr 54.39 257 *i*P **P 17 30 45.0 +1.8**
CMAR pmax pmax
comp=Z,3.0nm,0.8s
CMAR Chiang Mai Arr 54.39 257 P **P 17 30 44.0 +0.8**
CM02 Chiang Mai Arr 54.40 257 P **P 17 30 47.3 +4.0**
comp=Z,5.6nm,1.2s
CM01 Chiang Mai Arr 54.41 257 P **P 17 30 47.3 +4.0**
comp=Z,4.4nm,1.0s
CM04 Chiang Mai Arr 54.41 257 P **P 17 30 47.3 +4.0**
comp=Z,3.9nm,1.0s
CM05 Chiang Mai Arr 54.43 257 P **P 17 30 47.0 +3.5**
comp=Z,5.2nm,1.0s
CM13 Chiang Mai Arr 54.44 257 P **P 17 30 47.4 +3.9**
comp=Z,4.8nm,1.0s
AAK Ala-Archa 54.53 296⇑ *i*P **P 17 30 44.1 -0.1**
AAK pmax pmax
comp=Z,12nm,1.0s
AAK Ala-Archa 54.53 296 P **P 17 30 43.4 -0.7**
AAK Ala-Archa 54.53 296 *e*P **P 17 30 44.1 -0.1**
ARU Arti 54.83 318 *d* *i*P **P 17 30 45.6 -0.3**
ARU 17 31 48.0
ARU S **S 17 38 21.4 -1.3**
ARU pmax pmax
comp=Z,4.0nm,0.7s
ARU Arti 54.83 318 P **P 17 30 44.7 -1.2**
ARU IAmb IAmb 17 30 47.7
comp=Z,3.7nm,0.7s
ARU Arti 54.83 318 *e*P **P 17 30 45.6 -0.3**
KKAR Karatay Array 56.60 299 P **P 17 30 56.9 -1.9**
KKAR Karatay Array 56.60 299 P **P 17 30 56.9 -1.9**
BTK Batken 58.30 296 P **P 17 31 11.1 +0.2**
BTK pmax pmax
comp=Z,5.0nm,1.0s
BTK Batken 58.30 296 P **P 17 31 11.1 +0.2**
BTK IAmb IAmb 17 31 12.5
comp=Z,4.5nm,0.9s
ABKAR Akbulak array 58.56 310 P **P 17 31 11.4 -1.1**
ABKAR Akbulak array 58.56 310 P **P 17 31 11.6 -0.8**
ABKAR IAmb IAmb 17 31 14.6
comp=Z,2.5nm,1.1s
SUMG Summit 58.81 5 *i*P **P 17 31 16.0 +1.7**
SUMG IAmb IAmb 17 31 17.4
comp=Z,23nm,1.3s
SUMG Summit 58.81 5 P **P 17 31 14.9 +0.6**
SUMG pmax pmax
comp=Z,19nm,1.2s
SUMG Summit 58.81 5 P **P 17 31 14.9 +0.6**
GAR Garm 59.27 295 P **P 17 31 16.1 -1.5**
NVAR Mina Array Bea 60.16 65 P **P 17 31 25.8 +1.8**
comp=Z,0.3nm,0.5s,baz=294,slow=6.7,SNR=3.6
CHGR Chuyangaron 60.18 296 P **P 17 31 22.5 -1.4**
BELG Belogornoye 62.31 319⇓ *e*P **P 17 31 38.1 +0.2**
BELG pmax pmax
comp=Z,2.0nm,0.9s
PDAR Pinedale Array 62.38 56 P **P 17 31 41.0 +2.1**
comp=Z,0.5nm,0.6s,baz=332,slow=3.6,SNR=3.0
FINES FINESS Array B 63.14 335 P **P 17 31 43.5 +0.2**
comp=Z,3.5nm,1.0s,baz=32,slow=8.2,SNR=2.2
PFO Pinyon Flats O 64.46 68 LR LR 17 59 59.7
comp=Z,29nm,18.4s,baz=20,slow=36
NOA NORSAR Array B 67.08 342 P **P 17 32 10.1 +1.2**
comp=Z,1.2nm,0.9s,baz=25,slow=6.4,SNR=3.8
MNK Minsk 68.31 330 *i*P **P 17 32 14.5 -2.2**
MNK *i* *PP **pP 17 32 30.8 -0.4**
MNK *i* 17 32 39.6
MNK *i* 17 34 45.5
MNK *i* PPP PPP 17 36 24.6
MNK *i* S **S 17 41 11.2 -2.0**
MNK *i* *SS **sS 17 41 39.1 +1.1**
MNK *i* 17 42 08.1
MNK *i* SSS SSS 17 48 52.4
MNK pmax pmax
comp=Z,12nm,0.8s
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=N,12nm,1.0s
MNK MLR MLR
comp=N,100nm,19.0s
MNK MLR MLR
comp=E,8.0nm,11.0s
MNK MLR MLR
comp=Z,143nm,13.0s
MNK Minsk 68.31 330 *i*P **P 17 32 14.5 -2.1**
comp=E,2.0nm,0.8s
MNK *i*P **P 17 32 14.5 -2.1**
comp=N,12nm,1.0s
MNK *i*P **P 17 32 14.5 -2.1**
comp=Z,12nm,0.8s,baz=34
MNK *i* pP **pP 17 32 30.9 -0.3**
MNK *i* PcP **PcP 17 32 39.7 -2.3**
MNK *i* PP **PP 17 34 45.5 -1.7**
MNK *i* PPP PPP 17 36 24.6
MNK *i* S **S 17 41 11.2 -2.0**
MNK *i* sS **sS 17 41 39.2 +1.2**
MNK *i* SS **SS 17 45 35.6 -0.4**
MNK *i* SSS SSS 17 48 52.4
MNK *i* LQ LQ 17 57 45.4
MNK *i* LR LR 18 02 00.4
MNK *i* LRM MLR 18 06 23.4
comp=N,100nm,19.1s
MNK *i* LRM MLR 18 06 31.0
comp=E,8.0nm,11.4s
MNK *i* LRM MLR 18 06 40.6
comp=Z,143nm,12.7s
KIV Kislovodsk 70.74 315 *e*P **P 17 32 33.7 +1.7**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV Kislovodsk 70.74 315 *e*P **P 17 32 33.7 +1.7**
WRA Warramunga Arr 70.74 201 P **P 17 32 31.9 -0.1**
comp=Z,1.3nm,1.1s,baz=19,slow=5.7,SNR=3.9
KBZ Khabaz 70.81 315 P **P 17 32 34.3 +2.1**
comp=Z,1.3nm,0.7s,baz=25,slow=3.3,SNR=4.4
AKASG Malin Array Be 70.98 327 P **P 17 32 33.6 +0.4**
comp=Z,1.9nm,0.6s,baz=33,slow=6.7,SNR=12
AKBB Malin Array Si 70.98 327⇓ *i*P **P 17 32 33.9 +0.7**
AKBB pmax pmax
comp=Z,6.0nm,1.3s
FITZ Fitzroy Crossi 71.49 210 P **P 17 32 37.4 +0.9**
comp=Z,2.7nm,1.0s,baz=352,slow=4.8,SNR=4.1
ASAR Alice Springs 74.42 201 P **P 17 32 55.2 +1.3**
comp=Z,0.7nm,0.9s,baz=12,slow=5.1,SNR=7.3
BUR08 Bucovina Ar. S 74.99 328 P **P 17 32 57.8 +0.7**
BUR08 IAmb IAmb 17 32 59.2
comp=Z,3.8nm,0.9s
BURAR Bucovina Array 75.01 328 P **P 17 32 58.2 +1.0**
BURAR pmax pmax
comp=Z,3.0nm,0.9s
BURAR Bucovina Array 75.01 328 P **P 17 32 56.8 -0.4**
TXAR Lajitas Array 75.19 63 P **P 17 33 00.1 +1.5**
comp=Z,1.6nm,0.9s,baz=301,slow=5.1,SNR=13
UPC Upice 75.42 335 *e*P **P 17 33 01.0 +1.6**
UPC Upice 75.42 335 *e*P **P 17 33 01.0 +1.6**
DPC Dobruska-Polom 75.47 334 *e*P **P 17 33 01.6 +1.8**
DPC Dobruska-Polom 75.47 334 *e*P **P 17 33 01.6 +1.8**
CLL Collm 75.52 337 *i*P **P 17 33 01.2 +1.3**
comp=Z,11nm,1.2s
CLL *e*(PcP) **pP 17 33 14.0 -0.5**
CLL Lm MLR 18 08 00.0
comp=Z,100nm,21.7s
CLL Collm 75.52 337 *i*P **P 17 33 01.2 +1.3**
CLL *e**PP **pP 17 33 14.0 -0.5**
CLL pmax pmax
comp=Z,11nm,1.2s
KRLC Kraliky 75.59 334 *e*P **P 17 33 02.0 +1.6**
KRLC Kraliky 75.59 334 *e*P **P 17 33 02.0 +1.6**
LANS Liptovska Anna 75.59 332 *e*P **P 17 33 03.2 +2.7**
LANS pmax pmax
comp=Z,5.0nm,1.1s
LANS Liptovska Anna 75.59 332 *e*P **P 17 33 03.2 +2.7**
MORC Moravsky Berou 75.63 333 P **P 17 33 01.7 +1.0**
MORC pmax pmax
comp=Z,7.0nm,1.0s
MORC Moravsky Berou 75.63 333 P **P 17 33 01.7 +1.0**
MORC IAmb IAmb 17 33 03.9
comp=Z,7.3nm,0.9s
MORC Moravsky Berou 75.63 333 *e*P **P 17 33 02.5 +1.8**
BRG Berggiesshubel 75.67 336 *e*P **P 17 33 02.5 +1.7**
BRG Amp 17 33 03.9
comp=Z,5.5nm,1.3s
PRU Pruhonice 76.30 335 *e*P **P 17 33 05.9 +1.5**
PRU Pruhonice 76.30 335 *e*P **P 17 33 05.9 +1.5**
VRAC Vranov 76.33 334 *e*P **P 17 33 06.8 +2.2**
JAVC Velka Javorina 76.41 333 *e*P **P 17 33 08.1 +3.0**
KRUC Moravsky 76.61 334 *e*P **P 17 33 08.3 +2.1**
MARD Mardin 76.79 312 P **P 17 33 09.0 +1.5**
KHC Kasperske Hory 77.35 336 *e*P **P 17 33 12.2 +1.8**
KHC Kasperske Hory 77.35 336 *e*P **P 17 33 12.2 +1.8**
KHC Kasperske Hory 77.35 336 P **P 17 33 12.2 +1.8**
KHC IAmb IAmb 17 33 13.4
comp=Z,8.0nm,1.0s
CKRC Cesky Krumlov 77.42 335 *e*P **P 17 33 12.2 +1.4**
GRA1 Grafenberg Arr 77.46 337 P **P 17 33 12.4 +1.4**
GRF Grafenberg Arr 77.46 337 P **P 17 33 12.4 +1.4**
GRF pmax pmax
comp=Z,20nm,1.3s
GRFO Grafenberg 77.46 337 P **P 17 33 11.3 +0.3**
GRFO pmax pmax
comp=Z,16nm,1.2s
GRFO Grafenberg 77.46 337 P **P 17 33 11.3 +0.3**
GERES GERESS Array B 77.57 335 P **P 17 33 13.4 +1.7**
comp=Z,1.3nm,0.9s,baz=41,slow=3.1,SNR=11
CONA Conrad Observa 77.78 334 *e*P **P 17 33 15.3 +2.4**
comp=Z,8.7nm,1.1s
MEM Membach 77.85 341 *d*P **P 17 33 14.9 +1.8**
BNN Bunyan 77.92 316 P **P 17 33 14.8 +0.9**
BRTR Keskin Array B 78.21 318 P **P 17 33 17.1 +1.6**
comp=Z,5.0nm,0.9s,baz=64,slow=3.4,SNR=10
BRTR Keskin Array B 78.21 318 *i*P **P 17 33 17.7 +2.2**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 78.21 318 P **P 17 33 16.7 +1.2**
SOKA Soboth 79.15 334 *e*P **P 17 33 22.5 +2.0**
comp=Z,7.6nm,1.0s
WATA Walderalm 79.53 336 *e*P **P 17 33 25.2 +2.6**
comp=Z,16nm,1.5s
WTTA Wattenberg 79.58 336 *e*P **P 17 33 25.6 +2.7**
comp=Z,16nm,1.1s,SNR=6.0
MOTA Moosalm 79.65 336 *e*P **P 17 33 25.5 +2.3**
comp=Z,14nm,1.2s,SNR=6.0
SQTA Sankt Quirin 79.74 336 *e*P **P 17 33 26.3 +2.6**
comp=Z,16nm,1.2s,SNR=5.3
ABTA Abfaltersbach 79.81 335 *e*P **P 17 33 26.0 +1.9**
comp=Z,7.0nm,1.4s
DIVS Divibare 79.87 329 P **P 17 33 25.1 +0.6**
DIVS IAmb IAmb 17 33 27.0
comp=Z,9.7nm,1.1s
VTS Vitosha 80.02 326 P **P 17 33 26.1 +0.8**
VTS pmax pmax
comp=Z,11nm,1.1s
VTS Vitosha 80.02 326 P **P 17 33 26.1 +0.8**
VTS IAmb IAmb 17 33 27.9
comp=Z,11nm,1.1s
FETA Feichten 80.05 336 *e*P **P 17 33 28.0 +2.6**
comp=Z,7.4nm,1.2s
ESDC Sonseca Array 90.33 344 P **P 17 34 18.1 +1.3**
comp=Z,0.6nm,0.9s,baz=46,slow=3.7,SNR=3.4

*IDC **08** 17:22:12.4±0.8,48°.59N×155°.37E,h0km,mb3.9/16, mb1 4.1/20,mb1mx3.9/59,mbtmp3.9/20,ML4.4/2,MS3.6/5, Ms1 3.6/5,ms1mx3.2/45,Error ellipse: s-maj=20.7km s-min=16.3km az=110.0*
*KRSC **08** 17:22:16.4±1.2,48°.45N×156°.59E,h35km±21km,ML4.5*
*MOS **08** 17:22:17.1±1.2,48°.57N×155°.57E,h55km,mb4.5/5,Error ellipse: s-maj=11.0km s-min=7.4km az=79.1*
*NEIC **08** 17:22:18.2±2.5,48°.56N±0°.08×155°.5E±0°.1,h45km±7km, mb4.5/30,Error ellipse: s-maj=13.5km s-min=9.5km az=124.0*

ISC 08 17:22:18.4±0.6,**48°.53N**±0°.07×**155°.57E**±0°.07,**h50**km,**n104,** σ1§**40**/94,**mb4.2**/31,**MS3.6**/4,**1C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.18**	**9**	S	**Sn**	**17 23 20.2**	**+2.2**
ALID	**Alaid**	**2.34**	**360**	S	**Sn**	**17 23 27.2**	**+5.1**
PAU	**Pauzhetka**	**3.04**	**15**	S	**Sn**	**17 23 41.0**	**+1.8**
KDTR	**Khodutka, Kamc**	**3.65**	**25**	PN	**Pn**	**17 23 12.4**	**0.0**
KDTR				S	**Sn**	**17 23 53.4**	**-0.7**
KDTR	**Khodutka, Kamc**	**3.65**	**25**	*e*P	**Pn**	**17 23 12.4**	**0.0**
KDTR				*e*S	**Sn**	**17 23 53.4**	**-0.7**
MTVR	**Mutnovka**	**4.29**	**22**	S	**Sn**	**17 24 10.4**	**+0.4**
RUS	**Russkaya**	**4.33**	**25**	PN	**Pn**	**17 23 22.0**	**+0.3**
RUS				S	**Sn**	**17 24 09.3**	**-1.5**
RUS	**Russkaya**	**4.33**	**25**	*e*P	**Pn**	**17 23 22.0**	**+0.3**
RUS				*e*S	**Sn**	**17 24 09.3**	**-1.5**
PEA0B	**Petropavlovsk-**	**4.77**	**16**	PN	**Pn**	**17 23 28.2**	**+0.4**
PEA0B	**Petropavlovsk-**	**4.77**	**16**	Pn	**Pn**	**17 23 28.2**	**+0.4**
PETK	**Petropavlovsk-** 2.6nm,0.3s,baz=185,slow=16,SNR=5.6	**4.77**	**16**	Pn	**Pn**	**17 23 27.3**	**-0.5**
PET	**Petropavlovsk**	**4.90**	**22**	*e*PN	Pn	17 23 36.1	+6.6
PET				*e*S	**Sn**	**17 24 25.8**	**+1.0**
PET				smax	smax		
	comp=E,162nm,0.8s						
PET	**Petropavlovsk**	**4.90**	**22**		**Pn**	**17 23 28.5**	**-1.0**
PET	**Petropavlovsk**	**4.90**	**22**	*e*S	**Pn**	**17 23 28.1**	**-1.4**
PET	**Petropavlovsk**	**4.90**	**22**	*e*S	**Pn**	**17 23 28.7**	**-0.8**
SPN	**Mys Shipunski**	**5.37**	**30**	S	**Sn**	**17 24 34.0**	**-2.3**
KUR	**Kuril'sk**	**6.23**	**241**	*c* *i*PN	**Pn**	**17 23 50.5**	**+2.8**
KUR				*e*S	**Sn**	**17 24 58.9**	**+1.4**
KUR				pmax	pmax		
	comp=N,34nm,0.4s						
KUR				pmax	pmax		
	comp=Z,115nm,0.4s						
KUR				smax	smax		
	comp=N,63nm,0.8s						
YSS	**Yuzh-Sakhalins**	**8.78**	**264**	Pn	**Pn**	**17 24 24.9**	**+2.2**

JKA	Kamikawa-asahi	10.00	249		Pn	17 24 39.2	-0.2
ASAJ	Asahikawa	10.00	249	Pn	Pn	17 24 39.2	-0.2
	comp=N,1.2nm,0.3s,baz=80,slow=12,SNR=1.3						
JEW	Eniwo	11.39	245	Pn	Pn	17 24 59.7	+1.3
MA2	Magadan	11.41	348	Pn	Pn	17 25 00.0	+1.5
	comp=N,0.1nm,0.3s,baz=162,slow=19,SNR=1.5						
MA2	Magadan	11.41	348		Pn	17 24 56.0	-2.5
SMY	Shemya	12.48	63	PN	Pn	17 25 11.7	-1.4
SMY	Shemya	12.48	63	Pn	Pn	17 25 11.7	-1.4
JTM	Tenmabayashi	12.89	238	Pn	Pn	17 25 15.5	-3.3
SEY	Seymchan	14.54	354	Pn	Pn	17 25 41.1	+0.1
	comp=N,0.1nm,0.3s,baz=217,slow=19,SNR=1.0						
JMM	Marumori	15.13	231	Pn	Pn	17 25 46.8	-2.1
KLR	Kul'dur	15.68	282	Pn	P	17 25 57.5	-1.6
	comp=N,0.2nm,0.3s,baz=72,slow=12,SNR=1.8						
JSD	Sado	16.36	237	P	P	17 26 06.5	-0.3
JSD				IAmb	IAmb	17 26 36.4	
	comp=Z,54nm,1.3s						
USA0B	Ussuriysk Arra	16.82	264	P	Pn	17 26 09.8	-0.5
USA0B				pmax	pmax		
	comp=Z,5.0nm,0.9s						
USA0B	Ussuriysk Arra	16.82	264	P	Pn	17 26 09.8	-0.5
USRK	Ussuriysk Ar.	16.82	264	Pn	P	17 26 11.1	-0.7
	baz=59,slow=13,SNR=4.9						
MJAR	Matsushiro Arr	17.48	233	LR	LR	17 33 30.3	
	comp=Z,200nm,19.0s,baz=40,slow=39						
ATKA	Atka Island	19.56	68	P	Pn	17 26 42.9	-0.6
ATKA				IAmb	IAmb	17 27 06.0	
	comp=Z,33nm,1.2s						
YAK	Yakutsk	19.81	323	P	P	17 26 43.4	-1.0
	comp=Z,0.1nm,0.3s,baz=112,slow=4.5,SNR=7.0						
JWT	Wachi	19.94	236	P	P	17 26 46.3	+0.2
KSRS	Korea Array	22.93	251	P	P	17 27 17.6	-0.5
	comp=Z,2.2nm,0.5s,baz=52,slow=9.3,SNR=10						
KS19	Wonju Array Si	22.94	252	P	P	17 27 16.2	-2.0
KS19				IAmb	IAmb	17 27 23.5	
	comp=Z,15nm,0.9s						
KSAR	Wonju Array Be	22.96	251	P	P	17 27 15.8	-2.6
KSAR	Wonju Array Be	22.96	251	P	P	17 27 15.8	-2.6
TIXI	Tiksi	26.27	341	P	P	17 27 46.9	-1.6
	comp=Z,2.0nm,0.6s,baz=124,slow=7.5,SNR=3.6						
TIXI	Tiksi	26.27	341	IAmb	IAmb	17 27 48.0	
	comp=Z,2.1nm,0.7s						
H11N2	WAKE ISLAND Hy	30.16	158	T	T	18 00 27.2	
	baz=345,slow=76						
H11N1	WAKE ISLAND Hy	30.17	158	T	T	18 00 21.0	
	baz=345,slow=76						
H11N3	WAKE ISLAND Hy	30.17	158	T	T	18 00 17.9	
	baz=345,slow=76						
H11S1	WAKE ISLAND Hy	31.28	159	T	T	18 01 51.4	
	baz=345,slow=76						
H11S3	WAKE ISLAND Hy	31.29	159	T	T	18 01 50.7	
	baz=345,slow=76						
H11S2	WAKE ISLAND Hy	31.30	159	T	T	18 01 46.8	
	baz=345,slow=76						
KDAK	Kodiak Island	31.69	53	P	P	17 28 37.3	+0.4
KDAK	Kodiak Island	31.69	53	P	P	17 28 37.3	+0.4
KDAK				IAmb	IAmb	17 28 45.0	
	comp=Z,15nm,1.4s						
SONM	Songino Array	32.34	288	P	P	17 28 41.0	-1.9
	comp=Z,0.3nm,0.4s,baz=75,slow=17,SNR=1.7						
SONM	Songino Array	32.34	288	P	P	17 28 41.0	-1.9
COLD	Coldfoot	32.92	36	P	P	17 28 45.8	-1.7
SML	Sawmill	33.53	46	P	P	17 28 54.1	+1.1
MDM	Murphy Dome	33.54	40	P	P	17 28 52.3	-0.7
MDM				IAmb	IAmb	17 29 29.7	
	comp=Z,8.0nm,1.4s						
WRH	Wood River Hil	33.59	41	P	P	17 28 52.1	-1.3
WRH				IAmb	IAmb	17 29 18.8	
	comp=Z,7.0nm,1.5s						
H24K	Noodor Dome	33.73	38	P	P	17 28 53.4	-1.3
H24K				IAmb	IAmb	17 29 03.7	
	comp=Z,6.7nm,1.4s						
POKR	Poker Plat Res	33.88	40	P	P	17 28 53.3	-2.7
POKR				IAmb	IAmb	17 28 55.5	
	comp=Z,5.8nm,0.7s						
ILAR	Eielson Array	34.11	40	LR	LR	17 44 51.7	
	comp=Z,114nm,19.1s,baz=288,slow=40						
L27K	Beaver Creek,	36.44	43	P	P	17 29 19.3	+1.3
L27K				IAmb	IAmb	17 29 39.5	
	comp=Z,7.2nm,1.5s						
BCAR	Beaver Creek A	36.46	43	P	P	17 29 17.8	-0.4
INK	Inuvik	39.25	34	LR	LR	17 47 07.6	
	comp=Z,79nm,19.2s,baz=238,slow=38						
GTA	Gaotai	40.34	278	*e*P	P	17 29 51.6	+0.5
GTA				pP	pP	17 29 56.5	-7.6
GTA				sP	sP	17 30 00.1	-10
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
EUNU	Eureka	47.04	12	P	P	17 30 45.4	+1.1
MK31	Makanchi Array	47.60	297	P	P	17 30 48.9	-0.2
MK31				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MK31	Makanchi Array	47.60	297	P	P	17 30 48.9	-0.2
MKAR	Makanchi Array	47.60	297	P	P	17 30 49.0	-0.1
	comp=Z,1.6nm,0.5s,baz=69,slow=8.9,SNR=12						
MKAR	Makanchi Array	47.60	297	P	P	17 30 49.0	-0.1
MAKZ	Makanchi	47.78	297	P	P	17 30 50.0	-0.5
MAKZ				pmax	pmax		
	comp=Z,6.0nm,1.5s						
MAKZ	Makanchi	47.78	297	P	P	17 30 50.0	-0.5
MAKZ				IAmb	IAmb	17 30 51.5	
	comp=Z,5.5nm,1.4s						
TARG	Taragay, Kyrgy	53.07	294	P	P	17 31 30.7	-0.2
TARG				IAmb	IAmb	17 31 58.1	
	comp=Z,7.0nm,1.5s						
KDJ	Kajisay	53.22	295	P	P	17 31 31.3	-0.4
KDJ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KDJ	Kajisay	53.22	295	P	P	17 31 31.3	-0.4
KDJ				IAmb	IAmb	17 32 07.0	
	comp=Z,3.8nm,1.0s						
BOOM	Boomskoye usch	53.75	296	P	P	17 31 36.2	+0.6
BOOM	Boomskoye usch	53.75	296	P	P	17 31 36.2	+0.6
SHL	Shillong	54.07	269	P	P	17 31 37.2	-1.0
SHL	Shillong	54.07	269	P	P	17 31 37.2	-1.0
SHL				IAmb	IAmb	17 31 39.3	
	comp=Z,9.9nm,1.3s						
CHTO	Chiang Mai	54.14	257	P	P	17 31 37.8	-0.7
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.5s						
CHTO	Chiang Mai	54.14	257	P	P	17 31 37.8	-0.7
CMAR	Chiang Mai Arr	54.40	257	P	P	17 31 41.8	+1.4
	comp=Z,1.1nm,0.5s,baz=30,slow=6.9,SNR=4.4						
NEW	Newport	54.78	55	LR	LR	17 53 19.5	
	comp=Z,39nm,21.1s,baz=306,slow=34						
ARU	Arti	54.82	318	P	P	17 31 41.9	-1.0
YBH	Yreka Blue Hor	55.45	64	LR	LR	17 53 55.1	
	comp=Z,49nm,18.4s,baz=0.5,slow=34						
ARCES	ARCESS Array B	56.71	341	P	P	17 31 55.4	-0.9
	comp=Z,1.5nm,0.6s,baz=36,slow=7.8,SNR=8.4						
ABKAR	Akbulak array	58.55	310	P	P	17 32 09.0	-0.5
ABKAR	Akbulak array	58.55	310	P	P	17 32 09.3	-0.2
ABKAR				IAmb	IAmb	17 32 10.0	
	comp=Z,1.1nm,0.6s						
SUMG	Summit	58.79	5	P	P	17 32 12.9	+1.5
SUMG				pmax	pmax		
	comp=Z,6.0nm,1.1s						
SUMG	Summit	58.79	5	P	P	17 32 12.8	+1.5
SUMG				IAmb	IAmb	17 32 34.8	
	comp=Z,6.4nm,1.1s						
NVAR	Mina Array Bea	60.15	65	P	P	17 32 22.8	+1.8
	comp=Z,0.4nm,0.6s,baz=300,slow=4.1,SNR=2.2						
PDAR	Pinedale Array	62.36	56	P	P	17 32 38.3	+2.4
	comp=Z,0.3nm,0.4s,baz=317,slow=3.8,SNR=2.0						
FINES	FINESS Array B	63.12	335	P	P	17 32 40.7	+0.3
	comp=Z,1.8nm,0.7s,baz=30,slow=6.1,SNR=5.6						
NOA	NORSAR Array B	67.06	342	P	P	17 33 06.1	+0.2
	comp=Z,0.3nm,0.5s,baz=24,slow=6.5,SNR=3.8						
WRA	Warramunga Arr	70.76	201	P	P	17 33 29.3	0.0
	comp=Z,0.5nm,0.7s,baz=14,slow=6.6,SNR=1.5						
AKASG	Malin Array Be	70.97	327	P	P	17 33 30.4	+0.1
	comp=Z,1.5nm,0.5s,baz=33,slow=6.1,SNR=7.4						
ASAR	Alice Springs	74.45	201	P	P	17 33 51.9	+0.8
	comp=Z,0.4nm,0.7s,baz=12,slow=5.5,SNR=1.5						
TXAR	Lajitas Array	75.18	63	P	P	17 33 56.9	+1.3
	comp=Z,0.8nm,0.8s,baz=296,slow=4.2,SNR=2.4						
CLL	Collm	75.50	337	*e*P	P	17 33 58.0	+1.0
KHC	Kasperske Hory	77.33	336	*e*x	P	17 34 09.0	+1.5
GERES	GERESS Array B	77.55	335	P	P	17 34 10.2	+1.4
	comp=Z,0.5nm,0.4s,baz=36,slow=3.7,SNR=4.2						
BRTR	Keskin Array B	78.20	318	P	P	17 34 13.8	+1.1
	comp=Z,0.8nm,0.5s,baz=50,slow=2.5,SNR=1.9						
H03N2	Juan Fernandez	137.10	90	T	T	20 14 48.9	
	baz=311,slow=77,SNR=4.0						
H03N1	Juan Fernandez	137.11	90	T	T	20 14 45.3	
	baz=311,slow=77,SNR=4.9						
H03N3	Juan Fernandez	137.11	90	T	T	20 14 59.9	
	baz=311,slow=77,SNR=3.7						

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*TRN **08** 17:28:53.0, 13°.75N×58°.38W, h72km, MD4.1*
TRN Felt in Barbados MMI III.
ISC 08 17:28:53.8±2.5**, 13°.77N**±0°.04×**58°.4W**±0°.1**, h32**km±15km**,**
n36, σ**0s86**/57**, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBSP	Saint Philip	1.23	238	*e*P	Pb	17 29 15.9	-0.6
BBGH	Gun Hill	1.29	241	*e*P	Pb	17 29 17.6	0.0
BBGH				*e*S	Sb	17 29 34.0	+0.1
MCLT	Moule a Chique	2.48	269	*e*	Pn	17 29 31.1	-0.9
MCLT				*e*S	Sn	17 30 02.8	+1.5
MPOM	Morne Pois Mar	2.48	286	*e*P	Pn	17 29 32.1	0.0
MPOM				*e*S	Sn	17 30 01.3	-0.1
SLBI	Saint Lucia, B	2.52	276	*e*P	Pn	17 29 32.4	-0.2
SLBI				*e*S	Sn	17 30 01.7	-0.6
SLCP	Castries, St.	2.53	276	*e*S	Sn	17 30 03.7	+1.1
ILAM	Ilet Lapin Mar	2.60	293	*e*P	Pn	17 29 33.7	0.0
ILAM				*e*S	Sn	17 30 04.5	+0.2
LPMF	Morne Lapointe	2.62	288	*e*P	Pn	17 29 34.2	+0.3
BIM	Bigot	2.70	286	*e*P	Pn	17 29 35.4	+0.3
BIM				*e*S	Sn	17 30 06.2	-0.6
SSV	Crater Summit	2.76	261	*e*P	Pn	17 29 36.7	+0.7
SVV	Soufriere Volc	2.78	261	*e*P	Pn	17 29 36.5	+0.3
SVV				*e*S	Sn	17 30 09.6	+0.8
SVB	Belmont	2.83	260	*e*P	Pn	17 29 37.5	+0.6
SVB				*e*S	Sn	17 30 09.8	0.0
FDF	Fort de France	2.84	290	*i* P	Pn	17 29 37.2	+0.2
FDF				*e*S	Sn	17 30 08.1	-2.2
BAMF	Morne Balai	2.87	292	*e*P	Pn	17 29 38.5	+1.1
CXM	Morne La Croix	2.88	291	*e*P	Pn	17 29 38.5	+0.8
PCM	Pelee Case Pet	2.92	291	*e*P	Pn	17 29 39.1	+0.9
DLPL	La Plaine	3.17	300	*e*P	Pn	17 29 42.0	+0.5
DLPL				*e*S	Sn	17 30 17.9	-0.4
GCMP	Grenada, Carri	3.22	247	*e*P	Pn	17 29 42.8	+0.6
GCMP				*e*S	Sn	17 30 18.2	-1.3
TOSP	Speyside	3.23	221	*e*P	Pn	17 29 43.5	+1.2
TOSP				*e*S	Sn	17 30 19.1	-0.6
DSLB	Salisbury	3.37	300	*e*P	Pn	17 29 44.9	+0.6
DSLB				*e*S	Sn	17 30 23.2	0.0
MDPV	Dominica, Penn	3.46	303	*e*S	Sn	17 30 25.2	-0.4
MDCT	Cottage Hill,	3.49	302	*e*P	Pn	17 29 47.0	+1.0
MDCT				*e*S	Sn	17 30 25.8	-0.5
MAGL	Barre de l'ile	3.54	308	*e*P	Pn	17 29 47.5	+0.9
MAGL				*e*S	Sn	17 30 28.9	+1.5
GRGR	Grenville	3.57	243	*e*P	Pn	17 29 47.7	+0.6
GRGR				*e*S	Sn	17 30 27.0	-1.2
GRFF	Grenada Fort F	3.68	243	*e*P	Pn	17 29 49.5	+0.9
GRFF				*e*S	Sn	17 30 30.2	-0.8
TDBA	Terre de Bas,	3.76	304	*e*P	Pn	17 29 51.0	+1.4
TDBA				*e*S	Sn	17 30 32.6	-0.1
TBG	Guadaloupe-3	3.77	304	*e*P	Pn	17 29 50.5	+0.7
TBG				*e*S	Sn	17 30 32.2	-0.8
CBE	Ff, Capester	3.86	307	*e*P	Pn	17 29 51.8	+0.7
CBE				*e*S	Sn	17 30 35.4	+0.1
ABD	La Joyeuse, An	4.02	312	*e*P	Pn	17 29 53.7	+0.5
ABD				*e*S	Sn	17 30 38.5	-0.8
TRN	Trinidad (W)	4.28	224	*e*P	Pn	17 29 56.7	-0.1
ANBD	Bethesda, Anti	4.60	315	*e*P	Pn	17 30 01.9	+0.6
ANBD	Bethesda, Anti	4.60	315	*e*S	Sn	17 30 52.6	-1.1
ANWB	Willy Bob	5.07	320	*e*P	Pn	17 30 07.6	-0.1
ANWB	Willy Bob	5.07	320	*e*S	Sn	17 31 03.2	-2.0
SKI	Saint Kitts	5.49	311	*e*P	Pn	17 30 14.7	+1.2
SKI	Saint Kitts	5.49	311	*e*S	Sn	17 31 15.0	-0.5

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*NEIC **08** 17:40:18.7±1.6, 21°.2S±0°.1×179°.0W±0°.1, h613km±8km, mb4.4/34, Error ellipse: s-maj=20.0km s-min=16.8km az=86.0*
*IDC **08** 17:40:20.6±1.7, 21°.12S×179°.21W, h629km±19km, mb2.9/8, mb1 3.2/9, mb1mx3.0/43, mbtmp4.0/9, Error ellipse: s-maj=23.3km s-min=19.7km az=121.0*
ISC 08 17:40:19.6±0.6**, 21°.17S**±0°.08×**179°.1W**±0°.1**, h619**km**, n51,** σ**1s19**/50**, mb4.2**/21**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.33	322	P	P	17 41 49.8	+0.9
	20nm,0.3s,baz=149,slow=3.7,SNR=103						
MSVF	Nonsavu	4.33	322	P	P	17 41 49.8	+0.9
MSVF				S	S	17 42 58.4	-3.2
MARNC	Mare, Loyalty	11.96	266	P	P	17 42 57.7	-0.2
SANVU	Saraoutou	14.16	291	P	P	17 43 19.9	+0.5
OUZ	Omahuta	15.38	203	P	P	17 43 32.5	+2.2
OUZ				IAmb	IAmb	17 43 53.5	
	comp=Z,34nm,1.5s						
URZ	Urewera	17.34	190	P	P	17 43 46.3	-1.8
URZ				IAmb	IAmb	17 43 52.8	
	comp=Z,29nm,1.5s						
BKZ	Black Stump Fm	18.32	191	P	P	17 43 56.5	-0.7
BKZ				IAmb	IAmb	17 44 03.6	
	comp=Z,36nm,1.5s						
QRZ	Quartz Range	20.83	198	P	P	17 44 19.5	-0.1
NNZ	Nelson	20.97	196	P	P	17 44 20.1	-0.8
LTZ	Lake Taylor	22.72	197	P	P	17 44 34.3	-2.2
LTZ				IAmb	IAmb	17 44 36.5	
	comp=Z,36nm,1.5s						
OXZ	Oxford	23.29	196	P	P	17 44 39.5	-2.0
OXZ				IAmb	IAmb	17 44 54.0	
	comp=Z,33nm,1.4s						
FOZ	Fox Glacier	24.12	200	P	P	17 44 48.2	-0.6
MLZ	Mavora Lakes	26.31	201	P	P	17 45 07.9	-0.2
CTA	Charters Tower	32.37	266	P	P	17 46 01.0	+0.4
	comp=Z,2.6nm,0.4s,baz=92,slow=12,SNR=13						
CTAO	Charters Tower	32.37	266	P	P	17 46 01.0	+0.4
CTAO				IAmb	IAmb	17 46 22.2	
	comp=Z,12nm,1.4s						
STKA	Stephens Creek	36.54	245	P	P	17 46 35.7	+0.7
	comp=Z,1.2nm,0.5s,baz=73,slow=7.6,SNR=3.5						
COEN	Coen	36.57	275	P	P	17 46 36.0	+0.6
COEN				IAmb	IAmb	17 46 47.9	
	comp=Z,28nm,1.6s						
BBOO	Buckleboo	41.29	244	P	P	17 47 12.5	-0.6
BBOO				IAmb	IAmb	17 47 37.2	
	comp=Z,12nm,1.4s						
WR0	Warramunga Arr	43.27	263	P	P	17 47 28.2	-0.5
ASAR	Alice Springs	43.33	258	P	P	17 47 29.6	+0.4
	comp=Z,1.0nm,0.9s,baz=93,slow=8.0,SNR=6.8						
ASAR				PcP	PcP	17 49 03.1	-0.4
	comp=Z,0.5nm,0.6s,baz=100,slow=4.2,SNR=6.5						
ASAR				ScP	ScP	17 51 56.6	-0.3
	comp=Z,0.5nm,0.9s,baz=96,slow=4.9,SNR=4.8						
WB2	Warramunga Arr	43.44	263	P	P	17 47 29.7	-0.4
WRA	Warramunga Arr	43.45	263	P	P	17 47 29.6	-0.5
	comp=Z,0.6nm,0.2s,baz=93,slow=7.5,SNR=24						
WRA	Warramunga Arr	43.45	263	IAmb	IAmb	17 47 30.4	
	comp=Z,0.3nm,1.1s						
FORT	Forrest	48.05	247	P	P	17 48 04.2	-0.5
FORT				IAmb	IAmb	17 48 22.4	
	comp=Z,9.8nm,0.9s						
MTN	Manton Dam	48.11	272	P	P	17 48 04.9	-0.4
MTN				IAmb	IAmb	17 48 18.7	
	comp=Z,21nm,1.4s						
KNRA	Kununurra	49.55	267	P	P	17 48 15.8	-0.1
KNRA				IAmb	IAmb	17 48 20.3	
	comp=Z,20nm,1.6s						
FITZ	Fitzroy Crossi	51.88	263	P	P	17 48 32.1	-0.7
VNDA	Vanda	57.15	185	P	P	17 49 09.6	+1.1
	comp=Z,0.9nm,0.5s,baz=359,slow=7.8,SNR=7.7						
VNDA	Vanda	57.15	185	IAmb	IAmb	17 49 11.2	
	comp=Z,6.7nm,1.6s						
GIRL	Giralia	61.34	255	P	P	17 49 38.5	+1.3
TOLI2	Tolitoli	62.70	283	P	P	17 49 47.8	+1.6
TOLI2				IAmb	IAmb	17 50 10.2	
	comp=Z,8.9nm,1.0s						
CASY	Casey	62.90	205	P	P	17 49 46.0	-0.4
QSPA	South Pole Qui	68.90	180	P	P	17 50 24.3	+0.6
QSPA				IAmb	IAmb	17 50 25.3	
	comp=Z,8.1nm,1.0s						
MJAR	Matsushiro Arr	70.12	325	P	P	17 50 31.1	-0.2
	comp=Z,1.7nm,0.6s,baz=119,slow=6.7,SNR=2.5						
MJAR	Matsushiro Arr	70.12	325	IAmb	IAmb	17 50 41.0	
	comp=Z,12nm,1.5s						
MJB9	Matsu-Tunnel	70.13	325	P	P	17 50 27.9	-3.5
ADK	Adak	72.77	2	P	P	17 50 46.1	-0.2
ADK				IAmb	IAmb	17 50 48.6	
	comp=Z,18nm,1.1s						
ATKA	Atka Island	73.19	3	P	P	17 50 48.2	-0.4
NIKH	Nikolski High	74.37	6	P	P	17 50 55.1	-0.2
PETK	Petropavlovsk-	76.65	346	P	P	17 51 08.2	+0.3
	comp=Z,0.8nm,0.6s,baz=113,slow=9.6,SNR=5.0						
BELA	Belgrano 2	79.03	173	P	P	17 51 20.1	-0.3
CHIR	Chirikof Islan	79.25	13	P	P	17 51 21.3	-0.4
CHIR				IAmb	IAmb	17 51 23.7	
	comp=Z,27nm,1.0s						
O18K	Koktuh Hills	83.07	12	P	P	17 51 40.8	-0.4
O18K				IAmb	IAmb	17 51 52.9	
	comp=Z,5.8nm,1.1s						
P19K	Oil Pt	83.28	13	P	P	17 51 44.7	+2.5
P19K				IAmb	IAmb	17 51 57.4	
	comp=Z,20nm,1.0s						
SNAA	Sanae	87.37	179	P	P	17 52 00.6	-1.3
VNA3	Neumayer Olymp	87.54	177	P	P	17 52 01.8	-0.8
VNA2	Neumayer--Watz	87.97	177	P	P	17 52 04.0	-0.6
	baz=174,slow=3.6						
VNA1	Neumayer--Stat	88.20	177	P	P	17 52 05.2	-0.5
TXAR	Lajitas Array	88.32	58	P	P	17 52 08.3	+1.2
	comp=Z,0.3nm,0.7s,baz=188,slow=5.5,SNR=3.9						
AKASG	Malin Array Be	143.07	330	PKP	PKPab	17 58 41.4	-0.6
	comp=Z,0.9nm,0.3s,baz=38,slow=4.1,SNR=6.7						
TORD	Torodi Ar. Bea	171.98	186	PKPab	PKPab	18 00 44.8	-1.7
	comp=Z,0.3nm,0.4s,baz=182,slow=2.8,SNR=2.3						

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*BJI **08** 17:41:31.8±0.0, 48°.62N×155°.64E, h22km, mB5.0/46, mb4.9/71, Ms4.7/65, Ms7 4.6/60*
*IDC **08** 17:41:32.1±0.5, 48°.60N×155°.39E, h0km, mb4.5/29, mb1 4.6/35, mb1mx4.5/51, mbtmp4.5/35, ML5.4/2, MS4.3/32, Ms1 4.3/32, ms1mx4.2/49, Error ellipse: s-maj=11.1km s-min=10.6km az=166.0*
*KRSC **08** 17:41:33.9±1.7, 48°.38N×155°.96E, h82km±25km, ML5.2*
*NEIC **08** 17:41:34.0±1.6, 48°.47N±0°.09×155°.5E±0°.1, h15km±4km, mb4.9/238, Error ellipse: s-maj=13.9km s-min=9.2km az=144.0*
*SKHL **08** 17:41:35.1±0.2, 48°.30N×155°.90E, h38km±2km, mb5.1/13, mbv5.7/3, ms4.7/7, msh5.5/3*
*MOS **08** 17:41:36.0±1.4, 48°.55N×155°.55E, h36km, mb5.3/60, MS4.5/31, Error ellipse: s-maj=5.2km s-min=2.8km az=82.2*
*GCMT **08** 17:41:39.0±0.4, 48°.42N±0°.03×155°.84E±0°.03, h23km, MW4.9/81, Moment Tensor Solution. s36,c49; s81,c125; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.73±.15; $M_{\theta\theta}$-0.84±.10; $M_{\phi\phi}$-1.90±.10; $M_{r\theta}$0.69±.17; $M_{\theta\phi}$-1.05±.05; $M_{\phi r}$0.84±.13; Best double couple: $M_0$2.85100×10^{16} NP1:ϕ_s209.00000°, δ34.00000°, λ86.00000°. NP2: ϕ_s34.00000°, δ56.00000°, λ93.00000°. Principal axes: T 2.9460, Plg79.0000°, Azm315.0000°; N -0.1990, Plg2.0000°, Azm213.0000°; P -2.7550, Plg11.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **08** 17:41:52.8±0.0, 49°.94N×153°.71E, h33km, mb5.1*
ISC 08 17:41:36.8±0.7**, 48°.49N**±0°.04×**155°.47E**±0°.04**, h31**km±4km**,**
n930, σ**1s69**/946**, mb5.0**/299**, MS4.5**/64**, 55C-54D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.24	11	*e*PN	Pn	17 42 11.5	-0.3
SKR				*e*S	Sn	17 42 38.0	-0.3
SKR				pmax	pmax		
	comp=Z,186nm,0.3s						
SKR				smax	smax		
	comp=E,2μm,0.8s						
SKR				smax	smax		
	comp=N,5μm,0.8s						
SKR	Severo-Kuril's	2.24	11	*i* P	Pn	17 42 11.5	-0.3
SKR				*e*S	Sn	17 42 38.5	+0.2
SKR	Severo-Kuril's	2.24	11	*e*P	Pn	17 42 11.0	-0.8
SKR				AMB	AMB	17 42 11.0	
	comp=N,186nm,0.3s						
SKR				*e*S	Sn	17 42 38.1	-0.3
SKR				A	A	17 42 48.0	
	comp=N,5μm,0.8s						
SKR				A	A	17 42 48.0	
	comp=N,2μm,0.8s						
SKR				AMS	AMS	17 43 20.0	
	comp=N,6μm,14.0s						
ALID	Alaid	2.38	1	PN	Pn	17 42 15.1	+1.2
ALID	Alaid	2.38	1	*e*P	Pn	17 42 15.1	+1.2
PAU	Pauzhetka	3.11	16	PN	Pn	17 42 23.5	-0.2
PAU				S	Sn	17 43 00.5	+0.8
PAU	Pauzhetka	3.11	16	*e*P	Pn	17 42 23.5	-0.2
PAU				*e*S	Sn	17 43 00.5	+0.8
PAU	Pauzhetka	3.11	16	*e*P	Pn	17 42 23.7	0.0
PAU				AMB	AMB	17 42 24.7	
	comp=N,430nm,0.4s						
PAU				*e*S	Sn	17 43 00.0	+0.3
PAU				A	A	17 43 02.8	
	comp=N,2μm,0.3s						
PAU				A	A	17 43 02.8	
	comp=N,2μm,0.3s						
KDTR	Khodutka, Kamc	3.73	26	PN	Pn	17 42 30.6	-1.6
KDTR				S	Sn	17 43 12.3	-2.7
KDTR	Khodutka, Kamc	3.73	26	*e*P	Pn	17 42 30.6	-1.6
KDTR				*e*S	Sn	17 43 12.3	-2.7
MIPR	Malaya Ipel'ka	3.88	12	PN	Pn	17 42 34.7	+0.3
MIPR	Malaya Ipel'ka	3.88	12	*e*P	Pn	17 42 34.7	+0.3
ASAK	Asacha	4.20	21	PN	Pn	17 42 38.2	-0.6
ASAK				S	Sn	17 43 26.1	-0.7
ASAK	Asacha	4.20	21	*e*P	Pn	17 42 38.2	-0.6
ASAK				*e*S	Sn	17 43 26.1	-0.7
MTVR	Mutnovka	4.36	22	PN	Pn	17 42 40.4	-0.7
MTVR				S	Sn	17 43 30.0	-0.9
MTVR	Mutnovka	4.36	22	*e*P	Pn	17 42 40.4	-0.7
MTVR				*e*S	Sn	17 43 30.0	-0.9
GRL	Gorelyy	4.40	21	PN	Pn	17 42 41.2	-0.3
GRL	Gorelyy	4.40	21	*e*P	Pn	17 42 41.2	-0.3
RUS	Russkaya	4.40	25	PN	Pn	17 42 39.8	-1.7
RUS	Russkaya	4.40	25	*e*P	Pn	17 42 39.8	-1.7
RUS				*e*S	Sn	17 43 29.2	-2.5
RUS	Russkaya	4.40	25	*e*P	Pn	17 42 39.8	-1.7
APC	Apacha	4.57	13	PN	Pn	17 42 44.6	+0.8
APC	Apacha	4.57	13	*e*P	Pn	17 42 44.6	+0.8
KRMR	Karymshinskiy	4.67	20	PN	Pn	17 42 46.2	+1.1
KRMR				S	Sn	17 43 38.6	+0.4
KRMR	Karymshinskiy	4.67	20	*e*P	Pn	17 42 46.2	+1.1
KRMR				*e*S	Sn	17 43 38.6	+0.4
PEA0B	Petropavlovsk-	4.84	16*c*	*i*PN	Pn	17 42 48.2	+0.7
PEA0B	Petropavlovsk-	4.84	16		Pn	17 42 48.2	+0.7
PETK	Petropavlovsk-	4.84	16	Pn	Pn	17 42 47.1	-0.4
	comp=N,23nm,0.3s,baz=176,slow=13,SNR=521						
PETK				Sn	Sn	17 43 46.2	+3.8
	baz=180,slow=17,SNR=1.5						
PETK				LR	LR	17 44 57.1	
	comp=N,3μm,20.1s,baz=202,slow=43						
PET	Petropavlovsk	4.97	23⇑	*i*PN	Pn	17 42 48.6	-0.8
PET				*e*S	Sn	17 43 45.0	-0.7
PET				pmax	pmax		
	comp=Z,244nm,0.6s						
PET				smax	smax		
	comp=E,658nm,0.5s						
PET				MLR	MLR		
	comp=Z,2μm,15.0s						
PET	Petropavlovsk	4.97	23	*e*P	Pn	17 42 48.5	-0.8
PET				*e*S	Sn	17 43 44.8	-0.9
PET	Petropavlovsk	4.97	23		Pn	17 42 48.0	-1.3
PET	Petropavlovsk	4.97	23	*e*P	Pn	17 42 49.0	-0.3
PET				AMB	AMB	17 42 53.2	
	comp=Z,240nm,0.6s						
PET				*e*S	Sn	17 43 44.4	-1.3
PET				A	A	17 43 58.8	
	comp=Z,650nm,0.5s						
UGLR	Uglovaya	5.18	23	PN	Pn	17 42 51.9	-0.4
UGLR	Uglovaya	5.18	23	*e*P	Pn	17 42 51.9	-0.4
KOK	Koryaka	5.21	21	PN	Pn	17 42 53.4	+0.7
KOK	Koryaka	5.21	21	*e*P	Pn	17 42 53.4	+0.7
KOK	Koryaka	5.21	21	*e*P	Pn	17 42 53.4	+0.7
AVH	Avacha	5.21	22	PN	Pn	17 42 53.2	+0.5
AVH	Avacha	5.21	22	*e*P	Pn	17 42 53.2	+0.5
SMAR	Somma	5.23	23	PN	Pn	17 42 53.3	+0.3
SMAR	Somma	5.23	23	*e*P	Pn	17 42 53.3	+0.3
KRER	Koryakskii	5.25	22	PN	Pn	17 42 53.2	-0.1
KRER				S	Sn	17 43 52.9	0.0
KRER	Koryakskii	5.25	22	*e*P	Pn	17 42 53.2	-0.1

KRER eS Sn 17 43 52.9 0.0
SDLR Sedlovina 5.26 23 PN **Pn 17 42 52.6 -0.8**
SDLR Sedlovina 5.26 23 *eP* **Pn 17 42 52.6 -0.8**
KRX Arik 5.28 21 PN **Pn 17 42 53.9 +0.3**
KRX Arik 5.28 21 *eP* **Pn 17 42 53.9 +0.3**
NLC Nalytchevo 5.29 26 PN **Pn 17 42 51.2 -2.5**
NLC Nalytchevo 5.29 26 *eP* **Pn 17 42 51.2 -2.5**
NLC eS Sn 17 43 49.1 -4.5
GNL Ganaly 5.44 16 PN **Pn 17 42 56.8 +0.9**
GNL Ganaly 5.44 16 *eP* **Pn 17 42 56.8 +0.9**
SPN Mys Shipunski 5.45 30 PN **Pn 17 42 54.1 -1.7**
SPN Mys Shipunski 5.45 30 *eP* **Pn 17 42 54.1 -1.7**
SPN eS Sn 17 43 54.4 -3.0
KII Karymskiy 6.09 23 PN **Pn 17 43 05.2 +0.4**
KII Karymskiy 6.09 23 *eP* **Pn 17 43 05.2 +0.4**
KUR Kuril'sk 6.14 241 *c i* PN **Pn 17 43 07.4 +2.0**
KUR pmax pmax
comp=Z,436nm,0.4s
KUR pmax pmax
comp=N,125nm,0.5s
KUR pmax pmax
comp=E,176nm,0.9s
KUR MLR MLR
comp=Z,4μm,15.0s
KUR MLR MLR
comp=E,3μm,12.0s
KUR MLR MLR
comp=N,6μm,13.0s
KUR Kuril'sk 6.14 241 *i* P **Pn 17 43 07.7 +2.3**
KUR AMB AMB 17 43 20.0
comp=N,125nm,0.6s
KUR AMB AMB 17 43 20.0
comp=N,176nm,0.6s
KUR AMB AMB 17 43 20.0
comp=N,436nm,0.6s
KUR eS Sn **17 44 16.8 +2.2**
KUR A A 17 44 35.0
comp=N,4μm,2.0s
KUR A A 17 44 35.0
comp=N,6μm,2.0s
KUR A A 17 44 37.0
comp=N,560nm,0.7s
KUR A A 17 44 37.0
comp=N,433nm,0.7s
KUR AMS AMS 17 45 24.0
comp=N,6μm,14.0s
KUR AMS AMS 17 45 24.0
comp=N,3μm,14.0s
KUR AMS AMS 17 45 24.0
comp=N,4μm,14.0s
MKZ Mys Kozlova 7.22 30 PN **Pn 17 43 18.3 -1.9**
MKZ Mys Kozlova 7.22 30 *eP* **Pn 17 43 18.3 -1.9**
KZV Kizimen 7.28 22 PN **Pn 17 43 20.6 -0.5**
KZV Kizimen 7.28 22 *eP* **Pn 17 43 20.6 -0.5**
TUMR Tumrok 7.39 21 PN **Pn 17 43 22.6 -0.1**
TUMR Tumrok 7.39 21 *eP* **Pn 17 43 22.6 -0.1**
KMNR Kamenistaya 7.85 20 PN **Pn 17 43 28.7 -0.2**
KMNR Kamenistaya 7.85 20 *eP* **Pn 17 43 28.7 -0.2**
YUK Yuzh-Kuril'sk 8.01 240 ‖ *e* PN **Pn 17 43 34.7 +3.7**
YUK Yuzh-Kuril'sk 8.01 240 *eP* **Pn 17 43 31.6 +0.6**
YUK AMB AMB 17 43 35.0
comp=N,300nm,0.3s
YUK AMB AMB 17 43 51.0
comp=N,685nm,2.0s
YUK eS Sn **17 44 59.2 -1.2**
YUK A A 17 45 04.6
comp=N,260nm,0.6s
YUK A A 17 45 04.6
comp=N,220nm,0.6s
YUK A A 17 45 26.0
comp=N,660nm,2.0s
YUK A A 17 45 26.0
comp=N,531nm,2.0s
YUK AMS AMS 17 46 39.0
comp=N,1μm,14.0s
YUK AMS AMS 17 46 39.0
comp=N,3μm,14.0s
YUK AMS AMS 17 46 39.0
comp=N,3μm,14.0s
KPT Kopyto 8.04 19 PN **Pn 17 43 31.0 -0.5**
KPT Kopyto 8.04 19 *eP* **Pn 17 43 31.0 -0.5**
KOZ Kozyrevsk 8.05 18 PN **Pn 17 43 31.5 0.0**
KOZ Kozyrevsk 8.05 18 *eP* **Pn 17 43 31.5 0.0**
GRPR Tuman 8.08 240 ⇑ *i* PN **Pn 17 43 33.1 +1.1**
GRPR pmax pmax
comp=E,144nm,0.3s
GRPR pmax pmax
comp=Z,320nm,0.3s
GRPR pmax pmax
comp=N,338nm,0.5s
GRPR pmax pmax
comp=Z,351nm,1.1s
GRPR MLR MLR
comp=Z,634nm,9.0s
GRPR MLR MLR
comp=E,402nm,9.0s
RUSJ Misakicho 8.32 242 *e* PN **Pn 17 43 36.7 +1.4**
GLVR Golovnino 8.38 239 PN **Pn 17 43 35.8 -0.3**
GLVR pmax pmax
comp=Z,770nm,1.2s
GLVR pmax pmax
comp=Z,287nm,0.8s
GLVR pmax pmax
comp=N,248nm,0.5s
GLVR pmax pmax
comp=E,225nm,0.6s
GLVR MLR MLR
comp=Z,4μm,12.0s
GLVR Golovnino 8.38 239 *eP* **Pn 17 43 35.0 -1.1**
GLVR AMB AMB 17 43 45.0
comp=Z,770nm,1.2s
GLVR AMB AMB 17 43 49.0
comp=Z,287nm,0.7s
GLVR eS Sn **17 45 07.0 -2.7**
GLVR A A 17 45 25.0
comp=Z,1μm,1.0s
GLVR A A 17 45 25.0
comp=Z,708nm,1.0s
GLVR AMS AMS 17 46 52.0
comp=Z,4μm,12.0s
NMR Nemuro--Hokkai 8.50 237 ⇑ *i* PN **Pn 17 43 35.7 -2.0**
NMR Nemuro--Hokkai 8.50 237 *eP* **Pn 17 43 35.8 -2.0**
TYV Tymovskoe 8.64 291 *e* PN Pn 17 43 45.3 +5.6
TYV pmax pmax
comp=Z,35nm,1.0s
TYV pmax pmax
comp=Z,400nm,2.4s
TYV MLR MLR
comp=N,3μm,16.0s
TYV MLR MLR
comp=Z,5μm,16.0s
TYV Tymovskoe 8.64 291 *eP* **Pn 17 43 43.9 +4.2**
TYV AMB AMB 17 43 45.0
comp=Z,35nm,1.0s
TYV AMB AMB 17 43 46.0
comp=Z,400nm,2.0s
TYV eS Sn **17 45 19.0 +3.0**
TYV A A 17 45 19.0
comp=Z,12nm,1.0s
TYV A A 17 45 19.0
comp=Z,8.0nm,1.0s
TYV A A 17 45 23.0
comp=Z,300nm,4.0s
TYV A A 17 45 23.0
comp=Z,300nm,4.0s
TYV AMS AMS 17 47 46.0
comp=Z,3μm,16.0s
TYV AMS AMS 17 47 46.0
comp=Z,5μm,16.0s
YSS Yuzh-Sakhalins 8.71 265 *e* PN **Pn 17 43 44.8 +4.2**
YSS pmax pmax
comp=Z,600nm,4.0s
YSS pmax pmax
comp=Z,130nm,1.1s
YSS MLR MLR
comp=E,1μm,16.0s
YSS MLR MLR
comp=Z,2μm,16.0s
YSS Yuzh-Sakhalins 8.71 265 Pn **17 43 44.3 +3.7**
YSS Yuzh-Sakhalins 8.71 265 *eP* **Pn 17 43 43.3 +2.7**
YSS AMB AMB 17 43 46.0
comp=Z,600nm,4.0s
YSS AMB AMB 17 43 48.0
comp=Z,130nm,2.0s
YSS eS Sn **17 45 19.2 +1.6**
YSS AMS AMS 17 46 56.0
comp=Z,1μm,16.0s
YSS AMS AMS 17 46 56.0
comp=Z,2μm,16.0s
UGL Uglegorsk 8.87 279 ⇑ *i* PN Pn 17 43 47.9 +5.1
UGL pmax pmax
comp=Z,173nm,0.9s
UGL MLR MLR
comp=Z,3μm,15.0s
UGL MLR MLR
comp=N,2μm,13.0s
UGL MLR MLR
comp=E,2μm,16.0s
UGL Uglegorsk 8.87 279 *i* P **Pn 17 43 47.6 +4.8**
UGL AMB AMB 17 43 50.0
comp=E,70nm,0.8s
UGL eS Sn **17 45 25.9 +4.3**
UGL AMS AMS 17 47 53.0
comp=E,2μm,15.0s
UGL AMS AMS 17 47 53.0
comp=E,2μm,15.0s
UGL AMS AMS 17 47 53.0
comp=E,3μm,15.0s
SRKR Sorokina 8.88 21 PN **Pn 17 43 41.3 -1.7**
SRKR Sorokina 8.88 21 *eP* **Pn 17 43 41.3 -1.7**
SMKR Semkarok 8.89 22 PN **Pn 17 43 43.8 +0.7**
SMKR Semkarok 8.89 22 *eP* **Pn 17 43 43.8 +0.7**
KBTR Krutoberegovo 8.94 27 PN **Pn 17 43 41.8 -1.9**
KBTR Krutoberegovo 8.94 27 *eP* **Pn 17 43 41.8 -1.9**
KBG Krutoberegovo 8.95 27 PN **Pn 17 43 44.5 +0.7**
KBG Krutoberegovo 8.95 27 *eP* **Pn 17 43 44.5 +0.7**
KBG Krutoberegovo 8.95 27 *eP* **Pn 17 43 45.2 +1.4**
AKK Akkeshi 9.22 238 *eP* **Pn 17 43 45.8 -1.8**
BKI Bering 9.35 40 PN **Pn 17 43 48.1 -1.2**
BKI Bering 9.35 40 *eP* **Pn 17 43 48.1 -1.2**
BKI eS Sn 17 45 22.3 -11
OKH Okha 9.38 307 *de* PN **Pn 17 43 47.7 -2.0**
OKH MLR MLR
comp=N,1μm,13.0s
OKH MLR MLR
comp=E,4μm,12.0s
OKH MLR MLR
comp=Z,2μm,13.0s
OKH Okha 9.38 307 *eP* Pn 17 43 56.0 +6.3
OKH AMB AMB 17 44 00.8
comp=Z,70nm,0.7s
OKH eS Sn **17 45 39.3 +5.2**
OKH AMS AMS 17 49 54.5
comp=Z,1μm,14.0s
OKH AMS AMS 17 49 54.5
comp=Z,4μm,14.0s
OKH AMS AMS 17 49 54.5
comp=Z,2μm,14.0s
JKA Kamikawa-asahi 9.92 249 Pn **17 43 59.4 +2.2**
JKA Kamikawa-asahi 9.92 249 *eP* **Pn 17 43 59.4 +2.2**
ASAJ Asahikawa 9.92 249 Pn **Pn 17 43 59.8 +2.6**
comp=Z,5.2nm,0.3s,baz=63,slow=14,SNR=70
ASAJ Sn **Sn 17 45 49.3 +1.9**
baz=213,slow=27,SNR=1.5
ASAJ LR LR 17 47 43.9
comp=Z,2μm,18.2s,baz=71,slow=38
ASAJ Asahikawa 9.92 249 PN **Pn 17 43 59.4 +2.2**
JEW Eniwo 11.31 245 Pn **Pn 17 44 16.3 0.0**
MA2 Magadan 11.44 348 Pn **Pn 17 44 19.7 +1.7**
comp=Z,2.0nm,0.3s,baz=168,slow=14,SNR=17
MA2 LR LR 17 49 37.8
comp=Z,1μm,18.1s,baz=171,slow=43
MA2 Magadan 11.44 348 ⇑ *e* PN **Pn 17 44 19.0 +1.0**
MA2 pmax pmax
comp=Z,41nm,1.7s
MA2 Magadan 11.44 348 Pn **Pn 17 44 17.9 -0.1**
MA2 Magadan 11.44 348 *eP* **Pn 17 44 19.0 +1.0**
GRNR Gornyy 12.56 288 ‖ *i* PN Pn 17 44 38.3 +5.1
GRNR eS **Sn 17 46 59.8 +7.9**
GRNR pmax pmax
comp=E,4.0nm,0.8s
GRNR pmax pmax
comp=Z,4.0nm,1.0s
GRNR smax smax
comp=E,2.0nm,0.9s
GRNR MLR MLR
comp=E,1μm,16.0s
GRNR MLR MLR
comp=Z,2μm,15.0s
GRNR Gornyy 12.56 288 *eP* **Pn 17 44 36.3 +3.1**
GRNR AMB AMB 17 44 39.0
comp=Z,4.0nm,0.9s
GRNR AMS AMS 17 49 58.0
comp=Z,430nm,16.0s
GRNR AMS AMS 17 49 58.0
comp=Z,1μm,16.0s
GRNR AMS AMS 17 49 58.0
comp=Z,2μm,16.0s
SMY Shemya 12.57 63 PN **Pn 17 44 30.3 -3.0**
SMY Shemya 12.57 63 Pn **Pn 17 44 30.3 -3.0**
JTM Tenmabayashi 12.81 238 Pn **Pn 17 44 32.9 -3.9**
TEY Ternei 13.38 262 ‖ *e* PN **Pn 17 44 47.5 +3.0**
TEY pmax pmax
comp=Z,10.0nm,1.3s
TEY Ternei 13.38 262 *eP* **Pn 17 44 45.5 +1.0**
TEY AMB AMB 17 44 48.7
comp=Z,10.0nm,1.0s
SEY Seymchan 14.58 354 Pn **Pn 17 45 01.3 +0.6**
comp=Z,0.5nm,0.3s,baz=156,slow=9.9,SNR=14
SEY LR LR 17 51 11.5
comp=Z,1μm,18.9s,baz=164,slow=40
SEY Seymchan 14.58 354 ‖ *i* P **Pn 17 45 00.9 +0.2**
SEY Seymchan 14.58 354 *eP* **Pn 17 45 00.9 +0.2**
EKMR Ekimchan 14.94 296 *eP* **Pn 17 45 07.0 +1.3**
EKMR AMB AMB 17 45 25.0
comp=Z,54nm,0.8s
JMM Marumori 15.05 231 Pn **Pn 17 45 04.0 -3.2**
JMM IAmb IAmb 17 45 43.8
comp=Z,148nm,1.5s
AMKA Amchitka 15.60 70 **Pn 17 45 14.7 +0.4**
KLR Kul'dur 15.62 282 Pn **P 17 45 17.3 -1.1**
comp=Z,2.7nm,0.3s,baz=89,slow=12,SNR=23
KLR LR LR 17 51 45.9
comp=Z,2μm,18.1s,baz=86,slow=40
KLR Kul'dur 15.62 282 *c i* P **P 17 45 17.3 -1.1**
KLR pmax pmax
comp=Z,40nm,1.3s
KLR MLR MLR
comp=Z,2μm,14.0s
KLR Kul'dur 15.62 282 *eP* **P 17 45 17.5 -0.9**
JSD Sado 16.28 236 **Pn 17 45 21.7 -1.4**
JYT Yasato 16.62 228 Pn **Pn 17 45 26.0 -1.4**
JYT IAmb IAmb 17 45 58.2
comp=Z,133nm,1.5s
USA0B Ussuriysk Arra 16.75 264 *de* P **Pn 17 45 29.7 +0.7**
USA0B Ussuriysk Arra 16.75 264 **Pn 17 45 28.1 -0.9**
USRK Ussuriysk Ar. 16.75 264 Pn **Pn 17 45 28.1 -0.8**
baz=69,slow=12,SNR=25
USRK LR LR 17 51 40.5
comp=Z,358nm,18.7s,baz=67,slow=36
USRK Ussuriysk Ar. 16.75 264 **Pn 17 45 28.0 -1.0**
VLA Vladivostok 17.27 261 ⇑ *eP* **P 17 45 36.5 -0.2**
VLA pmax pmax
comp=Z,28nm,1.0s
VLA Vladivostok 17.27 261 *eP* **P 17 45 36.5 -0.2**
MAJO Matsushiro 17.40 233 ‖ *eP* **P 17 45 39.8 +1.5**
MAJO pmax pmax
comp=Z,43nm,1.5s
MAJO Matsushiro 17.40 233 P **Pn 17 45 34.5 -2.7**
MAT Matsushiro 17.40 233 P **Pn 17 45 36.5 -0.7**
MAT eS **Sn 17 48 53.4 +3.5**
MJAR Matsushiro Arr 17.40 233 Pn **Pn 17 45 34.7 -2.5**
comp=Z,0.1nm,0.3s,baz=31,slow=13,SNR=14
MJAR Matsushiro Arr 17.40 233 P **Pn 17 45 35.3 -1.9**
MJAR pmax pmax
comp=Z,45nm,1.9s
MJAR Matsushiro Arr 17.40 233 P **Pn 17 45 35.3 -1.9**
MJB9 Matsu-Tunnel 17.40 233 P **Pn 17 45 35.7 -1.5**
MSHR Mys Shultsa 17.99 260 ‖ *eP* **P 17 45 47.7 +3.0**
MSHR pmax pmax
comp=Z,20nm,0.9s
MDJ Mudanjiang 18.18 267 P **Pn 17 45 46.7 0.0**
MDJ pP pP 17 45 55.7 +0.9
MDJ PP **sP 17 45 58.9 +0.5**
MDJ sP P 17 46 01.0 +14
MDJ S **Sn 17 49 08.7 +0.1**
MDJ pmax pmax
comp=Z,43nm,0.9s
MDJ pmax pmax
comp=Z,160nm,3.6s
MDJ LR LR
comp=Z,510nm,13.9s
MDJ LR LR
comp=Z,830nm,13.9s
MDJ LR LR
comp=Z,1μm,12.8s
MDJ Mudanjiang 18.18 267 P **Pn 17 45 45.4 -1.3**
ZEA Zeya 18.41 297 ‖ *eP* **Pn 17 45 49.5 0.0**
ZEA pmax pmax
comp=N,10.0nm,1.3s
ZEA pmax pmax
comp=E,10.0nm,1.3s
ZEA pmax pmax
comp=Z,20nm,1.1s
ZEA MLR MLR
comp=E,1μm,14.0s
ZEA MLR MLR
comp=N,300nm,15.0s
ZEA MLR MLR
comp=Z,1μm,14.0s
ZEA Zeya 18.41 297 *eP* **Pn 17 45 52.5 +3.0**
ZEA AMB AMB 17 45 53.4
comp=Z,20nm,1.0s
ZEA AMS AMS 17 50 20.0
comp=Z,300nm,14.0s
ZEA AMS AMS 17 50 20.0
comp=Z,1μm,14.0s
ZEA AMS AMS 17 50 20.0
comp=Z,1μm,14.0s
JGF Kuroka 18.56 233 P **P 17 45 49.9 -1.2**
KROS Kirovskiy 18.64 299 *eP* **Pn 17 45 53.0 +0.7**
KROS AMB AMB 17 45 57.1
comp=Z,8.0nm,0.5s
INU Inuyama 18.93 233 P **P 17 45 54.5 -0.6**
YAK Yakutsk 19.81 323 P **P 17 46 03.4 -1.1**
comp=Z,0.5nm,0.3s,baz=141,slow=2.4,SNR=32
YAK S **S 17 49 44.0 -1.7**
baz=24,slow=23,SNR=0.8
YAK LR LR 17 53 57.0
comp=Z,697nm,18.9s,baz=96,slow=38
YAK Yakutsk 19.81 323 *eP* **P 17 46 04.0 -0.5**
YAK *eS* **S 17 49 45.9 +0.2**
YAK pmax pmax
comp=Z,41nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=E,16nm,1.4s
YAK smax smax
comp=E,60nm,2.0s
YAK smax smax
comp=N,79nm,2.5s
YAK MLR MLR
comp=Z,1μm,18.0s
YAK MLR MLR
comp=N,455nm,16.0s
YAK MLR MLR
comp=E,533nm,17.0s
YAK Yakutsk 19.81 323 P **P 17 46 03.5 -0.9**
YAK IAmb IAmb 17 46 18.2
comp=Z,94nm,0.9s
JWT Wachi 19.85 236 P **P 17 46 05.7 +0.5**
JWT IAmb IAmb 17 46 11.1
comp=Z,47nm,1.0s
BILL Bilibino 20.35 12 *de* P **P 17 46 09.1 -1.3**
BILL *e* 17 46 29.5
BILL *eS* **S 17 49 49.0 -7.6**
BILL pmax pmax
comp=Z,40nm,1.2s
BILL MLR MLR
comp=Z,884nm,15.0s
BILL Bilibino 20.35 12 P **P 17 46 08.8 -1.6**
BILL IAmb IAmb 17 46 10.7
comp=Z,45nm,1.2s
BILL Bilibino 20.35 12 *eP* **P 17 46 09.1 -1.3**
CN2 Changchun 21.24 269 *eP* **P 17 46 18.1 -2.1**
CN2 S **S 17 50 06.2 -8.4**
CN2 pmax pmax
comp=Z,40nm,1.2s
CN2 pmax pmax
comp=Z,200nm,8.0s
CN2 LR LR
comp=Z,800nm,15.0s
CN2 LR LR
comp=Z,800nm,15.0s
CN2 LR LR
comp=Z,700nm,13.0s
JHS Saijyo 21.34 239 P **P 17 46 21.9 +0.5**
JHS IAmb IAmb 17 46 33.4
comp=Z,81nm,1.4s
JMN Monobe 21.85 235 P **P 17 46 26.1 -0.7**
JMN IAmb IAmb 17 46 50.1
comp=Z,153nm,1.6s
KSRS Korea Array 22.85 251 P **P 17 46 37.8 +0.4**
comp=Z,14nm,0.7s,baz=50,slow=9.4,SNR=38
KSRS LR LR 17 55 06.6
comp=Z,921nm,18.1s,baz=60,slow=36
KS19 Wonju Array Si 22.86 252 P **P 17 46 36.0 -1.5**
KS19 IAmb IAmb 17 46 41.2
comp=Z,48nm,1.1s
KSAR Wonju Array Be 22.88 251 P **P 17 46 36.1 -1.6**
KSAR Wonju Array Be 22.88 251 P **P 17 46 36.1 -1.6**
SNY Shenyang 23.33 265 ⇑ P **P 17 46 41.9 -0.3**
SNY pmax pmax
comp=Z,10.0nm,0.5s
SNY LR LR
comp=Z,390nm,14.7s
SNY LR LR
comp=Z,580nm,17.5s
SNY LR LR
comp=Z,750nm,16.3s
HIA Hailar 23.38 285 *d* P **P 17 46 42.3 -0.4**
HIA pmax pmax
comp=Z,21nm,1.1s
HIA MLR MLR
comp=Z,2μm,17.0s
HIA Hailar 23.38 285 P **P 17 46 40.7 -2.0**
INCN Inchon 23.65 253 P **P 17 46 45.9 +0.5**
JCJ Chichijima 23.73 211 LR LR 17 54 22.3
comp=Z,143nm,20.2s,baz=108,slow=32
JTU Tsushima 23.85 244 P **P 17 46 46.1 -1.1**
TJN Taejon 23.87 250 *de* P **P 17 46 49.2 +1.8**
JNU Nakatsue 23.98 239 P **P 17 46 48.5 -0.1**
comp=Z,29nm,1.1s,baz=5.0,slow=15,SNR=3.1
JNU Nakatsue 23.98 239 P **P 17 46 49.6 +1.1**
JNU IAmb IAmb 17 47 00.4
comp=Z,51nm,1.1s
JSU Suzuyama 25.42 237 P **P 17 47 01.5 -0.1**
JSU IAmb IAmb 17 47 04.5
comp=Z,47nm,1.1s
TNA Tin City 25.70 35 P **P 17 47 03.6 -0.2**
DL2 Dalian 26.09 261 P **P 17 47 07.0 -0.6**
DL2 S **S 17 51 38.9 +2.1**
DL2 pmax pmax
comp=Z,37nm,1.1s
DL2 pmax pmax
comp=Z,210nm,4.7s
DL2 LR LR
comp=Z,380nm,17.2s
DL2 LR LR
comp=Z,440nm,20.2s
DL2 LR LR
comp=Z,430nm,21.6s
TIXI Tiksi 26.29 341 P **P 17 47 07.0 -2.1**
comp=Z,16nm,0.6s,baz=130,slow=9.7,SNR=40
TIXI LR LR 17 58 44.2
comp=Z,739nm,18.7s,baz=146,slow=40
TIXI Tiksi 26.29 341 *d i* P **P 17 47 07.2 -1.9**
TIXI Tiksi 26.29 341 P **P 17 47 06.8 -2.3**
TIXI IAmb IAmb 17 47 08.4
comp=Z,27nm,1.0s
H11N2 WAKE ISLAND Hy 30.14 158 T T 18 19 54.7
baz=344,slow=76,SNR=54
SVW2 Sparrevohn 30.14 47 P **P 17 47 43.3 -0.3**
H11N1 WAKE ISLAND Hy 30.15 158 T T 18 19 40.2
baz=344,slow=76,SNR=63
H11N3 WAKE ISLAND Hy 30.15 158 T T 18 20 01.4
baz=344,slow=76,SNR=38
K20K Telida 30.98 42 P **P 17 47 51.0 0.0**
J20K Nowinta River 31.02 41 P **P 17 47 50.5 -0.8**
J20K IAmb IAmb 17 48 09.0
comp=Z,20nm,1.3s
SSE Sheshan 31.21 249 P **P 17 47 53.9 +0.6**
SSE S **S 17 52 59.8 +2.3**
SSE pmax pmax
comp=Z,15nm,0.7s
SSE pmax pmax

comp=Z,190nm,4.1s
SSE LR LR
comp=Z,160nm,17.0s
SSE LR LR
comp=Z,300nm,16.1s
H11S1 WAKE ISLAND Hy 31.27 159 T T 18 21 31.0
baz=345,slow=76,SNR=697
H11S3 WAKE ISLAND Hy 31.28 159 T T 18 21 22.9
baz=345,slow=76,SNR=920
H11S2 WAKE ISLAND Hy 31.29 159 T T 18 21 14.5
baz=345,slow=76,SNR=740
M20K Styx River 31.34 45 P **P** **17 47 53.3 -0.9**
M20K IAmb IAmb 17 48 48.1
comp=Z,25nm,1.9s
IMAR Indian Mountai 31.42 37 P **P** **17 47 52.7 -2.1**
OHAK Old Harbor 31.46 54 P **P** **17 47 52.9 -2.4**
KDAK Kodiak Island 31.78 53 P **P** **17 47 56.6 -1.5**
comp=Z,1.1nm,0.4s,baz=144,slow=13,SNR=1.7
KDAK Kodiak Island 31.78 53 P **P** **17 47 56.5 -1.6**
HHC Hu-ho-hao-te 31.78 273 *e*P **P** **17 47 57.4 -1.0**
HHC PP **PP** **17 49 07.8 -2.5**
HHC sS sS 17 53 23.4 +2.3
HHC pmax pmax
comp=Z,38nm,0.9s
HHC pmax pmax
comp=Z,110nm,4.5s
HHC LR LR
comp=Z,750nm,13.2s
HHC LR LR
comp=Z,440nm,13.9s
HHC LR LR
comp=Z,870nm,13.0s
PPLA Purkeypile 31.81 43 P **P** **17 47 59.2 +0.8**
PPLA IAmb IAmb 17 48 30.0
comp=Z,19nm,1.4s
ULN Ulaanbaatar 31.86 287 *de*P **P** **17 47 58.5 -0.6**
ULN pmax pmax
comp=Z,7.0nm,1.0s
ULN MLR MLR
comp=Z,2µm,16.0s
ULN Ulaanbaatar 31.86 287 P **P** **17 47 57.7 -1.4**
ULN Ulaanbaatar 31.86 287 P **P** **17 47 58.8 -0.3**
ULN Ulaanbaatar 31.86 287 P **P** **17 47 57.1 -2.0**
comp=Z,30nm,1.3s
ULN Ulaanbaatar 31.86 287 *e*P **P** **17 47 58.5 -0.6**
I21K Tanana 32.05 39 P **P** **17 48 00.1 -0.2**
SKT Skwentna 32.09 45 P **P** **17 47 59.0 -1.8**
SONM Songino Array 32.29 288 P **P** **17 48 02.0 -0.8**
comp=Z,2.0nm,0.4s,baz=74,slow=8.0,SNR=22
SONM LR LR 18 02 18.7
comp=Z,1µm,19.7s,baz=70,slow=39
SONM Songino Array 32.29 288 P **P** **17 48 02.0 -0.8**
SONM Songino Array 32.29 288 **P** **17 48 01.7 -1.2**
CNPM China Poot 32.33 50 P **P** **17 48 01.2 -1.7**
CNPM IAmb IAmb 17 48 27.8
comp=Z,14nm,1.2s
BPAW Bear Paw Mtn. 32.40 41 P **P** **17 48 02.9 -0.6**
KTH Kantishna Hill 32.40 42 P **P** **17 48 02.1 -1.4**
KTH IAmb IAmb 17 48 19.3
comp=Z,33nm,1.3s
MLY Manley 32.56 40 P **P** **17 48 04.3 -0.6**
TRF Thorofare Moun 32.68 42 P **P** **17 48 05.3 -0.8**
TRF IAmb IAmb 17 48 20.4
comp=Z,11nm,0.8s
TIY Taiyuan 32.81 267 *e*P **P** **17 48 08.0 +0.6**
TIY pmax pmax
comp=Z,30nm,0.9s
TIY LR LR
comp=Z,620nm,14.2s
TIY LR LR
comp=Z,180nm,9.2s
TIY LR LR
comp=Z,420nm,17.5s
BTO Baotou 32.92 273 *e*P **P** **17 48 06.9 -1.5**
COLD Coldfoot 32.99 36 P **P** **17 48 07.1 -1.6**
COLD IAmb IAmb 17 48 24.2
comp=Z,7.8nm,0.8s
BWN Browne 33.07 41 P **P** **17 48 08.6 -0.7**
H23K Yukon River 33.12 38 P **P** **17 48 08.4 -1.3**
H23K IAmb IAmb 17 48 27.9
comp=Z,12nm,1.1s
I23K Minto, Yukon-K 33.15 39 P **P** **17 48 08.8 -1.1**
I23K IAmb IAmb 17 48 28.0
comp=Z,19nm,1.4s
NEA2 Nenana 33.25 40 P **P** **17 48 09.6 -1.3**
NEA2 IAmb IAmb 17 48 26.0
comp=Z,9.4nm,0.7s
MCK McKinley 33.29 42 P **P** **17 48 09.1 -2.2**
MCK pmax pmax
comp=Z,10.0nm,0.8s
MCK McKinley 33.29 42 P **P** **17 48 09.1 -2.2**
MCK IAmb IAmb 17 48 26.8
comp=Z,9.7nm,0.8s
RND Reindeer 33.33 43 P **P** **17 48 10.2 -1.5**
RND pmax pmax
comp=Z,11nm,0.8s
RND Reindeer 33.33 43 P **P** **17 48 10.2 -1.5**
RND IAmb IAmb 17 48 25.7
comp=Z,11nm,0.8s
GHO Glory Hole Cre 33.34 46 P **P** **17 48 10.4 -1.3**
ZAK Zakamensk 33.42 293 *e*P **P** **17 48 10.1 -2.5**
ZAK pmax pmax
comp=Z,10.0nm,1.3s
TOLK Toolik Lake Re 33.42 33 P **P** **17 48 11.6 -0.8**
TOLK IAmb IAmb 17 48 14.4
comp=Z,23nm,1.4s
KNK Knik Glacier 33.58 46 P **P** **17 48 12.5 -1.2**
KNK IAmb IAmb 17 48 26.9
comp=Z,15nm,0.9s
SML Sawmill 33.61 45 P **P** **17 48 13.0 -1.1**
SML pmax pmax
comp=Z,22nm,0.8s
SML Sawmill 33.61 45 P **P** **17 48 13.0 -1.1**
SML IAmb IAmb 17 48 27.4
comp=Z,22nm,0.8s
MDM Murphy Dome 33.62 40 P **P** **17 48 13.1 -1.0**
WRH Wood River Hil 33.67 41 P **P** **17 48 13.5 -1.0**
WRH IAmb IAmb 17 48 32.1
comp=Z,13nm,1.1s
PWL Port Wells 33.67 47 P **P** **17 48 13.4 -1.2**
PWL IAmb IAmb 17 48 39.4
comp=Z,19nm,1.2s
TCOL CIGO, UAF Yank 33.78 40 P **P** **17 48 14.9 -0.6**
TCOL IAmb IAmb 17 48 33.8
comp=Z,17nm,0.8s
COLA College 33.78 40 P **P** **17 48 14.6 -0.9**
COLA pmax pmax
comp=Z,17nm,0.9s
COLA College 33.78 40 P **P** **17 48 14.6 -0.9**
COLA IAmb IAmb 17 48 33.9
comp=Z,17nm,0.8s
CCB Clear Creek Bu 33.80 40 P **P** **17 48 14.6 -1.0**
CCB IAmb IAmb 17 48 30.7
comp=Z,9.7nm,0.9s
H24K Noodor Dome 33.80 38 P **P** **17 48 15.8 0.0**
POKR Poker Plat Res 33.97 39 P **P** **17 48 16.4 -0.7**
POKR IAmb IAmb 17 48 36.4
comp=Z,11nm,0.8s
SCM Sheep Creek Mo 34.09 45 P **P** **17 48 16.8 -1.5**
SCM pmax pmax
comp=Z,11nm,0.9s
SCM Sheep Creek Mo 34.09 45 P **P** **17 48 16.8 -1.5**
SCM IAmb IAmb 17 48 33.5
comp=Z,11nm,0.9s
HDA Harding Lake 34.17 41 P **P** **17 48 17.8 -1.0**
IL31 34.20 40 P **P** **17 48 17.1 -1.9**
IL31 IAmb IAmb 17 48 35.5
comp=Z,16nm,1.4s
ILAR Eielson Array 34.20 40 P **P** **17 48 17.5 -1.6**
comp=Z,0.9nm,0.6s,baz=259,slow=7.7,SNR=10
ILAR Eielson Array 34.20 40 P **P** **17 48 17.1 -2.0**
ILAR Eielson Array 34.20 40 P **P** **17 48 17.1 -2.0**
FID Port Fidalgo 34.59 47 P **P** **17 48 20.0 -2.5**
FID IAmb IAmb 17 48 32.3
comp=Z,22nm,1.2s
M24K Tolsona, Glenn 34.61 45 P **P** **17 48 21.4 -1.4**
M24K IAmb IAmb 17 48 38.6
comp=Z,16nm,0.9s
HIN Hinchinbrook I 34.62 48 P **P** **17 48 21.5 -1.3**
PRP Porcupine Dome 34.77 39 P **P** **17 48 23.4 -0.9**
PRP IAmb IAmb 17 48 54.0
comp=Z,12nm,1.0s
KLU Klutina 34.78 46 P **P** **17 48 23.2 -1.1**
PAX Paxson 34.88 43 P **P** **17 48 24.4 -0.7**
PAX pmax pmax
comp=Z,18nm,1.6s
PAX Paxson 34.88 43 P **P** **17 48 24.4 -0.7**
PAX IAmb IAmb 17 48 41.9
comp=Z,18nm,1.6s
DIV Divide 34.89 47 P **P** **17 48 23.9 -1.3**
DIV IAmb IAmb 17 48 44.1
comp=Z,34nm,1.6s
FYU Fort Yukon 34.90 37 P **P** **17 48 24.7 -0.4**
RIDG Independent Ri 35.11 42 P **P** **17 48 25.7 -1.4**
RIDG IAmb IAmb 17 48 44.5
comp=Z,34nm,1.4s
BMAR Burnt Mountain 35.18 35 P **P** **17 48 27.2 -0.5**
DOT Dot Lake 35.47 42 P **P** **17 48 28.7 -1.4**
SCRK Sand Creek 35.48 41 P **P** **17 48 28.9 -1.4**
SCRK IAmb IAmb 17 48 45.4
comp=Z,22nm,1.4s
TATO Taipei 35.49 241 P **P** **17 48 32.1 +1.5**
MENT Mentasta 35.68 43 P **P** **17 48 32.6 +0.7**
L26K Log Cabin Wild 35.84 43 P **P** **17 48 32.2 -1.1**
WHN Wuhan 35.91 255 P **P** **17 48 35.5 +1.3**
VRDI Verde Repeater 36.00 46 P **P** **17 48 34.4 -0.5**
M26K Nabesna, AK 36.06 44 P **P** **17 48 35.2 0.0**
MCARA McCarthy VSAT 36.18 46 P **P** **17 48 35.8 -0.4**
CRQM Cirque 36.22 47 P **P** **17 48 35.5 -1.2**
CRQM IAmb IAmb 17 48 55.9
comp=Z,18nm,0.9s
K27K Chicken 36.31 41 P **P** **17 48 36.0 -1.3**
K27K IAmb IAmb 17 48 53.5
comp=Z,12nm,1.0s
L27K Beaver Creek, 36.52 43 P **P** **17 48 38.4 -0.8**
L27K IAmb IAmb 17 48 55.5
comp=Z,18nm,1.0s
BCAR Beaver Creek A 36.54 43 P **P** **17 48 38.2 -1.1**
M27K Edge Creek, AK 36.59 44 P **P** **17 48 38.4 -1.5**
ISLE Juniper Island 36.63 47 P **P** **17 48 38.4 -1.8**
EGAK Eagle 36.65 40 P **P** **17 48 38.6 -1.5**
EGAK IAmb IAmb 17 48 57.2
comp=Z,49nm,1.9s
YULB Yu-li 36.83 239 P **P** **17 48 40.0 -2.1**
BARN Barnard Glacie 36.88 46 P **P** **17 48 41.1 -1.3**
BARN IAmb IAmb 17 48 59.7
comp=Z,28nm,1.5s
GRNC Granite Creek 36.89 47 P **P** **17 48 41.3 -1.2**
GRNC IAmb IAmb 17 48 58.2
comp=Z,25nm,1.4s
YAH Yahtse 36.96 47 P **P** **17 48 41.6 -1.5**
YAH IAmb IAmb 17 48 57.0
comp=Z,21nm,1.1s
CTGM Chitina Glacie 37.05 46 P **P** **17 48 42.4 -1.4**
LOGN Logan Glacier 37.24 46 P **P** **17 48 44.5 -0.9**
LOGN IAmb IAmb 17 49 10.0
comp=Z,30nm,1.7s
TABL Table Mountain 37.24 47 P **P** **17 48 43.6 -1.9**
TABL IAmb IAmb 17 49 00.4
comp=Z,18nm,1.1s
TWG Pinlang 37.40 239 P **P** **17 48 46.9 0.0**
TWG IAmb IAmb 17 48 58.7
comp=Z,25nm,0.8s
DAWY Dawson 37.48 41 P **P** **17 48 46.7 -0.6**
PCA Pinnacle 37.74 48 P **P** **17 48 47.3 -2.2**
PCA IAmb IAmb 17 49 04.7
comp=Z,19nm,1.2s
NRIK Noril'sk 38.11 328 P **P** **17 48 51.3 -1.2**
comp=Z,2.6nm,0.5s,baz=88,slow=7.0,SNR=5.4
NRIK LR LR 18 05 28.6
comp=Z,279nm,18.1s,baz=60,slow=38
NRIK Noril'sk 38.11 328 *de*P **P** **17 48 51.5 -1.0**
NRIK pmax pmax
comp=Z,14nm,1.5s
NRIK MLR MLR
comp=Z,545nm,15.0s
NRIK Noril'sk 38.11 328 P **P** **17 48 51.3 -1.2**
NRIK IAmb IAmb 17 48 53.3
comp=Z,22nm,1.6s
EPYK Eagle Plains 38.32 37 P **P** **17 48 54.3 0.0**
EPYK IAmb IAmb 17 49 15.1
comp=Z,25nm,1.2s
HYT Haines Junctio 38.92 46 P **P** **17 48 58.3 -1.2**
ENH Enshi 39.25 260 P **P** **17 49 01.0 -1.4**
ENH IAmb IAmb 17 49 03.3
comp=Z,38nm,1.1s
INK Inuvik 39.32 34 P **P** **17 49 02.5 -0.1**
comp=Z,2.8nm,0.5s,baz=280,slow=5.3,SNR=9.3
INK Inuvik 39.32 34 P **P** **17 49 01.8 -0.8**
INK pmax pmax
comp=Z,17nm,1.3s
INK Inuvik 39.32 34 P **P** **17 49 01.8 -0.8**
LZH Lanzhou 39.43 271 *e*P **P** **17 49 05.2 +1.1**
LZH pmax pmax
comp=Z,45nm,1.2s
LZH LR LR
comp=Z,580nm,12.5s
LZH LR LR
comp=Z,510nm,12.5s
LZH LR LR
comp=Z,340nm,14.9s
GTA Gaotai 40.28 278 ⇑P **P** **17 49 10.6 -0.5**
GTA pP sP 17 49 22.6 -0.7
GTA PP **PnPn** **17 50 47.3 -0.4**
GTA pmax pmax
comp=Z,15nm,1.2s
GTA pmax pmax
comp=Z,78nm,5.8s
GTA LR LR
comp=Z,510nm,15.6s
GTA LR LR
comp=Z,820nm,16.0s
GTA LR LR
comp=Z,1µm,16.7s
SKAG Skagway 40.31 48 P **P** **17 49 08.7 -2.2**
CD2 Chengdu 42.61 265 P **P** **17 49 28.9 -1.3**
CD2 pmax pmax
comp=Z,40nm,1.1s
ZAA0 Zalesovo Array 42.90 305 P **P** **17 49 30.4 -1.8**
ZALV Zalesovo Beam 42.90 305 P **P** **17 49 30.3 -1.9**
comp=Z,1.7nm,0.4s,baz=62,slow=7.0,SNR=11
ZALV PcP **PcP** **17 51 22.7 +0.3**
comp=Z,1.2nm,0.4s,baz=89,slow=2.2,SNR=5.5
ZALV LR LR 18 08 35.3
comp=Z,422nm,18.1s,baz=64,slow=38
ZALV Zalesovo Beam 42.90 305 *i*P **P** **17 49 30.2 -2.0**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
ZALV Zalesovo Beam 42.90 305 P **P** **17 49 29.7 -2.5**
DGZ Jazzator, Alta 43.16 298 *di*P **P** **17 49 34.9 +0.3**
DGZ pmax pmax
comp=Z,19nm,1.2s
DGZ MLR MLR
comp=Z,472nm,16.0s
GYA Guiyang 43.64 258 ⇑P **P** **17 49 38.5 -0.2**
GYA pP pP 17 49 47.2 -0.2
GYA S **S** **17 56 05.3 -1.1**
GYA SS **SS** **17 59 16.3 -5.6**
GYA pmax pmax
comp=Z,37nm,1.3s
GYA pmax pmax
comp=Z,130nm,3.5s
GYA LR LR
comp=Z,200nm,9.5s
GYA LR LR
comp=Z,210nm,13.3s
GYA LR LR
comp=Z,270nm,16.3s
ZSN Zaisan 45.71 297 *e*P **P** **17 49 53.6 -1.3**
baz=296
ZSN Zaisan 45.71 297 *e*P **P** **17 49 53.5 -1.3**
WMQ Urumqi 45.79 291 *e*P **P** **17 49 55.0 -0.5**
WMQ pmax pmax
comp=Z,26nm,1.3s
WMQ pmax pmax
comp=Z,370nm,11.1s
WMQ LR LR
comp=Z,810nm,16.3s
WMQ LR LR
comp=Z,340nm,14.7s
WMQ LR LR
comp=Z,550nm,16.3s
QIZ Qiongzhong 46.99 248 P **P** **17 50 04.7 -0.4**
QIZ S **S** **17 56 53.9 -0.7**
QIZ LR LR
comp=Z,170nm,16.7s
QIZ LR LR
comp=Z,290nm,12.4s
QIZ LR LR
comp=Z,540nm,16.7s
EUNU Eureka 47.10 12 P **P** **17 50 05.0 -0.3**
KMI Kunming 47.12 260 ⇑P **P** **17 50 06.6 +0.2**
KMI pP sP 17 50 17.5 -1.2
KMI S **S** **17 56 55.2 -1.6**
KMI SS **SS** **18 00 15.7 -8.2**
KMI pmax pmax
comp=Z,29nm,1.1s
KMI pmax pmax
comp=Z,110nm,5.5s
KMI LR LR
comp=Z,390nm,20.0s
KMI LR LR
comp=Z,220nm,22.4s
KMI LR LR
comp=Z,260nm,19.0s
MK31 Makanchi Array 47.56 297 *de*P **P** **17 50 08.2 -1.1**
MK31 Makanchi Array 47.56 297 P **P** **17 50 07.9 -1.4**
MKAR Makanchi Array 47.56 297 P **P** **17 50 08.8 -0.5**
comp=Z,28nm,0.9s,baz=79,slow=13,SNR=141
MKAR LR LR 18 11 36.3
comp=Z,664nm,19.1s,baz=22,slow=38
MKAR Makanchi Array 47.56 297 P **P** **17 50 07.8 -1.6**
MAKZ Makanchi 47.74 297 P **P** **17 50 09.3 -1.4**
MAKZ pmax pmax
comp=Z,25nm,1.3s
MAKZ Makanchi 47.74 297 P **P** **17 50 09.3 -1.4**
MAKZ IAmb IAmb 17 50 11.3
comp=Z,25nm,1.2s
YKA Yellowknife Ar 48.58 38 P **P** **17 50 16.9 +0.1**
comp=Z,2.5nm,0.9s,baz=300,slow=6.3,SNR=5.8
YKA Yellowknife Ar 48.58 38 *ce*P **P** **17 50 19.1 +2.2**
YKA pmax pmax
comp=Z,3.0nm,0.9s
SLVN Son La 49.03 255 P **P** **17 50 20.1 -0.9**
SLVN IAmb IAmb 17 50 25.5
comp=Z,15nm,0.9s
TDK Taldyqorghan 50.81 297 *e*P **P** **17 50 33.1 -1.1**
comp=Z,45nm,0.6s,baz=296
TDK Taldyqorghan 50.81 297 *e*P **P** **17 50 33.1 -1.1**
TDK pmax pmax
comp=Z,45nm,0.6s
BRVK Borovoye 51.02 309 *ci*P **P** **17 50 34.4 -1.2**
BRVK pmax pmax
comp=Z,13nm,2.5s
BRVK MLR MLR
comp=Z,538nm,17.0s
BRVK Borovoye 51.02 309 P **P** **17 50 33.8 -1.9**
BRVK PcP **PcP** **17 51 49.9 -1.3**
BRVK Borovoye 51.02 309 P **P** **17 50 34.5 -1.1**
BRVK Borovoye 51.02 309 *e*P **P** **17 50 34.4 -1.2**
SPITS Spitsbergen Ar 51.18 350 P **P** **17 50 34.4 -2.1**
SPITS pmax pmax
comp=Z,73nm,1.5s
SHLS Shalkode 51.20 294 *e*P **P** **17 50 33.7 -3.6**
comp=Z,5.1nm,0.4s,baz=294
SHLS Shalkode 51.20 294 *e*P **P** **17 50 33.6 -3.6**
SHLS pmax pmax
comp=Z,5.0nm,0.4s
UZB Uzynbulak 51.47 295 *e*P **P** **17 50 38.3 -1.1**
comp=Z,8.5nm,1.0s,baz=294
UZB Uzynbulak 51.47 295 *e*P **P** **17 50 38.2 -1.1**
UZB pmax pmax
comp=Z,9.0nm,1.0s
KPKS Kokpek 51.50 295 *e*P **P** **17 50 37.8 -1.6**
baz=295
KPKS Kokpek 51.50 295 *e*P **P** **17 50 37.8 -1.6**
NLWA Neilton Lookou 51.60 59 P **P** **17 50 40.2 +0.1**
LSA Lhasa 51.76 273 P **P** **17 50 42.8 +0.8**
LSA pmax pmax
comp=Z,34nm,0.8s
LSA Lhasa 51.76 273 P **P** **17 50 43.3 +1.3**
LSA Lhasa 51.76 273 P **P** **17 50 40.6 -1.4**
LSA pmax pmax
comp=Z,11nm,1.0s
LSA Lhasa 51.76 273 P **P** **17 50 40.6 -1.4**
LSA IAmb IAmb 17 50 45.0
comp=Z,11nm,1.0s
LSA Lhasa 51.76 273 P **P** **17 50 41.4 -0.6**
SATY Saty 51.90 295 *e*P **P** **17 50 41.4 -1.1**
comp=Z,6.3nm,0.9s,baz=294
SATY Saty 51.90 295 *e*P **P** **17 50 41.3 -1.2**
SATY pmax pmax
comp=Z,6.0nm,0.9s
NONG Nongkai 51.91 253 P **P** **17 50 44.8 +2.2**
comp=Z,22nm,0.8s
NONG Nongkai 51.91 253 P **P** **17 50 44.0 +1.4**
CHKK Chushkaly 52.30 296 *e*P **P** **17 50 43.9 -1.4**
baz=296
MDOK Medeo 52.65 296 *e*P **P** **17 50 46.7 -1.5**
baz=295
MDOK Medeo 52.65 296 *e*P **P** **17 50 46.6 -1.5**
KUU Kurty 52.66 297 *e*P **P** **17 50 46.5 -1.5**
comp=Z,22nm,1.2s,baz=296
KUU Kurty 52.66 297 *e*P **P** **17 50 46.5 -1.5**
KUU pmax pmax
comp=Z,22nm,1.2s
TNSS Tian-Shan 52.79 296 *e*P **P** **17 50 48.5 -0.9**
baz=295
TARG Taragay, Kyrgy 53.02 294 P **P** **17 50 50.6 -0.6**
MTBS Maitube 53.04 296 *e*P **P** **17 50 49.8 -1.1**
baz=296
KDJ Kajisay 53.17 294 P **P** **17 50 51.1 -0.9**
KDJ pmax pmax
comp=Z,13nm,0.6s
KDJ Kajisay 53.17 294 P **P** **17 50 51.1 -0.9**
KDJ IAmb IAmb 17 50 53.2
comp=Z,13nm,0.6s
NEEM North Greenlan 53.25 7 *i*P **P** **17 50 51.5 -0.7**
NEEM IAmb IAmb 17 50 52.5
comp=Z,38nm,1.0s
BTLS Baital 53.35 299 *e*P **P** **17 50 51.0 -2.0**
baz=299
BTLS Baital 53.35 299 *e*P **P** **17 50 51.0 -2.0**
B08A Colville Reser 53.60 56 P **P** **17 50 53.2 -1.7**
SVE Sverdlovsk 53.64 317 *e*P **P** **17 50 53.5 -1.5**
BOOM Boomskoye usch 53.71 296 P **P** **17 50 56.1 +0.2**
BOOM pmax pmax
comp=Z,14nm,0.6s
BOOM Boomskoye usch 53.71 296 P **P** **17 50 56.1 +0.2**
BOOM IAmb IAmb 17 50 57.4
comp=Z,14nm,0.6s
UTTA Uttaradit 53.80 255 P **P** **17 50 59.8 +3.2**
comp=Z,183nmcomp=Z,20nm,0.9s
UTTA Uttaradit 53.80 255 P **P** **17 50 59.8 +3.2**
comp=Z,46nmcomp=Z,4.9nm,0.9s
LAMP Lampang 53.83 257 P **P** **17 50 59.4 +2.6**
comp=Z,346nmcomp=Z,35nm,0.9s
LAMP Lampang 53.83 257 P **P** **17 50 59.0 +2.2**
comp=Z,86nmcomp=Z,8.6nm,0.9s
CM34 Chiang Mai Arr 53.90 257 P **P** **17 50 58.0 +0.6**
SGDS Sogindy 53.93 297 *e*P **P** **17 50 56.1 -1.2**
comp=Z,5.4nm,0.8s,baz=297
EDM Edmonton 53.96 48 P **P** **17 50 55.4 -2.1**
EDM pmax pmax
comp=Z,10.0nm,1.0s
EDM Edmonton 53.96 48 P **P** **17 50 55.4 -2.1**
EDM IAmb IAmb 17 51 12.1
comp=Z,9.7nm,1.0s
SHL Shillong 54.00 269 P **P** **17 50 57.9 -0.4**
SHL pmax pmax
comp=Z,34nm,0.8s
SHL Shillong 54.00 269 P **P** **17 50 57.9 -0.4**
SHL Shillong 54.00 269 *e*P **P** **17 50 59.0 +0.7**
SHL Shillong 54.00 269 P **P** **17 50 58.3 +0.1**
SNR=11
CM35 Chiang Mai Arr 54.02 257 P **P** **17 50 59.0 +0.7**
CM33 Chiang Mai Arr 54.06 257 P **P** **17 50 59.0 +0.5**
CMMT Chiang Mai 54.06 257 P **P** **17 50 59.3 +0.8**
comp=Z,344nmcomp=Z,35nm,1.0s
CMMT Chiang Mai 54.06 257 P **P** **17 50 59.4 +0.8**
comp=Z,344nmcomp=Z,35nm,1.0s
CMMT Chiang Mai 54.06 257 P **P** **17 50 58.8 +0.3**
comp=Z,328nmcomp=Z,33nm,1.0s
CHTO Chiang Mai 54.06 257 P **P** **17 50 58.8 +0.3**
CHTO pmax pmax
comp=Z,38nm,1.1s
CHTO Chiang Mai 54.06 257 P **P** **17 50 59.4 +0.9**
comp=Z,354nmcomp=Z,35nm,1.0s
CHTO Chiang Mai 54.06 257 P **P** **17 50 58.8 +0.3**
CHTO Chiang Mai 54.06 257 P **P** **17 50 59.5 +0.9**
CHTO Chiang Mai 54.06 257 P **P** **17 50 58.8 +0.3**
comp=Z,199nmcomp=Z,19nm,1.0s
CM36 Chiang Mai Arr 54.18 257 P **P** **17 51 00.0 +0.6**
CM32 Chiang Mai Arr 54.24 257 P **P** **17 51 01.0 +1.2**
CHAI Chaiyaphum 54.25 252 P **P** **17 51 01.1 +1.2**

comp=Z,244nmcomp=Z,28nm,1.0s
CHAI Chaiyaphum 54.25 252 P **P** 17 51 01.2 +1.2
comp=Z,61nmcomp=Z,6.9nm,1.0s
PHIT Phitsanulok 54.30 255 P **P** 17 51 03.8 +3.6
comp=Z,56nm,0.9s
PHIT Phitsanulok 54.30 255 P **P** 17 51 03.8 +3.6
comp=Z,14nm,0.9s
CM09 Chiang Mai Arr 54.30 257 P **P** 17 51 02.1 +1.8
comp=Z,166nmcomp=Z,16nm,1.0s
CM09 Chiang Mai Arr 54.30 257 P **P** 17 51 02.2 +1.9
comp=Z,166nmcomp=Z,16nm,1.0s
FRU1 Bishkek 54.30 297 P **P** 17 50 59.5 -0.6
FRU1 pmax pmax
comp=Z,18nm,0.7s
FRU1 Bishkek 54.30 297 P **P** 17 50 59.5 -0.6
CM31 Chiang Mai Arr 54.32 257 P **P** 17 51 02.0 +1.6
comp=Z,6umcomp=Z,473nm,0.8s
CM31 Chiang Mai Arr 54.32 257 P **P** 17 51 00.3 -0.1
CM31 IAmb IAmb 17 51 03.9
comp=Z,17nm,0.9s
CM31 Chiang Mai Arr 54.32 257 P **P** 17 51 01.6 +1.2
CMAR Chiang Mai Arr 54.32 257 P **P** 17 51 01.1 +0.7
comp=Z,12nm,0.9s,baz=30,slow=7.3,SNR=55
CMAR LR LR 18 14 55.2
comp=Z,361nm,20.1s,baz=90,slow=37
CMAR Chiang Mai Arr 54.32 257*ce*P **P** 17 51 01.6 +1.2
CMAR pmax pmax
comp=Z,12nm,0.9s
CMAR Chiang Mai Arr 54.32 257 P **P** 17 51 01.2 +0.8
CM02 Chiang Mai Arr 54.33 257 P **P** 17 51 02.1 +1.5
comp=Z,183nmcomp=Z,25nm,0.9s
CM02 Chiang Mai Arr 54.33 257 P **P** 17 51 02.0 +1.5
comp=Z,183nmcomp=Z,25nm,0.9s
CM15 Chiang Mai Arr 54.34 257 P **P** 17 51 02.4 +1.9
comp=Z,172nmcomp=Z,18nm,1.0s
CM15 Chiang Mai Arr 54.34 257 P **P** 17 51 02.0 +1.5
comp=Z,172nmcomp=Z,18nm,1.0s
CM01 Chiang Mai Arr 54.34 257 P **P** 17 51 02.4 +1.9
comp=Z,175nmcomp=Z,21nm,1.1s
CM01 Chiang Mai Arr 54.34 257 P **P** 17 51 02.5 +1.9
comp=Z,175nmcomp=Z,21nm,1.1s
CM04 Chiang Mai Arr 54.34 257 P **P** 17 51 02.4 +1.8
comp=Z,181nmcomp=Z,21nm,0.9s
CM04 Chiang Mai Arr 54.34 257 P **P** 17 51 02.0 +1.4
comp=Z,181nmcomp=Z,21nm,0.9s
CM05 Chiang Mai Arr 54.36 257 P **P** 17 51 02.4 +1.7
comp=Z,157nmcomp=Z,19nm,1.1s
CM05 Chiang Mai Arr 54.36 257 P **P** 17 51 02.0 +1.3
comp=Z,157nmcomp=Z,19nm,1.1s
CM13 Chiang Mai Arr 54.37 257 P **P** 17 51 02.2 +1.4
comp=Z,146nmcomp=Z,16nm,0.8s
CM13 Chiang Mai Arr 54.37 257 P **P** 17 51 02.0 +1.2
comp=Z,146nmcomp=Z,16nm,0.8s
AAK Ala-Archa 54.48 296 *i* P **P** 17 51 01.6 0.0
SNR=14
AAK Ala-Archa 54.48 296*d i*P **P** 17 51 01.5 0.0
AAK pmax pmax
comp=Z,38nm,0.8s
AAK MLR MLR
comp=Z,1µm,17.0s
AAK Ala-Archa 54.48 296 P **P** 17 51 01.0 -0.6
AAK IAmb IAmb 17 51 02.7
comp=Z,14nm,0.9s
AAK Ala-Archa 54.48 296 P **P** 17 51 01.3 -0.3
AAK Ala-Archa 54.48 296 *eP* **P** 17 51 01.5 0.0
ARU Arti 54.80 318*c i*P **P** 17 51 02.0 -1.4
ARU *PP **sP** 17 51 16.0 +0.3
ARU 17 52 00.2
ARU S **S** 17 58 38.0 -4.0
ARU pmax pmax
comp=Z,24nm,1.1s
ARU MLR MLR
comp=Z,514nm,16.0s
ARU Arti 54.80 318 P **P** 17 51 01.7 -1.8
ARU PcP **PcP** 17 52 04.7 -0.7
DAG Danmarks Havn 54.96 358 *i* P **P** 17 51 02.4 -1.9
MHMT Maesarieng 55.18 258 P **P** 17 51 08.6 +2.0
comp=Z,32nm,1.0s
MHMT Maesarieng 55.18 258 P **P** 17 51 08.0 +1.4
comp=Z,32nm,1.0s
PINE Pine Mountain 55.34 61 P **P** 17 51 07.7 -0.1
PINE IAmb IAmb 17 51 42.3
comp=Z,9.9nm,1.2s
KSH Kashi 55.46 293 P **P** 17 51 12.4 +3.8
KSH sP sP 17 51 28.7 +7.6
KSH pmax pmax
comp=Z,11nm,1.3s
KSH LR LR
comp=Z,1µm,14.5s
KSH LR LR
comp=Z,480nm,14.7s
KSH LR LR
comp=Z,1µm,14.7s
YBH Yreka Blue Hor 55.53 64 P **P** 17 51 09.0 -0.1
comp=Z,3.0nm,1.0s,baz=74,slow=4.3,SNR=3.4
YBH Yreka Blue Hor 55.53 64 P **P** 17 51 09.0 -0.1
I07A Izee 56.00 60 P **P** 17 51 12.1 -0.3
K05A Summer Lake 56.01 62 P **P** 17 51 11.1 -1.5
K05A IAmb IAmb 17 51 27.0
comp=Z,8.8nm,1.0s
UMPA Umpang Tak 56.02 255 P **P** 17 51 16.4 +3.7
comp=Z,651nmcomp=Z,38nm,0.9s
UMPA Umpang Tak 56.02 255 P **P** 17 51 16.5 +3.7
comp=Z,162nmcomp=Z,9.4nm,0.9s
UTHA Uthaitani 56.13 254 P **P** 17 51 17.2 +3.8
comp=Z,16nm,0.9s
UTHA Uthaitani 56.13 254 P **P** 17 51 17.3 +3.8
comp=Z,3.9nm,0.9s
JIRN Jiri 56.39 275 *eP* **P** 17 51 16.1 +0.4
comp=Z,31nm,0.5s
KK31 Karatay Array 56.55 299 P **P** 17 51 15.1 -1.1
KK31 pmax pmax
comp=Z,5.0nm,1.0s
KK31 Karatay Array 56.55 299 P **P** 17 51 15.1 -1.1
KKAR Karatay Array 56.55 299 P **P** 17 51 15.4 -0.8
KKAR pmax pmax
comp=Z,5.0nm,1.0s
KKAR Karatay Array 56.55 299 P **P** 17 51 15.4 -0.8
KKAR Karatay Array 56.55 299 P **P** 17 51 15.4 -0.8
RAMN Ramite 56.59 274 *eP* **P** 17 51 17.2 +0.2
comp=Z,26nm,0.4s
JTMT Jette 56.70 54 P **P** 17 51 17.3 -0.1
JTMT IAmb IAmb 17 51 40.9
comp=Z,20nm,1.8s
ARCES ARCESS Array B 56.73 341 P **P** 17 51 15.2 -1.8
comp=Z,2.5nm,0.3s,baz=36,slow=7.8,SNR=53
ARCES LR LR 18 21 40.1
comp=Z,440nm,18.1s,baz=5.0,slow=42
PRGR Permogore 56.76 328 *eP* P 17 51 12.2 -5.1
PRGR pmax pmax
comp=Z,37nm,1.5s
BMO Blue Mountains 56.79 58 P **P** 17 51 17.5 -0.5
BMO pmax pmax
comp=Z,16nm,2.0s
BMO Blue Mountains 56.79 58 P **P** 17 51 17.5 -0.5
BMO IAmb IAmb 17 52 59.2
comp=Z,16nm,1.9s
KKN Kakani 56.90 276 *eP* **P** 17 51 20.5 +1.3
comp=Z,36nm,0.6s
PKI Pulchoki 56.96 275 *eP* **P** 17 51 20.2 +0.5
comp=Z,40nm,0.7s
PKIN Phulchoki 56.97 276 *eP* **P** 17 51 20.2 +0.5
comp=Z,22nm,0.5s
DMN Daman 57.14 276 *eP* **P** 17 51 21.5 +0.6
GKN Gorkha 57.19 276 *eP* **P** 17 51 21.5 +0.4
comp=Z,83nm,0.8s
PLID Pearl Lake 57.38 57 P **P** 17 51 21.6 -0.7
PLID IAmb IAmb 17 51 24.2
comp=Z,18nm,1.4s
IUG Iuzhnay 57.42 298 *eP* **P** 17 51 21.9 -0.6
baz=298
IUG Iuzhnay 57.42 298 *eP* **P** 17 51 21.8 -0.6
MSO Missoula 57.45 55 P **P** 17 51 21.4 -1.2
MSO IAmb IAmb 17 51 23.4
comp=Z,20nm,1.8s
WVOR Wild Horse Val 57.51 61 P **P** 17 51 22.1 -1.0
WVOR pmax pmax
comp=Z,8.0nm,1.2s
WVOR Wild Horse Val 57.51 61 P **P** 17 51 22.1 -1.0
DANN Dangsing 57.54 277 *eP* **P** 17 51 21.4 +0.7
comp=Z,73nm,0.6s
PHET Kaeng Krachan 57.99 252 P **P** 17 51 28.9 +2.3
comp=Z,40nm,1.1s
PHET Kaeng Krachan 57.99 252 P **P** 17 51 29.0 +2.3
DRK Karamyk 58.02 295 P **P** 17 51 26.8 -0.2
DRK IAmb IAmb 17 51 28.9
comp=Z,11nm,0.8s
KOLN Koldanda 58.03 277 *eP* **P** 17 51 27.5 +0.4
PYUN Piuthan 58.21 278 *eP* **P** 17 51 29.4 +1.0
BTK Batken 58.25 296 P **P** 17 51 27.8 -0.5
BTK pmax pmax
comp=Z,19nm,0.9s
BTK Batken 58.25 296 P **P** 17 51 27.8 -0.5
BTK IAmb IAmb 17 51 29.5
comp=Z,19nm,0.9s
ABKAR Akbulak array 58.53 310 P **P** 17 51 28.6 -1.4
ABKAR IAmb IAmb 17 51 30.1
comp=Z,17nm,1.4s
ABKAR Akbulak array 58.53 310 P **P** 17 51 28.8 -1.2
SUMG Summit 58.84 5⇑ *i*P **P** 17 51 32.6 +0.3
SUMG IAmb IAmb 17 51 33.7
comp=Z,47nm,1.1s
SUMG Summit 58.84 5 P **P** 17 51 30.9 -1.4
SUMG pmax pmax
comp=Z,47nm,1.1s
SUMG Summit 58.84 5 P **P** 17 51 30.9 -1.4
LRM Limekiln Ridge 58.88 55 P **P** 17 51 30.8 -2.1
GAR Garni 59.22 295 P **P** 17 51 34.8 -0.3
HLID Hailey 59.22 58 P **P** 17 51 34.8 -0.4
MCMT McKenzie Canyo 59.29 56 P **P** 17 51 34.9 -0.9
YERR Yerington 59.31 65 P **P** 17 51 33.2 -2.7
KLMR Klimovskoe 59.43 329 *eP* **P** 17 51 34.3 -1.8
KLMR pmax pmax
comp=Z,29nm,1.3s
KLMR Klimovskoe 59.43 329 *eP* **P** 17 51 34.4 -1.7
KLMR AMP 17 51 36.6
comp=Z,29nm,1.3s
BOZ Bozeman (W) 59.47 54 P **P** 17 51 35.4 -1.4
BOZ pmax pmax
comp=Z,24nm,1.8s
BOZ Bozeman (W) 59.47 54 P **P** 17 51 35.4 -1.4
BOZ IAmb IAmb 17 52 08.6
comp=Z,24nm,1.8s
BMN Battle Mountai 59.59 62 P **P** 17 51 36.8 -0.9
BMN pmax pmax
comp=Z,7.0nm,1.2s
BMN Battle Mountai 59.59 62 P **P** 17 51 36.8 -0.9
BMN IAmb IAmb 17 51 58.9
comp=Z,7.4nm,1.2s
BKB Balikpapan 59.76 226 P **P** 17 51 37.8 -1.1
KVN Kaiserville 59.95 64 P **P** 17 51 39.3 -1.0
KVN pmax pmax
comp=Z,5.0nm,1.1s
KVN Kaiserville 59.95 64 P **P** 17 51 39.3 -1.0
SAUI Saumlaki 60.12 208 P **P** 17 51 38.9 -2.4
CHGR Chuyangaron 60.13 296 P **P** 17 51 40.6 -0.8
PMPB Monarch Peak 60.14 68 P **P** 17 51 40.6 -0.8
PMPB IAmb IAmb 17 53 43.8
comp=Z,26nm,1.4s
LHV Little Huntoon 60.23 65 P **P** 17 51 42.1 +0.2
LHV IAmb IAmb 17 51 56.9
comp=Z,28nm,1.8s
NVAR Mina Array Bea 60.23 65 P **P** 17 51 42.4 +0.1
comp=Z,1.0nm,0.7s,baz=294,slow=7.3,SNR=7.2
NVAR LR LR 18 13 40.5
comp=Z,96nm,21.6s,baz=301,slow=32
NVAR Mina Array Bea 60.23 65 P **P** 17 51 39.9 -2.3
YHB Horse Butte 60.25 55 P **P** 17 51 38.6 -3.7
YHB IAmb IAmb 17 52 01.5
comp=Z,9.3nm,1.2s
NV11 Mina Array Sit 60.32 64 P **P** 17 51 41.8 -1.0
NV11 IAmb IAmb 17 51 53.9
comp=Z,12nm,1.8s
YHH Holmes Hill 60.41 55 P **P** 17 51 43.5 0.0
ELK Elko 60.55 61 P **P** 17 51 44.7 +0.3
comp=Z,0.7nm,0.8s,baz=241,slow=10,SNR=2.0
YNE Yellowstone No 60.73 54 IAmb IAmb 17 51 50.5
comp=Z,18nm,1.1s
KSM Kuching 60.79 234 P **P** 17 51 47.0 +1.1
NIL Nilore 60.86 289 P **P** 17 51 45.8 -0.5
NIL pmax pmax
comp=Z,29nm,1.1s
NIL Nilore 60.86 289 P **P** 17 51 45.8 -0.5
NIL Nilore 60.86 289 P **P** 17 51 46.8 +0.5
RLMT Red Lodge 61.05 54 IAmb IAmb 17 52 03.7
comp=Z,36nm,1.9s
TPAW Teton Pass 61.20 56 P **P** 17 51 48.0 -0.8
TPAW IAmb IAmb 17 52 07.1
comp=Z,7.3nm,1.1s
REDW Red Top Meadow 61.34 56 IAmb IAmb 17 51 52.5
comp=Z,7.1nm,1.0s
R11A Troy Canyon, C 61.91 63 P **P** 17 51 51.3 -2.2
ICESG Greenland Ices 62.21 6 *i* P **P** 17 51 55.4 +0.1
SPR3 Spring Creek 3 62.22 62 P **P** 17 51 54.9 -0.9
SPR3 IAmb IAmb 17 52 17.4
comp=Z,9.7nm,1.4s
BELG Belogornoye 62.28 319*de*P **P** 17 51 55.2 -0.4
BELG pmax pmax
comp=Z,6.0nm,0.9s
BELG MLR MLR
comp=Z,39nm,15.0s
TPNV Topopah Spring 62.43 65 P **P** 17 51 56.4 -0.7
TPNV pmax pmax
comp=Z,15nm,1.6s
TPNV Topopah Spring 62.43 65 P **P** 17 51 56.4 -0.7
TPNV IAmb IAmb 17 52 10.6
comp=Z,15nm,1.6s
PD31 Pinedale Array 62.44 56 P **P** 17 51 56.1 -1.0
PDAR Pinedale Array 62.44 56 P **P** 17 51 57.0 -0.1
comp=Z,1.7nm,0.8s,baz=318,slow=2.0,SNR=14
PDAR LR LR 18 19 05.6
comp=Z,43nm,19.9s,baz=338,slow=36
PRN Pahroc Range 62.84 63 IAmb IAmb 17 52 21.8
comp=Z,21nm,1.9s
KBL Kabul 62.89 292 P **P** 17 51 58.7 -1.5
KBL pmax pmax
comp=Z,20nm,1.3s
KBL Kabul 62.89 292 P **P** 17 51 58.7 -1.5
KBL IAmb IAmb 17 52 00.3
comp=Z,20nm,1.3s
KBL Kabul 62.89 292 P **P** 17 52 00.4 +0.2
SNR=5.6
FINES FINESS Array B 63.13 335 P **P** 17 51 60.0 -1.1
comp=Z,3.6nm,0.4s,baz=29,slow=7.3,SNR=53
FINES LR LR 18 22 20.6
comp=Z,609nm,19.6s,baz=26,slow=39
FINES FINESS Array B 63.13 335 P **P** 17 52 00.0 -1.1
SFJD Kangerlussuaq 63.15 11 LR LR 18 20 52.6
comp=Z,189nm,20.6s,baz=348,slow=37
KULM Kulim 63.25 246 P **P** 17 52 04.0 +1.5
RDMU Red Mountain 63.91 58 P **P** 17 52 06.4 -0.5
RDMU IAmb IAmb 17 52 21.3
comp=Z,10nm,0.8s
ULM Lac du Bonnet 64.16 43 LR LR 18 21 27.1
comp=Z,214nm,20.7s,baz=290,slow=37
LCMT Little Creek M 64.18 63 IAmb IAmb 17 52 29.9
comp=Z,15nm,1.7s
SRU San Rafael Swe 64.35 59 IAmb IAmb 17 52 27.4
comp=Z,7.6nm,0.9s
KNB Kanab 64.43 62 P **P** 17 52 09.8 -0.5
KNB pmax pmax
comp=Z,16nm,1.6s
KNB Kanab 64.43 62 P **P** 17 52 09.8 -0.5
KNB IAmb IAmb 17 52 32.5
comp=Z,16nm,1.6s
RSSD Black Hills 64.49 52 P **P** 17 52 09.9 -0.7
RSSD pmax pmax
comp=Z,7.0nm,0.7s
RSSD Black Hills 64.49 52 P **P** 17 52 09.9 -0.7
RSSD IAmb IAmb 17 52 24.7
comp=Z,6.7nm,0.7s
PFO Pinyon Flats O 64.53 67 *i* P **P** 17 52 12.7 +1.8
RAF Rauma 64.64 337 *eP* **P** 17 52 10.3 -0.7
OBN Obninsk 64.76 326⇓ *eP* **P** 17 52 12.6 +0.7
OBN *e* 17 52 43.9
OBN *e* 17 54 39.6
OBN pmax pmax
comp=Z,25nm,1.3s
OBN MLR MLR
comp=Z,374nm,18.0s
OBN Obninsk 64.76 326 *eP* **P** 17 52 12.6 +0.7
VSU Vasula 65.39 333⇑ *eP* **P** 17 52 16.6 +0.7
VSU pmax pmax
comp=Z,52nm,1.0s
VSU MLR MLR
comp=Z,1µm,17.0s
VRH Novokhopyorsk 65.68 321 *eP* **P** 17 52 16.2 -1.7
VRH pmax pmax
comp=Z,9.0nm,0.4s
PV17 East Wray Mesa 65.81 59 IAmb IAmb 17 52 33.2
comp=Z,12nm,0.8s
PV16 Nyswonger Mesa 65.81 59 IAmb IAmb 17 52 32.8
comp=Z,16nm,1.3s
AAL Aland 65.82 337 *eP* **P** 17 52 17.2 -1.4
PV05 Paradox Valley 65.87 59 P **P** 17 52 18.5 -1.1
PV05 IAmb IAmb 17 52 35.5
comp=Z,8.1nm,0.7s
PV03 Paradox Valley 65.89 59 IAmb IAmb 17 52 46.7
comp=Z,7.5nm,1.1s
PV13 Radium Mtn., P 65.97 59 IAmb IAmb 17 52 35.6
comp=Z,17nm,1.6s
MTSE Matsula 66.04 335 *eP* **P** 17 52 19.5 -0.6
NC405 NORSAR Array S 66.91 342 P **P** 17 52 24.3 -1.4
NC204 NORSAR Array S 66.96 342 P **P** 17 52 25.4 -0.6
GEYT Alibeck 67.06 302 P **P** 17 52 26.1 -1.0
comp=Z,53nm,0.9s,baz=37,slow=17,SNR=1.9
GEYT LR LR 18 24 07.1
comp=Z,311nm,18.5s,baz=55,slow=38
NB2 NORSAR Subarra 67.08 342 P **P** 17 52 25.6 -1.2
comp=Z,53nm,2.5s,baz=26,slow=6.5
NB2 NORSAR Subarra 67.08 342 P **P** 17 52 25.6 -1.2
baz=26,slow=6.5
NOA NORSAR Array B 67.08 342 P **P** 17 52 26.0 -0.8
comp=Z,1.5nm,0.5s,baz=25,slow=6.4,SNR=23
NOA LR LR 18 25 46.0
comp=Z,279nm,20.4s,baz=30,slow=40
NOA NORSAR Array B 67.08 342 P **P** 17 52 26.0 -0.8
NORES NORESS Array B 67.29 342 P **P** 17 52 26.8 -1.3
SLIT Slitere, Latvi 67.39 335 *eP* **P** 17 52 28.1 -0.6
MNK Minsk 68.30 330 *i* P **P** 17 52 34.4 -0.1
MNK *i* 17 53 00.3
MNK *i* 17 55 04.2
MNK *i* PPP PPP 17 56 42.1
MNK *i* S **S** **18 01 34.4 +1.5**
MNK *i* 18 02 34.4
MNK *i* SS **SS** **18 06 00.9 +5.6**
MNK pmax pmax
comp=Z,46nm,0.9s
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=N,30nm,1.4s
MNK MLR MLR
comp=N,226nm,17.0s
MNK MLR MLR
comp=E,25nm,15.0s
MNK MLR MLR
comp=Z,567nm,18.0s
MNK Minsk 68.30 330 *i* P **P** 17 52 34.4 0.0
comp=E,3.0nm,0.9s
MNK *i* P **P** 17 52 34.4 0.0
comp=N,30nm,1.4s
MNK *i* P **P** 17 52 34.4 0.0
comp=Z,46nm,0.9s,baz=35
MNK *i* PcP **PcP** 17 53 00.4 +0.4
MNK *i* PP **PP** 17 55 04.3 -0.4
MNK *i* PPP PPP 17 56 42.2
MNK *i* S **S** **18 01 34.4 +1.5**
MNK *i* SS **SS** **18 06 01.0 +5.7**
MNK *i* SSS SSS 18 09 14.3
MNK *i* LQ LQ 18 17 36.0
MNK *i* LR LR 18 21 42.1
MNK *i* LRM MLR 18 26 38.0
comp=E,25nm,14.8s
MNK *i* LRM MLR 18 26 38.0
comp=N,226nm,16.8s
MNK *i* LRM MLR 18 26 46.4
comp=Z,567nm,18.0s
NACGM Naroch 68.32 331 *i* P **P** 17 52 34.0 -0.7
ECSD EROS Data Cent 68.53 48 P **P** 17 52 35.0 -1.2
ECSD IAmb IAmb 17 53 10.2
comp=Z,7.0nm,1.0s
HYB Hyderabad 68.53 272 *i* P **P** 17 52 36.0 -0.6
MSVF Nonsavu 68.94 157 LR LR 18 19 24.3
comp=Z,171nm,19.6s,baz=20,slow=33
LEM Lembang 69.20 232 P **P** 17 52 43.3 +2.5
ANMO Albuquerque 69.58 60 P **P** 17 52 43.3 +0.2
comp=Z,0.9nm,0.4s,baz=90,slow=2.0,SNR=2.0
GOF Gofitskoye 69.71 316⇑ *eP* **P** 17 52 44.6 +1.2
GOF pmax pmax
comp=Z,44nm,0.6s
GROC Groznyy 69.78 313 *eP* P 17 52 50.1 +6.2
GROC *e* 17 53 11.4
GROC pmax pmax
comp=Z,83nm,0.6s
LENM Lemitar 69.83 61 P **P** 17 52 43.3 -1.3
I37A Lemond, Waseca 69.89 46 P **P** 17 52 44.2 -0.4
I37A IAmb IAmb 17 53 05.6
comp=Z,16nm,1.0s
SUW Suwalki 70.21 332 *eP* **P** 17 52 46.3 -0.1
SUW Suwalki 70.21 332 *eP* **P** 17 52 46.5 +0.1
BLEU Blekinge 70.29 337 *i* P **P** 17 52 46.3 -0.5
SNART Snartemo 70.37 343 *i* P **P** 17 52 47.7 +0.4
FABU Falkenberg 70.42 339 *i* P **P** 17 52 47.4 -0.1
DEL Delary 70.62 339 *i* P **P** 17 52 48.0 -0.8
DEL *i* P **P** 17 52 48.8 0.0
NCK Nalchik 70.63 314⇑ *eP* **P** 17 52 50.2 +1.1
NCK pmax pmax
comp=Z,11nm,0.5s
WRA Warramunga Arr 70.69 201 P **P** 17 52 48.6 -1.0
comp=Z,2.9nm,0.7s,baz=17,slow=5.6,SNR=13
WRA Warramunga Arr 70.69 201*ce*P P 17 52 55.5 +5.9
WRA pmax pmax
comp=Z,3.0nm,0.8s
WRA Warramunga Arr 70.69 201 P **P** 17 52 48.6 -1.0
KIV Kislovodsk 70.71 315 *eP* **P** 17 52 51.1 +1.4
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,208nm,18.0s
KIV Kislovodsk 70.71 315 P **P** 17 52 50.2 +0.5
KIV Kislovodsk 70.71 315 *eP* **P** 17 52 51.1 +1.4
KBZ Khabaz 70.78 315 P **P** 17 52 50.1 +0.1
comp=Z,4.4nm,0.5s,baz=49,slow=2.4,SNR=16
KBZ LR LR 18 28 42.2
comp=Z,260nm,18.3s,baz=29,slow=40
KBZ Khabaz 70.78 315*ce*P **P** 17 52 50.9 +0.9
KBZ pmax pmax
comp=Z,9.0nm,0.8s
KBZ Khabaz 70.78 315 *eP* **P** 17 52 50.9 +0.9
POO Poona 70.86 276 *eP* **P** 17 52 49.0 -1.9
DZM Mont Dzumac 70.92 169 *eLR* LR 18 13 54.7
comp=Z,173nm,23.2s
DZM Mont Dzumac 70.92 169 LR LR 18 20 57.7
comp=Z,137nm,18.6s,baz=38,slow=33
AKASG Malin Array Be 70.97 327 P **P** 17 52 50.0 -1.0
comp=Z,9.9nm,0.4s,baz=34,slow=6.3,SNR=41
AKASG LR LR 18 26 48.5
comp=Z,235nm,19.3s,baz=15,slow=38
AKASG Malin Array Be 70.97 327 P **P** 17 52 49.5 -1.5
AKBB Malin Array Si 70.97 327*c i*P **P** 17 52 50.1 -0.9
AKBB pmax pmax
comp=Z,26nm,1.1s
AKBB MLR MLR
comp=Z,236nm,19.0s
SCHQ Schefferville 71.08 24 LR LR 18 27 24.4
comp=Z,95nm,20.2s,baz=330,slow=39
BJUU Bjuv 71.19 339 *i* P **P** 17 52 52.1 -0.1
ONI Oni 71.38 314 IAmb IAmb 17 52 56.2
comp=Z,13nm,1.2s
FITZ Fitzroy Crossi 71.43 210 P **P** 17 52 54.6 +0.5
FITZ IAmb IAmb 17 52 55.8
comp=Z,12nm,1.1s
BSD Bornholm Skovb 71.58 337 *i* P **P** 17 52 54.9 +0.3
AKH Akhalkalaki 72.26 313⇑ *i* P **P** 17 53 01.1 +1.9
GNI Garni 72.60 311 P **P** 17 53 03.0 +1.8
GNI Garni 72.60 311*c i*P **P** 17 53 02.5 +1.3
GNI pmax pmax
comp=Z,20nm,1.3s
GNI MLR MLR
comp=Z,259nm,16.0s
GNI Garni 72.60 311 P **P** 17 53 01.3 +0.1
GNI IAmb IAmb 17 53 04.2
comp=Z,19nm,1.1s
GNI Garni 72.60 311 P **P** 17 53 02.1 +0.9
BEL Belsk 72.83 332 *eP* **P** 17 53 03.0 +0.8
BATM Batumi 72.98 314 ⇓ *i* P **P** 17 53 04.2 +1.0
BCA Borcka 73.13 314⇑ *i* P **P** 17 53 05.3 +1.1
LVV L'vov 73.52 330 *eP* **P** 17 53 06.0 -0.3
LVV *e*S **S** **18 02 33.0 -0.7**
N41A Harden Midland 73.62 47 IAmb IAmb 17 53 07.9
comp=Z,21nm,1.2s
BSEG Bad Segeberg 73.78 339 *eP* **P** 17 53 08.5 +0.8
comp=Z,13nm,0.9s,baz=24,slow=5.7
P40A Paris 73.95 48 IAmb IAmb 17 53 09.9
comp=Z,14nm,1.3s

KWP Kalwaria Pacla 74.12 330 *e*P P **P** 17 53 10.8 +1.0
KWP Kalwaria Pacla 74.12 330 P P **P** 17 53 09.8 0.0
KWP Kalwaria Pacla 74.12 330 P P **P** 17 53 09.8 0.0
KIS Kishinev 74.19 325 *e*P P **P** 17 53 09.5 -0.7
comp=Z,40nm,1.6s
KIS *e*LR LR 18 26 21.0
comp=Z,160nm,22.5s
KIS Kishinev 74.19 325 *e*P P **P** 17 53 09.0 -1.2
KIS pmax pmax
comp=Z,40nm,1.6s
AS31 Alice Springs 74.38 200 P P **P** 17 53 10.0 -1.5
ASAR Alice Springs 74.38 200 P P **P** 17 53 11.8 +0.2
comp=Z,3.8nm,0.9s,baz=15,slow=5.4,SNR=35
ASAR Alice Springs 74.38 200 P P **P** 17 53 10.7 -0.8
OJC Ojcow 74.54 332 *e*P P **P** 17 53 12.6 +0.3
KOPT Kop Dagi 74.78 314 P P **P** 17 53 15.3 +1.1
KOLS Kolonicke sedl 74.87 330 *e*P P **P** 17 53 15.0 +0.8
KOLS pmax pmax
comp=Z,36nm,1.2s
KOLS Kolonicke sedl 74.87 330 *e*P P **P** 17 53 15.0 +0.8
BURAR Bucovina Array 74.99 328 ⇑P P **P** 17 53 15.3 +0.3
EKA Eskdalemuir Ar 75.00 348 P P **P** 17 53 14.6 -0.2
ESK Eskdalemuir 75.03 348 P P **P** 17 53 14.6 -0.3
ESK pmax pmax
comp=Z,66nm,1.8s
ESK Eskdalemuir 75.03 348 P P **P** 17 53 14.6 -0.3
FLTG Flechtingen 75.03 338 *e*P P **P** 17 53 15.6 +0.6
comp=Z,19nm,0.9s,baz=24,slow=5.7
KSP Ksiaz 75.04 335 *e*P P **P** 17 53 15.4 +0.4
KSP Ksiaz 75.04 335 P P **P** 17 53 16.3 +1.2
NIE Niedzica 75.09 332 *e*P P **P** 17 53 16.8 +1.4
UZH Uzhgorod 75.13 330 *e*P P **P** 17 53 14.9 -0.7
UZH *i* 17 53 27.9
UZH *e* 17 53 34.6
NRDL Niedersach Rie 75.16 339 *e*P P **P** 17 53 16.3 +0.7
comp=Z,14nm,0.9s,baz=24,slow=5.7
CRVS Cervenica-Dubn 75.17 331 *e*P P **P** 17 53 16.0 +0.1
CRVS pmax pmax
comp=Z,26nm,1.2s
CRVS Cervenica-Dubn 75.17 331 *e*P P **P** 17 53 16.0 +0.1
GURO Guroymak-BITLI 75.17 312 IAmb IAmb 17 53 19.4
comp=Z,20nm,1.0s
BIZ Bicaz 75.25 327 ⇓P P **P** 17 53 17.0 +0.6
TX31 Lajitas Ar. Si 75.26 62 IAmb IAmb 17 53 41.5
comp=Z,22nm,1.1s
TX32 Lajitas Array 75.26 62 P P **P** 17 53 16.3 -0.6
TXAR Lajitas Array 75.26 62 P P **P** 17 53 16.5 -0.4
comp=Z,2.7nm,0.6s,baz=298,slow=4.7,SNR=25
OSTC Ostas 75.31 335 *e*P P **P** 17 53 17.0 +0.3
OSTC AMS AMS 18 32 00.0
comp=Z,600nm,16.8s
CHVC Chvalec 75.33 335 *e*P P **P** 17 53 17.2 +0.4
CHVC AMS AMS 18 32 10.0
comp=Z,500nm,18.7s
ASSE Asse, Remlinge 75.36 338 *e*P P **P** 17 53 17.5 +0.7
comp=Z,9.1nm,1.1s,baz=24,slow=5.7
OKC Ostrava-Krasne 75.39 333 *e*P P **P** 17 53 18.2 +1.1
OKC MLR MLR
comp=Z,400nm,15.6s
OKC Ostrava-Krasne 75.39 333 *e*P P **P** 17 53 18.2 +1.1
OKC AMS AMS 18 30 00.0
comp=Z,400nm,15.6s
TESR Tescani 75.41 326 ⇑P P **P** 17 53 17.2 -0.1
UPC Upice 75.42 335 *e*P P **P** 17 53 18.0 +0.7
UPC MLR MLR
comp=Z,500nm,17.4s
UPC Upice 75.42 335 *e*P P **P** 17 53 18.0 +0.7
UPC AMS AMS 18 32 20.0
comp=Z,500nm,17.4s
VLDR Vladesti 75.43 325 ⇑P P **P** 17 53 18.0 +0.6
DPC Dobruska-Polom 75.47 334 *e*P P **P** 17 53 17.7 0.0
DPC MLR MLR
comp=Z,500nm,15.6s
DPC Dobruska-Polom 75.47 334 *e*P P **P** 17 53 17.7 0.0
DPC AMS AMS 18 32 10.0
comp=Z,500nm,15.6s
VARL Varlezi 75.47 325 ⇓P P **P** 17 53 19.3 +1.7
TRPA Tarpa 75.48 330 ⇓P P **P** 17 53 18.5 +0.8
TRPA Tarpa 75.48 330 *e*P P **P** 17 53 18.0 +0.3
CLL Collm 75.52 337 ⇑*i*P P **P** 17 53 17.6 -0.2
comp=Z,47nm,1.1s
CLL *e*PcP **PcP** 17 53 31.0 +0.2
CLL LmH 18 29 00.0
comp=N,200nm,19.5s
CLL LmH 18 29 00.0
comp=E,200nm,21.5s
CLL LmH 18 29 00.0
comp=Z,300nm,19.7s
CLL Collm 75.52 337 ⇑*i*P P **P** 17 53 17.6 -0.2
CLL *e**PP **PcP** 17 53 31.0 +0.2
CLL pmax pmax
comp=Z,47nm,1.1s
CLL Collm 75.52 337 *e*P P **P** 17 53 18.2 +0.4
comp=Z,28nm,1.0s,baz=24,slow=5.7
KRLC Kraliky 75.58 334 *e*P P **P** 17 53 18.1 -0.2
KRLC MLR MLR
comp=Z,400nm,21.0s
KRLC Kraliky 75.58 334 *e*P P **P** 17 53 18.1 -0.2
KRLC AMS AMS 18 30 20.0
comp=Z,400nm,21.0s
LANS Liptovska Anna 75.59 332 *e*P P **P** 17 53 20.0 +1.6
LANS pmax pmax
comp=Z,19nm,1.0s
LANS Liptovska Anna 75.59 332 *e*P P **P** 17 53 20.0 +1.6
SCTR Scanteiesti 75.61 325 ⇑P P **P** 17 53 19.2 +0.8
MORC Moravsky Berou 75.62 333 ⇑P P **P** 17 53 19.1 +0.5
MORC Moravsky Berou 75.62 333 P P **P** 17 53 18.4 -0.1
MORC pmax pmax
comp=Z,41nm,1.1s
MORC Moravsky Berou 75.62 333 P P **P** 17 53 18.4 -0.1
MORC Moravsky Berou 75.62 333 *e*P P **P** 17 53 19.0 +0.5
BRG Berggiesshubel 75.66 336 *e*P P **P** 17 53 19.2 +0.5
comp=Z,10nm,1.0s,baz=24,slow=5.7
BRG Berggiesshubel 75.66 336 *e*P P **P** 17 53 19.3 +0.6
BRG Amp 17 53 20.6
comp=Z,23nm,1.2s
BRG Amp 18 31 46.0
comp=Z,0.5nm,16.5s
BRG Amp 18 31 51.0
comp=N,0.3nm,18.8s
BRG Amp 18 31 57.0
comp=E,0.2nm,17.3s
CLZ Clausthal 75.70 339 *e*P P **P** 17 53 19.7 +0.8
comp=E,33nm,1.0s,baz=24,slow=5.7
TLCR 75.70 324 ⇑P P **P** 17 53 20.5 +1.6
ARCR ARCALIA 75.75 328 ⇓P P **P** 17 53 20.6 +1.4
FBE Freiberg 75.78 336 *e*P P **P** 17 53 20.2 +0.9
comp=E,18nm,0.9s,baz=24,slow=5.7
PVCC Panska Ves 75.80 335 *e*P P **P** 17 53 20.6 +1.1
PVCC MLR MLR
comp=Z,600nm,16.9s
PVCC Panska Ves 75.80 335 *e*P P **P** 17 53 20.6 +1.1
PVCC AMS AMS 18 31 30.0
comp=Z,600nm,16.9s
KECS Kecovo 75.85 331 *e*P P **P** 17 53 20.3 +0.5
KECS pmax pmax
comp=Z,10.0nm,1.0s
KECS Kecovo 75.85 331 *e*P P **P** 17 53 20.3 +0.5
IBBN Ibbenburen 75.88 340 *e*P P **P** 17 53 20.7 +0.8
comp=Z,20nm,0.9s,baz=24,slow=5.7
ODBI Odobesti 75.89 326 ⇑P P **P** 17 53 21.5 +1.5
VRI Vrincioaia 75.92 326 ⇓P P **P** 17 53 20.9 +0.6
VRI Vrincioaia 75.92 326 P P **P** 17 53 23.3 +3.0
NEUB Neuenburg 75.93 337 *e*P P **P** 17 53 20.9 +0.7
comp=Z,20nm,1.0s,baz=24,slow=5.7
PLOR Plostina 75.97 326 ⇓P P **P** 17 53 21.2 +0.6
CFR Carcaliu 75.97 325 ⇓P P **P** 17 53 20.9 +0.4
U40A Yellville 75.98 51 IAmb IAmb 17 53 30.3
comp=Z,7.8nm,0.7s
JURR Jurilovca 76.03 324 ⇑P P **P** 17 53 21.6 +0.8
GTTG Gottingen 76.07 339 *e*P P **P** 17 53 21.5 +0.5
comp=Z,11nm,0.9s,baz=24,slow=5.7
OZUR 76.08 327 ⇑P P **P** 17 53 21.8 +0.6
TPGR Topolog 76.13 324 ⇓P P **P** 17 53 22.2 +0.8
COVR Voineasa-Covas 76.14 326 ⇓P P **P** 17 53 22.4 +0.9
BISRR Bisoca 76.20 326 ⇑P P **P** 17 53 22.2 +0.2
PRA Prague 76.25 335 *e*P P **P** 17 53 23.5 +1.4
PRA MLR MLR
comp=Z,600nm,17.2s
PRA Prague 76.25 335 *e*P P **P** 17 53 23.5 +1.4
PRA AMS AMS 18 31 40.0
comp=Z,600nm,17.2s
PRU Pruhonice 76.30 335 *e*P P **P** 17 53 22.7 +0.4
PRU MLR MLR
comp=Z,600nm,19.5s
PRU Pruhonice 76.30 335 *e*P P **P** 17 53 22.7 +0.4
PRU AMS AMS 18 31 40.0
comp=Z,600nm,19.5s
VRAC Vranov 76.32 334 ⇓P P **P** 17 53 23.2 +0.7
VRAC Vranov 76.32 334 *e*P P **P** 17 53 23.1 +0.6
DOPR Dopca 76.33 327 ⇓P P **P** 17 53 23.7 +1.1
CJR Cluj-Napoca 76.34 328 P P **P** 17 53 24.3 +1.6
VYHS Vyhne 76.36 332 *e*P P **P** 17 53 23.3 +0.6
VYHS pmax pmax
comp=Z,19nm,0.9s
VYHS Vyhne 76.36 332 *e*P P **P** 17 53 23.3 +0.6
JAVC Velka Javorina 76.40 333 *e*P P **P** 17 53 24.4 +1.4
HARR Harsova 76.46 324 ⇓P P **P** 17 53 23.9 +0.6
TIRR Tirgusor 76.46 324 ⇓P P **P** 17 53 23.9 +0.6
TIRR Tirgusor 76.46 324 P P **P** 17 53 24.0 +0.7
TANN Tannenbergstha 76.47 337 *e*P P **P** 17 53 23.8 +0.4
comp=Z,5.0nm,1.0s,baz=24,slow=5.7
MOX Moxa 76.48 337 *e*P P **P** 17 53 23.9 +0.5
comp=Z,14nm,0.9s,baz=24,slow=5.7
WERD Werda 76.48 337 *e*P P **P** 17 53 24.1 +0.7
comp=Z,16nm,1.1s,baz=24,slow=5.7
MLR Muntele Rosu 76.53 326 ⇑P P **P** 17 53 25.1 +1.2
MLR Muntele Rosu 76.53 326 P P **P** 17 53 25.1 +1.2
PSZ Piszkesteto 76.53 331 ⇓P P **P** 17 53 24.6 +0.8
PSZ Piszkesteto 76.53 331 *e*P P **P** 17 53 24.4 +0.7
PSZ Piszkesteto 76.53 331 P P **P** 17 53 24.5 +0.7
PSZ pmax pmax
comp=Z,26nm,1.2s
PSZ Piszkesteto 76.53 331 P P **P** 17 53 24.5 +0.7
PSZ IAmb IAmb 17 53 25.7
comp=Z,26nm,1.2s
TLBR Topalu 76.53 324 ⇓P P **P** 17 53 24.4 +0.6
GUNZ Gunzen 76.56 337 *e*P P **P** 17 53 24.5 +0.6
comp=Z,12nm,0.9s,baz=24,slow=5.7
DRGR 76.58 329 ⇑P P **P** 17 53 24.2 +0.2
DRGR 76.58 329 P P **P** 17 53 24.6 +0.5
KRUC Moravsky 76.60 334 *e*P P **P** 17 53 24.7 +0.6
WERN Wernitzgruen 76.61 337 *e*P P **P** 17 53 24.9 +0.8
comp=Z,14nm,0.9s,baz=24,slow=5.7
ISR Istrita 76.62 326 ⇓P P **P** 17 53 25.5 +1.2
NKC Novy Kostel 76.64 337 *e*P P **P** 17 53 24.6 +0.3
NKC MLR MLR
comp=Z,400nm,12.8s
NKC Novy Kostel 76.64 337 *e*P P **P** 17 53 24.6 +0.3
NKC AMS AMS 18 32 40.0
comp=Z,400nm,12.8s
TREC Trest 76.66 334 *e*P P **P** 17 53 24.8 +0.4
TREC MLR MLR
comp=Z,400nm,16.3s
TREC Trest 76.66 334 *e*P P **P** 17 53 24.8 +0.4
TREC AMS AMS 18 31 00.0
comp=Z,400nm,16.3s
EFOR EFORIE 76.69 324 ⇑P P **P** 17 53 26.1 +1.5
FCAR Ozark Folk Cen 76.71 50 P P **P** 17 53 24.0 -1.0
FCAR IAmb IAmb 17 53 34.3
comp=Z,5.8nm,0.6s
PBCC Pribram 76.72 335 *e*P P **P** 17 53 25.6 +0.8
UBBA Unterbreizbach 76.73 338 *e*P P **P** 17 53 25.5 +0.9
baz=24,slow=5.7
BANOM Banah 76.75 294 *i* P P **P** 17 53 25.5 +0.2
SNR=13
BANOM Banah 76.75 294 P P **P** 17 53 25.6 +0.3
KASTN Kahler Asten 76.75 339 *e*P P **P** 17 53 25.9 +1.0
comp=Z,16nm,0.9s,baz=24,slow=5.7
SHME Shamm 76.75 294 *i* P P **P** 17 53 25.3 0.0
SNR=6.2
SHME Shamm 76.75 294 P P **P** 17 53 25.3 0.0
SMOL Smolenice 76.78 333 *e*P P **P** 17 53 26.0 +0.9
SMOL pmax pmax
comp=Z,14nm,1.1s
SMOL Smolenice 76.78 333 *e*P P **P** 17 53 26.0 +0.9
BUG Bochum--Univer 76.80 340 *e*P P **P** 17 53 26.2 +1.1
comp=Z,13nm,0.9s,baz=24,slow=5.7
VOIR 76.91 327 ⇓P P **P** 17 53 26.9 +0.9
MANZ Manzenberg 76.96 337 *e*P P **P** 17 53 26.8 +0.7
comp=Z,12nm,1.0s,baz=24,slow=5.7
ICOR Ion Corvin 76.99 324 ⇑P P **P** 17 53 27.4 +1.1
ARR Arges 77.12 327 ⇓P P **P** 17 53 28.6 +1.5
SRO Srobarova 77.13 332 *e*P P **P** 17 53 28.4 +1.4
SRO Srobarova 77.13 332 *e*P P **P** 17 53 28.4 +1.4
ROTZ Rotzenmuhle 77.13 337 *e*P P **P** 17 53 27.8 +0.7
comp=Z,16nm,0.9s,baz=24,slow=5.7
ZST Bratislava 77.16 333 *e*P P **P** 17 53 28.5 +1.3
ZST pmax pmax
comp=Z,76nm,1.2s
ZST Bratislava 77.16 333 *e*P P **P** 17 53 28.5 +1.3
MDH Madha 77.21 294 P P **P** 17 53 27.4 -0.5
MDH Madha 77.21 294 P P **P** 17 53 27.6 -0.3
MASF Masafi 77.24 294 P P **P** 17 53 28.4 +0.3
MSFE Esma-Masafi 77.25 294 P P **P** 17 53 28.1 0.0
WSAR Wadi Sarin 77.29 291 P P **P** 17 53 29.4 +1.0
KHC Kasperske Hory 77.34 335 *e*P P **P** 17 53 28.7 +0.4
KHC MLR MLR
comp=Z,600nm,15.1s
KHC Kasperske Hory 77.34 335 *e*P P **P** 17 53 28.7 +0.4
KHC AMS AMS 18 32 20.0
comp=Z,600nm,15.1s
LOT Lotru 77.36 327 ⇑P P **P** 17 53 28.9 +0.3
BIDO Bidbid 77.39 291 P P **P** 17 53 29.9 +1.0
SIRR Siria 77.39 329 ⇓P P **P** 17 53 29.2 +0.6
CKRC Cesky Krumlov 77.42 335 *e*P P **P** 17 53 28.5 -0.2
GRF Grafenberg Arr 77.46 337 *e*P P **P** 17 53 29.9 +1.0
comp=Z,36nm,1.0s,baz=24,slow=5.7
GRFO Grafenberg 77.46 337 P P **P** 17 53 29.2 +0.3
GRFO pmax pmax
comp=Z,44nm,1.0s
GRFO Grafenberg 77.46 337 P P **P** 17 53 29.2 +0.3
WET Wettzell 77.52 336 *e*P P **P** 17 53 30.2 +0.9
comp=Z,21nm,0.9s,baz=24,slow=5.7
UOSS Minazif 77.53 293 *i* P P **P** 17 53 29.3 -0.4
SNR=7.7
UOSS Minazif 77.53 293 P P **P** 17 53 29.6 -0.1
UOSS Minazif 77.53 293 P P **P** 17 53 30.0 +0.3
WBK Wadi Bani Khal 77.53 290 P P **P** 17 53 31.1 +1.3
GEC2 GERESS Array S 77.57 335 IAmb IAmb 17 53 31.1
comp=Z,14nm,0.9s
GEC2 GERESS Array S 77.57 335 *e*P P **P** 17 53 30.4 +0.7
comp=Z,9.1nm,0.9s,baz=24,slow=5.7
GERES GERESS Array B 77.57 335 P P **P** 17 53 29.7 +0.1
comp=Z,3.4nm,0.4s,baz=36,slow=5.0,SNR=54
GERES LR LR 18 31 30.8
comp=Z,534nm,19.4s,baz=22,slow=39
JLN Jalan Bani Buh 77.59 289 P P **P** 17 53 30.9 +0.8
TNS Taunus Mts 77.66 339 *e*P P **P** 17 53 31.0 +0.9
comp=Z,14nm,0.8s,baz=24,slow=5.7
HATD Hatta, Dubai 77.66 293 *i* P P **P** 17 53 30.7 +0.2
SNR=6.6
HATD Hatta, Dubai 77.66 293 P P **P** 17 53 30.8 +0.4
AHRW Bad Neuenahr-A 77.68 340 *e*P P **P** 17 53 31.2 +1.1
comp=Z,29nm,1.0s,baz=24,slow=5.7
BEBN Eben Emael 77.75 341 *d*P P **P** 17 53 31.1 +0.6
comp=Z,40nm,0.0s
GZR Gura Zlata 77.76 328 ⇑P P **P** 17 53 30.7 -0.1
CONA Conrad Observa 77.77 334 *i* P P **P** 17 53 31.7 +0.9
comp=Z,32nm,1.0s,SNR=17
SMDO Samad 77.78 291 P P **P** 17 53 31.9 +0.6
ASHO Ashiyiah 77.81 293 *i* P P **P** 17 53 30.9 -0.4
SNR=8.1
ASHO Ashiyiah 77.81 293 P P **P** 17 53 31.9 +0.6
SNR=5.0
MILB Miltenberg 77.82 338 *e*P P **P** 17 53 31.9 +1.0
comp=Z,27nm,0.9s,baz=24,slow=5.7
NAZ Nazwa, Dubai 77.83 294 *i* P P **P** 17 53 31.7 +0.4
SNR=5.9
NAZ Nazwa, Dubai 77.83 294 P P **P** 17 53 31.7 +0.4
BTNL Ternell 77.85 341 *d*P P **P** 17 53 31.7 +0.7
comp=Z,26nm,1.5s
HOQ Hoqain 77.85 292 P P **P** 17 53 32.2 +0.7
MEM Membach 77.86 341 *d*P P **P** 17 53 31.4 +0.3
comp=Z,28nm,1.2s
SOHO SOHO 77.92 293 P P **P** 17 53 32.5 +0.6
RAZG Razgrad 77.95 325 ⇓P P **P** 17 53 32.3 +0.5
COPA Copaceanca 77.96 326 ⇑P P **P** 17 53 32.1 +0.4
BZS Buzias 77.97 329 ⇑P P **P** 17 53 31.9 +0.1
BSTI Sart Tilman 77.98 341 *d*P P **P** 17 53 32.4 +0.7
comp=Z,8.1nm,1.3s
FAQ Al Faqa, Dubai 78.05 294 *i* P P **P** 17 53 32.5 0.0
SNR=9.7
FAQ Al Faqa, Dubai 78.05 294 P P **P** 17 53 32.8 +0.2
BHOU Houvegnez 78.10 341 *d*P P **P** 17 53 33.0 +0.6
comp=Z,22nm,1.4s
BCLA Clavier 78.19 341 *d*P P **P** 17 53 33.0 +0.1
comp=Z,21nm,1.3s
BR131 Keskin Array S 78.19 318 *c e*P P **P** 17 53 33.7 +0.4
BR131 Keskin Array S 78.19 318 P P **P** 17 53 34.3 +1.0
SNR=11
BRTR Keskin Array B 78.19 318 P P **P** 17 53 34.1 +0.7
comp=Z,24nm,0.9s,baz=60,slow=3.0,SNR=43
BRTR LR LR 18 33 40.8
comp=Z,136nm,18.4s,baz=36,slow=40
BRTR Keskin Array B 78.19 318 *c e*P P **P** 17 53 34.0 +0.7
BRTR pmax pmax
comp=Z,22nm,0.9s
JMDO Jabal Madar 78.25 290 P P **P** 17 53 34.6 +0.9
SNR=5.5
BGES Gesves 78.27 341 *d*P P **P** 17 53 33.6 +0.2
comp=Z,19nm,1.3s
ASUD Al Ashush, Dub 78.30 294 *i* P P **P** 17 53 34.4 +0.5
SNR=8.1
ASUD Al Ashush, Dub 78.30 294 P P **P** 17 53 34.6 +0.7
MOA Molln 78.31 334 *i* P P **P** 17 53 33.8 +0.1
comp=Z,14nm,0.9s,SNR=7.9
SNF Seneffe 78.32 342 *d*P P **P** 17 53 34.3 +0.7
HERR Herculane 78.33 328 ⇓P P **P** 17 53 33.7 -0.1
BMRD Maredsous 78.41 341 *d*P P **P** 17 53 34.3 +0.2
comp=Z,26nm,1.3s
ANTO Ankara 78.45 319 P P **P** 17 53 34.5 -0.2
ANTO pmax pmax
comp=Z,39nm,1.0s
ANTO Ankara 78.45 319 P P **P** 17 53 34.5 -0.2
ALNE Al Ain 78.46 293 *i* P P **P** 17 53 35.3 +0.5
SNR=8.0
ALNE Al Ain 78.46 293 P P **P** 17 53 35.6 +0.8
SNR=6.5
ARSA Arzberg 78.48 333 *i* P P **P** 17 53 35.4 +0.8
comp=Z,25nm,1.2s,SNR=6.8
BSY Bisya 78.54 291 P P **P** 17 53 36.5 +1.1
SNR=5.6
AJN Ajban 78.55 294 P P **P** 17 53 36.4 +1.0
GIVF Givet 78.59 341 *e*P P **P** 17 53 35.6 +0.5
GIVF pmax pmax
comp=Z,25nm,1.2s
DOU Dourbes 78.65 341 *b*P P **P** 17 53 35.3 -0.1
comp=Z,13nm,1.2s
MDVR Moldovita 78.67 328 ⇑P P **P** 17 53 36.0 +0.3
PUNG Punghina 78.67 327 ⇑P P **P** 17 53 36.3 +0.6
WLF Walferdange 78.71 340 *d*P P **P** 17 53 34.4 -1.4
BAIF Baives 78.76 342 *e*P P **P** 17 53 36.7 +0.6
BAIF pmax pmax
comp=Z,28nm,1.3s
STU Stuttgart 78.82 338 P P **P** 17 53 39.3 +2.8
RJOB Jochberg 78.83 335 *e*P P **P** 17 53 37.5 +0.9
comp=Z,43nm,0.9s,baz=24,slow=5.7
FUR Furstenfeldbru 78.85 336 *e*P P **P** 17 53 37.6 +1.0
comp=Z,25nm,0.9s,baz=24,slow=5.7
FRGS Fruska Gora 78.99 330 ⇑P P **P** 17 53 37.4 0.0
FRGS Fruska Gora 78.99 330 *e*P P **P** 17 53 37.4 0.0
UMR Umm Al-Rimmam 79.07 302 *e*P P **P** 17 53 37.3 -0.8
SOKA Soboth 79.14 333 *i* P P **P** 17 53 38.9 +0.6
comp=Z,39nm,1.1s,SNR=28
PERS Pernice 79.16 333 *i* P P **P** 17 53 39.0 +0.6
KALN Kalnik 79.20 332 *i* P P **P** 17 53 38.8 +0.2
KBA Koelnbreinsper 79.27 335 *i* P P **P** 17 53 40.3 +1.1
comp=Z,86nm,1.2s,SNR=29
MHTO MHTO 79.36 289 P P **P** 17 53 41.3 +1.5
SNR=8.3
OBKA Obir 79.44 334 *i* P P **P** 17 53 40.4 +0.4
comp=Z,13nm,0.9s,SNR=6.0
BFO Black Forest 79.45 338 P P **P** 17 53 39.5 -0.4
BFO pmax pmax
comp=Z,22nm,1.1s
BFO Black Forest 79.45 338 P P **P** 17 53 39.5 -0.4
BFO IAmb IAmb 17 53 42.1
comp=Z,22nm,1.1s
BFO Black Forest 79.45 338 *e*P P **P** 17 53 41.1 +1.2
comp=Z,17nm,1.1s,baz=24,slow=5.7
RST Umm Al-Ruwaisa 79.51 303 *e*P P **P** 17 53 40.0 -0.6
WATA Walderalm 79.53 336 *i* P P **P** 17 53 41.3 +0.8
comp=Z,69nm,1.2s,SNR=18
PTJ Puntijarka 79.56 333 P P **P** 17 53 40.7 +0.1
JRN Qarnain Island 79.56 296 P P **P** 17 53 41.0 +0.1
WTTA Wattenberg 79.58 336 *i* P P **P** 17 53 41.8 +1.0
comp=Z,75nm,1.1s,SNR=22
MYKA Terra Mystica 79.60 334 *i* P P **P** 17 53 40.9 +0.1
comp=Z,6.7nm,0.5s,SNR=5.5
UBR Ueberruh 79.60 337 *e*P P **P** 17 53 41.9 +1.1
comp=Z,11nm,1.0s,baz=24,slow=5.7
RETA Reutte 79.61 337 *i* P P **P** 17 53 41.5 +0.6
comp=Z,20nm,1.1s,SNR=9.0
TEKS Tekeris 79.62 330 *e*P P **P** 17 53 40.0 -0.9
CDF Champ du Feu 79.62 339 *e*P P **P** 17 53 41.5 +0.5
CDF pmax pmax
comp=Z,29nm,1.2s
RDF Al-Radifah 79.64 302 *e*P P **P** 17 53 40.0 -1.3
MOTA Moosalm 79.65 336 *i* P P **P** 17 53 41.7 +0.5
comp=Z,64nm,1.1s,SNR=23
SQTA Sankt Quirin 79.73 336 *i* P P **P** 17 53 42.6 +1.0
comp=Z,56nm,1.2s,SNR=25
CRES Cresnjev 79.79 333 *e*P P **P** 17 53 41.7 -0.1
CRES Cresnjev 79.79 333 *e*P P **P** 17 53 41.2 -0.5
ABTA Abfaltersbach 79.81 335 *i* P P **P** 17 53 42.1 +0.1
comp=Z,26nm,1.2s,SNR=13
UMZA Um Al Zommool 79.82 293 P P **P** 17 53 42.5 +0.2
MZWR Madinat Zayed 79.82 294 P P **P** 17 53 42.5 +0.2
ZOU Zoufplan 79.85 335 IAmb IAmb 17 53 58.1
comp=Z,8.2nm,1.0s
DIVS Divibare 79.86 329 *e*P P **P** 17 53 42.0 -0.3
LJU Ljubljana 79.87 334 *e*P P **P** 17 53 41.5 -0.7
GBAS Gorenja Brezov 79.99 334 *e*P P **P** 17 53 42.3 -0.6
VTS Vitosha 80.00 326 ⇓P P **P** 17 53 43.9 +0.7
VTS Vitosha 80.00 326 P P **P** 17 53 43.8 +0.7
DAVA Damuels 80.02 337 *i* P P **P** 17 53 43.5 +0.2
comp=Z,25nm,1.2s,SNR=7.9
FETA Feichten 80.05 336 *i* P P **P** 17 53 44.2 +0.8
comp=Z,28nm,1.1s,SNR=13
MRAK Mrakovica 80.07 332 *e*P P **P** 17 53 43.2 -0.2
BOJS Bojanci 80.14 333 *e*P P **P** 17 53 43.7 0.0
CEY Cerknica 80.17 333 *e*P P **P** 17 53 43.4 -0.5
STAL STALIGIAL 80.20 335 IAmb IAmb 17 53 44.6
comp=Z,18nm,1.1s
HAU Haudompre 80.22 340 *e*P P **P** 17 53 44.7 +0.6
HAU pmax pmax
comp=Z,22nm,1.3s
BBLS Lazi?i 80.27 329 *e*P P **P** 17 53 44.8 +0.3
HINF Hinteralfeld 80.28 339 *e*P P **P** 17 53 44.3 -0.2
HINF pmax pmax
comp=Z,30nm,1.4s
SKDS Skadanscina 80.47 334 *e*P P **P** 17 53 44.7 -0.8
RUDO Rudo 80.50 329 *e*P P **P** 17 53 48.1 +2.5
MGRS Mrkonjic Grad 80.54 331 *e*P P **P** 17 53 47.2 +1.3
CTI Castel Tesino 80.69 335 P P **P** 17 53 46.5 -0.3
CTI pmax pmax
comp=Z,24nm,1.1s
CTI Castel Tesino 80.69 335 P P **P** 17 53 46.5 -0.3
CTI IAmb IAmb 17 53 48.2
comp=Z,24nm,1.1s
PMOR Pomariorio Ree 80.71 125 *e*T T 19 22 55.2
comp=Z,4.3nm,0.4s
FLN La Foliniere 80.92 344 *e*P P **P** 17 53 48.7 +0.9
FLN pmax pmax
comp=Z,27nm,1.0s
STKA Stephens Creek 80.96 192 LR LR 18 28 15.1
comp=Z,70nm,21.2s,baz=25,slow=35
LDF La Druitiere 81.02 344 *e*P P **P** 17 53 48.8 +0.5
LDF pmax pmax
comp=Z,28nm,1.2s
NVLJ Novalja 81.10 333 *i* P P **P** 17 53 48.7 -0.1
GRR Gorron 81.35 344 *e*P P **P** 17 53 51.2 +1.1
GRR pmax pmax
comp=Z,34nm,1.0s
RICI Ricice 81.35 331 *i* P P **P** 17 53 50.0 -0.2
BRY Bratogost 81.41 330 *e*P P **P** 17 53 50.4 -0.3
MORI Morici 81.47 332 *i* P P **P** 17 53 50.4 -0.5
LOR Lormes 81.48 341 *e*P P **P** 17 53 51.6 +0.8
LOR pmax pmax
comp=Z,16nm,1.0s
SENIN Lac Senin/Sane 81.53 338 IAmb IAmb 17 53 56.3
comp=Z,26nm,1.6s
DUGI Dugi Otok 81.56 332 *i* P P **P** 17 53 51.2 -0.1
PDG Podgorica 81.59 329 ⇓P P **P** 17 53 51.8 +0.4
PDG Podgorica 81.59 329 *e*P P **P** 17 53 50.8 -0.6
PDG Podgorica 81.59 329 P P **P** 17 53 51.0 -0.4
CABF La Chapelle 81.59 339 *e*P P **P** 17 53 52.6 +1.1
CABF pmax pmax
comp=Z,22nm,1.1s
STON Ston 81.72 330 *e*P P **P** 17 53 51.2 -0.9
SSF Saint Saulge 81.75 341 *e*P P **P** 17 53 54.0 +1.7
SSF pmax pmax
comp=Z,5.0nm,0.7s

SGMF	Saint Gilles	81.77	345	eP	P	17 53 53.6	+1.3
SGMF				pmax	pmax		
	comp=Z,49nm,1.3s						
ROSF	Rostrenen	81.81	346	eP	P	17 53 53.9	+1.4
ROSF				pmax	pmax		
	comp=Z,37nm,1.0s						
DRME	Dracevica, Mon	81.83	329	eP	P	17 53 52.3	-0.4
HCY	Herceg Novi	81.83	329	eP	P	17 53 51.1	-1.6
PPT2	Papeete2	81.95	128	eLR	LR	18 18 51.9	
	comp=Z,200nm,23.5s						
AVF	Avril sur Loir	82.04	341	eP	P	17 53 54.8	+1.0
AVF				pmax	pmax		
	comp=Z,44nm,1.4s						
QUIF	Quistinic	82.20	346	eP	P	17 53 55.8	+1.2
QUIF				pmax	pmax		
	comp=Z,21nm,1.0s						
LEF	Lefka	82.30	316	⇓P	P	17 53 55.4	+0.1
LPL	La Plagne	82.47	338	eP	P	17 53 57.9	+1.6
LPL				pmax	pmax		
	comp=Z,15nm,0.8s						
LPG	La Plagne	82.48	338	eP	P	17 53 58.1	+1.6
LPG				pmax	pmax		
	comp=Z,19nm,0.8s						
TCF	Toulx Ste Croi	82.77	342	eP	P	17 53 58.9	+1.3
TCF				pmax	pmax		
	comp=Z,13nm,1.0s						
BNI	Bardonecchia	82.92	338	P	P	17 54 01.5	+3.0
BNI	Bardonecchia	82.92	338	IAmb	IAmb	17 54 12.7	
	comp=Z,16nm,1.1s						
MFF	Saint Martin d	82.94	343	eP	P	17 54 00.0	+1.6
MFF				pmax	pmax		
	comp=Z,13nm,1.0s						
MURB	Monte Urbino	82.99	334	P	P	17 53 58.6	-0.3
SHAO	Shalim	83.03	289	P	P	17 54 02.9	+3.6
MBDF	Montbardon	83.20	338	eP	P	17 54 01.9	+1.9
MBDF				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ORIF	Oris-en-Rattie	83.24	339	eP	P	17 54 01.7	+1.6
ORIF				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VIVF	Saint-Julien-l	83.58	340	eP	P	17 54 03.4	+1.6
VIVF				pmax	pmax		
	comp=Z,7.0nm,0.8s						
RJF	Les Rejaudoux	83.85	342	eP	P	17 54 04.8	+1.6
RJF				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CAF	Calviac	84.09	341	eP	P	17 54 05.4	+0.9
CAF				pmax	pmax		
	comp=Z,20nm,1.2s						
PGF	Pioggiola	84.65	336	eP	P	17 54 08.5	+1.1
PGF				pmax	pmax		
	comp=Z,20nm,1.1s						
TIP	Timpagrande	85.34	329	P	P	17 54 10.9	0.0
MTLF	Montolieu	85.57	341	eP	P	17 54 13.8	+1.9
MTLF				pmax	pmax		
	comp=Z,7.0nm,1.0s						
EPF	Esparros	86.27	342	eP	P	17 54 16.6	+1.2
EPF				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SJPF	Ste Jean	86.50	343	eP	P	17 54 17.7	+1.2
SJPF				pmax	pmax		
	comp=Z,13nm,1.3s						
ETSF	Etsaut	86.58	343	eP	P	17 54 19.1	+2.1
ETSF				pmax	pmax		
	comp=Z,20nm,1.6s						
ESDC	Sonseca Array	90.34	344	P	P	17 54 34.5	-0.4
	comp=Z,2.9nm,1.0s,baz=358,slow=3.7,SNR=11						
ESDC				LR	LR	18 40 13.5	
	comp=Z,218nm,20.5s,baz=355,slow=39						
KEST	Kesra	90.88	333	P	P	17 54 37.6	+0.2
	comp=Z,4.2nm,0.8s,baz=53,slow=6.3,SNR=7.3						
TBTG	Tabatinga, AM	121.35	56	eP	PKiKP	18 00 35.6	+8.3
CZSB	Cruzeiro do Su	122.65	61	eP	PKiKP	18 00 39.1	+9.2
MACA	Manacapuru-AM	125.26	46	eP	PKiKP	18 00 39.9	+4.8
MCPB	Macapa, AP	126.49	35	eP	PKiKP	18 00 44.6	+7.1
MALB	Monte Alegre	126.97	38	eP	PKiKP	18 00 45.8	+7.3
ITTB	Itaituba	128.60	41	eP	PKiKP	18 00 49.1	+7.3
SAML	Samuel	128.95	53	eP	PKiKP	18 00 49.0	+6.6
TMAB	Tom-Au,PA,Br	129.79	31	eP	PKiKP	18 00 51.5	+7.4
NPGB	Novo Progresso	131.15	42	eP	PKiKP	18 00 53.8	+7.0
LPAZ	La Paz	132.13	63	eP	PKiKP	18 00 56.2	+6.7
NBMO	Morrinhos-CE	133.06	21	eP	PKiKP	18 00 56.9	+6.2
NBPS	Pedro II - PI	133.75	24	eP	PKiKP	18 00 58.6	+6.4
VILB	Vilhena	133.88	52	eP	PKiKP	18 00 59.1	+6.8
RCBR	Riachuelo	136.40	17	eP	PKiKP	18 01 03.1	+5.5
PTLB	Pontes e Lacer	136.53	53	eP	PKiKP	18 01 04.7	+7.2
NBPV	Pedro Velho	137.09	16	eP	PKiKP	18 01 04.4	+5.5
H03N2	Juan Fernandez	137.17	90	T	T	20 34 09.8	
	baz=310,slow=77,SNR=17						
H03N1	Juan Fernandez	137.18	90	T	T	20 34 11.2	
	baz=310,slow=77,SNR=13						
H03N3	Juan Fernandez	137.18	90	T	T	20 34 19.7	
	baz=310,slow=77,SNR=23						
SNDB	Serra Nova Dou	137.32	41	eP	PKiKP	18 01 05.3	+6.0
NBRF	Rio Formoso -	139.33	16	eP	PKiKP	18 01 08.8	+5.4
NBAN	Anadia - AL	140.07	18	eP	PKiKP	18 01 09.4	+4.5
ARAG	Araguaiana, MT	140.38	44	eP	PKiKP	18 01 09.3	+3.9
NBLA	Lagarto - SE	141.01	21	eP	PKiKP	18 01 11.9	+5.1
GDU01	Guandu, BA	143.16	25	eP	PKiKP	18 01 16.3	+5.1
ITRB	Iturama	144.53	45	eP	PKiKP	18 01 16.6	+2.7
MC01	Montes Claros	144.55	33	eP	PKiKP	18 01 16.7	+2.6
CMC01	Camacan, BA	144.74	26	eP	PKiKP	18 01 16.4	+2.0
GUA01	Guaratinga, BA	145.81	27	eP	PKiKP	18 01 19.7	+3.1
CPUP	Villa Florida	146.23	61	PKPbc	PKPbc	18 01 13.5	-0.5
	comp=Z,3.3nm,1.1s,baz=269,slow=5.7,SNR=4.0						
PLCA	Paso Flores	146.76	94	PKPbc	PKPbc	18 01 14.8	-0.5
	comp=Z,7.2nm,1.2s,baz=300,slow=4.6,SNR=3.6						
BSCB	Bom Sucesso	148.13	38	eP	PKPab	18 01 24.0	+1.5
CPSB	Cacapava Do Su	151.54	61	eP	PKiKP	18 01 29.8	+1.8
CNLB	Canela	152.19	56	eP	PKiKP	18 01 30.3	+0.8
PLTB	Pedras Altas	152.43	63	eP	PKiKP	18 01 31.4	+1.5
TER01	Tubaro-SC	152.50	52	eP	PKiKP	18 01 31.4	+1.3
SNAA	Sanae	154.66	196	PKPbc	PKPbc	18 01 32.7	-0.5

MEX 08 17:43:53.8±0.7, 16.85N×95.05W, h101km±5km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.29	33	i P	Pn	17 44 07.2	-1.4
CMIG				eS	Sn	17 44 17.7	-1.8
VHO	Vista Hermosa	1.63	278	i P	Pn	17 44 21.3	-0.6
VHO				i S	Sn	17 44 41.9	-1.3
PEIG	Puerto Escondi	2.19	247	i P	Pn	17 44 25.6	-3.3
PEIG				i S	Sn	17 44 52.2	-3.5
TOIG	Toxpalan	2.29	303	i P	Pn	17 44 29.1	-1.2
TOIG				i S	Sn	17 44 56.5	-1.7
YOIG	Yosondua	2.39	270	i P	Pn	17 44 30.5	-1.3
YOIG				eS	Sn	17 44 58.4	-2.5
HLIG	Huajuapan de L	2.81	291	i P	Pn	17 44 36.8	-0.5
HLIG				i S	Sn	17 45 06.9	-3.7
PNIG	Pinotepa	2.99	262	i P	Pn	17 44 36.7	-2.8
PNIG				i S	Sn	17 45 10.4	-4.3

MEX 08 17:53:21.4±1.0, 18.10N×103.27W, h5km, MD3.6, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMIG	Aquila	0.20	339	i P	Pg	17 53 24.9	-0.4
MMIG				i S	Sg	17 53 27.5	-0.5
COIG	Colima	1.15	340	eP	Pg	17 53 40.6	-2.8
COIG				eS	Sg	17 53 56.0	-2.2
R15V		1.26	328	eP	Pg	17 53 42.3	-3.3
R15V				eS	Sg	17 53 58.7	-3.2

IDC 08 18:14:23.2±2.3, 32.94S×178.45W, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.7/33, mbtmp4.0/3, ML3.9/1, Error ellipse: s-maj=64.7km s-min=40.4km az=135.0
WEL 08 18:14:26.3±1.2, 33°S±27'×17°8W±4°0, h115km±135km, M4.3/8, mB4.4/4, ML4.7/12, MLv4.5/8, Mw(mB)3.5/4, Error ellipse: s-maj=0.1km s-min=0.0km az=122.9
NEIC 08 18:14:29.9±2.1, 33.2S±0.1×178.7W±0.2, h30km±7km, mb4.5/15, Error ellipse: s-maj=25.3km s-min=17.0km az=106.0
ISC 08 18:14:26.7±1.3, 33.09S±0.09×178.3W±0.2, h32km, n52, σ1s25/61, mb4.5/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.83	5	P	Pn	18 15 20.0	-3.4
MXZ	Matakaoa Point	5.26	211	P	Pn	18 15 42.2	-1.0
MXZ				S	Sn	18 16 43.2	+0.5
PKGZ	Pakihiroa	5.64	211	P	Pn	18 15 47.3	-1.0
PKGZ				S	Sn	18 16 52.1	+0.1
HAZ	Te Kaha	5.66	214	P	Pn	18 15 48.6	0.0
HAZ				S	Sn	18 16 55.0	+2.6
PUZ	Puketiti	5.72	209	P	Pn	18 15 48.4	-1.0
PUZ				S	Sn	18 16 54.4	+0.5
RUGZ	Raukumara Rang	5.88	213	P	Pn	18 15 50.5	-1.1
RUGZ				S	Sn	18 16 59.0	+1.0
TWGZ	Tauwhareparae	5.92	210	P	Pn	18 15 52.6	+0.4
TWGZ				S	Sn	18 16 59.9	+0.9
CNGZ	Carnagh Statio	6.09	207	P	Pn	18 15 55.6	+1.1
MWZ	Matawai	6.25	212	P	Pn	18 15 55.2	-1.5
MWZ				S	Sn	18 17 06.5	-0.4
URZ	Urewera	6.38	215	Pn	Pn	18 15 58.4	0.0
	2.6nm,0.3s,baz=318,slow=14,SNR=13						
URZ				Sn	Sn	18 17 09.1	-1.0
	3.3nm,0.3s,baz=118,slow=21,SNR=6.4						
URZ	Urewera	6.38	215		Pn	18 15 57.5	-0.9
URZ				Sn	Sn	18 17 08.9	-1.2
URZ	Urewera	6.38	215	P	Pn	18 15 58.6	+0.2
RIGZ	Rimuhau	6.46	209	P	Pn	18 15 59.7	+0.1
RIGZ				S	Sn	18 17 11.2	-1.0
SNGZ	Shannon Statio	6.70	211	P	Pn	18 16 02.4	-0.5
RTZ	Ruatahuna	6.72	214	P	Pn	18 16 02.3	-1.0
RAHZ	Arahi	6.92	212	P	Pn	18 16 06.4	+0.5
MTHZ	Maungataniwha	6.98	213	P	Pn	18 16 07.2	+0.5
BKZ	Black Stump Fm	7.39	213	Pn	Pn	18 16 11.2	-1.2
BKZ				Sn	Sn	18 17 32.4	-2.8
BKZ	Black Stump Fm	7.39	213	P	Pn	18 16 12.7	+0.3
HIZ	Hauiti	7.77	224	Pn	Pn	18 16 16.8	-0.8
BFZ	Birch Farm	8.75	208	Pn	Pn	18 16 30.1	-0.9
PLWZ	Palliser	9.90	209	Pn	Pn	18 16 45.5	-1.3
SNZO	South Karori	9.93	212	Pn	Pn	18 16 45.3	-1.8
BHW	Baring Head	9.94	211	Pn	Pn	18 16 47.9	+0.7
TUWZ	Tuamarina	10.38	214	Pn	Pn	18 16 53.1	-0.1
BSWZ	Blackbirch Sta	10.63	214	Pn	Pn	18 16 56.2	-0.5
QRZ	Quartz Range	10.66	221	Pn	Pn	18 16 57.2	+0.1
THZ	Tophouse	11.13	216	Pn	Pn	18 17 04.1	+0.4
ODZ	Otahua Downs	14.70	212	Pn	Pn	18 17 50.4	-1.9
WKZ	Wanaka	15.31	216	Pn	Pn	18 17 56.1	-4.3
MSVF	Nonsavu	15.64	347	Pn	Pn	18 18 05.8	+0.9
MSVF				IAmb	IAmb	18 18 26.5	
	comp=Z,37nm,1.4s						
MLZ	Mavora Lakes	16.14	217	Pn	Pn	18 18 11.0	-0.1
MLZ				IAmb	IAmb	18 18 18.2	
	comp=Z,66nm,1.5s						
CTAO	Charters Tower	34.09	283	P	P	18 21 10.3	+1.8
CTAO				IAmb	IAmb	18 21 23.0	
	comp=Z,5.7nm,0.7s						
BBOO	Buckleboo	38.08	258	P	P	18 21 41.3	-1.2
BBOO				IAmb	IAmb	18 21 50.2	
	comp=Z,13nm,1.4s						
COEN	Coen	39.85	289	P	P	18 21 58.8	+1.3
AS31	Alice Springs	42.80	270	P	P	18 22 20.9	-0.8
ASAR	Alice Springs	42.80	270	P	P	18 22 21.7	0.0
	comp=Z,1.3nm,0.6s,baz=107,slow=7.5,SNR=42						
ASAR	Alice Springs	42.80	270	P	P	18 22 21.0	-0.7
WR0	Warramunga Arr	43.85	275	P	P	18 22 30.4	+0.3
WB2	Warramunga Arr	44.02	275	P	P	18 22 31.8	+0.2
WB2				IAmb	IAmb	18 22 44.0	
	comp=Z,5.6nm,0.5s						
WRA	Warramunga Arr	44.03	275	P	P	18 22 31.7	+0.1
	comp=Z,1.4nm,0.5s,baz=115,slow=7.7,SNR=21						
WRA	Warramunga Arr	44.03	275	IAmb	IAmb	18 22 32.5	
	comp=Z,1.0nm,1.6s						
FORT	Forrest	45.19	258	P	P	18 22 40.3	-0.4
FORT				IAmb	IAmb	18 22 51.6	
	comp=Z,12nm,1.0s						
MTN	Manton Dam	50.22	281	P	P	18 23 18.7	-1.2
KNRA	Kununurra	50.73	277	P	P	18 23 23.8	+0.1
FITZ	Fitzroy Crossi	52.17	272	P	P	18 23 33.7	-0.8
FITZ				IAmb	IAmb	18 23 51.5	
	comp=Z,8.5nm,1.5s						
CASY	Casey	52.67	209	P	P	18 23 37.9	+0.4
CASY				IAmb	IAmb	18 23 41.7	
	comp=Z,6.4nm,1.0s						
QSPA	South Pole Qui	57.03	180	P	P	18 24 18.7	+9.4
QSPA				IAmb	IAmb	18 24 23.8	
	comp=Z,3.0nm,0.8s						
FINES	FINESS Array B	147.56	338	PKPbc	PKPbc	18 34 07.3	+0.5
	comp=Z,1.6nm,0.5s,baz=51,slow=4.4,SNR=9.9						
FINES	FINESS Array B	147.56	338		PKPbc	18 34 07.1	+0.3
AKASG	Malin Array Be	153.24	319	PKPbc	PKiKP	18 34 22.2	+1.3
	comp=Z,0.3nm,0.4s,baz=63,slow=2.5,SNR=1.3						
CLL	Collm	160.01	339	ePKPab	PKPab	18 35 04.0	+2.2

KRSC 08 18:31:18.7±2.0, 48.37N×156.05E, h80km±32km, ML4.5
SKHL 08 18:31:21.1±0.2, 48.40N×155.90E, h58km±6km, mb4.7/8
MOS 08 18:31:23.1±0.9, 48.61N×155.84E, h76km, mb4.5/10, Error ellipse: s-maj=9.9km s-min=3.8km az=81.9
NEIC 08 18:31:23.6±1.1, 48.59N±0.08×155.4E±0.1, h46km±7km, mb4.4/35, Error ellipse: s-maj=13.6km s-min=10.0km az=119.0
IDC 08 18:31:24.6±2.3, 48.59N×155.40E, h56km±20km, mb3.7/22, mb1 3.8/28, mb1mx3.7/66, mbtmp4.0/28, ML3.9/5, MS3.4/11, Ms1 3.5/11, ms1mx3.1/50, Error ellipse: s-maj=17.7km s-min=11.6km az=127.0
ISC 08 18:31:22.6±1.0, 48.48N±0.06×155.69E±0.06, h45km±9km, n224, σ1s22/238, mb4.4/57, MS3.5/10, 9C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.23	7	ePN	Pn	18 31 56.2	-0.7
SKR				eS	Sn	18 32 24.8	+1.6
SKR				pmax	pmax		
	comp=Z,57nm,0.3s						
SKR				smax	smax		
	comp=E,229nm,0.5s						
SKR				smax	smax		
	comp=N,324nm,0.6s						
SKR				MLR	MLR		
	comp=Z,300nm,14.0s						
SKR	Severo-Kuril's	2.23	7	eP	Pn	18 31 56.4	-0.5
SKR				eS	Sn	18 32 23.1	-0.1
SKR	Severo-Kuril's	2.23	7	eP	Pn	18 31 56.2	-0.7
SKR				AMB	AMB	18 31 56.8	
	comp=Z,190nm,0.4s						
SKR				eS	Sn	18 32 22.6	-0.6
SKR				A	A	18 32 27.5	
	comp=Z,230nm,0.4s						
SKR				A	A	18 32 27.5	
	comp=Z,380nm,0.4s						
ALID	Alaid	2.40	358	PN	Pn	18 32 00.0	+0.6
ALID	Alaid	2.40	358	eP	Pn	18 32 00.0	+0.6
PAU	Pauzhetka	3.08	13	PN	Pn	18 32 08.3	-0.3
PAU				S	Sn	18 32 43.7	-0.5
PAU	Pauzhetka	3.08	13	eP	Pn	18 32 08.3	-0.3
PAU				eS	Sn	18 32 43.7	-0.5
PAU	Pauzhetka	3.08	13	eP	Pn	18 32 08.4	-0.2
PAU				AMB	AMB	18 32 09.9	
	comp=Z,70nm,0.3s						
PAU				eS	Sn	18 32 44.0	-0.2
PAU				A	A	18 32 46.2	
	comp=Z,230nm,0.3s						
PAU				A	A	18 32 46.2	
	comp=Z,310nm,0.3s						
KDTR	Khodutka, Kamc	3.67	24	PN	Pn	18 32 15.6	-1.2
KDTR				S	Sn	18 32 56.4	-2.4
KDTR	Khodutka, Kamc	3.67	24	eP	Pn	18 32 15.6	-1.2
KDTR				eS	Sn	18 32 56.4	-2.4
MIPR	Malaya Ipel'ka	3.87	10	PN	Pn	18 32 19.7	+0.3
MIPR	Malaya Ipel'ka	3.87	10	eP	Pn	18 32 19.7	+0.3
ASAK	Asacha	4.16	19	PN	Pn	18 32 23.1	-0.4
ASAK	Asacha	4.16	19	eP	Pn	18 32 23.1	-0.4
MTVR	Mutnovka	4.32	21	PN	Pn	18 32 25.2	-0.5
MTVR				S	Sn	18 33 14.4	-0.4
MTVR	Mutnovka	4.32	21	eP	Pn	18 32 25.2	-0.5
MTVR				eS	Sn	18 33 14.4	-0.4
RUS	Russkaya	4.35	23	PN	Pn	18 32 24.7	-1.4
RUS				S	Sn	18 33 13.9	-1.6
RUS	Russkaya	4.35	23	eP	Pn	18 32 24.7	-1.4
RUS				eS	Sn	18 33 13.9	-1.6
RUS	Russkaya	4.35	23	eP	Pn	18 32 24.7	-1.4
GRL	Gorelyy	4.36	20	PN	Pn	18 32 26.1	-0.2
GRL				S	Sn	18 33 14.5	-1.3
GRL	Gorelyy	4.36	20	eP	Pn	18 32 26.1	-0.2
GRL				eS	Sn	18 33 14.5	-1.3
APC	Apacha	4.55	11	PN	Pn	18 32 29.4	+0.6
APC	Apacha	4.55	11	eP	Pn	18 32 29.4	+0.6
KRMR	Karymshinskiy	4.63	19	PN	Pn	18 32 31.1	+1.2
KRMR	Karymshinskiy	4.63	19	eP	Pn	18 32 31.1	+1.2
PEA0B	Petropavlovsk-	4.81	15c	iPN	Pn	18 32 33.0	+0.6
PEA0B	Petropavlovsk-	4.81	15	Pn	Pn	18 32 32.7	+0.3
PETK	Petropavlovsk-	4.81	15	P	Pn	18 32 32.4	0.0
	comp=Z,4.0nm,0.3s,baz=176,slow=12,SNR=146						
PETK				S	Sn	18 33 28.9	+2.1
	baz=207,slow=30,SNR=1.1						
PETK				LR	LR	18 34 51.1	
	comp=Z,307nm,18.5s,baz=173,slow=43						
PETK	Petropavlovsk-	4.81	15	Pn	Pn	18 32 32.2	-0.1
PET	Petropavlovsk	4.93	21	ePN	Pn	18 32 33.4	-0.6
PET				eS	Sn	18 33 29.2	-0.4
PET				pmax	pmax		
	comp=Z,51nm,0.5s						
PET				smax	smax		
	comp=N,104nm,0.6s						
PET				smax	smax		
	comp=E,133nm,0.6s						
PET				MLR	MLR		
	comp=Z,200nm,13.0s						
PET	Petropavlovsk	4.93	21	eP	Pn	18 32 33.4	-0.6
PET				eS	Sn	18 33 29.0	-0.6
PET	Petropavlovsk	4.93	21		Pn	18 32 33.3	-0.6
PET	Petropavlovsk	4.93	21	eP	Pn	18 32 33.1	-0.9
PET				AMB	AMB	18 32 33.9	
	comp=Z,50nm,0.5s						
PET				eS	Sn	18 33 29.2	-0.4
PET				A	A	18 33 45.3	
	comp=Z,100nm,0.6s						
PET				A	A	18 33 45.3	
	comp=Z,130nm,0.6s						
UGLR	Uglovaya	5.14	22	PN	Pn	18 32 37.0	0.0
UGLR	Uglovaya	5.14	22	eP	Pn	18 32 37.0	0.0
AVH	Avacha	5.17	21	PN	Pn	18 32 37.8	+0.4
AVH	Avacha	5.17	21	eP	Pn	18 32 37.8	+0.4
AVH	Avacha	5.17	21	eP	Pn	18 32 37.8	+0.4
KOK	Koryaka	5.17	20	PN	Pn	18 32 38.3	+0.9
KOK	Koryaka	5.17	20	eP	Pn	18 32 38.3	+0.9
KOK	Koryaka	5.17	20	eP	Pn	18 32 38.3	+0.9
SMAR	Somma	5.18	21	PN	Pn	18 32 38.7	+1.0
SMAR	Somma	5.18	21	eP	Pn	18 32 38.7	+1.0
KRER	Koryakskii	5.21	21	PN	Pn	18 32 38.4	+0.4
KRER	Koryakskii	5.21	21	eP	Pn	18 32 38.4	+0.4
SDLR	Sedlovina	5.22	22	PN	Pn	18 32 37.5	-0.6
SDLR	Sedlovina	5.22	22	eP	Pn	18 32 37.5	-0.6
KRX	Arik	5.24	20	PN	Pn	18 32 38.9	+0.6
KRX	Arik	5.24	20	eP	Pn	18 32 38.9	+0.6
NLC	Nalytchevo	5.24	25	eS	Sn	18 33 33.9	-3.4
SPN	Mys Shipunski	5.38	29	PN	Pn	18 32 39.2	-1.0
SPN				S	Sn	18 33 39.7	-1.1
SPN	Mys Shipunski	5.38	29	eP	Pn	18 32 39.2	-1.0
SPN				eS	Sn	18 33 39.7	-1.1
SPN	Mys Shipunski	5.38	29	eP	Pn	18 32 39.2	-1.0
GNL	Ganaly	5.42	14	PN	Pn	18 32 41.4	+0.6
GNL	Ganaly	5.42	14	eP	Pn	18 32 41.4	+0.6
KII	Karymskiy	6.05	22	PN	Pn	18 32 49.7	+0.3
KII	Karymskiy	6.05	22	eP	Pn	18 32 49.7	+0.3
KUR	Kuril'sk	6.27	242	ePN	Pn	18 32 52.5	+0.2
KUR				pmax	pmax		
	comp=Z,92nm,0.5s						
KUR				pmax	pmax		
	comp=N,16nm,0.3s						
KUR				pmax	pmax		
	comp=E,26nm,0.6s						
KUR	Kuril'sk	6.27	242	eP	Pn	18 32 52.6	+0.2
KUR				AMB	AMB	18 33 01.0	
	comp=E,92nm,0.5s						
KUR				eS	Sn	18 34 01.0	-1.6
KUR				A	A	18 34 23.0	
	comp=E,55nm,0.7s						
KUR				A	A	18 34 23.0	
	comp=E,13nm,0.7s						
MKZ	Mys Kozlova	7.16	29	PN	Pn	18 33 03.3	-1.2
MKZ	Mys Kozlova	7.16	29	eP	Pn	18 33 03.3	-1.2
KZV	Kizimen	7.23	22	PN	Pn	18 33 06.8	+1.1
KZV	Kizimen	7.23	22	eP	Pn	18 33 06.8	+1.1
TUMR	Tumrok	7.35	20	PN	Pn	18 33 07.6	+0.3
TUMR	Tumrok	7.35	20	eP	Pn	18 33 07.6	+0.3
KMNR	Kamenistaya	7.81	19	PN	Pn	18 33 14.0	+0.4
KMNR	Kamenistaya	7.81	19	eP	Pn	18 33 14.0	+0.4
YUK	Yuzh-Kuril'sk	8.13	241	eP	Pn	18 33 18.0	+0.1
YUK				AMB	AMB	18 33 21.1	
	comp=E,150nm,0.5s						
YUK				eS	Sn	18 34 47.2	-1.1
YUK				A	A	18 35 01.5	
	comp=E,130nm,0.6s						
YUK				A	A	18 35 01.5	
	comp=E,200nm,0.6s						
TYV	Tymovskoe	8.78	291	ePN	Pn	18 33 30.2	+3.4
TYV				pmax	pmax		
	comp=Z,7.0nm,1.2s						
TYV				pmax	pmax		
	comp=Z,100nm,2.8s						
TYV	Tymovskoe	8.78	291	eP	Pn	18 33 29.7	+2.9
TYV				AMB	AMB	18 33 30.6	
	comp=Z,6.0nm,0.5s						
TYV				eS	Sn	18 35 06.0	+1.6
YSS	Yuzh-Sakhalins	8.85	265	ePN	Pn	18 33 29.3	+1.5
YSS				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YSS				MLR	MLR		
	comp=Z,200nm,15.0s						
YSS	Yuzh-Sakhalins	8.85	265	eP	Pn	18 33 29.0	+1.2
YSS				AMB	AMB	18 33 34.0	
	comp=Z,10.0nm,0.6s						
KBTR	Krutoberegovo	8.88	27	PN	Pn	18 33 26.6	-1.6
KBTR	Krutoberegovo	8.88	27	eP	Pn	18 33 26.6	-1.6
KBG	Krutoberegovo	8.89	26	eP	Pn	18 33 28.2	0.0
BKI	Bering	9.26	39	eS	Sn	18 35 06.1	-10
JKA	Kamikawa-asahi	10.05	249	Pn	Pn	18 33 45.1	+0.9
ASAJ	Asahikawa	10.05	249	P	Pn	18 33 45.7	+1.5
	comp=Z,1.6nm,0.3s,baz=73,slow=15,SNR=11						
JEW	Eniwo	11.44	246	Pn	Pn	18 34 05.0	+1.8
MA2	Magadan	11.49	347	P	Pn	18 34 06.3	+2.6
	comp=Z,0.4nm,0.3s,baz=170,slow=14,SNR=4.4						
MA2	Magadan	11.49	347	PN	Pn	18 34 05.8	+2.1
MA2	Magadan	11.49	347	Pn	Pn	18 34 02.4	-1.3
MA2	Magadan	11.49	347	eP	Pn	18 34 05.8	+2.1
SEY	Seymchan	14.61	354	P	Pn	18 34 47.8	+1.7
	comp=Z,0.1nm,0.3s,baz=177,slow=12,SNR=5.9						
SEY	Seymchan	14.61	354	⇓eP	Pn	18 34 45.7	-0.4
SEY	Seymchan	14.61	354	eP	Pn	18 34 45.7	-0.4
EKMR	Ekimchan	15.08	296	eP	Pn	18 34 51.5	-0.9
EKMR				AMB	AMB	18 35 04.9	
	comp=Z,13nm,0.7s						
KLR	Kul'dur	15.76	282	P	P	18 35 03.6	-0.9
	comp=Z,0.5nm,0.3s,baz=88,slow=9.3,SNR=8.6						
KLR				LR	LR	18 41 11.7	
	comp=Z,126nm,19.0s,baz=78,slow=38						
KLR	Kul'dur	15.76	282	⇑eP	P	18 35 02.4	-2.1
KLR				MLR	MLR		
	comp=Z,130nm,13.0s						
KLR	Kul'dur	15.76	282	eP	P	18 35 02.4	-2.1
USRK	Ussuriysk Ar.	16.89	264	P	Pn	18 35 15.9	+0.4
	baz=60,slow=13,SNR=6.2						
USRK	Ussuriysk Ar.	16.89	264	Pn	Pn	18 35 14.0	-1.6
MJAR	Matsushiro Arr	17.51	234	P	Pn	18 35 22.2	-1.1
	comp=Z,0.1nm,0.3s,baz=26,slow=12,SNR=4.0						
ZEA	Zeya	18.54	297	eP	Pn	18 35 37.7	+2.0
ZEA				MLR	MLR		
	comp=Z,100nm,15.0s						
ZEA	Zeya	18.54	297	eP	Pn	18 35 37.7	+2.0
YAK	Yakutsk	19.91	323	P	P	18 35 49.0	-1.0
	comp=Z,0.1nm,0.3s,baz=74,slow=0.8,SNR=8.3						
YAK				LR	LR	18 43 41.6	
	comp=Z,103nm,18.3s,baz=89,slow=37						
YAK	Yakutsk	19.91	323	eP	P	18 35 48.9	-1.0
YAK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,2.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.4s						
YAK	Yakutsk	19.91	323	P	P	18 35 48.6	-1.3
YAK				IAmb	IAmb	18 35 59.4	
	comp=Z,12nm,0.6s						
KSRS	Korea Array	22.98	252	P	P	18 36 22.9	-0.2
	comp=Z,1.9nm,0.5s,baz=50,slow=10,SNR=11						
KSRS				LR	LR	18 46 15.5	
	comp=Z,54nm,18.1s,baz=130,slow=39						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KSAR	**Wonju Array Be**	**23.02**	**252**	P	**P**	**18 36 22.8**	**-0.7**
KSAR	**Wonju Array Be**	**23.02**	**252**	P	**P**	**18 36 22.8**	**-0.7**
TIK	**Tiksi**	**26.33**	**341**	*e*P	**P**	**18 36 52.3**	**-1.4**
TIXI	**Tiksi**	**26.35**	**341**	P	**P**	**18 36 52.1**	**-1.7**
	comp=Z,3.3nm,0.6s,baz=114,slow=7.4,SNR=5.2						
TIXI	**Tiksi**	**26.35**	**341**	⇑*i*P	**P**	**18 36 52.3**	**-1.5**
TIXI	**Tiksi**	**26.35**	**341**	P	**P**	**18 36 51.6**	**-2.2**
H11N2	**WAKE ISLAND Hy**	**30.07**	**159**	T	T	19 09 41.3	
	baz=342,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**30.09**	**159**	T	T	19 09 27.2	
	baz=342,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**30.09**	**159**	T	T	19 09 40.9	
	baz=342,slow=76,SNR=8.6						
H11S1	**WAKE ISLAND Hy**	**31.20**	**160**	T	T	19 10 42.7	
	baz=344,slow=76,SNR=66						
H11S3	**WAKE ISLAND Hy**	**31.21**	**160**	T	T	19 10 44.8	
	baz=344,slow=76,SNR=72						
H11S2	**WAKE ISLAND Hy**	**31.22**	**160**	T	T	19 10 53.1	
	baz=344,slow=76,SNR=70						
HHC	**Hu-ho-hao-te**	**31.93**	**273**	*e*P	**P**	**18 37 41.0**	**-2.8**
HHC				S	**S**	**18 42 52.0**	**+0.2**
HHC				pmax	pmax		
	comp=Z,15nm,0.8s						
HHC				pmax	pmax		
	comp=Z,60nm,4.1s						
HHC				LR	LR		
	comp=N,96nm,12.4s						
HHC				LR	LR		
	comp=E,160nm,13.4s						
HHC				LR	LR		
	comp=Z,160nm,13.0s						
ULN	**Ulaanbaatar**	**32.01**	**288**	⇑*e*P	**P**	**18 37 44.8**	**+0.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ULN	**Ulaanbaatar**	**32.01**	**288**	*e*P	**P**	**18 37 44.8**	**+0.3**
SONM	**Songino Array**	**32.43**	**288**	P	**P**	**18 37 46.9**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=64,slow=6.6,SNR=4.2						
SONM				LR	LR	18 52 04.2	
	comp=Z,79nm,20.0s,baz=68,slow=38						
SONM	**Songino Array**	**32.43**	**288**	IAmb	IAmb	18 37 48.7	
	comp=Z,0.8nm,0.8s						
SML	**Sawmill**	**33.52**	**45**	P	**P**	**18 37 59.5**	**+2.1**
SML				IAmb	IAmb	18 38 15.1	
	comp=Z,5.2nm,0.8s						
MDM	**Murphy Dome**	**33.54**	**40**	P	**P**	**18 37 59.4**	**+1.8**
WRH	**Wood River Hil**	**33.59**	**41**	P	**P**	**18 37 59.2**	**+1.3**
WRH				IAmb	IAmb	18 38 14.6	
	comp=Z,6.4nm,1.4s						
ILAR	**Eielson Array**	**34.11**	**40**	P	**P**	**18 38 03.7**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=264,slow=6.3,SNR=1.5						
ILAR				LR	LR	18 52 37.3	
	comp=Z,38nm,19.7s,baz=202,slow=37						
FYU	**Fort Yukon**	**34.82**	**37**	P	**P**	**18 38 09.2**	**+0.6**
FYU				IAmb	IAmb	18 38 24.3	
	comp=Z,6.3nm,0.9s						
BMAR	**Burnt Mountain**	**35.11**	**35**	P	**P**	**18 38 11.3**	**+0.2**
N25K	**Chitina, Valde**	**35.31**	**46**	P	**P**	**18 38 15.0**	**+2.1**
K27K	**Chicken**	**36.23**	**41**	P	**P**	**18 38 22.1**	**+1.4**
L27K	**Beaver Creek,**	**36.43**	**43**	P	**P**	**18 38 24.3**	**+1.8**
L27K				IAmb	IAmb	18 38 37.4	
	comp=Z,2.5nm,0.9s						
BCAR	**Beaver Creek A**	**36.45**	**43**	P	**P**	**18 38 22.8**	**+0.1**
GTA	**Gaotai**	**40.43**	**279**	*e*P	**P**	**18 38 56.4**	**0.0**
GTA				pP	pP	18 39 05.0	-3.2
GTA				sP	sP	18 39 07.7	-5.6
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,65nm,6.2s						
GTA				LR	LR		
	comp=N,69nm,14.2s						
GTA				LR	LR		
	comp=E,80nm,16.7s						
GTA				LR	LR		
	comp=Z,120nm,15.6s						
ZALV	**Zalesovo Beam**	**43.03**	**305**	LR	LR	18 58 30.6	
	comp=Z,42nm,18.0s,baz=59,slow=38						
DGZ	**Jazzator, Alta**	**43.30**	**298**	⇑*e*P	**P**	**18 39 20.2**	**+0.4**
DGZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WMQ	**Urumqi**	**45.93**	**291**	*e*P	**P**	**18 39 41.9**	**+1.2**
EUNU	**Eureka**	**47.08**	**12**	P	**P**	**18 39 49.5**	**+0.2**
MK31	**Makanchi Array**	**47.70**	**297**	*d i*P	**P**	**18 39 53.7**	**-0.7**
MK31	**Makanchi Array**	**47.70**	**297**	P	**P**	**18 39 53.4**	**-1.1**
MK31				IAmb	IAmb	18 39 54.6	
	comp=Z,2.7nm,0.6s						
MKAR	**Makanchi Array**	**47.70**	**297**	P	**P**	**18 39 53.2**	**-1.2**
	comp=Z,2.2nm,0.5s,baz=68,slow=8.6,SNR=29						
MKAR	**Makanchi Array**	**47.70**	**297**	*ce*P	**P**	**18 39 53.7**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**47.70**	**297**	P	**P**	**18 39 53.1**	**-1.4**
MKAR	**Makanchi Array**	**47.70**	**297**	*e*P	**P**	**18 39 53.7**	**-0.7**
KURK	**Kurchatov**	**47.86**	**303**	P	**P**	**18 39 56.1**	**+0.5**
KURK	**Kurchatov**	**47.86**	**303**	P	**P**	**18 39 56.0**	**+0.5**
KURK	**Kurchatov**	**47.86**	**303**	*e*P	**P**	**18 39 56.1**	**+0.5**
MAKZ	**Makanchi**	**47.88**	**297**	P	**P**	**18 39 54.7**	**-1.1**
MAKZ				pmax	pmax		
	comp=Z,7.0nm,1.5s						
MAKZ	**Makanchi**	**47.88**	**297**	P	**P**	**18 39 54.7**	**-1.1**
MAKZ				IAmb	IAmb	18 39 56.2	
	comp=Z,6.6nm,1.4s						
KURBB	**Kurchatov Arra**	**47.96**	**303**	P	**P**	**18 39 56.0**	**-0.3**
	comp=Z,1.1nm,0.2s,baz=64,slow=8.6,SNR=4.9						
BVAR	**Borovoye Array**	**51.11**	**309**	P	**P**	**18 40 18.9**	**-1.4**
	comp=Z,0.7nm,0.4s,baz=58,slow=2.7,SNR=5.1						
KDJ	**Kajisay**	**53.31**	**295**	P	**P**	**18 40 35.7**	**-1.3**
KDJ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KDJ	**Kajisay**	**53.31**	**295**	P	**P**	**18 40 35.7**	**-1.3**
KDJ				IAmb	IAmb	18 40 37.8	
	comp=Z,3.1nm,0.9s						
BOOM	**Boomskoye usch**	**53.84**	**296**	P	**P**	**18 40 40.6**	**-0.3**
BOOM				pmax	pmax		
	comp=Z,12nm,1.2s						
BOOM	**Boomskoye usch**	**53.84**	**296**	P	**P**	**18 40 40.6**	**-0.3**
CHTO	**Chiang Mai**	**54.20**	**258**	P	**P**	**18 40 44.4**	**+0.8**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CHTO	**Chiang Mai**	**54.20**	**258**	P	**P**	**18 40 44.4**	**+0.8**
CM31	**Chiang Mai Arr**	**54.46**	**257**	P	**P**	**18 40 44.3**	**-1.2**
CM31				IAmb	IAmb	18 40 53.1	
	comp=Z,3.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**54.46**	**257**	P	**P**	**18 40 46.5**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=30,slow=7.1,SNR=8.8						
CMAR				LR	LR	19 04 15.3	
	comp=Z,38nm,18.6s,baz=100,slow=36						
CMAR	**Chiang Mai Arr**	**54.46**	**257**	P	**P**	**18 40 44.8**	**-0.7**
AAK	**Ala-Archa**	**54.62**	**297**	P	**P**	**18 40 45.2**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=150,slow=4.7,SNR=5.1						
AAK	**Ala-Archa**	**54.62**	**297**	⇓*e*P	**P**	**18 40 46.3**	**-0.3**
AAK				pmax	pmax		
	comp=Z,13nm,2.5s						
AAK	**Ala-Archa**	**54.62**	**297**	IAmb	IAmb	18 40 47.0	
	comp=Z,1.4nm,0.7s						
AAK	**Ala-Archa**	**54.62**	**297**	*e*P	**P**	**18 40 46.3**	**-0.3**
ARU	**Arti**	**54.91**	**318**	P	**P**	**18 40 46.7**	**-1.5**
	comp=Z,1.1nm,0.3s,baz=67,slow=6.8,SNR=7.9						
ARU	**Arti**	**54.91**	**318**	*c i*P	**P**	**18 40 47.6**	**-0.6**
ARU						18 41 46.2	
ARU				S	**S**	**18 48 25.8**	**-0.4**
ARU				SS	**SS**	**18 52 05.0**	**-4.3**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.2s						
ARU	**Arti**	**54.91**	**318**	IAmb	IAmb	18 40 49.3	
	comp=Z,2.9nm,0.5s						
ARU	**Arti**	**54.91**	**318**	*e*P	**P**	**18 40 47.6**	**-0.6**
TOLI2	**Tolitoli**	**55.95**	**224**	P	**P**	**18 40 55.7**	**-0.4**
JIRN	**Jiri**	**56.53**	**275**	*e*P	**P**	**18 41 01.9**	**+1.2**
RAMN	**Ramite**	**56.73**	**274**	*e*P	**P**	**18 41 02.3**	**+0.3**
	comp=Z,5.7nm,0.4s						
ARCES	**ARCESS Array B**	**56.78**	**341**	P	**P**	**18 41 00.1**	**-1.4**
	comp=Z,4.0nm,0.9s,baz=39,slow=6.9,SNR=9.9						
ARCES				LR	LR	19 09 53.3	
	comp=Z,55nm,18.7s,baz=105,slow=41						
ARCES	**ARCESS Array B**	**56.78**	**341**	P	**P**	**18 41 00.2**	**-1.3**
ARCES				pmax	pmax		
	comp=Z,29nm,1.6s						
ARCES	**ARCESS Array B**	**56.78**	**341**	P	**P**	**18 41 00.2**	**-1.3**
KKN	**Kakani**	**57.05**	**276**	*e*P	**P**	**18 41 05.5**	**+1.3**
PKI	**Pulchoki**	**57.11**	**276**	*e*P	**P**	**18 41 05.5**	**+0.7**
PKIN	**Phulchoki**	**57.12**	**276**	*e*P	**P**	**18 41 05.7**	**+1.0**
	comp=Z,5.4nm,0.4s						
DMN	**Daman**	**57.29**	**276**	*e*P	**P**	**18 41 07.0**	**+1.1**
	comp=Z,11nm,0.5s						
GKN	**Gorkha**	**57.34**	**277**	*e*P	**P**	**18 41 06.7**	**+0.6**
	comp=Z,11nm,0.5s						
DANN	**Dangsing**	**57.69**	**277**	*e*P	**P**	**18 41 09.5**	**+0.7**
KOLN	**Koldanda**	**58.17**	**277**	*e*P	**P**	**18 41 12.2**	**+0.1**
PYUN	**Piuthan**	**58.36**	**278**	*e*P	**P**	**18 41 14.0**	**+0.6**
	comp=Z,10nm,0.6s						
ABKAR	**Akbulak array**	**58.65**	**310**	P	**P**	**18 41 13.9**	**-1.0**
ABKAR	**Akbulak array**	**58.65**	**310**	P	**P**	**18 41 13.8**	**-1.0**
ABKAR				IAmb	IAmb	18 41 15.9	
	comp=Z,1.1nm,0.7s						
SUMG	**Summit**	**58.84**	**5**	*i* P	**P**	**18 41 16.7**	**+0.3**
SUMG	**Summit**	**58.84**	**5**	P	**P**	**18 41 16.6**	**+0.3**
SUMG				pmax	pmax		
	comp=Z,12nm,1.2s						
SUMG	**Summit**	**58.84**	**5**	P	**P**	**18 41 16.6**	**+0.3**
PDAR	**Pinedale Array**	**62.33**	**56**	P	**P**	**18 41 42.7**	**+2.3**
	comp=Z,0.3nm,0.5s,baz=305,slow=3.2,SNR=2.4						
FINES	**FINESS Array B**	**63.20**	**335**	P	**P**	**18 41 44.9**	**-0.7**
	comp=Z,6.1nm,1.1s,baz=27,slow=7.8,SNR=7.5						
NB2	**NORSAR Subarra**	**67.14**	**342**	P	**P**	**18 42 10.4**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=25,slow=6.5						
NOA	**NORSAR Array B**	**67.14**	**342**	P	**P**	**18 42 10.5**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=25,slow=6.4,SNR=4.2						
NOA				LR	LR	19 15 31.7	
	comp=Z,29nm,19.5s,baz=95,slow=40						
GEYT	**Alibeck**	**67.19**	**302**	LR	LR	19 14 04.3	
	comp=Z,35nm,19.1s,baz=165,slow=38						
WRA	**Warramunga Arr**	**70.73**	**201**	P	**P**	**18 42 33.9**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=15,slow=6.4,SNR=2.1						
KBZ	**Khabaz**	**70.89**	**315**	P	**P**	**18 42 36.1**	**+1.6**
	comp=Z,1.0nm,0.4s,baz=63,slow=6.8,SNR=2.9						
AKASG	**Malin Array Be**	**71.06**	**327**	P	**P**	**18 42 35.0**	**-0.5**
	comp=Z,1.8nm,0.5s,baz=32,slow=6.2,SNR=10						
AKASG	**Malin Array Be**	**71.06**	**327**	*ce*P	**P**	**18 42 34.7**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKBB	**Malin Array Si**	**71.06**	**327**	*ce*P	**P**	**18 42 36.2**	**+0.7**
AKBB	**Malin Array Si**	**71.06**	**327**	P	**P**	**18 42 34.9**	**-0.6**
AKBB				IAmb	IAmb	18 42 36.0	
	comp=Z,3.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**71.50**	**210**	P	**P**	**18 42 38.9**	**+0.5**
	comp=Z,1.5nm,0.9s,baz=16,slow=7.4,SNR=2.2						
ASAR	**Alice Springs**	**74.42**	**201**	P	**P**	**18 42 56.6**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=16,slow=5.2,SNR=12						
BUR08	**Bucovina Ar. S**	**75.06**	**328**	P	**P**	**18 42 59.4**	**0.0**
BUR08				IAmb	IAmb	18 43 00.8	
	comp=Z,4.7nm,1.1s						
TX31	**Lajitas Ar. Si**	**75.14**	**63**	P	**P**	**18 43 01.3**	**+1.2**
TX31				IAmb	IAmb	18 43 04.1	
	comp=Z,9.7nm,1.6s						
TX32	**Lajitas Array**	**75.14**	**63**	P	**P**	**18 43 01.0**	**+0.9**
TX32				IAmb	IAmb	18 43 10.0	
	comp=Z,4.5nm,1.6s						
TXAR	**Lajitas Array**	**75.14**	**63**	P	**P**	**18 43 01.6**	**+1.5**
	comp=Z,1.1nm,0.8s,baz=298,slow=4.4,SNR=14						
DPC	**Dobruska-Polom**	**75.54**	**334**	*e*P	**P**	**18 43 03.1**	**+1.1**
DPC	**Dobruska-Polom**	**75.54**	**334**	*e*P	**P**	**18 43 03.1**	**+1.1**
CLL	**Collm**	**75.59**	**337**	*i* P	**P**	**18 43 02.8**	**+0.6**
	comp=Z,7.0nm,1.0s						
CLL	**Collm**	**75.59**	**337**	*i* P	**P**	**18 43 02.8**	**+0.6**
CLL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CLL	**Collm**	**75.59**	**337**	P	**P**	**18 43 02.0**	**-0.1**
CLL				IAmb	IAmb	18 43 03.6	
	comp=Z,7.0nm,1.1s						
KRLC	**Kraliky**	**75.66**	**334**	*e*P	**P**	**18 43 03.7**	**+1.1**
KRLC	**Kraliky**	**75.66**	**334**	*e*P	**P**	**18 43 03.7**	**+1.1**
LANS	**Liptovska Anna**	**75.67**	**332**	*e*P	**P**	**18 43 04.4**	**+1.7**
LANS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LANS	**Liptovska Anna**	**75.67**	**332**	*e*P	**P**	**18 43 04.4**	**+1.7**
MORC	**Moravsky Berou**	**75.70**	**333**	P	**P**	**18 43 03.8**	**+0.9**
MORC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MORC	**Moravsky Berou**	**75.70**	**333**	P	**P**	**18 43 03.8**	**+0.9**
MORC				IAmb	IAmb	18 43 05.0	
	comp=Z,3.4nm,0.8s						
KHC	**Kasperske Hory**	**77.41**	**336**	*e*P	**P**	**18 43 13.7**	**+1.1**
KHC	**Kasperske Hory**	**77.41**	**336**	*e*P	**P**	**18 43 13.7**	**+1.1**
KHC	**Kasperske Hory**	**77.41**	**336**	P	**P**	**18 43 13.9**	**+1.3**
KHC				IAmb	IAmb	18 43 15.0	
	comp=Z,3.5nm,0.8s						
CKRC	**Cesky Krumlov**	**77.49**	**335**	*e*P	**P**	**18 43 14.7**	**+1.7**
GERES	**GERESS Array B**	**77.64**	**335**	P	**P**	**18 43 15.1**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=38,slow=7.1,SNR=8.3						
BNN	**Bunyan**	**78.00**	**316**	P	**P**	**18 43 15.7**	**-0.5**
BRTR	**Keskin Array B**	**78.30**	**318**	P	**P**	**18 43 18.6**	**+0.8**
	comp=Z,2.2nm,0.9s,baz=44,slow=10,SNR=5.1						
BRTR	**Keskin Array B**	**78.30**	**318**	*i* P	**P**	**18 43 19.1**	**+1.3**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SOKA	**Soboth**	**79.22**	**334**	*e*P	**P**	**18 43 24.5**	**+1.9**
	comp=Z,7.1nm,1.4s						
KBA	**Koelnbreinsper**	**79.34**	**335**	*i* P	**P**	**18 43 26.0**	**+2.6**
	comp=Z,9.5nm,0.8s						
WATA	**Walderalm**	**79.60**	**336**	*i* P	**P**	**18 43 27.1**	**+2.3**
	comp=Z,4.4nm,0.6s						
WTTA	**Wattenberg**	**79.65**	**336**	*i* P	**P**	**18 43 27.7**	**+2.5**
	comp=Z,7.9nm,1.0s						
RETA	**Reutte**	**79.68**	**337**	*i* P	**P**	**18 43 27.3**	**+2.1**
	comp=Z,4.1nm,0.8s						
MOTA	**Moosalm**	**79.72**	**336**	*e*P	**P**	**18 43 27.6**	**+2.2**
	comp=Z,8.3nm,1.1s						
SQTA	**Sankt Quirin**	**79.80**	**336**	*e*P	**P**	**18 43 28.3**	**+2.5**
	comp=Z,5.7nm,1.0s						
QSPA	**South Pole Qui**	**138.21**	**180**	PKP	**PKPdf**	**18 50 42.9**	**+1.7**
	comp=Z,1.1nm,0.9s,baz=301,slow=5.9,SNR=2.3						

*IDC **08** 18:39:51.2±1.3, 9°.88N×126°.63E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.7/54, mbtmp4.0/9, Error ellipse: s-maj=99.2km s-min=16.4km az=75.0*

*MAN **08** 18:39:55.9, 9°.72N×126°.48E, h2km, mb4.5, ML3.4, MS3.2*

*NEIC **08** 18:39:57.0±1.8, 9°.88N±0°.10×126°.7E±0°.4, h36km±8km, mb4.3/13, Error ellipse: s-maj=50.9km s-min=13.8km az=84.0*

ISC 08 18:39:56.4±0.8**, 9°.89N**±0°.07×**126°.70E**±0°.08**, h35km, n33, σ1s.49**/32**, mb4.2**/15**, 2C-3D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.20**	**265**	⇑*e*P	**Pn**	**18 40 14.2**	**-2.5**
SCPH				*e*S	**Sn**	**18 40 29.7**	**-2.1**
BUKP	**Musuan**	**2.57**	**219**	⇓*e*P	**Pn**	**18 40 35.9**	**+0.2**
BUKP				*i* S	**Sn**	**18 41 10.7**	**+5.0**
LLP	**Lapu-Lapu**	**2.73**	**279**	⇓*i*P	**Pn**	**18 40 39.3**	**+1.6**
LLP				*i* S	**Sn**	**18 41 10.9**	**+1.3**
SNPH	**Sibulan**	**3.46**	**261**	*e*P	**Pn**	**18 40 46.8**	**-1.1**
SNPH				*e*S	**Sn**	**18 41 29.5**	**+1.8**
DCPH	**Dipolog City**	**3.55**	**249**	⇑*e*P	**Pn**	**18 40 49.3**	**+0.2**
DCPH				*i* S	**Sn**	**18 41 30.0**	**+0.1**
RCP	**Roxas**	**4.23**	**293**	⇓*e*P	**Pn**	**18 41 00.8**	**+2.4**
BATI	**Baumata**	**20.19**	**189**	P	**P**	**18 44 29.2**	**+0.9**
	12nm,0.5s,baz=3.2,slow=18,SNR=4.1						
MTN	**Manton Dam**	**23.01**	**169**	P	**P**	**18 44 58.1**	**-0.3**
MTN				IAmb	IAmb	18 45 46.9	
	comp=Z,7.6nm,0.9s						
KNRA	**Kununurra**	**25.48**	**175**	P	**P**	**18 45 20.9**	**-0.6**
KNRA				IAmb	IAmb	18 45 59.3	
	comp=Z,12nm,1.2s						
FITZ	**Fitzroy Crossi**	**27.83**	**182**	P	**P**	**18 45 41.7**	**-0.9**
	comp=Z,2.0nm,0.6s,baz=355,slow=9.4,SNR=11						
WRA	**Warramunga Arr**	**30.58**	**166**	P	**P**	**18 46 07.5**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=344,slow=9.1,SNR=2.0						
WRA	**Warramunga Arr**	**30.58**	**166**	IAmb	IAmb	18 46 14.8	
	comp=Z,0.5nm,1.6s						
WB2	**Warramunga Arr**	**30.59**	**166**	P	**P**	**18 46 08.6**	**+1.4**
WB2				IAmb	IAmb	18 46 20.2	
	comp=Z,7.1nm,1.2s						
WR0	**Warramunga Arr**	**30.65**	**165**	P	**P**	**18 46 09.2**	**+1.5**
WR0				IAmb	IAmb	18 46 23.5	
	comp=Z,5.9nm,1.2s						
PSA00	**Pilbara Seismi**	**31.98**	**192**	P	**P**	**18 46 18.3**	**-1.2**
ASAR	**Alice Springs**	**34.09**	**168**	P	**P**	**18 46 37.3**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=343,slow=7.3,SNR=10						
ASAR				PcP	**PcP**	**18 49 15.1**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=354,slow=2.6,SNR=1.4						
H11S3	**WAKE ISLAND Hy**	**39.62**	**73**	T	T	19 30 31.6	
	baz=262						
H11S1	**WAKE ISLAND Hy**	**39.64**	**73**	T	T	19 30 31.1	
	baz=262						
H11S2	**WAKE ISLAND Hy**	**39.64**	**73**	T	T	19 30 29.2	
	baz=262						
H11N1	**WAKE ISLAND Hy**	**39.97**	**71**	T	T	19 30 43.8	
	baz=262,slow=75,SNR=9.7						
H11N2	**WAKE ISLAND Hy**	**39.98**	**71**	T	T	19 30 46.3	
	baz=262,slow=75,SNR=9.1						
H11N3	**WAKE ISLAND Hy**	**39.99**	**71**	T	T	19 30 45.1	
	baz=262,slow=75,SNR=7.8						
MORW	**Morawa**	**40.07**	**195**	P	**P**	**18 47 27.5**	**-1.0**
MORW				IAmb	IAmb	18 48 07.6	
	comp=Z,16nm,1.6s						
FORT	**Forrest**	**40.45**	**178**	P	**P**	**18 47 30.5**	**-1.2**
SONM	**Songino Array**	**41.52**	**339**	P	**P**	**18 47 41.2**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=134,slow=8.3,SNR=2.2						
BBOO	**Buckleboo**	**43.39**	**169**	P	**P**	**18 47 55.0**	**-0.6**
BBOO				IAmb	IAmb	18 48 29.2	
	comp=Z,22nm,1.6s						
NWAO	**Narrogin (SRO)**	**43.52**	**192**	P	**P**	**18 47 56.1**	**-0.6**
MK31	**Makanchi Array**	**52.59**	**323**	P	**P**	**18 49 06.6**	**-0.1**
MKAR	**Makanchi Array**	**52.59**	**323**	P	**P**	**18 49 06.5**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=123,slow=8.3,SNR=7.2						
MAKZ	**Makanchi**	**52.78**	**323**	P	**P**	**18 49 08.1**	**-0.1**
MAKZ				IAmb	IAmb	18 49 16.7	
	comp=Z,3.8nm,1.6s						
ARU	**Arti**	**69.78**	**327**	P	**P**	**18 51 01.8**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=135,slow=19,SNR=3.6						
ARCES	**ARCESS Array B**	**84.70**	**340**	P	**P**	**18 52 27.3**	**+0.9**
	comp=Z,4.1nm,0.9s,baz=72,slow=6.0,SNR=5.6						
FINES	**FINESS Array B**	**86.43**	**332**	P	**P**	**18 52 35.1**	**0.0**
	comp=Z,5.6nm,1.1s,baz=66,slow=4.7,SNR=12						

MEX 08 18:43:46.1±1.8**, 16°.24N×98°.03W, h5km, MD3.5, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.18**	**328**	*i* P	Pg	18 43 49.3	-0.4
PNIG				*i* S	Sg	18 43 52.2	+0.1
YOIG	**Yosondua**	**0.77**	**37**	*i* P	Pg	18 43 59.5	-1.4
YOIG				*i* S	Sg	18 44 09.9	-1.0
PEIG	**Puerto Escondi**	**0.88**	**106**	*e*P	Pg	18 44 01.4	-1.6
PEIG				*e*S	Sg	18 44 13.5	-0.9
MGIG	**Malinaltepec**	**1.15**	**330**	*e*P	Pg	18 44 02.8	-5.4
MGIG				*e*S	Sg	18 44 20.0	-3.1
HLIG	**Huajuapan de L**	**1.60**	**8**	*e*P	Pn	18 44 11.8	-3.4
HLIG				*e*S	Sn	18 44 30.9	-5.4
DAIG	**Los Arroyos**	**1.74**	**297**	*e*P	Pn	18 44 10.6	-6.5
DAIG				*e*S	Sn	18 44 35.4	-4.3

*IDC **08** 18:43:38.9±2.9, 33°.15S×178°.23W, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/39, mbtmp3.9/5, ML3.6/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/33, Error ellipse: s-maj=63.9km s-min=44.8km az=127.0*

*NEIC **08** 18:43:48.2±2.8, 33°.2S±0°.1×178°.8W±0°.2, h35km±8km, mb4.6/8, Error ellipse: s-maj=27.9km s-min=18.6km az=104.0*

ISC 08 18:43:47.5±1.6**, 33°.1S**±0°.1×**178°.8W**±0°.2**, h35km, n19, σ1s.40**/19**, mb4.4**/7**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.00**	**207**	Pn	**Pn**	**18 44 59.1**	**-0.9**
URZ	**Urewera**	**6.09**	**212**	Pn	**Pn**	**18 45 14.2**	**-0.8**
	1.4nm,0.3s,baz=302,slow=19,SNR=8.6						
URZ				Sn	**Sn**	**18 46 25.5**	**+2.1**
	2.7nm,0.3s,baz=60,slow=20,SNR=5.7						
URZ	**Urewera**	**6.09**	**212**		**Pn**	**18 45 13.0**	**-2.0**
BKZ	**Black Stump Fm**	**7.11**	**211**	Pn	**Pn**	**18 45 26.6**	**-2.4**
LTZ	**Lake Taylor**	**11.91**	**214**	Pn	**Pn**	**18 46 33.5**	**-1.4**
PPT	**Papeete**	**30.51**	**67**	LR	LR	18 59 44.4	
	comp=Z,32nm,18.9s,baz=213,slow=32						
CTA	**Charters Tower**	**33.66**	**284**	P	**P**	**18 50 26.9**	**+1.7**
	2.3nm,0.6s,baz=111,slow=9.9,SNR=7.5						
CTAO	**Charters Tower**	**33.66**	**284**	P	**P**	**18 50 26.7**	**+1.6**
CTAO				IAmb	IAmb	18 51 11.8	
	comp=Z,13nm,1.5s						
ASAR	**Alice Springs**	**42.34**	**270**	P	**P**	**18 51 38.6**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=109,slow=7.6,SNR=18						
WR0	**Warramunga Arr**	**43.40**	**276**	P	**P**	**18 51 47.0**	**0.0**
WR0				IAmb	IAmb	18 53 19.1	
	comp=Z,12nm,1.6s						
WB2	**Warramunga Arr**	**43.57**	**275**	P	**P**	**18 51 48.5**	**+0.2**
WRA	**Warramunga Arr**	**43.58**	**275**	P	**P**	**18 51 48.2**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=117,slow=7.7,SNR=12						
KNRA	**Kununurra**	**50.27**	**277**	P	**P**	**18 52 40.9**	**+0.2**
KNRA				IAmb	IAmb	18 53 37.4	
	comp=Z,14nm,1.3s						
FITZ	**Fitzroy Crossi**	**51.71**	**272**	P	**P**	**18 52 51.4**	**-0.1**
	comp=Z,1.1nm,1.0s,baz=110,slow=4.8,SNR=1.4						
FITZ	**Fitzroy Crossi**	**51.71**	**272**	P	**P**	**18 52 49.9**	**-1.6**
SAUI	**Saumlaki**	**52.37**	**287**	P	**P**	**18 52 55.9**	**-0.5**
CASY	**Casey**	**52.41**	**209**	P	**P**	**18 52 55.0**	**-1.0**
QSPA	**South Pole Qui**	**56.98**	**180**	P	**P**	**18 53 31.4**	**+2.0**
QSPA				IAmb	IAmb	18 53 44.4	
	comp=Z,6.6nm,1.1s						
FINES	**FINESS Array B**	**147.44**	**338**	PKPbc	**PKPdf**	**19 03 23.9**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=46,slow=4.0,SNR=7.5						

*TRN **08** 18:51:59.2, 13°.64N×58°.34W, h82km, MD3.8*

ISC 08 18:52:00.0±3.4**, 13°.77N**±0°.08×**58°.5W**±0°.2**, h10km, n18, σ0s.65**/24**, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.18**	**236**	*e*P	**Pg**	**18 52 22.5**	**-0.1**
BBGH	**Gun Hill**	**1.24**	**240**	*e*P	**Pb**	**18 52 23.4**	**-0.1**
MCLT	**Moule a Chique**	**2.41**	**269**	*e*P	**Pn**	**18 52 39.7**	**+0.2**
MPOM	**Morne Pois Mar**	**2.42**	**286**	*e*P	**Pn**	**18 52 39.9**	**+0.2**
MPOM				*e*S	**Sn**	**18 53 09.1**	**-0.3**
SLBI	**Saint Lucia, B**	**2.45**	**276**	*e*P	**Pn**	**18 52 40.5**	**+0.3**
SLBI				*e*S	**Sn**	**18 53 09.9**	**-0.3**
LPMF	**Morne Lapointe**	**2.56**	**288**	*e*P	**Pn**	**18 52 41.2**	**-0.3**
ZAM	**Aeronautique**	**2.62**	**288**	*e*P	**Pn**	**18 52 41.9**	**-0.5**
BIM	**Bigot**	**2.64**	**287**	*e*P	**Pn**	**18 52 42.8**	**+0.1**
BAMF	**Morne Balai**	**2.81**	**292**	*e*P	**Pn**	**18 52 45.8**	**+0.7**
CXM	**Morne La Croix**	**2.82**	**292**	*e*P	**Pn**	**18 52 46.6**	**+1.3**
PCM	**Pelee Case Pet**	**2.86**	**292**	*e*P	**Pn**	**18 52 46.2**	**+0.4**
DSLB	**Salisbury**	**3.31**	**300**	*e*P	**Pn**	**18 52 53.0**	**+1.0**
DSLB				*e*S	**Sn**	**18 53 31.8**	**+0.4**
MAGL	**Barre de l'ile**	**3.48**	**309**	*e*P	**Pn**	**18 52 54.4**	**+0.1**
MAGL				*e*S	**Sn**	**18 53 36.0**	**+0.4**
CBE	**Ff, Capester**	**3.80**	**307**	*e*P	**Pn**	**18 52 59.6**	**+0.9**
CBE				*e*S	**Sn**	**18 53 44.0**	**+0.4**
ABD	**La Joyeuse, An**	**3.97**	**313**	*e*P	**Pn**	**18 53 01.6**	**+0.5**
ABD				*e*S	**Sn**	**18 53 46.3**	**-1.4**
ANBD	**Bethesda, Anti**	**4.56**	**316**	*e*P	**Pn**	**18 53 08.9**	**-0.2**
ANBD	**Bethesda, Anti**	**4.56**	**316**	*e*S	**Sn**	**18 54 02.1**	**-0.1**
ANWB	**Willy Bob**	**5.03**	**321**	*e*S	**Sn**	**18 54 12.6**	**-1.1**

*IDC **08** 18:59:29.7±1.1, 21°.45N×146°.22E, h0km, mb4.0/11, mb1 4.2/12, mb1mx3.9/44, mbtmp4.0/12, ML4.8/1, MS3.4/3, Ms1 3.4/3, ms1mx2.7/51, Error ellipse: s-maj=37.2km s-min=18.5km az=78.0*

*NEIC **08** 18:59:35.7±1.7, 21°.5N±0°.2×146°.0E±0°.6, h36km±11km, mb4.0/4, Error ellipse: s-maj=80.8km s-min=14.2km az=67.0*

ISC 08 18:59:35.0±0.9**, 21°.5N**±0°.1×**146°.0E**±0°.2**, h29km, n24, σ1s.51**/21**, mb4.1**/13**, MS3.3**/3**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**6.55**	**328**	Pn	**Pn**	**19 01 09.0**	**-0.4**
	17nm,0.3s,baz=292,slow=20,SNR=1.8						
JCJ				Sn	**Sn**	**19 02 20.4**	**-2.8**
	11nm,0.3s,baz=287,slow=23,SNR=2.0						
H11S3	**WAKE ISLAND Hy**	**19.64**	**95**	T	T	19 24 07.8	
	baz=283						
H11S1	**WAKE ISLAND Hy**	**19.65**	**95**	T	T	19 24 10.7	
	baz=283						
H11S2	**WAKE ISLAND Hy**	**19.66**	**95**	T	T	19 24 09.6	
	baz=283						
KSRS	**Korea Array**	**22.30**	**319**	P	**P**	**19 04 32.4**	**+2.4**
	2.0nm,0.7s,baz=150,slow=8.3,SNR=13						
KSRS				LR	LR	19 13 13.5	
	comp=Z,79nm,20.1s,baz=126,slow=37						
USRK	**Ussuriysk Ar.**	**25.42**	**336**	P	**P**	**19 05 03.0**	**+2.9**
	4.6nm,0.7s,baz=147,slow=12,SNR=7.9						
USRK	**Ussuriysk Ar.**	**25.42**	**336**	P	**P**	**19 05 01.2**	**+1.2**
SONM	**Songino Array**	**41.17**	**319**	P	**P**	**19 07 17.6**	**+0.7**
	0.6nm,0.4s,baz=132,slow=8.0,SNR=5.0						
SONM				LR	LR	19 26 22.1	
	comp=Z,41nm,18.4s,baz=132,slow=39						
SONM	**Songino Array**	**41.17**	**319**	IAmb	IAmb	19 07 20.9	

	comp=Z,3.1nm,1.4s						
WRA	**Warramunga Arr**	**42.78**	**196**	P	**P**	**19 07 28.6**	**-1.6**
	comp=Z,2.0nm,0.6s,baz=6.0,slow=8.6,SNR=27						
WRA	**Warramunga Arr**	**42.78**	**196**	P	**P**	**19 07 28.8**	**-1.4**
CMAR	**Chiang Mai Arr**	**44.23**	**275**	P	**P**	**19 07 44.1**	**+2.1**
	comp=Z,0.4nm,0.6s,baz=94,slow=6.4,SNR=4.2						
ASAR	**Alice Springs**	**46.45**	**195**	P	**P**	**19 07 58.2**	**-1.3**
	comp=Z,0.9nm,0.4s,baz=11,slow=7.6,SNR=19						
ZAA0	**Zalesovo Array**	**55.98**	**321**	P	**P**	**19 09 10.4**	**-0.3**
ZAA0				IAmb	IAmb	19 09 11.7	
	comp=Z,2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**55.98**	**321**	P	**P**	**19 09 10.7**	**0.0**
	comp=Z,2.2nm,0.6s,baz=102,slow=7.9,SNR=8.6						
ZALV				LR	LR	19 34 21.2	
	comp=Z,34nm,19.0s,baz=118,slow=37						
ZALV	**Zalesovo Beam**	**55.98**	**321**	P	**P**	**19 09 10.1**	**-0.5**
MKAR	**Makanchi Array**	**56.76**	**313**	P	**P**	**19 09 15.8**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=100,slow=8.4,SNR=6.8						
MKAR	**Makanchi Array**	**56.76**	**313**	P	**P**	**19 09 15.6**	**-0.7**
NVAR	**Mina Array Bea**	**81.16**	**52**	P	**P**	**19 11 48.9**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=260,slow=5.4,SNR=2.3						
KBZ	**Khabaz**	**84.37**	**315**	P	**P**	**19 12 05.9**	**+1.2**
	comp=Z,1.3nm,0.7s,baz=294,slow=1.3,SNR=3.8						
FINES	**FINESS Array B**	**84.45**	**335**	P	**P**	**19 12 04.1**	**-0.6**
	comp=Z,1.6nm,0.4s,baz=75,slow=4.5,SNR=21						
FINES	**FINESS Array B**	**84.45**	**335**	P	**P**	**19 12 03.7**	**-1.0**
AKASG	**Malin Array Be**	**89.16**	**325**	P	**P**	**19 12 26.6**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=52,slow=5.0,SNR=5.0						
TORD	**Torodi Ar. Bea**	**130.87**	**311**	PKP	**PKPdf**	**19 18 43.9**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=37,slow=3.4,SNR=1.9						

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*IDC **08** 19:10:25.9±0.8, 32°.95S×178°.36W, h0km, mb4.5/10, mb1 4.6/11, mb1mx4.3/36, mbtmp4.5/11, ML4.9/1, MS3.9/20, Ms1 3.9/20, ms1mx3.8/32, Error ellipse: s-maj=28.6km s-min=21.4km az=148.0*

*BJI **08** 19:10:26.2±0.0, 33°.24S×178°.47W, h10km, mB5.7/5, mb4.9/9, Ms4.9/3, Ms7 4.6/2*

*WEL **08** 19:10:28.0, 33°.32S×178°.60W, h10km, M4.6/30, mB5.1/19, ML5.4/30, MLv5.1/30, Mw(mB)4.4/19*

*NEIC **08** 19:10:28.1±2.3, 33°.00S±0°.08×178°.5W±0°.1, h10km±1km, mb4.8/32, Error ellipse: s-maj=20.1km s-min=12.0km az=108.0*

ISC 08 19:10:27.2±0.5**, 33°.00S**±0°.05×**178°.40W**±0°.08**, h10**km**, n154,** σ1s**.70**/133**, mb4.8**/25**, MS4.0**/22**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.75**	**6**	P	**Pn**	**19 11 23.9**	**-1.2**
GLKZ				S	**Sn**	**19 12 05.1**	**-4.3**
RAO	**Raoul Island**	**3.76**	**6**	Pn	**Pn**	**19 11 24.3**	**-0.9**
	96nm,0.3s,baz=106,slow=21,SNR=2.5						
RAO				Sn	**Sn**	**19 12 05.5**	**-4.1**
	298nm,0.3s,baz=78,slow=20,SNR=7.4						
RAO	**Raoul Island**	**3.76**	**6**	Pn	**Pn**	**19 11 24.5**	**-0.7**
RIZ	**Raoul Island**	**3.77**	**6**	P	**Pn**	**19 11 24.3**	**-1.1**
RIZ				S	**Sn**	**19 12 07.1**	**-2.6**
MXZ	**Matakaoa Point**	**5.28**	**210**	Pn	**Pn**	**19 11 45.0**	**-1.2**
MXZ	**Matakaoa Point**	**5.28**	**210**	P	**Pn**	**19 11 45.2**	**-0.9**
MXZ				S	**Sn**	**19 12 44.5**	**-2.6**
PKGZ	**Pakihiroa**	**5.66**	**210**	P	**Pn**	**19 11 52.0**	**+0.7**
PKGZ				S	**Sn**	**19 12 55.0**	**-1.4**
HAZ	**Te Kaha**	**5.67**	**212**	P	**Pn**	**19 11 51.5**	**0.0**
HAZ				S	**Sn**	**19 12 56.8**	**+0.1**
PUZ	**Puketiti**	**5.74**	**207**	P	**Pn**	**19 11 50.7**	**-1.7**
PUZ				S	**Sn**	**19 12 55.6**	**-2.8**
RUGZ	**Raukumara Rang**	**5.89**	**212**	P	**Pn**	**19 11 54.7**	**+0.1**
TWGZ	**Tauwhareparae**	**5.94**	**209**	P	**Pn**	**19 11 55.4**	**+0.1**
CNGZ	**Carnagh Statio**	**6.12**	**206**	P	**Pn**	**19 11 56.8**	**-0.9**
WHRZ	**Whale Island**	**6.14**	**217**	P	**Pn**	**19 11 59.7**	**+1.8**
WHRZ				S	**Sn**	**19 13 09.9**	**+1.8**
TKGZ	**Te Karaka**	**6.22**	**208**	P	**Pn**	**19 11 59.8**	**+0.8**
TKGZ				S	**Sn**	**19 13 08.4**	**-1.8**
MWZ	**Matawai**	**6.26**	**211**	P	**Pn**	**19 11 59.1**	**-0.6**
OPRZ	**Ohinepanea**	**6.34**	**219**	P	**Pn**	**19 12 03.1**	**+2.4**
URZ	**Urewera**	**6.39**	**214**	Pn	**Pn**	**19 11 58.5**	**-2.8**
	8.5nm,0.3s,baz=9.5,slow=6.1,SNR=29						
URZ				Sn	**Sn**	**19 13 12.6**	**-1.7**
	41nm,0.3s,baz=49,slow=20,SNR=15						
URZ	**Urewera**	**6.39**	**214**	P	**Pn**	**19 12 01.7**	**+0.4**
URZ				S	**Sn**	**19 13 13.0**	**-1.3**
RIGZ	**Rimuhau**	**6.49**	**208**	P	**Pn**	**19 12 03.2**	**+0.5**
PRGZ	**Paritu Road**	**6.63**	**206**	P	**Pn**	**19 12 04.7**	**+0.1**
SNGZ	**Shannon Statio**	**6.72**	**210**	P	**Pn**	**19 12 06.3**	**+0.4**
RTZ	**Ruatahuna**	**6.74**	**212**	P	**Pn**	**19 12 06.1**	**-0.1**
MHGZ	**Mahia Peninsul**	**6.82**	**205**	P	**Pn**	**19 12 06.0**	**-1.3**
RAHZ	**Arahi**	**6.94**	**211**	P	**Pn**	**19 12 09.5**	**+0.6**
MTHZ	**Maungataniwha**	**6.99**	**212**	P	**Pn**	**19 12 10.1**	**+0.4**
WHHZ	**Waihua**	**7.01**	**209**	P	**Pn**	**19 12 09.2**	**-0.7**
NMHZ	**Naumai**	**7.21**	**211**	P	**Pn**	**19 12 13.1**	**+0.4**
ARHZ	**Aropaoanui**	**7.27**	**209**	P	**Pn**	**19 12 14.2**	**+0.8**
BKZ	**Black Stump Fm**	**7.41**	**212**		**Pn**	**19 12 13.0**	**-2.3**
BKZ	**Black Stump Fm**	**7.41**	**212**	P	**Pn**	**19 12 17.3**	**+1.9**
RATZ	**Rangitukua**	**7.52**	**217**	P	**Pn**	**19 12 16.7**	**-0.2**
MCHZ	**McNeill Hill**	**7.55**	**210**	P	**Pn**	**19 12 17.3**	**0.0**
TMVZ	**Te Maari**	**7.74**	**216**	P	**Pn**	**19 12 19.3**	**-0.8**
ETVZ	**East Tongariro**	**7.75**	**216**	P	**Pn**	**19 12 19.9**	**-0.2**
HIZ	**Hauiti**	**7.76**	**223**	Pn	**Pn**	**19 12 17.2**	**-2.9**
HIZ	**Hauiti**	**7.76**	**223**	P	**Pn**	**19 12 24.7**	**+4.5**
KAHZ	**Kahuranaki**	**7.77**	**208**	P	**Pn**	**19 12 17.0**	**-3.3**
OTVZ	**Oturere**	**7.80**	**216**	P	**Pn**	**19 12 21.0**	**+0.1**
NNVZ	**North Ngauruho**	**7.80**	**217**	P	**Pn**	**19 12 21.4**	**+0.6**
NGZ	**Ngauruhoe**	**7.84**	**217**	P	**Pn**	**19 12 21.5**	**+0.1**
TWVZ	**Taurewa**	**7.84**	**218**	P	**Pn**	**19 12 22.6**	**+1.2**
KRHZ	**Kereru**	**7.85**	**211**	P	**Pn**	**19 12 19.6**	**-1.9**
BHHZ	**Black Hill Sta**	**7.86**	**213**	P	**Pn**	**19 12 21.9**	**+0.3**
FWVZ	**Far West T-bar**	**7.92**	**216**	P	**Pn**	**19 12 22.4**	**-0.2**
MOVZ	**Moawhango**	**7.94**	**215**	P	**Pn**	**19 12 21.7**	**-1.0**
WNVZ	**Wahianoa**	**7.96**	**216**	P	**Pn**	**19 12 23.7**	**+0.7**
PNHZ	**Pukenui**	**8.15**	**211**	P	**Pn**	**19 12 23.1**	**-2.4**
BFZ	**Birch Farm**	**8.78**	**208**	Pn	Pn	19 12 29.2	-4.9
BFZ	**Birch Farm**	**8.78**	**208**	P	**Pn**	**19 12 31.3**	**-2.8**
MSWZ	**Moikau Station**	**9.80**	**209**		Pn	19 12 42.7	-5.5
PLWZ	**Palliser**	**9.93**	**209**		Pn	19 12 43.9	-6.0
TUWZ	**Tuamarina**	**10.38**	**214**	Pn	Pn	19 12 51.8	-4.3
CMWZ	**Cape Campbell**	**10.52**	**212**		Pn	19 12 50.1	-7.9
BSWZ	**Blackbirch Sta**	**10.64**	**213**	Pn	Pn	19 12 54.5	-5.1
QRZ	**Quartz Range**	**10.65**	**220**	Pn	Pn	19 12 55.4	-4.4
THZ	**Tophouse**	**11.14**	**216**	Pn	Pn	19 13 01.0	-5.5
KHZ	**Kahutara**	**11.35**	**212**	Pn	Pn	19 13 03.9	-5.4
LTZ	**Lake Taylor**	**12.22**	**214**	Pn	Pn	19 13 15.7	-5.6
OXZ	**Oxford**	**12.75**	**213**	Pn	Pn	19 13 22.3	-6.1
RPZ	**Rata Peaks**	**13.51**	**215**	Pn	Pn	19 13 31.5	-7.3
FOZ	**Fox Glacier**	**13.99**	**218**	Pn	Pn	19 13 37.6	-7.8
LBZ	**Lake Benmore**	**14.42**	**215**	Pn	**Pn**	**19 13 47.6**	**-3.8**
ODZ	**Otahua Downs**	**14.71**	**212**	Pn	Pn	19 13 50.6	-4.6
WKZ	**Wanaka**	**15.31**	**216**	Pn	Pn	19 13 56.6	-6.7
WKZ				IAmb	IAmb	19 13 57.8	
	comp=Z,146nm,1.6s						
MSVF	**Nonsavu**	**15.54**	**347**	LR	LR	19 19 14.6	
	comp=Z,688nm,18.3s,baz=164,slow=34						
MLZ	**Mavora Lakes**	**16.14**	**216**	Pn	Pn	19 14 07.4	-6.8
OUENC	**Ouen Island, N**	**16.77**	**305**		**P**	**19 14 26.5**	**+2.1**
OUENC				IAmb	IAmb	19 14 31.1	
	comp=Z,68nm,1.1s						
ONTNC	**Ouen Toro**	**17.11**	**305**		**P**	**19 14 28.8**	**+0.6**
DZM	**Mont Dzumac**	**17.27**	**305**	ePn	**P**	**19 14 36.3**	**+6.2**
	comp=Z,125nm,1.3s						
DZM				eLR	LR	19 18 26.7	
	comp=Z,1μm,23.1s						
DZM	**Mont Dzumac**	**17.27**	**305**		**P**	**19 14 32.5**	**+2.4**
RAR	**Rarotonga**	**20.29**	**59**	P	**P**	**19 15 02.4**	**-0.6**
	comp=Z,14nm,0.8s,baz=256,slow=12,SNR=1.6						
TBI	**Tubuai**	**27.19**	**77**	eLR	LR	19 22 58.0	
	comp=Z,262nm,27.8s						
EIDS	**Eidsvold**	**27.64**	**278**	P	**P**	**19 16 15.9**	**+0.9**
EIDS				IAmb	IAmb	19 16 18.1	
	comp=Z,18nm,1.0s						
TAU	**Tasmania Unive**	**28.61**	**240**	P	**P**	**19 16 21.7**	**-1.9**
PPT2	**Papeete2**	**30.12**	**66**	eLR	LR	19 24 14.6	
	comp=Z,296nm,28.5s						
PPT	**Papeete**	**30.13**	**66**	LR	LR	19 25 55.8	
	comp=Z,120nm,19.3s,baz=186,slow=31						
HNR	**Honiara**	**30.81**	**315**	LR	LR	19 26 49.2	
	comp=Z,101nm,21.1s,baz=196,slow=32						
CTA	**Charters Tower**	**33.97**	**283**	P	**P**	**19 17 12.9**	**+2.0**
	comp=Z,7.4nm,0.5s,baz=109,slow=10,SNR=27						
CTAO	**Charters Tower**	**33.97**	**283**	P	**P**	**19 17 12.4**	**+1.4**
CTAO				IAmb	IAmb	19 17 26.5	
	comp=Z,15nm,0.7s						
BBOO	**Buckleboo**	**38.00**	**257**	P	**P**	**19 17 44.7**	**-0.7**
BBOO				IAmb	IAmb	19 17 54.8	
	comp=Z,34nm,1.7s						
COEN	**Coen**	**39.73**	**289**	P	**P**	**19 18 01.8**	**+1.7**
COEN				IAmb	IAmb	19 18 33.2	
	comp=Z,21nm,1.2s						
AS31	**Alice Springs**	**42.69**	**270**	P	**P**	**19 18 23.2**	**-1.2**
ASAR	**Alice Springs**	**42.69**	**270**	P	**P**	**19 18 24.4**	**-0.1**
	comp=Z,10nm,0.8s,baz=110,slow=7.8,SNR=101						
ASAR				PcP	**PcP**	**19 20 15.9**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=119,slow=4.2,SNR=1.8						
ASAR				S	**S**	**19 24 43.1**	**-4.9**
	comp=Z,1.1nm,1.0s,baz=107,slow=15,SNR=6.0						
ASAR				LR	LR	19 35 50.8	
	comp=Z,138nm,18.2s,baz=112,slow=36						
WR0	**Warramunga Arr**	**43.74**	**275**	P	**P**	**19 18 32.5**	**-0.4**
WR0				IAmb	IAmb	19 18 47.6	
	comp=Z,12nm,0.8s						
WB2	**Warramunga Arr**	**43.91**	**275**	P	**P**	**19 18 34.0**	**-0.3**
WRA	**Warramunga Arr**	**43.92**	**275**	P	**P**	**19 18 34.1**	**-0.2**
	comp=Z,14nm,0.8s,baz=116,slow=7.5,SNR=76						
WRA	**Warramunga Arr**	**43.92**	**275**	P	**P**	**19 18 33.8**	**-0.6**
FORT	**Forrest**	**45.10**	**258**	P	**P**	**19 18 41.9**	**-1.8**
SBA	**Scott Base**	**45.42**	**184**	P	**P**	**19 18 46.6**	**+1.0**
SBA				IAmb	IAmb	19 19 08.5	
	comp=Z,41nm,1.8s						
VNDA	**Vanda**	**45.48**	**186**	LR	LR	19 34 51.2	
	comp=Z,121nm,19.1s,baz=14,slow=32						
MTN	**Manton Dam**	**50.10**	**281**	P	**P**	**19 19 22.3**	**-0.4**
KNRA	**Kununurra**	**50.61**	**277**	P	**P**	**19 19 26.1**	**-0.5**
KNRA				IAmb	IAmb	19 19 27.4	
	comp=Z,20nm,1.1s						
FITZ	**Fitzroy Crossi**	**52.06**	**272**	P	**P**	**19 19 37.1**	**-0.3**
FITZ				IAmb	IAmb	19 19 38.0	
	comp=Z,7.3nm,0.8s						
SAUI	**Saumlaki**	**52.67**	**287**	P	**P**	**19 19 41.3**	**-0.7**
CASY	**Casey**	**52.69**	**209**	P	**P**	**19 19 41.2**	**-0.1**
CASY				IAmb	IAmb	19 19 56.4	
	comp=Z,12nm,0.8s						
FAKI	**Fak Fak**	**54.96**	**292**	P	**P**	**19 19 57.8**	**-0.9**
PSA00	**Pilbara Seismi**	**55.36**	**265**	P	**P**	**19 19 59.9**	**-1.7**
MORW	**Morawa**	**55.50**	**255**	P	**P**	**19 20 00.1**	**-2.4**
MORW				IAmb	IAmb	19 20 25.9	
	comp=Z,9.9nm,1.1s						
QSPA	**South Pole Qui**	**57.11**	**180**	P	**P**	**19 20 15.3**	**+1.6**
QSPA				IAmb	IAmb	19 20 26.7	
	comp=Z,15nm,0.9s						
GIRL	**Giralia**	**59.58**	**261**	P	**P**	**19 20 30.7**	**-0.6**
BELA	**Belgrano 2**	**67.26**	**172**	P	**P**	**19 21 22.2**	**+0.9**
BELA				IAmb	IAmb	19 21 46.6	
	comp=Z,7.1nm,1.0s						
MAW	**Mawson**	**69.76**	**201**	P	**P**	**19 21 39.0**	**+2.0**
	comp=Z,3.1nm,1.0s,baz=104,slow=8.5,SNR=4.9						
MAW				LR	LR	19 50 47.3	
	comp=Z,186nm,19.9s,baz=68,slow=35						
MAW	**Mawson**	**69.76**	**201**	P	**P**	**19 21 36.7**	**-0.3**
SNAA	**Sanae**	**75.57**	**179**	P	**P**	**19 22 12.3**	**+0.6**
SNAA	**Sanae**	**75.57**	**179**	PcP	**PcP**	**19 22 21.6**	**-3.0**
SNAA	**Sanae**	**75.57**	**179**	P	**P**	**19 22 12.3**	**+0.6**
SNAA				IAmb	IAmb	19 22 23.0	
	comp=Z,7.4nm,1.0s						
VNA3	**Neumayer Olymp**	**75.74**	**176**	P	**P**	**19 22 13.3**	**+0.7**
VNA3	**Neumayer Olymp**	**75.74**	**176**	PcP	**PcP**	**19 22 23.0**	**-2.3**
VNA2	**Neumayer--Watz**	**76.17**	**177**	P	**P**	**19 22 14.8**	**-0.1**
	baz=178,slow=4.4						
VNA2	**Neumayer--Watz**	**76.17**	**177**	PcP	**PcP**	**19 22 26.0**	**-1.1**
VNA1	**Neumayer--Stat**	**76.40**	**177**	P	**P**	**19 22 16.2**	**0.0**
VNA1	**Neumayer--Stat**	**76.40**	**177**	PcP	**PcP**	**19 22 26.6**	**-1.4**
MJAR	**Matsushiro Arr**	**80.19**	**326**	LR	LR	19 54 35.2	
	comp=Z,75nm,19.7s,baz=195,slow=33						
PLCA	**Paso Flores**	**80.99**	**133**	LR	LR	19 53 24.4	
	comp=Z,77nm,18.2s,baz=185,slow=32						
KSRS	**Korea Array**	**86.11**	**320**	P	**P**	**19 23 08.5**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=147,slow=6.0,SNR=4.6						
KSRS				LR	LR	20 00 17.8	
	comp=Z,34nm,18.7s,baz=105,slow=35						
NJ2	**Nanjing**	**87.68**	**311**	eP	**P**	**19 23 18.2**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
PFO	**Pinyon Flats O**	**88.22**	**47**	LR	LR	19 59 45.3	
	comp=Z,83nm,18.2s,baz=189,slow=34						
PETK	**Petropavlovsk-**	**88.24**	**346**	P	**P**	**19 23 18.3**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=136,slow=6.6,SNR=9.2						
PETK				LR	LR	19 58 59.6	
	comp=Z,74nm,19.0s,baz=151,slow=33						
ISA	**Isabella, Lake**	**88.38**	**45**	P	**P**	**19 23 21.6**	**+2.2**
ISA				IAmb	IAmb	19 23 22.8	
	comp=Z,3.3nm,0.9s						
USRK	**Ussuriysk Ar.**	**89.14**	**327**	P	**P**	**19 23 23.8**	**+1.2**
	comp=Z,3.4nm,0.8s,baz=174,slow=6.3,SNR=3.8						
YBH	**Yreka Blue Hor**	**90.29**	**38**	LR	LR	19 58 53.7	
	comp=Z,99nm,18.4s,baz=225,slow=32						
NVAR	**Mina Array Bea**	**90.38**	**43**	P	**P**	**19 23 29.7**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=212,slow=8.2,SNR=5.9						
MDJ	**Mudanjiang**	**90.57**	**326**	P	**P**	**19 23 33.6**	**+4.3**
MDJ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,150nm,3.5s						
KLR	**Kul'dur**	**93.11**	**330**	P	**P**	**19 23 41.9**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=157,slow=6.4,SNR=3.7						
ELK	**Elko**	**93.69**	**43**	LR	LR	19 58 21.1	
	comp=Z,58nm,19.8s,baz=248,slow=31						
CMIG	**Matias Romero**	**93.88**	**72**	LR	LR	19 59 52.0	
	comp=Z,43nm,19.3s,baz=219,slow=32						
CMAR	**Chiang Mai Arr**	**93.93**	**289**	PP	**PP**	**19 27 31.6**	**0.0**
	comp=Z,0.4nm,0.4s,baz=121,slow=6.5,SNR=5.6						
TXAR	**Lajitas Array**	**94.08**	**58**	LR	LR	20 00 18.1	
	comp=Z,43nm,18.0s,baz=0.0,slow=32						
ANMO	**Albuquerque**	**95.46**	**52**	LR	LR	20 01 08.7	
	comp=Z,72nm,18.4s,baz=234,slow=32						
LPAZ	**La Paz**	**97.38**	**115**	LR	LR	19 58 18.4	
	comp=Z,30nm,19.4s,baz=152,slow=30						
NEW	**Newport**	**97.67**	**36**	LR	LR	20 01 56.7	
	comp=Z,138nm,19.5s,baz=216,slow=32						
HHC	**Hu-ho-hao-te**	**97.79**	**314**	eP	**P**	**19 24 01.7**	**-0.9**
HHC				pmax	pmax		
	comp=Z,17nm,1.3s						
HHC				pmax	pmax		
	comp=Z,100nm,7.5s						
HHC				LR	LR		
	comp=Z,170nm,18.7s						
HHC				LR	LR		
	comp=Z,170nm,19.8s						
HHC				LR	LR		
	comp=Z,140nm,17.6s						
PDAR	**Pinedale Array**	**98.25**	**44**	LR	LR	20 01 22.5	
	comp=Z,46nm,19.6s,baz=281,slow=31						
CPUP	**Villa Florida**	**98.63**	**129**	LR	LR	20 03 36.8	
	comp=Z,81nm,18.7s,baz=216,slow=32						
RWWY	**Rawlins**	**98.99**	**46**	P	**Pdif**	**19 24 09.1**	**+0.9**
WMQ	**Urumqi**	**114.55**	**307**	ePKP	**PKiKP**	**19 29 09.6**	**+2.2**
MKAR	**Makanchi Array**	**119.16**	**309**	PKP	**PKPdf**	**19 29 15.1**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=48,slow=1.8,SNR=2.6						
ZALV	**Zalesovo Beam**	**119.73**	**317**	PKP	**PKPdf**	**19 29 16.2**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=159,slow=2.7,SNR=2.2						
ARCES	**ARCESS Array B**	**141.05**	**347**	PKhKP	PKPpre	19 29 50.7	
	comp=Z,2.8nm,0.8s,baz=11,slow=1.8,SNR=2.2						
KBZ	**Khabaz**	**146.21**	**301**	PKPbc	**PKPdf**	**19 30 07.1**	**+0.6**
	comp=Z,4.0nm,0.8s,baz=126,slow=2.0,SNR=7.8						
FINES	**FINESS Array B**	**147.45**	**338**	PKPbc	**PKPbc**	**19 30 10.5**	**-0.1**
	comp=Z,16nm,0.8s,baz=41,slow=3.5,SNR=58						
NB2	**NORSAR Subarra**	**151.26**	**350**	PKP	**PKPbc**	**19 30 20.5**	**+0.3**
	comp=Z,2.8nm,0.6s,baz=15,slow=2.5						
NOA	**NORSAR Array B**	**151.26**	**350**	PKPbc	**PKPbc**	**19 30 20.3**	**+0.2**
	comp=Z,5.1nm,0.7s,baz=14,slow=4.1,SNR=21						
AKASG	**Malin Array Be**	**153.10**	**319**	PKPbc	**PKPbc**	**19 30 24.2**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=60,slow=2.5,SNR=9.3						
BRTR	**Keskin Array B**	**153.43**	**294**	PKPbc	**PKPbc**	**19 30 25.9**	**0.0**
	comp=Z,3.2nm,0.5s,baz=150,slow=4.5,SNR=8.7						
DPC	**Dobruska-Polom**	**159.54**	**332**	ePKPAB	**PKPab**	**19 31 03.6**	**-0.2**
DPC				ex	x	19 31 16.4	
KRLC	**Kraliky**	**159.57**	**331**	ePKPAB	**PKPab**	**19 31 03.7**	**-0.3**
KRLC				ex	x	19 31 16.6	
CLL	**Collm**	**159.89**	**339**	i PKPab	**PKPab**	**19 31 04.9**	**-0.3**
	comp=Z,6.0nm,0.9s						
CLL				i		19 31 17.1	
CLL				ePP	**PP**	**19 34 51.0**	**+4.3**
BRG	**Berggiesshubel**	**159.97**	**337**	eP	**PKPab**	**19 31 06.0**	**+0.4**
BRG				Amp		19 31 07.6	
	comp=Z,4.9nm,1.1s						
TORD	**Torodi Ar. Bea**	**160.23**	**180**	PKPab	**PKPab**	**19 31 07.6**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=175,slow=3.0,SNR=5.2						
NKC	**Novy Kostel**	**161.00**	**338**	ePKPAB	**PKPab**	**19 31 10.5**	**+0.3**
CKRC	**Cesky Krumlov**	**161.55**	**333**	ePKPAB	**PKPab**	**19 31 12.8**	**+0.2**
CKRC				ex	x	19 31 25.2	
KHC	**Kasperske Hory**	**161.57**	**334**	ePKPAB	**PKPab**	**19 31 12.6**	**-0.1**
KHC				ex	x	19 31 25.4	
GERES	**GERESS Array B**	**161.76**	**334**	PKPab	**PKPab**	**19 31 13.6**	**0.0**
	comp=Z,1.0nm,0.8s,baz=23,slow=5.3,SNR=7.5						

MEX 08 19:11:45.4±1.1**, 18°.12N**×**99°.98W, h53**km±8km**, MD3.8, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.39**	**294**	eP	Pn	19 11 54.1	-1.6
ARIG				i S	Sn	19 12 01.6	-1.5
MEIG	**Mezcala**	**0.39**	**120**	i P	Pn	19 11 54.0	-1.8
MEIG				i S	Sn	19 12 01.6	-1.6
PLIG	**Platanillo**	**0.53**	**59**	i P	Pn	19 11 55.3	-2.0
PLIG				i S	Sn	19 12 03.6	-2.2
MAVM	**Malinalco, Edo**	**0.95**	**29**	i P	Pn	19 12 00.7	-2.1
MAVM				i S	Sn	19 12 13.6	-1.9
DAIG	**Los Arroyos**	**1.14**	**164**	i P	Pn	19 12 03.8	-1.3
DAIG				eS	Sn	19 12 19.4	-0.2
TLIG	**Tlapa**	**1.45**	**112**	eP	Pn	19 12 08.3	-1.2
TLIG				eS	Sn	19 12 26.1	-1.4
YOIG	**Yosondua**	**2.64**	**118**	eP	Pn	19 12 30.6	+4.8
YOIG				eS	Sn	19 13 00.1	+3.3

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*NEIC **08** 19:14:18.9±1.4, 19°.46N±0°.10×66°.34W±0°.06, h51km±43km, Error ellipse: s-maj=14.5km s-min=7.5km az=174.0*

*RSPR **08** 19:14:19.6, 19°.47N×66°.30W, h62km±7km, MD3.2/8*

ISC 08 19:14:19.6±1.9**, 19°.44N**±0°.09×**66°.33W**±0°.04**, h50**km**, n49,** σ0s**.79**/56**, 13C, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.97**	**191**	⇑eP	**Pn**	**19 14 37.1**	**+0.1**
EMPR	**Esperanza - Ma**	**0.97**	**191**	eS	**Sn**	**19 14 50.7**	**+0.9**
EMPR	**Esperanza - Ma**	**0.97**	**191**		**Pn**	**19 14 37.1**	**+0.1**
EMPR					**Sn**	**19 14 50.7**	**+0.9**
EMPR	**Esperanza - Ma**	**0.97**	**191**	IAML		19 14 58.7	
	comp=N,109nm,0.7s						
EMPR				IAML		19 15 03.0	
	comp=E,134nm,0.7s						
GCPR	**Guaynabo City**	**1.15**	**168**	Pn	**Pn**	**19 14 38.2**	**-1.1**
GCPR				Sn	**Sn**	**19 14 53.2**	**-0.8**
GCPR				IAML		19 14 54.6	
	comp=E,57nm,0.7s						
GCPR				IAML		19 14 56.8	
	comp=N,52nm,0.7s						
AOPR	**Arecibo Observ**	**1.16**	**200**	⇑eP	**Pn**	**19 14 39.1**	**-0.4**
AOPR	**Arecibo Observ**	**1.16**	**200**	eS	**Sn**	**19 14 55.3**	**+1.1**
AOPR	**Arecibo Observ**	**1.16**	**200**		**Pn**	**19 14 39.1**	**-0.4**
AOPR					**Sn**	**19 14 55.3**	**+1.1**
CBYP	**Canovanas**	**1.24**	**159**	⇑eP	**Pn**	**19 14 40.1**	**-0.5**
CBYP	**Canovanas**	**1.24**	**159**	eS	**Sn**	**19 14 56.8**	**+0.4**
CBYP	**Canovanas**	**1.24**	**159**		**Pn**	**19 14 40.1**	**-0.5**
CBYP					**Sn**	**19 14 56.8**	**+0.4**
SJG	**San Juan**	**1.33**	**173**	Pn	**Pn**	**19 14 41.5**	**-0.3**
SJG				Sn	**Sn**	**19 14 57.3**	**-1.0**
SJG				IAML		19 15 01.7	
	comp=N,50nm,0.2s						
SJG				IAML		19 15 06.3	
	comp=N,57nm,0.5s						
HUMP	**Col San Antoni**	**1.36**	**160**	⇑eP	**Pn**	**19 14 41.5**	**-0.8**
HUMP	**Col San Antoni**	**1.36**	**160**	eS	**Sn**	**19 14 59.3**	**+0.1**
HUMP	**Col San Antoni**	**1.36**	**160**		**Pn**	**19 14 41.5**	**-0.8**
HUMP					**Sn**	**19 14 59.3**	**+0.1**
HUMP	**Col San Antoni**	**1.36**	**160**	IAML		19 15 02.9	
	comp=E,51nm,0.2s						
HUMP				IAML		19 15 03.6	
	comp=N,45nm,0.5s						
CELP	**Cerrillos**	**1.37**	**190**	⇑eP	**Pn**	**19 14 42.2**	**-0.2**
CELP	**Cerrillos**	**1.37**	**190**	eS	**Sn**	**19 15 00.6**	**+1.1**
CELP	**Cerrillos**	**1.37**	**190**		**Pn**	**19 14 42.2**	**-0.2**
CELP					**Sn**	**19 15 00.6**	**+1.1**
OBIP	**Obispado Ponce**	**1.41**	**191**	Pn	**Pn**	**19 14 41.2**	**-1.7**
OBIP				IAML		19 15 07.1	
	comp=E,37nm,0.8s						
PDPR	**Patillas Dam,**	**1.44**	**168**	Pn	**Pn**	**19 14 42.3**	**-1.1**
PDPR					**Sn**	**19 14 59.9**	**-1.2**
LSP	**Las Mesas**	**1.44**	**210**	⇑eP	**Pn**	**19 14 43.6**	**+0.2**
LSP	**Las Mesas**	**1.44**	**210**	eS	**Sn**	**19 15 01.5**	**+0.2**
IGPR	**InterUniversit**	**1.48**	**172**	⇑eP	**Pn**	**19 14 43.4**	**-0.4**
IGPR	**InterUniversit**	**1.48**	**172**	eS	**Sn**	**19 15 02.1**	**+0.1**
IGPR	**InterUniversit**	**1.48**	**172**	Pn	**Pn**	**19 14 43.7**	**-0.1**
IGPR				IAML		19 15 13.4	
	comp=E,77nm,0.2s						
CUPR	**Culebra, Puert**	**1.50**	**138**	⇑eP	**Pn**	**19 14 43.6**	**-0.5**
CUPR	**Culebra, Puert**	**1.50**	**138**	eS	**Sn**	**19 15 02.6**	**+0.1**
CUPR	**Culebra, Puert**	**1.50**	**138**		**Pn**	**19 14 43.6**	**-0.5**
CUPR					**Sn**	**19 15 02.6**	**+0.1**
MTP	**Monte Pirata**	**1.52**	**151**	⇑eP	**Pn**	**19 14 44.4**	**0.0**
MTP	**Monte Pirata**	**1.52**	**151**	eS	**Sn**	**19 15 03.6**	**+0.5**
MTP	**Monte Pirata**	**1.52**	**151**		**Pn**	**19 14 44.4**	**0.0**
MTP	**Monte Pirata**	**1.52**	**151**		**Sn**	**19 15 03.6**	**+0.5**
MTP	**Monte Pirata**	**1.52**	**151**	IAML		19 14 59.2	
	comp=E,37nm,1.0s						
MTP				IAML		19 14 59.8	
	comp=N,32nm,0.7s						
ICMP	**Isla Caja de M**	**1.55**	**187**	Pn	**Pn**	**19 14 43.8**	**-1.1**
ICMP				IAML		19 15 01.4	
	comp=N,50nm,2.1s						
ICMP				IAML		19 15 45.2	
	comp=E,59nm,0.4s						
CRPR	**Cabo Rojo, PR**	**1.60**	**208**	⇑eP	**Pn**	**19 14 45.4**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.60**	**208**	eS	**Sn**	**19 15 06.1**	**+1.0**
CRPR	**Cabo Rojo, PR**	**1.60**	**208**		**Pn**	**19 14 45.4**	**-0.1**
CRPR					**Sn**	**19 15 06.1**	**+1.0**
CRPR	**Cabo Rojo, PR**	**1.60**	**208**	IAML		19 15 11.1	
	comp=E,38nm,1.3s						
CRPR				IAML		19 15 16.3	
	comp=N,46nm,1.1s						
MLPR	**Magueyes Islan**	**1.61**	**205**	⇑eP	**Pn**	**19 14 45.8**	**+0.2**
MLPR	**Magueyes Islan**	**1.61**	**205**		**Pn**	**19 14 45.8**	**+0.2**
STVI	**Saint Thomas**	**1.69**	**129**	⇑eP	**Pn**	**19 14 46.2**	**-0.5**
STVI	**Saint Thomas**	**1.69**	**129**	eS	**Sn**	**19 15 06.5**	**-0.8**
STVI	**Saint Thomas**	**1.69**	**129**		**Pn**	**19 14 46.2**	**-0.5**
STVI					**Sn**	**19 15 06.5**	**-0.8**
ABVI	**Anegada Island**	**2.02**	**110**	Pn	**Pn**	**19 14 53.5**	**+2.3**
ABVI				IAML		19 15 26.4	
	comp=N,58nm,1.9s						
ABVI				IAML		19 15 27.9	
	comp=E,56nm,1.6s						
VGBI	**Virgin Gorda,**	**2.05**	**117**	⇑eP	**Pn**	**19 14 51.4**	**-0.3**
VGBI	**Virgin Gorda,**	**2.05**	**117**		**Pn**	**19 14 51.4**	**-0.3**
CDVI	**St. Croix**	**2.24**	**138**	Pn	**Pn**	**19 14 55.6**	**+1.4**
SDDR	**Presa de Saban**	**4.71**	**265**	Pn	**Pn**	**19 15 26.8**	**-1.4**

IDC 08 19:30:54.9±3.0**, 31°.87S**×**178°.10W, h0**km**, mb3.7**/2**, mb1 3.9**/3**, mb1mx3.7**/21**, mbtmp3.7**/3**, ML3.3**/1**, Error ellipse: s-maj=72.2km s-min=46.5km az=124.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.49**	**210**	Pn	Pn	19 32 45.1	-0.2
	0.5nm,0.3s,baz=295,slow=22,SNR=2.4						
URZ				Sn	Sn	19 34 07.1	-3.8
	0.8nm,0.3s,baz=127,slow=23,SNR=1.9						
ASAR	**Alice Springs**	**42.97**	**269**	P	P	19 38 56.1	+0.1
	0.5nm,0.5s,baz=109,slow=7.2,SNR=11						
WRA	**Warramunga Arr**	**44.09**	**274**	P	P	19 39 04.8	-0.3
	0.6nm,0.4s,baz=114,slow=7.9,SNR=15						
FINES	**FINESS Array B**	**146.49**	**339**	PKPbc	PKPdf	19 50 36.5	+0.6
	3.1nm,0.9s,baz=26,slow=3.5,SNR=6.9						

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*NEIC **08** 19:48:10.4±1.9, 57°.040N±0°.007×156°.99W±0°.07, h2km±5km, Error ellipse: s-maj=5.3km s-min=1.0km az=91.0*

*ANF **08** 19:48:10.8±0.2, 57°.06N×156°.95W, h0km, ML4.0/22, Error ellipse: s-maj=3.2km s-min=2.1km az=123.0*

*AEIC **08** 19:48:11±2.5, 57°.09N±0°.03×157°.15W±0°.07, h1km±1km, ML3.5, ML3.8/40(NEIC), Error ellipse: s-maj=6.9km s-min=4.8km az=299.0*

*IDC **08** 19:48:16.0±7.2, 56°.95N×157°.10W, h35km±55km, mb3.2/6, mb1 3.6/8, mb1mx3.3/46, mbtmp3.5/8, ML3.2/2, Error ellipse: s-maj=43.9km s-min=20.3km az=24.0*

ISC 08 19:48:10.7±1.4**, 57°.01N**±0°.03×**157°.00W**±0°.04**, h3**km±9km**, n209,** σ1s**.13**/222**, mb3.5**/6**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANNE	Aniakchak Nort	0.59	261		Pg	19 48 21.8	-0.2
PLK3	Peulik 3	0.79	30		Pg	19 48 25.1	-0.7
PLK1	Peulik 1	0.82	15		Pg	19 48 25.5	-0.9
PLK5	Peulik 5	0.99	4		Pg	19 48 29.5	-0.1
CHGN	Chignik	1.06	228		Pg	19 48 30.1	-0.9
CHGN					Sg	19 48 44.2	-0.5
CHGN	Chignik	1.06	228	P	Pg	19 48 30.1	-0.9
	baz=41						
KJL	Kejulik	1.30	36		Pn	19 48 34.6	-1.2
CAHL	Cahill	1.39	40		Pn	19 48 35.8	-1.3
CHIR	Chirikof Islan	1.42	147		Pn	19 48 37.0	-0.3
CHIR				Sn	Sg	19 48 57.1	+1.0
CHIR				IAML		19 49 01.3	
	comp=E,2μm,0.8s						
CHIR				IAML		19 49 11.8	
	comp=N,753nm,0.9s						
CHIR	Chirikof Islan	1.42	147	P	Pn	19 48 37.2	-0.1
	baz=327						
CHIR				S	Sb	19 48 57.0	+0.8
	baz=327						
VNHG	Veniaminof 1	1.44	237		Pn	19 48 36.5	-1.3
ANCK	Angle Creek	1.44	34		Pn	19 48 37.1	-0.7
VNSG	Veniaminof 6	1.46	233		Pn	19 48 37.6	-0.4
KABU	Katmai Buttres	1.56	35		Pn	19 48 38.8	-0.7
KABU					Sn	19 48 59.3	-1.0
KABR	Katmai Barrier	1.57	43		Pn	19 48 38.5	-1.0
KCE	Katmai Mt Cerb	1.57	38		Pn	19 48 40.0	+0.4
VNFG	Fog Glacier, M	1.59	244		Pn	19 48 40.1	+0.3
SII	Sitkinak Islan	1.61	105		Pn	19 48 40.2	+0.1
SII				Sn	Sn	19 49 00.6	-0.8
SII	Sitkinak Islan	1.61	105	P	Pn	19 48 40.4	+0.3
	baz=289						
SII				S	Sn	19 49 01.3	-0.1
	baz=289						
KVTA	Katmai Vly 10	1.65	33		Pn	19 48 40.1	-0.5
KAWH	Katmai	1.81	40		Pn	19 48 42.9	0.0
OHAK	Old Harbor	2.03	82		Pn	19 48 46.0	+0.1
OHAK				Sn	Sn	19 49 11.3	-0.4
OHAK				IAML		19 49 16.9	
	comp=E,952nm,0.7s						
OHAK	Old Harbor	2.03	82	P	Pn	19 48 46.2	+0.4
	baz=268						
OHAK				S	Sn	19 49 11.5	-0.2
	baz=268						
KDAK	Kodiak Island	2.51	70	Pn	Pn	19 48 52.8	+0.5
	comp=E,20nm,0.3s,baz=204,slow=3.1,SNR=413						
KDAK				Sn	Sn	19 49 23.1	-0.3
	comp=E,23nm,0.3s,baz=103,slow=22,SNR=9.9						
KDAK	Kodiak Island	2.51	70		Pn	19 48 52.7	+0.3
KDAK				IAML		19 49 33.2	
	comp=E,624nm,1.1s						
KDAK				IAML		19 49 38.7	
	comp=E,406nm,1.1s						
KDAK	Kodiak Island	2.51	70	P	Pn	19 48 52.7	+0.3
	baz=256						
KDAK				S	Sn	19 49 22.6	-0.9
	baz=256						
SDPT	Sand Point	2.56	231		Pn	19 48 54.3	+1.2
SDPT				IAML		19 49 37.7	
	comp=N,428nm,0.6s						
SDPT				IAML		19 49 48.5	
	comp=E,520nm,0.8s						
SDPT	Sand Point	2.56	231	P	Pn	19 48 54.0	+0.9
	baz=45						
SDPT				S	Sb	19 49 27.8	-1.3
	baz=45						
Q19K	Cape Douglas,	2.62	41		Pn	19 48 53.6	-0.4
Q19K	Cape Douglas,	2.62	41	P	Pn	19 48 53.8	-0.2
	baz=227						
CHNA	Chernabura Isl	2.63	215	P	Pn	19 48 55.1	+1.1
	baz=30						
CHNA				S	Sb	19 49 29.6	-1.5
	baz=30						
CNBA	Chernabura Isl	2.64	215		Pn	19 48 55.1	+0.9
CNBA				IAML		19 49 34.2	
	comp=N,377nm,0.7s						
CNBA				IAML		19 49 45.7	
	comp=E,366nm,0.7s						
O18K	Koktuh Hills	3.00	17		Pn	19 48 58.0	-1.2
O18K	Koktuh Hills	3.00	17	P	Pn	19 48 58.4	-0.8
	baz=201						
O18K				Sb	Sb	19 49 42.9	+1.1
	baz=201						
P19K	Oil Pt	3.31	35		Pn	19 49 02.9	-0.5
P19K				IAML		19 50 02.6	
	comp=E,261nm,0.9s						
P19K				IAML		19 50 20.1	
	comp=N,213nm,0.7s						
P19K	Oil Pt	3.31	35	P	Pn	19 49 03.1	-0.3
	baz=220						
O19K	Port Alsworth	3.49	23		Pn	19 49 05.1	-0.7
O19K				IAML		19 50 11.6	
	comp=E,250nm,0.5s						
O19K	Port Alsworth	3.49	23	P	Pn	19 49 05.2	-0.6
	baz=207						
O20K	Slope Mountain	3.84	35		Pn	19 49 12.5	+1.8
O20K	Slope Mountain	3.84	35	P	Pn	19 49 09.9	-0.8
	baz=220						
HOM	Homer	3.87	45		Pn	19 49 09.8	-1.3
HOM				IAML		19 50 13.0	
	comp=N,211nm,1.1s						
HOM	Homer	3.87	45	P	Pn	19 49 10.5	-0.6
	baz=231						
CNPM	China Poot	3.95	48		Pn	19 49 12.5	+0.3
CNPM				IAML		19 50 30.3	
	comp=E,85nm,1.2s						
N19K	Bonanza Creek	4.03	18		Pn	19 49 13.2	-0.2
N19K				IAML		19 50 29.5	
	comp=N,107nm,1.0s						
N19K	Bonanza Creek	4.03	18	P	Pn	19 49 13.1	-0.3
	baz=201						
N19K				Sb	Sb	19 50 12.7	+1.3
	baz=201						
RSO	Redoubt South	4.11	31		Pn	19 49 13.7	-0.8
SVW2	Sparrevohn	4.16	10		Pn	19 49 14.9	-0.2
SVW2				IAML		19 50 31.4	
	comp=E,76nm,1.3s						
FALS	False Pass	4.21	242		Pn	19 49 16.3	+0.7
FALS	False Pass	4.21	242	P	Pn	19 49 17.1	+1.4
	baz=55						
BRLK	Bradley Lake	4.24	47		Pn	19 49 17.0	+0.8
BRSE	Bradley Lake S	4.28	48	P	Pn	19 49 16.9	+0.2
	baz=234						
CAPN	Captain Cook N	4.83	36	Pn	Pn	19 49 22.5	-1.8
CAPN	Captain Cook N	4.83	36	P	Pn	19 49 23.7	-0.5
	baz=223						
SPCR	Spurr Chakacha	4.87	28	P	Pn	19 49 23.8	-1.1
	baz=214						
SEW	Seward	5.02	49		Pn	19 49 25.1	-1.8
SEW	Seward	5.02	49	P	Pn	19 49 24.7	-2.2
	baz=236						
M19K	Big River Lodg	5.08	14		Pn	19 49 27.0	-0.7
M19K				IAML		19 51 06.6	
	comp=N,50nm,1.0s						
M19K				IAML		19 51 08.3	
	comp=E,49nm,1.1s						
M19K	Big River Lodg	5.08	14	P	Pn	19 49 26.6	-1.2
	baz=197						
M20K	Styx River	5.27	20		Pn	19 49 29.2	-1.1
M20K				IAML		19 51 19.4	
	comp=E,41nm,1.4s						
M20K	Styx River	5.27	20	P	Pn	19 49 29.7	-0.6
	baz=205						
L19K	White Mountain	5.30	11		Pn	19 49 29.8	-0.9
L19K				IAML		19 51 05.0	
	comp=E,76nm,1.4s						
L19K	White Mountain	5.30	11	P	Pn	19 49 30.5	-0.2
	baz=194						
FIS	Fire Island	5.42	37	Pn	Pn	19 49 33.1	+0.8
SUA	Susitna One	5.50	33		Pn	19 49 33.6	+0.1
SUA	Susitna One	5.50	33	P	Pn	19 49 33.4	-0.1
	baz=220						
RC01	Rabbit Creek A	5.54	39		Pn	19 49 34.1	0.0
RC01	Rabbit Creek A	5.54	39	P	Pn	19 49 34.1	0.0
	baz=227						
L20K	Farewell, AK	5.71	15	P	Pn	19 49 36.0	-0.4
	baz=198						
SKT	Skwentna	5.71	27	Pn	Pn	19 49 36.1	-0.2
SKT	Skwentna	5.71	27	P	Pn	19 49 36.4	+0.1
	baz=213						
AKUT	Akutan	5.75	244	Pn	Pn	19 49 37.4	+0.5
PWL	Port Wells	5.91	46	Pn	Pn	19 49 38.7	-0.4
Q23K	Middleton Isla	6.12	62	Pn	Pn	19 49 41.7	-0.3
MID	Middleton Isla	6.13	62	Pn	Pn	19 49 42.0	0.0
KNK	Knik Glacier	6.22	41		Pn	19 49 42.8	-0.6
KNK	Knik Glacier	6.22	41	P	Pn	19 49 43.1	-0.2
	baz=230						
UNV	Unalaska Valle	6.27	244	Pn	Pn	19 49 46.3	+2.3
UNV	Unalaska Valle	6.27	244	P	Pn	19 49 45.8	+1.8
	baz=55						
GHO	Glory Hole Cre	6.30	37	Pn	Pn	19 49 42.6	-2.0
PPLA	Purkeypile	6.38	20		Pn	19 49 46.7	+1.1
PPLA	Purkeypile	6.38	20	P	Pn	19 49 44.6	-1.0
	baz=205						
GLI	Glacier Island	6.42	49	Pn	Pn	19 49 43.9	-2.2
HIN	Hinchinbrook I	6.43	54	Pn	Pn	19 49 44.9	-1.4
SML	Sawmill	6.53	39	Pn	Pn	19 49 46.4	-1.3
SML	Sawmill	6.53	39	P	Pn	19 49 47.0	-0.6
	baz=227						
K20K	Telida	6.53	12		Pn	19 49 46.7	-0.9
K20K	Telida	6.53	12	P	Pn	19 49 47.4	-0.2
	baz=195						
FID	Port Fidalgo	6.61	51	Pn	Pn	19 49 48.2	-0.5
EYAK	Cordova Ski Ar	6.83	54	Pn	Pn	19 49 50.2	-1.5
EYAK	Cordova Ski Ar	6.83	54	P	Pn	19 49 50.9	-0.8
	baz=245						
SCM	Sheep Creek Mo	6.90	42		Pn	19 49 53.0	+0.2
DIV	Divide	7.10	50	Pn	Pn	19 49 55.0	-0.5
WAT1	Susitna Watana	7.21	32	P	Pn	19 49 56.1	-0.9
	baz=221						
KTH	Kantishna Hill	7.22	22		Pn	19 49 57.4	+0.3
SPIA	Saint Paul Isl	7.22	277	Pn	Pn	19 49 56.9	-0.2
SPIA	Saint Paul Isl	7.22	277	P	Pn	19 49 58.7	+1.6
	baz=85						
KLU	Klutina	7.24	47		Pn	19 49 55.0	-2.4
KLU	Klutina	7.24	47	P	Pn	19 49 56.7	-0.6
	baz=237,SNR=6.2						
TRF	Thorofare Moun	7.27	25	Pn	Pn	19 49 55.6	-2.2
TRF	Thorofare Moun	7.27	25	P	Pn	19 49 56.2	-1.6
	baz=211						
CHUM	Lake Minchumin	7.27	17	P	Pn	19 49 57.9	+0.2
	baz=202						
WAT6	Susitna Watana	7.28	36	P	Pn	19 49 57.0	-0.9
	baz=225						
J20K	Nowinta River	7.33	10	Pn	Pn	19 49 57.1	-1.4
J20K	Nowinta River	7.33	10	P	Pn	19 49 58.0	-0.5
	baz=193						
HMT	Hamilton	7.43	58	Pn	Pn	19 49 58.0	-1.9
M24K	Tolsona, Glenn	7.50	43		Pn	19 49 55.6	-5.3
M24K	Tolsona, Glenn	7.50	43	P	Pn	19 50 01.0	+0.1
	baz=233						
BMRM	Bremner River	7.53	53	Pn	Pn	19 49 57.2	-4.1
BMRM	Bremner River	7.53	53	P	Pn	19 49 60.0	-1.3
	baz=244						
SUCK	Suckling Hills	7.56	61	Pn	Pn	19 50 01.8	0.0
RND	Reindeer	7.58	29		Pn	19 49 59.3	-2.8
BPAW	Bear Paw Mtn.	7.70	20		Pn	19 50 01.9	-1.8
BPAW	Bear Paw Mtn.	7.70	20	P	Pn	19 50 03.9	+0.2
	baz=206						
BERG	Berg Lake	7.71	58	Pn	Pn	19 50 02.0	-1.7
MCK	McKinley	7.83	27	Pn	Pn	19 50 04.7	-0.7
N25K	Chitina, Valde	7.83	49	Pn	Pn	19 50 03.5	-2.1
NIKH	Nikolski High	7.93	244	Pn	Pn	19 50 09.6	+2.9
HARP	HAARP	8.05	43	P	Pn	19 50 08.6	0.0
	baz=234						
BWN	Browne	8.08	24	Pn	Pn	19 50 09.0	+0.2
GLB	Gilahina Butte	8.08	51	Pn	Pn	19 50 07.2	-1.7
CRQM	Cirque	8.10	57		Pn	19 50 08.0	-1.2
CRQE	Cirque	8.12	57	P	Pn	19 50 09.0	-0.4
	baz=249						
WAX	Waxell Ridge	8.12	59	Pn	Pn	19 50 09.4	0.0
VRDI	Verde Repeater	8.14	53	Pn	Pn	19 50 08.7	-1.2
TGL	Tana Glacier	8.24	57	Pn	Pn	19 50 10.3	-0.7
PAX	Paxson	8.30	39		Pn	19 50 11.6	-0.3
PAX	Paxson	8.30	39	P	Pn	19 50 10.8	-1.2
	baz=230						
MCARA	McCarthy VSAT	8.40	53	Pn	Pn	19 50 12.5	-0.6
MCARA	McCarthy VSAT	8.40	53	P	Pn	19 50 13.1	-0.1
	baz=246						
ISLE	Juniper Island	8.41	59		Pn	19 50 13.0	-0.6
MESA	MESA	8.47	62	Pn	Pn	19 50 13.6	-0.8
NEA2	Nenana	8.53	24	Pn	Pn	19 50 15.4	+0.4
NEA2	Nenana	8.53	24	P	Pn	19 50 14.4	-0.5
	baz=211						
I21K	Tanana	8.55	14		Pn	19 50 14.7	-0.5
I21K	Tanana	8.55	14	P	Pn	19 50 15.0	-0.1
	baz=199						
MLY	Manley	8.60	18		Pn	19 50 15.8	-0.2
MLY	Manley	8.60	18	P	Pn	19 50 15.7	-0.2
	baz=204						
ANM	Nome	8.61	335	Pn	Pn	19 50 12.9	-3.2
YAH	Yahtse	8.62	61		Pn	19 50 15.2	-1.3
WRH	Wood River Hil	8.65	26		Pn	19 50 16.2	-0.4
GRNC	Granite Creek	8.73	58		Pn	19 50 17.2	-0.7
CCB	Clear Creek Bu	8.87	26		Pn	19 50 18.9	-0.7
BARN	Barnard Glacie	8.88	56	Pn	Pn	19 50 17.5	-2.5
M26K	Nabesna, AK	8.89	47	Pn	Pn	19 50 20.4	+0.4
M26K	Nabesna, AK	8.89	47	P	Pn	19 50 19.7	-0.3
	baz=240						
HDA	Harding Lake	8.89	29	Pn	Pn	19 50 18.4	-1.5
HDA	Harding Lake	8.89	29	P	Pn	19 50 19.0	-0.9
	baz=219						
MENT	Mentasta	8.91	43	Pn	Pn	19 50 18.6	-1.6
TABL	Table Mountain	8.93	61		Pn	19 50 19.4	-1.2
I23K	Minto, Yukon-K	8.96	21		Pn	19 50 20.1	-0.6
I23K	Minto, Yukon-K	8.96	21	P	Pn	19 50 20.1	-0.6
	baz=208						
CTG	Chitna Glacier	8.99	57	P	Pn	19 50 21.0	-0.5
	baz=252						
CTGM	Chitina Glacie	9.00	57		Pn	19 50 20.3	-1.2
RIDG	Independent Ri	9.03	37		Pn	19 50 21.6	-0.3
RIDG	Independent Ri	9.03	37	P	Pn	19 50 21.8	-0.1
	baz=228						
MDM	Murphy Dome	9.03	24		Pn	19 50 20.1	-1.8
TCOL	CIGO, UAF Yank	9.04	26	Pn	Pn	19 50 20.1	-1.9
COLA	College	9.04	26	Pn	Pn	19 50 19.9	-2.1
COLA	College	9.04	26	P	Pn	19 50 21.3	-0.7
	baz=214						
L26K	Log Cabin Wild	9.10	43	Pn	Pn	19 50 22.7	-0.1
L26K	Log Cabin Wild	9.10	43	P	Pn	19 50 22.5	-0.4
	baz=235						
LOGN	Logan Glacier	9.11	59	Pn	Pn	19 50 21.6	-1.5
IMAR	Indian Mountai	9.14	8	Pn	Pn	19 50 22.2	-1.1
IL31		9.20	28	Pn	Pn	19 50 21.0	-3.1
ILAR	Eielson Array	9.20	28	Pn	Pn	19 50 23.2	-1.0
	comp=E,0.1nm,0.3s,baz=224,slow=12,SNR=11						
ILAR				Lg	Lg	19 53 06.8	
	comp=E,0.2nm,0.3s,baz=221,slow=53,SNR=1.3						
DOT	Dot Lake	9.23	39	Pn	Pn	19 50 20.9	-3.7
PCA	Pinnacle	9.28	64	Pn	Pn	19 50 25.7	+0.5
PINM	Pinnacle	9.28	64	P	Pn	19 50 25.8	+0.4
	baz=258						
POKR	Poker Plat Res	9.35	26	Pn	Pn	19 50 23.3	-2.9
POKR	Poker Plat Res	9.35	26	P	Pn	19 50 25.2	-1.0
	baz=215						
SCRK	Sand Creek	9.47	37	Pn	Pn	19 50 26.7	-1.3
SCRK	Sand Creek	9.47	37	P	Pn	19 50 27.3	-0.6
	baz=229						
H23K	Yukon River	9.53	19		Pn	19 50 28.6	-0.1
H23K	Yukon River	9.53	19	P	Pn	19 50 28.8	+0.1
	baz=206						
BCPM	Bancas Point	9.55	65	Pn	Pn	19 50 26.5	-2.5
YUK3	Moose Creek	9.68	54	P	Pn	19 50 30.3	-0.6
	baz=248						
L27K	Beaver Creek,	9.70	45	Pn	Pn	19 50 30.2	-0.8
L27K	Beaver Creek,	9.70	45	P	Pn	19 50 30.5	-0.5
	baz=239						
BCAR	Beaver Creek A	9.72	45	Pn	Pn	19 50 30.7	-0.5
H24K	Noodor Dome	9.86	22		Pn	19 50 32.8	-0.5
H24K	Noodor Dome	9.86	22	P	Pn	19 50 32.7	-0.5
	baz=211						
J26K	Charley River,	9.93	35	P	Pn	19 50 34.2	-0.1
	baz=227						
PRP	Porcupine Dome	10.14	28	Pn	Pn	19 50 37.2	0.0
YUK4	Talbot Arm	10.35	58	P	Pn	19 50 40.9	+0.7
	baz=254						
YUK6	Outpost Mounta	10.38	60	P	Pn	19 50 40.7	+0.2
	baz=256						
COLD	Coldfoot	10.72	14	Pn	Pn	19 50 45.4	+0.4
HYT	Haines Junctio	10.76	61	Pn	Pn	19 50 47.1	+1.5
FYU	Fort Yukon	11.06	25	Pn	Pn	19 50 48.6	-0.9
BMAR	Burnt Mountain	11.92	24	Pn	Pn	19 51 00.1	-1.2
WHY	Whitehorse	12.00	63	Pn	Pn	19 51 01.3	-1.3
TOLK	Toolik Lake Re	12.14	13	P	Pn	19 51 04.5	+0.1
	baz=200						
FARO	Faro, Yukon	13.02	57	P	Pn	19 51 15.5	-0.9
	baz=258						
EPYK	Eagle Plains	13.36	37	P	Pn	19 51 20.7	-0.4
	baz=236						
MMPY	Sheldon Lake,	14.05	56	P	Pn	19 51 30.5	+0.1
	baz=259,SNR=7.1						
YKA	Yellowknife Ar	21.72	58	P	P	19 53 02.8	+0.1
	comp=E,0.7nm,0.5s,baz=271,slow=8.7,SNR=7.0						
NEW	Newport	25.40	93	P	P	19 53 37.1	-2.1
	baz=305						
SEY	Seymchan	25.43	305	P	P	19 53 40.2	+1.1
	comp=E,0.7nm,0.8s,baz=67,slow=6.8,SNR=4.5						
NVAR	Mina Array Bea	31.41	110	P	P	19 54 34.4	+1.4
	comp=E,0.5nm,0.6s,baz=307,slow=7.5,SNR=4.4						
TPNV	Topopah Spring	33.59	109	P	P	19 54 52.7	+0.6
	baz=320						
PFO	Pinyon Flats O	36.08	113	P	P	19 55 14.6	+1.0
	baz=323						
TPFO	Pinon Flats	36.09	113	P	P	19 55 14.5	+0.9
	baz=323						
IRM	Iron Mountain	36.32	111	P	P	19 55 16.5	+1.0
	baz=322						
AMTX	Amarillo	42.90	97	P	P	19 56 09.5	-1.0
	baz=319						
TXAR	Lajitas Array	46.11	104	P	P	19 56 36.7	+0.6
	comp=E,0.3nm,0.7s,baz=330,slow=5.2,SNR=3.6						
O56A	Blue Knob Stat	51.47	73	P	P	19 57 17.5	+0.3
	baz=317,SNR=13						
SONM	Songino Array	54.82	305	P	P	19 57 40.4	-1.4
	comp=E,0.2nm,0.3s,baz=30,slow=8.4,SNR=2.1						
ESDC	Sonseca Array	81.03	21	P	P	20 00 26.4	-0.3
	comp=E,0.3nm,0.5s,baz=347,slow=5.3,SNR=3.0						
QSPA	South Pole Qui	146.80	180	PKPbc	PKPab	20 07 53.7	-0.3
	comp=E,3.1nm,1.0s,baz=324,slow=2.0,SNR=4.4						
QSPA	South Pole Qui	146.80	180		PKPbc	20 07 52.8	+0.1

IDC 08 19:52:57.4±3.3**, 33°.11S**×**178°.47W, h0**km**, mb3.4**/2**, mb1 3.7**/3**, mb1mx3.5**/33**, mbtmp3.5**/3**, ML3.4**/1**, Error ellipse: s-maj=76.6km s-min=48.7km az=123.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.27	214	Pn	Pn	19 54 29.6	-1.5
	0.8nm,0.3s,baz=56,slow=18,SNR=1.6						
URZ				Sn	Sn	19 55 42.4	-1.1
	1.1nm,0.3s,baz=303,slow=23,SNR=2.8						
ASAR	Alice Springs	42.64	270	P	P	20 00 56.0	+0.2
	0.2nm,0.5s,baz=110,slow=7.6,SNR=6.3						
WRA	Warramunga Arr	43.87	275	P	P	20 01 05.6	-0.2
	0.5nm,0.6s,baz=113,slow=7.6,SNR=10						
FINES	FINESS Array B	147.53	338	PKPbc	PKPbc	20 12 42.1	-0.6
	1.7nm,0.8s,baz=57,slow=5.1,SNR=4.0						

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*TUL **08** 20:00:22.6±1.6, 36°.20N±0°.01×97°.01W±0°.02, h6km±5km, ML2.5, mb_Lg2.2/5(NEIC), Error ellipse: s-maj=2.3km s-min=1.8km az=78.0*

NEIC 08 20:00:22.8±1.2**, 36°.22N**±0°.01×**97°.02W**±0°.02**, h5**km±6km**, Error ellipse: s-maj=2.2km s-min=1.3km az=57.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
QUOK	Quay	0.26	100		Pg	20 00 27.9	+0.1
QUOK				Sg	Sg	20 00 31.4	+0.1
OK031	S. Brethren Rd	0.30	151		Pg	20 00 28.6	-0.1
OK031				Sg	Sg	20 00 32.7	0.0
OK029	Liberty Lake	0.55	220	Pg	Pg	20 00 33.4	+0.1
OK029				Sg	Sg	20 00 40.8	+0.4
BLOK	Blackwell	0.56	344		Pg	20 00 34.0	+0.4
BLOK				Sg	Sg	20 00 42.1	+1.1
OK025	Westminster Rd	0.69	202	Pg	Pg	20 00 35.8	-0.1
OK025				Sg	Sg	20 00 45.2	+0.3
T35A	Sooner Cattle	0.81	30	Pg	Pg	20 00 38.4	0.0
T35A				Sg	Sg	20 00 48.3	-0.5
CROK	Carrier	0.83	291	Pg	Pg	20 00 38.8	+0.1
CROK				Sg	Sg	20 00 50.2	+0.8
KAN13	South Haven SW	0.87	335		Pg	20 00 39.6	+0.1
KAN13				Sg	Sb	20 00 51.7	-0.7
OKCFA	Oklahoma City	0.87	204	Pg	Pg	20 00 39.0	-0.6
OKCFA				Sg	Sg	20 00 51.1	+0.2
OKCSW	OKLAHOMA CITY	0.88	203	Pg	Pg	20 00 39.0	-0.7
GC02	Grant County #	0.92	313	Pg	Pg	20 00 40.4	-0.1
GC02				Sg	Sg	20 00 52.3	-0.2
FNO	Franklin	1.01	198	Pg	Pg	20 00 41.2	-0.9
FNO				Sg	Sg	20 00 55.1	-0.1
KAN17	Caldwell West	1.02	324	Pg	Pg	20 00 42.4	+0.1
KAN17				Sg	Sg	20 00 55.2	-0.3
KAN14	Manchester OK	1.06	315	Pg	Pg	20 00 42.9	-0.2
KAN14				Sg	Sg	20 00 57.1	+0.3
KS20	Mayfield South	1.10	337	Pg	Pg	20 00 43.8	0.0
KS20				Sg	Sg	20 00 58.4	+0.4
KAN05	Bluff City Nor	1.12	323	Pg	Pg	20 00 43.7	-0.6
KAN05				Sg	Sb	20 00 59.3	-0.2
OK032	Salt Plains WL	1.12	302	Pg	Pg	20 00 44.1	-0.2
OK032				Sg	Sb	20 00 59.5	-0.1
KAN08	Anthony NE Sta	1.26	323		Pg	20 00 46.4	-0.6
KAN08				Sg	Sb	20 01 03.8	+0.2
KAN12	Harper NE Stat	1.33	324	Pn	Pn	20 00 47.3	-0.7
KAN12					Sg	20 01 05.5	-0.1
U32A	Winter Ranch,	1.61	276	Pn	Pn	20 00 51.1	-0.7
X34A	Smith Ranch, M	1.74	203	Pn	Pn	20 00 53.2	-0.5
WMOK	Wichita Mounta	2.06	225		Pn	20 00 57.0	-1.1
WMOK				IAmb_Lg		20 01 27.4	
	comp=Z,8.6nm,0.8s						
X37A	Clayton	2.11	140	Pn	Pn	20 00 59.5	+0.7
U38A	Gravette	2.14	83	Pn	Pb	20 01 01.0	-1.0
HHAR	Hobbs	2.49	88		Pn	20 01 05.3	+1.3
W39A	Magazine	2.83	110	Pn	Pn	20 01 08.3	-0.2
W39A				IAmb_Lg		20 01 58.1	
	comp=Z,4.7nm,1.0s						
MIAR	Mount Ida	3.27	120	Pn	Pn	20 01 15.0	+0.3
S39A	Bolivar	3.31	63	Pn	Pn	20 01 15.7	+0.4
U40A	Yellville	3.37	86	Pn	Pn	20 01 13.5	-2.6
U40A				IAmb_Lg		20 02 18.0	
	comp=Z,11nm,1.3s						
CBKS	Cedar Bluff	3.37	321	Pn	Pn	20 01 17.3	+1.2
MGMO	Mountain Grove	3.93	75	Pn	Pn	20 01 24.1	+0.3
WHAR	Wooly Hollow	3.96	102	Pn	Pn	20 01 24.2	+0.1
FCAR	Ozark Folk Cen	3.98	93	Pn	Pn	20 01 24.2	-0.3
AMTX	Amarillo	4.02	252	Pn	Pn	20 01 25.1	-0.1
R40A	Maddies Statio	4.32	60	Pn	Pn	20 01 28.0	-1.1
CCM	Cathedral Cave	4.97	67	Pn	Pn	20 01 35.9	-2.1

IDC 08 20:08:38.7±2.0**, 2°.04N**×**98°.96E, h0**km**, mb3.2**/2**, mb1 3.5**/3**, mb1mx3.2**/46**, mbtmp3.2**/3**, Error ellipse: s-maj=36.5km s-min=12.8km az=78.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	0.76	357	Pg	Pg	20 08 50.4	-3.0
	25nm,0.3s,baz=180,slow=9.6,SNR=38						
PSI				Lg	Lg	20 09 01.1	
	38nm,0.3s,baz=180,slow=10,SNR=14						
CMAR	Chiang Mai Arr	16.32	360	Pn	Pn	20 12 30.9	+1.4
	baz=202,slow=12,SNR=1.6						
WRA	Warramunga Arr	41.01	124	P	P	20 16 23.6	-0.4
	0.6nm,0.7s,baz=300,slow=8.9,SNR=3.1						
MKAR	Makanchi Array	46.89	344	P	P	20 17 11.9	+1.0
	0.1nm,0.6s,baz=143,slow=8.1,SNR=1.4						

IDC 08 20:14:45.8±52.0**, 16°.20S**×**176°.82W, h0**km**, mb3.7**/3**, mb1 3.8**/3**, mb1mx3.5**/35**, mbtmp3.7**/3**, Error ellipse: s-maj=968.4km s-min=175.0km az=77.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.78	240	P	P	20 22 29.6	+0.6
	0.7nm,0.5s,baz=91,slow=8.2,SNR=2.0						
WRA	Warramunga Arr	46.45	258	P	P	20 23 14.3	-0.6
	0.1nm,0.3s,baz=94,slow=8.4,SNR=8.7						
ASAR	Alice Springs	46.73	253	P	P	20 23 16.9	-0.2
	0.8nm,0.3s,baz=88,slow=8.2,SNR=20						

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*IDC **08** 20:17:28.9±2.3, 33°.43S×178°.45W, h0km, mb4.2/2, mb1 4.4/3, mb1mx3.8/34, mbtmp4.2/3, ML3.9/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/29, Error ellipse: s-maj=63.0km s-min=34.8km az=124.0*

*WEL **08** 20:17:34.2±1.1, 33°S±22°×17°8W±2°9, h123km±87km,*

M4.1/9,mB4.6/7,ML4.6/13,MLv4.4/9,Mw(mB)3.8/7,Error ellipse: s-maj=0.0km s-min=0.0km az=125.5
*NEIC **08** 20:17:37.0±1.7,33°.5S±0°.1×178°.8W±0°.2,h35km±7km, mb4.5/12,Error ellipse: s-maj=25.0km s-min=16.8km az=100.0*
ISC 08 20:17:30.2±1.1**,33°.29S**±0°.08×**178°.5W**±0°.2**,h10**km**,n41,** σ**1s22**/54**,mb4.5**/8**,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.04**	**7**	S	**Sn**	**20 19 15.7**	**-3.8**
MXZ	**Matakaoa Point**	**5.01**	**211**	Pn	**Pn**	**20 18 44.6**	**-0.8**
MXZ	**Matakaoa Point**	**5.01**	**211**	P	**Pn**	**20 18 45.9**	**+0.5**
MXZ				S	**Sn**	**20 19 42.5**	**-0.8**
PKGZ	**Pakihiroa**	**5.38**	**210**	P	**Pn**	**20 18 50.1**	**-0.5**
PKGZ				S	**Sn**	**20 19 51.7**	**-0.9**
HAZ	**Te Kaha**	**5.40**	**213**	P	**Pn**	**20 18 51.5**	**+0.7**
HAZ				S	**Sn**	**20 19 54.7**	**+1.7**
PUZ	**Puketiti**	**5.46**	**208**	P	**Pn**	**20 18 51.9**	**+0.2**
PUZ				S	**Sn**	**20 19 52.4**	**-2.2**
RUGZ	**Raukumara Rang**	**5.62**	**213**	P	**Pn**	**20 18 54.1**	**+0.2**
RUGZ				S	**Sn**	**20 19 58.1**	**-0.6**
TWGZ	**Tauwhareparae**	**5.66**	**210**	P	**Pn**	**20 18 55.9**	**+1.4**
TWGZ				S	**Sn**	**20 19 59.1**	**-0.6**
CNGZ	**Carnagh Statio**	**5.84**	**206**	P	**Pn**	**20 18 57.9**	**+1.0**
MWZ	**Matawai**	**5.99**	**212**	P	**Pn**	**20 19 00.0**	**+1.1**
URZ	**Urewera**	**6.12**	**215**	Pn	**Pn**	**20 18 59.7**	**-1.0**
	2.8nm,0.3s,baz=282,slow=4.4,SNR=13						
URZ				Sn	**Sn**	**20 20 09.3**	**-1.4**
	6.2nm,0.3s,baz=173,slow=24,SNR=8.6						
URZ	**Urewera**	**6.12**	**215**		**Pn**	**20 19 01.1**	**+0.4**
URZ	**Urewera**	**6.12**	**215**	P	**Pn**	**20 19 01.4**	**+0.7**
URZ				S	**Sn**	**20 20 09.4**	**-1.3**
RAGZ	**Rawiri**	**6.17**	**211**	P	**Pn**	**20 19 02.3**	**+0.8**
RIGZ	**Rimuhau**	**6.21**	**208**	P	**Pn**	**20 19 02.9**	**+0.9**
RIGZ				S	**Sn**	**20 20 12.0**	**-0.9**
PRGZ	**Paritu Road**	**6.35**	**207**	P	**Pn**	**20 19 04.8**	**+0.9**
SNGZ	**Shannon Statio**	**6.44**	**211**	P	**Pn**	**20 19 05.9**	**+0.7**
SNGZ				S	**Sn**	**20 20 17.5**	**-1.3**
MUGZ	**Murupara**	**6.46**	**215**	P	**Pn**	**20 19 06.2**	**+0.9**
MUGZ				S	**Sn**	**20 20 17.8**	**-1.3**
RTZ	**Ruatahuna**	**6.47**	**213**	P	**Pn**	**20 19 04.8**	**-0.8**
RTZ				S	**Sn**	**20 20 18.1**	**-1.4**
BKZ	**Black Stump Fm**	**7.13**	**213**	Pn	**Pn**	**20 19 13.9**	**-0.8**
BFZ	**Birch Farm**	**8.50**	**208**	Pn	**Pn**	**20 19 31.7**	**-1.7**
MSWZ	**Moikau Station**	**9.52**	**210**	Pn	**Pn**	**20 19 46.1**	**-1.4**
LTZ	**Lake Taylor**	**11.95**	**215**	Pn	**Pn**	**20 20 18.7**	**-2.0**
OUENC	**Ouen Island, N**	**16.88**	**306**	P	**P**	**20 21 30.2**	**+1.4**
OUENC				IAmb	IAmb	20 22 08.5	
	comp=Z,34nm,1.2s						
DZM	**Mont Dzumac**	**17.39**	**306**	LR	LR	20 27 22.0	
	comp=Z,141nm,18.6s,baz=5.0,slow=34						
AS31	**Alice Springs**	**42.63**	**270**		**P**	**20 25 27.8**	**+0.8**
ASAR	**Alice Springs**	**42.63**	**270**	P	**P**	**20 25 28.0**	**+1.0**
	comp=Z,2.9nm,0.6s,baz=110,slow=7.4,SNR=56						
ASAR				PcP	**PcP**	**20 27 18.6**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=132,slow=3.4,SNR=3.0						
ASAR	**Alice Springs**	**42.63**	**270**	P	**P**	**20 25 27.9**	**+0.8**
WR0	**Warramunga Arr**	**43.70**	**276**	P	**P**	**20 25 36.2**	**+0.5**
WR0				IAmb	IAmb	20 26 02.5	
	comp=Z,12nm,1.7s						
WB2	**Warramunga Arr**	**43.87**	**275**	P	**P**	**20 25 37.6**	**+0.5**
WB2				IAmb	IAmb	20 25 50.0	
	comp=Z,7.8nm,1.2s						
WB2				PcP	**PcP**	**20 27 23.1**	**-0.2**
WRA	**Warramunga Arr**	**43.88**	**275**	P	**P**	**20 25 37.1**	**-0.1**
	comp=Z,2.3nm,0.6s,baz=121,slow=7.8,SNR=24						
WRA				PcP	**PcP**	**20 27 23.2**	**-0.2**
	comp=Z,0.5nm,0.9s,baz=136,slow=3.7,SNR=2.0						
WRA	**Warramunga Arr**	**43.88**	**275**	PcP	**PcP**	**20 27 22.1**	**-1.2**
FORT	**Forrest**	**44.98**	**258**	P	**P**	**20 25 45.9**	**+0.1**
KNRA	**Kununurra**	**50.58**	**277**	P	**P**	**20 26 29.7**	**+0.4**
FITZ	**Fitzroy Crossi**	**52.01**	**272**	P	**P**	**20 26 39.0**	**-1.1**
FITZ				IAmb	IAmb	20 27 08.2	
	comp=Z,16nm,1.8s						
CASY	**Casey**	**52.41**	**209**	P	**P**	**20 26 43.0**	**+0.6**
CASY				IAmb	IAmb	20 26 55.8	
	comp=Z,8.7nm,1.4s						
QSPA	**South Pole Qui**	**56.83**	**180**	P	P	20 27 17.2	+2.5
QSPA				IAmb	IAmb	20 27 38.7	
	comp=Z,9.0nm,1.5s						
SNAA	**Sanae**	**75.29**	**179**	P	**P**	**20 29 14.6**	**+1.5**
SNAA				IAmb	IAmb	20 29 53.4	
	comp=Z,11nm,1.8s						
JMZ	**Minamidaito 2**	**75.78**	**314**	P	**P**	**20 29 18.9**	**+2.5**
FINES	**FINESS Array B**	**147.69**	**338**	PKPbc	**PKiKP**	**20 37 14.4**	**-1.9**
	comp=Z,1.4nm,0.6s,baz=27,slow=4.4,SNR=9.0						
FINES	**FINESS Array B**	**147.69**	**338**		**PKPbc**	**20 37 13.3**	**-0.9**

*SOME **08** 20:18:32.8,41°.35N×72°.98E,h5km*
*KRNET **08** 20:18:32.2±0.1,41°.32N×73°.07E,h9km,mb2.2*
*NNC **08** 20:18:34.1±0.7,41°.38N×73°.06E,h0km,mb3.3,mpv3.0, Error ellipse: s-maj=5.9km s-min=2.8km az=171.0*
ISC 08 20:18:31.9±1.2**,41°.32N**±0°.03×**73°.06E**±0°.03**,h6**km±12km**,** **n27,**σ**1s07**/44**,12C-3D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OHH	**Osh**	**0.82**	**195**	⇑iP	**Pg**	**20 18 47.8**	**+0.2**
	baz=95						
OHH				⇑iS	**Sb**	**20 18 59.5**	**-0.4**
	baz=95						
ARLS	**Aral**	**1.09**	**60**	⇑iP	**Pg**	**20 18 52.8**	**0.0**
	baz=60						
ARLS				⇑iS	**Sb**	**20 19 07.4**	**-0.4**
	baz=60						
MNAS	**Manas**	**1.24**	**341**	⇓iP	**Pn**	**20 18 55.8**	**-0.2**
	baz=40						
MNAS				⇓iS	**Sn**	**20 19 12.5**	**-0.7**
	baz=40						
SFK	**Sufi-Kurgan**	**1.34**	**165**	⇑iP	**Pb**	**20 18 57.7**	**+0.1**
	baz=66						
SFK				⇑iS	**Sg**	**20 19 15.7**	**+0.6**
	baz=66						
MRKS	**Merke**	**1.43**	**5**	eP	**Pg**	**20 18 59.4**	**+0.1**
	11nm,0.3s						
MRKS				eS	**Sg**	**20 19 18.5**	**+0.6**
	20nm,0.2s						
MRKS	**Merke**	**1.43**	**5**	P	**Pg**	**20 18 59.4**	**+0.1**
	11nm,0.3s						
MRKS				S	**Sg**	**20 19 19.1**	**+1.1**
	20nm,0.2s						
TRKS	**Terek-Say**	**1.46**	**279**	⇑iP	**Pn**	**20 18 59.2**	**+0.2**
	baz=76						
TRKS				⇑iS	**Sn**	**20 19 17.9**	**-0.7**
	baz=76						
DRK	**Karamyk**	**2.07**	**208**	⇑iP	**Pb**	**20 19 10.3**	**+0.2**
	baz=8.0						
DRK				⇑iS	**Sb**	**20 19 37.4**	**+1.2**
	baz=8.0						
BTK	**Batken**	**2.12**	**234**	⇑iP	**Pb**	**20 19 10.6**	**-0.2**
	baz=34						
BTK				⇑iS	**Sb**	**20 19 38.0**	**+0.6**
	baz=34						
IUG	**Iuzhnay**	**2.42**	**291**	eP	**Pg**	**20 19 17.7**	**-0.4**
	65nm,0.3s						
IUG				eS	**Sg**	**20 19 49.9**	**+0.4**
	29nm,0.4s						
IUG	**Iuzhnay**	**2.42**	**291**	Pg	**Pg**	**20 19 17.7**	**-0.4**
	65nm,0.3s						
IUG				Lg	Lg	20 19 49.8	
	29nm,0.4s						
SGDS	**Sogindy**	**2.43**	**28**	Pg	**Pb**	**20 19 16.8**	**+0.7**
	1.8nm,0.2s						
SGDS				Lg	Lg	20 19 48.6	
	6.9nm,0.5s						
KK31	**Karatay Array**	**2.60**	**314**	Pn	**Pb**	**20 19 19.3**	**+0.3**
	0.5nm,0.3s,baz=134,slow=15,SNR=7.4						
KK31				⇓Lg	Lg	20 19 54.4	
	2.9nm,0.4s,baz=132,slow=27,SNR=12						
KST	**Kastek**	**2.76**	**50**	eP	**Pg**	**20 19 23.9**	**-0.8**
	1.1nm,0.2s						
KST				eS	**Sg**	**20 20 00.5**	**0.0**
	2.6nm,0.7s						
KST	**Kastek**	**2.76**	**50**	Pg	**Pg**	**20 19 23.9**	**-0.8**
	1.1nm,0.2s						
KST				Lg	Lg	20 20 00.5	
	2.6nm,0.7s						
BRLS	**Borolday**	**2.95**	**307**	eP	**Pb**	**20 19 26.3**	**+1.5**
	1.3nm,0.3s						
BRLS				eS	**Sg**	**20 20 04.4**	**-2.1**
	1.0nm,0.4s						
BRLS	**Borolday**	**2.95**	**307**	Pg	**Pb**	**20 19 26.3**	**+1.5**
	1.3nm,0.3s						
BRLS				Lg	Lg	20 20 04.4	
	1.0nm,0.4s						
KRBS	**Karabastau**	**3.06**	**38**	eP	**Pg**	**20 19 29.6**	**-1.0**
	1.0nm,0.3s						
KRBS				eS	**Sg**	**20 20 10.3**	**0.0**
	5.5nm,0.4s						
KRBS	**Karabastau**	**3.06**	**38**	Pg	**Pg**	**20 19 29.6**	**-1.0**
	1.0nm,0.3s						
KRBS				Lg	Lg	20 20 10.3	
	5.5nm,0.4s						
IZV	**Izvestkoviy**	**3.15**	**56**	eP	**Pg**	**20 19 31.5**	**-0.7**
	1.1nm,0.2s						
IZV				eS	**Sg**	**20 20 13.5**	**+0.6**
	3.4nm,0.3s						
IZV	**Izvestkoviy**	**3.15**	**56**	Pg	**Pg**	**20 19 31.5**	**-0.7**
	1.1nm,0.2s						
IZV				Lg	Lg	20 20 13.5	
	3.4nm,0.3s						
KUU	**Kurty**	**3.53**	**42**	eP	**Pg**	**20 19 37.6**	**-1.9**
	1.2nm,0.5s						
KUU				eS	**Sg**	**20 20 24.0**	**-1.2**
	3.6nm,0.4s						
KUU	**Kurty**	**3.53**	**42**	Pg	**Pg**	**20 19 37.6**	**-1.9**
	1.2nm,0.5s						
KUU				Lg	Lg	20 20 24.0	
	3.6nm,0.4s						
KOTS	**Kotyrbulak**	**3.56**	**56**	eP	**Pg**	**20 19 39.0**	**-1.1**
	1.5nm,0.3s						
KOTS				eS	**Sg**	**20 20 26.4**	**+0.1**
	4.6nm,0.5s						
KOTS	**Kotyrbulak**	**3.56**	**56**	Pg	**Pg**	**20 19 39.0**	**-1.1**
	1.5nm,0.3s						
KOTS				Lg	Lg	20 20 26.4	
	4.6nm,0.5s						
KTBS	**Karatobe**	**3.59**	**47**	eP	**Pb**	**20 19 38.2**	**+2.4**
	0.9nm,0.5s						
KTBS				eS	**Sg**	**20 20 25.3**	**-1.9**
	6.2nm,0.5s						
KTBS	**Karatobe**	**3.59**	**47**	Pg	**Pb**	**20 19 38.2**	**+2.4**
	0.9nm,0.5s						
KTBS				Lg	Lg	20 20 25.3	
	6.2nm,0.5s						

JMA 08 20:22:33.5±0.1**,35°.87N**×**140°.90E,h13**km±1km**,M3.6,3C,** **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.17**	**191**	⇑P	Pg	20 22 37.4	-0.1
CHOJ				S	Sg	20 22 40.3	+0.1
JIHU	**Itakohorinouch**	**0.32**	**288**	⇑P	Pb	20 22 40.8	-0.2
JSMT	**Sammumatsuo**	**0.43**	**238**	P	Pg	20 22 42.5	+0.4
JHYU	**Hitachinakayam**	**0.53**	**332**	⇑P	Pg	20 22 44.3	+0.3
JYT	**Yasato**	**0.67**	**302**	P	Pg	20 22 46.6	0.0
JYT				S	Sg	20 22 55.6	+0.1
JCN	**Nagara**	**0.73**	**232**	P	Pn	20 22 48.8	-0.6
JHO	**Hitachi**	**0.79**	**340**	P	Pg	20 22 48.4	-0.4
MAT	**Matsushiro**	**2.28**	**288**	P	Pn	20 23 10.7	-0.2
MAT				eS	Sn	20 23 38.8	0.0

*TRN **08** 20:39:03.2,13°.79N×58°.50W,h92km,MD4.0*
ISC 08 20:39:00.7±2.2**,13°.83N**±0°.04×**58°.4W**±0°.1**,h10**km**,n48,** σ**1s67**/69**,3C,North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.24**	**235**	eP	**Pg**	**20 39 25.4**	**+0.9**
BBSP				eS	**Sn**	**20 39 42.8**	**+2.0**
BBGH	**Gun Hill**	**1.30**	**239**	e	**Pn**	**20 39 25.2**	**+0.3**
BBGH	**Gun Hill**	**1.30**	**239**	eP	**Pg**	**20 39 26.9**	**+1.2**
BBGH				eS	**Sn**	**20 39 44.1**	**+1.8**
MPOM	**Morne Pois Mar**	**2.44**	**285**	eP	**Pn**	**20 39 41.0**	**+0.4**
MPOM				eS	**Sn**	**20 40 09.4**	**-1.1**
MCLT	**Moule a Chique**	**2.45**	**268**	eP	**Pn**	**20 39 41.3**	**+0.5**
MCLT				eS	**Sn**	**20 40 10.0**	**-0.8**
SLBI	**Saint Lucia, B**	**2.49**	**275**	eP	**Pn**	**20 39 42.8**	**+1.5**
SLBI				eS	**Sn**	**20 40 10.0**	**-1.6**
SLCP	**Castries, St.**	**2.50**	**274**	eS	**Sn**	**20 40 10.3**	**-1.7**
SLB	**Belfond**	**2.54**	**270**	eS	**Sn**	**20 40 12.5**	**-0.7**
ILAM	**Ilet Lapin Mar**	**2.56**	**292**	eP	**Pn**	**20 39 44.0**	**+1.8**
ILAM				eS	**Sn**	**20 40 12.1**	**-1.3**
LPMF	**Morne Lapointe**	**2.58**	**287**	⇑eP	**Pn**	**20 39 43.0**	**+0.5**
ZAM	**Aeronautique**	**2.63**	**287**	eP	**Pn**	**20 39 44.1**	**+0.8**
TRMF	**Trois Ilets**	**2.65**	**286**	eP	**Pn**	**20 39 44.2**	**+0.8**
BIM	**Bigot**	**2.66**	**285**	eP	**Pn**	**20 39 44.4**	**+0.7**
BIM				eS	**Sn**	**20 40 14.8**	**-1.2**
SSV	**Crater Summit**	**2.74**	**260**	eP	**Pn**	**20 39 45.3**	**+0.5**
SSV				eS	**Sn**	**20 40 16.8**	**-1.3**
SVV	**Soufriere Volc**	**2.76**	**260**	eP	**Pn**	**20 39 45.8**	**+0.6**
FDF	**Fort de France**	**2.79**	**289**	eP	**Pn**	**20 39 46.2**	**+0.7**
FDF				eS	**Sn**	**20 40 18.0**	**-1.3**
SVB	**Belmont**	**2.81**	**259**	eP	**Pn**	**20 39 46.5**	**+0.8**
SVB				eS	**Sn**	**20 40 18.0**	**-1.6**
BAMF	**Morne Balai**	**2.82**	**291**	⇑eP	**Pn**	**20 39 47.5**	**+1.6**
CXM	**Morne La Croix**	**2.84**	**290**	⇑eP	**Pn**	**20 39 48.0**	**+1.7**
PML	**Morne Lenard**	**2.84**	**290**	eP	**Pn**	**20 39 47.6**	**+1.5**
PCM	**Pelee Case Pet**	**2.88**	**290**	eP	**Pn**	**20 39 48.2**	**+1.6**
DLPL	**La Plaine**	**3.12**	**299**	eP	**Pn**	**20 39 50.6**	**+0.7**
DLPL				eS	**Sn**	**20 40 26.0**	**-1.3**
GCMP	**Grenada, Carri**	**3.22**	**246**	eP	**Pn**	**20 39 51.4**	**+0.1**
GCMP				eS	**Sn**	**20 40 27.3**	**-2.4**
TOSP	**Speyside**	**3.25**	**220**	eP	**Pn**	**20 39 52.4**	**+0.6**
TOSP				eS	**Sn**	**20 40 28.7**	**-1.9**
DSLB	**Salisbury**	**3.31**	**299**	eP	**Pn**	**20 39 53.0**	**+0.4**
DSLB				eS	**Sn**	**20 40 31.1**	**-1.1**
MDPV	**Dominica, Penn**	**3.41**	**302**	eS	**Sn**	**20 40 32.9**	**-1.6**
MDCT	**Cottage Hill,**	**3.44**	**302**	eP	**Pn**	**20 39 55.4**	**+1.1**
MDCT				eS	**Sn**	**20 40 33.1**	**-2.1**
GRSS	**Sisters**	**3.46**	**244**	eP	**Pn**	**20 39 55.2**	**+0.5**
MAGL	**Barre de l'ile**	**3.48**	**308**	eP	**Pn**	**20 39 56.3**	**+1.4**
MAGL				eS	**Sn**	**20 40 35.2**	**-1.0**
GRGR	**Grenville**	**3.57**	**242**	eP	**Pn**	**20 39 56.8**	**+0.6**
GRGR				eS	**Sn**	**20 40 36.6**	**-1.9**
GRFF	**Grenada Fort F**	**3.68**	**242**	eS	**Sn**	**20 40 38.3**	**-3.0**
TDBA	**Terre de Bas,**	**3.70**	**303**	eP	**Pn**	**20 39 59.9**	**+1.9**
TDBA				eS	**Sn**	**20 40 40.7**	**-1.0**
TBG	**Guadaloupe-3**	**3.71**	**303**	eP	**Pn**	**20 39 59.9**	**+1.8**
TBG				eS	**Sn**	**20 40 40.7**	**-1.2**
CBE	**Ff, Capester**	**3.80**	**306**	eP	**Pn**	**20 40 00.6**	**+1.2**
CBE				eS	**Sn**	**20 40 41.6**	**-2.6**
ABD	**La Joyeuse, An**	**3.96**	**312**	eP	**Pn**	**20 40 02.3**	**+0.7**
ABD				eS	**Sn**	**20 40 47.0**	**-1.1**
TRN	**Trinidad (W)**	**4.30**	**223**	eP	**Pn**	**20 40 06.6**	**+0.4**
TRN	**Trinidad (W)**	**4.30**	**223**	eS	**Sn**	**20 40 51.7**	**-4.8**
ANBD	**Bethesda, Anti**	**4.54**	**315**	eP	**Pn**	**20 40 10.5**	**+0.9**
ANBD	**Bethesda, Anti**	**4.54**	**315**	eS	**Sn**	**20 40 59.4**	**-3.1**
ANDO	**Antigua, Disas**	**4.63**	**315**	eP	**Pn**	**20 40 12.8**	**+2.0**
ANDO	**Antigua, Disas**	**4.63**	**315**	eS	**Sn**	**20 41 02.8**	**-1.9**
ANOC	**Antigua Open C**	**4.64**	**315**	eP	**Pn**	**20 40 12.2**	**+1.4**
ANOC	**Antigua Open C**	**4.64**	**315**	eS	**Sn**	**20 41 02.4**	**-2.4**
ANWB	**Willy Bob**	**5.01**	**320**	eP	**Pn**	**20 40 16.5**	**+0.6**
ANWB	**Willy Bob**	**5.01**	**320**	eS	**Sn**	**20 41 10.4**	**-3.5**
NVDO	**Nevis, Disaste**	**5.20**	**309**	eP	**Pn**	**20 40 20.0**	**+1.4**
SKI	**Saint Kitts**	**5.43**	**311**	e	**Pn**	**20 40 24.4**	**+2.6**
SKI	**Saint Kitts**	**5.43**	**311**	eS	**Sn**	**20 41 21.1**	**-3.2**

*IDC **08** 20:47:01.5±0.8,14°.67N×93°.75W,h0km,mb4.4/18, mb1 4.6/20,mb1mx4.4/35,mbtmp4.4/20,ML4.0/2,MS3.9/17, Ms1 3.9/17,ms1mx3.7/30,Error ellipse: s-maj=31.7km s-min=13.8km az=54.0*
*MEX **08** 20:47:03.1±1.1,14°.42N×94°.13W,h12km±22km,MD4.6*
*NEIC **08** 20:47:06.1±2.0,14°.69N±0°.04×93°.93W±0°.05,h32km±5km, mb4.6/251,Md4.6/25(MEX),Error ellipse: s-maj=6.7km s-min=5.2km az=109.0*
*GCMT **08** 20:47:09.1±0.6,14°.53N±0°.03×93°.80W±0°.04,h29km, MW5.0/71,Moment Tensor Solution. s22,c25; s71,c87; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.07±.21; $M_{\theta\theta}$-0.69±.13; $M_{\phi\phi}$-2.37±.16; $M_{r\theta}$1.74±.15; $M_{\theta\phi}$1.17±.08; $M_{\phi r}$0.01±.18; Best double couple: $M_0$3.43500×10^{16} NP1:ϕ_s351.00000°,δ41.00000°,λ123.00000°. NP2: ϕ_s131.00000°,δ57.00000°,λ65.00000°. Principal axes: T 3.7840, Plg67.0000°, Azm349.0000°; N -0.6920, Plg21.0000°, Azm145.0000°; P -3.0860, Plg8.0000°, Azm238.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 08 20:47:06.2±0.5**,14°.61N**±0°.06×**93°.99W**±0°.05**,h39**km±4km**,** **n461,**σ**1s23**/410**,mb4.6**/119**,MS4.0**/15**,1C,Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		**1.32**	**34**	iP	**Pn**	**20 47 26.8**	**-1.4**
PCIG				iS	**Sn**	**20 47 45.7**	**+1.1**
PCIG		**1.32**	**34**		**Pn**	**20 47 26.8**	**-1.4**
PCIG					**Sn**	**20 47 45.7**	**+1.1**
THIG		**1.70**	**80**	iP	**Pn**	**20 47 31.5**	**-1.9**
THIG				iS	**Sn**	**20 47 52.9**	**-1.0**
THIG		**1.70**	**80**		**Pn**	**20 47 31.5**	**-1.9**
THIG					**Sn**	**20 47 52.9**	**-1.0**
TGIG		**2.32**	**21**	iP	**Pn**	**20 47 42.2**	**+0.3**
TGIG				eS	**Sn**	**20 48 13.2**	**+3.9**
TGIG		**2.32**	**21**		**Pn**	**20 47 42.2**	**+0.3**
TGIG					**Sn**	**20 48 13.2**	**+3.9**
CCIG	**Comitan**	**2.45**	**47**	eP	**Pn**	**20 47 44.7**	**+0.9**
CCIG				iS	**Sn**	**20 48 19.1**	**+6.5**
CCIG	**Comitan**	**2.45**	**47**		LR	20 48 19.1	
CCIG	**Comitan**	**2.45**	**47**		**Pn**	**20 47 44.5**	**+0.7**
CMIG	**Matias Romero**	**2.62**	**341**	Pn	**Pn**	**20 47 45.0**	**-0.9**
	33nm,0.3s,baz=164,slow=10,SNR=275						
CMIG				Sn	**Sn**	**20 48 15.3**	**-1.2**
	143nm,0.3s,baz=160,slow=10,SNR=6.3						
CMIG				LR	LR	20 48 16.2	
	comp=Z,618nm,19.1s,baz=238,slow=28						
CMIG	**Matias Romero**	**2.62**	**341**	iP	**Pn**	**20 47 45.1**	**-0.9**
CMIG				iS	**Sn**	**20 48 15.8**	**-0.8**
CMIG	**Matias Romero**	**2.62**	**341**		**Pn**	**20 47 45.1**	**-0.9**
CMIG					**Sn**	**20 48 15.8**	**-0.8**
PEIG	**Puerto Escondi**	**3.34**	**295**	eP	**Pn**	**20 47 53.8**	**-2.2**
TUIG	**Tuzandepetl**	**3.43**	**353**	eP	**Pn**	**20 47 55.8**	**-1.4**
TUIG	**Tuzandepetl**	**3.43**	**353**		**Pn**	**20 47 55.8**	**-1.4**
VHO	**Vista Hermosa**	**3.60**	**313**	eP	**Pn**	**20 48 01.0**	**+1.3**
YOIG	**Yosondua**	**4.09**	**304**	eP	**Pn**	**20 48 07.2**	**+0.7**
PNIG	**Pinotepa**	**4.36**	**295**	eP	**Pn**	**20 48 08.9**	**-1.1**
PNIG	**Pinotepa**	**4.36**	**295**		**Pn**	**20 48 08.9**	**-1.1**
MTO3	**Montecristo**	**4.49**	**92**	Pn	**Pn**	**20 48 10.5**	**-1.5**
SNET	**Serv Nac Est T**	**4.71**	**101**	Pn	**Pn**	**20 48 13.2**	**-1.6**
HLIG	**Huajuapan de L**	**4.87**	**312**	eP	**Pn**	**20 48 19.9**	**+2.8**
TLIG	**Tlapa**	**5.29**	**304**	eP	**Pn**	**20 48 24.6**	**+1.7**
TLIG	**Tlapa**	**5.29**	**304**	Pn	**Pn**	**20 48 23.6**	**+0.8**
TGUH	**Tegucigalpa,Un**	**6.54**	**94**		**Pn**	**20 48 40.3**	**+0.2**
CRIN	**San Cristobal**	**7.01**	**105**		**Pn**	**20 48 44.1**	**-2.4**
CNGN	**Cerro Negro**	**7.40**	**106**		**Pn**	**20 48 52.1**	**+0.4**
ACON	**Acoyapa**	**8.98**	**106**	Pn	**Pn**	**20 49 13.1**	**-0.3**
ORTG	**Ortega, Santa**	**9.34**	**116**		**Pn**	**20 49 20.2**	**+1.7**
DUNO	**Dulce Nombre,**	**9.44**	**117**	Pn	**Pn**	**20 49 20.7**	**+0.9**
JTS	**Las Juntas de**	**9.81**	**115**	Pn	**Pn**	**20 49 26.4**	**+1.5**
	0.7nm,0.3s,baz=13,slow=18,SNR=1.7						
CVTR	**Volcan Turrial**	**10.99**	**113**	Pn	**Pn**	**20 49 42.2**	**+0.8**
RIMA	**Rio Macho**	**11.01**	**115**		**Pn**	**20 49 41.4**	**0.0**
PEZE	**Perez Zeledon,**	**11.35**	**116**	Pn	**Pn**	**20 49 47.6**	**+1.7**
ZAIG	**Zacatecas**	**11.48**	**316**		**Pn**	**20 49 48.9**	**+0.9**
SRBA	**San Rafael, Bu**	**11.69**	**116**		**Pn**	**20 49 51.0**	**+0.3**
SOR	**Soroa**	**13.21**	**50**	Pn	**Pn**	**20 50 08.6**	**-2.6**
LCCY	**Blossom Villag**	**14.21**	**67**	Pn	**Pn**	**20 50 26.1**	**+1.1**
833A	**Chaparral WMA,**	**14.54**	**341**	P	**Pn**	**20 50 28.1**	**-1.3**
	baz=158,SNR=7.2						
HKT	**Hockley**	**15.37**	**354**	Pn	**Pn**	**20 50 38.1**	**-2.1**
441A	**DeRidder**	**16.09**	**2**	Pn	**Pn**	**20 50 48.4**	**-1.1**
441A				IAmb	IAmb	20 51 10.6	
	comp=Z,36nm,0.8s						
HPIG		**16.40**	**320**	P	**Pn**	**20 50 54.0**	**+0.1**
435B	**Jarrell**	**16.44**	**349**	P	**Pn**	**20 50 54.2**	**+0.2**
435B				IAmb	IAmb	20 51 20.2	
	comp=Z,38nm,0.7s						
435B	**Jarrell**	**16.44**	**349**	P	**Pn**	**20 50 52.7**	**-1.3**
	baz=167						
JCT	**Junction City**	**16.68**	**342**	P	**Pn**	**20 50 57.1**	**+0.1**
JCT				IAmb	IAmb	20 51 09.8	
	comp=Z,36nm,0.9s						
JCT	**Junction City**	**16.68**	**342**	P	**Pn**	**20 50 56.7**	**-0.4**
	baz=160						
342A	**Flagon Creek P**	**16.76**	**5**	P	**Pn**	**20 50 57.4**	**-0.7**
342A				IAmb	IAmb	20 51 00.8	
	comp=Z,28nm,0.8s						
344A	**Westbrook Farm**	**17.03**	**10**	P	**Pn**	**20 50 59.8**	**-1.7**
344A				IAmb	IAmb	20 51 17.8	
	comp=Z,72nm,1.3s						
NATX	**Nacogdoches**	**17.09**	**358**	P	**P**	**20 51 02.5**	**-1.1**
NATX				IAmb	IAmb	20 51 23.2	
	comp=Z,62nm,1.4s						
NATX	**Nacogdoches**	**17.09**	**358**	P	**Pn**	**20 51 01.1**	**-1.0**
	baz=178						
TXAR	**Lajitas Array**	**17.17**	**330**	P	**P**	**20 51 04.5**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=153,slow=14,SNR=14						
TXAR				LR	LR	20 57 55.5	
	comp=Z,214nm,19.9s,baz=0.0,slow=38						
TXAR	**Lajitas Array**	**17.17**	**330**	P	**Pn**	**20 51 03.4**	**+0.1**
TX31	**Lajitas Ar. Si**	**17.17**	**330**	P	**Pn**	**20 51 03.8**	**+0.5**
TX31				IAmb	IAmb	20 51 21.6	
	comp=Z,50nm,1.1s						
TX32	**Lajitas Array**	**17.17**	**330**	P	**Pn**	**20 51 03.4**	**+0.1**
346A	**Big Creek Wild**	**17.21**	**13**	P	**Pn**	**20 51 03.4**	**-0.3**
346A				IAmb	IAmb	20 51 13.6	
	comp=Z,58nm,0.8s						
237A	**Washetta, Mont**	**17.40**	**355**	P	**Pn**	**20 51 04.6**	**-1.4**
237A				IAmb	IAmb	20 51 18.2	
	comp=Z,37nm,0.9s						
WHTX	**Lake Whitney,**	**17.59**	**350**	P	**Pn**	**20 51 06.2**	**-2.3**
WHTX	**Lake Whitney,**	**17.59**	**350**	P	**Pn**	**20 51 08.0**	**-0.5**
	baz=169						
BRAL	**Brewton**	**17.67**	**20**	P	**P**	**20 51 09.5**	**-0.5**
BRAL				IAmb	IAmb	20 51 27.1	
	comp=Z,70nm,1.1s						
BRAL	**Brewton**	**17.67**	**20**	P	**Pn**	**20 51 08.3**	**-1.1**
	baz=202						
DWPF	**Disney Wildern**	**17.80**	**39**	P	**Pn**	**20 51 09.3**	**-1.7**
	baz=223						
656A	**Willston**	**18.11**	**34**	P	**Pn**	**20 51 13.3**	**-1.5**
143A	**Socs Landing,**	**18.17**	**7**	P	**Pn**	**20 51 14.2**	**-1.3**
143A				IAmb	IAmb	20 51 27.2	
	comp=Z,38nm,0.9s						
Z41A	**Richland Creek**	**18.60**	**3**	P	**P**	**20 51 19.2**	**-1.0**
	baz=183						
ABTX	**Abilene, Hawle**	**18.66**	**345**		**P**	**20 51 20.2**	**-0.7**
ABTX				IAmb	IAmb	20 51 34.8	
	comp=Z,32nm,0.9s						
ABTX	**Abilene, Hawle**	**18.66**	**345**	P	**P**	**20 51 20.9**	**0.0**
	baz=162,SNR=9.7						
250A	**Grady**	**18.68**	**21**	P	**P**	**20 51 20.3**	**-0.8**
250A				IAmb	IAmb	20 51 40.8	
	comp=Z,92nm,1.6s						
352A	**Blakely**	**18.74**	**25**	P	**Pn**	**20 51 21.6**	**-0.7**
352A				IAmb	IAmb	20 51 33.2	
	comp=Z,41nm,0.9s						
Z35A	**Perchaven, San**	**18.88**	**352**	P	**P**	**20 51 20.5**	**-2.7**
Z35A				IAmb	IAmb	20 51 38.6	
	comp=Z,42nm,0.7s						
SJCC	**San Jacinto, C**	**18.97**	**102**	P	**P**	**20 51 23.5**	**-0.9**
WLAR	**White Oak Lake**	**19.01**	**2**	P	**P**	**20 51 23.8**	**-0.9**
WLAR				IAmb	IAmb	20 51 32.9	
	comp=Z,36nm,0.9s						
DBBC	**Dabeiba**	**19.02**	**111**	eP	**Pn**	**20 51 27.2**	**+1.2**
TIGA	**Tifton**	**19.28**	**28**	P	**P**	**20 51 26.5**	**-1.1**
TIGA				IAmb	IAmb	20 51 38.7	
	comp=Z,52nm,1.1s						
TIGA	**Tifton**	**19.28**	**28**	P	**P**	**20 51 26.5**	**-1.1**
	baz=212						
Z47A	**Carrollton**	**19.28**	**15**	P	**P**	**20 51 27.0**	**-0.6**
CCAR	**Cane Creek**	**19.33**	**6**	P	**P**	**20 51 27.1**	**-1.1**
UREC	**San Jos de Ur**	**19.34**	**109**	eP	**Pn**	**20 51 29.3**	**-0.5**
LRAL	**Lakeview Retre**	**19.42**	**18**		**P**	**20 51 26.4**	**-2.8**
LRAL	**Lakeview Retre**	**19.42**	**18**	P	**P**	**20 51 28.7**	**-0.4**
	baz=201						
LOOK	**Love County**	**19.52**	**352**	P	**P**	**20 51 29.4**	**-0.8**
LOOK				IAmb	IAmb	20 51 53.1	
	comp=Z,35nm,0.9s						
Y45A	**Yeager Farm, C**	**19.59**	**11**		**P**	**20 51 29.7**	**-1.3**
Y45A				IAmb	IAmb	20 51 47.1	
	comp=Z,41nm,0.9s						
CBOC	**Ciudad Bolivar**	**19.70**	**114**	eP	**Pn**	**20 51 35.6**	**+1.4**
X40A	**Basin Creek Fa**	**19.82**	**3**	P	**P**	**20 51 33.5**	**0.0**
X40A	**Basin Creek Fa**	**19.82**	**3**	P	**P**	**20 51 33.2**	**-0.3**
	baz=183						
MIAR	**Mount Ida**	**19.86**	**1**	P	**P**	**20 51 33.3**	**-0.7**
MIAR				IAmb	IAmb	20 51 47.0	
	comp=Z,24nm,0.8s						
MIAR	**Mount Ida**	**19.86**	**1**	P	**P**	**20 51 33.0**	**-0.9**
	baz=181,SNR=6.4						
152A	**Waverly Hall**	**19.87**	**24**	P	**Pn**	**20 51 34.8**	**-1.1**
X37A	**Clayton**	**19.94**	**357**	P	**P**	**20 51 34.5**	**-0.3**

X37A IAmb IAmb 20 51 59.3
comp=Z,41nm,1.3s
MNTX Cornudas Mount 19.95 330 P P 20 51 35.7 +0.7
MNTX Cornudas Mount 19.95 330 P P 20 51 35.3 +0.3
baz=146,SNR=19
ZARC Zaragoza, Cauc 20.06 109 *e*P **P 20 51 34.4 -1.9**
255A Hazlehurst 20.20 29 P 20 51 35.4 -2.3
X34A Smith Ranch, M 20.21 351 P 20 51 37.2 -0.5
OXF Oxford 20.25 11 P 20 51 38.2 0.0
OXF Oxford 20.25 11 P P 20 51 37.3 -0.9
baz=193
Z51A Franklin 20.28 22 P P 20 51 38.7 +0.2
SMLC San Martn de 20.34 104 *e*P Pn 20 51 42.6 +1.1
YOTC Yotoco, Valle 20.34 120 *e*P Pn 20 51 43.2 +1.4
Y49A Blount Mountai 20.36 18 P P 20 51 39.1 -0.4
154A Montrose 20.49 27 P P 20 51 39.7 -1.1
W39A Magazine 20.50 0 P 20 51 39.6 -1.4
W39A IAmb IAmb 20 51 46.6
comp=Z,18nm,0.8s
W39A Magazine 20.50 0 P P 20 51 39.5 -1.4
baz=180
WMOK Wichita Mounta 20.50 349 P P 20 51 39.7 -1.3
WMOK Wichita Mounta 20.50 349 P P 20 51 40.5 -0.5
baz=166
W41B Gary Mavity, V 20.54 4 P P 20 51 40.1 -1.2
baz=185
GUY2C Guyana, Caldas 20.56 115 *e*P Pn 20 51 44.9 +0.2
WHAR Wooly Hollow 20.65 4 P P 20 51 42.7 +0.1
WHAR IAmb IAmb 20 52 11.4
comp=Z,34nm,1.2s
X48A Hartselle 20.73 16 P P 20 51 41.8 -1.7
X48A IAmb IAmb 20 51 52.1
comp=Z,43nm,1.1s
FNO Franklin 20.79 352 P P 20 51 44.4 +0.3
PTBC PUERTO BERRIO, 20.80 111 *e*P **P 20 51 44.6 +0.3**
NORC Norcasia 20.84 114 *e*P Pn 20 51 46.6 -0.9
MSTX Muleshoe 20.85 339 P P 20 51 44.7 -0.2
MSTX Muleshoe 20.85 339 P P 20 51 45.2 +0.3
baz=155,SNR=12
POPC Popayan, Colom 20.88 123 *e*P Pn 20 51 47.3 -0.8
TOLC Tolima 20.91 117 *e*P Pn 20 51 48.8 +0.2
**W45A Hickory Valley 20.92 11 P Pn 20 51 46.4 -1.7
OKCFA Oklahoma City 20.95 352 P P 20 51 45.8 0.0
PLAL Pickwick Lake 20.98 14 P P 20 51 43.3 -2.8
PLAL IAmb IAmb 20 52 08.6
comp=Z,32nm,1.4s
GOGA Godfrey 21.02 25 P P 20 51 45.4 -1.1
GOGA Godfrey 21.02 25 P P 20 51 45.4 -1.1
baz=209,SNR=6.9
OK025 Westminster Rd 21.10 352 P P 20 51 47.1 -0.3
SOTA Rioblanco 21.17 124 *e*P **P 20 51 51.8 +2.9**
Y52A Lilburn 21.18 23 P P 20 51 46.5 -1.7
Y52A IAmb IAmb 20 52 15.0
comp=Z,25nm,0.9s
FPAL Fort Paine 21.24 19 P P 20 51 47.4 -1.6
FPAL IAmb IAmb 20 52 11.0
comp=Z,25nm,0.8s
HSIG 21.26 315 P P 20 51 49.8 +0.6
HSIG IAmb IAmb 20 52 07.2
comp=Z,28nm,1.2s
FCAR Ozark Folk Cen 21.26 4 P P 20 51 47.0 -2.1
FCAR IAmb IAmb 20 51 52.9
comp=Z,27nm,0.9s
TUL1 Leonard 21.28 356 P P 20 51 48.5 -0.8
baz=175
ORTC Ortega, Tolima 21.32 118 *e*P **P 20 51 52.1 +2.1**
OK029 Liberty Lake 21.33 352 P P 20 51 49.3 -0.5
OK029 IAmb IAmb 20 51 50.5
comp=Z,33nm,1.0s
AMTX Amarillo 21.35 342 P P 20 51 50.5 +0.4
AMTX Amarillo 21.35 342 P P 20 51 49.3 -0.9
baz=159
OK031 S. Brethren Rd 21.41 354 P P 20 51 49.9 -0.8
OK031 IAmb IAmb 20 52 03.2
comp=Z,20nm,0.8s
X51A Calhoun 21.52 21 P P 20 51 50.7 -1.1
X51A IAmb IAmb 20 52 15.7
comp=Z,30nm,0.9s
LCAR Lake Charles 21.52 6 P P 20 51 50.0 -1.9
HHAR Hobbs 21.59 0 P P 20 51 53.3 +0.7
HHAR IAmb IAmb 20 51 55.2
comp=Z,13nm,0.6s
QUOK Quay 21.61 354 P P 20 51 50.7 -2.2
QUOK IAmb IAmb 20 51 57.6
comp=Z,27nm,0.8s
ROSC El Rosal 21.66 115 P P 20 51 56.1 +2.1
comp=Z,12nm,0.4s,baz=152,slow=17,SNR=10
ROSC El Rosal 21.66 115 P P 20 51 54.2 +0.2
U40A Yellville 21.68 2 P P 20 51 54.1 +0.4
U40A IAmb IAmb 20 51 56.8
comp=Z,16nm,0.8s
U40A Yellville 21.68 2 P P 20 51 53.5 -0.1
baz=183,SNR=13
PRAC Prado 21.72 118 *e*P **P 20 51 57.8 +3.5**
U38A Gravette 21.75 359 P P 20 51 53.7 -0.6
SWET Sewanee 21.77 18 P P 20 51 53.1 -1.5
319A Douglas 21.79 323 P P 20 51 54.2 -0.7
319A IAmb IAmb 20 52 08.8
comp=Z,37nm,1.0s
121A Cookes Peak, D 21.83 327 P P 20 51 56.0 +0.6
121A Cookes Peak, D 21.83 327 P P 20 51 55.3 -0.1
baz=142,SNR=42
BARC Barichara 21.94 109 *e*P **P 20 51 58.5 +1.7**
W50A Signal Mountai 21.94 19 P P 20 51 54.6 -1.9
W50A IAmb IAmb 20 52 24.0
comp=Z,24nm,0.9s
V48A Smith Brothers 22.01 16 P P 20 51 55.6 -1.5
V48A IAmb IAmb 20 52 23.7
comp=Z,28nm,1.3s
CROK Carrier 22.10 351 P P 20 51 56.6 -1.5
CROK IAmb IAmb 20 52 00.8
comp=Z,35nm,0.9s
WVT Waverly 22.13 13 P P 20 51 57.1 -1.4
WVT Waverly 22.13 13 P P 20 51 57.0 -1.5
baz=196
U32A Winter Ranch, 22.14 349 P P 20 51 57.0 -1.6
U32A IAmb IAmb 20 52 15.4
comp=Z,16nm,0.8s
SDDR Presa de Saban 22.16 76 P P 20 51 57.1 -1.9
SDDR IAmb IAmb 20 52 16.8
comp=Z,30nm,1.0s
HODGE Hodges 22.23 26 P P 20 51 57.3 -2.3
BLOK Blackwell 22.25 353 P P 20 51 58.3 -1.4
BLOK IAmb IAmb 20 52 09.1
comp=Z,20nm,0.9s
FLOC Florencia 22.27 124 P P 20 51 59.3 -0.8
CHIC Chingaza 22.28 114 *e*P **P 20 52 03.5 +2.8**
NHSC New Hope 22.29 32 P P 20 51 58.2 -2.0
baz=217
RUSC La Rusia 22.30 111 P P 20 52 00.3 -0.7
RUSC La Rusia 22.30 111 *e*P **P 20 52 02.3 +1.2**
PBMO Poplar Bluff 22.31 8 P P 20 51 59.3 -1.1
PBMO IAmb IAmb 20 52 16.5
comp=Z,26nm,1.1s
W52A Murphy 22.32 22 P P 20 51 59.3 -1.3
T35A Sooner Cattle 22.33 355 P P 20 51 58.9 -1.7
T35A IAmb IAmb 20 52 19.5
comp=Z,14nm,0.8s
OK032 Salt Plains WL 22.43 351 P P 20 52 00.5 -1.1
OK032 IAmb IAmb 20 52 03.5
comp=Z,27nm,0.8s
CPCT Cooper Cave 22.43 21 P P 20 51 60.0 -1.8
CLTN Cedars of Leba 22.47 16 P P 20 52 00.5 -1.6
CLTN IAmb IAmb 20 52 13.2
comp=Z,17nm,1.0s
MGMO Mountain Grove 22.51 4 P P 20 52 02.6 0.0
MGMO IAmb IAmb 20 52 04.6
comp=Z,22nm,0.8s
KAN14 Manchester OK 22.54 352 P P 20 52 02.1 -0.7
KAN14 IAmb IAmb 20 52 14.1
comp=Z,17nm,0.6s
BNM Barren Site 22.57 332 P P 20 52 02.9 -0.5
KAN17 Caldwell West 22.60 352 P P 20 52 02.6 -0.9
KAN17 IAmb IAmb 20 52 20.3
comp=Z,19nm,0.6s
BG3 Lake Jocassee 22.61 24 P P 20 52 02.4 -1.3
BG3 IAmb IAmb 20 52 25.9
comp=Z,21nm,1.0s
JSC Jenkinsville 22.72 28 P P 20 52 03.6 -1.1
JSC IAmb IAmb 20 52 20.8
comp=Z,33nm,1.6s
LENM Lemitar 22.74 331 P P 20 52 06.8 +1.7
V51A Loudon 22.81 21 P P 20 52 04.0 -1.8
TKL Tuckaleechee C 22.88 22 P P 20 52 05.9 -0.6
comp=Z,5.6nm,1.0s,baz=170,slow=9.8,SNR=4.6
TKL Tuckaleechee C 22.88 22 P P 20 52 05.0 -1.5
PAULI Pauline 22.93 26 P P 20 52 06.8 -0.1
S39A Bolivar 23.00 1 P P 20 52 06.6 -1.1
U49A Red Boiling Sp 23.02 17 P P 20 52 06.2 -1.7
U49A IAmb IAmb 20 52 24.3
comp=Z,44nm,1.4s
V52A Sevierville 23.11 22 P P 20 52 08.8 0.0
T47A Sharon Grove 23.12 14 P P 20 52 06.7 -2.1
T47A IAmb IAmb 20 52 09.5
comp=Z,25nm,0.8s
ANMO Albuquerque 23.16 333 P P 20 52 10.1 +0.6
comp=Z,1.8nm,0.7s,baz=140,slow=10.0,SNR=5.9
ANMO Albuquerque 23.16 333 P P 20 52 09.4 0.0
ANMO Albuquerque 23.16 333 P P 20 52 08.4 -1.1
baz=148
V53A Saluda 23.25 24 P P 20 52 08.7 -1.5
V53A IAmb IAmb 20 52 36.3
comp=Z,21nm,1.2s
TAMC Tame, Arauca 23.27 108 *e*P **P 20 52 12.2 +1.6**
TUC Tucson 23.35 322 P P 20 52 13.0 +1.8
TUC IAmb IAmb 20 52 31.1
comp=Z,16nm,1.1s
TUC Tucson 23.35 322 P P 20 52 10.9 -0.3
baz=135
SIUC Southern Illin 23.40 10 P P 20 52 10.3 -1.3
KMSC Kings Mountain 23.41 27 P P 20 52 10.1 -1.6
KMSC Kings Mountain 23.41 27 P P 20 52 10.6 -1.1
baz=212
CCM Cathedral Cave 23.48 5 P P 20 52 10.1 -2.3
CCM IAmb IAmb 20 52 27.2
comp=Z,16nm,0.9s
CCM Cathedral Cave 23.48 5 P P 20 52 11.5 -0.9
baz=186
SDV Santo Domingo 23.56 101 P P 20 52 11.6 -1.9
comp=Z,6.6nm,0.2s,baz=303,slow=8.8,SNR=2.1
SDV Santo Domingo 23.56 101 P P 20 52 11.4 -2.2
SDV IAmb IAmb 20 52 23.6
comp=Z,13nm,0.8s
R40A Maddies Statio 23.64 3 P P 20 52 12.4 -1.5
R40A IAmb IAmb 20 52 23.3
comp=Z,14nm,0.8s
TZTN Tazewell 23.76 21 P P 20 52 13.0 -2.0
baz=206
V55A Taylorsville 24.06 26 P P 20 52 16.6 -1.3
V55A IAmb IAmb 20 52 35.9
comp=Z,22nm,1.3s
T25A Trinidad 24.28 339 P P 20 52 20.3 +0.1
T25A Trinidad 24.28 339 P P 20 52 19.4 -0.7
baz=155,SNR=11
214A Organ Pipe Nat 24.37 318 P P 20 52 21.0 +0.3
214A Organ Pipe Nat 24.37 318 P P 20 52 19.8 -0.9
baz=131
WCI Wyandotte Cave 24.50 15 P P 20 52 19.3 -2.5
WCI IAmb IAmb 20 52 23.1
comp=Z,22nm,0.8s
WCI Wyandotte Cave 24.50 15 P P 20 52 20.0 -1.8
baz=198
KSU1 Kansas State U 24.51 355 P P 20 52 20.8 -1.1
KSU1 IAmb IAmb 20 52 33.1
comp=Z,20nm,0.8s
KSU1 Kansas State U 24.51 355 P P 20 52 20.5 -1.4
baz=174
X18A Snowflake 24.51 327 P P 20 52 22.5 +0.2
OLIL Olney 24.59 11 P P 20 52 20.6 -2.1
CBKS Cedar Bluff 24.64 349 P P 20 52 23.5 +0.3
CBKS IAmb IAmb 20 52 44.2
comp=Z,24nm,0.8s
CBKS Cedar Bluff 24.64 349 P P 20 52 22.1 -1.1
baz=166
U56A King 24.84 27 P P 20 52 24.4 -0.6
U56A IAmb IAmb 20 52 25.6
comp=Z,14nm,0.9s
R49A Shelbyville 24.85 17 P P 20 52 24.1 -0.9
R49A IAmb IAmb 20 52 25.0
comp=Z,9.0nm,0.7s
W18A Petrified Fore 24.86 328 P P 20 52 27.1 +1.7
W18A Petrified Fore 24.86 328 P P 20 52 24.2 -1.1
baz=141
P40A Paris 24.89 4 P P 20 52 24.0 -1.3
P38A Dawn 24.93 1 P P 20 52 24.3 -1.4
P38A IAmb IAmb 20 52 25.6
comp=Z,18nm,0.8s
SDCO Great Sand Dun 25.21 338 P P 20 52 27.4 -1.2
SDCO Great Sand Dun 25.21 338 P P 20 52 26.8 -1.8
baz=153,SNR=9.8
X16A Lo Mia Camp, P 25.24 324 P P 20 52 27.6 -1.3
KSCO Kaye Shedlock' 25.47 344 P P 20 52 29.0 -1.8
baz=160
113A Mohawk Valley, 25.51 319 P P 20 52 31.9 +0.9
113A IAmb IAmb 20 52 40.2
comp=Z,17nm,1.4s
BLA Blacksburg 25.55 26 P P 20 52 29.8 -1.6
baz=212
S22A 4UR Ranch, Cre 25.71 336 P P 20 52 31.2 -2.0
baz=150
P48A Milroy 25.88 15 IAmb IAmb 20 52 33.9
comp=Z,14nm,0.9s
MVCO Mesa Verde 25.95 333 IAmb IAmb 20 52 38.8
comp=Z,12nm,1.1s
MVCO Mesa Verde 25.95 333 P P 20 52 33.5 -1.8
baz=146,SNR=5.5
WUAZ Wupatki 26.02 326 IAmb IAmb 20 52 55.9
comp=Z,23nm,1.1s
WUAZ Wupatki 26.02 326 P P 20 52 35.0 -0.9
baz=139
N38A Joes South For 26.10 1 P P 20 52 35.8 -0.5
P49A Miami Univ. Ec 26.14 16 P P 20 52 34.5 -2.2
baz=201
HDIL Hopedale 26.18 8 P P 20 52 35.2 -1.8
baz=190
Q24A Divide 26.18 340 P P 20 52 36.5 -0.9
baz=155
GLA Glamis 26.37 318 P P 20 52 38.0 -0.9
baz=129
SFIN Lafayette 26.38 12 IAmb IAmb 20 52 55.0
comp=Z,15nm,1.1s
SFIN Lafayette 26.38 12 P P 20 52 37.6 -1.2
baz=195
ATAH Atahualpa 26.57 143 P P 20 52 42.5 +1.2
comp=Z,3.3nm,0.7s,baz=349,slow=16,SNR=2.3
PDMCI Parker Dam,Lak 26.75 321 P P 20 52 41.9 -0.4
baz=132
PV01 Paradox Valley 26.75 334 P P 20 52 42.9 +0.3
PV01 IAmb IAmb 20 52 47.8
comp=Z,14nm,1.0s
O49A Covington 26.85 17 IAmb IAmb 20 52 53.0
comp=Z,7.7nm,0.7s
PV13 Radium Mtn., P 26.88 334 IAmb IAmb 20 52 47.2
comp=Z,11nm,1.0s
PV02 Paradox Valley 26.89 334 IAmb IAmb 20 52 59.4
comp=Z,28nm,1.5s
PV15 Paradox Valley 26.89 334 IAmb IAmb 20 52 51.7
comp=Z,11nm,0.9s
PV05 Paradox Valley 26.94 333 IAmb IAmb 20 53 10.2
comp=Z,16nm,1.1s
SWSC Sam W. Stewart 26.95 316 P P 20 52 43.3 -0.7
baz=127
PV03 Paradox Valley 26.98 334 IAmb IAmb 20 52 50.1
comp=Z,12nm,1.0s
IKP In-Ko-Pah, Jac 26.98 316 P P 20 52 43.1 -1.3
baz=126
PV18 Skein Mesa, Pa 26.99 333 IAmb IAmb 20 52 50.2
comp=Z,13nm,1.1s
PV12 Saucer Basin, 27.01 334 IAmb IAmb 20 52 48.7
comp=Z,22nm,1.0s
P52A Corning 27.02 20 P P 20 52 43.4 -1.2
baz=206
PV11 David Mesa, Pa 27.02 334 IAmb IAmb 20 52 50.7
comp=Z,19nm,1.0s
PV07 Paradox Valley 27.04 334 IAmb IAmb 20 52 48.9
comp=Z,13nm,1.0s
PV17 East Wray Mesa 27.04 333 IAmb IAmb 20 52 50.0
comp=Z,28nm,1.5s
PV16 Nyswonger Mesa 27.05 334 IAmb IAmb 20 53 10.7
comp=Z,26nm,1.5s
ISCO Idaho Springs 27.09 340 P P 20 52 45.7 +0.1
ISCO Idaho Springs 27.09 340 P P 20 52 44.9 -0.7
baz=154,SNR=6.8
PV04 Paradox Valley 27.11 334 IAmb IAmb 20 52 52.2
comp=Z,19nm,0.9s
PV14 Lion Creek, Pa 27.15 333 IAmb IAmb 20 52 49.5
comp=Z,13nm,1.2s
BC3 Big Chuckawall 27.16 318 P P 20 52 46.0 -0.1
baz=129
OGNE Ogallala 27.16 347 P P 20 52 45.5 -0.5
baz=163
U15A North Rim 27.20 326 P P 20 52 47.2 +0.6
PV23 Carpenter Ridg 27.21 334 IAmb IAmb 20 52 50.1
comp=Z,14nm,0.9s
SCIA State Center 27.21 1 P P 20 52 45.4 -0.9
SCIA State Center 27.21 1 P P 20 52 45.7 -0.6
baz=182
IRM Iron Mountain 27.28 319 P P 20 52 47.3 +0.2
baz=130
ACSO Alum Creek Sta 27.29 19 P P 20 52 46.4 -0.6
baz=204
L40A Anamosa 27.46 4 P P 20 52 46.8 -1.8
L40A IAmb IAmb 20 52 55.3
comp=Z,19nm,0.9s
BELC Belle Mtn. Jos 27.73 318 P P 20 52 52.5 +1.3
baz=129
GMRC Granite Mounta 28.01 320 P P 20 52 54.9 +1.2
baz=130
JFWS Jewell Farm 28.39 6 P P 20 52 55.6 -1.2
baz=188
HEC Hector,Ludlow 28.47 319 P P 20 52 57.7 -0.1
baz=129
TUQ Turquoise Moun 28.60 320 P P 20 52 59.9 +1.0
baz=131
CCUT Cedar City 28.60 327 P P 20 53 00.9 +1.8
BFSC Mount Baldy Ra 28.96 317 P P 20 53 02.3 +0.1
baz=126
ECSD EROS Data Cent 29.11 356 P P 20 53 02.5 -0.7
ECSD IAmb IAmb 20 53 03.7
comp=Z,14nm,0.8s
ECSD EROS Data Cent 29.11 356 P P 20 53 03.2 -0.1
baz=175,SNR=14
M53A WI Miller and 29.13 21 P P 20 53 02.5 -1.0
baz=207
EDW2 Edwards Air Fo 29.57 317 P P 20 53 09.0 +1.5
baz=127
PSUT Pine Spring 29.59 327 IAmb IAmb 20 53 19.0
comp=Z,9.2nm,1.0s
LRMC Laurel Mtn Rad 29.73 319 P P 20 53 09.7 +0.7
baz=129
TPNV Topopah Spring 29.80 322 P P 20 53 10.2 +0.6
baz=132
FURC Furnace Creek, 29.85 321 P P 20 53 11.3 +1.4
baz=131
K22A Casper 29.96 341 P P 20 53 11.4 +0.4
baz=155
MPMC Manual Prospec 29.97 320 P P 20 53 11.2 0.0
baz=129,SNR=5.6
SCZ2 Santa Cruz Isl 30.17 314 P P 20 53 13.2 +0.5
baz=123
DUG Dugway, Tooele 30.34 331 P P 20 53 15.1 +0.7
baz=142
ISA Isabella, Lake 30.36 318 P P 20 53 15.6 +1.2
baz=127
R11A Troy Canyon, C 30.39 325 P P 20 53 15.1 +0.3
baz=135
TCUT Toone Canyon 30.45 334 IAmb IAmb 20 53 19.3
comp=Z,14nm,1.0s
SPMN Marine on St. 30.54 2 P P 20 53 14.2 -1.7
SPMN Marine on St. 30.54 2 P P 20 53 14.7 -1.1
baz=182
CWC Cottonwood Cre 30.59 320 P P 20 53 17.0 +0.4
baz=129
N59A State Game Lan 30.64 28 P P 20 53 16.3 -0.6
baz=216
PDAR Pinedale Array 31.10 338 P P 20 53 22.6 +1.4
comp=Z,1.3nm,0.9s,baz=142,slow=10,SNR=4.0
PDAR LR LR 21 08 50.7
comp=Z,94nm,19.2s,baz=152,slow=42
F36A Milaca 31.16 1 P P 20 53 19.9 -1.4
F36A IAmb IAmb 20 53 21.1
comp=Z,9.3nm,0.8s
HVU Hansel Valley 31.59 333 IAmb IAmb 20 53 29.1
comp=Z,7.9nm,1.1s
NV11 Mina Array Sit 31.92 323 IAmb IAmb 20 53 40.6
comp=Z,13nm,1.1s
ELK Elko 31.95 329 IAmb IAmb 20 53 32.7
comp=Z,6.2nm,0.9s
NVAR Mina Array Bea 32.00 322 P P 20 53 32.3 +3.2
comp=Z,7.7nm,0.9s,baz=140,slow=8.9,SNR=46
NVAR LR LR 21 07 21.3
comp=Z,354nm,19.2s,baz=136,slow=38
LHV Little Huntoon 32.00 322 IAmb IAmb 20 53 44.9
comp=Z,7.3nm,0.9s
REDW Red Top Meadow 32.10 337 IAmb IAmb 20 53 44.9
comp=Z,12nm,1.1s
LOHW Long Hollow 32.22 337 P P 20 53 31.2 +0.3
TPAW Teton Pass 32.24 337 IAmb IAmb 20 53 46.2
comp=Z,15nm,1.3s
YERR Yerington 32.92 322 IAmb IAmb 20 53 49.2
comp=Z,4.8nm,0.8s
RLMT Red Lodge 33.05 340 P P 20 53 36.9 -1.4
RLMT IAmb IAmb 20 53 41.1
comp=Z,14nm,1.2s
RLMT Red Lodge 33.05 340 P P 20 53 38.3 +0.1
baz=152
YHH Holmes Hill 33.31 338 IAmb IAmb 20 53 44.4
comp=Z,14nm,1.6s
MDND Maddock 33.47 353 P P 20 53 41.4 -0.2
baz=170
PAHR Pah Rah Range 33.47 323 IAmb IAmb 20 53 50.8
comp=Z,20nm,1.7s
AGMN Agassiz Nation 33.63 358 P P 20 53 42.0 -1.0
B35A Bob, Littlefor 33.66 0 IAmb IAmb 20 53 42.9
comp=Z,7.9nm,0.8s
HLID Hailey 33.74 333 P P 20 53 44.9 +0.7
baz=142
BEKR Beckworth 34.15 322 IAmb IAmb 20 54 00.2
comp=Z,6.2nm,1.1s
BOZ Bozeman (W) 34.29 338 P P 20 53 49.5 +0.6
baz=148
DLMT Dillon 34.45 337 IAmb IAmb 20 53 54.2
comp=Z,16nm,1.4s
DGMT Dagmar 34.80 348 P P 20 53 52.2 -0.9
baz=162
WVOR Wild Horse Val 34.93 327 P P 20 53 54.1 -0.3
WVOR IAmb IAmb 20 53 58.0
comp=Z,10nm,1.1s
MOD Modoc Plateau 35.45 325 IAmb IAmb 20 54 10.5
comp=Z,6.2nm,0.9s
ULM Lac du Bonnet 35.58 358 P P 20 53 58.2 -1.5
comp=Z,7.8nm,0.9s,baz=186,slow=11,SNR=4.6
ULM LR LR 21 10 57.7
comp=Z,136nm,19.0s,baz=138,slow=40
ULM Lac du Bonnet 35.58 358 IAmb IAmb 20 53 59.2
comp=Z,7.2nm,0.9s
EGMT Eagleton 35.79 342 P P 20 54 01.7 0.0
baz=153
O02D Mt. Diablo Mer 35.80 321 P P 20 54 02.4 +0.5
baz=127
MSO Missoula 36.19 337 IAmb IAmb 20 54 08.1
comp=Z,8.2nm,1.2s
MSO Missoula 36.19 337 P P 20 54 05.0 -0.2
baz=146
G62A West of Eustis 36.40 28 P P 20 54 07.6 +0.8
baz=220
F10A Beach Ranch, E 36.87 333 IAmb IAmb 20 54 25.9
comp=Z,9.6nm,0.8s
PTGA Pitinga 36.96 111 P P 20 54 11.6 -0.4
J04D Umpqua Nationa 37.34 325 P P 20 54 15.1 0.0
baz=131
K02D Willamette Mer 37.87 324 P P 20 54 20.5 +1.0
baz=129
E62A Clayton Lake 37.92 28 P P 20 54 20.8 +1.0
baz=221
G05D Wamic, OR 38.28 328 P P 20 54 23.7 +0.8
baz=134
I03D Drain, OR 38.32 325 P P 20 54 24.3 +1.1
baz=130
SAML Samuel 38.49 126 P P 20 54 23.9 -1.0
NEW Newport 38.62 335 P P 20 54 25.9 +0.2
baz=142
C09A Chrisman Ranch 38.74 334 IAmb IAmb 20 54 29.4
comp=Z,16nm,1.4s
F05D White Salmon 38.80 329 P P 20 54 27.8 +0.6
baz=134
LPAZ La Paz 39.94 139 P P 20 54 38.0 +0.3
comp=Z,0.9nm,0.7s,baz=347,slow=4.8,SNR=3.6
E03A Lebam 40.32 328 P P 20 54 39.7 0.0
E03A IAmb IAmb 20 54 44.0
comp=Z,15nm,0.9s
EDM Edmonton 41.46 342 IAmb IAmb 20 54 50.7
comp=Z,14nm,0.8s
SCHQ Schefferville 45.35 22 P P 20 55 20.6 +0.1
comp=Z,6.1nm,0.9s,baz=215,slow=12,SNR=3.2
SCHQ LR LR 21 15 42.2
comp=Z,372nm,19.5s,baz=216,slow=38
YKA Yellowknife Ar 50.01 348 P P 20 55 57.0 +0.6
comp=Z,9.9nm,0.9s,baz=147,slow=8.1,SNR=43

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DLBC	Dease Lake	51.33	337	IAmb	IAmb	20 56 10.2	
	comp=Z,8.5nm,1.1s						
SIT	Sitka	52.62	333	P	P	20 56 16.8	+0.8
	baz=126						
TGTN	Hyland Airport	52.89	340	P	P	20 56 18.4	+0.3
	baz=137						
BDFB	Brasilia	54.48	122	P	P	20 56 30.3	-0.1
	comp=Z,3.7nm,0.7s,baz=274,slow=9.7,SNR=5.1						
WHY	Whitehorse	54.65	337	P	P	20 56 32.4	+1.4
	baz=129						
MMPY	Sheldon Lake,	54.66	340	P	P	20 56 31.5	+0.4
	baz=134,SNR=10						
FARO	Faro, Yukon	55.11	339	P	P	20 56 34.6	+0.3
	baz=132						
HYT	Haines Junctio	55.77	336	P	P	20 56 38.8	-0.4
	baz=126						
YUK6	Outpost Mounta	56.18	336	P	P	20 56 41.9	-0.3
	baz=125						
PINM	Pinnacle	56.48	334	P	P	20 56 44.9	+0.7
	baz=123						
YUK3	Moose Creek	57.49	336	P	P	20 56 51.9	+0.4
	baz=124						
MCARA	McCarthy VSAT	58.32	335	P	P	20 56 58.5	+1.5
	baz=121						
M27K	Edge Creek, AK	58.37	336	P	P	20 56 58.7	+1.2
	baz=122						
DAWY	Dawson	58.40	338	P	P	20 56 58.2	+0.6
	baz=126						
BCAR	Beaver Creek A	58.72	337	P	P	20 57 00.5	+0.7
L27K	Beaver Creek,	58.73	337	IAmb	IAmb	20 57 15.5	
	comp=Z,6.7nm,1.1s						
L27K	Beaver Creek,	58.73	337	P	P	20 57 01.1	+1.2
	baz=123						
BMRM	Bremner River	58.77	334	P	P	20 57 01.8	+1.6
	baz=119						
M26K	Nabesna, AK	58.83	336	IAmb	IAmb	20 57 03.9	
	comp=Z,6.2nm,1.2s						
M26K	Nabesna, AK	58.83	336	P	P	20 57 02.0	+1.4
	baz=121						
EPYK	Eagle Plains	58.94	341	P	P	20 57 01.4	+0.2
	baz=130						
EYAK	Cordova Ski Ar	59.07	333	P	P	20 57 03.4	+1.2
	baz=118						
N25K	Chitina, Valde	59.08	334	P	P	20 57 03.1	+0.7
	baz=119						
L26K	Log Cabin Wild	59.30	336	P	P	20 57 05.2	+1.4
	baz=121						
INK	Inuvik	59.32	344	P	P	20 57 04.9	+1.1
INK	Inuvik	59.32	344	P	P	20 57 04.8	+1.1
	baz=134						
K27K	Chicken	59.35	338	P	P	20 57 05.1	+1.0
	baz=123						
EGAK	Eagle	59.44	339	P	P	20 57 05.4	+0.7
	baz=124						
KLU	Klutina	59.59	334	P	P	20 57 07.1	+1.2
	baz=118						
HARP	HAARP	59.70	335	P	P	20 57 07.6	+1.0
	baz=119						
SCRK	Sand Creek	60.04	337	P	P	20 57 09.5	+0.5
SCRK				IAmb	IAmb	20 57 24.6	
	comp=Z,5.4nm,1.0s						
SCRK	Sand Creek	60.04	337	P	P	20 57 09.0	0.0
	baz=121,SNR=5.6						
PAX	Paxson	60.11	336	IAmb	IAmb	20 57 12.0	
	comp=Z,5.4nm,1.0s						
PAX	Paxson	60.11	336	P	P	20 57 09.7	+0.3
	baz=119						
RIDG	Independent Ri	60.24	337	P	P	20 57 11.2	+0.9
	baz=120,SNR=7.1						
J26K	Charley River,	60.27	338	P	P	20 57 11.0	+0.4
	baz=122,SNR=11						
A36M	Sachs Harbour	60.29	349	P	P	20 57 10.6	+0.2
	baz=145						
SML	Sawmill	60.75	334	P	P	20 57 13.9	+0.1
	baz=116						
WAT6	Susitna Watana	60.85	335	P	P	20 57 14.9	+0.3
	baz=116,SNR=5.3						
BRSE	Bradley Lake S	60.99	331	P	P	20 57 16.2	+0.7
	baz=112						
PMR	Palmer	61.01	333	P	P	20 57 16.0	+0.6
	baz=115						
RC01	Rabbit Creek A	61.06	333	P	P	20 57 16.7	+0.8
RC01	Rabbit Creek A	61.06	333	P	P	20 57 16.4	+0.5
	baz=114						
KDAK	Kodiak Island	61.19	329	P	P	20 57 17.4	+0.7
	baz=109						
WAT1	Susitna Watana	61.29	335	P	P	20 57 16.9	-0.6
	baz=116						
OHAK	Old Harbor	61.37	328	P	P	20 57 18.7	+0.8
	baz=108						
HDA	Harding Lake	61.38	337	P	P	20 57 18.5	+0.5
	baz=118						
PRP	Porcupine Dome	61.40	338	P	P	20 57 18.8	+0.5
	baz=120						
ILAR	Eielson Array	61.53	337	P	P	20 57 20.6	+1.6
	comp=Z,5.8nm,1.0s,baz=140,slow=4.4,SNR=29						
ILAR				LR	LR	21 25 59.8	
	comp=Z,199nm,18.1s,baz=140,slow=38						
SUA	Susitna One	61.66	333	P	P	20 57 20.5	+0.5
	baz=113						
MCK	McKinley	61.84	336	P	P	20 57 22.3	+1.1
MCK	McKinley	61.84	336	P	P	20 57 21.8	+0.6
	baz=116						
POKR	Poker Plat Res	61.90	337	P	P	20 57 22.3	+0.8
	baz=118						
SKT	Skwentna	62.21	333	P	P	20 57 24.7	+1.1
	baz=112						
SPCR	Spurr Chakacha	62.21	332	P	P	20 57 25.0	+1.3
	baz=112						
TRF	Thorofare Moun	62.27	335	P	P	20 57 25.5	+1.3
TRF	Thorofare Moun	62.27	335	P	P	20 57 24.7	+0.5
	baz=114,SNR=6.4						
H24K	Noodor Dome	62.40	338	P	P	20 57 25.5	+0.6
H24K	Noodor Dome	62.40	338	P	P	20 57 25.5	+0.6
	baz=118,SNR=9.1						
I23K	Minto, Yukon-K	62.64	337	P	P	20 57 27.5	+1.2
	baz=116,SNR=7.0						
BPAW	Bear Paw Mtn.	62.82	336	P	P	20 57 28.4	+0.7
	baz=114						
PPLA	Purkeypile	62.84	334	P	P	20 57 28.6	+0.6
	baz=112						
M20K	Styx River	62.87	333	P	P	20 57 29.0	+0.8
	baz=111						
MLY	Manley	63.11	337	P	P	20 57 30.2	+0.5
	baz=115,SNR=10						
N19K	Bonanza Creek	63.12	331	P	P	20 57 30.3	+0.5
	baz=109						
O18K	Koktuh Hills	63.15	330	P	P	20 57 30.8	+0.9
	baz=108						
CHUM	Lake Minchumin	63.27	335	P	P	20 57 30.3	-0.3
	baz=113						
L20K	Farewell, AK	63.41	333	P	P	20 57 30.7	-0.9
	baz=110,SNR=5.7						
I21K	Tanana	63.65	336	P	P	20 57 32.7	-0.4
	baz=114						
L19K	White Mountain	63.74	333	P	P	20 57 34.0	+0.2
	baz=109						
K20K	Telida	63.81	334	P	P	20 57 34.2	0.0
K20K	Telida	63.81	334	P	P	20 57 33.7	-0.5
	baz=111						
COLD	Coldfoot	63.87	339	IAmb	IAmb	20 57 50.4	
	comp=Z,8.0nm,1.2s						
COLD	Coldfoot	63.87	339	P	P	20 57 34.6	0.0
	baz=116						
ICESG	Greenland Ices	64.12	19	*i* P	P	20 57 36.4	-0.2
ICESG				IAmb	IAmb	20 57 37.7	
	comp=Z,20nm,0.9s						
J20K	Nowinta River	64.13	335	IAmb	IAmb	20 57 37.6	
	comp=Z,6.8nm,1.1s						
J20K	Nowinta River	64.13	335	P	P	20 57 36.2	-0.1
	baz=111						
TOLK	Toolik Lake Re	64.30	340	P	P	20 57 37.7	+0.3
	baz=118						
SUMG	Summit	66.17	16	*i* P	P	20 57 50.5	+0.6
SUMG				IAmb	IAmb	20 57 51.5	
	comp=Z,14nm,0.9s						
SUMG	Summit	66.17	16	P	P	20 57 50.3	+0.4
NEEM	North Greenlan	66.45	9	*i* P	P	20 57 52.0	+0.5
NEEM				IAmb	IAmb	20 57 54.5	
	comp=Z,28nm,1.0s						
DAG	Danmarks Havn	72.53	14	⇑*i*P	P	20 58 28.7	+0.1
DAG				IAmb	IAmb	20 58 29.5	
	comp=Z,7.1nm,0.8s						
NOR	Nord	73.79	9	*i* P	P	20 58 37.1	+1.0
NOR				IAmb	IAmb	20 58 37.6	
	comp=Z,6.2nm,1.0s						
ESDC	Sonseca Array	80.85	51	P	P	20 59 16.4	0.0
	comp=Z,3.1nm,1.2s,baz=294,slow=6.3,SNR=7.5						
ESDC				LR	LR	21 32 57.7	
	comp=Z,82nm,18.5s,baz=275,slow=34						
ESDC	Sonseca Array	80.85	51	P	P	20 59 16.3	0.0
ESDC				IAmb	IAmb	20 59 26.5	
	comp=Z,8.0nm,1.6s						
PMSA	Palmer Station	82.35	168	LR	LR	21 28 01.7	
	comp=Z,40nm,21.0s,baz=325,slow=30						
NB2	NORSAR Subarra	84.53	28	P	P	20 59 36.2	+1.1
	comp=Z,14nm,0.9s,baz=291,slow=5.1						
NB2	NORSAR Subarra	84.53	28	P	P	20 59 36.2	+1.1
	baz=291,slow=5.1						
NOA	NORSAR Array B	84.53	28	P	P	20 59 36.5	+1.5
	comp=Z,6.5nm,0.8s,baz=292,slow=5.0,SNR=20						
NOA				LR	LR	21 36 09.9	
	comp=Z,79nm,20.0s,baz=280,slow=35						
NB201	NORSAR Array S	84.56	28	P	P	20 59 36.2	+1.0
NC405	NORSAR Array S	84.73	28	P	P	20 59 36.2	+0.2
ARCES	ARCESS Array B	86.16	18	P	P	20 59 43.2	+0.2
	comp=Z,5.4nm,0.9s,baz=305,slow=4.3,SNR=4.4						
ARCES				LR	LR	21 38 44.7	
	comp=Z,126nm,19.4s,baz=330,slow=36						
BNI	Bardonecchia	87.15	44	P	P	20 59 49.1	+0.6
TIC	Toumodi	87.36	84	*e*P	P	20 59 50.8	+0.8
LIC	Lamto	87.46	84	*e*P	P	20 59 50.6	+0.2
	comp=Z,63nm,1.4s						
DBIC	Dimbokro	87.51	84	P	P	20 59 50.6	-0.1
	comp=Z,3.9nm,0.8s,baz=250,slow=2.1,SNR=3.5						
DBIC				LR	LR	21 39 42.2	
	comp=Z,34nm,18.1s,baz=160,slow=36						
KIC	Kosan Boka	87.70	84	*e*P	P	20 59 52.5	+0.9
	comp=Z,11nm,0.9s						
CLL	Collm	89.00	37	*e*P	P	20 59 57.0	0.0
NKC	Novy Kostel	89.08	38	*e*P	P	20 59 58.1	+0.7
BRG	Berggiesshubel	89.72	37	*e*P	P	21 00 02.2	+1.9
BRG				Amp		21 00 03.0	
	comp=Z,3.1nm,0.9s						
KHC	Kasperske Hory	90.17	39	*e*P	P	21 00 03.9	+1.3
KHC	Kasperske Hory	90.17	39	IAmb	IAmb	21 00 04.8	
	comp=Z,4.3nm,1.1s						
GERES	GERESS Array B	90.36	39	P	P	21 00 04.8	+1.3
	comp=Z,2.2nm,0.9s,baz=298,slow=2.9,SNR=11						
GERES				LR	LR	21 37 21.5	
	comp=Z,118nm,21.9s,baz=293,slow=34						
CKRC	Cesky Krumlov	90.74	39	*e*P	P	21 00 02.8	-2.4
FINES	FINESS Array B	90.76	25	P	P	21 00 05.2	+0.3
	comp=Z,2.6nm,0.9s,baz=343,slow=8.9,SNR=1.9						
OSTC	Ostas	91.17	37	*e*P	P	21 00 07.8	+0.7
DPC	Dobruska-Polom	91.31	37	*e*P	P	21 00 08.5	+0.6
KRLC	Kraliky	91.70	37	*e*P	P	21 00 11.0	+1.4
KEST	Kesra	92.06	52	LR	LR	21 36 37.7	
	comp=Z,57nm,20.8s,baz=263,slow=32						
TORD	Torodi Ar. Bea	92.11	76	LR	LR	21 41 56.1	
	comp=Z,39nm,19.4s,baz=225,slow=36						
NRIK	Noril'sk	96.27	359	LR	LR	21 46 16.4	
	comp=Z,53nm,20.8s,baz=9.0,slow=37						
AKASG	Malin Array Be	98.27	33	LR	LR	21 46 57.8	
	comp=Z,37nm,18.3s,baz=315,slow=37						
KURK	Kurchatov	114.64	5		PKPdf	21 05 42.8	+0.5
KURBB	Kurchatov Arra	114.72	5	PKP	PKiKP	21 05 42.8	+0.3
	comp=Z,0.4nm,0.8s,baz=351,slow=2.3,SNR=4.5						
MKAR	Makanchi Array	118.79	3	PKP	PKPdf	21 05 50.6	+0.1
	comp=Z,0.3nm,0.7s,baz=39,slow=4.6,SNR=3.0						
BOSA	Boshof	122.36	115	PKP	PKPdf	21 05 57.8	-0.2
	comp=Z,3.0nm,0.9s,baz=178,slow=5.1,SNR=3.6						
WRA	Warramunga Arr	133.66	256	PKP	PKiKP	21 06 21.2	+0.4
	comp=Z,0.4nm,0.6s,baz=129,slow=2.8,SNR=5.3						
ASAR	Alice Springs	134.04	251	PKP	PKPdf	21 06 21.1	+0.9
	comp=Z,0.4nm,0.8s,baz=138,slow=4.5,SNR=2.3						
CMAR	Chiang Mai Arr	144.76	338	PKP	PKPdf	21 06 39.7	-0.1
	comp=Z,4.2nm,0.9s,baz=343,slow=3.8,SNR=25						
CMAR	Chiang Mai Arr	144.76	338		PKPbc	21 06 39.4	+0.6

MEX 08 21:05:17.4±0.9**, 18°.78N**×**104°.77W, h11**^{km}±324^{km}**, MD3.6, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	Chamela	0.76	340	*e*P	Pg	21 05 26.5	-5.7
CJM				*e*S	Sg	21 05 34.1	-8.1
R15V		0.84	62	*e*P	Pg	21 05 30.3	-3.4
R15V				*e*S	Sg	21 05 40.1	-4.6
COIG	Colima	1.10	68	*e*P	Pb	21 05 35.1	-3.4
COIG				*e*S	Sb	21 05 48.7	-4.2
EZ5V		1.31	58	*e*P	Pn	21 05 38.5	-3.4
EZ5V				*e*S	Sb	21 05 54.8	-4.3

*IDC **08** 21:19:42.8±0.9, 49°.63S×122°.77E, h0^{km}, mb4.0/7, mb1 4.1/8, mb1mx3.9/33, mbtmp4.0/8, ML2.4/1, MS3.5/2, Ms1 3.5/2, ms1mx3.0/18, Error ellipse: s-maj=44.0km s-min=17.3km az=109.0*

ISC 08 21:19:44.3±0.8**, 49°.6S**±0°.1×**122°.7E**±0°.3**, h10**^{km}**, n14,** σ1^{s}**03**/9**, mb3.9**/7**, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	15.99	334	T	T	21 39 58.8	
	baz=164,slow=80,SNR=30						
H01W2	Cape Leeuwin H	15.99	334	T	T	21 39 59.2	
	baz=164,slow=80,SNR=31						
H01W3	Cape Leeuwin H	16.01	334	T	T	21 40 01.3	
	baz=164,slow=80,SNR=28						
NWAO	Narrogin (SRO)	17.16	344	P	P	21 23 45.0	-0.6
	0.7nm,0.3s,baz=163,slow=8.6,SNR=7.0						
STKA	Stephens Creek	22.65	46	P	P	21 24 46.8	+1.4
	3.8nm,0.9s,baz=207,slow=10,SNR=5.1						
ASAR	Alice Springs	27.34	23	P	P	21 25 29.1	-0.2
	4.3nm,0.8s,baz=195,slow=9.2,SNR=42						
WRA	Warramunga Arr	31.02	22	P	P	21 26 01.5	-0.5
	0.9nm,0.8s,baz=192,slow=8.6,SNR=5.1						
VNDA	Vanda	31.68	165	LR	LR	21 37 40.1	
	comp=Z,99nm,21.2s,baz=340,slow=34						
MAW	Mawson	34.24	216	P	P	21 26 31.3	+1.6
	2.2nm,0.9s,baz=53,slow=5.1,SNR=3.4						
QSPA	South Pole Qui	40.52	180	P	P	21 27 22.4	-0.8
	0.8nm,0.7s,baz=216,slow=1.0,SNR=2.0						
SIJI	Sorong	49.10	11	LR	LR	21 48 55.5	
	comp=Z,40nm,19.4s,baz=254,slow=36						
SNAA	Sanae	53.08	199	P	P	21 29 00.5	-0.7
	1.2nm,0.7s,baz=116,slow=12,SNR=9.3						
CMAR	Chiang Mai Arr	70.97	336	P	P	21 31 02.0	+0.2
	0.9nm,0.7s,baz=185,slow=5.3,SNR=8.5						
YKA	Yellowknife Ar	146.68	45	PKPbc	PKPbc	21 39 24.6	-0.3
	0.9nm,0.7s,baz=262,slow=1.5,SNR=4.3						

*IDC **08** 21:20:21.4±2.5, 31°.58S×68°.81W, h90^{km}±20^{km}, mb3.7/2, mb1 3.8/7, mb1mx3.6/31, mbtmp4.0/7, MS3.0/2, Ms1 3.0/2, ms1mx2.7/22, Error ellipse: s-maj=35.8km s-min=22.7km az=107.0*

*NEIC **08** 21:20:23.6±2.5, 31°.57S±0°.05×68°.66W±0°.10, h110^{km}±3^{km}, mb4.3/12, Md3.9(SJA), Error ellipse: s-maj=11.8km s-min=7.9km az=90.0*

*SJA **08** 21:20:24±2.5, 31°.58S±0°.04×68°.67W±0°.09, h100^{km}±4^{km}, Error ellipse: s-maj=11.0km s-min=5.1km az=94.0*

*GUC **08** 21:20:24.6±0.7, 31°.57S×69°.32W, h196^{km}±7^{km}, ML4.1*

ISC 08 21:20:22.7±0.7**, 31°.52S**±0°.04×**68°.65W**±0°.06**, h107**^{km}±6^{km}**, n67,** σ1^{s}**44**/83**, mb4.3**/6**, 4C, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	Zonda	0.04	224	Pn	Pn	21 20 38.8	+1.4
ZON				Sn	Sn	21 20 49.7	+1.2
CO03	El Pedregal	1.88	291	⇑*i*P	Pn	21 20 56.1	+2.0
CO03				*i* S	Sn	21 21 20.1	+2.1
CO03				IAML		21 21 22.9	
	comp=E,4μm,0.2s						
CO03	El Pedregal	1.88	291		Pn	21 20 56.0	+2.0
CO03				Sn	Sn	21 21 20.1	+2.1
CO02	Combarbal	2.04	278		Pn	21 20 57.4	+1.2
CO02				Sn	Sn	21 21 23.2	+1.6
VA03	San Esteban	2.04	232	*e*P	Pn	21 20 57.6	+1.6
VA03				*i* S	Sn	21 21 23.6	+2.0
VA03				IAML		21 21 28.2	
	comp=E,1μm,0.2s						
VA03	San Esteban	2.04	232		Pn	21 20 57.1	+1.0
VA03				Sn	Sn	21 21 23.2	+1.6
GO04	Tololo Observa	2.29	305	*e*P	Pn	21 21 00.9	+1.4
GO04				*i* S	Sn	21 21 28.6	+1.1
GO04				IAML		21 21 33.9	
	comp=N,1μm,0.4s						
GO04	Tololo Observa	2.29	305		Pn	21 21 00.7	+1.3
MT05	Renca	2.57	223	Pn	Pn	21 21 03.5	+0.5
CO06	Fray Jorge	2.70	287	⇑*i*P	Pn	21 21 04.2	-0.3
CO06				*i* S	Sn	21 21 33.3	-3.5
CO06				IAML		21 21 44.3	
	comp=N,573nm,0.4s						
CO06	Fray Jorge	2.70	287		Pn	21 21 04.4	-0.2
CO05	La Serena	2.74	305	⇑*i*P	Pn	21 21 05.8	+0.6
CO05				*i* S	Sn	21 21 36.9	-0.9
CO05				IAML		21 21 39.0	
	comp=N,1μm,0.4s						
CO05	La Serena	2.74	305	Pn	Pn	21 21 05.5	+0.3
VA01	Torpederas	2.95	239		Pn	21 21 07.5	-0.4
MT09	Talagante	3.00	221	*e*P	Pn	21 21 08.6	-0.1
MT09				*i* S	Sn	21 21 42.9	-1.2
MT09				IAML		21 21 47.1	
	comp=N,328nm,0.3s						
MT09	Talagante	3.00	221		Pn	21 21 08.1	-0.5
LCO	Las Campanas	3.07	324	*e*P	Pn	21 21 11.2	+1.4
LCO				*i* S	Sn	21 21 47.4	+1.5
LCO	Las Campanas	3.07	324		Pn	21 21 11.1	+1.4
MT01	Popeta	3.21	222	*e*P	Pn	21 21 10.5	-0.9
MT01				*i* S	Sn	21 21 46.5	-2.4
MT01				IAML		21 21 53.8	
	comp=N,198nm,0.3s						
MT01	Popeta	3.21	222		Pn	21 21 10.4	-0.9
VA05	Santo Domingo	3.29	229	*e*P	Pn	21 21 11.5	-0.9
VA05	Santo Domingo	3.29	229		Pn	21 21 12.1	-0.3
BO01	Tunca	3.52	215	*e*P	Pn	21 21 14.8	-0.8
BO01	Tunca	3.52	215		Pn	21 21 14.7	-0.8
BO02	Sierra Bellavi	3.73	208	*e*P	Pn	21 21 18.9	+0.6
BO02				*i* S	Sn	21 22 00.4	-1.0
BO02	Sierra Bellavi	3.73	208		Pn	21 21 18.6	+0.3
AC04	Llanos de Chal	3.92	327	⇑*i*P	Pn	21 21 21.5	+0.6
AC04				*i* S	Sn	21 22 05.2	-0.7
AC04	Llanos de Chal	3.92	327		Pn	21 21 21.5	+0.6
GO03	Copiap	4.15	340	Pn	Pn	21 21 25.5	+1.5
GO05	Huala	4.44	217	Pn	Pn	21 21 25.8	-2.1
AC02	Maricunga	4.68	355	Pn	Pn	21 21 34.2	+2.6
ML02	Panimavida	4.82	208	Pn	Pn	21 21 31.1	-1.9
PB14	IPOC Station P	7.04	347		Pn	21 22 02.2	-1.3
PB15	IPOC Station P	8.31	355		Pn	21 22 19.9	-0.7
TRQA	Tornquist	8.52	142		Pn	21 22 22.6	-0.6
LVC	Limon Verde	8.88	358	P	Pn	21 22 27.6	-0.8
	comp=N,4.8nm,0.3s,baz=151,slow=6.5,SNR=32						
LVC				S	Sn	21 24 01.5	-5.4
	comp=N,1.0nm,0.3s,baz=336,slow=20,SNR=2.2						
LVC	Limon Verde	8.88	358	Pn	Pn	21 22 27.5	-0.9
PLCA	Paso Flores	9.32	189	P	Pn	21 22 33.0	-1.1
	comp=N,0.3nm,0.3s,baz=351,slow=8.9,SNR=9.3						
PLCA	Paso Flores	9.32	189		Pn	21 22 32.9	-1.1
PB09	IPOC Station P	9.70	357		Pn	21 22 38.3	-1.0
LL04	Puerto Octay	9.85	197	Pn	Pn	21 22 37.1	-4.1
ITQB	Itaqui	10.52	83	Pn	Pn	21 22 49.9	-0.5
CPUP	Villa Florida	11.18	65	P	Pn	21 22 58.3	-1.0
	comp=N,0.2nm,0.3s,baz=223,slow=13,SNR=3.1						
PLTB	Pedras Altas	12.82	95	Pn	Pn	21 23 19.6	-1.4
LPAZ	La Paz	15.17	2	P	P	21 23 53.5	-1.0
	comp=N,0.2nm,0.3s,baz=187,slow=6.2,SNR=9.8						
LPAZ				LR	LR	21 31 23.9	
	comp=N,43nm,20.7s,baz=337,slow=44						
LPAZ	La Paz	15.17	2		Pn	21 23 52.5	+0.6
SIV	San Ignacio	16.93	26	P	P	21 24 14.8	+1.4
	comp=N,0.2nm,0.3s,baz=228,slow=11,SNR=12						
SAML	Samuel	23.02	14	P	P	21 25 19.7	+1.0
PTGA	Pitinga	31.70	17	P	P	21 26 36.9	+0.5
RUSC	La Rusia	37.44	353	P	P	21 27 27.5	+1.2
SJCC	San Jacinto, C	41.65	350	P	P	21 27 59.7	-1.0
SJCC				IAmb	IAmb	21 28 02.7	
	comp=Z,8.0nm,0.9s						
BELA	Belgrano 2	48.85	171	P	P	21 28 57.5	+0.7
BELA				IAmb	IAmb	21 29 01.1	
	comp=Z,8.2nm,1.0s						
OBIP	Obispado Ponce	49.31	3	P	P	21 29 00.0	-0.9
SJG	San Juan	49.40	3	LR	LR	21 50 01.1	
	comp=Z,18nm,18.5s,baz=100,slow=36						
VNDA	Vanda	67.07	191	P	P	21 31 04.7	+0.7
R55A	Marlinton	70.26	350	P	P	21 31 25.1	+0.8
R55A				IAmb	IAmb	21 31 26.9	
	comp=Z,3.1nm,0.8s						
O56A	Blue Knob Stat	72.01	352	P	P	21 31 36.2	+1.5
O56A				IAmb	IAmb	21 31 36.7	
	comp=Z,3.6nm,0.7s						
TORD	Torodi Ar. Bea	80.66	68	P	P	21 32 25.3	+1.1
	comp=Z,2.6nm,0.7s,baz=259,slow=4.8,SNR=14						
NVAR	Mina Array Bea	83.56	323	P	P	21 32 38.8	-0.2
	comp=Z,0.4nm,0.7s,baz=177,slow=5.8,SNR=3.8						
ASAR	Alice Springs	121.03	204	PKP	PKPdf	21 39 02.5	-0.8
	comp=Z,0.2nm,0.4s,baz=137,slow=1.7,SNR=4.6						
WRA	Warramunga Arr	124.28	206	PKP	PKPdf	21 39 09.3	-0.3
	comp=Z,0.7nm,0.3s,baz=156,slow=2.1,SNR=20						
AAK	Ala-Archa	148.79	59	PKPbc	PKiKP	21 39 59.7	+0.6
	comp=Z,1.8nm,0.5s,baz=200,slow=1.4,SNR=8.1						
KURBB	Kurchatov Arra	149.11	42	PKPbc	PKiKP	21 39 59.5	+0.3
	comp=Z,1.3nm,0.7s,baz=293,slow=3.3,SNR=6.0						
ZALV	Zalesovo Beam	150.60	33	PKPbc	PKiKP	21 40 02.6	+0.4
	comp=Z,4.9nm,0.6s,baz=302,slow=2.9,SNR=17						
ZALV	Zalesovo Beam	150.60	33		PKiKP	21 40 02.2	0.0
MKAR	Makanchi Array	152.98	47	PKPbc	PKiKP	21 40 08.1	+0.7
	comp=Z,1.1nm,0.8s,baz=303,slow=1.1,SNR=10						
MKAR				PKPab	PKPab	21 40 19.9	+0.9
	comp=Z,1.0nm,0.6s,baz=292,slow=3.0,SNR=9.7						
MKAR	Makanchi Array	152.98	47		PKiKP	21 40 07.7	+0.2
MKAR				PKPab	PKPab	21 40 20.1	+1.0

*IDC **08** 21:21:35.7±3.3, 36°.30N×71°.34E, h123^{km}±29^{km}, mb3.4/8, mb1 3.5/13, mb1mx3.3/52, mbtmp3.9/13, Error ellipse: s-maj=24.3km s-min=15.8km az=1.0*

*NEIC **08** 21:21:39.7±2.0, 36°.64N±0°.06×71°.32E±0°.08, h157^{km}±6^{km}, mb4.1/18, Error ellipse: s-maj=9.4km s-min=8.7km az=205.0*

*BJI **08** 21:21:39.0±0.0, 36°.90N×71°.26E, h146^{km}, mB4.5/4, mb4.0/11*

ISC 08 21:21:39.1±0.5**, 36°.64N**±0°.05×**71°.40E**±0°.05**, h150**^{km}**, n83,** σ1^{s}**71**/89**, mb4.0**/16**, 2C, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	Garm	2.51	340		Pn	21 22 20.8	+0.4
CHGR	Chuyangaron	2.69	319	Pn	Pn	21 22 22.4	-0.2
CEP	Cherat	2.84	171	P	Pn	21 22 25.6	+1.0
CEP				S	Sn	21 23 00.0	+0.3
KBL	Kabul	2.84	223	Pn	Pn	21 22 25.4	+0.8
DRK	Karamyk	2.85	6		Pn	21 22 26.3	+1.4
CHCP	Chirah Chowk	3.34	152	P	Pn	21 22 32.8	+1.9
NIL	Nilore	3.35	152		Pn	21 22 32.8	+1.9
BTK	Batken	3.44	353		Pn	21 22 33.5	+1.3
THW	Thamme Wali	3.84	176	P	Pn	21 22 38.0	+0.6
KSH	Kashi	4.61	50	P	Pn	21 22 43.9	-3.6
KSH				S	Sn	21 23 30.6	-10
KSH				smax	smax		
	comp=N,1μm,0.8s						
KSH				smax	smax		
	comp=E,470nm,0.4s						
SARP	Sargodha	4.82	167	P	Pn	21 22 51.1	+0.9
TAS	Tashkent	4.96	341	Pn	Pn	21 22 52.0	+0.1
THN	Thein Dam	5.50	138	*e*P	Pn	21 23 00.0	+0.8
THN				*e*S	Sn	21 24 00.0	-1.7
DHRM	DHARAMSHALA	5.96	136	*e*P	Pn	21 23 06.1	+0.6
DHRM				*e*S	Sn	21 24 09.7	-3.4
DHRM				IAML		21 24 12.6	
	comp=E,620nm,0.3s						
DHRM				IAML		21 24 12.7	
	comp=N,300nm,0.2s						
AAK	Ala-Archa	6.45	21	P	Pn	21 23 12.4	+0.5
	comp=N,6.6nm,0.3s,baz=179,slow=5.5,SNR=41						
AAK				S	Sn	21 24 21.7	-2.8
	comp=N,3.5nm,0.3s,baz=347,slow=20,SNR=15						
AAK	Ala-Archa	6.45	21	Pn	Pn	21 23 11.9	0.0
KK31	Karatay Array	6.49	354	⇑P	Pn	21 23 12.2	-0.1
	comp=N,20nm,0.5s,baz=179,slow=13,SNR=226						
KK31				S	Sn	21 24 21.1	-4.2
	comp=N,19nm,0.5s,baz=182,slow=23,SNR=14						
KK31	Karatay Array	6.49	354		Pn	21 23 12.1	-0.2
KKAR	Karatay Array	6.49	354		Pn	21 23 12.0	-0.3
KKAR	Karatay Array	6.49	354		Pn	21 23 12.3	0.0
FRU1	Bishkek	6.65	21		Pn	21 23 15.4	+1.0
BHK	Bhakra	6.67	140	*e*x	x	21 24 21.8	
BOOM	Boomskoye usch	6.81	30	Pn	Pn	21 23 17.2	+0.4
KDJ	Kajisay	7.08	37	Pn	Pn	21 23 20.2	-0.1
TARG	Taragay, Kyrgy	7.11	42	Pn	Pn	21 23 21.2	+0.3
SMLA	Simla	7.29	137	*e*P	Pn	21 23 23.1	0.0

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMLA				eS	Sn	21 24 39.3	-5.3
SMLA				IAML		21 24 44.0	
	comp=N,172nm,0.3s						
SMLA				IAML		21 24 45.2	
	comp=E,190nm,0.4s						
HRA	Herat	7.80	256		Pn	21 23 30.0	+0.1
PRZ	Przheval'sk	7.96	41		Pn	21 23 32.8	+0.8
DDI	Dehra Dun	8.40	137	eP	Pn	21 23 38.0	+0.1
DDI				eS	Sn	21 25 04.5	-6.8
GEYT	Alibeck	10.66	281	P	Pn	21 24 06.4	-1.4
	comp=E,2.7nm,0.3s,baz=105,slow=11,SNR=15						
GEYT				S	Sn	21 26 02.9	-2.8
	comp=E,1.7nm,0.3s,baz=182,slow=14,SNR=3.8						
GYA0B	ALIBECK ARRAY	10.66	281	Pn	Pn	21 24 06.5	-1.4
MAKZ	Makanchi	12.86	35		Pn	21 24 35.7	-0.7
PYUN	Piuthan	12.97	128	eP	Pn	21 24 36.0	-2.1
	comp=E,94nm,0.5s						
MK31	Makanchi Array	12.99	35	Pn	Pn	21 24 38.3	+0.2
MKAR	Makanchi Array	12.99	35	P	Pn	21 24 38.5	+0.4
	comp=E,0.1nm,0.3s,baz=215,slow=15,SNR=7.4						
MKAR	Makanchi Array	12.99	35	Pn	Pn	21 24 38.0	-0.1
DANN	Dangsing	13.30	125	eP	Pn	21 24 40.3	-2.1
	comp=E,26nm,0.2s						
KOLN	Koldanda	13.59	127	eP	Pn	21 24 44.0	-2.0
	comp=E,20nm,0.3s						
GKN	Gorkha	14.11	124	eP	Pn	21 24 51.5	-1.0
	comp=E,60nm,0.5s						
BHPL	Bhopal	14.33	157	eP	P	21 24 59.5	+1.6
BHPL				eS	Sn	21 27 22.9	-11
WMQ	Urumqi	14.36	55	eP	Pn	21 24 56.6	+1.2
KKN	Kakani	14.68	123	eP	Pn	21 24 58.4	-1.4
	comp=E,39nm,0.5s						
DMN	Daman	14.68	124	eP	Pn	21 24 58.9	-0.9
	comp=E,19nm,0.2s						
KURBB	Kurchatov Arra	14.89	18	P	Pn	21 24 59.5	-2.4
	comp=E,0.0nm,0.3s,baz=205,slow=12,SNR=4.2						
PKIN	Phulchoki	14.90	123	eP	Pn	21 25 01.5	-1.0
	comp=E,25nm,0.3s						
PKI	Pulchoki	14.91	123	eP	Pn	21 25 01.6	-1.1
	comp=E,18nm,0.3s						
AB31	Akbulak array	15.12	330	⇑P	Pn	21 25 05.1	+0.3
	comp=E,1.4nm,0.5s,baz=257,slow=36,SNR=40						
ABKAR	Akbulak array	15.12	330		Pn	21 25 05.2	+0.4
ABKAR	Akbulak array	15.12	330	P	Pn	21 25 04.6	-0.2
ABKAR				IAmb	IAmb	21 25 06.5	
	comp=Z,2.8nm,0.7s						
JIRN	Jiri	15.38	121	eP	Pn	21 25 08.2	-0.4
	comp=Z,70nm,0.4s						
RAMN	Ramite	16.12	123	eP	Pn	21 25 17.5	0.0
	comp=Z,35nm,0.4s						
TAPN	Taplejung	16.63	119	eP	P	21 25 24.1	+0.5
	comp=Z,31nm,0.4s						
ODAN	Odare	16.71	121	eP	P	21 25 25.0	+0.5
	comp=Z,27nm,0.5s						
AKTO	Aktyubinsk	16.82	329	P	Pn	21 25 27.1	+1.5
	comp=Z,0.5nm,0.3s,baz=135,slow=10,SNR=7.7						
AKTO				S	S	21 28 26.8	-5.7
	comp=Z,0.3nm,0.3s,baz=166,slow=20,SNR=5.8						
LSA	Lhasa	17.91	107	Pn	Pn	21 25 40.1	+0.9
LSA				IAmb	IAmb	21 25 43.2	
	comp=Z,4.0nm,0.6s						
ZAA0	Zalesovo Array	19.66	24	P	P	21 25 57.0	+0.9
ZAA0				IAmb	IAmb	21 25 58.2	
	comp=Z,3.6nm,0.8s						
ZALV	Zalesovo Beam	19.66	24	P	P	21 25 57.2	+1.1
	comp=Z,1.2nm,0.3s,baz=206,slow=10,SNR=21						
SHL	Shillong	20.68	116	P	P	21 26 07.8	+0.2
SHL				IAmb	IAmb	21 26 17.2	
	comp=Z,4.5nm,0.6s						
ARU	Arti	21.61	340	P	P	21 26 19.9	+2.9
	comp=Z,0.3nm,0.4s,baz=129,slow=14,SNR=2.2						
ARU	Arti	21.61	340	P	P	21 26 17.9	+1.0
GTA	Gaotai	22.52	74	eP	P	21 26 29.1	+2.7
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
SONM	Songino Array	27.99	55	P	P	21 27 17.2	+1.4
	comp=Z,0.5nm,0.7s,baz=260,slow=8.9,SNR=4.3						
HHC	Hu-ho-hao-te	31.41	70	eP	P	21 27 47.7	+1.6
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,65nm,4.2s						
ELL	Elmali	33.08	283	P	P	21 28 02.1	+1.4
MLR	Muntele Rosu	34.99	299	P	P	21 28 18.6	+1.5
MLR				IAmb	IAmb	21 28 21.0	
	comp=Z,3.1nm,0.9s						
FINES	FINESS Array B	37.55	326	P	P	21 28 39.6	+1.2
	comp=Z,3.1nm,1.0s,baz=129,slow=18,SNR=4.8						
FINES	FINESS Array B	37.55	326	P	P	21 28 39.3	+0.9
ARCES	ARCESS Array B	41.14	337	P	P	21 29 10.1	+2.1
	comp=Z,5.0nm,1.0s,baz=101,slow=8.4,SNR=6.1						
NC303	NORSAR Array S	44.41	323	P	P	21 29 34.8	+0.4
NC303				IAmb	IAmb	21 30 02.2	
	comp=Z,4.3nm,0.9s						
NB201	NORSAR Array S	44.43	323	P	P	21 29 34.6	0.0
NB201				IAmb	IAmb	21 29 48.1	
	comp=Z,7.3nm,0.9s						
NB2	NORSAR Subarra	44.46	323	P	P	21 29 35.8	+0.9
	comp=Z,0.6nm,0.5s,baz=97,slow=7.9						
NOA	NORSAR Array B	44.46	323	P	P	21 29 35.6	+0.7
	comp=Z,0.6nm,0.5s,baz=96,slow=7.7,SNR=5.7						
NBO00	NORSAR Array S	44.67	323	P	P	21 29 36.8	+0.2
NC204	NORSAR Array S	44.70	323	P	P	21 29 37.5	+0.7
MURB	Monte Urbino	44.81	297	P	P	21 29 37.6	-0.3
MURB				IAmb	IAmb	21 29 40.2	
	comp=Z,8.9nm,1.0s						
CTI	Castel Tesino	44.88	302	P	P	21 29 39.2	+0.7
CTI				IAmb	IAmb	21 29 43.4	
	comp=Z,3.2nm,1.1s						
TORD	Torodi Ar. Bea	66.04	269	P	P	21 32 08.6	-1.4
	comp=Z,0.8nm,0.4s,baz=49,slow=6.1,SNR=18						
TORD	Torodi Ar. Bea	66.04	269	IAmb	IAmb	21 32 25.9	
	comp=Z,2.8nm,0.8s						
IMAR	Indian Mountai	71.94	18	P	P	21 32 46.0	+0.4
WRA	Warramunga Arr	81.79	122	P	P	21 33 40.5	-1.0
	comp=Z,0.3nm,0.4s,baz=321,slow=4.8,SNR=10.0						
WRA	Warramunga Arr	81.79	122	P	P	21 33 40.5	-1.0
WB2	Warramunga Arr	81.80	122	P	P	21 33 40.5	-0.9
WB2				IAmb	IAmb	21 33 48.5	
	comp=Z,3.1nm,1.1s						
ASAR	Alice Springs	84.07	125	P	P	21 33 52.5	-0.6
	comp=Z,0.3nm,0.5s,baz=313,slow=5.1,SNR=5.4						

IDC 08 21:22:33.1±3.4, 32°.63S×178°.15W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/23, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=78.0km s-min=49.5km az=120.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.82	213	Pn	Pn	21 24 12.8	-1.6
	1.0nm,0.3s,baz=114,slow=19,SNR=2.1						
URZ				Sn	Sn	21 25 27.5	-5.1
	1.1nm,0.3s,baz=128,slow=19,SNR=2.5						
ASAR	Alice Springs	42.91	269	P	P	21 30 33.6	-0.1
	0.6nm,0.6s,baz=108,slow=7.5,SNR=7.6						
WRA	Warramunga Arr	44.10	275	P	P	21 30 43.5	+0.1
	0.5nm,0.4s,baz=113,slow=8.0,SNR=9.7						
FINES	FINESS Array B	147.18	339	PKPbc	PKPbc	21 42 16.9	-0.6
	2.7nm,0.9s,baz=96,slow=2.8,SNR=2.3						

MEX 08 21:26:12.7±0.8, 18°.11N×103°.38W, h7km±6km, MD3.7, 1C-1D, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMIG	Aquila	0.18	11	i P	Pg	21 26 16.1	-0.3
MMIG				i S	Sg	21 26 18.8	-0.1
COIG	Colima	1.11	345	eP	Pg	21 26 30.4	-3.5
COIG				eS	Sg	21 26 44.2	-4.2
R15V		1.20	332	eP	Pg	21 26 32.1	-3.6
R15V				⇓iS	Sg	21 26 47.4	-4.0
EZ5V		1.38	351	⇑eP	Pn	21 26 35.0	-3.6
EZ5V				eS	Sb	21 26 52.0	-4.9

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*NEIC **08** 21:26:20.5±1.0, 36°.184N±0°.007×97°.49W±0°.02, h5km±2km, Error ellipse: s-maj=3.4km s-min=3.0km az=76.0*
*ANF **08** 21:26:20.5±0.3, 36°.19N×97°.47W, h6km, ML3.8/10, Error ellipse: s-maj=3.8km s-min=2.9km az=120.0*
*TUL **08** 21:26:20.4±1.3, 36°.18N±0°.01×97°.49W±0°.02, h6km±7km, ML3.3, mb_Lg3.2/118(NEIC), Error ellipse: s-maj=1.9km s-min=1.7km az=55.0*

ISC 08 21:26:20.8±1.1, 36°.19N±0°.02×97°.48W±0°.02, h2km±10km, n107, σ0s.75/93, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.39	177		Pg	21 26 28.1	-0.2
OK029				Sg	Sg	21 26 33.5	+0.1
CROK	Carrier	0.52	308		Pg	21 26 30.6	-0.1
CROK				Sg	Sg	21 26 37.8	+0.4
OK031	S. Brethren Rd	0.57	114		Pg	21 26 31.6	-0.1
OK031				Sg	Sg	21 26 39.4	+0.3
OK005	Luther M Schoo	0.58	156	Pg	Pg	21 26 31.7	-0.2
OK009	Oakdale Elemen	0.61	176	Pg	Pg	21 26 32.1	-0.3
BLOK	Blackwell	0.61	20		Pg	21 26 32.5	0.0
OK025	Westminster Rd	0.62	169		Pg	21 26 32.3	-0.3
OK025				Sg	Sg	21 26 41.1	+0.5
QUOK	Quay	0.62	91		Pg	21 26 32.7	-0.1
QUOK				IAmb_Lg		21 26 41.0	
	comp=Z,202nm,0.7s						
QUOK				Sg	Sg	21 26 41.4	+0.5
OK001	Jones High Sch	0.65	166	Pg	Pg	21 26 32.7	-0.4
GC02	Grant County #	0.73	335		Pg	21 26 34.4	-0.4
OKCFA	Oklahoma City	0.77	178		Pg	21 26 34.9	-0.7
OKCFA				Sg	Sg	21 26 45.5	-0.1
OKCFA	Oklahoma City	0.77	178	P	Pg	21 26 35.0	-0.7
	baz=358,SNR=14						
OKCFA				S	Sg	21 26 45.5	-0.1
	baz=358						
OKCSW	OKLAHOMA CITY	0.78	178		Pg	21 26 35.0	-0.8
KAN13	South Haven SW	0.82	360		Pg	21 26 36.4	-0.2
KAN13				Sg	Sg	21 26 47.7	+0.4
OK032	Salt Plains WL	0.85	316		Pg	21 26 36.5	-0.6
OK032				Sg	Sg	21 26 48.1	-0.1
KAN14	Manchester OK	0.86	333		Pg	21 26 36.8	-0.5
KAN14				Sg	Sg	21 26 48.6	+0.1
KAN17	Caldwell West	0.88	345		Pg	21 26 37.4	-0.3
FNO	Franklin	0.93	176	Pg	Pg	21 26 37.8	-0.8
FNO				Sg	Sg	21 26 50.5	-0.2
KAN05	Bluff City Nor	0.97	341	Pg	Pg	21 26 38.9	-0.6
KAN05				Sg	Sg	21 26 52.4	+0.4
KS20	Mayfield South	1.04	357		Pg	21 26 40.3	-0.5
KS20				Sg	Sg	21 26 54.4	+0.1
T35A	Sooner Cattle	1.06	47		Pg	21 26 40.6	-0.6
T35B	Sooner Cattle	1.06	47	P	Pg	21 26 40.8	-0.4
	baz=227,SNR=65						
T35B				S	Sg	21 26 54.8	-0.2
	baz=227						
KAN08	Anthony NE Sta	1.11	339		Pg	21 26 41.4	-0.7
KAN12	Harper NE Stat	1.18	339	Pg	Pg	21 26 42.6	-0.8
U32A	Winter Ranch,	1.25	279		Pg	21 26 43.3	-1.4
U32A				IAmb_Lg		21 27 02.3	
	comp=Z,138nm,0.8s						
U32A	Winter Ranch,	1.25	279	P	Pg	21 26 43.4	-1.4
	baz=99,SNR=50						
TUL1	Leonard	1.39	101	P	Pn	21 26 45.7	-1.5
	baz=282						
TUL1				S	Sg	21 27 04.9	-0.7
	baz=282						
TUL1	Leonard	1.39	101	P	Pn	21 26 45.8	-1.5
	baz=282						
TUL1				S	Sg	21 27 05.0	-0.6
	baz=282						
X34A	Smith Ranch, M	1.61	190		Pn	21 26 50.0	-0.3
WMOK	Wichita Mounta	1.80	217		Pn	21 26 52.1	-0.8
WMOK	Wichita Mounta	1.80	217	P	Pn	21 26 52.2	-0.7
	baz=36,SNR=126						
WMOK				S	Sb	21 27 16.1	-1.3
	baz=36						
WMOK	Wichita Mounta	1.80	217	P	Pn	21 26 52.2	-0.7
	baz=36						
WMOK				S	Sb	21 27 16.1	-1.3
	baz=36						
LOOK	Love County	2.21	174	Pn	Pn	21 26 58.1	-0.4
X37A	Clayton	2.35	132	Pn	Pn	21 27 00.2	-0.2
X37A				IAmb_Lg		21 27 36.2	
	comp=Z,89nm,0.8s						
X37A	Clayton	2.35	132	P	Pn	21 27 00.4	+0.1
	baz=313,SNR=28						
R32A	Long Quarter,	2.44	337	Pn	Pn	21 27 02.4	+0.8
R32A				IAmb_Lg		21 27 43.2	
	comp=Z,80nm,0.7s						
R32A	Long Quarter,	2.44	337	S	Sn	21 27 32.3	+0.3
	baz=156						
U38A	Gravette	2.51	83	Pn	Pn	21 27 02.3	-0.4
U38A				IAmb_Lg		21 27 46.4	
	comp=Z,91nm,0.9s						
Z35A	Perchaven, San	2.86	176	Pn	Pn	21 27 07.0	-0.4
Z35A	Perchaven, San	2.86	176	S	Sn	21 27 43.0	+0.6
	baz=356						
HHAR	Hobbs	2.86	87	IAmb_Lg		21 27 49.5	
	comp=Z,54nm,0.8s						
KSU1	Kansas State U	2.99	13	Pn	Pn	21 27 09.3	+0.1
KSU1				IAmb_Lg		21 28 04.1	
	comp=Z,83nm,0.8s						
KSU1	Kansas State U	2.99	13	Pb	Pg	21 27 16.1	-1.9
	baz=194						
W39A	Magazine	3.17	107		Pn	21 27 12.0	+0.3
W39A				IAmb_Lg		21 28 10.4	
	comp=Z,129nm,0.8s						
CBKS	Cedar Bluff	3.18	326	Pn	Pn	21 27 11.3	-0.6
CBKS				IAmb_Lg		21 28 05.4	
	comp=Z,57nm,0.8s						
CBKS	Cedar Bluff	3.18	326	Pb	Pb	21 27 19.0	+1.0
	baz=145						
MIAR	Mount Ida	3.58	116		Pn	21 27 17.7	+0.3
MIAR				IAmb_Lg		21 28 21.3	
	comp=Z,73nm,0.8s						
MIAR	Mount Ida	3.58	116	P	Pn	21 27 17.8	+0.3
	baz=298						
MIAR	Mount Ida	3.58	116	P	Pn	21 27 17.8	+0.3
	baz=298						
S39A	Bolivar	3.65	65	Pn	Pn	21 27 18.5	+0.2
S39A				IAmb_Lg		21 28 23.6	
	comp=Z,44nm,0.7s						
AMTX	Amarillo	3.67	250	Pn	Pn	21 27 18.4	-0.2
AMTX				IAmb_Lg		21 28 21.4	
	comp=Z,87nm,1.1s						
AMTX	Amarillo	3.67	250	P	Pn	21 27 18.5	-0.2
	baz=68,SNR=10.0						
AMTX	Amarillo	3.67	250	P	Pn	21 27 18.6	0.0
	baz=68						
AMTX				Sb	Sb	21 28 13.7	+2.4
	baz=68						
U40A	Yellville	3.74	86	Pn	Pn	21 27 19.6	+0.1
U40A				IAmb_Lg		21 28 22.9	
	comp=Z,61nm,0.7s						
U40A	Yellville	3.74	86	P	Pn	21 27 20.0	+0.4
	baz=269,SNR=7.9						
ABTX	Abilene, Hawle	3.98	207	IAmb_Lg		21 28 27.4	
	comp=Z,42nm,0.7s						
ABTX	Abilene, Hawle	3.98	207	Pb	Pb	21 27 33.6	+1.9
	baz=26						
X40A	Basin Creek Fa	4.16	113	Pn	Pn	21 27 25.8	+0.5
X40A				IAmb_Lg		21 28 36.5	
	comp=Z,72nm,0.8s						
WHTX	Lake Whitney,	4.19	180	Pn	Pn	21 27 25.3	-0.4
MGMO	Mountain Grove	4.30	76	Pn	Pn	21 27 28.1	+0.9
MGMO				IAmb_Lg		21 28 35.2	
	comp=Z,78nm,0.9s						
WHAR	Wooly Hollow	4.32	100	Pn	Pn	21 27 27.9	+0.5
WHAR				IAmb_Lg		21 28 41.4	
	comp=Z,72nm,0.9s						
FCAR	Ozark Folk Cen	4.35	92	IAmb_Lg		21 28 36.3	
	comp=Z,38nm,0.8s						
WLAR	White Oak Lake	4.37	124	IAmb_Lg		21 28 35.6	
	comp=Z,35nm,0.8s						
W41B	Gary Mavity, V	4.38	102	P	Pn	21 27 28.9	+0.6
	baz=285						
W41B				S	Sn	21 28 18.5	-1.3
	baz=285						
237A	Washetta, Mont	4.40	161	Pn	Pn	21 27 27.7	-0.9
237A				IAmb_Lg		21 28 39.0	
	comp=Z,30nm,0.7s						
N33A	J Bar K, Exete	4.54	0	Pn	Pn	21 27 29.3	-1.3
N33A				IAmb_Lg		21 28 53.8	
	comp=Z,43nm,0.8s						
P38A	Dawn	4.64	41	Pn	Pn	21 27 31.5	-0.4
P38A				IAmb_Lg		21 28 53.8	
	comp=Z,64nm,0.8s						
R40A	Maddies Statio	4.66	62	Pn	Pn	21 27 31.3	-0.8
R40A				IAmb_Lg		21 28 52.3	
	comp=Z,54nm,0.8s						
MSTX	Muleshoe	4.87	245	Pn	Pn	21 27 34.1	-1.1
N35A	Tabor	4.88	17	Pn	Pn	21 27 35.0	-0.3
KSCO	Kaye Shedlock'	4.96	306	IAmb_Lg		21 29 07.9	
	comp=Z,36nm,0.7s						
NATX	Nacogdoches	5.00	151	IAmb_Lg		21 29 07.6	
	comp=Z,27nm,0.8s						
LCAR	Lake Charles	5.12	89	IAmb_Lg		21 29 03.5	
	comp=Z,32nm,0.8s						
BGNE	Belgrade	5.24	354	Pn	Pn	21 27 39.2	-0.9
BGNE				IAmb_Lg		21 29 20.5	
	comp=Z,56nm,0.7s						
BGNE	Belgrade	5.24	354	P	Pn	21 27 39.4	-0.8
	baz=174						
CCM	Cathedral Cave	5.32	68	Pn	Pn	21 27 41.8	+0.6
CCM				IAmb_Lg		21 29 09.2	
	comp=Z,46nm,0.9s						
435B	Jarrell	5.39	181	IAmb_Lg		21 29 16.1	
	comp=Z,67nm,1.1s						
P40A	Paris	5.44	51	Pn	Pn	21 27 43.1	+0.2
P40A				IAmb_Lg		21 29 21.7	
	comp=Z,59nm,0.7s						
T25A	Trinidad	5.65	282	Pn	Pn	21 27 45.1	-1.0
T25A				IAmb_Lg		21 29 26.4	
	comp=Z,41nm,0.9s						
N38A	Joes South For	5.67	35	Pn	Pn	21 27 45.0	-1.2
PBMO	Poplar Bluff	5.71	82	IAmb_Lg		21 29 22.8	
	comp=Z,66nm,0.9s						
OGNE	Ogallala	5.94	324	Pn	Pn	21 27 50.3	+0.4
OGNE				IAmb_Lg		21 29 42.0	
	comp=Z,49nm,0.8s						
JCT	Junction City	6.02	200	IAmb_Lg		21 29 46.3	
	comp=Z,62nm,0.8s						
143A	Socs Landing,	6.10	123	IAmb_Lg		21 29 45.3	
	comp=Z,45nm,0.8s						
SLM	Saint Louis	6.26	65	IAmb_Lg		21 29 45.4	
	comp=Z,38nm,0.7s						
K31A	O'Neill	6.50	352	IAmb_Lg		21 29 58.6	
	comp=Z,46nm,0.8s						
S44A	Carbondale	6.75	75	IAmb_Lg		21 29 58.7	
	comp=Z,53nm,0.7s						
OXF	Oxford	6.80	102	IAmb_Lg		21 30 15.9	
	comp=Z,33nm,0.7s						
W45A	Hickory Valley	6.83	96	IAmb_Lg		21 30 00.8	
	comp=Z,50nm,0.8s						
Y45A	Yeager Farm, C	6.91	107	IAmb_Lg		21 30 08.9	
	comp=Z,24nm,0.7s						
T45A	Paducah	7.15	81	IAmb_Lg		21 30 11.5	
	comp=Z,49nm,0.8s						
ISCO	Idaho Springs	7.37	302	IAmb_Lg		21 30 22.5	
	comp=Z,21nm,0.9s						
ECSD	EROS Data Cent	7.56	5	IAmb_Lg		21 30 21.3	
	comp=Z,17nm,1.0s						
PLAL	Pickwick Lake	7.75	96	IAmb_Lg		21 30 32.4	
	comp=Z,17nm,0.8s						
WVT	Waverly	7.80	88	IAmb_Lg		21 30 31.2	
	comp=Z,15nm,0.8s						
OLIL	Olney	7.88	68	IAmb_Lg		21 30 45.9	
	comp=Z,42nm,0.9s						
PHWY	Pilot Hill	8.06	312	IAmb_Lg		21 30 47.3	
	comp=Z,19nm,0.7s						
SUSD	Miller	8.32	353	IAmb_Lg		21 30 52.6	
	comp=Z,18nm,0.8s						
JFWS	Jewell Farm	8.73	38	IAmb_Lg		21 31 01.6	
	comp=Z,36nm,0.7s						
CLTN	Cedars of Leba	9.02	87	IAmb_Lg		21 31 08.0	
	comp=Z,13nm,0.9s						
WCI	Wyandotte Cave	9.15	74	IAmb_Lg		21 31 10.2	
	comp=Z,19nm,0.8s						
SFIN	Lafayette	9.17	60	IAmb_Lg		21 31 20.6	
	comp=Z,22nm,0.8s						
I40A	Norwalk	9.32	32	IAmb_Lg		21 31 22.4	
	comp=Z,20nm,0.8s						
RWWY	Rawlins	9.36	309	IAmb_Lg		21 31 37.2	
	comp=Z,21nm,1.1s						
SPMN	Marine on St.	9.70	20	IAmb_Lg		21 31 33.5	
	comp=Z,23nm,0.9s						
FPAL	Fort Paine	9.83	96	IAmb_Lg		21 31 38.5	
	comp=Z,20nm,1.1s						
W50A	Signal Mountai	9.95	92	IAmb_Lg		21 31 41.5	
	comp=Z,15nm,0.8s						

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*MEX **08** 21:42:24.5±0.5, 14°.29N×94°.00W, h10km, MD4.5*
*NEIC **08** 21:42:29.1±1.7, 14°.62N±0°.04×93°.83W±0°.04, h34km±4km, mb4.6/140, Md4.5/20(MEX), Error ellipse: s-maj=6.4km s-min=5.2km az=99.0*
*IDC **08** 21:42:31.1±1.6, 14°.83N×93°.63W, h47km±14km, mb4.2/19, mb1 4.3/22, mb1mx4.1/46, mbtmp4.4/22, ML3.9/3, MS3.8/11, Ms1 3.8/11, ms1mx3.5/38, Error ellipse: s-maj=28.8km s-min=9.9km az=53.0*

ISC 08 21:42:24.9±1.8, 14°.62N±0°.05×93°.85W±0°.05, h9km±10km, n370, σ0s.96/370, mb4.6/69, MS4.0/10, 1C-2D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		1.24	29	i P	Pg	21 42 48.9	+0.3
PCIG				eS	Sn	21 43 08.4	+3.2
PCIG		1.24	29		Pg	21 42 48.9	+0.3
PCIG					Sn	21 43 08.4	+3.2
THIG		1.56	79	i P	Pn	21 42 52.1	-0.7
THIG				i S	Sn	21 43 12.5	-0.6
THIG		1.56	79		Pn	21 42 52.1	-0.7
THIG					Sn	21 43 12.5	-0.6
RTAL	Retalhuleu	2.09	92	Pn	Pn	21 42 59.4	-0.7
TGIG		2.26	18	i P	Pb	21 43 04.6	-1.2
TGIG				i S	Sg	21 43 36.1	-1.4
TGIG		2.26	18		Pb	21 43 04.6	-1.2
TGIG					Sg	21 43 36.1	-1.4
CCIG	Comitan	2.34	45	eP	Pb	21 43 05.8	-1.5
CCIG				i S	Sg	21 43 40.8	+0.7
CCIG	Comitan	2.34	45		Pb	21 43 06.2	-1.0
HUEH	Huehuetenango	2.37	73	Pn	Pn	21 43 05.7	+1.5
CMIG	Matias Romero	2.65	338	P	Pn	21 43 08.3	+0.4
	16nm,0.3s,baz=162,slow=10,SNR=280						
CMIG				S	Sn	21 43 40.4	+0.3
	113nm,0.3s,baz=115,slow=14,SNR=14						
CMIG	Matias Romero	2.65	338	i P	Pn	21 43 08.2	+0.4
CMIG				i S	Sn	21 43 39.1	-1.0
CMIG	Matias Romero	2.65	338		Pn	21 43 08.2	+0.4
CMIG					Sn	21 43 39.1	-1.0
TUIG	Tuzandepetl	3.44	351	eP	Pn	21 43 18.4	-0.3
TUIG				eS	Sn	21 44 01.0	+1.4
TUIG	Tuzandepetl	3.44	351		Pn	21 43 18.4	-0.3
TUIG					Sn	21 44 01.0	+1.4
MTO3	Montecristo	4.35	92	Pn	Pn	21 43 30.5	-0.9
ESQI	Esquipulas	4.36	90	Pn	Pn	21 43 32.0	+0.5
PETF	Flores	4.46	59	Pn	Pn	21 43 34.1	+1.4
SNET	Serv Nac Est T	4.57	101	Pn	Pn	21 43 33.7	-0.7
TLIG	Tlapa	5.40	303	Pn	Pn	21 43 45.5	-0.2
TGUH	Tegucigalpa,Un	6.40	94	Pn	Pn	21 44 00.1	+0.7
CRIN	San Cristobal	6.88	105	Pn	Pn	21 44 06.7	+0.7
CNGN	Cerro Negro	7.26	106	Pn	Pn	21 44 12.4	+1.1
ORTG	Ortega, Santa	9.22	116	Pn	Pn	21 44 40.0	+1.8
DUNO	Dulce Nombre,	9.33	118	Pn	Pn	21 44 41.4	+1.8
JTS	Las Juntas de	9.69	115	P	Pn	21 44 46.5	+1.9
	0.7nm,0.3s,baz=31,slow=18,SNR=1.3						
JTS	Las Juntas de	9.69	115	Pn	Pn	21 44 45.9	+1.3
RIMA	Rio Macho	10.89	115		Pn	21 45 02.5	+1.3
ZAIG	Zacatecas	11.57	316	Pn	Pn	21 45 10.8	+0.3
SRBA	San Rafael, Bu	11.57	116	Pn	Pn	21 45 11.0	+0.5
SOR	Soroa	13.09	50	Pn	Pn	21 45 30.5	-0.6
833A	Chaparral WMA,	14.58	340	P	Pn	21 45 52.9	+1.5
	baz=158						
HKT	Hockley	15.37	353	Pn	Pn	21 46 02.9	+1.0
MTDJ	Mount Denham	16.05	75	Pn	Pn	21 46 11.8	+0.7
MTDJ				IAmb	IAmb	21 46 22.3	
	comp=Z,90nm,1.4s						
441A	DeRidder	16.07	2	Pn	Pn	21 46 12.0	+1.0
441A				IAmb	IAmb	21 46 23.1	
	comp=Z,31nm,0.5s						
435B	Jarrell	16.45	349	Pn	Pn	21 46 16.4	+0.4
435B				IAmb	IAmb	21 46 41.2	
	comp=Z,25nm,0.6s						
HPIG		16.48	320	Pn	Pn	21 46 17.4	+0.7
061Z	Ochoppi	16.50	45	Pn	Pn	21 46 17.1	+0.5
JCT	Junction City	16.71	342	P	Pn	21 46 19.5	+0.2
JCT	Junction City	16.71	342	P	Pn	21 46 20.0	+0.7
	baz=160,SNR=5.8						
344A	Westbrook Farm	17.00	9	Pn	Pn	21 46 23.5	+0.6
344A				IAmb	IAmb	21 46 33.9	
	comp=Z,68nm,1.4s						
NATX	Nacogdoches	17.08	358		P	21 46 25.3	-0.4
NATX				IAmb	IAmb	21 46 53.2	
	comp=Z,22nm,0.6s						
346A	Big Creek Wild	17.17	13		P	21 46 26.3	-0.4
346A				IAmb	IAmb	21 46 52.7	
	comp=Z,41nm,1.1s						

TX32 **Lajitas Array** 17.23 330 P P 21 46 27.4 -0.1
TXAR **Lajitas Array** 17.23 330 P P 21 46 28.4 +0.9
comp=Z,0.2nm,0.3s,baz=153,slow=11,SNR=17
TXAR LR LR 21 53 11.5
comp=Z,99nm,21.7s,baz=0.0,slow=37
TXAR **Lajitas Array** 17.23 330 P 21 46 27.5 0.0
WHTX **Lake Whitney,** 17.60 350 Pn 21 46 30.9 +0.5
WHTX **Lake Whitney,** 17.60 350 P P 21 46 31.8 +0.3
baz=168
VBMS **Vicksburg** 17.78 9 Pn 21 46 32.7 0.0
VBMS IAmb IAmb 21 46 52.6
comp=Z,38nm,0.9s
143A **Socs Landing,** 18.14 7 P 21 46 38.0 +0.6
143A IAmb IAmb 21 46 50.4
comp=Z,31nm,0.7s
146A **Union** 18.46 13 Pn 21 46 42.2 +1.2
146A IAmb IAmb 21 47 01.8
comp=Z,21nm,0.6s
352A **Blakely** 18.67 24 P Pn 21 46 43.8 +0.3
ABTX **Abilene, Hawle** 18.68 345 P Pn 21 46 43.8 0.0
ABTX IAmb IAmb 21 46 47.0
comp=Z,23nm,0.8s
ABTX **Abilene, Hawle** 18.68 345 P Pn 21 46 43.8 0.0
baz=162,SNR=7.4
DBBC **Dabeiba** 18.89 112 eP Pn 21 46 48.2 +1.8
TIGA **Tifton** 19.20 28 P Pn 21 46 50.5 +0.5
TIGA IAmb IAmb 21 47 11.9
comp=Z,32nm,0.9s
UREC **San Jos de Ur** 19.21 109 eP Pn 21 46 50.5 +0.2
Z47A **Carrollton** 19.23 15 P Pn 21 46 50.5 +0.2
Z47A IAmb IAmb 21 46 52.4
comp=Z,31nm,0.8s
CCAR **Cane Creek** 19.30 5 P Pn 21 46 51.5 +0.2
CCAR IAmb IAmb 21 47 01.6
comp=Z,28nm,0.7s
LRAL **Lakeview Retre** 19.36 18 Pn 21 46 51.5 -0.4
LRAL **Lakeview Retre** 19.36 18 P Pn 21 46 51.6 -0.3
baz=200
LOOK **Love County** 19.52 352 P Pn 21 46 53.8 -0.1
LOOK IAmb IAmb 21 47 10.9
comp=Z,35nm,1.0s
Y45A **Yeager Farm, C** 19.55 11 P P 21 46 53.2 +0.3
CBOC **Ciudad Bolivar** 19.57 115 eP Pn 21 46 56.8 +2.0
152A **Waverly Hall** 19.80 23 P Pn 21 46 56.8 -0.4
152A IAmb IAmb 21 47 07.6
comp=Z,26nm,1.3s
X40A **Basin Creek Fa** 19.80 2 P Pn 21 46 57.0 -0.2
MIAR **Mount Ida** 19.84 1 P P 21 46 56.1 0.0
MIAR IAmb IAmb 21 47 02.5
comp=Z,29nm,0.9s
MIAR **Mount Ida** 19.84 1 P Pn 21 46 57.2 -0.4
baz=181,SNR=11
ZARC **Zaragoza, Cauc** 19.93 109 eP P 21 46 56.8 -0.4
MNTX **Cornudas Mount** 20.01 330 P Pn 21 46 59.3 -0.4
MNTX **Cornudas Mount** 20.01 330 P P 21 46 58.6 +0.7
baz=146,SNR=22
SMLC **San Martn de** 20.20 104 eP P 21 47 00.4 +0.2
OXF **Oxford** 20.21 11 P P 21 47 00.6 +0.6
OXF **Oxford** 20.21 11 P Pn 21 47 01.5 -0.4
baz=192
Z51A **Franklin** 20.21 21 P P 21 47 00.6 +0.5
Y49A **Blount Mountai** 20.30 18 P P 21 47 01.8 +0.7
154A **Montrose** 20.41 27 P P 21 47 02.2 -0.1
154A IAmb IAmb 21 47 29.8
comp=Z,27nm,0.7s
GUY2C **Guyana, Caldas** 20.44 115 eP Pn 21 47 04.5 -0.9
W39A **Magazine** 20.49 0 P Pn 21 47 04.4 -0.9
baz=180,SNR=13
W41B **Gary Mavity, V** 20.52 4 P P 21 47 04.2 +0.8
baz=184
WMOK **Wichita Mounta** 20.52 348 P P 21 47 04.0 +0.5
WMOK **Wichita Mounta** 20.52 348 P P 21 47 04.4 +0.9
baz=166
WHAR **Wooly Hollow** 20.63 4 P P 21 47 04.5 -0.2
WHAR IAmb IAmb 21 47 32.1
comp=Z,22nm,1.2s
PTBC **PUERTO BERRIO,** 20.67 111 eP P 21 47 05.0 -0.2
X48A **Hartselle** 20.68 16 P P 21 47 05.2 0.0
X48A IAmb IAmb 21 47 17.5
comp=Z,39nm,1.1s
NORC **Norcasia** 20.72 114 eP Pn 21 47 07.9 -0.3
POPC **Popayan, Colom** 20.77 124 eP P 21 47 07.7 +1.1
FNO **Franklin** 20.80 352 P P 21 47 07.1 +0.6
W45A **Hickory Valley** 20.88 11 P Pn 21 47 08.7 -1.1
W45A IAmb IAmb 21 47 29.6
comp=Z,45nm,1.1s
OTAV **Otavalo** 20.88 132 P P 21 47 07.7 -0.4
MSTX **Muleshoe** 20.89 339 P P 21 47 08.2 +0.6
MSTX **Muleshoe** 20.89 339 P P 21 47 08.7 +1.0
baz=155,SNR=9.7
GOGA **Godfrey** 20.95 25 P Pn 21 47 09.5 -1.1
baz=209
SOTA **Rioblanco** 21.06 124 eP P 21 47 11.0 +0.9
OK025 **Westminster Rd** 21.11 352 P P 21 47 09.0 -0.8
FPAL **Fort Paine** 21.18 19 P P 21 47 10.8 +0.1
ORTC **Ortega, Tolima** 21.20 118 eP P 21 47 12.4 +1.4
FCAR **Ozark Folk Cen** 21.24 4 P P 21 47 12.2 +1.0
FCAR IAmb IAmb 21 47 15.3
comp=Z,28nm,0.8s
HSIG 21.35 315 P P 21 47 12.7 +0.2
AMTX **Amarillo** 21.38 342 P P 21 47 13.4 +0.6
AMTX **Amarillo** 21.38 342 P P 21 47 14.0 +1.2
baz=159
LCAR **Lake Charles** 21.50 6 P P 21 47 13.8 -0.2
ROSC **El Rosal** 21.54 115 P P 21 47 17.8 +2.7
comp=Z,29nm,0.8s,baz=187,slow=4.7,SNR=12
ROSC **El Rosal** 21.54 115 P P 21 47 14.8 -0.2
ROSC **El Rosal** 21.54 115 eP P 21 47 18.4 +3.3
HHAR **Hobbs** 21.57 360 P P 21 47 15.8 +1.0
U40A **Yellville** 21.66 2 P P 21 47 16.8 +1.0
U40A IAmb IAmb 21 47 19.3
comp=Z,20nm,0.8s
U40A **Yellville** 21.66 2 P P 21 47 17.3 +1.5
baz=183,SNR=17
319A **Douglas** 21.86 322 P P 21 47 20.1 +1.9
319A IAmb IAmb 21 47 35.0
comp=Z,20nm,1.1s
121A **Cookes Peak, D** 21.89 327 P P 21 47 20.2 +1.7
121A **Cookes Peak, D** 21.89 327 P P 21 47 20.3 +1.8
baz=141,SNR=21
WVT **Waverly** 22.09 13 P P 21 47 20.2 -0.2
WVT **Waverly** 22.09 13 P P 21 47 20.9 +0.6
baz=196
FLOC **Florencia** 22.16 124 P P 21 47 21.6 +0.2
FLOC IAmb IAmb 21 47 28.6
comp=Z,24nm,1.2s
HODGE **Hodges** 22.16 26 P P 21 47 21.8 +0.6
RUSC **La Rusia** 22.18 111 P P 21 47 21.7 -0.3
RUSC IAmb IAmb 21 47 27.1
comp=Z,41nm,1.1s
RUSC **La Rusia** 22.18 111 eP P 21 47 21.6 -0.5
W52A **Murphy** 22.26 22 P P 21 47 23.1 +0.8
PBMO **Poplar Bluff** 22.28 7 P P 21 47 23.3 +1.0
PBMO IAmb IAmb 21 47 48.1
comp=Z,20nm,0.9s
T35A **Sooner Cattle** 22.33 354 P P 21 47 22.8 -0.2
T35A IAmb IAmb 21 47 44.1
comp=Z,32nm,1.3s
MGMO **Mountain Grove** 22.49 3 P P 21 47 25.3 +0.7
MGMO IAmb IAmb 21 47 26.6
comp=Z,23nm,0.9s
KAN17 **Caldwell West** 22.60 352 P P 21 47 25.2 -0.7
KAN17 IAmb IAmb 21 47 45.3
comp=Z,21nm,1.0s
BNM **Barren Site** 22.62 332 P P 21 47 26.3 -0.1
S39A **Bolivar** 22.98 1 P P 21 47 29.9 +0.1
T47A **Sharon Grove** 23.07 14 P P 21 47 30.6 -0.2
T47A IAmb IAmb 21 47 31.9
comp=Z,22nm,0.7s
TAMC **Tame, Arauca** 23.14 108 eP P 21 47 31.4 -0.3
ANMO **Albuquerque** 23.21 333 P P 21 47 34.2 +1.8
comp=Z,3.3nm,0.7s,baz=158,slow=11,SNR=9.9
ANMO **Albuquerque** 23.21 333 P P 21 47 32.6 +0.2
ANMO **Albuquerque** 23.21 333 P P 21 47 34.2 +1.8
baz=148
BIRD **Birdtown, Kers** 23.31 29 P P 21 47 33.7 +0.5
BIRD IAmb IAmb 21 48 01.7
comp=Z,17nm,1.1s
KMSC **Kings Mountain** 23.33 27 P P 21 47 34.0 +0.6
KMSC **Kings Mountain** 23.33 27 P P 21 47 34.2 +0.7
baz=212
S44A **Carbondale** 23.34 9 P P 21 47 33.2 -0.3
SDV **Santo Domingo** 23.42 101 P P 21 47 36.0 +1.2
comp=Z,5.6nm,0.3s,baz=328,slow=4.2,SNR=3.9

SDV **Santo Domingo** 23.42 101 P P 21 47 34.6 -0.2
TUC **Tucson** 23.42 322 P P 21 47 35.8 +1.3
baz=135
CCM **Cathedral Cave** 23.46 5 P P 21 47 34.3 -0.3
CCM **Cathedral Cave** 23.46 5 P P 21 47 34.7 0.0
baz=186
R40A **Maddies Statio** 23.62 3 P P 21 47 36.1 -0.2
R40A IAmb IAmb 21 47 38.5
comp=Z,11nm,0.7s
TZTN **Tazewell** 23.69 21 P P 21 47 36.6 -0.4
baz=205
T25A **Trinidad** 24.32 339 P P 21 47 44.6 +1.4
T25A IAmb IAmb 21 47 47.0
comp=Z,20nm,1.0s
T25A **Trinidad** 24.32 339 P P 21 47 44.8 +1.7
baz=155,SNR=13
WCI **Wyandotte Cave** 24.45 14 P P 21 47 43.4 -0.7
WCI **Wyandotte Cave** 24.45 14 P P 21 47 44.1 +0.1
baz=198
214A **Organ Pipe Nat** 24.45 318 P P 21 47 45.2 +1.1
214A **Organ Pipe Nat** 24.45 318 P P 21 47 45.3 +1.1
baz=131
KSU1 **Kansas State U** 24.51 355 P P 21 47 44.1 -0.5
KSU1 IAmb IAmb 21 47 45.0
comp=Z,25nm,1.2s
KSU1 **Kansas State U** 24.51 355 P P 21 47 44.5 -0.1
baz=174
X18A **Snowflake** 24.58 327 P P 21 47 46.4 +0.8
X18A IAmb IAmb 21 47 50.1
comp=Z,9.7nm,0.7s
CBKS **Cedar Bluff** 24.65 349 P P 21 47 45.6 -0.4
CBKS IAmb IAmb 21 47 48.7
comp=Z,18nm,0.9s
CBKS **Cedar Bluff** 24.65 349 P P 21 47 46.3 +0.3
baz=166
P38A **Dawn** 24.91 1 P P 21 47 47.5 -0.8
P38A IAmb IAmb 21 47 49.0
comp=Z,18nm,0.8s
W18A **Petrified Fore** 24.92 328 P P 21 47 49.5 +0.9
W18A **Petrified Fore** 24.92 328 P P 21 47 49.7 +1.1
baz=141
SDCO **Great Sand Dun** 25.25 338 P P 21 47 51.9 +0.3
SDCO **Great Sand Dun** 25.25 338 P P 21 47 53.5 +1.9
baz=153,SNR=11
BLA **Blacksburg** 25.48 26 P P 21 47 54.0 +0.5
baz=211
P46A **Rosedale** 25.58 12 P P 21 47 53.4 -0.8
S22A **4UR Ranch, Cre** 25.75 336 P P 21 47 57.5 +1.2
baz=150
MVCO **Mesa Verde** 26.00 333 P P 21 47 59.6 +1.1
baz=146
WUAZ **Wupatki** 26.09 326 P P 21 47 59.5 +0.4
WUAZ IAmb IAmb 21 48 05.3
comp=Z,14nm,0.9s
WUAZ **Wupatki** 26.09 326 P P 21 48 00.9 +1.8
baz=139
HDIL **Hopedale** 26.14 8 P P 21 47 59.7 +0.3
baz=190
Q24A **Divide** 26.22 340 P P 21 48 00.9 +0.5
baz=155
GLA **Glamis** 26.46 318 P P 21 48 03.7 +1.3
GLA IAmb IAmb 21 48 05.5
comp=Z,9.2nm,0.9s
GLA **Glamis** 26.46 318 P P 21 48 03.6 +1.2
baz=129
ATAH **Atahualpa** 26.50 144 P P 21 48 06.2 +2.9
comp=Z,12nm,0.8s,baz=354,slow=3.2,SNR=7.3
PDMCI **Parker Dam,Lak** 26.83 321 P P 21 48 07.7 +2.0
baz=132
PV13 **Radium Mtn., P** 26.93 333 P P 21 48 08.0 +1.1
PV13 IAmb IAmb 21 48 10.1
comp=Z,8.8nm,0.9s
SMCO **Snowmass** 27.05 337 P P 21 48 08.2 +0.1
SMCO IAmb IAmb 21 48 21.5
comp=Z,16nm,1.3s
IKP **In-Ko-Pah, Jac** 27.07 315 P P 21 48 08.7 +0.8
baz=126
ISCO **Idaho Springs** 27.12 340 P P 21 48 10.0 +1.4
baz=154,SNR=10
OGNE **Ogallala** 27.18 346 P P 21 48 09.9 +1.0
baz=162
SCIA **State Center** 27.20 1 P P 21 48 08.8 -0.1
SCIA **State Center** 27.20 1 P P 21 48 08.6 -0.2
baz=181
BC3 **Big Chuckawall** 27.24 318 P P 21 48 10.1 +0.6
baz=129,SNR=6.9
IRM **Iron Mountain** 27.36 319 P P 21 48 12.1 +1.6
baz=130
L40A **Anamosa** 27.44 4 P P 21 48 09.4 -1.6
L40A IAmb IAmb 21 48 13.1
comp=Z,20nm,1.2s
BELC **Belle Mtn. Jos** 27.81 318 P P 21 48 15.9 +1.2
baz=129
TPFO **Pinon Flats** 27.87 317 P P 21 48 16.7 +1.5
baz=127
GMRC **Granite Mounta** 28.09 320 P P 21 48 18.3 +1.1
baz=130
N23A **Red Feather La** 28.22 340 P P 21 48 20.2 +1.8
baz=155
O20A **White River Ci** 28.37 336 P P 21 48 21.5 +1.8
baz=150
HEC **Hector,Ludlow** 28.55 319 P P 21 48 22.5 +1.3
baz=129
O56A **Blue Knob Stat** 28.84 25 P P 21 48 23.4 -0.2
baz=212
SCI2 **San Clemente I** 28.94 313 P P 21 48 23.0 -1.6
baz=124
ECSD **EROS Data Cent** 29.11 356 P P 21 48 25.6 -0.4
ECSD IAmb IAmb 21 48 26.6
comp=Z,15nm,0.7s
ECSD **EROS Data Cent** 29.11 356 P P 21 48 25.8 -0.2
baz=174
K22A **Casper** 29.99 341 P P 21 48 34.2 +0.2
baz=155
SUSD **Miller** 30.04 353 P P 21 48 34.3 0.0
baz=170
MPMC **Manual Prospec** 30.05 320 P P 21 48 34.2 -0.4
baz=129
SCZ2 **Santa Cruz Isl** 30.26 314 P P 21 48 36.4 +0.1
baz=124
R11A **Troy Canyon, C** 30.46 325 P P 21 48 39.3 +1.1
baz=135
SPMN **Marine on St.** 30.52 1 P P 21 48 37.7 -0.7
SPMN IAmb IAmb 21 48 38.8
comp=Z,12nm,0.8s
GRAC **Grapevine Rang** 30.58 321 P P 21 48 41.1 +2.0
baz=131
CWC **Cottonwood Cre** 30.66 320 P P 21 48 40.4 +0.4
baz=129
PD31 **Pinedale Array** 31.14 337 P P 21 48 44.0 -0.2
PDAR **Pinedale Array** 31.14 337 P P 21 48 45.0 +0.8
comp=Z,1.1nm,0.9s,baz=131,slow=10,SNR=5.1
PDAR **Pinedale Array** 31.14 337 P P 21 48 45.0 +0.8
PAL **Palisades** 31.50 30 P P 21 48 46.8 -0.3
baz=219
BINY **Binghamton** 31.52 26 P P 21 48 47.1 -0.1
baz=214
MDPB **Devils Postpil** 32.03 320 P P 21 48 53.6 +1.4
MDPB IAmb IAmb 21 48 55.7
comp=Z,6.4nm,0.8s
NVAR **Mina Array Bea** 32.08 322 P P 21 48 55.4 +2.8
comp=Z,6.5nm,0.8s,baz=136,slow=8.7,SNR=9.3
NVAR PcP PcP 21 51 42.3 +0.3
comp=Z,1.0nm,0.8s,baz=71,slow=2.3,SNR=3.7
NVAR **Mina Array Bea** 32.08 322 P P 21 48 53.5 +1.0
TPAW **Teton Pass** 32.29 336 P P 21 48 55.0 +0.7
YERR **Yerington** 32.99 322 P P 21 49 01.5 +1.0
YERR IAmb IAmb 21 49 06.4
comp=Z,6.2nm,1.0s
RLMT **Red Lodge** 33.09 340 P P 21 49 01.7 +0.4
RLMT IAmb IAmb 21 49 03.4
comp=Z,6.8nm,0.8s
RLMT **Red Lodge** 33.09 340 P P 21 49 01.6 +0.3
baz=152,SNR=6.0
EYMN **Ely** 33.29 3 P P 21 49 03.9 +1.2
baz=184
AGMN **Agassiz Nation** 33.62 358 P P 21 49 04.8 -0.8
AGMN IAmb IAmb 21 49 05.6
comp=Z,11nm,0.8s
AGMN **Agassiz Nation** 33.62 358 P P 21 49 05.0 -0.6
baz=176
HLID **Hailey** 33.79 333 P P 21 49 08.6 +1.2
HLID **Hailey** 33.79 333 P P 21 49 08.6 +1.2
baz=142,SNR=5.6
MCMT **McKenzie Canyo** 34.15 336 P P 21 49 11.7 +1.1
BEKR **Beckworth** 34.22 322 P P 21 49 12.2 +1.0
MFID **Camas Ranch** 34.32 331 P P 21 49 11.9 0.0

BOZ **Bozeman (W)** 34.33 338 P P 21 49 12.6 +0.6
BOZ **Bozeman (W)** 34.33 338 P P 21 49 13.4 +1.4
baz=148
DGMT **Dagmar** 34.82 348 P P 21 49 17.2 +1.1
DGMT **Dagmar** 34.82 348 P P 21 49 17.0 +1.0
baz=162
I62A **Tamworth** 34.92 29 P P 21 49 15.8 -1.1
baz=220
WVOR **Wild Horse Val** 34.99 327 P P 21 49 18.8 +1.0
WVOR IAmb IAmb 21 49 20.7
comp=Z,6.4nm,0.9s
O03E **Paynes Creek** 35.35 322 P P 21 49 21.2 +0.4
baz=128
MOD **Modoc Plateau** 35.52 325 P P 21 49 23.4 +1.0
MOD IAmb IAmb 21 49 24.9
comp=Z,4.9nm,0.8s
ULM **Lac du Bonnet** 35.57 358 P P 21 49 20.8 -1.7
comp=Z,5.6nm,0.7s,baz=184,slow=6.8,SNR=6.5
ULM LR LR 22 06 21.7
comp=Z,104nm,18.6s,baz=238,slow=40
EGMT **Eagleton** 35.82 342 P P 21 49 24.5 -0.3
baz=153
MSO **Missoula** 36.24 336 P P 21 49 28.8 +0.5
baz=146
PTGA **Pitinga** 36.83 112 P P 21 49 32.6 -1.1
PTGA IAmb IAmb 21 49 35.0
comp=Z,9.0nm,0.8s
L04D **Klamath Falls** 36.86 324 P P 21 49 34.8 +1.0
baz=130
F10A **Beach Ranch, E** 36.92 333 P P 21 49 34.9 +0.7
F10A IAmb IAmb 21 49 36.3
comp=Z,12nm,0.9s
J05D **Fort Rock, OR** 36.96 326 P P 21 49 35.3 +0.6
baz=132
JTMT **Jette** 37.13 337 P P 21 49 36.9 +0.9
JTMT IAmb IAmb 21 49 38.2
comp=Z,7.1nm,0.8s
J04D **Umpqua Nationa** 37.41 325 P P 21 49 39.4 +0.9
baz=131
I04A **Tendick Farm,** 37.94 326 P P 21 49 43.7 +0.9
baz=131
K02D **Willamette Mer** 37.94 323 P P 21 49 43.2 +0.3
baz=129
SAML **Samuel** 38.38 126 P P 21 49 44.4 -2.4
J01E **Myrtle Point** 38.38 324 P P 21 49 47.5 +1.0
baz=129
NEW **Newport** 38.67 335 P P 21 49 48.8 0.0
baz=142
C09A **Chrisman Ranch** 38.79 334 P P 21 49 50.0 +0.1
C09A IAmb IAmb 21 49 51.6
comp=Z,6.5nm,0.8s
F05D **White Salmon** 38.86 329 P P 21 49 51.9 +1.4
baz=134
I02D **Swisshome** 38.93 325 P P 21 49 52.6 +1.6
baz=130
LPAZ **La Paz** 39.85 139 P P 21 50 01.0 +1.2
comp=Z,2.1nm,0.8s,baz=314,slow=8.6,SNR=6.8
LPAZ **La Paz** 39.85 139 P P 21 49 58.5 -1.3
EDM **Edmonton** 41.49 342 P P 21 50 13.0 +0.8
EDM IAmb IAmb 21 50 13.4
comp=Z,12nm,0.7s
SCHQ **Schefferville** 45.29 22 LR LR 22 10 55.2
comp=Z,278nm,19.2s,baz=228,slow=38
YKA **Yellowknife Ar** 50.03 348 P P 21 51 19.9 +0.5
comp=Z,10nm,0.7s,baz=146,slow=8.1,SNR=61
YKA **Yellowknife Ar** 50.03 348 P P 21 51 19.4 0.0
DLBC **Dease Lake** 51.37 337 P P 21 51 31.9 +2.1
DLBC IAmb IAmb 21 51 32.9
comp=Z,7.3nm,0.9s
TGTN **Hyland Airport** 52.93 340 P P 21 51 42.6 +1.2
baz=137
CPUP **Villa Florida** 54.02 139 LR LR 22 14 26.8
comp=Z,60nm,18.3s,baz=286,slow=36
BDFB **Brasilia** 54.37 122 P P 21 51 51.2 -1.4
comp=Z,3.5nm,0.6s,baz=300,slow=8.3,SNR=7.4
BDFB **Brasilia** 54.37 122 P P 21 51 51.1 -1.4
BDFB IAmb IAmb 21 51 59.7
comp=Z,11nm,1.2s
WHY **Whitehorse** 54.70 337 P P 21 51 55.3 +1.0
baz=129
MMPY **Sheldon Lake,** 54.70 340 P P 21 51 55.8 +1.6
baz=134,SNR=7.7
FARO **Faro, Yukon** 55.15 339 P P 21 51 58.5 +1.0
baz=131
HYT **Haines Junctio** 55.82 336 P P 21 52 02.9 +0.4
baz=126
YUK6 **Outpost Mounta** 56.23 336 P P 21 52 06.6 +1.1
baz=125
PINM **Pinnacle** 56.53 334 P P 21 52 08.7 +1.3
baz=123
YUK4 **Talbot Arm** 56.57 336 P P 21 52 08.0 +0.1
baz=125
LOGN **Logan Glacier** 57.23 335 P P 21 52 11.8 -0.8
LOGN IAmb IAmb 21 52 12.4
comp=Z,6.0nm,0.7s
CTG **Chitna Glacier** 57.45 335 P P 21 52 14.9 +0.9
baz=122
YUK3 **Moose Creek** 57.53 336 P P 21 52 15.8 +1.1
baz=124
MCARA **McCarthy VSAT** 58.37 335 P P 21 52 21.6 +1.3
baz=121
BCAR **Beaver Creek A** 58.76 337 P P 21 52 24.1 +1.1
L27K **Beaver Creek,** 58.77 337 P P 21 52 24.4 +1.3
L27K IAmb IAmb 21 52 25.0
comp=Z,4.3nm,0.9s
L27K **Beaver Creek,** 58.77 337 P P 21 52 23.8 +0.6
baz=123,SNR=6.2
BMRM **Bremner River** 58.82 334 P P 21 52 24.2 +0.6
baz=119
M26K **Nabesna, AK** 58.88 336 P P 21 52 25.2 +1.2
baz=121
EPYK **Eagle Plains** 58.97 341 P P 21 52 25.1 +0.6
baz=130
N25K **Chitina, Valde** 59.13 334 P P 21 52 26.8 +1.1
baz=119
PLCA **Paso Flores** 59.16 160 P P 21 52 27.9 +1.7
comp=Z,3.7nm,1.0s,baz=281,slow=10.0,SNR=3.6
INK **Inuvik** 59.35 344 P P 21 52 27.6 +0.6
INK **Inuvik** 59.35 344 P P 21 52 27.2 +0.3
baz=134,SNR=6.1
EGAK **Eagle** 59.48 339 P P 21 52 27.4 -0.6
baz=124
KLU **Klutina** 59.63 334 P P 21 52 29.5 +0.3
baz=118
DOT **Dot Lake** 59.94 337 P P 21 52 32.3 +1.1
M24K **Tolsona, Glenn** 60.03 335 P P 21 52 32.4 +0.5
baz=118
SCRK **Sand Creek** 60.08 337 P P 21 52 33.0 +0.7
SCRK IAmb IAmb 21 52 34.6
comp=Z,5.2nm,1.0s
SCRK **Sand Creek** 60.08 337 P P 21 52 33.0 +0.7
baz=121
PAX **Paxson** 60.15 336 P P 21 52 32.9 +0.2
baz=119,SNR=6.0
RIDG **Independent Ri** 60.29 337 P P 21 52 34.2 +0.6
baz=120
J26K **Charley River,** 60.32 338 P P 21 52 34.6 +0.7
baz=122,SNR=12
KNK **Knik Glacier** 60.69 333 P P 21 52 37.8 +1.4
baz=115
SML **Sawmill** 60.80 334 P P 21 52 37.8 +0.6
baz=116
WAT6 **Susitna Watana** 60.89 335 P P 21 52 38.4 +0.4
baz=116,SNR=6.8
PMR **Palmer** 61.06 333 P P 21 52 39.6 +0.8
baz=115
RC01 **Rabbit Creek A** 61.12 333 P P 21 52 40.1 +0.8
baz=114
KDAK **Kodiak Island** 61.25 329 P P 21 52 40.9 +0.7
WAT1 **Susitna Watana** 61.34 335 P P 21 52 41.4 +0.6
baz=116
HDA **Harding Lake** 61.42 337 P P 21 52 41.3 0.0
baz=118,SNR=7.5
OHAK **Old Harbor** 61.43 328 P P 21 52 41.9 +0.5
baz=108
PRP **Porcupine Dome** 61.44 338 P P 21 52 42.0 +0.4
baz=120
IL31 61.57 337 P P 21 52 42.5 +0.3
ILAR **Eielson Array** 61.57 337 P P 21 52 42.6 +0.3
comp=Z,5.0nm,0.9s,baz=150,slow=4.3,SNR=40
SUA **Susitna One** 61.71 333 P P 21 52 44.1 +0.6
baz=113
RND **Reindeer** 61.72 335 P P 21 52 44.4 +1.0
CCB **Clear Creek Bu** 61.86 337 P P 21 52 44.2 0.0
CCB IAmb IAmb 21 52 44.9
comp=Z,2.6nm,0.6s
WRH **Wood River Hil** 61.89 337 P P 21 52 44.4 0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRH				IAmb	IAmb	21 52 44.9	
	comp=Z,3.7nm,0.9s						
MCK	**McKinley**	**61.89**	**336**	P	**P**	**21 52 44.3**	**-0.2**
	baz=116						
POKR	**Poker Plat Res**	**61.94**	**337**	P	**P**	**21 52 45.4**	**+0.6**
	baz=118						
TCOL	**CIGO, UAF Yank**	**61.99**	**337**	P	**P**	**21 52 45.4**	**+0.4**
	baz=118						
O20K	**Slope Mountain**	**62.06**	**331**	P	**P**	**21 52 46.4**	**+0.7**
	baz=110						
BMAR	**Burnt Mountain**	**62.10**	**340**	P	**P**	**21 52 46.6**	**+0.8**
MDM	**Murphy Dome**	**62.17**	**337**	P	**P**	**21 52 46.5**	**+0.1**
MDM				IAmb	IAmb	21 52 46.9	
	comp=Z,3.7nm,0.8s						
P19K	**Oil Pt**	**62.20**	**330**	P	**P**	**21 52 46.7**	**0.0**
	baz=110						
SKT	**Skwentna**	**62.26**	**333**	P	**P**	**21 52 46.8**	**-0.1**
	baz=112						
SPCR	**Spurr Chakacha**	**62.27**	**332**	P	**P**	**21 52 47.3**	**+0.2**
	baz=111						
BWN	**Browne**	**62.29**	**336**	P	**P**	**21 52 47.3**	**+0.2**
TRF	**Thorofare Moun**	**62.32**	**335**	P	**P**	**21 52 48.4**	**+0.9**
TRF	**Thorofare Moun**	**62.32**	**335**	P	**P**	**21 52 47.2**	**-0.4**
	baz=114						
NEA2	**Nenana**	**62.32**	**336**	P	**P**	**21 52 47.8**	**+0.5**
	baz=116						
H24K	**Noodor Dome**	**62.44**	**338**	P	**P**	**21 52 48.7**	**+0.6**
H24K	**Noodor Dome**	**62.44**	**338**	P	**P**	**21 52 48.3**	**+0.1**
	baz=118,SNR=9.2						
BPAW	**Bear Paw Mtn.**	**62.87**	**336**	P	**P**	**21 52 51.1**	**+0.1**
	baz=114,SNR=6.1						
PPLA	**Purkeypile**	**62.89**	**334**	P	**P**	**21 52 51.9**	**+0.5**
	baz=112						
H23K	**Yukon River**	**63.05**	**338**	P	**P**	**21 52 52.4**	**+0.2**
	baz=116						
MLY	**Manley**	**63.16**	**337**	P	**P**	**21 52 52.6**	**-0.3**
	baz=115,SNR=12						
N19K	**Bonanza Creek**	**63.17**	**331**	P	**P**	**21 52 53.3**	**+0.1**
	baz=109						
O18K	**Koktuh Hills**	**63.21**	**330**	P	**P**	**21 52 53.6**	**+0.3**
	baz=108						
L20K	**Farewell, AK**	**63.47**	**333**	P	**P**	**21 52 54.8**	**-0.2**
	baz=110						
M19K	**Big River Lodg**	**63.49**	**333**	P	**P**	**21 52 55.6**	**+0.4**
	baz=110						
I21K	**Tanana**	**63.70**	**336**	P	**P**	**21 52 56.1**	**-0.3**
	baz=114						
L19K	**White Mountain**	**63.79**	**333**	P	**P**	**21 52 56.6**	**-0.5**
	baz=109						
K20K	**Telida**	**63.86**	**334**	P	**P**	**21 52 57.8**	**+0.2**
K20K				IAmb	IAmb	21 53 06.2	
	comp=Z,6.4nm,0.9s						
K20K	**Telida**	**63.86**	**334**	P	**P**	**21 52 57.0**	**-0.5**
	baz=111,SNR=5.3						
COLD	**Coldfoot**	**63.91**	**339**	P	**P**	**21 52 58.8**	**+1.0**
COLD				IAmb	IAmb	21 52 59.8	
	comp=Z,3.9nm,0.9s						
COLD	**Coldfoot**	**63.91**	**339**	P	**P**	**21 52 58.7**	**+0.9**
	baz=116						
ICESG	**Greenland Ices**	**64.06**	**19**	*i* P	**P**	**21 52 58.8**	**-0.4**
ICESG				IAmb	IAmb	21 52 59.8	
	comp=Z,8.3nm,0.7s						
J20K	**Nowinta River**	**64.18**	**335**	P	**P**	**21 52 59.8**	**+0.2**
	baz=111						
TOLK	**Toolik Lake Re**	**64.33**	**340**	P	**P**	**21 53 01.0**	**+0.3**
	baz=118						
IMAR	**Indian Mountai**	**64.69**	**337**	P	**P**	**21 53 02.8**	**-0.1**
EUNU	**Eureka**	**65.55**	**1**	P	**P**	**21 53 09.1**	**+0.7**
SUMG	**Summit**	**66.12**	**16**	⇑ *i*P	**P**	**21 53 12.6**	**0.0**
SUMG				IAmb	IAmb	21 53 13.2	
	comp=Z,11nm,0.8s						
SUMG	**Summit**	**66.12**	**16**	P	**P**	**21 53 12.7**	**0.0**
NEEM	**North Greenlan**	**66.41**	**9**	*i* P	**P**	**21 53 14.0**	**-0.3**
A21K	**Barrow**	**67.66**	**342**	P	**P**	**21 53 22.6**	**+0.7**
	baz=112						
RDOG	**Red Dog Mine**	**68.75**	**338**	P	**P**	**21 53 28.9**	**+0.1**
	baz=104						
TNA	**Tin City**	**70.21**	**335**	P	**P**	**21 53 38.0**	**+0.2**
	baz=98						
DAG	**Danmarks Havn**	**72.48**	**14**	*i* P	**P**	**21 53 50.0**	**-1.4**
DAG				IAmb	IAmb	21 53 51.8	
	comp=Z,7.3nm,0.7s						
NOR	**Nord**	**73.76**	**9**	*i* P	**P**	**21 53 58.6**	**-0.3**
NOR				IAmb	IAmb	21 54 00.3	
	comp=Z,6.4nm,1.1s						
ESK	**Eskdalemuir**	**78.49**	**36**	P	**P**	**21 54 25.5**	**-0.8**
EKA	**Eskdalemuir Ar**	**78.51**	**36**	P	**P**	**21 54 24.8**	**-1.6**
	comp=Z,2.7nm,0.7s,baz=271,slow=6.2,SNR=8.6						
ESDC	**Sonseca Array**	**80.74**	**51**	P	**P**	**21 54 38.1**	**-0.9**
	comp=Z,1.7nm,0.9s,baz=288,slow=5.8,SNR=11						
ESDC	**Sonseca Array**	**80.74**	**51**	P	**P**	**21 54 38.2**	**-0.7**
MDT	**Midelt**	**81.60**	**58**	P	**P**	**21 54 43.4**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=304,slow=5.0,SNR=3.7						
NB2	**NORSAR Subarra**	**84.45**	**28**	P	**P**	**21 54 58.2**	**+0.3**
	comp=Z,3.5nm,0.7s,baz=292,slow=5.1						
NOA	**NORSAR Array B**	**84.45**	**28**	P	**P**	**21 54 58.6**	**+0.7**
	comp=Z,6.1nm,0.8s,baz=293,slow=4.9,SNR=23						
NOA				LR	LR	22 31 31.3	
	comp=Z,47nm,20.0s,baz=290,slow=35						
BGES	**Gesves**	**84.47**	**39**	*d*P	**P**	**21 54 58.0**	**0.0**
NB201	**NORSAR Array S**	**84.49**	**28**	P	**P**	**21 54 58.8**	**+0.8**
BCLA	**Clavier**	**84.59**	**39**	*d*P	**P**	**21 54 59.8**	**+1.1**
HFS	**Hagfors**	**85.92**	**29**	P	**P**	**21 55 05.2**	**0.0**
	comp=Z,4.7nm,0.9s,baz=169,slow=1.5,SNR=3.9						
HFS				LR	LR	22 32 04.1	
	comp=Z,82nm,20.1s,baz=304,slow=35						
ARCES	**ARCESS Array B**	**86.11**	**18**	P	**P**	**21 55 05.3**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=318,slow=3.3,SNR=6.0						
ARCES				LR	LR	22 33 47.7	
	comp=Z,79nm,20.0s,baz=270,slow=36						
ARCES	**ARCESS Array B**	**86.11**	**18**	P	**P**	**21 55 05.3**	**-0.6**
KOWA	**Kowa**	**86.27**	**76**	P	**P**	**21 55 06.7**	**-1.0**
BNI	**Bardonecchia**	**87.05**	**44**	P	**P**	**21 55 10.5**	**-0.7**
SENIN	**Lac Senin/Sane**	**87.06**	**43**	P	**P**	**21 55 11.0**	**-0.3**
TIC	**Toumodi**	**87.22**	**84**	*e*P	**P**	**21 55 12.5**	**0.0**
LIC	**Lamto**	**87.32**	**84**	*e*P	**P**	**21 55 12.0**	**-0.9**
	comp=Z,23nm,1.0s						
SEY	**Seymchan**	**87.45**	**335**	LR	LR	22 36 14.1	
	comp=Z,79nm,18.0s,baz=142,slow=37						
KIC	**Kosan Boka**	**87.56**	**84**	*e*P	**P**	**21 55 14.3**	**+0.2**
	comp=Z,7.9nm,0.7s						
GERES	**GERESS Array B**	**90.26**	**39**	LR	LR	22 37 18.2	
	comp=Z,56nm,18.7s,baz=315,slow=36						
FINES	**FINESS Array B**	**90.69**	**25**	LR	LR	22 35 49.5	
	comp=Z,47nm,20.5s,baz=293,slow=35						
TORD	**Torodi Ar. Bea**	**91.97**	**76**	P	**P**	**21 55 32.3**	**-2.5**
	comp=Z,0.5nm,0.7s,baz=292,slow=3.6,SNR=4.1						
AKASG	**Malin Array Be**	**98.18**	**33**	LR	LR	22 43 21.8	
	comp=Z,50nm,18.0s,baz=280,slow=37						
MKAR	**Makanchi Array**	**118.77**	**3**	PKP	**PKPdf**	**22 01 12.5**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=20,slow=3.9,SNR=4.5						
WRA	**Warramunga Arr**	**133.80**	**256**	PKP	**PKPdf**	**22 01 43.0**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=96,slow=1.8,SNR=5.9						
ASAR	**Alice Springs**	**134.18**	**251**	PKP	**PKPdf**	**22 01 43.3**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=41,slow=2.3,SNR=4.2						
ASAR	**Alice Springs**	**134.18**	**251**		**PKPdf**	**22 01 42.9**	**-0.9**
CMAR	**Chiang Mai Arr**	**144.80**	**339**	PKP	**PKPab**	**22 02 01.9**	**-0.1**
	comp=Z,4.8nm,0.8s,baz=344,slow=3.8,SNR=29						
CMAR	**Chiang Mai Arr**	**144.80**	**339**		**PKPab**	**22 02 01.4**	**-0.6**

*VIE **08** 21:53:15.9±0.3, 50.°14N×19.°14E, h0km, mb2.2/2, ml2.4/2, Error ellipse: s-maj=8.0km s-min=1.8km az=164.0 14 km S of Sosnowice Suspected Mining induced.*
*IPEC **08** 21:53:16.0±0.2, 50.°17N×19.°14E, h0km±1km, ML2.6/3, Error ellipse: s-maj=2.5km s-min=1.1km az=167.0*
ISC 08 21:53:15.9±0.8**, 50.°10N**±0.°03×**19.°15E**±0.°02**, h0km, n32, σ0.s84**/58**, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.44**	**74**	*e*Pg	**Pg**	**21 53 24.1**	**-0.1**
OJC				*e*Sg	**Sg**	**21 53 30.2**	**+0.3**
OKC	**Ostrava-Krasne**	**0.70**	**248**	*e*PG	**Pg**	**21 53 29.6**	**+0.4**
OKC				*e*SG	**Sg**	**21 53 39.0**	**+0.8**
	comp=Z,74nm,1.2s						
LANS	**Liptovska Anna**	**0.97**	**167**	*e*PG	**Pb**	**21 53 35.5**	**-0.2**
LANS				*e*SG	**Sb**	**21 53 49.3**	**+0.2**
LANS				*e*LG	Lg	21 53 50.8	
NIE	**Niedzica**	**1.01**	**132**	*e*Pg	**Pb**	**21 53 36.6**	**+0.3**
NIE				*e*Sg	**Sn**	**21 53 51.9**	**-0.5**
MORC	**Moravsky Berou**	**1.08**	**253**	*e*Pg	**Pb**	**21 53 37.0**	**-0.6**
	baz=69						
MORC				*e*Sg	**Sg**	**21 53 50.6**	**-0.1**
	109nm,0.7s,baz=69						
MORC	**Moravsky Berou**	**1.08**	**253**	*e*PG	**Pb**	**21 53 37.0**	**-0.6**
MORC				*e*SG	**Sg**	**21 53 50.6**	**-0.1**
KRLC	**Kraliky**	**1.52**	**270**	*e*PG	**Pn**	**21 53 43.2**	**-1.2**
KRLC				*e*SG	**Sn**	**21 54 04.5**	**-0.5**
	comp=Z,53nm,0.6s						
JAVC	**Velka Javorina**	**1.57**	**218**	*e*Pn	**Pg**	**21 53 46.0**	**+0.1**
	baz=36						
JAVC	**Velka Javorina**	**1.57**	**218**	*e*PN	**Pg**	**21 53 46.1**	**+0.1**
VYHS	**Vyhne**	**1.62**	**187**	*e*PN	**Pn**	**21 53 45.8**	**+0.1**
VYHS				*e*SN	**Sn**	**21 54 07.3**	**0.0**
VYHS				*e*LG	Lg	21 54 09.5	
DPC	**Dobruska-Polom**	**1.83**	**279**	*e*PG	**Pn**	**21 53 48.4**	**-0.3**
DPC				*e*SG	**Sg**	**21 54 14.9**	**+0.2**
	comp=Z,46nm,0.7s						
VRAC	**Vranov**	**1.84**	**245**	*e*Pn	**Pn**	**21 53 48.7**	**0.0**
	baz=62						
VRAC				*e*Sg	**Sg**	**21 54 14.2**	**-0.6**
	31nm,0.7s,baz=62						
VRAC	**Vranov**	**1.84**	**245**	*e*PN	**Pn**	**21 53 48.8**	**0.0**
VRAC				*e*SG	**Sg**	**21 54 14.3**	**-0.6**
KECS	**Kecovo**	**1.84**	**151**	*e*SN	**Sb**	**21 54 14.0**	**0.0**
CRVS	**Cervenica-Dubn**	**1.93**	**128**	*e*PN	**Pg**	**21 53 52.6**	**-0.2**
CRVS				*e*SN	**Sg**	**21 54 17.4**	**-0.4**
OSTC	**Ostas**	**1.93**	**285**	*e*PG	**Pn**	**21 53 50.5**	**+0.4**
OSTC				*e*SG	**Sg**	**21 54 18.4**	**+0.4**
	comp=Z,42nm,0.8s						
KSP	**Ksiaz**	**1.97**	**293**	*e*Pg	**Pg**	**21 53 53.4**	**-0.2**
KSP				*e*Sg	**Sg**	**21 54 20.1**	**+1.0**
CHVC	**Chvalec**	**2.04**	**285**	*e*PG	**Pn**	**21 53 51.9**	**+0.4**
CHVC				*e*SG	**Sg**	**21 54 20.8**	**-0.6**
	comp=Z,26nm,0.6s						
UPC	**Upice**	**2.05**	**283**	*e*PG	**Pb**	**21 53 53.6**	**-0.4**
UPC				*e*SG	**Sg**	**21 54 21.4**	**-0.4**
	comp=Z,32nm,1.0s						
KRUC	**Moravsky**	**2.07**	**241**	*e*Pn	**Pn**	**21 53 52.5**	**+0.6**
	baz=57						
KRUC				*e*Sg	**Sg**	**21 54 21.5**	**-0.9**
	31nm,1.0s,baz=57						
KRUC	**Moravsky**	**2.07**	**241**	*e*PN	**Pn**	**21 53 52.5**	**+0.6**
KRUC				*e*SG	**Sg**	**21 54 21.5**	**-0.9**
PSZ	**Piszkesteto**	**2.24**	**167**	*e*PG	**Pg**	**21 54 00.5**	**+1.7**
KOLS	**Kolonicke sedl**	**2.35**	**119**	*e*PG	**Pg**	**21 54 00.8**	**-0.1**
TREC	**Trest**	**2.51**	**253**	*e*PG	**Pb**	**21 54 00.6**	**-1.2**
TREC				*e*SG	**Sg**	**21 54 35.7**	**-0.8**
	comp=Z,21nm,0.8s						
PVCC	**Panska Ves**	**2.96**	**280**	*e*PG	**Pb**	**21 54 09.5**	**-0.1**
PVCC				*e*SG	**Sg**	**21 54 51.1**	**0.0**
	comp=Z,28nm,0.8s						
PRU	**Pruhonice**	**2.97**	**270**	*e*PG	**Pb**	**21 54 09.2**	**-0.5**
PRU				*e*SG	**Sg**	**21 54 50.2**	**-1.1**
	comp=Z,13nm,0.8s						
CONA	**Conrad Observa**	**3.06**	**226**	*e*Pn	**Pn**	**21 54 05.2**	**-0.5**
	0.3nm,0.2s						
CONA				*e*Sn	**Sn**	**21 54 45.3**	**+2.2**
	5.2nm,0.7s						
CKRC	**Cesky Krumlov**	**3.41**	**250**	*e*PG	**Pb**	**21 54 16.9**	**-0.2**
CKRC				*e*SG	**Sg**	**21 55 04.3**	**-0.9**
BRG	**Berggiesshubel**	**3.41**	**285**	Pg	**Pg**	**21 54 24.2**	**+2.9**
BRG				Sg	**Sg**	**21 55 04.9**	**-0.6**
BRG				Amp		21 55 11.2	
	comp=Z,10.0nm,0.6s						
KHC	**Kasperske Hory**	**3.75**	**257**	*e*PN	**Pn**	**21 54 14.5**	**-0.5**
KHC				*e*SG	**Sg**	**21 55 15.1**	**-1.2**
	comp=Z,16nm,0.9s						
CLL	**Collm**	**4.09**	**290**	*e*Pg	**Pg**	**21 54 35.0**	**+0.8**
CLL				*e*		21 55 17.0	
CLL				*e*Sg	**Sg**	**21 55 26.0**	**-1.2**
	comp=Z,11nm,0.8s						
NKC	**Novy Kostel**	**4.31**	**274**	*e*SG	**Sg**	**21 55 32.1**	**-2.1**
	comp=Z,8.3nm,0.7s						

*IDC **08** 22:16:47.0±2.9, 6.°31S×129.°88E, h73km±34km, mb3.3/2, mb1 3.9/6, mb1mx3.3/52, mbtmp4.0/6, ML4.1/4, MS3.2/1, Ms1 3.2/1, ms1mx2.5/22, Error ellipse: s-maj=54.5km s-min=20.9km az=84.0*
ISC 08 22:16:47.2±0.9**, 6.°36S**±0.°06×**130.°5E**±0.°1**, h100km, n8, σ3.s88**/12**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.51**	**8**	P	**Pn**	**22 18 06.9**	**-0.1**
	5.5nm,0.3s,baz=239,slow=22,SNR=23						
SIJI				S	**Sn**	**22 19 04.3**	**-4.9**
	3.7nm,0.3s,baz=168,slow=22,SNR=7.8						
BATI	**Baumata**	**7.75**	**240**	P	**Pn**	**22 18 38.1**	**+0.8**
	4.8nm,0.3s,baz=333,slow=11,SNR=2.8						
BATI				S	**Sn**	**22 20 03.7**	**+0.1**
	2.5nm,0.3s,baz=84,slow=19,SNR=1.8						
FITZ	**Fitzroy Crossi**	**12.58**	**202**	P	**Pn**	**22 19 42.2**	**-0.5**
	0.8nm,0.3s,baz=29,slow=10.0,SNR=58						
FITZ				S	**Sn**	**22 21 54.4**	**-6.7**
	1.0nm,0.3s,baz=240,slow=23,SNR=7.1						
WRA	**Warramunga Arr**	**14.01**	**165**	P	**Pn**	**22 20 03.5**	**+2.1**
	1.2nm,0.3s,baz=339,slow=13,SNR=29						
WRA				S	**Sn**	**22 22 31.5**	**-4.2**
	2.0nm,0.3s,baz=336,slow=23,SNR=12						
ASAR	**Alice Springs**	**17.52**	**170**	P	**Pn**	**22 20 49.4**	**+4.1**
	0.7nm,0.3s,baz=343,slow=9.8,SNR=23						
ASAR				S	**Sn**	**22 23 57.5**	**-2.9**
	0.4nm,0.3s,baz=350,slow=27,SNR=9.5						
LEM	**Lembang**	**22.71**	**268**	LR	LR	22 33 13.1	
	comp=Z,52nm,18.1s,baz=331,slow=45						
STKA	**Stephens Creek**	**27.43**	**159**	P	**P**	**22 22 27.9**	**+4.2**
	0.4nm,0.3s,baz=355,slow=11,SNR=1.4						
MKAR	**Makanchi Array**	**67.96**	**326**	P	**P**	**22 27 36.3**	**+0.8**
	0.2nm,0.6s,baz=114,slow=7.7,SNR=2.3						

WEL 08 22:29:51.7±1.1**, 35°S**±17°×**17°9E**±3°0**, h322km**±14km**, M3.8**/2**, ML4.2**/12**, MLv3.8**/2**, Error ellipse: s-maj=0.0km s-min=0.0km az=117.4, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.08**	**192**	P	Pn	22 30 48.9	-0.8
MXZ				S	S	22 31 35.4	-0.8
WMGZ	**Waiomatatini S**	**3.32**	**190**	P	Pn	22 30 53.0	+1.0
WMGZ				S	S	22 31 39.9	-0.6
MWZ	**Matawai**	**4.00**	**198**	P	Pn	22 31 00.2	+1.1
MWZ				S	S	22 31 54.4	+1.3
URZ	**Urewera**	**4.05**	**203**	P	Pn	22 30 59.6	+0.1
URZ				S	S	22 31 53.8	-0.3
MUGZ	**Murupara**	**4.36**	**205**	P	Pn	22 31 03.4	+0.5
MUGZ				S	S	22 32 02.8	+2.6
RTZ	**Ruatahuna**	**4.42**	**202**	P	Pn	22 31 03.3	-0.2
OTVZ	**Oturere**	**5.38**	**210**	P	Pn	22 31 14.9	+0.3
BHHZ	**Black Hill Sta**	**5.51**	**205**	P	Pn	22 31 15.9	0.0
KAHZ	**Kahuranaki**	**5.54**	**198**	P	Pn	22 31 17.1	+0.9
KAHZ				S	S	22 32 26.3	+1.8
KRHZ	**Kereru**	**5.55**	**203**	P	Pn	22 31 15.9	-0.4
KRHZ				S	S	22 32 24.9	+0.3
PXZ	**Pawanui**	**5.77**	**198**	P	Pn	22 31 19.3	+0.5
PXZ				S	S	22 32 31.2	+2.1
PNHZ	**Pukenui**	**5.85**	**203**	P	Pn	22 31 19.3	-0.4
PNHZ				S	S	22 32 31.8	+0.9
BFZ	**Birch Farm**	**6.54**	**200**	P	Pn	22 31 28.1	+0.2
MRZ	**Mangatainoka R**	**6.72**	**204**	P	Pn	22 31 29.1	-0.9
MRZ				S	S	22 32 47.9	-1.8
OGWZ	**Otaki Gorge**	**7.00**	**205**	P	Pn	22 31 32.5	-0.9
OGWZ				S	S	22 32 55.6	-0.2
TMWZ	**Te Maipa**	**7.03**	**200**	P	Pn	22 31 33.8	0.0
TMWZ				S	S	22 32 57.3	+0.8

*IDC **08** 22:45:24.4±2.9, 32.°72S×178.°38W, h0km, mb4.2/2, mb1 4.4/3, mb1mx3.9/25, mbtmp4.2/3, ML4.2/1, MS3.3/3, Ms1 3.3/3, ms1mx2.8/31, Error ellipse: s-maj=68.0km s-min=35.5km az=117.0*
*NEIC **08** 22:45:25.9±0.8, 32.°9S±0.°1×178.°3W±0.°1, h10km±1km, mb4.3/11, Error ellipse: s-maj=22.3km s-min=16.3km az=15.0*
*WEL **08** 22:45:26.7±1.0, 33°S±11°×17°9W±2°5, h102km±54km, M4.2/14, mB4.7/10, ML4.8/16, MLv4.6/14, Mw(mB)3.9/10, Error ellipse: s-maj=0.0km s-min=0.0km az=111.7*
ISC 08 22:45:25.4±1.1**, 32.°80S**±0.°09×**178.°3W**±0.°1**, h10km, n49, σ1.s41**/63**, mb4.3**/9**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.54**	**5**	P	Pn	22 46 16.0	-4.3
GLKZ				S	Sn	22 46 55.3	-6.9
MXZ	**Matakaoa Point**	**5.52**	**210**	Pn	**Pn**	**22 46 46.0**	**-1.7**
MXZ	**Matakaoa Point**	**5.52**	**210**	P	**Pn**	**22 46 46.0**	**-1.7**
MXZ				S	**Sn**	**22 47 51.5**	**+0.3**
WMGZ	**Waiomatatini S**	**5.70**	**208**	P	**Pn**	**22 46 50.8**	**+0.7**
PKGZ	**Pakihiroa**	**5.90**	**209**	P	**Pn**	**22 46 51.6**	**-1.3**
PKGZ				S	**Sn**	**22 48 02.1**	**+1.6**
HAZ	**Te Kaha**	**5.91**	**212**	P	**Pn**	**22 46 54.4**	**+1.4**
HAZ				S	**Sn**	**22 48 03.9**	**+3.1**
PUZ	**Puketiti**	**5.98**	**207**	P	**Pn**	**22 46 53.7**	**-0.3**
PUZ				S	**Sn**	**22 48 03.1**	**+0.5**
RUGZ	**Raukumara Rang**	**6.13**	**212**	P	**Pn**	**22 46 55.5**	**-0.6**
RUGZ				S	**Sn**	**22 48 08.9**	**+2.5**
TWGZ	**Tauwhareparae**	**6.18**	**209**	P	**Pn**	**22 46 57.2**	**+0.5**
TWGZ				S	**Sn**	**22 48 09.5**	**+2.0**
CNGZ	**Carnagh Statio**	**6.36**	**206**	P	**Pn**	**22 46 57.8**	**-1.3**
CNGZ				S	**Sn**	**22 48 14.3**	**+2.4**
TKGZ	**Te Karaka**	**6.46**	**208**	P	**Pn**	**22 47 00.6**	**+0.1**
TKGZ				S	**Sn**	**22 48 15.0**	**+0.7**
MWZ	**Matawai**	**6.50**	**211**	P	**Pn**	**22 46 60.0**	**-1.2**
MWZ				S	**Sn**	**22 48 15.4**	**-0.1**
OPRZ	**Ohinepanea**	**6.58**	**219**	P	**Pn**	**22 47 04.1**	**+1.9**
URZ	**Urewera**	**6.63**	**213**	Pn	**Pn**	**22 47 03.4**	**+0.6**
	4.6nm,0.3s,baz=270,slow=2.8,SNR=19						
URZ				Sn	**Sn**	**22 48 17.9**	**-0.5**
	7.1nm,0.3s,baz=130,slow=18,SNR=14						
URZ	**Urewera**	**6.63**	**213**		**Pn**	**22 47 03.1**	**+0.3**
URZ	**Urewera**	**6.63**	**213**	P	**Pn**	**22 47 00.8**	**-2.1**
URZ				S	**Sn**	**22 48 18.2**	**-0.2**
RIGZ	**Rimuhau**	**6.72**	**208**	P	**Pn**	**22 47 04.8**	**+0.6**
RIGZ				S	**Sn**	**22 48 20.6**	**-0.3**
PRGZ	**Paritu Road**	**6.87**	**206**	P	**Pn**	**22 47 09.5**	**+3.4**
SNGZ	**Shannon Statio**	**6.96**	**210**	P	**Pn**	**22 47 08.7**	**+1.3**
SNGZ				S	**Sn**	**22 48 27.7**	**+1.0**
MUGZ	**Murupara**	**6.96**	**214**	P	**Pn**	**22 47 08.1**	**+0.6**
RAHZ	**Arahi**	**7.18**	**210**	P	**Pn**	**22 47 11.4**	**+0.9**
RAHZ				S	**Sn**	**22 48 31.4**	**-0.7**
MTHZ	**Maungataniwha**	**7.23**	**212**	P	**Pn**	**22 47 12.3**	**+1.1**
MTHZ				S	**Sn**	**22 48 32.2**	**-1.2**
BKZ	**Black Stump Fm**	**7.65**	**212**		**Pn**	**22 47 15.8**	**-1.0**
BKZ	**Black Stump Fm**	**7.65**	**212**	P	**Pn**	**22 47 17.5**	**+0.7**
KRVZ	**Karewarewa**	**8.00**	**216**	P	**Pn**	**22 47 23.1**	**+1.4**
KAHZ	**Kahuranaki**	**8.01**	**208**	P	**Pn**	**22 47 18.0**	**-3.9**
KAHZ				S	**Sn**	**22 48 49.6**	**-2.9**
OTVZ	**Oturere**	**8.04**	**216**	P	**Pn**	**22 47 22.0**	**-0.4**
BHHZ	**Black Hill Sta**	**8.10**	**213**	P	**Pn**	**22 47 24.0**	**+0.9**
MOVZ	**Moawhango**	**8.18**	**215**	P	**Pn**	**22 47 24.3**	**+0.1**
MOVZ				S	**Sn**	**22 48 53.5**	**-3.3**
DZM	**Mont Dzumac**	**17.26**	**304**	LR	LR	22 54 44.8	
	comp=Z,128nm,18.6s,baz=4.5,slow=33						
STKA	**Stephens Creek**	**33.79**	**260**	LR	LR	23 03 32.8	
	comp=Z,26nm,20.5s,baz=21,slow=32						
CTAO	**Charters Tower**	**34.04**	**283**	P	**P**	**22 52 09.9**	**+0.1**
CTAO				IAmb	IAmb	22 52 19.6	
	comp=Z,9.2nm,1.4s						
BBOO	**Buckleboo**	**38.16**	**257**	P	**P**	**22 52 44.5**	**-0.6**
BBOO				IAmb	IAmb	22 53 02.4	
	comp=Z,8.5nm,1.4s						
AS31	**Alice Springs**	**42.81**	**270**	P	**P**	**22 53 23.5**	**-0.1**
ASAR	**Alice Springs**	**42.81**	**270**	P	**P**	**22 53 23.7**	**0.0**
	comp=Z,1.5nm,0.4s,baz=107,slow=7.4,SNR=21						
ASAR	**Alice Springs**	**42.81**	**270**	P	**P**	**22 53 22.9**	**-0.8**
WR0	**Warramunga Arr**	**43.84**	**275**	P	**P**	**22 53 31.8**	**-0.2**
WR0				IAmb	IAmb	22 53 32.1	
	comp=Z,6.3nm,1.1s						
WRA	**Warramunga Arr**	**44.02**	**275**	P	**P**	**22 53 33.0**	**-0.3**
	comp=Z,1.3nm,0.3s,baz=114,slow=8.0,SNR=14						
WRA				LR	LR	23 11 49.7	
	comp=Z,63nm,19.3s,baz=70,slow=36						
WRA	**Warramunga Arr**	**44.02**	**275**	P	**P**	**22 53 33.1**	**-0.3**
MTN	**Manton Dam**	**50.18**	**281**	P	**P**	**22 54 21.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**52.17**	**272**	P	**P**	**22 54 36.3**	**-0.1**
FITZ				IAmb	IAmb	22 54 52.8	
	comp=Z,4.8nm,1.2s						
CASY	**Casey**	**52.93**	**209**	P	**P**	**22 54 41.4**	**0.0**
CASY				IAmb	IAmb	22 54 55.2	
	comp=Z,5.2nm,1.1s						
QSPA	**South Pole Qui**	**57.32**	**180**	P	**P**	**22 55 14.2**	**+0.9**
QSPA				IAmb	IAmb	22 55 26.0	
	comp=Z,2.7nm,0.8s						
SNAA	**Sanae**	**75.77**	**179**	P	**PcP**	**22 57 22.0**	**-1.7**
SNAA	**Sanae**	**75.77**	**179**	P	**P**	**22 57 10.6**	**-0.4**
SNAA				IAmb	IAmb	22 57 29.3	
	comp=Z,3.9nm,1.2s						
VNA3	**Neumayer Olymp**	**75.94**	**176**	P	**PcP**	**22 57 23.3**	**-1.0**
VNA2	**Neumayer--Watz**	**76.37**	**177**	P	**PcP**	**22 57 25.9**	**-0.2**
	baz=178,slow=5.0						
VNA1	**Neumayer--Stat**	**76.60**	**177**	P	**PcP**	**22 57 27.0**	**-0.1**
FINES	**FINESS Array B**	**147.30**	**338**	PKPbc	**PKPdf**	**23 05 07.9**	**+1.9**
	comp=Z,0.9nm,0.3s,baz=58,slow=3.2,SNR=8.3						

IDC 08 22:58:43.2±3.2**, 32.°49S**×**178.°26W, h0km, mb3.7**/2**, mb1 4.0**/3**, mb1mx3.7**/31**, mbtmp3.7**/3**, ML3.6**/1**, Error ellipse: s-maj=75.0km s-min=46.9km az=120.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.89**	**212**	Pn	Pn	23 00 23.7	-1.7
	1.1nm,0.3s,baz=258,slow=5.6,SNR=6.5						
URZ				Sn	Sn	23 01 40.2	-4.3
	3.1nm,0.3s,baz=245,slow=21,SNR=7.2						
ASAR	**Alice Springs**	**42.82**	**269**	P	P	23 06 43.5	+0.4
	0.5nm,0.7s,baz=102,slow=7.8,SNR=4.7						
WRA	**Warramunga Arr**	**43.99**	**274**	P	P	23 06 52.4	-0.2
	0.5nm,0.3s,baz=112,slow=7.8,SNR=8.9						
FINES	**FINESS Array B**	**147.01**	**339**	PKPbc	PKPbc	23 18 26.3	-0.7
	2.0nm,0.9s,baz=40,slow=7.4,SNR=4.7						

*IDC **08** 23:05:09.6±1.6, 47.°84N×147.°02E, h398km±21km, mb2.9/8, mb1 3.1/13, mb1mx3.0/39, mbtmp3.8/13, Error ellipse: s-maj=28.3km s-min=16.9km az=149.0*
*JMA **08** 23:05:10.1±0.5, 47.°02N×147.°53E, h418km, M3.7*
ISC 08 23:05:08.0±0.7**, 47.°44N**±0.°09×**147.°2E**±0.°1**, h400km, n23, σ2.s28**/28**, mb3.2**/8**, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**4.03**	**234**	P	**Pn**	**23 06 23.6**	**+3.3**
JTKR	**Abashiri--Toko**	**4.15**	**214**	P	**Pn**	**23 06 23.6**	**+2.1**
NEM2	**Nemuro 2**	**4.20**	**194**	P	**Pn**	**23 06 22.5**	**+0.5**
NEM2				*e*S	**S**	**23 07 19.4**	**-2.6**
ASAJ	**Asahikawa**	**4.61**	**226**	P	**Pn**	**23 06 29.0**	**+3.0**
	1.5nm,0.3s,baz=4.4,slow=2.9,SNR=7.1						
JAK	**Akkeshi**	**4.77**	**202**	P	**Pn**	**23 06 28.2**	**+0.5**
JAK				*e*S	**S**	**23 07 30.3**	**-2.1**
JAR	**Ashorobuto**	**4.78**	**211**	P	**Pn**	**23 06 29.7**	**+1.9**
JCH	**Churui**	**5.53**	**211**	P	**Pn**	**23 06 36.0**	**+0.5**
JCH				*e*S	**S**	**23 07 43.8**	**-3.0**
JKB	**Kayabe**	**7.06**	**220**	P	**Pn**	**23 06 53.3**	**+0.9**
JKB				*e*S	**S**	**23 08 13.5**	**-4.1**
JOT	**Ohata**	**7.47**	**218**	P	**Pn**	**23 06 56.8**	**-0.2**
JOT				*e*S	**S**	**23 08 20.9**	**-5.2**
JOSM	**Okushiri--Mats**	**7.65**	**228**	P	**P**	**23 07 01.8**	**+2.3**
PETK	**Petropavlovsk-**	**8.81**	**46**	P	**Pn**	**23 07 11.5**	**-0.5**
	0.6nm,0.3s,baz=222,slow=10.0,SNR=8.6						
MJAR	**Matsushiro Arr**	**12.75**	**215**	P	**Pn**	**23 08 00.2**	**+2.3**
	0.2nm,0.3s,baz=22,slow=11,SNR=4.4						
KSRS	**Korea Array**	**17.31**	**242**	P	**P**	**23 08 49.0**	**+3.9**
	0.2nm,0.3s,baz=49,slow=12,SNR=6.2						
YAK	**Yakutsk**	**17.67**	**332**	P	**P**	**23 08 46.8**	**-1.8**
	0.5nm,0.3s,baz=128,slow=3.6,SNR=6.9						
ILAR	**Eielson Array**	**38.55**	**39**	P	**P**	**23 11 53.3**	**-0.4**
	0.4nm,0.6s,baz=258,slow=5.8,SNR=4.7						
ZALV	**Zalesovo Beam**	**38.87**	**303**	P	**P**	**23 11 55.9**	**-0.5**
	0.4nm,0.4s,baz=78,slow=7.2,SNR=2.1						
MKAR	**Makanchi Array**	**42.98**	**294**	P	**P**	**23 12 29.6**	**0.0**
	0.5nm,0.9s,baz=40,slow=6.4,SNR=4.1						
FINES	**FINESS Array B**	**61.60**	**332**	P	**P**	**23 14 43.0**	**-1.2**
	1.1nm,0.5s,baz=37,slow=7.6,SNR=8.7						
NB2	**NORSAR Subarra**	**66.17**	**338**	P	**P**	**23 15 12.4**	**-1.3**
	comp=Z,1.3nm,0.7s,baz=30,slow=6.2						
NOA	**NORSAR Array B**	**66.17**	**338**	P	**P**	**23 15 12.7**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=31,slow=6.7,SNR=12						
AKASG	**Malin Array Be**	**68.62**	**323**	P	**P**	**23 15 28.4**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=40,slow=6.2,SNR=2.3						
GERES	**GERESS Array B**	**75.95**	**330**	P	**P**	**23 16 11.6**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=18,slow=5.6,SNR=3.6						
TXAR	**Lajitas Array**	**80.60**	**57**	P	**P**	**23 16 39.3**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=274,slow=3.5,SNR=2.3						

*IDC **08** 23:07:51.5±2.3, 32.°77S×178.°19W, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.8/33, mbtmp4.0/3, ML3.6/1, Error*

ellipse: s-maj=62.2km s-min=33.9km az=126.0
*NEIC **08** 23:08:03.5±1.7, 32°.74S±0°.09×179°.6W±0°.2, h10km±1km, mb4.4/8, Error ellipse: s-maj=31.9km s-min=8.4km az=116.0*
ISC 08 23:08:03.2±0.8**, 32°.77S**±0°.09×**179°.5W**±0°.1**, h10**km**, n23, σ2ṣ48**/23**, mb4.3**/6**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	3.75	21	Pn	Pn	23 09 00.8	-0.3
URZ	Urewera	6.15	206	Pn	Pn	23 09 31.5	-2.6
	1.1nm,0.3s,baz=288,slow=4.5,SNR=7.5						
URZ				Sn	Sn	23 10 46.5	+2.1
	5.7nm,0.3s,baz=260,slow=22,SNR=10						
URZ	Urewera	6.15	206		Pn	23 09 30.9	-3.1
BKZ	Black Stump Fm	7.18	206	Pn	Pn	23 09 46.7	-1.5
DZM	Mont Dzumac	16.41	307	P	P	23 12 00.2	+3.7
	0.1nm,0.3s,baz=118,slow=18,SNR=3.9						
CTAO	Charters Tower	33.04	284	P	P	23 14 39.6	+0.6
AS31	Alice Springs	41.80	270	P	P	23 15 52.2	-1.0
ASAR	Alice Springs	41.80	270	P	P	23 15 52.0	-1.1
	1.7nm,0.6s,baz=107,slow=7.7,SNR=20						
ASAR	Alice Springs	41.80	270	P	P	23 15 51.8	-1.4
WR0	Warramunga Arr	42.83	276	P	P	23 16 00.1	-1.4
WR0				IAmb	IAmb	23 16 24.2	
	comp=Z,5.9nm,1.3s						
WB2	Warramunga Arr	42.99	275	P	P	23 16 01.5	-1.4
WB2				IAmb	IAmb	23 16 28.9	
	comp=Z,14nm,1.5s						
WRA	Warramunga Arr	43.00	275	P	P	23 16 01.3	-1.7
	comp=Z,0.9nm,0.4s,baz=114,slow=7.7,SNR=9.7						
WRA	Warramunga Arr	43.00	275	P	P	23 16 01.3	-1.7
FORT	Forrest	44.28	258	P	P	23 16 14.2	+1.1
QSPA	South Pole Qui	57.35	180	P	P	23 17 53.9	+2.6
QSPA				IAmb	IAmb	23 18 21.6	
	comp=Z,7.1nm,1.5s						
DHH	Diamond Head	57.58	24	P	P	23 17 54.4	+1.3
SNAA	Sanae	75.83	179	P	P	23 19 50.2	+1.0
SNAA	Sanae	75.83	179		P	23 19 49.1	0.0
SNAA				IAmb	IAmb	23 20 07.0	
	comp=Z,6.3nm,1.5s						
VNA3	Neumayer Olymp	76.03	177	P	P	23 19 51.6	+1.4
VNA2	Neumayer--Watz	76.45	177	P	P	23 19 54.2	+1.7
	baz=174,slow=5.1						
VNA1	Neumayer--Stat	76.69	177	P	P	23 19 55.5	+1.6
MKAR	Makanchi Array	118.32	309	PKP	PKPdf	23 26 41.4	-9.1
	comp=Z,0.4nm,0.8s,baz=123,slow=5.3,SNR=3.6						
FINES	FINESS Array B	146.89	338	PKPbc	PKPdf	23 27 35.6	-7.4
	comp=Z,1.5nm,0.5s,baz=90,slow=4.2,SNR=14						

IDC 08 23:25:41.5±10.0**, 24°.25S**×**178°.91W, h592**km±109km**, mb3.2**/4**, mb1 3.3**/5**, mb1mx2.9**/26**, mbtmp4.2**/5**, Error ellipse: s-maj=244.3km s-min=102.3km az=88.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	7.08	336	P	P	23 27 32.1	-0.1
	1.4nm,0.3s,baz=100,slow=19,SNR=4.3						
CTA	Charters Tower	32.48	270	P	P	23 31 25.1	+0.1
	3.8nm,0.3s,baz=107,slow=10.0,SNR=9.1						
STKA	Stephens Creek	35.52	249	P	P	23 31 49.6	-0.7
	0.5nm,0.4s,baz=95,slow=11,SNR=3.5						
ASAR	Alice Springs	42.96	261	P	P	23 32 50.1	+0.1
	0.7nm,0.4s,baz=97,slow=8.2,SNR=13						
WRA	Warramunga Arr	43.38	266	P	P	23 32 53.0	-0.2
	2.3nm,0.3s,baz=102,slow=8.2,SNR=27						

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*TRN **08** 23:42:04.7, 13°.76N×58°.51W, h97km, MD4.0*
ISC 08 23:42:03.1±2.4**, 13°.83N**±0°.04×**58°.5W**±0°.1**, h10**km**, n37, σ1ṣ62**/61**, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBSP	Saint Philip	1.21	234	eP	Pn	23 42 27.3	+1.1
BBSP				eS	Sn	23 42 44.7	+2.1
BBGH	Gun Hill	1.27	238	eP	Pg	23 42 28.2	+0.7
BBGH				eS	Sn	23 42 46.2	+2.1
MPOM	Morne Pois Mar	2.41	285	eP	Pn	23 42 43.6	+0.9
MPOM				eS	Sn	23 43 11.1	-1.1
MCLT	Moule a Chique	2.42	268	eP	Pn	23 42 43.5	+0.8
MCLT				eS	Sn	23 43 10.7	-1.8
SLBI	Saint Lucia, B	2.46	275	eP	Pn	23 42 44.0	+0.8
SLBI				eS	Sn	23 43 12.7	-0.6
MVM	Montagne Vaucl	2.48	287	eP	Pn	23 42 44.0	+0.5
SLB	Belfond	2.51	270	eP	Pn	23 42 44.8	+0.7
SLB				eS	Sn	23 43 13.5	-1.3
ILAM	Ilet Lapin Mar	2.53	292	eP	Pn	23 42 45.8	+1.6
ILAM				eS	Sn	23 43 14.5	-0.6
LPMF	Morne Lapointe	2.55	287	eP	Pn	23 42 44.8	+0.3
ZAM	Aeronautique	2.60	287	eP	Pn	23 42 45.4	+0.1
TRMF	Trois Ilets	2.62	286	eP	Pn	23 42 45.7	+0.2
BIM	Bigot	2.63	285	eP	Pn	23 42 46.1	+0.4
BIM				eS	Sn	23 43 16.4	-1.3
SSV	Crater Summit	2.71	260	eP	Pn	23 42 46.3	-0.5
SSV				eS	Sn	23 43 18.4	-1.3
SVV	Soufriere Volc	2.73	260	eP	Pn	23 42 46.9	-0.2
SVV				eS	Sn	23 43 19.9	-0.3
FDF	Fort de France	2.77	289	eP	Pn	23 42 48.2	+0.7
FDF				eS	Sn	23 43 20.6	-0.5
SVB	Belmont	2.78	259	eP	Pn	23 42 47.7	0.0
SVB				eS	Sn	23 43 19.5	-1.8
BAMF	Morne Balai	2.79	291	eP	Pn	23 42 49.0	+1.1
CXM	Morne La Croix	2.81	291	eP	Pn	23 42 49.6	+1.4
SVN	Savane Anatole	2.82	291	eP	Pn	23 42 49.8	+1.6
PCM	Pelee Case Pet	2.85	290	eP	Pn	23 42 50.0	+1.3
DLPL	La Plaine	3.09	299	e	Pn	23 42 56.5	+4.5
DLPL				eS	Sn	23 43 28.4	-0.6
GCMP	Grenada, Carri	3.19	246	eP	Pn	23 42 53.7	+0.4
GCMP				eS	Sn	23 43 29.2	-2.2
TOSP	Speyside	3.23	219	eP	Pn	23 42 53.4	-0.5
TOSP				eS	Sn	23 43 28.9	-3.6
DSLB	Salisbury	3.29	299	eP	Pn	23 42 55.8	+1.1
DSLB				eS	Sn	23 43 32.5	-1.4
MDCT	Cottage Hill,	3.41	302	eP	Pn	23 42 57.9	+1.5
MDCT				eS	Sn	23 43 35.6	-1.4
MAGL	Barre de l'ile	3.45	308	eP	Pn	23 42 57.8	+0.9
MAGL				eS	Sn	23 43 37.3	-0.7
GRGR	Grenville	3.55	242	eP	Pn	23 42 58.1	-0.2
GRGR				eS	Sn	23 43 37.7	-2.6
GRFF	Grenada Fort F	3.66	241	e	Pn	23 43 03.9	+4.1
GRFF				eS	Sn	23 43 40.0	-3.1
TDBA	Terre de Bas,	3.67	304	eP	Pn	23 43 01.8	+1.8
TDBA				eS	Sn	23 43 42.0	-1.5
TBG	Guadaloupe-3	3.69	303	eP	Pn	23 43 01.9	+1.8
TBG				eS	Sn	23 43 41.4	-2.3
CBE	Ff, Capester	3.78	307	eP	Pn	23 43 02.8	+1.3
CBE				eS	Sn	23 43 44.6	-1.3
ABD	La Joyeuse, An	3.94	312	eP	Pn	23 43 04.8	+1.2
ABD				eS	Sn	23 43 49.0	-0.9
ANBD	Bethesda, Anti	4.52	315	eP	Pn	23 43 12.4	+0.7
ANBD	Bethesda, Anti	4.52	315	eS	Sn	23 44 02.5	-1.8
ANOC	Antigua Open C	4.62	316	eS	Sn	23 44 05.2	-1.5
ANWB	Willy Bob	4.99	320	eP	Pn	23 43 17.8	-0.2
ANWB	Willy Bob	4.99	320	eS	Sn	23 44 12.8	-3.0

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*BGR **08** 23:43:03.4±0.0, 10°.13S×42°.51E, h33km, mb5.2*
*IDC **08** 23:43:24.9±0.5, 7°.15S×39°.90E, h0km, mb4.3/28, mb1 4.4/31, mb1mx4.3/51, mbtmp4.3/31, ML4.7/3, MS4.3/24, Ms1 4.3/24, ms1mx4.1/38, Error ellipse: s-maj=15.4km s-min=12.0km az=112.0*
*NEIC **08** 23:43:27.1±2.1, 7°.14S±0°.07×39°.82E±0°.09, h10km±1km, mb4.8/63, Error ellipse: s-maj=14.6km s-min=11.5km az=86.0*
*GCMT **08** 23:43:29.1±0.2, 6°.99S±0°.02×39°.87E±0°.02, h20km, MW5.0/90, Moment Tensor Solution. s48,c57; s90,c130; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.06±.17; $M_{\theta\theta}$0.29±.09; $M_{\phi\phi}$2.77±.11; $M_{r\theta}$1.61±.21; $M_{\theta\phi}$-1.18±.08; $M_{\phi r}$-1.72±.19; Best double couple: $M_0$3.93700×10^{16} NP1: ϕ_s171.00000°, δ29.00000°, λ-67.00000°. NP2: ϕ_s326.00000°, δ64.00000°, λ-102.00000°. Principal axes: T 3.9470, Plg18.0000°, Azm64.0000°; N -0.0220, Plg11.0000°, Azm331.0000°; P -3.9280, Plg69.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 08 23:43:26.0±0.3**, 7°.16S**±0°.04×**39°.57E**±0°.04**, h10**km**, n286, σ1ṣ72**/304**, mb4.8**/71**, MS4.3**/25**, 28C-8D, Tanzania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOND	Kondoa	4.37	301	iP	Pn	23 44 33.4	+0.7
KOND				iS	Sn	23 45 21.8	-2.0
KOND	Kondoa	4.37	301	iP	Pb	23 44 42.4	-0.6
KOND				iS	Sb	23 45 37.0	+1.1
BBAT	Babati	4.79	308	iP	Pn	23 44 39.2	+0.7
BBAT				iS	Sn	23 45 31.9	-2.3
BBAT	Babati	4.79	308	iP	Pb	23 44 48.6	-1.6
BBAT				iS	Sb	23 45 47.7	-0.3
KIBK	Kibwezi	5.02	342	Pn	Pn	23 44 41.5	-0.1
SINGT	Singida	5.34	296	iP	Pn	23 44 46.4	+0.4
SINGT				iS	Sn	23 45 44.4	-3.3
SINGT	Singida	5.34	296	iP	Pb	23 44 55.0	-4.6
SINGT				iS	Sb	23 45 58.7	-5.2
KMBO	Kilima Mbogo	6.42	339	Pn	Pn	23 45 01.5	+0.5
	22nm,0.3s,baz=153,slow=14,SNR=492						
KMBO				Sn	Sn	23 46 11.7	-2.8
	40nm,0.3s,baz=193,slow=14,SNR=7.8						
KMBO				LR	LR	23 47 49.0	
	comp=Z,2μm,18.9s,baz=151,slow=40						
ZOMB	Zomba	9.16	206	iP	Pn	23 45 38.0	-0.4
ZOMB				S	Sn	23 47 15.3	-6.4
ZOMB	Zomba	9.16	206	iP	Pn	23 45 38.0	-0.4
ZOMB				S	Sn	23 47 15.3	-6.4
TEBE	Entebbe	10.07	315	eP	Pn	23 45 51.4	+0.4
TEBE				eS	Sn	23 47 36.7	-7.5
MBAR	Mbarara	10.95	306	Pn	Pn	23 46 02.8	-0.3
	24nm,0.3s,baz=299,slow=12,SNR=56						
MBAR				Sn	Sn	23 47 59.1	-6.8
	80nm,0.3s,baz=279,slow=20,SNR=9.7						
MBAR				Lg	Lg	23 49 10.4	
	2.9nm,0.3s,baz=243,slow=22,SNR=3.5						
MBAR				LR	LR	23 50 36.6	
	comp=Z,1μm,19.9s,baz=114,slow=38						
MBAR	Mbarara	10.95	306	Pn	Pn	23 46 02.6	-0.4
MBAR	Mbarara	10.95	306	eP	Pn	23 46 02.7	-0.4
MBAR				eS	Sn	23 47 58.7	-7.2
LODK	Lodwar	11.32	338	Pn	Pn	23 46 09.0	+1.1
SBV	Sambava	11.95	122	P	Pn	23 46 13.1	-3.5
OPO	Ambohidratompo	13.55	148	Pn	Pn	23 46 34.9	-3.8
	6.6nm,0.3s,baz=302,slow=15,SNR=57						
OPO				Sn	Sn	23 48 53.3	-16
	6.2nm,0.3s,baz=234,slow=19,SNR=3.6						
ABPO	Ambohimpanom	13.94	148	Pn	Pn	23 46 39.9	-4.0
FURI	Furi	15.97	357	Pn	Pn	23 47 11.3	0.0
MSEY	Mahe Island	16.02	82	Pn	Pn	23 47 07.7	-3.9
VOI	Vohitsoka	16.24	155	Pn	Pn	23 47 13.4	-1.1
MATP	Matopo	17.00	218	P	Pn	23 47 23.4	-0.8
	5.2nm,0.3s,baz=42,slow=18,SNR=202						
MATP				S	Sn	23 50 21.2	-12
	4.6nm,0.3s,baz=121,slow=20,SNR=5.8						
MATP				Lg	Lg	23 52 19.2	
	1.4nm,0.3s,baz=135,slow=23,SNR=3.6						
MATP				LR	LR	23 54 16.9	
	comp=Z,931nm,19.9s,baz=40,slow=38						
ATD	Arta Tunnel	18.85	10	P	P	23 47 45.4	-1.0
	1.1nm,0.3s,baz=160,slow=6.8,SNR=7.2						
ATD				LR	LR	23 55 52.8	
	comp=Z,1μm,20.0s,baz=186,slow=40						
ATD	Arta Tunnel	18.85	10	P	Pn	23 47 47.0	0.0
LBTB	Lobatse	22.22	215	P	P	23 48 25.1	+2.1
	16nm,0.8s,baz=35,slow=9.9,SNR=16						
LBTB				S	S	23 52 28.1	+0.2
	9.4nm,0.5s,baz=53,slow=5.1,SNR=3.6						
LBTB				LR	LR	23 57 24.3	
	comp=Z,2μm,18.0s,baz=42,slow=37						
LBTB	Lobatse	22.22	215	P	P	23 48 25.2	+2.1
SOCY	Socotra	23.98	37	P	P	23 48 41.3	+0.3
SOCY				IAmb	IAmb	23 48 49.8	
	comp=Z,29nm,0.7s						
TSUM	Tsumeb	24.49	239	P	P	23 48 48.0	+2.3
	comp=Z,10.0nm,0.7s,baz=71,slow=9.2,SNR=15						
TSUM				LR	LR	23 59 00.3	
	comp=Z,903nm,19.7s,baz=284,slow=38						
TSUM	Tsumeb	24.49	239	P	P	23 48 48.7	+2.9
TSUM				IAmb	IAmb	23 49 02.2	
	comp=Z,27nm,1.2s						
BOSA	Boshof	25.26	211	P	P	23 48 54.4	+1.7
	comp=Z,13nm,0.6s,baz=39,slow=9.2,SNR=44						
BOSA				LR	LR	23 59 07.5	
	comp=Z,3μm,18.8s,baz=41,slow=37						
BOSA	Boshof	25.26	211	P	P	23 48 54.5	+1.9
WSAR	Wadi Sarin	35.50	31	P	P	23 50 21.4	-1.8
	comp=Z,5.1nm,0.8s,baz=245,slow=12,SNR=6.0						
CSS	Mathiatis	42.30	352	P	P	23 51 21.4	+1.4
TORD	Torodi Ar. Bea	42.69	298	P	P	23 51 26.4	+2.9
	comp=Z,2.4nm,0.9s,baz=127,slow=8.5,SNR=12						
TORD				PcP	PcP	23 53 16.2	+0.8
	comp=Z,2.2nm,0.8s,baz=107,slow=3.5,SNR=8.9						
TORD				LR	LR	00 09 15.5	
	comp=Z,432nm,20.7s,baz=145,slow=36						
TORD	Torodi Ar. Bea	42.69	298	P	P	23 51 25.5	+2.0
GAZ	Gaziantep	44.15	357	P	P	23 51 35.9	+0.9
GURO	Guroymak-BITLI	45.53	3	P	P	23 51 47.2	+1.1
BNN	Bunyan	45.91	356	P	P	23 51 50.0	+0.9
DBIC	Dimbokro	46.40	286	P	P	23 51 55.9	+2.8
	comp=Z,4.9nm,0.9s,baz=120,slow=6.5,SNR=3.2						
DBIC				LR	LR	00 11 23.7	
	comp=Z,563nm,21.1s,baz=118,slow=36						
DBIC	Dimbokro	46.40	286	P	P	23 51 55.8	+2.6
DBIC				IAmb	IAmb	23 52 06.4	
	comp=Z,13nm,1.1s						
MANT	Manisa	46.56	348	P	P	23 51 56.5	+2.3
HRA	Herat	46.56	26	P	P	23 51 54.0	-0.3
BR131	Keskin Array S	46.97	354	P	P	23 51 58.3	+0.9
BR131				IAmb	IAmb	23 52 00.0	
	comp=Z,17nm,1.1s						
BRTR	Keskin Array B	46.97	354	P	P	23 51 59.2	+1.8
	comp=Z,3.8nm,0.8s,baz=172,slow=10.0,SNR=11						
BRTR				LR	LR	00 13 30.4	
	comp=Z,177nm,18.2s,baz=160,slow=38						
BRTR	Keskin Array B	46.97	354	P	P	23 51 58.7	+1.3
GNI	Garni	47.31	5	P	P	23 52 01.8	+1.7
	comp=Z,6.1nm,0.8s,baz=329,slow=1.4,SNR=8.2						
GNI	Garni	47.31	5	P	P	23 52 01.5	+1.4
GNI				IAmb	IAmb	23 52 02.4	
	comp=Z,9.3nm,0.9s						
GEYT	Alibeck	48.08	20	LR	LR	00 15 27.9	
	comp=Z,557nm,18.3s,baz=195,slow=40						
KOWA	Kowa	48.29	297	P	P	23 52 10.7	+2.8
	comp=Z,3.3nm,0.7s,baz=116,slow=7.3,SNR=7.8						
KOWA	Kowa	48.29	297	P	P	23 52 12.3	+4.4
KOWA				IAmb	IAmb	23 52 12.6	
	comp=Z,6.8nm,0.9s						
AKH	Akhalkalaki	48.46	4	⇑P	P	23 52 10.5	+1.5
KBL	Kabul	49.97	32	P	P	23 52 21.0	+0.4
KBZ	Khabaz	50.74	3	P	P	23 52 26.9	+0.9
	comp=Z,2.0nm,0.9s,baz=207,slow=6.8,SNR=3.9						
KBZ				PcP	PcP	23 53 43.0	-0.1
	comp=Z,1.9nm,0.7s,baz=216,slow=6.2,SNR=3.7						
KBZ				LR	LR	00 15 40.9	
	comp=Z,205nm,18.6s,baz=180,slow=38						
KIV	Kislovodsk	50.95	3	P	P	23 52 28.2	+0.4
KIV				IAmb	IAmb	23 52 31.5	
	comp=Z,16nm,1.4s						
KEST	Kesra	51.27	328	P	P	23 52 31.9	+1.6
	comp=Z,3.6nm,1.0s,baz=304,slow=4.6,SNR=4.2						
KEST				LR	LR	00 16 39.4	
	comp=Z,494nm,18.8s,baz=94,slow=39						
ICOR	Ion Corvin	52.13	349	⇑P	P	23 52 37.8	+1.3
TLBR	Topalu	52.50	350	⇓P	P	23 52 40.2	+1.0
HARR	Harsova	52.66	350	⇑P	P	23 52 41.9	+1.5
TPGR	Topolog	52.74	350	⇑P	P	23 52 40.3	-0.8
BOVS	Bovan	53.09	344	⇑P	P	23 52 44.2	+0.6
CFR	Carcaliu	53.10	350	⇑P	P	23 52 44.8	+1.2
CHGR	Chuyangaron	53.23	29	P	P	23 52 44.2	-0.7
CHGR				IAmb	IAmb	23 52 51.9	
	comp=Z,15nm,1.0s						
MLR	Muntele Rosu	53.82	348	⇑P	P	23 52 51.0	+2.0
VOIR		53.95	347	⇑P	P	23 52 51.0	+1.0
ARR	Arges	53.98	347	⇑P	P	23 52 51.6	+1.4
DIVS	Divibare	54.00	343	P	P	23 52 52.7	+2.3
DIVS				IAmb	IAmb	23 52 53.8	
	comp=Z,15nm,1.1s						
PLOR	Plostina	54.02	349	⇑P	P	23 52 52.3	+1.9
VRI	Vrincioaia	54.02	349	⇑P	P	23 52 52.4	+1.9
HERR	Herculane	54.05	345	⇓P	P	23 52 51.9	+1.3
GAR	Garm	54.06	29	P	P	23 52 51.6	+0.6
GAR				IAmb	IAmb	23 53 06.4	
	comp=Z,15nm,1.3s						
GHRR		54.08	350	⇑P	P	23 52 51.7	+0.8
COVR	Voineasa-Covas	54.10	348	⇑P	P	23 52 52.1	+1.0
PURM	Purcari	54.14	352	⇑P	P	23 52 52.1	+0.9
MDVR	Moldovita	54.15	344	⇑P	P	23 52 52.8	+1.4
DOPR	Dopca	54.39	348	⇑P	P	23 52 53.5	+0.4
OZUR		54.43	348	⇑P	P	23 52 54.0	+0.6
GZR	Gura Zlata	54.44	346	⇑P	P	23 52 55.1	+1.6
BZS	Buzias	54.95	345	⇑P	P	23 52 58.1	+1.0
FRGS	Fruska Gora	55.02	343	⇑P	P	23 52 59.7	+2.0
DRK	Karamyk	55.16	30	P	P	23 53 00.2	+1.0
DRK				IAmb	IAmb	23 53 18.8	
	comp=Z,7.1nm,1.1s						
BIZ	Bicaz	55.17	349	⇑P	P	23 52 59.8	+1.1
SIRR	Siria	55.54	345	⇑P	P	23 53 02.7	+1.3
ARCR	ARCALIA	55.67	347	⇑P	P	23 53 03.5	+1.2
DRGR		55.77	346	⇑P	P	23 53 05.1	+2.0
SORM	Soroca	55.94	351	⇑P	P	23 53 04.4	+0.2
BURAR	Bucovina Array	55.99	348	⇑P	P	23 53 06.9	+2.1
BURAR	Bucovina Array	55.99	348	P	P	23 53 05.8	+1.0
BUR08	Bucovina Ar. S	56.03	348	P	P	23 53 06.3	+1.3
BUR08				IAmb	IAmb	23 53 07.9	
	comp=Z,8.6nm,1.2s						
TRPA	Tarpa	57.06	346	⇑P	P	23 53 13.7	+1.4
TRPA	Tarpa	57.06	346	eP	P	23 53 13.4	+1.1
KOGS	Kog	57.27	341	eP	P	23 53 15.7	+1.9
KSH	Kashi	57.36	33	P	P	23 53 11.8	-2.9
KK31	Karatay Array	57.38	27	P	P	23 53 14.1	-0.6
KKAR	Karatay Array	57.38	27	P	P	23 53 13.8	-0.9
KKAR				IAmb	IAmb	23 53 15.2	
	comp=Z,9.2nm,1.4s						
KKAR	Karatay Array	57.38	27	P	P	23 53 13.7	-1.0
PSZ	Piszkesteto	57.52	344	P	P	23 53 16.4	+0.7
PSZ				IAmb	IAmb	23 53 19.2	
	comp=Z,7.9nm,1.0s						
GROS	Grobnik	57.53	340	eP	P	23 53 17.7	+2.0
SRO2	Moca	57.80	343	eP	P	23 53 18.4	+1.0
PERS	Pernice	57.81	340	eP	P	23 53 19.6	+2.0
SOKA	Soboth	57.88	340	eP	P	23 53 20.2	+2.1
	comp=Z,11nm,0.8s,SNR=6.7						
OBKA	Obir	57.89	340	eP	P	23 53 20.3	+2.0
	comp=Z,16nm,0.9s						
CRVS	Cervenica-Dubn	58.04	346	eP	P	23 53 20.8	+1.6
ARSA	Arzberg	58.22	341	eP	P	23 53 22.2	+1.7
	comp=Z,8.4nm,1.1s						
SOP	Sopron	58.27	342	eP	P	23 53 19.7	-1.1
AKASG	Malin Array Be	58.32	352	P	P	23 53 20.9	-0.1
	comp=Z,4.9nm,1.0s,baz=174,slow=6.0,SNR=14						
AKASG				LR	LR	00 20 41.9	
	comp=Z,54nm,18.9s,baz=110,slow=38						
AKASG	Malin Array Be	58.32	352	P	P	23 53 19.7	-1.3
AKBB	Malin Array Si	58.32	352	P	P	23 53 20.4	-0.6
KWP	Kalwaria Pacla	58.44	347	P	P	23 53 22.8	+0.9
ZOU	Zoufplan	58.48	339	P	P	23 53 24.0	+1.4
CTI	Castel Tesino	58.54	338	P	P	23 53 24.7	+1.8
CTI				IAmb	IAmb	23 53 25.7	
	comp=Z,10nm,1.0s						
CONA	Conrad Observa	58.70	342	iP	P	23 53 25.5	+1.6
	comp=Z,13nm,1.1s,SNR=9.0						
LANS	Liptovska Anna	58.77	345	eP	P	23 53 26.2	+1.9
KBA	Koelnbreinsper	58.80	339	eP	P	23 53 25.8	+1.1
	comp=Z,13nm,1.4s						
ABTA	Abfaltersbach	58.81	339	eP	P	23 53 26.3	+1.6
	comp=Z,9.2nm,1.2s						
ABKAR	Akbulak array	58.94	15	P	P	23 53 24.5	-0.9
JAVC	Velka Javorina	59.00	343	eP	P	23 53 27.6	+1.7
MOA	Molln	59.15	340	iP	P	23 53 28.4	+1.4
	comp=Z,13nm,1.1s,SNR=6.1						
KRUC	Moravsky	59.55	343	eP	P	23 53 30.3	+0.7
KRUC				e		23 53 40.2	
WTTA	Wattenberg	59.57	338	eP	P	23 53 32.1	+2.0
	comp=Z,8.9nm,1.2s						
OJC	Ojcow	59.67	345	P	P	23 53 31.0	+0.6
OJC				IAmb	IAmb	23 53 32.2	
	comp=Z,12nm,1.1s						
SQTA	Sankt Quirin	59.69	338	eP	P	23 53 32.2	+1.4
	comp=Z,8.9nm,1.7s						
FETA	Feichten	59.71	338	eP	P	23 53 32.9	+1.9
	comp=Z,12nm,1.0s,SNR=6.8						
VRAC	Vranov	59.71	343	eP	P	23 53 31.5	+0.7
VRAC				e		23 53 41.7	
BNI	Bardonecchia	59.78	334	P	P	23 53 32.1	+0.7
BNI				IAmb	IAmb	23 53 37.6	
	comp=Z,13nm,1.2s						
MOTA	Moosalm	59.84	338	eP	P	23 53 33.0	+1.1
	comp=Z,6.0nm,1.0s						
MORC	Moravsky Berou	59.86	344	⇑P	P	23 53 32.9	+1.1
MORC	Moravsky Berou	59.86	344	P	P	23 53 33.1	+1.2
MORC	Moravsky Berou	59.86	344	eP	P	23 53 32.9	+1.1
MORC				e		23 53 42.8	
CKRC	Cesky Krumlov	59.98	341	eP	P	23 53 33.3	+0.6
CKRC				ex	x	23 53 43.1	
TREC	Trest	60.03	342	eP	P	23 53 33.4	+0.4
PSI	Prapat	60.05	83	P	P	23 53 32.1	-1.8
	comp=Z,2.9nm,0.3s,baz=0.4,slow=16,SNR=4.6						
RETA	Reutte	60.08	338	eP	P	23 53 33.7	+0.2
	comp=Z,8.8nm,1.0s,SNR=5.3						
GEC2	GERESS Array S	60.20	341	P	P	23 53 35.0	+0.7
GEC2				IAmb	IAmb	23 53 36.2	
	comp=Z,11nm,0.9s						
GERES	GERESS Array B	60.20	341	P	P	23 53 35.2	+0.9
	comp=Z,5.7nm,0.8s,baz=134,slow=5.8,SNR=57						
GERES				LR	LR	00 21 06.9	
	comp=Z,89nm,20.4s,baz=158,slow=38						
GERES	GERESS Array B	60.20	341	P	P	23 53 34.7	+0.4
DAVA	Damuels	60.25	337	eP	P	23 53 35.3	+0.6
	comp=Z,14nm,1.1s						
KRLC	Kraliky	60.34	343	eP	P	23 53 35.8	+0.7
KRLC				ex	x	23 53 45.2	
KHC	Kasperske Hory	60.49	341	eP	P	23 53 36.3	+0.1
KHC				ex	x	23 53 47.7	
KHC	Kasperske Hory	60.49	341	P	P	23 53 36.8	+0.6
KHC				IAmb	IAmb	23 53 37.8	
	comp=Z,8.7nm,0.9s						
DPC	Dobruska-Polom	60.72	343	eP	P	23 53 38.5	+0.8
SSB	Saint Sauveur	60.92	332	P	P	23 53 40.8	+1.6
SSB				IAmb	IAmb	23 53 42.5	
	comp=Z,9.0nm,1.0s						
OSTC	Ostas	60.94	343	eP	P	23 53 39.9	+0.8
CHVC	Chvalec	61.01	343	eP	P	23 53 40.4	+0.7
ESBB	Sonseca Array	61.54	323	P	P	23 53 45.7	+2.2
ESBB				IAmb	IAmb	23 53 56.8	
	comp=Z,6.0nm,1.0s						
ESDC	Sonseca Array	61.54	323	P	P	23 53 46.0	+2.4
	comp=Z,5.2nm,1.0s,baz=133,slow=6.2,SNR=30						
ESDC	Sonseca Array	61.54	323	P	P	23 53 44.9	+1.3
ESDC				IAmb	IAmb	23 53 47.0	
	comp=Z,8.7nm,1.4s						
PAB	San Pablo	61.69	322	P	P	23 53 45.8	+1.2
PAB				IAmb	IAmb	23 53 48.9	
	comp=Z,10nm,1.4s						
GRA1	Grafenberg Arr	61.77	340	P	P	23 53 45.6	+0.8
GRF	Grafenberg Arr	61.77	340	eP	P	23 53 45.6	+0.8
	comp=Z,14nm,1.0s,baz=138,slow=7.0						
GRFO	Grafenberg	61.77	340	P	P	23 53 45.6	+0.8
SYO	Syowa Base	61.77	180	⇓eP	P	23 53 45.8	+1.3
BRG	Berggiesshubel	61.89	342	eP	P	23 53 46.3	+0.8
BRG				Amp		23 53 47.2	
	comp=Z,8.6nm,1.3s						
OBN	Obninsk	62.09	358	P	P	23 53 46.8	0.0
MNK	Minsk	62.21	352	iP	P	23 53 45.7	-1.9
	comp=E,2.0nm,1.1s						
MNK				iP	P	23 53 45.7	-1.9
	comp=N,21nm,1.1s						
MNK				iP	P	23 53 45.7	-1.9
	comp=Z,18nm,0.9s,baz=167						
MNK				iPcP	PcP	23 54 25.4	-2.1
MNK				iPP	PP	23 56 02.5	-2.1
MNK				iPPP	PPP	23 57 28.9	
MNK				iS	S	00 02 12.2	-1.0
MNK				iSS	SS	00 06 16.5	-0.1
MNK				iSSS	SSS	00 09 08.4	
MNK				iLQ	LQ	00 16 20.4	
MNK				iLR	LR	00 20 43.8	
MNK				iLRM	MLR	00 25 27.4	
	comp=Z,110nm,12.2s						
MNK				iLRM	MLR	00 25 28.7	
	comp=E,6.0nm,12.1s						
MNK				iLRM	MLR	00 25 44.0	
	comp=N,64nm,13.4s						
MAW	Mawson	62.38	170	P	P	23 53 50.0	+1.4
	comp=N,1.8nm,0.7s,baz=319,slow=7.6,SNR=4.3						
MAW	Mawson	62.38	170	P	P	23 53 49.8	+1.2
SUW	Suwalki	62.49	349	P	P	23 53 49.6	+0.1
CLL	Collm	62.56	342	eP	P	23 53 51.0	+0.9
	comp=Z,11nm,1.4s						
CLL				e		23 53 59.0	

CLL				eS	S	00 02 24.0	+6.2
CLL				Lm	MLR	00 25 00.0	
	comp=N,100nm,18.9s						
CLL				Lm	MLR	00 25 00.0	
	comp=E,100nm,20.8s						
CLL				Lm	MLR	00 25 00.0	
	comp=Z,100nm,19.7s						
NACGM	Naroch	62.75	352	iP	P	23 53 49.4	-1.8
CM13	Chiang Mai Arr	63.80	66	P	P	23 53 58.1	-0.8
	comp=Z,7.0nm,1.0s						
CM05	Chiang Mai Arr	63.83	66	P	P	23 53 58.8	-0.3
	comp=Z,5.4nm,1.0s						
CM02	Chiang Mai Arr	63.84	66	P	P	23 53 59.4	+0.2
	comp=Z,85nmcomp=Z,6.8nm,0.8s						
CM31	Chiang Mai Arr	63.84	66	P	P	23 53 57.7	-1.5
CMAR	Chiang Mai Arr	63.84	66	P	P	23 53 57.7	-1.5
	comp=Z,5.1nm,0.8s,baz=258,slow=7.3,SNR=12						
CMAR				LR	LR	00 20 37.1	
	comp=Z,167nm,18.0s,baz=278,slow=35						
CMAR	Chiang Mai Arr	63.84	66	P	P	23 53 57.4	-1.8
CM04	Chiang Mai Arr	63.86	66	P	P	23 53 58.6	-0.7
	comp=Z,8.7nm,1.0s						
CHTO	Chiang Mai	63.95	65	P	P	23 53 58.5	-1.4
	comp=Z,9.0nm,1.0s						
CHTO	Chiang Mai	63.95	65	P	P	23 53 57.2	-2.7
CHTO				IAmb	IAmb	23 53 59.2	
	comp=Z,6.4nm,0.9s						
CHTO	Chiang Mai	63.95	65	P	P	23 53 57.0	-2.9
	comp=Z,5.1nm,1.0s						
CMMT	Chiang Mai	63.95	65	P	P	23 53 58.4	-1.6
BCLA	Clavier	64.57	336	dP	P	23 54 04.3	+1.0
BCLA				dPcP	PcP	23 54 39.9	+2.7
DOU	Dourbes	64.60	336	dP	P	23 54 03.3	-0.2
BGES	Gesves	64.62	336	dP	P	23 54 04.8	+1.1
BMRD	Maredsous	64.69	336	dP	P	23 54 05.8	+1.7
ARU	Arti	65.27	11	P	P	23 54 06.2	-1.5
ARU				IAmb	IAmb	23 54 08.6	
	comp=Z,12nm,1.1s						
BVAR	Borovoye Array	65.41	20	P	P	23 54 08.7	-0.1
	comp=Z,0.5nm,0.5s,baz=205,slow=13,SNR=4.7						
MAKZ	Makanchi	65.59	31	P	P	23 54 08.4	-1.7
MAKZ				IAmb	IAmb	23 54 17.6	
	comp=Z,4.6nm,0.7s						
MK31	Makanchi Array	65.74	31	P	P	23 54 10.3	-0.8
MK31				IAmb	IAmb	23 54 18.4	
	comp=Z,11nm,1.5s						
MKAR	Makanchi Array	65.74	31	P	P	23 54 09.7	-1.3
	comp=Z,2.7nm,0.7s,baz=222,slow=7.9,SNR=22						
MKAR				LR	LR	00 25 11.9	
	comp=Z,96nm,19.1s,baz=246,slow=38						
MKAR	Makanchi Array	65.74	31	P	P	23 54 09.5	-1.6
KURBB	Kurchatov Arra	66.67	26	P	P	23 54 15.2	-1.7
	comp=Z,0.9nm,0.6s,baz=224,slow=7.0,SNR=8.1						
KURK	Kurchatov	66.78	26	P	P	23 54 15.2	-2.4
WMQ	Urumqi	66.80	36	eP	P	23 54 19.7	+1.7
WMQ				LR	LR		
	comp=E,270nm,21.1s						
WMQ				LR	LR		
	comp=Z,160nm,22.3s						
KLMR	Klimovskoe	67.80	360	eP	P	23 54 22.2	-1.6
KLMR				AMP		23 54 25.2	
	comp=Z,29nm,1.7s						
FINES	FINESS Array B	69.20	353	P	P	23 54 32.0	-0.5
	comp=Z,2.2nm,0.8s,baz=181,slow=11,SNR=3.3						
SNAA	Sanae	69.56	193	P	P	23 54 37.5	+2.6
SNAA	Sanae	69.56	193	P	P	23 54 36.5	+1.6
SNAA				IAmb	IAmb	23 54 38.7	
	comp=Z,9.9nm,1.0s						
VNA2	Neumayer--Watz	70.15	195	P	P	23 54 41.1	+2.7
	baz=40,slow=6.2						
VNA1	Neumayer--Stat	70.20	195	P	P	23 54 41.9	+3.3
VNA3	Neumayer Olymp	70.93	195	P	P	23 54 45.5	+2.3
NOA	NORSAR Array B	71.53	346	P	P	23 54 47.4	+0.5
	comp=Z,1.7nm,0.8s,baz=144,slow=6.1,SNR=3.8						
ZALV	Zalesovo Beam	71.75	26	P	P	23 54 48.6	+0.2
	comp=Z,1.3nm,0.7s,baz=215,slow=7.0,SNR=5.4						
ZALV				LR	LR	00 27 45.8	
	comp=Z,166nm,20.1s,baz=226,slow=37						
ZALV	Zalesovo Beam	71.75	26	P	P	23 54 47.6	-0.8
QIZ	Qiongzhong	73.94	68	P	P	23 54 59.9	-2.2
QIZ				LR	LR		
	comp=N,95nm,2.3s						
QIZ				LR	LR		
	comp=E,260nm,18.5s						
QIZ				LR	LR		
	comp=Z,300nm,17.7s						
ARCES	ARCESS Array B	77.14	355	P	P	23 55 20.6	+1.2
	comp=Z,2.9nm,0.8s,baz=182,slow=6.0,SNR=3.8						
BELA	Belgrano 2	79.74	192	P	P	23 55 34.9	+1.1
BELA				IAmb	IAmb	23 55 36.6	
	comp=Z,11nm,1.2s						
SONM	Songino Array	80.12	39	P	P	23 55 36.8	+0.3
	comp=Z,0.8nm,0.8s,baz=253,slow=4.5,SNR=4.0						
HHC	Hu-ho-hao-te	81.26	47	eP	P	23 55 41.2	-1.5
HHC				pmax	pmax		
	comp=Z,13nm,1.3s						
HHC				pmax	pmax		
	comp=Z,61nm,7.6s						
HHC				LR	LR		
	comp=N,260nm,19.4s						
HHC				LR	LR		
	comp=E,250nm,19.1s						
HHC				LR	LR		
	comp=Z,250nm,18.3s						
QSPA	South Pole Qui	82.91	180	P	P	23 55 52.0	+1.0
NRIK	Noril'sk	83.11	15	LR	LR	00 39 31.8	
	comp=Z,238nm,18.3s,baz=222,slow=41						
VNDA	Vanda	89.68	169	P	P	23 56 25.0	+1.1
	comp=Z,0.7nm,0.8s,baz=262,slow=6.6,SNR=4.6						
VNDA	Vanda	89.68	169	P	P	23 56 24.9	+1.1
VNDA				IAmb	IAmb	23 56 38.0	
	comp=Z,5.2nm,1.2s						
ASAR	Alice Springs	91.11	114	P	P	23 56 30.6	-1.2
	comp=Z,0.4nm,0.5s,baz=265,slow=4.8,SNR=4.1						
ASAR				LR	LR	00 32 46.2	
	comp=Z,154nm,18.9s,baz=286,slow=33						
KSRS	Korea Array	93.00	53	LR	LR	00 38 27.1	
	comp=Z,54nm,19.4s,baz=261,slow=36						
CPUP	Villa Florida	93.00	243	P	P	23 56 43.1	+2.8
	comp=Z,2.4nm,0.9s,baz=62,slow=7.2,SNR=4.9						
CPUP				LR	LR	00 34 54.6	
	comp=Z,172nm,20.4s,baz=98,slow=33						
CPUP	Villa Florida	93.00	243	P	P	23 56 42.5	+2.2
CPUP				IAmb	IAmb	23 56 44.7	
	comp=Z,5.3nm,1.1s						
STKA	Stephens Creek	96.36	123	LR	LR	00 33 27.2	
	comp=Z,94nm,20.9s,baz=211,slow=31						
USRK	Ussuriysk Ar.	96.67	46	LR	LR	00 40 59.5	
	comp=Z,103nm,19.6s,baz=261,slow=36						
I62A	Tamworth	109.97	314	P	PKiKP	00 01 57.8	-0.2
	baz=80						
BMAR	Burnt Mountain	119.75	2	PKPdf	PKPdf	00 02 15.6	-0.5
IMAR	Indian Mountai	120.54	6	PKPdf	PKiKP	00 02 18.3	+0.6
H23K	Yukon River	121.08	4	P	PKPdf	00 02 18.6	-0.1
	baz=349						
H24K	Noodor Dome	121.19	4	P	PKPdf	00 02 18.9	0.0
	baz=351						
I21K	Tanana	121.51	6	P	PKPdf	00 02 19.5	0.0
	baz=346						
YKA	Yellowknife Ar	121.62	346	PKP	PKPdf	00 02 19.7	0.0
	comp=Z,0.6nm,0.7s,baz=41,slow=2.0,SNR=3.5						
MLY	Manley	121.77	5	P	PKPdf	00 02 19.8	-0.3
	baz=348						
EYMN	Ely	122.00	323	P	PKPdf	00 02 21.1	+0.1
	baz=62						
J20K	Nowinta River	122.24	7	P	PKPdf	00 02 21.0	+0.1
	baz=344						
ILAR	Eielson Array	122.31	3	PKP	PKPdf	00 02 20.3	-0.7
	comp=Z,0.2nm,0.6s,baz=337,slow=4.3,SNR=2.7						
ILAR				PKKPab	PKKPab	00 12 17.4	+0.5
	comp=Z,0.4nm,0.7s,baz=186,slow=5.3,SNR=4.7						
K20K	Telida	123.04	7	P	PKPdf	00 02 22.2	-0.3
	baz=344						
K27K	Chicken	123.22	1	P	PKPdf	00 02 22.9	+0.1
	baz=358						
SCRK	Sand Creek	123.23	2	P	PKiKP	00 02 23.5	+0.3
	baz=356						
L19K	White Mountain	124.07	8	P	PKPdf	00 02 24.4	-0.1
	baz=342						
BCAR	Beaver Creek A	124.19	1	PKPdf	PKiKP	00 02 26.0	+0.9
L27K	Beaver Creek,	124.20	1	P	PKPdf	00 02 24.9	+0.1
	baz=358						
MMPY	Sheldon Lake,	124.24	355	P	PKPdf	00 02 24.9	0.0
	baz=11						
LRAL	Lakeview Retre	124.32	305	P	PKiKP	00 02 26.4	+0.3
	baz=74						
M19K	Big River Lodg	124.40	8	P	PKPdf	00 02 25.2	0.0
	baz=343						
SKT	Skwentna	124.68	6	P	PKiKP	00 02 26.0	0.0
	baz=346						
SPIA	Saint Paul Isl	124.94	19	P	PKiKP	00 02 26.7	+0.1
	baz=323						
PBMO	Poplar Bluff	125.87	311	PKPdf	PKPdf	00 02 28.5	-0.1
HYT	Haines Junctio	126.41	358	P	PKPdf	00 02 29.3	+0.1
	baz=3.3						
CRQE	Cirque	126.48	2	P	PKPdf	00 02 29.3	0.0
	baz=356						
ECSD	EROS Data Cent	127.18	321	P	PKPdf	00 02 31.0	0.0
	baz=59						
W41B	Gary Mavity, V	127.81	309	P	PKiKP	00 02 33.2	+0.2
	baz=69						
U40A	Yellville	127.84	311	P	PKiKP	00 02 33.0	-0.1
	baz=68						
KDAK	Kodiak Island	128.62	8	P	PKiKP	00 02 34.4	+0.5
	baz=344						
W39A	Magazine	128.97	310	P	PKPdf	00 02 34.6	-0.1
	baz=68						
MIAR	Mount Ida	129.05	309	P	PKiKP	00 02 35.4	-0.1
	baz=68						
SDPT	Sand Point	129.35	15	P	PKPdf	00 02 34.4	-0.3
	baz=334						
SII	Sitkinak Islan	129.55	10	P	PKiKP	00 02 35.8	-0.1
	baz=342						
EGMT	Eagleton	131.66	333	P	PKiKP	00 02 41.3	+0.9
	baz=42						
WMOK	Wichita Mounta	132.91	312	P	PKiKP	00 02 43.3	-0.1
	baz=64						
PDAR	Pinedale Array	135.31	327	PKP	PKPdf	00 02 47.1	+0.3
	comp=Z,1.6nm,0.3s,baz=336,slow=2.0,SNR=2.8						
SDCO	Great Sand Dun	136.09	319	P	PKiKP	00 02 49.5	-0.5
	baz=55						
DUG	Dugway, Tooele	138.86	327	P	PKPdf	00 02 53.6	+0.3
	baz=44						
TXAR	Lajitas Array	138.98	307	PKhKP	PKPpre	00 02 48.3	
	comp=Z,0.6nm,0.7s,baz=120,slow=5.3,SNR=4.7						
TXAR				PKP	PKiKP	00 02 55.1	-0.8
	comp=Z,1.1nm,0.9s,baz=126,slow=3.2,SNR=7.6						
TXAR	Lajitas Array	138.98	307	PKPdf	PKiKP	00 02 55.4	-0.5
TX31	Lajitas Ar. Si	138.98	307	PKPdf	PKPdf	00 02 54.6	+0.9
TX32	Lajitas Array	138.98	307	PKPdf	PKPdf	00 02 54.8	+1.0
MNTX	Cornudas Mount	139.22	311	P	PKPdf	00 02 54.9	+0.9
	baz=60						
MSU	Marysvale	139.68	325	PKPdf	PKPdf	00 02 55.2	+0.3
J05D	Fort Rock, OR	140.26	338	P	PKPdf	00 02 55.2	-0.5
	baz=30						
J01E	Myrtle Point	141.31	341	P	PKPdf	00 02 57.4	+0.1
	baz=26						
M04C	Macdoel	141.78	337	P	PKPdf	00 02 58.8	+0.3
	baz=30						
TUC	Tucson	142.76	316	P	PKPdf	00 03 00.7	+0.2
	baz=54						
NVAR	Mina Array Bea	143.00	331	PKP	PKPdf	00 02 59.5	-1.4
	comp=Z,2.1nm,0.8s,baz=72,slow=1.8,SNR=13						
NVAR	Mina Array Bea	143.00	331	PKPdf	PKPdf	00 02 58.5	-2.3
O03E	Paynes Creek	143.03	336	P	PKPdf	00 03 00.1	-0.6
	baz=31						
O02D	Mt. Diablo Mer	143.52	337	P	PKPdf	00 03 01.3	-0.3
	baz=30						
GRAC	Grapevine Rang	143.62	328	P	PKPdf	00 03 01.5	-0.2
	baz=40						
FURC	Furnace Creek,	143.75	327	P	PKPdf	00 03 01.7	-0.2
	baz=42						
TUQ	Turquoise Moun	143.97	325	P	PKPdf	00 03 01.7	-0.8
	baz=44						
GMRC	Granite Mounta	144.28	324	P	PKPdf	00 03 02.5	-0.6
	baz=45						
CMB	Columbia Colle	144.30	332	PKPdf	PKPbc	00 03 01.7	+0.6
MPMC	Manual Prospec	144.39	327	P	PKPdf	00 03 03.2	-0.1
	baz=41,SNR=6.6						
IRM	Iron Mountain	144.41	323	P	PKPdf	00 03 03.3	+0.1
	baz=46						
CWC	Cottonwood Cre	144.42	328	P	PKPdf	00 03 03.3	-0.1
	baz=40						
113A	Mohawk Valley,	144.47	319	PKPdf	PKPdf	00 03 03.3	0.0
GSC	Goldstone, Bar	144.57	326	PKPdf	PKPdf	00 03 03.9	+0.4
GSC	Goldstone, Bar	144.57	326	P	PKPdf	00 03 03.1	-0.4
	baz=43,SNR=5.3						
HEC	Hector,Ludlow	144.64	325	P	PKPdf	00 03 04.4	+0.7
	baz=44,SNR=11						
LRMC	Laurel Mtn Rad	144.93	327	P	PKPdf	00 03 04.6	+0.4
	baz=41						
BC3	Big Chuckawall	144.94	322	P	PKPdf	00 03 04.4	+0.2
	baz=46						
GLA	Glamis	144.96	321		PKPdf	00 03 05.4	+1.2
GLA	Glamis	144.96	321	P	PKPdf	00 03 05.2	+1.0
	baz=48						
BELC	Belle Mtn. Jos	145.03	323	P	PKPdf	00 03 04.3	-0.1
	baz=45,SNR=5.9						
ISA	Isabella, Lake	145.21	328	P	PKPdf	00 03 05.8	+1.2
	baz=40,SNR=5.6						
EDW2	Edwards Air Fo	145.54	326	P	PKPab	00 03 06.7	+1.2
	baz=42						
PFO	Pinyon Flats O	145.58	323	P	PKPab	00 03 07.5	+1.7
	baz=45,SNR=5.9						
TPFO	Pinon Flats	145.58	323	P	PKPab	00 03 07.5	+1.7
	baz=45,SNR=5.7						
SWSC	Sam W. Stewart	145.64	322	P	PKPab	00 03 07.3	+1.5
	baz=47,SNR=5.1						
BFSC	Mount Baldy Ra	145.82	325	P	PKPab	00 03 07.6	+1.0
	baz=43						
IKP	In-Ko-Pah, Jac	146.03	322	P	PKiKP	00 03 09.1	-1.1
	baz=46						
MONP2	Monument Peak	146.05	322	P	PKiKP	00 03 09.3	-1.2
	baz=46,SNR=13						
PKM	Mcpherson Peak	146.51	328	P	PKPab	00 03 10.3	+1.0
	baz=39						

IDC 08 23:47:16.4±1.3, 3°.41S×135°.59E, h0km, mb3.8/3, mb1 4.1/7, mb1mx3.8/39, mbtmp3.9/7, ML3.8/4, Error ellipse: s-maj=28.4km s-min=23.8km az=69.0

ISC 08 23:47:19.9±0.9, 3°.68S±0°.09×135°.57E±0°.07, h35km, n7, σ2s.91/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	5.13	303	Pn	Pn	23 48 33.9	-0.4
	11nm,0.3s,baz=140,slow=22,SNR=35						
SIJI				Sn	Sn	23 49 30.4	-1.8
	4.6nm,0.3s,baz=100,slow=9.6,SNR=3.8						
JAY	Jayapura	5.26	77	Pn	Pn	23 48 37.6	+1.5
	1.6nm,0.3s,baz=220,slow=14,SNR=5.5						
JAY				Sn	Sn	23 49 33.0	-2.6
	0.3nm,0.3s,baz=317,slow=19,SNR=1.1						
WRA	Warramunga Arr	16.21	184	Pn	Pn	23 51 08.0	+2.9
	0.4nm,0.3s,baz=5.8,slow=12,SNR=15						
WRA				Sn	Sn	23 53 59.1	-4.8
	0.2nm,0.3s,baz=353,slow=26,SNR=3.3						
FITZ	Fitzroy Crossi	17.31	213	P	Pn	23 51 21.2	+2.2
	0.2nm,0.3s,baz=34,slow=8.6,SNR=11						
FITZ				S	Sn	23 54 21.9	-8.8
	0.4nm,0.3s,baz=202,slow=17,SNR=3.3						
ASAR	Alice Springs	19.93	184	P	Pn	23 51 54.1	+3.3
	2.6nm,0.5s,baz=6.6,slow=12,SNR=27						
MKAR	Makanchi Array	68.68	324	P	P	23 58 21.2	+1.3
	0.6nm,0.5s,baz=103,slow=8.5,SNR=6.8						
ILAR	Eielson Array	88.02	25	P	P	00 00 05.5	-0.8
	0.3nm,0.5s,baz=256,slow=4.7,SNR=4.5						

HEL 09 00:13:41.1, 67°.86N×19°.96E, h0km, ML1.6, Explosion

UPP 09 00:13:42.1±0.1, 67°.83N×20°.20E, h0km, ML2.1, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.14	22	P	Pg	00 13 45.0	+0.2
KUA				S	Sg	00 13 47.0	+0.4
KUA	Kurravaara	0.14	22	iP	Pg	00 13 45.0	+0.2
KUA				iS	Sg	00 13 47.0	+0.4
RATU	Laukkuluspa	0.23	269	P	Pg	00 13 46.8	+0.2
RATU				S	Sg	00 13 49.9	+0.4
RATU	Laukkuluspa	0.23	269	iP	Pg	00 13 46.8	+0.2
RATU				iS	Sg	00 13 49.9	+0.4
KOVU	Salmi	0.40	358	P	Pg	00 13 49.7	0.0
KOVU	Salmi	0.40	358	iP	Pg	00 13 49.7	0.0
NIKU	Nikkaluokta	0.44	276	P	Pg	00 13 50.7	+0.1
NIKU	Nikkaluokta	0.44	276	iP	Pg	00 13 50.7	+0.1
LANU	Lannavaara	0.71	71	P	Pg	00 13 55.6	-0.1
LANU	Lannavaara	0.71	71	eP	Pg	00 13 55.3	-0.4
	baz=261						
LANU				eS	Sg	00 14 05.3	+0.4
DUNU	Dundret	0.72	169	P	Pg	00 13 55.7	-0.2
DUNU	Dundret	0.72	169	iP	Pg	00 13 55.7	-0.2
KIF	Kilpisjarvi	1.20	10	eP	Pg	00 14 05.3	+0.2
KIF	Kilpisjarvi	1.20	10	ePB	Pg	00 14 05.2	+0.1
KIF				MSG		00 14 18.4	
	comp=Z,2.4nm,0.2s						
KIF				eSN	Sn	00 14 25.4	+2.2
PAJU	Pajala	1.38	124	P	Pg	00 14 07.7	-0.9
PAJU	Pajala	1.38	124	ePG	Pg	00 14 07.5	-1.0
PAJU				eSN	Sn	00 14 29.1	+1.5
KLF	Kolari	1.56	111	ePG	Pn	00 14 10.7	-0.4
KLF				eSN	Sg	00 14 34.9	+2.7
JETT	Jettan, Norway	1.74	2	eP	Pg	00 14 15.1	-0.2
TOF	Tornio	2.39	135	ePB	Pn	00 14 24.0	+1.6
TOF				MSG		00 14 54.2	
	comp=Z,4.1nm,0.2s						
TOF				eSG	Sg	00 14 57.5	-1.3
SGF	Sodankyl	2.45	96	ePG	Pb	00 14 26.3	-0.7
SGF				eSG	Sg	00 15 00.1	-0.6
RNF	Rovaniemi	2.57	116	ePB	Pb	00 14 27.1	-1.9
RNF				eSG	Sb	00 15 02.7	+1.6
ARA0	ARCESS Array S	2.59	46	ePG	Pb	00 14 28.8	-0.5
ARA0				eSG	Sb	00 15 01.4	-0.2
KEV	Kevo	3.14	49	MSG		00 15 14.9	
	comp=Z,2.1nm,0.2s						
KEV				eSB	Sb	00 15 15.8	-1.7

UPP 09 00:13:45.5±0.1, 67°.83N×20°.20E, h0km, ML1.9, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.14	22	P	Pg	00 13 48.4	+0.2
KUA				S	Sg	00 13 50.4	+0.4
RATU	Laukkuluspa	0.23	269	S	Sg	00 13 53.3	+0.4
KOVU	Salmi	0.40	358	P	Pg	00 13 53.1	0.0
KOVU				S	Sg	00 13 58.3	+0.1
NIKU	Nikkaluokta	0.44	276	P	Pg	00 13 54.0	0.0
PAJU	Pajala	1.39	124	P	Pg	00 14 10.7	-1.3

IDC 09 00:28:02.6±0.9, 0°.51S×120°.26E, h0km, mb3.9/6, mb1 4.1/8, mb1mx3.8/37, mbtmp4.0/8, ML3.8/2, MS3.3/1, Ms1 3.5/1, ms1mx2.7/36, Error ellipse: s-maj=60.6km s-min=15.8km az=67.0

DJA 09 00:28:05.0±0.4, 1°S±3°×12°0E±°, h10km, M3.9/8, MLv3.9/8

NEIC 09 00:28:08.7±0.9, 0°.64S±0°.06×119°.99E±0°.08, h37km±13km, mb3.9/7, Error ellipse: s-maj=13.2km s-min=6.6km az=125.0

ISC 09 00:28:07.9±0.8, 0°.55S±0°.06×119°.89E±0°.08, h35km, n31, σ1s.72/30, mb3.9/8, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	Mapaga	0.88	0	P	Pn	00 28 22.8	-1.0
APSI	Ampana	1.79	102	P	Pn	00 28 35.5	-0.9
TOLI2	Tolitoli	1.87	28	Pn	Pn	00 28 38.6	+1.1
MRSI	Marisa	2.29	64	P	Pn	00 28 44.7	+1.6
TTSI	Tana Toraja	2.48	182	P	Pn	00 28 44.7	-1.2
LUWI	Luwuk	2.92	100	Pn	Pn	00 28 50.9	-1.0
PMSI	Majene	3.09	198	P	Pn	00 28 51.8	-2.5
GTOI	Gorontalo	3.33	69	P	Pn	00 28 55.2	-2.3
BNSI	Bone	3.83	177	P	Pn	00 29 04.2	-0.3
KAPI	Kappang	4.44	182	Pn	Pn	00 29 12.1	-0.6
	6.2nm,0.3s,baz=3.6,slow=6.7,SNR=13						
KAPI				Sn	Sn	00 30 06.8	+3.5
	1.5nm,0.3s,baz=168,slow=20,SNR=1.3						
KAPI	Kappang	4.44	182	P	Pn	00 29 11.6	-1.2
BKSI	Bulukumba	4.75	177	P	Pn	00 29 11.9	-5.1
WSI	Waingapu	9.07	177	P	Pn	00 30 18.9	+2.5
MTN	Manton Dam	16.54	138	P	P	00 31 59.9	+0.3
MTN				IAmb	IAmb	00 32 14.4	
	comp=Z,26nm,1.4s						
FITZ	Fitzroy Crossi	18.33	162	P	P	00 32 18.7	-0.7
	comp=Z,0.2nm,0.3s,baz=359,slow=7.1,SNR=9.8						
FITZ	Fitzroy Crossi	18.33	162	P	P	00 32 18.5	-0.8
FITZ				IAmb	IAmb	00 32 19.7	
	comp=Z,6.2nm,0.9s						
WRA	Warramunga Arr	23.91	145	P	P	00 33 16.5	-2.2
	comp=Z,2.7nm,0.9s,baz=320,slow=9.2,SNR=11						
WRA	Warramunga Arr	23.91	145	P	P	00 33 16.2	-2.5
WB2	Warramunga Arr	23.92	145	P	P	00 33 16.9	-1.8
WR0	Warramunga Arr	24.04	144	P	P	00 33 17.9	-2.0
WR0				IAmb	IAmb	00 33 38.3	
	comp=Z,11nm,1.3s						
ASAR	Alice Springs	26.70	150	P	P	00 33 42.2	-1.9
	comp=Z,0.5nm,0.4s,baz=320,slow=7.3,SNR=8.2						
ASAR	Alice Springs	26.70	150	P	P	00 33 42.4	-1.7
CMAR	Chiang Mai Arr	27.94	314	LR	LR	00 47 57.2	
	comp=Z,51nm,18.1s,baz=254,slow=42						
STKA	Stephens Creek	37.31	149	P	P	00 35 15.2	-1.6
	comp=Z,2.5nm,0.7s,baz=306,slow=8.4,SNR=5.7						
STKA	Stephens Creek	37.31	149	P	P	00 35 15.8	-1.0
STKA				IAmb	IAmb	00 35 19.3	
	comp=Z,0.8nm,0.9s						
MK31	Makanchi Array	57.49	330	P	P	00 37 56.0	+2.4
MK31				IAmb	IAmb	00 37 59.2	
	comp=Z,0.8nm,0.8s						
MKAR	Makanchi Array	57.49	330	P	P	00 37 54.7	+1.1
	comp=Z,1.1nm,0.8s,baz=138,slow=7.7,SNR=9.6						
ZALV	Zalesovo Beam	61.57	337	P	P	00 38 22.4	+0.9
	comp=Z,0.6nm,0.5s,baz=158,slow=9.0,SNR=2.2						
KURBB	Kurchatov Arra	61.92	332	P	P	00 38 25.0	+1.0
	comp=Z,1.1nm,0.6s,baz=143,slow=6.1,SNR=5.4						
KURK	Kurchatov	61.94	332	P	P	00 38 25.0	+0.9
ABKAR	Akbulak array	71.28	323	P	P	00 39 24.4	+0.7

IDC 09 00:30:06.9±3.4, 25°.12N×98°.68E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/48, mbtmp3.5/3, MS3.4/1, Ms1 3.4/1, ms1mx2.6/37, Error ellipse: s-maj=530.4km s-min=27.2km az=58.0, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	25.27	333	P	P	00 35 34.9	0.0
	0.3nm,0.4s,baz=139,slow=8.6,SNR=8.0						
JAY	Jayapura	49.13	118	LR	LR	01 01 05.4	
	comp=Z,39nm,18.5s,baz=7.0,slow=38						
WRA	Warramunga Arr	56.65	139	P	P	00 39 51.1	-1.1
	0.5nm,0.8s,baz=325,slow=7.1,SNR=2.5						
ASAR	Alice Springs	59.30	142	P	P	00 40 11.4	+0.7
	0.3nm,0.4s,baz=325,slow=6.8,SNR=6.1						

TRN 09 00:40:21.8, 19°.16N×62°.87W, h3km, MD3.8, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRT	St. Maarten	1.12	190	eS	Sn	00 41 05.1	+4.7
ANWB	Willy Bob	1.81	145	eP	Pb	00 40 55.7	+0.1
ANWB				eS	Sg	00 41 20.2	+0.2
SKI	Saint Kitts	1.82	176	eP	Pg	00 40 58.3	+1.5
SKI				eS	Sg	00 41 22.5	+2.0
ANDO	Antigua, Disas	2.27	154	eP	Pb	00 41 02.4	-1.0
CDVI	St. Croix	2.28	232	eP	Pb	00 41 02.3	-1.3
CDVI				eS	Sb	00 41 32.0	-0.2
ANBD	Bethesda, Anti	2.35	153	eP	Pb	00 41 03.7	-1.1
ANBD				eS	Sb	00 41 33.5	-0.8
ABD	La Joyeuse, An	2.98	154	eP	Pb	00 41 12.9	-2.6
ABD				eS	Sb	00 41 49.5	-2.9
CBE	Ff, Capester	3.31	158	eP	Pn	00 41 17.4	+2.9
CBE				eS	Sb	00 41 58.3	-3.5
TBG	Guadaloupe-3	3.50	160	eS	Sn	00 42 02.7	+3.7
TDBA	Terre de Bas,	3.50	160	eP	Pb	00 41 20.8	-3.6
TDBA				eS	Sn	00 42 02.8	+3.7
MAGL	Barre de l'ile	3.54	154	eP	Pn	00 41 20.6	+2.9
MAGL				eS	Sn	00 42 03.4	+3.3
DSLB	Salisbury	3.96	159	eP	Pn	00 41 26.2	+2.8
DSLB	Salisbury	3.96	159	eS	Sn	00 42 14.2	+3.8
MPOM	Morne Pois Mar	5.07	157	eP	Pn	00 41 42.7	+3.9
MPOM	Morne Pois Mar	5.07	157	eS	Sn	00 42 40.1	+2.1

IDC 09 00:52:18.8±0.6, 6°.21N×125°.62E, h116km±6km, mb3.9/10, mb1 4.0/10, mb1mx3.6/38, mbtmp4.2/10, Error ellipse: s-maj=42.4km s-min=12.2km az=78.0

NEIC 09 00:52:20.3±1.3, 6°.14N±0°.07×125°.7E±0°.1, h117km±5km, mb4.1/27, Error ellipse: s-maj=19.1km s-min=9.4km az=84.0

DJA 09 00:52:20.2±0.6, 6°N±6°×12°6E±°, h114km±7km, M4.7/7, mb4.8/6, mB5.1/5, MLv4.8/7, Mw(mB)4.5/5

*MAN **09** 00:52:25.9, 6°.54N×125°.61E, h7km, mb4.6, ML3.5, MS3.3*
ISC 09 00:52:20.1±0.7, 6°.16N±0°.04×125°.66E±0°.09, h125km±6km, n68, σ1°.40/83, mb4.1/23, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	Davao City (W)	0.91	355	LR	LR	00 52 33.2	
	comp=Z,65nm,20.8s,baz=164,slow=17						
DAV				P	Pn	00 52 41.2	-0.7
	197nm,0.3s,baz=210,slow=22,SNR=8.3						
DAV				S	Sn	00 52 54.9	-3.3
	447nm,0.3s,baz=166,slow=23,SNR=22						
DAV	Davao City (W)	0.91	355	Pn	Pn	00 52 41.1	-0.7
DAV				Sn	Sn	00 52 57.5	-0.7
DAV	Davao City (W)	0.91	355	P	Pn	00 52 40.6	-1.2
DAV				S	Sn	00 52 58.1	-0.1
KCP	Kidapawan	1.02	326	⇑iP	Pn	00 52 43.2	+0.3
KCP				iS	Sn	00 53 00.7	+0.6
BIPH	Bislig	2.13	19	⇑eP	Pn	00 52 56.7	+1.2
BIPH				eS	Sn	00 53 24.7	+2.1
SGSI	Sangihe	2.46	183	P	Pn	00 53 00.2	+0.6
SGSI				S	Sn	00 53 30.2	+0.3
MNI	Manado	4.75	190	P	Pn	00 53 30.7	+0.8
GAMI	Galela, Maluku	4.79	154	P	Pn	00 53 29.1	-1.2
TNTI	Ternate	5.61	162	Pn	Pn	00 53 41.8	+0.3
TNTI	Ternate	5.61	162	P	Pn	00 53 42.9	+1.4
	0.4nm47nm,0.4s						
GTOI	Gorontalo	6.09	206	P	Pn	00 53 46.8	-1.0
	0.3nm806nm79nm,0.7s						
MRSI	Marisa	6.75	213	P	Pn	00 53 59.6	+2.8
	0.8nm3µm255nm,0.6s						
TOLI2	Tolitoli	6.98	224		Pn	00 53 59.8	-0.2
LUWI	Luwuk	7.71	202	Pn	Pn	00 54 09.1	-0.6
LUWI	Luwuk	7.71	202	P	Pn	00 54 15.9	+6.2
SANI	Sanana	8.16	178	P	Pn	00 54 12.9	-2.9
	3µm48nm,0.8s						
KRAI	Karang Ratu	9.80	164	P	Pn	00 54 37.5	-0.4
	3µm26nm,0.6s						
BNSI	Bone	11.86	208	P	P	00 55 10.6	-2.6
	48nm,0.9s						
KAPI	Kappang	12.56	208	P	Pn	00 55 18.2	+3.5
	0.7nm,0.3s,baz=55,slow=12,SNR=3.6						
KAPI	Kappang	12.56	208	Pn	Pn	00 55 17.7	+3.1
SOEI	Soe	15.87	185		Pn	00 55 57.7	+1.0
BATI	Baumata	16.38	187	P	P	00 56 06.0	+2.6
	11nm,0.3s,baz=349,slow=1.9,SNR=6.3						
BATI	Baumata	16.38	187	P	P	00 56 09.3	+5.8
KNRA	Kununurra	21.91	172	P	P	00 57 04.9	+1.5
FITZ	Fitzroy Crossi	24.10	180	P	P	00 57 24.4	+0.1
	5.4nm,0.7s,baz=354,slow=5.7,SNR=28						
FITZ	Fitzroy Crossi	24.10	180	P	P	00 57 24.9	+0.6
FITZ				IAmb	IAmb	00 57 27.9	
	comp=Z,4.3nm,0.7s						
COEN	Coen	26.49	139	P	P	00 57 45.5	-0.4
COEN				IAmb	IAmb	00 58 04.0	
	comp=Z,6.5nm,1.0s						
WRA	Warramunga Arr	27.30	162	P	P	00 57 52.4	-0.8
	comp=Z,1.9nm,0.5s,baz=346,slow=10,SNR=16						
WRA	Warramunga Arr	27.30	162	P	P	00 57 52.5	-0.8
WRA				PcP	PcP	01 01 10.0	+0.1
WB2	Warramunga Arr	27.31	162	P	P	00 57 52.6	-0.7
WB2				IAmb	IAmb	00 57 55.5	
	comp=Z,4.5nm,1.1s						
WR0	Warramunga Arr	27.38	162	P	P	00 57 52.8	-1.1
WR0				IAmb	IAmb	00 58 13.0	
	comp=Z,4.0nm,1.0s						
PSA00	Pilbara Seismi	28.14	192	P	P	00 58 00.9	+0.2
PSA00				IAmb	IAmb	00 58 02.1	
	comp=Z,5.8nm,0.9s						
AS31	Alice Springs	30.71	165	P	P	00 58 23.3	-0.2
ASAR	Alice Springs	30.71	165	P	P	00 58 23.4	-0.1
	comp=Z,2.1nm,0.5s,baz=345,slow=7.3,SNR=44						
ASAR				PcP	PcP	01 01 18.0	-0.5
	comp=Z,1.0nm,0.6s,baz=348,slow=2.6,SNR=6.5						
ASAR	Alice Springs	30.71	165	P	P	00 58 23.4	-0.1
ASAR				PcP	PcP	01 01 18.7	+0.3
MORW	Morawa	36.22	194	P	P	00 59 11.5	+0.4
FORT	Forrest	36.80	177	P	P	00 59 16.1	+0.1
SHL	Shillong	37.61	305	P	P	00 59 24.3	+1.1
NWAO	Narrogin (SRO)	39.68	191	P	P	00 59 41.2	+1.1
NWAO				IAmb	IAmb	01 00 08.0	
	comp=Z,9.3nm,1.1s						
BBOO	Buckleboo	39.99	166	P	P	00 59 43.3	+0.6
BBOO				PcP	PcP	01 01 45.2	-0.3
STKA	Stephens Creek	40.76	159	P	P	00 59 49.7	+0.6
	comp=Z,7.6nm,0.6s,baz=332,slow=8.6,SNR=20						
STKA				PcP	PcP	01 01 47.5	-0.5
	comp=Z,0.4nm,0.3s,baz=333,slow=9.0,SNR=3.0						
STKA	Stephens Creek	40.76	159	P	P	00 59 49.6	+0.6
STKA				IAmb	IAmb	00 59 50.3	
	comp=Z,1.8nm,0.8s						
STKA				PcP	PcP	01 01 48.0	0.0
KLR	Kul'dur	43.23	6	P	P	01 00 09.1	+0.2
	comp=Z,0.9nm,0.4s,baz=186,slow=10,SNR=3.9						
MK31	Makanchi Array	54.97	325	P	P	01 01 38.8	+0.4
MK31				PcP	PcP	01 02 37.9	-0.8
MKAR	Makanchi Array	54.97	325	P	P	01 01 38.5	+0.2
	comp=Z,0.3nm,0.3s,baz=116,slow=7.0,SNR=7.7						
MKAR				PcP	PcP	01 02 37.5	-1.2
	comp=Z,0.5nm,0.5s,baz=123,slow=4.2,SNR=5.2						
MKAR	Makanchi Array	54.97	325	P	P	01 01 38.7	+0.4
MKAR				PcP	PcP	01 02 37.6	-1.1
KKAR	Karatay Array	60.74	316	P	P	01 02 19.0	+0.2
ABKAR	Akbulak array	69.61	320		P	01 03 15.4	-0.5
ABKAR				PcP	PcP	01 03 36.1	-1.9
O18K	Koktuh Hills	79.25	30	P	P	01 04 12.2	+0.7
O18K				IAmb	IAmb	01 04 17.2	
	comp=Z,5.4nm,1.1s						
L19K	White Mountain	79.68	28	P	P	01 04 15.0	+1.2
L19K				IAmb	IAmb	01 04 15.3	
	comp=Z,3.2nm,1.0s						
N19K	Bonanza Creek	79.71	29	P	P	01 04 14.8	+0.8
J20K	Nowinta River	80.22	26	P	P	01 04 17.6	+1.1
J20K				IAmb	IAmb	01 04 24.4	
	comp=Z,2.6nm,1.1s						
KDAK	Kodiak Island	80.43	33	P	P	01 04 17.2	-0.6
KDAK				IAmb	IAmb	01 04 18.1	
	comp=Z,6.5nm,1.1s						
M20K	Styx River	80.46	28	P	P	01 04 19.2	+1.2
M20K				IAmb	IAmb	01 04 26.1	
	comp=Z,4.9nm,1.1s						
IMAR	Indian Mountai	80.58	24	P	P	01 04 19.7	+1.2
CNPM	China Poot	81.23	31	P	P	01 04 22.1	0.0
CNPM				IAmb	IAmb	01 04 23.1	
	comp=Z,4.7nm,0.8s						
BPAW	Bear Paw Mtn.	81.59	26	P	P	01 04 25.0	+1.1
BPAW				IAmb	IAmb	01 04 44.6	
	comp=Z,3.1nm,1.1s						
COLD	Coldfoot	82.09	23	P	P	01 04 28.7	+2.3
COLD				IAmb	IAmb	01 04 50.6	
	comp=Z,3.4nm,1.2s						
MDM	Murphy Dome	82.81	25	P	P	01 04 31.2	+1.0
ILAR	Eielson Array	83.39	26	P	P	01 04 32.5	-0.7
	comp=Z,0.7nm,0.6s,baz=239,slow=5.1,SNR=8.0						
ILAR	Eielson Array	83.39	26	P	P	01 04 33.3	+0.2
BMAR	Burnt Mountain	84.27	23	P	P	01 04 39.2	+1.6
MAW	Mawson	85.65	200	P	P	01 04 44.3	-0.1
	comp=Z,2.1nm,0.7s,baz=86,slow=3.6,SNR=10						
MAW	Mawson	85.65	200	P	P	01 04 44.6	+0.3
ARCES	ARCESS Array B	87.82	340	P	P	01 04 54.6	-0.4
	comp=Z,2.6nm,0.9s,baz=65,slow=5.1,SNR=3.9						
FINES	FINESS Array B	89.20	332	P	P	01 04 59.1	-2.5
	comp=Z,1.5nm,0.9s,baz=52,slow=3.4,SNR=6.1						
TXAR	Lajitas Array	120.93	51	PKP	PKPdf	01 10 58.6	-0.1
	comp=Z,3.9nm,1.3s,baz=232,slow=4.4,SNR=3.4						
TORD	Torodi Ar. Bea	121.13	289	PKP	PKPdf	01 10 58.2	-1.0
	comp=Z,0.6nm,0.6s,baz=63,slow=1.8,SNR=8.6						

*IDC **09** 00:59:26.0±1.3, 27°.81N×138°.96E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.4/30, mbtmp3.5/4, Error ellipse: s-maj=52.4km s-min=30.1km az=102.0*
*JMA **09** 01:00:10.3±0.1, 27°.55N×140°.66E, h377km, M4.0*
ISC 09 01:00:08.9±1.3, 27°.3N±0°.1×140°.7E±0°.3, h400km, n8, σ1°.88/9, mb2.9/4, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.32	97	P	Pn	01 01 01.0	-0.3
CBIJ				S	S	01 01 40.7	-2.9
JHH2	Haha-jima-NKT2	1.45	115	P	Pn	01 01 02.1	+0.2
JHH2				S	S	01 01 42.7	-1.9
BSO3	Boso 3	7.52	359	P	Pn	01 01 57.0	-1.1
JHO	Hitachi	9.33	359	P	P	01 02 18.1	-0.8
WRA	Warramunga Arr	47.32	188	P	P	01 08 04.2	-0.3
	0.3nm,0.4s,baz=5.7,slow=7.6,SNR=6.6						
MKAR	Makanchi Array	49.36	310	P	P	01 08 05.2	-15
	0.1nm,0.4s,baz=86,slow=7.9,SNR=1.5						
ILAR	Eielson Array	58.20	29	P	P	01 09 24.3	+1.8
	0.2nm,0.5s,baz=245,slow=6.5,SNR=2.1						
YKA	Yellowknife Ar	72.62	28	P	P	01 10 55.8	+2.0
	0.3nm,0.5s,baz=306,slow=5.0,SNR=6.3						

IDC 09 01:04:16.2±4.5, 34°.68S×79°.53E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/32, mbtmp3.8/3, MS3.5/6, Ms1 3.5/6, ms1mx3.1/35, Error ellipse: s-maj=214.0km s-min=56.6km az=24.0, Broken Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	28.34	100	T	T	01 40 33.0	
	baz=259,slow=74,SNR=16						
H01W3	Cape Leeuwin H	28.34	100	T	T	01 40 32.5	
	baz=259,slow=74,SNR=7.4						
H01W1	Cape Leeuwin H	28.36	100	T	T	01 40 35.9	
	baz=259,slow=74,SNR=16						
MAW	Mawson	34.34	191	LR	LR	01 21 51.1	
	comp=Z,36nm,20.3s,baz=48,slow=31						
LEM	Lembang	37.92	50	LR	LR	01 24 37.0	
	comp=Z,75nm,18.7s,baz=234,slow=32						
PSI	Prapat	41.50	30	LR	LR	01 25 48.1	
	comp=Z,81nm,18.5s,baz=96,slow=31						
BOSA	Boshof	46.13	262	LR	LR	01 27 09.0	
	comp=Z,49nm,21.9s,baz=178,slow=30						
ASAR	Alice Springs	48.22	92	P	P	01 12 59.3	+0.4
	1.6nm,0.9s,baz=230,slow=6.5,SNR=6.2						
WRA	Warramunga Arr	50.29	88	P	P	01 13 14.2	-0.5
	1.3nm,0.8s,baz=244,slow=7.5,SNR=6.0						
STKA	Stephens Creek	51.24	105	P	P	01 13 21.3	-0.4
	1.5nm,0.9s,baz=264,slow=10,SNR=2.0						
KSRS	Korea Array	84.69	37	LR	LR	01 52 41.2	
	comp=Z,18nm,19.4s,baz=125,slow=34						
KVAR	Kislovodsk Arr	85.15	334	LR	LR	01 53 00.6	
	comp=Z,81nm,18.5s,baz=80,slow=34						
YKA	Yellowknife Ar	150.78	13	PKPbc	PKPbc	01 24 09.4	-0.2
	1.0nm,1.0s,baz=340,slow=3.3,SNR=3.6						

*NEIC **09** 01:15:54.6±1.4, 13°.8N±0°.1×120°.8E±0°.1, h134km±6km, mb4.2/42, Error ellipse: s-maj=21.8km s-min=13.9km az=60.0*
*IDC **09** 01:15:57.4±4.6, 13°.72N×120°.77E, h170km±44km, mb3.8/15, mb1 3.9/15, mb1mx3.7/36, mbtmp4.2/15, Error ellipse: s-maj=24.9km s-min=10.2km az=70.0*
*MAN **09** 01:15:59.6, 13°.76N×120°.56E, h163km, mb4.5, ML3.4, MS3.2*
ISC 09 01:16:00.3±0.4, 13°.71N±0°.06×120°.72E±0°.08, h200km, n74, σ1°.47/77, mb4.1/35, 2C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PGP	Puerto Galera	0.31	132	⇑eP	Pn	01 16 23.1	-3.8
PGP				iS	Sn	01 16 39.7	-7.7
TGY	Tagaytay City	0.44	29	⇓iP	Pn	01 16 24.8	-2.5
LQP	Lukban	0.89	63	⇑iP	Pn	01 16 27.1	-2.5
LQP				iS	Sn	01 16 49.7	-2.6
GQP	Guinayangan	1.69	83	⇓iP	Pn	01 16 34.4	-1.3
GQP				iS	Sn	01 17 01.1	-2.1
RCP	Roxas	2.91	137	⇓eP	Pn	01 16 48.9	-0.1
TNTI	Ternate	14.44	152		Pn	01 19 14.8	-1.1
CM31	Chiang Mai Arr	21.44	286	P	P	01 20 34.5	+1.5
CM31				IAmb	IAmb	01 20 35.2	
	comp=Z,17nm,0.9s						
CMAR	Chiang Mai Arr	21.44	286	P	P	01 20 32.8	-0.3
	comp=Z,9.4nm,0.5s,baz=97,slow=8.2,SNR=30						
CHTO	Chiang Mai	21.50	287	P	P	01 20 34.4	+0.7
CHTO				IAmb	IAmb	01 20 35.2	
	comp=Z,8.5nm,1.1s						
BATI	Baumata	23.94	173	P	P	01 20 56.5	+0.1
	comp=Z,26nm,0.3s,baz=0.3,slow=2.6,SNR=4.7						
GSI	Gunungsitoli	26.00	244	P	P	01 21 13.4	-1.6
SHL	Shillong	29.53	298	P	P	01 21 46.5	0.0
KNRA	Kununurra	30.26	164	P	P	01 21 53.3	+0.6
KNRA				IAmb	IAmb	01 21 53.6	
	comp=Z,6.2nm,0.7s						
FITZ	Fitzroy Crossi	31.98	171	P	P	01 22 07.4	-0.4
FITZ				IAmb	IAmb	01 22 10.0	
	comp=Z,5.7nm,1.1s						
PSA00	Pilbara Seismi	35.07	181	P	P	01 22 34.5	0.0
COEN	Coen	35.36	140	P	P	01 22 36.2	-0.8
COEN				IAmb	IAmb	01 22 37.3	
	comp=Z,8.7nm,0.9s						
WRA	Warramunga Arr	36.03	158	P	P	01 22 41.5	-1.1
	comp=Z,4.8nm,0.6s,baz=337,slow=10,SNR=30						
WRA	Warramunga Arr	36.03	158	P	P	01 22 42.0	-0.7
WB2	Warramunga Arr	36.03	158	P	P	01 22 41.8	-0.9
SONM	Songino Array	36.05	344	P	P	01 22 43.1	+0.4
	comp=Z,0.7nm,0.5s,baz=157,slow=9.3,SNR=4.2						
SONM	Songino Array	36.05	344	P	P	01 22 42.8	+0.2
SONM				IAmb	IAmb	01 22 59.4	
	comp=Z,1.3nm,0.5s						
WR0	Warramunga Arr	36.12	158	P	P	01 22 42.8	-0.6
WR0				IAmb	IAmb	01 22 45.8	
	comp=Z,4.1nm,0.8s						
KLR	Kul'dur	36.57	12	P	P	01 22 47.5	+0.6
	comp=Z,3.0nm,0.8s,baz=232,slow=6.3,SNR=8.2						
GIRL	Giralia	36.68	190	P	P	01 22 48.5	+0.4
AS31	Alice Springs	39.32	161	P	P	01 23 11.1	+0.9
AS31				IAmb	IAmb	01 23 11.5	
	comp=Z,2.8nm,0.6s						
ASAR	Alice Springs	39.32	161	P	P	01 23 10.6	+0.3
	comp=Z,7.2nm,0.7s,baz=339,slow=6.8,SNR=92						
ASAR	Alice Springs	39.32	161	P	P	01 23 10.9	+0.6
CTAO	Charters Tower	41.94	143	P	P	01 23 33.2	+1.5
CTAO				IAmb	IAmb	01 23 33.8	
	comp=Z,10nm,0.8s						
MORW	Morawa	42.77	186	P	P	01 23 38.4	+0.2
FORT	Forrest	44.79	171	P	P	01 23 54.4	+0.1
MK31	Makanchi Array	46.03	324	P	P	01 24 03.6	-0.3
MKAR	Makanchi Array	46.03	324	P	P	01 24 05.2	+1.2
	comp=Z,1.5nm,0.8s,baz=123,slow=8.9,SNR=10						
MKAR	Makanchi Array	46.03	324	P	P	01 24 05.8	+1.9
NWAO	Narrogin (SRO)	46.49	184	P	P	01 24 08.0	+0.5
NWAO				IAmb	IAmb	01 24 33.1	
	comp=Z,8.6nm,1.1s						
BBOO	Buckleboo	48.53	163	P	P	01 24 23.1	-0.1
PETK	Petropavlovsk-	49.01	29	P	P	01 24 25.0	-1.6
	comp=Z,1.6nm,0.6s,baz=209,slow=7.7,SNR=4.4						
ZALV	Zalesovo Beam	49.05	333	P	P	01 24 26.6	-0.3
	comp=Z,1.4nm,0.6s,baz=124,slow=7.0,SNR=4.2						
ZALV	Zalesovo Beam	49.05	333	P	P	01 24 26.8	-0.1
STKA	Stephens Creek	49.55	157	P	P	01 24 31.6	+0.6
	comp=Z,4.7nm,0.9s,baz=348,slow=6.9,SNR=5.8						
STKA	Stephens Creek	49.55	157	P	P	01 24 31.3	+0.3
DZM	Mont Dzumac	57.23	128	P	P	01 25 28.7	+1.5
NRIK	Noril'sk	59.41	347	P	P	01 25 41.2	-0.2
	comp=Z,2.4nm,0.5s,baz=122,slow=4.7,SNR=5.5						
ABKAR	Akbulak array	60.74	319	P	P	01 25 51.1	+0.3
ARU	Arti	63.38	327	P	P	01 26 09.0	+0.8
ARU				IAmb	IAmb	01 26 24.3	
	comp=Z,2.7nm,1.1s						
BKZ	Black Stump Fm	73.93	138	P	P	01 27 14.7	+0.9
BKZ				IAmb	IAmb	01 27 15.1	
	comp=Z,6.2nm,0.7s						
L19K	White Mountain	75.39	29	P	P	01 27 22.8	+1.1
L19K				IAmb	IAmb	01 27 23.6	
	comp=Z,3.2nm,1.0s						
J20K	Nowinta River	75.65	27	P	P	01 27 24.9	+1.8
IMAR	Indian Mountai	75.77	25	P	P	01 27 24.8	+1.1
I21K	Tanana	76.54	26	P	P	01 27 29.8	+1.7
I21K				IAmb	IAmb	01 27 30.4	
	comp=Z,5.3nm,1.1s						
BPAW	Bear Paw Mtn.	77.04	27	P	P	01 27 32.1	+1.1
BPAW				IAmb	IAmb	01 27 32.7	
	comp=Z,4.7nm,0.7s						
MLY	Manley	77.07	26	P	P	01 27 32.3	+1.1
H23K	Yukon River	77.50	25	P	P	01 27 35.3	+1.8
RND	Reindeer	78.05	27	P	P	01 27 36.8	+0.1
RND				IAmb	IAmb	01 27 37.2	
	comp=Z,2.5nm,0.7s						
WRH	Wood River Hil	78.26	26	P	P	01 27 37.9	+0.3
CCB	Clear Creek Bu	78.36	26	P	P	01 27 38.9	+0.7
ARCES	ARCESS Array B	79.08	339	P	P	01 27 42.3	+0.2
	comp=Z,1.7nm,0.6s,baz=85,slow=7.3,SNR=12						
ARCES	ARCESS Array B	79.08	339	P	P	01 27 42.7	+0.6
ARCES				IAmb	IAmb	01 28 04.9	
	comp=Z,6.2nm,1.0s						
BMAR	Burnt Mountain	79.25	23	P	P	01 27 44.7	+1.6
RIDG	Independent Ri	79.78	27	P	P	01 27 46.3	+0.3
RIDG				IAmb	IAmb	01 27 46.6	
	comp=Z,2.8nm,0.8s						
SCRK	Sand Creek	80.11	26	P	P	01 27 47.9	+0.1
FINES	FINESS Array B	80.28	331	P	P	01 27 49.0	+0.4
	comp=Z,2.2nm,0.9s,baz=46,slow=5.5,SNR=9.1						
FINES	FINESS Array B	80.28	331	P	P	01 27 49.6	+1.0
K27K	Chicken	80.92	26	P	P	01 27 53.9	+1.9
EGAK	Eagle	81.14	25	P	P	01 27 53.9	+0.7
EGAK				IAmb	IAmb	01 27 54.8	
	comp=Z,2.1nm,0.7s						
MLR	Muntele Rosu	83.65	315	P	P	01 28 08.3	+1.5
MLR				IAmb	IAmb	01 28 15.0	
	comp=Z,3.1nm,1.1s						
BURAR	Bucovina Array	83.66	317	P	P	01 28 07.8	+1.1
BUR08	Bucovina Ar. S	83.67	317	P	P	01 28 08.3	+1.6
BUR08				IAmb	IAmb	01 28 09.8	
	comp=Z,2.8nm,1.1s						
NB2	NORSAR Subarra	87.26	333	P	P	01 28 22.8	-1.3
	comp=Z,0.9nm,0.7s,baz=66,slow=4.4						
NOA	NORSAR Array B	87.26	333	P	P	01 28 23.2	-0.9
	comp=Z,0.6nm,0.6s,baz=68,slow=4.5,SNR=4.9						
YKA	Yellowknife Ar	92.76	22	P	P	01 28 50.4	+0.8
	comp=Z,0.7nm,0.8s,baz=317,slow=3.4,SNR=7.9						
VNDA	Vanda	94.05	172	P	P	01 28 54.8	-0.3
	comp=Z,1.0nm,0.9s,baz=296,slow=6.9,SNR=4.2						
TORD	Torodi Ar. Bea	113.96	291	PKP	PKiKP	01 34 16.2	-0.2
	comp=Z,0.2nm,0.6s,baz=65,slow=1.6,SNR=5.2						
PLCA	Paso Flores	151.33	162	PKPbc	PKPbc	01 35 31.2	+0.6
	comp=Z,2.1nm,0.8s,baz=63,slow=2.3,SNR=3.7						
PLCA	Paso Flores	151.33	162	PKPbc	PKPbc	01 35 31.7	+1.1

IDC 09 01:44:07.5±8.7, 33°.82S×177°.98W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.5/19, mbtmp3.6/2, Error ellipse: s-maj=435.5km s-min=62.7km az=163.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.06	271	P	P	01 52 09.4	+0.2
	0.4nm,0.8s,baz=114,slow=8.0,SNR=2.7						
WRA	Warramunga Arr	44.35	276	P	P	01 52 19.3	-0.4
	0.5nm,0.4s,baz=119,slow=8.2,SNR=2.6						
FINES	FINESS Array B	148.34	338	PKPbc	PKPbc	02 03 54.2	-0.7
	2.0nm,0.9s,baz=64,slow=4.4,SNR=5.1						

*NNC **09** 01:47:14.7±0.9, 47°.26N×82°.64E, h8km±9km, mb3.7, mpv3.2, Error ellipse: s-maj=8.0km s-min=3.9km az=23.0*
*SOME **09** 01:47:16.9, 47°.12N×82°.40E, h0km*
ISC 09 01:47:10.4±1.3, 47°.29N±0°.04×82°.62E±0°.05, h4km±12km, n24, σ1°.69/37, 4C-4D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MK31	Makanchi Array	0.55	205	⇑P	Pn	01 47 25.4	+0.3
	1.4nm,0.1s,baz=35,slow=16,SNR=2394						
MK31				⇑S	Sn	01 47 33.4	-1.3
	12nm,0.2s,baz=25,slow=29,SNR=4.6						
MKAR	Makanchi Array	0.55	205	P	Pn	01 47 25.5	+0.5
MKAR				S	Sn	01 47 33.5	-1.2
MAKZ	Makanchi	0.66	223	P	Pn	01 47 27.9	+1.4
MAKZ				S	Sn	01 47 37.6	+0.3
MAKZ	Makanchi	0.66	223	⇓P	Pn	01 47 27.8	+1.2
	2.7nm,0.3s						
MAKZ				⇓S	Sn	01 47 37.2	-0.1
	14nm,0.2s						
ZSN	Zaisan	1.53	83	eP	Pg	01 47 42.1	+2.3
	3.7nm,0.1s						
ZSN				eS	Sb	01 47 59.6	+0.4
	28nm,0.3s						
KAPS	Kapalarasan	3.03	230	eP	Pg	01 48 09.0	+0.6
	4.4nm,0.3s						
KAPS				eS	Sg	01 48 46.4	-1.2
	12nm,0.3s						
KAPS	Kapalarasan	3.03	230	Pg	Pg	01 48 08.9	+0.6
	4.4nm,0.3s						
KAPS				Lg	Lg	01 48 46.4	
	12nm,0.3s						
DJR	Jarkent	3.56	215	eP	Pg	01 48 19.6	+1.0
	3.9nm,0.4s						
DJR				eS	Sg	01 49 04.6	-0.2
	5.0nm,0.5s						
DJR	Jarkent	3.56	215	Pg	Pg	01 48 19.6	+1.0
	3.9nm,0.4s						
DJR				Lg	Lg	01 49 04.6	
	5.0nm,0.5s						
UKR	Ust'-Kan	3.91	20	S	Sb	01 49 09.9	+2.1
DGZ	Jazzator, Alta	4.00	51	P	Pb	01 48 23.3	+1.7
DGZ				S	Sb	01 49 10.3	-0.1
KURBB	Kurchatov Arra	4.29	323	⇑Pg	Pg	01 48 33.1	+0.6
	1.8nm,0.5s						
KURBB				⇓Lg	Lg	01 49 32.8	
	27nm,0.6s						
CHBI	Chibit, Altay	4.42	45	P	Pb	01 48 27.8	-0.9
CHBI				S	Sb	01 49 21.7	-0.6
AKAR	Aktash	4.48	46	P	Pb	01 48 27.0	-2.7
AKAR				S	Sb	01 49 21.6	-2.6
PDGK	Podgornoye	4.54	210	Pg	Pg	01 48 37.6	+0.3
	0.8nm,0.4s						
PDGK				Lg	Lg	01 49 35.0	
	3.9nm,0.5s						
PDGK	Podgornoye	4.54	210	⇑Pn	Pn	01 48 24.9	+4.9
	1.3nm,0.3s						
PDGK				⇓Lg	Lg	01 49 35.4	
	7.4nm,0.7s						
ARXS	Arharly	4.55	229	eP	Pg	01 48 38.2	+0.5
	2.9nm,0.3s						
ARXS				eS	Sg	01 49 36.4	-0.3
	8.4nm,0.5s						
ARXS	Arharly	4.55	229	Pg	Pg	01 48 38.2	+0.5
	2.9nm,0.3s						
ARXS				Lg	Lg	01 49 36.4	
	8.4nm,0.5s						
SHLS	Shalkode	4.70	210	eP	Pg	01 48 37.6	-2.8
	6.2nm,0.5s						
SHLS				eS	Sb	01 49 35.0	+4.6
	6.3nm,0.4s						
SHLS	Shalkode	4.70	210	Pg	Pg	01 48 37.6	-2.8
	6.2nm,0.5s						
SHLS				Lg	Lg	01 49 35.0	
	6.3nm,0.4s						
CUR	Chagan-Uzun	4.72	51	P	Pn	01 48 16.0	-6.5
CUR				S	Sb	01 49 31.1	+0.1
ULGR	Ulagan, Altay	4.84	45	P	Pb	01 48 33.1	-2.8
ULGR				S	Sb	01 49 31.8	-2.8
UZB	Uzynbulak	4.86	213	eP	Pg	01 48 43.2	-0.3
	1.2nm,0.1s						
UZB				eS	Sg	01 49 45.5	-1.1
	4.2nm,0.4s						
UZB	Uzynbulak	4.86	213	Pg	Pg	01 48 44.3	+0.7
	3.5nm,0.4s						
UZB				Lg	Lg	01 49 45.5	
	4.2nm,0.4s						

*NSSP **09** 01:49:54.4, 39°.72N×42°.38E, h5km, Ms3.4*
*ISK **09** 01:49:56.3, 39°.73N×42°.30E, h5km, ML3.6/23*
*DDA **09** 01:49:57.5, 39°.71N×42°.35E, h6km±2km, ML3.6*
ISC 09 01:49:58.0±1.0, 39°.71N±0°.02×42°.34E±0°.01, h7km±9km, n68, σ1°.12/103, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOPR	Koprukoy-ERZUR	0.47	307	PG	Pg	01 50 06.9	-0.2
KOPR				SG	Sg	01 50 12.3	-0.9
HOMI	Horasan	0.47	315	iP	Pg	01 50 07.0	-0.1
HOMI				iS	Sg	01 50 12.6	-0.8
HOMI				IAML		01 50 16.0	
	comp=N,5µm,0.5s						
HOMI				IAML		01 50 20.0	
	comp=E,5µm,0.4s						
EKAR	Karacoban	0.50	205	iP	Pb	01 50 09.4	+0.1
EKAR				iS	Sb	01 50 19.8	+2.9
AGRB	Hanur-Agry	0.52	105	PG	Pb	01 50 08.3	-1.3
AGRB				SG	Sb	01 50 17.4	0.0
ERZM	Erzurum	0.78	285	iP	Pb	01 50 13.5	-0.5
ERZM				iS	Sn	01 50 26.9	-0.8
EJDE	Erzurum, Palan	0.81	279	iP	Pg	01 50 13.0	-0.5
EJDE				iS	Sn	01 50 28.1	-0.6
EJDE				IAML		01 50 32.0	
	comp=E,6µm,0.7s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
EJDE				IAML		01 50 32.0	
	comp=N,3µm,0.8s						
SENK	Senkaya-Erzuru	0.85	0	PG	Pg	01 50 13.3	-1.0
VRTB	Varto-Mus	0.88	232	iP	Pn	01 50 16.2	-0.8
VRTB				iS	Sn	01 50 30.3	+0.2
VRTB				IAML		01 50 40.0	
	comp=N,2µm,0.6s						
VRTB				IAML		01 50 46.0	
	comp=E,3µm,1.0s						
ADCV	BITLIS_Adilcev	0.95	162	iP	Pb	01 50 16.1	-0.8
ADCV				iS	Sb	01 50 28.9	-0.9
DYDN	Diyadin	1.05	99	iP	Pg	01 50 17.6	-0.6
DYDN				iS	Sb	01 50 32.5	-0.3
DYDN				IAML		01 50 34.0	
	comp=N,2µm,0.4s						
DYDN				IAML		01 50 35.0	
	comp=E,1µm,0.6s						
DIGO	Kars	1.06	48	iP	Pg	01 50 17.7	-0.6
ECAT	Cat-ERZURUM	1.06	265	iP	Pg	01 50 17.7	-0.6
ECAT				iS	Sb	01 50 32.9	-0.1
KARS	Kars	1.08	31	PG	Pg	01 50 17.6	-1.0
KARS				SG	Sn	01 50 33.9	-1.1
KARO	Karliova-Bingo	1.08	248	PG	Pg	01 50 17.8	-0.8
EMRE	Erzurum,Aziziy	1.10	287	iP	Pb	01 50 19.3	-0.2
EMRE				iS	Sn	01 50 34.7	-0.9
EMRE				IAML		01 50 42.0	
	comp=E,2µm,0.5s						
EMRE				IAML		01 50 44.0	
	comp=N,2µm,0.6s						
MUSM	Mu-Merkez	1.18	213	iP	Pg	01 50 20.1	-0.5
MUSM				iS	Sn	01 50 37.4	0.0
GURO	Guroymak-BITLI	1.18	192	PN	Pg	01 50 20.1	-0.6
GURO				SN	Sn	01 50 37.8	+0.2
VMUR	Van-Muradiye	1.20	127	iP	Pn	01 50 20.6	-0.7
VMUR				iS	Sn	01 50 37.3	-0.6
VNNZ	Vanand	1.21	71	iP	Pn	01 50 21.4	0.0
VNNZ				iS	Sn	01 50 39.0	+0.9
SLHN	Bingol, Solhan	1.27	234	iP	Pn	01 50 21.4	-0.9
SLHN				iS	Sn	01 50 40.4	+0.7
SLHN				IAML		01 50 44.0	
	comp=N,944nm,0.7s						
SLHN				IAML		01 50 44.0	
	comp=E,1µm,0.6s						
BLIS	Bitlis-Merkez	1.31	188	iP	Pg	01 50 23.1	+0.1
BLIS				iS	Sn	01 50 41.0	+0.3
BLIS				IAML		01 50 42.0	
	comp=E,1µm,0.4s						
IGDI	IGDIR	1.35	83	iP	Pn	01 50 22.2	-1.1
IGDI				iS	Sn	01 50 42.0	+0.4
EAK	Akyaka	1.37	44	iP	Pg	01 50 24.5	+0.2
EAK				IAML		01 50 55.0	
	comp=E,683nm,1.5s						
EAK				IAML		01 50 55.0	
	comp=N,1µm,0.8s						
VANB	Van	1.38	144	PN	Pg	01 50 25.3	+0.9
DBAD	Bademkaya	1.40	339	iP	Pn	01 50 23.5	-0.5
METS	Metsamor	1.41	71	iP	Pg	01 50 24.9	0.0
METS				iS	Sg	01 50 45.7	+2.5
YEDI	Yedisu-Bingol	1.42	259	PN	Pn	01 50 23.4	-0.9
TVAN	Van	1.44	145	iP	Pg	01 50 25.4	-0.2
TVAN				iS	Sg	01 50 46.7	+2.3
KOPT	Kop Dagi	1.45	283	iP	Pg	01 50 25.7	-0.1
KOPT				iS	Sg	01 50 50.1	+5.4
ARUZ	Aruch	1.46	66	iP	Pg	01 50 25.3	-0.6
ARUZ				iS	Sg	01 50 46.9	+2.0
AKDM	Akdamar-Van	1.47	160	PN	Pb	01 50 25.2	-0.5
BNGB	Bingl	1.48	241	PN	Pn	01 50 24.6	-0.5
BNGB				SN	Sg	01 50 45.6	+0.2
TASB	TASBURUN-IGDIR	1.49	79	PN	Pg	01 50 25.7	-0.7
BAYB	BAYBURT	1.69	290	iP	Pg	01 50 30.1	-0.3
BAYB				iS	Sg	01 50 53.2	+0.9
DBOC	Borcka	1.71	343	iP	Pn	01 50 27.6	-0.7
SRTM	Siirt_Merkez	1.75	191	iP	Pg	01 50 31.3	-0.1
PERV	Siirt/Pervari-	1.77	175	iP	Pg	01 50 31.1	-0.8
PERV				iS	Sg	01 50 55.9	+1.1
PERV				IAML		01 51 00.0	
	comp=E,520nm,0.5s						
NRKZ	NAREK	1.81	80	iP	Pg	01 50 32.5	-0.2
NRKZ				iS	Sg	01 50 59.7	+3.6
EPOS	Posof	1.81	9	iP	Pb	01 50 30.9	-0.7
BCA	Borcka	1.82	343	PN	Pn	01 50 29.8	+0.1
BAYT	Aydıntepe-Bayb	1.82	293	PN	Pn	01 50 29.5	-0.4
CHOM	Cayeli-Rize	1.84	319	PN	Pn	01 50 29.9	-0.1
GNI	Garni	1.90	76	iP	Pb	01 50 32.1	-1.0
GNI				iS	Sg	01 50 58.4	-0.5
GNI	Garni	1.90	76	PN	Pb	01 50 31.6	-1.4
AKH	Akhalkalaki	1.91	27	PN	Pn	01 50 31.4	+0.2
KAPZ	Kaputan	1.91	71	iP	Pb	01 50 32.7	-0.6
KAPZ				iS	Sg	01 50 59.9	+0.6
HANI	Diyarbakir_Han	1.99	230	iP	Pb	01 50 34.4	-0.2
BTMN	Batman	2.00	205	iP	Pb	01 50 34.9	+0.1
BTMN				iS	Sg	01 51 02.3	+0.1
BTMN				IAML		01 51 05.0	
	comp=E,649nm,0.6s						
BTMN				IAML		01 51 05.0	
	comp=N,491nm,0.6s						
EUZM	Uzumlu	2.04	271	iP	Pb	01 50 34.7	-0.8
EUZM				iS	Sg	01 51 02.5	-1.0
KOVA	Elazig, Kovanc	2.21	244	iP	Pb	01 50 38.1	-0.1
SIRT	Sirnak	2.21	178	PN	Pn	01 50 35.9	+0.7
SIRN	Sırnak	2.21	179	iP	Pb	01 50 37.8	-0.5
SIRN				IAML		01 51 16.0	
	comp=E,363nm,1.0s						
KTUT	Trabzon	2.34	304	PN	Pn	01 50 37.4	+0.5
HAKT	HAKKARI	2.40	153	iP	Pb	01 50 41.2	-0.5
KELT	Kelkit	2.41	281	iP	Pb	01 50 42.3	+0.4
MIDY	Mardin/Midyat-	2.42	198	iP	Pb	01 50 40.1	-1.8
MIDY				iS	Sg	01 51 13.6	-2.0
MIDY				IAML		01 51 18.0	
	comp=E,249nm,0.8s						
DIYA	Diyarbakir	2.49	225	iP	Pg	01 50 43.9	-1.7
DIYA				iS	Sg	01 51 18.7	+0.7
YOVA	Hakkari_Yksek	2.61	144	iP	Pb	01 50 46.0	+0.7
YOVA				iS	Sb	01 51 18.3	+0.6
CUKT	Cukurca	2.65	158	iP	Pg	01 50 47.0	-1.9
MARD	Mardin	2.69	208	iP	Pb	01 50 46.5	-0.1
MARD				iS	Sg	01 51 22.8	-1.5
MARD				IAML		01 51 28.0	
	comp=N,209nm,0.5s						
MARD				IAML		01 51 33.0	
	comp=E,351nm,0.7s						
MAZI	Mazidag	2.69	214	PN	Pn	01 50 42.5	+0.6
SVRC	Sivrice-ELAZID	2.71	242	PN	Pn	01 50 42.9	+0.7
ALUC	Giresun/Alucra	2.81	284	iP	Pb	01 50 49.9	+1.2
ELZG	Elazig	2.88	246	iP	Pb	01 50 48.2	-1.6
KEMA	Kemaliye	3.01	263	iP	Pb	01 50 52.5	+0.5
ARPR	Arapgir-MALATY	3.16	260	PN	Pn	01 50 49.1	+0.7
URFA	Urfa	3.57	232	PN	Pn	01 50 55.1	+1.2
RSDY	Resadiye-TOKAT	3.91	282	PN	Pn	01 50 59.6	+1.1

IDC 09 02:00:26.6±3.0, 33°.28S×178°.04W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.6/29, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=75.5km s-min=36.2km az=122.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.35	217	Pn	Pn	02 02 01.6	+0.3
	1.5nm,0.3s,baz=125,slow=18,SNR=5.9						
URZ				Sn	Sn	02 03 14.3	-0.3
	3.3nm,0.3s,baz=106,slow=23,SNR=9.8						
ASAR	Alice Springs	43.00	270	P	P	02 08 27.7	-0.3
	0.4nm,0.6s,baz=108,slow=7.5,SNR=5.6						
WRA	Warramunga Arr	44.25	275	P	P	02 08 38.1	+0.1
	0.5nm,0.4s,baz=116,slow=7.8,SNR=8.0						
FINES	FINESS Array B	147.82	338	PKPbc	PKPbc	02 20 11.8	-0.9
	1.6nm,0.8s,baz=64,slow=4.4,SNR=8.0						

*SOME **09** 02:06:13.2, 37°.83N×71°.80E, h0km*
*BJI **09** 02:06:15.8±0.0, 36°.69N×70°.89E, h211km, mB4.7/6, mb4.4/7*
*IDC **09** 02:06:15.3±2.6, 36°.36N×70°.98E, h192km±22km, mb3.6/13, mb1 3.7/18, mb1mx3.4/45, mbtmp4.2/18, Error ellipse: s-maj=18.8km s-min=13.3km az=177.0*
*NEIC **09** 02:06:18.8±1.7, 36°.65N±0°.06×71°.00E±0°.08, h209km±2km, mb4.0/35, Error ellipse: s-maj=9.5km s-min=7.7km az=122.0*
*NNC **09** 02:06:24.6±8.7, 37°.19N×71°.37E, h256km±84km, mb2.9, mpv4.2, Error ellipse: s-maj=77.6km s-min=57.9km az=16.0*

ISC 09 02:06:17.1±0.5, 36°.65N±0°.04×71°.05E±0°.04, h200km, n114, σ1s.51/131, mb3.9/30, 9C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GAR	Garm	2.41	346		Pn	02 07 02.3	+2.2
GAR				Sn	Sn	02 07 33.7	-0.1
CHGR	Chuyangaron	2.50	324		Pn	02 07 03.0	+1.9
CHGR				Sn	Sn	02 07 35.0	-0.5
KBL	Kabul	2.67	218		Pn	02 07 05.1	+1.9
KBL				Sn	Sn	02 07 39.8	+0.8
DRK	Karamyk	2.88	12		Pn	02 07 08.0	+2.4
BTK	Batken	3.40	357		Pn	02 07 14.6	+3.0
CHCP	Chirah Chowk	3.50	148	P	Pn	02 07 15.1	+2.3
CHCP				S	Sn	02 07 57.0	+0.7
NIL	Nilore	3.50	148	Pn	Pn	02 07 14.9	+2.1
KSH	Kashi	4.82	52	P	Pn	02 07 26.0	-3.3
KSH				S	Sn	02 08 14.5	-12
KSH				smax	smax		
	comp=N,190nm,0.5s						
KSH				smax	smax		
	comp=E,140nm,0.5s						
IUG	Iuzhnay	5.54	352	eP	Pn	02 07 40.2	+1.7
	371nm,0.6s						
IUG				eS	Sn	02 08 40.8	-2.1
	312nm,0.5s						
THN	Thein Dam	5.70	136	eP	Pn	02 07 42.5	+1.9
THN				eS	Sn	02 08 44.5	-1.9
AML	Almayashu	5.84	20	P	Pn	02 07 43.9	+1.3
	SNR=86						
DHRM	DHARAMSHALA	6.17	134	eP	Pn	02 07 47.9	+1.0
DHRM				ix	Pn	02 07 49.2	+2.4
DHRM				eS	Sn	02 08 53.7	-4.1
DHRM				IAML		02 08 58.1	
	comp=N,356nm,0.5s						
DHRM				IAML		02 08 59.5	
	comp=E,342nm,0.3s						
UCH	Uchtor	6.18	25	P	Pn	02 07 48.4	+1.4
	SNR=55						
DZA	Taraz	6.24	2	eP	Pn	02 07 50.6	+3.2
	comp=E,156nm,0.1s						
DZA				eS	Sn	02 08 58.0	-0.8
	comp=E,400nm,0.4s						
MRKS	Merke	6.31	15	eP	Pn	02 07 49.6	+1.2
	comp=E,28nm,0.4s						
MRKS				eS	Sn	02 08 58.5	-2.2
	comp=E,135nm,0.6s						
KZA	Kyzart	6.32	30	P	Pn	02 07 49.4	+0.6
	SNR=40						
EKS2	Erkin-Say	6.36	18	P	Pn	02 07 50.8	+1.7
	SNR=23						
KK31	Karatay Array	6.46	356	⇓P	Pn	02 07 51.1	+0.9
	comp=E,4.2nm,0.3s,baz=175,slow=12,SNR=229						
KK31				⇑S	Sn	02 09 00.5	-3.5
	comp=E,16nm,0.5s,baz=164,slow=24,SNR=4.8						
KK31	Karatay Array	6.46	356	Pn	Pn	02 07 51.2	+1.0
KKAR	Karatay Array	6.46	356	Pn	Pn	02 07 51.0	+0.8
AAK	Ala-Archa	6.54	23	P	Pn	02 07 53.1	+1.7
	comp=E,6.4nm,0.3s,baz=210,slow=9.2,SNR=43						
AAK				S	Sn	02 09 05.7	-0.5
	comp=E,5.7nm,0.3s,baz=139,slow=19,SNR=5.4						
AAK	Ala-Archa	6.54	23	P	Pn	02 07 53.1	+1.7
	SNR=24						
AAK	Ala-Archa	6.54	23	⇑P	Pn	02 07 52.8	+1.3
	comp=E,8.4nm,0.3s						
AAK				⇑S	Sn	02 09 04.8	-1.4
	comp=E,52nm,0.8s						
AAK	Ala-Archa	6.54	23		Pn	02 07 53.0	+1.5
KBK	Karagaybulak	6.71	25	P	Pn	02 07 55.0	+1.4
	SNR=10.0						
FRU1	Bishkek	6.74	23	Pn	Pn	02 07 56.3	+2.4
ULHL	Ulahol	6.88	34	P	Pn	02 07 56.9	+1.0
	SNR=14						
BOOM	Boomskoye usch	6.94	31	Pn	Pn	02 07 57.7	+1.0
CHMS	Chumysh	6.95	23	P	Pn	02 07 58.2	+1.6
	SNR=7.7						
USP	Ospenovka	7.12	21	P	Pn	02 08 00.0	+1.2
	SNR=15						
TKM2	Tokmak 2	7.17	28	P	Pn	02 08 01.0	+1.3
	SNR=32						
TKM2	Tokmak 2	7.17	28	⇑P	Pn	02 07 59.8	+0.2
	comp=E,20nm,0.6s						
TKM2				⇑S	Sn	02 09 18.9	-2.2
	comp=E,26nm,0.9s						
KDJ	Kajisay	7.24	39	Pn	Pn	02 08 01.6	+1.0
TARG	Taragay, Kyrgy	7.29	44	Pn	Pn	02 08 01.9	+0.5
SMLA	Simla	7.50	136	eP	Pn	02 08 04.1	+0.3
SMLA				eS	Sn	02 09 24.5	-4.1
SMLA				IAML		02 09 28.0	
	comp=N,100nm,0.4s						
SMLA				IAML		02 09 28.6	
	comp=E,109nm,0.4s						
HRA	Herat	7.53	255		Pn	02 08 04.8	+0.4
GEYT	Alibeck	10.39	281	P	Pn	02 08 40.3	-1.0
	comp=E,0.5nm,0.3s,baz=156,slow=7.6,SNR=2.6						
GEYT				S	Sn	02 10 34.5	-2.7
	comp=E,1.1nm,0.3s,baz=84,slow=28,SNR=2.9						
MAKZ	Makanchi	13.01	35	⇑P	Pn	02 09 05.4	-9.1
	comp=E,0.3nm,0.3s						
MAKZ				⇑S	Pn	02 09 14.7	+0.1
	comp=E,2.0nm,0.4s						
MKAR	Makanchi Array	13.14	36	P	P	02 09 20.0	+0.8
	comp=E,0.7nm,0.3s,baz=214,slow=9.8,SNR=5.1						
MKAR	Makanchi Array	13.14	36	P	P	02 09 20.1	+0.9
PYUN	Piuthan	13.20	127	eP	Pn	02 09 16.9	-0.5
	comp=E,14nm,0.2s						
DANN	Dangsing	13.54	124	eP	Pn	02 09 21.9	+0.3
	comp=E,11nm,0.3s						
KOLN	Koldanda	13.82	126	eP	Pn	02 09 25.2	+0.1
	comp=E,5.3nm,0.3s						
GKN	Gorkha	14.35	123	eP	P	02 09 32.8	-0.2
	comp=E,16nm,0.2s						
WMQ	Urumqi	14.57	55	eP	P	02 09 37.0	+1.8
KURBB	Kurchatov Arra	14.96	19	P	P	02 09 38.4	-1.0
	comp=E,0.2nm,0.3s,baz=206,slow=11,SNR=9.9						
AB31	Akbulak array	14.97	331	⇓P	P	02 09 38.8	-0.7
	comp=E,1.3nm,0.6s						
AB31				⇑S	S	02 12 20.3	-4.6
	comp=E,0.5nm,0.5s						
ABKAR	Akbulak array	14.97	331		P	02 09 40.5	+1.0
KURK	Kurchatov	15.07	19	P	Pn	02 09 38.4	-1.6
PKIN	Phulchoki	15.14	123	eP	P	02 09 42.8	+1.0
	comp=E,12nm,0.3s						
PKI	Pulchoki	15.15	123	eP	P	02 09 43.3	+1.3
	comp=E,6.0nm,0.2s						
JIRN	Jiri	15.63	121	eP	Pn	02 09 48.7	+1.3
	comp=E,41nm,0.4s						
BVAR	Borovoye Array	16.38	359	P	Pn	02 09 56.7	+1.0
	comp=E,2.1nm,0.3s,baz=183,slow=12,SNR=14						
BRVK	Borovoye	16.41	358		Pn	02 09 57.0	+0.9
BRVK				IAmb	IAmb	02 09 59.7	
	comp=Z,8.0nm,1.1s						
AKTO	Aktyubinsk	16.67	330	P	Pn	02 10 00.0	+0.8
	comp=Z,1.0nm,0.3s,baz=150,slow=7.7,SNR=16						
AKTO	Aktyubinsk	16.67	330	⇓P	Pn	02 09 58.4	-0.8
	comp=Z,2.9nm,0.5s						
AKTO				⇑S	S	02 12 59.6	-2.4
	comp=Z,1.5nm,0.7s						
UOSS	Minazif	17.26	232	P	Pn	02 10 05.5	-1.0
UOSS				IAmb	IAmb	02 10 09.3	
	comp=Z,8.2nm,0.8s						
ZAA0	Zalesovo Array	19.76	25	P	P	02 10 32.3	+0.6
ZALV	Zalesovo Beam	19.76	25	P	P	02 10 32.5	+0.9
	comp=Z,6.6nm,0.4s,baz=224,slow=11,SNR=14						
ZALV	Zalesovo Beam	19.76	25	P	P	02 10 31.4	-0.3
ARU	Arti	21.50	341	P	P	02 10 49.9	-0.2
	comp=Z,0.7nm,0.5s,baz=181,slow=3.0,SNR=5.6						
ARU	Arti	21.50	341	P	P	02 10 50.0	0.0
ARU				IAmb	IAmb	02 10 53.7	
	comp=Z,3.4nm,0.8s						
SONM	Songino Array	28.21	56	P	P	02 11 52.9	+1.6
	comp=Z,0.7nm,0.5s,baz=251,slow=10,SNR=3.9						
SONM	Songino Array	28.21	56	P	P	02 11 53.1	+1.8
HHC	Hu-ho-hao-te	31.67	70	eP	P	02 12 23.0	+1.2
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,41nm,4.0s						
NRIK	Noril'sk	33.97	10	P	P	02 12 43.1	+1.9
	comp=Z,4.1nm,0.5s,baz=211,slow=5.8,SNR=4.5						
LVZ	Lovozero	37.33	338	P	P	02 13 11.2	+1.4
FIA1	FINESS Array S	37.38	326	P	P	02 13 11.3	+1.1
FINES	FINESS Array B	37.38	326	P	P	02 13 11.4	+1.2
	comp=Z,1.1nm,0.4s,baz=122,slow=9.4,SNR=11						
ARCES	ARCESS Array B	41.02	338	P	P	02 13 41.8	+1.5
	comp=Z,1.6nm,0.5s,baz=115,slow=8.1,SNR=14						
ARCES	ARCESS Array B	41.02	338	P	P	02 13 41.5	+1.2
GERES	GERESS Array B	42.88	305	pP	pP	02 14 36.3	-2.5
	comp=Z,0.9nm,0.7s,baz=94,slow=6.8,SNR=8.4						
NC405	NORSAR Array S	44.05	323	P	P	02 14 04.7	-0.1
NC602	NORSAR Array S	44.10	323	P	P	02 14 05.6	+0.5
NC602				IAmb	IAmb	02 14 33.8	
	comp=Z,6.8nm,1.1s						
NC303	NORSAR Array S	44.23	323	P	P	02 14 07.2	+1.1
NC303				IAmb	IAmb	02 14 26.4	
	comp=Z,5.8nm,1.1s						
NB201	NORSAR Array S	44.25	323	P	P	02 14 07.1	+0.8
NB201				IAmb	IAmb	02 14 20.4	
	comp=Z,7.1nm,1.1s						
NB2	NORSAR Subarra	44.28	323	P	P	02 14 07.1	+0.4
	comp=Z,0.8nm,0.5s,baz=95,slow=7.4						
NOA	NORSAR Array B	44.28	323	P	P	02 14 07.3	+0.6
	comp=Z,1.3nm,0.6s,baz=97,slow=7.7,SNR=9.7						
NBO00	NORSAR Array S	44.49	323	P	P	02 14 07.9	-0.4
NBO00				IAmb	IAmb	02 14 08.4	
	comp=Z,10.0nm,1.1s						
NC204	NORSAR Array S	44.52	323	P	P	02 14 09.5	+0.9
KLR	Kul'dur	45.02	54	P	P	02 14 13.2	+0.6
	comp=Z,1.1nm,0.5s,baz=277,slow=8.2,SNR=4.6						
TORD	Torodi Ar. Bea	65.76	269	P	P	02 16 39.5	-1.5
	comp=Z,0.5nm,0.4s,baz=50,slow=6.3,SNR=14						
TORD	Torodi Ar. Bea	65.76	269	P	P	02 16 39.4	-1.5
KOWA	Kowa	69.60	273	P	P	02 17 04.4	-0.5
KOWA				IAmb	IAmb	02 17 13.5	
	comp=Z,2.9nm,1.1s						
TOLK	Toolik Lake Re	70.76	15	P	P	02 17 12.4	+1.2
IMAR	Indian Mountai	72.01	18	P	P	02 17 18.9	+0.2
BMAR	Burnt Mountain	72.78	14	P	P	02 17 24.9	+1.6
H23K	Yukon River	73.13	16	P	P	02 17 26.7	+1.5
H23K				IAmb	IAmb	02 17 27.1	
	comp=Z,1.4nm,0.7s						
J20K	Nowinta River	73.37	19	P	P	02 17 27.7	+1.1
J20K				IAmb	IAmb	02 17 28.3	
	comp=Z,2.1nm,0.7s						
H24K	Noodor Dome	73.49	16	P	P	02 17 28.7	+1.3
H24K				IAmb	IAmb	02 17 53.4	
	comp=Z,2.9nm,1.1s						
INK	Inuvik	73.75	9	P	P	02 17 30.0	+1.2
	comp=Z,2.5nm,0.5s,baz=337,slow=6.4,SNR=12						
INK	Inuvik	73.75	9	P	P	02 17 29.9	+1.2
INK				IAmb	IAmb	02 17 30.5	
	comp=Z,2.7nm,0.6s						
K20K	Telida	74.05	19	P	P	02 17 31.8	+1.1
K20K				IAmb	IAmb	02 17 32.3	
	comp=Z,2.2nm,0.6s						
BPAW	Bear Paw Mtn.	74.23	18	P	P	02 17 32.2	+0.5
BPAW				IAmb	IAmb	02 17 36.7	
	comp=Z,3.6nm,1.2s						
WRH	Wood River Hil	74.61	16	P	P	02 17 34.2	+0.4
ILAR	Eielson Array	74.62	16	P	P	02 17 33.3	-0.6
	comp=Z,0.6nm,0.7s,baz=315,slow=4.3,SNR=7.1						
KTH	Kantishna Hill	74.71	18	P	P	02 17 35.1	+0.7
PPLA	Purkeypile	74.93	19	P	P	02 17 36.4	+0.5
PPLA				IAmb	IAmb	02 17 46.7	
	comp=Z,3.6nm,1.0s						
FITZ	Fitzroy Crossi	74.95	127	P	P	02 17 36.1	-0.3
FITZ				IAmb	IAmb	02 17 55.0	
	comp=Z,3.4nm,1.1s						
SCRK	Sand Creek	75.94	15	P	P	02 17 42.4	+0.8
SCRK				IAmb	IAmb	02 17 42.9	
	comp=Z,1.6nm,0.6s						
RIDG	Independent Ri	75.96	16	P	P	02 17 41.6	0.0
RIDG				IAmb	IAmb	02 18 07.6	
	comp=Z,3.3nm,1.2s						
PAX	Paxson	76.50	16	P	P	02 17 45.3	+0.6
PAX				IAmb	IAmb	02 17 45.6	
	comp=Z,2.0nm,0.6s						
SML	Sawmill	76.83	18	P	P	02 17 46.9	+0.4
M24K	Tolsona, Glenn	77.09	17	P	P	02 17 49.5	+1.6
L27K	Beaver Creek,	77.20	15	P	P	02 17 49.8	+1.2
BCAR	Beaver Creek A	77.20	15	P	P	02 17 50.0	+1.4
YKA	Yellowknife Ar	81.09	3	P	P	02 18 10.1	+0.6
	comp=Z,0.7nm,0.6s,baz=6.5,slow=5.4,SNR=10						
YKA	Yellowknife Ar	81.09	3	P	P	02 18 10.5	+1.0
WRA	Warramunga Arr	82.04	122	P	P	02 18 13.1	-2.0
	comp=Z,0.9nm,0.7s,baz=308,slow=3.9,SNR=5.0						
ASAR	Alice Springs	84.31	125	P	P	02 18 25.6	-1.1
	comp=Z,0.9nm,0.7s,baz=314,slow=5.1,SNR=9.2						
ASAR	Alice Springs	84.31	125	P	P	02 18 26.0	-0.7
AC02	Maricunga	144.96	275	PKPbc	PKPdf	02 25 31.4	+0.2
CO03	El Pedregal	147.81	269	PKPbc	PKPbc	02 25 37.8	-0.8
VA03	San Esteban	148.34	266	PKPbc	PKPbc	02 25 39.1	-0.8

*IDC **09** 02:35:25.9±0.3, 59°.61S×26°.32W, h0km, mb4.8/19, mb1 4.9/20, mb1mx4.9/23, mbtmp4.9/20, ML5.4/1, MS4.2/17, Ms1 4.1/17, ms1mx4.1/24, Error ellipse: s-maj=14.5km s-min=12.7km az=53.0*
*MOS **09** 02:35:26.2±0.9, 59°.58S×26°.07W, h10km, mb5.3/16, Error ellipse: s-maj=23.2km s-min=10.7km az=106.4*
*NEIC **09** 02:35:31.5±2.1, 59°.60S±0°.10×26°.2W±0°.2, h35km±1km, mb5.2/95, Error ellipse: s-maj=18.5km s-min=13.9km az=47.0*
*GCMT **09** 02:35:35.5±0.3, 60°.00S±0°.02×25°.79W±0°.04, h36km, MW5.0/79, Moment Tensor Solution. s39,c51; s79,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.66±.23; $M_{\theta\theta}$1.12±.15; $M_{\phi\phi}$-3.78±.14; $M_{r\theta}$-1.41±.18; $M_{\theta\phi}$-1.34±.10; $M_{\phi r}$0.41±.13; Best double couple: $M_0$3.88400×10^{16} NP1:ϕ_s224.00000°,δ54.00000°,λ134.00000°. NP2: ϕ_s345.00000°,δ54.00000°,λ47.00000°. Principal axes: T 3.6460, Plg56.0000°, Azm195.0000°; N 0.4770, Plg34.0000°, Azm14.0000°; P -4.1230, Plg0.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 02:35:30.3±0.9, 59°.55S±0°.06×26°.06W±0°.06, h30km±6km, n433, σ1s.14/435, mb5.2/59, MS4.2/20, 8C-8D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.77	308		Pn	02 37 29.0	+7.8
VNA1	Neumayer--Stat	13.34	154	P	Pn	02 38 35.1	-2.0
VNA1	Neumayer--Stat	13.34	154	PcP	PcP	02 44 05.7	+1.3
VNA3	Neumayer Olymp	13.49	157	P	Pn	02 38 36.5	-2.9
VNA3	Neumayer Olymp	13.49	157	PcP	PcP	02 44 05.5	+0.9
VNA2	Neumayer--Watz	13.74	154	P	Pn	02 38 39.7	-2.9
	baz=314,slow=16						
VNA2	Neumayer--Watz	13.74	154	PcP	PcP	02 44 06.1	+1.2
SNAA	Sanae	15.32	152	P	Pn	02 39 01.8	-2.2
SNAA	Sanae	15.32	152	PcP	PcP	02 44 08.3	+1.1
SNAA	Sanae	15.32	152	Pn	Pn	02 39 01.8	-2.2
	16nm,0.3s,baz=312,slow=14,SNR=529						
SNAA				Sn	Sn	02 41 36.0	-16
	1.7nm,0.3s,baz=324,slow=19,SNR=3.0						
SNAA				LR	LR	02 43 46.0	
	comp=Z,665nm,20.2s,baz=306,slow=33						
SNAA	Sanae	15.32	152	d iP	Pn	02 39 01.3	-2.7
SNAA				pmax	pmax		
	comp=Z,55nm,0.6s						
SNAA	Sanae	15.32	152	Pn	Pn	02 39 01.9	-2.2
SNAA				IAmb	IAmb	02 39 07.9	
	comp=Z,82nm,0.6s						
PMSA	Palmer Station	18.27	237	P	Pn	02 39 43.5	+2.4
	comp=Z,1.6nm,0.3s,baz=83,slow=7.4,SNR=30						
PMSA				PcP	PcP	02 44 12.3	+0.6
	comp=Z,0.7nm,0.3s,baz=73,slow=2.6,SNR=5.7						
PMSA				LR	LR	02 46 05.0	
	comp=Z,984nm,18.7s,baz=78,slow=35						
PMSA	Palmer Station	18.27	237	P	Pn	02 39 43.6	+2.4
BELA	Belgrano 2	18.63	186	P	P	02 39 44.1	-0.9
EFI	East Falkland	19.56	280	c eP	Pn	02 39 57.6	+0.9
EFI				pmax	pmax		
	comp=Z,248nm,1.5s						
EFI	East Falkland	19.56	280	P	Pn	02 39 57.8	+1.1
EFI				IAmb	IAmb	02 39 59.9	
	comp=Z,288nm,1.4s						
MG01	Puerto William	22.68	263	P	P	02 40 29.8	+1.0
USHA	Ushuaia	23.13	263	P	P	02 40 34.7	+1.2
	comp=Z,96nm,0.8s,baz=116,slow=2.7,SNR=22						
MG02	Cerro Sombrero	24.60	267	P	P	02 40 46.6	-0.8
GO10	Punta Arenas	25.32	265	P	P	02 40 53.8	-0.2
SYO	Syowa Base	28.54	137	⇓eP	P	02 41 22.6	-0.1
QSPA	South Pole Qui	30.69	180	P	P	02 41 42.8	+0.8
	comp=Z,30nm,0.6s,baz=209,slow=1.9,SNR=412						
QSPA				PcP	PcP	02 44 39.4	+0.4

comp=Z,17nm,0.7s,baz=260,slow=0.5,SNR=7.3
QSPA PKiKP **PKiKP** 02 52 07.7 -1.4
comp=Z,0.8nm,0.7s,baz=226,slow=0.8,SNR=6.6
QSPA LR LR 02 53 52.2
comp=Z,532nm,18.3s,baz=188,slow=36
QSPA South Pole Qui 30.69 180 P **P** **02 41 43.0 +1.0**
QSPA IAmb IAmb 02 41 43.7
comp=Z,32nm,0.6s
TRQA Tornquist 31.37 297 *e*P **P** **02 41 48.7 +0.7**
TRQA Tornquist 31.37 297 P **P** **02 41 49.4 +1.3**
TRQA IAmb IAmb 02 41 51.8
comp=Z,30nm,0.7s
TRQA Tornquist 31.37 297 *e*P **P** **02 41 49.0 +0.9**
LL02 Futaleuf 32.16 280 P **P** **02 41 54.5 -0.4**
GO07 Milladeo Hill, 33.12 278 P **P** **02 42 02.7 -0.6**
PLCA Paso Flores 33.34 284 P **P** **02 42 05.3 -0.1**
comp=Z,12nm,0.6s,baz=149,slow=7.5,SNR=55
PLCA LR LR 02 54 59.0
comp=Z,199nm,18.7s,baz=148,slow=35
PLCA Paso Flores 33.34 284 P **P** **02 42 05.5 +0.1**
PLCA pmax pmax
comp=Z,15nm,0.7s
PLCA Paso Flores 33.34 284 P **P** **02 42 05.5 +0.1**
PLCA IAmb IAmb 02 42 06.0
comp=Z,16nm,0.7s
PLCA Paso Flores 33.34 284 *e*P **P** **02 42 05.2 -0.1**
PLTB Pedras Altas 33.34 314 P **P** **02 42 05.6 +0.2**
PLTB IAmb IAmb 02 42 08.8
comp=Z,16nm,0.7s
PLTB Pedras Altas 33.34 314 *e*P **P** **02 42 05.9 +0.6**
LL03 Petrohue 33.95 282 P **P** **02 42 10.3 -0.3**
LL04 Puerto Octay 34.12 282 P **P** **02 42 10.8 -1.3**
LL04 IAmb IAmb 02 42 14.5
comp=Z,17nm,0.7s
LL05 Los Muermos 34.28 280 P **P** **02 42 12.5 -1.0**
CPSB Cacapava Do Su 34.51 315 *e*P **P** **02 42 17.0 +1.6**
CNLB Canela 34.62 320 *e*P **P** **02 42 17.8 +1.3**
TER01 Tubaro-SC 34.80 323 *e*P **P** **02 42 19.4 +1.4**
LC01 Cunco 35.40 285 P **P** **02 42 22.7 -0.4**
LC01 IAmb IAmb 02 42 39.4
comp=Z,34nm,0.9s
ITQB Itaqui 36.34 312 P **P** **02 42 31.5 +0.3**
ITQB Itaqui 36.34 312 *e*P **P** **02 42 31.9 +0.6**
MAW Mawson 37.01 140 P **P** **02 42 36.9 +0.4**
comp=Z,11nm,1.0s,baz=251,slow=7.3,SNR=16
MAW PcP **PcP** **02 44 57.6 +1.0**
comp=Z,5.8nm,0.7s,baz=166,slow=2.5,SNR=6.9
MAW LR LR 02 56 20.4
comp=Z,407nm,19.9s,baz=236,slow=34
MAW Mawson 37.01 140 P **P** **02 42 36.9 +0.4**
ML02 Panimavida 37.65 289 P **P** **02 42 42.3 -0.1**
ML02 IAmb IAmb 02 42 45.7
comp=Z,40nm,0.8s
TIJ01 Guaruva-PR 37.77 325 *e*P **P** **02 42 44.5 +0.9**
BO02 Sierra Bellavi 38.13 290 P **P** **02 42 45.5 -1.0**
BO02 IAmb IAmb 02 42 48.4
comp=Z,20nm,0.7s
GO05 Huala 38.50 289 P **P** **02 42 49.6 +0.1**
GO05 IAmb IAmb 02 42 57.5
comp=Z,48nm,0.8s
BO01 Tunca 38.60 290 P **P** **02 42 49.7 -0.6**
BO01 IAmb IAmb 02 42 51.9
comp=Z,35nm,0.8s
PARB Paraibuna 38.73 331 *e*P **P** **02 42 52.7 +1.1**
SPB Sao Paulo 38.96 328 *e*P **P** **02 42 54.4 +1.0**
MT09 Talagante 39.06 291 P **P** **02 42 54.4 +0.1**
MT01 Popeta 39.11 291 P **P** **02 42 54.2 -0.4**
MT01 IAmb IAmb 02 43 02.8
comp=Z,42nm,0.6s
DUB01 Friburgo-RJ 39.20 336 *e*P **P** **02 42 56.9 +1.5**
VAS01 Vassouras-RJ 39.24 334 *e*P **P** **02 42 56.8 +1.0**
MT05 Renca 39.25 292 P **P** **02 42 55.9 0.0**
PTGB Pitanga 39.28 321 *e*P **P** **02 42 56.4 +0.2**
CAM01 Campos-RJ 39.30 337 *e*P **P** **02 42 57.5 +1.2**
VAO Valinhos 39.40 329 *e*P **P** **02 42 58.8 +1.5**
VA05 Santo Domingo 39.45 290 P **P** **02 42 57.6 +0.1**
CPUP Villa Florida 39.62 313 P **P** **02 42 58.5 -0.4**
comp=Z,9.2nm,0.5s,baz=153,slow=6.9,SNR=33
CPUP LR LR 02 59 11.4
comp=Z,165nm,19.7s,baz=164,slow=36
CPUP Villa Florida 39.62 313 P **P** **02 42 59.9 +1.0**
CPUP pmax pmax
comp=Z,10.0nm,0.6s
CPUP Villa Florida 39.62 313 P **P** **02 42 59.9 +1.0**
CPUP Villa Florida 39.62 313 *e*P **P** **02 42 59.0 +0.1**
VA03 San Esteban 39.68 292 P **P** **02 43 01.0 +1.5**
VA03 IAmb IAmb 02 43 01.5
comp=Z,58nm,0.9s
FRTB Fartura 39.80 325 *e*P **P** **02 43 01.3 +0.9**
ZON Zonda 39.83 295 P **P** **02 43 01.4 +0.7**
ZON pmax pmax
comp=Z,17nm,0.6s
ZON Zonda 39.83 295 P **P** **02 43 01.4 +0.7**
VA01 Torpederas 39.99 291 P **P** **02 43 01.4 -0.5**
VA01 IAmb IAmb 02 43 07.7
comp=Z,35nm,0.9s
ALF01 Guarapari-ES 40.29 338 *e*P **P** **02 43 06.1 +1.6**
BSCB Bom Sucesso 40.78 333 *e*P **P** **02 43 09.9 +1.3**
SUR Sutherland 41.12 70 P **P** **02 43 14.6 +3.0**
comp=Z,3.8nm,0.8s,baz=236,slow=9.2,SNR=1.9
SUR Sutherland 41.12 70 P **P** **02 43 11.2 -0.3**
CO02 Combarbal 41.19 293 P **P** **02 43 12.9 +0.9**
CO02 IAmb IAmb 02 43 22.8
comp=Z,32nm,0.7s
TRCB Terra Rica 41.25 321 P **P** **02 43 14.4 +1.9**
CO03 El Pedregal 41.35 294 P **P** **02 43 14.4 +1.1**
RIB01 Linhares ES 41.50 339 *e*P **P** **02 43 15.9 +1.4**
BB19B Bebedouro 41.66 328 *e*P **P** **02 43 16.6 +0.8**
CO06 Fray Jorge 41.93 293 P **P** **02 43 18.6 +0.7**
PCMB Pacaembu 41.94 324 *e*P **P** **02 43 19.1 +1.0**
GO04 Tololo Observa 41.96 294 P **P** **02 43 19.6 +1.1**
GO04 IAmb IAmb 02 43 39.0
comp=Z,32nm,0.6s
BSFB Barra de Sao F 42.06 339 *e*P **P** **02 43 20.4 +1.3**
SJMB Sao Joao De Ma 42.25 338 *e*P **P** **02 43 20.9 +0.4**
CO05 La Serena 42.38 294 P **P** **02 43 21.8 +0.2**
SBA Scott Base 42.62 184 P **P** **02 43 25.3 +2.3**
SBA pmax pmax
comp=Z,15nm,0.8s
SBA Scott Base 42.62 184 P **P** **02 43 25.3 +2.3**
NAN01 Guarapari, ES 42.89 340 *e*P **P** **02 43 26.3 +0.5**
VNDA Vanda 43.09 183 P **P** **02 43 28.1 +1.4**
comp=Z,18nm,0.8s,baz=188,slow=6.8,SNR=88
VNDA PcP **PcP** **02 45 17.2 +1.2**
comp=Z,6.3nm,0.8s,baz=228,slow=2.7,SNR=5.8
VNDA LR LR 03 00 06.8
comp=Z,154nm,21.0s,baz=174,slow=34
VNDA Vanda 43.09 183 P **P** **02 43 28.2 +1.4**
DIAM Diamantina, MG 43.14 335 *e*P **P** **02 43 28.6 +0.6**
ITRB Iturama 43.47 326 *e*P **P** **02 43 31.2 +0.7**
AC04 Llanos de Chal 43.75 295 P **P** **02 43 33.5 +0.8**
AC04 IAmb IAmb 02 43 49.4
comp=Z,62nm,1.0s
AC02 Maricunga 44.04 299 P **P** **02 43 36.0 +0.4**
GUA01 Guaratinga, BA 44.07 341 *e*P **P** **02 43 36.3 +0.9**
AQDB Aquidauana 44.42 319 P **P** **02 43 37.3 -0.9**
AQDB Aquidauana 44.42 319 *e*P **P** **02 43 37.2 -0.9**
IPMB Ipameri, GO 44.52 329 *e*P **P** **02 43 39.5 +0.5**
MC01 Montes Claros 44.74 335 *e*P **P** **02 43 41.0 +0.3**
CMC01 Camacan, BA 45.22 342 *e*P **P** **02 43 45.0 +0.5**
BOSA Boshof 46.38 71 P **P** **02 43 54.8 +1.0**
comp=Z,2.3nm,0.5s,baz=214,slow=5.7,SNR=14
BOSA PcP **PcP** **02 45 29.7 +1.4**
comp=Z,5.3nm,0.9s,baz=211,slow=2.7,SNR=4.8
BOSA LR LR 02 59 49.9
comp=Z,242nm,18.5s,baz=208,slow=32
BOSA Boshof 46.38 71 P **P** **02 43 55.0 +1.2**
BOSA pmax pmax
comp=Z,33nm,1.4s
BOSA Boshof 46.38 71 P **P** **02 43 55.0 +1.2**
BOSA IAmb IAmb 02 44 09.3
comp=Z,33nm,1.4s
JANB Januaria 46.42 335 *e*P **P** **02 43 54.1 +0.1**
PB14 IPOC Station P 46.52 299 IAmb IAmb 02 43 55.8
comp=Z,24nm,0.6s
BDFB Brasilia 46.72 330 P **P** **02 43 57.2 +0.8**
comp=Z,5.9nm,0.4s,baz=149,slow=9.2,SNR=13
BDFB Brasilia 46.72 330 P **P** **02 43 57.1 +0.7**
PP1B Ponte de Pedra 46.83 321 *e*P **P** **02 43 57.3 +0.1**
GDU01 Guandu, BA 46.84 342 *e*P **P** **02 43 57.6 +0.4**
PB15 IPOC Station P 47.35 301 P **P** **02 44 01.4 0.0**
LVC Limon Verde 47.63 302 *e*P **P** **02 44 03.7 -0.1**
LVC Limon Verde 47.63 302 P **P** **02 44 04.8 +1.0**
LVC Limon Verde 47.63 302 *e*P **P** **02 44 04.5 +0.7**

ARAG Araguaiana, MT 47.68 326 *e*P **P** **02 44 04.4 +0.6**
PB04 IPOC Station P 48.41 301 P **P** **02 44 10.1 +0.4**
SALV Santo Antonio 48.68 321 *e*P **P** **02 44 10.8 -0.8**
PB07 IPOC Station P 48.83 301 P **P** **02 44 13.4 +0.6**
SDBA SAO DESIDERIO 49.11 335 *e*P **P** **02 44 15.1 +0.2**
PB01 IPOC Station P 49.26 302 P **P** **02 44 17.0 +0.9**
NBLA Lagarto - SE 49.26 345 *e*P **P** **02 44 16.1 +0.2**
LBTB Lobatse 49.57 69 P **P** **02 44 18.9 +0.5**
comp=Z,5.5nm,0.7s,baz=219,slow=7.8,SNR=8.2
LBTB PcP **PcP** **02 45 41.6 +1.8**
comp=Z,4.3nm,0.7s,baz=190,slow=2.7,SNR=2.8
LBTB Lobatse 49.57 69 P **P** **02 44 18.5 +0.1**
LBTB IAmb IAmb 02 44 33.6
comp=Z,21nm,1.1s
NBPN Ponto Novo - B 49.76 342 *e*P **P** **02 44 19.9 0.0**
PB08 IPOC Station P 49.91 303 P **P** **02 44 22.2 +0.9**
PB08 IAmb IAmb 02 44 38.2
comp=Z,22nm,0.9s
TA01 Diego Aracena 49.98 302 P **P** **02 44 21.4 0.0**
TA01 IAmb IAmb 02 44 35.3
comp=Z,30nm,1.0s
PEXB Peixe 50.18 331 *e*P **P** **02 44 23.5 +0.5**
TA02 Huaiquique 50.22 302 P **P** **02 44 23.4 +0.2**
TA02 IAmb IAmb 02 44 24.3
comp=Z,30nm,0.7s
PTLB Pontes e Lacer 50.26 317 *e*P **P** **02 44 23.1 -0.4**
NBAN Anadia - AL 50.38 347 *e*P **P** **02 44 24.4 -0.1**
CASY Casey 50.40 159 P **P** **02 44 25.3 +1.2**
PSGCX Pisagua 50.81 302 P **P** **02 44 28.0 +0.2**
PSGCX IAmb IAmb 02 44 28.7
comp=Z,21nm,0.6s
TSUM Tsumeb 50.98 57 P **P** **02 44 31.0 +1.9**
comp=Z,6.0nm,0.7s,baz=202,slow=8.5,SNR=12
TSUM Tsumeb 50.98 57 P **P** **02 44 30.3 +1.1**
SNDB Serra Nova Dou 51.09 328 *e*P **P** **02 44 30.0 +0.2**
H10S2 ASCENSION HYDR 51.22 15 T T 03 40 11.3
baz=187,slow=74,SNR=32
H10S3 ASCENSION HYDR 51.23 14 T T 03 40 11.6
baz=33,slow=74,SNR=51
NBRF Rio Formoso - 51.23 348 *e*P **P** **02 44 29.8 -1.1**
H10N1 ASCENSION HYDR 52.34 15 T T 03 41 36.5
SNR=15
H10N3 ASCENSION HYDR 52.34 15 T T 03 41 34.9
SNR=37
H10N2 ASCENSION HYDR 52.35 15 T T 03 41 39.0
SNR=34
NBLV Livramento - P 52.73 346 *e*P **P** **02 44 41.0 -1.1**
LPAZ La Paz 52.92 306 P **P** **02 44 44.6 +0.5**
comp=Z,9.1nm,0.4s,baz=116,slow=4.2,SNR=89
LPAZ LR LR 03 07 51.2
comp=Z,86nm,20.6s,baz=158,slow=37
LPAZ La Paz 52.92 306 *e*P **P** **02 44 44.2 0.0**
LPAZ La Paz 52.92 306 P **P** **02 44 44.9 +0.7**
LPAZ IAmb IAmb 02 44 47.5
comp=Z,16nm,0.7s
LPAZ La Paz 52.92 306 *e*P **P** **02 44 44.7 +0.5**
LPAZ La Paz 52.92 306 *e*P **P** **02 44 44.7 +0.5**
VILB Vilhena 52.95 317 *e*P **P** **02 44 43.2 -0.5**
NBMA Muriti-CE 52.96 344 *e*P **P** **02 44 44.7 +0.9**
SMTB Santa Maria do 53.14 333 *e*P **P** **02 44 45.6 +0.4**
CLDB Colider 53.44 323 *e*P **P** **02 44 46.3 -1.0**
NBPV Pedro Velho 53.48 349 *e*P **P** **02 44 48.4 +0.8**
RCBR Riachuelo 54.13 348 *e*P **P** **02 44 51.2 -1.1**
MATP Matopo 54.86 69 P **P** **02 44 58.7 +0.9**
comp=Z,4.7nm,0.7s,baz=210,slow=13,SNR=14
NBPB Pedra_Branca-C 54.87 343 *e*P **P** **02 44 58.7 +0.9**
NBCL Cascavel-CE 55.99 345 *e*P **P** **02 45 05.7 -0.1**
PRPB Parauapebas 56.27 331 *e*P **P** **02 45 08.3 +0.6**
NBPS Pedro II - PI 56.28 341 *e*P **P** **02 45 08.2 +0.2**
NPGB Novo Progresso 56.93 325 *e*P **P** **02 45 11.4 -1.0**
NBMO Morrinhos-CE 57.13 343 *e*P **P** **02 45 12.3 -1.5**
SAML Samuel 57.72 315 P **P** **02 45 17.7 -0.3**
SAML pmax pmax
comp=Z,25nm,0.6s
SAML Samuel 57.72 315 P **P** **02 45 17.7 -0.3**
SAML Samuel 57.72 315 *e*P **P** **02 45 17.1 -0.9**
SAML Samuel 57.72 315 *e*P **P** **02 45 17.6 -0.4**
ETMB Extrema 58.04 311 *e*P **P** **02 45 19.6 -0.6**
ROSB Rosrio 58.22 339 *e*P **P** **02 45 20.3 -1.1**
TMAB Tom-Au,PA,Br 59.54 334 *e*P **P** **02 45 30.2 -0.4**
ITTB Itaituba 59.58 325 *e*P **P** **02 45 30.3 -0.7**
NNA Nana 60.49 299 P **P** **02 45 38.2 +0.9**
NNA pmax pmax
comp=Z,22nm,0.7s
NNA Nana 60.49 299 P **P** **02 45 38.2 +0.9**
NNA IAmb IAmb 02 45 38.6
comp=Z,22nm,0.7s
MALB Monte Alegre 61.56 328 *e*P **P** **02 45 44.4 -0.1**
MACA Manacapuru-AM 62.25 320 *e*P **P** **02 45 49.2 +0.1**
MCPB Macapa, AP 62.41 330 *e*P **P** **02 45 50.3 +0.1**
CZSB Cruzeiro do Su 62.52 306 *e*P **P** **02 45 50.1 -0.9**
TBTG Tabatinga, AM 64.62 310 *e*P **P** **02 46 04.7 0.0**
BOAV Boa Vista 67.43 322 *e*P **P** **02 46 21.3 -1.5**
LIC Lamto 67.67 23 *e*P **P** **02 46 25.5 +1.2**
comp=Z,24nm,0.6s
KIC Kosan Boka 67.86 23 *e*P **P** **02 46 27.3 +1.8**
comp=Z,14nm,0.7s
TIC Tomodi 68.08 23 *e*P **P** **02 46 28.9 +2.0**
DBIC Dimbokro 68.14 23 P **P** **02 46 28.6 +1.3**
comp=Z,9.1nm,0.9s,baz=169,slow=8.1,SNR=7.5
DBIC LR LR 03 09 05.2
comp=Z,89nm,20.8s,baz=162,slow=30
DBIC Dimbokro 68.14 23 P **P** **02 46 28.2 +1.0**
DBIC IAmb IAmb 02 46 30.6
comp=Z,14nm,1.0s
PTLC Puerto Leguiza 70.53 307 *e*P **P** **02 46 39.2 -2.9**
MACC Macarena, Meta 71.95 309 *e*P **P** **02 46 49.6 -1.1**
OTAV Otavalo 72.11 304 P **P** **02 46 53.2 +1.0**
OTAV pmax pmax
comp=Z,9.0nm,1.0s
OTAV Otavalo 72.11 304 P **P** **02 46 53.2 +1.0**
OTAV Otavalo 72.11 304 *e*P **P** **02 46 52.9 +0.7**
OTAV Otavalo 72.11 304 *e*P **P** **02 46 50.7 -1.5**
FLOC Florencia 72.16 307 *e*P **P** **02 46 50.0 -2.0**
GARC Garzon, Huila 72.64 307 *e*P P 02 46 49.9 -5.2
CRUC La Cruz 72.68 306 *e*P **P** **02 46 53.8 -1.7**
SOTA Rioblanco 73.05 306 *e*P **P** **02 46 58.0 +0.1**
MARP Paez Belalcaza 73.43 307 *e*P **P** **02 46 59.1 -0.7**
POPC Popayan, Colom 73.45 306 *e*P **P** **02 46 59.4 -0.5**
VILC Villavicencio, 73.68 310 *e*P **P** **02 47 00.2 -0.9**
PRAC Prado 73.79 309 *e*P **P** **02 47 01.0 -0.6**
ORTC Ortega, Tolima 74.11 308 *e*P **P** **02 47 02.7 -0.8**
CHIC Chingaza 74.17 310 *e*P **P** **02 47 02.9 -1.4**
ROSC El Rosal 74.59 310 P **P** **02 47 06.6 -0.1**
comp=Z,20nm,0.8s,baz=13,slow=4.7,SNR=11
ROSC LR LR 03 20 49.0
comp=Z,88nm,21.9s,baz=50,slow=36
ROSC El Rosal 74.59 310 P **P** **02 47 06.8 +0.1**
ROSC pmax pmax
comp=Z,18nm,0.7s
ROSC El Rosal 74.59 310 P **P** **02 47 06.8 +0.1**
ROSC IAmb IAmb 02 47 08.3
comp=Z,18nm,0.7s
ROSC El Rosal 74.59 310 *e*P **P** **02 47 06.6 -0.1**
YOTC Yotoco, Valle 74.62 307 *e*P **P** **02 47 04.7 -1.9**
TOLC Tolima 74.76 308 *e*P **P** **02 47 05.2 -2.4**
MLZ Mavora Lakes 74.79 190 P **P** **02 47 07.4 +0.3**
MLZ IAmb IAmb 02 47 23.8
comp=Z,35nm,1.3s
RUSC La Rusia 75.08 311 P **P** **02 47 08.6 -1.0**
RUSC IAmb IAmb 02 47 08.8
comp=Z,14nm,0.6s
RUSC La Rusia 75.08 311 *e*P **P** **02 47 07.6 -2.0**
SPBC San Pablo de B 75.24 310 *e*P **P** **02 47 07.2 -2.9**
GUY2C Guyana, Caldas 75.36 309 *e*P **P** **02 47 09.4 -1.8**
NORC Norcasia 75.47 309 *e*P **P** **02 47 08.6 -2.8**
BARC Barichara 75.75 311 *e*P **P** **02 47 09.3 -3.9**
KMBO Kilima Mbogo 75.79 67 P **P** **02 47 15.8 +2.3**
comp=Z,1.5nm,0.9s,baz=180,slow=12,SNR=2.7
KMBO LR LR 03 17 28.3
comp=Z,467nm,20.0s,baz=204,slow=33
TORD Torodi Ar. Bea 75.85 28 P **P** **02 47 15.1 +1.7**
comp=Z,17nm,0.6s,baz=200,slow=6.2,SNR=208
TORD LR LR 03 15 30.2
comp=Z,140nm,19.5s,baz=200,slow=32
TORD Torodi Ar. Bea 75.85 28 P **P** **02 47 15.2 +1.8**
TORD IAmb IAmb 02 47 16.0
comp=Z,14nm,0.7s
KOWA Kowa 75.93 22 P **P** **02 47 16.0 +2.2**
CBOC Ciudad Bolivar 76.20 308 *e*P **P** **02 47 12.4 -3.2**
PTBC PUERTO BERRIO, 76.20 310 *e*P **P** **02 47 12.5 -3.0**
HELC Santa Helena 76.30 309 *e*P **P** **02 47 14.1 -2.4**
BRRC Barranca, Sant 76.43 311 *e*P **P** **02 47 12.9 -3.9**

SOCV Socops 76.44 314 *e*P **P** **02 47 15.5 -1.3**
SDV Santo Domingo 76.92 315 P **P** **02 47 19.2 -0.5**
SDV IAmb IAmb 02 47 20.2
comp=Z,19nm,0.7s
SDV Santo Domingo 76.92 315 *e*P **P** **02 47 18.7 -1.1**
SDV Santo Domingo 76.92 315 *e*P **P** **02 47 19.3 -0.4**
ZARC Zaragoza, Cauc 77.23 310 *e*P **P** **02 47 19.1 -2.1**
DBBC Dabeiba 77.33 309 *e*P **P** **02 47 20.5 -1.4**
UREC San Jos de Ur 77.73 310 *e*P **P** **02 47 22.2 -1.9**
TAU Tasmania Unive 77.75 175 P **P** **02 47 24.0 +0.1**
TAU pmax pmax
comp=Z,21nm,0.7s
TAU Tasmania Unive 77.75 175 P **P** **02 47 24.0 +0.1**
TAU IAmb IAmb 02 47 24.3
comp=Z,21nm,0.7s
SMLC San Martn de 78.12 311 *e*P **P** **02 47 23.3 -2.9**
QRZ Quartz Range 78.80 194 P **P** **02 47 28.3 -1.5**
QRZ IAmb IAmb 02 47 46.8
comp=Z,31nm,1.1s
ARGC Ariguani, Magd 79.16 312 *e*P **P** **02 47 31.7 -0.2**
UPD2 Meteti 79.44 308 *e*P **P** **02 47 32.5 -1.0**
SJCC San Jacinto, C 79.55 311 P **P** **02 47 33.1 -1.0**
SJCC IAmb IAmb 02 47 35.2
comp=Z,13nm,0.7s
SJCC San Jacinto, C 79.55 311 *e*P **P** **02 47 32.2 -1.9**
SMRC Santa Marta, M 80.34 312 *e*P **P** **02 47 37.5 -0.9**
URZ Urewera 80.67 198 LR LR 03 18 36.0
comp=Z,92nm,21.9s,baz=211,slow=32
HIZ Hauiti 80.76 196 P **P** **02 47 40.2 -0.2**
HIZ IAmb IAmb 02 47 43.1
comp=Z,32nm,0.9s
TOO Toolangi 82.97 173 P **P** **02 47 52.8 +0.6**
TOO pmax pmax
comp=Z,20nm,1.1s
TOO Toolangi 82.97 173 P **P** **02 47 52.8 +0.6**
TOO IAmb IAmb 02 47 53.6
comp=Z,20nm,1.1s
MTP Monte Pirata 83.80 323 P **P** **02 47 54.8 -1.5**
MTP IAmb IAmb 02 47 59.6
comp=Z,12nm,0.8s
STVI Saint Thomas 83.85 323 P **P** **02 47 55.5 -1.1**
PDPR Patillas Dam, 83.87 322 P **P** **02 47 55.2 -1.5**
PDPR IAmb IAmb 02 48 20.4
comp=Z,15nm,1.1s
CUPR Culebra, Puert 83.91 323 P **P** **02 47 57.1 +0.2**
CUPR IAmb IAmb 02 47 57.2
comp=Z,14nm,0.6s
CBYP Canovanas 84.06 322 P **P** **02 47 56.9 -0.8**
CBYP IAmb IAmb 02 47 57.7
comp=Z,15nm,0.7s
GCPR Guaynabo City 84.16 322 P **P** **02 47 57.5 -0.6**
GCPR IAmb IAmb 02 48 11.3
comp=Z,15nm,1.0s
OUZ Omahuta 84.18 196 IAmb IAmb 02 47 59.2
comp=Z,25nm,0.9s
FORT Forrest 87.48 158 P **P** **02 48 15.1 +0.3**
STKA Stephens Creek 88.33 170 P **P** **02 48 18.7 -0.1**
comp=Z,11nm,0.7s,baz=169,slow=5.8,SNR=26
STKA LR LR 03 26 17.6
comp=Z,99nm,19.8s,baz=200,slow=35
STKA Stephens Creek 88.33 170 P **P** **02 48 19.1 +0.3**
STKA pmax pmax
comp=Z,2.0nm,0.8s
STKA Stephens Creek 88.33 170 P **P** **02 48 19.1 +0.3**
MTO3 Montecristo 89.48 300 P **P** **02 48 23.3 -1.2**
ASAR Alice Springs 95.46 162 P **P** **02 48 51.4 -0.6**
comp=Z,7.4nm,0.6s,baz=183,slow=4.0,SNR=107
ASAR PKiKP **PKiKP** **02 53 31.2 -0.9**
comp=Z,0.6nm,0.7s,baz=175,slow=1.2,SNR=5.4
ASAR PKKP **PKKPbc** **03 05 41.1 +0.5**
comp=Z,0.5nm,0.6s,baz=20,slow=4.4,SNR=5.1
ASAR LR LR 03 30 20.7
comp=Z,242nm,18.5s,baz=184,slow=34
AS31 Alice Springs 95.46 162 P **P** **02 48 51.4 -0.6**
WRA Warramunga Arr 99.18 161 P **Pdif** **02 49 07.5 -1.2**
comp=Z,1.1nm,0.7s,baz=195,slow=6.3,SNR=7.3
WRA PKiKP **PKiKP** **02 53 38.1 -0.6**
comp=Z,0.7nm,0.7s,baz=205,slow=3.6,SNR=2.8
WRA PKKP **PKKPdf** **03 05 32.3 -0.5**
comp=Z,0.5nm,0.6s,baz=343,slow=1.7,SNR=6.4
WRA LR LR 03 31 20.5
comp=Z,256nm,20.9s,baz=180,slow=34
KRKI Karangkates 104.85 137 P **Pdif** **02 49 32.7 -1.3**
TXAR Lajitas Array 108.91 296 PKiKP **PKiKP** **02 53 55.9 -0.3**
comp=Z,0.2nm,0.6s,baz=111,slow=4.9,SNR=2.1
TXAR PP **PP** **02 54 21.1 -3.0**
comp=Z,0.3nm,0.6s,baz=134,slow=6.4,SNR=2.3
GERES GERESS Array B 112.80 27 PKiKP **PKiKP** **02 54 02.9 0.0**
comp=Z,0.3nm,0.4s,baz=190,slow=2.7,SNR=3.6
CLL Collm 114.94 26 *e*(PKiKP) 02 54 05.0
CLL *e*PS PS 03 04 54.0 +8.9
CLL Collm 114.94 26 *i* PKiKP PKPdf 02 54 05.0 -1.7
SOC Sochi 116.06 48 *i* PKiKP **PKPdf** **02 54 08.2 -1.0**
SOC *e* 02 55 13.1
SOC *e*PPP PPP 03 04 48.0
SOC *e*SS SS 03 11 13.9 -1.4
SOC *e*SSS SSS 03 15 38.1
SOC MLR MLR
comp=Z,62nm,19.0s
SDCO Great Sand Dun 116.79 299 P **PKPdf** **02 54 11.0 -0.2**
baz=146
KIV Kislovodsk 117.51 49 *i* PKiKP **PKiKP** **02 54 15.2 +3.1**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,38nm,22.0s
PDMCI Parker Dam,Lak 117.95 291 P **PKPdf** **02 54 13.1 0.0**
baz=145
BC3 Big Chuckawall 118.05 289 P **PKiKP** **02 54 13.7 +0.2**
baz=145
SCHQ Schefferville 118.61 335 PKP **PKPdf** **02 54 13.3 -0.4**
comp=Z,6.6nm,0.8s,baz=102,slow=1.3,SNR=6.7
AKASG Malin Array Be 118.67 37 PKP **PKPdf** **02 54 13.2 -0.8**
comp=Z,2.0nm,0.6s,baz=235,slow=1.7,SNR=10
AKASG Malin Array Be 118.67 37*c* *i* PKiKP **PKPdf** **02 54 13.6 -0.3**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 118.67 37 **PKPdf** **02 54 13.3 -0.6**
AKBB Malin Array Si 118.67 37 *i* PKiKP **PKPdf** **02 54 13.7 -0.2**
U15A North Rim 118.81 293 PKPdf **PKPdf** **02 54 14.7 -0.4**
GMRC Granite Mounta 119.07 290 P **PKiKP** **02 54 16.0 +0.5**
baz=145
N23A Red Feather La 119.57 301 P **PKPdf** **02 54 16.4 0.0**
baz=145
O20A White River Ci 119.97 299 P **PKPdf** **02 54 16.9 -0.1**
baz=145
SRU San Rafael Swe 120.17 296 PKiKP **PKPdf** **02 54 16.9 -0.6**
SRU San Rafael Swe 120.17 296 **PKPdf** **02 54 16.9 -0.6**
EDW2 Edwards Air Fo 120.27 288 P **PKiKP** **02 54 17.8 +0.1**
baz=144
LRMC Laurel Mtn Rad 120.60 289 P **PKiKP** **02 54 18.7 +0.2**
baz=144
TMUT Trail Mountain 120.63 296 **PKPdf** **02 54 18.4 -0.2**
MPMC Manual Prospec 120.97 289 P **PKiKP** **02 54 19.3 0.0**
baz=144
TPNV Topopah Spring 121.10 291 P **PKiKP** **02 54 19.9 +0.4**
baz=144
ISA Isabella, Lake 121.13 288 P **PKiKP** **02 54 20.0 +0.6**
baz=144
PSUT Pine Spring 121.24 294 **PKiKP** **02 54 19.8 +0.1**
RSSD Black Hills 121.38 304 PKiKP **PKPdf** **02 54 18.7 -1.0**
RSSD Black Hills 121.38 304 **PKPdf** **02 54 18.6 -1.0**
CWC Cottonwood Cre 121.57 289 P **PKiKP** **02 54 20.6 +0.3**
baz=144
MNK Minsk 121.62 34 *i* PKiKP **PKPdf** **02 54 17.7 -1.8**
MNK *i* 02 55 50.6
MNK *i* 03 01 29.7
MNK *i* PS **PS** **03 05 42.2 -3.1**
MNK *i* SS SS 03 12 25.8 -0.9
MNK *i* SSS SSS 03 16 54.9
MNK pmax pmax
comp=Z,15nm,0.9s
MNK pmax pmax
comp=N,14nm,1.1s
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK MLR MLR
comp=Z,233nm,22.0s
MNK MLR MLR
comp=N,68nm,20.0s
MNK MLR MLR
comp=E,10.0nm,21.0s
MNK Minsk 121.62 34 *i* PKP **PKPdf** **02 54 17.7 -1.7**
comp=E,1.0nm,0.8s
MNK *i* PKP **PKPdf** **02 54 17.7 -1.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=N,14nm,1.1s						
MNK				*i* PKP	PKPdf	02 54 17.7	-1.7
	comp=Z,15nm,0.9s,baz=209						
MNK				*i* PP	PP	02 55 50.6	-2.5
MNK				*i* SKP		02 57 53.1	
MNK				*i* PKS	PKSdf	02 57 54.4	-1.4
MNK				*i* PPP	PPP	02 58 23.9	
MNK				*i* SKS	SKSdf	03 01 29.8	+1.2
MNK				*i* PS	PS	03 05 42.2	-3.1
MNK				*i* SS	SS	03 12 25.8	-0.9
MNK				*i* SSS	SSS	03 16 55.0	
MNK				*i* LQ	LQ	03 39 43.1	
MNK				*i* LR	LR	03 42 19.3	
MNK				*i* LRM	MLR	03 46 16.7	
	comp=N,68nm,19.5s						
MNK				*i* LRM	MLR	03 46 16.7	
	comp=Z,233nm,21.7s						
MNK				*i* LRM	MLR	03 46 25.0	
	comp=E,10.0nm,21.0s						
R11A	Troy Canyon, C	121.90	292	P	PKiKP	02 54 21.1	+0.1
	baz=143						
DUG	Dugway, Tooele	122.09	295	PKIKP	PKPdf	02 54 21.0	-0.1
DUG	Dugway, Tooele	122.09	295		PKPdf	02 54 21.0	-0.1
DUG	Dugway, Tooele	122.09	295	P	PKiKP	02 54 21.3	0.0
	baz=143						
MDND	Maddock	122.61	310	P	PKPdf	02 54 20.9	-0.8
	baz=145						
PDAR	Pinedale Array	122.67	300	PKP	PKPdf	02 54 20.8	-1.5
	comp=E,1.0nm,0.5s,baz=138,slow=5.0,SNR=18						
BW06	Boulder Array	122.67	300	P	PKPdf	02 54 21.2	-1.1
	baz=143						
NIL	Nilore	122.91	79	PKIKP	PKiKP	02 54 22.9	-0.1
NIL	Nilore	122.91	79	PKPdf	PKiKP	02 54 22.9	-0.1
ULM	Lac du Bonnet	123.17	314	PKP	PKPdf	02 54 21.1	-1.4
	comp=E,4.2nm,0.5s,baz=120,slow=3.7,SNR=10						
CMAR	Chiang Mai Arr	123.23	112	PKP	PKiKP	02 54 24.4	+0.4
	comp=E,9.6nm,0.7s,baz=231,slow=3.7,SNR=36						
NVAR	Mina Array Bea	123.26	290	PKP	PKiKP	02 54 24.0	+0.3
	comp=E,1.6nm,0.6s,baz=124,slow=3.1,SNR=22						
NVAR	Mina Array Bea	123.26	290		PKiKP	02 54 23.7	-0.1
NB2	NORSAR Subarra	123.68	21	PKPdf	PKPdf	02 54 23.2	-0.1
	comp=Z,1.8nm,0.6s,baz=203,slow=1.9						
NOA	NORSAR Array B	123.68	21	PKP	PKiKP	02 54 24.0	+0.4
	comp=Z,0.3nm,0.4s,baz=208,slow=2.0,SNR=20						
NOA	NORSAR Array B	123.68	21	PKIKP	PKiKP	02 54 24.0	+0.4
LOHW	Long Hollow	123.81	300	PKPdf	PKPdf	02 54 24.0	-0.3
FLWY	Flagg Ranch	124.22	300		PKPdf	02 54 25.2	+0.1
PNTR	Pine Nut	124.40	290	PKPdf	PKiKP	02 54 26.5	+0.6
RLMT	Red Lodge	124.42	302	P	PKPdf	02 54 25.3	-0.2
	baz=142						
OBN	Obninsk	124.74	38⇓	*i*PKIKP	PKPdf	02 54 25.5	+0.1
OBN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
VSU	Vasula	124.77	31*c*	*i*PKIKP	PKPdf	02 54 25.0	-0.4
YHH	Holmes Hill	124.84	300	PKPdf	PKPdf	02 54 26.3	-0.1
BEKR	Beckworth	125.37	290	PKPdf	PKiKP	02 54 28.0	+0.2
SHL	Shillong	125.80	100	PKIKP	PKiKP	02 54 29.2	+0.1
SHL	Shillong	125.80	100	PKPdf	PKiKP	02 54 29.2	+0.1
O03E	Paynes Creek	126.40	289	P	PKPdf	02 54 29.3	0.0
	baz=141						
DY2G	Dye2	126.61	350	*i* P	PKiKP	02 54 29.5	0.0
DY2G				IAmb	IAmb	02 54 31.1	
	comp=Z,12nm,0.6s						
HRY	Holter Researc	126.77	301		PKiKP	02 54 30.6	+0.3
FINES	FINESS Array B	127.20	28	PKP	PKPdf	02 54 30.1	+0.2
	comp=Z,8.6nm,0.6s,baz=154,slow=2.0,SNR=53						
ICESG	Greenland Ices	128.72	354	*i* P	PKPdf	02 54 33.3	+0.2
ICESG				IAmb	IAmb	02 54 35.3	
	comp=Z,16nm,0.8s						
J04D	Umpqua Nationa	128.81	291	P	PKiKP	02 54 34.6	0.0
	baz=140						
G08A	Pilot Rock	128.89	295	PKPdf	PKPdf	02 54 33.8	-0.1
K02D	Willamette Mer	129.14	290	P	PKiKP	02 54 35.1	0.0
	baz=140						
I05D	Terrebonne, OR	129.28	293	P	PKiKP	02 54 35.5	+0.1
	baz=139						
KLMR	Klimovskoe	130.34	36	*e*PKIKP	PKPdf	02 54 32.6	-3.3
KLMR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KLMR	Klimovskoe	130.34	36	*e*PKPdf	PKPdf	02 54 32.6	-3.3
KLMR				AMP		02 54 37.5	
	comp=Z,4.0nm,0.7s						
AAK	Ala-Archa	130.51	73*c*	*e*PKIKP	PKPdf	02 54 37.1	0.0
AAK	Ala-Archa	130.51	73	PKPdf	PKiKP	02 54 37.8	-0.2
SGDS	Sogindy	131.19	72	*e*PKP	PKPdf	02 54 36.8	-1.4
	baz=72						
KIRV	Kirov	131.77	43⇓	*e*PKIKP	PKPdf	02 54 39.1	+0.4
MTBS	Maitube	131.82	74	*e*PKP	PKPdf	02 54 37.9	-1.6
	baz=73						
TNSS	Tian-Shan	132.01	74	*e*PKP	PKPdf	02 54 39.9	-0.4
	baz=74						
BTLS	Baital	132.09	70	*e*PKP	PKPdf	02 54 39.1	-0.8
	baz=70						
BTLS	Baital	132.09	70	*e*PKIKP	PKPdf	02 54 39.0	-0.8
SUMG	Summit	132.13	355	*i* P	PKiKP	02 54 40.3	-0.4
SUMG				IAmb	IAmb	02 54 41.7	
	comp=Z,7.2nm,0.8s						
SUMG	Summit	132.13	355	PKIKP	PKPdf	02 54 39.9	+0.4
SUMG	Summit	132.13	355	PKPdf	PKPdf	02 54 39.9	+0.4
PNT	Penticton	132.18	298	PKHKP	PKPpre	02 54 26.5	
KUU	Kurty	132.35	73	*e*PKP	PKPdf	02 54 39.0	-1.4
	baz=72						
KUU	Kurty	132.35	73	*e*PKIKP	PKPdf	02 54 39.0	-1.4
B05A	Bryant	132.54	296	P	PKiKP	02 54 41.2	-0.4
	baz=137						
UZB	Uzynbulak	133.11	75	*e*PKP	PKPdf	02 54 40.9	-1.1
	baz=75						
UZB	Uzynbulak	133.11	75	*e*PKIKP	PKPdf	02 54 40.9	-1.1
ARU	Arti	133.56	50	*i* PKIKP	PKPdf	02 54 42.3	+0.1
ARU						02 57 09.6	
ARCES	ARCESS Array B	133.97	23	PKhKP	PKPpre	02 54 28.5	
	comp=Z,4.9nm,1.0s,baz=222,slow=1.6,SNR=4.7						
ARCES				PKP	PKPdf	02 54 42.0	-0.6
	comp=Z,4.8nm,0.4s,baz=208,slow=1.3,SNR=40						
BRVK	Borovoye	136.06	60⇓	*e*PKIKP	PKPdf	02 54 46.2	-0.8
CD2	Chengdu	136.07	108	PKP	PKPpre	02 54 34.6	
MAKZ	Makanchi	137.20	74	PKHKP	PKPpre	02 54 41.0	
MAKZ	Makanchi	137.20	74	PKPpre	PKPpre	02 54 41.0	
MK31	Makanchi Array	137.34	74*d*	*e*PKIKP	PKPdf	02 54 49.1	-0.5
MKAR	Makanchi Array	137.34	74	PKhKP	PKPpre	02 54 38.4	
	comp=Z,1.3nm,0.6s,baz=224,slow=3.3,SNR=10						
MKAR				PKP	PKPdf	02 54 48.1	-1.5
	comp=Z,3.3nm,0.8s,baz=249,slow=1.8,SNR=12						
NEEM	North Greenlan	137.63	352	*i* P	PKiKP	02 54 50.7	-0.9
NEEM				IAmb	IAmb	02 54 53.1	
	comp=Z,12nm,0.7s						
WMQ	Urumqi	137.93	81	*e*P	PKPpre	02 54 40.2	
WMQ				pmax	pmax		
	comp=Z,78nm,4.1s						
ZSN	Zaisan	139.07	75	*e*PKP	PKPdf	02 54 51.7	-1.0
	baz=75						
ZSN	Zaisan	139.07	75	*e*PKIKP	PKPdf	02 54 51.7	-1.0
YKA	Yellowknife Ar	139.13	315	PKP	PKPdf	02 54 52.3	-0.1
	comp=Z,3.2nm,0.6s,baz=120,slow=2.9,SNR=20						
KBS	Kingsbay	140.07	11	*i* P	PKPpre	02 54 48.0	
KBS				IAmb	IAmb	02 54 48.8	
	comp=Z,54nm,0.8s						
KBS	Kingsbay	140.07	11	PKIKP	PKPpre	02 54 48.6	
KBS	Kingsbay	140.07	11		PKPpre	02 54 48.6	
GTA	Gaotai	140.84	96	*e*PKPbc	PKiKP	02 54 59.8	+0.8
GTA				LR	LR		
	comp=N,110nm,17.4s						
GTA				LR	LR		
	comp=E,120nm,19.3s						
GTA				LR	LR		
	comp=Z,91nm,18.5s						
XAN	Xi'an	141.12	111	P	PKiKP	02 54 59.7	0.0
XAN				pP	pPKPdf	02 55 02.5	-3.6
XAN				pmax	pmax		
	comp=Z,12nm,0.8s						
DGZ	Jazzator, Alta	141.84	75⇓	*e*PKIKP	PKPdf	02 54 54.3	-3.6
ZAA0	Zalesovo Array	143.27	67		PKPpre	02 54 56.2	
ZALV	Zalesovo Beam	143.27	67	PKhKP	PKPpre	02 54 56.1	
	comp=Z,6.7nm,0.5s,baz=246,slow=3.7,SNR=23						
ZALV	Zalesovo Beam	143.27	67	PKIKP	PKPbc	02 54 56.9	-0.3
ZALV	Zalesovo Beam	143.27	67		PKPpre	02 54 56.9	
MMPY	Sheldon Lake,	145.57	308	P	PKPdf	02 55 03.9	0.0
	baz=120						
SKAG	Skagway	145.67	301	P	PKPbc	02 55 04.6	+0.2
	baz=122						
WHY	Whitehorse	146.09	303	P	PKPdf	02 55 05.3	+0.4
	baz=120						
FARO	Faro, Yukon	146.23	306	P	PKPbc	02 55 06.3	+0.1
	baz=119						
TIA	Tai'an	146.71	118	P	PKPbc	02 55 08.8	+0.5
TIA				pmax	pmax		
	comp=Z,31nm,0.8s						
BTO	Baotou	146.85	105	*e*P	PKPbc	02 55 09.2	+0.5
HYT	Haines Junctio	147.30	302	P	PKPbc	02 55 09.5	+0.1
	baz=119						
A36M	Sachs Harbour	147.48	325		PKPbc	02 55 08.4	-0.9
A36M	Sachs Harbour	147.48	325	P	PKPbc	02 55 09.2	-0.1
	baz=111						
YUK4	Talbot Arm	148.03	303	P	PKPbc	02 55 11.5	0.0
	baz=118						
INK	Inuvik	148.84	317	PKPbc	PKPbc	02 55 12.0	-1.0
	comp=Z,17nm,0.7s,baz=97,slow=3.6,SNR=34						
INK	Inuvik	148.84	317	PKP2	PKPbc	02 55 12.0	-1.0
INK	Inuvik	148.84	317		PKPbc	02 55 12.3	-0.7
INK	Inuvik	148.84	317	P	PKPbc	02 55 12.3	-0.7
	baz=110						
YUK3	Moose Creek	149.00	303	P	PKPbc	02 55 13.4	-0.5
	baz=116						
EPYK	Eagle Plains	149.32	312	P	PKPbc	02 55 13.9	-0.5
	baz=111						
BVCY	Beaver Creek	149.44	304	P	PKPbc	02 55 14.9	+0.1
	baz=115						
JNU	Nakatsue	149.46	140	PKPbc	PKPbc	02 55 15.2	-0.6
	comp=Z,31nm,1.1s,baz=105,slow=5.1,SNR=4.8						
DAWY	Dawson	149.50	307	P	PKPbc	02 55 14.2	-0.7
	baz=113						
MOY	Mondy	149.82	81	*e*PKP2	PKiKP	02 55 17.2	+0.1
MOY				pmax	pmax		
	comp=Z,31nm,1.6s						
M27K	Edge Creek, AK	149.85	303	P	PKPbc	02 55 15.8	-0.2
	baz=114						
L27K	Beaver Creek,	150.11	305	P	PKPbc	02 55 16.4	0.0
	baz=113						
SONM	Songino Array	150.17	92	PKPbc	PKPbc	02 55 17.5	+0.3
	comp=Z,31nm,0.7s,baz=221,slow=2.0,SNR=5.6						
SONM	Songino Array	150.17	92	PKIKP	PKPbc	02 55 17.3	+0.1
SONM	Songino Array	150.17	92		PKPbc	02 55 17.3	+0.1
ZAK	Zakamensk	150.20	85	*e*PKIKP	PKPbc	02 55 17.3	+0.2
ZAK				pmax	pmax		
	comp=Z,33nm,0.9s						
EGAK	Eagle	150.48	308	P	PKPbc	02 55 16.4	-0.7
	baz=111						
ULN	Ulaanbaatar	150.53	92*c*	*i*PKIKP	PKPbc	02 55 18.2	+0.2
ULN	Ulaanbaatar	150.53	92		PKiKP	02 55 18.6	-0.2
ULN	Ulaanbaatar	150.53	92	PKP	PKPdf	02 55 11.2	-1.4
ULN				PKP	PKiKP	02 55 18.4	-0.3
K27K	Chicken	150.58	306	P	PKiKP	02 55 17.9	-0.2
	baz=112						
N25K	Chitina, Valde	150.72	301	P	PKPbc	02 55 18.1	+0.1
	baz=114						
L26K	Log Cabin Wild	150.74	304	P	PKPbc	02 55 18.0	+0.1
	baz=112						
JMN	Monobe	150.96	144		PKiKP	02 55 20.5	+0.6
NRIK	Noril'sk	151.28	43	PKPbc	PKiKP	02 55 19.4	0.0
	comp=Z,6.0nm,0.6s,baz=99,slow=2.6,SNR=7.5						
J26K	Charley River,	151.47	307	P	PKPbc	02 55 19.8	+0.1
	baz=110						
M24K	Tolsona, Glenn	151.60	301	P	PKiKP	02 55 20.9	+0.5
	baz=112						
INCN	Inchon	151.82	129	PKIKP	PKiKP	02 55 21.6	0.0
INCN	Inchon	151.82	129		PKiKP	02 55 21.6	0.0
KSAR	Wonju Array Be	152.27	131	PKIKP	PKiKP	02 55 22.4	0.0
KSAR	Wonju Array Be	152.27	131		PKiKP	02 55 22.4	0.0
KSRS	Korea Array	152.29	131	PKP	PKPdf	02 55 14.5	-0.9
	comp=Z,1.6nm,0.8s,baz=158,slow=1.5,SNR=4.4						
KSRS				PKPbc	PKPbc	02 55 22.1	-0.1
	comp=Z,7.1nm,0.7s,baz=197,slow=2.0,SNR=16						
SML	Sawmill	152.44	300		PKPbc	02 55 21.2	-0.7
BMAR	Burnt Mountain	152.60	313		PKPbc	02 55 21.6	-0.5
PMR	Palmer	152.72	299	P	PKPbc	02 55 22.2	-0.1
	baz=112						
KDAK	Kodiak Island	152.76	290	PKIKP	PKPbc	02 55 22.0	-0.5
KDAK	Kodiak Island	152.76	290		PKPbc	02 55 22.0	-0.5
KDAK	Kodiak Island	152.76	290	P	PKPbc	02 55 22.5	0.0
	baz=117						
ILAR	Eielson Array	152.80	306	PKP	PKPdf	02 55 11.3	-4.0
	comp=Z,0.7nm,0.8s,baz=334,slow=1.2,SNR=6.6						
ILAR				PKPbc	PKPbc	02 55 21.4	-1.0
	comp=Z,6.4nm,0.6s,baz=308,slow=1.2,SNR=5.3						
OHAK	Old Harbor	152.84	288	P	PKiKP	02 55 23.0	0.0
	baz=118						
COLA	College	153.23	306	PKIKP	PKPbc	02 55 22.4	-1.0
COLA						02 55 34.6	
COLA	College	153.23	306		PKPbc	02 55 22.4	-1.0
COLA				PKPab	sPKPbc	02 55 34.6	-1.0
H24K	Noodor Dome	153.49	308	P	PKPbc	02 55 23.9	-0.2
	baz=104						
Q19K	Cape Douglas,	153.76	292	P	PKPbc	02 55 24.4	-0.4
	baz=114						
I23K	Minto, Yukon-K	153.92	307	P	PKPbc	02 55 24.2	-0.7
	baz=105						
MLY	Manley	154.46	306		PKPbc	02 55 25.9	-0.3
MLY				PKPab	sPKPbc	02 55 39.0	+0.7
M20K	Styx River	154.60	298	P	PKPbc	02 55 25.9	-0.7
	baz=109						
TOLK	Toolik Lake Re	154.66	314		PKPbc	02 55 26.3	-0.2
TOLK	Toolik Lake Re	154.66	314	P	PKiKP	02 55 26.7	+0.2
	baz=97						
MJAR	Matsushiro Arr	154.81	149	PKPbc	PKiKP	02 55 28.3	+0.5
	comp=Z,3.4nm,0.6s,baz=148,slow=3.7,SNR=4.4						
MJAR				PKPab	PKPab	02 55 43.1	+0.1
	comp=Z,1.4nm,0.5s,baz=171,slow=4.6,SNR=4.5						
O18K	Koktuh Hills	154.86	293	P	PKPbc	02 55 26.5	-0.5
	baz=112						
N19K	Bonanza Creek	154.86	295		PKPbc	02 55 25.7	-1.4
N19K				PKPab	PKPab	02 55 41.6	-1.0
N19K	Bonanza Creek	154.86	295	P	PKPbc	02 55 26.6	-0.6
	baz=110						
K20K	Telida	155.45	301	P	PKPdf	02 55 28.1	+9.0
	baz=105						
MDJ	Mudanjiang	159.03	125	P	PKPdf	02 55 13.4	-11
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,180nm,3.7s						
BOD	Bodaibo	159.38	77	*e*PKIKP	PKPdf	02 55 21.9	-2.2
BOD				pmax	pmax		
	comp=Z,7.0nm,0.8s						
YAK	Yakutsk	167.92	68	PKP	PKPdf	02 55 32.8	+0.9
	comp=Z,13nm,0.4s,baz=229,slow=1.7,SNR=2.2						
BILL	Bilibino	169.92	333⇑	*e*PKIKP	PKPdf	02 55 33.3	+0.3
BILL				pmax	pmax		
	comp=Z,7.0nm,1.5s						
PETK	Petropavlovsk-	173.21	200	PKP	PKPdf	02 55 37.4	+2.3
	comp=Z,0.9nm,0.6s,baz=180,slow=0.1,SNR=2.6						
PETK				PKPab	PKPab	02 57 02.6	-0.5
	comp=Z,5.7nm,0.7s,baz=157,slow=8.0,SNR=15						
PETK	Petropavlovsk-	173.21	200		PKPab	02 57 01.8	-1.4

MEX 09 02:45:01.9±0.3, 16°.91N×100°.07W, h8km±2km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DAIG	Los Arroyos	0.41	75	*i* P	Pg	02 45 09.6	-0.5
DAIG				*i* S	Sg	02 45 15.7	+0.2
MEIG	Mezcala	1.09	23	*e*P	Pg	02 45 20.0	-3.0
MEIG				*i* S	Sg	02 45 33.5	-3.7
MGIG	Malinaltepec	1.41	77	*i* P	Pn	02 45 24.5	-3.6
MGIG				*i* S	Sb	02 45 41.9	-4.9

MEX 09 02:45:05.4±5.7, 17°.38N×101°.41W, h20km±351km, MD3.7, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.23	347⇑	*i*P	Pb	02 45 09.9	-1.1
	baz=148,slow=8.6						
ZIIG				*i* S	Sb	02 45 13.2	-1.6
UON	La Union	0.70	327	*e*P	Pb	02 45 17.4	-1.5
UON				*e*S	Sb	02 45 25.5	-2.7
ARIG	Puente Sto Nin	1.35	48	*e*P	Pn	02 45 24.4	-4.8
ARIG				*i* S	Sn	02 45 42.6	-4.0

*IDC **09** 03:12:40.3±3.4, 51°.90N×174°.66W, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.5/50, mbtmp3.7/6, ML4.1/2, MS3.8/2, Ms1 3.8/2, ms1mx2.8/42, Error ellipse: s-maj=69.3km s-min=31.5km az=12.0*

*AEIC **09** 03:12:41±1.4, 51°.64N±0°.07×175°.19W±0°.03, h26km±7km, ML3.6, mb3.6/5(NEIC), Error ellipse: s-maj=10.8km s-min=3.1km az=179.0*

*NEIC **09** 03:12:43.2±1.8, 51°.7N±0°.1×175°.23W±0°.06, h35km±15km, Error ellipse: s-maj=19.1km s-min=3.6km az=169.0*

ISC 09 03:12:42.7±1.0, 51°.7N±0°.1×175°.23W±0°.04, h40km, n55, σ1ˢ00/47, mb3.8/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSIG	Igitkin Island	0.53	305		Pn	03 12 53.7	-0.2
GSMY	Great Sitkin M	0.63	305		Pn	03 12 55.1	-0.1
GSTR	Great Sitkin T	0.66	308		Pn	03 12 56.0	+0.4
GSCK	Great Sitkin C	0.67	299		Pn	03 12 55.5	-0.2
GSTD	Great Sitkin T	0.68	303		Pn	03 12 55.9	-0.1
GSTD					Sn	03 13 06.7	+1.3
GSSP	Great Sitkin S	0.71	305		Pn	03 12 56.5	+0.1
ETKA	Kagalaska Isla	0.75	284		Pn	03 12 56.5	-0.4
ATKA	Atka Island	0.82	51		Pn	03 12 56.9	-0.9
ATKA					Sn	03 13 07.9	-0.8
KOKL	Mount Kliuchef	0.90	45		Pn	03 12 58.7	-0.3
ADAG	Mount Adagdak	0.90	289		Pn	03 12 59.3	+0.4
KOFP	Korovin Flat P	0.91	49		Pn	03 12 58.8	-0.3
ADK	Adak	0.93	283		Pn	03 12 58.8	-0.5
ADK	Adak	0.93	283	Sn	Sn	03 13 10.8	-0.5
KOSE	Korovin Southe	0.98	47		Pn	03 13 00.2	+0.1
KIWB	Kanaga Island	1.21	279		Pn	03 13 02.9	-0.2
KIKV	Kanaga Island	1.22	280		Pn	03 13 03.3	-0.1
KICM	Kanaga Island	1.25	281		Pn	03 13 03.7	+0.1
KIMD	Kanaga Island	1.25	274		Pn	03 13 03.3	-0.5
TAFP	Tanaga Falls P	1.73	278		Pn	03 13 10.5	+0.3
TAFP					Sn	03 13 33.2	+2.2
TASE	Tanaga Southea	1.75	276		Pn	03 13 11.0	+0.4
GALAA	Gareloi Lava P	2.21	273		Pn	03 13 16.9	+0.1
CERAA	Semis' Rag'd T	3.17	276		Pn	03 13 31.4	+1.3
CESW	Semis' Southwe	3.24	276		Pn	03 13 32.0	+0.9
AMKA	Amchitka	3.43	267		Sn	03 14 13.8	+0.8
AMKA	Amchitka	3.43	267		Pn	03 13 34.4	+0.8
LSNW	Little Sitkin	3.89	277		Pn	03 13 41.3	+1.3
NIKH	Nikolski High	4.11	69		Pn	03 13 44.3	+1.3
NIKH					Sn	03 14 31.6	+1.8
OKER	Okmok East Rim	4.72	65		Pn	03 13 52.3	+0.9
MAPS	Pakushin South	5.46	64		Pn	03 14 02.7	+1.2
MSW	Makushin Switc	5.58	63		Pn	03 14 04.6	+1.4
UNV	Unalaska Valle	5.72	64		Pn	03 14 06.2	+1.2
SPIA	Saint Paul Isl	6.22	26		Pn	03 14 13.8	+2.0
KDAK	Kodiak Island	14.39	56	Pn	Pn	03 16 02.0	-1.6
	1.9nm,0.3s,baz=246,slow=0.8,SNR=9.2						
KDAK	Kodiak Island	14.39	56		Pn	03 16 02.7	-0.8
L19K	White Mountain	15.22	38		P	03 16 17.1	-1.9
M19K	Big River Lodg	15.25	40	Pn	Pn	03 16 16.3	+1.4
M19K				IAmb	IAmb	03 16 32.4	
	comp=Z,6.9nm,1.2s						
K20K	Telida	16.20	36		P	03 16 29.1	-0.7
K20K				IAmb	IAmb	03 16 48.8	
	comp=Z,6.5nm,1.4s						
SKT	Skwentna	16.45	42		P	03 16 31.4	-1.3
SKT				IAmb	IAmb	03 16 47.7	
	comp=Z,5.5nm,1.2s						
J20K	Nowinta River	16.67	33		P	03 16 35.1	+0.1
ILAR	Eielson Array	19.62	37	P	P	03 17 05.5	-1.9
	comp=Z,0.3nm,0.3s,baz=234,slow=10,SNR=32						
SEY	Seymchan	20.55	316	P	Pn	03 17 21.1	+1.2
	comp=Z,1.7nm,0.7s,baz=103,slow=14,SNR=7.7						
INK	Inuvik	25.93	34	P	P	03 18 10.1	-0.6
	comp=Z,0.8nm,0.6s,baz=203,slow=7.7,SNR=1.7						
H11N2	WAKE ISLAND Hy	34.84	210	T	T	03 56 41.9	
	baz=20,slow=76,SNR=40						
H11N3	WAKE ISLAND Hy	34.85	210	T	T	03 56 39.2	
	baz=20,slow=76,SNR=34						
H11N1	WAKE ISLAND Hy	34.86	210	T	T	03 56 41.3	
	baz=20,slow=76,SNR=40						
H11S1	WAKE ISLAND Hy	36.05	210	T	T	03 58 05.5	
	baz=19,slow=76,SNR=36						
H11S2	WAKE ISLAND Hy	36.07	210	T	T	03 58 11.3	
	baz=19,slow=76,SNR=35						
H11S3	WAKE ISLAND Hy	36.07	210	T	T	03 58 11.4	
	baz=19,slow=76,SNR=17						
PDAR	Pinedale Array	44.08	75	P	P	03 20 47.0	+0.1
	comp=Z,0.8nm,0.5s,baz=311,slow=3.6,SNR=13						
ULM	Lac du Bonnet	47.63	59	P	P	03 21 13.9	-0.5
	comp=Z,1.1nm,0.3s,baz=282,slow=9.3,SNR=1.8						
ARCES	ARCESS Array B	58.14	352	LR	LR	03 49 34.4	
	comp=Z,36nm,20.0s,baz=160,slow=38						
RAR	Rarotonga	73.84	165	LR	LR	03 49 34.2	
	comp=Z,130nm,19.5s,baz=227,slow=30						
H03N2	Juan Fernandez	119.10	108	T	T	05 42 04.5	
	baz=318,slow=77,SNR=8.1						
H03N1	Juan Fernandez	119.11	108	T	T	05 42 01.1	
	baz=318,slow=77,SNR=12						
H03N3	Juan Fernandez	119.11	108	T	T	05 42 07.3	
	baz=318,slow=77,SNR=9.4						

MEX 09 03:16:14.3±0.5, 14°.49N×94°.05W, h15km, MD4.1, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCIG		1.45	33	*e*P	Pn	03 16 36.3	-3.7
PCIG				*e*S	Sn	03 16 53.7	-5.0
THIG		1.77	76	*e*P	Pn	03 16 44.2	-0.3
THIG				*e*S	Sn	03 17 04.0	-2.7
TGIG		2.44	21	*e*P	Pn	03 16 52.2	-1.6
TGIG				*i* S	Sn	03 17 22.4	-1.0
CCIG	Comitan	2.56	46	*e*P	Pn	03 16 54.5	-1.0
CCIG				*i* S	Sn	03 17 26.3	-0.2
CMIG	Matias Romero	2.71	343	*i* P	Pn	03 16 54.6	-2.8
CMIG				*i* S	Sn	03 17 25.6	-4.2

*IDC **09** 03:16:40.9±2.7, 16°.97S×173°.54W, h0km, mb4.0/3, mb1 4.3/4, mb1mx3.8/29, mbtmp4.1/4, ML4.2/1, Error ellipse: s-maj=133.6km s-min=25.5km az=144.0*

*NEIC **09** 03:16:49.1±1.0, 16°.56S±0°.05×173°.4W±0°.1, h70km±12km, mb4.5/9, Error ellipse: s-maj=19.0km s-min=5.8km az=79.0*

*NOU **09** 03:17:18.9, 14°.16S×172°.05W, h107km, MLv2.8/5, Samoa Islands*

ISC 09 03:16:48.3±0.8, 16°.59S±0°.06×173°.41W±0°.09, h66km, n18, σ1ˢ55/21, mb4.5/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.10	31	Pn	Pn	03 17 35.9	+1.0
	23nm,0.3s,baz=135,slow=2.4,SNR=11						
AFI				Sn	Sn	03 18 08.8	-2.0
	53nm,0.3s,baz=23,slow=23,SNR=13						
AFI	Afiamalu	3.10	31	Pn	Pn	03 17 35.2	+0.3
AFI				Sn	Sn	03 18 09.1	-1.7
AFI	Afiamalu	3.10	31	P	Pn	03 17 36.0	+1.1
NIUE	Niue	4.14	127	Pn	Pn	03 17 50.4	+1.3
NIUE				Sn	Sn	03 18 33.4	-2.8
URZ	Urewera	23.14	199	IAmb	IAmb	03 21 48.2	
	comp=Z,28nm,1.5s						
URZ				P	P	03 21 48.7	-0.3
BKZ	Black Stump Fm	24.16	199	P	P	03 21 58.8	+0.4
QRZ	Quartz Range	27.04	204	P	P	03 22 26.0	+1.6
THZ	Tophouse	27.71	202	P	P	03 22 30.9	+0.4
ARMA	Armidale	34.73	240	P	P	03 23 32.0	-0.4
ARMA				IAmb	IAmb	03 23 38.7	
	comp=Z,9.7nm,1.1s						
BBOO	Buckleboo	48.22	241	P	P	03 25 22.2	-0.4
BBOO				IAmb	IAmb	03 25 40.3	
	comp=Z,8.7nm,1.3s						
WB2	Warramunga Arr	49.56	258	P	P	03 25 32.6	-0.4
WB2				IAmb	IAmb	03 25 38.0	
	comp=Z,5.2nm,1.1s						
WRA	Warramunga Arr	49.57	258	P	P	03 25 32.4	-0.8
	comp=Z,0.3nm,0.3s,baz=98,slow=6.9,SNR=9.4						
WRA	Warramunga Arr	49.57	258	P	P	03 25 31.5	-1.7
AS31	Alice Springs	49.74	253	P	P	03 25 33.8	-0.6
AS31				IAmb	IAmb	03 25 34.3	
	comp=Z,1.6nm,0.6s						
ASAR	Alice Springs	49.74	253	P	P	03 25 33.6	-0.8
	comp=Z,4.9nm,0.5s,baz=88,slow=8.4,SNR=80						
ASAR	Alice Springs	49.74	253	P	P	03 25 33.5	-1.0
PDAR	Pinedale Array	83.15	42	P	P	03 29 11.4	+3.9
	comp=Z,0.5nm,0.7s,baz=191,slow=3.7,SNR=6.1						
PDAR	Pinedale Array	83.15	42	P	P	03 29 07.5	-0.1

MEX 09 03:21:52.1±0.9, 16°.58N×98°.45W, h5km, MD3.8, Near coast of Guerrero

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PNIG	**Pinotepa**	**0.36**	**121**	*i* P	Pg	03 21 58.5	-0.6
PNIG				*i* S	Sg	03 22 04.0	+0.1
MGIG	**Malinaltepec**	**0.68**	**345**	*i* P	Pg	03 22 03.6	-1.5
MGIG				*i* S	Sg	03 22 12.7	-1.3
YOIG	**Yosondua**	**0.91**	**72**	*i* P	Pg	03 22 07.9	-1.7
YOIG				*i* S	Sg	03 22 20.6	-0.8
TLIG	**Tlapa**	**0.99**	**354**	*e*P	Pg	03 22 08.6	-2.4
TLIG				*i* S	Sg	03 22 21.6	-2.3
DAIG	**Los Arroyos**	**1.23**	**291**	*i* P	Pg	03 22 13.1	-2.6
DAIG				*e*S	Sg	03 22 28.5	-3.2
PEIG	**Puerto Escondi**	**1.38**	**115**	*e*P	Pn	03 22 14.9	-3.1
PEIG				*e*S	Sb	03 22 33.0	-3.3
HLIG	**Huajuapan de L**	**1.39**	**26**	*e*P	Pn	03 22 15.1	-3.3
HLIG				*i* S	Sg	03 22 32.5	-4.4

MEX 09 03:24:02.0±1.0**, 14.°44N×94.°07W, h16**km±999km**, MD4.0, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.50**	**33**	*e*P	Pn	03 24 24.6	-3.7
PCIG				*i* S	Sn	03 24 37.3	-10
TGIG		**2.50**	**21**	*e*P	Pn	03 24 41.5	-0.6
TGIG				*e*S	Sn	03 25 12.0	-0.3
CCIG	**Comitan**	**2.61**	**45**	*e*P	Pn	03 24 43.2	-0.6
CMIG	**Matias Romero**	**2.75**	**343**	*e*P	Pn	03 24 42.8	-2.8
CMIG				*i* S	Sn	03 25 14.5	-4.1

*TUL **09** 03:42:48.8±0.7, 36.°18N±0.°01×97.°50W±0.°02, h3km±7km, ML3.7, mb_Lg3.7/147(NEIC), Mwr3.5/42(NEIC), Error ellipse: s-maj=2.4km s-min=1.6km az=63.0*

*IDC **09** 03:42:48.8±1.0, 36.°29N×97.°65W, h0km, mb1 3.8/6, mb1mx3.5/42, mbtmp3.4/6, ML3.5/6, Error ellipse: s-maj=14.7km s-min=11.7km az=152.0*

*ANF **09** 03:42:49.0±0.2, 36.°19N×97.°49W, h5km, ML4.6/24, Error ellipse: s-maj=1.9km s-min=1.8km az=141.0*

*NEIC **09** 03:42:49, 36.°18N×97.°50W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^14Nm; Mrr-0.29; Mθθ1.91; Mφφ-1.62; Mrθ-1.33; Mθφ0.34; Mφr0.21; Fault plane solution: M0 2.26000×10^14 NP1:φs215.74000°, δ58.78000°, λ174.84000°. NP2:φs308.42000°, δ85.59000°, λ31.32000°. Principal axes: T 2.5462, Plg25.0000°, Azm177.0000°; N -0.7802, Plg58.0000°, Azm316.0000°; P -1.7660, Plg18.0000°, Azm78.0000°;*

*NEIC **09** 03:42:49.0±0.8, 36.°19N±0.°02×97.°50W±0.°05, h1km±7km Error ellipse: s-maj=6.8km s-min=1.6km az=66.0*

ISC 09 03:42:48.8±1.0**, 36.°19N**±0.°02×**97.°52W**±0.°02**, h12**km±8km**, n182, σ1.°10**/159**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.40**	**173**		**Pg**	**03 42 56.6**	**0.0**
OK029				Sg	**Sg**	**03 43 02.1**	**+0.2**
CROK	**Carrier**	**0.49**	**310**	Pg	**Pg**	**03 42 59.2**	**+0.8**
CROK				Sg	**Sb**	**03 43 06.3**	**-0.3**
OK005	**Luther M Schoo**	**0.59**	**154**		**Pg**	**03 43 00.4**	**0.0**
OK031	**S. Brethren Rd**	**0.60**	**113**		**Pg**	**03 43 00.3**	**-0.1**
OK031				Sg	**Sg**	**03 43 08.0**	**-0.3**
OK009	**Oakdale Elemen**	**0.61**	**173**		**Pg**	**03 43 00.7**	**+0.1**
BLOK	**Blackwell**	**0.62**	**23**		**Pg**	**03 43 01.2**	**+0.3**
BLOK				Sg	**Sg**	**03 43 09.7**	**+0.7**
OK025	**Westminster Rd**	**0.62**	**167**		**Pg**	**03 43 01.0**	**0.0**
OK025				IAmb_Lg		03 43 08.7	
	comp=Z,1μm,0.8s						
OK025				Sg	**Sb**	**03 43 11.3**	**+0.9**
QUOK	**Quay**	**0.65**	**91**	Pg	**Pg**	**03 43 01.4**	**-0.1**
QUOK				Sg	**Sg**	**03 43 09.6**	**-0.5**
QUOK				IAmb_Lg		03 43 09.7	
	comp=Z,725nm,0.7s						
GC02	**Grant County #**	**0.72**	**337**		**Pg**	**03 43 03.1**	**+0.4**
OKCFA	**Oklahoma City**	**0.78**	**176**		**Pg**	**03 43 03.6**	**-0.1**
OKCFA	**Oklahoma City**	**0.78**	**176**	P	**Pg**	**03 43 03.6**	**-0.1**
	baz=358,SNR=108						
OKCFA				S	**Sg**	**03 43 14.2**	**+0.3**
	baz=358						
OKCSW	**OKLAHOMA CITY**	**0.79**	**175**		**Pg**	**03 43 03.8**	**-0.2**
KAN13	**South Haven SW**	**0.82**	**2**		**Pg**	**03 43 05.0**	**+0.3**
OK032	**Salt Plains WL**	**0.83**	**318**		**Pg**	**03 43 05.2**	**+0.4**
KAN14	**Manchester OK**	**0.85**	**335**		**Pg**	**03 43 05.4**	**+0.3**
KAN17	**Caldwell West**	**0.88**	**347**		**Pg**	**03 43 06.0**	**+0.3**
FNO	**Franklin**	**0.94**	**174**	Pg	**Pg**	**03 43 06.5**	**-0.3**
FNO				IAmb_Lg		03 43 18.6	
	comp=Z,679nm,1.1s						
KAN05	**Bluff City Nor**	**0.96**	**343**		**Pg**	**03 43 07.6**	**+0.3**
KS20	**Mayfield South**	**1.04**	**358**		**Pg**	**03 43 08.9**	**+0.1**
T35A	**Sooner Cattle**	**1.08**	**48**	Pg	**Pb**	**03 43 09.3**	**-0.2**
T35B	**Sooner Cattle**	**1.09**	**48**	P	**Pb**	**03 43 09.4**	**-0.2**
	baz=227,SNR=287						
T35B				S	**Sg**	**03 43 23.3**	**-0.5**
	baz=227						
KAN08	**Anthony NE Sta**	**1.10**	**341**		**Pb**	**03 43 10.0**	**+0.3**
KAN12	**Harper NE Stat**	**1.17**	**341**		**Pb**	**03 43 11.3**	**+0.3**
U32A	**Winter Ranch,**	**1.22**	**279**		**Pn**	**03 43 11.8**	**+0.2**
U32A	**Winter Ranch,**	**1.22**	**279**	P	**Pn**	**03 43 11.9**	**+0.2**
	baz=98,SNR=100						
U32A				S	**Sn**	**03 43 29.5**	**+1.4**
	baz=98						
TUL1	**Leonard**	**1.42**	**101**	P	**Pn**	**03 43 14.4**	**-0.1**
	baz=282						
TUL1				S	**Sb**	**03 43 33.5**	**+0.1**
	baz=282						
TUL1	**Leonard**	**1.42**	**101**	P	**Pn**	**03 43 14.4**	**-0.1**
	baz=282,SNR=333						
TUL1				S	**Sb**	**03 43 33.8**	**+0.3**
	baz=282						
X34A	**Smith Ranch, M**	**1.61**	**189**		**Pb**	**03 43 18.6**	**+0.2**
WMOK	**Wichita Mounta**	**1.78**	**216**		**Pb**	**03 43 20.8**	**-0.6**
WMOK	**Wichita Mounta**	**1.78**	**216**	P	**Pb**	**03 43 20.7**	**-0.6**
	baz=36,SNR=501						
WMOK				S	**Sb**	**03 43 44.8**	**+1.1**
	baz=36						
WMOK	**Wichita Mounta**	**1.78**	**216**	P	**Pb**	**03 43 20.8**	**-0.6**
	baz=36,SNR=150						
LOOK	**Love County**	**2.21**	**173**		**Pn**	**03 43 26.9**	**+1.6**
LOOK				IAmb_Lg		03 43 57.2	
	comp=Z,195nm,0.7s						
X37A	**Clayton**	**2.37**	**132**		**Pn**	**03 43 29.0**	**+1.5**
X37A				IAmb_Lg		03 44 05.6	
	comp=Z,366nm,0.7s						
X37A	**Clayton**	**2.37**	**132**	P	**Pn**	**03 43 29.1**	**+1.6**
	baz=314,SNR=82						
R32A	**Long Quarter,**	**2.42**	**337**		**Pn**	**03 43 29.9**	**+1.6**
R32A				IAmb_Lg		03 44 12.6	
	comp=Z,265nm,0.7s						
R32A	**Long Quarter,**	**2.42**	**337**	P	**Pn**	**03 43 30.0**	**+1.7**
	baz=156						
R32A				S	**Sb**	**03 44 00.6**	**-1.6**
	baz=156						
U38A	**Gravette**	**2.54**	**83**		**Pn**	**03 43 31.0**	**+1.1**
U38A				IAmb_Lg		03 44 15.6	
	comp=Z,244nm,0.8s						
U38A	**Gravette**	**2.54**	**83**	P	**Pn**	**03 43 31.6**	**+1.7**
	baz=265,SNR=173						
Z35A	**Perchaven, San**	**2.86**	**176**		**Pn**	**03 43 35.8**	**+1.5**
Z35A	**Perchaven, San**	**2.86**	**176**	P	**Pn**	**03 43 35.8**	**+1.5**
	baz=356,SNR=39						
Z35A				S	**Sn**	**03 44 11.7**	**+3.0**
	baz=356						
HHAR	**Hobbs**	**2.89**	**87**		**Pn**	**03 43 35.6**	**+0.9**
HHAR				IAmb_Lg		03 44 18.1	
	comp=Z,198nm,0.8s						
HHAR	**Hobbs**	**2.89**	**87**	P	**Pn**	**03 43 35.7**	**+0.9**
	baz=269						
KSU1	**Kansas State U**	**2.99**	**14**	Pn	**Pn**	**03 43 37.8**	**+1.7**
KSU1				IAmb_Lg		03 44 29.0	
	comp=Z,190nm,0.8s						
KSU1	**Kansas State U**	**2.99**	**14**	P	**Pn**	**03 43 37.7**	**+1.7**
	baz=194,SNR=7.5						
KSU1	**Kansas State U**	**2.99**	**14**	P	**Pn**	**03 43 37.5**	**+1.4**
	baz=194,SNR=44						
CBKS	**Cedar Bluff**	**3.16**	**327**	Pn	**Pn**	**03 43 40.6**	**+2.2**
CBKS				IAmb_Lg		03 44 34.5	
	comp=Z,175nm,0.8s						
CBKS	**Cedar Bluff**	**3.16**	**327**	P	**Pn**	**03 43 40.0**	**+1.6**
	baz=145,SNR=38						
W39A	**Magazine**	**3.19**	**107**	Pn	**Pn**	**03 43 40.3**	**+1.5**
W39A				IAmb_Lg		03 44 35.1	
	comp=Z,450nm,0.8s						
W39A	**Magazine**	**3.19**	**107**	P	**Pn**	**03 43 40.3**	**+1.5**
	baz=289,SNR=20						
W39A	**Magazine**	**3.19**	**107**	P	**Pn**	**03 43 40.0**	**+1.2**
	baz=289,SNR=32						
Z38A	**Mt. Pleasant**	**3.59**	**144**		**Pn**	**03 43 45.4**	**+1.1**
Z38A	**Mt. Pleasant**	**3.59**	**144**	P	**Pn**	**03 43 45.5**	**+1.2**
	baz=326						
MIAR	**Mount Ida**	**3.61**	**116**		**Pn**	**03 43 46.0**	**+1.4**
MIAR				IAmb_Lg		03 44 47.2	
	comp=Z,282nm,0.8s						
MIAR	**Mount Ida**	**3.61**	**116**	P	**Pn**	**03 43 46.0**	**+1.4**
	baz=298,SNR=116						
MIAR				S	**Sn**	**03 44 29.1**	**+1.9**
	baz=298						
MIAR	**Mount Ida**	**3.61**	**116**	P	**Pn**	**03 43 46.0**	**+1.4**
	baz=298,SNR=52						
AMTX	**Amarillo**	**3.64**	**250**	Pn	**Pn**	**03 43 46.8**	**+1.8**
AMTX				IAmb_Lg		03 44 49.6	
	comp=Z,262nm,1.0s						
AMTX	**Amarillo**	**3.64**	**250**	P	**Pn**	**03 43 47.0**	**+2.0**
	baz=68,SNR=27						
AMTX	**Amarillo**	**3.64**	**250**	P	**Pn**	**03 43 46.7**	**+1.7**
	baz=68						
AMTX				Sb	**Sg**	**03 44 42.6**	**-3.1**
	baz=68						
S39A	**Bolivar**	**3.68**	**65**		**Pn**	**03 43 46.8**	**+1.3**
S39A				IAmb_Lg		03 44 51.8	
	comp=Z,157nm,0.8s						
S39A	**Bolivar**	**3.68**	**65**	P	**Pn**	**03 43 46.9**	**+1.4**
	baz=247,SNR=57						
U40A	**Yellville**	**3.77**	**86**	Pn	**Pn**	**03 43 47.1**	**+0.3**
U40A	**Yellville**	**3.77**	**86**	P	**Pn**	**03 43 47.1**	**+0.3**
	baz=269,SNR=57						
U40A	**Yellville**	**3.77**	**86**	P	**Pn**	**03 43 47.1**	**+0.3**
	baz=269,SNR=29						
ABTX	**Abilene, Hawle**	**3.97**	**207**	IAmb_Lg		03 45 00.5	
	comp=Z,181nm,0.9s						
ABTX	**Abilene, Hawle**	**3.97**	**207**	P	**Pn**	**03 43 51.0**	**+1.4**
	baz=26						
X40A	**Basin Creek Fa**	**4.19**	**113**	IAmb_Lg		03 45 03.8	
	comp=Z,244nm,0.8s						
X40A	**Basin Creek Fa**	**4.19**	**113**	P	**Pn**	**03 43 54.8**	**+2.3**
	baz=296,SNR=19						
X40A	**Basin Creek Fa**	**4.19**	**113**	P	**Pn**	**03 43 53.8**	**+1.3**
	baz=296,SNR=21						
WHTX	**Lake Whitney,**	**4.19**	**179**		**Pn**	**03 43 53.5**	**+1.0**
WHTX	**Lake Whitney,**	**4.19**	**179**	P	**Pn**	**03 43 53.5**	**+1.0**
	baz=360,SNR=52						
WHTX	**Lake Whitney,**	**4.19**	**179**	P	**Pn**	**03 43 53.5**	**+1.0**
	baz=360,SNR=16						
WHTX				S	**Sn**	**03 44 41.6**	**+0.2**
	baz=360						
MGMO	**Mountain Grove**	**4.33**	**76**	IAmb_Lg		03 45 08.3	
	comp=Z,164nm,0.8s						
WHAR	**Wooly Hollow**	**4.35**	**100**		**Pn**	**03 43 55.5**	**+0.8**
WHAR				IAmb_Lg		03 45 10.1	
	comp=Z,237nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.38**	**92**	Pn	**Pn**	**03 43 55.6**	**+0.4**
FCAR				IAmb_Lg		03 45 04.4	
	comp=Z,152nm,0.8s						
WLAR	**White Oak Lake**	**4.39**	**123**	Pn	**Pn**	**03 43 56.4**	**+1.0**
WLAR				IAmb_Lg		03 45 08.0	
	comp=Z,117nm,0.7s						
W41B	**Gary Mavity, V**	**4.41**	**102**	P	**Pn**	**03 43 56.5**	**+1.0**
	baz=285,SNR=29						
W41B	**Gary Mavity, V**	**4.41**	**102**	P	**Pn**	**03 43 56.3**	**+0.8**
	baz=285,SNR=16						
W41B				S	**Sn**	**03 44 46.7**	**0.0**
	baz=285						
237A	**Washetta, Mont**	**4.41**	**161**		**Pn**	**03 43 56.2**	**+0.6**
237A				IAmb_Lg		03 45 08.0	
	comp=Z,114nm,0.9s						
237A	**Washetta, Mont**	**4.41**	**161**	P	**Pn**	**03 43 56.1**	**+0.6**
	baz=342						
N33A	**J Bar K, Exete**	**4.54**	**1**	IAmb_Lg		03 45 20.3	
	comp=Z,152nm,0.8s						
P38A	**Dawn**	**4.66**	**41**	Pn	**Pn**	**03 44 00.1**	**+1.2**
P38A				IAmb_Lg		03 45 23.4	
	comp=Z,208nm,0.8s						
P38A	**Dawn**	**4.66**	**41**	P	**Pn**	**03 44 00.1**	**+1.2**
	baz=223,SNR=14						
R40A	**Maddies Statio**	**4.68**	**62**		**Pn**	**03 44 00.3**	**+1.1**
R40A				IAmb_Lg		03 45 20.9	
	comp=Z,227nm,0.8s						
R40A	**Maddies Statio**	**4.68**	**62**	P	**Pn**	**03 44 00.5**	**+1.2**
	baz=245,SNR=46						
MSTX	**Muleshoe**	**4.85**	**244**	Pn	**Pn**	**03 44 02.8**	**+1.2**
MSTX	**Muleshoe**	**4.85**	**244**	P	**Pn**	**03 44 02.9**	**+1.2**
	baz=61,SNR=16						
MSTX	**Muleshoe**	**4.85**	**244**	P	**Pn**	**03 44 02.7**	**+1.0**
	baz=61,SNR=12						
Z41A	**Richland Creek**	**4.86**	**126**	P	**Pn**	**03 44 02.3**	**+0.6**
	baz=309,SNR=8.7						
Z41A	**Richland Creek**	**4.86**	**126**	P	**Pn**	**03 44 02.4**	**+0.6**
	baz=309						
Z41A				S	**Sn**	**03 44 57.3**	**-0.6**
	baz=309						
N35A	**Tabor**	**4.89**	**17**		**Pn**	**03 44 03.2**	**+1.0**
N35A	**Tabor**	**4.89**	**17**	P	**Pn**	**03 44 03.1**	**+1.0**
	baz=198,SNR=18						
KSCO	**Kaye Shedlock'**	**4.94**	**306**	IAmb_Lg		03 45 40.3	
	comp=Z,119nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.94**	**306**	S	**Sn**	**03 45 00.4**	**+0.2**
	baz=123						
NATX	**Nacogdoches**	**5.01**	**151**		**Pn**	**03 44 04.4**	**+0.6**
NATX				IAmb_Lg		03 45 35.9	
	comp=Z,106nm,0.8s						
NATX	**Nacogdoches**	**5.01**	**151**	S	**Sn**	**03 45 01.9**	**+0.1**
	baz=333						
LCAR	**Lake Charles**	**5.15**	**89**		**Pn**	**03 44 05.9**	**+0.2**
LCAR				IAmb_Lg		03 45 36.3	
	comp=Z,112nm,0.8s						
CCAR	**Cane Creek**	**5.23**	**114**		**Pn**	**03 44 08.0**	**+1.2**
BGNE	**Belgrade**	**5.23**	**355**		**Pn**	**03 44 07.7**	**+0.8**
BGNE				IAmb_Lg		03 45 47.9	
	comp=Z,122nm,0.7s						
BGNE	**Belgrade**	**5.23**	**355**	P	**Pn**	**03 44 07.6**	**+0.8**
	baz=174,SNR=19						
BGNE	**Belgrade**	**5.23**	**355**	P	**Pn**	**03 44 07.7**	**+0.8**
	baz=174,SNR=8.3						
BGNE				S	**Sn**	**03 45 07.1**	**-0.1**
	baz=174						
CCM	**Cathedral Cave**	**5.35**	**68**		**Pn**	**03 44 09.7**	**+1.3**
CCM				IAmb_Lg		03 45 37.8	
	comp=Z,168nm,0.9s						
CCM	**Cathedral Cave**	**5.35**	**68**	P	**Pn**	**03 44 09.2**	**+0.8**
	baz=251						
CCM				S	**Sn**	**03 45 09.4**	**-0.5**
	baz=251						
435B	**Jarrell**	**5.39**	**181**		**Pn**	**03 44 10.0**	**+0.9**
435B				IAmb_Lg		03 45 44.8	
	comp=Z,199nm,1.1s						
435B	**Jarrell**	**5.39**	**181**	P	**Pn**	**03 44 09.9**	**+0.9**
	baz=0.9,SNR=8.8						
435B	**Jarrell**	**5.39**	**181**	P	**Pn**	**03 44 10.0**	**+0.9**
	baz=0.9						
435B				S	**Sn**	**03 45 11.3**	**+0.1**
	baz=0.9						
P40A	**Paris**	**5.46**	**51**		**Pn**	**03 44 11.6**	**+1.6**
P40A				IAmb_Lg		03 45 50.3	
	comp=Z,221nm,0.7s						
T25A	**Trinidad**	**5.62**	**282**	IAmb_Lg		03 45 55.0	
	comp=Z,121nm,0.9s						
T25A	**Trinidad**	**5.62**	**282**	P	**Pn**	**03 44 13.4**	**+1.0**
	baz=98,SNR=8.0						
OGNE	**Ogallala**	**5.92**	**325**	IAmb_Lg		03 46 02.6	
	comp=Z,128nm,0.8s						
OGNE	**Ogallala**	**5.92**	**325**	P	**Pn**	**03 44 18.6**	**+2.2**
	baz=142,SNR=7.0						
OGNE				S	**Sn**	**03 45 23.5**	**-0.7**
	baz=142						
JCT	**Junction City**	**6.01**	**199**	P	**Pn**	**03 44 18.5**	**+0.9**
	baz=18						
JCT				S	**Sn**	**03 45 27.6**	**+1.2**
	baz=18						
143A	**Socs Landing,**	**6.13**	**123**	IAmb_Lg		03 46 16.2	
	comp=Z,172nm,0.8s						
MET	**Memphis--Engin**	**6.26**	**98**	IAmb_Lg		03 46 18.6	
	comp=Z,168nm,0.7s						
PARMO	**Parma**	**6.28**	**83**	IAmb_Lg		03 46 15.7	
	comp=Z,188nm,0.7s						
SLM	**Saint Louis**	**6.29**	**65**	IAmb_Lg		03 46 14.1	
	comp=Z,126nm,0.7s						
PENMO	**Penman**	**6.37**	**85**	IAmb_Lg		03 46 23.2	
	comp=Z,163nm,0.7s						
LNXT	**Lenox**	**6.49**	**88**	IAmb_Lg		03 46 17.2	
	comp=Z,204nm,0.7s						
K31A	**O'Neill**	**6.50**	**352**	IAmb_Lg		03 46 21.8	
	comp=Z,173nm,0.9s						
K31A	**O'Neill**	**6.50**	**352**	P	**Pn**	**03 44 25.6**	**+1.4**
	baz=171,SNR=13						
SDCO	**Great Sand Dun**	**6.58**	**286**	P	**Pn**	**03 44 27.9**	**+2.2**
	baz=101,SNR=14						
SDCO	**Great Sand Dun**	**6.58**	**286**	P	**Pn**	**03 44 27.5**	**+1.9**
	baz=101,SNR=17						
SCIA	**State Center**	**6.62**	**29**	P	**Pn**	**03 44 26.5**	**+0.6**
	baz=212						
HALT	**Halls**	**6.63**	**90**	IAmb_Lg		03 46 23.9	
	comp=Z,151nm,0.9s						
Q24A	**Divide**	**6.66**	**297**	P	**Pn**	**03 44 27.6**	**+0.8**
	baz=112						
OXF	**Oxford**	**6.83**	**102**	IAmb_Lg		03 46 44.2	
	comp=Z,115nm,0.8s						
OXF	**Oxford**	**6.83**	**102**	P	**Pn**	**03 44 29.5**	**+0.7**
	baz=287,SNR=11						
OXF	**Oxford**	**6.83**	**102**	P	**Pn**	**03 44 29.2**	**+0.4**
	baz=287,SNR=23						
W45A	**Hickory Valley**	**6.86**	**96**	IAmb_Lg		03 46 26.0	
	comp=Z,173nm,0.7s						
Y45A	**Yeager Farm, C**	**6.94**	**107**	IAmb_Lg		03 46 44.8	
	comp=Z,106nm,0.9s						
VBMS	**Vicksburg**	**7.02**	**122**	IAmb_Lg		03 46 44.2	
	comp=Z,58nm,1.0s						
P43A	**Skaggs, Pawnee**	**7.20**	**59**	P	**Pn**	**03 44 34.6**	**+0.8**
	baz=244,SNR=27						
735A	**Kenedy**	**7.32**	**182**	IAmb_Lg		03 46 59.8	
	comp=Z,73nm,0.8s						
ISCO	**Idaho Springs**	**7.34**	**302**	IAmb_Lg		03 46 51.1	
	comp=Z,66nm,0.9s						
ISCO	**Idaho Springs**	**7.34**	**302**	P	**Pn**	**03 44 37.2**	**+1.2**
	baz=117						
ANMO	**Albuquerque**	**7.39**	**263**	Pn	**Pn**	**03 44 36.8**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=80,slow=13,SNR=2.3						
ANMO				Lg	Lg	03 46 40.0	
	comp=Z,3.0nm,0.3s,baz=11,slow=14,SNR=6.3						
ECSD	**EROS Data Cent**	**7.57**	**5**	P	**Pn**	**03 44 38.8**	**-0.1**
	baz=185,SNR=31						
ECSD	**EROS Data Cent**	**7.57**	**5**	P	**Pn**	**03 44 38.7**	**-0.2**
	baz=185,SNR=16						
PLAL	**Pickwick Lake**	**7.79**	**96**	IAmb_Lg		03 47 01.1	
	comp=Z,60nm,0.8s						
HDIL	**Hopedale**	**7.79**	**54**	P	**Pn**	**03 44 42.8**	**+0.8**
	baz=238,SNR=26						
HDIL	**Hopedale**	**7.79**	**54**	P	**Pn**	**03 44 42.7**	**+0.7**
	baz=238,SNR=20						
WVT	**Waverly**	**7.83**	**88**	IAmb_Lg		03 47 04.5	
	comp=Z,50nm,0.8s						
WVT	**Waverly**	**7.83**	**88**	P	**Pn**	**03 44 42.9**	**+0.3**
	baz=273						
146A	**Union**	**7.84**	**114**	IAmb_Lg		03 47 14.3	
	comp=Z,66nm,0.9s						
MNTX	**Cornudas Mount**	**7.92**	**238**	IAmb_Lg		03 47 20.1	
	comp=Z,43nm,0.9s						
MNTX	**Cornudas Mount**	**7.92**	**238**	P	**Pn**	**03 44 44.8**	**+1.0**
	baz=53,SNR=13						
MNTX	**Cornudas Mount**	**7.92**	**238**	P	**Pn**	**03 44 44.3**	**+0.5**
	baz=53,SNR=7.4						
Y22D	**IRIS PASSCAL I**	**7.99**	**257**	IAmb_Lg		03 47 20.8	
	comp=Z,103nm,0.9s						
PHWY	**Pilot Hill**	**8.03**	**312**	IAmb_Lg		03 47 15.9	
	comp=Z,62nm,0.7s						
N23A	**Red Feather La**	**8.10**	**308**	P	**Pn**	**03 44 47.6**	**+1.1**
	baz=123,SNR=10						
SUSD	**Miller**	**8.32**	**353**	IAmb_Lg		03 47 25.7	
	comp=Z,80nm,1.0s						
SUSD	**Miller**	**8.32**	**353**	P	**Pn**	**03 44 50.0**	**+0.8**
	baz=172						
Z47A	**Carrollton**	**8.33**	**108**	IAmb_Lg		03 47 14.3	
	comp=Z,37nm,1.0s						
I37A	**Lemond, Waseca**	**8.43**	**21**	IAmb_Lg		03 47 26.4	
	comp=Z,106nm,0.8s						
TXAR	**Lajitas Array**	**8.57**	**219**	Pn	**Pn**	**03 44 53.0**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=48,slow=12,SNR=23						
TXAR				Lg	Lg	03 47 14.7	
	comp=Z,2.4nm,0.3s,baz=23,slow=16,SNR=4.7						
JFWS	**Jewell Farm**	**8.75**	**38**	IAmb_Lg		03 47 30.6	
	comp=Z,129nm,0.8s						
JFWS	**Jewell Farm**	**8.75**	**38**	P	**Pn**	**03 44 55.3**	**+0.2**
	baz=222						
CLTN	**Cedars of Leba**	**9.05**	**87**	IAmb_Lg		03 47 43.3	
	comp=Z,40nm,0.8s						
WCI	**Wyandotte Cave**	**9.18**	**74**	IAmb_Lg		03 47 43.4	
	comp=Z,84nm,0.9s						
SFIN	**Lafayette**	**9.20**	**60**	IAmb_Lg		03 47 53.9	
	comp=Z,78nm,0.7s						
SFIN	**Lafayette**	**9.20**	**60**	P	**Pn**	**03 45 02.1**	**+0.8**
	baz=246						
LRAL	**Lakeview Retre**	**9.22**	**107**	P	**Pn**	**03 45 02.1**	**+0.4**
	baz=293						
PV11	**David Mesa, Pa**	**9.30**	**286**	IAmb_Lg		03 48 00.1	
	comp=Z,36nm,1.0s						
O20A	**White River Ci**	**9.32**	**298**	IAmb_Lg		03 48 11.3	
	comp=Z,38nm,1.2s						
I40A	**Norwalk**	**9.33**	**32**	IAmb_Lg		03 47 53.5	
	comp=Z,82nm,0.9s						
RWWY	**Rawlins**	**9.33**	**309**	IAmb_Lg		03 47 55.6	
	comp=Z,48nm,0.8s						
RSSD	**Black Hills**	**9.36**	**330**	IAmb_Lg		03 48 00.7	
	comp=Z,42nm,1.1s						
PV20	**West Nyswonger**	**9.38**	**287**	IAmb_Lg		03 47 52.0	
	comp=Z,40nm,1.3s						
SWET	**Sewanee**	**9.47**	**92**	IAmb_Lg		03 47 48.8	
	comp=Z,38nm,1.0s						
U49A	**Red Boiling Sp**	**9.47**	**85**	IAmb_Lg		03 47 46.1	
	comp=Z,51nm,1.2s						
K22A	**Casper**	**9.49**	**316**	IAmb_Lg		03 48 01.9	
	comp=Z,117nm,1.1s						
L44A	**Lake County Fo**	**9.55**	**48**	P	**Pn**	**03 45 07.4**	**+1.3**
	baz=234						
F33A	**5 Mile Ranch,**	**9.69**	**5**	IAmb_Lg		03 47 48.4	
	comp=Z,32nm,0.9s						
SPMN	**Marine on St.**	**9.71**	**20**	IAmb_Lg		03 48 02.0	
	comp=Z,73nm,0.9s						
SPMN	**Marine on St.**	**9.71**	**20**	P	**Pn**	**03 45 08.9**	**+0.7**
	baz=203						
FPAL	**Fort Paine**	**9.86**	**96**	IAmb_Lg		03 48 06.1	
	comp=Z,59nm,1.0s						
W50A	**Signal Mountai**	**9.98**	**92**	IAmb_Lg		03 48 28.7	
	comp=Z,57nm,0.8s						
TKL	**Tuckaleechee C**	**11.16**	**89**	Pn	**Pn**	**03 45 30.4**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=264,slow=9.2,SNR=4.3						
TKL				Lg	Lg	03 48 34.5	
	comp=Z,1.1nm,0.3s,baz=0.0,slow=20,SNR=3.6						
PDAR	**Pinedale Array**	**11.38**	**309**	Pn	**Pn**	**03 45 31.1**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=124,slow=14,SNR=13						
P52A	**Corning**	**12.63**	**70**	P	**Pn**	**03 45 48.5**	**+0.3**
	baz=259						
DGMT	**Dagmar**	**13.22**	**340**	P	**Pn**	**03 45 55.8**	**-0.6**
	baz=156,SNR=5.9						
ULM	**Lac du Bonnet**	**14.10**	**4**	Pn	**Pn**	**03 46 04.7**	**-3.6**
	comp=Z,0.5nm,0.3s,baz=181,slow=13,SNR=2.2						
ULM				Lg	Lg	03 50 05.5	
	comp=Z,0.6nm,0.3s,baz=97,slow=22,SNR=4.0						
NVAR	**Mina Array Bea**	**16.69**	**284**	Pn	**Pn**	**03 46 43.3**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=90,slow=11,SNR=4.0						

*KRNET **09** 03:46:39.1±0.1, 41.°06N×74.°03E, h17km, mb3.3*

*SOME **09** 03:46:39.0, 41.°08N×74.°07E, h10km*

*KNET **09** 03:46:40.9±0.6, 41.°18N×74.°13E, h4km±2km, ml2.6, Error ellipse: s-maj=3.8km s-min=2.6km az=25.0*

*NNC **09** 03:46:43.7±1.6, 41.°19N×74.°24E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=11.2km s-min=7.4km az=174.0*

ISC 09 03:46:37.8±1.2**, 41.°03N**±0.°03×**74.°04E**±0.°02**, h8**km±11km**, n77, σ1.°81**/131**, 42C-22D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**0.85**	**15**	*i* P	**Pb**	**03 46 54.8**	**-0.3**
	baz=16						
ARLS				*i* S	**Sb**	**03 47 06.1**	**-0.7**
	baz=16						
OHH	**Osh**	**1.08**	**242**	⇑*i*P	**Pn**	**03 46 59.6**	**+0.2**
	baz=41						
OHH				⇑*i*S	**Sn**	**03 47 14.2**	**-0.4**
	baz=41						
SFK	**Sufi-Kurgan**	**1.10**	**202**	⇑*i*P	**Pn**	**03 47 00.1**	**+0.3**
	baz=1.0						
SFK				⇑*i*S	**Sn**	**03 47 15.2**	**-0.1**
	baz=1.0						
AML	**Almayashu**	**1.13**	**347**	⇑*i*P	**Pn**	**03 47 00.2**	**-0.1**
	baz=47						
AML				⇑*i*S	**Sn**	**03 47 15.3**	**-0.9**
	baz=47						
AML	**Almayashu**	**1.13**	**347**	⇓P	**Pn**	**03 47 00.2**	**-0.1**
	97nm,0.2s,SNR=373						
AML				⇓S	**Sg**	**03 47 14.7**	**+0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	55nm,0.2s						
UCH	Uchtor	1.25	17	⇓iP	Pb	03 47 02.2	+0.3
	baz=17						
UCH				⇓iS	Sg	03 47 19.0	+1.0
	baz=17						
UCH	Uchtor	1.25	17	⇓P	Pb	03 47 02.4	+0.5
	27nm,0.2s,SNR=55						
UCH				⇑S	Sg	03 47 18.8	+0.8
	59nm,0.2s						
KZA	Kyzart	1.39	41	⇓iP	Pb	03 47 04.7	+0.4
	baz=42						
KZA				⇓iS	Sg	03 47 23.3	+0.9
	baz=42						
KZA	Kyzart	1.39	41	⇓P	Pb	03 47 04.4	+0.2
	23nm,0.2s,SNR=125						
KZA				⇑S	Sg	03 47 23.0	+0.5
	63nm,0.3s						
EKS2	Erkin-Say	1.64	353	⇓iP	Pb	03 47 08.8	+0.4
	baz=53						
EKS2				⇓iS	Sg	03 47 30.6	+0.1
	baz=53						
EKS2	Erkin-Say	1.64	353	P	Pg	03 47 09.4	+0.2
	11nm,0.1s,SNR=50						
EKS2				⇓S	Sg	03 47 31.1	+0.6
	16nm,0.2s						
AAK	Ala-Archa	1.64	12	⇑iP	Pb	03 47 09.0	+0.6
	baz=12						
AAK				⇑iS	Sg	03 47 30.9	+0.4
	baz=12						
AAK	Ala-Archa	1.64	12	⇓P	Pb	03 47 09.4	+1.0
	12nm,0.1s,SNR=21						
AAK				⇓S	Sg	03 47 31.1	+0.6
	36nm,0.2s						
AAK	Ala-Archa	1.64	12	⇓P	Pb	03 47 09.5	+1.0
	8.6nm,0.3s						
AAK				⇑S	Sg	03 47 30.6	+0.1
	13nm,0.3s						
KBK	Karagaybulak	1.76	22	⇑iP	Pb	03 47 11.1	+0.6
	baz=23						
KBK				⇑iS	Sg	03 47 34.6	+0.2
	baz=23						
KBK	Karagaybulak	1.76	22	⇑P	Pg	03 47 11.9	+0.3
	23nm,0.1s,SNR=11						
KBK				⇓S	Sg	03 47 35.4	+1.0
	149nm,0.2s						
MRKS	Merke	1.81	341	eP	Pb	03 47 12.4	+1.0
	4.5nm,0.2s						
MRKS				eS	Sg	03 47 36.7	+0.5
	93nm,0.3s						
MRKS	Merke	1.81	341	P	Pb	03 47 12.4	+1.0
	29nm,0.2s						
MRKS				S	Sg	03 47 36.7	+0.5
	93nm,0.3s						
FRU1	Bishkek	1.83	14	⇑iP	Pb	03 47 12.4	+0.8
	baz=14						
FRU1				⇑iS	Sg	03 47 37.4	+0.8
	baz=14						
MNAS	Manas	1.85	322	⇑iP	Pb	03 47 13.0	+1.0
	baz=22						
MNAS				⇑iS	Sg	03 47 37.3	0.0
	baz=22						
CHMS	Chumysh	2.04	15	⇑eP	Pb	03 47 15.6	+0.5
	baz=15						
CHMS				⇑iS	Sg	03 47 42.1	-1.1
	baz=15						
CHMS	Chumysh	2.04	15	⇑P	Pg	03 47 16.8	0.0
	19nm,0.3s,SNR=11						
CHMS				⇓S	Sg	03 47 43.0	-0.3
	45nm,0.3s						
BOOM	Boomskoye usch	2.04	44	⇑iP	Pb	03 47 15.7	+0.5
	baz=44						
BOOM				⇑iS	Sb	03 47 42.3	+1.5
	baz=44						
ULHL	Ulahol	2.05	53	⇑iP	Pb	03 47 15.9	+0.4
	baz=54						
ULHL				⇑iS	Sb	03 47 42.8	+1.6
	baz=54						
ULHL	Ulahol	2.05	53	⇑P	Pb	03 47 15.9	+0.4
	22nm,0.2s,SNR=22						
ULHL				⇑S	Sg	03 47 43.4	-0.3
	50nm,0.2s						
TKM2	Tokmak 2	2.22	31	⇓iP	Pb	03 47 18.2	-0.1
	baz=32						
TKM2				⇓iS	Sb	03 47 46.8	+0.8
	baz=32						
TKM2	Tokmak 2	2.22	31	⇑P	Pb	03 47 19.6	+1.3
	20nm,0.3s,SNR=27						
TKM2	Tokmak 2	2.22	31	⇑Pn	Pb	03 47 19.5	+1.2
	12nm,0.5s						
TKM2				⇓Sn	Sg	03 47 48.4	-0.6
	35nm,0.6s						
TRKS	Terek-Say	2.24	284	⇑iP	Pb	03 47 18.1	-0.5
	baz=82						
TRKS				⇑iS	Sb	03 47 46.5	-0.1
	baz=82						
USP	Ospenovka	2.26	9	⇑iP	Pb	03 47 18.7	-0.2
	baz=9.0						
USP				⇑iS	Sb	03 47 47.5	+0.4
	baz=9.0						
USP	Ospenovka	2.26	9	⇓P	Pg	03 47 20.7	-0.4
	20nm,0.2s,SNR=19						
USP				⇑S	Sg	03 47 50.0	-0.4
	102nm,0.8s						
DRK	Karamyk	2.31	229	⇑iP	Pb	03 47 19.9	0.0
	baz=28						
DRK				⇑iS	Sb	03 47 49.7	+0.9
	baz=28						
SGDS	Sogindy	2.46	10	Pg	Pb	03 47 23.7	+1.4
	6.4nm,0.2s						
SGDS				Lg	Lg	03 47 55.8	
	28nm,0.2s						
KST	Kastek	2.47	35	eP	Pb	03 47 24.3	+1.8
	3.3nm,0.3s						
KST				eS	Sg	03 47 57.1	-0.1
	27nm,0.5s						
KST	Kastek	2.47	35	Pg	Pb	03 47 24.3	+1.8
	3.3nm,0.3s						
KST				Lg	Lg	03 47 57.1	
	30nm,0.5s						
DGS	Degeres	2.56	30	eP	Pg	03 47 26.1	-0.7
	19nm,0.4s						
DGS				eS	Sg	03 47 59.9	0.0
	126nm,0.9s						
DGS	Degeres	2.56	30	Pg	Pg	03 47 26.1	-0.7
	19nm,0.4s						
DGS				Lg	Lg	03 47 59.9	
	126nm,0.9s						
KDJ	Kajisay	2.60	64	⇑eP	Pb	03 47 24.1	-0.7
	baz=65						
KDJ				⇑iS	Sb	03 47 56.7	-0.3
	baz=65						
MTBS	Maitube	2.75	40	eP	Pb	03 47 29.0	+1.7
	11nm,0.3s						
MTBS				eS	Sg	03 48 05.3	-0.9
	62nm,0.4s						
MTBS	Maitube	2.75	40	Pg	Pb	03 47 29.0	+1.7
	11nm,0.3s						
MTBS				Lg	Lg	03 48 05.3	
	62nm,0.4s						
IZV	Izvestkoviy	2.77	43	eP	Pb	03 47 29.5	+1.7
	18nm,0.2s						
IZV				eS	Sg	03 48 05.9	-1.0
	85nm,0.4s						
IZV	Izvestkoviy	2.77	43	Pg	Pb	03 47 29.5	+1.7
	18nm,0.2s						
IZV				Lg	Lg	03 48 05.9	
	85nm,0.4s						
KRBS	Karabastau	2.92	24	eP	Pb	03 47 31.9	+1.7
	0.9nm,0.4s						
KRBS				eS	Sg	03 48 09.7	-2.0
	33nm,0.3s						
KRBS	Karabastau	2.92	24	Pg	Pb	03 47 32.0	+1.7
KRBS				Lg	Lg	03 48 09.7	
	32nm,0.2s						
TNSS	Tian-Shan	2.95	46	Pg	Pb	03 47 32.4	+1.4
	22nm,0.3s						
TNSS				Lg	Lg	03 48 11.3	
	26nm,0.5s						
MDOK	Medeo	3.09	45	eP	Pb	03 47 35.2	+2.1
	5.7nm,0.5s						
MDOK				eS	Sg	03 48 15.9	-1.2
	44nm,0.5s						
MDOK	Medeo	3.09	45	Pn	Pb	03 47 34.7	+1.5
	7.2nm,0.3s						
MDOK				Lg	Lg	03 48 15.5	
	44nm,0.6s						
MDOK	Medeo	3.09	45	Pg	Pb	03 47 35.2	+2.1
	19nm,0.3s						
MDOK				Lg	Lg	03 48 15.9	
	44nm,0.5s						
KOTS	Kotyrbulak	3.17	45	eP	Pb	03 47 37.1	+2.5
	12nm,0.6s						
KOTS				eS	Sg	03 48 19.2	-0.6
	65nm,0.4s						
KOTS	Kotyrbulak	3.17	45	Pg	Pb	03 47 37.1	+2.5
KOTS				Lg	Lg	03 48 19.2	
	65nm,0.4s						
IUG	Iuzhnay	3.20	292	eP	Pg	03 47 38.4	-0.8
	233nm,0.2s						
IUG				eS	Sg	03 48 21.2	+0.5
	142nm,0.5s						
IUG	Iuzhnay	3.20	292	Pg	Pg	03 47 38.4	-0.8
	233nm,0.2s						
IUG				Lg	Lg	03 48 21.2	
	142nm,0.5s						
ANVS	Anan'yevo	3.23	56	⇑eP	Pb	03 47 32.5	-3.0
	baz=56						
ANVS				⇑iS	Sb	03 48 11.1	-3.9
	baz=56						
KTBS	Karatobe	3.32	35	eP	Pb	03 47 38.8	+1.8
	4.0nm,0.4s						
KTBS				eS	Sg	03 48 21.9	-2.5
	119nm,0.5s						
KTBS	Karatobe	3.32	35	Pg	Pb	03 47 38.8	+1.8
	4.0nm,0.4s						
KTBS				Lg	Lg	03 48 21.9	
	119nm,0.5s						
KUU	Kurty	3.33	30	eP	Pb	03 47 38.9	+1.8
	2.7nm,0.1s						
KUU				eS	Sg	03 48 22.1	-2.5
	49nm,0.6s						
KUU	Kurty	3.33	30	Pg	Pb	03 47 38.9	+1.8
	2.7nm,0.1s						
KUU				Lg	Lg	03 48 22.1	
	49nm,0.6s						
KK31	Karatay Array	3.34	309	⇓P	Pg	03 47 40.7	-1.2
	1.2nm,0.4s,baz=124,slow=17,SNR=7.5						
KK31				⇑S	Sg	03 48 24.5	-0.6
	5.2nm,0.3s,baz=123,slow=28,SNR=16						
BRLS	Borolday	3.71	304	eP	Pb	03 47 46.6	+2.9
BRLS				eS	Sg	03 48 34.9	-2.1
	22nm,0.6s						
SATY	Saty	3.83	57	eP	Pb	03 47 48.3	+2.5
	1.3nm,0.3s						
SATY				eS	Sg	03 48 38.4	-2.5
	18nm,0.2s						
SATY	Saty	3.83	57	Pg	Pb	03 47 48.5	+2.7
	7.0nm,0.4s						
SATY				Lg	Lg	03 48 38.4	
	21nm,0.4s						
KURS	Kuram	3.93	50	eP	Pg	03 47 51.4	-1.6
	1.5nm,0.3s						
KURS				eS	Sg	03 48 43.7	-0.3
	10.0nm,0.9s						
KURS	Kuram	3.93	50	Pg	Pg	03 47 51.7	-1.4
	4.6nm,0.4s						
KURS				Lg	Lg	03 48 43.7	
	6.7nm,0.9s						
BTLS	Baital	4.00	0	eP	Pb	03 47 51.2	+2.6
	0.7nm,0.1s						
BTLS				eS	Sg	03 48 43.1	-3.4
	7.2nm,0.5s						
BTLS	Baital	4.00	0	Pg	Pb	03 47 51.3	+2.6
	0.7nm,0.1s						
BTLS				Lg	Lg	03 48 43.1	
	7.2nm,0.5s						
KPKS	Kokpek	4.22	53	eP	Pb	03 47 55.8	+3.4
	6.1nm,0.5s						
KPKS				eS	Sg	03 48 51.3	-2.0
	21nm,0.7s						
ARXS	Arharly	4.23	40	eP	Pb	03 47 54.9	+2.3
	5.4nm,0.3s						
ARXS				eS	Sg	03 48 49.8	-3.9
	35nm,0.5s						
ARXS	Arharly	4.23	40	Pg	Pb	03 47 54.9	+2.3
	5.4nm,0.3s						
ARXS				Lg	Lg	03 48 49.8	
	35nm,0.5s						
UZB	Uzynbulak	4.27	59	eP	Pb	03 47 55.9	+2.6
	2.2nm,0.3s						
UZB				eS	Sg	03 48 51.1	-3.8
	15nm,0.4s						
SHLS	Shalkode	4.56	60	eP	Pg	03 48 07.4	+2.2
	4.8nm,0.2s						
SHLS				eS	Sg	03 49 11.1	+6.9
	27nm,0.3s						
SHLS	Shalkode	4.56	60	Pg	Pg	03 48 07.4	+2.2
	4.8nm,0.2s						
SHLS				Lg	Lg	03 49 11.1	
	27nm,0.3s						
PDGK	Podgornoye	4.66	59	Pg	Pb	03 48 03.1	+3.2
PDGK				Lg	Lg	03 49 03.3	
	4.0nm,0.5s						
PDGK	Podgornoye	4.66	59	⇓Pg	Pg	03 48 05.1	-1.9
	4.3nm,0.5s						
PDGK				⇑Lg	Lg	03 49 02.8	
	7.9nm,0.7s						
DJR	Jarkent	5.37	50	eP	Pb	03 48 16.6	+4.6
	0.1nm,0.1s						
DJR				eS	Sg	03 49 26.9	-3.4
	0.6nm,0.3s						
DJR	Jarkent	5.37	50	Pg	Pb	03 48 16.6	+4.6
	0.1nm,0.1s						
DJR				Lg	Lg	03 49 26.9	
	0.6nm,0.3s						
KAPS	Kapalarasan	5.76	41	eP	Pg	03 48 24.8	-3.3
	0.1nm,0.2s						
KAPS				eS	Sg	03 49 41.0	-1.7
	0.5nm,0.4s						
KAPS	Kapalarasan	5.76	41	Pg	Pg	03 48 24.8	-3.3
	0.1nm,0.2s						
KAPS				Lg	Lg	03 49 41.0	
	0.5nm,0.4s						

IDC 09 03:50:20.2±3.3, 32°.99S×178°.44W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/23, mbtmp3.7/3, ML3.4/1, Error ellipse: s-maj=75.6km s-min=47.1km az=120.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.38	213	Pn	Pn	03 51 53.8	-1.6
	0.8nm,0.3s,baz=247,slow=4.6,SNR=9.7						
URZ				Sn	Sn	03 53 05.1	-4.0
	1.2nm,0.3s,baz=89,slow=9.8,SNR=3.7						
ASAR	Alice Springs	42.67	270	P	P	03 58 18.9	+0.1
	0.7nm,0.5s,baz=110,slow=7.5,SNR=8.9						
WRA	Warramunga Arr	43.89	275	P	P	03 58 28.7	0.0
	0.4nm,0.4s,baz=111,slow=7.9,SNR=6.8						
FINES	FINESS Array B	147.43	338	PKPbc	PKPbc	04 10 04.5	-0.7
	0.7nm,0.5s,baz=67,slow=5.0,SNR=3.8						

SOME 09 03:54:17.1, 37°.82N×71°.72E, h0km
NNC 09 03:54:23.4±6.1, 36°.81N×70°.73E, h142km±96km, mb3.0, mpv3.8, Error ellipse: s-maj=49.7km s-min=34.8km az=21.0
ISC 09 03:54:23.4±2.8, 36°.8N±0°.2×70°.8E±0°.1, h150km, n8, σ1s.26/16, 4C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IUG	Iuzhnay	5.34	354	eP	Pn	03 55 42.3	+0.8
	113nm,0.5s						
IUG				eS	Sn	03 56 43.0	+0.6
	42nm,0.7s						
DZA	Taraz	6.07	4	eP	Pn	03 55 51.1	+0.2
	34nm,0.1s						
DZA				eS	Sn	03 56 58.3	-1.2
	116nm,0.3s						
MRKS	Merke	6.19	17	eP	Pn	03 55 52.9	+0.2
	6.4nm,0.5s						
MRKS				eS	Sn	03 57 01.4	-1.2
	12nm,0.5s						
KK31	Karatay Array	6.27	358	⇑P	Pn	03 55 55.1	+1.5
	3.2nm,0.3s,baz=177,slow=12,SNR=102						
KK31				⇓S	Sn	03 57 06.6	+2.3
	4.5nm,0.5s,baz=183,slow=25,SNR=13						
AAK	Ala-Archa	6.45	25	P	Pn	03 55 56.7	+0.5
	1.9nm,0.5s						
AAK				S	Sn	03 57 09.2	+0.3
	6.1nm,0.7s						
TKM2	Tokmak 2	7.10	30	⇑P	Pn	03 56 04.6	-0.4
	3.5nm,0.5s						
TKM2				⇓S	Sn	03 57 26.0	+1.4
	5.3nm,1.1s						
AB31	Akbulak array	14.72	331	⇑P	P	03 57 46.4	0.0
	0.4nm,0.3s,baz=146,slow=12,SNR=15						
AB31				S	Sn	04 00 25.0	-2.5
	0.8nm,0.6s,baz=158,slow=23,SNR=3.0						
AKTO	Aktyubinsk	16.42	330	⇑P	Pn	03 58 04.5	-0.6
	1.3nm,1.0s						
AKTO				S	Sn	04 01 08.9	+0.7
	1.1nm,0.8s						

IDC 09 04:02:27.8±1.2, 33°.36S×178°.61W, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.8/31, mbtmp4.2/4, ML4.2/1, MS4.7/1, Ms1 4.7/1, ms1mx3.0/41, Error ellipse: s-maj=37.0km s-min=30.6km az=69.0
NEIC 09 04:02:30.5±1.3, 33°.6S±0°.1×178°.7W±0°.2, h10km±2km, mb4.3/6, Error ellipse: s-maj=25.2km s-min=20.5km az=94.0
WEL 09 04:02:31.0±0.9, 34°S±6°×17°8W±1°4, h33km, M4.2/12, mB4.7/9, ML4.6/18, MLv4.5/12, Mw(mB)4.0/9, Error ellipse: s-maj=0.0km s-min=0.0km az=110.5
ISC 09 04:02:29.7±1.0, 33°.39S±0°.08×178°.8W±0°.1, h10km, n49, σ1s.65/61, mb4.2/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	4.19	11	S	Sn	04 04 17.4	-5.2
MXZ	Matakaoa Point	4.78	209	Pn	Pn	04 03 41.4	-0.4
MXZ	Matakaoa Point	4.78	209	P	Pn	04 03 42.9	+1.1
MXZ				S	Sn	04 04 38.8	+1.4
WMGZ	Waiomatatini S	4.96	206	P	Pn	04 03 47.6	+3.2
PKGZ	Pakihiroa	5.16	209	S	Sn	04 04 48.9	+2.3
HAZ	Te Kaha	5.17	212	P	Pn	04 03 48.0	+0.9
PUZ	Puketiti	5.25	206	P	Pn	04 03 48.3	+0.1
PUZ				S	Sn	04 04 49.4	+0.6
RUGZ	Raukumara Rang	5.39	211	P	Pn	04 03 50.7	+0.5
RUGZ				S	Sn	04 04 55.3	+2.9
TWGZ	Tauwhareparae	5.44	208	P	Pn	04 03 52.6	+1.6
TWGZ				S	Sn	04 04 56.1	+2.4
CNGZ	Carnagh Statio	5.63	205	P	Pn	04 03 55.9	+2.4
CNGZ				S	Sn	04 05 01.2	+3.0
MWZ	Matawai	5.76	210	P	Pn	04 03 55.7	+0.4
MWZ				S	Sn	04 05 03.3	+1.8
OPRZ	Ohinepanea	5.83	219	P	Pn	04 03 59.6	+3.3
URZ	Urewera	5.88	213	Pn	Pn	04 03 57.2	+0.3
	5.9nm,0.3s,baz=267,slow=2.7,SNR=32						
URZ				Sn	Sn	04 05 03.6	-0.8
	3.5nm,0.3s,baz=194,slow=20,SNR=10						
URZ	Urewera	5.88	213	Pn	Pn	04 03 56.1	-0.9
URZ	Urewera	5.88	213	P	Pn	04 03 57.5	+0.6
URZ				S	Sn	04 05 06.7	+2.3
RIGZ	Rimuhau	5.99	207	P	Pn	04 04 01.1	+2.7
PRGZ	Paritu Road	6.13	205	P	Pn	04 03 59.7	-0.8
PRGZ				S	Sn	04 05 11.4	+0.7
WCZ	Waipu Caves	6.19	244	P	Pb	04 04 14.5	-3.2
MUGZ	Murupara	6.22	214	P	Pn	04 04 01.9	+0.3
MUGZ				S	Sn	04 05 11.8	-0.9
SNGZ	Shannon Statio	6.22	209	P	Pn	04 04 02.4	+0.8
SNGZ				S	Sn	04 05 13.9	+1.2
TOZ	Tahuroa Road	6.35	225	P	Pn	04 04 09.5	+6.2
RAHZ	Arahi	6.44	210	P	Pn	04 04 07.4	+2.8
RAHZ				S	Sn	04 05 19.0	+0.9
MTHZ	Maungataniwha	6.49	212	P	Pn	04 04 06.8	+1.4
MTHZ				S	Sn	04 05 20.7	+1.2
OUZ	Omahuta	6.55	252	Pn	Pn	04 04 08.2	+2.0
OUZ	Omahuta	6.55	252	P	Pn	04 04 12.0	+5.9
BKZ	Black Stump Fm	6.90	212		Pn	04 04 10.2	-0.8
BKZ	Black Stump Fm	6.90	212	P	Pn	04 04 13.2	+2.2
BKZ				S	Sn	04 05 27.3	-2.3
KWHZ	Kaweka Forest	7.14	211	P	Pn	04 04 15.3	+0.9
KWHZ				S	Sn	04 05 35.3	-0.3
TMVZ	Te Maari	7.23	216	P	Pn	04 04 17.1	+1.5
ETVZ	East Tongariro	7.24	216	P	Pn	04 04 18.9	+3.1
WNVZ	Wahianoa	7.45	216	P	Pn	04 04 20.8	+2.2
BFZ	Birch Farm	8.28	207	Pn	Pn	04 04 28.4	-1.5
KHZ	Kahutara	10.85	212	Pn	Pn	04 05 05.4	+0.4
RPZ	Rata Peaks	13.00	215	Pn	Pn	04 05 32.3	-2.1
ASAR	Alice Springs	42.36	271	P	P	04 10 25.3	+0.9
	1.6nm,0.6s,baz=110,slow=7.1,SNR=21						
ASAR				PcP	PcP	04 12 16.9	-0.9
	0.5nm,0.7s,baz=133,slow=4.0,SNR=1.9						
ASAR	Alice Springs	42.36	271	P	P	04 10 24.9	+0.6
WR0	Warramunga Arr	43.45	276	P	P	04 10 34.1	+1.0
WR0				IAmb	IAmb	04 10 52.9	
	comp=Z,4.4nm,1.1s						
WB2	Warramunga Arr	43.61	276	P	P	04 10 35.0	+0.6
WB2				IAmb	IAmb	04 10 36.9	
	comp=Z,3.2nm,0.7s						
WRA	Warramunga Arr	43.62	276	P	P	04 10 35.6	+1.1
	comp=Z,2.4nm,0.6s,baz=118,slow=7.4,SNR=29						
WRA	Warramunga Arr	43.62	276	P	P	04 10 34.5	-0.1
FITZ	Fitzroy Crossi	51.74	273	P	P	04 11 38.5	+0.9
FITZ				IAmb	IAmb	04 11 43.8	
	comp=Z,5.1nm,1.1s						
CASY	Casey	52.19	209	P	P	04 11 40.1	-0.1
QSPA	South Pole Qui	56.73	180	P	P	04 12 13.9	+0.5
	comp=Z,2.3nm,1.0s,baz=298,slow=3.4,SNR=5.2						
QSPA	South Pole Qui	56.73	180	P	P	04 12 12.3	-1.2
QSPA				IAmb	IAmb	04 12 15.9	
	comp=Z,5.0nm,1.2s						
SIJI	Sorong	56.86	294	LR	LR	04 34 41.9	
	comp=Z,747nm,21.8s,baz=128,slow=34						
FINES	FINESS Array B	147.68	338	PKPbc	PKPdf	04 22 12.6	+1.6
	comp=Z,5.0nm,1.0s,baz=81,slow=4.4,SNR=6.3						
NOA	NORSAR Array B	151.58	350	PKPbc	PKPbc	04 22 24.1	+0.5
	comp=Z,0.5nm,0.7s,baz=16,slow=4.2,SNR=3.5						
AKASG	Malin Array Be	153.18	319	PKPab	PKPab	04 22 38.1	-1.0
	comp=Z,0.9nm,0.4s,baz=49,slow=2.9,SNR=6.4						
TORD	Torodi Ar. Bea	159.84	181	PKPab	PKPab	04 23 07.3	-1.1
	comp=Z,0.5nm,0.6s,baz=173,slow=3.4,SNR=4.5						

NOU 09 04:11:21.8, 35°.79S×176°.04W, h0km, mb4.8/4, East of North Island, N.Z.
IDC 09 04:11:51.3±0.7, 32°.92S×178°.43W, h0km, mb4.4/7, mb1 4.6/9, mb1mx4.3/32, mbtmp4.5/9, ML4.5/2, MS3.9/3, Ms1 3.9/3, ms1mx3.3/39, Error ellipse: s-maj=28.0km s-min=19.5km az=119.0
WEL 09 04:11:53.9±0.8, 33°S±8°×17°8W±2°0, h33km, M4.7/16, mB5.1/10, ML5.2/16, MLv5.0/16, Mw(mB)4.5/10, Error ellipse: s-maj=0.0km s-min=0.0km az=109.8
NEIC 09 04:11:56.1±1.7, 33°.38S±0°.07×178°.7W±0°.1, h10km±1km, mb4.7/24, Error ellipse: s-maj=18.8km s-min=11.2km az=286.0
ISC 09 04:11:55.6±0.5, 33°.00S±0°.05×178°.27W±0°.09, h32km, n125, σ2s.21/136, mb4.7/19, MS3.6/7, 1C-1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.74	5	P	Pn	04 12 47.5	-3.6
GLKZ				S	Sn	04 13 29.5	-4.5
RAO	Raoul Island	3.75	5	Pn	Pn	04 12 51.2	-0.1
	50nm,0.3s,baz=105,slow=20,SNR=1.7						
RAO				Sn	Sn	04 13 30.3	-4.0
	276nm,0.3s,baz=59,slow=23,SNR=5.8						
RAO	Raoul Island	3.75	5	Pn	Pb	04 12 59.6	-1.6
RIZ	Raoul Island	3.76	5	S	Sn	04 13 30.0	-4.4
MXZ	Matakaoa Point	5.34	211	Pn	Pn	04 13 09.0	-4.1
MXZ	Matakaoa Point	5.34	211	P	Pn	04 13 07.9	-5.2
MXZ				S	Sn	04 14 12.0	-1.5
WMGZ	Waiomatatini S	5.51	208	P	Pn	04 13 12.8	-2.7
WMGZ				S	Sn	04 14 15.9	-1.9
PKGZ	Pakihiroa	5.71	210	S	Sn	04 14 21.8	-0.9
HAZ	Te Kaha	5.73	213	P	Pn	04 13 18.2	-0.2
PUZ	Puketiti	5.79	208	P	Pn	04 13 16.8	-2.5
PUZ				S	Sn	04 14 22.6	-2.1
RUGZ	Raukumara Rang	5.95	213	P	Pn	04 13 19.9	-1.7
RUGZ				S	Sn	04 14 29.7	+0.9
TWGZ	Tauwhareparae	6.00	210	P	Pn	04 13 21.9	-0.3
TWGZ				S	Sn	04 14 29.0	-0.8
CNGZ	Carnagh Statio	6.17	207	P	Pn	04 13 22.8	-1.7
CNGZ				S	Sn	04 14 33.2	-0.8
WHRZ	Whale Island	6.21	217	P	Pn	04 13 28.2	+3.3
WHRZ				S	Sn	04 14 37.4	+2.6
TKGZ	Te Karaka	6.28	209	P	Pn	04 13 26.0	+0.1
TKGZ				S	Sn	04 14 36.7	+0.2
MWZ	Matawai	6.32	212	P	Pn	04 13 24.3	-2.3
MWZ				S	Sn	04 14 33.9	-3.9
URZ	Urewera	6.45	214	Pn	Pn	04 13 26.7	-1.6

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	8.4nm,0.3s,baz=53,slow=7.6,SNR=17						
URZ				Sn	Sn	04 14 36.8	-4.0
	11nm,0.3s,baz=180,slow=21,SNR=9.1						
URZ	Urewera	6.45	214	Pn	Pn	04 13 24.5	-3.8
URZ	Urewera	6.45	214	P	Pn	04 13 28.1	-0.2
URZ				S	Sn	04 14 38.8	-2.0
RAGZ	Rawiri	6.51	211	P	Pn	04 13 28.9	-0.3
RAGZ				S	Sn	04 14 40.2	-2.1
RIGZ	Rimuhau	6.54	208	P	Pn	04 13 28.9	-0.7
RIGZ				S	Sn	04 14 41.7	-1.4
PRGZ	Paritu Road	6.68	207	P	Pn	04 13 30.4	-1.1
PRGZ				S	Sn	04 14 43.1	-3.4
MUGZ	Murupara	6.79	215	P	Pn	04 13 31.6	-1.4
MUGZ				S	Sn	04 14 45.2	-4.0
RTZ	Ruatahuna	6.80	213	P	Pn	04 13 33.2	0.0
RTZ				S	Sn	04 14 50.1	+0.6
RAHZ	Arahi	7.00	211	P	Pn	04 13 35.6	-0.3
RAHZ				S	Sn	04 14 51.5	-2.8
MTHZ	Maungataniwha	7.05	213	P	Pn	04 13 36.0	-0.7
NMHZ	Naumai	7.27	212	P	Pn	04 13 39.5	-0.2
NMHZ				S	Sn	04 14 57.9	-3.2
BKZ	Black Stump Fm	7.47	213		Pn	04 13 38.1	-4.3
KWHZ	Kaweka Forest	7.71	212	P	Pn	04 13 43.8	-1.8
KWHZ				S	Sn	04 15 07.2	-4.7
TMVZ	Te Maari	7.81	217	P	Pn	04 13 46.0	-1.1
ETVZ	East Tongariro	7.82	217	P	Pn	04 13 45.7	-1.5
HIZ	Hauiti	7.84	224	Pn	Pn	04 13 42.9	-4.4
NGZ	Ngauruhoe	7.91	217	P	Pn	04 13 50.5	+2.1
BHHZ	Black Hill Sta	7.93	214	P	Pn	04 13 47.3	-1.3
MOVZ	Moawhango	8.01	215	P	Pn	04 13 48.0	-1.8
WNVZ	Wahianoa	8.02	216	P	Pn	04 13 49.4	-0.6
PNHZ	Pukenui	8.21	211	P	Pn	04 13 49.9	-2.6
BFZ	Birch Farm	8.83	208	Pn	Pn	04 13 56.7	-4.3
MRZ	Mangatainoka R	9.09	211	P	Pn	04 14 01.8	-2.8
CMWZ	Cape Campbell	10.58	212	Pn	Pn	04 14 20.6	-4.3
QRZ	Quartz Range	10.73	221	Pn	Pn	04 14 24.1	-2.9
THZ	Tophouse	11.21	216	Pn	Pn	04 14 30.2	-3.3
LTZ	Lake Taylor	12.28	215	Pn	Pn	04 14 44.1	-4.2
RPZ	Rata Peaks	13.57	215	Pn	Pn	04 15 01.0	-4.8
FOZ	Fox Glacier	14.06	218	Pn	Pn	04 15 08.1	-4.3
LBZ	Lake Benmore	14.49	215	Pn	Pn	04 15 14.6	-3.8
WKZ	Wanaka	15.38	216	Pn	Pn	04 15 26.7	-3.5
MLZ	Mavora Lakes	16.21	216		Pn	04 15 39.9	-1.1
PINNC	Pines Island,	16.32	306		P	04 15 47.4	+2.4
PINNC				IAmb	IAmb	04 15 50.2	
	comp=Z,66nm,1.0s						
WHZ	Wether Hill Ro	16.67	215		Pn	04 15 44.6	-2.1
WHZ				IAmb	IAmb	04 16 09.6	
	comp=Z,52nm,1.3s						
OUENC	Ouen Island, N	16.86	305	P	P	04 15 51.8	+0.7
OUENC				IAmb	IAmb	04 15 56.7	
	comp=Z,36nm,0.8s						
OUENC	Ouen Island, N	16.86	305	P	P	04 15 56.3	+5.3
YATNC	Mamie plateau,	17.07	306	P	P	04 15 58.2	+4.8
APZ	The Paps	17.34	213	P	P	04 15 57.0	+0.8
DZM	Mont Dzumac	17.36	305	*e*Pn	P	04 15 59.0	+2.3
	comp=Z,74nm,1.1s						
DZM				*e*LR	LR	04 20 00.9	
	comp=Z,472nm,24.4s						
DZM	Mont Dzumac	17.36	305	P	P	04 15 59.7	+3.0
	comp=Z,0.5nm,0.3s,baz=117,slow=17,SNR=11						
DZM				LR	LR	04 21 43.3	
	comp=Z,601nm,18.3s,baz=166,slow=34						
DZM	Mont Dzumac	17.36	305		P	04 15 56.9	+0.1
DZM	Mont Dzumac	17.36	305	P	P	04 16 00.6	+3.9
KOUNC	Koumac, New Ca	19.87	304	P	Pn	04 16 28.0	+2.1
RAR	Rarotonga	20.19	59	LR	LR	04 23 35.2	
	comp=Z,266nm,20.0s,baz=203,slow=35						
TBI	Tubuai	27.08	77	*e*LR	LR	04 24 02.6	
	comp=Z,186nm,22.8s						
EIDS	Eidsvold	27.75	278	P	P	04 17 43.0	+1.6
PAE	Paea	29.97	66	*e*T	T	04 49 05.9	
	comp=Z,1.2nm,0.3s						
PPT2	Papeete2	30.01	66	*e*LR	LR	04 25 22.9	
	comp=Z,169nm,22.8s						
PPT	Papeete	30.03	66	LR	LR	04 30 42.3	
	comp=Z,136nm,18.4s,baz=201,slow=38						
VAH	Vaihoa	32.92	65	*e*T	T	04 52 45.0	
	comp=Z,3.1nm,0.3s						
STKA	Stephens Creek	33.75	261	P	P	04 18 33.5	-0.8
	comp=Z,1.6nm,0.6s,baz=68,slow=4.9,SNR=4.8						
CTAO	Charters Tower	34.08	283	P	P	04 18 38.5	+1.3
BBOO	Buckleboo	38.11	257	P	P	04 19 10.0	-1.6
BBOO				IAmb	IAmb	04 19 32.9	
	comp=Z,18nm,1.5s						
COEN	Coen	39.83	289	P	P	04 19 27.3	+1.1
COEN				IAmb	IAmb	04 19 41.4	
	comp=Z,9.9nm,0.8s						
XMAS	Kiritimati	40.03	34	P	P	04 19 35.4	+7.7
XMAS				IAmb	IAmb	04 19 55.7	
	comp=Z,35nm,1.1s						
TAOE	Nuku Hiva Isla	42.59	64	*e*LR	LR	04 31 17.0	
	comp=Z,86nm,22.4s						
AS31	Alice Springs	42.80	270	P	P	04 19 50.5	-0.1
ASAR	Alice Springs	42.80	270	P	P	04 19 50.6	0.0
	comp=Z,12nm,0.8s,baz=112,slow=7.5,SNR=93						
ASAR				PcP	PcP	04 21 41.1	-0.4
	comp=Z,1.5nm,0.9s,baz=112,slow=4.7,SNR=1.8						
ASAR				S	S	04 26 10.6	-2.3
	comp=Z,1.0nm,0.7s,baz=116,slow=17,SNR=7.2						
ASAR	Alice Springs	42.80	270	P	P	04 19 50.4	-0.2
WR0	Warramunga Arr	43.85	275	P	P	04 19 58.6	-0.4
WR0				IAmb	IAmb	04 20 00.4	
	comp=Z,10.0nm,0.7s						
WB2	Warramunga Arr	44.02	275	P	P	04 20 00.1	-0.3
WRAB	Tennant Creek	44.02	275	P	P	04 20 00.3	-0.2
WRAB				IAmb	IAmb	04 20 15.8	
	comp=Z,19nm,1.0s						
WRA	Warramunga Arr	44.03	275	P	P	04 20 00.6	+0.1
	comp=Z,12nm,0.6s,baz=117,slow=7.8,SNR=137						
WRA	Warramunga Arr	44.03	275	P	P	04 20 00.1	-0.4
FORT	Forrest	45.21	258	P	P	04 20 09.3	-0.5
KNRA	Kununurra	50.72	277	P	P	04 20 52.6	+0.1
KNRA				IAmb	IAmb	04 21 08.2	
	comp=Z,16nm,0.8s						
FITZ	Fitzroy Crossi	52.17	272	P	P	04 21 03.0	-0.5
FITZ				IAmb	IAmb	04 21 04.1	
	comp=Z,6.3nm,0.8s						
CASY	Casey	52.74	209	P	P	04 21 07.5	+0.5
CASY				IAmb	IAmb	04 21 09.2	
	comp=Z,12nm,0.9s						
QSPA	South Pole Qui	57.12	180	P	P	04 21 41.0	+2.2
	comp=Z,3.0nm,0.7s,baz=49,slow=1.4,SNR=3.3						
QSPA	South Pole Qui	57.12	180	P	P	04 21 40.0	+1.2
SOEI	Soe	57.53	280	P	P	04 21 44.0	+1.6
MAW	Mawson	69.80	201	P	P	04 23 04.0	+1.6
	comp=Z,2.0nm,0.6s,baz=149,slow=12,SNR=3.3						
MAW	Mawson	69.80	201	P	P	04 23 03.5	+1.1
SYO	Syowa Base	74.54	193⇓	*e*P	P	04 23 31.0	+0.4
SNAA	Sanae	75.57	179	P	P	04 23 38.2	+1.5
SNAA	Sanae	75.57	179	PcP	PcP	04 23 48.1	-1.4
SNAA	Sanae	75.57	179	P	P	04 23 37.2	+0.5
SNAA				IAmb	IAmb	04 23 49.3	
	comp=Z,8.2nm,0.9s						
VNA3	Neumayer Olymp	75.73	176	P	P	04 23 39.6	+2.0
VNA3	Neumayer Olymp	75.73	176	PcP	PcP	04 23 49.4	-0.8
VNA2	Neumayer--Watz	76.16	177	P	P	04 23 41.8	+1.8
	baz=175,slow=4.7						
VNA2	Neumayer--Watz	76.16	177	PcP	PcP	04 23 52.1	+0.1
VNA1	Neumayer--Stat	76.39	177	P	P	04 23 43.2	+1.9
VNA1	Neumayer--Stat	76.39	177	PcP	PcP	04 23 53.5	+0.5
NJ2	Nanjing	87.76	311	*e*P	P	04 24 47.4	+6.0
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
PETK	Petropavlovsk-	88.27	346	P	P	04 24 43.6	+0.4
	comp=Z,3.9nm,1.0s,baz=155,slow=8.0,SNR=4.9						
NVAR	Mina Array Bea	90.30	43	P	P	04 24 56.1	+2.7
	comp=Z,0.7nm,0.7s,baz=219,slow=7.0,SNR=6.6						
KMI	Kunming	94.78	297	⇑P	P	04 25 20.6	+6.1
KMI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
YAH	Yahtse	97.75	17	P	Pdif	04 25 35.1	+8.0
HHC	Hu-ho-hao-te	97.87	314	*e*P	Pdif	04 25 32.5	+4.5
HHC	Hu-ho-hao-te	97.87	314	S	S	04 36 54.7	+2.8
HHC				pmax	pmax		
	comp=Z,16nm,1.3s						
HHC				pmax	pmax		
	comp=Z,89nm,7.2s						
HHC				LR	LR		
	comp=N,340nm,16.4s						
HHC				LR	LR		
	comp=E,230nm,16.9s						
HHC				LR	LR		
	comp=Z,390nm,18.3s						
KURBB	Kurchatov Arra	122.69	313	PKP	PKPdf	04 30 46.0	-1.5
	comp=Z,0.8nm,0.5s,baz=103,slow=1.9,SNR=4.3						
BVAR	Borovoye Array	128.08	314	PKP	PKPdf	04 30 56.4	-1.5
	comp=Z,0.8nm,0.4s,baz=203,slow=11,SNR=5.6						
ARCES	ARCESS Array B	141.07	347	PKhKP	PKPpre	04 31 15.9	
	comp=Z,4.5nm,1.1s,baz=30,slow=4.2,SNR=1.3						
ARCES				PKP	PKPdf	04 31 20.1	-1.6
	comp=Z,5.3nm,0.9s,baz=28,slow=4.1,SNR=4.7						
BORG	Borgarnes	145.22	17	PKPbc	PKPab	04 31 28.9	0.0
	comp=Z,63nm,1.2s,baz=94,slow=13,SNR=2.2						
KBZ	Khabaz	146.30	301	PKPbc	PKPdf	04 31 31.9	+0.4
	comp=Z,3.2nm,0.9s,baz=36,slow=4.1,SNR=4.9						
FINES	FINESS Array B	147.49	338	PKPbc	PKPbc	04 31 36.3	+0.7
	comp=Z,12nm,0.7s,baz=44,slow=3.4,SNR=33						
NB2	NORSAR Subarra	151.28	350	PKP	PKPbc	04 31 46.0	+0.9
	comp=Z,1.7nm,0.7s,baz=17,slow=2.6						
NOA	NORSAR Array B	151.28	350	PKPbc	PKPbc	04 31 45.3	+0.2
	comp=Z,2.5nm,0.9s,baz=20,slow=4.7,SNR=13						
NOA				PKPab	PKPab	04 31 53.1	-0.1
	comp=Z,5.7nm,0.8s,baz=15,slow=4.1,SNR=7.9						
HFS	Hagfors	151.73	347	PKPbc	PKPbc	04 31 46.0	-0.1
	comp=Z,4.7nm,0.7s,baz=98,slow=2.1,SNR=8.8						
HFS				PKPab	PKPab	04 31 55.6	+0.5
	comp=Z,6.0nm,0.7s,baz=29,slow=3.4,SNR=10						
NACGM	Naroch	151.91	329	*i* PKP	PKPbc	04 31 48.0	+1.3
AKASG	Malin Array Be	153.17	319	PKPbc	PKPbc	04 31 49.0	-0.6
	comp=Z,1.7nm,0.7s,baz=58,slow=2.3,SNR=5.2						
AKASG	Malin Array Be	153.17	319		PKPbc	04 31 46.2	-3.4
BRTR	Keskin Array B	153.53	294	PKPbc	PKPbc	04 31 51.6	+0.6
	comp=Z,1.9nm,0.5s,baz=141,slow=5.4,SNR=9.0						
BRTR	Keskin Array B	153.53	294	PKPdf	PKPdf	04 31 45.1	+1.8
CLL	Collm	159.93	339	*e*PKPab	PKPab	04 32 31.0	+0.6
CLL				Lm	MLR	05 38 00.0	
	comp=N,100nm,19.1s						
CLL				Lm	MLR	05 38 00.0	
	comp=E,200nm,18.2s						
CLL				Lm	MLR	05 38 00.0	
	comp=Z,200nm,19.0s						
TORD	Torodi Ar. Bea	160.24	180	PKPab	PKPab	04 32 33.3	+0.7
	comp=Z,0.8nm,0.6s,baz=173,slow=2.5,SNR=6.7						
TORD	Torodi Ar. Bea	160.24	180		PKPab	04 32 33.5	+0.9
KHC	Kasperske Hory	161.61	335	*e*PKPAB	PKPab	04 32 37.0	-0.9
GERES	GERESS Array B	161.81	334	PKPab	PKPab	04 32 38.1	-0.7
	comp=Z,0.7nm,0.7s,baz=60,slow=5.3,SNR=6.1						

*DJA **09** 04:22:36.7±0.2, 8°S±2°×10°7E±°, h10km, M4.8/24, mb4.8/12, mB5.3/6, MLv4.8/24, Mw(mB)4.8/6, MwMwp6.2/1, Mwp6.2/1*

*NEIC **09** 04:22:37.6±1.2, 8°.08S±0°.08×107°.27E±0°.08, h41km±3km, mb4.5/16, Error ellipse: s-maj=13.8km s-min=7.4km az=133.0*

*IDC **09** 04:22:43.4±1.5, 7°.84S×107°.48E, h97km±11km, mb3.8/15, mb1 4.0/16, mb1mx3.8/57, mbtmp4.2/16, Error ellipse: s-maj=32.0km s-min=10.8km az=53.0*

ISC 09 04:22:37.6±1.0**, 8°.25S**±0°.04×**107°.34E**±0°.04**, h46**km±10km**, n89,** σ1s**85**/88**, mb4.1**/19**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.84	35		Pn	04 22 51.8	-1.3
CISI				Sn	Sn	04 23 01.6	-2.7
CISI	Cisompet, Garu	0.84	35	P	Pn	04 22 52.6	-0.5
CISI				S	Sn	04 23 01.4	-3.0
CNJI	Cibinong	0.96	348	P	Pn	04 22 54.0	-0.6
CNJI				S	Sn	04 23 04.3	-2.8
CMJI	Cimerak	1.20	67	P	Pn	04 22 57.9	0.0
CMJI				S	Sn	04 23 11.1	-1.9
LEM	Lembang	1.44	11	P	Pn	04 23 02.7	+1.3
	476nm,0.3s,baz=119,slow=8.5,SNR=80						
LEM				S	Sn	04 23 19.8	+0.5
	1μm,0.3s,baz=161,slow=21,SNR=17						
LEM	Lembang	1.44	11	P	Pn	04 23 02.1	+0.7
LEM				S	Sn	04 23 20.8	+1.6
SKJI	Sukabumi	1.46	328	P	Pn	04 23 01.4	-0.1
DBJI	Dramaga	1.78	341	P	Pn	04 23 06.4	+0.5
KPJI	Karang Pucung	1.83	60	P	Pn	04 23 07.6	+1.1
TNG	Tangerang	2.18	342	P	Pn	04 23 12.7	+1.4
TNG				P	Pn	04 23 12.1	+0.8
TNG				S	Sn	04 23 38.4	+1.3
CTJI	Waduk Cacaban	2.21	56	P	Pn	04 23 13.7	+1.9
SBJI	Serang	2.43	330	P	Pn	04 23 16.3	+1.5
XMI	Christmas Isla	2.72	216	P	Pn	04 23 19.8	+1.0
XMIS	Christmas Isla	2.77	217	Pn	Pn	04 23 20.4	+0.9
XMIS				Sn	Sn	04 23 48.8	-2.9
XMIS	Christmas Isla	2.77	217	P	Pn	04 23 19.8	+0.3
YOGI	Yogyakarta	2.96	82	P	Pn	04 23 23.2	+1.1
UGM	Wanagama	3.17	84		Pn	04 23 26.0	+1.0
UGM	Wanagama	3.17	84	P	Pn	04 23 26.2	+1.1
SMRI	Semarang	3.30	69	Pn	Pn	04 23 27.5	+0.7
SMRI	Semarang	3.30	69	P	Pn	04 23 28.4	+1.6
BLSI	Bandar Lampung	3.54	324	P	Pn	04 23 31.4	+1.4
PCJI	Pacitan	3.80	89	P	Pn	04 23 35.3	+1.6
KASI	Kota Agung	3.91	314	P	Pn	04 23 36.5	+1.4
SJI	Sawahan	4.42	84	P	Pn	04 23 44.8	+2.6
PWJI	Pagerwojo	4.43	87	P	Pn	04 23 43.7	+1.4
LWLI	Liwa	4.57	314	P	Pn	04 23 52.3	+8.0
MDSI	Maura Dua	4.88	320	P	Pn	04 23 49.9	+1.4
KRKI	Karangkates	5.07	89	P	Pn	04 23 53.8	+2.8
	3.7nm15μm465nm,0.6s						
GRJI	Gresik	5.27	76	P	Pn	04 23 56.4	+2.6
	0.6nm1μm59nm,0.5s						
TPI	Tanjungpandan	5.47	3	P	Pn	04 23 58.2	+1.7
	0.2nm498nm31nm,0.6s						
EGSI	Enggano, Bengk	5.79	300	P	Pn	04 24 01.9	+0.9
	0.8nm4μm221nm,0.6s						
LHSI	Lahat	5.80	319	P	Pn	04 24 02.6	+1.5
	0.5nm91nm,0.9s						
KSI	Kapahiang	6.57	314	P	Pn	04 24 19.0	+7.3
JAGI	Jajag, Banyuwa	6.75	92	Pn	Pn	04 24 15.5	+1.3
JAGI	Jajag, Banyuwa	6.75	92	P	Pn	04 24 17.0	+2.9
	0.7nm3μm107nm,0.4s						
MASI	Maura Aman, Be	7.17	315	P	Pn	04 24 21.2	+1.2
	0.6nm81nm,0.9s						
SRBI	Singaraja	7.80	89	P	Pn	04 24 31.4	+2.8
TWSI	Taliwang, Sumb	9.46	94	P	Pn	04 24 53.7	+2.4
	32nm,0.5s						
PLAI	Plampang	10.34	94	P	Pn	04 25 03.8	+0.4
BKSI	Bulukumba	13.03	78	P	Pn	04 25 42.0	+1.9
	912nm33nm,1.1s						
TTSI	Tana Toraja	13.45	68	P	Pn	04 25 48.6	+2.6
	16nm,0.8s						
EDFI	Ende, Flores	14.21	93	P	Pn	04 25 54.0	-2.3
GIRL	Giralia	15.77	156	Pn	Pn	04 26 16.1	-0.6
BATI	Baumata	16.23	98	P	P	04 26 24.6	-0.5
	4.4nm,0.3s,baz=150,slow=8.1,SNR=1.6						
SOEI	Soe	16.79	96		Pn	04 26 30.2	+0.5
SOEI				IAmb	IAmb	04 26 34.1	
	comp=Z,58nm,1.0s						
SOEI	Soe	16.79	96	P	P	04 26 32.7	+1.3
	comp=Z,54nm,0.8s						
PSA00	Pilbara Seismi	17.91	139		P	04 26 44.8	+1.1
SANI	Sanana	19.57	73	P	Pn	04 27 02.9	-0.5
	comp=Z,53nm,1.0s						
FITZ	Fitzroy Crossi	20.31	121	P	Pn	04 27 12.5	+0.3
	comp=Z,18nm,0.8s,baz=292,slow=7.0,SNR=33						
FITZ				S	S	04 30 49.4	-5.9
	comp=Z,2.6nm,0.9s,baz=252,slow=19,SNR=3.1						
FITZ	Fitzroy Crossi	20.31	121	P	Pn	04 27 11.6	-0.6
FITZ				IAmb	IAmb	04 27 13.5	
	comp=Z,19nm,0.8s						
KRAI	Karang Ratu	21.51	78	P	P	04 27 26.6	+3.7
SGSI	Sangihe	21.68	58	P	P	04 27 22.4	-2.2
KNRA	Kununurra	22.21	111	P	P	04 27 29.7	-0.6
KNRA				IAmb	IAmb	04 27 33.4	
	comp=Z,12nm,0.6s						
MTN	Manton Dam	23.83	103	P	P	04 27 47.7	+1.0
MTN				IAmb	IAmb	04 28 01.6	
	comp=Z,14nm,0.7s						
H01W3	Cape Leeuwin H	27.23	168	T	T	04 58 00.4	
	baz=343,slow=78						
H01W1	Cape Leeuwin H	27.25	168	T	T	04 58 07.3	
	baz=343,slow=78						
H01W2	Cape Leeuwin H	27.25	168	T	T	04 58 00.2	
	baz=343,slow=78						
WRA	Warramunga Arr	28.60	117	P	P	04 28 30.9	+1.1
	comp=Z,1.2nm,0.4s,baz=300,slow=11,SNR=14						
WRA	Warramunga Arr	28.60	117	P	P	04 28 30.8	+1.1
WB2	Warramunga Arr	28.61	117	P	P	04 28 30.8	+1.0
WB2				IAmb	IAmb	04 28 42.9	
	comp=Z,9.5nm,1.4s						
WR0	Warramunga Arr	28.79	117	P	P	04 28 32.8	+1.4
WR0				IAmb	IAmb	04 28 43.7	
	comp=Z,5.5nm,0.9s						
ASAR	Alice Springs	29.70	124	P	P	04 28 40.6	+1.0
	comp=Z,1.7nm,0.7s,baz=300,slow=8.4,SNR=18						
H08S2	Diego Garcia H	34.51	268	T	T	05 06 19.7	
	baz=93,slow=75						
H08S3	Diego Garcia H	34.52	269	T	T	05 06 18.9	
	baz=93,slow=75						
H08S1	Diego Carcia H	34.52	268	T	T	05 06 18.0	
	baz=93,slow=75						
COEN	Coen	35.59	102	P	P	04 29 30.8	-0.3
BBOO	Buckleboo	36.12	137	P	P	04 29 36.5	+1.2
CTA	Charters Tower	39.42	112	P	P	04 30 05.2	+1.7
	comp=Z,1.8nm,0.2s,baz=325,slow=12,SNR=2.9						
CTAO	Charters Tower	39.42	112	P	P	04 30 05.6	+2.1
CTAO				IAmb	IAmb	04 30 06.7	
	comp=Z,13nm,1.3s						
STKA	Stephens Creek	39.57	131	P	P	04 30 07.2	+2.7
	comp=Z,28nm,0.7s,baz=303,slow=8.8,SNR=65						
STKA	Stephens Creek	39.57	131	P	P	04 30 05.7	+1.2
STKA				IAmb	IAmb	04 30 08.0	
	comp=Z,6.2nm,0.6s						
SONM	Songino Array	55.85	359	P	P	04 32 08.6	-1.8
	comp=Z,1.0nm,0.6s,baz=173,slow=8.3,SNR=5.3						
MKAR	Makanchi Array	59.17	340	P	P	04 32 30.5	-3.3
	comp=Z,0.8nm,0.4s,baz=158,slow=8.4,SNR=8.7						
MKAR	Makanchi Array	59.17	340	P	P	04 32 31.7	-2.0
KURBB	Kurchatov Arra	63.73	340	P	P	04 33 02.4	-2.1
	comp=Z,0.6nm,0.4s,baz=159,slow=5.4,SNR=4.1						
ZALV	Zalesovo Beam	64.82	346	P	P	04 33 08.4	-3.1
	comp=Z,0.6nm,0.3s,baz=159,slow=5.8,SNR=2.1						
MAW	Mawson	66.27	197	P	P	04 33 23.6	+2.9
	comp=Z,1.5nm,0.7s,baz=44,slow=12,SNR=3.8						
MAW	Mawson	66.27	197	P	P	04 33 22.0	+1.3
BVAR	Borovoye Array	68.64	337	P	P	04 33 33.3	-2.6
	comp=Z,1.1nm,0.5s,baz=43,slow=55,SNR=3.8						
ABKAR	Akbulak array	70.65	329	P	P	04 33 47.4	-0.9
ABKAR	Akbulak array	70.65	329		P	04 33 47.0	-1.3
AKTO	Aktyubinsk	72.36	329	P	P	04 33 57.6	-1.1
	comp=Z,1.2nm,0.4s,baz=134,slow=3.7,SNR=5.2						
VNDA	Vanda	74.69	169	P	P	04 34 14.5	+2.6
	comp=Z,0.6nm,0.6s,baz=314,slow=4.7,SNR=4.7						
VNDA	Vanda	74.69	169	P	P	04 34 13.4	+1.5
KBZ	Khabaz	77.80	318	P	P	04 34 29.4	-0.6
	comp=Z,2.8nm,0.9s,baz=95,slow=7.9,SNR=4.3						
BRTR	Keskin Array B	82.90	312	P	P	04 34 57.5	-0.4
	comp=Z,1.6nm,0.8s,baz=145,slow=7.0,SNR=3.6						
AKASG	Malin Array Be	88.87	322	P	P	04 35 26.6	-0.3
	comp=Z,0.5nm,0.6s,baz=84,slow=4.1,SNR=3.3						
TXAR	Lajitas Array	144.12	50	PKP	PKPbc	04 42 08.0	+0.8
	comp=Z,0.5nm,0.6s,baz=259,slow=1.4,SNR=9.5						
TXAR	Lajitas Array	144.12	50		PKPdf	04 42 08.2	-0.9

*IDC **09** 04:26:43.8±0.5, 2°.78S×139°.27E, h0km, mb4.4/15, mb1 4.6/19, mb1mx4.4/42, mbtmp4.5/19, ML4.7/4, MS4.2/21, Ms1 4.2/21, ms1mx4.1/29, Error ellipse: s-maj=17.0km s-min=11.0km az=94.0*

*DJA **09** 04:26:47.3±0.6, 3°S±3°×13°9E±°, h18km±5km, M4.9/22, mB5.2/6, mb4.8/22, MLv5.0/6, Mw(mB)4.6/6*

*NEIC **09** 04:26:49.7±1.6, 2°.80S±0°.07×139°.20E±0°.09, h35km±4km, mb4.8/60, Error ellipse: s-maj=12.8km s-min=10.4km az=72.0*

*GCMT **09** 04:26:51.7±0.2, 2°.61S±0°.02×139°.36E±0°.02, h30km±1km, MW5.0/84, Moment Tensor Solution. s31,c37; s84,c108; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.97±.23; $M_{\theta\theta}$-1.22±.14; $M_{\phi\phi}$-1.75±.15; $M_{r\theta}$-2.15±.21; $M_{\theta\phi}$2.80±.09; $M_{\phi r}$0.96±.22; Best double couple: $M_0$4.39400×10^{16} NP1:ϕ_s160.00000°,δ33.00000°,λ125.00000°. NP2: ϕ_s300.00000°,δ63.00000°,λ69.00000°. Principal axes: T 3.8860, Plg66.0000°, Azm173.0000°; N 1.0150, Plg18.0000°, Azm310.0000°; P -4.9010, Plg16.0000°, Azm45.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 04:26:49.2±0.3**, 2°.78S**±0°.04×**139°.25E**±0°.05**, h35**km**, n183,** σ1s**96**/176**, mb4.8**/45**, MS4.3**/29**, 2C, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GENI	Genyem	0.94	79	P	Pn	04 27 04.3	-1.6
GENI				S	Sn	04 27 17.6	-0.5
WAMI	Wamena	1.22	206	Pg	Pn	04 27 14.4	+4.6
JAY	Jayapura	1.48	80	Pn	Pn	04 27 10.7	-2.7
	196nm,0.3s,baz=228,slow=13,SNR=77						
JAY				Sn	Sn	04 27 29.5	-2.0
	715nm,0.3s,baz=307,slow=20,SNR=11						
JAY				LR	LR	04 27 38.7	
	comp=Z,3μm,19.1s,baz=92,slow=38						
JAY	Jayapura	1.48	80	P	Pn	04 27 10.9	-2.5
JAY				S	Sn	04 27 29.2	-2.3
SRPI	Serui, Papua	3.14	287	P	Pn	04 27 36.6	+0.4
BAKI	Biak	3.51	297	P	Pn	04 27 41.8	+0.5
MMPI	Merauke	5.76	169	P	Pn	04 28 18.8	+6.5
FAKI	Fak Fak	6.99	269	Pn	Pn	04 28 30.2	+1.0
FAKI	Fak Fak	6.99	269	P	Pn	04 28 29.8	+0.6
	0.5nm6μm54nm,0.6s						
SIJI	Sorong	8.20	283	Pn	Pn	04 28 45.3	-0.5
	6.0nm,0.3s,baz=35,slow=18,SNR=5.7						
SIJI	Sorong	8.20	283	P	Pn	04 28 46.7	+0.9
	832nm22nm,0.6s						
SWI	Sorong	8.21	283	P	Pn	04 28 46.5	+0.6
	26nm,0.4s						
KRAI	Karang Ratu	10.85	267	P	Pn	04 29 24.0	+1.8
	41nm,0.9s						
COEN	Coen	11.77	161	P	Pn	04 29 37.8	+3.1
	baz=12						
COEN	Coen	11.77	161		Pn	04 29 32.1	-2.5
KDU	Kakadu	11.91	214	P	Pn	04 29 36.0	-0.7
	baz=12,SNR=22						
MTN	Manton Dam	12.83	218	P	Pn	04 29 48.8	-0.4
	baz=13,SNR=17						
MTN	Manton Dam	12.83	218	Pn	Pn	04 29 49.3	+0.2
SANI	Sanana	13.27	273	P	Pn	04 29 54.0	-1.2
	1μm44nm,0.9s						
MTSU	Mount Surprise	16.05	162	P	P	04 30 35.9	+0.5
	baz=16,SNR=12						
SOEI	Soe	16.42	244		P	04 30 38.6	-1.1
SOEI	Soe	16.42	244	P	P	04 30 57.5	+18
KNRA	Kununurra	16.46	218	P	Pn	04 30 37.4	-0.2
	baz=17,SNR=8.8						
KNRA	Kununurra	16.46	218		Pn	04 30 37.1	-0.5
KNRA				IAmb	IAmb	04 30 48.3	
	comp=Z,60nm,0.8s						
DAV	Davao City (W)	16.79	306	LR	LR	04 37 24.1	
	comp=Z,421nm,19.8s,baz=152,slow=38						
BATI	Baumata	17.14	244	P	Pn	04 30 45.6	-0.7
	comp=Z,6.4nm,0.3s,baz=1.4,slow=3.0,SNR=1.5						
QIS	Mount Isa	17.68	179	P	Pn	04 30 52.3	-0.5
	baz=18,SNR=18						
WR0	Warramunga Arr	17.68	195	Pn	Pn	04 30 51.5	-1.4
WRAB	Tennant Creek	17.71	195	P	Pn	04 30 53.2	0.0
WB2	Warramunga Arr	17.72	195	P	Pn	04 30 53.2	-0.1
	baz=18						
WB2	Warramunga Arr	17.72	195	P	Pn	04 30 52.5	-0.9
WB2				IAmb	IAmb	04 31 02.9	
	comp=Z,37nm,0.6s						
WRA	Warramunga Arr	17.72	195	P	Pn	04 30 52.1	-1.2
	comp=Z,5.5nm,0.3s,baz=16,slow=12,SNR=48						
WRA				S	Sn	04 34 05.1	-4.8
	comp=Z,0.8nm,0.3s,baz=12,slow=23,SNR=5.2						
WRA				LR	LR	04 38 13.4	
	comp=Z,2μm,20.6s,baz=20,slow=39						
WRA	Warramunga Arr	17.72	195		Pn	04 30 51.5	-1.8
WRA					Sn	04 34 07.6	-2.3
EDFI	Ende, Flores	18.44	251	P	Pn	04 31 03.2	+0.9
	comp=Z,13nm,1.0s						
CTA	Charters Tower	18.52	159	P	P	04 31 02.4	-0.3
	comp=Z,0.4nm,0.3s,baz=340,slow=17,SNR=2.1						
CTAO	Charters Tower	18.52	159	P	P	04 31 02.6	-0.1
TOLI2	Tolitoli	18.86	282	P	Pn	04 31 07.0	-0.3
BNSI	Bone	19.17	265	P	Pn	04 31 20.7	+10
TTSI	Tana Toraja	19.41	269	P	Pn	04 31 24.5	+11
KAPI	Kappang	19.58	263	LR	LR	04 41 19.5	
	comp=Z,219nm,19.8s,baz=36,slow=45						
FITZ	Fitzroy Crossi	20.24	220	P	P	04 31 21.5	-0.1
	baz=20,SNR=4.1						
FITZ	Fitzroy Crossi	20.24	220	P	P	04 31 21.0	-0.6
	comp=Z,4.3nm,0.5s,baz=51,slow=8.9,SNR=10						
FITZ				S	S	04 35 01.2	-5.7
	comp=Z,22nm,0.9s,baz=74,slow=12,SNR=7.8						
FITZ	Fitzroy Crossi	20.24	220	P	P	04 31 21.5	-0.1
FITZ					S	04 35 02.1	-4.9
PATS	Pohnpei	21.29	63	P	P	04 31 33.4	+0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AS31	Alice Springs	21.40	194	P	P	04 31 34.7	+0.6
AS31				IAmb	IAmb	04 31 47.2	
	comp=Z,21nm,0.6s						
ASAR	Alice Springs	21.40	194	P	P	04 31 33.6	-0.5
	comp=Z,12nm,0.5s,baz=20,slow=9.2,SNR=89						
ASAR				S	S	04 35 31.3	+1.4
	comp=Z,7.8nm,0.8s,baz=14,slow=23,SNR=4.0						
ASAR				LR	LR	04 40 28.0	
	comp=Z,2µm,18.9s,baz=17,slow=38						
ASAR	Alice Springs	21.40	194	P	P	04 31 34.3	+0.2
ASPA	Alice Springs	21.40	194	P	P	04 31 34.7	+0.5
	baz=22						
SPMM	Sapulut	23.95	288	P	P	04 31 56.0	-4.5
QLP	Quilpie	24.15	169	P	P	04 32 05.3	+3.1
	baz=25,SNR=4.4						
BBKI	Banjar Baru	24.38	268	P	P	04 32 18.0	+14
WRKA	Warakurna	24.52	205	P	P	04 32 04.6	-1.0
	baz=25,SNR=16						
EIDS	Eidsvold	25.19	154	P	P	04 32 14.0	+2.5
	baz=26,SNR=8.7						
EIDS	Eidsvold	25.19	154	P	P	04 32 12.9	+1.3
RMQ	Roma	25.28	160	P	P	04 32 15.6	+3.1
	baz=26,SNR=4.9						
PSA00	Pilbara Seismi	26.55	224	P	P	04 32 24.1	+0.1
PBKI	Pangkalan Bun	27.55	269	P	P	04 32 30.3	-2.8
STKA	Stephens Creek	29.03	176	P	P	04 32 45.9	-0.2
	baz=30,SNR=8.8						
STKA	Stephens Creek	29.03	176	P	P	04 32 45.6	-0.4
	comp=Z,5.5nm,0.5s,baz=348,slow=8.4,SNR=7.3						
STKA				LR	LR	04 45 41.5	
	comp=Z,2µm,18.6s,baz=353,slow=39						
STKA	Stephens Creek	29.03	176	P	P	04 32 45.9	-0.2
CMSA	Cobar Meteorol	29.25	169	P	P	04 32 50.4	+2.4
	baz=30						
FORT	Forrest	29.79	200	P	P	04 32 52.8	0.0
BBOO	Buckleboo	30.02	185	P	P	04 32 55.6	+0.7
	baz=30,SNR=14						
BBOO	Buckleboo	30.02	185	P	P	04 32 54.1	-0.8
HTT	Hallett	30.50	181	P	P	04 33 00.7	+1.6
	baz=31,SNR=9.5						
YNG	Young	32.50	166	P	P	04 33 18.7	+2.0
	baz=33,SNR=8.6						
DZM	Mont Dzumac	32.64	128	*e*S	S	04 38 43.0	+11
	comp=Z,158nm,25.6s						
DZM				*e*LR	LR	04 42 16.0	
	comp=Z,992nm,30.6s						
CNB	Canberra Magne	33.71	165	P	P	04 33 29.5	+2.2
	baz=34,SNR=8.0						
ARPS	Mount Arapiles	33.91	176	P	P	04 33 29.9	+0.9
	baz=34,SNR=21						
TOO	Toolangi	35.10	171	P	P	04 33 40.7	+1.4
TOO				IAmb	IAmb	04 33 43.4	
	comp=Z,9.3nm,0.7s						
MILA	Mila	35.31	166	P	P	04 33 42.9	+1.8
	baz=36,SNR=3.9						
JHJ	Hachijo jima 2	35.71	1	LR	LR	04 45 18.2	
	comp=Z,597nm,18.7s,baz=272,slow=31						
QIZ	Qiongzhong	36.14	308	P	P	04 33 50.6	+2.2
QIZ				S	S	04 39 29.8	+3.8
QIZ				LR	LR		
	comp=N,230nm,21.4s						
QIZ				LR	LR		
	comp=E,110nm,10.2s						
QIZ				LR	LR		
	comp=Z,280nm,25.3s						
JWT	Wachi	38.03	355	P	P	04 34 03.8	-0.4
MJAR	Matsushiro Arr	39.13	359	LR	LR	04 48 21.1	
	comp=Z,364nm,21.3s,baz=165,slow=33						
NJ2	Nanjing	39.68	332	*e*P	P	04 34 21.4	+3.3
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
NJ2				LR	LR		
	comp=N,420nm,19.9s						
NJ2				LR	LR		
	comp=E,350nm,21.3s						
NJ2				LR	LR		
	comp=Z,590nm,17.1s						
RPSI	Rantau Prapat	40.67	277	P	P	04 34 26.1	-0.6
PSI	Prapat	40.69	278	P	P	04 34 26.1	-0.8
	comp=Z,4.5nm,0.5s,baz=3.9,slow=15,SNR=4.8						
WHN	Wuhan	40.77	326	⇑P	P	04 34 30.8	+3.6
WHN				LR	LR		
	comp=Z,870nm,23.3s						
KSRS	Korea Array	41.39	346	P	P	04 34 32.5	+0.4
	comp=Z,1.2nm,0.6s,baz=149,slow=9.9,SNR=2.3						
KSRS				LR	LR	04 49 19.5	
	comp=Z,317nm,21.5s,baz=158,slow=33						
GYA	Guiyang	42.85	315	⇑P	P	04 34 46.3	+1.9
GYA				pP	pP	04 34 55.2	+0.2
GYA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CMAR	Chiang Mai Arr	44.94	300	P	P	04 35 01.2	+0.1
	comp=Z,1.3nm,0.3s,baz=174,slow=3.5,SNR=1.7						
CMAR				LR	LR	04 53 34.2	
	comp=Z,109nm,21.2s,baz=154,slow=36						
ASAJ	Asahikawa	46.78	3	LR	LR	04 52 26.3	
	comp=Z,139nm,20.5s,baz=177,slow=33						
USRK	Ussuriysk Ar.	47.22	353	LR	LR	04 52 23.1	
	comp=Z,205nm,21.5s,baz=154,slow=33						
BJI	Beijing	47.57	336	P	P	04 35 20.4	-1.1
BJI				pP	pP	04 35 30.2	-1.9
BJI				pmax	pmax		
	comp=Z,14nm,0.7s						
BJI				LR	LR		
	comp=N,230nm,18.2s						
BJI				LR	LR		
	comp=E,180nm,18.6s						
BJI				LR	LR		
	comp=Z,460nm,21.2s						
TUWZ	Tuamarina	49.51	146	P	P	04 35 36.5	+0.1
RPZ	Rata Peaks	49.56	150	P	P	04 35 37.4	+0.6
LBZ	Lake Benmore	49.62	151	P	P	04 35 38.1	+0.8
WHZ	Wether Hill Ro	49.73	154	P	P	04 35 38.9	+0.8
SNZO	South Karori	49.87	145	P	P	04 35 41.5	+2.4
HHC	Hu-ho-hao-te	50.24	333	*e*P	P	04 35 42.8	+0.7
HHC				sS	sS	04 43 09.6	+0.1
HHC	Hu-ho-hao-te	50.24	333	SS	SS	04 46 18.8	-7.3
HHC				pmax	pmax		
	comp=Z,17nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,6.1s						
HHC				LR	LR		
	comp=N,320nm,15.2s						
HHC				LR	LR		
	comp=E,220nm,15.8s						
HHC				LR	LR		
	comp=Z,390nm,15.6s						
LZH	Lanzhou	50.86	323	*e*P	P	04 35 48.0	+1.1
LZH				pP	pP	04 35 54.3	-3.5
LZH				*e*S	S	04 43 04.5	+3.4
LZH				sS	sS	04 43 17.0	-1.5
LZH	Lanzhou	50.86	323	SS	SS	04 46 32.4	-3.9
LZH				pmax	pmax		
	comp=Z,13nm,1.1s						
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
LZH				pmax	pmax		
	comp=Z,100nm,4.9s						
LZH				LR	LR		
	comp=N,260nm,14.6s						
LZH				LR	LR		
	comp=E,220nm,15.2s						
LZH				LR	LR		
	comp=Z,250nm,16.3s						
GTA	Gaotai	55.44	323	*e*P	P	04 36 21.2	+0.6
GTA				pP	pP	04 36 32.2	+0.6
GTA				sP	sP	04 36 36.0	+0.1
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,48nm,4.7s						
GTA				LR	LR		
	comp=N,100nm,18.2s						
GTA				LR	LR		
	comp=E,170nm,18.5s						
GTA				LR	LR		
	comp=Z,130nm,20.4s						
ULN	Ulaanbaatar	57.75	335	P	P	04 36 42.4	+5.5
PETK	Petropavlovsk-	57.80	13	P	P	04 36 37.3	+0.4
	comp=Z,1.7nm,0.5s,baz=123,slow=5.5,SNR=6.0						
PETK	Petropavlovsk-	57.80	13	P	P	04 36 37.5	+0.5
SONM	Songino Array	58.01	334	P	P	04 36 39.3	+0.6
	comp=Z,1.6nm,0.9s,baz=156,slow=6.1,SNR=7.2						
SONM				LR	LR	05 00 42.6	
	comp=Z,404nm,21.0s,baz=156,slow=35						
SONM	Songino Array	58.01	334	P	P	04 36 37.9	-0.7
YAK	Yakutsk	65.05	355	LR	LR	05 02 39.6	
	comp=Z,153nm,20.7s,baz=115,slow=33						
WMQ	Urumqi	65.40	321	*e*P	P	04 37 31.3	+2.8
CASY	Casey	66.52	192	P	P	04 37 36.2	+1.1
MK31	Makanchi Array	70.17	322	P	P	04 37 58.7	+0.3
MKAR	Makanchi Array	70.17	322	P	P	04 37 58.5	+0.1
	comp=Z,2.9nm,0.6s,baz=108,slow=7.6,SNR=24						
MAKZ	Makanchi	70.37	322	P	P	04 37 59.6	-0.1
MAKZ				IAmb	IAmb	04 38 08.7	
	comp=Z,5.5nm,0.7s						
PPT	Papeete	71.22	108	LR	LR	05 06 56.5	
	comp=Z,39nm,21.8s,baz=258,slow=34						
PPT2	Papeete2	71.22	108	*e*LR	LR	05 00 07.4	
	comp=Z,336nm,25.2s						
KSH	Kashi	71.52	313	P	P	04 38 09.8	+2.9
TBI	Tubuai	71.73	114	*e*LR	LR	05 00 24.1	
	comp=Z,284nm,34.0s						
ZALV	Zalesovo Beam	72.26	330	LR	LR	05 09 36.1	
	comp=Z,186nm,22.0s,baz=111,slow=36						
KURK	Kurchatov	74.08	325	P	P	04 38 20.9	-0.7
KURBB	Kurchatov Arra	74.09	325	P	P	04 38 20.9	-0.8
	comp=Z,1.4nm,0.5s,baz=114,slow=5.1,SNR=8.2						
VNDA	Vanda	75.67	175	P	P	04 38 31.2	+0.8
	comp=Z,6.3nm,0.5s,baz=323,slow=6.8,SNR=59						
VNDA				LR	LR	05 12 00.7	
	comp=Z,441nm,18.9s,baz=348,slow=36						
VNDA	Vanda	75.67	175	P	P	04 38 31.2	+0.8
VNDA				IAmb	IAmb	04 38 31.9	
	comp=Z,8.2nm,0.7s						
CHGR	Chuyangaron	76.33	311	P	P	04 38 34.2	-0.8
CHGR				IAmb	IAmb	04 38 43.4	
	comp=Z,17nm,1.0s						
SBA	Scott Base	76.43	174	P	P	04 38 37.0	+2.3
SBA				IAmb	IAmb	04 38 45.4	
	comp=Z,9.6nm,1.0s						
BVAR	Borovoye Array	79.67	325	P	P	04 38 53.0	-0.2
	comp=Z,3.2nm,0.6s,baz=159,slow=9.5,SNR=13						
BRVK	Borovoye	79.75	325	P	P	04 38 52.9	-0.7
BRVK				IAmb	IAmb	04 39 02.4	
	comp=Z,8.4nm,1.1s						
NRIK	Noril'sk	79.94	344	LR	LR	05 14 04.9	
	comp=Z,124nm,21.1s,baz=97,slow=36						
KDAK	Kodiak Island	80.89	30	P	P	04 38 59.7	+0.1
	comp=Z,6.5nm,0.8s,baz=313,slow=6.1,SNR=5.9						
KDAK	Kodiak Island	80.89	30	P	P	04 38 60.0	+0.4
KDAK				IAmb	IAmb	04 39 05.7	
	comp=Z,7.3nm,0.9s						
N19K	Bonanza Creek	81.08	27	P	P	04 39 00.3	-0.4
N19K				IAmb	IAmb	04 39 03.2	
	comp=Z,6.3nm,0.9s						
L19K	White Mountain	81.44	26	P	P	04 39 02.6	+0.1
L19K				IAmb	IAmb	04 39 05.1	
	comp=Z,7.6nm,1.0s						
M20K	Styx River	82.08	26	P	P	04 39 06.6	+0.6
M20K				IAmb	IAmb	04 39 09.9	
	comp=Z,9.3nm,1.1s						
K20K	Telida	82.22	25	P	P	04 39 07.2	+0.6
K20K				IAmb	IAmb	04 39 10.9	
	comp=Z,8.9nm,1.0s						
MAW	Mawson	82.26	202	P	P	04 39 07.4	+0.7
	baz=83,SNR=6.0						
MAW	Mawson	82.26	202	P	P	04 39 07.5	+0.9
	comp=Z,3.0nm,0.8s,baz=95,slow=8.3,SNR=9.9						
MAW				LR	LR	05 13 28.5	
	comp=Z,322nm,19.4s,baz=60,slow=34						
MAW	Mawson	82.26	202	P	P	04 39 07.2	+0.5
KTH	Kantishna Hill	83.62	25	P	P	04 39 13.4	-0.5
KTH				IAmb	IAmb	04 39 16.5	
	comp=Z,11nm,1.1s						
PMR	Palmer	83.78	27	P	P	04 39 14.7	+0.1
PMR				IAmb	IAmb	04 39 18.0	
	comp=Z,12nm,1.3s						
MLY	Manley	84.19	24	P	P	04 39 17.1	+0.4
MLY				IAmb	IAmb	04 39 22.3	
	comp=Z,15nm,1.4s						
SML	Sawmill	84.21	27	P	P	04 39 16.6	-0.3
RND	Reindeer	84.45	25	P	P	04 39 16.8	-1.3
RND				IAmb	IAmb	04 39 20.5	
	comp=Z,11nm,1.0s						
MCK	McKinley	84.52	25	P	P	04 39 19.0	+0.6
GEYT	Alibeck	84.70	308	LR	LR	05 19 43.3	
	comp=Z,90nm,21.2s,baz=200,slow=38						
I23K	Minto, Yukon-K	84.78	24	P	P	04 39 20.0	+0.4
I23K				IAmb	IAmb	04 39 23.2	
	comp=Z,12nm,1.2s						
H23K	Yukon River	84.92	23	P	P	04 39 21.2	+0.8
H23K				IAmb	IAmb	04 39 24.7	
	comp=Z,7.5nm,1.1s						
WRH	Wood River Hil	85.09	25	P	P	04 39 21.6	+0.4
WRH				IAmb	IAmb	04 39 22.8	
	comp=Z,8.3nm,1.0s						
ABKAR	Akbulak array	85.12	320	P	P	04 39 21.2	-0.5
ABKAR	Akbulak array	85.12	320	P	P	04 39 21.0	-0.7
CCB	Clear Creek Bu	85.26	24	P	P	04 39 21.3	-0.7
CCB				IAmb	IAmb	04 39 22.3	
	comp=Z,7.6nm,0.9s						
HDA	Harding Lake	85.55	25	P	P	04 39 23.9	+0.4
HDA				IAmb	IAmb	04 39 24.2	
	comp=Z,5.9nm,1.0s						
H24K	Noodor Dome	85.57	23	P	P	04 39 23.5	-0.2
IL31		85.67	24	P	P	04 39 22.9	-1.2
IL31				IAmb	IAmb	04 39 24.8	
	comp=Z,6.1nm,0.9s						
ILAR	Eielson Array	85.67	24	P	P	04 39 22.7	-1.4
	comp=Z,4.7nm,0.9s,baz=258,slow=4.7,SNR=30						
ILAR				LR	LR	05 19 08.7	
	comp=Z,46nm,19.6s,baz=256,slow=37						
ILAR	Eielson Array	85.67	24	P	P	04 39 23.0	-1.1
TOLK	Toolik Lake Re	85.80	20	P	P	04 39 24.7	0.0
TOLK				IAmb	IAmb	04 39 26.5	
	comp=Z,5.5nm,0.9s						
RIDG	Independent Ri	86.27	26	P	P	04 39 27.2	0.0
RIDG				IAmb	IAmb	04 39 28.3	
	comp=Z,6.1nm,1.0s						
FYU	Fort Yukon	86.80	23	P	P	04 39 30.3	+0.7
QSPA	South Pole Qui	87.17	180	P	P	04 39 31.9	+0.3
BMAR	Burnt Mountain	87.26	22	P	P	04 39 33.6	+1.7
M27K	Edge Creek, AK	87.29	27	P	P	04 39 32.7	+0.4
M27K				IAmb	IAmb	04 39 36.9	
	comp=Z,5.9nm,1.2s						
L27K	Beaver Creek,	87.45	27	P	P	04 39 33.5	+0.5
BCAR	Beaver Creek A	87.47	27	P	P	04 39 33.2	+0.2
K27K	Chicken	87.53	26	P	P	04 39 33.7	+0.5
K27K				IAmb	IAmb	04 39 37.8	
	comp=Z,10nm,1.2s						
EGAK	Eagle	88.06	25	P	P	04 39 35.0	-0.8
EGAK				IAmb	IAmb	04 39 37.5	
	comp=Z,5.3nm,0.9s						
KBZ	Khabaz	96.50	314	LR	LR	05 29 01.6	
	comp=Z,48nm,21.4s,baz=72,slow=39						
NVAR	Mina Array Bea	101.47	51	P	Pdif	04 40 37.5	-0.4
	comp=Z,0.2nm,0.4s,baz=260,slow=5.4,SNR=2.1						
SNAA	Sanae	101.75	191	Pdiff	Pdif	04 40 37.9	-0.4
VNA2	Neumayer--Watz	103.23	191	Pdiff	Pdif	04 40 45.2	+0.4
MNK	Minsk	104.56	326	*i* P	Pdif	04 40 56.8	+5.8
	comp=E,3.0nm,1.1s						
MNK				*i* P	Pdif	04 40 56.8	+5.8
	comp=N,15nm,0.9s						
MNK				*i* P	Pdif	04 40 56.8	+5.8
	comp=Z,6.0nm,0.9s,baz=255						
MNK				*i* PP	PKiKP	04 45 05.6	-1.2
MNK				*i* PPP	PPP	04 47 17.9	
MNK				*i* SKS		04 52 08.5	
MNK				*i* PS	PS	04 54 15.1	-8.6
MNK				*i* SS	SS	04 59 55.1	-3.8
MNK				*i* SSS	SSS	05 03 48.8	
MNK				*i* LQ	LQ	05 22 02.0	
MNK				*i* LR	LR	05 25 39.4	
MNK				*i* LRM	MLR	05 28 24.7	
	comp=Z,160nm,19.4s						
MNK				*i* LRM	MLR	05 28 39.9	
	comp=E,14nm,16.8s						
MNK				*i* LRM	MLR	05 28 41.2	
	comp=N,114nm,18.7s						
TORD	Torodi Ar. Bea	136.79	286	PKP	PKPdf	04 46 09.1	-0.1
	comp=N,1.0nm,0.6s,baz=55,slow=1.8,SNR=6.9						
TORD	Torodi Ar. Bea	136.79	286	PKPdf	PKPdf	04 46 08.4	-0.7
KIC	Kosan Boka	143.94	277	*e*PKP2	PKPbc	04 46 20.3	+0.3
	comp=N,16nm,0.9s						
POPC	Popayan, Colom	144.12	90	*e*P	PKPab	04 46 19.2	-1.2
TIC	Toumodi	144.19	277	*e*PKP2	PKPbc	04 46 21.2	+0.4
LIC	Lamto	144.23	277	*e*PKP2	PKPab	04 46 19.5	-1.0
	comp=N,89nm,1.6s						
CBOC	Ciudad Bolivar	144.71	84	*e*P	PKPab	04 46 22.4	-0.1
MARP	Paez Belalcaza	144.84	89	*e*P	PKPab	04 46 22.8	-0.3
FLOC	Florencia	145.11	91	*e*P	PKPbc	04 46 19.3	-4.4
GUY2C	Guyana, Caldas	145.39	85	*e*P	PKPbc	04 46 25.7	+0.5
TOLC	Tolima	145.46	86	*e*P	PKPdf	04 46 22.7	-2.5
ORTC	Ortega, Tolima	145.55	87	*e*P	PKPdf	04 46 24.7	-0.2
SMRC	Santa Marta, M	145.78	74	*e*P	PKPdf	04 46 24.4	-0.8
PRAC	Prado	145.91	87	*e*P	PKPdf	04 46 24.3	-1.3
SPBC	San Pablo de B	146.65	84	*e*P	PKPbc	04 46 28.4	-0.1
CPUP	Villa Florida	146.92	152	PKPbc	PKPbc	04 46 29.4	+0.6
	comp=N,1.3nm,0.5s,baz=205,slow=2.7,SNR=6.5						
CPUP	Villa Florida	146.92	152		PKPdf	04 46 26.7	-0.2
LPAZ	La Paz	146.97	126	PKPbc	PKPbc	04 46 30.1	+0.1
	comp=N,2.3nm,0.7s,baz=184,slow=4.2,SNR=11						
LPAZ	La Paz	146.97	126		PKPbc	04 46 29.8	-0.1
LPAZ	La Paz	146.97	126	*e*P	PKPbc	04 46 29.8	-0.1
BARC	Barichara	147.47	82	*e*P	PKPdf	04 46 29.5	+1.0

*DJA **09** 04:44:46.3±0.2, 4°S±2°×13°9E±°, h86km±3km, M5.0/16, mB5.5/8, mb4.8/16, MLv5.1/7, Mw(mB)4.9/8*

*NEIC **09** 04:44:46.5±1.3, 3°.79S±0°.07×138°.56E±0°.08, h84km±5km, mb4.8/79, Error ellipse: s-maj=11.4km s-min=10.2km az=126.0*

*IDC **09** 04:44:47.4±1.9, 3°.71S×138°.60E, h92km±17km, mb4.3/18, mb1 4.4/22, mb1mx4.3/33, mbtmp4.7/22, MS3.2/2, Ms1 3.2/2, ms1mx2.7/29, Error ellipse: s-maj=17.7km s-min=10.4km az=89.0*

ISC 09 04:44:47.3±0.3, **3°.81S**±0°.04×**138°.57E**±0°.05, **h100**km, **n158**, σ**1.40**/166, **mb4.7**/63, **1D, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GENI	Genyem	2.00	53	P	Pn	04 45 17.1	-2.8
GENI				S	Sn	04 45 40.9	-3.8
JAY	Jayapura	2.49	59	P	Pn	04 45 25.6	-0.7
	baz=24,slow=20						
JAY				S	Sn	04 45 51.1	-5.1
	baz=103,slow=18						
JAY				LR	LR	04 46 43.5	
	comp=Z,444nm,21.0s,slow=48						
JAY	Jayapura	2.49	59	P	Pn	04 45 23.1	-3.2
JAY				S	Sn	04 45 52.2	-4.0
SRPI	Serui, Papua	3.02	310	P	Pn	04 45 32.6	-0.7
BAKI	Biak	3.58	316	P	Pn	04 45 38.7	-2.1
MMPI	Merauke	4.97	159	P	Pn	04 46 00.1	+0.5
	15nm52µm2µm,0.4s						
MMPI				S	Sn	04 46 56.9	+1.1
	15nm52µm2µm,0.4s						
FAKI	Fak Fak	6.37	278	Pn	Pn	04 46 19.2	+0.5
FAKI	Fak Fak	6.37	278	P	Pn	04 46 18.8	+0.1
SIJI	Sorong	7.86	292	P	Pn	04 46 38.5	-0.4
	6.8nm,0.3s,baz=89,slow=12,SNR=6.2						
SIJI				S	Sn	04 48 02.2	-4.2
	2.2nm,0.3s,baz=252,slow=20,SNR=1.2						
SIJI	Sorong	7.86	292	P	Pn	04 46 38.8	-0.2
	0.2nm35nm,0.6s						
SWI	Sorong	7.87	292	P	Pn	04 46 39.4	+0.3
	0.3nm1µm57nm,0.5s						
COEN	Coen	11.06	156	Pn	Pn	04 47 21.6	-0.9
MTN	Manton Dam	11.61	219	Pn	Pn	04 47 28.8	-0.9
KNRA	Kununurra	15.24	219	Pn	Pn	04 48 16.1	-1.1
SOEI	Soe	15.38	247		P	04 48 20.2	-1.2
SOEI	Soe	15.38	247	P	P	04 48 20.4	-1.1
	104nm,0.6s						
BATI	Baumata	16.10	246	P	P	04 48 28.7	-0.7
	21nm,0.3s,baz=21,slow=4.7,SNR=5.8						
BATI				S	Sn	04 51 24.4	-1.9
	7.9nm,0.3s,baz=289,slow=18,SNR=1.9						
WR0	Warramunga Arr	16.53	193	Pn	Pn	04 48 31.5	-1.7
WRAB	Tennant Creek	16.55	194		Pn	04 48 32.1	-1.3
WRAB				IAmb	IAmb	04 48 37.8	
	comp=Z,90nm,0.9s						
WB2	Warramunga Arr	16.56	194		Pn	04 48 31.6	-1.9
WRA	Warramunga Arr	16.56	194	P	Pn	04 48 32.0	-1.5
	comp=Z,3.6nm,0.3s,baz=9.9,slow=12,SNR=72						
WRA				S	Sn	04 51 30.8	-6.6
	comp=Z,2.2nm,0.3s,baz=9.5,slow=26,SNR=7.1						
WRA	Warramunga Arr	16.56	194		Pn	04 48 32.3	-1.2
DAV	Davao City (W)	16.88	310	LR	LR	04 56 05.9	
	comp=Z,95nm,19.4s,baz=152,slow=40						
EDFI	Ende, Flores	17.48	253	P	Pn	04 48 45.7	+0.7
	comp=Z,9.6nm,0.9s						
CTA	Charters Tower	17.83	156	P	Pn	04 48 49.0	-0.1
	comp=Z,2.5nm,0.3s,baz=325,slow=13,SNR=34						
CTAO	Charters Tower	17.83	156	P	Pn	04 48 49.1	-0.1
CTAO				IAmb	IAmb	04 48 51.2	
	comp=Z,36nm,0.8s						
TOLI2	Tolitoli	18.44	285	P	Pn	04 48 55.3	-1.1
FITZ	Fitzroy Crossi	19.03	221	P	Pn	04 49 02.9	-0.5
	comp=Z,1.3nm,0.3s,baz=47,slow=8.6,SNR=36						
FITZ				S	S	04 52 24.9	-7.4
	comp=Z,3.7nm,0.3s,baz=101,slow=14,SNR=11						
FITZ	Fitzroy Crossi	19.03	221		Pn	04 49 02.2	-1.2
AS31	Alice Springs	20.25	192	P	P	04 49 15.5	+0.7
AS31				IAmb	IAmb	04 49 18.2	
	comp=Z,31nm,0.7s						
ASAR	Alice Springs	20.25	192	P	Pn	04 49 17.0	-0.6
	comp=Z,43nm,0.5s,baz=22,slow=9.4,SNR=459						
ASAR				S	S	04 52 57.0	+0.4
	comp=Z,38nm,0.8s,baz=17,slow=26,SNR=15						
ASAR	Alice Springs	20.25	192	P	P	04 49 15.3	+0.5
ASAR	Alice Springs	20.25	192		S	04 52 57.0	+0.4
SGKI	Sangatta, Kali	21.20	278	P	P	04 49 26.5	+1.4
	comp=Z,14µmcomp=Z,998nm,0.8s						
EIDS	Eidsvold	24.58	152	P	P	04 49 58.8	+0.8
EIDS				IAmb	IAmb	04 50 02.5	
	comp=Z,27nm,0.7s						
PSA00	Pilbara Seismi	25.35	224	P	P	04 50 05.7	+0.6
STKA	Stephens Creek	28.07	175	P	P	04 50 31.5	+2.1
	comp=Z,2.4nm,0.4s,baz=353,slow=8.5,SNR=8.5						
STKA	Stephens Creek	28.07	175	P	P	04 50 30.4	+1.0
FORT	Forrest	28.60	199	P	P	04 50 34.8	+0.6
FORT				IAmb	IAmb	04 50 38.0	
	comp=Z,16nm,0.8s						
BBOO	Buckleboo	28.95	184	P	P	04 50 38.0	+0.8
ARMA	Armidale	29.20	156	P	P	04 50 40.2	+0.6
TOO	Toolangi	34.20	170	P	P	04 51 23.8	+0.6
TOO				IAmb	IAmb	04 51 34.0	
	comp=Z,12nm,1.1s						
JNU	Nakatsue	37.45	349	P	P	04 51 50.8	-0.3
	comp=Z,18nm,0.7s,baz=195,slow=4.2,SNR=6.5						
JNU	Nakatsue	37.45	349	P	P	04 51 51.1	+0.1
JHS	Saijyo	38.94	353	P	P	04 52 03.9	+0.4
JWT	Wachi	39.00	356	P	P	04 52 04.3	+0.3
TAU	Tasmania Unive	39.71	170	P	P	04 52 10.7	+0.9
NJ2	Nanjing	40.29	334	*e*P	P	04 52 16.9	+2.2
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
KSRS	Korea Array	42.23	347	P	P	04 52 31.0	+0.5
	comp=Z,6.0nm,0.8s,baz=160,slow=8.7,SNR=14						
CM31	Chiang Mai Arr	44.87	301	P	P	04 52 53.3	+1.2
CM31				IAmb	IAmb	04 52 54.0	
	comp=Z,26nm,1.4s						
CMAR	Chiang Mai Arr	44.87	301	P	P	04 52 52.8	+0.7
	comp=Z,5.8nm,0.6s,baz=125,slow=6.3,SNR=21						
CMMT	Chiang Mai	45.02	301	P	P	04 52 54.4	+1.1
CHTO	Chiang Mai	45.02	301	P	P	04 52 53.4	0.0
CHTO	Chiang Mai	45.02	301	P	P	04 52 53.9	+0.6
	comp=Z,6.4nm,0.8s						
XAN	Xi'an	46.90	326	P	P	04 53 08.0	+0.2
XAN				pP	pP	04 53 24.2	-7.7
XAN				pmax	pmax		
	comp=Z,15nm,0.8s						
ASAJ	Asahikawa	47.84	4	P	P	04 53 14.8	-0.1
	comp=Z,2.7nm,0.3s,baz=200,slow=16,SNR=3.9						
USA0B	Ussuriysk Arra	48.16	354	P	P	04 53 18.3	+1.0
USA0B				IAmb	IAmb	04 53 18.8	
	comp=Z,9.3nm,0.7s						
USRK	Ussuriysk Ar.	48.16	354	P	P	04 53 16.9	-0.4
	comp=Z,8.0nm,0.7s,baz=179,slow=7.7,SNR=15						
USRK	Ussuriysk Ar.	48.16	354	P	P	04 53 17.9	+0.6
BJI	Beijing	48.24	337	P	P	04 53 18.0	0.0
BJI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
RPZ	Rata Peaks	49.02	149	P	P	04 53 24.6	+0.6
HHC	Hu-ho-hao-te	50.85	334	*e*P	P	04 53 39.0	+1.0
HHC				pmax	pmax		
	comp=Z,17nm,1.1s						
HHC				pmax	pmax		
	comp=Z,100nm,6.2s						
HHC				LR	LR		
	comp=N,120nm,16.0s						
HHC				LR	LR		
	comp=E,140nm,16.2s						
HHC				LR	LR		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,170nm,16.0s						
LZH	**Lanzhou**	**51.27**	**324**	*e*P	**P**	**04 53 42.8**	**+1.4**
LZH				pP	pP	04 54 09.3	+3.6
LZH				sP	sP	04 54 17.9	+0.9
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
KLR	**Kul'dur**	**53.16**	**354**	P	**P**	**04 53 55.4**	**+0.6**
	comp=Z,9.0nm,0.6s,baz=183,slow=4.2,SNR=31						
SHL	**Shillong**	**53.85**	**306**	P	**P**	**04 54 00.8**	**+0.2**
SHL				IAmb	IAmb	04 54 01.7	
	comp=Z,9.7nm,1.0s						
GTA	**Gaotai**	**55.87**	**324**	⇓P	**P**	**04 54 15.9**	**+1.1**
GTA				pP	pP	04 54 43.4	+3.9
GTA				sP	sP	04 54 57.0	+6.3
GTA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,85nm,5.8s						
GTA				LR	LR		
	comp=N,87nm,18.5s						
GTA				LR	LR		
	comp=E,170nm,18.9s						
GTA				LR	LR		
	comp=Z,86nm,16.4s						
ULN	**Ulaanbaatar**	**58.40**	**336**	P	**P**	**04 54 32.8**	**+0.3**
ULN	**Ulaanbaatar**	**58.40**	**336**	P	**P**	**04 54 33.6**	**+1.1**
	comp=Z,18nm,0.8s						
SONM	**Songino Array**	**58.65**	**335**	P	**P**	**04 54 35.0**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=158,slow=7.6,SNR=7.9						
SONM	**Songino Array**	**58.65**	**335**	P	**P**	**04 54 34.6**	**+0.4**
PETK	**Petropavlovsk-**	**58.95**	**13**	P	**P**	**04 54 36.7**	**+0.6**
	comp=Z,3.4nm,0.6s,baz=179,slow=7.1,SNR=13						
PETK	**Petropavlovsk-**	**58.95**	**13**	P	**P**	**04 54 36.5**	**+0.5**
MA2	**Magadan**	**63.92**	**7**	P	**P**	**04 55 09.6**	**+0.3**
	comp=Z,5.5nm,0.5s,baz=232,slow=3.7,SNR=4.6						
MA2	**Magadan**	**63.92**	**7**	P	**P**	**04 55 09.7**	**+0.3**
MA2				IAmb	IAmb	04 55 11.0	
	comp=Z,11nm,0.9s						
WMQ	**Urumqi**	**65.78**	**322**	*e*P	**P**	**04 55 24.2**	**+2.3**
SEY	**Seymchan**	**67.38**	**7**	P	**P**	**04 55 32.0**	**+0.5**
	comp=Z,1.7nm,0.5s,baz=181,slow=4.0,SNR=7.5						
ZSN	**Zaisan**	**69.36**	**324**	*e*P	**P**	**04 55 43.6**	**-0.7**
	baz=324						
MK31	**Makanchi Array**	**70.57**	**323**	P	**P**	**04 55 52.0**	**+0.3**
MK31				IAmb	IAmb	04 55 53.7	
	comp=Z,12nm,1.1s						
MKAR	**Makanchi Array**	**70.57**	**323**	P	**P**	**04 55 52.6**	**+1.0**
	comp=Z,8.2nm,0.7s,baz=113,slow=7.9,SNR=61						
MKAR	**Makanchi Array**	**70.57**	**323**	P	**P**	**04 55 52.5**	**+0.8**
SHLS	**Shalkode**	**70.74**	**318**	*e*P	**P**	**04 55 51.2**	**-1.7**
	baz=318						
MAKZ	**Makanchi**	**70.77**	**323**	P	**P**	**04 55 53.4**	**+0.5**
MAKZ				IAmb	IAmb	04 55 54.6	
	comp=Z,17nm,1.0s						
UZB	**Uzynbulak**	**71.03**	**318**	*e*P	**P**	**04 55 54.6**	**0.0**
	baz=318						
KPKS	**Kokpek**	**71.38**	**318**	*e*P	**P**	**04 55 56.1**	**-0.7**
	baz=318						
SATY	**Saty**	**71.40**	**318**	*e*P	**P**	**04 55 56.5**	**-0.4**
	baz=318						
KSH	**Kashi**	**71.73**	**314**	P	**P**	**04 56 01.3**	**+2.3**
KSH				PcP	**PcP**	**04 56 17.3**	**-0.2**
KSH				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MDOK	**Medeo**	**72.35**	**318**	*e*P	**P**	**04 56 00.8**	**-1.9**
	baz=318						
TNSS	**Tian-Shan**	**72.37**	**317**	*e*P	**P**	**04 56 01.3**	**-1.8**
	baz=317						
ZAA0	**Zalesovo Array**	**72.81**	**330**	P	**P**	**04 56 04.7**	**-0.2**
ZAA0				IAmb	IAmb	04 56 05.8	
	comp=Z,11nm,1.2s						
ZALV	**Zalesovo Beam**	**72.81**	**330**	P	**P**	**04 56 04.8**	**-0.1**
	comp=Z,3.1nm,0.5s,baz=110,slow=6.5,SNR=12						
BOOM	**Boomskoye usch**	**72.85**	**317**	P	**P**	**04 56 05.5**	**-0.2**
KUU	**Kurty**	**73.11**	**318**	*e*P	**P**	**04 56 06.6**	**-0.4**
	baz=318						
SGDS	**Sogindy**	**74.10**	**317**	*e*P	**P**	**04 56 11.8**	**-1.1**
	baz=317						
VNDA	**Vanda**	**74.70**	**175**	P	**P**	**04 56 16.4**	**+0.7**
	comp=Z,0.9nm,0.4s,baz=320,slow=9.2,SNR=12						
VNDA	**Vanda**	**74.70**	**175**	P	**P**	**04 56 16.8**	**+1.2**
BTLS	**Baital**	**75.06**	**319**	*e*P	**P**	**04 56 17.5**	**-0.8**
	baz=318						
TIXI	**Tiksi**	**75.58**	**357**	P	**P**	**04 56 21.5**	**+0.9**
GAR	**Garm**	**75.72**	**312**	P	**P**	**04 56 22.3**	**0.0**
GAR				IAmb	IAmb	04 56 23.1	
	comp=Z,7.1nm,0.8s						
CHGR	**Chuyangaron**	**76.49**	**311**	P	**P**	**04 56 26.7**	**+0.1**
CHGR				IAmb	IAmb	04 56 27.3	
	comp=Z,6.2nm,0.8s						
KK31	**Karatay Array**	**76.81**	**316**	P	**P**	**04 56 28.5**	**+0.2**
KKAR	**Karatay Array**	**76.81**	**316**	P	**P**	**04 56 28.8**	**+0.6**
KKAR	**Karatay Array**	**76.81**	**316**	P	**P**	**04 56 28.4**	**+0.2**
KKAR				IAmb	IAmb	04 56 29.1	
	comp=Z,2.6nm,0.6s						
IUG	**Iuzhnay**	**76.86**	**315**	*e*P	**P**	**04 56 28.3**	**-0.4**
	baz=315						
BRZS	**Berezniki**	**77.72**	**323**	*e*P	**P**	**04 56 32.2**	**-1.0**
	baz=323						
BRVK	**Borovoye**	**80.20**	**325**	P	**P**	**04 56 47.1**	**+0.4**
NRIK	**Noril'sk**	**80.73**	**344**	P	**P**	**04 56 49.5**	**+0.5**
	comp=Z,6.2nm,0.8s,baz=124,slow=3.5,SNR=4.1						
NRIK	**Noril'sk**	**80.73**	**344**	P	**P**	**04 56 49.6**	**+0.5**
NRIK				IAmb	IAmb	04 56 50.6	
	comp=Z,8.9nm,0.9s						
MAW	**Mawson**	**81.06**	**202**	P	**P**	**04 56 53.6**	**+2.7**
	comp=Z,1.4nm,0.6s,baz=56,slow=6.6,SNR=6.8						
MAW	**Mawson**	**81.06**	**202**	P	**P**	**04 56 51.6**	**+0.6**
OHAK	**Old Harbor**	**81.56**	**31**	P	**P**	**04 56 54.8**	**+1.0**
OHAK				IAmb	IAmb	04 56 55.1	
	comp=Z,8.6nm,0.7s						
O18K	**Koktuh Hills**	**81.60**	**28**	P	**P**	**04 56 54.2**	**+0.3**
O18K				IAmb	IAmb	04 56 55.2	
	comp=Z,5.9nm,0.7s						
SVW2	**Sparrevohn**	**81.91**	**27**	P	**P**	**04 56 56.0**	**+0.4**
SVW2				IAmb	IAmb	04 56 57.9	
	comp=Z,7.0nm,0.8s						
N19K	**Bonanza Creek**	**82.30**	**27**	P	**P**	**04 56 58.3**	**+0.6**
N19K				IAmb	IAmb	04 56 59.7	
	comp=Z,12nm,1.0s						
L19K	**White Mountain**	**82.66**	**26**	P	**P**	**04 56 59.3**	**-0.2**
L19K				IAmb	IAmb	04 57 01.6	
	comp=Z,11nm,0.8s						
M19K	**Big River Lodg**	**82.75**	**26**	P	**P**	**04 57 00.8**	**+0.9**
M19K				IAmb	IAmb	04 57 02.2	
	comp=Z,15nm,1.3s						
M20K	**Styx River**	**83.30**	**26**	P	**P**	**04 57 03.6**	**+0.7**
M20K				IAmb	IAmb	04 57 04.8	
	comp=Z,12nm,0.9s						
K20K	**Telida**	**83.44**	**25**	P	**P**	**04 57 04.4**	**+1.0**
K20K				IAmb	IAmb	04 57 05.8	
	comp=Z,9.3nm,0.9s						
J20K	**Nowinta River**	**83.72**	**24**	P	**P**	**04 57 06.0**	**+1.2**
J20K				IAmb	IAmb	04 57 07.1	
	comp=Z,12nm,1.1s						
SKT	**Skwentna**	**84.04**	**26**	P	**P**	**04 57 07.4**	**+0.9**
IMAR	**Indian Mountai**	**84.55**	**22**	P	**P**	**04 57 09.6**	**+0.6**
KTH	**Kantishna Hill**	**84.83**	**25**	P	**P**	**04 57 10.8**	**+0.2**
KTH				IAmb	IAmb	04 57 11.3	
	comp=Z,15nm,1.0s						
PMR	**Palmer**	**85.00**	**27**	P	**P**	**04 57 10.9**	**-0.4**
PMR				IAmb	IAmb	04 57 12.2	
	comp=Z,11nm,1.0s						
MLY	**Manley**	**85.39**	**24**	P	**P**	**04 57 13.7**	**+0.4**
MLY				IAmb	IAmb	04 57 14.8	
	comp=Z,4.3nm,0.6s						
SML	**Sawmill**	**85.43**	**27**	P	**P**	**04 57 13.3**	**-0.3**
SML				IAmb	IAmb	04 57 14.8	
	comp=Z,15nm,1.0s						
ABKAR	**Akbulak array**	**85.47**	**320**	P	**P**	**04 57 13.5**	**-0.5**
BWN	**Browne**	**85.64**	**25**	P	**P**	**04 57 14.8**	**+0.4**
RND	**Reindeer**	**85.67**	**26**	P	**P**	**04 57 14.2**	**-0.5**
MCK	**McKinley**	**85.73**	**25**	P	**P**	**04 57 14.9**	**0.0**
MCK				IAmb	IAmb	04 57 15.7	
	comp=Z,11nm,0.8s						
I23K	**Minto, Yukon-K**	**85.98**	**24**	P	**P**	**04 57 17.0**	**+0.9**
I23K				IAmb	IAmb	04 57 17.7	
	comp=Z,9.8nm,0.7s						
QSPA	**South Pole Qui**	**86.14**	**180**	P	**P**	**04 57 18.0**	**+0.9**
QSPA				IAmb	IAmb	04 57 23.2	
	comp=Z,5.5nm,0.7s						
H24K	**Noodor Dome**	**86.78**	**23**	P	**P**	**04 57 21.1**	**+1.0**
H24K				IAmb	IAmb	04 57 22.0	
	comp=Z,16nm,1.2s						
IL31		**86.88**	**24**	P	**P**	**04 57 19.8**	**-0.7**
IL31				IAmb	IAmb	04 57 20.5	
	comp=Z,14nm,1.2s						
ILAR	**Eielson Array**	**86.88**	**24**	P	**P**	**04 57 19.6**	**-0.9**
	comp=Z,5.1nm,0.7s,baz=261,slow=4.4,SNR=62						
ILAR	**Eielson Array**	**86.88**	**24**	P	**P**	**04 57 19.8**	**-0.8**
TOLK	**Toolik Lake Re**	**86.99**	**20**	P	**P**	**04 57 21.6**	**+0.5**
TOLK				IAmb	IAmb	04 57 23.1	
	comp=Z,8.1nm,0.7s						
RIDG	**Independent Ri**	**87.48**	**26**	P	**P**	**04 57 23.6**	**+0.1**
RIDG				IAmb	IAmb	04 57 25.0	
	comp=Z,11nm,1.0s						
CRQM	**Cirque**	**87.59**	**29**	P	**P**	**04 57 24.7**	**+0.4**
CRQM				IAmb	IAmb	04 57 25.6	
	comp=Z,13nm,1.0s						
SCRK	**Sand Creek**	**87.91**	**26**	P	**P**	**04 57 25.8**	**+0.1**
L26K	**Log Cabin Wild**	**87.98**	**27**	P	**P**	**04 57 27.1**	**+1.2**
FYU	**Fort Yukon**	**88.01**	**23**	P	**P**	**04 57 27.1**	**+1.2**
MESA	**MESA**	**88.06**	**29**	P	**P**	**04 57 27.0**	**+0.5**
BARN	**Barnard Glacie**	**88.36**	**29**	P	**P**	**04 57 28.2**	**+0.2**
BMAR	**Burnt Mountain**	**88.47**	**22**	P	**P**	**04 57 29.2**	**+1.1**
TABL	**Table Mountain**	**88.50**	**29**	P	**P**	**04 57 29.5**	**+0.8**
CTGM	**Chitina Glacie**	**88.50**	**29**	P	**P**	**04 57 29.1**	**+0.5**
M27K	**Edge Creek, AK**	**88.51**	**27**	P	**P**	**04 57 29.4**	**+0.8**
M27K				IAmb	IAmb	04 57 30.7	
	comp=Z,5.8nm,1.1s						
L27K	**Beaver Creek,**	**88.67**	**27**	P	**P**	**04 57 30.1**	**+0.9**
L27K				IAmb	IAmb	04 57 31.3	
	comp=Z,6.1nm,0.8s						
BCAR	**Beaver Creek A**	**88.69**	**27**	P	**P**	**04 57 30.4**	**+1.2**
K27K	**Chicken**	**88.74**	**26**	P	**P**	**04 57 30.3**	**+0.8**
EGAK	**Eagle**	**89.28**	**25**	P	**P**	**04 57 32.9**	**+1.0**
EGAK				IAmb	IAmb	04 57 33.7	
	comp=Z,6.7nm,0.8s						
HYT	**Haines Junctio**	**90.33**	**29**	P	**P**	**04 57 37.3**	**+0.2**
HYT				IAmb	IAmb	04 57 39.2	
	comp=Z,6.5nm,1.1s						
ARCES	**ARCESS Array B**	**101.49**	**341**	P	**Pdif**	**04 58 26.9**	**-0.6**
	comp=Z,3.8nm,0.7s,baz=74,slow=6.9,SNR=10						
TORD	**Torodi Ar. Bea**	**136.42**	**285**	PKP	**PKiKP**	**05 03 58.7**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=35,slow=1.9,SNR=4.4						
CPUP	**Villa Florida**	**146.32**	**154**	PKPbc	**PKPab**	**05 04 17.8**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=205,slow=11,SNR=2.0						
LPAZ	**La Paz**	**146.90**	**128**	PKPbc	**PKPab**	**05 04 21.0**	**-0.4**
	comp=Z,2.8nm,0.7s,baz=296,slow=2.7,SNR=17						
LPAZ	**La Paz**	**146.90**	**128**		**PKPbc**	**05 04 18.9**	**-1.0**
ROSC	**El Rosal**	**147.19**	**87**	PKPbc	**PKPbc**	**05 04 20.8**	**+0.2**
	comp=Z,9.1nm,0.6s,baz=58,slow=13,SNR=5.0						
ROSC	**El Rosal**	**147.19**	**87**	PKPbc	**PKPbc**	**05 04 19.2**	**-1.3**

JMA 09 04:45:00.4±0.1**,37°.84N**×**141°.84E,h41**km±2km**,M3.9,**
Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.56**	**328**	P	Pn	04 45 11.9	0.0
JIKH				S	Sn	04 45 19.8	-0.3
JIO	**Ouri**	**0.72**	**328**	P	Pn	04 45 14.3	+0.1
JIO				S	Sn	04 45 23.9	-0.2
JMST	**Minamisoumatoc**	**0.76**	**262**	P	Pn	04 45 14.7	0.0
JMST				S	Sn	04 45 24.8	-0.2
JMM	**Marumori**	**0.83**	**272**	P	Pn	04 45 15.8	+0.2
JMM				S	Sn	04 45 26.6	-0.1
JFK	**Kawauchi**	**0.90**	**239**	P	Pn	04 45 16.5	-0.1
JFK				S	Sn	04 45 27.8	-0.7
JKMT	**Kesennumamotoy**	**1.01**	**344**	P	Pn	04 45 18.1	0.0
JKMT				S	Sn	04 45 30.5	-0.6
JOU	**Okura**	**1.07**	**300**	P	Pn	04 45 19.5	+0.6
JOU				S	Sn	04 45 33.4	+0.9
ONAJ	**Iwakimizuishiy**	**1.11**	**229**	P	Pn	04 45 19.3	-0.2
ONAJ				S	Sn	04 45 33.1	-0.5
JMK	**Ichinoseki**	**1.21**	**336**	P	Pn	04 45 21.3	+0.4
JMK				S	Sn	04 45 37.0	+0.9
JFT	**Otama**	**1.23**	**255**	P	Pn	04 45 22.4	+1.2
JFT				S	Sn	04 45 38.0	+1.3
JYS	**Shirataka**	**1.45**	**286**	P	Pn	04 45 24.9	+0.7
JYS				S	Sn	04 45 42.9	+0.9
JYK	**Kaneyama**	**1.58**	**313**	P	Pn	04 45 26.9	+0.9
JOM	**Ohasama**	**1.69**	**345**	P	Pn	04 45 28.2	+0.8
JOM				S	Sn	04 45 49.4	+1.6
JFY	**Yanaizu**	**1.75**	**256**	P	Pn	04 45 29.5	+1.2
JFY				S	Sn	04 45 52.4	+3.0
MAT	**Matsushiro**	**3.18**	**247**	P	Pn	04 45 51.6	+3.7
MAT				*e*S	Sn	04 46 28.7	+4.2

IDC 09 04:45:03.9±4.3**,44°.21N**×**150°.85E,h0**km**,mb3.5**/2**,**
mb1 3.8/4**,mb1mx3.4**/38**,mbtmp3.7**/4**,ML3.8**/1**,Error**
ellipse: s-maj=87.5km s-min=42.8km az=146.0,East of
Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**5.94**	**272**	Pn	Pn	04 46 32.9	-0.1
	2.5nm,0.3s,baz=86,slow=19,SNR=3.6						
ASAJ				Sn	Sn	04 47 45.0	+3.2
	1.6nm,0.3s,baz=60,slow=8.1,SNR=2.1						
MJAR	**Matsushiro Arr**	**12.30**	**236**	Pn	Pn	04 48 00.4	+0.1
	baz=103,slow=13,SNR=1.1						
MKAR	**Makanchi Array**	**46.72**	**299**	P	P	04 53 33.2	-1.3
	0.2nm,0.5s,baz=64,slow=6.6,SNR=1.7						
AKASG	**Malin Array Be**	**72.75**	**325**	P	P	04 56 34.5	+0.8
	0.5nm,0.4s,baz=44,slow=6.7,SNR=2.5						

IDC 09 05:06:12.3±2.2**,5°.99N**×**124°.31E,h0**km**,mb3.9**/3**,**
mb1 4.2/3**,mb1mx3.6**/37**,mbtmp3.9**/3**,Error ellipse:**
s-maj=203.5km s-min=27.9km az=64.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.59**	**159**	P	P	05 12 02.3	+0.8
	2.2nm,0.4s,baz=339,slow=10,SNR=44						
ASAR	**Alice Springs**	**30.93**	**163**	P	P	05 12 30.3	-0.8
	0.8nm,0.5s,baz=334,slow=7.2,SNR=9.2						
MKAR	**Makanchi Array**	**54.34**	**326**	P	P	05 15 40.7	-0.1
	0.3nm,0.4s,baz=120,slow=8.4,SNR=3.6						

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*ANF **09** 05:11:03.1±0.5,57°.02N×157°.00W,h0km±5km,ML3.8/21,*
ML3.8/21,Error ellipse: s-maj=2.9km s-min=2.3km
az=101.0
*AEIC **09** 05:11:04±1.5,57°.00N±0°.03×157°.19W±0°.06,h1km±5km,*
ML3.4,ML3.5/42(NEIC),Error ellipse: s-maj=6.1km
s-min=3.5km az=132.0
*NEIC **09** 05:11:04.6±1.5,57°.00N±0°.03×157°.20W±0°.03,h14km±8km,*
Error ellipse: s-maj=4.5km s-min=2.7km az=178.0
ISC 09 05:11:03.7±1.3**,56°.99N**±0°.03×**157°.11W**±0°.03**,h7**km±11km**,**
n146,σ**0°.73**/150**,Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANNE	**Aniakchak Nort**	**0.53**	**262**		**Pb**	**05 11 14.4**	**-0.9**
ANPK	**Aniakchak Peak**	**0.58**	**256**		**Pb**	**05 11 15.5**	**-0.7**
ANPB	**Aniakchak Plen**	**0.67**	**254**		**Pb**	**05 11 17.1**	**-0.6**
PLK3	**Peulik 3**	**0.84**	**33**		**Sb**	**05 11 32.6**	**+0.5**
PLK1	**Peulik 1**	**0.86**	**18**		**Pg**	**05 11 20.2**	**0.0**
CHGN	**Chignik**	**1.00**	**227**		**Pg**	**05 11 22.7**	**-0.1**
CHGN					**Sb**	**05 11 37.9**	**+1.3**
CHGN	**Chignik**	**1.00**	**227**	P	**Pg**	**05 11 22.9**	**+0.1**
	baz=44						
CHGN				S	**Sb**	**05 11 37.4**	**+0.8**
	baz=44						
PLK5	**Peulik 5**	**1.02**	**7**		**Pb**	**05 11 24.2**	**+0.5**
KJL	**Kejulik**	**1.35**	**37**		**Pg**	**05 11 29.2**	**-0.3**
VNHG	**Veniaminof 1**	**1.37**	**237**		**Pg**	**05 11 29.0**	**-1.0**
CHIR	**Chirikof Islan**	**1.43**	**144**		**Pn**	**05 11 30.2**	**+0.1**
CHIR					**Sg**	**05 11 50.1**	**+0.5**
CHIR	**Chirikof Islan**	**1.43**	**144**	IAML		05 11 53.8	
	comp=E,942nm,0.8s						
CHIR	**Chirikof Islan**	**1.43**	**144**	P	**Pn**	**05 11 30.1**	**+0.1**
	baz=324						
CHIR				S	**Sg**	**05 11 50.6**	**+1.0**
	baz=324						
CAHL	**Cahill**	**1.45**	**42**		**Pn**	**05 11 30.7**	**+0.4**
ANCK	**Angle Creek**	**1.49**	**35**		**Pn**	**05 11 31.8**	**+0.8**
MGLS	**Mageik Landsli**	**1.56**	**42**		**Pn**	**05 11 32.4**	**+0.6**
MGLS					**Sn**	**05 11 52.8**	**+0.5**
ACHA	**Angle Creek He**	**1.56**	**37**		**Sn**	**05 11 53.3**	**+1.0**
KABR	**Katmai Barrier**	**1.63**	**44**		**Pn**	**05 11 33.3**	**+0.5**
KABR					**Sn**	**05 11 54.4**	**+0.4**
KCE	**Katmai Mt Cerb**	**1.63**	**39**		**Pn**	**05 11 33.7**	**+0.9**
KELA	**Mount Kelaz**	**1.63**	**26**		**Pn**	**05 11 33.3**	**+0.4**
SII	**Sitkinak Islan**	**1.67**	**104**		**Pn**	**05 11 33.2**	**-0.1**
SII					**Sn**	**05 11 55.7**	**+0.8**
SII	**Sitkinak Islan**	**1.67**	**104**	P	**Pn**	**05 11 33.1**	**-0.2**
	baz=286						
SII				S	**Sn**	**05 11 53.9**	**-1.0**
	baz=286						
KVTA	**Katmai Vly 10**	**1.70**	**34**		**Pn**	**05 11 34.6**	**+0.8**
KAWH	**Katmai**	**1.87**	**41**		**Pn**	**05 11 36.7**	**+0.6**
OHAK	**Old Harbor**	**2.10**	**82**		**Pn**	**05 11 39.0**	**-0.3**
OHAK					**Sn**	**05 12 06.2**	**+0.7**
OHAK	**Old Harbor**	**2.10**	**82**	IAML		05 12 09.5	
	comp=E,510nm,0.7s						
OHAK	**Old Harbor**	**2.10**	**82**	P	**Pn**	**05 11 38.9**	**-0.3**
	baz=266,SNR=47						
OHAK				S	**Sn**	**05 12 04.6**	**-0.9**
	baz=266						
SDPT	**Sand Point**	**2.50**	**230**		**Pn**	**05 11 45.2**	**+0.5**
SDPT					**Sn**	**05 12 16.2**	**+0.8**
SDPT	**Sand Point**	**2.50**	**230**	IAML		05 12 38.7	
	comp=N,187nm,0.9s						
SDPT				IAML		05 12 41.2	
	comp=E,211nm,0.9s						
SDPT	**Sand Point**	**2.50**	**230**	P	**Pn**	**05 11 45.8**	**+1.1**
	baz=47						
CHNA	**Chernabura Isl**	**2.57**	**214**	P	**Pn**	**05 11 47.5**	**+1.8**
	baz=31						
KDAK	**Kodiak Island**	**2.58**	**70**		**Pn**	**05 11 45.7**	**-0.1**
KDAK					**Sn**	**05 12 18.4**	**+1.0**
KDAK	**Kodiak Island**	**2.58**	**70**	IAML		05 12 21.4	
	comp=E,215nm,0.8s						
KDAK				IAML		05 12 25.7	
	comp=E,328nm,1.0s						
KDAK	**Kodiak Island**	**2.58**	**70**	P	**Pn**	**05 11 45.4**	**-0.3**
	baz=254						
KDAK				S	**Sn**	**05 12 16.2**	**-1.1**
	baz=254						
CNBA	**Chernabura Isl**	**2.58**	**214**		**Pn**	**05 11 45.8**	**-0.1**
CNBA	**Chernabura Isl**	**2.58**	**214**	IAML		05 12 34.5	
	comp=E,188nm,0.7s						
Q19K	**Cape Douglas,**	**2.68**	**42**		**Pn**	**05 11 46.5**	**-0.7**
Q19K					**Sn**	**05 12 21.1**	**+1.1**
Q19K	**Cape Douglas,**	**2.68**	**42**	IAML		05 12 29.1	
	comp=N,326nm,0.9s						
Q19K	**Cape Douglas,**	**2.68**	**42**	P	**Pn**	**05 11 46.4**	**-0.9**
	baz=226,SNR=24						
O18K	**Koktuh Hills**	**3.04**	**18**		**Pn**	**05 11 52.2**	**-0.1**
O18K	**Koktuh Hills**	**3.04**	**18**	IAML		05 12 44.4	
	comp=N,116nm,0.5s						
O18K	**Koktuh Hills**	**3.04**	**18**	P	**Pn**	**05 11 51.3**	**-0.9**
	baz=201,SNR=17						
AUW	**Augustine West**	**3.07**	**37**		**Pn**	**05 11 52.5**	**0.0**
AUQ	**Augustine Qik'**	**3.08**	**38**		**Pn**	**05 11 52.7**	**0.0**
OPT	**Oil Point**	**3.36**	**36**		**Pn**	**05 11 56.9**	**+0.2**
P19K	**Oil Pt**	**3.36**	**36**		**Pn**	**05 11 56.8**	**+0.1**
P19K					**Sn**	**05 12 37.1**	**+0.3**
P19K	**Oil Pt**	**3.36**	**36**	IAML		05 12 55.1	
	comp=E,153nm,0.8s						
P19K				IAML		05 13 12.6	
	comp=N,116nm,0.8s						
P19K	**Oil Pt**	**3.36**	**36**	P	**Pn**	**05 11 55.7**	**-1.0**
	baz=220						
O19K	**Port Alsworth**	**3.53**	**23**		**Pn**	**05 11 58.2**	**-0.7**
O19K	**Port Alsworth**	**3.53**	**23**	P	**Pn**	**05 11 58.1**	**-0.8**
	baz=206,SNR=7.2						
ILS	**Iliamna Low So**	**3.66**	**34**		**Pn**	**05 12 00.7**	**0.0**
IVE	**Iliamna Volcan**	**3.72**	**34**		**Pn**	**05 12 01.1**	**-0.5**
N18K	**Kilae Creek**	**3.76**	**9**		**Pn**	**05 12 01.4**	**-0.7**
N18K					**Sn**	**05 12 47.0**	**+0.5**
N18K	**Kilae Creek**	**3.76**	**9**	IAML		05 13 04.1	
	comp=E,67nm,0.8s						
N18K	**Kilae Creek**	**3.76**	**9**	P	**Pn**	**05 12 01.1**	**-1.0**
	baz=191,SNR=11						
N18K				Sb	**Sb**	**05 12 55.9**	**-0.2**
	baz=191						
O20K	**Slope Mountain**	**3.89**	**35**		**Pn**	**05 12 04.0**	**0.0**
O20K	**Slope Mountain**	**3.89**	**35**	P	**Pn**	**05 12 03.4**	**-0.5**
	baz=220,SNR=6.8						
HOM	**Homer**	**3.93**	**45**		**Pn**	**05 12 04.5**	**+0.1**
HOM	**Homer**	**3.93**	**45**	IAML		05 12 57.4	
	comp=N,107nm,1.2s						
HOM	**Homer**	**3.93**	**45**	P	**Pn**	**05 12 04.2**	**-0.2**
	baz=230						
CNPM	**China Poot**	**4.01**	**48**		**Pn**	**05 12 06.0**	**+0.5**
N19K	**Bonanza Creek**	**4.07**	**18**		**Pn**	**05 12 05.9**	**-0.5**
N19K					**Sn**	**05 12 55.2**	**+0.8**
N19K	**Bonanza Creek**	**4.07**	**18**	IAML		05 13 12.8	
	comp=N,67nm,0.9s						
N19K				IAML		05 13 17.1	
	comp=E,52nm,0.6s						
N19K	**Bonanza Creek**	**4.07**	**18**	P	**Pn**	**05 12 05.8**	**-0.6**
	baz=201,SNR=8.5						
N19K				Sb	**Sb**	**05 13 05.4**	**+0.3**
	baz=201						
FALS	**False Pass**	**4.14**	**242**		**Pn**	**05 12 08.2**	**+0.9**
FALS	**False Pass**	**4.14**	**242**	P	**Pn**	**05 12 09.0**	**+1.7**
	baz=56						
RDWB	**Redoubt West**	**4.16**	**31**		**Pn**	**05 12 07.3**	**-0.4**
RSO	**Redoubt South**	**4.16**	**31**		**Pn**	**05 12 07.6**	**-0.2**
NCT	**North Crescent**	**4.19**	**29**		**Pn**	**05 12 07.8**	**-0.3**
SVW2	**Sparrevohn**	**4.20**	**10**		**Pn**	**05 12 07.5**	**-0.6**
SVW2	**Sparrevohn**	**4.20**	**10**	IAML		05 13 24.0	
	comp=N,43nm,0.8s						
SVW2				IAML		05 13 24.4	
	comp=E,49nm,1.1s						
RDJH	**Redoubt Jeurge**	**4.25**	**30**		**Pn**	**05 12 08.5**	**-0.4**
DFR	**Drift River**	**4.28**	**31**		**Pn**	**05 12 08.7**	**-0.6**
BRLK	**Bradley Lake**	**4.30**	**47**		**Pn**	**05 12 09.9**	**+0.4**
BRLK	**Bradley Lake**	**4.30**	**47**	IAML		05 13 21.6	
	comp=E,50nm,0.6s						
BRSE	**Bradley Lake S**	**4.34**	**48**		**Pn**	**05 12 09.7**	**-0.4**
BRSE	**Bradley Lake S**	**4.34**	**48**	P	**Pn**	**05 12 09.2**	**-0.9**
	baz=234						
BRSE				S	**Sn**	**05 12 59.2**	**-1.8**
	baz=234						
CAPN	**Captain Cook N**	**4.89**	**37**	P	**Pn**	**05 12 16.1**	**-1.5**
	baz=222						
SPCP	**Crater Peak Br**	**4.99**	**29**		**Pn**	**05 12 19.0**	**-0.1**
SLKM	**Skilak Lake**	**5.03**	**43**		**Pn**	**05 12 19.6**	**+0.1**
SEW	**Seward**	**5.08**	**49**		**Pn**	**05 12 20.7**	**+0.5**
SEW	**Seward**	**5.08**	**49**	S	**Sn**	**05 13 17.0**	**-2.0**
	baz=236						
M19K	**Big River Lodg**	**5.12**	**15**		**Pn**	**05 12 20.0**	**-0.8**
M19K	**Big River Lodg**	**5.12**	**15**	IAML		05 13 59.6	
	comp=N,25nm,0.9s						
M19K				IAML		05 14 00.8	
	comp=E,29nm,1.1s						
M19K	**Big River Lodg**	**5.12**	**15**	P	**Pn**	**05 12 19.9**	**-0.8**
	baz=197,SNR=6.4						
O22K	**Cooper Landing**	**5.20**	**45**		**Pn**	**05 12 22.4**	**+0.5**
M20K	**Styx River**	**5.31**	**21**		**Pn**	**05 12 23.4**	**0.0**
M20K	**Styx River**	**5.31**	**21**	IAML		05 14 02.9	
	comp=E,21nm,2.0s						
M20K	**Styx River**	**5.31**	**21**	P	**Pn**	**05 12 22.9**	**-0.5**
	baz=205						
L19K	**White Mountain**	**5.33**	**11**		**Pn**	**05 12 23.5**	**-0.2**
L19K	**White Mountain**	**5.33**	**11**	IAML		05 13 57.5	
	comp=E,40nm,1.1s						
L19K	**White Mountain**	**5.33**	**11**	P	**Pn**	**05 12 23.1**	**-0.6**
	baz=194,SNR=19						
SUA	**Susitna One**	**5.55**	**33**		**Pn**	**05 12 26.8**	**+0.1**
SUA	**Susitna One**	**5.55**	**33**	P	**Pn**	**05 12 26.2**	**-0.5**
	baz=219						
RC01	**Rabbit Creek A**	**5.60**	**40**		**Pn**	**05 12 27.4**	**+0.1**
RC01	**Rabbit Creek A**	**5.60**	**40**	P	**Pn**	**05 12 26.8**	**-0.5**
	baz=226						
AKSA	**Akutan Strait**	**5.65**	**243**		**Pn**	**05 12 28.3**	**+0.3**
L20K	**Farewell, AK**	**5.75**	**15**		**Pn**	**05 12 29.1**	**-0.3**
L20K	**Farewell, AK**	**5.75**	**15**	P	**Pn**	**05 12 28.5**	**-0.8**
	baz=198						
SKT	**Skwentna**	**5.76**	**27**		**Pn**	**05 12 29.8**	**+0.4**
SKT	**Skwentna**	**5.76**	**27**	P	**Pn**	**05 12 29.6**	**+0.1**
	baz=212						
PWL	**Port Wells**	**5.97**	**46**		**Pn**	**05 12 31.9**	**-0.6**
PMR	**Palmer**	**6.16**	**38**		**Pn**	**05 12 37.3**	**+2.3**
UNV	**Unalaska Valle**	**6.21**	**243**		**Pn**	**05 12 35.6**	**-0.1**
UNV	**Unalaska Valle**	**6.21**	**243**	P	**Pn**	**05 12 37.7**	**+2.0**
	baz=55						
KNK	**Knik Glacier**	**6.28**	**41**		**Pn**	**05 12 36.4**	**-0.3**
GHO	**Glory Hole Cre**	**6.36**	**38**		**Pn**	**05 12 37.7**	**-0.1**
PPLA	**Purkeypile**	**6.42**	**21**		**Pn**	**05 12 39.3**	**+0.6**
PPLA	**Purkeypile**	**6.42**	**21**	P	**Pn**	**05 12 38.8**	**+0.1**
	baz=205						
HIN	**Hinchinbrook I**	**6.50**	**54**		**Pn**	**05 12 39.2**	**-0.5**
K20K	**Telida**	**6.57**	**12**		**Pn**	**05 12 40.3**	**-0.4**
K20K	**Telida**	**6.57**	**12**	P	**Pn**	**05 12 40.2**	**-0.4**

baz=195
FID Port Fidalgo 6.68 51 Pn 05 12 40.7 -1.3
EYAK Cordova Ski Ar 6.90 54 Pn 05 12 44.5 -0.6
EYAK Cordova Ski Ar 6.90 54 P Pn 05 12 44.2 -0.9
baz=244
SCM Sheep Creek Mo 6.96 42 Pn 05 12 46.4 +0.3
WAT7 Susitna Watana 7.18 32 Pn 05 12 48.9 -0.2
KTH Kantishna Hill 7.27 22 Pn 05 12 50.5 +0.2
KLU Klutina 7.30 47 Pn Pn 05 12 50.3 -0.3
KLU Klutina 7.30 47 P Pn 05 12 49.8 -0.9
baz=237
TRF Thorofare Moun 7.31 25 Pn Pn 05 12 50.6 -0.4
WAT6 Susitna Watana 7.33 36 Pn 05 12 50.9 -0.3
WAT6 Susitna Watana 7.33 36 P Pn 05 12 50.3 -0.8
baz=225
J20K Nowinta River 7.36 10 Pn 05 12 51.2 -0.2
J20K Nowinta River 7.36 10 P Pn 05 12 51.1 -0.4
baz=193
NICHA Nichawak Mount 7.59 59 Pn 05 12 53.7 -1.0
BPAW Bear Paw Mtn. 7.74 20 Pn 05 12 56.4 -0.3
BPAW Bear Paw Mtn. 7.74 20 P Pn 05 12 57.4 +0.6
baz=206
N25K Chitina, Valde 7.89 49 Pn 05 12 58.2 -0.6
KHIT Khitrov Hills 8.00 59 Pn 05 12 59.4 -0.9
SNH Sunshine Point 8.11 61 Pn 05 13 01.3 -0.5
GLB Gilahina Butte 8.15 51 Pn 05 13 01.8 -0.5
KULT Kultieth River 8.19 60 Pn 05 13 02.1 -0.8
WAX Waxell Ridge 8.19 59 Pn 05 13 01.8 -1.0
BARK Barkley Ridge 8.34 60 Pn 05 13 04.3 -0.7
ISLE Juniper Island 8.48 59 Pn 05 13 05.9 -1.0
BAGL Bagley Icefiel 8.56 60 Pn 05 13 07.3 -0.5
I21K Tanana 8.58 15 Pn 05 13 07.8 -0.4
YAH Yahtse 8.69 61 Pn 05 13 09.0 -0.8
GRNC Granite Creek 8.79 58 Pn 05 13 10.6 -0.7
RKAV Rock Avalanche 8.86 61 Pn 05 13 11.6 -0.5
TABL Table Mountain 8.99 61 Pn 05 13 13.3 -0.7
MDM Murphy Dome 9.08 25 Pn 05 13 14.8 -0.2
IM03 9.17 9 Pn 05 13 15.6 -0.6
PNL Peninsula 9.69 67 Pn 05 13 22.1 -1.3
BC03 9.78 45 Pn 05 13 23.9 -0.6

BJI ***09*** *05:43:51.9±0.0,45°.27N×150°.70E,h56km,mB5.0/57, mb5.2/77,Ms4.7/78,Ms7 4.5/76*

NIED ***09*** *05:43:51.2,45°.45N×150°.71E,h30km,MW5.1,Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; Mrr2.47; Mθθ-0.39; Mφφ-2.07; Mrθ2.41; Mθφ-1.92; Mφr2.97; Fault plane solution: M0 4.80000×10^16^ NP1:φs39.00000°, δ72.00000°,λ95.00000°. NP2:φs204.00000°,δ19.00000°, λ76.00000°.*

JMA ***09*** *05:43:51.1±0.6,45°.45N×150°.71E,h30km,M5.2*

BGR ***09*** *05:43:51.5±0.0,45°.98N×151°.14E,h33km,mb5.3*

SKHL ***09*** *05:43:52.9±0.6,45°.10N×150°.70E,h63km±7km,mb5.6/14, mbv5.3/4,ms4.5/7,msh5.3/2*

MOS ***09*** *05:43:53.1±0.9,45°.22N×150°.59E,h62km,mb5.4/92, MS4.4/23,Error ellipse: s-maj=6.1km s-min=5.4km az=40.5*

GCMT ***09*** *05:43:54.8±0.2,45°.31N±0°.01×150°.66E±0°.02,h39km, MW5.1/104,Moment Tensor Solution. s80,c103; s104,c150; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr5.52±.21; Mθθ-2.55±.15; Mφφ-2.97±.15; Mrθ0.76±.13; Mθφ-3.22±.08; Mφr2.23±.12; Best double couple: M0 6.22400×10^16^ NP1:φs233.00000°,δ36.00000°, λ106.00000°. NP2:φs34.00000°,δ56.00000°,λ79.00000°. Principal axes: T 6.0700, Plg76.0000°, Azm269.0000°; N 0.3080, Plg9.0000°, Azm40.0000°; P -6.3780, Plg10.0000°, Azm132.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***09*** *05:43:56.8±1.9,45°.32N±0°.09×150°.4E±0°.1,h64km±4km, mb5.2/623 Error ellipse: s-maj=13.7km s-min=9.4km az=151.0*

IDC ***09*** *05:43:56.2±1.9,45°.39N×150°.40E,h60km±16km,mb4.8/33, mb1 4.9/41,mb1mx4.8/53,mbtmp5.0/41,MS4.3/28, Ms1 4.3/28,ms1mx4.2/37,Error ellipse: s-maj=12.1km s-min=8.2km az=137.0*

ISC 09 05:43:55.0±0.5,45°.23N±0°.04×150°.52E±0°.03,h55km±3km, h55km:pP-P,n1466,σ1§26/1273,mb5.2/531,MS4.6/65, 398C-194D,Fault plane solution: NP1:φs197.53352°, δ43.28587°,λ74.02867°. **NP2:φs38.99673°,δ48.76318°,** λ104.52946°. **Principal axes:** T Plg78.7656°, Azm14.5785°; N Plg10.8745°, Azm209.3022°; P Plg2.7872°, Azm118.7663°; **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.87**	**271**	*i* P	**Pn**	**05 44 23.5**	**-1.1**
KUR				*i* S	**Sn**	**05 44 46.8**	**-0.3**
KUR	comp=Z,8μm,0.5s			pmax	pmax		
KUR	comp=N,3μm,0.4s			pmax	pmax		
KUR	comp=E,1μm,0.3s			smax	smax		
KUR	comp=N,13μm,0.6s			smax	smax		
KUR	comp=E,4μm,0.2s						
KUR	**Kuril'sk**	**1.87**	**271**	*i* P	**Pn**	**05 44 23.0**	**-1.6**
KUR	comp=E,8μm,0.4s			AMB	AMB	05 44 24.0	
KUR				*i* S	**Sn**	**05 44 46.0**	**-1.1**
KUR	comp=E,14μm,0.4s			A	A	05 44 47.0	
KUR	comp=E,4μm,0.4s			A	A	05 44 47.0	
YUK	**Yuzh-Kuril'sk**	**3.53**	**252**	⇑*i* PN	**Pn**	**05 44 47.8**	**+0.5**
YUK				*e*S	**Sn**	**05 45 29.1**	**+1.3**
YUK	comp=Z,2μm,0.3s			pmax	pmax		
YUK	comp=N,2μm,0.4s			pmax	pmax		
YUK	comp=E,2μm,0.4s			smax	smax		
YUK	comp=N,5μm,0.5s			smax	smax		
YUK	comp=E,5μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.53**	**252**	*e*P	**Pn**	**05 44 47.6**	**+0.3**
YUK				AMB	AMB	05 44 53.0	
YUK	comp=E,2μm,0.3s			*e*S	**Sn**	**05 45 28.2**	**+0.4**
YUK				A	A	05 45 33.0	
YUK	comp=E,5μm,0.5s			A	A	05 45 33.0	
	comp=E,5μm,0.5s						
GRPR	**Tuman**	**3.60**	**252**	*e*PN	**Pn**	**05 44 48.6**	**+0.2**
GRPR				*e*S	**Sn**	**05 45 31.0**	**+1.4**
GRPR	comp=Z,2μm,0.4s			pmax	pmax		
GRPR	comp=N,1μm,0.3s			pmax	pmax		
GRPR	comp=E,1μm,0.3s			smax	smax		
GRPR	comp=N,4μm,0.3s			smax	smax		
GRPR	comp=E,7μm,0.4s						
GRPR	**Tuman**	**3.60**	**252**	*e*P	**Pn**	**05 44 48.0**	**-0.4**
GRPR				AMB	AMB	05 44 52.0	
GRPR	comp=E,2μm,0.4s			*e*S	**Sn**	**05 45 31.0**	**+1.4**
GRPR				A	A	05 45 41.0	
GRPR	comp=E,4μm,0.4s			A	A	05 45 41.0	
	comp=E,7μm,0.4s						
GLVR	**Golovnino**	**3.87**	**249**	*e*PN	**Pn**	**05 44 51.8**	**-0.2**
GLVR				*e*S	**Sn**	**05 45 36.3**	**+0.1**
GLVR	comp=Z,2μm,0.5s			pmax	pmax		
GLVR	comp=N,463nm,0.3s			pmax	pmax		
GLVR	comp=E,570nm,0.3s			smax	smax		
GLVR	comp=N,9μm,0.4s			smax	smax		
GLVR	comp=E,9μm,0.6s						
GLVR	**Golovnino**	**3.87**	**249**	*e*P	**Pn**	**05 44 51.0**	**-1.0**
GLVR	comp=E,2μm,0.4s			AMB	AMB	05 44 54.0	
GLVR				*e*S	**Sn**	**05 45 36.0**	**-0.2**
GLVR	comp=E,9μm,0.5s			A	A	05 45 54.0	
GLVR	comp=E,9μm,0.5s			A	A	05 45 54.0	
NEM2	**Nemuro 2**	**3.90**	**243**	P	**Pn**	**05 44 51.0**	**-1.4**
NEM2				*e*S	**Sn**	**05 45 35.8**	**-1.0**
NMR	**Nemuro--Hokkai**	**3.91**	**243**	⇑*i* PN	**Pn**	**05 44 51.4**	**-1.1**
NMR				*i* S	**Sn**	**05 45 36.2**	**-0.8**
NMR	**Nemuro--Hokkai**	**3.91**	**243**	*i* P	**Pn**	**05 44 51.0**	**-1.5**
NMR				*i* S	**Sn**	**05 45 36.0**	**-1.0**
RUSJ	**Misakicho**	**3.92**	**255**	⇑*i* PN	**Pn**	**05 44 54.0**	**+1.3**
RUSJ				*i* S	**Sn**	**05 45 40.8**	**+3.4**
JRA	**Rausu**	**4.06**	**253**	P	**Pn**	**05 44 55.4**	**+0.8**
JNK	**Nakash**	**4.46**	**250**	P	**Pn**	**05 45 00.2**	**0.0**
JNK				*e*S	**Sn**	**05 45 51.9**	**+1.1**
JAK	**Akkeshi**	**4.75**	**244**	P	**Pn**	**05 45 02.8**	**-1.2**
JAK				*e*S	**Sn**	**05 45 55.6**	**-2.1**
JTKR	**Abashiri--Toko**	**4.88**	**257**	P	**Pn**	**05 45 06.6**	**+0.8**
JAR	**Ashorobuto**	**5.21**	**251**	P	**Pn**	**05 45 11.5**	**+1.1**
JMP	**Maruseppu**	**5.25**	**259**	P	**Pn**	**05 45 12.3**	**+1.3**
JOB	**Onbets**	**5.34**	**247**	P	**Pn**	**05 45 12.3**	**+0.1**
JOB				*e*S	**Sn**	**05 46 11.8**	**-0.6**
YSS	**Yuzh-Sakhalins**	**5.67**	**290**	K*e*PN	**Pn**	**05 45 17.2**	**+0.6**
YSS	comp=Z,170nm,1.1s			pmax	pmax		
YSS	comp=E,3μm,14.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**5.67**	**290**	Pn	**Pn**	**05 45 16.9**	**+0.3**
YSS	**Yuzh-Sakhalins**	**5.67**	**290**	*e*P	**Pn**	**05 45 17.8**	**+1.2**
YSS	comp=E,100nm,0.3s			AMB	AMB	05 45 20.1	
YSS				*e*S	**Sn**	**05 46 20.7**	**+0.4**
YSS	comp=E,3μm,17.0s			AMS	AMS	05 47 30.0	
YSS	comp=E,5μm,17.0s			AMS	AMS	05 47 30.0	
JKK2	**Kamakawa 2**	**5.71**	**259**	P	**Pn**	**05 45 18.6**	**+1.3**
JKA	**Kamikawa-asahi**	**5.75**	**262**		**Sn**	**05 46 21.5**	**-1.0**
JKA	**Kamikawa-asahi**	**5.75**	**262**	Pn	**Pn**	**05 45 18.9**	**+1.1**
ASAJ	**Asahikawa**	**5.75**	**262**	P	**Pn**	**05 45 19.3**	**+1.5**
ASAJ	comp=E,21nm,0.3s,baz=90,slow=17,SNR=63			S	**Sn**	**05 46 21.5**	**-1.0**
ASAJ	comp=E,7.9nm,0.3s,baz=204,slow=20,SNR=1.7			LR	LR	05 47 39.0	
ASAJ	**Asahikawa**	**5.75**	**262**	P	**Pn**	**05 45 19.2**	**+1.4**
JCH	**Churui**	**5.79**	**246**	P	**Pn**	**05 45 17.6**	**-0.7**
JCH				*e*S	**Sn**	**05 46 22.2**	**-1.1**
JFR	**Furan**	**6.06**	**253**	P	**Pn**	**05 45 23.7**	**+1.7**
JWK2	**Keihoku**	**6.08**	**274**	P	**Pn**	**05 45 25.5**	**+3.2**
JAB	**Ashibetsu**	**6.19**	**257**	P	**Pn**	**05 45 26.2**	**+2.4**
JSS	**Shosan**	**6.22**	**265**	P	**Pn**	**05 45 27.5**	**+3.4**
JEM	**Erimo**	**6.23**	**242**	P	**Pn**	**05 45 25.2**	**+0.9**
JNBK	**Urakawa-nobuka**	**6.35**	**245**	P	**Pn**	**05 45 24.9**	**-1.0**
JBT2	**Biratori 2**	**6.37**	**250**	P	**Pn**	**05 45 26.3**	**+0.1**
JHR	**Hokuryu**	**6.46**	**260**	P	**Pn**	**05 45 30.0**	**+2.5**
SKR	**Severo-Kuril's**	**6.63**	**33**	*e*PN	**Pn**	**05 45 29.4**	**-0.3**
SKR	comp=Z,159nm,0.5s			pmax	pmax		
SKR	comp=Z,100nm,4.0s			pmax	pmax		
SKR	comp=Z,300nm,3.8s			pmax	pmax		
SKR	comp=Z,1μm,12.0s			MLR	MLR		
SKR	comp=N,700nm,10.0s			MLR	MLR		
SKR	comp=E,600nm,12.0s			MLR	MLR		
SKR	comp=Z,2μm,14.0s			MLR	MLR		
SKR	**Severo-Kuril's**	**6.63**	**33**	*e*P	**Pn**	**05 45 29.0**	**-0.7**
SKR				AMB	AMB	05 45 32.0	
SKR	comp=Z,159nm,0.5s			AMB	AMB	05 45 33.0	
SKR	comp=Z,100nm,4.0s			*e*S	**Sn**	**05 46 40.0**	**-3.8**
SKR				A	A	05 46 48.0	
SKR	comp=Z,421nm,0.8s			A	A	05 46 48.0	
SKR	comp=Z,586nm,0.8s			AMS	AMS	05 48 03.0	
SKR	comp=Z,2μm,14.0s			AMS	AMS	05 48 03.0	
UGL	**Uglegorsk**	**6.93**	**307**	*e*PN	**Pn**	**05 45 35.5**	**+1.7**
UGL				S	**Sn**	**05 46 56.3**	**+5.1**
UGL	comp=Z,269nm,1.2s			pmax	pmax		
UGL	comp=E,202nm,1.2s			smax	smax		
UGL	comp=N,345nm,1.1s			smax	smax		
UGL	comp=E,700nm,2.4s			smax	smax		
UGL	comp=N,800nm,2.4s			MLR	MLR		
UGL	comp=N,3μm,15.0s						
UGL	**Uglegorsk**	**6.93**	**307**	*e*P	**Pn**	**05 45 35.0**	**+1.2**
UGL				AMB	AMB	05 45 36.0	
UGL	comp=N,269nm,0.8s			*e*S	**Sn**	**05 46 51.6**	**+0.4**
UGL				A	A	05 46 57.0	
UGL	comp=N,344nm,0.6s			A	A	05 46 57.0	
UGL	comp=N,202nm,0.6s			A	A	05 46 59.0	
UGL	comp=N,800nm,2.0s			A	A	05 46 59.0	
UGL	comp=N,700nm,2.0s			AMS	AMS	05 48 10.0	
UGL	comp=N,3μm,18.0s			AMS	AMS	05 48 10.0	
UGL	comp=N,2μm,18.0s			AMS	AMS	05 48 10.0	
UGL	comp=N,4μm,18.0s						
JEW	**Eniwo**	**6.96**	**253**	P	**Pn**	**05 45 36.1**	**+1.8**
JEW	**Eniwo**	**6.96**	**253**	Pn	**Pn**	**05 45 35.6**	**+1.3**
JNB	**Noboribetsu**	**7.38**	**251**	P	**Pn**	**05 45 40.3**	**+0.2**
JNB				*e*S	**Sn**	**05 47 01.9**	**-0.6**
JSK	**Shakotan**	**7.44**	**259**	P	**Pn**	**05 45 44.5**	**+3.6**
PAU	**Pauzhetka**	**7.52**	**32**	*e*P	**Pn**	**05 45 42.0**	**+0.1**
PAU				AMB	AMB	05 45 50.0	
PAU	comp=N,130nm,0.5s			*e*S	**Sn**	**05 47 01.4**	**-4.3**
PAU				A	A	05 47 06.5	
PAU	comp=N,600nm,0.6s			A	A	05 47 06.5	
	comp=N,600nm,0.6s						
JKB	**Kayabe**	**7.65**	**247**	P	**Pn**	**05 45 42.8**	**-1.0**
JKB				*e*S	**Sn**	**05 47 05.1**	**-3.9**
TYV	**Tymovskoe**	**7.71**	**320**	*e*PN	**Pn**	**05 45 45.5**	**+0.9**
TYV	comp=Z,600nm,5.7s			pmax	pmax		
TYV	comp=Z,125nm,1.0s			pmax	pmax		
TYV	**Tymovskoe**	**7.71**	**320**	AMB	AMB	05 45 45.0	
TYV	comp=Z,600nm,5.0s			*e*P	**Pn**	**05 45 45.5**	**+0.9**
TYV				AMB	AMB	05 46 00.0	
TYV	comp=Z,210nm,0.7s			*e*S	**Sn**	**05 47 10.6**	**+0.2**
TYV				A	A	05 47 26.3	
TYV	comp=Z,70nm,0.6s			A	A	05 47 26.3	
TYV	comp=Z,120nm,0.6s			A	A	05 47 27.0	
TYV	comp=Z,700nm,6.0s			A	A	05 47 27.0	
TYV	comp=Z,1μm,6.0s			AMS	AMS	05 48 36.0	
TYV	comp=Z,2μm,16.0s			AMS	AMS	05 48 36.0	
	comp=Z,4μm,16.0s						
JYM2	**Yakumo 2**	**7.98**	**251**	P	**Pn**	**05 45 48.2**	**-0.1**
JSH	**Shimam**	**7.99**	**255**	P	**Pn**	**05 45 50.0**	**+1.6**
JANG	**Nango**	**8.20**	**237**	P	**Pn**	**05 45 48.6**	**-2.8**
JANG				*e*S	**Sn**	**05 47 14.8**	**-7.8**
JTM	**Tenmabayashi**	**8.22**	**241**	P	**Pn**	**05 45 50.0**	**-1.6**
JTM	**Tenmabayashi**	**8.22**	**241**		**Pn**	**05 45 49.9**	**-1.6**
JTH	**Tanohata**	**8.28**	**233**	P	**Pn**	**05 45 49.3**	**-3.2**
JKZ	**Kuzumaki**	**8.56**	**235**	P	**Pn**	**05 45 53.4**	**-2.9**
JOSM	**Okushiri--Mats**	**8.60**	**252**	P	**Pn**	**05 45 56.3**	**-0.4**
OFUJ	**Ofunato**	**8.99**	**230**	P	**Pn**	**05 45 58.9**	**-3.2**
PEA0B	**Petropavlovsk-**	**9.18**	**28**	*de*PN	**Pn**	**05 46 04.3**	**-0.4**
PEA0B	**Petropavlovsk-**	**9.18**	**28**	Pn	**Pn**	**05 46 03.8**	**-0.9**
PETK	**Petropavlovsk-**	**9.18**	**28**	P	**Pn**	**05 46 04.0**	**-0.7**
PETK	comp=Z,3.4nm,0.3s,baz=178,slow=8.0,SNR=21			LR	LR	05 49 36.7	
PETK	**Petropavlovsk-**	**9.18**	**28**	Pn	**Pn**	**05 46 03.8**	**-0.9**
JRG	**Rokugo**	**9.35**	**235**	P	**Pn**	**05 46 04.8**	**-2.3**
PET	**Petropavlovsk**	**9.45**	**31**	*e*PN	**Pn**	**05 46 05.2**	**-3.1**
PET	comp=Z,61nm,0.7s			pmax	pmax		
PET	comp=Z,2μm,15.0s			MLR	MLR		
PET	comp=Z,2μm,14.0s			MLR	MLR		
PET	**Petropavlovsk**	**9.45**	**31**	*e*P	**Pn**	**05 46 05.2**	**-3.1**
PET				AMB	AMB	05 46 31.2	
PET	comp=Z,61nm,0.7s			*e*S	**Sn**	**05 47 49.4**	**-3.5**
PET				AMS	AMS	05 49 52.5	
PET	comp=Z,2μm,14.0s						
JIO	**Ouri**	**9.62**	**228**	P	**Pn**	**05 46 07.7**	**-3.0**
OKH	**Okha**	**9.68**	**332**	*e*P	**Pn**	**05 46 13.1**	**+1.6**
OKH	comp=Z,290nm,0.6s			AMB	AMB	05 46 15.2	
OKH				*e*S	**Sn**	**05 48 00.5**	**+1.9**
OKH	comp=Z,900nm,15.0s			AMS	AMS	05 51 15.0	
OKH	comp=Z,1μm,15.0s			AMS	AMS	05 51 15.0	
OKH	comp=Z,900nm,15.0s			AMS	AMS	05 51 15.0	
TEY	**Ternei**	**9.84**	**274**	⇑*e*PN	**Pn**	**05 46 17.6**	**+3.9**
TEY				*e*S	**Sn**	**05 48 06.3**	**+3.8**
TEY	comp=Z,400nm,1.5s			pmax	pmax		
TEY	comp=E,150nm,1.4s			pmax	pmax		
TEY	comp=E,500nm,1.5s			pmax	pmax		
TEY	comp=E,130nm,1.5s			pmax	pmax		
TEY	comp=E,1μm,15.0s			MLR	MLR		
TEY	**Ternei**	**9.84**	**274**	*e*P	**Pn**	**05 46 17.6**	**+3.9**
TEY				AMB	AMB	05 46 19.1	
TEY	comp=E,500nm,2.0s			AMB	AMB	05 46 19.1	
TEY	comp=E,400nm,2.0s			AMB	AMB	05 46 19.2	
TEY	comp=E,130nm,1.0s			AMS	AMS	05 49 51.7	
TEY	comp=E,1μm,18.0s			AMS	AMS	05 49 51.7	
TEY	comp=E,2μm,18.0s						
JMM	**Marumori**	**10.35**	**228**	Pn	**Pn**	**05 46 19.1**	**-1.6**
JYA	**Atsumi**	**10.42**	**234**	P	**Pn**	**05 46 19.5**	**-2.2**
GRNR	**Gornyy**	**10.94**	**305**	⇓*i* PN	**Pn**	**05 46 31.2**	**+2.4**
GRNR				*e*SS	Sn	05 48 41.2	+12
GRNR	comp=E,70nm,1.1s			pmax	pmax		
GRNR	comp=Z,80nm,1.0s			pmax	pmax		
GRNR	**Gornyy**	**10.94**	**305**	*e*P	**Pn**	**05 46 31.2**	**+2.4**
GRNR				AMB	AMB	05 46 33.3	
GRNR	comp=Z,80nm,1.0s			AMS	AMS	05 50 46.2	
GRNR	comp=Z,750nm,18.0s			AMS	AMS	05 50 46.2	
GRNR	comp=Z,870nm,18.0s			AMS	AMS	05 50 46.2	
GRNR	comp=Z,1μm,18.0s						
JSD	**Sado**	**11.64**	**236**		**Pn**	**05 46 35.1**	**-3.2**
MAJO	**Matsushiro**	**12.71**	**231**	⇑*i* PN	**Pn**	**05 46 51.0**	**-2.0**
MAJO	**Matsushiro**	**12.71**	**231**	Pn	**Pn**	**05 46 50.5**	**-2.5**
MAT	**Matsushiro**	**12.71**	**231**	P	**Pn**	**05 46 50.8**	**-2.2**
MAT				S	**Sn**	**05 49 14.2**	**+1.2**
MJAR	**Matsushiro Arr**	**12.71**	**231**	P	**Pn**	**05 46 50.1**	**-2.9**
MJAR	**Matsushiro Arr**	**12.71**	**231**	PN	**Pn**	**05 46 49.9**	**-3.1**
MJAR	**Matsushiro Arr**	**12.71**	**231**	Pn	**Pn**	**05 46 49.9**	**-3.1**
USA0B	**Ussuriysk Arra**	**13.22**	**272**	*c i*PN	**Pn**	**05 47 00.8**	**+0.9**
USA0B	**Ussuriysk Arra**	**13.22**	**272**	Pn	**Pn**	**05 47 00.5**	**+0.7**
USRK	**Ussuriysk Ar.**	**13.22**	**272**	P	**Pn**	**05 47 00.6**	**+0.7**
USRK	baz=83,slow=14,SNR=40			LR	LR	05 52 08.4	
USRK	**Ussuriysk Ar.**	**13.22**	**272**	**Pn**	**Pn**	**05 47 00.9**	**+1.0**
USRK	**Ussuriysk Ar.**	**13.22**	**272**		**Pn**	**05 47 00.9**	**+1.0**
KLR	**Kul'dur**	**13.36**	**294**	P	**Pn**	**05 47 02.9**	**+1.2**
KLR	**Kul'dur**	**13.36**	**294**	⇓*e*PN	**Pn**	**05 47 03.8**	**+2.0**
KLR	comp=Z,2μm,15.0s			MLR	MLR		
KLR	**Kul'dur**	**13.36**	**294**	*e*P	**Pn**	**05 47 03.8**	**+2.0**
VLA	**Vladivostok**	**13.54**	**268**	⇑*e*P	**Pn**	**05 47 05.1**	**+0.9**
VLA	comp=Z,41nm,0.8s			pmax	pmax		
VLA	**Vladivostok**	**13.54**	**268**	*e*P	**Pn**	**05 47 05.1**	**+0.9**
EKMR	**Ekimchan**	**13.89**	**311**	*e*P	**Pn**	**05 47 09.0**	**0.0**
EKMR				AMB	AMB	05 47 29.9	
MSHR	**Mys Shultsa**	**14.21**	**266**	⇓*e*P	**Pn**	**05 47 14.6**	**+1.5**
MSHR	comp=Z,84nm,1.0s			pmax	pmax		
INU	**Inuyama**	**14.24**	**231**	P	**P**	**05 47 18.4**	**-1.2**
MA2	**Magadan**	**14.37**	**1**	P	**Pn**	**05 47 14.0**	**-1.3**
MA2	comp=Z,175nm,2.5s			pmax	pmax		
MA2	**Magadan**	**14.37**	**1**	*c iP*	**Pn**	**05 47 14.1**	**-1.2**
MA2	comp=Z,6.0nm,0.3s,baz=183,slow=11,SNR=17			pmax	pmax		
MA2	**Magadan**	**14.37**	**1**	Pn	**Pn**	**05 47 13.5**	**-1.8**
MA2	**Magadan**	**14.37**	**1**	*e*P	**Pn**	**05 47 14.1**	**-1.2**
MDJ	**Mudanjiang**	**14.84**	**275**	P	**Pn**	**05 47 20.8**	**-0.6**
MDJ				S	**Sn**	**05 50 04.4**	**0.0**
MDJ				PcP	**PcP**	**05 52 30.2**	**+1.5**
MDJ	comp=Z,53nm,1.3s			pmax	pmax		
MDJ	comp=Z,23nm,1.4s			pmax	pmax		
MDJ	comp=Z,720nm,8.9s			LR	LR		
MDJ	comp=Z,2μm,19.2s			LR	LR		
MDJ	comp=Z,1μm,24.2s			LR	LR		
MDJ	comp=Z,3μm,17.1s						
MDJ	**Mudanjiang**	**14.84**	**275**	Pn	**Pn**	**05 47 21.1**	**-0.3**
JWT	**Wachi**	**15.20**	**234**	P	**P**	**05 47 30.2**	**+0.1**
JWT	comp=Z,185nm,0.8s			lAmb	lAmb	05 47 32.7	
JHS	**Saijyo**	**16.74**	**238**	P	**P**	**05 47 48.0**	**+0.7**
JHS					**pP**	**05 47 58.2**	**-0.4**
ZEA	**Zeya**	**17.29**	**308**	*e*P	**Pn**	**05 47 52.5**	**+0.1**
ZEA				*e*S	Sn	05 50 52.4	-11
ZEA	comp=E,100nm,1.0s			pmax	pmax		
ZEA	comp=N,110nm,0.9s			pmax	pmax		
ZEA	comp=Z,190nm,0.9s			pmax	pmax		
ZEA	comp=N,100nm,3.9s			pmax	pmax		
ZEA	comp=Z,200nm,3.9s			smax	smax		
ZEA	comp=N,200nm,8.3s			MLR	MLR		
ZEA	comp=E,800nm,16.0s						
ZEA	**Zeya**	**17.29**	**308**	*e*P	**Pn**	**05 47 50.5**	**-1.9**
ZEA				AMB	AMB	05 47 55.6	
ZEA	comp=Z,190nm,0.9s			AMB	AMB	05 48 03.2	
ZEA	comp=Z,100nm,4.0s			AMB	AMB	05 48 03.2	
ZEA	comp=Z,200nm,4.0s			AMS	AMS	05 54 47.0	
ZEA	comp=Z,800nm,16.0s			AMS	AMS	05 54 47.0	
	comp=Z,800nm,16.0s						
KROS	**Kirovskiy**	**17.69**	**310**	*e*P	**Pn**	**05 47 55.2**	**-2.1**
KROS				AMB	AMB	05 48 00.1	
SEY	**Seymchan**	**17.77**	**3**	P	**Pn**	**05 47 57.1**	**-1.1**
	comp=Z,23nm,0.5s						
	comp=Z,0.5nm,0.3s,baz=181,slow=8.6,SNR=27						

SEY	**Seymchan**	**17.77**	**3**	⇓*e*P	**Pn**	**05 47 56.7**	**-1.6**
CN2	**Changchun**	**17.92**	**274**	*e*P	**P**	**05 47 58.8**	**-1.4**
CN2				S	**Sn**	**05 51 13.6**	**-5.5**
CN2				LR	LR		
	comp=Z,1µm,18.0s						
CN2				LR	LR		
	comp=Z,1µm,18.0s						
CN2				LR	LR		
	comp=Z,2µm,18.0s						
KSRS	**Korea Array**	**18.62**	**253**	P	**Pn**	**05 48 09.2**	**+0.6**
	comp=Z,1.5nm,0.3s,baz=62,slow=11,SNR=40						
KSRS				PcP	**PcP**	**05 52 35.8**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=10,slow=0.7,SNR=9.9						
KSRS				LR	LR	05 55 22.1	
	comp=Z,863nm,18.6s,baz=56,slow=37						
KS19	**Wonju Array Si**	**18.63**	**253**	P	**Pn**	**05 48 08.6**	**-0.2**
KSAR	**Wonju Array Be**	**18.65**	**253**	P	**Pn**	**05 48 08.7**	**-0.4**
KSAR	**Wonju Array Be**	**18.65**	**253**	P	**Pn**	**05 48 08.7**	**-0.4**
KSAR					**PcP**	**05 52 35.9**	**+1.2**
JNU	**Nakatsue**	**19.38**	**238**	P	**Pn**	**05 48 17.6**	**-0.3**
	comp=Z,2.5nm,0.3s,baz=345,slow=3.4,SNR=9.5						
JNU	**Nakatsue**	**19.38**	**238**	P	**Pn**	**05 48 17.4**	**-0.5**
JNU				IAmb	IAmb	05 48 35.3	
	comp=Z,164nm,1.4s						
INCN	**Inchon**	**19.48**	**255**	P	**P**	**05 48 17.6**	**+0.2**
INCN				pmax	pmax		
	comp=Z,82nm,0.8s						
INCN	**Inchon**	**19.48**	**255**	P	**P**	**05 48 17.6**	**+0.2**
INCN	**Inchon**	**19.48**	**255**	*e*P	**P**	**05 48 17.6**	**+0.2**
TJN	**Taejon**	**19.58**	**251**	⇑*e*P	**Pn**	**05 48 19.8**	**-0.3**
SNY	**Shenyang**	**19.79**	**270**	⇓P	**P**	**05 48 21.3**	**+0.6**
SNY				pmax	pmax		
	comp=Z,43nm,1.1s						
YAK	**Yakutsk**	**20.71**	**332**	P	**P**	**05 48 30.3**	**-0.2**
	comp=Z,463nm,0.7s,baz=309,slow=1.6,SNR=85						
YAK	**Yakutsk**	**20.71**	**332**	*e*P	Pn	05 48 32.7	-0.6
YAK				*e*		05 48 48.2	
YAK				*e*S	**S**	**05 52 22.1**	**+3.6**
YAK				*e*SS	**SnSn**	**05 52 41.2**	**-0.2**
YAK				*e*		05 52 44.7	
YAK				pmax	pmax		
	comp=Z,1µm,0.9s						
YAK				pmax	pmax		
	comp=E,215nm,1.0s						
YAK				pmax	pmax		
	comp=N,233nm,0.9s						
YAK				pmax	pmax		
	comp=Z,225nm,0.9s						
YAK				pmax	pmax		
	comp=N,126nm,1.0s						
YAK				pmax	pmax		
	comp=E,125nm,1.1s						
YAK				smax	smax		
	comp=N,138nm,1.6s						
YAK				smax	smax		
	comp=E,68nm,1.5s						
YAK				MLR	MLR		
	comp=Z,1µm,19.0s						
YAK				MLR	MLR		
	comp=E,368nm,19.0s						
YAK				MLR	MLR		
	comp=N,1µm,24.0s						
YAK	**Yakutsk**	**20.71**	**332**	P	Pn	05 48 33.1	-0.3
YAK	**Yakutsk**	**20.71**	**332**	*e*P	Pn	05 48 32.7	-0.6
JSU	**Suzuyama**	**20.78**	**236**	P	Pn	05 48 33.1	-1.4
JSU					pP	05 48 43.1	0.0
JSU				IAmb	IAmb	05 48 48.2	
	comp=Z,117nm,1.2s						
HIA	**Hailar**	**21.20**	**292**	P	**P**	**05 48 34.0**	**-1.9**
HIA				pmax	pmax		
	comp=Z,26nm,0.9s						
HIA	**Hailar**	**21.20**	**292**	P	**P**	**05 48 34.0**	**-1.9**
DL2	**Dalian**	**22.28**	**264**	P	**P**	**05 48 46.9**	**-0.6**
DL2				S	**S**	**05 52 48.9**	**-0.2**
DL2				pmax	pmax		
	comp=Z,65nm,0.8s						
DL2				pmax	pmax		
	comp=Z,230nm,5.6s						
DL2				LR	LR		
	comp=Z,280nm,18.4s						
DL2				LR	LR		
	comp=Z,480nm,19.2s						
DL2				LR	LR		
	comp=Z,520nm,18.4s						
BILL	**Bilibino**	**24.30**	**14**	*de*P	**P**	**05 49 07.4**	**+0.5**
BILL				*e*		05 49 39.5	
BILL				*e*S	**S**	**05 53 24.3**	**+2.4**
BILL				*e*SS	**SnSn**	**05 54 11.4**	**+2.4**
BILL				pmax	pmax		
	comp=Z,28nm,1.0s						
BILL				MLR	MLR		
	comp=Z,802nm,16.0s						
BILL	**Bilibino**	**24.30**	**14**	*e*P	**P**	**05 49 07.4**	**+0.5**
JOW	**Kunigami**	**25.56**	**232**	P	**P**	**05 49 19.8**	**+1.0**
	comp=Z,72nm,1.0s,baz=92,slow=5.7,SNR=6.1						
JOW	**Kunigami**	**25.56**	**232**	IAmb	IAmb	05 49 24.3	
	comp=Z,83nm,1.0s						
BOD	**Bodaibo**	**25.62**	**313**	*e*P	**P**	**05 49 17.6**	**-1.4**
BOD				pmax	pmax		
	comp=Z,28nm,2.1s						
BOD	**Bodaibo**	**25.62**	**313**	*e*P	**P**	**05 49 17.6**	**-1.4**
BJI	**Beijing**	**25.66**	**271**	P	**P**	**05 49 19.6**	**0.0**
BJI				PP	**PnPn**	**05 50 02.0**	**+3.9**
BJI				PcP	**PcP**	**05 52 50.2**	**+1.5**
BJI				S	**S**	**05 53 48.9**	**+4.9**
BJI				sS	**sS**	**05 54 08.4**	**+2.1**
BJI				pmax	pmax		
	comp=Z,32nm,0.8s						
BJI				LR	LR		
	comp=Z,420nm,16.1s						
BJI				LR	LR		
	comp=Z,1µm,17.4s						
BJI				LR	LR		
	comp=Z,2µm,17.0s						
TIA	**Tai'an**	**26.70**	**262**	⇑P	**P**	**05 49 29.1**	**+0.1**
TIA				S	**S**	**05 54 06.6**	**+6.0**
TIA				pmax	pmax		
	comp=Z,25nm,1.4s						
TIA				pmax	pmax		
	comp=Z,150nm,5.9s						
TIA				LR	LR		
	comp=Z,370nm,13.4s						
TIA				LR	LR		
	comp=Z,330nm,14.3s						
TIA				LR	LR		
	comp=Z,480nm,17.8s						
SSE	**Sheshan**	**26.86**	**248**	P	**P**	**05 49 32.2**	**+1.8**
SSE				S	**S**	**05 54 07.2**	**+4.2**
SSE				pmax	pmax		
	comp=Z,34nm,0.8s						
SSE				pmax	pmax		
	comp=Z,170nm,8.1s						
SSE				LR	LR		
	comp=Z,200nm,17.6s						
SSE				LR	LR		
	comp=Z,360nm,16.1s						
NJ2	**Nanjing**	**27.82**	**253**	⇓*i*P	**P**	**05 49 43.5**	**+4.5**
NJ2				pP	**pP**	**05 49 53.3**	**+0.9**
NJ2				sP	**sP**	**05 50 03.9**	**+5.1**
NJ2				PcP	**PcP**	**05 52 55.6**	**+1.7**
NJ2				S	**S**	**05 54 23.1**	**+5.0**
NJ2				pmax	pmax		
	comp=Z,67nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,180nm,3.7s						
NJ2				LR	LR		
	comp=Z,660nm,15.1s						
NJ2				LR	LR		
	comp=Z,900nm,15.8s						
NJ2				LR	LR		
	comp=Z,1µm,17.1s						
TIK	**Tiksi**	**28.45**	**346**	*e*P	**P**	**05 49 43.7**	**-0.5**
TIXI	**Tiksi**	**28.46**	**346**	P	**P**	**05 49 43.0**	**-1.3**
	comp=Z,9.7nm,0.6s,baz=139,slow=7.8,SNR=12						
TIXI				PcP	**PcP**	**05 52 54.8**	**0.0**
	comp=Z,7.8nm,0.8s,baz=244,slow=0.8,SNR=4.1						
TIXI	**Tiksi**	**28.46**	**346**	⇓*e*P	**P**	**05 49 43.7**	**-0.6**
TIXI	**Tiksi**	**28.46**	**346**	P	**P**	**05 49 43.1**	**-1.3**
TIXI				PcP	**PcP**	**05 52 54.7**	**-0.2**
HHC	**Hu-ho-hao-te**	**28.61**	**275**	*e*P	**P**	**05 49 46.6**	**+0.4**
HHC				pP	sP	05 50 03.0	-3.2
HHC				S	**S**	**05 54 33.0**	**+2.3**
HHC				pmax	pmax		
	comp=Z,79nm,0.8s						
HHC				pmax	pmax		
	comp=Z,290nm,4.3s						
HHC				LR	LR		
	comp=Z,750nm,14.1s						
HHC				LR	LR		
	comp=Z,2µm,15.3s						
HHC				LR	LR		
	comp=Z,2µm,14.8s						
UNV	**Unalaska Valle**	**28.80**	**57**	P	**P**	**05 49 47.2**	**-0.3**
	baz=271						
H11N2	**WAKE ISLAND Hy**	**28.82**	**147**	T	T	06 20 27.3	
	baz=336,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.84**	**147**	T	T	06 20 33.1	
	baz=336,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.84**	**147**	T	T	06 20 33.4	
	baz=336,slow=75						
TIY	**Taiyuan**	**29.29**	**269**	*e*P	**P**	**05 49 53.4**	**+1.2**
TIY				pP	**pP**	**05 50 08.8**	**+3.0**
TIY				sP	**sP**	**05 50 16.5**	**+4.3**
TIY				S	**S**	**05 54 41.7**	**+0.3**
TIY				pmax	pmax		
	comp=Z,42nm,0.9s						
TIY				LR	LR		
	comp=Z,140nm,7.1s						
TIY				LR	LR		
	comp=Z,170nm,8.7s						
TIY				LR	LR		
	comp=Z,580nm,22.3s						
ULN	**Ulaanbaatar**	**29.72**	**291**	*di*P	**P**	**05 49 56.2**	**+0.2**
ULN				pmax	pmax		
	comp=Z,13nm,0.8s						
ULN	**Ulaanbaatar**	**29.72**	**291**	P	**P**	**05 49 56.5**	**+0.5**
ULN				PcP	**PcP**	**05 52 59.4**	**+0.7**
ULN	**Ulaanbaatar**	**29.72**	**291**	P	**P**	**05 49 55.3**	**-0.7**
	comp=Z,62nm,0.9s						
ULN	**Ulaanbaatar**	**29.72**	**291**	*e*P	**P**	**05 49 56.2**	**+0.2**
BTO	**Baotou**	**29.79**	**276**	*e*P	**P**	**05 49 53.3**	**-3.3**
BTO				S	**S**	**05 54 46.3**	**-2.9**
BTO				LR	LR		
	comp=Z,4µm,17.1s						
BTO				LR	LR		
	comp=Z,3µm,18.2s						
H11S1	**WAKE ISLAND Hy**	**29.86**	**148**	T	T	06 21 52.4	
	baz=337,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.87**	**148**	T	T	06 21 46.9	
	baz=337,slow=76						
H11S2	**WAKE ISLAND Hy**	**29.88**	**148**	T	T	06 21 45.2	
	baz=337,slow=76						
SONM	**Songino Array**	**30.16**	**291**	P	**P**	**05 49 60.0**	**+0.1**
	comp=Z,5.6nm,0.7s,baz=82,slow=8.0,SNR=34						
SONM				PcP	**PcP**	**05 52 59.9**	**+0.1**
	comp=Z,5.6nm,0.8s,baz=128,slow=2.2,SNR=7.0						
SONM				LR	LR	06 03 02.2	
	comp=Z,971nm,18.6s,baz=83,slow=38						
SONM	**Songino Array**	**30.16**	**291**	P	**P**	**05 49 59.3**	**-0.6**
ZAK	**Zakamensk**	**31.71**	**297**	*e*P	**P**	**05 50 12.9**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
ZAK	**Zakamensk**	**31.71**	**297**	*e*P	**P**	**05 50 12.9**	**-0.5**
WHN	**Wuhan**	**31.79**	**255**	⇑P	**P**	**05 50 14.1**	**-0.1**
WHN				pmax	pmax		
	comp=Z,88nm,0.7s						
WHN				LR	LR		
	comp=Z,420nm,10.0s						
WHN				LR	LR		
	comp=Z,930nm,13.6s						
WHN				LR	LR		
	comp=Z,1µm,13.3s						
GUMO	**Guam**	**31.90**	**190**	LR	LR	06 03 17.8	
	comp=Z,229nm,18.8s,baz=323,slow=36						
YULB	**Yu-li**	**32.22**	**237**	P	**P**	**05 50 19.6**	**+1.5**
TPUB	**Ta-pu**	**32.69**	**238**	P	**P**	**05 50 22.9**	**+0.7**
TWG	**Pinlang**	**32.79**	**237**	P	**P**	**05 50 22.6**	**-0.4**
CHNA	**Chernabura Isl**	**32.81**	**55**	P	**P**	**05 50 23.3**	**+0.5**
	baz=274						
RDOG	**Red Dog Mine**	**33.05**	**30**	P	**P**	**05 50 25.2**	**+0.4**
RDOG				IAmb	IAmb	05 50 27.5	
	comp=Z,27nm,0.7s						
RDOG	**Red Dog Mine**	**33.05**	**30**	P	**P**	**05 50 26.1**	**+1.3**
	baz=250						
CHGN	**Chignik**	**33.39**	**52**	P	**P**	**05 50 25.0**	**-2.9**
	baz=273						
XAN	**Xi'an**	**33.58**	**265**	P	**P**	**05 50 29.8**	**-0.1**
XAN				pP	pP	05 50 39.9	-3.7
XAN				pmax	pmax		
	comp=Z,35nm,1.0s						
XAN				pmax	pmax		
	comp=Z,190nm,6.7s						
XAN				LR	LR		
	comp=Z,430nm,16.4s						
XAN				LR	LR		
	comp=Z,540nm,17.7s						
XAN				LR	LR		
	comp=Z,810nm,16.7s						
N18K	**Kilae Creek**	**34.68**	**44**	P	**P**	**05 50 39.9**	**+0.8**
N18K	**Kilae Creek**	**34.68**	**44**	P	**P**	**05 50 40.0**	**+0.8**
	baz=268,SNR=12						
O18K	**Koktuh Hills**	**35.01**	**46**	P	**P**	**05 50 42.5**	**+0.6**
O18K	**Koktuh Hills**	**35.01**	**46**	P	**P**	**05 50 42.5**	**+0.6**
	baz=270						
L19K	**White Mountain**	**35.24**	**42**	IAmb	IAmb	05 51 11.3	
	comp=Z,45nm,1.9s						
L19K	**White Mountain**	**35.24**	**42**	P	**P**	**05 50 44.3**	**+0.4**
	baz=267						
ENH	**Enshi**	**35.30**	**259**	P	**P**	**05 50 43.2**	**-1.6**
N19K	**Bonanza Creek**	**35.38**	**44**	P	**P**	**05 50 45.9**	**+0.7**
N19K				PcP	**PcP**	**05 53 15.0**	**+1.1**
N19K	**Bonanza Creek**	**35.38**	**44**	P	**P**	**05 50 45.7**	**+0.6**
	baz=270,SNR=11						
M19K	**Big River Lodg**	**35.45**	**42**	P	**P**	**05 50 46.3**	**+0.6**
	baz=268,SNR=6.0						
O19K	**Port Alsworth**	**35.45**	**45**	P	**P**	**05 50 45.9**	**+0.3**
	baz=271						
K20K	**Telida**	**35.67**	**40**	P	**P**	**05 50 47.3**	**-0.3**
K20K				PcP	**PcP**	**05 53 16.5**	**+1.8**
K20K	**Telida**	**35.67**	**40**	P	**P**	**05 50 47.8**	**+0.3**
	baz=266,SNR=12						
J20K	**Nowinta River**	**35.70**	**38**	P	**P**	**05 50 47.7**	**0.0**
J20K				IAmb	IAmb	05 50 49.3	
	comp=Z,23nm,0.8s						
J20K					**PcP**	**05 53 16.6**	**+1.9**
J20K	**Nowinta River**	**35.70**	**38**	P	**P**	**05 50 48.2**	**+0.4**
	baz=265,SNR=26						
L20K	**Farewell, AK**	**35.71**	**41**	P	**P**	**05 50 48.4**	**+0.5**
	baz=268,SNR=11						
SII	**Sitkinak Islan**	**35.72**	**51**	P	**P**	**05 50 47.2**	**-0.8**
	baz=276						
Q19K	**Cape Douglas,**	**35.83**	**47**	IAmb	IAmb	05 50 50.2	
	comp=Z,23nm,0.7s						
Q19K	**Cape Douglas,**	**35.83**	**47**	P	**P**	**05 50 48.8**	**-0.2**
	baz=273						
M20K	**Styx River**	**36.04**	**42**	P	**P**	**05 50 51.6**	**+0.8**
	baz=269,SNR=16						
IMAR	**Indian Mountai**	**36.06**	**35**	P	**P**	**05 50 50.5**	**-0.3**
IMAR					**PcP**	**05 53 16.9**	**+1.1**
LZH	**Lanzhou**	**36.13**	**272**	⇑P	**P**	**05 50 52.7**	**+0.7**
LZH				pP	pP	05 51 05.5	-0.2
LZH				S	**S**	**05 56 30.0**	**+2.2**
LZH				sS	sS	05 56 48.7	-1.6
LZH				pmax	pmax		
	comp=Z,140nm,1.1s						
LZH				pmax	pmax		
	comp=Z,230nm,4.1s						
LZH				LR	LR		
	comp=Z,420nm,14.6s						
LZH				LR	LR		
	comp=Z,480nm,15.2s						
LZH				LR	LR		
	comp=Z,410nm,17.6s						
OHAK	**Old Harbor**	**36.14**	**50**	IAmb	IAmb	05 50 52.1	
	comp=Z,27nm,1.0s						
OHAK	**Old Harbor**	**36.14**	**50**	P	**P**	**05 50 51.0**	**-0.6**
	baz=276						
A21K	**Barrow**	**36.17**	**26**	P	**P**	**05 50 52.2**	**+0.6**
A21K	**Barrow**	**36.17**	**26**	P	**P**	**05 50 51.6**	**-0.1**
	baz=253						
KDAK	**Kodiak Island**	**36.47**	**49**	P	**P**	**05 50 53.1**	**-1.2**
	comp=Z,35nm,0.8s,baz=306,slow=5.8,SNR=22						
KDAK				PcP	**PcP**	**05 53 17.1**	**0.0**
	comp=Z,11nm,0.7s,baz=218,slow=1.4,SNR=4.5						
KDAK	**Kodiak Island**	**36.47**	**49**	P	**P**	**05 50 54.1**	**-0.3**
KDAK						05 53 18.4	
KDAK				pmax	pmax		
	comp=Z,34nm,0.9s						
KDAK	**Kodiak Island**	**36.47**	**49**	P	**P**	**05 50 54.1**	**-0.3**
KDAK				IAmb	IAmb	05 50 54.8	
	comp=Z,34nm,0.8s						
KDAK				PcP	**PcP**	**05 53 18.4**	**+1.3**
KDAK	**Kodiak Island**	**36.47**	**49**	P	**P**	**05 50 53.7**	**-0.7**
	baz=275						
SPCR	**Spurr Chakacha**	**36.48**	**43**	P	**P**	**05 50 55.4**	**+0.9**
	baz=271						
CHUM	**Lake Minchumin**	**36.48**	**39**	P	**P**	**05 50 55.3**	**+0.8**
	baz=267,SNR=13						
PPLA	**Purkeypile**	**36.50**	**40**	P	**P**	**05 50 55.9**	**+1.1**
	baz=269,SNR=9.1						
I21K	**Tanana**	**36.71**	**37**	IAmb	IAmb	05 50 58.1	
	comp=Z,29nm,1.0s						
I21K					**PcP**	**05 53 19.5**	**+1.8**
I21K	**Tanana**	**36.71**	**37**	P	**P**	**05 50 57.1**	**+0.7**
	baz=266,SNR=20						
SKT	**Skwentna**	**36.80**	**42**	P	**P**	**05 50 57.5**	**+0.3**
	baz=270,SNR=7.1						
HOM	**Homer**	**36.82**	**46**	P	**P**	**05 50 57.5**	**+0.1**
HOM	**Homer**	**36.82**	**46**	P	**P**	**05 50 57.6**	**+0.3**
	baz=274						
CNPM	**China Poot**	**37.03**	**46**	IAmb	IAmb	05 51 00.5	
	comp=Z,19nm,0.6s						
BPAW	**Bear Paw Mtn.**	**37.08**	**38**	IAmb	IAmb	05 51 02.3	
	comp=Z,20nm,0.7s						
BPAW					**PcP**	**05 53 19.8**	**+0.9**
BPAW	**Bear Paw Mtn.**	**37.08**	**38**	P	**P**	**05 51 00.1**	**+0.6**
	baz=268,SNR=29						
KTH	**Kantishna Hill**	**37.09**	**39**	P	**P**	**05 51 00.0**	**+0.3**
SUA	**Susitna One**	**37.18**	**43**	P	**P**	**05 51 00.4**	**-0.1**
SUA					**PcP**	**05 53 20.0**	**+0.6**
SUA	**Susitna One**	**37.18**	**43**	P	**P**	**05 51 00.3**	**-0.3**
	baz=272,SNR=8.8						
BRLK	**Bradley Lake**	**37.20**	**46**	IAmb	IAmb	05 51 04.7	
	comp=Z,18nm,0.7s						
BRLK					**PcP**	**05 53 20.1**	**+0.7**
MLY	**Manley**	**37.23**	**37**	P	**P**	**05 51 01.5**	**+0.7**
MLY				IAmb	IAmb	05 51 02.6	
	comp=Z,20nm,0.8s						
MLY	**Manley**	**37.23**	**37**	P	**P**	**05 51 01.3**	**+0.5**
	baz=267,SNR=28						
BRSE	**Bradley Lake S**	**37.27**	**46**	P	**P**	**05 51 01.2**	**0.0**
	baz=274						
TRF	**Thorofare Moun**	**37.37**	**39**	P	**P**	**05 51 02.4**	**+0.2**
TRF				IAmb	IAmb	05 51 04.7	
	comp=Z,23nm,0.8s						
TRF	**Thorofare Moun**	**37.37**	**39**	P	**P**	**05 51 02.0**	**-0.2**
	baz=270,SNR=14						
CUT	**Chulitna**	**37.39**	**41**	P	**P**	**05 51 01.8**	**-0.3**
	baz=271						
GTA	**Gaotai**	**37.43**	**279**	⇑P	**P**	**05 51 03.2**	**+0.3**
GTA				pP	pP	05 51 14.7	-2.1
GTA				sP	sP	05 51 20.5	-2.6
GTA				PcP	**PcP**	**05 53 22.4**	**+1.8**
GTA				PcS	**PcS**	**05 57 10.7**	**+1.5**
GTA				pmax	pmax		
	comp=Z,43nm,0.9s						
GTA				pmax	pmax		
	comp=Z,130nm,5.8s						
GTA				LR	LR		
	comp=Z,420nm,17.8s						
GTA				LR	LR		
	comp=Z,400nm,17.1s						
GTA				LR	LR		
	comp=Z,510nm,18.5s						
COLD	**Coldfoot**	**37.60**	**33**	P	**P**	**05 51 04.1**	**+0.2**
	baz=265,SNR=14						
RC01	**Rabbit Creek A**	**37.69**	**43**	IAmb	IAmb	05 51 06.1	
	comp=Z,26nm,0.8s						
RC01				PcP	**PcP**	**05 53 21.8**	**+1.0**
RC01	**Rabbit Creek A**	**37.69**	**43**	P	**P**	**05 51 04.9**	**+0.3**
	baz=273,SNR=6.4						
O22K	**Cooper Landing**	**37.73**	**44**	P	**P**	**05 51 04.6**	**-0.4**
	baz=274						
BWN	**Browne**	**37.75**	**38**	P	**P**	**05 51 05.9**	**+0.7**
H23K	**Yukon River**	**37.77**	**36**	IAmb	IAmb	05 51 07.4	
	comp=Z,30nm,0.9s						
H23K	**Yukon River**	**37.77**	**36**	P	**P**	**05 51 06.2**	**+0.8**
	baz=267,SNR=26						
I23K	**Minto, Yukon-K**	**37.81**	**37**	IAmb	IAmb	05 51 30.1	
	comp=Z,33nm,1.2s						
I23K	**Minto, Yukon-K**	**37.81**	**37**	P	**P**	**05 51 06.2**	**+0.5**
	baz=268,SNR=13						
SEW	**Seward**	**37.89**	**45**	P	**P**	**05 51 06.8**	**+0.4**
	baz=275						
NEA2	**Nenana**	**37.92**	**38**	IAmb	IAmb	05 51 08.1	
	comp=Z,27nm,0.8s						
NEA2					**PcP**	**05 53 22.6**	**+1.1**
NEA2	**Nenana**	**37.92**	**38**	P	**P**	**05 51 06.9**	**+0.3**
	baz=269,SNR=32						
PMR	**Palmer**	**37.95**	**43**		**PcP**	**05 53 22.5**	**+0.9**
PMR	**Palmer**	**37.95**	**43**	P	**P**	**05 51 07.1**	**+0.2**
	baz=273,SNR=12						
MCK	**McKinley**	**37.98**	**39**	IAmb	IAmb	05 51 08.3	
	comp=Z,24nm,0.9s						
MCK					**PcP**	**05 53 22.2**	**+0.5**
MCK	**McKinley**	**37.98**	**39**	P	**P**	**05 51 07.0**	**-0.2**
	baz=270,SNR=13						
TOLK	**Toolik Lake Re**	**37.99**	**31**	P	**P**	**05 51 07.7**	**+0.4**
TOLK					**PcP**	**05 53 23.4**	**+1.7**
TOLK	**Toolik Lake Re**	**37.99**	**31**	P	**P**	**05 51 07.5**	**+0.3**
	baz=264,SNR=31						
RND	**Reindeer**	**38.02**	**40**	IAmb	IAmb	05 51 08.4	
	comp=Z,30nm,1.0s						
GHO	**Glory Hole Cre**	**38.04**	**42**	P	**P**	**05 51 07.1**	**-0.6**
GHO				IAmb	IAmb	05 51 08.9	
	comp=Z,24nm,0.9s						
WAT1	**Susitna Watana**	**38.17**	**40**	P	**P**	**05 51 08.4**	**-0.4**
	baz=272						
KNK	**Knik Glacier**	**38.28**	**43**	P	**P**	**05 51 09.7**	**0.0**
	baz=274,SNR=12						
MDM	**Murphy Dome**	**38.29**	**37**	IAmb	IAmb	05 51 11.4	
	comp=Z,29nm,0.8s						
SML	**Sawmill**	**38.32**	**42**	P	**P**	**05 51 10.2**	**+0.1**
SML	**Sawmill**	**38.32**	**42**	P	**P**	**05 51 10.0**	**-0.1**
	baz=274,SNR=44						
WRH	**Wood River Hil**	**38.35**	**38**	P	**P**	**05 51 09.9**	**-0.3**
WRH				IAmb	IAmb	05 51 34.4	
	comp=Z,33nm,1.2s						
PWL	**Port Wells**	**38.38**	**44**	IAmb	IAmb	05 51 11.2	
	comp=Z,34nm,0.8s						
TCOL	**CIGO, UAF Yank**	**38.45**	**37**	P	**P**	**05 51 11.5**	**+0.5**
	baz=270,SNR=12						
COLA	**College**	**38.45**	**37**	P	**P**	**05 51 10.9**	**-0.1**
COLA				pmax	pmax		
	comp=Z,42nm,0.8s						
COLA	**College**	**38.45**	**37**	P	**P**	**05 51 10.9**	**-0.1**
COLA	**College**	**38.45**	**37**	P	**P**	**05 51 11.5**	**+0.5**
	baz=270						
H24K	**Noodor Dome**	**38.45**	**36**	P	**P**	**05 51 11.9**	**+0.8**
	baz=269,SNR=16						
WAT6	**Susitna Watana**	**38.55**	**41**	P	**P**	**05 51 11.8**	**-0.4**
	baz=273,SNR=12						
POKR	**Poker Plat Res**	**38.63**	**37**	P	**P**	**05 51 13.2**	**+0.6**
	baz=270,SNR=20						
SCM	**Sheep Creek Mo**	**38.79**	**42**	P	**P**	**05 51 13.4**	**-0.7**
SCM				pmax	pmax		
	comp=Z,33nm,0.8s						
SCM	**Sheep Creek Mo**	**38.79**	**42**	P	**P**	**05 51 13.4**	**-0.7**
SCM				IAmb	IAmb	05 51 15.4	
	comp=Z,33nm,0.8s						
HDA	**Harding Lake**	**38.84**	**38**	IAmb	IAmb	05 51 16.8	
	comp=Z,23nm,0.7s						
HDA	**Harding Lake**	**38.84**	**38**	P	**P**	**05 51 13.7**	**-0.7**
	baz=271,SNR=37						
IL31		**38.86**	**37**	IAmb	IAmb	05 51 38.1	
	comp=Z,44nm,1.3s						
ILAR	**Eielson Array**	**38.86**	**37**	P	**P**	**05 51 14.2**	**-0.3**
	comp=Z,9.6nm,0.6s,baz=263,slow=7.2,SNR=62						
ILAR				PcP	**PcP**	**05 53 23.7**	**-0.7**
	comp=Z,4.1nm,0.9s,baz=276,slow=3.9,SNR=5.7						
ILAR				LR	LR	06 09 14.4	
	comp=Z,142nm,18.6s,baz=274,slow=39						
ILAR	**Eielson Array**	**38.86**	**37**	P	**P**	**05 51 13.6**	**-0.9**
CD2	**Chengdu**	**38.94**	**265**	P	**P**	**05 51 15.0**	**-0.7**
CD2				pmax	pmax		
	comp=Z,120nm,0.8s						
NRIK	**Noril'sk**	**39.15**	**330**	P	**P**	**05 51 16.6**	**-0.3**
	comp=Z,4.8nm,0.7s,baz=109,slow=11,SNR=2.0						
NRIK				PcP	**PcP**	**05 53 24.7**	**-0.5**
	comp=Z,12nm,0.7s,baz=91,slow=5.4,SNR=5.9						
NRIK				LR	LR	06 07 59.0	
	comp=Z,500nm,20.2s,baz=90,slow=37						
M24K	**Tolsona, Glenn**	**39.31**	**42**	P	**P**	**05 51 19.4**	**+0.9**
	baz=275,SNR=13						
PRP	**Porcupine Dome**	**39.43**	**36**	IAmb	IAmb	05 51 36.8	
	comp=Z,29nm,1.0s						
PRP	**Porcupine Dome**	**39.43**	**36**	P	**P**	**05 51 19.8**	**+0.4**
	baz=271,SNR=6.6						

KLU Klutina 39.49 42 P P 05 51 20.2 +0.3
KLU IAmb IAmb 05 51 21.5
comp=Z,45nm,0.9s
KLU Klutina 39.49 42 P P 05 51 20.5 +0.5
baz=276,SNR=25
Q23K Middleton Isla 39.52 46 P P 05 51 20.4 +0.4
baz=278
PAX Paxson 39.57 40 P P 05 51 20.8 +0.3
baz=274,SNR=11
GYA Guiyang 39.61 257 ⇑P P 05 51 20.2 -1.2
GYA pP pwP 05 51 36.3 -0.9
GYA S S 05 57 17.3 -3.2
GYA SS SS 06 00 06.5 -11
GYA pmax pmax
comp=Z,43nm,1.0s
GYA LR LR
comp=Z,280nm,12.5s
GYA LR LR
comp=Z,440nm,17.0s
GYA LR LR
comp=Z,580nm,17.2s
HARP HAARP 39.76 41 P P 05 51 22.8 +0.7
baz=275,SNR=11
BMAR Burnt Mountain 39.79 33 P P 05 51 23.4 +1.1
RIDG Independent Ri 39.80 39 P P 05 51 21.7 -0.7
baz=274,SNR=21
N25K Chitina, Valde 40.11 42 P P 05 51 25.9 +0.9
N25K Chitina, Valde 40.11 42 P P 05 51 25.8 +0.7
baz=277,SNR=10.0
SCRK Sand Creek 40.16 38 P P 05 51 24.9 -0.5
SCRK Sand Creek 40.16 38 P P 05 51 25.0 -0.5
baz=275,SNR=19
BMRM Bremner River 40.18 43 P P 05 51 26.1 +0.4
baz=278,SNR=20
J26K Charley River, 40.20 38 P P 05 51 25.2 -0.6
baz=274,SNR=7.8
MENT Mentasta 40.37 40 P P 05 51 27.6 +0.4
KAIM Kayak Island 40.42 45 P P 05 51 28.0 +0.5
baz=279
L26K Log Cabin Wild 40.53 40 IAmb IAmb 05 51 30.6
comp=Z,24nm,0.7s
L26K Log Cabin Wild 40.53 40 P P 05 51 29.1 +0.6
baz=276,SNR=30
VRDI Verde Repeater 40.70 43 P P 05 51 30.5 +0.4
VRDI IAmb IAmb 05 51 31.9
comp=Z,35nm,0.8s
BERG Berg Lake 40.70 44 IAmb IAmb 05 51 31.9
comp=Z,35nm,1.2s
M26K Nabesna, AK 40.76 41 P P 05 51 31.9 +1.4
M26K Nabesna, AK 40.76 41 P P 05 51 31.7 +1.3
baz=277,SNR=62
MCARA McCarthy VSAT 40.89 42 P P 05 51 32.6 +1.2
MCARA IAmb IAmb 05 51 42.2
comp=Z,27nm,0.8s
MCARA McCarthy VSAT 40.89 42 P P 05 51 32.4 +1.0
baz=278,SNR=9.3
CRQE Cirque 40.95 43 P P 05 51 33.1 +1.1
baz=279,SNR=19
K27K Chicken 40.99 38 IAmb IAmb 05 51 34.1
comp=Z,55nm,1.0s
K27K Chicken 40.99 38 P P 05 51 33.0 +0.8
baz=276
TGL Tana Glacier 41.07 43 IAmb IAmb 05 51 35.2
comp=Z,36nm,1.0s
WAX Waxell Ridge 41.11 44 P P 05 51 34.1 +0.8
L27K Beaver Creek, 41.22 40 P P 05 51 35.1 +1.0
L27K Beaver Creek, 41.22 40 P P 05 51 35.4 +1.3
baz=277,SNR=103
M27K Edge Creek, AK 41.29 41 IAmb IAmb 05 51 37.6
comp=Z,35nm,0.8s
M27K Edge Creek, AK 41.29 41 P P 05 51 36.0 +1.2
baz=278,SNR=37
EGAK Eagle 41.31 37 IAmb IAmb 05 51 35.8
comp=Z,46nm,1.1s
EGAK Eagle 41.31 37 P P 05 51 34.7 -0.1
baz=276,SNR=30
ISLE Juniper Island 41.34 43 IAmb IAmb 05 51 37.2
comp=Z,42nm,0.9s
MESA MESA 41.60 44 P P 05 51 38.6 +1.1
baz=281
YAH Yahtse 41.67 44 P P 05 51 38.6 +0.6
BVCY Beaver Creek 41.75 41 P P 05 51 39.5 +1.1
baz=279,SNR=18
CTG Chitna Glacier 41.76 43 P P 05 51 39.8 +1.1
baz=280,SNR=21
CTGM Chitina Glacie 41.76 43 P P 05 51 39.6 +0.9
DGZ Jazzator, Alta 41.77 300 ⇓eP P 05 51 38.4 -0.6
DGZ pmax pmax
comp=Z,4.0nm,0.7s
LOGN Logan Glacier 41.95 43 IAmb IAmb 05 51 52.1
comp=Z,33nm,0.8s
TABL Table Mountain 41.95 44 P P 05 51 40.3 0.0
TABL IAmb IAmb 05 51 42.1
comp=Z,50nm,0.8s
YUK3 Moose Creek 42.04 42 P P 05 51 41.7 +0.7
baz=280,SNR=36
ZAA0 Zalesovo Array 42.05 306 P P 05 51 38.2 -2.7
ZAA0 PcP 05 53 35.6 +0.8
ZALV Zalesovo Beam 42.05 306 P P 05 51 39.0 -1.9
comp=Z,3.6nm,0.5s,baz=73,slow=7.3,SNR=9.5
ZALV PcP PcP 05 53 35.0 +0.2
comp=Z,11nm,0.7s,baz=78,slow=3.0,SNR=14
ZALV LR LR 06 10 27.1
comp=Z,1μm,18.1s,baz=74,slow=38
ZALV Zalesovo Beam 42.05 306 i P P 05 51 42.0 +1.1
ZALV pmax pmax
comp=Z,4.0nm,0.5s
DAWY Dawson 42.16 38 P P 05 51 42.1 +0.3
DAWY Dawson 42.16 38 P P 05 51 42.1 +0.3
baz=278,SNR=13
PINM Pinnacle 42.45 44 P P 05 51 45.0 +0.8
baz=282,SNR=11
QIZ Qiongzhong 42.58 246 P P 05 51 46.5 +0.9
QIZ S S 05 58 05.2 +0.8
QIZ LR LR
comp=Z,160nm,12.4s
QIZ LR LR
comp=Z,310nm,15.9s
QIZ LR LR
comp=Z,370nm,16.1s
EPYK Eagle Plains 42.95 34 IAmb IAmb 05 51 50.2
comp=Z,52nm,1.0s
EPYK Eagle Plains 42.95 34 P P 05 51 49.1 +0.9
baz=278,SNR=24
YUK4 Talbot Arm 42.97 42 P P 05 51 49.5 +1.0
baz=282,SNR=9.6
KMI Kunming 43.18 259 ⇑P P 05 51 51.1 +0.4
KMI pP pP 05 52 05.4 +0.6
KMI sP sP 05 52 10.7 -0.3
KMI PcP PcP 05 53 40.7 +1.3
KMI S S 05 58 12.2 -1.4
KMI sS sS 05 58 34.6 -2.0
KMI SS SS 06 01 24.0 -3.8
KMI pmax pmax
comp=Z,44nm,1.0s
KMI pmax pmax
comp=Z,220nm,4.0s
KMI LR LR
comp=Z,410nm,20.9s
KMI LR LR
comp=Z,190nm,19.9s
KMI LR LR
comp=Z,350nm,20.9s
YUK6 Outpost Mounta 43.19 42 P P 05 51 51.5 +1.1
baz=282
HYT Haines Junctio 43.62 42 P P 05 51 55.5 +1.7
baz=283,SNR=64
MAYO Mayo, Yukon 43.77 38 P P 05 51 55.9 +1.2
baz=282
WMQ Urumqi 43.79 292 eP P 05 51 57.0 +1.7
WMQ pP pP 05 52 08.5 -0.9
WMQ pmax pmax
comp=Z,18nm,0.9s
WMQ pmax pmax
comp=Z,200nm,3.9s
WMQ LR LR
comp=Z,840nm,18.9s
WMQ LR LR
comp=Z,720nm,17.5s
WMQ LR LR
comp=Z,710nm,20.3s
INK Inuvik 43.90 31 P P 05 51 55.9 +0.2
comp=Z,28nm,0.8s,baz=298,slow=6.4,SNR=51
INK Inuvik 43.90 31 P P 05 51 56.0 +0.3
INK pmax pmax
comp=Z,36nm,0.9s
INK Inuvik 43.90 31 P P 05 51 56.0 +0.3
INK IAmb IAmb 05 51 57.5
comp=Z,36nm,0.9s
INK Inuvik 43.90 31 P P 05 51 56.5 +0.8
baz=279,SNR=24
ZSN Zaisan 44.16 297 eP P 05 51 57.5 -0.7
baz=297
ZSN Zaisan 44.16 297 eP P 05 51 57.4 -0.7
SLVN Son La 44.89 254 P P 05 52 04.2 0.0
WHY Whitehorse 44.91 42 P P 05 52 05.6 +1.6
baz=285,SNR=14
SKAG Skagway 45.02 44 P P 05 52 06.4 +1.6
baz=286,SNR=13
FARO Faro, Yukon 45.22 40 P P 05 52 07.4 +1.1
baz=285,SNR=33
SIT Sitka 45.73 47 P P 05 52 12.4 +1.9
baz=288
JIS Juneau Island 45.84 45 IAmb IAmb 05 52 14.1
comp=Z,28nm,0.8s
A36M Sachs Harbour 46.01 25 P P 05 52 13.1 +0.7
A36M Sachs Harbour 46.01 25 P P 05 52 13.1 +0.7
baz=282,SNR=16
MK31 Makanchi Array 46.04 298 i P P 05 52 12.7 -0.3
MK31 pmax pmax
comp=Z,34nm,0.7s
MK31 Makanchi Array 46.04 298 P P 05 52 11.8 -1.2
MK31 IAmb IAmb 05 52 14.9
comp=Z,26nm,0.8s
MKAR Makanchi Array 46.04 298 P P 05 52 13.3 +0.3
comp=Z,31nm,0.8s,baz=74,slow=6.9,SNR=188
MKAR PcP PcP 05 53 49.0 +0.3
comp=Z,8.2nm,0.7s,baz=77,slow=1.7,SNR=6.2
MKAR LR LR 06 12 43.4
comp=Z,1μm,18.7s,baz=60,slow=38
MMPY Sheldon Lake, 46.05 39 P P 05 52 14.3 +1.3
baz=286,SNR=15
MAKZ Makanchi 46.23 298 P P 05 52 14.4 -0.1
MAKZ pmax pmax
comp=Z,24nm,0.9s
MAKZ Makanchi 46.23 298 P P 05 52 14.4 -0.1
MAKZ IAmb IAmb 05 52 16.1
comp=Z,24nm,0.8s
KURBB Kurchatov Arra 46.79 304 P P 05 52 16.3 -2.5
PANO Nakornpanom 47.35 249 P P 05 52 20.2 -3.3
PANO Nakornpanom 47.35 249 P P 05 52 20.2 -3.3
comp=Z,158nmcomp=Z,2.2nm,0.7s
CRAG Craig 47.43 49 P P 05 52 25.4 +1.7
baz=291
WRAK Wrangell Islan 47.49 47 P P 05 52 26.2 +2.0
NONG Nongkai 47.67 251 P P 05 52 27.1 +1.1
comp=Z,66nm,0.9s
NONG Nongkai 47.67 251 P P 05 52 27.2 +1.2
comp=Z,67nm,0.9s
TGTN Hyland Airport 47.72 40 P P 05 52 27.2 +1.2
baz=290
DLBC Dease Lake 47.95 44 P P 05 52 29.7 +1.8
comp=Z,17nm,0.8s,baz=293,slow=6.4,SNR=41
DLBC Dease Lake 47.95 44 IAmb IAmb 05 52 30.9
comp=Z,23nm,0.9s
WTLY Watson Lake, Y 47.96 42 P P 05 52 28.8 +0.9
baz=290
LSA Lhasa 48.54 273 P P 05 52 34.6 +1.4
LSA pmax pmax
comp=Z,190nm,0.9s
LSA Lhasa 48.54 273 P P 05 52 34.6 +1.4
LSA Lhasa 48.54 273 P P 05 52 32.8 -0.4
LSA pmax pmax
comp=Z,36nm,0.8s
LSA Lhasa 48.54 273 P P 05 52 32.8 -0.4
PAYA Payao 48.99 255 P P 05 52 37.6 +1.4
comp=Z,590nmcomp=Z,42nm,0.9s
PAYA Payao 48.99 255 P P 05 52 37.6 +1.4
comp=Z,147nmcomp=Z,11nm,0.9s
WRGLY Wrigley 49.23 37 P P 05 52 38.7 +1.3
baz=292,SNR=9.8
TDK Taldyqorghan 49.26 297 eP P 05 52 38.2 +0.2
baz=297
TDK Taldyqorghan 49.26 297 eP P 05 52 38.2 +0.2
PDGK Podgornoye 49.35 295 P P 05 52 38.7 -0.2
SHLS Shalkode 49.45 294 eP P 05 52 36.8 -2.9
comp=Z,5.1nm,0.4s,baz=294
SHLS Shalkode 49.45 294 eP P 05 52 36.7 -2.9
SHLS pmax pmax
comp=Z,5.0nm,0.4s
UTTA Uttaradit 49.64 253 P P 05 52 42.1 +0.9
comp=Z,30nm,0.8s
UTTA Uttaradit 49.64 253 P P 05 52 42.0 +0.9
comp=Z,7.6nm,0.8s
LAMP Lampang 49.73 255 P P 05 52 43.1 +1.3
comp=Z,509nmcomp=Z,46nm,0.9s
LAMP Lampang 49.73 255 P P 05 52 43.2 +1.3
comp=Z,127nmcomp=Z,12nm,0.9s
UZB Uzynbulak 49.74 295 eP P 05 52 41.0 -0.9
comp=Z,6.2nm,0.7s,baz=294
UZB Uzynbulak 49.74 295 eP P 05 52 40.9 -0.9
UZB pmax pmax
comp=Z,6.0nm,0.7s
KPKS Kokpek 49.80 295 eP P 05 52 41.8 -0.5
comp=Z,23nm,1.1s,baz=295
KPKS Kokpek 49.80 295 eP P 05 52 41.7 -0.5
KPKS pmax pmax
comp=Z,23nm,1.1s
CHAI Chaiyaphum 49.99 250 P P 05 52 44.5 +0.7
comp=Z,488nmcomp=Z,58nm,0.8s
CHAI Chaiyaphum 49.99 250 P P 05 52 44.5 +0.7
comp=Z,122nmcomp=Z,15nm,0.8s
CMMT Chiang Mai 49.99 256 P P 05 52 44.5 +0.7
comp=Z,572nmcomp=Z,42nm,0.9s
CMMT Chiang Mai 49.99 256 P P 05 52 44.6 +0.7
comp=Z,572nmcomp=Z,42nm,0.9s
CMMT Chiang Mai 49.99 256 P P 05 52 44.1 +0.2
comp=Z,552nmcomp=Z,40nm,0.9s
CHTO Chiang Mai 49.99 256 P P 05 52 44.2 +0.3
CHTO pmax pmax
comp=Z,31nm,0.9s
CHTO Chiang Mai 49.99 256 P P 05 52 44.6 +0.7
comp=Z,430nmcomp=Z,42nm,0.9s
CHTO Chiang Mai 49.99 256 P P 05 52 44.2 +0.3
CHTO IAmb IAmb 05 52 45.8
comp=Z,31nm,0.9s
CHTO Chiang Mai 49.99 256 P P 05 52 45.1 +1.2
CHTO Chiang Mai 49.99 256 P P 05 52 44.4 +0.5
comp=Z,242nmcomp=Z,24nm,0.9s
PHIT Phitsanulok 50.12 253 P P 05 52 46.4 +1.6
comp=Z,610nmcomp=Z,62nm,0.9s
PHIT Phitsanulok 50.12 253 P P 05 52 46.5 +1.6
comp=Z,151nmcomp=Z,15nm,0.9s
SATY Saty 50.17 295 i P P 05 52 44.7 -0.4
comp=Z,18nm,1.2s,baz=295
SATY Saty 50.17 295 i P P 05 52 44.7 -0.4
SATY pmax pmax
comp=Z,17nm,1.2s
CM09 Chiang Mai Arr 50.22 255 P P 05 52 59.2 +14
CMAR Chiang Mai Arr 50.24 255 P P 05 52 46.5 +0.8
comp=Z,9.1nm,0.8s,baz=39,slow=7.4,SNR=30
CMAR PcP PcP 05 54 05.3 +1.2
comp=Z,6.3nm,0.8s,baz=8.8,slow=2.4,SNR=9.0
CMAR LR LR 06 15 59.9
comp=Z,374nm,18.9s,baz=74,slow=38
CMAR Chiang Mai Arr 50.24 255 i P P 05 52 47.0 +1.3
CMAR pmax pmax
comp=Z,9.0nm,0.8s
CM02 Chiang Mai Arr 50.25 255 P P 05 52 59.1 +13
CM01 Chiang Mai Arr 50.26 255 P P 05 52 59.2 +13
CM04 Chiang Mai Arr 50.26 255 P P 05 52 59.2 +13
CM15 Chiang Mai Arr 50.26 255 P P 05 53 00.4 +15
CM05 Chiang Mai Arr 50.28 255 P P 05 53 00.6 +15
CM13 Chiang Mai Arr 50.29 255 P P 05 53 00.2 +14
BRVK Borovoye 50.47 310 deP P 05 52 46.1 -0.9
BRVK pmax pmax
comp=Z,14nm,1.3s
BRVK Borovoye 50.47 310 P P 05 52 46.5 -0.5
BRVK IAmb IAmb 05 54 05.8
comp=Z,21nm,0.9s
BRVK Borovoye 50.47 310 eP P 05 52 46.1 -0.9
BRZS Berezniki 50.47 305 eP P 05 52 46.3 -0.8
baz=305
BRZS Berezniki 50.47 305 eP P 05 52 46.3 -0.8
SHL Shillong 50.51 268 P P 05 52 47.5 -0.5
SHL pmax pmax
comp=Z,56nm,0.8s
SHL Shillong 50.51 268 P P 05 52 47.5 -0.5
SHL Shillong 50.51 268 P P 05 52 48.1 +0.1
SNR=12
EUNU Eureka 50.97 11 IAmb IAmb 05 52 50.7
comp=Z,34nm,0.9s
MDOK Medeo 50.99 295 eP P 05 52 50.5 -0.8
baz=295
MDOK Medeo 50.99 295 eP P 05 52 50.5 -0.8
AAA Alma-Ata 51.05 296 eP P 05 52 50.9 -0.8
baz=296
AAA Alma-Ata 51.05 296 eP P 05 52 50.9 -0.8
AAA Alma-Ata 51.05 296 eP P 05 52 50.9 -0.8
KUU Kurty 51.09 297 eP P 05 52 51.1 -0.8
comp=Z,27nm,0.6s,baz=296
KUU Kurty 51.09 297 eP P 05 52 51.0 -0.8
KUU pmax pmax
comp=Z,27nm,0.6s
TNSS Tian-Shan 51.12 295 eP P 05 52 52.9 +0.3
baz=295
MHMT Maesarieng 51.13 256 P P 05 52 54.0 +1.6
comp=Z,885nmcomp=Z,71nm,1.0s
MHMT Maesarieng 51.13 256 P P 05 52 54.1 +1.6
comp=Z,885nmcomp=Z,71nm,1.0s
MRSI Marisa 51.21 218 P P 05 52 54.0 +1.0
TARG Taragay, Kyrgy 51.22 294 IAmb IAmb 05 54 10.5
comp=Z,24nm,1.0s
SRAK Srakaew 51.32 249 P P 05 52 52.3 -1.5
comp=Z,4μmcomp=Z,547nm,0.8s
MTBS Maitube 51.40 296 eP P 05 52 54.2 -0.1
baz=296
KDJ Kajisay 51.42 294 P P 05 52 54.9 +0.3
KDJ pmax pmax
comp=Z,41nm,1.0s
KDJ Kajisay 51.42 294 P P 05 52 54.9 +0.3
UMPA Umpang Tak 51.87 253 P P 05 53 01.1 +3.1
comp=Z,49nm,1.0s
UMPA Umpang Tak 51.87 253 P P 05 53 01.0 +3.1
comp=Z,12nm,1.0s
SANI Sanana 51.88 212 P P 05 52 58.0 +0.1
comp=Z,39nm,1.0s
UTHA Uthaitani 51.93 252 P P 05 53 00.1 +1.6
comp=Z,346nmcomp=Z,36nm,0.9s
UTHA Uthaitani 51.93 252 P P 05 53 00.0 +1.6
comp=Z,86nmcomp=Z,9.0nm,0.9s
BTLS Baital 51.96 299 eP P 05 52 57.4 -1.0
comp=Z,5.0nm,0.9s,baz=299
BTLS Baital 51.96 299 eP P 05 52 57.3 -1.0
BTLS pmax pmax
comp=Z,5.0nm,0.9s
ULHL Ulahol 51.96 295 P P 05 52 59.6 +0.9
SNR=28
TKM2 Tokmak 2 52.04 296 P P 05 52 60.0 +0.8
SNR=19
TKM2 Tokmak 2 52.04 296 i P P 05 52 59.3 +0.1
TKM2 pmax pmax
comp=Z,15nm,0.8s
SGDS Sogindy 52.38 297 eP P 05 53 01.4 -0.2
comp=Z,11nm,0.7s,baz=297
USP Ospenovka 52.56 297 P P 05 53 03.6 +0.8
SNR=44
KBK Karagaybulak 52.58 296 P P 05 53 03.8 +0.6
SNR=19
KZA Kyzart 52.69 295 P P 05 53 05.8 +1.6
SNR=9.9
RES Resolute Bay 52.85 18 P P 05 53 04.2 -0.2
comp=Z,32nm,0.8s,baz=336,slow=10,SNR=8.7
AAK Ala-Archa 52.88 296 P P 05 53 06.0 +0.6
SNR=27
AAK Ala-Archa 52.88 296 i P P 05 53 05.8 +0.4
SNR=30
AAK Ala-Archa 52.88 296 c i P P 05 53 05.8 +0.4
AAK pmax pmax
comp=Z,88nm,0.8s
AAK Ala-Archa 52.88 296 P P 05 53 05.4 +0.1
AAK IAmb IAmb 05 53 07.2
comp=Z,27nm,0.8s
AAK Ala-Archa 52.88 296 eP P 05 53 05.8 +0.4
UCH Uchtor 53.08 296 P P 05 53 10.5 +3.3
SNR=5.2
YKA Yellowknife Ar 53.22 35 P P 05 53 07.7 +0.3
comp=Z,15nm,0.9s,baz=302,slow=6.2,SNR=54
JIRN Jiri 53.25 274 eP P 05 53 09.4 +0.9
GUN Gumba 53.32 274 eP P 05 53 09.6 +0.6
comp=Z,264nm,0.8s
EKS2 Erkin-Say 53.32 296 P P 05 53 09.4 +0.8
SNR=6.5
RAMN Ramite 53.39 273 eP P 05 53 10.0 +0.6
comp=Z,134nm,0.4s
KSH Kashi 53.55 292 P P 05 53 14.9 +4.6
KSH pP sP 05 53 32.6 +1.7
KSH pmax pmax
comp=Z,21nm,0.6s
KSH pmax pmax
comp=Z,110nm,5.2s
KSH LR LR
comp=Z,1μm,25.3s
KSH LR LR
comp=Z,630nm,21.1s
KSH LR LR
comp=Z,1μm,20.8s
AML Almayashu 53.65 296 P P 05 53 12.4 +1.1
SNR=24
AML Almayashu 53.65 296 i P P 05 53 11.7 +0.4
SNR=24
SVE Sverdlovsk 53.71 317 eP P 05 53 09.6 -1.4
SVE pmax pmax
comp=Z,40nm,0.8s
SVE MLR MLR
comp=Z,525nm,21.0s
PHET Kaeng Krachan 53.72 250 P P 05 53 13.9 +2.3
comp=Z,37nm,1.1s
PHET Kaeng Krachan 53.72 250 P P 05 53 13.9 +2.3
comp=Z,9.5nm,1.1s
KKN Kakani 53.81 275 eP P 05 53 13.2 +0.7
comp=Z,168nm,0.8s
PKI Pulchoki 53.86 274 eP P 05 53 13.3 +0.4
comp=Z,147nm,1.0s
PKIN Phulchoki 53.86 274 eP P 05 53 13.2 +0.3
DMN Daman 54.05 275 eP P 05 53 15.0 +0.8
GKN Gorkha 54.14 275 eP P 05 53 15.5 +0.7
comp=Z,322nm,1.0s
DANN Dangsing 54.55 276 eP P 05 53 18.9 +1.0
comp=Z,392nm,0.9s
DZA Taraz 54.74 298 eP P 05 53 17.8 -1.0
baz=298
DZA Taraz 54.74 298 eP P 05 53 17.8 -1.0
ARU Arti 54.91 317 c i P P 05 53 17.6 -2.1
ARU *PP pP 05 53 29.8 -4.4
ARU PcP 05 54 20.2 -0.9
ARU S S 06 00 53.7 -3.2
ARU pmax pmax
comp=Z,31nm,0.7s
ARU MLR MLR
comp=Z,546nm,19.0s
ARU Arti 54.91 317 P P 05 53 17.5 -2.3
ARU PcP 05 54 20.4 -0.7
ARU Arti 54.91 317 eP P 05 53 17.6 -2.1
KOLN Koldanda 55.01 276 eP P 05 53 22.0 +0.9
KK31 Karatay Array 55.14 298 i P P 05 53 21.3 -0.4
KK31 Karatay Array 55.14 298 IAmb IAmb 05 53 22.5
comp=Z,22nm,0.8s
KKAR Karatay Array 55.14 298 P P 05 53 20.0 -1.6
KKAR Karatay Array 55.14 298 P P 05 53 20.0 -1.6
KKAR Karatay Array 55.14 298 P P 05 53 21.1 -0.6
KKAR IAmb IAmb 05 53 22.5
comp=Z,22nm,0.8s
PYUN Piuthan 55.24 276 eP P 05 53 23.8 +1.0
LLLB Lillooet 55.66 50 IAmb IAmb 05 53 27.2
comp=Z,18nm,1.0s
MTKI Muara Teweh, K 55.75 225 P P 05 53 27.2 +0.9
IUG Iuzhnay 55.95 298 eP P 05 53 27.8 +0.1
baz=298
IUG Iuzhnay 55.95 298 eP P 05 53 27.7 +0.1
TULEG Thule 55.96 10 i P P 05 53 25.2 -1.8
TULEG IAmb IAmb 05 53 26.2
comp=Z,40nm,0.9s
KSM Kuching 56.11 231 P P 05 53 31.0 +2.1
A04D Lummi Island 56.19 53 P P 05 53 29.8 +0.8
baz=302
NLWA Neilton Lookou 56.23 55 IAmb IAmb 05 53 31.8
comp=Z,20nm,1.0s
SURA Surathani 56.48 247 P P 05 53 33.6 +2.1
comp=Z,33nm,0.9s
SURA Surathani 56.48 247 P P 05 53 33.7 +2.2
STKI Sintang 56.65 229 P P 05 53 33.6 +0.9
B05A Bryant 56.78 53 P P 05 53 34.0 +0.8
baz=303,SNR=11
E03A Lebam 56.86 55 IAmb IAmb 05 53 58.3
comp=Z,20nm,1.0s
NEEM North Greenlan 56.86 6 ⇑i P P 05 53 32.3 -1.5

NEEM IAmb IAmb 05 53 33.2
comp=Z,54nm,0.8s
D04E Lakebay 56.98 54 P **P 05 53 36.1 +1.4**
baz=303
B06A Marblemount 56.98 52 IAmb IAmb 05 53 36.2
comp=Z,24nm,1.1s
BKSI Bulukumba 57.20 217 P **P 05 53 37.0 +0.5**
comp=Z,22nm,1.1s
D05A Enumclaw 57.42 54 P **P 05 53 38.9 +1.1**
D05A IAmb IAmb 05 53 40.3
comp=Z,24nm,1.0s
E04D Cinebar 57.43 55 P **P 05 53 39.3 +1.5**
baz=303,SNR=6.4
LVZ Lovozero 57.44 336 *de*P **P 05 53 37.5 -0.1**
LVZ pmax pmax
comp=Z,72nm,1.7s
C06D Leavenworth 57.64 53 P **P 05 53 40.0 +0.6**
baz=304
PRGR Permogore 57.66 327 *e*P **P 05 53 37.4 -1.8**
G03D McMinnville, O 57.77 56 P **P 05 53 41.6 +1.4**
baz=304
F04A Amboy 57.86 55 IAmb IAmb 05 53 42.6
comp=Z,19nm,0.9s
KIRV Kirov 57.90 323⇓ *e*P **P 05 53 39.8 -1.1**
BBKI Banjar Baru 57.95 223 P **P 05 53 42.4 +0.5**
AB31 Akbulak array 58.00 309 *i* P **P 05 53 40.8 -1.0**
ABKAR Akbulak array 58.00 309 IAmb IAmb 05 53 43.7
comp=Z,19nm,0.7s
APA Apatity 58.01 336⇓ *i*P **P 05 53 40.2 -1.4**
APA pmax pmax
comp=Z,8.0nm,0.8s
I02D Swisshome 58.03 58 P **P 05 53 42.7 +0.6**
baz=304
DAG Danmarks Havn 58.08 357 *i* P **P 05 53 40.4 -1.6**
DAG IAmb IAmb 05 53 41.5
comp=Z,4.9nm,0.6s
B08A Colville Reser 58.27 52 P **P 05 53 43.4 -0.4**
B08A IAmb IAmb 05 53 45.5
comp=Z,18nm,1.0s
F05D White Salmon 58.44 55 P **P 05 53 46.2 +1.1**
baz=304
H04D Lebanon 58.46 57 P **P 05 53 46.4 +1.3**
baz=304
I03D Drain, OR 58.56 58 P **P 05 53 47.7 +1.9**
baz=304
NIL Nilore 58.66 288 P **P 05 53 47.7 +1.0**
NIL pmax pmax
comp=Z,169nm,0.9s
NIL Nilore 58.66 288 P **P 05 53 47.7 +1.0**
ARCES ARCESS Array B 58.69 340 P **P 05 53 44.8 -1.5**
comp=Z,2.0nm,0.6s,baz=47,slow=11,SNR=6.6
ARCES PcP **PcP 05 54 36.2 +0.5**
comp=Z,10nm,0.7s,baz=21,slow=4.1,SNR=9.7
ARCES LR LR 06 25 29.6
comp=Z,215nm,18.1s,baz=75,slow=43
ARCES ARCESS Array B 58.69 340 IAmb IAmb 05 54 36.9
comp=Z,15nm,0.8s
G05D Wamic, OR 58.89 56 P **P 05 53 49.7 +1.5**
baz=305,SNR=18
K02D Willamette Mer 58.94 59 P **P 05 53 50.2 +1.6**
baz=305
E07A Sunnyside 58.99 54 P **P 05 53 48.1 -0.7**
E07A IAmb IAmb 05 53 51.0
comp=Z,20nm,1.0s
I04A Tendick Farm, 59.06 57 P **P 05 53 50.6 +1.2**
baz=305
C09A Chrisman Ranch 59.17 52 IAmb IAmb 05 53 51.6
comp=Z,17nm,0.9s
HAWA Hanford 59.26 54 IAmb IAmb 05 53 52.9
comp=Z,19nm,1.1s
L02E Cave Junction 59.28 60 P **P 05 53 52.3 +1.4**
baz=305
I05D Terrebonne, OR 59.39 56 P **P 05 53 52.9 +1.2**
baz=305,SNR=7.4
E08A Dider Farm, El 59.48 53 IAmb IAmb 05 53 54.0
comp=Z,15nm,1.0s
NEW Newport 59.54 51 IAmb IAmb 05 53 54.3
comp=Z,24nm,1.1s
NEW Newport 59.54 51 P **P 05 53 53.1 +0.5**
baz=305,SNR=26
J04D Umpqua Nationa 59.56 58 P **P 05 53 54.6 +1.6**
baz=305,SNR=5.6
E09A Wood Farm, Sta 59.98 53 IAmb IAmb 05 53 57.6
comp=Z,26nm,1.0s
L04D Klamath Falls 60.03 59 P **P 05 53 57.6 +1.4**
baz=306,SNR=6.4
J05D Fort Rock, OR 60.06 57 P **P 05 53 58.1 +1.7**
baz=306,SNR=12
YBH Yreka Blue Hor 60.07 60 P **P 05 53 57.5 +1.1**
YBH pmax pmax
comp=Z,16nm,1.2s
YBH Yreka Blue Hor 60.07 60 P **P 05 53 57.5 +1.1**
M02C Callahan 60.18 60 P **P 05 53 59.0 +1.9**
baz=306
KLMR Klimovskoe 60.46 328 *e*P P 05 53 53.6 -5.0
KLMR pmax pmax
comp=Z,18nm,1.7s
KLMR Klimovskoe 60.46 328 *e*P P 05 53 53.7 -4.9
KLMR AMP 05 53 57.8
comp=Z,18nm,1.7s
N02D Trinity Center 60.51 60 P **P 05 54 01.2 +1.7**
baz=306,SNR=6.3
M04C Macdoel 60.57 59 P **P 05 54 01.3 +1.5**
baz=306,SNR=5.0
DBG Daneborg 60.59 357 *i* P **P 05 53 57.8 -1.5**
DBG IAmb IAmb 05 53 58.3
comp=Z,11nm,1.0s
KCPM Cahto Peak 60.73 62 IAmb IAmb 05 54 03.5
comp=Z,19nm,0.7s
F10A Beach Ranch, E 60.81 53 IAmb IAmb 05 54 05.1
comp=Z,13nm,0.9s
UPNV Upernavik 60.83 9 *i* P **P 05 53 59.6 -1.3**
UPNV IAmb IAmb 05 54 00.3
comp=Z,37nm,0.7s
WDC Whiskeytown Da 60.84 61 IAmb IAmb 05 54 04.0
comp=Z,16nm,0.9s
O02D Mt. Diablo Mer 60.93 61 P **P 05 54 04.0 +1.7**
baz=306,SNR=9.4
KBL Kabul 60.93 291 P **P 05 54 01.8 -0.7**
KBL pmax pmax
comp=Z,117nm,1.0s
KBL Kabul 60.93 291 P **P 05 54 01.8 -0.7**
KBL Kabul 60.93 291 P **P 05 54 01.7 -0.9**
SNR=41
JTMT Jette 61.39 50 P **P 05 54 06.5 +1.1**
JTMT IAmb IAmb 05 54 07.5
comp=Z,24nm,1.2s
MOD Modoc Plateau 61.42 58 IAmb IAmb 05 54 07.9
comp=Z,19nm,0.9s
O03E Paynes Creek 61.47 60 P **P 05 54 06.7 +0.7**
baz=307,SNR=17
J08A Circle Bar Ran 61.64 56 IAmb IAmb 05 54 09.6
comp=Z,30nm,1.1s
GDXM Geysers 61.74 62 IAmb IAmb 05 54 10.5
comp=Z,16nm,1.0s
PSI Prapat 61.78 243 P **P 05 54 08.0 -0.3**
PSI pmax pmax
comp=Z,21nm,0.9s
PSI Prapat 61.78 243 P **P 05 54 09.0 +0.7**
comp=Z,13nm,0.9s,comp=Z,26nm,1.0s
PSI P **P 05 54 09.5 +1.2**
comp=Z,13nm,0.9s,comp=Z,26nm,1.0s
RPSI Rantau Prapat 61.86 243 P **P 05 54 08.0 -0.8**
RPSI IAmb IAmb 05 54 10.6
comp=Z,21nm,0.9s
ORV Oroville 62.10 61 IAmb IAmb 05 54 11.6
comp=Z,14nm,0.9s
WVOR Wild Horse Val 62.10 57 IAmb IAmb 05 54 12.4
comp=Z,25nm,0.9s
MSO Missoula 62.13 51 P **P 05 54 11.0 +0.7**
baz=308,SNR=33
SUMG Summit 62.33 3 *i* P **P 05 54 11.6 0.0**
SUMG IAmb IAmb 05 54 13.7
comp=Z,108nm,0.9s
SUMG Summit 62.33 3 P **P 05 54 11.3 -0.3**
SUMG pmax pmax
comp=Z,109nm,0.9s
SUMG Summit 62.33 3 P **P 05 54 11.3 -0.3**
BELG Belogornoye 62.45 318 *d* P **P 05 54 11.8 -0.3**
BELG pmax pmax
comp=Z,6.0nm,0.7s
BEKR Beckworth 62.61 60 P **P 05 54 14.6 +0.9**
BEKR IAmb IAmb 05 54 15.6
comp=Z,24nm,0.9s
MNSI Mandailing Nat 62.93 241 P **P 05 54 15.6 -0.2**
FFC Flin Flon 63.06 38 P **P 05 54 16.1 -0.1**
FFC pmax pmax
comp=Z,48nm,0.9s
FFC Flin Flon 63.06 38 P **P 05 54 16.1 -0.1**
SJI Sawahan 63.15 224 P **P 05 54 18.4 +1.0**
comp=Z,23nm,1.2s
KRKI Karangkates 63.19 223 P **P 05 54 18.8 +1.3**
comp=Z,101nm,0.7s
SMRI Semarang 63.23 226 P **P 05 54 19.4 +1.6**
comp=Z,56nm,2.0s
RUBR Rubicon Trail 63.23 61 IAmb IAmb 05 54 20.8
comp=Z,25nm,0.8s
PAHR Pah Rah Range 63.30 60 IAmb IAmb 05 54 20.3
comp=Z,22nm,0.9s
PWJI Pagerwojo 63.38 224 P **P 05 54 18.9 +0.1**
comp=Z,3↓mcomp=Z,87nm,0.9s
VCNR Virginia City 63.39 60 IAmb IAmb 05 54 21.2
comp=Z,22nm,0.8s
PNTR Pine Nut 63.55 60 IAmb IAmb 05 54 22.4
comp=Z,30nm,0.8s
EGMT Eagleton 63.62 48 P **P 05 54 20.8 +0.7**
baz=309,SNR=22
PDSI Padang 63.74 239 P **P 05 54 21.2 0.0**
KNRA Kununurra 63.75 203 P **P 05 54 21.8 +0.7**
KNRA IAmb IAmb 05 54 23.7
comp=Z,20nm,0.9s
DLMT Dillon 63.77 51 IAmb IAmb 05 54 23.2
comp=Z,31nm,1.6s
YERR Yerington 63.83 60 IAmb IAmb 05 54 24.1
comp=Z,35nm,0.9s
HLID Hailey 63.87 54 P **P 05 54 23.0 +1.1**
baz=309,SNR=25
KRJI Kerinci 64.08 237 P **P 05 54 24.3 +0.8**
comp=Z,281nm,1.0s
BOZ Bozeman (W) 64.15 51 IAmb IAmb 05 54 25.8
comp=Z,22nm,0.9s
BOZ Bozeman (W) 64.15 51 P **P 05 54 24.7 +0.9**
baz=309,SNR=31
BMN Battle Mountai 64.17 58 IAmb IAmb 05 54 26.2
comp=Z,29nm,0.8s
KPJI Karang Pucung 64.24 227 P **P 05 54 25.0 +0.6**
comp=Z,23nm,1.1s
MDSI Maura Dua 64.44 233 P **P 05 54 25.6 -0.2**
comp=Z,923nmcomp=Z,2.5nm,0.9s
MASI Maura Aman, Be 64.46 236 P **P 05 54 26.8 +0.8**
comp=Z,114nm,1.0s
KVN Kaiserville 64.49 60 IAmb IAmb 05 54 28.4
comp=Z,37nm,0.9s
RYN Ryan 64.50 60 IAmb IAmb 05 54 28.3
comp=Z,23nm,0.8s
FIA1 FINESS Array S 64.63 334 P **P 05 54 25.3 -1.0**
FIA1 IAmb IAmb 05 54 28.5
comp=Z,18nm,0.8s
FINES FINESS Array B 64.63 334 P **P 05 54 24.1 -2.3**
comp=Z,14nm,0.7s,baz=30,slow=7.8,SNR=23
FINES LR LR 06 25 14.9
comp=Z,573nm,19.5s,baz=39,slow=38
FINES FINESS Array B 64.63 334 *i* P **P 05 54 25.0 -1.4**
FINES pmax pmax
comp=Z,14nm,0.7s
NVAR Mina Array Bea 64.75 60 P **P 05 54 29.1 +1.2**
comp=Z,20nm,0.7s,baz=286,slow=6.9,SNR=154
NVAR LR LR 06 21 26.7
comp=Z,37nm,19.7s,baz=305,slow=35
ILULI Ilulissat 64.76 8 *i* P **P 05 54 26.2 -0.9**
ILULI IAmb IAmb 05 54 26.9
comp=Z,52nm,0.8s
YHB Horse Butte 64.92 51 IAmb IAmb 05 54 31.1
comp=Z,26nm,1.0s
MLAC Mammoth, Mammo 64.92 61 P **P 05 54 30.5 +1.4**
baz=309
HYB Hyderabad 65.20 270 *i* P **P 05 54 30.0 -0.8**
PAGB Antelope Grade 65.23 64 IAmb IAmb 05 54 33.0
comp=Z,21nm,0.9s
HRA Herat 65.45 295 P **P 05 54 33.1 +0.6**
HRA IAmb IAmb 05 54 34.1
comp=Z,43nm,1.1s
H17A Grant Village 65.49 51 IAmb IAmb 05 54 36.3
comp=Z,31nm,1.1s
H17A Grant Village 65.49 51 P **P 05 54 35.3 +2.6**
baz=310,SNR=20
OBN Obninsk 65.52 325⇓ *e*P **P 05 54 31.6 -0.7**
OBN pmax pmax
comp=Z,19nm,0.5s
OBN MLR MLR
comp=Z,325nm,17.0s
OBN Obninsk 65.52 325 *e*P **P 05 54 31.6 -0.7**
IMW Indian Meadow 65.61 52 IAmb IAmb 05 54 36.2
comp=Z,21nm,1.0s
SMMC Simmler 65.65 64 P **P 05 54 34.8 +1.3**
baz=309
TIN Tinemaha, Big 65.66 61 P **P 05 54 35.7 +2.0**
baz=309
RLMT Red Lodge 65.74 50 P **P 05 54 35.2 +1.1**
baz=310,SNR=20
ICESG Greenland Ices 65.75 4 *i* P **P 05 54 33.8 -0.2**
ICESG IAmb IAmb 05 54 35.5
comp=Z,108nm,0.9s
GEYT Alibeck 65.81 300 P **P 05 54 34.8 +0.3**
comp=Z,26nm,0.8s,baz=259,slow=1.5,SNR=22
GEYT LR LR 06 25 53.6
comp=Z,387nm,18.5s,baz=50,slow=38
GYA0B ALIBECK ARRAY 65.81 300 IAmb IAmb 05 54 35.9
comp=Z,42nm,1.1s
MOOW Moose Ponds 65.81 52 IAmb IAmb 05 54 37.3
comp=Z,30nm,1.2s
VES Vestal, Richgr 65.89 63 P **P 05 54 35.0 0.0**
baz=310
LOHW Long Hollow 65.98 52 IAmb IAmb 05 54 38.4
comp=Z,35nm,1.3s
SNOW Snow King Moun 65.99 52 IAmb IAmb 05 54 38.6
comp=Z,36nm,1.1s
REDW Red Top Meadow 66.00 52 IAmb IAmb 05 54 38.5
comp=Z,40nm,1.1s
PKM Mcpherson Peak 66.03 64 P **P 05 54 37.3 +1.1**
baz=310,SNR=5.5
CWC Cottonwood Cre 66.14 62 P **P 05 54 37.6 +0.8**
baz=310
DGMT Dagmar 66.17 45 P **P 05 54 37.0 +0.4**
baz=312,SNR=14
GRAC Grapevine Rang 66.23 61 P **P 05 54 38.6 +1.4**
baz=310,SNR=47
RAF Rauma 66.26 335 *e*P **P 05 54 37.2 +0.3**
LAO LASA Array 66.32 47 IAmb IAmb 05 54 39.8
comp=Z,37nm,0.9s
LAO LASA Array 66.32 47 P **P 05 54 38.7 +1.1**
baz=312,SNR=15
SBC Santa Barbara 66.38 64 P **P 05 54 38.3 +0.1**
baz=310
ISA Isabella, Lake 66.39 63 P **P 05 54 38.3 0.0**
baz=310,SNR=8.8
R11A Troy Canyon, C 66.46 59 IAmb IAmb 05 54 40.8
comp=Z,22nm,0.9s
R11A Troy Canyon, C 66.46 59 P **P 05 54 39.6 +0.8**
baz=310,SNR=48
WR0 Warramunga Arr 66.48 196 P **P 05 54 38.5 -0.3**
WR0 IAmb IAmb 05 54 40.5
comp=Z,21nm,0.8s
WRAB Tennant Creek 66.50 197 P **P 05 54 40.0 +1.1**
WRAB pmax pmax
comp=Z,36nm,0.9s
WRAB Tennant Creek 66.50 197 P **P 05 54 40.0 +1.1**
WRAB IAmb IAmb 05 54 40.7
comp=Z,36nm,0.9s
ARVC Arvin 66.51 63 P **P 05 54 39.3 +0.4**
baz=310
WB2 Warramunga Arr 66.51 197 IAmb IAmb 05 54 40.7
comp=Z,36nm,0.9s
WRA Warramunga Arr 66.51 197 P **P 05 54 39.1 +0.2**
comp=Z,25nm,0.8s,baz=17,slow=5.9,SNR=65
WRA LR LR 06 20 15.7
comp=Z,93nm,21.8s,baz=340,slow=33
WRA PKP2bc 06 23 11.4
comp=Z,1.4nm,0.8s,baz=203,slow=2.4,SNR=6.6
WRA Warramunga Arr 66.51 197 *i* P **P 05 54 39.7 +0.7**
WRA pmax pmax
comp=Z,25nm,0.9s
SCZ2 Santa Cruz Isl 66.72 65 P **P 05 54 40.9 +0.6**
baz=310
HWUT Hardware Ranch 66.73 54 IAmb IAmb 05 54 42.8
comp=Z,36nm,1.3s
MPMC Manual Prospec 66.75 62 P **P 05 54 41.6 +0.8**
baz=310,SNR=34
SPR3 Spring Creek 3 66.80 58 IAmb IAmb 05 54 43.7
comp=Z,19nm,0.8s
FURC Furnace Creek, 66.88 61 P **P 05 54 42.5 +1.2**
baz=310,SNR=47
OSI Osito Audit: C 66.90 64 IAmb IAmb 05 54 44.0
comp=Z,27nm,0.8s
OSI Osito Audit: C 66.90 64 P **P 05 54 42.4 +0.8**
baz=310
DUG Dugway, Tooele 66.92 56 IAmb IAmb 05 54 43.9
comp=Z,28nm,0.9s
DUG Dugway, Tooele 66.92 56 P **P 05 54 42.9 +1.1**
baz=310,SNR=39
SFJD Kangerlussuaq 66.95 9 *i* P **P 05 54 40.6 -0.5**
SFJD IAmb IAmb 05 54 40.7
comp=Z,22nm,1.0s
SFJD Kangerlussuaq 66.95 9 P **P 05 54 40.7 -0.5**
SFJD pmax pmax
comp=Z,38nm,1.1s
SFJD Kangerlussuaq 66.95 9 P **P 05 54 40.7 -0.5**
SFJD IAmb IAmb 05 54 40.9
comp=Z,38nm,1.1s
TPNV Topopah Spring 66.95 60 IAmb IAmb 05 54 44.0
comp=Z,33nm,0.9s
TPNV Topopah Spring 66.95 60 P **P 05 54 42.9 +0.9**
baz=310,SNR=38
FITZ Fitzroy Crossi 66.96 206 P **P 05 54 42.8 +1.0**
comp=Z,12nm,0.9s,baz=66,slow=1.5
FITZ Fitzroy Crossi 66.96 206 IAmb IAmb 05 54 45.6
comp=Z,10nm,0.8s
LRMC Laurel Mtn Rad 67.00 62 P **P 05 54 42.7 +0.4**
baz=310
BW06 Boulder Array 67.11 52 IAmb IAmb 05 54 44.6
comp=Z,24nm,0.9s
BW06 Boulder Array 67.11 52 P **P 05 54 43.6 +0.6**
baz=311,SNR=36
PD31 Pinedale Array 67.11 52 IAmb IAmb 05 54 44.6
comp=Z,22nm,0.9s
PDAR Pinedale Array 67.11 52 P **P 05 54 43.5 +0.5**
comp=Z,17nm,0.9s,baz=282,slow=1.8,SNR=127
PDAR LR LR 06 24 51.5
comp=Z,46nm,19.6s,baz=326,slow=37
EDW2 Edwards Air Fo 67.19 63 P **P 05 54 44.4 +1.0**
baz=310,SNR=19
DECC Green Verdugo 67.38 64 P **P 05 54 45.1 +0.5**
baz=310
AAL Aland 67.46 336 *e*P **P 05 54 43.9 -0.6**
MTSE Matsula 67.47 333 *e*P **P 05 54 44.8 +0.2**
NLU North Lily Min 67.51 56 IAmb IAmb 05 54 47.5
comp=Z,20nm,0.9s
SHOC Shoshone, Teco 67.61 61 P **P 05 54 46.8 +0.8**
baz=310,SNR=8.8
GSC Goldstone, Bar 67.67 62 P **P 05 54 47.0 +0.6**
baz=310,SNR=12
MPU Maple Canyon 67.73 55 IAmb IAmb 05 54 48.9
comp=Z,17nm,0.8s
POO Poona 67.78 274 *e*P **P 05 54 45.0 -2.3**
BFSC Mount Baldy Ra 67.81 63 P **P 05 54 47.9 +0.5**
baz=310,SNR=8.5
CIS Catalina Islan 67.87 65 P **P 05 54 48.0 +0.3**
baz=311
DY2G Dye2 67.89 7⇑ *i*P **P 05 54 46.6 -0.8**
DY2G IAmb IAmb 05 54 47.7
comp=Z,61nm,1.0s
SHPR Sheep Range 67.91 60 IAmb IAmb 05 54 50.3
comp=Z,25nm,0.9s
TUQ Turquoise Moun 68.13 61 P **P 05 54 50.1 +0.7**
baz=311,SNR=16
HEC Hector,Ludlow 68.26 62 P **P 05 54 51.1 +0.9**
baz=311,SNR=6.2
BBRC Big Bear Solar 68.27 63 P **P 05 54 50.9 +0.5**
baz=311
MURC Murrieta 68.52 64 P **P 05 54 52.3 +0.5**
baz=311,SNR=5.2
DZM Mont Dzumac 68.53 164 *e*LQ LQ 06 12 47.3
comp=Z,1↓m,35.5s
DZM *e*LR LR 06 15 46.1
comp=Z,330nm,22.1s
P17A Butcher Ranch, 68.60 55 IAmb IAmb 05 54 54.4
comp=Z,28nm,1.0s
LCMT Little Creek M 68.74 59 IAmb IAmb 05 54 55.5
comp=Z,33nm,0.8s
MDND Maddock 68.83 43 P **P 05 54 53.8 +0.4**
baz=315,SNR=14
ULM Lac du Bonnet 68.85 39 P **P 05 54 53.2 -0.2**
comp=Z,16nm,0.7s,baz=312,slow=7.4,SNR=18
K22A Casper 68.86 50 P **P 05 54 54.2 +0.3**
baz=313,SNR=13
NC204 NORSAR Array S 68.97 340 IAmb IAmb 05 54 54.3
comp=Z,30nm,1.1s
SRU San Rafael Swe 68.97 55 IAmb IAmb 05 54 56.4
comp=Z,39nm,0.9s
PFO Pinyon Flats O 68.98 63 P **P 05 54 54.7 0.0**
PFO pmax pmax
comp=Z,10.0nm,1.1s
PFO Pinyon Flats O 68.98 63 P **P 05 54 54.7 0.0**
PFO Pinyon Flats O 68.98 63 P **P 05 54 54.9 +0.2**
baz=311,SNR=5.1
TPFO Pinon Flats 68.99 63 P **P 05 54 55.1 +0.3**
baz=311,SNR=5.5
KNB Kanab 68.99 58 IAmb IAmb 05 54 57.3
comp=Z,32nm,0.9s
BELC Belle Mtn. Jos 69.02 63 P **P 05 54 55.0 +0.1**
baz=311,SNR=6.0
109C Camp Elliot, M 69.04 64 P **P 05 54 55.3 +0.3**
baz=311
NB2 NORSAR Subarra 69.06 340 P **P 05 54 53.1 -1.6**
comp=Z,4.8nm,0.7s,baz=29,slow=6.5
NOA NORSAR Array B 69.06 340 P **P 05 54 53.5 -1.2**
comp=Z,11nm,0.7s,baz=30,slow=6.2,SNR=29
NOA LR LR 06 29 48.7
comp=Z,258nm,18.9s,baz=30,slow=40
RWWY Rawlins 69.13 52 IAmb IAmb 05 54 57.1
comp=Z,29nm,1.1s
NBO00 NORSAR Array S 69.18 340 IAmb IAmb 05 55 07.7
comp=Z,54nm,1.3s
RSSD Black Hills 69.19 48 P **P 05 54 56.2 +0.2**
RSSD pmax pmax
comp=Z,28nm,1.1s
RSSD Black Hills 69.19 48 P **P 05 54 56.2 +0.2**
RSSD IAmb IAmb 05 54 57.3
comp=Z,28nm,1.1s
RSSD Black Hills 69.19 48 P **P 05 54 56.1 +0.2**
baz=313
E28A Huff 69.19 44 IAmb IAmb 05 54 57.1
comp=Z,31nm,0.9s
NAO01 NORSAR Array S 69.31 340 IAmb IAmb 05 57 25.1
comp=Z,30nm,1.2s
ISOG Isortoq, Green 69.32 4 *i* P **P 05 54 54.9 -1.1**
ISOG IAmb IAmb 05 54 55.6
comp=Z,38nm,0.7s
MNK Minsk 69.36 328 *i* P **P 05 54 56.6 +0.1**
MNK *i* 05 55 19.7
MNK *i* 05 57 30.0
MNK *i* PPP PPP 05 59 11.0
MNK *i* S **S 06 03 57.9 -1.0**
MNK *i* 06 04 53.1
MNK *i* SS **SS 06 08 25.3 -0.3**
MNK pmax pmax
comp=Z,38nm,0.8s
MNK pmax pmax
comp=N,22nm,0.9s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK MLR MLR
comp=N,303nm,18.0s
MNK MLR MLR
comp=Z,750nm,19.0s
MNK MLR MLR
comp=E,63nm,17.0s
MNK Minsk 69.36 328 *i* P **P 05 54 56.6 +0.1**
comp=E,3.0nm,0.8s
MNK *i* P **P 05 54 56.6 +0.1**
comp=N,22nm,0.8s
MNK *i* P **P 05 54 56.6 +0.1**
comp=Z,38nm,0.8s,baz=219
MNK *i* PcP **PcP 05 55 19.8 0.0**
MNK *i* PP **PP 05 57 30.0 +0.3**
MNK *i* PPP PPP 05 59 11.0
MNK *i* S **S 06 03 58.0 -1.0**
MNK *i* SS **SS 06 08 25.3 -0.3**
MNK *i* SSS SSS 06 11 45.9
MNK *i* LQ LQ 06 20 36.1
MNK *i* LR LR 06 25 30.7
MNK *i* LRM MLR 06 27 58.3
comp=N,303nm,17.9s
MNK *i* LRM MLR 06 28 00.9
comp=Z,750nm,18.5s
MNK *i* LRM MLR 06 28 04.7
comp=E,63nm,16.6s
NEE2 Needles Airpor 69.37 61 P **P 05 54 57.3 +0.3**
baz=312
GROC Groznyy 69.43 311 *e*P **P 05 54 54.9 -2.3**
GROC *e**PP **pP 05 55 09.3 -2.9**
GROC *e* 05 55 18.0

GROC pmax pmax
comp=Z,28nm,0.5s
IRM Iron Mountain 69.45 62 P **P** **05 54 58.2 +0.7**
baz=311,SNR=11
NACGM Naroch 69.45 329 *i* P **P** **05 54 56.2 -0.9**
MONP2 Monument Peak 69.47 64 P **P** **05 54 58.0 +0.1**
baz=311
NUUK Nuuk 69.53 10 *i* P **P** **05 54 57.8 +0.4**
NUUK IAmb IAmb 05 54 58.3
comp=Z,82nm,1.2s
BC3 Big Chuckawall 69.58 63 P **P** **05 54 58.7 +0.3**
baz=312,SNR=6.4
GOF Gofitskoye 69.59 314⇑ *e*P **P** **05 54 58.3 +0.2**
GOF pmax pmax
comp=Z,120nm,0.7s
O20A White River Ci 69.60 53 IAmb IAmb 05 55 00.1
comp=Z,33nm,1.3s
O20A White River Ci 69.60 53 P **P** **05 54 58.8 +0.3**
baz=313,SNR=16
U15A North Rim 69.70 59 IAmb IAmb 05 55 01.7
comp=Z,27nm,0.9s
IKP In-Ko-Pah, Jac 69.83 64 P **P** **05 55 00.5 +0.5**
baz=312,SNR=5.4
SWSC Sam W. Stewart 69.83 63 P **P** **05 55 00.2 +0.4**
baz=312
PDMCI Parker Dam,Lak 69.97 61 P **P** **05 55 01.3 +0.7**
baz=312,SNR=18
ASAR Alice Springs 70.22 196 P **P** **05 55 03.3 +1.2**
comp=Z,17nm,1.0s,baz=10,slow=5.4,SNR=76
ASAR PKP2ab 06 23 02.2
comp=Z,1.1nm,0.9s,baz=178,slow=2.5,SNR=7.1
ASAR LR LR 06 24 53.3
comp=Z,76nm,21.0s,baz=16,slow=35
PV21 Cone Mtn., Par 70.23 55 IAmb IAmb 05 55 04.2
comp=Z,25nm,0.8s
AGMN Agassiz Nation 70.27 41 IAmb IAmb 05 55 03.0
comp=Z,24nm,0.8s
AGMN Agassiz Nation 70.27 41 P **P** **05 55 01.9 -0.4**
baz=317,SNR=15
PV23 Carpenter Ridg 70.29 55 IAmb IAmb 05 55 04.6
comp=Z,32nm,1.0s
PV14 Lion Creek, Pa 70.33 55 IAmb IAmb 05 55 04.8
comp=Z,27nm,0.9s
N23A Red Feather La 70.37 51 P **P** **05 55 04.3 +1.0**
baz=313,SNR=18
GLA Glamis 70.38 63 P **P** **05 55 04.0 +0.8**
baz=312
PV04 Paradox Valley 70.39 55 IAmb IAmb 05 55 05.2
comp=Z,27nm,0.9s
NCK Nalchik 70.39 312⇓ *e*P **P** **05 55 03.1 0.0**
NCK pmax pmax
comp=Z,44nm,0.4s
PV19 Morning Glory 70.40 55 IAmb IAmb 05 55 05.2
comp=Z,43nm,1.0s
PV16 Nyswonger Mesa 70.44 55 IAmb IAmb 05 55 05.5
comp=Z,40nm,1.1s
PV11 David Mesa, Pa 70.47 55 IAmb IAmb 05 55 05.7
comp=Z,54nm,1.2s
PV18 Skein Mesa, Pa 70.48 55 IAmb IAmb 05 55 05.7
comp=Z,37nm,0.9s
PV03 Paradox Valley 70.52 55 IAmb IAmb 05 55 05.9
comp=Z,24nm,0.8s
KIV Kislovodsk 70.54 313 ⇑P **P** **05 55 05.0 +0.9**
KIV Kislovodsk 70.54 313 *i* P **P** **05 55 04.5 +0.4**
SNR=8.0
KIV Kislovodsk 70.54 313 *e*P **P** **05 55 04.9 +0.8**
KIV pmax pmax
comp=Z,77nm,1.1s
KIV MLR MLR
comp=Z,584nm,18.0s
KIV Kislovodsk 70.54 313 P **P** **05 55 05.0 +0.9**
KIV Kislovodsk 70.54 313 *e*P **P** **05 55 04.9 +0.8**
KBZ Khabaz 70.59 313 P **P** **05 55 05.0 +0.8**
comp=Z,60nm,0.9s,baz=64,slow=3.6,SNR=93
KBZ LR LR 06 29 42.8
comp=Z,1µm,20.8s,baz=52,slow=39
KBZ Khabaz 70.59 313*c i*P **P** **05 55 04.5 +0.3**
KBZ pmax pmax
comp=Z,79nm,0.9s
KBZ Khabaz 70.59 313 *e*P **P** **05 55 04.5 +0.3**
PV13 Radium Mtn., P 70.59 55 IAmb IAmb 05 55 06.5
comp=Z,34nm,0.7s
ZEI Tsey 70.72 312 *e*P **P** **05 55 04.6 -0.8**
ZEI pmax pmax
comp=Z,16nm,1.0s
WUAZ Wupatki 70.86 59 P **P** **05 55 07.3 +1.0**
baz=312,SNR=11
Y14A Wickenburg 70.92 61 IAmb IAmb 05 55 08.5
comp=Z,25nm,0.9s
NEY Neytrino 71.02 313⇓ *e*P **P** **05 55 08.0 +0.9**
NEY pmax pmax
comp=Z,6.0nm,0.8s
B35A Bob, Littlefor 71.19 39 IAmb IAmb 05 55 08.5
comp=Z,19nm,0.8s
ISCO Idaho Springs 71.30 52 P **P** **05 55 10.1 +1.0**
baz=314,SNR=26
MVCO Mesa Verde 71.43 56 IAmb IAmb 05 55 11.5
comp=Z,21nm,0.8s
MVCO Mesa Verde 71.43 56 P **P** **05 55 10.4 +0.7**
baz=313,SNR=22
X16A Lo Mia Camp, P 71.56 60 IAmb IAmb 05 55 13.4
comp=Z,26nm,0.9s
SUSD Miller 71.57 45 IAmb IAmb 05 55 15.5
comp=Z,26nm,0.7s
SUSD Miller 71.57 45 P **P** **05 55 09.9 -0.3**
baz=316
CHVG Ch'k'valeri 71.72 313 ⇑P **P** **05 55 11.7 +0.5**
CHVG Ch'k'valeri 71.72 313 ⇑P **P** **05 55 11.7 +0.5**
AKASG Malin Array Be 71.78 325 P **P** **05 55 10.2 -1.1**
comp=Z,8.1nm,0.5s,baz=36,slow=6.1,SNR=29
AKASG LR LR 06 28 33.6
comp=Z,320nm,21.5s,baz=25,slow=37
AKASG Malin Array Be 71.78 325 *i* P **P** **05 55 10.0 -1.3**
AKASG pmax pmax
comp=Z,12nm,0.6s
AKBB Malin Array Si 71.78 325*c i*P **P** **05 55 10.3 -1.0**
AKBB pmax pmax
comp=Z,18nm,0.8s
F33A 5 Mile Ranch, 71.86 43 IAmb IAmb 05 55 13.0
comp=Z,35nm,0.9s
AKH Akhalkalaki 71.90 311 ⇑P **P** **05 55 13.4 +0.9**
KLNR Kaliningrad 71.97 332⇑ *e*P **P** **05 55 10.6 -1.8**
KLNR pmax pmax
comp=Z,148nm,1.2s
S22A 4UR Ranch, Cre 72.03 54 P **P** **05 55 14.5 +1.0**
baz=314,SNR=27
GNI Garni 72.11 309 P **P** **05 55 15.3 +1.5**
GNI Garni 72.11 309*c i*P **P** **05 55 15.2 +1.5**
GNI pmax pmax
comp=Z,58nm,1.1s
GNI Garni 72.11 309 P **P** **05 55 14.1 +0.4**
GNI IAmb IAmb 05 55 44.5
comp=Z,43nm,0.9s
W18A Petrified Fore 72.12 58 P **P** **05 55 14.8 +1.0**
baz=313,SNR=5.0
Q24A Divide 72.14 53 P **P** **05 55 14.6 +0.5**
baz=314
SOC Sochi 72.32 315 *e*P **P** **05 55 12.9 -1.8**
SOC *e* 05 57 57.0
SOC *e*PPP PPP 05 59 35.3
SOC *e*S **S** **06 04 32.2 -1.4**
SOC *e*SS **SS** **06 09 12.0 +0.5**
SOC *e*SSS SSS 06 12 28.6
SOC pmax pmax
comp=Z,35nm,0.9s
SOC MLR MLR
comp=Z,386nm,19.0s
OGNE Ogallala 72.46 49 P **P** **05 55 16.1 +0.4**
baz=315,SNR=18
EYMN Ely 72.50 38 IAmb IAmb 05 55 17.0
comp=Z,31nm,0.8s
EYMN Ely 72.50 38 P **P** **05 55 15.4 -0.3**
baz=319,SNR=19
ANN Anapa 72.56 317 *e*P **P** **05 55 15.7 -0.4**
ANN *e*S **S** **06 04 38.7 +2.4**
ANN pmax pmax
comp=Z,27nm,0.6s
ANN Anapa 72.56 317 *e*P **P** **05 55 15.7 -0.4**
BATM Batumi 72.72 312 ⇑P **P** **05 55 17.6 +0.5**
BATM Batumi 72.72 312 ⇑P **P** **05 55 17.6 +0.5**
SDCO Great Sand Dun 72.79 54 P **P** **05 55 18.6 +0.6**
baz=314,SNR=18
BCA Borcka 72.87 312 ⇑P **P** **05 55 18.6 +0.5**
ECSD EROS Data Cent 73.24 44 IAmb IAmb 05 55 21.2
comp=Z,38nm,1.1s
ECSD EROS Data Cent 73.24 44 P **P** **05 55 20.0 -0.2**
baz=317,SNR=28

TUC Tucson 73.39 61 P **P** **05 55 22.6 +1.2**
TUC pmax pmax
comp=Z,14nm,1.0s
TUC Tucson 73.39 61 P **P** **05 55 22.6 +1.2**
TUC Tucson 73.39 61 P **P** **05 55 22.1 +0.8**
baz=314
KSCO Kaye Shedlock' 73.51 51 IAmb IAmb 05 55 24.2
comp=Z,30nm,1.1s
KSCO Kaye Shedlock' 73.51 51 P **P** **05 55 22.0 +0.1**
baz=315
T25A Trinidad 73.83 53 P **P** **05 55 24.5 +0.5**
baz=315,SNR=16
SPMN Marine on St. 73.96 41 IAmb IAmb 05 55 25.1
comp=Z,24nm,0.9s
SPMN Marine on St. 73.96 41 P **P** **05 55 24.1 -0.3**
baz=319,SNR=10
SORM Soroca 74.14 324 ⇑P **P** **05 55 24.2 -1.1**
SORM Soroca 74.14 324 ⇑P **P** **05 55 24.2 -1.1**
BGNE Belgrade 74.17 47 P **P** **05 55 24.9 -0.7**
baz=317
ANMO Albuquerque 74.18 56*c i*P **P** **05 55 27.0 +0.9**
ANMO pmax pmax
comp=Z,12nm,0.9s
ANMO Albuquerque 74.18 56 P **P** **05 55 26.3 +0.2**
ANMO Albuquerque 74.18 56 P **P** **05 55 26.8 +0.7**
baz=315
Y22D IRIS PASSCAL I 74.52 57 P **P** **05 55 29.2 +1.2**
baz=315
LVV L'vov 74.52 327 *e*P **P** **05 55 27.2 -0.3**
LVV *e*S **S** **06 04 58.0 -0.3**
LVV MLR MLR
comp=Z,500nm,20.0s
KIS Kishinev 74.83 323 *e*P **P** **05 55 29.0 -0.4**
comp=Z,36nm,0.7s
KIS Kishinev 74.83 323 *e*PP PP 05 58 08.0 -8.6
KIS *e*LR LR 06 29 48.0
comp=Z,400nm,19.0s
KIS Kishinev 74.83 323 *e*P **P** **05 55 29.0 -0.4**
KIS pmax pmax
comp=Z,36nm,0.7s
BANOM Banah 74.88 292 *i* P **P** **05 55 30.4 +0.4**
SNR=28
BANOM Banah 74.88 292 P **P** **05 55 30.4 +0.4**
SNR=8.6
SHME Shamm 74.90 292 *i* P **P** **05 55 30.1 0.0**
SNR=6.8
121A Cookes Peak, D 75.07 59 IAmb IAmb 05 55 33.7
comp=Z,23nm,0.9s
121A Cookes Peak, D 75.07 59 P **P** **05 55 32.3 +1.1**
baz=314,SNR=15
KWP Kalwaria Pacla 75.17 328 *e*P **P** **05 55 30.7 -0.7**
CBKS Cedar Bluff 75.22 50 IAmb IAmb 05 55 32.4
comp=Z,56nm,1.6s
CBKS Cedar Bluff 75.22 50 P **P** **05 55 31.2 -0.6**
baz=317,SNR=6.3
MSFE Esma-Masafi 75.36 291 *i* P **P** **05 55 32.9 +0.1**
SNR=5.7
JLN Jalan Bani Buh 75.37 287 P **P** **05 55 34.4 +1.5**
SCHQ Schefferville 75.40 21 P **P** **05 55 32.5 0.0**
comp=Z,29nm,0.8s,baz=354,slow=6.1,SNR=29
SCHQ LR LR 06 30 35.2
comp=Z,180nm,20.4s,baz=40,slow=37
SCHQ Schefferville 75.40 21 IAmb IAmb 05 55 33.6
comp=Z,36nm,0.9s
BSEG Bad Segeberg 75.55 337 *e*P **P** **05 55 33.2 -0.1**
comp=Z,13nm,0.9s,baz=27,slow=5.5
VASR Vaslui 75.55 323 ⇑P **P** **05 55 33.6 +0.1**
UOSS Minazif 75.61 291 *i* P **P** **05 55 34.1 -0.1**
SNR=14
UOSS Minazif 75.61 291 P **P** **05 55 34.6 +0.4**
PRAR RASCA 75.63 325 ⇑P **P** **05 55 33.5 -0.4**
F42A Maple Grove Fa 75.65 38 IAmb IAmb 05 55 35.0
comp=Z,30nm,0.9s
E43A Lone Tree Farm 75.66 37 IAmb IAmb 05 55 34.9
comp=Z,42nm,1.2s
SMDO Samad 75.67 288 P **P** **05 55 35.6 +0.9**
SNR=5.6
HATD Hatta, Dubai 75.74 291 *i* P **P** **05 55 35.2 +0.2**
SNR=14
HATD Hatta, Dubai 75.74 291 P **P** **05 55 36.0 +1.0**
SNR=9.7
OJC Ojcow 75.75 330 *e*P **P** **05 55 34.4 -0.2**
OJC Ojcow 75.75 330 IAmb IAmb 05 55 35.5
comp=Z,36nm,0.9s
HOQ Hoqain 75.81 289 P **P** **05 55 36.0 +0.7**
SNR=6.8
RUE Ruedersdorf 75.82 334 *e*P **P** **05 55 35.0 +0.1**
comp=Z,28nm,0.7s,baz=27,slow=5.5
BUR08 Bucovina Ar. S 75.82 325 IAmb IAmb 05 55 35.9
comp=Z,31nm,0.8s
BURAR Bucovina Array 75.83 325 ⇑P **P** **05 55 34.9 -0.3**
BURAR Bucovina Array 75.83 325 ⇑P **P** **05 55 34.9 -0.3**
N35A Tabor 75.85 46 IAmb IAmb 05 55 47.7
comp=Z,31nm,0.8s
ASHO Ashiyiah 75.88 291 *i* P **P** **05 55 36.1 +0.3**
SNR=10.0
ASHO Ashiyiah 75.88 291 P **P** **05 55 36.4 +0.6**
SNR=7.8
KOLS Kolonicke sedl 75.91 328 *e*P **P** **05 55 35.3 -0.3**
KOLS pmax pmax
comp=Z,36nm,1.0s
KOLS Kolonicke sedl 75.91 328 *e*P **P** **05 55 35.3 -0.3**
NAZ Nazwa, Dubai 75.94 291 P **P** **05 55 36.1 0.0**
SOHO SOHO 75.94 290 *i* P **P** **05 55 36.2 +0.1**
SNR=7.5
DIKM Dikmen 75.97 316 ⇑P **P** **05 55 36.2 +0.2**
I40A Norwalk 75.99 41 IAmb IAmb 05 55 36.7
comp=Z,36nm,1.1s
BIZ Bicaz 76.02 324 ⇑P **P** **05 55 35.9 -0.3**
VLDR Vladesti 76.05 323 ⇑P **P** **05 55 36.5 +0.1**
JMDO Jabal Madar 76.10 288 P **P** **05 55 38.2 +1.1**
TESR Tescani 76.13 324 ⇑P **P** **05 55 36.6 -0.3**
FAQ Al Faqa, Dubai 76.15 291 *i* P **P** **05 55 37.3 0.0**
SNR=8.4
UZH Uzhgorod 76.15 328⇑ *e*P **P** **05 55 36.5 -0.4**
UZH *i* 05 55 42.0
UZH *e* 05 55 55.2
NIE Niedzica 76.24 329 *e*P **P** **05 55 38.4 +1.0**
CRVS Cervenica-Dubn 76.24 328 *e*P **P** **05 55 37.3 -0.1**
CRVS pmax pmax
comp=Z,29nm,0.9s
CRVS Cervenica-Dubn 76.24 328 *e*P **P** **05 55 37.3 -0.1**
TLCR 76.25 322 ⇑P **P** **05 55 37.6 +0.1**
TLCR 76.25 322 ⇑P **P** **05 55 37.6 +0.1**
SCIA State Center 76.27 44 IAmb IAmb 05 55 39.0
comp=Z,39nm,0.9s
SCIA State Center 76.27 44 P **P** **05 55 37.7 0.0**
baz=320
ASUD Al Ashush, Dub 76.41 291 *i* P **P** **05 55 39.2 +0.5**
SNR=6.6
KSP Ksiaz 76.43 332 *e*P **P** **05 55 38.1 -0.3**
BSY Bisya 76.45 289 P **P** **05 55 39.7 +0.6**
SNR=5.7
TRPA Tarpa 76.47 327 ⇑P **P** **05 55 39.2 +0.5**
TRPA Tarpa 76.47 327 *e*P **P** **05 55 38.6 -0.1**
ALNE Al Ain 76.52 290 P **P** **05 55 39.7 +0.3**
ALNE Al Ain 76.52 290 P **P** **05 55 39.8 +0.3**
SNR=6.7
CFR Carcaliu 76.56 322 ⇑P **P** **05 55 38.5 -0.7**
CFR Carcaliu 76.56 322 ⇑P **P** **05 55 38.5 -0.7**
JURR Jurilovca 76.56 321 ⇓P **P** **05 55 39.3 0.0**
ODBI Odobesti 76.56 323 ⇓P **P** **05 55 40.0 +0.8**
ARCR ARCALIA 76.61 325 ⇓P **P** **05 55 40.0 +0.5**
VRI Vrincioaia 76.61 323 ⇑P **P** **05 55 39.6 0.0**
VRI Vrincioaia 76.61 323 ⇑P **P** **05 55 39.6 0.0**
PLOR Plostina 76.66 323 ⇑P **P** **05 55 40.0 +0.1**
PLOR Plostina 76.66 323 ⇑P **P** **05 55 40.0 +0.1**
KSU1 Kansas State U 76.66 47 IAmb IAmb 05 55 40.1
comp=Z,24nm,1.1s
KSU1 Kansas State U 76.66 47 P **P** **05 55 39.1 -0.9**
baz=318,SNR=6.9
TPGR Topolog 76.69 322 ⇑P **P** **05 55 40.0 0.0**
OSTC Ostas 76.70 332⇑ *e*P **P** **05 55 40.1 +0.1**
OSTC AMS AMS 06 32 40.0
comp=Z,300nm,19.2s
FLTG Flechtingen 76.70 336 *e*P **P** **05 55 39.6 -0.3**
comp=Z,21nm,0.8s,baz=27,slow=5.5
CHVC Chvalec 76.72 332 *e*P **P** **05 55 40.2 0.0**
LANS Liptovska Anna 76.76 329 *e*P **P** **05 55 41.1 +0.7**
LANS pmax pmax
comp=Z,27nm,0.9s
LANS Liptovska Anna 76.76 329 *e*P **P** **05 55 41.1 +0.7**
I42A Draeger Farm, 76.77 40 IAmb IAmb 05 55 41.1
comp=Z,27nm,0.8s
E46A Sault Ste Mari 76.79 36 IAmb IAmb 05 55 41.0
comp=Z,23nm,0.8s
UPC Upice 76.81 332 ⇑AMS AMS 06 32 50.0
comp=Z,400nm,19.2s
OZUR 76.82 324 ⇓P **P** **05 55 40.7 -0.1**
DPC Dobruska-Polom 76.84 332 ⇑*i*P **P** **05 55 40.8 0.0**
DPC MLR MLR
comp=Z,300nm,18.2s
DPC Dobruska-Polom 76.84 332 ⇑*i*P **P** **05 55 40.8 0.0**
DPC AMS AMS 06 37 50.0
comp=Z,300nm,18.2s
BISRR Bisoca 76.87 323 ⇑P **P** **05 55 42.0 +0.8**
NRDL Niedersach Rie 76.88 336 *e*P **P** **05 55 40.6 -0.2**
comp=Z,13nm,0.9s,baz=27,slow=5.5
JFWS Jewell Farm 76.91 41 P **P** **05 55 40.1 -1.2**
baz=321
MORC Moravsky Berou 76.91 331 ⇑P **P** **05 55 41.5 +0.2**
MORC Moravsky Berou 76.91 331 ⇑P **P** **05 55 41.5 +0.2**
MORC Moravsky Berou 76.91 331 *e*P **P** **05 55 41.2 -0.1**
KRLC Kraliky 76.92 331 ⇑*i*P **P** **05 55 41.2 -0.1**
KRLC Kraliky 76.92 331 ⇑*i*P **P** **05 55 41.2 -0.1**
KECS Kecovo 76.95 328 *e*P **P** **05 55 41.5 +0.1**
KECS pmax pmax
comp=Z,11nm,0.9s
KECS Kecovo 76.95 328 *e*P **P** **05 55 41.5 +0.1**
AMTX Amarillo 76.99 53 IAmb IAmb 05 55 43.7
comp=Z,35nm,0.8s
AMTX Amarillo 76.99 53 P **P** **05 55 42.5 +0.5**
baz=317
TIRR Tirgusor 77.00 321 ⇑P **P** **05 55 41.7 0.0**
TIRR Tirgusor 77.00 321 ⇑P **P** **05 55 41.7 0.0**
MSTX Muleshoe 77.02 55 IAmb IAmb 05 55 55.5
comp=Z,20nm,0.9s
MSTX Muleshoe 77.02 55 P **P** **05 55 42.5 +0.3**
baz=316
HARR Harsova 77.03 322 ⇑P **P** **05 55 41.7 -0.2**
HARR Harsova 77.03 322 ⇑P **P** **05 55 41.7 -0.2**
ASSE Asse, Remlinge 77.05 336 *e*P **P** **05 55 41.5 -0.3**
comp=Z,7.1nm,0.9s,baz=27,slow=5.5
CLL Collm 77.08 334⇑ *i*P **P** **05 55 41.4 -0.7**
comp=Z,57nm,1.0s
CLL *e*SS SS 06 10 48.0 +25
CLL *e* 06 14 54.0
CLL LmH 06 32 00.0
comp=N,300nm,20.4s
CLL LmH 06 32 00.0
comp=E,100nm,21.3s
CLL LmV 06 33 00.0
comp=Z,400nm,18.7s
CLL Collm 77.08 334⇑ *i*P **P** **05 55 41.4 -0.7**
CLL pmax pmax
comp=Z,57nm,1.0s
CLL MLR MLR
comp=Z,400nm,18.7s
CLL Collm 77.08 334 *e*P **P** **05 55 42.0 -0.1**
comp=Z,36nm,0.8s,baz=27,slow=5.5
DOPR Dopca 77.09 324 ⇑P **P** **05 55 42.6 +0.3**
TLBR Topalu 77.09 322 ⇑P **P** **05 55 42.4 +0.1**
MNTX Cornudas Mount 77.10 58 P **P** **05 55 43.3 +0.7**
baz=316,SNR=25
N38A Joes South For 77.11 44 IAmb IAmb 05 55 43.2
comp=Z,28nm,0.9s
L40A Anamosa 77.11 42 IAmb IAmb 05 55 42.9
comp=Z,23nm,0.9s
MHTO MHTO 77.14 287 P **P** **05 55 44.2 +1.3**
SNR=10
BRG Berggiesshubel 77.16 333 *e*P **P** **05 55 42.4 -0.2**
baz=27,slow=5.5
BRG Berggiesshubel 77.16 333 *i* P **P** **05 55 42.1 -0.5**
BRG Amp 05 55 43.8
comp=Z,17nm,0.9s
BRG Berggiesshubel 77.16 333 P **PcP** **05 55 55.6 +2.4**
BRG Amp 05 55 56.6
comp=Z,10nm,0.9s
BRG Amp 06 31 54.0
comp=N,0.3nm,20.2s
BRG Amp 06 32 00.0
comp=Z,0.4nm,18.3s
BRG Amp 06 32 01.0
comp=E,0.1nm,19.8s
STKA Stephens Creek 77.17 188 P **P** **05 55 44.5 +1.9**
comp=E,6.4nm,0.9s,baz=352,slow=8.9,SNR=11
STKA LR LR 06 28 25.5
comp=E,62nm,21.9s,baz=25,slow=34
CJR Cluj-Napoca 77.21 326 ⇑P **P** **05 55 43.6 +0.6**
CJR Cluj-Napoca 77.21 326 ⇑P **P** **05 55 43.6 +0.6**
MLR Muntele Rosu 77.24 324 ⇑P **P** **05 55 43.2 -0.1**
MLR Muntele Rosu 77.24 324 ⇑P **P** **05 55 43.2 -0.1**
MLR Muntele Rosu 77.24 324 IAmb IAmb 05 55 45.0
comp=Z,29nm,0.8s
PVCC Panska Ves 77.26 333 *e*P **P** **05 55 43.2 +0.1**
PVCC MLR MLR
comp=Z,500nm,16.3s
PVCC Panska Ves 77.26 333⇑ *e*P **P** **05 55 43.2 +0.1**
PVCC AMS AMS 06 32 40.0
comp=Z,500nm,16.3s
KAN12 Harper NE Stat 77.26 50 IAmb IAmb 05 55 44.0
comp=Z,24nm,1.0s
ISR Istrita 77.29 323 ⇑P **P** **05 55 43.8 +0.3**
ISR Istrita 77.29 323 ⇑P **P** **05 55 43.8 +0.3**
FBE Freiberg 77.30 334 *e*P **P** **05 55 43.4 +0.1**
comp=Z,23nm,0.8s,baz=27,slow=5.5
KAN08 Anthony NE Sta 77.33 50 IAmb IAmb 05 55 44.3
comp=Z,20nm,0.8s
CLZ Clausthal 77.39 336 *e*P **P** **05 55 43.5 -0.4**
comp=Z,25nm,0.9s,baz=27,slow=5.5
ESK Eskdalemuir 77.39 345 P **P** **05 55 43.4 -0.3**
ESK pmax pmax
comp=Z,29nm,1.0s
ESK Eskdalemuir 77.39 345 P **P** **05 55 43.4 -0.3**
ESK IAmb IAmb 05 55 44.8
comp=Z,29nm,1.0s
KAN05 Bluff City Nor 77.47 50 IAmb IAmb 05 55 45.3
comp=Z,19nm,0.9s
DRGR 77.50 326 ⇑P **P** **05 55 44.1 -0.5**
DRGR 77.50 326 ⇑P **P** **05 55 44.1 -0.5**
OK032 Salt Plains WL 77.51 50 IAmb IAmb 05 55 45.8
comp=Z,21nm,0.9s
NEUB Neuenburg 77.53 335 *e*P **P** **05 55 44.5 -0.1**
comp=Z,36nm,0.9s,baz=27,slow=5.5
ICOR Ion Corvin 77.54 322 ⇑P **P** **05 55 45.5 +0.7**
VYHS Vyhne 77.54 329 *e*P **P** **05 55 44.9 +0.1**
VYHS pmax pmax
comp=Z,33nm,1.2s
VYHS Vyhne 77.54 329 *e*P **P** **05 55 44.9 +0.1**
KAN17 Caldwell West 77.58 50 IAmb IAmb 05 55 46.0
comp=Z,23nm,1.1s
KOLL Kolacno 77.63 330 *e*P **P** **05 55 45.5 +0.3**
VRAC Vranov 77.64 331 ⇑P **P** **05 55 45.6 +0.3**
VRAC Vranov 77.64 331 ⇑P **P** **05 55 45.6 +0.3**
VRAC Vranov 77.64 331 *e*P **P** **05 55 45.5 +0.2**
PSZ Piszkesteto 77.64 328 ⇑P **P** **05 55 44.9 -0.5**
PSZ Piszkesteto 77.64 328 *e*P **P** **05 55 45.8 +0.5**
PSZ Piszkesteto 77.64 328 ⇑P **P** **05 55 44.9 -0.5**
PSZ Piszkesteto 77.64 328 IAmb IAmb 05 55 46.7
comp=Z,28nm,0.9s
JAVC Velka Javorina 77.65 330 *e*P **P** **05 55 46.3 +0.9**
VOIR 77.66 324 ⇑P **P** **05 55 45.8 +0.2**
VOIR 77.66 324 ⇑P **P** **05 55 45.8 +0.2**
IBBN Ibbenburen 77.70 338 *e*P **P** **05 55 45.3 -0.3**
comp=Z,34nm,0.8s,baz=27,slow=5.5
PRU Pruhonice 77.73 333 *e*P **P** **05 55 45.9 +0.1**
PRU MLR MLR
comp=Z,300nm,14.8s
PRU Pruhonice 77.73 333⇑ *e*P **P** **05 55 45.9 +0.1**
PRU AMS AMS 06 34 00.0
comp=Z,300nm,14.8s
GTTG Gottingen 77.77 336 *e*P **P** **05 55 45.7 -0.2**
comp=Z,29nm,0.9s,baz=27,slow=5.5
UMR Umm Al-Rimmam 77.83 300 *e*P **P** **05 55 46.6 0.0**
CROK Carrier 77.86 50 IAmb IAmb 05 55 47.8
comp=Z,33nm,1.0s
MIB Mutribah 77.89 300 *e*P **P** **05 55 46.6 -0.3**
ARR Arges 77.89 324 ⇑P **P** **05 55 47.5 +0.7**
GLMI Grayling 77.90 37 P **P** **05 55 46.7 -0.1**
baz=324,SNR=8.4
KRUC Moravsky 77.92 331 *e*P **P** **05 55 46.9 +0.1**
TANN Tannenbergstha 78.02 334 *e*P **P** **05 55 47.3 -0.2**
comp=Z,6.3nm,0.8s,baz=27,slow=5.5
TREC Trest 78.02 332⇑ AMS AMS 06 34 20.0
comp=Z,300nm,18.6s
SMOL Smolenice 78.03 330 *e*P **P** **05 55 48.1 +0.7**
SMOL pmax pmax
comp=Z,21nm,0.8s
SMOL Smolenice 78.03 330 *e*P **P** **05 55 48.1 +0.7**
WERD Werda 78.04 334 *e*P **P** **05 55 47.4 -0.1**

comp=Z,14nm,0.8s,baz=27,slow=5.5
MOX Moxa 78.08 335 *e*P **P 05 55 47.4 -0.3**
comp=Z,16nm,0.9s,baz=27,slow=5.5
BLOK Blackwell 78.08 49 IAmb IAmb 05 55 49.0
comp=Z,27nm,1.0s
GUNZ Gunzen 78.11 334 *e*P **P 05 55 47.8 -0.1**
comp=Z,17nm,0.8s,baz=27,slow=5.5
WERN Wernitzgruen 78.16 334 *e*P **P 05 55 48.0 -0.2**
comp=Z,23nm,0.9s,baz=27,slow=5.5
PBCC Pribram 78.17 333⇑*e*P **P 05 55 48.2 0.0**
NKC Novy Kostel 78.19 334 *e*P **P 05 55 48.1 -0.2**
NKC MLR MLR
comp=Z,400nm,21.9s
NKC Novy Kostel 78.19 334⇑*e*P **P 05 55 48.1 -0.2**
NKC AMS AMS 06 34 10.0
comp=Z,400nm,21.9s
BR131 Keskin Array S 78.23 315 IAmb IAmb 05 55 50.2
comp=Z,37nm,0.9s
BR131 Keskin Array S 78.23 315 P **P 05 55 49.6 +0.8**
SNR=9.2
BRTR Keskin Array B 78.23 315 P **P 05 55 48.9 -0.1**
comp=Z,19nm,0.8s,baz=74,slow=4.4,SNR=44
BRTR LR LR 06 36 14.3
comp=Z,212nm,19.1s,baz=68,slow=40
BRTR Keskin Array B 78.23 315 *i* P **P 05 55 49.2 +0.3**
BRTR pmax pmax
comp=Z,19nm,0.8s
QRN Al-Qurain 78.28 299 *e*P **P 05 55 49.0 -0.1**
SRO Srobarova 78.31 329 *e*P **P 05 55 49.9 +0.9**
SRO pmax pmax
comp=Z,47nm,0.9s
SRO Srobarova 78.31 329 *e*P **P 05 55 49.9 +0.9**
RST Umm Al-Ruwaisa 78.31 300 *e*P **P 05 55 49.0 -0.3**
BUD Budapest 78.33 329 *e*P **P 05 55 49.4 +0.3**
BUD Budapest 78.33 329 P **P 05 55 50.1 +1.0**
GAZ Gaziantep 78.33 311 IAmb IAmb 05 55 50.6
comp=Z,34nm,1.1s
T35A Sooner Cattle 78.34 49 IAmb IAmb 05 55 50.5
comp=Z,37nm,1.0s
SIRR Siria 78.34 327⇑P **P 05 55 49.2 0.0**
FORT Forrest 78.36 200 P **P 05 55 50.8 +1.6**
FORT IAmb IAmb 05 55 51.9
comp=Z,22nm,0.8s
RDF Al-Radifah 78.38 299 *e*P **P 05 55 49.5 -0.2**
UBBA Unterbreizbach 78.40 336 *e*P **P 05 55 49.0 -0.4**
baz=27,slow=5.5
ZST Bratislava 78.41 330 *e*P **P 05 55 50.2 +0.7**
ZST pmax pmax
comp=Z,73nm,1.0s
ZST Bratislava 78.41 330 *e*P **P 05 55 50.2 +0.7**
MANZ Manzenberg 78.51 334 *e*P **P 05 55 49.8 -0.3**
comp=Z,14nm,0.9s,baz=27,slow=5.5
KASTN Kahler Asten 78.51 337 *e*P **P 05 55 49.7 -0.4**
comp=Z,23nm,0.9s,baz=27,slow=5.5
ANTO Ankara 78.54 316 P **P 05 55 50.9 +0.4**
ANTO pmax pmax
comp=Z,51nm,0.8s
ANTO Ankara 78.54 316 P **P 05 55 50.9 +0.4**
RAZG Razgrad 78.54 322⇑P **P 05 55 50.4 0.0**
BUG Bochum-Univer 78.61 338 *e*P **P 05 55 50.3 -0.2**
comp=Z,27nm,0.9s,baz=27,slow=5.5
GZR Gura Zlata 78.62 325⇑P **P 05 55 50.6 -0.3**
COPA Copaceanca 78.64 323⇑P **P 05 55 50.6 -0.3**
P40A Paris 78.66 44 IAmb IAmb 05 55 52.1
comp=Z,25nm,0.9s
OK029 Liberty Lake 78.67 50 IAmb IAmb 05 55 52.5
comp=Z,32nm,1.0s
ROTZ Rotzenmuhle 78.67 334 *e*P **P 05 55 50.7 -0.2**
comp=Z,15nm,0.8s,baz=27,slow=5.5
CSKK Cskako 78.70 329 *e*P **P 05 55 51.3 +0.1**
WMOK Wichita Mounta 78.72 52 P **P 05 55 51.6 +0.1**
baz=318,SNR=15
QUOK Quay 78.79 50 IAmb IAmb 05 55 53.1
comp=Z,45nm,1.2s
KHC Kasperske Hory 78.79 333⇑*i*P **P 05 55 51.7 0.0**
KHC MLR MLR
comp=Z,300nm,16.8s
KHC Kasperske Hory 78.79 333⇑*i*P **P 05 55 51.7 0.0**
KHC AMS AMS 06 34 10.0
comp=Z,300nm,16.6s
CKRC Cesky Krumlov 78.82 332 *e*P **P 05 55 52.0 +0.1**
CKRC AMS AMS 06 34 20.0
comp=Z,500nm,16.6s
OK031 S. Brethren Rd 78.88 50 IAmb IAmb 05 55 53.6
comp=Z,36nm,1.0s
OK025 Westminster Rd 78.89 50 IAmb IAmb 05 55 53.7
comp=Z,36nm,0.8s
BZS Buzias 78.90 326⇑P **P 05 55 51.6 -0.7**
BZS Buzias 78.90 326⇑P **P 05 55 51.6 -0.7**
OKCFA Oklahoma City 78.95 50 IAmb IAmb 05 55 54.2
comp=Z,44nm,1.0s
EGYH Egyhazaskeszo 78.99 330 *e*P **P 05 55 49.4 -3.4**
GEC2 GERESS Array S 79.00 333 IAmb IAmb 05 55 53.4
comp=Z,19nm,0.8s
GEC2 GERESS Array S 79.00 333 *e*P **P 05 55 52.7 -0.2**
comp=Z,15nm,0.8s,baz=27,slow=5.5
GERES GERESS Array B 79.00 333 P **P 05 55 52.5 -0.4**
comp=Z,19nm,0.8s,baz=33,slow=5.1,SNR=95
GERES LR LR 06 35 22.6
comp=Z,380nm,18.6s,baz=24,slow=39
WET Wettzell 79.00 333 *e*P **P 05 55 52.7 -0.2**
comp=Z,33nm,0.9s,baz=27,slow=5.5
SOP Sopron 79.04 330 *e*P **P 05 55 53.2 +0.2**
SOP Sopron 79.04 330 P **P 05 55 53.8 +0.8**
GRF Grafenberg Arr 79.04 334 *e*P **P 05 55 52.9 -0.1**
comp=Z,40nm,0.8s,baz=27,slow=5.5
GRFO Grafenberg 79.04 334 P **P 05 55 53.6 +0.6**
GRFO Grafenberg 79.04 334 P **P 05 55 53.6 +0.6**
CONA Conrad Observa 79.07 331 *i* P **P 05 55 53.8 +0.5**
comp=Z,34nm,0.7s,SNR=24
FNO Franklin 79.10 51 IAmb IAmb 05 55 55.1
comp=Z,35nm,0.8s
M44A Midewin, Midew 79.13 41 IAmb IAmb 05 55 53.9
comp=Z,28nm,0.9s
HERR Herculane 79.19 325⇑P **P 05 55 53.3 -0.6**
HDIL Hopedale 79.19 42 P **P 05 55 53.8 -0.2**
baz=322,SNR=16
TIH Tihany 79.23 329 *e*P **P 05 55 54.1 0.0**
TNS Taunus Mts 79.38 336 *e*P **P 05 55 54.7 -0.3**
comp=Z,46nm,1.2s,baz=27,slow=5.5
PUNG Punghina 79.47 325⇑P **P 05 55 54.8 -0.6**
TUL1 Leonard 79.48 49 P **P 05 55 55.7 0.0**
baz=319,SNR=6.3
AHRW Bad Neuenahr-A 79.48 337 *e*P **P 05 55 55.3 0.0**
comp=Z,34nm,0.9s,baz=27,slow=5.5
MILB Miltenberg 79.49 336 *e*P **P 05 55 55.3 -0.2**
comp=Z,30nm,0.8s,baz=27,slow=5.5
R40A Maddies Statio 79.50 45 IAmb IAmb 05 55 56.4
comp=Z,32nm,1.1s
MDVR Moldovita 79.55 326⇑P **P 05 55 55.3 -0.6**
BEBN Eben Emael 79.62 338 *d*P **P 05 55 55.9 -0.2**
comp=Z,89nm,0.7s
MOA Molln 79.68 332 *i* P **P 05 55 56.4 -0.2**
comp=Z,17nm,0.8s,SNR=7.9
BTNL Ternell 79.69 338 *d*P **P 05 55 55.5 -1.1**
comp=Z,37nm,1.1s
MEM Membach 79.70 338 *d*P **P 05 55 56.1 -0.5**
comp=Z,47nm,1.0s
ARSA Arzberg 79.77 331 *i* P **P 05 55 57.2 +0.1**
comp=Z,16nm,1.1s,SNR=6.1
ABTX Abilene, Hawle 79.79 54 IAmb IAmb 05 56 10.9
comp=Z,43nm,1.8s
ABTX Abilene, Hawle 79.79 54 P **P 05 55 57.8 +0.4**
baz=318
P43A Skaggs, Pawnee 79.80 43 IAmb IAmb 05 55 58.1
comp=Z,21nm,0.9s
TX32 Lajitas Array 79.83 59 IAmb IAmb 05 55 59.4
comp=Z,21nm,0.7s
TXAR Lajitas Array 79.83 59 P **P 05 55 58.4 +0.6**
comp=Z,18nm,0.6s,baz=300,slow=4.1,SNR=196
BSTI Sart Tilman 79.84 338 *d*P **P 05 55 57.1 -0.2**
KOVH Kovagotottos 79.84 329 *e*P **P 05 55 56.2 -1.2**
BHOU Houvegnez 79.94 338 *d*P **P 05 55 57.7 -0.2**
comp=Z,28nm,1.2s
FRGS Fruska Gora 79.98 327⇑P **P 05 55 57.9 -0.4**
FRGS Fruska Gora 79.98 327⇑*i*P **P 05 55 57.6 -0.6**
BCLA Clavier 80.06 338 *d*P **P 05 55 58.2 -0.3**
comp=Z,38nm,1.0s
BGES Gesves 80.15 338 *d*P **P 05 55 58.5 -0.5**
comp=Z,40nm,1.0s
CCM Cathedral Cave 80.19 45 P **P 05 55 59.2 -0.3**
CCM pmax pmax
comp=Z,25nm,1.0s
CCM Cathedral Cave 80.19 45 P **P 05 55 59.2 -0.3**
CCM IAmb IAmb 05 56 00.3
comp=Z,25nm,1.0s
CCM Cathedral Cave 80.19 45 P P **05 55 59.1 -0.3**
baz=321
SNF Seneffe 80.25 339 *d*P **P 05 55 59.3 -0.1**
comp=Z,37nm,0.7s
RJOB Jochberg 80.26 333 *e*P **P 05 55 59.8 0.0**
comp=Z,66nm,0.8s,baz=27,slow=5.5
BMRD Maredsous 80.31 339 *d*P **P 05 55 59.3 -0.5**
comp=Z,49nm,1.0s
RCHB Rochefort 80.32 338 *d*P **P 05 55 59.5 -0.4**
comp=Z,31nm,1.1s
MORW Morawa 80.33 210 P **P 05 56 00.1 +0.1**
AAM Ann Arbor 80.35 38 IAmb IAmb 05 56 01.4
comp=Z,30nm,0.8s
AAM Ann Arbor 80.35 38 P **P 05 56 00.2 0.0**
baz=325
SFIN Lafayette 80.36 41 P **P 05 56 00.1 -0.2**
baz=323
FUR Furstenfeldbru 80.37 334 *e*P **P 05 56 00.3 0.0**
comp=Z,35nm,0.7s,baz=27,slow=5.5
SOKA Soboth 80.44 331 *i* P **P 05 56 00.6 -0.1**
comp=Z,60nm,1.2s,SNR=20
GROS Grobnik 80.46 330 *i* P **P 05 56 00.4 -0.5**
comp=Z,55nm,0.8s
STU Stuttgart 80.47 335 P **P 05 56 02.4 +1.7**
STU Stuttgart 80.47 335 *e*P **P 05 56 00.6 -0.1**
comp=Z,54nm,0.8s,baz=27,slow=5.5
GIVF Givet 80.48 338 *e*P **P 05 55 59.6 -1.2**
GIVF pmax pmax
comp=Z,28nm,1.0s
BOVS Bovan 80.50 325⇑P **P 05 55 59.9 -1.1**
WLF Walferdange 80.53 337 *d*P **P 05 56 02.2 +1.2**
WLF Walferdange 80.53 337 IAmb IAmb 05 56 03.3
comp=Z,24nm,1.0s
WLF Walferdange 80.53 337 *e*P **P 05 56 01.3 +0.2**
baz=27,slow=5.5
DOU Dourbes 80.54 339 *d*P **P 05 56 00.3 -0.8**
comp=Z,20nm,1.3s
TEKS Tekeris 80.60 327 *e*P **P 05 55 58.0 -3.6**
Z35A Peerhaven, San 80.61 52 IAmb IAmb 05 56 02.6
comp=Z,30nm,1.1s
Q44A Meyer Farm, Va 80.62 43 IAmb IAmb 05 56 02.7
comp=Z,30nm,1.1s
KBA Koelnbreinsper 80.66 332 *i* P **P 05 56 02.5 +0.5**
comp=Z,59nm,0.8s,SNR=28
BAIF Baives 80.68 339 *e*P **P 05 56 00.8 -1.0**
BAIF pmax pmax
comp=Z,26nm,1.0s
U40A Yellville 80.68 47 IAmb IAmb 05 56 02.9
comp=Z,32nm,1.1s
U40A Yellville 80.68 47 P **P 05 56 01.7 -0.4**
baz=320,SNR=23
VTS Vitosha 80.71 323⇑P **P 05 56 02.4 0.0**
VTS Vitosha 80.71 323⇑P **P 05 56 02.4 0.0**
PLVO Plevna 80.73 32 IAmb IAmb 05 56 02.5
comp=Z,23nm,0.9s
OBKA Obir 80.75 331 *e*P **P 05 56 02.0 -0.4**
comp=Z,14nm,0.7s
DIVS Divibare 80.80 326⇑*i*P **P 05 56 01.9 -0.8**
DIVS Divibare 80.80 326 IAmb IAmb 05 56 03.2
comp=Z,30nm,0.9s
LMQ La Malbaie 80.89 27 IAmb IAmb 05 56 03.3
comp=Z,17nm,0.8s
RDO Rodhopi 80.92 321 P **P 05 56 03.5 +0.2**
GCIS Gornji Cirnik 80.93 330 *i* P **P 05 56 02.8 -0.5**
MYKA Terra Mystica 80.95 332 *i* P **P 05 56 02.9 -0.6**
comp=Z,13nm,0.7s,SNR=5.2
ENEZ Enez 80.98 321 P **P 05 56 03.6 0.0**
WATA Walderalm 81.01 333 *i* P **P 05 56 04.0 +0.1**
comp=Z,75nm,1.2s,SNR=18
CRES Cresnjev 81.02 330⇑*i*P **P 05 56 03.0 -0.8**
WTTA Wattenberg 81.06 333 *i* P **P 05 56 04.4 +0.2**
comp=Z,53nm,0.6s,SNR=20
W39A Magazine 81.08 48 P **P 05 56 04.1 -0.2**
baz=320,SNR=7.2
BFO Black Forest 81.12 336 P **P 05 56 04.2 -0.1**
BFO pmax pmax
comp=Z,28nm,0.9s
BFO Black Forest 81.12 336 P **P 05 56 04.2 -0.1**
BFO IAmb IAmb 05 56 07.1
comp=Z,28nm,0.9s
BFO Black Forest 81.12 336 *e*P **P 05 56 04.2 -0.1**
baz=27,slow=5.5
RETA Reutte 81.13 334 *i* P **P 05 56 04.4 0.0**
comp=Z,21nm,0.8s,SNR=10
MOTA Moosalm 81.15 333 *i* P **P 05 56 04.7 +0.1**
comp=Z,67nm,1.0s,SNR=16
LJU Ljubljana 81.16 331⇑*i*P **P 05 56 03.5 -1.0**
UBR Ueberruh 81.17 334 *e*P **P 05 56 04.4 -0.1**
comp=Z,67nm,0.8s,baz=27,slow=5.5
MRAK Mrkovica 81.20 329⇑*i*P **P 05 56 02.5 -2.3**
ABTA Abfaltersbach 81.22 332 *e*P **P 05 56 04.0 -0.9**
comp=Z,20nm,1.1s,SNR=6.3
BBLS Lazići 81.23 327⇑*i*P **P 05 56 04.9 -0.1**
SQTA Sankt Quirin 81.23 333 *i* P **P 05 56 05.2 +0.2**
comp=Z,44nm,0.9s,SNR=9.7
N49A Columbus Grove 81.25 39 IAmb IAmb 05 56 05.9
comp=Z,32nm,0.8s
JCT Junction City 81.28 55 IAmb IAmb 05 56 06.8
comp=Z,39nm,1.3s
JCT Junction City 81.28 55 P **P 05 56 05.5 +0.1**
baz=318,SNR=14
BLY Banja Luka 81.32 328⇑*i*P **P 05 56 04.4 -1.0**
M50A Fremont 81.35 38 IAmb IAmb 05 56 06.3
comp=Z,28nm,0.8s
BOJS Bojanci 81.37 330⇑*i*P **P 05 56 05.0 -0.6**
RUDO Rudo 81.45 326 *e*P **P 05 56 05.0 -1.1**
S44A Carbondale 81.46 44 IAmb IAmb 05 56 07.3
comp=Z,29nm,0.9s
CEY Cerknica 81.46 331⇑*i*P **P 05 56 05.1 -1.0**
CEY Cerknica 81.46 331 *i* P **P 05 56 05.2 -1.0**
SIUC Southern Illin 81.46 44 IAmb IAmb 05 56 07.3
comp=Z,39nm,1.1s
NVR Nevrokopi 81.49 322 P **P 05 56 06.4 +0.1**
WHTX Lake Whitney, 81.50 53 IAmb IAmb 05 56 07.9
comp=Z,26nm,0.8s
WHTX Lake Whitney, 81.50 53 P **P 05 56 06.9 +0.4**
baz=319
FETA Feichten 81.56 333 *i* P **P 05 56 06.7 -0.1**
comp=Z,24nm,1.1s,SNR=7.1
DAVA Damueis 81.59 334 *i* P **P 05 56 06.8 -0.1**
comp=Z,26nm,0.8s,SNR=7.6
STAL STALIGIAL 81.59 332 IAmb IAmb 05 56 06.2
comp=Z,26nm,0.8s
KULA Kula-Manisa 81.59 318 P **P 05 56 06.9 -0.1**
EZN Ezine 81.63 320 P **P 05 56 07.3 +0.2**
MGRS Mrkonjic Grad 81.64 328 *e*P **P 05 56 07.1 0.0**
PLE Pljevlja 81.69 326⇑*i*P **P 05 56 07.1 -0.4**
MIAR Mount Ida 81.69 49 IAmb IAmb 05 56 08.8
comp=Z,30nm,1.0s
MIAR Mount Ida 81.69 49 P **P 05 56 07.7 +0.2**
baz=320,SNR=22
D62A Allapoint, All 81.71 26 IAmb IAmb 05 56 08.1
comp=Z,19nm,0.7s
D62A Allapoint, All 81.71 26 P **P 05 56 07.1 -0.2**
baz=333,SNR=7.2
TRI Trieste 81.71 331 IAmb IAmb 05 56 07.0
comp=Z,30nm,1.1s
SKDS Skadanscina 81.77 331 *e*P **P 05 56 06.4 -1.4**
O49A Covington 81.77 39 IAmb IAmb 05 56 08.7
comp=Z,34nm,1.0s
PMOR Pomariorio Ree 81.78 121 *e*T T 07 26 25.9
comp=Z,31nm,0.2s
MEDO Medina 81.79 34 IAmb IAmb 05 56 07.6
comp=Z,29nm,0.9s
P48A Milroy 81.87 40 IAmb IAmb 05 56 09.1
comp=Z,25nm,1.0s
IVA Berane 81.87 326⇑*i*P **P 05 56 08.0 -0.4**
W41B Gary Mavity, V 81.91 47 P **P 05 56 08.4 -0.2**
baz=321,SNR=10
Z38A Mt. Pleasant 81.91 50 IAmb IAmb 05 56 09.9
comp=Z,42nm,1.1s
STIP Stip 81.92 324 *i* P **P 05 56 07.4 -1.1**
E62A Clayton Lake 81.97 27 IAmb IAmb 05 56 09.5
comp=Z,24nm,0.8s
E62A Clayton Lake 81.97 27 P **P 05 56 08.4 -0.4**
baz=333,SNR=7.5
HAU Haudompre 81.98 337 *e*P **P 05 56 07.5 -1.3**
HAU pmax pmax
comp=Z,19nm,0.8s
UPM Unac-Piva 81.98 326⇑*i*P **P 05 56 08.0 -1.1**
UPM Unac-Piva 81.98 326⇑*i*P **P 05 56 08.0 -1.1**
SKO Skopje 82.00 324 *i* P **P 05 56 09.2 +0.2**
LONY Lake Ozonia 82.01 31 P **P 05 56 08.0 -1.0**
baz=330
HINF Hinteralfeld 82.01 336 *e*P **P 05 56 07.5 -1.5**
HINF pmax pmax
comp=Z,9,0nm,0.8s
KOME Kolasin 82.04 326⇑*i*P **P 05 56 08.3 -1.0**
CSS Mathiatis 82.04 312 IAmb IAmb 05 56 10.5
comp=Z,35nm,0.8s
ERPA Erie 82.05 35 P **P 05 56 09.3 0.0**
baz=327,SNR=5.1
KNT Kendrikon 82.05 323 P **P 05 56 09.0 -0.3**
TAOE Nuku Hiva Isla 82.05 111 *e*LR LR 06 22 01.4
comp=Z,559nm,27.2s
PVY Plav 82.08 325⇑*i*P **P 05 56 08.6 -1.0**
CTI Castel Tesino 82.12 332 IAmb IAmb 05 56 09.4
comp=Z,20nm,0.8s
X40A Basin Creek Fa 82.13 48 P **P 05 56 09.8 0.0**
baz=321,SNR=8.7
P49A Miami Univ. Ec 82.13 40 IAmb IAmb 05 56 10.6
comp=Z,43nm,1.1s
P49A Miami Univ. Ec 82.13 40 P **P 05 56 09.6 -0.2**
baz=324,SNR=12
J56A Wolcott 82.31 33 IAmb IAmb 05 56 10.8
comp=Z,24nm,0.8s
M53A WI Miller and 82.33 36 P **P 05 56 10.7 0.0**
baz=326,SNR=8.4
435B Jarrell 82.33 54 P **P 05 56 11.0 +0.1**
baz=319
NKME Niksic 82.33 326⇑*i*P **P 05 56 09.7 -1.1**
ACSO Alum Creek Sta 82.34 38 IAmb IAmb 05 56 11.7
comp=Z,36nm,0.8s
ACSO Alum Creek Sta 82.34 38 P **P 05 56 10.7 -0.1**
baz=325,SNR=9.6
BRY Bratogost 82.38 327⇑*i*P **P 05 56 09.9 -1.2**
BRY Bratogost 82.38 327⇑*i*P **P 05 56 09.9 -1.2**
BATG Bathurst New B 82.43 24 IAmb IAmb 05 56 12.2
comp=Z,24nm,0.7s
GNAR Gosnell 82.43 45 IAmb IAmb 05 56 12.5
comp=Z,31nm,0.7s
WCI Wyandotte Cave 82.45 42 P **P 05 56 12.0 +0.6**
WCI pmax pmax
comp=Z,24nm,0.9s
WCI Wyandotte Cave 82.45 42 P **P 05 56 12.0 +0.6**
WCI IAmb IAmb 05 56 12.7
comp=Z,24nm,0.8s
WCI Wyandotte Cave 82.45 42 P **P 05 56 11.5 +0.1**
baz=324
PLG Polygyros 82.47 322 P **P 05 56 10.8 -0.7**
F62A Pittston Farm, 82.47 27 IAmb IAmb 05 56 12.5
comp=Z,27nm,0.9s
F62A Pittston Farm, 82.47 27 P **P 05 56 11.2 -0.1**
baz=333,SNR=9.0
PDG Podgorica 82.50 326⇑P **P 05 56 10.5 -1.0**
PDG Podgorica 82.50 326⇑*i*P **P 05 56 10.7 -0.8**
TTG Podgorica 82.50 326⇑*i*P **P 05 56 10.8 -0.8**
CEME Cevo 82.53 326⇑*i*P **P 05 56 10.8 -1.0**
WLAR White Oak Lake 82.59 49 IAmb IAmb 05 56 13.7
comp=Z,37nm,1.0s
PHP Peshkopia 82.65 325 P **P 05 56 11.6 -0.8**
M54A Oil Creek Stat 82.69 36 IAmb IAmb 05 56 13.6
comp=Z,30nm,0.9s
M54A Oil Creek Stat 82.69 36 P **P 05 56 12.6 0.0**
baz=327,SNR=8.5
STON Ston 82.73 327 *e*P **P 05 56 08.6 -4.1**
DRME Dracevica, Mon 82.73 326⇑*i*P **P 05 56 11.7 -1.1**
DRME Dracevica, Mon 82.73 326⇑*i*P **P 05 56 12.2 -0.6**
PAIG Paliouri 82.73 322 P **P 05 56 12.2 -0.6**
PPT Papeete 82.78 124 LR LR 06 30 25.3
comp=Z,272nm,18.2s,baz=337,slow=34
HCY Herceg Novi 82.78 326 *e*P **P 05 56 11.8 -1.3**
HCY Herceg Novi 82.78 326⇑*i*P **P 05 56 11.7 -1.3**
N53A Lisbon 82.79 37 IAmb IAmb 05 56 14.2
comp=Z,41nm,0.9s
PPT2 Papeete2 82.79 124 *e*LR LR 06 22 17.6
comp=Z,503nm,22.2s
PPT2 Papeete2 82.79 124 *e*T T 07 27 41.0
comp=Z,5.2nm,0.2s
J58A Remsen 82.83 32 IAmb IAmb 05 56 13.8
comp=Z,29nm,1.0s
PAE Paea 82.85 124 *e*T T 07 27 44.4
comp=Z,1.3nm,0.3s
FETY Fethiye 82.88 316 P **P 05 56 13.3 -0.4**
G62A West of Eustis 82.89 28 IAmb IAmb 05 56 14.9
comp=Z,24nm,0.9s
G62A West of Eustis 82.89 28 P **P 05 56 13.8 +0.3**
baz=332,SNR=7.1
TIAR Tiarei 82.90 124 *e*T T 07 27 48.7
comp=Z,2.0nm,0.3s
P51A Williamsport 82.92 39 IAmb IAmb 05 56 14.4
comp=Z,27nm,0.8s
OHR Ohrid 82.98 324 *i* P **P 05 56 13.8 -0.4**
L56A Greenwood 83.01 34 IAmb IAmb 05 56 14.9
comp=Z,21nm,0.8s
FNA Florina 83.01 324 P **P 05 56 13.5 -0.9**
N54A Moraine State 83.01 36 IAmb IAmb 05 56 15.4
comp=Z,43nm,1.1s
N54A Moraine State 83.01 36 P **P 05 56 14.4 +0.1**
baz=327,SNR=8.8
FLN La Foliniere 83.02 341 *e*P **P 05 56 13.1 -1.1**
FLN pmax pmax
comp=Z,49nm,0.8s
CLF Chambon-Foret 83.05 339 IAmb IAmb 05 56 15.3
comp=Z,23nm,0.7s
T47A Sharon Grove 83.06 43 IAmb IAmb 05 56 16.1
comp=Z,33nm,1.0s
O53A New Philadelph 83.09 37 P **P 05 56 14.6 -0.1**
baz=326,SNR=11
M55A Ridgway 83.09 35 IAmb IAmb 05 56 15.8
comp=Z,40nm,0.9s
Z41A Richland Creek 83.09 49 P **P 05 56 15.3 +0.5**
baz=321
833A Chaparral WMA, 83.11 57 P **P 05 56 15.5 +0.5**
baz=318
CCAR Cane Creek 83.13 48 IAmb IAmb 05 56 16.8
comp=Z,44nm,1.1s
I60A Shoreham 83.14 30 P **P 05 56 14.4 -0.5**
baz=331
TIR Tirane 83.16 325⇑P **P 05 56 14.8 -0.2**
TIR Tirane 83.16 325⇑P **P 05 56 14.8 -0.2**
SENIN Lac Senin/Sane 83.20 335 IAmb IAmb 05 56 17.5
comp=Z,20nm,0.9s
P52A Corning 83.20 38 IAmb IAmb 05 56 15.8
comp=Z,20nm,0.8s
P52A Corning 83.20 38 P **P 05 56 14.8 -0.5**
baz=326,SNR=6.2
NATX Nacogdoches 83.23 51 P **P 05 56 16.3 +0.7**
baz=320
KZN Kozani 83.24 323 P **P 05 56 14.4 -1.2**
PKME Peaks-Kenny Pk 83.25 27 P **P 05 56 15.3 -0.1**
baz=333
LBNH Lisbon 83.28 29 P **P 05 56 15.5 -0.1**
baz=332
CABF La Chapelle 83.32 336 *e*P **P 05 56 16.0 +0.1**
CABF pmax pmax
comp=Z,19nm,0.9s
LOR Lormes 83.33 338 *e*P **P 05 56 14.7 -1.2**
LOR pmax pmax
comp=Z,29nm,0.7s
WVT Waverly 83.39 44 P **P 05 56 15.2 -1.1**
WVT pmax pmax
comp=Z,10.0nm,0.9s
WVT Waverly 83.39 44 P **P 05 56 15.2 -1.1**
WVT Waverly 83.39 44 P **P 05 56 16.4 +0.1**
baz=323
KBN Korca 83.39 324 P **P 05 56 15.6 -0.7**
NWAO Narrogin (SRO) 83.45 208 IAmb IAmb 05 56 18.4
comp=Z,32nm,0.9s
NEST Nestorio 83.46 324 P **P 05 56 16.1 -0.6**
GRR Gorron 83.46 341 *e*P **P 05 56 15.6 -0.8**
GRR pmax pmax
comp=Z,64nm,0.7s
W45A Hickory Valley 83.49 45 IAmb IAmb 05 56 18.1
comp=Z,32nm,1.1s
O54A Avella 83.50 37 IAmb IAmb 05 56 18.0
comp=Z,26nm,0.8s
BINY Binghamton 83.57 33 P **P 05 56 16.8 -0.3**
baz=329
HNH Hanover 83.62 30 IAmb IAmb 05 56 18.5
comp=Z,21nm,1.0s
SSF Saint Saulge 83.62 338 *e*P **P 05 56 17.0 -0.3**
SSF pmax pmax
comp=Z,25nm,0.8s
P53A Whipple 83.64 38 IAmb IAmb 05 56 18.5
comp=Z,16nm,0.8s
Q52A Bidwell 83.69 39 IAmb IAmb 05 56 18.6
comp=Z,20nm,0.9s
WVL Waterville 83.75 28 IAmb IAmb 05 56 19.1
comp=Z,17nm,0.9s
I62A Tamworth 83.80 29 P **P 05 56 18.3 +0.1**
baz=332

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
J61A	Chester	83.84	30	P	P	05 56 18.5	+0.1
	baz=331						
LSK	Leskovik	83.87	324	P	P	05 56 18.8	0.0
OXF	Oxford	83.88	46	IAmb	IAmb	05 56 20.0	
	comp=Z,40nm,1.1s						
OXF	Oxford	83.88	46	P	P	05 56 18.7	-0.2
	baz=322,SNR=6.3						
I63A	Otisfield	83.90	28	P	P	05 56 19.1	+0.3
	baz=332,SNR=7.6						
MEH	Mehetia	83.91	123	eT	T	07 29 04.8	
	comp=Z,20nm,0.3s						
AVF	Avril sur Loir	83.91	338	eP	P	05 56 17.9	-0.9
AVF				pmax	pmax		
	comp=Z,31nm,0.9s						
SMF	Signal de Mont	83.91	338	eP	P	05 56 18.7	-0.1
SMF				pmax	pmax		
	comp=Z,41nm,0.8s						
L59A	Walton	83.93	32	IAmb	IAmb	05 56 19.8	
	comp=Z,33nm,0.9s						
SGMF	Saint Gilles	83.96	342	eP	P	05 56 18.3	-0.7
SGMF				pmax	pmax		
	comp=Z,37nm,0.7s						
FFD	Franklin Falls	84.05	29	IAmb	IAmb	05 56 20.5	
	comp=Z,15nm,0.8s						
AGG	Agios Georgios	84.07	322	IAmb	IAmb	05 56 27.7	
	comp=Z,28nm,1.1s						
U49A	Red Boiling Sp	84.08	42	IAmb	IAmb	05 56 21.1	
	comp=Z,25nm,0.9s						
LKR	Lokris	84.08	321	P	P	05 56 18.4	-1.4
LMN	Caledonia Moun	84.09	24	IAmb	IAmb	05 56 20.6	
	comp=Z,24nm,0.8s						
LPL	La Plagne	84.13	335	eP	P	05 56 20.6	+0.4
LPL				pmax	pmax		
	comp=Z,33nm,0.8s						
LPG	La Plagne	84.14	335	eP	P	05 56 20.8	+0.4
LPG				pmax	pmax		
	comp=Z,31nm,0.8s						
SSPA	Standing Stone	84.15	35	P	P	05 56 18.9	-1.2
SSPA	Standing Stone	84.15	35	P	P	05 56 20.2	0.0
	baz=328						
CLTN	Cedars of Leba	84.15	43	IAmb	IAmb	05 56 21.6	
	comp=Z,24nm,1.0s						
MCWV	Mont Chateau	84.16	37	IAmb	IAmb	05 56 21.6	
	comp=Z,28nm,0.8s						
MCWV	Mont Chateau	84.16	37	P	P	05 56 20.6	+0.4
	baz=327,SNR=9.0						
JAN	Janina	84.17	323	P	P	05 56 20.0	-0.3
K61A	Williamstown	84.17	31	P	P	05 56 20.1	-0.1
	baz=331,SNR=5.9						
O56A	Blue Knob Stat	84.18	36	IAmb	IAmb	05 56 21.4	
	comp=Z,27nm,0.8s						
O56A	Blue Knob Stat	84.18	36	P	P	05 56 20.1	-0.2
	baz=328,SNR=12						
S51A	Beattyville	84.18	40	IAmb	IAmb	05 56 21.3	
	comp=Z,22nm,0.8s						
KSPA	Keystone Colle	84.20	33	IAmb	IAmb	05 56 20.9	
	comp=Z,16nm,0.9s						
J62A	Henniker	84.20	30	P	P	05 56 20.5	+0.2
	baz=332						
Q54A	Coxs Mills	84.30	38	IAmb	IAmb	05 56 22.3	
	comp=Z,29nm,0.9s						
R53A	Hurricane	84.35	39	IAmb	IAmb	05 56 22.4	
	comp=Z,24nm,1.1s						
MSSA	Maissana	84.35	333	IAmb	IAmb	05 56 21.1	
	comp=Z,40nm,1.1s						
QUIF	Quistinic	84.41	343	eP	P	05 56 20.4	-0.9
QUIF				pmax	pmax		
	comp=Z,31nm,1.1s						
J63A	Strafford	84.41	29	P	P	05 56 21.7	+0.3
	baz=332						
N58A	Sunbury	84.44	34	IAmb	IAmb	05 56 22.6	
	comp=Z,30nm,0.9s						
OSSC	Osservatorio P	84.49	332	IAmb	IAmb	05 56 22.1	
	comp=Z,23nm,0.9s						
IGT	Igoumenitsa	84.50	324	P	P	05 56 20.7	-1.2
K62A	Royalston	84.55	30	P	P	05 56 22.1	0.0
	baz=331						
KEK	Kerkira	84.57	324	P	P	05 56 21.2	-1.0
BNI	Bardonecchia	84.57	335	IAmb	IAmb	05 56 23.6	
	comp=Z,16nm,0.8s						
SERG	Sergoula	84.69	322	P	P	05 56 20.4	-2.5
TRIZ	Trizonia	84.72	322	P	P	05 56 21.6	-1.4
N59A	State Game Lan	84.75	33	IAmb	IAmb	05 56 24.3	
	comp=Z,22nm,0.9s						
N59A	State Game Lan	84.75	33	P	P	05 56 23.0	-0.2
	baz=329,SNR=10						
AQU	L'Aquila	84.77	330	P	P	05 56 24.7	+1.4
AQU	L'Aquila	84.77	330	⇑iP	P	05 56 23.1	-0.2
MBDF	Montbardon	84.83	335	eP	P	05 56 23.2	-0.5
MBDF				pmax	pmax		
	comp=Z,12nm,0.6s						
LAKA	Lakka	84.87	322	P	P	05 56 22.8	-1.0
ORIF	Oris-en-Rattie	84.92	336	eP	P	05 56 24.3	+0.2
ORIF				pmax	pmax		
	comp=Z,16nm,0.6s						
HRV	Adam Dziewonsk	84.93	30	P	P	05 56 24.6	+0.6
HRV				pmax	pmax		
	comp=Z,19nm,1.0s						
HRV	Adam Dziewonsk	84.93	30	P	P	05 56 24.6	+0.6
HRV				IAmb	IAmb	05 56 25.8	
	comp=Z,19nm,0.9s						
HRV	Adam Dziewonsk	84.93	30	P	P	05 56 24.1	+0.1
	baz=332						
Q56A	Snyder Ridge,	84.96	37	IAmb	IAmb	05 56 25.5	
	comp=Z,23nm,0.9s						
KLV	Kalavryta, Ach	84.96	322	P	P	05 56 22.8	-1.5
PAGS	Pennsylvania G	84.96	34	IAmb	IAmb	05 56 25.0	
	comp=Z,24nm,0.9s						
MFF	Saint Martin d	84.97	340	eP	P	05 56 23.7	-0.4
MFF				pmax	pmax		
	comp=Z,38nm,0.8s						
SSB	Saint Sauveur	84.98	337	IAmb	IAmb	05 56 25.1	
	comp=Z,17nm,0.8s						
S54A	Dingess, Beckl	85.08	39	IAmb	IAmb	05 56 26.0	
	comp=Z,22nm,0.8s						
TZTN	Tazewell	85.10	41	IAmb	IAmb	05 56 26.3	
	comp=Z,21nm,0.9s						
TZTN	Tazewell	85.10	41	P	P	05 56 25.2	+0.2
	baz=325,SNR=13						
VBMS	Vicksburg	85.11	48	P	P	05 56 25.4	+0.4
	baz=322						
WES	Weston	85.12	30	IAmb	IAmb	05 56 26.2	
	comp=Z,29nm,1.0s						
EVGI	Lefkada island	85.12	323	P	P	05 56 23.7	-1.4
TRNY	Table Rock, Ra	85.14	32	IAmb	IAmb	05 56 26.0	
	comp=Z,20nm,0.9s						
BCX	Boston College	85.21	30	IAmb	IAmb	05 56 26.9	
	comp=Z,16nm,0.9s						
DRO	Drossia	85.22	322	P	P	05 56 25.0	-0.6
RLS	Riolos of Patr	85.24	322	P	P	05 56 25.2	-0.4
ZAIG	Zacatecas	85.27	62	IAmb	IAmb	05 56 28.8	
	comp=Z,16nm,1.0s						
FSK	Fiskardo	85.30	323	P	P	05 56 24.8	-1.1
MVL	Millersville	85.31	34	IAmb	IAmb	05 56 27.0	
	comp=Z,16nm,0.8s						
UCCT	U. Connecticut	85.31	31	IAmb	IAmb	05 56 27.1	
	comp=Z,27nm,1.0s						
V51A	Loudon	85.33	42	IAmb	IAmb	05 56 27.3	
	comp=Z,23nm,0.9s						
VIVF	Saint-Julien-l	85.33	336	eP	P	05 56 25.6	-0.4
VIVF				pmax	pmax		
	comp=Z,25nm,1.0s						
PAL	Palisades	85.38	32	P	P	05 56 26.2	0.0
	baz=330						
L63A	North Scituate	85.47	30	P	P	05 56 26.6	-0.1
	baz=332						
ZKR	Zakros	85.49	317	P	P	05 56 26.6	-0.3
CPCT	Cooper Cave	85.53	42	IAmb	IAmb	05 56 28.3	
	comp=Z,22nm,1.0s						
Z47A	Carrollton	85.60	46	IAmb	IAmb	05 56 28.7	
	comp=Z,25nm,1.0s						
V52A	Sevierville	85.65	41	IAmb	IAmb	05 56 29.1	
	comp=Z,23nm,0.8s						
L64A	Middleborough	85.68	30	P	P	05 56 27.5	-0.3
	baz=332						
TKL	Tuckaleechee C	85.72	42	IAmb	IAmb	05 56 29.3	
	comp=Z,23nm,0.9s						
P60A	Greenville	85.75	34	IAmb	IAmb	05 56 29.1	
	comp=Z,22nm,1.1s						
P60A	Greenville	85.75	34	P	P	05 56 28.1	-0.1
	baz=330						
RJF	Les Rejaudoux	85.77	339	eP	P	05 56 27.8	-0.4
RJF				pmax	pmax		
	comp=Z,44nm,1.0s						
M64A	Tiverton	85.89	30	P	P	05 56 28.5	-0.2
	baz=332						
U54A	Nelsons Funny	85.91	40	IAmb	IAmb	05 56 30.2	
	comp=Z,26nm,0.9s						
FRF	La Foret Royal	85.93	335	eP	P	05 56 29.1	+0.1
FRF				pmax	pmax		
	comp=Z,42nm,1.2s						
BLA	Blacksburg	85.96	38	P	P	05 56 29.1	-0.2
	baz=327,SNR=16						
CAF	Calviac	85.98	338	eP	P	05 56 29.3	+0.1
CAF				pmax	pmax		
	comp=Z,55nm,0.9s						
W52A	Murphy	86.10	42	IAmb	IAmb	05 56 31.4	
	comp=Z,60nm,2.0s						
S57A	Dark Hollow, R	86.13	37	IAmb	IAmb	05 56 31.4	
	comp=Z,14nm,0.8s						
LMR	La Mourre	86.18	335	eP	P	05 56 29.5	-0.7
LMR				pmax	pmax		
	comp=Z,74nm,1.0s						
TIP	Timpagrande	86.26	326	⇑P	P	05 56 30.3	-0.4
TIP	Timpagrande	86.26	326	IAmb	IAmb	05 56 31.5	
	comp=Z,28nm,1.0s						
LRAL	Lakeview Retre	86.27	45	P	P	05 56 30.3	-0.6
	baz=324,SNR=5.2						
R58B	Mineral	86.41	36	IAmb	IAmb	05 56 32.7	
	comp=Z,13nm,0.9s						
T57A	Hurt	86.64	38	IAmb	IAmb	05 56 33.6	
	comp=Z,16nm,0.8s						
Q61A	Milford	86.67	34	P	P	05 56 33.0	+0.4
	baz=330						
U56A	King	86.69	39	IAmb	IAmb	05 56 34.1	
	comp=Z,16nm,0.8s						
Z51A	Franklin	86.95	44	IAmb	IAmb	05 56 35.2	
	comp=Z,31nm,1.2s						
Y52A	Lilburn	87.04	43	IAmb	IAmb	05 56 36.1	
	comp=Z,16nm,0.9s						
KMSC	Kings Mountain	87.27	40	IAmb	IAmb	05 56 36.8	
	comp=Z,22nm,1.0s						
KMSC	Kings Mountain	87.27	40	P	P	05 56 35.5	-0.2
	baz=326,SNR=10						
PAULI	Pauline	87.31	41	IAmb	IAmb	05 56 37.0	
	comp=Z,16nm,0.9s						
TBI	Tubuai	87.38	127	eLR	LR	06 24 18.4	
	comp=Z,427nm,24.5s,baz=320						
TBI	Tubuai	87.38	127	eT	T	07 33 23.3	
	comp=Z,6.5nm,0.3s						
T59A	Double "B" Far	87.39	37	IAmb	IAmb	05 56 37.7	
	comp=Z,25nm,1.1s						
MTLF	Montolieu	87.41	337	eP	P	05 56 36.3	+0.1
MTLF				pmax	pmax		
	comp=Z,31nm,1.1s						
HODGE	Hodges	87.59	41	IAmb	IAmb	05 56 38.8	
	comp=Z,23nm,1.1s						
152A	Waverly Hall	87.69	44	IAmb	IAmb	05 56 38.8	
	comp=Z,14nm,0.9s						
GOGA	Godfrey	87.70	43	IAmb	IAmb	05 56 39.3	
	comp=Z,24nm,1.4s						
GOGA	Godfrey	87.70	43	P	P	05 56 37.9	+0.2
	baz=325,SNR=7.2						
V58A	Windy Hill, Pi	87.72	38	IAmb	IAmb	05 56 39.1	
	comp=Z,20nm,1.0s						
BRAL	Brewton	87.74	46	P	P	05 56 39.0	+1.0
	baz=324,SNR=6.4						
U59A	Littleton	87.82	37	IAmb	IAmb	05 56 39.7	
	comp=Z,13nm,0.9s						
W57A	Gilead	87.86	39	IAmb	IAmb	05 56 39.7	
	comp=Z,22nm,1.0s						
JSC	Jenkinsville	88.02	41	IAmb	IAmb	05 56 40.6	
	comp=Z,16nm,1.0s						
BIRD	Birdtown, Kers	88.08	40	IAmb	IAmb	05 56 40.9	
	comp=Z,17nm,0.9s						
SJPF	Ste Jean	88.51	340	eP	P	05 56 40.3	-1.2
SJPF				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ETSF	Etsaut	88.55	339	eP	P	05 56 40.5	-1.2
ETSF				pmax	pmax		
	comp=Z,7.0nm,0.6s						
CNNC	Cliffs of the	88.72	38	P	P	05 56 42.9	+0.3
	baz=328						
TIGA	Tifton	89.25	44	P	P	05 56 45.8	+0.7
	baz=325,SNR=9.0						
NHSC	New Hope	89.49	41	P	P	05 56 46.7	+0.5
	baz=327						
PBRG	Braganca	91.00	343	eP	P	05 56 51.9	-1.2
	comp=Z,25nm,1.5s						
PGAV	Gavieira, Arco	91.14	344	eP	P	05 56 52.5	-1.4
	comp=Z,53nm,2.0s						
POLO	Lamas de Olo	91.62	344	eP	P	05 56 54.9	-1.2
	comp=Z,14nm,1.1s						
MVO	Moncorvo	91.67	343	eP	P	05 56 55.1	-1.2
	comp=Z,24nm,2.1s						
PVRL	Vila Real	91.70	344	eP	P	05 56 55.6	-0.8
KEST	Kesra	92.09	329	P	P	05 56 57.9	-0.5
	comp=Z,17nm,0.9s,baz=238,slow=1.2,SNR=13						
KEST				LR	LR	06 43 18.1	
	comp=Z,302nm,18.2s,baz=338,slow=39						
PVIS	Viseu	92.28	344	eP	P	05 56 57.6	-1.5
ESDC	Sonseca Array	92.42	341	P	P	05 56 58.2	-1.6
	comp=Z,2.4nm,1.0s,baz=19,slow=4.0,SNR=12						
ESDC				LR	LR	06 44 06.3	
	comp=Z,120nm,19.4s,baz=335,slow=39						
MTE	Manteigas	92.51	343	eP	P	05 56 59.2	-1.0
	comp=Z,20nm,1.1s						
MTE	Manteigas	92.51	343	IAmb	IAmb	05 56 59.7	
	comp=Z,12nm,0.9s						
COI	Coimbra	92.87	344	eP	P	05 57 00.8	-0.9
	comp=Z,34nm,0.9s						
PCAS	Casmilo, Conde	93.03	344	eP	P	05 57 01.1	-1.4
	comp=Z,6.6nm,1.8s						
PCBR	Castelo Branco	93.04	343	eP	P	05 57 00.8	-1.7
	comp=Z,15nm,1.6s						
DWPF	Disney Wildern	93.05	44	P	P	05 57 03.0	+0.2
	baz=326						
PSBE	So Bento	93.61	344	eP	P	05 57 03.8	-1.4
PMTG	Montargil	93.93	344	eP	P	05 57 05.2	-1.5
	comp=Z,14nm,1.2s						
EVO	Evora	94.41	343	eP	P	05 57 08.0	-0.9
	comp=Z,12nm,1.7s						
PBAR	Barrancos	94.55	342	eP	P	05 57 08.1	-1.4
PNCL	Nicolau / Gran	94.92	344	eP	P	05 57 10.1	-1.1
MESJ	Messejana	95.12	343	eP	P	05 57 11.0	-1.1
	comp=Z,10nm,1.2s						
PCVE	Castro Verde	95.28	343	eP	P	05 57 12.2	-0.7
PTEO	Sao Teotonio	95.50	344	eP	P	05 57 12.9	-1.0
	comp=Z,39nm,1.7s						
TORD	Torodi Ar. Bea	115.41	326	PKP	PKiKP	06 02 30.3	-0.6
	comp=Z,1.5nm,0.6s,baz=24,slow=1.2,SNR=13						
TORD				PKKPab	PKKPab	06 13 10.3	-2.3
	comp=Z,0.7nm,0.6s,baz=207,slow=3.9,SNR=3.6						
KOWA	Kowa	116.23	332		PKPdf	06 02 29.5	-3.0
VNDA	Vanda	122.67	177	PKP	PKiKP	06 02 43.5	+0.3
	comp=Z,3.7nm,0.8s,baz=319,slow=3.9,SNR=18						
SBA	Scott Base	123.21	176	PKIKP	PKPdf	06 02 42.6	-1.4
SBA	Scott Base	123.21	176	PKPdf	PKPdf	06 02 42.6	-1.4
DBIC	Dimbokro	123.81	330	PKP	PKPdf	06 02 47.0	-0.1
	comp=Z,12nm,0.9s,baz=34,slow=3.4,SNR=10						
TIC	Toumodi	123.89	330	ePKP1	PKiKP	06 02 47.7	+0.1
KIC	Kosan Boka	124.06	330	ePKP1	PKiKP	06 02 48.3	+0.4
	comp=Z,29nm,1.0s						
LIC	Lamto	124.29	330	ePKP1	PKPdf	06 02 47.5	-0.6
	comp=Z,53nm,1.4s						
BOAV	Boa Vista	125.14	39	eP	PKPdf	06 02 48.6	-1.1
TBTG	Tabatinga, AM	126.01	53	eP	PKiKP	06 02 53.3	+1.5
CZSB	Cruzeiro do Su	127.22	58	eP	PKPdf	06 02 53.8	+0.2
MACA	Manacapuru-AM	129.97	42	eP	PKiKP	06 03 01.0	+1.3
MAW	Mawson	129.97	210	PKP	PKiKP	06 02 58.2	+0.3
	comp=Z,4.4nm,0.8s,baz=105,slow=3.3,SNR=14						
MAW	Mawson	129.97	210	PKPdf	PKiKP	06 02 58.4	+0.5
MCPB	Macapa, AP	131.07	31	eP	PKiKP	06 03 02.0	+0.1
LBTB	Lobatse	131.65	275	PKIKP	PKiKP	06 03 02.8	0.0
LBTB	Lobatse	131.65	275		PKiKP	06 03 02.8	0.0
ETMB	Extrema	132.69	53	eP	PKPdf	06 03 03.7	-0.3
ITTB	Itaituba	133.28	37	eP	PKiKP	06 03 05.9	-0.4
SAML	Samuel	133.65	49	eP	PKiKP	06 03 07.6	+0.5
QSPA	South Pole Qui	134.96	180		PKPdf	06 03 06.2	-0.5
NPGB	Novo Progresso	135.83	38	eP	PKiKP	06 03 10.9	-0.7
LPAZ	La Paz	136.66	61	PKP	PKiKP	06 03 12.9	-0.9
	comp=Z,3.6nm,0.8s,baz=14,slow=12,SNR=14						
LPAZ	La Paz	136.66	61	eP	PKPdf	06 03 10.8	-1.3
NBMO	Morrinhos-CE	137.24	16	eP	PKiKP	06 03 13.8	-0.6
PRPB	Parauapebas	137.26	31	eP	PKPdf	06 03 12.6	0.0
VILB	Vilhena	138.58	49	eP	PKPdf	06 03 15.5	+0.6
NBPB	Pedra_Branca-C	139.50	16	eP	PKiKP	06 03 19.2	+0.2
NBPA	Parau_RN	140.12	12	eP	PKiKP	06 03 19.1	-1.2
RCBR	Riachuelo	140.36	10	eP	PKPdf	06 03 19.2	+1.0
SMTB	Santa Maria do	140.54	29	eP	PKiKP	06 03 20.1	-1.0
LVC	Limon Verde	140.79	68	eP	PKiKP	06 03 21.8	0.0
NBPV	Pedro Velho	141.01	9	eP	PKPdf	06 03 20.4	+1.0
NBMA	Muriti-CE	141.43	15	eP	PKiKP	06 03 21.8	-1.2
SNDB	Serra Nova Dou	141.99	36	eP	PKiKP	06 03 23.7	-0.3
NBRF	Rio Formoso -	143.26	9	eP	PKPdf	06 03 24.9	+1.6
PEXB	Peixe	143.29	32	eP	PKPdf	06 03 23.7	+0.3
SALV	Santo Antonio	143.39	45	eP	PKPdf	06 03 24.5	+1.0
NBPN	Ponto Novo - B	144.53	18	eP	PKPdf	06 03 27.0	+1.4
SHEL	Horse Pasture	144.65	318	PKIKP	PKPab	06 03 23.9	-0.6
SHEL	Horse Pasture	144.65	318		PKPab	06 03 23.9	-0.6
CO03	El Pedregal	144.91	80		PKPab	06 03 24.6	-0.5
NBLA	Lagarto - SE	145.15	14	eP	PKPbc	06 03 26.1	-0.1
PP1B	Ponte de Pedra	145.24	46	eP	PKPdf	06 03 27.3	+0.6
MT05	Renca	146.31	84		PKPab	06 03 30.1	-0.2
BDFB	Brasilia	146.63	34	PKPbc	PKPbc	06 03 30.2	-0.6
	comp=Z,37nm,0.8s,baz=318,slow=3.6,SNR=48						
BDFB	Brasilia	146.63	34	PKP2	PKPbc	06 03 30.5	-0.4
BDFB	Brasilia	146.63	34		PKPbc	06 03 30.5	-0.4
AQDB	Aquidauana	147.19	50	eP	PKPbc	06 03 32.4	+0.2
JANB	Januaria	147.42	27	eP	PKPbc	06 03 31.8	-1.2
GDU01	Guandu, BA	147.45	18	eP	PKPbc	06 03 31.8	-1.2
IPMB	Ipameri, GO	148.66	36	eP	PKPdf	06 03 33.6	+1.1
CMC01	Camacan, BA	149.04	19	eP	PKPdf	06 03 34.5	+1.4
MC01	Montes Claros	149.09	28	eP	PKPdf	06 03 33.6	+0.4
ITRB	Iturama	149.23	41	eP	PKPdf	06 03 35.1	+1.8
PLCA	Paso Flores	149.86	96	PKP	PKPdf	06 03 34.2	+0.4
	comp=Z,5.4nm,1.0s,baz=265,slow=3.5,SNR=27						
PLCA				PKPbc	PKiKP	06 03 39.6	+0.1
	comp=Z,26nm,0.9s,baz=254,slow=4.7,SNR=26						
PLCA	Paso Flores	149.86	96		PKPbc	06 03 37.1	-1.6
PLCA	Paso Flores	149.86	96	eP	PKPbc	06 03 37.5	-1.1
GUA01	Guaratinga, BA	150.16	20	eP	PKPbc	06 03 37.5	-2.4
PCMB	Pacaembu	150.43	44	eP	PKPdf	06 03 36.9	+1.8
SNAA	Sanae	150.58	197	PKPab	PKPab	06 03 51.5	+5.1
SNAA	Sanae	150.58	197	PKPbc	PKiKP	06 03 40.7	+0.6
SNAA	Sanae	150.58	197	PKPdf	PKPbc	06 03 36.7	-2.7
SNAA	Sanae	150.58	197	PKIKP	PKPdf	06 03 33.2	-0.8
SNAA	Sanae	150.58	197	PKPdf	PKPdf	06 03 33.2	-0.8
DIAM	Diamantina, MG	150.66	28	eP	PKPdf	06 03 37.8	+2.0
CPUP	Villa Florida	150.80	59	PKP	PKPdf	06 03 36.3	+0.7
	comp=Z,20nm,0.8s,baz=2.6,slow=2.8,SNR=5.4						
CPUP				PKPbc	PKPbc	06 03 41.4	+0.2
	comp=Z,17nm,0.7s,baz=342,slow=2.7,SNR=31						
CPUP	Villa Florida	150.80	59	eP	PKPdf	06 03 35.4	-0.1
BB19B	Bebedouro	151.25	39	eP	PKPdf	06 03 39.0	+2.5
NAN01	Guarapari, ES	151.28	21	eP	PKPdf	06 03 38.7	+2.2
SJMB	Sao Joao De Ma	151.81	24	eP	PKPdf	06 03 39.6	+2.3
BSFB	Barra de Sao F	152.03	23	eP	PKPdf	06 03 39.9	+2.3
VNA2	Neumayer--Watz	152.06	195	PKPab	PKPab	06 03 54.9	+2.3
VNA2	Neumayer--Watz	152.06	195	PKPbc	PKiKP	06 03 44.2	+1.1
VNA2	Neumayer--Watz	152.06	195	PKPdf	PKPdf	06 03 37.7	+1.6
VNA2	Neumayer--Watz	152.06	195	PP	PP	06 07 26.4	+1.4
VNA3	Neumayer Olymp	152.20	194	PKPbc	PKiKP	06 03 44.2	+0.8
VNA3	Neumayer Olymp	152.20	194	PKPdf	PKPdf	06 03 37.8	+1.4
VNA3	Neumayer Olymp	152.20	194	PP	PP	06 07 26.6	+0.9
VNA1	Neumayer--Stat	152.46	195	PKPab	PKPab	06 03 55.9	+1.7
VNA1	Neumayer--Stat	152.46	195	PKPbc	PKiKP	06 03 45.1	+1.3
VNA1	Neumayer--Stat	152.46	195	PKPdf	PKPdf	06 03 38.6	+2.0
PTGB	Pitanga	152.58	49	eP	PKPdf	06 03 39.9	+1.5
RIB01	Linhares ES	152.62	23	eP	PKPdf	06 03 40.2	+1.7
FRTB	Fartura	152.72	44	eP	PKPdf	06 03 39.9	+1.3
BSCB	Bom Sucesso	152.75	33	eP	PKPdf	06 03 42.3	+3.5
RCLB	Rio Claro- Sao	152.88	39	eP	PKPdf	06 03 41.1	+2.2
ITQB	Itaqui	153.61	63	eP	PKPdf	06 03 41.7	+2.1
VAO	Valinhos	153.64	39	eP	PKPdf	06 03 41.4	+1.4
ALF01	Guarapari-ES	153.76	24	eP	PKPdf	06 03 42.3	+2.2
TIJ01	Guaruva-PR	154.66	45	eP	PKPdf	06 03 43.8	+2.4

*IDC **09** 05:44:10.9±1.3, 32°.91S×178°.46W, h0^{km}, mb4.3/3, mb1 4.5/6, mb1mx4.1/35, mbtmp4.4/6, ML4.2/3, MS3.6/1, Ms1 3.6/1, ms1mx2.9/20 Error ellipse: s-maj=33.2km s-min=23.6km az=102.0*

*NEIC **09** 05:44:14.7±2.6, 32°.85S±0°.08×178°.4W±0°.1, h21^{km}±6^{km}, mb4.4/12, Error ellipse: s-maj=15.8km s-min=9.4km az=118.0*

*WEL **09** 05:44:59.1, 36°S±70°×17°9E±99°9, h109^{km}±40^{km}, M3.7/11, ML3.9/11, MLv3.7/11, Error ellipse: s-maj=4.5km s-min=0.5km az=97.0*

ISC 09 05:44:15.0±0.8**, 32°.94S**±0°.07×**178°.2W**±0°.1**, h34^{km}, n48,** σ1^s**75**/47**, mb4.3**/9**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.68	4	Pn	Pn	05 45 10.8	+1.2
	76nm,0.3s,baz=232,slow=19,SNR=1.9						
RAO				Sn	Sn	05 45 48.2	-3.6
	47nm,0.3s,baz=72,slow=20,SNR=1.7						
MXZ	Matakaoa Point	5.42	211	Pn	Pn	05 45 32.9	-0.5
MXZ	Matakaoa Point	5.42	211	P	Pn	05 45 32.6	-0.8
WMGZ	Waiomatatini S	5.59	209	P	Pn	05 45 35.2	-0.5
HAZ	Te Kaha	5.82	213	P	Pn	05 45 36.6	-2.2
PUZ	Puketiti	5.88	208	P	Pn	05 45 36.7	-2.9
RUGZ	Raukumara Rang	6.03	213	P	Pn	05 45 39.5	-2.4
TWGZ	Tauwhareparae	6.08	210	P	Pn	05 45 42.4	-0.1
CNGZ	Carnagh Statio	6.25	207	P	Pn	05 45 43.7	-1.1
KUZ	Kuaotunu	6.27	231	P	Pn	05 45 46.2	+1.2
MWZ	Matawai	6.40	212	P	Pn	05 45 44.4	-2.5
URZ	Urewera	6.53	214	Pn	Pn	05 45 46.7	-1.9
	7.2nm,0.3s,baz=204,slow=2.6,SNR=14						
URZ				Sn	Sn	05 47 00.2	-1.8
	6.7nm,0.3s,baz=156,slow=21,SNR=8.6						
URZ	Urewera	6.53	214	Pn	Pn	05 45 48.2	-0.4
URZ	Urewera	6.53	214	P	Pn	05 45 44.1	-4.6
TGRZ	Tauranga	6.58	222	P	Pn	05 45 39.5	-10
RAGZ	Rawiri	6.59	211	P	Pn	05 45 47.8	-1.7
RIGZ	Rimuhau	6.62	208	P	Pn	05 45 48.4	-1.4
PRGZ	Paritu Road	6.76	207	P	Pn	05 45 50.0	-1.8
SNGZ	Shannon Statio	6.86	211	P	Pn	05 45 52.2	-0.9
RTZ	Ruatahuna	6.88	213	P	Pn	05 45 52.0	-1.5
TOZ	Tahuroa Road	7.02	225	P	Pn	05 45 48.4	-6.9
OUZ	Omahuta	7.17	249		Pn	05 45 59.9	+2.5
BKZ	Black Stump Fm	7.55	213		Pn	05 46 01.2	-1.5
HIZ	Hauiti	7.92	223	Pn	Pn	05 46 07.4	-0.3
DZM	Mont Dzumac	17.37	305	P	Pn	05 48 13.4	-1.5
	0.2nm,0.3s,baz=129,slow=13,SNR=1.7						
DZM				LR	LR	05 53 48.9	
	comp=Z,203nm,20.3s,baz=156,slow=34						
CTAO	Charters Tower	34.11	283	P	P	05 50 57.0	+0.3
CTAO				IAmb	IAmb	05 51 01.2	
	comp=Z,8.1nm,1.1s						
AS31	Alice Springs	42.86	270	P	P	05 52 09.1	-1.1
ASAR	Alice Springs	42.86	270	P	P	05 52 09.6	-0.6
	comp=Z,3.2nm,0.7s,baz=111,slow=7.5,SNR=38						
WR0	Warramunga Arr	43.90	275	P	P	05 52 17.9	-0.6
WR0				IAmb	IAmb	05 52 19.3	
	comp=Z,3.7nm,0.7s						
WB2	Warramunga Arr	44.06	275	P	P	05 52 19.4	-0.5
WRA	Warramunga Arr	44.07	275	P	P	05 52 18.9	-1.1
	comp=Z,5.8nm,0.6s,baz=115,slow=7.6,SNR=84						
WRA	Warramunga Arr	44.07	275	P	P	05 52 18.6	-1.4
FORT	Forrest	45.28	258	P	P	05 52 27.9	-1.6
FITZ	Fitzroy Crossi	52.22	272	P	P	05 53 22.3	-0.6
FITZ				IAmb	IAmb	05 53 26.9	
	comp=Z,7.1nm,1.4s						
CASY	Casey	52.83	209	P	P	05 53 28.0	+1.3
CASY				IAmb	IAmb	05 53 34.9	
	comp=Z,12nm,1.3s						
QSPA	South Pole Qui	57.18	180	P	P	05 54 00.3	+2.0
	comp=Z,2.1nm,0.9s,baz=94,slow=2.6,SNR=7.2						
QSPA	South Pole Qui	57.18	180	P	P	05 54 02.3	+4.0
BELA	Belgrano 2	67.30	172	P	P	05 55 11.5	+5.7
BELA				IAmb	IAmb	05 55 22.4	
	comp=Z,3.6nm,1.2s						
SNAA	Sanae	75.63	178	P	P	05 55 57.1	+0.9
SNAA				IAmb	IAmb	05 56 07.6	
	comp=Z,3.9nm,1.1s						
VNA3	Neumayer Olymp	75.79	176	P	P	05 55 58.2	+1.2
VNA3	Neumayer Olymp	75.79	176	PcP	PcP	05 56 08.5	-1.0
VNA2	Neumayer--Watz	76.22	177	P	P	05 56 00.4	+0.9
	baz=171,slow=5.1						
VNA2	Neumayer--Watz	76.22	177	PcP	PcP	05 56 10.7	-0.7
VNA1	Neumayer--Stat	76.45	177	P	P	05 56 03.1	+2.4
VNA1	Neumayer--Stat	76.45	177	PcP	PcP	05 56 12.3	-0.1
FINES	FINESS Array B	147.45	338	PKPbc	PKPbc	06 03 54.9	+0.3
	comp=Z,2.6nm,0.4s,baz=48,slow=3.6,SNR=24						
NB2	NORSAR Subarra	151.22	350	PKP	PKiKP	06 04 04.9	+0.3
	comp=Z,0.9nm,0.6s,baz=17,slow=2.5						
NOA	NORSAR Array B	151.22	350	PKPbc	PKPbc	06 04 03.9	-0.2
	comp=Z,1.9nm,0.8s,baz=14,slow=4.2,SNR=7.3						

*IDC **09** 05:55:42.6±1.7, 2°.67N×128°.77E, h236^{km}±16^{km}, mb3.8/14, mb1 3.9/14, mb1mx3.7/33, mbtmp4.4/14, Error ellipse:*

s-maj=23.1km s-min=8.6km az=80.0
*NEIC **09** 05:55:42.7±1.5, 2°.71N±0°.09×128°.6E±0°.1, h229km±8km, mb4.5/31, Error ellipse: s-maj=17.7km s-min=12.7km az=83.0*
ISC 09 05:55:43.9±0.5**, 2°.67N**±0°.06×**128°.60E**±0°.10**, h250**km**, n52,** σ**0s.97**/53**, mb4.3**/27**, 1C-1D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	Ternate	2.25	213	Pn	Pn	05 56 25.9	-2.9
KCP	Kidapawan	5.55	321⇑	eP	Pn	05 57 04.4	-2.2
BUKP	Musuan	6.26	326⇓	eP	Pn	05 57 13.6	-1.8
TOLI2	Tolitoli	7.97	259	Pn	Pn	05 57 36.1	-0.7
JAY	Jayapura	13.15	113	P	P	05 58 43.4	0.0
	3.5nm,0.3s,baz=259,slow=8.0,SNR=12						
MTN	Manton Dam	15.61	171	P	P	05 59 09.8	-0.7
MTN				IAmb	IAmb	05 59 26.1	
	comp=Z,36nm,1.4s						
KNRA	Kununurra	18.23	180	P	P	05 59 39.4	+0.4
FITZ	Fitzroy Crossi	20.84	188	P	P	06 00 06.4	-0.5
	comp=Z,2.9nm,0.5s,baz=23,slow=10,SNR=18						
FITZ	Fitzroy Crossi	20.84	188	P	P	06 00 06.4	-0.5
TPUB	Ta-pu	21.92	340	P	P	06 00 16.1	-1.2
COEN	Coen	21.95	139	P	P	06 00 16.5	-1.1
COEN				IAmb	IAmb	06 00 34.2	
	comp=Z,20nm,1.4s						
SSLB	Suanglung	22.26	341	P	P	06 00 19.6	-0.8
SSLB				IAmb	IAmb	06 00 29.5	
	comp=Z,22nm,1.2s						
WRA	Warramunga Arr	23.16	166	P	P	06 00 28.0	-0.6
	comp=Z,3.2nm,0.3s,baz=344,slow=11,SNR=96						
WRA				ScP	ScP	06 07 25.1	+1.7
	comp=Z,0.4nm,0.6s,baz=331,slow=1.9,SNR=4.8						
WRA	Warramunga Arr	23.16	166	P	P	06 00 29.5	+0.9
WB2	Warramunga Arr	23.17	166	P	P	06 00 29.4	+0.7
WB2				IAmb	IAmb	06 00 30.7	
	comp=Z,6.2nm,0.8s						
WR0	Warramunga Arr	23.23	166	P	P	06 00 28.6	-0.6
WR0				IAmb	IAmb	06 00 38.7	
	comp=Z,8.0nm,1.2s						
PSA00	Pilbara Seismi	25.57	199	P	P	06 00 50.3	0.0
PSA00				IAmb	IAmb	06 01 04.8	
	comp=Z,20nm,1.4s						
AS31	Alice Springs	26.68	169	P	P	06 01 00.3	0.0
ASAR	Alice Springs	26.68	169	P	P	06 01 00.3	0.0
	comp=Z,2.2nm,0.4s,baz=351,slow=7.7,SNR=38						
ASAR				ScP	ScP	06 07 34.5	+1.1
	comp=Z,0.7nm,0.7s,baz=351,slow=2.8,SNR=6.6						
JNU	Nakatsue	30.37	4	P	P	06 01 32.2	-0.6
CMAR	Chiang Mai Arr	33.02	300	P	P	06 01 58.1	+2.1
	comp=Z,2.6nm,0.5s,baz=114,slow=7.1,SNR=11						
JWT	Wachi	33.06	10	P	P	06 01 56.1	-0.1
CHTO	Chiang Mai	33.17	301	P	P	06 01 57.6	+0.3
CHTO				IAmb	IAmb	06 01 59.6	
	comp=Z,6.9nm,0.8s						
FORT	Forrest	33.26	181	P	P	06 01 57.9	-0.1
FORT				IAmb	IAmb	06 01 58.8	
	comp=Z,19nm,0.7s						
KSRS	Korea Array	34.62	359	P	P	06 02 10.2	+0.6
	comp=Z,4.0nm,0.5s,baz=178,slow=9.1,SNR=11						
MJAR	Matsushiro Arr	34.86	14	P	P	06 02 10.1	-1.5
	comp=Z,6.8nm,0.8s,baz=187,slow=9.8,SNR=6.9						
MJAR	Matsushiro Arr	34.86	14	IAmb	IAmb	06 02 15.1	
	comp=Z,5.2nm,1.3s						
BBOO	Buckleboo	35.98	169	P	P	06 02 21.8	+0.6
BBOO				IAmb	IAmb	06 02 22.2	
	comp=Z,9.1nm,0.5s						
STKA	Stephens Creek	36.50	161	P	P	06 02 25.6	0.0
	comp=Z,3.8nm,0.3s,baz=343,slow=7.9,SNR=18						
STKA	Stephens Creek	36.50	161	P	P	06 02 25.9	+0.3
ARMA	Armidale	39.57	148	P	P	06 02 52.1	+0.8
ARMA				IAmb	IAmb	06 03 10.6	
	comp=Z,31nm,1.5s						
JTM	Tenmabayashi	39.58	15	P	P	06 02 50.9	-0.2
USRK	Ussuriysk Ar.	41.47	4	P	P	06 03 06.4	0.0
	comp=Z,4.1nm,0.7s,baz=178,slow=7.6,SNR=5.8						
SHL	Shillong	42.01	306	P	P	06 03 12.3	+0.9
ULN	Ulaanbaatar	48.72	341	P	P	06 04 03.7	+0.2
SONM	Songino Array	48.91	340	P	P	06 04 05.3	+0.4
	comp=Z,1.9nm,0.7s,baz=150,slow=8.0,SNR=9.5						
PEA0B	Petropavlovsk-	55.73	21	P	P	06 04 55.8	+1.2
PEA0B				IAmb	IAmb	06 05 06.5	
	comp=Z,14nm,1.4s						
PETK	Petropavlovsk-	55.73	21	P	P	06 04 55.2	+0.6
	comp=Z,1.5nm,0.5s,baz=183,slow=7.0,SNR=5.6						
MK31	Makanchi Array	59.49	325	P	P	06 05 21.5	+0.6
MKAR	Makanchi Array	59.49	325	P	P	06 05 21.5	+0.6
	comp=Z,4.5nm,0.5s,baz=115,slow=8.6,SNR=53						
MKAR				ScP	ScP	06 09 44.3	+2.0
	comp=Z,0.4nm,0.8s,baz=108,slow=4.7,SNR=3.7						
MAKZ	Makanchi	59.68	325	P	P	06 05 22.2	0.0
MAKZ				IAmb	IAmb	06 05 23.4	
	comp=Z,4.8nm,0.6s						
LBZ	Lake Benmore	59.77	147	P	P	06 05 23.4	+0.6
LBZ				IAmb	IAmb	06 05 34.5	
	comp=Z,43nm,1.4s						
KDJ	Kajisay	60.38	318	P	P	06 05 28.0	+0.8
KDJ				IAmb	IAmb	06 05 29.0	
	comp=Z,4.7nm,0.8s						
BKZ	Black Stump Fm	60.55	139	P	P	06 05 28.8	+0.6
BKZ				IAmb	IAmb	06 05 38.2	
	comp=Z,16nm,1.2s						
ZALV	Zalesovo Beam	62.38	333	P	P	06 05 39.6	-0.6
	comp=Z,1.4nm,0.4s,baz=128,slow=5.2,SNR=4.0						
CHGR	Chuyangaron	64.76	312	P	P	06 05 54.8	-1.4
KKAR	Karatay Array	65.28	317	P	P	06 05 59.1	-0.1
ABKAR	Akbulak array	74.15	321	P	P	06 06 53.0	-0.1
VNDA	Vanda	82.15	173	P	P	06 07 36.4	+0.2
	comp=Z,0.5nm,0.6s,baz=319,slow=7.6,SNR=3.8						
ARCES	ARCESS Array B	92.08	340	P	P	06 08 24.1	-0.3
	comp=Z,3.5nm,0.8s,baz=82,slow=6.5,SNR=8.8						
ARCES	ARCESS Array B	92.08	340	IAmb	IAmb	06 08 30.9	
	comp=Z,12nm,1.1s						
TORD	Torodi Ar. Bea	125.02	288	PKP	PKPdf	06 14 15.6	+0.2
	comp=Z,0.3nm,0.4s,baz=133,slow=1.0,SNR=2.6						

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*BGR **09** 06:02:35.7±0.0, 36°.18N×140°.64E, h33km, mb5.1*
*NIED **09** 06:03:42.7, 38°.49N×133°.88E, h482km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-3.05; $M_{\theta\theta}$2.60; $M_{\phi\phi}$0.44; $M_{r\theta}$-1.08; $M_{\theta\phi}$-1.54; $M_{\phi r}$-3.72; Fault plane solution: $M_0$4.69000×10^{15} NP1: ϕ_s336.00000°, δ66.00000°, λ-55.00000°. NP2: ϕ_s96.00000°, δ42.00000°, λ-142.00000°.*
*JMA **09** 06:03:42.7±0.2, 38°.49N×133°.88E, h482km±3km, M4.5*
*MOS **09** 06:03:43.5±0.9, 38°.54N×133°.77E, h458km, mb4.6/42, Error ellipse: s-maj=7.8km s-min=4.7km az=115.6*
*BJI **09** 06:03:43.4±0.0, 38°.59N×133°.71E, h461km, mB4.7/24, mb4.8/51*
*NEIC **09** 06:03:44.8±2.1, 38°.51N±0°.09×133°.8E±0°.1, h454km±7km, mb4.5/86, Error ellipse: s-maj=13.6km s-min=12.6km az=91.0*
*IDC **09** 06:03:44.5±0.7, 38°.55N×133°.75E, h454km±7km, mb3.8/19, mb1 4.0/23, mb1mx3.8/33, mbtmp4.6/23, Error ellipse: s-maj=10.8km s-min=9.3km az=47.0*
*KMA **09** 06:04:48.5±0.5, 36°.17N×129°.52E, h34km±11km, Error ellipse: s-maj=30.4km s-min=5.6km az=254.0*
ISC 09 06:03:44.2±0.4**, 38°.54N**±0°.05×**133°.83E**±0°.05**, h456**km±4km**, h455**km**:pP-P, n322,** σ**1s.16**/329**, mb4.5**/113**, 31C-66D, Fault plane solution: NP1:** ϕ_s355.33502°**,** δ77.50375°**,** λ-34.03974°. **NP2:** ϕ_s93.65081°**,** δ56.87229°**,** λ-165.02646°. **Principal axes:** T Plg13.4996°**,** Azm48.2792°**;** N Plg54.0002°**,** Azm157.5742°**;** P Plg32.6455°**,** Azm309.4320°**; Fault plane solution: NP1:** ϕ_s332.49548°**,** δ65.84234°**,** λ-89.85318°. **NP2:** ϕ_s152.13672°**,** δ24.15808°**,** λ-90.32733°. **Principal axes:** T Plg20.8422°**,** Azm62.3844°**;** N Plg0.1340°**,** Azm152.4354°**;** P Plg69.1573°**,** Azm242.7873°**; Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOI	OKI	2.29	192	P	P	06 04 47.7	+0.7
JHG	Hegura jima	2.53	105	P	P	06 04 49.3	+0.9
JSZ	Suzu	3.00	110	P	P	06 04 52.8	+1.2
JKG	Kaga	3.01	138	P	P	06 04 52.5	+0.7
JKSM	Kasumi	3.02	167	P	P	06 04 52.3	+0.4
JKSM				eS	S	06 05 47.0	+0.2
JKY	Yasaka	3.08	160	P	P	06 04 53.0	+0.6
JTT	Ttatey	3.39	124	P	P	06 04 55.5	+0.8
JWT	Wachi	3.49	158	P	P	06 04 56.3	+0.8
JWT	Wachi	3.49	158		P	06 04 56.0	+0.5
JSD	Sado	3.52	97	P	P	06 04 56.3	+0.6
JSD	Sado	3.52	97		P	06 04 56.1	+0.5
JHS	Saijyo	3.58	189	P	P	06 04 56.7	+0.4
JHS				eS	S	06 05 54.2	-0.7
JHS	Saijyo	3.58	189	P	P	06 04 56.1	-0.2
KSULJ	Uljin	3.96	244	P	P	06 04 59.7	+0.4
	SNR=16						
KSULJ	Uljin	3.96	244	P	P	06 04 59.7	+0.4
	SNR=16						
MJB9	Matsu-Tunnel	4.01	118	P	P	06 04 59.4	-0.4
JNG	Nsakai	4.01	121	P	P	06 05 00.4	+0.5
MAJO	Matsushiro	4.01	118	d iP	P	06 04 59.8	0.0
MAJO	Matsushiro	4.01	118		P	06 04 59.9	0.0
MAT	Matsushiro	4.01	118	P	P	06 04 59.9	+0.1
MAT				eS	S	06 06 01.4	0.0
MJAR	Matsushiro Arr	4.01	118	P	P	06 05 00.4	+0.6
	2.8nm,0.3s,baz=302,slow=7.7,SNR=147						
MJAR				S	S	06 06 03.2	+1.8
	baz=278,slow=22,SNR=1.4						
MJAR	Matsushiro Arr	4.01	118		P	06 04 59.2	-0.6
JGF	Kuroka	4.07	135		P	06 05 00.1	-0.3
INU	Inuyama	4.08	140	P	P	06 04 59.9	-0.6
MSHR	Mys Shultsa	4.52	334	c iP	P	06 05 05.1	+1.0
MSHR				pmax	pmax		
	comp=Z,96nm,1.3s						
KSUSN	Ulsan	4.71	234	P	P	06 05 06.3	+0.2
	SNR=16						
JIE	Ise	4.75	150	P	P	06 05 06.0	-0.5
JIE				S	S	06 06 12.2	-1.3
JRY	Ryogami san	4.76	120	P	P	06 05 06.8	+0.1
KSRS	Korea Array	4.79	259	P	P	06 05 07.9	+1.1
	comp=Z,16nm,0.3s,baz=75,slow=8.9,SNR=231						
KSRS				S	S	06 06 15.0	+0.8
	baz=77,slow=18,SNR=2.1						
JMN	Monobe	4.80	180		P	06 05 07.6	+0.5
VLA	Vladivostok	4.81	343	ceP	P	06 05 07.0	+0.2
VLA				pmax	pmax		
	comp=Z,97nm,0.6s						
KSDAG	Daegu	4.81	236	P	P	06 05 07.2	+0.1
	SNR=6.7						
KS19	Wonju Array Si	4.82	259	P	P	06 05 07.4	+0.2
KSAR	Wonju Array Be	4.82	259	P	P	06 05 07.4	+0.3
KSAR	Wonju Array Be	4.82	259		P	06 05 07.4	+0.3
JTNC	Tanabenakahech	4.93	162	P	P	06 05 07.9	-0.4
JTNC				eS	S	06 06 14.2	-2.5
KSBUS	Busan	5.01	230	P	P	06 05 09.2	+0.3
	SNR=5.8						
MIYA	Miryang-si	5.08	235	P	P	06 05 10.2	+0.6
	SNR=6.3						
KSBON	Boeun	5.21	249	P	P	06 05 11.7	+0.8
	SNR=22						
KSBON	Boeun	5.21	249	P	P	06 05 11.7	+0.8
	SNR=22						
KSCPR	CHUPUNGNYEONG	5.21	245	P	P	06 05 11.3	+0.5
	SNR=14						
KSICN	Icheon	5.22	258	P	P	06 05 11.8	+0.8
	SNR=24						
JFT	Otama	5.24	99	P	P	06 05 10.9	-0.2
JFT				eS	S	06 06 21.0	-1.1
JTU	Tsushima	5.37	223	P	P	06 05 12.5	0.0
JRG	Rokugo	5.37	79	P	P	06 05 12.1	-0.2
YNCB	YEONCHEON	5.46	267	P	P	06 05 14.1	+0.9
	SNR=14						
JMM	Marumori	5.53	95	P	P	06 05 13.4	-0.5
JMM	Marumori	5.53	95	P	P	06 05 13.6	-0.3
JYT	Yasato	5.57	113		P	06 05 12.8	-1.6
TJN	Taejon	5.58	249	c iP	P	06 05 15.0	+0.5
JFK	Kawauchi	5.69	100	P	P	06 05 14.9	-0.7
JTO	Tosashimizu	5.73	189	P	P	06 05 15.8	-0.3
JTO				eS	S	06 06 29.2	-1.8
INCN	Inchon	5.78	262	P	P	06 05 16.9	+0.4
INCN	Inchon	5.78	262		P	06 05 16.9	+0.4
USRK	Ussuriysk Ar.	5.82	347	P	P	06 05 17.9	+1.2
	baz=167,slow=9.7,SNR=336						
USRK	Ussuriysk Ar.	5.82	347		P	06 05 17.7	+1.0
USA0B	Ussuriysk Arra	5.82	347	c iP	P	06 05 17.8	+1.1
USA0B	Ussuriysk Arra	5.82	347		P	06 05 18.0	+1.3
KSJEO	Jeonju	5.83	246	P	P	06 05 18.0	+1.0
	SNR=6.4						
JNU	Nakatsue	5.91	205		P	06 05 18.5	+0.6
JSH	Shimam	6.26	47	P	P	06 05 21.9	+0.7
KSKWJ	Gwangju	6.44	240	P	P	06 05 23.9	+0.6
	SNR=7.0						
JKB	Kayabe	6.45	56	P	P	06 05 21.8	-1.3
KOHB	KOHEUNG	6.57	235	P	P	06 05 25.3	+0.8
	SNR=25						
JEW	Eniwo	7.21	51	P	P	06 05 31.0	0.0
JSU	Suzuyama	7.54	203	P	P	06 05 34.6	-0.3
CN2	Changchun	8.22	312	eP	P	06 05 41.8	0.0
CN2				pmax	pmax		
	comp=Z,30nm,1.1s						
ASAJ	Asahikawa	8.63	47	P	P	06 05 46.0	-0.3
	comp=Z,17nm,0.3s,baz=226,slow=9.4,SNR=38						
ASAJ				S	S	06 07 20.9	-5.7
	comp=Z,1.1nm,0.3s,baz=37,slow=20,SNR=2.9						
ASAJ	Asahikawa	8.63	47	P	P	06 05 46.0	-0.3
JKA	Kamikawa-asahi	8.63	47	P	P	06 05 45.7	-0.6
YUK	Yuzh-Kuril'sk	10.58	55⇑	eP	P	06 06 09.2	+1.8
YSS	Yuzh-Sakhalins	10.66	35	eP	P	06 06 08.5	+0.3
YSS				pmax	pmax		
	comp=Z,60nm,0.8s						
YSS	Yuzh-Sakhalins	10.66	35	P	P	06 06 08.2	0.0
KLR	Kul'dur	10.79	353	c iP	P	06 06 09.2	-0.4
KLR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KUR	Kuril'sk	12.41	53⇓	iP	P	06 06 28.8	+1.7
BJI	Beijing	13.76	282	P	P	06 06 42.3	+0.5
BJI				sP		06 08 24.3	
BJI				pmax	pmax		
	comp=Z,16nm,0.6s						
TYV	Tymovskoe	13.81	24	eP	P	06 06 43.9	+1.7
TYV				eS	S	06 09 04.4	-4.8
TYV				pmax	pmax		
	comp=Z,45nm,0.6s						
TYV				pmax	pmax		
	comp=Z,100nm,1.9s						
TYV				smax	smax		
	comp=E,100nm,4.0s						
TYV				smax	smax		
	comp=N,100nm,3.6s						
NJ2	Nanjing	13.83	247	eP	P	06 06 42.5	-0.2
NJ2				pmax	pmax		
	comp=N,27nm,0.5s						
HIA	Hailar	14.74	321	d iP	P	06 06 51.8	-0.4
HIA				pmax	pmax		
	comp=Z,27nm,0.6s						
HIA	Hailar	14.74	321	P	P	06 06 51.4	-0.8
ZEA	Zeya	15.86	346	eP	P	06 07 03.6	-0.3
ZEA				eS	S	06 09 45.5	-3.5
ZEA				pmax	pmax		
	comp=N,10.0nm,0.5s						
ZEA				pmax	pmax		
	comp=Z,20nm,0.7s						
ZEA				smax	smax		
	comp=E,30nm,1.0s						
HHC	Hu-ho-hao-te	17.29	285	eP	P	06 07 17.6	-1.7
HHC				pmax	pmax		
	comp=E,19nm,0.9s						
HHC				pmax	pmax		
	comp=E,140nm,4.9s						
SKR	Severo-Kuril's	19.89	45⇓	eP	P	06 07 44.7	+0.8
XAN	Xi'an	20.55	265	P	P	06 07 49.5	-0.8
XAN				pmax	pmax		
	comp=E,16nm,0.9s						
ULN	Ulaanbaatar	21.54	304	deP	P	06 07 59.0	-0.1
ULN				pmax	pmax		
	comp=Z,37nm,1.3s						
ULN	Ulaanbaatar	21.54	304	P	P	06 07 59.1	-0.1
ULN	Ulaanbaatar	21.54	304	P	P	06 07 58.2	-1.0
	comp=Z,118nm,0.6s						
ENH	Enshi	21.67	255	P	P	06 07 58.9	-1.6
ENH				IAmb	IAmb	06 08 00.2	
	comp=Z,19nm,0.7s						
SONM	Songino Array	21.96	304	P	P	06 08 02.9	0.0
	comp=Z,15nm,0.6s,baz=110,slow=9.3,SNR=43						
SONM				PcP	PcP	06 11 44.6	+0.9
	comp=Z,0.6nm,0.5s,baz=138,slow=3.6,SNR=3.1						
SONM				ScP	ScP	06 14 38.0	+0.8
	comp=Z,0.9nm,0.5s,baz=148,slow=2.9,SNR=5.0						
SONM	Songino Array	21.96	304	IAmb	IAmb	06 08 05.8	
	comp=Z,17nm,0.6s						
PEA0B	Petropavlovsk-	21.97	41⇓	eP	P	06 08 04.7	+1.9
PETK	Petropavlovsk-	21.97	41	P	P	06 08 03.6	+0.8
	comp=Z,1.2nm,0.5s,baz=234,slow=4.8,SNR=3.1						
LZH	Lanzhou	23.93	273	eP	P	06 08 20.3	-0.5
LZH				sP	sP	06 10 28.1	-1.6
LZH				pmax	pmax		
	comp=Z,20nm,1.0s						
ZAK	Zakamensk	24.63	309	eP	P	06 08 26.0	-0.8
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GTA	Gaotai	26.37	283	eP	P	06 08 42.0	-0.4
GTA				pmax	pmax		
	comp=Z,18nm,0.7s						
GUMO	Guam	26.71	156	P	P	06 08 44.5	-1.0
GUMO				pmax	pmax		
	comp=Z,246nm,0.8s						
GUMO	Guam	26.71	156	P	P	06 08 44.5	-1.0
SEY	Seymchan	26.89	19⇓	eP	P	06 08 48.4	+1.9
TIXI	Tiksi	33.28	357	c iP	P	06 09 42.1	+0.3
TIXI	Tiksi	33.28	357	P	P	06 09 41.7	-0.1
TIXI				IAmb	IAmb	06 09 43.0	
	comp=Z,7.9nm,0.7s						
BILL	Bilibino	34.52	21	ceP	P	06 09 53.7	+1.3
BILL				pmax	pmax		
	comp=Z,5.0nm,0.4s						
DGZ	Jazzator, Alta	34.61	304	deP	P	06 09 53.8	+0.3
DGZ				pmax	pmax		
	comp=Z,22nm,0.8s						
WMQ	Urumqi	34.77	294	eP	P	06 09 55.9	+1.0
WMQ				pmax	pmax		
	comp=Z,31nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,380nm,4.1s						
CMMT	Chiang Mai	36.07	247	P	P	06 10 06.7	+0.7
	comp=Z,11nm,0.7s						
CMMT	Chiang Mai	36.07	247	P	P	06 10 04.2	-1.8
	comp=Z,10nm,0.7s						
CHTO	Chiang Mai	36.08	247	P	P	06 10 06.5	+0.4
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.6s						
CHTO	Chiang Mai	36.08	247	P	P	06 10 06.9	+0.9
	comp=Z,11nm,0.7s						
CHTO	Chiang Mai	36.08	247	P	P	06 10 06.5	+0.4
CHTO				IAmb	IAmb	06 10 07.1	
	comp=Z,6.7nm,0.6s						
CHTO	Chiang Mai	36.08	247	P	P	06 10 04.2	-1.8
	comp=Z,6.0nm,0.7s						
CMAR	Chiang Mai Arr	36.31	246	P	P	06 10 08.2	+0.3
	comp=Z,2.3nm,0.4s,baz=44,slow=7.4,SNR=7.8						
CMAR	Chiang Mai Arr	36.31	246	i P	P	06 10 09.3	+1.3
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAA0	Zalesovo Array	36.43	311	IAmb	IAmb	06 10 08.6	
	comp=Z,11nm,0.9s						
ZALV	Zalesovo Beam	36.43	311	P	P	06 10 07.9	-0.7
	comp=Z,11nm,0.3s,baz=101,slow=8.0,SNR=16						
ZALV				PcP	PcP	06 12 20.7	+0.1
	comp=Z,3.8nm,0.6s,baz=73,slow=3.0,SNR=9.3						
ZALV				ScP	ScP	06 15 23.3	+0.1
	comp=Z,1.1nm,0.5s,baz=106,slow=3.1,SNR=2.8						
SHL	Shillong	37.52	262	P	P	06 10 17.2	-1.0
SHL				pmax	pmax		
	comp=Z,14nm,0.5s						
SHL	Shillong	37.52	262	P	P	06 10 17.2	-1.0
SHL				IAmb	IAmb	06 10 17.7	
	comp=Z,14nm,0.5s						
MK31	Makanchi Array	38.19	300	IAmb	IAmb	06 10 23.7	
	comp=Z,8.2nm,0.7s						
MKAR	Makanchi Array	38.19	300	P	P	06 10 22.9	-0.3
	comp=Z,8.4nm,0.5s,baz=88,slow=10.0,SNR=111						
MKAR				PcP	PcP	06 12 27.0	+0.7
	comp=Z,0.5nm,0.5s,baz=90,slow=3.6,SNR=2.6						
MKAR				ScP	ScP	06 15 30.1	0.0
	comp=Z,0.8nm,0.8s,baz=91,slow=4.3,SNR=4.0						
MAKZ	Makanchi	38.40	300	P	P	06 10 24.5	-0.4
MAKZ				pmax	pmax		
	comp=Z,13nm,1.0s						
MAKZ	Makanchi	38.40	300	P	P	06 10 24.5	-0.4
MAKZ				IAmb	IAmb	06 10 25.5	
	comp=Z,13nm,0.9s						
NRIK	Noril'sk	39.42	336	P	P	06 10 32.8	-0.1
	comp=Z,5.9nm,0.3s,baz=106,slow=9.4,SNR=7.7						
NRIK	Noril'sk	39.42	336	d iP	P	06 10 32.5	-0.3
NRIK				pmax	pmax		
	comp=Z,4.0nm,0.4s						
NRIK	Noril'sk	39.42	336	P	P	06 10 32.7	-0.1
NRIK				IAmb	IAmb	06 10 33.2	
	comp=Z,6.8nm,0.7s						
KURBB	Kurchatov Arra	40.30	306	P	P	06 10 38.7	-1.4
JIRN	Jiri	40.96	269	eP	P	06 10 46.3	+0.1
	comp=Z,19nm,0.3s						
RAMN	Ramite	40.97	268	eP	P	06 10 45.9	-0.3
	comp=Z,16nm,0.3s						
GUN	Gumba	41.08	270	eP	P	06 10 47.2	0.0
	comp=Z,90nm,0.4s						
KKN	Kakani	41.61	270	eP	P	06 10 51.2	-0.1
	comp=Z,77nm,0.6s						
PKI	Pulchoki	41.61	270	eP	P	06 10 50.9	-0.5
	comp=Z,22nm,0.5s						
PKIN	Phulchoki	41.62	270	eP	P	06 10 50.8	-0.6
	comp=Z,22nm,0.5s						
PRZ	Przheval'sk	41.70	294	IAmb	IAmb	06 10 53.5	
	comp=Z,24nm,0.8s						
ARXS	Arharly	41.71	296	eP	P	06 10 51.5	-0.2
DMN	Daman	41.83	270	eP	P	06 10 52.7	-0.4
	comp=Z,19nm,0.4s						
GKN	Gorkha	42.02	271	eP	P	06 10 54.3	-0.1
	comp=Z,61nm,0.5s						
MANU	Manus Island	42.27	160	P	P	06 10 57.0	+0.6
TARG	Taragay, Kyrgy	42.31	293	IAmb	IAmb	06 10 58.5	
	comp=Z,20nm,0.7s						
MDOK	Medeo	42.50	295	P	P	06 10 57.4	-0.6
DANN	Dangsing	42.54	272	eP	P	06 10 58.9	+0.1
KDJ	Kajisay	42.66	294	P	P	06 11 00.0	+0.6
KDJ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KDJ	Kajisay	42.66	294	P	P	06 10 60.0	+0.6
KDJ				IAmb	IAmb	06 11 00.5	
	comp=Z,9.8nm,0.7s						
KOLN	Koldanda	42.94	271	eP	P	06 11 01.7	-0.1
PYUN	Piuthan	43.26	272	eP	P	06 11 04.4	+0.1
	comp=Z,119nm,0.4s						
BOOM	Boomskoye usch	43.45	294	IAmb	IAmb	06 11 07.0	
	comp=Z,6.0nm,0.6s						
TKM2	Tokmak 2	43.59	295	P	P	06 11 07.5	+0.8
	SNR=19						
KZA	Kyzart	44.06	294	P	P	06 11 12.0	+1.4
	SNR=16						
BRZS	Berezniki	44.10	306	eP	P	06 11 09.8	-0.5
BRZS				pmax	pmax		
	comp=Z,7.0nm,0.4s						
KBK	Karagaybulak	44.12	295	P	P	06 11 11.6	+0.8
	SNR=9.1						
BTLS	Baital	44.16	298	eP	P	06 11 10.5	-0.3
BTLS				pmax	pmax		
	comp=Z,11nm,0.5s						
KSH	Kashi	44.28	290	P	P	06 11 16.0	+4.0
KSH				PcP	PcP	06 12 49.4	+2.6
KSH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
USP	Ospenovka	44.28	296	P	P	06 11 12.0	+0.2
	SNR=9.6						
AAK	Ala-Archa	44.45	295	P	P	06 11 13.7	+0.3
	SNR=6.6						
AAK	Ala-Archa	44.45	295	ceP	P	06 11 13.5	+0.2
AAK				pmax	pmax		
	comp=Z,17nm,0.7s						
AAK	Ala-Archa	44.45	295	P	P	06 11 12.1	-1.2
AAK				IAmb	IAmb	06 11 14.0	
	comp=Z,6.6nm,0.7s						
EKS2	Erkin-Say	44.95	295	P	P	06 11 17.4	+0.2
	SNR=6.2						
BRVK	Borovoye	45.12	310	d iP	P	06 11 17.7	-0.5
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BRVK	Borovoye	45.12	310	P	P	06 11 18.0	-0.2
BRVK				IAmb	IAmb	06 11 19.3	
	comp=Z,14nm,1.1s						
AML	Almayashu	45.16	295	P	P	06 11 20.0	+0.9
	SNR=35						
KK31	Karatay Array	47.13	297	i P	P	06 11 32.8	-0.9
KK31	Karatay Array	47.13	297	IAmb	IAmb	06 11 34.7	
	comp=Z,12nm,0.9s						
KKAR	Karatay Array	47.13	297	P	P	06 11 33.5	-0.2
KKAR	Karatay Array	47.13	297	P	P	06 11 33.5	-0.2
KKAR	Karatay Array	47.13	297	IAmb	IAmb	06 11 34.7	
	comp=Z,12nm,0.9s						
IUG	Iuzhnay	47.75	296	eP	P	06 11 39.1	+0.6

L19K White Mountain 48.25 37 P P 06 11 44.3 +2.4
O18K Koktuh Hills 48.34 40 P P 06 11 45.2 +2.7
O18K IAmb IAmb 06 11 48.1
comp=Z,14nm,1.2s
J20K Nowinta River 48.41 34 P P 06 11 45.7 +2.8
NIL Nilore 48.43 284 P P 06 11 44.2 +0.6
NIL pmax pmax
comp=Z,33nm,0.7s
NIL Nilore 48.43 284 P P 06 11 44.2 +0.6
IMAR Indian Mountai 48.46 31 P P 06 11 45.6 +2.2
K20K Telida 48.51 35 P P 06 11 46.6 +2.9
Q19K Cape Douglas, 49.26 41 P P 06 11 50.5 +1.1
Q19K IAmb IAmb 06 11 51.4
comp=Z,9.5nm,0.6s
KTH Kantishna Hill 49.89 34 P P 06 11 55.7 +1.6
SVE Sverdlovsk 49.98 317 *e*P P 06 11 54.9 +0.1
SVE pmax pmax
comp=Z,35nm,0.9s
KDAK Kodiak Island 50.01 42 P P 06 11 56.1 +1.2
KDAK pmax pmax
comp=Z,10.0nm,1.2s
KDAK Kodiak Island 50.01 42 P P 06 11 56.0 +1.2
H23K Yukon River 50.20 31 P P 06 11 59.0 +2.7
MDM Murphy Dome 50.86 32 P P 06 12 03.2 +2.0
ARU Arti 51.19 316*c i*P P 06 12 03.2 -0.4
ARU *PP pP 06 13 28.9 -3.5
ARU S S 06 18 46.7 +0.1
ARU pmax pmax
comp=Z,38nm,0.7s
ARU Arti 51.19 316 P P 06 12 03.3 -0.4
KBL Kabul 51.25 287 P P 06 12 04.3 -0.4
KBL pmax pmax
comp=Z,15nm,1.0s
KBL Kabul 51.25 287 P P 06 12 04.3 -0.4
KBL IAmb IAmb 06 12 05.0
comp=Z,15nm,1.0s
ILAR Eielson Array 51.45 33 P P 06 12 06.7 +1.2
comp=Z,2.3nm,0.6s,baz=282,slow=7.9,SNR=32
ILAR pP pP 06 13 36.0 +1.8
comp=Z,0.7nm,1.0s,baz=286,slow=6.3,SNR=3.3
HDA Harding Lake 51.49 33 P P 06 12 07.3 +1.6
AB31 Akbulak array 52.31 307 *i* P P 06 12 10.9 -1.0
ABKAR Akbulak array 52.31 307 IAmb IAmb 06 12 12.3
comp=Z,31nm,0.7s
AKTO Aktyubinsk 53.13 309 P P 06 12 16.9 -0.9
L27K Beaver Creek, 54.01 34 P P 06 12 26.6 +2.7
KIRV Kirov 55.35 321*d i*P P 06 12 33.2 -0.1
PRGR Permogore 56.16 325 *e*P P 06 12 36.1 -2.8
PRGR pmax pmax
comp=Z,24nm,1.2s
HRA Herat 56.38 290 IAmb IAmb 06 12 42.5
comp=Z,12nm,0.8s
GEYT Alibeck 57.80 295 P P 06 12 50.9 +0.2
comp=Z,10nm,0.7s,baz=90,slow=1.4,SNR=12
GYA0B ALIBECK ARRAY 57.80 295 IAmb IAmb 06 12 51.9
comp=Z,13nm,0.8s
WRAB Tennant Creek 58.16 179⇑*e*P P 06 12 53.3 +0.1
WRAB pmax pmax
comp=Z,4.0nm,0.9s
WRA Warramunga Arr 58.17 179 P P 06 12 53.6 +0.3
comp=Z,4.3nm,0.5s,baz=354,slow=6.9,SNR=53
WR0 Warramunga Arr 58.19 179 P P 06 12 53.5 +0.1
WR0 IAmb IAmb 06 12 54.4
comp=Z,6.3nm,0.6s
BELG Belogornoye 58.52 314*d i*P P 06 12 54.7 -0.6
BELG pmax pmax
comp=Z,6.0nm,0.8s
NOR Nord 59.11 355 P P 06 12 59.5 +0.7
KLMR Klimovskoe 59.19 325 *e*P P 06 12 58.0 -1.6
KLMR pmax pmax
comp=Z,10.0nm,0.6s
KLMR Klimovskoe 59.19 325 *e*P P 06 12 58.0 -1.6
KLMR AMP 06 12 59.8
comp=Z,10.0nm,0.6s
ARCES ARCESS Array B 60.39 337 P P 06 13 08.2 +0.6
comp=Z,3.1nm,0.4s,baz=61,slow=8.6,SNR=42
ARCES ARCESS Array B 60.39 337 IAmb IAmb 06 13 32.6
comp=Z,30nm,1.4s
MSF Maaselka 61.08 333 P P 06 13 12.7 +0.5
MSF pmax pmax
comp=Z,20nm,1.6s
SGF Sodankyl 61.15 335 P P 06 13 13.2 +0.6
SGF pmax pmax
comp=Z,22nm,0.8s
JOF Joensuu 61.71 330 P P 06 13 16.5 +0.1
JOF pmax pmax
comp=Z,30nm,0.9s
AS31 Alice Springs 61.88 180 P P 06 13 18.1 +0.1
ASAR Alice Springs 61.88 180 P P 06 13 18.5 +0.5
comp=Z,1.8nm,0.7s,baz=5.2,slow=6.4,SNR=17
DAG Danmarks Havn 63.66 353 *i* P P 06 13 29.4 +0.6
DAG IAmb IAmb 06 13 30.1
comp=Z,4.7nm,0.9s
SEKA Sheki 63.77 303 P P 06 13 30.1 -0.1
LKRN Lenkeran, Azer 63.94 300 P P 06 13 31.3 +0.1
ZKTA Zakatala 63.94 304 P P 06 13 31.3 +0.1
NEEM North Greenlan 64.24 1⇓*i*P P 06 13 34.3 +1.4
NEEM IAmb IAmb 06 13 34.9
comp=Z,18nm,0.7s
DDFL Dedoflistskaro 64.36 304 P P 06 13 37.1 +3.1
FINES FINESS Array B 64.58 330 P P 06 13 35.1 +0.3
comp=Z,23nm,0.6s,baz=46,slow=7.4,SNR=138
FINES FINESS Array B 64.58 330 *i* P P 06 13 35.0 +0.1
FINES pmax pmax
comp=Z,23nm,0.6s
FINES FINESS Array B 64.58 330 P P 06 13 34.4 -0.5
GANJ Ganja 64.62 303 P P 06 13 35.4 -0.2
GUDG Gudauri 64.92 305 P P 06 13 36.4 -1.3
VAF Ylistaro 64.96 332 P P 06 13 37.6 +0.4
KBZ Khabaz 65.28 307 P P 06 13 40.1 +0.4
comp=Z,6.5nm,0.8s,baz=32,slow=8.5,SNR=12
KBZ Khabaz 65.28 307*c i*P P 06 13 40.2 +0.5
KBZ pmax pmax
comp=Z,14nm,1.0s
KIV Kislovodsk 65.30 307 *e*P P 06 13 40.6 +0.7
KIV pmax pmax
comp=Z,29nm,1.1s
KIV Kislovodsk 65.30 307 P P 06 13 38.4 -1.5
NEY Neytrino 65.64 307⇓*e*P P 06 13 43.0 +0.8
NEY pmax pmax
comp=Z,2.0nm,0.8s
GNI Garni 65.92 303⇑*e*P P 06 13 45.6 +1.6
GNI pmax pmax
comp=Z,6.0nm,0.6s
VSU Vasula 66.00 327*d i*P P 06 13 44.1 +0.2
VSU pmax pmax
comp=Z,56nm,0.7s
MNK Minsk 67.77 323 *i* P P 06 13 54.2 -0.8
MNK *i* 06 14 17.0
MNK *i* *PP pP 06 15 31.1 +0.9
MNK *i* 06 16 30.7
MNK *i* PPP PPP 06 18 15.2
MNK *i* S S 06 22 13.8 -1.8
MNK *i* 06 23 07.3
MNK *i* SS SS 06 26 48.0 +1.0
MNK pmax pmax
comp=N,21nm,0.9s
MNK pmax pmax
comp=Z,27nm,1.0s
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK MLR MLR
comp=E,17nm,17.0s
MNK MLR MLR
comp=Z,163nm,20.0s
MNK MLR MLR
comp=N,121nm,20.0s
MNK Minsk 67.77 323 *i* P P 06 13 54.3 -0.7
comp=E,6.0nm,0.9s
MNK *i* P P 06 13 54.3 -0.7
comp=N,21nm,0.8s
MNK *i* P P 06 13 54.3 -0.7
comp=Z,27nm,1.0s,baz=235
MNK *i* PcP PcP 06 14 17.1 -0.8
MNK *i* pP pP 06 15 31.2 +0.9
MNK *i* PP PP 06 16 30.8 -0.5
MNK *i* PPP PPP 06 18 15.3
MNK *i* S S 06 22 13.8 -1.8
MNK *i* sS sS 06 25 08.6 +1.8
MNK *i* SS SS 06 26 48.1 +1.1
MNK *i* SSS SSS 06 30 14.8
MNK *i* LRM MLR 06 46 22.3
comp=E,17nm,16.6s
MNK *i* LRM MLR 06 46 43.3
comp=Z,163nm,19.5s
MNK *i* LRM MLR 06 47 05.7
comp=N,121nm,20.3s
NACGM Naroch 68.05 323 *i* P P 06 13 57.3 +0.6
ANN Anapa 68.07 310 *e*P P 06 13 56.7 -0.2
ANN *e*S S 06 22 18.3 -1.1
ANN pmax pmax
comp=Z,21nm,0.7s
GURO Guroymak-BITLI 68.54 303 IAmb IAmb 06 14 01.8
comp=Z,9.4nm,0.7s
SUMG Summit 69.05 358 *i* P P 06 14 04.6 +1.7
SUMG IAmb IAmb 06 14 05.3
comp=Z,10nm,0.7s
SUMG Summit 69.05 358 P P 06 14 04.6 +1.7
SUMG pmax pmax
comp=Z,12nm,0.8s
SUMG Summit 69.05 358 P P 06 14 04.6 +1.7
SUMG IAmb IAmb 06 14 05.5
comp=Z,12nm,0.8s
AKASG Malin Array Be 69.32 319 P P 06 14 04.2 -0.2
comp=Z,5.9nm,0.4s,baz=51,slow=6.3,SNR=27
AKASG Malin Array Be 69.32 319 *i* P P 06 14 04.1 -0.4
AKASG pmax pmax
comp=Z,6.0nm,0.4s
AKBB Malin Array Si 69.32 319*d i*P P 06 14 04.2 -0.3
AKBB pmax pmax
comp=Z,15nm,0.9s
AKBB Malin Array Si 69.32 319 IAmb IAmb 06 14 05.0
comp=Z,14nm,0.9s
NC303 NORSAR Array S 70.16 334 IAmb IAmb 06 14 10.4
comp=Z,11nm,0.7s
NC204 NORSAR Array S 70.33 335 IAmb IAmb 06 14 11.6
comp=Z,22nm,0.8s
NB2 NORSAR Subarra 70.35 334 P P 06 14 09.9 -0.6
comp=Z,9.3nm,0.7s,baz=43,slow=6.5
NOA NORSAR Array B 70.35 334 P P 06 14 10.3 -0.2
comp=Z,7.2nm,0.6s,baz=43,slow=6.0,SNR=51
NC602 NORSAR Array S 70.45 334 IAmb IAmb 06 14 11.7
comp=Z,22nm,1.1s
NORES NORESS Array B 70.45 334 P P 06 14 11.0 -0.1
NBO00 NORSAR Array S 70.50 334 IAmb IAmb 06 14 11.1
comp=Z,11nm,0.7s
ILGA Ilgaz 72.43 309 IAmb IAmb 06 14 25.3
comp=Z,20nm,1.0s
BER Bergen 72.78 336 P P 06 14 25.7 +1.0
CFR Carcaliu 73.22 315 P P 06 14 27.3 -0.3
BRTR Keskin Array B 73.26 308 P P 06 14 28.2 +0.1
comp=Z,4.0nm,0.9s,baz=113,slow=6.1,SNR=9.3
KWP Kalwaria Pacla 73.28 321 *e*P P 06 14 28.9 +1.0
KWP Kalwaria Pacla 73.28 321 P P 06 14 29.1 +1.2
KWP pmax pmax
comp=Z,34nm,1.0s
BURAR Bucovina Array 73.29 318 P P 06 14 28.5 +0.5
BURAR pmax pmax
comp=Z,5.0nm,0.8s
BURAR Bucovina Array 73.29 318 P P 06 14 28.0 0.0
BURAR IAmb IAmb 06 14 29.8
comp=Z,5.0nm,0.8s
TIRR Tirgusor 73.51 314 P P 06 14 29.2 0.0
VRI Vrincioaia 73.58 316 P P 06 14 31.2 +1.6
KOLS Kolonicke sedl 73.95 320 *e*P P 06 14 32.5 +0.8
KOLS Kolonicke sedl 73.95 320 *e*P P 06 14 32.5 +0.8
OJC Ojcow 74.31 322 *e*P P 06 14 34.6 +0.8
OJC Ojcow 74.31 322 P P 06 14 34.5 +0.8
OJC pmax pmax
comp=Z,33nm,0.9s
CRVS Cervenica-Dubn 74.38 321 *e*P P 06 14 34.9 +0.8
CRVS Cervenica-Dubn 74.38 321 *e*P P 06 14 34.9 +0.8
NIE Niedzica 74.61 322 *e*P P 06 14 37.4 +2.0
NIE Niedzica 74.61 322 P P 06 14 37.3 +1.9
NIE pmax pmax
comp=Z,11nm,0.8s
VOIR 74.76 316 P P 06 14 37.2 +0.8
VOIR pmax pmax
comp=Z,3.0nm,1.4s
LANS Liptovska Anna 75.19 322 *e*P P 06 14 40.5 +1.8
LANS Liptovska Anna 75.19 322 *e*P P 06 14 40.5 +1.8
KSP Ksiaz 75.52 325 *e*P P 06 14 41.5 +1.0
MORC Moravsky Berou 75.68 323 P P 06 14 42.6 +1.1
MORC pmax pmax
comp=Z,12nm,0.8s
MORC Moravsky Berou 75.68 323 IAmb IAmb 06 14 43.4
comp=Z,9.6nm,0.8s
MORC Moravsky Berou 75.68 323 *e*P P 06 14 42.5 +1.1
KRLC Kraliky 75.83 324 *e*P P 06 14 43.3 +1.0
KRLC Kraliky 75.83 324 *e*P P 06 14 43.3 +1.0
DPC Dobruska-Polom 75.85 324 *e*P P 06 14 43.7 +1.3
DPC Dobruska-Polom 75.85 324 *e*P P 06 14 43.7 +1.3
JAVC Velka Javorina 76.25 322 *e*P P 06 14 46.7 +2.0
CSS Mathiatis 76.31 304 IAmb IAmb 06 14 47.2
comp=Z,9.4nm,0.7s
VRAC Vranov 76.45 323 P P 06 14 47.1 +1.3
VRAC pmax pmax
comp=Z,10.0nm,1.0s
VRAC Vranov 76.45 323 *e*P P 06 14 47.0 +1.3
BZS Buzias 76.47 318 P P 06 14 46.7 +0.8
BZS pmax pmax
comp=Z,10.0nm,1.0s
SMOL Smolenice 76.61 322 *e*P P 06 14 48.3 +1.7
SMOL Smolenice 76.61 322 *e*P P 06 14 48.3 +1.7
CLL Collm 76.66 326⇓*i*P P 06 14 47.3 +0.5
comp=Z,18nm,0.6s
CLL Collm 76.66 326⇓*i*P P 06 14 47.3 +0.5
CLL pmax pmax
comp=Z,18nm,0.6s
KRUC Moravsky 76.72 323 P P 06 14 48.6 +1.4
KRUC pmax pmax
comp=Z,7.0nm,1.2s
KRUC Moravsky 76.72 323 *e*P P 06 14 48.2 +1.0
PRU Pruhonice 76.92 325 P P 06 14 49.3 +1.0
TREC Trest 76.98 324 *e*P P 06 14 42.2 -6.4
VTS Vitosha 77.58 315 P P 06 14 53.3 +1.0
VTS pmax pmax
comp=Z,14nm,0.9s
VTS Vitosha 77.58 315 P P 06 14 53.3 +1.0
VTS IAmb IAmb 06 14 54.2
comp=Z,14nm,0.9s
CONA Conrad Observa 77.77 323 *e*P P 06 14 54.4 +1.4
comp=Z,8.8nm,0.9s
CKRC Cesky Krumlov 77.86 324 *e*P P 06 14 54.0 +0.5
KHC Kasperske Hory 77.97 325 *e*P P 06 14 54.8 +0.7
KHC Kasperske Hory 77.97 325 *e*P P 06 14 54.8 +0.7
KHC Kasperske Hory 77.97 325 IAmb IAmb 06 14 55.9
comp=Z,9.3nm,1.2s
GERES GERESS Array B 78.12 324 P P 06 14 55.3 +0.4
comp=Z,1.8nm,0.6s,baz=34,slow=7.1,SNR=13
DIVS Divibare 78.35 318 IAmb IAmb 06 14 57.6
comp=Z,7.3nm,0.8s
ARSA Arzberg 78.41 322 *e*P P 06 14 57.6 +1.1
comp=Z,2.8nm,0.5s
MOA Molln 78.58 323 *e*P P 06 14 59.0 +1.6
comp=Z,7.0nm,1.1s
GRF Grafenberg Arr 78.61 326 *e*P P 06 14 59.0 +1.5
comp=Z,8.9nm,0.7s,baz=45,slow=4.5
NVAR Mina Array Bea 78.75 50 P P 06 15 00.3 +1.6
comp=Z,0.4nm,0.6s,baz=305,slow=6.1,SNR=4.8
SOKA Soboth 79.05 322 *e*P P 06 15 00.8 +0.8
comp=Z,10nm,0.6s
GRG Griva 79.15 314 P P 06 15 01.7 +1.1
OBKA Obir 79.41 322 *e*P P 06 15 02.4 +0.5
comp=Z,3.9nm,0.6s
EKA Eskdalemuir Ar 79.54 337 P P 06 15 02.5 +0.2
ESK Eskdalemuir 79.57 337 P P 06 15 02.6 +0.2
LIT Litokhoron 79.68 313 IAmb IAmb 06 15 24.0
comp=Z,28nm,1.1s
RETA Reutte 80.46 325 *e*P P 06 15 08.1 +0.7
STAL STALIGIAL 80.46 323 IAmb IAmb 06 15 07.9
comp=Z,13nm,1.0s
FETA Feichten 80.82 325 *e*P P 06 15 10.0 +0.7
comp=Z,4.9nm,0.8s
BFO Black Forest 80.90 327 P P 06 15 09.0 -0.6
BFO pmax pmax
comp=Z,13nm,1.0s
BFO Black Forest 80.90 327 P P 06 15 09.0 -0.6
BFO IAmb IAmb 06 15 11.0
comp=Z,13nm,1.0s
DAVA Damuels 81.00 325 *e*P P 06 15 11.1 +0.8
JLU Jordanelle 81.22 44 P P 06 15 11.1 -0.6
JLU pP 06 16 51.4 -0.7
ROSF Rostrenen 85.48 333 P P 06 15 33.2 +0.6
ROSF pmax pmax
comp=Z,17nm,0.9s
ESDC Sonseca Array 93.08 329 P P 06 16 07.8 -0.5
comp=Z,0.5nm,0.7s,baz=5.3,slow=4.6,SNR=2.8
ESDC Sonseca Array 93.08 329 IAmb IAmb 06 16 10.4
comp=Z,1.6nm,1.2s
TORD Torodi Ar. Bea 111.86 309 PP PP 06 22 09.4 -8.1
comp=Z,0.8nm,0.7s,baz=33,slow=7.9,SNR=5.5
DBIC Dimbokro 120.90 310 PKP PKPdf 06 21 44.1 -0.2
comp=Z,3.1nm,0.8s,baz=51,slow=2.0,SNR=3.7
QSPA South Pole Qui 128.28 180 PKP PKiKP 06 21 57.4 -0.2
comp=Z,1.0nm,0.9s,baz=305,slow=1.7,SNR=5.4
VNA2 Neumayer--Watz 141.91 199 PKPdf PKPdf 06 22 18.2 -3.8
VNA3 Neumayer Olymp 142.28 198 PKPdf PKPdf 06 22 19.1 -3.6
SAML Samuel 146.80 32 PKP2 PKPbc 06 22 34.9 +0.2
SAML Samuel 146.80 32 PKPbc PKPbc 06 22 34.9 +0.2
LPAZ La Paz 150.63 47 PKPbc PKiKP 06 22 45.5 0.0
comp=Z,0.9nm,0.8s,baz=18,slow=3.2,SNR=4.3

IDC 09 06:47:29.1±2.2**, 3°.32N**×**129°.12E, h0km, mb3.3**/4**, mb1 3.5**/4**, mb1mx3.4**/46**, mbtmp3.4**/4 **Error ellipse: s-maj=110.8km s-min=26.6km az=72.0, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.56**	**189**	P	P	06 52 21.3	+1.0
	0.8nm,0.6s,baz=14,slow=11,SNR=1.7						
WRA	**Warramunga Arr**	**23.68**	**168**	P	P	06 52 43.0	+0.4
	0.2nm,0.3s,baz=348,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**27.23**	**170**	P	P	06 53 14.3	-0.7
	0.2nm,0.5s,baz=353,slow=8.9,SNR=5.9						
MKAR	**Makanchi Array**	**59.26**	**324**	P	P	06 57 32.3	-0.2
	0.2nm,0.5s,baz=120,slow=7.6,SNR=3.7						

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*TRN **09** 06:51:01.3, 13°.77N×58°.43W, h78km, MD4.0*
ISC 09 06:51:00.2±2.3**, 13°.82N**±0°.04×**58°.4W**±0°.1**, h10km, n33, σ1s.28**/49**, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.21**	**235**	*e*P	**Pb**	**06 51 24.1**	**+0.8**
BBSP				*e*S	**Sn**	**06 51 41.1**	**+1.4**
BBGH	**Gun Hill**	**1.27**	**239**	*e*P	**Pg**	**06 51 25.4**	**+0.7**
BBGH				*e*S	**Sb**	**06 51 40.8**	**0.0**
MPOM	**Morne Pois Mar**	**2.43**	**285**	*e*P	**Pn**	**06 51 39.6**	**-0.3**
MPOM				*e*S	**Sn**	**06 52 08.6**	**-1.1**
MCLT	**Moule a Chique**	**2.43**	**268**	*e*P	**Pn**	**06 51 41.0**	**+1.0**
MCLT				*e*S	**Sn**	**06 52 08.8**	**-1.1**
SLBI	**Saint Lucia, B**	**2.47**	**275**	*e*P	**Pn**	**06 51 40.0**	**-0.5**
SLBI				*e*S	**Sn**	**06 52 09.3**	**-1.4**
SLCP	**Castries, St.**	**2.48**	**275**	*e*S	**Sn**	**06 52 10.3**	**-0.7**
ILAM	**Ilet Lapin Mar**	**2.54**	**292**	*e*P	**Pn**	**06 51 42.4**	**+0.9**
ILAM				*e*S	**Sn**	**06 52 12.4**	**-0.1**
LPMF	**Morne Lapointe**	**2.56**	**287**	*e*P	**Pn**	**06 51 42.2**	**+0.4**
ZAM	**Aeronautique**	**2.62**	**287**	*e*P	**Pn**	**06 51 42.8**	**+0.2**
BIM	**Bigot**	**2.64**	**286**	*e*P	**Pn**	**06 51 42.9**	**0.0**
BIM				*e*S	**Sn**	**06 52 14.4**	**-0.7**
SSV	**Crater Summit**	**2.72**	**260**	*e*P	**Pn**	**06 51 44.2**	**+0.2**
SSV				*e*S	**Sn**	**06 52 16.0**	**-1.0**
SVV	**Soufriere Volc**	**2.74**	**260**	*e*S	**Sn**	**06 52 16.4**	**-1.1**
FDF	**Fort de France**	**2.78**	**289**	*e*P	**Pn**	**06 51 45.4**	**+0.6**
FDF				*e*S	**Sn**	**06 52 19.3**	**+0.8**
SVOC	**Richmond Hill,**	**2.78**	**257**	*e*S	**Sn**	**06 52 16.7**	**-1.8**
SVB	**Belmont**	**2.79**	**259**	*e*P	**Pn**	**06 51 45.0**	**+0.1**
SVB				*e*S	**Sn**	**06 52 16.7**	**-1.9**
BAMF	**Morne Balai**	**2.81**	**291**	*e*P	**Pn**	**06 51 46.5**	**+1.3**
PCM	**Pelee Case Pet**	**2.86**	**291**	*e*P	**Pn**	**06 51 47.2**	**+1.2**
GCMP	**Grenada, Carri**	**3.19**	**246**	*e*P	**Pn**	**06 51 50.6**	**+0.1**
DSLB	**Salisbury**	**3.30**	**300**	*e*P	**Pn**	**06 51 52.4**	**+0.3**
DSLB				*e*S	**Sn**	**06 52 30.6**	**-0.8**
MAGL	**Barre de l'ile**	**3.47**	**308**	*e*P	**Pn**	**06 51 54.8**	**+0.5**
MAGL				*e*S	**Sn**	**06 52 34.7**	**-0.8**
GRGR	**Grenville**	**3.55**	**242**	*e*P	**Pn**	**06 51 55.6**	**+0.2**
GRGR				*e*S	**Sn**	**06 52 35.3**	**-2.1**
TDBA	**Terre de Bas,**	**3.69**	**304**	*e*P	**Pn**	**06 51 59.0**	**+1.6**
TDBA				*e*S	**Sn**	**06 52 40.1**	**-0.8**
TBG	**Guadaloupe-3**	**3.70**	**304**	*e*P	**Pn**	**06 51 58.4**	**+0.9**
CBE	**Ff, Capester**	**3.79**	**307**	*e*P	**Pn**	**06 51 59.1**	**+0.4**
CBE				*e*S	**Sn**	**06 52 42.2**	**-1.3**
ABD	**La Joyeuse, An**	**3.95**	**312**	*e*P	**Pn**	**06 52 01.4**	**+0.5**
ABD				*e*S	**Sn**	**06 52 46.1**	**-1.3**
TRN	**Trinidad (W)**	**4.28**	**223**	*e*P	**Pn**	**06 52 05.8**	**+0.4**
TRN	**Trinidad (W)**	**4.28**	**223**	*e*S	**Sn**	**06 52 51.6**	**-3.8**
ANBD	**Bethesda, Anti**	**4.54**	**316**	*e*P	**Pn**	**06 52 09.6**	**+0.7**
ANBD	**Bethesda, Anti**	**4.54**	**316**	*e*S	**Sn**	**06 52 59.0**	**-2.8**
ANOC	**Antigua Open C**	**4.63**	**316**	*e*P	**Pn**	**06 52 11.2**	**+0.9**
ANOC	**Antigua Open C**	**4.63**	**316**	*e*S	**Sn**	**06 53 01.7**	**-2.5**
ANWB	**Willy Bob**	**5.00**	**320**	*e*P	**Pn**	**06 52 15.8**	**+0.4**
ANWB	**Willy Bob**	**5.00**	**320**	*e*S	**Sn**	**06 53 10.6**	**-2.8**

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*TRN **09** 06:53:42.8, 13°.77N×58°.43W, h82km, MD4.2*
ISC 09 06:53:40.5±2.3**, 13°.82N**±0°.04×**58°.4W**±0°.1**, h10km, n35, σ1s.70**/58**, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.28**	**236**	*e*P	**Pg**	**06 54 06.5**	**+1.4**
BBSP				*e*S	**Sn**	**06 54 22.2**	**+0.6**
BBGH	**Gun Hill**	**1.34**	**240**	*e*P	**Pb**	**06 54 06.9**	**+1.1**
BBGH				*e*S	**Sn**	**06 54 23.6**	**+0.4**
MPOM	**Morne Pois Mar**	**2.49**	**285**	*e*P	**Pn**	**06 54 21.1**	**-0.1**
MPOM				*e*S	**Sn**	**06 54 50.1**	**-1.6**
MCLT	**Moule a Chique**	**2.50**	**268**	*e*P	**Pn**	**06 54 22.4**	**+1.1**
MCLT				*e*S	**Sn**	**06 54 50.6**	**-1.4**
SLBI	**Saint Lucia, B**	**2.54**	**275**	*e*P	**Pn**	**06 54 22.7**	**+0.9**
SLBI				*e*S	**Sn**	**06 54 50.6**	**-2.2**
SLCP	**Castries, St.**	**2.55**	**275**	*e*P	**Pn**	**06 54 22.6**	**+0.6**
SLCP				*e*S	**Sn**	**06 54 51.6**	**-1.5**
ILAM	**Ilet Lapin Mar**	**2.61**	**292**	*e*P	**Pn**	**06 54 23.8**	**+1.0**
ILAM				*e*S	**Sn**	**06 54 53.4**	**-1.1**
BIM	**Bigot**	**2.71**	**285**	*e*P	**Pn**	**06 54 24.2**	**0.0**
BIM				*e*S	**Sn**	**06 54 56.1**	**-1.0**
SSV	**Crater Summit**	**2.79**	**260**	*e*P	**Pn**	**06 54 26.9**	**+1.5**
SSV				*e*S	**Sn**	**06 54 57.8**	**-1.4**
SVV	**Soufriere Volc**	**2.81**	**260**	*e*P	**Pn**	**06 54 27.3**	**+1.7**
SVV				*e*S	**Sn**	**06 54 58.5**	**-1.1**
FDF	**Fort de France**	**2.84**	**289**	*e*P	**Pn**	**06 54 26.7**	**+0.6**
FDF				*e*S	**Sn**	**06 54 57.1**	**-3.4**
SVOC	**Richmond Hill,**	**2.85**	**257**	*e*P	**Pn**	**06 54 26.1**	**0.0**
SVOC				*e*S	**Sn**	**06 54 58.1**	**-2.4**
SVB	**Belmont**	**2.86**	**259**	*e*P	**Pn**	**06 54 26.5**	**+0.3**
SVB				*e*S	**Sn**	**06 54 58.7**	**-2.0**
DLPL	**La Plaine**	**3.17**	**299**	*e*S	**Sn**	**06 55 06.6**	**-1.8**
GCMP	**Grenada, Carri**	**3.26**	**246**	*e*P	**Pn**	**06 54 31.8**	**+0.1**
GCMP				*e*S	**Sn**	**06 55 07.7**	**-2.9**
TOSP	**Speyside**	**3.28**	**220**	*e*P	**Pn**	**06 54 32.5**	**+0.5**
TOSP				*e*S	**Sn**	**06 55 07.7**	**-3.5**
DSLB	**Salisbury**	**3.36**	**299**	*e*P	**Pn**	**06 54 34.2**	**+1.0**
DSLB				*e*S	**Sn**	**06 55 12.5**	**-0.7**
MDCT	**Cottage Hill,**	**3.49**	**301**	*e*P	**Pn**	**06 54 36.4**	**+1.6**
MDCT				*e*S	**Sn**	**06 55 14.7**	**-1.5**
MAGL	**Barre de l'ile**	**3.52**	**307**	*e*P	**Pn**	**06 54 36.5**	**+1.1**
MAGL				*e*S	**Sn**	**06 55 15.1**	**-2.1**
GRGR	**Grenville**	**3.62**	**243**	*e*P	**Pn**	**06 54 36.6**	**0.0**
GRGR				*e*S	**Sn**	**06 55 17.0**	**-2.4**
GRFF	**Grenada Fort F**	**3.73**	**242**	*e*P	**Pn**	**06 54 38.6**	**+0.4**
GRFF				*e*S	**Sn**	**06 55 18.9**	**-3.3**
TDBA	**Terre de Bas,**	**3.75**	**303**	*e*P	**Pn**	**06 54 39.7**	**+1.2**
TDBA				*e*S	**Sn**	**06 55 21.3**	**-1.4**
TBG	**Guadaloupe-3**	**3.76**	**303**	*e*P	**Pn**	**06 54 39.5**	**+0.9**
TBG				*e*S	**Sn**	**06 55 21.8**	**-1.1**
CBE	**Ff, Capester**	**3.85**	**306**	*e*P	**Pn**	**06 54 41.4**	**+1.5**
CBE				*e*S	**Sn**	**06 55 23.6**	**-1.6**
ABD	**La Joyeuse, An**	**4.00**	**312**	*e*P	**Pn**	**06 54 42.8**	**+0.8**
ABD				*e*S	**Sn**	**06 55 27.2**	**-1.8**
TRN	**Trinidad (W)**	**4.33**	**224**	*e*P	**Pn**	**06 54 47.0**	**+0.5**
TRN	**Trinidad (W)**	**4.33**	**224**	*e*S	**Sn**	**06 55 32.8**	**-4.3**
ANBD	**Bethesda, Anti**	**4.58**	**315**	*e*P	**Pn**	**06 54 51.0**	**+1.0**
ANDO	**Antigua, Disas**	**4.67**	**315**	*e*S	**Sn**	**06 55 43.4**	**-2.2**
ANOC	**Antigua Open C**	**4.68**	**315**	*e*P	**Pn**	**06 54 52.2**	**+0.9**
ANOC	**Antigua Open C**	**4.68**	**315**	*e*S	**Sn**	**06 55 43.8**	**-1.9**
ANWB	**Willy Bob**	**5.04**	**320**	*e*P	**Pn**	**06 54 56.4**	**+0.1**
ANWB	**Willy Bob**	**5.04**	**320**	*e*S	**Sn**	**06 55 51.3**	**-3.4**
BAUV	**El Baul**	**10.65**	**244**	*e*P	**Pn**	**06 56 12.9**	**-0.4**
BAUV	**El Baul**	**10.65**	**244**	*e*S	Sn	06 58 02.6	-10

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*CNRM **09** 06:54:38.8, 36°.47N×4°.54W, h87km, ml2.6*
*LDG **09** 06:54:38.8, 36°.58N×4°.45W, h83km*
*INMG **09** 06:54:39.6±1.8, 36°.56N×4°.46W, h85km±4km, ML2.8, Error ellipse: s-maj=4.5km s-min=2.6km az=161.0*
*MDD **09** 06:54:39.8±0.4, 36°.53N×4°.45W, h85km±3km, mb3.0/27,*

Error ellipse: s-maj=4.3km s-min=2.6km az=164.0, PRXIMO

*IGIL **09** 06:54:40.4, 36°55N×4°47W, h36km, ML3.0*

ISC 09 06:54:41.3±0.9**, 36°58N**±0°02×**4°43W**±0°02**, h35**km**, n131, σ3s25**/225**, 9C-9D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EMAL	Malaga-Limoner	0.18	359	P	Pn	06 54 52.4	+4.5
EMAL				S	Sn	06 55 01.3	+8.8
EMAL	Malaga-Limoner	0.18	359	P	Pn	06 54 52.4	+4.5
EMAL				S	Sn	06 55 01.3	+8.8
EMIJ	Mijas	0.28	267	⇓P	Pn	06 54 51.9	+2.9
	11nm,0.1s,SNR=18						
EMIJ				S	Sn	06 55 00.4	+6.2
	12nm,0.2s,SNR=16						
EGOR	Sierra Gorda,	0.59	25	⇑P	Pn	06 54 55.6	+2.3
	18nm,0.2s,SNR=18						
EGOR				S	Sn	06 55 07.3	+5.5
	40nm,0.4s,SNR=7.9						
ELGU	Los Guajares,	0.70	65	⇓P	Pn	06 54 55.2	+0.4
	10nm,0.1s,SNR=18						
ELGU				S	Sn	06 55 08.5	+4.1
	34nm,0.4s,SNR=7.9						
EJIF	Jimena Fronter	0.85	262	⇓P	Pn	06 54 57.5	+0.7
	SNR=18						
EJIF				S	Sn	06 55 09.5	+1.5
	SNR=7.9						
LIJA	Lijar	0.85	293	P	Pn	06 54 58.3	+1.4
LIJA				S	Sn	06 55 08.8	+0.7
LIJA	Lijar	0.85	293	P	Pn	06 54 58.3	+1.4
LIJA				S	Sn	06 55 08.8	+0.7
ALJ	Aljibe	0.99	268	P	Pn	06 54 59.7	+1.1
ALJ				S	Sn	06 55 14.2	+2.8
ALJ	Aljibe	0.99	268	P	Pn	06 54 59.7	+1.1
ALJ				S	Sn	06 55 14.2	+2.8
EQUE	Quentar	1.01	51	P	Pn	06 55 00.1	+1.1
	4.7nm,0.1s,SNR=20						
EQUE				S	Sn	06 55 14.5	+2.5
	4.4nm,0.4s,SNR=8.4						
CEU	Ceuta	1.02	229	P	Pn	06 54 58.4	-0.7
CEU				S	Sn	06 55 11.2	-1.0
CEU	Ceuta	1.02	229	P	Pn	06 54 58.4	-0.7
CEU				S	Sn	06 55 11.2	-1.0
ECEU	Ceuta	1.03	229	P	Pn	06 54 59.7	+0.6
	10nm,0.1s,SNR=7.9						
ECEU				S	Sn	06 55 13.2	+0.9
	0.1nm,0.1s,SNR=7.9						
SMIR	Smir Dam	1.18	221	P	Pn	06 54 59.7	-1.6
SMIR				S	Sn	06 55 14.6	-1.5
ESPR	Espera	1.19	285	P	Pn	06 55 01.4	0.0
	5.5nm,0.1s,SNR=8.6						
ESPR				S	Sn	06 55 15.7	-0.5
	50nm,0.3s,SNR=12						
EBER	Berja	1.27	75	⇓P	Pn	06 55 02.1	-0.6
	7.9nm,0.1s,SNR=18						
EBER				S	Sn	06 55 19.2	+0.5
	23nm,0.3s,SNR=9.0						
EALB	Alboran	1.29	119	P	Pn	06 55 01.0	-1.8
	7.2nm,0.1s,SNR=9.5						
EALB				S	Sn	06 55 16.3	-2.6
	29nm,0.2s,SNR=8.4						
CNIL	Conil	1.33	262	P	Pn	06 55 03.8	+0.5
CNIL				S	Sn	06 55 21.8	+2.0
CNIL	Conil	1.33	262	P	Pn	06 55 03.8	+0.5
CNIL				S	Sn	06 55 21.8	+2.0
PVLZ	Peæn de	1.41	176	P	Pn	06 55 01.8	-2.5
PVLZ				S	Sn	06 55 18.3	-3.4
PVLZ	Peæn de	1.41	176	P	Pn	06 55 01.8	-2.5
PVLZ				S	Sn	06 55 18.3	-3.4
PALE	Palemas	1.41	164	P	Pn	06 55 02.3	-2.2
PALE				S	Sn	06 55 21.8	-0.1
GORA	Gorafe	1.43	50	P	Pn	06 55 05.0	+0.3
	9.7nm,0.1s,SNR=7.9						
GORA				S	Sn	06 55 23.6	+1.2
	47nm,0.1s,SNR=7.9						
EADA	Adamuz	1.59	356	⇑P	Pn	06 55 06.6	-0.4
	34nm,0.1s,SNR=18						
EADA				S	Sn	06 55 26.1	-0.3
	57nm,0.3s,SNR=5.3						
EQES	Quesada	1.63	41	P	Pn	06 55 07.4	-0.2
	4.6nm,0.1s,SNR=20						
EQES				S	Sn	06 55 27.3	-0.1
	34nm,0.1s,SNR=24						
CHEFC	Chefchaouen	1.65	207	P	Pn	06 55 07.6	-0.1
CHEFC				S	Sn	06 55 24.4	-3.3
ECAB	El Cabril	1.69	332	⇑P	Pn	06 55 07.2	-1.2
	1.2nm,0.0s,SNR=18						
ECAB				S	Sn	06 55 27.3	-1.5
	29nm,0.1s,SNR=7.5						
GOG	Mont Gurugu	1.78	139	P	Pn	06 55 07.2	-2.4
GOG	Mont Gurugu	1.78	139	P	Pn	06 55 07.2	-2.4
GOG				S	Sn	06 55 29.6	-1.5
GOG	Mont Gurugu	1.78	139	P	Pn	06 55 07.2	-2.4
ENIJ	Nijar	1.82	77	⇑P	Pn	06 55 09.0	-1.1
	6.4nm,0.2s,SNR=18						
ENIJ				S	Sn	06 55 31.1	-1.0
	14nm,0.3s,SNR=7.9						
RSA	Sarsar	2.04	214	S	Sn	06 55 38.0	+0.7
RSA	Sarsar	2.04	214	P	Pn	06 55 12.3	-0.8
RSA				S	Sn	06 55 32.9	-4.4
RSA	Sarsar	2.04	214	S	Sn	06 55 38.0	+0.7
SESP	Santiago Espad	2.15	44	P	Pn	06 55 13.9	-0.8
	3.0nm,0.1s,SNR=7.9						
SESP				S	Sn	06 55 38.4	-1.8
	45nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	2.15	304	⇑P	Pn	06 55 12.9	-1.7
	9.3nm,0.1s,SNR=18						
EMIN				S	Sn	06 55 37.3	-2.8
	6.8nm,0.2s,SNR=33						
TAF	Taforalt	2.40	136	P	Pn	06 55 16.0	-2.1
TAF				S	Sn	06 55 44.6	-1.8
PBAR	Barrancos	2.62	308	P	Pn	06 55 19.4	-1.7
PBAR				S	Sn	06 55 49.5	-2.2
PBAR	Barrancos	2.62	308	eP	Pn	06 55 19.4	-1.7
PBAR				eS	Sn	06 55 49.5	-2.2
EGRO	El Granado	2.63	292	⇓P	Pn	06 55 19.1	-2.0
	16nm,0.1s,SNR=18						
EGRO				S	Sn	06 55 47.8	-4.0
	6.3nm,0.1s						
JBK	JBK	2.70	145	P	Pn	06 55 20.0	-2.4
JBK	JBK	2.70	145	P	Pn	06 55 19.8	-2.6
JBK				S	Sn	06 55 52.4	-1.6
JBK	JBK	2.70	145	P	Pn	06 55 20.0	-2.4
PVAQ	Vaqueiros	2.76	288	P	Pn	06 55 20.9	-2.1
PVAQ				S	Sn	06 55 50.7	-4.4
	37nm,0.1s						
PVAQ	Vaqueiros	2.76	288	⇓eP	Pn	06 55 20.9	-2.1
PVAQ				eS	Sn	06 55 50.7	-4.4
PVAQ				A	A	06 55 53.5	
	37nm,0.1s						
PVAQ	Vaqueiros	2.76	288	P	Pn	06 55 20.5	-2.5
PVAQ	Vaqueiros	2.76	288	P	Pn	06 55 20.5	-2.5
PVAQ				S	Sn	06 55 52.4	-2.7
PVAQ	Vaqueiros	2.76	288	P	Pn	06 55 20.5	-2.5
EMUR	La Murta	2.84	63	P	Pn	06 55 23.3	-0.8
	1.8nm,0.3s,SNR=7.9						
EMUR				S	Sn	06 55 54.7	-2.4
	5.5nm,0.4s,SNR=4.9						
PBDV	Barranco-do-Ve	2.89	284	P	Pn	06 55 22.9	-1.9
PBDV				S	Sn	06 55 54.3	-4.0
	19nm,0.2s						
PBDV	Barranco-do-Ve	2.89	284	eP	Pn	06 55 22.9	-1.9
PBDV				eS	Sn	06 55 54.3	-4.0
PBDV				A	A	06 55 57.5	
	19nm,0.2s						
LCRM	LCR	2.91	187	P	Pn	06 55 23.3	-1.9
LCRM				S	Sn	06 55 56.3	-2.6
PAB	San Pablo	2.96	1	⇑P	Pn	06 55 24.4	-1.4
	4.3nm,0.2s,SNR=18						
PAB				S	Sn	06 55 56.7	-3.5
	0.7nm,0.2s,SNR=7.9						
PAB	San Pablo	2.96	1	P	Pn	06 55 24.5	-1.4
PAB	San Pablo	2.96	1	P	Pn	06 55 24.5	-1.4
EBAD	Badajoz	2.99	317	⇑P	Pn	06 55 24.5	-1.6
	12nm,0.1s,SNR=18						
EBAD				S	Sn	06 55 57.5	-3.3
	54nm,0.1s						
PCVE	Castro Verde	3.08	291	P	Pn	06 55 25.2	-2.1
PCVE				S	Sn	06 55 58.7	-4.2
	33nm,0.3s						
PCVE	Castro Verde	3.08	291	⇓eP	Pn	06 55 25.2	-2.1
PCVE				eS	Sn	06 55 58.7	-4.2
PCVE				A	A	06 56 01.2	
	33nm,0.3s						
ETOB	Tobarra	3.08	47	P	Pn	06 55 26.1	-1.3
	4.9nm,0.2s,SNR=32						
ETOB				S	Sn	06 55 59.0	-4.1
	17nm,0.1s,SNR=13						
PBEJ	Beja	3.10	299	S	Sn	06 55 59.4	-4.1
	14nm,0.3s						
PBEJ	Beja	3.10	299	eS	Sn	06 55 59.4	-4.1
PBEJ				A	A	06 56 01.8	
	28nm,0.3s						
ESDC	Sonseca Array	3.11	7	P	Pn	06 55 26.2	-1.7
	2.0nm,0.3s,baz=185,slow=13,SNR=15						
ESDC				S	Sn	06 56 00.5	-3.4
	2.6nm,0.6s,baz=171,slow=25,SNR=5.6						
MESJ	Messejana	3.28	294	eP	Pn	06 55 28.1	-2.0
MESJ				eS	Sn	06 56 03.0	-4.9
MESJ				IAML		06 56 05.7	
	comp=N,47nm,0.1s						
MESJ	Messejana	3.28	294	P	Pn	06 55 28.1	-2.0
MESJ				S	Sn	06 56 03.4	-4.5
	comp=N,20nm,0.4s						
MESJ	Messejana	3.28	294	eP	Pn	06 55 28.1	-2.0
MESJ				eS	Sn	06 56 03.4	-4.5
MESJ				A	A	06 56 05.2	
	comp=N,20nm,0.4s						
PESTR	Estremoz	3.39	313	eP	Pn	06 55 30.1	-1.6
PESTR				eS	Sn	06 56 06.8	-4.0
PESTR				A	A	06 56 08.0	
	comp=N,14nm,0.3s						
PESTR	Estremoz	3.39	313	P	Pn	06 55 30.4	-1.3
PESTR				S	Sn	06 56 07.4	-3.3
EVO	Evora	3.46	305	P	Pn	06 55 31.0	-1.5
EVO				S	Sn	06 56 08.4	-3.8
	comp=N,50nm,0.3s						
EVO	Evora	3.46	305	eP	Pn	06 55 31.0	-1.5
EVO				eS	Sn	06 56 08.4	-3.8
EVO				A	A	06 56 09.8	
	comp=N,50nm,0.3s						
MORF	Marmelete	3.46	283	eP	Pn	06 55 30.3	-2.3
MORF				eS	Sn	06 56 06.9	-5.6
MORF				IAML		06 56 10.5	
	comp=E,39nm,0.1s						
MORF	Marmelete	3.46	283	P	Pn	06 55 30.4	-2.3
MORF				S	Sn	06 56 07.7	-4.8
	comp=E,26nm,0.2s						
MORF	Marmelete	3.46	283	⇓eP	Pn	06 55 30.4	-2.3
MORF				eS	Sn	06 56 07.7	-4.8
MORF				A	A	06 56 10.0	
	comp=E,26nm,0.2s						
PTEO	Sao Teotonio	3.57	287	P	Pn	06 55 32.3	-1.8
PTEO				S	Sn	06 56 11.1	-4.0
	comp=E,6.3nm,0.4s						
PTEO	Sao Teotonio	3.57	287	eP	Pn	06 55 32.3	-1.8
PTEO				eS	Sn	06 56 11.1	-4.0
PTEO				A	A	06 56 14.3	
	comp=E,13nm,0.4s						
CZD	Col de Zad	3.57	188	P	Pn	06 55 31.7	-2.8
CZD				S	Sn	06 56 10.0	-5.6
PFVI	Vila Bisbo	3.57	280	P	Pn	06 55 31.7	-2.5
	comp=E,9.2nm,0.1s,SNR=56						
PFVI				S	Sn	06 56 09.5	-5.7
	comp=E,16nm,0.1s,SNR=12						
PFVI	Vila Bisbo	3.57	280	eP	Pn	06 55 31.7	-2.5
PFVI				eS	Sn	06 56 09.6	-5.6
PFVI				A	A	06 56 12.8	
	comp=E,22nm,0.1s						
PFVI	Vila Bisbo	3.57	280	P	Pn	06 55 31.6	-2.5
PFVI	Vila Bisbo	3.57	280	P	Pn	06 55 31.6	-2.5
PFVI				S	Sn	06 56 11.3	-3.8
PFVI	Vila Bisbo	3.57	280	P	Pn	06 55 31.6	-2.5
PNCL	Nicolau / Gran	3.61	296	P	Pn	06 55 32.6	-2.1
PNCL				S	Sn	06 56 11.7	-4.4
	comp=E,18nm,0.2s						
PNCL	Nicolau / Gran	3.61	296	⇓eP	Pn	06 55 32.6	-2.1
PNCL				eS	Sn	06 56 11.7	-4.4
PNCL				A	A	06 56 13.8	
	comp=E,18nm,0.2s						
PMRV	Marv??o	3.69	321	P	Pn	06 55 34.0	-1.7
PMRV				S	Sn	06 56 13.5	-4.5
	comp=E,9.8nm,0.6s						
PMRV	Marv??o	3.69	321	eP	Pn	06 55 34.0	-1.7
PMRV				eS	Sn	06 56 13.5	-4.5
PMRV				A	A	06 56 25.4	
	comp=E,9.8nm,0.6s						
MD31	MD31	3.71	184	P	Pn	06 55 33.4	-2.8
MD31				S	Sn	06 56 15.9	-2.8
EPLA	Plasencia	3.72	340	⇑P	Pn	06 55 34.8	-1.4
	comp=E,3.2nm,0.2s,SNR=18						
EPLA				S	Sn	06 56 14.4	-4.3
	comp=E,3.4nm,0.2s						
MDT	Midelt	3.76	182	P	Pn	06 55 34.1	-2.7
MDT	Midelt	3.76	182	P	Pn	06 55 34.1	-2.7
MDT				S	Sn	06 56 14.6	-5.3
MDT	Midelt	3.76	182	P	Pn	06 55 34.1	-2.7
UCM	Universidad Co	3.84	14	P	Pn	06 55 35.9	-1.9
UCM				S	Sn	06 56 18.1	-3.6
UCM	Universidad Co	3.84	14	P	Pn	06 55 35.9	-1.9
UCM				S	Sn	06 56 18.1	-3.6
PMTG	Montargil	3.90	311	P	Pn	06 55 36.6	-2.1
PMTG				S	Sn	06 56 18.4	-4.9
	comp=E,7.2nm,0.3s						
PMTG	Montargil	3.90	311	eP	Pn	06 55 36.6	-2.1
PMTG				eS	Sn	06 56 18.4	-4.9
PMTG				A	A	06 56 21.4	
	comp=E,7.2nm,0.3s						
EBEN2	Beniarda presa	3.96	57	S	Sn	06 56 20.5	-4.3
	comp=E,8.5nm,0.4s,SNR=7.9						
PCBR	Castelo Branco	4.05	324	P	Pn	06 55 39.2	-1.5
PCBR				S	Sn	06 56 22.1	-4.8
	comp=E,2.3nm,0.4s						
PCBR	Castelo Branco	4.05	324	eP	Pn	06 55 39.2	-1.5
PCBR				eS	Sn	06 56 22.1	-4.8
PCBR				A	A	06 56 24.2	
	comp=E,4.7nm,0.4s						
ECHE	Chera	4.06	41	P	Pn	06 55 39.1	-1.8
	comp=E,1.1nm,0.2s,SNR=7.9						
ECHE				S	Sn	06 56 21.3	-5.9
	comp=E,5.2nm,0.1s,SNR=7.9						
PMAFR	Mafra	4.52	303	P	Pn	06 55 45.2	-1.9
	comp=E,1.5nm,0.1s,SNR=7.9						
PMAFR				S	Sn	06 56 33.4	-5.2
	comp=E,20nm,0.2s,SNR=7.9						
PMAFR	Mafra	4.52	303	eP	Pn	06 55 45.3	-1.9
PMAFR				eS	Sn	06 56 33.8	-4.8
PMAFR				A	A	06 56 37.3	
	comp=E,27nm,0.6s						
PSBE	So Bento	4.53	312	eP	Pn	06 55 45.7	-1.6
PSBE				eS	Sn	06 56 34.1	-4.6
MTE	Manteigas	4.53	328	P	Pn	06 55 45.0	-2.4
MTE				S	Sn	06 56 35.5	-3.4
MTE	Manteigas	4.53	328	eP	Pn	06 55 45.0	-2.4
MTE				eS	Sn	06 56 35.5	-3.4
ETOR	Torete	4.62	23	⇑P	Pn	06 55 47.0	-1.7
	comp=E,36nm,0.1s,SNR=18						
ETOR				S	Sn	06 56 35.5	-5.6
	comp=E,38nm,0.2s,SNR=7.9						
PCAS	Casmilo, Conde	4.72	319	S	Sn	06 56 39.1	-4.4
PCAS	Casmilo, Conde	4.72	319	eS	Sn	06 56 39.1	-4.4
EMOS	Mosqueruela	4.89	38	S	Sn	06 56 43.2	-4.7
	comp=E,4.6nm,0.2s,SNR=15						
PVIS	Viseu	4.94	328	P	Pn	06 55 51.2	-1.9
PVIS	Viseu	4.94	328	eP	Pn	06 55 51.2	-1.9
MVO	Moncorvo	5.01	337	eP	Pn	06 55 52.7	-1.3
POLO	Lamas de Olo	5.46	332	P	Pn	06 55 58.8	-1.4
POLO				S	Sn	06 56 56.2	-5.6
	comp=E,1.1nm,0.6s						
POLO	Lamas de Olo	5.46	332	eP	Pn	06 55 58.8	-1.4
POLO				eS	Sn	06 56 56.2	-5.6
POLO				A	A	06 57 01.3	
	comp=E,1.1nm,0.6s						
PBRG	Braganca	5.52	342	P	Pn	06 55 59.7	-1.3
PBRG	Braganca	5.52	342	eP	Pn	06 55 59.7	-1.3
ECAL	Calabor	5.65	342	P	Pn	06 56 02.1	-0.6
	comp=E,1.0nm,0.2s,SNR=7.9						
ECAL				S	Sn	06 57 01.7	-4.7
	comp=E,0.4nm,0.2s,SNR=7.9						
ERTA	Horta de San J	5.74	39	S	Sn	06 57 03.1	-5.5
	comp=E,1.8nm,0.2s,SNR=7.9						
PCAB	Cabril	5.84	332	P	Pn	06 56 03.9	-1.4
PCAB				S	Sn	06 57 04.9	-6.2
	comp=E,1.7nm,0.5s						
PCAB	Cabril	5.84	332	eP	Pn	06 56 03.9	-1.4
PCAB				eS	Sn	06 57 04.9	-6.2
PCAB				A	A	06 57 08.9	
	comp=E,3.4nm,0.5s						
ELOB	Lobios	5.99	333	P	Pn	06 56 06.0	-1.5
	comp=E,0.4nm,0.1s,SNR=7.9						
ELOB				S	Sn	06 57 07.8	-7.0
	SNR=7.9						
EPOB	Poblet	6.41	40	S	Sn	06 57 17.5	-7.7
	comp=E,0.4nm,0.1s,SNR=7.9						
ELAN	Lanestosa	6.69	6	P	Pn	06 56 16.9	-0.1
	comp=E,0.5nm,0.1s,SNR=7.9						
EARI	Arriondas	6.74	355	P	Pn	06 56 17.3	-0.4
	comp=E,0.4nm,0.1s,SNR=21						
SJPF	Ste Jean	6.97	20	eP	Pn	06 56 20.9	0.0
SJPF				eSn	Sn	06 57 32.0	-7.0
	comp=E,1.6nm,0.3s						
SJPF	Ste Jean	6.97	20	P	Pn	06 56 20.9	0.0
SJPF				S	Sn	06 57 32.0	-7.0
	comp=E,0.8nm,0.3s						
ETSF	Etsaut	6.98	24	eP	Pn	06 56 20.4	-0.6
ETSF				eSn	Sn	06 57 32.7	-6.5
	comp=E,1.2nm,0.2s						
ETSF	Etsaut	6.98	24	P	Pn	06 56 20.4	-0.6
ETSF				S	Sn	06 57 32.7	-6.5
	comp=E,0.6nm,0.2s						
ECHI	Chisagues Biel	7.05	29	P	Pn	06 56 22.3	+0.3
	comp=E,0.5nm,0.1s,SNR=7.9						
ECHI				S	Sn	06 57 34.7	-6.2
	comp=E,1.0nm,0.1s,SNR=7.9						
ATE	Arette	7.10	23	S	Sn	06 57 36.4	-5.7
	comp=E,1.0nm,0.1s,SNR=7.9						
CSOR	Sort	7.21	35	S	Sn	06 57 38.3	-6.6
	comp=E,2.3nm,0.2s,SNR=7.9						
EPF	Esparros	7.41	28	eP	Pn	06 56 26.6	-0.4
EPF				eSn	Sn	06 57 42.4	-7.4
	comp=E,3.6nm,0.3s						
EPF	Esparros	7.41	28	P	Pn	06 56 26.6	-0.4
EPF				S	Sn	06 57 42.4	-7.4
	comp=E,1.8nm,0.3s						

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*IDC **09** 07:05:42.4±0.5, 49°49S×116°50W, h0km, mb4.3/13, mb1 4.4/13, mb1mx4.4/22, mbtmp4.3/13, MS5.3/20, Ms1 5.3/20, ms1mx5.2/23, Error ellipse: s-maj=24.6km s-min=16.2km az=135.0*

*NEIC **09** 07:05:44.5±1.8, 49°5S±0°1×116°3W±0°2, h10km±1km, mb5.0/68, Ms_20 5.4/326, Mwb5.9/26, Mwc5.7(GCMT), Error ellipse: s-maj=24.9km s-min=17.8km az=313.0*

*BJI **09** 07:05:44.2±0.0, 49°59S×116°52W, h20km, mB5.2/9, Ms5.7/17, Ms7 5.5/17*

*NEIC **09** 07:05:44.5, 49°54S×116°30W, h20km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-1.12; $M_{\theta\theta}$1.86; $M_{\phi\phi}$-0.73; $M_{r\theta}$0.41; $M_{\theta\phi}$9.06; $M_{\phi r}$0.29; Fault plane solution: $M_0$9.22000×10^{17} NP1:ϕ_s4.03000°, δ87.88000°, λ178.39000°. NP2:ϕ_s94.09000°, δ88.39000°, λ2.12000°. Principal axes: T 9.7385, Plg3.0000°, Azm319.0000°; N -1.1447, Plg87.0000°, Azm131.0000°; P -8.5939, Plg0.0000°, Azm229.0000°;*

*GCMT **09** 07:05:49.5±0.1, 49°60S±0°01×116°47W±0°01, h14km, MW5.7/150, Moment Tensor Solution. s143,c290; s150,c302; Duration: 1s7 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.51±.04; $M_{\theta\theta}$1.81±.04; $M_{\phi\phi}$-1.30±.04; $M_{r\theta}$-0.28±.08; $M_{\theta\phi}$4.30±.04; $M_{\phi r}$0.46±.09; Best double couple: $M_0$4.61100×10^{17} NP1:ϕ_s100.00000°, δ84.00000°, λ-5.00000°. NP2:ϕ_s190.00000°, δ85.00000°, λ-174.00000°. Principal axes: T 4.8280, Plg0.0000°, Azm325.0000°; N -0.4340, Plg82.0000°, Azm232.0000°; P -4.3930, Plg8.0000°, Azm55.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **09** 07:05:50, 49°77S×116°40W, h15km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.39; $M_{\theta\theta}$1.93; $M_{\phi\phi}$-1.54; $M_{r\theta}$0.00; $M_{\theta\phi}$4.77; $M_{\phi r}$1.38; Fault plane solution: $M_0$5.27000×10^{17} NP1:ϕ_s100.00000°, δ75.00000°, λ-4.00000°. NP2:ϕ_s191.00000°, δ86.00000°, λ-165.00000°. Principal axes: T 5.3839, Plg8.0000°, Azm324.0000°; N -0.2335, Plg74.0000°, Azm204.0000°; P -5.1503, Plg14.0000°, Azm56.0000°;*

ISC 09 07:05:44.1±0.3**, 49°52S**±0°08×**116°38W**±0°07**, h10**km**, n354, σ1s55**/147**, mb4.9**/42**, MS5.4**/191**, 1C, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPN	Rapa Nui	23.01	16	LR	LR	07 16 43.4	
	comp=Z,2μm,19.1s,baz=190,slow=29						
USHA	Ushuaia	29.40	119	LR	LR	07 20 29.1	
	comp=Z,6μm,20.6s,baz=264,slow=30						
RKT	Rikitea	30.14	324	eT	T	07 43 10.5	
	4.7nm,0.2s						
PMSA	Palmer Station	31.13	139	IAMs_20	IAMs_20	07 20 41.9	
	comp=Z,12μm,21.0s						
H03S2	Juan Fernandez	31.68	75	T	T	07 45 24.2	
	baz=227,slow=74,SNR=362						
H03S1	Juan Fernandez	31.69	75	T	T	07 45 25.4	
	baz=227,slow=74,SNR=210						
H03S3	Juan Fernandez	31.70	75	T	T	07 45 28.6	
	baz=227,slow=74,SNR=353						
H03N3	Juan Fernandez	31.93	74	T	T	07 45 50.4	
	baz=231,slow=72,SNR=412						
H03N2	Juan Fernandez	31.93	74	T	T	07 45 47.3	
	baz=231,slow=72,SNR=558						
H03N1	Juan Fernandez	31.95	74	T	T	07 45 47.6	
	baz=231,slow=72,SNR=453						
PLCA	Paso Flores	33.06	92	LR	LR	07 22 21.8	
	comp=Z,4μm,19.7s,baz=237,slow=30						
GO05	Huala	35.40	83	P	P	07 12 40.6	+0.6
GO05				IAmb	IAmb	07 12 48.2	
	comp=Z,33nm,1.3s						
EFI	East Falkland	36.23	116	IAMs_20	IAMs_20	07 23 54.8	
	comp=Z,5μm,19.0s						
BO02	Sierra Bellavi	36.28	84	P	P	07 12 48.4	+0.7
BO02				IAmb	IAmb	07 12 59.6	
	comp=Z,47nm,1.7s						
BO01	Tunca	36.33	83	P	P	07 12 49.5	+1.5
BO01				IAmb	IAmb	07 12 55.8	
	comp=Z,39nm,1.4s						
TBI	Tubuai	36.80	303	eS	S	07 18 35.0	-1.0
	comp=Z,633nm,28.1s						
TBI				eLQ	LQ	07 21 07.0	
	comp=Z,4μm,25.8s						
TBI				eLR	LR	07 22 38.0	
	comp=Z,17μm,25.2s,baz=151						
TBI	Tubuai	36.80	303	eT	T	07 51 31.8	
	comp=Z,8.2nm,0.3s						
VA03	San Esteban	37.71	81	P	P	07 13 00.8	+1.1
CO02	Combarbal	38.44	79	P	P	07 13 05.4	-0.5
SBA	Scott Base	39.41	199	P	P	07 13 13.1	-0.3
SBA				IAmb	IAmb	07 13 25.1	
	comp=Z,45nm,1.7s						
ZON	Zonda	39.70	81		P	07 13 17.6	+1.1
TRQA	Tornquist	40.08	95	P	P	07 13 18.5	-1.1
BELA	Belgrano 2	40.44	161	P	P	07 13 22.2	+0.2
VNDA	Vanda	40.48	199	P	P	07 13 22.2	-0.2
	comp=Z,1.8nm,1.0s,baz=96,slow=7.4,SNR=4.9						
VNDA				LR	LR	07 27 02.4	
	comp=Z,4μm,18.4s,baz=96,slow=32						
VNDA	Vanda	40.48	199	P	P	07 13 23.3	+0.9
MEH	Mehetia	40.58	310	eT	T	07 56 14.7	
	comp=Z,68nm,0.3s						
QSPA	South Pole Qui	40.68	180	P	P	07 13 24.7	+0.3
	comp=Z,9.3nm,1.1s,baz=107,slow=7.0,SNR=12						
QSPA	South Pole Qui	40.68	180	P	P	07 13 25.6	+1.2
QSPA	South Pole Qui	40.68	180	IAMs_20	IAMs_20	07 27 31.2	
	comp=Z,4μm,19.0s						
TIAR	Tiarei	41.49	308	eT	T	07 57 14.0	
	comp=Z,2.0nm,0.3s						
PAE	Paea	41.53	308	eT	T	07 57 14.3	
	comp=Z,4.4nm,0.3s						
PPT2	Papeete2	41.59	308	eS	S	07 19 48.0	-0.2
	comp=Z,966nm,25.0s						
PPT2				eLQ	LQ	07 23 09.9	
	comp=Z,5μm,27.2s						
PPT2				eLR	LR	07 24 53.9	
	comp=Z,21μm,24.5s,baz=149						
PPT2	Papeete2	41.59	308	eT	T	07 57 06.3	
	comp=Z,5.5nm,0.3s						
PPT	Papeete	41.60	308	LR	LR	07 26 42.4	
	comp=Z,8μm,18.2s,baz=142,slow=30						
VAH	Vaihoa	42.62	312	eT	T	07 58 48.7	
	comp=Z,9.2nm,0.2s						
AC02	Maricunga	42.62	76	P	P	07 13 39.1	-1.9
PMOR	Pomariorio Ree	42.95	312	eT	T	07 59 11.7	
	comp=Z,4.4nm,0.3s						

PB14 IPOC Station P 43.41 72 IAMs_20 IAMs_20 07 26 35.6
comp=Z,5µm,22.0s
PB15 IPOC Station P 45.02 72 IAMs_20 IAMs_20 07 27 53.5
comp=Z,4µm,20.0s
TAOE Nuku Hiva Isla 45.14 326 *e*S S **07 20 42.8 +2.5**
comp=Z,2µm,24.4s
TAOE eLQ LQ 07 24 45.1
comp=Z,2µm,23.0s
TAOE eLR LR 07 26 40.2
comp=Z,18µm,26.1s,baz=175
TAOE Nuku Hiva Isla 45.14 326 *e*T T 08 01 55.4
comp=Z,18nm,0.2s
PB04 IPOC Station P 45.25 70 IAMs_20 IAMs_20 07 27 39.6
comp=Z,4µm,18.0s
LVC Limon Verde 45.81 72 P **P** **07 14 06.4 -0.1**
comp=Z,3.5nm,0.8s,baz=225,slow=4.3,SNR=3.6
LVC Limon Verde 45.81 72 IAMs_20 IAMs_20 07 28 00.3
comp=Z,5µm,21.0s
LVC Limon Verde 45.81 72 IAmb IAmb 07 14 20.0
comp=Z,17nm,1.1s
PB07 IPOC Station P 45.87 70 IAMs_20 IAMs_20 07 27 58.9
comp=Z,4µm,20.0s
PB09 IPOC Station P 46.21 71 IAMs_20 IAMs_20 07 28 11.0
comp=Z,4µm,18.0s
PB01 IPOC Station P 46.62 70 IAMs_20 IAMs_20 07 28 21.9
comp=Z,5µm,20.0s
BFZ Birch Farm 46.91 254 IAMs_20 IAMs_20 07 30 16.5
comp=Z,5µm,18.0s
PSGCX Pisagua 47.33 68 IAMs_20 IAMs_20 07 28 39.8
comp=Z,6µm,20.0s
MQZ McQueen's Vall 47.44 249 IAMs_20 IAMs_20 07 29 06.4
comp=Z,4µm,21.0s
PB11 IPOC Station P 47.49 68 IAMs_20 IAMs_20 07 28 54.0
comp=Z,5µm,20.0s
PB08 IPOC Station P 47.51 69 IAMs_20 IAMs_20 07 28 49.4
comp=Z,6µm,21.0s
SNZO South Karori 47.52 252 IAMs_20 IAMs_20 07 28 52.5
comp=Z,5µm,21.0s
KHZ Kahutara 47.62 250 IAMs_20 IAMs_20 07 29 42.0
comp=Z,4µm,20.0s
BKZ Black Stump Fm 47.62 256 IAMs_20 IAMs_20 07 29 48.5
comp=Z,5µm,20.0s
URZ Urewera 47.76 257 LR LR 07 30 55.5
comp=Z,4µm,18.5s,baz=211,slow=32
URZ Urewera 47.76 257 IAMs_20 IAMs_20 07 29 32.2
comp=Z,5µm,18.0s
ODZ Otahua Downs 47.92 246 IAMs_20 IAMs_20 07 29 37.9
comp=Z,5µm,20.0s
OXZ Oxford 48.02 249 IAMs_20 IAMs_20 07 29 22.8
comp=Z,5µm,21.0s
LTZ Lake Taylor 48.19 249 IAMs_20 IAMs_20 07 29 29.1
comp=Z,5µm,22.0s
THZ Tophouse 48.37 251 IAMs_20 IAMs_20 07 29 37.1
comp=Z,4µm,20.0s
RPZ Rata Peaks 48.40 248 IAMs_20 IAMs_20 07 29 55.8
comp=Z,3µm,20.0s
LBZ Lake Benmore 48.55 246 IAMs_20 IAMs_20 07 30 31.7
comp=Z,5µm,19.0s
VNA3 Neumayer Olymp 48.92 156 P **P** **07 14 31.0 +1.3**
WKZ Wanaka 49.00 245 IAMs_20 IAMs_20 07 29 42.6
comp=Z,6µm,22.0s
HIZ Hauiti 49.04 256 IAMs_20 IAMs_20 07 30 55.0
comp=Z,4µm,20.0s
WHZ Wether Hill Ro 49.05 244 IAMs_20 IAMs_20 07 29 41.6
comp=Z,5µm,22.0s
MLZ Mavora Lakes 49.24 244 IAMs_20 IAMs_20 07 30 47.7
comp=Z,5µm,19.0s
FOZ Fox Glacier 49.25 247 IAMs_20 IAMs_20 07 31 03.2
comp=Z,5µm,19.0s
PYZ Puysegur Point 49.63 243 IAMs_20 IAMs_20 07 30 20.1
comp=Z,4µm,18.0s
VNA1 Neumayer--Stat 49.64 155 P **P** **07 14 36.1 +0.9**
VNA2 Neumayer--Watz 49.71 156 P **P** **07 14 35.6 -0.1**
baz=236,slow=7.1
SNAA Sanae 50.42 158 P **P** **07 14 42.4 +1.2**
SNAA Sanae 50.42 158 **P** **07 14 41.7 +0.6**
CPUP Villa Florida 50.55 85 P **P** **07 14 41.3 -1.4**
comp=Z,4.0nm,0.8s,baz=227,slow=11,SNR=5.1
CPUP LR LR 07 32 28.0
comp=Z,4µm,21.7s,baz=234,slow=32
CPUP Villa Florida 50.55 85 P **P** **07 14 40.4 -2.2**
LPAZ La Paz 51.08 67 P **P** **07 14 48.4 +0.9**
comp=Z,7.8nm,1.0s,baz=190,slow=7.2,SNR=15
LPAZ LR LR 07 31 21.6
comp=Z,3µm,19.7s,baz=240,slow=30
LPAZ La Paz 51.08 67 P **P** **07 14 46.6 -0.9**
OUZ Omahuta 51.85 258 IAMs_20 IAMs_20 07 31 47.4
comp=Z,3µm,20.0s
PAYG Puerto Ayora 53.55 33 IAMs_20 IAMs_20 07 32 20.1
comp=Z,4µm,18.0s
TRCB Terra Rica 56.06 86 P **P** **07 15 21.8 -1.5**
CASY Casey 59.10 200 P **P** **07 15 44.6 +0.6**
CASY Casey 59.10 200 IAMs_20 IAMs_20 07 39 48.3
comp=Z,3µm,18.0s
OTAV Otavalo 59.27 46 P **P** **07 15 43.4 -3.0**
OTAV IAmb IAmb 07 16 05.4
comp=Z,10nm,1.1s
OTAV Otavalo 59.27 46 *e*P P 07 16 00.2 +14
SAML Samuel 59.80 66 P **P** **07 15 47.1 -2.4**
SAML IAmb IAmb 07 15 54.7
comp=Z,14nm,1.6s
SAML Samuel 59.80 66 IAMs_20 IAMs_20 07 37 05.3
comp=Z,2µm,19.0s
SAML Samuel 59.80 66 *e*P **P** **07 15 47.0 -2.5**
PTLC Puerto Leguiza 60.97 49 *e*P **P** **07 15 57.7 +0.2**
BBAC Balboa, Cauca 61.40 46 *e*P **P** **07 16 01.0 +0.4**
POPC Popayan, Colom 62.12 46 *e*P P 07 16 12.1 +6.6
MAW Mawson 63.20 180 P **P** **07 16 11.6 -0.2**
comp=Z,1.4nm,0.8s,baz=202,slow=5.4,SNR=2.8
MAW LR LR 07 41 20.2
comp=Z,3µm,21.1s,baz=174,slow=34
MAW Mawson 63.20 180 P **P** **07 16 10.6 -1.2**
YOTC Yotoco, Valle 63.55 46 *e*P **P** **07 16 17.6 +2.7**
ORTC Ortega, Tolima 64.00 47 *e*P **P** **07 16 21.3 +3.6**
BDFB Brasilia 64.23 84 P **P** **07 16 17.3 -2.2**
comp=Z,2.5nm,0.7s,baz=174,slow=9.2,SNR=1.8
BDFB LR LR 07 41 14.8
comp=Z,3µm,21.3s,baz=213,slow=33
BDFB Brasilia 64.23 84 P **P** **07 16 17.5 -1.9**
TOLC Tolima 64.56 46 *e*P **P** **07 16 24.3 +2.6**
GUY2C Guyana, Caldas 65.09 46 *e*P **P** **07 16 29.0 +3.6**
ROSC El Rosal 65.25 47 P **P** **07 16 27.9 +1.5**
comp=Z,3.0nm,0.4s,baz=105,slow=20,SNR=1.7
ROSC LR LR 07 40 42.6
comp=Z,3µm,19.2s,baz=219,slow=32
ROSC El Rosal 65.25 47 P **P** **07 16 26.3 -0.1**
ROSC IAmb IAmb 07 16 34.1
comp=Z,15nm,1.1s
DZM Mont Dzumac 65.32 264 *e*S **S** **07 25 05.9 -4.5**
comp=Z,993nm,24.6s
DZM eLQ LQ 07 33 00.7
comp=Z,4µm,30.4s
DZM eLR LR 07 35 44.5
comp=Z,4µm,23.7s,baz=133
DZM Mont Dzumac 65.32 264 LR LR 07 38 53.3
comp=Z,2µm,20.1s,baz=132,slow=30
CHIC Chingaza 65.35 48 *e*P **P** **07 16 30.6 +3.5**
CBOC Ciudad Bolivar 65.35 45 *e*P **P** **07 16 29.0 +2.3**
NORC Norcasia 65.62 46 *e*P **P** **07 16 31.4 +3.0**
JTS Las Juntas de 65.63 34 IAMs_20 IAMs_20 07 38 13.1
comp=Z,2µm,19.0s
HDC Heredia 65.67 35 IAMs_20 IAMs_20 07 39 03.3
comp=Z,2µm,18.0s
PTGC Puerto Gaitan, 65.77 50 *e*P P 07 16 24.3 -4.9
HELC Santa Helena 65.86 45 *e*P **P** **07 16 34.4 +4.1**
SPBC San Pablo de B 66.08 47 *e*P **P** **07 16 33.0 +1.7**
DBBC Dabeiba 66.28 44 *e*P **P** **07 16 32.6 0.0**
BCIP Isla Barro Col 66.61 40 IAMs_20 IAMs_20 07 38 09.9
comp=Z,4µm,21.0s
BCIP Isla Barro Col 66.61 40 *e*P **P** **07 16 31.0 -3.6**
PTBC PUERTO BERRIO, 66.67 46 *e*P **P** **07 16 34.8 -0.2**
RUSC La Rusia 66.76 48 P **P** **07 16 36.1 -0.1**
RUSC IAmb IAmb 07 17 12.6
comp=Z,18nm,1.3s
TOO Toolangi 67.22 239 P **P** **07 16 38.4 0.0**
ZARC Zaragoza, Cauc 67.32 45 *e*P **P** **07 16 42.6 +3.5**
BRRC Barranca, Sant 67.52 47 *e*P **P** **07 16 39.6 -0.8**
PTGA Pitinga 68.28 64 IAMs_20 IAMs_20 07 41 39.0
comp=Z,3µm,21.0s
OCAC Ocana 68.69 46 *e*P **P** **07 16 46.8 -1.1**
STKA Stephens Creek 73.56 240 P **P** **07 17 17.1 0.0**
comp=Z,1.6nm,0.5s,baz=100,slow=6.5,SNR=5.6
STKA LR LR 07 44 49.3
comp=Z,3µm,18.7s,baz=134,slow=32
STKA Stephens Creek 73.56 240 P **P** **07 17 16.9 -0.2**
MTDJ Mount Denham 75.72 38 IAMs_20 IAMs_20 07 43 26.4
comp=Z,2µm,20.0s
BBOO Buckleboo 75.91 236 P **P** **07 17 30.7 -0.1**
HPIG 76.71 10 P **P** **07 17 35.1 -0.2**
HPIG IAmb IAmb 07 17 50.5
comp=Z,29nm,1.4s
GRGR Grenville 77.90 55 IAMs_20 IAMs_20 07 47 27.2
comp=Z,3µm,22.0s
HNR Honiara 78.80 269 LR LR 07 46 03.6
comp=Z,467nm,21.9s,baz=139,slow=31
TX32 Lajitas Array 79.31 11 P **P** **07 17 48.5 -1.2**
TXAR Lajitas Array 79.31 11 P **P** **07 17 49.5 -0.2**
comp=Z,1.5nm,0.9s,baz=187,slow=8.8,SNR=10
TXAR LR LR 07 46 45.7
comp=Z,656nm,19.3s,baz=0.0,slow=31
TXAR Lajitas Array 79.31 11 P **P** **07 17 48.9 -0.7**
JCT Junction City 81.00 14 P **P** **07 17 58.5 -0.1**
JCT IAmb IAmb 07 18 05.2
comp=Z,14nm,1.1s
JCT IAMs_20 IAMs_20 07 47 22.1
comp=Z,2µm,22.0s
GRTK Grand Turk 81.33 42 IAMs_20 IAMs_20 07 51 55.8
comp=Z,1µm,18.0s
EPT El Paso 81.41 8 IAMs_20 IAMs_20 07 46 42.1
comp=Z,2µm,21.0s
MNTX Cornudas Mount 81.45 9 P **P** **07 18 02.5 +1.5**
MNTX IAmb IAmb 07 18 15.6
comp=Z,18nm,1.8s
TUC Tucson 81.62 5 IAMs_20 IAMs_20 07 46 39.8
comp=Z,2µm,20.0s
435B Jarrell 81.68 16 P **P** **07 18 02.6 +0.4**
435B IAmb IAmb 07 18 09.2
comp=Z,13nm,1.1s
435B IAMs_20 IAMs_20 07 48 31.0
comp=Z,2µm,21.0s
SEUS St. Eustatius 81.71 51 IAMs_20 IAMs_20 07 51 48.3
comp=Z,2µm,19.0s
109C Camp Elliot, M 82.05 359 IAMs_20 IAMs_20 07 45 42.3
comp=Z,2µm,20.0s
PFO Pinyon Flats O 82.76 360 P **P** **07 18 09.2 +1.2**
PFO Pinyon Flats O 82.76 360 IAMs_20 IAMs_20 07 45 34.3
comp=Z,3µm,22.0s
WHTX Lake Whitney, 82.88 16 P **P** **07 18 10.6 +2.2**
WHTX IAmb IAmb 07 18 44.1
comp=Z,8.8nm,0.7s
ABTX Abilene, Hawle 83.12 14 P **P** **07 18 10.7 +0.9**
ABTX IAmb IAmb 07 18 19.6
comp=Z,14nm,1.4s
BNM Barren Site 83.75 8 P **P** **07 18 13.5 +0.3**
X18A Snowflake 83.87 5 P **P** **07 18 14.9 +1.1**
X18A IAmb IAmb 07 18 29.0
comp=Z,20nm,1.4s
AS31 Alice Springs 84.20 240 P **P** **07 18 14.8 -1.0**
ASAR Alice Springs 84.20 240 P **P** **07 18 15.3 -0.5**
comp=Z,3.2nm,0.9s,baz=149,slow=4.6,SNR=20
ASAR LR LR 07 49 41.5
comp=Z,2µm,21.7s,baz=157,slow=31
ASAR Alice Springs 84.20 240 P **P** **07 18 14.8 -0.9**
ANMO Albuquerque 84.56 8 P **P** **07 18 17.4 +0.2**
H01W1 Cape Leeuwin H 84.76 220 T T 08 52 46.1
baz=150,slow=76,SNR=36
H01W2 Cape Leeuwin H 84.76 220 T T 08 52 52.7
baz=150,slow=76,SNR=35
H01W3 Cape Leeuwin H 84.77 220 T T 08 52 51.2
baz=150,slow=76,SNR=35
WUAZ Wupatki 84.78 4 P **P** **07 18 18.7 +0.4**
ISA Isabella, Lake 84.83 358 P **P** **07 18 19.5 +1.0**
ISA IAmb IAmb 07 18 33.5
comp=Z,9.7nm,1.1s
NWAO Narrogin (SRO) 85.11 223 IAMs_20 IAMs_20 07 47 37.0
comp=Z,2µm,21.0s
U15A North Rim 85.65 3 P **P** **07 18 24.0 +1.2**
U15A IAmb IAmb 07 18 37.9
comp=Z,21nm,1.6s
SHPR Sheep Range 85.66 1 P **P** **07 18 23.4 +0.7**
SHPR IAmb IAmb 07 18 38.1
comp=Z,15nm,1.4s
X37A Clayton 85.80 17 IAMs_20 IAMs_20 07 51 12.0
comp=Z,2µm,21.0s
CCAR Cane Creek 85.90 20 P **P** **07 18 24.5 +0.8**
TPNV Topopah Spring 86.09 0 P **P** **07 18 25.1 +0.3**
TPNV IAmb IAmb 07 18 40.3
comp=Z,15nm,1.4s
TPNV IAMs_20 IAMs_20 07 48 04.4
comp=Z,2µm,21.0s
X40A Basin Creek Fa 86.22 19 IAMs_20 IAMs_20 07 53 30.1
comp=Z,1µm,18.0s
OKCFA Oklahoma City 86.22 15 P **P** **07 18 25.8 +0.6**
KNB Kanab 86.22 3 P **P** **07 18 26.7 +1.2**
KNB IAmb IAmb 07 18 31.4
comp=Z,21nm,1.7s
PRN Pahroc Range 86.56 1 P **P** **07 18 27.8 +0.8**
PRN IAmb IAmb 07 18 42.6
comp=Z,8.8nm,1.2s
OK029 Liberty Lake 86.59 15 IAMs_20 IAMs_20 07 50 51.1
comp=Z,1µm,19.0s
MVCO Mesa Verde 86.64 6 P **P** **07 18 28.2 +0.6**
MVCO IAMs_20 IAMs_20 07 49 45.6
comp=Z,1µm,20.0s
CCUT Cedar City 86.73 2 P **P** **07 18 28.9 +0.9**
WRA Warramunga Arr 86.86 243 P **P** **07 18 28.3 -0.7**
comp=Z,1.3nm,0.7s,baz=139,slow=4.4,SNR=6.2
WRA LR LR 07 52 33.1
comp=Z,2µm,19.6s,baz=135,slow=32
WRAB Tennant Creek 86.87 243 IAMs_20 IAMs_20 07 52 20.8
comp=Z,2µm,20.0s
T25A Trinidad 86.93 10 P **P** **07 18 29.4 +0.3**
T25A IAmb IAmb 07 18 44.1
comp=Z,20nm,1.4s
T25A IAMs_20 IAMs_20 07 50 05.4
comp=Z,1µm,20.0s
TPH Tonopah 87.22 359 P **P** **07 18 31.5 +1.2**
MCCM Marconi Confer 87.48 355 IAMs_20 IAMs_20 07 47 29.2
comp=Z,2µm,22.0s
X48A Hartselle 87.57 24 P **P** **07 18 32.6 +0.7**
X48A IAmb IAmb 07 18 38.1
comp=Z,9.2nm,1.1s
NVAR Mina Array Bea 87.59 358 P **P** **07 18 32.2 0.0**
comp=Z,0.6nm,0.8s,baz=191,slow=6.9,SNR=4.5
NVAR LR LR 07 50 03.6
comp=Z,3µm,18.0s,baz=176,slow=30
NVAR Mina Array Bea 87.59 358 P **P** **07 18 32.5 +0.3**
MVU Marysvale 87.72 3 P **P** **07 18 34.1 +1.3**
U40A Yellville 88.01 19 IAMs_20 IAMs_20 07 53 22.6
comp=Z,1µm,19.0s
SMCO Snowmass 88.71 7 IAMs_20 IAMs_20 07 51 32.5
comp=Z,2µm,19.0s
WVT Waverly 88.96 23 P **P** **07 18 38.3 0.0**
WVT IAmb IAmb 07 18 44.5
comp=Z,9.3nm,1.2s
NLU North Lily Min 89.18 3 P **P** **07 18 40.3 +0.7**
NLU IAmb IAmb 07 18 53.7
comp=Z,24nm,1.9s
S39A Bolivar 89.20 18 IAmb IAmb 07 18 45.7
comp=Z,12nm,1.3s
DUG Dugway, Tooele 89.39 3 IAMs_20 IAMs_20 07 51 00.6
comp=Z,1µm,19.0s
U49A Red Boiling Sp 89.85 24 P **P** **07 18 42.5 0.0**
U49A IAmb IAmb 07 18 48.6
comp=Z,8.5nm,1.1s
ELK Elko 89.89 1 IAMs_20 IAMs_20 07 50 35.9
comp=Z,2µm,20.0s
JCC Jacoby Creek, 90.21 354 IAMs_20 IAMs_20 07 48 45.5
comp=Z,2µm,22.0s
HWUT Hardware Ranch 90.84 4 IAMs_20 IAMs_20 07 52 24.1
comp=Z,1µm,19.0s
PHWY Pilot Hill 90.95 8 IAMs_20 IAMs_20 07 53 10.7
comp=Z,1µm,20.0s
OGNE Ogallala 90.97 11 IAMs_20 IAMs_20 07 52 58.1
comp=Z,2µm,21.0s
CNNC Cliffs of the 91.04 31 IAMs_20 IAMs_20 07 53 59.4
comp=Z,1µm,20.0s
WVOR Wild Horse Val 91.59 358 IAMs_20 IAMs_20 07 50 58.0
comp=Z,2µm,21.0s
HUMO Hull Mountain 91.93 355 IAMs_20 IAMs_20 07 50 12.0
comp=Z,2µm,21.0s
AHID Auburn Hatcher 92.02 4 IAMs_20 IAMs_20 07 52 26.2
comp=Z,1µm,21.0s
BW06 Boulder Array 92.10 5 P **P** **07 18 52.6 -0.6**
BW06 IAmb IAmb 07 19 06.9
comp=Z,6.2nm,1.2s
BW06 IAMs_20 IAMs_20 07 54 24.2
comp=Z,2µm,18.0s
PDAR Pinedale Array 92.10 5 P **P** **07 18 51.9 -1.3**
comp=Z,1.3nm,1.0s,baz=180,slow=4.4,SNR=7.4
PDAR LR LR 07 53 44.0
comp=Z,1µm,18.4s,baz=192,slow=31
PDAR Pinedale Array 92.10 5 P **P** **07 18 52.6 -0.6**
MFID Camas Ranch 92.55 0 IAMs_20 IAMs_20 07 52 32.4
comp=Z,2µm,20.0s
REDW Red Top Meadow 92.63 4 IAMs_20 IAMs_20 07 52 46.2
comp=Z,2µm,21.0s
SNOW Snow King Moun 92.73 4 IAMs_20 IAMs_20 07 53 37.0
comp=Z,2µm,18.0s
TPAW Teton Pass 92.75 4 IAMs_20 IAMs_20 07 53 25.5
comp=Z,1µm,18.0s
LOHW Long Hollow 92.89 4 IAMs_20 IAMs_20 07 53 42.1
comp=Z,2µm,19.0s
MOOW Moose Ponds 93.02 4 IAMs_20 IAMs_20 07 52 59.6
comp=Z,1µm,21.0s
IMW Indian Meadow 93.16 4 IAMs_20 IAMs_20 07 53 31.2
comp=Z,1µm,19.0s
FLWY Flagg Ranch 93.35 4 IAMs_20 IAMs_20 07 54 14.4
comp=Z,1µm,18.0s
LKWY Lake 93.85 4 IAMs_20 IAMs_20 07 53 27.5
comp=Z,1µm,21.0s
CBN Corbin Frederi 93.91 30 IAMs_20 IAMs_20 07 54 57.4
comp=Z,2µm,21.0s
COR Corvallis 93.92 355 IAMs_20 IAMs_20 07 51 56.7
comp=Z,1µm,21.0s
YHH Holmes Hill 94.05 4 P **P** **07 19 02.8 +0.6**
YHH IAmb IAmb 07 19 17.3
comp=Z,7.2nm,1.4s
RLMT Red Lodge 94.46 5 IAMs_20 IAMs_20 07 54 56.8
comp=Z,2µm,19.0s
DLMT Dillon 94.56 3 IAMs_20 IAMs_20 07 53 55.4
comp=Z,1µm,21.0s
BOZ Bozeman (W) 94.82 3 IAMs_20 IAMs_20 07 53 17.4
comp=Z,1µm,22.0s
BOSA Boshof 95.04 147 LR LR 07 53 46.7
comp=Z,2µm,21.8s,baz=203,slow=30
H11S2 WAKE ISLAND Hy 95.69 292 T T 09 05 25.4
baz=141,slow=76,SNR=1332
H11S3 WAKE ISLAND Hy 95.70 292 T T 09 05 23.1
baz=141,slow=76,SNR=952
H11S1 WAKE ISLAND Hy 95.70 292 T T 09 05 27.4
baz=141,slow=76,SNR=714
P60A Greenville 95.93 30 IAMs_20 IAMs_20 07 55 48.0
comp=Z,1µm,21.0s
H11N3 WAKE ISLAND Hy 96.50 293 T T 09 06 29.9
baz=142,slow=75,SNR=281
H11N1 WAKE ISLAND Hy 96.51 293 T T 09 06 21.9
baz=142,slow=75,SNR=184
H11N2 WAKE ISLAND Hy 96.52 293 T T 09 06 31.2
baz=142,slow=75,SNR=215
NLWA Neilton Lookou 96.75 355 IAMs_20 IAMs_20 07 53 06.5
comp=Z,2µm,22.0s
N59A State Game Lan 96.89 30 IAMs_20 IAMs_20 07 56 11.2
comp=Z,2µm,22.0s
EGMT Eagleton 97.33 4 IAMs_20 IAMs_20 07 56 26.7
comp=Z,1µm,19.0s
PAL Paliades 97.58 31 IAMs_20 IAMs_20 07 57 34.6
comp=Z,1µm,20.0s
WSPT Westport, CT 97.92 31 IAMs_20 IAMs_20 07 57 11.7
comp=Z,1µm,20.0s
BINY Binghamton 97.98 29 IAMs_20 IAMs_20 07 57 00.1
comp=Z,2µm,22.0s
M64A Tiverton 98.99 33 IAMs_20 IAMs_20 07 57 51.9
comp=Z,1µm,20.0s
L63A North Scituate 99.13 32 IAMs_20 IAMs_20 08 03 38.5
comp=Z,1µm,21.0s
QUA2 Belchertown 99.24 32 IAMs_20 IAMs_20 07 56 53.5
comp=Z,1µm,22.0s
K62A Royalston 99.62 31 IAMs_20 IAMs_20 07 57 04.7
comp=Z,1µm,22.0s
HRV Adam Dziewonsk 99.72 32 IAMs_20 IAMs_20 08 01 44.1
comp=Z,1µm,19.0s
TSUM Tsumeb 100.34 136 IAMs_20 IAMs_20 07 57 30.1
comp=Z,1µm,20.0s
HNH Hanover 100.53 31 IAMs_20 IAMs_20 07 57 44.6
comp=Z,1µm,21.0s
FFD Franklin Falls 100.54 31 IAMs_20 IAMs_20 07 57 30.8
comp=Z,1µm,20.0s
I62A Tamworth 101.00 31 IAMs_20 IAMs_20 08 00 33.1
comp=Z,1µm,20.0s
I63A Otisfield 101.41 32 IAMs_20 IAMs_20 08 04 16.0
comp=Z,1µm,19.0s
FAKI Fak Fak 101.47 252 IAMs_20 IAMs_20 08 03 48.6
comp=Z,960nm,20.0s
G62A West of Eustis 102.46 31 IAMs_20 IAMs_20 08 01 25.6
comp=Z,1µm,20.0s
MMRI Maumere 102.85 240 IAMs_20 IAMs_20 08 02 43.4
comp=Z,1µm,20.0s
EMMW East Machias 103.08 33 IAMs_20 IAMs_20 08 01 52.2
comp=Z,944nm,19.0s
F62A Pittston Farm, 103.24 31 IAMs_20 IAMs_20 08 04 20.4
comp=Z,1µm,20.0s
E62A Clayton Lake 104.02 31 IAMs_20 IAMs_20 08 02 32.1
comp=Z,1µm,20.0s
D62A Allapoint, All 104.59 31 IAMs_20 IAMs_20 08 05 16.9
comp=Z,1µm,19.0s
WRAK Wrangell Islan 106.40 351 IAMs_20 IAMs_20 07 56 38.1
comp=Z,1µm,20.0s
KAPI Kappang 107.22 240 IAMs_20 IAMs_20 08 06 59.0
comp=Z,1µm,18.0s
TOLI2 Tolitoli 111.59 245 IAMs_20 IAMs_20 08 07 25.3
comp=Z,1µm,21.0s
BKB Balikpapan 111.90 240 IAMs_20 IAMs_20 08 12 29.4
comp=Z,1µm,18.0s
Q19K Cape Douglas, 112.30 340 IAMs_20 IAMs_20 08 00 24.1
comp=Z,1µm,21.0s
MCARA McCarthy VSAT 112.60 346 IAMs_20 IAMs_20 08 01 09.9
comp=Z,1µm,20.0s
P19K Oil Pt 112.87 341 IAMs_20 IAMs_20 07 59 34.0
comp=Z,2µm,21.0s
O22K Cooper Landing 112.91 343 IAMs_20 IAMs_20 08 02 25.4
comp=Z,2µm,20.0s
RC01 Rabbit Creek A 113.48 343 IAMs_20 IAMs_20 08 01 07.3
comp=Z,2µm,20.0s
O18K Koktuh Hills 113.49 340 IAMs_20 IAMs_20 08 00 17.4
comp=Z,2µm,22.0s
M26K Nabesna, AK 113.57 347 IAMs_20 IAMs_20 08 02 12.6
comp=Z,1µm,20.0s
O19K Port Alsworth 113.60 340 IAMs_20 IAMs_20 08 00 21.3
comp=Z,2µm,21.0s
N19K Bonanza Creek 114.19 341 IAMs_20 IAMs_20 08 03 09.9
comp=Z,1µm,19.0s
L26K Log Cabin Wild 114.21 347 IAMs_20 IAMs_20 08 00 54.7
comp=Z,2µm,22.0s
N18K Kilae Creek 114.38 340 IAMs_20 IAMs_20 08 00 55.0
comp=Z,2µm,22.0s
CUT Chulitna 114.79 343 IAMs_20 IAMs_20 08 03 08.0
comp=Z,1µm,20.0s
RIDG Independent Ri 115.11 346 IAMs_20 IAMs_20 08 01 41.5
comp=Z,1µm,20.0s
KOWA Kowa 115.39 97 IAMs_20 IAMs_20 08 11 03.3
comp=Z,999nm,20.0s
ILAR Eielson Array 116.40 346 PKP **PKPdf** **07 24 25.2 -1.4**
comp=Z,0.4nm,0.8s,baz=129,slow=1.3,SNR=3.1
MLY Manley 117.28 344 IAMs_20 IAMs_20 08 05 58.9
comp=Z,992nm,19.0s
I21K Tanana 117.64 344 IAMs_20 IAMs_20 08 06 28.4
comp=Z,1µm,19.0s
PMOZ Porto Moniz, M 119.78 73 *e*LR LR 08 02 57.0
comp=Z,423nm,20.0s
MBAR Mbarara 122.64 140 IAMs_20 IAMs_20 08 10 22.7
comp=Z,1µm,20.0s
RPSI Rantau Prapat 124.52 224 IAMs_20 IAMs_20 08 15 43.4
comp=Z,828nm,19.0s
KMBO Kilima Mbogo 124.68 147 PKP **PKiKP** **07 24 44.9 +0.1**
comp=Z,2.6nm,0.8s,baz=225,slow=4.3,SNR=3.3
PETK Petropavlovsk- 125.25 313 PKP **PKiKP** **07 24 45.6 +1.3**
comp=Z,0.4nm,0.5s,baz=208,slow=2.8,SNR=2.0
LODK Lodwar 128.17 143 IAMs_20 IAMs_20 08 16 00.1
comp=Z,843nm,19.0s
PBDV Barranco-do-Ve 128.44 75 *e*SS SS 07 44 41.2 +29
PNCL Nicolau / Gran 128.59 74 *e*SS SS 07 44 40.5 +26
PMAFR Mafra 128.63 73 *e*SS SS 07 44 44.2 +30
PVAQ Vaqueiros 128.67 75 *e*SS SS 07 44 21.0 +5.8
PVAQ Vaqueiros 128.67 75 *e*LR LR 08 04 21.1
comp=Z,599nm,20.0s
PSBE So Bento 129.27 72 *e*SS SS 07 44 35.2 +13
PMTG Montargil 129.36 73 *e*SS SS 07 44 50.6 +27
PESTR Estremoz 129.63 74 *e*SS SS 07 45 00.9 +34
PCAS Casmilo, Conde 129.77 72 *e*SS SS 07 44 44.6 +16
COI Coimbra 129.92 72 IAMs_20 IAMs_20 08 15 35.6
comp=Z,941nm,20.0s
PMRV Marv??o 130.09 73 *e*SS SS 07 44 43.1 +10
PMRV Marv??o 130.09 73 *e*LR LR 08 04 42.5
comp=Z,420nm,18.0s
MTE Manteigas 130.57 72 *e*SS SS 07 44 49.0 +10
MTE Manteigas 130.57 72 *e*LR LR 08 04 51.3
comp=Z,867nm,20.0s
MTE Manteigas 130.57 72 IAMs_20 IAMs_20 08 15 45.9
comp=Z,963nm,20.0s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
POLO	Lamas de Olo	130.97	71	eSS	SS	07 45 17.4	+34
PGAV	Gavieira, Arco	131.02	70	eSS	SS	07 44 55.3	+11
PGAV	Gavieira, Arco	131.02	70	eLR	LR	08 08 13.9	
	comp=Z,768nm,24.0s						
MVO	Moncorvo	131.33	72	eSS	SS	07 45 20.3	+32
MVO	Moncorvo	131.33	72	eLR	LR	08 08 18.7	
	comp=Z,716nm,20.0s						
QIZ	Qiongzhong	132.25	247	PKP	PKPdf	07 24 57.6	-0.7
QIZ				PP	PP	07 27 20.8	+0.1
QIZ				SS	SS	07 45 00.6	+1.8
QIZ				LR	LR		
	comp=Z,350nm,19.2s						
QIZ				LR	LR		
	comp=Z,260nm,25.0s						
QIZ				LR	LR		
	comp=Z,600nm,23.6s						
CART	Cartagena	133.04	79	IAMs_20	IAMs_20	08 20 46.4	
	comp=Z,618nm,20.0s						
NJ2	Nanjing	135.74	268	ePKP	PKPdf	07 25 04.6	+0.2
MDJ	Mudanjiang	136.09	290	PKP	PKiKP	07 25 05.8	-0.6
MDJ	Mudanjiang	136.09	290	IAMs_20	IAMs_20	08 13 48.7	
	comp=Z,1μm,22.0s						
CHTO	Chiang Mai	138.32	235	IAMs_20	IAMs_20	08 19 22.8	
	comp=Z,642nm,22.0s						
CLF	Chambon-Foret	140.52	68	IAMs_20	IAMs_20	08 19 02.2	
	comp=Z,1μm,22.0s						
SSB	Saint Sauveur	140.67	73	IAMs_20	IAMs_20	08 19 12.3	
	comp=Z,912nm,22.0s						
VSL	Villasalto	140.82	84	IAMs_20	IAMs_20	08 23 46.2	
	comp=Z,586nm,21.0s						
KMI	Kunming	141.13	246	⇑PKP	PKPdf	07 25 14.2	-0.7
KMI				sPKP		07 25 20.9	
KMI				PP	PP	07 28 20.4	+3.8
KMI				SKKS		07 35 09.4	
KMI				AMB	AMB		
	comp=Z,97nm,7.6s						
KMI				LR	LR		
	comp=Z,540nm,18.3s						
KMI				LR	LR		
	comp=Z,210nm,21.8s						
KMI				LR	LR		
	comp=Z,710nm,29.8s						
BNI	Bardonecchia	141.90	74	IAMs_20	IAMs_20	08 21 37.8	
	comp=Z,846nm,21.0s						
SENIN	Lac Senin/Sane	142.88	73	IAMs_20	IAMs_20	08 27 48.8	
	comp=Z,826nm,20.0s						
WLF	Walferdange	143.54	67	IAMs_20	IAMs_20	08 30 01.0	
	comp=Z,667nm,20.0s						
TIXI	Tiksi	143.69	331	IAMs_20	IAMs_20	08 19 31.3	
	comp=Z,954nm,21.0s						
VLC	Villacollemand	143.83	78	IAMs_20	IAMs_20	08 24 17.1	
	comp=Z,559nm,20.0s						
BFO	Black Forest	144.34	70	IAMs_20	IAMs_20	08 21 33.3	
	comp=Z,936nm,21.0s						
CEL	Celeste	144.37	90	IAMs_20	IAMs_20	08 25 21.2	
	comp=Z,1μm,22.0s						
CD2	Chengdu	144.68	253	PKP	PKPdf	07 25 20.5	-0.3
AQU	L'Aquila	144.91	82	PKPdf	PKPdf	07 25 21.3	+0.6
AQU				IAMs_20	IAMs_20	08 27 52.5	
	comp=Z,622nm,19.0s						
STU	Stuttgart	145.04	70		PKPdf	07 25 21.4	+0.6
TEOL	Teolo	145.19	77	PKPbc	PKPbc	07 25 20.7	-0.1
TIP	Timpagrande	145.44	89	IAMs_20	IAMs_20	08 28 08.6	
	comp=Z,718nm,22.0s						
CTI	Castel Tesino	145.47	75	PKPbc	PKPdf	07 25 21.4	-0.3
HHC	Hu-ho-hao-te	145.63	274	ePKPbc	PKPdf	07 25 19.4	-2.7
HHC				AMB	AMB		
	comp=Z,140nm,9.4s						
HHC				LR	LR		
	comp=Z,270nm,21.7s						
HHC				LR	LR		
	comp=Z,730nm,21.4s						
HHC				LR	LR		
	comp=Z,820nm,21.0s						
BTO	Baotou	146.50	273	eP	PKiKP	07 25 34.9	+6.9
GRFO	Grafenberg	146.61	69	IAMs_20	IAMs_20	08 23 01.4	
	comp=Z,682nm,21.0s						
GRA1	Grafenberg Arr	146.62	69	IAMs_20	IAMs_20	08 22 27.5	
	comp=Z,722nm,22.0s						
SHL	Shillong	147.57	233		PKPdf	07 25 27.0	+1.0
GEC2	GERESS Array S	147.84	72	PKPdf	PKPdf	07 25 25.8	+0.2
GERES	GERESS Array B	147.84	72	PKPbc	PKPbc	07 25 27.8	-0.7
	comp=Z,0.6nm,0.4s,baz=266,slow=3.8,SNR=6.7						
GERES	GERESS Array B	147.84	72	PKPdf	PKPdf	07 25 26.0	+0.4
KHC	Kasperske Hory	147.87	71	ePKPAB	PKPab	07 25 32.5	+1.4
KHC	Kasperske Hory	147.87	71	PKPdf	PKPdf	07 25 26.5	+0.9
LZH	Lanzhou	147.98	261	ePKPbc	PKPdf	07 25 25.1	-1.2
LZH				pPKP	sPKPab	07 25 36.7	+1.3
LZH				LR	LR		
	comp=Z,580nm,13.6s						
LZH				LR	LR		
	comp=Z,340nm,16.0s						
LZH				LR	LR		
	comp=Z,490nm,18.4s						
CLL	Collm	148.21	67	ePKPdf	PKPbc	07 25 29.0	-0.3
CLL				ePKPbc	PKiKP	07 25 31.0	0.0
CLL				ePKPab	pPKPab	07 25 34.0	-0.8
	comp=Z,17nm,1.5s						
CLL				e		07 25 38.0	
CLL				ePP	PP	07 29 02.0	+3.4
CLL				ePSKS		07 39 24.0	
CLL				ePPS	PPS	07 41 48.0	
CLL				eSS	SS	07 48 06.0	+0.3
CLL				eSSS	SSS	07 53 48.0	
CLL				eSSSS		07 57 42.0	
CLL				Lm	MLR	08 26 00.0	
	comp=Z,600nm,20.3s						
CLL	Collm	148.21	67		PKPbc	07 25 28.2	-1.1
CLL				IAMs_20	IAMs_20	08 26 55.6	
	comp=Z,594nm,20.0s						
TIR	Tirane	148.60	88	IAMs_20	IAMs_20	08 28 52.2	
	comp=Z,701nm,21.0s						
BRG	Berggiesshubel	148.65	68	ePKP	PKPab	07 25 36.0	+1.8
BRG				Amp		07 25 36.7	
	comp=Z,5.8nm,0.9s						
BRG	Berggiesshubel	148.65	68	P	PKPab	07 25 43.4	+9.2
BRG				Amp		07 25 46.5	
	comp=Z,7.0nm,1.1s						
PDG	Podgorica	148.74	86	IAMs_20	IAMs_20	08 45 54.9	
	comp=Z,643nm,22.0s						
NOA	NORSAR Array B	148.88	48	PKPbc	PKPbc	07 25 30.8	0.0
	comp=Z,0.8nm,0.9s,baz=267,slow=2.3,SNR=2.9						
RGN	Rugen	149.20	61	IAMs_20	IAMs_20	08 23 57.8	
	comp=Z,606nm,20.0s						
KRUC	Moravsky	149.59	73	ePKP	PKPab	07 25 37.4	-0.7
VRAC	Vranov	149.79	72	ePKP	PKPab	07 25 38.0	-0.9
DIVS	Divibare	149.98	84		PKPbc	07 25 34.5	+0.4
KARP	Karpathos	150.04	104	IAMs_20	IAMs_20	08 34 14.8	
	comp=Z,725nm,22.0s						
JAVC	Velka Javorina	150.32	73	ePKP	PKPab	07 25 40.5	-0.6
MORC	Moravsky Berou	150.52	72	ePKP	PKPab	07 25 40.1	-1.9
VYHS	Vyhne	150.93	75	ePKP	PKiKP	07 25 37.1	+0.4
LSA	Lhasa	151.25	237	IAMs_20	IAMs_20	08 37 48.3	
	comp=Z,667nm,20.0s						
PSZ	Piszkesteto	151.40	76	IAMs_20	IAMs_20	08 31 54.2	
	comp=Z,577nm,21.0s						
ULN	Ulaanbaatar	151.57	283		PKPbc	07 25 37.2	-0.6
ULN	Ulaanbaatar	151.57	283	IAMs_20	IAMs_20	08 27 46.4	
	comp=Z,643nm,21.0s						
SONM	Songino Array	151.98	283	PKPbc	PKPbc	07 25 38.0	-0.8
	comp=Z,1.5nm,0.6s,baz=98,slow=1.2,SNR=7.2						
SONM	Songino Array	151.98	283		PKPbc	07 25 37.5	-1.3
GHAJ	Ghor Haditha	152.18	120	IAMs_20	IAMs_20	08 31 13.7	
	comp=Z,966nm,21.0s						
GTA	Gaotai	152.51	262	ePKPbc	PKiKP	07 25 40.9	+0.5
GTA				LR	LR		
	comp=N,500nm,19.3s						
GTA				LR	LR		
	comp=E,650nm,21.1s						
GTA				LR	LR		
	comp=Z,480nm,21.8s						
CSS	Mathiatis	153.49	112	IAMs_20	IAMs_20	08 30 44.7	
	comp=Z,892nm,22.0s						
ISP	Isparta	153.57	104	IAMs_20	IAMs_20	08 38 48.3	
	comp=Z,609nm,21.0s						
MLR	Muntele Rosu	154.41	85	IAMs_20	IAMs_20	08 45 16.0	
	comp=Z,888nm,22.0s						
SUW	Suwalki	154.82	64	IAMs_20	IAMs_20	08 31 06.6	
	comp=Z,802nm,20.0s						
BRTR	Keskin Array B	156.66	103	PKPab	PKPab	07 26 08.7	+0.3
	comp=Z,2.2nm,0.9s,baz=204,slow=3.2,SNR=5.1						
WMQ	Urumqi	162.56	260	ePKP	PKPdf	07 25 44.1	-1.4
WMQ				LR	LR		
	comp=Z,1μm,18.9s						
WMQ				LR	LR		
	comp=Z,850nm,21.3s						
WMQ				LR	LR		
	comp=Z,1μm,21.3s						
ZALV	Zalesovo Beam	166.15	297	PKPab	PKPab	07 26 48.0	-1.2
	comp=Z,0.5nm,0.3s,baz=95,slow=1.7,SNR=1.6						
MKAR	Makanchi Array	167.24	265	PKPab	PKPab	07 26 53.8	-0.5
	comp=Z,1.6nm,0.8s,baz=95,slow=7.0,SNR=10						
MKAR				PP	PP	07 30 44.6	+1.3
	comp=Z,0.4nm,0.8s,baz=116,slow=6.6,SNR=2.4						

JMA 09 07:17:40.6, 35°.05N×137°.46E, h39km, M2.5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JSSY	Shinshiroyabe	0.14	164	P	Pn	07 17 47.3	-2.0
JSSY				S	Sn	07 17 51.9	-4.8
JYZW	Yoshizawa	0.23	103	P	Pn	07 17 47.6	-1.0
SHZ3	Shizuoka 3	0.61	88	P	Pn	07 17 52.8	-0.2
SHZ3				S	Sn	07 18 02.1	+0.4
JYTA	Yamagatataniai	0.80	313	P	Pn	07 17 55.7	+0.3
JYTA				S	Sn	07 18 06.6	+0.4
JIE	Ise	0.90	224	P	Pn	07 17 56.7	-0.1
JIE				S	Sn	07 18 08.2	-0.4
TSUJ	Tsu 2	0.92	249	P	Pn	07 17 57.4	+0.4
TSUJ				S	Sn	07 18 09.6	+0.6
JYN	Shimob	0.99	63	P	Pn	07 17 58.8	+0.7
MAT	Matsushiro	1.61	22	P	Pn	07 18 08.2	+1.7
MAT				S	Sn	07 18 28.8	+2.8

IDC 09 07:25:45.9±1.2, 11°.30N×139°.82E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/34, mbtmp3.9/6, MS3.6/2, Ms1 3.6/2, ms1mx3.0/37, Error ellipse: s-maj=41.9km s-min=22.9km az=88.0

ISC 09 07:25:51.2±1.2, 11°.3N±0°.2×139°.8E±0°.3, h35km, n8, σ0s26/6, mb3.8/6, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAY	Jayapura	13.72	176	LR	LR	07 33 33.5	
	comp=Z,135nm,19.2s,baz=162,slow=34						
BATI	Baumata	26.68	217	LR	LR	07 41 41.8	
	comp=Z,208nm,20.9s,baz=355,slow=36						
WRA	Warramunga Arr	31.48	190	P	P	07 32 09.7	0.0
	0.6nm,0.7s,baz=11,slow=10.0,SNR=5.6						
ASAR	Alice Springs	35.19	189	P	P	07 32 42.1	0.0
	0.6nm,0.6s,baz=16,slow=13,SNR=11						
CMAR	Chiang Mai Arr	40.04	285	P	P	07 33 23.4	+0.1
	1.0nm,0.3s,baz=101,slow=7.4,SNR=5.7						
MKAR	Makanchi Array	59.78	318	P	P	07 35 52.9	+0.1
	0.6nm,0.7s,baz=98,slow=8.9,SNR=6.7						
ILAR	Eielson Array	72.78	25	P	P	07 37 16.0	+0.2
	0.4nm,0.7s,baz=250,slow=6.0,SNR=6.0						
ARCES	ARCESS Array B	87.71	341	P	P	07 38 35.6	-0.4
	5.8nm,1.0s,baz=76,slow=5.1,SNR=3.7						

IDC 09 07:34:09.8±7.3, 11°.94N×141°.20E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/37, mbtmp3.4/3, Error ellipse: s-maj=295.8km s-min=33.4km az=78.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.40	192	P	P	07 40 41.4	-0.1
	0.4nm,0.7s,baz=14,slow=9.9,SNR=2.1						
ASAR	Alice Springs	36.10	191	P	P	07 41 13.6	0.0
	0.3nm,0.5s,baz=18,slow=12,SNR=6.8						
MKAR	Makanchi Array	60.23	317	P	P	07 44 19.8	-0.1
	0.4nm,0.8s,baz=111,slow=6.9,SNR=2.4						

OTT 09 07:36:33.6±0.4, 41°.74N×54°.99W, h18km, ML3.9/2, Atlantic Ocean. 599km south from Grand Bank, Nl, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GBN	Guysborough	5.99	310	PN	Pn	07 38 00.8	-0.4
GBN				SN	Sn	07 39 05.2	-4.2
GBN				Trac		07 39 12.6	
	comp=Z,25nm,0.8s						
SJNN	Saint John's	6.08	15	SN	Sn	07 39 06.5	-5.1
SJNN				SN	Sn	07 39 06.9	-4.7
SJNN				Trac		07 39 16.1	
	comp=Z,306nm,2.2s						
CHEG	Cheticamp, Nov	6.51	323	PN	Pn	07 38 07.6	-0.8
CHEG				SN	Sn	07 39 17.2	-4.8
CHEG				Trac		07 39 23.9	
	comp=Z,453nm,2.1s						
DRLN	Deer Lake	7.72	348	PN	Pn	07 38 24.1	-0.9
DRLN				SN	Sn	07 39 46.3	-5.6
DRLN				Trac		07 39 53.2	
	comp=Z,898nm,3.5s						
LMN	Caledonia Moun	8.21	303	PN	Pn	07 38 30.1	-1.6
LMN				SN	Sn	07 39 57.1	-6.7
LMN				Trac		07 40 04.0	
	comp=Z,9.2nm,0.5s						
ELNB	Elgin, New Bru	8.42	303	SN	Sn	07 40 04.1	-5.1
WCNB	Wards Creek	8.56	301	SN	Sn	07 40 06.4	-6.3

IDC 09 07:42:12.2±1.8, 33°.01S×178°.67W, h0km, mb4.0/3, mb1 4.3/4, mb1mx3.8/25, mbtmp4.1/4, ML4.2/1, Error ellipse: s-maj=40.9km s-min=31.2km az=79.0

ISC 09 07:42:16.7±1.6, 33°.0S±0°.2×178°.7W±0°.3, h32km, n6, σ0s52/7, mb3.9/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.25	212	Pn	Pn	07 43 46.1	-0.6
	5.8nm,0.3s,baz=313,slow=16,SNR=20						
URZ				Sn	Sn	07 44 57.2	+0.2
	13nm,0.3s,baz=189,slow=18,SNR=12						
ASAR	Alice Springs	42.46	270	P	P	07 50 09.2	+0.2
	1.5nm,0.7s,baz=110,slow=7.4,SNR=16						
WRA	Warramunga Arr	43.69	275	P	P	07 50 19.1	+0.2
	1.1nm,0.5s,baz=115,slow=7.7,SNR=18						
QSPA	South Pole Qui	57.10	180	P	P	07 52 00.2	+0.5
	2.6nm,1.0s,baz=42,slow=1.9,SNR=6.3						
FINES	FINESS Array B	147.38	338	PKPbc	PKPbc	08 01 56.2	-0.2
	2.4nm,0.6s,baz=47,slow=3.3,SNR=8.4						
NB2	NORSAR Subarra	151.23	350	PKP	PKPbc	08 02 05.5	-0.6
	comp=Z,3.2nm,1.2s,baz=22,slow=3.1						

IDC 09 08:17:15.6±0.8, 49°.36S×116°.45W, h0km, mb4.1/7, mb1 4.3/7, mb1mx4.1/26, mbtmp4.1/7, MS4.4/17, Ms1 4.4/17, ms1mx4.3/25, Error ellipse: s-maj=34.3km s-min=22.1km az=126.0

GCMT 09 08:17:21.0±0.2, 49°.43S±0°.02×116°.18W±0°.02, h25km±1km, MW5.2/98, Moment Tensor Solution. s30,c34; s98,c146; Duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.08±.30; $M_{\theta\theta}$3.20±.24; $M_{\phi\phi}$-3.28±.23; $M_{r\theta}$3.22±.58; $M_{\theta\phi}$4.30±.14; $M_{\phi r}$3.94±.58; Best double couple: $M_0$7.25000×10^{16} NP1:ϕ_s113.00000°, δ49.00000°, λ6.00000°. NP2:ϕ_s20.00000°, δ86.00000°, λ139.00000°. Principal axes: T 8.1300, Plg31.0000°, Azm328.0000°; N -1.7590, Plg49.0000°, Azm195.0000°; P -6.3700, Plg24.0000°, Azm74.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function

ISC 09 08:17:17.1±0.8, 49°.4S±0°.2×116°.4W±0°.2, h10km, n46, σ0s63/10, mb4.2/7, MS4.6/20, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	22.85	16	LR	LR	08 28 49.2	
	comp=Z,166nm,21.4s,baz=186,slow=30						
RKT	Rikitea	29.99	324	eT	T	08 54 42.9	
	2.3nm,0.3s						
H03S2	Juan Fernandez	31.65	75	T	T	08 56 52.5	
	baz=227,slow=74,SNR=92						
H03S1	Juan Fernandez	31.66	75	T	T	08 56 53.0	
	baz=227,slow=74,SNR=68						
H03S3	Juan Fernandez	31.67	75	T	T	08 56 52.0	
	baz=227,slow=74,SNR=49						
H03N3	Juan Fernandez	31.90	74	T	T	08 57 07.7	
	baz=230,slow=72,SNR=79						
H03N2	Juan Fernandez	31.91	74	T	T	08 57 06.6	
	baz=230,slow=72,SNR=66						
H03N1	Juan Fernandez	31.92	74	T	T	08 57 02.0	
	baz=230,slow=72,SNR=18						
PLCA	Paso Flores	33.09	93	LR	LR	08 33 59.5	
	comp=Z,441nm,20.6s,baz=238,slow=30						
TBI	Tubuai	36.69	303	eLR	LR	08 34 10.4	
	comp=Z,1μm,28.8s,baz=150						
MEH	Mehetia	40.46	310	eT	T	09 07 48.9	
	17nm,0.2s						
VNDA	Vanda	40.63	199	P	P	08 24 57.4	+0.8
	1.0nm,1.1s,baz=82,slow=7.1,SNR=2.5						
VNDA				LR	LR	08 38 43.8	
	comp=Z,514nm,18.5s,baz=96,slow=32						
QSPA	South Pole Qui	40.85	180	P	P	08 24 58.9	+0.2
	4.7nm,1.0s,baz=104,slow=6.7,SNR=10						
QSPA				LR	LR	08 39 21.4	
	comp=Z,429nm,20.4s,baz=73,slow=32						
PAE	Paea	41.41	308	eT	T	09 08 52.7	
	0.8nm,0.3s						
PPT2	Papeete2	41.47	308	eLR	LR	08 36 21.9	
	comp=Z,2μm,24.5s,baz=142						
PPT2	Papeete2	41.47	308	eT	T	09 08 53.0	
	1.6nm,0.3s						
PPT	Papeete	41.48	308	LR	LR	08 37 48.6	
	comp=Z,709nm,18.6s,baz=165,slow=30						
VAH	Vaihoa	42.49	312	eT	T	09 10 20.7	
	4.8nm,0.3s						
RAR	Rarotonga	44.30	293	LR	LR	08 38 33.2	
	comp=Z,286nm,19.6s,baz=116,slow=29						
TAOE	Nuku Hiva Isla	44.99	326	eLR	LR	08 37 54.4	
	comp=Z,2μm,25.8s						
URZ	Urewera	47.78	257	LR	LR	08 40 56.0	
	comp=Z,487nm,20.3s,baz=211,slow=30						
CPUP	Villa Florida	50.56	86	P	P	08 26 15.4	-0.3
	4.5nm,1.1s,baz=286,slow=7.4,SNR=4.2						
CPUP				LR	LR	08 44 06.7	
	comp=Z,498nm,21.0s,baz=232,slow=32						
LPAZ	La Paz	51.03	67	P	P	08 26 20.2	+0.1
	3.0nm,0.9s,baz=247,slow=7.7,SNR=9.0						
LPAZ				LR	LR	08 42 49.7	
	comp=Z,344nm,20.0s,baz=236,slow=30						
MAW	Mawson	63.37	180	LR	LR	08 53 30.8	
	comp=Z,431nm,20.0s,baz=182,slow=34						
BDFB	Brasilia	64.23	84	LR	LR	08 53 43.4	
	comp=Z,340nm,18.0s,baz=219,slow=34						
ROSC	El Rosal	65.15	47	LR	LR	08 51 22.0	
	comp=Z,453nm,19.8s,baz=226,slow=31						
DZM	Mont Dzumac	65.32	264	eLR	LR	08 47 29.7	
	comp=Z,558nm,25.4s						
DZM	Mont Dzumac	65.32	264	LR	LR	08 52 57.4	
	comp=Z,336nm,18.3s,baz=106,slow=33						
STKA	Stephens Creek	73.62	240	LR	LR	08 55 26.6	
	comp=Z,334nm,18.9s,baz=68,slow=31						
TXAR	Lajitas Array	79.15	11	P	P	08 29 22.6	+0.8
	1.2nm,1.1s,baz=202,slow=9.5,SNR=7.1						
ASAR	Alice Springs	84.26	240	P	P	08 29 48.1	-1.0
	4.5nm,1.1s,baz=144,slow=4.6,SNR=13						
ASAR				LR	LR	09 02 24.8	
	comp=Z,239nm,18.5s,baz=158,slow=32						
H01W1	Cape Leeuwin H	84.87	220	T	T	10 04 18.1	
	baz=150,slow=76,SNR=16						
H01W2	Cape Leeuwin H	84.88	220	T	T	10 04 19.1	
	baz=150,slow=76,SNR=14						
H01W3	Cape Leeuwin H	84.89	220	T	T	10 04 20.3	
	baz=150,slow=76,SNR=14						
WRA	Warramunga Arr	86.92	243	LR	LR	09 04 26.2	
	comp=Z,171nm,18.9s,baz=300,slow=33						
NVAR	Mina Array Bea	87.42	359	LR	LR	09 01 35.9	
	comp=Z,344nm,18.0s,baz=152,slow=30						
PDAR	Pinedale Array	91.93	5	P	P	08 30 25.4	0.0
	0.5nm,0.8s,baz=189,slow=3.8,SNR=4.3						
H11S2	WAKE ISLAND Hy	95.61	292	T	T	10 17 02.5	
	baz=140,slow=76,SNR=223						
H11S3	WAKE ISLAND Hy	95.62	292	T	T	10 17 04.7	
	baz=140,slow=76,SNR=176						
H11S1	WAKE ISLAND Hy	95.62	292	T	T	10 17 05.2	
	baz=140,slow=76,SNR=154						
H11N3	WAKE ISLAND Hy	96.42	293	T	T	10 18 06.8	
	baz=142,slow=76,SNR=52						
H11N1	WAKE ISLAND Hy	96.43	293	T	T	10 18 04.4	
	baz=142,slow=76,SNR=42						
H11N2	WAKE ISLAND Hy	96.44	293	T	T	10 18 04.1	
	baz=142,slow=76,SNR=32						
GERES	GERESS Array B	147.81	72	PKPbc	PKPbc	08 37 01.1	-0.4
	0.9nm,0.8s,baz=224,slow=2.7,SNR=6.2						
SONM	Songino Array	151.92	283	PKPbc	PKiKP	08 37 12.0	0.0
	0.7nm,0.7s,baz=146,slow=3.1,SNR=4.8						
BRTR	Keskin Array B	156.72	103	PKPab	PKPab	08 37 41.2	-0.4
	3.8nm,1.0s,baz=191,slow=5.9,SNR=6.6						

IDC 09 08:26:03.0±2.3, 6°.94S×129°.38E, h0km, mb3.4/1, mb1 4.0/4, mb1mx3.7/33, mbtmp3.8/4, ML4.0/3, Error ellipse: s-maj=86.4km s-min=29.9km az=76.0

DJA 09 08:26:15.1±0.4, 7°S±3°×12°9E±°, h147km±9km, M4.2/7, mb4.1/6, mB5.0/3, MLv4.2/7, Mw(mB)4.3/3

ISC 09 08:26:15.7±1.0, 7°.50S±0°.07×129°.42E±0°.07, h150km, n9, σ2s76/14, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.92	105	P	Pn	08 26 51.9	+2.0
SAUI				S	Sn	08 27 17.7	+1.5
FAKI	Fak Fak	5.35	32	P	Pn	08 27 30.9	-2.9
	0.3nm8μm38nm,1.6s						
SOEI	Soe	5.57	246	P	Pn	08 27 37.0	+0.2
	0.3nm27nm,0.7s						
SOEI				S	Sn	08 28 40.8	+0.6
	0.3nm27nm,0.7s						
BATI	Baumata	6.30	244	P	Pn	08 27 46.8	+0.4
	0.1nm16nm,0.7s						
SIJI	Sorong	6.84	16	P	Pn	08 27 50.2	-3.5
	0.1nm663nm9.5nm,0.7s						
FITZ	Fitzroy Crossi	11.16	199	Pn	Pn	08 28 51.9	+0.9
	1.0nm,0.3s,baz=20,slow=10,SNR=30						
FITZ				Sn	Sn	08 30 50.6	-3.9
	0.4nm,0.3s,baz=142,slow=17,SNR=1.9						
WRA	Warramunga Arr	13.26	159	Pn	Pn	08 29 19.7	+1.4
	0.9nm,0.3s,baz=342,slow=13,SNR=51						
WRA				Sn	Sn	08 31 41.7	-3.4
	0.9nm,0.3s,baz=339,slow=21,SNR=9.4						
ASAR	Alice Springs	16.64	166	P	Pn	08 30 04.4	+4.0
	0.3nm,0.3s,baz=336,slow=9.7,SNR=16						
ASAR				S	S	08 33 03.0	-2.4
	0.2nm,0.3s,baz=348,slow=27,SNR=4.3						
MKAR	Makanchi Array	68.33	327	P	P	08 37 03.1	+2.3
	0.2nm,0.4s,baz=126,slow=7.3,SNR=2.9						

IDC 09 08:36:19.9±2.9, 32°.80S×178°.51W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/36, mbtmp4.0/4, ML3.7/1, Error ellipse: s-maj=66.1km s-min=35.7km az=116.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.51	212	Pn	Pn	08 37 57.6	+0.8
	1.5nm,0.3s,baz=112,slow=19,SNR=15						
URZ				Sn	Sn	08 39 10.2	-1.6
	4.6nm,0.3s,baz=169,slow=18,SNR=3.8						
ASAR	Alice Springs	42.61	270	P	P	08 44 18.0	0.0
	1.6nm,0.6s,baz=108,slow=7.5,SNR=31						
WRA	Warramunga Arr	43.81	275	P	P	08 44 27.6	-0.2
	2.4nm,0.6s,baz=116,slow=7.7,SNR=36						
FITZ	Fitzroy Crossi	51.97	272	P	P	08 45 31.0	0.0
	1.0nm,0.7s,baz=108,slow=6.4,SNR=1.5						
FINES	FINESS Array B	147.23	338	PKPbc	PKPbc	08 56 03.4	-1.0
	3.7nm,0.8s,baz=60,slow=4.6,SNR=7.8						

IASPEI 09 08:56:24.7±0.9, 44°.31N±0°.02×7°.36E±0°.02, h19km±2km, Error ellipse: s-maj=2.6km s-min=2.2km az=56.5, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009

ROM 09 08:56:24.9±0.1, 44°.284N±0°.010×7°.36E±0°.01, h14km±1km, ML1.9/7, Error ellipse: s-maj=1.1km s-min=0.8km az=225.0

STR 09 08:56:25.0±0.6, 44°N±3°×°±°, h16km±4km, MLv1.8/6, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary

LDG 09 08:56:25.1±0.0, 44°.30N×7°.37E, h14km, Md2.4/2, Ml2.5/18, Error ellipse: s-maj=0.9km s-min=0.6km az=56.0

GEN 09 08:56:25.3, 44°.30N×7°.36E, h14km±2km, Ml1.7

ISC 09 08:56:24.8±0.9**, 44°.30N**±0°.02×**7°.36E**±0°.02**, h19**km±2km**,**
n71, σ**1s.52**/108**, 2C-4D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ENR	**Entracque**	**0.09**	**148**	P	**Pg**	**08 56 28.4**	**-0.3**
ENR				S	**Sg**	**08 56 30.4**	**-0.9**
ENR	**Entracque**	**0.09**	**148**	P	**Pg**	**08 56 28.4**	**-0.3**
ENR				S	**Sg**	**08 56 30.3**	**-0.9**
ENR				AML	AML		
	comp=E,3610μm,0.1s						
ENR				AML	AML		
	comp=N,314μm,0.5s						
ISO	**Isola**	**0.25**	**242**	Pg	**Pg**	**08 56 30.7**	**0.0**
ISO				Sg	**Sg**	**08 56 34.1**	**-0.6**
PZZ	**Stroppo**	**0.27**	**320**	P	**Pg**	**08 56 31.2**	**+0.1**
PZZ				S	**Sg**	**08 56 35.6**	**+0.2**
PZZ	**Stroppo**	**0.27**	**320**	⇓P	**Pg**	**08 56 31.2**	**+0.1**
PZZ				S	**Sg**	**08 56 35.5**	**+0.2**
PZZ				AML	AML		
	comp=E,335μm,0.2s						
PZZ				AML	AML		
	comp=N,347μm,1.4s						
TURF	**col de Turini**	**0.33**	**175**	Pg	**Pg**	**08 56 31.8**	**-0.2**
TURF				Sg	**Sg**	**08 56 36.1**	**-0.7**
SAOF	**Saorge**	**0.34**	**155**	Pg	**Pg**	**08 56 32.0**	**-0.2**
SAOF				Sg	**Sg**	**08 56 36.3**	**-0.9**
SAOF	**Saorge**	**0.34**	**155**	⇓P	**Pg**	**08 56 32.0**	**-0.2**
SAOF				S	**Sg**	**08 56 36.5**	**-0.7**
SAOF	**Saorge**	**0.34**	**155**	AML	AML		
	comp=E,388μm,0.4s						
SAOF				AML	AML		
	comp=N,404μm,0.2s						
GBOS	**Grotte di Boss**	**0.35**	**99**	P	**Pg**	**08 56 32.3**	**0.0**
GBOS	**Grotte di Boss**	**0.35**	**99**	P	**Pg**	**08 56 32.3**	**0.0**
MGRO	**Montegrosso**	**0.41**	**128**	P	**Pg**	**08 56 33.3**	**-0.2**
MGRO				S	**Sg**	**08 56 39.0**	**-0.4**
MGRO	**Montegrosso**	**0.41**	**128**	P	**Pg**	**08 56 33.3**	**-0.2**
MGRO				S	**Sg**	**08 56 39.1**	**-0.3**
SURF	**Saint Ours**	**0.43**	**295**	Pg	**Pg**	**08 56 34.0**	**+0.2**
SBF	**Sospel**	**0.44**	**173**	*e*Pg	**Pg**	**08 56 33.8**	**-0.1**
SBF				*e*Sg	**Sg**	**08 56 39.7**	**-0.3**
	comp=N,118nm,0.2s						
ESCA	**l'Escarene**	**0.47**	**178**	Pg	**Pg**	**08 56 34.2**	**-0.2**
BURY	**Giardini Botan**	**0.54**	**164**	P	**Pg**	**08 56 35.4**	**-0.2**
BURY				S	**Sg**	**08 56 42.4**	**-0.5**
BURY	**Giardini Botan**	**0.54**	**164**	P	**Pg**	**08 56 35.4**	**-0.2**
BURY				S	**Sg**	**08 56 42.3**	**-0.5**
BURY				AML	AML		
	comp=E,216μm,0.6s						
BURY				AML	AML		
	comp=N,176μm,0.8s						
RORO	**Rocca Rossa**	**0.54**	**110**	P	**Pg**	**08 56 35.6**	**-0.1**
RORO				S	**Sg**	**08 56 42.8**	**-0.4**
RORO	**Rocca Rossa**	**0.54**	**110**	P	**Pg**	**08 56 35.6**	**-0.1**
RORO				S	**Sg**	**08 56 42.7**	**-0.4**
RORO				AML	AML		
	comp=E,115μm,1.2s						
RORO				AML	AML		
	comp=N,124μm,0.9s						
BHB	**Bricherasio**	**0.55**	**353**	P	**Pg**	**08 56 34.7**	**-1.1**
BHB				S	**Sg**	**08 56 41.3**	**-1.9**
BHB	**Bricherasio**	**0.55**	**353**	P	**Pg**	**08 56 34.7**	**-1.1**
BHB				AML	AML		
	comp=E,75μm,1.6s						
BHB				AML	AML		
	comp=N,69μm,0.4s						
MON	**Monaco**	**0.57**	**175**	Pg	**Pg**	**08 56 36.3**	**+0.1**
MON				Sg	**Sg**	**08 56 43.4**	**-0.5**
MBDF	**Montbardon**	**0.60**	**316**	*e*Pg	**Pg**	**08 56 36.7**	**-0.1**
MBDF				*e*Sg	**Sg**	**08 56 44.9**	**0.0**
	comp=N,26nm,0.3s						
OGAG	**Argentiere**	**0.60**	**285**	Pg	**Pn**	**08 56 39.7**	**+1.3**
OGAG				Pn	Pb	08 56 44.3	+7.6
CALF	**Calern**	**0.63**	**210**	Pg	**Pg**	**08 56 37.2**	**-0.2**
CALF				Sg	**Sg**	**08 56 45.8**	**0.0**
CANO	**Canova, Maglio**	**0.64**	**98**	P	**Pg**	**08 56 37.3**	**-0.2**
CANO				S	**Sg**	**08 56 45.6**	**-0.5**
QLNO	**Quiliano**	**0.71**	**88**	P	**Pg**	**08 56 38.9**	**+0.1**
QLNO				S	**Sg**	**08 56 48.1**	**-0.2**
QLNO				AML	AML		
	comp=E,156μm,0.4s						
QLNO				AML	AML		
	comp=N,140μm,0.1s						
RRL	**Rocca Remolon**	**0.74**	**327**	P	**Pg**	**08 56 39.0**	**-0.4**
RRL				S	**Sg**	**08 56 48.9**	**-0.5**
RRL	**Rocca Remolon**	**0.74**	**327**	P	**Pg**	**08 56 39.0**	**-0.4**
RRL				AML	AML		
	comp=E,30μm,1.3s						
RRL				AML	AML		
	comp=N,32μm,0.9s						
RSP	**Reno Superiore**	**0.85**	**356**	P	**Pg**	**08 56 39.5**	**-1.9**
MONC	**Moncucco Torin**	**0.88**	**28**	P	**Pg**	**08 56 41.7**	**-0.2**
MONC				AML	AML		
	comp=N,100μm,1.2s						
MONC				AML	AML		
	comp=E,74μm,1.5s						
PCP	**Piancastagn**	**0.89**	**74**	P	**Pg**	**08 56 41.9**	**-0.2**
PCP				S	**Sg**	**08 56 53.5**	**-0.3**
PCP	**Piancastagn**	**0.89**	**74**	P	**Pg**	**08 56 42.0**	**-0.2**
PCP				S	**Sg**	**08 56 53.7**	**-0.1**
PCP				AML	AML		
	comp=E,58μm,0.6s						
PCP				AML	AML		
	comp=N,61μm,0.5s						
PCP				AML	AML		
	comp=E,57μm,0.6s						
FRF	**La Foret Royal**	**0.90**	**215**	*e*Pn	**Pb**	**08 56 41.8**	**+0.1**
FRF	**La Foret Royal**	**0.90**	**215**	*e*Pg	**Pb**	**08 56 42.3**	**+0.6**
FRF				*e*Sg	**Sb**	**08 56 53.8**	**+0.5**
	comp=E,33nm,0.2s						
LMR	**La Mourre**	**1.14**	**213**	*e*Pg	**Pb**	**08 56 46.3**	**+0.4**
LMR				*e*Sn	**Sb**	**08 56 59.9**	**-0.4**
	comp=E,83nm,0.3s						
LMR				*e*Sg	**Sg**	**08 57 01.8**	**-0.1**
	comp=E,95nm,0.3s						
LSD	**Lago del Serru**	**1.17**	**352**	AML	AML		
	comp=E,23μm,0.8s						
LSD				AML	AML		
	comp=N,17μm,1.5s						
ORIF	**Oris-en-Rattie**	**1.22**	**301**	*e*Pg	**Pb**	**08 56 48.4**	**+1.1**
ORIF				*e*Sg	**Sn**	**08 57 04.5**	**+1.6**
	comp=N,6.8nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.22**	**301**	Pg	**Pb**	**08 56 48.5**	**+1.1**
ORIF				Sg	**Sb**	**08 57 03.9**	**+1.1**
ORIF	**Oris-en-Rattie**	**1.22**	**301**	P	**Pb**	**08 56 48.3**	**+1.0**
LPG	**La Plagne**	**1.27**	**340**	*e*Pn	**Pn**	**08 56 47.8**	**0.0**
LPG	**La Plagne**	**1.27**	**340**	*e*Pg	**Pb**	**08 56 49.4**	**+1.1**
LPG				*e*Sn	**Sb**	**08 57 03.0**	**-1.4**
LPG				*e*Sg	**Sg**	**08 57 06.3**	**+0.1**
	comp=N,3.6nm,0.2s						
LPL	**La Plagne**	**1.29**	**340**	*e*Pg	**Pb**	**08 56 49.7**	**+1.1**
LPL				*e*Sg	**Sg**	**08 57 07.0**	**+0.1**
	comp=N,3.7nm,0.3s						
SMRF	**Simiane la Rot**	**1.32**	**256**	*e*Pg	**Pb**	**08 56 50.1**	**+1.1**
SMRF				*e*Sg	**Sg**	**08 57 07.8**	**+0.1**
	comp=N,13nm,0.3s						
ARTF	**Artigues**	**1.33**	**238**	Pg	**Pn**	**08 56 49.3**	**+1.0**
ARTF				Sg	**Sg**	**08 57 07.8**	**0.0**
RUSF	**Rustrel**	**1.40**	**256**	Pg	**Pb**	**08 56 51.4**	**+1.2**
RUSF				Sg	**Sg**	**08 57 12.5**	**+2.5**
VIVF	**Saint-Julien-l**	**2.00**	**287**	*e*Pn	**Pn**	**08 56 57.3**	**-0.2**
VIVF	**Saint-Julien-l**	**2.00**	**287**	*e*Pg	**Pg**	**08 57 02.7**	**-0.5**
VIVF				*e*Sn	**Sn**	**08 57 20.4**	**-1.6**
	comp=N,2.1nm,0.2s						
GROG	**Isola di Gorgo**	**2.03**	**115**	S	**Sg**	**08 57 35.0**	**+4.8**
PGF	**Pioggiola**	**2.12**	**145**	*e*Pn	**Pn**	**08 56 58.4**	**-0.9**
PGF				*e*Sn	**Sn**	**08 57 23.0**	**-2.1**
	comp=N,2.5nm,0.3s						
LASF	**Ste Croix**	**2.53**	**266**	*e*Pn	**Pn**	**08 57 04.3**	**-0.5**
LASF				*e*Sn	**Sn**	**08 57 33.0**	**-2.0**
	comp=N,3.1nm,0.3s						
MNTV	**Mantova**	**2.59**	**70**	P	**Pb**	**08 57 10.8**	**+0.2**
SFI	**Santa Sofia**	**3.26**	**95**	P	**Pn**	**08 57 18.7**	**+3.9**
CRE	**Caprese Michel**	**3.39**	**100**	P	**Pn**	**08 57 20.7**	**+4.0**
SMF	**Signal de Mont**	**3.41**	**315**	*e*P	**Pn**	**08 57 19.5**	**+2.6**
SMF				*e*Sn	**Sn**	**08 57 54.7**	**-2.0**
	comp=N,3.3nm,0.3s						
MCIV	**Monte Civitell**	**3.49**	**114**	S	**Sg**	**08 58 17.0**	**+0.1**
CPGN	**Carpegna, Ital**	**3.61**	**96**	S	**Sb**	**08 58 08.0**	**-3.6**
AVF	**Avril sur Loir**	**3.76**	**313**	*e*Sn	**Sn**	**08 58 02.8**	**-2.5**
	comp=N,2.1nm,0.3s						
LOR	**Lormes**	**3.85**	**322**	*e*Pn	**Pn**	**08 57 22.4**	**-0.5**
LOR				*e*Sn	**Sn**	**08 58 05.0**	**-2.6**
	comp=N,1.6nm,0.2s						
SSF	**Saint Saulge**	**3.86**	**317**	*e*Sn	**Sn**	**08 58 05.0**	**-2.9**
	comp=N,2.5nm,0.4s						
ATFO	**Monte Foce - G**	**3.89**	**102**	⇓P	**Pb**	**08 57 31.2**	**-1.5**
BGF	**Bois d'Agland**	**3.90**	**307**	*e*P	**Pn**	**08 57 26.2**	**+2.6**
TCF	**Toulx Ste Croi**	**4.14**	**301**	*e*P	**Pn**	**08 57 30.0**	**+3.1**
TCF				*e*Sn	**Sn**	**08 58 11.9**	**-2.9**
	comp=N,0.6nm,0.2s						
MMUR	**Monte Murano**	**4.17**	**100**	S	**Sb**	**08 58 24.0**	**-3.5**
WTTA	**Wattenberg**	**4.21**	**44**	S	**Sn**	**08 58 23.0**	**+6.2**
ZOU	**Zoufplan**	**4.55**	**58**	P	**Pg**	**08 57 53.1**	**+1.1**
FIAM	**Fiamignano**	**4.67**	**114**	⇓P	**Pb**	**08 57 47.4**	**+1.3**
LAV9	**Lanuvio**	**4.71**	**122**	P	Pb	08 57 42.3	-4.4
ACOM	**Acomizza, Ital**	**4.88**	**60**	⇑P	**Pg**	**08 57 55.5**	**-2.7**
MRB1	**Monte Rocchett**	**6.44**	**117**	⇑P	Pn	08 58 04.2	+5.7

IDC 09 08:57:06.7±3.0**, 32°.64S**×**178°.33W, h0**km**, mb4.0**/2**,**
mb1 4.2/3**, mb1mx3.7**/23**, mbtmp4.0**/3**, ML3.5**/1**, Error**
ellipse: s-maj=69.1km s-min=36.5km az=118.0, South
of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.73**	**212**	Pn	Pn	08 58 47.0	+0.3
	0.9nm,0.3s,baz=319,slow=11,SNR=1.8						
URZ				Sn	Sn	09 00 03.1	-1.0
	2.1nm,0.3s,baz=253,slow=21,SNR=8.4						
ASAR	**Alice Springs**	**42.76**	**269**	P	P	09 05 06.0	0.0
	1.1nm,0.6s,baz=109,slow=7.6,SNR=25						
WRA	**Warramunga Arr**	**43.95**	**275**	P	P	09 05 15.7	0.0
	1.0nm,0.3s,baz=114,slow=8.0,SNR=33						
FINES	**FINESS Array B**	**147.13**	**339**	PKPbc	PKPbc	09 16 49.9	-1.0
	1.2nm,0.6s,baz=46,slow=4.0,SNR=7.7						

*JMA **09** 08:57:46.8±0.1, 23°.69N×122°.47E, h28km, M2.1*
*TAP **09** 08:57:46.6, 23°.68N×122°.36E, h7km±1km, ML2.8, D*
ISC 09 08:57:45.6±1.1**, 23°.65N**±0°.03×**122°.48E**±0°.02**, h17**km±9km**,**
n63, σ**0s.75**/114**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TEYL	**Yanliau Villag**	**0.83**	**285**	*e*P	**Pb**	**08 58 01.6**	**0.0**
	baz=287						
JYNG	**Yonagunijimaku**	**0.90**	**28**	P	**Pb**	**08 58 02.7**	**-0.1**
JYNG				S	**Sb**	**08 58 13.6**	**-1.0**
ETL	**Fush Village**	**0.93**	**303**	*e*P	**Pn**	**08 58 05.5**	**+1.6**
	baz=305						
ETL				*e*S	**Sn**	**08 58 18.3**	**+1.4**
	baz=305						
YOJ	**Yonaguni jima**	**0.94**	**31**	P	**Pb**	**08 58 03.9**	**+0.4**
YOJ				S	**Sb**	**08 58 16.0**	**+0.3**
YOJ	**Yonaguni jima**	**0.94**	**31**	*e*P	**Pb**	**08 58 04.0**	**+0.5**
	baz=36						
ETM	**Tongmen**	**0.95**	**289**	P	**Pb**	**08 58 03.6**	**-0.1**
	baz=289						
ETM				S	**Sg**	**08 58 16.2**	**-0.4**
	baz=289						
NACB	**Ninganchiao**	**0.96**	**303**	P	**Pb**	**08 58 03.6**	**-0.2**
	baz=305						
NACB				S	**Sg**	**08 58 16.1**	**-0.8**
	baz=305						
EGFH	**Guangfu**	**0.96**	**271**	*e*P	**Pn**	**08 58 05.1**	**+0.7**
	baz=269						
EGFH				*e*S	**Sn**	**08 58 18.2**	**+0.5**
	baz=269						
HGSD	**Ruisui**	**0.98**	**261**	P	**Pg**	**08 58 04.6**	**0.0**
	baz=257						
HGSD				S	**Sg**	**08 58 17.0**	**-0.4**
	baz=257						
ECBN	**Changbin**	**1.00**	**251**	P	**Pb**	**08 58 04.7**	**+0.2**
	baz=246						
ECBN				S	**Sg**	**08 58 18.1**	**0.0**
	baz=246						
EWUT	**Wuta**	**1.01**	**321**	P	**Pn**	**08 58 05.1**	**0.0**
	baz=325						
EWUT				S	**Sn**	**08 58 18.6**	**-0.4**
	baz=325						
ENA	**Nanau**	**1.02**	**319**	P	**Pg**	**08 58 05.7**	**+0.2**
	baz=323						
ENA				S	**Sn**	**08 58 19.2**	**0.0**
	baz=323						
ETLH	**Xiulin Townshi**	**1.06**	**301**	P	**Pb**	**08 58 05.2**	**-0.4**
	baz=303						
ETLH				S	**Sg**	**08 58 19.2**	**-0.9**
	baz=303						
EHY	**Hungye**	**1.07**	**262**	P	**Pn**	**08 58 06.2**	**+0.4**
	baz=259						
EHY				S	**Sn**	**08 58 20.3**	**-0.1**
	baz=259						
EYUL	**Yuli**	**1.10**	**254**	*i* P	**Pb**	**08 58 06.6**	**+0.3**
	baz=251						
EYUL				*i* S	**Sg**	**08 58 21.3**	**-0.1**
	baz=251						
TWC	**Suao**	**1.11**	**329**	P	**Pg**	**08 58 07.3**	**+0.2**
	baz=333						
TWC				S	**Sg**	**08 58 22.1**	**+0.4**
	baz=333						
YULB	**Yu-li**	**1.11**	**257**	P	**Pn**	**08 58 06.9**	**+0.5**
	baz=253						
YULB				S	**Sn**	**08 58 21.0**	**-0.5**
	baz=253						
TWF1	**Yuli**	**1.12**	**255**	P	**Pn**	**08 58 07.0**	**+0.4**
	baz=251						
TWF1				*e*S	**Sg**	**08 58 22.4**	**+0.4**
	baz=251						
CHKT	**Chengkung**	**1.16**	**242**	*e*S	**Sb**	**08 58 21.6**	**-0.4**
	baz=237						
FULB	**Fuli**	**1.18**	**248**	P	**Pb**	**08 58 07.9**	**+0.4**
	baz=244						
FULB				S	**Sn**	**08 58 22.7**	**-0.4**
	baz=244						
NDS	**Dongshan**	**1.20**	**325**	P	**Pg**	**08 58 08.7**	**-0.1**
	baz=328						
NDS				*e*S	**Sn**	**08 58 23.3**	**-0.3**
	baz=328						
WHF	**Hehuan Shan**	**1.21**	**294**	*i* P	**Pb**	**08 58 07.9**	**-0.4**
	baz=294						
WHF				*i* S	**Sg**	**08 58 24.3**	**-0.6**
	baz=294						
OWD	**Renai**	**1.23**	**284**	*i* P	**Pb**	**08 58 08.4**	**-0.1**
	baz=284						
OWD				*i* S	**Sg**	**08 58 24.4**	**-1.0**
	baz=284						
CHGB	**Renai**	**1.26**	**289**	P	**Pn**	**08 58 08.8**	**+0.2**
	baz=289						
CHGB				S	**Sg**	**08 58 25.5**	**-0.9**
	baz=289						
EDH	**Donghe**	**1.27**	**238**	*i* P	**Pb**	**08 58 09.6**	**+0.5**
	baz=234						
EDH				*e*S	**Sb**	**08 58 24.1**	**-1.2**
	baz=234						
FUSS	**Fushou**	**1.27**	**298**	*i* P	**Pn**	**08 58 09.0**	**+0.1**
	baz=299						
FUSS				*i* S	**Sn**	**08 58 25.5**	**-0.2**
	baz=299						
NNS	**Nan Shan**	**1.28**	**308**	P	**Pn**	**08 58 09.0**	**+0.1**
	baz=310						
NNS				*e*S	**Sg**	**08 58 28.6**	**+1.6**
	baz=310						
HATJ	**Hateruma jima**	**1.28**	**71**	P	**Pn**	**08 58 08.7**	**-0.1**
HATJ				*e*S	**Sn**	**08 58 24.5**	**-1.1**
ENTT	**Nioudou**	**1.29**	**320**	P	**Pb**	**08 58 09.3**	**-0.1**
	baz=323						
ENTT				S	**Sg**	**08 58 26.9**	**-0.4**
	baz=323						
NDT	**Datong Townshi**	**1.29**	**317**	P	**Pg**	**08 58 10.0**	**-0.5**
	baz=319						
NDT				S	**Sg**	**08 58 27.6**	**+0.3**
	baz=319						
IRIF	**Iriomote-Funau**	**1.33**	**59**	P	**Pn**	**08 58 10.1**	**+0.6**
IRIF				S	**Sn**	**08 58 26.4**	**-0.5**
NTC	**Toucheng**	**1.33**	**334**	P	**Pb**	**08 58 10.2**	**0.0**
	baz=337						
NTC				*e*S	**Sg**	**08 58 29.9**	**+1.2**
	baz=337						
LDUT	**Ludao**	**1.34**	**224**	*e*P	**Pn**	**08 58 09.7**	**+0.1**
	baz=219						
SSLB	**Suanglung**	**1.40**	**276**	P	**Pb**	**08 58 11.5**	**+0.2**
	baz=274						
SSLB				*e*S	**Sb**	**08 58 28.6**	**-0.5**
	baz=274						
YUS	**Yu-Shan**	**1.41**	**264**	*e*S	**Sb**	**08 58 29.5**	**-0.2**
	baz=261						
ELDTW	**Lidau**	**1.42**	**251**	P	**Pn**	**08 58 10.9**	**+0.2**
	baz=248						
ELDTW				*e*S	**Sn**	**08 58 28.2**	**-0.9**
	baz=248						
YHNB	**Yeheng**	**1.43**	**315**	P	**Pb**	**08 58 11.8**	**0.0**
	baz=317						
YHNB				S	**Sg**	**08 58 30.4**	**-1.3**
	baz=317						
TIPB	**Shuangxi**	**1.44**	**336**	*e*P	**Pg**	**08 58 14.2**	**+0.9**
	baz=339						
TIPB				*e*S	**Sb**	**08 58 30.2**	**+0.1**
	baz=339						
NSK	**Sanguang**	**1.44**	**315**	*e*S	**Sg**	**08 58 31.9**	**-0.3**
	baz=317						
SMLT	**Sun Moon Lake**	**1.46**	**279**	P	**Pn**	**08 58 11.8**	**+0.5**
	baz=278						
SMLT				S	**Sb**	**08 58 30.2**	**-0.6**
	baz=278						
DPDB	**Guoxing**	**1.47**	**285**	P	**Pn**	**08 58 11.8**	**+0.4**
	baz=285						
WCS	**Beigang Elemen**	**1.49**	**286**	P	**Pb**	**08 58 12.8**	**-0.1**
	baz=285						
WCS				S	**Sb**	**08 58 31.4**	**0.0**
	baz=285						
JKRS	**Kuro-shima**	**1.52**	**67**	P	**Pn**	**08 58 14.1**	**+2.1**
JKRS				*e*S	**Sn**	**08 58 31.0**	**-0.4**
WHP	**Taichung City**	**1.53**	**294**	P	**Pn**	**08 58 12.9**	**+0.6**
	baz=294						
WHP				S	**Sb**	**08 58 32.5**	**-0.3**
	baz=294						
ALS	**Alishan**	**1.54**	**265**	*e*P	**Pb**	**08 58 14.4**	**+0.5**
	baz=263						
ALS				*e*S	**Sg**	**08 58 34.6**	**-0.8**
	baz=263						
NWF	**Wu-fen Shan**	**1.55**	**336**	P	**Pb**	**08 58 13.9**	**+0.1**
	baz=339						
WFSB	**Wu-fen Shan**	**1.55**	**336**	P	**Pb**	**08 58 13.8**	**0.0**
	baz=339						
WFSB				S	**Sg**	**08 58 34.3**	**-1.3**
	baz=339						
CHN5	**Tsauling**	**1.65**	**268**	*e*P	**Pb**	**08 58 16.1**	**+0.4**
	baz=267						
CHN5				S	**Sb**	**08 58 35.5**	**-0.7**
	baz=267						
STYT	**Tauyuan**	**1.65**	**253**	P	**Pb**	**08 58 15.4**	**-0.2**
	baz=250						
STYT				S	**Sn**	**08 58 34.9**	**0.0**
	baz=250						
LIOB	**Emei**	**1.66**	**307**	*e*P	**Pb**	**08 58 16.2**	**+0.4**
	baz=308						
LIOB				S	**Sg**	**08 58 37.0**	**-2.2**
	baz=308						
NSTT	**Nanjuang**	**1.66**	**306**	*e*P	**Pb**	**08 58 16.5**	**+0.7**
	baz=307						
NSTT				*e*S	**Sg**	**08 58 37.3**	**-1.9**
	baz=307						
JIJ	**Ishigaki jima**	**1.68**	**65**	P	**Pn**	**08 58 14.5**	**+0.2**
JIJ				*e*S	**Sn**	**08 58 33.8**	**-1.7**
YM01	**YM01**	**1.70**	**331**	*e*P	**Pb**	**08 58 17.4**	**+0.9**
	baz=333						
YM01				S	**Sb**	**08 58 37.1**	**-0.5**
	baz=333						
TPUB	**Ta-pu**	**1.73**	**259**	*e*P	**Pb**	**08 58 17.3**	**+0.3**
	baz=256						
TPUB				*e*S	**Sb**	**08 58 38.9**	**+0.4**
	baz=256						
CHN4	**Tsaushan**	**1.75**	**261**	P	**Pn**	**08 58 15.8**	**+0.5**
	baz=258						
CHN4				*e*S	**Sg**	**08 58 40.9**	**-1.2**
	baz=258						
WTP	**Ta-pu**	**1.76**	**257**	*e*P	**Pb**	**08 58 17.7**	**+0.3**
	baz=254						
WTP				*e*S	**Sb**	**08 58 39.9**	**+0.6**
	baz=254						
SLGT	**Liugui**	**1.81**	**249**	*i* P	**Pb**	**08 58 18.2**	**-0.1**
	baz=246						
SLGT				*e*S	**Sb**	**08 58 41.5**	**+0.9**
	baz=246						
MASBT	**Mashibuluo**	**1.99**	**239**	P	**Pn**	**08 58 19.8**	**+1.3**
	baz=236						
MASBT				*e*S	**Sb**	**08 58 45.0**	**-0.9**
	baz=236						
WDGT	**Dungji**	**2.62**	**262**	P	**Pn**	**08 58 29.2**	**+2.0**
	baz=260						
VWUC	**VWUC**	**3.07**	**296**	*e*P	**Pn**	**08 58 33.1**	**-0.2**
	baz=296						
PTMZ	**Houxiangcun**	**3.36**	**295**	P	**Pn**	**08 58 38.2**	**+0.9**
	baz=294						
PTMZ				*e*S	**Sn**	**08 59 15.2**	**-1.6**
	baz=294						
MATB	**Ma-tsu**	**3.39**	**318**	P	**Pn**	**08 58 39.2**	**+1.5**
	baz=318						
LYJJ	**Jianjiangzhen**	**3.79**	**320**	S	**Sn**	**08 59 27.9**	**+0.3**
	baz=320						

IDC 09 09:03:18.8±27.0**, 23°.38S**×**173°.94W, h0**km**, mb4.2**/4**,**
mb1 4.3/4**, mb1mx3.8**/23**, mbtmp4.2**/4**, Error ellipse:**
s-maj=489.2km s-min=144.7km az=79.0, Tonga Islands
region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.05**	**267**	P	P	09 10 31.6	+0.9
	5.7nm,0.4s,baz=92,slow=11,SNR=7.8						
STKA	**Stephens Creek**	**40.07**	**248**	P	P	09 10 55.3	-0.8
	0.5nm,0.4s,baz=101,slow=10.0,SNR=5.4						
ASAR	**Alice Springs**	**47.60**	**259**	P	P	09 11 56.4	-0.4
	0.7nm,0.4s,baz=92,slow=7.3,SNR=13						
WRA	**Warramunga Arr**	**47.99**	**264**	P	P	09 11 59.7	-0.1
	1.5nm,0.3s,baz=102,slow=8.0,SNR=30						

IDC 09 09:09:16.7±3.4**, 32°.91S**×**178°.67W, h0**km**, mb3.6**/2**,**
mb1 3.8/3**, mb1mx3.5**/24**, mbtmp3.6**/3**, ML3.5**/1**, Error**
ellipse: s-maj=74.5km s-min=47.9km az=115.0, South
of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.35**	**212**	Pn	Pn	09 10 49.7	-1.8
	1.0nm,0.3s,baz=300,slow=22,SNR=6.3						
URZ				Sn	Sn	09 11 58.2	-6.5
	0.8nm,0.3s,baz=152,slow=24,SNR=1.5						
ASAR	**Alice Springs**	**42.47**	**270**	P	P	09 17 13.8	+0.1
	0.9nm,0.8s,baz=108,slow=7.3,SNR=13						
WRA	**Warramunga Arr**	**43.69**	**275**	P	P	09 17 23.6	0.0
	0.4nm,0.6s,baz=113,slow=7.9,SNR=7.8						
FINES	**FINESS Array B**	**147.28**	**338**	PKPbc	PKPbc	09 29 00.6	-0.7
	0.9nm,0.7s,baz=57,slow=5.1,SNR=1.5						

*IDC **09** 09:10:27.2±1.9, 32°.73S×178°.16W, h0km, mb4.4/3,*
mb1 4.5/4, mb1mx4.0/21, mbtmp4.4/4, ML3.8/1, Error
ellipse: s-maj=51.4km s-min=31.3km az=135.0
*WEL **09** 09:10:29.4±0.8, 32°S±12°×17°9W±2°8, h142km±24km,*
M4.4/7, mB4.5/4, MLv4.6/7, Mw(mB)3.6/4, Error ellipse:
s-maj=0.0km s-min=0.0km az=112.5
ISC 09 09:10:26.8±1.5**, 32°.63S**±0°.10×**178°.0W**±0°.2**, h10**km**, n32,**
σ**2s.45**/44**, mb4.5**/3**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.36**	**2**	P	**Pn**	**09 11 17.4**	**-1.9**
GLKZ				S	**Sn**	**09 11 54.7**	**-4.6**
MXZ	**Matakaoa Point**	**5.76**	**210**	P	**Pn**	**09 11 54.2**	**+2.0**
MXZ				S	**Sn**	**09 12 57.7**	**-0.6**
WMGZ	**Waiomatatini S**	**5.93**	**208**	P	**Pn**	**09 11 57.1**	**+2.5**
WMGZ				S	**Sn**	**09 13 02.3**	**-0.3**
PKGZ	**Pakihiroa**	**6.13**	**210**	P	**Pn**	**09 11 59.2**	**+1.7**
HAZ	**Te Kaha**	**6.15**	**213**	P	**Pn**	**09 11 59.2**	**+1.5**
HAZ				S	**Sn**	**09 13 11.1**	**+3.1**
PUZ	**Puketiti**	**6.21**	**208**	P	**Pn**	**09 12 00.3**	**+1.7**
PUZ				S	**Sn**	**09 13 11.0**	**+1.3**
RUGZ	**Raukumara Rang**	**6.37**	**212**	P	**Pn**	**09 12 01.0**	**+0.2**
RUGZ				S	**Sn**	**09 13 15.1**	**+1.5**
URZ	**Urewera**	**6.87**	**214**	Pn	**Pn**	**09 12 07.9**	**+0.4**
	1.9nm,0.3s,baz=156,slow=22,SNR=4.1						
URZ				Sn	**Sn**	**09 13 22.9**	**-2.8**
	9.6nm,0.3s,baz=265,slow=21,SNR=9.3						
MTHZ	**Maungataniwha**	**7.47**	**212**	P	**Pn**	**09 12 14.5**	**-1.3**
MTHZ				S	**Sn**	**09 13 39.6**	**-1.1**
NMHZ	**Naumai**	**7.69**	**211**	P	**Pn**	**09 12 19.5**	**+0.7**
NMHZ				S	**Sn**	**09 13 43.3**	**-2.7**
MCHZ	**McNeill Hill**	**8.02**	**211**	P	**Pn**	**09 12 23.4**	**+0.1**
MCHZ				S	**Sn**	**09 13 51.9**	**-2.2**
KWHZ	**Kaweka Forest**	**8.12**	**212**	P	**Pn**	**09 12 25.2**	**+0.4**
KWHZ				S	**Sn**	**09 13 54.9**	**-1.8**

KAHZ	Kahuranaki	8.24	208	P	Pn	09 12 25.7	-0.7
KAHZ				S	Sn	09 13 58.0	-1.6
KRHZ	Kereru	8.33	211	P	Pn	09 12 26.9	-0.7
KRHZ				S	Sn	09 13 58.3	-3.4
BHHZ	Black Hill Sta	8.34	213	P	Pn	09 12 29.6	+1.8
BHHZ				S	Sn	09 13 59.3	-2.7
MOVZ	Moawhango	8.42	215	P	Sn	09 14 01.8	-2.2
WNVZ	Wahianoa	8.44	216	P	Sn	09 14 02.0	-2.5
PXZ	Pawanui	8.45	208	P	Sn	09 14 00.6	-4.0
PNHZ	Pukenui	8.62	211	P	Pn	09 12 31.7	0.0
PNHZ				S	Sn	09 14 04.8	-4.2
WPHZ	Waipukurau	8.65	209	P	Sn	09 14 07.4	-2.1
DVHZ	Dannevirke	8.96	210	P	Sn	09 14 12.0	-5.2
BFZ	Birch Farm	9.25	208	P	Pn	09 12 36.7	-3.4
BFZ				P	Sn	09 14 18.3	-6.0
CTA	Charters Tower	34.18	282	P	P	09 17 13.8	+1.4
	3.5nm,0.5s,baz=118,slow=9.9,SNR=7.6						
ASAR	Alice Springs	43.00	269	P	P	09 18 27.9	+1.4
	2.1nm,0.6s,baz=108,slow=7.7,SNR=25						
WRA	Warramunga Arr	44.19	274	P	P	09 18 36.9	+0.8
	2.4nm,0.3s,baz=112,slow=8.0,SNR=66						
SNAA	Sanae	75.93	178	P	P	09 22 26.2	+13
VNA3	Neumayer Olymp	76.09	176	P	P	09 22 27.6	+13
VNA2	Neumayer--Watz	76.52	177	P	P	09 22 29.7	+13
	baz=181,slow=5.3						
VNA1	Neumayer--Stat	76.75	177	P	P	09 22 30.7	+13
FINES	FINESS Array B	147.22	339	PKPbc	PKPbc	09 30 10.8	+1.2
	1.9nm,0.5s,baz=64,slow=4.4,SNR=9.7						
NOA	NORSAR Array B	150.94	351	PKPbc	PKiKP	09 30 20.8	+1.2
	0.2nm,0.4s,baz=16,slow=4.2,SNR=1.8						
AKASG	Malin Array Be	153.02	320	PKPbc	PKiKP	09 30 26.5	+2.4
	0.2nm,0.3s,baz=76,slow=1.7,SNR=1.6						

*IDC **09** 09:28:09.8±1.0, 32°.53S×178°.25W, h0km, mb4.1/5, mb1 4.3/6, mb1mx4.0/21, mbtmp4.1/6, ML4.0/1, MS3.7/2, Ms1 3.7/2, ms1mx3.1/21, Error ellipse: s-maj=34.9km s-min=27.3km az=93.0*

*NEIC **09** 09:28:13.4±0.7, 32°.7S±0°.1×178°.4W±0°.2, h11km±7km, mb4.5/15, Error ellipse: s-maj=27.5km s-min=10.7km az=65.0*

*WEL **09** 09:29:29.9, 38°S±33°×17°8E±2°2, h27km±26km, M2.4/7, ML2.6/9, MLv2.4/7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.7*

ISC 09 09:28:11.8±0.8, 32°.67S±0°.09×178°.3W±0°.1, h10km, n49, σ0s78/48, mb4.5/11, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.62	209	P	Pn	09 29 34.7	-0.7
WMGZ	Waiomatatini S	5.80	207	P	Pn	09 29 38.4	+0.5
PKGZ	Pakihiroa	6.00	209	P	Pn	09 29 40.5	-0.1
HAZ	Te Kaha	6.01	211	P	Pn	09 29 40.6	-0.1
PUZ	Puketiti	6.08	207	P	Pn	09 29 40.6	-1.2
RUGZ	Raukumara Rang	6.23	211	P	Pn	09 29 43.7	-0.1
TWGZ	Tauwhareparae	6.28	208	P	Pn	09 29 44.5	-0.1
CNGZ	Carnagh Statio	6.47	205	P	Pn	09 29 46.0	-1.0
TKGZ	Te Karaka	6.56	208	P	Pn	09 29 48.6	+0.3
MWZ	Matawai	6.60	210	P	Pn	09 29 48.2	-0.7
OPRZ	Ohinepanea	6.67	218	P	Pn	09 29 52.2	+2.4
URZ	Urewera	6.72	213	Pn	Pn	09 29 50.6	0.0
	3.1nm,0.3s,baz=257,slow=5.0,SNR=30						
URZ				Sn	Sn	09 31 05.7	-1.4
	7.3nm,0.3s,baz=263,slow=22,SNR=11						
URZ	Urewera	6.72	213		Pn	09 29 51.2	+0.7
BKZ	Black Stump Fm	7.74	212	Pn	Pn	09 30 05.3	+0.8
BFZ	Birch Farm	9.12	207	Pn	Pn	09 30 22.9	-0.6
CTAO	Charters Tower	33.98	283	P	P	09 34 55.6	-0.2
BBOO	Buckleboo	38.17	257	P	P	09 35 31.0	-0.5
BBOO				IAmb	IAmb	09 35 40.7	
	comp=Z,14nm,1.4s						
RABL	Rabaul	39.57	309	P	P	09 35 43.8	+0.4
AS31	Alice Springs	42.79	270	P	P	09 36 10.0	+0.1
ASAR	Alice Springs	42.79	270	P	P	09 36 09.8	-0.1
	comp=Z,4.3nm,0.8s,baz=106,slow=7.5,SNR=50						
ASAR				PcP	PcP	09 38 01.1	-0.1
	comp=Z,0.5nm,0.7s,baz=110,slow=4.0,SNR=1.8						
ASAR	Alice Springs	42.79	270	P	P	09 36 09.3	-0.5
WR0	Warramunga Arr	43.81	275	P	P	09 36 18.0	0.0
WR0				IAmb	IAmb	09 36 18.9	
	comp=Z,5.8nm,0.9s						
WB2	Warramunga Arr	43.97	275	P	P	09 36 19.4	0.0
WB2				IAmb	IAmb	09 36 20.2	
	comp=Z,8.5nm,0.9s						
WRAB	Tennant Creek	43.98	275	P	P	09 36 19.2	-0.2
WRA	Warramunga Arr	43.98	275	P	P	09 36 19.3	-0.2
	comp=Z,6.9nm,0.9s,baz=112,slow=8.1,SNR=53						
WRA	Warramunga Arr	43.98	275	P	P	09 36 19.3	-0.2
FORT	Forrest	45.27	257	P	P	09 36 29.7	+0.1
KNRA	Kununurra	50.67	276	P	P	09 37 12.0	+0.4
FITZ	Fitzroy Crossi	52.14	272	P	P	09 37 22.4	-0.3
FITZ				IAmb	IAmb	09 37 23.2	
	comp=Z,5.2nm,1.1s						
CASY	Casey	53.03	209	P	P	09 37 29.2	+0.7
CASY				IAmb	IAmb	09 37 53.9	
	comp=Z,7.2nm,1.2s						
NWAO	Narrogin (SRO)	53.40	251	LR	LR	09 56 26.7	
	comp=Z,91nm,20.5s,baz=267,slow=32						
QSPA	South Pole Qui	57.45	180	P	P	09 38 01.5	+0.9
	comp=Z,0.6nm,0.7s,baz=54,slow=2.5,SNR=1.8						
QSPA	South Pole Qui	57.45	180	IAmb	IAmb	09 38 18.9	
	comp=Z,3.5nm,0.8s						
GIRL	Giralia	59.73	261	P	P	09 38 16.5	-0.4
MAW	Mawson	70.11	201	P	P	09 39 25.2	+1.4
	comp=Z,0.6nm,0.8s,baz=143,slow=10,SNR=1.4						
SNAA	Sanae	75.90	179	P	P	09 39 58.5	+0.4
SNAA				IAmb	IAmb	09 40 09.7	
	comp=Z,4.8nm,1.1s						
VNA3	Neumayer Olymp	76.07	176	P	P	09 39 59.8	+0.7
VNA2	Neumayer--Watz	76.50	177	P	P	09 40 01.7	+0.2
PETK	Petropavlovsk-	87.94	346	P	P	09 41 00.4	-0.9
	comp=Z,1.9nm,0.8s,baz=151,slow=4.5,SNR=5.4						
NVAR	Mina Array Bea	90.07	43	LR	LR	10 13 39.1	
	comp=Z,30nm,20.7s,baz=350,slow=30						
KBZ	Khabaz	146.12	301	PKPbc	PKPdf	09 47 50.0	-0.9
	comp=Z,2.0nm,0.9s,baz=140,slow=7.9,SNR=2.6						
FINES	FINESS Array B	147.17	339	PKPbc	PKPdf	09 47 53.4	+1.2
	comp=Z,8.8nm,0.9s,baz=94,slow=5.7,SNR=15						
FINES	FINESS Array B	147.17	339		PKPdf	09 47 53.3	+1.1
NB2	NORSAR Subarra	150.94	350	PKP	PKPbc	09 48 03.9	-0.2
	comp=Z,1.9nm,1.1s,baz=17,slow=2.6						
NOA	NORSAR Array B	150.94	350	PKPbc	PKPbc	09 48 04.1	+0.1
	comp=Z,0.5nm,0.9s,baz=20,slow=2.4,SNR=1.4						
AKASG	Malin Array Be	152.91	320	PKPbc	PKPbc	09 48 07.1	-1.6
	comp=Z,0.6nm,0.5s,baz=45,slow=2.9,SNR=1.5						
BRTR	Keskin Array B	153.38	294	PKPbc	PKPbc	09 48 09.7	-0.7
	comp=Z,0.9nm,0.9s,baz=57,slow=4.6,SNR=3.6						
BRTR	Keskin Array B	153.38	294	PKPbc	PKPbc	09 48 10.6	+0.2
TORD	Torodi Ar. Bea	160.57	180	PKPab	PKPab	09 48 52.6	-1.1
	comp=Z,0.8nm,0.9s,baz=170,slow=2.6,SNR=3.3						

TAP 09 09:34:20.1, 22°.74N×121°.41E, h28km, ML2.6, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LDUT	Ludao	0.09	144	P	Pb	09 34 26.0	+0.9
	baz=143						
LDUT				S	Sb	09 34 29.6	+1.1
	baz=143						
TTN	Taitung	0.25	272	eP	Pn	09 34 28.4	+0.5
	baz=272						
TTN				eS	Sb	09 34 33.9	+2.7
	baz=272						
EDH	Donghe	0.25	336	P	Pb	09 34 27.0	+0.2
	baz=336						
EDH				eS	Sb	09 34 30.9	-0.4
	baz=336						
LONT	Longtian	0.31	302	iP	Pb	09 34 27.9	+0.4
	baz=301						
LONT				iS	Sn	09 34 33.8	-0.5
	baz=301						
TWGBT	Beinan	0.32	283	P	Pn	09 34 28.5	-0.4
	baz=283						
TWGBT				S	Sb	09 34 33.6	+0.8
	baz=283						
TWG	Pinlang	0.32	284	P	Pb	09 34 28.3	+0.5
	baz=283						
TWG				S	Sb	09 34 33.6	+0.6
	baz=283						
CHKT	Chengkung	0.36	353	iP	Pb	09 34 28.4	+0.1
	baz=353						
CHKT				eS	Sb	09 34 33.7	-0.1
	baz=353						
ECS	Chishang	0.39	333	P	Pn	09 34 29.6	-0.3
	baz=332						
ECS				S	Sn	09 34 36.2	-0.3
	baz=332						
ECL	Taimali	0.45	251	P	Pb	09 34 29.9	+0.2
	baz=250						
ECL				eS	Sb	09 34 36.4	+0.2
	baz=250						
FULB	Fuli	0.47	346	P	Pb	09 34 30.0	0.0
	baz=346						
FULB				S	Sn	09 34 38.3	0.0
	baz=346						
ECBN	Changbin	0.57	4	P	Pb	09 34 32.0	+0.3
	baz=3.0						
ECBN				eS	Sb	09 34 40.0	+0.5
	baz=3.0						
ELDTW	Lidau	0.57	321	P	Pb	09 34 32.1	+0.3
	baz=320						
ELDTW				S	Sn	09 34 41.1	0.0
	baz=320						
EYUL	Yuli	0.61	352	P	Pn	09 34 32.7	-0.2
	baz=351						
EYUL				S	Sn	09 34 41.7	-0.1
	baz=351						
TAW	Tawu	0.61	231	iP	Pb	09 34 32.2	-0.1
	baz=230						
TAW				S	Sn	09 34 41.5	-0.3
	baz=230						
TWF1	Yuli	0.61	350	P	Pb	09 34 32.1	-0.3
	baz=350						
TWF1				eS	Sn	09 34 41.8	-0.1
	baz=350						
EAST	Anshuo	0.63	236	P	Pn	09 34 33.1	-0.2
	baz=235						
YULB	Yu-li	0.65	351	P	Pb	09 34 32.5	-0.6
	baz=350						
YULB				eS	Sn	09 34 43.7	+0.7
	baz=350						
TSMG	Majia	0.71	267	P	Pn	09 34 34.3	0.0
	baz=266						
TSMG				S	Sn	09 34 44.6	+0.3
	baz=266						
LAY	Lan-yu	0.71	170	P	Pn	09 34 34.2	-0.1
	baz=169						
LAY				eS	Sb	09 34 43.4	-0.1
	baz=169						
SSD	Sandimen	0.72	270	P	Pn	09 34 34.4	0.0
	baz=270						
SSD				S	Sn	09 34 44.5	0.0
	baz=270						
STYH	Taoyuan	0.72	306	P	Pb	09 34 33.6	-0.6
	baz=305						
STYH				S	Sn	09 34 44.5	-0.1
	baz=305						
STYH	Taoyuan	0.72	306	S	Pb	09 34 33.6	-0.6
	baz=120						
MASBT	Mashibuluo	0.73	260	P	Pn	09 34 34.7	+0.1
	baz=259						
MASBT				S	Sn	09 34 44.9	+0.1
	baz=259						
STYT	Tauyuan	0.73	305	P	Pb	09 34 34.5	+0.1
	baz=304						
STYT				S	Sn	09 34 44.6	-0.3
	baz=304						
HGSD	Ruisui	0.74	1	P	Pn	09 34 34.7	-0.1
HGSD				S	Sn	09 34 45.4	+0.2
SLGT	Liugui	0.75	289	P	Pn	09 34 34.9	+0.1
	baz=289						
SLGT				S	Sn	09 34 45.5	+0.3
	baz=289						
EHY	Hungye	0.76	354	P	Pb	09 34 34.2	-0.7
	baz=354						
EHY				S	Sn	09 34 45.9	+0.3
	baz=354						
SLIU	Shizi	0.77	227	P	Pb	09 34 35.1	0.0
	baz=227						
SLIU				eS	Sb	09 34 45.1	-0.1
	baz=227						
SGST	Jiashian	0.84	294	P	Pb	09 34 36.5	+0.4
	baz=293						
SGST				S	Sn	09 34 47.7	+0.3
	baz=293						
WTP	Ta-pu	0.89	304	eP	Pb	09 34 38.2	+1.1
	baz=304						
WTP				eS	Sn	09 34 50.6	+1.9
	baz=304						
TPUB	Ta-pu	0.91	308	P	Pb	09 34 37.8	+0.4
	baz=307						
TPUB				eS	Sn	09 34 50.8	+1.5
	baz=307						
EGFH	Guangfu	0.92	1	P	Pn	09 34 36.8	-0.4
EGFH				S	Sn	09 34 50.2	+0.7
CHN1	Nanshi	0.93	298	eP	Pb	09 34 39.3	+1.7
	baz=298						
CHN1				eS	Sn	09 34 52.0	+2.4
	baz=298						
ALS	Alishan	0.95	324	eP	Pb	09 34 38.7	+0.6
	baz=324						
ALS				S	Sn	09 34 50.6	+0.1
	baz=324						
TSEB	Hengchuen, Pin	0.96	210	P	Pb	09 34 38.1	-0.2
	baz=211						
TSEB				S	Sb	09 34 51.6	+1.0
	baz=211						
CHN4	Tsaushan	0.97	309	P	Pn	09 34 37.3	-0.5
	baz=308						
CHN4				S	Sb	09 34 50.7	0.0
	baz=308						
SNST	Tainan City	0.97	299	eP	Pb	09 34 40.5	+2.2
	baz=299						
SNST				eS	Sb	09 34 53.4	+2.6
	baz=299						
TWKBT	Hengchun	0.97	215	P	Pb	09 34 38.3	-0.1
	baz=214						
TWKBT				S	Sb	09 34 51.6	+0.7
	baz=214						
TWK1	Hengchun	0.97	215	P	Pb	09 34 38.7	+0.3
	baz=214						
TWK1				S	Sb	09 34 51.1	+0.1
	baz=214						
TWK	Hsinying	1.00	302	eP	Pb	09 34 40.7	+1.8
	baz=301						
TWK				eS	Sb	09 34 53.7	+2.1
	baz=301						
ESL	Shilin	1.06	1	iP	Pn	09 34 39.6	+0.4
	baz=1.0						
ESL				iS	Sb	09 34 53.4	-0.1
	baz=1.0						
WHYT	Xinyi Township	1.08	332	P	Pb	09 34 40.6	+0.4
	baz=331						
WHYT				S	Sb	09 34 54.0	0.0
	baz=331						
SSLB	Suanglung	1.12	338	P	Pb	09 34 40.8	-0.2
	baz=337						
SSLB				S	Sb	09 34 55.3	+0.1
	baz=337						
TYC	Yuchr	1.26	336	eP	Pb	09 34 44.2	+0.9
	baz=336						
TYC				eS	Sb	09 35 01.2	+2.0
	baz=336						
CHGB	Renai	1.33	351	P	Pn	09 34 43.1	+0.1
	baz=350						
CHGB				S	Sn	09 35 00.0	+0.1
	baz=350						
TWD	Chiawan	1.34	7	P	Pn	09 34 43.3	+0.4
	baz=7.0						
TWD				S	Sn	09 35 00.5	+0.7
	baz=7.0						
WCS	Beigang Elemen	1.39	341	eP	Pb	09 34 45.6	+0.2
	baz=340						
WCS				eS	Sb	09 35 04.6	+1.9
	baz=340						
WHF	Hehuan Shan	1.40	354	iP	Pn	09 34 44.1	-0.1
	baz=354						
WHF				iS	Sn	09 35 01.9	0.0
	baz=354						
NACB	Ninganchiao	1.43	7	P	Pn	09 34 44.9	+0.7
	baz=6.0						
NACB				eS	Sn	09 35 01.7	-0.4
	baz=6.0						
ETLH	Xiulin Townshi	1.46	2	P	Pn	09 34 45.0	+0.4
	baz=2.0						
ETLH				S	Sn	09 35 03.1	+0.3
	baz=2.0						
FUSS	Fushou	1.50	354	P	Pn	09 34 45.9	+0.5
	baz=354						
FUSS				S	Sn	09 35 04.2	-0.1
	baz=354						
WHP	Taichung City	1.59	344	eP	Pb	09 34 49.2	+0.4
	baz=344						
WHP				eS	Sb	09 35 10.6	+2.1
	baz=344						

TAP 09 09:34:21.6, 23°.33N×120°.49E, h10km±1km, ML1.7, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWK	Hsinying	0.06	179	P	Pg	09 34 24.6	+0.8
	baz=169						
TWK				S	Sg	09 34 26.4	+0.9
	baz=169						
CHN4	Tsaushan	0.10	77	eP	Pg	09 34 23.5	-0.8
	baz=76						
CHN4				S	Sg	09 34 26.3	+0.1
	baz=76						
SNST	Tainan City	0.11	175	P	Pg	09 34 25.1	+0.7
	baz=174						
SNST				S	Sg	09 34 27.2	+0.8
	baz=174						
TPUB	Ta-pu	0.13	102	P	Pb	09 34 25.9	-0.3
	baz=101						
TPUB				S	Sg	09 34 28.5	+1.5
	baz=101						
WTP	Ta-pu	0.14	125	iP	Pb	09 34 26.1	-0.4
	baz=123						
WTP				iS	Sg	09 34 28.9	+1.6
	baz=123						
CHN1	Nanshi	0.15	165	P	Pg	09 34 25.7	+0.7
	baz=164						
CHN1				S	Sg	09 34 28.6	+1.2
	baz=164						
ICHU	Yijhu	0.19	280	S	Sg	09 34 30.1	+1.5
	baz=279						
CHN8	Yiju	0.25	274	P	Pg	09 34 27.6	+0.7
	baz=274						
STYT	Tauyuan	0.30	123	P	Pb	09 34 28.7	-0.4
	baz=122						
STYT				S	Sb	09 34 33.8	-0.3
	baz=122						
STYH	Taoyuan	0.31	121	P	Pb	09 34 28.9	-0.3
	baz=120						

IDC 09 09:44:43.0±4.4, 28°.61S×62°.53E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/35, mbtmp3.7/3, Error ellipse: s-maj=170.4km s-min=40.0km az=46.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	43.94	112	T	T	10 39 37.6	
	baz=264,slow=75						
H01W3	Cape Leeuwin H	43.94	112	T	T	10 39 33.0	
	baz=264,slow=75						
H01W1	Cape Leeuwin H	43.95	112	T	T	10 39 30.7	
	baz=264,slow=75						
ASAR	Alice Springs	63.41	104	P	P	09 55 15.1	+0.2
	0.8nm,0.7s,baz=251,slow=5.8,SNR=11						
WRA	Warramunga Arr	65.19	100	P	P	09 55 26.5	0.0
	1.1nm,0.8s,baz=238,slow=6.5,SNR=7.8						
MKAR	Makanchi Array	77.15	14	P	P	09 56 36.5	-1.8
	0.4nm,0.8s,baz=197,slow=4.5,SNR=3.6						
YKA	Yellowknife Ar	146.06	358	PKPbc	PKPab	10 04 25.1	+0.3
	1.6nm,1.0s,baz=21,slow=2.9,SNR=5.3						

MEX 09 09:50:01.7±0.5, 13°.75N×93°.02W, h19km±64km, MD3.7, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCIG	Comitan	2.66	19	eP	Pn	09 50 42.1	-1.7
CCIG				iS	Sn	09 51 12.9	-2.7
TGIG		3.02	358	eP	Pn	09 50 45.9	-2.7
TGIG				eS	Sn	09 51 20.8	-3.4

MAN 09 09:52:08.5, 6°.64N×125°.74E, h9km, mb4.4, ML3.2, MS3.0, Mindanao

MEX 09 10:01:43.7±0.4, 14°.36N×94°.00W, h15km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		1.54	29	iP	Pn	10 02 06.5	-4.1
PCIG				iS	Sn	10 02 25.6	-4.7
TGIG		2.55	19	eP	Pn	10 02 22.3	-2.3
TGIG				iS	Sn	10 02 51.2	-4.3
CCIG	Comitan	2.63	43	eP	Pn	10 02 22.7	-3.1
CCIG				eS	Sn	10 02 53.1	-4.4

IDC 09 10:02:26.3±3.3, 32°.65S×178°.31W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/19, mbtmp3.7/3, ML3.5/1, Error ellipse: s-maj=74.4km s-min=37.5km az=113.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.73	212	Pn	Pn	10 04 06.2	-0.1
	0.9nm,0.3s,baz=285,slow=5.2,SNR=7.2						
URZ				Sn	Sn	10 05 22.4	-1.3
	0.8nm,0.3s,baz=302,slow=16,SNR=3.0						
ASAR	Alice Springs	42.78	269	P	P	10 10 26.3	+0.4
	0.5nm,0.7s,baz=108,slow=7.3,SNR=6.1						
WRA	Warramunga Arr	43.97	275	P	P	10 10 35.2	-0.3
	0.4nm,0.3s,baz=114,slow=7.9,SNR=21						
FINES	FINESS Array B	147.15	339	PKPbc	PKPbc	10 22 09.6	-1.0
	3.3nm,1.0s,baz=55,slow=5.3,SNR=3.5						

*SOME **09** 10:03:02.2, 41°.58N×71°.48E, h5km*

*KRNET **09** 10:03:02.1±0.1, 41°.67N×71°.33E, h13km, mb2.5*

*NNC **09** 10:03:03.9±2.0, 41°.54N×71°.42E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=16.6km s-min=6.8km az=10.0*

ISC 09 10:03:02.7±1.0, 41°.60N±0°.03×71°.46E±0°.02, h8km±10km, n23, σ1s25/41, 20C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRKS	Terek-Say	0.25	253	⇑iP	Pg	10 03 07.2	-0.5
	baz=9.0						
TRKS				⇑iS	Sg	10 03 10.2	-0.9
	baz=9.0						
MNAS	Manas	1.18	41	⇑iP	Pg	10 03 24.5	-0.9
	baz=47						
MNAS				⇑iS	Sg	10 03 41.3	+0.6
	baz=47						
IUG	Iuzhnay	1.20	298	eP	Pb	10 03 25.3	-0.4
	3.4nm,0.2s						
IUG				eS	Sn	10 03 41.5	-0.8
	29nm,0.3s						
IUG	Iuzhnay	1.20	298	P	Pn	10 03 26.3	+0.5
	3.2nm,0.1s						
IUG				S	Sn	10 03 41.5	-0.8
	31nm,0.2s						
OHH	Osh	1.47	137	⇑iP	Pg	10 03 31.8	+0.9
	baz=36						
OHH				⇑iS	Sg	10 03 53.3	+3.3
	baz=36						
BTK	Batken	1.62	198	⇑iP	Pg	10 03 32.9	-0.8
	baz=94						
BTK				⇑iS	Sg	10 03 55.4	+0.7
	baz=94						
KK31	Karatay Array	1.66	335	⇑P	Pg	10 03 34.5	+0.1
	0.7nm,0.3s,baz=156,slow=17,SNR=15						
KK31				⇑S	Sg	10 03 58.4	+2.4
	2.5nm,0.3s,baz=150,slow=26,SNR=10						
MRKS	Merke	1.74	48	eP	Pg	10 03 36.2	+0.1
	3.0nm,0.2s						
MRKS				eS	Sg	10 03 60.0	+1.3
	5.9nm,0.3s						
MRKS	Merke	1.74	48	P	Pg	10 03 37.0	+0.9
	3.0nm,0.2s						
MRKS				S	Sg	10 03 60.0	+1.3
	3.8nm,0.2s						
AML	Almayashu	1.75	72	⇓iP	Pb	10 03 35.6	+0.3
	baz=75						
AML				⇓iS	Sg	10 03 59.8	+0.7
	baz=75						

BRLS	Borolday	1.87	320	eP	Pb	10 03 36.5	-0.5
	1.5nm,0.1s						
BRLS				eS	Sb	10 04 01.2	+0.7
	13nm,0.2s						
EKS2	Erkin-Say	2.02	58	⇑iP	Pb	10 03 40.0	+0.2
	baz=61						
EKS2				⇑iS	Sg	10 04 07.5	-0.3
	baz=61						
ARLS	Aral	2.16	82	⇓iP	Pb	10 03 42.2	+0.1
	baz=84						
ARLS				⇓iS	Sg	10 04 11.6	-0.5
	baz=84						
UCH	Uchtor	2.37	74	⇑iP	Pb	10 03 45.0	-0.8
	baz=76						
UCH				⇑iS	Sb	10 04 16.4	+1.1
	baz=76						
AAK	Ala-Archa	2.48	64	⇑iP	Pb	10 03 46.5	-1.2
	baz=67						
AAK				⇑iS	Sb	10 04 18.8	+0.3
	baz=67						
AAK	Ala-Archa	2.48	64	⇑Pn	Pg	10 03 49.3	-1.1
	2.2nm,0.7s						
AAK				⇑Lg	Lg	10 04 21.9	
	1.9nm,0.7s						
KZA	Kyzart	2.87	79	⇑iP	Pb	10 03 52.1	-2.3
	baz=81						
KZA				⇑iS	Sb	10 04 28.6	-1.3
	baz=81						
SGDS	Sogindy	2.99	51	Pg	Pg	10 03 59.4	-0.5
	0.5nm,0.2s						
SGDS				Lg	Lg	10 04 38.2	
	2.4nm,0.4s						
TKM2	Tokmak 2	3.34	65	⇓Pg	Pb	10 04 03.4	+1.1
	1.6nm,0.8s						
TKM2				⇓Lg	Lg	10 04 48.4	
	1.0nm,0.4s						
KST	Kastek	3.64	65	eP	Pg	10 04 10.5	-1.9
	0.5nm,0.3s						
KST				eS	Sg	10 04 58.6	-0.9
	1.4nm,0.8s						
KST	Kastek	3.64	65	Pg	Pg	10 04 11.4	-1.0
	0.5nm,0.3s						
KST				Lg	Lg	10 04 58.6	
	1.4nm,0.8s						
BTLS	Baital	3.92	28	eP	Pb	10 04 14.8	+2.7
	0.6nm,0.6s						
BTLS				eS	Sg	10 05 06.7	-1.9
	1.3nm,0.5s						
BTLS	Baital	3.92	28	Pg	Pg	10 04 17.0	-0.8
	0.7nm,0.3s						
BTLS				Lg	Lg	10 05 08.2	
	1.3nm,0.6s						

MEX 09 10:13:06.0±0.6, 15°.82N×94°.12W, h99km±23km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		1.35	45	i P	Pn	10 13 29.1	-1.3
TGIG				i S	Sn	10 13 46.4	-2.6
CMIG	Matias Romero	1.47	330	eP	Pn	10 13 30.5	-1.3
CMIG				eS	Sn	10 13 49.8	-1.5
CCIG	Comitan	1.96	76	i P	Pn	10 13 37.8	-0.4
CCIG				eS	Sn	10 14 02.0	-0.7

MEX 09 10:19:49.7±0.5, 14°.22N×94°.16W, h5km, MD4.2, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.73	32	i P	Pn	10 20 16.4	-4.1
PCIG				i S	Sn	10 20 38.3	-4.8
TGIG		2.73	21	eP	Pn	10 20 32.2	-2.1
TGIG				i S	Sn	10 21 04.1	-3.7
CMIG	Matias Romero	2.94	346	eP	Pn	10 20 34.3	-2.7
CMIG				eS	Sn	10 21 05.9	-6.9

IDC 09 10:27:26.7±1.3, 10°.87S×13°.42W, h0km, mb4.1/8, mb1 4.2/8, mb1mx3.9/35, mbtmp4.1/8, Error ellipse: s-maj=66.2km s-min=25.8km az=108.0

NEIC 09 10:27:28.8±0.7, 10°.91S±0°.08×13°.4W±0°.1, h10km±1km, mb4.6/25, Error ellipse: s-maj=20.3km s-min=12.4km az=117.0

ISC 09 10:27:27.9±0.5, 10°.9S±0°.1×13°.44W±0°.10, h10km, n33, σ0s.49/33, mb4.4/17, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOWA	Kowa	26.92	20	P	P	10 33 09.3	-0.2
	4.2nm,0.7s,baz=199,slow=9.1,SNR=7.7						
KOWA	Kowa	26.92	20	P	P	10 33 10.3	+0.7
KOWA				IAmb	IAmb	10 33 15.1	
	comp=Z,19nm,1.4s						
TORD	Torodi Ar. Bea	28.23	33	P	P	10 33 20.6	-0.7
	comp=Z,3.2nm,1.1s,baz=215,slow=9.4,SNR=7.9						
TORD	Torodi Ar. Bea	28.23	33	P	P	10 33 20.9	-0.5
TSUM	Tsumeb	31.03	109	P	P	10 33 46.3	0.0
BDFB	Brasilia	33.95	258	P	P	10 34 11.8	-0.1
BDFB				IAmb	IAmb	10 34 17.9	
	comp=Z,6.7nm,1.2s						
LBTB	Lobatse	39.53	116	P	P	10 34 59.5	+0.1
BOSA	Boshof	40.22	122	P	P	10 35 04.2	-0.9
BOSA				IAmb	IAmb	10 35 19.3	
	comp=Z,12nm,1.4s						
CPUP	Villa Florida	44.10	243	P	P	10 35 36.7	+0.1
ITQB	Itaqui	44.28	239	P	P	10 35 38.1	0.0
ITQB				IAmb	IAmb	10 35 49.4	
	comp=Z,30nm,1.4s						
PVAQ	Vaqueiros	48.36	6	P	P	10 36 10.2	+0.3
PVAQ				IAmb	IAmb	10 36 12.3	
	comp=Z,9.8nm,1.4s						
PESTR	Estremoz	49.82	6	P	P	10 36 20.7	-0.4
PESTR				IAmb	IAmb	10 36 23.6	
	comp=Z,8.2nm,1.5s						
LODK	Lodwar	50.61	76	P	P	10 36 27.3	-0.3
KEST	Kesra	51.15	24	P	P	10 36 31.5	+0.2
	comp=Z,5.3nm,1.0s,baz=219,slow=6.5,SNR=2.6						
LPAZ	La Paz	53.30	258	P	P	10 36 47.9	-0.5
TIP	Timpagrande	57.22	28	P	P	10 37 16.4	+0.9
TIP				IAmb	IAmb	10 37 31.6	
	comp=Z,11nm,1.1s						
PDG	Podgorica	60.96	27	P	P	10 37 41.8	+0.5
MG02	Cerro Sombrero	60.99	215	P	P	10 37 42.2	+0.8
SNAA	Sanae	61.06	176	P	P	10 37 42.4	+0.7
	comp=Z,1.5nm,0.9s,baz=335,slow=6.7,SNR=4.4						
SNAA	Sanae	61.06	176	P	P	10 37 42.0	+0.3
SNAA				IAmb	IAmb	10 37 49.8	
	comp=Z,6.3nm,1.3s						
STAL	STALIGIAL	61.56	20	P	P	10 37 45.5	+0.1
STAL				IAmb	IAmb	10 37 53.2	
	comp=Z,10.0nm,1.1s						
NNA	Nana	62.03	262	P	P	10 37 48.4	-0.8
WLF	Walferdange	62.73	14	P	P	10 37 53.4	+0.4
ALN	Alexandroupoli	63.13	33	P	P	10 37 56.0	0.0
GERES	GERESS Array B	64.14	20	P	P	10 38 03.4	+0.8
	comp=Z,1.8nm,1.0s,baz=199,slow=6.5,SNR=5.5						
GERES	GERESS Array B	64.14	20	P	P	10 38 02.0	-0.6
MLR	Muntele Rosu	66.41	29	P	P	10 38 17.4	0.0
BRTR	Keskin Array B	66.67	38	P	P	10 38 19.3	+0.1
	comp=Z,0.4nm,0.4s,baz=247,slow=5.8,SNR=1.1						
AKASG	Malin Array Be	71.69	27	P	P	10 38 50.2	+0.2
	comp=Z,2.2nm,0.8s,baz=224,slow=7.0,SNR=8.6						
AKASG	Malin Array Be	71.69	27	P	P	10 38 49.6	-0.4
AKASG				IAmb	IAmb	10 38 56.3	
	comp=Z,4.8nm,1.3s						
AKBB	Malin Array Si	71.69	27	P	P	10 38 50.4	+0.5
AKBB				IAmb	IAmb	10 38 57.2	
	comp=Z,7.0nm,1.0s						
BATG	Bathurst New B	74.44	326	P	P	10 39 06.7	+0.3
BATG				IAmb	IAmb	10 39 08.5	
	comp=Z,14nm,1.4s						
TXAR	Lajitas Array	95.46	299	P	P	10 40 53.5	-0.1
	comp=Z,0.4nm,1.0s,baz=108,slow=8.6,SNR=3.6						

IDC 09 10:30:53.0±2.7, 10°.97S×12°.83W, h0km, mb4.1/6, mb1 4.1/6, mb1mx3.8/33, mbtmp4.1/6, MS3.9/16, Ms1 3.9/16, ms1mx3.7/41, Error ellipse: s-maj=184.7km s-min=28.1km az=102.0

NEIC 09 10:30:55.0±1.5, 11°.19S±0°.10×12°.75W±0°.10, h10km±1km, mb4.7/31, Error ellipse: s-maj=19.0km s-min=12.7km az=222.0

GCMT 09 10:30:55.0±0.3, 10°.86S±0°.04×13°.13W±0°.02, h18km±1km, MW4.9/90, Moment Tensor Solution. s20,c21; s90,c107; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.77±.23; $M_{\theta\theta}$0.36±.13; $M_{\phi\phi}$2.42±.16; $M_{r\theta}$0.64±.43; $M_{\theta\phi}$-0.37±.09; $M_{\phi r}$0.68±.32; Best double couple: $M_0$2.77100×10^{16} NP1:ϕ_s339.00000°, δ40.00000°, λ-109.00000°. NP2: ϕ_s183.00000°, δ53.00000°, λ-74.00000°. Principal axes: T 2.5460, Plg6.0000°, Azm262.0000°; N 0.4590, Plg12.0000°, Azm354.0000°; P -2.9970, Plg76.0000°, Azm146.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 09 10:30:54.2±0.5, 11°.22S±0°.09×12°.76W±0°.08, h10km, n55, σ1s.04/43, mb4.5/21, MS4.0/15, 1C, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	Ascension	3.63	334	Pn	Pn	10 31 50.7	+0.2
SHEL	Horse Pasture	8.29	125		Pn	10 32 54.9	+0.4
DBIC	Dimbokro	19.43	24	LR	LR	10 41 04.2	
	comp=Z,255nm,20.1s,baz=215,slow=32						
KOWA	Kowa	26.98	19	P	P	10 36 35.4	-0.9
	4.7nm,0.7s,baz=201,slow=9.0,SNR=9.9						
KOWA				LR	LR	10 45 35.7	
	comp=Z,301nm,19.6s,baz=202,slow=33						
KOWA	Kowa	26.98	19	P	P	10 36 36.2	-0.2
TORD	Torodi Ar. Bea	28.14	31	P	P	10 36 45.6	-1.2
	1.5nm,0.7s,baz=222,slow=8.0,SNR=5.3						
TORD				LR	LR	10 46 18.9	
	comp=Z,247nm,19.4s,baz=200,slow=33						
TORD	Torodi Ar. Bea	28.14	31	P	P	10 36 46.3	-0.4
TSUM	Tsumeb	30.30	109	P	P	10 37 06.7	+0.6
BDFB	Brasilia	34.55	259	LR	LR	10 48 51.6	
	comp=Z,434nm,21.6s,baz=103,slow=31						
SUR	Sutherland	37.37	130	LR	LR	10 50 29.3	
	comp=Z,264nm,20.8s,baz=306,slow=31						
LBTB	Lobatse	38.80	116	LR	LR	10 51 42.3	
	comp=Z,217nm,21.8s,baz=278,slow=32						
BOSA	Boshof	39.49	122	LR	LR	10 51 53.4	
	comp=Z,238nm,19.6s,baz=302,slow=32						
MATP	Matopo	40.64	108	LR	LR	10 53 03.4	
	comp=Z,135nm,21.3s,baz=305,slow=33						
MDP	Montagnes des	42.88	290	LR	LR	10 53 03.9	
	comp=Z,193nm,21.9s,baz=100,slow=31						
SIV	San Ignacio	47.12	259	LR	LR	10 57 20.8	
	comp=Z,176nm,20.4s,baz=113,slow=34						
SAML	Samuel	49.65	268	P	P	10 39 46.3	-0.3
SAML					S	10 46 54.9	-0.7
LODK	Lodwar	50.03	76	P	P	10 39 48.9	-0.7
PESTR	Estremoz	50.06	5	P	P	10 39 49.7	+0.5
KMBO	Kilima Mbogo	50.64	82	LR	LR	10 59 05.4	
	comp=Z,173nm,20.9s,baz=104,slow=33						
KEST	Kesra	51.15	23	LR	LR	11 00 22.5	
	comp=Z,138nm,20.8s,baz=263,slow=35						
BIM	Bigot	54.28	297	P	P	10 40 20.6	-0.6
BO01	Tunca	57.68	236	P	P	10 40 45.9	+0.7
BO01				IAmb	IAmb	10 41 04.4	
	comp=Z,18nm,1.4s						
LC01	Cunco	59.08	231	P	P	10 40 56.0	+1.0
LC01				IAmb	IAmb	10 41 02.9	
	comp=Z,12nm,1.2s						
SNAA	Sanae	60.72	176	P	P	10 41 07.9	+2.2
	comp=Z,2.0nm,0.9s,baz=17,slow=7.4,SNR=3.5						
SNAA				LR	LR	11 00 13.6	
	comp=Z,46nm,21.9s,baz=291,slow=29						
BFO	Black Forest	62.16	16	P	P	10 41 16.1	+0.4
BFO				IAmb	IAmb	10 41 17.7	
	comp=Z,4.0nm,0.9s						
PCDR	Punta Cana, DR	62.31	298	P	P	10 41 17.5	+0.3
RUSC	La Rusia	62.39	283	P	P	10 41 19.4	+1.0
RUSC				IAmb	IAmb	10 41 25.5	
	comp=Z,5.0nm,0.8s						
ALN	Alexandroupoli	63.03	32	P	P	10 41 21.4	-0.1
DR12	Loma Pena Alta	63.29	298	P	P	10 41 25.0	+1.2
GERES	GERESS Array B	64.20	19	P	P	10 41 28.5	-0.8
	comp=Z,0.4nm,0.5s,baz=205,slow=5.9,SNR=3.7						
GERES	GERESS Array B	64.20	19	P	P	10 41 28.9	-0.3
SDDR	Presa de Saban	65.03	297	P	P	10 41 36.5	+1.3
SDDR				IAmb	IAmb	10 41 50.7	
	comp=Z,9.9nm,1.0s						
MORC	Moravsky Berou	66.30	21	P	P	10 41 43.3	+0.5
MORC				IAmb	IAmb	10 41 45.1	
	comp=Z,4.5nm,1.2s						
MLR	Muntele Rosu	66.34	29	P	P	10 41 43.2	-0.1
MLR				IAmb	IAmb	10 41 50.0	
	comp=Z,6.7nm,1.1s						
BRTR	Keskin Array B	66.50	38	P	P	10 41 44.0	-0.4
	comp=Z,0.5nm,0.3s,baz=242,slow=3.1,SNR=1.9						
BRTR	Keskin Array B	66.50	38	P	P	10 41 44.8	+0.4
SYO	Syowa Base	66.66	162	⇑eX	P	10 41 41.4	-3.3
BURAR	Bucovina Array	67.61	27	P	P	10 41 52.2	+1.0
BUR08	Bucovina Ar. S	67.62	27	P	P	10 41 52.3	+0.9
BUR08				IAmb	IAmb	10 41 58.7	
	comp=Z,4.7nm,1.3s						
RGN	Rugen	69.12	16	P	P	10 42 02.3	+1.9
AKASG	Malin Array Be	71.66	27	P	P	10 42 14.7	-1.3
	comp=Z,2.4nm,0.8s,baz=226,slow=6.1,SNR=10						
AKASG	Malin Array Be	71.66	27	P	P	10 42 15.7	-0.3
SUW	Suwalki	71.77	21	P	P	10 42 16.9	+0.3
HFS	Hagfors	74.20	13	LR	LR	11 17 06.7	
	comp=Z,74nm,18.2s,baz=206,slow=38						
V61A	Roper	76.15	311	P	P	10 42 41.9	-0.7
WUPA	West Chester U	77.25	315	P	P	10 42 47.4	-1.4
WUPA				IAmb	IAmb	10 42 47.6	
	comp=Z,5.7nm,1.2s						
LUPA	Lehigh Univers	77.39	316	P	P	10 42 50.0	+0.4
LUPA				IAmb	IAmb	10 42 58.5	
	comp=Z,6.6nm,1.0s						
OBN	Obninsk	77.92	26	LR	LR	11 17 52.4	
	comp=Z,15nm,18.7s,baz=178,slow=36						
LONY	Lake Ozonia	78.73	320	P	P	10 42 57.0	0.0
LONY				IAmb	IAmb	10 43 14.8	
	comp=Z,16nm,1.5s						
MTO3	Montecristo	80.07	287	P	P	10 43 03.2	-1.9
MTO3				IAmb	IAmb	10 43 03.8	
	comp=Z,6.3nm,1.3s						
S54A	Dingess, Beckl	80.44	312	P	P	10 43 05.4	-1.1
S54A				IAmb	IAmb	10 43 18.4	
	comp=Z,6.7nm,0.8s						
Y52A	Lilburn	81.11	307	P	P	10 43 10.1	0.0
Y52A				IAmb	IAmb	10 43 11.8	
	comp=Z,4.0nm,0.9s						
SFJD	Kangerlussuaq	82.72	346	P	P	10 43 18.3	+0.5
SWET	Sewanee	83.02	308	P	P	10 43 19.7	-0.5
SWET				IAmb	IAmb	10 43 22.8	
	comp=Z,7.4nm,1.5s						
AKTO	Aktyubinsk	86.67	37	LR	LR	11 27 10.7	
	comp=Z,40nm,18.2s,baz=251,slow=39						

IDC 09 10:37:57.4±5.5, 11°.04S×12°.74W, h0km, mb4.1/6, mb1 4.2/6, mb1mx3.8/36, mbtmp4.0/6, Error ellipse: s-maj=197.4km s-min=50.6km az=144.0

NEIC 09 10:37:58.3±1.4, 11°.07S±0°.09×12°.90W±0°.08, h10km±1km, mb4.7/51, Error ellipse: s-maj=17.3km s-min=8.2km az=217.0

ISC 09 10:37:57.3±0.4, 11°.14S±0°.08×12°.88W±0°.07, h10km, n58, σ0s.74/58, mb4.5/30, 1D, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	Ascension	3.50	335	Pn	Pn	10 38 50.7	-1.2
SHEL	Horse Pasture	8.43	125	Pn	Pn	10 39 59.7	0.0
RCBR	Riachuelo	23.36	281	P	P	10 43 06.1	-0.2
RCBR				IAmb	IAmb	10 43 22.7	
	comp=Z,16nm,1.1s						
KOWA	Kowa	26.94	19	P	P	10 43 39.3	+0.1
	comp=Z,3.3nm,0.7s,baz=204,slow=10.0,SNR=5.3						
KOWA	Kowa	26.94	19	P	P	10 43 38.5	-0.6
TORD	Torodi Ar. Bea	28.13	31	P	P	10 43 49.6	-0.2
	comp=Z,1.6nm,1.0s,baz=213,slow=9.1,SNR=4.2						
TORD	Torodi Ar. Bea	28.13	31	P	P	10 43 49.7	-0.1
TSUM	Tsumeb	30.44	109	P	P	10 44 10.8	+0.3
BDFB	Brasilia	34.44	259	P	P	10 44 45.6	0.0
BDFB				IAmb	IAmb	10 44 46.9	
	comp=Z,5.8nm,1.0s						
SPB	Sao Paulo	35.12	245	P	P	10 44 51.2	0.0
SPB				IAmb	IAmb	10 45 02.5	
	comp=Z,18nm,1.1s						
SUR	Sutherland	37.52	130	P	P	10 45 11.8	0.0
SUR				IAmb	IAmb	10 45 25.3	
	comp=Z,25nm,1.5s						
LBTB	Lobatse	38.95	116	P	P	10 45 23.8	-0.2
MACI	Morro de la Ar	39.31	355	P	P	10 45 25.6	-1.3
MACI				IAmb	IAmb	10 45 40.9	
	comp=Z,34nm,1.0s						
AQDB	Aquidauana	42.12	252	P	P	10 45 50.4	+0.3
CPUP	Villa Florida	44.48	244	P	P	10 46 09.1	-0.1
MBAR	Mbarara	44.57	79	P	P	10 46 09.7	-0.5
MBAR				IAmb	IAmb	10 46 22.1	
	comp=Z,6.5nm,1.2s						
LODK	Lodwar	50.13	76	P	P	10 46 54.1	+0.7
PAB	San Pablo	51.04	8	P	P	10 46 59.8	-0.1
PAB				IAmb	IAmb	10 47 08.7	
	comp=Z,7.3nm,1.4s						
KEST	Kesra	51.13	23	P	P	10 47 01.5	+0.9
	comp=Z,6.6nm,1.0s,baz=185,slow=12,SNR=3.8						
ESBB	Sonseca Array	51.23	9	P	P	10 47 00.8	-0.4
LPAZ	La Paz	53.79	258	P	P	10 47 21.5	+0.1
PB14	IPOC Station P	56.00	248	P	P	10 47 37.6	+0.7
GO03	Copiap	56.06	244	P	P	10 47 37.8	+0.8
GO03				IAmb	IAmb	10 47 47.9	
	comp=Z,8.1nm,0.8s						
ANWB	Willy Bob	56.14	300	P	P	10 47 37.5	0.0
ABPO	Ambohimpanom	58.34	105	P	P	10 47 53.3	-0.1
ABPO				IAmb	IAmb	10 47 56.0	
	comp=Z,12nm,1.3s						
LC01	Cunco	59.03	231	P	P	10 47 57.9	+0.2
LC01				IAmb	IAmb	10 48 10.2	
	comp=Z,8.6nm,0.7s						
SANT	Santorini	59.47	36	P	P	10 48 01.2	+0.5
MTP	Monte Pirata	59.55	299	P	P	10 48 01.9	+0.4
SJG	San Juan	60.07	298	P	P	10 48 04.8	-0.3
GO07	Milladeo Hill,	61.22	227	P	P	10 48 12.7	+0.1
NNA	Nana	62.54	262	P	P	10 48 21.8	-0.2
GERES	GERESS Array B	64.17	19	P	P	10 48 33.5	+1.4
	comp=Z,0.3nm,0.4s,baz=225,slow=5.0,SNR=1.6						
GERES	GERESS Array B	64.17	19	P	P	10 48 33.2	+1.0
PSZ	Piszkesteto	65.60	24	P	P	10 48 40.9	-0.6
PSZ				IAmb	IAmb	10 48 49.5	
	comp=Z,10nm,1.3s						
OTAV	Otavalo	66.10	275	P	P	10 48 45.2	-0.7
OTAV				IAmb	IAmb	10 48 53.5	
	comp=Z,8.6nm,1.4s						
MORC	Moravsky Berou	66.26	21	P	P	10 48 45.3	-0.4
MORC				IAmb	IAmb	10 48 54.0	
	comp=Z,2.3nm,0.9s						
MLR	Muntele Rosu	66.33	29	P	P	10 48 47.2	+0.8
MLR				IAmb	IAmb	10 48 58.3	
	comp=Z,5.3nm,1.0s						
SYO	Syowa Base	66.77	162	⇓eP	P	10 48 46.4	-2.2
AKASG	Malin Array Be	71.64	27	P	P	10 49 19.7	+0.7
	comp=Z,2.4nm,0.8s,baz=225,slow=6.2,SNR=6.6						
AKASG	Malin Array Be	71.64	27	P	P	10 49 19.4	+0.3
AKBB	Malin Array Si	71.64	27	P	P	10 49 19.9	+0.8
AKBB				IAmb	IAmb	10 49 22.6	
	comp=Z,6.4nm,1.2s						
PEZE	Perez Zeledon,	73.29	283	P	P	10 49 30.2	+0.4
KSPA	Keystone Colle	77.94	317	P	P	10 49 56.5	+0.7
KSPA				IAmb	IAmb	10 50 14.7	
	comp=Z,5.0nm,1.0s						
FRNY	Flat Rock	78.06	321	P	P	10 49 57.5	+1.1
FRNY				IAmb	IAmb	10 50 05.3	
	comp=Z,5.5nm,1.4s						
T57A	Hurt	78.47	312	P	P	10 49 58.8	0.0
T57A				IAmb	IAmb	10 50 07.1	
	comp=Z,6.0nm,1.4s						
S57A	Dark Hollow, R	78.55	312	P	P	10 49 59.2	0.0
S57A				IAmb	IAmb	10 50 10.4	
	comp=Z,5.7nm,1.4s						
J57A	Williamstown	78.93	319	P	P	10 50 00.6	-0.6
J57A				IAmb	IAmb	10 50 04.7	
	comp=Z,8.1nm,0.9s						
JSC	Jenkinsville	78.94	308	P	P	10 50 02.2	+0.8
255A	Hazlehurst	79.05	306	P	P	10 50 02.1	0.0
KMSC	Kings Mountain	79.31	309	P	P	10 50 03.0	-0.5
KMSC				IAmb	IAmb	10 50 22.4	
	comp=Z,5.5nm,1.3s						
GOGA	Godfrey	80.34	307	P	P	10 50 08.5	-0.6
GOGA				IAmb	IAmb	10 50 20.4	
	comp=Z,5.3nm,1.2s						
352A	Blakely	80.86	305	P	P	10 50 11.0	-0.9
352A				IAmb	IAmb	10 50 17.8	
	comp=Z,20nm,1.4s						
ERPA	Erie	81.03	316	P	P	10 50 11.2	-1.4
152A	Waverly Hall	81.09	306	P	P	10 50 13.8	+0.6
CPCT	Cooper Cave	81.86	308	P	P	10 50 15.8	-1.4
BRAL	Brewton	82.49	304	P	P	10 50 19.9	-0.6
U38A	Gravette	89.80	307	P	P	10 50 56.5	0.0
U38A				IAmb	IAmb	10 50 58.0	
	comp=Z,9.2nm,1.4s						
TXAR	Lajitas Array	96.04	299	P	P	10 51 27.4	+1.8
	comp=Z,0.2nm,0.9s,baz=116,slow=8.1,SNR=2.2						

TRN 09 10:39:07.6, 13°.78N×58°.42W, h89km, MD4.0

ISC 09 10:39:05.5±2.0, 13°.79N±0°.04×58°.3W±0°.1, h10km, n53, σ1s.68/72, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	Saint Philip	1.30	238	eP	Pg	10 39 31.4	+0.9
BBSP				eS	Sn	10 39 48.3	+1.1
BBGH	Gun Hill	1.36	242	eP	Pb	10 39 31.7	+0.5
BBGH				eS	Sg	10 39 49.7	+0.2
BCHC	Barbados, Cave	1.43	243	eP	Pg	10 39 33.2	+0.2
BCHC				eS	Sg	10 39 51.8	+0.1
MPOM	Morne Pois Mar	2.55	285	eP	Pn	10 39 47.4	+0.4
MPOM	Morne Pois Mar	2.55	285	e	Pg	10 39 55.8	+1.4
MPOM				eS	Sn	10 40 15.9	-2.1
MCLT	Moule a Chique	2.55	269	eP	Pn	10 39 47.4	+0.4
MCLT				eS	Sn	10 40 16.2	-1.8
SLBI	Saint Lucia, B	2.59	275	eP	Pn	10 39 47.7	+0.2
SLBI				eS	Sn	10 40 15.5	-3.5
SLCP	Castries, St.	2.60	275	eP	Pn	10 39 48.3	+0.6
SLCP				eS	Sn	10 40 17.9	-1.4
MVM	Montagne Vaucl	2.61	287	eP	Pn	10 39 48.0	+0.2
ILAM	Ilet Lapin Mar	2.66	292	eP	Pn	10 39 49.3	+0.8
ILAM				eS	Sn	10 40 18.8	-2.1
LPMF	Morne Lapointe	2.68	287	eP	Pn	10 39 49.1	+0.3
ZAM	Aeronautique	2.74	287	eP	Pn	10 39 49.1	-0.4
TRMF	Trois Ilets	2.75	286	eP	Pn	10 39 49.4	-0.4
BIM	Bigot	2.76	285	eP	Pn	10 39 49.3	-0.7
BIM				eS	Sn	10 40 21.6	-1.9
SSV	Crater Summit	2.83	261	eS	Sn	10 40 22.1	-3.1
SVV	Soufriere Volc	2.85	261	eP	Pn	10 39 51.9	+0.7
SVV				eS	Sn	10 40 24.7	-0.9
SVB	Belmont	2.90	260	eP	Pn	10 39 51.6	-0.1
SVB				eS	Sn	10 40 24.8	-1.9
FDF	Fort de France	2.90	289	eP	Pn	10 39 52.1	+0.3
FDF	Fort de France	2.90	289	e	Pg	10 40 00.9	-0.2
FDF				eS	Sn	10 40 25.5	-1.3
BAMF	Morne Balai	2.92	291	eP	Pn	10 39 52.8	+0.6
CXM	Morne La Croix	2.94	291	eP	Pn	10 39 54.5	+2.0
SVN	Savane Anatole	2.95	291	eP	Pn	10 39 53.8	+1.3
PCM	Pelee Case Pet	2.98	290	eP	Pn	10 39 53.8	+0.8
DLPL	La Plaine	3.22	299	eP	Pn	10 39 56.7	+0.5
DLPL				eS	Sn	10 40 33.4	-1.3
TOSP	Speyside	3.29	221	e	Pn	10 39 44.4	-13
TOSP	Speyside	3.29	221	eP	Pn	10 39 57.6	+0.5
TOSP	Speyside	3.29	221	eS	Sn	10 40 33.3	-3.0
TOSP	Speyside	3.29	221	e	Pg	10 40 08.1	-0.5
GCMP	Grenada, Carri	3.29	247	eP	Pn	10 39 57.0	-0.1
GCMP	Grenada, Carri	3.29	247	eS	Sn	10 40 34.0	-2.3
GCMP	Grenada, Carri	3.29	247	e	Pg	10 40 09.0	+0.4
DSLB	Salisbury	3.42	299	eP	Pn	10 39 59.5	+0.5
DSLB				eS	Sn	10 40 38.2	-1.4
MDPV	Dominica, Penn	3.51	302	eS	Sn	10 40 40.2	-1.7
MDCT	Cottage Hill,	3.54	301	eP	Pn	10 40 01.3	+0.7
MDCT				eS	Sn	10 40 39.9	-2.7
MAGL	Barre de l'ile	3.58	307	eP	Pn	10 40 01.8	+0.7
MAGL				eS	Sn	10 40 41.4	-2.2
GRHS	Sauteurs	3.59	245	eP	Pn	10 40 01.6	+0.3
GRGR	Grenville	3.64	243	eP	Pn	10 40 01.7	-0.4
GRGR				eS	Sn	10 40 42.8	-2.3
GRFF	Grenada Fort F	3.75	243	eP	Pn	10 40 03.9	+0.3
GRFF				eS	Sn	10 40 45.7	-2.2
TDBA	Terre de Bas,	3.80	303	eP	Pn	10 40 04.2	0.0
TDBA	Terre de Bas,	3.80	303	e	Pb	10 40 16.4	+3.6
TDBA				eS	Sn	10 40 46.0	-3.0
TBG	Guadaloupe-3	3.81	303	e	Pn	10 40 04.6	+0.3
CBE	Ff, Capester	3.90	306	eP	Pn	10 40 06.3	+0.7
CBE				eS	Sn	10 40 49.4	-2.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ABD	**La Joyeuse, An**	**4.06**	**312**	*e*P	**Pn**	**10 40 08.0**	**+0.2**
TRN	**Trinidad (W)**	**4.34**	**224**	*e*P	**Pn**	**10 40 11.9**	**+0.4**
ANBD	**Bethesda, Anti**	**4.64**	**315**	*e*P	**Pn**	**10 40 15.9**	**+0.2**
ANBD	**Bethesda, Anti**	**4.64**	**315**	*e*S	**Sn**	**10 41 06.9**	**-2.7**
ANDO	**Antigua, Disas**	**4.73**	**315**	*e*	**Pn**	**10 40 17.5**	**+0.6**
ANOC	**Antigua Open C**	**4.73**	**315**	*e*	**Pn**	**10 40 17.8**	**+0.8**
ANOC	**Antigua Open C**	**4.73**	**315**	*e*S	**Sn**	**10 41 08.5**	**-3.5**
ANWB	**Willy Bob**	**5.10**	**320**	*e*P	**Pn**	**10 40 21.5**	**-0.5**
ANWB	**Willy Bob**	**5.10**	**320**	*e*S	**Sn**	**10 41 17.1**	**-3.9**
NVDO	**Nevis, Disaste**	**5.30**	**309**	*e*P	**Pn**	**10 40 25.6**	**+0.8**
SKI	**Saint Kitts**	**5.53**	**310**	*e*S	**Sn**	**10 41 26.6**	**-5.0**

IDC ***09*** *10:41:13.3±2.8, 11.°02S×12.°69W, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/40, mbtmp4.0/5, Error ellipse: s-maj=215.8km s-min=29.1km az=101.0*

NEIC ***09*** *10:41:14.2±1.3, 11.°14S±0.°06×12.°80W±0.°06, h10km±1km, mb4.8/45, Error ellipse: s-maj=11.8km s-min=8.1km az=137.0*

ISC 09 10:41:13.5±0.5**, 11.°13S**±0.°08×**12.°80W**±0.°08**, h10**km**, n51, σ0.s72**/51**, mb4.6**/24**, Ascension Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**3.53**	**334**	Pn	**Pn**	**10 42 08.6**	**+0.2**
SHEL	**Horse Pasture**	**8.38**	**126**	Pn	**Pn**	**10 43 14.5**	**-0.6**
DBIC	**Dimbokro**	**19.37**	**24**	P	**P**	**10 45 39.7**	**+0.2**
RCBR	**Riachuelo**	**23.44**	**281**	P	**P**	**10 46 23.2**	**-0.1**
RCBR				IAmb	IAmb	10 46 38.3	
	comp=Z,19nm,1.2s						
KOWA	**Kowa**	**26.91**	**19**	P	**P**	**10 46 55.1**	**+0.2**
	comp=Z,2.7nm,0.6s,baz=222,slow=7.0,SNR=6.3						
KOWA	**Kowa**	**26.91**	**19**	P	**P**	**10 46 55.2**	**+0.2**
KOWA				IAmb	IAmb	10 46 59.9	
	comp=Z,21nm,1.4s						
SACV	**Santiago Islan**	**28.05**	**337**	P	**P**	**10 47 04.7**	**-0.6**
SACV				IAmb	IAmb	10 47 15.2	
	comp=Z,37nm,1.1s						
TORD	**Torodi Ar. Bea**	**28.08**	**31**	P	**P**	**10 47 05.4**	**-0.2**
	comp=Z,3.3nm,1.1s,baz=218,slow=9.8,SNR=6.7						
TORD	**Torodi Ar. Bea**	**28.08**	**31**	P	**P**	**10 47 05.8**	**+0.2**
BDFB	**Brasilia**	**34.52**	**259**	P	**P**	**10 48 02.2**	**-0.3**
BDFB				IAmb	IAmb	10 48 08.0	
	comp=Z,12nm,1.5s						
LBTB	**Lobatse**	**38.88**	**116**	P	**P**	**10 48 38.7**	**-0.9**
BOSA	**Boshof**	**39.58**	**122**	P	**P**	**10 48 44.6**	**-0.7**
CART	**Cartagena**	**49.70**	**12**	P	**P**	**10 50 05.8**	**0.0**
CART				IAmb	IAmb	10 50 09.5	
	comp=Z,5.8nm,0.8s						
LODK	**Lodwar**	**50.05**	**76**	P	**P**	**10 50 08.1**	**-0.9**
CMLA	**Cha da Macela**	**50.07**	**347**	P	**P**	**10 50 08.7**	**+0.1**
PAB	**San Pablo**	**51.02**	**8**	P	**P**	**10 50 15.8**	**0.0**
TRQA	**Tornquist**	**51.38**	**230**	P	**P**	**10 50 19.7**	**+1.1**
TRQA				IAmb	IAmb	10 50 39.2	
	comp=Z,16nm,1.4s						
BBGH	**Gun Hill**	**52.29**	**296**	P	**P**	**10 50 23.9**	**-1.8**
LPAZ	**La Paz**	**53.87**	**258**	P	**P**	**10 50 36.5**	**-1.6**
EFI	**East Falkland**	**54.54**	**213**	P	**P**	**10 50 42.4**	**+0.8**
PB06	**IPOC Station P**	**55.23**	**250**	P	**P**	**10 50 47.8**	**+0.4**
PB06				IAmb	IAmb	10 51 02.8	
	comp=Z,36nm,1.5s						
PB11	**IPOC Station P**	**55.26**	**254**	P	**P**	**10 50 46.8**	**-0.9**
PB11				IAmb	IAmb	10 50 53.3	
	comp=Z,14nm,1.2s						
ITM	**Ithomi**	**58.07**	**32**	P	**P**	**10 51 06.9**	**-0.2**
ITM				IAmb	IAmb	10 51 07.5	
	comp=Z,13nm,1.1s						
ML02	**Panimavida**	**58.18**	**235**		**P**	**10 51 07.0**	**-1.0**
CDVI	**St. Croix**	**58.79**	**299**	P	**P**	**10 51 11.5**	**-0.9**
SJG	**San Juan**	**60.13**	**298**	P	**P**	**10 51 21.7**	**0.0**
SJG				IAmb	IAmb	10 51 23.3	
	comp=Z,27nm,1.4s						
LL01	**San Ignacio de**	**60.22**	**227**	P	**P**	**10 51 21.9**	**-0.1**
LL01				IAmb	IAmb	10 51 28.9	
	comp=Z,12nm,1.2s						
HATO	**Hato, Curacao**	**60.38**	**291**	P	**P**	**10 51 24.1**	**+0.6**
SNAA	**Sanae**	**60.81**	**176**	P	**P**	**10 51 27.6**	**+2.0**
	comp=Z,0.8nm,0.8s,baz=8.2,slow=8.5,SNR=2.5						
SNAA	**Sanae**	**60.81**	**176**	P	**P**	**10 51 25.2**	**-0.4**
GEC2	**GERESS Array S**	**64.13**	**19**	P	**P**	**10 51 48.3**	**+0.2**
GEC2				IAmb	IAmb	10 51 51.1	
	comp=Z,3.1nm,1.1s						
GERES	**GERESS Array B**	**64.13**	**19**	P	**P**	**10 51 48.7**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=211,slow=9.2,SNR=4.9						
GERES	**GERESS Array B**	**64.13**	**19**	P	**P**	**10 51 49.1**	**+1.0**
BURAR	**Bucovina Array**	**67.55**	**27**	P	**P**	**10 52 10.6**	**+0.4**
GTBY	**Guantanamo Bay**	**68.64**	**297**	P	**P**	**10 52 18.0**	**+0.5**
BCIP	**Isla Barro Col**	**69.65**	**284**	P	**P**	**10 52 24.3**	**+0.5**
SIRT	**Sirnak**	**70.81**	**44**	P	**P**	**10 52 31.7**	**+1.1**
AKASG	**Malin Array Be**	**71.60**	**27**	P	**P**	**10 52 35.4**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=223,slow=6.6,SNR=8.6						
AKASG	**Malin Array Be**	**71.60**	**27**	P	**P**	**10 52 35.8**	**+0.8**
AKBB	**Malin Array Si**	**71.60**	**27**	P	**P**	**10 52 35.2**	**+0.2**
AKBB				IAmb	IAmb	10 52 37.8	
	comp=Z,5.1nm,0.9s						
HAL	**Halifax**	**72.02**	**324**	P	**P**	**10 52 38.2**	**+0.6**
PEZE	**Perez Zeledon,**	**73.37**	**283**	P	**P**	**10 52 46.1**	**-0.4**
G65A	**Princeton**	**74.65**	**323**	P	**P**	**10 52 52.5**	**-0.6**
G65A				IAmb	IAmb	10 52 52.8	
	comp=Z,13nm,1.2s						
F64A	**Sherman**	**75.47**	**323**	P	**P**	**10 52 58.1**	**+0.2**
F64A				IAmb	IAmb	10 52 59.6	
	comp=Z,17nm,1.3s						
PAYG	**Puerto Ayora**	**77.59**	**272**	P	**P**	**10 53 10.2**	**-0.5**
PAYG				IAmb	IAmb	10 53 10.6	
	comp=Z,26nm,1.1s						
R58B	**Mineral**	**77.91**	**313**	P	**P**	**10 53 11.0**	**-0.8**
R58B				IAmb	IAmb	10 53 20.2	
	comp=Z,5.2nm,1.4s						
BINY	**Binghamton**	**78.42**	**317**	P	**P**	**10 53 14.2**	**-0.5**
BINY				IAmb	IAmb	10 53 24.0	
	comp=Z,5.7nm,1.1s						
Y52A	**Lilburn**	**81.02**	**307**	P	**P**	**10 53 28.7**	**-0.3**
Y52A				IAmb	IAmb	10 53 33.8	
	comp=Z,3.3nm,0.7s						
250A	**Grady**	**82.17**	**305**	P	**P**	**10 53 35.1**	**+0.1**
250A				IAmb	IAmb	10 53 51.3	
	comp=Z,13nm,1.4s						
ABKAR	**Akbulak array**	**87.37**	**39**	P	**P**	**10 54 01.2**	**+0.4**
MGMO	**Mountain Grove**	**88.39**	**308**	P	**P**	**10 54 06.5**	**+0.4**
MGMO				IAmb	IAmb	10 54 13.2	
	comp=Z,2.2nm,0.9s						

NEIC ***09*** *10:45:00.3±1.6, 11.°14S±0.°06×13.°9W±0.°1, h10km±1km, mb4.8/42, Error ellipse: s-maj=17.9km s-min=10.8km az=81.0*

IDC ***09*** *10:45:01.8±2.4, 11.°08S×12.°37W, h0km, mb4.3/6, mb1 4.2/7, mb1mx3.9/41, mbtmp4.2/7, ML3.4/1, MS3.8/1, Ms1 3.8/1, ms1mx3.1/38, Error ellipse: s-maj=174.0km s-min=23.8km az=102.0*

ISC 09 10:44:59.4±0.6**, 11.°09S**±0.°09×**13.°93W**±0.°10**, h10**km**, n50, σ1.s41**/50**, mb4.7**/23**, Ascension Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**3.17**	**352**	Pn	**Pn**	**10 45 50.1**	**+0.7**
DBIC	**Dimbokro**	**19.82**	**27**	P	**P**	**10 49 27.4**	**-3.0**
	0.1nm,0.3s,baz=199,slow=12,SNR=1.7						
DBIC	**Dimbokro**	**19.82**	**27**	P	**P**	**10 49 27.9**	**-2.5**
KOWA	**Kowa**	**27.26**	**21**	P	**P**	**10 50 43.6**	**-0.5**
	4.9nm,0.6s,baz=209,slow=7.8,SNR=11						
KOWA				LR	LR	10 59 54.5	
	comp=Z,212nm,19.1s,baz=207,slow=33						
KOWA	**Kowa**	**27.26**	**21**	P	**P**	**10 50 45.0**	**+0.9**
TORD	**Torodi Ar. Bea**	**28.64**	**33**	P	**P**	**10 50 52.8**	**-3.7**
	5.0nm,1.1s,baz=215,slow=7.5,SNR=9.4						
TORD	**Torodi Ar. Bea**	**28.64**	**33**	P	**P**	**10 50 56.0**	**-0.5**
BDFB	**Brasilia**	**33.45**	**258**	P	**P**	**10 51 38.9**	**-0.2**
BOSA	**Boshof**	**40.53**	**121**	P	**P**	**10 52 38.6**	**-0.6**
BOSA				IAmb	IAmb	10 52 40.6	
	comp=Z,17nm,1.4s						
CPUP	**Villa Florida**	**43.59**	**243**	P	**P**	**10 53 03.4**	**-0.7**
MBAR	**Mbarara**	**45.57**	**80**	P	**P**	**10 53 19.1**	**-1.1**
MBAR				IAmb	IAmb	10 53 21.8	
	comp=Z,10nm,1.1s						
SAML	**Samuel**	**48.51**	**268**	P	**P**	**10 53 43.0**	**-0.1**
CMLA	**Cha da Macela**	**49.80**	**348**	P	**P**	**10 53 54.1**	**+1.6**
ROSA	**Rosais**	**51.33**	**346**	P	**P**	**10 54 05.2**	**+1.2**
ESBB	**Sonseca Array**	**51.35**	**10**	P	**P**	**10 54 05.4**	**+1.2**
TOSP	**Speyside**	**51.38**	**294**	P	**P**	**10 54 04.4**	**-0.4**
KEST	**Kesra**	**51.50**	**24**	P	**P**	**10 54 07.4**	**+2.0**
KEST				IAmb	IAmb	10 54 10.8	
	comp=Z,19nm,1.2s						
LPAZ	**La Paz**	**52.80**	**258**	P	**P**	**10 54 13.9**	**-2.2**
FDF	**Fort de France**	**53.37**	**298**	P	**P**	**10 54 19.3**	**-0.3**
PDPR	**Patillas Dam,**	**59.00**	**299**	P	**P**	**10 54 59.1**	**-0.7**
PDPR				IAmb	IAmb	10 55 06.9	
	comp=Z,17nm,1.3s						
LL01	**San Ignacio de**	**59.44**	**227**	P	**P**	**10 55 02.6**	**+0.1**
LL01				IAmb	IAmb	10 55 02.9	
	comp=Z,16nm,1.4s						
AOPR	**Arecibo Observ**	**59.77**	**299**	P	**P**	**10 55 05.9**	**+0.7**
GO07	**Milladeo Hill,**	**60.50**	**227**	P	**P**	**10 55 09.0**	**-0.8**
SNAA	**Sanae**	**60.92**	**176**	P	**P**	**10 55 15.6**	**+3.4**
	comp=Z,2.0nm,0.9s,baz=332,slow=5.5,SNR=7.1						
SNAA	**Sanae**	**60.92**	**176**	P	**P**	**10 55 14.4**	**+2.2**
SNAA				IAmb	IAmb	10 55 24.6	
	comp=Z,4.9nm,1.0s						
ALN	**Alexandroupoli**	**63.54**	**33**	P	**P**	**10 55 32.2**	**+2.0**
ALN				IAmb	IAmb	10 55 43.2	
	comp=Z,25nm,1.5s						
UCC	**Uccle**	**63.66**	**13**	P	**P**	**10 55 32.2**	**+1.5**
GEC2	**GERESS Array S**	**64.47**	**20**	P	**P**	**10 55 37.6**	**+1.3**
GEC2				IAmb	IAmb	10 55 39.8	
	comp=Z,4.5nm,1.1s						
GERES	**GERESS Array B**	**64.47**	**20**	P	**P**	**10 55 36.1**	**-0.2**
	comp=Z,2.0nm,1.0s,baz=199,slow=2.8,SNR=5.7						
GERES	**GERESS Array B**	**64.47**	**20**	P	**P**	**10 55 37.6**	**+1.3**
OTAV	**Otavalo**	**65.08**	**275**	P	**P**	**10 55 40.5**	**-0.9**
OTAV				IAmb	IAmb	10 55 54.8	
	comp=Z,9.6nm,1.5s						
PSZ	**Piszkesteto**	**65.98**	**24**	P	**P**	**10 55 46.7**	**+0.7**
PSZ				IAmb	IAmb	10 55 50.8	
	comp=Z,6.8nm,1.0s						
MORC	**Moravsky Berou**	**66.60**	**22**	P	**P**	**10 55 50.6**	**+0.7**
MORC				IAmb	IAmb	10 55 54.0	
	comp=Z,7.9nm,1.3s						
MLR	**Muntele Rosu**	**66.79**	**29**	P	**P**	**10 55 51.9**	**+0.5**
MLR				IAmb	IAmb	10 55 55.3	
	comp=Z,20nm,1.3s						
BRTR	**Keskin Array B**	**67.10**	**38**	P	**P**	**10 55 51.2**	**-2.2**
	comp=Z,2.0nm,1.0s,baz=216,slow=7.1,SNR=1.6						
BRTR	**Keskin Array B**	**67.10**	**38**	P	**P**	**10 55 54.3**	**+0.8**
OJC	**Ojcow**	**67.79**	**23**	P	**P**	**10 55 58.3**	**+0.9**
OJC				IAmb	IAmb	10 56 10.2	
	comp=Z,5.5nm,0.9s						
AKASG	**Malin Array Be**	**72.07**	**27**	P	**P**	**10 56 24.5**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=222,slow=6.0,SNR=4.5						
AKASG	**Malin Array Be**	**72.07**	**27**	P	**P**	**10 56 24.5**	**+0.8**
AKASG				IAmb	IAmb	10 56 27.0	
	comp=Z,8.6nm,1.4s						
AKBB	**Malin Array Si**	**72.07**	**27**	P	**P**	**10 56 24.9**	**+1.2**
AKBB				IAmb	IAmb	10 56 26.5	
	comp=Z,8.1nm,1.0s						
Y58A	**Scranton**	**76.75**	**309**	P	**P**	**10 56 50.3**	**-1.1**
X58A	**Rowland**	**76.75**	**310**	P	**P**	**10 56 50.6**	**-0.8**
X58A				IAmb	IAmb	10 56 51.3	
	comp=Z,8.4nm,0.8s						
MOQ	**Mont Orford**	**76.81**	**322**	P	**P**	**10 56 51.4**	**-0.2**
SDMD	**Soldier's Deli**	**76.98**	**315**	P	**P**	**10 56 52.8**	**+0.3**
SDMD				IAmb	IAmb	10 56 53.2	
	comp=Z,5.9nm,1.2s						
TZTN	**Tazewell**	**80.68**	**310**	P	**P**	**10 57 11.9**	**-1.1**
BRAL	**Brewton**	**81.62**	**304**	P	**P**	**10 57 18.4**	**+0.4**
BRAL				IAmb	IAmb	10 57 31.9	
	comp=Z,39nm,1.4s						
K50A	**Casco**	**82.34**	**316**	P	**P**	**10 57 21.2**	**-0.5**
U40A	**Yellville**	**87.75**	**308**	P	**P**	**10 57 49.0**	**0.0**
U40A				IAmb	IAmb	10 58 04.6	
	comp=Z,3.6nm,1.4s						
ABKAR	**Akbulak array**	**88.04**	**39**	P	**P**	**10 57 50.8**	**+0.8**
HKT	**Hockley**	**88.57**	**301**	P	**P**	**10 57 51.4**	**-1.5**
HKT				IAmb	IAmb	10 57 57.4	
	comp=Z,3.2nm,1.0s						

IDC ***09*** *10:48:07.7±7.0, 10.°80S×12.°42W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.6/39, mbtmp3.9/4, Error ellipse: s-maj=245.2km s-min=134.4km az=115.0*

NEIC ***09*** *10:48:10.8±1.3, 10.°46S±0.°08×12.°42W±0.°08, h10km±1km, mb4.8/34, Error ellipse: s-maj=18.2km s-min=7.5km az=222.0*

ISC 09 10:48:10.0±0.5**, 10.°50S**±0.°09×**12.°48W**±0.°08**, h10**km**, n42, σ0.s90**/42**, mb4.6**/18**, Ascension Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**3.15**	**324**	Pn	**Pn**	**10 49 00.9**	**+1.1**
DBIC	**Dimbokro**	**18.67**	**24**	P	**P**	**10 52 27.0**	**-1.4**
RCBR	**Riachuelo**	**23.64**	**279**	P	**P**	**10 53 21.3**	**-0.5**
RCBR				IAmb	IAmb	10 53 23.9	
	comp=Z,19nm,1.1s						
KOWA	**Kowa**	**26.21**	**19**	P	**P**	**10 53 46.6**	**+1.4**
	comp=Z,3.5nm,0.7s,baz=208,slow=14,SNR=5.8						
KOWA	**Kowa**	**26.21**	**19**	P	**P**	**10 53 44.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**27.38**	**31**	P	**P**	**10 53 57.1**	**+1.3**
	comp=Z,2.1nm,1.1s,baz=218,slow=8.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**27.38**	**31**	P	**P**	**10 53 55.2**	**-0.6**
SACV	**Santiago Islan**	**27.60**	**336**	P	**P**	**10 53 57.2**	**-0.6**
SACV				IAmb	IAmb	10 54 11.2	
	comp=Z,51nm,1.2s						
TSUM	**Tsumeb**	**30.28**	**110**	P	**P**	**10 54 23.1**	**+1.3**
BDFB	**Brasilia**	**34.96**	**258**	P	**P**	**10 55 03.1**	**+0.3**
BDFB				IAmb	IAmb	10 55 18.2	
	comp=Z,9.8nm,1.2s						
SUR	**Sutherland**	**37.62**	**130**	P	**P**	**10 55 25.1**	**-0.4**
SUR				IAmb	IAmb	10 55 38.9	
	comp=Z,12nm,1.4s						
LBTB	**Lobatse**	**38.88**	**117**	P	**P**	**10 55 35.6**	**-0.5**
AQDB	**Aquidauana**	**42.70**	**251**	P	**P**	**10 56 08.4**	**+0.8**
KIBK	**Kibwezi**	**50.80**	**84**	P	**P**	**10 57 11.2**	**0.0**
KIBK				IAmb	IAmb	10 57 26.9	
	comp=Z,8.3nm,1.5s						
MTE	**Manteigas**	**50.84**	**5**	P	**P**	**10 57 10.0**	**-1.0**
MTE				IAmb	IAmb	10 57 10.7	
	comp=Z,27nm,1.5s						
ROSA	**Rosais**	**51.12**	**344**	P	**P**	**10 57 12.6**	**-0.5**
TRQA	**Tornquist**	**52.02**	**230**	P	**P**	**10 57 19.5**	**-0.5**
TRQA				IAmb	IAmb	10 57 20.2	
	comp=Z,11nm,1.2s						
GRGR	**Grenville**	**53.77**	**293**	P	**P**	**10 57 33.0**	**-0.2**
BIM	**Bigot**	**54.20**	**296**	P	**P**	**10 57 36.2**	**-0.1**
PB11	**IPOC Station P**	**55.74**	**253**	P	**P**	**10 57 47.8**	**+0.2**
CO02	**Combarbal**	**57.77**	**240**	P	**P**	**10 58 02.1**	**+0.3**
VA05	**Santo Domingo**	**58.62**	**237**	P	**P**	**10 58 07.4**	**-0.2**
VLO	**Vlora**	**58.70**	**28**	P	**P**	**10 58 09.5**	**+1.5**
SANT	**Santorini**	**58.73**	**35**	P	**P**	**10 58 06.2**	**-2.0**
ABVI	**Anegada Island**	**58.80**	**299**	P	**P**	**10 58 09.1**	**+0.1**
HATO	**Hato, Curacao**	**60.45**	**290**	P	**P**	**10 58 19.1**	**-1.4**
LL04	**Puerto Octay**	**60.56**	**229**	P	**P**	**10 58 19.6**	**-1.3**
LL04				IAmb	IAmb	10 58 25.4	
	comp=Z,22nm,1.2s						
AOPR	**Arecibo Observ**	**60.74**	**298**	P	**P**	**10 58 22.3**	**-0.1**
AOPR				IAmb	IAmb	10 58 36.8	
	comp=Z,16nm,0.9s						
PCDR	**Punta Cana, DR**	**62.22**	**297**	P	**P**	**10 58 33.7**	**+1.3**
GEC2	**GERESS Array S**	**63.44**	**19**	P	**P**	**10 58 39.4**	**-0.6**
GEC2				IAmb	IAmb	10 58 43.3	
	comp=Z,5.9nm,1.4s						
GERES	**GERESS Array B**	**63.44**	**19**	P	**P**	**10 58 41.6**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=190,slow=5.0,SNR=3.8						
GERES	**GERESS Array B**	**63.44**	**19**	P	**P**	**10 58 38.9**	**-1.2**
FLOC	**Florencia**	**63.98**	**277**	P	**P**	**10 58 43.3**	**-1.0**
CRZF	**Crozet Islands**	**64.83**	**136**	P	**P**	**10 58 49.3**	**0.0**
MORC	**Moravsky Berou**	**65.53**	**21**	P	**P**	**10 58 53.5**	**-0.1**
MORC				IAmb	IAmb	10 58 56.7	
	comp=Z,7.7nm,1.5s						
AKASG	**Malin Array Be**	**70.90**	**27**	P	**P**	**10 59 27.6**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=227,slow=6.2,SNR=5.5						
AKASG	**Malin Array Be**	**70.90**	**27**	P	**P**	**10 59 26.9**	**-0.3**
AKBB	**Malin Array Si**	**70.90**	**27**	P	**P**	**10 59 27.9**	**+0.6**
AKBB				IAmb	IAmb	10 59 29.3	
	comp=Z,5.1nm,1.0s						
ACON	**Acoyapa**	**75.58**	**285**	P	**P**	**10 59 56.1**	**+0.4**
ACON				IAmb	IAmb	10 59 57.5	
	comp=Z,27nm,1.4s						
CLTN	**Cedars of Leba**	**83.37**	**308**	P	**P**	**11 00 38.0**	**+0.3**
CLTN				IAmb	IAmb	11 00 39.0	
	comp=Z,5.3nm,1.3s						
ARCES	**ARCESS Array B**	**84.08**	**13**	P	**P**	**11 00 41.1**	**+0.5**
ARCES				IAmb	IAmb	11 00 51.8	
	comp=Z,16nm,1.4s						
ABKAR	**Akbulak array**	**86.68**	**39**	P	**P**	**11 00 54.8**	**+0.8**

IDC ***09*** *10:51:41.9±1.0, 11.°04S×12.°52W, h0km, mb4.2/13, mb1 4.3/14, mb1mx4.0/35, mbtmp4.2/14, ML3.4/1, MS3.9/25, Ms1 3.9/25, ms1mx3.8/32, Error ellipse: s-maj=41.5km s-min=14.9km az=133.0*

NEIC ***09*** *10:51:44.1±0.8, 11.°05S±0.°09×12.°37W±0.°08, h10km±1km, mb4.7/34, Error ellipse: s-maj=16.0km s-min=11.7km az=214.0*

GCMT ***09*** *10:51:49.1±0.3, 10.°72S±0.°03×13.°00W±0.°02, h15km±1km, MW5.0/102, Moment Tensor Solution. s28,c28; s102,c134; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.93±.20; Mθθ0.25±.11; Mφφ2.68±.14; Mrθ1.57±.32; Mθφ-0.28±.08; Mφr-1.15±.24; Best double couple: M0 3.38200×10^16 NP1:φs189.00000°, δ35.00000°, λ-58.00000°. NP2:φs332.00000°, δ61.00000°, λ-110.00000°. Principal axes: T 3.0430, Plg14.0000°, Azm76.0000°; N 0.6790, Plg17.0000°, Azm342.0000°; P -3.7200, Plg67.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 10:51:43.3±0.5**, 11.°06S**±0.°08×**12.°39W**±0.°09**, h10**km**, n60, σ0.s65**/46**, mb4.6**/25**, MS4.0**/24**, Ascension Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**3.66**	**328**	Pn	**Pn**	**10 52 40.7**	**+0.6**
SHEL	**Horse Pasture**	**8.09**	**128**	Pn	**Pn**	**10 53 41.2**	**+0.1**
DBIC	**Dimbokro**	**19.14**	**23**	P	**P**	**10 56 06.8**	**0.0**
	0.1nm,0.3s,baz=215,slow=11,SNR=2.2						
DBIC				LR	LR	11 01 57.8	
	comp=Z,224nm,20.5s,baz=214,slow=32						
RCBR	**Riachuelo**	**23.82**	**281**	P	**P**	**10 56 57.5**	**+0.7**
RCBR				IAmb	IAmb	10 56 58.9	
	comp=Z,22nm,1.3s						
KOWA	**Kowa**	**26.71**	**18**	P	**P**	**10 57 23.5**	**+0.4**
	comp=Z,3.1nm,0.6s,baz=207,slow=8.7,SNR=6.3						
KOWA	**Kowa**	**26.71**	**18**	P	**P**	**10 57 22.7**	**-0.4**
TORD	**Torodi Ar. Bea**	**27.82**	**31**	P	**P**	**10 57 33.6**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=210,slow=9.8,SNR=4.7						
TORD				LR	LR	11 07 13.0	
	comp=Z,184nm,19.4s,baz=205,slow=33						
TORD	**Torodi Ar. Bea**	**27.82**	**31**	P	**P**	**10 57 31.5**	**-1.5**
BDFB	**Brasilia**	**34.93**	**259**	P	**P**	**10 58 35.8**	**-0.1**
	comp=Z,8.5nm,1.0s,baz=123,slow=8.3,SNR=4.5						
BDFB				LR	LR	11 09 43.8	
	comp=Z,409nm,21.1s,baz=122,slow=31						
BDFB	**Brasilia**	**34.93**	**259**	P	**P**	**10 58 35.5**	**-0.3**
BDFB				IAmb	IAmb	10 58 40.2	
	comp=Z,11nm,1.1s						
SPB	**Sao Paulo**	**35.59**	**245**	P	**P**	**10 58 41.5**	**+0.2**
SPB				IAmb	IAmb	10 59 01.4	
	comp=Z,39nm,1.5s						
BOSA	**Boshof**	**39.27**	**122**	LR	LR	11 12 47.9	
	comp=Z,228nm,20.6s,baz=306,slow=32						
BOSA	**Boshof**	**39.27**	**122**	P	**P**	**10 59 12.1**	**-0.5**
MACI	**Morro de la Ar**	**39.28**	**354**	P	**P**	**10 59 12.0**	**-0.7**
AQDB	**Aquidauana**	**42.61**	**252**	P	**P**	**10 59 39.9**	**-0.2**
MDT	**Midelt**	**44.25**	**9**	LR	LR	11 17 34.9	
	comp=Z,259nm,18.8s,baz=194,slow=35						
CPUP	**Villa Florida**	**44.95**	**244**	P	**P**	**10 59 57.7**	**-1.2**
	comp=Z,3.0nm,0.9s,baz=85,slow=6.7,SNR=5.3						
CPUP				LR	LR	11 16 00.7	
	comp=Z,230nm,19.2s,baz=78,slow=32						
CPUP	**Villa Florida**	**44.95**	**244**	P	**P**	**10 59 59.6**	**+0.8**
ITQB	**Itaqui**	**45.09**	**239**	P	**P**	**10 59 59.9**	**0.0**
SIV	**San Ignacio**	**47.50**	**258**	P	**P**	**11 00 17.8**	**-1.4**
	comp=Z,2.6nm,0.8s,baz=115,slow=8.6,SNR=12						
SAML	**Samuel**	**50.02**	**268**	P	**P**	**11 00 38.4**	**-0.1**
SAML				IAmb	IAmb	11 00 41.5	
	comp=Z,6.8nm,1.1s						
KMBO	**Kilima Mbogo**	**50.26**	**82**	LR	LR	11 19 58.6	
	comp=Z,201nm,21.6s,baz=258,slow=34						
KEST	**Kesra**	**50.87**	**23**	P	**P**	**11 00 44.5**	**-0.1**
	comp=Z,12nm,1.3s,baz=225,slow=8.6,SNR=1.7						
KEST				LR	LR	11 21 35.8	
	comp=Z,128nm,19.6s,baz=271,slow=35						
ESDC	**Sonseca Array**	**51.08**	**8**	LR	LR	11 22 46.8	
	comp=Z,109nm,18.8s,baz=205,slow=36						
TRQA	**Tornquist**	**51.73**	**230**	P	**P**	**11 00 51.6**	**+0.5**
TRQA				IAmb	IAmb	11 01 00.3	
	comp=Z,25nm,1.5s						
LPAZ	**La Paz**	**54.28**	**258**	P	**P**	**11 01 10.2**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=91,slow=8.2,SNR=6.6						
LPAZ				LR	LR	11 22 45.7	
	comp=Z,156nm,21.1s,baz=92,slow=34						
LVC	**Limon Verde**	**55.02**	**250**	P	**P**	**11 01 15.7**	**-0.2**
LVC				IAmb	IAmb	11 01 42.7	
	comp=Z,9.5nm,1.4s						
PB14	**IPOC Station P**	**56.48**	**248**	P	**P**	**11 01 26.2**	**-0.2**
PLCA	**Paso Flores**	**58.84**	**229**	P	**P**	**11 01 41.8**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=65,slow=9.8,SNR=3.8						
PLCA				LR	LR	11 23 44.6	
	comp=Z,89nm,21.1s,baz=80,slow=33						
PLCA	**Paso Flores**	**58.84**	**229**	P	**P**	**11 01 42.5**	**0.0**
PLCA				IAmb	IAmb	11 02 05.2	
	comp=Z,8.4nm,1.2s						
LC01	**Cunco**	**59.46**	**231**	P	**P**	**11 01 46.7**	**+0.1**
ICMP	**Isla Caja de M**	**60.69**	**298**	P	**P**	**11 01 55.1**	**-0.3**
SNAA	**Sanae**	**60.85**	**177**	P	**P**	**11 01 56.2**	**+0.5**
	comp=Z,1.6nm,1.0s,baz=5.9,slow=14,SNR=2.5						
SNAA	**Sanae**	**60.85**	**177**	P	**P**	**11 01 56.7**	**+1.0**
SNAA				IAmb	IAmb	11 02 04.8	
	comp=Z,5.0nm,1.1s						
EIL	**Elat**	**60.98**	**47**	LR	LR	11 26 23.9	
	comp=Z,60nm,20.3s,baz=286,slow=34						
WLF	**Walferdange**	**62.62**	**13**	P	**P**	**11 02 09.0**	**+1.3**
GERES	**GERESS Array B**	**63.94**	**19**	P	**P**	**11 02 17.5**	**+0.9**
	comp=Z,0.3nm,0.2s,baz=192,slow=8.5,SNR=2.5						
GERES				LR	LR	11 29 29.8	
	comp=Z,100nm,18.0s,baz=215,slow=36						
GERES	**GERESS Array B**	**63.94**	**19**	P	**P**	**11 02 17.1**	**+0.5**
SDDR	**Presa de Saban**	**65.28**	**297**	P	**P**	**11 02 25.6**	**-0.4**
PSZ	**Piszkesteto**	**65.34**	**23**	P	**P**	**11 02 26.3**	**+0.5**
PSZ				IAmb	IAmb	11 02 39.8	
	comp=Z,5.9nm,0.9s						
MORC	**Moravsky Berou**	**66.02**	**21**	P	**P**	**11 02 31.1**	**+1.0**
MORC				IAmb	IAmb	11 02 44.2	
	comp=Z,3.9nm,0.8s						
MLR	**Muntele Rosu**	**66.03**	**29**	P	**P**	**11 02 31.3**	**+0.9**
MLR				IAmb	IAmb	11 02 44.4	
	comp=Z,12nm,1.2s						
BRTR	**Keskin Array B**	**66.15**	**37**	LR	LR	11 31 59.5	
	comp=Z,63nm,20.1s,baz=242,slow=36						
BUR08	**Bucovina Ar. S**	**67.32**	**27**	P	**P**	**11 02 38.9**	**+0.3**
AKASG	**Malin Array Be**	**71.36**	**26**	P	**P**	**11 03 04.4**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=227,slow=6.5,SNR=7.1						
AKASG				LR	LR	11 35 12.8	
	comp=Z,68nm,18.9s,baz=205,slow=37						
AKASG	**Malin Array Be**	**71.36**	**26**	P	**P**	**11 03 03.2**	**-0.2**
AKBB	**Malin Array Si**	**71.36**	**26**	P	**P**	**11 03 02.9**	**-0.4**
AKBB				IAmb	IAmb	11 03 16.9	
	comp=Z,13nm,1.2s						
KBZ	**Khabaz**	**74.10**	**38**	LR	LR	11 36 55.0	
	comp=Z,30nm,20.7s,baz=240,slow=37						
MAW	**Mawson**	**74.23**	**157**	LR	LR	11 28 09.3	
	comp=Z,70nm,21.8s,baz=251,slow=29						
NOA	**NORSAR Array B**	**74.26**	**12**	LR	LR	11 37 22.3	
	comp=Z,47nm,19.0s,baz=190,slow=37						
PAL	**Palisades**	**76.72**	**317**	P	**P**	**11 03 34.8**	**-0.2**
PAL				IAmb	IAmb	11 03 43.0	
	comp=Z,10nm,0.9s						
MVL	**Millersville**	**77.93**	**315**	P	**P**	**11 03 42.2**	**+0.5**
MVL				IAmb	IAmb	11 03 45.0	
	comp=Z,7.7nm,1.2s						
FINES	**FINESS Array B**	**78.33**	**18**	P	**P**	**11 03 42.8**	**-0.7**
	comp=Z,3.6nm,1.1s,baz=249,slow=5.8,SNR=2.4						
FINES				LR	LR	11 39 08.2	
	comp=Z,85nm,19.2s,baz=238,slow=36						
SCHQ	**Schefferville**	**79.93**	**331**	LR	LR	11 31 44.8	
	comp=Z,46nm,20.0s,baz=94,slow=30						
GEYT	**Alibeck**	**81.81**	**49**	LR	LR	11 41 29.3	
	comp=Z,59nm,18.0s,baz=215,slow=36						
ARCES	**ARCESS Array B**	**84.60**	**13**	LR	LR	11 44 52.1	
	comp=Z,54nm,18.1s,baz=235,slow=38						
T47A	**Sharon Grove**	**84.66**	**309**	P	**P**	**11 04 18.0**	**+0.4**
T47A				IAmb	IAmb	11 04 33.5	
	comp=Z,4.0nm,0.9s						
VNDA	**Vanda**	**91.52**	**179**	LR	LR	11 41 05.0	
	comp=Z,49nm,18.1s,baz=183,slow=32						
ULM	**Lac du Bonnet**	**94.28**	**320**	LR	LR	11 39 26.6	
	comp=Z,117nm,20.0s,baz=117,slow=30						
TXAR	**Lajitas Array**	**96.43**	**299**	P	**P**	**11 05 13.0**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=122,slow=4.4,SNR=7.6						
TXAR				LR	LR	11 46 26.0	

comp=Z,18nm,20.2s,baz=0.0,slow=34

ATH 09 10:54:54.9, 37°30N×22°08E, h11km±3km, ML1.9/3, Error ellipse: s-maj=3.1km s-min=1.1km az=171.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ITM	**Ithomi**	**0.18**	**225**	P	Pg	10 54 58.7	-0.1
ITM				S	Sg	10 55 01.6	+0.2
ITM				AML	AML	10 55 03.3	
	comp=E,1342μm,0.4s						
ITM				AML	AML	10 55 03.7	
	comp=N,1198μm,0.4s						
ITM	**Ithomi**	**0.18**	**225**	P	Pg	10 54 58.9	+0.1
VLX	**Vlachokerasia**	**0.24**	**74**	P	Pg	10 54 59.9	-0.1
VLX				S	Sg	10 55 03.5	0.0
VLX				AML	AML	10 55 06.6	
	comp=E,1803μm,0.4s						
VLX				AML	AML	10 55 10.4	
	comp=N,622μm,0.5s						
DRO	**Drossia**	**0.71**	**336**	P	Pg	10 55 08.7	0.0
DRO				AML	AML	10 55 27.7	
	comp=N,153μm,0.3s						
DRO				AML	AML	10 55 27.8	
	comp=E,194μm,0.4s						
KLV	**Kalavryta, Ach**	**0.74**	**4**	P	Pg	10 55 08.6	-0.7
KLV				S	Sg	10 55 19.4	+0.5
RLS	**Riolos of Patr**	**0.90**	**327**	P	Pg	10 55 11.8	-0.5
VLI	**Veliai**	**0.90**	**130**	P	Pg	10 55 12.0	-0.3
LAKA	**Lakka**	**0.94**	**355**	P	Pg	10 55 12.4	-0.6
LTK	**Loutraki**	**1.00**	**44**	P	Pg	10 55 14.0	-0.2
TRIZ	**Trizonia**	**1.06**	**360**	P	Pb	10 55 14.4	-0.9
EFP	**Efpalio**	**1.13**	**353**	P	Pb	10 55 15.9	-0.6
VLMS	**Volimes, Zakyn**	**1.27**	**297**	P	Pn	10 55 17.9	-0.7

MEX 09 10:55:04.0±0.7, 17°22N×93°92W, h177km±5km, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGIG		**0.88**	**119**	*i* P	Pn	10 55 29.4	-1.3
TGIG				*i* S	Sn	10 55 49.1	-2.1
CMIG	**Matias Romero**	**0.93**	**262**	*i* P	Pn	10 55 29.2	-1.7
CMIG				*i* S	Sn	10 55 49.1	-2.5
PCIG		**1.65**	**156**	*i* P	Pn	10 55 35.9	-1.3
PCIG				*i* S	Sn	10 56 00.8	-2.1
CCIG	**Comitan**	**1.95**	**118**	*i* P	Pn	10 55 39.6	-0.9
CCIG				*i* S	Sn	10 56 08.3	-0.4
VHO	**Vista Hermosa**	**2.69**	**267**	*eP*	Pn	10 55 48.6	-0.4
VHO				*eS*	Sn	10 56 22.3	-1.6
TOIG	**Toxpalan**	**3.12**	**287**	*eP*	Pn	10 55 52.8	-1.3
TOIG				*eS*	Sn	10 56 30.6	-2.6
PEIG	**Puerto Escondi**	**3.32**	**249**	*i* S	Sn	10 56 32.9	-4.6
TPIG	**Tehuac#an**	**3.49**	**291**	*eP*	Pn	10 55 58.4	-0.4
TPIG				*i* S	Sn	10 56 38.7	-2.7
HLIG	**Huajuapan de L**	**3.75**	**280**	*eP*	Pn	10 56 01.3	-0.8
HLIG				*i* S	Sn	10 56 45.3	-2.1

*NEIC **09** 11:00:02.2±1.4, 10°6S±0°1×14°4W±0°1, h10km±1km, mb4.6/33, Error ellipse: s-maj=21.8km s-min=18.6km az=151.0*
*IDC **09** 11:00:05.0±7.7, 10°14S×14°21W, h0km, mb3.8/3, mb1 3.8/4, mb1mx3.5/46, mbtmp3.8/4, ML3.6/1, MS3.4/1, Ms1 3.4/1, ms1mx2.9/30, Error ellipse: s-maj=359.7km s-min=111.7km az=134.0*

ISC 09 11:00:01.1±0.6, 10°7S±0°1×14°4W±0°1, h10km, n36, σ1s23/36, mb4.5/14, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBIC	**Dimbokro**	**19.73**	**29**	P	**P**	**11 04 29.6**	**-1.5**
	0.2nm,0.3s,baz=180,slow=11,SNR=1.2						
DBIC				LR	LR	11 10 19.0	
	comp=Z,115nm,18.8s,baz=180,slow=32						
KOWA	**Kowa**	**27.09**	**23**	P	**P**	**11 05 43.6**	**-0.7**
SACV	**Santiago Islan**	**27.10**	**340**	P	**P**	**11 05 42.8**	**-1.5**
TORD	**Torodi Ar. Bea**	**28.60**	**34**	P	**P**	**11 05 58.0**	**+0.2**
	1.1nm,0.7s,baz=218,slow=9.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**28.60**	**34**	P	**P**	**11 05 57.2**	**-0.6**
PLTB	**Pedras Altas**	**41.78**	**234**	P	**P**	**11 07 48.4**	**-2.7**
PLTB				IAmb	IAmb	11 08 01.5	
	comp=Z,19nm,1.5s						
MBAR	**Mbarara**	**45.98**	**80**	P	**P**	**11 08 24.8**	**-0.5**
MBAR				IAmb	IAmb	11 08 33.6	
	comp=Z,7.5nm,1.2s						
HOPE	**Hope Point**	**46.86**	**198**	P	**P**	**11 08 33.2**	**+1.9**
SAML	**Samuel**	**48.04**	**268**	P	**P**	**11 08 39.9**	**-1.2**
PESTR	**Estremoz**	**49.74**	**7**	P	**P**	**11 08 54.0**	**+0.3**
PESTR				IAmb	IAmb	11 08 59.1	
	comp=Z,7.1nm,1.5s						
ESBB	**Sonseca Array**	**51.07**	**10**	P	**P**	**11 09 03.8**	**0.0**
MTE	**Manteigas**	**51.26**	**7**	P	**P**	**11 09 04.0**	**-1.2**
MTE				IAmb	IAmb	11 09 15.2	
	comp=Z,15nm,1.3s						
LPAZ	**La Paz**	**52.40**	**258**	P	**P**	**11 09 12.4**	**-2.5**
PB08	**IPOC Station P**	**53.39**	**253**	P	**P**	**11 09 21.7**	**-0.2**
PB06	**IPOC Station P**	**53.88**	**250**	P	**P**	**11 09 24.6**	**-0.5**
SEUS	**St. Eustatius**	**55.56**	**300**	P	**P**	**11 09 37.1**	**0.0**
CO06	**Fray Jorge**	**56.47**	**240**	P	**P**	**11 09 44.3**	**+0.7**
VLC	**Villacollemand**	**59.08**	**21**	P	**P**	**11 10 03.1**	**+1.5**
VLC				IAmb	IAmb	11 10 13.4	
	comp=Z,8.2nm,1.0s						
SDV	**Santo Domingo**	**59.22**	**287**	P	**P**	**11 10 03.4**	**0.0**
VOI	**Vohitsoka**	**59.47**	**109**	P	**P**	**11 10 04.1**	**-0.8**
VOI				IAmb	IAmb	11 10 08.9	
	comp=Z,8.3nm,1.1s						
LIT	**Litokhoron**	**61.04**	**32**	P	**P**	**11 10 15.3**	**+0.1**
VTS	**Vitosha**	**63.28**	**30**	P	**P**	**11 10 32.2**	**+1.9**
VTS				IAmb	IAmb	11 10 39.7	
	comp=Z,5.6nm,1.2s						
JAKH	**Jacmel**	**64.14**	**296**	P	**P**	**11 10 36.5**	**+0.3**
GEC2	**GERESS Array S**	**64.29**	**20**	P	**P**	**11 10 37.9**	**+1.2**
GEC2				IAmb	IAmb	11 10 46.0	
	comp=Z,8.5nm,1.4s						
GERES	**GERESS Array B**	**64.29**	**20**	P	**P**	**11 10 38.4**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=224,slow=4.1,SNR=1.4						
GERES	**GERESS Array B**	**64.29**	**20**	P	**P**	**11 10 37.8**	**+1.0**
TIRR	**Tirgusor**	**67.22**	**32**	P	**P**	**11 10 53.4**	**-2.2**
SRBA	**San Rafael, Bu**	**71.39**	**284**	P	**P**	**11 11 22.9**	**+0.7**
AKASG	**Malin Array Be**	**71.96**	**27**	P	**P**	**11 11 26.4**	**+1.7**
	comp=Z,0.7nm,0.5s,baz=226,slow=6.1,SNR=1.5						
AKBB	**Malin Array Si**	**71.96**	**27**	P	**P**	**11 11 25.3**	**+0.5**
AKBB				IAmb	IAmb	11 11 32.8	
	comp=Z,10nm,1.2s						
PAL	**Palisades**	**75.11**	**318**	P	**P**	**11 11 44.6**	**+1.1**
WUPA	**West Chester U**	**75.75**	**316**	P	**P**	**11 11 48.0**	**+0.8**
WUPA				IAmb	IAmb	11 11 59.2	
	comp=Z,3.3nm,1.1s						
SDMD	**Soldier's Deli**	**76.37**	**315**	P	**P**	**11 11 50.5**	**-0.2**
SDMD				IAmb	IAmb	11 11 57.6	
	comp=Z,3.0nm,0.9s						
257A	**Skidaway Islan**	**76.45**	**307**	P	**P**	**11 11 51.3**	**-0.1**
X48A	**Hartselle**	**82.04**	**307**	P	**P**	**11 12 22.8**	**+0.9**
X48A				IAmb	IAmb	11 12 39.5	
	comp=Z,6.8nm,1.4s						
I37A	**Lemond, Waseca**	**89.56**	**315**	P	**P**	**11 12 59.9**	**+0.9**

*TRN **09** 11:04:00.7, 13°70N×58°45W, h119km, MD3.5*

ISC 09 11:04:03.8±3.4, 13°86N±0°06×58°6W±0°2, h10km, n14, σ1s17/23, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBGH	**Gun Hill**	**1.15**	**232**	*eP*	**Pg**	**11 04 25.6**	**-0.2**
BBGH				*eS*	**Sn**	**11 04 45.0**	**+3.3**
MPOM	**Morne Pois Mar**	**2.23**	**285**	*eP*	**Pn**	**11 04 40.7**	**-0.1**
MPOM				*eS*	**Sn**	**11 05 10.0**	**+1.4**
MCLT	**Moule a Chique**	**2.25**	**266**	*eS*	**Sn**	**11 05 10.8**	**+1.9**
SLBI	**Saint Lucia, B**	**2.28**	**274**	*eP*	**Pn**	**11 04 41.1**	**-0.4**
SLBI				*eS*	**Sn**	**11 05 10.6**	**+1.1**
BIM	**Bigot**	**2.45**	**286**	*eP*	**Pn**	**11 04 43.4**	**-0.5**
BIM				*eS*	**Sn**	**11 05 13.3**	**-0.7**
SVV	**Soufriere Volc**	**2.57**	**258**	*eP*	**Pn**	**11 04 44.1**	**-1.3**
SVV				*eS*	**Sn**	**11 05 15.6**	**-1.2**
FDF	**Fort de France**	**2.59**	**290**	*eP*	**Pn**	**11 04 46.2**	**+0.4**
FDF				*eS*	**Sn**	**11 05 18.2**	**+0.8**
SVB	**Belmont**	**2.61**	**257**	*eP*	**Pn**	**11 04 45.4**	**-0.7**
SVB				*eS*	**Sn**	**11 05 17.4**	**-0.5**
GCMP	**Grenada, Carri**	**3.04**	**244**	*eS*	**Sn**	**11 05 27.3**	**-1.2**
DSLB	**Salisbury**	**3.12**	**301**	*eP*	**Pn**	**11 04 53.7**	**+0.6**
DSLB				*eS*	**Sn**	**11 05 30.7**	**+0.3**
MAGL	**Barre de l'ile**	**3.30**	**309**	*eP*	**Pn**	**11 04 56.0**	**+0.5**
MAGL				*eS*	**Sn**	**11 05 35.1**	**+0.4**
CBE	**Ff, Capester**	**3.62**	**308**	*eS*	**Sn**	**11 05 43.0**	**+0.3**
ABD	**La Joyeuse, An**	**3.79**	**314**	*eS*	**Sn**	**11 05 46.5**	**-0.3**
ANBD	**Bethesda, Anti**	**4.38**	**317**	*eS*	**Sn**	**11 06 00.3**	**-1.1**

*IDC **09** 11:15:01.1±9.6, 11°12S×12°94W, h0km, mb4.1/4, mb1 4.4/4, mb1mx3.8/32, mbtmp4.1/4, MS3.5/5, Ms1 3.5/5, ms1mx3.1/36, Error ellipse: s-maj=361.7km s-min=51.0km az=149.0*
*NEIC **09** 11:15:03.0±1.3, 11°13S±0°06×13°05W±0°04, h10km±1km, mb4.6/33, Error ellipse: s-maj=12.2km s-min=3.0km az=143.0*

ISC 09 11:15:02.1±0.5, 11°14S±0°09×13°06W±0°08, h10km, n43, σ0s90/39, mb4.6/19, MS3.5/4, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASCN	**Ascension**	**3.43**	**338**	Pn	**Pn**	**11 15 55.9**	**+0.2**
SHEL	**Horse Pasture**	**8.57**	**125**	Pn	**Pn**	**11 17 05.8**	**-0.6**
DBIC	**Dimbokro**	**19.48**	**25**	LR	LR	11 24 50.5	
	comp=Z,116nm,21.7s,baz=194,slow=30						
DBIC	**Dimbokro**	**19.48**	**25**	P	**P**	**11 19 29.4**	**+0.1**
RCBR	**Riachuelo**	**23.19**	**281**	P	**P**	**11 20 09.5**	**+0.1**
RCBR				IAmb	IAmb	11 20 26.1	
	comp=Z,18nm,1.2s						
TORD	**Torodi Ar. Bea**	**28.22**	**32**	P	**P**	**11 20 54.8**	**-0.6**
	comp=Z,3.7nm,1.1s,baz=211,slow=8.6,SNR=7.4						
TORD				LR	LR	11 30 37.0	
	comp=Z,89nm,19.0s,baz=210,slow=33						
TORD	**Torodi Ar. Bea**	**28.22**	**32**	P	**P**	**11 20 55.3**	**-0.1**
BDFB	**Brasilia**	**34.27**	**259**	LR	LR	11 33 00.2	
	comp=Z,128nm,19.5s,baz=130,slow=31						
BDFB	**Brasilia**	**34.27**	**259**	P	**P**	**11 21 47.3**	**-1.6**
SPB	**Sao Paulo**	**34.97**	**245**	P	**P**	**11 21 54.2**	**-0.5**
SUR	**Sutherland**	**37.65**	**129**	P	**P**	**11 22 17.9**	**+0.1**
BOSA	**Boshof**	**39.79**	**122**	LR	LR	11 36 52.3	
	comp=Z,73nm,20.4s,baz=298,slow=33						
BOSA	**Boshof**	**39.79**	**122**	P	**P**	**11 22 36.3**	**+0.6**
PLTB	**Pedras Altas**	**42.63**	**235**	P	**P**	**11 22 59.2**	**+0.3**
PLTB				IAmb	IAmb	11 23 00.5	
	comp=Z,20nm,1.4s						
CPUP	**Villa Florida**	**44.33**	**244**	P	**P**	**11 23 12.3**	**-0.4**
ITQB	**Itaqui**	**44.49**	**239**	P	**P**	**11 23 13.9**	**0.0**
ITQB				IAmb	IAmb	11 23 17.4	
	comp=Z,21nm,1.4s						
MBAR	**Mbarara**	**44.74**	**80**	P	**P**	**11 23 15.0**	**-1.3**
MBAR				IAmb	IAmb	11 23 31.5	
	comp=Z,8.9nm,1.5s						
PVAQ	**Vaqueiros**	**48.54**	**6**	P	**P**	**11 23 44.8**	**-0.7**
PVAQ				IAmb	IAmb	11 24 02.0	
	comp=Z,8.9nm,1.4s						
SAML	**Samuel**	**49.36**	**268**	P	**P**	**11 23 52.3**	**+0.1**
SAML				IAmb	IAmb	11 24 01.9	
	comp=Z,7.6nm,1.5s						
MCLT	**Moule a Chique**	**53.52**	**296**	P	**P**	**11 24 20.7**	**-2.8**
VSL	**Villasalto**	**54.53**	**21**	P	**P**	**11 24 30.7**	**+0.4**
CEL	**Celeste**	**56.10**	**27**	P	**P**	**11 24 43.0**	**+1.2**
GO04	**Tololo Observa**	**56.66**	**241**	P	**P**	**11 24 45.8**	**-0.5**
OSSC	**Osservatorio P**	**58.74**	**21**	P	**P**	**11 25 00.7**	**+0.5**
OSSC				IAmb	IAmb	11 25 18.3	
	comp=Z,6.3nm,0.8s						
MURB	**Monte Urbino**	**58.96**	**22**	P	**P**	**11 25 01.7**	**-0.2**
BFO	**Black Forest**	**62.17**	**16**	P	**P**	**11 25 24.4**	**+0.8**
BFO				IAmb	IAmb	11 25 25.8	
	comp=Z,3.6nm,0.9s						
VTS	**Vitosha**	**62.97**	**29**	P	**P**	**11 25 28.7**	**-0.5**
VTS				IAmb	IAmb	11 25 37.2	
	comp=Z,4.8nm,1.2s						
ROSC	**El Rosal**	**62.99**	**281**	P	**P**	**11 25 30.0**	**-0.2**
MMAI	**Mount Meron Ar**	**63.72**	**45**	LR	LR	11 53 12.0	
	comp=Z,29nm,18.0s,baz=95,slow=36						
GEC2	**GERESS Array S**	**64.23**	**19**	P	**P**	**11 25 37.4**	**0.0**
GEC2				IAmb	IAmb	11 25 39.2	
	comp=Z,5.6nm,1.2s						
GERES	**GERESS Array B**	**64.23**	**19**	P	**P**	**11 25 38.0**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=217,slow=5.8,SNR=9.0						
GERES	**GERESS Array B**	**64.23**	**19**	P	**P**	**11 25 37.4**	**0.0**
JAKH	**Jacmel**	**65.53**	**296**	P	**P**	**11 25 47.4**	**+1.2**
MLR	**Muntele Rosu**	**66.42**	**29**	P	**P**	**11 25 51.5**	**-0.1**
MLR				IAmb	IAmb	11 25 54.6	
	comp=Z,9.3nm,1.2s						
BELA	**Belgrano 2**	**67.64**	**185**	P	**P**	**11 26 00.4**	**+1.6**
BELA				IAmb	IAmb	11 26 04.0	
	comp=Z,5.9nm,1.4s						
AKASG	**Malin Array Be**	**71.72**	**27**	P	**P**	**11 26 24.6**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=224,slow=6.8,SNR=13						
AKASG	**Malin Array Be**	**71.72**	**27**	P	**P**	**11 26 24.8**	**+0.4**
AKBB	**Malin Array Si**	**71.72**	**27**	P	**P**	**11 26 24.8**	**+0.5**
AKBB				IAmb	IAmb	11 26 25.9	
	comp=Z,9.9nm,1.2s						
P57A	**Homestead Farm**	**78.46**	**314**	P	**P**	**11 27 05.2**	**+1.7**
P57A				IAmb	IAmb	11 27 06.7	
	comp=Z,5.6nm,1.1s						
S51A	**Beattyville**	**81.78**	**311**	P	**P**	**11 27 22.1**	**+0.6**
S51A				IAmb	IAmb	11 27 35.8	
	comp=Z,4.6nm,0.8s						
SIUC	**Southern Illin**	**86.03**	**309**	P	**P**	**11 27 44.5**	**+1.4**
SIUC				IAmb	IAmb	11 28 03.4	
	comp=Z,3.6nm,0.8s						
TXAR	**Lajitas Array**	**95.89**	**299**	P	**P**	**11 28 30.4**	**+0.7**
	comp=Z,0.4nm,0.9s,baz=102,slow=5.1,SNR=3.9						
TXAR	**Lajitas Array**	**95.89**	**299**	P	**P**	**11 28 30.9**	**+1.2**

*IDC **09** 11:34:27.8±1.0, 11°10S×12°66W, h0km, mb4.1/10, mb1 4.2/11, mb1mx3.9/49, mbtmp4.1/11, ML2.7/1, MS3.8/15, Ms1 3.8/15, ms1mx3.7/29, Error ellipse: s-maj=43.8km s-min=18.7km az=132.0*
*NEIC **09** 11:34:30.0±1.9, 11°28S±0°08×12°69W±0°09, h10km±1km, mb4.9/82, Error ellipse: s-maj=16.3km s-min=11.6km az=228.0*

ISC 09 11:34:29.1±0.4, 11°25S±0°07×12°70W±0°07, h10km, n104, σ1s09/95, mb4.8/47, MS3.8/14, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASCN	**Ascension**	**3.68**	**333**	Pn	**Pn**	**11 35 26.5**	**+0.4**
SHEL	**Horse Pasture**	**8.22**	**125**	Pn	**Pn**	**11 36 26.9**	**-1.6**
DBIC	**Dimbokro**	**19.44**	**24**	P	**P**	**11 38 53.4**	**-2.4**
	0.0nm,0.3s,baz=203,slow=11,SNR=1.8						
DBIC				LR	LR	11 44 40.9	
	comp=Z,170nm,19.8s,baz=214,slow=32						
DBIC	**Dimbokro**	**19.44**	**24**	P	**P**	**11 38 55.0**	**-0.8**
RCBR	**Riachuelo**	**23.56**	**281**	P	**P**	**11 39 39.9**	**-0.2**
RCBR				IAmb	IAmb	11 39 53.7	
	comp=Z,32nm,1.3s						
KOWA	**Kowa**	**26.99**	**19**	P	**P**	**11 40 11.6**	**+0.3**
KOWA				IAmb	IAmb	11 40 18.2	
	comp=Z,26nm,1.5s						
TORD	**Torodi Ar. Bea**	**28.14**	**31**	P	**P**	**11 40 20.4**	**-1.1**
	comp=Z,2.5nm,0.9s,baz=226,slow=7.6,SNR=8.4						
TORD				LR	LR	11 49 35.4	
	comp=Z,210nm,21.8s,baz=185,slow=32						
TORD	**Torodi Ar. Bea**	**28.14**	**31**	P	**P**	**11 40 22.2**	**+0.6**
SACV	**Santiago Islan**	**28.21**	**337**	P	**P**	**11 40 21.3**	**-0.9**
SACV				IAmb	IAmb	11 40 31.3	
	comp=Z,19nm,0.9s						
TSUM	**Tsumeb**	**30.23**	**109**	P	**P**	**11 40 40.9**	**+0.5**
BDFB	**Brasilia**	**34.60**	**259**	LR	LR	11 52 46.8	
	comp=Z,242nm,18.1s,baz=117,slow=32						
BDFB	**Brasilia**	**34.60**	**259**	P	**P**	**11 41 16.8**	**-2.0**
SPB	**Sao Paulo**	**35.24**	**245**	P	**P**	**11 41 24.0**	**0.0**
SPB				IAmb	IAmb	11 41 27.7	
	comp=Z,31nm,1.4s						
SUR	**Sutherland**	**37.30**	**130**	P	**P**	**11 41 40.7**	**-1.1**
SUR				IAmb	IAmb	11 41 50.7	
	comp=Z,29nm,1.5s						
LBTB	**Lobatse**	**38.73**	**116**	P	**P**	**11 41 52.6**	**-1.3**
BOSA	**Boshof**	**39.42**	**122**	LR	LR	11 55 32.8	
	comp=Z,190nm,20.4s,baz=283,slow=32						
CPUP	**Villa Florida**	**44.60**	**244**	LR	LR	11 58 34.2	
	comp=Z,182nm,19.3s,baz=82,slow=32						
HOPE	**Hope Point**	**46.89**	**199**	P	**P**	**11 42 59.7**	**+0.3**
SIV	**San Ignacio**	**47.17**	**259**	P	**P**	**11 43 02.3**	**0.0**
	comp=Z,1.7nm,0.8s,baz=110,slow=9.5,SNR=8.2						
PFVI	**Vila Bisbo**	**48.26**	**4**	P	**P**	**11 43 11.2**	**+0.9**
PFVI				IAmb	IAmb	11 43 21.5	
	comp=Z,14nm,1.0s						
PVAQ	**Vaqueiros**	**48.62**	**5**	P	**P**	**11 43 13.2**	**+0.1**
SAML	**Samuel**	**49.71**	**268**	P	**P**	**11 43 22.7**	**+0.8**
LODK	**Lodwar**	**49.98**	**76**	P	**P**	**11 43 25.5**	**+1.5**
KMBO	**Kilima Mbogo**	**50.58**	**82**	LR	LR	12 02 42.4	
	comp=Z,166nm,21.1s,baz=82,slow=34						
KEST	**Kesra**	**51.16**	**23**	P	**P**	**11 43 30.6**	**-1.9**
	comp=Z,5.6nm,1.0s,baz=195,slow=12,SNR=2.5						
KEST				LR	LR	12 04 52.3	
	comp=Z,82nm,18.9s,baz=310,slow=36						
ESDC	**Sonseca Array**	**51.31**	**9**	LR	LR	12 05 30.4	
	comp=Z,97nm,18.8s,baz=250,slow=36						
ESBB	**Sonseca Array**	**51.31**	**9**	P	**P**	**11 43 34.0**	**+0.5**
TRQA	**Tornquist**	**51.38**	**230**	P	**P**	**11 43 34.8**	**+0.6**
TRQA				IAmb	IAmb	11 43 42.4	
	comp=Z,14nm,1.1s						
LPAZ	**La Paz**	**53.95**	**258**	P	**P**	**11 43 55.1**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=98,slow=7.8,SNR=5.3						
LPAZ				LR	LR	12 05 19.0	
	comp=Z,93nm,20.7s,baz=97,slow=34						
LPAZ	**La Paz**	**53.95**	**258**	P	**P**	**11 43 53.9**	**-0.3**
MPOM	**Morne Pois Mar**	**54.13**	**297**	P	**P**	**11 43 53.7**	**-1.1**
CLTB	**Caltabellotta**	**54.31**	**25**	P	**P**	**11 43 56.2**	**+0.4**
LVC	**Limon Verde**	**54.67**	**250**	LR	LR	12 06 16.1	
	comp=Z,129nm,18.9s,baz=89,slow=35						
LVC	**Limon Verde**	**54.67**	**250**	P	**P**	**11 43 58.9**	**-0.3**
PB08	**IPOC Station P**	**54.85**	**253**	P	**P**	**11 43 59.2**	**-1.3**
TA01	**Diego Aracena**	**55.82**	**253**	P	**P**	**11 44 08.1**	**+1.1**
TA01				IAmb	IAmb	11 44 19.0	
	comp=Z,11nm,0.9s						
GO03	**Copiap**	**56.18**	**244**	P	**P**	**11 44 11.0**	**+1.5**
GO04	**Tololo Observa**	**56.92**	**241**	P	**P**	**11 44 15.4**	**+0.3**
MT09	**Talagante**	**57.54**	**237**	P	**P**	**11 44 19.2**	**-0.1**
MT09				IAmb	IAmb	11 44 26.1	
	comp=Z,16nm,0.9s						
ML02	**Panimavida**	**58.19**	**235**	P	**P**	**11 44 24.7**	**+1.1**
AQU	**L'Aquila**	**58.47**	**22**	P	**P**	**11 44 28.2**	**+2.8**
LC01	**Cunco**	**59.11**	**231**	P	**P**	**11 44 29.7**	**-0.2**
LL02	**Futaleuf**	**59.99**	**226**	P	**P**	**11 44 37.3**	**+1.4**
LL02				IAmb	IAmb	11 44 39.2	
	comp=Z,13nm,1.5s						
CBYP	**Canovanas**	**60.10**	**299**	P	**P**	**11 44 36.1**	**-1.0**
SJG	**San Juan**	**60.28**	**298**	LR	LR	12 05 11.3	
	comp=Z,56nm,21.4s,baz=106,slow=31						
FNA	**Florina**	**60.60**	**29**	P	**P**	**11 44 40.6**	**+0.5**
FNA				IAmb	IAmb	11 44 49.7	
	comp=Z,8.4nm,1.1s						
LIT	**Litokhoron**	**60.62**	**30**	P	**P**	**11 44 42.6**	**+2.3**
OBIP	**Obispado Ponce**	**60.65**	**298**	P	**P**	**11 44 41.6**	**+0.8**
SNAA	**Sanae**	**60.68**	**176**	P	**P**	**11 44 41.3**	**+1.1**
	comp=Z,0.4nm,0.9s,baz=347,slow=7.2,SNR=3.5						
SNAA	**Sanae**	**60.68**	**176**	P	**P**	**11 44 42.1**	**+1.8**
SNAA				IAmb	IAmb	11 44 48.2	
	comp=Z,8.9nm,1.5s						
COYC	**Coyhaique**	**60.73**	**224**	P	**P**	**11 44 41.2**	**+0.2**
SDV	**Santo Domingo**	**61.00**	**287**	P	**P**	**11 44 42.5**	**-1.1**
SDV				IAmb	IAmb	11 44 45.4	
	comp=Z,25nm,1.4s						
MLPR	**Magueyes Islan**	**61.00**	**298**	P	**P**	**11 44 42.1**	**-1.0**
ZOU	**Zoufplan**	**61.98**	**20**	P	**P**	**11 44 50.9**	**+1.4**
ZOU				IAmb	IAmb	11 45 06.8	
	comp=Z,7.5nm,1.1s						
BFO	**Black Forest**	**62.18**	**16**	P	**P**	**11 44 51.6**	**+1.0**
BFO				IAmb	IAmb	11 44 54.8	
	comp=Z,9.6nm,1.4s						
RUSC	**La Rusia**	**62.45**	**283**	P	**P**	**11 44 53.1**	**-0.6**
RUSC				IAmb	IAmb	11 45 09.4	
	comp=Z,11nm,1.0s						
WLF	**Walferdange**	**62.88**	**14**	P	**P**	**11 44 55.2**	**0.0**
WLF				IAmb	IAmb	11 45 08.4	
	comp=Z,7.9nm,0.6s						
BALB	**Balikesir**	**63.12**	**34**	P	**P**	**11 44 57.7**	**+0.7**
ROSC	**El Rosal**	**63.36**	**281**	P	**P**	**11 44 59.5**	**-0.1**
ROSC				IAmb	IAmb	11 45 01.6	
	comp=Z,14nm,0.9s						
SDD	**Santo Domingo**	**63.69**	**297**	P	**P**	**11 45 01.6**	**+0.3**
GEC2	**GERESS Array S**	**64.22**	**19**	P	**P**	**11 45 05.9**	**+1.7**
GERES	**GERESS Array B**	**64.22**	**19**	P	**P**	**11 45 03.3**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=191,slow=6.3,SNR=5.4						
GERES				LR	LR	12 14 18.5	
	comp=Z,97nm,18.4s,baz=212,slow=37						
GERES	**GERESS Array B**	**64.22**	**19**	P	**P**	**11 45 04.2**	**-0.1**
SDDR	**Presa de Saban**	**65.10**	**297**	P	**P**	**11 45 08.5**	**-2.0**
PSZ	**Piszkesteto**	**65.64**	**23**	P	**P**	**11 45 14.6**	**+1.2**
PSZ				IAmb	IAmb	11 45 22.4	
	comp=Z,9.2nm,1.0s						
LGNH	**Logne**	**66.08**	**296**	P	**P**	**11 45 13.7**	**-3.1**
MORC	**Moravsky Berou**	**66.31**	**21**	P	**P**	**11 45 18.0**	**+0.3**
MORC				IAmb	IAmb	11 45

HHAR	**Hobbs**	**89.63**	**307**	P	**P**	**11 47 27.5**	**+0.1**
HHAR				IAmb	IAmb	11 47 34.3	
	comp=Z,6.7nm,1.2s						
TXAR	**Lajitas Array**	**96.26**	**299**	P	**P**	**11 47 59.2**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=125,slow=7.9,SNR=5.5						
TXAR				LR	LR	12 33 28.5	
	comp=Z,18nm,18.3s,baz=0.0,slow=37						
TXAR	**Lajitas Array**	**96.26**	**299**	P	**P**	**11 47 57.2**	**-1.1**

*MEX **09** 11:35:25.5±0.9, 14˚.76N×92˚.77W, h83km±12km, MD4.2*
*SNET **09** 11:35:27.8±1.0, 14˚.54N×92˚.74W, h34km±999km, ML3.7*
*UCR **09** 11:35:27.8±1.0, 14˚.57N×92˚.74W, h34km±999km, ML3.5*

ISC 09 11:35:25.2±1.2, 14°63N±0'.07×92°93W±0'.05, h51km, n37, σ1§25/62, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THIG		**0.70**	**66**	*eP*		**Pn**		**11 35 37.8**	**-1.2**
THIG				*eS*		**Sn**		**11 35 48.1**	**-0.8**
PCIG		**1.11**	**345**	*i P*		**Pn**		**11 35 44.0**	**-0.3**
PCIG				*i S*		**Sn**		**11 35 58.0**	**-0.7**
CCIG	**Comitan**	**1.81**	**25**	*eP*		**Pn**		**11 35 55.2**	**+1.1**
CCIG				*eS*		**Sn**		**11 36 16.1**	**0.0**
TGIG		**2.15**	**355**	*eP*		**Pn**		**11 35 58.5**	**-0.1**
TGIG				*eS*		**Sn**		**11 36 23.0**	**-1.1**
SLOZ	**Alcaldia de Sa**	**3.10**	**101**	*eP*		**Pn**		**11 36 12.6**	**+0.9**
SLOZ				*eS*		**Sn**		**11 36 46.5**	**-1.1**
SLOZ				IAML				11 37 03.5	
	comp=Z,157nm,0.4s								
RTR	**El Retiro**	**3.26**	**102**	*eP*		**Pn**		**11 36 14.8**	**+0.8**
RTR	**El Retiro**	**3.26**	**102**	*eP*		**Pn**		**11 36 14.8**	**+0.8**
SBLS	**San Blas**	**3.30**	**103**	*eP*		**Pn**		**11 36 15.2**	**+0.7**
SBLS				*eS*		**Sn**		**11 36 52.6**	**0.0**
SBLS	**San Blas**	**3.30**	**103**	*eP*		**Pn**		**11 36 15.2**	**+0.7**
SBLS				*eS*		**Sn**		**11 36 52.6**	**0.0**
CEVE	**Cerro Verde**	**3.30**	**104**	*eP*		**Pn**		**11 36 15.2**	**+0.7**
CEVE				*eS*		**Sn**		**11 36 53.0**	**+0.3**
CEVE				IAML				11 36 58.5	
	comp=Z,1μm,0.4s								
CEVE	**Cerro Verde**	**3.30**	**104**	*eP*		**Pn**		**11 36 15.2**	**+0.7**
CEVE				*eS*		**Sn**		**11 36 53.0**	**+0.3**
CEVE				IAML				11 36 58.5	
	comp=Z,1μm,0.4s								
SNJE	**San Jose**	**3.31**	**103**	*eP*		**Pn**		**11 36 14.8**	**+0.1**
SNJE	**San Jose**	**3.31**	**103**	*eP*		**Pn**		**11 36 14.8**	**+0.1**
MTO3	**Montecristo**	**3.46**	**93**	*eP*		**Pn**		**11 36 17.1**	**+0.4**
MTO3	**Montecristo**	**3.46**	**93**	*eP*		**Pn**		**11 36 17.1**	**+0.4**
JAYA	**Jayaque - finc**	**3.51**	**106**	*eP*		**Pn**		**11 36 16.9**	**-0.4**
JAYA				*eS*		**Sn**		**11 36 55.8**	**-1.9**
JAYA				IAML				11 37 07.2	
	comp=Z,549nm,0.3s								
JAYA	**Jayaque - finc**	**3.51**	**106**	*eP*		**Pn**		**11 36 16.9**	**-0.4**
JAYA				*eS*		**Sn**		**11 36 55.8**	**-1.9**
JAYA				IAML				11 37 07.2	
	comp=Z,549nm,0.3s								
TACO	**Tacachico**	**3.52**	**100**	*eP*		**Pn**		**11 36 18.6**	**+1.1**
TACO				*eS*		**Sn**		**11 36 57.2**	**-0.8**
TACO				IAML				11 37 12.3	
	comp=Z,50nm,0.5s								
TACO	**Tacachico**	**3.52**	**100**	*eP*		**Pn**		**11 36 18.6**	**+1.1**
TACO				*eS*		**Sn**		**11 36 57.2**	**-0.8**
TACO				IAML				11 37 12.3	
	comp=Z,50nm,0.5s								
PMON	**Piamonte**	**3.62**	**104**	*eP*		**Pn**		**11 36 19.7**	**+0.8**
PMON				*eS*		**Sn**		**11 36 59.4**	**-1.0**
PMON	**Piamonte**	**3.62**	**104**	*eP*		**Pn**		**11 36 19.7**	**+0.8**
PMON				*eS*		**Sn**		**11 36 59.4**	**-1.0**
BOQS	**Boqueron**	**3.65**	**104**	*eP*		**Pn**		**11 36 19.9**	**+0.6**
BOQS				*eS*		**Sn**		**11 37 01.0**	**-0.2**
BOQS	**Boqueron**	**3.65**	**104**	*eP*		**Pn**		**11 36 19.9**	**+0.6**
BOQS				*eS*		**Sn**		**11 37 01.0**	**-0.2**
LALI	**Alcalda de L**	**3.68**	**107**	*eP*		**Pn**		**11 36 19.5**	**-0.1**
LALI	**Alcalda de L**	**3.68**	**107**	*eP*		**Pn**		**11 36 19.5**	**-0.1**
LFRS	**El Faro**	**3.88**	**104**	*eP*		**Pn**		**11 36 23.6**	**+1.2**
LFRS				*eS*		**Sn**		**11 37 06.0**	**-0.8**
LFRS	**El Faro**	**3.88**	**104**	*eP*		**Pn**		**11 36 23.6**	**+1.2**
LFRS				*eS*		**Sn**		**11 37 06.0**	**-0.8**
SJTE	**Alcalda de S**	**3.93**	**104**	*eP*		**Pn**		**11 36 23.7**	**+0.6**
SJTE				IAML				11 37 17.6	
	comp=Z,74nm,0.2s								
SJTE	**Alcalda de S**	**3.93**	**104**	*eP*		**Pn**		**11 36 23.7**	**+0.6**
SJTE				IAML				11 37 17.6	
	comp=Z,74nm,0.2s								
PEIG	**Puerto Escondi**	**4.30**	**289**	*eP*		**Pn**		**11 36 28.4**	**+0.3**
PEIG				*eS*		**Sn**		**11 37 17.2**	**+0.3**
VHO	**Vista Hermosa**	**4.40**	**304**	*eP*		**Pn**		**11 36 30.4**	**+0.8**
VHO				*eS*		**Sn**		**11 37 21.0**	**+1.3**
LCND	**La Caada**	**5.06**	**104**	*eP*		**Pn**		**11 36 39.7**	**+1.2**
LCND	**La Caada**	**5.06**	**104**	*eP*		**Pn**		**11 36 39.7**	**+1.2**
TOIG	**Toxpalan**	**5.26**	**312**	*eP*		**Pn**		**11 36 43.2**	**+1.9**
TOIG				*eS*		**Sn**		**11 37 41.4**	**+0.5**
PNIG	**Pinotepa**	**5.31**	**290**	*eP*		**Pn**		**11 36 43.2**	**+1.2**
PNIG				*eS*		**Sn**		**11 37 35.6**	**-6.4**
HLIG	**Huajuapan de L**	**5.67**	**305**	*eP*		**Pn**		**11 36 49.0**	**+2.0**
HLIG				*eS*		**Sn**		**11 37 49.2**	**-1.7**
TPIG	**Tehuac#an**	**5.69**	**312**	*eP*		**Pn**		**11 36 48.1**	**+0.9**
TPIG				*eS*		**Sn**		**11 37 52.8**	**+1.5**

*IDC **09** 11:55:26.4±1.5, 14˚.77N×93˚.83W, h0km, mb4.1/11, mb1 4.2/13, mb1mx4.0/42, mbtmp4.1/13, ML3.4/2, MS3.5/4, Ms1 3.5/4, ms1mx3.1/28, Error ellipse: s-maj=60.0km s-min=15.4km az=49.0*
*MEX **09** 11:55:27.9±0.9, 14˚.29N×94˚.05W, h22km±40km, MD4.3*
*NEIC **09** 11:55:32.0±2.0, 14˚.66N±0˚.09×93˚.94W±0˚.09, h35km±2km, mb4.2/66, Md4.3(MEX), Error ellipse: s-maj=21.1km s-min=3.3km az=224.0*

ISC 09 11:55:30.9±1.8, 14°67N±0'.07×93°93W±0'.06, h33km±7km, n94, σ0§97/87, mb4.2/41, MS3.8/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PCIG		**1.24**	**33**	*eP*		**Pn**		**11 55 51.8**	**-0.1**
PCIG				*eS*		**Sb**		**11 56 11.8**	**+2.4**
THIG		**1.62**	**81**	*i P*		**Pn**		**11 55 55.9**	**-1.3**
THIG				*i S*		**Sn**		**11 56 16.1**	**-0.9**
TGIG		**2.24**	**20**	*eP*		**Pn**		**11 56 07.0**	**+1.3**
TGIG				*eS*		**Sb**		**11 56 37.0**	**-1.0**
CCIG	**Comitan**	**2.36**	**47**	*eP*		**Pn**		**11 56 09.4**	**+2.0**
CCIG				*eS*		**Sb**		**11 56 39.7**	**-1.9**
CCIG	**Comitan**	**2.36**	**47**			**Pn**		**11 56 09.4**	**+2.0**
CMIG	**Matias Romero**	**2.58**	**339**	Pn		**Pn**		**11 56 09.5**	**-0.9**
	8.4nm,0.3s,baz=163,slow=11,SNR=78								
CMIG						Sn		**11 56 39.7**	**-0.9**
	25nm,0.3s,baz=111,slow=13,SNR=15								
CMIG						LR	LR	11 56 41.9	
	comp=Z,146nm,21.9s,baz=176,slow=30								
CMIG	**Matias Romero**	**2.58**	**339**	*eP*		**Pn**		**11 56 10.4**	**0.0**
CMIG				*eS*		**Sn**		**11 56 40.7**	**+0.1**
CMIG	**Matias Romero**	**2.58**	**339**			**Pn**		**11 56 10.4**	**0.0**
MTO3	**Montecristo**	**4.43**	**93**	Pn		**Pn**		**11 56 35.5**	**-0.5**
TLIG	**Tlapa**	**5.31**	**303**	Pn		**Pn**		**11 56 48.5**	**+0.5**
ORTG	**Ortega, Santa**	**9.31**	**116**	Pn		**Pn**		**11 57 43.6**	**+0.8**
JTS	**Las Juntas de**	**9.78**	**115**	Pn		**Pn**		**11 57 49.9**	**+0.6**
	0.3nm,0.3s,baz=305,slow=16,SNR=1.1								
RIMA	**Rio Macho**	**10.97**	**115**			**Pn**		**11 58 06.8**	**+0.9**
SRBA	**San Rafael, Bu**	**11.66**	**116**	Pn		**Pn**		**11 58 15.8**	**+0.7**
JCT	**Junction City**	**16.64**	**342**			**Pn**		**11 59 22.6**	**+1.0**
TXAR	**Lajitas Array**	**17.15**	**330**	P		**P**		**11 59 28.9**	**-0.6**
TX32	**Lajitas Array**	**17.15**	**330**	P		**P**		**11 59 29.9**	**+0.3**
ABTX	**Abilene, Hawle**	**18.62**	**345**	P		**Pn**		**11 59 47.0**	**+0.9**
152A	**Waverly Hall**	**19.79**	**23**	P		**Pn**		**12 00 00.0**	**-0.1**
MIAR	**Mount Ida**	**19.80**	**1**	P		**P**		**11 59 58.7**	**+0.3**
X37A	**Clayton**	**19.88**	**356**	P		**Pn**		**12 00 01.7**	**+0.5**
MNTX	**Cornudas Mount**	**19.93**	**330**	P		**Pn**		**12 00 01.4**	**-0.4**
OXF	**Oxford**	**20.18**	**11**	P		**P**		**12 00 00.2**	**-2.4**
X48A	**Hartselle**	**20.66**	**16**	P		**P**		**12 00 07.9**	**+0.1**
X48A				IAmb		IAmb		12 00 25.7	
	comp=Z,9.4nm,1.0s								
FNO	**Franklin**	**20.74**	**352**	P		**P**		**12 00 09.4**	**+0.7**
MSTX	**Muleshoe**	**20.82**	**339**	P		**P**		**12 00 10.8**	**+1.1**
OKCFA	**Oklahoma City**	**20.90**	**352**	P		**P**		**12 00 10.2**	**-0.3**
PLAL	**Pickwick Lake**	**20.91**	**14**	P		Pn		12 00 13.2	0.0
PLAL				IAmb		IAmb		12 00 50.6	
	comp=Z,15nm,1.6s								
GOGA	**Godfrey**	**20.94**	**25**	P		Pn		12 00 13.0	-0.5
OK025	**Westminster Rd**	**21.05**	**352**	P		**P**		**12 00 12.4**	**+0.3**
Y52A	**Lilburn**	**21.10**	**23**	P		**P**		**12 00 14.6**	**+2.0**
Y52A				IAmb		IAmb		12 00 40.6	
	comp=Z,8.2nm,0.9s								
FPAL	**Fort Paine**	**21.16**	**19**	P		**P**		**12 00 13.8**	**+0.5**
FPAL				IAmb		IAmb		12 00 40.9	
	comp=Z,8.8nm,0.8s								
FCAR	**Ozark Folk Cen**	**21.20**	**4**	P		**P**		**12 00 15.4**	**+1.7**
FCAR				IAmb		IAmb		12 00 17.6	
	comp=Z,9.8nm,0.9s								
HSIG		**21.26**	**315**	P		**P**		**12 00 14.5**	**+0.1**
HSIG				IAmb		IAmb		12 00 16.5	
	comp=Z,10nm,1.1s								
OK029	**Liberty Lake**	**21.28**	**352**	P		**P**		**12 00 14.7**	**+0.2**
AMTX	**Amarillo**	**21.31**	**342**	P		**P**		**12 00 15.9**	**+0.9**
HHAR	**Hobbs**	**21.53**	**360**	P		**P**		**12 00 18.7**	**+1.5**
QUOK	**Quay**	**21.56**	**354**	P		**P**		**12 00 17.2**	**-0.4**
QUOK				IAmb		IAmb		12 00 21.9	
	comp=Z,10nm,0.8s								
U40A	**Yellville**	**21.62**	**2**	P		**P**		**12 00 18.8**	**+0.6**
ROSC	**El Rosal**	**21.63**	**115**	P		**P**		**12 00 18.0**	**-0.8**
	comp=Z,8.6nm,0.6s,baz=270,slow=20,SNR=1.5								
ROSC	**El Rosal**	**21.63**	**115**	P		**P**		**12 00 18.1**	**-0.8**
U38A	**Gravette**	**21.69**	**359**	P		**P**		**12 00 20.2**	**+1.3**
U38A				IAmb		IAmb		12 00 30.1	
	comp=Z,12nm,1.5s								
319A	**Douglas**	**21.78**	**322**	P		**P**		**12 00 21.4**	**+1.4**
319A				IAmb		IAmb		12 00 38.0	
	comp=Z,10nm,1.0s								
121A	**Cookes Peak, D**	**21.81**	**327**	P		**P**		**12 00 21.5**	**+1.0**
121A				IAmb		IAmb		12 00 33.4	
	comp=Z,17nm,1.0s								
W50A	**Signal Mountai**	**21.87**	**19**	P		**P**		**12 00 20.8**	**0.0**
V48A	**Smith Brothers**	**21.93**	**16**	P		**P**		**12 00 21.5**	**0.0**
V48A				IAmb		IAmb		12 00 53.8	
	comp=Z,6.8nm,0.8s								
CROK	**Carrier**	**22.05**	**351**	P		**P**		**12 00 22.2**	**-0.5**
CROK				IAmb		IAmb		12 00 25.1	
	comp=Z,12nm,0.8s								
RUSC	**La Rusia**	**22.27**	**111**	P		**P**		**12 00 25.2**	**-0.6**
RUSC				IAmb		IAmb		12 00 36.6	
	comp=Z,16nm,1.0s								
CLTN	**Cedars of Leba**	**22.39**	**16**	P		**P**		**12 00 25.2**	**-1.3**
MGMO	**Mountain Grove**	**22.45**	**3**	P		**P**		**12 00 27.6**	**+0.5**
MGMO				IAmb		IAmb		12 00 29.3	
	comp=Z,8.9nm,0.9s								
BNM	**Barren Site**	**22.54**	**332**	P		**P**		**12 00 29.0**	**+0.6**
KAN05	**Bluff City Nor**	**22.63**	**352**	P		**P**		**12 00 28.8**	**-0.2**
S39A	**Bolivar**	**22.94**	**1**	P		**P**		**12 00 32.2**	**0.0**
T47A	**Sharon Grove**	**23.05**	**14**	P		**P**		**12 00 31.9**	**-1.5**
T47A				IAmb		IAmb		12 00 34.2	
	comp=Z,10nm,0.9s								
ANMO	**Albuquerque**	**23.13**	**333**	P		**P**		**12 00 35.4**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=150,slow=15,SNR=2.9								
ANMO	**Albuquerque**	**23.13**	**333**	P		**P**		**12 00 35.1**	**+0.7**
SIUC	**Southern Illin**	**23.33**	**9**	P		**P**		**12 00 34.4**	**-1.8**
SIUC				IAmb		IAmb		12 00 55.9	
	comp=Z,16nm,1.1s								
R32A	**Long Quarter,**	**24.04**	**351**	P		**P**		**12 00 43.6**	**+0.6**
OLIL	**Olney**	**24.52**	**11**	P		**P**		**12 00 46.6**	**-0.7**
CBKS	**Cedar Bluff**	**24.59**	**349**	P		**P**		**12 00 49.0**	**+1.0**
CBKS				IAmb		IAmb		12 01 03.0	
	comp=Z,8.9nm,0.9s								
U56A	**King**	**24.76**	**27**	P		**P**		**12 00 49.1**	**-0.4**
U56A				IAmb		IAmb		12 00 51.3	
	comp=Z,6.8nm,1.0s								
P40A	**Paris**	**24.82**	**3**	P		**P**		**12 00 49.2**	**-0.8**
P40A				IAmb		IAmb		12 00 49.7	
	comp=Z,8.2nm,0.9s								
P38A	**Dawn**	**24.87**	**1**	P		**P**		**12 00 49.5**	**-0.9**
P38A				IAmb		IAmb		12 00 50.4	
	comp=Z,5.8nm,0.8s								
R50A	**Paris**	**25.01**	**18**	P		**P**		**12 00 52.1**	**+0.3**
R50A				IAmb		IAmb		12 01 21.3	
	comp=Z,13nm,1.5s								
SDCO	**Great Sand Dun**	**25.18**	**338**	P		**P**		**12 00 53.8**	**+0.2**
WUAZ	**Wupatki**	**26.01**	**326**	P		**P**		**12 01 01.3**	**+0.3**
WUAZ				IAmb		IAmb		12 01 20.1	
	comp=Z,6.1nm,0.9s								
N38A	**Joes South For**	**26.04**	**1**	P		**P**		**12 01 00.8**	**-0.3**
GLA	**Glamis**	**26.37**	**318**	P		**P**		**12 01 03.8**	**-0.4**
GLA				IAmb		IAmb		12 01 05.6	
	comp=Z,5.8nm,0.8s								
PV13	**Radium Mtn., P**	**26.86**	**333**	IAmb		IAmb		12 01 49.0	
	comp=Z,7.2nm,1.2s								
PV03	**Paradox Valley**	**26.95**	**333**	IAmb		IAmb		12 01 26.5	
	comp=Z,5.1nm,1.0s								
PV12	**Saucer Basin,**	**26.98**	**334**	IAmb		IAmb		12 01 30.3	
	comp=Z,16nm,1.4s								
PV11	**David Mesa, Pa**	**27.00**	**333**	IAmb		IAmb		12 01 28.8	
	comp=Z,8.9nm,1.0s								
PV17	**East Wray Mesa**	**27.02**	**333**	IAmb		IAmb		12 01 51.0	
	comp=Z,13nm,1.5s								
ISCO	**Idaho Springs**	**27.05**	**340**	P		**P**		**12 01 10.1**	**-0.5**
PV04	**Paradox Valley**	**27.09**	**334**	IAmb		IAmb		12 01 16.6	
	comp=Z,5.5nm,0.9s								
ECSD	**EROS Data Cent**	**29.06**	**356**	IAmb		IAmb		12 01 28.8	
	comp=Z,3.6nm,0.8s								
NVAR	**Mina Array Bea**	**31.99**	**322**	P		**P**		**12 01 54.9**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=144,slow=9.4,SNR=10								
J08A	**Circle Bar Ran**	**35.49**	**329**	IAmb		IAmb		12 02 27.2	
	comp=Z,6.7nm,1.3s								
ULM	**Lac du Bonnet**	**35.52**	**358**	P		**P**		**12 02 22.1**	**-2.5**
	comp=Z,4.7nm,0.9s,baz=162,slow=9.5,SNR=4.4								
F10A	**Beach Ranch, E**	**36.85**	**333**	IAmb		IAmb		12 02 47.8	
	comp=Z,4.7nm,0.8s								
SIV	**San Ignacio**	**44.51**	**132**	P		**P**		**12 03 40.2**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=315,slow=8.8,SNR=1.8								
SCHQ	**Schefferville**	**45.27**	**22**	LR		LR		12 26 03.6	
	comp=Z,81nm,18.4s,baz=185,slow=41								
YKA	**Yellowknife Ar**	**49.97**	**348**	P		**P**		**12 04 21.8**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=152,slow=7.8,SNR=8.7								
YKA	**Yellowknife Ar**	**49.97**	**348**	P		**P**		**12 04 21.4**	**0.0**
BDFB	**Brasilia**	**54.46**	**122**	P		**P**		**12 04 55.2**	**-0.4**
	comp=Z,1.5nm,0.4s,baz=259,slow=18,SNR=1.8								
ILAR	**Eielson Array**	**61.50**	**337**	P		**P**		**12 05 44.1**	**0.0**
	comp=Z,1.0nm,0.8s,baz=144,slow=4.2,SNR=9.7								
ILAR	**Eielson Array**	**61.50**	**337**	P		**P**		**12 05 43.8**	**-0.4**
ESDC	**Sonseca Array**	**80.77**	**51**	P		**P**		**12 07 41.5**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=282,slow=5.4,SNR=4.2								
NB2	**NORSAR Subarra**	**84.45**	**28**	P		**P**		**12 08 01.2**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=289,slow=5.1								
NOA	**NORSAR Array B**	**84.45**	**28**	P		**P**		**12 08 00.9**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=292,slow=4.8,SNR=5.6								
NOA				LR		LR		12 44 46.6	
	comp=Z,39nm,19.1s,baz=280,slow=35								
ARCES	**ARCESS Array B**	**86.09**	**18**	P		**P**		**12 08 08.5**	**+0.4**
	comp=Z,15nm,1.2s,baz=272,slow=3.3,SNR=2.5								
FINES	**FINESS Array B**	**90.68**	**25**	LR		LR		12 49 38.5	
	comp=Z,54nm,18.2s,baz=264,slow=36								
CMAR	**Chiang Mai Arr**	**144.73**	**339**	PKP		**PKPab**		**12 15 03.6**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=339,slow=3.9,SNR=9.4								
CMAR	**Chiang Mai Arr**	**144.73**	**339**			**PKPab**		**12 15 03.3**	**-0.6**

*NEIC **09** 12:01:47.3±1.4, 56˚.25S×0˚.1×27˚.6W±0˚.2, h105km±5km, mb5.0/38, Error ellipse: s-maj=16.4km s-min=11.8km az=207.0*
*IDC **09** 12:01:48.5±3.1, 56˚.15S×27˚.46W, h118km±26km, mb4.5/10, mb1 4.6/11, mb1mx4.3/23, mbtmp4.9/11, MS3.5/3, Ms1 3.5/3, ms1mx3.1/25, Error ellipse: s-maj=20.9km s-min=12.6km az=64.0*

ISC 09 12:01:47.4±0.3, 56°25S±0'.07×27°66W±0'.07, h112km, n158, σ1§02/164, mb4.9/25, 1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.42**	**288**		Pn		**Pn**	**12 03 05.9**	**+0.1**
HOPE					Sn		**Sn**	**12 04 03.0**	**-3.8**
VNA1	**Neumayer--Stat**	**16.71**	**157**		P		**P**	**12 05 35.8**	**+1.0**
VNA3	**Neumayer Olymp**	**16.89**	**160**		P		**P**	**12 05 36.8**	**0.0**
VNA2	**Neumayer-Watz**	**17.11**	**157**		P		**Pn**	**12 05 39.6**	**+0.4**
	baz=313,slow=13								
EFI	**East Falkland**	**18.38**	**272**		P		**Pn**	**12 05 54.3**	**-0.2**
SNAA	**Sanae**	**18.67**	**155**		P		**P**	**12 05 56.7**	**+0.4**
SNAA	**Sanae**	**18.67**	**155**		P		**P**	**12 05 56.7**	**+0.4**
	9.9nm,0.3s,baz=308,slow=10,SNR=997								
SNAA					S		**S**	**12 09 16.6**	**-6.3**
	0.2nm,0.3s,baz=312,slow=16,SNR=1.9								
SNAA					PcP		**PcP**	**12 10 20.1**	**+0.8**
	0.4nm,0.3s,baz=322,slow=3.2,SNR=3.6								
SNAA	**Sanae**	**18.67**	**155**		P		**P**	**12 05 57.0**	**+0.7**
SNAA					IAmb		IAmb	12 05 57.5	
	comp=Z,56nm,0.5s								
PMSA	**Palmer Station**	**19.57**	**229**		P		**P**	**12 06 05.5**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=163,slow=20,SNR=18								
PMSA	**Palmer Station**	**19.57**	**229**		P		**P**	**12 06 04.9**	**-1.1**
BELA	**Belgrano 2**	**21.86**	**184**		P		**P**	**12 06 31.1**	**+0.6**
TRQA	**Tornquist**	**29.16**	**294**		P		**P**	**12 07 38.6**	**+0.9**
TRQA					IAmb		IAmb	12 07 53.3	
	comp=Z,39nm,1.6s								
PLTB	**Pedras Altas**	**30.43**	**313**		P		**P**	**12 07 49.7**	**+0.7**
PLTB					IAmb		IAmb	12 08 04.3	
	comp=Z,49nm,1.8s								
SYO	**Syowa Base**	**31.60**	**141**	*eP*			**P**	**12 07 57.1**	**-1.7**
PLCA	**Paso Flores**	**31.78**	**281**	PcP			**PcP**	**12 10 49.9**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=180,slow=0.2,SNR=4.5								
PLCA					LR		LR	12 20 51.0	
	comp=Z,59nm,18.8s,baz=122,slow=36								
QSPA	**South Pole Qui**	**34.00**	**180**	P			**P**	**12 08 21.5**	**+1.4**
	comp=Z,15nm,0.3s,baz=29,slow=2.9,SNR=346								
QSPA					PcP		**PcP**	**12 10 55.6**	**+0.4**
	comp=Z,8.8nm,0.5s,baz=226,slow=2.0,SNR=4.6								
QSPA	**South Pole Qui**	**34.00**	**180**	P			**P**	**12 08 20.1**	**0.0**
QSPA					IAmb		IAmb	12 08 23.0	
	comp=Z,29nm,1.0s								
CPUP	**Villa Florida**	**36.75**	**312**	P			**P**	**12 08 43.5**	**-0.2**
	comp=Z,2.1nm,0.5s,baz=158,slow=5.5,SNR=4.1								
CPUP					PcP		**PcP**	**12 11 03.8**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=145,slow=1.7,SNR=6.2								
CPUP	**Villa Florida**	**36.75**	**312**	P			**P**	**12 08 43.5**	**-0.2**
CPUP					IAmb		IAmb	12 09 41.6	
	comp=Z,29nm,1.8s								
MT01	**Popeta**	**37.19**	**288**	P			**P**	**12 08 47.4**	**0.0**
MT01					IAmb		IAmb	12 09 20.6	
	comp=Z,55nm,1.7s								
MAW	**Mawson**	**40.15**	**144**	P			**P**	**12 09 12.1**	**+0.4**
	comp=Z,6.5nm,0.3s,baz=220,slow=7.0,SNR=120								
MAW					PcP		**PcP**	**12 11 14.0**	**+0.4**
	comp=Z,2.3nm,0.5s,baz=276,slow=5.6,SNR=4.5								
MAW	**Mawson**	**40.15**	**144**	P			**P**	**12 09 12.0**	**+0.4**
SUR	**Sutherland**	**40.94**	**75**	P			**P**	**12 09 17.5**	**-1.4**
AC04	**Llanos de Chal**	**41.59**	**294**	P			**P**	**12 09 22.6**	**-1.4**
AC04					IAmb		IAmb	12 10 07.7	
	comp=Z,32nm,1.2s								
LVC	**Limon Verde**	**45.17**	**301**	P			**P**	**12 09 54.4**	**+1.2**
	comp=Z,6.6nm,0.3s,baz=107,slow=1.4,SNR=13								
LVC	**Limon Verde**	**45.17**	**301**	P			**P**	**12 09 54.1**	**+0.9**
PB06	**IPOC Station P**	**45.41**	**300**	P			**P**	**12 09 55.4**	**+0.6**
PB06					IAmb		IAmb	12 11 21.8	
	comp=Z,20nm,1.1s								
SBA	**Scott Base**	**45.87**	**184**	P			**P**	**12 10 00.3**	**+2.7**
PB04	**IPOC Station P**	**46.01**	**300**	P			**P**	**12 10 00.1**	**+0.6**
PB09	**IPOC Station P**	**46.03**	**301**	P			**P**	**12 10 01.2**	**+1.5**
BOSA	**Boshof**	**46.27**	**76**	P			**P**	**12 10 01.2**	**-0.4**
VNDA	**Vanda**	**46.36**	**183**	P			**P**	**12 10 03.5**	**+2.0**
	comp=Z,5.5nm,0.5s,baz=187,slow=7.0,SNR=69								
VNDA	**Vanda**	**46.36**	**183**	P			**P**	**12 10 03.9**	**+2.4**
**P

ABKAR	**Akbulak array**	**127.70**	**56**		**PKPdf**	**12 20 38.3**	**0.0**
B08A	**Colville Reser**	**128.98**	**301**	PKPdf	**PKPdf**	**12 20 41.1**	**+0.2**
B05A	**Bryant**	**130.25**	**299**	P	**PKiKP**	**12 20 44.6**	**+0.6**
	baz=133						
AAK	**Ala-Archa**	**130.29**	**71**		**PKPdf**	**12 20 44.1**	**+0.4**
ARCES	**ARCESS Array B**	**131.22**	**22**	PKP	**PKPdf**	**12 20 44.3**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=212,slow=2.0,SNR=10						
YKA	**Yellowknife Ar**	**136.14**	**318**	PKP	**PKPdf**	**12 20 53.9**	**+0.1**
	comp=Z,2.7nm,0.6s,baz=116,slow=3.2,SNR=25						
YKA	**Yellowknife Ar**	**136.14**	**318**	PKPdf	**PKPdf**	**12 20 54.0**	**+0.2**
MK31	**Makanchi Array**	**137.20**	**72**	PKPdf	**PKPdf**	**12 20 55.4**	**-0.9**
MKAR	**Makanchi Array**	**137.20**	**72**	PKhKP	PKPpre	12 20 47.6	
	comp=Z,0.2nm,0.5s,baz=222,slow=3.0,SNR=3.9						
MKAR				PKP	**PKPdf**	**12 20 55.1**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=196,slow=1.5,SNR=9.3						
ZALV	**Zalesovo Beam**	**142.69**	**64**	PKhKP	PKPpre	12 21 01.5	
	comp=Z,2.2nm,0.5s,baz=236,slow=3.3,SNR=7.2						
A36M	**Sachs Harbour**	**144.24**	**328**	P	PKPbc	12 21 07.2	+0.4
	baz=109						
HYT	**Haines Junctio**	**144.70**	**307**	P	**PKPdf**	**12 21 09.6**	**+0.1**
	baz=115						
MAYO	**Mayo, Yukon**	**145.11**	**312**	P	**PKPdf**	**12 21 10.6**	**+0.7**
	baz=112						
YUK4	**Talbot Arm**	**145.42**	**308**	P	**PKPab**	**12 21 11.7**	**+0.2**
	baz=113						
INK	**Inuvik**	**145.79**	**321**	PKPdf	**PKPbc**	**12 21 11.4**	**-0.3**
INK	**Inuvik**	**145.79**	**321**	P	**PKPab**	**12 21 12.0**	**-0.3**
	baz=107						
EPYK	**Eagle Plains**	**146.39**	**317**	P	**PKPbc**	**12 21 13.9**	**+0.3**
	baz=108						
YUK3	**Moose Creek**	**146.39**	**308**	P	**PKPbc**	**12 21 13.9**	**-0.1**
	baz=112						
DAWY	**Dawson**	**146.73**	**312**	P	**PKPbc**	**12 21 14.7**	**0.0**
	baz=109						
BVCY	**Beaver Creek**	**146.79**	**309**	P	**PKPbc**	**12 21 15.2**	**+0.3**
	baz=110,SNR=11						
M27K	**Edge Creek, AK**	**147.22**	**308**	P	**PKPbc**	**12 21 16.2**	**0.0**
	baz=110,SNR=6.7						
L27K	**Beaver Creek,**	**147.43**	**309**	P	**PKPbc**	**12 21 17.0**	**+0.3**
	baz=109,SNR=12						
EGAK	**Eagle**	**147.68**	**313**	P	**PKPbc**	**12 21 17.0**	**-0.1**
	baz=107						
K27K	**Chicken**	**147.84**	**311**	P	**PKPbc**	**12 21 18.4**	**+0.8**
	baz=107						
L26K	**Log Cabin Wild**	**148.08**	**309**	P	**PKPbc**	**12 21 18.8**	**+0.4**
	baz=108						
N25K	**Chitina, Valde**	**148.18**	**306**	P	**PKiKP**	**12 21 19.7**	**-0.6**
	baz=109						
Q23K	**Middleton Isla**	**148.22**	**302**	P	**PKiKP**	**12 21 19.9**	**-0.4**
	baz=112						
HARP	**HAARP**	**148.68**	**307**	P	**PKiKP**	**12 21 20.6**	**-0.7**
	baz=108						
J26K	**Charley River,**	**148.71**	**312**	P	**PKPbc**	**12 21 20.5**	**+0.5**
	baz=105,SNR=26						
M24K	**Tolsona, Glenn**	**149.04**	**307**	P	**PKiKP**	**12 21 22.2**	**+0.1**
	baz=107						
NRIK	**Noril'sk**	**149.33**	**39**	PKPbc	**PKPbc**	**12 21 21.7**	**+0.4**
	comp=Z,2.9nm,0.5s,baz=149,slow=3.9,SNR=4.5						
NRIK	**Noril'sk**	**149.33**	**39**		**PKPdf**	**12 21 18.4**	**+1.6**
ILAR	**Eielson Array**	**150.05**	**311**	PKP	**PKPdf**	**12 21 15.7**	**-2.4**
	comp=Z,0.8nm,0.7s,baz=222,slow=0.5,SNR=10						
ILAR				PKPbc	**PKPbc**	**12 21 23.4**	**+0.2**
	comp=Z,25nm,0.7s,baz=136,slow=2.9,SNR=152						
ILAR	**Eielson Array**	**150.05**	**311**		**PKPbc**	**12 21 23.5**	**+0.3**
O22K	**Cooper Landing**	**150.18**	**302**	P	**PKiKP**	**12 21 24.0**	**-0.3**
	baz=108						
PMR	**Palmer**	**150.23**	**305**	P	**PKiKP**	**12 21 24.2**	**-0.3**
	baz=106						
POKR	**Poker Plat Res**	**150.35**	**312**	P	**PKPbc**	**12 21 24.3**	**+0.4**
	baz=102						
COLA	**College**	**150.47**	**312**	P	**PKPbc**	**12 21 24.1**	**-0.1**
	baz=102						
TCOL	**CIGO, UAF Yank**	**150.48**	**312**	P	**PKPbc**	**12 21 24.2**	**0.0**
	baz=102,SNR=11						
H24K	**Noodor Dome**	**150.67**	**313**	P	**PKiKP**	**12 21 25.0**	**-0.3**
	baz=100,SNR=9.8						
KDAK	**Kodiak Island**	**150.67**	**296**	P	**PKiKP**	**12 21 25.4**	**0.0**
	baz=111						
OHAK	**Old Harbor**	**150.82**	**295**	P	**PKiKP**	**12 21 25.8**	**+0.1**
	baz=111						
SONM	**Songino Array**	**151.00**	**87**	PKP	**PKPdf**	**12 21 19.2**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=105,slow=31,SNR=2.4						
SONM				PKPbc	**PKPbc**	**12 21 26.1**	**0.0**
	comp=Z,15nm,0.6s,baz=230,slow=2.6,SNR=54						
SONM	**Songino Array**	**151.00**	**87**	PKPdf	**PKPdf**	**12 21 19.8**	**-0.5**
SONM				PKPbc	**PKPbc**	**12 21 26.1**	**0.0**
I23K	**Minto, Yukon-K**	**151.16**	**312**	P	**PKPbc**	**12 21 25.6**	**-0.1**
	baz=100,SNR=8.5						
H23K	**Yukon River**	**151.34**	**313**	P	**PKPbc**	**12 21 26.5**	**+0.2**
	baz=99,SNR=5.8						
O20K	**Slope Mountain**	**151.44**	**301**	P	**PKPbc**	**12 21 26.7**	**0.0**
	baz=107						
SPCR	**Spurr Chakacha**	**151.55**	**303**	P	**PKPbc**	**12 21 26.8**	**-0.1**
	baz=105						
Q19K	**Cape Douglas,**	**151.58**	**298**	P	**PKPbc**	**12 21 27.1**	**+0.1**
	baz=108						
P19K	**Oil Pt**	**151.60**	**300**	P	**PKPbc**	**12 21 27.0**	**0.0**
	baz=107						
TOLK	**Toolik Lake Re**	**151.66**	**319**	P	**PKiKP**	**12 21 27.5**	**+0.2**
	baz=93						
M20K	**Styx River**	**152.15**	**304**	P	**PKPbc**	**12 21 28.2**	**-0.1**
	baz=103,SNR=13						
I21K	**Tanana**	**152.25**	**312**	P	**PKPbc**	**12 21 28.3**	**0.0**
	baz=98,SNR=7.4						
O19K	**Port Alsworth**	**152.28**	**301**	P	**PKPbc**	**12 21 28.1**	**-0.3**
	baz=106						
N19K	**Bonanza Creek**	**152.52**	**302**	P	**PKPbc**	**12 21 28.7**	**-0.4**
	baz=104						
L20K	**Farewell, AK**	**152.62**	**305**	P	**PKPbc**	**12 21 28.9**	**-0.3**
	baz=102,SNR=6.7						
O18K	**Koktuh Hills**	**152.62**	**300**	P	**PKPbc**	**12 21 29.1**	**-0.1**
	baz=106						
M19K	**Big River Lodg**	**152.73**	**304**	P	**PKPbc**	**12 21 29.4**	**0.0**
	baz=102						
K20K	**Telida**	**152.87**	**307**	P	**PKPbc**	**12 21 29.7**	**0.0**
	baz=100,SNR=5.1						
L19K	**White Mountain**	**153.00**	**305**	P	**PKPbc**	**12 21 30.1**	**0.0**
	baz=101						
J20K	**Nowinta River**	**153.03**	**309**	P	**PKiKP**	**12 21 30.2**	**+0.1**
	baz=98						
PETK	**Petropavlovsk-**	**175.58**	**227**	PKP	**PKPdf**	**12 21 41.3**	**-1.5**
	comp=Z,2.1nm,0.9s,baz=176,slow=5.9,SNR=5.5						
PETK				PKPab	**PKPab**	**12 23 21.4**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=117,slow=7.7,SNR=5.1						
PETK	**Petropavlovsk-**	**175.58**	**227**	PKPab	**PKPab**	**12 23 21.6**	**+0.5**

IDC 09 12:24:06.8±1.4,3°.23S×139°.71E,h0km,mb3.3/3, mb1 3.7/4,mb1mx3.5/25,mbtmp3.5/4,ML3.9/1,MS3.0/1, Ms1 3.0/1,ms1mx2.6/21,Error ellipse: s-maj=40.3km s-min=17.9km az=134.0,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.22**	**55**	Pn	Pn	12 24 31.9	+0.7
	13nm,0.3s,baz=226,slow=7.3,SNR=11						
JAY				Sn	Sn	12 24 47.9	-0.6
	46nm,0.3s,baz=13,slow=20,SNR=13						
SIJI	**Sorong**	**8.75**	**285**	LR	LR	12 30 19.6	
	comp=Z,99nm,19.9s,baz=16,slow=43						
WRA	**Warramunga Arr**	**17.42**	**197**	P	Pn	12 28 11.1	-0.4
	0.4nm,0.3s,baz=16,slow=13,SNR=19						
FITZ	**Fitzroy Crossi**	**20.21**	**222**	P	P	12 28 43.7	+0.2
	1.4nm,0.9s,baz=27,slow=11,SNR=1.7						
ASAR	**Alice Springs**	**21.08**	**195**	P	P	12 28 52.9	-0.1
	0.5nm,0.6s,baz=126,slow=7.3,SNR=4.6						
MKAR	**Makanchi Array**	**70.80**	**322**	P	P	12 35 25.2	-0.1
	0.5nm,0.6s,baz=126,slow=7.3,SNR=4.6						

MEX 09 12:35:03.2±0.3,14°.52N×92°.71W,h10km±21km,MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.28**	**338**	*i* P	Pn	12 35 23.7	-3.5
PCIG				*e*S	Sb	12 35 39.1	-4.8

IDC 09 12:36:13.0±1.3,2°.71N×127°.19E,h0km,mb3.6/5, mb1 3.8/5,mb1mx3.6/41,mbtmp3.7/5,Error ellipse: s-maj=127.1km s-min=20.4km az=69.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.58**	**163**	P	P	12 41 25.3	-0.2
	1.0nm,0.4s,baz=344,slow=11,SNR=24						
ASAR	**Alice Springs**	**27.02**	**166**	P	P	12 41 57.2	+0.2
	0.2nm,0.5s,baz=344,slow=8.0,SNR=10						
ASAR				PcP	PcP	12 45 19.0	+0.2
	0.2nm,0.6s,baz=340,slow=2.4,SNR=4.3						
STKA	**Stephens Creek**	**37.02**	**159**	P	P	12 43 24.1	-0.5
	0.6nm,0.3s,baz=342,slow=9.6,SNR=2.4						
SONM	**Songino Array**	**48.41**	**341**	P	P	12 44 57.9	+0.8
	0.5nm,0.5s,baz=154,slow=9.6,SNR=2.1						
MKAR	**Makanchi Array**	**58.65**	**325**	P	P	12 46 11.3	-0.9
	0.5nm,0.6s,baz=116,slow=8.2,SNR=5.0						

*TRN **09** 12:36:18.6,13°.77N×58°.46W,h79km,MD4.2*
ISC 09 12:36:16.5±2.4,13°.80N±0°.04×58°.4W±0°.1,h10km,n43, σ1s39/63,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.22**	**236**	*e*P	**Pg**	**12 36 41.1**	**+1.2**
BBSP				*e*S	**Sn**	**12 36 56.8**	**+0.6**
BBGH	**Gun Hill**	**1.28**	**240**	*e*P	**Pg**	**12 36 42.2**	**+1.1**
BCHC	**Barbados, Cave**	**1.35**	**241**	*e*P	**Pg**	**12 36 43.4**	**+1.0**
MCLT	**Moule a Chique**	**2.45**	**268**	*e*P	**Pn**	**12 36 57.0**	**+0.4**
MCLT				*e*S	**Sn**	**12 37 26.1**	**-0.4**
MPOM	**Morne Pois Mar**	**2.45**	**286**	*e*P	**Pn**	**12 36 56.5**	**0.0**
MPOM				*e*S	**Sn**	**12 37 26.9**	**+0.4**
SLBI	**Saint Lucia, B**	**2.49**	**275**	*e*P	**Pn**	**12 36 57.4**	**+0.3**
SLBI				*e*S	**Sn**	**12 37 26.4**	**-1.0**
MVM	**Montagne Vaucl**	**2.51**	**288**	*e*P	**Pn**	**12 36 58.4**	**+0.9**
SLB	**Belfond**	**2.54**	**271**	*e*	**Pn**	**12 36 59.7**	**+1.8**
SLB				*e*S	**Sn**	**12 37 27.3**	**-1.7**
ILAM	**Ilet Lapin Mar**	**2.57**	**293**	*e*P	**Pn**	**12 36 58.6**	**+0.5**
ILAM				*e*S	**Sn**	**12 37 28.0**	**-0.4**
LPMF	**Morne Lapointe**	**2.58**	**288**	*e*P	**Pn**	**12 36 58.9**	**+0.5**
ZAM	**Aeronautique**	**2.64**	**287**	*e*P	**Pn**	**12 36 59.7**	**+0.5**
TRMF	**Trois Ilets**	**2.65**	**286**	*e*P	**Pn**	**12 36 59.7**	**+0.4**
BIM	**Bigot**	**2.67**	**286**	*e*P	**Pn**	**12 36 60.0**	**+0.4**
BIM				*e*S	**Sn**	**12 37 30.7**	**-1.3**
SSV	**Crater Summit**	**2.73**	**260**	*e*P	**Pn**	**12 37 00.5**	**-0.1**
SSV				*e*S	**Sn**	**12 37 31.9**	**-1.8**
SVV	**Soufriere Volc**	**2.76**	**260**	*e*S	**Sn**	**12 37 33.0**	**-1.3**
SVB	**Belmont**	**2.80**	**260**	*e*P	**Pn**	**12 37 02.0**	**+0.6**
SVB				*e*S	**Sn**	**12 37 34.3**	**-1.0**
FDF	**Fort de France**	**2.80**	**290**	*e*P	**Pn**	**12 37 02.3**	**+0.8**
FDF				*e*S	**Sn**	**12 37 33.9**	**-1.5**
BAMF	**Morne Balai**	**2.83**	**291**	*e*P	**Pn**	**12 37 03.1**	**+1.3**
CXM	**Morne La Croix**	**2.84**	**291**	*e*P	**Pn**	**12 37 03.5**	**+1.3**
PML	**Morne Lenard**	**2.85**	**290**	*e*P	**Pn**	**12 37 05.2**	**+3.1**
PCM	**Pelee Case Pet**	**2.88**	**291**	*e*P	**Pn**	**12 37 03.9**	**+1.4**
DLPL	**La Plaine**	**3.13**	**300**	*e*	**Pn**	**12 37 08.4**	**+2.4**
DLPL				*e*S	**Sn**	**12 37 41.8**	**-1.6**
GCMP	**Grenada, Carri**	**3.20**	**246**	*e*P	**Pn**	**12 37 07.1**	**+0.2**
GCMP				*e*S	**Sn**	**12 37 43.2**	**-2.0**
TOSP	**Speyside**	**3.23**	**220**	*e*P	**Pn**	**12 37 07.9**	**+0.6**
TOSP				*e*S	**Sn**	**12 37 43.5**	**-2.3**
DSLB	**Salisbury**	**3.33**	**300**	*e*P	**Pn**	**12 37 09.8**	**+1.1**
DSLB				*e*S	**Sn**	**12 37 46.9**	**-1.5**
MDPV	**Dominica, Penn**	**3.42**	**302**	*e*S	**Sn**	**12 37 48.8**	**-1.9**
MDCT	**Cottage Hill,**	**3.45**	**302**	*e*P	**Pn**	**12 37 11.2**	**+0.9**
MDCT				*e*S	**Sn**	**12 37 49.3**	**-2.0**
MAGL	**Barre de l'ile**	**3.50**	**308**	*e*P	**Pn**	**12 37 12.0**	**+1.0**
MAGL				*e*S	**Sn**	**12 37 51.5**	**-0.9**
GRHS	**Sauteurs**	**3.50**	**244**	*e*P	**Pn**	**12 37 12.3**	**+1.3**
GRGR	**Grenville**	**3.56**	**243**	*e*P	**Pn**	**12 37 12.3**	**+0.5**
GRFF	**Grenada Fort F**	**3.67**	**242**	*e*P	**Pn**	**12 37 13.8**	**+0.5**
GRFF				*e*S	**Sn**	**12 37 53.3**	**-3.5**
TDBA	**Terre de Bas,**	**3.72**	**304**	*e*	**Pn**	**12 37 13.9**	**-0.1**
TDBA	**Terre de Bas,**	**3.72**	**304**	*e*P	**Pn**	**12 37 15.6**	**+1.6**
TDBA				*e*S	**Sn**	**12 37 55.7**	**-2.2**
TBG	**Guadaloupe-3**	**3.73**	**304**	*e*P	**Pn**	**12 37 14.7**	**+0.5**
TBG				*e*S	**Sn**	**12 37 57.7**	**-0.4**
CBE	**Ff, Capester**	**3.82**	**307**	*e*P	**Pn**	**12 37 16.4**	**+1.0**
CBE				*e*S	**Sn**	**12 37 57.8**	**-2.6**
ABD	**La Joyeuse, An**	**3.98**	**312**	*e*P	**Pn**	**12 37 18.7**	**+1.1**
ABD				*e*S	**Sn**	**12 38 02.2**	**-2.1**
TRN	**Trinidad (W)**	**4.28**	**223**	*e*P	**Pn**	**12 37 21.5**	**-0.2**
ANOC	**Antigua Open C**	**4.66**	**316**	*e*P	**Pn**	**12 37 27.8**	**+0.8**
ANOC	**Antigua Open C**	**4.66**	**316**	*e*S	**Sn**	**12 38 19.1**	**-1.9**
ANWB	**Willy Bob**	**5.03**	**320**	*e*P	**Pn**	**12 37 32.2**	**+0.1**
ANWB	**Willy Bob**	**5.03**	**320**	*e*S	**Sn**	**12 38 27.9**	**-2.3**
BAUV	**El Baul**	**10.59**	**244**	*e*P	**Pn**	**12 38 48.1**	**-0.3**
BAUV	**El Baul**	**10.59**	**244**	*e*S	Sn	12 40 37.5	-10

*BJI **09** 12:41:41.8±0.0,2°.07N×96°.36E,h23km,mB5.1/50, mb5.2/73,Ms4.7/66,Ms7 4.5/62*
*KLM **09** 12:41:43,2°.22N×96°.09E,h17km,mb5.1*
*MOS **09** 12:41:46.2±0.9,2°.35N×96°.36E,h42km,mb5.3/56, MS4.4/6,Error ellipse: s-maj=8.4km s-min=4.2km az=109.7*
*NEIC **09** 12:41:46.1±1.3,2°.29N±0°.08×96°.34E±0°.07,h25km±4km, mb5.1/84,Error ellipse: s-maj=12.4km s-min=9.5km az=218.0*
*DJA **09** 12:41:46.0±0.7,2°.1N±2°.9×96°.6E±°,h31km±6km,M4.8/37, mB5.2/13,mb5.0/37,MLv5.0/12,Mw(mB)4.6/13*
*IDC **09** 12:41:47.3±2.9,2°.31N×96°.34E,h36km±22km,mb4.5/40, mb1 4.5/44,mb1mx4.4/58,mbtmp4.7/44,ML4.3/3,MS4.1/27, Ms1 4.1/27,ms1mx4.0/42,Error ellipse: s-maj=14.9km s-min=10.2km az=43.0*
ISC 09 12:41:46.8±0.6,2°.27N±0°.04×96°.35E±0°.04,h34km±2km, n477,σ1°16/492,mb5.0/149,MS4.3/47,35C-8D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		**1.29**	**40**	P	**Pn**	**12 42 08.5**	**+0.1**
TPTI				S	**Sb**	**12 42 28.5**	**+1.7**
GSI	**Gunungsitoli**	**1.55**	**128**	Pn	**Pn**	**12 42 11.8**	**-0.3**
GSI	**Gunungsitoli**	**1.55**	**128**	P	**Pn**	**12 42 11.7**	**-0.3**
GSI				S	**Sn**	**12 42 31.0**	**0.0**
TSI	**Tuntungan**	**2.53**	**61**	P	**Pn**	**12 42 27.2**	**+1.8**
RPSI	**Rantau Prapat**	**2.60**	**81**		**Pn**	**12 42 27.7**	**+1.2**
RPSI	**Rantau Prapat**	**2.60**	**81**		**Pn**	**12 42 27.9**	**+1.4**
TRSI	**Tarutung**	**2.62**	**95**	P	**Pn**	**12 42 27.5**	**+0.7**
PSI	**Prapat**	**2.62**	**78**	Pn	**Pn**	**12 42 27.9**	**+1.0**
	31nm,0.3s,baz=183,slow=0.7,SNR=146						
PSI				Sn	**Sn**	**12 42 50.0**	**-7.6**
	49nm,0.3s,baz=181,slow=7.1,SNR=8.9						
PSI				LR	LR	12 43 18.8	
	comp=Z,2μm,21.2s,baz=271,slow=35						
PSI	**Prapat**	**2.62**	**78**	P	**Pn**	**12 42 27.7**	**+0.8**
PSI	**Prapat**	**2.62**	**78**	P	**Pn**	**12 42 27.4**	**+0.5**
PSI				P	Pb	12 42 27.6	-5.7
PSI				S	**Sn**	**12 42 59.4**	**+1.8**
LASI	**Langsa, Aceh**	**2.71**	**37**	P	**Pn**	**12 42 30.4**	**+2.4**
MNSI	**Mandailing Nat**	**3.54**	**114**	P	**Pn**	**12 42 39.7**	**+0.3**
IPM	**Ipoh**	**5.16**	**65**	P	**Pn**	**12 43 03.0**	**+1.3**
PDSI	**Padang**	**5.18**	**127**	P	**Pn**	**12 43 01.9**	**-0.1**
	0.5nm79nm,1.2s						
KULM	**Kulim**	**5.24**	**55**	P	**Pn**	**12 43 04.0**	**+1.3**
PKDT	**Phuket**	**5.93**	**19**	P	**Pn**	**12 43 15.7**	**+3.5**
	0.8nm2μm125nm,0.6s						
PKDT	**Phuket**	**5.93**	**19**	P	**Pn**	**12 43 15.7**	**+3.5**
	0.8nm2μm125nm,0.6s						
JRMM	**Jerantut**	**6.32**	**75**	P	**Pn**	**12 43 19.0**	**+1.3**
TRTT	**Trang**	**6.46**	**31**	P	**Pn**	**12 43 19.8**	**+0.3**
	0.8nm146nm,0.8s						
TRTT	**Trang**	**6.46**	**31**	P	**Pn**	**12 43 19.8**	**+0.3**
	0.8nm146nm,0.8s						
SKLT	**Songkhla**	**6.47**	**41**	P	**Pn**	**12 43 20.1**	**+0.4**
	1.5nm3μm433nm,0.9s						
SKLT	**Songkhla**	**6.47**	**41**	P	**Pn**	**12 43 20.0**	**+0.4**
	1.5nm3μm433nm,0.9s						
KRAB	**Krabi**	**6.56**	**25**	P	**Pn**	**12 43 23.2**	**+2.3**
	10nm83μm3μm,0.7s						
KRAB	**Krabi**	**6.56**	**25**	P	**Pn**	**12 43 23.3**	**+2.3**
	2.6nm21μm778nm,0.7s						
SURT	**Suratani**	**7.08**	**20**	P	Pb	12 43 43.4	-5.6
SURT	**Suratani**	**7.08**	**20**	P	Pb	12 43 43.4	-5.6
BTDF	**Bukit Timah Da**	**7.47**	**97**	P	**Pn**	**12 43 34.2**	**+0.7**
	0.2nm30nm,1.0s						
SURA	**Surathani**	**7.59**	**25**	P	**Pn**	**12 43 36.0**	**+0.9**
	0.5nm101nm,1.1s						
SURA	**Surathani**	**7.59**	**25**	P	**Pn**	**12 43 36.1**	**+0.9**
	100nm,1.1s						
MASI	**Maura Aman, Be**	**7.97**	**132**	P	**Pn**	**12 43 40.1**	**-0.2**
	0.9nm3μm220nm,1.1s						
UBSI	**University, Be**	**8.42**	**135**	P	**Pn**	**12 43 46.2**	**-0.2**
	142nm,0.5s						
KSI	**Kapahiang**	**8.57**	**133**	P	**Pn**	**12 43 48.4**	**-0.2**
	144nm,0.9s						
LHSI	**Lahat**	**9.38**	**130**	P	**Pn**	**12 43 59.6**	**-0.1**
	1μm124nm,0.8s						
EGSI	**Enggano, Bengk**	**9.61**	**142**	P	**Pn**	**12 44 02.1**	**-0.7**
	81nm,0.6s						
MDSI	**Maura Dua**	**10.30**	**131**	P	**Pn**	**12 44 11.6**	**-0.7**
	637nm64nm,0.8s						
LWLI	**Liwa**	**10.56**	**133**	P	**Pn**	**12 44 15.7**	**-0.3**
	5μm182nm,0.7s						
PPBI	**Pangkal Pinang**	**10.72**	**114**	P	**Pn**	**12 44 18.4**	**+0.3**
	7μm35nm,1.0s						
KASI	**Kota Agung**	**11.23**	**134**	P	**Pn**	**12 44 22.7**	**-2.3**
	62nm,0.6s						
SRDT	**SRDT**	**12.31**	**13**	P	**Pn**	**12 44 41.8**	**+2.0**
	35nm,0.7s						
TPI	**Tanjungpandan**	**12.35**	**114**	P	**Pn**	**12 44 40.6**	**+0.3**
	56nm,1.5s						
UTHA	**Uthaitani**	**13.55**	**13**	P	**Pn**	**12 44 59.9**	**+3.1**
	407nm49nm,0.8s						
UTHA	**Uthaitani**	**13.55**	**13**	P	**Pn**	**12 44 59.9**	**+3.1**
	101nm12nm,0.8s						
UMPA	**Umpang Tak**	**14.07**	**10**	P	**P**	**12 45 10.6**	**-0.6**
LEM	**Lembang**	**14.42**	**129**	Pn	**Pn**	**12 45 09.7**	**+0.8**
	baz=315,slow=17,SNR=1.4						
LEM				LR	LR	12 51 49.7	
	comp=Z,1μm,18.3s,baz=300,slow=42						
CHAI	**Chaiyaphum**	**14.64**	**22**	P	**P**	**12 45 17.1**	**-0.4**
	1μm65nm,0.8s						
CHAI	**Chaiyaphum**	**14.64**	**22**	P	**P**	**12 45 17.1**	**-0.4**
	269nm16nm,0.8s						
PBKT	**Sadao Pong**	**14.92**	**17**	P	**P**	**12 45 21.6**	**+1.0**
PBKT	**Sadao Pong**	**14.92**	**17**	P	**P**	**12 45 21.6**	**+1.0**
	39nm,0.7s						
PBKT	**Sadao Pong**	**14.92**	**17**	P	**P**	**12 45 18.2**	**-2.4**
	37nm,0.7s						
STKI	**Sintang**	**15.28**	**98**	P	**Pn**	**12 45 20.9**	**+0.8**
	79nm,0.8s						
PHIT	**Phitsanulok**	**15.36**	**15**	P	**Pn**	**12 45 22.2**	**+1.1**
	3μm439nm,0.8s						
PHIT	**Phitsanulok**	**15.36**	**15**	P	**Pn**	**12 45 22.2**	**+1.1**
	863nm109nm,0.8s						
KPJI	**Karang Pucung**	**15.76**	**127**	P	**Pn**	**12 45 25.5**	**-0.9**
	29nm,0.7s						
CTJI	**Waduk Cacaban**	**15.78**	**126**	P	**Pn**	**12 45 26.7**	**+0.1**
	28nm,0.7s						
SBUM	**Sibu**	**15.85**	**89**	P	**Pn**	**12 45 29.0**	**+1.4**
LOEI	**Loei**	**15.90**	**17**	P	**P**	**12 45 32.8**	**+1.3**
	109nm,1.1s						
UTTA	**Uttaradit**	**15.93**	**15**	P	**Pn**	**12 45 28.6**	**+0.1**
	895nm132nm,0.8s						
UTTA	**Uttaradit**	**15.93**	**15**	P	**Pn**	**12 45 28.7**	**+0.2**
	224nm33nm,0.8s						
CM05	**Chiang Mai Arr**	**16.23**	**9**	P	**Pn**	**12 45 33.2**	**+0.7**
	312nm49nm,0.8s						
CM05	**Chiang Mai Arr**	**16.23**	**9**	P	**Pn**	**12 45 33.0**	**+0.5**
	312nm49nm,0.8s						
CM04	**Chiang Mai Arr**	**16.24**	**9**	P	**Pn**	**12 45 32.9**	**+0.5**
	483nm77nm,0.8s						
CM04	**Chiang Mai Arr**	**16.24**	**9**	P	**Pn**	**12 45 33.0**	**+0.5**
	483nm77nm,0.8s						
CM13	**Chiang Mai Arr**	**16.25**	**9**	P	**Pn**	**12 45 33.4**	**+0.8**
	387nm60nm,0.8s						
CM13	**Chiang Mai Arr**	**16.25**	**9**	P	**Pn**	**12 45 33.0**	**+0.4**
	387nm60nm,0.8s						
CM01	**Chiang Mai Arr**	**16.26**	**9**	P	**P**	**12 45 34.2**	**-1.2**
	422nm66nm,0.8s						
CM01	**Chiang Mai Arr**	**16.26**	**9**	P	**P**	**12 45 34.2**	**-1.2**
	422nm66nm,0.8s						
CM02	**Chiang Mai Arr**	**16.27**	**9**	P	**Pn**	**12 45 34.0**	**+1.2**
	380nm56nm,0.8s						
CM02	**Chiang Mai Arr**	**16.27**	**9**	P	**Pn**	**12 45 34.0**	**+1.2**
	380nm56nm,0.8s						
CM15	**Chiang Mai Arr**	**16.28**	**9**	P	**Pn**	**12 45 34.1**	**+1.1**
	350nm54nm,0.8s						
CM15	**Chiang Mai Arr**	**16.28**	**9**	P	**Pn**	**12 45 34.1**	**+1.1**
	350nm54nm,0.8s						
CM09	**Chiang Mai Arr**

SHL Shillong 23.56 350 P **P** **12 46 51.0 -3.6**
SHL Shillong 23.56 350 *e*P **P** **12 46 52.0 -2.6**
SHL *ex* **P** **12 46 52.4 -2.2**
MPSI Mapaga 23.61 94 P **P** **12 46 55.2 +0.2**
comp=Z,24nm,1.1s
BOK Bokaro 23.68 336 *ex* **P** **12 46 54.5 -1.0**
TTSI Tana Toraja 24.04 103 P **P** **12 46 58.7 -0.3**
comp=Z,477nmcomp=Z,37nm,1.1s
DHUB DHUBRI 24.40 346 *ex* **P** **12 47 02.1 0.0**
TOLI2 Tolitoli 24.44 92 P **P** **12 47 02.4 -0.4**
TOLI2 IAmb IAmb 12 47 11.3
comp=Z,78nm,1.1s
KAPI Kappang 24.47 107 P **P** **12 47 03.1 +0.2**
comp=Z,31nm,0.9s,baz=296,slow=14,SNR=9.1
KAPI Kappang 24.47 107 P **P** **12 47 03.8 +0.8**
KAPI pmax pmax
comp=Z,35nm,0.8s
KAPI Kappang 24.47 107 P **P** **12 47 03.8 +0.8**
KAPI IAmb IAmb 12 47 05.7
comp=Z,35nm,0.8s
BNSI Bone 24.64 106 P **P** **12 47 04.6 +0.1**
comp=Z,61nm,1.2s
BKSI Bulukumba 24.91 108 P **P** **12 47 07.5 +0.6**
comp=Z,536nmcomp=Z,58nm,0.9s
APSI Ampana 25.49 97 P **P** **12 47 12.6 +0.4**
comp=Z,491nmcomp=Z,44nm,1.1s
BSSI Bau Bau, Buton 25.51 109 P **P** **12 47 12.4 0.0**
comp=Z,74nm,0.9s
MRSI Marisa 25.64 94 P **P** **12 47 14.2 +0.6**
comp=Z,38nm,0.9s
H08S2 Diego Garcia H 25.76 247 T T 13 13 47.9
baz=68,slow=75,SNR=2552
H08S3 Diego Garcia H 25.76 247 T T 13 13 48.0
baz=68,slow=75
H08S1 Diego Carcia H 25.78 247 T T 13 13 49.2
baz=68,slow=75,SNR=1700
ODAN Odare 25.92 341 *e*P **P** **12 47 16.9 +0.7**
comp=Z,182nm,1.1s
GYA Guiyang 26.01 21 ⇓P **P** **12 47 16.6 -0.3**
GYA pP pP 12 47 25.5 -1.3
GYA pmax pmax
comp=Z,49nm,1.4s
GYA LR LR
comp=Z,670nm,14.8s
GYA LR LR
comp=Z,600nm,14.2s
GYA LR LR
comp=Z,1μm,15.1s
RAMN Ramite 26.27 340 *e*P **P** **12 47 20.9 +1.5**
comp=Z,36nm,0.6s
TAPN Taplejung 26.28 342 *e*P **P** **12 47 20.3 +0.7**
comp=Z,170nm,1.0s
GTOI Gorontalo 26.70 93 P **P** **12 47 22.6 -0.5**
comp=Z,20nm,0.8s
JIRN Jiri 27.06 340 *e*P **P** **12 47 27.5 +0.8**
comp=Z,169nm,0.9s
PKI Pulchoki 27.25 338 *e*P **P** **12 47 28.6 +0.2**
comp=Z,48nm,0.8s
PKIN Phulchoki 27.27 338 *e*P **P** **12 47 28.8 +0.4**
comp=Z,34nm,0.7s
GUN Gumba 27.40 340 *e*P **P** **12 47 30.8 +1.1**
DMN Daman 27.40 338 *e*P **P** **12 47 31.1 +1.5**
comp=Z,39nm,0.6s
KKN Kakani 27.50 338 *e*P **P** **12 47 31.4 +0.9**
comp=Z,70nm,0.8s
LSA Lhasa 27.73 350 P **P** **12 47 33.2 +0.5**
LSA pmax pmax
comp=Z,270nm,1.0s
LSA Lhasa 27.73 350 P **P** **12 47 32.5 -0.2**
LSA pmax pmax
comp=Z,68nm,1.0s
LSA Lhasa 27.73 350 P **P** **12 47 32.5 -0.2**
GKN Gorkha 27.93 337 *e*P **P** **12 47 34.9 +0.6**
comp=Z,83nm,0.8s
KOLN Koldanda 28.14 335 *e*P **P** **12 47 36.9 +0.7**
comp=Z,70nm,0.7s
DANN Dangsing 28.59 336 *e*P **P** **12 47 41.4 +1.2**
comp=Z,47nm,0.6s
PYUN Piuthan 28.69 335 *e*P **P** **12 47 42.5 +1.5**
BATI Baumata 29.88 115 LR LR 13 01 57.3
comp=Z,764nm,20.3s,baz=257,slow=40
SOEI Soe 30.26 114 P **P** **12 47 52.3 -2.7**
SOEI IAmb IAmb 12 48 05.1
comp=Z,36nm,0.9s
SOEI Soe 30.26 114 P **P** **12 47 53.1 -1.9**
comp=Z,45nm,1.0s
ENH Enshi 30.51 23 P **P** **12 47 56.0 -1.0**
ENH IAmb IAmb 12 47 56.9
comp=Z,33nm,0.7s
TNTI Ternate 31.04 92 P **P** **12 48 02.3 +0.5**
TPUB Ta-pu 31.47 46 P **P** **12 48 04.9 -0.6**
TPUB IAmb IAmb 12 48 33.3
comp=Z,58nm,1.3s
TWG Pinlang 31.50 48 P **P** **12 48 05.9 +0.2**
TWG IAmb IAmb 12 48 08.3
comp=Z,32nm,0.8s
WHN Wuhan 32.89 29 ⇓P **P** **12 48 18.0 +0.2**
WHN pmax pmax
comp=Z,54nm,0.7s
PSA00 Pilbara Seismi 33.01 137 P **P** **12 48 19.7 +0.7**
PSA00 IAmb IAmb 12 48 37.1
comp=Z,13nm,1.1s
PSA00 Pilbara Seismi 33.01 137 P **P** **12 48 19.4 +0.4**
PSA00 IAmb IAmb 12 48 37.1
comp=Z,5.7nm,1.0s
XAN Xi'an 33.72 19 P **P** **12 48 23.9 -1.2**
XAN pP pP 12 48 30.9 -4.1
XAN pmax pmax
comp=Z,86nm,1.3s
XAN pmax pmax
comp=Z,190nm,3.5s
XAN LR LR
comp=Z,700nm,17.5s
XAN LR LR
comp=Z,390nm,16.0s
XAN LR LR
comp=Z,770nm,18.0s
SMLA Simla 33.95 330 *ex* **P** **12 48 27.0 -0.1**
LZH Lanzhou 34.36 11 *e*P **P** **12 48 30.4 -0.4**
LZH pP pP 12 48 37.3 -3.4
LZH sP sP 12 48 40.2 -4.2
LZH pmax pmax
comp=Z,87nm,1.2s
LZH pmax pmax
comp=Z,210nm,5.4s
LZH LR LR
comp=Z,410nm,14.4s
LZH LR LR
comp=Z,580nm,14.6s
LZH LR LR
comp=Z,340nm,16.5s
FITZ Fitzroy Crossi 35.23 126 P **P** **12 48 37.7 -0.6**
baz=35,SNR=9.9
FITZ Fitzroy Crossi 35.23 126 P **P** **12 48 38.0 -0.3**
DHRM DHARAMSHALA 35.29 330 *ex* **P** **12 48 39.2 +0.3**
NJ2 Nanjing 36.42 33 *e*P **P** **12 48 50.1 +1.8**
NJ2 pmax pmax
comp=Z,16nm,0.5s
NJ2 LR LR
comp=Z,740nm,14.1s
NJ2 LR LR
comp=Z,1μm,14.7s
NJ2 LR LR
comp=Z,420nm,17.1s
KNRA Kununurra 36.67 120 P **P** **12 48 50.0 -0.7**
baz=37,SNR=4.1
KNRA Kununurra 36.67 120 P **P** **12 48 50.5 -0.2**
KNRA IAmb IAmb 12 49 03.0
comp=Z,15nm,0.8s
SSE Sheshan 37.05 37 P **P** **12 48 53.2 -0.5**
SSE S **S** **12 54 40.2 +2.8**
SSE pmax pmax
comp=Z,15nm,0.8s
SSE pmax pmax
comp=Z,290nm,4.3s
SSE LR LR
comp=Z,330nm,16.4s
SSE LR LR
comp=Z,230nm,13.9s
GTA Gaotai 37.10 4 ⇑P **P** **12 48 53.9 -0.3**
GTA pP pP 12 49 01.8 -2.4
GTA sP sP 12 49 06.4 -1.5
GTA PcP **PcP** **12 51 15.2 +0.9**
GTA pmax pmax
comp=Z,57nm,1.1s
GTA pmax pmax
comp=Z,120nm,4.7s
GTA LR LR
comp=Z,310nm,16.7s
GTA LR LR
comp=Z,330nm,15.3s
GTA LR LR
comp=Z,380nm,17.5s
MTN Manton Dam 37.65 114 P **P** **12 48 58.7 -0.3**
baz=38,SNR=5.3
MTN Manton Dam 37.65 114 P **P** **12 48 58.6 -0.4**
NIL Nilore 37.97 328 P **P** **12 49 00.8 -0.8**
NIL pmax pmax
comp=Z,18nm,0.9s
NIL Nilore 37.97 328 P **P** **12 49 00.8 -0.8**
NIL IAmb IAmb 12 49 02.2
comp=Z,18nm,0.8s
TIY Taiyuan 38.24 21 *e*P **P** **12 49 04.6 +0.8**
TIY S **S** **12 54 56.6 +1.1**
TIY pmax pmax
comp=Z,15nm,0.6s
TIY LR LR
comp=Z,450nm,12.5s
TIY LR LR
comp=Z,400nm,12.7s
TIY LR LR
comp=Z,730nm,15.5s
KDU Kakadu 38.82 113 P **P** **12 49 08.0 -0.8**
baz=39,SNR=4.6
TIA Tai'an 38.86 27 ⇑P **P** **12 49 08.6 -0.3**
TIA pmax pmax
comp=Z,14nm,0.8s
TIA LR LR
comp=Z,700nm,12.0s
TIA LR LR
comp=Z,390nm,11.6s
TIA LR LR
comp=Z,1μm,12.0s
MUN Mundaring 38.92 153 P **P** **12 49 11.7 +2.2**
baz=39,SNR=3.4
BTO Baotou 40.12 16 *e*P **P** **12 49 20.1 +0.6**
BTO S **S** **12 55 16.4 -7.3**
BTO LR LR
comp=Z,3μm,12.7s
BTO LR LR
comp=Z,980nm,14.7s
H01W3 Cape Leeuwin H 40.55 157 T T 13 32 39.8
baz=332,slow=76,SNR=273
H01W2 Cape Leeuwin H 40.56 157 T T 13 32 33.1
baz=332,slow=76,SNR=660
H01W1 Cape Leeuwin H 40.56 157 T T 13 32 41.7
baz=332,slow=76,SNR=188
HHC Hu-ho-hao-te 40.80 18 *e*P **P** **12 49 26.2 +1.1**
HHC sP sP 12 49 38.5 -0.3
HHC pmax pmax
comp=Z,59nm,0.9s
HHC pmax pmax
comp=Z,350nm,5.3s
HHC LR LR
comp=Z,490nm,13.7s
HHC LR LR
comp=Z,490nm,13.2s
HHC LR LR
comp=Z,470nm,13.8s
WRKA Warakurna 41.18 133 P **P** **12 49 28.9 +0.5**
baz=41,SNR=6.3
KSH Kashi 41.46 336 P **P** **12 49 29.8 -0.8**
KSH pmax pmax
comp=Z,9.0nm,0.7s
KSH LR LR
comp=Z,310nm,23.7s
KSH LR LR
comp=Z,400nm,29.4s
KSH LR LR
comp=Z,410nm,17.5s
BJT Baijiatuau 41.66 23 P **P** **12 49 33.0 +0.9**
BJT pmax pmax
comp=Z,64nm,0.8s
BJT Baijiatuau 41.66 23 P **P** **12 49 33.0 +0.9**
BJI Beijing 41.68 23 P **P** **12 49 32.8 +0.6**
BJI pP **pP** **12 49 40.8 -1.5**
BJI sP **sP** **12 49 46.3 +0.4**
BJI pmax pmax
comp=Z,100nm,0.8s
BJI LR LR
comp=Z,180nm,11.9s
BJI LR LR
comp=Z,330nm,13.1s
BJI LR LR
comp=Z,560nm,14.0s
WMQ Urumqi 42.09 351 *e*P **P** **12 49 36.1 +0.5**
WMQ pP pP 12 49 44.1 -1.6
WMQ sP sP 12 49 48.5 -0.8
WMQ pmax pmax
comp=Z,19nm,1.5s
WMQ pmax pmax
comp=Z,140nm,4.9s
WMQ LR LR
comp=Z,550nm,16.1s
WMQ LR LR
comp=Z,680nm,20.5s
WMQ LR LR
comp=Z,380nm,21.5s
TARG Taragay, Kyrgy 42.68 339 P **P** **12 49 41.4 +0.5**
TARG IAmb IAmb 12 49 43.1
comp=Z,22nm,0.9s
PRZ Przheval'sk 43.15 341 P **P** **12 49 45.2 +0.8**
PRZ pmax pmax
comp=Z,18nm,0.7s
PRZ Przheval'sk 43.15 341 P **P** **12 49 45.2 +0.8**
PRZ IAmb IAmb 12 49 49.0
comp=Z,18nm,0.7s
KDJ Kajisay 43.26 339 P **P** **12 49 45.9 +0.7**
KDJ pmax pmax
comp=Z,38nm,1.0s
KDJ Kajisay 43.26 339 P **P** **12 49 45.9 +0.7**
KDJ IAmb IAmb 12 49 47.5
comp=Z,38nm,0.9s
DRK Karamyk 43.26 332 P **P** **12 49 46.6 +1.1**
WRA Warramunga Arr 43.31 122 P **P** **12 49 45.7 -0.2**
comp=Z,7.6nm,0.9s,baz=303,slow=9.3,SNR=65
WRA LR LR 13 09 08.8
comp=Z,333nm,21.4s,baz=280,slow=38
WRA Warramunga Arr 43.31 122 P **P** **12 49 45.7 -0.2**
WRA pmax pmax
comp=Z,2.0nm,1.1s
WRA Warramunga Arr 43.31 122 P **P** **12 49 45.7 -0.2**
WRAB Tennant Creek 43.32 122 *ce*P **P** **12 49 46.5 +0.6**
WRAB pmax pmax
comp=Z,20nm,1.7s
WRAB Tennant Creek 43.32 122 P **P** **12 49 45.8 -0.1**
WB2 Warramunga Arr 43.33 122 P **P** **12 49 45.7 -0.2**
baz=43
WB2 Warramunga Arr 43.33 122 P **P** **12 49 45.7 -0.2**
WB2 IAmb IAmb 12 50 03.6
comp=Z,22nm,1.1s
SHLS Shalkode 43.41 342 ⇑*e*P **P** **12 49 45.9 -0.6**
comp=Z,15nm,0.7s,baz=342
SHLS Shalkode 43.41 342 *ce*P **P** **12 49 45.8 -0.6**
SHLS pmax pmax
comp=Z,15nm,0.7s
WR0 Warramunga Arr 43.49 122 P **P** **12 49 47.3 +0.1**
WR0 IAmb IAmb 12 50 05.0
comp=Z,25nm,1.1s
PDGK Podgornoye 43.56 342 P **P** **12 49 47.8 +0.2**
GAR Garm 43.60 330 P **P** **12 49 47.7 -0.3**
GAR IAmb IAmb 12 49 49.0
comp=Z,42nm,1.0s
SATY Saty 43.66 341 *e*P **P** **12 49 48.5 +0.1**
baz=341
SATY Saty 43.66 341 *e*P **P** **12 49 48.5 +0.1**
ULHL Ulahol 43.70 338 P **P** **12 49 49.9 +1.1**
SNR=6.6
CHGR Chuyangaron 43.92 329 P **P** **12 49 50.0 -0.6**
CHGR IAmb IAmb 12 49 51.1
comp=Z,45nm,0.9s
KZA Kyzart 43.93 337 P **P** **12 49 51.9 +1.0**
SNR=6.8
KPKS Kokpek 43.94 341 *e*P **P** **12 49 49.9 -0.7**
comp=Z,11nm,0.8s,baz=341
KPKS Kokpek 43.94 341 *e*P **P** **12 49 49.9 -0.7**
KPKS pmax pmax
comp=Z,11nm,0.8s
BOOM Boomskoye usch 44.02 338 P **P** **12 49 50.7 -0.7**
BOOM pmax pmax
comp=Z,15nm,0.9s
BOOM Boomskoye usch 44.02 338 P **P** **12 49 50.7 -0.7**
BOOM IAmb IAmb 12 49 53.1
comp=Z,15nm,0.9s
GENI Genyem 44.07 96 P **P** **12 49 51.4 -0.6**
TNSS Tian-Shan 44.13 340 *e*P **P** **12 49 52.6 0.0**
baz=340
MDOK Medeo 44.21 340 *e*P **P** **12 49 53.5 +0.6**
baz=340
MDOK Medeo 44.21 340 *e*P **P** **12 49 53.5 +0.6**
AAA Alma-Ata 44.30 340 *e*P **P** **12 49 54.1 +0.7**
baz=340
AAA Alma-Ata 44.30 340 *e*P **P** **12 49 54.1 +0.7**
UCH Uchtor 44.34 337 P **P** **12 49 55.3 +1.0**
SNR=23
MTBS Maitube 44.40 339 *e*P **P** **12 49 53.0 -1.3**
baz=339
TKM2 Tokmak 2 44.52 338 P **P** **12 49 56.2 +0.8**
SNR=14
TKM2 Tokmak 2 44.52 338 *i* P **P** **12 49 55.0 -0.4**
TKM2 pmax pmax
comp=Z,17nm,1.1s
AML Almayashu 44.59 336 P **P** **12 49 57.3 +1.1**
SNR=24
FORT Forrest 44.63 140 P **P** **12 49 56.7 +0.5**
FORT IAmb IAmb 12 50 12.8
comp=Z,26nm,0.7s
AAK Ala-Archa 44.70 337 *ce*P **P** **12 49 57.9 +1.0**
comp=Z,9.9nm,0.9s,baz=158,slow=7.1,SNR=10
AAK Ala-Archa 44.70 337 *ce*P **P** **12 49 57.3 +0.5**
AAK pmax pmax
comp=Z,32nm,0.8s
AAK Ala-Archa 44.70 337 P **P** **12 49 57.8 +1.0**
AS31 Alice Springs 44.71 127 P **P** **12 49 56.9 -0.1**
ASAR Alice Springs 44.71 127 P **P** **12 49 57.0 0.0**
comp=Z,4.7nm,0.8s,baz=300,slow=7.6,SNR=42
ASAR PcP **PcP** **12 51 40.0 +0.8**
comp=Z,1.7nm,0.7s,baz=307,slow=3.8,SNR=6.2
ASAR ScP **ScP** **12 55 28.9 -0.2**
comp=Z,0.9nm,0.8s,baz=318,slow=2.6,SNR=5.4
ASAR LR LR 13 09 37.1
comp=Z,240nm,21.6s,baz=328,slow=37
ASAR Alice Springs 44.71 127 P **P** **12 49 57.2 +0.2**
ASAR Alice Springs 44.71 127 P **P** **12 49 57.2 +0.2**
ARXS Arharly 44.88 341 *e*P **P** **12 49 58.5 +0.4**
EKS2 Erkin-Say 45.00 336 P **P** **12 50 00.4 +1.3**
SNR=11
KUU Kurty 45.10 340 *e*P **P** **12 49 58.6 -1.2**
comp=Z,30nm,0.9s,baz=340
KUU Kurty 45.10 340 *e*P **P** **12 49 58.6 -1.2**
KUU pmax pmax
comp=Z,30nm,0.9s
USP Ospenovka 45.23 337 P **P** **12 50 01.7 +0.9**
SNR=25
SGDS Sogindy 45.34 338 *e*P **P** **12 50 01.1 -0.7**
baz=338
TDK Taldyqorghan 45.41 342 *e*P **P** **12 50 02.1 -0.2**
baz=342
TDK Taldyqorghan 45.41 342 *e*P **P** **12 50 02.0 -0.2**
KSAR Wonju Array Be 45.44 36 P **P** **12 50 02.4 -0.2**
KSAR Wonju Array Be 45.44 36 P **P** **12 50 02.4 -0.2**
KSRS Korea Array 45.47 36 P **P** **12 50 02.5 -0.2**
comp=Z,7.6nm,1.0s,baz=228,slow=8.9,SNR=11
KSRS LR LR 13 11 56.4
comp=Z,448nm,18.2s,baz=228,slow=40
MK31 Makanchi Array 46.01 347 *i* P **P** **12 50 06.5 -0.5**
MK31 pmax pmax
comp=Z,49nm,0.8s
MK31 Makanchi Array 46.01 347 P **P** **12 50 07.0 +0.1**
MKAR Makanchi Array 46.01 347 P **P** **12 50 07.2 +0.2**
comp=Z,50nm,0.8s,baz=162,slow=8.0,SNR=310
ZSN Zaisan 46.10 349 *e*P **P** **12 50 08.0 +0.3**
comp=Z,26nm,0.8s,baz=349
ZSN Zaisan 46.10 349 *e*P **P** **12 50 07.9 +0.3**
ZSN pmax pmax
comp=Z,26nm,0.8s
MAKZ Makanchi 46.10 346 P **P** **12 50 07.7 +0.1**
MAKZ pmax pmax
comp=Z,42nm,0.8s
MAKZ Makanchi 46.10 346 P **P** **12 50 07.7 +0.1**
IUG Iuzhnay 46.19 333 *e*P **P** **12 50 09.2 +0.7**
baz=333
IUG Iuzhnay 46.19 333 *e*P **P** **12 50 09.2 +0.7**
DZA Taraz 46.21 334 *e*P **P** **12 50 07.8 -0.8**
baz=334
DZA Taraz 46.21 334 *e*P **P** **12 50 07.8 -0.8**
SONM Songino Array 46.22 9 P **P** **12 50 08.9 +0.1**
comp=Z,25nm,0.7s,baz=189,slow=9.3,SNR=98
SONM PcP **PcP** **12 51 45.1 +1.1**
comp=Z,6.4nm,0.7s,baz=187,slow=3.9,SNR=6.9
SONM LR LR 13 11 57.6
comp=Z,529nm,18.0s,baz=190,slow=39
SONM Songino Array 46.22 9 P **P** **12 50 08.8 +0.1**
SONM pmax pmax
comp=Z,29nm,0.7s
SONM Songino Array 46.22 9 P **P** **12 50 08.8 +0.1**
ULN Ulaanbaatar 46.36 10 *ce*P **P** **12 50 10.0 +0.2**
ULN pmax pmax
comp=Z,25nm,1.0s
ULN Ulaanbaatar 46.36 10 P **P** **12 50 09.8 0.0**
ULN IAmb IAmb 12 50 11.3
comp=Z,17nm,0.8s
ULN Ulaanbaatar 46.36 10 P **P** **12 50 09.4 -0.4**
comp=Z,95nm,1.2s
KK31 Karatay Array 46.73 334 *i* P **P** **12 50 13.1 +0.4**
KK31 Karatay Array 46.73 334 P **P** **12 50 12.7 0.0**
KK31 IAmb IAmb 12 50 14.3
comp=Z,20nm,1.1s
KKAR Karatay Array 46.73 334 P **P** **12 50 12.7 0.0**
KKAR pmax pmax
comp=Z,20nm,1.1s
KKAR Karatay Array 46.73 334 P **P** **12 50 12.7 0.0**
KKAR IAmb IAmb 12 50 14.3
comp=Z,20nm,1.1s
KKAR Karatay Array 46.73 334 P **P** **12 50 12.9 +0.2**
BTLS Baital 46.91 338 *e*P **P** **12 50 13.4 -0.7**
comp=Z,5.4nm,0.9s,baz=338
BTLS Baital 46.91 338 *e*P **P** **12 50 13.3 -0.7**
BTLS pmax pmax
comp=Z,5.0nm,0.9s
DGZ Jazzator, Alta 47.87 352 *i* P **P** **12 50 21.1 -0.5**
DGZ pmax pmax
comp=Z,19nm,0.9s
QIS Mount Isa 48.06 120 P **P** **12 50 24.6 +1.2**
baz=48,SNR=4.2
ZAK Zakamensk 48.30 6 *e*P **P** **12 50 24.2 -0.6**
ZAK *e* 12 50 41.9
ZAK pmax pmax
comp=Z,17nm,1.1s
ZAK pmax pmax
comp=Z,12nm,1.2s
CN2 Changchun 48.75 28 *e*P **P** **12 50 27.9 -0.4**
CN2 S **S** **12 57 29.7 +0.8**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,100nm,6.0s
CN2 LR LR
comp=Z,400nm,17.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,500nm,16.0s
COEN Coen 49.13 111 P **P** **12 50 32.0 +0.3**
baz=49
MOY Mondy 49.38 4 *e*P **P** **12 50 34.5 +1.4**
MOY pmax pmax
comp=Z,33nm,2.5s
GEYT Alibeck 49.86 320 P **P** **12 50 37.2 +0.3**
comp=Z,7.2nm,0.7s,baz=172,slow=11,SNR=8.4
GEYT LR LR 13 13 43.8
comp=Z,186nm,21.2s,baz=70,slow=38
GYA0B ALIBECK ARRAY 49.86 320 P **P** **12 50 36.7 -0.2**
GYA0B IAmb IAmb 12 50 59.4
comp=Z,20nm,1.1s
KURBB Kurchatov Arra 50.49 345 P **P** **12 50 41.7 +0.3**
comp=Z,14nm,0.8s,baz=167,slow=7.0,SNR=140
HIA Hailar 50.92 20 P **P** **12 50 44.6 -0.1**
HIA pmax pmax
comp=Z,22nm,0.9s
HIA Hailar 50.92 20 P **P** **12 50 44.5 -0.1**
HIA IAmb IAmb 12 50 46.5
comp=Z,22nm,0.9s
MDJ Mudanjiang 51.36 30 P **P** **12 50 49.4 +1.3**
MDJ pmax pmax
comp=Z,15nm,1.0s
MDJ pmax pmax
comp=Z,750nm,3.9s

MTSU Mount Surprise 51.38 115 P **P** **12 50 49.6 +0.9**
baz=52,SNR=4.7
MAT Matsushiro 51.49 43 P **P** **12 50 49.1 -0.1**
MJAR Matsushiro Arr 51.49 43 P **P** **12 50 49.5 +0.3**
comp=Z,3.0nm,0.7s,baz=232,slow=6.5,SNR=6.6
MJAR Matsushiro Arr 51.49 43 P **P** **12 50 49.2 0.0**
MJAR pmax pmax
comp=Z,1.0nm,0.7s
MJAR Matsushiro Arr 51.49 43 P **P** **12 50 49.2 0.0**
BRZS Berezniki 51.63 341 *eP* **P** **12 50 48.4 -1.7**
baz=341
BRZS Berezniki 51.63 341 *eP* **P** **12 50 48.3 -1.7**
USRK Ussuriysk Ar. 52.31 32 P **P** **12 50 55.6 +0.5**
comp=Z,9.4nm,1.1s,baz=205,slow=4.0,SNR=6.7
USRK Ussuriysk Ar. 52.31 32 P **P** **12 50 54.8 -0.3**
USRK Ussuriysk Ar. 52.31 32 P **P** **12 50 54.8 -0.3**
ZAA0 Zalesovo Array 52.38 351 P **P** **12 50 55.8 +0.3**
ZALV Zalesovo Beam 52.38 351 P **P** **12 50 55.7 +0.2**
comp=Z,53nm,0.7s,baz=180,slow=6.8,SNR=229
ZALV Zalesovo Beam 52.38 351 *i* P **P** **12 50 55.7 +0.2**
ZALV pmax pmax
comp=Z,54nm,0.7s
ZALV Zalesovo Beam 52.38 351 P **P** **12 50 55.5 0.0**
HTT Hallett 53.57 135 P **P** **12 51 06.1 +1.4**
baz=54,SNR=7.6
CTA Charters Tower 53.73 117 LR LR 13 17 43.2
comp=Z,232nm,18.7s,baz=294,slow=40
ATD Arta Tunnel 53.83 283 P **P** **12 51 07.2 +0.3**
comp=Z,11nm,0.8s
ATD LR LR 13 08 43.7
comp=Z,36nm,19.8s,baz=18,slow=30
QLP Quilpie 54.36 125 P **P** **12 51 11.9 +1.3**
baz=54,SNR=7.3
STKA Stephens Creek 54.70 132 P **P** **12 51 13.8 +0.9**
baz=55,SNR=15
STKA Stephens Creek 54.70 132 P **P** **12 51 13.8 +0.9**
comp=Z,7.3nm,0.8s,baz=312,slow=8.0,SNR=12
STKA LR LR 13 16 48.7
comp=Z,195nm,21.2s,baz=317,slow=38
STKA Stephens Creek 54.70 132 P **P** **12 51 12.5 -0.4**
STKA pmax pmax
comp=Z,2.0nm,0.9s
STKA Stephens Creek 54.70 132 P **P** **12 51 12.5 -0.4**
BVAR Borovoye Array 54.97 341 P **P** **12 51 14.2 -0.3**
comp=Z,22nm,0.7s,baz=178,slow=12,SNR=64
BRVK Borovoye 55.03 341 *ceP* **P** **12 51 14.8 -0.2**
BRVK pmax pmax
comp=Z,18nm,0.7s
BRVK Borovoye 55.03 341 P **P** **12 51 14.6 -0.4**
BRVK IAmb IAmb 12 51 15.6
comp=Z,19nm,0.8s
KLR Kul'dur 55.69 27 *ceP* **P** **12 51 19.9 +0.1**
KLR pmax pmax
comp=Z,21nm,0.9s
ABKAR Akbulak array 56.18 332 P **P** **12 51 23.3 +0.1**
ABKAR Akbulak array 56.18 332 P **P** **12 51 23.1 -0.2**
ABKAR IAmb IAmb 12 51 28.9
comp=Z,13nm,0.8s
BOD Bodaibo 57.13 11 *eP* **P** **12 51 29.5 -0.3**
BOD pmax pmax
comp=Z,40nm,0.9s
ZEA Zeya 57.25 21 *eP* **P** **12 51 31.1 +0.3**
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=Z,20nm,0.8s
ZEA MLR MLR
comp=Z,100nm,16.0s
CMSA Cobar Meteorol 57.62 130 P **P** **12 51 34.6 +0.8**
baz=58,SNR=12
AKTO Aktyubinsk 57.90 332 P **P** **12 51 31.2 -4.2**
comp=Z,2.2nm,0.4s,baz=114,slow=20,SNR=3.7
GRNR Gornyy 58.94 28⇑ *i*P **P** **12 51 42.6 -0.1**
GRNR pmax pmax
comp=Z,5.0nm,0.7s
GRNR MLR MLR
comp=E,220nm,16.0s
GRNR MLR MLR
comp=N,330nm,13.0s
KMBO Kilima Mbogo 59.19 267 LR LR 13 13 04.1
comp=N,202nm,21.2s,baz=94,slow=32
GNI Garni 59.94 316 LR LR 13 19 45.6
comp=N,65nm,19.7s,baz=123,slow=38
GNI Garni 59.94 316 *ceP* **P** **12 51 50.4 +0.4**
GNI pmax pmax
comp=Z,11nm,1.3s
GNI Garni 59.94 316 P **P** **12 51 50.4 +0.4**
GNI IAmb IAmb 12 52 08.7
comp=Z,10nm,0.6s
YSS Yuzh-Sakhalins 59.96 35⇑ *eP* **P** **12 51 48.4 -1.3**
YSS pmax pmax
comp=Z,30nm,0.8s
YSS MLR MLR
comp=Z,300nm,12.0s
YSS Yuzh-Sakhalins 59.96 35 P **P** **12 51 48.9 -0.9**
GURO Guroymak-BITLI 61.23 313 P **P** **12 51 58.8 0.0**
KARS Kars 61.30 316 P **P** **12 51 59.5 +0.3**
KARS pmax pmax
comp=Z,38nm,0.6s
KARS Kars 61.30 316 P **P** **12 51 59.5 +0.3**
SVE Sverdlovsk 61.39 339 *eP* **P** **12 51 59.5 +0.2**
SVE pmax pmax
comp=Z,38nm,0.9s
ONI Oni 61.86 318 P **P** **12 52 02.5 -0.4**
ONI pmax pmax
comp=Z,7.0nm,1.3s
ONI Oni 61.86 318 P **P** **12 52 02.5 -0.4**
ARU Arti 61.88 337 *c i*P **P** **12 52 02.0 -0.6**
ARU **PcP** **12 52 37.3 -6.0**
ARU S **S** **13 00 23.5 -0.4**
ARU SS **SS** **13 04 23.2 -3.3**
ARU pmax pmax
comp=Z,20nm,0.9s
ARU MLR MLR
comp=Z,180nm,21.0s
ARU Arti 61.88 337 P **P** **12 52 02.0 -0.6**
ARU IAmb IAmb 12 52 03.2
comp=Z,15nm,0.8s
NEY Neytrino 62.63 319 *i* P **P** **12 52 08.7 +0.5**
KBZ Khabaz 62.72 319 P **P** **12 52 08.3 -0.2**
comp=Z,4.5nm,0.9s,baz=144,slow=6.4,SNR=9.7
KBZ LR LR 13 20 55.7
comp=Z,59nm,21.1s,baz=120,slow=38
KBZ Khabaz 62.72 319 *ceP* **P** **12 52 09.1 +0.6**
SHA1 Shidzhatmaz 62.88 319 *i* P **P** **12 52 10.3 +0.4**
KVAR Kislovodsk Ar 62.95 319 LR LR 13 22 06.4
comp=Z,36nm,20.8s,baz=106,slow=38
KIV Kislovodsk 62.95 319 *eP* **P** **12 52 10.2 0.0**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV Kislovodsk 62.95 319 P **P** **12 52 08.7 -1.5**
KIV IAmb IAmb 12 52 24.7
comp=Z,15nm,1.0s
EIL Elat 64.18 302 LR LR 13 21 03.1
comp=Z,196nm,18.1s,baz=76,slow=37
BELG Belogornoye 64.22 329 P **P** **12 52 17.7 -0.5**
comp=Z,29nm,0.8s,baz=42,slow=2.9,SNR=7.5
BELG LR LR 13 23 37.8
comp=Z,183nm,22.0s,baz=146,slow=39
GAZ Gaziantep 64.34 310 P **P** **12 52 19.2 -0.2**
GAZ IAmb IAmb 12 52 36.7
comp=Z,11nm,0.8s
MMAI Mount Meron Ar 64.60 306 P **P** **12 52 20.9 -0.4**
comp=Z,0.5nm,0.3s,baz=114,slow=5.5,SNR=1.5
MMAI LR LR 13 22 21.6
comp=Z,68nm,18.7s,baz=135,slow=38
YAK Yakutsk 64.64 17 P **P** **12 52 20.4 -0.4**
comp=Z,34nm,0.6s,baz=225,slow=1.1,SNR=30
YAK Yakutsk 64.64 17 *c i*P **P** **12 52 20.4 -0.4**
YAK *e**PP **pP** **12 52 30.9 -0.5**
YAK *e* **PcP** **12 52 51.0 -3.4**
YAK *e* **PP** **12 54 40.7 -2.6**
YAK *e*S **S** **13 00 58.1 -0.1**
YAK *e**SS **sS** **13 01 15.4 +0.9**
YAK *e* 13 02 12.5
YAK *e*SS **SS** **13 05 12.8 +3.4**
YAK pmax pmax
comp=Z,106nm,0.9s
YAK pmax pmax
comp=E,23nm,1.1s
YAK pmax pmax
comp=N,29nm,1.2s
YAK pmax pmax
comp=Z,67nm,3.2s
YAK pmax pmax
comp=N,37nm,3.8s
YAK pmax pmax
comp=E,62nm,3.8s
YAK smax smax
comp=N,41nm,1.9s
YAK smax smax
comp=E,29nm,1.8s
YAK MLR MLR
comp=Z,256nm,18.0s
YAK MLR MLR
comp=E,112nm,19.0s
YAK MLR MLR
comp=N,108nm,16.0s
YAK Yakutsk 64.64 17 P **P** **12 52 20.3 -0.5**
CSS Mathiatis 66.75 307 P **P** **12 52 35.0 -0.1**
CSS IAmb IAmb 12 52 48.2
comp=Z,12nm,1.1s
VRH Novokhopyorsk 66.77 326 *eP* **P** **12 52 33.3 -1.5**
VRH pmax pmax
comp=Z,10.0nm,0.5s
KIRV Kirov 66.99 335 P **P** **12 52 36.0 0.0**
comp=Z,13nm,0.5s,baz=95,slow=8.4,SNR=7.3
NRIK Noril'sk 67.22 357 P **P** **12 52 37.2 -0.1**
comp=Z,18nm,0.8s,baz=164,slow=5.6,SNR=12
NRIK LR LR 13 26 12.1
comp=Z,172nm,20.9s,baz=188,slow=40
NRIK Noril'sk 67.22 357 *ceP* **P** **12 52 37.0 -0.3**
NRIK pmax pmax
comp=Z,24nm,0.9s
NRIK Noril'sk 67.22 357 P **P** **12 52 37.1 -0.3**
BRTR Keskin Array B 67.77 312 P **P** **12 52 40.4 -1.2**
comp=Z,1.6nm,0.7s,baz=94,slow=8.8,SNR=4.2
BRTR LR LR 13 23 32.3
comp=Z,112nm,21.9s,baz=144,slow=37
VORD Divnogorie 68.04 325 *eP* **P** **12 52 40.5 -2.3**
VORD pmax pmax
comp=Z,10.0nm,1.1s
SKR Severo-Kuril's 69.49 36 *ceP* **P** **12 52 53.1 +1.3**
PRGR Permogore 70.33 337 *eP* **P** **12 52 55.0 -1.8**
PRGR pmax pmax
comp=Z,84nm,0.9s
MA2 Magadan 70.75 26 P **P** **12 52 59.3 0.0**
comp=Z,8.5nm,0.7s,baz=212,slow=5.5,SNR=6.6
MA2 Magadan 70.75 26 *ceP* **P** **12 53 00.5 +1.1**
MA2 pmax pmax
comp=Z,19nm,1.7s
MA2 Magadan 70.75 26 P **P** **12 52 59.8 +0.4**
MA2 IAmb IAmb 12 53 00.8
comp=Z,14nm,0.8s
MOS Moscow 70.99 329 *eP* **P** **12 52 59.0 -1.9**
MOS *e* **PcP** **12 53 19.6 -1.5**
OBN Obninsk 71.27 328 P **P** **12 53 02.1 -0.5**
comp=Z,3.3nm,0.4s,baz=27,slow=22,SNR=4.9
OBN Obninsk 71.27 328 *ceP* **P** **12 53 02.7 +0.1**
OBN pmax pmax
comp=Z,30nm,1.7s
OBN Obninsk 71.27 328 P **P** **12 53 02.2 -0.4**
PETK Petropavlovsk- 71.32 34 P **P** **12 53 02.8 -0.3**
comp=Z,2.5nm,0.8s,baz=210,slow=14,SNR=7.5
PETK Petropavlovsk- 71.32 34 P **P** **12 53 03.1 +0.1**
PETK Petropavlovsk- 71.32 34 P **P** **12 53 03.1 +0.1**
PET Petropavlovsk 71.83 34 *eP* **P** **12 53 05.8 -0.2**
PET MLR MLR
comp=Z,300nm,21.0s
PET Petropavlovsk 71.83 34 P **P** **12 53 05.9 -0.2**
PET IAmb IAmb 12 53 07.1
comp=Z,25nm,1.1s
TIXI Tiksi 72.29 10 P **P** **12 53 07.8 -0.6**
comp=Z,11nm,0.8s,baz=207,slow=3.2,SNR=15
TIXI Tiksi 72.29 10 P **P** **12 53 07.3 -1.2**
TIXI IAmb IAmb 12 53 08.8
comp=Z,18nm,0.9s
KLMR Klimovskoe 72.43 335 *eP* **P** **12 53 08.0 -1.4**
KLMR pmax pmax
comp=Z,22nm,1.0s
KLMR Klimovskoe 72.43 335 *eP* **P** **12 53 08.1 -1.4**
KLMR AMP 12 53 10.2
comp=Z,22nm,1.0s
TIRR Tirgusor 72.77 316⇑P **P** **12 53 11.4 -0.5**
TIRR Tirgusor 72.77 316⇑P **P** **12 53 11.4 -0.5**
SEY Seymchan 73.12 23 P **P** **12 53 13.4 -0.1**
comp=Z,10nm,1.0s,baz=251,slow=2.3,SNR=15
MAW Mawson 73.56 193 P **P** **12 53 17.2 +1.3**
comp=Z,0.5nm,0.6s,baz=76,slow=7.8,SNR=1.6
IDI Anyia 73.59 306 P **P** **12 53 16.8 -0.2**
comp=Z,4.5nm,0.8s,baz=101,slow=10,SNR=1.5
AKASG Malin Array Be 73.90 322 P **P** **12 53 17.5 -0.9**
comp=Z,1.4nm,0.4s,baz=94,slow=4.2,SNR=9.7
AKASG Malin Array Be 73.90 322 P **P** **12 53 17.3 -1.1**
AKBB Malin Array Si 73.90 322 *ceP* **P** **12 53 18.1 -0.3**
AKBB Malin Array Si 73.90 322 P **P** **12 53 17.6 -0.8**
VRI Vrincioaia 74.27 317⇓P **P** **12 53 21.7 +1.0**
VRI Vrincioaia 74.27 317⇓P **P** **12 53 21.7 +1.0**
PLOR Plostina 74.31 317⇓P **P** **12 53 22.1 +1.1**
PLOR Plostina 74.31 317⇓P **P** **12 53 22.1 +1.1**
TESR Tescani 74.47 318⇑P **P** **12 53 21.8 0.0**
BOSA Boshof 74.58 240 P **P** **12 53 23.2 +0.2**
comp=Z,2.0nm,0.8s,baz=194,slow=0.8,SNR=3.2
MLR Muntele Rosu 74.72 317 P **P** **12 53 23.4 0.0**
comp=Z,2.1nm,0.5s,baz=343,slow=7.6,SNR=4.5
MLR Muntele Rosu 74.72 317 P **P** **12 53 23.6 +0.1**
MLR pmax pmax
comp=Z,28nm,1.4s
MLR Muntele Rosu 74.72 317 P **P** **12 53 23.6 +0.1**
MLR IAmb IAmb 12 53 37.2
comp=Z,28nm,1.4s
BIZ Bicaz 74.93 318⇑P **P** **12 53 24.4 -0.1**
VOIR 75.32 316⇑P **P** **12 53 26.6 -0.3**
VOIR 75.32 316⇑P **P** **12 53 26.6 -0.3**
BURAR Bucovina Array 75.67 319⇑P **P** **12 53 30.1 +1.3**
BURAR Bucovina Array 75.67 319⇑P **P** **12 53 30.1 +1.3**
BURAR Bucovina Array 75.67 319 P **P** **12 53 29.1 +0.2**
BUR08 Bucovina Ar. S 75.69 319 P **P** **12 53 29.6 +0.6**
MNK Minsk 75.77 326 *i* P **P** **12 53 30.0 +0.9**
MNK *i* **PcP** **12 53 42.4 +0.7**
MNK *i* **PP** **12 56 19.7 +0.4**
MNK *i* PPP PPP 12 58 06.2
MNK *i* S **S** **13 03 09.8 +1.2**
MNK *i* 13 03 41.1
MNK *i* SS **SS** **13 08 02.7 +1.9**
MNK pmax pmax
comp=Z,31nm,0.9s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK pmax pmax
comp=N,14nm,0.8s
MNK MLR MLR
comp=N,64nm,17.0s
MNK MLR MLR
comp=E,10.0nm,18.0s
MNK MLR MLR
comp=Z,271nm,22.0s
MNK Minsk 75.77 326 *i* P **P** **12 53 30.1 +0.9**
comp=E,3.0nm,0.8s
MNK *i* P **P** **12 53 30.1 +0.9**
comp=N,14nm,0.8s
MNK *i* P **P** **12 53 30.1 +0.9**
comp=Z,31nm,0.9s,baz=285
MNK *i* PcP **PcP** **12 53 42.4 +0.8**
MNK *i* PP **PP** **12 56 19.8 +0.5**
MNK *i* PPP PPP 12 58 06.2
MNK *i* S **S** **13 03 09.9 +1.3**
MNK *i* SS **SS** **13 08 02.7 +1.9**
MNK *i* SSS SSS 13 11 25.9
MNK *i* LQ LQ 13 21 58.5
MNK *i* LR LR 13 27 49.9
MNK *i* LRM MLR 13 29 23.8
comp=N,64nm,17.2s
MNK *i* LRM MLR 13 29 38.5
comp=E,10.0nm,17.9s
MNK *i* LRM MLR 13 30 02.8
comp=Z,271nm,22.4s
GRG Griva 76.42 312 P **P** **12 53 32.1 -1.1**
NACGM Naroch 76.50 326 *i* P **P** **12 53 33.6 +0.4**
JOF Joensuu 76.83 335 P **P** **12 53 35.5 +0.6**
JOF pmax pmax
comp=Z,20nm,0.9s
IIGN Ignalina 76.93 327 *eP* **P** **12 53 35.6 -0.1**
ISAL Salakas 77.04 327 *eP* **P** **12 53 36.0 -0.3**
DRGR 77.18 317⇑P **P** **12 53 38.6 +1.2**
DRGR 77.18 317⇑P **P** **12 53 38.6 +1.2**
VSU Vasula 77.51 330 *eP* **P** **12 53 38.9 +0.1**
LVZ Lovozero 77.55 340 *ceP* **P** **12 53 41.2 +2.2**
LVZ pmax pmax
comp=Z,56nm,2.5s
LVZ Lovozero 77.55 340 P **P** **12 53 39.0 0.0**

KWP Kalwaria Pacla 77.71 320 P **P** **12 53 40.1 -0.1**
KWP Kalwaria Pacla 77.71 320 P **P** **12 53 40.1 -0.1**
KOLS Kolonicke sedl 77.86 320 *eP* **P** **12 53 42.5 +1.4**
KOLS pmax pmax
comp=Z,14nm,1.1s
KOLS Kolonicke sedl 77.86 320 *eP* **P** **12 53 42.5 +1.4**
SUW Suwalki 78.32 325 *eP* **P** **12 53 43.3 -0.2**
SUW Suwalki 78.32 325 P **P** **12 53 42.9 -0.6**
SUW pmax pmax
comp=Z,38nm,0.9s
SUW Suwalki 78.32 325 P **P** **12 53 42.9 -0.6**
CRVS Cervenica-Dubn 78.38 319 *eP* **P** **12 53 45.8 +1.8**
CRVS pmax pmax
comp=Z,11nm,1.0s
CRVS Cervenica-Dubn 78.38 319 *eP* **P** **12 53 45.8 +1.8**
FIA1 FINESS Array S 78.67 333 P **P** **12 53 44.8 -0.4**
FIA1 IAmb IAmb 12 53 46.1
comp=Z,18nm,0.8s
FINES FINESS Array B 78.67 333 P **P** **12 53 45.4 +0.1**
comp=Z,16nm,0.8s,baz=102,slow=8.0,SNR=39
FINES FINESS Array B 78.67 333 P **P** **12 53 45.2 0.0**
PDG Podgorica 78.95 313⇓P **P** **12 53 46.9 -0.3**
PSZ Piszkesteto 79.25 318 P **P** **12 53 48.6 -0.3**
PSZ Piszkesteto 79.25 318 P **P** **12 53 48.6 -0.3**
OUL Oulu 79.80 336 P **P** **12 53 51.7 +0.4**
OUL pmax pmax
comp=Z,23nm,0.8s
BILL Bilibino 80.48 21 *eP* **P** **12 53 57.3 +2.3**
BILL pmax pmax
comp=Z,5.0nm,1.0s
RAF Rauma 80.58 332 *eP* **P** **12 53 55.7 +0.1**
VAF Ylistaro 80.62 334 P **P** **12 53 56.3 +0.5**
VAF pmax pmax
comp=Z,33nm,0.8s
SYO Syowa Base 80.75 198⇓ *eX* **P** **12 53 55.8 -0.5**
MORC Moravsky Berou 81.05 320 P **P** **12 53 57.4 -1.0**
MORC pmax pmax
comp=Z,4.0nm,1.0s
MORC Moravsky Berou 81.05 320 P **P** **12 53 57.4 -1.0**
ARCES ARCESS Array B 81.25 340 P **P** **12 53 59.6 +0.5**
comp=Z,11nm,0.7s,baz=95,slow=5.2,SNR=32
ARCES ARCESS Array B 81.25 340 P **P** **12 53 59.4 +0.3**
ARCES pmax pmax
comp=Z,17nm,1.0s
ARCES ARCESS Array B 81.25 340 P **P** **12 53 59.4 +0.3**
ARCES IAmb IAmb 12 54 00.7
comp=Z,16nm,0.9s
KRLC Kraliky 81.57 320 *eP* **P** **12 54 02.0 +0.8**
KRLC Kraliky 81.57 320 *eP* **P** **12 54 02.0 +0.8**
DPC Dobruska-Polom 81.90 320 *eP* **P** **12 54 03.9 +1.0**
DPC Dobruska-Polom 81.90 320 *eP* **P** **12 54 03.9 +1.0**
GERES GERESS Array B 83.46 319 P **P** **12 54 11.9 +0.8**
comp=Z,2.2nm,0.7s,baz=96,slow=5.4,SNR=20
GERES GERESS Array B 83.46 319 P **P** **12 54 10.8 -0.4**
GERES GERESS Array B 83.46 319 P **P** **12 54 10.8 -0.4**
KHC Kasperske Hory 83.56 319 *eP* **P** **12 54 12.1 +0.5**
KHC Kasperske Hory 83.56 319 *eP* **P** **12 54 12.1 +0.5**
NB2 NORSAR Subarra 85.67 331 P **P** **12 54 21.5 -0.5**
comp=Z,8.9nm,1.1s,baz=91,slow=5.9
NOA NORSAR Array B 85.67 331 P **P** **12 54 21.8 -0.2**
comp=Z,2.9nm,0.8s,baz=94,slow=5.0,SNR=11
SPB2 Spitsbergen Ar 85.74 348 P **P** **12 54 22.1 +0.2**
SPITS Spitsbergen Ar 85.74 348 P **P** **12 54 21.5 -0.5**
SPITS pmax pmax
comp=Z,20nm,0.9s
NC204 NORSAR Array S 85.90 331 P **P** **12 54 22.8 -0.4**
NC204 IAmb IAmb 12 54 24.1
comp=Z,17nm,1.1s
KEST Kesra 86.26 305 P **P** **12 54 25.3 -0.2**
comp=Z,3.0nm,0.5s,baz=19,slow=5.0,SNR=4.2
KEST LR LR 13 39 45.3
comp=Z,56nm,18.7s,baz=316,slow=40
KONO Kongsberg 86.41 329 *ceP* **P** **12 54 25.5 -0.1**
KONO pmax pmax
comp=Z,22nm,2.5s
KBS Kingsbay 86.71 349 P **P** **12 54 26.0 -0.8**
KBS pmax pmax
comp=Z,15nm,1.1s
VNDA Vanda 87.03 169 LR LR 13 31 49.2
comp=Z,105nm,19.0s,baz=331,slow=34
NOR Nord 91.07 352 *i* P **P** **12 54 47.0 -0.3**
NOR IAmb IAmb 12 54 48.6
comp=Z,7.6nm,0.8s
NOR Nord 91.07 352 P **P** **12 54 47.7 +0.4**
NOR pmax pmax
comp=Z,11nm,1.0s
DAG Danmarks Havn 93.39 348 *i* P **P** **12 54 57.0 -1.1**
DAG IAmb IAmb 12 54 58.4
comp=Z,6.1nm,1.0s
TORD Torodi Ar. Bea 94.02 283 P **P** **12 55 03.6 +1.3**
comp=Z,0.6nm,0.8s,baz=53,slow=5.6,SNR=3.4
TORD LR LR 13 36 29.4
comp=Z,179nm,18.5s,baz=95,slow=35
IMAR Indian Mountai 95.93 23 P **P** **12 55 10.8 +0.8**
J20K Nowinta River 96.36 25 P **P** **12 55 13.4 +1.5**
baz=289
ESDC Sonseca Array 96.50 310 P **P** **12 55 12.3 -0.8**
comp=Z,0.4nm,0.8s,baz=90,slow=2.6,SNR=2.0
ESDC LR LR 13 43 25.8
comp=Z,45nm,18.2s,baz=235,slow=38
K20K Telida 96.66 25 P **P** **12 55 14.7 +1.4**
baz=289
L19K White Mountain 96.68 27 P **P** **12 55 14.8 +1.3**
baz=288
I21K Tanana 96.90 23 P **P** **12 55 15.7 +1.3**
baz=291
L20K Farewell, AK 97.02 26 P Pdif 12 55 16.3 +1.2
baz=289
N19K Bonanza Creek 97.27 28 P Pdif 12 55 17.7 +1.4
baz=288
H23K Yukon River 97.60 22 P Pdif 12 55 19.0 +1.4
baz=293
ILAR Eielson Array 99.05 23 P **Pdif** **12 55 22.2 -1.9**
comp=Z,0.5nm,0.9s,baz=328,slow=3.2,SNR=3.5
ILAR PP **PP** **12 59 28.2 +2.2**
comp=Z,0.6nm,0.7s,baz=302,slow=6.0,SNR=5.6
ILAR LR LR 13 46 55.8
comp=Z,87nm,18.2s,baz=310,slow=40
NVAR Mina Array Bea 128.41 35 PKP **PKPdf** **13 00 51.2 +0.4**
comp=Z,1.2nm,1.0s,baz=266,slow=1.9,SNR=6.1
PDAR Pinedale Array 129.44 25 PKP **PKPdf** **13 00 53.0 +0.4**
comp=Z,0.4nm,0.8s,baz=228,slow=3.6,SNR=4.5
ANMO Albuquerque 137.25 28 *c i*PKIKP **PKiKP** **13 01 08.7 -0.7**
ANMO pmax pmax
comp=Z,8.0nm,2.5s
S39A Bolivar 139.24 12 **PKiKP** **13 01 12.4 -0.6**
WMOK Wichita Mounta 140.54 20 PKHKP PKPpre 13 01 06.5
WMOK Wichita Mounta 140.54 20 PKPpre 13 01 06.5
TXAR Lajitas Array 143.19 30 PKP PKPbc 13 01 15.8 +0.6
comp=Z,1.1nm,0.8s,baz=323,slow=0.9,SNR=11
TXAR PP **PP** **13 04 26.5 -1.1**
comp=Z,0.2nm,0.7s,baz=270,slow=1.3,SNR=3.5
JCT Junction City 143.97 24 PKIKP **PKPdf** **13 01 18.7 -0.9**
JCT Junction City 143.97 24 **PKPdf** **13 01 18.6 -0.9**
LRAL Lakeview Retre 144.75 5 P PKPbc 13 01 19.8 +0.2
baz=354
ML02 Panimavida 144.79 197 PKPdf **PKPdf** **13 01 22.4 +1.7**
146A Union 144.91 8 **PKPdf** **13 01 21.3 +0.3**
CPUP Villa Florida 145.20 224 PKPbc **PKPdf** **13 01 21.9 +0.3**
comp=Z,1.7nm,0.3s,baz=158,slow=2.0,SNR=3.0
CPUP Villa Florida 145.20 224 PKIKP **PKPdf** **13 01 22.0 +0.3**
152A Waverly Hall 145.24 2 **PKPdf** **13 01 21.9 +0.2**
BO02 Sierra Bellavi 145.49 199 **PKPab** **13 01 24.1 +1.8**
255A Hazlehurst 145.98 358 **PKPdf** **13 01 22.4 -0.5**
833A Chaparral WMA, 146.03 25 P **PKPab** **13 01 25.4 +1.0**
baz=331
352A Blakely 146.42 2 **PKPab** **13 01 25.8 0.0**

*SOME **09** 13:12:37.3,40.87N×70.45E,h10km*
*NNC **09** 13:12:39.2±2.5,40.86N×70.43E,h9km±12km,mb3.3, mpv3.4,Error ellipse: s-maj=21.0km s-min=13.2km az=14.0*
*KRNET **09** 13:12:40.9±0.1,41.03N×70.48E,mb2.6*
ISC 09 13:12:39.5±2.2,40.97N±0.08×70.55E±0.05,h10km±15km, n13,σ1.945/22,8C-6D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRKS	**Terek-Say**	**0.71**	**39**	⇓*i*P	**Pb**	**13 12 54.3**	**+0.1**
	baz=50						
TRKS				⇓*i*S	**Sg**	**13 13 03.8**	**+1.1**
	baz=50						
BTK	**Batken**	**0.94**	**167**	⇓*i*P	Pn	13 13 00.4	+1.5
	baz=65						

BTK				⇓*i*S		**Sn**	**13 13 14.3**	**+1.9**
	baz=65							
IUG	**luzhnay**	**1.24**	**342**	*e*P		**Pn**	**13 13 01.8**	**-1.2**
	132nm,0.2s							
IUG				*e*S		**Sb**	**13 13 19.0**	**-0.1**
	100nm,0.3s							
IUG	**luzhnay**	**1.24**	**342**	P		**Pg**	**13 13 03.1**	**-0.2**
	382nm,0.2s							
IUG				S		**Sg**	**13 13 22.0**	**+2.6**
	80nm,0.5s							
MNAS	**Manas**	**2.11**	**43**	⇑*e*P		**Pg**	**13 13 19.0**	**-0.9**
	baz=45							
MNAS				⇑*i*S		**Sg**	**13 13 48.5**	**+1.3**
	baz=45							
KK31	**Karatay Array**	**2.13**	**359**	⇑Pn		**Pb**	**13 13 17.2**	**-1.0**
	2.8nm,0.4s,baz=192,slow=17,SNR=26							
KK31				⇓Sn		**Sb**	**13 13 45.1**	**+0.3**
	2.2nm,0.2s,baz=196,slow=29,SNR=8.0							
AML	**Almayashu**	**2.63**	**63**	⇑*i*P		**Pb**	**13 13 26.3**	**-0.7**
	baz=64							
AML				⇑*i*S		**Sb**	**13 14 00.8**	**+1.3**
	baz=64							
MRKS	**Merke**	**2.67**	**48**	*e*P		**Pg**	**13 13 30.9**	**+0.2**
	5.0nm,0.3s							
MRKS				*e*S		**Sg**	**13 14 07.2**	**+1.9**
	6.4nm,0.4s							
MRKS	**Merke**	**2.67**	**48**	Pg		**Pg**	**13 13 31.0**	**+0.2**
	5.0nm,0.3s							
MRKS				Lg		Lg	13 14 07.2	
	6.4nm,0.4s							
ARLS	**Aral**	**2.98**	**71**	⇑*i*P		**Pb**	**13 13 32.4**	**-0.3**
	baz=73							
ARLS				⇑*i*S		**Sb**	**13 14 09.6**	**+0.4**
	baz=73							
AAK	**Ala-Archa**	**3.39**	**59**	Pg		**Pg**	**13 13 43.2**	**-1.2**
	1.3nm,0.5s							
AAK				Lg		Lg	13 14 32.8	
	0.9nm,0.4s							
TKM2	**Tokmak 2**	**4.24**	**61**	⇓Pg		**Pg**	**13 13 58.0**	**-2.7**
	1.4nm,0.9s							
TKM2				⇑Lg		Lg	13 14 59.6	
	1.6nm,0.7s							
BTLS	**Baital**	**4.81**	**31**	*e*P		**Pg**	**13 14 09.7**	**-1.9**
	0.6nm,0.3s							
BTLS				*e*S		**Sg**	**13 15 15.5**	**+1.6**
	2.0nm,0.6s							

MEX 09 13:15:08.5±0.5, 15°30N×93°47W, h94km±25km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.47**	**31**	*e*P	Pn	13 15 22.2	-1.2
PCIG				*e*S	Sn	13 15 32.7	-1.9
TGIG		**1.51**	**13**	*e*P	Pn	13 15 27.9	-6.8
TGIG				*e*S	Sn	13 15 43.4	-11
CMIG	**Matias Romero**	**2.24**	**323**	*e*P	Pn	13 15 42.2	-1.9
CMIG				*e*S	Sn	13 16 06.4	-4.9

TRN 09 13:19:02.2, 18°06N×61°82W, h27km, MD3.8, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**0.39**	**175**	*e*P	Pn	13 19 12.2	+0.2
ANWB				*e*S	Sn	13 19 19.6	+1.1
ANOC	**Antigua Open C**	**0.93**	**181**	*e*P	Pb	13 19 20.1	+0.4
ANOC				*e*S	Sn	13 19 33.7	+1.8
ANDO	**Antigua, Disas**	**0.94**	**181**	*e*P	Pb	13 19 20.2	+0.3
ANDO				*e*S	Sn	13 19 34.7	+2.6
ANBD	**Bethesda, Anti**	**1.00**	**177**	*e*P	Pb	13 19 21.1	+0.1
ANBD				*e*S	Sb	13 19 36.4	+2.7
SKI	**Saint Kitts**	**1.13**	**231**	*e*P	Pb	13 19 24.4	+1.2
SKI				*e*S	Sb	13 19 40.0	+2.5
SKOC	**St. Kitts, UWI**	**1.15**	**229**	*e*P	Pb	13 19 25.0	+1.4
SKOC				*e*S	Sb	13 19 40.1	+2.0
SMRT	**St. Maarten**	**1.19**	**270**	*e*P	Pb	13 19 24.1	-0.1
SMRT				*e*S	Sb	13 19 40.5	+1.2
NVDO	**Nevis, Disaste**	**1.20**	**219**	*e*P	Pb	13 19 25.2	+0.8
SEUS	**St. Eustatius**	**1.24**	**243**	*e*P	Pb	13 19 25.5	+0.5
SEUS				*e*S	Sb	13 19 42.3	+1.8
ABD	**La Joyeuse, An**	**1.60**	**169**	*e*P	Pb	13 19 30.2	-1.0
ABD				*e*S	Sb	13 19 52.1	+1.1
CBE	**Ff, Capester**	**1.98**	**174**	*e*P	Pn	13 19 35.9	+1.8
CBE				*e*S	Sn	13 19 59.4	+1.4
MAGL	**Barre de l'ile**	**2.16**	**166**	*e*P	Pb	13 19 38.8	-1.9
MAGL				*e*S	Sn	13 20 04.1	+1.9
TBG	**Guadaloupe-3**	**2.20**	**176**	*e*P	Pb	13 19 39.6	-1.7
TBG				*e*S	Sb	13 20 05.9	-2.2
TDBA	**Terre de Bas,**	**2.20**	**175**	*e*P	Pb	13 19 39.6	-1.8
MDCT	**Cottage Hill,**	**2.45**	**172**	*e*P	Pn	13 19 41.9	+1.5
MDCT				*e*S	Sn	13 20 12.2	+2.7
DSLB	**Salisbury**	**2.63**	**172**	*e*P	Pn	13 19 44.8	+1.8
DSLB				*e*S	Sn	13 20 16.4	+2.4
FDF	**Fort de France**	**3.37**	**169**	*e*	Pn	13 19 56.8	+3.8
BIM	**Bigot**	**3.59**	**168**	*e*P	Pn	13 19 57.4	+1.2
BIM				*e*S	Sn	13 20 39.5	+1.8
MPOM	**Morne Pois Mar**	**3.71**	**165**	*e*P	Pn	13 19 59.3	+1.6
MPOM				*e*S	Sn	13 20 42.0	+1.5
SLBI	**Saint Lucia, B**	**4.09**	**168**	*e*P	Pn	13 20 05.2	+2.2
MCLT	**Moule a Chique**	**4.40**	**169**	*e*P	Pn	13 20 09.3	+2.0

IDC 09 13:41:27.9±3.4, 32°65S×178°36W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.5/26, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=77.1km s-min=49.6km az=119.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.70**	**212**	Pn	Pn	13 43 06.8	-0.8
	0.7nm,0.3s,baz=282,slow=23,SNR=1.5						
URZ				Sn	Sn	13 44 20.2	-4.4
	0.5nm,0.3s,baz=124,slow=22,SNR=2.2						
ASAR	**Alice Springs**	**42.73**	**270**	P	P	13 49 27.5	+0.4
	0.4nm,0.6s,baz=110,slow=7.2,SNR=8.1						
WRA	**Warramunga Arr**	**43.92**	**275**	P	P	13 49 36.2	-0.6
	0.2nm,0.4s,baz=115,slow=8.1,SNR=8.4						
FINES	**FINESS Array B**	**147.14**	**339**	PKPbc	PKPbc	14 01 11.5	-0.7
	1.0nm,0.7s,baz=42,slow=4.3,SNR=1.7						

MEX 09 13:44:13.7±0.3, 16°90N×100°46W, h24km±45km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAIG	**Los Arroyos**	**0.78**	**81**	*e*P	Pb	13 44 26.2	-2.5
DAIG				*e*S	Sb	13 44 35.9	-2.9
ZIIG	**Zihuatanejo**	**1.19**	**306**	*e*P	Pn	13 44 28.8	-6.1
ZIIG				*e*S	Sn	13 44 48.2	-2.1
MEIG	**Mezcala**	**1.29**	**38**	*e*P	Pn	13 44 33.3	-3.0
MEIG				*e*S	Sn	13 44 49.0	-3.9
ARIG	**Puente Sto Nin**	**1.38**	**4**	*e*P	Pn	13 44 34.8	-2.6
ARIG				*e*S	Sn	13 44 51.1	-3.8
PLIG	**Platanillo**	**1.74**	**31**	*e*P	Pn	13 44 39.8	-2.7
PLIG				*e*S	Sn	13 45 00.5	-3.5
MGIG	**Malinaltepec**	**1.77**	**79**	*e*P	Pn	13 44 40.5	-2.5
MGIG				*e*S	Sn	13 45 02.1	-2.9
TLIG	**Tlapa**	**1.92**	**70**	*e*P	Pn	13 44 43.1	-1.9
TLIG				*e*S	Sn	13 45 05.3	-3.2

IDC 09 14:03:16.5±7.7, 2°05N×96°24E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/30, mbtmp3.5/3, Error ellipse: s-maj=381.2km s-min=30.0km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**25.57**	**248**	T	T	14 35 20.4	
	baz=68,slow=75,SNR=16						
H08S3	**Diego Garcia H**	**25.57**	**248**	T	T	14 35 23.7	
	baz=68,slow=75,SNR=40						
H08S1	**Diego Carcia H**	**25.59**	**248**	T	T	14 35 21.8	
	baz=68,slow=75,SNR=18						
H01W3	**Cape Leeuwin H**	**40.39**	**157**	T	T	14 54 05.3	
	baz=332,slow=76,SNR=16						
H01W2	**Cape Leeuwin H**	**40.40**	**157**	T	T	14 54 02.2	
	baz=332,slow=76,SNR=14						
H01W1	**Cape Leeuwin H**	**40.41**	**157**	T	T	14 54 08.9	
	baz=332,slow=76,SNR=15						
WRA	**Warramunga Arr**	**43.30**	**122**	P	P	14 11 19.6	-0.9
	0.8nm,1.0s,baz=298,slow=8.9,SNR=2.7						
ASAR	**Alice Springs**	**44.67**	**127**	P	P	14 11 32.1	+0.6
	0.3nm,0.8s,baz=300,slow=7.4,SNR=1.9						
MKAR	**Makanchi Array**	**46.20**	**347**	P	P	14 11 43.1	-0.1
	0.5nm,0.6s,baz=161,slow=7.7,SNR=6.9						

*KRSC **09** 14:18:15.4±1.4, 48°38N×156°04E, h79km±20km, ML4.3*
*SKHL **09** 14:18:16.7±0.7, 48°30N×155°90E, h61km±3km, mb4.5/7*
*MOS **09** 14:18:18.1±1.0, 48°55N×155°68E, h56km, mb4.4/11, Error ellipse: s-maj=10.5km s-min=3.9km az=77.8*
*IDC **09** 14:18:20.6±2.7, 48°56N×155°50E, h54km±23km, mb3.6/14, mb1 3.8/20, mb1mx3.7/56, mbtmp3.9/20, ML3.6/6, MS3.2/7, Ms1 3.2/7, ms1mx2.9/43, Error ellipse: s-maj=22.1km s-min=15.2km az=127.0*
*NEIC **09** 14:18:21.4±1.2, 48°8N±0°1×155°4E±0°2, h50km±10km, mb4.4/11, Error ellipse: s-maj=25.7km s-min=12.7km az=133.0*

ISC 09 14:18:18.4±1.4, 48°47N±0°07×155°77E±0°08, h43km±11km, n139, σ1s21/149, mb4.1/23, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.23**	**6**	⇑*i*PN	**Pn**	**14 18 52.7**	**-0.1**
SKR				*e*S	**Sn**	**14 19 19.6**	**+0.5**
SKR				pmax	pmax		
	comp=Z,52nm,0.2s						
SKR				smax	smax		
	comp=N,327nm,0.9s						
SKR				smax	smax		
	comp=E,314nm,0.5s						
SKR				MLR	MLR		
	comp=Z,200nm,12.0s						
SKR	**Severo-Kuril's**	**2.23**	**6**	*e*P	**Pn**	**14 18 52.7**	**-0.1**
SKR				*e*S	**Sn**	**14 19 20.2**	**+1.1**
SKR	**Severo-Kuril's**	**2.23**	**6**	*e*P	**Pn**	**14 18 52.6**	**-0.2**
SKR				AMB	AMB	14 18 56.0	
	comp=Z,180nm,0.6s						
SKR				*e*S	**Sn**	**14 19 19.0**	**-0.1**
SKR				A	A	14 19 27.0	
	comp=Z,260nm,0.3s						
SKR				A	A	14 19 27.0	
	comp=Z,310nm,0.3s						
ALID	**Alaid**	**2.41**	**357**	PN	**Pn**	**14 18 56.3**	**+0.9**
ALID	**Alaid**	**2.41**	**357**	*e*P	**Pn**	**14 18 56.3**	**+0.9**
PAU	**Pauzhetka**	**3.08**	**12**	PN	**Pn**	**14 19 04.5**	**+0.1**
PAU				S	**Sn**	**14 19 41.9**	**+2.0**
PAU	**Pauzhetka**	**3.08**	**12**	*e*P	**Pn**	**14 19 04.5**	**+0.1**
PAU				*e*S	**Sn**	**14 19 41.9**	**+2.0**
PAU	**Pauzhetka**	**3.08**	**12**	*e*P	**Pn**	**14 19 04.5**	**+0.1**
PAU				AMB	AMB	14 19 06.0	
	comp=Z,71nm,0.3s						
PAU				*e*S	**Sn**	**14 19 40.9**	**+1.0**
PAU				A	A	14 19 45.0	
	comp=Z,240nm,0.3s						
PAU				A	A	14 19 45.0	
	comp=Z,240nm,0.3s						
KDTR	**Khodutka, Kamc**	**3.66**	**23**	PN	**Pn**	**14 19 11.8**	**-0.6**
KDTR				S	**Sn**	**14 19 53.6**	**-0.6**
KDTR	**Khodutka, Kamc**	**3.66**	**23**	*e*P	**Pn**	**14 19 11.8**	**-0.6**
KDTR				*e*S	**Sn**	**14 19 53.6**	**-0.6**
MIPR	**Malaya Ipel'ka**	**3.87**	**9**	PN	**Pn**	**14 19 15.9**	**+0.6**
MIPR	**Malaya Ipel'ka**	**3.87**	**9**	*e*P	**Pn**	**14 19 15.9**	**+0.6**
ASAK	**Asacha**	**4.15**	**18**	PN	**Pn**	**14 19 19.9**	**+0.7**
ASAK	**Asacha**	**4.15**	**18**	*e*P	**Pn**	**14 19 19.9**	**+0.7**
MTVR	**Mutnovka**	**4.31**	**20**	PN	**Pn**	**14 19 21.6**	**+0.2**
MTVR				S	**Sn**	**14 20 10.7**	**+0.3**
MTVR	**Mutnovka**	**4.31**	**20**	*e*P	**Pn**	**14 19 21.6**	**+0.2**
MTVR				*e*S	**Sn**	**14 20 10.7**	**+0.3**
RUS	**Russkaya**	**4.34**	**23**	PN	**Pn**	**14 19 21.0**	**-0.7**
RUS				S	**Sn**	**14 20 09.6**	**-1.4**
RUS	**Russkaya**	**4.34**	**23**	*e*P	**Pn**	**14 19 21.0**	**-0.7**
RUS				*e*S	**Sn**	**14 20 09.6**	**-1.4**
RUS	**Russkaya**	**4.34**	**23**	*e*P	**Pn**	**14 19 21.0**	**-0.7**
GRL	**Gorelyy**	**4.35**	**19**	PN	**Pn**	**14 19 22.7**	**+0.8**
GRL				S	**Sn**	**14 20 12.4**	**+1.0**
GRL	**Gorelyy**	**4.35**	**19**	*e*P	**Pn**	**14 19 22.7**	**+0.8**
GRL				*e*S	**Sn**	**14 20 12.4**	**+1.0**
APC	**Apacha**	**4.55**	**11**	PN	**Pn**	**14 19 26.0**	**+1.4**
APC	**Apacha**	**4.55**	**11**	*e*P	**Pn**	**14 19 26.0**	**+1.4**
KRMR	**Karymshinskiy**	**4.62**	**18**	PN	**Pn**	**14 19 27.9**	**+2.3**
KRMR	**Karymshinskiy**	**4.62**	**18**	*e*P	**Pn**	**14 19 27.9**	**+2.3**
PEA0B	**Petropavlovsk-**	**4.81**	**14**	*d*iPN	**Pn**	**14 19 29.6**	**+1.5**
PEA0B	**Petropavlovsk-**	**4.81**	**14**	P	**Pn**	**14 19 28.7**	**+0.5**
PETK	**Petropavlovsk-**	**4.81**	**14**	P	**Pn**	**14 19 28.5**	**+0.4**
	comp=Z,3.6nm,0.3s,baz=178,slow=13,SNR=174						
PETK				S	Sn	14 20 33.0	+11
	baz=155,slow=15,SNR=1.3						
PETK				LR	LR	14 21 47.7	
	comp=Z,179nm,18.8s,baz=181,slow=44						
PETK	**Petropavlovsk-**	**4.81**	**14**		**Pn**	**14 19 28.1**	**0.0**
PET	**Petropavlovsk**	**4.92**	**21**	*e*PN	**Pn**	**14 19 29.7**	**+0.1**
PET				*e*S	**Sn**	**14 20 25.2**	**0.0**
PET				pmax	pmax		
	comp=Z,48nm,0.5s						
PET				smax	smax		
	comp=N,87nm,0.7s						
PET				smax	smax		
	comp=E,89nm,0.6s						
PET	**Petropavlovsk**	**4.92**	**21**	*e*P	**Pn**	**14 19 29.8**	**+0.1**
PET				*e*S	**Sn**	**14 20 24.6**	**-0.6**
PET	**Petropavlovsk**	**4.92**	**21**		**Pn**	**14 19 29.6**	**0.0**
PET	**Petropavlovsk**	**4.92**	**21**	*e*P	**Pn**	**14 19 29.7**	**+0.1**
PET				AMB	AMB	14 19 30.0	
	comp=E,50nm,0.5s						
PET				*e*S	**Sn**	**14 20 25.2**	**0.0**
PET				A	A	14 20 41.0	
	comp=E,86nm,0.6s						
PET				A	A	14 20 41.0	
	comp=E,89nm,0.6s						
UGLR	**Uglovaya**	**5.13**	**21**	PN	**Pn**	**14 19 33.3**	**+0.7**
UGLR	**Uglovaya**	**5.13**	**21**	*e*P	**Pn**	**14 19 33.3**	**+0.7**
AVH	**Avacha**	**5.16**	**20**	PN	**Pn**	**14 19 34.3**	**+1.3**
AVH	**Avacha**	**5.16**	**20**	*e*P	**Pn**	**14 19 34.3**	**+1.3**
KOK	**Koryaka**	**5.16**	**19**	PN	**Pn**	**14 19 34.7**	**+1.6**
KOK	**Koryaka**	**5.16**	**19**	*e*P	**Pn**	**14 19 34.7**	**+1.6**
KOK	**Koryaka**	**5.16**	**19**	*e*P	**Pn**	**14 19 34.7**	**+1.6**
SMAR	**Somma**	**5.17**	**21**	PN	**Pn**	**14 19 35.1**	**+1.8**
SMAR	**Somma**	**5.17**	**21**	*e*P	**Pn**	**14 19 35.1**	**+1.8**
KRER	**Koryakskii**	**5.20**	**20**	PN	**Pn**	**14 19 34.7**	**+1.0**
KRER	**Koryakskii**	**5.20**	**20**	*e*P	**Pn**	**14 19 34.7**	**+1.0**
SDLR	**Sedlovina**	**5.21**	**21**	PN	**Pn**	**14 19 33.9**	**+0.2**
SDLR	**Sedlovina**	**5.21**	**21**	*e*P	**Pn**	**14 19 33.9**	**+0.2**
KRX	**Arik**	**5.23**	**19**	PN	**Pn**	**14 19 35.1**	**+1.1**
KRX	**Arik**	**5.23**	**19**	*e*P	**Pn**	**14 19 35.1**	**+1.1**
SPN	**Mys Shipunski**	**5.36**	**29**	PN	**Pn**	**14 19 35.7**	**-0.1**
SPN	**Mys Shipunski**	**5.36**	**29**	*e*P	**Pn**	**14 19 35.7**	**-0.1**
SPN	**Mys Shipunski**	**5.36**	**29**	*e*P	**Pn**	**14 19 35.7**	**-0.1**
GNL	**Ganaly**	**5.41**	**14**	PN	**Pn**	**14 19 37.9**	**+1.4**
GNL	**Ganaly**	**5.41**	**14**	*e*P	**Pn**	**14 19 37.9**	**+1.4**
KUR	**Kuril'sk**	**6.31**	**242**	*e*PN	**Pn**	**14 19 48.9**	**+0.1**
KUR				pmax	pmax		
	comp=Z,79nm,0.6s						
KUR				pmax	pmax		
	comp=N,42nm,0.3s						
KUR				pmax	pmax		
	comp=E,37nm,0.3s						
KUR	**Kuril'sk**	**6.31**	**242**	*e*P	**Pn**	**14 19 48.0**	**-0.8**
KUR				AMB	AMB	14 19 57.0	
	comp=E,79nm,0.4s						
KUR				*e*S	**Sn**	**14 20 57.8**	**-1.8**
KUR				A	A	14 21 16.0	
	comp=E,62nm,0.6s						
KUR				A	A	14 21 16.0	
	comp=E,18nm,0.6s						
MKZ	**Mys Kozlova**	**7.14**	**29**	PN	**Pn**	**14 19 59.7**	**-0.4**
MKZ	**Mys Kozlova**	**7.14**	**29**	*e*P	**Pn**	**14 19 59.7**	**-0.4**
KZV	**Kizimen**	**7.22**	**21**	PN	**Pn**	**14 20 01.4**	**0.0**
KZV	**Kizimen**	**7.22**	**21**	*e*P	**Pn**	**14 20 01.4**	**0.0**
TUMR	**Tumrok**	**7.34**	**20**	PN	**Pn**	**14 20 03.8**	**+0.8**
TUMR	**Tumrok**	**7.34**	**20**	*e*P	**Pn**	**14 20 03.8**	**+0.8**
NMR	**Nemuro--Hokkai**	**8.66**	**238**	*e*P	**Pn**	**14 20 18.3**	**-2.6**
TYV	**Tymovskoe**	**8.84**	**291**	*e*PN	**Pn**	**14 20 26.3**	**+2.9**
TYV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
TYV				pmax	pmax		
	comp=Z,300nm,4.9s						
TYV	**Tymovskoe**	**8.84**	**291**	*e*P	**Pn**	**14 20 26.0**	**+2.6**
TYV				AMB	AMB	14 20 26.0	
	comp=Z,7.0nm,0.6s						
TYV				*e*S	**Sn**	**14 22 02.0**	**+0.4**
TYV				A	A	14 22 03.0	
	comp=Z,9.0nm,0.8s						
TYV				A	A	14 22 03.0	
	comp=Z,8.0nm,0.8s						
KBTR	**Krutoberegovo**	**8.87**	**26**	PN	**Pn**	**14 20 23.1**	**-0.7**
KBTR	**Krutoberegovo**	**8.87**	**26**	*e*P	**Pn**	**14 20 23.1**	**-0.7**
KBG	**Krutoberegovo**	**8.88**	**26**	*e*P	**Pn**	**14 20 25.2**	**+1.4**
YSS	**Yuzh-Sakhalins**	**8.91**	**265**	*e*PN	**Pn**	**14 20 24.1**	**-0.3**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YSS	**Yuzh-Sakhalins**	**8.91**	**265**	*e*P	**Pn**	**14 20 24.1**	**-0.3**
YSS				AMB	AMB	14 20 26.7	
	comp=Z,10.0nm,0.9s						
JKA	**Kamikawa-asahi**	**10.10**	**249**		**Pn**	**14 20 42.0**	**+1.3**
JKA	**Kamikawa-asahi**	**10.10**	**249**	*e*P	**Pn**	**14 20 42.0**	**+1.3**
ASAJ	**Asahikawa**	**10.10**	**249**	P	**Pn**	**14 20 42.0**	**+1.3**
	comp=Z,1.3nm,0.3s,baz=81,slow=12,SNR=10						
MA2	**Magadan**	**11.51**	**347**	P	**Pn**	**14 21 01.0**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=129,slow=14,SNR=2.6						
MA2				LR	LR	14 25 50.2	
	comp=Z,84nm,18.1s,baz=172,slow=40						
MA2	**Magadan**	**11.51**	**347**	Pn	**Pn**	**14 20 55.9**	**-3.9**
SEY	**Seymchan**	**14.62**	**354**	P	**P**	**14 21 44.5**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=26,slow=22,SNR=1.9						
SEY				LR	LR	14 28 03.2	
	comp=Z,69nm,19.3s,baz=110,slow=40						
EKMR	**Ekimchan**	**15.13**	**296**	*e*P	**Pn**	**14 21 49.8**	**+0.8**
EKMR				AMB	AMB	14 22 01.5	
	comp=Z,6.0nm,0.7s						
KLR	**Kul'dur**	**15.82**	**282**	P	**Pn**	**14 21 58.5**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=93,slow=14,SNR=2.4						
KLR				LR	LR	14 28 08.0	
	comp=Z,91nm,18.1s,baz=98,slow=38						
KLR	**Kul'dur**	**15.82**	**282**	*i* P	**P**	**14 22 01.5**	**+0.4**
KLR				pmax	pmax		
	comp=Z,9.0nm,1.7s						
USA0B	**Ussuriysk Arra**	**16.95**	**264**	P	**Pn**	**14 22 10.5**	**-1.6**
USA0B				pmax	pmax		
	comp=Z,21nm,1.4s						
USA0B	**Ussuriysk Arra**	**16.95**	**264**	P	**Pn**	**14 22 10.5**	**-1.6**
USA0B				IAmb	IAmb	14 22 37.0	
	comp=Z,21nm,1.4s						
USRK	**Ussuriysk Ar.**	**16.95**	**264**	P	**Pn**	**14 22 11.2**	**-0.9**
	baz=74,slow=12,SNR=4.3						
MAJO	**Matsushiro**	**17.55**	**234**	*i* P	**Pn**	**14 22 20.0**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MSHR	**Mys Shultsa**	**18.19**	**260**	*i* P	**Pn**	**14 22 29.1**	**+1.7**
MSHR				pmax	pmax		
	comp=Z,71nm,1.5s						
ZEA	**Zeya**	**18.60**	**297**	*e*P	**P**	**14 22 31.1**	**-0.7**
KROS	**Kirovskiy**	**18.84**	**299**	*e*P	**P**	**14 22 33.8**	**-0.5**
YAK	**Yakutsk**	**19.95**	**323**	LR	LR	14 30 38.0	
	comp=Z,42nm,19.6s,baz=102,slow=37						
YAK	**Yakutsk**	**19.95**	**323**	*i* P	**Pn**	**14 22 48.0**	**-0.3**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
YAK	**Yakutsk**	**19.95**	**323**	*e*P	**Pn**	**14 22 48.0**	**-0.3**
JWT	**Wachi**	**20.01**	**236**	P	Pn	14 22 49.2	-0.1
JWT				IAmb	IAmb	14 22 58.0	
	comp=Z,45nm,1.5s						
KSRS	**Korea Array**	**23.04**	**252**	P	**P**	**14 23 19.4**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=49,slow=10,SNR=9.7						
KSRS	**Korea Array**	**23.04**	**252**	*e*P	**P**	**14 23 21.3**	**+1.7**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TIK	**Tiksi**	**26.36**	**341**	*e*P	**P**	**14 23 48.1**	**-1.9**
TIXI	**Tiksi**	**26.38**	**341**	P	**P**	**14 23 48.1**	**-2.0**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TIXI	**Tiksi**	**26.38**	**341**	P	**P**	**14 23 48.1**	**-2.0**
H11N2	**WAKE ISLAND Hy**	**30.04**	**159**	T	T	14 56 16.8	
	baz=345,slow=76						
H11N1	**WAKE ISLAND Hy**	**30.06**	**159**	T	T	14 56 26.6	
	baz=345,slow=76						
H11N3	**WAKE ISLAND Hy**	**30.06**	**159**	T	T	14 56 16.1	
	baz=345,slow=76						
H11S1	**WAKE ISLAND Hy**	**31.17**	**160**	T	T	14 57 39.9	
	baz=348,slow=76						
H11S3	**WAKE ISLAND Hy**	**31.18**	**160**	T	T	14 57 34.7	
	baz=348,slow=76						
H11S2	**WAKE ISLAND Hy**	**31.19**	**160**	T	T	14 57 37.9	
	baz=348,slow=76						
SONM	**Songino Array**	**32.49**	**288**	P	**P**	**14 24 42.9**	**-1.9**
	comp=Z,0.3nm,0.4s,baz=69,slow=8.2,SNR=2.5						
SONM				LR	LR	14 39 00.0	
	comp=Z,88nm,19.6s,baz=80,slow=38						
NRIK	**Noril'sk**	**38.24**	**328**	*i* P	**P**	**14 25 35.9**	**+2.2**
NRIK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
DGZ	**Jazzator, Alta**	**43.36**	**298**	*i* P	**P**	**14 26 15.9**	**-0.3**
DGZ				pmax	pmax		
	comp=Z,3.0nm,1.2s						
MK31	**Makanchi Array**	**47.76**	**297**	P	**P**	**14 26 49.5**	**-1.4**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MK31	**Makanchi Array**	**47.76**	**297**	P	**P**	**14 26 49.5**	**-1.4**
MK31				IAmb	IAmb	14 26 50.9	
	comp=Z,2.1nm,0.6s						
MKAR	**Makanchi Array**	**47.76**	**297**	P	**P**	**14 26 49.9**	**-1.0**
	comp=Z,2.1nm,0.6s,baz=76,slow=10,SNR=22						
MKAR	**Makanchi Array**	**47.76**	**297**	*e*P	P	14 26 56.2	+5.3

comp=Z,2.4nm,0.9s,baz=66,slow=3.6,SNR=5.7
BRTR Keskin Array B 78.34 318 P P 14 30 13.5 -0.6

MEX 09 14:33:31.1±0.3, 14°68'N×93°27'W, h40km±22km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.00**	**77**	*e*P	Pn	14 33 44.5	-4.1
THIG				*e*S	Sn	14 33 58.5	-3.1
PCIG		**1.02**	**3**	*i* P	Pn	14 33 47.3	-1.6
PCIG				*i* S	Sn	14 33 59.7	-2.4
CCIG	**Comitan**	**1.94**	**34**	*e*P	Pn	14 33 58.0	-3.7
CCIG				*e*S	Sn	14 34 19.0	-5.9
TGIG		**2.09**	**4**	*e*P	Pn	14 34 02.5	-1.3
TGIG				*e*S	Sn	14 34 26.5	-2.1
CMIG	**Matias Romero**	**2.86**	**327**	*e*P	Pn	14 34 12.5	-1.7
CMIG				*e*S	Sn	14 34 45.5	-1.8

ISK 09 14:39:09.2, 41°05N×29°33E, h0km, ML1.6/5, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISK	**Istanbul-Kandi**	**0.20**	**275**	PG	Pg	14 39 13.9	+0.8
ISK				SG	Sg	14 39 17.2	+1.4
SILT	**Sile**	**0.26**	**66**	PG	Pg	14 39 14.9	+0.7
SILT				SG	Sg	14 39 19.0	+1.5
KLYT	**Kilyos**	**0.30**	**314**	PG	Pg	14 39 15.7	+0.8
KLYT				SG	Sg	14 39 20.3	+1.5
HRT	**Hereke**	**0.34**	**131**	PG	Pg	14 39 16.8	+1.1
HRT				SG	Sb	14 39 22.3	-1.9
YLV	**Yalova**	**0.48**	**176**	PG	Pg	14 39 19.2	+0.8

BUC 09 14:41:51.8±0.6, 45°71N×26°44E, h27km±5km, ml0.8/3, 8C-6D, Error ellipse: s-maj=2.9km s-min=1.8km az=135.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.20**	**46**	↑↑P	Pb	14 41 57.7	-0.2
PLOR				↑↑S	Sb	14 42 02.1	+0.2
PLOR	**Plostina**	**0.20**	**46**	↑↑P	Pb	14 41 57.7	-0.2
PLOR	**Plostina**	**0.20**	**46**	↑↑S	Sb	14 42 02.1	+0.2
BISRR	**Bisoca**	**0.25**	**130**	↓↓P	Pb	14 41 58.1	-0.3
BISRR				↓↓S	Sb	14 42 03.4	+0.6
BISRR	**Bisoca**	**0.25**	**130**	↓↓P	Pb	14 41 58.1	-0.3
BISRR	**Bisoca**	**0.25**	**130**	↓↓S	Sb	14 42 03.4	+0.6
VRI	**Vrincioaia**	**0.26**	**52**	↓↓P	Pb	14 41 58.8	+0.3
VRI				↑↑S	Sb	14 42 03.4	+0.5
VRI	**Vrincioaia**	**0.26**	**52**	↓↓P	Pb	14 41 58.8	+0.3
MLR	**Muntele Rosu**	**0.41**	**238**	↑↑P	Pb	14 42 00.9	+0.1
MLR				↑↑S	Sb	14 42 07.5	+0.6
MLR	**Muntele Rosu**	**0.41**	**238**	↑↑P	Pb	14 42 00.9	+0.1

*IDC **09** 14:53:00.2±10.0, 7°38S×128°34E, h165km±110km, mb2.9/1, mb1 3.1/5, mb1mx2.9/35, mbtmp3.6/5, Error ellipse: s-maj=125.1km s-min=30.4km az=47.0*
ISC 09 14:52:59.1±1.6, 7°6S±0°1×128°5E±0°1, h151km, n5, σ2s99/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.49**	**241**	P	**Pn**	**14 54 20.4**	**+1.3**
	2.7nm,0.3s,baz=42,slow=15,SNR=1.9						
BATI				S	**Sn**	**14 55 21.1**	**-0.4**
	3.0nm,0.3s,baz=292,slow=20,SNR=2.0						
FITZ	**Fitzroy Crossi**	**10.85**	**195**	P	**Pn**	**14 55 31.9**	**+1.5**
	0.3nm,0.3s,baz=21,slow=10,SNR=18						
FITZ				S	**Sn**	**14 57 26.8**	**-3.7**
	0.2nm,0.3s,baz=48,slow=10,SNR=2.0						
WRA	**Warramunga Arr**	**13.54**	**156**	P	**Pn**	**14 56 07.4**	**+2.2**
	0.2nm,0.3s,baz=322,slow=14,SNR=11						
WRA				S	**Sn**	**14 58 32.2**	**-2.9**
	0.4nm,0.3s,baz=332,slow=23,SNR=9.8						
ASAR	**Alice Springs**	**16.83**	**163**	P	**Pn**	**14 56 50.1**	**+4.2**
	0.2nm,0.3s,baz=342,slow=11,SNR=23						
ASAR				S	**S**	**14 59 52.8**	**-0.3**
	0.1nm,0.3s,baz=321,slow=15,SNR=4.9						
MKAR	**Makanchi Array**	**67.90**	**328**	P	**P**	**15 03 39.1**	**-2.2**
	0.2nm,0.6s,baz=140,slow=6.2,SNR=2.7						

MEX 09 14:54:43.5±0.6, 14°49N×93°98W, h15km, MD4.3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.41**	**31**	*i* P	Pn	14 55 04.6	-4.1
PCIG				*e*S	Sn	14 55 22.3	-4.8
TGIG		**2.42**	**20**	*e*P	Pn	14 55 19.1	-3.6
TGIG				*e*S	Sn	14 55 48.8	-3.2
CCIG	**Comitan**	**2.52**	**45**	*e*P	Pn	14 55 22.5	-1.6
CCIG				*e*S	Sn	14 55 54.6	0.0
CMIG	**Matias Romero**	**2.73**	**342**	*e*P	Pn	14 55 22.9	-3.9
CMIG				*e*S	Sn	14 55 52.2	-7.3

IDC 09 15:02:23.3±3.5, 6°48S×130°38E, h0km, mb3.7/1, mb1 3.8/3, mb1mx3.5/39, mbtmp3.6/3, ML3.8/2, Error ellipse: s-maj=289.0km s-min=31.4km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.92**	**164**	Pn	Pn	15 05 41.9	-0.2
	0.4nm,0.3s,baz=345,slow=14,SNR=21						
WRA				Sn	Sn	15 08 06.0	-11
	0.8nm,0.3s,baz=333,slow=21,SNR=11						
ASAR	**Alice Springs**	**17.42**	**169**	P	Pn	15 06 28.1	+0.2
	0.3nm,0.3s,baz=339,slow=10,SNR=32						
ASAR				S	Sn	15 09 29.0	-14
	0.2nm,0.3s,baz=312,slow=20,SNR=6.3						
MKAR	**Makanchi Array**	**68.00**	**327**	P	P	15 13 24.4	0.0
	0.3nm,0.5s,baz=116,slow=7.6,SNR=6.6						

*IDC **09** 15:10:31.3±1.5, 17°90S×178°49W, h560km±18km, mb3.8/18, mb1 4.0/20, mb1mx3.9/28, mbtmp4.7/20, Error ellipse: s-maj=17.4km s-min=10.1km az=137.0*
*NOU **09** 15:10:32.3, 17°82S×178°33W, h596km, mb4.9/74, Fiji Islands Region*
*NEIC **09** 15:10:32.7±1.6, 18°01S±0°10×178°5W±0°1, h573km±6km, mb4.4/159, Error ellipse: s-maj=16.1km s-min=12.9km az=129.0*
ISC 09 15:10:32.4±0.6, 17°97S±0°06×178°36W±0°06, h580km±6km, n364, σ1s11/335, mb4.5/126, 31C-49D, Fault plane solution: NP1: ϕ_s148.86202°, δ77.55962°, λ38.43416°. **NP2:** ϕ_s49.16097°, δ52.62568°, λ164.27145°. **Principal axes:** T Plg35.5600°, Azm15.9503°; N Plg49.9009°, Azm164.0498°; P Plg16.0753°, Azm274.0620°; **Fault plane solution: NP1:** ϕ_s298.51999°, δ35.26123°, λ15.91363°. **NP2:** ϕ_s195.41470°, δ80.89233°, λ124.21288°. **Principal axes:** T Plg43.5748°, Azm138.6987°; N Plg33.7232°, Azm9.2718°; P Plg27.7390°, Azm258.7218°; **Fault plane solution: NP1:** ϕ_s331.23859°, δ87.67181°, λ-99.07749°. **NP2:** ϕ_s226.97287°, δ9.36888°, λ-14.45056°. **Principal axes:** T Plg41.9860°, Azm69.8705°; N Plg9.0699°, Azm331.6104°; P Plg46.5854°, Azm231.8968°; **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.43**	**273**	P	**P**	**15 11 53.5**	**+0.9**
	64nm,0.3s,baz=135,slow=3.8,SNR=364						
MSVF				S	**S**	**15 13 01.8**	**+3.8**
	0.9nm,0.3s,baz=38,slow=19,SNR=9.6						
MSVF	**Nonsavu**	**3.43**	**273**	P	**P**	**15 11 54.0**	**+1.3**
MSVF	**Nonsavu**	**3.43**	**273**	P	**P**	**15 11 54.5**	**+1.8**
AFI	**Afiamalu**	**7.50**	**58**	P	**P**	**15 12 25.5**	**-1.0**
	12nm,0.3s,baz=212,slow=9.5,SNR=11						
AFI				S	**S**	**15 13 53.8**	**-6.0**
	1.8nm,0.3s,baz=212,slow=23,SNR=1.4						
AFI	**Afiamalu**	**7.50**	**58**	P	**P**	**15 12 24.8**	**-1.7**
AFI	**Afiamalu**	**7.50**	**58**	P	**P**	**15 12 25.6**	**-0.9**
NIUE	**Niue**	**8.07**	**99**	P	**P**	**15 12 32.5**	**+0.8**
NIUE	**Niue**	**8.07**	**99**	P	**P**	**15 12 32.7**	**+0.9**
RTV	**Rentapao**	**12.59**	**269**	P	**P**	**15 13 18.0**	**+0.9**
	437µm,1.3s						
DVP	**Devils Point**	**12.82**	**269**	P	**P**	**15 13 20.6**	**+1.1**
	424µm,0.7s						
MARNC	**Mare, Loyalty**	**13.29**	**253**	P	**P**	**15 13 21.9**	**-2.4**
MARNC	**Mare, Loyalty**	**13.29**	**253**	P	**P**	**15 13 24.2**	**-0.1**
LIFNC	**LIFOU**	**13.88**	**256**	P	**P**	**15 13 27.7**	**-2.6**
SANVU	**Saraoutou**	**14.06**	**278**	P	**P**	**15 13 31.1**	**-1.1**
SANVU	**Saraoutou**	**14.06**	**278**	P	**P**	**15 13 31.5**	**-0.7**
PINNC	**Pines Island,**	**14.10**	**248**	P	**P**	**15 13 32.1**	**-0.4**
PINNC	**Pines Island,**	**14.10**	**248**	P	**P**	**15 13 32.2**	**-0.3**
YATNC	**Mamie plateau,**	**14.45**	**251**	P	**P**	**15 13 35.4**	**-0.6**
OUENC	**Ouen Island, N**	**14.58**	**250**	P	**P**	**15 13 36.8**	**-0.4**
OUENC	**Ouen Island, N**	**14.58**	**250**	P	**P**	**15 13 37.4**	**+0.2**
DZM	**Mont Dzumac**	**14.86**	**252**	P	**P**	**15 13 39.0**	**-1.0**
	2.0nm,0.3s,baz=86,slow=19,SNR=52						
DZM				S	**S**	**15 16 14.3**	**+0.8**
	0.1nm,0.3s,baz=357,slow=20,SNR=3.3						
DZM	**Mont Dzumac**	**14.86**	**252**	P	**P**	**15 13 38.3**	**-1.6**
DZM				PcP	**PcP**	**15 18 09.7**	**+2.2**
ONTNC	**Ouen Toro**	**14.90**	**251**	P	**P**	**15 13 39.7**	**-0.6**
ONTNC	**Ouen Toro**	**14.90**	**251**	P	**P**	**15 13 40.2**	**-0.1**
NOUC	**Port Laguerre**	**14.99**	**252**	P	**P**	**15 13 40.5**	**-0.6**
KOUNC	**Koumac, New Ca**	**16.59**	**258**	P	**P**	**15 13 56.3**	**+0.2**
KUZ	**Kuaotunu**	**19.42**	**194**	P	**P**	**15 14 22.2**	**+0.5**
MKAZ	**Moumakai**	**19.90**	**195**	P	**P**	**15 14 27.4**	**+1.4**
HAZ	**Te Kaha**	**20.01**	**189**	P	**P**	**15 14 26.5**	**-0.4**
PUZ	**Puketiti**	**20.25**	**188**	P	**P**	**15 14 28.8**	**-0.3**
TOZ	**Tahuroa Road**	**20.42**	**194**	P	**P**	**15 14 35.8**	**+5.2**
KMRZ	**Kaimai**	**20.43**	**193**	P	**P**	**15 14 27.2**	**-3.6**
URZ	**Urewera**	**20.61**	**190**	P	**P**	**15 14 30.8**	**-1.5**
	17nm,0.6s,baz=341,slow=11,SNR=5.3						
URZ				S	**S**	**15 17 42.9**	**-3.2**
	4.6nm,0.6s,baz=18,slow=20,SNR=2.0						
URZ	**Urewera**	**20.61**	**190**	P	**P**	**15 14 29.7**	**-2.6**
URZ	**Urewera**	**20.61**	**190**	P	**P**	**15 14 30.2**	**-2.1**
MWZ	**Matawai**	**20.61**	**189**	P	**P**	**15 14 32.0**	**-0.4**
BKZ	**Black Stump Fm**	**21.59**	**191**	P	**P**	**15 14 38.9**	**-2.4**
BKZ				IAmb	IAmb	15 14 52.2	
	comp=Z,12nm,0.7s						
BKZ	**Black Stump Fm**	**21.59**	**191**	P	**P**	**15 14 41.3**	**0.0**
VRZ	**Vera Road**	**21.92**	**194**	P	**P**	**15 14 47.6**	**+3.5**
BHHZ	**Black Hill Sta**	**21.99**	**192**	P	**P**	**15 14 45.0**	**+0.2**
PXZ	**Pawanui**	**22.38**	**190**	P	**P**	**15 14 47.9**	**-0.2**
QRZ	**Quartz Range**	**24.10**	**197**	P	**P**	**15 15 03.2**	**-0.3**
QRZ				IAmb	IAmb	15 15 07.7	
	comp=Z,26nm,1.2s						
TUWZ	**Tuamarina**	**24.30**	**194**	P	**P**	**15 15 05.3**	**+0.1**
LTZ	**Lake Taylor**	**25.99**	**196**	P	**P**	**15 15 17.9**	**-2.2**
LTZ				IAmb	IAmb	15 15 21.4	
	comp=Z,16nm,1.0s						
LBZ	**Lake Benmore**	**28.05**	**198**	P	**P**	**15 15 36.2**	**-2.0**
LBZ				IAmb	IAmb	15 15 56.1	
	comp=Z,16nm,1.2s						
EIDS	**Eidsvold**	**29.29**	**250**	P	**P**	**15 15 48.4**	**-0.9**
MLZ	**Mavora Lakes**	**29.56**	**200**	P	**P**	**15 15 51.4**	**+0.1**
MLZ				IAmb	IAmb	15 16 10.8	
	comp=Z,15nm,0.9s						
ARMA	**Armidale**	**29.95**	**240**	P	**P**	**15 15 55.1**	**+0.1**
CTAO	**Charters Tower**	**33.49**	**261**	P	**P**	**15 16 24.2**	**-0.8**
CTAO				PcP	**PcP**	**15 18 49.2**	**+0.5**
CAN	**Canberra**	**33.71**	**233**	P	**P**	**15 16 26.9**	**+0.2**
JOHN	**Johnston Islan**	**35.56**	**15**	P	**P**	**15 16 42.7**	**+0.6**
COEN	**Coen**	**37.16**	**270**	P	**P**	**15 16 55.4**	**-0.1**
MANU	**Manus Island**	**37.16**	**291**	P	**P**	**15 16 55.9**	**+0.4**
TOO	**Toolangi**	**37.17**	**231**	P	**P**	**15 16 55.7**	**+0.4**
TAU	**Tasmania Unive**	**38.23**	**222**	P	**P**	**15 17 03.7**	**0.0**
TAU				IAmb	IAmb	15 17 17.4	
	comp=Z,18nm,1.1s						
STKA	**Stephens Creek**	**38.65**	**241**	P	**P**	**15 17 07.5**	**+0.2**
	comp=Z,32nm,0.6s,baz=91,slow=10,SNR=108						
STKA	**Stephens Creek**	**38.65**	**241**	P	**P**	**15 17 07.7**	**+0.4**
STKA				IAmb	IAmb	15 17 08.0	
	comp=Z,7.4nm,0.6s						
STKA				PcP	**PcP**	**15 19 05.3**	**+1.0**
JAY	**Jayapura**	**42.97**	**286**	P	**P**	**15 17 41.4**	**-0.5**
	comp=Z,375nmcomp=Z,35nm,0.9s						
KHU	**Kahuku**	**43.20**	**32**	P	**P**	**15 17 44.4**	**+0.7**
KHLU	**Kahalu`u**	**43.35**	**32**	P	**P**	**15 17 44.9**	**+0.2**
AIN	**Ainahou**	**43.39**	**32**	P	**P**	**15 17 45.8**	**+0.7**
HLP	**Hilina Pali**	**43.40**	**33**	P	**P**	**15 17 47.2**	**+2.1**
BBOO	**Buckleboo**	**43.42**	**241**	P	**P**	**15 17 44.6**	**-0.5**
BBOO				PcP	**PcP**	**15 19 19.8**	**-0.4**
GENI	**Genyem**	**43.43**	**286**	P	**P**	**15 17 45.9**	**+0.5**
	comp=Z,2µmcomp=Z,116nm,0.5s						
HUH	**Hualalai**	**43.46**	**32**	P	**P**	**15 17 46.2**	**+0.4**
HUH				IAmb	IAmb	15 18 00.2	
	comp=Z,27nm,1.1s						
MLOA	**Mauna Loa Obse**	**43.47**	**32**	P	**P**	**15 17 46.4**	**+0.4**
MLH	**Mauna Loa**	**43.53**	**32**	P	**P**	**15 17 46.9**	**+0.6**
HMH	**Humu'ula Sheep**	**43.57**	**32**	P	**P**	**15 17 47.4**	**+0.7**
POHA	**Pohakuloa**	**43.67**	**32**	P	**P**	**15 17 48.1**	**+0.7**
HPAH	**Hawaii Prepara**	**43.82**	**32**	P	**P**	**15 17 49.0**	**+0.7**
DHH	**Diamond Head**	**43.88**	**28**	P	**P**	**15 17 49.9**	**+1.2**
WMR	**Waimanalo Ridg**	**43.98**	**28**	P	**P**	**15 17 50.6**	**+1.1**
WR0	**Warramunga Arr**	**44.48**	**260**	P	**P**	**15 17 52.0**	**-1.4**
WB2	**Warramunga Arr**	**44.66**	**260**	P	**P**	**15 17 53.5**	**-1.3**
WRAB	**Tennant Creek**	**44.66**	**260**	P	**P**	**15 17 53.5**	**-1.3**
WRA	**Warramunga Arr**	**44.67**	**260**	P	**P**	**15 17 53.5**	**-1.4**
	comp=Z,20nm,0.3s,baz=90,slow=7.1,SNR=438						
WRA				PcP	**PcP**	**15 19 24.6**	**-0.2**
	comp=Z,1.4nm,0.3s,baz=110,slow=4.8,SNR=2.3						
WRA	**Warramunga Arr**	**44.67**	**260**	P	**P**	**15 17 53.9**	**-1.0**
AS31	**Alice Springs**	**44.82**	**254**	P	**P**	**15 17 55.2**	**-0.8**
ASAR	**Alice Springs**	**44.82**	**254**	P	**P**	**15 17 55.4**	**-0.7**
	comp=Z,154nm,0.5s,baz=87,slow=8.7,SNR=4669						
ASAR				PcP	**PcP**	**15 19 24.7**	**-0.6**
	comp=Z,3.2nm,0.5s,baz=94,slow=4.3,SNR=4.3						
ASAR				ScP	**ScP**	**15 22 24.3**	**+1.3**
	comp=Z,0.8nm,0.8s,baz=101,slow=4.8,SNR=3.0						
ASAR	**Alice Springs**	**44.82**	**254**	P	**P**	**15 17 55.5**	**-0.5**
ASAR					**PcP**	**15 19 24.3**	**-1.0**
BAKI	**Biak**	**47.71**	**285**	P	**P**	**15 18 17.9**	**0.0**
	comp=Z,66nm,0.8s						
MTN	**Manton Dam**	**48.85**	**268**	P	**P**	**15 18 25.3**	**-1.0**
FORT	**Forrest**	**50.03**	**245**	P	**P**	**15 18 33.7**	**-1.1**
KNRA	**Kununurra**	**50.53**	**264**	P	**P**	**15 18 37.6**	**-1.1**
FAKI	**Fak Fak**	**50.64**	**281**	P	**P**	**15 18 38.8**	**-0.7**
FAKI	**Fak Fak**	**50.64**	**281**	P	**P**	**15 18 38.5**	**-1.0**
	comp=Z,69nm,1.6s						
SIJI	**Sorong**	**52.30**	**283**	P	**P**	**15 18 49.9**	**-1.5**
	comp=Z,606nmcomp=Z,60nm,0.7s						
SWI	**Sorong**	**52.30**	**283**	P	**P**	**15 18 51.1**	**-0.4**
	comp=Z,1µmcomp=Z,134nm,0.7s						
FITZ	**Fitzroy Crossi**	**53.07**	**261**	P	**P**	**15 18 56.3**	**-0.5**
FITZ				IAmb	IAmb	15 18 58.2	
	comp=Z,9.2nm,0.8s						
SOEI	**Soe**	**56.12**	**270**	P	**P**	**15 19 19.1**	**+0.7**
SOEI	**Soe**	**56.12**	**270**	P	**P**	**15 19 18.8**	**+0.4**
	comp=Z,102nm,0.7s						
BATI	**Baumata**	**56.58**	**269**	P	**P**	**15 19 22.2**	**+0.8**
	comp=Z,30nm,1.4s						
SANI	**Sanana**	**56.80**	**280**	P	**P**	**15 19 21.9**	**-1.0**
	comp=Z,52nm,1.1s						
PSA00	**Pilbara Seismi**	**57.94**	**255**	P	**P**	**15 19 29.4**	**-1.1**
EDFI	**Ende, Flores**	**58.84**	**271**	P	**P**	**15 19 35.6**	**-1.2**
	comp=Z,312nmcomp=Z,21nm,0.8s						
NWAO	**Narrogin (SRO)**	**59.23**	**242**	P	**P**	**15 19 38.0**	**-1.0**
NWAO				IAmb	IAmb	15 19 38.6	
	comp=Z,13nm,0.9s						
SBA	**Scott Base**	**60.37**	**184**	P	**P**	**15 19 48.2**	**+2.5**
SBA				PcP	**PcP**	**15 20 23.9**	**+0.4**
VNDA	**Vanda**	**60.39**	**185**	P	**P**	**15 19 47.0**	**+1.2**
	comp=Z,0.8nm,0.4s,baz=359,slow=7.3,SNR=5.5						
VNDA	**Vanda**	**60.39**	**185**	P	**P**	**15 19 47.1**	**+1.2**
MORW	**Morawa**	**60.50**	**246**	P	**P**	**15 19 46.4**	**-1.1**
MORW				IAmb	IAmb	15 19 46.8	
	comp=Z,12nm,0.7s						
APSI	**Ampana**	**61.26**	**279**	P	**P**	**15 19 53.2**	**+0.5**
	comp=Z,538nmcomp=Z,48nm,1.1s						
BNSI	**Bone**	**61.59**	**275**	P	**P**	**15 19 54.9**	**0.0**
	comp=Z,23nm,1.2s						
TOLI2	**Tolitoli**	**62.77**	**281**	P	**P**	**15 20 02.2**	**-0.3**
TOLI2				IAmb	IAmb	15 20 05.6	
	comp=Z,9.0nm,0.7s						
GIRL	**Giralia**	**62.92**	**253**	P	**P**	**15 20 03.7**	**+0.3**
MPSI	**Mapaga**	**63.33**	**280**	P	**P**	**15 20 05.4**	**-0.7**
	comp=Z,31nm,0.9s						
TWSI	**Taliwang, Sumb**	**63.42**	**269**	P	**P**	**15 20 05.8**	**-0.8**
	comp=Z,44nm,1.0s						
JAGI	**Jajag, Banyuwa**	**66.09**	**269**	P	**P**	**15 20 21.5**	**-1.9**
JAGI	**Jajag, Banyuwa**	**66.09**	**269**	P	**P**	**15 20 21.6**	**-1.9**
	comp=Z,73nm,0.7s						
CASY	**Casey**	**66.11**	**205**	P	**P**	**15 20 22.3**	**-0.3**
CASY				IAmb	IAmb	15 20 23.5	
	comp=Z,10.0nm,1.1s						
KMMI	**Kalianget**	**66.66**	**270**	P	**P**	**15 20 25.6**	**-1.3**
	comp=Z,42nm,1.6s						
MTKI	**Muara Teweh, K**	**67.62**	**277**	P	P	15 20 44.7	+12
MJAR	**Matsushiro Arr**	**67.98**	**323**	P	**P**	**15 20 34.1**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=160,slow=5.7,SNR=6.4						
MJAR	**Matsushiro Arr**	**67.98**	**323**	P	**P**	**15 20 34.0**	**-0.5**
MAJO	**Matsushiro**	**67.98**	**323**	P	**P**	**15 20 34.1**	**-0.4**
MAT	**Matsushiro**	**67.98**	**323**	P	**P**	**15 20 34.0**	**-0.6**
PWJI	**Pagerwojo**	**68.44**	**268**	P	**P**	**15 20 36.9**	**-0.9**
	comp=Z,32nm,0.5s						
SJI	**Sawahan**	**68.56**	**269**	P	**P**	**15 20 38.2**	**-0.5**
	comp=Z,31nm,0.7s						
PCJI	**Pacitan**	**68.99**	**268**	P	**P**	**15 20 40.5**	**-0.6**
	comp=Z,174nm,0.8s						
ADK	**Adak**	**69.56**	**1**	P	**P**	**15 20 43.3**	**-0.4**
UGM	**Wanagama**	**69.69**	**268**	P	**P**	**15 20 44.4**	**-0.9**
UGM	**Wanagama**	**69.69**	**268**	P	**P**	**15 20 44.5**	**-0.9**
	comp=Z,102nm,1.5s						
STKI	**Sintang**	**71.18**	**276**	P	**P**	**15 20 54.7**	**+0.6**
	comp=Z,28nm,1.4s						
CTJI	**Waduk Cacaban**	**71.22**	**269**	P	**P**	**15 20 54.2**	**-0.1**
	comp=Z,24nm,0.8s						
KPJI	**Karang Pucung**	**71.37**	**268**	P	**P**	**15 20 54.4**	**-0.8**
	comp=Z,42nm,0.6s						
QSPA	**South Pole Qui**	**72.09**	**180**	P	**P**	**15 20 59.1**	**+0.6**
QSPA				IAmb	IAmb	15 21 00.1	
	comp=Z,12nm,1.1s						
QSPA				PcP	**PcP**	**15 21 13.5**	**+0.6**
SSLB	**Suanglung**	**72.31**	**303**	P	**P**	**15 20 59.3**	**-1.2**
TPUB	**Ta-pu**	**72.33**	**302**	P	**P**	**15 20 59.2**	**-1.3**
TPUB				IAmb	IAmb	15 21 00.5	
	comp=Z,22nm,0.8s						
CISI	**Cisompet, Garu**	**72.37**	**268**	P	**P**	**15 20 59.5**	**-1.6**
CISI				IAmb	IAmb	15 20 59.9	
	comp=Z,18nm,0.7s						
CISI	**Cisompet, Garu**	**72.37**	**268**	P	**P**	**15 20 59.2**	**-1.9**
	comp=Z,26nm,0.8s						
PEA0B	**Petropavlovsk-**	**73.75**	**345**	P	**P**	**15 21 07.9**	**0.0**
PEA0B				IAmb	IAmb	15 21 09.5	
	comp=Z,7.9nm,0.9s						
PETK	**Petropavlovsk-**	**73.75**	**345**	P	**P**	**15 21 07.5**	**-0.5**
	comp=Z,2.4nm,0.6s,baz=120,slow=7.0,SNR=22						
PETK	**Petropavlovsk-**	**73.75**	**345**	P	**P**	**15 21 07.6**	**-0.3**
SDPT	**Sand Point**	**74.59**	**10**	P	**P**	**15 21 14.0**	**+1.4**
	baz=198						
KASI	**Kota Agung**	**76.11**	**269**	P	**P**	**15 21 20.6**	**-1.4**
	comp=Z,47nm,1.0s						
SCI2	**San Clemente I**	**76.34**	**48**	P	**P**	**15 21 22.2**	**-0.7**
	baz=238						
SAO	**San Andreas Ge**	**76.43**	**44**	IAmb	IAmb	15 21 25.6	
	comp=Z,11nm,0.7s						
PKM	**Mcpherson Peak**	**76.48**	**46**	P	**P**	**15 21 24.5**	**+0.6**
	baz=237						
PMPB	**Monarch Peak**	**76.55**	**45**	IAmb	IAmb	15 21 26.1	
	comp=Z,8.8nm,0.6s						
SMMC	**Simmler**	**76.59**	**46**	P	**P**	**15 21 25.6**	**+1.3**
	baz=236						
USRK	**Ussuriysk Ar.**	**76.69**	**326**	P	**P**	**15 21 25.2**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=98,slow=4.0,SNR=1.8						
USRK	**Ussuriysk Ar.**	**76.69**	**326**	P	**P**	**15 21 25.4**	**+0.9**
MDSI	**Maura Dua**	**76.72**	**270**	P	**P**	**15 21 23.3**	**-2.1**
	comp=Z,7.3nm,1.2s						
KMRM	**Mail Ridge**	**77.03**	**40**	P	**P**	**15 21 28.6**	**+2.0**
KMRM				IAmb	IAmb	15 21 28.9	
	comp=Z,20nm,0.8s						
MWC	**Mount Wilson**	**77.34**	**48**	IAmb	IAmb	15 21 30.0	
	comp=Z,11nm,0.6s						
O02D	**Mt. Diablo Mer**	**77.56**	**40**	P	**P**	**15 21 31.4**	**+1.9**
	baz=233						
MURC	**Murrieta**	**77.62**	**48**	P	**P**	**15 21 31.4**	**+1.5**
	baz=238						
BFSC	**Mount Baldy Ra**	**77.63**	**48**	P	**P**	**15 21 31.0**	**+1.0**
	baz=238						
EDW2	**Edwards Air Fo**	**77.73**	**47**	P	**P**	**15 21 31.7**	**+1.2**
	baz=238,SNR=7.5						
OHAK	**Old Harbor**	**77.78**	**14**	P	**P**	**15 21 30.2**	**+0.1**
OHAK				IAmb	IAmb	15 21 31.0	
	comp=Z,12nm,0.8s						
OHAK	**Old Harbor**	**77.78**	**14**	P	**P**	**15 21 30.1**	**+0.1**
	baz=204						
MONP2	**Monument Peak**	**77.81**	**49**	P	**P**	**15 21 32.5**	**+1.4**
	baz=239,SNR=13						
ISA	**Isabella, Lake**	**77.82**	**46**	IAmb	IAmb	15 21 33.3	
	comp=Z,9.3nm,0.9s						
ISA	**Isabella, Lake**	**77.82**	**46**	P	**P**	**15 21 31.9**	**+1.0

TUQ	Turquoise Moun	79.47	47	P	P	15 21 41.0	+1.1
	baz=239,SNR=5.5						
J04D	Umpqua Nationa	79.79	38	P	P	15 21 42.5	+1.0
	baz=234,SNR=10						
O18K	Koktuh Hills	79.80	12	P	P	15 21 40.5	-0.3
O18K				IAmb	IAmb	15 21 41.4	
	comp=Z,21nm,0.8s						
O18K	Koktuh Hills	79.80	12	P	P	15 21 40.7	-0.1
	baz=202						
KVN	Kaiserville	79.90	43	P	P	15 21 42.7	+0.6
I04A	Tendick Farm,	79.95	38	P	P	15 21 42.8	+0.8
	baz=233						
TPH	Tonopah	79.96	45	IAmb	IAmb	15 21 44.0	
	comp=Z,27nm,1.0s						
214A	Organ Pipe Nat	80.01	52	P	P	15 21 43.8	+1.2
	baz=242						
TPNV	Topopah Spring	80.02	46	P	P	15 21 43.2	+0.5
	baz=239,SNR=7.6						
MOD	Modoc Plateau	80.10	40	IAmb	IAmb	15 21 45.0	
	comp=Z,13nm,0.7s						
PDMCI	Parker Dam,Lak	80.17	49	P	P	15 21 43.5	+0.2
	baz=240						
K05A	Summer Lake	80.21	39	IAmb	IAmb	15 21 46.0	
	comp=Z,19nm,1.0s						
O19K	Port Alsworth	80.29	12	P	P	15 21 42.8	-0.5
	baz=203						
J05D	Fort Rock, OR	80.33	38	P	P	15 21 44.3	+0.2
	baz=234,SNR=18						
N18K	Kilae Creek	80.44	11	P	P	15 21 43.6	-0.5
	baz=202						
H04A	Detroit Lake	80.61	37	P	P	15 21 46.2	+0.8
H04A				IAmb	IAmb	15 21 46.8	
	comp=Z,13nm,0.6s						
PINE	Pine Mountain	80.81	38	IAmb	IAmb	15 21 48.6	
	comp=Z,13nm,0.8s						
N19K	Bonanza Creek	80.83	12	P	P	15 21 45.7	-0.5
	baz=203						
I05D	Terrebonne, OR	80.89	38	P	P	15 21 47.8	+0.9
	baz=234						
F04D	Rainier, OR	80.99	35	P	P	15 21 48.5	+1.2
	baz=232						
PRN	Pahroc Range	81.08	46	IAmb	IAmb	15 21 50.7	
	comp=Z,10nm,0.8s						
R11A	Troy Canyon, C	81.20	45	P	P	15 21 49.4	+0.6
	baz=239,SNR=7.2						
BMN	Battle Mountai	81.22	43	IAmb	IAmb	15 21 51.0	
	comp=Z,10nm,1.0s						
NLWA	Neilton Lookou	81.33	34	P	P	15 21 50.1	+1.0
NLWA				IAmb	IAmb	15 21 50.7	
	comp=Z,6.2nm,0.7s						
WVOR	Wild Horse Val	81.42	40	IAmb	IAmb	15 21 51.5	
	comp=Z,9.3nm,0.8s						
G05D	Wamic, OR	81.44	37	P	P	15 21 50.1	+0.5
	baz=234						
E04D	Cinebar	81.52	35	P	P	15 21 50.7	+0.7
	baz=233						
O22K	Cooper Landing	81.52	14	P	P	15 21 49.7	+0.1
O22K				IAmb	IAmb	15 21 54.0	
	comp=Z,19nm,0.7s						
O22K	Cooper Landing	81.52	14	P	P	15 21 49.6	0.0
	baz=208						
SPCR	Spurr Chakacha	81.63	12	P	P	15 21 49.7	-0.6
	baz=205						
TUC	Tucson	81.69	52	P	P	15 21 52.5	+1.1
TUC	Tucson	81.69	52	P	P	15 21 52.8	+1.4
	baz=243						
F05D	White Salmon	81.74	36	P	P	15 21 51.5	+0.4
	baz=234						
D04E	Lakebay	81.79	35	P	P	15 21 51.9	+0.6
	baz=232						
I07A	Izee	81.82	39	IAmb	IAmb	15 21 53.9	
	comp=Z,9.3nm,0.7s						
M19K	Big River Lodg	81.85	11	IAmb	IAmb	15 21 51.8	
	comp=Z,6.2nm,0.8s						
M19K	Big River Lodg	81.85	11	P	P	15 21 51.1	-0.3
	baz=203						
L19K	White Mountain	82.02	11	IAmb	IAmb	15 21 53.5	
	comp=Z,7.7nm,0.9s						
L19K	White Mountain	82.02	11	P	P	15 21 52.3	+0.1
	baz=203						
M20K	Styx River	82.07	12	P	P	15 21 52.7	+0.2
	baz=204						
BELA	Belgrano 2	82.10	173	P	P	15 21 52.4	-0.2
BELA				IAmb	IAmb	15 21 52.8	
	comp=Z,5.8nm,0.5s						
LCMT	Little Creek M	82.13	47	IAmb	IAmb	15 21 55.8	
	comp=Z,6.8nm,0.8s						
SUA	Susitna One	82.18	13	IAmb	IAmb	15 21 53.4	
	comp=Z,8.2nm,0.6s						
SPR3	Spring Creek 3	82.37	45	P	P	15 21 55.5	+0.6
KNB	Kanab	82.43	47	IAmb	IAmb	15 21 57.1	
	comp=Z,7.3nm,0.7s						
PSUT	Pine Spring	82.46	46	P	P	15 21 56.5	+1.3
PSUT				IAmb	IAmb	15 21 57.2	
	comp=Z,6.7nm,0.7s						
L20K	Farewell, AK	82.48	11	P	P	15 21 54.1	-0.4
	baz=204						
U15A	North Rim	82.52	48	P	P	15 21 57.6	+1.9
U15A				IAmb	IAmb	15 21 58.3	
	comp=Z,14nm,0.8s						
PMR	Palmer	82.65	14	P	P	15 21 54.9	-0.4
	baz=208						
WUAZ	Wupatki	82.74	49	IAmb	IAmb	15 21 59.3	
	comp=Z,10nm,1.1s						
WUAZ	Wupatki	82.74	49	P	P	15 21 58.1	+1.5
	baz=242						
A04D	Lummi Island	82.76	33	P	P	15 21 57.3	+1.2
	baz=232						
B05A	Bryant	82.81	34	P	P	15 21 57.3	+0.9
	baz=233						
G08A	Pilot Rock	82.82	38	IAmb	IAmb	15 21 58.2	
	comp=Z,6.4nm,0.7s						
SML	Sawmill	83.02	14	P	P	15 21 57.1	-0.2
HAWA	Hanford	83.12	37	P	P	15 21 59.4	+1.3
HAWA				IAmb	IAmb	15 21 59.6	
	comp=Z,9.6nm,0.7s						
CUT	Chulitna	83.12	13	P	P	15 21 57.6	0.0
CUT				IAmb	IAmb	15 22 05.9	
	comp=Z,15nm,1.1s						
K20K	Telida	83.25	11	IAmb	IAmb	15 21 59.2	
	comp=Z,7.7nm,0.8s						
K20K	Telida	83.25	11	P	P	15 21 58.2	-0.2
	baz=203,SNR=6.1						
MVU	Marysvale	83.57	46	IAmb	IAmb	15 22 03.7	
	comp=Z,9.4nm,0.7s						
N25K	Chitina, Valde	83.74	15	IAmb	IAmb	15 22 01.7	
	comp=Z,11nm,0.7s						
N25K	Chitina, Valde	83.74	15	P	P	15 22 00.9	0.0
	baz=212,SNR=8.4						
W18A	Petrified Fore	83.75	50	P	P	15 22 01.9	+0.2
	baz=243						
M24K	Tolsona, Glenn	83.78	15	P	P	15 22 01.3	+0.2
	baz=211						
MAW	Mawson	83.82	200	P	P	15 22 01.4	+0.2
	comp=Z,2.0nm,0.5s,baz=155,slow=3.8,SNR=22						
MAW	Mawson	83.82	200	P	P	15 22 01.1	-0.1
SEY	Seymchan	83.84	347	P	P	15 22 01.0	-0.2
	baz=144,slow=8.4						
D08A	Wollman Farm,	83.84	36	IAmb	IAmb	15 22 03.0	
	comp=Z,6.5nm,0.7s						
PSI	Prapat	83.94	275	P	P	15 22 01.8	-1.3
	comp=Z,19nm,0.9s,comp=Z,9.1nm,0.9s						
PSI				P	P	15 22 01.7	-1.3
	comp=Z,19nm,0.9s,comp=Z,9.1nm,0.9s						
DUG	Dugway, Tooele	83.99	45	P	P	15 22 03.8	+1.1
	baz=241						
J20K	Nowinta River	84.00	10	P	P	15 22 01.7	-0.2
J20K	Nowinta River	84.00	10	P	P	15 22 01.7	-0.2
	baz=203						
F10A	Beach Ranch, E	84.21	38	IAmb	IAmb	15 22 05.1	
	comp=Z,12nm,0.9s						
HARP	HAARP	84.28	15	P	P	15 22 03.4	-0.1
	baz=212						
ENH	Enshi	84.34	304	P	P	15 22 04.8	+0.2
ENH				IAmb	IAmb	15 22 06.0	
	comp=Z,10nm,0.7s						
B08A	Colville Reser	84.36	35	IAmb	IAmb	15 22 05.2	
	comp=Z,7.1nm,0.8s						
MCK	McKinley	84.58	13	IAmb	IAmb	15 22 05.2	
	comp=Z,10nm,1.1s						
C09A	Chrisman Ranch	84.63	36	IAmb	IAmb	15 22 06.5	
	comp=Z,6.5nm,0.8s						
HLID	Hailey	84.64	41	IAmb	IAmb	15 22 08.1	
	comp=Z,4.7nm,0.8s						
HLID	Hailey	84.64	41	P	P	15 22 07.2	+1.3
	baz=239,SNR=10						
SKAG	Skagway	84.73	20	P	P	15 22 06.4	+0.7
	baz=221						
GSI	Gunungsitoli	84.75	273	P	P	15 22 07.4	+0.5
	comp=Z,31nm,1.8s						
HVU	Hansel Valley	84.79	43	P	P	15 22 07.9	+1.2
M26K	Nabesna, AK	84.82	16	IAmb	IAmb	15 22 07.3	
	comp=Z,6.1nm,0.9s						
M26K	Nabesna, AK	84.82	16	P	P	15 22 06.0	-0.1
	baz=214,SNR=5.4						
YUK6	Outpost Mounta	84.93	18	P	P	15 22 06.9	0.0
	baz=218						
YUK3	Moose Creek	84.99	17	P	P	15 22 07.3	+0.1
	baz=216,SNR=5.9						
SRU	San Rafael Swe	85.02	46	IAmb	IAmb	15 22 09.6	
	comp=Z,4.6nm,0.7s						
M27K	Edge Creek, AK	85.08	16	P	P	15 22 07.8	+0.3
	baz=215						
HYT	Haines Junctio	85.09	19	P	P	15 22 07.2	-0.4
	baz=219						
L26K	Long Cabin Wild	85.26	15	P	P	15 22 08.1	-0.1
	baz=213						
I21K	Tanana	85.30	11	P	P	15 22 07.9	-0.3
	baz=205						
TCUT	Toone Canyon	85.37	44	IAmb	IAmb	15 22 11.5	
	comp=Z,6.3nm,0.6s						
BVCY	Beaver Creek	85.40	17	P	P	15 22 09.3	+0.5
	baz=216						
NEW	Newport	85.53	36	P	P	15 22 10.0	+0.1
	baz=237						
MNTX	Cornudas Mount	85.57	55	P	P	15 22 10.7	+0.3
	baz=246						
MVCO	Mesa Verde	85.58	49	P	P	15 22 09.9	-0.7
	baz=244						
HDA	Harding Lake	85.60	13	IAmb	IAmb	15 22 11.2	
	comp=Z,4.6nm,0.8s						
L27K	Beaver Creek,	85.67	16	P	P	15 22 09.6	-0.6
	baz=215						
I23K	Minto, Yukon-K	85.76	12	P	P	15 22 09.6	-0.9
	baz=208						
WHY	Whitehorse	85.79	20	P	P	15 22 10.5	-0.4
	baz=221						
ILAR	Eielson Array	85.93	13	P	P	15 22 10.4	-0.9
	comp=Z,2.0nm,0.4s,baz=229,slow=5.6,SNR=18						
ILAR	Eielson Array	85.93	13	P	P	15 22 10.2	-1.1
TX31	Lajitas Ar. Si	85.98	58	P	P	15 22 14.5	+1.9
TX32	Lajitas Array	85.98	58	IAmb	IAmb	15 22 15.2	
	comp=Z,8.0nm,0.8s						
TXAR	Lajitas Array	85.98	58	P	P	15 22 14.6	+2.1
	comp=Z,6.3nm,0.7s,baz=217,slow=6.1,SNR=82						
ANMO	Albuquerque	86.09	52	P	P	15 22 13.7	+0.6
ANMO	Albuquerque	86.09	52	P	P	15 22 12.9	-0.2
	baz=245						
POKR	Poker Plat Res	86.12	13	P	P	15 22 11.5	-0.7
	baz=209						
MCMT	McKenzie Canyo	86.25	40	P	P	15 22 14.3	+0.7
H23K	Yukon River	86.33	11	P	P	15 22 13.0	-0.2
	baz=207						
XAN	Xi'an	86.33	307	P	P	15 22 15.1	+1.1
XAN				pP	PcP	15 22 21.2	+5.6
XAN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
J26K	Charley River,	86.44	14	P	P	15 22 14.0	+0.1
	baz=213						
MSO	Missoula	86.60	38	P	P	15 22 15.6	+0.6
	baz=239						
DLMT	Dillon	86.67	40	P	P	15 22 16.3	+0.8
DLMT				IAmb	IAmb	15 22 17.1	
	comp=Z,6.0nm,0.7s						
TPAW	Teton Pass	86.80	42	IAmb	IAmb	15 22 17.0	
	comp=Z,4.5nm,0.7s						
REDW	Red Top Meadow	86.80	42	P	P	15 22 16.3	+0.1
REDW				IAmb	IAmb	15 22 18.4	
	comp=Z,11nm,1.1s						
IMW	Indian Meadow	87.00	42	IAmb	IAmb	15 22 19.0	
	comp=Z,7.3nm,0.6s						
S22A	4UR Ranch, Cre	87.01	49	P	P	15 22 17.2	-0.2
	baz=245						
O20A	White River Ci	87.06	46	P	P	15 22 17.9	+0.4
	baz=244						
LOHW	Long Hollow	87.08	42	IAmb	IAmb	15 22 19.0	
	comp=Z,3.9nm,0.7s						
DAWY	Dawson	87.13	16	P	P	15 22 16.8	-0.2
	baz=217						
FLWY	Flagg Ranch	87.24	42	IAmb	IAmb	15 22 20.2	
	comp=Z,6.3nm,0.7s						
EGAK	Eagle	87.26	15	P	P	15 22 17.6	0.0
	baz=215						
HHC	Hu-ho-hao-te	87.35	314	eP	P	15 22 17.6	-1.1
HHC				pmax	pmax		
	comp=Z,12nm,1.3s						
HHC				pmax	pmax		
	comp=Z,93nm,6.5s						
BW06	Boulder Array	87.36	43	IAmb	IAmb	15 22 19.9	
	comp=Z,4.7nm,0.7s						
BW06	Boulder Array	87.36	43	P	P	15 22 18.2	-0.7
	baz=243						
PD31	Pinedale Array	87.36	43	P	P	15 22 19.2	+0.3
PD31				IAmb	IAmb	15 22 19.9	
	comp=Z,4.2nm,0.7s						
PDAR	Pinedale Array	87.36	43	P	P	15 22 19.4	+0.5
	comp=Z,3.5nm,0.5s,baz=224,slow=3.3,SNR=43						
PDAR	Pinedale Array	87.36	43	P	P	15 22 18.9	0.0
BOZ	Bozeman (W)	87.38	40	P	P	15 22 18.8	0.0
	baz=241						
FARO	Faro, Yukon	87.46	19	P	P	15 22 18.7	+0.1
	baz=222						
H17A	Grant Village	87.46	42	P	P	15 22 20.5	+1.1
H17A				IAmb	IAmb	15 22 22.6	
	comp=Z,5.9nm,0.7s						
H17A	Grant Village	87.46	42	P	P	15 22 19.5	+0.2
	baz=242						
WALA	Waterton Lakes	87.75	36	IAmb	IAmb	15 22 21.4	
	comp=Z,4.6nm,0.8s						
SDCO	Great Sand Dun	87.96	49	P	P	15 22 22.5	+0.6
	baz=246						
YNE	Yellowstone No	88.11	41	IAmb	IAmb	15 22 24.3	
	comp=Z,4.1nm,0.7s						
MMPY	Sheldon Lake,	88.41	20	P	P	15 22 23.7	+0.6
	baz=224						
RWWY	Rawlins	88.44	45	IAmb	IAmb	15 22 25.1	
	comp=Z,5.1nm,1.1s						
MSTX	Muleshoe	88.49	54	P	P	15 22 24.9	+0.7
	baz=247						
T25A	Trinidad	88.51	50	P	P	15 22 24.9	+0.6
	baz=246						
RLMT	Red Lodge	88.62	41	P	P	15 22 26.0	+1.3
	baz=243						
TGTN	Hyland Airport	88.65	22	P	P	15 22 25.1	+0.9
	baz=227						
TOLK	Toolik Lake Re	88.83	10	P	P	15 22 25.2	+0.3
	baz=207						
CMAR	Chiang Mai Arr	88.95	290	P	P	15 22 27.4	+0.8
	comp=Z,2.7nm,0.9s,baz=116,slow=2.9,SNR=17						
CMAR	Chiang Mai Arr	88.95	290	P	P	15 22 27.1	+0.6
N23A	Red Feather La	88.96	46	P	P	15 22 26.3	-0.1
	baz=245						
CMMT	Chiang Mai	89.06	290	P	P	15 22 27.3	+0.2
K22A	Casper	89.31	45	P	P	15 22 28.5	+0.6
	baz=245						
JCT	Junction City	89.52	58	P	P	15 22 29.6	+0.6
	baz=249						
EPYK	Eagle Plains	89.64	16	P	P	15 22 28.6	-0.1
	baz=219						
ABTX	Abilene, Hawle	90.42	56	P	P	15 22 32.9	-0.2
	baz=249						
SNAA	Sanae	90.54	179	P	P	15 22 32.5	-0.5
VNA3	Neumayer Olymp	90.68	176	P	P	15 22 33.5	-0.1
VNA2	Neumayer--Watz	91.12	177	P	P	15 22 35.5	0.0
	baz=184,slow=3.8						
VNA1	Neumayer--Stat	91.35	177	P	P	15 22 37.0	+0.5
INK	Inuvik	91.93	15	P	P	15 22 38.6	-0.5
	comp=Z,3.3nm,0.7s,baz=217,slow=3.4,SNR=5.2						
INK	Inuvik	91.93	15	P	P	15 22 39.7	+0.6
	baz=222						
DGMT	Dagmar	93.21	40	P	P	15 22 45.6	+0.1
	baz=246						
YKA	Yellowknife Ar	94.36	25	P	P	15 22 50.4	0.0
	comp=Z,1.0nm,0.6s,baz=224,slow=3.9,SNR=4.0						
KSU1	Kansas State U	94.95	51	P	P	15 22 53.1	-0.5
	baz=251						
ECSD	EROS Data Cent	96.44	46	P	P	15 22 59.3	-0.9
	baz=251						
BNN	Bunyan	143.73	312	PKPbc	PKPab	15 29 01.9	+0.2
LODK	Lodwar	143.95	250	PKPbc	PKPab	15 29 03.2	0.0
BRTR	Keskin Array B	144.86	315	PKP	PKPdf	15 29 04.4	-0.1
	comp=Z,1.4nm,0.4s,baz=94,slow=2.0,SNR=9.3						
BRTR	Keskin Array B	144.86	315		PKPdf	15 29 03.0	-1.5
CLL	Collm	145.53	347	*i* PKPbc	PKPbc	15 29 06.2	-0.3
	comp=Z,4.0nm,0.6s						
CLL				*e*PKiKP	PKiKP	15 29 10.0	+0.7
MBAR	Mbarara	145.94	240	PKPbc	PKPbc	15 29 09.3	+0.2
GERES	GERESS Array B	147.68	345	PKPbc	PKPbc	15 29 12.4	-0.1
	comp=Z,0.8nm,0.5s,baz=0.0,slow=2.8,SNR=9.2						
GERES	GERESS Array B	147.68	345		PKPdf	15 29 09.9	+1.0
GERES				PKPbc	PKPbc	15 29 12.8	+0.2
ESDC	Sonseca Array	157.83	12	PKP	PKPdf	15 29 24.2	+0.6
	comp=Z,0.6nm,0.5s,baz=5.2,slow=4.3,SNR=4.3						
ESDC				PKPab	PKPab	15 29 59.6	-0.6
	comp=Z,0.7nm,0.7s,baz=342,slow=3.3,SNR=2.8						
ESDC	Sonseca Array	157.83	12		PKPdf	15 29 24.1	+0.5
ESDC					PKPab	15 29 59.8	-0.4

MAN 09 15:11:57.8, 18°10N×121°18E, h15km, mb4.0, ML2.7, MS2.3,1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIPP	Brgy, Tapao	0.71	256	⇑*i*P	Pg	15 12 11.5	-0.2

DJA 09 15:27:32.9±0.3, 10°S×3°×11°7E±°, h10km, M4.2/15, mb4.3/7, mB4.6/1, MLv4.2/15, Mw(mB)3.8/1, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	Plampang	1.03	24	P	Pg	15 27 52.5	-0.2
PLAI				S	Sg	15 28 04.4	-1.7
TWSI	Taliwang, Sumb	1.12	336	P	Pb	15 27 54.5	0.0
TWSI				S	Sb	15 28 07.0	-2.2
WBSI	Waikabubak, Su	2.02	87	P	Pn	15 28 05.8	-1.2
DNP	Denpasar	2.38	297	P	Pn	15 28 13.3	+1.4
DNP				S	Sn	15 28 41.9	+0.8
SRBI	Singaraja	2.69	308	P	Pn	15 28 18.3	+2.0
BASI	Baing, Sumba	3.21	98	P	Pn	15 28 23.0	-0.4
BYJI	Banyuwangi	3.34	297	P	Pn	15 28 26.5	+1.3
JAGI	Jajag, Banyuwa	3.41	292	P	Pn	15 28 26.9	+0.7
JAGI				S	Sn	15 29 04.6	-2.2
ABJI	Asem Bagus	3.65	302	P	Pn	15 28 30.7	+1.2
GMJI	Gumukmas	4.13	291	P	Pn	15 28 37.4	+1.2
GMJI				S	Sn	15 29 22.5	-2.1
EDFI	Ende, Flores	4.40	77	P	Pn	15 28 40.3	+0.4
BSSI	Bau Bau, Buton	4.76	41	P	Pn	15 28 45.5	+0.7
MMRI	Maumere	4.96	77	P	Pn	15 28 48.9	+1.4
BKSI	Bulukumba	5.20	32	P	Pn	15 28 52.0	+1.1
	0.2nm560nm39nm,0.6s						
KAPI	Kappang	5.29	27	P	Pn	15 28 53.1	+1.0
	0.1nm24nm,1.0s						
PWJI	Pagerwojo	5.75	287	P	Pn	15 28 59.6	+1.2
	0.3nm32nm,0.8s						
SJI	Sawahan	5.88	290	P	Pn	15 29 01.4	+1.2
	0.2nm19nm,1.6s						
BNSI	Bone	6.00	27	P	Pn	15 29 02.8	+1.1
	0.1nm18nm,0.8s						
PCJI	Pacitan	6.30	284	P	Pn	15 29 05.5	-0.4
	0.2nm36nm,1.6s						
UGM	Wanagama	6.99	285	P	Pn	15 29 17.1	+1.6
	0.6nm60nm,1.7s						

ISC 09 15:27:42.1±0.9, 49°69N±0°04×17°31E±0°04, h10km, n8, σ1§20/15, 1C, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MORC	Moravsky Berou	0.18	60	⇑*i*PG	Pg	15 27 44.4	-1.5
MORC				*e*SG	Sg	15 27 46.4	-2.1
MORC				*e*RG	Rg	15 27 47.1	
VRAC	Vranov	0.60	231	*e*PG	Pb	15 27 54.5	-0.2
VRAC				*e*SG	Sg	15 28 01.1	-0.5
JAVC	Velka Javorina	0.86	164	*e*PG	Pb	15 28 00.2	+1.0
KRUC	Moravsky	0.86	224	*e*PG	Pb	15 27 59.5	+0.3
KRUC				*e*SG	Sb	15 28 10.5	-0.3
KOLL	Kolacno	1.32	147	*e*PG	Pb	15 28 07.8	+0.8
KOLL				*e*SG	Sb	15 28 24.5	+0.6
KSP	Ksiaz	1.33	331	*e*PG	Pn	15 28 07.5	+0.8
KSP				*e*Sg	Sb	15 28 25.8	+1.7
LANS	Liptovska Anna	1.51	110	*e*PG	Pn	15 28 10.1	+0.9
LANS				*e*SG	Sb	15 28 31.1	+1.7
LANS				*e*LG	Lg	15 28 32.7	
VYHS	Vyhne	1.56	139	*e*PG	Pn	15 28 09.2	-0.7
VYHS				*e*SG	Sn	15 28 30.5	+0.3

IDC 09 15:34:56.3±9.8, 18°08S×177°40W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/41, mbtmp3.8/3, Error ellipse: s-maj=433.5km s-min=41.0km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	45.55	260	P	P	15 43 17.6	-0.6
	0.5nm,0.7s,baz=88,slow=7.9,SNR=7.8						
ASAR	Alice Springs	45.67	254	P	P	15 43 19.4	+0.2
	1.5nm,0.6s,baz=87,slow=8.7,SNR=36						
ILAR	Eielson Array	85.84	13	P	P	15 47 37.4	+0.1
	0.4nm,0.4s,baz=212,slow=5.0,SNR=1.6						

*PGC **09** 15:39:27.1±0.7, 50°55N×130°29W, h10km, MLSn3.1/24, Mw3.7/24, 203km west of Pt. Hardy, Bc Vancouver Island, Canada Region*

*IDC **09** 15:39:31.3±1.5, 50°76N×129°54W, h0km, mb3.3/1, mb1 3.8/5, mb1mx3.5/41, mbtmp3.4/5, ML3.6/4, MS3.1/4, Ms1 3.1/4, ms1mx2.8/17, Error ellipse: s-maj=19.1km s-min=10.6km az=94.0*

ISC 09 15:39:28.4±2.8, 50°62N±0°06×130°14W±0°06, h9km±18km, n56, σ2§32/49, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOLB	Holberg	1.28	88	Pn	Pn	15 39 50.4	-2.1
HOLB				Sn	Sg	15 40 06.9	-2.6
BPBC	Brooks Peninsu	1.58	106	Pn	Pn	15 39 53.7	-2.9
PACB	Port Alice, BC	1.70	95	Pn	Pn	15 39 55.9	-2.3
PACB				Sn	Sn	15 40 16.7	-3.3
PHC	Port Hardy	1.73	86	Pn	Pn	15 39 56.9	-1.6
PHC				Sn	Sn	15 40 17.7	-3.0
HG4B	Hotspring	1.80	339	Pn	Pn	15 39 56.2	-3.4
HG4B				Sn	Sn	15 40 17.9	-4.8
MAYB	Maynard	1.91	95	Pn	Pn	15 39 59.1	-2.1
BBB	Bella Bella	2.02	38	Pg	Pn	15 40 01.3	-1.2
	4.7nm,0.3s,baz=225,slow=6.3,SNR=78						
BBB				Lg	Lg	15 40 25.3	
	22nm,0.3s,baz=240,slow=20,SNR=4.8						
BBB	Bella Bella	2.02	38	Pn	Pn	15 40 01.4	-1.2
BBB				Sn	Sn	15 40 25.7	-2.1
EDB	Eliza Dome	2.08	110	Pn	Pn	15 40 01.5	-1.9
TLCB	Telegraph Cove	2.11	91	Pn	Pn	15 40 02.6	-1.2
TLCB				Sn	Sn	15 40 27.3	-2.8
BNB	Barry Inlet	2.20	333	Pn	Pn	15 40 02.2	-3.0
BNB				Sn	Sn	15 40 28.0	-4.6
WOSB	Woss	2.33	100	Pn	Pn	15 40 05.4	-1.5
NCRB	Newcastle Ridg	2.62	93	Pn	Pn	15 40 09.3	-1.6
B

OCP	Olym-Cheeka Pk	4.28	121	Pn	Pn	15 40 33.1	-0.6
GOBB	Galiano Island	4.61	109	Pn	Pn	15 40 37.3	-0.9
OBC	Olympics--Boni	4.73	121	Pn	Pn	15 40 39.9	0.0
FSB	Fort Saint Jam	5.24	40	Pn	Pn	15 40 47.8	+0.9
LLLB	Lillooet	5.26	87	Pn	Pn	15 40 47.1	0.0
VDB	Vedder Mountai	5.44	104	Pn	Pn	15 40 50.0	+0.4
HDW	Hoodsport	5.52	120	Pn	Pn	15 40 50.6	-0.1
CMW	Cultus Mountai	5.67	110	Pn	Pn	15 40 53.5	+0.7
JCW	Jim Creek	5.88	111	Pn	Pn	15 40 56.0	+0.3
FMW	Mount Fremont	6.70	120	Pn	Pn	15 41 07.9	+0.8
LTY	Liberty	7.08	115	Pn	Pn	15 41 13.4	+1.1
BMBC	Bull Mountain	7.25	38	Pn	Pn	15 41 15.7	+1.2
DLBC	Dease Lake	7.84	0	Pn	Pn	15 41 25.4	+2.9
	0.5nm,0.3s,baz=185,slow=13,SNR=6.7						
DLBC				Sn	Sn	15 42 49.3	-2.0
	0.4nm,0.3s,baz=176,slow=19,SNR=1.8						
DLBC				LR	LR	15 44 33.0	
	comp=Z,133nm,18.1s,baz=195,slow=39						
NBC5	NorthernBC 5	8.19	29	Pn	Pn	15 41 28.1	+0.7
ELK	Elko	14.32	128	LR	LR	15 47 52.9	
	comp=Z,74nm,20.4s,baz=354,slow=36						
NVAR	Mina Array Bea	14.80	141	Pn	P	15 43 03.2	-0.7
	0.1nm,0.3s,baz=328,slow=6.4,SNR=2.3						
PDAR	Pinedale Array	16.12	111	Pn	Pn	15 43 18.0	+2.7
	0.1nm,0.3s,baz=309,slow=17,SNR=8.0						
PDAR				LR	LR	15 49 54.3	
	comp=Z,58nm,18.4s,baz=24,slow=39						
ILAR	Eielson Array	16.69	335	Pn	P	15 43 29.1	+4.6
	0.1nm,0.3s,baz=140,slow=11,SNR=6.6						
RES	Resolute Bay	28.19	19	LR	LR	15 56 06.9	
	comp=Z,43nm,19.6s,baz=32,slow=36						
TXAR	Lajitas Array	29.12	127	P	P	15 45 31.4	+1.9
	0.2nm,0.7s,baz=309,slow=5.7,SNR=2.5						
H11N2	WAKE ISLAND Hy	57.90	262	T	T	16 51 54.7	
	baz=42,slow=76,SNR=84						
H11N3	WAKE ISLAND Hy	57.90	262	T	T	16 51 54.8	
	baz=42,slow=76,SNR=122						
H11N1	WAKE ISLAND Hy	57.91	262	T	T	16 51 55.9	
	baz=42,slow=76,SNR=46						
H11S1	WAKE ISLAND Hy	58.93	261	T	T	16 53 11.4	
	baz=40,slow=75,SNR=6.2						
H11S2	WAKE ISLAND Hy	58.94	261	T	T	16 53 11.2	
	baz=40,slow=75,SNR=6.3						
H11S3	WAKE ISLAND Hy	58.95	261	T	T	16 53 12.6	
	baz=40,slow=75,SNR=5.0						

*IDC **09** 15:51:09.2±0.8, 36°.30S×53°.33E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.7/34, mbtmp3.7/9, ML3.8/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/32, Error ellipse: s-maj=28.5km s-min=23.5km az=70.0*

*NEIC **09** 15:51:11.8±0.5, 36°.4S±0°.1×53°.3E±0°.2, h10km±1km, mb4.2/9, Error ellipse: s-maj=24.1km s-min=18.5km az=218.0*

ISC 09 15:51:10.4±0.7, 36°.3S±0°.1×53°.3E±0°.2, h7km, n27, σ0.56/22, mb3.9/9, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOI	Vohitsoka	15.45	337	Pn	Pn	15 54 49.3	+0.4
VOI				IAmb	IAmb	15 54 59.6	
	comp=Z,17nm,1.4s						
OPO	Ambohidratompo	18.49	341	P	Pn	15 55 28.7	+1.3
	comp=Z,0.3nm,0.3s,baz=138,slow=19,SNR=1.7						
SUR	Sutherland	27.06	269	LR	LR	16 05 40.6	
	comp=Z,70nm,19.0s,baz=318,slow=32						
MAW	Mawson	31.80	173	LR	LR	16 07 18.9	
	comp=Z,61nm,21.9s,baz=322,slow=30						
SNAA	Sanae	45.44	202	P	P	15 59 29.4	-0.2
	comp=Z,1.1nm,0.9s,baz=99,slow=9.7,SNR=5.8						
SNAA	Sanae	45.44	202	P	P	15 59 29.7	+0.1
SNAA				IAmb	IAmb	15 59 33.1	
	comp=Z,5.3nm,1.4s						
H01W2	Cape Leeuwin H	48.73	107	T	T	16 52 14.0	
	baz=249,slow=75,SNR=14						
H01W3	Cape Leeuwin H	48.73	107	T	T	16 52 17.0	
	baz=249,slow=75,SNR=12						
H01W1	Cape Leeuwin H	48.74	107	T	T	16 52 15.5	
	baz=249,slow=75,SNR=13						
QSPA	South Pole Qui	53.87	180	P	P	16 00 34.0	+0.1
	comp=Z,1.5nm,1.0s,baz=240,slow=1.4,SNR=3.4						
QSPA	South Pole Qui	53.87	180	P	P	16 00 34.2	+0.2
QSPA				IAmb	IAmb	16 00 42.4	
	comp=Z,3.5nm,1.2s						
ASAR	Alice Springs	69.11	104	P	P	16 02 17.6	+0.1
	comp=Z,0.3nm,0.4s,baz=230,slow=6.0,SNR=29						
ASAR	Alice Springs	69.11	104	P	P	16 02 17.8	+0.2
AS31	Alice Springs	69.11	104	P	P	16 02 17.9	+0.3
AS31				IAmb	IAmb	16 02 20.6	
	comp=Z,1.3nm,1.4s						
TORD	Torodi Ar. Bea	69.20	305	P	P	16 02 17.9	-0.1
	comp=Z,0.5nm,0.6s,baz=124,slow=4.7,SNR=2.8						
TORD	Torodi Ar. Bea	69.20	305	P	P	16 02 18.1	+0.1
TORD				IAmb	IAmb	16 02 31.2	
	comp=Z,2.0nm,1.2s						
CMAR	Chiang Mai Arr	69.47	46	P	P	16 02 19.4	-0.2
	comp=Z,0.5nm,0.5s,baz=237,slow=12,SNR=1.1						
STKA	Stephens Creek	70.69	116	P	P	16 02 27.5	+0.4
	comp=Z,0.8nm,0.9s,baz=272,slow=5.5,SNR=2.9						
STKA	Stephens Creek	70.69	116	P	P	16 02 27.6	+0.4
WRA	Warramunga Arr	71.42	101	P	P	16 02 31.9	+0.2
	comp=Z,0.3nm,0.4s,baz=234,slow=8.6,SNR=13						
WRA	Warramunga Arr	71.42	101	P	P	16 02 31.7	0.0
WB2	Warramunga Arr	71.43	101	P	P	16 02 32.4	+0.6
ITM	Ithomi	78.71	335	P	P	16 03 12.9	-0.3
MKAR	Makanchi Array	86.73	19	P	P	16 03 53.4	-1.4
	comp=Z,0.1nm,0.5s,baz=203,slow=5.5,SNR=3.9						
MKAR	Makanchi Array	86.73	19	P	P	16 03 54.8	+0.1
INK	Inuvik	147.73	5	PKPbc	PKPbc	16 10 54.5	-0.2
	comp=Z,3.3nm,0.8s,baz=343,slow=2.2,SNR=4.9						
ILAR	Eielson Array	149.05	17	PKPbc	PKPbc	16 10 57.4	-1.0
	comp=Z,2.9nm,0.6s,baz=317,slow=3.3,SNR=23						

IDC 09 16:10:44.7±10.0, 26°.65N×143°.49E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/25, mbtmp3.3/3, Error ellipse: s-maj=367.5km s-min=36.4km az=71.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	47.16	192	P	P	16 19 18.6	-0.5
	0.2nm,0.3s,baz=14,slow=7.9,SNR=5.8						
ASAR	Alice Springs	50.87	191	P	P	16 19 47.8	+0.3
	0.2nm,0.9s,baz=26,slow=8.1,SNR=1.7						
MKAR	Makanchi Array	51.65	310	P	P	16 19 53.1	-0.1
	0.2nm,0.6s,baz=99,slow=9.3,SNR=2.1						

IDC 09 16:15:02.0±508.0, 54°.42N×0°.85W, h0km, Error ellipse: s-maj=199.8km s-min=60.4km az=25.0, United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	FREYUNG INFRAS	10.62	116	*i*		17 18 40.0	
	baz=307,slow=332,SNR=0.8						
I37NO	I37NO	17.21	24	*i*		18 00 20.0	
	baz=221,slow=324,SNR=1.8						
I43RU	DUBNA INFRASON	21.46	68	*i*		18 27 30.0	
	baz=282,slow=317,SNR=0.7						

*IDC **09** 16:34:10.4±0.5, 13°.89N×144°.70E, h190km±4km, mb3.4/10, mb1 3.6/11, mb1mx3.3/51, mbtmp3.9/11, MS3.1/1, Ms1 3.1/1, ms1mx2.6/25, Error ellipse: s-maj=27.9km s-min=12.4km az=91.0*

*NEIC **09** 16:34:11.4±1.5, 13°.93N±0°.08×144°.39E±0°.07, h184km±5km, mb4.3/25, Error ellipse: s-maj=11.5km s-min=9.7km az=200.0*

ISC 09 16:34:12.1±0.5, 13°.86N±0°.07×144°.4E±0°.1, h200km, n43, σ1.34/44, mb4.2/22, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.53	120	P	Pn	16 34 37.0	-2.3
	156nm,0.3s,baz=246,slow=2.2,SNR=45						
GUMO				S	Sn	16 34 56.4	-3.9
	170nm,0.3s,baz=323,slow=23,SNR=21						
GUMO	Guam	0.53	120		Pn	16 34 36.7	-2.6
GUMO					Sn	16 34 56.6	-3.7
ANA2	Anatahan	2.78	27	Pn	Pn	16 34 58.8	-0.3
PATS	Pohnpei	15.35	116	Pn	P	16 37 43.3	+4.3
JAY	Jayapura	16.67	193	LR	LR	16 44 35.6	
	comp=Z,58nm,19.8s,baz=348,slow=37						
SIJI	Sorong	19.58	223	P	Pn	16 38 28.5	-0.5
	1.0nm,0.3s,baz=157,slow=23,SNR=1.9						
FAKI	Fak Fak	20.57	217	P	Pn	16 38 38.6	-2.5
JWT	Wachi	22.82	341	P	P	16 38 58.0	+0.2
JWT				IAmb	IAmb	16 39 19.6	
	comp=Z,10.0nm,1.1s						
MAJO	Matsushiro	23.26	347	P	P	16 39 02.0	+0.2
MAJO				IAmb	IAmb	16 39 15.7	
	comp=Z,8.3nm,1.1s						
COEN	Coen	27.66	183	P	P	16 39 42.1	+0.6
COEN				IAmb	IAmb	16 39 43.0	
	comp=Z,6.5nm,0.8s						
KSRS	Korea Array	27.71	331	P	P	16 39 41.2	-0.6
	comp=Z,0.8nm,0.5s,baz=137,slow=9.4,SNR=4.1						
MTN	Manton Dam	29.61	207	P	P	16 39 59.0	+0.2
KNRA	Kununurra	33.17	208	P	P	16 40 30.6	+0.7
KNRA				IAmb	IAmb	16 40 35.7	
	comp=Z,6.5nm,0.9s						
WR0	Warramunga Arr	34.98	196	P	P	16 40 45.5	0.0
WRAB	Tennant Creek	35.00	197	P	P	16 40 46.1	+0.4
WRAB				IAmb	IAmb	16 40 56.9	
	comp=Z,3.5nm,0.8s						
WB2	Warramunga Arr	35.01	197	P	P	16 40 46.1	+0.4
WB2				IAmb	IAmb	16 40 46.6	
	comp=Z,5.3nm,0.8s						
WRA	Warramunga Arr	35.02	197	P	P	16 40 46.0	+0.2
	comp=Z,1.8nm,0.4s,baz=13,slow=8.9,SNR=50						
WRA	Warramunga Arr	35.02	197	P	P	16 40 45.6	-0.2
FITZ	Fitzroy Crossi	36.75	211	P	P	16 41 01.2	+0.7
	comp=Z,4.0nm,0.7s,baz=31,slow=10,SNR=22						
FITZ	Fitzroy Crossi	36.75	211	P	P	16 41 01.4	+0.9
FITZ				IAmb	IAmb	16 41 01.9	
	comp=Z,4.2nm,0.7s						
SANVU	Saraoutou	36.83	141	P	P	16 41 01.1	-0.1
AS31	Alice Springs	38.68	196	P	P	16 41 16.9	+0.2
ASAR	Alice Springs	38.68	196	P	P	16 41 16.7	0.0
	comp=Z,0.8nm,0.5s,baz=12,slow=13,SNR=27						
ASAR	Alice Springs	38.68	196	P	P	16 41 16.4	-0.3
ASAR				PcP	PcP	16 43 25.3	+0.8
DZM	Mont Dzumac	41.74	148	P	P	16 41 42.8	+0.9
DZM				IAmb	IAmb	16 41 43.1	
	comp=Z,9.6nm,1.0s						
ARMA	Armidale	44.56	171	P	P	16 42 04.8	+0.3
ARMA				IAmb	IAmb	16 42 26.6	
	comp=Z,11nm,1.1s						
STKA	Stephens Creek	45.55	183	P	P	16 42 10.5	-1.5
	comp=Z,2.3nm,0.6s,baz=357,slow=8.1,SNR=8.2						
STKA	Stephens Creek	45.55	183	P	P	16 42 11.9	-0.1
SONM	Songino Array	46.25	325	P	P	16 42 18.1	+0.5
	comp=Z,0.5nm,0.7s,baz=142,slow=7.3,SNR=2.8						
SONM	Songino Array	46.25	325	P	P	16 42 18.0	+0.5
FORT	Forrest	47.08	199	P	P	16 42 24.4	+0.5
BBOO	Buckleboo	47.08	190	P	P	16 42 24.1	+0.1
BBOO				IAmb	IAmb	16 42 24.7	
	comp=Z,5.2nm,0.6s						
MORW	Morawa	50.71	212	P	P	16 42 51.6	0.0
MORW				IAmb	IAmb	16 42 52.1	
	comp=Z,9.6nm,1.1s						
TOO	Toolangi	51.16	179	P	P	16 42 56.1	+1.3
TOO				IAmb	IAmb	16 43 15.7	
	comp=Z,8.8nm,1.1s						
XMAS	Kiritimati	58.63	96	P	P	16 43 49.5	+0.7
BKZ	Black Stump Fm	60.66	152	P	P	16 44 02.4	+0.2
BKZ				IAmb	IAmb	16 44 27.1	
	comp=Z,6.9nm,1.1s						
MKAR	Makanchi Array	60.98	316	P	P	16 44 04.8	+0.5
	comp=Z,0.2nm,0.5s,baz=86,slow=11,SNR=5.2						
MKAR	Makanchi Array	60.98	316	P	P	16 44 04.7	+0.3
KURK	Kurchatov	64.09	320	P	P	16 44 24.9	+0.2
KURBB	Kurchatov Arra	64.13	320	P	P	16 44 24.9	-0.1
	comp=Z,0.8nm,0.6s,baz=103,slow=6.8,SNR=6.7						
EUNU	Eureka	82.67	8	P	P	16 46 12.2	-0.5
NVAR	Mina Array Bea	87.11	51	P	P	16 46 34.5	-1.4
	comp=Z,0.3nm,0.6s,baz=249,slow=6.5,SNR=3.8						
ELK	Elko	88.74	48	P	P	16 46 42.5	-1.1
	comp=Z,0.8nm,0.8s,baz=9.5,slow=2.4,SNR=3.6						

*NEIC **09** 16:38:17.5±0.7, 11°.45S±0°.08×13°.8W±0°.3, h10km±2km, mb4.5/8, Error ellipse: s-maj=49.9km s-min=8.3km az=258.0*

*IDC **09** 16:38:23.1±7.3, 10°.44S×13°.35W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/28, mbtmp4.0/4, MS3.3/3, Ms1 3.3/3, ms1mx2.9/26, Error ellipse: s-maj=221.5km s-min=139.3km az=142.0*

ISC 09 16:38:16.8±1.1, 11°.5S±0°.1×13°.7W±0°.3, h10km, n18, σ1.34/15, mb4.4/6, MS3.4/3, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	Ascension	3.62	349	Pn	Pn	16 39 12.2	-0.7
DBIC	Dimbokro	20.08	26	P	P	16 42 49.7	-0.9
KOWA	Kowa	27.55	21	P	P	16 44 03.7	-0.3
KOWA				IAmb	IAmb	16 44 03.9	
	comp=Z,8.2nm,0.9s						
TORD	Torodi Ar. Bea	28.86	32	P	P	16 44 14.1	-1.6
	comp=Z,2.9nm,1.1s,baz=214,slow=9.6,SNR=8.7						
TORD	Torodi Ar. Bea	28.86	32	P	P	16 44 14.1	-1.6
CPUP	Villa Florida	43.63	244	LR	LR	17 02 24.9	
	comp=Z,48nm,18.2s,baz=36,slow=32						
MTE	Manteigas	51.96	6	P	P	16 47 25.9	-0.2
LPAZ	La Paz	52.95	258	LR	LR	17 09 11.5	
	comp=Z,18nm,21.9s,baz=124,slow=35						
SNAA	Sanae	60.49	176	P	P	16 48 24.7	-1.9
GEC2	GERESS Array S	64.78	20	P	P	16 48 57.6	+2.0
GEC2				IAmb	IAmb	16 48 58.4	
	comp=Z,5.8nm,1.2s						
GERES	GERESS Array B	64.78	20	P	P	16 48 56.5	+0.9
	comp=Z,1.3nm,0.9s,baz=193,slow=4.0,SNR=6.4						
BRTR	Keskin Array B	67.27	38	P	P	16 49 13.5	+1.6
	comp=Z,0.8nm,0.9s,baz=222,slow=5.0,SNR=4.5						
BRTR	Keskin Array B	67.27	38	P	P	16 49 12.7	+0.7
AKASG	Malin Array Be	72.33	27	P	P	16 49 44.0	+1.4
	comp=Z,3.6nm,0.8s,baz=226,slow=6.7,SNR=18						
AKASG	Malin Array Be	72.33	27	P	P	16 49 43.0	+0.4
AKASG				IAmb	IAmb	16 49 44.2	
	comp=Z,7.6nm,1.4s						
AKBB	Malin Array Si	72.33	27	P	P	16 49 43.2	+0.7
MAW	Mawson	74.31	157	LR	LR	17 19 03.0	
	comp=Z,23nm,18.5s,baz=262,slow=32						
QSPA	South Pole Qui	78.63	180	P	P	16 50 19.9	+1.0
QSPA				IAmb	IAmb	16 50 44.4	
	comp=Z,6.8nm,1.4s						

*IDC **09** 16:42:29.4±1.6, 11°.36S×117°.73E, h0km, mb3.8/5, mb1 4.0/9, mb1mx3.8/36, mbtmp3.8/9, ML3.8/4, MS3.3/3, Ms1 3.3/3, ms1mx2.7/36, Error ellipse: s-maj=69.3km s-min=19.2km az=43.0*

*DJA **09** 16:42:33.4±0.3, 11°.5S±3°×11°.8E±°, h56km±15km, M4.3/13, mb4.4/12, mB5.1/2, MLv4.3/13, Mw(mB)4.5/2*

ISC 09 16:42:32.1±0.8, 11°.53S±0°.08×117°.73E±0°.07, h34km, n32, σ2.60/37, mb3.8/5, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	2.48	41	P	Pn	16 43 11.0	+0.8
PLAI	Plampang	2.68	1	P	Pn	16 43 13.0	+0.1
PLAI				S	Sn	16 43 41.1	-3.1
TWSI	Taliwang, Sumb	2.89	343	P	Pn	16 43 16.2	+0.4
TWSI				S	Sn	16 43 44.5	-4.9
BASI	Baing, Sumba	3.08	65	P	Pn	16 43 19.5	+1.1
KLNI	Mataram	3.48	332	P	Pn	16 43 24.7	+0.9
KLNI				S	Sn	16 44 00.4	-3.5
DNP	Denpasar	3.76	319	P	Pn	16 43 28.7	+1.0
DNP				S	Sn	16 44 08.2	-2.7
SRBI	Singaraja	4.22	324	P	Pn	16 43 34.9	+0.8
JAGI	Jajag, Banyuwa	4.65	310	P	Pn	16 43 38.9	-1.1
JAGI				S	Sn	16 44 27.8	-5.0
EDFI	Ende, Flores	4.78	55	P	Pn	16 43 42.1	+0.3
ABJI	Asem Bagus	5.06	317	P	Pn	16 43 46.8	+1.2
GMJI	Gumukmas	5.32	307	P	Pn	16 43 48.4	-0.7
	0.2nm2μm28nm,0.4s						
GMJI				S	Sn	16 44 44.1	-5.1
	0.2nm2μm28nm,0.4s						
BATI	Baumata	5.97	78	Pn	Pn	16 43 59.2	+1.0
	1.8nm,0.3s,baz=286,slow=23,SNR=1.5						
BATI	Baumata	5.97	78	P	Pn	16 43 59.9	+1.7
	0.1nm18nm,1.7s						
BSSI	Bau Bau, Buton	6.00	27	P	Pn	16 44 00.3	+1.7
	0.2nm33nm,1.0s						
BKSI	Bulukumba	6.60	21	P	Pn	16 44 08.1	+1.3
	0.1nm39nm,0.7s						
KAPI	Kappang	6.77	17	LR	LR	16 46 44.2	
	comp=Z,75nm,18.2s,baz=348,slow=38						
PWJI	Pagerwojo	6.80	300	P	Pn	16 44 10.6	+1.1
	0.2nm2μm24nm,0.5s						
SJI	Sawahan	6.98	302	P	Pn	16 44 13.6	+1.5
	0.3nm45nm,0.5s						
PCJI	Pacitan	7.25	297	P	Pn	16 44 16.0	+0.3
	0.3nm43nm,0.6s						
UGM	Wanagama	7.96	296	P	Pn	16 44 26.4	+0.9
	0.6nm111nm,1.7s						
KPJI	Karang Pucung	9.63	295	P	Pn	16 44 50.2	+1.9
	18nm,1.2s						
FITZ	Fitzroy Crossi	10.06	131	Pn	Pn	16 44 55.2	+1.0
	1.7nm,0.3s,baz=323,slow=7.6,SNR=65						
FITZ				Sn	Sn	16 46 41.0	-5.0
	1.3nm,0.3s,baz=181,slow=16,SNR=6.2						
CISI	Cisompet, Garu	10.54	291	P	Pn	16 44 59.6	-1.3
	11nm,0.8s						
WRA	Warramunga Arr	18.03	120	P	Pn	16 46 41.7	+1.5
	0.2nm,0.3s,baz=285,slow=14,SNR=13						
WRA				S	Sn	16 49 53.4	-7.1
	0.1nm,0.3s,baz=287,slow=24,SNR=3.4						
ASAR	Alice Springs	19.56	130	P	Pn	16 47 01.8	+3.1
	0.3nm,0.3s,baz=311,slow=12,SNR=37						
ASAR				S	S	16 50 27.9	-8.4
	0.1nm,0.3s,baz=310,slow=24,SNR=4.7						
JAY	Jayapura	24.48	70	LR	LR	17 00 43.4	
	comp=Z,65nm,18.1s,baz=352,slow=45						
CMAR	Chiang Mai Arr	35.09	328	P	P	16 49 24.3	+2.0
	0.4nm,0.4s,baz=156,slow=6.8,SNR=2.4						
SONM	Songino Array	59.95	351	P	P	16 52 36.5	+1.5
	0.9nm,0.8s,baz=165,slow=7.5,SNR=3.2						
MKAR	Makanchi Array	66.15	334	P	P	16 53 17.6	+1.6
	0.3nm,0.5s,baz=146,slow=8.5,SNR=4.1						
KURBB	Kurchatov Arra	70.68	335	P	P	16 53 46.0	+1.7
	0.5nm,0.6s,baz=144,slow=5.8,SNR=8.8						
ZALV	Zalesovo Beam	70.96	340	P	P	16 53 46.9	+1.0
	1.1nm,0.4s,baz=139,slow=4.4,SNR=4.4						
YAK	Yakutsk	73.92	6	LR	LR	17 31 53.8	
	comp=Z,52nm,18.2s,baz=268,slow=40						

*IDC **09** 16:54:51.9±1.5, 2°.76S×139°.33E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.3/28, mbtmp3.3/4, ML3.3/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/15, Error ellipse: s-maj=33.1km s-min=14.8km az=159.0*

*DJA **09** 16:54:55.7±2.0, 3°.S±21°.×13°.9E±1°.1, h17km±10km, M3.2/3, MLv3.2/3*

ISC 09 16:54:55.2±1.2, 2°.6S±0°.1×139°.36E±0°.08, h27km, n10, σ1.46/11, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	Genyem	0.81	88	P	Pb	16 55 10.8	+0.1
GENI				S	Sb	16 55 21.2	-0.1
JAY	Jayapura	1.35	86	Pg	Pn	16 55 18.6	+0.2
	5.7nm,0.3s,baz=234,slow=5.1,SNR=28						
JAY				Lg	Lg	16 55 35.9	
	8.8nm,0.3s,baz=179,slow=14,SNR=8.0						
JAY	Jayapura	1.35	86	P	Pn	16 55 18.5	+0.2
JAY				S	Sn	16 55 36.1	+0.7
WAMI	Wamena	1.42	207	P	Pb	16 55 21.7	+0.7
MMPI	Merauke	5.90	170	P	Pn	16 56 22.6	+1.7
BATI	Baumata	17.32	243	LR	LR	17 07 22.5	
	comp=Z,67nm,20.4s,baz=132,slow=44						
WRA	Warramunga Arr	17.91	196	P	Pn	16 59 00.5	-2.0
	0.1nm,0.3s,baz=13,slow=13,SNR=2.6						
FITZ	Fitzroy Crossi	20.44	220	P	P	16 59 28.1	-2.6
	1.7nm,1.0s,baz=51,slow=13,SNR=1.8						
ASAR	Alice Springs	21.58	194	P	P	16 59 42.6	-0.4
	0.2nm,0.5s,baz=20,slow=11,SNR=10						
MKAR	Makanchi Array	70.11	322	P	P	17 06 06.7	+1.5
	0.3nm,0.7s,baz=106,slow=4.8,SNR=2.6						

IDC 09 17:01:03.5±7.5, 32°.05S×178°.68W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/28, mbtmp3.4/2, Error ellipse: s-maj=326.8km s-min=64.0km az=158.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.47	269	P	P	17 09 00.1	-0.4
	0.5nm,0.6s,baz=109,slow=7.7,SNR=12						
WRA	Warramunga Arr	43.61	274	P	P	17 09 10.0	+0.2
	0.2nm,0.5s,baz=114,slow=7.7,SNR=1.8						
FINES	FINESS Array B	146.48	339	PKPbc	PKPdf	17 20 44.9	+0.5
	1.7nm,0.9s,baz=61,slow=6.8,SNR=1.8						

WEL 09 17:10:02.5±0.8, 33°.S±17°.×17°.9E±2°.7, h394km±20km, M3.5/14, mB4.1/8, ML4.0/17, MLv3.9/14, Mw(mB)3.2/8, Error ellipse: s-maj=0.0km s-min=0.0km az=120.1, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.27	193	P	Pn	17 11 17.3	+0.6
MXZ				S	S	17 12 16.4	-0.6
WMGZ	Waiomatatini S	4.50	191	P	Pn	17 11 19.9	+0.9
WMGZ				S	S	17 12 21.8	+0.6
HAZ	Te Kaha	4.57	197	P	Pn	17 11 19.6	-0.1
HAZ				S	S	17 12 21.5	-0.9
PKGZ	Pakihiroa	4.63	194	P	Pn	17 11 21.2	+0.7
PKGZ				S	S	17 12 24.3	+0.6
PUZ	Puketiti	4.78	192	P	Pn	17 11 19.3	-2.6
PUZ				S	S	17 12 25.8	-0.6
RUGZ	Raukumara Rang	4.79	197	P	Pn	17 11 20.9	-1.2
RUGZ				S	S	17 12 24.7	-2.2
TWGZ	Tauwhareparae	4.93	194	P	Pn	17 11 23.8	+0.4
TWGZ				S	S	17 12 30.6	+1.3
MWZ	Matawai	5.18	197	P	Pn	17 11 26.7	+0.6
MWZ				S	S	17 12 34.4

KUR				*e*S	Sn	17 24 56.5	-0.2
KUR				A	A	17 25 01.4	
	80nm,0.6s						
KUR				A	A	17 25 01.4	
	70nm,0.6s						
TYV	**Tymovskoe**	**8.82**	**291**	*e*P	Pn	17 24 22.9	+0.8
TYV				AMB	AMB	17 24 25.6	
	5.0nm,0.4s						
YSS	**Yuzh-Sakhalins**	**8.86**	**265**	*e*P	Pn	17 24 24.9	+2.3
YSS				AMB	AMB	17 24 30.1	
	11nm,0.4s						
JKA	**Kamikawa-asahi**	**10.03**	**250**	*e*P	Pn	17 24 39.2	+0.5
MA2	**Magadan**	**11.56**	**347**	*e*P	Pn	17 25 00.0	+0.5
SEY	**Seymchan**	**14.68**	**354**	*e*P	Pn	17 25 41.1	-0.4
KLR	**Kul'dur**	**15.79**	**282**	*e*P	P	17 25 57.5	-1.0
KSRS	**Korea Array**	**22.97**	**252**	*e*P	P	17 27 17.6	+1.0
TIK	**Tiksi**	**26.41**	**341**	*e*P	P	17 27 46.9	-0.8
MKAR	**Makanchi Array**	**47.74**	**297**	*e*P	P	17 30 49.0	+1.0

*SOF **09** 17:24:00.4,39.90N×23.73E,h2km,MD3.6*
*IASPEI **09** 17:24:03.4±0.8,39.98N±0.02×23.64E±0.02,h13km±5km, Error ellipse: s-maj=3.5km s-min=3.1km az=95.3,GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*ISK **09** 17:24:03.8,39.98N×23.65E,h17km,ML3.1/8*
*ATH **09** 17:24:03.7,39.98N×23.63E,h14km±1km,ML3.2/9, Error ellipse: s-maj=1.7km s-min=1.1km az=208.0*
*THE **09** 17:24:04.0,39.98N×23.61E,h10km±1km,ML3.0/9, Error ellipse: s-maj=1.3km s-min=0.8km az=64.0*

ISC 09 17:24:03.6±0.8,39.98N±0.02×23.63E±0.02,h12km±5km, n72,σ0.74/95,6C-7D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAIG	**Paliouri**	**0.06**	**144**	P	**Pg**	**17 24 06.2**	**+0.2**
PAIG				S	**Sg**	**17 24 07.6**	**-0.2**
	75μm,0.3s						
PAIG	**Paliouri**	**0.06**	**144**	P	**Pg**	**17 24 06.2**	**+0.2**
PAIG				S	**Sg**	**17 24 07.4**	**-0.4**
PAIG				AML	AML	17 24 07.8	
PAIG				AML	AML	17 24 08.1	
	comp=N,87845μm,0.4s						
PLG	**Polygyros**	**0.42**	**340**	P	**Pg**	**17 24 12.1**	**+0.1**
PLG				S	**Sg**	**17 24 17.9**	**+0.2**
	comp=N,5μm,0.4s						
PLG	**Polygyros**	**0.42**	**340**	P	**Pg**	**17 24 12.0**	**+0.1**
PLG				S	**Sg**	**17 24 16.9**	**-0.7**
OUR	**Ouranopolis**	**0.45**	**37**	P	**Pb**	**17 24 13.3**	**-0.1**
OUR				S	**Sb**	**17 24 19.8**	**-0.2**
	comp=N,6μm,0.3s						
OUR	**Ouranopolis**	**0.45**	**37**	P	**Pb**	**17 24 13.3**	**-0.1**
OUR				S	**Sb**	**17 24 19.6**	**-0.4**
OUR				AML	AML	17 24 21.9	
	comp=N,10885μm,0.4s						
OUR				AML	AML	17 24 22.2	
	comp=E,13368μm,0.3s						
OUR	**Ouranopolis**	**0.45**	**37**	PG	**Pb**	**17 24 13.0**	**-0.4**
OUR				SG	**Sb**	**17 24 19.9**	**-0.1**
NEO	**Neokhori**	**0.74**	**205**	P	**Pg**	**17 24 18.1**	**+0.2**
NEO	**Neokhori**	**0.74**	**205**	P	**Pg**	**17 24 18.1**	**+0.2**
NEO				S	**Sg**	**17 24 28.0**	**+0.4**
NEO				AML	AML	17 24 29.6	
	comp=E,14065μm,0.2s						
NEO				AML	AML	17 24 29.7	
	comp=N,10444μm,0.3s						
HORT	**Hortiatis**	**0.74**	**327**	P	**Pg**	**17 24 17.6**	**-0.4**
HORT				S	**Sg**	**17 24 28.1**	**+0.3**
	comp=N,1μm,0.3s						
HORT	**Hortiatis**	**0.74**	**327**	P	**Pg**	**17 24 17.7**	**-0.4**
HORT				S	**Sg**	**17 24 27.3**	**-0.5**
HORT	**Hortiatis**	**0.74**	**327**	PG	**Pg**	**17 24 17.7**	**-0.4**
THE	**Thessaloniki**	**0.83**	**322**	P	**Pg**	**17 24 19.2**	**-0.4**
THE				S	**Sg**	**17 24 30.8**	**+0.3**
	comp=N,868nm,0.4s						
THE	**Thessaloniki**	**0.83**	**322**	P	**Pg**	**17 24 19.2**	**-0.4**
THE				S	**Sg**	**17 24 29.8**	**-0.8**
THE				AML	AML	17 24 35.9	
	comp=E,2582μm,0.4s						
THE				AML	AML	17 24 36.0	
	comp=N,2016μm,0.4s						
ALNA	**Alonissos**	**0.85**	**168**	P	**Pb**	**17 24 20.6**	**+0.4**
ALNA				S	**Sg**	**17 24 30.3**	**-0.8**
ALNA				AML	AML	17 24 34.0	
	comp=E,3838μm,0.3s						
ALNA				AML	AML	17 24 35.4	
	comp=N,3056μm,0.5s						
SOH	**Sokhos**	**0.87**	**346**	P	**Pb**	**17 24 19.9**	**-0.8**
SOH				S	**Sg**	**17 24 32.0**	**+0.1**
	comp=N,2μm,0.5s						
SOH	**Sokhos**	**0.87**	**346**	P	**Pb**	**17 24 19.9**	**-0.8**
SOH				S	**Sg**	**17 24 31.9**	**+0.1**
SOH				AML	AML	17 24 37.1	
	comp=N,3846μm,0.6s						
SOH				AML	AML	17 24 37.2	
	comp=E,4084μm,0.4s						
LIT	**Litokhoron**	**0.89**	**278**	P	**Pb**	**17 24 20.7**	**-0.2**
LIT				S	**Sg**	**17 24 33.3**	**+1.0**
LIT	**Litokhoron**	**0.89**	**278**	P	**Pb**	**17 24 21.0**	**0.0**
THAS	**Thassos island**	**1.04**	**53**	P	**Pb**	**17 24 23.4**	**-0.1**
THAS				S	**Sn**	**17 24 37.6**	**-0.9**
	comp=E,930nm,0.6s						
THAS	**Thassos island**	**1.04**	**53**	P	**Pb**	**17 24 23.3**	**-0.3**
THAS				S	**Sb**	**17 24 36.3**	**-0.9**
THAS				AML	AML	17 24 41.8	
	comp=N,1756μm,0.6s						
THAS				AML	AML	17 24 42.0	
	comp=E,1909μm,0.5s						
KVLA	**Kavala**	**1.12**	**31**	P	**Pb**	**17 24 24.4**	**-0.4**
KVLA				S	**Sb**	**17 24 39.2**	**-0.2**
LIA	**Limnos Island**	**1.19**	**93**	P	**Pn**	**17 24 25.4**	**-0.7**
LIA	**Limnos Island**	**1.19**	**93**	P	**Pn**	**17 24 25.2**	**-0.9**
LIA				S	**Sb**	**17 24 40.9**	**-0.6**
LIA				AML	AML	17 24 42.2	
	comp=E,590μm,0.8s						
LIA				AML	AML	17 24 45.8	
	comp=N,438μm,0.4s						
KAVA	**Kavala**	**1.22**	**33**	P	**Pn**	**17 24 25.8**	**-0.7**
KTI	**Kastanea**	**1.23**	**290**	P	**Pn**	**17 24 26.3**	**-0.5**
KNT	**Kendrikon**	**1.31**	**335**	P	**Pb**	**17 24 28.0**	**-0.1**
KNT	**Kendrikon**	**1.31**	**335**	PN	**Pb**	**17 24 28.0**	**-0.1**
THL	**Klokotos Trika**	**1.31**	**252**	P	**Pn**	**17 24 27.1**	**-0.6**
THL				S	**Sb**	**17 24 44.5**	**-0.5**
	comp=N,168nm,0.5s						
THL	**Klokotos Trika**	**1.31**	**252**	P	**Pn**	**17 24 26.9**	**-0.8**
GRG	**Griva**	**1.36**	**317**	P	**Pb**	**17 24 28.9**	**-0.1**
GRG	**Griva**	**1.36**	**317**	PN	**Pb**	**17 24 28.8**	**-0.2**
NVR	**Nevrokopi**	**1.38**	**7**	P	**Pb**	**17 24 29.0**	**-0.4**
NVR				S	**Sb**	**17 24 46.8**	**-0.2**
NVR				AML	AML	17 24 52.2	
	comp=E,645μm,0.4s						
NVR				AML	AML	17 24 54.3	
	comp=N,555μm,0.6s						
AGG	**Agios Georgios**	**1.39**	**227**	PN	**Pn**	**17 24 29.0**	**+0.2**
KYMI	**Kymi, Euboea I**	**1.39**	**165**	P	**Pn**	**17 24 28.3**	**-0.5**
KZN	**Kozani**	**1.47**	**284**	P	**Pn**	**17 24 29.9**	**0.0**
KZN				S	**Sn**	**17 24 49.4**	**+0.3**
	comp=N,182nm,0.4s						
KZN	**Kozani**	**1.47**	**284**	P	**Pn**	**17 24 29.6**	**-0.3**
SMTH	**Samothraki Isl**	**1.53**	**71**	P	**Pn**	**17 24 30.1**	**-0.7**
VAY	**Valandovo**	**1.57**	**329**	*i* Pn	**Pb**	**17 24 32.8**	**+0.3**
MMB	**Musomiste**	**1.61**	**3**	*i* P	**Pn**	**17 24 31.9**	**0.0**
GADA	**Gvkgeada**	**1.75**	**82**	PN	**Pn**	**17 24 33.6**	**-0.1**
RDO	**Rodhopi**	**1.86**	**51**	PN	**Pn**	**17 24 35.4**	**+0.1**
BOZC	**Bozcaada**	**1.87**	**93**	PN	**Pn**	**17 24 35.7**	**+0.4**
SIGR	**SIGRI**	**1.88**	**113**	PN	**Pn**	**17 24 36.1**	**+0.6**
RZN	**Rozhen**	**1.90**	**25**	*i* P	**Pn**	**17 24 36.4**	**+0.5**
FNA	**Florina**	**1.90**	**296**	P	**Pn**	**17 24 36.0**	**+0.1**
FNA	**Florina**	**1.90**	**296**	PN	**Pn**	**17 24 36.5**	**+0.6**
KKB	**Krupnik**	**1.93**	**348**	*i* P	**Pn**	**17 24 36.9**	**+0.6**
STIP	**Stip**	**2.04**	**328**	*i* Pn	**Pn**	**17 24 38.4**	**+0.7**
ALN	**Alexandroupoli**	**2.06**	**63**	PN	**Pn**	**17 24 38.5**	**+0.5**
ENEZ	**Enez**	**2.07**	**68**	PN	**Pn**	**17 24 38.7**	**+0.6**
EZN	**Ezine**	**2.08**	**93**	PN	**Pn**	**17 24 38.7**	**+0.5**
KDZ	**Kurdzhali**	**2.15**	**38**	*i* P	**Pn**	**17 24 38.6**	**-0.7**
ERIK	**Erikli-Kesan**	**2.31**	**72**	PN	**Pn**	**17 24 42.1**	**+0.7**
PGB	**Panagyurishte**	**2.60**	**9**	*i* P	**Pn**	**17 24 46.1**	**+0.6**
VTS	**Vitosha**	**2.66**	**354**	⇑P	**Pn**	**17 24 47.4**	**+1.0**
VTS	**Vitosha**	**2.66**	**354**	⇑S	**Sb**	**17 25 26.0**	**+2.3**
VTS	**Vitosha**	**2.66**	**354**	*i* P	**Pn**	**17 24 47.6**	**+1.2**
EDRB	**Edirne**	**3.01**	**51**	PN	**Pn**	**17 24 52.1**	**+1.1**
ITM	**Ithomi**	**3.10**	**206**	PN	**Pn**	**17 24 53.7**	**+1.4**
APE	**Apeiranthos**	**3.26**	**152**	PN	**Pn**	**17 24 55.8**	**+1.2**
BOVS	**Bovan**	**3.93**	**339**	⇑P	**Pn**	**17 25 04.0**	**+0.3**
PDG	**Podgorica**	**4.11**	**308**	⇑P	**Pn**	**17 25 03.5**	**-2.7**
HERR	**Herculane**	**4.98**	**350**	⇓P	**Pn**	**17 25 18.3**	**+0.1**
MDVR	**Moldovita**	**5.01**	**344**	⇑P	**Pn**	**17 25 19.2**	**+0.6**
ARR	**Arges**	**5.44**	**7**	⇓P	**Pn**	**17 25 25.6**	**+1.1**
GZR	**Gura Zlata**	**5.45**	**354**	⇓P	**Pn**	**17 25 25.4**	**+0.8**
VOIR		**5.56**	**10**	⇑P	**Pn**	**17 25 27.6**	**+1.5**
MLR	**Muntele Rosu**	**5.77**	**16**	⇓P	**Pn**	**17 25 31.1**	**+2.0**
BZS	**Buzias**	**5.83**	**346**	⇓P	**Pn**	**17 25 30.2**	**+0.4**
PLOR	**Plostina**	**6.28**	**20**	⇓P	**Pn**	**17 25 37.8**	**+1.9**
VRI	**Vrincioaia**	**6.31**	**20**	⇓P	**Pn**	**17 25 37.8**	**+1.4**

NNC 09 17:28:12.9±6.8,36.87N×70.85E,h0km,mb3.8,mpv3.4, 3C-3D,Error ellipse: s-maj=53.3km s-min=45.5km az=164.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.23**	**358**	⇓P	Pn	17 29 47.6	+1.5
	0.8nm,0.3s,baz=180,slow=13,SNR=17						
KK31				⇑S	Sn	17 30 59.5	+1.5
	0.7nm,0.3s,baz=179,slow=24,SNR=7.6						
AAK	**Ala-Archa**	**6.41**	**25**	⇑P	Pn	17 29 48.9	+0.3
	2.6nm,0.7s						
AAK				⇓S	Sn	17 31 01.6	-0.9
	1.2nm,0.6s						
TKM2	**Tokmak 2**	**7.06**	**30**	⇑P	Pn	17 29 55.9	-1.7
	1.8nm,0.6s						
TKM2				⇓S	Sn	17 31 21.6	+3.0
	1.0nm,0.9s						

*IDC **09** 17:45:18.2±1.7,2.43S×139.57E,h0km,mb3.1/2, mb1 3.4/3,mb1mx3.2/30,mbtmp3.2/3,ML2.7/1,MS3.0/1, Ms1 3.2/1,ms1mx2.6/12,Error ellipse: s-maj=32.9km s-min=14.0km az=179.0*
*DJA **09** 17:45:21.1±0.8,2°S±5°×14°0E±°,h12km±9km,M3.2/2, ML3.2/2*

ISC 09 17:45:20.2±1.1,2°19S±0.10×139°76E±0.05,h10km,n10, σ2.22/12,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.57**	**135**	P	**Pb**	**17 45 32.8**	**+0.4**
GENI				S	**Sb**	**17 45 41.4**	**+0.8**
JAY	**Jayapura**	**1.00**	**109**	Pg	**Pg**	**17 45 39.5**	**0.0**
	19nm,0.3s,baz=251,slow=9.2,SNR=63						
JAY				Lg	Lg	17 45 56.0	
	82nm,0.3s,baz=97,slow=18,SNR=22						
JAY	**Jayapura**	**1.00**	**109**	P	**Pg**	**17 45 39.2**	**-0.3**
JAY				S	**Sn**	**17 45 57.4**	**+2.8**
WAMI	**Wamena**	**1.98**	**212**	P	**Pb**	**17 45 57.4**	**+0.9**
WAMI				S	**Sb**	**17 46 23.7**	**+2.4**
SRPI	**Serui, Papua**	**3.53**	**275**	P	**Pn**	**17 46 16.4**	**+1.2**
BAKI	**Biak**	**3.78**	**285**	P	**Pn**	**17 46 19.8**	**+1.1**
WRA	**Warramunga Arr**	**18.42**	**196**	P	**Pn**	**17 49 31.5**	**-4.5**
	0.0nm,0.3s,baz=17,slow=13,SNR=2.4						
ASAR	**Alice Springs**	**22.09**	**194**	P	**P**	**17 50 13.4**	**-2.4**
	0.4nm,0.8s,baz=20,slow=11,SNR=3.0						
CMAR	**Chiang Mai Arr**	**45.10**	**299**	LR	LR	18 14 19.6	
	comp=Z,17nm,18.4s,baz=210,slow=39						
MKAR	**Makanchi Array**	**70.02**	**322**	P	**P**	**17 56 32.1**	**-0.2**
	0.2nm,0.5s,baz=117,slow=5.0,SNR=2.6						

*TAP **09** 17:55:57.7,24.80N×122.57E,h18km±1km,ML2.6,D*
*JMA **09** 17:55:58.4±0.2,24.88N×122.64E,h16km±3km,M2.3*

ISC 09 17:55:56.4±1.2,24.91N±0.07×122.62E±0.03,h16km,n59, σ0.61/63,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.54**	**147**	P	**Pb**	**17 56 08.2**	**+0.6**
JYNG				*e*S	**Sb**	**17 56 15.3**	**+0.2**
YOJ	**Yonaguni jima**	**0.57**	**141**	P	**Pb**	**17 56 08.8**	**+0.8**
YOJ				*e*S	**Sb**	**17 56 15.9**	**0.0**
YOJ	**Yonaguni jima**	**0.57**	**141**	P	**Pn**	**17 56 08.9**	**-0.9**
	baz=129						
YOJ				S	**Sb**	**17 56 16.3**	**+0.4**
TWB1	**Santiao Chiao**	**0.58**	**280**	P	**Pn**	**17 56 09.3**	**-0.7**
	baz=291						
TIPB	**Shuangxi**	**0.72**	**275**	P	**Pn**	**17 56 11.6**	**-0.4**
	baz=284						
TWC	**Suao**	**0.76**	**247**	*e*P	**Pg**	**17 56 11.4**	**+0.2**
	baz=253						
NWF	**Wu-fen Shan**	**0.78**	**282**	P	**Pn**	**17 56 12.7**	**0.0**
	baz=290						
NDS	**Dongshan**	**0.86**	**252**	P	**Pg**	**17 56 13.2**	**0.0**
	baz=257						
TWE	**Neicheng**	**0.88**	**258**	*e*P	**Pn**	**17 56 13.7**	**-0.5**
	baz=264						
EWUT	**Wuta**	**0.89**	**239**	P	**Pb**	**17 56 13.4**	**-0.1**
	baz=243						
ENA	**Nanau**	**0.93**	**239**	*e*P	**Pb**	**17 56 14.2**	**0.0**
	baz=243						
YM01	**YM01**	**0.98**	**284**	*e*P	**Pn**	**17 56 16.1**	**+0.6**
	baz=290						
ENTT	**Nioudou**	**0.99**	**255**	*e*P	**Pg**	**17 56 15.6**	**0.0**
	baz=259						
NHDH	**Xindian Distri**	**0.99**	**273**	*e*P	**Pn**	**17 56 16.3**	**+0.6**
	baz=279						
NDT	**Datong Townshi**	**1.05**	**253**	*e*P	**Pg**	**17 56 16.4**	**-0.3**
	baz=258						
YHNB	**Yeheng**	**1.15**	**258**	*e*P	**Pb**	**17 56 17.7**	**-0.3**
	baz=263						
IRIF	**Iriomote-Funau**	**1.16**	**119**	P	**Pg**	**17 56 19.0**	**+0.1**
IRIF				*e*S	**Sb**	**17 56 32.6**	**-0.4**
NSK	**Sanguang**	**1.17**	**259**	*e*P	**Pb**	**17 56 18.1**	**-0.2**
	baz=263						
NACB	**Ninganchiao**	**1.18**	**232**	P	**Pn**	**17 56 18.1**	**-0.2**
	baz=234						
NNS	**Nan Shan**	**1.22**	**248**	*e*P	**Pg**	**17 56 19.7**	**-0.4**
	baz=251						
TWD	**Chiawan**	**1.24**	**229**	*e*P	**Pn**	**17 56 19.0**	**-0.1**
	baz=230						
ETLH	**Xiulin Townshi**	**1.25**	**236**	*e*P	**Pb**	**17 56 19.5**	**-0.1**
	baz=239						
FUSS	**Fushou**	**1.41**	**243**	*e*P	**Pn**	**17 56 21.8**	**+0.1**
	baz=245						
JKRS	**Kuro-shima**	**1.43**	**117**	P	**Pg**	**17 56 23.4**	**-0.6**
WHF	**Hehuan Shan**	**1.45**	**239**	*e*P	**Pn**	**17 56 22.4**	**+0.1**
	baz=241						
TWT	**Tachien**	**1.47**	**244**	*e*P	**Pb**	**17 56 22.9**	**-0.5**
	baz=246						
LIOB	**Emei**	**1.48**	**260**	*e*P	**Pn**	**17 56 22.4**	**0.0**
	baz=263						
NSTT	**Nanjuang**	**1.50**	**260**	*e*P	**Pn**	**17 56 22.6**	**0.0**
	baz=263						
ESL	**Shilin**	**1.53**	**225**	*e*P	**Pn**	**17 56 22.6**	**-0.6**
	baz=226						
CHGB	**Renai**	**1.56**	**238**	*e*P	**Pn**	**17 56 23.7**	**0.0**
	baz=239						
OWD	**Renai**	**1.62**	**234**	*e*P	**Pn**	**17 56 24.4**	**0.0**
	baz=236						
EGFH	**Guangfu**	**1.64**	**222**	*e*P	**Pn**	**17 56 24.4**	**-0.3**
	baz=222						
WHP	**Taichung City**	**1.65**	**248**	*e*P	**Pn**	**17 56 25.2**	**+0.4**
	baz=250						
WCS	**Beigang Elemen**	**1.77**	**242**	*e*P	**Pn**	**17 56 26.8**	**+0.4**
	baz=243						
HGSD	**Ruisui**	**1.78**	**218**	*e*P	**Pn**	**17 56 25.3**	**-1.2**
	baz=218						
EHY	**Hungye**	**1.83**	**221**	*e*P	**Pn**	**17 56 25.8**	**-1.4**
	baz=221						
SMLT	**Sun Moon Lake**	**1.87**	**237**	*e*P	**Pn**	**17 56 27.6**	**-0.3**
	baz=238						
SSLB	**Suanglung**	**1.88**	**234**	P	**Pn**	**17 56 28.1**	**+0.1**
	baz=235						
TYC	**Yuchr**	**1.89**	**238**	*e*P	**Pn**	**17 56 28.4**	**+0.4**
	baz=240						
YULB	**Yu-li**	**1.93**	**219**	*e*P	**Pn**	**17 56 27.2**	**-1.4**
	baz=219						
EYUL	**Yuli**	**1.95**	**218**	*e*P	**Pn**	**17 56 28.6**	**-0.4**
	baz=218						
WHYT	**Xinyi Township**	**2.01**	**234**	*e*P	**Pn**	**17 56 30.5**	**+0.7**
	baz=234						
YUS	**Yu-Shan**	**2.08**	**227**	*e*P	**Pn**	**17 56 31.0**	**-0.1**
	baz=228						
FULB	**Fuli**	**2.09**	**216**	*e*P	**Pn**	**17 56 31.4**	**+0.7**
	baz=216						
ALS	**Alishan**	**2.16**	**230**	*e*P	**Pn**	**17 56 31.8**	**-0.3**
	baz=231						
CHN5	**Tsauling**	**2.20**	**234**	*e*P	**Pn**	**17 56 32.7**	**+0.4**
	baz=235						
ELDTW	**Lidau**	**2.25**	**221**	*e*P	**Pn**	**17 56 33.7**	**+0.6**
	baz=221						
CHN4	**Tsaushan**	**2.41**	**230**	*e*P	**Pn**	**17 56 35.8**	**+0.6**
	baz=231						
TPUB	**Ta-pu**	**2.42**	**229**	*e*P	**Pn**	**17 56 36.3**	**+0.9**
	baz=229						
WTP	**Ta-pu**	**2.47**	**228**	*e*P	**Pn**	**17 56 36.9**	**+0.9**
	baz=228						
TWK	**Hsinying**	**2.54**	**230**	*e*P	**Pn**	**17 56 38.1**	**+1.0**
	baz=231						
CHN1	**Nanshi**	**2.57**	**229**	*e*P	**Pn**	**17 56 38.7**	**+1.3**
	baz=229						
SLGT	**Liugui**	**2.62**	**224**	*e*P	**Pn**	**17 56 38.4**	**+0.2**
	baz=224						
ECL	**Taimali**	**2.76**	**214**	*e*P	**Pn**	**17 56 41.0**	**+1.0**
	baz=213						
SCST	**Cishan**	**2.80**	**224**	*e*P	**Pn**	**17 56 41.5**	**+0.9**
	baz=224						
SSD	**Sandimen**	**2.82**	**221**	*e*P	**Pn**	**17 56 41.1**	**+0.3**
	baz=220						
TSMG	**Majia**	**2.84**	**220**	*e*P	**Pn**	**17 56 42.2**	**+1.1**
	baz=220						
MASBT	**Mashibuluo**	**2.92**	**219**	*e*P	**Pn**	**17 56 42.6**	**+0.4**
	baz=219						
EAST	**Anshuo**	**2.99**	**213**	*e*P	**Pn**	**17 56 42.1**	**-1.1**
	baz=213						

*IDC **09** 18:00:08.8±1.1,32.83S×70.25W,h0km,mb3.8/3, mb1 4.0/7,mb1mx3.8/24,mbtmp3.7/7,ML3.6/4,Error ellipse: s-maj=30.7km s-min=22.4km az=104.0*
*NEIC **09** 18:00:10.5±2.7,32.95S±0.02×70.57W±0.05,h15km±1km, Error ellipse: s-maj=6.1km s-min=2.3km az=103.0*
*GUC **09** 18:00:10.3±0.9,32.98S×70.48W,h15km±2km,ML3.9*

ISC 09 18:00:10.2±1.0,32.97S±0.02×70.46W±0.03,h17km±7km, n61,σ1.01/80,mb4.0/6,2C-14D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA03	**San Esteban**	**0.22**	**340**	⇓*i*P	**Pb**	**18 00 15.2**	**-0.7**
VA03				*e*S	**Sb**	**18 00 18.7**	**-1.0**
VA03				IAML		18 00 19.7	
	comp=E,24μm,0.2s						
VA03	**San Esteban**	**0.22**	**340**		**Pb**	**18 00 15.0**	**-0.8**
VA03				Sg	**Sb**	**18 00 18.5**	**-1.1**
VA03	**San Esteban**	**0.22**	**340**	⇓*i*P	**Pb**	**18 00 15.2**	**-0.7**
VA03				*i* S	**Sb**	**18 00 18.6**	**-1.0**
VA03				IAML		18 00 19.7	
	comp=E,32μm,0.4s						
ROCH	**El Roble**	**0.46**	**270**	⇓*i*P	**Pg**	**18 00 19.7**	**+0.1**
ROCH				*e*S	**Sg**	**18 00 26.5**	**+0.5**
ROCH	**El Roble**	**0.46**	**270**	⇓*i*P	**Pg**	**18 00 19.7**	**+0.1**
ROCH				*i* S	**Sg**	**18 00 26.7**	**+0.7**
ROCH				IAML		18 00 27.0	
	comp=N,6μm,0.1s						
MT05	**Renca**	**0.48**	**209**	⇓*i*P	**Pg**	**18 00 19.9**	**+0.1**
MT05				*e*S	**Sb**	**18 00 27.3**	**+0.1**
MT05				IAML		18 00 27.7	
	comp=E,22μm,0.3s						
MT05	**Renca**	**0.48**	**209**	Pg	**Pg**	**18 00 19.8**	**-0.1**
MT05				Sg	**Sg**	**18 00 27.1**	**+0.7**
MT05	**Renca**	**0.48**	**209**	⇓*i*P	**Pg**	**18 00 20.0**	**+0.1**
MT05				*e*S	**Sb**	**18 00 27.3**	**+0.1**
MT05				IAML		18 00 27.7	
	comp=E,22μm,0.3s						
LMEL	**Las Melosas**	**0.90**	**166**	⇑*i*P	**Pb**	**18 00 26.5**	**-1.0**
LMEL				*e*S	**Sb**	**18 00 39.0**	**-0.4**
LMEL				IAML		18 00 43.3	
	comp=N,6μm,0.1s						
LMEL	**Las Melosas**	**0.90**	**166**	⇑*i*P	**Pb**	**18 00 26.6**	**-1.0**
LMEL				*e*S	**Sb**	**18 00 39.0**	**-0.4**
LMEL				IAML		18 00 43.3	
	comp=N,6μm,0.2s						
MT09	**Talagante**	**0.92**	**209**	⇓*i*P	**Pb**	**18 00 26.9**	**-0.9**
MT09				*e*S	**Sb**	**18 00 39.5**	**-0.3**
MT09				IAML		18 00 40.4	
	comp=N,14μm,0.3s						
MT09	**Talagante**	**0.92**	**209**		**Pb**	**18 00 27.0**	**-0.8**
MT09	**Talagante**	**0.92**	**209**	⇓*i*P	**Pb**	**18 00 26.9**	**-0.9**
MT09				*e*S	**Sb**	**18 00 39.7**	**-0.1**
MT09				IAML		18 00 40.4	
	comp=N,13μm,0.1s						
VA01	**Torpederas**	**1.00**	**267**	⇓*i*P	**Pb**	**18 00 28.4**	**-0.6**
VA01				*e*S	**Sb**	**18 00 42.2**	**+0.3**
VA01				IAML		18 00 43.5	
	comp=E,8μm,0.1s						
VA01	**Torpederas**	**1.00**	**267**		**Pb**	**18 00 28.2**	**-0.9**
VA01				Sn	**Sb**	**18 00 40.0**	**-1.9**
VA01	**Torpederas**	**1.00**	**267**	⇓*i*P	**Pb**	**18 00 28.4**	**-0.6**
VA01				*e*S	**Sb**	**18 00 42.2**	**+0.3**
VA01				IAML		18 00 43.5	
	comp=E,8μm,0.1s						
MT01	**Popeta**	**1.11**	**216**	⇓*i*P	**Pn**	**18 00 30.1**	**-1.0**
MT01				*e*S	**Sb**	**18 00 44.8**	**-0.4**
MT01				IAML		18 00 45.3	
	comp=E,4μm,0.1s						
MT01	**Popeta**	**1.11**	**216**		**Pn**	**18 00 30.0**	**-1.0**
MT01	**Popeta**	**1.11**	**216**	⇓*i*P	**Pn**	**18 00 30.1**	**-1.0**
MT01				*i* S	**Sb**	**18 00 44.9**	**-0.3**
MT01				IAML		18 00 45.3	
	comp=E,4μm,0.2s						
VA05	**Santo Domingo**	**1.18**	**234**	⇓*i*P	**Pn**	**18 00 31.3**	**-0.7**
VA05				*e*S	**Sb**	**18 00 47.1**	**-0.2**

LPAZ	La Paz	16.74	8		Pn		18 04 03.6	-1.1
SIV	San Ignacio	18.92	29	P	P		18 04 29.7	-0.6
	comp=N,0.3nm,0.3s,baz=206,slow=9.0,SNR=15							
SAML	Samuel	24.83	17	P	P		18 05 31.2	-0.6
SAML				IAmb	IAmb		18 06 05.8	
	comp=Z,3.6nm,1.1s							
SNAA	Sanae	52.05	158	P	P		18 09 18.8	+0.2
SNAA				IAmb	IAmb		18 10 41.3	
	comp=Z,14nm,1.8s							
QSPA	South Pole Qui	57.27	180	P	P		18 09 55.9	-0.8
QSPA				IAmb	IAmb		18 11 11.7	
	comp=Z,9.9nm,1.6s							
TXAR	Lajitas Array	69.50	329	P	P		18 11 19.1	+1.1
	comp=Z,0.4nm,0.6s,baz=157,slow=8.6,SNR=8.4							
TORD	Torodi Ar. Bea	82.62	69	P	P		18 12 32.7	-0.3
	comp=Z,0.8nm,0.6s,baz=258,slow=4.0,SNR=5.0							
NVAR	Mina Array Bea	83.81	324	P	P		18 12 40.2	+1.4
	comp=Z,0.1nm,0.4s,baz=132,slow=2.2,SNR=4.6							
H11S2	WAKE ISLAND Hyl	27.11	269	T	T		20 38 37.4	
	baz=118,slow=75,SNR=9.4							
H11S1	WAKE ISLAND Hyl	27.12	269	T	T		20 38 37.6	
	baz=118,slow=75,SNR=9.8							
H11S3	WAKE ISLAND Hyl	27.12	269	T	T		20 38 34.0	
	baz=118,slow=75,SNR=7.9							
ZALV	Zalesovo Beam	152.65	33	PKPbc	PKiKP		18 20 05.9	+0.3
	comp=Z,1.6nm,0.6s,baz=305,slow=2.9,SNR=6.7							
MKAR	Makanchi Array	155.10	48	PKPab	PKPab		18 20 26.9	+0.1
	comp=Z,0.2nm,0.4s,baz=270,slow=2.9,SNR=2.1							

IDC ***09*** *18:00:20.0±9.3,21°.58N×142°.88E,h240km±118km, mb3.0/6,mb1 3.2/7,mb1mx2.9/44,mbtmp3.7/7,Error ellipse: s-maj=132.0km s-min=14.1km az=81.0*

ISC 09 18:00:20.2±2.6,21°.6N±0°.1×143°.1E±0°.8,h250km,n8, σ0s56/8,mb3.1/6,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	Matsushiro Arr	15.47	345	P	Pn	18 03 45.6	-0.4
	0.1nm,0.3s,baz=161,slow=11,SNR=6.5						
MAT	Matsushiro	15.47	345	P	Pn	18 03 46.6	+0.6
KLR	Kul'dur	29.00	345	P	P	18 05 56.6	-0.2
	1.3nm,0.5s,baz=153,slow=11,SNR=5.9						
WRA	Warramunga Arr	42.16	192	P	P	18 07 49.0	+0.4
	1.3nm,0.5s,baz=8.5,slow=8.3,SNR=36						
ASAR	Alice Springs	45.87	192	P	P	18 08 17.6	-0.4
	0.3nm,0.6s,baz=17,slow=13,SNR=9.8						
MKAR	Makanchi Array	54.67	313	P	P	18 09 23.3	-0.3
	0.1nm,0.5s,baz=99,slow=6.1,SNR=1.5						
KURBB	Kurchatov Arra	57.51	317	P	P	18 09 44.2	+0.8
	0.3nm,0.4s,baz=93,slow=7.8,SNR=9.5						
BVAR	Borovoye Array	62.66	320	P	P	18 10 18.1	-0.3
	0.1nm,0.3s,baz=116,slow=3.4,SNR=1.3						

NOU 09 18:09:01.0,22°.28S×170°.81E,h0km,mb4.1/9,Southeast of Loyalty Islands,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	Mare, Loyalty	2.70	287	P	Pn	18 09 45.0	-0.7
PINNC	Pines Island,	3.13	263	P	Pn	18 09 51.2	-0.4
YATNC	Mamie plateau,	3.64	273	P	Pn	18 09 57.9	-0.7
LIFNC	LIFOU	3.65	294	P	Pn	18 09 58.7	0.0
OUENC	Ouen Island, N	3.68	267	P	Pn	18 09 59.2	+0.1
ONTNC	Ouen Toro	4.03	269	P	Pn	18 10 04.5	+0.4
DZM	Mont Dzumac	4.05	272	P	Pn	18 10 04.3	-0.1
NOUC	Port Laguerre	4.18	272	P	Pn	18 10 06.0	-0.1
KOUNC	Koumac, New Ca	6.32	285	P	Pn	18 10 35.9	+0.5

IDC ***09*** *18:15:41.0±3.1,33°.00S×178°.40W,h0km,mb3.6/2, mb1 3.9/3,mb1mx3.6/21,mbtmp3.7/3,ML3.7/1,Error ellipse: s-maj=71.0km s-min=36.5km az=117.0*

WEL ***09*** *18:16:39.5,40°.3±3°.x17°.6E±°,h24km±5km,M2.1/16, ML2.3/20,MLv2.1/16,Error ellipse: s-maj=0.0km s-min=0.0km az=74.0*

ISC 09 18:15:58.7±2.6,43°.4S±0°.1×177°.4E±0°.1,h10km,n34, σ2s54/31,Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTW	Mount Morrison	2.62	327	P	Pg	18 16 52.7	+3.9
BFZ	Birch Farm	2.81	342	P	Pb	18 16 48.4	-0.6
TIWZ	Tintock	2.82	336	P	Pb	18 16 47.5	-1.7
HOWZ	Holdsworth Sta	2.83	330	P	Pb	18 16 49.8	+0.4
CAW	Cannon Point	2.84	322	P	Pg	18 16 58.5	+5.3
ANWZ	Angora Road	2.98	346	P	Pb	18 16 50.3	-1.5
ANWZ				P	Pb	18 16 50.3	-1.5
KHZ	Kahutara	2.99	287	P	Sn	18 17 22.2	+0.1
PRWZ	Pori Road	3.00	339	P	Pn	18 16 45.2	-1.0
MRZ	Mangatainoka R	3.02	333	P	Pn	18 16 46.3	-0.2
OGWZ	Otaki Gorge	3.04	326	P	Pb	18 16 51.5	-1.3
DVHZ	Dannevirke	3.19	343	P	Pn	18 16 46.8	-2.2
POWZ	Post Office Ro	3.21	337	P	Pn	18 16 44.3	-4.9
TSZ	Takapari Road	3.47	341	P	Pn	18 16 48.2	-4.6
PNHZ	Pukenui	3.56	345	P	Pn	18 16 51.7	-2.4
KRHZ	Kereru	3.79	348	P	Pn	18 16 56.4	-0.8
BHHZ	Black Hill Sta	4.00	345	P	Pn	18 16 57.6	-2.4
WAZ	Wanganui	4.03	332	P	Pn	18 16 58.0	-2.5
WNVZ	Wahianoa	4.25	341	P	Pn	18 16 58.5	-5.1
NMHZ	Naumai	4.28	354	P	Pn	18 17 08.7	+4.7
WHVZ	Whangaehu Hut	4.30	341	P	Pn	18 17 01.0	-3.3
SNVZ	South Ngauruho	4.38	342	P	Pn	18 17 02.4	-3.0
OTVZ	Oturere	4.39	342	P	Pn	18 17 02.4	-3.2
ETVZ	East Tongariro	4.41	343	P	Pn	18 17 03.0	-2.7
TMVZ	Te Maari	4.43	343	P	Pn	18 17 03.6	-2.5
NNVZ	North Ngauruho	4.43	342	P	Pn	18 17 03.4	-2.7
NTVZ	North Tongariro	4.44	342	P	Pn	18 17 03.7	-2.7
WTVZ	West Tongariro	4.46	342	P	Pn	18 17 03.7	-2.7
RIGZ	Rimuhau	4.66	3	P	Pb	18 17 18.5	-2.0
TKGZ	Te Karaka	4.93	4	P	Pb	18 17 21.8	-3.3
URZ	Urewera	5.10	357	Pn	Pn	18 17 16.4	+1.3
	1.5nm,0.3s,baz=252,slow=6.9,SNR=7.6						
URZ				Sn	Sb	18 18 29.0	-0.3
	0.6nm,0.3s,baz=174,slow=24,SNR=2.3						
URZ	Urewera	5.10	357	P	Pn	18 17 17.7	+2.5
ASAR	Alice Springs	40.70	285	P	P	18 23 40.0	+0.5
	0.4nm,0.6s,baz=107,slow=7.5,SNR=8.0						
WRA	Warramunga Arr	42.84	289	P		18 23 49.6	-7.4
	0.6nm,0.4s,baz=114,slow=7.7,SNR=16						
FINES	FINESS Array B	155.16	327	PKPbc	PKPdf	18 35 25.2	-26
	3.2nm,1.0s,baz=48,slow=2.8,SNR=6.1						

NEIC ***09*** *18:34:37.4±1.9,18°.64N±0°.08×145°.6E±0°.1,h214km±5km, mb4.6/208,Error ellipse: s-maj=15.1km s-min=11.1km az=93.0*

IDC ***09*** *18:34:37.9±1.2,18°.66N×145°.61E,h226km±10km, mb3.9/25,mb1 4.1/27,mb1mx4.1/32,mbtmp4.5/27,Error ellipse: s-maj=13.7km s-min=7.5km az=91.0*

ISC 09 18:34:35.9±0.4,18°.69N±0°.04×145°.64E±0°.07,h208km±3km, h208km:pP-P,n441,σ1s26/490,mb4.6/178,30C-27D,Fault plane solution: NP1:ϕ_s286.30151°,δ20.97626°, λ-115.42230°. **NP2:** ϕ_s133.27974°,δ71.13635°, λ-80.65384°. **Principal axes:** T Plg25.5708°, Azm215.9660°; N Plg8.8400°, Azm310.2337°; P Plg62.7311°, Azm57.7949°; **Fault plane solution: NP1:**ϕ_s89.86140°,δ84.89018°,λ-56.37587°. **NP2:** ϕ_s187.48970°,δ33.96501°,λ-170.82686°. **Principal axes:** T Plg31.5660°, Azm152.5033°; N Plg33.4728°, Azm266.4718°; P Plg40.4992°, Azm30.8537°; **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARN	Sarigan	1.98	176	P	Pn	18 35 14.4	-0.5
ANA2	Anatahan	2.33	178	Pn	Pn	18 35 17.6	-0.9
GUMO	Guam	5.12	188	P	Pn	18 35 52.6	+0.5
	25nm,0.3s,baz=348,slow=6.4,SNR=9.6						
GUMO				S	S	18 36 49.8	-2.3
	49nm,0.3s,baz=21,slow=16,SNR=4.2						
JCJ	Chichijima	8.96	340	S	S	18 38 17.3	-4.9
	49nm,0.3s,baz=284,slow=23,SNR=3.0						
JSG	Sagara	17.25	339		Pn	18 38 25.2	+0.6
JOW	Kunigami	17.94	300	P	P	18 38 30.9	+0.3
	4.3nm,0.3s,baz=131,slow=15,SNR=7.7						
JOW	Kunigami	17.94	300	P	P	18 38 31.0	+0.5
JYT	Yasato	18.12	346	P	P	18 38 32.1	-0.3
INU	Inuyama	18.27	337	P	Pn	18 38 35.8	-0.8
INU				IAmb	IAmb	18 38 40.7	
	comp=Z,42nm,1.3s						
JMN	Monobe	18.30	327	P	Pn	18 38 35.8	-1.2
JMN				IAmb	IAmb	18 38 53.3	
	comp=Z,54nm,1.5s						
JGF	Kuroka	18.38	338	P	Pn	18 38 36.6	-1.2
JGF				IAmb	IAmb	18 38 38.1	
	comp=Z,23nm,0.8s						
JWT	Wachi	18.86	333	P	P	18 38 41.2	+0.8
JWT				IAmb	IAmb	18 38 47.2	
	comp=Z,32nm,1.3s						
MJAR	Matsushiro Arr	18.95	341	P	P	18 38 41.5	0.0
	comp=Z,0.5nm,0.3s,baz=172,slow=10,SNR=24						
MJAR	Matsushiro Arr	18.95	341	P	P	18 38 41.0	-0.5
MAJO	Matsushiro	18.95	341	P	P	18 38 42.1	+0.7
MAJO				IAmb	IAmb	18 38 45.9	
	comp=Z,16nm,0.6s						
MAT	Matsushiro	18.95	341	P	P	18 38 42.2	+0.7
MAT				*e*S	S	18 42 03.6	-2.0
JMM	Marumori	19.57	348	P	Pn	18 38 50.6	-1.3
H11S3	WAKE ISLAND Hy	19.95	87	T	T	18 59 58.7	
	baz=274,slow=75,SNR=6.5						
H11S1	WAKE ISLAND Hy	19.96	87	T	T	19 00 03.8	
	baz=274,slow=75,SNR=3.1						
H11S2	WAKE ISLAND Hy	19.97	87	T	T	19 00 00.1	
	baz=274,slow=75,SNR=6.9						
H11N1	WAKE ISLAND Hy	20.09	84	T	T	19 00 16.0	
	baz=266,slow=74,SNR=5.8						
H11N2	WAKE ISLAND Hy	20.10	84	T	T	19 00 16.0	
	baz=266,slow=74,SNR=2.9						
H11N3	WAKE ISLAND Hy	20.11	84	T	T	19 00 14.3	
	baz=266,slow=74,SNR=5.3						
JSD	Sado	20.33	343	P	P	18 38 57.3	+1.2
MANU	Manus Island	20.67	175	P	P	18 38 58.3	-1.7
JAY	Jayapura	21.62	193	P	P	18 39 09.9	0.0
	comp=Z,46nm,0.9s,baz=350,slow=4.7,SNR=21						
JAY	Jayapura	21.62	193	P	P	18 39 10.3	+0.4
	comp=Z,405nmcomp=Z,35nm,1.1s						
GENI	Genyem	21.82	195	P	P	18 39 11.1	-0.7
	comp=Z,102nm,0.7s						
BAKI	Biak	21.87	206	P	P	18 39 13.2	+0.9
	comp=Z,1μmcomp=Z,99nm,1.4s						
JTM	Tennabayashi	22.37	351	P	P	18 39 18.2	+1.4
SRPI	Serui, Papua	22.43	205	P	P	18 39 19.2	+1.7
	comp=Z,2μmcomp=Z,218nm,1.2s						
YULB	Yu-li	23.19	286	P	P	18 39 25.1	+0.7
YULB				IAmb	IAmb	18 39 46.8	
	comp=Z,31nm,1.2s						
YHNB	Yeheng	23.31	289	P	P	18 39 27.0	+1.5
WAMI	Wamena	23.45	198	P	P	18 39 27.6	+0.9
	comp=Z,70nm,0.7s						
SSLB	Suanglung	23.55	287	P	P	18 39 28.1	+0.4
RABL	Rabaul	23.62	164	P	P	18 39 27.4	-0.9
SWI	Sorong	24.03	218	P	P	18 39 33.5	+1.5
	comp=Z,65nm,0.6s						
SIJI	Sorong	24.03	218	P	P	18 39 32.1	0.0
	comp=Z,44nm,0.7s,baz=12,slow=16,SNR=11						
SIJI	Sorong	24.03	218	P	P	18 39 32.0	0.0
	comp=Z,36nm,1.1s						
GAMI	Galela, Maluku	24.22	228	P	P	18 39 32.9	-0.9
	comp=Z,47nm,1.2s						
KSRS	Korea Array	24.30	324	P	P	18 39 35.1	+0.9
	comp=Z,2.5nm,0.6s,baz=149,slow=8.9,SNR=16						
KSAR	Wonju Array Be	24.31	324	P	P	18 39 33.4	-1.0
FAKI	Fak Fak	25.20	213	P	P	18 39 42.9	+0.3
FAKI	Fak Fak	25.20	213	P	P	18 39 42.7	+0.1
	comp=Z,54nm,0.8s						
ASAJ	Asahikawa	25.48	355	P	P	18 39 46.4	+1.6
	comp=Z,8.4nm,0.4s,baz=216,slow=12,SNR=23						
JKA	Kamikawa-asahi	25.48	355	P	P	18 39 45.9	+1.0
JKA				IAmb	IAmb	18 39 59.6	
	comp=Z,24nm,1.0s						
MNI	Manado	26.64	232	P	P	18 39 56.1	+0.5
	comp=Z,1μmcomp=Z,89nm,0.9s						
NJ2	Nanjing	27.53	304	*e*P	P	18 40 04.1	+0.8
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
USRK	Ussuriysk Ar.	27.90	339	P	P	18 40 06.6	+0.1
	comp=Z,1.8nm,0.6s,baz=162,slow=9.2,SNR=2.1						
YSS	Yuzh-Sakhalins	28.29	356	P	P	18 40 11.0	+1.2
YSS				IAmb	IAmb	18 40 11.4	
	comp=Z,13nm,0.6s						
MRSI	Marisa	29.47	235	P	P	18 40 21.3	+0.6
	comp=Z,680nmcomp=Z,75nm,1.0s						
TOLI2	Tolitoli	30.00	237	P	P	18 40 25.2	-0.1
APSI	Ampana	30.58	233	P	P	18 40 30.2	-0.3
	comp=Z,27nm,1.2s						
MPSI	Mapaga	31.16	237	P	P	18 40 35.9	+0.3
	comp=Z,27nm,0.9s						
COEN	Coen	32.53	184	P	P	18 40 47.7	+0.2
KKSI	Kolaka, Sulawe	32.78	229	P	P	18 40 51.4	+1.7
	comp=Z,40nm,0.9s						
TTSI	Tana Toraja	33.35	232	P	P	18 40 56.6	+1.9
	comp=Z,1μmcomp=Z,154nm,0.8s						
BNSI	Bone	34.05	230	P	P	18 41 01.9	+1.3
	comp=Z,972nmcomp=Z,88nm,1.4s						
MTN	Manton Dam	34.44	206	P	P	18 41 04.0	0.0
BKSI	Bulukumba	34.67	229	P	P	18 41 07.3	+1.4
	comp=Z,550nmcomp=Z,38nm,0.7s						
KAPI	Kappang	34.72	230	P	P	18 41 07.6	+1.2
KAPI	Kappang	34.72	230	P	P	18 41 07.4	+1.0
	comp=Z,44nm,1.0s						
BSSI	Bau Bau, Buton	34.98	227	P	P	18 41 09.7	+1.1
	comp=Z,102nm,0.7s						
SOEI	Soe	35.26	218	P	P	18 41 10.5	-0.7
SOEI	Soe	35.26	218	P	P	18 41 10.3	-0.8
	comp=Z,89nm,0.8s						
PEA0B	Petropavlovsk-	35.61	12	P	P	18 41 15.1	+1.6
PEA0B				IAmb	IAmb	18 41 17.7	
	comp=Z,14nm,1.1s						
PETK	Petropavlovsk-	35.61	12	P	P	18 41 15.1	+1.6
	comp=Z,4.8nm,0.6s,baz=186,slow=8.6,SNR=20						
PETK				ScP	ScP	18 47 00.6	-3.0
	comp=Z,0.8nm,0.6s,baz=173,slow=3.6,SNR=3.3						
PETK	Petropavlovsk-	35.61	12	P	P	18 41 14.2	+0.7
MMRI	Maumere	35.64	222	P	P	18 41 13.1	-1.1
	comp=Z,94nm,0.8s						
MTKI	Muara Teweh, K	35.97	241	P	P	18 41 18.4	+1.4
	comp=Z,29nm,1.0s						
BATI	Baumata	35.98	219	P	P	18 41 16.7	-0.4
	comp=Z,59nm,0.9s						
EDFI	Ende, Flores	36.08	223	P	P	18 41 17.9	-0.2
	comp=Z,16nm,0.5s						
HHC	Hu-ho-hao-te	36.57	314	*e*P	P	18 41 21.1	-0.9
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,94nm,5.1s						
HHC				LR	LR		
	comp=N,160nm,12.3s						
HHC				LR	LR		
	comp=E,210nm,12.0s						
HHC				LR	LR		
	comp=Z,110nm,12.7s						
GYA	Guiyang	36.70	289	||P	P	18 41 25.0	+1.7
GYA				pP	pP	18 42 07.2	+1.9
GYA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
PKKI	Palangkaraya	37.46	240	P	P	18 41 29.6	0.0
	comp=Z,63nm,1.1s						
KNRA	Kununurra	37.98	207	P	P	18 41 34.0	+0.2
WBSI	Waikabubak, Su	38.25	225	P	P	18 41 34.8	-1.5
	comp=Z,111nm,0.7s						
STKI	Sintang	38.31	245	P	P	18 41 36.9	+0.1
CTAO	Charters Tower	38.54	179	P	P	18 41 37.2	-1.3
CTAO				IAmb	IAmb	18 41 39.9	
	comp=Z,16nm,0.9s						
PLAI	Plampang	38.77	228	P	P	18 41 39.9	-0.7
	comp=Z,76nm,0.6s						
SLVN	Son La	39.23	281	P	P	18 41 46.2	+1.8
TWSI	Taliwang, Sumb	39.34	229	P	P	18 41 45.1	-0.2
	comp=Z,877nmcomp=Z,113nm,0.8s						
PBKI	Pangkalan Bun	39.62	241	P	P	18 41 48.2	+0.6
WR0	Warramunga Arr	39.92	196	P	P	18 41 49.4	-0.6
WRAB	Tennant Creek	39.95	197	P	P	18 41 50.4	+0.2
WB2	Warramunga Arr	39.96	197	P	P	18 41 50.3	+0.1
WRA	Warramunga Arr	39.96	197	P	P	18 41 51.0	+0.8
	comp=Z,23nm,0.5s,baz=18,slow=8.4,SNR=215						
WRA				ScP	ScP	18 47 18.8	-1.8
	comp=Z,1.1nm,0.7s,baz=14,slow=3.5,SNR=4.6						
WRA	Warramunga Arr	39.96	197	P	P	18 41 49.3	-1.0
KHKI	Kahang-Kahang	40.00	230	P	P	18 41 51.2	+0.5
SRBI	Singaraja	40.11	231	P	P	18 41 52.6	+1.0
	comp=Z,64nm,0.9s						
KMMI	Kalianget	40.37	234	P	P	18 41 55.0	+1.2
	comp=Z,91nm,1.2s						
LZH	Lanzhou	40.61	304	*e*P	P	18 41 58.8	+3.1
LZH				pP	pwP	18 42 42.5	-1.2
LZH				sP	sP	18 43 09.8	+8.2
LZH				pmax	pmax		
	comp=Z,25nm,1.0s						
BYJI	Banyuwangi	40.83	232	P	P	18 41 58.5	+1.0
	comp=Z,161nm,1.2s						
JAGI	Jajag, Banyuwa	41.15	232	P	P	18 42 00.1	0.0
JAGI	Jajag, Banyuwa	41.15	232	P	P	18 42 00.1	0.0
	comp=Z,50nm,1.1s						
FITZ	Fitzroy Crossi	41.51	209	P	P	18 42 03.6	+0.7
GMJI	Gumukmas	41.55	233	P	P	18 42 03.6	+0.2
	comp=Z,34nm,1.1s						
SJI	Sawahan	42.49	235	P	P	18 42 11.5	+0.4
	comp=Z,82nm,0.7s						
PBKT	Sadao Pong	42.55	274	P	P	18 42 12.3	+0.9
	comp=Z,58nm,0.8s						
PBKT	Sadao Pong	42.55	274	P	P	18 42 11.4	0.0
PBKT	Sadao Pong	42.55	274	P	P	18 42 11.5	0.0
PWJI	Pagerwojo	42.64	234	P	P	18 42 12.4	+0.2
	comp=Z,77nm,1.3s						
ULN	Ulaanbaatar	42.75	322	P	P	18 42 11.6	-1.2
	comp=Z,11nm,0.8s						
PHIT	Phitsanulok	42.97	275	P	P	18 42 16.8	+2.0
	comp=Z,49nm,0.7s						
SONM	Songino Array	43.12	321	P	P	18 42 16.4	+0.6
	comp=Z,1.2nm,0.6s,baz=137,slow=8.0,SNR=9.8						
SONM				PcP	PcP	18 44 02.0	+0.3
	comp=Z,0.7nm,0.6s,baz=140,slow=5.6,SNR=1.7						
SONM				ScP	ScP	18 47 29.4	-3.6
	comp=Z,1.3nm,1.0s,baz=64,slow=3.4,SNR=6.2						
SONM	Songino Array	43.12	321	P	P	18 42 15.9	+0.1
PCJI	Pacitan	43.23	235	P	P	18 42 17.2	+0.3
	comp=Z,67nm,1.0s						
AS31	Alice Springs	43.62	196	P	P	18 42 20.6	+0.6
ASAR	Alice Springs	43.63	196	P	P	18 42 20.4	+0.5
	comp=Z,7.5nm,0.7s,baz=14,slow=6.6,SNR=178						
ASAR				ScP	ScP	18 47 33.2	-2.0
	comp=Z,0.6nm,0.5s,baz=8.6,slow=3.7,SNR=4.5						
ASAR	Alice Springs	43.63	196	P	P	18 42 20.3	+0.3
KIWB	Kanaga Island	44.10	33	P	P	18 42 22.8	-0.6
EIDS	Eidsvold	44.11	173	P	P	18 42 21.5	-1.9
CHTO	Chiang Mai	44.12	278	P	P	18 42 22.5	-1.6
CMAR	Chiang Mai Arr	44.17	278	P	P	18 42 25.7	+1.3
	comp=Z,2.4nm,0.8s,baz=68,slow=6.9,SNR=17						
CMAR	Chiang Mai Arr	44.17	278	P	P	18 42 23.0	-1.4
CMAR				pP	pP	18 43 09.8	+1.9
CM13	Chiang Mai Arr	44.21	277	P	P	18 42 27.1	+2.4
ADK	Adak	44.36	33	P	P	18 42 24.1	-1.3
KPJI	Karang Pucung	44.49	238	P	P	18 42 28.0	+1.1
	comp=Z,51nm,1.2s						
BTDF	Bukit Timah Da	44.50	252	P	P	18 42 28.8	+1.7
	comp=Z,15nm,1.0s						
SRDT	SRDT	44.72	272	P	P	18 42 29.7	+0.9
	comp=Z,16nm,2.6s						
YAK	Yakutsk	44.72	349	P	P	18 42 28.5	+0.4
YAK				IAmb	IAmb	18 42 34.6	
	comp=Z,14nm,0.6s						
LEM	Lembang	45.26	239	P	P	18 42 33.5	+0.3
	comp=Z,18nm,1.0s						
DZM	Mont Dzumac	45.33	152	P	P	18 42 34.6	+1.1
DZM				IAmb	IAmb	18 42 35.6	
	comp=Z,41nm,1.0s						
OUENC	Ouen Island, N	45.81	152	P	P	18 42 38.3	+1.1
OUENC				IAmb	IAmb	18 42 39.3	
	comp=Z,27nm,0.7s						
BLSI	Bandar Lampung	46.43	243	P	P	18 42 42.9	+0.7
	comp=Z,118nm,0.7s						
CGJI	Cibinong	46.73	241	P	P	18 42 43.4	-1.1
MDSI	Maura Dua	46.89	245	P	P	18 42 45.4	-0.3
	comp=Z,6.8nm,1.2s						
LHSI	Lahat	47.12	246	P	P	18 42 47.7	+0.2
	comp=Z,18nm,0.7s						
KASI	Kota Agung	47.15	243	P	P	18 42 47.2	-0.5
	comp=Z,58nm,1.3s						
LWLI	Liwa	47.26	244	P	P	18 42 49.0	+0.3
	comp=Z,47nm,0.8s						
PSA00	Pilbara Seismi	47.31	213	P	P	18 42 49.6	+0.7
PSA00				IAmb	IAmb	18 42 50.7	
	comp=Z,20nm,0.8s						
PSA00	Pilbara Seismi	47.31	213	P	P	18 42 49.1	+0.2
PSA00				IAmb	IAmb	18 42 50.7	
	comp=Z,12nm,0.9s						
KSI	Kapahiang	47.84	247	P	P	18 42 53.2	0.0
MASI	Maun Aman, Be	47.91	248	P	P	18 42 53.9	+0.3
	comp=Z,41nm,1.2s						
PSI	Prapat	48.35	257	P	P	18 42 58.7	+1.5
	comp=Z,4.5nm,0.9s,comp=Z,9.8nm,0.9s						
PSI				P	P	18 42 58.7	+1.5
	comp=Z,4.5nm,0.9s,comp=Z,9.8nm,0.9s						
MNSI	Mandailing Nat	48.54	254	P	P	18 42 59.8	+1.3
	comp=Z,24nm,1.1s						
NIKH	Nikolski High	49.05	35	P	P	18 43 02.5	+0.8
NIKH	Nikolski High	49.05	35	P	P	18 43 02.2	+0.5
	baz=244						
ARMA	Armidale	49.16	173	P	P	18 43 03.2	+0.2
ARMA				IAmb	IAmb	18 43 08.9	
	comp=Z,20nm,1.2s						
GSI	Gunungsitoli	50.17	256	P	P	18 43 10.1	-0.7
GSI	Gunungsitoli	50.17	256	P	P	18 43 11.4	+0.6
	comp=Z,43nm,0.9s						
STKA	Stephens Creek	50.42	184	P	P	18 43 12.0	-0.3
	comp=Z,4.8nm,0.6s,baz=356,slow=9.0,SNR=17						
STKA	Stephens Creek	50.42	184	P

N19K IAmb IAmb 18 44 18.8
comp=Z,20nm,1.0s
N19K Bonanza Creek 59.28 30 P P 18 44 17.8 +2.2
baz=252
L19K White Mountain 59.54 28 P P 18 44 18.9 +1.6
L19K IAmb IAmb 18 44 20.9
comp=Z,14nm,1.4s
L19K White Mountain 59.54 28 P P 18 44 19.2 +1.9
baz=251
P19K Oil Pt 59.55 31 P P 18 44 18.2 +0.9
baz=254
M19K Big River Lodg 59.66 28 P P 18 44 18.9 +0.9
M19K IAmb IAmb 18 44 21.3
comp=Z,17nm,1.4s
M19K Big River Lodg 59.66 28 P P 18 44 20.2 +2.1
baz=252
O20K Slope Mountain 59.96 31 P P 18 44 21.1 +0.9
baz=255
L20K Farewell, AK 60.07 28 P P 18 44 21.8 +1.0
baz=252
M20K Styx River 60.22 29 P P 18 44 24.0 +2.1
M20K IAmb IAmb 18 44 25.3
comp=Z,20nm,1.4s
M20K Styx River 60.22 29 P P 18 44 24.0 +2.1
baz=253
K20K Telida 60.26 27 P P 18 44 23.7 +1.7
K20K IAmb IAmb 18 44 26.4
comp=Z,18nm,1.3s
K20K Telida 60.26 27 P P 18 44 24.3 +2.2
baz=251,SNR=5.5
J20K Nowinta River 60.49 26 P P 18 44 25.9 +2.3
J20K IAmb IAmb 18 44 26.4
comp=Z,5.3nm,0.6s
J20K Nowinta River 60.49 26 P P 18 44 25.9 +2.3
baz=251,SNR=6.0
CNPM China Poot 60.50 31 P P 18 44 24.9 +1.1
CNPM IAmb IAmb 18 44 25.6
comp=Z,20nm,1.0s
BRLK Bradley Lake 60.73 31 P P 18 44 25.2 -0.1
BRLK IAmb IAmb 18 44 26.7
comp=Z,18nm,0.9s
BRSE Bradley Lake S 60.79 31 P P 18 44 26.5 +0.8
baz=257
CAPN Captain Cook N 60.84 30 P P 18 44 27.0 +1.1
baz=256
PPLA Purkeypile 60.93 28 P P 18 44 27.9 +1.2
baz=254
SKT Skwentna 60.98 29 P P 18 44 27.8 +0.8
SKT IAmb IAmb 18 44 28.7
comp=Z,16nm,1.2s
SKT Skwentna 60.98 29 P P 18 44 27.7 +0.8
baz=255,SNR=5.8
CHUM Lake Minchumin 61.17 27 P P 18 44 30.2 +2.1
baz=253
SUA Susitna One 61.20 29 P P 18 44 28.8 +0.2
SUA IAmb IAmb 18 44 34.7
comp=Z,15nm,1.4s
SUA Susitna One 61.20 29 P P 18 44 30.0 +1.4
baz=256
IMAR Indian Mountai 61.25 24 P P 18 44 29.5 +0.8
SEW Seward 61.51 31 P P 18 44 31.7 +1.2
baz=258
RC01 Rabbit Creek A 61.59 30 P P 18 44 31.9 +0.9
RC01 Rabbit Creek A 61.59 30 P P 18 44 32.4 +1.4
baz=257
NRIK Noril'sk 61.60 340 P P 18 44 31.1 +0.1
comp=Z,6.7nm,0.6s,baz=107,slow=11,SNR=6.4
NRIK Noril'sk 61.60 340 P P 18 44 31.2 +0.2
NRIK IAmb IAmb 18 44 31.6
comp=Z,9.9nm,0.8s
CUT Chulitna 61.66 28 P P 18 44 31.9 +0.5
KTH Kantishna Hill 61.67 27 P P 18 44 32.9 +1.3
KTH IAmb IAmb 18 44 34.6
comp=Z,17nm,1.1s
I21K Tanana 61.69 25 P P 18 44 33.6 +2.0
I21K IAmb IAmb 18 44 34.1
comp=Z,6.5nm,0.6s
I21K Tanana 61.69 25 P P 18 44 33.6 +2.0
baz=252,SNR=5.3
BPAW Bear Paw Mtn. 61.79 26 P P 18 44 33.7 +1.4
BPAW Bear Paw Mtn. 61.79 26 P P 18 44 33.9 +1.5
baz=254,SNR=10
TRF Thorofare Moun 61.91 27 P P 18 44 34.0 +0.6
TRF IAmb IAmb 18 44 34.7
comp=Z,6.9nm,0.6s
TRF Thorofare Moun 61.91 27 P P 18 44 34.2 +0.8
baz=255,SNR=5.4
PMR Palmer 61.99 29 P P 18 44 34.2 +0.5
baz=257
MLY Manley 62.15 25 P P 18 44 36.7 +1.9
MLY IAmb IAmb 18 44 36.9
comp=Z,8.3nm,0.6s
MLY Manley 62.15 25 P P 18 44 36.4 +1.6
baz=254,SNR=10
PWL Port Wells 62.21 30 P P 18 44 36.3 +1.2
SML Sawmill 62.41 29 P P 18 44 37.8 +1.2
SML Sawmill 62.41 29 P P 18 44 37.7 +1.2
baz=258,SNR=6.9
RND Reindeer 62.53 27 P P 18 44 38.0 +0.6
RND IAmb IAmb 18 44 39.0
comp=Z,6.4nm,0.7s
WAT1 Susitna Watana 62.53 28 P P 18 44 37.9 +0.6
baz=257
MCK McKinley 62.57 27 P P 18 44 38.0 +0.4
baz=256
NEA2 Nenana 62.72 26 P P 18 44 39.6 +1.1
NEA2 IAmb IAmb 18 44 40.9
comp=Z,5.6nm,0.7s
NEA2 Nenana 62.72 26 P P 18 44 39.5 +1.1
baz=256
I23K Minto, Yukon-K 62.74 26 P P 18 44 40.1 +1.5
I23K Minto, Yukon-K 62.74 26 P P 18 44 40.2 +1.6
baz=255,SNR=15
BOOM Boomskoye usch 62.77 309 P P 18 44 39.8 +0.4
BOOM IAmb IAmb 18 44 41.3
comp=Z,4.6nm,0.6s
GLI Glacier Island 62.81 30 P P 18 44 40.4 +1.3
GLI Glacier Island 62.81 30 P P 18 44 40.3 +1.3
baz=259
KSH Kashi 62.83 305 P P 18 44 42.8 +3.0
KSH pmax pmax
comp=Z,5.0nm,1.0s
WAT6 Susitna Watana 62.84 29 P P 18 44 40.5 +1.0
baz=258,SNR=6.5
H23K Yukon River 62.85 25 P P 18 44 40.5 +1.2
H23K IAmb IAmb 18 44 42.1
comp=Z,6.4nm,0.8s
H23K Yukon River 62.85 25 P P 18 44 41.1 +1.7
baz=255,SNR=5.1
SCM Sheep Creek Mo 62.88 29 P P 18 44 41.2 +1.6
Q23K Middleton Isla 62.92 32 P P 18 44 40.2 +0.4
baz=261
COLD Coldfoot 62.99 23 P P 18 44 41.3 +1.2
COLD IAmb IAmb 18 44 43.1
comp=Z,8.3nm,1.2s
COLD Coldfoot 62.99 23 P P 18 44 41.9 +1.7
baz=253
FID Port Fidalgo 63.08 31 P P 18 44 42.4 +1.4
WRH Wood River Hil 63.11 26 P P 18 44 41.7 +0.7
WRH IAmb IAmb 18 44 42.4
comp=Z,4.6nm,0.6s
MDM Murphy Dome 63.16 26 P P 18 44 42.4 +1.0
MDM IAmb IAmb 18 44 43.9
comp=Z,7.2nm,0.6s
CCB Clear Creek Bu 63.27 26 P P 18 44 41.9 -0.1
EYAK Cordova Ski Ar 63.40 31 P P 18 44 44.4 +1.4
baz=261
M24K Tolsona, Glenn 63.47 29 P P 18 44 44.9 +1.4
M24K IAmb IAmb 18 44 47.7
comp=Z,13nm,1.0s
M24K Tolsona, Glenn 63.47 29 P P 18 44 45.2 +1.8
baz=260
KLU Klutina 63.48 30 P P 18 44 45.4 +1.8
KLU IAmb IAmb 18 45 03.1
comp=Z,18nm,1.4s
KLU Klutina 63.48 30 P P 18 44 45.2 +1.6
baz=260
H24K Noodor Dome 63.52 25 P P 18 44 45.4 +1.6
H24K IAmb IAmb 18 44 45.8
comp=Z,4.5nm,0.7s
H24K Noodor Dome 63.52 25 P P 18 44 45.4 +1.6
baz=256,SNR=5.9
HDA Harding Lake 63.58 27 P P 18 44 44.5 +0.4
HDA IAmb IAmb 18 44 45.0
comp=Z,4.2nm,0.7s
HDA Harding Lake 63.58 27 P P 18 44 45.5 +1.4
baz=258
TOLK Toolik Lake Re 63.62 22 P P 18 44 46.5 +2.0
TOLK IAmb IAmb 18 44 46.9
comp=Z,7.2nm,0.6s
TOLK Toolik Lake Re 63.62 22 P P 18 44 46.2 +1.8
baz=253
ILAR Eielson Array 63.68 26 P P 18 44 44.8 0.0
comp=Z,4.7nm,0.7s,baz=257,slow=4.8,SNR=21
ILAR Eielson Array 63.68 26 P P 18 44 45.0 +0.3
URZ Urewera 63.89 153 P P 18 44 46.5 +0.1
URZ IAmb IAmb 18 45 01.3
comp=Z,12nm,1.0s
PAX Paxson 63.94 28 P P 18 44 47.9 +1.3
PAX IAmb IAmb 18 44 48.4
comp=Z,7.4nm,0.6s
PAX Paxson 63.94 28 P P 18 44 47.9 +1.3
baz=260,SNR=13
HARP HAARP 63.98 29 P P 18 44 48.4 +1.6
baz=260
BMRM Bremner River 64.02 31 P P 18 44 48.8 +1.7
BMRM IAmb IAmb 18 44 50.1
comp=Z,21nm,1.2s
BMRM Bremner River 64.02 31 P P 18 44 47.9 +0.8
baz=262
N25K Chitina, Valde 64.12 30 P P 18 44 49.5 +1.7
N25K Chitina, Valde 64.12 30 P P 18 44 48.8 +1.0
baz=261
RIDG Independent Ri 64.35 28 P P 18 44 50.3 +1.1
RIDG IAmb IAmb 18 44 51.2
comp=Z,23nm,1.4s
RIDG Independent Ri 64.35 28 P P 18 44 50.1 +0.9
baz=260,SNR=7.8
GLB Gilahina Butte 64.47 30 P P 18 44 51.7 +1.6
GLB IAmb IAmb 18 44 52.8
comp=Z,23nm,1.4s
VRDI Verde Repeater 64.61 30 P P 18 44 52.6 +1.5
VRDI IAmb IAmb 18 44 53.0
comp=Z,6.5nm,0.8s
DOT Dot Lake 64.68 28 P P 18 44 52.4 +1.1
DOT IAmb IAmb 18 44 52.9
comp=Z,6.6nm,0.7s
CRQM Cirque 64.70 31 P P 18 44 53.6 +1.9
CRQE Cirque 64.73 31 P P 18 44 53.1 +1.3
baz=263
SCRK Sand Creek 64.77 27 P P 18 44 53.0 +1.0
SCRK IAmb IAmb 18 44 54.1
comp=Z,6.4nm,0.9s
SCRK Sand Creek 64.77 27 P P 18 44 52.8 +0.8
baz=261,SNR=9.4
WAX Waxell Ridge 64.81 31 P P 18 44 53.8 +1.6
MCARA McCarthy VSAT 64.84 30 P P 18 44 53.4 +1.1
MCARA IAmb IAmb 18 45 03.3
comp=Z,7.7nm,0.7s
MCARA McCarthy VSAT 64.84 30 P P 18 44 52.6 +0.3
baz=263
L26K Log Cabin Wild 64.91 28 P P 18 44 53.6 +0.8
baz=262
NNZ Nelson 64.92 157 P P 18 44 52.8 -0.2
J26K Charley River, 64.94 27 P P 18 44 53.8 +0.7
baz=261,SNR=16
M26K Nabesna, AK 64.98 29 P P 18 44 54.4 +1.0
baz=262
ISLE Juniper Island 65.08 31 P P 18 44 55.8 +1.7
ISLE IAmb IAmb 18 45 23.2
comp=Z,14nm,1.1s
BMAR Burnt Mountain 65.15 24 P P 18 44 56.5 +2.3
GRNC Granite Creek 65.38 31 P P 18 44 56.5 +0.3
GRNC IAmb IAmb 18 44 58.7
comp=Z,10.0nm,0.9s
BARN Barnard Glacie 65.46 31 P P 18 44 56.5 -0.1
BARN IAmb IAmb 18 45 12.4
comp=Z,12nm,1.3s
NIL Nilore 65.49 299 P P 18 44 58.1 +1.0
NIL IAmb IAmb 18 44 59.2
comp=Z,11nm,1.0s
M27K Edge Creek, AK 65.49 29 P P 18 44 56.3 -0.4
M27K Edge Creek, AK 65.49 29 P P 18 44 58.2 +1.5
baz=263
BFZ Birch Farm 65.56 155 P P 18 44 56.8 -0.4
L27K Beaver Creek, 65.60 28 P P 18 44 58.9 +1.7
L27K Beaver Creek, 65.60 28 P P 18 44 58.8 +1.5
baz=263,SNR=7.1
CTG Chitina Glacier 65.60 31 P P 18 44 59.1 +1.6
baz=264
CTGM Chitina Glacie 65.61 31 P P 18 44 58.5 +1.0
CTGM IAmb IAmb 18 45 00.3
comp=Z,7.5nm,0.6s
K27K Chicken 65.61 27 P P 18 44 58.7 +1.5
K27K Chicken 65.61 27 P P 18 44 58.9 +1.7
baz=262
BCAR Beaver Creek A 65.62 28 P P 18 44 58.7 +1.3
TABL Table Mountain 65.65 31 P P 18 44 55.8 -2.1
LOGN Logan Glacier 65.75 31 P P 18 44 59.6 +1.2
LOGN IAmb IAmb 18 45 03.4
comp=Z,7.0nm,0.9s
PCA Pinnacle 66.06 32 P P 18 45 02.0 +1.7
PCA IAmb IAmb 18 45 29.2
comp=Z,25nm,1.4s
PINM Pinnacle 66.06 32 P P 18 45 02.0 +1.7
baz=266
YUK3 Moose Creek 66.10 30 P P 18 45 02.3 +1.6
baz=265,SNR=5.1
EGAK Eagle 66.10 27 P P 18 45 01.6 +1.3
EGAK IAmb IAmb 18 45 08.3
comp=Z,11nm,1.5s
EGAK Eagle 66.10 27 P P 18 45 02.0 +1.6
baz=263
BRVK Borovoye 66.51 320 P P 18 45 03.3 +0.1
BRVK IAmb IAmb 18 45 05.1
comp=Z,10nm,0.9s
KK31 Karatay Array 66.73 310 P P 18 45 05.0 +0.2
KK31 IAmb IAmb 18 45 06.3
comp=Z,5.7nm,0.8s
KKAR Karatay Array 66.73 310 P P 18 45 04.9 +0.1
KKAR Karatay Array 66.73 310 P P 18 45 04.8 -0.1
KKAR IAmb IAmb 18 45 06.3
comp=Z,5.7nm,0.8s
DAWY Dawson 66.79 28 P P 18 45 06.3 +1.5
baz=265
YUK4 Talbot Arm 66.93 31 P P 18 45 08.0 +2.0
baz=267,SNR=7.8
YUK6 Outpost Mounta 67.05 31 P P 18 45 08.9 +2.1
baz=267,SNR=5.6
GAR Garm 67.25 305 P P 18 45 07.6 -0.7
GAR IAmb IAmb 18 45 09.6
comp=Z,5.7nm,0.8s
HYT Haines Junctio 67.46 31 P P 18 45 11.5 +2.3
HYT IAmb IAmb 18 45 12.6
comp=Z,23nm,1.3s
HYT Haines Junctio 67.46 31 P P 18 45 11.6 +2.3
baz=268,SNR=9.5
EPYK Eagle Plains 68.08 25 P P 18 45 14.5 +1.6
EPYK IAmb IAmb 18 45 14.8
comp=Z,6.2nm,0.8s
EPYK Eagle Plains 68.08 25 P P 18 45 14.2 +1.4
baz=266
CHGR Chuyangaron 68.19 305 P P 18 45 13.7 -0.4
CHGR IAmb IAmb 18 45 15.4
comp=Z,11nm,0.8s
SKAG Skagway 68.53 33 P P 18 45 16.0 +0.3
SKAG IAmb IAmb 18 45 18.3
comp=Z,5.7nm,0.6s
SKAG Skagway 68.53 33 P P 18 45 17.6 +1.9
baz=270
WHY Whitehorse 68.75 31 P P 18 45 19.1 +1.9
baz=270
BESE Bessie Mountai 68.79 34 P P 18 45 19.6 +2.2
BESE IAmb IAmb 18 45 21.4
comp=Z,19nm,1.4s
INK Inuvik 69.40 23 P P 18 45 21.8 +1.0
INK Inuvik 69.40 23 P P 18 45 21.9 +1.0
baz=269
FARO Faro, Yukon 69.47 30 P P 18 45 22.9 +1.5
baz=271
WRAK Wrangell Islan 70.25 36 P P 18 45 27.6 +1.4
baz=274
MMPY Sheldon Lake, 70.42 29 P P 18 45 29.1 +1.8
baz=273
DLBC Dease Lake 71.33 34 P P 18 45 34.6 +1.8
DLBC IAmb IAmb 18 45 35.6
comp=Z,6.4nm,0.6s
ARU Arti 73.05 325 P P 18 45 43.0 +0.1
ARU IAmb IAmb 18 45 44.1
comp=Z,8.1nm,0.9s
ABKAR Akbulak array 73.31 317 P P 18 45 43.9 -0.7
ABKAR IAmb IAmb 18 45 45.0
comp=Z,7.1nm,0.5s
ABKAR Akbulak array 73.31 317 P P 18 45 43.1 -1.6
GEYT Alibeck 76.86 306 P P 18 46 05.7 +0.5
comp=Z,3.2nm,0.7s,baz=62,slow=32,SNR=3.9
EUNU Eureka 77.74 8 P P 18 46 10.4 +1.0
YKA Yellowknife Ar 78.02 28 P P 18 46 12.1 +1.0
comp=Z,2.0nm,0.5s,baz=290,slow=4.3,SNR=9.8
YKA Yellowknife Ar 78.02 28 P P 18 46 11.4 +0.3
L02E Cave Junction 78.25 49 P P 18 46 14.0 +1.2
baz=284
I04A Tendick Farm, 78.68 48 P P 18 46 16.3 +1.2
baz=285
F05D White Salmon 78.79 45 P P 18 46 17.1 +1.4
baz=285
LTY Liberty 78.95 44 P P 18 46 18.2 +1.6
M02C Callahan 78.98 50 P P 18 46 18.3 +1.4
baz=285
J04D Umpqua Nationa 79.03 48 P P 18 46 18.7 +1.4
baz=285
L04D Klamath Falls 79.17 49 P P 18 46 19.5 +1.6
baz=285
B08A Colville Reser 79.52 43 P P 18 46 18.8 -0.8
B08A IAmb IAmb 18 46 22.1
comp=Z,13nm,1.4s
M04C Macdoel 79.61 49 P P 18 46 22.4 +2.0
baz=286
J05D Fort Rock, OR 79.64 48 P P 18 46 22.5 +2.0
baz=286
PINE Pine Mountain 79.70 47 P P 18 46 21.8 +0.9
PINE IAmb IAmb 18 46 24.0
comp=Z,11nm,0.9s
PINE pP pP 18 47 11.9 +2.0
K05A Summer Lake 80.03 48 P P 18 46 23.9 +1.2
K05A IAmb IAmb 18 46 25.3
comp=Z,7.7nm,0.8s
O03E Paynes Creek 80.05 51 P P 18 46 24.4 +1.8
baz=286
D08A Wollman Farm, 80.15 44 P P 18 46 24.6 +1.6
D08A IAmb IAmb 18 46 25.6
comp=Z,9.1nm,1.2s
C09A Chrisman Ranch 80.36 43 P P 18 46 24.8 +0.7
C09A IAmb IAmb 18 46 26.6
comp=Z,11nm,1.4s
E09A Wood Farm, Sta 80.82 44 P P 18 46 27.3 +0.8
E09A IAmb IAmb 18 46 29.2
comp=Z,10nm,1.3s
NEW Newport 80.96 42 P P 18 46 28.1 +0.8
NEW Newport 80.96 42 P P 18 46 29.0 +1.8
baz=288
BEKR Beckworth 81.23 51 P P 18 46 30.3 +1.2
BEKR IAmb IAmb 18 46 31.4
comp=Z,6.6nm,0.9s
J08A Circle Bar Ran 81.55 47 P P 18 46 31.7 +1.2
CMB Columbia Colle 81.75 53 P P 18 46 33.2 +1.6
CMB pP 18 47 21.7 +0.9
BMO Blue Mountains 81.89 45 P P 18 46 32.4 +0.1
BMO pP pwP 18 47 24.5 -1.3
PNTR Pine Nut 82.02 52 P P 18 46 34.9 +1.6
PNTR IAmb IAmb 18 46 36.1
comp=Z,8.7nm,0.8s
YERR Yerington 82.32 52 P P 18 46 36.0 +1.3
YERR pP 18 47 26.1 +2.0
ARCES ARCESS Array B 82.49 342 P P 18 46 35.2 +0.4
comp=Z,2.7nm,0.6s,baz=64,slow=5.6,SNR=15
JTMT Jette 82.93 42 P P 18 46 37.9 +0.2
RYN Ryan 82.96 52 P P 18 46 38.7 +0.7
RYN pP 18 47 28.9 +1.5
LHV Little Huntoon 83.09 52 P P 18 46 40.5 +2.1
LHV IAmb IAmb 18 46 41.8
comp=Z,8.5nm,1.2s
LHV pwP 18 47 30.4 -2.0
PKM Mcpherson Peak 83.13 56 P P 18 46 40.6 +1.6
baz=288
KVN Kaiserville 83.14 51 P P 18 46 40.1 +1.0
KVN IAmb IAmb 18 46 41.6
comp=Z,9.1nm,1.2s
KVN pP 18 47 28.2 -0.2
NVAR Mina Array Bea 83.19 52 P P 18 46 41.1 +1.8
comp=Z,2.9nm,0.6s,baz=269,slow=5.9,SNR=28
NVAR Mina Array Bea 83.19 52 P P 18 46 40.3 +1.0
NVAR pP 18 47 26.0 -2.7
NV11 Mina Array Sit 83.30 52 P P 18 46 41.1 +1.4
NV11 pP 18 47 29.0 -0.1
MFID Camas Ranch 83.36 47 P P 18 46 41.6 +1.7
MFID pP 18 47 29.4 -0.1
CWC Cottonwood Cre 83.99 54 P P 18 46 44.3 +1.0
baz=289
TPH Tonopah 84.11 52 P P 18 46 45.2 +1.3
TPH pP 18 47 34.4 +0.9
HLID Hailey 84.28 46 P P 18 46 45.3 +0.6
HLID pP pwP 18 47 36.6 -1.8
HLID Hailey 84.28 46 P P 18 46 46.1 +1.4
baz=290
GRAC Grapevine Rang 84.35 53 P P 18 46 46.4 +1.4
baz=289
EDW2 Edwards Air Fo 84.55 55 P P 18 46 48.0 +2.0
baz=289
MPMC Manual Prospec 84.56 54 P P 18 46 47.4 +1.2
baz=289
LRMC Laurel Mtn Rad 84.60 55 P P 18 46 47.7 +1.4
baz=289
ELK Elko 84.67 49 P P 18 46 48.0 +1.3
ELK pP pP 18 47 35.5 -0.9
LRM Limekiln Ridge 84.78 43 P P 18 46 47.5 +0.3
DLMT Dillon 84.86 44 P P 18 46 47.9 +0.4
HRY Holter Researc 84.86 42 P P 18 46 48.7 +1.3
TPNV Topopah Spring 85.21 53 P P 18 46 50.9 +1.4
TPNV pP pP 18 47 37.9 -1.1
TPNV Topopah Spring 85.21 53 P P 18 46 50.2 +0.7
baz=290
R11A Troy Canyon, C 85.23 51 P P 18 46 50.3 +0.7
R11A pP 18 47 38.7 -0.4
R11A Troy Canyon, C 85.23 51 P P 18 46 50.3 +0.7
baz=290
BOZ Bozeman (W) 85.40 43 P P 18 46 51.4 +1.3
BOZ Bozeman (W) 85.40 43 P P 18 46 51.5 +1.3
baz=292
QLMT Earthquake Lak 85.82 44 P P 18 46 53.9 +1.5
SPR3 Spring Creek 3 85.93 50 P P 18 46 54.7 +1.5
SPR3 pP 18 47 41.6 -1.2
PRN Pahroc Range 85.95 52 P P 18 46 54.8 +1.7
PRN IAmb IAmb 18 46 55.8
comp=Z,7.3nm,1.2s
TUQ Turquoise Moun 85.97 54 P P 18 46 54.6 +1.5
baz=290
HVU Hansel Valley 86.04 47 P P 18 46 53.0 -0.4
HVU pP pP 18 47 43.0 -0.2
KBZ Khabaz 86.11 315 P P 18 46 52.8 -0.7
comp=Z,1.5nm,0.7s,baz=186,slow=3.7,SNR=4.4
YHH Holmes Hill 86.22 44 P P 18 46 53.8 -0.6
YHH pP pP 18 47 44.4 +0.2
PSUT Pine Spring 86.44 51 P P 18 46 54.7 -0.8
PSUT IAmb IAmb 18 46 58.5
comp=Z,5.3nm,0.9s
PSUT pP pP 18 47 44.0 -1.3
IMW Indian Meadow 86.50 45 P P 18 46 55.9 +0.1
IMW pP 18 47 45.6 0.0
FXWY Fox Creek 86.54 45 P P 18 46 53.9 -2.1
FXWY pP 18 47 46.8 +1.0
FLWY Flagg Ranch 86.59 45 P P 18 46 56.3 +0.2
DUG Dugway, Tooele 86.59 49 P P 18 46 55.9 -0.3
DUG Dugway, Tooele 86.59 49 P P 18 46 58.0 +1.9
baz=292
FINES FINESS Array B 86.87 335 P P 18 46 55.0 -1.8
comp=Z,3.2nm,0.4s,baz=66,slow=4.5,SNR=59
FINES FINESS Array B 86.87 335 P P 18 46 54.8 -2.0
HWUT Hardware Ranch 86.95 47 P P 18 46 56.5 -1.4
HWUT IAmb IAmb 18 47 00.9
comp=Z,6.0nm,1.0s
HWUT pP pP 18 47 47.5 -0.3
IRM Iron Mountain 87.01 55 P P 18 47 00.1 +2.0
baz=290
CCUT Cedar City 87.16 51 P P 18 46 59.8 +0.8
CCUT pP pP 18 47 48.8 -0.1
LCMT Little Creek M 87.44 52 P P 18 46 59.5 -0.7
LCMT pP 18 47 48.6 -1.6
MVU Marysvale 87.65 50 P P 18 47 02.4 +1.1
MVU IAmb IAmb 18 47 04.8
comp=Z,8.4nm,0.8s
MVU pP pP 18 47 49.5 -1.8
KNB Kanab 87.75 52 P P 18 47 02.4 +0.6
KNB IAmb IAmb 18 47 05.5
comp=Z,8.9nm,1.0s
KNB pP pP 18 47 50.4 -1.4

PD31	**Pinedale Array**	**87.87**	**45**	P		**P**	**18 47 03.1**	**+0.8**
PDAR	**Pinedale Array**	**87.87**	**45**	P		**P**	**18 47 02.6**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=91,slow=1.0,SNR=4.5							
U15A	**North Rim**	**88.37**	**52**	P		**P**	**18 47 04.9**	**+0.1**
SRU	**San Rafael Swe**	**88.64**	**49**	P		**P**	**18 47 06.1**	**+0.2**
Y14A	**Wickenburg**	**88.75**	**55**	P		**P**	**18 47 07.5**	**+1.1**
Y14A				IAmb	IAmb		18 47 09.2	
	comp=Z,13nm,1.4s							
WUAZ	**Wupatki**	**89.40**	**53**	P		**P**	**18 47 09.0**	**-0.6**
WUAZ				IAmb	IAmb		18 47 13.2	
	comp=Z,5.7nm,1.0s							
WUAZ				pP		**pP**	**18 47 58.9**	**-0.7**
WUAZ	**Wupatki**	**89.40**	**53**	P		**P**	**18 47 11.9**	**+2.4**
	baz=293							
214A	**Organ Pipe Nat**	**89.63**	**56**	P		**P**	**18 47 12.1**	**+1.6**
	baz=292							
MNK	**Minsk**	**89.93**	**329**	*i* P		**P**	**18 47 11.4**	**+0.1**
	comp=E,1.0nm,0.9s							
MNK				*i* P		**P**	**18 47 11.4**	**+0.1**
	comp=N,9.0nm,0.9s							
MNK				*i* P		**P**	**18 47 11.4**	**+0.1**
	comp=Z,9.0nm,1.0s,baz=237							
MNK				*i* pP		**pP**	**18 48 00.8**	**-0.7**
MNK				*i* sP		**sP**	**18 48 22.0**	**-0.9**
MNK				*i* PP		**PP**	**18 50 45.8**	**-0.8**
MNK				*i* PPP		PPP	18 52 38.9	
MNK				*i* S		**SKSac**	**18 57 21.9**	**-0.3**
MNK				*i* sS		**pS**	**18 58 52.6**	**+3.2**
MNK				*i* SS		**SS**	**19 03 47.3**	**-0.4**
MNK				*i* SSS		SSS	19 07 33.0	
MNK				*i* LRM		MLR	19 28 27.1	
	comp=Z,159nm,19.0s							
MNK				*i* LRM		MLR	19 28 33.9	
	comp=N,59nm,14.2s							
MNK				*i* LRM		MLR	19 28 58.4	
	comp=E,5.0nm,15.6s							
PV21	**Cone Mtn., Par**	**89.97**	**49**	P		**P**	**18 47 11.5**	**-0.7**
PV21						**pP**	**18 48 01.3**	**-1.0**
PV20	**West Nyswonger**	**90.06**	**49**	P		**P**	**18 47 11.9**	**-0.7**
PV20				IAmb	IAmb		18 47 15.3	
	comp=Z,11nm,1.4s							
PV20						**pP**	**18 48 04.1**	**+1.4**
PV19	**Morning Glory**	**90.06**	**49**	P		**P**	**18 47 12.1**	**-0.6**
PV19				IAmb	IAmb		18 47 15.5	
	comp=Z,8.6nm,1.3s							
PV19						**pP**	**18 48 03.1**	**+0.4**
PV17	**East Wray Mesa**	**90.09**	**49**	P		**P**	**18 47 12.7**	**-0.1**
PV17				IAmb	IAmb		18 47 16.8	
	comp=Z,3.4nm,0.6s							
PV17						**pP**	**18 48 01.5**	**-1.4**
PV16	**Nyswonger Mesa**	**90.11**	**49**	P		**P**	**18 47 13.6**	**+0.8**
PV16						**pP**	**18 48 01.4**	**-1.5**
PV11	**David Mesa, Pa**	**90.15**	**49**	P		**P**	**18 47 13.8**	**+0.8**
PV11				IAmb	IAmb		18 47 15.4	
	comp=Z,5.6nm,0.8s							
PV11						**pP**	**18 48 03.6**	**+0.5**
PV03	**Paradox Valley**	**90.18**	**49**	P		**P**	**18 47 13.8**	**+0.6**
PV03				IAmb	IAmb		18 47 14.7	
	comp=Z,2.9nm,0.5s							
PV03						**pP**	**18 48 04.2**	**+0.9**
PV12	**Saucer Basin,**	**90.19**	**49**	P		**P**	**18 47 12.2**	**-1.0**
PV12				IAmb	IAmb		18 47 15.7	
	comp=Z,7.1nm,1.1s							
PV12						**pP**	**18 48 03.8**	**+0.5**
PV13	**Radium Mtn., P**	**90.24**	**49**	P		**P**	**18 47 10.7**	**-2.8**
PV13				IAmb	IAmb		18 47 15.0	
	comp=Z,9.7nm,1.5s							
PV01	**Paradox Valley**	**90.43**	**49**	P		**P**	**18 47 13.7**	**-0.7**
PV01				IAmb	IAmb		18 47 15.8	
	comp=Z,2.3nm,0.6s							
TUC	**Tucson**	**91.09**	**55**	P		**P**	**18 47 19.5**	**+2.1**
	baz=293							
N23A	**Red Feather La**	**91.11**	**46**	P		**P**	**18 47 18.7**	**+1.3**
	baz=296							
PHWY	**Pilot Hill**	**91.26**	**45**	P		**P**	**18 47 17.6**	**-0.6**
AKASG	**Malin Array Be**	**91.28**	**325**	P		**P**	**18 47 15.9**	**-1.8**
	comp=Z,0.4nm,0.5s,baz=47,slow=5.5,SNR=1.6							
ISCO	**Idaho Springs**	**91.81**	**47**	P		**P**	**18 47 21.9**	**+1.0**
	baz=296							
NB2	**NORSAR Subarra**	**92.56**	**340**	P		**P**	**18 47 22.4**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=44,slow=5.1							
NOA	**NORSAR Array B**	**92.56**	**340**	P		**P**	**18 47 21.6**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=46,slow=4.7,SNR=4.8							
SDCO	**Great Sand Dun**	**92.79**	**49**	P		**P**	**18 47 26.8**	**+1.4**
	baz=296							
BRTR	**Keskin Array B**	**94.08**	**314**	P		**P**	**18 47 29.7**	**-1.4**
	comp=Z,1.4nm,1.0s,baz=95,slow=1.6,SNR=3.9							
TXAR	**Lajitas Array**	**97.89**	**56**	P		Pdif	18 47 50.0	+1.5
	comp=Z,0.1nm,0.3s,baz=232,slow=4.4,SNR=2.0							
SNAA	**Sanae**	**123.90**	**191**	PKPdf		**PKPdf**	**18 53 07.1**	**-1.4**
VNA2	**Neumayer--Watz**	**125.35**	**191**	PKPdf		**PKPdf**	**18 53 10.7**	**-0.5**
VNA3	**Neumayer Olymp**	**125.45**	**190**	PKPdf		**PKPdf**	**18 53 10.3**	**-1.1**
VNA1	**Neumayer--Stat**	**125.73**	**190**	PKPdf		**PKPdf**	**18 53 11.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**132.42**	**309**	PKP		**PKPdf**	**18 53 25.8**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=13,slow=1.6,SNR=6.8							
TORD				SKPbc		**SKPbc**	**18 56 30.5**	**-3.1**
	comp=Z,2.0nm,0.9s,baz=63,slow=3.6,SNR=7.4							
PLCA	**Paso Flores**	**142.03**	**133**	PKhKP		PKPpre	18 53 39.5	
	comp=Z,1.2nm,0.6s,baz=316,slow=2.1,SNR=5.6							
LPAZ	**La Paz**	**147.73**	**91**	PKPbc		**PKPdf**	**18 53 55.5**	**+0.9**
	comp=Z,6.1nm,0.7s,baz=273,slow=1.2,SNR=16							
LPAZ	**La Paz**	**147.73**	**91**			**PKPdf**	**18 53 55.1**	**+0.6**

*IDC **09** 18:42:40.9±0.9,59.75°S×26.67°W,h0km,mb3.9/4, mb1 4.1/4,mb1mx3.9/17,mbtmpb3.9/4,MS3.4/2,Ms1 3.4/2, ms1mx2.9/29 Error ellipse: s-maj=35.5km s-min=31.3km az=64.0*

*NEIC **09** 18:42:42.0±2.3,59.5°S±0.2°×25.9°W±0.2,h10km±2km, mb4.4/8,Error ellipse: s-maj=30.0km s-min=10.9km az=23.0*

ISC 09 18:42:44.4±0.8,60.4S±0.2°×26.6W±0.2°,h35km,n25, σ1°45/17,mb4.0/5,MS3.4/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.69**	**151**	P		**P**	**18 45 51.2**	**-1.6**
VNA1				S		**Sn**	**18 48 01.1**	**-0.7**
VNA3	**Neumayer Olymp**	**12.81**	**155**	P		**P**	**18 45 52.7**	**-1.5**
VNA3				S		**Sn**	**18 48 05.6**	**+0.7**
VNA2	**Neumayer--Watz**	**13.09**	**151**	P		**P**	**18 45 55.7**	**-1.6**
	baz=312,slow=16							
VNA2				S		**Sn**	**18 48 10.9**	**-0.7**
SNAA	**Sanae**	**14.69**	**150**	P		**P**	**18 46 17.4**	**+2.3**
SNAA				S		**Sn**	**18 48 51.2**	**+0.5**
SNAA	**Sanae**	**14.69**	**150**			**P**	**18 46 17.5**	**+2.3**
SNAA				IAmb	IAmb	IAmb	18 46 23.3	
	comp=Z,12nm,0.5s							
BELA	**Belgrano 2**	**17.73**	**186**	P		P	18 46 59.1	+10
QSPA	**South Pole Qui**	**29.82**	**180**	P		P	18 48 57.8	+10
TRQA	**Tornquist**	**31.53**	**299**	P		**P**	**18 49 04.7**	**+1.7**
TRQA				IAmb	IAmb	IAmb	18 49 10.5	
	comp=Z,4.1nm,0.9s							
PLCA	**Paso Flores**	**33.30**	**286**	P		**P**	**18 49 18.5**	**0.0**
	comp=Z,2.6nm,0.8s,baz=156,slow=9.2,SNR=4.4							
PLCA	**Paso Flores**	**33.30**	**286**	IAmb	IAmb	IAmb	18 49 21.7	
	comp=Z,11nm,1.5s							
MT09	**Talagante**	**39.12**	**293**	P		**P**	**18 50 09.1**	**+0.7**
VNDA	**Vanda**	**42.21**	**183**	P		P	18 50 40.2	+7.1
	comp=Z,1.2nm,0.8s,baz=186,slow=6.6,SNR=6.7							
VNDA	**Vanda**	**42.21**	**183**	P		P	18 50 42.9	+10
LVC	**Limon Verde**	**47.86**	**303**	LR		LR	19 09 30.5	
	comp=Z,35nm,21.2s,baz=211,slow=34							
SIV	**San Ignacio**	**50.87**	**315**	LR		LR	19 13 44.9	
	comp=Z,37nm,18.4s,baz=296,slow=37							
LPAZ	**La Paz**	**53.22**	**307**	P		**P**	**18 51 58.5**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=127,slow=5.1,SNR=2.2							
LPAZ	**La Paz**	**53.22**	**307**	IAmb	IAmb	IAmb	18 52 16.4	
	comp=Z,1.8nm,0.9s							
H10N1	**ASCENSION HYDR**	**53.25**	**15**	T		T	19 48 52.1	
	baz=188,slow=74,SNR=3.0							
H10N3	**ASCENSION HYDR**	**53.25**	**15**	T		T	19 48 54.2	
	baz=188,slow=74,SNR=7.1							
H10N2	**ASCENSION HYDR**	**53.27**	**15**	T		T	19 49 00.0	
	baz=188							
TORD	**Torodi Ar. Bea**	**76.75**	**28**	P		**P**	**18 54 30.8**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=196,slow=6.2,SNR=7.2							
MDT	**Midelt**	**94.64**	**18**	LR		LR	19 29 25.9	
	comp=Z,549nm,21.9s,baz=317,slow=30							
FINES	**FINESS Array B**	**128.09**	**29**	PKP		**PKPdf**	**19 01 45.3**	**+0.3**
	comp=Z,1.4nm,1.0s,baz=208,slow=7.8,SNR=3.9							
SONM	**Songino Array**	**150.41**	**94**	PKPbc		**PKiKP**	**19 02 33.5**	**+1.6**
	comp=Z,2.3nm,0.7s,baz=223,slow=2.7,SNR=15							
ILAR	**Eielson Array**	**153.09**	**305**	PKPbc		**PKiKP**	**19 02 36.9**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=126,slow=1.9,SNR=5.6							

*NEIC **09** 18:48:51.4±2.5,0.16°S±0.07°×124.52°E±0.05,h48km±6km, mb4.7/58,Error ellipse: s-maj=10.7km s-min=6.3km az=208.0*

*IDC **09** 18:48:51.2±1.6,0.12°S×124.52°E,h52km±14km,mb4.1/23, mb1 4.2/27,mb1mx4.2/36,mbtmp4.4/27,ML4.2/4,MS3.5/13, Ms1 3.5/13,ms1mx3.2/50,Error ellipse: s-maj=12.7km s-min=8.7km az=76.0*

*DJA **09** 18:48:52.6±0.2,0°S±2°×125°E±°,h50km±4km,M4.6/31, mB5.1/8,mb4.7/31,ML4.8/19,Mw(mB)4.4/8*

*KLM **09** 18:48:53,0.30S×124.56E,h65km,mb4.8*

ISC 09 18:48:52.5±0.8,0.21S±0.04×124.56E±0.04,h67km±7km, n196,σ1°73/206,mb4.6/76,2C-2D,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MNI	**Manado**	**1.66**	**10**	P		**Pn**	**18 49 19.9**	**+0.3**
SANI	**Sanana**	**2.33**	**142**	P		**Pn**	**18 49 25.3**	**-3.2**
SANI				S		**Sn**	**18 49 50.8**	**-5.2**
MRSI	**Marisa**	**2.70**	**285**	P		**Pn**	**18 49 30.3**	**-3.3**
TNTI	**Ternate**	**2.97**	**71**	Pn		**Pn**	**18 49 37.3**	**+0.1**
TNTI	**Ternate**	**2.97**	**71**	P		**Pn**	**18 49 38.0**	**+0.7**
TNTI				S		**Sn**	**18 50 13.0**	**+1.2**
APSI	**Ampana**	**2.99**	**256**	P		**Pn**	**18 49 38.8**	**+1.3**
GAMI	**Galela, Maluku**	**3.82**	**58**	P		**Pn**	**18 49 49.5**	**+0.7**
SGSI	**Sangihe**	**3.98**	**14**	P		**Pn**	**18 49 54.2**	**+3.1**
TOLI2	**Tolitoli**	**3.99**	**289**	Pn		**Pn**	**18 49 49.9**	**-1.4**
MPSI	**Mapaga**	**4.69**	**277**	P		**Pn**	**18 49 59.0**	**-1.7**
KKSI	**Kolaka, Sulawe**	**4.89**	**216**	P		**Pn**	**18 50 03.2**	**-0.4**
KRAI	**Karang Ratu**	**4.93**	**129**	P		**Pn**	**18 50 04.0**	**0.0**
MSAI	**Masohi**	**5.37**	**126**	P		**Pn**	**18 50 11.1**	**+1.0**
	0.6nm2µm144nm,0.7s							
TTSI	**Tana Toraja**	**5.51**	**239**	P		**Pn**	**18 50 12.8**	**+0.8**
	1.1nm3µm309nm,0.7s							
BNSI	**Bone**	**6.09**	**227**	P		**Pn**	**18 50 20.1**	**+0.1**
	0.5nm1µm96nm,0.7s							
PMSI	**Majene**	**6.52**	**240**	P		**Pn**	**18 50 27.3**	**+1.5**
	0.9nm2µm83nm,0.8s							
SWI	**Sorong**	**6.74**	**96**	P		**Pn**	**18 50 30.3**	**+1.5**
	0.3nm852nm54nm,0.8s							
BKSI	**Bulukumba**	**6.74**	**221**	P		**Pn**	**18 50 28.9**	**+0.1**
	0.2nm735nm52nm,0.6s							
SIJI	**Sorong**	**6.74**	**96**	P		**Pn**	**18 50 28.6**	**-0.3**
	5.1nm,0.3s,baz=192,slow=18,SNR=11							
SIJI				S		**Sn**	**18 51 46.2**	**+1.9**
	baz=222,slow=22,SNR=1.0							
SIJI	**Sorong**	**6.74**	**96**	P		**Pn**	**18 50 28.6**	**-0.3**
	0.1nm1µm19nm,0.6s							
KAPI	**Kappang**	**6.77**	**225**	P		**Pn**	**18 50 29.9**	**+0.7**
	7.4nm,0.3s,baz=45,slow=6.7,SNR=18							
KAPI				S		**Sn**	**18 51 45.4**	**+0.4**
	5.0nm,0.3s,baz=254,slow=22,SNR=1.5							
KAPI				LR		LR	18 53 50.7	
	comp=Z,317nm,20.6s,baz=62,slow=44							
KAPI	**Kappang**	**6.77**	**225**	Pn		**Pn**	**18 50 29.4**	**+0.1**
KAPI	**Kappang**	**6.77**	**225**	P		**Pn**	**18 50 29.9**	**+0.7**
	0.2nm556nm33nm,0.8s							
BNDI	**Bandanaira**	**6.85**	**129**	P		**Pn**	**18 50 29.6**	**-0.7**
	1.2nm395nm,1.0s							
MKS	**Makassar**	**7.11**	**225**	P		**Pn**	**18 50 34.6**	**+0.7**
	0.4nm99nm,1.0s							
BSSI	**Bau Bau, Buton**	**7.16**	**214**	P		**Pn**	**18 50 34.6**	**0.0**
	0.3nm52nm,1.0s							
KCP	**Kidapawan**	**7.19**	**4**	*eP*		**Pn**	**18 50 36.6**	**+1.6**
DAV	**Davao City (W)**	**7.30**	**8**	LR		LR	18 53 47.3	
	comp=Z,595nm,21.5s,baz=182,slow=41							
ZCP	**Zamboanga City**	**7.51**	**341**	*eP*		**Pn**	**18 50 40.4**	**+1.1**
BKB	**Balikpapan**	**7.73**	**262**	P		**Pn**	**18 50 42.1**	**-0.3**
	0.7nm160nm,0.7s							
FAKI	**Fak Fak**	**8.15**	**109**	Pn		**Pn**	**18 50 46.2**	**-1.9**
FAKI						**Sn**	**18 52 12.4**	**-6.4**
KBKI	**Kotabaru**	**8.93**	**250**	P		**Pn**	**18 50 59.5**	**+0.7**
	33nm,0.6s							
EDFI	**Ende, Flores**	**8.96**	**199**	P		**Pn**	**18 50 59.4**	**+0.2**
	17nm,0.9s							
SPMM	**Sapulut**	**9.44**	**301**	P		**Pn**	**18 51 07.0**	**+1.2**
BATI	**Baumata**	**9.98**	**185**	LR		LR	18 55 19.6	
	comp=Z,570nm,19.8s,baz=3.0,slow=39							
BATI	**Baumata**	**9.98**	**185**	P		**Pn**	**18 51 17.0**	**+3.9**
	25nm,1.5s							
BBKI	**Banjar Baru**	**10.23**	**251**	P		**Pn**	**18 51 16.8**	**+0.2**
	23nm,0.7s							
STKI	**Sintang**	**13.08**	**271**	P		**P**	**18 51 59.4**	**-3.9**
	17nm,1.0s							
MTN	**Manton Dam**	**14.15**	**153**	Pn		**Pn**	**18 52 09.4**	**-0.3**
SJI	**Sawahan**	**14.78**	**239**	P		**P**	**18 52 22.5**	**+0.2**
	1µm89nm,1.2s							
PCJI	**Pacitan**	**15.52**	**239**	P		**P**	**18 52 29.0**	**-1.4**
	53nm,1.3s							
GENI	**Genyem**	**15.79**	**99**	P		**P**	**18 52 33.9**	**+0.5**
	20nm,0.7s							
KNRA	**Kununurra**	**15.93**	**165**	Pn		**Pn**	**18 52 31.5**	**-1.0**
JAY	**Jayapura**	**16.31**	**98**	P		**Pn**	**18 52 33.9**	**-3.5**
	0.3nm,0.3s,baz=162,slow=18,SNR=1.9							
JAY				LR		LR	18 59 15.2	
	comp=Z,170nm,19.5s,baz=304,slow=38							
KPJI	**Karang Pucung**	**17.11**	**245**	P		**P**	**18 52 49.0**	**+0.9**
	37nm,0.9s							
FITZ	**Fitzroy Crossi**	**17.81**	**177**	P		**P**	**18 52 55.5**	**-0.3**
	0.3nm,0.3s,baz=15,slow=8.1,SNR=12							
FITZ				LR		LR	19 00 23.5	
	comp=Z,78nm,19.8s,baz=360,slow=39							
FITZ	**Fitzroy Crossi**	**17.81**	**177**			**P**	**18 52 54.8**	**-1.0**
LEM	**Lembang**	**18.13**	**248**	P		**P**	**18 52 59.6**	**+0.1**
	1.2nm,0.3s,baz=81,slow=9.4,SNR=7.5							
LEM				LR		LR	19 00 48.8	
	comp=Z,309nm,18.1s,baz=46,slow=40							
LEM	**Lembang**	**18.13**	**248**	P		**Pn**	**18 53 00.5**	**+0.5**
	29nm,1.1s							
CISI	**Cisompet, Garu**	**18.22**	**246**	P		**P**	**18 52 59.0**	**-1.4**
CISI	**Cisompet, Garu**	**18.22**	**246**	P		**Pn**	**18 53 01.8**	**+0.9**
	31nm,1.2s							
CNJI	**Cibinong**	**18.76**	**248**	P		**Pn**	**18 53 08.7**	**+1.4**
	68nm,1.0s							
KASI	**Kota Agung**	**20.71**	**255**	P		Pn	18 53 29.4	-1.1
	31nm,1.0s							
MDSI	**Maura Dua**	**20.80**	**258**	P		Pn	18 53 30.5	-0.9
	6.6nm,1.4s							
BTDF	**Bukit Timah Da**	**20.84**	**274**	P		**P**	**18 53 29.9**	**+1.0**
	14nm,0.8s							
XMIS	**Christmas Isla**	**21.39**	**241**	P		**P**	**18 53 33.1**	**-1.7**
PSA00	**Pilbara Seismi**	**21.73**	**192**	P		**P**	**18 53 37.9**	**-0.4**
PSA00	**Pilbara Seismi**	**21.73**	**192**	P		**P**	**18 53 37.3**	**-1.0**
PSA00				IAmb	IAmb	IAmb	18 53 40.1	
	comp=Z,9.3nm,1.1s							
WRAB	**Tennant Creek**	**21.83**	**155**	P		**P**	**18 53 38.8**	**-0.6**
WRAB				IAmb	IAmb	IAmb	18 53 58.7	
	comp=Z,26nm,1.1s							
WRA	**Warramunga Arr**	**21.83**	**155**	P		**P**	**18 53 38.6**	**-0.8**
	comp=Z,7.5nm,0.8s,baz=338,slow=11,SNR=40							
WRA				PcP		**PcP**	**18 57 36.5**	**-0.7**
	comp=Z,3.0nm,1.0s,baz=334,slow=3.7,SNR=4.7							
WRA	**Warramunga Arr**	**21.83**	**155**	P		**P**	**18 53 39.0**	**-0.5**
WB2	**Warramunga Arr**	**21.84**	**155**	P		**P**	**18 53 38.6**	**-0.9**
WR0	**Warramunga Arr**	**21.93**	**154**	P		**P**	**18 53 39.8**	**-0.7**
WR0				IAmb	IAmb	IAmb	18 54 00.7	
	comp=Z,24nm,0.9s							
MASI	**Maura Aman, Be**	**22.49**	**262**	P		**P**	**18 53 48.9**	**+2.2**
	comp=Z,60nm,1.0s							
COEN	**Coen**	**22.94**	**127**	P		**P**	**18 53 52.3**	**+0.9**
COEN				IAmb	IAmb	IAmb	18 54 12.8	
	comp=Z,26nm,0.9s							
TPUB	**Ta-pu**	**23.67**	**351**	P		**P**	**18 53 57.1**	**-1.0**
IPM	**Ipoh**	**23.96**	**281**	P		**P**	**18 54 02.0**	**+1.1**
AS31	**Alice Springs**	**25.02**	**159**	P		**P**	**18 54 11.4**	**+1.0**
ASAR	**Alice Springs**	**25.02**	**159**	P		**P**	**18 54 10.8**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=339,slow=7.2,SNR=39							
ASAR				PcP		**PcP**	**18 57 45.5**	**+1.6**
	comp=Z,2.1nm,0.4s,baz=354,slow=2.1,SNR=20							
ASAR				S		**S**	**18 58 34.2**	**+4.3**
	comp=Z,6.1nm,1.2s,baz=344,slow=20,SNR=8.8							
ASAR				ScP		**ScP**	**19 01 20.4**	**+3.1**
	comp=Z,0.3nm,0.7s,baz=344,slow=3.0,SNR=2.8							
ASAR	**Alice Springs**	**25.02**	**159**	P		**P**	**18 54 11.7**	**+1.3**
RPSI	**Rantau Prapat**	**25.78**	**277**	P		**P**	**18 54 17.5**	**+0.1**
PSI	**Prapat**	**25.80**	**277**	P		**P**	**18 54 17.5**	**-0.2**
	comp=Z,3.8nm,0.4s,baz=184,slow=14,SNR=4.1							
PSI				LR		LR	19 06 03.6	
	comp=Z,137nm,18.8s,baz=90,slow=40							
JOW	**Kunigami**	**27.12**	**7**	LR		LR	19 04 12.4	
	comp=Z,132nm,20.0s,baz=192,slow=34							
CHAI	**Chaiyaphum**	**27.43**	**307**	P		**P**	**18 54 33.6**	**+1.4**
	comp=Z,23nm,0.9s							
NONG	**Nongkai**	**27.80**	**312**	P		**P**	**18 54 36.8**	**+1.4**
	comp=Z,22nm,1.0s							
UTHA	**Uthaitani**	**29.33**	**303**	P		P	18 54 56.1	+7.0
	comp=Z,14nm,1.0s							
PHIT	**Phitsanulok**	**29.39**	**307**	P		**P**	**18 54 51.5**	**+1.9**
	comp=Z,48nm,0.9s							
UTTA	**Uttaradit**	**29.60**	**308**	P		**P**	**18 54 53.1**	**+1.7**
	comp=Z,14nm,0.9s							
CM09	**Chiang Mai Arr**	**31.22**	**308**	P		**P**	**18 55 09.0**	**+3.2**
	comp=Z,6.0nm,1.2s							
CM01	**Chiang Mai Arr**	**31.23**	**308**	P		**P**	**18 55 09.2**	**+3.3**
	comp=Z,5.8nm,1.1s							
CM05	**Chiang Mai Arr**	**31.23**	**308**	P		**P**	**18 55 07.9**	**+2.0**
	comp=Z,4.7nm,0.9s							
CM02	**Chiang Mai Arr**	**31.25**	**308**	P		**P**	**18 55 09.4**	**+3.4**
	comp=Z,5.5nm,1.1s							
CM31	**Chiang Mai Arr**	**31.26**	**308**	P		**P**	**18 55 07.4**	**+1.3**
CM31				IAmb	IAmb	IAmb	18 55 08.7	
	comp=Z,12nm,1.2s							
CMAR	**Chiang Mai Arr**	**31.26**	**308**	P		**P**	**18 55 07.5**	**+1.3**
	comp=Z,3.4nm,0.9s,baz=141,slow=7.5,SNR=25							
CMAR				PcP		**PcP**	**18 58 00.8**	**+1.4**
	comp=Z,2.2nm,0.8s,baz=176,slow=2.1,SNR=13							
CMAR				LR		LR	19 07 46.6	
	comp=Z,94nm,22.0s,baz=187,slow=36							
CMAR	**Chiang Mai Arr**	**31.26**	**308**	P		**P**	**18 55 07.0**	**+0.9**
CMAR						**PcP**	**18 58 01.0**	**+1.6**
CM13	**Chiang Mai Arr**	**31.27**	**308**	P		**P**	**18 55 08.2**	**+2.0**
	comp=Z,4.6nm,0.8s							
CM15	**Chiang Mai Arr**	**31.27**	**308**	P		**P**	**18 55 08.9**	**+2.6**
	comp=Z,56nmcomp=Z,6.1nm,1.1s							
CMMT	**Chiang Mai**	**31.45**	**308**	P		**P**	**18 55 09.0**	**+1.1**
	comp=Z,17nm,0.9s							
CMMT	**Chiang Mai**	**31.45**	**308**	P		**P**	**18 55 08.6**	**+0.7**
	comp=Z,16nm,0.9s							
CHTO	**Chiang Mai**	**31.46**	**308**	P		**P**	**18 55 09.1**	**+1.2**
	comp=Z,17nm,0.9s							
CHTO	**Chiang Mai**	**31.46**	**308**	P		**P**	**18 55 08.2**	**+0.3**
CHTO				IAmb	IAmb	IAmb	18 55 10.2	
	comp=Z,15nm,0.9s							
CHTO	**Chiang Mai**	**31.46**	**308**	P		**P**	**18 55 08.6**	**+0.7**
	comp=Z,9.5nm,0.9s							
KMI	**Kunming**	**32.85**	**322**	⇓P		**P**	**18 55 19.9**	**-0.4**
KMI				pP		pP	18 55 31.6	-4.0
KMI				pmax		pmax		
	comp=Z,7.0nm,1.5s							
ENH	**Enshi**	**33.53**	**336**	P		**P**	**18 55 27.6**	**+1.7**
ENH				IAmb	IAmb	IAmb	18 55 28.6	
	comp=Z,9.5nm,0.7s							
JNU	**Nakatsue**	**33.68**	**10**	P		**P**	**18 55 26.7**	**-0.4**
	comp=Z,14nm,0.9s,baz=306,slow=9.0,SNR=4.2							
STKA	**Stephens Creek**	**35.38**	**154**	P		**P**	**18 55 42.7**	**+0.9**
	comp=Z,2.8nm,0.8s,baz=334,slow=10.0,SNR=7.4							
STKA	**Stephens Creek**	**35.38**	**154**	P		**P**	**18 55 43.3**	**+1.5**
XAN	**Xi'an**	**37.09**	**338**	P		**P**	**18 55 57.3**	**+0.9**
XAN				pP		pP	18 56 04.5	-7.6
XAN				pmax		pmax		
	comp=Z,10.0nm,0.9s							
KSRS	**Korea Array**	**37.60**	**4**	P		**P**	**18 56 00.6**	**0.0**
	comp=Z,1.2nm,0.8s,baz=173,slow=9.9,SNR=3.3							
KSRS				LR		LR	19 15 17.3	
	comp=Z,56nm,18.0s,baz=158,slow=42							
MAT	**Matsushiro**	**38.70**	**18**	P		**P**	**18 56 09.8**	**-0.1**
MJAR	**Matsushiro Arr**	**38.70**	**18**	P		**P**	**18 56 08.9**	**-1.0**
	comp=Z,4.6nm,0.8s,baz=184,slow=9.0,SNR=9.5							

KKAR	**Karatay Array**	**64.68**	**319**	P	**P**		**18 59 22.7**	**-0.8**
KKAR	**Karatay Array**	**64.68**	**319**	P	**P**		**18 59 22.9**	**-0.5**
KKAR				IAmb	IAmb		18 59 25.9	
	comp=Z,4.2nm,0.8s							
BRVK	**Borovoye**	**69.54**	**328**	P	**P**		**18 59 52.6**	**-1.4**
BRVK				IAmb	IAmb		18 59 55.7	
	comp=Z,4.7nm,0.6s							
GEYT	**Alibeck**	**71.70**	**310**	P	**P**		**19 00 07.9**	**+0.3**
	comp=Z,314nm,0.9s,baz=106,slow=8.0,SNR=3.6							
TIXI	**Tiksi**	**71.79**	**1**	LR	LR		19 31 24.0	
	comp=Z,27nm,21.5s,baz=202,slow=36							
NRIK	**Noril'sk**	**73.73**	**347**	P	**P**		**19 00 19.1**	**+0.2**
	comp=Z,4.9nm,0.4s,baz=133,slow=6.6,SNR=5.2							
NRIK	**Noril'sk**	**73.73**	**347**	P	**P**		**19 00 18.3**	**-0.6**
NRIK				IAmb	IAmb		19 00 20.2	
	comp=Z,10nm,1.1s							
ABKAR	**Akbulak array**	**73.85**	**322**	P	**P**		**19 00 18.7**	**-1.3**
ABKAR	**Akbulak array**	**73.85**	**322**	P	**P**		**19 00 18.8**	**-1.2**
ABKAR				IAmb	IAmb		19 00 21.5	
	comp=Z,4.9nm,1.0s							
ARU	**Arti**	**77.11**	**329**	P	**P**		**19 00 36.8**	**-1.7**
ARU				IAmb	IAmb		19 00 41.2	
	comp=Z,11nm,1.1s							
MAW	**Mawson**	**79.34**	**200**	P	**P**		**19 00 51.6**	**+1.0**
	comp=Z,3.0nm,0.9s,baz=59,slow=6.5,SNR=5.1							
VNDA	**Vanda**	**79.83**	**172**	P	**P**		**19 00 54.5**	**+1.4**
	comp=Z,1.5nm,0.7s,baz=305,slow=7.5,SNR=7.5							
VNDA	**Vanda**	**79.83**	**172**	P	**P**		**19 00 54.7**	**+1.6**
BELG	**Belogornoye**	**82.20**	**323**	LR	LR		19 42 08.2	
	comp=Z,11nm,18.6s,baz=173,slow=39							
GURO	**Guroymak-BITLI**	**84.27**	**309**	P	**P**		**19 01 17.8**	**+0.4**
GURO				IAmb	IAmb		19 01 18.6	
	comp=Z,4.7nm,0.8s							
N19K	**Bonanza Creek**	**85.76**	**29**	P	**P**		**19 01 25.7**	**+1.4**
KIBK	**Kibwezi**	**86.50**	**268**	P	**P**		**19 01 29.1**	**+0.1**
KIBK				IAmb	IAmb		19 01 30.8	
	comp=Z,8.1nm,1.2s							
KMBO	**Kilima Mbogo**	**87.30**	**269**	P	**P**		**19 01 33.0**	**0.0**
	comp=Z,2.3nm,0.8s,baz=66,slow=8.8,SNR=5.5							
SUA	**Susitna One**	**87.64**	**29**	P	**P**		**19 01 33.6**	**+0.2**
KLMR	**Klimovskoe**	**87.75**	**331**	*eP*	P		19 01 27.4	-6.4
KLMR				AMP			19 01 38.5	
	comp=Z,22nm,1.5s							
MLY	**Manley**	**87.94**	**25**	P	**P**		**19 01 35.7**	**+1.0**
MLY				IAmb	IAmb		19 01 36.7	
	comp=Z,4.0nm,0.8s							
COLD	**Coldfoot**	**88.34**	**23**	P	**P**		**19 01 38.0**	**+1.5**
COLD				IAmb	IAmb		19 01 39.2	
	comp=Z,6.0nm,0.9s							
H23K	**Yukon River**	**88.50**	**24**	P	**P**		**19 01 38.9**	**+1.6**
H23K				IAmb	IAmb		19 01 39.5	
	comp=Z,4.1nm,0.8s							
I23K	**Minto, Yukon-K**	**88.53**	**25**	P	**P**		**19 01 37.8**	**+0.4**
I23K				IAmb	IAmb		19 01 39.2	
	comp=Z,5.2nm,0.8s							
CCB	**Clear Creek Bu**	**89.17**	**25**	P	**P**		**19 01 40.4**	**0.0**
CCB				IAmb	IAmb		19 01 41.5	
	comp=Z,3.5nm,0.9s							
HDA	**Harding Lake**	**89.53**	**26**	P	**P**		**19 01 41.8**	**-0.3**
HDA				IAmb	IAmb		19 01 42.8	
	comp=Z,3.7nm,0.8s							
ILAR	**Eielson Array**	**89.57**	**25**	P	**P**		**19 01 41.9**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=230,slow=6.1,SNR=6.2							
QSPA	**South Pole Qui**	**89.73**	**180**	P	**P**		**19 01 44.3**	**+1.1**
BRTR	**Keskin Array B**	**90.84**	**310**	P	**P**		**19 01 48.1**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=48,slow=2.1,SNR=2.7							
K27K	**Chicken**	**91.67**	**26**	P	**P**		**19 01 54.1**	**+2.0**
L27K	**Beaver Creek,**	**91.83**	**27**	P	**P**		**19 01 54.6**	**+1.7**
L27K				IAmb	IAmb		19 01 55.7	
	comp=Z,3.2nm,0.7s							
CTGM	**Chitina Glacie**	**92.18**	**29**	P	**P**		**19 01 55.7**	**+0.9**
ARCES	**ARCESS Array B**	**93.36**	**340**	P	**P**		**19 01 57.8**	**-2.0**
	comp=Z,2.0nm,0.8s,baz=79,slow=6.3,SNR=9.3							
AKASG	**Malin Array Be**	**93.55**	**321**	P	**P**		**19 01 59.9**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=69,slow=5.0,SNR=2.4							
EPYK	**Eagle Plains**	**93.69**	**24**	P	**P**		**19 02 02.7**	**+1.2**
MNK	**Minsk**	**94.05**	**324**	*i* P	**P**		**19 01 59.0**	**-4.2**
	comp=E,1.0nm,0.7s							
MNK				*i* P	**P**		**19 01 59.0**	**-4.2**
	comp=N,10.0nm,0.8s							
MNK				*i* P	**P**		**19 01 59.0**	**-4.2**
	comp=Z,5.0nm,0.7s,baz=84							
MNK				*i* PP	**PP**		**19 05 43.9**	**-6.2**
MNK				*i* PPP	PPP		19 07 44.6	
MNK				*i* S	**SKSac**		**19 12 30.6**	**-1.7**
MNK				*i* PS	**PS**		**19 14 24.0**	**-7.6**
MNK				*i* SS	**SS**		**19 19 25.1**	**-4.4**
MNK				*i* SSS	SSS		19 23 06.2	
MNK				*i* LR	LR		19 43 23.9	
MNK				*i* LRM	MLR		19 44 39.9	
	comp=Z,457nm,21.0s							
MNK				*i* LRM	MLR		19 45 04.3	
	comp=N,65nm,20.2s							
MNK				*i* LRM	MLR		19 45 15.4	
	comp=E,5.0nm,18.8s							
FINES	**FINESS Array B**	**94.24**	**332**	P	**P**		**19 02 02.7**	**-1.3**
	comp=E,1.0nm,0.9s,baz=90,slow=1.4,SNR=1.7							
INK	**Inuvik**	**94.59**	**21**	P	**P**		**19 02 05.0**	**-0.5**
	comp=E,0.8nm,0.4s,baz=281,slow=8.1,SNR=3.5							
INK	**Inuvik**	**94.59**	**21**	P	**P**		**19 02 05.8**	**+0.4**
INK				IAmb	IAmb		19 02 29.5	
	comp=Z,2.6nm,0.8s							
KOLS	**Kolonicke sedl**	**98.22**	**319**	*e*PDIFF	Pdif		19 02 23.8	+1.4
TORD	**Torodi Ar. Bea**	**121.96**	**285**	PKP	**PKPdf**		**19 07 39.5**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=42,slow=0.9,SNR=4.9							
TORD	**Torodi Ar. Bea**	**121.96**	**285**		**PKiKP**		**19 07 40.8**	**+0.3**
CPUP	**Villa Florida**	**153.56**	**176**	PKPbc	**PKiKP**		**19 08 45.9**	**+1.5**
	comp=Z,1.2nm,0.6s,baz=149,slow=5.1,SNR=2.9							
CPUP				PKPab	**PKPab**		**19 08 55.5**	**-1.1**
	comp=Z,1.3nm,0.5s,baz=199,slow=6.0,SNR=4.3							
LPAZ	**La Paz**	**159.38**	**143**	PKPab	**PKPab**		**19 09 22.9**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=243,slow=1.5,SNR=4.4							
LPAZ	**La Paz**	**159.38**	**143**	PKPdf	**PKPdf**		**19 08 42.6**	**-2.5**
SIV	**San Ignacio**	**162.97**	**161**	PKP	**PKPdf**		**19 08 50.2**	**+2.0**
	comp=Z,0.9nm,0.8s,baz=139,slow=15,SNR=3.6							
SIV				PKPab	**PKPab**		**19 09 39.4**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=271,slow=4.9,SNR=3.9							

KRSC 09 18:58:47.1±1.3, 50°20N×156°56E, h112km±13km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.56**	**330**	*e*P	Pn	18 59 05.7	+1.1
SKR				*e*S	Sn	18 59 18.6	+0.9
ALID	**Alaid**	**0.93**	**317**	*e*P	Pn	18 59 08.2	+0.3
PAU	**Pauzhetka**	**1.28**	**7**	*e*P	Pn	18 59 13.2	+1.7
PAU				*e*S	Sn	18 59 31.8	+1.9
KDTR	**Khodutka, Kamc**	**1.88**	**30**	*e*P	Pn	18 59 20.3	+1.7
KDTR				*e*S	Sn	18 59 43.9	+1.3
MIPR	**Malaya Ipel'ka**	**2.08**	**3**	*e*P	Pn	18 59 22.2	+0.9
ASAK	**Asacha**	**2.34**	**21**	*e*P	Pn	18 59 26.8	+2.2
ASAK				*e*S	Sn	18 59 55.2	+1.8
MTVR	**Mutnovka**	**2.50**	**23**	*e*P	Pn	18 59 29.6	+2.8
MTVR				*e*S	Sn	19 00 00.1	+2.9
GRL	**Gorelyy**	**2.54**	**21**	*e*P	Pn	18 59 29.6	+2.4
GRL				*e*S	Sn	19 00 00.0	+2.0
RUS	**Russkaya**	**2.55**	**28**	*e*P	Pn	18 59 28.6	+1.4
RUS				*e*S	Sn	18 59 58.5	+0.5
MKZ	**Mys Kozlova**	**5.39**	**34**	*e*P	Pn	19 00 06.2	+1.1

*IDC **09** 19:12:58.4±1.6, 31°.98N×48°.94E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/56, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=37.0km s-min=30.3km az=166.0*
*THR **09** 19:13:03.6±0.5, 32°.20N×48°.98E, h14km±6km, ML3.5*
*TEH **09** 19:13:04.0, 32°.26N×48°.98E, h14km, ML3.4*
*DSN **09** 19:13:08.6±2.8, 31°.63N×49°.37E, h10km, ML3.2/6, Error ellipse: s-maj=67.2km s-min=22.3km az=32.0*

ISC 09 19:13:04.6±0.9, 32°.14N±0°.05×48°.96E±0°.04, h20km, n68, σ1°57/67, mb3.8/4, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AHWZ	**Ahwaz**	**0.85**	**199**	*e*Pg	**Pn**	**19 13 23.2**	**+1.8**
DHL1	**Dehloran**	**1.52**	**291**	*e*Pg	**Pn**	**19 13 31.9**	**+1.2**
DHL1				*e*Sg	**Sb**	**19 13 53.3**	**+2.3**
BMDN	**Meydan**	**1.53**	**356**	*e*Pg	**Pn**	**19 13 30.4**	**-0.6**
BMDN				*e*		19 13 53.9	
	comp=Z,4μm,0.5s						
SHK1	**Shahrekord**	**1.64**	**83**	*e*Pg	**Pn**	**19 13 34.2**	**+1.7**
SHK1				*e*		19 13 59.3	
	comp=Z,7μm,0.7s						
IKFM	**Kafar-mosalman**	**1.67**	**326**	*e*Pg	**Pn**	**19 13 32.9**	**+0.2**
IKFM				*e*Sg	**Sb**	**19 13 56.4**	**+1.2**
IKFM				*e*		19 14 01.4	
	comp=Z,7μm,0.4s						
IPIR	**Pirpir**	**1.72**	**71**	*e*Pg	**Pb**	**19 13 36.0**	**+0.3**
IPIR				*e*		19 14 02.4	
	comp=Z,6μm,0.4s						
IDOB	**Doab**	**1.77**	**338**	*e*Pg	**Pn**	**19 13 34.4**	**+0.1**
KHMZ	**Khomeyn**	**1.80**	**27**	*e*Pg	**Pn**	**19 13 35.5**	**+0.8**
KHMZ	**Khomeyn**	**1.80**	**27**	*e*Pg	**Pn**	**19 13 35.5**	**+0.8**
ABEH	**Behbahan**	**1.89**	**144**	*e*Pn	**Pn**	**19 13 39.7**	**+1.3**
HSAM	**Samen**	**2.09**	**352**	*e*Pn	**Pn**	**19 13 38.9**	**+0.2**
IKLH	**Kolahrood**	**2.50**	**61**	*e*Pn	**Pn**	**19 13 46.2**	**+1.8**
IKLH				*e*		19 14 30.9	
	comp=Z,2μm,0.3s						
IBZA	**Bozab**	**2.50**	**339**	*e*Pn	**Pn**	**19 13 45.8**	**+1.4**
KLNJ	**Kolanjah**	**2.51**	**116**	*e*Pn	**Pn**	**19 13 46.4**	**+1.8**
KLNJ				*e*		19 14 45.6	
	comp=Z,2μm,0.6s						
ASAO	**Ashtian**	**2.56**	**20**	*e*Pn	**Pn**	**19 13 46.3**	**+1.1**
ASAO				IAML		19 14 32.3	
	comp=N,105nm,0.5s						
ASAO	**Ashtian**	**2.56**	**20**	*e*Pn	**Pn**	**19 13 46.3**	**+1.1**
QAMS	**Qamsar**	**2.59**	**51**	*e*Pn	**Pn**	**19 13 47.3**	**+1.7**
QAMS				*e*		19 14 28.2	
	comp=Z,3μm,0.5s						
IGAR	**Gharneh**	**2.62**	**83**	*e*Pn	**Pn**	**19 13 47.4**	**+1.4**
KCHF	**Cheshme Sefid,**	**2.67**	**323**	*e*Pn	**Pn**	**19 13 48.4**	**+1.8**
KCHF				*e*		19 14 35.4	
	comp=Z,1μm,0.5s						
HAGD	**Aghdareh**	**2.68**	**3**	*e*Pn	**Pn**	**19 13 47.9**	**+1.1**
HAGD				*e*		19 14 28.1	
	comp=Z,3μm,0.7s						
KER	**Kermanshah**	**2.71**	**326**	*e*Pn	**Pn**	**19 13 48.7**	**+1.5**
IALM	**Almabolaq**	**2.79**	**346**	*e*Pn	**Pn**	**19 13 48.9**	**+0.5**
UMR	**Umm Al-Rimmam**	**2.79**	**203**	*e*P	**Pn**	**19 13 49.9**	**+1.7**
IRAM	**Ramesheh**	**2.92**	**96**	*e*Pn	**Pn**	**19 13 51.5**	**+1.3**
IRAM				*e*		19 14 33.1	
	comp=Z,659nm,0.5s						
IZEF	**Zefreh**	**2.94**	**74**	*e*Pn	**Pn**	**19 13 52.1**	**+1.6**
IZEF				*e*		19 14 41.8	
	comp=Z,792nm,0.6s						
IGHG	**Ghaleghazi**	**2.96**	**318**	*e*Pn	**Pn**	**19 13 51.6**	**+0.9**
IGHG				*e*		19 14 58.3	
	comp=Z,2μm,1.0s						
GHVR	**GHOM**	**3.04**	**39**	*e*Pn	**Pn**	**19 13 52.3**	**+0.6**
GHVR	**GHOM**	**3.04**	**39**	*e*Pn	**Pn**	**19 13 52.3**	**+0.6**
RST	**Umm Al-Ruwaisa**	**3.13**	**213**	*e*P	**Pn**	**19 13 54.5**	**+1.7**
IQOM	**Qom**	**3.22**	**33**	*e*Pn	**Pn**	**19 13 55.3**	**+1.0**
KRSH	**Karshahi**	**3.23**	**55**	*e*Pn	**Pn**	**19 13 55.4**	**+1.1**
KRSH				*e*		19 14 37.2	
	comp=Z,830nm,0.4s						
NASN	**Na'in**	**3.32**	**78**	*e*Pn	**Pn**	**19 13 57.4**	**+1.7**
NASN	**Na'in**	**3.32**	**78**	*e*Pn	**Pn**	**19 13 57.4**	**+1.7**
IDHR	**Dehrash**	**3.34**	**321**	*e*Pn	**Pn**	**19 13 55.8**	**-0.1**
IDHR				*e*		19 15 07.9	
	comp=Z,664nm,0.4s						
IRAZ	**Razeghan**	**3.35**	**14**	*e*Pn	**Pn**	**19 13 57.4**	**+1.3**
QRN	**Al-Qurain**	**3.50**	**195**	*e*P	**Pn**	**19 14 00.1**	**+2.2**
ISFB	**Sefidab**	**3.52**	**50**	*e*Pn	**Pn**	**19 13 59.1**	**+0.8**
QABG	**Abgarm-Qazvin**	**3.60**	**8**	*e*Pn	**Pn**	**19 13 59.3**	**+0.0**
IMHD	**Mahdasht**	**3.81**	**21**	*e*Pn	**Pn**	**19 14 03.1**	**+0.9**
AHBU	**AHRAM**	**3.84**	**148**	*e*Pn	**Pn**	**19 14 04.6**	**+2.1**
ISAD	**Sadrabad**	**4.02**	**92**	*e*Pn	**Pn**	**19 14 07.1**	**+1.8**
ANAR	**Anarak**	**4.15**	**74**	*e*Pn	**Pn**	**19 14 08.3**	**+1.3**
CHTH	**Charan**	**4.17**	**25**	*e*Pn	**Pn**	**19 14 08.2**	**+0.9**
CHTH				*e*Sg	**Sb**	**19 15 11.0**	**+3.6**
CHTH	**Charan**	**4.17**	**25**	*e*Pn	**Pn**	**19 14 08.2**	**+0.9**
IDMV	**Damavand**	**4.28**	**36**	*e*Pn	**Pn**	**19 14 09.9**	**+1.1**
QALM	**Alamut, Qazvin**	**4.50**	**18**	*e*Pn	**Pn**	**19 14 12.3**	**+0.4**
ICHK	**Chekchek**	**4.62**	**87**	*e*Pn	**Pn**	**19 14 15.3**	**+1.8**
IFIR	**Firoozkooh**	**4.71**	**41**	*e*Pn	**Pn**	**19 14 15.6**	**+0.9**
YZKH	**Yazd**	**4.78**	**86**	*e*Pn	**Pn**	**19 14 17.1**	**+1.6**
YZKH	**Yazd**	**4.78**	**86**	*e*Pn	**Pn**	**19 14 17.1**	**+1.6**
IMEH	**Mehriz**	**4.87**	**97**	*e*Pn	**Pn**	**19 14 18.2**	**+1.3**
ISHM	**Shahmirzad**	**5.13**	**43**	*e*Pn	**Pn**	**19 14 21.5**	**+1.0**
TPRV	**Parvadeh(Tabas**	**6.58**	**80**	*e*Pn	**Pn**	**19 14 41.6**	**+1.3**
TKDS	**Koohdasht(Taba**	**7.02**	**76**	*e*Pn	**Pn**	**19 14 46.9**	**+0.5**
NGRK	**Negar Kerman**	**7.12**	**108**	*e*Pn	**Pn**	**19 14 49.4**	**+1.4**
SHME	**Shamm**	**8.73**	**132**	P	**Pn**	**19 15 07.1**	**-2.6**
BANOM	**Banah**	**8.92**	**132**	P	Pn	19 15 09.0	-3.3
BANOM				S	Sn	19 16 44.7	-7.6
MSFE	**Esma-Masafi**	**9.25**	**135**	P	**Pn**	**19 15 14.4**	**-2.5**
ASUD	**Al Ashush, Dub**	**9.35**	**142**	P	**Pn**	**19 15 17.0**	**-1.2**
MDH	**Madha**	**9.37**	**135**	P	**Pn**	**19 15 16.1**	**-2.4**
FAQ	**Al Faqa, Dubai**	**9.39**	**140**	P	**Pn**	**19 15 15.9**	**-2.9**
UOSS	**Minazif**	**9.59**	**137**	P	Pn	19 15 15.9	-5.6
ASHO	**Ashiyiah**	**9.70**	**138**	P	**Pn**	**19 15 20.8**	**-2.3**
WSAR	**Wadi Sarin**	**12.32**	**134**	Pn	Pn	19 15 53.5	-5.4
	comp=Z,0.5nm,0.3s,baz=313,slow=12,SNR=7.7						
WSAR				Sn	Sn	19 18 04.7	-11
	comp=Z,0.1nm,0.3s,baz=68,slow=19,SNR=1.3						
MKAR	**Makanchi Array**	**29.34**	**50**	P	**P**	**19 19 03.5**	**-2.5**
	comp=Z,0.2nm,0.6s,baz=233,slow=7.7,SNR=2.3						
FINES	**FINESS Array B**	**32.88**	**340**	P	**P**	**19 19 34.6**	**-2.3**
	comp=Z,0.7nm,0.6s,baz=146,slow=8.0,SNR=7.7						
ZALV	**Zalesovo Beam**	**33.54**	**39**	P	**P**	**19 19 41.6**	**-1.2**
	comp=Z,0.7nm,0.4s,baz=246,slow=9.4,SNR=3.8						
TORD	**Torodi Ar. Bea**	**47.12**	**258**	P	P	19 21 32.2	-3.4
	comp=Z,0.7nm,0.9s,baz=61,slow=6.6,SNR=3.3						

*NEIC **09** 19:17:47.3±1.8, 45°.83N±0°.03×76°.36W±0°.07, h5km±2km, Error ellipse: s-maj=10.0km s-min=3.0km az=299.0*
*LDO **09** 19:17:50.0, 45°.76N×76°.33W, h18km*
*OTT **09** 19:17:50.5±0.1, 45°.76N×76°.34W, h14km, MN3.7/25*
OTT 21km northeast from Shawville, Qc. Felt Western Quebec Seismic Zone. Felt at Shawville, Western Quebec area, Qc.
*ANF **09** 19:17:52.3±1.6, 45°.51N×76°.22W, h0km, ML3.8/6, Error ellipse: s-maj=18.7km s-min=7.1km az=14.0*

ISC 09 19:17:49.0±1.1, 45°.77N±0°.02×76°.35W±0°.02, h17km±9km, n127, σ1°03/131, 2D, Southern Ontario

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KB1O	**Rock site, Kin**	**0.39**	**162**	ǁPG	**Pb**	**19 17 57.5**	**0.0**
KB1O				SG	**Sb**	**19 18 02.8**	**-0.4**
KB1O				Trac		19 18 05.8	
	comp=Z,408nm,0.1s						
VABQ	**Val Des Bois**	**0.53**	**75**	PG	**Pb**	**19 18 00.1**	**+0.3**
VABQ				SG	**Sb**	**19 18 07.4**	**+0.2**
VABQ				Trac		19 18 08.0	
	comp=Z,229nm,0.0s						
OTT	**Ottawa**	**0.58**	**130**	PG	**Pb**	**19 18 00.7**	**+0.1**
OTT				Trac		19 18 09.1	
	comp=Z,158nm,0.0s						
GAC	**Glen Almond**	**0.61**	**96**	ǁPG	**Pb**	**19 18 01.4**	**+0.2**
GAC				PG	**Pb**	**19 18 01.4**	**+0.2**
GAC				SG	**Sb**	**19 18 09.3**	**-0.1**
GAC				SG	**Sb**	**19 18 09.4**	**-0.1**
GAC				Trac		19 18 09.6	
	comp=Z,729nm,0.2s						
GAC				Trac		19 18 09.7	
	comp=Z,153nm,0.1s						
ORIO	**Orleans, Innes**	**0.67**	**118**	PG	**Pg**	**19 18 02.2**	**+0.1**
ORIO				SG	**Sg**	**19 18 10.8**	**-0.3**
ORIO				Trac		19 18 15.5	
	comp=Z,104nm,0.1s						
PLVO	**Plevna**	**0.89**	**215**	Pg	**Pb**	**19 18 06.1**	**+0.1**
PLVO				Sg	**Sb**	**19 18 17.3**	**-0.3**
GRQ	**Grand Remous**	**0.90**	**22**	PG	**Pn**	**19 18 06.8**	**-0.1**
GRQ				SG	**Sg**	**19 18 18.7**	**+0.3**
GRQ				Trac		19 18 24.1	
	comp=Z,382nm,0.1s						
WBO	**Williamsburg**	**1.08**	**135**	PG	**Pg**	**19 18 09.6**	**-0.3**
WBO				SG	**Sn**	**19 18 23.4**	**-0.4**
WBO				Trac		19 18 26.2	
	comp=Z,107nm,0.1s						
ALGO	**Algonquin Park**	**1.21**	**279**	PG	**Pb**	**19 18 11.8**	**+0.5**
ALGO				SG	**Sg**	**19 18 28.2**	**+0.2**
ALGO				Trac		19 18 30.5	
	comp=Z,677nm,0.1s						
DELO	**Deloro Mine**	**1.54**	**216**	Pn	**Pb**	**19 18 17.1**	**0.0**
KGNO	**Kingston**	**1.55**	**184**	PN	**Pb**	**19 18 16.9**	**-0.2**
KGNO				SN	**Sb**	**19 18 36.4**	**0.0**
KGNO				Trac		19 18 38.5	
	comp=Z,228nm,0.1s						
LONY	**Lake Ozonia**	**1.70**	**132**	PN	**Pb**	**19 18 18.9**	**-0.9**
LONY				SN	**Sb**	**19 18 40.2**	**-0.5**
LONY				Trac		19 18 43.3	
	comp=Z,268nm,0.2s						
LONY	**Lake Ozonia**	**1.70**	**132**	Pn	**Pn**	**19 18 16.8**	**-1.0**
LONY	**Lake Ozonia**	**1.70**	**132**	P	**Pb**	**19 18 18.9**	**-0.8**
	baz=313						
LONY				S	**Sb**	**19 18 41.2**	**+0.5**
	baz=313						
PECO	**Prince Edward**	**1.89**	**194**	Pn	**Pb**	**19 18 21.8**	**-1.3**
MNTQ	**Montreal, Queb**	**1.93**	**97**	PN	**Pn**	**19 18 22.2**	**+1.2**
MNTQ				SN	**Sn**	**19 18 45.9**	**+1.1**
MNTQ				LG	Lg	19 18 50.5	
MNTQ				Trac		19 18 51.0	
	comp=Z,260nm,0.3s						
EEO	**Eldee**	**2.08**	**296**	PN	**Pb**	**19 18 25.1**	**-1.2**
EEO				SN	**Sn**	**19 18 49.2**	**+0.6**
EEO				Trac		19 18 58.5	
	comp=Z,155nm,0.1s						
FRNY	**Flat Rock**	**2.16**	**115**	PN	**Pn**	**19 18 25.1**	**+1.0**
FRNY				SN	**Sn**	**19 18 51.3**	**+0.8**
FRNY				LG	Lg	19 18 56.7	
FRNY				Trac		19 19 00.4	
	comp=Z,93nm,0.2s						
FRNY	**Flat Rock**	**2.16**	**115**	Pn	**Pn**	**19 18 25.0**	**+0.8**
SADO	**Sadowa**	**2.21**	**244**	PN	**Pn**	**19 18 26.1**	**+1.2**
SADO				SN	**Sn**	**19 18 52.7**	**+0.9**
SADO				LG	Lg	19 18 58.9	
SADO				Trac		19 19 01.1	
	comp=Z,96nm,0.1s						
SADO	**Sadowa**	**2.21**	**244**	Pn	**Pn**	**19 18 26.1**	**+1.2**
STUQ	**Sainte-Ursule**	**2.33**	**76**	PN	**Pn**	**19 18 27.7**	**+1.3**
STUQ				SN	**Sn**	**19 18 55.4**	**+0.8**
STUQ				Trac		19 19 01.6	
	comp=Z,369nm,0.1s						
STUQ				LG	Lg	19 19 02.8	
J57A	**Williamstown**	**2.37**	**174**	Pn	**Pn**	**19 18 28.0**	**+0.9**
J56A	**Wolcott**	**2.52**	**189**	Pn	**Pn**	**19 18 30.2**	**+1.1**
J56A				IAmb_Lg		19 19 14.7	
	comp=Z,96nm,0.8s						
J58A	**Remsen**	**2.53**	**162**	Pn	**Pn**	**19 18 30.0**	**+0.8**
J59A	**Piesco**	**2.66**	**150**	Pn	**Pn**	**19 18 32.2**	**+1.2**
J59A				IAmb_Lg		19 19 12.1	
	comp=Z,60nm,0.9s						
J55A	**Hilton**	**2.72**	**203**	Pn	**Pn**	**19 18 33.5**	**+1.7**
MOQ	**Mont Orford**	**2.91**	**98**	PN	**Pn**	**19 18 36.6**	**+2.0**
MOQ				Trac		19 19 24.5	
	comp=Z,27nm,0.1s						
MOQ	**Mont Orford**	**2.91**	**98**	Pn	**Pn**	**19 18 34.2**	**-0.3**
VT1	**Waterbury**	**2.92**	**118**	Pn	**Pn**	**19 18 36.0**	**+1.4**
VT1				IAmb_Lg		19 19 25.7	
	comp=Z,90nm,0.9s						
J54A	**Appleton**	**2.99**	**214**	Pn	**Pn**	**19 18 36.1**	**+0.6**
MEDO	**Medina**	**3.01**	**211**	Pn	**Pn**	**19 18 35.2**	**-0.7**
MEDO				IAmb_Lg		19 19 31.5	
	comp=Z,100nm,0.8s						
K57A	**Scipio Center**	**3.04**	**182**	Pn	**Pn**	**19 18 37.5**	**+1.2**
K57A				IAmb_Lg		19 19 24.3	
	comp=Z,99nm,0.7s						
ACCN	**Adirondack Com**	**3.06**	**140**	Pn	**Pn**	**19 18 36.6**	**+0.1**
MMNY	**Mt. Morris Dam**	**3.24**	**201**	Pn	**Pn**	**19 18 38.1**	**-0.8**
LSQQ	**Lebel-sur-Quev**	**3.32**	**353**	PN	**Pn**	**19 18 41.1**	**+1.0**
LSQQ				SN	**Sn**	**19 19 19.2**	**+0.2**
LSQQ				Trac		19 19 28.1	
	comp=Z,8.8nm,0.0s						
LSQQ				LG	Lg	19 19 35.0	
EFO	**Effingham**	**3.42**	**219**	PN	**Pn**	**19 18 43.4**	**+2.0**
EFO				SN	**Sn**	**19 19 20.8**	**-0.7**
EFO				Trac		19 19 42.6	
	comp=Z,75nm,0.2s						
LBNH	**Lisbon**	**3.49**	**114**	PN	**Pn**	**19 18 43.8**	**+1.3**
LBNH				SN	**Sn**	**19 19 22.6**	**-0.7**
LBNH				LG

TRNY	**Table Rock, Ra**	**4.88**	**161**	Pn	**Pn**	**19 19 00.6**	**-0.9**
TRNY				lAmb_Lg		19 20 20.9	
	comp=Z,31nm,0.7s						
WVL	**Waterville**	**4.88**	**102**	Pn	**Pn**	**19 19 02.4**	**+0.8**
WVL				lAmb_Lg		19 20 31.0	
	comp=Z,31nm,0.7s						
M54A	**Oil Creek Stat**	**4.89**	**211**		**Pn**	**19 19 01.7**	**-0.1**
M54A				lAmb_Lg		19 20 34.3	
	comp=Z,58nm,0.7s						
N58A	**Sunbury**	**4.94**	**183**	Pn	**Pn**	**19 19 03.0**	**+0.7**
N58A				lAmb_Lg		19 20 26.8	
	comp=Z,60nm,0.7s						
ALLY	**Alegheny Colle**	**4.95**	**215**	Pn	**Pn**	**19 19 02.1**	**-0.5**
ALLY				lAmb_Lg		19 20 28.2	
	comp=Z,62nm,0.8s						
I49A	**Point Hope**	**4.96**	**251**	Pn	**Pn**	**19 19 02.9**	**+0.3**
PKME	**Peaks-Kenny Pk**	**4.99**	**93**	PN	**Pn**	**19 19 03.4**	**+0.4**
PKME				SN	**Sn**	**19 19 58.8**	**-1.3**
PKME				LG	Lg	19 20 24.6	
PKME				Trac		19 20 26.4	
	comp=Z,23nm,0.2s						
PKME	**Peaks-Kenny Pk**	**4.99**	**93**	Pn	**Pn**	**19 19 01.9**	**-1.0**
PKME				lAmb_Lg		19 20 29.1	
	comp=Z,54nm,0.9s						
BCX	**Boston College**	**5.07**	**131**	Pn	**Pn**	**19 19 04.1**	**0.0**
F63A	**Nahmakanta, Br**	**5.07**	**88**	Pn	**Pn**	**19 19 03.3**	**-0.9**
PAL	**Palisades**	**5.08**	**159**	lAmb_Lg		19 20 35.4	
	comp=Z,48nm,0.9s						
WSPT	**Westport, CT**	**5.10**	**153**	lAmb_Lg		19 20 28.6	
	comp=Z,56nm,0.8s						
L63A	**North Scituate**	**5.20**	**137**	Pn	**Pn**	**19 19 06.5**	**+0.7**
L63A				lAmb_Lg		19 20 34.8	
	comp=Z,53nm,1.1s						
D62A	**Allapoint, All**	**5.21**	**73**	Pn	**Pn**	**19 19 07.0**	**+0.9**
D62A				lAmb_Lg		19 20 36.4	
	comp=Z,39nm,0.8s						
LUPA	**Lehigh Univers**	**5.22**	**172**	Pn	**Pn**	**19 19 05.1**	**-1.1**
LUPA				lAmb_Lg		19 20 35.1	
	comp=Z,43nm,0.9s						
SSPA	**Standing Stone**	**5.25**	**193**	Pn	**Pn**	**19 19 05.1**	**-1.6**
SSPA				lAmb_Lg		19 20 34.9	
	comp=Z,29nm,0.7s						
CPNY	**Central Park**	**5.27**	**160**	lAmb_Lg		19 20 36.1	
	comp=Z,46nm,0.7s						
M53A	**WI Miller and**	**5.35**	**217**	Pn	**Pn**	**19 19 07.0**	**-1.0**
N54A	**Moraine State**	**5.49**	**210**	Pn	**Pn**	**19 19 09.8**	**-0.2**
N54A				lAmb_Lg		19 20 41.0	
	comp=Z,50nm,0.8s						
E46A	**Sault Ste Mari**	**5.57**	**279**	lAmb_Lg		19 20 42.7	
	comp=Z,47nm,0.9s						
F64A	**Sherman**	**5.59**	**86**	Pn	**Pn**	**19 19 11.0**	**-0.2**
F64A				lAmb_Lg		19 21 00.5	
	comp=Z,28nm,0.9s						
M64A	**Tiverton**	**5.63**	**137**	lAmb_Lg		19 20 54.8	
	comp=Z,31nm,1.1s						
O56A	**Blue Knob Stat**	**5.74**	**197**	Pn	**Pn**	**19 19 14.5**	**+1.2**
WUPA	**West Chester U**	**5.86**	**174**	Pn	**Pn**	**19 19 15.3**	**+0.3**
M65A	**Busby, Falmout**	**5.90**	**133**	Pn	**Pn**	**19 19 16.0**	**+0.5**
N53A	**Lisbon**	**5.95**	**215**	Pn	**Pn**	**19 19 16.4**	**+0.2**
N53A				lAmb_Lg		19 20 58.2	
	comp=Z,42nm,0.9s						
P60A	**Greenville**	**5.98**	**175**	lAmb_Lg		19 20 58.7	
	comp=Z,40nm,0.8s						
EMMW	**East Machias**	**6.37**	**96**	lAmb_Lg		19 21 22.0	
	comp=Z,28nm,1.2s						
N51A	**Ashland**	**6.54**	**224**	lAmb_Lg		19 21 16.3	
	comp=Z,37nm,0.8s						
MCWV	**Mont Chateau**	**6.63**	**204**	lAmb_Lg		19 21 28.3	
	comp=Z,24nm,0.7s						
O52A	**Adamsville**	**6.94**	**217**	Pn	**Pn**	**19 19 29.2**	**-0.6**
L48A	**N Adams**	**6.98**	**240**	Pn	**Pn**	**19 19 30.4**	**0.0**
Q56A	**Snyder Ridge,**	**7.04**	**198**	Pn	**Pn**	**19 19 31.9**	**+0.7**
BATG	**Bathurst New B**	**7.25**	**74**	Pn	**Pn**	**19 19 33.7**	**-0.5**
P53A	**Whipple**	**7.30**	**212**	Pn	**Pn**	**19 19 35.4**	**+0.6**
P53A				lAmb_Lg		19 21 48.2	
	comp=Z,32nm,0.9s						
ACSO	**Alum Creek Sta**	**7.37**	**224**	lAmb_Lg		19 21 46.4	
	comp=Z,30nm,0.7s						
E43A	**Lone Tree Farm**	**7.43**	**278**	Pn	**Pn**	**19 19 34.1**	**-2.4**
P52A	**Corning**	**7.47**	**217**	lAmb_Lg		19 21 47.4	
	comp=Z,27nm,0.8s						
N49A	**Columbus Grove**	**7.49**	**232**	lAmb_Lg		19 21 46.7	
	comp=Z,35nm,0.8s						
Q54A	**Coxs Mills**	**7.55**	**208**	Pn	**Pn**	**19 19 39.0**	**+0.8**
Q54A				lAmb_Lg		19 21 58.6	
	comp=Z,24nm,0.8s						
R55A	**Marlinton**	**7.99**	**202**	Pn	**Pn**	**19 19 44.7**	**+0.4**
R55A				lAmb_Lg		19 22 07.7	
	comp=Z,21nm,0.9s						
P51A	**Williamsport**	**8.00**	**221**	lAmb_Lg		19 21 58.9	
	comp=Z,29nm,0.8s						
LMN	**Caledonia Moun**	**8.07**	**85**	Pn	**Pn**	**19 19 45.1**	**-0.2**
Q52A	**Bidwell**	**8.09**	**215**	lAmb_Lg		19 22 03.3	
	comp=Z,29nm,0.9s						
L46A	**Eue Claire**	**8.11**	**246**	lAmb_Lg		19 22 09.7	
	comp=Z,31nm,0.7s						
S57A	**Dark Hollow, R**	**8.24**	**195**	lAmb_Lg		19 22 06.2	
	comp=Z,20nm,0.9s						
N47A	**Urbana**	**8.38**	**238**	lAmb_Lg		19 22 16.0	
	comp=Z,19nm,0.8s						
R53A	**Hurricane**	**8.52**	**211**	lAmb_Lg		19 22 31.7	
	comp=Z,21nm,0.7s						
T60A	**Surry**	**8.63**	**182**	lAmb_Lg		19 22 27.6	
	comp=Z,30nm,0.7s						
S54A	**Dingess, Beckl**	**8.78**	**207**	lAmb_Lg		19 22 27.1	
	comp=Z,15nm,0.8s						
T57A	**Hurt**	**9.03**	**195**	lAmb_Lg		19 22 38.5	
	comp=Z,15nm,1.0s						
BLA	**Blacksburg**	**9.08**	**201**	lAmb_Lg		19 22 39.7	
	comp=Z,20nm,0.9s						
R50A	**Paris**	**9.55**	**221**	lAmb_Lg		19 22 56.8	
	comp=Z,14nm,0.7s						
S51A	**Beattyville**	**9.76**	**216**	lAmb_Lg		19 23 14.8	
	comp=Z,21nm,0.8s						
R49A	**Shelbyville**	**9.94**	**224**	lAmb_Lg		19 23 12.0	
	comp=Z,17nm,1.0s						
V52A	**Sevierville**	**11.33**	**211**	Pn	**Pn**	**19 20 30.0**	**-0.1**

*JMA **09** 19:27:06.2±0.2,24.02N×122.43E,h18km±4km,M2.4*
*TAP **09** 19:27:07.3,24.11N×122.40E,h33km,ML2.8,D*
ISC 09 19:27:06.5±0.9,**24.05N**±0.02×**122.42E**±0.02,**h20**km±7km,
n93,σ**0**°**65**/184,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
JYNG	**Yonagunijimaku**	**0.63**	**50**	P	**Pb**	**19 27 18.3**	**-0.5**
JYNG				*e*S	**Sb**	**19 27 26.5**	**-0.7**
YOJ	**Yonaguni jima**	**0.68**	**52**	P	**Pb**	**19 27 19.5**	**-0.2**
YOJ				*e*S	**Sb**	**19 27 28.0**	**-0.7**
YOJ	**Yonaguni jima**	**0.68**	**52**	*e*P	**Pb**	**19 27 20.0**	**+0.3**
	baz=58						
YOJ				*e*S	**Sn**	**19 27 30.1**	**-0.8**
	baz=58						
EWUT	**Wuta**	**0.71**	**304**	P	**Pb**	**19 27 20.0**	**-0.1**
	baz=300						
EWUT				*e*S	**Sb**	**19 27 29.2**	**-0.3**
	baz=300						
ENA	**Nanau**	**0.73**	**302**	P	**Pb**	**19 27 20.8**	**+0.3**
	baz=306						
ENA				*e*S	**Sb**	**19 27 30.5**	**+0.4**
	baz=306						
TWD	**Chiawan**	**0.76**	**273**	*e*P	**Pb**	**19 27 20.9**	**0.0**
	baz=267						
TWD				*e*S	**Sb**	**19 27 31.0**	**+0.3**
	baz=267						
NACB	**Ninganchiao**	**0.77**	**280**	P	**Pb**	**19 27 21.0**	**-0.1**
	baz=261						
NACB				*e*S	**Sb**	**19 27 31.3**	**+0.2**
	baz=261						
TWC	**Suao**	**0.77**	**317**	*i* P	**Pb**	**19 27 20.5**	**-0.6**
	baz=315						
TWC				*e*S	**Sb**	**19 27 30.0**	**-1.1**
	baz=315						
ETM	**Tongmen**	**0.85**	**265**	*e*P	**Pb**	**19 27 22.8**	**+0.2**
	baz=260						
ETM				*e*S	**Sb**	**19 27 34.1**	**+0.5**
	baz=260						
NDS	**Dongshan**	**0.87**	**312**	P	**Pb**	**19 27 22.9**	**0.0**
	baz=309						
NDS				S	**Sb**	**19 27 34.0**	**-0.1**
	baz=309						
ETLH	**Xiulin Townshi**	**0.87**	**281**	P	**Pb**	**19 27 22.6**	**-0.4**
	baz=276						
ETLH				S	**Sb**	**19 27 34.5**	**+0.2**
	baz=276						
EGS		**0.91**	**331**	P	**Pb**	**19 27 23.4**	**-0.2**
	baz=318						
EGS				S	**Sb**	**19 27 35.3**	**-0.1**
	baz=318						
ESL	**Shilin**	**0.93**	**256**	*e*P	**Pb**	**19 27 24.1**	**+0.1**
	baz=241						
ESL				*e*S	**Sn**	**19 27 37.0**	**-0.2**
	baz=241						
TWE	**Neicheng**	**0.96**	**315**	P	**Pb**	**19 27 24.3**	**-0.1**
	baz=312						
TWE				S	**Sb**	**19 27 36.3**	**-0.4**
	baz=312						
NTC	**Toucheng**	**0.97**	**326**	*e*P	**Pb**	**19 27 24.5**	**-0.1**
	baz=323						
NTC				*e*S	**Sb**	**19 27 37.2**	**+0.2**
	baz=323						
ENTT	**Nioudou**	**0.98**	**307**	P	**Pb**	**19 27 24.8**	**0.0**
	baz=304						
ENTT				S	**Sb**	**19 27 37.1**	**-0.2**
	baz=304						
EGFH	**Guangfu**	**0.98**	**248**	*e*P	**Pb**	**19 27 24.4**	**-0.4**
	baz=244						
EGFH				*e*S	**Sb**	**19 27 37.7**	**+0.4**
	baz=244						
NDT	**Datong Townshi**	**1.00**	**304**	P	**Pn**	**19 27 25.4**	**+0.1**
	baz=300						
NDT				*e*S	**Sb**	**19 27 37.4**	**-0.3**
	baz=300						
NNS	**Nan Shan**	**1.03**	**293**	P	**Pb**	**19 27 25.7**	**-0.1**
	baz=289						
NNS				S	**Sb**	**19 27 38.9**	**0.0**
	baz=289						
TWB1	**Santiao Chiao**	**1.04**	**338**	*e*P	**Pb**	**19 27 25.7**	**0.0**
	baz=350						
TWB1				*e*S	**Sb**	**19 27 38.6**	**-0.3**
	baz=350						
WHF	**Hehuan Shan**	**1.06**	**276**	*e*P	**Pb**	**19 27 25.6**	**-0.8**
	baz=260						
WHF				*e*S	**Sb**	**19 27 40.0**	**0.0**
	baz=260						
HGSD	**Ruisui**	**1.07**	**239**	*e*P	**Pb**	**19 27 25.2**	**-1.0**
	baz=236						
HGSD				*e*S	**Sb**	**19 27 39.5**	**-0.2**
	baz=236						
TIPB	**Shuangxi**	**1.07**	**330**	P	**Pn**	**19 27 26.3**	**0.0**
	baz=327						
TIPB				S	**Sb**	**19 27 39.7**	**-0.2**
	baz=327						
FUSS	**Fushou**	**1.09**	**281**	P	**Pb**	**19 27 26.6**	**-0.3**
	baz=277						
FUSS				*e*S	**Sb**	**19 27 40.8**	**0.0**
	baz=277						
YHNB	**Yeheng**	**1.14**	**303**	P	**Pn**	**19 27 27.3**	**-0.1**
	baz=288						
YHNB				*e*S	**Sb**	**19 27 41.6**	**-0.3**
	baz=288						
CHGB	**Renai**	**1.14**	**271**	*e*P	**Pn**	**19 27 27.0**	**-0.5**
	baz=256						
CHGB				*e*S	**Sb**	**19 27 41.9**	**-0.1**
	baz=256						
EHY	**Hungye**	**1.14**	**242**	*e*P	**Pn**	**19 27 26.6**	**-0.7**
	baz=252						
EHY				*e*S	**Sn**	**19 27 42.2**	**-0.1**
	baz=252						
OWD	**Renai**	**1.14**	**266**	*e*P	**Pn**	**19 27 26.8**	**-0.6**
	baz=262						
OWD				*e*S	**Sb**	**19 27 41.3**	**-0.8**
	baz=262						
NSK	**Sanguang**	**1.16**	**303**	P	**Pn**	**19 27 27.4**	**-0.1**
	baz=288						
NSK				S	**Sb**	**19 27 42.0**	**-0.4**
	baz=288						
TWT	**Tachien**	**1.16**	**281**	*e*P	**Pb**	**19 27 28.2**	**+0.3**
	baz=267						
TWT				*e*S	**Sn**	**19 27 43.0**	**0.0**
	baz=267						
TDCB	**Techi**	**1.17**	**280**	*e*P	**Pb**	**19 27 28.0**	**-0.2**
	baz=267						
TDCB				*e*S	**Sb**	**19 27 42.9**	**-0.1**
	baz=267						
NWF	**Wu-fen Shan**	**1.18**	**330**	P	**Pn**	**19 27 27.3**	**-0.6**
	baz=327						
NWF				S	**Sb**	**19 27 42.8**	**-0.2**
	baz=327						
TWA	**Mucha**	**1.20**	**321**	*e*P	**Pn**	**19 27 28.2**	**0.0**
	baz=318						
TWA				*e*S	**Sb**	**19 27 43.5**	**-0.2**
	baz=318						
YULB	**Yu-li**	**1.22**	**238**	P	**Pn**	**19 27 27.4**	**-0.9**
	baz=249						
YULB				S	**Sb**	**19 27 42.7**	**-1.4**
	baz=249						
EYUL	**Yuli**	**1.23**	**236**	P	**Pn**	**19 27 27.8**	**-0.7**
	baz=223						
EYUL				*e*S	**Sb**	**19 27 44.1**	**-0.2**
	baz=223						
NHDH	**Xindian Distri**	**1.23**	**318**	*e*P	**Pn**	**19 27 28.4**	**-0.1**
	baz=330						
NHDH				*e*S	**Sb**	**19 27 43.8**	**-0.6**
	baz=330						
IRIF	**Iriomote-Funau**	**1.23**	**76**	P	**Pn**	**19 27 28.7**	**+0.2**
IRIF				*e*S	**Sb**	**19 27 44.3**	**-0.1**
HATJ	**Hateruma jima**	**1.27**	**89**	P	**Pb**	**19 27 29.5**	**-0.1**
HATJ				*e*S	**Sb**	**19 27 45.8**	**+0.4**
FULB	**Fuli**	**1.33**	**231**	*e*P	**Pn**	**19 27 29.8**	**-0.2**
	baz=218						
FULB				*e*S	**Sb**	**19 27 47.5**	**+0.1**
	baz=218						
YM01	**YM01**	**1.34**	**325**	*e*P	**Pn**	**19 27 30.1**	**-0.1**
	baz=336						
YM01				*e*S	**Sn**	**19 27 46.5**	**-0.9**
	baz=336						
CHKT	**Chengkung**	**1.35**	**226**	*e*P	**Pn**	**19 27 29.8**	**-0.4**
	baz=215						
CHKT				*e*S	**Sn**	**19 27 46.3**	**-1.2**
	baz=215						
SSLB	**Suanglung**	**1.37**	**260**	*e*P	**Pn**	**19 27 30.4**	**0.0**
	baz=256						
SSLB				*e*S	**Sn**	**19 27 47.6**	**-0.3**
	baz=256						
WHP	**Taichung City**	**1.37**	**280**	*e*P	**Pb**	**19 27 31.0**	**-0.4**
	baz=267						
WHP				*e*S	**Sb**	**19 27 48.8**	**+0.3**
	baz=267						
WCS	**Beigang Elemen**	**1.38**	**271**	*e*P	**Pn**	**19 27 30.5**	**0.0**
	baz=260						
WCS				*e*S	**Sn**	**19 27 47.9**	**-0.3**
	baz=260						
TWS1	**Kuangyinshan**	**1.39**	**319**	*e*P	**Pn**	**19 27 30.7**	**-0.1**
	baz=332						
TWS1				*e*S	**Sn**	**19 27 48.3**	**-0.3**
	baz=332						
SMLT	**Sun Moon Lake**	**1.40**	**264**	*e*P	**Pn**	**19 27 31.0**	**+0.1**
	baz=252						
SMLT				*e*S	**Sn**	**19 27 48.6**	**-0.3**
	baz=252						
ANP	**Anpu**	**1.40**	**324**	*e*P	**Pn**	**19 27 31.1**	**+0.1**
	baz=321						
ANP				*e*S	**Sn**	**19 27 48.3**	**-0.6**
	baz=321						
LIOB	**Emei**	**1.42**	**295**	*e*P	**Pn**	**19 27 31.4**	**+0.4**
	baz=292						
LIOB				*e*S	**Sn**	**19 27 48.8**	**-0.3**
	baz=292						
NSTT	**Nanjuang**	**1.42**	**295**	*e*P	**Pn**	**19 27 31.3**	**+0.1**
	baz=291						
NSTT				*e*S	**Sn**	**19 27 48.7**	**-0.5**
	baz=291						
TWY	**Chenhua**	**1.44**	**329**	*e*P	**Pn**	**19 27 31.5**	**+0.2**
	baz=325						
TWY				*e*S	**Sn**	**19 27 49.2**	**-0.4**
	baz=325						
TYC	**Yuchr**	**1.44**	**265**	*e*P	**Pn**	**19 27 31.7**	**+0.4**
	baz=262						
TYC				*e*S	**Sn**	**19 27 49.3**	**-0.3**
	baz=262						
YUS	**Yu-Shan**	**1.46**	**248**	*e*P	**Pn**	**19 27 31.9**	**-0.1**
	baz=245						
YUS				*e*S	**Sn**	**19 27 49.6**	**-1.2**
	baz=245						
JKRS	**Kuro-shima**	**1.46**	**82**	P	**Pb**	**19 27 32.7**	**-0.3**
JKRS				*e*S	**Sb**	**19 27 51.7**	**+0.5**
WHYT	**Xinyi Township**	**1.48**	**257**	P	**Pn**	**19 27 32.4**	**+0.5**
	baz=247						
WHYT				*e*S	**Sb**	**19 27 52.1**	**+0.5**
	baz=247						
EDH	**Donghe**	**1.48**	**224**	*e*P	**Pn**	**19 27 31.6**	**-0.4**
	baz=215						
EDH				*e*S	**Sn**	**19 27 49.5**	**-1.2**
	baz=215						
ELDTW	**Lidau**	**1.54**	**237**	*e*P	**Pn**	**19 27 33.0**	**0.0**
	baz=235						
ELDTW				*e*S	**Sn**	**19 27 51.3**	**-1.2**
	baz=235						
WJS	**Zhushan**	**1.56**	**262**	*e*P	**Pb**	**19 27 34.8**	**+0.1**
	baz=259						
WJS				*e*S	**Sb**	**19 27 54.9**	**+0.8**
	baz=259						
ALS	**Alishan**	**1.57**	**251**	*e*P	**Pn**	**19 27 33.9**	**+0.4**
	baz=248						
ALS				*e*S	**Sn**	**19 27 53.6**	**+0.2**
	baz=248						
WNT	**Mingjian**	**1.60**	**264**	*e*P	**Pb**	**19 27 35.3**	**0.0**
	baz=261						
WNT				*e*S	**Sb**	**19 27 55.6**	**+0.5**
	baz=261						
JIJ	**Ishigaki jima**	**1.60**	**78**	P	**Pn**	**19 27 33.4**	**-0.2**
JIJ				S	**Sn**	**19 27 53.4**	**-0.4**
LDUT	**Ludao**	**1.62**	**213**	*e*P	**Pn**	**19 27 34.0**	**+0.1**
	baz=213						
LDUT				*e*S	**Sn**	**19 27 53.0**	**-1.2**
	baz=213						
LONT	**Longtian**	**1.64**	**227**	*e*P	**Pn**	**19 27 33.3**	**-0.8**
	baz=237						
LONT				*e*S	**Sn**	**19 27 53.8**	**-0.9**
	baz=237						
CHN5	**Tsauling**	**1.66**	**255**	*e*P	**Pb**	**19 27 35.9**	**-0.5**
	baz=244						
CHN5				*e*S	**Sb**	**19 27 56.9**	**0.0**
	baz=244						
TWGBT	**Beinan**	**1.73**	**226**	*e*P	**Pn**	**19 27 34.9**	**-0.5**
	baz=235						
TWGBT				*e*S	**Sn**	**19 27 56.8**	**-0.2**
	baz=235						
TWG	**Pinlang**	**1.74**	**226**	*e*P	**Pn**	**19 27 34.7**	**-0.8**
	baz=235						
TWG				*e*S	**Sn**	**19 27 56.6**	**-0.5**
	baz=235						
STYH	**Taoyuan**	**1.74**	**240**	*e*P	**Pb**	**19 27 36.8**	**-1.0**
	baz=231						
STYH				*e*S	**Sb**	**19 27 58.4**	**-0.8**
	baz=231						
WDLH	**Douliu**	**1.76**	**259**	*e*P	**Pn**	**19 27 36.6**	**+0.8**
	baz=256						
WDLH				*e*S	**Sb**	**19 28 00.7**	**+1.0**
	baz=256						
TPUB	**Ta-pu**	**1.80**	**246**	*e*P	**Pn**	**19 27 37.3**	**+0.9**
	baz=244						
TPUB				*e*S	**Sb**	**19 27 59.8**	**-1.1**
	baz=244						
JISG	**Ishigakijimahi**	**1.81**	**72**	P	**Pn**	**19 27 36.1**	**-0.3**
JISG				S	**Sn**	**19 27 57.7**	**-1.0**
CHN4	**Tsaushan**	**1.81**	**248**	*e*P	**Pb**	**19 27 38.2**	**-0.8**
	baz=246						
CHN4				*e*S	**Sb**	**19 28 01.1**	**-0.2**
	baz=246						
WTP	**Ta-pu**	**1.84**	**245**	*e*P	**Pb**	**19 27 38.2**	**-1.2**
	baz=243						
WTP				*e*S	**Sb**	**19 28 01.4**	**-0.7**
	baz=243						
WRL	**Guolierlin Hig**	**1.88**	**266**	*e*P	**Pn**	**19 27 38.3**	**+0.9**
	baz=263						
WRL				*e*S	**Sb**	**19 28 02.2**	**-0.8**
	baz=263						
TWK	**Hsinying**	**1.93**	**247**	*e*P	**Pb**	**19 27 40.1**	**-1.0**
	baz=245						
TWK				*e*S	**Sb**	**19 28 04.4**	**-0.4**
	baz=245						
CHN1	**Nanshi**	**1.94**	**244**	*e*P	**Pn**	**19 27 39.3**	**+1.0**
	baz=242						
CHN1				*e*S	**Sn**	**19 28 03.3**	**+1.3**
	baz=242						
SLGT	**Liugui**	**1.94**	**238**	*e*P	**Pn**	**19 27 39.6**	**+1.3**
	baz=229						
SLGT				*e*S	**Sb**	**19 28 03.7**	**-1.1**
	baz=229						
SGST	**Jiashian**	**1.94**	**241**	*e*P	**Pb**	**19 27 40.0**	**-1.2**
	baz=239						
SGST				*e*S	**Sb**	**19 28 04.3**	**-0.6**
	baz=239						
ECL	**Taimali**	**1.97**	**223**	*e*P	**Pn**	**19 27 38.4**	**-0.3**
	baz=223						
ECL				*e*S	**Sn**	**19 28 01.8**	**-1.1**
	baz=223						
WSF	**Szhu**	**2.05**	**259**	*e*P	**Pn**	**19 27 41.0**	**+1.1**
	baz=257						
WSF				*e*S	**Sb**	**19 28 06.8**	**-1.4**
	baz=257						
SSD	**Sandimen**	**2.09**	**232**	*e*P	**Pn**	**19 27 42.0**	**+1.6**
	baz=226						
SSD				*e*S	**Sn**	**19 28 07.1**	**+1.3**
	baz=226						
TSMG	**Majia**	**2.11**	**231**	*e*P	**Pn**	**19 27 41.8**	**+1.2**
	baz=226						
TSMG				*e*S	**Sn**	**19 28 06.7**	**+0.5**
	baz=226						
SCST	**Cishan**	**2.11**	**237**	*e*P	**Pb**	**19 27 43.2**	**-0.8**
	baz=249						
SCST				*e*S	**Sb**	**19 28 10.4**	**+0.6**
	baz=249						
LAY	**Lan-yu**	**2.15**	**202**	*e*P	**Pn**	**19 27 41.2**	**0.0**
	baz=210						
LAY				*e*S	**Sn**	**19 28 07.0**	**-0.3**
	baz=210						
JTJ	**Tarama**	**2.16**	**74**	P	**Pn**	**19 27 42.3**	**+1.0**
JTJ				*e*S	**Sn**	**19 28 08.5**	**+0.9**
MASBT	**Mashibuluo**	**2.18**	**229**	*e*P	**Pn**	**19 27 43.3**	**+1.8**
	baz=225						
MASBT				*e*S	**Sn**	**19 28 09.4**	**+1.5**
	baz=225						
EAST	**Anshuo**	**2.20**	**221**	*e*P	**Pn**	**19 27 41.8**	**-0.1**
	baz=222						
EAST				*e*S	**Sn**	**19 28 07.4**	**-1.1**
	baz=222						
SCZT	**Fangliau**	**2.35**	**225**	*e*P	**Pn**	**19 27 44.9**	**+1.0**
	baz=220						
SCZT				*e*S	**Sn**	**19 28 12.8**	**+0.7**
	baz=220						
SLIU	**Shizi**	**2.35**	**220**	*e*P	**Pn**	**19 27 45.1**	**+1.2**
	baz=220						
SLIU				*e*S	**Sn**	**19 28 12.8**	**+0.5**
	baz=220						
HEN	**Hengchun**	**2.55**	**218**	*e*P	**Pn**	**19 27 47.9**	**+1.2**
	baz=225						
HEN				*e*S	**Sn**	**19 28 18.3**	**+1.1**
	baz=225						
TWKBT	**Hengchun**	**2.57**	**216**	*e*P	**Pn**	**19 27 48.1**	**+1.2**
	baz=217						
TWKBT				*e*S	**Sn**	**19 28 18.3**	**+0.8**
	baz=217						
PHUB	**P'eng-hu**	**2.66**	**259**	*e*S	**Sn**	**19 28 20.2**	**+0.3**
	baz=271						
PNG	**Penghu**	**2.67**	**260**	*e*S	**Sn**	**19 28 20.6**	**+0.6**
	baz=258						
VWUC	**VWUC**	**2.87**	**290**	*e*P	**Pn**	**19 27 51.6**	**+0.6**
	baz=286						
VWUC				*e*S	**Sn**	**19 28 25.1**	**+0.2**
	baz=286						
PTMZ	**Houxiangcun**	**3.17**	**289**	*e*P	**Pn**	**19 27 54.8**	**-0.3**
	baz=285						
PTMZ				*e*S	**Sn**	**19 28 32.4**	**+0.1**
	baz=285						

*LDG **09** 19:30:12.5±0.3,51.68N×16.37E,h1km,Ml3.7/17,Error ellipse: s-maj=8.1km s-min=4.2km az=16.0,Suspected Mining induced.*
*IPEC **09** 19:30:14.3±0.3,51.58N×16.27E,h0km,ML3.0/3,Error ellipse: s-maj=1.8km s-min=1.5km az=51.0*
*IDC **09** 19:30:15.5±0.6,51.54N×16.13E,h0km,mb3.5/4, mb1 3.5/12,mb1mx3.4/45,mbtmp3.5/12,ML2.9/7,MS2.3/1, Ms1 2.3/1,ms1mx1.9/55,Error ellipse: s-maj=10.0km s-min=5.7km az=110.0*
*DNK **

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.78**	**174**	*i* Pg	**Pg**	**19 30 28.8**	**+0.1**
KSP				*e*Sg	**Sg**	**19 30 38.2**	**-0.5**
KSP	**Ksiaz**	**0.78**	**174**	*e*Pg	**Pg**	**19 30 28.8**	**+0.1**
KSP				*e*Sg	**Sg**	**19 30 38.6**	**-0.1**
CHVC	**Chvalec**	**1.03**	**184**	⇓*i*PG	**Pg**	**19 30 33.7**	**+0.1**
CHVC				*e*SG	**Sg**	**19 30 46.9**	**0.0**
OSTC	**Ostas**	**1.06**	**178**	⇓*i*PG	**Pg**	**19 30 34.3**	**+0.2**
OSTC				*e*SG	**Sg**	**19 30 47.6**	**-0.2**
UPC	**Upice**	**1.11**	**185**	⇓*i*PG	**Pg**	**19 30 35.0**	**-0.1**
UPC				*e*SG	**Sg**	**19 30 49.5**	**0.0**
	comp=Z,411nm,0.5s						
DPC	**Dobruska-Polom**	**1.27**	**176**	⇓*i*PG	**Pg**	**19 30 37.6**	**-0.5**
DPC				*e*SG	**Sg**	**19 30 53.4**	**-1.2**
	comp=Z,145nm,0.3s						
DPC	**Dobruska-Polom**	**1.27**	**176**	*e*Pg	**Pg**	**19 30 37.6**	**-0.5**
PVCC	**Panska Ves**	**1.48**	**224**	⇓*e*PG	**Pn**	**19 30 41.8**	**0.0**
PVCC				*e*SG	**Sn**	**19 31 02.1**	**+0.2**
	comp=Z,503nm,0.2s						
BRG	**Berggiesshubel**	**1.58**	**243**	*e*Pn	**Pn**	**19 30 42.9**	**-0.3**
BRG				*e*Sg	**Sg**	**19 31 05.8**	**+1.1**
BRG	**Berggiesshubel**	**1.58**	**243**	Pn	**Pn**	**19 30 42.9**	**-0.3**
BRG				Pg	**Pg**	**19 30 44.9**	**+0.7**
BRG				Sg	**Sg**	**19 31 05.5**	**+0.8**
BRG				Amp		19 31 06.7	
	comp=Z,494nm,0.4s						
KRLC	**Kraliky**	**1.59**	**166**	⇓*e*PG	**Pn**	**19 30 42.8**	**-0.5**
KRLC				*e*SG	**Sn**	**19 31 03.4**	**-1.1**
	comp=Z,175nm,0.4s						
RUE	**Ruedersdorf**	**1.71**	**301**	*e*P	**Pn**	**19 30 42.5**	**-2.4**
GKP	**Gorka Klasztor**	**1.78**	**21**	*e*P	Pg	19 30 54.5	+6.5
PRA	**Prague**	**1.90**	**216**	⇓*e*SG	**Sb**	**19 31 13.9**	**+0.4**
FBE	**Freiberg**	**1.90**	**250**	*e*Pn	**Pb**	**19 30 48.9**	**-0.4**
FBE				*e*Sg	**Sg**	**19 31 15.1**	**+0.3**
PRU	**Pruhonice**	**1.93**	**213**	⇓*e*PG	**Pb**	**19 30 49.9**	**+0.1**
PRU				*e*SG	**Sg**	**19 31 15.8**	**+0.1**
	comp=Z,212nm,0.4s						
RAC	**Raciborz**	**2.00**	**139**	*e*PG	**Pg**	**19 30 51.9**	**-0.2**
RAC				*e*SG	**Sg**	**19 31 17.6**	**-0.4**
CLL	**Collm**	**2.00**	**262**	*e*Pn	**Pg**	**19 30 49.0**	**+0.1**
CLL				*e*Pg	**Pg**	**19 30 53.0**	**+0.7**
CLL				*e*		19 30 56.0	
CLL				*i* Sg	**Sg**	**19 31 19.6**	**+1.4**
	comp=Z,217nm,0.8s						
CLL	**Collm**	**2.00**	**262**	*e*Pn	**Pn**	**19 30 49.2**	**+0.2**
CLL				*e*Sg	**Sg**	**19 31 19.6**	**+1.4**
MORC	**Moravsky Berou**	**2.04**	**154**	⇑*e*P	**Pn**	**19 30 49.4**	**0.0**
MORC	**Moravsky Berou**	**2.04**	**154**	⇑S	**Sb**	**19 31 17.7**	**+0.1**
MORC	**Moravsky Berou** baz=336	**2.04**	**154**	*e*Pn	**Pn**	**19 30 49.0**	**-0.4**
MORC				*e*Sg	**Sn**	**19 31 16.5**	**+0.9**
	comp=Z,102nm,0.4s,baz=336						
MORC	**Moravsky Berou**	**2.04**	**154**	*e*PN	**Pn**	**19 30 49.1**	**-0.4**
MORC				*e*SG	**Sn**	**19 31 16.5**	**+0.9**
MORC	**Moravsky Berou**	**2.04**	**154**	*e*Pn	**Pn**	**19 30 49.1**	**-0.4**
OKC	**Ostrava-Krasne**	**2.18**	**144**	*e*Pn	**Pn**	**19 30 51.0**	**-0.3**
VRAC	**Vranov**	**2.32**	**173**	⇑P	**Pn**	**19 30 54.1**	**+0.7**
VRAC	**Vranov**	**2.32**	**173**	⇑S	**Sb**	**19 31 26.4**	**+0.6**
VRAC	**Vranov**	**2.32**	**173**	Pn	**Pn**	**19 30 53.5**	**+0.2**
	comp=Z,3.5nm,0.3s,baz=337,slow=13,SNR=46						
VRAC				Lg	Lg	19 31 26.1	
	comp=Z,22nm,0.3s,baz=74,slow=20,SNR=12						
VRAC				LR	LR	19 31 42.8	
	comp=Z,56nm,18.3s,baz=342,slow=39						
VRAC	**Vranov** baz=355	**2.32**	**173**	*e*Pn	**Pn**	**19 30 53.4**	**0.0**
VRAC				*e*Sg	**Sb**	**19 31 25.9**	**+0.1**
	comp=Z,77nm,0.4s,baz=355						
VRAC	**Vranov**	**2.32**	**173**	*e*PN	**Pn**	**19 30 53.5**	**+0.2**
VRAC				*e*SG	**Sb**	**19 31 26.0**	**+0.1**
KRUC	**Moravsky** baz=358	**2.56**	**177**	*e*Pn	**Pn**	**19 30 56.6**	**0.0**
KRUC				*e*Sg	**Sb**	**19 31 33.4**	**+0.8**
	comp=Z,56nm,0.3s,baz=358						
KRUC	**Moravsky**	**2.56**	**177**	*e*PN	**Pn**	**19 30 56.6**	**0.0**
KRUC				*e*SG	**Sb**	**19 31 33.4**	**+0.8**
TANN	**Tannenbergstha**	**2.63**	**244**	*e*Pn	**Pn**	**19 30 58.4**	**+0.7**
OJC	**Ojcow**	**2.69**	**120**	*e*Pn	**Pn**	**19 30 57.0**	**-1.4**
OJC				*e*Pg	**Pg**	**19 31 06.4**	**+1.1**
OJC				*e*Sg	**Sg**	**19 31 41.0**	**+0.8**
OJC	**Ojcow**	**2.69**	**120**	*e*Pn	**Pg**	**19 31 05.1**	**-0.2**
WERD	**Werda**	**2.70**	**246**	*e*Pn	**Pn**	**19 30 59.2**	**+0.6**
NKC	**Novy Kostel**	**2.73**	**241**	⇓*e*PG	**Pg**	**19 31 06.0**	**-0.2**
NKC				*e*SG	**Sg**	**19 31 43.0**	**+1.5**
	comp=Z,271nm,0.4s						
JAVC	**Velka Javorina**	**2.92**	**160**	*e*PN	**Pn**	**19 31 02.0**	**+0.4**
KHC	**Kasperske Hory**	**2.99**	**215**	⇓*e*PN	**Pn**	**19 31 02.5**	**0.0**
KHC				*e*PG	**Pb**	**19 31 08.6**	**+0.6**
KHC				*e*SG	**Sg**	**19 31 49.4**	**-0.4**
	comp=Z,65nm,0.5s						
MOX	**Moxa**	**3.03**	**253**	*e*Pn	**Pn**	**19 31 03.5**	**+0.5**
MOX				*e*Sg	**Sg**	**19 31 52.6**	**+1.5**
CKRC	**Cesky Krumlov**	**3.04**	**204**	⇓*e*PG	**Pb**	**19 31 08.9**	**+0.1**
CKRC				*e*SG	**Sb**	**19 31 48.2**	**+1.7**
	comp=Z,79nm,0.6s						
MANZ	**Manzenberg**	**3.05**	**239**	*e*Pn	**Pn**	**19 31 04.2**	**+0.8**
ROTZ	**Rotzenmuhle**	**3.12**	**235**	*e*Pn	**Pn**	**19 31 04.9**	**+0.6**
GEC2	**GERESS Array S**	**3.19**	**211**	*e*Pn	**Pn**	**19 31 06.3**	**+0.9**
GERES	**GERESS Array B**	**3.19**	**211**	Pn	**Pn**	**19 31 06.4**	**+1.0**
	comp=Z,2.1nm,0.3s,baz=30,slow=13,SNR=44						
GERES				Pg	**Pb**	**19 31 12.8**	**+1.3**
	comp=Z,7.2nm,0.3s,baz=35,slow=17,SNR=35						
GERES				Lg	Lg	19 31 52.5	
	comp=Z,15nm,0.3s,baz=38,slow=24,SNR=11						
SMOL	**Smolenice**	**3.21**	**165**	*e*PN	**Pn**	**19 31 07.2**	**+1.7**
SMOL				*e*PG	**Pg**	**19 31 14.6**	**-0.7**
SMOL				*e*SG	**Sg**	**19 31 55.9**	**-0.9**
SMOL				*e*LG	Lg	19 32 02.7	
LANS	**Liptovska Anna**	**3.25**	**138**	*e*PN	**Pn**	**19 31 06.7**	**+0.6**
LANS				*e*PG	**Pg**	**19 31 15.8**	**-0.2**
LANS				*e*SG	**Sg**	**19 31 57.0**	**-1.1**
LANS				*e*LG	Lg	19 32 01.5	
WET	**Wettzell**	**3.25**	**222**	*e*Pn	**Pn**	**19 31 06.4**	**+0.4**
KOLL	**Kolacno**	**3.36**	**154**	*e*PN	**Pn**	**19 31 08.7**	**+1.1**
NIE	**Niedzica**	**3.43**	**128**	*e*Pn	**Pn**	**19 31 10.6**	**+2.0**
NIE				*i*	**Pg**	**19 31 20.3**	**+0.7**
NIE				*e*Sg	**Sg**	**19 32 04.5**	**+0.5**
ZST	**Bratislava**	**3.47**	**170**	*e*PN	**Pn**	**19 31 10.3**	**+1.2**
ZST				*e*PG	**Pg**	**19 31 19.2**	**-1.2**
ZST				*e*SG	**Sg**	**19 32 03.5**	**-1.9**
VYHS	**Vyhne**	**3.56**	**150**	*e*PN	**Pn**	**19 31 10.3**	**-0.1**
VYHS				*e*PG	**Pg**	**19 31 22.5**	**+0.4**
VYHS				*e*SG	**Sg**	**19 32 06.6**	**-1.7**
BSD	**Bornholm Skovb**	**3.59**	**348**	*e*P	**Pn**	**19 31 10.2**	**-0.5**
BSD	**Bornholm Skovb**	**3.59**	**348**	*i* P	**Pn**	**19 31 12.1**	**+1.5**
BSD				*i* S	**Sn**	**19 31 52.2**	**-1.5**
BSD				IAML		19 32 00.2	
	comp=Z,6.7nm,0.4s						
CLZ	**Clausthal**	**3.61**	**276**	*e*Pn	**Pn**	**19 31 12.7**	**+1.6**
GRF	**Grafenberg Arr**	**3.69**	**241**	*e*Pn	**Pn**	**19 31 13.0**	**+0.9**
CONA	**Conrad Observa**	**3.69**	**183**	*i* Pn	**Pn**	**19 31 12.7**	**+0.4**
	comp=Z,2.3nm,0.2s,SNR=14						
CONA				*e*Pg	**Pb**	**19 31 21.1**	**+1.1**
	comp=Z,9.6nm,0.3s						
CONA				*e*Sg	**Sn**	**19 31 58.2**	**+1.7**
	comp=Z,18nm,0.4s						
CONA				*e*Sg	**Sg**	**19 32 11.7**	**-0.8**
	comp=Z,60nm,0.4s						
STHS	**Stebnicka Huta**	**3.91**	**122**	*e*PN	**Pn**	**19 31 15.8**	**+0.6**
STHS				*e*PG	**Pg**	**19 31 28.9**	**+0.1**
STHS				*e*SG	**Sg**	**19 32 19.9**	**+0.4**
SOP	**Sopron**	**3.94**	**176**	*e*P	**Pn**	**19 31 16.1**	**+0.5**
MOA	**Molln**	**3.96**	**199**	*i* Pn	**Pn**	**19 31 16.4**	**+0.4**
	comp=Z,13nm,0.5s,SNR=8.3						
MOA				Sg	**Sg**	**19 32 18.8**	**-2.4**
	comp=Z,43nm,0.3s						
KECS	**Kecovo**	**4.19**	**137**	*e*PG	**Pg**	**19 31 35.3**	**+1.2**
KECS				*e*SG	**Sg**	**19 32 33.9**	**+5.5**
EGYH	**Egyhazaskeszo**	**4.27**	**169**	*e*P	Pn	19 31 14.2	-5.8
CRVS	**Cervenica-Dubn**	**4.35**	**127**	*e*PN	**Pn**	**19 31 22.7**	**+1.5**
CRVS				*e*PG	**Pg**	**19 31 37.5**	**+0.4**
ARSA	**Arzberg**	**4.39**	**186**	*i* Pn	**Pn**	**19 31 23.9**	**+2.1**
	comp=Z,2.8nm,0.3s						
ARSA				*e*Sg	**Sg**	**19 32 32.1**	**-2.6**
	comp=Z,36nm,0.6s						
PSZ	**Piszkesteto**	**4.42**	**145**	⇑P	**Pn**	**19 31 22.6**	**+0.5**
PSZ	**Piszkesteto**	**4.42**	**145**	⇓S	**Sn**	**19 32 17.2**	**+2.9**
PSZ	**Piszkesteto**	**4.42**	**145**	*e*P	**Pn**	**19 31 22.3**	**+0.1**
BLEU	**Blekinge**	**4.71**	**358**	*i* P	**Pn**	**19 31 27.1**	**+1.1**
BLEU				P	**Pn**	**19 31 27.1**	**+1.1**
BLEU				*i*	**Sn**	**19 32 19.7**	**-1.6**
BLEU	**Blekinge**	**4.71**	**358**	P	**Pn**	**19 31 27.1**	**+1.1**
KOLS	**Kolonicke sedl**	**4.75**	**122**	*e*PN	**Pn**	**19 31 27.3**	**+0.7**
KOLS				*e*PG	**Pg**	**19 31 46.0**	**+1.2**
KOLS				*e*SG	**Sg**	**19 32 52.1**	**+5.9**
BJUU	**Bjuv**	**4.84**	**339**	P	**Pn**	**19 31 28.2**	**+0.4**
BJUU				*i* P	**Pn**	**19 31 28.4**	**+0.5**
BJUU				S	**Sn**	**19 32 20.8**	**-3.8**
BJUU				*i* S	**Sn**	**19 32 21.9**	**-2.7**
BJUU	**Bjuv**	**4.84**	**339**	P	**Pn**	**19 31 28.2**	**+0.4**
BJUU				S	**Sn**	**19 32 20.8**	**-3.8**
TIH	**Tihany**	**4.85**	**166**	*e*P	**Pb**	**19 31 35.9**	**-3.7**
KBA	**Koelnbreinsper**	**4.90**	**203**	*i* Pn	**Pn**	**19 31 29.6**	**+0.7**
	comp=Z,6.4nm,0.5s,SNR=14						
KBA				Sg	**Sg**	**19 32 46.2**	**-5.0**
	comp=Z,30nm,0.5s						
SOKA	**Soboth**	**5.00**	**189**	*i* Pn	**Pn**	**19 31 32.3**	**+2.2**
	comp=Z,1.7nm,0.4s						
SOKA				*e*Sg	**Sg**	**19 32 52.6**	**-1.6**
	comp=Z,9.3nm,0.5s						
DEL	**Delary**	**5.05**	**345**	*i* P	**Pn**	**19 31 31.6**	**+0.9**
DEL				P	**Pn**	**19 31 31.7**	**+0.9**
DEL				*i* S	**Sn**	**19 32 25.9**	**-3.9**
DEL				IAML		19 32 31.5	
	comp=Z,2.4nm,0.4s						
DEL	**Delary**	**5.05**	**345**	P	**Pn**	**19 31 31.7**	**+0.9**
BEHE	**Becsehely**	**5.16**	**175**	*e*P	**Pn**	**19 31 34.2**	**+1.8**
OBKA	**Obir**	**5.22**	**192**	*i* Pn	**Pn**	**19 31 35.7**	**+2.4**
	comp=Z,1.8nm,0.3s						
OBKA				Sg	**Sg**	**19 32 59.5**	**-2.0**
	comp=Z,36nm,0.8s						
WATA	**Walderalm**	**5.22**	**217**	*i* Pn	**Pn**	**19 31 34.3**	**+1.0**
	comp=Z,8.0nm,0.4s,SNR=8.8						
WATA				*i* Sn	**Sn**	**19 32 34.7**	**+0.4**
	comp=Z,3.1nm,0.2s						
WATA				Sg	**Sg**	**19 33 00.6**	**-1.0**
	comp=Z,10nm,0.3s						
MYKA	**Terra Mystica**	**5.26**	**199**	*e*Sg	**Sg**	**19 33 01.1**	**-1.5**
	comp=Z,16nm,0.6s						
WTTA	**Wattenberg**	**5.26**	**216**	*i* Pn	**Pn**	**19 31 35.3**	**+1.5**
	comp=Z,7.3nm,0.5s,SNR=6.0						
WTTA				Sg	**Sg**	**19 33 01.2**	**-1.6**
	comp=Z,22nm,0.5s						
VXJU	**Vaexsjoe**	**5.37**	**353**	P	**Pn**	**19 31 36.4**	**+1.3**
VXJU	**Vaexsjoe**	**5.37**	**353**	P	**Pn**	**19 31 36.4**	**+1.3**
TRPA	**Tarpa**	**5.39**	**128**	⇑P	**Pn**	**19 31 35.0**	**-0.5**
TRPA	**Tarpa**	**5.39**	**128**	*e*P	**Pn**	**19 31 34.9**	**-0.5**
MOTA	**Moosalm**	**5.40**	**220**	*i* Pn	**Pn**	**19 31 36.1**	**+0.3**
	comp=Z,3.3nm,0.3s,SNR=4.8						
MOTA				Sg	**Sg**	**19 33 04.8**	**-2.4**
	comp=Z,20nm,0.7s						
RETA	**Reutte**	**5.42**	**223**	*i* Pn	**Pn**	**19 31 36.7**	**+0.7**
	comp=Z,2.0nm,0.2s,SNR=7.1						
RETA				*i* Sg	**Sg**	**19 33 03.2**	**-4.9**
	comp=Z,27nm,0.5s						
ABTA	**Abfaltersbach**	**5.43**	**208**	*i* Pn	**Pn**	**19 31 37.8**	**+1.7**
	comp=Z,5.0nm,0.6s,SNR=6.9						
ABTA				Sg	**Sg**	**19 33 05.2**	**-2.9**
	comp=Z,24nm,0.6s						
SQTA	**Sankt Quirin**	**5.46**	**218**	*e*Pn	**Pn**	**19 31 37.9**	**+1.4**
	comp=Z,6.4nm,0.5s						
SQTA				*e*Sg	**Sg**	**19 33 09.7**	**+0.6**
	comp=Z,7.9nm,0.3s						
OSKU	**Oskarshamn**	**5.59**	**360**	P	**Pn**	**19 31 39.8**	**+1.6**
OSKU	**Oskarshamn**	**5.59**	**360**	P	**Pn**	**19 31 39.8**	**+1.6**
KOVH	**Kovagotottos**	**5.67**	**166**	*e*P	**Pn**	**19 31 38.7**	**-0.7**
BYXU	**Byxelkrok**	**5.71**	**5**	P	**Pn**	**19 31 41.7**	**+1.9**
BYXU	**Byxelkrok**	**5.71**	**5**	P	**Pn**	**19 31 41.7**	**+1.9**
FABU	**Falkenberg**	**5.76**	**341**	P	**Pn**	**19 31 41.4**	**+0.8**
FABU				*i* P	**Pn**	**19 31 41.4**	**+0.8**
FABU				*i* S	**Sn**	**19 32 45.5**	**-1.8**
FABU	**Falkenberg**	**5.76**	**341**	P	**Pn**	**19 31 41.4**	**+0.8**
FETA	**Feichten**	**5.81**	**220**	*e*Pn	**Pn**	**19 31 42.8**	**+1.4**
	comp=Z,2.4nm,0.6s,SNR=4.8						
DAVA	**Damuels**	**5.96**	**226**	*i* Pn	**Pn**	**19 31 43.8**	**+0.3**
	comp=Z,2.7nm,0.4s						
DAVA				Sg	**Sg**	**19 33 26.8**	**+1.5**
	comp=Z,31nm,0.7s						
PABE	**Paberze**	**6.06**	**47**	*e*P	**Pn**	**19 31 46.3**	**+1.7**
VSTU	**Vaestervik**	**6.06**	**2**	P	**Pn**	**19 31 45.7**	**+1.0**
VSTU				S	**Sn**	**19 32 51.4**	**-3.2**
VSTU	**Vaestervik**	**6.06**	**2**	P	**Pn**	**19 31 45.7**	**+1.0**
VSTU				S	**Sn**	**19 32 51.4**	**-3.2**
ONAU	**Onsala**	**6.30**	**339**	*i* P	**Pn**	**19 31 49.5**	**+1.5**
ONAU				*e*S	**Sn**	**19 32 57.1**	**-3.4**
BORU	**Boraas**	**6.35**	**343**	*e*P	**Pn**	**19 31 49.1**	**+0.5**
BORU				*e*	**Sn**	**19 32 59.9**	**-1.8**
DAVOX	**Davos/Dischmat**	**6.35**	**223**	Pn	**Pn**	**19 31 48.1**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=82,slow=11,SNR=3.1						
DAVOX				Lg	Lg	19 33 33.7	
	comp=Z,1.1nm,0.3s,baz=305,slow=16,SNR=4.1						
DRGR		**6.45**	**136**	⇑P	**Pn**	**19 31 50.3**	**+0.2**
SIRR	**Siria**	**6.46**	**144**	⇑P	**Pn**	**19 31 49.5**	**-0.6**
CDF	**Champ du Feu**	**6.57**	**244**	*e*Pn	**Pn**	**19 31 48.8**	**-2.9**
CDF	**Champ du Feu**	**6.57**	**244**	*e*P	**Pn**	**19 31 52.7**	**+1.0**
CDF				*e*Sg	**Sg**	**19 33 43.4**	**-1.2**
	comp=Z,11nm,0.5s						
LNKU	**Linkoeping**	**6.64**	**357**	P	**Pn**	**19 31 53.9**	**+1.4**
LNKU	**Linkoeping**	**6.64**	**357**	P	**Pn**	**19 31 53.9**	**+1.4**
VIKU	**Vikbolandet**	**6.91**	**2**	P	**Pn**	**19 31 57.3**	**+1.0**
VIKU	**Vikbolandet**	**6.91**	**2**	P	**Pn**	**19 31 57.3**	**+1.0**
BZS	**Buzias**	**7.00**	**147**	⇑P	**Pn**	**19 31 57.3**	**-0.3**
IIGN	**Ignalina**	**7.07**	**54**	*e*P	**Pn**	**19 31 57.1**	**-1.4**
IIGN				IAmb	IAmb	19 32 33.3	
	comp=Z,10nm,0.9s						
BURAR	**Bucovina Array**	**7.11**	**121**	⇓P	**Pn**	**19 31 59.1**	**-0.1**
ISAL	**Salakas**	**7.13**	**52**	IAmb	IAmb	19 32 15.9	
	comp=Z,6.3nm,0.9s						
HINF	**Hinteralfeld**	**7.13**	**241**	*e*Pn	**Pn**	**19 31 56.7**	**-2.8**
HINF				*e*Sg	**Sg**	**19 34 01.7**	**-1.2**
	comp=Z,9.7nm,0.6s						
NACGM	**Naroch**	**7.17**	**58**	*i* P	**Pn**	**19 32 01.5**	**+1.7**
HAU	**Haudompre**	**7.31**	**244**	*e*Pn	**Pn**	**19 32 00.3**	**-1.5**
HAU	**Haudompre**	**7.31**	**244**	*e*P	**Pn**	**19 32 03.4**	**+1.6**
HAU				*e*Sg	**Sg**	**19 34 08.2**	**-0.2**
	comp=Z,11nm,0.5s						
GIVF	**Givet**	**7.34**	**263**	*e*Sg	**Sg**	**19 34 07.4**	**-2.0**
	comp=Z,1.5nm,0.2s						
PAGF	**Fort de Pagny** baz=69	**7.38**	**250**	*e*Pn	**Pn**	**19 31 59.8**	**-3.0**
PAGF				*e*Sg	**Sg**	**19 34 09.3**	**-1.5**
	comp=Z,6.4nm,0.6s						
MNK	**Minsk**	**7.63**	**63**	*i* P	**Pn**	**19 32 07.8**	**+1.7**
	comp=E,1.0nm,0.8s						
MNK				*i* P	**Pn**	**19 32 07.8**	**+1.7**
	comp=N,8.0nm,0.9s						
MNK				*i* P	**Pn**	**19 32 07.8**	**+1.7**
	comp=Z,5.0nm,0.8s,baz=74						
MNK				*i* PP	**PnPn**	**19 32 15.4**	**+2.0**
MNK				*i* PPP	PPP	19 32 23.0	
MNK				*i* S	**Sn**	**19 33 36.5**	**+3.3**
MNK				*i* SS	**SnSn**	**19 33 49.2**	**+5.0**
MNK				*i* SSS	SSS	19 34 01.6	
MNK				*i* LQ	LQ	19 34 19.2	
MNK				*i* LR	LR	19 34 54.4	
MNK				*i* LRM	MLR	19 35 14.3	
	comp=N,197nm,23.4s						
MNK				*i* LRM	MLR	19 35 17.2	
	comp=E,14nm,17.4s						
MNK				*i* LRM	MLR	19 35 17.2	
	comp=Z,141nm,22.8s						
SAVF	**Savonnieres en**	**7.71**	**251**	*e*Pn	**Pn**	**19 32 05.3**	**-2.0**
BAIF	**Baives**	**7.73**	**263**	*e*P	**Pn**	**19 32 09.2**	**+1.6**
BAIF				*e*Sg	**Sg**	**19 34 18.1**	**-3.9**
	comp=Z,335nm,2.1s						
MEZF	**Maizieres J'vi**	**7.80**	**251**	*e*Pn	**Pn**	**19 32 05.4**	**-3.2**
MEZF	**Maizieres J'vi**	**7.80**	**251**	*e*P	**Pn**	**19 32 11.4**	**+2.8**
MEZF				*e*Sg	**Sg**	**19 34 32.0**	**+7.7**
SFTF	**Sexfontaines**	**7.95**	**249**	*e*Pn	**Pn**	**19 32 08.0**	**-2.7**
SFTF				*e*Sg	**Sg**	**19 34 30.2**	**+1.1**
	comp=Z,69nm,1.1s						
HOMB	**Homborsund**	**7.99**	**330**	*i* P	Pn	19 32 19.4	+8.3
HOMB				IAML		19 33 39.4	
	comp=Z,1.5nm,0.4s						
AKASG	**Malin Array Be**	**8.26**	**91**	Pn	**Pn**	**19 32 14.1**	**-0.8**
	comp=Z,3.1nm,0.3s,baz=279,slow=12,SNR=13						
AKASG				Sn	**Sn**	**19 33 43.5**	**-5.3**
	comp=Z,1.5nm,0.3s,baz=274,slow=22,SNR=4.4						
AKASG				Lg	Lg	19 34 40.5	
	comp=Z,0.4nm,0.3s,baz=275,slow=27,SNR=1.7						
CABF	**La Chapelle**	**8.29**	**237**	*e*Sg	**Sg**	**19 34 42.0**	**+2.0**
	comp=Z,2.0nm,0.4s						
HFS	**Hagfors**	**8.65**	**352**	Pn	**Pn**	**19 32 20.0**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=168,slow=14,SNR=2.3						
HFS				Sn	**Sn**	**19 33 56.8**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=168,slow=23,SNR=4.6						
HFS				Lg	Lg	19 34 47.5	
	comp=Z,0.4nm,0.3s,baz=177,slow=29,SNR=3.7						
LPG	**La Plagne**	**8.74**	**229**	*e*Pn	**Pn**	**19 32 20.1**	**-1.6**
LPG				*e*Sg	**Sg**	**19 34 51.9**	**-2.5**
	comp=Z,122nm,1.6s						
AAL	**Aland**	**8.85**	**13**	*e*P	**Pn**	**19 32 23.5**	**+0.7**
LOR	**Lormes** baz=70	**9.12**	**246**	*e*Pn	**Pn**	**19 32 23.9**	**-2.8**
LOR				*e*Sg	Sn	19 35 04.6	+55
	comp=Z,2.4nm,0.5s						
MBDF	**Montbardon**	**9.32**	**226**	*e*P	**Pn**	**19 32 32.6**	**+3.1**
SSF	**Saint Saulge**	**9.44**	**246**	*e*Sg	Sn	19 35 13.1	+55
	comp=Z,2.7nm,0.5s						
SMF	**Signal de Mont**	**9.48**	**243**	*e*Sg	Sn	19 35 15.4	+56
	comp=Z,50nm,1.2s						
ORIF	**Oris-en-Rattie**	**9.58**	**230**	*e*P	**Pn**	**19 32 35.1**	**+2.0**
ORIF				*e*Sg		19 35 28.1	
	comp=Z,0.9nm,0.3s						
AVF	**Avril sur Loir**	**9.68**	**245**	*e*Sg	Sn	19 35 21.0	+57
	comp=Z,60nm,1.4s						
SBF	**Sospel**	**9.73**	**221**	*e*P	**Pn**	**19 32 36.1**	**+1.1**
MEF	**Metsahovi**	**9.77**	**25**	*e*P	**Pn**	**19 32 37.4**	**+1.9**
NOA	**NORSAR Array B**	**9.84**	**346**	Pn	**Pn**	**19 32 36.4**	**-0.1**
	comp=Z,0.0nm,0.3s,baz=125,slow=15,SNR=4.3						
NOA				Lg	Lg	19 35 26.7	
	comp=Z,0.0nm,0.3s,baz=268,slow=14,SNR=4.1						
BGF	**Bois d'Agland**	**10.09**	**245**	*e*P	**Pn**	**19 32 43.7**	**+3.7**
BGF				*e*Sg		19 35 34.3	
	comp=Z,5.1nm,0.5s						
FRF	**La Foret Royal**	**10.30**	**222**	*e*Pn	**Pn**	**19 32 41.1**	**-1.7**
LMR	**La Mourre**	**10.54**	**222**	*e*P	**Pn**	**19 32 48.8**	**+2.7**
TCF	**Toulx Ste Croi**	**10.61**	**245**	*e*Sg		19 35 50.3	
	comp=Z,1.4nm,0.4s						
FINES	**FINESS Array B**	**11.25**	**25**	Pn	**Pn**	**19 32 54.9**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=206,slow=11,SNR=15						
FINES				Sn	**Sn**	**19 34 55.2**	**-6.9**
	comp=Z,0.7nm,0.3s,baz=211,slow=20,SNR=6.5						
FINES				Lg	Lg	19 36 12.0	
	comp=Z,0.2nm,0.3s,baz=216,slow=24,SNR=1.7						
CAF	**Calviac**	**11.53**	**240**	*e*P	**Pn**	**19 33 03.0**	**+3.4**
EKA	**Eskdalemuir Ar** baz=105,slow=14,SNR=6.2	**12.09**	**295**	Pn	**Pn**	**19 33 04.6**	**-2.7**
MTLF	**Montolieu**	**12.54**	**234**	*e*P	**Pn**	**19 33 16.3**	**+2.9**
ARCES	**ARCESS Array B** baz=191,slow=12,SNR=11	**18.51**	**10**	Pn	**P**	**19 34 29.8**	**-1.6**
ARU	**Arti**	**25.06**	**62**	P	**P**	**19 35 40.2**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=269,slow=14,SNR=3.1						
AKTO	**Aktyubinsk**	**26.09**	**76**	P	**P**	**19 35 49.6**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=291,slow=10,SNR=4.9						
MKAR	**Makanchi Array**	**42.14**	**69**	P	**P**	**19 38 08.1**

PB10	**IPOC Station P**	**3.34**	**240**	*e*P	**Pn**	**19 34 38.9**	**-0.1**
PB10				*e*S	**Sn**	**19 35 17.8**	**-2.8**
PB10	**IPOC Station P**	**3.34**	**240**		**Pn**	**19 34 39.0**	**-0.1**
PB10	**IPOC Station P**	**3.34**	**240**	P	**Pn**	**19 34 39.3**	**+0.3**
PSGC	**Pisagua**	**3.38**	**311**	*e*P	**Pn**	**19 34 38.7**	**-0.9**
PSGC				*e*S	**Sn**	**19 35 18.8**	**-2.8**
PSGC	**Pisagua**	**3.38**	**311**	P	**Pn**	**19 34 39.7**	**+0.1**
PSGCX	**Pisagua**	**3.38**	**311**		**Pn**	**19 34 38.2**	**-1.3**
PB14	**IPOC Station P**	**3.90**	**224**	Pn	**Pn**	**19 34 45.9**	**-0.4**
PB14	**IPOC Station P**	**3.90**	**224**	P	**Pn**	**19 34 46.8**	**+0.6**
AP01	**Chacalluta**	**4.41**	**321**	Pn	**Pn**	**19 34 52.4**	**-0.1**
BBOE	**La Paz, Chanca**	**5.03**	**354**	P	**Pn**	**19 35 02.0**	**+1.0**
AC02	**Maricunga**	**5.21**	**197**	Pn	**Pn**	**19 35 03.3**	**+0.2**
BBOD	**La Paz, Gloria**	**5.30**	**348**	P	**Pn**	**19 35 05.6**	**+1.2**
LPAZ	**La Paz**	**5.57**	**353**	P	**Pn**	**19 35 09.3**	**+1.4**
	comp=N,4.8nm,0.3s,baz=163,slow=6.6,SNR=73						
LPAZ				S	**Sn**	**19 36 11.5**	**-1.1**
	comp=N,0.6nm,0.3s,baz=298,slow=11,SNR=4.0						
LPAZ	**La Paz**	**5.57**	**353**	P	**Pn**	**19 35 09.1**	**+1.2**
BO02	**Sierra Bellavi**	**13.23**	**192**	P	**P**	**19 36 50.0**	**+0.1**
PLTB	**Pedras Altas**	**15.79**	**132**	P	**P**	**19 37 16.9**	**-1.2**
PLTB				IAmb	IAmb	19 37 42.1	
	comp=Z,10nm,1.2s						
TRQA	**Tornquist**	**16.82**	**165**		**P**	**19 37 28.5**	**-0.9**
PLCA	**Paso Flores**	**19.02**	**187**	P	**P**	**19 37 53.6**	**+0.3**
PLCA				IAmb	IAmb	19 38 07.9	
	comp=Z,13nm,1.5s						
RPN	**Rapa Nui**	**38.38**	**254**	LR	LR	19 52 32.5	
	comp=Z,35nm,21.9s,baz=160,slow=29						
TXAR	**Lajitas Array**	**61.71**	**324**	P	**P**	**19 43 44.6**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=160,slow=8.6,SNR=1.7						
TORD	**Torodi Ar. Bea**	**76.17**	**70**	P	**P**	**19 45 13.8**	**+0.2**
	comp=Z,3.2nm,0.4s,baz=255,slow=5.4,SNR=69						
TORD	**Torodi Ar. Bea**	**76.17**	**70**	IAmb	IAmb	19 45 14.1	
	comp=Z,2.2nm,0.6s						
NVAR	**Mina Array Bea**	**76.62**	**321**	P	**P**	**19 45 17.8**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=142,slow=6.1,SNR=2.9						
ZALV	**Zalesovo Beam**	**141.66**	**26**	PKP	**PKiKP**	**19 52 56.4**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=234,slow=4.8,SNR=4.3						
MKAR	**Makanchi Array**	**145.08**	**37**	PKP	**PKPdf**	**19 53 01.2**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=345,slow=4.3,SNR=6.3						

*IDC **09** 19:45:33.2±1.6, 16°.70S×173°.76W, h199^{km}±27^{km}, mb4.1/4, mb1 4.1/7, mb1mx3.5/42, mbtmp4.5/7, MS3.8/2, Ms1 3.8/2, ms1mx2.9/40, Error ellipse: s-maj=35.2km s-min=25.3km az=144.0*

*NEIC **09** 19:45:34.1±1.1, 16°.73S±0°.08×173°.5W±0°.1, h211^{km}±8^{km}, mb4.4/27, Error ellipse: s-maj=14.8km s-min=10.0km az=115.0*

*NOU **09** 19:46:59.4, 14°.11S×172°.08W, h37^{km}, MLv3.0/5, Samoa Islands*

ISC 09 19:45:32.8±0.7, 16°.80S±0°.06×173°.63W±0°.07, h200^{km}, n49, σ1^{s}12/43, mb4.3/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.38**	**32**	P	**Pn**	**19 46 28.5**	**+1.4**
	34nm,0.3s,baz=191,slow=1.7,SNR=17						
AFI				S	**Sn**	**19 47 09.4**	**-0.3**
	74nm,0.3s,baz=46,slow=21,SNR=16						
AFI	**Afiamalu**	**3.38**	**32**		**Pn**	**19 46 28.5**	**+1.4**
AFI				Sn	**Sn**	**19 47 07.3**	**-2.4**
AFI	**Afiamalu**	**3.38**	**32**	P	**Pn**	**19 46 29.0**	**+1.9**
AFI	**Afiamalu**	**3.38**	**32**	P	**Sn**	**19 47 09.6**	**-0.1**
NIUE	**Niue**	**4.19**	**123**	Pn	**Pn**	**19 46 37.6**	**+0.7**
NIUE				Sn	**Sn**	**19 47 26.4**	**-0.9**
MSVF	**Nonsavu**	**8.00**	**262**	P	**Pn**	**19 47 25.5**	**-0.7**
	baz=109,slow=16,SNR=4.0						
MSVF	**Nonsavu**	**8.00**	**262**	Pn	**Pn**	**19 47 26.0**	**-0.2**
MARNC	**Mare, Loyalty**	**17.94**	**252**	P	**P**	**19 49 26.7**	**-1.3**
SANVU	**Saraoutou**	**18.46**	**271**	P	**P**	**19 49 31.8**	**-2.0**
SANVU				IAmb	IAmb	19 49 50.5	
	comp=Z,37nm,1.1s						
PINNC	**Pines Island,**	**18.72**	**249**	P	**P**	**19 49 36.5**	**0.0**
DZM	**Mont Dzumac**	**19.50**	**251**	P	**P**	**19 49 44.5**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=243,slow=23,SNR=2.0						
DZM	**Mont Dzumac**	**19.50**	**251**	IAmb	IAmb	19 50 11.8	
	comp=Z,9.7nm,1.0s						
OUZ	**Omahuta**	**21.60**	**209**	P	**P**	**19 50 09.2**	**+2.2**
MXZ	**Matakaoa Point**	**21.87**	**197**	P	**P**	**19 50 08.5**	**-1.2**
URZ	**Urewera**	**22.87**	**199**	P	**P**	**19 50 20.4**	**+1.6**
	comp=Z,8.9nm,0.3s,baz=286,slow=2.9,SNR=17						
URZ	**Urewera**	**22.87**	**199**	P	**P**	**19 50 18.8**	**-0.1**
URZ				IAmb	IAmb	19 50 23.7	
	comp=Z,35nm,1.5s						
BKZ	**Black Stump Fm**	**23.89**	**199**	P	**P**	**19 50 29.0**	**+0.7**
BKZ				IAmb	IAmb	19 50 45.5	
	comp=Z,11nm,1.1s						
BFZ	**Birch Farm**	**25.36**	**198**	P	**P**	**19 50 42.2**	**+0.8**
MSWZ	**Moikau Station**	**26.34**	**199**	P	**P**	**19 50 51.2**	**+1.0**
QRZ	**Quartz Range**	**26.77**	**204**	P	**P**	**19 50 54.7**	**+0.7**
NNZ	**Nelson**	**26.79**	**202**	P	**P**	**19 50 55.2**	**+1.0**
THZ	**Tophouse**	**27.44**	**202**	P	**P**	**19 51 01.0**	**+0.9**
KHZ	**Kahutara**	**27.79**	**201**	P	**P**	**19 51 02.2**	**-0.9**
LTZ	**Lake Taylor**	**28.55**	**202**	P	**P**	**19 51 10.3**	**+0.3**
RPZ	**Rata Peaks**	**29.81**	**203**	P	**P**	**19 51 22.4**	**+1.4**
FOZ	**Fox Glacier**	**30.13**	**204**	P	**P**	**19 51 25.0**	**+1.2**
WKZ	**Wanaka**	**31.52**	**204**	P	**P**	**19 51 34.4**	**-1.6**
EIDS	**Eidsvold**	**33.93**	**249**	P	**P**	**19 51 57.8**	**+0.7**
EIDS				IAmb	IAmb	19 52 01.3	
	comp=Z,9.7nm,1.1s						
ARMA	**Armidale**	**34.45**	**240**	P	**P**	**19 52 02.0**	**+0.3**
ARMA				IAmb	IAmb	19 52 18.1	
	comp=Z,34nm,1.4s						
STKA	**Stephens Creek**	**43.16**	**241**	P	**P**	**19 53 12.6**	**-1.3**
	comp=Z,3.0nm,0.6s,baz=86,slow=8.4,SNR=13						
STKA	**Stephens Creek**	**43.16**	**241**	P	**P**	**19 53 14.7**	**+0.8**
BBOO	**Buckleboo**	**47.93**	**241**	P	**P**	**19 53 49.9**	**-1.4**
BBOO				IAmb	IAmb	19 54 08.6	
	comp=Z,13nm,1.2s						
WR0	**Warramunga Arr**	**49.13**	**258**	P	**P**	**19 54 01.0**	**+0.4**
WR0				IAmb	IAmb	19 54 20.2	
	comp=Z,8.6nm,1.4s						
WB2	**Warramunga Arr**	**49.31**	**258**	P	**P**	**19 54 01.5**	**-0.4**
WB2				IAmb	IAmb	19 54 19.8	
	comp=Z,8.4nm,1.3s						
WRA	**Warramunga Arr**	**49.32**	**258**	P	**P**	**19 54 02.0**	**-0.1**
	comp=Z,1.6nm,0.4s,baz=97,slow=7.0,SNR=64						
AS31	**Alice Springs**	**49.48**	**253**	P	**P**	**19 54 03.5**	**+0.3**
AS31				IAmb	IAmb	19 54 04.4	
	comp=Z,6.8nm,0.5s						
ASAR	**Alice Springs**	**49.48**	**253**	P	**P**	**19 54 03.5**	**+0.2**
	comp=Z,21nm,0.6s,baz=87,slow=8.8,SNR=499						
ASAR	**Alice Springs**	**49.48**	**253**	P	**P**	**19 54 03.4**	**+0.1**
GUMO	**Guam**	**50.92**	**304**	LR	LR	20 12 57.7	
	comp=Z,139nm,19.9s,baz=178,slow=32						
FITZ	**Fitzroy Crossi**	**57.72**	**259**	P	**P**	**19 55 04.3**	**+1.2**
FITZ				IAmb	IAmb	19 55 23.0	
	comp=Z,7.6nm,1.3s						
PSA00	**Pilbara Seismi**	**62.60**	**254**	P	**P**	**19 55 37.1**	**+0.9**
DAV	**Davao City (W)**	**64.61**	**286**	LR	LR	20 18 48.8	
	comp=Z,60nm,20.3s,baz=95,slow=31						
NV11	**Mina Array Sit**	**75.61**	**42**	P	**P**	**19 56 55.0**	**-1.0**
H03S2	**Juan Fernandez**	**84.61**	**124**	T	T	21 31 20.3	
	baz=249,slow=75,SNR=9.2						
H03S1	**Juan Fernandez**	**84.63**	**124**	T	T	21 31 23.6	
	baz=249,slow=75,SNR=9.3						
H03S3	**Juan Fernandez**	**84.63**	**124**	T	T	21 31 22.6	
	baz=249,slow=75,SNR=11						
H03N2	**Juan Fernandez**	**84.72**	**123**	T	T	21 31 24.6	
	baz=248						
H03N3	**Juan Fernandez**	**84.72**	**123**	T	T	21 31 26.1	
	baz=248						
H03N1	**Juan Fernandez**	**84.74**	**123**	T	T	21 31 29.6	
	baz=248						

*IDC **09** 19:49:19.6±1.4, 10°.87S×13°.20W, h0^{km}, mb4.2/11, mb1 4.4/11, mb1mx4.0/42, mbtmp4.2/11, MS3.2/2, Ms1 3.1/2, ms1mx2.8/27, Error ellipse: s-maj=57.7km s-min=24.5km az=95.0*

*NEIC **09** 19:49:20.7±1.8, 10°.91S±0°.09×13°.1W±0°.2, h7^{km}±5^{km}, mb4.5/10, Error ellipse: s-maj=25.4km s-min=4.7km az=61.0*

ISC 09 19:49:21.2±0.9, 10°.9S±0°.1×13°.0W±0°.2, h10^{km}, n25, σ1^{s}06/23, mb4.4/13, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N1	**ASCENSION HYDR**	**3.37**	**334**	Pn	**Pn**	**19 50 11.1**	**-2.6**
H10N3	**ASCENSION HYDR**	**3.38**	**334**	Pn	**Pn**	**19 50 12.6**	**-1.2**
H10N2	**ASCENSION HYDR**	**3.39**	**334**	Pn	**Pn**	**19 50 13.0**	**-0.9**
	SNR=7.7						
SHEL	**Horse Pasture**	**8.66**	**126**	Pn	**Pn**	**19 51 26.2**	**-0.6**
KOWA	**Kowa**	**26.76**	**20**	P	**P**	**19 55 02.0**	**+0.7**
	6.2nm,0.7s,baz=205,slow=11,SNR=13						
KOWA				LR	LR	20 04 34.9	
	comp=Z,61nm,21.8s,baz=12,slow=34						
KOWA	**Kowa**	**26.76**	**20**	IAmb	IAmb	19 55 03.1	
	comp=Z,6.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**27.99**	**32**	P	**P**	**19 55 11.7**	**-0.7**
	comp=Z,2.8nm,1.0s,baz=217,slow=9.1,SNR=7.7						
TORD	**Torodi Ar. Bea**	**27.99**	**32**	P	**P**	**19 55 12.6**	**+0.1**
LBTB	**Lobatse**	**39.15**	**116**	P	**P**	**19 56 47.3**	**-2.2**
BOSA	**Boshof**	**39.86**	**122**	LR	LR	20 10 28.5	
	comp=Z,32nm,20.6s,baz=352,slow=32						
BOSA	**Boshof**	**39.86**	**122**	P	**P**	**19 56 55.0**	**-0.4**
BOSA				IAmb	IAmb	19 56 57.9	
	comp=Z,13nm,1.4s						
KEST	**Kesra**	**50.96**	**23**	P	**P**	**19 58 24.1**	**+1.0**
	comp=Z,5.9nm,0.8s,baz=348,slow=3.6,SNR=4.3						
SNAA	**Sanae**	**61.05**	**176**	P	**P**	**19 59 34.9**	**0.0**
	comp=Z,3.0nm,1.1s,baz=330,slow=7.6,SNR=5.3						
SNAA	**Sanae**	**61.05**	**176**	P	**P**	**19 59 35.2**	**+0.3**
SNAA				IAmb	IAmb	19 59 36.6	
	comp=Z,8.1nm,1.3s						
GERES	**GERESS Array B**	**63.98**	**19**	P	**P**	**19 59 54.4**	**-0.4**
	comp=Z,2.0nm,1.1s,baz=188,slow=4.0,SNR=9.0						
MLR	**Muntele Rosu**	**66.18**	**29**	P	**P**	**20 00 10.0**	**+0.8**
	comp=Z,7.3nm,1.2s,baz=308,slow=2.9,SNR=4.9						
MLR	**Muntele Rosu**	**66.18**	**29**	P	**P**	**20 00 09.0**	**-0.2**
BRTR	**Keskin Array B**	**66.39**	**38**	P	**P**	**20 00 11.8**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=207,slow=7.9,SNR=5.6						
AKASG	**Malin Array Be**	**71.49**	**27**	P	**P**	**20 00 42.1**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=226,slow=6.3,SNR=12						
AKBB	**Malin Array Si**	**71.49**	**27**	P	**P**	**20 00 42.0**	**0.0**
SUW	**Suwalki**	**71.56**	**22**	P	**P**	**20 00 41.7**	**-0.6**
NOA	**NORSAR Array B**	**74.22**	**12**	P	**P**	**20 00 59.6**	**+1.6**
	comp=Z,1.0nm,1.2s,baz=237,slow=8.4,SNR=2.5						
KBZ	**Khabaz**	**74.35**	**39**	P	**P**	**20 01 00.1**	**+1.0**
	comp=Z,2.2nm,0.8s,baz=270,slow=5.3,SNR=4.2						
FINES	**FINESS Array B**	**78.37**	**18**	P	**P**	**20 01 21.5**	**0.0**
	comp=Z,4.6nm,1.1s,baz=282,slow=9.5,SNR=4.3						
QSPA	**South Pole Qui**	**79.24**	**180**	P	**P**	**20 01 27.3**	**+0.8**
QSPA				IAmb	IAmb	20 01 36.4	
	comp=Z,5.7nm,1.2s						

*IDC **09** 19:50:47.6±1.5, 33°.04N×138°.59E, h0^{km}, mb3.5/2, mb1 3.6/3, mb1mx3.2/42, mbtmp3.3/3, ML2.2/1, Error ellipse: s-maj=27.1km s-min=20.7km az=139.0*

*JMA **09** 19:50:47.2±0.4, 33°.77N×141°.11E, h35^{km}, M2.9*

ISC 09 19:50:47.0±1.6, 33°.70N±0°.06×141°.2E±0°.1, h40^{km}, n12, σ0^{s}96/17, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.98**	**348**	P	**Pn**	**19 51 03.5**	**-0.2**
BSO3	**Boso 3**	**1.25**	**332**	P	**Pn**	**19 51 07.6**	**-0.2**
JHJ2	**Mitsune**	**1.32**	**244**	P	**Pn**	**19 51 09.1**	**+0.2**
JHJ2				*e*S	**Sn**	**19 51 26.0**	**+0.7**
JHJ	**Hachijo jima 2**	**1.34**	**245**	Pn	**Pn**	**19 51 09.2**	**+0.1**
	53nm,0.3s,baz=157,slow=21,SNR=7.5						
JHJ				Sn	**Sn**	**19 51 25.4**	**-0.4**
	93nm,0.3s,baz=130,slow=22,SNR=7.5						
JHCJ	**Hachijojimakas**	**1.35**	**243**	P	**Pn**	**19 51 09.5**	**+0.2**
JMKN	**Mikurajimanish**	**1.38**	**279**	P	**Pn**	**19 51 09.8**	**+0.1**
BSO4	**Boso 4**	**1.49**	**330**	P	**Pn**	**19 51 11.3**	**+0.2**
KTJ3	**Kamata3**	**2.17**	**305**	P	**Pn**	**19 51 20.4**	**-0.2**
KTJ3				*e*S	**Sn**	**19 51 44.2**	**-2.1**
MJAR	**Matsushiro Arr**	**3.77**	**320**	Pn	**Pn**	**19 51 43.7**	**+1.1**
	0.2nm,0.3s,baz=155,slow=14,SNR=10						
MJAR				Sn	**Sn**	**19 52 24.8**	**-0.8**
	0.2nm,0.3s,baz=130,slow=31,SNR=6.0						
MAT	**Matsushiro**	**3.77**	**320**	P	**Pn**	**19 51 44.2**	**+1.6**
MAT				*e*S	**Sn**	**19 52 27.4**	**+1.7**
WRA	**Warramunga Arr**	**53.74**	**188**	P	**P**	**20 00 04.9**	**-0.3**
	0.4nm,0.3s,baz=2.7,slow=7.6,SNR=14						
ASAR	**Alice Springs**	**57.47**	**188**	P	**P**	**20 00 31.9**	**-0.1**
	0.1nm,0.4s,baz=5.9,slow=7.0,SNR=4.5						

*IDC **09** 20:15:03.0±0.7, 2°.89N×127°.03E, h0^{km}, mb3.9/11, mb1 4.1/13, mb1mx3.9/44, mbtmp4.0/13, ML4.0/2, MS3.3/6, Ms1 3.3/6, ms1mx3.0/50, Error ellipse: s-maj=36.0km s-min=13.4km az=72.0*

*DJA **09** 20:15:07.3±0.7, 3°.N±4°×12°.7E±°, h39^{km}±8^{km}, M4.2/15, mB4.8/8, mb4.5/15, MLv4.3/10, Mw(mB)4.1/8*

*NEIC **09** 20:15:08.6±1.1, 3°.14N±0°.09×127°.4E±0°.1, h46^{km}±4^{km}, mb4.4/21, Error ellipse: s-maj=16.5km s-min=10.2km az=55.0*

ISC 09 20:15:09.1±0.5, 3°.05N±0°.05×127°.37E±0°.07, h49^{km}, n66, σ1^{s}50/63, mb4.1/20, MS3.3/5, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAMI	**Galela, Maluku**	**1.27**	**161**	P	**Pn**	**20 15 28.8**	**-1.8**
GAMI				S	**Sn**	**20 15 49.2**	**+2.6**
SGSI	**Sangihe**	**1.94**	**289**	P	**Pn**	**20 15 38.2**	**-1.5**
SGSI				S	**Sn**	**20 16 03.0**	**0.0**
TNTI	**Ternate**	**2.26**	**180**	P	**Pn**	**20 15 45.0**	**+0.9**
TNTI	**Ternate**	**2.26**	**180**	P	**Pn**	**20 15 45.6**	**+1.5**
MNI	**Manado**	**2.99**	**238**	P	**Pn**	**20 15 55.6**	**+1.5**
KCP	**Kidapawan**	**4.54**	**330**	*e*P	**Pn**	**20 16 15.1**	**-0.3**
KCP				*i* S	**Sn**	**20 17 10.9**	**+3.9**
GTOI	**Gorontalo**	**4.97**	**241**	P	**Pn**	**20 16 23.2**	**+1.9**
	0.1nm383nm34nm,0.6s						
SANI	**Sanana**	**5.25**	**195**	P	**Pn**	**20 16 24.8**	**-0.3**
	0.1nm911nm34nm,1.0s						
SWI	**Sorong**	**5.50**	**135**	P	**Pn**	**20 16 28.8**	**+0.3**
	0.2nm52nm,0.9s						
SIJI	**Sorong**	**5.51**	**135**	Pn	**Pn**	**20 16 28.5**	**-0.1**
	5.5nm,0.3s,baz=328,slow=20,SNR=12						
SIJI				Sn	**Sn**	**20 17 30.2**	**-0.6**
	baz=149,slow=24,SNR=0.7						
SIJI				LR	LR	20 18 54.0	
	comp=Z,203nm,20.5s,baz=202,slow=41						
SIJI	**Sorong**	**5.51**	**135**	P	**Pn**	**20 16 28.1**	**-0.6**
	0.1nm405nm21nm,0.9s						
MRSI	**Marisa**	**6.00**	**245**	P	**Pn**	**20 16 36.6**	**+1.2**
	0.3nm864nm58nm,0.8s						
KRAI	**Karang Ratu**	**6.41**	**171**	P	Pn	20 16 52.2	+11
TOLI2	**Tolitoli**	**6.86**	**254**		**Pn**	**20 16 46.8**	**-0.5**
APSI	**Ampana**	**6.94**	**236**	P	**Pn**	**20 16 52.1**	**+3.8**
	0.4nm1μm111nm,0.6s						
FAKI	**Fak Fak**	**7.68**	**141**	Pn	**Pn**	**20 16 58.7**	**+0.2**
FAKI	**Fak Fak**	**7.68**	**141**	P	**Pn**	**20 16 58.9**	**+0.4**
	0.2nm55nm,1.3s						
MPSI	**Mapaga**	**7.94**	**250**	P	**Pn**	**20 17 04.4**	**+2.4**
	443nm14nm,0.9s						
PCI	**Palu**	**8.49**	**243**	P	**Pn**	**20 17 10.4**	**+0.7**
	7μm362nm,1.0s						
KKSI	**Kolaka, Sulawe**	**9.17**	**219**	P	**Pn**	**20 17 19.6**	**+0.7**
	706nm32nm,0.7s						
PMSI	**Majene**	**10.67**	**232**	P	**Pn**	**20 17 41.0**	**+1.6**
	64nm,0.8s						
BATI	**Baumata**	**13.68**	**196**	Pn	Pn	20 18 15.0	-5.6
	0.7nm,0.3s,baz=351,slow=19,SNR=1.5						
TWSI	**Taliwang, Sumb**	**15.70**	**222**	P	**P**	**20 18 50.3**	**-0.2**
	578nm59nm,1.2s						
MTNI	**Mataram**	**16.11**	**224**	P	**P**	**20 18 56.3**	**+1.3**
	14nm,1.2s						
MTN	**Manton Dam**	**16.23**	**167**	Pn	**Pn**	**20 18 52.4**	**-1.5**
JAGI	**Jajag, Banyuwa**	**17.46**	**229**		**Pn**	**20 19 06.4**	**-2.9**
JAGI				IAmb	IAmb	20 19 13.2	
	comp=Z,36nm,0.9s						
KNRA	**Kununurra**	**18.66**	**176**	P	**P**	**20 19 23.1**	**-0.1**
KNRA				IAmb	IAmb	20 19 40.0	
	comp=Z,33nm,1.2s						
YULB	**Yu-li**	**21.06**	**344**	P	**P**	**20 19 45.7**	**-3.5**
YULB				IAmb	IAmb	20 20 00.9	
	comp=Z,19nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.09**	**185**	P	**P**	**20 19 48.9**	**-0.7**
	comp=Z,5.3nm,0.7s,baz=17,slow=9.2,SNR=18						
FITZ	**Fitzroy Crossi**	**21.09**	**185**	P	**P**	**20 19 49.3**	**-0.2**
TPUB	**Ta-pu**	**21.16**	**343**	P	**P**	**20 19 47.1**	**-3.3**
SSLB	**Suanglung**	**21.53**	**344**	P	**P**	**20 19 51.6**	**-2.7**
SSLB				IAmb	IAmb	20 19 57.0	
	comp=Z,16nm,0.8s						
LEM	**Lembang**	**22.02**	**243**	LR	LR	20 30 15.1	
	comp=Z,30nm,20.2s,baz=340,slow=42						
YHNB	**Yeheng**	**22.26**	**345**	P	**P**	**20 20 02.4**	**+0.3**
YHNB				IAmb	IAmb	20 20 25.6	
	comp=Z,26nm,1.1s						
JOW	**Kunigami**	**23.66**	**2**	LR	LR	20 28 32.7	
	comp=Z,105nm,21.7s,baz=97,slow=34						

WRA	**Warramunga Arr**	**23.85**	**164**	P	**P**	**20 20 17.8**	**-0.4**
	comp=Z,1.8nm,0.4s,baz=343,slow=11,SNR=31						
WRA	**Warramunga Arr**	**23.85**	**164**	P	**P**	**20 20 17.8**	**-0.4**
WB2	**Warramunga Arr**	**23.86**	**164**	P	**P**	**20 20 17.6**	**-0.6**
WB2				IAmb	IAmb	20 20 34.8	
	comp=Z,10nm,0.9s						
WR0	**Warramunga Arr**	**23.93**	**163**	P	**P**	**20 20 18.5**	**-0.3**
WR0				IAmb	IAmb	20 20 35.3	
	comp=Z,6.3nm,0.8s						
PSA00	**Pilbara Seismi**	**25.56**	**196**	P	**P**	**20 20 33.8**	**+0.2**
PSA00				IAmb	IAmb	20 20 37.7	
	comp=Z,14nm,0.9s						
PSA00	**Pilbara Seismi**	**25.56**	**196**	P	**P**	**20 20 34.8**	**+1.2**
PSA00				IAmb	IAmb	20 20 37.2	
	comp=Z,6.5nm,0.9s						
AS31	**Alice Springs**	**27.31**	**167**	P	**P**	**20 20 49.6**	**+0.1**
ASAR	**Alice Springs**	**27.31**	**167**	P	**P**	**20 20 49.1**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=350,slow=7.1,SNR=14						
ASAR				PcP	**PcP**	**20 24 08.9**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=11,slow=2.4,SNR=4.2						
ASAR	**Alice Springs**	**27.31**	**167**	P	**P**	**20 20 49.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**31.77**	**301**	P	**P**	**20 21 27.2**	**-1.8**
	comp=Z,0.8nm,0.7s,baz=120,slow=7.0,SNR=6.5						
CMAR				LR	LR	20 35 12.7	
	comp=Z,27nm,18.0s,baz=173,slow=38						
CMMT	**Chiang Mai**	**31.91**	**301**	P	**P**	**20 21 29.8**	**-0.5**
	comp=Z,2.4nm,1.6s						
CHTO	**Chiang Mai**	**31.92**	**301**	P	**P**	**20 21 30.5**	**+0.1**
	comp=Z,1.4nm,1.6s						
FORT	**Forrest**	**33.65**	**179**	P	**P**	**20 21 44.9**	**-0.4**
MORW	**Morawa**	**33.74**	**198**	P	**P**	**20 21 45.1**	**-0.9**
KSRS	**Korea Array**	**34.24**	**1**	P	**P**	**20 21 53.1**	**+2.8**
	comp=Z,0.9nm,0.6s,baz=162,slow=11,SNR=2.5						
BBOO	**Buckleboo**	**36.60**	**168**	P	**P**	**20 22 10.2**	**-0.5**
NWAO	**Narrogin (SRO)**	**37.05**	**194**	P	**P**	**20 22 14.5**	**0.0**
STKA	**Stephens Creek**	**37.27**	**160**	P	**P**	**20 22 15.0**	**-1.4**
	comp=Z,2.4nm,0.6s,baz=338,slow=8.9,SNR=9.3						
STKA				LR	LR	20 39 33.0	
	comp=Z,76nm,18.1s,baz=25,slow=40						
STKA	**Stephens Creek**	**37.27**	**160**	P	**P**	**20 22 15.4**	**-1.0**
H11S3	**WAKE ISLAND Hy**	**41.42**	**65**	T	T	21 06 56.3	
	baz=253,slow=75,SNR=8.7						
H11S2	**WAKE ISLAND Hy**	**41.44**	**65**	T	T	21 06 59.7	
	baz=253,slow=75,SNR=8.9						
H11S1	**WAKE ISLAND Hy**	**41.44**	**65**	T	T	21 06 58.5	
	baz=253,slow=75,SNR=7.6						
SONM	**Songino Array**	**48.14**	**341**	P	**P**	**20 23 45.2**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=162,slow=9.6,SNR=6.7						
SONM				LR	LR	20 46 26.8	
	comp=Z,48nm,18.8s,baz=144,slow=39						
SONM	**Songino Array**	**48.14**	**341**	IAmb	IAmb	20 24 00.4	
	comp=Z,2.0nm,0.9s						
PETK	**Petropavlovsk-**	**55.82**	**22**	P	**P**	**20 24 43.8**	**+2.4**
	comp=Z,2.0nm,0.9s,baz=216,slow=4.8,SNR=3.8						
MK31	**Makanchi Array**	**58.47**	**325**	P	**P**	**20 24 59.3**	**-0.9**
MK31				IAmb	IAmb	20 25 16.6	
	comp=Z,1.9nm,0.9s						
MKAR	**Makanchi Array**	**58.47**	**325**	P	**P**	**20 25 00.2**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=116,slow=7.9,SNR=14						
MKAR	**Makanchi Array**	**58.47**	**325**	P	**P**	**20 24 58.8**	**-1.5**
ZALV	**Zalesovo Beam**	**61.48**	**333**	P	**P**	**20 25 20.7**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=117,sl

mb1 4.0/4, mb1mx3.7/34, mbtmp3.8/4, ML3.4/1, Error ellipse: s-maj=49.5km s-min=37.4km az=61.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.83**	**211**	Pn	Pn	20 50 57.3	-1.3
	0.8nm,0.3s,baz=304,slow=23,SNR=1.8						
URZ				Sn	Sn	20 52 11.2	-5.8
	0.4nm,0.3s,baz=130,slow=23,SNR=2.2						
ASAR	**Alice Springs**	**42.70**	**269**	P	P	20 57 16.0	-0.1
	0.7nm,0.6s,baz=106,slow=7.4,SNR=9.8						
WRA	**Warramunga Arr**	**43.88**	**275**	P	P	20 57 25.8	+0.1
	0.6nm,0.3s,baz=114,slow=8.0,SNR=16						
QSPA	**South Pole Qui**	**57.63**	**180**	P	P	20 59 09.1	+0.1
	2.2nm,1.1s,baz=12,slow=2.2,SNR=2.9						
FINES	**FINESS Array B**	**146.97**	**339**	PKPbc	PKPdf	21 08 60.0	+1.0
	1.2nm,0.7s,baz=20,slow=4.4,SNR=5.2						

*IDC **09** 20:53:34.7±4.2,31°.21S×177°.65W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/35, mbtmp3.8/3, MS3.3/2, Ms1 3.2/2, ms1mx2.8/28, Error ellipse: s-maj=94.2km s-min=35.2km az=122.0*

ISC 09 20:53:36.1±3.0, 31°.0S±0°.1×177°.4W±0°.4, h27km, n7, σ1§41/7, mb3.9/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.80**	**346**	Pn	**Pb**	**20 54 08.8**	**+0.4**
	120nm,0.3s,baz=89,slow=20,SNR=1.6						
RAO				Sn	**Sn**	**20 54 25.6**	**-1.6**
	231nm,0.3s,baz=92,slow=22,SNR=4.2						
RAO				LR	LR	20 54 56.9	
	comp=Z,330nm,21.3s,baz=60,slow=42						
URZ	**Urewera**	**8.52**	**210**	Sn	**Sn**	**20 57 11.7**	**-1.3**
	0.7nm,0.3s,baz=130,slow=22,SNR=2.4						
DZM	**Mont Dzumac**	**16.94**	**298**	LR	LR	21 03 01.4	
	comp=Z,141nm,19.1s,baz=228,slow=34						
STKA	**Stephens Creek**	**34.83**	**258**	P	**P**	**21 00 24.8**	**-0.1**
	2.3nm,0.9s,baz=120,slow=8.1,SNR=2.8						
STKA				LR	LR	21 12 29.4	
	comp=Z,33nm,19.9s,baz=27,slow=33						
ASAR	**Alice Springs**	**43.58**	**267**	P	**P**	**21 01 39.5**	**+1.4**
	0.7nm,0.8s,baz=108,slow=7.1,SNR=7.8						
WRA	**Warramunga Arr**	**44.62**	**272**	P	**P**	**21 01 47.4**	**+1.0**
	1.0nm,0.6s,baz=115,slow=7.7,SNR=8.5						
FINES	**FINESS Array B**	**145.88**	**340**	PKPbc	**PKiKP**	**21 13 15.1**	**-0.6**
	3.8nm,0.7s,baz=43,slow=4.7,SNR=1.2						

IDC 09 20:56:29.5±2.4, 31°.26S×177°.44W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/36, mbtmp3.6/3, Error ellipse: s-maj=68.8km s-min=44.2km az=45.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.30**	**211**	Sn	Sn	21 00 06.6	+1.0
	0.4nm,0.3s,baz=106,slow=21,SNR=1.9						
ASAR	**Alice Springs**	**43.55**	**268**	P	P	21 04 34.5	-0.8
	0.4nm,0.6s,baz=104,slow=7.7,SNR=2.2						
WRA	**Warramunga Arr**	**44.62**	**273**	P	P	21 04 44.5	+0.5
	0.3nm,0.3s,baz=110,slow=7.9,SNR=2.6						
QSPA	**South Pole Qui**	**58.85**	**180**	P	P	21 06 29.3	-0.5
	0.9nm,1.0s,baz=82,slow=7.1,SNR=1.5						
FINES	**FINESS Array B**	**146.12**	**340**	PKPbc	PKPbc	21 16 10.5	-0.3
	3.9nm,0.9s,baz=25,slow=4.6,SNR=2.2						

*ANF **09** 21:01:06.2±0.2, 43°.77N×105°.35W, h0km, ML3.8/12, Error ellipse: s-maj=3.5km s-min=2.6km az=108.0*
*IDC **09** 21:01:07.1±0.9, 43°.96N×105°.67W, h0km, mb1 3.8/8, mb1mx3.6/75, mbtmp3.5/8, ML3.1/7, Error ellipse: s-maj=14.8km s-min=8.1km az=149.0*
*NEIC **09** 21:01:07.3±1.1, 43°.75N±0°.03×105°.32W±0°.08, h0km±2km, ML3.4/50, Error ellipse: s-maj=10.4km s-min=4.6km az=97.0*

ISC 09 21:01:06.9±0.8, 43°.77N±0°.03×105°.33W±0°.05, h0km, n77, σ1§02/83, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.00**	**69**	Pg	**Pg**	**21 01 25.4**	**-0.5**
RSSD	**Black Hills**	**1.00**	**69**	P	**Pg**	**21 01 25.5**	**-0.5**
	baz=250						
K22A	**Casper**	**1.42**	**218**		**Pn**	**21 01 32.2**	**-2.0**
K22A				IAML		21 01 57.2	
	comp=N,760nm,0.3s						
K22A				IAML		21 01 59.6	
	comp=E,440nm,0.3s						
K22A	**Casper**	**1.42**	**218**	P	**Pn**	**21 01 32.4**	**-1.7**
	baz=37,SNR=628						
K22A				S	**Sg**	**21 01 52.3**	**-0.3**
	baz=37						
PHWY	**Pilot Hill**	**2.47**	**182**		**Pn**	**21 01 48.3**	**-0.4**
RWWY	**Rawlins**	**2.50**	**214**		**Pn**	**21 01 49.5**	**+0.5**
RWWY				IAML		21 02 26.2	
	comp=E,266nm,0.6s						
N23A	**Red Feather La**	**2.91**	**189**	P	**Pn**	**21 01 54.6**	**-0.1**
	baz=8.5,SNR=102						
N23A				Sb	**Sb**	**21 02 36.9**	**+0.8**
	baz=8.5						
LAO	**LASA Array**	**2.98**	**348**		**Pn**	**21 01 55.4**	**-0.1**
LAO	**LASA Array**	**2.98**	**348**	P	**Pn**	**21 01 55.0**	**-0.5**
	baz=168						
LAO				Sb	**Sb**	**21 02 38.6**	**+0.6**
	baz=168						
RLMT	**Red Lodge**	**3.13**	**297**		**Pn**	**21 01 57.7**	**+0.1**
RLMT				IAML		21 02 44.2	
	comp=E,101nm,0.7s						
RLMT				IAML		21 02 50.2	
	comp=E,116nm,0.7s						
RLMT	**Red Lodge**	**3.13**	**297**	P	**Pn**	**21 01 57.4**	**-0.2**
	baz=114,SNR=25						
RLMT				Sb	**Sb**	**21 02 43.5**	**+1.2**
	baz=114						
BW06	**Boulder Array**	**3.25**	**253**		**Pn**	**21 01 59.6**	**+0.3**
BW06				IAML		21 02 47.5	
	comp=E,80nm,0.3s						
BW06				IAML		21 02 50.7	
	comp=E,87nm,0.4s						
BW06	**Boulder Array**	**3.25**	**253**	Sb	**Sb**	**21 02 44.8**	**-1.0**
	baz=70						
PD31	**Pinedale Array**	**3.25**	**253**		**Pn**	**21 01 59.4**	**+0.1**
PDAR	**Pinedale Array**	**3.25**	**253**	Pn	**Pn**	**21 01 59.1**	**-0.2**
	comp=E,5.9nm,0.3s,baz=70,slow=16,SNR=79						
PDAR				Pg	**Pb**	**21 02 05.6**	**0.0**
	comp=E,24nm,0.3s,baz=69,slow=20,SNR=50						
PDAR				Lg	Lg	21 02 42.8	
	comp=E,16nm,0.3s,baz=74,slow=34,SNR=6.1						
PDAR	**Pinedale Array**	**3.25**	**253**	Pn	**Pn**	**21 01 59.4**	**+0.1**
GCMT	**Greycliff**	**3.69**	**305**		**Pn**	**21 02 05.8**	**+0.5**
OGNE	**Ogallala**	**3.73**	**138**	Pn	**Pn**	**21 02 05.8**	**0.0**
OGNE	**Ogallala**	**3.73**	**138**	P	**Pn**	**21 02 05.0**	**-0.8**
	baz=320,SNR=10						
LOHW	**Long Hollow**	**3.83**	**269**		**Pn**	**21 02 07.8**	**+0.5**
H17A	**Grant Village**	**3.83**	**281**		**Pn**	**21 02 07.6**	**+0.3**
H17A				IAML		21 03 12.8	
	comp=N,66nm,0.8s						
H17A				IAML		21 03 13.8	
	comp=E,54nm,0.6s						
FLWY	**Flagg Ranch**	**3.89**	**276**	Pn	**Pn**	**21 02 07.9**	**-0.2**
FLWY				IAML		21 03 17.1	
	comp=E,71nm,1.6s						
FLWY				IAML		21 03 22.1	
	comp=E,64nm,1.0s						
MOOW	**Moose Ponds**	**3.92**	**272**	Pn	**Pn**	**21 02 09.7**	**+1.1**
ISCO	**Idaho Springs**	**3.98**	**183**	Pn	**Pn**	**21 02 09.7**	**+0.3**
ISCO				IAML		21 03 16.3	
	comp=E,38nm,0.6s						
ISCO	**Idaho Springs**	**3.98**	**183**	P	**Pn**	**21 02 08.9**	**-0.5**
	baz=2.8						
ISCO				Sb	**Sb**	**21 03 08.9**	**+2.1**
	baz=2.8						
TPAW	**Teton Pass**	**4.09**	**268**	Pn	**Pn**	**21 02 10.9**	**-0.1**
TPAW				IAML		21 03 26.2	
	comp=E,77nm,0.9s						
TPAW				IAML		21 03 32.4	
	comp=E,35nm,1.0s						
YHH	**Holmes Hill**	**4.09**	**286**	Pn	**Pn**	**21 02 10.9**	**0.0**
YHH				IAML		21 03 23.2	
	comp=N,46nm,0.9s						
FXWY	**Fox Creek**	**4.13**	**270**		**Pn**	**21 02 12.4**	**+0.9**
O20A	**White River Ci**	**4.24**	**212**		**Pn**	**21 02 13.4**	**+0.6**
O20A				IAML		21 03 26.0	
	comp=N,69nm,0.7s						
O20A				IAML		21 03 38.4	
	comp=E,65nm,0.8s						
O20A	**White River Ci**	**4.24**	**212**	P	**Pn**	**21 02 12.9**	**0.0**
	baz=30						
O20A				Sb	**Sb**	**21 03 17.1**	**+3.0**
	baz=30						
E28A	**Huff**	**4.31**	**48**		**Pn**	**21 02 14.4**	**+0.7**
AHID	**Auburn Hatcher**	**4.33**	**259**		**Pn**	**21 02 14.2**	**-0.1**
AHID				IAML		21 03 30.8	
	comp=E,41nm,0.7s						
RDMU	**Red Mountain**	**4.49**	**226**		**Pn**	**21 02 16.5**	**+0.1**
RDMU				IAML		21 03 33.8	
	comp=N,50nm,1.1s						
RDMU				IAML		21 03 35.0	
	comp=E,47nm,1.0s						
QLMT	**Earthquake Lak**	**4.51**	**286**		**Pn**	**21 02 17.9**	**+1.4**
DGMT	**Dagmar**	**4.76**	**9**	Pn	**Pn**	**21 02 21.2**	**+1.2**
DGMT	**Dagmar**	**4.76**	**9**	P	**Pn**	**21 02 19.8**	**-0.1**
	baz=190						
DGMT				Sb	**Sb**	**21 03 32.9**	**+3.8**
	baz=190						
BOZ	**Bozeman (W)**	**4.85**	**294**		**Pn**	**21 02 21.7**	**+0.4**
BOZ				IAML		21 03 44.1	
	comp=E,28nm,0.8s						
BOZ				IAML		21 03 53.4	
	comp=E,33nm,0.8s						
BOZ	**Bozeman (W)**	**4.85**	**294**	P	**Pn**	**21 02 20.2**	**-1.0**
	baz=110						
HWUT	**Hardware Ranch**	**5.08**	**247**	Pn	**Pn**	**21 02 24.5**	**+0.1**
TCUT	**Toone Canyon**	**5.22**	**242**		**Pn**	**21 02 25.9**	**-0.5**
EGMT	**Eagleton**	**5.26**	**326**		**Pn**	**21 02 26.4**	**-0.4**
EGMT	**Eagleton**	**5.26**	**326**	P	**Pn**	**21 02 25.9**	**-0.9**
	baz=143						
HRY	**Holter Researc**	**5.45**	**305**		**Pn**	**21 02 29.8**	**+0.3**
JLU	**Jordanelle**	**5.54**	**237**		**Pn**	**21 02 31.2**	**+0.3**
CTU	**Camp Tracy**	**5.67**	**239**	Pn	**Pn**	**21 02 33.0**	**+0.4**
BGNE	**Belgrade**	**5.80**	**112**	Pn	**Pn**	**21 02 34.5**	**+0.3**
HVU	**Hansel Valley**	**5.83**	**253**	Pn	**Pn**	**21 02 35.2**	**+0.5**
PV22	**Blue Mesa, Par**	**5.85**	**208**		**Pn**	**21 02 35.6**	**+0.6**
P17A	**Butcher Ranch,**	**5.91**	**225**		**Pn**	**21 02 36.8**	**+1.0**
PV15	**Paradox Valley**	**5.92**	**205**		**Pn**	**21 02 36.2**	**+0.1**
PV04	**Paradox Valley**	**6.01**	**208**		**Pn**	**21 02 37.6**	**+0.4**
SDCO	**Great Sand Dun**	**6.02**	**181**	Pn	**Pn**	**21 02 37.6**	**+0.1**
PV10	**Paradox Valley**	**6.08**	**209**	Pn	**Pn**	**21 02 39.2**	**+1.0**
SRU	**San Rafael Swe**	**6.08**	**222**		**Pn**	**21 02 37.7**	**-0.4**
PV19	**Morning Glory**	**6.12**	**208**		**Pn**	**21 02 38.5**	**-0.3**
PV17	**East Wray Mesa**	**6.13**	**208**		**Pn**	**21 02 39.2**	**+0.2**
PV18	**Skein Mesa, Pa**	**6.15**	**207**	Pn	**Pn**	**21 02 38.7**	**-0.5**
ECSD	**EROS Data Cent**	**6.31**	**87**		**Pn**	**21 02 40.8**	**-0.4**
ECSD	**EROS Data Cent**	**6.31**	**87**	P	**Pn**	**21 02 40.6**	**-0.5**
	baz=273						
HLID	**Hailey**	**6.59**	**271**		**Pn**	**21 02 46.4**	**+1.1**
DUG	**Dugway, Tooele**	**6.62**	**240**	Pn	**Pn**	**21 02 45.3**	**-0.3**
DUG	**Dugway, Tooele**	**6.62**	**240**	P	**Pn**	**21 02 44.9**	**-0.7**
	baz=55						
T25A	**Trinidad**	**6.66**	**174**	Pn	**Pn**	**21 02 45.4**	**-0.8**
MSO	**Missoula**	**6.80**	**300**		**Pn**	**21 02 47.8**	**-0.1**
MSO	**Missoula**	**6.80**	**300**	P	**Pn**	**21 02 46.5**	**-1.5**
	baz=114						
MSU	**Marysvale**	**7.37**	**227**		**Pn**	**21 02 55.9**	**0.0**
JTMT	**Jette**	**7.42**	**306**	Pn	**Pn**	**21 02 56.7**	**+0.3**
WALA	**Waterton Lakes**	**7.94**	**315**	Pn	**Pn**	**21 03 02.7**	**-1.0**
ELK	**Elko**	**7.95**	**251**	Pn	**Pn**	**21 03 04.5**	**+0.6**
	comp=E,0.7nm,0.3s,baz=59,slow=9.8,SNR=5.6						
ELK				Lg	Lg	21 05 12.3	
	comp=E,0.1nm,0.3s,baz=210,slow=12,SNR=1.4						
ELK	**Elko**	**7.95**	**251**		**Pn**	**21 03 04.4**	**+0.5**
ANMO	**Albuquerque**	**8.86**	**186**	Pn	**Pn**	**21 03 18.9**	**+2.6**
	comp=E,0.1nm,0.3s,baz=336,slow=20,SNR=1.9						
I10CA	**LAC DU BONNET**	**9.04**	**41**	*i*		21 55 40.0	
	baz=223,slow=325,SNR=1.8						
ULM	**Lac du Bonnet**	**9.14**	**42**	Pn	**Pn**	**21 03 18.2**	**-1.7**
	comp=E,1.5nm,0.3s,baz=238,slow=12,SNR=9.7						
ULM				Lg	Lg	21 05 49.6	
	comp=E,0.7nm,0.3s,baz=167,slow=14,SNR=2.4						
NEW	**Newport**	**9.35**	**303**	Pn	Pn	21 03 17.3	-5.6
	comp=E,0.1nm,0.3s,baz=81,slow=19,SNR=1.1						
NEW				Lg	Lg	21 05 49.7	
	comp=E,0.1nm,0.3s,baz=120,slow=14,SNR=2.0						
NVAR	**Mina Array Bea**	**11.15**	**246**	Pn	**Pn**	**21 03 48.8**	**+1.1**
	comp=E,0.2nm,0.3s,baz=81,slow=11,SNR=3.8						
YBH	**Yreka Blue Hor**	**12.94**	**267**	Pn	**Pn**	**21 04 15.1**	**+3.0**
	comp=E,0.2nm,0.3s,baz=1.0,slow=8.1,SNR=4.6						
TXAR	**Lajitas Array**	**14.47**	**174**	Pn	**P**	**21 04 38.8**	**-1.2**
	comp=E,0.1nm,0.3s,baz=1.0,slow=8.1,SNR=4.6						
TXAR				Pg		21 05 35.7	
	comp=E,0.1nm,0.3s,baz=357,slow=17,SNR=5.6						
TXAR				Lg	Lg	21 08 41.0	
	comp=E,0.0nm,0.3s,baz=349,slow=28,SNR=4.7						

*IDC **09** 21:03:13.9±3.0, 14°.65N×93°.77W, h0km, mb3.9/5, mb1 4.2/7, mb1mx3.9/54, mbtmp3.9/7, ML3.8/2, MS2.8/2, Ms1 2.8/2, ms1mx2.5/41, Error ellipse: s-maj=92.8km s-min=35.6km az=36.0*
*MEX **09** 21:03:16.4±0.7, 14°.47N×94°.01W, h10km, MD4.3*
*NEIC **09** 21:03:17.2±2.3, 14°.63N±0°.04×93°.93W±0°.04, h18km±4km, mb3.9/6, Md4.3/27(MEX), Error ellipse: s-maj=6.8km s-min=5.1km az=154.0*

ISC 09 21:03:16.0±4.1, 14°.57N±0°.06×93°.98W±0°.04, h17km±28km, n44, σ1§71/58, mb4.0/6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.35**	**33**	*e*P	**Pn**	**21 03 38.9**	**-1.1**
PCIG				*e*S	**Sn**	**21 03 57.2**	**-0.3**
PCIG		**1.35**	**33**		**Pn**	**21 03 38.9**	**-1.1**
PCIG					**Sn**	**21 03 57.2**	**-0.3**
THIG		**1.69**	**78**	*e*P	**Pn**	**21 03 44.2**	**-0.5**
THIG				*e*S	**Sn**	**21 04 04.0**	**-2.0**
THIG		**1.69**	**78**		**Pn**	**21 03 44.2**	**-0.5**
THIG					**Sn**	**21 04 04.0**	**-2.0**
RTAL	**Retalhuleu**	**2.21**	**91**	Pn	**Pn**	**21 03 51.0**	**-0.9**
TGIG		**2.35**	**21**	*e*P	**Pn**	**21 03 54.1**	**+0.2**
TGIG				*e*S	**Sn**	**21 04 22.0**	**-0.3**
TGIG		**2.35**	**21**		**Pn**	**21 03 54.1**	**+0.2**
TGIG					**Sn**	**21 04 22.0**	**-0.3**
CCIG	**Comitan**	**2.46**	**46**	*e*P	**Pn**	**21 03 57.4**	**+1.9**
CCIG				*i* S	**Sb**	**21 04 28.1**	**-2.0**
CCIG	**Comitan**	**2.46**	**46**		**Pn**	**21 03 57.4**	**+1.9**
CCIG					**Sb**	**21 04 28.1**	**-2.0**
HUEH	**Huehuetenango**	**2.51**	**72**	Pn	**Pn**	**21 03 57.4**	**+1.2**
CMIG	**Matias Romero**	**2.66**	**341**	Pn	**Pn**	**21 03 56.6**	**-1.3**
	15nm,0.3s,baz=165,slow=11,SNR=100						
CMIG				Sn	**Sn**	**21 04 24.4**	**-5.3**
	19nm,0.3s,baz=127,slow=11,SNR=9.7						
CMIG				LR	LR	21 04 46.2	
	comp=Z,118nm,20.7s,baz=310,slow=35						
CMIG	**Matias Romero**	**2.66**	**341**	*i* P	**Pn**	**21 03 57.0**	**-1.0**
CMIG				*i* S	**Sn**	**21 04 28.8**	**-1.0**
CMIG	**Matias Romero**	**2.66**	**341**		**Pn**	**21 03 57.0**	**-1.0**
CMIG					**Sn**	**21 04 28.8**	**-1.0**
YOIG	**Yosondua**	**4.12**	**304**	*e*P	**Pn**	**21 04 18.4**	**0.0**
YOIG				*e*S	**Sn**	**21 05 03.0**	**-3.2**
PNIG	**Pinotepa**	**4.39**	**295**	*e*P	**Pn**	**21 04 18.4**	**-3.5**
PNIG				*e*S	**Sn**	**21 05 13.0**	**+0.4**
PNIG	**Pinotepa**	**4.39**	**295**		**Pn**	**21 04 18.4**	**-3.5**
PNIG					**Sn**	**21 05 13.0**	**+0.4**
MTO3	**Montecristo**	**4.48**	**92**	Pn	**Pn**	**21 04 25.6**	**+2.4**
ESQI	**Esquipulas**	**4.49**	**90**	Pn	**Pn**	**21 04 24.5**	**+1.2**
TOIG	**Toxpalan**	**4.59**	**320**	*e*P	**Pn**	**21 04 23.9**	**-0.8**
TOIG				*e*S	**Sn**	**21 05 18.8**	**+1.1**
PETF	**Flores**	**4.60**	**59**	Pn	**Pn**	**21 04 25.9**	**+1.1**
HLIG	**Huajuapan de L**	**4.90**	**312**	*e*P	**Pn**	**21 04 32.1**	**+3.1**
HLIG				*e*S	**Sn**	**21 05 22.6**	**-2.8**
TLIG	**Tlapa**	**5.32**	**305**	*e*P	**Pn**	**21 04 31.0**	**-3.8**
TLIG	**Tlapa**	**5.32**	**305**		**Pn**	**21 04 35.2**	**+0.5**
MASN	**Masaya**	**8.04**	**108**	Pn	**Pn**	**21 05 12.3**	**+0.2**
ORTG	**Ortega, Santa**	**9.31**	**116**	Pn	**Pn**	**21 05 30.9**	**+1.3**
RIMA	**Rio Macho**	**10.98**	**115**	Pn	**Pn**	**21 05 53.7**	**+1.2**
SOR	**Soroa**	**13.22**	**50**	Pn	**Pn**	**21 06 22.6**	**-0.4**
435B	**Jarrell**	**16.48**	**349**		**P**	**21 07 08.8**	**-0.2**
JCT	**Junction City**	**16.72**	**342**		**P**	**21 07 11.5**	**-0.2**
JCT				IAmb	IAmb	21 07 37.0	
	comp=Z,5.8nm,1.0s						
TX32	**Lajitas Array**	**17.21**	**330**	Pn	**Pn**	**21 07 15.9**	**+0.3**
TXAR	**Lajitas Array**	**17.21**	**330**	Pn	**P**	**21 07 19.5**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=147,slow=15,SNR=5.1						
TXAR	**Lajitas Array**	**17.21**	**330**		**Pn**	**21 07 15.8**	**+0.1**
WHTX	**Lake Whitney,**	**17.63**	**350**		**P**	**21 07 21.6**	**-0.1**
WHTX				IAmb	IAmb	21 07 33.4	
	comp=Z,5.7nm,0.8s						
LPIG	**La Paz**	**18.08**	**304**	LR	LR	21 13 09.1	
	comp=Z,43nm,18.6s,baz=208,slow=33						
ABTX	**Abilene, Hawle**	**18.70**	**345**	P	**P**	**21 07 33.5**	**-0.1**
ABTX				IAmb	IAmb	21 07 35.9	
	comp=Z,7.5nm,0.8s						
121A	**Cookes Peak, D**	**21.87**	**327**	P	**P**	**21 08 10.2**	**+2.1**
121A				IAmb	IAmb	21 08 12.1	
	comp=Z,11nm,0.9s						
NVAR	**Mina Array Bea**	**32.04**	**322**	P	**P**	**21 09 43.7**	**+1.7**
	comp=Z,1.7nm,0.9s,baz=139,slow=9.1,SNR=8.2						
NVAR	**Mina Array Bea**	**32.04**	**322**	P	**P**	**21 09 42.9**	**+1.0**
YKA	**Yellowknife Ar**	**50.05**	**348**	P	**P**	**21 12 09.3**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=147,slow=8.1,SNR=3.8						
ILAR	**Eielson Array**	**61.57**	**337**	P	**P**	**21 13 33.0**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=142,slow=4.6,SNR=6.7						
ILAR	**Eielson Array**	**61.57**	**337**	P	**P**	**21 13 33.0**	**+1.0**
ESDC	**Sonseca Array**	**80.87**	**51**	P	**P**	**21 15 29.6**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=318,slow=1.7,SNR=1.2						
NOA	**NORSAR Array B**	**84.56**	**28**	P	**P**	**21 15 47.9**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=298,slow=5.4,SNR=2.7						
CMAR	**Chiang Mai Arr**	**144.80**	**338**	PKP	PKPbc	21 22 52.0	+0.2
	comp=Z,0.7nm,0.6s,baz=355,slow=2.5,SNR=7.0						

*BGR **09** 21:03:14.9±0.0, 34°.48N×70°.85E, h74km±3km, mb5.1*
*MOS **09** 21:03:22.1±1.0, 36°.03N×70°.59E, h105km, mb5.3/49, Error ellipse: s-maj=3.8km s-min=2.8km az=107.5*
*BJI **09** 21:03:23.3±0.0, 36°.14N×70°.72E, h101km, mB5.1/51, mb4.9/69*
*IDC **09** 21:03:23.6±0.4, 35°.94N×70°.59E, h116km±3km, mb4.7/46, mb1 4.7/50, mb1mx4.7/56, mbtmp5.1/50, MS4.0/24, Ms1 4.0/24, ms1mx3.8/44, Error ellipse: s-maj=8.2km s-min=6.8km az=4.0*
*SOME **09** 21:03:24.6, 37°.58N×71°.58E, h0km*
*NEIC **09** 21:03:24.3, 36°.01N×70°.49E, h107km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr2.11; Mθθ0.73; Mϕϕ-2.84; Mrθ7.36; Mθϕ-2.98; Mϕr2.43; Fault plane solution: Mo8.69000×10¹⁶ NP1:ϕs174.20000°, δ24.26000°, λ18.28000°. NP2:ϕs67.43000°, δ82.59000°, λ113.17000°. Principal axes: T 8.8185, Plg47.0000°, Azm2.0000°; N -0.2644, Plg23.0000°, Azm244.0000°; P -8.5541, Plg34.0000°, Azm138.0000°;*
*NEIC **09** 21:03:24.1±1.7, 36°.01N±0°.04×70°.49E±0°.07, h107km±4km, mb5.4/183, Mwb5.2/15, Mww5.4 Error ellipse: s-maj=8.2km s-min=6.2km az=110.0*
*NNC **09** 21:03:25.7±2.0, 36°.36N×70°.20E, h114km±25km, mb5.3, mpv5.8, Error ellipse: s-maj=18.3km s-min=9.4km az=163.0*
*GCMT **09** 21:03:25.0±0.1, 36°.01N±0°.01×70°.46E±0°.01, h113km±1km, MW5.2/136, Moment Tensor Solution. s103,c140; s136,c251; Duration: 1s0 Moment tensor: Scale 10¹⁷ Nm; Mrr0.46±.01; Mθθ-0.21±.02; Mϕϕ-0.25±.02; Mrθ0.67±.01; Mθϕ-0.52±.02; Mϕr0.02±.01; Best double couple: Mo0.94000×10¹⁷ NP1:ϕs192.00000°, δ35.00000°, λ31.00000°. NP2:ϕs76.00000°, δ72.00000°, λ121.00000°. Principal axes: T 0.9420, Plg52.0000°, Azm22.0000°; N -0.0050, Plg30.0000°, Azm245.0000°; P -0.9370, Plg21.0000°, Azm142.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **09** 21:03:25, 36°.01N×70°.48E, h110km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.71; Mθθ-0.41; Mϕϕ-0.29; Mrθ1.03; Mθϕ-0.73; Mϕr0.56; Fault plane solution: Mo1.51000×10¹⁷ NP1:ϕs205.00000°, δ22.00000°, λ55.00000°. NP2:ϕs61.00000°, δ72.00000°, λ103.00000°. Principal axes: T 1.3241, Plg61.0000°, Azm350.0000°; N 0.3223, Plg12.0000°, Azm237.0000°; P -1.6464, Plg26.0000°, Azm141.0000°;*

ISC 09 21:03:23.3±0.2, 36°.00N±0°.03×70°.54E±0°.02, h107km±1km, h106km§pP-P, n1279, σ1§56/1450, mb5.3/345, 326C-138D, Fault plane solution: NP1:ϕs132.44676°, δ28.90490°, λ-17.92184°. NP2:ϕs238.25478°, δ81.44618°, λ-117.71518°. Principal axes: T Plg30.9202°, Azm350.7953°; N Plg27.3809°, Azm242.7228°; P Plg46.4016°, Azm119.7727°; Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.90**	**221**	PN	**Pn**	**21 03 55.5**	**+0.4**
KBL				S	**Sn**	**21 04 19.1**	**-0.1**
KBL	**Kabul**	**1.90**	**221**		**Sn**	**21 03 55.5**	**+0.4**
KBL				Sn	**Sn**	**21 04 19.1**	**-0.1**
KBL	**Kabul**	**1.90**	**221**	P	**Pn**	**21 03 55.5**	**+0.4**
	SNR=947						
KBL				S	**Sn**	**21 04 19.8**	**+0.6**
CEP	**Cherat**	**2.44**	**152**	⇓P	**Pn**	**21 04 02.9**	**+0.9**
CHGR	**Chuyangaron**	**2.88**	**338**	Pn	**Pn**	**21 04 07.4**	**-0.2**
GAR	**Garm**	**3.00**	**357**		**Pn**	**21 04 10.2**	**+0.8**
NIL	**Nilore**	**3.23**	**136**	PN	**Pn**	**21 04 13.5**	**+1.1**
NIL	**Nilore**	**3.23**	**136**	Pn	**Pn**	**21 04 13.5**	**+1.1**
CHCP	**Chirah Chowk**	**3.23**	**135**	⇓P	**Pn**	**21 04 13.5**	**+1.1**
THW	**Thamme Wali**	**3.34**	**162**	P	**Pn

AAK	**Ala-Archa**	7.31	24	P		Pn	21 05 07.7	+0.2	
	comp=E,118nm,0.3s,baz=204,slow=7.8,SNR=315								
AAK				S		Sn	21 06 26.7	-2.2	
	comp=E,37nm,0.3s,baz=10,slow=5.0,SNR=4.6								
AAK	**Ala-Archa**	7.31	24	P		Pn	21 05 07.8	+0.3	
	SNR=404								
AAK	**Ala-Archa**	7.31	24	*i* Pn		Pn	21 05 07.8	+0.3	
	SNR=548								
AAK	**Ala-Archa**	7.31	24	⇑P		Pn	21 05 07.2	-0.3	
	comp=E,223nm,0.5s								
AAK				⇑S		Sn	21 06 26.8	-2.1	
	comp=E,1μm,1.0s								
AAK	**Ala-Archa**	7.31	24	*ce*PN		Pn	21 05 07.5	0.0	
AAK				pmax	pmax				
	comp=Z,711nm,0.6s								
AAK	**Ala-Archa**	7.31	24	P		Pn	21 05 07.8	+0.3	
SMLA	**Simla**	7.36	129	*e*P		Pn	21 05 06.0	-2.1	
SMLA				*e*S		Sn	21 06 25.4	-4.6	
SMLA				IAML			21 06 27.2		
	comp=N,3μm,0.1s								
SMLA				IAML			21 06 30.1		
	comp=E,3μm,0.1s								
KBK	**Karagaybulak**	7.48	26	P		Pn	21 05 10.2	+0.3	
	SNR=202								
FRU1	**Bishkek**	7.51	24	PN		Pn	21 05 10.8	+0.7	
FRU1	**Bishkek**	7.51	24			Pn	21 05 10.8	+0.7	
ULHL	**Ulahol**	7.65	34	P		Pn	21 05 11.8	-0.5	
	SNR=63								
CHMS	**Chumysh**	7.71	24	P		Pn	21 05 12.9	0.0	
	SNR=256								
BOOM	**Boomskoye usch**	7.72	31	PN		Pn	21 05 12.9	-0.2	
BOOM	**Boomskoye usch**	7.72	31			Pn	21 05 12.9	-0.2	
USP	**Ospenovka**	7.88	22	P		Pn	21 05 15.7	+0.5	
	SNR=10								
TKM2	**Tokmak 2**	7.95	28	P		Pn	21 05 16.1	-0.2	
	SNR=256								
TKM2	**Tokmak 2**	7.95	28	⇑P		Pn	21 05 15.9	-0.2	
	comp=E,691nm,1.1s								
TKM2				⇓S		Sn	21 06 43.3	-1.1	
	comp=E,569nm,0.9s								
TKM2	**Tokmak 2**	7.95	28	*i* PN		Pn	21 05 15.9	-0.3	
TKM2				pmax	pmax				
	comp=Z,691nm,1.1s								
KDJ	**Kajisay**	8.01	38	PN		Pn	21 05 17.3	+0.3	
KDJ	**Kajisay**	8.01	38			Pn	21 05 17.3	+0.3	
TARG	**Taragay, Kyrgy**	8.05	43			Pn	21 05 18.0	+0.2	
SGDS	**Sogindy**	8.09	22	*e*P		Pn	21 05 16.9	-1.1	
	baz=23								
SGDS				*e*S		Sn	21 06 42.8	-4.9	
	baz=23								
SGDS	**Sogindy**	8.09	22	*i* PN		Pn	21 05 17.1	-0.9	
KST	**Kastek**	8.19	29	*e*P		Pn	21 05 23.8	+4.4	
	comp=Z,59nm,0.5s								
KST				*e*S		Sn	21 06 47.8	-2.5	
	comp=Z,302nm,1.2s								
MTBS	**Maitube**	8.45	31	*e*P		Pn	21 05 22.2	-0.7	
	baz=32								
MTBS				*e*S		Sn	21 06 55.5	-1.1	
	baz=32								
DDI	**Dehra Dun**	8.47	130	*e*P		Pn	21 05 22.1	-1.1	
DDI				*e*S		Sn	21 06 50.8	-6.3	
TNSS	**Tian-Shan**	8.60	33	*e*P		Pn	21 05 24.5	-0.7	
	baz=34								
TNSS				*e*S		Sn	21 07 00.6	0.0	
	baz=34								
AAA	**Alma-Ata**	8.72	32	*e*P		Pn	21 05 36.0	+9.4	
	comp=Z,56nm,0.8s								
AAA				*e*S		Sn	21 07 08.3	+5.1	
	comp=Z,3μm,5.6s								
AAA	**Alma-Ata**	8.72	32	*e*P		Pn	21 05 25.5	-1.1	
	baz=34								
AAA				*e*S		Sn	21 07 02.0	-1.2	
	baz=34								
AAA	**Alma-Ata**	8.72	32	*e*PN		Pn	21 05 25.4	-1.1	
MDOK	**Medeo**	8.74	33	*e*P		Pn	21 05 34.2	+7.2	
	comp=Z,58nm,0.6s								
MDOK				*e*S		Sn	21 07 05.1	+1.3	
	comp=Z,4μm,5.7s								
MDOK	**Medeo**	8.74	33	*e*P		Pn	21 05 26.1	-0.9	
	baz=34								
MDOK				*e*S		Sn	21 07 02.9	-0.9	
	baz=34								
MDOK	**Medeo**	8.74	33	⇑P		Pn	21 05 28.1	+1.2	
	comp=Z,422nm,1.0s								
MDOK				⇑S		Sn	21 07 02.0	-1.8	
	comp=Z,296nm,1.3s								
MDOK	**Medeo**	8.74	33	*e*PN		Pn	21 05 26.0	-0.9	
KNDC	**Almaty**	8.75	33	⇑P		Pn	21 05 28.2	+1.2	
	comp=Z,1μm,0.8s								
KNDC	**Almaty**	8.75	33	PN		Pn	21 05 28.2	+1.2	
PRZ	**Przheval'sk**	8.89	41	PN		Pn	21 05 29.6	+0.6	
PRZ	**Przheval'sk**	8.89	41			Pn	21 05 29.6	+0.6	
KUU	**Kurty**	9.06	28	*e*P		Pn	21 05 29.2	-1.9	
	baz=29								
KUU				*e*S		Sn	21 07 04.4	-6.8	
	baz=29								
KUU	**Kurty**	9.06	28	*e*P		Pn	21 05 29.1	-2.0	
KUU				*e*S		Sn	21 07 04.4	-6.8	
NDI	**New Delhi**	9.22	140	*ex*		x	21 05 33.0		
NDI				*ex*		x	21 07 08.0		
SATY	**Saty**	9.31	38	*e*P		Pn	21 05 33.5	-1.1	
	baz=40								
SATY				*e*S		Sn	21 07 15.3	-2.2	
	baz=40								
SATY	**Saty**	9.31	38	*e*P		Pn	21 05 33.5	-1.1	
SATY				*e*S		Sn	21 07 15.2	-2.2	
BTLS	**Baital**	9.42	15	*e*P		Pn	21 05 34.4	-1.6	
	baz=16								
BTLS				*e*S		Sn	21 07 16.0	-4.1	
	baz=16								
BTLS	**Baital**	9.42	15	*e*P		Pn	21 05 34.4	-1.6	
BTLS				*e*S		Sn	21 07 15.9	-4.1	
KPKS	**Kokpek**	9.74	38	⇑*i*P		Pn	21 05 39.0	-1.5	
	baz=39								
KPKS				*e*S		Sn	21 07 24.6	-3.5	
	baz=39								
KPKS	**Kokpek**	9.74	38	*c i*P		Pn	21 05 38.9	-1.5	
KPKS				*e*S		Sn	21 07 24.5	-3.5	
ARXS	**Arharly**	9.92	32	*e*P		Pn	21 05 41.0	-1.9	
SHLS	**Shalkode**	9.93	41	⇑*i*P		Pn	21 05 44.8	+1.8	
	baz=44								
SHLS				*e*S		Sn	21 07 37.5	+5.0	
	baz=44								
SHLS	**Shalkode**	9.93	41	*c i*P		Pn	21 05 44.8	+1.8	
SHLS				*e*S		Sn	21 07 37.5	+5.0	
PDGK	**Podgornoye**	10.06	41	⇑P		Pn	21 05 43.4	-1.4	
	comp=Z,277nm,1.1s								
PDGK				⇑S		Sn	21 07 35.4	-0.3	
	comp=Z,328nm,1.4s								
PDGK	**Podgornoye**	10.06	41	*i* P		Pn	21 05 43.4	-1.4	
PDGK				pmax	pmax				
	comp=Z,278nm,1.1s								
GEYT	**Alibeck**	10.13	285	P		Pn	21 05 43.4	-2.3	
	comp=Z,47nm,0.3s,baz=106,slow=11,SNR=55								
GEYT				S		Sn	21 07 31.1	-6.2	
	comp=Z,27nm,0.3s,baz=111,slow=29,SNR=2.5								
GEYT				LR		LR	21 10 12.5		
	comp=Z,264nm,21.2s,baz=250,slow=40								
GEYT	**Alibeck**	10.13	285			Pn	21 05 43.9	-1.7	
GYA0	**ALIBECK ARRAY**	10.13	285	P		Pn	21 05 42.7	-3.0	
GYA0				S		Sn	21 07 30.4	-6.9	
GYA0B	**ALIBECK ARRAY**	10.13	285	⇓P		Pn	21 05 42.7	-3.0	
GYA0B				⇑S		Sn	21 07 30.4	-6.9	
GYA0B	**ALIBECK ARRAY**	10.13	285			Pn	21 05 43.0	-2.6	
PTH	**Pithoragarh**	10.37	126	*ex*		x	21 05 44.2		
PTH				*ex*		x	21 07 33.9		
LGTI	**Lohaghat**	10.46	126	*ex*		x	21 06 35.6		
LGTI				*ex*		x	21 08 25.8		
TDK	**Taldyqorghan**	10.80	31	*e*P		Pn	21 05 52.0	-2.7	
	baz=32								
TDK				*e*S		Sn	21 07 51.9	-1.7	
	baz=32								
TDK	**Taldyqorghan**	10.80	31	*e*P		Pn	21 05 52.0	-2.7	
TDK				*e*S		Sn	21 07 51.9	-1.7	
OTUK	**Ortayu**	12.31	6	⇑P		Pn	21 06 12.7	-2.1	
	comp=Z,202nm,1.1s								
OTUK	**Ortayu**	12.31	6	P		Pn	21 06 12.6	-2.3	
PYUN	**Piuthan**	13.16	123	*e*P		Pn	21 06 22.0	-4.3	
	comp=Z,789nm,0.4s								
PYUN				*e*S		Sn	21 08 39.6	-12	
DANN	**Dangsing**	13.54	121	*e*P		Pn	21 06 27.2	-4.1	
	comp=Z,830nm,0.5s								
DANN				*e*S		Sn	21 08 48.7	-12	
MAKZ	**Makanchi**	13.78	35	⇓P		Pn	21 06 32.9	-1.1	
	comp=Z,249nm,0.9s								
MAKZ	**Makanchi**	13.78	35	P		Pn	21 06 32.7	-1.4	
MAKZ	**Makanchi**	13.78	35			Pn	21 06 32.7	-1.4	
KOLN	**Koldanda**	13.79	123	*e*P		Pn	21 06 30.3	-4.2	
	comp=Z,220nm,0.3s								
KOLN				*e*S		Sn	21 08 54.6	-12	
MK31	**Makanchi Array**	13.92	36	⇓P		Pn	21 06 35.0	-0.8	
	comp=Z,136nm,0.8s,baz=221,slow=11,SNR=352								
MK31	**Makanchi Array**	13.92	36	*i* P		Pn	21 06 34.5	-1.3	
MK31				pmax	pmax				
	comp=Z,136nm,0.8s								
MK31	**Makanchi Array**	13.92	36			Pn	21 06 35.0	-0.8	
MKAR	**Makanchi Array**	13.92	36	P		Pn	21 06 33.6	-2.3	
	comp=Z,1.5nm,0.3s,baz=222,slow=14,SNR=55								
MKAR	**Makanchi Array**	13.92	36	*e*P		Pn	21 06 34.6	-1.3	
MKAR				pmax	pmax				
	comp=Z,2.0nm,0.3s								
MKAR	**Makanchi Array**	13.92	36	Pn		Pn	21 06 34.5	-1.3	
BHPL	**Bhopal**	14.04	153	*e*P		Pn	21 06 34.7	-2.9	
BHPL				*ex*		x	21 09 00.4		
BRZS	**Berezniki**	14.07	6	*e*P		Pn	21 06 35.7	-2.1	
	baz=5.9								
BRZS				*e*S		Sn	21 09 01.3	-11	
	baz=5.9								
BRZS	**Berezniki**	14.07	6	*e*P		Pn	21 06 35.6	-2.1	
BRZS				*e*S		Sn	21 09 01.3	-11	
GKN	**Gorkha**	14.36	120	*e*P		Pn	21 06 37.6	-4.2	
	comp=Z,412nm,0.3s								
DMN	**Daman**	14.93	120	*e*P		Pn	21 06 44.8	-4.3	
	comp=Z,696nm,0.6s								
DMN				*e*S		Sn	21 09 21.2	-13	
KKN	**Kakani**	14.95	119	*e*P		Pn	21 06 44.6	-4.7	
	comp=Z,398nm,0.5s								
KKN				*e*S		Sn	21 09 21.4	-13	
PKIN	**Phulchoki**	15.15	119	*e*P		Pn	21 06 47.8	-4.2	
	comp=Z,404nm,0.3s								
PKI	**Pulchoki**	15.17	119	*e*P		Pn	21 06 48.2	-4.0	
	comp=Z,340nm,0.3s								
PKI				*e*S		Sn	21 09 26.2	-14	
JBP	**Jabalpur**	15.18	145	*ex*		x	21 06 48.5		
JBP				*ex*		x	21 09 21.7		
WMQ	**Urumqi**	15.29	54	*e*P		Pn	21 06 53.1	-0.3	
WMQ				sP		pP	21 07 20.3	+3.8	
WMQ				S		Sn	21 09 39.5	-2.9	
WMQ				sS		S	21 09 58.1	+6.5	
WMQ				pmax	pmax				
	comp=Z,67nm,1.1s								
WMQ				pmax	pmax				
	comp=Z,690nm,3.9s								
WMQ				LR	LR				
	comp=Z,1μm,15.5s								
WMQ				LR	LR				
	comp=Z,930nm,9.1s								
WMQ				LR	LR				
	comp=Z,410nm,20.1s								
WMQ	**Urumqi**	15.29	54	P		Pn	21 06 53.8	+0.4	
WMQ	**Urumqi**	15.29	54			Pn	21 06 53.8	+0.4	
AB31	**Akbulak array**	15.35	333	⇑P		Pn	21 06 53.1	-0.9	
	comp=Z,194nm,0.6s,baz=154,slow=14,SNR=2742								
AB31				S		Sn	21 09 32.6	-11	
	comp=Z,302nm,0.8s,baz=147,slow=24,SNR=17								
AB31	**Akbulak array**	15.35	333	*i* P		Pn	21 06 53.1	-0.9	
AB31				pmax	pmax				
	comp=Z,193nm,0.5s								
ABKAR	**Akbulak array**	15.35	333	Pn		Pn	21 06 52.7	-1.3	
ABKAR	**Akbulak array**	15.35	333	Pn		Pn	21 06 52.6	-1.4	
ABKAR				IAmb		IAmb	21 06 54.3		
	comp=Z,368nm,0.7s								
ZSN	**Zaisan**	15.64	39	*e*P		Pn	21 06 55.4	-2.3	
	baz=39								
ZSN				*e*S		Sn	21 09 49.7	-0.8	
	baz=39								
ZSN	**Zaisan**	15.64	39	*e*P		Pn	21 06 55.3	-2.3	
ZSN				*e*S		Sn	21 09 49.7	-0.8	
JIRN	**Jiri**	15.67	118	*e*P		Pn	21 06 55.0	-3.5	
	comp=Z,1μm,0.6s								
KURBB	**Kurchatov Arra**	15.72	19	P		Pn	21 06 56.4	-2.2	
	comp=Z,0.7nm,0.3s,baz=208,slow=12,SNR=85								
KURBB	**Kurchatov Arra**	15.72	19	⇓P		Pn	21 06 57.3	-1.3	
	comp=Z,260nm,0.8s								
BANOM	**Banah**	15.79	234	*i* Pn		P	21 07 01.1	-0.3	
	SNR=14								
BANOM	**Banah**	15.79	234	P		P	21 07 01.7	+0.3	
	SNR=9.7								
SHME	**Shamm**	15.81	235	*i* Pn		P	21 07 01.8	+0.2	
	SNR=22								
SHME	**Shamm**	15.81	235	P		P	21 07 02.6	+1.1	
	SNR=22								
MDH	**Madha**	16.22	233	*i* Pn		P	21 07 05.8	-0.4	
	SNR=8.4								
MDH	**Madha**	16.22	233	P		P	21 07 05.9	-0.2	
	SNR=8.4								
MASF	**Masafi**	16.26	233	P		P	21 07 07.2	+0.6	
	SNR=9.0								
MASF				S		S	21 10 10.0	-1.4	
MSFE	**Esma-Masafi**	16.27	233	*i* Pn		P	21 07 06.8	+0.1	
	SNR=9.0								
WSAR	**Wadi Sarin**	16.38	222	P		Pn	21 07 06.5	-0.4	
	comp=Z,1.0nm,0.3s,baz=74,slow=8.0,SNR=18								
WSAR				pP		pP	21 07 32.1	+3.9	
	comp=Z,0.7nm,0.3s,baz=59,slow=10,SNR=9.0								
WSAR				S		Sn	21 10 00.9	-7.7	
	comp=Z,0.4nm,0.3s,baz=131,slow=20,SNR=1.7								
WSAR				LR		LR	21 14 55.7		
	comp=Z,455nm,19.4s,baz=90,slow=42								
WSAR	**Wadi Sarin**	16.38	222	P		P	21 07 09.3	+1.4	
	SNR=21								
WSAR				S		S	21 10 12.6	-1.1	
RAMN	**Ramite**	16.39	119	*e*P		Pn	21 07 04.6	-2.7	
	comp=Z,410nm,0.4s								
BIDO	**Bidbid**	16.43	224	P		P	21 07 10.4	+1.9	
BIDO				S		S	21 10 14.9	+0.1	
UOSS	**Minazif**	16.53	232	*i* Pn		P	21 07 09.5	0.0	
	SNR=6.1								
UOSS	**Minazif**	16.53	232	P		P	21 07 09.2	-0.3	
UOSS	**Minazif**	16.53	232	P		P	21 07 10.0	+0.5	
UOSS				S		S	21 10 16.4	-0.4	
HATD	**Hatta, Dubai**	16.66	232	P		P	21 07 12.5	+1.5	
	SNR=6.4								
HATD				S		S	21 10 20.2	+0.7	
WBK	**Wadi Bani Khal**	16.70	220	P		P	21 07 13.9	+2.4	
	SNR=11								
WBK				S		S	21 10 23.3	+2.9	
ASHO	**Ashiyiah**	16.81	232	*i* Pn		P	21 07 13.4	+0.7	
	SNR=22								
ASHO	**Ashiyiah**	16.81	232	P		P	21 07 13.8	+1.2	
	SNR=22								
ASHO				S		S	21 10 22.8	+0.2	
SMDO	**Samad**	16.84	223	P		Pn	21 07 12.7	0.0	
NAZ	**Nazwa, Dubai**	16.85	233	*i* Pn		P	21 07 13.8	+0.7	
	SNR=7.6								
NAZ	**Nazwa, Dubai**	16.85	233	P		P	21 07 14.8	+1.7	
	SNR=7.6								
NAZ				S		Sn	21 10 21.6	+1.5	
HOQ	**Hoqain**	16.85	226	P		P	21 07 15.1	+2.0	
JLN	**Jalan Bani Buh**	16.86	218	P		P	21 07 15.6	+2.4	
	SNR=6.4								
JLN				S		S	21 10 26.2	+2.6	
SOHO	**SOHO**	16.91	229	Pn		Pn	21 07 13.4	-0.1	
SOHO	**SOHO**	16.91	229	P		P	21 07 17.7	+4.0	
SOHO				S		S	21 10 24.4	-0.1	
TAPN	**Taplejung**	16.95	116	*e*P		Pn	21 07 11.3	-3.0	
	comp=Z,574nm,0.5s								
ODAN	**Odare**	17.00	118	*e*P		Pn	21 07 11.3	-3.5	
	comp=Z,477nm,0.7s								
BVAR	**Borovoye Array**	17.03	360	P		Pn	21 07 13.2	-1.5	
	comp=Z,14nm,0.3s,baz=185,slow=16,SNR=158								
BVAR				pP		pP	21 07 39.1	+4.3	
	comp=Z,8.6nm,0.3s,baz=182,slow=25,SNR=3.1								
BVAR				S		Sn	21 10 17.5	-6.4	
	comp=Z,3.2nm,0.3s,baz=185,slow=16,SNR=2.8								
AKTO	**Aktyubinsk**	17.04	332	P		Pn	21 07 14.2	-0.6	
	comp=Z,17nm,0.3s,baz=140,slow=12,SNR=280								
AKTO				S		Sn	21 10 11.8	-12	
	comp=Z,5.2nm,0.3s,baz=63,slow=19,SNR=6.3								
AKTO	**Aktyubinsk**	17.04	332	⇓P		Pn	21 07 14.8	-0.1	
	comp=Z,589nm,1.1s								
AKTO				⇑S		Sn	21 10 12.2	-12	
	comp=Z,412nm,0.9s								
BRVK	**Borovoye**	17.06	359	⇑P		Pn	21 07 13.3	-1.8	
	comp=Z,301nm,1.2s								
BRVK	**Borovoye**	17.06	359	*ce*P		Pn	21 07 14.4	-0.7	
BRVK				pmax	pmax				
	comp=Z,619nm,2.5s								
BRVK	**Borovoye**	17.06	359			Pn	21 07 14.1	-1.0	
BRVK				IAmb		IAmb	21 07 18.2		
	comp=Z,273nm,1.1s								
BRVK	**Borovoye**	17.06	359	P		Pn	21 07 14.5	-0.6	
BRVK				S		Sn	21 10 25.7	+1.0	
FAQ	**Al Faqa, Dubai**	17.07	233	P		Pn	21 07 15.1	-0.3	
FAQ	**Al Faqa, Dubai**	17.07	233	P		P	21 07 18.7	+3.2	
	SNR=5.7								
FAQ				S		S	21 10 27.1	-0.7	
ASUD	**Al Ashush, Dub**	17.32	233	*i* P		S	21 07 18.2	-0.1	
	SNR=10								
ASUD	**Al Ashush, Dub**	17.32	233	P		Pn	21 07 19.9	+1.4	
	SNR=10								
ASUD				S		Sn	21 10 31.5	+0.2	
JMDO	**Jabal Madar**	17.36	222	P		Pn	21 07 21.3	+2.4	
	SNR=11								
JMDO				S		S	21 10 36.8	+2.8	
ALNE	**Al Ain**	17.45	231	*i* P		Pn	21 07 20.1	+0.1	
	SNR=16								
ALNE	**Al Ain**	17.45	231	P		Pn	21 07 21.5	+1.4	
	SNR=16								
ALNE				S		Sn	21 10 33.6	-1.0	
LKRN	**Lenkeran, Azer**	17.51	285	P		Pn	21 07 21.5	+0.9	
ARQ	**Araqi**	17.51	228	P		Pn	21 07 22.6	+1.8	
	SNR=11								
ARQ				S		S	21 10 36.5	-0.4	
BSY	**Bisya**	17.57	225	P		Pn	21 07 23.2	+1.7	
	SNR=12								
BSY				S		S	21 10 43.5	+5.4	
AJN	**Ajban**	17.59	234	*i* P		Pn	21 07 22.1	+0.4	
	SNR=6.4								
AJN	**Ajban**	17.59	234	P		Pn	21 07 23.4	+1.7	
	SNR=7.0								
AJN				S		S	21 10 38.1	-0.3	
GTK	**Tadong**	17.62	114	*ex*		x	21 07 19.8		
GTK				IAmb		IAmb	21 07 24.7		
	comp=Z,131nm,0.5s								
POO	**Poona**	17.64	170	⇑*i*P		P	21 07 19.0	-2.9	
POO				*e*P		Pn	21 07 21.9	-0.6	
POO				*i* S		S	21 10 53.0	+13	
BOK	**Bokaro**	18.00	128	*e*P		P	21 07 24.6	-1.1	
LSA	**Lhasa**	18.41	104	P		Pn	21 07 31.3	-0.7	
LSA				S		S	21 10 41.6	-14	
LSA				pmax	pmax				
	comp=Z,180nm,1.1s								
LSA				LR	LR				
	comp=Z,2μm,10.0s								
LSA				LR	LR				
	comp=Z,2μm,10.0s								
LSA				LR	LR				
	comp=Z,2μm,8.5s								
LSA	**Lhasa**	18.41	104	Pn		Pn	21 07 31.6	-0.3	
LSA	**Lhasa**	18.41	104	P		P	21 07 30.8	+0.1	
LSA				pmax	pmax				
	comp=Z,127nm,0.8s								
LSA	**Lhasa**	18.41	104	P		P	21 07 30.8	+0.1	
LSA				IAmb	IAmb		21 07 35.6		
	comp=Z,127nm,0.8s								
DGZ	**Jazzator, Alta**	18.41	37	*c i*P		P	21 07 30.4	+0.2	
DGZ				pmax	pmax				
	comp=Z,164nm,1.0s								
MHTO	**MHTO**	18.56	220	P		Pn	21 07 34.3	+0.9	
	SNR=11								
MHTO				S		S	21 10 59.4	+1.2	
JRN	**Qarnain Island**	18.78	239	P		P	21 07 33.9	-0.3	
	SNR=5.2								
JRN				S		S	21 10 59.5	-2.9	
UMZA	**Um Al Zommool**	18.80	229	P		Pn	21 07 35.9	-0.3	
UMZA				S		S	21 11 00.9	-1.9	
MZWR	**Madinat Zayed**	18.87	234	P		P	21 07 35.9	+0.7	
MZWR				S		S	21 11 01.2	+3.0	
KAD	**Karad**	18.89	169	⇓*i*P		P	21 07 36.0	+0.4	
KAD				*i* S		S	21 11 04.5	-0.3	
SEKA	**Sheki**	18.95	293	P		P	21 07 36.8	+0.7	
MNGR	**Mingechevir, A**	18.98	292	P		Pn	21 07 37.8	-0.3	
MAK	**Makhachkala**	19.06	298	*e*P		P	21 07 36.6	-0.5	
MAK				*e*S		S	21 11 05.9	-1.8	
MAK				pmax	pmax				
	comp=Z,158nm,0.9s								
MAK				MLR	MLR				
	comp=Z,415nm,10.0s								
GHWR	**Ruwais**	19.40	237	P		P	21 07 40.8	-0.2	
GHWR				S		S	21 11 10.5	-4.2	
ZKTA	**Zakatala**	19.44	294	P		P	21 07 42.4	+1.0	
GANJ	**Ganja**	19.54	291	P		P	21 07 42.4	0.0	
SHMA	**Al-Shehemyia**	19.57	244	P		P	21 07 43.1	+0.3	
SHMA				S		S	21 11 18.3	+0.3	
DDFL	**Dedoflistskaro**	19.79	293	P		Pn	21 07 47.6	-0.1	
HYB	**Hyderabad**	19.82	157	*e*P		Pn	21 07 46.9	-1.3	
HYB				IAmb		IAmb	21 07 51.8		
	comp=Z,171nm,0.9s								
HYB	**Hyderabad**	19.82	157	*i* P		P	21 07 46.0	+0.3	
HYB				*es*P		sP	21 08 22.5	+2.8	
HYB				*e*S		Sn	21 11 36.0	+4.5

ARU					pmax	pmax		
	comp=Z,611nm,1.0s							
ARU	**Arti**	**21.99**	**342**		P	**P**	**21 08 09.1**	**+0.6**
KARS	**Kars**	**22.00**	**290**		P	**P**	**21 08 10.5**	**+1.6**
KARS					pmax	pmax		
	comp=Z,696nm,1.5s							
KARS	**Kars**	**22.00**	**290**		P	**P**	**21 08 10.5**	**+1.6**
KBZ	**Khabaz**	**22.51**	**299**		P	**P**	**21 08 13.4**	**-0.5**
	comp=Z,63nm,0.9s,baz=132,slow=6.4,SNR=78							
KBZ					S	**S**	**21 12 16.2**	**+3.0**
	comp=Z,11nm,0.9s,baz=79,slow=19,SNR=1.7							
SIRT	**Sirnak**	**22.54**	**282**		P	**P**	**21 08 13.5**	**-1.0**
NEY	**Neytrino**	**22.55**	**297**	*i*	P	**P**	**21 08 16.5**	**+1.9**
NEY					pmax	pmax		
	comp=Z,13nm,0.9s							
MOKO	**MOKOCHONG**	**22.62**	**109**		*e*P	**P**	**21 08 16.4**	**+1.0**
KOHI	**KOHIMA**	**22.63**	**110**		*e*P	**P**	**21 08 16.6**	**+1.1**
SHA1	**Shidzhatmaz**	**22.68**	**298**	*c*	*i*P	**P**	**21 08 16.4**	**+0.4**
GOF	**Gofitskoye**	**22.69**	**302**	⇑	*e*P	**P**	**21 08 16.6**	**+0.8**
GOF					*e*S	**S**	**21 12 21.7**	**+5.6**
GOF					pmax	pmax		
	comp=Z,79nm,0.7s							
GOF					smax	smax		
	comp=N,272nm,1.8s							
GOF					smax	smax		
	comp=E,135nm,0.6s							
KVAR	**Kislovodsk Arr**	**22.69**	**299**		P	**P**	**21 08 16.5**	**+0.5**
	comp=E,14nm,0.8s,baz=89,slow=23,SNR=8.3							
KVAR					S	**S**	**21 12 21.1**	**+4.6**
	comp=E,26nm,0.8s,baz=90,slow=19,SNR=2.1							
KIV	**Kislovodsk**	**22.70**	**299**		*i* P	**P**	**21 08 16.1**	**0.0**
SNR=25								
KIV	**Kislovodsk**	**22.70**	**299**		*e*P	**P**	**21 08 15.9**	**-0.2**
KIV					*e*S	**S**	**21 12 16.9**	**+0.4**
KIV					pmax	pmax		
	comp=Z,84nm,1.0s							
KIV					MLR	MLR		
	comp=Z,244nm,14.0s							
KIV	**Kislovodsk**	**22.70**	**299**		P	**P**	**21 08 14.9**	**-1.1**
KIV					IAmb	IAmb	21 08 32.7	
	comp=Z,262nm,1.1s							
GURO	**Guroymak-BITLI**	**22.79**	**285**		P	**P**	**21 08 18.1**	**+1.1**
BELG	**Belogornoye**	**23.06**	**322**		P	**P**	**21 08 19.1**	**-0.2**
	comp=Z,272nm,1.0s,baz=75,slow=0.6,SNR=70							
BELG					S	**S**	**21 12 26.1**	**+4.5**
	comp=Z,38nm,0.9s,baz=101,slow=7.7,SNR=2.0							
LKP	**Lekhapani**	**23.16**	**105**		*e*P	**P**	**21 08 21.7**	**+1.2**
GTA	**Gaotai**	**23.37**	**73**	⇑	P	**P**	**21 08 23.7**	**+1.2**
GTA					S	**S**	**21 12 29.0**	**+1.7**
GTA					pmax	pmax		
	comp=Z,79nm,1.4s							
GTA					pmax	pmax		
	comp=Z,510nm,4.4s							
GTA					LR	LR		
	comp=Z,470nm,13.8s							
GTA					LR	LR		
	comp=Z,340nm,13.8s							
GTA					LR	LR		
	comp=Z,220nm,14.2s							
MARD	**Mardin**	**23.87**	**282**		P	**P**	**21 08 27.9**	**+0.9**
ABTO	**Aybut**	**24.06**	**224**		P	**P**	**21 08 34.0**	**+5.2**
SNR=7.0								
KTUT	**Trabzon**	**24.52**	**291**	⇑	P	**P**	**21 08 35.1**	**+2.3**
SOC	**Sochi**	**24.77**	**297**		*e*P	**P**	**21 08 35.5**	**+0.6**
SOC					*e**PP	**pP**	**21 08 57.2**	**-1.6**
SOC					*e**SP	**sP**	**21 09 10.1**	**-1.8**
SOC					*e*S	**S**	**21 12 52.3**	**+2.9**
SOC					*e**SS	**sS**	**21 13 30.4**	**-1.5**
SOC					pmax	pmax		
	comp=Z,66nm,0.8s							
VRH	**Novokhopyorsk**	**25.60**	**315**		*e*P	**P**	**21 08 42.0**	**-0.4**
VRH					*e**PP	**sP**	**21 09 13.2**	**-5.7**
VRH					pmax	pmax		
	comp=Z,50nm,0.8s							
KIRV	**Kirov**	**26.54**	**335**		P	**P**	**21 08 50.4**	**-0.3**
	comp=Z,167nm,0.7s,baz=135,slow=5.3,SNR=85							
KIRV	**Kirov**	**26.54**	**335**	*c*	*e*P	**P**	**21 08 52.0**	**+1.3**
ANN	**Anapa**	**26.55**	**300**	*c*	*i*P	**P**	**21 08 51.6**	**+0.5**
ANN					*i* *PP	**pP**	**21 09 15.8**	**+0.5**
ANN					*i*		21 09 39.4	
ANN					*e*S	**S**	**21 13 17.5**	**-0.1**
ANN					pmax	pmax		
	comp=Z,122nm,0.7s							
ANN					pmax	pmax		
	comp=N,29nm,0.7s							
ANN					pmax	pmax		
	comp=E,17nm,0.5s							
GAZ	**Gaziantep**	**26.71**	**283**		P	**P**	**21 08 52.6**	**-0.1**
MOY	**Mondy**	**26.73**	**45**		*e*P	**P**	**21 08 54.0**	**+1.3**
MOY					pmax	pmax		
	comp=Z,74nm,2.0s							
LZH	**Lanzhou**	**26.86**	**80**		*e*P	**P**	**21 08 55.4**	**+1.2**
LZH					pP	pP	21 09 20.6	+1.8
LZH					sP	sP	21 09 34.2	+2.4
LZH					S	**S**	**21 13 26.0**	**+3.0**
LZH					sS	sS	21 13 59.3	-6.6
LZH					SS	**SnSn**	**21 14 40.6**	**+1.0**
LZH					ScP	**ScP**	**21 15 43.0**	**-1.3**
LZH					pmax	pmax		
	comp=Z,23nm,1.1s							
LZH					pmax	pmax		
	comp=Z,160nm,4.6s							
LZH					LR	LR		
	comp=Z,600nm,11.9s							
LZH					LR	LR		
	comp=Z,230nm,10.0s							
LZH					LR	LR		
	comp=Z,1μm,11.9s							
VORD	**Divnogorie**	**26.91**	**314**		*e*P	**P**	**21 08 53.9**	**-0.3**
VORD					*e**PP	**pP**	**21 09 17.3**	**-0.8**
VORD					pmax	pmax		
	comp=Z,10.0nm,0.5s							
KVT	**Kavak**	**27.34**	**291**		P	**P**	**21 09 02.9**	**+4.7**
BNN	**Bunyan**	**27.60**	**286**		P	**P**	**21 09 00.8**	**0.0**
BNN					IAmb	IAmb	21 09 31.8	
	comp=Z,124nm,1.4s							
ZAK	**Zakamensk**	**27.60**	**48**		*e*P	**P**	**21 09 01.5**	**+0.9**
ZAK					pmax	pmax		
	comp=Z,36nm,1.5s							
ASF	**Jabal al Asfar**	**28.04**	**272**		P	**P**	**21 09 04.9**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=28,slow=1.8,SNR=7.6							
ASF					LR	LR	21 22 19.6	
	comp=Z,168nm,20.2s,baz=280,slow=40							
CD2	**Chengdu**	**28.09**	**91**		P	**P**	**21 09 06.9**	**+1.8**
CD2					sP	sP	21 09 43.8	+1.2
CD2					S	**S**	**21 13 46.1**	**+3.8**
CD2					sS	sS	21 14 24.9	-0.3
CD2					pmax	pmax		
	comp=Z,20nm,0.6s							
CD2					LR	LR		
	comp=Z,940nm,14.4s							
CD2					LR	LR		
	comp=Z,490nm,7.9s							
CD2					LR	LR		
	comp=Z,600nm,10.8s							
IRK	**Irkutsk**	**28.82**	**45**		*e*P	**P**	**21 09 07.8**	**-3.4**
IRK					pmax	pmax		
	comp=Z,62nm,2.4s							
SIM	**Simferopol'**	**28.91**	**299**		*e*P	**P**	**21 09 11.6**	**-0.5**
SIM					*e**PP	**sP**	**21 09 45.0**	**-4.3**
SIM					pmax	pmax		
	comp=Z,42nm,0.7s							
SONM	**Songino Array**	**28.93**	**55**		P	**P**	**21 09 11.3**	**-1.1**
	comp=Z,14nm,0.9s,baz=258,slow=8.3,SNR=71							
SONM					PcP	**PcP**	**21 12 18.0**	**-0.8**
	comp=Z,3.5nm,1.1s,baz=242,slow=2.8,SNR=1.2							
SONM					ScP	**ScP**	**21 15 50.0**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=148,slow=26,SNR=1.8							
SONM					LR	LR	21 22 31.8	
	comp=Z,312nm,20.0s,baz=258,slow=40							
SONM	**Songino Array**	**28.93**	**55**		*e*P	**P**	**21 09 13.8**	**+1.4**
SONM					pmax	pmax		
	comp=Z,14nm,0.9s							
SONM	**Songino Array**	**28.93**	**55**		P	**P**	**21 09 13.2**	**+0.8**
MMAI	**Mount Meron Ar**	**29.01**	**274**		P	**P**	**21 09 12.4**	**-0.9**
	comp=Z,4.3nm,0.8s,baz=93,slow=6.9,SNR=6.6							
MMAI					PcP	**PcP**	**21 12 19.1**	**0.0**
	comp=Z,1.8nm,0.7s,baz=90,slow=5.0,SNR=2.6							
MMAI					ScP	**ScP**	**21 15 50.5**	**-0.3**
	comp=Z,4.4nm,0.9s,baz=108,slow=2.7,SNR=4.4							
BR131	**Keskin Array S**	**29.24**	**289**		P	**P**	**21 09 15.8**	**+0.6**
BR131					pmax	pmax		
	comp=Z,60nm,0.8s							
BR131	**Keskin Array S**	**29.24**	**289**		P	**P**	**21 09 15.8**	**+0.6**
BR131					IAmb	IAmb	21 09 17.4	
	comp=Z,60nm,0.8s							
BR131	**Keskin Array S**	**29.24**	**289**		P	**P**	**21 09 16.6**	**+1.3**
	comp=N,16							
BRTR	**Keskin Array B**	**29.24**	**289**		P	**P**	**21 09 14.9**	**-0.4**
	comp=Z,31nm,0.8s,baz=99,slow=7.6,SNR=119							
BRTR	**Keskin Array B**	**29.24**	**289**		*e*P	**P**	**21 09 16.3**	**+1.1**
BRTR					pmax	pmax		
	comp=Z,31nm,0.8s							
BRTR	**Keskin Array B**	**29.24**	**289**		P	**P**	**21 09 16.0**	**+0.8**
ULN	**Ulaanbaatar**	**29.37**	**55**	*ce*	P	**P**	**21 09 17.2**	**+0.9**
ULN					pmax	pmax		
	comp=Z,53nm,1.7s							
ULN	**Ulaanbaatar**	**29.37**	**55**		P	**P**	**21 09 16.7**	**+0.3**
ULN					IAmb	IAmb	21 09 18.8	
	comp=Z,89nm,1.7s							
ULN	**Ulaanbaatar**	**29.37**	**55**		P	**P**	**21 09 16.8**	**+0.5**
	comp=Z,2μmcomp=Z,118nm,1.8s							
GHAJ	**Ghor Haditha**	**29.39**	**271**		P	**P**	**21 09 16.6**	**+0.2**
KMI	**Kunming**	**29.65**	**102**	⇑	P	**P**	**21 09 20.1**	**+1.0**
KMI					pP	pP	21 09 43.1	-0.9
KMI					sP	sP	21 09 56.4	-0.3
KMI					S	**S**	**21 14 07.6**	**+0.5**
KMI					ScP	**ScP**	**21 15 51.7**	**-1.5**
KMI					pmax	pmax		
	comp=Z,10.0nm,0.7s							
KMI					pmax	pmax		
	comp=Z,130nm,5.2s							
KMI					LR	LR		
	comp=Z,350nm,15.6s							
KMI					LR	LR		
	comp=Z,160nm,12.7s							
MOS	**Moscow**	**29.82**	**322**		*e*P	**P**	**21 09 17.9**	**-2.1**
MOS					*e*		21 09 56.2	
MOS					pmax	pmax		
	comp=Z,300nm,1.7s							
MOS					pmax	pmax		
	comp=Z,141nm,1.1s							
ANTO	**Ankara**	**29.87**	**289**		P	**P**	**21 09 21.0**	**+0.2**
ANTO					pmax	pmax		
	comp=Z,30nm,0.9s							
ANTO	**Ankara**	**29.87**	**289**		P	**P**	**21 09 21.0**	**+0.2**
MHMT	**Maesarieng**	**30.01**	**119**		P	**P**	**21 09 24.0**	**+2.0**
	comp=Z,638nmcomp=Z,40nm,0.7s							
MHMT	**Maesarieng**	**30.01**	**119**		P	**P**	**21 09 24.0**	**+2.0**
	comp=Z,638nmcomp=Z,40nm,0.7s							
PALK	**Pallekele**	**30.06**	**160**		P	**P**	**21 09 22.1**	**-0.5**
baz=80,slow=11								
PALK	**Pallekele**	**30.06**	**160**		P	**P**	**21 09 23.8**	**+1.2**
PALK					pmax	pmax		
	comp=Z,50nm,1.1s							
PALK	**Pallekele**	**30.06**	**160**		P	**P**	**21 09 23.8**	**+1.2**
PALK					IAmb	IAmb	21 09 25.2	
	comp=Z,50nm,1.1s							
PALK	**Pallekele**	**30.06**	**160**		P	**P**	**21 09 24.2**	**+1.6**
	comp=Z,44nm,1.2s							
PRGR	**Permogore**	**30.08**	**336**		*e*P	**P**	**21 09 23.3**	**+1.1**
PRGR					pmax	pmax		
	comp=Z,259nm,0.9s							
OBN	**Obninsk**	**30.08**	**320**	⇑	P	**P**	**21 09 23.4**	**+1.1**
OBN	**Obninsk**	**30.08**	**320**		P	**P**	**21 09 22.5**	**+0.3**
	comp=Z,27nm,0.7s,baz=108,slow=19,SNR=36							
OBN	**Obninsk**	**30.08**	**320**	*ce*	P	**P**	**21 09 23.1**	**+0.8**
OBN					*e*		21 09 46.8	
OBN					*e*		21 10 26.8	
OBN					pmax	pmax		
	comp=Z,210nm,1.3s							
OBN					MLR	MLR		
	comp=Z,405nm,16.0s							
OBN	**Obninsk**	**30.08**	**320**		P	**P**	**21 09 22.8**	**+0.5**
CSS	**Mathiatis**	**30.20**	**279**		P	**P**	**21 09 24.0**	**+0.4**
CM33	**Chiang Mai Arr**	**30.32**	**117**		P	**P**	**21 09 26.0**	**+1.2**
CHTO	**Chiang Mai**	**30.32**	**117**		P	**P**	**21 09 26.1**	**+1.3**
CHTO					pmax	pmax		
	comp=Z,63nm,1.5s							
CHTO	**Chiang Mai**	**30.32**	**117**		P	**P**	**21 09 26.1**	**+1.3**
	comp=Z,375nmcomp=Z,13nm,0.7s							
CHTO	**Chiang Mai**	**30.32**	**117**		P	**P**	**21 09 26.1**	**+1.3**
CHTO	**Chiang Mai**	**30.32**	**117**		P	**P**	**21 09 25.5**	**+0.7**
	comp=Z,211nmcomp=Z,7.4nm,0.7s							
CMMT	**Chiang Mai**	**30.32**	**117**		P	**P**	**21 09 26.0**	**+1.2**
	comp=Z,487nmcomp=Z,14nm,0.7s							
CMMT	**Chiang Mai**	**30.32**	**117**		P	**P**	**21 09 26.1**	**+1.2**
	comp=Z,487nmcomp=Z,14nm,0.7s							
CMMT	**Chiang Mai**	**30.32**	**117**		P	**P**	**21 09 25.6**	**+0.8**
	comp=Z,465nmcomp=Z,13nm,0.7s							
CM32	**Chiang Mai Arr**	**30.35**	**117**		P	**P**	**21 09 26.0**	**+0.9**
EIL	**Elat**	**30.44**	**268**		P	**P**	**21 09 26.0**	**+0.2**
	comp=Z,19nm,0.9s,baz=91,slow=4.3,SNR=16							
LEF	**Lefka**	**30.52**	**280**	⇓	P	**P**	**21 09 27.8**	**+1.4**
CM15	**Chiang Mai Arr**	**30.54**	**117**		P	**P**	**21 09 28.4**	**+1.7**
	comp=Z,232nmcomp=Z,14nm,1.1s							
CM15	**Chiang Mai Arr**	**30.54**	**117**		P	**P**	**21 09 28.4**	**+1.7**
	comp=Z,232nmcomp=Z,14nm,1.1s							
CM13	**Chiang Mai Arr**	**30.55**	**117**		P	**P**	**21 09 28.4**	**+1.6**
	comp=Z,185nmcomp=Z,15nm,1.0s							
CM13	**Chiang Mai Arr**	**30.55**	**117**		P	**P**	**21 09 28.4**	**+1.6**
	comp=Z,185nmcomp=Z,15nm,1.0s							
CM31	**Chiang Mai Arr**	**30.55**	**117**		P	**P**	**21 09 28.2**	**+1.4**
	comp=Z,6μmcomp=Z,260nm,0.5s							
CM31	**Chiang Mai Arr**	**30.55**	**117**		P	**P**	**21 09 26.9**	**+0.1**
CM31	**Chiang Mai Arr**	**30.55**	**117**		P	**P**	**21 09 29.4**	**+2.5**
SNR=9.0								
CMAR	**Chiang Mai Arr**	**30.55**	**117**		P	**P**	**21 09 26.1**	**-0.7**
	comp=Z,9.2nm,0.8s,baz=296,slow=8.2,SNR=54							
CMAR					PcP	**PcP**	**21 12 22.4**	**-0.8**
	comp=Z,2.9nm,0.9s,baz=281,slow=7.3,SNR=1.3							
CMAR					ScP	**ScP**	**21 15 53.6**	**-2.3**
	comp=Z,9.1nm,1.0s,baz=294,slow=4.8,SNR=16							
CMAR	**Chiang Mai Arr**	**30.55**	**117**		*e*P	**P**	**21 09 27.8**	**+1.0**
CMAR					pmax	pmax		
	comp=Z,10.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**30.55**	**117**		P	**P**	**21 09 27.6**	**+0.8**
CMAR						**ScP**	**21 15 54.3**	**-1.6**
CM02	**Chiang Mai Arr**	**30.57**	**117**		P	**P**	**21 09 28.7**	**+1.7**
	comp=Z,251nmcomp=Z,17nm,0.9s							
CM02	**Chiang Mai Arr**	**30.57**	**117**		P	**P**	**21 09 28.0**	**+1.0**
	comp=Z,251nmcomp=Z,17nm,0.9s							
CM01	**Chiang Mai Arr**	**30.58**	**117**		P	**P**	**21 09 28.9**	**+1.8**
	comp=Z,345nmcomp=Z,18nm,0.9s							
CM01	**Chiang Mai Arr**	**30.58**	**117**		P	**P**	**21 09 28.9**	**+1.8**
	comp=Z,345nmcomp=Z,18nm,0.9s							
CM05	**Chiang Mai Arr**	**30.59**	**117**		P	**P**	**21 09 28.7**	**+1.6**
	comp=Z,211nmcomp=Z,16nm,0.7s							
CM05	**Chiang Mai Arr**	**30.59**	**117**		P	**P**	**21 09 28.8**	**+1.6**
	comp=Z,211nmcomp=Z,16nm,0.7s							
CM09	**Chiang Mai Arr**	**30.59**	**117**		P	**P**	**21 09 28.8**	**+1.6**
	comp=Z,251nmcomp=Z,17nm,0.7s							
CM09	**Chiang Mai Arr**	**30.59**	**117**		P	**P**	**21 09 28.9**	**+1.7**
	comp=Z,251nmcomp=Z,17nm,0.7s							
CM04	**Chiang Mai Arr**	**30.61**	**117**		P	**P**	**21 09 28.9**	**+1.6**
	comp=Z,245nmcomp=Z,21nm,1.0s							
CM04	**Chiang Mai Arr**	**30.61**	**117**		P	**P**	**21 09 29.0**	**+1.6**
	comp=Z,245nmcomp=Z,21nm,1.0s							
CM36	**Chiang Mai Arr**	**30.62**	**117**		P	**P**	**21 09 28.0**	**+0.6**
MDUB	**Mudurnu**	**31.05**	**290**		P	**P**	**21 09 31.8**	**+0.7**
MDUB					IAmb	IAmb	21 09 34.4	
	comp=Z,91nm,0.8s							
BTO	**Baotou**	**31.14**	**69**		*e*P	**P**	**21 09 31.6**	**-0.4**
BTO					S	**S**	**21 14 29.5**	**-0.5**
BTO					LR	LR		
	comp=Z,2μm,4.5s							
BTO					LR	LR		
	comp=Z,800nm,7.1s							
XAN	**Xi'an**	**31.36**	**82**		P	**P**	**21 09 35.0**	**+1.1**
XAN					pP	pP	21 09 59.2	+0.3
XAN					PP	**PnPn**	**21 10 40.6**	**-0.2**
XAN					S	**S**	**21 14 35.3**	**+1.8**
XAN					pmax	pmax		
	comp=Z,15nm,1.4s							
XAN					pmax	pmax		
	comp=Z,120nm,3.5s							
XAN					LR	LR		
	comp=Z,520nm,12.6s							
XAN					LR	LR		
	comp=Z,320nm,14.0s							
XAN					LR	LR		
	comp=Z,640nm,11.0s							
PBA	**Port Blair**	**31.46**	**135**		P	P	21 09 36.0	+1.1
KLMR	**Klimovskoe**	**31.74**	**331**	*c*	*i*P	**P**	**21 09 37.0**	**+0.2**
KLMR					S	**S**	**21 14 37.2**	**-1.4**
KLMR					pmax	pmax		
	comp=Z,161nm,1.0s							
KLMR	**Klimovskoe**	**31.74**	**331**	⇑	*i*P	**P**	**21 09 37.1**	**+0.2**
KLMR					*e*P	**P**	**21 09 37.1**	**+0.2**
KLMR				⇑	*e*P	**P**	**21 09 37.1**	**+0.2**
KLMR					AMP		21 09 38.5	
	comp=Z,161nm,1.0s							
KLMR					S	**S**	**21 14 37.2**	**-1.4**
KLMR					S	**S**	**21 14 37.2**	**-1.4**
PURM	**Purcari**	**32.01**	**302**	⇓	P	**P**	**21 09 40.6**	**+1.3**
GYA	**Guiyang**	**32.17**	**97**	⇑	P	**P**	**21 09 42.0**	**+0.9**
GYA					S	**S**	**21 14 46.3**	**0.0**
GYA					ScP	**ScP**	**21 15 59.3**	**-2.1**
GYA					pmax	pmax		
	comp=Z,29nm,0.8s							
GYA					LR	LR		
	comp=Z,290nm,11.4s							
GYA					LR	LR		
	comp=Z,300nm,15.1s							
GYA					LR	LR		
	comp=Z,240nm,14.5s							
UTTA	**Uttaradit**	**32.17**	**116**		P	**P**	**21 09 42.2**	**+1.2**
	comp=Z,366nmcomp=Z,42nm,0.7s							
UTTA	**Uttaradit**	**32.17**	**116**		P	**P**	**21 09 42.3**	**+1.2**
	comp=Z,91nmcomp=Z,11nm,0.7s							
PHIT	**Phitsanulok**	**32.43**	**117**		P	**P**	**21 09 45.2**	**+1.9**
	comp=Z,108nm,0.9s							
PHIT	**Phitsanulok**	**32.43**	**117**		P	**P**	**21 09 45.3**	**+1.9**
	comp=Z,27nm,0.9s							
SLVN	**Son La**	**32.54**	**108**		P	**P**	**21 09 45.7**	**+1.4**
ELL	**Elmali**	**32.55**	**284**		P	**P**	**21 09 45.0**	**+0.6**
ELL					pmax	pmax		
	comp=Z,384nm,0.8s							
ELL	**Elmali**	**32.55**	**284**		P	**P**	**21 09 45.0**	**+0.6**
JURR	**Jurilovca**	**32.62**	**299**	⇑	P	**P**	**21 09 46.3**	**+1.6**
TLCR		**32.68**	**299**	⇑	P	**P**	**21 09 46.0**	**+0.8**
MILM	**Milestii Mici**	**32.76**	**303**	⇑	P	**P**	**21 09 46.7**	**+0.7**
KIS	**Kishinev**	**32.77**	**303**	⇑	*i*P	**P**	**21 09 46.6**	**+0.6**
	comp=Z,140nm,0.8s							
KIS	**Kishinev**	**32.77**	**303**	⇑	P	**P**	**21 09 47.2**	**+1.2**
KIS	**Kishinev**	**32.77**	**303**	*c*	*i*P	**P**	**21 09 46.6**	**+0.6**
KIS					pmax	pmax		
	comp=Z,140nm,0.8s							
KHLT	**Khaolaem Dam**	**32.78**	**123**		P	**P**	**21 09 48.9**	**+2.5**
	comp=Z,23nm,0.9s							
KHLT	**Khaolaem Dam**	**32.78**	**123**		P	**P**	**21 09 48.9**	**+2.5**
	comp=Z,23nm,0.9s							
UTHA	**Uthaitani**	**32.84**	**121**		P	**P**	**21 09 48.8**	**+1.9**
	comp=Z,366nmcomp=Z,45nm,0.9s							
UTHA	**Uthaitani**	**32.84**	**121**		P	**P**	**21 09 48.9**	**+2.0**
	comp=Z,91nmcomp=Z,11nm,0.9s							
MFTR	**Murfatlar**	**32.95**	**297**	⇑	P	**P**	**21 09 48.5**	**+1.0**
TPGR	**Topolog**	**32.95**	**299**	⇑	P	**P**	**21 09 48.8**	**+1.1**
TIRR	**Tirgusor**	**32.95**	**298**		P	**P**	**21 09 47.9**	**+0.3**
TIRR					pmax	pmax		
	comp=Z,54nm,1.0s							
TIRR	**Tirgusor**	**32.95**	**298**		P	**P**	**21 09 47.9**	**+0.3**
TIRR					IAmb	IAmb	21 10 57.3	
	comp=Z,54nm,1.0s							
ENH	**Enshi**	**32.95**	**89**		P	**P**	**21 09 49.2**	**+1.3**
AKASG	**Malin Array Be**	**32.98**	**310**		P	**P**	**21 09 47.8**	**+0.1**
	comp=Z,42nm,0.6s,baz=84,slow=6.9,SNR=142							
AKASG					pP	**pP**	**21 10 14.0**	**+1.8**
	comp=Z,24nm,0.7s,baz=85,slow=7.4,SNR=5.0							
AKASG					PcP	**PcP**	**21 12 29.5**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=96,slow=13,SNR=2.4							
AKASG					ScP	**ScP**	**21 16 00.5**	**-3.1**
	comp=Z,0.3nm,0.2s,baz=108,slow=33,SNR=1.7							
AKASG					LR	LR	21 26 56.9	
	comp=Z,181nm,18.5s,baz=100,slow=43							
AKASG	**Malin Array Be**	**32.98**	**310**		P	**P**	**21 09 47.9**	**+0.1**
AKASG					IAmb	IAmb	21 09 49.1	
	comp=Z,53nm,0.8s							
AKBB	**Malin Array Si**	**32.98**	**310**	*ce*	P	**P**	**21 09 47.9**	**+0.2**
AKBB	**Malin Array Si**	**32.98**	**310**		P	**P**	**21 09 47.7**	**0.0**
CFR	**Carcaliu**	**33.16**	**299**	⇑	P	**P**	**21 09 50.5**	**+1.2**
VLDR	**Vladesti**	**33.21**	**301**	⇑	P	**P**	**21 09 51.5**	**+1.7**
TLBR	**Topalu**	**33.22**	**298**	⇑	P	**P**	**21 09 50.4**	**+0.4**
KULA	**Kula-Manisa**	**33.22**	**287**		P	**P**	**21 09 51.0**	**+0.8**
TATR	**Tatarca**	**33.23**	**300**	⇑	P	**P**	**21 09 51.6**	**+1.6**
PBKT	**Sadao Pong**	**33.24**	**118**		P	**P**	**21 09 51.8**	**+1.4**
SCTR	**Scanteiesti**	**33.27**	**300**	⇑	P	**P**	**21 09 52.0**	**+1.6**
HARR	**Harsova**	**33.30**	**298**	⇓	P	**P**	**21 09 51.8**	**+1.1**
MANT	**Manisa**	**33.31**	**287**		P	**P**	**21 09 51.4**	**+0.4**
TIY	**Taiyuan**	**33.37**	**74**		*e*P	**P**	**21 09 53.7**	**+2.2**
TIY					pP	**pP**	**21 10 18.7**	**+2.0**
TIY					sP	**sP**	**21 10 32.8**	**+3.2**
TIY					S	**S**	**21 15 07.0**	**+2.4**
TIY					pmax	pmax		
	comp=Z,25nm,0.7s							
TIY					LR	LR		
	comp=Z,110nm,5.6s							
TIY					LR	LR		
	comp=Z,150nm,7.4s							
TIY					LR	LR		
	comp=Z,180nm,8.5s							
VARL	**Varlezi**	**33.38**	**301**	⇑	P	**P**	**21 09 53.0**	**+1.7**
ICOR	**Ion Corvin**	**33.39**	**297**	⇑	P	**P**	**21 09 53.0**	**+1.6**
IZVR	**Izvoarele**	**33.42**	**300**	⇑	P	**P**	**21 09 53.0**	**+1.2**
VASR	**Vaslui**	**33.45**	**302**	⇑	P	**P**	**21 09 52.8**	**+0.8**
SRDT	**SRDT**	**33.46**	**123**		P	**P**	**21 09 54.3**	**+2.0**
	comp=Z,79nm,1.0s							
SRDT	**SRDT**	**33.46**	**123

MNK *i* LRM MLR 21 26 04.7
comp=N,146nm,17.4s
MNK *i* LRM MLR 21 26 16.2
comp=Z,231nm,18.8s
MNK *i* LRM MLR 21 26 41.6
comp=E,39nm,18.8s
BIZ Bicaz 34.62 302 ⇑P **P 21 10 03.4 +1.4**
SECR 34.62 299 ⇑P **P 21 10 04.4 +2.3**
NRIK Noril'sk 34.69 11 P **P 21 10 03.2 +0.8**
comp=E,70nm,0.5s,baz=205,slow=6.7,SNR=68
NRIK LR LR 21 25 37.3
comp=E,358nm,20.6s,baz=207,slow=38
NRIK Noril'sk 34.69 11 *eP* **P 21 10 03.8 +1.4**
NRIK pmax pmax
comp=Z,70nm,0.5s
NRIK Noril'sk 34.69 11 P **P 21 10 03.6 +1.2**
MLR Muntele Rosu 34.70 300 ⇑P **P 21 10 05.6 +2.6**
MLR Muntele Rosu 34.70 300 P **P 21 10 05.0 +2.0**
comp=Z,169nm,0.8s,baz=38,slow=1.3,SNR=249
SGRR Singureni 34.71 298 ⇑P **P 21 10 04.4 +1.6**
PHET Kaeng Krachan 34.83 124 P **P 21 10 06.1 +2.0**
comp=Z,488nmcomp=Z,51nm,0.8s
PHET Kaeng Krachan 34.83 124 P **P 21 10 06.1 +2.0**
comp=Z,126nmcomp=Z,13nm,0.8s
ALN Alexandroupoli 34.90 292 P **P 21 10 06.2 +1.7**
KARP Karpathos 34.98 282 P **P 21 10 05.8 +0.4**
DOPR Dopca 35.09 301 ⇑P **P 21 10 08.0 +1.9**
PUL Pulkovo 35.11 325 *eP* **P 21 10 07.4 +1.3**
PUL Pulkovo 35.11 325 *ceP* **P 21 10 07.4 +1.3**
PUL pmax pmax
comp=Z,91nm,0.6s
SKNT Sakolnakorn 35.18 114 P **P 21 10 08.0 +0.8**
comp=Z,56nm,1.0s
SKNT Sakolnakorn 35.18 114 P **P 21 10 08.0 +0.8**
comp=Z,56nm,1.0s
BURAR Bucovina Array 35.25 304 ⇑P **P 21 10 08.9 +1.3**
BURAR Bucovina Array 35.25 304 P **P 21 10 08.3 +0.8**
BURAR IAmb IAmb 21 10 09.9
comp=Z,49nm,0.7s
COPA Copaceanca 35.25 297 ⇑P **P 21 10 09.7 +2.2**
RDO Rodhopi 35.26 292 P **P 21 10 08.6 +1.0**
BUR08 Bucovina Ar. S 35.26 304 P **P 21 10 08.2 +0.5**
BUR08 IAmb IAmb 21 10 09.7
comp=Z,28nm,0.8s
NACGM Naroch 35.32 316 *i* P **P 21 10 09.1 +1.1**
VOIR 35.34 300 ⇑P **P 21 10 09.8 +1.4**
HUMR Humele 35.41 298 ⇓P **P 21 10 09.7 +0.8**
ARR Arges 35.63 300 ⇑P **P 21 10 12.5 +1.7**
IIGN Ignalina 35.74 317 *eP* **P 21 10 13.2 +1.6**
MDB Medias 35.80 301 ⇑P **P 21 10 14.2 +2.0**
ARCR ARCALIA 35.82 303 ⇑P **P 21 10 14.6 +2.2**
ISAL Salakas 35.85 317 *eP* **P 21 10 14.0 +1.5**
BJT Baijiatuan 35.88 70 P **P 21 10 14.1 +1.2**
BJT pmax pmax
comp=Z,8.0nm,0.7s
BJT Baijiatuan 35.88 70 P **P 21 10 14.1 +1.2**
BJI Beijing 35.88 69 P **P 21 10 14.1 +1.2**
BJI sP **sP 21 10 52.2 +1.1**
BJI S **S 21 15 43.4 +0.5**
BJI ScP **ScP 21 16 12.9 -1.3**
BJI pmax pmax
comp=Z,12nm,0.8s
APE Apeiranthos 35.92 285 ⇓P **P 21 10 14.1 +0.7**
APE Apeiranthos 35.92 285 P **P 21 10 14.3 +0.9**
BOD Bodaibo 35.98 39 *eP* **P 21 10 15.2 +1.7**
BOD pmax pmax
comp=Z,63nm,1.4s
KAVA Kavala 36.04 292 P **P 21 10 14.9 +0.6**
LVV L'vov 36.17 307 ⇓*iP* **P 21 10 16.0 +0.7**
LVV *eS* **S 21 15 45.0 -2.1**
LVV pmax pmax
comp=Z,80nm,1.3s
THR5 Thira Island, 36.21 284 P **P 21 10 15.9 +0.1**
LOT Lotru 36.24 300 ⇓P **P 21 10 17.8 +1.7**
NPS Neapolis 36.28 282 P **P 21 10 16.4 0.0**
CJR Cluj-Napoca 36.34 302 ⇑P **P 21 10 19.0 +2.2**
VSU Vasula 36.35 322 *eP* **P 21 10 17.9 +1.2**
VSU Vasula 36.35 322 *iP* **P 21 10 17.2 +0.5**
VSU pmax pmax
comp=Z,263nm,0.7s
BMR Baia Mare 36.41 304 ⇑P **P 21 10 19.3 +1.9**
NVR Nevrokopi 36.48 293 P **P 21 10 19.3 +1.2**
OUR Ouranopolis 36.53 291 P **P 21 10 18.9 +0.4**
OUR Ouranopolis 36.53 291 P **P 21 10 20.4 +1.9**
BAIL Bailesti 36.61 297 ⇑P **P 21 10 20.8 +1.7**
WHN Wuhan 36.80 86 ⇓P **P 21 10 22.2 +1.4**
WHN S **S 21 15 59.0 +1.8**
WHN pmax pmax
comp=Z,70nm,1.2s
WHN LR LR
comp=Z,760nm,19.3s
VTS Vitosha 36.81 295 ⇑P **P 21 10 22.7 +1.7**
PAIG Paliouri 36.83 291 P **P 21 10 21.4 +0.4**
PAIG Paliouri 36.83 291 P **P 21 10 22.3 +1.3**
DEV Deva 36.83 301 ⇑P **P 21 10 23.1 +2.1**
DEV Deva 36.83 301 P **P 21 10 23.0 +2.1**
IDI Anoyia 36.84 283 P **P 21 10 20.3 -1.0**
comp=Z,26nm,0.7s,baz=45,slow=12,SNR=24
IDI Anoyia 36.84 283 P **P 21 10 20.9 -0.4**
PUNG Punghina 36.89 298 ⇑P **P 21 10 22.7 +1.2**
GZR Gura Zlata 36.94 300 ⇓P **P 21 10 22.8 +0.8**
DRGR 36.95 302 ⇑P **P 21 10 23.6 +1.5**
DION Dionisos Attik 36.96 288 P **P 21 10 22.5 +0.3**
KWP Kalwaria Pacla 37.01 307 *eP* **P 21 10 23.7 +1.2**
KWP *ep*P **pP 21 10 48.5 +1.2**
KWP *e*SS SS 21 18 49.9 +4.3
KWP Kalwaria Pacla 37.01 307 P **P 21 10 23.3 +0.8**
KWP Kalwaria Pacla 37.01 307 P **P 21 10 23.3 +0.8**
PTL Penteli 37.02 287 P **P 21 10 22.6 -0.1**
PABE Paberze 37.02 317 *eP* **P 21 10 23.6 +1.2**
PABE Paberze 37.02 317 P **P 21 10 23.0 +0.6**
PABE IAmb IAmb 21 10 24.3
comp=Z,56nm,0.7s
TRPA Tarpa 37.07 304 ⇑P **P 21 10 24.2 +1.3**
TRPA Tarpa 37.07 304 *eP* **P 21 10 23.4 +0.5**
ATHU Athens Univers 37.10 287 P **P 21 10 24.1 +0.8**
VLY Voula,Athens 37.11 287 P **P 21 10 21.3 -2.2**
SUW Suwalki 37.20 314 *eP* **P 21 10 23.9 0.0**
SUW *e*PP **PP 21 11 49.9 -0.7**
SUW *e*SS SS 21 18 46.1 -3.0
SUW Suwalki 37.20 314 *eP* **P 21 10 24.2 +0.3**
SUW Suwalki 37.20 314 P **P 21 10 23.9 0.0**
SUW pmax pmax
comp=Z,82nm,1.0s
SUW Suwalki 37.20 314 P **P 21 10 23.9 0.0**
SUW IAmb IAmb 21 10 25.5
comp=Z,82nm,1.0s
HERR Herculane 37.22 299 ⇓P **P 21 10 24.7 +0.5**
UZH Uzhgorod 37.24 305 ⇓*iP* **P 21 10 25.0 +0.6**
KOLS Kolonicke sedl 37.26 306 *eP* **P 21 10 25.9 +1.3**
KOLS pmax pmax
comp=Z,38nm,0.8s
KOLS Kolonicke sedl 37.26 306 *eP* **P 21 10 25.9 +1.3**
VAM Vamos 37.36 283 P **P 21 10 25.3 -0.3**
VAY Valandovo 37.45 293 *iP* **P 21 10 27.2 +0.9**
LTVH Ltavrtes, Hu 37.49 303 *eP* **P 21 10 28.0 +1.5**
IMMV Iera Moni Meta 37.52 283 P **P 21 10 27.5 +0.6**
GVD Gavdhos 37.60 282 P **P 21 10 27.2 -0.4**
SURA Surathani 37.60 128 P **P 21 10 30.0 +2.3**
comp=Z,44nm,0.9s
SURA Surathani 37.60 128 P **P 21 10 30.1 +2.3**
GRG Griva 37.63 293 P **P 21 10 27.9 +0.1**
SIRR Siria 37.68 301 ⇑P **P 21 10 30.3 +2.2**
STIP Stip 37.69 294 *iP* **P 21 10 27.6 -0.7**
FIA1 FINESS Array S 37.70 327 P **P 21 10 28.6 +0.5**
FINES FINESS Array B 37.70 327 P **P 21 10 28.5 +0.5**
comp=Z,56nm,0.6s,baz=112,slow=9.9,SNR=176
FINES LR LR 21 26 36.5
comp=Z,397nm,18.0s,baz=111,slow=37
FINES FINESS Array B 37.70 327 P **P 21 10 28.4 +0.3**
MDVR Moldovita 37.72 299 ⇑P **P 21 10 30.1 +1.5**
BZS Buzias 37.74 300 ⇑P **P 21 10 30.3 +1.7**
BZS Buzias 37.74 300 P **P 21 10 29.9 +1.3**
LVZ Lovozero 37.79 339 *ceP* **P 21 10 30.4 +1.6**
LVZ pmax pmax
comp=Z,190nm,1.3s
LVZ Lovozero 37.79 339 P **P 21 10 29.4 +0.6**
CRVS Cervenica-Dubn 37.80 306 *eP* **P 21 10 31.0 +1.9**
CRVS pmax pmax
comp=Z,17nm,0.7s
CRVS Cervenica-Dubn 37.80 306 *eP* **P 21 10 31.0 +1.9**
KNDR Palaiochora Ch 37.81 283 P **P 21 10 30.0 +0.7**
BOVS Bovan 37.82 297 ⇑P **P 21 10 30.4 +1.0**

MTSE Matsula 37.89 322 *eP* **P 21 10 31.0 +1.3**
HIA Hailar 37.89 54 P **P 21 10 30.8 +0.9**
HIA pmax pmax
comp=Z,13nm,0.7s
HIA Hailar 37.89 54 P **P 21 10 30.8 +0.9**
ANKY Antikythira Is 37.95 284 P **P 21 10 31.3 +0.8**
STHS Stebnicka Huta 37.95 306 *eP* **P 21 10 30.3 -0.1**
STHS Stebnicka Huta 37.95 306 *eP* **P 21 10 30.3 -0.1**
APA Apatity 37.96 338 ⇓*iP* **P 21 10 30.8 +0.6**
APA *i* 21 12 02.0
APA *i* S **S 21 16 12.0 -1.9**
APA pmax pmax
comp=Z,56nm,0.8s
APA MLR MLR
comp=Z,400nm,16.0s
AGG Agios Georgios 38.01 289 P **P 21 10 30.9 -0.2**
VLI Veliai 38.03 286 P **P 21 10 29.6 -1.6**
MEF Metsahovi 38.05 324 *eP* **P 21 10 32.4 +1.4**
BANR Banloc 38.09 300 ⇑P **P 21 10 33.1 +1.6**
THL Klokotos Trika 38.15 290 P **P 21 10 32.1 -0.1**
SKO Skopje 38.20 294 *iP* **P 21 10 33.5 +0.9**
KZN Kozani 38.21 292 P **P 21 10 33.0 +0.3**
PBUR Paburge 38.26 317 *eP* **P 21 10 34.0 +1.2**
SLIT Slitere, Latvi 38.40 320 *eP* **P 21 10 34.4 +0.5**
FNA Florina 38.43 292 P **P 21 10 35.0 +0.4**
FNA Florina 38.43 292 P **P 21 10 34.9 +0.4**
EVR Evrytania 38.43 289 P **P 21 10 34.7 +0.1**
QIZ Qiongzhong 38.44 105 P **P 21 10 36.7 +1.9**
QIZ S **S 21 16 24.4 +2.2**
QIZ sS **sS 21 17 04.7 -1.4**
QIZ LR LR
comp=Z,140nm,4.4s
QIZ LR LR
comp=Z,84nm,3.6s
QIZ LR LR
comp=Z,200nm,19.8s
QIZ Qiongzhong 38.44 105 P **P 21 10 35.2 +0.5**
QIZ IAmb IAmb 21 11 24.3
comp=Z,50nm,1.3s
KECS Kecovo 38.44 305 *eP* **P 21 10 35.6 +1.1**
KECS pmax pmax
comp=Z,11nm,0.8s
KECS Kecovo 38.44 305 *eP* **P 21 10 35.6 +1.1**
NIE Niedzica 38.57 306 *eP* **P 21 10 38.0 +2.4**
NIE *ep*P **pP 21 11 04.0 +3.4**
NIE *ep*PP **PnPn 21 12 11.1 +2.1**
NIE *e*SS SS 21 19 21.2 +3.7
NIE Niedzica 38.57 306 P **P 21 10 37.7 +2.1**
BSZH Besenyszg 38.61 303 ⇑P **P 21 10 37.5 +1.7**
BSZH Besenyszg 38.61 303 *eP* **P 21 10 37.9 +2.0**
ITM Ithomi 38.71 287 P **P 21 10 36.0 -0.9**
ITM IAmb IAmb 21 10 37.9
comp=Z,30nm,0.7s
PSZ Piszkesteto 38.84 304 ⇑P **P 21 10 39.1 +1.1**
PSZ Piszkesteto 38.84 304 *eP* **P 21 10 39.1 +1.1**
PSZ Piszkesteto 38.84 304 P **P 21 10 38.5 +0.6**
PSZ pmax pmax
comp=Z,26nm,0.9s
PSZ Piszkesteto 38.84 304 P **P 21 10 38.5 +0.6**
KBN Korca 38.89 292 P **P 21 10 38.1 -0.4**
KBN pmax pmax
comp=Z,28nm,0.9s
KBN Korca 38.89 292 P **P 21 10 38.1 -0.4**
OJC Ojcow 38.91 308 *eP* **P 21 10 39.0 +0.5**
OJC *ep*P **pP 21 11 04.1 +0.5**
OJC *ep*PP **PP 21 12 05.1 -6.3**
OJC Ojcow 38.91 308 P **P 21 10 38.9 +0.5**
OJC pmax pmax
comp=Z,42nm,0.9s
OJC Ojcow 38.91 308 P **P 21 10 38.9 +0.5**
OJC IAmb IAmb 21 10 40.2
comp=Z,42nm,0.9s
KLNR Kaliningrad 39.01 315 *iP* **P 21 10 39.2 +0.1**
KLNR pmax pmax
comp=Z,106nm,0.7s
DIVS Divibare 39.01 298 ⇑*iP* **P 21 10 40.3 +0.9**
FRGS Fruska Gora 39.04 300 ⇓*iP* **P 21 10 40.9 +1.3**
FRGS Fruska Gora 39.04 300 ⇑*iP* **P 21 10 40.6 +1.0**
LANS Liptovska Anna 39.11 306 *eP* **P 21 10 41.9 +1.8**
LANS pmax pmax
comp=Z,9.0nm,0.8s
LANS Liptovska Anna 39.11 306 *eP* **P 21 10 41.9 +1.8**
TEKS Tekeris 39.30 299 ⇑*iP* **P 21 10 41.4 -0.3**
NYDR Nydri-Lefkada 39.32 289 P **P 21 10 41.5 -0.4**
LKD2 Lefkada island 39.34 289 P **P 21 10 41.4 -0.7**
EVGI Lefkada island 39.37 289 P **P 21 10 41.4 -1.0**
DRAG Dragano-Lefkad 39.42 289 P **P 21 10 42.0 -0.8**
IGT Igoumenitsa 39.44 291 P **P 21 10 42.2 -0.7**
BUD Budapest 39.44 303 *eP* **P 21 10 44.3 +1.5**
BUD Budapest 39.44 303 P **P 21 10 45.1 +2.3**
BBLS Lazići 39.45 298 ⇑*iP* **P 21 10 44.0 +0.9**
TIR Tirane 39.46 294 ⇑*iP* **P 21 10 43.1 0.0**
RUDO Rudo 39.51 297 ⇑*iP* **P 21 10 43.6 +0.1**
RAF Rauma 39.53 325 *eP* **P 21 10 44.1 +0.7**
VYHS Vyhne 39.54 305 *eP* **P 21 10 44.7 +1.1**
VYHS pmax pmax
comp=Z,25nm,1.1s
VYHS Vyhne 39.54 305 *eP* **P 21 10 44.7 +1.1**
PDG Podgorica 39.75 295 ⇓*iP* **P 21 10 45.3 -0.1**
PDG Podgorica 39.75 295 ⇑*iP* **P 21 10 45.5 +0.1**
KOLL Kolacno 39.82 305 *eP* **P 21 10 47.2 +1.2**
DRME Dracevica, Mon 39.84 295 ⇑*iP* **P 21 10 45.4 -0.8**
SRO2 Moca 39.86 304 *eP* **P 21 10 47.0 +0.8**
SRO2 pmax pmax
comp=Z,111nm,0.9s
SRO2 Moca 39.86 304 *eP* **P 21 10 47.0 +0.8**
UPM Unac-Piva 39.90 297 ⇑*iP* **P 21 10 47.8 +0.9**
SRO Srobarova 39.91 304 *eP* **P 21 10 48.6 +1.9**
SRO pmax pmax
comp=Z,102nm,0.9s
SRO Srobarova 39.91 304 *eP* **P 21 10 48.6 +1.9**
NJ2 Nanjing 39.92 81 ⇑P **P 21 10 48.1 +1.1**
NJ2 pmax pmax
comp=Z,19nm,0.5s
CSKK Cskako 39.97 303 *eP* **P 21 10 47.3 +0.1**
AAL Aland 40.15 323 *eP* **P 21 10 49.0 +0.5**
KOVH Kovagotottos 40.16 301 *eP* **P 21 10 49.1 +0.3**
BRY Bratogost 40.20 296 ⇑*iP* **P 21 10 49.8 +0.4**
TIH Tihany 40.24 302 *eP* **P 21 10 51.0 +1.5**
JAVC Velka Javorina 40.30 306 ⇑*iP* **P 21 10 52.0 +2.0**
JAVC *e* 21 12 50.6
HCY Herceg Novi 40.30 296 ⇑*iP* **P 21 10 49.7 -0.3**
MORC Moravsky Berou 40.37 307 ⇑P **P 21 10 51.9 +1.4**
MORC Moravsky Berou 40.37 307 P **P 21 10 51.4 +0.9**
MORC pmax pmax
comp=Z,31nm,0.8s
MORC Moravsky Berou 40.37 307 P **P 21 10 51.4 +0.9**
MORC Moravsky Berou 40.37 307 ⇑*iP* **P 21 10 51.7 +1.2**
MORC *e* 21 12 50.2
SMOL Smolenice 40.47 305 *eP* **P 21 10 52.5 +1.1**
SMOL pmax pmax
comp=Z,9.0nm,0.8s
SMOL Smolenice 40.47 305 *eP* **P 21 10 52.5 +1.1**
GKP Gorka Klasztor 40.63 312 *eP* **P 21 10 53.4 +0.8**
GKP Gorka Klasztor 40.63 319 *eP* **P 21 10 53.7 +1.1**
ZST Bratislava 40.70 305 *eP* **P 21 10 54.6 +1.3**
ZST pmax pmax
comp=Z,119nm,1.8s
ZST Bratislava 40.70 305 *eP* **P 21 10 54.5 +1.3**
KRLC Kraliky 40.85 307 *eP* **P 21 10 55.4 +0.9**
KRLC Kraliky 40.85 307 *eP* **P 21 10 55.4 +0.9**
BLY Banja Luka 40.94 299 ⇑*iP* **P 21 10 56.1 +0.9**
VRAC Vranov 40.99 306 ⇑P **P 21 10 57.2 +1.6**
VRAC Vranov 40.99 306 P **P 21 10 55.9 +0.2**
comp=Z,27nm,0.8s,baz=95,slow=8.2,SNR=42
VRAC Vranov 40.99 306 ⇑*iP* **P 21 10 57.0 +1.4**
VRAC *e* 21 12 57.5
BEHE Becsehely 41.05 302 *eP* **P 21 10 57.2 +1.1**
BEHE Becsehely 41.05 302 ⇑*iP* **P 21 10 57.2 +1.1**
MGRS Mrkonjic Grad 41.05 299 ⇑*iP* **P 21 10 57.4 +1.2**
SOP Sopron 41.10 304 *eP* **P 21 10 57.4 +0.9**
SOP Sopron 41.10 304 P **P 21 10 57.8 +1.3**
MRAK Mrakovica 41.11 300 ⇑*iP* **P 21 10 57.1 +0.4**
KEV Kevo 41.13 339 P **P 21 10 57.2 +0.8**
KEV pmax pmax
comp=Z,79nm,0.7s
KEV Kevo 41.13 339 P **P 21 10 57.2 +0.8**
KRUC Moravsky 41.13 306 ⇑*iP* **P 21 10 57.9 +1.1**
KRUC *e* 21 12 59.1
SNY Shenyang 41.13 65 ⇓P **P 21 10 57.1 +0.3**
SNY pmax pmax
comp=Z,21nm,0.6s

RICI Ricice 41.14 297 *i* P **P 21 10 56.7 -0.2**
MOSL Moslavina 41.14 301 *i* P **P 21 10 57.5 +0.5**
DPC Dobruska-Polom 41.14 308 *eP* **P 21 10 58.1 +1.2**
DPC Dobruska-Polom 41.14 308 *eP* **P 21 10 58.1 +1.2**
KSP Ksiaz 41.16 309 *eP* **P 21 10 57.6 +0.7**
KSP *e*PP **PnPn 21 12 40.7 +1.5**
KSP *e*SS SS 21 20 09.9 +1.2
KSP Ksiaz 41.16 309 P **P 21 10 59.2 +2.3**
OSTC Ostas 41.21 308 *eP* **P 21 10 58.9 +1.5**
KULM Kulim 41.22 131 P **P 21 10 59.0 +1.2**
UPP Uppsala 41.24 322 *eP* **P 21 10 58.4 +0.9**
MAKA Makarska 41.25 297 *iP* **P 21 10 57.8 +0.1**
KALN Kalnik 41.30 301 *iP* **P 21 10 58.7 +0.5**
CHVC Chvalec 41.31 308 *eP* **P 21 10 59.3 +1.1**
CHVC AMS AMS 21 32 20.0
comp=Z,200nm,12.7s
UPC Upice 41.34 308 *eP* **P 21 10 59.6 +1.2**
UPC *e* 21 11 26.4
UPC Upice 41.34 308 *eP* **P 21 10 59.6 +1.2**
UPC *ep*P **pP 21 11 26.4 +2.5**
KOGS Kog 41.41 302 *iP* **P 21 10 59.9 +0.9**
comp=Z,72nm,0.9s
ARA0 ARCESS Array S 41.47 338 *eP* **P 21 11 00.3 +1.0**
ARCES ARCESS Array B 41.47 338 P **P 21 10 59.7 +0.5**
comp=Z,94nm,0.7s,baz=110,slow=7.1,SNR=264
ARCES LR LR 21 29 50.3
comp=Z,334nm,18.1s,baz=135,slow=38
ARCES ARCESS Array B 41.47 338 *eP* **P 21 11 00.1 +0.8**
ARCES pmax pmax
comp=Z,94nm,0.7s
ARCES ARCESS Array B 41.47 338 P **P 21 11 00.1 +0.8**
CONA Conrad Observa 41.55 304 *iP* **P 21 11 01.6 +1.3**
comp=Z,60nm,1.1s,SNR=28
KIJV Kijevo 41.59 298 *iP* **P 21 10 58.4 -2.1**
PTJ Puntijarka 41.66 301 *iP* **P 21 11 01.8 +0.6**
BLEU Blekinge 41.68 317 *iP* **P 21 11 00.9 -0.2**
TREC Trest 41.72 306 *eP* **P 21 11 02.7 +1.1**
TREC *e* 21 11 29.2
TREC Trest 41.72 306 *eP* **P 21 11 02.7 +1.1**
TREC *ep*P **pP 21 11 29.4 +2.4**
ARSA Arzberg 41.83 303 *iP* **P 21 11 03.5 +1.0**
comp=Z,17nm,1.2s,SNR=6.7
GROS Grobnik 41.92 302 *iP* **P 21 11 04.2 +0.9**
comp=Z,85nm,0.9s
KTK1 Kautokeino 41.93 337 *eP* **P 21 11 03.6 +0.6**
MATE Matera 41.94 293 ⇑P **P 21 11 03.4 -0.1**
CRES Cresnjev 42.02 301 ⇑*iP* **P 21 11 04.9 +0.8**
OZLJ Ozalj 42.04 301 *iP* **P 21 11 04.8 +0.6**
IPM Ipoh 42.09 131 P **P 21 11 06.0 +1.1**
BSD Bornholm Skovb 42.10 315 ⇑*iP* **P 21 11 03.9 -0.7**
BSD IAmb IAmb 21 11 04.7
comp=Z,43nm,1.0s
CN2 Changchun 42.17 62 *eP* **P 21 11 05.8 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
PSI Prapat 42.18 135 P **P 21 11 05.4 -0.4**
PSI pmax pmax
comp=Z,14nm,0.8s
PSI Prapat 42.18 135 P **P 21 11 05.1 -0.7**
comp=Z,15nm,0.9s
BOJS Bojanci 42.20 301 ⇑*iP* **P 21 11 06.5 +1.0**
TIP Timpagrande 42.22 291 ⇑P **P 21 11 05.8 0.0**
TIP Timpagrande 42.22 291 P **P 21 11 05.5 -0.3**
TIP IAmb IAmb 21 11 07.9
comp=Z,103nm,1.5s
SOKA Soboth 42.22 302 *iP* **P 21 11 06.7 +0.9**
comp=Z,52nm,0.8s,SNR=22
PVCC Panska Ves 42.26 308 *eP* **P 21 11 07.1 +1.2**
PVCC Panska Ves 42.26 308 *eP* **P 21 11 07.1 +1.2**
RPSI Rantau Prapat 42.27 135 P **P 21 11 05.4 -1.0**
PRU Pruhonice 42.30 307 *eP* **P 21 11 07.3 +1.1**
PRU *e* 21 13 00.7
PRU Pruhonice 42.30 307 *eP* **P 21 11 07.3 +1.1**
PRU *e*PCP **PcP 21 13 00.7 +2.7**
PRA Prague 42.37 307 *eP* **P 21 11 08.4 +1.6**
PRA Prague 42.37 307 *eP* **P 21 11 08.4 +1.6**
SGRT San Giovanni R 42.44 295 P **P 21 11 07.7 +0.1**
LNIZ Loecknitz 42.45 313 *eP* **P 21 11 08.2 +0.8**
comp=Z,36nm,0.8s,baz=86,slow=7.9
CKRC Cesky Krumlov 42.52 306 *eP* **P 21 11 08.8 +0.7**
CKRC *ex* x 21 11 37.2
HAMF Hammerfest 42.56 339 *eP* **P 21 11 09.2 +1.1**
OBKA Obir 42.57 302 *iP* **P 21 11 10.0 +1.4**
comp=Z,44nm,1.8s,SNR=6.3
NVLJ Novalja 42.60 299 *iP* **P 21 11 08.6 -0.1**
MOA Molln 42.63 304 *iP* **P 21 11 09.9 +0.9**
comp=Z,32nm,0.8s,SNR=16
LJU Ljubljana 42.64 302 ⇑*iP* **P 21 11 10.2 +1.1**
BRG Berggiesshubel 42.65 309 *eP* **P 21 11 10.4 +1.3**
comp=Z,24nm,0.8s,baz=86,slow=7.9
BRG Berggiesshubel 42.65 309 *iP* **P 21 11 10.2 +1.2**
BRG Amp 21 11 11.2
comp=Z,35nm,0.8s
BRG Berggiesshubel 42.65 309 S **S 21 17 28.0 +4.0**
BRG Berggiesshubel 42.65 309 SS SS 21 20 32.0 -5.8
BRG Amp 21 33 25.0
comp=E,0.2nm,12.1s
BRG Amp 21 33 31.0
comp=N,0.1nm,18.9s
BRG Amp 21 33 36.0
comp=Z,0.3nm,20.4s
GSI Gunungsitoli 42.66 138 P **P 21 11 10.8 +1.3**
GSI IAmb IAmb 21 12 24.9
comp=Z,80nm,1.2s
GSI Gunungsitoli 42.66 138 P **P 21 11 10.4 +0.9**
comp=Z,54nm,1.4s
ZEA Zeya 42.69 47 *c iP* **P 21 11 10.8 +1.5**
ZEA *e**PP **pP 21 11 34.7 -0.6**
ZEA *e* 21 11 49.3
ZEA *e* 21 12 56.9
ZEA *e*S **S 21 17 28.5 +4.0**
ZEA pmax pmax
comp=N,20nm,1.0s
ZEA pmax pmax
comp=E,20nm,0.9s
ZEA pmax pmax
comp=Z,30nm,0.9s
ZEA pmax pmax
comp=N,100nm,4.6s
ZEA pmax pmax
comp=Z,200nm,6.6s
ZEA smax smax
comp=N,200nm,14.3s
RUE Ruedersdorf 42.71 311 *eP* **P 21 11 10.3 +0.8**
RUE Ruedersdorf 42.71 311 *eP* **P 21 11 10.5 +1.0**
comp=N,20nm,0.8s,baz=86,slow=7.9
CEY Cerknica 42.75 301 ⇑*iP* **P 21 11 11.0 +1.0**
DEL Delary 42.77 317 *iP* **P 21 11 10.3 +0.4**
GEC2 GERESS Array S 42.92 306 P **P 21 11 11.8 +0.4**
GEC2 GERESS Array S 42.92 306 *eP* **P 21 11 12.0 +0.6**
comp=N,6.8nm,0.8s,baz=86,slow=7.9
GERES GERESS Array B 42.92 306 P **P 21 11 11.8 +0.4**
comp=N,6.3nm,0.7s,baz=90,slow=8.0,SNR=50
GERES PP **PP 21 12 50.5 -2.4**
comp=N,1.5nm,0.7s,baz=68,slow=8.7,SNR=1.8
GERES GERESS Array B 42.92 306 *eP* **P 21 11 12.1 +0.7**
GERES pmax pmax
comp=Z,6.0nm,0.7s
KHC Kasperske Hory 42.98 306 *eP* **P 21 11 12.6 +0.8**
KHC *e* 21 13 00.0
KHC *e*S **S 21 17 26.7 -2.4**
KHC Kasperske Hory 42.98 306 *eP* **P 21 11 12.6 +0.8**
KHC *e*PCP **PcP 21 13 00.0 -0.3**
KHC *e*S **S 21 17 26.7 -2.4**
RGN Rugen 43.00 314 *eP* **P 21 11 12.2 +0.4**
comp=Z,68nm,0.9s,baz=86,slow=7.9
FBE Freiberg 43.02 309 *eP* **P 21 11 13.3 +1.3**
comp=Z,29nm,0.8s,baz=86,slow=7.9
SKDS Skadanscina 43.06 301 ⇑*iP* **P 21 11 12.5 0.0**
JETT Jettan, Norway 43.07 337 *eP* **P 21 11 15.2 +2.9**
MYKA Terra Mystica 43.18 302 *eP* **P 21 11 14.5 +1.0**
comp=Z,16nm,0.9s
TRI Trieste 43.21 301 P **P 21 11 13.8 +0.1**
TRI pmax pmax
comp=Z,33nm,0.8s
TRI Trieste 43.21 301 P **P 21 11 13.8 +0.1**
TRI IAmb IAmb 21 11 15.1
comp=Z,33nm,0.8s
CLL Collm 43.22 309 ⇑*iP* **P 21 11 14.3 +0.6**
comp=Z,19nm,0.9s
CLL *ep*P **pP 21 11 39.0 -0.1**
CLL *ep*PP **PP 21 12 58.0 +2.1**
CLL *e* 21 13 06.0
CLL *e*PPP PPP 21 13 35.0

CLL *eS* **S** **21 17 31.0 -1.4**
CLL *esS* **sS** **21 18 23.0 +6.1**
CLL *eSS* **SS** **21 20 53.0 +3.9**
CLL LmV 21 33 00.0
comp=Z,200nm,18.8s
CLL Collm **43.22 309**⇑ *iP* **P** **21 11 14.3 +0.6**
CLL *e*PP **pP** **21 11 39.0 -0.1**
CLL *eS* **S** **21 17 31.0 -1.4**
CLL pmax pmax
comp=Z,19nm,0.9s
CLL Collm **43.22 309** P **P** **21 11 14.2 +0.5**
CLL Collm **43.22 309** *eP* **P** **21 11 14.7 +1.1**
comp=Z,12nm,0.8s,baz=86,slow=7.9
BJUU Bjuv **43.22 316** *iP* **P** **21 11 13.6 +0.1**
HFS Hagfors **43.23 322** P **P** **21 11 13.5 -0.1**
comp=Z,64nm,0.6s,baz=99,slow=9.3,SNR=175
HFS pP **pP** **21 11 40.6 +1.5**
comp=Z,27nm,0.6s,baz=94,slow=9.5,SNR=4.6
HFS PP **PP** **21 12 55.5 -0.4**
comp=Z,21nm,0.8s,baz=88,slow=10,SNR=2.3
ROBS Robic **43.32 302** *iP* **P** **21 11 15.2 +0.7**
comp=Z,84nm,0.9s
KBA Koelnbreinsper **43.33 303** *iP* **P** **21 11 15.7 +0.9**
comp=Z,11nm,0.7s,SNR=9.3
WET Wettzell **43.44 306** *eP* **P** **21 11 16.3 +0.8**
baz=86,slow=7.9
FABU Falkenberg **43.44 318** *iP* **P** **21 11 15.7 +0.4**
BORU Boraas **43.45 319** *iP* **P** **21 11 15.9 +0.4**
COP Copenhagen **43.54 316**⇑ *iP* **P** **21 11 17.1 +1.0**
COP IAmb IAmb 21 11 18.1
comp=Z,407nm,1.0s
TANN Tannenbergstha **43.61 308** *eP* **P** **21 11 18.2 +1.3**
comp=Z,9.8nm,0.9s,baz=86,slow=7.9
RJOB Jochberg **43.62 304** *eP* **P** **21 11 17.5 +0.4**
baz=86,slow=7.9
NKC Novy Kostel **43.63 308** *eP* **P** **21 11 18.9 +1.9**
NKC Novy Kostel **43.63 308** *eP* **P** **21 11 18.9 +1.9**
WERN Wernitzgruen **43.67 308** *eP* **P** **21 11 18.5 +1.2**
comp=Z,3.8nm,0.8s,baz=86,slow=7.9
GUNZ Gunzen **43.70 308** *eP* **P** **21 11 18.9 +1.4**
comp=Z,11nm,0.9s,baz=86,slow=7.9
WERD Werda **43.71 308** *eP* **P** **21 11 19.1 +1.4**
comp=Z,13nm,0.9s,baz=86,slow=7.9
WERD *es*P **pP** **21 11 45.0 +1.9**
INTR Introdacqua **43.73 296** P **P** **21 11 18.1 +0.1**
INTR IAmb IAmb 21 11 19.4
comp=Z,37nm,0.8s
ROTZ Rotzenmuhle **43.82 307** *eP* **P** **21 11 19.8 +1.3**
comp=Z,15nm,1.0s,baz=86,slow=7.9
STAL STALIGIAL **43.87 302** P **P** **21 11 18.7 -0.3**
STAL IAmb IAmb 21 11 20.2
comp=Z,44nm,0.9s
MANZ Manzenberg **43.87 307** *eP* **P** **21 11 20.3 +1.3**
comp=Z,12nm,0.9s,baz=86,slow=7.9
ONAU Onsala **43.90 318** *iP* **P** **21 11 19.4 +0.5**
ABTA Abfaltersbach **43.94 303** *iP* **P** **21 11 19.7 +0.1**
comp=Z,9.7nm,0.8s,SNR=6.3
N2ST Straumen **43.96 333** *eP* **P** **21 11 20.3 +1.0**
NEUB Neuenburg **44.00 309** *eP* **P** **21 11 21.3 +1.4**
comp=Z,28nm,0.8s,baz=86,slow=7.9
NEUB *es*P **pP** **21 11 48.1 +2.8**
N2IH Innhavet **44.02 334** *eP* **P** **21 11 20.7 +1.0**
AQU L'Aquila **44.03 296** P **P** **21 11 20.6 +0.2**
AQU pmax pmax
comp=Z,37nm,0.8s
AQU L'Aquila **44.03 296**⇑ *iP* **P** **21 11 20.8 +0.4**
AQU L'Aquila **44.03 296** P **P** **21 11 20.6 +0.2**
AQU IAmb IAmb 21 11 23.2
comp=Z,37nm,0.8s
MOR8 Moi Rana **44.08 331** *eP* **P** **21 11 20.2 -0.1**
FAUS Fauske **44.08 333** *eP* **P** **21 11 21.0 +0.7**
MOX Moxa **44.13 308** *eP* **P** **21 11 22.2 +1.2**
comp=Z,8.9nm,0.8s,baz=86,slow=7.9
MNSI Mandailing Nat **44.19 136** P **P** **21 11 22.2 +0.4**
comp=Z,771nmcomp=Z,40nm,0.8s
N2NF Nordfold **44.21 333** *eP* **P** **21 11 22.2 +0.9**
STEI Steigen **44.26 334** *eP* **P** **21 11 22.5 +0.8**
FLTG Flechtingen **44.27 311** *eP* **P** **21 11 22.6 +0.6**
baz=86,slow=7.9
NORES NORESS Array B **44.37 323** P **P** **21 11 22.5 -0.2**
NORES pmax pmax
comp=Z,2.0nm,0.3s
WTTA Wattenberg **44.46 304** *iP* **P** **21 11 23.6 -0.3**
comp=Z,39nm,0.9s,SNR=16
GRA1 Grafenberg Arr **44.46 307** P **P** **21 11 24.8 +1.1**
GRA1 IAmb IAmb 21 11 26.7
comp=Z,112nm,1.6s
GRF Grafenberg Arr **44.46 307** P **P** **21 11 24.8 +1.1**
GRF pmax pmax
comp=Z,112nm,1.6s
GRF Grafenberg Arr **44.46 307** *eP* **P** **21 11 25.0 +1.3**
comp=Z,12nm,0.8s,baz=86,slow=7.9
GRFO Grafenberg **44.47 307** P **P** **21 11 24.4 +0.8**
GRFO pmax pmax
comp=Z,106nm,1.6s
GRFO Grafenberg **44.47 307** P **P** **21 11 24.4 +0.8**
GRFO IAmb IAmb 21 11 26.7
comp=Z,106nm,1.6s
WATA Walderalm **44.49 304** *iP* **P** **21 11 24.0 -0.1**
comp=Z,24nm,1.0s,SNR=11
NC303 NORSAR Array S **44.51 324** P **P** **21 11 24.3 +0.5**
NB2 NORSAR Subarra **44.56 323** P **P** **21 11 24.1 -0.2**
comp=Z,75nm,0.9s,baz=98,slow=7.9
NB2 NORSAR Subarra **44.56 323** P **P** **21 11 24.1 -0.2**
baz=98,slow=7.9
NOA NORSAR Array B **44.56 323** P **P** **21 11 23.5 -0.8**
comp=Z,14nm,0.4s,baz=98,slow=7.9,SNR=284
NOA LR LR 21 32 17.4
comp=Z,225nm,18.2s,baz=95,slow=39
NOA NORSAR Array B **44.56 323** *eP* **P** **21 11 23.7 -0.6**
NOA pmax pmax
comp=Z,14nm,0.4s
FUR Furstenfeldbru **44.59 305** *eP* **P** **21 11 25.4 +0.7**
comp=Z,25nm,0.7s,baz=86,slow=7.9
YAK Yakutsk **44.59 35** P **P** **21 11 23.9 -0.6**
comp=Z,15nm,0.4s,baz=276,slow=0.3,SNR=33
YAK S **S** **21 17 50.6 -1.5**
comp=Z,2.3nm,0.3s,baz=311,slow=20,SNR=8.2
YAK Yakutsk **44.59 35***c* *iP* **P** **21 11 23.8 -0.6**
YAK *e*PP **pP** **21 11 43.9 -6.2**
YAK *e* 21 13 03.6
YAK *eS* **S** **21 17 50.4 -1.6**
YAK *e*SS **sS** **21 18 33.3 -3.4**
YAK *e* 21 21 05.8
YAK pmax pmax
comp=Z,67nm,0.9s
YAK pmax pmax
comp=E,28nm,1.3s
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK smax smax
comp=E,165nm,2.0s
YAK smax smax
comp=N,60nm,1.5s
YAK Yakutsk **44.59 35** P **P** **21 11 24.5 0.0**
YAK IAmb IAmb 21 11 26.0
comp=Z,71nm,0.9s
CTI Castel Tesino **44.63 302** P **P** **21 11 25.2 +0.1**
CTI pmax pmax
comp=Z,21nm,0.8s
CTI Castel Tesino **44.63 302** P **P** **21 11 25.2 +0.1**
KONS Konsvik **44.67 331** *eP* **P** **21 11 25.8 +0.8**
NSS Namsos **44.73 328** *eP* **P** **21 11 25.9 +0.4**
SQTA Sankt Quirin **44.76 304** *iP* **P** **21 11 25.9 -0.3**
comp=Z,20nm,0.8s,SNR=12
BSEG Bad Segeberg **44.76 313** *eP* **P** **21 11 26.7 +0.8**
comp=Z,23nm,0.9s,baz=86,slow=7.9
MOTA Moosalm **44.81 304** *iP* **P** **21 11 26.4 -0.2**
comp=Z,27nm,0.8s,SNR=13
CLZ Clausthal **44.83 310** *eP* **P** **21 11 28.0 +1.4**
comp=Z,20nm,1.0s,baz=86,slow=7.9
LOF Lofoten **44.93 334** *eP* **P** **21 11 27.0 0.0**
NRDL Niedersach Rie **44.95 311** *eP* **P** **21 11 28.7 +1.3**
comp=Z,19nm,0.9s,baz=86,slow=7.9
MDJ Mudanjiang **44.98 60** P **P** **21 11 28.8 +1.0**
MDJ pmax pmax
comp=Z,23nm,1.8s
MDJ pmax pmax
comp=Z,490nm,4.4s
RETA Reutte **45.02 304** *iP* **P** **21 11 28.2 0.0**
comp=Z,11nm,0.7s,SNR=5.9
GTTG Gottingen **45.10 310** *eP* **P** **21 11 29.9 +1.2**
comp=Z,32nm,0.9s,baz=86,slow=7.9
GTTG *es*P **pP** **21 11 57.5 +3.3**
FETA Feichten **45.11 303** *iP* **P** **21 11 28.8 -0.2**
comp=Z,25nm,0.9s,SNR=13

UBBA Unterbreizbach **45.14 309** *eP* **P** **21 11 30.2 +1.3**
baz=86,slow=7.9
CORL Corleone **45.16 290** P **P** **21 11 29.2 -0.2**
CORL IAmb IAmb 21 11 34.2
comp=Z,51nm,0.9s
KONO Kongsberg **45.24 321***c* *eP* **P** **21 11 30.1 +0.5**
KONO pmax pmax
comp=Z,25nm,0.6s
KONO Kongsberg **45.24 321** *eP* **P** **21 11 29.7 +0.1**
KONO Kongsberg **45.24 321** P **P** **21 11 29.5 -0.1**
KONO IAmb IAmb 21 11 30.7
comp=Z,46nm,0.9s
N2RO R_st **45.30 333** *eP* **P** **21 11 30.0 +0.1**
KS19 Wonju Array Si **45.34 70** P **P** **21 11 31.7 +1.0**
KS19 IAmb IAmb 21 12 44.7
comp=Z,55nm,1.4s
GOET G??ttrup **45.35 318** *iP* **P** **21 11 31.9 +1.4**
GOET IAmb IAmb 21 11 32.5
comp=Z,54nm,0.8s
KSAR Wonju Array Be **45.37 70** P **P** **21 11 31.6 +0.6**
KSAR Wonju Array Be **45.37 70** P **P** **21 11 31.6 +0.6**
MUD Monsted U'grnd **45.38 317** *iP* **P** **21 11 31.7 +1.0**
MUD IAmb IAmb 21 11 32.6
comp=Z,31nm,1.1s
KSRS Korea Array **45.40 70** P **P** **21 11 30.9 -0.3**
comp=Z,5.3nm,0.6s,baz=272,slow=7.3,SNR=23
KSRS ScP **ScP** **21 16 48.5 -3.1**
comp=Z,2.2nm,0.9s,baz=289,slow=3.8,SNR=5.3
KSRS LR LR 21 32 22.3
comp=Z,166nm,19.7s,baz=276,slow=38
KSRS Korea Array **45.40 70** *eP* **P** **21 11 31.5 +0.3**
KSRS pmax pmax
comp=Z,5.0nm,0.6s
HOPEN Hopen **45.40 346** *eP* **P** **21 11 33.1 +2.4**
UBR Ueberruh **45.43 304** *eP* **P** **21 11 31.8 +0.4**
comp=Z,25nm,0.8s,baz=86,slow=7.9
BJO1 Bjornoya **45.64 343** *eP* **P** **21 11 33.4 +0.8**
DAVA Damuels **45.64 304** *iP* **P** **21 11 33.1 -0.1**
comp=Z,77nm,0.9s,SNR=36
MILB Miltenberg **45.69 307** *eP* **P** **21 11 34.5 +1.1**
comp=Z,16nm,0.8s,baz=86,slow=7.9
DAVOX Davos/Dischmat **45.72 303** P **P** **21 11 33.6 -0.3**
comp=Z,22nm,0.8s,baz=99,slow=6.8,SNR=44
KLR Kul'dur **45.74 53** P **P** **21 11 33.5 -0.3**
comp=Z,11nm,0.9s,baz=275,slow=8.7,SNR=16
KLR LR LR 21 33 27.5
comp=Z,238nm,18.8s,baz=272,slow=39
KLR Kul'dur **45.74 53***c* *eP* **P** **21 11 34.0 +0.2**
KLR pmax pmax
comp=Z,45nm,1.5s
HOMB Homborsund **45.76 319** *iP* **P** **21 11 33.4 -0.3**
HOMB IAmb IAmb 21 11 34.7
comp=Z,43nm,1.0s
HOMB Homborsund **45.76 319** *eP* **P** **21 11 34.7 +1.0**
LODK Lodwar **45.86 233** P **P** **21 11 36.0 +0.8**
STU Stuttgart **45.89 306** P **P** **21 11 36.5 +1.6**
STU Stuttgart **45.89 306** *eP* **P** **21 11 35.6 +0.7**
comp=Z,42nm,0.8s,baz=86,slow=7.9
KASTN Kahler Asten **46.10 309** *eP* **P** **21 11 37.7 +1.1**
baz=86,slow=7.9
HLG Helgoland **46.19 314** *eP* **P** **21 11 37.8 +0.7**
baz=86,slow=7.9
TNS Taunus Mts **46.19 308** *eP* **P** **21 11 38.4 +1.1**
comp=Z,11nm,0.9s,baz=86,slow=7.9
TIXI Tiksi **46.38 22** P **P** **21 11 38.3 -0.1**
comp=Z,26nm,0.3s,baz=267,slow=3.1,SNR=60
TIXI LR LR 21 31 40.9
comp=Z,166nm,19.1s,baz=262,slow=37
TIXI Tiksi **46.38 22***c* *eP* **P** **21 11 38.5 +0.1**
TIXI Tiksi **46.38 22** P **P** **21 11 38.3 -0.1**
IBBN Ibbenburen **46.40 311** *eP* **P** **21 11 40.1 +1.3**
comp=Z,39nm,0.9s,baz=86,slow=7.9
MOL Molde **46.44 325** *eP* **P** **21 11 39.5 +0.5**
SNART Snartemo **46.44 319** *iP* **P** **21 11 39.9 +0.8**
SNART IAmb IAmb 21 11 40.6
comp=Z,104nm,1.1s
SNART Snartemo **46.44 319** *eP* **P** **21 11 40.1 +1.1**
BFO Black Forest **46.52 306** P **P** **21 11 40.1 +0.2**
BFO pmax pmax
comp=Z,31nm,1.3s
BFO Black Forest **46.52 306** P **P** **21 11 40.1 +0.2**
BFO Black Forest **46.52 306** *eP* **P** **21 11 40.6 +0.7**
comp=Z,31nm,1.2s,baz=86,slow=7.9
BFO *es*P **pP** **21 12 08.6 +2.9**
AKN Aaknes **46.67 325** *eP* **P** **21 11 41.8 +0.9**
USRK Ussuriysk Ar. **46.74 60** P **P** **21 11 41.4 -0.3**
comp=Z,3.2nm,0.7s,baz=280,slow=8.4,SNR=6.9
USRK PcP **PcP** **21 13 12.4 -1.0**
comp=Z,0.7nm,0.4s,baz=332,slow=5.8,SNR=1.3
USRK LR LR 21 34 02.1
comp=Z,179nm,19.5s,baz=279,slow=39
USRK Ussuriysk Ar. **46.74 60** P **P** **21 11 42.7 +1.0**
USRK Ussuriysk Ar. **46.74 60** P **P** **21 11 42.7 +1.0**
BUG Bochum--Univer **46.79 310** *eP* **P** **21 11 43.0 +1.1**
comp=Z,28nm,1.0s,baz=86,slow=7.9
BLS5 Blasjo **46.84 321** *eP* **P** **21 11 43.1 +0.9**
HYA Hoyanger **47.01 323** *eP* **P** **21 11 44.4 +1.0**
AHRW Bad Neuenahr-A **47.02 309** *eP* **P** **21 11 45.0 +1.3**
comp=Z,20nm,0.9s,baz=86,slow=7.9
BER Bergen **47.41 322** *eP* **P** **21 11 46.9 +0.4**
KMY Karmoy **47.46 321** *eP* **P** **21 11 47.5 +0.6**
ASK Askoy **47.48 322** *eP* **P** **21 11 47.3 +0.2**
SENIN Lac Senin/Sane **47.55 303** P **P** **21 11 47.7 -0.4**
SENIN IAmb IAmb 21 11 49.2
comp=Z,35nm,0.8s
FOO Floro **47.57 324** *eP* **P** **21 11 48.7 +0.9**
BTNL Ternell **47.61 309** *dP* **P** **21 11 49.4 +1.0**
comp=Z,29nm,1.4s
MEM Membach **47.69 309** *dP* **P** **21 11 49.7 +0.8**
comp=Z,23nm,1.1s
BHOU Houvegnez **47.73 309** *dP* **P** **21 11 49.0 -0.2**
BHOU *d*PcP **PcP** **21 13 17.9 +1.1**
WLF Walferdange **47.73 308** *dP* **P** **21 11 50.4 +1.2**
comp=Z,43nm,1.2s
WLF Walferdange **47.73 308** P **P** **21 11 50.0 +0.7**
WLF pmax pmax
comp=Z,54nm,1.0s
WLF Walferdange **47.73 308** P **P** **21 11 50.0 +0.7**
WLF IAmb IAmb 21 11 52.2
comp=Z,54nm,1.0s
WLF Walferdange **47.73 308** *eP* **P** **21 11 50.6 +1.3**
comp=Z,40nm,0.9s,baz=86,slow=7.9
HAU Haudompre **47.88 305** *eP* **P** **21 11 50.0 -0.5**
HAU pmax pmax
comp=Z,31nm,1.0s
SPB2 Spitsbergen Ar **47.90 347** P **P** **21 11 51.6 +1.5**
SPITS Spitsbergen Ar **47.90 347** P **P** **21 11 50.9 +0.7**
comp=Z,31nm,0.5s,baz=130,slow=10,SNR=148
SPITS Spitsbergen Ar **47.90 347** P **P** **21 11 51.5 +1.3**
SPITS pmax pmax
comp=Z,116nm,0.9s
LPG La Plagne **48.10 302** *eP* **P** **21 11 52.3 -0.2**
LPG pmax pmax
comp=Z,31nm,0.8s
LPL La Plagne **48.11 302** *eP* **P** **21 11 52.4 -0.1**
LPL pmax pmax
comp=Z,54nm,1.0s
BCLA Clavier **48.16 309** *dP* **P** **21 11 53.7 +1.2**
KMBO Kilima Mbogo **48.22 227** P **P** **21 11 54.0 +0.4**
comp=Z,2.4nm,0.6s,baz=35,slow=12,SNR=12
KMBO pP **pP** **21 12 19.2 -0.6**
comp=Z,3.5nm,0.6s,baz=22,slow=8.3,SNR=5.2
KMBO LR LR 21 31 51.5
comp=Z,75nm,21.4s,baz=88,slow=35
KMBO Kilima Mbogo **48.22 227** *eP* **P** **21 11 54.8 +1.2**
KMBO pmax pmax
comp=Z,2.0nm,0.6s
BNI Bardonecchia **48.24 301** P **P** **21 11 53.5 +0.1**
BNI pmax pmax
comp=Z,55nm,1.4s
BNI Bardonecchia **48.24 301** P **P** **21 11 53.5 +0.1**
BNI IAmb IAmb 21 11 55.5
comp=Z,55nm,1.4s
MBDF Montbardon **48.25 301** *eP* **P** **21 11 52.7 -0.8**
MBDF pmax pmax
comp=Z,28nm,0.7s
BGES Gesves **48.30 309** *dP* **P** **21 11 54.0 +0.3**
CABF La Chapelle **48.32 304** *eP* **P** **21 11 53.9 0.0**
CABF pmax pmax
comp=Z,52nm,1.0s
GIVF Givet **48.52 308** *eP* **P** **21 11 55.7 +0.4**
GIVF pmax pmax
comp=Z,49nm,1.4s
GRNR Gornyy **48.52 51**⇑ *iP* **P** **21 11 54.8 -0.5**
GRNR pmax pmax
comp=Z,8.0nm,1.0s
GRNR MLR MLR
comp=N,60nm,16.0s
GRNR MLR MLR
comp=E,230nm,16.0s
GRNR MLR MLR
comp=Z,140nm,10.0s
BMRD Maredsous **48.52 309** *dP* **P** **21 11 56.4 +1.1**
comp=Z,28nm,1.1s
FRF La Foret Royal **48.61 300** *eP* **P** **21 11 55.4 -0.7**
FRF pmax pmax
comp=Z,41nm,0.9s
DOU Dourbes **48.66 308** *dP* **P** **21 11 56.4 0.0**
comp=Z,27nm,1.1s
KIBK Kibwezi **48.72 226** P **P** **21 11 58.0 +0.7**
LMR La Mourre **48.76 299** *eP* **P** **21 11 56.4 -0.8**
LMR pmax pmax
comp=Z,23nm,1.3s
SNF Seneffe **48.79 309** *dP* **P** **21 11 58.4 +1.1**
comp=Z,38nm,1.3s
ORIF Oris-en-Rattie **48.83 301** *eP* **P** **21 11 56.9 -0.9**
ORIF pmax pmax
comp=Z,11nm,1.0s
KEST Kesra **48.84 289** P **P** **21 11 58.6 +0.5**
comp=Z,47nm,0.9s,baz=57,slow=1.5,SNR=26
KEST Kesra **48.84 289** P **P** **21 11 59.1 +1.0**
KEST Kesra **48.84 289** P **P** **21 12 00.2 +2.1**
SNR=5.6
BAIF Baives **48.91 308** *eP* **P** **21 11 58.8 +0.5**
BAIF pmax pmax
comp=Z,61nm,1.0s
MASI Maura Aman, Be **48.92 136** P **P** **21 11 58.4 -0.4**
comp=Z,195nm,0.8s
KBS Kingsbay **49.02 347** *iP* **P** **21 11 59.8 +1.0**
KBS IAmb IAmb 21 12 01.7
comp=Z,328nm,0.9s
KBS Kingsbay **49.02 347***c* *eP* **P** **21 11 59.7 +1.0**
KBS pmax pmax
comp=Z,223nm,1.3s
KBS Kingsbay **49.02 347** *eP* **P** **21 11 59.7 +1.0**
KBS Kingsbay **49.02 347** P **P** **21 11 60.0 +1.3**
JNU Nakatsue **49.08 75** P **P** **21 12 00.4 +0.5**
JSU Suzuyama **49.35 77** P **P** **21 12 02.8 +0.9**
JSU IAmb IAmb 21 12 04.8
comp=Z,29nm,0.8s
JOW Kunigami **49.49 84** P **P** **21 12 03.0 -0.1**
KSI Kapahiang **49.54 136** P **P** **21 12 02.5 -1.0**
comp=Z,138nm,0.7s
SSB Saint Sauveur **49.66 302** P **P** **21 12 04.3 +0.1**
SSB pmax pmax
comp=Z,23nm,0.7s
SSB Saint Sauveur **49.66 302** P **P** **21 12 04.3 +0.1**
SSB IAmb IAmb 21 12 05.7
comp=Z,23nm,0.7s
VIVF Saint-Julien-l **49.67 302** *eP* **P** **21 12 04.2 0.0**
VIVF pmax pmax
comp=Z,59nm,1.1s
CMAH Djebel Manchou **50.02 291** P **P** **21 12 07.1 +0.1**
ABSA Djebel Ababsia **50.09 290** P **P** **21 12 08.1 +0.5**
AVF Avril sur Loir **50.12 304** *eP* **P** **21 12 07.0 -0.5**
AVF pmax pmax
comp=Z,57nm,0.9s
JHS Saijyo **50.16 72** P **P** **21 12 07.6 -0.4**
KSM Kuching **50.35 124** P **P** **21 12 11.0 +1.4**
PPBI Pangkal Pinang **50.43 131** P **P** **21 12 10.3 +0.1**
comp=Z,43nm,1.1s
CLF Chambon-Foret **50.57 306** P **P** **21 12 10.7 -0.2**
CLF IAmb IAmb 21 12 12.7
comp=Z,66nm,1.2s
CKFL Kef-Lekhel **50.63 291** P **P** **21 12 11.8 +0.2**
WACR West Acre **50.66 312** *eP* **P** **21 12 12.4 +0.9**
WACR IAmb IAmb 21 12 13.4
comp=Z,170nm,0.9s
EGSI Enggano, Bengk **50.77 137** P **P** **21 12 12.9 +0.2**
comp=Z,79nm,0.8s
CASM Ain Smara **50.85 290** P **P** **21 12 13.6 +0.4**
CTEI Djebel Teioual **50.98 290** P **P** **21 12 15.2 +0.9**
MDSI Maura Dua **51.12 135** P **P** **21 12 12.4 -3.0**
comp=Z,6.8nm,0.9s
JMN Monobe **51.20 73** P **P** **21 12 16.3 +0.4**
JMN IAmb IAmb 21 13 57.9
comp=Z,47nm,1.2s
DFRA Djebel Bou Aff **51.22 291** P **P** **21 12 16.4 +0.3**
LWLI Liwa **51.49 135** P **P** **21 12 15.7 -2.5**
CKHR Kef el Ahmar **51.67 290** P **P** **21 12 19.3 -0.2**
SET Setif **51.70 291** P **P** **21 12 21.0 +1.4**
HPK Haverah Park **51.77 314** *eP* **P** **21 12 19.7 -0.1**
HPK IAmb IAmb 21 12 20.7
comp=Z,38nm,0.8s
EDMD Edmundbyers **51.81 315** *eP* **P** **21 12 19.9 -0.1**
EDMD IAmb IAmb 21 12 21.7
comp=Z,50nm,1.0s
JWT Wachi **51.81 70** P **P** **21 12 21.0 +0.7**
TPI Tanjungpandan **51.83 130** P **P** **21 12 20.8 +0.1**
comp=Z,27nm,0.8s
MBAR Mbarara **51.91 234***c* *eP* **P** **21 12 22.3 +0.8**
MBAR Mbarara **51.91 234** P **P** **21 12 21.2 -0.3**
MBAR IAmb IAmb 21 12 49.6
comp=Z,44nm,1.4s
ESY Stoneypath **51.98 317** *eP* **P** **21 12 21.9 +0.6**
MCD Coleburn Disti **52.05 319** *eP* **P** **21 12 22.1 +0.3**
EDI Edinburgh **52.30 317** *eP* **P** **21 12 23.5 -0.1**
EDI IAmb IAmb 21 12 24.3
comp=Z,38nm,1.0s
SWN1 Swindon **52.37 311** *eP* **P** **21 12 25.1 +0.8**
SWN1 IAmb IAmb 21 12 25.8
comp=Z,143nm,1.0s
EKA Eskdalemuir Ar **52.39 316** P **P** **21 12 23.6 -0.7**
ESK Eskdalemuir **52.42 316** P **P** **21 12 24.5 0.0**
ESK pmax pmax
comp=Z,26nm,1.0s
ESK Eskdalemuir **52.42 316** P **P** **21 12 24.5 0.0**
ESK IAmb IAmb 21 12 25.5
comp=Z,26nm,0.9s
KESW Keswick, Cumbr **52.50 315** *eP* **P** **21 12 26.1 +0.9**
STRD Stroud **52.53 312** *eP* **P** **21 12 25.3 -0.1**
STRD IAmb IAmb 21 12 26.3
comp=Z,54nm,0.8s
INVG Invergeldie, C **52.68 318** *eP* **P** **21 12 26.2 -0.2**
HLM1 Long Mynd **52.80 313** *eP* **P** **21 12 27.3 -0.1**
HLM1 IAmb IAmb 21 12 28.2
comp=Z,33nm,1.1s
FOEL Foel Wylfa **52.91 313** *eP* **P** **21 12 29.1 +0.9**
LINV Loch Inver, As **52.98 320** *eP* **P** **21 12 28.6 0.0**
MCH1 Michaelchurch **52.99 312** *eP* **P** **21 12 28.8 0.0**
MCH1 IAmb IAmb 21 12 29.9
comp=Z,77nm,0.8s
NEWG New Galloway **53.03 316** *eP* **P** **21 12 29.7 +0.6**
NEWG IAmb IAmb 21 12 30.5
comp=Z,43nm,0.8s
PGBU Glenifferbraes **53.04 317** *eP* **P** **21 12 29.5 +0.4**
PGBU IAmb IAmb 21 12 30.1
comp=Z,54nm,1.0s
KAC Achnashellach **53.16 319** *eP* **P** **21 12 29.8 -0.1**
KPL Plockton **53.37 319** *eP* **P** **21 12 31.4 0.0**
YSS Yuzh-Sakhalins **53.42 54**⇓ *eP* **P** **21 12 30.7 -1.3**
YSS pmax pmax
comp=Z,40nm,0.9s
YSS MLR MLR
comp=Z,400nm,16.0s
MAJO Matsushiro **53.48 68** P **P** **21 12 32.2 -0.5**
MAJO pmax pmax
comp=Z,92nm,1.9s
MAJO Matsushiro **53.48 68** P **P** **21 12 32.2 -0.5**
MAJO IAmb IAmb 21 14 05.2
comp=Z,92nm,1.9s
MAT Matsushiro **53.48 68** P **P** **21 12 31.9 -0.8**
MJAR Matsushiro Arr **53.49 68** P **P** **21 12 31.7 -1.0**
comp=Z,4.3nm,0.7s,baz=294,slow=9.3,SNR=9.0
MJAR ScP **ScP** **21 17 23.1 -3.1**
comp=Z,2.7nm,0.9s,baz=277,slow=4.3,SNR=4.9
MJAR Matsushiro Arr **53.49 68** P **P** **21 12 33.0 +0.3**
MJAR pmax pmax
comp=Z,21nm,1.4s
MJAR Matsushiro Arr **53.49 68** P **P** **21 12 33.0 +0.3**
MJA0 Matsu Arr-Jizo **53.52 68** *eP* **P** **21 12 32.2 -0.8**
MJA0 pmax pmax
comp=Z,4.0nm,0.7s
CGJI Cibinong **53.72 135** P **P** **21 12 32.1 -2.4**
JEW Eniwo **53.74 60** P **P** **21 12 34.2 -0.2**
RSBS Rosebush, Pemb **54.05 312** *eP* **P** **21 12 36.5 0.0**
RSBS IAmb IAmb 21 12 37.1
comp=Z,21nm,0.8s
JTM Tenmabayashi **54.13 62** P **P** **21 12 36.4 -0.9**
NOR Nord **54.23 350**⇑ *iP* **P** **21 12 38.2 +0.8**

NOR IAmb IAmb 21 12 39.4
comp=Z,45nm,1.2s
DSB Dublin 54.69 314 P **P** **21 12 41.5 +0.4**
DSB IAmb IAmb 21 13 00.0
comp=Z,37nm,1.2s
JMM Marumori 54.94 66 P **P** **21 12 43.1 0.0**
MA2 Magadan 54.99 38*ce*P **P** **21 12 44.2 +1.0**
MA2 pmax pmax
comp=Z,35nm,1.7s
MA2 Magadan 54.99 38 P **P** **21 12 43.8 +0.6**
MA2 IAmb IAmb 21 13 49.0
comp=Z,33nm,1.3s
DAG Danmarks Havn 55.11 344 *i* P **P** **21 12 44.2 +0.4**
DAG IAmb IAmb 21 12 46.3
comp=Z,94nm,0.9s
CISI Cisompet, Garu 55.71 133 P **P** **21 12 47.0 -2.0**
DBG Daneborg 55.94 341 *i* P **P** **21 12 51.1 +1.3**
DBG IAmb IAmb 21 12 52.7
comp=Z,28nm,1.0s
CART Cartagena 55.99 295 P **P** **21 12 50.8 +0.2**
CART Cartagena 55.99 295 P **P** **21 12 51.2 +0.5**
CART Cartagena 55.99 295 P P 21 12 51.2 +0.3
ODJA Bouhanifia 56.21 292 P **P** **21 12 55.0 +2.6**
ESBB Sonseca Array 57.36 298 P **P** **21 13 00.3 -0.2**
ESBB IAmb IAmb 21 13 01.7
comp=Z,32nm,0.8s
ESDC Sonseca Array 57.36 298 P **P** **21 13 00.3 -0.2**
comp=Z,29nm,0.8s,baz=61,slow=7.3,SNR=206
ESDC PP **PP** **21 15 09.1 +0.5**
comp=Z,2.3nm,0.9s,baz=53,slow=3.2,SNR=2.5
ESDC LR LR 21 43 15.9
comp=Z,44nm,18.6s,baz=145,slow=42
ESDC Sonseca Array 57.36 298 P **P** **21 13 00.3 -0.2**
ESDC IAmb IAmb 21 13 01.6
comp=Z,24nm,0.9s
UGM Wanagama 57.62 131 P **P** **21 13 01.0 -1.5**
PAB San Pablo 57.69 298 P **P** **21 13 02.8 0.0**
PAB pmax pmax
comp=Z,59nm,1.4s
PAB San Pablo 57.69 298 P **P** **21 13 02.8 0.0**
PAB IAmb IAmb 21 13 04.2
comp=Z,59nm,1.4s
PAB San Pablo 57.69 298 P **P** **21 13 03.1 +0.3**
PAB San Pablo 57.69 298 P P 21 13 03.1 0.0
TOLI2 Tolitoli 58.01 115 P **P** **21 13 06.1 +0.9**
TOLI2 IAmb IAmb 21 13 06.6
comp=Z,27nm,0.6s
TAF Taforalt 58.12 292 P **P** **21 13 07.0 +1.1**
TAF Taforalt 58.12 292 P P 21 13 07.0 +0.7
FIGM Figuig 58.36 289 P **P** **21 13 08.0 +0.4**
FIGM Figuig 58.36 289 P P 21 13 08.0 0.0
JBK JBK 58.43 292 P **P** **21 13 09.0 +0.8**
JBK JBK 58.43 292 P P 21 13 09.0 -0.3
PBRG Braganca 58.53 301 *eP* **P** **21 13 08.8 +0.2**
comp=Z,37nm,1.7s
TDRA Tendrara 58.56 290 P **P** **21 13 10.0 +0.9**
TDRA Tendrara 58.56 290 P P 21 13 10.0 -0.5
MVO Moncorvo 58.97 301 *eP* **P** **21 13 12.2 +0.5**
comp=Z,53nm,1.1s
ABPO Ambohimpanom 59.00 206 P **P** **21 13 13.4 +1.3**
ABPO pmax pmax
comp=Z,56nm,1.4s
ABPO Ambohimpanom 59.00 206 P **P** **21 13 13.4 +1.3**
ABPO IAmb IAmb 21 13 42.3
comp=Z,56nm,1.4s
PALE Palemas 59.09 293 P **P** **21 13 13.0 +0.4**
PALE Palemas 59.10 293 P P 21 13 13.0 -0.2
BILL Bilibino 59.22 26*ce*P **P** **21 13 14.4 +1.5**
BILL *i* *PP **pP** **21 13 41.2 +1.5**
BILL *i* *SP **sP** **21 13 52.7 +0.9**
BILL *i* 21 14 01.8
BILL *e*S **S** **21 21 14.1 +2.0**
BILL pmax pmax
comp=Z,66nm,1.7s
BILL MLR MLR
comp=Z,138nm,16.0s
BILL Bilibino 59.22 26 P **P** **21 13 13.8 +0.9**
PVRL Vila Real 59.41 301 *eP* **P** **21 13 15.0 +0.4**
comp=Z,44nm,1.4s
POLO Lamas de Olo 59.42 301 *eP* **P** **21 13 15.6 +0.8**
comp=Z,18nm,1.6s
PCAB Cabril 59.45 302 *eP* **P** **21 13 15.8 +0.8**
comp=Z,99nm,1.6s
PGAV Gavieira, Arco 59.52 302 *eP* **P** **21 13 16.3 +0.8**
comp=Z,78nm,1.9s
MTE Manteigas 59.63 300 *eP* **P** **21 13 17.1 +0.9**
comp=Z,104nm,1.1s
GMJI Gumukmas 59.72 129 P **P** **21 13 12.4 -4.6**
PVIS Viseu 59.75 300 *eP* **P** **21 13 17.8 +0.8**
comp=Z,80nm,0.9s
PCBR Castelo Branco 59.80 299 *eP* **P** **21 13 17.9 +0.6**
PMRV Marv??o 59.90 299 *eP* **P** **21 13 18.2 +0.2**
comp=Z,53nm,1.2s
SMIR Smir Dam 59.97 294 P **P** **21 13 19.0 +0.4**
SMIR Smir Dam 59.97 294 P P 21 13 19.0 -0.6
PBAR Barrancos 60.16 297 *eP* **P** **21 13 20.0 +0.2**
comp=Z,70nm,1.1s
CHEFC Chefchaouen 60.18 294 P **P** **21 13 21.1 +1.0**
CHEFC Chefchaouen 60.19 294 P P 21 13 21.1 +0.4
PESTR Estremoz 60.27 298 *eP* **P** **21 13 20.4 -0.2**
comp=Z,65nm,1.2s
PESTR Estremoz 60.27 298 P **P** **21 13 20.9 +0.3**
PESTR IAmb IAmb 21 13 21.9
comp=Z,24nm,1.0s
PESTR Estremoz 60.27 298 P **P** **21 13 21.3 +0.7**
PESTR Estremoz 60.27 298 P P 21 13 21.3 0.0
COI Coimbra 60.31 300 P **P** **21 13 21.6 +0.8**
COI pmax pmax
comp=Z,84nm,0.8s
COI Coimbra 60.31 300 *eP* **P** **21 13 21.8 +1.0**
COI Coimbra 60.31 300 P **P** **21 13 21.6 +0.8**
JAGI Jajag, Banyuwa 60.32 128 P **P** **21 13 19.3 -1.8**
JAGI IAmb IAmb 21 13 20.1
comp=Z,22nm,0.8s
LCRM LCR 60.43 292 P **P** **21 13 23.0 +1.1**
LCRM LCR 60.43 292 P P 21 13 23.0 -0.3
PCAS Casmilo, Conde 60.43 300 *eP* **P** **21 13 22.4 +0.8**
comp=Z,13nm,1.5s
PEA0B Petropavlovsk- 60.59 44*ce*P **P** **21 13 24.6 +2.1**
PETK Petropavlovsk- 60.59 44 P **P** **21 13 21.1 -1.4**
comp=Z,2.0nm,0.7s,baz=283,slow=8.7,SNR=6.3
PETK Petropavlovsk- 60.59 44 P **P** **21 13 21.7 -0.8**
PETK Petropavlovsk- 60.59 44 P **P** **21 13 21.7 -0.8**
MDT Midelt 60.62 291 P **P** **21 13 23.8 +0.6**
MDT Midelt 60.62 291 P P 21 13 23.8 -0.1
RSA Sarsar 60.64 294 P **P** **21 13 24.0 +0.8**
RSA Sarsar 60.64 294 P P 21 13 24.0 0.0
PMTG Montargil 60.64 299 *eP* **P** **21 13 23.2 +0.2**
comp=Z,40nm,1.4s
EVO Evora 60.71 298 *eP* **P** **21 13 24.1 +0.6**
comp=Z,69nm,1.1s
PBEJ Beja 60.81 298 *eP* **P** **21 13 24.8 +0.6**
comp=Z,44nm,1.7s
CZD Col de Zad 60.85 291 P **P** **21 13 26.1 +1.2**
CZD Col de Zad 60.85 291 P P 21 13 26.1 +0.7
PSBE So Bento 60.86 300 *eP* **P** **21 13 25.6 +1.0**
comp=Z,103nm,1.5s
PVAQ Vaqueiros 60.96 297 *eP* **P** **21 13 25.2 -0.1**
comp=Z,71nm,1.5s
PVAQ Vaqueiros 60.96 297 P **P** **21 13 25.8 +0.5**
PVAQ Vaqueiros 60.97 297 P P 21 13 25.8 -0.3
PCVE Castro Verde 61.10 297 *eP* **P** **21 13 26.5 +0.3**
comp=Z,46nm,1.4s
MESJ Messejana 61.14 298 *eP* **P** **21 13 26.6 +0.1**
MESJ IAmb IAmb 21 13 28.4
comp=Z,55nm,1.2s
MESJ Messejana 61.14 298 *eP* **P** **21 13 26.6 +0.1**
MESJ Messejana 61.14 298 *eP* **P** **21 13 27.0 +0.5**
comp=Z,52nm,1.1s
PET Petropavlovsk 61.16 44 *i* P **P** **21 13 24.6 -1.7**
PET pmax pmax
comp=Z,27nm,1.2s
KHKI Kahang-Kahang 61.17 127 P **P** **21 13 23.9 -3.0**
PBDV Barranco-do-Ve 61.19 297 *eP* **P** **21 13 27.1 +0.3**
comp=Z,106nm,1.2s
PNCL Nicolau / Gran 61.25 298 *eP* **P** **21 13 28.0 +0.8**
comp=Z,47nm,1.6s
SUMG Summit 61.42 341 *i* P **P** **21 13 29.2 +1.0**
SUMG IAmb IAmb 21 13 30.6
comp=Z,32nm,0.8s
SUMG Summit 61.42 341 P **P** **21 13 28.8 +0.6**
SUMG pmax pmax
comp=Z,45nm,0.8s
SUMG Summit 61.42 341 P **P** **21 13 28.8 +0.6**
SUMG IAmb IAmb 21 13 30.7
comp=Z,45nm,0.8s
PMAFR Mafra 61.44 299 *eP* **P** **21 13 29.2 +0.8**
NEEM North Greenlan 61.45 348 *i* P **P** **21 13 29.0 +0.7**
NEEM IAmb IAmb 21 13 31.1
comp=Z,34nm,0.9s
KAPI Kappang 61.51 121 P **P** **21 13 28.6 -0.6**
KAPI pmax pmax
comp=Z,21nm,0.9s
KAPI Kappang 61.51 121 P **P** **21 13 28.6 -0.6**
KAPI IAmb IAmb 21 13 30.3
comp=Z,21nm,0.8s
KAPI Kappang 61.51 121 P **P** **21 13 27.4 -1.8**
comp=Z,28nm,1.2s
PTEO Sao Teotonio 61.63 297 *eP* **P** **21 13 30.5 +0.8**
comp=Z,67nm,1.3s
MORF Marmelete 61.68 297 *eP* **P** **21 13 30.4 +0.2**
MORF IAmb IAmb 21 13 31.6
comp=Z,82nm,1.9s
MORF Marmelete 61.68 297 *eP* **P** **21 13 30.3 +0.2**
MORF Marmelete 61.68 297 *eP* **P** **21 13 31.0 +0.8**
comp=Z,41nm,1.9s
VOI Vohitsoka 61.82 205 P **P** **21 13 32.3 +1.2**
VOI Vohitsoka 61.82 205 P **P** **21 13 33.1 +1.9**
PFVI Vila Bisbo 61.88 297 *eP* **P** **21 13 32.1 +0.7**
comp=Z,62nm,1.8s
PFVI Vila Bisbo 61.88 297 P **P** **21 13 31.2 -0.2**
PFVI IAmb IAmb 21 13 33.2
comp=Z,32nm,0.8s
TZRR Tazzarine 62.25 289 P **P** **21 13 35.0 +0.8**
TZRR Tazzarine 62.25 289 P P 21 13 35.0 -0.2
TWSI Taliwang, Sumb 62.28 126 P **P** **21 13 30.1 -4.2**
comp=Z,9.3nm,0.6s
BSSI Bau Bau, Buton 62.83 121 P **P** **21 13 37.4 -0.6**
comp=Z,41nm,0.8s
PLAI Plampang 62.94 125 P **P** **21 13 35.1 -3.6**
comp=Z,25nm,1.0s
TNTI Ternate 63.16 110 P **P** **21 13 40.6 +0.4**
TNTI IAmb IAmb 21 13 43.5
comp=Z,79nm,1.3s
EUNU Eureka 63.48 356 P **P** **21 13 43.2 +1.7**
EUNU IAmb IAmb 21 14 18.2
comp=Z,51nm,1.6s
ICESG Greenland Ices 63.53 338 *i* P **P** **21 13 43.2 +0.9**
OUK Oukaimeden 63.81 291 P **P** **21 13 46.0 +1.2**
OUK Oukaimeden 63.81 291 P P 21 13 46.0 +0.3
TTIG Tnine Tigouga, 64.56 290 P **P** **21 13 51.0 +1.6**
TTIG Tnine Tigouga, 64.56 290 P P 21 13 51.0 +0.3
TULEG Thule 64.87 350 *i* P **P** **21 13 51.5 +1.0**
TORD Torodi Ar. Bea 65.33 269 P **P** **21 13 52.9 -1.6**
comp=Z,16nm,0.5s,baz=48,slow=6.1,SNR=187
TORD pP **pP** **21 14 22.6 +0.5**
comp=Z,20nm,0.8s,baz=45,slow=6.0,SNR=6.2
TORD LR LR 21 44 32.5
comp=Z,73nm,19.1s,baz=90,slow=38
TORD Torodi Ar. Bea 65.33 269 P **P** **21 13 53.1 -1.3**
EDFI Ende, Flores 65.52 122 P **P** **21 13 52.3 -3.4**
comp=Z,16nm,0.7s
ILULI Ilulissat 66.75 341 P **P** **21 14 02.8 +0.2**
ILULI pmax pmax
comp=Z,54nm,0.8s
ILULI Ilulissat 66.75 341 P **P** **21 14 02.8 +0.2**
ILULI IAmb IAmb 21 14 04.4
comp=Z,54nm,0.8s
DY2G Dye2 67.10 337 *i* P **P** **21 14 05.9 +0.7**
DY2G IAmb IAmb 21 14 07.0
comp=Z,70nm,0.7s
BATI Baumata 67.91 122 P **P** **21 14 09.6 -1.2**
comp=Z,55nm,0.6s
SOEI Soe 68.01 121 P **P** **21 14 12.0 +0.5**
SOEI Soe 68.01 121 P **P** **21 14 10.1 -1.4**
comp=Z,1µmcomp=Z,136nm,0.9s
SFJD Kangerlussuaq 68.09 339 *i* P **P** **21 14 10.9 -0.2**
SFJD IAmb IAmb 21 14 12.4
comp=Z,12nm,0.8s
SFJD Kangerlussuaq 68.09 339 P **P** **21 14 10.9 -0.2**
SFJD pmax pmax
comp=Z,18nm,0.7s
SFJD Kangerlussuaq 68.09 339 P **P** **21 14 10.9 -0.2**
RDOG Red Dog Mine 68.86 19 P **P** **21 14 17.2 +1.3**
baz=316
GAMB Gambell 69.12 25 P **P** **21 14 18.0 +0.4**
baz=310
TNA Tin City 69.17 22 P **P** **21 14 18.1 +0.3**
baz=312
KOWA Kowa 69.22 273 P **P** **21 14 17.6 -1.4**
KOWA IAmb IAmb 21 14 19.1
comp=Z,30nm,0.7s
FAKI Fak Fak 69.25 110 P **P** **21 14 18.6 -0.5**
FAKI IAmb IAmb 21 15 19.5
comp=Z,115nm,1.6s
PMOZ Porto Moniz, M 69.96 296 P **P** **21 14 23.9 +0.5**
PMOZ Porto Moniz, M 69.96 296 P **P** **21 14 25.0 +1.6**
PMOZ Porto Moniz, M 69.96 296 P P 21 14 25.0 -0.2
GIRL Giralia 71.48 138 P **P** **21 14 33.0 +0.6**
GIRL IAmb IAmb 21 17 03.6
comp=Z,119nm,1.3s
TOLK Toolik Lake Re 71.50 14 P **P** **21 14 32.7 +0.6**
TOLK Toolik Lake Re 71.50 14 P **P** **21 14 31.7 -0.4**
baz=327
A36M Sachs Harbour 71.74 5 P **P** **21 14 33.8 +0.5**
baz=347
COLD Coldfoot 72.56 15 P **P** **21 14 38.7 +0.4**
COLD IAmb IAmb 21 15 20.8
comp=Z,62nm,1.2s
COLD Coldfoot 72.56 15 P **P** **21 14 38.5 +0.2**
baz=326
IMAR Indian Mountai 72.77 17 P **P** **21 14 39.3 -0.2**
AMKA Amchitka 72.99 38 P **P** **21 14 41.3 +0.2**
BMAR Burnt Mountain 73.52 13 P **P** **21 14 45.0 +1.0**
PSA00 Pilbara Seismi 73.84 133 P **P** **21 14 46.3 -0.2**
PSA00 Pilbara Seismi 73.84 133 P **P** **21 14 46.1 -0.4**
PSA00 IAmb IAmb 21 15 31.7
comp=Z,11nm,1.1s
I21K Tanana 73.85 17 P **P** **21 14 46.6 +0.7**
I21K IAmb IAmb 21 15 28.5
comp=Z,75nm,1.4s
I21K Tanana 73.85 17 P **P** **21 14 46.0 +0.1**
baz=325,SNR=10.0
H23K Yukon River 73.88 16 P **P** **21 14 46.7 +0.5**
H23K IAmb IAmb 21 15 29.2
comp=Z,96nm,1.4s
H23K Yukon River 73.88 16 P **P** **21 14 46.6 +0.5**
baz=327
LBTB Lobatse 74.05 222 P **P** **21 14 48.6 +0.8**
LBTB pmax pmax
comp=Z,66nm,1.0s
LBTB Lobatse 74.05 222 P **P** **21 14 48.5 +0.8**
LBTB IAmb IAmb 21 15 18.4
comp=Z,66nm,0.9s
J20K Nowinta River 74.13 19 P **P** **21 14 48.0 +0.5**
J20K IAmb IAmb 21 15 30.2
comp=Z,85nm,1.3s
J20K Nowinta River 74.13 19 P **P** **21 14 47.6 0.0**
baz=324,SNR=18
FYU Fort Yukon 74.15 14 P **P** **21 14 48.3 +0.7**
H24K Noodor Dome 74.23 15 P **P** **21 14 48.7 +0.5**
H24K IAmb IAmb 21 15 30.3
comp=Z,64nm,1.4s
H24K Noodor Dome 74.23 15 P **P** **21 14 48.0 -0.2**
baz=328
MLY Manley 74.27 17 P **P** **21 14 48.7 +0.2**
MLY IAmb IAmb 21 15 30.8
comp=Z,71nm,1.4s
MLY Manley 74.27 17 P **P** **21 14 48.3 -0.2**
baz=326,SNR=12
DBIC Dimbokro 74.30 267 P **P** **21 14 48.1 -1.2**
comp=Z,12nm,0.8s,baz=59,slow=6.9,SNR=11
DBIC LR LR 21 51 01.2
comp=Z,102nm,21.9s,baz=56,slow=38
DBIC Dimbokro 74.30 267 P **P** **21 14 48.5 -0.9**
DBIC Dimbokro 74.30 267 P P **P** **21 14 48.5 -0.9**
TSUM Tsumeb 74.31 232 P **P** **21 14 49.1 -0.3**
KIC Kosan Boka 74.38 267 *e*PKP1 **P** **21 14 49.8 -0.1**
comp=Z,39nm,1.0s
KIC Kosan Boka 74.38 267 *e*PKIKP **P** **21 14 49.8 -0.1**
comp=Z,40nm,1.0s
TIC Toumodi 74.44 267 *e*PKP1 **P** **21 14 49.3 -1.0**
TIC Toumodi 74.44 267 *e*PKIKP **P** **21 14 49.7 -0.6**
INK Inuvik 74.46 9 P **P** **21 14 48.6 -0.8**
comp=Z,9.7nm,0.6s,baz=354,slow=5.8,SNR=16
INK Inuvik 74.46 9 P **P** **21 14 49.7 +0.3**
INK pmax pmax
comp=Z,141nm,1.6s
INK Inuvik 74.46 9 P **P** **21 14 49.7 +0.3**
INK IAmb IAmb 21 15 32.0
comp=Z,141nm,1.6s
INK Inuvik 74.46 9 P **P** **21 14 49.4 0.0**
baz=340
I23K Minto, Yukon-K 74.49 16 P **P** **21 14 50.1 +0.4**
I23K IAmb IAmb 21 15 32.3
comp=Z,115nm,1.4s
I23K Minto, Yukon-K 74.49 16 P **P** **21 14 49.8 +0.1**
baz=327,SNR=12
LIC Lamto 74.69 267 *e*PKP1 **P** **21 14 50.2 -1.5**
comp=Z,36nm,0.8s
LIC Lamto 74.69 267 *e*PKIKP **P** **21 14 50.2 -1.5**
comp=Z,63nm,1.2s
K20K Telida 74.81 19 P **P** **21 14 51.9 +0.3**
K20K IAmb IAmb 21 15 34.2
comp=Z,138nm,1.4s
K20K Telida 74.81 19 P **P** **21 14 51.6 0.0**
baz=324,SNR=18
CHUM Lake Minchumin 74.84 18 P **P** **21 14 51.8 +0.1**
baz=325,SNR=17
FITZ Fitzroy Crossi 74.89 126 P **P** **21 14 52.8 +0.2**
MDM Murphy Dome 74.91 16 P **P** **21 14 52.3 +0.1**
MDM IAmb IAmb 21 15 34.5
comp=Z,94nm,1.3s
POKR Poker Plat Res 74.95 16 P **P** **21 14 52.7 +0.3**
POKR Poker Plat Res 74.95 16 P **P** **21 14 52.6 +0.3**
baz=329,SNR=6.6
MTN Manton Dam 74.98 118 P **P** **21 14 52.4 -0.8**
BPAW Bear Paw Mtn. 74.99 18 P **P** **21 14 52.0 -0.5**
baz=326,SNR=9.1
PRP Porcupine Dome 75.01 15 P **P** **21 14 53.5 +0.7**
baz=330
NEA2 Nenana 75.03 17 P **P** **21 14 52.8 0.0**
NEA2 IAmb IAmb 21 15 34.9
comp=Z,100nm,1.3s
NEA2 Nenana 75.03 17 P **P** **21 14 52.4 -0.4**
baz=328,SNR=24
TCOL CIGO, UAF Yank 75.06 16 P **P** **21 14 52.8 -0.1**
baz=329
COLA College 75.06 16 P **P** **21 14 53.5 +0.6**
COLA pmax pmax
comp=Z,209nm,1.7s
COLA College 75.06 16 P **P** **21 14 53.5 +0.6**
COLA College 75.06 16 P **P** **21 14 52.7 -0.3**
baz=329
GENI Genyem 75.19 104 P **P** **21 14 54.9 +0.4**
comp=Z,31nm,0.5s
KNRA Kununurra 75.27 122 P **P** **21 14 55.1 +0.2**
KNRA IAmb IAmb 21 14 56.8
comp=Z,35nm,0.7s
BWN Browne 75.29 17 P **P** **21 14 54.4 0.0**
IL31 75.36 16 P **P** **21 14 54.4 -0.3**
ILAR Eielson Array 75.36 16 P **P** **21 14 54.0 -0.8**
comp=Z,5.1nm,0.8s,baz=322,slow=4.2,SNR=30
ILAR pP **pP** **21 15 23.4 +0.8**
comp=Z,9.9nm,1.0s,baz=315,slow=4.4,SNR=6.4
ILAR PP **PP** **21 17 44.5 +0.4**
comp=Z,0.5nm,0.3s,baz=321,slow=6.0,SNR=3.3
ILAR LR LR 21 51 27.4
comp=Z,77nm,20.1s,baz=343,slow=38
ILAR Eielson Array 75.36 16 *eP* **P** **21 14 54.5 -0.2**
ILAR pmax pmax
comp=Z,5.0nm,0.8s
FRB Frobisher Bay 75.43 342 P **P** **21 14 54.8 -0.3**
comp=Z,4.8nm,0.4s,baz=36,slow=6.4,SNR=5.7
L19K White Mountain 75.55 20 P **P** **21 14 56.8 +1.0**
L19K IAmb IAmb 21 15 38.6
comp=Z,69nm,1.3s
L19K White Mountain 75.55 20 P **P** **21 14 56.1 +0.2**
baz=324
L20K Farewell, AK 75.58 20 P **P** **21 14 55.9 -0.1**
baz=324,SNR=9.2
HDA Harding Lake 75.67 16 P **P** **21 14 56.7 +0.3**
baz=330
PPLA Purkeypile 75.68 19 P **P** **21 14 56.6 -0.1**
baz=326
TRF Thorofare Moun 75.70 18 P **P** **21 14 57.4 +0.6**
TRF Thorofare Moun 75.70 18 P **P** **21 14 56.7 -0.2**
baz=327
MCK McKinley 75.79 17 P **P** **21 14 56.4 -0.8**
baz=328
EPYK Eagle Plains 75.82 11 P **P** **21 14 57.0 -0.3**
EPYK IAmb IAmb 21 15 39.5
comp=Z,177nm,1.9s
EPYK Eagle Plains 75.82 11 P **P** **21 14 57.1 -0.3**
baz=338
M19K Big River Lodg 75.90 20 P **P** **21 14 57.7 -0.1**
baz=324
J26K Charley River, 76.20 15 P **P** **21 14 59.1 -0.5**
baz=332,SNR=11
M20K Styx River 76.27 20 P **P** **21 14 59.5 -0.5**
baz=325
EGAK Eagle 76.52 13 P **P** **21 15 01.1 -0.2**
EGAK IAmb IAmb 21 15 43.8
comp=Z,157nm,1.9s
EGAK Eagle 76.52 13 P **P** **21 15 01.0 -0.3**
baz=334
CUT Chulitna 76.59 18 P **P** **21 14 59.7 -2.0**
baz=327
SKT Skwentna 76.61 19 P **P** **21 15 01.4 -0.4**
SKT IAmb IAmb 21 15 43.4
comp=Z,109nm,1.3s
SKT Skwentna 76.61 19 P **P** **21 15 01.0 -0.8**
baz=326,SNR=15
WAT1 Susitna Watana 76.65 17 P **P** **21 15 00.7 -1.4**
baz=328
SCRK Sand Creek 76.68 15 P **P** **21 15 02.0 -0.4**
baz=332,SNR=13
RIDG Independent Ri 76.71 15 P **P** **21 15 01.5 -0.9**
baz=331,SNR=10
N19K Bonanza Creek 76.76 21 P **P** **21 15 02.8 0.0**
baz=324
DOT Dot Lake 76.95 15 P **P** **21 15 03.7 0.0**
K27K Chicken 77.02 14 P **P** **21 15 04.4 +0.4**
baz=333
WAT6 Susitna Watana 77.06 17 P **P** **21 15 03.4 -1.2**
baz=329,SNR=7.6
BOSA Boshof 77.12 220 P **P** **21 15 04.5 -0.7**
comp=Z,18nm,0.9s,baz=50,slow=6.0,SNR=19
BOSA pP **pP** **21 15 34.3 +0.6**
comp=Z,35nm,1.0s,baz=40,slow=5.9,SNR=8.6
BOSA LR LR 21 49 18.2
comp=Z,38nm,21.5s,baz=17,slow=36
BOSA Boshof 77.12 220 P **P** **21 15 05.6 +0.4**
BOSA pmax pmax
comp=Z,112nm,1.4s
BOSA Boshof 77.12 220 P **P** **21 15 05.6 +0.4**
BOSA IAmb IAmb 21 15 35.0
comp=Z,112nm,1.4s
PAX Paxson 77.25 16 P **P** **21 15 05.0 -0.5**
baz=331,SNR=10
SUA Susitna One 77.25 19 P **P** **21 15 05.6 0.0**
SUA Susitna One 77.25 19 P **P** **21 15 04.7 -0.9**
baz=327,SNR=7.6
O19K Port Alsworth 77.31 21 P **P** **21 15 05.7 0.0**
baz=324
O18K Koktuh Hills 77.32 22 P **P** **21 15 07.0 +1.1**
O18K IAmb IAmb 21 15 49.1
comp=Z,158nm,1.6s
O18K Koktuh Hills 77.32 22 P **P** **21 15 06.1 +0.2**
baz=324
GHO Glory Hole Cre 77.46 18 P **P** **21 15 07.0 +0.3**
GHO IAmb IAmb 21 15 48.0
comp=Z,89nm,1.3s
DAWY Dawson 77.50 13 P **P** **21 15 06.6 -0.2**
baz=336
NIKH Nikolski High 77.51 32 P **P** **21 15 06.9 -0.1**
baz=314
PMR Palmer 77.56 18 P **P** **21 15 06.2 -1.0**
baz=328
SML Sawmill 77.58 18 P **P** **21 15 06.7 -0.7**
baz=329,SNR=11
MORW Morawa 77.60 140 P **P** **21 15 07.4 -0.3**
L26K Log Cabin Wild 77.66 15 P **P** **21 15 07.9 +0.2**
baz=332
SCM Sheep Creek Mo 77.80 17 P **P** **21 15 08.7 +0.1**
SCM pmax pmax
comp=Z,55nm,1.4s
SCM Sheep Creek Mo 77.80 17 P **P** **21 15 08.7 +0.1**
SCM IAmb IAmb 21 15 49.9
comp=Z,55nm,1.4s
HARP HAARP 77.82 16 P **P** **21 15 08.9 +0.3**
baz=331,SNR=9.2
RC01 Rabbit Creek A 77.83 19 P **P** **21 15 08.6 0.0**
RC01 IAmb IAmb 21 15 50.5
comp=Z,84nm,1.4s
RC01 Rabbit Creek A 77.83 19 P **P** **21 15 08.2 -0.4**

baz=328,SNR=5.9
M24K Tolosna, Glenn 77.84 17 P P 21 15 10.3 +1.5
M24K Tolosna, Glenn 77.84 17 P P 21 15 08.7 0.0
baz=330,SNR=8.8
UNV Unalaska Valle 77.88 31 P P 21 15 09.2 +0.2
baz=316
L27K Beaver Creek, 77.94 14 P P 21 15 09.5 +0.2
L27K IAmb IAmb 21 15 52.3
comp=Z,86nm,1.6s
L27K Beaver Creek, 77.94 14 P P 21 15 09.4 +0.1
baz=334,SNR=9.3
BCAR Beaver Creek A 77.94 14 P P 21 15 09.8 +0.5
M26K Nabesna, AK 78.29 15 P P 21 15 11.8 +0.6
M26K Nabesna, AK 78.29 15 P P 21 15 10.7 -0.5
baz=333
O22K Cooper Landing 78.35 19 P P 21 15 10.3 -1.2
baz=328
KLU Klutina 78.43 17 P P 21 15 13.0 +0.9
KLU IAmb IAmb 21 15 54.0
comp=Z,56nm,1.3s
KLU Klutina 78.43 17 P P 21 15 12.0 -0.1
baz=331,SNR=6.8
MAYO Mayo, Yukon 78.54 12 P P 21 15 12.4 -0.2
baz=338
M27K Edge Creek, AK 78.56 15 P P 21 15 13.4 +0.5
M27K IAmb IAmb 21 16 17.7
comp=Z,41nm,0.8s
M27K Edge Creek, AK 78.56 15 P P 21 15 13.0 +0.1
baz=334,SNR=6.8
N25K Chitina, Valde 78.64 16 P P 21 15 13.6 +0.4
N25K IAmb IAmb 21 15 56.2
comp=Z,133nm,1.8s
N25K Chitina, Valde 78.64 16 P P 21 15 13.3 +0.1
baz=332
GLI Glacier Island 78.69 18 P P 21 15 12.6 -0.8
baz=330
BRSE Bradley Lake S 78.70 20 P P 21 15 12.7 -0.8
baz=327
BVCY Beaver Creek 78.72 14 P P 21 15 13.6 0.0
baz=335
SEW Seward 78.75 19 P P 21 15 12.8 -0.9
baz=328
MCARA McCarthy VSAT 79.19 16 P P 21 15 16.2 +0.1
baz=333
BMRM Bremner River 79.20 17 P P 21 15 16.4 +0.1
BMRM IAmb IAmb 21 15 59.0
comp=Z,108nm,1.4s
BMRM Bremner River 79.20 17 P P 21 15 16.3 +0.1
baz=332,SNR=5.2
EYAK Cordova Ski Ar 79.30 17 P P 21 15 16.6 -0.1
baz=331
YUK3 Moose Creek 79.38 14 P P 21 15 17.4 0.0
baz=335,SNR=9.7
CTG Chitna Glacier 79.93 15 P P 21 15 20.3 0.0
baz=334
CTGM Chitina Glacie 79.93 15 P P 21 15 20.9 +0.5
CTGM IAmb IAmb 21 16 03.3
comp=Z,119nm,1.5s
OHAK Old Harbor 80.05 22 P P 21 15 20.5 -0.3
baz=325
YUK4 Talbot Arm 80.13 14 P P 21 15 21.4 -0.1
baz=336
MMPY Sheldon Lake, 80.17 10 P P 21 15 21.8 +0.3
baz=342,SNR=7.2
FARO Faro, Yukon 80.23 11 P P 21 15 21.6 -0.1
baz=341,SNR=8.0
BGLC Bering Glacier 80.26 16 P P 21 15 21.8 -0.1
baz=333
MESA MESA 80.51 16 P P 21 15 23.5 0.0
baz=334
YUK6 Outpost Mounta 80.56 14 P P 21 15 24.0 +0.2
baz=337,SNR=5.6
HYT Haines Junctio 80.83 13 P P 21 15 25.9 +0.8
HYT IAmb IAmb 21 16 07.5
comp=Z,127nm,1.9s
HYT Haines Junctio 80.83 13 P P 21 15 25.3 +0.2
baz=337,SNR=6.3
PINM Pinnacle 80.95 15 P P 21 15 25.3 -0.4
baz=335
NWAO Narrogin (SRO) 81.30 142 P P 21 15 27.0 -0.7
NWAO pmax pmax
comp=Z,108nm,1.8s
NWAO Narrogin (SRO) 81.30 142 P P 21 15 27.0 -0.7
NWAO IAmb IAmb 21 16 37.0
comp=Z,108nm,1.8s
WHY Whitehorse 81.46 12 P P 21 15 27.9 -0.6
baz=340
TGTN Hyland Airport 81.62 9 P P 21 15 29.4 +0.2
baz=345
YKA Yellowknife Ar 81.77 2 P P 21 15 29.7 -0.2
comp=Z,4.6nm,0.7s,baz=358,slow=4.7,SNR=13
YKA pP **pP 21 15 58.6 -0.2**
comp=Z,6.9nm,0.8s,baz=359,slow=4.8,SNR=5.8
YKA PP **PP 21 18 36.7 -0.7**
comp=Z,2.9nm,0.8s,baz=2.8,slow=7.2,SNR=5.0
YKA LR LR 21 58 14.3
comp=Z,80nm,18.2s,baz=0.0,slow=40
YKA Yellowknife Ar 81.77 2 *eP* **P 21 15 30.0 +0.2**
YKA pmax pmax
comp=Z,5.0nm,0.7s
YKA Yellowknife Ar 81.77 2 P P 21 15 30.0 +0.2
WRA Warramunga Arr 82.04 122 P P 21 15 30.7 -1.2
comp=Z,11nm,0.8s,baz=314,slow=4.2,SNR=53
WRA pP **pP 21 15 59.9 -1.1**
comp=Z,9.4nm,0.8s,baz=309,slow=4.8,SNR=5.0
WRA PKKPbc **PKKPbc 21 34 00.2 -0.1**
comp=Z,0.8nm,1.0s,baz=138,slow=2.5,SNR=4.6
WRA Warramunga Arr 82.04 122 *eP* **P 21 15 31.0 -0.9**
WRA pmax pmax
comp=Z,12nm,0.8s
WRA Warramunga Arr 82.04 122 P P 21 15 31.1 -0.9
WRA Warramunga Arr 82.04 122 P pP 21 15 59.5 -1.4
WRAB Tennant Creek 82.04 122 *ce* **P P 21 15 32.6 +0.7**
WRAB pmax pmax
comp=Z,24nm,1.7s
WRAB Tennant Creek 82.04 122 P P 21 15 31.9 0.0
WRAB Tennant Creek 82.04 122 P pP 21 15 59.6 -1.4
WB2 Warramunga Ar 82.05 122 P P 21 15 30.9 -1.1
WB2 Warramunga Ar 82.05 122 IAmb IAmb 21 16 02.5
comp=Z,16nm,0.9s
WB2 Warramunga Ar 82.05 122 P pP 21 16 00.2 -0.8
WR0 Warramunga Ar 82.19 121 P P 21 15 31.8 -0.9
SCHQ Schefferville 82.41 337 P P 21 15 32.4 -1.0
comp=Z,8.2nm,0.8s,baz=16,slow=5.0,SNR=5.6
SCHQ LR LR 21 52 08.8
comp=Z,84nm,19.6s,baz=46,slow=36
SCHQ Schefferville 82.41 337 P P 21 15 33.1 -0.3
SUR Sutherland 82.43 221 P P 21 15 35.0 +1.1
SUR IAmb IAmb 21 16 04.9
comp=Z,120nm,1.7s
SKAG Skagway 82.50 13 P P 21 15 33.8 +0.1
baz=339
WTLY Watson Lake, Y 82.92 10 P P 21 15 35.9 0.0
baz=344
AS31 Alice Springs 84.27 125 P P 21 15 42.5 -0.8
ASAR Alice Springs 84.27 125 P P 21 15 41.9 -1.4
comp=Z,9.9nm,0.7s,baz=309,slow=5.0,SNR=87
ASAR pP **pP 21 16 12.1 -0.2**
comp=Z,9.1nm,0.8s,baz=324,slow=5.3,SNR=5.5
ASAR S **S 21 25 59.7 -0.5**
comp=Z,0.9nm,1.1s,baz=322,slow=3.8,SNR=4.2
ASAR LR LR 21 58 56.2
comp=Z,51nm,18.9s,baz=326,slow=40
ASAR Alice Springs 84.27 125 P P 21 15 42.6 -0.8
ASAR Alice Springs 84.27 125 P P 21 15 42.6 -0.8
DLBC Dease Lake 84.36 11 P P 21 15 42.9 -0.5
comp=Z,2.2nm,0.4s,baz=355,slow=11,SNR=6.0
DLBC pP **pP 21 16 12.5 +0.3**
comp=Z,3.1nm,0.2s,baz=5.2,slow=6.6,SNR=2.5
COEN Coen 84.56 111 P P 21 15 44.0 -0.9
COEN IAmb IAmb 21 18 59.9
comp=Z,90nm,1.7s
SIT Sitka 84.76 14 P P 21 15 45.3 0.0
baz=339
FORT Forrest 85.59 133 P P 21 15 49.6 -0.1
FORT IAmb IAmb 21 15 51.2
comp=Z,30nm,0.7s
WRAK Wrangell Islan 85.91 13 P P 21 15 51.0 0.0
baz=342
CRAG Craig 86.67 13 P P 21 15 55.2 +0.5
baz=341
E62A Clayton Lake 90.27 334 P P 21 16 12.4 +0.4
baz=31
PKME Peaks-Kenny Pk 91.34 333 P P 21 16 16.6 -0.3
baz=32
I63A Otisfield 92.85 333 P P 21 16 23.7 -0.3
baz=31

LBNH Lisbon 93.17 334 P P 21 16 25.4 -0.1
baz=30
ULM Lac du Bonnet 93.29 351 P P 21 16 25.7 -0.2
comp=Z,1.8nm,0.3s,baz=310,slow=3.5,SNR=3.7
ULM pP **pP 21 16 55.3 -0.1**
comp=Z,5.9nm,0.9s,baz=350,slow=5.6,SNR=4.0
ULM PP **PP 21 20 12.5 +2.6**
comp=Z,3.1nm,0.8s,baz=338,slow=5.7,SNR=3.5
ULM LR LR 22 02 26.8
comp=Z,104nm,18.1s,baz=8.5,slow=38
ULM Lac du Bonnet 93.29 351 *eP* **P 21 16 27.0 +1.1**
ULM pmax pmax
comp=Z,4.0nm,0.8s
LONY Lake Ozonia 93.76 336 P P 21 16 28.5 +0.3
baz=28
J62A Henniker 94.02 333 P P 21 16 29.5 +0.1
baz=30
J61A Chester 94.18 334 P P 21 16 30.2 +0.1
baz=29
STKA Stephens Creek 94.79 126 P P 21 16 31.4 -1.5
comp=Z,1.5nm,0.8s,baz=6.3,slow=7.5,SNR=3.3
STKA pP **pP 21 17 03.0 +0.7**
comp=Z,1.3nm,0.6s,baz=340,slow=3.9,SNR=2.4
STKA Stephens Creek 94.79 126 *eP* **P 21 16 33.3 +0.4**
STKA pmax pmax
comp=Z,1.0nm,0.7s
EYMN Ely 94.90 348 P P 21 16 33.0 -0.4
baz=15
PDAR Pinedale Array 101.61 0 PP PP 21 21 13.2 -0.8
comp=Z,0.9nm,0.8s,baz=41,slow=4.7,SNR=4.7
TXAR Lajitas Array 114.79 354 PKP PKiKP 21 21 51.0 -0.8
comp=Z,0.1nm,0.5s,baz=266,slow=40,SNR=1.9
SNAA Sanae 118.79 200 PKPdf PKiKP 21 21 58.2 +0.2
VNA2 Neumayer--Watz 119.79 202 PKPdf PKiKP 21 22 00.2 +0.3
CAM01 Campos-RJ 120.06 264 *eP* **PKiKP 21 22 03.4 +1.5**
PEXB Peixe 120.30 277 *eP* **PKiKP 21 22 04.5 +1.9**
VNA3 Neumayer Olymp 120.60 202 PKPdf PKPdf 21 22 00.9 -0.5
BSCB Bom Sucesso 122.17 266 *eP* **PKiKP 21 22 07.7 +1.5**
SNDB Serra Nova Dou 122.63 279 *eP* **PKiKP 21 22 08.2 +1.1**
PARB Paraibuna 123.99 264 *eP* **PKiKP 21 22 10.5 +0.8**
VAO Valinhos 124.92 265 *eP* **PKPdf 21 22 11.2 0.0**
RCLB Rio Claro- Sao 125.10 266 *eP* **PKiKP 21 22 13.4 +1.5**
VNDA Vanda 125.11 165 PKP PKPdf 21 22 07.7 -2.2
comp=Z,0.9nm,0.7s,baz=298,slow=5.9,SNR=4.6
VNDA Vanda 125.11 165 PKIKP PKPdf 21 22 08.7 -1.2
VNDA Vanda 125.11 165 PKPdf 21 22 08.7 -1.2
ARAG Araguaiana, MT 125.12 276 *eP* **PKiKP 21 22 13.4 +1.4**
SAML Samuel 130.10 291 PKIKP PKPdf 21 22 20.0 -1.3
SAML Samuel 130.10 291 PKPdf PKPdf 21 22 20.0 -1.3
SAML Samuel 130.10 291 *eP* **PKiKP 21 22 22.4 +0.3**
AQDB Aquidauana 130.76 273 *eP* **PKiKP 21 22 23.5 +0.3**
OTAV Otavalo 133.84 314 *eP* **PKiKP 21 22 29.9 -0.3**
CPUP Villa Florida 134.82 267 PKP PKPdf 21 22 27.9 -1.9
comp=Z,1.3nm,0.5s,baz=113,slow=4.0,SNR=4.8
ITQB Itaqui 135.60 262 *eP* **PKiKP 21 22 33.2 +0.5**
CZSB Cruzeiro do Su 136.23 301 *eP* **PKiKP 21 22 34.2 -0.3**
LPAZ La Paz 138.41 287 PKP PKPdf 21 22 34.6 -2.9
comp=Z,1.1nm,0.9s,baz=46,slow=4.5,SNR=3.6
LPAZ pPKP **pPKPdf 21 23 06.6 -1.4**
comp=Z,1.9nm,0.8s,baz=50,slow=5.2,SNR=3.3
LPAZ La Paz 138.41 287 *e* PKIKP **PKPdf 21 22 38.2 +0.7**
LPAZ pmax pmax
comp=Z,2.0nm,0.8s
LPAZ La Paz 138.41 287 *eP* **PKPdf 21 22 38.5 +1.0**
PMSA Palmer Station 140.59 209 *eP* **PKiKP 21 22 41.4 -0.4**
LVC Limon Verde 142.47 280 *eP* **PKPdf 21 22 45.5 +1.2**
AC02 Mariunga 144.60 273 PKPdf PKPbc 21 22 47.2 +0.1
GO03 Copiap 145.81 273 PKPdf 21 22 49.9 +0.2
ZON Zonda 145.99 265 PKP2 PKPbc 21 22 50.9 +0.1
ZON Zonda 145.99 265 PKPbc 21 22 50.9 +0.1
CO03 El Pedregal 147.38 268 PKPbc 21 22 54.1 -0.8
CO02 Combarbal 147.75 267 PKPbc 21 22 55.3 -0.6
VA03 San Esteban 147.87 264 PKPbc 21 22 55.9 -0.3
MT09 Talagante 148.50 263 PKPbc 21 22 57.3 -0.5
BO02 Sierra Bellavi 148.58 261 PKPbc 21 22 56.3 -1.6
PLCA Paso Flores 149.30 249 PKP PKPdf 21 22 52.5 -2.5
comp=Z,5.6nm,1.2s,baz=162,slow=7.3,SNR=2.4
PLCA PKPbc **PKPbc 21 22 59.6 +0.1**
comp=Z,15nm,1.2s,baz=349,slow=4.3,SNR=7.7
PLCA pPKPbc **pPKPbc 21 23 28.3 -1.7**
comp=Z,19nm,1.2s,baz=304,slow=3.0,SNR=3.9
PLCA Paso Flores 149.30 249 PKP2 PKPbc 21 22 59.5 0.0
PLCA Paso Flores 149.30 249 PKPbc 21 22 59.5 0.0
PLCA Paso Flores 149.30 249 *eP* **PKPdf 21 22 56.5 +1.5**
ML02 Panimavida 149.30 259 PKPbc 21 22 59.4 -0.1
GO05 Huala 149.55 261 PKPdf 21 22 56.6 +1.0
LC01 Cunco 150.16 253 PKPbc 21 23 00.7 -0.9

JMA ***09*** *21:07:26.6±0.1, 24.88N×122.63E, h16km±3km, M2.4*
TAP ***09*** *21:07:26.6, 24.80N×122.62E, h21km±1km, ML2.9, D*
ISC 09 21:07:26.4±1.2, 24.82N±0.04×122.62E±0.03, h18km±4km, n43, σ 0.50/78, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.47**	**141**	P		**Pb**	**21 07 36.7**	**+0.5**
JYNG				S		**Sb**	**21 07 43.9**	**+1.1**
YOJ	**Yonaguni jima**	**0.50**	**135**	P		**Pb**	**21 07 37.2**	**+0.5**
YOJ				S		**Sb**	**21 07 44.7**	**+1.0**
YOJ	**Yonaguni jima** baz=133	**0.50**	**135**	P		**Pn**	**21 07 37.6**	**-1.1**
YOJ				S		**Sb**	**21 07 44.2**	**+0.5**
TWB1	**Santiao Chiao** baz=289	**0.60**	**288**	P		**Pb**	**21 07 38.5**	**+0.1**
EGS	baz=273	**0.63**	**272**	P		**Pg**	**21 07 39.2**	**+0.3**
EGS				*e*S		**Sn**	**21 07 49.4**	**-0.6**
NTC	**Toucheng** baz=274	**0.72**	**273**	*e*P		**Pg**	**21 07 40.7**	**+0.1**
NTC				S		**Sg**	**21 07 51.6**	**+1.4**
TWC	**Suao** baz=254	**0.73**	**253**	*i* P		**Pb**	**21 07 40.4**	**-0.3**
TWC				*i* S		**Sn**	**21 07 52.6**	**0.0**
TIPB	**Shuangxi** baz=283	**0.74**	**282**	P		**Pg**	**21 07 41.1**	**+0.1**
TIPB				*i* S		**Sn**	**21 07 53.1**	**+0.3**
ILA	**Ilan** baz=267	**0.80**	**266**	P		**Pg**	**21 07 42.1**	**0.0**
ILA				S		**Sn**	**21 07 54.2**	**+0.1**
NWF	**Wu-fen Shan** baz=289	**0.80**	**288**	*i* P		**Pn**	**21 07 42.6**	**-0.3**
NWF				*i* S		**Sn**	**21 07 54.6**	**+0.2**
NDS	**Dongshan** baz=258	**0.84**	**257**	P		**Pg**	**21 07 43.2**	**+0.2**
NDS				S		**Sn**	**21 07 56.0**	**+0.7**
EWUT	**Wuta** baz=245	**0.85**	**244**	*e*P		**Pb**	**21 07 42.9**	**+0.2**
EWUT				*e*S		**Sg**	**21 07 54.9**	**+0.5**
TWE	**Neicheng** baz=264	**0.87**	**264**	*i* P		**Pb**	**21 07 43.1**	**+0.1**
TWE				*i* S		**Sb**	**21 07 54.4**	**0.0**
ENA	**Nanau** baz=244	**0.89**	**244**	P		**Pb**	**21 07 43.2**	**-0.2**
ENA				S		**Sb**	**21 07 55.8**	**+0.8**
TWA	**Mucha** baz=280	**0.96**	**280**	P		**Pb**	**21 07 44.5**	**+0.1**
TWA				S		**Sg**	**21 07 57.7**	**0.0**
ENTT	**Nioudou** baz=260	**0.98**	**260**	P		**Pn**	**21 07 45.3**	**0.0**
ENTT				S		**Sg**	**21 07 58.6**	**+0.3**
NHDH	**Xindian Distri** baz=279	**1.01**	**278**	*e*P		**Pb**	**21 07 44.5**	**-0.8**
NHDH				*e*S		**Sn**	**21 07 59.4**	**+0.1**
YM01	**YM01** baz=289	**1.01**	**289**	P		**Pg**	**21 07 46.4**	**+0.3**
YM01				S		**Sn**	**21 07 59.6**	**+0.2**
NDT	**Datong Townshi** baz=259	**1.03**	**258**	P		**Pg**	**21 07 46.4**	**-0.1**
NDT				S		**Sn**	**21 08 00.1**	**+0.1**
TWY	**Chenhua** baz=297	**1.03**	**296**	P		**Pb**	**21 07 45.3**	**-0.5**
TWY				*e*S		**Sg**	**21 07 60.0**	**-0.1**
TAP	**Taipei** baz=283	**1.04**	**282**	*e*P		**Pn**	**21 07 45.8**	**-0.2**
TAP				*e*S		**Sn**	**21 08 00.1**	**+0.1**
ANP	**Anpu** baz=291	**1.06**	**290**	P		**Pg**	**21 07 46.8**	**-0.3**
ANP				*e*S		**Sb**	**21 08 00.1**	**+0.2**
NTST	**Danshui** baz=288	**1.12**	**288**	*e*S		**Sn**	**21 08 02.0**	**-0.1**
IRIF	**Iriomote-Funau**	**1.12**	**115**	*e*S		**Sg**	**21 08 02.2**	**-0.6**
TWS1	**Kuangyinshan** baz=285	**1.13**	**285**	*e*P		**Pn**	**21 07 47.1**	**-0.2**
NACB	**Ninganchiao** baz=236	**1.14**	**236**	P		**Pb**	**21 07 47.8**	**+0.3**
NACB				S		**Sb**	**21 08 02.5**	**+0.6**
YHNB	**Yeheng** baz=263	**1.14**	**263**	P		**Pb**	**21 07 48.2**	**+0.5**
YHNB				*e*S		**Sb**	**21 08 02.0**	**-0.3**
NSK	**Sanguang** baz=263	**1.16**	**263**	P		**Pb**	**21 07 48.1**	**+0.1**
NSK				S		**Sn**	**21 08 03.6**	**+0.4**
TWD	**Chiawan** baz=232	**1.19**	**232**	P		**Pb**	**21 07 48.9**	**+0.4**
TWD				S		**Sb**	**21 08 02.7**	**-0.8**
ETLH	**Xiulin Townshi** baz=240	**1.21**	**240**	P		**Pb**	**21 07 48.8**	**0.0**
ETLH				*e*S		**Sb**	**21 08 03.9**	**-0.2**
HWA	**Hwalien** baz=228	**1.25**	**228**	*e*P		**Pn**	**21 07 48.1**	**-0.9**
HWA				*e*S		**Sn**	**21 08 04.9**	**-0.4**
NCUH	**Zhongli** baz=277	**1.31**	**277**	*e*P		**Pn**	**21 07 49.4**	**-0.4**
NCUH				*e*S		**Sb**	**21 08 07.4**	**+0.4**
FUSS	**Fushou** baz=246	**1.38**	**246**	*e*P		**Pn**	**21 07 51.5**	**+0.5**
FUSS				*e*S		**Sn**	**21 08 08.8**	**-0.1**
WHF	**Hehuan Shan** baz=242	**1.41**	**242**	P		**Pn**	**21 07 51.5**	**0.0**
WHF				S		**Sn**	**21 08 08.3**	**-1.5**
TWT	**Tachien** baz=247	**1.43**	**247**	*e*P		**Pn**	**21 07 51.6**	**-0.1**
TWT				*e*S		**Sn**	**21 08 10.1**	**0.0**
TDCB	**Techi** baz=247	**1.45**	**247**	*e*P		**Pn**	**21 07 52.1**	**+0.3**
TDCB				*e*S		**Sn**	**21 08 10.6**	**+0.1**
LIOB	**Emei** baz=264	**1.47**	**263**	*e*P		**Pb**	**21 07 52.8**	**-0.4**
ESL	**Shilin** baz=227	**1.48**	**227**	*e*P		**Pn**	**21 07 51.5**	**-0.6**
ESL				*e*S		**Sn**	**21 08 10.8**	**-0.2**
HSN	**Hsinchu** baz=271	**1.50**	**270**	*e*P		**Pn**	**21 07 52.5**	**0.0**
HSN				*e*S		**Sn**	**21 08 10.9**	**-0.6**
CHGB	**Renai** baz=240	**1.52**	**240**	*e*P		**Pn**	**21 07 53.1**	**+0.2**
CHGB				*e*S		**Sn**	**21 08 11.3**	**-1.0**
OWD	**Renai** baz=237	**1.58**	**237**	*e*P		**Pb**	**21 07 54.9**	**-0.2**
WHP	**Taichung City** baz=251	**1.62**	**251**	*e*P		**Pb**	**21 07 56.1**	**+0.3**
HGSD	**Ruisui** baz=220	**1.72**	**220**	*e*P		**Pb**	**21 07 56.8**	**-0.6**

MEX 09 21:07:37.2±0.9, 17.34N×101.87W, h15km±5km, MD4.1,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.47**	**55**	*i* P		Pg	21 07 45.0	-1.7
ZIIG				*e*S		Sg	21 07 51.5	-1.6
UON	**La Union**	**0.63**	**5**	*i* P		Pg	21 07 48.7	-1.6
UON				*i* S		Sg	21 07 57.0	-1.1
MMIG	**Aquila**	**1.69**	**304**	*e*P		Pn	21 08 03.2	-3.0
MMIG				*e*S		Sn	21 08 22.1	-5.6
ARIG	**Puente Sto Nin**	**1.73**	**57**	*e*P		Pn	21 08 03.9	-2.9
ARIG				*i* S		Sn	21 08 23.7	-5.0
DAIG	**Los Arroyos**	**2.15**	**98**	*e*P		Pn	21 08 08.8	-3.8
DAIG				*e*S		Sn	21 08 31.1	-7.8
MEIG	**Mezcala**	**2.23**	**74**	*e*P		Pn	21 08 10.8	-2.9
MEIG				*e*S		Sn	21 08 38.0	-3.0
PLIG	**Platanillo**	**2.49**	**65**	*e*P		Pn	21 08 14.7	-2.6
PLIG				*e*S		Sn	21 08 46.6	-0.9
MGIG	**Malinaltepec**	**3.10**	**91**	*e*P		Pn	21 08 23.4	-2.4
MGIG				*e*S		Sn	21 08 55.1	-7.5
TLIG	**Tlapa**	**3.17**	**85**	*e*P		Pn	21 08 24.0	-2.6
TLIG				*i* S		Sn	21 08 57.7	-6.6

MEX 09 21:08:16.1±0.8, 14.49N×94.09W, h27km±133km, MD3.9,
Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
PCIG		**1.47**	**35**	*e*P		Pn	21 08 38.7	-2.1
PCIG				*e*S		Sn	21 08 55.6	-3.5
TGIG		**2.46**	**22**	*e*P		Pn	21 08 52.5	-1.9
TGIG				*e*S		Sn	21 09 02.6	-3.0
CCIG	**Comitan**	**2.59**	**46**	*e*P		Pn	21 08 53.5	-2.8
CCIG				*e*S		Sn	21 09 24.6	-2.5
CMIG	**Matias Romero**	**2.70**	**344**	*e*P		Pn	21 08 56.3	-1.4
CMIG				*e*S		Sn	21 09 26.2	-3.2

TAP ***09*** *21:08:44.0, 25.11N×122.85E, h51km±2km, ML3.9, D*
JMA ***09*** *21:08:46.9±0.3, 24.88N×122.64E, h15km±4km, M2.9*
ISC 09 21:08:46.6±1.1, 24.98N±0.03×122.69E±0.02, h30km±10km,
n91, σ 1.27/148, 2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.57**	**156**	P		**Pb**	**21 08 56.7**	**-1.5**
JYNG				S		**Sb**	**21 09 04.4**	**-1.7**
YOJ	**Yonaguni jima**	**0.59**	**150**	P		**Pb**	**21 08 57.5**	**-1.0**
YOJ				*e*S		**Sb**	**21 09 04.5**	**-2.1**
YOJ	**Yonaguni jima** baz=167	**0.59**	**150**	P		**Pb**	**21 08 57.9**	**-0.6**
YOJ				S		**Sn**	**21 09 07.1**	**-0.4**
TWB1	**Santiao Chiao** baz=262	**0.64**	**273**	⇓P		**Pn**	**21 08 58.5**	**-1.1**
TWB1				S		**Sb**	**21 09 10.1**	**+2.2**
EGS	baz=252	**0.70**	**259**	*i* P		**Pb**	**21 09 00.1**	**-0.3**
EGS				*i* S		**Sb**	**21 09 12.4**	**+2.7**
TIPB	**Shuangxi** baz=261	**0.79**	**270**	*i* P		**Pn**	**21 09 00.8**	**-0.8**
TIPB				S		**Sb**	**21 09 13.8**	**+1.6**
NTC	**Toucheng** baz=254	**0.79**	**261**	*e*P		**Pn**	**21 09 01.2**	**-0.5**
NWF	**Wu-fen Shan** baz=267	**0.83**	**277**	*i* P		**Pb**	**21 09 02.1**	**-0.5**
NWF				S		**Sb**	**21 09 14.7**	**+1.2**
WFSB	**Wu-fen Shan** baz=267	**0.83**	**277**	P		**Pb**	**21 09 02.5**	**0.0**
WFSB				*e*S		**Sn**	**21 09 13.3**	**-0.3**
TWC	**Suao** baz=240	**0.85**	**245**	⇓*i* P		**Pn**	**21 09 01.0**	**-1.5**
TWC				*i* S		**Sb**	**21 09 15.8**	**+2.0**
TNOU	**National Taiwa** baz=272	**0.85**	**282**	P		**Pn**	**21 09 01.9**	**-0.6**
PCYT	**Pengchaiyu**	**0.86**	**319**	*e*P		**Pn**	**21 08 59.3**	**-3.4**

	baz=306						
ILA	**Ilan**	**0.88 256**	*e*P		**Pn**	**21 09 02.2**	**-0.7**
	baz=250						
NDS	**Dongshan**	**0.95 249**	*e*P		**Pn**	**21 09 02.9**	**-1.0**
	baz=245						
NDS			S		**Sb**	**21 09 18.8**	**+2.0**
	baz=245						
TWE	**Neicheng**	**0.96 255**	*i* P		**Pn**	**21 09 03.3**	**-0.8**
	baz=249						
TWE			*i* S		**Sb**	**21 09 17.7**	**+0.5**
	baz=249						
EWUT	**Wuta**	**0.98 238**	P		**Pn**	**21 09 04.0**	**-0.3**
	baz=235						
EWUT			*e*S		**Sb**	**21 09 19.2**	**+1.5**
	baz=235						
TWA	**Mucha**	**1.01 270**	*i* P		**Pb**	**21 09 04.6**	**-0.8**
	baz=263						
TWA			*i* S		**Sb**	**21 09 19.6**	**+1.2**
	baz=263						
ENA	**Nanau**	**1.02 238**	P		**Pn**	**21 09 03.7**	**-1.2**
	baz=235						
ENA			S		**Sb**	**21 09 19.8**	**+1.0**
	baz=235						
YM01	**YM01**	**1.03 280**	P		**Pb**	**21 09 05.2**	**-0.7**
	baz=271						
TWY	**Chenhua**	**1.03 287**	*e*P		**Pb**	**21 09 05.8**	**-0.1**
	baz=278						
TWY			S		**Sn**	**21 09 18.3**	**-0.2**
	baz=278						
NHDH	**Xindian Distri**	**1.06 270**	*e*P		**Pn**	**21 09 05.0**	**-0.4**
	baz=263						
ENTT	**Nioudou**	**1.08 252**	P		**Pn**	**21 09 05.1**	**-0.5**
	baz=247						
ENTT			*e*S		**Sb**	**21 09 21.6**	**+1.2**
	baz=247						
TAP	**Taipei**	**1.08 274**	*e*P		**Pb**	**21 09 06.1**	**-0.5**
	baz=266						
TAP			*e*S		**Sn**	**21 09 19.3**	**-0.3**
	baz=266						
ANP	**Anpu**	**1.08 281**	P		**Pn**	**21 09 05.1**	**-0.8**
	baz=273						
ANP			S		**Sn**	**21 09 19.9**	**0.0**
	baz=273						
NDT	**Datong Townshi**	**1.13 251**	P		**Pn**	**21 09 06.3**	**-0.2**
	baz=247						
NDT			S		**Sb**	**21 09 22.1**	**+0.1**
	baz=247						
IRIF	**Iriomote-Funau**	**1.14 124**	P		**Pb**	**21 09 07.5**	**-0.2**
IRIF			S		**Sb**	**21 09 22.2**	**0.0**
NTST	**Danshui**	**1.14 280**	*e*S		**Sn**	**21 09 21.6**	**+0.4**
	baz=272						
TWS1	**Kuangyinshan**	**1.16 276**	P		**Pn**	**21 09 05.9**	**-0.9**
	baz=269						
TWS1			S		**Sb**	**21 09 22.6**	**-0.2**
	baz=269						
YHNB	**Yeheng**	**1.23 256**	P		**Pb**	**21 09 08.6**	**-0.7**
	baz=251						
NSK	**Sanguang**	**1.25 256**	P		**Pn**	**21 09 08.1**	**0.0**
	baz=252						
NSK			S		**Sb**	**21 09 24.8**	**-0.5**
	baz=252						
NACB	**Ninganchiao**	**1.28 232**	P		**Pn**	**21 09 08.0**	**-0.5**
	baz=230						
NACB			S		**Sb**	**21 09 27.5**	**+1.4**
	baz=230						
TWD	**Chiawan**	**1.34 228**	P		**Pb**	**21 09 09.7**	**-1.4**
	baz=227						
TWD			S		**Sb**	**21 09 28.0**	**+0.2**
	baz=227						
ETLH	**Xiulin Townshi**	**1.34 235**	P		**Pn**	**21 09 09.3**	**-0.1**
	baz=234						
ETLH			*e*S		**Sb**	**21 09 28.8**	**+0.8**
	baz=234						
HATJ	**Hateruma jima**	**1.37 132**	*e*S		**Sb**	**21 09 27.5**	**-1.1**
NCU	**National Centr**	**1.37 270**	*e*P		**Pn**	**21 09 09.3**	**-0.3**
	baz=264						
NCU			*e*S		**Sb**	**21 09 27.9**	**-0.7**
	baz=264						
NCUH	**Zhongli**	**1.37 270**	*e*P		**Pn**	**21 09 09.0**	**-0.7**
	baz=264						
NCUH			*e*S		**Sn**	**21 09 27.6**	**+0.9**
	baz=264						
HWA	**Hwalien**	**1.40 225**	*e*P		**Pn**	**21 09 09.6**	**-0.5**
	baz=224						
HWA			*e*S		**Sb**	**21 09 29.1**	**-0.6**
	baz=224						
JKRS	**Kuro-shima**	**1.41 121**	P		**Pb**	**21 09 11.6**	**-0.6**
JIJ	**Ishigaki jima**	**1.45 115**	P		**Pb**	**21 09 13.9**	**+0.9**
ETM	**Tongmen**	**1.48 228**	P		**Pb**	**21 09 11.9**	**-1.6**
	baz=227						
ETM			*e*S		**Sb**	**21 09 32.0**	**-0.1**
	baz=227						
TEYL	**Yanliau Villag**	**1.49 222**	*e*P		**Pn**	**21 09 11.2**	**-0.1**
	baz=223						
TEYL			*e*S		**Sb**	**21 09 31.8**	**-0.3**
	baz=223						
FUSS	**Fushou**	**1.50 241**	P		**Pb**	**21 09 13.4**	**-0.6**
	baz=239						
FUSS			S		**Sb**	**21 09 32.4**	**-0.5**
	baz=239						
JISG	**Ishigakijimahi**	**1.52 104**	P		**Pb**	**21 09 14.7**	**+0.5**
JISG			*e*S		**Sb**	**21 09 34.3**	**+1.2**
WHF	**Hehuan Shan**	**1.54 238**	P		**Pn**	**21 09 12.9**	**+0.5**
	baz=236						
WHF			*i* S		**Sb**	**21 09 33.3**	**-0.8**
	baz=236						
TWT	**Tachien**	**1.56 243**	P		**Pb**	**21 09 13.5**	**-1.3**
	baz=240						
TWT			S		**Sb**	**21 09 33.8**	**-0.5**
	baz=240						
LIOB	**Emei**	**1.56 258**	P		**Pb**	**21 09 13.9**	**-0.9**
	baz=254						
LIOB			*e*S		**Sn**	**21 09 32.6**	**+1.1**
	baz=254						
SBCB	**Hsinchu**	**1.56 264**	*e*P		**Pn**	**21 09 11.8**	**-0.6**
	baz=259						
SBCB			*e*S		**Sn**	**21 09 32.2**	**+0.7**
	baz=259						
TDCB	**Techi**	**1.57 243**	*e*P		**Pn**	**21 09 12.5**	**-0.1**
	baz=240						
TDCB			*e*S		**Sb**	**21 09 35.1**	**+0.5**
	baz=240						
HSN	**Hsinchu**	**1.57 264**	S		**Sn**	**21 09 32.7**	**+0.9**
	baz=260						
NSTT	**Nanjuang**	**1.57 258**	S		**Sb**	**21 09 33.9**	**-0.8**
	baz=254						
ESL	**Shilin**	**1.63 225**	P		**Pn**	**21 09 13.6**	**+0.3**
	baz=224						
ESL			S		**Sb**	**21 09 36.1**	**-0.1**
	baz=224						
CHGB	**Renai**	**1.66 237**	*e*P		**Pb**	**21 09 15.1**	**-1.5**
	baz=235						
CHGB			*e*S		**Sb**	**21 09 36.3**	**-0.9**
	baz=235						
OWD	**Renai**	**1.72 234**	*e*P		**Pb**	**21 09 15.6**	**-2.0**
	baz=232						
OWD			*e*S		**Sb**	**21 09 38.6**	**-0.2**
	baz=232						
WHP	**Taichung City**	**1.73 247**	*e*P		**Pn**	**21 09 15.3**	**+0.6**
	baz=244						
WHP			S		**Sb**	**21 09 38.8**	**-0.5**
	baz=244						
EGFH	**Guangfu**	**1.74 222**	*e*P		**Pn**	**21 09 15.1**	**+0.4**
	baz=222						
EGFH			*e*S		**Sb**	**21 09 38.5**	**-0.8**
	baz=222						
NMLH	**Miaoli**	**1.78 256**	*e*P		**Pb**	**21 09 17.1**	**-1.6**
	baz=253						
NMLH			S		**Sn**	**21 09 38.1**	**+1.1**
	baz=253						
TWQ1	**Liyutan**	**1.85 251**	S		**Sb**	**21 09 41.2**	**-1.4**
	baz=248						
WCS	**Beigang Elemen**	**1.86 241**	*e*P		**Pb**	**21 09 18.9**	**-1.1**
	baz=239						
WCS			*e*S		**Sb**	**21 09 41.8**	**-1.1**
	baz=239						
HGSD	**Ruisui**	**1.88 218**	P		**Pn**	**21 09 16.8**	**+0.1**
	baz=218						
HGSD			S		**Sb**	**21 09 41.2**	**-2.1**
	baz=218						
EHY	**Hungye**	**1.93 221**	*e*P		**Pn**	**21 09 18.4**	**+1.1**
	baz=220						
EHY			S		**Sn**	**21 09 42.4**	**+1.8**
	baz=220						
SMLT	**Sun Moon Lake**	**1.96 237**	P		**Pn**	**21 09 18.9**	**+1.0**
	baz=235						
SMLT			*e*S		**Sn**	**21 09 43.3**	**+1.7**
	baz=235						
SSLB	**Suanglung**	**1.98 234**	*e*P		**Pb**	**21 09 20.2**	**-1.8**
	baz=232						
SSLB			*e*S		**Sb**	**21 09 44.7**	**-1.5**
	baz=232						
TYC	**Yuchr**	**1.98 238**	P		**Pb**	**21 09 19.9**	**-2.1**
	baz=236						
TCU	**Taichung**	**2.01 246**	*e*P		**Pn**	**21 09 18.9**	**+0.4**
	baz=244						
TCU			*e*S		**Sb**	**21 09 45.2**	**-2.0**
	baz=244						
YULB	**Yu-li**	**2.03 219**	P		**Pn**	**21 09 18.0**	**-0.7**
	baz=219						
YULB			*e*S		**Sn**	**21 09 45.0**	**+1.9**
	baz=219						
EYUL	**Yuli**	**2.05 218**	*e*P		**Pn**	**21 09 19.0**	**0.0**
	baz=218						
EYUL			*e*S		**Sn**	**21 09 45.2**	**+1.6**
	baz=218						
WHYT	**Xinyi Township**	**2.11 233**	*e*P		**Pn**	**21 09 21.2**	**+1.3**
	baz=232						
WHYT			*e*S		**Sn**	**21 09 46.0**	**+1.0**
	baz=232						
WNT	**Mingjian**	**2.13 240**	*e*P		**Pn**	**21 09 21.2**	**+1.0**
	baz=237						
WNT			*e*S		**Sn**	**21 09 47.9**	**+2.2**
	baz=237						
YUS	**Yu-Shan**	**2.17 227**	*e*P		**Pn**	**21 09 21.0**	**-0.2**
	baz=226						
YUS			*e*S		**Sn**	**21 09 49.3**	**+2.0**
	baz=226						
FULB	**Fuli**	**2.18 216**	*e*P		**Pn**	**21 09 21.4**	**+0.5**
	baz=216						
FULB			*e*S		**Sb**	**21 09 49.5**	**-2.6**
	baz=216						
ALS	**Alishan**	**2.26 230**	P		**Pn**	**21 09 22.9**	**+0.7**
	baz=229						
ALS			*e*S		**Sn**	**21 09 50.5**	**+1.3**
	baz=229						
ELDTW	**Lidau**	**2.35 221**	*e*P		**Pn**	**21 09 24.1**	**+0.9**
	baz=221						
ELDTW			*e*S		**Sn**	**21 09 52.9**	**+1.8**
	baz=221						
EDH	**Donghe**	**2.37 213**	*e*P		**Pn**	**21 09 23.7**	**+0.3**
	baz=213						
LONT	**Longtian**	**2.51 215**	*e*P		**Pn**	**21 09 26.0**	**+0.6**
	baz=215						
CHN4	**Tsaushan**	**2.51 230**	*e*P		**Pn**	**21 09 25.1**	**-0.3**
	baz=229						
STYH	**Taoyuan**	**2.51 225**	*e*P		**Pn**	**21 09 26.0**	**+0.6**
	baz=224						
TPUB	**Ta-pu**	**2.52 229**	*e*P		**Pn**	**21 09 26.4**	**+0.9**
	baz=228						
WTP	**Ta-pu**	**2.56 228**	*e*P		**Pb**	**21 09 28.6**	**-3.4**
	baz=227						
WSF	**Szhu**	**2.62 240**	*e*S		**Sn**	**21 10 01.1**	**+3.5**
	baz=238						
TWK	**Hsinying**	**2.64 230**	*e*P		**Pn**	**21 09 29.4**	**+2.2**
	baz=229						
SGST	**Jiashian**	**2.70 226**	*e*P		**Pn**	**21 09 29.0**	**+1.0**
	baz=225						
SLGT	**Liugui**	**2.72 224**	*e*P		**Pn**	**21 09 29.4**	**+1.1**
	baz=223						
ICHU	**Yijhu**	**2.73 234**	*e*P		**Pb**	**21 09 31.2**	**-3.5**
	baz=233						
SSD	**Sandimen**	**2.91 221**	*e*P		**Pn**	**21 09 32.5**	**+1.5**
	baz=220						
TSMG	**Majia**	**2.94 220**	*e*P		**Pn**	**21 09 32.9**	**+1.6**
	baz=220						
MASBT	**Mashibuluo**	**3.02 219**	*e*P		**Pn**	**21 09 32.9**	**+0.6**
	baz=219						
EAST	**Anshuo**	**3.09 214**	*e*P		**Pn**	**21 09 36.4**	**+3.0**
	baz=213						
SCZT	**Fanjiau**	**3.21 217**	*e*P		**Pn**	**21 09 36.8**	**+1.7**
	baz=216						
SLIU	**Shizi**	**3.25 213**	*e*P		**Pn**	**21 09 36.4**	**+0.8**
	baz=213						
TWKBT	**Hengchun**	**3.48 210**	*e*P		**Pn**	**21 09 40.7**	**+2.0**
	baz=210						
AXDP	**Jialang**	**4.29 270**	*e*P		**Pn**	**21 09 51.1**	**+1.3**
	baz=267						

*IDC **09** 21:10:15.2±38.0, 1°.26S×123°.34E, h0km, mb4.1/4, mb1 4.1/4, mb1mx3.6/39, mbtmp4.1/4, Error ellipse: s-maj=856.2km s-min=208.0km az=138.0*
*DJA **09** 21:10:36.4±0.4, 1°.4N×12°.1E±°, h10km, M4.1/8, mb4.4/4, MLv4.0/8*
*NEIC **09** 21:10:39.2±1.6, 1°.3N±0°.1×121°.31E±0°.05, h10km±2km, mb4.3/10, Error ellipse: s-maj=18.5km s-min=6.2km az=344.0*

ISC 09 21:10:37.4±0.7, 1°.14N±0°.06×121°.48E±0°.04, h10km, n27, σ1s70/31, mb4.3/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOLI2	**Tolitoli**	**0.70 268**			**Pg**	**21 10 49.2**	**-1.6**
TOLI2					**Sg**	**21 10 57.5**	**-2.5**
MRSI	**Marisa**	**0.81 145**		P	**Pg**	**21 10 51.5**	**-1.4**
MRSI				S	**Sb**	**21 11 03.3**	**-1.1**
GTOI	**Gorontalo**	**1.61 108**		P	**Pn**	**21 11 03.3**	**-2.6**
GTOI				S	**Sn**	**21 11 23.0**	**-3.8**
MPSI	**Mapaga**	**1.77 243**		P	**Pn**	**21 11 07.3**	**-0.8**
MPSI				S	**Sn**	**21 11 28.6**	**-2.0**
APSI	**Ampana**	**2.04 175**		P	**Pn**	**21 11 10.0**	**-1.9**
APSI				S	**Sn**	**21 11 36.8**	**-0.7**
MNI	**Manado**	**3.38 85**		P	**Pn**	**21 11 29.8**	**-0.4**
TTSI	**Tana Toraja**	**4.48 202**		P	**Pn**	**21 11 44.2**	**-1.1**
SANI	**Sanana**	**5.51 125**		P	**Pn**	**21 11 58.9**	**-0.7**
	0.1nm23nm,1.0s						
BNSI	**Bone**	**5.67 194**		P	**Pn**	**21 12 01.2**	**-0.6**
	0.1nm51nm,0.8s						
SPMM	**Sapulut**	**6.13 305**		P	**Pn**	**21 12 09.0**	**+0.8**
KAPI	**Kappang**	**6.35 196**		Pn	**Pn**	**21 12 14.2**	**+3.1**
BKSI	**Bulukumba**	**6.56 192**		P	**Pn**	**21 12 12.7**	**-1.3**
	0.1nm14nm,0.7s						
MTN	**Manton Dam**	**16.88 146**		Pn	**P**	**21 14 36.8**	**+0.8**
MTN				IAmb	IAmb	21 14 53.6	
	comp=Z,28nm,1.1s						
AS31	**Alice Springs**	**27.46 155**		P	**P**	**21 16 25.9**	**+2.0**
AS31				IAmb	IAmb	21 16 36.7	
	comp=Z,3.4nm,1.1s						
ASAR	**Alice Springs**	**27.46 155**		P	**P**	**21 16 25.8**	**+2.0**
CTAO	**Charters Tower**	**32.17 132**		P	**P**	**21 17 07.3**	**+1.6**
STKA	**Stephens Creek**	**37.97 152**		P	**P**	**21 17 58.8**	**+3.3**
SONM	**Songino Array**	**48.32 346**		P	**P**	**21 19 19.7**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=161,slow=9.2,SNR=2.0						
SONM	**Songino Array**	**48.32 346**		P	**P**	**21 19 19.7**	**+0.6**
SONM	**Songino Array**	**48.32 346**		IAmb	IAmb	21 19 31.8	
	comp=Z,1.4nm,1.0s						
MK31	**Makanchi Array**	**56.85 329**		P	**P**	**21 20 22.2**	**-0.1**
MK31				IAmb	IAmb	21 20 23.9	
	comp=Z,2.7nm,0.9s						
MKAR	**Makanchi Array**	**56.85 329**		P	**P**	**21 20 22.5**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=121,slow=8.1,SNR=9.2						
MKAR	**Makanchi Array**	**56.85 329**		P	**P**	**21 20 21.9**	**-0.4**
MAKZ	**Makanchi**	**57.02 329**		P	**P**	**21 20 23.2**	**-0.3**
MAKZ				IAmb	IAmb	21 20 24.0	
	comp=Z,5.6nm,1.0s						
ZALV	**Zalesovo Beam**	**60.66 336**		P	**P**	**21 20 47.3**	**-1.2**
	comp=Z,1.6nm,0.7s,baz=126,slow=7.4,SNR=3.6						
KURBB	**Kurchatov Arra**	**61.22 330**		P	**P**	**21 20 52.1**	**-0.3**
	comp=Z,4.1nm,1.1s,baz=128,slow=6.2,SNR=6.8						
KURK	**Kurchatov**	**61.24 330**		P	**P**	**21 20 52.1**	**-0.4**

IDC 09 21:28:04.2±3.2, 32°.39S×178°.56W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/20, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=73.7km s-min=46.8km az=116.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.84 210**		Pn	Pn	21 29 44.6	-1.2
	1.0nm,0.3s,baz=112,slow=19,SNR=7.5						
URZ				Sn	Sn	21 31 00.5	-3.9
	0.9nm,0.3s,baz=128,slow=23,SNR=3.6						
ASAR	**Alice Springs**	**42.57 269**		P	P	21 36 02.1	+0.1
	0.6nm,0.6s,baz=107,slow=7.3,SNR=6.1						
WRA	**Warramunga Arr**	**43.74 275**		P	P	21 36 11.5	0.0
	0.5nm,0.7s,baz=112,slow=8.0,SNR=5.4						
FINES	**FINESS Array B**	**146.83 339**		PKPbc	PKPbc	21 47 46.9	-0.8
	2.0nm,0.9s,baz=45,slow=2.2,SNR=4.3						

*KRNET **09** 21:38:28.2±0.1, 42°.31N×80°.98E, mb3.6*

*SOME **09** 21:38:28.4, 41°.75N×80°.67E, h10km*
*NNC **09** 21:38:30.5±1.0, 41°.77N×80°.61E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=7.0km s-min=5.4km az=140.0*

ISC 09 21:38:37.6±1.8, 42°.09N±0°.07×80°.44E±0°.06, h10km, n47, σ2s03/77, 20C-7D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**1.29 326**		⇑*e*P	**Pn**	**21 38 58.0**	**-3.8**
	31nm,0.4s						
SHLS				*e*S	**Sn**	**21 39 19.7**	**+0.5**
	172nm,0.3s						
SHLS	**Shalkode**	**1.29 326**		P	**Pn**	**21 38 58.0**	**-3.8**
	32nm,0.4s						
SHLS				S	**Sn**	**21 39 19.7**	**+0.5**
	172nm,0.3s						
KTMS	**Ketmen**	**1.36 357**		*e*P	**Pn**	**21 39 00.8**	**-2.0**
	35nm,0.6s						
KTMS				*e*S	**Sg**	**21 39 24.4**	**+3.1**
	104nm,0.4s						
KTMS	**Ketmen**	**1.36 357**		P	**Pn**	**21 39 00.8**	**-2.0**
	35nm,0.6s						
KTMS				S	**Sg**	**21 39 24.4**	**+3.1**
	104nm,0.4s						
PDGK	**Podgornoye**	**1.42 331**		P	**Pn**	**21 39 02.6**	**-1.1**
	68nm,0.3s						
PDGK				S	**Sg**	**21 39 27.7**	**+4.3**
	123nm,0.3s						
PDGK	**Podgornoye**	**1.42 331**		⇓P	**Pn**	**21 39 02.3**	**-1.3**
	62nm,0.4s						
PDGK				⇑S	**Sg**	**21 39 26.0**	**+2.6**
	269nm,0.9s						
PRZ	**Przheval'sk**	**1.56 285**		⇓*e*P	**Pn**	**21 39 03.9**	**-1.7**
	baz=77						
PRZ				⇓*i*S	**Sg**	**21 39 30.1**	**+2.3**
	baz=77						
SATY	**Saty**	**1.79 304**		*e*P	**Pn**	**21 39 08.4**	**-0.2**
	10nm,0.6s						
SATY				*e*S	**Sg**	**21 39 37.8**	**+2.8**
	72nm,0.1s						
SATY	**Saty**	**1.79 304**		Pg	**Pn**	**21 39 08.5**	**-0.1**
	59nm,0.8s						
SATY				Lg	Lg	21 39 37.8	
	90nm,0.3s						
KPKS	**Kokpek**	**1.89 317**		*e*P	**Pb**	**21 39 10.7**	**-1.5**
	138nm,0.3s						
KPKS				*e*S	**Sg**	**21 39 41.5**	**+3.2**
	237nm,0.4s						
ANVS	**Anan'yevo**	**2.16 290**		⇑*i*P	**Pn**	**21 39 12.3**	**-1.6**
	baz=82						
ANVS				⇑*i*S	**Sb**	**21 39 44.3**	**+0.4**
	baz=82						
KURS	**Kuram**	**2.18 311**		*e*P	**Pb**	**21 39 16.0**	**-1.1**
	13nm,0.4s						
KURS				*e*S	**Sg**	**21 39 50.2**	**+2.6**
	30nm,0.6s						
KURS	**Kuram**	**2.18 311**		Pg	**Pb**	**21 39 16.0**	**-1.1**
	25nm,0.3s						
KURS				Lg	Lg	21 39 50.2	
	30nm,0.5s						
DJR	**Jarkent**	**2.29 348**		*e*P	**Pb**	**21 39 17.2**	**-1.9**
	0.6nm,0.2s						
DJR				*e*S	**Sg**	**21 39 52.3**	**+1.0**
	7.5nm,0.6s						
DJR	**Jarkent**	**2.29 348**		Pg	**Pb**	**21 39 17.2**	**-1.9**
	0.6nm,0.4s						
DJR				Lg	Lg	21 39 52.3	
	7.5nm,0.6s						
KDJ	**Kajisay**	**2.42 272**		⇑*i*P	**Pn**	**21 39 16.7**	**-0.8**
	baz=68						
KDJ				⇑*i*S	**Sb**	**21 39 52.1**	**+0.7**
	baz=68						
KOTS	**Kotyrbulak**	**2.71 296**		*e*P	**Pb**	**21 39 24.4**	**-1.8**
	26nm,0.2s						
KOTS				*e*S	**Sg**	**21 40 04.8**	**+0.3**
	59nm,0.4s						
KOTS	**Kotyrbulak**	**2.71 296**		Pg	**Pb**	**21 39 24.4**	**-1.8**
	24nm,0.3s						
KOTS				Lg	Lg	21 40 04.8	
	41nm,0.3s						
MDOK	**Medeo**	**2.72 294**		*e*P	**Pb**	**21 39 24.1**	**-2.3**
	16nm,0.6s						
MDOK				*e*S	**Sg**	**21 40 04.4**	**-0.6**
	32nm,0.5s						
MDOK	**Medeo**	**2.72 294**		Pn	**Pn**	**21 39 21.6**	**+0.1**
	11nm,0.5s						
MDOK				Lg	Lg	21 40 03.4	
	39nm,0.6s						
MDOK	**Medeo**	**2.72 294**		Pg	**Pb**	**21 39 24.1**	**-2.3**
	16nm,0.3s						
MDOK				Lg	Lg	21 40 04.4	
	32nm,0.5s						
ARXS	**Arharly**	**2.85 319**		*e*P	**Pb**	**21 39 27.0**	**-1.7**
	5.0nm,0.3s						
ARXS				*e*S	**Sg**	**21 40 09.7**	**+0.4**
	35nm,0.3s						
ARXS	**Arharly**	**2.85 319**		Pg	**Pb**	**21 39 27.0**	**-1.7**
	26nm,0.5s						
ARXS				Lg	Lg	21 40 09.7	
	35nm,0.6s						
IZV	**Izvestkoviy**	**2.98 290**		*e*P	**Pb**	**21 39 28.8**	**-2.1**
	11nm,0.3s						
IZV				*e*S	**Sg**	**21 40 12.5**	**-0.8**
	78nm,0.4s						
IZV	**Izvestkoviy**	**2.98 290**		Pg	**Pb**	**21 39 28.8**	**-2.1**
	11nm,0.3s						
IZV				Lg	Lg	21 40 12.5	
	54nm,0.5s						
ULHL	**Ulahol**	**3.12 274**		⇑*e*P	**Pn**	**21 39 26.6**	**-0.5**
	baz=71						
ULHL				⇑*i*S	**Sb**	**21 40 08.8**	**-2.7**
	baz=71						
MTBS	**Maitube**	**3.13 291**		*e*P	**Pb**	**21 39 31.3**	**-2.2**
	4.4nm,0.2s						
MTBS				*e*S	**Sg**	**21 40 16.7**	**-1.6**
	44nm,0.3s						
MTBS	**Maitube**	**3.13 291**		Pg	**Pb**	**21 39 31.3**	**-2.2**
	4.4nm,0.3s						
MTBS				Lg	Lg	21 40 16.7	
	37nm,0.6s						
KTBS	**Karatobe**	**3.20 302**		*e*P	**Pb**	**21 39 33.3**	**-1.2**
	2.6nm,0.3s						
KTBS				*e*S	**Sg**	**21 40 19.9**	**-0.4**
	54nm,0.4s						
KTBS	**Karatobe**	**3.20 302**		Pg	**Pb**	**21 39 33.3**	**-1.2**
	8.5nm,0.4s						
KTBS				Lg	Lg	21 40 19.9	
	52nm,0.4s						
KAPS	**Kapalarasan**	**3.29 347**		*e*P	**Pb**	**21 39 34.9**	**-1.2**
	0.4nm,0.4s						
KAPS				*e*S	**Sg**	**21 40 22.7**	**-0.5**
	4.2nm,0.5s						
KAPS	**Kapalarasan**	**3.29 347**		Pg	**Pb**	**21 39 34.9**	**-1.2**
	0.6nm,0.3s						
KAPS				Lg	Lg	21 40 22.7	
	3.9nm,0.6s						
BOOM	**Boomskoye usch**	**3.36 278**		⇑*i*P	**Pn**	**21 39 29.4**	**-0.9**
	baz=75						
BOOM				⇑*i*S	**Sn**	**21 40 14.1**	**+3.8**
	baz=75						
KST	**Kastek**	**3.44 288**		*e*P	**Pb**	**21 39 36.7**	**-2.0**
	2.0nm,0.2s						
KST				*e*S	**Sg**	**21 40 26.0**	**-2.0**
	15nm,0.7s						
KST	**Kastek**	**3.44 288**		Pg	**Pb**	**21 39 36.7**	**-2.0**
	6.1nm,0.6s						
KST				Lg	Lg	21 40 26.0	
	15nm,0.8s						
KUU	**Kurty**	**3.50 302**		*e*P	**Pb**	**21 39 38.3**	**-1.5**
	1.1nm,0.2s						
KUU				*e*S	**Sg**	**21 40 28.4**	**-1.7**
	18nm,0.2s						
KUU	**Kurty**	**3.50 302**		Pg	**Pb**	**21 39 38.3**	**-1.5**
	2.8nm,0.4s						
KUU				Lg	Lg	21 40 28.4	
	11nm,0.1s						
DGS	**Degeres**	**3.63 290**		*e*P	**Pb**	**21 39 40.1**	**-1.7**
	4.6nm,0.7s						
DGS				*e*S	**Sg**	**21 40 31.8**	**-2.3**
	25nm

KZA	**Kyzart**	**3.86**	**272**	⇑*iP*		**Pn**	**21 39 36.9**	**-0.5**
	baz=69							
KZA				⇑*iS*		**Sn**	**21 40 27.3**	**+4.3**
	baz=69							
AAK	**Ala-Archa**	**4.44**	**279**	⇓Pg		**Pb**	**21 39 56.3**	**+0.6**
	6.5nm,0.8s							
AAK				⇓Lg		Lg	21 40 56.4	
	15nm,0.8s							
ARLS	**Aral**	**4.56**	**269**	⇑*iP*		**Pn**	**21 39 46.9**	**+0.1**
	baz=67							
ARLS				⇑*iS*		**Sn**	**21 40 44.2**	**+4.2**
	baz=67							
MAKZ	**Makanchi**	**4.84**	**13**	⇓Pn		**Pn**	**21 39 49.4**	**-1.2**
	4.1nm,0.7s							
MAKZ				⇑Sn		**Sn**	**21 40 49.7**	**+3.0**
	3.1nm,0.6s							
MAKZ				⇑Lg		Lg	21 41 09.3	
	4.5nm,0.7s							
MK31	**Makanchi Array**	**4.89**	**15**	⇑Pn		**Pn**	**21 39 49.4**	**-1.8**
	1.7nm,0.6s,baz=202,slow=13,SNR=33							
MK31				⇓Sn		**Sn**	**21 40 49.6**	**+1.9**
	1.8nm,0.4s,baz=187,slow=21,SNR=5.7							
MK31				⇑Lg		Lg	21 41 11.4	
	4.5nm,0.6s,baz=195,slow=21,SNR=4.0							
MRKS	**Merke**	**5.38**	**279**	*eP*		**Pb**	**21 40 13.0**	**+1.3**
	1.8nm,0.6s							
MRKS				*eS*		**Sg**	**21 41 27.9**	**-2.3**
	5.7nm,0.4s							
MRKS	**Merke**	**5.38**	**279**	Pg		**Pb**	**21 40 13.0**	**+1.3**
	3.2nm,0.6s							
MRKS				Lg		Lg	21 41 27.9	
	2.6nm,0.2s							

*IDC **09** 21:51:43.4±3.6,35°.41N×140°.85E, h33km±28km, mb3.6/15, mb1 3.8/22, mb1mx3.7/69, mbtmp3.9/22, ML3.5/4, MS3.4/9, Ms1 3.4/9, ms1mx3.1/45, Error ellipse: s-maj=20.2km s-min=14.1km az=83.0*
*JMA **09** 21:51:44.2±0.1, 35°.52N×140°.93E, h40km±1km, M3.7*
JMA Felt I J1.
*NIED **09** 21:51:44.2, 35°.52N×140°.93E, h40km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-1.82; Mθθ1.16; Mφφ0.65; Mrθ0.43; Mθφ-0.26; Mrφ2.24; Fault plane solution: M₀2.59000×10¹⁵ NP1: φs184.00000°, δ76.00000°, λ-84.00000°. NP2: φs341.00000°, δ15.00000°, λ-113.00000°.*
*NEIC **09** 21:51:46.4±1.9, 35°.62N±0°.05×140°.87E±0°.08, h46km±5km, mb4.4/25 Error ellipse: s-maj=9.6km s-min=7.7km az=88.0*

ISC 09 21:51:43.2±1.0, 35°.44N±0°.03×141°.01E±0°.05, h33km±4km, n99, σ1ᵖ52/96, mb4.2/28, MS3.4/6, 1C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.30**	**335**	⇓P	**Pn**	**21 51 51.3**	**+0.1**
CHOJ				*eS*	**Sn**	**21 51 56.4**	**+0.4**
JSMT	**Sammumatsuo**	**0.51**	**294**	⇓P	**Pb**	**21 51 53.9**	**0.0**
KTR	**Katsuura**	**0.64**	**244**	P	**Pb**	**21 51 56.8**	**+0.8**
KTR				*eS*	**Sb**	**21 52 05.4**	**+0.6**
JIHU	**Itakohorinouch**	**0.66**	**323**	P	**Pn**	**21 51 55.8**	**-0.4**
JIHU				*eS*	**Sb**	**21 52 03.8**	**-1.7**
JCN	**Nagara**	**0.66**	**269**	P	**Pb**	**21 51 57.2**	**+0.8**
JCN				*eS*	**Sb**	**21 52 05.2**	**-0.3**
BSO4	**Boso 4**	**0.71**	**231**	⇓P	**Pb**	**21 51 57.9**	**+0.8**
BSO3	**Boso 3**	**0.75**	**213**	⇓P	**Pb**	**21 51 58.6**	**+0.8**
BSO1	**Boso 1**	**0.78**	**182**	P	**Pb**	**21 51 59.4**	**+1.3**
JYT	**Yasato**	**1.03**	**320**	⇑P	**Pn**	**21 52 00.7**	**-0.7**
JYT	**Yasato**	**1.03**	**320**	Pn	**Pn**	**21 52 00.8**	**-0.7**
JYT					**Sn**	**21 52 13.5**	**-1.2**
JIM2	**Oshima 3**	**1.48**	**242**	*eS*	**Sn**	**21 52 26.4**	**+0.6**
JOD2	**Odawara 2**	**1.58**	**264**	P	**Pn**	**21 52 09.2**	**+0.2**
JAG	**Ashikaga**	**1.61**	**308**	P	**Pn**	**21 52 08.8**	**-0.5**
JMM	**Marumori**	**2.43**	**356**		**Pn**	**21 52 21.1**	**+0.4**
JSG	**Sagara**	**2.44**	**253**		**Pn**	**21 52 22.7**	**+2.0**
JHJ2	**Mitsune**	**2.52**	**203**	Pn	**Pb**	**21 52 25.6**	**-2.2**
JHJ	**Hachijo jima 2**	**2.52**	**204**	Pn	**Pn**	**21 52 21.0**	**-0.9**
	31nm,0.3s,baz=78,slow=20,SNR=1.9						
JHJ				Sn	**Sn**	**21 52 53.5**	**+2.0**
	140nm,0.3s,baz=117,slow=23,SNR=6.9						
MJAR	**Matsushiro Arr**	**2.53**	**297**	Pn	**Pn**	**21 52 22.3**	**+0.3**
	2.3nm,0.3s,baz=101,slow=15,SNR=58						
MAJO	**Matsushiro**	**2.53**	**297**	Pn	**Pn**	**21 52 22.8**	**+0.8**
MAT	**Matsushiro**	**2.53**	**297**	P	**Pn**	**21 52 22.9**	**+0.9**
MAT				*eS*	**Sb**	**21 52 55.8**	**-2.9**
MJB9	**Matsu-Tunnel**	**2.53**	**297**		**Pn**	**21 52 22.5**	**+0.4**
JGF	**Kuroka**	**2.99**	**274**	Pn	**Pn**	**21 52 29.4**	**+1.1**
INU	**Inuyama**	**3.27**	**320**		**Pn**	**21 52 29.9**	**+0.9**
JSD	**Sado**	**3.41**	**320**		**Pn**	**21 52 35.1**	**+1.0**
JWT	**Wachi**	**4.59**	**270**	Pn	**Pn**	**21 52 51.5**	**+1.2**
JTM	**Tenmabayashi**	**5.34**	**0**	Pn	**Pn**	**21 53 01.6**	**+0.9**
JMN	**Monobe**	**6.13**	**256**	Pn	**Pn**	**21 53 15.2**	**+3.7**
JHS	**Saijyo**	**6.48**	**268**	Pn	**Pn**	**21 53 19.1**	**+2.8**
JCJ	**Chichijima**	**8.37**	**173**	Pn	**Pn**	**21 53 41.9**	**-0.4**
	16nm,0.3s,baz=271,slow=22,SNR=1.5						
JCJ					**Sn**	**21 55 10.2**	**-5.5**
	17nm,0.3s,baz=279,slow=22,SNR=1.9						
JNU	**Nakatsue**	**8.70**	**258**	LR	LR	21 57 33.1	
	comp=Z,422nm,19.5s,baz=88,slow=41						
ASAJ	**Asahikawa**	**8.76**	**8**	Pn	**Pn**	**21 53 46.0**	**-1.5**
	1.5nm,0.3s,baz=227,slow=12,SNR=8.0						
ASAJ					**Sn**	**21 55 20.1**	**-4.8**
	0.7nm,0.3s,baz=134,slow=24,SNR=1.3						
JKA	**Kamikawa-asahi**	**8.76**	**8**		**Pn**	**21 53 46.2**	**-1.3**
KSRS	**Korea Array**	**10.74**	**285**	Pn	**Pn**	**21 54 13.0**	**-1.6**
	baz=103,slow=14,SNR=1.3						
KSRS				LR	LR	21 58 27.7	
	comp=Z,262nm,21.7s,baz=110,slow=38						
USRK	**Ussuriysk Ar.**	**11.16**	**324**	Pn	**Pn**	**21 54 18.2**	**-2.3**
	baz=135,slow=18,SNR=1.3						
USRK				LR	LR	21 58 21.7	
	comp=Z,134nm,20.1s,baz=110,slow=36						
KLR	**Kul'dur**	**15.38**	**337**	Pn	**Pn**	**21 55 18.4**	**+0.8**
	0.1nm,0.3s,baz=154,slow=10,SNR=1.9						
PETK	**Petropavlovsk-**	**21.24**	**29**	P	**P**	**21 56 27.2**	**+0.9**
	0.7nm,0.4s,baz=200,slow=7.7,SNR=1.3						
ENH	**Enshi**	**26.91**	**268**	P	**P**	**21 57 18.8**	**-2.6**
ENH				IAmb	IAmb	21 57 34.5	
	comp=Z,6.7nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**27.65**	**118**	T	T	22 26 40.5	
	baz=310,slow=75,SNR=64						
H11N1	**WAKE ISLAND Hy**	**27.66**	**118**	T	T	22 26 40.2	
	baz=310,slow=75,SNR=55						
H11N3	**WAKE ISLAND Hy**	**27.67**	**118**	T	T	22 26 42.3	
	baz=310,slow=75,SNR=42						
H11S1	**WAKE ISLAND Hy**	**28.30**	**120**	T	T	22 27 17.7	
	baz=312						
H11S3	**WAKE ISLAND Hy**	**28.30**	**120**	T	T	22 27 20.8	
	baz=312						
H11S2	**WAKE ISLAND Hy**	**28.32**	**120**	T	T	22 27 23.4	
	baz=312						
SONM	**Songino Array**	**28.44**	**307**	P	**P**	**21 57 34.6**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=111,slow=11,SNR=3.0						
SONM				LR	LR	22 09 56.0	
	comp=Z,24nm,18.0s,baz=112,slow=38						
SONM	**Songino Array**	**28.44**	**307**	P	**P**	**21 57 34.2**	**-0.8**
CMAR	**Chiang Mai Arr**	**40.80**	**257**	LR	LR	22 16 17.6	
	comp=Z,58nm,18.2s,baz=126,slow=36						
ZAA0	**Zalesovo Array**	**42.77**	**314**	P	**P**	**21 59 37.1**	**-0.2**
ZALV	**Zalesovo Beam**	**42.77**	**314**	P	**P**	**21 59 37.0**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=103,slow=7.8,SNR=2.8						
ZALV	**Zalesovo Beam**	**42.77**	**314**	P	**P**	**21 59 36.9**	**-0.3**
MK31	**Makanchi Array**	**44.71**	**303**	P	**P**	**21 59 52.5**	**-0.5**
MKAR	**Makanchi Array**	**44.71**	**303**	P	**P**	**21 59 52.0**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=80,slow=9.3,SNR=11						
MKAR				LR	LR	22 21 06.3	
	comp=Z,34nm,19.6s,baz=74,slow=40						
MKAR	**Makanchi Array**	**44.71**	**303**	P	**P**	**21 59 52.4**	**-0.7**
MAKZ	**Makanchi**	**44.92**	**303**	P	**P**	**21 59 54.0**	**-0.8**
K20K	**Telida**	**47.84**	**33**	P	**P**	**22 00 19.4**	**+2.0**
K20K				IAmb	IAmb	22 00 36.6	
	comp=Z,5.8nm,1.4s						
J20K	**Nowinta River**	**47.86**	**32**	P	**P**	**22 00 19.9**	**+2.4**
J20K				IAmb	IAmb	22 00 48.7	
	comp=Z,6.9nm,1.4s						
KDJ	**Kajisay**	**49.18**	**298**	P	**P**	**22 00 27.4**	**-0.9**
KDJ				IAmb	IAmb	22 00 29.6	
	comp=Z,4.8nm,0.8s						
H23K	**Yukon River**	**49.91**	**30**	P	**P**	**22 00 35.5**	**+2.3**
GHO	**Glory Hole Cre**	**50.20**	**36**	P	**P**	**22 00 37.2**	**+1.6**
MDM	**Murphy Dome**	**50.44**	**31**	P	**P**	**22 00 39.4**	**+2.1**
MDM				IAmb	IAmb	22 00 55.5	
	comp=Z,4.2nm,1.2s						

WRH	**Wood River Hil**	**50.51**	**32**	P	**P**	**22 00 39.0**	**+1.2**
WRH				IAmb	IAmb	22 00 48.2	
	comp=Z,3.7nm,1.3s						
H24K	**Noodor Dome**	**50.59**	**30**	P	**P**	**22 00 40.7**	**+2.2**
H24K				IAmb	IAmb	22 00 59.9	
	comp=Z,8.7nm,1.5s						
ILAR	**Eielson Array**	**51.02**	**32**	P	**P**	**22 00 42.5**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=268,slow=6.5,SNR=9.6						
BMAR	**Burnt Mountain**	**51.89**	**28**	P	**P**	**22 00 50.8**	**+2.6**
DOT	**Dot Lake**	**52.32**	**33**	P	**P**	**22 00 52.6**	**+1.2**
DOT				IAmb	IAmb	22 01 09.0	
	comp=Z,3.7nm,0.9s						
SCRK	**Sand Creek**	**52.32**	**33**	P	**P**	**22 00 52.7**	**+1.2**
SCRK				IAmb	IAmb	22 00 58.8	
	comp=Z,4.9nm,1.2s						
BCAR	**Beaver Creek A**	**53.40**	**34**	P	**P**	**22 01 01.7**	**+2.3**
KK31	**Karatay Array**	**53.66**	**301**	P	**P**	**22 01 02.7**	**+1.2**
KK31				IAmb	IAmb	22 01 14.5	
	comp=Z,2.7nm,1.0s						
KKAR	**Karatay Array**	**53.66**	**301**	P	**P**	**22 01 02.4**	**+0.9**
EPYK	**Eagle Plains**	**55.08**	**29**	P	**P**	**22 01 13.8**	**+2.3**
FITZ	**Fitzroy Crossi**	**55.20**	**298**	P	**P**	**22 01 13.5**	**+0.7**
WR0	**Warramunga Arr**	**55.43**	**187**	P	**P**	**22 01 14.7**	**+0.2**
WRA	**Warramunga Arr**	**55.44**	**188**	P	**P**	**22 01 14.2**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=2.6,slow=8.4,SNR=23						
WRA	**Warramunga Arr**	**55.44**	**188**	P	**P**	**22 01 14.6**	**+0.1**
ARU	**Arti**	**57.35**	**319**	P	**P**	**22 01 28.0**	**+0.1**
ARU				IAmb	IAmb	22 01 37.7	
	comp=Z,3.3nm,0.9s						
ABKAR	**Akbulak array**	**58.73**	**311**	P	**P**	**22 01 37.0**	**-0.6**
ABKAR				IAmb	IAmb	22 01 54.2	
	comp=Z,1.9nm,0.7s						
ABKAR	**Akbulak array**	**58.73**	**311**	P	**P**	**22 01 37.0**	**-0.6**
AS31	**Alice Springs**	**59.16**	**188**	P	**P**	**22 01 42.5**	**+1.6**
ASAR	**Alice Springs**	**59.16**	**188**	P	**P**	**22 01 40.8**	**0.0**
	comp=Z,0.3nm,0.5s,baz=20,slow=11,SNR=6.8						
ASAR	**Alice Springs**	**59.16**	**188**	P	**P**	**22 01 42.6**	**+1.8**
ARCES	**ARCESS Array B**	**65.38**	**340**	P	**P**	**22 02 22.6**	**+0.7**
	comp=Z,3.8nm,0.9s,baz=39,slow=8.4,SNR=3.7						
ARCES				LR	LR	22 34 06.6	
	comp=Z,42nm,18.9s,baz=150,slow=39						
FINES	**FINESS Array B**	**70.08**	**332**	P	**P**	**22 02 51.2**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=48,slow=2.8,SNR=8.5						
FINES	**FINESS Array B**	**70.08**	**332**	P	**P**	**22 02 51.3**	**-0.3**
AKASG	**Malin Array Be**	**75.36**	**322**	P	**P**	**22 03 22.2**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=57,slow=3.5,SNR=2.0						
HFS	**Hagfors**	**75.41**	**336**	P	**P**	**22 03 23.1**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=127,slow=3.9,SNR=6.0						
NC204	**NORSAR Array S**	**75.49**	**338**	P	**P**	**22 03 24.0**	**+0.1**
NC204				IAmb	IAmb	22 03 31.8	
	comp=Z,4.7nm,0.8s						
NB2	**NORSAR Subarra**	**75.53**	**337**	P	**P**	**22 03 24.0**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**75.53**	**337**	P	**P**	**22 03 23.7**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=43,slow=5.4,SNR=5.1						
NOA				LR	LR	22 39 19.3	
	comp=Z,14nm,19.1s,baz=285,slow=38						
NVAR	**Mina Array Bea**	**76.21**	**53**	P	**P**	**22 03 29.5**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=297,slow=5.7,SNR=6.5						
NVAR	**Mina Array Bea**	**76.21**	**53**	P	**P**	**22 03 29.4**	**+0.8**
PDAR	**Pinedale Array**	**79.02**	**45**	P	**P**	**22 03 45.7**	**+1.5**
	comp=Z,0.8nm,0.6s,baz=259,slow=2.2,SNR=4.3						
PDAR	**Pinedale Array**	**79.02**	**45**	P	**P**	**22 03 45.5**	**+1.3**
BURAR	**Bucovina Array**	**79.36**	**322**	P	**P**	**22 03 46.1**	**+0.3**
PFO	**Pinyon Flats O**	**80.20**	**56**	LR	LR	22 34 10.5	
	comp=Z,29nm,20.1s,baz=309,slow=32						
TXAR	**Lajitas Array**	**91.35**	**52**	P	**P**	**22 04 48.0**	**+1.9**
	comp=Z,0.4nm,0.7s,baz=317,slow=3.8,SNR=2.8						
TXAR	**Lajitas Array**	**91.35**	**52**	P	**P**	**22 04 47.7**	**+1.7**
H03N2	**Juan Fernandez**	**147.15**	**98**	T	T	00 56 01.8	
	baz=289,slow=76,SNR=12						
H03N3	**Juan Fernandez**	**147.16**	**98**	T	T	00 56 03.3	
	baz=289,slow=76,SNR=14						
H03N1	**Juan Fernandez**	**147.16**	**98**	T	T	00 56 02.3	
	baz=289,slow=76,SNR=14						
LPAZ	**La Paz**	**147.76**	**61**	PKPbc	**PKPbc**	**22 11 24.8**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=257,slow=3.2,SNR=5.0						

*IDC **09** 21:54:58.6±10.0, 10°.94S×13°.44W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.5/45, mbtmp3.9/3, MS3.6/2, Ms1 3.6/2, ms1mx3.0/28, Error ellipse: s-maj=430.1km s-min=148.8km az=141.0*

ISC 09 21:55:01.4±6.5, 10°.7S±0°.6×13°.6W±0°.7, h10km, n10, σ0ᵖ23/6, mb3.9/3, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H10S2	**ASCENSION HYDR**	**2.03**	**328**	T	T	21 58 25.8	
	baz=140,slow=74,SNR=102						
H10S3	**ASCENSION HYDR**	**2.04**	**328**	T	T	21 58 30.2	
	baz=80,slow=74,SNR=214						
H10N1	**ASCENSION HYDR**	**2.97**	**342**	Pn	**Pb**	**21 55 54.0**	**-0.3**
	baz=154,slow=19,SNR=7.2						
H10N3	**ASCENSION HYDR**	**2.98**	**342**	Pn	**Pb**	**21 55 54.7**	**+0.2**
	baz=154,slow=19,SNR=8.3						
H10N2	**ASCENSION HYDR**	**2.99**	**342**	Pn	**Pb**	**21 55 54.6**	**0.0**
	baz=154,slow=19,SNR=15						
TORD	**Torodi Ar. Bea**	**28.11**	**33**	P	**P**	**22 00 53.7**	**0.0**
	1.4nm,0.8s,baz=219,slow=8.4,SNR=5.5						
KMBO	**Kilima Mbogo**	**51.34**	**83**	LR	LR	22 24 35.2	
	comp=Z,47nm,18.1s,baz=254,slow=35						
ROSC	**El Rosal**	**62.43**	**281**	LR	LR	22 33 18.6	
	comp=Z,53nm,18.4s,baz=46,slow=37						
GERES	**GERESS Array B**	**63.97**	**20**	P	**P**	**22 05 35.0**	**+0.1**
	0.8nm,0.9s,baz=191,slow=4.7,SNR=4.9						
AKASG	**Malin Array Be**	**71.55**	**27**	P	**P**	**22 06 22.4**	**-0.1**
	1.0nm,0.5s,baz=226,slow=6.4,SNR=11						

JMA 09 22:14:52.0±0.2, 39°.38N×143°.63E, h14km±5km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.42**	**279**	P	Pn	22 15 17.4	+0.1
MIYJ				S	Sb	22 15 36.3	+0.2
JTH	**Tanohata**	**1.47**	**293**	P	Pn	22 15 18.2	+0.1
OFUJ	**Ofunato**	**1.55**	**259**	P	Pn	22 15 19.6	+0.4
OFUJ				*eS*	Sn	22 15 39.2	+0.1
JOM	**Ohasama**	**1.81**	**274**	P	Pn	22 15 23.6	+0.8
JANG	**Nango**	**1.91**	**302**	P	Pn	22 15 24.5	+0.4
JMK	**Ichinoseki**	**1.92**	**258**	P	Pn	22 15 25.3	+1.0
JIO	**Ouri**	**2.00**	**243**	P	Pn	22 15 26.0	+0.6
JIO				*eS*	Sn	22 15 49.4	-0.9
JYK	**Kaneyama**	**2.58**	**261**	P	Pn	22 15 34.8	+1.4
JNBK	**Urakawa-nobuka**	**2.97**	**347**	P	Pn	22 15 40.9	+2.2
JNBK				*eS*	Sn	22 16 16.3	+2.1
JFT	**Otama**	**3.18**	**235**	P	Pn	22 15 43.1	+1.4
JFT				*eS*	Sn	22 16 21.3	+1.9
JCH	**Churui**	**3.24**	**356**	P	Pn	22 15 43.6	+1.2
JCH				*eS*	Sn	22 16 18.6	-2.1
MAT	**Matsushiro**	**5.14**	**238**	P	Pn	22 16 11.1	+2.6

IDC 09 22:28:17.6±3.0, 31°.57S×178°.26W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.7/37, mbtmp3.9/3, ML3.8/1, Error ellipse: s-maj=69.4km s-min=45.2km az=118.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.68**	**208**	Pn	Pn	22 30 10.6	-0.2
	1.5nm,0.3s,baz=278,slow=4.8,SNR=13						
URZ				Sn	Sn	22 31 31.0	-7.5
	0.6nm,0.3s,baz=123,slow=23,SNR=1.3						
ASAR	**Alice Springs**	**42.83**	**268**	P	P	22 36 17.6	-0.1
	0.4nm,0.4s,baz=106,slow=7.5,SNR=8.5						
WRA	**Warramunga Arr**	**43.93**	**273**	P	P	22 36 26.4	-0.1
	1.1nm,0.4s,baz=112,slow=8.1,SNR=18						
FINES	**FINESS Array B**	**146.15**	**339**	PKPbc	PKPdf	22 47 58.3	+0.2
	0.7nm,0.8s,baz=49,slow=4.4,SNR=6.9						

MEX 09 22:29:41.5±0.9, 14°.84N×93°.64W, h20km±354km, MD4.2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.95**	**25**	*i* P	Pb	22 29 56.2	-3.1
PCIG				*i* S	Sb	22 30 08.1	-3.4
THIG		**1.33**	**87**	*eP*	Pn	22 30 02.3	-2.7
THIG				*eS*	Sn	22 30 17.7	-4.4
TGIG		**1.99**	**15**	*eP*	Pn	22 30 11.6	-2.5
TGIG				*eS*	Sn	22 30 34.0	-4.5

CCIG	**Comitan**	**2.04**	**45**	*eP*	Pn	22 30 13.7	-1.2
CCIG				*eS*	Sn	22 30 33.9	-5.9
CMIG	**Matias Romero**	**2.54**	**332**	*eP*	Pn	22 30 19.4	-2.2
CMIG				*eS*	Sn	22 30 45.9	-6.0

*IDC **09** 22:30:23.4±1.2, 18°.14N×71°.54W, h0km, mb3.6/7, mb1 3.9/8, mb1mx3.7/40, mbtmp3.6/8, ML3.8/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/26, Error ellipse: s-maj=32.5km s-min=26.9km az=8.0*
*OSPL **09** 22:30:25.2±4.0, 18°.24N×71°.47W, h10km, ML3.7, Fault plane solution: NP1:φs264.70000°, δ32.90000°, λ158.50000°.*
*NEIC **09** 22:30:27.2±2.6, 18°.34N±0°.02×71°.47W±0°.04, h28km±7km, mb4.0/8, Error ellipse: s-maj=5.3km s-min=2.3km az=73.0*

ISC 09 22:30:24.8±0.5, 18°.29N±0°.04×71°.48W±0°.03, h10km, n70, σ1ᵖ21/74, mb3.9/11, 2C-5D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LONE2	**Loma La Sidra**	**0.26**	**0**	⇓*iP*	**Pg**	**22 30 30.3**	**+0.1**
LONE2				IAML		22 30 39.7	
	comp=Z,36μm,0.3s						
JIDR	**Jimani**	**0.41**	**299**	ASPG		22 30 33.1	
	comp=Z,12μm,0.5s						
JIDR				⇓*iP*	**Pg**	**22 30 33.5**	**+0.6**
JIDR				ATPG		22 30 34.5	
	comp=Z,29μm,0.3s						
JIDR				ASSG		22 30 41.6	
	comp=Z,57μm,0.3s						
JIDR				*eS*	**Sb**	**22 30 42.0**	**+1.5**
JIDR				ATSG		22 30 43.0	
	comp=Z,165μm,0.3s						
JIDR				IAML		22 30 44.2	
	comp=Z,20μm,0.3s						
LOBA2	**Hotel Casa Bon**	**0.42**	**120**	⇓*iP*	**Pg**	**22 30 32.5**	**-0.6**
LOBA2				IAML		22 30 40.0	
	comp=Z,6μm,0.9s						
SDDR	**Presa de Saban**	**0.71**	**14**	Pn	**Pg**	**22 30 37.6**	**-1.0**
SDDR					**Sg**	**22 30 47.7**	**-0.2**
SDDR	**Presa de Saban**	**0.71**	**14**	⇓*iP*	**Pg**	**22 30 37.6**	**-1.0**
SDDR				*eS*	**Sg**	**22 30 47.8**	**-0.1**
SDDR				IAML		22 31 05.9	
	comp=Z,3μm,0.8s						
PAPH	**Port-au-Prince**	**0.82**	**287**	⇑*iP*	**Pg**	**22 30 40.3**	**-0.3**
PAPH				IAML		22 31 06.0	
	comp=Z,3μm,1.1s						
JAKH	**Jacmel**	**0.99**	**267**		**Pg**	**22 30 42.9**	**-1.0**
JAKH				Sn	**Sn**	**22 30 58.5**	**-0.4**
JAKH	**Jacmel**	**0.99**	**267**	⇑*iP*	**Pg**	**22 30 43.0**	**-1.0**
JAKH				IAML		22 31 09.8	
	comp=Z,1μm,0.7s						
BANI	**BANI**	**1.06**	**84**	Pn	**Pg**	**22 30 43.5**	**-1.8**
LGNH	**Logne**	**1.10**	**282**		**Pb**	**22 30 44.7**	**-1.2**
LGNH				Sn	**Sn**	**22 31 02.5**	**+1.1**
LGNH	**Logne**	**1.10**	**282**	*i* P	**Pb**	**22 30 45.2**	**-0.6**
LGNH				IAML		22 31 18.8	
	comp=Z,2μm,0.7s						
SC01	**Santiago de lo**	**1.33**	**32**		**Pn**	**22 30 48.6**	**-1.0**
SDD	**Santo Domingo**	**1.49**	**83**	Pn	**Pn**	**22 30 50.3**	**-1.4**
DR12	**Loma Pena Alta**	**2.05**	**76**		**Pn**	**22 30 59.4**	**0.0**
PCDR	**Punta Cana, DR**	**2.94**	**85**	Pn	**Pn**	**22 31 12.9**	**+1.2**
GRTK	**Grand Turk**	**3.22**	**6**		**Pn**	**22 31 14.9**	**-0.6**
GTBY	**Guantanamo Bay**	**3.80**	**296**		**Pn**	**22 31 24.0**	**+0.5**
GTBY	**Guantanamo Bay**	**3.80**	**296**	⇓*iP*	**Pn**	**22 31 24.2**	**+0.7**
AGPR	**Aguadilla, PR**	**4.15**	**87**	Pn	**Pn**	**22 31 29.9**	**+1.7**
CRPR	**Cabo Rojo, PR**	**4.16**	**93**		**Pn**	**22 31 28.1**	**-0.3**
MLPR	**Magueyes Islan**	**4.22**	**94**	Pn	**Pn**	**22 31 29.4**	**+0.1**
AOPR	**Arecibo Observ**	**4.49**	**89**		**Pn**	**22 31 33.2**	**+0.3**
OBIP	**Obispado Ponce**	**4.63**	**92**		**Pn**	**22 31 34.4**	**-0.5**
EMPR	**Esperanza - Ma**	**4.70**	**87**	Pn	**Pn**	**22 31 36.1**	**+0.2**
ICMP	**Isla Caja de M**	**4.72**	**94**	Pn	**Pn**	**22 31 36.5**	**+0.3**
SJG	**San Juan**	**5.06**	**91**	Pn	**Pn**	**22 31 43.5**	**+2.6**
	comp=Z,3.8nm,0.3s,baz=300,slow=14,SNR=2.8						
SJG				Sn	**Sn**	**22 32 40.1**	**+0.7**
	comp=Z,3.6nm,0.3s,baz=122,slow=23,SNR=1.9						
**S

*SOME **09** 22:55:25.6,40˙.93N×72˙.90E,h15km*
*KRNET **09** 22:55:26.6±0.1,40˙.98N×72˙.84E,h15km,mb2.9*
*NNC **09** 22:55:27.6±1.7,41˙.03N×72˙.84E,h0km,mb3.5,mpv3.2,*
Error ellipse: s-maj=14.7km s-min=6.7km az=172.0
*KNET **09** 22:55:28.3±0.5,41˙.04N×73˙.02E,h7km,4km,ml2.5, Error*
ellipse: s-maj=4.3km s-min=2.3km az=120.0
*ISU **09** 22:55:29,40˙.80N×72˙.80E,h5km*

ISC 09 22:55:25.5±1.1,40˙.94N±0˙.02×72˙.91E±0˙.02,h8km±11km, n56,σ1°54/95,36C-9D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.42**	**193**	⇑*i*P			**Pb**	**22 55 35.6**	**+0.4**
	baz=85								
OHH				⇑*i*S			**Sb**	**22 55 41.6**	**-0.2**
	baz=85								
OHH	**Osh**	**0.42**	**193**	*e*P			**Pn**	**22 55 36.0**	**-1.9**
OHH				*e*S			**Sb**	**22 55 41.0**	**-0.8**
SFK	**Sufi-Kurgan**	**1.03**	**153**	⇑*i*P			**Pn**	**22 55 47.5**	**+1.1**
	baz=52								
SFK				⇑*i*S			**Sn**	**22 56 02.5**	**+1.4**
	baz=52								
AML	**Almayashu**	**1.33**	**26**	⇓*i*P			**Pg**	**22 55 51.6**	**+0.5**
	baz=29								
AML				⇓*i*S			**Sg**	**22 56 09.3**	**+0.9**
	baz=29								
AML	**Almayashu**	**1.33**	**26**	⇑P			**Pg**	**22 55 51.8**	**+0.7**
	13nm,0.1s,SNR=73								
AML				⇓S			**Sg**	**22 56 10.2**	**+1.8**
	52nm,0.2s								
ARLS	**Aral**	**1.41**	**49**	⇓*i*P			**Pg**	**22 55 53.1**	**+0.5**
	baz=51								
ARLS				⇓*i*S			**Sg**	**22 56 12.2**	**+1.3**
	baz=51								
TRKS	**Terek-Say**	**1.46**	**295**	⇑*i*P			**Pn**	**22 55 52.0**	**-0.3**
	baz=92								
TRKS				⇑*i*S			**Sn**	**22 56 10.4**	**-1.3**
	baz=92								
DRK	**Karamyk**	**1.68**	**211**	⇑*i*P			**Pg**	**22 55 57.7**	**-0.1**
	baz=8.0								
DRK				⇑*i*S			**Sg**	**22 56 20.1**	**+0.5**
	baz=8.0								
UCH	**Uchtor**	**1.77**	**43**	⇑*i*P			**Pg**	**22 55 59.4**	**0.0**
	baz=45								
UCH				⇑*i*S			**Sg**	**22 56 23.1**	**+0.8**
	baz=45								
UCH	**Uchtor**	**1.77**	**43**	⇑P			**Pg**	**22 55 59.6**	**+0.2**
	20nm,0.2s,SNR=37								
UCH				⇑S			**Sg**	**22 56 23.8**	**+1.5**
	75nm,0.3s								
BTK	**Batken**	**1.82**	**242**	⇑*i*P			**Pg**	**22 55 59.8**	**-0.5**
	baz=40								
BTK				⇑*i*S			**Sg**	**22 56 23.9**	**0.0**
	baz=40								
BTK	**Batken**	**1.82**	**242**	*e*P			**Pg**	**22 56 00.0**	**-0.3**
BTK				*i* S			**Sg**	**22 56 23.0**	**-0.9**
MRKS	**Merke**	**1.82**	**7**	*e*P			**Pg**	**22 55 59.8**	**-0.8**
	12nm,0.9s								
MRKS				*e*S			**Sg**	**22 56 24.7**	**+0.5**
	141nm,0.3s								
MRKS	**Merke**	**1.82**	**7**	P			**Pg**	**22 55 59.7**	**-0.8**
	19nm,0.3s								
MRKS				S			**Sg**	**22 56 24.7**	**+0.5**
	141nm,0.3s								
EKS2	**Erkin-Say**	**1.84**	**20**	⇑*i*P			**Pb**	**22 56 00.0**	**+0.5**
	baz=22								
EKS2				⇑*i*S			**Sg**	**22 56 24.8**	**0.0**
	baz=22								
EKS2	**Erkin-Say**	**1.84**	**20**	⇑P			**Pg**	**22 56 00.3**	**-0.5**
	3.5nm,0.2s,SNR=5.3								
EKS2				⇑S			**Sg**	**22 56 24.9**	**+0.1**
	44nm,0.5s								
AAK	**Ala-Archa**	**2.08**	**34**	⇑*i*P			**Pb**	**22 56 03.6**	**+0.1**
	baz=36								
AAK				⇑*i*S			**Sg**	**22 56 31.3**	**-0.9**
	baz=36								
AAK	**Ala-Archa**	**2.08**	**34**	⇑P			**Pb**	**22 56 03.8**	**+0.3**
	6.4nm,0.2s,SNR=10								
AAK				⇑S			**Sg**	**22 56 31.9**	**-0.3**
	52nm,0.4s								
AAK	**Ala-Archa**	**2.08**	**34**	⇑Pn			**Pb**	**22 56 03.4**	**-0.1**
	5.0nm,0.4s								
AAK				⇑Sn			**Sg**	**22 56 31.8**	**-0.3**
	28nm,0.5s								
KZA	**Kyzart**	**2.10**	**56**	⇑*i*P			**Pb**	**22 56 04.4**	**+0.4**
	baz=58								
KZA				⇑*i*S			**Sg**	**22 56 32.5**	**-0.5**
	baz=58								
KZA	**Kyzart**	**2.10**	**56**	⇑P			**Pb**	**22 56 04.4**	**+0.4**
	6.7nm,0.3s,SNR=19								
KZA				⇓S			**Sg**	**22 56 33.4**	**+0.4**
	16nm,0.3s								
FRU1	**Bishkek**	**2.27**	**34**	⇑*i*P			**Pb**	**22 56 06.6**	**-0.2**
	baz=35								
FRU1				⇑*i*S			**Sb**	**22 56 36.4**	**+1.3**
	baz=35								
DZA	**Taraz**	**2.28**	**330**	*e*P			**Pb**	**22 56 06.0**	**-0.9**
	18nm,0.1s								
DZA				*e*S			**Sb**	**22 56 35.2**	**-0.1**
	78nm,0.4s								
DZA	**Taraz**	**2.28**	**330**	Pg			**Pb**	**22 56 06.1**	**-0.9**
	18nm,0.1s								
DZA				Lg			Lg	22 56 35.2	
	72nm,0.6s								
KBK	**Karagaybulak**	**2.30**	**41**	⇑*i*P			**Pb**	**22 56 06.8**	**-0.5**
	baz=42								
KBK				⇑*i*S			**Sb**	**22 56 36.9**	**+0.9**
	baz=42								
KBK	**Karagaybulak**	**2.30**	**41**	⇓P			**Pb**	**22 56 07.9**	**+0.6**
	3.4nm,0.1s,SNR=5.8								
CHRV	**Charvak**	**2.33**	**289**	*e*P			**Pg**	**22 56 13.0**	**+2.8**
CHRV				*e*S			**Sb**	**22 56 38.0**	**+1.1**
IUG	**Iuzhnay**	**2.47**	**300**	*e*P			**Pb**	**22 56 10.4**	**+0.2**
	17nm,0.2s								
IUG				*e*S			**Sg**	**22 56 42.8**	**-2.1**
	71nm,0.6s								
IUG	**Iuzhnay**	**2.47**	**300**	Pg			**Pb**	**22 56 10.4**	**+0.2**
	118nm,0.3s								
IUG				Lg			Lg	22 56 42.8	
	58nm,0.3s								
BOOM	**Boomskoye usch**	**2.75**	**55**	⇑*i*P			**Pb**	**22 56 13.5**	**-1.5**
	baz=56								
BOOM				⇑*i*S			**Sb**	**22 56 48.2**	**-0.8**
	baz=56								
KK31	**Karatay Array**	**2.81**	**321**	⇑Pg			**Pb**	**22 56 16.7**	**+0.8**
	1.0nm,0.3s,baz=129,slow=16,SNR=5.8								
KK31				⇑Lg			Lg	22 56 52.2	
	2.7nm,0.3s,baz=134,slow=28,SNR=15								
SGDS	**Sogindy**	**2.82**	**26**	Pg			**Pb**	**22 56 17.2**	**+1.0**
	1.5nm,0.2s								
SGDS				Lg			Lg	22 56 54.6	
	11nm,0.4s								
TKM2	**Tokmak 2**	**2.82**	**44**	⇓Pn			**Pb**	**22 56 14.3**	**-1.9**
	3.0nm,0.3s								
TKM2				⇓Lg			Lg	22 56 53.1	
	13nm,0.6s								
CHM	**Chimkent**	**2.83**	**300**	*e*P			**Pb**	**22 56 17.9**	**+1.5**
	23nm,0.2s								
CHM				*e*S			**Sg**	**22 56 55.5**	**-1.1**
	90nm,0.3s								
KST	**Kastek**	**3.10**	**46**	*e*P			**Pb**	**22 56 22.7**	**+1.7**
	0.2nm,0.1s								
KST				*e*S			**Sg**	**22 57 03.9**	**-1.3**
	3.6nm,0.3s								
KST	**Kastek**	**3.10**	**46**	Pg			**Pb**	**22 56 22.7**	**+1.7**
	0.9nm,0.3s								
KST				Lg			Lg	22 57 03.9	
	3.5nm,0.3s								
DGS	**Degeres**	**3.14**	**42**	*e*P			**Pb**	**22 56 23.3**	**+1.7**
	0.8nm,0.2s								
DGS				*e*S			**Sg**	**22 57 05.0**	**-1.4**
	11nm,0.5s								
DGS	**Degeres**	**3.14**	**42**	Pg			**Pb**	**22 56 23.3**	**+1.7**
	0.9nm,0.2s								
DGS				Lg			Lg	22 57 05.0	
	7.6nm,0.4s								
MTBS	**Maitube**	**3.42**	**49**	*e*P			**Pg**	**22 56 29.1**	**-1.9**
	1.3nm,0.1s								
MTBS				*e*S			**Sg**	**22 57 14.6**	**-0.7**
	5.6nm,0.2s								
MTBS	**Maitube**	**3.42**	**49**	Pg			**Pg**	**22 56 29.1**	**-1.9**
	1.3nm,0.1s								
MTBS				Lg			Lg	22 57 14.6	
	3.9nm,0.3s								
KRBS	**Karabastau**	**3.44**	**36**	*e*P			**Pb**	**22 56 28.8**	**+2.1**
	0.3nm,0.2s								
KRBS				*e*S			**Sg**	**22 57 14.1**	**-1.9**
	6.7nm,0.5s								
KRBS	**Karabastau**	**3.44**	**36**	Pg			**Pb**	**22 56 28.8**	**+2.1**
	1.0nm,0.3s								
KRBS				Lg			Lg	22 57 14.1	
	6.7nm,0.5s								
IZV	**Izvestkoviy**	**3.47**	**52**	*e*P			**Pg**	**22 56 29.9**	**-2.0**
	1.3nm,0.2s								
IZV				*e*S			**Sg**	**22 57 16.0**	**-1.0**
	6.2nm,0.4s								
IZV	**Izvestkoviy**	**3.47**	**52**	Pg			**Pg**	**22 56 29.9**	**-2.0**
	1.4nm,0.3s								
IZV				Lg			Lg	22 57 16.0	
	6.2nm,0.9s								
MDOK	**Medeo**	**3.80**	**53**	*e*P			**Pb**	**22 56 35.5**	**+2.5**
	0.6nm,0.2s								
MDOK				*e*S			**Sg**	**22 57 25.6**	**-2.1**
	2.8nm,0.6s								
MDOK	**Medeo**	**3.80**	**53**	Pg			**Pb**	**22 56 35.5**	**+2.5**
	0.6nm,0.2s								
MDOK				Lg			Lg	22 57 25.6	
	2.7nm,0.3s								
KOTS	**Kotyrbulak**	**3.88**	**52**	*e*P			**Pg**	**22 56 38.3**	**-1.6**
	2.3nm,0.6s								
KOTS				*e*S			**Sg**	**22 57 30.7**	**+0.5**
	6.9nm,0.3s								
KOTS	**Kotyrbulak**	**3.88**	**52**	Pg			**Pg**	**22 56 38.3**	**-1.6**
	2.3nm,0.6s								
KOTS				Lg			Lg	22 57 30.7	
	5.8nm,0.6s								
KUU	**Kurty**	**3.90**	**40**	*e*P			**Pb**	**22 56 36.4**	**+2.0**
	0.2nm,0.1s								
KUU				*e*S			**Sg**	**22 57 27.6**	**-3.1**
	5.5nm,0.4s								
KUU	**Kurty**	**3.90**	**40**	Pg			**Pb**	**22 56 36.4**	**+2.0**
	0.8nm,0.2s								
KUU				Lg			Lg	22 57 27.6	
	3.5nm,0.4s								
KTBS	**Karatobe**	**3.94**	**44**	*e*P			**Pb**	**22 56 37.4**	**+2.2**
	0.1nm,0.2s								
KTBS				*e*S			**Sg**	**22 57 29.2**	**-2.8**
	13nm,0.8s								
KTBS	**Karatobe**	**3.94**	**44**	Pg			**Pb**	**22 56 37.4**	**+2.2**
	1.0nm,0.5s								
KTBS				Lg			Lg	22 57 29.2	
	13nm,0.8s								
BTLS	**Baital**	**4.19**	**11**	*e*P			**Pb**	**22 56 41.7**	**+2.3**
	0.7nm,0.2s								
BTLS				*e*S			**Sg**	**22 57 36.3**	**-3.6**
	4.5nm,0.2s								
BTLS	**Baital**	**4.19**	**11**	Pg			**Pb**	**22 56 41.7**	**+2.3**
	0.7nm,0.2s								
BTLS				Lg			Lg	22 57 36.3	
	4.5nm,0.2s								
ARXS	**Arharly**	**4.89**	**46**	*e*P			**Pb**	**22 56 55.1**	**+3.7**
	1.2nm,0.3s								
ARXS				*e*S			**Sg**	**22 57 59.6**	**-2.9**
	2.9nm,0.6s								
ARXS	**Arharly**	**4.89**	**46**	Pg			**Pb**	**22 56 55.2**	**+3.7**
	1.2nm,0.3s								
ARXS				Lg			Lg	22 57 59.6	
	2.9nm,0.6s								

*IDC **09** 22:56:05.3±1.9,32˙.97S×178˙.21W,h0km,mb4.3/3,*
mb1 4.5/4,mb1mx3.9/34,mbtmp4.3/4,ML3.9/1,MS3.6/2,
Ms1 3.6/2,ms1mx2.9/32,Error ellipse: s-maj=53.1km
s-min=31.1km az=132.0
*NEIC **09** 22:56:16.8±1.6,33˙.22S±0˙.07×179˙.0W±0˙.1,h59km±7km,*
mb4.2/8,Error ellipse: s-maj=17.0km s-min=10.2km
az=99.0

ISC 09 22:56:11.1±0.9,32˙.95S±0˙.08×178˙.6W±0˙.2,h32km,n28, σ1°61/28,mb4.3/6,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.74**	**9**		Pn		**Pb**	**22 57 16.3**	**-0.1**
MXZ	**Matakaoa Point**	**5.25**	**208**		Pn		**Pn**	**22 57 27.3**	**0.0**
URZ	**Urewera**	**6.34**	**212**		Pn		**Pn**	**22 57 42.6**	**+0.3**
	2.8nm,0.3s,baz=274,slow=4.0,SNR=20								
URZ					Sn		**Sn**	**22 58 58.2**	**+4.6**
	8.1nm,0.3s,baz=9.9,slow=22,SNR=12								
URZ	**Urewera**	**6.34**	**212**				**Pn**	**22 57 41.1**	**-1.2**
URZ					Sn		**Sn**	**22 58 49.2**	**-4.4**
BKZ	**Black Stump Fm**	**7.36**	**211**		Pn		**Pn**	**22 57 56.1**	**-0.3**
BFZ	**Birch Farm**	**8.75**	**207**		Pn		**Pn**	**22 58 14.8**	**-0.6**
BFZ					Sn		**Sn**	**22 59 50.8**	**-2.0**
MARNC	**Mare, Loyalty**	**16.47**	**311**		Pn		**P**	**23 00 01.5**	**-0.7**
DZM	**Mont Dzumac**	**17.11**	**306**		LR		LR	23 05 45.4	
	comp=Z,227nm,18.4s,baz=84,slow=33								
DZM	**Mont Dzumac**	**17.11**	**306**		Pn		**P**	**23 00 09.8**	**+0.4**
DZM					IAmb		IAmb	23 00 16.6	
	comp=Z,9.2nm,0.9s								
HNR	**Honiara**	**30.65**	**315**		LR		LR	23 13 17.6	
	comp=Z,64nm,18.1s,baz=185,slow=33								
CTA	**Charters Tower**	**33.79**	**283**		P		P	23 02 53.8	+3.5
	comp=Z,2.7nm,0.5s,baz=104,slow=8.3,SNR=1.7								
CTAO	**Charters Tower**	**33.79**	**283**		P		**P**	**23 02 51.4**	**+1.1**
AS31	**Alice Springs**	**42.52**	**270**		P		**P**	**23 04 03.1**	**-0.7**
ASAR	**Alice Springs**	**42.52**	**270**		P		**P**	**23 04 05.0**	**+1.2**
	comp=Z,3.1nm,0.8s,baz=114,slow=7.9,SNR=21								
ASAR	**Alice Springs**	**42.52**	**270**		P		**P**	**23 04 03.5**	**-0.3**
WR0	**Warramunga Arr**	**43.56**	**275**		P		**P**	**23 04 12.4**	**+0.1**
WR0					IAmb		IAmb	23 04 16.5	
	comp=Z,13nm,1.5s								
WRA	**Warramunga Arr**	**43.74**	**275**		P		**P**	**23 04 14.2**	**+0.5**
	comp=Z,2.1nm,0.4s,baz=115,slow=7.8,SNR=18								
WRA	**Warramunga Arr**	**43.74**	**275**		P		**P**	**23 04 14.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**51.89**	**272**		P		**P**	**23 05 17.8**	**+1.0**
QSPA	**South Pole Qui**	**57.16**	**180**		P		**P**	**23 05 56.4**	**+1.7**
QSPA					IAmb		IAmb	23 06 05.1	
	comp=Z,2.7nm,1.1s								
SNAA	**Sanae**	**75.62**	**179**		P		**P**	**23 07 52.7**	**+0.1**
SNAA					IAmb		IAmb	23 07 59.6	
	comp=Z,5.4nm,1.5s								
VNA3	**Neumayer Olymp**	**75.80**	**176**		P		**P**	**23 07 53.6**	**+0.1**
VNA2	**Neumayer--Watz**	**76.23**	**177**		P		**P**	**23 07 55.9**	**0.0**
	baz=213,slow=6.5								
VNA1	**Neumayer--Stat**	**76.46**	**177**		P		**P**	**23 07 58.7**	**+1.5**
KBZ	**Khabaz**	**146.03**	**301**		PKPbc		**PKiKP**	**23 15 48.7**	**-2.1**
	comp=Z,2.0nm,0.9s,baz=158,slow=5.4,SNR=4.0								
FINES	**FINESS Array B**	**147.34**	**338**		PKPbc		**PKPbc**	**23 15 49.4**	**-1.3**
	comp=Z,2.6nm,0.7s,baz=55,slow=4.1,SNR=11								
NB2	**NORSAR Subarra**	**151.18**	**350**		PKP		**PKPbc**	**23 15 59.5**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=31,slow=2.5								
NOA	**NORSAR Array B**	**151.18**	**350**		PKPbc		**PKPbc**	**23 15 59.2**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=31,slow=2.0,SNR=3.6								

*SOME **09** 22:58:36.4,40˙.90N×71˙.63E,h10km*
*KRNET **09** 22:58:36.8±0.1,40˙.91N×71˙.56E,h9km,mb3.2*
*ISU **09** 22:58:36,40˙.83N×71˙.57E,h5km*
*NNC **09** 22:58:39.6±2.3,40˙.90N×71˙.74E,h24km±13km,mb3.8,*
mpv3.4,Error ellipse: s-maj=18.4km s-min=8.7km az=8.0

ISC 09 22:58:37.9±0.8,40˙.89N±0˙.02×71˙.53E±0˙.02,h10km,n49, σ1°99/76,17C-10D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NAM	**Namangan**	**0.14**	**45**	*e*P			**Pg**	**22 58 41.0**	**-0.1**
NAM				*e*S			**Sg**	**22 58 45.0**	**+1.7**
FRG	**Fergana**	**0.55**	**160**	*i* P			Pg	22 58 49.0	+6.0
FRG				*e*S			Sg	22 58 57.0	+11
TRKS	**Terek-Say**	**0.70**	**335**	⇑*i*P			**Pg**	**22 58 48.9**	**-2.6**
	baz=32								
TRKS				⇑*i*S			**Sg**	**22 58 58.0**	**-2.7**
	baz=32								
BTK	**Batken**	**1.00**	**213**	⇑*e*P			**Pg**	**22 58 56.2**	**-0.8**
	baz=14								
BTK				⇑*i*S			**Sb**	**22 59 10.3**	**-0.2**
	baz=14								
BTK	**Batken**	**1.00**	**213**	*i* P			**Pn**	**22 58 57.0**	**-1.0**
BTK				*i* S			**Sg**	**22 59 09.0**	**-1.0**
OHH	**Osh**	**1.02**	**111**	⇑*i*P			**Pg**	**22 58 56.1**	**-1.5**
	baz=12								
OHH				⇑*i*S			**Sg**	**22 59 10.1**	**-0.8**
	baz=12								
CHMG	**Chimgan**	**1.32**	**300**	*i* P			**Pn**	**22 59 02.0**	**-0.5**
CHMG				*i* S			**Sg**	**22 59 23.0**	**+2.6**
CHRV	**Charvak**	**1.41**	**303**	*i* P			**Pb**	**22 59 04.0**	**-0.3**
CHRV				*e*S			**Sg**	**22 59 25.0**	**+1.9**
DRK	**Karamyk**	**1.43**	**172**	⇑*i*P			**Pb**	**22 59 04.3**	**-0.5**
	baz=72								
DRK				⇑*i*S			**Sg**	**22 59 24.3**	**+0.5**
	baz=72								
IUG	**Iuzhnay**	**1.68**	**319**	⇓*e*P			**Pb**	**22 59 08.1**	**-0.9**
	688nm,0.2s								
IUG				*e*S			**Sg**	**22 59 31.1**	**-1.0**
	373nm,0.5s								
IUG	**Iuzhnay**	**1.68**	**319**	P			**Pb**	**22 59 08.1**	**-0.9**
	646nm,0.3s								
IUG				S			**Sg**	**22 59 31.1**	**-1.0**
	373nm,0.5s								
TAS	**Tashkent**	**1.74**	**285**	*e*P			**Pb**	**22 59 09.0**	**-1.0**
TAS				*e*S			**Sg**	**22 59 34.0**	**+0.1**
DZA	**Taraz**	**2.00**	**356**	*e*P			**Pb**	**22 59 13.9**	**-0.5**
	12nm,0.2s								
DZA				*e*S			**Sb**	**22 59 40.5**	**+1.1**
	326nm,0.3s								
DZA	**Taraz**	**2.00**	**356**	Pg			**Pb**	**22 59 13.9**	**-0.5**
	12nm,0.2s								
DZA				Lg			Lg	22 59 40.5	
	322nm,0.5s								
CHM	**Chimkent**	**2.03**	**315**	*e*P			**Pg**	**22 59 15.7**	**-1.1**
	35nm,0.1s								
CHM				*e*S			**Sg**	**22 59 43.4**	**+0.3**
	971nm,0.6s								
AML	**Almayashu**	**2.04**	**52**	⇑*i*P			**Pb**	**22 59 14.1**	**-1.2**
	baz=52								
AML				⇑*i*S			**Sb**	**22 59 41.2**	**+0.3**
	baz=52								
AML	**Almayashu**	**2.04**	**52**	P			**Pb**	**22 59 14.0**	**-1.3**
	SNR=28								
MRKS	**Merke**	**2.24**	**34**	*e*P			**Pb**	**22 59 18.4**	**-0.2**
	18nm,0.6s								
MRKS				*e*S			**Sg**	**22 59 48.5**	**-1.5**
	74nm,0.6s								
MRKS	**Merke**	**2.24**	**34**	Pg			**Pb**	**22 59 18.4**	**-0.2**
	20nm,0.5s								
MRKS				Lg			Lg	22 59 48.5	
	74nm,0.7s								
ARLS	**Aral**	**2.31**	**64**	⇑*i*P			**Pb**	**22 59 17.7**	**-2.1**
	baz=65								
ARLS				⇑*i*S			**Sb**	**22 59 47.6**	**-0.9**
	baz=65								
KK31	**Karatay Array**	**2.33**	**341**	⇑Pn			**Pb**	**22 59 18.8**	**-1.3**
	7.9nm,0.5s,baz=158,slow=13,SNR=50								
KK31				⇓Lg			Lg	22 59 49.9	
	18nm,0.3s,baz=162,slow=28,SNR=17								
EKS2	**Erkin-Say**	**2.44**	**43**	⇑*i*P			**Pn**	**22 59 19.3**	**+1.4**
	baz=43								
EKS2				⇑*i*S			**Sb**	**22 59 50.6**	**-1.4**
	baz=43								
EKS2	**Erkin-Say**	**2.44**	**43**	P			**Pb**	**22 59 22.0**	**+0.1**
	SNR=9.4								
UCH	**Uchtor**	**2.60**	**58**	⇓*i*P			**Pn**	**22 59 22.2**	**+1.7**
	baz=58								
UCH				⇓*i*S			**Sb**	**22 59 55.2**	**-2.0**
	baz=58								
UCH	**Uchtor**	**2.60**	**58**	P			**Pb**	**22 59 25.4**	**+0.5**
	SNR=13								
AAK	**Ala-Archa**	**2.82**	**51**	⇓Pg			**Pb**	**22 59 28.6**	**+0.1**
	2.5nm,0.5s								
AAK				⇓Lg			Lg	23 00 04.8	
	10.0nm,0.7s								
KZA	**Kyzart**	**3.03**	**66**	⇓*i*P			**Pn**	**22 59 28.1**	**+1.8**
	baz=66								
KZA				⇓*i*S			**Sn**	**23 00 05.3**	**+2.4**
	baz=66								
KZA	**Kyzart**	**3.03**	**66**	P			**Pb**	**22 59 33.7**	**+1.5**
	SNR=8.5								
KBK	**Karagaybulak**	**3.10**	**54**	⇑*i*P			**Pn**	**22 59 28.9**	**+1.8**
	baz=54								
KBK				⇑*i*S			**Sn**	**23 00 06.8**	**+2.5**
	baz=54								
KBK	**Karagaybulak**	**3.10**	**54**	P			**Pg**	**22 59 35.0**	**-2.3**
	SNR=5.9								
USP	**Ospenovka**	**3.24**	**42**	P			**Sg**	**23 00 19.5**	**-2.4**
	SNR=5.5								
SGDS	**Sogindy**	**3.44**	**41**	Pg			**Pb**	**22 59 39.6**	**+0.6**
	1.8nm,0.4s								
SGDS				Lg			Lg	23 00 24.5	
	6.6nm,0.4s								
TKM2	**Tokmak 2**	**3.65**	**55**	⇓Pg			**Pb**	**22 59 44.4**	**+1.8**
	3.6nm,0.7s								
TKM2				⇓Lg			Lg	23 00 32.2	
	6.8nm,0.7s								
DGS	**Degeres**	**3.93**	**52**	*e*P			**Pb**	**22 59 48.9**	**+1.6**
	1.7nm,0.8s								
DGS				*e*S			**Sg**	**23 00 41.1**	**-3.1**
	9.6nm,0.3s								
DGS	**Degeres**	**3.93**	**52**	Pg			**Pb**	**22 59 49.1**	**+1.8**
	3.9nm,0.6s								
DGS				Lg			Lg	23 00 41.1	
	4.9nm,0.5s								
KST	**Kastek**	**3.94**	**56**	*e*P			**Pb**	**22 59 49.0**	**+1.4**
	1.2nm,0.4s								
KST				*e*S			**Sg**	**23 00 40.8**	**-3.6**
	5.6nm,0.5s								
KST	**Kastek**	**3.94**	**56**	Pg			**Pb**	**22 59 49.1**	**+1.6**
	1.2nm,0.4s								
KST				Lg			Lg	23 00 40.8	
	3.3nm,0.8s								
MTBS	**Maitube**	**4.28**	**57**	*e*P			**Pb**	**22 59 55.4**	**+2.2**
	0.6nm,0.1s								
MTBS				*e*S			**Sg**	**23 00 52.0**	**-3.2**
	6.3nm,0.3s								
MTBS	**Maitube**	**4.28**	**57**	Pg			**Pb**	**22 59 55.5**	**+2.2**
	1.3nm,0.2s								
MTBS				Lg			Lg	23 00 52.0	
	6.3nm,0.5s								
IZV	**Izvestkoviy**	**4.35**	**59**	*e*P			**Pb**	**22 59 57.0**	**+2.5**
	0.7nm

WRA				S	**S**	**23 13 32.9**	**-4.1**
	0.5nm,0.7s,baz=111,slow=14,SNR=1.7							
NVAR	**Mina Array Bea**	**84.51**	**44**	P	**P**	**23 12 19.6**	**-1.3**
	0.2nm,0.6s,baz=239,slow=6.2,SNR=1.8							
AKASG	**Malin Array Be**	**144.72**	**328**	PKP	**PKPdf**	**23 19 19.8**	**-0.2**
	0.6nm,0.4s,baz=55,slow=3.9,SNR=4.2							

*TUL **09** 23:03:36.2±1.1,36°.62N±0°.01×97°.70W±0°.01,h5km±7km, ML2.8,mb_Lg2.5/35(NEIC),Error ellipse: s-maj=1.7km s-min=1.4km az=63.0*

NEIC 09 23:03:36.4±0.9,36°.61N±0°.01×97°.70W±0°.01,h2km±6km, Error ellipse: s-maj=1.6km s-min=1.6km az=174.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CROK	**Carrier**	**0.25**	**246**		Pg	23 03 41.5	+0.3
CROK				Sg	Sg	23 03 45.3	+0.9
KAN14	**Manchester OK**	**0.41**	**329**	Pg	Pg	23 03 44.2	-0.1
KAN14				Sg	Sg	23 03 49.8	+0.2
BLOK	**Blackwell**	**0.42**	**68**		Pg	23 03 44.6	+0.1
BLOK				Sg	Sg	23 03 50.7	+0.8
KAN17	**Caldwell West**	**0.44**	**353**		Pg	23 03 44.9	0.0
KAN17				Sg	Sg	23 03 50.9	+0.3
KAN13	**South Haven SW**	**0.44**	**24**		Pg	23 03 44.9	0.0
OK032	**Salt Plains WL**	**0.46**	**296**		Pg	23 03 45.1	-0.1
KAN05	**Bluff City Nor**	**0.52**	**345**		Pg	23 03 46.1	-0.3
KAN05				Sg	Sg	23 03 53.5	+0.4
KS20	**Mayfield South**	**0.63**	**11**		Pg	23 03 48.3	-0.2
KAN08	**Anthony NE Sta**	**0.66**	**341**		Pg	23 03 49.0	0.0
KAN08				Sg	Sg	23 03 57.9	+0.3
KAN12	**Harper NE Stat**	**0.73**	**341**	Pg	Pg	23 03 50.4	0.0
KAN12				Sg	Sg	23 03 59.9	0.0
OK029	**Liberty Lake**	**0.83**	**166**		Pg	23 03 52.3	-0.1
OK029				Sg	Sg	23 04 03.8	+0.7
QUOK	**Quay**	**0.91**	**118**		Pg	23 03 53.6	-0.2
QUOK				Sg	Sb	23 04 06.6	-0.9
OK031	**S. Brethren Rd**	**0.95**	**133**		Pg	23 03 54.5	-0.1
T35A	**Sooner Cattle**	**1.00**	**72**		Pg	23 03 55.2	-0.5
T35A				Sg	Sg	23 04 08.3	-0.3
OK025	**Westminster Rd**	**1.06**	**164**	Pg	Pg	23 03 56.7	-0.1
U32A	**Winter Ranch,**	**1.07**	**258**	Pg	Pg	23 03 56.5	-0.5
OKCFA	**Oklahoma City**	**1.21**	**170**	Pg	Pg	23 03 58.7	-0.8
OKCSW	**OKLAHOMA CITY**	**1.22**	**170**		Pg	23 03 59.3	-0.4
FNO	**Franklin**	**1.37**	**170**	Pn	Pn	23 04 01.9	-0.7
R32A	**Long Quarter,**	**1.98**	**336**		Pn	23 04 11.7	+0.6
R32A				lAmb_Lg		23 04 37.8	
	comp=Z,19nm,0.7s						
X34A	**Smith Ranch, M**	**2.00**	**183**		Pn	23 04 11.8	+0.5
WMOK	**Wichita Mounta**	**2.06**	**206**		Pn	23 04 12.2	0.0
WMOK				lAmb_Lg		23 04 40.7	
	comp=Z,18nm,0.9s						
KSU1	**Kansas State U**	**2.64**	**19**		Pn	23 04 19.8	-0.2
LOOK	**Love County**	**2.64**	**171**	Pn	Pn	23 04 20.4	+0.3
LOOK				lAmb_Lg		23 05 02.0	
	comp=Z,17nm,1.2s						
U38A	**Gravette**	**2.67**	**93**		Pn	23 04 21.0	+0.5
X37A	**Clayton**	**2.77**	**136**		Pn	23 04 22.3	+0.5
HHAR	**Hobbs**	**3.05**	**95**		Pn	23 04 25.4	-0.3
W39A	**Magazine**	**3.48**	**113**	lAmb_Lg		23 05 32.6	
	comp=Z,9.9nm,0.9s						
S39A	**Bolivar**	**3.66**	**71**		Pn	23 04 33.6	-0.5
AMTX	**Amarillo**	**3.67**	**243**	Pn	Pn	23 04 34.6	+0.4
AMTX				lAmb_Lg		23 05 32.6	
	comp=Z,9.9nm,0.8s						
U40A	**Yellville**	**3.91**	**92**		Pn	23 04 37.7	+0.2
U40A				lAmb_Lg		23 05 47.4	
	comp=Z,10.0nm,0.8s						
MIAR	**Mount Ida**	**3.94**	**120**	Pn	Pn	23 04 37.1	-0.8
MIAR				lAmb_Lg		23 05 42.7	
	comp=Z,8.2nm,0.8s						
MGMO	**Mountain Grove**	**4.39**	**81**	lAmb_Lg		23 05 53.2	
	comp=Z,10nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.56**	**97**	lAmb_Lg		23 06 00.8	
	comp=Z,6.8nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.58**	**303**	lAmb_Lg		23 06 03.2	
	comp=Z,7.4nm,0.8s						
WHAR	**Wooly Hollow**	**4.58**	**105**	lAmb_Lg		23 06 00.2	
	comp=Z,14nm,1.2s						
R40A	**Maddies Statio**	**4.64**	**67**	Pn	Pn	23 04 47.2	-0.3
R40A				lAmb_Lg		23 06 02.5	
	comp=Z,8.2nm,0.8s						
LCAR	**Lake Charles**	**5.31**	**94**	lAmb_Lg		23 06 27.2	
	comp=Z,9.2nm,0.8s						
P40A	**Paris**	**5.33**	**55**	lAmb_Lg		23 06 28.6	
	comp=Z,9.1nm,0.7s						
CCM	**Cathedral Cave**	**5.34**	**72**	Pn	Pn	23 04 57.1	-0.1
CCM				lAmb_Lg		23 06 30.0	
	comp=Z,14nm,0.8s						
T25A	**Trinidad**	**5.41**	**278**	lAmb_Lg		23 06 30.3	
	comp=Z,6.8nm,0.8s						
PBMO	**Poplar Bluff**	**5.84**	**86**	lAmb_Lg		23 06 45.1	
	comp=Z,8.9nm,0.7s						
N41A	**Harden Midland**	**6.74**	**51**	lAmb_Lg		23 07 28.7	
	comp=Z,10.0nm,1.0s						
W18A	**Petrified Fore**	**9.88**	**265**	lAmb_Lg		23 08 52.6	
	comp=Z,6.4nm,0.7s						

MEX 09 23:40:04.5±1.6,17°.24N×100°.96W,h5km,MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.61**	**308**	*i* P	Pg	23 40 15.4	-0.8
ZIIG				*i* S	Sg	23 40 24.1	0.0
UON	**La Union**	**1.09**	**312**	*i* P	Pg	23 40 20.9	-4.6
ARIG	**Puente Sto Nin**	**1.19**	**29**	*i* P	Pg	23 40 23.7	-3.7
ARIG				*e*S	Sg	23 40 38.9	-4.0
DAIG	**Los Arroyos**	**1.27**	**99**	*e*P	Pg	23 40 25.6	-3.3
DAIG				*e*S	Sg	23 40 41.1	-4.3
MEIG	**Mezcala**	**1.45**	**62**	*e*P	Pn	23 40 28.2	-3.3
MEIG				*e*S	Sb	23 40 46.4	-4.6
PLIG	**Platanillo**	**1.80**	**50**	*e*P	Pn	23 40 33.3	-3.1
PLIG				*e*S	Sn	23 40 54.9	-4.9
MGIG	**Malinaltepec**	**2.22**	**90**	*e*P	Pn	23 40 40.3	-1.9
MGIG				*e*S	Sn	23 41 04.9	-5.3
TLIG	**Tlapa**	**2.31**	**82**	*e*P	Pn	23 40 40.9	-2.4
TLIG				*e*S	Sn	23 41 08.0	-4.2

MEX 09 23:51:29.8±0.5,16°.37N×98°.54W,h5km,MD3.5,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.39**	**87**	*i* P	Pg	23 51 37.0	-0.5
PNIG				*i* S	Sg	23 51 42.7	0.0
MGIG	**Malinaltepec**	**0.86**	**354**	*e*P	Pg	23 51 44.2	-2.3
MGIG				*e*S	Sg	23 51 57.0	-0.7
YOIG	**Yosondua**	**1.07**	**63**	*e*P	Pg	23 51 48.5	-1.8
YOIG				*e*S	Sg	23 52 02.6	-1.6
DAIG	**Los Arroyos**	**1.25**	**301**	*e*P	Pg	23 51 50.4	-3.4
DAIG				*e*S	Sg	23 52 05.6	-4.4
HLIG	**Huajupan de L**	**1.61**	**26**	*e*P	Pn	23 51 55.4	-3.8
HLIG				*e*S	Sn	23 52 15.2	-5.2

*IDC **10** 00:02:12.8±2.2,33°.32S×178°.39W,h0km,mb4.2/2, mb1 4.4/3,mb1mx3.8/24,mbtmp4.2/3,ML3.8/1,Error ellipse: s-maj=61.1km s-min=32.4km az=129.0*
*NEIC **10** 00:02:15.6±1.8,33°.29S±0°.09×178°.6W±0°.2,h10km±1km, mb4.5/12,Error ellipse: s-maj=25.0km s-min=15.6km az=85.0*

ISC 10 00:02:19.1±1.1,33°.27S±0°.10×178°.7W±0°.2,h41km,n24, σ1s55/21,mb4.4/7,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.02**	**213**	Pn	**Pn**	**00 03 45.0**	**-0.5**
	2.4nm,0.3s,baz=256,slow=3.2,SNR=8.6						
URZ				Sn	**Sn**	**00 04 53.9**	**+0.8**
	6.1nm,0.3s,baz=271,slow=6.9,SNR=8.1						
URZ	**Urewera**	**6.02**	**213**		**Pn**	**00 03 44.1**	**-1.5**
BKZ	**Black Stump Fm**	**7.04**	**212**	Pn	**Pn**	**00 03 56.5**	**-3.1**
ONTNC	**Ouen Toro**	**17.04**	**306**	P	**P**	**00 06 17.1**	**+1.3**
DZM	**Mont Dzumac**	**17.21**	**307**		**Pn**	**00 06 13.8**	**-2.7**
EIDS	**Eidsvold**	**27.40**	**279**	P	**P**	**00 08 03.0**	**+2.1**
EIDS				lAmb	lAmb	00 08 14.3	
	comp=Z,15nm,1.4s						
CTAO	**Charters Tower**	**33.76**	**284**		**P**	**00 08 56.9**	**-0.1**
AS31	**Alice Springs**	**42.42**	**270**	P	**P**	**00 10 11.4**	**+1.4**
ASAR	**Alice Springs**	**42.42**	**270**	P	**P**	**00 10 11.8**	**+1.9**
	comp=Z,3.6nm,0.7s,baz=110,slow=7.4,SNR=43						
ASAR	**Alice Springs**	**42.42**	**270**	P	**P**	**00 10 10.8**	**+0.8**
WR0	**Warramunga Arr**	**43.49**	**276**	P	**P**	**00 10 19.1**	**+0.4**
WR0				lAmb	lAmb	00 10 36.0	
	comp=Z,18nm,1.4s						
WB2	**Warramunga Arr**	**43.66**	**276**	P	**P**	**00 10 21.2**	**+1.2**
WB2				lAmb	lAmb	00 10 34.0	
	comp=Z,9.6nm,1.3s						
WRA	**Warramunga Arr**	**43.67**	**276**	P	**P**	**00 10 21.7**	**+1.6**
	comp=Z,1.7nm,0.6s,baz=116,slow=7.7,SNR=21						
WRA	**Warramunga Arr**	**43.67**	**276**	P	**P**	**00 10 21.5**	**+1.4**
FITZ	**Fitzroy Crossi**	**51.80**	**273**	P	**P**	**00 11 24.0**	**+0.9**
FITZ				lAmb	lAmb	00 11 26.1	
	comp=Z,7.7nm,1.1s						
QSPA	**South Pole Qui**	**56.85**	**180**	P	**P**	**00 12 00.0**	**+0.7**
SNAA	**Sanae**	**75.31**	**179**	P	**P**	00 14 08.2	+11
SNAA	**Sanae**	**75.31**	**179**	P	**P**	**00 13 58.4**	**+0.8**
SNAA				lAmb	lAmb	00 14 12.0	
	comp=Z,4.3nm,1.3s						
VNA3	**Neumayer Olymp**	**75.49**	**176**	P	P	00 14 09.9	+11
VNA2	**Neumayer--Watz**	**75.91**	**177**	P	P	00 14 12.4	+11
	baz=166,slow=4.4						
VNA1	**Neumayer--Stat**	**76.15**	**177**	P	P	00 14 13.8	+12
FINES	**FINESS Array B**	**147.59**	**338**	PKPbc	**PKPbc**	**00 21 58.3**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=64,slow=4.8,SNR=8.0						
NB2	**NORSAR Subarra**	**151.47**	**350**	PKP	**PKPab**	**00 22 15.1**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**151.47**	**350**	PKPbc	**PKiKP**	**00 22 07.5**	**-0.8**
	comp=Z,0.1nm,0.4s,baz=14,slow=4.1,SNR=1.8						

*HEL **10** 00:12:26.7,67°.82N×20°.22E,h0km,ML1.9,Explosion*

UPP 10 00:12:26.6±0.3,67°.82N×20°.22E,h0km,ML2.5, Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOVU	**Salmi**	**0.40**	**357**	P	Pg	00 12 34.4	0.0
KOVU				S	Sg	00 12 39.6	0.0
KOVU	**Salmi**	**0.40**	**357**	*i* S	Sg	00 12 39.6	0.0
KOVU	**Salmi**	**0.40**	**357**	*i* P	Pg	00 12 34.4	0.0
LANU	**Lannavaara**	**0.70**	**70**	*e*S	Sg	00 12 49.8	+0.6
LANU	**Lannavaara**	**0.70**	**70**	*e*P	Pg	00 12 40.0	-0.1
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	Pg	00 12 49.9	+0.2
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*S	Sg	00 13 05.8	+0.5
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*PN	Pn	00 12 51.0	+0.4
	baz=188						
KIF	**Kilpisjarvi**	**1.21**	**10**	MSG		00 13 04.8	
	comp=Z,16nm,0.2s						
PAJU	**Pajala**	**1.37**	**124**	*e*PG	Pg	00 12 52.0	-0.9
HEF	**Hetta**	**1.42**	**64**	*e*P	Pn	00 12 53.0	-0.5
HEF	**Hetta**	**1.42**	**64**	*e*SN	Sn	00 13 15.2	+2.4
HEF	**Hetta**	**1.42**	**64**	*e*P	Pn	00 12 52.8	-0.8
	baz=244						
HEF	**Hetta**	**1.42**	**64**	MSG		00 13 10.5	
	comp=Z,5.8nm,0.2s						
ERTU	**Ertsjaerv**	**1.49**	**148**	P	Pn	00 12 54.1	-0.4
ERTU	**Ertsjaerv**	**1.49**	**148**	*e*SN	Sn	00 13 14.6	+0.1
ERTU	**Ertsjaerv**	**1.49**	**148**	*e*PG	Pn	00 12 54.0	-0.4
KLF	**Kolari**	**1.55**	**111**	*e*SN	Sg	00 13 16.5	+0.1
KLF	**Kolari**	**1.55**	**111**	*e*PG	Pn	00 12 55.2	-0.2
HARU	**Harads**	**1.69**	**170**	P	Pn	00 12 57.5	+0.2
HARU	**Harads**	**1.69**	**170**	*e*P	Pn	00 12 57.5	+0.2
TOF	**Tornio**	**2.38**	**135**	*e*SB	Sb	00 13 39.6	-0.4
TOF	**Tornio**	**2.38**	**135**	*e*PB	Pb	00 13 08.5	-1.7
TOF	**Tornio**	**2.38**	**135**	MSG		00 13 38.0	
	comp=Z,4.7nm,0.2s						
SGF	**Sodankyl**	**2.44**	**96**	*e*SG	Sb	00 13 42.9	+1.1
SGF	**Sodankyl**	**2.44**	**96**	*e*PG	Pb	00 13 10.6	-0.7
	baz=281						
RNF	**Rovaniemi**	**2.56**	**116**	*e*SG	Sb	00 13 45.8	+0.5
RNF	**Rovaniemi**	**2.56**	**116**	*e*PB	Pb	00 13 11.5	-1.9
MSF	**Maaselka**	**3.97**	**115**	*e*PB	Pb	00 13 35.8	-1.5
KU6	**Riekki**	**4.21**	**111**	*e*SG	Sg	00 14 38.0	-3.6

UPP 10 00:13:19.0±0.7,67°.84N×20°.19E,h1km,ML1.6, Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOVU	**Salmi**	**0.39**	**358**	P	Pg	00 13 26.4	-0.1
KOVU				S	Sg	00 13 31.7	+0.3

*INET **10** 00:49:47.0,13°.27N×89°.44W,h76km,MW3.4*
*UCR **10** 00:49:50.1±1.1,13°.18N×89°.60W,h56km±7km,ML3.8*
*SNET **10** 00:49:50.1±1.2,13°.18N×89°.60W,h55km±8km,ML3.7*

ISC 10 00:49:49.6±2.6,13°.1N±0°.1×89°.65W±0°.10,h49km±17km, n45,σ0s39/73,El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.50**	**40**	*e*P	**Pn**	**00 50 00.8**	**0.0**
LALI				*e*S	**Sn**	**00 50 09.6**	**+0.7**
LALI	**Alcalda de L**	**0.50**	**40**	*e*P	**Pn**	**00 50 00.8**	**0.0**
LALI				*e*S	**Sn**	**00 50 09.6**	**+0.7**
JAYA	**Jayaque - finc**	**0.58**	**20**	*e*P	**Pn**	**00 50 01.7**	**-0.4**
JAYA				*e*S	**Sn**	**00 50 10.0**	**-0.9**
JAYA	**Jayaque - finc**	**0.58**	**20**	*e*P	**Pn**	**00 50 01.7**	**-0.4**
JAYA				*e*S	**Sn**	**00 50 10.0**	**-0.9**
SNET	**Serv Nac Est T**	**0.71**	**35**	*e*P	**Pn**	**00 50 03.6**	**+0.1**
SNET				*e*S	**Sn**	**00 50 13.3**	**-0.3**
SNET				lAML		00 50 15.7	
	comp=Z,2μm,0.1s						
SNET	**Serv Nac Est T**	**0.71**	**35**	*e*P	**Pn**	**00 50 03.6**	**+0.1**
SNET				*e*S	**Sn**	**00 50 13.3**	**-0.3**
SNET				lAML		00 50 15.7	
	comp=Z,2μm,0.1s						
CEVE	**Cerro Verde**	**0.72**	**2**	*e*P	**Pn**	**00 50 03.6**	**-0.3**
CEVE				*e*S	**Sn**	**00 50 15.5**	**+1.3**
CEVE				lAML		00 50 19.5	
	comp=Z,2μm,0.3s						
CEVE	**Cerro Verde**	**0.72**	**2**	*e*P	**Pn**	**00 50 03.6**	**-0.3**
CEVE				*e*S	**Sn**	**00 50 15.5**	**+1.3**
CEVE				lAML		00 50 19.5	
	comp=Z,2μm,0.3s						
BOQS	**Boqueron**	**0.73**	**30**	*e*P	**Pn**	**00 50 03.7**	**-0.2**
BOQS				*e*S	**Sn**	**00 50 14.0**	**-0.2**
BOQS	**Boqueron**	**0.73**	**30**	*e*P	**Pn**	**00 50 03.7**	**-0.2**
BOQS				*e*S	**Sn**	**00 50 14.0**	**-0.2**
UEES	**Universidad Ev**	**0.73**	**33**	lAML		00 50 17.2	
	comp=Z,3μm,0.2s						
UEES	**Universidad Ev**	**0.73**	**33**	lAML		00 50 17.2	
	comp=Z,3μm,0.2s						
SBLS	**San Blas**	**0.73**	**2**	*e*P	**Pn**	**00 50 03.8**	**-0.3**
SBLS	**San Blas**	**0.73**	**2**	*e*P	**Pn**	**00 50 03.8**	**-0.3**
CEDA	**San Andres**	**0.74**	**20**	*e*P	**Pn**	**00 50 03.8**	**-0.1**
CEDA				*e*S	**Sn**	**00 50 14.5**	**+0.2**
CEDA				lAML		00 50 17.1	
	comp=Z,2μm,0.4s						
CEDA	**San Andres**	**0.74**	**20**	*e*P	**Pn**	**00 50 03.8**	**-0.1**
CEDA				*e*S	**Sn**	**00 50 14.5**	**+0.2**
CEDA				lAML		00 50 17.1	
	comp=Z,2μm,0.4s						
OPAM	**Oficina de Pla**	**0.75**	**36**	lAML		00 50 15.9	
	comp=Z,3μm,0.2s						
OPAM	**Oficina de Pla**	**0.75**	**36**	lAML		00 50 15.9	
	comp=Z,3μm,0.2s						
SNJE	**San Jose**	**0.77**	**3**	*e*P	**Pn**	**00 50 04.1**	**-0.3**
SNJE	**San Jose**	**0.77**	**3**	*e*P	**Pn**	**00 50 04.1**	**-0.3**
LFRS	**El Faro**	**0.77**	**48**	*e*P	**Pn**	**00 50 04.3**	**-0.1**
LFRS	**El Faro**	**0.77**	**48**	*e*P	**Pn**	**00 50 04.3**	**-0.1**
SJTE	**Alcalda de S**	**0.81**	**51**	*e*P	**Pn**	**00 50 04.9**	**+0.1**
SJTE				*e*S	**Sn**	**00 50 15.6**	**-0.4**
SJTE	**Alcalda de S**	**0.81**	**51**	*e*P	**Pn**	**00 50 04.9**	**+0.1**
SJTE				*e*S	**Sn**	**00 50 15.6**	**-0.4**
LFU	**La Fuente**	**0.83**	**39**	*e*P	**Pn**	**00 50 05.4**	**+0.3**
LFU				*e*S	**Sn**	**00 50 16.6**	**+0.1**
LFU	**La Fuente**	**0.83**	**39**	*e*P	**Pn**	**00 50 05.4**	**+0.3**
LFU				*e*S	**Sn**	**00 50 16.6**	**+0.1**
COEG	**Centro de Oper**	**0.91**	**55**	*e*P	**Pn**	**00 50 06.1**	**-0.1**
COEG				*e*S	**Sn**	**00 50 18.4**	**+0.1**
COEG				lAML		00 50 20.8	
	comp=Z,3μm,0.2s						
COEG	**Centro de Oper**	**0.91**	**55**	*e*P	**Pn**	**00 50 06.1**	**-0.1**
COEG				*e*S	**Sn**	**00 50 18.4**	**+0.1**
COEG				lAML		00 50 20.8	
	comp=Z,3μm,0.2s						
TACO	**Tacachico**	**0.91**	**18**	*e*P	**Pn**	**00 50 06.0**	**-0.2**
TACO				*e*S	**Sn**	**00 50 18.7**	**+0.4**
TACO	**Tacachico**	**0.91**	**18**	*e*P	**Pn**	**00 50 06.0**	**-0.2**
TACO				*e*S	**Sn**	**00 50 18.7**	**+0.4**
PAVA	**Las Pavas**	**0.92**	**49**	*e*P	**Pn**	**00 50 06.7**	**+0.3**
PAVA				*e*S	**Sn**	**00 50 19.5**	**+0.7**
PAVA				lAML		00 50 20.8	
	comp=Z,5μm,0.4s						
PAVA	**Las Pavas**	**0.92**	**49**	*e*P	**Pn**	**00 50 06.7**	**+0.3**
PAVA				*e*S	**Sn**	**00 50 19.5**	**+0.7**
PAVA				lAML		00 50 20.8	
	comp=Z,5μm,0.4s						
SLOZ	**Alcaldia de Sa**	**0.93**	**352**	*e*P	**Pn**	**00 50 06.5**	**0.0**
SLOZ				*e*S	**Sn**	**00 50 18.7**	**-0.1**
TECO	**Alcaldia de Te**	**0.95**	**63**	*e*P	**Pn**	**00 50 06.3**	**-0.4**
TECO				*e*S	**Sn**	**00 50 19.2**	**0.0**
ALJI	**Alcalda de J**	**1.08**	**78**	*e*P	**Pn**	**00 50 08.3**	**0.0**
ALJI				*e*S	**Sn**	**00 50 22.4**	**+0.2**
ALJI	**Alcalda de J**	**1.08**	**78**	*e*P	**Pn**	**00 50 08.3**	**0.0**
ALJI				*e*S	**Sn**	**00 50 22.4**	**+0.2**
COEB	**Comit de Eme**	**1.16**	**70**	*e*P	**Pn**	**00 50 09.4**	**-0.2**
COEB				*e*S	**Sn**	**00 50 24.1**	**-0.3**
COEB	**Comit de Eme**	**1.16**	**70**	*e*P	**Pn**	**00 50 09.4**	**-0.2**
COEB				*e*S	**Sn**	**00 50 24.1**	**-0.3**
MTO3	**Montecristo**	**1.32**	**12**	*e*P	**Pn**	**00 50 11.7**	**-0.3**
MTO3				*e*S	**Sn**	**00 50 28.4**	**-0.1**
MTO3	**Montecristo**	**1.32**	**12**	*e*P	**Pn**	**00 50 11.7**	**-0.3**
MTO3				*e*S	**Sn**	**00 50 28.4**	**-0.1**
JUCU	**Jucuarįn**	**1.38**	**83**	*e*P	**Pn**	**00 50 12.4**	**-0.1**
JUCU				*e*S	**Sn**	**00 50 29.3**	**-0.3**
JUCU	**Jucuarįn**	**1.38**	**83**	*e*P	**Pn**	**00 50 12.4**	**-0.1**
JUCU				*e*S	**Sn**	**00 50 29.3**	**-0.3**
ESQI	**Esquipulas**	**1.48**	**12**	*e*P	**Pn**	**00 50 14.0**	**0.0**
LCND	**La Caada**	**1.73**	**83**	*e*P	**Pn**	**00 50 17.7**	**+0.4**
LCND	**La Caada**	**1.73**	**83**	*e*P	**Pn**	**00 50 17.7**	**+0.4**

MEX 10 01:01:16.4±0.7,16°.06N×97°.57W,h5km,MD3.6,Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEIG	**Puerto Escondi**	**0.41**	**99**	*e*P	Pg	01 01 24.1	-0.3
PEIG				*i* S	Sg	01 01 29.8	+0.1
PNIG	**Pinotepa**	**0.63**	**302**	*e*P	Pg	01 01 28.1	-0.4
PNIG				*i* S	Sg	01 01 36.8	+0.1
YOIG	**Yosondua**	**0.79**	**2**	*i* P	Pg	01 01 30.4	-1.3
YOIG				*i* S	Sg	01 01 40.7	-1.3
VHO	**Vista Hermosa**	**1.29**	**38**	*i* P	Pg	01 01 38.7	-2.4
VHO				*i* S	Sg	01 01 54.5	-3.3

*ANF **10** 01:05:28.0±0.2,36°.19N×97°.49W,h4km,ML4.0/16,Error ellipse: s-maj=2.3km s-min=2.1km az=167.0*
*NEIC **10** 01:05:28.1±0.5,36°.18N±0°.01×97°.49W±0°.01,h5km±7km, Error ellipse: s-maj=1.8km s-min=0.8km az=149.0*
*TUL **10** 01:05:28±0.5,36°.181N±0°.007×97°.49W±0°.02,h6km±7km, ML3.3,mb_Lg3.3/102(NEIC),Error ellipse: s-maj=2.7km s-min=0.6km az=72.0*

ISC 10 01:05:28.3±1.1,36°.19N±0°.02×97°.49W±0°.02,h6km±9km, n124,σ0s66/110,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.39**	**176**		**Pg**	**01 05 35.7**	**-0.2**
OK029				Sg	**Sg**	**01 05 41.2**	**+0.1**
CROK	**Carrier**	**0.51**	**309**		**Pg**	**01 05 38.1**	**0.0**
CROK				Sg	**Sg**	**01 05 45.3**	**+0.5**
OK031	**S. Brethren Rd**	**0.58**	**114**		**Pg**	**01 05 39.3**	**-0.1**
OK031				Sg	**Sg**	**01 05 47.2**	**+0.2**
OK005	**Luther M Schoo**	**0.58**	**156**	Pg	**Pg**	**01 05 39.4**	**-0.2**
BLOK	**Blackwell**	**0.61**	**21**		**Pg**	**01 05 40.2**	**0.0**
BLOK				Sg	**Sg**	**01 05 48.6**	**+0.5**
OK025	**Westminster Rd**	**0.62**	**169**		**Pg**	**01 05 40.0**	**-0.2**
OK025				lAmb_Lg		01 05 47.6	
	comp=Z,343nm,0.8s						
OK025				Sg	**Sg**	**01 05 48.4**	**+0.2**
QUOK	**Quay**	**0.63**	**91**	Pg	**Pg**	**01 05 40.4**	**-0.1**
QUOK				Sg	**Sg**	**01 05 49.2**	**+0.5**
OKCFA	**Oklahoma City**	**0.77**	**178**		**Pg**	**01 05 42.7**	**-0.5**
OKCFA				lAmb_Lg		01 05 51.5	
	comp=Z,332nm,0.9s						
OKCFA	**Oklahoma City**	**0.77**	**178**	P	**Pg**	**01 05 42.6**	**-0.5**
	baz=357,SNR=30						
OKCFA				S	**Sg**	**01 05 53.3**	**+0.2**
	baz=357						
OKCSW	**OKLAHOMA CITY**	**0.78**	**177**		**Pg**	**01 05 42.9**	**-0.5**
KAN13	**South Haven SW**	**0.82**	**1**		**Pg**	**01 05 44.0**	**-0.1**
OK032	**Salt Plains WL**	**0.85**	**317**		**Pg**	**01 05 44.2**	**-0.4**
KAN14	**Manchester OK**	**

MIAR				S	Sn	01 07 08.7	+1.4	
	baz=298							
MIAR	**Mount Ida**	**3.59**	**116**	P	**Pn**	**01 06 25.2**	**+0.7**	
	baz=298							
MIAR				S	**Sn**	**01 07 08.1**	**+0.8**	
	baz=298							
AMTX	**Amarillo**	**3.66**	**250**	Pn	**Pn**	**01 06 25.1**	**-0.5**	
AMTX	**Amarillo**	**3.66**	**250**	P	**Pn**	**01 06 26.3**	**+0.7**	
	baz=68,SNR=9.5							
AMTX	**Amarillo**	**3.66**	**250**	P	**Pn**	**01 06 25.8**	**+0.3**	
	baz=68							
S39A	**Bolivar**	**3.66**	**65**		**Pn**	**01 06 25.2**	**-0.3**	
S39A	**Bolivar**	**3.66**	**65**	P	**Pn**	**01 06 26.1**	**+0.6**	
	baz=247,SNR=16							
U40A	**Yellville**	**3.75**	**86**		**Pn**	**01 06 26.3**	**-0.4**	
U40A				IAmb_Lg		01 07 30.9		
	comp=Z,64nm,0.7s							
U40A	**Yellville**	**3.75**	**86**	P	**Pn**	**01 06 26.2**	**-0.5**	
	baz=269							
U40A	**Yellville**	**3.75**	**86**	P	**Pn**	**01 06 26.2**	**-0.5**	
	baz=269,SNR=14							
ABTX	**Abilene, Hawle**	**3.98**	**207**	IAmb_Lg		01 07 35.6		
	comp=Z,67nm,0.8s							
ABTX	**Abilene, Hawle**	**3.98**	**207**	S	**Sn**	**01 07 16.7**	**-0.1**	
	baz=26							
X40A	**Basin Creek Fa**	**4.17**	**113**		**Pn**	**01 06 32.1**	**-0.3**	
X40A				IAmb_Lg		01 07 42.8		
	comp=Z,89nm,1.1s							
X40A	**Basin Creek Fa**	**4.17**	**113**	S	**Sn**	**01 07 21.6**	**+0.1**	
	baz=295							
WHTX	**Lake Whitney,**	**4.19**	**180**	Pn	**Pn**	**01 06 32.4**	**-0.3**	
WHTX	**Lake Whitney,**	**4.19**	**180**	P	**Pn**	**01 06 32.5**	**-0.3**	
	baz=360							
WHTX	**Lake Whitney,**	**4.19**	**180**	P	**Pn**	**01 06 32.4**	**-0.3**	
	baz=360,SNR=9.9							
WHTX				Sb	**Sb**	**01 07 36.9**	**+3.7**	
	baz=360							
MGMO	**Mountain Grove**	**4.30**	**76**		**Pn**	**01 06 34.0**	**-0.4**	
MGMO				IAmb_Lg		01 07 44.2		
	comp=Z,44nm,0.8s							
WHAR	**Wooly Hollow**	**4.32**	**100**	Pn	**Pn**	**01 06 34.5**	**-0.1**	
WHAR				IAmb_Lg		01 07 48.5		
	comp=Z,50nm,0.8s							
FCAR	**Ozark Folk Cen**	**4.36**	**92**	Pn	**Pn**	**01 06 34.6**	**-0.4**	
WLAR	**White Oak Lake**	**4.38**	**123**	Pn	**Pn**	**01 06 35.4**	**+0.1**	
WLAR				IAmb_Lg		01 07 51.6		
	comp=Z,40nm,0.7s							
W41B	**Gary Mavity, V**	**4.38**	**102**	P	**Pn**	**01 06 35.1**	**-0.3**	
	baz=285,SNR=17							
W41B	**Gary Mavity, V**	**4.38**	**102**	P	**Pn**	**01 06 35.0**	**-0.3**	
	baz=285,SNR=5.4							
W41B				S	**Sn**	**01 07 25.7**	**-1.1**	
	baz=285							
237A	**Washetta, Mont**	**4.40**	**161**		**Pn**	**01 06 35.1**	**-0.6**	
237A	**Washetta, Mont**	**4.40**	**161**	P	**Pn**	**01 06 35.5**	**-0.2**	
	baz=342							
N33A	**J Bar K, Exete**	**4.54**	**0**	IAmb_Lg		01 08 01.3		
	comp=Z,38nm,0.8s							
P38A	**Dawn**	**4.64**	**41**	Pn	**Pn**	**01 06 38.6**	**-0.4**	
P38A				IAmb_Lg		01 07 56.8		
	comp=Z,63nm,0.7s							
R40A	**Maddies Statio**	**4.66**	**62**		**Pn**	**01 06 38.9**	**-0.4**	
R40A				IAmb_Lg		01 07 57.3		
	comp=Z,70nm,0.8s							
R40A	**Maddies Statio**	**4.66**	**62**	P	**Pn**	**01 06 39.4**	**+0.1**	
	baz=245,SNR=18							
Z41A	**Richland Creek**	**4.84**	**126**	S	**Sn**	**01 07 36.7**	**-1.4**	
	baz=308							
MSTX	**Muleshoe**	**4.87**	**244**	Pn	**Pn**	**01 06 41.7**	**-0.5**	
MSTX	**Muleshoe**	**4.87**	**244**	S	**Sn**	**01 07 38.4**	**-0.5**	
	baz=61							
KSCO	**Kaye Shedlock'**	**4.96**	**306**	IAmb_Lg		01 08 07.5		
	comp=Z,39nm,0.7s							
NATX	**Nacogdoches**	**5.00**	**151**	S	**Sn**	**01 07 40.8**	**-1.3**	
	baz=333							
BGNE	**Belgrade**	**5.24**	**355**	Pn	**Pn**	**01 06 46.8**	**-0.4**	
BGNE				IAmb_Lg		01 08 20.6		
	comp=Z,38nm,0.8s							
BGNE	**Belgrade**	**5.24**	**355**	P	**Pn**	**01 06 47.0**	**-0.2**	
	baz=174							
BGNE				S	**Sn**	**01 07 47.0**	**-0.9**	
	baz=174							
CCM	**Cathedral Cave**	**5.33**	**68**	Pn	**Pn**	**01 06 48.4**	**0.0**	
CCM				IAmb_Lg		01 08 16.8		
	comp=Z,44nm,0.9s							
435B	**Jarrell**	**5.39**	**181**	Pn	**Pn**	**01 06 48.9**	**-0.4**	
435B				IAmb_Lg		01 08 23.2		
	comp=Z,43nm,1.0s							
435B	**Jarrell**	**5.39**	**181**	P	**Pn**	**01 06 48.8**	**-0.4**	
	baz=0.8							
435B				S	**Sn**	**01 07 50.9**	**-0.8**	
	baz=0.8							
T25A	**Trinidad**	**5.64**	**282**	IAmb_Lg		01 08 33.4		
	comp=Z,39nm,0.9s							
T25A	**Trinidad**	**5.64**	**282**	P	**Pn**	**01 06 52.9**	**0.0**	
	baz=98							
PBMO	**Poplar Bluff**	**5.72**	**82**	IAmb_Lg		01 08 30.1		
	comp=Z,48nm,0.8s							
OGNE	**Ogallala**	**5.94**	**325**	IAmb_Lg		01 08 48.4		
	comp=Z,42nm,0.8s							
OGNE	**Ogallala**	**5.94**	**325**	P	**Pn**	**01 06 57.4**	**+0.6**	
	baz=142							
JCT	**Junction City**	**6.01**	**199**	IAmb_Lg		01 08 53.9		
	comp=Z,54nm,0.8s							
JCT	**Junction City**	**6.01**	**199**	P	**Pn**	**01 06 58.0**	**+0.2**	
	baz=18							
143A	**Socs Landing,**	**6.11**	**123**	IAmb_Lg		01 08 53.4		
	comp=Z,42nm,0.7s							
PEBM	**Pemiscott Bayo**	**6.17**	**88**	IAmb_Lg		01 08 45.8		
	comp=Z,60nm,0.7s							
PARMO	**Parma**	**6.26**	**83**	IAmb_Lg		01 08 51.0		
	comp=Z,48nm,0.7s							
SLM	**Saint Louis**	**6.27**	**65**	IAmb_Lg		01 08 45.7		
	comp=Z,54nm,0.7s							
LNXT	**Lenox**	**6.47**	**88**	IAmb_Lg		01 08 57.1		
	comp=Z,46nm,0.7s							
SDCO	**Great Sand Dun**	**6.60**	**286**	IAmb_Lg		01 09 10.3		
	comp=Z,27nm,1.2s							
SCIA	**State Center**	**6.61**	**29**	S	**Sn**	**01 08 20.9**	**-0.7**	
	baz=212							
HALT	**Halls**	**6.61**	**90**	IAmb_Lg		01 09 11.0		
	comp=Z,42nm,0.7s							
GLAT	**Glass**	**6.63**	**87**	IAmb_Lg		01 08 58.1		
	comp=Z,48nm,0.8s							
HICK	**Hickman**	**6.67**	**85**	IAmb_Lg		01 09 08.6		
	comp=Z,52nm,0.8s							
S44A	**Carbondale**	**6.76**	**75**	IAmb_Lg		01 09 07.2		
	comp=Z,43nm,0.8s							
SIUC	**Southern Illin**	**6.80**	**75**	IAmb_Lg		01 09 05.9		
	comp=Z,50nm,0.8s							
OXF	**Oxford**	**6.81**	**102**	IAmb_Lg		01 09 07.5		
	comp=Z,27nm,0.8s							
OXF	**Oxford**	**6.81**	**102**	P	**Pn**	**01 07 08.4**	**-0.4**	
	baz=286							
W45A	**Hickory Valley**	**6.84**	**96**	IAmb_Lg		01 09 07.5		
	comp=Z,38nm,0.7s							
Y45A	**Yeager Farm, C**	**6.92**	**107**	IAmb_Lg		01 09 23.7		
	comp=Z,25nm,0.9s							
UTMT	**University of**	**6.97**	**86**	IAmb_Lg		01 09 07.9		
	comp=Z,40nm,0.8s							
ISCO	**Idaho Springs**	**7.36**	**302**	IAmb_Lg		01 09 30.0		
	comp=Z,22nm,1.0s							
L40A	**Anamosa**	**7.62**	**38**	IAmb_Lg		01 09 37.9		
	comp=Z,41nm,0.8s							
146A	**Union**	**7.81**	**115**	IAmb_Lg		01 09 53.3		
	comp=Z,20nm,0.9s							
OLIL	**Olney**	**7.89**	**68**	IAmb_Lg		01 09 58.5		
	comp=Z,42nm,0.9s							
Y22D	**IRIS PASSCAL I**	**8.01**	**257**	IAmb_Lg		01 09 55.6		
	comp=Z,35nm,0.9s							
PHWY	**Pilot Hill**	**8.05**	**312**	IAmb_Lg		01 09 54.8		
	comp=Z,18nm,0.8s							
O44A	**Mansfield**	**8.13**	**58**	IAmb_Lg		01 09 59.1		
	comp=Z,38nm,0.7s							
I37A	**Lemond, Waseca**	**8.42**	**21**	IAmb_Lg		01 10 01.8		
	comp=Z,30nm,0.8s							
JFWS	**Jewell Farm**	**8.74**	**38**	IAmb_Lg		01 10 09.6		
	comp=Z,30nm,0.8s							
I40A	**Norwalk**	**9.32**	**32**	IAmb_Lg		01 10 33.9		
	comp=Z,19nm,0.8s							
RSSD	**Black Hills**	**9.37**	**330**	IAmb_Lg		01 10 39.6		
	comp=Z,15nm,1.1s							
K22A	**Casper**	**9.51**	**315**	IAmb_Lg		01 10 40.8		
	comp=Z,26nm,1.0s							
SPMN	**Marine on St.**	**9.70**	**20**	IAmb_Lg		01 10 46.7		
	comp=Z,19nm,0.8s							

MEX 10 01:07:46.3±0.5, 16°.06N×97°.51W, h16±13km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEIG	**Puerto Escondi**	**0.35**	**100**	*i* P	Pg	01 07 52.9	-0.7
PEIG				*i* S	Sg	01 07 57.1	-1.5
PNIG	**Pinotepa**	**0.68**	**299**	*e*P	Pg	01 07 56.9	-2.8
PNIG				*e*S	Sg	01 08 05.2	-3.6
YOIG	**Yosondua**	**0.80**	**357**	*e*P	Pg	01 07 59.0	-2.9
YOIG				*e*S	Sg	01 08 08.9	-3.6
VHO	**Vista Hermosa**	**1.25**	**36**	*e*P	Pn	01 08 06.7	-2.7
VHO				*e*S	Sb	01 08 22.8	-2.9
MGIG	**Malinaltepec**	**1.59**	**317**	*e*P	Pn	01 08 06.7	-7.3
MGIG				*e*S	Sn	01 08 30.1	-4.2

*IDC **10** 02:09:32.6±1.8, 19°.68S×174°.33W, h0km, mb3.8/7, mb1 4.2/7, mb1mx4.0/22, mbtmp3.8/7, Error ellipse: s-maj=130.8km s-min=22.0km az=150.0*
*NEIC **10** 02:09:32.8±1.2, 20°.7S±0°.2×173°.25W±0°.07, h36km±11km, mb4.6/4, Error ellipse: s-maj=35.8km s-min=8.2km az=173.0*

ISC 10 02:09:33.1±1.0, 20°.7S±0°.3×173°.3W±0°.1, h35km, n17, σ1s99/16, mb3.9/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**3.54**	**64**	Pn	**Pn**	**02 10 25.3**	**-0.4**
NIUE				Sn	**Sn**	**02 11 03.7**	**-2.6**
AFI	**Afiamalu**	**6.90**	**12**	Sn	Sn	02 12 12.0	-17
	5.2nm,0.3s,baz=221,slow=22,SNR=1.3						
MSVF	**Nonsavu**	**8.70**	**288**	Pn	**Pn**	**02 11 36.3**	**-0.3**
STKA	**Stephens Creek**	**41.70**	**245**	P	**P**	**02 17 18.5**	**-0.2**
	0.9nm,0.3s,baz=94,slow=15,SNR=3.1						
STKA	**Stephens Creek**	**41.70**	**245**	P	**P**	**02 17 17.7**	**-0.9**
WR0	**Warramunga Arr**	**48.76**	**261**	P	**P**	**02 18 13.5**	**-1.4**
WR0				IAmb	IAmb	02 18 14.9	
	comp=Z,8.6nm,1.2s						
ASAR	**Alice Springs**	**48.77**	**256**	P	**P**	**02 18 14.1**	**-0.9**
	comp=Z,1.6nm,0.9s,baz=87,slow=8.3,SNR=12						
ASAR				PcP	**PcP**	**02 19 42.9**	**+3.2**
	comp=Z,0.7nm,0.6s,baz=120,slow=3.7,SNR=3.2						
ASAR	**Alice Springs**	**48.77**	**256**	P	**P**	**02 18 13.2**	**-1.8**
WB2	**Warramunga Arr**	**48.93**	**261**	P	**P**	**02 18 15.5**	**-0.7**
WRAB	**Tennant Creek**	**48.94**	**261**	P	**P**	**02 18 14.9**	**-1.4**
WRAB				IAmb	IAmb	02 18 30.1	
	comp=Z,7.5nm,1.1s						
WRA	**Warramunga Arr**	**48.95**	**261**	P	**P**	**02 18 15.4**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=93,slow=7.9,SNR=1.0						
NVAR	**Mina Array Bea**	**78.20**	**41**	P	**P**	**02 21 33.6**	**+4.2**
	comp=Z,1.3nm,0.9s,baz=220,slow=8.2,SNR=7.3						
TXAR	**Lajitas Array**	**83.48**	**55**	P	P	02 22 03.8	+6.2
	comp=Z,0.6nm,1.0s,baz=226,slow=4.9,SNR=4.4						
PDAR	**Pinedale Array**	**86.13**	**41**	P	P	02 22 16.3	+5.4
	comp=Z,0.2nm,0.4s,baz=216,slow=4.5,SNR=2.3						
ILAR	**Eielson Array**	**87.59**	**11**	P	**P**	**02 22 17.7**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=212,slow=6.4,SNR=1.7						
AKASG	**Malin Array Be**	**145.20**	**335**	PKP	**PKiKP**	**02 29 08.9**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=36,slow=3.5,SNR=4.2						
AKASG	**Malin Array Be**	**145.20**	**335**		**PKPbc**	**02 29 05.0**	**-1.4**

*TAP **10** 02:16:11.9, 24°.84N×122°.63E, h8km, ML2.9, D*
*JMA **10** 02:16:12.2±0.1, 24°.90N×122°.65E, h15km±2km, M2.2*

ISC 10 02:16:12.3±1.3, 24°.85N±0°.06×122°.64E±0°.03, h13km±10km, n35, σ0s41/46, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.49**	**145**	P	**Pb**	**02 16 22.4**	**-0.3**
JYNG				*e*S	**Sb**	**02 16 29.6**	**-0.2**
YOJ	**Yonaguni jima**	**0.52**	**139**	P	**Pg**	**02 16 22.7**	**+0.3**
YOJ	**Yonaguni jima**	**0.52**	**139**	*i* P	**Pg**	**02 16 22.6**	**+0.1**
	baz=137						
YOJ				S	**Sg**	**02 16 30.0**	**+0.7**
	baz=137						
TWB1	**Santiao Chiao**	**0.61**	**285**	*e*P	**Pb**	**02 16 24.5**	**-0.3**
	baz=286						
TWB1				*e*S	**Sb**	**02 16 33.0**	**-0.3**
	baz=286						
EGS		**0.64**	**270**	*e*P	**Pb**	**02 16 24.9**	**-0.4**
	baz=270						
EGS				*e*S	**Sb**	**02 16 34.9**	**+0.7**
	baz=270						
NTC	**Toucheng**	**0.73**	**270**	*e*P	**Pb**	**02 16 27.0**	**+0.1**
	baz=272						
TIPB	**Shuangxi**	**0.74**	**279**	*e*P	**Pb**	**02 16 27.2**	**0.0**
	baz=281						
TWC	**Suao**	**0.76**	**252**	P	**Pg**	**02 16 26.4**	**-0.5**
	baz=252						
TWC				*e*S	**Sg**	**02 16 36.9**	**0.0**
	baz=252						
NWF	**Wu-fen Shan**	**0.81**	**286**	P	**Pn**	**02 16 28.9**	**-0.5**
	baz=286						
NWF				*e*S	**Sb**	**02 16 39.4**	**+0.3**
	baz=286						
NDS	**Dongshan**	**0.86**	**256**	P	**Pg**	**02 16 28.3**	**-0.7**
	baz=256						
NDS				*e*S	**Sb**	**02 16 40.8**	**+0.2**
	baz=256						
EWUT	**Wuta**	**0.88**	**243**	*e*P	**Pg**	**02 16 29.2**	**-0.1**
	baz=243						
EWUT				*e*S	**Sg**	**02 16 40.8**	**0.0**
	baz=243						
TWE	**Neicheng**	**0.89**	**262**	*e*P	**Pg**	**02 16 28.9**	**-0.6**
	baz=262						
ENA	**Nanau**	**0.92**	**243**	P	**Pg**	**02 16 29.5**	**-0.5**
	baz=243						
ENA				*e*S	**Sb**	**02 16 42.3**	**+0.2**
	baz=243						
ENTT	**Nioudou**	**0.99**	**258**	*e*P	**Pb**	**02 16 31.6**	**+0.1**
	baz=259						
YM01	**YM01**	**1.01**	**287**	*e*P	**Pn**	**02 16 32.0**	**-0.2**
	baz=288						
NDT	**Datong Townshi**	**1.05**	**257**	*e*P	**Pn**	**02 16 33.2**	**+0.4**
	baz=257						
ANP	**Anpu**	**1.07**	**288**	*e*P	**Pn**	**02 16 34.0**	**+0.9**
	baz=289						
IRIF	**Iriomote-Funau**	**1.12**	**117**	P	**Pb**	**02 16 33.0**	**-0.5**
IRIF				*e*S	**Sb**	**02 16 48.0**	**0.0**
YHNB	**Yeheng**	**1.16**	**261**	*e*P	**Pb**	**02 16 34.2**	**0.0**
	baz=262						
NACB	**Ninganchiao**	**1.16**	**235**	P	**Pb**	**02 16 33.8**	**-0.4**
	baz=235						
NSK	**Sanguang**	**1.18**	**262**	P	**Pb**	**02 16 34.5**	**0.0**
	baz=262						
NNS	**Nan Shan**	**1.22**	**251**	*e*P	**Pb**	**02 16 35.3**	**0.0**
	baz=251						
TWD	**Chiawan**	**1.22**	**231**	*e*P	**Pb**	**02 16 35.5**	**+0.2**
	baz=239						
ETLH	**Xiulin Townshi**	**1.23**	**239**	P	**Pn**	**02 16 35.3**	**0.0**
	baz=239						
ETM	**Tongmen**	**1.36**	**230**	*e*P	**Pb**	**02 16 37.9**	**+0.2**
	baz=237						
FUSS	**Fushou**	**1.40**	**245**	*e*P	**Pg**	**02 16 39.1**	**-0.2**
	baz=245						
FUSS				*e*S	**Sn**	**02 16 56.3**	**0.0**
	baz=245						
WHF	**Hehuan Shan**	**1.43**	**241**	P	**Pb**	**02 16 39.0**	**-0.1**
	baz=241						
TWT	**Tachien**	**1.46**	**246**	*e*P	**Pg**	**02 16 39.9**	**-0.4**
	baz=247						
NSTT	**Nanjuang**	**1.50**	**262**	*e*P	**Pg**	**02 16 41.6**	**+0.5**
	baz=262						
ESL	**Shilin**	**1.51**	**227**	*e*P	**Pn**	**02 16 39.5**	**+0.5**
	baz=227						
CHGB	**Renai**	**1.55**	**240**	P	**Pb**	**02 16 41.2**	**+0.3**
	baz=234						
OWD	**Renai**	**1.60**	**236**	*e*P	**Pg**	**02 16 42.8**	**-0.3**
	baz=237						
HGSD	**Ruisui**	**1.75**	**220**	*e*P	**Pn**	**02 16 41.6**	**-0.7**
	baz=204						
WCS	**Beigang Elemen**	**1.76**	**244**	*e*P	**Pb**	**02 16 45.0**	**+0.6**
	baz=227						
SMLT	**Sun Moon Lake**	**1.85**	**239**	*e*P	**Pb**	**02 16 45.4**	**-0.7**
	baz=222						

*TAP **10** 02:26:23.6, 24°.87N×122°.63E, h15km, ML3.0, D*
*JMA **10** 02:26:24.0±0.1, 24°.87N×122°.65E, h17km±2km, M2.5*

ISC 10 02:26:23.5±1.1, 24°.87N±0°.04×122°.64E±0°.02, h15km±8km, n37, σ0s38/60, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.51**	**146**	P	**Pg**	**02 26 33.7**	**+0.2**
JYNG				*e*S	**Sg**	**02 26 40.7**	**+0.4**
YOJ	**Yonaguni jima**	**0.53**	**140**	P	**Pg**	**02 26 34.2**	**+0.2**
YOJ				S	**Sg**	**02 26 41.2**	**0.0**
YOJ	**Yonaguni jima**	**0.53**	**140**	*i* P	**Pg**	**02 26 34.1**	**0.0**
	baz=129						
YOJ				*i* S	**Sg**	**02 26 41.2**	**0.0**
	baz=129						
TWB1	**Santiao Chiao**	**0.60**	**283**	*e*P	**Pg**	**02 26 35.4**	**+0.1**
	baz=284						
TWB1				*e*S	**Sb**	**02 26 44.2**	**+0.1**
	baz=284						
NTC	**Toucheng**	**0.73**	**269**	*e*P	**Pb**	**02 26 38.6**	**+0.6**
	baz=284						
NTC				*e*S	**Sb**	**02 26 48.8**	**+1.0**
	baz=284						
TIPB	**Shuangxi**	**0.74**	**278**	*i* P	**Pg**	**02 26 37.8**	**-0.1**
	baz=278						
TIPB				*e*S	**Sg**	**02 26 47.5**	**-0.3**
	baz=278						
TWC	**Suao**	**0.76**	**250**	P	**Pg**	**02 26 37.7**	**-0.6**
	baz=249						
TWC				*e*S	**Sg**	**02 26 47.7**	**-0.7**
	baz=249						
NWF	**Wu-fen Shan**	**0.80**	**284**	P	**Pb**	**02 26 39.8**	**+0.6**
	baz=284						
NWF				*e*S	**Sg**	**02 26 49.7**	**+0.1**
	baz=284						
NDS	**Dongshan**	**0.87**	**254**	P	**Pb**	**02 26 40.0**	**-0.3**
	baz=254						
NDS				*e*S	**Sg**	**02 26 52.0**	**+0.2**
	baz=254						
EWUT	**Wuta**	**0.89**	**241**	*e*P	**Pb**	**02 26 40.7**	**0.0**
	baz=255						
EWUT				*e*S	**Sb**	**02 26 52.4**	**+0.1**
	baz=255						
TWE	**Neicheng**	**0.89**	**260**	*e*P	**Pg**	**02 26 40.9**	**+0.1**
	baz=260						
TWE				*e*S	**Sb**	**02 26 52.1**	**-0.4**
	baz=260						
PCYT	**Pengchaiyu**	**0.91**	**326**	*e*P	**Pb**	**02 26 40.5**	**-0.5**
	baz=338						
ENA	**Nanau**	**0.93**	**242**	*e*P	**Pb**	**02 26 41.2**	**-0.1**
	baz=254						
ENA				*e*S	**Sb**	**02 26 52.9**	**-0.6**
	baz=254						
ENTT	**Nioudou**	**1.00**	**257**	*e*P	**Pn**	**02 26 43.4**	**+0.4**
	baz=256						
ENTT				*e*S	**Sn**	**02 26 56.9**	**0.0**
	baz=256						
YM01	**YM01**	**1.00**	**286**	*e*P	**Pb**	**02 26 42.5**	**-0.2**
	baz=286						
TWY	**Chenhua**	**1.02**	**293**	*e*P	**Pb**	**02 26 42.8**	**-0.1**
	baz=294						
NDT	**Datong Townshi**	**1.06**	**255**	*e*P	**Pg**	**02 26 44.0**	**+0.2**
	baz=241						
NDT				*e*S	**Sg**	**02 26 57.6**	**-0.2**
	baz=241						
IRIF	**Iriomote-Funau**	**1.13**	**118**	P	**Pb**	**02 26 44.0**	**-0.8**
IRIF				*e*S	**Sn**	**02 27 00.0**	**-0.1**
YHNB	**Yeheng**	**1.16**	**260**	P	**Pb**	**02 26 45.6**	**+0.3**
	baz=259						
YHNB				*e*S	**Sn**	**02 27 01.1**	**+0.1**
	baz=259						
NACB	**Ninganchiao**	**1.18**	**234**	P	**Pb**	**02 26 45.5**	**0.0**
	baz=243						
NACB				*e*S	**Sb**	**02 27 01.0**	**+0.3**
	baz=243						
NSK	**Sanguang**	**1.18**	**261**	P	**Pn**	**02 26 45.3**	**-0.2**
	baz=259						
NSK				*e*S	**Sn**	**02 27 01.1**	**-0.3**
	baz=259						
NNS	**Nan Shan**	**1.23**	**250**	*e*P	**Pb**	**02 26 46.5**	**0.0**
	baz=248						
NNS				*e*S	**Sn**	**02 27 02.6**	**-0.1**
	baz=248						
TWD	**Chiawan**	**1.23**	**230**	*e*P	**Pn**	**02 26 46.3**	**+0.1**
	baz=236						
TWD				*e*S	**Sn**	**02 27 02.6**	**0.0**
	baz=236						
ETLH	**Xiulin Townshi**	**1.24**	**238**	P	**Pn**	**02 26 46.4**	**0.0**
	baz=247						
ETLH				*e*S	**Sb**	**02 27 02.0**	**-0.6**
	baz=247						
HATJ	**Hateruma jima**	**1.34**	**127**	*e*S	**Sn**	**02 27 04.7**	**-0.6**
JKRS	**Kuro-shima**	**1.40**	**117**	*e*S	**Sn**	**02 27 06.8**	**0.0**
FUSS	**Fushou**	**1.41**	**244**	*e*P	**Pb**	**02 26 49.9**	**+0.2**
	baz=242						
FUSS				*e*S	**Sn**	**02 27 07.4**	**0.0**
	baz=242						
WHF	**Hehuan Shan**	**1.44**	**240**	P	**Pb**	**02 26 50.3**	**-0.1**
	baz=249						
WHF				*e*S	**Sb**	**02 27 09.1**	**+0.3**
	baz=249						
JIJ	**Ishigaki jima**	**1.46**	**110**	*e*S	**Sb**	**02 27 09.5**	**+0.6**
TDCB	**Techi**	**1.48**	**246**	*e*P	**Pn**	**02 26 50.0**	**+0.2**
	baz=244						
LIOB	**Emei**	**1.49**	**262**	*e*P	**Pb**	**02 26 50.8**	**-0.2**
	baz=261						
NSTT	**Nanjuang**	**1.51**	**261**	*e*P	**Pn**	**02 26 49.8**	**-0.2**
	baz=260						
JISG	**Ishigakijimahi**	**1.55**	**100**	*e*S	**Sn**	**02 27 10.6**	**+0.2**
CHGB	**Renai**	**1.56**	**239**	*e*P	**Pn**	**02 26 51.1**	**+0.2**
	baz=220						
HGSD	**Ruisui**	**1.77**	**219**	*e*P	**Pn**	**02 26 53.3**	**-0.3**
	baz=203						
WCS	**Beigang Elemen**	**1.77**	**243**	*e*P	**Pb**	**02 26 55.2**	**-0.5**
	baz=226						
SSLB	**Suanglung**	**1.88**	**235**	*e*P	**Pn**	**02 26 56.2**	**+1.1**
	baz=217						

IPEC 10 02:28:26.8±0.0, 49°.48N×17°.05E, h13km, ML-0.3/7, Error ellipse: s-maj=0.2km s-min=0.1km az=131.0, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOSC	**Losov**	**0.25**	**55**	*e*Sg	Sg	02 28 35.5	-0.3
	0.4nm,0.1s,baz=55						
VRAC	**Vranov**	**0.34**	**241**	*e*Pg	Pg	02 28 33.4	-0.4
	baz=242						
VRAC				*e*Sg	Sg	02 28 38.0	-0.4
	0.6nm,0.2s,baz=242						
VRAC	**Vranov**	**0.34**	**241**	*e*PG	Pg	02 28 33.4	-0.4
V

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.35**	**77**	*e*Sg	**Sg**	**02 38 46.0**	**+0.5**
OJC	**Ojcow**	**0.35**	**77**	*e*Pg	**Pg**	**02 38 40.9**	**0.0**
NIE	**Niedzica**	**0.99**	**137**	*e*Pg	**Pg**	**02 38 53.2**	**+0.1**
NIE				*e*Sg	**Sb**	**02 39 08.0**	**+0.2**
LANS	**Liptovska Anna**	**1.00**	**172**	*e*PG	**Pg**	**02 38 53.5**	**+0.1**
LANS				*e*SG	**Sb**	**02 39 08.3**	**+0.1**
LANS				*e*LG	Lg	02 39 11.6	
MORC	**Moravsky Berou**	**1.17**	**252**	*e*PG	**Pg**	**02 38 56.6**	**+0.1**
MORC				*e*SG	**Sg**	**02 39 12.3**	**+0.6**
VYHS	**Vyhne**	**1.68**	**190**	*e*PN	**Pn**	**02 39 04.0**	**-0.7**

IDC 10 03:02:25.8±5.2, 16°.88S×179°.28W, h565km±25km, mb2.9/3, mb1 3.2/4, mb1mx2.8/31, mbtmp3.8/4, Error ellipse: s-maj=263.4km s-min=34.1km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.69**	**251**	P	P	03 03 40.5	+0.1
	1.2nm,0.3s,baz=80,slow=11,SNR=8.9						
WRA	**Warramunga Arr**	**44.01**	**259**	P	P	03 09 44.1	-0.2
	0.3nm,0.4s,baz=91,slow=7.0,SNR=8.6						
ASAR	**Alice Springs**	**44.28**	**253**	P	P	03 09 46.1	-0.2
	3.1nm,0.4s,baz=90,slow=8.2,SNR=57						
ILAR	**Eielson Array**	**85.08**	**13**	P	P	03 14 02.0	0.0
	0.3nm,0.9s,baz=214,slow=6.4,SNR=2.2						

KRSC 10 03:37:06.3±2.2, 48°.39N×156°.30E, h22km±32km, ML4.4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**2.53**	**349**	*e*P	Pn	03 37 46.7	+0.4
ALID				*e*S	Sn	03 38 17.0	+0.5
PAU	**Pauzhetka**	**3.10**	**6**	*e*P	Pb	03 37 58.8	-1.9
PAU				*e*S	Sb	03 38 35.5	-2.6
KDTR	**Khodutka, Kamc**	**3.61**	**18**	*e*P	Pn	03 38 04.5	+3.6
KDTR				*e*S	Sb	03 38 48.6	-4.2
MIPR	**Malaya Ipel'ka**	**3.91**	**4**	*e*P	Pn	03 38 07.8	+2.8
ASAK	**Asacha**	**4.13**	**14**	*e*P	Pn	03 38 12.5	+4.3
MTVR	**Mutnovka**	**4.28**	**16**	*e*P	Pn	03 38 14.3	+4.1
MTVR				*e*S	Sb	03 39 05.8	-6.2
RUS	**Russkaya**	**4.29**	**18**	*e*P	Pn	03 38 13.6	+3.3
RUS				*e*S	Sn	03 39 04.5	+4.9
GRL	**Gorelyy**	**4.32**	**15**	*e*P	Pn	03 38 15.3	+4.5
GRL				*e*S	Sn	03 39 06.8	+6.2
APC	**Apacha**	**4.58**	**7**	*e*P	Pn	03 38 18.9	+4.7
UGLR	**Uglovaya**	**5.09**	**17**	*e*P	Pn	03 38 27.3	+6.0
AVH	**Avacha**	**5.12**	**17**	*e*P	Pn	03 38 26.5	+4.7
KOK	**Koryaka**	**5.13**	**16**	*e*P	Pn	03 38 27.0	+5.1
KRER	**Koryakskii**	**5.16**	**17**	*e*P	Pn	03 38 27.1	+4.7
SDLR	**Sedlovina**	**5.17**	**18**	*e*P	Pn	03 38 27.0	+4.6
NLC	**Nalytchevo**	**5.17**	**21**	*e*S	Sn	03 39 26.3	+5.2
KRX	**Arik**	**5.20**	**16**	*e*P	Pn	03 38 26.6	+3.8
GNL	**Ganaly**	**5.42**	**10**	*e*P	Pn	03 38 30.1	+4.3
MKZ	**Mys Kozlova**	**7.05**	**27**	*e*P	Pn	03 38 51.9	+3.8
KZV	**Kizimen**	**7.18**	**19**	*e*P	Pn	03 38 56.4	+6.4

*TUL **10** 03:40:18.7±1.1, 36°.59N±0°.02×98°.30W±0°.02, h5km±6km, ML2.7, mb_Lg2.4/29(NEIC), Error ellipse: s-maj=3.3km s-min=1.6km az=130.0*

NEIC 10 03:40:19.0±1.3, 36°.58N±0°.03×98°.30W±0°.03, h14km±5km, Error ellipse: s-maj=5.0km s-min=1.1km az=137.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.23**	**17**		Pg	03 40 23.6	-0.5
OK032				Sg	Sg	03 40 27.2	-0.3
CROK	**Carrier**	**0.26**	**106**		Pg	03 40 24.3	-0.3
CROK				Sg	Sg	03 40 28.2	-0.2
KAN14	**Manchester OK**	**0.46**	**35**	Pg	Pg	03 40 27.9	-0.3
KAN14				Sg	Sg	03 40 34.4	-0.1
U32A	**Winter Ranch,**	**0.60**	**251**		Pg	03 40 30.3	-0.4
U32A				Sg	Sg	03 40 38.9	+0.1
KAN05	**Bluff City Nor**	**0.63**	**33**	Pg	Pg	03 40 30.6	-0.7
KAN05				Sg	Sg	03 40 39.5	-0.2
KAN17	**Caldwell West**	**0.63**	**42**		Pg	03 40 30.9	-0.5
KAN17				Sg	Sg	03 40 39.5	-0.2
KAN13	**South Haven SW**	**0.79**	**56**		Pg	03 40 33.7	-0.6
BLOK	**Blackwell**	**0.89**	**78**		Pg	03 40 35.5	-0.7
OK029	**Liberty Lake**	**1.04**	**139**		Pb	03 40 38.0	-0.7
OK025	**Westminster Rd**	**1.26**	**142**		Pn	03 40 42.1	-0.1
OK031	**S. Brethren Rd**	**1.33**	**117**		Pb	03 40 43.5	-0.2
QUOK	**Quay**	**1.35**	**107**		Pb	03 40 43.8	-0.2
OKCFA	**Oklahoma City**	**1.35**	**149**		Pn	03 40 43.4	0.0
OKCSW	**OKLAHOMA CITY**	**1.36**	**149**		Pn	03 40 43.7	+0.1
T35A	**Sooner Cattle**	**1.47**	**76**		Pb	03 40 45.8	-0.4
FNO	**Franklin**	**1.51**	**151**		Pb	03 40 46.2	-0.6
R32A	**Long Quarter,**	**1.87**	**350**		Pn	03 40 51.1	+0.5
WMOK	**Wichita Mounta**	**1.88**	**192**		Pn	03 40 51.6	+0.9
X34A	**Smith Ranch, M**	**2.01**	**169**		Pn	03 40 53.4	+0.9
CBKS	**Cedar Bluff**	**2.51**	**333**	IAmb_Lg		03 41 38.6	
	comp=Z,13nm,0.7s						
X37A	**Clayton**	**3.10**	**129**	Pn	Pn	03 41 08.2	+0.7
X37A				IAmb_Lg		03 42 01.8	
	comp=Z,9.0nm,0.7s						
U38A	**Gravette**	**3.15**	**91**	Pn	Pn	03 41 09.1	+0.8
AMTX	**Amarillo**	**3.23**	**239**	Pn	Pn	03 41 09.8	+0.4
AMTX				IAmb_Lg		03 42 08.0	
	comp=Z,11nm,1.0s						
HHAR	**Hobbs**	**3.53**	**94**	Pn	Pn	03 41 14.9	+1.5
W39A	**Magazine**	**3.92**	**109**	IAmb_Lg		03 42 30.8	
	comp=Z,10nm,0.7s						
S39A	**Bolivar**	**4.13**	**73**	Pn	Pn	03 41 22.4	+0.8
MIAR	**Mount Ida**	**4.35**	**116**	Pn	Pn	03 41 25.7	+1.0
MIAR				IAmb_Lg		03 42 48.2	
	comp=Z,7.9nm,1.0s						
U40A	**Yellville**	**4.39**	**91**	IAmb_Lg		03 42 47.5	
	comp=Z,7.7nm,0.8s						
MSTX	**Muleshoe**	**4.49**	**236**	Pn	Pn	03 41 26.8	+0.1
P38A	**Dawn**	**4.83**	**50**	IAmb_Lg		03 43 03.7	
	comp=Z,7.5nm,0.7s						
MGMO	**Mountain Grove**	**4.87**	**81**	IAmb_Lg		03 42 53.2	
	comp=Z,9.6nm,0.8s						
T25A	**Trinidad**	**4.93**	**278**	IAmb_Lg		03 42 55.4	
	comp=Z,7.9nm,0.8s						
FCAR	**Ozark Folk Cen**	**5.04**	**96**	IAmb_Lg		03 42 55.7	
	comp=Z,6.6nm,0.8s						
WHAR	**Wooly Hollow**	**5.04**	**103**	IAmb_Lg		03 43 07.1	
	comp=Z,8.3nm,0.7s						
OGNE	**Ogallala**	**5.25**	**327**	IAmb_Lg		03 43 07.8	
	comp=Z,6.6nm,0.8s						
CCM	**Cathedral Cave**	**5.81**	**73**	IAmb_Lg		03 43 35.9	
	comp=Z,7.8nm,0.7s						
PBMO	**Poplar Bluff**	**6.33**	**86**	IAmb_Lg		03 43 45.9	
	comp=Z,8.5nm,0.8s						
S44A	**Carbondale**	**7.31**	**79**	IAmb_Lg		03 44 11.6	
	comp=Z,6.0nm,0.7s						

MEX 10 03:48:26.0±0.5, 14°.25N×92°.87W, h12km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.48**	**347**	*e*P	Pn	03 48 40.6	-12
PCIG				*e*S	Sn	03 49 01.0	-11

*TAP **10** 03:51:53.7, 24°.84N×122°.64E, h5km±1km, ML2.7, D*
*JMA **10** 03:51:54.8±0.1, 24°.85N×122°.63E, h12km±2km, M2.0*

ISC 10 03:51:53.3±1.7, 24°.86N±0°.06×122°.68E±0°.03, h4km±13km, n24, σ0°.41/41, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.48**	**149**	P	**Pb**	**03 52 04.3**	**0.0**
JYNG				S	**Sb**	**03 52 11.1**	**-0.5**
YOJ	**Yonaguni jima**	**0.50**	**143**	P	**Pb**	**03 52 04.9**	**+0.2**
YOJ				*e*S	**Sb**	**03 52 11.8**	**-0.6**
YOJ	**Yonaguni jima**	**0.50**	**143**	P	**Pb**	**03 52 04.9**	**+0.2**
	baz=138						
YOJ				S	**Sb**	**03 52 12.1**	**-0.3**
	baz=138						
TWB1	**Santiao Chiao**	**0.64**	**283**	*i* P	**Pb**	**03 52 06.8**	**-0.3**
	baz=286						
TWB1				*i* S	**Sb**	**03 52 16.3**	**-0.2**
	baz=286						
NTC	**Toucheng**	**0.77**	**270**	*e*P	**Pb**	**03 52 09.3**	**+0.1**
	baz=271						
NTC				S	**Sb**	**03 52 20.0**	**-0.2**
	baz=271						
TIPB	**Shuangxi**	**0.78**	**278**	P	**Pb**	**03 52 09.0**	**-0.5**
	baz=280						
TWC	**Suao**	**0.80**	**252**	P	**Pg**	**03 52 08.9**	**+0.3**
	baz=252						
TWC				*i* S	**Sb**	**03 52 20.6**	**-0.2**
	baz=252						
NWF	**Wu-fen Shan**	**0.84**	**285**	P	**Pb**	**03 52 11.1**	**+0.6**
	baz=286						
NDS	**Dongshan**	**0.90**	**256**	P	**Pg**	**03 52 10.8**	**+0.1**
	baz=256						
EWUT	**Wuta**	**0.92**	**243**	*e*P	**Pb**	**03 52 11.3**	**-0.5**
	baz=243						
EWUT				*e*S	**Sb**	**03 52 24.8**	**+0.5**
	baz=243						
TWE	**Neicheng**	**0.93**	**262**	P	**Pg**	**03 52 11.4**	**+0.3**
	baz=262						
ENA	**Nanau**	**0.96**	**243**	P	**Pb**	**03 52 12.2**	**-0.2**
	baz=243						
ENA				*e*S	**Sb**	**03 52 25.0**	**-0.5**
	baz=243						
NDT	**Datong Townshi**	**1.09**	**257**	P	**Pg**	**03 52 14.0**	**-0.2**
	baz=257						
IRIF	**Iriomote-Funau**	**1.09**	**118**	P	**Pn**	**03 52 15.9**	**+0.5**
IRIF				*e*S	**Sn**	**03 52 30.9**	**-0.1**
YHNB	**Yeheng**	**1.20**	**261**	P	**Pb**	**03 52 16.6**	**-0.1**
	baz=261						
YHNB				S	**Sn**	**03 52 33.5**	**-0.2**
	baz=261						
NACB	**Ninganchiao**	**1.20**	**235**	P	**Pb**	**03 52 16.6**	**0.0**
	baz=235						
NACB				*e*S	**Sn**	**03 52 35.2**	**+1.4**
	baz=235						
NSK	**Sanguang**	**1.21**	**262**	P	**Pg**	**03 52 16.6**	**0.0**
	baz=262						
NSK				S	**Sb**	**03 52 33.1**	**+0.1**
	baz=262						
TWD	**Chiawan**	**1.26**	**232**	P	**Pn**	**03 52 17.6**	**-0.1**
	baz=231						
TWD				S	**Sb**	**03 52 34.4**	**+0.2**
	baz=231						
NNS	**Nan Shan**	**1.26**	**251**	P	**Pn**	**03 52 17.7**	**-0.1**
	baz=250						
NNS				S	**Sn**	**03 52 35.0**	**-0.3**
	baz=250						
ETLH	**Xiulin Townshi**	**1.27**	**239**	P	**Pg**	**03 52 17.2**	**-0.4**
	baz=239						
ETLH				S	**Sn**	**03 52 36.1**	**+0.6**
	baz=239						
JKRS	**Kuro-shima**	**1.36**	**117**	P	**Pb**	**03 52 19.5**	**+0.1**
JKRS				*e*S	**Sn**	**03 52 37.5**	**-0.2**
JIJ	**Ishigaki jima**	**1.42**	**110**	S	**Sn**	**03 52 38.9**	**-0.3**
FUSS	**Fushou**	**1.44**	**245**	*e*P	**Pb**	**03 52 21.3**	**+0.4**
	baz=245						
FUSS				S	**Sb**	**03 52 39.7**	**-0.1**
	baz=245						
WHF	**Hehuan Shan**	**1.47**	**241**	P	**Pn**	**03 52 20.6**	**-0.4**
	baz=241						

MEX 10 04:15:41.2±0.7, 17°.53N×94°.86W, h130km±4km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.44**	**183**	*i* P	Pn	04 15 58.4	-1.6
CMIG				*i* S	Sn	04 16 12.0	-2.3
TGIG		**1.82**	**114**	*i* P	Pn	04 16 12.0	-1.2
TGIG				*i* S	Sn	04 16 35.2	-2.3
VHO	**Vista Hermosa**	**1.84**	**256**	*e*P	Pn	04 16 11.9	-1.6
VHO				*i* S	Sn	04 16 36.9	-1.4
TOIG	**Toxpalan**	**2.17**	**285**	*e*P	Pn	04 16 16.3	-1.1
TOIG				*i* S	Sn	04 16 43.3	-1.9
PCIG		**2.41**	**139**	*i* P	Pn	04 16 18.9	-1.3
PCIG				*i* S	Sn	04 16 47.5	-2.7
TPIG	**Tehuac#an**	**2.54**	**291**	*e*P	Pn	04 16 21.8	-0.2
TPIG				*i* S	Sn	04 16 52.2	-1.3
PEIG	**Puerto Escondi**	**2.67**	**235**	*i* P	Pn	04 16 18.8	-4.8
PEIG				*i* S	Sn	04 16 51.7	-4.5
HLIG	**Huajuapan de L**	**2.82**	**276**	*e*P	Pn	04 16 24.2	-1.5
HLIG				*i* S	Sn	04 16 56.4	-3.6

*AEIC **10** 04:22:07.7±2.6, 61°.932N±0°.009×140°.59W±0°.06, h14km±6km, Error ellipse: s-maj=4.4km s-min=0.6km az=75.0*
*ANF **10** 04:22:08.2±0.1, 61°.93N×140°.66W, h5km±1km, ML3.1/23, Error ellipse: s-maj=1.2km s-min=0.7km az=39.0*
*NEIC **10** 04:22:08.9±1.9, 61°.97N±0°.02×140°.65W±0°.04, h1km±5km, Error ellipse: s-maj=3.0km s-min=2.2km az=63.0*
*PGC **10** 04:22:10.5±0.0, 61°.96N×140°.84W, h1km, ML2.8/3, 222km Wnw of Haines Jct., Yt Southern Yukon Territory, Canada*

ISC 10 04:22:07.8±1.1, 61°.97N±0°.02×140°.60W±0°.02, h2km±10km, n119, σ1°.13/160, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK3	**Moose Creek**	**0.20**	**160**	P	**Pg**	**04 22 12.4**	**+0.7**
	baz=339						
YUK3				S	**Sg**	**04 22 15.0**	**+0.5**
	baz=339						
BVCY	**Beaver Creek**	**0.46**	**345**	S	**Sg**	**04 22 24.6**	**+1.9**
	baz=165						
M27K	**Edge Creek, AK**	**0.71**	**304**		**Pg**	**04 22 22.5**	**+1.0**
M27K					**Sb**	**04 22 32.9**	**-0.5**
M27K	**Edge Creek, AK**	**0.71**	**304**	IAML		04 22 38.9	
	comp=E,543nm,0.5s						
M27K	**Edge Creek, AK**	**0.71**	**304**	P	**Pg**	**04 22 22.2**	**+0.7**
	baz=125,SNR=83						
M27K				S	**Sb**	**04 22 32.2**	**-1.2**
	baz=125						
BARN	**Barnard Glacie**	**1.04**	**210**		**Pg**	**04 22 27.5**	**-0.2**
BARN					**Sg**	**04 22 41.2**	**0.0**
BARN	**Barnard Glacie**	**1.04**	**210**	IAML		04 22 44.8	
	comp=N,267nm,0.5s						
CTGM	**Chitina Glacie**	**1.07**	**199**	P	**Pg**	**04 22 28.1**	**-0.1**
CTGM				S	**Sg**	**04 22 42.8**	**+0.9**
CTGM	**Chitina Glacie**	**1.07**	**199**		**Pg**	**04 22 28.1**	**-0.1**
CTGM					**Sg**	**04 22 42.8**	**+0.9**
CTG	**Chitna Glacier**	**1.07**	**200**	P	**Pg**	**04 22 28.0**	**-0.2**
	baz=20,SNR=12						
CTG				Sb	**Sg**	**04 22 42.9**	**+0.9**
	baz=20						
YUK4	**Talbot Arm**	**1.12**	**123**	P	**Pb**	**04 22 29.8**	**-0.2**
	baz=298						
YUK4				S	**Sg**	**04 22 45.1**	**+1.2**
	baz=298						
LOGN	**Logan Glacier**	**1.16**	**190**	P	**Pb**	**04 22 29.9**	**-0.8**
LOGN				S	**Sg**	**04 22 46.4**	**+1.3**
LOGN	**Logan Glacier**	**1.16**	**190**		**Pb**	**04 22 29.9**	**-0.8**
LOGN					**Sg**	**04 22 46.4**	**+1.3**
PTPK	**Patty Peak**	**1.19**	**229**	P	**Pb**	**04 22 30.3**	**-0.8**
PTPK				S	**Sg**	**04 22 46.2**	**+0.4**
PTPK	**Patty Peak**	**1.19**	**229**		**Pb**	**04 22 30.3**	**-0.8**
PTPK					**Sg**	**04 22 46.2**	**+0.4**
M26K	**Nabesna, AK**	**1.20**	**292**		**Pb**	**04 22 30.6**	**-0.7**
M26K	**Nabesna, AK**	**1.20**	**292**	IAML		04 22 51.9	
	comp=E,340nm,0.4s						
M26K	**Nabesna, AK**	**1.20**	**292**	P	**Pb**	**04 22 30.6**	**-0.7**
	baz=112,SNR=63						
M26K				S	**Sn**	**04 22 47.5**	**-1.1**
	baz=112						
BC03		**1.23**	**334**		**Pn**	**04 22 31.7**	**-0.3**
BCAR	**Beaver Creek A**	**1.23**	**334**	Pn	**Pn**	**04 22 31.4**	**-0.7**
L27K	**Beaver Creek,**	**1.24**	**333**		**Pn**	**04 22 31.8**	**-0.3**
L27K	**Beaver Creek,**	**1.24**	**333**	IAML		04 22 50.8	
	comp=N,327nm,0.5s						
L27K				IAML		04 22 51.6	
	comp=E,304nm,0.4s						
L27K	**Beaver Creek,**	**1.24**	**333**	P	**Pn**	**04 22 31.8**	**-0.3**
	baz=153,SNR=69						
L27K				S	**Sn**	**04 22 49.3**	**-0.1**
	baz=153						
BALM	**Baldy**	**1.25**	**223**	P	**Pn**	**04 22 31.4**	**-1.1**
BALM				S	**Sg**	**04 22 48.9**	**+0.9**
BALM	**Baldy**	**1.25**	**223**		**Pn**	**04 22 31.4**	**-1.1**
BALM					**Sg**	**04 22 48.9**	**+0.9**
MCARA	**McCarthy VSAT**	**1.29**	**244**		**Pn**	**04 22 32.4**	**-0.5**
MCARA					**Sg**	**04 22 49.8**	**+0.5**
MCARA	**McCarthy VSAT**	**1.29**	**244**	P	**Pn**	**04 22 31.9**	**-1.0**
	baz=64,SNR=42						
MCARA				Sb	**Sn**	**04 22 49.9**	**-0.8**
	baz=64						
KIAG	**Kiagna River**	**1.34**	**220**	P	**Pn**	**04 22 32.9**	**-0.8**
KIAG				S	**Sg**	**04 22 51.9**	**+0.9**
KIAG	**Kiagna River**	**1.34**	**220**		**Pn**	**04 22 32.9**	**-0.8**
KIAG					**Sg**	**04 22 51.9**	**+0.9**
GRNC	**Granite Creek**	**1.36**	**205**	P	**Pn**	**04 22 33.4**	**-0.6**
GRNC				S	**Sb**	**04 22 52.0**	**0.0**
GRNC	**Granite Creek**	**1.36**	**205**		**Pn**	**04 22 33.4**	**-0.6**
GRNC					**Sb**	**04 22 52.0**	**0.0**
GRNC	**Granite Creek**	**1.36**	**205**	IAML		04 22 54.4	
	comp=E,161nm,0.7s						
GRNC				IAML		04 22 57.3	
	comp=N,179nm,0.7s						
YUK6	**Outpost Mounta**	**1.49**	**133**	Pn	**Pn**	**04 22 35.2**	**-0.5**
YUK6				Sn	**Sb**	**04 22 56.6**	**+0.9**
YUK6	**Outpost Mounta**	**1.49**	**133**	Pn	**Pn**	**04 22 35.2**	**-0.5**
YUK6				Sn	**Sb**	**04 22 56.6**	**+0.9**
YUK6	**Outpost Mounta**	**1.49**	**133**	P	**Pn**	**04 22 35.2**	**-0.5**
	baz=314						
YUK6				S	**Sn**	**04 22 56.1**	**+0.3**
	baz=314						
VRDI	**Verde Repeater**	**1.55**	**243**		**Pb**	**04 22 37.1**	**-0.2**
TABL	**Table Mountain**	**1.56**	**190**	Pn	**Pb**	**04 22 37.9**	**+0.5**
TABL				IAML		04 23 02.7	
	comp=N,149nm,0.8s						
TABL				IAML		04 23 04.6	
	comp=E,130nm,0.9s						
ISLE	**Juniper Island**	**1.61**	**212**	Pn	**Pb**	**04 22 38.4**	**+0.2**
ISLE					**Sb**	**04 22 59.0**	**0.0**
ISLE				IAML		04 23 03.5	
	comp=N,150nm,0.6s						
ISLE				IAML		04 23 06.2	
	comp=E,154nm,0.6s						
GLB	**Gilahina Butte**	**1.62**	**252**		**Pn**	**04 22 37.8**	**+0.4**
GLB					**Sb**	**04 22 59.2**	**+0.1**
GLB	**Gilahina Butte**	**1.62**	**252**	IAML		04 23 00.5	
	comp=N,179nm,0.4s						
TGL	**Tana Glacier**	**1.62**	**222**		**Pb**	**04 22 38.6**	**+0.1**
TGL				IAML		04 23 03.7	
	comp=E,124nm,0.6s						
TGL				IAML		04 23 05.1	
	comp=N,134nm,0.5s						
BAGL	**Bagley Icefiel**	**1.65**	**207**		**Pb**	**04 22 38.5**	**-0.3**
L26K	**Log Cabin Wild**	**1.66**	**311**		**Pb**	**04 22 38.8**	**-0.3**
L26K					**Sg**	**04 23 01.7**	**+0.7**
L26K	**Log Cabin Wild**	**1.66**	**311**	P	**Pn**	**04 22 37.9**	**0.0**
	baz=129,SNR=60						
L26K				Sb	**Sg**	**04 23 01.8**	**+0.9**
	baz=129						
YAH	**Yahtse**	**1.70**	**199**		**Pn**	**04 22 38.7**	**0.0**
YAH	**Yahtse**	**1.70**	**199**	IAML		04 23 07.2	
	comp=E,203nm,0.6s						
YAH				IAML		04 23 09.4	
	comp=N,176nm,0.7s						
CRQE	**Cirque**	**1.71**	**226**	Pb	**Pn**	**04 22 39.3**	**+0.6**
	baz=44						
CRQE				Sg	**Sg**	**04 23 02.7**	**0.0**
	baz=44						
RKAV	**Rock Avalanche**	**1.71**	**192**	Pn	**Pb**	**04 22 40.6**	**+0.6**
RKAV				Sn	**Sb**	**04 23 02.9**	**+0.9**
RKAV	**Rock Avalanche**	**1.71**	**192**	Pn	**Pb**	**04 22 40.6**	**+0.6**
RKAV				Sn	**Sb**	**04 23 02.9**	**+0.9**
CRQM	**Cirque**	**1.72**	**226**		**Pn**	**04 22 39.6**	**+0.7**
CRQM				IAML		04 23 06.6	
	comp=E,160nm,0.6s						
CRQM				IAML		04 23 07.0	
	comp=N,197nm,0.5s						
MENT	**Mentasta**	**1.75**	**305**		**Pb**	**04 22 40.3**	**-0.3**
MENT	**Mentasta**	**1.75**	**305**	IAML		04 23 09.8	
	comp=N,184nm,0.3s						
MENT				IAML		04 23 10.3	
	comp=E,218nm,0.3s						
WAX	**Waxell Ridge**	**1.87**	**217**		**Pb**	**04 22 42.2**	**-0.5**
WAX	**Waxell Ridge**	**1.87**	**217**	IAML		04 23 12.4	
	comp=E,171nm,0.4s						
HYT	**Haines Junctio**	**1.88**	**126**	P	**Pn**	**04 22 41.1**	**0.0**
	baz=308						
HYT				S	**Sb**	**04 23 06.6**	**-0.2**
	baz=308						
PCA	**Pinnacle**	**1.89**	**175**	Pn	**Pb**	**04 22 43.5**	**+0.5**
PCA				Sn	**Sg**	**04 23 08.9**	**+0.7**
PCA	**Pinnacle**	**1.89**	**175**	Pn	**Pb**	**04 22 43.5**	**+0.5**
PCA				Sn	**Sg**	**04 23 08.9**	**+0.7**
PINM	**Pinnacle**	**1.89**	**175**	Pg	**Pb**	**04 22 43.7**	**+0.7**
	baz=355						
PINM				Sg	**Sg**	**04 23 09.3**	**+0.9**
	baz=355						
N25K	**Chitina, Valde**	**1.93**	**261**		**Pb**	**04 22 43.3**	**-0.5**
N25K					**Sb**	**04 23 08.4**	**+0.1**
N25K	**Chitina, Valde**	**1.93**	**261**	Pb	**Pb**	**04 22 43.3**	**-0.5**
	baz=78						
N25K				Sb	**Sb**	**04 23 08.8**	**+0.5**
	baz=78						
KHIT	**Khitrov Hills**	**2.00**	**221**		**Pb**	**04 22 45.6**	**+0.8**
KULT	**Kultieth River**	**2.01**	**212**		**Pb**	**04 22 46.2**	**+1.2**
SNH	**Sunshine Point**	**2.10**	**212**		**Pb**	**04 22 47.5**	**+1.0**
BMRM	**Bremner River**	**2.17**	**244**		**Pb**	**04 22 47.2**	**-0.5**
BMRM					**Sb**	**04 23 15.2**	**+0.3**
BMRM	**Bremner River**	**2.17**	**244**	IAML		04 23 19.9	
	comp=N,80nm,0.5s						
BMRM				IAML		04 23 20.1	
	comp=E,74nm,0.6s						
BMRM	**Bremner River**	**2.17**	**244**	Pb	**Pb**	**04 22 47.2**	**-0.5**
	baz=62,SNR=7.0						
BMRM				Sb	**Sb**	**04 23 15.3**	**+0.3**
	baz=62						
K27K	**Chicken**	**2.18**	**343**		**Pn**	**04 22 45.8**	**+0.8**
K27K	**Chicken**	**2.18**	**343**	IAML		04 23 27.5	
	comp=E,77nm,0.8s						
K27K	**Chicken**	**2.18**	**343**	P	**Pn**	**04 22 45.4**	**+0.4**
	baz=162						
K27K				Sb	**Sg**	**04 23 17.3**	**-0.3**
	baz=162						
DAWY	**Dawson**	**2.18**	**14**	Pn	**Pn**	**04 22 45.6**	**+0.5**
DAWY				Sn	**Sb**	**04 23 16.3**	**+1.0**
DAWY	**Dawson**	**2.18**	**14**	Pn	**Pn**	**04 22 45.6**	**+0.5**
DAWY				Sn	**Sb**	**04 23 16.3**	**+1.0**
DAWY	**Dawson**	**2.18**	**14**	IAML		04 23 17.3	
	comp=N,100nm,0.7s						
DAWY				IAML		04 23 18.1	
	comp=E,84nm,0.4s	

baz=150
WHY Whitehorse 3.06 113 Pn **Pn** 04 22 58.3 +1.1
WHY Sn **Sn** 04 23 33.6 -0.8
WHY Sg **Sb** 04 23 43.6 +3.0
WHY Whitehorse 3.06 113 Pn **Pn** 04 22 58.3 +1.1
WHY Sn **Sn** 04 23 33.6 -0.8
WHY Sg **Sb** 04 23 43.6 +3.0
WHY Whitehorse 3.06 113 P **Pn** 04 22 58.1 +0.9
baz=297
WHY Sb **Sb** 04 23 43.4 +2.7
baz=297
FID Port Fidalgo 3.08 249 **Pb** 04 23 00.7 -2.6
FID Port Fidalgo 3.08 249 IAML 04 24 04.6
comp=E,40nm,1.9s
FID IAML 04 24 10.7
comp=N,34nm,2.0s
DHY Denali Highway 3.33 292 **Pb** 04 23 04.2 -3.4
DHY IAML 04 24 07.5
comp=E,46nm,1.3s
HDA Harding Lake 3.78 313 **Pn** 04 23 07.2 +0.3
HDA IAML 04 24 14.2
comp=E,25nm,0.9s
HDA IAML 04 24 23.7
comp=N,23nm,0.6s
HDA Harding Lake 3.78 313 P **Pn** 04 23 06.9 -0.1
baz=128,SNR=22
PS08 TAPS Pump Stn8 3.82 315 **Pn** 04 23 07.9 +0.4
IL31 3.99 318 **Pn** 04 23 10.2 +0.3
PRP Porcupine Dome 4.18 331 **Pn** 04 23 13.7 +1.1
PRP Porcupine Dome 4.18 331 P **Pn** 04 23 13.4 +0.8
baz=146
MCK McKinley 4.21 299 Pn **Pn** 04 23 14.7 +1.8
MCK IAML 04 24 27.1
comp=E,16nm,2.8s
MCK IAML 04 24 49.1
comp=N,16nm,3.3s
CCB Clear Creek Bu 4.22 313 **Pn** 04 23 12.8 -0.1
WRH Wood River Hil 4.22 310 Pn **Pn** 04 23 14.1 +1.1
WRH IAML 04 24 26.2
comp=E,15nm,1.2s
POKR Poker Plat Res 4.39 319 P **Pn** 04 23 15.8 +0.3
baz=133
MDM Murphy Dome 4.55 315 **Pn** 04 23 17.5 -0.1
MDM Murphy Dome 4.55 315 IAML 04 24 03.2
comp=N,10nm,4.2s
MDM IAML 04 24 35.4
comp=E,10nm,0.6s
EPYK Eagle Plains 4.74 19 **Pn** 04 23 22.8 +2.6
FYU Fort Yukon 5.04 338 Pn **Pn** 04 23 26.0 +1.8
H24K Noodor Dome 5.04 324 **Pn** 04 23 25.6 +1.3
H24K IAML 04 24 57.7
comp=E,13nm,1.1s
I23K Minto, Yukon-K 5.05 313 **Pn** 04 23 25.9 +1.5
BMAR Burnt Mountain 5.74 344 Pn **Pn** 04 23 35.5 +1.6
DLBC Dease Lake 6.35 119 Pg **Pg** 04 24 06.3 -3.0
DLBC Sg **Sg** 04 25 27.8 -3.7
DLBC Dease Lake 6.35 119 Pg **Pg** 04 24 06.3 -3.0
DLBC Sg **Sg** 04 25 27.8 -3.7
COLD Coldfoot 6.70 326 Pn **Pn** 04 23 48.9 +1.9
COLD Coldfoot 6.70 326 Pn **Pn** 04 23 48.9 +1.9

*IDC **10** 04:23:47.8±1.7,2.°60S×139.°44E,h0km,mb3.7/3,*
mb1 4.2/4,mb1mx3.8/28,mbtmp4.0/4,ML4.4/1,MS3.8/3,
Ms1 3.8/3,ms1mx3.0/37, Error ellipse: s-maj=36.3km
s-min=14.0km az=159.0
*DJA **10** 04:23:53.9±0.6,3.°S±7.°×14.°0E±.°,h38km±8km,M4.3/6,*
mb4.2/6,MLv4.3/3
ISC 10 04:23:54.4±1.0,2.°7S±0.°1×139.°74E±0.°07, h35km,n11,
σ3.°96/13,MS3.7/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.45**	**71**	P	**Pn**	**04 24 05.6**	**+1.3**
GENI				S	**Sn**	**04 24 16.3**	**+5.1**
JAY	**Jayapura**	**0.99**	**77**	Pg	**Pn**	**04 24 12.3**	**+0.5**
	45nm,0.3s,baz=238,slow=11,SNR=130						
JAY				Lg	Lg	04 24 26.9	
	291nm,0.3s,baz=75,slow=18,SNR=24						
JAY	**Jayapura**	**0.99**	**77**	P	**Pn**	**04 24 12.2**	**+0.5**
JAY				S	**Sn**	**04 24 27.1**	**+2.6**
WAMI	**Wamena**	**1.53**	**222**	P	**Pn**	**04 24 23.1**	**+3.8**
WAMI				S	**Sn**	**04 24 45.2**	**+7.2**
FAKI	**Fak Fak**	**7.49**	**268**	P	**Pn**	**04 25 40.3**	**-0.9**
	0.2nm39nm,1.4s						
WRA	**Warramunga Arr**	**17.89**	**197**	P	**Pn**	**04 27 58.2**	**-2.5**
	1.4nm,0.3s,baz=5.9,slow=12,SNR=46						
WRA				S	**Sn**	**04 31 13.4**	**-5.8**
	0.2nm,0.3s,baz=10.0,slow=22,SNR=3.7						
FITZ	**Fitzroy Crossi**	**20.59**	**221**	P	**P**	**04 28 27.2**	**-3.4**
	1.2nm,0.4s,baz=25,slow=8.2,SNR=12						
FITZ				LR	LR	04 37 09.5	
	comp=Z,191nm,18.9s,baz=48,slow=39						
ASAR	**Alice Springs**	**21.55**	**195**	P	**P**	**04 28 39.5**	**-1.5**
	1.9nm,0.5s,baz=22,slow=11,SNR=24						
STKA	**Stephens Creek**	**29.03**	**177**	LR	LR	04 42 50.2	
	comp=Z,185nm,18.1s,baz=12,slow=39						
VNDA	**Vanda**	**75.66**	**175**	LR	LR	05 07 47.3	
	comp=Z,56nm,18.7s,baz=358,slow=35						
ILAR	**Eielson Array**	**85.44**	**24**	P	**P**	**04 36 28.9**	**+0.7**
	0.7nm,0.9s,baz=262,slow=5.4,SNR=3.6						

MEX 10 04:31:55.0±0.9,14.°77N×92.°26W,h107km±7km, MD3.7,
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.14**	**359**	*eP*	Pn	04 32 08.5	-1.5
THIG				*i* S	Sn	04 32 19.3	-1.8
PCIG		**1.31**	**315**	*i* P	Pn	04 32 18.6	-0.9
PCIG				*eS*	Sn	04 32 36.1	-1.8

KRSC 10 04:58:33.1±1.8,53.°33N×163.°35E,h48km±32km, ML3.7,
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**1.56**	**323**	*eP*	Pn	04 59 00.2	+1.9
MKZ				*eS*	Sn	04 59 19.0	+1.7
SPN	**Mys Shipunski**	**2.01**	**265**	*eP*	Pn	04 59 07.5	+2.9
SPN				*eS*	Sn	04 59 30.8	+2.3
NLC	**Nalytchevo**	**2.41**	**268**	*eP*	Pn	04 59 13.0	+3.0
NLC				*eS*	Sn	04 59 40.9	+2.6
KII	**Karymskiy**	**2.42**	**289**	*eP*	Pn	04 59 14.0	+3.7
KZV	**Kizimen**	**2.53**	**316**	*eP*	Pn	04 59 14.2	+2.4
KZV				*eS*	Sn	04 59 44.1	+2.6
SDLR	**Sedlovina**	**2.68**	**271**	*eP*	Pn	04 59 17.4	+3.6
SDLR				*eS*	Sn	04 59 48.2	+3.1
TUMR	**Tumrok**	**2.71**	**317**	*eP*	Pn	04 59 17.7	+3.4
TUMR				*eS*	Sn	04 59 49.2	+3.4
UGLR	**Uglovaya**	**2.72**	**269**	*eP*	Pn	04 59 18.2	+3.8
UGLR				*eS*	Sn	04 59 49.6	+3.5
SMAR	**Somma**	**2.73**	**270**	*eP*	Pn	04 59 18.1	+3.5
SMAR				*eS*	Sn	04 59 49.6	+3.1
KRER	**Koryakskii**	**2.76**	**271**	*eP*	Pn	04 59 18.9	+3.9
KRER				*eS*	Sn	04 59 50.7	+3.5
AVH	**Avacha**	**2.77**	**270**	*eP*	Pn	04 59 18.7	+3.7
AVH				*eS*	Sn	04 59 50.9	+3.7
DALK	**Dalny**	**2.78**	**266**	*eP*	Pn	04 59 19.0	+3.9
DALK				*eS*	Sn	04 59 50.9	+3.5
KRX	**Arik**	**2.82**	**272**	*eP*	Pn	04 59 19.4	+3.7
KRX				*eS*	Sn	04 59 51.2	+2.7
KOK	**Koryaka**	**2.83**	**271**	*eP*	Pn	04 59 19.6	+3.8
KOK				*eS*	Sn	04 59 52.1	+3.4
PET	**Petropavlovsk**	**2.84**	**266**	*eP*	Pn	04 59 19.9	+4.0
PET				S	Sn	04 59 53.0	+4.1
KBTR	**Krutoberegovo**	**2.90**	**354**	*eP*	Pn	04 59 17.7	+1.0
KMNR	**Kamenistaya**	**3.03**	**325**	*eS*	Sn	04 59 58.8	+5.1
BZGR	**Bezymyannyi-Gr**	**3.04**	**331**	*eS*	Sn	04 59 59.2	+5.4
RUS	**Russkaya**	**3.06**	**255**	*eP*	Pn	04 59 21.9	+2.9
RUS				*eS*	Sn	04 59 57.0	+2.7
BZMR	**Bezymyannaya**	**3.09**	**329**	S	Sn	04 59 59.5	+4.2
BZWR	**Bezymyannyi-We**	**3.12**	**329**	S	Sn	05 00 01.3	+5.4
KIRR	**Kirishev**	**3.16**	**328**	*eS*	Sn	05 00 01.2	+4.4
KRMR	**Karymshinskiy**	**3.19**	**263**	*eP*	Pn	04 59 23.7	+3.0
KRMR				*eS*	Sn	04 59 59.6	+2.2
KPT	**Kopyto**	**3.21**	**327**	S	Sn	05 00 02.8	+4.8
MTVR	**Mutnovka**	**3.24**	**257**	*eP*	Pn	04 59 25.0	+3.4
MTVR				*eS*	Sn	05 00 01.8	+2.9
GNL	**Ganaly**	**3.25**	**279**	*eP*	Pn	04 59 25.8	+4.2
GNL				*eS*	Sn	05 00 04.6	+5.5
GRL	**Gorelyy**	**3.29**	**258**	*eP*	Pn	04 59 26.2	+4.1
GRL				*eS*	Sn	05 00 03.4	+3.4
KLY	**Klyuchi**	**3.37**	**334**	*eS*	Sn	05 00 04.9	+3.0
KOZ	**Kozyrevsk**	**3.40**	**325**	*eP*	Pn	04 59 27.4	+3.8
KOZ				*eS*	Sn	05 00 06.6	+4.0
SMKR	**Semkarok**	**3.43**	**342**	*eP*	Pn	04 59 26.9	+2.8
SMKR				*eS*	Sn	05 00 07.0	+3.4
ASAK	**Asacha**	**3.44**	**256**	*eP*	Pn	04 59 27.9	+3.7
ASAK				*eS*	Sn	05 00 07.6	+3.9
KDTR	**Khodutka, Kamc**	**3.56**	**247**	*eP*	Pn	04 59 28.6	+2.8
KDTR				*eS*	Sn	05 00 07.6	+1.1
SRKR	**Sorokina**	**3.56**	**340**	*eP*	Pn	04 59 29.5	+3.7
SRKR				*eS*	Sn	05 00 11.2	+4.6
ALID	**Alaid**	**5.40**	**246**	*eP*	Pn	04 59 54.8	+3.6

MEX 10 05:14:41.9±2.5,17.°28N×101.°30W,h20km±24km, MD3.9,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.36**	**334**	*eP*	Pb	05 14 48.2	-1.5
ZIIG				*eS*	Sb	05 14 53.4	-1.5
UON	**La Union**	**0.84**	**324**	*i* P	Pb	05 14 56.1	-1.8
UON				*i* S	Sb	05 15 07.6	-1.2
ARIG	**Puente Sto Nin**	**1.34**	**42**	*i* P	Pn	05 15 01.7	-3.9
ARIG				*eS*	Sn	05 15 17.2	-5.6
DAIG	**Los Arroyos**	**1.59**	**99**	*eP*	Pn	05 15 08.0	-1.1
DAIG				*eS*	Sn	05 15 25.3	-3.8
MEIG	**Mezcala**	**1.72**	**68**	*eP*	Pn	05 15 08.4	-2.5
MEIG				*eS*	Sn	05 15 28.2	-4.1
PLIG	**Platanillo**	**2.04**	**57**	*eP*	Pn	05 15 13.2	-1.9
PLIG				*eS*	Sn	05 15 38.7	-1.3
MGIG	**Malinaltepec**	**2.54**	**91**	*eP*	Pb	05 15 25.6	-1.4
MGIG				*eS*	Sb	05 15 56.1	-1.8
TLIG	**Tlapa**	**2.62**	**83**	*eP*	Pb	05 15 27.9	-0.3
TLIG				*eS*	Sn	05 15 56.5	+2.0
HLIG	**Huajuapan de L**	**3.38**	**80**	*eP*	Pn	05 15 33.0	-0.8
HLIG				*eS*	Sn	05 16 07.3	-6.1
TOIG	**Toxpalan**	**4.12**	**78**	*eP*	Pb	05 15 55.4	+1.6
TOIG				*eS*	Sb	05 16 37.4	-5.8

*NEIC **10** 05:31:25.0±1.6, 19.°21N±0.°05×69.°43W±0.°05, h31km±7km,*
mb4.2/67, Error ellipse: s-maj=7.7km s-min=6.9km
az=201.0
*IDC **10** 05:31:25.6±2.5, 19.°15N×69.°28W, h52km±28km, mb3.5/8,*
mb1 3.9/12,mb1mx3.6/37,mbtmp4.0/12, ML3.6/4, MS3.0/6,
Ms1 3.0/6,ms1mx2.8/28, Error ellipse: s-maj=20.4km
s-min=16.3km az=46.0
*OSPL **10** 05:31:26.9±4.0, 19.°12N×69.°47W, h17km±11km, ML3.9,*
Fault plane solution: NP1:ϕs47.50000°, δ50.10000°,
λ-44.40000°.
ISC 10 05:31:24.8±0.7, 19.°16N±0.°04×69.°42W±0.°03, h45km±8km,
n166, σ1.°86/170, mb4.1/30, MS3.0/5, 7C-3D, Dominican
Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMDR	**Samana, DR**	**0.26**	**60**	ASPG		05 31 32.4	
	comp=Z,2μm,0.5s						
SMDR				⇓*i* P	**Pn**	**05 31 32.8**	**-0.3**
SMDR				ATPG		05 31 33.5	
	comp=Z,7μm,0.3s						
SMDR				ASSG		05 31 38.9	
	comp=Z,7μm,0.3s						
SMDR				*eS*	**Sn**	**05 31 39.3**	**+0.4**
SMDR				ATSG		05 31 40.9	
	comp=Z,24μm,0.3s						
SMDR				AMP		05 31 42.3	
	comp=Z,66μm,0.5s						
DR12	**Loma Pena Alta**	**0.37**	**174**		**Pn**	**05 31 33.7**	**-0.6**
SDD	**Santo Domingo**	**0.84**	**214**	Pn	**Pn**	**05 31 40.5**	**+0.3**
SDD					**Sn**	**05 31 52.3**	**+0.8**
BON1	**Bonao**	**0.95**	**257**	ASPG		05 31 41.9	
	comp=Z,6μm,0.3s						
BON1				⇑*i* P	**Pn**	**05 31 42.3**	**+0.6**
BON1				ATPG		05 31 42.8	
	comp=Z,23μm,0.3s						
BON1				ASSG		05 31 53.8	
	comp=Z,78μm,0.3s						
BON1				*eS*	**Sn**	**05 31 54.1**	**+0.1**
BON1				ATSG		05 31 55.9	
	comp=Z,275μm,0.3s						
BON1				IAML		05 31 56.2	
	comp=Z,8μm,0.4s						
LOSC1	**San Cristbal**	**0.99**	**221**	ASPG		05 31 42.6	
	comp=Z,4μm,0.3s						
LOSC1				*i* P	**Pn**	**05 31 43.0**	**+0.7**
LOSC1				ATPG		05 31 43.9	
	comp=Z,17μm,0.3s						
LOSC1				ASSG		05 31 56.0	
	comp=Z,25μm,0.3s						
LOSC1				*eS*	**Sn**	**05 31 56.4**	**+1.2**
LOSC1				ATSG		05 31 57.8	
	comp=Z,88μm,0.3s						
LOSC1				IAML		05 32 05.4	
	comp=Z,3μm,0.5s						
BANI	**BANI**	**1.17**	**229**		**Pn**	**05 31 45.3**	**+0.5**
PCDR	**Punta Cana, DR**	**1.18**	**123**	Pn	**Pn**	**05 31 45.4**	**+0.7**
PCDR	**Punta Cana, DR**	**1.18**	**123**	ASPG		05 31 45.1	
	comp=Z,4μm,0.3s						
PCDR				⇑*i* P	**Pn**	**05 31 45.5**	**+0.8**
PCDR				ATPG		05 31 46.5	
	comp=Z,12μm,0.3s						
PCDR				ASSG		05 32 02.0	
	comp=Z,11μm,0.3s						
PCDR				*eS*	**Sn**	**05 32 02.4**	**+2.8**
PCDR				ATSG		05 32 03.5	
	comp=Z,39μm,0.3s						
PCDR				IAML		05 32 06.2	
	comp=Z,4μm,0.6s						
SC01	**Santiago de lo**	**1.26**	**282**		**Pn**	**05 31 47.7**	**+1.7**
SDDR	**Presa de Saban**	**1.77**	**265**	*eP*	**Pn**	**05 31 55.6**	**+2.6**
SDDR				*eS*	**Sn**	**05 32 18.9**	**+4.5**
SDDR	**Presa de Saban**	**1.77**	**265**		**Pn**	**05 31 55.7**	**+2.7**
SDDR	**Presa de Saban**	**1.77**	**265**	*eP*	**Pn**	**05 31 55.0**	**+1.9**
SDDR	**Presa de Saban**	**1.77**	**265**	⇑*i* P	**Pn**	**05 31 55.6**	**+2.6**
SDDR				IAML		05 32 23.1	
	comp=Z,1μm,0.3s						
LOBA2	**Hotel Casa Bon**	**1.91**	**236**	⇑*i* P	**Pn**	**05 31 57.6**	**+2.7**
LOBA2				IAML		05 32 24.4	
	comp=Z,614nm,0.6s						
LONE2	**Loma La Sidra**	**2.03**	**253**	⇑*i* P	**Pn**	**05 32 00.0**	**+3.3**
LONE2				IAML		05 32 37.4	
	comp=Z,1μm,0.6s						
AGPR	**Aguadilla, PR**	**2.29**	**107**		**Pn**	**05 32 01.6**	**+1.5**
AGPR	**Aguadilla, PR**	**2.29**	**107**	⇑*i* P	**Pn**	**05 32 02.0**	**+1.8**
AGPR				*eS*	**Sn**	**05 32 30.9**	**+3.7**
AGPR				IAML		05 32 45.7	
	comp=Z,656nm,0.5s						
LOPE2	**Hotel El Peder**	**2.47**	**243**	IAML		05 32 58.6	
	comp=Z,498nm,0.6s						
CRPR	**Cabo Rojo, PR**	**2.47**	**117**		**Pn**	**05 32 04.4**	**+1.8**
CRPR	**Cabo Rojo, PR**	**2.47**	**117**	⇓*i* P	**Pn**	**05 32 04.9**	**+2.3**
MLPR	**Magueyes Islan**	**2.55**	**117**	Pn	**Pn**	**05 32 06.4**	**+2.8**
AOPR	**Arecibo Observ**	**2.65**	**107**	*eP*	**Pn**	**05 32 05.9**	**+0.8**
AOPR				*eS*	**Sn**	**05 32 40.6**	**+4.5**
AOPR	**Arecibo Observ**	**2.65**	**107**		**Pn**	**05 32 06.2**	**+1.1**
AOPR	**Arecibo Observ**	**2.65**	**107**	*i* P	**Pn**	**05 32 06.4**	**+1.3**
AOPR				*eS*	**Sn**	**05 32 42.1**	**+6.0**
AOPR				IAML		05 32 50.5	
	comp=Z,1μm,0.3s						
EMPR	**Esperanza - Ma**	**2.82**	**103**	Pn	**Pn**	**05 32 08.1**	**+0.7**
GRTK	**Grand Turk**	**2.84**	**326**	Pn	**Pn**	**05 32 07.3**	**-0.3**
GRTK	**Grand Turk**	**2.84**	**326**	⇓*i* P	**Pn**	**05 32 07.5**	**-0.1**
OBIP	**Obispado Ponce**	**2.89**	**112**		**Pn**	**05 32 09.0**	**+0.7**
ICMP	**Isla Caja de M**	**3.02**	**114**	Pn	**Pn**	**05 32 11.9**	**+1.7**
ICMP	**Isla Caja de M**	**3.02**	**114**	*i* P	**Pn**	**05 32 13.3**	**+3.1**
SJG	**San Juan**	**3.27**	**108**	P	**Pn**	**05 32 13.9**	**+0.3**
	comp=Z,22nm,0.3s,baz=314,slow=13,SNR=67						
SJG				S	**Sn**	**05 32 49.3**	**-2.0**
	comp=Z,35nm,0.3s,baz=306,slow=14,SNR=4.8						
SJG				LR	LR	05 33 33.6	
	comp=Z,100nm,19.9s,baz=270,slow=41						
SJG	**San Juan**	**3.27**	**108**	*eP*	**Pn**	**05 32 13.9**	**+0.3**
GCPR	**Guaynabo City**	**3.27**	**104**		**Pn**	**05 32 14.2**	**+0.6**
PDPR	**Patillas Dam,**	**3.42**	**109**		**Pn**	**05 32 16.2**	**+0.7**
CBYP	**Canovanas**	**3.49**	**104**		**Pn**	**05 32 16.7**	**+0.1**
CBYP	**Canovanas**	**3.49**	**104**	*i* P	**Pn**	**05 32 17.0**	**+0.3**
HUMP	**Col San Antoni**	**3.53**	**106**		**Pn**	**05 32 17.1**	**-0.1**
HUMP	**Col San Antoni**	**3.53**	**106**	*i* P	**Pn**	**05 32 17.8**	**+0.6**
MTP	**Monte Pirata**	**3.82**	**105**	Pn	**Pn**	**05 32 21.6**	**+0.6**
CUPR	**Culebra, Puert**	**4.01**	**102**		**Pn**	**05 32 23.1**	**-0.6**
CUPR	**Culebra, Puert**	**4.01**	**102**	⇑*i* P	**Pn**	**05 32 23.6**	**-0.1**
STVI	**Saint Thomas**	**4.31**	**100**	Pn	**Pn**	**05 32 27.8**	**0.0**
CDVI	**St. Croix**	**4.63**	**107**	*eP*	**Pn**	**05 32 34.6**	**+2.3**
CDVI	**St. Croix**	**4.63**	**107**	*eS*	**Sn**	**05 33 23.9**	**-0.9**
CDVI	**St. Croix**	**4.63**	**107**	Pn	**Pn**	**05 32 33.4**	**+1.1**
ABVI	**Anegada Island**	**4.83**	**94**	Pn	**Pn**	**05 32 35.1**	**+0.1**
GTBY	**Guantanamo Bay**	**5.42**	**279**	Pn	**Pn**	**05 32 43.2**	**+0.1**
SMRT	**St. Maarten**	**6.12**	**99**	*eP*	**Pn**	**05 32 53.1**	**+0.4**
SMRT	**St. Maarten**	**6.12**	**99**	*eS*	**Sn**	**05 33 57.9**	**-3.5**
SMRT	**St. Maarten**	**6.12**	**99**		**Pn**	**05 32 52.6**	**-0.1**
SKI	**Saint Kitts**	**6.60**	**105**	*eP*	Pn	05 33 04.9	+5.6
ANWB	**Willy Bob**	**7.40**	**100**	*eP*	**Pn**	**05 33 10.4**	**+0.2**
ANWB	**Willy Bob**	**7.40**	**100**	*eS*	**Sn**	**05 34 31.2**	**-1.7**
ANWB	**Willy Bob**	**7.40**	**100**	Pn	**Pn**	**05 33 09.6**	**-0.6**
ANOC	**Antigua Open C**	**7.50**	**105**	*eP*	**Pn**	**05 33 11.1**	**-0.5**
ANOC	**Antigua Open C**	**7.50**	**105**	*eS*	**Sn**	**05 34 31.8**	**-3.5**
ANBD	**Bethesda, Anti**	**7.58**	**105**	*eP*	**Pn**	**05 33 12.2**	**-0.5**
ANBD	**Bethesda, Anti**	**7.58**	**105**	*eS*	**Sn**	**05 34 33.1**	**-4.2**
URIC	**Uribia, Colomb**	**7.82**	**199**	Pn	**Pn**	**05 33 15.5**	**-0.5**
ABD	**La Joyeuse, An**	**8.01**	**108**	*eP*	**Pn**	**05 33 19.8**	**+1.1**
MAGL	**Barre de l'ile**	**8.39**	**111**	*eP*	**Pn**	**05 33 26.9**	**+3.0**
DSLB	**Salisbury**	**8.49**	**115**	*eP*	**Pn**	**05 33 27.4**	**+2.1**
CRJC	**Cerrejon, Guaj**	**8.76**	**203**	*eP*	**Pn**	**05 33 28.5**	**-0.4**
FDF	**Fort de France**	**9.05**	**118**	*eP*	**Pn**	**05 33 34.9**	**+1.9**
FDF	**Fort de France**	**9.05**	**118**	Pn	**Pn**	**05 33 33.9**	**+0.9**
SMRC	**Santa Marta, M**	**9.20**	**211**	*eP*	**Pn**	**05 33 33.0**	**-2.0**
BIM	**Bigot**	**9.23**	**119**	*eP*	**Pn**	**05 33 37.4**	**+1.9**
BIM	**Bigot**	**9.23**	**119**	Pn	**Pn**	**05 33 35.5**	**+0.1**
MPOM	**Morne Pois Mar**	**9.44**	**118**	*eP*	**Pn**	**05 33 40.8**	**+2.5**
MPOM	**Morne Pois Mar**	**9.44**	**118**	Pn	**Pn**	**05 33 40.8**	**+2.5**
SLBI	**Saint Lucia, B**	**9.57**	**121**	*eP*	**Pn**	**05 33 41.0**	**+0.9**
SVB	**Belmont**	**9.79**	**126**	*eP*	**Pn**	**05 33 44.5**	**+1.5**
SVB	**Belmont**	**9.79**	**126**		**Pn**	**05 33 43.8**	**+0.7**
PCRV	**Puerto La Cruz**	**10.06**	**152**	P	**Pn**	**05 33 47.0**	**+0.2**
	comp=Z,3.7nm,0.3s,baz=326,slow=2.1,SNR=19						
PCRV				S	**Sn**	**05 35 30.1**	**-8.2**
	comp=Z,2.1nm,0.3s,baz=348,slow=3.2,SNR=9.5						
GCMP	**Grenada, Carri**	**10.16**	**130**	*eP*	**Pn**	**05 33 47.4**	**-0.7**
GRGR	**Grenville**	**10.23**	**132**	*eP*	**Pn**	**05 33 50.7**	**+1.6**
GRGR	**Grenville**	**10.23**	**132**	Pn	**Pn**	**05 33 49.3**	**+0.2**
SDV	**Santo Domingo**	**10.28**	**187**	P	**Pn**	**05 33 51.1**	**+1.2**
	comp=Z,1.8nm,0.3s,baz=9.7,slow=10,SNR=4.8						
SDV				S	**Sn**	**05 35 36.6**	**-7.4**
	comp=Z,2.4nm,0.3s,baz=18,slow=21,SNR=6.1						
SDV	**Santo Domingo**	**10.28**	**187**		**Pn**	**05 33 51.3**	**+1.4**
SJCC	**San Jacinto, C**	**10.76**	**212**	Pn	**Pn**	**05 33 57.5**	**+1.1**
TRN	**Trinidad (W)**	**11.47**	**136**	*eP*	**Pn**	**05 34 08.4**	**+2.3**
OCAC	**Ocana**	**11.50**	**200**	*eP*	Pn	05 34 13.8	+7.3
TOSP	**Speyside**	**11.60**	**131**	*eP*	**Pn**	**05 34 09.5**	**+1.7**
ELOV	**Elorza**	**12.09**	**180**	*eP*	**Pn**	**05 34 13.8**	**-0.6**
PTBC	**PUERTO BERRIO,**	**13.47**	**202**	*eP*	**Pn**	**05 34 33.3**	**0.0**
RUSC	**La Rusia**	**13.66**	**196**		**Pn**	**05 34 36.3**	**-0.1**
BBSR	**BB Station**	**13.82**	**17**	Pn	**Pn**	**05 34 37.1**	**-1.0**
BCIP	**Isla Barro Col**	**14.16**	**227**	Pn	**Pn**	**05 34 41.4**	**-1.3**
NORC	**Norcasia**	**14.52**	**202**	*eP*	**Pn**	**05 34 48.6**	**+0.9**
ROSC	**El Rosal**	**15.01**	**199**	P	**Pn**	**05 34 55.4**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=107,slow=19,SNR=2.0						
ROSC	**El Rosal**	**15.01**	**199**	Pn	**Pn**	**05 34 54.7**	**+0.3**
ROSC				lAmb	lAmb	05 35 06.9	
	comp=Z,9.8nm,0.6s						
656A	**Willston**	**15.68**	**313**	Pn	**Pn**	**05 35 02.6**	**0.0**
656A				lAmb	lAmb	05 35 23.4	
	comp=Z,17nm,1.1s						
PRAC	**Prado**	**16.25**	**200**	*eP*	**P**	**05 35 14.3**	**+1.7**
154A	**Montrose**	**18.17**	**320**	P	**P**	**05 35 32.7**	**-0.9**
154A				lAmb	lAmb	05 35 36.6	
	comp=Z,20nm,1.1s						
BIRD	**Birdtown, Kers**	**18.28**	**330**	P	**P**	**05 35 34.4**	**-0.3**
JSC	**Jenkinsville**	**18.38**	**327**	P	**Pn**	**05 35 36.8**	**+0.6**
W57A	**Gilead**	**18.48**	**332**	P	**P**	**05 35 37.4**	**+0.4**
FLOC	**Florencia**	**18.50**	**200**	P	**Pn**	**05 35 39.1**	**+1.2**
FLOC				lAmb	lAmb	05 35 43.1	
	comp=Z,21nm,1.1s						
V58A	**Windy Hill, Pi**	**18.65**	**335**	P	**P**	**05 35 38.6**	**-0.2**
HODGE	**Hodges**	**18.86**	**325**	P	**Pn**	**05 35 42.0**	**-0.1**
GOGA	**Godfrey**	**18.94**	**321**	P	**Pn**	**05 35 43.0**	**-0.1**
V55A	**Taylorsville**	**19.61**	**330**	P	**Pn**	**05 35 50.7**	**-0.4**
V55A				lAmb	lAmb	05 36 45.3	
	comp=Z,23nm,1.9s						
R58B	**Mineral**	**20.14**	**340**	P	Pn	05 35 56.3	-0.9
R58B				lAmb	lAmb	05 35 57.2	
	comp=Z,18nm,1.4s						
CBN	**Corbin Frederi**	**20.20**	**342**	P	Pn	05 35 57.3	-0.6
V53A	**Saluda**	**20.26**	**327**	P	Pn	05 35 58.2	-0.5
S57A	**Dark Hollow, R**	**20.32**	**338**	P	Pn	05 35 58.5	-0.8
TKL	**Tuckaleechee C**	**20.75**	**325**	P	**P**	**05 36 02.5**	**+0.8

comp=Z,4.8nm,0.8s
LMN Caledonia Moun 26.89 7 P P 05 37 00.4 -1.0
WMOK Wichita Mounta 30.28 307 P P 05 37 32.7 +1.0
K31A O'Neill 34.07 320 P P 05 38 05.4 +0.5
MNTX Cornudas Mount 34.63 298 P P 05 38 11.2 +1.3
MNTX IAmb IAmb 05 38 24.6
comp=Z,2.0nm,0.8s
LPAZ La Paz 35.25 178 P P 05 38 16.5 +0.6
comp=Z,0.5nm,0.6s,baz=323,slow=5.1,SNR=2.6
LPAZ LR LR 05 53 07.0
comp=Z,26nm,19.1s,baz=346,slow=37
LPAZ La Paz 35.25 178 P P 05 38 16.8 +0.9
SCHQ Schefferville 35.66 3 P P 05 38 18.3 -0.1
comp=Z,1.7nm,0.7s,baz=189,slow=14,SNR=1.4
SIV San Ignacio 35.88 166 P P 05 38 19.6 -1.1
comp=Z,0.9nm,0.5s,baz=331,slow=7.0,SNR=7.4
SIV LR LR 05 53 27.6
comp=Z,37nm,18.1s,baz=290,slow=37
319A Douglas 37.85 297 P P 05 38 38.2 +0.8
319A IAmb IAmb 05 39 09.6
comp=Z,5.8nm,1.0s
PV17 East Wray Mesa 39.20 308 P P 05 38 50.2 +1.4
DGMT Dagmar 40.52 324 P P 05 39 00.4 +1.0
PDAR Pinedale Array 41.16 314 P P 05 39 06.4 +1.4
comp=Z,0.2nm,0.5s,baz=102,slow=8.4,SNR=3.0
PDAR Pinedale Array 41.16 314 P P 05 39 05.6 +0.6
RLMT Red Lodge 41.91 317 P P 05 39 12.7 +1.5
RLMT IAmb IAmb 05 40 19.5
comp=Z,12nm,1.9s
LOHW Long Hollow 42.19 315 P P 05 39 14.8 +1.4
LOHW IAmb IAmb 05 39 15.9
comp=Z,8.3nm,1.6s
REDW Red Top Meadow 42.26 314 P P 05 39 14.8 +0.8
REDW IAmb IAmb 05 39 16.3
comp=Z,6.1nm,1.4s
MOOW Moose Ponds 42.33 315 P P 05 39 16.1 +1.5
MOOW IAmb IAmb 05 40 33.6
comp=Z,6.8nm,1.9s
CCX Cicese 44.16 296 P P 05 39 31.3 +2.1
DLMT Dillon 44.16 316 P P 05 39 30.8 +1.6
DLMT IAmb IAmb 05 39 45.3
comp=Z,11nm,1.8s
HRY Holter Researc 44.19 318 P P 05 39 30.9 +1.5
NVAR Mina Array Bea 46.36 305 P P 05 39 48.0 +1.1
comp=Z,0.6nm,0.8s,baz=97,slow=7.5,SNR=4.9
NVAR Mina Array Bea 46.36 305 P P 05 39 47.3 +0.5
EDM Edmonton 47.93 326 P P 05 39 59.7 +1.0
YKA Yellowknife Ar 53.25 336 P P 05 40 38.6 +0.1
comp=Z,1.6nm,0.7s,baz=115,slow=8.4,SNR=4.4
YKA LR LR 06 05 00.2
comp=Z,16nm,18.0s,baz=0.0,slow=38
TORD Torodi Ar. Bea 68.18 83 P P 05 42 21.2 +0.2
comp=Z,0.5nm,0.8s,baz=306,slow=5.1,SNR=2.1

*ATH **10** 05:43:42.8,40.°25N×24.°02E,h12km±1km, ML3.3/17, Error ellipse: s-maj=1.9km s-min=0.8km az=340.0*
*ISK **10** 05:43:42.5,40.°24N×23.°97E,h8km, ML3.4/19*
*IASPEI **10** 05:43:42.7±0.8,40.°26N±0.°02×24.°02E±0.°02,h10km±5km, Error ellipse: s-maj=3.2km s-min=2.6km az=158.2, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*THE **10** 05:43:43.1,40.°27N×24.°01E,h9km, ML3.2/23, Error ellipse: s-maj=0.9km s-min=0.5km az=347.0*
*SOF **10** 05:43:44.3,40.°27N×24.°08E,h31km, MD3.5*
*DDA **10** 05:43:50.0,40.°26N×24.°51E,h45km±109km, ML3.4*
ISC 10 05:43:42.9±0.8,40.°26N±0.°02×24.°01E±0.°01,h9km±5km, n109,σ0s86/153,9C-8D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OUR	**Ouranopolis**	**0.08**	**346**	P	**Pg**	**05 43 45.1**	**0.0**
OUR				S	**Sg**	**05 43 46.7**	**0.0**
	53μm,0.4s						
OUR	**Ouranopolis**	**0.08**	**346**	P	**Pg**	**05 43 45.1**	**0.0**
OUR				S	**Sg**	**05 43 46.7**	**0.0**
OUR				AML	AML	05 43 47.0	
	comp=E,88552μm,0.4s						
OUR				AML	AML	05 43 47.3	
	comp=N,88197μm,0.2s						
OUR	**Ouranopolis**	**0.08**	**346**	PG	**Pg**	**05 43 45.1**	**0.0**
OUR				SG	**Sg**	**05 43 46.8**	**0.0**
PAIG	**Paliouri**	**0.41**	**218**	P	**Pg**	**05 43 50.9**	**0.0**
PAIG				S	**Sg**	**05 43 57.1**	**+0.7**
	comp=N,3μm,0.4s						
PAIG	**Paliouri**	**0.41**	**218**	P	**Pg**	**05 43 51.0**	**0.0**
PAIG				S	**Sg**	**05 43 56.9**	**+0.5**
PAIG				AML	AML	05 44 02.3	
	comp=E,6888μm,0.3s						
PAIG				AML	AML	05 44 02.5	
	comp=N,7115μm,0.3s						
PLG	**Polygyros**	**0.45**	**286**	P	**Pg**	**05 43 51.7**	**+0.1**
PLG				S	**Sg**	**05 43 58.2**	**+0.7**
	comp=N,5μm,0.4s						
PLG	**Polygyros**	**0.45**	**286**	P	**Pg**	**05 43 51.7**	**+0.1**
PLG				S	**Sg**	**05 43 57.8**	**+0.3**
PLG				AML	AML	05 43 58.2	
	comp=N,10640μm,0.4s						
PLG				AML	AML	05 43 58.3	
	comp=E,8948μm,0.4s						
THAS	**Thassos island**	**0.65**	**57**	P	**Pg**	**05 43 55.2**	**-0.2**
THAS				S	**Sb**	**05 44 04.7**	**-0.8**
	comp=E,11μm,0.3s						
THAS	**Thassos island**	**0.65**	**57**	P	**Pg**	**05 43 55.2**	**-0.2**
THAS				S	**Sg**	**05 44 04.5**	**+0.7**
THAS				AML	AML	05 44 07.7	
	comp=E,16935μm,0.3s						
THAS				AML	AML	05 44 07.7	
	comp=N,27042μm,0.3s						
KVLA	**Kavala**	**0.74**	**23**	P	**Pg**	**05 43 57.3**	**+0.1**
KVLA				S	**Sg**	**05 44 07.1**	**+0.3**
SOH	**Sokhos**	**0.75**	**319**	P	**Pg**	**05 43 57.4**	**-0.1**
SOH				S	**Sb**	**05 44 08.4**	**-0.2**
	comp=N,3μm,0.3s						
SOH	**Sokhos**	**0.75**	**319**	P	**Pg**	**05 43 57.3**	**-0.1**
SOH				S	**Sg**	**05 44 07.6**	**+0.3**
SOH				AML	AML	05 44 11.2	
	comp=E,6006μm,0.4s						
SOH				AML	AML	05 44 11.8	
	comp=N,8564μm,0.4s						
HORT	**Hortiatis**	**0.77**	**297**	P	**Pg**	**05 43 57.5**	**-0.3**
HORT				S	**Sg**	**05 44 08.2**	**+0.3**
	comp=N,4μm,0.4s						
HORT	**Hortiatis**	**0.77**	**297**	P	**Pg**	**05 43 57.6**	**-0.2**
HORT				S	**Sg**	**05 44 08.1**	**+0.3**
HORT				AML	AML	05 44 12.4	
	comp=E,5570μm,0.3s						
HORT				AML	AML	05 44 12.6	
	comp=N,10432μm,0.6s						
HORT	**Hortiatis**	**0.77**	**297**	PG	**Pg**	**05 43 57.9**	**+0.1**
HORT				SG	**Sg**	**05 44 08.2**	**+0.3**
KAVA	**Kavala**	**0.83**	**27**	P	**Pg**	**05 43 58.8**	**-0.2**
KAVA				S	**Sg**	**05 44 09.9**	**+0.1**
	comp=N,3μm,0.4s						
KAVA	**Kavala**	**0.83**	**27**	P	**Pg**	**05 43 58.9**	**0.0**
KAVA				S	**Sg**	**05 44 10.0**	**+0.1**
KAVA				AML	AML	05 44 11.7	
	comp=E,9224μm,0.4s						
KAVA				AML	AML	05 44 12.5	
	comp=N,5185μm,0.3s						
THE	**Thessaloniki**	**0.88**	**296**	P	**Pg**	**05 43 59.5**	**-0.3**
THE				S	**Sg**	**05 44 11.5**	**+0.2**
	comp=N,1μm,0.5s						
THE	**Thessaloniki**	**0.88**	**296**	P	**Pg**	**05 43 59.4**	**-0.3**
THE				S	**Sg**	**05 44 11.8**	**+0.5**
THE				AML	AML	05 44 14.6	
	comp=E,2321μm,0.4s						
THE				AML	AML	05 44 14.8	
	comp=N,2188μm,0.4s						
LIA	**Limnos Island**	**0.97**	**111**	P	**Pg**	**05 44 01.7**	**+0.1**
LIA				S	**Sn**	**05 44 15.8**	**-0.7**
	comp=N,2μm,0.4s						
LIA	**Limnos Island**	**0.97**	**111**	P	**Pg**	**05 44 01.6**	**+0.1**
LIA				S	**Sg**	**05 44 14.2**	**+0.1**
LIA				AML	AML	05 44 17.4	
	comp=N,4295μm,0.4s						
LIA				AML	AML	05 44 18.1	
	comp=E,2704μm,0.4s						
NVR	**Nevrokopi**	**1.10**	**354**	P	**Pb**	**05 44 03.8**	**-0.3**
NVR				S	**Sb**	**05 44 17.9**	**-0.7**
	comp=E,972nm,0.3s						
NVR	**Nevrokopi**	**1.10**	**354**	P	**Pb**	**05 44 03.8**	**-0.3**
NVR				S	**Sb**	**05 44 17.5**	**-1.0**
NVR				AML	AML	05 44 21.5	
	comp=N,1990μm,0.3s						
NVR				AML	AML	05 44 23.9	
	comp=E,1917μm,0.4s						
ALNA	**Alonissos**	**1.11**	**186**	P	**Pb**	**05 44 04.2**	**0.0**
ALNA				AML	AML	05 44 22.5	
	comp=E,2462μm,0.4s						
ALNA				AML	AML	05 44 22.7	
	comp=N,7041μm,0.5s						
NEO	**Neokhori**	**1.12**	**213**	P	**Pb**	**05 44 04.2**	**-0.3**
NEO				S	**Sn**	**05 44 20.1**	**-0.3**
	comp=N,2μm,0.5s						
NEO	**Neokhori**	**1.12**	**213**	P	**Pb**	**05 44 04.1**	**-0.3**
NEO				S	**Sg**	**05 44 19.4**	**+0.3**
NEO				AML	AML	05 44 21.1	
	comp=E,3783μm,0.4s						
NEO				AML	AML	05 44 22.9	
	comp=N,3072μm,0.6s						
LIT	**Litokhoron**	**1.17**	**263**	P	**Pb**	**05 44 04.7**	**-0.6**
LIT				S	**Sg**	**05 44 21.1**	**+0.5**
	comp=N,612nm,0.3s						
LIT	**Litokhoron**	**1.17**	**263**	P	**Pb**	**05 44 04.7**	**-0.6**
SMTH	**Samothraki Isl**	**1.18**	**79**	P	**Pb**	**05 44 04.4**	**-1.1**
SMTH				S	**Sn**	**05 44 21.5**	**-0.4**
	comp=N,1μm,0.5s						
SMTH	**Samothraki Isl**	**1.18**	**79**	P	**Pb**	**05 44 04.4**	**-1.1**
SMTH				S	**Sg**	**05 44 21.0**	**0.0**
SMTH				AML	AML	05 44 23.1	
	comp=E,2084μm,0.4s						
SMTH				AML	AML	05 44 23.3	
	comp=N,1908μm,0.5s						
KNT	**Kendrikon**	**1.24**	**317**	P	**Pn**	**05 44 05.9**	**-0.5**
KNT				S	**Sb**	**05 44 22.3**	**-0.2**
	comp=N,1μm,0.4s						
KNT	**Kendrikon**	**1.24**	**317**	P	**Pn**	**05 44 05.8**	**-0.5**
KNT				AML	AML	05 44 26.5	
	comp=E,2617μm,0.4s						
KNT				AML	AML	05 44 27.8	
	comp=N,2289μm,0.3s						
KNT	**Kendrikon**	**1.24**	**317**	PN	**Pb**	**05 44 06.5**	**+0.1**
KNT				SN	**Sg**	**05 44 24.2**	**+1.5**
MMB	**Musomiste**	**1.35**	**351**	P	**Pn**	**05 44 07.9**	**-0.1**
GRG	**Griva**	**1.41**	**300**	P	**Pn**	**05 44 08.8**	**0.0**
GRG				S	**Sg**	**05 44 28.8**	**+0.6**
	comp=N,795nm,0.6s						
GRG	**Griva**	**1.41**	**300**	PN	**Pb**	**05 44 09.2**	**-0.2**
GRG				SN	**Sb**	**05 44 27.7**	**+0.2**
SKY	**Skiros Island**	**1.44**	**163**	P	**Pn**	**05 44 08.7**	**-0.4**
SKY				S	**Sb**	**05 44 28.1**	**-0.1**
	comp=N,598nm,0.2s						
SKY	**Skiros Island**	**1.44**	**163**	P	**Pn**	**05 44 08.7**	**-0.4**
GADA	**Gvkgeada**	**1.45**	**92**	PN	**Pn**	**05 44 09.0**	**-0.3**
GADA				SN	**Sg**	**05 44 30.5**	**+1.0**
KTI	**Kastanea**	**1.45**	**276**	P	**Pn**	**05 44 09.5**	**+0.1**
GOKA	**anakkale-Gk**	**1.46**	**92**	*i* P	**Pg**	**05 44 10.8**	**0.0**
GOKA				*i* S	**Sn**	**05 44 27.2**	**-1.4**
GOKA				IAML		05 44 33.0	
	comp=E,608nm,0.5s						
GOKC	**Gokceada-Canak**	**1.46**	**92**	PN	**Pb**	**05 44 10.5**	**+0.2**
RDO	**Rodhopi**	**1.47**	**52**	P	**Pn**	**05 44 09.1**	**-0.4**
RDO				S	**Sn**	**05 44 27.8**	**-1.0**
	comp=E,778nm,0.5s						
RDO	**Rodhopi**	**1.47**	**52**	P	**Pn**	**05 44 09.1**	**-0.4**
RDO				S	**Sn**	**05 44 27.8**	**-1.0**
RDO				AML	AML	05 44 32.4	
	comp=E,1938μm,0.5s						
RDO				AML	AML	05 44 33.4	
	comp=N,1111μm,0.5s						
RDO	**Rodhopi**	**1.47**	**52**	PN	**Pb**	**05 44 10.4**	**+0.1**
VAY	**Valandovo**	**1.52**	**315**	*i* Pn	**Pb**	**05 44 10.9**	**-0.4**
RZN	**Rozhen**	**1.53**	**20**	P	**Pn**	**05 44 10.5**	**0.0**
KYMI	**Kymi, Euboea I**	**1.62**	**177**	P	**Pn**	**05 44 11.0**	**-0.6**
BOZC	**Bozcaada**	**1.62**	**104**	*i* P	**Pg**	**05 44 13.7**	**-0.4**
BOZC				*i* S	**Sn**	**05 44 31.3**	**-1.4**
BOZC	**Bozcaada**	**1.62**	**104**	PN	**Pb**	**05 44 12.9**	**-0.1**
ALN	**Alexandroupoli**	**1.68**	**67**	P	**Pn**	**05 44 11.7**	**-0.7**
ALN				S	**Sn**	**05 44 34.2**	**+0.1**
	comp=N,665nm,0.6s						
ALN	**Alexandroupoli**	**1.68**	**67**	P	**Pn**	**05 44 11.7**	**-0.7**
ALN				AML	AML	05 44 39.8	
	comp=N,1355μm,0.7s						
ALN				AML	AML	05 44 40.0	
	comp=E,1217μm,0.5s						
ALN	**Alexandroupoli**	**1.68**	**67**	PN	**Pn**	**05 44 11.8**	**-0.7**
THL	**Klokotos Trika**	**1.68**	**246**	P	**Pn**	**05 44 12.5**	**+0.1**
THL				S	**Sn**	**05 44 34.1**	**0.0**
	comp=E,230nm,0.5s						
THL	**Klokotos Trika**	**1.68**	**246**	P	**Pn**	**05 44 12.2**	**-0.2**
THL				AML	AML	05 44 35.0	
	comp=E,438μm,0.5s						
THL				AML	AML	05 44 36.1	
	comp=N,462μm,0.5s						
CAVK	**Edirne/Enez-Ca**	**1.71**	**74**	*i* P	**Pb**	**05 44 14.7**	**+0.3**
CAVK				*i* S	**Sg**	**05 44 37.5**	**-0.2**
CAVK				IAML		05 44 39.0	
	comp=N,662nm,0.5s						
ENEZ	**Enez**	**1.71**	**73**	P	**Pn**	**05 44 12.2**	**-0.6**
ENEZ				S	**Sb**	**05 44 36.0**	**+0.1**
	comp=N,1μm,0.4s						
ENEZ	**Enez**	**1.71**	**73**	PN	**Pb**	**05 44 13.6**	**-0.8**
KZN	**Kozani**	**1.71**	**272**	P	**Pn**	**05 44 13.5**	**+0.6**
KZN				S	**Sb**	**05 44 35.7**	**-0.5**
	comp=N,222nm,0.5s						
KZN	**Kozani**	**1.71**	**272**	P	**Pn**	**05 44 13.5**	**+0.6**
KKB	**Krupnik**	**1.75**	**337**	*i* P	**Pn**	**05 44 13.7**	**+0.2**
SIGR	**SIGRI**	**1.77**	**126**	P	**Pn**	**05 44 13.4**	**-0.2**
SIGR				S	**Sb**	**05 44 37.1**	**-0.6**
	comp=N,288nm,0.4s						
SIGR	**SIGRI**	**1.77**	**126**	P	**Pn**	**05 44 13.4**	**-0.2**
SIGR	**SIGRI**	**1.77**	**126**	PN	**Pn**	**05 44 13.7**	**+0.1**
LKR	**Lokris**	**1.78**	**206**	P	**Pn**	**05 44 13.3**	**-0.5**
AGG	**Agios Georgios**	**1.79**	**227**	P	**Pn**	**05 44 13.8**	**-0.2**
AGG				S	**Sn**	**05 44 37.1**	**+0.3**
	comp=N,318nm,0.5s						
AGG	**Agios Georgios**	**1.79**	**227**	P	**Pn**	**05 44 13.7**	**-0.2**
AGG	**Agios Georgios**	**1.79**	**227**	PN	**Pn**	**05 44 14.2**	**+0.2**
KOCA	**Canakkale, Ayv**	**1.80**	**114**	*i* P	**Pg**	**05 44 17.3**	**-0.2**
KOCA				*i* S	**Sg**	**05 44 41.5**	**+0.6**
EZN	**Ezine**	**1.83**	**103**	PN	**Pb**	**05 44 16.1**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.89**	**85**	PN	**Pn**	**05 44 16.1**	**+0.8**
MAKR	**Makrakomi, Fth**	**1.91**	**230**	P	**Pn**	**05 44 16.1**	**+0.5**
PLD	**Plovdiv**	**1.92**	**16**	PN	**Pb**	**05 44 16.9**	**-1.2**
ERIK	**Erikli-Kesan**	**1.96**	**77**	PN	**Pn**	**05 44 16.5**	**+0.3**
STIP	**Stip**	**1.99**	**317**	*i* Pn	**Pn**	**05 44 16.0**	**-0.7**
LPK	**Lapseki**	**2.11**	**86**	PN	**Pn**	**05 44 19.6**	**+1.3**
KESN	**Edirne-Kesan**	**2.12**	**74**	*i* P	**Pg**	**05 44 25.4**	**+2.0**
VTS	**Vitosha**	**2.43**	**346**	⇑P	**Pn**	**05 44 23.3**	**+0.3**
VTS	**Vitosha**	**2.43**	**346**	⇓S	**Sg**	**05 44 59.6**	**-1.4**
VTS	**Vitosha**	**2.43**	**346**	P	**Pn**	**05 44 23.7**	**+0.8**
BUHA	**Balikesir, Bur**	**2.48**	**107**	*i* P	**Pn**	**05 44 23.7**	**+0.3**
MAR3	**Marsite Statio**	**2.55**	**78**	PN	**Pn**	**05 44 26.5**	**+2.0**
MAR4	**Marsite Statio**	**2.57**	**77**	PN	**Pn**	**05 44 25.2**	**+0.5**
GZKV	**Gazikoy-Tekird**	**2.58**	**78**	PN	**Pn**	**05 44 26.6**	**+1.8**
EDRB	**Edirne**	**2.61**	**52**	PN	**Pn**	**05 44 26.9**	**+1.7**
ZEDA	**zmir-Bergama**	**2.70**	**118**	*i* P	**Pb**	**05 44 30.6**	**-0.7**
URLA	**Izmir**	**2.76**	**132**	*i* P	**Pn**	**05 44 27.3**	**0.0**
URLA	**Izmir**	**2.76**	**132**	PN	**Pn**	**05 44 27.9**	**+0.6**
MRMT	**Marmara Adasi**	**2.76**	**82**	PN	**Pn**	**05 44 29.0**	**+1.6**
ZEYE	**Izmir, Urla-Ze**	**2.79**	**135**	*i* P	**Pn**	**05 44 26.7**	**-1.0**
EDC	**Edincik**	**2.95**	**87**	PN	**Pn**	**05 44 31.4**	**+1.5**
MPEP	**Malo Peshtene**	**3.10**	**356**	P	**Pn**	**05 44 33.1**	**+1.1**
KCTX	**Karacabey (Bur**	**3.33**	**88**	PN	**Pn**	**05 44 37.1**	**+2.0**
APE	**Apeiranthos**	**3.40**	**159**	⇑P	**Pn**	**05 44 36.6**	**+0.5**
BLKB	**Belogradchik**	**3.51**	**344**	⇑S	**Sb**	**05 45 29.8**	**+2.0**
BOVS	**Bovan**	**3.79**	**334**	⇑P	**Pn**	**05 44 43.2**	**+1.8**
KULA	**Kula-Manisa**	**4.00**	**114**	PN	**Pn**	**05 44 46.5**	**+2.0**
PUNG	**Punghina**	**4.10**	**349**	⇓S	**Sg**	**05 45 53.1**	**-1.4**
PDG	**Podgorica**	**4.18**	**303**	⇑P	**Pn**	**05 44 48.2**	**+1.3**
DJES	**Djerdap**	**4.54**	**346**	⇓P	**Pb**	**05 45 01.0**	**-1.8**
HERR	**Herculane**	**4.77**	**346**	⇑P	**Pn**	**05 44 53.6**	**-1.3**
MDVR	**Moldovita**	**4.83**	**340**	⇓P	**Pn**	**05 44 57.0**	**+1.2**
LOT	**Lotru**	**5.19**	**358**	⇑P	**Pn**	**05 45 00.9**	**+0.1**
GZR	**Gura Zlata**	**5.21**	**350**	⇓P	**Pn**	**05 45 05.1**	**+4.0**
VOIR		**5.24**	**8**	⇓P	**Pn**	**05 45 02.5**	**+1.1**
MLR	**Muntele Rosu**	**5.42**	**15**	⇑P	**Pn**	**05 45 07.3**	**+3.3**
BZS	**Buzias**	**5.64**	**343**	⇑P	Pb	05 45 15.8	-5.6
BISRR	**Bisoca**	**5.65**	**20**	⇓P	Pg	05 45 44.6	+14
VRI	**Vrincioaia**	**5.95**	**19**	⇓P	**Pn**	**05 45 12.2**	**+1.0**

*IDC **10** 05:57:45.5±1.7,25.°25S×179.°13W,h372km±16km, mb3.6/7, mb1 3.7/9,mb1mx3.5/22,mbtmp4.3/9, Error ellipse: s-maj=25.6km s-min=18.3km az=82.0*
*NEIC **10** 05:57:47.0±1.8,25.°3S±0.°1×179.°2W±0.°2,h370km±8km, mb4.0/18, Error ellipse: s-maj=29.1km s-min=13.4km az=72.0*
ISC 10 05:57:47.2±0.7,25.°31S±0.°07×179.°1W±0.°1,h388km,n50, σ1§10/52,mb4.0/17,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.07**	**165**	P	**Pn**	**05 58 57.2**	**-1.9**
	205nm,0.3s,baz=82,slow=5.0,SNR=9.1						
RAO	**Raoul Island**	**4.07**	**165**		**Pn**	**05 58 57.8**	**-1.3**
MSVF	**Nonsavu**	**7.99**	**340**	P	**Pn**	**05 59 39.1**	**-3.0**
	1.5nm,0.3s,baz=259,slow=11,SNR=8.9						
MSVF	**Nonsavu**	**7.99**	**340**		**Pn**	**05 59 40.1**	**-2.0**
AFI	**Afiamalu**	**13.27**	**33**	P	P	06 00 33.8	-7.6
	6.0nm,0.3s,baz=0.7,slow=8.8,SNR=4.7						
URZ	**Urewera**	**13.31**	**193**	P	**P**	**06 00 39.4**	**-2.0**
	1.6nm,0.3s,baz=265,slow=4.1,SNR=12						
URZ				S	**S**	**06 03 04.1**	**-1.6**
	2.3nm,0.3s,baz=269,slow=23,SNR=13						
URZ	**Urewera**	**13.31**	**193**	P	**P**	**06 00 41.0**	**-0.5**
LIFNC	**LIFOU**	**13.36**	**287**	P	**P**	**06 00 42.5**	**+0.2**
DZM	**Mont Dzumac**	**13.63**	**281**	P	**Pn**	**06 00 47.1**	**-0.5**
	0.3nm,0.3s,baz=97,slow=18,SNR=1.6						
BKZ	**Black Stump Fm**	**14.31**	**194**	P	**P**	**06 00 51.5**	**-0.9**
EIDS	**Eidsvold**	**26.93**	**263**	P	**P**	**06 02 56.9**	**+2.0**
EIDS				IAmb	IAmb	06 02 57.0	
	comp=Z,9.6nm,0.9s						
CTAO	**Charters Tower**	**32.33**	**272**	P	**P**	**06 03 42.6**	**+0.5**
CTAO				IAmb	IAmb	06 03 43.3	
	comp=Z,9.7nm,0.9s						
MCQ	**Macquarie Isla**	**33.38**	**203**	P	**P**	**06 03 50.6**	**0.0**
COEN	**Coen**	**37.16**	**280**	P	**P**	**06 04 23.3**	**+0.2**
BBOO	**Buckleboo**	**39.67**	**248**	P	**P**	**06 04 43.3**	**-0.3**
BBOO				IAmb	IAmb	06 04 54.5	
	comp=Z,16nm,1.4s						
AS31	**Alice Springs**	**42.63**	**262**	P	**P**	**06 05 07.7**	**+0.2**
ASAR	**Alice Springs**	**42.63**	**262**	P	**P**	**06 05 06.9**	**-0.6**
	comp=Z,4.0nm,0.5s,baz=91,slow=7.0,SNR=48						
ASAR	**Alice Springs**	**42.63**	**262**	P	**P**	**06 05 07.0**	**-0.6**
WR0	**Warramunga Arr**	**42.96**	**267**	P	**P**	**06 05 08.8**	**-1.3**
WR0				IAmb	IAmb	06 05 10.4	
	comp=Z,4.8nm,0.9s						
WB2	**Warramunga Arr**	**43.14**	**267**	P	**P**	**06 05 10.6**	**-0.9**
WB2				IAmb	IAmb	06 05 11.4	
	comp=Z,5.6nm,0.7s						
WRAB	**Tennant Creek**	**43.14**	**267**	P	**P**	**06 05 11.1**	**-0.4**
WRAB				IAmb	IAmb	06 05 39.0	
	comp=Z,6.3nm,0.8s						
WRA	**Warramunga Arr**	**43.15**	**267**	P	**P**	**06 05 10.3**	**-1.3**
	comp=Z,4.9nm,0.5s,baz=102,slow=7.9,SNR=51						
WRA	**Warramunga Arr**	**43.15**	**267**	P	**P**	**06 05 10.6**	**-1.0**
KNRA	**Kununurra**	**49.51**	**271**	P	**P**	**06 06 00.5**	**0.0**
KNRA				IAmb	IAmb	06 06 01.6	
	comp=Z,11nm,0.8s						
FITZ	**Fitzroy Crossi**	**51.55**	**266**	P	**P**	**06 06 15.3**	**-0.2**
SBA	**Scott Base**	**53.03**	**184**	P	**P**	**06 06 28.1**	**+2.8**
VNDA	**Vanda**	**53.05**	**185**	P	**P**	**06 06 27.1**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=22,slow=6.1,SNR=2.7						
VNDA	**Vanda**	**53.05**	**185**	P	**P**	**06 06 27.2**	**+1.7**
CASY	**Casey**	**59.21**	**206**	P	**P**	**06 07 08.7**	**+0.1**
CASY				IAmb	IAmb	06 07 20.6	
	comp=Z,4.3nm,1.1s						
GIRL	**Giralia**	**60.40**	**257**	P	**P**	**06 07 18.7**	**+1.3**
QSPA	**South Pole Qui**	**64.78**	**180**	P	**P**	**06 07 46.5**	**+1.1**
QSPA				IAmb	IAmb	06 08 01.1	
	comp=Z,6.9nm,1.5s						
KSRS	**Korea Array**	**79.85**	**320**	P	**P**	**06 09 14.3**	**+0.7**
	comp=Z,2.8nm,0.8s,baz=132,slow=5.2,SNR=7.1						
PETK	**Petropavlovsk-**	**80.66**	**346**	P	**P**	**06 09 18.1**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=129,slow=3.9,SNR=3.1						
USRK	**Ussuriysk Ar.**	**82.39**	**327**	P	**P**	**06 09 26.9**	**+0.2**
	comp=Z,3.0nm,0.7s,baz=140,slow=3.9,SNR=5.3						
SNAA	**Sanae**	**83.25**	**179**	P	**P**	**06 09 30.2**	**-0.7**
SNAA	**Sanae**	**83.25**	**179**	P	**P**	**06 09 30.8**	**-0.1**
SNAA				IAmb	IAmb	06 09 50.8	
	comp=Z,3.2nm,1.3s						
VNA3	**Neumayer Olymp**	**83.43**	**177**	P	**P**	**06 09 31.4**	**-0.4**
VNA2	**Neumayer--Watz**	**83.85**	**177**	P	**P**	**06 09 33.6**	**-0.3**
	baz=198,slow=4.5						
VNA1	**Neumayer--Stat**	**84.09**	**177**	P	**P**	**06 09 35.2**	**+0.2**
ENH	**Enshi**	**87.92**	**305**	P	**P**	**06 09 53.7**	**-0.6**
CMAR	**Chiang Mai Arr**	**90.78**	**290**	P	**P**	**06 10 08.6**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=136,slow=4.5,SNR=4.6						
NB2	**NORSAR Subarra**	**143.59**	**352**	PKP	PKPab	06 16 32.4	-1.5
	comp=Z,0.9nm,0.6s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**143.59**	**352**	PKP	PKPab	06 16 32.8	-1.1
	comp=Z,0.8nm,0.6s,baz=18,slow=2.5,SNR=7.2						
AKASG	**Malin Array Be**	**146.59**	**327**	PKPbc	**PKPdf**	**06 16 41.6**	**+0.3**
	comp=Z,2.3nm,0.3s,baz=43,slow=4.3,SNR=18						
AKASG	**Malin Array Be**	**146.59**	**327**	PKPdf	**PKPdf**	**06 16 40.9**	**-0.4**
AKASG					**PKPab**	**06 16 46.2**	**+0.6**
AKBB	**Malin Array Si**	**146.59**	**327**		**PKPdf**	**06 16 42.1**	**+0.9**

baz=271
NTC S Sg 06 46 49.2 +0.5
baz=271
TIPB Shuangxi 0.22 298 ⇑*i* P Pg 06 46 46.6 +0.4
baz=302
TIPB *i* S Sg 06 46 49.9 +0.3
baz=302
ILA Ilan 0.28 249 *e*P Pg 06 46 46.2 -1.2
baz=252
ILA *e*S Sg 06 46 51.9 +0.6
baz=252
NWF Wu-fen Shan 0.31 311 ⇑*i* P Pb 06 46 48.6 -0.2
baz=305
NWF *i* S Sb 06 46 53.6 -0.3
baz=305
WFSB Wu-fen Shan 0.31 311 ⇑*i* P Pb 06 46 48.6 -0.2
baz=304
WFSB *i* S Sb 06 46 53.3 -0.4
baz=304
TWC Suao 0.31 214 ⇑*i* P Pg 06 46 47.6 -0.2
baz=223
TWC *i* S Sb 06 46 53.6 -0.3
baz=223
TNOU National Taiwa 0.37 319 P Pg 06 46 47.9 -1.0
baz=313
TNOU S Sg 06 46 53.1 -0.8
baz=313
TWE Neicheng 0.37 246 ⇑*i* P Pg 06 46 48.9 0.0
baz=248
TWE S Sg 06 46 54.0 +0.1
baz=248
NDS Dongshan 0.38 231 P Pg 06 46 48.8 -0.2
baz=234
NDS *e*S Sb 06 46 55.5 -0.2
baz=234
TWA Mucha 0.43 285 ⇑*i* P Pb 06 46 50.5 -0.3
baz=278
TWA *i* S Sb 06 46 56.6 -0.6
baz=278
NHY Taipei 0.46 292 *e*P Pb 06 46 51.5 +0.1
baz=285
NHY *e*S Sb 06 46 57.8 -0.2
baz=285
NHDH Xindian Distri 0.47 281 *e*P Pb 06 46 51.9 +0.2
baz=275
NHDH S Sb 06 46 57.8 -0.8
baz=275
NWRT Kuosheng 0.48 314 *e*P Pb 06 46 52.0 +0.3
baz=312
NWRT *e*S Sb 06 46 58.0 -0.6
baz=312
EWUT Wuta 0.48 209 *e*P Pb 06 46 51.3 -0.5
baz=218
EWUT *e*S Sb 06 46 58.3 -0.6
baz=218
ENTT Nioudou 0.49 242 P Pg 06 46 51.2 +0.1
baz=244
ENTT *e*S Sb 06 46 58.3 -0.6
baz=244
YM01 YM01 0.51 303 ⇑*i* P Pb 06 46 52.6 +0.4
baz=304
YM01 S Sb 06 46 58.9 -0.6
baz=304
TATO Taipei 0.51 282 *e*P Pg 06 46 51.5 0.0
baz=276
TATO Taipei 0.51 282 Pb 06 46 52.1 -0.2
TAP Taipei 0.51 289 *e*P Pb 06 46 52.4 +0.1
baz=291
TAP S Sb 06 46 59.4 -0.2
baz=291
YM08 YM08 0.52 308 *e*P Pb 06 46 52.4 +0.1
baz=301
ENA Nanau 0.52 212 *e*P Pb 06 46 51.9 -0.5
baz=219
ENA *e*S Sg 06 46 58.2 -0.3
baz=219
NDT Datong Townshi 0.55 241 P Pg 06 46 52.2 0.0
baz=236
ANP Anpu 0.57 304 *e*P Pb 06 46 53.4 +0.2
baz=305
TWY Chenhua 0.57 316 ⇑*i* P Pb 06 46 53.9 +0.6
baz=316
TWY *e*S Sb 06 46 47 02.2 +0.9
baz=316
TWS1 Kuangyinshan 0.61 292 ⇑*i* P Pb 06 46 53.9 -0.1
baz=293
TWS1 *e*S Sg 06 47 01.6 +0.1
baz=293
YHNB Yeheng 0.63 252 ⇑*i* P Pg 06 46 53.6 -0.3
baz=254
YHNB *e*S Sb 06 47 02.7 -0.6
baz=254
YHNB Yeheng 0.63 252 Pg 06 46 53.5 -0.3
YHNB Sg Sg 06 47 02.1 -0.1
NSK Sanguang 0.65 253 ⇑*i* P Pg 06 46 53.8 -0.3
baz=254
NSK S Sg 06 47 01.5 -1.2
baz=254
NNS Nan Shan 0.74 235 *e*P Pg 06 46 55.5 -0.4
baz=236
PCYT Pengchaiyu 0.76 2 *e*P Pn 06 46 57.4 -0.5
baz=1.0
NCU National Centr 0.78 278 *e*P Pn 06 46 58.2 +0.1
baz=271
NCU S Sn 06 47 09.4 -0.3
baz=271
NCUH Zhongli 0.78 277 *e*P Pn 06 46 58.2 +0.1
baz=271
NCUH *e*S Sn 06 47 09.3 -0.4
baz=271
NACB Ninganchiao 0.80 210 *e*P Pb 06 46 57.0 -0.2
baz=222
NACB *e*S Sg 06 47 07.2 -0.4
baz=222
NACB Ninganchiao 0.80 210 Pb 06 46 57.0 -0.2
ETLH Xiulin Townshi 0.83 218 *e*P Pb 06 46 57.6 -0.2
baz=220
TWD Chiawan 0.88 207 *e*P Pb 06 46 58.6 0.0
baz=210
TWD *e*S Sg 06 47 09.2 -1.0
baz=210
JYNG Yonagunijimaku 0.93 117 P Pb 06 46 59.4 +0.1
JYNG *e*S Sb 06 47 12.2 +0.7
LIOB Emei 0.96 257 *e*P Pn 06 47 01.4 +0.8
baz=252
LIOB *e*S Sn 06 47 15.2 +1.2
baz=252
SBCB Hsinchu 0.96 266 *e*P Pn 06 47 01.7 +1.1
baz=261
SBCB *e*S Sn 06 47 15.2 +1.1
baz=261
NSTT Nanjuang 0.97 256 *e*P Pn 06 47 00.6 -0.1
baz=251
NSTT *e*S Sn 06 47 15.3 +0.9
baz=251
YOJ Yonaguni jima 0.97 114 P Pg 06 47 00.3 0.0
YOJ S Sb 06 47 13.6 +0.7
YOJ Yonaguni jima 0.97 114 *e*P Pb 06 46 58.9 -1.3
baz=114
YOJ Yonaguni jima 0.97 114 Pb 06 47 00.1 0.0
YOJ Sg Sb 06 47 13.7 +0.8
TWT Tachien 1.00 232 *e*P Pn 06 47 01.4 +0.2
baz=227
WHF Hehuan Shan 1.01 224 *e*P Pb 06 47 01.0 -0.1
baz=226
TDCB Techi 1.01 233 *e*P Pg 06 47 01.0 0.0
baz=229
CHGB Renai 1.13 224 *e*P Pn 06 47 03.3 +0.2
baz=227
WHP Taichung City 1.16 240 *e*P Pg 06 47 04.2 +0.5
baz=242
ESL Shilin 1.19 208 *e*P Pg 06 47 04.3 -0.1
baz=211
WCS Beigang Elemen 1.31 232 *e*P Pg 06 47 08.3 +1.7
baz=241
SMLT Sun Moon Lake 1.43 227 *e*P Pg 06 47 09.3 +0.3
baz=233
TYC Yuchr 1.44 228 *e*P Pg 06 47 09.7 +0.5
baz=231
SSLB Suanglung 1.46 223 *e*P Pg 06 47 09.0 -0.6
baz=226
SSLB Suanglung 1.46 223 Pb 06 47 08.6 +0.1
HGSD Ruisui 1.48 202 *e*P Pb 06 47 09.0 +0.2
baz=221
YULB Yu-li 1.62 205 Pn Pb 06 47 10.9 -0.3
IRIF Iriomote-Funau 1.63 109 P Pn 06 47 09.4 -0.4
IRIF *e*S Sn 06 47 30.3 -0.3
ALS Alishan 1.76 220 P Pg 06 47 15.7 +0.3
baz=224
CHN5 Tsauling 1.77 225 *e*P Pg 06 47 15.7 +0.2
baz=230
CHN5 *e*S Sg 06 47 39.3 +0.7
baz=230
HATJ Hateruma jima 1.80 116 P Pn 06 47 12.3 +0.1
JKRS Kuro-shima 1.90 109 P Pn 06 47 13.6 0.0
JKRS *e*S Sn 06 47 37.1 -0.3
JIJ Ishigaki jima 1.98 104 P Pn 06 47 15.1 +0.4
JIJ *e*S Sn 06 47 39.6 +0.3
TPUB Ta-pu 2.02 220 *e*P Pg 06 47 19.4 -1.0
baz=225
TPUB Ta-pu 2.02 220 Pb 06 47 17.3 -0.9
WTP Ta-pu 2.08 219 *e*P Pb 06 47 19.6 +0.5
baz=224
TWG Pinlang 2.22 204 Pn 06 47 18.7 +0.7
MATB Ma-tsu 2.28 304 *e*P Pn 06 47 19.0 +0.2
baz=300
XPSS Dashiqiu 2.64 321 *e*P Pn 06 47 22.7 -1.1
baz=317
LYJJ Jianjiangzhen 2.65 310 *e*P Pn 06 47 24.1 +0.3
baz=305
KNMB Chin-men Tao 3.34 264 Pn Pn 06 47 33.7 +0.3
JOW Kunigami 5.95 69 Pn Pn 06 48 10.6 +1.3

*IDC **10** 06:48:15.0±3.1,53.77N×88.22E, h0km, mb1 3.2/3, mb1mx3.1/74, mbtmp3.2/3, ML2.7/3, Error ellipse: s-maj=28.4km s-min=19.4km az=83.0*
ISC 10 06:48:18.1±4.5,**53.9N**±0.2×**88.4E**±0.2,**h35**km,**n4**,σ0.9**77**/6,
Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**2.09**	**274**	*i*		07 01 20.0	
	baz=94,slow=325,SNR=1.4						
ZALV	**Zalesovo Beam**	**2.09**	**274**	Pn	**Pn**	**06 48 50.4**	**-0.3**
	3.7nm,0.3s,baz=95,slow=12,SNR=45						
ZALV				Sn	**Sn**	**06 49 16.6**	**+1.1**
	5.6nm,0.3s,baz=90,slow=25,SNR=17						
KURBB	**Kurchatov Arra**	**6.84**	**246**	Pn	**Pn**	**06 49 55.5**	**-0.3**
	0.3nm,0.3s,baz=62,slow=14,SNR=9.2						
KURBB				Sn	**Sn**	**06 51 11.9**	**-0.6**
	0.1nm,0.3s,baz=324,slow=30,SNR=1.3						
KURBB				Lg	Lg	06 51 46.9	
	0.1nm,0.3s,baz=60,slow=31,SNR=5.6						
MKAR	**Makanchi Array**	**8.05**	**211**	Pn	**Pn**	**06 50 12.7**	**+0.1**
	0.2nm,0.3s,baz=33,slow=15,SNR=7.3						
MKAR				Sn	**Sn**	**06 51 42.6**	**+0.3**
	0.2nm,0.3s,baz=35,slow=28,SNR=5.6						
MKAR				Lg	Lg	06 52 25.2	
	0.1nm,0.3s,baz=33,slow=28,SNR=2.1						

*IDC **10** 06:51:46.6±1.2,67.83N×20.60E, h0km, mb1 2.9/4, mb1mx2.8/63, mbtmp2.8/4, ML2.2/4, Error ellipse: s-maj=19.9km s-min=8.0km az=117.0*
*HEL **10** 06:51:46.6±0.0,67.84N×20.20E, h0km, ML2.0, ML2.7(UPP), Confirmed Induced event*
*NAO **10** 06:51:46.5±1.2,67.86N×20.47E, ML2.7*
*BER **10** 06:51:48.3±3.3,67.85N×20.36E, h0km, ML1.9, Suspected explosion*
ISC 10 06:51:45.2±0.7,**67.81N**±0.02×**20.31E**±0.03,**h0**km,**n35**,
σ1.9**13**/60,**1C-5D,Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.15**	**4**	⇓*i*P	**Pg**	**06 51 48.7**	**+0.7**
RATU	**Laukkuluspa**	**0.27**	**274**	⇓*i*P	**Pg**	**06 51 50.6**	**+0.2**
RATU				*i* S	**Sg**	**06 51 53.7**	**-0.2**
KOVU	**Salmi**	**0.42**	**353**	⇓*i*P	**Pg**	**06 51 53.4**	**+0.1**
KOVU				*i* S	**Sg**	**06 51 58.6**	**-0.1**
NIKU	**Nikkaluokta**	**0.49**	**278**	⇓*i*P	**Pg**	**06 51 54.5**	**0.0**
NIKU				*i* S	**Sg**	**06 52 00.6**	**-0.2**
LANU	**Lannavaara**	**0.68**	**68**	*e*P	**Pb**	**06 51 59.2**	**-0.7**
LANU				*e*S	**Sb**	**06 52 08.7**	**-1.2**
DUNU	**Dundret**	**0.69**	**172**	*i* P	**Pg**	**06 51 59.5**	**+1.1**
DUNU				*i* S	**Sb**	**06 52 09.5**	**-0.8**
MASU	**Masugnsbyn**	**0.74**	**118**	⇓*i*P	**Pb**	**06 52 00.6**	**-0.2**
MASU				*i* S	**Sb**	**06 52 11.4**	**0.0**
KIF	**Kilpisjarvi**	**1.22**	**8**	Pg	**Pb**	**06 52 08.8**	**-0.2**
KIF				Lg	Lg	06 52 26.0	
KIF	**Kilpisjarvi**	**1.22**	**8**	Pg	**Pb**	**06 52 08.8**	**-0.2**
KIF				Sg	**Sn**	**06 52 26.0**	**-0.6**
KIF	**Kilpisjarvi**	**1.22**	**8**	*e*P	**Pb**	**06 52 08.9**	**-0.2**
KIF				*e*S	**Sb**	**06 52 24.9**	**-0.4**
KIF				MSG		06 52 29.4	
	comp=Z,17nm,0.1s						
PAJU	**Pajala**	**1.34**	**125**	*e*P	**Pb**	**06 52 11.2**	**+0.1**
PAJU				*e*S	**Sn**	**06 52 29.4**	**-0.2**
HEF	**Hetta**	**1.40**	**63**	Pg	**Pb**	**06 52 11.8**	**-0.3**
HEF				Lg	Lg	06 52 30.5	
HEF	**Hetta**	**1.40**	**63**	Pg	**Pb**	**06 52 11.8**	**-0.3**
HEF				Sg	**Sn**	**06 52 30.5**	**-0.5**
HEF	**Hetta**	**1.40**	**63**	*e*P	**Pb**	**06 52 11.8**	**-0.3**
HEF				*e*S	**Sn**	**06 52 30.4**	**-0.6**
HEF				MSG		06 52 35.9	
	comp=Z,16nm,0.2s						
ERTU	**Ertsjaerv**	**1.46**	**149**	*e*P	**Pg**	**06 52 13.2**	**+0.2**
ERTU				*e*S	**Sn**	**06 52 32.7**	**+0.3**
KLF	**Kolari**	**1.52**	**111**	*e*P	**Pg**	**06 52 14.5**	**+0.3**
KLF				*e*S	**Sn**	**06 52 35.3**	**+1.4**
KLF				MSG		06 52 37.0	
	comp=Z,8.0nm,0.1s						
KTK1	**Kautokeino**	**1.63**	**40**	Pn	**Pb**	**06 52 15.6**	**-0.4**
KTK1				Sn	**Sg**	**06 52 36.7**	**-0.7**
KTK1	**Kautokeino**	**1.63**	**40**	*e*P	**Pb**	**06 52 15.6**	**-0.4**
KTK1				*e*S	**Sg**	**06 52 37.4**	**0.0**
KTK1				IAML		06 52 40.8	
	comp=Z,22nm,0.3s						
HARU	**Harads**	**1.67**	**171**	⇑*e*P	**Pb**	**06 52 16.7**	**-0.1**
JETT	**Jettan, Norway**	**1.76**	**1**	Pn	**Pb**	**06 52 17.4**	**-0.9**
JETT				Sn	**Sb**	**06 52 40.2**	**-0.7**
TOF	**Tornio**	**2.35**	**136**	*e*PB	**Pb**	**06 52 27.8**	**-0.4**
TOF				*e*SB	**Sb**	**06 52 58.6**	**+0.9**
SGF	**Sodankyl**	**2.41**	**96**	*e*PB	**Pb**	**06 52 29.0**	**-0.3**
SGF				*e*SB	**Sb**	**06 53 00.8**	**+1.3**
SGF				MSG		06 53 03.3	
	comp=Z,6.1nm,0.1s						
RNF	**Rovaniemi**	**2.53**	**116**	*e*PB	**Pb**	**06 52 30.5**	**-0.9**
RNF				*e*SB	**Sb**	**06 53 04.0**	**+1.1**
ARA0	**ARCESS Array S**	**2.58**	**45**	Pn	**Pn**	**06 52 29.2**	**+1.1**
	baz=229,slow=16						
ARA0				Lg	Lg	06 53 03.8	
	baz=224,slow=28						
ARA0	**ARCESS Array S**	**2.58**	**45**	Pn	**Pn**	**06 52 29.2**	**+1.1**
	baz=229,slow=16						
ARA0				Sg	**Sb**	**06 53 03.8**	**-0.6**
	baz=224,slow=28						
ARCES	**ARCESS Array B**	**2.58**	**45**	Pn	**Pn**	**06 52 29.6**	**+1.5**
	baz=226,slow=15,SNR=56						
ARCES				Lg	Lg	06 53 03.2	
	baz=218,slow=16,SNR=4.9						
APA0	**Apatity Array**	**4.83**	**86**	Pn	**Pn**	**06 52 58.9**	**-0.2**
	baz=275,slow=12						
APA0				Sn	**Sn**	**06 53 55.2**	**-0.5**
	baz=282,slow=28						
APA0	**Apatity Array**	**4.83**	**86**	Pn	**Pn**	**06 52 58.9**	**-0.2**
	baz=275,slow=12						
APA0				Sn	**Sn**	**06 53 55.2**	**-0.5**
	baz=282,slow=28						
FIA0	**FINESS Array S**	**6.85**	**156**	Pn	**Pn**	**06 53 29.2**	**+2.5**
	baz=345,slow=12						
FIA0				Sn	**Sn**	**06 54 46.3**	**+1.0**
	baz=346,slow=28						
FIA0				Lg	Lg	06 55 20.6	
	baz=339,slow=37						
FIA0	**FINESS Array S**	**6.85**	**156**	Pn	**Pn**	**06 53 29.2**	**+2.5**
	baz=345,slow=12						
FIA0				Sn	**Sn**	**06 54 46.3**	**+1.0**
	baz=346,slow=28						
FIA0				Sg	**Sg**	**06 55 20.6**	**-4.3**
	baz=339,slow=37						
FINES	**FINESS Array B**	**6.85**	**156**	Pn	**Pn**	**06 53 28.8**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=350,slow=15,SNR=5.6						
FINES				Sn	**Sn**	**06 54 45.5**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=343,slow=21,SNR=2.4						
FINES				Lg	Lg	06 55 19.5	
	comp=Z,0.6nm,0.3s,baz=348,slow=27,SNR=8.2						
NB2	**NORSAR Subarra**	**7.84**	**214**	Lg	Lg	06 55 52.8	
	baz=21,slow=37						
NB2	**NORSAR Subarra**	**7.84**	**214**	Sg	**Sg**	**06 55 52.8**	**-3.9**
	baz=21,slow=37						
NOA	**NORSAR Array B**	**7.84**	**214**	Pn	**Pn**	**06 53 40.5**	**+0.1**
	comp=Z,0.0nm,0.3s,baz=25,slow=12,SNR=2.9						
NOA				Lg	Lg	06 55 51.5	
	comp=Z,0.0nm,0.3s,baz=34,slow=19,SNR=4.4						
HFS	**Hagfors**	**8.23**	**204**	Pn	**Pn**	**06 53 45.3**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=19,slow=14,SNR=2.4						

*NNC **10** 07:04:02.0±0.3,50.02N×78.65E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=4.6km s-min=1.3km az=82.0, Suspected Mining explosion.*
ISC 10 07:04:03.0±0.8,**49.98N**±0.04×**78.63E**±0.04,**h0**km,**n26**,
σ2.**52**/38,**18C-7D,Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.61**	**353**	⇑P	**Pg**	**07 04 13.3**	**-1.3**
KUR07				⇑S	**Sg**	**07 04 21.9**	**-0.6**
KUR06	**Kurchatov Arra**	**0.63**	**354**	⇑P	**Pg**	**07 04 13.6**	**-1.3**
KUR06				⇓S	**Sg**	**07 04 22.3**	**-0.7**
KUR14	**Kurchatov Arra**	**0.63**	**358**	⇑P	**Pg**	**07 04 13.7**	**-1.4**
KUR14				⇓S	**Sg**	**07 04 22.2**	**-1.2**
KUR15	**Kurchatov Arra**	**0.64**	**356**	⇑P	**Pg**	**07 04 13.8**	**-1.4**
KUR15				⇓S	**Sg**	**07 04 22.7**	**-0.8**
KURBB	**Kurchatov Arra**	**0.65**	**354**	⇑P	**Pg**	**07 04 14.0**	**-1.3**
	71nm,0.8s						
KURBB				⇑S	**Sg**	**07 04 22.6**	**-1.1**
	196nm,0.6s						
KUR16	**Kurchatov Arra**	**0.65**	**353**	⇑P	**Pg**	**07 04 14.3**	**-1.1**
KUR16				⇑S	**Sg**	**07 04 23.1**	**-0.8**
KUR17	**Kurchatov Arra**	**0.66**	**351**	⇓P	**Pg**	**07 04 14.4**	**-1.2**
KUR17				⇑S	**Sg**	**07 04 23.1**	**-1.0**
KUR05	**Kurchatov Arra**	**0.67**	**355**	⇓P	**Pg**	**07 04 14.4**	**-1.3**
KUR05				⇑S	**Sg**	**07 04 23.0**	**-1.4**
KUR04	**Kurchatov Arra**	**0.68**	**355**	⇑P	**Pg**	**07 04 14.8**	**-1.3**
KUR04				⇑S	**Sg**	**07 04 23.6**	**-1.3**
BRZS	**Berezniki**	**3.84**	**272**	Pg	**Pb**	**07 05 12.1**	**+0.5**
	2.8nm,0.2s						
BRZS				Lg	Lg	07 06 04.4	
	27nm,0.6s						
MAKZ	**Makanchi**	**3.88**	**144**	⇑Pg	**Pb**	**07 05 13.9**	**+1.7**
	5.9nm,0.6s						
MAKZ				⇓Lg	Lg	07 06 05.1	
	14nm,0.7s						
MK31	**Makanchi Array**	**4.01**	**141**	⇑Pn	**Pn**	**07 05 06.1**	**+0.3**
	0.3nm,0.3s,baz=213,slow=29,SNR=43						
MK31				⇑Pg	**Pb**	**07 05 14.4**	**-0.1**
	0.8nm,0.3s,baz=322,slow=14,SNR=9.8						
MK31				⇓Lg	Lg	07 06 07.8	
	7.8nm,0.5s,baz=329,slow=26,SNR=18						
UKR	**Ust'-Kan**	**4.04**	**74**	S	**Sg**	**07 06 11.2**	**-1.5**
DGZ	**Jazzator, Alta**	**5.70**	**89**	P	**Pn**	**07 05 29.4**	**+0.4**
DGZ				S	**Sn**	**07 06 33.6**	**-1.6**
ELT	**Eltsovka**	**5.76**	**52**	S	**Sg**	**07 07 00.5**	**-7.5**
ARTR	**Artybash**	**5.77**	**68**	P	**Pb**	**07 05 43.4**	**-1.0**
ARTR				S	**Sb**	**07 06 57.5**	**+3.5**
AKAR	**Aktash**	**5.79**	**83**	P	**Pn**	**07 05 31.1**	**+1.0**
AKAR				S	**Sn**	**07 06 40.1**	**+2.8**
BTLS	**Baital**	**5.84**	**214**	Pg	**Pg**	**07 05 51.5**	**-3.3**
	0.7nm,0.2s						
BTLS				Lg	Lg	07 07 11.5	
	4.4nm,0.5s						
ULGR	**Ulagan, Altay**	**6.01**	**80**	P	**Pn**	**07 05 34.8**	**+1.5**
ULGR				S	**Sn**	**07 06 48.7**	**+5.9**
BRVK	**Borovoye**	**6.05**	**304**	⇑Sn	**Sn**	**07 06 42.7**	**-0.9**
	3.5nm,0.6s						
BRVK				⇑Lg	Lg	07 07 12.1	
	4.3nm,0.7s						
CUR	**Chagan-Uzun**	**6.26**	**85**	P	**Pn**	**07 05 37.8**	**+1.1**
CUR				S	**Sn**	**07 06 51.1**	**+2.2**
TASR	**Tashtagol**	**6.42**	**61**	S	**Sg**	**07 07 22.4**	**-6.7**
PDGK	**Podgornoye**	**6.68**	**175**	Pg	**Pb**	**07 06 03.4**	**+3.4**
	0.6nm,0.5s						
PDGK				Lg	Lg	07 07 31.8	
	4.9nm,0.7s						
UZB	**Uzynbulak**	**6.84**	**178**	Pg	Pb	07 06 07.7	+4.9
	1.4nm,0.2s						
UZB				Lg	Lg	07 07 40.2	
	4.0nm,0.7s						
KST	**Kastek**	**7.18**	**196**	Pg	Pb	07 06 13.9	+5.3
	1.0nm,0.6s						
KST				Lg	Lg	07 07 51.6	
	1.9nm,0.6s						
MRKS	**Merke**	**8.14**	**209**	Pg	Pg	07 06 32.5	-6.4
	0.9nm,0.3s						
MRKS				Lg	Lg	07 08 21.9	
	2.5nm,0.5s						

*IDC **10** 07:15:45.6±0.6, 11.18S×165.25E, h39km±4km, mb4.1/16, mb1 4.3/19, mb1mx4.1/46, mbtmp4.4/19, ML4.9/3, MS3.8/16, Ms1 3.8/16, ms1mx3.7/28, Error ellipse: s-maj=19.1km s-min=13.4km az=139.0*
*NEIC **10** 07:15:46.0±1.2, 11.18S±0.06×165.30E±0.09, h39km±5km, mb4.8/24, Error ellipse: s-maj=13.1km s-min=8.1km az=77.0*
ISC 10 07:15:44.6±0.4,**11.21S**±0.05×**165.28E**±0.06,**h30**km,**n91**,
σ1.**04**/87,**mb4.8**/33,**MS3.8**/16,**1C-1D,Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**4.61**	**156**	Pn	**Pn**	**07 16 53.0**	**+0.8**
SANVU	**Saraoutou**	**4.61**	**156**	P	**Pn**	**07 16 53.0**	**+0.8**
HNR	**Honiara**	**5.54**	**288**	Pn	**Pn**	**07 17 05.1**	**+0.1**
	22nm,0.3s,baz=29,slow=2.5,SNR=3.4						
HNR				Sn	**Sn**	**07 18 07.2**	**-0.5**
	11nm,0.3s,baz=115,slow=7.4,SNR=1.9						
HNR				LR	LR	07 19 32.0	
	comp=Z,733nm,19.8s,baz=137,slow=41						
HNR	**Honiara**	**5.54**	**288**	Pn	**Pn**	**07 17 05.7**	**+0.7**
DVP	**Devils Point**	**7.06**	**157**	P	**Pn**	**07 17 27.6**	**+1.6**
	301µm,0.7s						
KOUNC	**Koumac, New Ca**	**9.33**	**186**	P	**Pn**	**07 17 58.3**	**+1.1**
LIFNC	**LIFOU**	**9.70**	**169**	Pn	**Pn**	**07 18 02.9**	**+0.8**
LIFNC	**LIFOU**	**9.70**	**169**	P	**Pn**	**07 18 03.5**	**+1.4**
MARNC	**Mare, Loyalty**	**10.55**	**166**	Pn	**Pn**	**07 18 14.8**	**+1.0**
DZM	**Mont Dzumac**	**10.86**	**174**	*e*Pn	**Pn**	**07 18 18.9**	**+0.8**
	121nm,1.1s						
DZM				*e*Sn	**Sn**	**07 20 16.8**	**-1.9**
	54nm,0.8s						
DZM				*e*LR	LR	07 20 51.1	
	comp=Z,2µm,25.0s						
DZM	**Mont Dzumac**	**10.86**	**174**	Pn	**Pn**	**07 18 18.8**	**+0.7**
	11nm,0.3s,baz=318,slow=10,SNR=303						
DZM				Sn	**Sn**	**07 20 15.7**	**-3.0**
	4.6nm,0.3s,baz=180,slow=18,SNR=6.9						
DZM				LR	LR	07 22 01.6	
	comp=Z,1µm,18.5s,baz=21,slow=34						
NOUC	**Port Laguerre**	**10.87**	**175**	P	**Pn**	**07 18 19.6**	**+1.4**
YATNC	**Mamie plateau,**	**10.90**	**172**	P	**Pn**	**07 18 19.1**	**+0.5**
ONTNC	**Ouen Toro**	**11.09**	**174**		**Pn**	**07 18 23.4**	**+2.2**
ONTNC	**Ouen Toro**	**11.09**	**174**	P	**Pn**	**07 18 23.2**	**+2.0**
OUENC	**Ouen Island, N**	**11.24**	**173**		**Pn**	**07 18 24.1**	**+0.8**
PINNC	**Pines Island,**	**11.53**	**170**		**Pn**	**07 18 28.9**	**+1.7**
MSVF	**Nonsavu**	**13.96**	**119**	Pn	**Pn**	**07 19 01.4**	**+0.8**
	0.2nm,0.3s,baz=53,slow=18,SNR=1.4						
MSVF				LR	LR	07 23 24.0	
	comp=Z,595nm,20.1s,baz=290,slow=33						
TARA	**Tarawa**	**14.62**	**32**	Pn	**Pn**	**07 19 09.7**	**+0.2**
EIDS	**Eidsvold**	**19.46**	**222**	P	**Pn**	**07 20 10.2**	**-0.2**
MANU	**Manus Island**	**19.97**	**296**	P	**P**	**07 20 14.6**	**-0.1**
CTA	**Charters Tower**	**20.32**	**242**	P	Pn	07 20 19.3	-1.3
	11nm,0.8s,baz=66,slow=10,SNR=7.0						
CTAO	**Charters Tower**	**20.32**	**242**	P	Pn	07 20 19.5	-1.0
CTAO				IAmb	IAmb	07 20 39.4	
	comp=Z,93nm,1.8s						
JAY	**Jayapura**	**25.86**	**288**	LR	LR	07 33 06.8	
	comp=Z,170nm,18.1s,baz=26,slow=40						
URZ	**Urewera**	**28.94**	**161**	LR	LR	07 32 29.9	
	comp=Z,388nm,19.8s,baz=31,slow=35						
H11S2	**WAKE ISLAND Hy**	**29.55**	**3**	T	T	07 52 31.7	
	baz=183,slow=76,SNR=68						
H11S3	**WAKE ISLAND Hy**	**29.55**	**3**	T	T	07 52 22.0	
	baz=183,slow=76,SNR=40						
H11S1	**WAKE ISLAND Hy**	**29.57**	**3**	T	T	07 52 28.2	
	baz=183,slow=76,SNR=33						
STKA	**Stephens Creek**	**30.00**	**223**	P	**P**	**07 21 51.4**	**+0.6**
	comp=Z,4.2nm,0.6s,baz=30,slow=9.9,SNR=14						
STKA				LR	LR	07 33 33.6	
	comp=Z,319nm,18.7s,baz=29,slow=36						
STKA	**Stephens Creek**	**30.00**	**223**	P	**P**	**07 21 51.8**	**+1.0**
H11N1	**WAKE ISLAND Hy**	**30.77**	**3**	T	T	07 53 47.6	
	baz=182,slow=76,SNR=5.1						
H11N3	**WAKE ISLAND Hy**	**30.78**	**3**	T	T	07 53 46.1	
	baz=182,slow=76,SNR=5.3						

H11N2	**WAKE ISLAND Hy**	**30.79**	**3**	T	T	07 53 57.0			
	baz=182,slow=76,SNR=3.8								
WR0	**Warramunga Arr**	**30.81**	**250**	P	**P**	**07 21 57.5**	**-0.6**		
WRA	**Warramunga Arr**	**30.99**	**250**	P	**P**	**07 21 58.9**	**-0.8**		
	comp=Z,1.1nm,0.6s,baz=76,slow=9.2,SNR=11								
WRA				sP	**pwP**	**07 22 14.9**	**+0.7**		
	comp=Z,7.1nm,0.8s,baz=75,slow=9.1,SNR=14								
WRA				PcP	**PcP**	**07 24 55.5**	**-0.1**		
	comp=Z,0.9nm,0.6s,baz=96,slow=2.6,SNR=5.9								
WRA				LR	LR	07 33 30.0			
	comp=Z,151nm,18.9s,baz=70,slow=34								
WRA	**Warramunga Arr**	**30.99**	**250**	P	**P**	**07 21 59.1**	**-0.6**		
MSWZ	**Moikau Station**	**31.34**	**165**	P	**P**	**07 22 03.7**	**+1.2**		
TOO	**Toolangi**	**31.69**	**211**	P	**P**	**07 22 06.0**	**+0.4**		
TOO				IAmb	IAmb	07 22 19.6			
	comp=Z,27nm,1.6s								
ASAR	**Alice Springs**	**32.31**	**243**	P	**P**	**07 22 10.3**	**-0.9**		
	comp=Z,1.5nm,0.5s,baz=64,slow=10,SNR=22								
ASAR				PcP	**PcP**	**07 24 58.9**	**-0.2**		
	comp=Z,1.3nm,0.7s,baz=61,slow=3.6,SNR=8.7								
BBOO	**Buckleboo**	**34.38**	**227**	P	**P**	**07 22 28.7**	**-0.5**		
PPT	**Papeete**	**44.10**	**104**	LR	LR	07 38 57.8			
	comp=Z,54nm,21.3s,baz=106,slow=32								
PPT2	**Papeete2**	**44.10**	**104**	*e*LR	LR	07 36 18.9			
	comp=Z,139nm,26.2s								
TBI	**Tubuai**	**44.70**	**112**	*e*LR	LR	07 36 35.8			
	comp=Z,220nm,30.0s								
JMN	**Monobe**	**53.76**	**327**	P	**P**	**07 25 04.6**	**+0.2**		
MJAR	**Matsushiro Arr**	**52.91**	**333**	LR	LR	07 46 14.7			
	comp=Z,62nm,21.6s,baz=75,slow=34								
JNU	**Nakatsue**	**54.95**	**325**	P	**P**	**07 25 12.8**	**-0.2**		
	comp=Z,12nm,0.9s,baz=64,slow=4.6,SNR=3.9								
KSRS	**Korea Array**	**59.76**	**326**	LR	LR	07 52 31.5			
	comp=Z,50nm,18.0s,baz=123,slow=37								
NJ2	**Nanjing**	**61.82**	**316**	*e*P	**P**	**07 26 02.5**	**+1.5**		
NJ2				pmax	pmax				
	comp=Z,19nm,0.5s								
PEA0B	**Petropavlovsk-**	**64.39**	**355**	P	**P**	**07 26 16.4**	**-1.2**		
PETK	**Petropavlovsk-**	**64.39**	**355**	P	**P**	**07 26 17.3**	**-0.4**		
	comp=Z,1.8nm,0.8s,baz=161,slow=9.2,SNR=5.4								
PETK				pP	**sP**	**07 26 28.7**	**+0.3**		
	comp=Z,1.9nm,0.9s,baz=223,slow=28,SNR=2.1								
PETK				LR	LR	07 49 15.8			
	comp=Z,62nm,19.3s,baz=155,slow=31								
VNDA	**Vanda**	**66.32**	**181**	P	**P**	**07 26 29.8**	**-0.1**		
	comp=Z,0.9nm,0.9s,baz=331,slow=7.5,SNR=3.7								
VNDA				LR	LR	07 51 18.1			
	comp=Z,77nm,20.9s,baz=358,slow=32								
GYA	**Guiyang**	**68.13**	**304**	⇑P	**P**	**07 26 42.3**	**0.0**		
GYA				pmax	pmax				
	comp=Z,11nm,0.6s								
KMI	**Kunming**	**70.82**	**302**	⇓P	**P**	**07 27 01.6**	**+2.5**		
KMI				sP	pwP	07 27 14.3	+1.1		
KMI				pmax	pmax				
	comp=Z,9.0nm,0.5s								
HHC	**Hu-ho-hao-te**	**71.66**	**320**	*e*P	**P**	**07 27 05.4**	**+1.7**		
HHC				pmax	pmax				
	comp=Z,18nm,0.8s								
HHC				pmax	pmax				
	comp=Z,220nm,5.5s								
CMAR	**Chiang Mai Arr**	**71.76**	**294**	P	**P**	**07 27 05.2**	**+0.6**		
	comp=Z,3.5nm,0.6s,baz=127,slow=4.1,SNR=7.0								
CMAR				LR	LR	07 56 33.2			
	comp=Z,25nm,21.5s,baz=70,slow=34								
CD2	**Chengdu**	**72.34**	**308**	*e*P	**P**	**07 27 08.1**	**+0.2**		
CD2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
LZH	**Lanzhou**	**74.53**	**312**	*e*P	**P**	**07 27 21.1**	**+0.2**		
LZH				pP	pP	07 27 29.1	+0.3		
LZH				pmax	pmax				
	comp=Z,23nm,1.3s								
SONM	**Songino Array**	**78.53**	**324**	P	**P**	**07 27 42.4**	**-0.8**		
	comp=Z,1.3nm,0.6s,baz=142,slow=5.6,SNR=5.5								
SONM				LR	LR	08 00 02.2			
	comp=Z,46nm,21.1s,baz=68,slow=34								
QSPA	**South Pole Qui**	**78.79**	**180**	P	**P**	**07 27 44.5**	**+0.1**		
GTA	**Gaotai**	**78.84**	**314**	*e*P	**P**	**07 27 46.2**	**+1.0**		
GTA				pP	sP	07 27 57.6	+1.6		
GTA				sP	pwP	07 28 03.2	+3.6		
GTA				pmax	pmax				
	comp=Z,6.0nm,0.7s								
GTA				pmax	pmax				
	comp=Z,100nm,5.5s								
GTA				LR	LR				
	comp=N,100nm,16.0s								
GTA				LR	LR				
	comp=E,240nm,16.0s								
GTA				LR	LR				
	comp=Z,110nm,17.5s								
MDM	**Murphy Dome**	**83.53**	**18**	P	**P**	**07 28 08.8**	**-0.5**		
MDM				IAmb	IAmb	07 28 23.5			
	comp=Z,8.7nm,1.2s								
IL31		**83.82**	**19**	P	**P**	**07 28 10.8**	**0.0**		
IL31				IAmb	IAmb	07 30 32.6			
	comp=Z,23nm,1.9s								
ILAR	**Eielson Array**	**83.82**	**19**	P	**P**	**07 28 10.1**	**-0.7**		
	comp=Z,3.5nm,0.6s,baz=236,slow=5.2,SNR=26								
ILAR				pP	**pwP**	**07 28 23.7**	**-1.2**		
	comp=Z,1.9nm,0.6s,baz=240,slow=4.8,SNR=4.7								
ILAR	**Eielson Array**	**83.82**	**19**	P	**P**	**07 28 10.8**	**0.0**		
M27K	**Edge Creek, AK**	**83.94**	**22**	P	**P**	**07 28 11.4**	**-0.3**		
M27K				IAmb	IAmb	07 28 12.7			
	comp=Z,12nm,0.9s								
MAW	**Mawson**	**84.39**	**202**	LR	LR	08 04 38.0			
	comp=Z,48nm,18.2s,baz=28,slow=35								
L27K	**Beaver Creek,**	**84.40**	**21**	P	**P**	**07 28 14.0**	**+0.1**		
L27K				IAmb	IAmb	07 28 14.7			
	comp=Z,5.9nm,0.8s								
BCAR	**Beaver Creek A**	**84.42**	**21**	P	**P**	**07 28 14.3**	**+0.3**		
K27K	**Chicken**	**84.92**	**21**	P	**P**	**07 28 17.1**	**+0.7**		
K27K				IAmb	IAmb	07 28 18.6			
	comp=Z,7.2nm,1.1s								
MDPB	**Devils Postpil**	**85.66**	**50**	P	**P**	**07 28 20.6**	**-0.4**		
MDPB				IAmb	IAmb	07 28 42.5			
	comp=Z,8.2nm,1.4s								
EGAK	**Eagle**	**85.69**	**20**	P	**P**	**07 28 20.7**	**+0.4**		
EGAK				IAmb	IAmb	07 28 21.2			
	comp=Z,7.3nm,0.8s								
DAWY	**Dawson**	**85.88**	**21**	P	**P**	**07 28 21.1**	**-0.1**		
DAWY				IAmb	IAmb	07 28 22.2			
	comp=Z,5.0nm,0.8s								
NVAR	**Mina Array Bea**	**86.48**	**50**	P	**P**	**07 28 24.9**	**-0.2**		
	comp=Z,1.4nm,0.8s,baz=232,slow=7.6,SNR=11								
NVAR				pP	**sP**	**07 28 37.3**	**+0.8**		
	comp=Z,2.1nm,0.9s,baz=239,slow=7.9,SNR=6.6								
NVAR				LR	LR	08 01 18.2			
	comp=Z,103nm,18.6s,baz=242,slow=32								
I07A	**Izee**	**87.34**	**44**	P	**P**	**07 28 28.4**	**-0.6**		
I07A				IAmb	IAmb	07 28 42.2			
	comp=Z,9.9nm,1.5s								
WMQ	**Urumqi**	**88.89**	**315**	*e*P	**P**	**07 28 37.0**	**+0.7**		
HRY	**Holter Researc**	**93.25**	**43**	P	**P**	**07 28 55.8**	**-0.8**		
MK31	**Makanchi Array**	**93.33**	**317**	P	**P**	**07 28 56.6**	**-0.2**		
MK31				IAmb	IAmb	07 28 57.2			
	comp=Z,5.0nm,0.9s								
MKAR	**Makanchi Array**	**93.33**	**317**	P	**P**	**07 28 56.4**	**-0.4**		
	comp=Z,4.7nm,0.8s,baz=100,slow=6.3,SNR=16								
MKAR				sP	**pwP**	**07 29 12.9**	**+1.5**		
	comp=Z,2.3nm,0.9s,baz=98,slow=6.2,SNR=3.9								
ZAA0	**Zalesovo Array**	**93.42**	**324**	P	**P**	**07 28 55.4**	**-1.6**		
ZALV	**Zalesovo Beam**	**93.42**	**324**	P	**P**	**07 28 55.5**	**-1.5**		
	comp=Z,2.3nm,0.7s,baz=116,slow=3.4,SNR=3.6								
PDAR	**Pinedale Array**	**94.00**	**47**	P	**P**	**07 29 00.2**	**-0.1**		
	comp=Z,0.6nm,0.9s,baz=242,slow=3.2,SNR=3.8								
YKA	**Yellowknife Ar**	**95.33**	**27**	P	**P**	**07 29 04.5**	**-1.0**		
	comp=Z,1.0nm,0.7s,baz=254,slow=4.4,SNR=3.2								
TXAR	**Lajitas Array**	**96.31**	**61**	P	**P**	**07 29 10.4**	**-0.5**		
	comp=Z,0.2nm,0.6s,baz=210,slow=4.9,SNR=3.9								
TXAR				sP	**pwP**	**07 29 26.9**	**+1.5**		
	comp=Z,0.3nm,0.7s,baz=241,slow=5.2,SNR=3.3								
ARCES	**ARCESS Array B**	**116.38**	**345**	PKP	**PKPdf**	**07 34 22.5**	**-2.3**		
	comp=Z,3.3nm,0.8s,baz=0.0,slow=3.6,SNR=6.1								
FINES	**FINESS Array B**	**121.76**	**338**	PKP	**PKPdf**	**07 34 34.7**	**-0.7**		
	comp=Z,0.8nm,0.6s,baz=20,slow=4.4,SNR=2.4								
NB2	**NORSAR Subarra**	**126.74**	**345**	PKPdf	**PKPdf**	**07 34 44.7**	**-0.3**		
	comp=Z,0.7nm,0.7s,baz=28,slow=1.8								
NOA	**NORSAR Array B**	**126.74**	**345**	PKP	**PKPdf**	**07 34 44.3**	**-0.7**		
	comp=Z,1.0nm,0.7s,baz=33,slow=2.0,SNR=6.4								
HFS	**Hagfors**	**126.81**	**343**	PKP	**PKPdf**	**07 34 43.6**	**-1.5**		
	comp=Z,0.8nm,0.7s,baz=180,slow=38,SNR=2.5								
KEST	**Kesra**	**147.27**	**322**	PKPbc	**PKPbc**	**07 35 25.9**	**+0.1**		
	comp=Z,12nm,0.7s,baz=236,slow=1.8,SNR=10								
ESDC	**Sonseca Array**	**150.09**	**343**	PKPbc	**PKPbc**	**07 35 31.8**	**-1.0**		
	comp=Z,1.3nm,0.8s,baz=35,slow=4.7,SNR=9.3								
TORD	**Torodi Ar. Bea**	**163.84**	**279**	PKP	**PKPdf**	**07 35 45.2**	**-0.6**		
	comp=Z,0.5nm,0.7s,baz=48,slow=2.2,SNR=2.6								
TORD				PKPab	**PKPab**	**07 36 36.3**	**-2.1**		
	comp=Z,1.8nm,1.1s,baz=72,slow=2.9,SNR=4.6								

IDC ***10*** *07:17:48.1±0.6,38.˚56N×144.˚82E,h0km,mb4.2/23, mb1 4.3/29,mb1mx4.2/67,mbtmp4.2/29,ML3.6/5,MS3.3/7, Ms1 3.3/7,ms1mx2.9/57,Error ellipse: s-maj=16.0km s-min=14.1km az=97.0*

MOS ***10*** *07:17:50.2±1.7,38.˚70N×144.˚81E,h24km,mb4.5/14,Error ellipse: s-maj=9.2km s-min=5.1km az=99.6*

NEIC ***10*** *07:17:52.0±1.6,38.˚59N±0.˚06×144.˚8E±0.˚1,h24km±5km, mb4.5/15,Error ellipse: s-maj=13.3km s-min=9.1km az=85.0*

JMA ***10*** *07:17:52.6±0.1,38.˚76N×144.˚59E,h44km,M4.9*

NIED ***10*** *07:17:52.6,38.˚76N×144.˚59E,h44km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=1.26; Mθθ0.24; Mφφ 1.02; Mrθ0.38; Mθφ0.71; Mrφ-0.17; Fault plane solution: M₀1.42000×10¹⁵ NP1: φs228.00000°,δ49.00000°,λ-65.00000°. NP2:φs13.00000°, δ47.00000°,λ-116.00000°.*

ISC 10 07:17:54.2±0.8,38.˚75N±0.˚05×144.˚74E±0.˚06,h40km±6km, n124,σ2ş42/149,mb4.3/36,MS3.4/6,8C-5D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**2.41**	**291**	P	**Pn**	**07 18 29.3**	**-1.8**
MIYJ				S	**Sn**	**07 18 56.3**	**-3.1**
OFUJ	**Ofunato**	**2.42**	**279**	P	**Pn**	**07 18 29.2**	**-2.0**
OFUJ				S	**Sn**	**07 18 56.7**	**-2.8**
JTH	**Tanohata**	**2.52**	**299**	P	**Pn**	**07 18 30.8**	**-1.9**
JTH				S	**Sn**	**07 18 59.9**	**-2.3**
JKMT	**Kesennumamotoy**	**2.55**	**272**	P	**Pn**	**07 18 31.1**	**-1.9**
JKMT				S	**Sn**	**07 18 59.5**	**-3.3**
JMK	**Ichinoseki**	**2.75**	**275**	P	**Pn**	**07 18 34.3**	**-1.5**
JMK				S	**Sn**	**07 19 04.9**	**-2.9**
JOM	**Ohasama**	**2.77**	**286**	P	**Pn**	**07 18 34.6**	**-1.5**
JOM				S	**Sn**	**07 19 05.4**	**-2.9**
JANG	**Nango**	**2.97**	**304**	P	**Pn**	**07 18 37.0**	**-1.8**
JMM	**Marumori**	**3.23**	**255**		**Pn**	**07 18 41.0**	**-1.3**
JYK	**Kaneyama**	**3.42**	**274**	P	**Pn**	**07 18 43.9**	**-1.1**
JFT	**Otama**	**3.68**	**252**	P	**Pn**	**07 18 47.1**	**-1.5**
JFT				S	**Sn**	**07 19 27.1**	**-3.6**
JOT	**Ohata**	**3.86**	**314**	P	**Pn**	**07 18 49.7**	**-1.3**
JOT				*e*S	**Sn**	**07 19 31.9**	**-3.2**
JCH	**Churui**	**4.00**	**345**	P	**Pn**	**07 18 50.6**	**-2.3**
JCH				S	**Sn**	**07 19 36.0**	**-2.5**
JKB	**Kayabe**	**4.22**	**319**	P	**Pn**	**07 18 55.3**	**-0.7**
JKB				*e*S	**Sn**	**07 19 40.5**	**-3.5**
JYT	**Yasato**	**4.40**	**237**		**Pn**	**07 18 55.1**	**-3.4**
NEM2	**Nemuro 2**	**4.67**	**9**	P	**Pn**	**07 18 58.7**	**-3.4**
NEM2				*e*S	**Sn**	**07 19 49.0**	**-6.1**
NMR	**Nemuro--Hokkai**	**4.67**	**9**	*e*P	**Pn**	**07 18 58.6**	**-3.6**
NMR				*e*S	**Sn**	**07 19 48.9**	**-6.2**
JEW	**Eniwo**	**4.79**	**330**		**Pn**	**07 19 04.2**	**+0.5**
GLVR	**Golovnino**	**5.02**	**7**	P	**Pn**	**07 19 03.9**	**-3.0**
GLVR				*e*S	**Sn**	**07 19 57.8**	**-5.8**
GLVR				smax	smax		
	comp=N,1μm,0.2s						
GLVR				smax	smax		
	comp=E,2μm,0.3s						
BSO1	**Boso 1**	**5.08**	**218**	P	**Pn**	**07 19 03.1**	**-4.2**
JSD	**Sado**	**5.14**	**264**	Pn	**Pn**	**07 19 07.8**	**-0.8**
JOSM	**Okushiri--Mats**	**5.21**	**311**	P	**Pn**	**07 19 09.3**	**-0.3**
JTKR	**Abashiri--Toko**	**5.25**	**353**	P	**Pn**	**07 19 08.2**	**-1.9**
JMR				S	**Sn**	**07 20 05.1**	**-4.3**
GRPR	**Tuman**	**5.29**	**8**	*e*P	**Pn**	**07 19 08.1**	**-2.6**
GRPR				*e*S	**Sn**	**07 20 04.1**	**-6.3**
GRPR				pmax	pmax		
	comp=Z,298nm,0.4s						
GRPR				pmax	pmax		
	comp=N,152nm,0.2s						
GRPR				pmax	pmax		
	comp=E,73nm,0.2s						
GRPR				smax	smax		
	comp=N,2μm,0.3s						
GRPR				smax	smax		
	comp=E,600nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**5.35**	**9**	*e*P	**Pn**	**07 19 08.7**	**-2.7**
YUK				*e*S	**Sn**	**07 20 04.8**	**-6.9**
YUK				pmax	pmax		
	comp=E,47nm,0.3s						
YUK				pmax	pmax		
	comp=Z,306nm,0.3s						
YUK				pmax	pmax		
	comp=N,50nm,0.2s						
RUSJ	**Misakicho**	**5.36**	**4**	*e*P	**Pn**	**07 19 08.7**	**-2.9**
RUSJ				*e*S	**Sn**	**07 20 07.4**	**-4.7**
JRY	**Ryogami san**	**5.39**	**241**	P	**Pn**	**07 19 09.3**	**-2.8**
JRY				*e*S	**Sn**	**07 20 06.9**	**-5.9**
JHR	**Hokuryu**	**5.48**	**337**	P	**Pn**	**07 19 13.4**	**+0.2**
JHR				*e*S	**Sn**	**07 20 14.3**	**-0.7**
JKA	**Kamikawa-asahi**	**5.59**	**344**		**Pn**	**07 19 13.8**	**-1.1**
ASAJ	**Asahikawa**	**5.60**	**344**	Pn	**Pn**	**07 19 13.8**	**-1.1**
	comp=N,8.5nm,0.3s,baz=206,slow=9.7,SNR=13						
ASAJ				Sn	**Sn**	**07 20 15.2**	**-2.7**
	comp=N,9.1nm,0.3s,baz=350,slow=22,SNR=7.1						
MJAR	**Matsushiro Arr**	**5.63**	**249**	Pn	**Pn**	**07 19 13.7**	**-1.6**
	comp=N,1.3nm,0.3s,baz=78,slow=18,SNR=20						
MJAR				Sn	**Sn**	**07 20 18.8**	**0.0**
	comp=N,0.6nm,0.3s,baz=281,slow=9.6,SNR=4.1						
MAJO	**Matsushiro**	**5.63**	**249**	*de*P	**Pn**	**07 19 14.2**	**-1.2**
MAJO	**Matsushiro**	**5.63**	**249**		**Pn**	**07 19 14.5**	**-0.9**
MAT	**Matsushiro**	**5.63**	**249**	P	**Pn**	**07 19 14.2**	**-1.2**
MAT				S	**Sn**	**07 20 17.1**	**-1.7**
MJB9	**Matsu-Tunnel**	**5.63**	**249**	Pn	**Pn**	**07 19 13.7**	**-1.7**
JGF	**Kuroka**	**6.68**	**244**		**Pn**	**07 19 29.2**	**-0.5**
KUR	**Kuril'sk**	**6.88**	**19**	*e*P	**Pn**	**07 19 29.7**	**-2.8**
KUR				pmax	pmax		
	comp=Z,74nm,0.4s						
JWT	**Wachi**	**8.23**	**248**	Pn	**Pn**	**07 19 49.1**	**-1.9**
YSS	**Yuzh-Sakhalins**	**8.33**	**351**	*ce*P	**Pn**	**07 19 56.4**	**+4.1**
YSS				pmax	pmax		
	comp=Z,84nm,2.5s						
USA0B	**Ussuriysk Arra**	**11.00**	**304**	P	**Pn**	**07 20 29.7**	**+0.8**
USA0B	**Ussuriysk Arra**	**11.00**	**304**		**Pn**	**07 20 29.7**	**+0.8**
USRK	**Ussuriysk Ar.**	**11.00**	**304**	Pn	**Pn**	**07 20 30.0**	**+1.1**
	baz=103,slow=14,SNR=19						
MDJ	**Mudanjiang**	**12.74**	**302**		**Pn**	**07 20 52.5**	**-0.2**
KSRS	**Korea Array**	**13.31**	**270**	Pn	**Pn**	**07 21 01.3**	**+0.8**
	baz=72,slow=15,SNR=2.1						
KSRS				LR	LR	07 25 11.5	
	comp=Z,111nm,19.1s,baz=69,slow=33						
KLR	**Kul'dur**	**14.02**	**323**	Pn	**Pn**	**07 21 10.3**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=118,slow=12,SNR=6.4						
KLR				LR	LR	07 26 08.9	
	comp=Z,65nm,20.2s,baz=130,slow=35						
KLR	**Kul'dur**	**14.02**	**323**	⇑*i*P	**Pn**	**07 21 10.1**	**0.0**
KLR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
PEA0B	**Petropavlovsk-**	**16.91**	**28**	*d i*P	**P**	**07 21 49.8**	**+0.5**
PEA0B	**Petropavlovsk-**	**16.91**	**28**	P	**P**	**07 21 50.2**	**+0.9**
PETK	**Petropavlovsk-**	**16.91**	**28**	Pn	**P**	**07 21 49.5**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=207,slow=9.5,SNR=13						
PETK	**Petropavlovsk-**	**16.91**	**28**	P	**P**	**07 21 49.1**	**-0.2**
ZEA	**Zeya**	**19.18**	**327**	*e*P	**Pn**	**07 22 15.7**	**+0.3**
ZEA				pmax	pmax		
	comp=N,10.0nm,0.6s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HIA	**Hailar**	**20.73**	**309**	⇑*i*P	Pn	07 22 35.5	+1.8
HIA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MA2	**Magadan**	**21.20**	**9**	P	**P**	**07 22 38.2**	**+2.2**
	comp=Z,7.2nm,0.6s,baz=174,slow=6.2,SNR=3.5						
MA2				LR	LR	07 31 38.2	
	comp=Z,28nm,18.7s,baz=292,slow=39						
MA2	**Magadan**	**21.20**	**9**	P	**P**	**07 22 38.2**	**+2.2**
MA2				pmax	pmax		
	comp=Z,22nm,1.1s						
MA2	**Magadan**	**21.20**	**9**	IAmb	IAmb	07 22 52.5	
	comp=Z,22nm,1.1s						
SEY	**Seymchan**	**24.65**	**8**	P	**P**	**07 23 12.6**	**+1.8**
	comp=Z,5.2nm,0.6s,baz=167,slow=6.4,SNR=12						
YAK	**Yakutsk**	**25.08**	**343**	⇓*e*P	**P**	**07 23 16.0**	**+1.4**
YAK				pmax	pmax		
	comp=Z,14nm,0.6s						
YAK	**Yakutsk**	**25.08**	**343**	P	**P**	**07 23 16.3**	**+1.7**
H11N2	**WAKE ISLAND Hy**	**26.95**	**128**	T	T	07 51 31.0	
	baz=320,slow=75						
H11N1	**WAKE ISLAND Hy**	**26.96**	**128**	T	T	07 51 35.3	
	baz=320,slow=75						
H11N3	**WAKE ISLAND Hy**	**26.97**	**128**	T	T	07 51 30.7	
	baz=320,slow=75						
SONM	**Songino Array**	**29.09**	**301**	P	**P**	**07 23 53.4**	**+2.4**
	comp=Z,0.6nm,0.7s,baz=97,slow=10,SNR=1.1						
SONM				LR	LR	07 36 49.0	
	comp=Z,57nm,18.8s,baz=126,slow=39						
SONM	**Songino Array**	**29.09**	**301**	P	**P**	**07 23 53.4**	**+2.4**
SONM				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TIXI	**Tiksi**	**33.95**	**351**	⇑*e*P	**P**	**07 24 33.4**	**+0.2**
DGZ	**Jazzator, Alta**	**41.55**	**305**	*de*P	**P**	**07 25 39.0**	**+1.1**
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ZALV	**Zalesovo Beam**	**42.74**	**311**	P	**P**	**07 25 48.2**	**+0.9**
	comp=Z,2.0nm,0.3s,baz=91,slow=6.7,SNR=4.1						
ZALV				PcP	**PcP**	**07 27 38.8**	**+0.6**
	comp=Z,1.9nm,0.5s,baz=85,slow=3.5,SNR=4.2						
NRIK	**Noril'sk**	**42.84**	**334**	P	**P**	**07 25 49.0**	**+1.2**
	comp=Z,1.9nm,0.6s,baz=73,slow=9.0,SNR=1.9						
CM31	**Chiang Mai Arr**	**44.47**	**256**		**S**	**07 32 32.3**	**-1.7**
CMAR	**Chiang Mai Arr**	**44.47**	**256**	LR	LR	07 45 00.9	
	comp=Z,39nm,18.1s,baz=152,slow=37						
MK31	**Makanchi Array**	**45.45**	**301**	P	**P**	**07 26 09.1**	**-0.1**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MK31	**Makanchi Array**	**45.45**	**301**	P	**P**	**07 26 09.1**	**-0.1**
MK31				IAmb	IAmb	07 26 10.6	
	comp=Z,2.6nm,0.9s						
MKAR	**Makanchi Array**	**45.45**	**301**	P	**P**	**07 26 10.0**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=80,slow=9.2,SNR=12						
MKAR				LR	LR	07 45 35.6	
	comp=Z,53nm,18.9s,baz=58,slow=37						
MKAR	**Makanchi Array**	**45.45**	**301**	P	**P**	**07 26 10.0**	**+0.8**
ILAR	**Eielson Array**	**46.63**	**33**	P	**P**	**07 26 18.4**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=259,slow=6.6,SNR=18						
KURK	**Kurchatov**	**46.96**	**307**	P	**P**	**07 26 21.8**	**+0.9**
KURK	**Kurchatov**	**46.96**	**307**	P	**P**	**07 26 21.8**	**+0.9**
KURBB	**Kurchatov Arra**	**47.04**	**307**	P	**P**	**07 26 21.8**	**+0.3**
	comp=Z,3.8nm,0.5s,baz=81,slow=8.2,SNR=23						
BOOM	**Boomskoye usch**	**51.05**	**298**	P	**P**	**07 26 52.1**	**-0.4**
BOOM				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BOOM	**Boomskoye usch**	**51.05**	**298**	P	**P**	**07 26 52.1**	**-0.4**
BOOM				IAmb	IAmb	07 27 09.6	
	comp=Z,4.7nm,1.1s						
HYT	**Haines Junctio**	**51.34**	**38**	P	**P**	**07 26 55.6**	**+1.2**
HYT				IAmb	IAmb	07 26 57.9	
	comp=Z,12nm,1.0s						
BVAR	**Borovoye Array**	**51.37**	**312**	P	**P**	**07 26 55.8**	**+1.2**
	comp=Z,1.7nm,0.6s,baz=143,slow=5.4,SNR=9.5						
BVAR				PcP	**PcP**	**07 28 09.5**	**+0.7**
	comp=Z,2.1nm,0.6s,baz=11,slow=1.5,SNR=3.7						
BRVK	**Borovoye**	**51.43**	**312**	P	**P**	**07 26 55.9**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRVK	**Borovoye**	**51.43**	**312**	P	**P**	**07 26 55.9**	**+0.9**
BRVK				IAmb	IAmb	07 26 57.4	
	comp=Z,3.0nm,0.7s						
INK	**Inuvik**	**51.65**	**28**	P	**P**	**07 26 57.1**	**+0.7**
	comp=Z,2.2nm,0.7s,baz=302,slow=2.5,SNR=6.6						
KK31	**Karatay Array**	**54.54**	**300**	P	**P**	**07 27 18.4**	**+0.3**
KK31				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KK31	**Karatay Array**	**54.54**	**300**	P	**P**	**07 27 18.4**	**+0.3**
KK31				IAmb	IAmb	07 27 19.4	
	comp=Z,4.5nm,1.3s						
KKAR	**Karatay Array**	**54.54**	**300**	P	**P**	**07 27 18.2**	**+0.1**
KKAR	**Karatay Array**	**54.54**	**300**	P	**P**	**07 27 18.2**	**+0.1**
DRK	**Karamyk**	**55.09**	**296**	P	**P**	**07 27 25.7**	**+3.2**
ARU	**Arti**	**56.82**	**319**	LR	LR	07 53 37.9	
	comp=Z,32

VNA1	**Neumayer--Stat**	**145.08**	**195**	PKPdf	**PKPbc**	**07 37**	**25.1**	**-0.4**

IDC ***10*** *07:24:42.9±1.6, 10°.89S×13°.29W, h0km, mb4.2/13, mb1 4.4/13, mb1mx4.1/45, mbtmp4.2/13, MS3.5/4, Ms1 3.4/4, ms1mx3.0/49, Error ellipse: s-maj=56.4km s-min=26.3km az=153.0*

NEIC ***10*** *07:24:45.4±2.1, 10°.82S±0°.10×13°.2W±0°.1, h10km±1km, mb4.7/20, Error ellipse: s-maj=18.3km s-min=16.5km az=62.0*

ISC 10 07:24:44.7±0.6, 10°.9S±0°.1×13°.2W±0°.1, h10km, n39, σ0s86/34, mb4.5/18, MS3.5/3, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASCN	**Ascension**	**3.12**	**339**	Pn	**Pn**	**07 25 33.1**	**-0.8**
DBIC	**Dimbokro**	**19.31**	**26**	LR	LR	07 34 29.8	
	comp=Z,82nm,19.9s,baz=176,slow=30						
DBIC	**Dimbokro**	**19.31**	**26**	P	**P**	**07 29 08.7**	**-1.3**
DBIC				IAmb	IAmb	07 29 46.4	
	comp=Z,72nm,1.7s						
RCBR	**Riachuelo**	**22.98**	**281**	P	**P**	**07 29 49.4**	**-0.3**
KOWA	**Kowa**	**26.80**	**20**	LR	LR	07 38 33.3	
	comp=Z,87nm,18.6s,baz=140,slow=31						
KOWA	**Kowa**	**26.80**	**20**	P	**P**	**07 30 25.6**	**+0.5**
KOWA				IAmb	IAmb	07 30 26.0	
	comp=Z,11nm,0.7s						
TORD	**Torodi Ar. Bea**	**28.08**	**32**	P	**P**	**07 30 35.9**	**-0.8**
	comp=Z,4.8nm,1.1s,baz=220,slow=9.2,SNR=12						
TORD				LR	LR	07 39 58.0	
	comp=Z,115nm,18.2s,baz=180,slow=32						
TORD	**Torodi Ar. Bea**	**28.08**	**32**	P	**P**	**07 30 36.1**	**-0.5**
BDFB	**Brasilia**	**34.16**	**258**	P	**P**	**07 31 28.3**	**-2.2**
	comp=Z,1.4nm,0.5s,baz=117,slow=11,SNR=2.5						
BDFB	**Brasilia**	**34.16**	**258**	IAmb	IAmb	07 31 31.6	
	comp=Z,13nm,1.4s						
BOSA	**Boshof**	**40.07**	**122**	LR	LR	07 45 52.3	
	comp=Z,65nm,21.3s,baz=356,slow=32						
MBAR	**Mbarara**	**44.85**	**80**	P	**P**	**07 32 59.5**	**-0.3**
PTGA	**Pitinga**	**47.50**	**279**	P	**P**	**07 33 22.2**	**+1.7**
PTGA				IAmb	IAmb	07 33 24.0	
	comp=Z,7.6nm,1.4s						
SAML	**Samuel**	**49.20**	**268**	P	**P**	**07 33 33.9**	**+0.3**
KEST	**Kesra**	**51.01**	**24**	P	**P**	**07 33 48.4**	**+1.4**
	comp=Z,10nm,1.0s,baz=163,slow=4.3,SNR=6.1						
KEST	**Kesra**	**51.01**	**24**	IAmb	IAmb	07 33 50.1	
	comp=Z,29nm,1.2s						
KMBO	**Kilima Mbogo**	**51.05**	**83**	P	**P**	**07 33 48.5**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=228,slow=14,SNR=3.3						
TOSP	**Speyside**	**51.91**	**294**	P	**P**	**07 33 54.8**	**+0.8**
VNA1	**Neumayer--Stat**	**59.82**	**178**	P	**P**	**07 34 50.1**	**+0.2**
VNA2	**Neumayer--Watz**	**60.13**	**178**	P	**P**	**07 34 51.2**	**-0.8**
VNA3	**Neumayer Olymp**	**60.38**	**179**	P	**P**	**07 34 52.7**	**-1.0**
SNAA	**Sanae**	**61.10**	**176**	P	**P**	**07 34 58.0**	**-0.7**
SNAA	**Sanae**	**61.10**	**176**	P	**P**	**07 34 58.6**	**-0.1**
SNAA				IAmb	IAmb	07 34 59.6	
	comp=Z,9.0nm,1.3s						
DIVS	**Divibare**	**62.47**	**26**	P	**P**	**07 35 07.3**	**-1.0**
DIVS				IAmb	IAmb	07 35 11.5	
	comp=Z,9.2nm,1.2s						
GERES	**GERESS Array B**	**64.02**	**19**	P	**P**	**07 35 18.6**	**0.0**
	comp=Z,0.6nm,0.4s,baz=237,slow=5.4,SNR=5.4						
GERES	**GERESS Array B**	**64.02**	**19**	P	**P**	**07 35 18.1**	**-0.4**
VRAC	**Vranov**	**65.40**	**21**	P	**P**	**07 35 27.9**	**+0.4**
	comp=Z,1.8nm,0.3s,baz=277,slow=8.1,SNR=3.7						
MLR	**Muntele Rosu**	**66.26**	**29**	P	**P**	**07 35 32.6**	**-0.6**
	comp=Z,6.0nm,0.8s,baz=216,slow=4.4,SNR=6.0						
MLR	**Muntele Rosu**	**66.26**	**29**	P	**P**	**07 35 33.0**	**-0.2**
BRTR	**Keskin Array B**	**66.50**	**38**	P	**P**	**07 35 35.4**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=213,slow=5.0,SNR=5.2						
AKASG	**Malin Array Be**	**71.55**	**27**	P	**P**	**07 36 05.4**	**-0.4**
	comp=Z,4.8nm,0.7s,baz=228,slow=6.4,SNR=13						
AKASG	**Malin Array Be**	**71.55**	**27**	P	**P**	**07 36 05.1**	**-0.7**
AKASG				IAmb	IAmb	07 36 06.5	
	comp=Z,6.9nm,1.2s						
AKBB	**Malin Array Si**	**71.55**	**27**	P	**P**	**07 36 05.0**	**-0.9**
NOA	**NORSAR Array B**	**74.23**	**12**	P	**P**	**07 36 22.1**	**+0.5**
	comp=Z,0.7nm,0.9s,baz=205,slow=6.0,SNR=3.7						
KBZ	**Khabaz**	**74.46**	**39**	P	**P**	**07 36 23.9**	**+0.7**
	comp=Z,3.4nm,0.9s,baz=274,slow=4.5,SNR=5.3						
FINES	**FINESS Array B**	**78.40**	**18**	P	**P**	**07 36 45.4**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=203,slow=6.0,SNR=2.0						
QSPA	**South Pole Qui**	**79.28**	**180**	P	**P**	**07 36 50.7**	**+0.5**
CCM	**Cathedral Cave**	**87.36**	**309**	P	**P**	**07 37 32.0**	**-0.2**
CCM				IAmb	IAmb	07 37 35.3	
	comp=Z,7.4nm,1.2s						
TXAR	**Lajitas Array**	**95.61**	**299**	P	**P**	**07 38 12.4**	**+1.4**
	comp=Z,0.1nm,0.4s,baz=97,slow=4.6,SNR=4.1						

BGR ***10*** *07:49:18.1±0.0, 10°.79N×63°.37W, h33km, mb4.9*

VAO ***10*** *07:49:25.7±0.2, 11°.26N×62°.33W, h10km, mb5.0*

NEIC ***10*** *07:49:36.4±1.8, 11°.15N±0°.06×62°.48W±0°.06, h115km±4km, mb5.1/156, Mww4.9, Error ellipse: s-maj=9.5km s-min=6.6km az=133.0*

TRN ***10*** *07:49:36.4, 11°.17N×62°.38W, h116km, MD5.1*

TRN Felt widely in Trinidad, MMI III, IV.

IDC ***10*** *07:49:36.7±0.3, 11°.27N×62°.58W, h125km±3km, mb4.5/38, mb1 4.6/42, mb1mx4.5/63, mbtmp4.8/42, MS3.6/13, Ms1 3.6/13, ms1mx3.4/33, Error ellipse: s-maj=8.8km s-min=6.1km az=131.0*

FUNV ***10*** *07:49:37.0, 11°.05N×62°.30W, h103km, MW4.9*

GCMT ***10*** *07:49:39.3±0.3, 11°.10N±0°.02×62°.43W±0°.02, h115km±4km, MW4.9/93, Moment Tensor Solution. s19,c20; s93,c128; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.52±.11; $M_{\theta\theta}$-2.20±.12; $M_{\phi\phi}$0.68±.13; $M_{r\theta}$1.26±.08; $M_{\theta\phi}$0.03±.13; $M_{r\phi}$1.23±.07; Best double couple: M_o2.62900×10^{16} NP1:ϕ_s300.00000°, δ36.00000°, λ143.00000°. NP2: ϕ_s61.00000°, δ69.00000°, λ60.00000°. Principal axes: T 2.6350, Plg55.0000°, Azm293.0000°; N -0.0030, Plg28.0000°, Azm73.0000°; P -2.6240, Plg19.0000°, Azm173.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***10*** *07:49:41, 11°.15N×61°.92W, h140km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}2.76; $M_{\theta\theta}$-1.23; $M_{\phi\phi}$-1.53; $M_{r\theta}$0.72; $M_{\theta\phi}$-1.58; $M_{\phi r}$-1.23; Fault plane solution: M_o3.20000×10^{16} NP1:ϕ_s63.00000°, δ45.00000°, λ123.00000°. NP2:ϕ_s200.00000°, δ54.00000°, λ61.00000°. Principal axes: T 3.3742, Plg67.0000°, Azm51.0000°; N -0.3743, Plg23.0000°, Azm218.0000°; P -2.9999, Plg5.0000°, Azm310.0000°;*

ISC 10 07:49:36.3±0.3, 11°.15N±0°.03×62°.51W±0°.03, h125km±2km, h125km:pP-P, n713, σ1s52/774, mb5.1/125, 9C-8D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRUV	**Carupano**	**0.85**	**237**	⇑*iP*	**Pn**	**07 49 57.3**	**-0.1**
CRUV				*eS*	**Sn**	**07 50 11.7**	**-1.6**
GRFF	**Grenada Fort F**	**1.17**	**40**	*eP*	**Pn**	**07 49 58.7**	**-1.8**
GRFF				*eS*	**Sn**	**07 50 15.1**	**-3.7**
TRN	**Trinidad (W)**	**1.19**	**114**	⇑*iP*	**Pn**	**07 49 58.6**	**-2.0**
TRN				*eS*	**Sn**	**07 50 14.3**	**-4.8**
GRGR	**Grenville**	**1.29**	**40**	*eP*	**Pn**	**07 49 59.7**	**-2.1**
GRGR				*eS*	**Sn**	**07 50 17.4**	**-3.6**
GRGR	**Grenville**	**1.29**	**40**		**Pn**	**07 49 59.9**	**-1.8**
GRGR				Sn	**Sn**	**07 50 18.0**	**-3.1**
GRGR	**Grenville**	**1.29**	**40**	*eP*	**Pn**	**07 50 00.1**	**-1.7**
GRGR				*eS*	**Sn**	**07 50 16.5**	**-4.6**
TPP	**Pointe-a-Pierr**	**1.33**	**128**	⇑*iP*	**Pn**	**07 50 01.9**	**-0.2**
GRHS	**Sauteurs**	**1.37**	**38**	*eP*	**Pn**	**07 50 01.9**	**-0.7**
GRHS				*eS*	**Sn**	**07 50 20.7**	**-1.9**
GRSS	**Sisters**	**1.44**	**37**	*eP*	**Pn**	**07 50 02.7**	**-0.7**
GRSS				*eS*	**Sn**	**07 50 22.0**	**-2.0**
TBH	**Brigand Hill**	**1.56**	**115**	⇑*iP*	**Pn**	**07 50 03.9**	**-0.9**
TPR	**Prospect**	**1.70**	**88**	*eP*	**Pn**	**07 50 05.1**	**-1.3**
GCMP	**Grenada, Carri**	**1.70**	**38**	⇑*iP*	**Pn**	**07 50 04.5**	**-1.9**
GCMP				*eS*	**Sn**	**07 50 25.6**	**-3.8**
BOT	**Bacolet**	**1.76**	**89**	⇑*iP*	**Pn**	**07 50 05.6**	**-1.5**
TOSP	**Speyside**	**1.94**	**85**	⇑*iP*	**Pn**	**07 50 06.5**	**-2.7**
TOSP				*eS*	**Sn**	**07 50 29.1**	**-5.4**
TOSP	**Speyside**	**1.94**	**85**		**Pn**	**07 50 05.9**	**-3.4**
TOSP	**Speyside**	**1.94**	**85**	⇑*iP*	**Pn**	**07 50 06.6**	**-2.7**
TOSP				*eS*	**Sn**	**07 50 27.2**	**-7.3**
PLCV	**Puerto La Cruz**	**2.27**	**245**		**Pn**	**07 50 15.3**	**+2.0**
PCRV	**Puerto La Cruz**	**2.30**	**245**	P	**Pn**	**07 50 15.3**	**+1.5**
	110nm,0.3s,baz=53,slow=4.9,SNR=293						
PCRV				S	**Sn**	**07 50 43.0**	**+0.4**
	86nm,0.3s,baz=95,slow=5.3,SNR=6.5						
PCRV	**Puerto La Cruz**	**2.30**	**245**	*eP*	**Pn**	**07 50 15.5**	**+1.7**
PCRV				*eS*	**Sn**	**07 50 41.7**	**-0.9**
SVOC	**Richmond Hill,**	**2.36**	**32**	*eP*	**Pn**	**07 50 12.6**	**-1.9**
SVOC				*eS*	**Sn**	**07 50 40.9**	**-3.0**
SVB	**Belmont**	**2.44**	**30**	⇓*iP*	**Pn**	**07 50 13.8**	**-1.8**
SVB				*eS*	**Sn**	**07 50 41.8**	**-4.0**
SVB	**Belmont**	**2.44**	**30**		**Pn**	**07 50 13.6**	**-2.0**
SVV	**Soufriere Volc**	**2.50**	**30**	*eP*	**Pn**	**07 50 15.7**	**-0.7**
SSV	**Crater Summit**	**2.52**	**31**	*eP*	**Pn**	**07 50 16.1**	**-0.6**
MCLT	**Moule a Chique**	**2.97**	**31**	⇓*iP*	**Pn**	**07 50 19.9**	**-2.6**
MCLT				*eS*	**Sn**	**07 50 53.8**	**-4.2**
MCLT	**Moule a Chique**	**2.97**	**31**	Pn	**Pn**	**07 50 19.6**	**-2.9**
PRGV	**PARIAGUAN**	**3.17**	**222**	*eP*	**Pn**	**07 50 25.4**	**+0.3**
PRGV				*eS*	**Sn**	**07 51 00.7**	**-2.0**
SLCP	**Castries, St.**	**3.21**	**27**	*eP*	**Pn**	**07 50 24.3**	**-1.2**
SLCP				*eS*	**Sn**	**07 51 00.1**	**-3.5**
SLBI	**Saint Lucia, B**	**3.23**	**27**	*eP*	**Pn**	**07 50 23.9**	**-1.8**
SLBI				*eS*	**Sn**	**07 51 01.1**	**-2.9**
BCHC	**Barbados, Cave**	**3.44**	**55**	*eP*	**Pn**	**07 50 28.2**	**-0.3**
BCHC				*eS*	**Sn**	**07 51 04.3**	**-4.6**
BBGH	**Gun Hill**	**3.50**	**55**	*eP*	**Pn**	**07 50 29.5**	**+0.1**
BBGH				*eS*	**Sn**	**07 51 05.4**	**-5.0**
BBGH	**Gun Hill**	**3.50**	**55**		**Pn**	**07 50 29.8**	**+0.4**
BBSP	**Saint Philip**	**3.56**	**57**	*eP*	**Pn**	**07 50 29.8**	**-0.4**
BBSP				*eS*	**Sn**	**07 51 06.7**	**-5.1**
BIM	**Bigot**	**3.63**	**23**	⇓*iP*	**Pn**	**07 50 29.5**	**-1.7**
BIM				*eS*	**Sn**	**07 51 09.0**	**-4.5**
BIM	**Bigot**	**3.63**	**23**		**Pn**	**07 50 28.8**	**-2.3**
MPOM	**Morne Pois Mar**	**3.65**	**26**	*eP*	**Pn**	**07 50 29.1**	**-2.1**
MPOM				*eS*	**Sn**	**07 51 09.3**	**-4.7**
MPOM	**Morne Pois Mar**	**3.65**	**26**	Pn	**Pn**	**07 50 29.5**	**-1.9**
BIRV	**Birongo**	**3.75**	**260**	*eP*	**Pn**	**07 50 35.0**	**+2.2**
BIRV				*eS*	**Sn**	**07 51 16.1**	**-0.4**
FDF	**Fort de France**	**3.80**	**20**	⇓*iP*	**Pn**	**07 50 32.3**	**-1.2**
FDF				*eS*	**Sn**	**07 51 13.2**	**-4.4**
FDF	**Fort de France**	**3.80**	**20**		**Pn**	**07 50 31.5**	**-1.9**
FDF	**Fort de France**	**3.80**	**20**	*eP*	**Pn**	**07 50 32.4**	**-1.0**
SVN	**Savane Anatole**	**3.90**	**19**	⇓*eP*	**Pn**	**07 50 33.6**	**-1.1**
SVN	**Savane Anatole**	**3.90**	**19**		**Pn**	**07 50 32.6**	**-2.1**
ILAM	**Ilet Lapin Mar**	**3.94**	**24**	⇓*iP*	**Pn**	**07 50 34.1**	**-1.1**
ILAM				*eS*	**Sn**	**07 51 16.2**	**-4.6**
ILAM	**Ilet Lapin Mar**	**3.94**	**24**		**Pn**	**07 50 33.3**	**-1.9**
MERV	**Las Mercedes**	**4.18**	**244**	*eP*	**Pn**	**07 50 38.8**	**+0.5**
MERV				*eS*	**Sn**	**07 51 25.2**	**-1.3**
DLPL	**La Plaine**	**4.34**	**16**	*eP*	**Pn**	**07 50 39.5**	**-1.1**
DLPL	**La Plaine**	**4.34**	**16**		**Pn**	**07 50 39.4**	**-1.1**
CARV	**Caracas**	**4.39**	**262**	⇑*iP*	**Pn**	**07 50 43.1**	**+1.8**
CARV				*eS*	**Sn**	**07 51 32.0**	**+0.3**
DSLB	**Salisbury**	**4.40**	**14**	*eP*	**Pn**	**07 50 40.1**	**-1.2**
TACV	**Tcata**	**4.55**	**258**	*eP*	**Pn**	**07 50 44.8**	**+1.4**
TACV				*eS*	**Sn**	**07 51 35.0**	**-0.6**
MDCT	**Cottage Hill,**	**4.56**	**13**	*eP*	**Pn**	**07 50 43.2**	**-0.3**
TDBA	**Terre de Bas,**	**4.75**	**10**	*eP*	**Pn**	**07 50 45.8**	**-0.3**
TBG	**Guadaloupe-3**	**4.75**	**10**	*eP*	**Pn**	**07 50 44.6**	**-1.4**
TBG	**Guadaloupe-3**	**4.75**	**10**	*e*	Pn	07 50 50.9	+4.8
MAGL	**Barre de l'ile**	**4.92**	**14**	⇓*iP*	**Pn**	**07 50 48.2**	**-0.1**
MAGL	**Barre de l'ile**	**4.92**	**14**	*eS*	**Sn**	**07 51 40.1**	**-4.2**
CBE	**Ff, Capester**	**4.97**	**10**	*eP*	**Pn**	**07 50 47.9**	**-1.2**
CBE	**Ff, Capester**	**4.97**	**10**	*eS*	**Sn**	**07 51 38.8**	**-6.8**
BENV	**Beln**	**5.14**	**257**	*eP*	**Pn**	**07 50 52.6**	**+1.3**
BENV				*eS*	**Sn**	**07 51 47.8**	**-2.0**
TURV	**Turiamo**	**5.28**	**263**	*eP*	**Pn**	**07 50 54.0**	**+0.9**
TURV				*eS*	**Sn**	**07 51 51.9**	**-1.1**
CACV	**CAICARA DEL OR**	**5.34**	**229**	⇓*iP*	Pn	07 50 48.5	-5.4
CACV				*eS*	Sn	07 51 41.0	-12
ABD	**La Joyeuse, An**	**5.39**	**10**	*eP*	**Pn**	**07 50 54.1**	**-0.5**
BAUV	**El Baul**	**5.87**	**249**	*eP*	**Pn**	**07 51 01.0**	**-0.1**
BAUV				*eS*	**Sn**	**07 52 04.0**	**-3.3**
ANBD	**Bethesda, Anti**	**5.91**	**7**	*eP*	**Pn**	**07 51 01.4**	**-0.2**
ANBD	**Bethesda, Anti**	**5.91**	**7**	*eS*	**Sn**	**07 52 02.9**	**-5.2**
NVDO	**Nevis, Disaste**	**5.94**	**359**	*eP*	**Pn**	**07 51 02.3**	**+0.3**
ANDO	**Antigua, Disas**	**5.97**	**6**	*eP*	**Pn**	**07 51 02.4**	**0.0**
ANOC	**Antigua Open C**	**5.97**	**6**	*eP*	**Pn**	**07 51 01.5**	**-0.9**
ANOC	**Antigua Open C**	**5.97**	**6**	*eS*	**Sn**	**07 52 04.0**	**-5.7**
MAPV	**Macapo**	**6.00**	**258**	*eP*	**Pn**	**07 51 04.1**	**+1.3**
MAPV				*eS*	**Sn**	**07 52 07.9**	**-2.4**
JACV	**Jacura**	**6.20**	**270**	*eP*	**Pn**	**07 51 06.6**	**+0.9**
SEUS	**St. Eustatius**	**6.33**	**356**	*eP*	**Pn**	**07 51 06.9**	**-0.3**
SEUS	**St. Eustatius**	**6.33**	**356**	Pn	**Pn**	**07 51 07.3**	**+0.1**
ANWB	**Willy Bob**	**6.52**	**6**	*eP*	**Pn**	**07 51 09.7**	**-0.1**
ANWB	**Willy Bob**	**6.52**	**6**	Pn	**Pn**	**07 51 09.7**	**-0.1**
SMRT	**St. Maarten**	**6.89**	**356**	*eP*	**Pn**	**07 51 13.9**	**-0.9**
SMRT	**St. Maarten**	**6.89**	**356**		**Pn**	**07 51 15.2**	**+0.4**
CDVI	**St. Croix**	**6.92**	**342**	Pn	**Pn**	**07 51 14.8**	**-0.4**
SIQV	**Siquisique**	**7.19**	**267**	*eP*	**Pn**	**07 51 19.4**	**+0.5**
SIQV				*eS*	**Sn**	**07 52 34.9**	**-4.2**
MONV	**Montecano**	**7.36**	**277**	*eP*	**Pn**	**07 51 21.8**	**+0.7**
MONV				*eS*	**Sn**	**07 52 38.8**	**-4.4**
MTP	**Monte Pirata**	**7.51**	**337**	Pn	**Pn**	**07 51 22.4**	**-0.9**
STVI	**Saint Thomas**	**7.54**	**342**	Pn	**Pn**	**07 51 23.0**	**-0.7**
CUPR	**Culebra, Puert**	**7.61**	**340**	Pn	**Pn**	**07 51 24.1**	**-0.4**
PDPR	**Patillas Dam,**	**7.63**	**334**		**Pn**	**07 51 23.4**	**-1.5**
HUMP	**Col San Antoni**	**7.67**	**335**		**Pn**	**07 51 25.5**	**+0.1**
ICMP	**Isla Caja de M**	**7.75**	**330**	Pn	**Pn**	**07 51 26.2**	**-0.2**
SJG	**San Juan**	**7.77**	**333**	P	**Pn**	**07 51 25.8**	**-0.9**
	1.9nm,0.3s,baz=135,slow=11,SNR=8.9						
SJG	**San Juan**	**7.77**	**333**		**Pn**	**07 51 27.8**	**+1.1**
SJG	**San Juan**	**7.77**	**333**	*eP*	**Pn**	**07 51 28.1**	**+1.4**
CBYP	**Canovanas**	**7.79**	**336**		**Pn**	**07 51 27.3**	**+0.3**
GCPR	**Guaynabo City**	**7.92**	**335**		**Pn**	**07 51 27.9**	**-0.7**
OBIP	**Obispado Ponce**	**7.92**	**330**		**Pn**	**07 51 28.1**	**-0.7**
DABV	**Dabajuro**	**7.98**	**269**	*eP*	**Pn**	**07 51 29.9**	**+0.3**
DABV				*eS*	**Sn**	**07 52 53.7**	**-4.6**
ELOV	**Elorza**	**8.02**	**240**	*eP*	**Pn**	**07 51 29.3**	**-0.9**
ELOV				*eS*	**Sn**	**07 52 52.6**	**-6.8**
MLPR	**Magueyes Islan**	**8.08**	**328**	Pn	**Pn**	**07 51 33.4**	**+2.5**
CRPR	**Cabo Rojo, PR**	**8.14**	**327**		**Pn**	**07 51 32.9**	**+1.1**
AOPR	**Arecibo Observ**	**8.25**	**331**		**Pn**	**07 51 33.7**	**+0.4**
SDV	**Santo Domingo**	**8.31**	**255**	P	**Pn**	**07 51 34.5**	**+0.3**
	8.4nm,0.3s,baz=76,slow=10,SNR=22						
SDV				S	**Sn**	**07 53 02.7**	**-3.9**
	29nm,0.3s,baz=282,slow=16,SNR=8.7						
SDV	**Santo Domingo**	**8.31**	**255**		**Pn**	**07 51 34.6**	**+0.4**
SDV	**Santo Domingo**	**8.31**	**255**	*eP*	**Pn**	**07 51 30.9**	**-3.3**
SDV	**Santo Domingo**	**8.31**	**255**	*eP*	**Pn**	**07 51 33.7**	**-0.6**
SDV				*eS*	**Sn**	**07 53 00.3**	**-6.3**
AGPR	**Aguadilla, PR**	**8.53**	**329**		**Pn**	**07 51 38.3**	**+1.3**
SOCV	**Socops**	**8.71**	**252**	*eP*	**Pn**	**07 51 38.0**	**-1.4**
SOCV				*eS*	**Sn**	**07 53 09.2**	**-6.8**
BOAV	**Boa Vista**	**8.91**	**167**	*eP*	Pn	07 51 37.2	-5.0
URIC	**Uribia, Colomb**	**9.31**	**274**		**Pn**	**07 51 49.3**	**+1.7**
MCQV	**Machiques**	**9.92**	**265**	*eP*	**Pn**	**07 51 55.4**	**-0.3**
DR12	**Loma Pena Alta**	**10.09**	**320**		**Pn**	**07 52 00.4**	**+2.4**
CRJC	**Cerrejon, Guaj**	**10.18**	**270**	*eP*	**Pn**	**07 51 58.6**	**-0.8**
TAMC	**Tame, Arauca**	**10.30**	**244**	*eP*	**Pn**	**07 51 58.6**	**-2.3**
TAMC	**Tame, Arauca**	**10.30**	**244**	*eP*	**Pn**	**07 51 59.5**	**-1.4**
BANI	**BANI**	**10.46**	**314**		**Pn**	**07 52 05.5**	**+2.4**
OCAC	**Ocana**	**11.04**	**256**	*eP*	**Pn**	**07 52 10.0**	**-1.0**
SCIO	**Santiago de Io**	**11.49**	**317**		**Pn**	**07 52 15.4**	**-0.5**
MDP	**Montagnes des**	**11.46**	**121**	P	Pn	07 52 11.1	-5.3
	8.8nm,0.3s,baz=314,slow=15,SNR=155						
MDP				S	Sn	07 54 09.2	-14
	170nm,0.3s,baz=41,slow=18,SNR=26						
MDP				LR	LR	07 57 27.4	
	comp=Z,177nm,20.8s,baz=288,slow=41						
BARC	**Barichara**	**11.47**	**248**	*eP*	**Pn**	**07 52 15.7**	**-1.1**
SDDR	**Presa de Saban**	**11.51**	**314**		**Pn**	**07 52 19.8**	**+2.8**
SDDR	**Presa de Saban**	**11.51**	**314**	*eP*	**Pn**	**07 52 18.6**	**+1.5**
ARGC	**Ariguani, Magd**	**11.61**	**265**	*eP*	**Pn**	**07 52 16.7**	**-1.7**
SMLC	**San Martn de**	**11.62**	**259**	*eP*	**Pn**	**07 52 17.6**	**-0.9**
RUSC	**La Rusia**	**11.69**	**244**		**Pn**	**07 52 18.6**	**-1.6**
RUSC	**La Rusia**	**11.69**	**244**	*eP*	**Pn**	**07 52 18.6**	**-1.2**
BRRC	**Barranca, Sant**	**11.77**	**251**	*eP*	**Pn**	**07 52 20.5**	**+0.1**
BRRC	**Barranca, Sant**	**11.77**	**251**	*eP*	**Pn**	**07 52 17.8**	**-2.6**
BRRC				*eS*	Sn	07 54 18.9	-11
PTGC	**Puerto Gaitan,**	**11.77**	**235**	*eP*	**Pn**	**07 52 17.6**	**-2.9**
PTGA	**Pitinga**	**12.07**	**168**	P	**Pn**	**07 52 21.5**	**-2.8**
	66nm,0.3s,baz=356,slow=14,SNR=482						
PTGA				S	Sn	07 54 27.9	-9.5
	60nm,0.3s,baz=85,slow=23,SNR=20						
PTGA				LR	LR	07 57 18.0	
	comp=Z,380nm,18.9s,baz=353,slow=38						
SJCC	**San Jacinto, C**	**12.52**	**265**		**Pn**	**07 52 28.4**	**-2.0**
SJCC	**San Jacinto, C**	**12.52**	**265**	*eP*	**Pn**	**07 52 28.1**	**-2.3**
PTBC	**PUERTO BERRIO,**	**12.66**	**250**	*eP*	**Pn**	**07 52 30.9**	**-1.2**
SPBC	**San Pablo de B**	**12.67**	**245**	*eP*	**Pn**	**07 52 30.9**	**-1.4**
ZARC	**Zaragoza, Cauc**	**12.71**	**254**	*eP*	**Pn**	**07 52 32.9**	**0.0**
VILC	**Villavicencio,**	**13.10**	**239**	*eP*	**Pn**	**07 52 38.6**	**+0.6**
GUVC	**San Jose del G**	**13.18**	**230**	*eP*	**Pn**	**07 52 37.6**	**-1.3**
ROSC	**El Rosal**	**13.27**	**243**	P	**Pn**	**07 52 41.8**	**+1.5**
	3.0nm,0.3s,baz=288,slow=23,SNR=9.4						
ROSC	**El Rosal**	**13.27**	**243**	Pn	**P**	**07 52 43.4**	**-2.1**
ROSC	**El Rosal**	**13.27**	**243**	*eP*	**Pn**	**07 52 40.5**	**+0.2**
UREC	**San Jos de Ur**	**13.28**	**256**	*eP*	**Pn**	**07 52 36.7**	**-3.5**
NORC	**Norcasia**	**13.43**	**247**	*eP*	**Pn**	**07 52 42.4**	**+0.3**
HELC	**Santa Helena**	**13.78**	**250**	*eP*	**Pn**	**07 52 48.1**	**+1.2**
GUY2C	**Guyana, Caldas**	**14.02**	**246**	*eP*	**Pn**	**07 52 49.0**	**-1.0**
DBBC	**Dabeiba**	**14.14**	**254**	*eP*	**Pn**	**07 52 51.0**	**-0.3**
TOLC	**Tolima**	**14.26**	**244**	*eP*	**Pn**	**07 52 54.8**	**+1.7**
PRAC	**Prado**	**14.32**	**240**	*eP*	**Pn**	**07 52 53.8**	**+0.3**
MACA	**Manacapuru-AM**	**14.33**	**173**	*eP*	**Pn**	**07 52 49.7**	**-3.9**
CBOC	**Ciudad Bolivar**	**14.35**	**250**	*eP*	**P**	**07 52 56.7**	**-1.6**
MACC	**Macarena, Meta**	**14.37**	**232**	*eP*	**Pn**	**07 52 54.8**	**+0.6**
ORTC	**Ortega, Tolima**	**14.53**	**241**	*eP*	**Pn**	**07 52 55.7**	**-0.4**
MALB	**Monte Alegre**	**15.30**	**147**	*eP*	**Pn**	**07 53 01.0**	**-4.7**
YOTC	**Yotoco, Valle**	**15.45**	**244**	*eP*	**P**	**07 53 09.0**	**-0.5**
MCPB	**Macapa, AP**	**15.45**	**137**	*eP*	**Pn**	**07 53 02.7**	**-4.9**
GARC	**Garzon, Huila**	**15.66**	**236**	*eP*	**P**	**07 53 12.8**	**+0.8**
FLOC	**Florencia**	**16.14**	**235**	P	**P**	**07 53 18.4**	**+1.3**
FLOC	**Florencia**	**16.14**	**235**	*eP*	**P**	**07 53 19.5**	**+2.4**
MTDJ	**Mount Denham**	**16.14**	**298**	P	**Pn**	**07 53 16.7**	**+0.4**
MTDJ				IAmb	IAmb	07 53 21.8	
	comp=Z,118nm,1.1s						
PTLC	**Puerto Leguiza**	**16.37**	**229**	*eP*	**P**	**07 53 23.3**	**+3.7**
POPC	**Popayan, Colom**	**16.45**	**240**	*eP*	**P**	**07 53 22.4**	**+1.6

M64A	**Tiverton**	**31.24**	**347**	P		**P**	**07 55 45.4**	**+1.4**
	baz=163							
LRAL	**Lakeview Retre**	**31.30**	**318**	P		**P**	**07 55 45.4**	**+0.6**
LRAL				IAmb		IAmb	07 55 46.9	
	comp=Z,28nm,0.8s							
LRAL	**Lakeview Retre**	**31.30**	**318**	P		**P**	**07 55 45.7**	**+0.9**
	baz=129,SNR=33							
RCBR	**Riachuelo**	**31.39**	**121**	*e*P		**P**	**07 55 46.3**	**+0.5**
FPAL	**Fort Paine**	**31.40**	**322**	P		**P**	**07 55 46.4**	**+0.8**
FPAL				IAmb		IAmb	07 55 47.8	
	comp=Z,32nm,0.9s							
S54A	**Dingess, Beckl**	**31.45**	**331**	P		**P**	**07 55 46.5**	**+0.5**
S54A				IAmb		IAmb	07 55 48.2	
	comp=Z,47nm,0.9s							
Y49A	**Blount Mountai**	**31.45**	**320**	P		**P**	**07 55 46.6**	**+0.6**
Y49A				IAmb		IAmb	07 55 48.0	
	comp=Z,31nm,0.8s							
L64A	**Middleborough**	**31.53**	**348**	P		**P**	**07 55 47.4**	**+0.8**
	baz=164							
V51A	**Loudon**	**31.53**	**325**	P		**P**	**07 55 47.8**	**+1.1**
V51A				IAmb		IAmb	07 55 48.9	
	comp=Z,38nm,0.8s							
TZTN	**Tazewell**	**31.63**	**327**	P		**P**	**07 55 48.1**	**+0.6**
TZTN				IAmb		IAmb	07 55 49.7	
	comp=Z,39nm,0.9s							
TZTN	**Tazewell**	**31.63**	**327**	P		**P**	**07 55 48.4**	**+0.8**
	baz=138,SNR=20							
W50A	**Signal Mountai**	**31.67**	**323**	P		**P**	**07 55 48.1**	**+0.1**
W50A				IAmb		IAmb	07 55 50.2	
	comp=Z,32nm,0.8s							
JANB	**Januaria**	**31.67**	**145**	*e*P		**P**	**07 55 48.7**	**+0.5**
PB08	**IPOC Station P**	**31.77**	**192**	P		**P**	**07 55 48.8**	**-0.5**
N59A	**State Game Lan**	**31.88**	**341**	P		**P**	**07 55 50.5**	**+0.8**
	baz=155							
SWET	**Sewanee**	**32.05**	**322**	P		**P**	**07 55 52.3**	**+1.0**
SWET				IAmb		IAmb	07 55 53.5	
	comp=Z,27nm,0.9s							
AQDB	**Aquidauana**	**32.13**	**168**	P		**P**	**07 55 51.5**	**-0.6**
AQDB	**Aquidauana**	**32.13**	**168**	*e*P		**P**	**07 55 51.9**	**-0.1**
Q54A	**Coxs Mills**	**32.17**	**333**	P		**P**	**07 55 53.4**	**+1.0**
Q54A				IAmb		IAmb	07 55 55.1	
	comp=Z,36nm,0.8s							
IPMB	**Ipameri, GO**	**32.20**	**154**	*e*P		**P**	**07 55 54.6**	**+1.8**
HRV	**Adam Dziewonsk**	**32.23**	**347**	P		**P**	**07 55 54.2**	**+1.5**
	baz=163							
X48A	**Hartselle**	**32.23**	**320**	P		**P**	**07 55 53.0**	**+0.2**
X48A				IAmb		IAmb	07 55 54.9	
	comp=Z,40nm,1.0s							
O56A	**Blue Knob Stat**	**32.30**	**337**	P		**P**	**07 55 54.3**	**+0.9**
	baz=150,SNR=8.7							
MCWV	**Mont Chateau**	**32.30**	**334**	P		**P**	**07 55 54.6**	**+1.2**
	baz=147							
SSPA	**Standing Stone**	**32.36**	**338**	P		**P**	**07 55 54.6**	**+0.7**
	baz=151							
S51A	**Beattyville**	**32.47**	**328**	P		**P**	**07 55 55.7**	**+0.8**
M57A	**Sunshine Farm,**	**32.70**	**339**	P		**P**	**07 55 57.5**	**+0.5**
K61A	**Williamstown**	**32.78**	**345**	P		**P**	**07 55 58.0**	**+0.4**
	baz=160							
J63A	**Strafford**	**32.87**	**348**	P		**P**	**07 55 58.3**	**0.0**
	baz=164							
CLTN	**Cedars of Leba**	**32.88**	**323**	P		**P**	**07 55 59.1**	**+0.6**
CLTN				IAmb		IAmb	07 56 00.7	
	comp=Z,33nm,1.1s							
ITRB	**Iturama**	**32.91**	**159**	*e*P		**P**	**07 56 01.6**	**+2.7**
V48A	**Smith Brothers**	**32.94**	**322**	P		**P**	**07 55 59.0**	**-0.1**
V48A				IAmb		IAmb	07 56 01.3	
	comp=Z,24nm,0.8s							
J62A	**Henniker**	**32.97**	**347**	P		**P**	**07 55 59.3**	**+0.1**
	baz=163							
NBLA	**Lagarto - SE**	**32.97**	**131**	*e*P		**P**	**07 55 59.9**	**+0.3**
BINY	**Binghamton**	**33.10**	**342**	P		**P**	**07 56 01.1**	**+0.7**
	baz=155,SNR=5.5							
MC01	**Montes Claros**	**33.21**	**146**	*e*P		**P**	**07 56 03.4**	**+1.8**
VBMS	**Vicksburg**	**33.25**	**313**	P		**P**	**07 56 02.9**	**+1.2**
VBMS	**Vicksburg**	**33.25**	**313**	P		**P**	**07 56 03.0**	**+1.2**
	baz=123,SNR=8.1							
NBAN	**Anadia - AL**	**33.29**	**127**	*e*P		**P**	**07 56 02.8**	**+0.5**
P52A	**Corning**	**33.29**	**332**	P		**P**	**07 56 02.6**	**+0.6**
	baz=143,SNR=11							
R50A	**Paris**	**33.33**	**328**	P		**P**	**07 56 03.5**	**+1.1**
R50A				IAmb		IAmb	07 56 05.2	
	comp=Z,53nm,0.9s							
O53A	**New Philadelph**	**33.38**	**334**	P		**P**	**07 56 03.5**	**+0.7**
	baz=145							
Q51A	**Peebles**	**33.40**	**330**	P		**P**	**07 56 03.1**	**+0.1**
N54A	**Moraine State**	**33.45**	**336**	P		**P**	**07 56 04.3**	**+0.8**
	baz=148							
I62A	**Tamworth**	**33.49**	**348**	P		**P**	**07 56 04.8**	**+1.1**
	baz=164							
Y45A	**Yeager Farm, C**	**33.50**	**317**	P		**P**	**07 56 04.6**	**+0.7**
I63A	**Otisfield**	**33.52**	**349**	P		**P**	**07 56 04.5**	**+0.6**
	baz=166							
L56A	**Greenwood**	**33.56**	**340**	P		**P**	**07 56 04.5**	**+0.1**
GDU01	**Guandu, BA**	**33.58**	**137**	*e*P		**P**	**07 56 06.1**	**+1.2**
P51A	**Williamsport**	**33.61**	**331**	P		**P**	**07 56 05.0**	**+0.2**
P51A				IAmb		IAmb	07 56 06.9	
	comp=Z,41nm,0.9s							
R49A	**Shelbyville**	**33.78**	**327**	P		**P**	**07 56 07.0**	**+0.6**
M54A	**Oil Creek Stat**	**33.79**	**337**	P		**P**	**07 56 06.9**	**+0.6**
	baz=149							
OXF	**Oxford**	**33.80**	**318**	P		**P**	**07 56 06.2**	**-0.3**
OXF	**Oxford**	**33.80**	**318**	P		**P**	**07 56 06.7**	**+0.3**
	baz=127,SNR=14							
WVT	**Waverly**	**33.81**	**322**	P		**P**	**07 56 06.8**	**+0.2**
WVT				IAmb		IAmb	07 56 07.9	
	comp=Z,33nm,0.8s							
WVT	**Waverly**	**33.81**	**322**	P		**P**	**07 56 06.8**	**+0.2**
	baz=131							
I60A	**Shoreham**	**33.89**	**346**	P		**P**	**07 56 07.7**	**+0.6**
	baz=161,SNR=5.6							
T47A	**Sharon Grove**	**33.95**	**323**	P		**P**	**07 56 08.4**	**+0.6**
LBNH	**Lisbon**	**33.96**	**348**	P		**P**	**07 56 08.1**	**+0.3**
	baz=163							
W45A	**Hickory Valley**	**34.04**	**319**	P		**P**	**07 56 08.8**	**+0.2**
W45A				IAmb		IAmb	07 56 09.8	
	comp=Z,48nm,0.9s							
342A	**Flagon Creek P**	**34.13**	**311**	P		**P**	**07 56 10.5**	**+1.1**
LVC	**Limon Verde**	**34.13**	**191**	P		**P**	**07 56 10.5**	**+0.7**
	comp=Z,6.9nm,0.6s,baz=18,slow=5.5,SNR=9.7							
LVC				LR		LR	08 11 46.5	
	comp=Z,117nm,20.7s,baz=340,slow=39							
LVC	**Limon Verde**	**34.13**	**191**	*e*P		**P**	**07 56 10.8**	**+0.9**
M53A	**WI Miller and**	**34.13**	**335**	P		**P**	**07 56 09.9**	**+0.5**
	baz=147							
143A	**Socs Landing,**	**34.14**	**313**	P		**P**	**07 56 10.1**	**+0.7**
ACSO	**Alum Creek Sta**	**34.16**	**332**	P		**P**	**07 56 10.7**	**+1.1**
ACSO				IAmb		IAmb	07 56 12.3	
	comp=Z,41nm,0.9s							
ACSO	**Alum Creek Sta**	**34.16**	**332**	P		**P**	**07 56 10.5**	**+0.9**
	baz=142,SNR=14							
AF01	**San Pedro de A**	**34.34**	**189**	P		**P**	**07 56 11.6**	**0.0**
AF01				IAmb		IAmb	07 56 15.6	
	comp=Z,44nm,0.8s							
WCI	**Wyandotte Cave**	**34.35**	**326**	P		**P**	**07 56 11.9**	**+0.6**
WCI				IAmb		IAmb	07 56 13.4	
	comp=Z,38nm,1.1s							
WCI	**Wyandotte Cave**	**34.35**	**326**	P		**P**	**07 56 12.1**	**+0.9**
	baz=136							
PCMB	**Pacaembu**	**34.37**	**161**	*e*P		**P**	**07 56 14.0**	**+2.4**
ERPA	**Erie**	**34.44**	**337**	P		**P**	**07 56 12.2**	**+0.3**
	baz=149							
P49A	**Miami Univ. Ec**	**34.47**	**329**	P		**P**	**07 56 13.3**	**+1.1**
P49A	**Miami Univ. Ec**	**34.47**	**329**	P		**P**	**07 56 13.1**	**+0.9**
	baz=139,SNR=34							
G62A	**West of Eustis**	**34.64**	**350**	P		**P**	**07 56 14.3**	**+0.6**
	baz=166							
DIAM	**Diamantina, MG**	**34.66**	**147**	*e*P		**P**	**07 56 15.8**	**+1.5**
O49A	**Covington**	**34.78**	**330**	P		**P**	**07 56 15.1**	**+0.2**
CMC01	**Camacan, BA**	**34.81**	**139**	*e*P		**P**	**07 56 16.4**	**+0.9**
BB19B	**Bebedouro**	**34.84**	**157**	*e*P		**P**	**07 56 18.4**	**+2.8**
HICK	**Hickman**	**34.94**	**321**	P		**P**	**07 56 16.5**	**+0.2**
LONY	**Lake Ozonia**	**34.94**	**345**	P		**P**	**07 56 16.6**	**+0.4**
	baz=159							
PEBM	**Pemiscott Bayo**	**35.06**	**320**	P		**P**	**07 56 17.4**	**0.0**
TRCB	**Terra Rica**	**35.09**	**164**	P		**P**	**07 56 18.6**	**+0.9**
TRCB				IAmb		IAmb	07 56 20.6	
	comp=Z,36nm,0.9s							
BLO	**Bloomington**	**35.15**	**327**	P		**P**	**07 56 18.7**	**+0.6**
F62A	**Pittston Farm,**	**35.21**	**351**	P		**P**	**07 56 20.7**	**+2.2**
	baz=167							
N49A	**Columbus Grove**	**35.27**	**331**	P		**P**	**07 56 18.8**	**-0.3**
N49A				IAmb		IAmb	07 56 21.3	
	comp=Z,23nm,0.9s							
PARMO	**Parma**	**35.34**	**320**	P		**P**	**07 56 19.9**	**+0.2**
PARMO				IAmb		IAmb	07 56 20.8	
	comp=Z,36nm,0.8s							
Z41A	**Richland Creek**	**35.43**	**313**	P		**P**	**07 56 20.5**	**0.0**
	baz=121							
TLIG	**Tlapa**	**35.47**	**285**	P		**P**	**07 56 21.8**	**+0.5**
GUA01	**Guaratinga, BA**	**35.54**	**140**	*e*P		**P**	**07 56 22.8**	**+1.1**
S44A	**Carbondale**	**35.69**	**322**	P		**P**	**07 56 23.0**	**+0.2**
PBMO	**Poplar Bluff**	**35.84**	**320**	P		**P**	**07 56 24.2**	**+0.2**
PBMO				IAmb		IAmb	07 56 24.9	
	comp=Z,27nm,0.8s							
P46A	**Rosedale**	**35.84**	**327**	P		**P**	**07 56 24.6**	**+0.7**
E62A	**Clayton Lake**	**35.85**	**352**	P		**P**	**07 56 24.9**	**+0.9**
	baz=168							
WLAR	**White Oak Lake**	**35.87**	**314**	P		**P**	**07 56 24.8**	**+0.5**
WLAR				IAmb		IAmb	07 56 26.0	
	comp=Z,44nm,0.9s							
NATX	**Nacogdoches**	**36.06**	**310**	P		**P**	**07 56 26.9**	**+0.9**
NATX	**Nacogdoches**	**36.06**	**310**	P		**P**	**07 56 26.4**	**+0.4**
	baz=118,SNR=9.4							
W41B	**Gary Mavity, V**	**36.08**	**316**	P		**P**	**07 56 26.0**	**-0.1**
	baz=124,SNR=10							
X40A	**Basin Creek Fa**	**36.10**	**315**	P		**P**	**07 56 26.2**	**-0.1**
	baz=123,SNR=6.1							
AAM	**Ann Arbor**	**36.12**	**333**	P		**P**	**07 56 26.5**	**+0.2**
	baz=143,SNR=5.4							
HKT	**Hockley**	**36.19**	**306**	P		**P**	**07 56 27.1**	**+0.1**
HKT				IAmb		IAmb	07 56 28.6	
	comp=Z,23nm,0.8s							
L48A	**N Adams**	**36.19**	**332**	P		**P**	**07 56 27.6**	**+0.6**
D62A	**Allapoint, All**	**36.24**	**352**	P		**P**	**07 56 27.2**	**0.0**
	baz=169							
NAN01	**Guarapari, ES**	**36.31**	**142**	*e*P		**P**	**07 56 29.4**	**+1.2**
SFIN	**Lafayette**	**36.33**	**328**	P		**P**	**07 56 28.7**	**+0.6**
	baz=136,SNR=9.3							
SJMB	**Sao Joao De Ma**	**36.36**	**144**	*e*P		**P**	**07 56 30.0**	**+1.4**
BSCB	**Bom Sucesso**	**36.39**	**151**	*e*P		**P**	**07 56 30.8**	**+1.8**
FCAR	**Ozark Folk Cen**	**36.40**	**317**	P		**P**	**07 56 28.3**	**-0.5**
FCAR				IAmb		IAmb	07 56 29.6	
	comp=Z,29nm,0.9s							
RCLB	**Rio Claro- Sao**	**36.45**	**156**	*e*P		**P**	**07 56 31.9**	**+2.6**
MIAR	**Mount Ida**	**36.65**	**314**	P		**P**	**07 56 30.4**	**-0.6**
	baz=122,SNR=5.6							
BSFB	**Barra de Sao F**	**36.66**	**144**	*e*P		**P**	**07 56 32.8**	**+1.7**
O44A	**Mansfield**	**36.90**	**326**	P		**P**	**07 56 33.0**	**0.0**
Z38A	**Mt. Pleasant**	**37.01**	**312**	P		**P**	**07 56 34.5**	**+0.4**
237A	**Washetta, Mont**	**37.04**	**309**	P		**P**	**07 56 34.3**	**0.0**
PTGB	**Pitanga**	**37.07**	**164**	*e*P		**P**	**07 56 36.1**	**+1.4**
CCM	**Cathedral Cave**	**37.14**	**321**	P		**P**	**07 56 34.6**	**-0.5**
	baz=129							
W39A	**Magazine**	**37.14**	**315**	P		**P**	**07 56 35.5**	**+0.5**
	baz=122,SNR=18							
U40A	**Yellville**	**37.15**	**318**	P		**P**	**07 56 34.9**	**-0.3**
	baz=125,SNR=15							
VAO	**Valinhos**	**37.20**	**156**	*e*P		**P**	**07 56 36.1**	**+0.3**
CPUP	**Vila Florida**	**37.59**	**172**	P		**P**	**07 56 39.5**	**+0.6**
	comp=Z,18nm,0.7s,baz=352,slow=8.0,SNR=49							
CPUP				PcP		PcP	07 58 54.7	**+0.5**
	comp=Z,2.6nm,0.7s,baz=0.0,slow=1.0,SNR=2.6							
CPUP				ScP		ScP	08 02 29.1	**-1.1**
	comp=Z,2.5nm,0.9s,baz=16,slow=4.3,SNR=4.5							
CPUP				LR		LR	08 12 19.9	
	comp=Z,83nm,21.5s,baz=348,slow=36							
CPUP	**Villa Florida**	**37.59**	**172**	P		**P**	**07 56 39.0**	**+0.1**
CPUP				IAmb		IAmb	07 56 40.3	
	comp=Z,20nm,0.8s							
CPUP	**Villa Florida**	**37.59**	**172**	*e*P		**P**	**07 56 40.2**	**+1.3**
HDIL	**Hopedale**	**37.64**	**326**	P		**P**	**07 56 39.4**	**+0.2**
	baz=134,SNR=15							
435B	**Jarrell**	**37.91**	**306**	P		**P**	**07 56 41.6**	**0.0**
435B	**Jarrell**	**37.91**	**306**	P		**P**	**07 56 41.7**	**0.0**
	baz=113,SNR=14							
L44A	**Lake County Fo**	**38.06**	**329**	P		**P**	**07 56 43.1**	**+0.5**
L44A	**Lake County Fo**	**38.06**	**329**	P		**P**	**07 56 42.9**	**+0.2**
	baz=137,SNR=9.2							
S39A	**Bolivar**	**38.23**	**319**	P		**P**	**07 56 43.5**	**-0.7**
WHTX	**Lake Whitney,**	**38.30**	**308**	P		**P**	**07 56 44.9**	**0.0**
WHTX	**Lake Whitney,**	**38.30**	**308**	P		**P**	**07 56 44.7**	**-0.2**
	baz=115,SNR=27							
833A	**Chaparral WMA,**	**38.49**	**302**	P		**P**	**07 56 46.6**	**0.0**
	baz=109,SNR=14							
GLMI	**Grayling**	**38.56**	**335**	P		**P**	**07 56 47.1**	**+0.2**
	baz=144,SNR=6.1							
TUL1	**Leonard**	**38.91**	**315**	P		**P**	**07 56 49.2**	**-0.8**
	baz=121,SNR=15							
JCT	**Junction City**	**39.56**	**305**	P		**P**	**07 56 55.0**	**-0.5**
JCT	**Junction City**	**39.56**	**305**	P		**P**	**07 56 55.3**	**-0.2**
	baz=111,SNR=40							
H43A	**Windswept, Lux**	**39.69**	**331**	P		**P**	**07 56 56.5**	**+0.2**
X34A	**Smith Ranch, M**	**39.73**	**312**	P		**P**	**07 56 56.1**	**-0.7**
JFWS	**Jewell Farm**	**39.79**	**328**	P		**P**	**07 56 56.8**	**-0.3**
	baz=134,SNR=17							
I42A	**Draeger Farm,**	**39.81**	**330**	P		**P**	**07 56 56.8**	**-0.5**
I42A				IAmb		IAmb	07 56 58.4	
	comp=Z,20nm,0.7s							
OK025	**Westminster Rd**	**39.83**	**313**	P		**P**	**07 56 56.9**	**-0.8**
OK025				IAmb		IAmb	07 56 57.7	
	comp=Z,61nm,1.4s							
ZAIG	**Zacatecas**	**39.90**	**292**	P		**P**	**07 56 58.8**	**+0.2**
T35A	**Sooner Cattle**	**39.92**	**316**	P		**P**	**07 56 57.4**	**-1.0**
T35A				IAmb		IAmb	07 56 58.9	
	comp=Z,34nm,0.9s							
ABTX	**Abilene, Hawle**	**40.25**	**308**	P		**P**	**07 57 00.8**	**-0.3**
	baz=114,SNR=56							
WMOK	**Wichita Mounta**	**40.49**	**311**	P		**P**	**07 57 01.6**	**-1.5**
	baz=117,SNR=15							
SCIA	**State Center**	**40.74**	**324**	P		**P**	**07 57 05.0**	**-0.1**
	baz=130,SNR=8.5							
ITQB	**Itaqui**	**40.97**	**172**	*e*P		**P**	**07 57 08.7**	**+1.7**
KSU1	**Kansas State U**	**41.15**	**318**	P		**P**	**07 57 06.6**	**-1.8**
	baz=123							
TXAR	**Lajitas Array**	**42.37**	**301**	P		**P**	**07 57 18.8**	**+0.1**
	comp=Z,18nm,0.8s,baz=123,slow=7.6,SNR=99							
TXAR				PcP		PcP	07 59 09.6	**-0.2**
	comp=Z,2.9nm,0.6s,baz=122,slow=5.4,SNR=7.4							
AMTX	**Amarillo**	**42.71**	**310**	P		**P**	**07 57 20.1**	**-1.2**
	baz=114							
SPMN	**Marine on St.**	**42.72**	**328**	P		**P**	**07 57 19.8**	**-1.2**
	baz=133,SNR=9.8							
CBKS	**Cedar Bluff**	**43.08**	**316**	P		**P**	**07 57 22.8**	**-1.4**
	baz=120							
MSTX	**Muleshoe**	**43.18**	**308**	P		**P**	**07 57 24.7**	**-0.4**
	baz=112,SNR=99							
BGNE	**Belgrade**	**43.41**	**320**	P		**P**	**07 57 24.7**	**-2.0**
	baz=124							
PLTB	**Pedras Altas**	**43.51**	**169**	*e*P		**P**	**07 57 29.0**	**+1.4**
SCHQ	**Schefferville**	**43.71**	**356**	P		**P**	**07 57 29.7**	**+0.8**
	comp=Z,6.6nm,0.7s,baz=175,slow=4.6,SNR=10							
SCHQ	**Schefferville**	**43.71**	**356**	IAmb		IAmb	07 57 30.3	
	comp=Z,8.2nm,0.8s							
ECSD	**EROS Data Cent**	**43.84**	**324**	P		**P**	**07 57 29.6**	**-0.5**
ECSD	**EROS Data Cent**	**43.84**	**324**	P		**P**	**07 57 29.1**	**-0.9**
	baz=127,SNR=9.8							
EYMN	**Ely**	**44.00**	**332**	P		**P**	**07 57 30.4**	**-0.9**
	baz=137							
MNTX	**Cornudas Mount**	**44.48**	**304**	P		**P**	**07 57 35.6**	**+0.1**
	baz=108,SNR=54							
KSCO	**Kaye Shedlock'**	**45.16**	**315**	P		**P**	**07 57 39.5**	**-1.3**
	baz=117							
SUSD	**Miller**	**45.61**	**323**	P		**P**	**07 57 43.0**	**-1.2**
	baz=125							
T25A	**Trinidad**	**45.64**	**312**	P		**P**	**07 57 44.2**	**-0.6**
	baz=114,SNR=19							
OGNE	**Ogallala**	**45.67**	**318**	P		**P**	**07 57 43.2**	**-1.5**
	baz=119							
AGMN	**Agassiz Nation**	**46.34**	**330**	P		**P**	**07 57 48.6**	**-1.2**
	baz=132,SNR=20							
ANMO	**Albuquerque**	**46.37**	**308**	P		**P**	**07 57 51.0**	**+0.5**
	baz=110							
Y22D	**IRIS PASSCAL I**	**46.45**	**307**	P		**P**	**07 57 51.9**	**+0.9**
	baz=109							
121A	**Cookes Peak, D**	**46.67**	**304**	P		**P**	**07 57 53.8**	**+0.9**
	baz=107,SNR=28							
SDCO	**Great Sand Dun**	**46.68**	**312**	P		**P**	**07 57 52.6**	**-0.3**
	baz=113,SNR=38							
Q24A	**Divide**	**46.91**	**314**	P		**P**	**07 57 53.5**	**-1.3**
	baz=114							
ISCO	**Idaho Springs**	**47.59**	**315**	P		**P**	**07 57 59.4**	**-0.6**
	baz=115,SNR=21							
S22A	**4UR Ranch, Cre**	**47.65**	**311**	P		**P**	**07 58 00.2**	**-0.3**
	baz=112,SNR=33							
ULM	**Lac du Bonnet**	**47.67**	**331**	P		**P**	**07 57 58.4**	**-1.7**
	comp=Z,17nm,0.6s,baz=126,slow=7.7,SNR=24							
ULM				LR		LR	08 17 18.3	
	comp=Z,64nm,20.2s,baz=166,slow=35							
MDND	**Maddock**	**47.99**	**327**	P		**P**	**07 58 01.8**	**-0.8**
	baz=127,SNR=7.8							
N23A	**Red Feather La**	**48.28**	**316**	P		**P**	**07 58 04.3**	**-0.9**
	baz=115							
RSSD	**Black Hills**	**48.52**	**320**	P		**P**	**07 58 05.8**	**-1.2**
	baz=120							
MVCO	**Mesa Verde**	**48.70**	**310**	P		**P**	**07 58 08.4**	**-0.1**
	baz=110,SNR=11							
W18A	**Petrified Fore**	**48.98**	**307**	P		**P**	**07 58 10.6**	**0.0**
	baz=107,SNR=6.6							
TUC	**Tucson**	**49.06**	**303**	P		**P**	**07 58 11.4**	**+0.2**
	baz=104							
K22A	**Casper**	**49.43**	**318**	P		**P**	**07 58 13.1**	**-0.8**
	baz=116,SNR=5.1							
O20A	**White River Ci**	**49.57**	**314**	P		**P**	**07 58 14.8**	**-0.3**
	baz=113,SNR=6.4							
WUAZ	**Wupatki**	**50.38**	**307**	P		**P**	**07 58 21.8**	**+0.6**
	baz=106,SNR=25							
LC01	**Cunco**	**50.55**	**189**	P		**P**	**07 58 22.6**	**+0.5**
LC01				IAmb		IAmb	07 58 26.6	
	comp=Z,31nm,0.9s							
214A	**Organ Pipe Nat**	**50.65**	**302**	P		**P**	**07 58 23.3**	**+0.1**
214A	**Organ Pipe Nat**	**50.65**	**302**	P		**P**	**07 58 23.4**	**+0.3**
	baz=102,SNR=5.7							
DGMT	**Dagmar**	**50.87**	**325**	P		**P**	**07 58 25.0**	**+0.5**
DGMT	**Dagmar**	**50.87**	**325**	P		**P**	**07 58 24.8**	**+0.3**
	baz=123,SNR=34							
LAO	**LASA Array**	**51.12**	**322**	P		**P**	**07 58 25.7**	**-0.8**
	baz=120,SNR=11							
P17A	**Butcher Ranch,**	**51.13**	**312**	P		**P**	**07 58 25.9**	**-0.9**
P17A				IAmb		IAmb	07 58 27.8	
	comp=Z,26nm,0.7s							
H10N3	**ASCENSION HYDR**	**51.35**	**109**	T		T	08 53 53.9	
	baz=293,slow=75,SNR=41							
H10N2	**ASCENSION HYDR**	**51.36**	**109**	T		T	08 53 56.5	
	baz=293,slow=75,SNR=14							
H10N1	**ASCENSION HYDR**	**51.38**	**109**	T		T	08 54 02.7	
	baz=293,slow=75,SNR=40							
BW06	**Boulder Array**	**51.51**	**316**	P		**P**	**07 58 28.0**	**-1.6**
BW06				IAmb		IAmb	07 58 29.7	
	comp=Z,21nm,0.8s							
BW06	**Boulder Array**	**51.51**	**316**	P		**P**	**07 58 28.7**	**-0.9**
	baz=114,SNR=15							
PDAR	**Pinedale Array**	**51.51**	**316**	P		**P**	**07 58 28.6**	**-1.0**
	comp=Z,17nm,0.8s,baz=117,slow=9.1,SNR=112							
PDAR				pP		**pP**	**07 59 00.1**	**+1.4**
	comp=Z,2.7nm,0.8s,baz=123,slow=5.5,SNR=2.5							
PDAR				PcP		**PcP**	**07 59 41.1**	**-1.0**
	comp=Z,3.2nm,0.8s,baz=128,slow=6.2,SNR=5.7							
PDAR				ScP		**ScP**	**08 03 23.9**	**-3.4**
	comp=Z,0.3nm,0.3s,baz=119,slow=5.2,SNR=3.5							
PDAR				LR		LR	08 21 02.9	
	comp=Z,42nm,18.8s,baz=114,slow=37							
PDAR	**Pinedale Array**	**51.51**	**316**	P		**P**	**07 58 28.0**	**-1.6**
PLCA	**Paso Flores**	**52.15**	**188**	P		**P**	**07 58 35.3**	**+1.3**
	comp=Z,6.3nm,0.6s,baz=3.1,slow=8.6,SNR=22							
PLCA				PcP		**PcP**	**07 59 45.2**	**+1.0**
	comp=Z,3.1nm,0.9s,baz=6.6,slow=6.0,SNR=3.1							
PLCA	**Paso Flores**	**52.15**	**188**	*e*P		**P**	**07 58 35.7**	**+1.7**
PDMCI	**Parker Dam,Lak**	**52.27**	**305**	P		**P**	**07 58 35.0**	**-0.1**
	baz=103,SNR=5.1							
RLMT	**Red Lodge**	**52.29**	**319**	P		**P**	**07 58 34.7**	**-0.7**
	baz=115,SNR=18							
HWUT	**Hardware Ranch**	**52.46**	**314**	P		**P**	**07 58 35.3**	**-1.3**
HWUT				IAmb		IAmb	07 58 37.2	
	comp=Z,23nm,0.8s							
CCUT	**Cedar City**	**52.48**	**309**	P		**P**	**07 58 36.4**	**-0.5**
LOHW	**Long Hollow**	**52.55**	**317**	P		**P**	**07 58 36.1**	**-1.1**
GLA	**Glamis**	**52.55**	**303**	P		**P**	**07 58 37.4**	**+0.1**
	baz=102							
AHID	**Auburn Hatcher**	**52.56**	**316**	P		**P**	**07 58 35.8**	**-1.6**
AHID				IAmb		IAmb	07 58 37.3	
	comp=Z,22nm,0.8s							
H17A	**Grant Village**	**52.84**	**318**	P		**P**	**07 58 39.6**	**+0.2**
	baz=114							
DUG	**Dugway, Tooele**	**52.87**	**312**	P		**P**	**07 58 39.4**	**-0.2**
	baz=109,SNR=46	

baz=101,SNR=9.4
MLAC Mammoth, Mammo 66.72 308 P **P** 07 59 07.2 -0.3
baz=102
SBC Santa Barbara 56.81 304 P **P** 07 59 06.5 -1.4
baz=100
MVO Moncorvo 56.92 48 *e*P **P** 07 59 10.5 +1.9
comp=Z,37nm,1.8s
PKM Mcpherson Peak 56.97 304 P **P** 07 59 09.2 0.0
baz=100
SMMC Simmler 57.19 305 P **P** 07 59 10.6 0.0
baz=100,SNR=5.4
NEW Newport 58.49 320 P **P** 07 59 18.4 -1.1
NEW IAmb IAmb 07 59 19.3
comp=Z,18nm,0.8s
NEW Newport 58.49 320 P **P** 07 59 18.1 -1.4
baz=110,SNR=24
PAB San Pablo 58.53 50 P **P** 07 59 20.9 +1.0
PAB IAmb IAmb 07 59 52.6
comp=Z,26nm,1.4s
G08A Pilot Rock 58.74 317 P **P** 07 59 19.7 -1.7
I07A Izee 58.77 315 P **P** 07 59 20.9 -0.8
I07A IAmb IAmb 07 59 22.0
comp=Z,25nm,0.8s
ESDC Sonseca Array 58.84 50 P **P** 07 59 23.3 +1.2
comp=Z,5.5nm,0.9s,baz=260,slow=7.2,SNR=24
ESDC pP **pP** 07 59 52.4 +0.7
comp=Z,6.7nm,1.0s,baz=259,slow=6.8,SNR=7.7
ESDC PcP **PcP** 08 00 11.0 +0.7
comp=Z,4.3nm,0.8s,baz=276,slow=4.0,SNR=8.1
ESBB Sonseca Array 58.84 50 P **P** 07 59 22.0 -0.1
ESBB IAmb IAmb 07 59 54.9
comp=Z,26nm,1.4s
C09A Chrisman Ranch 59.06 319 P **P** 07 59 22.4 -1.0
C09A IAmb IAmb 07 59 23.5
comp=Z,17nm,1.1s
O03E Paynes Creek 59.53 310 P **P** 07 59 25.7 -1.2
baz=102
J05D Fort Rock, OR 59.78 314 P **P** 07 59 28.3 -0.3
baz=104,SNR=8.8
M04C Macdoel 59.88 312 P **P** 07 59 28.9 -0.4
baz=103,SNR=11
B08A Colville Reser 59.92 320 P **P** 07 59 27.8 -1.5
K04D Chiloquin, OR 60.00 313 P **P** 07 59 29.6 -0.5
baz=103
I05D Terrebonne, OR 60.12 315 P **P** 07 59 30.6 -0.2
baz=104
O02D Mt. Diablo Mer 60.25 310 P **P** 07 59 30.9 -0.9
baz=101
L04D Klamath Falls 60.31 312 P **P** 07 59 31.5 -0.7
baz=102,SNR=9.5
G05D Wamic, OR 60.33 316 P **P** 07 59 31.7 -0.4
baz=105
J04D Umpqua Nationa 60.40 314 P **P** 07 59 32.3 -0.6
baz=103,SNR=7.9
LTY Liberty 60.45 318 P **P** 07 59 32.1 -0.9
LTY IAmb IAmb 07 59 33.2
comp=Z,17nm,0.8s
M02C Callahan 60.54 311 P **P** 07 59 31.5 -2.2
baz=102
F05D White Salmon 60.59 317 P **P** 07 59 33.0 -0.9
baz=105,SNR=5.1
I04A Tendick Farm, 60.74 314 P **P** 07 59 33.4 -1.6
baz=103
C06D Leavenworth 60.78 319 P **P** 07 59 33.7 -1.5
baz=107
H04A Detroit Lake 60.79 315 P **P** 07 59 34.2 -1.1
H04D Lebanon 61.13 315 P **P** 07 59 37.0 -0.5
baz=103
I03D Drain, OR 61.38 314 P **P** 07 59 38.5 -0.7
baz=102
K02D Willamette Mer 61.39 313 P **P** 07 59 38.4 -1.1
baz=102
B05A Bryant 61.65 319 P **P** 07 59 38.5 -2.4
baz=106,SNR=6.1
G03D McMinnville, O 61.66 316 P **P** 07 59 40.2 -0.8
baz=105
J01E Myrtle Point 61.68 313 P **P** 07 59 40.9 -0.4
baz=102
D04E Lakebay 61.80 318 P **P** 07 59 40.7 -1.2
baz=105
I02D Swisshome 61.82 314 P **P** 07 59 41.5 -0.6
baz=102
A04D Lummi Island 62.16 319 P **P** 07 59 43.1 -1.3
baz=106
LLLB Lillooet 62.19 322 P **P** 07 59 43.8 -0.8
LLLB IAmb IAmb 07 59 45.0
comp=Z,34nm,1.1s
NLWA Neilton Lookou 62.58 318 P **P** 07 59 46.7 -0.6
NLWA IAmb IAmb 07 59 48.1
comp=Z,30nm,1.1s
PGC Sidney 62.62 319 P **P** 07 59 46.7 -0.7
PGC IAmb IAmb 07 59 48.0
comp=Z,34nm,1.1s
TORD Torodi Ar. Bea 62.65 81 P **P** 07 59 48.8 +0.6
comp=Z,1.9nm,0.5s,baz=285,slow=6.9,SNR=19
TORD pP **pP** 08 00 17.1 -1.2
comp=Z,3.3nm,0.7s,baz=290,slow=5.7,SNR=6.9
LEWI Lewis, Hebride 62.83 29 *e*P **P** 07 59 48.8 +0.1
LEWI IAmb IAmb 07 59 49.8
comp=Z,31nm,0.7s
SUMG Summit 63.05 8 P **P** 07 59 50.1 -0.3
SUMG IAmb IAmb 07 59 51.4
comp=Z,38nm,1.3s
YKA Yellowknife Ar 63.25 336 P **P** 07 59 49.2 -2.1
comp=Z,4.3nm,0.8s,baz=109,slow=8.5,SNR=12
YKA LR LR 08 27 28.3
comp=Z,23nm,20.2s,baz=0.0,slow=36
KAC Achnashellach 63.35 31 *e*P **P** 07 59 52.1 +0.1
INVG Invergeldie, C 63.59 32 *e*P **P** 07 59 53.5 -0.1
INVG IAmb IAmb 07 59 54.3
comp=Z,12nm,0.9s
EKA Eskdalemuir Ar 63.67 33 P **P** 07 59 54.1 -0.1
comp=Z,2.0nm,0.6s,baz=283,slow=4.6,SNR=6.2
MDO Dochfour 63.79 31 *e*P **P** 07 59 55.0 0.0
EDMD Edmundbyers 64.16 34 *e*P **P** 07 59 57.7 +0.2
EDMD IAmb IAmb 07 59 58.4
comp=Z,26nm,0.9s
EDU Dundee 64.16 32 *e*P **P** 07 59 58.1 +0.6
MCD Coleburn Disti 64.40 31 *e*P **P** 07 59 58.7 -0.3
BIGH Upper Bighouse 64.41 30 *e*P **P** 07 59 59.0 0.0
BIGH IAmb IAmb 08 00 00.2
comp=Z,72nm,1.0s
CLF Chambon-Foret 64.96 42 P **P** 08 00 02.5 -0.3
CLF IAmb IAmb 08 00 04.8
comp=Z,28nm,1.0s
WRGLY Wrigley 67.23 335 P **P** 08 00 16.0 -1.0
baz=112
WLF Walferdange 67.79 41 P **P** 08 00 20.5 -0.2
WLF IAmb IAmb 08 00 22.2
comp=Z,22nm,1.0s
SENIN Lac Senin/Sane 68.09 44 P **P** 08 00 23.6 +0.5
TGTN Hyland Airport 68.80 332 P **P** 08 00 27.0 0.0
baz=106
KEST Kesra 68.88 56 P **P** 08 00 29.4 +1.4
comp=Z,3.8nm,0.7s,baz=113,slow=4.2,SNR=3.7
KEST pP **pP** 08 00 59.6 +1.0
comp=Z,8.5nm,0.8s,baz=224,slow=3.9,SNR=4.3
KMY Karmoy 69.16 31 *e*P **P** 08 00 29.2 +0.1
SUE Sulen 69.37 29 *e*P **P** 08 00 31.5 +1.2
ASK Askoy 69.44 29 *e*P **P** 08 00 31.4 +0.7
BER Bergen 69.48 29 *e*P **P** 08 00 31.7 +0.7
FOO Floro 69.64 28 *e*P **P** 08 00 32.6 +0.6
WRAK Wrangell Islan 69.66 326 P **P** 08 00 32.3 +0.2
baz=101
BLS5 Blasjo 69.81 31 *e*P **P** 08 00 33.8 +0.6
DAVOX Davos/Dischmat 69.90 44 P **P** 08 00 35.3 +1.1
comp=Z,7.9nm,0.8s,baz=273,slow=7.4,SNR=9.7
CRAG Craig 69.92 325 P **P** 08 00 34.6 +0.8
baz=100
SNART Snartemo 69.96 32 *e*P **P** 08 00 34.6 +0.5
HYA Hoyanger 70.07 29 *e*P **P** 08 00 35.5 +0.9
MMPY Sheldon Lake, 70.44 333 P **P** 08 00 37.2 +0.2
baz=104
HOMB Homborsund 70.62 32 *e*P **P** 08 00 39.1 +1.0
AKN Aaknes 70.68 28 *e*P **P** 08 00 39.3 +0.9
SKAR Skarslia 70.98 29 *e*P **P** 08 00 41.1 +0.9
GRF Grafenberg Arr 71.06 41 *e*P **P** 08 00 41.3 +0.4
comp=Z,10nm,1.0s,baz=260,slow=6.6
A36M Sachs Harbour 71.19 343 P **P** 08 00 41.5 +0.2
baz=113
FARO Faro, Yukon 71.30 332 P **P** 08 00 42.1 -0.1
baz=102
KONO Kongsberg 71.42 31 *e*P **P** 08 00 44.0 +1.2
KONO Kongsberg 71.42 31 P **P** 08 00 43.3 +0.4
KONO IAmb IAmb 08 00 44.5
comp=Z,34nm,1.2s

NKC Novy Kostel 71.89 41 *e*P **P** 08 00 46.7 +0.8
NBO00 NORSAR Array S 72.23 29 P **P** 08 00 47.5 -0.3
NBO00 IAmb IAmb 08 00 48.8
comp=Z,50nm,0.9s
NAO01 NORSAR Array S 72.25 30 *e*P **P** 08 00 49.0 +1.2
CLL Collm 72.32 40 *i* P **P** 08 00 48.9 +0.5
comp=Z,11nm,1.1s
CLL *e*pP **pP** 08 01 19.0 -0.2
CLL *e*sP **sP** 08 01 34.0 +1.4
NB2 NORSAR Subarra 72.44 29 P **P** 08 00 49.3 +0.3
comp=Z,31nm,0.9s,baz=262,slow=6.2
NB2 NORSAR Subarra 72.44 29 P **P** 08 00 49.3 +0.3
baz=262,slow=6.2
NOA NORSAR Array B 72.44 29 P **P** 08 00 49.4 +0.3
comp=Z,18nm,0.8s,baz=262,slow=6.0,SNR=65
KHC Kasperske Hory 72.55 42 *e*P **P** 08 00 48.5 -1.4
NC602 NORSAR Array S 72.56 30 *e*P **P** 08 00 50.6 +1.0
GEC2 GERESS Array S 72.62 42 P **P** 08 00 50.4 +0.1
GERES GERESS Array B 72.62 42 P **P** 08 00 50.8 +0.4
comp=Z,6.9nm,0.9s,baz=255,slow=4.0,SNR=27
GERES pP **pP** 08 01 21.1 0.0
comp=Z,2.4nm,0.7s,baz=258,slow=4.0,SNR=3.7
GERES GERESS Array B 72.62 42 P **P** 08 00 49.7 -0.6
MAYO Mayo, Yukon 72.71 333 P **P** 08 00 49.8 -0.7
baz=100
INK Inuvik 72.72 338 P **P** 08 00 49.6 -0.9
INK Inuvik 72.72 338 P **P** 08 00 49.1 -1.3
baz=104
PBCC Pribram 72.86 41 *e*P **P** 08 00 51.9 +0.3
BRG Berggiesshubel 72.89 40 *e*P **P** 08 00 52.6 +0.9
BRG Amp 08 00 53.9
comp=Z,6.6nm,0.9s
CKRC Cesky Krumlov 73.02 42 *e*P **P** 08 00 52.5 -0.1
PRU Pruhonice 73.22 41 *e*P **P** 08 00 54.2 +0.4
NSS Namsos 73.34 26 *e*P **P** 08 00 54.3 +0.2
EPYK Eagle Plains 73.54 336 P **P** 08 00 53.8 -1.6
baz=100
HFS Hagfors 73.54 30 P **P** 08 00 56.0 +0.6
comp=Z,26nm,0.7s,baz=222,slow=2.0,SNR=73
HFS pP **pP** 08 01 26.4 +0.1
comp=Z,4.3nm,0.7s,baz=237,slow=5.1,SNR=2.7
TREC Trest 73.81 42 *e*P **P** 08 00 57.8 +0.5
UPC Upice 74.19 41 *e*P **P** 08 01 00.0 +0.6
CHVC Chvalec 74.22 40 *e*P **P** 08 01 00.1 +0.5
DAWY Dawson 74.31 334 P **P** 08 00 59.2 -0.7
baz=97
OSTC Ostas 74.32 41 *e*P **P** 08 00 59.5 -0.7
DPC Dobruska-Polom 74.38 41 *e*P **P** 08 01 01.0 +0.4
VRAC Vranov 74.53 42 P **P** 08 01 00.8 -0.6
comp=Z,6.4nm,0.6s,baz=265,slow=5.6,SNR=8.6
VRAC pP **pP** 08 01 32.8 +0.4
comp=Z,2.9nm,0.4s,baz=289,slow=6.1,SNR=2.2
ZST Bratislava 74.86 43 *e*P **P** 08 01 05.0 +1.7
FAUS Fauske 75.09 23 *e*P **P** 08 01 04.9 +0.7
EGAK Eagle 75.15 334 P **P** 08 01 05.5 +0.9
EGAK Eagle 75.15 334 P **P** 08 01 03.5 -1.1
baz=96,SNR=11
M27K Edge Creek, AK 75.27 332 P **P** 08 01 05.1 -0.5
baz=94
L27K Beaver Creek, 75.30 332 P **P** 08 01 04.8 -0.8
baz=94
K27K Chicken 75.48 333 P **P** 08 01 05.7 -0.9
baz=94
UPP Uppsala 75.48 31 *e*P **P** 08 01 06.8 +0.2
PMSA Palmer Station 75.71 181 P **P** 08 01 08.9 +1.3
comp=Z,6.5nm,0.7s,baz=344,slow=4.2,SNR=5.0
PMSA Palmer Station 75.71 181 IAmb IAmb 08 01 43.5
comp=Z,56nm,1.6s
M26K Nabesna, AK 75.79 332 P **P** 08 01 07.8 -0.6
baz=93
L26K Log Cabin Wild 75.98 332 P **P** 08 01 09.6 +0.1
L26K Log Cabin Wild 75.98 332 P **P** 08 01 08.3 -1.2
baz=93
VYHS Vyhne 76.02 43 *e*P **P** 08 01 10.0 0.0
J26K Charley River, 76.27 334 P **P** 08 01 10.2 -0.9
baz=93
SCRK Sand Creek 76.32 333 P **P** 08 01 10.3 -1.2
baz=93
N25K Chitina, Valde 76.51 331 P **P** 08 01 11.3 -1.3
baz=92
OJC Ojcow 76.61 41 P **P** 08 01 13.5 +0.2
AAL Aland 76.68 31 *e*P **P** 08 01 13.0 -0.3
RIDG Independent Ri 76.69 333 P **P** 08 01 12.8 -0.7
baz=92
HARP HAARP 76.79 332 P **P** 08 01 12.9 -1.2
baz=91
PAX Paxson 76.95 332 P **P** 08 01 14.4 -0.7
baz=91
PRP Porcupine Dome 77.04 335 P **P** 08 01 14.4 -1.1
baz=92
RAF Rauma 77.56 30 *e*P **P** 08 01 18.5 +0.2
ILAR Eielson Array 77.60 334 P **P** 08 01 16.8 -1.8
comp=Z,3.5nm,0.8s,baz=110,slow=4.4,SNR=21
ILAR LR LR 08 36 34.8
comp=Z,21nm,19.3s,baz=116,slow=36
POKR Poker Plat Res 77.83 334 P **P** 08 01 19.8 0.0
baz=90
SLIT Slitere, Latvi 77.89 33 *e*P **P** 08 01 20.4 +0.2
H24K Noodor Dome 78.02 335 P **P** 08 01 20.3 -0.5
baz=90
KTK1 Kautokeino 78.15 22 *e*P **P** 08 01 21.4 -0.1
MDM Murphy Dome 78.17 334 P **P** 08 01 20.9 -0.8
SML Sawmill 78.29 331 P **P** 08 01 22.7 +0.3
baz=88
MCK McKinley 78.51 333 P **P** 08 01 23.0 -0.6
baz=88
NEA2 Nenana 78.54 334 P **P** 08 01 22.1 -1.6
baz=88,SNR=12
SUW Suwalki 78.55 37 *e*P **P** 08 01 24.5 +0.6
I23K Minto, Yukon-K 78.65 335 P **P** 08 01 23.5 -0.7
baz=88
MTSE Matsula 78.66 32 *e*P **P** 08 01 24.8 +0.4
PMR Palmer 78.68 331 P **P** 08 01 23.4 -1.0
baz=88
MEF Metsahovi 78.88 31 *e*P **P** 08 01 25.8 +0.2
PABE Paberze 78.92 35 *e*P **P** 08 01 26.9 +1.0
ARCES ARCESS Array B 78.94 21 P **P** 08 01 25.8 0.0
comp=Z,9.4nm,0.9s,baz=270,slow=4.9,SNR=8.0
ARCES pP **pP** 08 01 56.9 -0.3
comp=Z,4.6nm,0.9s,baz=325,slow=5.9,SNR=1.9
ARCES LR LR 08 34 26.3
comp=Z,57nm,18.1s,baz=160,slow=34
MLY Manley 79.24 334 P **P** 08 01 25.8 -1.7
baz=87
BPAW Bear Paw Mtn. 79.40 333 P **P** 08 01 26.7 -1.7
baz=86
FINES FINESS Array B 79.63 29 P **P** 08 01 29.7 +0.1
comp=Z,16nm,0.6s,baz=264,slow=3.6,SNR=53
FINES pP **pP** 08 02 01.3 +0.4
comp=Z,3.0nm,0.6s,baz=251,slow=4.0,SNR=2.3
FINES FINESS Array B 79.63 29 P **P** 08 01 29.2 -0.4
FIA1 FINESS Array S 79.63 29 P **P** 08 01 29.7 +0.1
FIA1 IAmb IAmb 08 01 30.7
comp=Z,24nm,0.8s
I21K Tanana 79.75 335 P **P** 08 01 29.0 -1.3
baz=86
SKT Skwentna 79.79 331 P **P** 08 01 28.6 -2.0
baz=86
CAST Castle Rocks 79.93 333 P **P** 08 01 29.5 -1.8
baz=85
CHUM Lake Minchumin 80.00 333 P **P** 08 01 29.9 -1.7
baz=85
VSU Vasula 80.20 32 *e*P **P** 08 01 33.4 +0.6
IIGN Ignalina 80.21 35 *e*P **P** 08 01 34.4 +1.5
BUR08 Bucovina Ar. S 80.33 43 P **P** 08 01 34.6 +0.7
BURAR Bucovina Array 80.34 43 P **P** 08 01 34.7 +0.7
M20K Styx River 80.56 331 P **P** 08 01 34.6 -0.2
baz=84
NACGM Naroch 80.57 36 *i* P **P** 08 01 36.2 +1.4
J20K Nowinta River 80.77 334 P **P** 08 01 35.2 -0.5
baz=84
K20K Telida 80.83 333 P **P** 08 01 35.6 -0.5
baz=84
L20K Farewell, AK 80.84 332 P **P** 08 01 34.7 -1.5
baz=84
MLR Muntele Rosu 81.08 45 P **P** 08 01 38.7 +0.7
comp=Z,10nm,0.8s,baz=192,slow=4.5,SNR=9.9
MLR pP **pP** 08 02 10.0 +0.6
comp=Z,6.0nm,0.9s,baz=142,slow=7.6,SNR=2.6
M19K Big River Lodg 81.15 331 P **P** 08 01 37.1 -0.7
baz=83
MNK Minsk 81.25 36 *i* P **P** 08 01 37.6 -0.9
comp=E,3.0nm,0.9s
MNK *i* P **P** 08 01 37.6 -0.9
comp=N,18nm,0.9s
MNK *i* P **P** 08 01 37.6 -0.9
comp=Z,73nm,0.9s,baz=277
MNK *i* pP **pP** 08 02 08.1 -1.8
MNK *i* sP **sP** 08 02 29.9 +6.8
MNK *i* PP **PP** 08 04 44.3 -1.1
MNK *i* PPP PPP 08 06 34.9
MNK *i* S **S** 08 11 38.3 -0.2
MNK *i* SSS SSS 08 22 19.2
MNK *i* LRM MLR 08 39 55.2
comp=E,30nm,19.0s
MNK *i* LRM MLR 08 40 14.3
comp=Z,288nm,19.0s
MNK *i* LRM MLR 08 40 15.6
comp=N,253nm,19.0s
O19K Port Alsworth 81.32 330 P **P** 08 01 38.5 -0.2
baz=83
N19K Bonanza Creek 81.33 330 P **P** 08 01 38.3 -0.5
baz=83
L19K White Mountain 81.33 332 P **P** 08 01 37.7 -1.1
baz=83
IDI Anoyia 81.55 56 P **P** 08 01 40.8 +0.2
comp=N,10nm,0.8s,baz=278,slow=5.4,SNR=6.7
O18K Koktuh Hills 81.81 329 P **P** 08 01 40.2 -1.1
baz=82
N18K Kilae Creek 82.03 330 P **P** 08 01 41.6 -0.8
baz=82
AKASG Malin Array Be 82.57 40 P **P** 08 01 45.9 +0.5
comp=N,11nm,0.9s,baz=267,slow=4.5,SNR=19
AKASG Malin Array Be 82.57 40 P **P** 08 01 45.4 0.0
OBN Obninsk 86.09 35 P **P** 08 02 03.6 +0.6
comp=N,14nm,0.6s,baz=178,slow=1.4,SNR=16
OBN pP **pP** 08 02 35.1 +0.2
comp=N,3.9nm,0.4s,baz=223,slow=3.6,SNR=1.5
KLMR Klimovskoe 86.14 29 *e*P **P** 08 02 01.1 -2.1
KLMR AMP 08 02 04.5
comp=Z,38nm,1.3s
KLMR *e*pP **pP** 08 02 33.0 -2.0
ANTO Ankara 86.97 50 P **P** 08 02 07.9 0.0
ANTO IAmb IAmb 08 02 09.9
comp=Z,24nm,0.9s
BR131 Keskin Array S 87.64 50 P **P** 08 02 11.7 +0.5
BR131 IAmb IAmb 08 02 12.8
comp=Z,20nm,0.9s
BRTR Keskin Array B 87.64 50 P **P** 08 02 11.9 +0.8
comp=Z,8.8nm,0.8s,baz=256,slow=5.0,SNR=22
BRTR pP **pP** 08 02 43.0 -0.2
comp=Z,2.9nm,0.7s,baz=270,slow=4.9,SNR=3.5
BRTR Keskin Array B 87.64 50 P **P** 08 02 10.8 -0.4
VNA1 Neumayer--Stat 89.42 164 P **P** 08 02 20.7 +2.2
VNA1 Neumayer--Stat 89.42 164 pP pP 08 02 50.2 -0.4
VNA3 Neumayer Olymp 89.42 165 P **P** 08 02 20.7 +2.1
VNA3 Neumayer Olymp 89.42 165 pP pP 08 02 49.8 -0.9
BNN Bunyan 89.50 51 P **P** 08 02 20.5 +0.5
VNA2 Neumayer--Watz 89.82 164 P **P** 08 02 21.9 +1.5
baz=310,slow=4.2
VNA2 Neumayer--Watz 89.82 164 pP pP 08 02 51.5 -1.0
SNAA Sanae 91.46 164 P **P** 08 02 29.3 +1.2
SNAA Sanae 91.46 164 pP pP 08 02 58.8 -1.4
SNAA Sanae 91.46 164 P **P** 08 02 29.2 +1.1
comp=Z,2.3nm,0.9s,baz=312,slow=6.1,SNR=6.6
SNAA pP **pP** 08 02 59.5 -0.8
comp=Z,2.2nm,0.9s,baz=338,slow=5.1,SNR=3.1
SNAA Sanae 91.46 164 IAmb IAmb 08 04 34.6
comp=Z,20nm,2.0s
KIRV Kirov 91.62 29 P **P** 08 02 28.6 -0.5
comp=Z,7.6nm,0.5s,baz=109,slow=3.7,SNR=4.7
ASF Jabal al Asfar 91.96 57 P **P** 08 02 32.1 +0.6
comp=Z,4.5nm,1.0s,baz=163,slow=2.0,SNR=4.5
BELG Belogornoye 93.17 35 P **P** 08 02 36.8 +0.4
comp=Z,10nm,0.5s,baz=116,slow=6.2,SNR=5.0
KBZ Khabaz 93.25 44 P **P** 08 02 37.8 +0.8
comp=Z,3.3nm,0.8s,baz=249,slow=4.5,SNR=6.0
KSH Kashi 116.53 35 PKP **PKiKP** 08 08 12.3 +6.2
WMQ Urumqi 118.94 24 *e*P **PKiKP** 08 08 11.2 +0.6
WMQ pmax pmax
comp=Z,140nm,4.9s
SONM Songino Array 120.46 9 PKP **PKPdf** 08 08 12.4 -1.1
comp=Z,1.4nm,0.7s,baz=256,slow=2.6,SNR=5.9
HHC Hu-ho-hao-te 127.98 6 *e*P **PKiKP** 08 08 30.6 +1.9
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,190nm,7.2s
HHC LR LR
comp=N,180nm,9.4s
HHC LR LR
comp=E,200nm,10.6s
HHC LR LR
comp=Z,190nm,11.9s
MAT Matsushiro 128.71 339 *e*PKP **PKPdf** 08 08 27.6 -1.8
MJAR Matsushiro Arr 128.71 339 PKP **PKPdf** 08 08 28.2 -1.3
comp=Z,3.1nm,0.7s,baz=80,slow=2.4,SNR=7.4
BJI Beijing 129.06 1 PKP **PKPdf** 08 08 29.0 -1.0
KSRS Korea Array 130.68 349 PKP **PKPdf** 08 08 31.8 -1.3
comp=Z,2.9nm,0.8s,baz=85,slow=1.7,SNR=10
NJ2 Nanjing 137.03 358 *e*P **PKPdf** 08 08 45.4 +0.2
NJ2 pmax pmax
comp=Z,16nm,0.5s
MHMT Maesarieng 145.05 34 PKP **PKPdf** 08 08 59.8 -0.1
CHTO Chiang Mai 145.06 32 PKP **PKPbc** 08 08 58.8 -0.8
CMMT Chiang Mai 145.06 32 PKP **PKPbc** 08 08 58.7 -0.9
PAYA Payao 145.06 30 PKP **PKPbc** 08 08 59.1 -0.5
CM15 Chiang Mai Arr 145.35 32 PKP **PKPdf** 08 09 00.3 -0.2
CMAR Chiang Mai Arr 145.35 32 PKPbc **PKPdf** 08 08 60.0 -0.5
comp=Z,18nm,1.0s,baz=317,slow=5.0,SNR=39
CMAR pPKP pPKPab 08 09 32.4 -1.0
comp=Z,8.6nm,0.7s,baz=313,slow=4.8,SNR=6.0
CMAR Chiang Mai Arr 145.35 32 PKPdf **PKPdf** 08 09 00.2 -0.3
CM13 Chiang Mai Arr 145.37 32 PKP **PKPdf** 08 09 00.5 0.0
CM02 Chiang Mai Arr 145.38 32 PKP **PKPbc** 08 09 00.6 0.0
CM09 Chiang Mai Arr 145.39 32 PKP **PKPbc** 08 09 00.7 +0.1
CM01 Chiang Mai Arr 145.39 32 PKP **PKPab** 08 09 00.8 -0.1
CM04 Chiang Mai Arr 145.42 32 PKP **PKPdf** 08 09 00.6 0.0
UTTA Uttaradit 146.78 30 PKP **PKPbc** 08 09 04.1 -0.6
PHIT Phitsanulok 147.18 31 PKP **PKPbc** 08 09 05.8 -0.1
LOEI Loei 147.32 30 PKP **PKPbc** 08 09 05.9 -0.4
UTHA Uthaitani 148.01 34 PKP **PKPbc** 08 09 08.1 -0.1
SKNT Sakolnakorn 149.03 26 PKP **PKPbc** 08 09 10.2 -0.6
CHAI Chaiyaphum 149.05 30 PKP **PKPbc** 08 09 10.5 -0.3
STKA Stephens Creek 149.66 223 PKP **PKPdf** 08 09 06.9 -0.3
comp=Z,12nm,0.7s,baz=17,slow=1.3,SNR=23
STKA PKPbc **PKPbc** 08 09 10.9 -1.1
comp=Z,12nm,0.7s,baz=105,slow=2.3,SNR=17
PHET Kaeng Krachan 150.24 37 PKP **PKiKP** 08 09 14.5 -0.1
ASAR Alice Springs 160.02 229 PKP **PKPdf** 08 09 20.6 -1.1
comp=Z,3.2nm,1.0s,baz=139,slow=1.9,SNR=16
WRA Warramunga Arr 161.58 240 PKP **PKPdf** 08 09 21.8 -1.6
comp=Z,8.6nm,0.9s,baz=160,slow=0.7,SNR=32
WRA PKPab **PKPab** 08 10 07.0 -1.7
comp=Z,1.6nm,0.8s,baz=122,slow=5.0,SNR=8.6
WRA Warramunga Arr 161.58 240 **PKPdf** 08 09 21.3 -2.1

MEX 10 07:51:39.0±0.8, **16°45N**×**93°20W**, **h205**km±11km, **MD4.1, Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGIG		**0.33**	**12**	*i* P	Pn	07 52 04.8	-1.5
PCIG		**0.74**	**182**	*e*P	Pn	07 52 06.5	-1.3
CCIG	**Comitan**	**1.03**	**99**	*i* P	Pn	07 52 08.2	-1.5
CMIG	**Matias Romero**	**1.74**	**292**	*i* P	Pn	07 52 13.8	-1.5
THIG		**1.78**	**150**	*i* P	Pn	07 52 14.8	-0.9
THIG				*e*S	S	07 52 42.1	-1.8
THIG				*e*S	S	07 52 42.2	-1.7

*DDA **10** 08:07:42.3,39°.12N×29°.10E,h7km±3km,ML3.4*
*ISK **10** 08:07:42.8,39°.14N×29°.14E,h5km,ML3.5/23*
ISC 10 08:07:43.0±0.8, **39°.14N**±0°.02×**29°.10E**±0°.02, **h12**km±5km, **n41**,σ**0°76**/59, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMAA	**Simav-Kutahya**	**0.10**	**249**	PG	**Pg**	**08 07 46.3**	**+0.3**
SMAA				SG	**Sg**	**08 07 48.9**	**+0.7**
SIMA	**Simav-Kutahya**	**0.11**	**240**	PG	**Pg**	**08 07 46.2**	**+0.1**
SIMA				SG	**Sg**	**08 07 48.5**	**+0.1**
SHAP	**Saphane-Kutahy**	**0.15**	**141**	PG	**Pg**	**08 07 46.3**	**-0.4**
SHAP				SG	**Sg**	**08 07 48.7**	**-0.5**
GEDZ	**Gediz**	**0.26**	**111**	PG	**Pg**	**08 07 48.1**	**-0.4**
GEDZ				SG	**Sg**	**08 07 52.1**	**0.0**
GDZ	**Gediz**	**0.30**	**99**	*i* P	**Pg**	**08 07 48.6**	**-0.7**
GDZ				*i* S	**Sg**	**08 07 52.8**	**-0.5**
TVSB	**Tavsanli**	**0.42**	**42**	PG	**Pg**	**08 07 51.1**	**-0.3**
TVSB				SG	**Sg**	**08 07 56.4**	**-0.6**

USAK	**Uak-Merkez**	**0.43**	**189**	*i* P	**Pg**	**08 07 51.3**	**-0.2**
USAK				IAML		08 07 57.0	
	comp=E,3μm,0.3s						
USAK				*i* S	**Sg**	**08 07 57.0**	**-0.2**
DST	**Dursunbey**	**0.60**	**321**	PG	**Pg**	**08 07 54.6**	**-0.2**
DURS	**Dursunbey**	**0.67**	**314**	*i* P	**Pg**	**08 07 56.1**	**-0.1**
DURS				*i* S	**Sn**	**08 08 10.1**	**+1.2**
KULA	**Kula-Manisa**	**0.71**	**209**	PG	**Pg**	**08 07 56.5**	**-0.4**
ANDZ	**Kutahya, Merke**	**0.72**	**59**	*i* P	**Pg**	**08 07 56.3**	**-0.8**
ANDZ				*i* S	**Sg**	**08 08 05.9**	**-0.6**
MANT	**Manisa**	**0.77**	**214**	*i* P	**Pg**	**08 07 57.5**	**-0.6**
MANT				*i* S	**Sg**	**08 08 07.5**	**-0.8**
ULDT	**Uludag**	**1.00**	**1**	*i* P	**Pg**	**08 08 01.6**	**-0.8**
ULDT				*i* S	**Sg**	**08 08 15.6**	**0.0**
AKS	**Akhisar**	**1.04**	**256**	PG	**Pg**	**08 08 03.7**	**+0.3**
AUBOZ	**BOZOYUK**	**1.06**	**43**	PG	**Pb**	**08 08 03.4**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.10**	**283**	*i* P	**Pg**	**08 08 02.0**	**-2.3**
STEP				*i* S	**Sn**	**08 08 20.8**	**+1.3**
STEP				IAML		08 08 23.0	
	comp=N,2μm,0.5s						
IGD	**Bursa**	**1.13**	**4**	*i* P	**Pg**	**08 08 04.0**	**-0.7**
IGD				*i* S	**Sn**	**08 08 21.2**	**+1.1**
BILE	**Bilecik/Merkez**	**1.19**	**30**	*i* P	**Pg**	**08 08 05.3**	**-0.6**
BILE				*i* S	**Sn**	**08 08 22.5**	**+1.0**
KZIL	**AFYON_Kizioren**	**1.20**	**137**	*i* P	**Pg**	**08 08 05.2**	**-0.9**
KZIL				*i* S	**Sn**	**08 08 22.3**	**+0.5**
CAVI	**Cavuskoy**	**1.21**	**28**	PN	**Pb**	**08 08 05.9**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.24**	**352**	PN	**Pg**	**08 08 06.4**	**-0.6**
KCTX	**Karacabey (Bur**	**1.27**	**333**	PN	**Pb**	**08 08 06.8**	**+0.3**
SHUT	**Suhut-Afyon**	**1.27**	**117**	PN	**Pn**	**08 08 07.2**	**+0.5**
BORA	**Eskisehir**	**1.28**	**54**	PN	**Pb**	**08 08 07.4**	**+0.3**
GEMT	**Gemlik**	**1.30**	**3**	PN	**Pg**	**08 08 08.0**	**0.0**
ADVT	**Abdulvahap**	**1.39**	**21**	PN	**Pg**	**08 08 09.6**	**-0.1**
SGAZ	**Eskisehir, Sey**	**1.40**	**73**	*i* P	**Pg**	**08 08 09.7**	**-0.3**
SGAZ				*i* S	**Sb**	**08 08 27.0**	**0.0**
GONE	**Gonen-Balikesi**	**1.42**	**310**	PN	**Pg**	**08 08 10.2**	**-0.2**
YLV	**Yalova**	**1.44**	**8**	PN	**Pg**	**08 08 10.6**	**-0.2**
TRML	**Termal-Yalova**	**1.47**	**2**	PN	**Pg**	**08 08 10.7**	**-0.6**
SRCK	**Saricakaya, Es**	**1.48**	**52**	PN	**Pg**	**08 08 10.8**	**-0.8**
BRDR	**BURDUR-Merkez**	**1.62**	**152**	*i* P	**Pg**	**08 08 13.6**	**-0.6**
BRDR				*i* S	**Sg**	**08 08 36.8**	**+1.5**
TAVA	**DENIZLI_Tavas**	**1.68**	**185**	*i* P	**Pn**	**08 08 11.2**	**-1.1**
TAVA				*i* S	**Sg**	**08 08 37.7**	**+0.8**
SAUV	**Serdivan-Sakar**	**1.86**	**30**	PN	**Pn**	**08 08 15.9**	**+1.3**
KRBG	**Karabiga-Canak**	**1.87**	**313**	PN	**Pb**	**08 08 16.7**	**-0.5**
FOCM	**Foa**	**1.90**	**258**	PN	**Pb**	**08 08 17.1**	**-0.5**
SVRH	**Sivrihisar-ESK**	**1.90**	**80**	PN	**Pb**	**08 08 16.7**	**-1.6**
KLYT	**Kilyos**	**2.12**	**359**	PN	**Pb**	**08 08 20.1**	**-1.2**
MAR4	**Marsite Statio**	**2.15**	**321**	PN	**Pb**	**08 08 20.9**	**-1.1**
CAME	**Cameli-Denizli**	**2.19**	**176**	PN	**Pn**	**08 08 20.5**	**+1.1**
SLVT	**Silivri**	**2.20**	**342**	PN	**Pb**	**08 08 21.7**	**-1.0**

JMA 10 08:09:41.3±0.1, 38°80N×144°42E, h47km, M3.9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.16**	**278**	P		Pn	08 10 16.0	+1.2
MIYJ	**Miyakonagasawa**	**2.16**	**292**	P		Pn	08 10 16.0	+1.1
MIYJ				*e*S		Sn	08 10 41.9	+1.4
JTH	**Tanohata**	**2.29**	**301**	P		Pn	08 10 17.8	+1.3
JTH				*e*S		Sn	08 10 45.2	+1.8
JKMT	**Kesennumamotoy**	**2.30**	**271**	P		Pn	08 10 17.9	+1.2
JKMT				S		Sn	08 10 44.7	+0.9
JMK	**Ichinoseki**	**2.50**	**274**	P		Pn	08 10 21.0	+1.5
JMK				S		Sn	08 10 50.6	+1.8
JOM	**Ohasama**	**2.52**	**286**	P		Pn	08 10 21.5	+1.7
JOM				*e*S		Sn	08 10 51.3	+2.0
JANG	**Nango**	**2.74**	**306**	P		Pn	08 10 23.7	+0.9
JYK	**Kaneyama**	**3.17**	**273**	P		Pn	08 10 30.6	+1.9
JFT	**Otama**	**3.46**	**250**	P		Pn	08 10 34.3	+1.6
JFT				S		Sn	08 11 13.9	+1.4
JOT	**Ohata**	**3.65**	**316**	*e*S		Sn	08 11 17.3	+0.3
JNBK	**Urakawa-nobuka**	**3.70**	**340**	P		Pn	08 10 37.1	+1.2
JNBK				*e*S		Sn	08 11 18.3	+0.1
JCH	**Churui**	**3.89**	**348**	P		Pn	08 10 38.5	-0.1
JCH				S		Sn	08 11 21.4	-1.6
NEM2	**Nemuro 2**	**4.67**	**12**	P		Pn	08 10 46.4	-2.8
NEM2				*e*S		Sn	08 11 35.7	-6.3
BSO1	**Boso 1**	**4.98**	**215**	P		Pn	08 10 52.6	-0.4
BSO1				*e*S		Sn	08 11 48.8	-0.1
JOSM	**Okushiri--Mats**	**5.00**	**313**	S		Sn	08 11 50.2	0.0
JTKR	**Abashiri--Toko**	**5.18**	**356**	P		Pn	08 10 56.2	0.0
JTKR				*e*S		Sn	08 11 52.0	-2.6
JRY	**Ryogami san**	**5.20**	**239**	P		Pn	08 10 57.1	+0.6
MAT	**Matsushiro**	**5.42**	**247**	P		Pn	08 11 01.9	+2.3
MAT				*e*S		Sn	08 12 01.2	+0.6

*BGR **10** 08:11:36.3±0.0, 32°.43N×29°.10E, h33km, mb4.4*
*IDC **10** 08:12:44.5±0.4, 38°.87N×26°.35E, h0km, mb4.5/32, mb1 4.5/44, mb1mx4.4/51, mbtmp4.4/44, ML4.2/10, MS3.7/25, Ms1 3.7/25, ms1mx3.6/40, Error ellipse: s-maj=9.3km s-min=8.3km az=116.0*
*ATH **10** 08:12:44.7, 38°.87N×26°.19E, h46km±3km, ML4.6/7, Error ellipse: s-maj=4.3km s-min=1.5km az=69.0*
*NEIC **10** 08:12:45, 38°.79N×26°.14E, h19km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr=0.21; Mθθ=0.98; Mφφ=-1.19; Mrθ=0.52; Mrφ=-0.19; Mθφ=-0.32; Fault plane solution: M0=1.27000×10^16 NP1:φs=142.80000°, δ=79.22000°, λ=28.33000°. NP2:φs=47.04000°, δ=62.21000°, λ=167.79000°. Principal axes: T 1.2862, Plg28.0000°, Azm8.0000°; N -0.0262, Plg60.0000°, Azm162.0000°; P -1.2601, Plg11.0000°, Azm272.0000°;*
*DDA **10** 08:12:45.7, 38°.83N×26°.27E, h5km±2km, MW4.8*
*ISK **10** 08:12:45.7, 38°.84N×26°.28E, h15km, ML4.9/48*
*THE **10** 08:12:46.0, 38°.82N×26°.28E, h11km, Mw4.6, Fault plane solution: NP1:φs=80.00000°, δ=37.00000°, λ=-11.00000°. NP2:φs=295.00000°, δ=59.00000°, λ=-70.00000°., Stations used: SMG,LIA,GADA,APE,KULA,ENEZ,BODT*
*MOS **10** 08:12:46.6±1.0, 38°.87N×26°.36E, h25km, mb4.7/25, MS4.0/11, Error ellipse: s-maj=4.2km s-min=2.7km az=98.1*
*MED_RC **10** 08:12:46.0±0.2, 38°.83N×26°.52E, h12km±1km, MW4.7/27, Moment Tensor Solution.Mantle waves: s27,c42; Duration: 1#1 Moment tensor: Scale 10^16Nm; Mrr=1.16±.09; Mθθ 1.30±.06; Mφφ -0.14±.05; Mrθ 0.53±.11; Mθφ -0.23±.03; Mφr -0.35±. 12; Best double couple: M0 1.41000×10^16 NP1:φs=86.00000°, δ=34.00000°, λ=-112.00000°. NP2:φs=291.00000°, δ=59.00000°, λ=-76.00000°. Principal axes: T 1.4700, Plg13.0000°, Azm11.0000°; N -0.1200, Plg12.0000°, Azm104.0000°; P -1.3500, Plg73.0000°, Azm236.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*NEIC **10** 08:12:47.2±1.4, 38°.85N±0°.05×26°.27E±0°.06, h17km±3km Error ellipse: s-maj=7.3km s-min=6.7km az=133.0*
*GCMT **10** 08:12:48.0±0.4, 38°.78N±0°.02×26°.30E±0°.04, h16km±1km, MW4.9/79, Moment Tensor Solution. s16,c16; s79,c100; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.39±. 19; Mθθ 2.02±.12; Mφφ 0.37±.11; Mrθ 0.73±.29; Mφφ -0.81±.06; Mrφ 0.06±.42; Best double couple: M0 2.48000×10^16 NP1:φs=119.00000°, δ=38.00000°, λ=-78.00000°. NP2: φs=285.00000°, δ=53.00000°, λ=-99.00000°. Principal axes: T 2.4400, Plg8.0000°, Azm21.0000°; N 0.0820, Plg7.0000°, Azm290.0000°; P -2.5190, Plg79.0000°, Azm158.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*SOF **10** 08:12:50.9, 39°.37N×26°.22E, h3km, MD4.4*
ISC 10 08:12:47.3±0.6, 38°.84N±0°.02×26°.33E±0°.02, h19km±2km, n787, σ1°35/853, mb4.8/101, MS3.8/22, 126C-84D, Fault plane solution: NP1:φs=120.42126°, δ=54.14586°, λ=19.10643°. NP2:φs=18.95172°, δ=74.61525°, λ=142.59157°. Principal axes: T Plg36.9964°, Azm333.6406°; N Plg49.9837°, Azm179.8205°; P Plg13.0955°, Azm73.7351°; Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRBN	**Karaburun**	**0.30**	**144**	PG	**Pg**	**08 12 53.1**	**-0.8**
KRBN				SG	**Sg**	**08 12 58.5**	**+0.1**
FOCM	**Foa**	**0.34**	**112**	PG	**Pg**	**08 12 53.5**	**-1.0**
CAND	**Candarli**	**0.39**	**72**	PG	**Pg**	**08 12 55.4**	**0.0**
CAND				SG	**Sb**	**08 13 01.4**	**+0.1**
PRK	**Paraskevi**	**0.41**	**354**	P	**Pg**	**08 12 55.4**	**-0.4**
PRK				S	**Sb**	**08 13 02.7**	**+0.7**
	248μm,0.5s						
PRK	**Paraskevi**	**0.41**	**354**	P	**Pg**	**08 12 54.2**	**-1.6**
PRK				S	**Sb**	**08 13 02.5**	**+0.5**
PRK				AML	AML	08 13 02.8	
PRK				AML	AML	08 13 05.6	
PRK	**Paraskevi**	**0.41**	**354**	P	**Pg**	**08 12 55.4**	**-0.4**
PRK				S	**Sb**	**08 13 02.7**	**+0.7**
URLA	**Izmir**	**0.52**	**156**	⇑*i*P	**Pg**	**08 12 56.5**	**-1.3**
URLA				*i* S	**Sg**	**08 13 04.4**	**-0.5**
URLA				IAML		08 13 08.0	
	comp=E,57μm,0.4s						
URLA	**Izmir**	**0.52**	**156**	PG	**Pg**	**08 12 56.5**	**-1.3**
URLA				SG	**Sg**	**08 13 04.8**	**-0.1**
SIGR	**SIGRI**	**0.52**	**315**	P	**Pg**	**08 12 56.4**	**-1.4**
SIGR				S	**Sg**	**08 13 03.8**	**-1.2**
	comp=E,68μm,0.7s						
SIGR	**SIGRI**	**0.52**	**315**	P	**Pg**	**08 12 55.1**	**-2.7**
SIGR				S	**Sg**	**08 13 02.3**	**-2.7**
SIGR				AML	AML	08 13 06.2	
SIGR				AML	AML	08 13 08.0	
SIGR	**SIGRI**	**0.52**	**315**	PG	**Pg**	**08 12 56.5**	**-1.4**
SIGR				SG	**Sg**	**08 13 03.7**	**-1.2**
AYVA	**Ayvalik**	**0.55**	**31**	⇑*i*P	**Pb**	**08 12 57.0**	**-1.3**
AYVA				*i* S	**Sg**	**08 13 05.7**	**0.0**
AYVA				IAML		08 13 07.0	
	comp=N,54μm,0.4s						
AYVA				IAML		08 13 08.0	
	comp=E,51μm,0.8s						
ZEDA	**zmir-Bergama**	**0.60**	**77**	⇑*i*P	**Pb**	**08 12 58.3**	**-0.8**
ZEDA				*i* S	**Sb**	**08 13 06.8**	**-0.3**
ZEDA				IAML		08 13 10.0	
	comp=E,66μm,0.3s						
ZEYE	**Izmir, Urla-Ze**	**0.61**	**167**	⇑*i*P	**Pb**	**08 12 58.1**	**-1.3**
ZEYE				*i* S	**Sn**	**08 13 09.9**	**-0.5**
ZEYE				IAML		08 13 10.0	
	comp=E,65μm,0.4s						
ZEYE				IAML		08 13 11.0	
	comp=N,53μm,0.3s						
KOCA	**Canakkale, Ayv**	**0.68**	**347**	⇑*i*P	**Pb**	**08 12 59.3**	**-1.2**
KOCA				*i* S	**Sg**	**08 13 10.8**	**+1.0**
KOCA				IAML		08 13 12.0	
	comp=N,57μm,0.4s						
KOCA				IAML		08 13 17.0	
	comp=E,39μm,0.6s						
BLCB	**Balcova**	**0.72**	**129**	P	**Pb**	**08 13 00.4**	**-0.8**
BLCB				S	**Sg**	**08 13 11.3**	**+0.3**
BUHA	**Balikesir, Bur**	**0.88**	**41**	⇑*i*P	**Pb**	**08 13 02.7**	**-1.3**
BUHA				*i* S	**Sn**	**08 13 16.9**	**-0.2**
BUHA				IAML		08 13 19.0	
	comp=N,40μm,0.8s						
BUHA				IAML		08 13 21.0	
	comp=E,45μm,0.4s						
EZN	**Ezine**	**0.99**	**360**	P	**Pb**	**08 13 05.0**	**-0.8**
EZN				S	**Sb**	**08 13 18.8**	**+0.4**
	comp=E,84μm,0.8s						
EZN	**Ezine**	**0.99**	**360**	P	**Pb**	**08 13 05.0**	**-0.8**
EZN				S	**Sb**	**08 13 18.8**	**+0.4**
EZN	**Ezine**	**0.99**	**360**	PG	**Pb**	**08 13 04.7**	**-1.1**
BOZC	**Bozcaada**	**1.02**	**348**	⇑*i*P	**Pb**	**08 13 05.2**	**-1.2**
BOZC				*i* S	**Sb**	**08 13 19.8**	**+0.3**
BOZC				IAML		08 13 20.0	
	comp=N,38μm,0.3s						
BOZC				IAML		08 13 21.0	
	comp=E,51μm,0.7s						
BOZC	**Bozcaada**	**1.02**	**348**	PG	**Pb**	**08 13 05.3**	**-1.2**
BOZC				SG	**Sn**	**08 13 20.3**	**-0.3**
AKS	**Akhisar**	**1.16**	**88**	PN	**Pn**	**08 13 08.5**	**-0.1**
SMG	**Samos**	**1.20**	**160**	P	**Pn**	**08 13 07.9**	**-1.2**
SMG				S	**Sb**	**08 13 24.1**	**-0.4**
	comp=E,54μm,0.6s						
SMG	**Samos**	**1.20**	**160**	P	**Pn**	**08 13 07.9**	**-1.2**
SMG				S	**Sn**	**08 13 25.3**	**+0.5**
SMG				AML	AML	08 13 29.2	
SMG				AML	AML	08 13 29.4	
STEP	**BALIKESIR_Sava**	**1.21**	**63**	⇓*i*P	**Pn**	**08 13 08.5**	**-0.7**
STEP				*i* S	**Sn**	**08 13 25.1**	**-0.1**
GOMA	**Golmarmara-Man**	**1.25**	**96**	PN	**Pn**	**08 13 09.5**	**-0.2**
GCAM	**G?zelcaml?**	**1.34**	**148**	⇓*i*P	**Pn**	**08 13 10.1**	**-1.0**
GCAM				*i* S	**Sg**	**08 13 30.2**	**-0.5**
GCAM	**G?zelcaml?**	**1.34**	**148**	PN	**Pn**	**08 13 10.7**	**-0.3**
GCAM				SN	**Sb**	**08 13 29.3**	**+0.7**
BALY	**Balya**	**1.35**	**48**	⇑*i*P	**Pn**	**08 13 10.5**	**-0.6**
BALY				*i* S	**Sg**	**08 13 31.4**	**+0.4**
BALY				IAML		08 13 35.0	
	comp=E,19μm,0.4s						
LIA	**Limnos Island**	**1.38**	**320**	P	**Pn**	**08 13 10.7**	**-0.9**
LIA				S	**Sn**	**08 13 28.1**	**-1.2**
	comp=E,15μm,0.8s						
LIA	**Limnos Island**	**1.38**	**320**	P	**Pn**	**08 13 10.0**	**-1.6**
LIA				AML	AML	08 13 30.9	
	comp=E,35382μm,0.7s						
LIA				AML	AML	08 13 33.0	
	comp=N,25138μm,0.9s						
SKY	**Skiros Island**	**1.39**	**272**	P	**Pn**	**08 13 10.6**	**-1.1**
SKY	**Skiros Island**	**1.39**	**272**	P	**Pn**	**08 13 07.7**	**-4.0**
GADA	**Gvkgeada**	**1.39**	**346**	PN	**Pn**	**08 13 10.9**	**-0.8**
GOKC	**Gokceada-Canak**	**1.40**	**347**	PN	**Pn**	**08 13 11.5**	**-0.3**
BALB	**Balikesir**	**1.45**	**56**	Pn	**Pn**	**08 13 11.8**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**125**	PN	**Pn**	**08 13 13.3**	**-0.3**
DDIM	**Aydin, Didim**	**1.56**	**152**	⇓*i*P	**Pn**	**08 13 13.1**	**-0.9**
DDIM				*i* S	**Sg**	**08 13 37.1**	**-0.4**
LPK	**Lapseki**	**1.57**	**12**	PN	**Pn**	**08 13 13.7**	**-0.5**
GONE	**Gonen-Balikesi**	**1.60**	**41**	PN	**Pn**	**08 13 14.1**	**-0.5**
KARY	**Karystos**	**1.69**	**242**	P	**Pn**	**08 13 14.1**	**-1.8**
AYDN	**Tasoluk**	**1.69**	**133**	⇓*i*P	**Pn**	**08 13 15.5**	**-0.5**
AYDN				*i* S	**Sg**	**08 13 42.5**	**+0.5**
KNL	**Balıkesir**	**1.70**	**33**	⇑*i*P	**Pn**	**08 13 15.3**	**-0.8**
KNL				*i* S	**Sg**	**08 13 42.3**	**0.0**
KRBG	**Karabiga-Canak**	**1.72**	**25**	PN	**Pn**	**08 13 16.0**	**-0.3**
SMTH	**Samothraki Isl**	**1.74**	**340**	P	**Pn**	**08 13 15.6**	**-1.0**
SMTH				S	**Sn**	**08 13 39.0**	**+0.7**
	comp=N,8μm,0.8s						
SMTH	**Samothraki Isl**	**1.74**	**340**	P	**Pn**	**08 13 15.6**	**-1.0**
SMTH				AML	AML	08 13 43.7	
	comp=N,16743μm,0.8s						
SMTH				AML	AML	08 13 45.2	
	comp=E,14941μm,0.5s						
KYMI	**Kymi, Euboea I**	**1.75**	**264**	P	**Pn**	**08 13 15.4**	**-1.3**
KYMI	**Kymi, Euboea I**	**1.75**	**264**	P	**Pn**	**08 13 15.4**	**-1.3**
ENZZ	**Sultanice-Enez**	**1.77**	**355**	PN	**Pn**	**08 13 16.8**	**-0.2**
MANT	**Manisa**	**1.78**	**101**	⇓*i*P	**Pn**	**08 13 16.9**	**-0.3**
MANT				*i* S	**Sg**	**08 13 43.3**	**-1.4**
MANT	**Manisa**	**1.78**	**101**		**Pn**	**08 13 16.9**	**-0.3**
DURS	**Dursunbey**	**1.83**	**65**	⇓*i*P	**Pn**	**08 13 17.5**	**-0.4**
DURS				*i* S	**Sg**	**08 13 45.1**	**-1.3**
ERIK	**Erikli-Kesan**	**1.84**	**4**	PN	**Pn**	**08 13 17.9**	**+0.1**
KULA	**Kula-Manisa**	**1.85**	**99**	P	**Pn**	**08 13 18.1**	**-0.1**
KULA	**Kula-Manisa**	**1.85**	**99**	PN	**Pn**	**08 13 18.1**	**-0.1**
CAVK	**Edirne/Enez-Ca**	**1.85**	**356**	*i* P	**Pn**	**08 13 17.7**	**-0.4**
CAVK				*i* S	**Sg**	**08 13 48.6**	**+1.5**
DEMI	**Demirci**	**1.87**	**83**	⇓*i*P	**Pn**	**08 13 18.2**	**-0.2**
DEMI				*i* S	**Sg**	**08 13 45.9**	**-1.8**
APE	**Apeiranthos**	**1.88**	**200**	⇓P	**Pn**	**08 13 17.6**	**-0.8**
APE	**Apeiranthos**	**1.88**	**200**	P	**Pn**	**08 13 17.6**	**-0.8**
APE				S	**Sn**	**08 13 41.0**	**-0.6**
	comp=E,6μm,0.6s						
APE	**Apeiranthos**	**1.88**	**200**	P	**Pn**	**08 13 17.5**	**-0.9**
APE	**Apeiranthos**	**1.88**	**200**	*e*P	**Pn**	**08 13 17.8**	**-0.6**
APE	**Apeiranthos**	**1.88**	**200**	PN	**Pn**	**08 13 17.8**	**-0.6**
ENEZ	**Enez**	**1.90**	**356**	P	**Pn**	**08 13 18.4**	**-0.3**
ENEZ				S	**Sn**	**08 13 42.7**	**+0.5**
	comp=E,26μm,1.0s						
ENEZ	**Enez**	**1.90**	**356**	PN	**Pn**	**08 13 18.7**	**0.0**
EDC	**Edincik**	**1.92**	**38**	P	**Pn**	**08 13 18.6**	**-0.4**
EDC	**Edincik**	**1.92**	**38**	PN	**Pn**	**08 13 18.6**	**-0.4**
BODT	**Bodrum**	**1.94**	**156**	PN	**Pn**	**08 13 18.6**	**-0.6**
DST	**Dursunbey**	**1.94**	**66**	P	**Pn**	**08 13 19.7**	**+0.5**
DST	**Dursunbey**	**1.94**	**66**	PN	**Pn**	**08 13 19.8**	**+0.5**
RKY	**Sarkoy-Tekirda**	**1.96**	**19**	PN	**Pn**	**08 13 19.2**	**-0.4**
SART	**Tekirdag**	**1.96**	**19**	*i* P	**Pb**	**08 13 21.9**	**-0.6**
SART				*i* S	**Sg**	**08 13 49.0**	**-1.5**
BDRM	**Kayabasi**	**1.98**	**153**	⇓*i*P	**Pn**	**08 13 19.1**	**-0.8**
BDRM				*i* S	**Sg**	**08 13 49.8**	**-1.2**
KESN	**Edirne-Kesan**	**2.00**	**8**	*i* P	**Pn**	**08 13 19.7**	**-0.8**
KESN				*i* S	**Sg**	**08 13 50.8**	**-1.1**
MRMT	**Marmara Adasi**	**2.02**	**29**	PN	**Pn**	**08 13 20.1**	**-0.3**
DION	**Dionisos Attik**	**2.03**	**249**	P	**Pn**	**08 13 19.0**	**-1.5**
DION	**Dionisos Attik**	**2.03**	**249**	P	**Pn**	**08 13 19.2**	**-1.3**
ALN	**Alexandroupoli**	**2.07**	**354**	P	**Pn**	**08 13 20.3**	**-0.7**
ALN	**Alexandroupoli**	**2.07**	**354**	P	**Pn**	**08 13 20.3**	**-0.7**
ALN				AML	AML	08 13 57.8	
	comp=N,17520μm,1.2s						
ALN				AML	AML	08 13 58.0	
	comp=E,19024μm,0.6s						
ALN	**Alexandroupoli**	**2.07**	**354**	P	**Pn**	**08 13 20.6**	**-0.4**
ALN	**Alexandroupoli**	**2.07**	**354**	PN	**Pn**	**08 13 20.7**	**-0.4**
ALN	**Alexandroupoli**	**2.07**	**354**	Pn	**Pn**	**08 13 20.6**	**-0.4**
SIMA	**Simav-Kutahya**	**2.08**	**82**	PN	**Pn**	**08 13 21.5**	**+0.2**
SMAA	**Simav-Kutahya**	**2.08**	**82**	PN	**Pn**	**08 13 22.4**	**+1.1**
MAR4	**Marsite Statio**	**2.09**	**21**	PN	**Pn**	**08 13 21.4**	**0.0**
USAK	**Uak-Merkez**	**2.10**	**93**	⇓*i*P	**Pn**	**08 13 21.6**	**0.0**
USAK				*i* S	**Sg**	**08 13 53.4**	**-1.7**
KCTX	**Karacabey (Bur**	**2.12**	**47**	PN	**Pn**	**08 13 21.1**	**-0.7**
KOSK	**Kos Island**	**2.15**	**166**	PN	**Pn**	**08 13 22.3**	**+0.2**
THAS	**Thassos island**	**2.16**	**325**	P	**Pn**	**08 13 21.3**	**-1.0**
THAS	**Thassos island**	**2.16**	**325**	P	**Pn**	**08 13 21.3**	**-1.0**
ATHU	**Athens Univers**	**2.18**	**247**	P	**Pn**	**08 13 21.6**	**-1.0**
VLY	**Voula,Athens**	**2.22**	**245**	P	**Pn**	**08 13 21.9**	**-1.3**
ATH	**Athens Observa**	**2.23**	**248**	P	**Pn**	**08 13 22.4**	**-0.8**
ATH	**Athens Observa**	**2.23**	**248**	P	**Pn**	**08 13 22.4**	**-0.8**
ATH	**Athens Observa**	**2.23**	**248**	P	**Pn**	**08 13 22.4**	**-0.8**
MULA	**Mugla, Merkez-**	**2.23**	**135**	⇓*i*P	**Pn**	**08 13 23.0**	**-0.4**
MULA				*i* S	**Sg**	**08 13 59.2**	**+0.1**
MULA				IAML		08 14 03.0	
	comp=N,3μm,0.6s						
SHAP	**Saphane-Kutahy**	**2.26**	**84**	PN	**Pn**	**08 13 24.7**	**+0.9**
YER	**Yerkesik**	**2.30**	**137**	P	**Pn**	**08 13 24.1**	**-0.1**
YER	**Yerkesik**	**2.30**	**137**	P	**Pn**	**08 13 24.1**	**-0.1**
YER	**Yerkesik**	**2.30**	**137**	PN	**Pn**	**08 13 24.3**	**+0.1**
NISR	**Nisiros**	**2.31**	**164**	P	**Pn**	**08 13 24.3**	**-0.1**
PAIG	**Paliouri**	**2.32**	**299**	P	**Pn**	**08 13 23.7**	**-0.8**
PAIG	**Paliouri**	**2.32**	**299**	P	**Pn**	**08 13 23.7**	**-0.8**
DAT	**Datca**	**2.33**	**154**	P	**Pn**	**08 13 24.0**	**-0.7**
DAT	**Datca**	**2.33**	**154**	PN	**Pn**	**08 13 24.0**	**-0.7**
NIS1	**Nisyros Isl.**	**2.33**	**163**	P	**Pn**	**08 13 24.4**	**-0.3**
NIS1	**Nisyros Isl.**	**2.33**	**163**	PN	**Pn**	**08 13 24.7**	**0.0**
TKR	**Tekirdag**	**2.34**	**23**	PN	**Pn**	**08 13 25.2**	**+0.4**
OUR	**Ouranopolis**	**2.35**	**310**	P	**Pn**	**08 13 24.5**	**-0.4**
OUR	**Ouranopolis**	**2.35**	**310**	PN	**Pn**	**08 13 24.6**	**-0.3**
RDO	**Rodhopi**	**2.38**	**345**	P	**Pn**	**08 13 24.9**	**-0.5**
RDO	**Rodhopi**	**2.38**	**345**	P	**Pn**	**08 13 25.2**	**-0.2**
RDO				AML	AML	08 13 56.0	
	comp=N,6778μm,0.7s						
RDO				AML	AML	08 14 09.2	
	comp=E,6028μm,0.8s						
RDO	**Rodhopi**	**2.38**	**345**	PN	**Pn**	**08 13 24.9**	**-0.5**
TAVA	**DENIZLI_Tavas**	**2.46**	**123**	⇓*i*P	**Pn**	**08 13 26.5**	**0.0**
TAVA				*i* S	**Sg**	**08 14 05.8**	**-0.5**
NEO	**Neokhori**	**2.46**	**282**	P	**Pn**	**08 13 25.6**	**-0.9**
GDZ	**Gediz**	**2.47**	**83**	*i* P	**Pn**	**08 13 26.3**	**-0.4**
GDZ				*i* S	**Sg**	**08 14 06.2**	**-0.5**
MDNY	**Mudanya-Bursa**	**2.50**	**51**	PN	**Pn**	**08 13 26.9**	**0.0**
THT2	**Imerovigli**	**2.50**	**197**	PN	**Pn**	**08 13 27.9**	**+0.8**
TVSB	**Tavsanli**	**2.51**	**75**	PN	**Pn**	**08 13 27.4**	**+0.2**
PASA	**Karahalli, USA**	**2.52**	**100**	*i* P	**Pn**	**08 13 27.4**	**+0.1**
PASA				*i* S	**Sg**	**08 14 07.6**	**-0.9**
ULDT	**Uludag**	**2.53**	**58**	*e*P	**Pn**	**08 13 27.0**	**-0.7**
ULDT				*i* S	**Sg**	**08 14 07.0**	**-1.7**
KHL	**Karahalli**	**2.56**	**101**	PN	**Pn**	**08 13 28.8**	**+1.0**
SANT	**Santorini**	**2.56**	**196**	⇑P	**Pn**	**08 13 26.7**	**-1.1**
SANT	**Santorini**	**2.56**	**196**	PN	**Pn**	**08 13 26.7**	**-1.1**
SANT	**Santorini**	**2.56**	**196**	Pn	**

BRTR **Keskin Array B** 5.74 79 Pn Pn 08 14 12.8 +1.1
comp=Z,4.9nm,0.3s,baz=252,slow=14,SNR=54
BRTR Sn **Sn** 08 15 15.3 -1.8
comp=Z,1.7nm,0.3s,baz=92,slow=3.8,SNR=1.3
BRTR Lg Lg 08 15 49.1
baz=42,slow=21,SNR=1.3
HUMR Humele 5.77 350 ⇑P **Pn** 08 14 12.0 +0.1
TIRR Tirgusor 5.83 15 ⇑P **Pn** 08 14 12.3 -0.4
TIRR Tirgusor 5.83 15 P **Pn** 08 14 11.6 -1.1
TIRR Tirgusor 5.83 15 Pn **Pn** 08 14 11.6 -1.1
TLBR Topalu 5.84 12 ⇑P **Pn** 08 14 12.8 -0.1
BOVS Bovan 5.92 325 ⇑P **Pn** 08 14 14.0 0.0
HARR Harsova 5.97 11 ⇑P **Pn** 08 14 14.8 +0.2
HARR Harsova 5.97 11 P **Pn** 08 14 14.8 +0.2
PUNG Punghina 6.00 336 ⇑P **Pn** 08 14 15.2 +0.2
ILGA Ilgaz 6.09 66 **Pn** 08 14 17.7 +1.2
SECR 6.20 358 ⇑P **Pn** 08 14 19.1 +1.3
TPGR Topolog 6.21 14 ⇑P **Pn** 08 14 18.0 0.0
ISR Istrita 6.28 1 ⇓P **Pn** 08 14 19.8 +0.8
ISR Istrita 6.28 1 P **Pn** 08 14 21.5 +2.6
ISR pmax pmax
comp=Z,314nm,0.9s
DRME Dracevica, Mon 6.39 304 *e*P **Pn** 08 14 22.3 +1.9
LEF Lefka 6.43 123 ⇑P **Pn** 08 14 20.0 -1.0
PDG Podgorica 6.47 306 ⇑P **Pn** 08 14 22.2 +0.8
PDG Podgorica 6.47 306 *e*P **Pn** 08 14 23.6 +2.2
PDG Podgorica 6.47 306 Pn **Pn** 08 14 21.5 +0.1
CFR Carcaliu 6.48 11 ⇑P **Pn** 08 14 21.2 -0.4
DJES Djerdap 6.48 335 ⇑P **Pn** 08 14 22.1 +0.4
GRER 6.55 4 ⇑P **Pn** 08 14 22.8 +0.2
NEHR Nehoiu 6.58 360 ⇑P **Pn** 08 14 24.6 +1.5
TLCR 6.61 15 ⇓P **Pn** 08 14 23.9 +0.5
TLCR 6.61 15 P **Pn** 08 14 23.8 +0.5
BZK Bozkurt 6.63 60 Pn **Pn** 08 14 25.4 +1.7
ARR Arges 6.64 350 ⇑P **Pn** 08 14 24.7 +0.7
MLR Muntele Rosu 6.65 358 ⇓P **Pn** 08 14 25.2 +1.0
MLR Muntele Rosu 6.65 358 Pn **Pn** 08 14 24.8 +0.7
comp=Z,8.2nm,0.3s,baz=179,slow=10,SNR=48
MLR Sn **Sn** 08 15 38.5 -1.0
baz=296,slow=17,SNR=1.2
MLR Lg Lg 08 16 19.1
comp=Z,2.7nm,0.3s,baz=297,slow=23,SNR=1.2
MLR Muntele Rosu 6.65 358 P **Pn** 08 14 25.0 +0.8
MLR Muntele Rosu 6.65 358 Pn **Pn** 08 14 25.0 +0.8
VOIR 6.66 352 ⇓P **Pn** 08 14 24.0 -0.3
VOIR 6.66 352 P **Pn** 08 14 23.7 -0.5
VOIR pmax pmax
comp=Z,107nm,0.9s
HERR Herculane 6.71 335 ⇑P **Pn** 08 14 24.6 -0.1
BISRR Bisoca 6.71 2 ⇑P **Pn** 08 14 25.8 +0.9
CSS Mathiatis 6.81 122 Pn **Pn** 08 14 26.4 +0.2
MDVR Moldovita 6.87 331 ⇑P **Pn** 08 14 26.7 -0.3
LOT Lotru 6.87 345 ⇑P **Pn** 08 14 26.6 -0.6
TATR Tatarca 6.87 10 ⇑P **Pn** 08 14 27.6 +0.5
HCY Herceg Novi 6.96 304 *e*P **Pn** 08 14 29.7 +1.4
PLOR Plostina 7.01 2 ⇓P **Pn** 08 14 29.9 +0.9
PLOR Plostina 7.01 2 P **Pn** 08 14 29.9 +0.9
VRI Vrincioaia 7.03 2 ⇑P **Pn** 08 14 30.3 +1.1
VRI Vrincioaia 7.03 2 P **Pn** 08 14 30.1 +0.9
VRI pmax pmax
comp=Z,297nm,1.3s
GZR Gura Zlata 7.06 339 ⇑P **Pn** 08 14 29.4 -0.3
DIVS Divibare 7.09 320 *e*P **Pn** 08 14 29.3 -0.8
DIVS Divibare 7.09 320 **Pn** 08 14 29.2 -0.9
RUDO Rudo 7.09 315 *e*P **Pn** 08 14 28.6 -1.5
UPM Unac-Piva 7.11 310 *e*P **Pn** 08 14 34.4 +4.0
VLDR Vladesti 7.12 10 ⇑P **Pn** 08 14 31.3 +0.9
VARL Varlezi 7.16 9 ⇑P **Pn** 08 14 31.4 +0.6
DOPR Dopca 7.16 355 ⇑P **Pn** 08 14 31.3 +0.3
BRY Bratogost 7.16 307 *e*P **Pn** 08 14 33.5 +2.3
BBLS Lazići 7.23 316 *e*P **Pn** 08 14 32.0 -0.1
GHRR 7.26 6 ⇑P **Pn** 08 14 32.7 +0.3
OZUR 7.26 357 ⇑P **Pn** 08 14 33.9 +1.5
BNN Bunyan 7.43 87 Pn **Pn** 08 14 36.5 +1.6
TIP Timpagrande 7.46 276 Pn **Pn** 08 14 34.9 -0.3
DEV Deva 7.48 341 ⇑P **Pn** 08 14 36.2 +0.8
DEV Deva 7.48 341 P **Pn** 08 14 36.5 +1.1
DEV pmax pmax
comp=Z,194nm,1.0s
BZS Buzias 7.62 334 ⇑P **Pn** 08 14 36.7 -0.6
BZS Buzias 7.62 334 P **Pn** 08 14 37.0 -0.3
BZS pmax pmax
comp=Z,105nm,1.1s
MATE Matera 7.63 287 ⇑P **Pn** 08 14 38.0 +0.6
TEKS Tekeris 7.64 320 *e*P **Pn** 08 14 39.9 +2.3
TESR Tescani 7.67 2 ⇑P **Pn** 08 14 38.3 +0.2
STON Ston 7.68 304 *e*P **Pn** 08 14 35.1 -3.0
STON Ston 7.68 304 *i* P **Pn** 08 14 38.6 +0.5
VASR Vaslui 7.87 7 ⇑P **Pn** 08 14 41.0 +0.2
SEV Sevastopol' 7.91 42 *e*P **Pn** 08 14 40.7 -0.6
SEV *e*S **Sn** 08 16 05.6 -4.7
FRGS Fruska Gora 7.96 325 ⇑P **Pn** 08 14 43.1 +1.1
FRGS Fruska Gora 7.96 325 *e*P **Pn** 08 14 45.8 +3.8
BIZ Bicaz 8.10 359 ⇓P **Pn** 08 14 44.2 +0.4
CJR Cluj-Napoca 8.12 347 ⇑P **Pn** 08 14 45.5 +1.3
CJR Cluj-Napoca 8.12 347 P **Pn** 08 14 45.5 +1.3
YAL Yalta 8.13 44 *e*P **Pn** 08 14 43.7 -0.6
YAL *e*S **Sn** 08 16 11.0 -4.6
SIRR Siria 8.18 337 ⇑P **Pn** 08 14 45.0 -0.1
MAKA Makarska 8.32 305 *i* P **Pn** 08 14 46.8 0.0
RICI Ricice 8.35 307 *i* P **Pn** 08 14 48.6 +1.3
KIS Kishinev 8.36 12 *e*P **Pn** 08 14 45.0 -2.4
KIS *e*S **Sn** 08 16 17.0 -4.2
KIS MLR MLR
comp=Z,1μm,12.0s
KIS MLR MLR
comp=N,1μm,11.0s
ARCR ARCALIA 8.37 351 ⇑P **Pn** 08 14 48.6 +1.0
DRGR 8.38 343 ⇑P **Pn** 08 14 48.4 +0.6
ALU Alushta 8.39 43 *e*P **Pn** 08 14 46.1 -1.8
ALU *e*S **Sn** 08 16 16.0 -6.1
IAS Iasi 8.40 6 P **Pn** 08 14 48.3 +0.3
IAS pmax pmax
comp=Z,466nm,0.9s
SIM Simferopol' 8.42 41 *e*P **Pn** 08 14 47.7 -0.6
SIM *e*S **Sn** 08 16 17.9 -5.0
PRAR RASCA 8.52 360 ⇑P **Pn** 08 14 50.4 +0.8
AMBH Ambrzfalva 8.57 333 *e*P **Pn** 08 14 54.9 +4.6
GAZ Gaziantep 8.75 98 Pn **Pn** 08 14 54.6 +1.7
BURAR Bucovina Array 8.81 355 ⇑P **Pn** 08 14 55.5 +1.8
BURAR Bucovina Array 8.81 355 P **Pn** 08 14 55.5 +1.8
BURAR Bucovina Array 8.81 355 Pn **Pn** 08 14 54.3 +0.6
BUR08 Bucovina Ar. S 8.84 355 **Pn** 08 14 55.4 +1.2
SUDU Sudak 8.85 44 *e*P **Pn** 08 14 54.2 0.0
SUDU *e*S **Sn** 08 16 31.2 -2.1
MGRS Mrkonjic Grad 8.88 312 *e*P Pn 08 15 01.6 +6.9
BLY Banja Luka 9.03 314 *e*P **Pn** 08 14 58.1 +1.5
KIJV Kijevo 9.06 308 *i* P **Pn** 08 14 56.8 -0.4
BMR Baia Mare 9.07 348 ⇑P **Pn** 08 14 57.8 +0.7
BMR Baia Mare 9.07 348 P **Pn** 08 14 58.0 +0.8
BMR pmax pmax
comp=Z,183nm,1.0s
PAOL Paolisi 9.30 287 **Pn** 08 14 59.2 -1.1
MORH Mrgy, Hungar 9.30 325 *e*P **Pn** 08 15 00.8 +0.5
MORH Mrgy, Hungar 9.30 325 *e*P **Pn** 08 15 00.3 0.0
MRAK Mrakovica 9.35 314 *e*P **Pn** 08 15 01.9 +0.9
MMAI Mount Meron Ar 9.37 126 Pn **Pn** 08 14 59.9 -1.6
comp=Z,4.9nm,0.3s,baz=316,slow=10,SNR=11
MMAI LR LR 08 19 19.8
comp=Z,433nm,18.8s,baz=320,slow=42
ZIRJ Zirje 9.37 304 *i* P **Pn** 08 14 59.3 -2.0
KOVH Kovagotottos 9.45 323 *e*P **Pn** 08 15 03.1 +0.7
VAE Valguarnera 9.48 265 Pn Pn 08 14 55.6 -7.4
comp=Z,5.8nm,0.3s,baz=59,slow=22,SNR=8.6
TRPA Tarpa 9.69 345 *e*P **Pn** 08 15 07.2 +1.6
UDBI Udbina 9.73 309 *i* P **Pn** 08 15 05.7 -0.6
INTR Introdacqua 9.99 292 Pn **Pn** 08 15 08.0 -1.8
BUD Budapest 10.15 331 *e*P Pn 08 15 17.9 +5.9
BUD Budapest 10.15 331 P **Pn** 08 15 14.4 +2.4
BUD pmax pmax
comp=Z,36nm,0.8s
ANN Anapa 10.20 51 *e*P **Pn** 08 15 12.9 +0.3
ANN *e*S **Sn** 08 17 07.7 +1.2
ANN pmax pmax
comp=Z,24nm,0.9s
ANN MLR MLR
comp=Z,230nm,10.0s
PSZ Piszkesteto 10.21 335 ⇑P **Pn** 08 15 14.1 +1.2
PSZ Piszkesteto 10.21 335 *e*P Pn 08 15 17.8 +5.0
PSZ Piszkesteto 10.21 335 P **Pn** 08 15 12.4 -0.4
PSZ Piszkesteto 10.21 335 Pn **Pn** 08 15 12.4 -0.4

UZH Uzhgorod 10.21 345 *e*P **Pn** 08 15 13.6 +0.8
UZH *e*S **Sn** 08 17 08.8 +2.1
UZH MLR MLR
comp=N,350nm,12.0s
UZH MLR MLR
comp=E,500nm,12.0s
UZH MLR MLR
comp=Z,250nm,12.0s
KALN Kalnik 10.30 318 *i* P **Pn** 08 15 15.7 +1.6
BOJS Bojanci 10.57 313 *e*P **Pn** 08 15 18.3 +0.5
BOJS Bojanci 10.57 313 *i* Pn **Pn** 08 15 18.9 +1.1
BOJS *e*Sn **Sn** 08 17 15.9 +0.2
BOJS *e* 08 17 51.4
BOJS *e* 08 18 27.8
CRES Cresnjev 10.65 314 *e*P **Pn** 08 15 19.6 +0.8
CRVS Cervenica-Dubn 10.65 342 *e*P Pn 08 15 27.0 +8.1
CRVS Cervenica-Dubn 10.65 342 *e*PN Pn 08 15 27.0 +8.1
NRCA Norcia 10.78 296 **Pn** 08 15 20.1 -0.6
ASF Jabal al Asfar 10.88 124 Pn **Pn** 08 15 22.8 +0.7
comp=Z,0.8nm,0.3s,baz=267,slow=14,SNR=4.1
ASF Sn **Sn** 08 17 25.1 +1.8
comp=Z,0.4nm,0.3s,baz=94,slow=17,SNR=1.4
VYHS Vyhne 11.07 333 *e*P **Pn** 08 15 28.2 +3.7
VYHS Vyhne 11.07 333 *e*PN **Pn** 08 15 28.2 +3.7
LVV L'vov 11.10 352 *e*P **Pn** 08 15 24.5 -0.5
LVV *e*S **Sn** 08 17 28.6 +0.1
LVV MLR MLR
comp=E,700nm,9.0s
LVV MLR MLR
comp=N,1μm,11.0s
LVV MLR MLR
comp=Z,1μm,12.0s
SOC Sochi 11.14 61 *e*P **Pn** 08 15 24.3 -1.2
SOC *e* 08 17 30.2
SOC MLR MLR
comp=Z,241nm,13.0s
CEY Cerknica 11.19 312 *e*P **Pn** 08 15 26.5 +0.3
SKDS Skadanscina 11.32 310 *e*P **Pn** 08 15 26.3 -1.8
SOKA Soboth 11.41 317 *e*Pn **Pn** 08 15 28.8 -0.5
comp=Z,17nm,1.3s
LANS Liptovska Anna 11.43 337 *e*P Pn 08 15 35.0 +5.5
LANS Liptovska Anna 11.43 337 *e*PN Pn 08 15 35.0 +5.5
ARSA Arzberg 11.53 320 *e*Pn **Pn** 08 15 30.7 -0.2
comp=Z,15nm,0.9s
EIL Elat 11.59 140 Pn **Pn** 08 15 33.2 +1.5
comp=Z,0.8nm,0.3s,baz=193,slow=1.5,SNR=9.3
EIL Sn **Sn** 08 17 36.2 -4.5
comp=Z,2.1nm,0.3s,baz=60,slow=11,SNR=4.1
JAVC Velka Javorina 11.80 331 *e*PN **Pn** 08 15 32.4 -2.2
CONA Conrad Observa 11.84 323 *e*Pn **Pn** 08 15 36.9 +1.7
comp=Z,5.4nm,0.8s
AKASG Malin Array Be 12.04 9 Pn **Pn** 08 15 37.3 -0.5
comp=Z,3.9nm,0.3s,baz=198,slow=11,SNR=4.6
AKASG Malin Array Be 12.04 9 *i* P **Pn** 08 15 41.2 +3.5
AKASG pmax pmax
comp=Z,3.0nm,0.3s
AKASG Malin Array Be 12.04 9 Pn **Pn** 08 15 36.5 -1.2
AKBB Malin Array Si 12.04 9 *ce*P **Pn** 08 15 41.9 +4.2
MYKA Terra Mystica 12.14 314 *i* Pn **Pn** 08 15 41.9 +2.6
comp=Z,8.2nm,0.6s
OJC Ojcow 12.29 340 *e*P Pn 08 15 46.3 +5.1
OKC Ostrava-Krasne 12.45 335 AMS AMS 08 21 20.0
comp=Z,2μm,11.2s
KRUC Moravsky 12.46 328 P **Pn** 08 15 47.4 +3.8
KRUC pmax pmax
comp=Z,13nm,1.2s
KRUC Moravsky 12.46 328 *e*PN **Pn** 08 15 46.9 +3.3
ZOU Zoufplan 12.48 312 **Pn** 08 15 41.6 -2.4
KBA Koelnbreinsper 12.57 315 *e*Pn **Pn** 08 15 47.9 +2.7
comp=Z,34nm,1.2s
KBA Koelnbreinsper 12.57 315 P **Pn** 08 15 48.7 +3.5
KBA pmax pmax
comp=Z,23nm,1.2s
VRAC Vranov 12.58 329 Pn **Pn** 08 15 45.3 +0.1
comp=Z,0.6nm,0.3s,baz=139,slow=12,SNR=2.4
VRAC LR LR 08 20 58.1
comp=Z,312nm,20.4s,baz=146,slow=39
VRAC Vranov 12.58 329 *e*PN **P** 08 15 56.5 -0.1
MORC Moravsky Berou 12.61 333 *e*PN **P** 08 15 53.4 -3.6
ABTA Abfaltersbach 12.85 312 Pn **Pn** 08 15 50.7 +1.8
comp=Z,7.0nm,0.7s
TREC Trest 13.02 327 AMS AMS 08 21 30.0
comp=Z,2μm,11.0s
KRLC Kraliky 13.13 332 AMS AMS 08 21 50.0
comp=Z,2μm,11.0s
CKRC Cesky Krumlov 13.21 323 *e*P **P** 08 16 01.2 -2.4
SHA1 Shidzhatmaz 13.21 63 *e*P **Pn** 08 15 53.2 -0.9
KIV Kislovodsk 13.30 62 *e*P **Pn** 08 15 53.7 -1.4
KIV pmax pmax
comp=Z,4.0nm,0.9s
KIV MLR MLR
comp=Z,118nm,12.0s
KBZ Khabaz 13.38 63 Pn **Pn** 08 15 56.4 +0.3
comp=Z,0.1nm,0.3s,baz=131,slow=8.0,SNR=2.0
GERES GERESS Array B 13.51 322 Pn **Pn** 08 16 00.6 +2.6
comp=Z,0.1nm,0.3s,baz=132,slow=13,SNR=2.2
GERES PcP **PcP** 08 21 23.8 -0.5
comp=Z,0.2nm,0.3s,baz=152,slow=4.4,SNR=4.2
GERES LR LR 08 22 22.7
comp=Z,323nm,19.0s,baz=138,slow=43
GERES GERESS Array B 13.51 322 P **Pn** 08 15 57.7 -0.3
GERES GERESS Array B 13.51 322 **Pn** 08 15 57.7 -0.3
DPC Dobruska-Polom 13.52 332 *e*P **P** 08 16 03.2 -4.0
DPC MLR MLR
comp=Z,1μm,10.7s
DPC Dobruska-Polom 13.52 332 *e*P **P** 08 16 03.2 -4.0
DPC AMS AMS 08 21 50.0
comp=Z,1μm,10.7s
PGF Pioggiola 13.66 291 P **Pn** 08 16 04.0 +3.9
PGF pmax pmax
comp=Z,22nm,1.2s
WATA Walderalm 13.71 313 *e*Pn **Pn** 08 16 01.2 +0.5
comp=Z,6.1nm,0.9s
OSTC Ostas 13.73 332 *e*P **P** 08 16 07.1 -2.3
OSTC AMS AMS 08 22 00.0
comp=Z,2μm,10.7s
UPC Upice 13.77 331 *e*P **P** 08 16 12.1 +2.3
UPC AMS AMS 08 22 00.0
comp=Z,1μm,11.9s
KHC Kasperske Hory 13.77 322 *e*P **P** 08 16 08.8 -1.1
KHC MLR MLR
comp=Z,2μm,11.4s
KHC Kasperske Hory 13.77 322 *e*P **P** 08 16 08.8 -1.1
KHC *ex* x 08 16 15.0
KHC AMS AMS 08 21 40.0
comp=Z,2μm,11.4s
NCK Nalchik 13.81 65 ⇑*e*P **Pn** 08 16 02.9 +0.9
CHVC Chvalec 13.82 332 AMS AMS 08 22 00.0
comp=Z,1μm,10.6s
KEST Kesra 13.87 262 Pn **Pn** 08 16 06.2 +3.3
comp=Z,0.1nm,0.3s,baz=84,slow=18,SNR=4.6
ZEI Tsey 13.88 68 *e*P **P** 08 16 10.2 -1.1
ZEI pmax pmax
comp=Z,10.0nm,1.3s
KSP Ksiaz 13.94 333 *e*P **P** 08 16 09.1 -2.6
PRU Pruhonice 13.95 327 *e*P **P** 08 16 14.5 +2.6
PRU AMS AMS 08 22 00.0
comp=Z,2μm,10.9s
PBCC Pribram 13.97 325 *e*P **P** 08 16 13.2 +1.1
MOTA Moosalm 13.98 312 *e*Pn **Pn** 08 16 06.0 +1.5
comp=Z,41nm,1.7s
FETA Feichten 14.04 311 *e*Pn **Pn** 08 16 07.5 +2.3
comp=Z,21nm,0.8s
PRA Prague 14.06 327 AMS AMS 08 22 10.0
comp=Z,2μm,10.9s
WET Wettzell 14.12 321 P **P** 08 16 15.5 +1.8
RETA Reutte 14.26 312 *e*P **P** 08 16 16.5 +1.1
comp=Z,17nm,1.2s
GNI Garni 14.28 79 Pn **Pn** 08 16 11.3 +2.7
comp=Z,0.6nm,0.3s,baz=347,slow=23,SNR=1.0
GNI LR LR 08 21 37.3
comp=Z,272nm,21.1s,baz=285,slow=37
GNI Garni 14.28 79 ⇑*e*P **Pn** 08 16 11.4 +2.8
GNI pmax pmax
comp=Z,10.0nm,1.2s
PVCC Panska Ves 14.35 328 AMS AMS 08 22 40.0
comp=Z,2μm,8.9s
DAVOX Davos/Dischmat 14.43 309 Pn **Pn** 08 16 11.2 +0.6
comp=Z,0.2nm,0.3s,baz=173,slow=15,SNR=2.6
DAVOX LR LR 08 22 51.0
comp=Z,524nm,20.0s,baz=117,slow=42
DAVA Damuels 14.67 310 *i* Pn **P** 08 16 20.0 -0.1
comp=Z,31nm,1.0s,SNR=6.1
BRG Berggiesshubel 14.87 328 *e*P **P** 08 16 23.0 +0.9
BRG Amp 08 16 30.2
comp=Z,11nm,1.1s
BRG Amp 08 23 18.0
comp=Z,1.6nm,9.6s
BRG Amp 08 23 20.0
comp=E,0.6nm,8.9s
BRG Amp 08 23 20.0
comp=N,1.0nm,10.3s
NAX Nakhchivan 14.91 83 P **P** 08 16 21.8 -0.9
NKC Novy Kostel 15.06 324 *e*P **P** 08 16 25.5 +1.3
NKC MLR MLR
comp=Z,1μm,11.9s
NKC Novy Kostel 15.06 324 *e*P **P** 08 16 25.5 +1.3
NKC AMS AMS 08 22 40.0
comp=Z,1μm,11.9s
VORD Divnogorie 15.18 33 *e*P **Pn** 08 16 18.2 -2.4
VORD pmax pmax
comp=Z,10.0nm,1.1s
GRA1 Grafenberg Arr 15.29 320 **Pn** 08 16 21.7 -0.4
GRA1 IAmb IAmb 08 16 33.5
comp=Z,21nm,0.9s
GRF Grafenberg Arr 15.29 320 P **Pn** 08 16 21.7 -0.4
GRF pmax pmax
comp=Z,21nm,0.9s
GRF Grafenberg Arr 15.29 320 *e*P **P** 08 16 28.5 +1.7
comp=Z,4.5nm,0.3s,baz=131,slow=11
GRFO Grafenberg 15.29 320 P **Pn** 08 16 21.7 -0.3
GRFO pmax pmax
comp=Z,22nm,1.0s
GRFO Grafenberg 15.29 320 **Pn** 08 16 21.7 -0.3
GANJ Ganja 15.49 77 P **P** 08 16 31.2 +2.2
CLL Collm 15.59 327 *e*P **Pn** 08 16 26.0 +0.1
CLL *e*PP **P** 08 16 31.0 +1.0
CLL *e*PPP PPP 08 16 33.0
CLL *e* 08 16 36.0
CLL *i* 08 16 47.6
CLL *e*S **Sn** 08 19 24.0 +6.0
CLL LmH 08 21 00.0
comp=N,600nm,19.5s
CLL LmH 08 21 00.0
comp=E,600nm,21.6s
CLL Lmax 08 23 00.0
CLL Collm 15.59 327 P **Pn** 08 16 25.0 -0.9
CLL pmax pmax
comp=Z,27nm,1.5s
CLL Collm 15.59 327 **Pn** 08 16 25.0 -0.9
LMR La Mourre 15.60 293 *e*P **P** 08 16 30.2 0.0
LMR pmax pmax
comp=Z,24nm,1.2s
MNK Minsk 15.71 3 *i* P **Pn** 08 16 28.3 +0.9
MNK *i* S **Sn** 08 19 23.6 +2.8
MNK pmax pmax
comp=Z,47nm,0.9s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=N,52nm,0.9s
MNK MLR MLR
comp=Z,295nm,15.0s
MNK MLR MLR
comp=N,345nm,15.0s
MNK Minsk 15.71 3 *i* P **Pn** 08 16 28.4 +1.0
comp=E,2.0nm,0.9s
MNK *i* P **Pn** 08 16 28.4 +1.0
comp=N,52nm,0.9s
MNK *i* P **Pn** 08 16 28.4 +1.0
comp=Z,47nm,0.9s,baz=184
MNK *i* PP **pP** 08 16 36.8 +0.3
MNK *i* PPP PPP 08 16 44.5
MNK *i* S **Sn** 08 19 23.6 +2.8
MNK *i* SS **S** 08 19 37.8 +2.2
MNK *i* SSS SSS 08 19 50.4
MNK *i* LR LR 08 21 42.7
MNK *i* LRM MLR 08 21 55.9
MNK *i* LRM MLR 08 22 34.3
comp=Z,295nm,15.3s
MNK *i* LRM MLR 08 22 37.1
comp=N,345nm,15.3s
MBDF Montbardon 15.72 298 *e*P **P** 08 16 29.9 -1.8
MBDF pmax pmax
comp=Z,16nm,0.8s
MOX Moxa 15.73 323 P **P** 08 16 33.5 +1.9
MOX pmax pmax
comp=Z,20nm,1.0s
ZKTA Zakatala 15.75 73 P **P** 08 16 36.3 +4.4
BNI Bardonecchia 15.87 299 P **P** 08 16 33.5 +0.1
BNI pmax pmax
comp=Z,75nm,1.3s
BNI Bardonecchia 15.87 299 P **P** 08 16 33.5 +0.1
BNI IAmb IAmb 08 16 47.2
comp=Z,75nm,1.3s
SENIN Lac Senin/Sane 15.88 304 P **Pn** 08 16 31.0 +1.1
MNGR Mingechevir, A 16.07 77 P **P** 08 16 39.3 +3.9
NACGM Naroch 16.07 1 *i* P **P** 08 16 34.7 -0.7
BFO Black Forest 16.09 312 *e*P **Pn** 08 16 30.0 -2.5
BFO Black Forest 16.09 312 P **P** 08 16 35.0 -0.7
KLNR Kaliningrad 16.31 347 ⇓*e*P **P** 08 16 37.4 -0.6
KLNR pmax pmax
comp=Z,48nm,1.0s
ORIF Oris-en-Rattie 16.38 298 P **P** 08 16 39.5 +0.5
ORIF pmax pmax
comp=Z,16nm,1.6s
VRH Novokhopyorsk 16.43 36 *e*P **Pn** 08 16 37.1 +0.5
VRH pmax pmax
comp=Z,40nm,1.0s
MAK Makhachkala 16.52 69 *e*P **Pn** 08 16 34.5 -3.4
MAK *e*S **Sn** 08 19 37.6 -3.2
MAK pmax pmax
comp=Z,86nm,0.9s
MAK MLR MLR
comp=Z,280nm,9.0s
HINF Hinteralfeld 16.74 309 *e*P **P** 08 16 43.5 +0.7
HINF pmax pmax
comp=Z,16nm,1.0s
ISAL Salakas 16.74 360 IAmb IAmb 08 17 32.4
comp=Z,9.9nm,0.7s
PABE Paberze 16.75 355 *e*P **P** 08 16 42.4 -0.5
PABE Paberze 16.75 355 **Pn** 08 16 38.2 -2.5
TNS Taunus Mts 17.04 318 P **P** 08 16 48.9 +2.7
TNS pmax pmax
comp=Z,30nm,1.1s
HAU Haudompre 17.12 309 *e*P **P** 08 16 48.9 +1.8
HAU pmax pmax
comp=Z,9.0nm,0.8s
VIVF Saint-Julien-l 17.20 297 *e*P **P** 08 16 47.7 -0.3
VIVF pmax pmax
comp=Z,27nm,1.4s
PBUR Paburge 17.44 352 IAmb IAmb 08 17 32.0
comp=Z,35nm,0.7s
LKRN Lenkeran, Azer 17.50 83 P **P** 08 16 54.6 +3.3
OBN Obninsk 17.68 20 P **P** 08 16 52.8 -0.3
comp=Z,1.4nm,0.3s,baz=3.1,slow=7.2,SNR=4.2
OBN Obninsk 17.68 20 ⇓*e*P **P** 08 16 53.2 0.0
OBN pmax pmax
comp=Z,23nm,0.7s
OBN MLR MLR
comp=Z,599nm,14.0s
OBN Obninsk 17.68 20 IAmb IAmb 08 17 03.2
comp=Z,50nm,1.0s
WLF Walferdange 18.00 314 P **Pn** 08 16 55.4 -0.9
WLF pmax pmax
comp=Z,21nm,1.1s
WLF Walferdange 18.00 314 P **Pn** 08 16 55.4 -0.9
BUG Bochum--Univer 18.36 320 P **Pn** 08 17 04.6 +4.0
BUG pmax pmax
comp=Z,23nm,1.2s
BTNL Ternell 18.48 316 *d*P **Pn** 08 17 04.1 +1.9
MOS Moscow 18.52 20 *e*P **P** 08 17 01.3 -1.1
MOS *e*S **S** 08 20 31.9 -0.9
MOS pmax pmax
comp=Z,46nm,0.8s
MOS MLR MLR
comp=Z,1μm,14.0s
MEM Membach 18.56 316 *d*P **Pn** 08 17 05.3 +2.2
MEM Membach 18.56 316 P **Pn** 08 17 05.7 +2.6
MEM pmax pmax
comp=Z,24nm,1.0s
AVF Avril sur Loir 18.59 303 *e*P **Pn** 08 17 03.5 0.0
AVF pmax pmax
comp=Z,53nm,1.1s
BSEG Bad Segeberg 18.64 329 P **Pn** 08 17 07.9 +3.9
BSEG pmax pmax
comp=Z,21nm,1.2s
CAF Calviac 19.03 296 *e*P **Pn** 08 17 08.9 0.0
CAF pmax pmax

comp=Z,16nm,1.2s
SNF Seneffe 19.46 314 *d*P **Pn** **08 17 14.7 +0.7**
RJF Les Rejaudoux 19.48 297 *e*P **Pn** **08 17 14.5 +0.2**
RJF pmax pmax
comp=Z,27nm,1.2s
UCC Uccle 19.56 315 P **P** **08 17 14.3 +0.5**
UCC pmax pmax
comp=Z,22nm,0.7s
UCC Uccle 19.56 315 P **P** **08 17 14.3 +0.5**
UCC lAmb lAmb 08 17 20.1
comp=Z,22nm,0.7s
VSU Vasula 19.64 1 *e*P **P** **08 17 15.1 +0.5**
VSU Vasula 19.64 1⇓ *e*P **Pn** **08 17 16.6 +0.5**
VSU pmax pmax
comp=Z,61nm,0.8s
MTSE Matsula 19.96 356 *e*P **P** **08 17 18.5 +0.4**
BELG Belogornoye 20.04 41 P Pn 08 17 20.2 -0.6
comp=Z,45nm,0.9s,baz=45,slow=5.0,SNR=7.7
BELG LR LR 08 26 49.0
comp=Z,142nm,20.4s,baz=176,slow=42
MEF Metsahovi 21.43 357 *e*P **P** **08 17 33.8 -0.3**
AAL Aland 21.73 351 *e*P **P** **08 17 36.5 -0.7**
UPP Uppsala 21.75 348 *e*P **P** **08 17 37.8 +0.4**
GRR Gorron 21.78 305 *e*P **P** **08 17 38.9 +1.1**
GRR pmax pmax
comp=Z,41nm,1.0s
RAF Rauma 22.39 354 *e*P **P** **08 17 43.7 -0.5**
FINES FINESS Array B 22.63 360 P **P** **08 17 46.7 -0.2**
comp=Z,4.5nm,0.8s,baz=158,slow=12,SNR=10
FINES LR LR 08 26 42.2
comp=Z,208nm,20.9s,baz=156,slow=37
FINES FINESS Array B 22.63 360 P **P** **08 17 46.5 -0.4**
FINES FINESS Array B 22.63 360 P **P** **08 17 46.5 -0.4**
FIA1 FINESS Array S 22.63 360 P **P** **08 17 45.8 -1.1**
FIA1 lAmb lAmb 08 17 58.1
comp=Z,27nm,1.1s
HFS Hagfors 22.76 344 P **P** **08 17 46.9 -1.4**
comp=Z,7.6nm,0.8s,baz=134,slow=8.5,SNR=9.0
QUIF Quistinic 23.16 303 *e*P **P** **08 17 52.7 +0.2**
QUIF pmax pmax
comp=Z,196nm,2.1s
TAF Taforalt 23.31 269 P **P** **08 17 57.0 +2.7**
TAF Taforalt 23.31 269 P **P** **08 17 57.0 +2.7**
KONO Kongsberg 23.39 338⇑ *e*P **P** **08 17 50.7 -3.9**
KONO pmax pmax
comp=Z,14nm,1.0s
KONO Kongsberg 23.39 338 P **P** **08 17 53.4 -1.2**
KONO lAmb lAmb 08 18 10.0
comp=Z,19nm,1.0s
FIGM Figuig 23.39 262 P **P** **08 17 57.0 +1.9**
FIGM Figuig 23.39 262 P **P** **08 17 57.0 +1.9**
ESBB Sonseca Array 23.42 282 P **P** **08 17 55.2 -0.1**
ESBB lAmb lAmb 08 17 57.8
comp=Z,39nm,1.0s
ESDC Sonseca Array 23.42 282 P **P** **08 17 55.5 +0.2**
comp=Z,22nm,0.9s,baz=74,slow=10,SNR=90
ESDC LR LR 08 27 30.1
comp=Z,125nm,18.9s,baz=85,slow=38
ESDC Sonseca Array 23.42 282 P **P** **08 17 55.2 -0.1**
ESDC lAmb lAmb 08 17 57.1
comp=Z,41nm,1.4s
KLMR Klimovskoe 23.53 16 *e*P **P** **08 17 55.2 -0.8**
KLMR S **S** **08 22 11.1 +2.3**
KLMR pmax pmax
comp=Z,76nm,1.4s
KLMR MLR MLR
comp=Z,1μm,13.0s
KLMR Klimovskoe 23.53 16 *e*P **P** **08 17 55.2 -0.8**
KLMR *e*P **P** **08 17 55.2 -0.8**
KLMR *e*P **P** **08 17 55.2 -0.8**
KLMR AMP 08 18 07.3
comp=Z,76nm,1.4s
KLMR S **S** **08 22 11.2 +2.4**
KLMR S **S** **08 22 11.2 +2.4**
KLMR LR LR 08 26 19.7
KLMR AMP 08 27 30.7
comp=Z,1μm,13.1s
JBK JBK 23.59 268 P **P** **08 17 60.0 +2.9**
JBK JBK 23.59 268 P **P** **08 17 60.0 +2.9**
TDRA Tendrara 23.63 265 P **P** **08 17 60.0 +2.5**
TDRA Tendrara 23.63 265 P **P** **08 17 60.0 +2.5**
PAB San Pablo 23.73 281 P **P** **08 17 58.1 -0.3**
PAB pmax pmax
comp=Z,46nm,1.0s
PAB San Pablo 23.73 281 P **P** **08 17 58.1 -0.3**
PAB lAmb lAmb 08 18 00.9
comp=Z,46nm,0.9s
PAB San Pablo 23.73 281 P **P** **08 18 01.2 +2.8**
PAB San Pablo 23.73 281 P **P** **08 17 58.9 +0.5**
NC602 NORSAR Array S 23.80 342 *e*P **P** **08 17 56.8 -1.8**
NC602 NORSAR Array S 23.80 342 P **P** **08 17 56.7 -1.8**
NC602 lAmb lAmb 08 18 06.4
comp=Z,36nm,1.0s
NORES NORESS Array B 23.80 342 P **P** **08 18 02.7 +4.1**
NAO01 NORSAR Array S 24.05 341 P **P** **08 18 00.2 -0.8**
NB2 NORSAR Subarra 24.14 342 P **P** **08 18 01.2 -0.7**
comp=Z,3.5nm,0.7s,baz=151,slow=9.3
NB2 NORSAR Subarra 24.14 342 P **P** **08 18 01.2 -0.7**
baz=151,slow=9.3
NOA NORSAR Array B 24.14 342 P **P** **08 18 01.1 -0.7**
comp=Z,11nm,0.8s,baz=146,slow=9.6,SNR=25
BLS5 Blasjo 24.18 335 *e*P **P** **08 18 02.1 -0.2**
KMY Karmoy 24.43 333 *e*P **P** **08 18 04.6 +0.1**
NC204 NORSAR Array S 24.45 342 *e*P **P** **08 18 04.7 -0.1**
SKAR Skarslia 24.61 339 *e*P **P** **08 18 07.0 +0.8**
KIRV Kirov 24.72 29 P **P** **08 18 07.4 +0.2**
comp=Z,5.7nm,0.4s,baz=188,slow=7.2,SNR=1.2
KIRV Kirov 24.72 29⇑ *e*P **P** **08 18 09.4 +2.3**
GEYT Alibeck 24.87 82 P **P** **08 18 09.3 +0.5**
comp=Z,150nm,0.5s,baz=257,slow=14,SNR=16
GEYT LR LR 08 29 44.0
comp=Z,81nm,21.5s,baz=40,slow=41
GYA0B ALIBECK ARRAY 24.87 82 P **P** **08 18 09.3 +0.4**
GYA0B lAmb lAmb 08 18 16.9
comp=Z,51nm,1.4s
AKTO Aktyubinsk 25.16 52 P **P** **08 18 10.9 -0.3**
comp=Z,8.5nm,1.1s,baz=252,slow=12,SNR=9.6
AKTO LR LR 08 29 17.3
comp=Z,105nm,20.3s,baz=275,slow=40
PBRG Braganca 25.30 287 *e*P **P** **08 18 12.8 +0.1**
comp=Z,33nm,1.2s
MVO Moncorvo 25.57 286 *e*P **P** **08 18 15.7 +0.5**
comp=Z,47nm,1.3s
LCRM LCR 25.59 268 P **P** **08 18 18.1 +2.6**
LCRM LCR 25.59 268 P **P** **08 18 18.1 +2.6**
EKA Eskdalemuir Ar 25.71 320 P **P** **08 18 16.6 +0.4**
comp=Z,3.3nm,0.7s,baz=111,slow=9.6,SNR=9.6
MDT Midelt 25.72 266 P **P** **08 18 18.0 +1.4**
comp=Z,11nm,0.9s,baz=106,slow=13,SNR=18
MDT Midelt 25.72 266 P **P** **08 18 18.0 +1.4**
MDT Midelt 25.72 266 P **P** **08 18 18.0 +1.4**
PRGR Permogore 25.74 21 *e*P **P** **08 18 19.2 +2.8**
PRGR pmax pmax
comp=Z,91nm,1.5s
ARF Arif 25.97 263 P **P** **08 18 21.0 +2.1**
ARF Arif 25.97 263 P **P** **08 18 21.0 +2.1**
CZD Col de Zad 25.97 267 P **P** **08 18 21.0 +1.9**
CZD Col de Zad 25.97 267 P **P** **08 18 21.0 +1.9**
PBAR Barrancos 26.04 279 *e*P **P** **08 18 19.8 +0.4**
comp=Z,36nm,1.4s
MTE Manteigas 26.05 284 *e*P **P** **08 18 20.4 +0.9**
comp=Z,56nm,1.2s
MTE Manteigas 26.05 284 P **P** **08 18 19.4 -0.1**
MTE lAmb lAmb 08 18 21.4
comp=Z,29nm,1.0s
PVRL Vila Real 26.08 286 *e*P **P** **08 18 17.1 -2.6**
PCBR Castelo Branco 26.08 283 *e*P **P** **08 18 20.4 +0.7**
comp=Z,37nm,1.1s
PMRV Marv??o 26.08 282 *e*P **P** **08 18 20.1 +0.4**
comp=Z,36nm,1.5s
ABKAR Akbulak array 26.11 56 P **P** **08 18 20.1 +0.3**
ABKAR Akbulak array 26.11 56 P **P** **08 18 19.4 -0.4**
ABKAR lAmb lAmb 08 18 58.8
comp=Z,11nm,1.1s
POLO Lamas de Olo 26.13 287 *e*P **P** **08 18 20.6 +0.4**
comp=Z,16nm,1.1s
PCAB Cabril 26.27 287 *e*P **P** **08 18 22.3 +0.9**
comp=Z,49nm,1.9s
PVIS Viseu 26.27 285 *e*P **P** **08 18 22.4 +0.9**
comp=Z,40nm,1.7s
PESTR Estremoz 26.33 281 *e*P **P** **08 18 22.4 +0.4**
comp=Z,44nm,1.0s
PESTR Estremoz 26.33 281 P **P** **08 18 21.7 -0.2**
PESTR lAmb lAmb 08 18 22.7
comp=Z,14nm,0.7s

PGAV Gavieira, Arco 26.43 288 *e*P **P** **08 18 23.6 +0.7**
comp=Z,44nm,1.8s
PBEJ Beja 26.71 279 *e*P **P** **08 18 26.2 +0.8**
comp=Z,30nm,1.6s
EVO Evora 26.72 280 *e*P **P** **08 18 25.6 +0.1**
comp=Z,20nm,1.4s
PVAQ Vaqueiros 26.74 278 *e*P **P** **08 18 26.2 +0.6**
comp=Z,71nm,1.2s
PVAQ Vaqueiros 26.74 278 P **P** **08 18 25.2 -0.5**
PVAQ Vaqueiros 26.74 278 P **P** **08 18 26.0 +0.4**
PVAQ Vaqueiros 26.74 278 P **P** **08 18 26.0 +0.4**
PMTG Montargil 26.78 281 *e*P **P** **08 18 25.9 -0.1**
comp=Z,46nm,1.4s
PCAS Casmilo, Conde 26.82 284 *e*P **P** **08 18 27.2 +0.8**
comp=Z,9.1nm,1.6s
PCVE Castro Verde 26.93 278 *e*P **P** **08 18 28.0 +0.6**
comp=Z,32nm,1.7s
PBDV Barranco-do-Ve 26.94 277 *e*P **P** **08 18 28.1 +0.6**
comp=Z,69nm,1.4s
MESJ Messejana 27.03 279 *e*P **P** **08 18 27.5 -0.7**
MESJ lAmb lAmb 08 18 30.7
comp=Z,206nm,2.5s
MESJ Messejana 27.03 279 *e*P **P** **08 18 27.5 -0.7**
MESJ Messejana 27.03 279 *e*P **P** **08 18 28.6 +0.4**
comp=Z,50nm,1.6s
PSBE So Bento 27.14 283 *e*P P 08 18 42.2 +13
PNCL Nicolau / Gran 27.20 280 *e*P **P** **08 18 30.8 +1.0**
comp=Z,32nm,1.7s
TZRR Tazzarine 27.29 263 P **P** **08 18 32.0 +1.2**
TZRR Tazzarine 27.29 263 P **P** **08 18 32.0 +1.2**
PTEO Sao Teotonio 27.48 278 *e*P **P** **08 18 33.2 +0.9**
comp=Z,62nm,1.7s
MORF Marmelete 27.48 278 *e*P **P** **08 18 31.6 -0.8**
MORF lAmb lAmb 08 18 32.7
comp=Z,14nm,0.9s
MORF Marmelete 27.48 278 *e*P **P** **08 18 31.6 -0.8**
MORF Marmelete 27.48 278 *e*P **P** **08 18 32.1 -0.3**
ARU Arti 27.59 40 P **P** **08 18 32.2 -0.8**
comp=Z,1.7nm,0.2s,baz=207,slow=10,SNR=7.2
ARU LR LR 08 31 28.8
comp=Z,142nm,18.7s,baz=260,slow=41
ARU Arti 27.59 40 *c iP* **P** **08 18 32.9 -0.1**
ARU 08 19 16.6
ARU S **S** **08 23 15.8 +2.4**
ARU SS **SnSn** **08 24 28.0 +3.4**
ARU pmax pmax
comp=Z,12nm,1.3s
ARU MLR MLR
comp=Z,272nm,12.0s
PFVI Vila Bisbo 27.66 278 *e*P **P** **08 18 36.8 +2.9**
comp=Z,60nm,1.3s
ASUD Al Ashush, Dub 28.30 111 P **P** **08 18 41.1 +1.4**
NAZ Nazwa, Dubai 28.33 110 P **P** **08 18 41.1 +1.1**
FAQ Al Faqa, Dubai 28.42 111 P **P** **08 18 41.5 +0.7**
MSFE Esma-Masafi 28.48 109 P **P** **08 18 42.1 +0.7**
UOSS Minazif 28.75 110 *i* P **P** **08 18 44.4 +0.6**
SNR=7.6
UOSS Minazif 28.75 110 P **P** **08 18 43.4 -0.4**
UOSS lAmb lAmb 08 18 45.0
comp=Z,21nm,0.9s
HATD Hatta, Dubai 28.77 110 *i* P **P** **08 18 44.3 +0.4**
SNR=6.6
ASHO Ashiyiah 28.80 111 *i* P **P** **08 18 45.0 +0.8**
SNR=6.6
SOHO SOHO 29.47 111 *i* P **P** **08 18 51.1 +0.9**
SNR=17
LOF Lofoten 30.18 351 *e*P **P** **08 18 55.1 -0.8**
JETT Jettan, Norway 30.94 356 *e*P **P** **08 19 03.1 +0.4**
BRVK Borovoye 33.14 50 P **P** **08 19 23.2 +1.0**
BRVK pmax pmax
comp=Z,8.0nm,1.1s
BRVK Borovoye 33.14 50 P **P** **08 19 23.2 +1.0**
BRVK lAmb lAmb 08 19 23.8
comp=Z,7.8nm,1.1s
KK31 Karatay Array 33.34 68 P **P** **08 19 24.5 +0.4**
KK31 pmax pmax
comp=Z,5.0nm,1.2s
KK31 Karatay Array 33.34 68 P **P** **08 19 24.5 +0.4**
KKAR Karatay Array 33.34 68 P **P** **08 19 23.6 -0.5**
KKAR pmax pmax
comp=Z,5.0nm,1.2s
KKAR Karatay Array 33.34 68 P **P** **08 19 23.6 -0.5**
KKAR Karatay Array 33.34 68 P **P** **08 19 24.0 -0.1**
KKAR lAmb lAmb 08 19 25.4
comp=Z,5.1nm,1.1s
TORD Torodi Ar. Bea 33.62 227 P **P** **08 19 27.0 +0.2**
comp=Z,6.5nm,1.0s,baz=34,slow=9.2,SNR=21
TORD PcP **PcP** **08 22 06.4 -0.4**
comp=Z,1.7nm,0.8s,baz=29,slow=1.6,SNR=5.3
TORD LR LR 08 35 03.0
comp=Z,79nm,18.8s,baz=30,slow=40
TORD Torodi Ar. Bea 33.62 227 P **P** **08 19 26.3 -0.4**
TORD lAmb lAmb 08 19 34.8
comp=Z,23nm,1.8s
GAR Garm 33.97 76 P **P** **08 19 30.0 +0.2**
GAR lAmb lAmb 08 19 58.8
comp=Z,13nm,0.9s
KOWA Kowa 36.09 236 P **P** **08 19 48.5 +0.5**
comp=Z,6.2nm,1.0s,baz=24,slow=8.8,SNR=5.3
KOWA Kowa 36.09 236 lAmb lAmb 08 19 49.3
comp=Z,35nm,1.6s
AAK Ala-Archa 36.30 68 P **P** **08 19 49.6 -0.2**
AAK pmax pmax
comp=Z,6.0nm,1.3s
AAK Ala-Archa 36.30 68 P **P** **08 19 49.6 -0.2**
MBAR Mbarara 39.46 173 P **P** **08 20 16.0 -0.6**
MBAR pmax pmax
comp=Z,9.0nm,1.2s
MBAR Mbarara 39.46 173 P **P** **08 20 16.0 -0.6**
KMBO Kilima Mbogo 41.02 163 P **P** **08 20 31.5 +1.8**
comp=Z,1.5nm,0.4s,baz=4.5,slow=6.0,SNR=3.9
KMBO PcP **PcP** **08 22 29.7 +0.2**
comp=Z,2.8nm,0.9s,baz=238,slow=3.1,SNR=3.6
KMBO LR LR 08 40 17.0
comp=Z,59nm,18.6s,baz=94,slow=40
KMBO Kilima Mbogo 41.02 163 *i* P **P** **08 20 31.0 +1.3**
KMBO pmax pmax
comp=Z,2.0nm,0.4s
MK31 Makanchi Array 41.05 60 P **P** **08 20 29.4 0.0**
MK31 pmax pmax
comp=Z,7.0nm,1.1s
MK31 Makanchi Array 41.05 60 P **P** **08 20 29.4 0.0**
MKAR Makanchi Array 41.05 60 P **P** **08 20 29.8 +0.4**
comp=Z,5.6nm,0.9s,baz=282,slow=6.1,SNR=22
MKAR PcP **PcP** **08 22 28.7 -0.3**
comp=Z,2.6nm,0.8s,baz=271,slow=5.6,SNR=4.3
MKAR Makanchi Array 41.05 60 P **P** **08 20 29.1 -0.3**
ZAA0 Zalesovo Array 41.84 49 P **P** **08 20 35.9 +0.1**
ZALV Zalesovo Beam 41.84 49 P **P** **08 20 35.9 +0.1**
comp=Z,6.4nm,0.9s,baz=268,slow=8.3,SNR=14
ZALV LR LR 08 40 05.4
comp=Z,56nm,20.2s,baz=328,slow=39
ZALV Zalesovo Beam 41.84 49 P **P** **08 20 35.2 -0.6**
DBIC Dimbokro 42.63 229 P **P** **08 20 44.8 +2.2**
comp=Z,3.0nm,0.6s,baz=32,slow=3.4,SNR=4.0
DBIC Dimbokro 42.63 229 P **P** **08 20 41.6 -1.0**
DBIC pmax pmax
comp=Z,99nm,1.8s
DBIC Dimbokro 42.63 229 P **P** **08 20 41.6 -1.0**
DGZ Jazzator, Alta 43.94 55 *d iP* **P** **08 20 53.2 +0.1**
DGZ pmax pmax
comp=Z,6.0nm,1.0s
NRIK Noril'sk 44.17 27 P **P** **08 20 56.0 +1.7**
comp=Z,2.5nm,0.5s,baz=257,slow=7.0,SNR=6.0
NRIK LR LR 08 41 33.5
comp=Z,101nm,18.6s,baz=249,slow=39
NRIK Noril'sk 44.17 27⇑ *i*P **P** **08 20 56.1 +1.7**
NRIK pmax pmax
comp=Z,7.0nm,0.9s
NRIK Noril'sk 44.17 27 P **P** **08 20 55.5 +1.2**
WMQ Urumqi 45.43 63 *e*P **P** **08 21 07.0 +2.1**
ZAK Zakamensk 53.65 51 *e*P **P** **08 22 07.1 -0.5**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
SHL Shillong 55.95 83 P **P** **08 22 23.6 -1.0**
SHL pmax pmax
comp=Z,12nm,0.5s
SHL Shillong 55.95 83 P **P** **08 22 23.6 -1.0**
SONM Songino Array 56.48 53 P **P** **08 22 27.4 -0.6**
comp=Z,2.8nm,1.0s,baz=282,slow=9.0,SNR=10.0
SONM PcP **PcP** **08 23 25.3 +0.6**
comp=Z,1.7nm,1.1s,baz=204,slow=3.3,SNR=4.1
SONM LR LR 08 50 06.9
comp=Z,85nm,18.3s,baz=315,slow=40
SONM Songino Array 56.48 53 P **P** **08 22 27.9 -0.1**

SONM pmax pmax
comp=Z,5.0nm,1.2s
SONM Songino Array 56.48 53 P **P** **08 22 27.9 -0.1**
ULN Ulaanbaatar 56.87 53 *c iP* **P** **08 22 31.5 +0.6**
ULN pmax pmax
comp=Z,12nm,2.5s
TIXI Tiksi 57.40 22⇑ *e*P **P** **08 22 34.3 +0.3**
SCHQ Schefferville 61.02 319 P **P** **08 22 58.5 -0.9**
comp=Z,6.3nm,0.8s,baz=51,slow=6.8,SNR=5.9
HHC Hu-ho-hao-te 62.86 58 *e*P **P** **08 23 12.3 +0.2**
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,110nm,6.4s
HIA Hailar 63.80 47⇑ *i*P **P** **08 23 18.7 +0.6**
HIA pmax pmax
comp=Z,19nm,1.4s
CHTO Chiang Mai 65.09 85 P **P** **08 23 26.1 -0.8**
CHTO pmax pmax
comp=Z,7.0nm,1.1s
CHTO Chiang Mai 65.09 85 P **P** **08 23 26.1 -0.8**
CHTO lAmb lAmb 08 23 27.1
comp=Z,7.4nm,1.1s
CMAR Chiang Mai Arr 65.29 86 P **P** **08 23 28.2 0.0**
comp=Z,4.8nm,0.9s,baz=301,slow=7.6,SNR=21
CM02 Chiang Mai Arr 65.30 86 P **P** **08 23 29.6 +1.3**
comp=Z,9.7nm,1.0s
CM05 Chiang Mai Arr 65.32 86 P **P** **08 23 29.3 +0.9**
comp=Z,6.7nm,1.0s
CM04 Chiang Mai Arr 65.35 86 P **P** **08 23 29.5 +0.9**
comp=Z,6.8nm,1.0s
NANT Nan 66.46 84 P **P** **08 23 31.2 -4.6**
BOSA Boshof 67.11 181 P **P** **08 23 40.4 +0.7**
comp=Z,6.3nm,1.1s,baz=348,slow=6.5,SNR=4.6
BOSA LR LR 08 56 36.6
comp=Z,65nm,20.3s,baz=11,slow=39
BOSA Boshof 67.11 181 P **P** **08 23 40.4 +0.7**
BOSA pmax pmax
comp=Z,27nm,1.6s
PHIT Phitsanulok 67.16 86 P **P** **08 23 40.9 +0.7**
comp=Z,1umcomp=Z,63nm,1.0s
UTHA Uthaitani 67.35 88 P **P** **08 23 42.6 +1.2**
comp=Z,855nmcomp=Z,18nm,0.9s
A36M Sachs Harbour 67.67 351 P **P** **08 23 43.4 +0.8**
A36M Sachs Harbour 67.67 351 P **P** **08 23 43.0 +0.4**
baz=24
CHAI Chaiyaphum 69.13 86 P **P** **08 23 53.5 +0.9**
comp=Z,15nm,1.1s
BILL Bilibino 69.28 15⇓ *e*P **P** **08 23 52.8 +0.1**
BILL *PP **sP** **08 24 03.0 +2.1**
BILL pmax pmax
comp=Z,18nm,1.3s
BILL MLR MLR
comp=Z,79nm,18.0s
SEY Seymchan 69.81 23 P **P** **08 23 56.2 +0.1**
comp=Z,1.8nm,0.7s,baz=222,slow=8.9,SNR=3.6
L64A Middleborough 69.93 308 P **P** **08 23 56.4 -0.8**
baz=56
CN2 Changchun 70.05 50 *e*P **P** **08 23 53.8 -4.1**
KLR Kul'dur 70.40 42⇓ *e*P **P** **08 24 00.0 +0.1**
KLR pmax pmax
comp=Z,10.0nm,1.3s
INK Inuvik 72.11 352 P **P** **08 24 09.4 -0.5**
baz=17
UBPT Khong Chiam 72.21 85 P **P** **08 24 12.1 +0.7**
comp=Z,14nm,1.3s
NJ2 Nanjing 72.50 63 *e*P **P** **08 24 13.1 +0.2**
NJ2 pmax pmax
comp=Z,13nm,0.5s
USRK Ussuriysk Ar. 73.60 46 P **P** **08 24 18.8 -0.4**
comp=Z,6.2nm,0.9s,baz=286,slow=8.3,SNR=6.4
USRK LR LR 09 04 05.0
comp=Z,49nm,18.2s,baz=333,slow=42
COLD Coldfoot 74.23 359 P **P** **08 24 22.2 -0.3**
baz=3.0
YKA Yellowknife Ar 74.24 342 P **P** **08 24 22.6 0.0**
comp=Z,10nm,1.1s,baz=38,slow=5.9,SNR=12
YKA LR LR 08 57 33.2
comp=Z,76nm,18.1s,baz=0.0,slow=36
EPYK Eagle Plains 74.31 353 P **P** **08 24 22.8 -0.2**
EPYK Eagle Plains 74.31 353 P **P** **08 24 22.4 -0.7**
baz=14
PSI Prapat 74.71 99 P **P** **08 24 25.5 -0.8**
KSAR Wonju Array Be 75.31 54 P **P** **08 24 28.8 -0.5**
KSAR Wonju Array Be 75.31 54 P **P** **08 24 28.8 -0.5**
KSRS Korea Array 75.33 54 P **P** **08 24 29.4 +0.1**
comp=Z,4.7nm,0.9s,baz=315,slow=5.5,SNR=12
KSRS LR LR 09 00 52.4
comp=Z,74nm,19.0s,baz=331,slow=38
WRGLY Wrigley 75.45 346 P **P** **08 24 29.0 -0.6**
baz=24
M54A Oil Creek Stat 75.48 312 P **P** **08 24 29.4 -0.8**
baz=51
IMAR Indian Mountai 75.51 0 P **P** **08 24 30.8 +0.8**
H24K Noodor Dome 75.56 358 P **P** **08 24 29.7 -0.6**
baz=4.8
O56A Blue Knob Stat 75.61 310 P **P** **08 24 30.3 -0.7**
baz=51
H23K Yukon River 75.62 358 P **P** **08 24 30.8 +0.2**
H23K lAmb lAmb 08 24 33.0
comp=Z,17nm,1.4s
H23K Yukon River 75.62 358 P **P** **08 24 30.2 -0.4**
baz=3.5
PRP Porcupine Dome 75.78 357 P **P** **08 24 31.0 -0.7**
baz=6.7
POKR Poker Plat Res 76.26 357 P **P** **08 24 33.8 -0.4**
baz=5.2
I23K Minto, Yukon-K 76.29 358 P **P** **08 24 34.1 -0.3**
baz=3.6
I21K Tanana 76.31 359 P **P** **08 24 35.1 +0.6**
I21K lAmb lAmb 08 25 07.2
comp=Z,15nm,1.4s
I21K Tanana 76.31 359 P **P** **08 24 33.9 -0.6**
baz=1.5
MLY Manley 76.44 359 P **P** **08 24 35.3 0.0**
baz=2.5
COLA College 76.52 357 P **P** **08 24 34.9 -0.8**
baz=4.8
TCOL CIGO, UAF Yank 76.52 357 P **P** **08 24 35.0 -0.7**
baz=4.8
ILAR Eielson Array 76.59 357 P **P** **08 24 36.0 -0.1**
comp=Z,1.2nm,0.8s,baz=347,slow=3.1,SNR=7.9
ILAR Eielson Array 76.59 357 P **P** **08 24 36.0 -0.1**
J26K Charley River, 76.64 356 P **P** **08 24 36.1 -0.4**
baz=8.1
MCWV Mont Chateau 76.76 310 P **P** **08 24 36.8 -0.7**
baz=50
DAWY Dawson 76.81 354 P **P** **08 24 37.4 -0.1**
DAWY lAmb lAmb 08 24 38.9
comp=Z,10nm,1.0s
DAWY Dawson 76.81 354 P **P** **08 24 36.8 -0.6**
baz=12
NEA2 Nenana 76.84 358 P **P** **08 24 36.9 -0.7**
baz=3.8
MAYO Mayo, Yukon 76.93 352 P **P** **08 24 37.8 -0.2**
baz=14
HDA Harding Lake 76.95 357 P **P** **08 24 37.3 -0.9**
baz=5.5
K27K Chicken 77.06 355 P **P** **08 24 39.3 +0.5**
K27K lAmb lAmb 08 24 40.7
comp=Z,15nm,1.1s
K27K Chicken 77.06 355 P **P** **08 24 38.4 -0.3**
baz=9.4
SCRK Sand Creek 77.24 356 P **P** **08 24 39.1 -0.8**
baz=7.9
MMPY Sheldon Lake, 77.29 350 P **P** **08 24 38.9 -1.3**
baz=18
J20K Nowinta River 77.32 0 P **P** **08 24 40.4 +0.2**
baz=360
BPAW Bear Paw Mtn. 77.38 359 P **P** **08 24 40.6 0.0**
baz=2.3
RIDG Independent Ri 77.52 356 P **P** **08 24 41.7 +0.3**
baz=7.2
DOT Dot Lake 77.57 356 P **P** **08 24 42.1 +0.5**
DOT lAmb lAmb 08 24 48.7
comp=Z,13nm,1.3s
MCK McKinley 77.70 358 P **P** **08 24 41.2 -1.1**
baz=3.9
ULM Lac du Bonnet 77.78 326 P **P** **08 24 42.6 -0.4**
comp=Z,5.2nm,1.0s,baz=52,slow=6.3,SNR=4.9
ULM Lac du Bonnet 77.78 326 P **P** **08 24 42.1 -0.9**
ULM lAmb lAmb 08 24 43.5
comp=Z,12nm,1.1s
TGTN Hyland Airport 77.87 348 P **P** **08 24 43.5 0.0**
baz=20
FARO Faro, Yukon 77.95 350 P **P** **08 24 43.8 0.0**
baz=16

BCAR	Beaver Creek A	77.99	354	P	P	08 24 44.7	+0.6
L27K	Beaver Creek, baz=9.6	78.00	355	P	P	08 24 43.4	-0.7
CAST	Castle Rocks baz=1.4	78.08	359	P	P	08 24 44.4	-0.1
L26K	Log Cabin Wild baz=8.4	78.14	355	P	P	08 24 44.4	-0.5
K20K	Telida baz=360	78.15	0	P	P	08 24 44.0	-0.9
PPLA	Purkeypile baz=1.3	78.60	359	P	P	08 24 48.2	+0.6
M27K	Edge Creek, AK baz=9.5	78.70	354	P	P	08 24 47.4	-0.7
M26K	Nabesna, AK baz=8.6	78.74	355	P	P	08 24 47.7	-0.5
YUK3	Moose Creek baz=11	79.16	354	P	P	08 24 49.8	-1.0
PETK	Petropavlovsk- comp=Z,26nm,18.2s,baz=324,slow=38	79.22	27	LR	LR	09 02 10.3	
M24K	Tolsona, Glenn baz=6.1	79.22	356	P	P	08 24 50.0	-0.9
L19K	White Mountain baz=359	79.32	1	P	P	08 24 50.5	-0.8
SKT	Skwentna baz=1.9	79.51	359	P	P	08 24 51.2	-1.2
SML	Sawmill baz=4.4	79.61	357	P	P	08 24 51.9	-1.1
M20K	Styx River baz=0.6	79.63	360	P	P	08 24 51.5	-1.6
N25K	Chitina, Valde baz=7.3	79.63	356	P	P	08 24 51.8	-1.4
YUK6	Outpost Mounta baz=12	79.78	352	P	P	08 24 52.8	-1.3
HYT	Haines Junctio baz=13	79.81	352	P	P	08 24 52.2	-2.0
KLU	Klutina baz=6.3	79.82	356	P	P	08 24 52.4	-1.7
WCI	Wyandotte Cave baz=47	81.47	313	P	P	08 25 02.0	-1.3
HDIL	Hopedale baz=45	81.54	316	P	P	08 25 01.8	-1.8
MAT	Matsushiro	82.19	49	P	P	08 25 06.7	-0.5
MJAR	Matsushiro Arr comp=Z,7.5nm,0.9s,baz=321,slow=4.2,SNR=8.8	82.19	49	P	P	08 25 07.0	-0.1
ECSD	EROS Data Cent baz=41	82.97	322	P	P	08 25 09.5	-1.6
WRAK	Wrangell Islan baz=17	83.40	348	P	P	08 25 11.6	-1.4
N38A	Joes South For	83.46	318	P	P	08 25 12.8	-0.9
SUSD	Miller baz=40	83.53	324	P	P	08 25 12.8	-1.2
WVT	Waverly baz=46	83.81	312	P	P	08 25 14.1	-1.4
CCM	Cathedral Cave baz=44	84.38	315	P	P	08 25 17.3	-1.1
X48A	Hartselle	84.51	310	P	P	08 25 17.8	-1.3
X48A	comp=Z,8.6nm,1.1s			IAmb	IAmb	08 25 19.5	
LAO	LASA Array baz=35	84.87	329	P	P	08 25 19.9	-1.0
EGMT	Eagleton baz=33	85.11	332	P	P	08 25 20.7	-1.3
LRAL	Lakeview Retre baz=46	85.46	309	P	P	08 25 23.1	-0.8
MGMO	Mountain Grove	85.59	315	P	P	08 25 23.7	-0.8
RSSD	Black Hills	86.04	327	P	P	08 25 27.1	+0.2
RSSD	Black Hills baz=37	86.04	327	P	P	08 25 25.8	-1.1
U40A	Yellville baz=43,SNR=5.6	86.49	315	P	P	08 25 27.8	-1.1
WHAR	Wooly Hollow	86.95	314	P	P	08 25 30.7	-0.6
GCMT	Greycliff	86.95	331	P	P	08 25 30.9	-0.4
W41B	Gary Mavity, V baz=43,SNR=6.0	87.01	314	P	P	08 25 30.2	-1.3
UNV	Unalaska Valle baz=350	87.03	8	P	P	08 25 29.9	-1.3
RLMT	Red Lodge baz=33	87.36	330	P	P	08 25 31.6	-1.7
NEW	Newport baz=28	87.39	337	P	P	08 25 31.6	-1.6
PTGA	Pitinga	87.56	267	P	P	08 25 33.7	-0.7
PTGA	comp=Z,10nm,1.0s			IAmb	IAmb	08 25 36.2	
MSO	Missoula baz=30,SNR=5.1	87.61	334	P	P	08 25 33.0	-1.4
NIKH	Nikolski High baz=348	87.62	9	P	P	08 25 32.9	-1.2
OGNE	Ogallala baz=38	87.67	324	P	P	08 25 33.1	-1.6
YNE	Yellowstone No	87.74	331	P	P	08 25 34.9	-0.3
X40A	Basin Creek Fa baz=43	87.84	314	P	P	08 25 34.3	-1.2
BOZ	Bozeman (W)	87.85	332	P	P	08 25 35.2	-0.4
BOZ	comp=Z,6.0nm,1.0s			pmax	pmax		
BOZ	Bozeman (W)	87.85	332	P	P	08 25 35.2	-0.4
BOZ	comp=Z,6.0nm,0.9s			IAmb	IAmb	08 25 36.8	
BOZ	Bozeman (W) baz=32,SNR=9.4	87.85	332	P	P	08 25 34.2	-1.4
W39A	Magazine baz=42	87.85	315	P	P	08 25 35.2	-0.4
BDFB	Brasilia	87.95	248	P	P	08 25 38.1	+1.8
BDFB	comp=Z,15nm,0.8s,baz=81,slow=3.7,SNR=24			LR	LR	09 03 28.9	
LRM	comp=Z,70nm,21.6s,baz=133,slow=35 Limekiln Ridge	87.95	333	P	P	08 25 35.3	-0.9
VBMS	Vicksburg baz=44	88.14	311	P	P	08 25 36.7	-0.3
MIAR	Mount Ida	88.22	314	P	P	08 25 37.5	+0.2
MIAR	Mount Ida baz=43,SNR=7.9	88.22	314	P	P	08 25 36.4	-0.9
CBKS	Cedar Bluff baz=39	88.24	321	P	P	08 25 36.8	-0.7
K22A	Casper baz=35	88.30	327	P	P	08 25 36.2	-1.6
TUL1	Leonard baz=41	88.42	317	P	P	08 25 36.9	-1.4
H17A	Grant Village baz=32	88.47	331	P	P	08 25 37.3	-1.5
PHWY	Pilot Hill	88.94	326	P	P	08 25 40.1	-0.9
BW06	Boulder Array baz=33	89.45	329	P	P	08 25 42.2	-1.1
PDAR	Pinedale Array comp=Z,0.5nm,0.7s,baz=70,slow=2.2,SNR=7.2	89.45	329	P	P	08 25 42.2	-1.1
PDAR	comp=Z,72nm,18.1s,baz=42,slow=37			LR	LR	09 08 22.3	
N23A	Red Feather La baz=35	89.48	326	P	P	08 25 42.7	-0.8
KSCO	Kaye Shedlock'	89.48	323	P	P	08 25 42.4	-1.0
KSCO	Kaye Shedlock' baz=37	89.48	323	P	P	08 25 42.1	-1.3
ISCO	Idaho Springs baz=36,SNR=6.5	90.22	325	P	P	08 25 46.0	-1.1
E04D	Cinebar baz=24	90.54	339	P	P	08 25 47.4	-0.6
HLID	Hailey baz=30	90.61	333	P	P	08 25 48.0	-0.6
F05D	White Salmon baz=25	90.84	338	P	P	08 25 49.3	-0.2
WMOK	Wichita Mounta baz=40,SNR=5.4	90.90	318	P	P	08 25 49.0	-0.9
O20A	White River Ci baz=34	91.10	327	P	P	08 25 50.0	-0.9
MFID	Camas Ranch	91.24	333	P	P	08 25 51.2	-0.3
MFID	comp=Z,12nm,1.4s			IAmb	IAmb	08 25 53.2	
HVU	Hansel Valley	91.55	331	P	P	08 25 51.4	-1.6
HVU	comp=Z,6.0nm,1.2s			pmax	pmax		
HVU	Hansel Valley	91.55	331	P	P	08 25 51.4	-1.6
HVU	comp=Z,5.8nm,1.2s			IAmb	IAmb	08 25 53.7	
T25A	Trinidad	91.82	323	P	P	08 25 52.8	-1.6
T25A	Trinidad baz=36,SNR=8.4	91.82	323	P	P	08 25 52.8	-1.6
SDCO	Great Sand Dun	91.84	324	P	P	08 25 52.7	-1.9
SDCO	comp=Z,7.8nm,1.1s			IAmb	IAmb	08 25 54.6	
SDCO	Great Sand Dun baz=36,SNR=12	91.84	324	P	P	08 25 53.5	-1.0
I05D	Terrebonne, OR baz=25	92.21	337	P	P	08 25 54.7	-1.2
H04D	Lebanon baz=24	92.45	338	P	P	08 25 56.3	-0.6
S22A	4UR Ranch, Cre baz=35,SNR=7.1	92.45	325	P	P	08 25 56.2	-1.2
DUG	Dugway, Tooele baz=31	92.92	330	P	P	08 25 58.9	-0.5
ABTX	Abilene, Hawle baz=39	92.98	317	P	P	08 25 59.4	-0.2
I04A	Tendick Farm, baz=24	93.02	338	P	P	08 25 59.5	-0.1
J05D	Fort Rock, OR baz=25	93.13	337	P	P	08 25 59.8	-0.5
I03D	Drain, OR baz=23	93.38	338	P	P	08 25 60.0	-1.2
MSTX	Muleshoe baz=37	93.55	320	P	P	08 26 01.4	-0.9
ANMO	Albuquerque	94.57	323	*eP*	P	08 26 06.0	-1.1
ANMO	comp=Z,6.0nm,2.5s			pmax	pmax		
ANMO	Albuquerque baz=35	94.57	323	P	P	08 26 06.2	-0.9
N02D	Trinity Center baz=24	95.69	337	P	P	08 26 11.2	-0.7
NV11	Mina Array Sit	96.47	333	P	P	08 26 13.5	-2.1
NV11	comp=Z,7.6nm,1.6s			IAmb	IAmb	08 28 42.1	
NVAR	Mina Array Bea comp=Z,0.9nm,0.7s,baz=40,slow=3.7,SNR=10	96.52	333	P	P	08 26 15.8	-0.1
NVAR	comp=Z,74nm,18.4s,baz=22,slow=38			LR	LR	09 13 01.8	
MNTX	Cornudas Mount baz=36	96.68	320	P	P	08 26 16.0	-0.6
TXAR	Lajitas Array comp=Z,1.5nm,0.8s,baz=61,slow=3.6,SNR=18	97.69	318	P	P	08 26 20.7	-0.6
TXAR	comp=Z,24nm,20.2s,baz=0.0,slow=35			LR	LR	09 09 12.2	
TXAR	Lajitas Array	97.69	318	P	P	08 26 19.8	-1.4
TXAR	Lajitas Array	97.69	318	P	P	08 26 19.8	-1.4
CWC	Cottonwood Cre baz=27	98.21	332	P	P	08 26 23.2	-0.3
TUQ	Turquoise Moun baz=29	98.27	330	P	P	08 26 23.3	-0.5
MPMC	Manual Prospec baz=28	98.32	331	P	P	08 26 23.0	-1.1
TUC	Tucson baz=33	98.76	324	P	P	08 26 25.1	-0.9
ISA	Isabella, Lake baz=27	99.04	332	P	Pdif	08 26 26.3	-0.8
WRA	Warramunga Arr comp=Z,1.4nm,0.9s,baz=237,slow=2.8,SNR=6.6	116.03	95	PKP	PKPdf	08 31 27.9	-1.5
ASAR	Alice Springs comp=Z,1.7nm,0.8s,baz=356,slow=2.1,SNR=13	117.74	99	PKP	PKPdf	08 31 31.6	-1.0
STKA	Stephens Creek comp=Z,2.3nm,0.8s,baz=57,slow=1.6,SNR=4.2	127.72	103	PKP	PKPdf	08 31 50.7	-0.7

IDC ***10*** *08:35:36.3±2.6, 14°.57N×93°.65W, h0km, mb4.0/5, mb1 4.2/7, mb1mx3.8/35, mbtmp3.9/7, ML3.3/2, MS3.2/6, Ms1 3.2/6, ms1mx2.9/36 Error ellipse: s-maj=99.1km s-min=25.7km az=42.0*

MEX ***10*** *08:35:38.2±1.1, 14°.35N×94°.01W, h12km±3.1km, MD4.3*

NEIC ***10*** *08:35:42.1±2.7, 14°.6N±0°.1×93°.96W±0°.07, h31km±6km, mb4.0/18, Error ellipse: s-maj=16.2km s-min=7.8km az=208.0*

ISC 10 08:35:38.4±2.8, 14°.74N±0°.08×93°.84W±0°.06, h5km±16km, n41, σ1s35/43, mb4.0/9, MS3.4/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		1.13	32	*eP*	Pn	08 36 01.5	+0.5
PCIG				*i* S	Sn	08 36 16.7	-0.2
THIG		1.54	83	*i* P	Pn	08 36 06.0	-0.5
THIG				*i* S	Sn	08 36 25.5	-1.3
TGIG		2.14	19	*eP*	Pb	08 36 17.0	-0.8
TGIG				*i* S	Sg	08 36 46.6	-0.8
CCIG	Comitan	2.25	47	*eP*	Pb	08 36 19.2	-0.5
CCIG				*i* S	Sg	08 36 49.0	-1.7
CCIG	Comitan	2.25	47	Pn	Pb	08 36 19.7	0.0
CMIG	Matias Romero	2.55	337	Pn	Pn	08 36 20.6	+0.2
CMIG	5.8nm,0.3s,baz=175,slow=11,SNR=125			Sn	Sn	08 36 50.1	-1.7
CMIG	28nm,0.3s,baz=112,slow=7.6,SNR=6.5			LR	LR	08 36 51.6	
CMIG	comp=Z,102nm,20.1s,baz=196,slow=27 Matias Romero	2.55	337	*eP*	Pn	08 36 20.1	-0.3
CMIG				*i* S	Sn	08 36 51.3	-0.5
MTO3	Montecristo	4.35	94		Pn	08 36 45.4	0.0
TLIG	Tlapa	5.34	302		Pn	08 36 58.7	-0.2
ORTG	Ortega, Santa	9.27	117	Pn	Pn	08 37 53.7	+0.8
RIMA	Rio Macho	10.93	116	Pn	Pn	08 38 17.7	+1.9
SRBA	San Rafael, Bu	11.62	117	Pn	Pn	08 38 26.1	+0.9
SOR	Soroa	13.01	50	Pn	Pn	08 38 47.9	+3.9
JCT	Junction City	16.60	342	P	P	08 39 33.5	-1.1
JCT	comp=Z,7.0nm,1.1s			IAmb	IAmb	08 39 40.2	
TXAR	Lajitas Array comp=Z,0.0nm,0.3s,baz=159,slow=10,SNR=4.4	17.13	330	P	P	08 39 41.9	+1.4
TXAR	comp=Z,45nm,20.3s,baz=0.0,slow=39			LR	LR	08 46 55.3	
TXAR	Lajitas Array	17.13	330	P	Pn	08 39 38.1	-0.7
TX31	Lajitas Ar. Si	17.13	330	P	Pn	08 39 38.3	-0.5
TX31	comp=Z,19nm,1.4s			IAmb	IAmb	08 39 50.7	
237A	Washetta, Mont	17.28	354	P	P	08 39 44.3	+2.2
237A	comp=Z,6.6nm,0.8s			IAmb	IAmb	08 39 48.4	
LPIG	La Paz comp=Z,75nm,18.5s,baz=88,slow=38	18.09	303	LR	LR	08 47 09.8	
ABTX	Abilene, Hawle	18.57	344	P	Pn	08 39 57.0	+0.4
MIAR	Mount Ida	19.72	1		Pn	08 40 10.9	+0.5
MIAR	comp=Z,4.4nm,0.8s			IAmb	IAmb	08 40 15.3	
MNTX	Cornudas Mount	19.91	330		P	08 40 10.7	-0.3
W39A	Magazine	20.37	0	P	Pn	08 40 19.0	+1.0
W39A	comp=Z,9.2nm,1.2s			IAmb	IAmb	08 40 20.9	
WMOK	Wichita Mounta	20.41	348	P	P	08 40 15.7	-0.7
MSTX	Muleshoe	20.78	339	P	P	08 40 20.6	0.0
FCAR	Ozark Folk Cen	21.12	4	P	P	08 40 25.8	+1.7
FCAR	comp=Z,5.3nm,0.9s			IAmb	IAmb	08 40 27.2	
AMTX	Amarillo	21.27	342	P	P	08 40 26.6	+0.8
HHAR	Hobbs	21.45	360	P	P	08 40 29.1	+1.4
HHAR	comp=Z,3.1nm,0.6s			IAmb	IAmb	08 40 30.0	
ROSC	El Rosal comp=Z,3.1nm,0.4s,baz=329,slow=12,SNR=2.0	21.58	115	P	P	08 40 25.4	-4.3
121A	Cookes Peak, D	21.80	327	P	P	08 40 32.7	+1.1
121A	comp=Z,8.1nm,0.9s			IAmb	IAmb	08 40 34.8	
TKL	Tuckaleechee C comp=Z,54nm,19.2s,baz=200,slow=42	22.71	22	LR	LR	08 51 38.7	
S39A	Bolivar	22.87	1	P	P	08 40 42.3	-0.4
ISCO	Idaho Springs	27.02	340	P	P	08 41 22.3	+0.5
NV11	Mina Array Sit	31.90	322	P	P	08 42 05.0	0.0
NV11	comp=Z,4.2nm,1.2s			IAmb	IAmb	08 42 15.4	
NVAR	Mina Array Bea comp=Z,1.6nm,0.9s,baz=138,slow=9.3,SNR=10	31.99	322	P	P	08 42 07.7	+1.8
YKA	Yellowknife Ar comp=Z,1.4nm,0.8s,baz=100,slow=17,SNR=3.8	49.91	348	P	P	08 44 31.9	-0.9
ILAR	Eielson Array comp=Z,1.2nm,0.9s,baz=150,slow=4.2,SNR=6.5	61.47	337	P	P	08 45 55.5	-0.3
NB2	NORSAR Subarra comp=Z,2.8nm,1.0s,baz=292,slow=5.1	84.35	28	P	P	08 48 11.4	-0.1
NOA	NORSAR Array B comp=Z,1.3nm,0.8s,baz=292,slow=5.0,SNR=7.3	84.35	28	P	P	08 48 11.6	+0.1
NOA	comp=Z,16nm,19.3s,baz=355,slow=35			LR	LR	09 24 34.2	
URZ	Urewera comp=Z,81nm,21.2s,baz=211,slow=30	98.23	233	LR	LR	09 24 35.8	
CMAR	Chiang Mai Arr comp=Z,1.0nm,0.3s,baz=341,slow=3.0,SNR=4.5	144.69	339	PKP	PKPab	08 55 14.6	-1.2

TAP ***10*** *08:46:34.4, 24°.80N×122°.59E, h1km±1km, ML2.8, D*

JMA ***10*** *08:46:35.8±0.2, 24°.85N×122°.64E, h24km±3km, M2.1*

ISC 10 08:46:34.7±1.6, 24°.84N±0°.07×122°.65E±0°.04, h9km±12km, n28, σ0s28/36, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	Yonagunijimaku	0.47	145	P	Pb	08 46 45.4	+0.3
JYNG				*e*S	Sb	08 46 52.4	+0.3
YOJ	Yonaguni jima	0.50	138	P	Pb	08 46 45.8	+0.2
YOJ				*e*S	Sb	08 46 52.8	-0.2
YOJ	Yonaguni jima baz=131	0.50	138	P	Pb	08 46 46.1	+0.5
YOJ				*e*S	Sb	08 46 52.5	-0.5
EGS		0.65	271	P	Pg	08 46 47.7	+0.4
EGS	baz=273			S	Sb	08 46 57.8	+0.4
NTC	baz=273 Toucheng baz=274	0.74	272	*e*P	Pg	08 46 48.4	-0.6
TIPB	Shuangxi baz=283	0.76	281	*i* P	Pg	08 46 49.5	+0.2
TWC	Suao baz=253	0.76	253	*i* P	Pg	08 46 49.3	-0.1
NWF	Wu-fen Shan baz=290	0.82	287	P	Pb	08 46 51.4	+0.2
WFSB	Wu-fen Shan baz=290	0.82	287	P	Pb	08 46 51.4	+0.3
NDS	Dongshan baz=258	0.87	257	P	Pg	08 46 51.3	-0.2
EWUT	Wuta baz=244	0.88	244	P	Pg	08 46 51.7	0.0
TWE	Neicheng baz=264	0.90	263	*i* P	Pg	08 46 51.8	-0.3
ENA	Nanau baz=244	0.92	244	P	Pg	08 46 52.4	-0.1
EHP	Heping Village baz=237	0.98	238	*e*P	Pg	08 46 53.6	+0.1
ENTT	Nioudou baz=260	1.00	259	P	Pb	08 46 54.4	+0.1
NDT	Datong Townshi baz=258	1.06	258	P	Pb	08 46 54.8	-0.4
IRIF	Iriomote-Funau	1.10	117	P	Pb	08 46 55.8	-0.2
ETL	Fush Village baz=234	1.15	234	*e*P	Pg	08 46 57.2	+0.4
NACB	Ninganchiao baz=235	1.16	236	P	Pb	08 46 56.9	-0.1
NACB	baz=235			S	Sn	08 47 13.3	+0.1
NSK	Sanguang baz=263	1.18	263	P	Pb	08 46 57.3	0.0
TWD	Chiawan baz=231	1.22	232	P	Pg	08 46 58.4	+0.2
NNS	Nan Shan baz=251	1.22	252	*e*P	Pn	08 46 57.7	-0.4
NNS	baz=251			*e*S	Sb	08 47 14.1	+0.1
ETLH	Xiulin Townshi baz=239	1.23	240	P	Pn	08 46 58.1	-0.1
FUSS	Fushou baz=245	1.41	246	P	Pg	08 47 01.9	+0.1
FUSS	baz=245			*e*S	Sg	08 47 20.1	0.0
WHF	Hehuan Shan baz=241	1.43	242	*i* P	Pb	08 47 02.0	+0.1
TDCB	Techi baz=247	1.47	247	P	Pn	08 47 01.7	+0.2
CHGB	Renai baz=240	1.55	240	*e*P	Pg	08 47 04.4	-0.1
CHGB	baz=240			*e*S	Sb	08 47 23.3	-0.2
SSLB	Suanglung baz=236	1.86	236	*e*P	Pg	08 47 10.1	-0.4

JMA 10 08:56:02.1±0.1, 37°.16N×135°.16E, h382km, M3.6, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKY	Yasaka	1.53	182	P	Pn	08 56 53.5	-0.2
JWT	Wachi	1.88	174	P	Pn	08 56 55.9	+0.2
JFT	Otama	4.14	83	P	Pn	08 57 15.2	+0.8
JMK	Ichinoseki	5.11	68	P	Pn	08 57 24.0	-0.2

BGR ***10*** *08:59:46.2±0.0, 20°.75S×177°.65W, h512km*

NOU ***10*** *08:59:47.6, 20°.61S×177°.69W, h524km, mb4.7/55, Fiji Islands Region*

NEIC ***10*** *08:59:47.3±2.1, 20°.76S±0°.06×177°.9W±0°.1, h483km±6km, mb4.5/70, Error ellipse: s-maj=15.0km s-min=9.3km az=96.0*

IDC ***10*** *08:59:48.3±1.2, 20°.91S×177°.94W, h504km±13km, mb4.0/15, mb1 4.2/18, mb1mx4.1/24, mbtmp4.9/18, Error ellipse: s-maj=14.3km s-min=10.4km az=149.0*

ISC 10 08:59:47.1±0.3, 20°.77S±0°.05×177°.78W±0°.06, h495km, n295, σ1s62/313, mb4.6/73, 36C-30D, Fault plane solution: NP1:ϕ_s254.35585°, δ22.16642°, λ-47.70144°. **NP2:**ϕ_s29.86163°, δ73.79543°, λ-105.33276°. **Principal axes:** T Plg27.2269°, Azm132.0001°; N Plg14.7096°, Azm34.2371°; P Plg58.4492°, Azm278.9251°; **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	4.96	307	P	P	09 01 15.3	+1.6
MSVF	79nm,0.3s,baz=136,slow=7.5,SNR=480			S	S	09 02 28.0	+3.9
MSVF	baz=157,slow=23,SNR=0.5 Nonsavu	4.96	307		P	09 01 15.4	+1.8
MSVF	Nonsavu	4.96	307	P	P	09 01 15.2	+1.6
NIUE	Niue	7.58	79	P	P	09 01 39.6	+0.6
NIUE	Niue	7.58	79	P	P	09 01 40.5	+1.4
RIZ	Raoul Island	8.44	181	P	P	09 01 45.4	-2.5
RIZ				S	S	09 03 23.6	-3.5
RAO	Raoul Island	8.45	181	P	P	09 01 45.9	-2.0
RAO	146nm,0.3s,baz=70,slow=22,SNR=4.1			S	S	09 03 16.4	-11
RAO	88nm,0.3s,baz=107,slow=21,SNR=1.9 Raoul Island	8.45	181	P	P	09 01 46.8	-1.1
GLKZ	Green Lake	8.46	181	P	P	09 01 47.3	-0.7
GLKZ				S	S	09 03 22.6	-4.8
AFI	Afiamalu	8.91	41	P	P	09 01 52.9	-0.2
AFI	17nm,0.3s,baz=188,slow=3.2,SNR=13			S	S	09 03 29.0	-7.4
AFI	5.1nm,0.3s,baz=246,slow=21,SNR=2.2 Afiamalu	8.91	41		P	09 01 51.7	-1.4
AFI	Afiamalu	8.91	41	P	P	09 01 51.7	-1.4
MARNC	Mare, Loyalty	13.26	264		P	09 02 38.3	-0.8
MARNC	Mare, Loyalty	13.26	264	P	P	09 02 39.1	0.0
MARNC	Mare, Loyalty	13.26	264	P	P	09 02 40.7	+1.6
RTV	Rentapao 363um,0.7s	13.35	280	P	P	09 02 41.6	+1.5
DVP	Devils Point 340um,0.7s	13.59	280	P	P	09 02 43.9	+1.3
PINNC	Pines Island,	13.85	260	P	P	09 02 42.7	-2.6
PINNC	Pines Island,	13.85	260	P	P	09 02 46.5	+1.2
PINNC	Pines Island,	13.85	260	P	P	09 02 46.7	+1.4
LIFNC	LIFOU	14.01	267	P	P	09 02 47.2	+0.2
YATNC	Mamie plateau,	14.33	262	P	P	09 02 49.5	-0.9
YATNC	Mamie plateau,	14.33	262	P	P	09 02 52.0	+1.6
OUENC	Ouen Island, N	14.40	261	P	P	09 02 50.8	-0.3
OUENC	Ouen Island, N	14.40	261	P	P	09 02 51.3	+0.2
OUENC	Ouen Island, N	14.40	261	P	P	09 02 51.8	+0.7
DZM	Mont Dzumac 78nm,0.8s	14.75	262	*e*P	P	09 02 54.2	-0.7
DZM	Mont Dzumac 3.7nm,0.3s,baz=93,slow=19,SNR=29	14.75	262	P	P	09 02 54.7	-0.2
DZM	Mont Dzumac	14.75	262	P	P	09 02 54.4	-0.5
DZM	Mont Dzumac	14.75	262	P	P	09 02 55.0	+0.2
DZM	Mont Dzumac	14.75	262	P	P	09 02 55.1	+0.2
ONTNC	Ouen Toro	14.75	261	P	P	09 02 54.0	-0.7
ONTNC	Ouen Toro	14.75	261	P	P	09 02 55.0	+0.2
NOUC	Port Laguerre	14.88	262	P	P	09 02 56.1	-0.1
NOUC	Port Laguerre	14.88	262	P	P	09 02 56.4	+0.2
SANVU	Saraoutou	15.22	288	P	P	09 02 58.5	-1.2
SANVU	Saraoutou 41nm,1.1s	15.22	288	P	P	09 03 00.4	+0.6
OUZ	Omahuta	16.27	206	P	P	09 03 12.7	+2.1
WCZ	Waipu Caves	16.62	203	P	P	09 03 16.6	+2.5
KOUNC	Koumac, New Ca	16.78	268	P	P	09 03 17.4	+1.3
KUZ	Kuaotunu	16.90	198	P	P	09 03 18.7	+1.6
WMGZ	Waiomatatini S	17.31	190	P	P	09 03 20.4	-0.7
WMGZ				S	S	09 06 17.9	+1.6
HAZ	Te Kaha	17.36	192	P	P	09 03 21.4	-0.2
HAZ				S	S	09 06 18.7	+1.7
MKAZ	Moumakai	17.40	199	P	P	09 03 23.0	+1.1
PKGZ	Pakihiroa	17.44	191	P	P	09 03 21.3	-1.1
PKGZ				S	S	09 06 15.0	-3.4
PUZ	Puketiti	17.58	190	P	P	09 03 22.8	-0.9
PUZ				S	S	09 06 21.9	+1.2
RUGZ	Raukumara Rang	17.59	192	P	P	09 03 22.2	-1.7
RUGZ				S	S	09 06 37.3	+16
TWGZ	Tauwhareparae	17.73	191	P	P	09 03 25.6	+0.4
TWGZ				S	S	09 06 23.7	+0.5
KMRZ	Kaimai	17.87	196	P	P	09 03 15.9	-11

TOZ **Tahuroa Road** 17.88 198 P **P** 09 03 27.2 +0.7
TOZ S **S** 09 06 32.9 +7.3
MWZ Matawai 17.97 192 P **P** 09 03 25.7 -1.6
MWZ S **S** 09 06 31.4 +4.3
URZ Urewera 17.98 193 P **P** 09 03 25.5 -1.9
3.1nm,0.3s,baz=7.8,slow=4.6,SNR=12
URZ Urewera 17.98 193 P **P** 09 03 24.9 -2.5
URZ S **S** 09 06 28.7 +1.5
CNGZ Carnagh Statio 17.99 190 P **P** 09 03 28.4 +0.9
CNGZ S **S** 09 06 37.9 +11
TKGZ Te Karaka 18.01 191 P **P** 09 03 27.8 +0.2
TKGZ S **S** 09 06 28.0 +0.4
RAGZ Rawiri 18.15 192 P **P** 09 03 26.2 -2.8
RAGZ S S 09 06 51.3 +21
MUGZ Murupara 18.27 194 P **P** 09 03 28.1 -1.9
MUGZ S **S** 09 06 37.3 +5.4
TLZ Tolley Road 18.43 197 P **P** 09 03 31.1 -0.5
SNGZ Shannon Statio 18.44 192 P **P** 09 03 30.8 -0.9
SNGZ S **S** 09 06 44.0 +9.3
KNZ Kokohu 18.61 191 P **P** 09 03 32.6 -0.5
KNZ S S 09 06 57.8 +20
HIZ Hauiti 18.79 198 P **P** 09 03 37.3 +2.4
BKZ Black Stump Fm 18.99 194 P **P** 09 03 33.4 -3.3
BKZ S S 09 07 03.8 +20
PPT Papeete 26.82 88 P **P** 09 04 49.0 +1.9
52nm,0.9s,baz=268,slow=22,SNR=4.2
EIDS Eidsvold 28.97 255 P **P** 09 05 05.5 -0.4
EIDS IAmb IAmb 09 05 56.2
comp=Z,17nm,1.2s
ARMA Armidale 29.13 245 P **P** 09 05 08.7 +1.3
ARMA IAmb IAmb 09 05 47.5
comp=Z,27nm,1.4s
CTAO Charters Tower 33.67 265 P **P** 09 05 46.3 0.0
TOO Toolangi 35.90 234 P **P** 09 06 05.3 +0.4
TOO IAmb IAmb 09 06 32.6
comp=Z,40nm,1.8s
COEN Coen 37.80 274 P **P** 09 06 20.4 -0.4
COEN IAmb IAmb 09 06 21.3
comp=Z,17nm,0.7s
STKA Stephens Creek 37.86 244 P **P** 09 06 20.3 -0.7
comp=Z,2.2nm,0.4s,baz=82,slow=12,SNR=15
STKA Stephens Creek 37.86 244 P **P** 09 06 20.9 -0.1
BBOO Buckleboo 42.61 244 P **P** 09 06 58.2 -1.0
BBOO IAmb IAmb 09 06 59.2
comp=Z,8.3nm,0.6s
JAY Jayapura 44.32 289 P **P** 09 07 11.6 -1.2
comp=Z,472nmcomp=Z,42nm,0.5s
AS31 Alice Springs 44.65 257 P **P** 09 07 14.7 -0.6
ASAR Alice Springs 44.66 257 P **P** 09 07 14.7 -0.6
comp=Z,27nm,0.8s,baz=94,slow=8.1,SNR=297
ASAR PcP **PcP** 09 08 46.9 -0.7
comp=Z,2.8nm,0.6s,baz=107,slow=4.2,SNR=5.8
ASAR ScP **ScP** 09 11 51.1 -1.3
comp=Z,0.6nm,0.8s,baz=87,slow=4.9,SNR=1.9
ASAR S **S** 09 13 11.8 -3.4
comp=Z,2.5nm,0.8s,baz=94,slow=16,SNR=11
WRAB Tennant Creek 44.76 262 P **P** 09 07 15.0 -1.1
WRAB IAmb IAmb 09 07 15.7
comp=Z,28nm,0.9s
WRA Warramunga Arr 44.77 262 P **P** 09 07 15.0 -1.2
comp=Z,15nm,0.3s,baz=96,slow=7.6,SNR=518
WRA S **S** 09 13 11.4 -5.3
comp=Z,5.1nm,1.0s,baz=98,slow=13,SNR=7.4
BAKI Biak 49.01 287 P **P** 09 07 48.0 -0.3
MTN Manton Dam 49.37 271 P **P** 09 07 50.1 -0.9
KNRA Kununurra 50.84 266 P **P** 09 08 01.5 -0.3
FITZ Fitzroy Crossi 53.19 263 P **P** 09 08 18.6 -0.1
FITZ IAmb IAmb 09 08 20.1
comp=Z,36nm,1.4s
BNDI Bandanaira 53.27 280 P **P** 09 08 17.8 -1.6
comp=Z,184nm,0.8s
SIJI Sorong 53.50 285 P **P** 09 08 19.5 -1.5
comp=Z,895nmcomp=Z,119nm,0.8s
SWI Sorong 53.51 285 P **P** 09 08 20.8 -0.2
comp=Z,2μmcomp=Z,293nm,0.8s
SOEI Soe 56.71 272 P **P** 09 08 44.6 +1.0
SOEI Soe 56.71 272 P **P** 09 08 44.7 +1.0
comp=Z,160nm,0.8s
VNDA Vanda 57.66 185 P **P** 09 08 48.6 -0.3
comp=Z,0.4nm,0.5s,baz=0.1,slow=7.8,SNR=4.0
PSA00 Pilbara Seismi 57.80 257 P **P** 09 08 50.0 -0.9
PSA00 IAmb IAmb 09 08 50.7
comp=Z,26nm,0.8s
PSA00 Pilbara Seismi 57.80 257 P **P** 09 08 49.7 -1.2
PSA00 IAmb IAmb 09 08 50.8
comp=Z,13nm,0.9s
SANI Sanana 57.83 281 P **P** 09 08 49.4 -1.8
comp=Z,712nmcomp=Z,63nm,0.9s
EDFI Ende, Flores 59.44 272 P **P** 09 09 01.0 -1.2
comp=Z,282nmcomp=Z,26nm,0.8s
BKSI Bulukumba 62.06 275 P **P** 09 09 17.5 -1.8
comp=Z,19nm,0.9s
APSI Ampana 62.27 280 P **P** 09 09 21.2 +0.5
comp=Z,457nmcomp=Z,43nm,0.8s
BNSI Bone 62.40 276 P **P** 09 09 21.4 -0.1
comp=Z,39nm,1.3s
PLAI Plampang 63.08 270 P **P** 09 09 24.3 -1.6
comp=Z,63nm,0.9s
TWSI Taliwang, Sumb 63.94 270 P **P** 09 09 30.4 -1.1
comp=Z,31nm,1.2s
MPSI Mapaga 64.36 281 P **P** 09 09 33.8 -0.4
comp=Z,2μmcomp=Z,36nm,0.8s
KLNI Mataram 64.78 270 P **P** 09 09 35.3 -1.5
comp=Z,3μmcomp=Z,18nm,1.0s
JAGI Jajag, Banyuwa 66.58 270 P **P** 09 09 45.6 -2.5
comp=Z,23nm,1.3s
GMJI Gumukmas 67.31 270 P **P** 09 09 50.1 -2.5
comp=Z,1μmcomp=Z,31nm,1.2s
SPMM Sapulut 69.25 284 P **P** 09 10 05.0 +0.5
QSPA South Pole Qui 69.30 180 P **P** 09 10 05.2 +1.2
QSPA IAmb IAmb 09 10 06.4
comp=Z,13nm,1.4s
PCJI Pacitan 69.46 269 P **P** 09 10 05.2 -0.5
comp=Z,70nm,0.7s
UGM Wanagama 70.16 269 P **P** 09 10 09.1 -0.9
UGM Wanagama 70.16 269 P **P** 09 10 08.6 -1.3
comp=Z,80nm,1.9s
JGF Kuroka 70.35 322 P **P** 09 10 10.8 +0.2
JGF IAmb IAmb 09 11 06.7
comp=Z,29nm,1.3s
MJAR Matsushiro Arr 70.54 324 P **P** 09 10 11.7 +0.1
comp=Z,16nm,0.6s,baz=156,slow=5.9,SNR=44
MAJO Matsushiro 70.55 324 P **P** 09 10 11.7 0.0
MAT Matsushiro 70.55 324 P **P** 09 10 11.5 -0.2
KPJI Karang Pucung 71.84 269 P **P** 09 10 19.2 -0.6
comp=Z,1μmcomp=Z,17nm,0.6s
JSU Suzuyama 71.86 315 P **P** 09 10 19.8 +0.3
SBUM Sibu 72.25 280 P **P** 09 10 23.0 +0.8
JNU Nakatsue 72.61 317 P **P** 09 10 24.0 +0.1
KSM Kuching 73.65 278 P **P** 09 10 31.0 +0.8
JKA Kamikawa-asahi 74.06 331 P **P** 09 10 33.5 +1.7
SSLB Suanglung 74.29 303 P **P** 09 10 32.2 -1.5
TPUB Ta-pu 74.29 303 P **P** 09 10 32.4 -1.3
PEA0B Petropavlovsk- 76.58 345 P **P** 09 10 47.3 +1.6
PETK Petropavlovsk- 76.58 345 P **P** 09 10 45.9 +0.1
comp=Z,16nm,0.7s,baz=126,slow=7.5,SNR=45
KSRS Korea Array 77.22 318 P **P** 09 10 50.5 +1.0
comp=Z,7.9nm,0.6s,baz=128,slow=6.0,SNR=30
USA0B Ussuriysk Arra 79.30 326 P **P** 09 11 02.3 +1.7
USA0B IAmb IAmb 09 11 02.9
comp=Z,18nm,0.8s
USRK Ussuriysk Ar. 79.30 326 P **P** 09 11 02.2 +1.6
comp=Z,18nm,0.8s,baz=136,slow=3.3,SNR=25
YBH Yreka Blue Hor 80.37 38 P **P** 09 11 08.5 +2.0
BEKR Beckworth 80.63 41 P **P** 09 11 10.1 +2.1
NVAR Mina Array Bea 81.08 43 P **P** 09 11 12.4 +2.0
comp=Z,3.3nm,0.8s,baz=224,slow=9.3,SNR=21
NVAR Mina Array Bea 81.08 43 P **P** 09 11 11.4 +1.0
KVN Kaiserville 81.57 43 P **P** 09 11 14.7 +1.8
JRMM Jerantut 81.80 277 P **P** 09 11 15.0 +0.6
K05A Summer Lake 82.05 39 P **P** 09 11 17.2 +1.9
K05A IAmb IAmb 09 11 18.4
comp=Z,14nm,0.9s
H04A Detroit Lake 82.52 36 P **P** 09 11 18.9 +1.5
H04A IAmb IAmb 09 11 19.3
comp=Z,6.9nm,0.6s
CN2 Changchun 82.63 322 *eP* **P** 09 11 17.6 -0.3
CN2 pmax pmax
comp=Z,20nm,0.9s
PINE Pine Mountain 82.67 38 P **P** 09 11 20.1 +1.7
PINE IAmb IAmb 09 11 21.5
comp=Z,14nm,0.8s
KLR Kul'dur 82.86 329 P **P** 09 11 19.6 +0.7
comp=Z,5.5nm,0.8s,baz=107,slow=2.5,SNR=11
TIA Tai'an 83.60 312 ⇓P **P** 09 11 23.7 +0.7
TIA pmax pmax
comp=Z,13nm,0.7s
I07A Izee 83.67 38 P **P** 09 11 25.1 +1.8
I07A IAmb IAmb 09 11 26.2
comp=Z,7.7nm,1.0s
U15A North Rim 83.99 48 P **P** 09 11 27.3 +2.0
U15A IAmb IAmb 09 11 28.4
comp=Z,5.8nm,0.7s
G08A Pilot Rock 84.70 37 P **P** 09 11 30.7 +2.3
BMO Blue Mountains 85.40 38 P **P** 09 11 32.4 +0.7
F10A Beach Ranch, E 86.09 37 P **P** 09 11 36.2 +1.2
F10A IAmb IAmb 09 11 37.1
comp=Z,14nm,0.8s
TMUT Trail Mountain 86.20 46 P **P** 09 11 38.5 +2.6
TMUT IAmb IAmb 09 11 39.9
comp=Z,7.4nm,1.2s
PLID Pearl Lake 86.29 39 P **P** 09 11 37.5 +1.3
PLID IAmb IAmb 09 11 38.4
comp=Z,20nm,1.6s
B08A Colville Reser 86.33 35 P **P** 09 11 37.3 +1.3
B08A IAmb IAmb 09 11 37.8
comp=Z,6.3nm,0.8s
GLB Gilahina Butte 86.34 16 P **P** 09 11 36.5 +0.8
HLID Hailey 86.40 41 P **P** 09 11 38.0 +1.4
SRU San Rafael Swe 86.56 46 P **P** 09 11 38.2 +0.6
C09A Chrisman Ranch 86.57 36 P **P** 09 11 37.9 +0.8
C09A IAmb IAmb 09 11 39.3
comp=Z,7.1nm,0.8s
J20K Nowinta River 86.64 10 P **P** 09 11 37.0 0.0
J20K IAmb IAmb 09 11 41.0
comp=Z,33nm,1.9s
MNTX Cornudas Mount 86.74 54 P **P** 09 11 40.4 +2.0
TX31 Lajitas Ar. Si 87.03 57 P **P** 09 11 42.3 +2.4
TX31 IAmb IAmb 09 11 43.1
comp=Z,19nm,1.4s
TX32 Lajitas Array 87.03 57 P **P** 09 11 42.3 +2.5
TXAR Lajitas Array 87.03 57 P **P** 09 11 41.9 +2.1
comp=Z,1.0nm,0.7s,baz=217,slow=6.7,SNR=15
MCK McKinley 87.19 12 P **P** 09 11 40.4 +0.8
MCK IAmb IAmb 09 11 41.1
comp=Z,11nm,0.9s
ANMO Albuquerque 87.41 51 P **P** 09 11 42.2 +0.5
M27K Edge Creek, AK 87.61 16 P **P** 09 11 43.6 +1.8
SNAA Sanae 87.74 178 P **P** 09 11 42.7 +0.3
VNA3 Neumayer Olymp 87.86 176 P **P** 09 11 43.0 0.0
I21K Tanana 87.93 11 P **P** 09 11 43.6 +0.5
I21K IAmb IAmb 09 11 45.6
comp=Z,9.2nm,0.9s
MLY Manley 88.02 11 P **P** 09 11 43.5 -0.1
MLY IAmb IAmb 09 11 43.8
comp=Z,9.4nm,1.2s
WRH Wood River Hil 88.02 12 P **P** 09 11 43.4 -0.1
WRH IAmb IAmb 09 11 44.3
comp=Z,12nm,0.9s
MCMT McKenzie Canyo 88.03 40 P **P** 09 11 46.5 +2.1
HDA Harding Lake 88.20 13 P **P** 09 11 44.7 +0.3
HDA IAmb IAmb 09 11 45.1
comp=Z,8.0nm,0.6s
CCB Clear Creek Bu 88.23 12 P **P** 09 11 43.8 -0.7
VNA2 Neumayer--Watz 88.31 177 P **P** 09 11 45.5 +0.5
baz=210,slow=3.9
COLA College 88.42 12 P **P** 09 11 44.4 -0.9
MDM Murphy Dome 88.42 12 P **P** 09 11 44.5 -1.0
MDM IAmb IAmb 09 11 46.0
comp=Z,7.9nm,0.8s
XAN Xi'an 88.45 307 P **P** 09 11 47.3 +0.9
XAN pP PcP 09 11 57.8 +10
XAN pmax pmax
comp=Z,18nm,1.0s
XAN Xi'an 88.45 307 P **P** 09 11 47.6 +1.2
DLMT Dillon 88.46 40 P **P** 09 11 47.7 +1.5
ILAR Eielson Array 88.53 13 P **P** 09 11 45.5 -0.3
comp=Z,2.1nm,0.5s,baz=215,slow=5.1,SNR=27
VNA1 Neumayer--Stat 88.53 177 P **P** 09 11 47.1 +1.1
SNOW Snow King Moun 88.61 42 P **P** 09 11 48.9 +1.8
SNOW IAmb IAmb 09 11 49.3
comp=Z,4.8nm,0.7s
FLWY Flagg Ranch 88.95 42 P **P** 09 11 49.8 +1.1
FLWY IAmb IAmb 09 11 51.6
comp=Z,6.1nm,0.8s
K27K Chicken 88.96 15 P **P** 09 11 49.7 +1.8
K27K IAmb IAmb 09 11 50.1
comp=Z,4.3nm,0.8s
SMCO Snowmass 89.01 47 P **P** 09 11 50.3 +1.0
SMCO IAmb IAmb 09 12 30.0
comp=Z,18nm,1.9s
BW06 Boulder Array 89.02 43 P **P** 09 11 49.7 +0.6
PD31 Pinedale Array 89.02 43 P **P** 09 11 49.6 +0.6
PDAR Pinedale Array 89.02 43 P **P** 09 11 50.1 +1.1
comp=Z,2.7nm,0.7s,baz=207,slow=2.6,SNR=29
PDAR Pinedale Array 89.02 43 P **P** 09 11 50.0 +1.0
BOZ Bozeman (W) 89.16 40 P **P** 09 11 50.3 +0.8
BOZ IAmb IAmb 09 11 52.2
comp=Z,4.7nm,0.9s
EGAK Eagle 89.81 15 P **P** 09 11 52.7 +0.9
EGAK IAmb IAmb 09 11 53.4
comp=Z,5.6nm,0.8s
CMAR Chiang Mai Arr 90.39 289 P **P** 09 11 57.4 +1.8
comp=Z,7.6nm,0.9s,baz=130,slow=3.1,SNR=31
SONM Songino Array 96.09 319 P **P** 09 12 21.8 +0.7
comp=Z,0.5nm,0.5s,baz=97,slow=3.7,SNR=3.2
SONM Songino Array 96.09 319 IAmb IAmb 09 14 53.7
comp=Z,3.5nm,1.4s
ZALV Zalesovo Beam 110.83 321 PKiKP **PKiKP** 09 17 21.9 -1.2
comp=Z,1.3nm,0.6s,baz=155,slow=1.4,SNR=4.4
MKAR Makanchi Array 111.53 313 PKiKP **PKiKP** 09 17 23.6 -1.1
comp=Z,1.0nm,0.6s,baz=51,slow=0.8,SNR=7.4
KURK Kurchatov 114.33 317 PKPdf 09 17 28.9 -0.9
KURBB **Kurchatov Arra** 114.38 317 PKiKP PKPdf 09 17 28.9 -1.0
comp=Z,1.4nm,0.6s,baz=93,slow=1.8,SNR=16
ARCES **ARCESS Array B** 129.22 350 PKP **PKPdf** 09 17 57.1 -0.8
comp=Z,2.8nm,0.8s,baz=79,slow=2.6,SNR=14
FINES **FINESS Array B** 136.08 344 PKhKP PKPpre 09 18 03.7
comp=Z,1.4nm,0.7s,baz=180,slow=1.5,SNR=3.9
FINES PKP **PKPdf** 09 18 11.2 +0.2
comp=Z,2.8nm,0.7s,baz=48,slow=3.8,SNR=8.2
NB2 NORSAR Subarra 139.27 353 PKP PKPpre 09 18 08.6
comp=Z,0.3nm,0.5s,baz=10,slow=3.2
NOA NORSAR Array B 139.27 353 PKhKP PKPpre 09 18 08.2
comp=Z,0.8nm,0.6s,baz=8.5,slow=2.3,SNR=7.6
NOA PKP **PKiKP** 09 18 18.4 -0.9
comp=Z,0.4nm,0.4s,baz=14,slow=3.9,SNR=3.5
MNK Minsk 141.10 336 *i* PKP **PKPdf** 09 18 19.1 -1.3
comp=E,2.0nm,1.1s
MNK *i* PKP **PKPdf** 09 18 19.1 -1.3
comp=N,9.0nm,0.9s
MNK *i* PKP **PKPdf** 09 18 19.1 -1.3
comp=Z,5.0nm,0.9s,baz=40
MNK *i* pPKP **pPKPdf** 09 20 17.8 +0.4
MNK *i* PP **sPKPdf** 09 21 04.4 -1.3
MNK *i* SKP 09 21 05.7
MNK *i* sPKP 09 21 39.7
MNK *i* PPP PPP 09 23 18.2
MNK *i* SKKS 09 32 25.0
MNK *i* PS 09 33 41.3
MNK *i* SS **SS** 09 39 14.7 -1.2
MNK *i* SSS SSS 09 44 39.9
MNK *i* LRM MLR 10 30 48.5
comp=N,516nm,20.1s
MNK *i* LRM MLR 10 30 49.2
comp=E,63nm,20.1s
MNK *i* LRM MLR 10 30 50.1
comp=Z,437nm,20.1s
KAC Achnashellach 142.90 7 *eP* **PKPdf** 09 18 20.7 -2.8
MCD Coleburn Disti 143.01 5 *eP* PKPab 09 18 20.8 -0.2
KPL Plockton 143.02 7 *eP* PKPbc 09 18 21.4 -0.1
MDO Dochfour 143.05 6 *eP* PKPbc 09 18 21.5 -0.1
AKASG **Malin Array Be** 143.34 331 PKhKP PKPpre 09 18 21.7
comp=Z,17nm,0.5s,baz=43,slow=4.5,SNR=60
DRUM Mains of Drumt 143.74 4 *eP* PKPab 09 18 23.3 -0.4
EDMD Edmundbyers 145.84 4 *eP* **PKPbc** 09 18 29.8 -0.5
BSEG Bad Segeberg 146.31 351 *e*PKPbc **PKPbc** 09 18 32.2 +0.6
baz=18,slow=2.4
GDLE Glaisdale, N Y 146.32 3 *eP* **PKPbc** 09 18 31.7 +0.1
HPK Haverah Park 146.73 4 *eP* **PKPbc** 09 18 33.1 +0.4
ASF Jabal al Asfar 147.08 297 PKPbc **PKPbc** 09 18 34.8 +0.3
comp=Z,5.3nm,0.6s,baz=301,slow=1.4,SNR=3.8
WLF1 Llynfaes 147.14 7 *eP* **PKPbc** 09 18 33.7 -0.2
BR131 Keskin Array S 147.17 312 **PKPbc** 09 18 34.1 -0.5
BRTR Keskin Array B 147.17 312 PKPbc **PKPbc** 09 18 34.1 -0.5
comp=Z,4.1nm,0.6s,baz=142,slow=3.1,SNR=12
BRTR Keskin Array B 147.17 312 **PKPbc** 09 18 34.5 -0.1
BURAR **Bucovina Array** 147.39 331 ⇑P **PKiKP** 09 18 36.8 +0.2
BIZ Bicaz 147.46 329 ⇑P **PKiKP** 09 18 36.2 -0.4
OJC Ojcow 147.48 339 *e*PKPbc **PKPbc** 09 18 34.9 0.0
TESR Tescani 147.50 328 ⇑P **PKPbc** 09 18 35.2 +0.1
SBD1 Bryn Du 147.64 6 *eP* **PKPab** 09 18 40.3 +1.2
FOEL Foel Wylfa 147.66 6 *eP* **PKPbc** 09 18 35.5 +0.2
FLTG Flechtingen 147.72 350 *e*PKPbc **PKPbc** 09 18 35.6 +0.2
baz=18,slow=2.4
NRDL Niedersach Rie 147.74 351 *e*PKPbc **PKPbc** 09 18 35.7 +0.3
baz=18,slow=2.4
VRI Vrincioaia 147.90 327 ⇑P **PKPbc** 09 18 36.3 +0.2
PLOR Plostina 147.95 327 ⇑P **PKPab** 09 18 40.8 +0.1
CRVS Cervenica-Dubn 147.98 336 *e*PKP **PKPbc** 09 18 36.8 +0.6
CRVS *e* 09 18 41.3
NIE Niedzica 147.98 338 *e*PKPbc **PKiKP** 09 18 37.6 0.0
KSP Ksiaz 148.00 343 *e*PKPbc **PKPbc** 09 18 36.7 +0.5
HLM1 Long Mynd 148.06 6 *eP* **PKPbc** 09 18 36.0 -0.3
TRPA Tarpa 148.17 334 ⇑P **PKiKP** 09 18 37.8 -0.1
OSTC Ostas 148.28 343 ⇑*e*PKP **PKiKP** 09 18 37.6 -0.6
OSTC *e*PKPAB **PKPab** 09 18 42.6 +0.8
CHVC Chvalec 148.30 343 ⇑*e*PKP **PKPbc** 09 18 37.3 +0.3
CLZ Clausthal 148.34 350 *e*PKPbc **PKPbc** 09 18 37.2 +0.2
baz=18,slow=2.4
CLL Collm 148.37 347 *i* PKPab **PKPab** 09 18 41.5 -0.6
comp=Z,11nm,0.7s
CLL Collm 148.37 347 *e*PKPbc **PKPbc** 09 18 37.3 +0.3
baz=18,slow=2.4
CLL Collm 148.37 347 ⇓*i* PKPbc **PKPbc** 09 18 37.2 +0.1
comp=Z,22nm,0.9s
CLL Collm 148.37 347 *i* PKiKP **PKiKP** 09 18 38.8 +0.5
comp=Z,21nm,0.7s
UPC Upice 148.38 343 ⇑*e*PKP **PKiKP** 09 18 37.8 -0.6
DPC Dobruska-Polom 148.44 343 ⇑*e*PKP **PKPbc** 09 18 37.7 +0.3
DPC *e*PKPAB **PKPab** 09 18 43.4 +0.9
DOPR Dopca 148.50 328 ⇑P **PKPbc** 09 18 38.0 +0.3
LANS Liptovska Anna 148.50 338 *e*PKP **PKiKP** 09 18 38.9 +0.2
KRLC Kraliky 148.56 342 ⇑*e*PKP **PKPbc** 09 18 37.1 -0.6
KRLC *e*PKPAB **PKPab** 09 18 43.2 +0.2
MLR Muntele Rosu 148.56 327 ⇑P **PKiKP** 09 18 39.0 -0.1
MLR Muntele Rosu 148.56 327 PKPbc **PKPbc** 09 18 37.6 -0.4
comp=Z,5.8nm,0.5s,baz=163,slow=2.1,SNR=5.9
BRG Berggiesshubel 148.57 346 *e*PKPbc **PKPbc** 09 18 37.9 +0.3
baz=18,slow=2.4
BRG Berggiesshubel 148.57 346 Amp 09 18 38.6
comp=Z,11nm,0.7s
BRG Berggiesshubel 148.57 346 Amp 09 18 40.3
comp=Z,11nm,0.7s
BRG Berggiesshubel 148.57 346 Amp 09 18 45.0
comp=Z,9.5nm,0.7s
BRG Berggiesshubel 148.57 346 *i* PKP **PKiKP** 09 18 38.3 -0.5
BRG Berggiesshubel 148.57 346 P **PKiKP** 09 18 40.0 +1.3
BRG Berggiesshubel 148.57 346 P **PKPab** 09 18 44.4 +1.5
MORC Moravsky Berou 148.59 341 *e*PKP **PKiKP** 09 18 39.1 +0.2
FBE Freiberg 148.66 346 *e*PKPbc **PKPbc** 09 18 38.2 +0.4
baz=18,slow=2.4
GTTG Gottingen 148.69 351 *e*PKPbc **PKPbc** 09 18 38.3 +0.4
baz=18,slow=2.4
KECS Kecovo 148.69 336 *e*PKP **PKiKP** 09 18 38.9 -0.2
KECS *e* 09 18 44.5
PVCC Panska Ves 148.74 345 ⇑*e*PKP **PKiKP** 09 18 38.7 -0.4
SECR 148.81 326 ⇑P **PKPbc** 09 18 38.7 +0.3
VOIR 149.04 328 ⇑P **PKPbc** 09 18 39.3 +0.2
DRGR 149.14 332 ⇑P **PKPbc** 09 18 38.5 -0.7
EIL Elat 149.17 293 PKPbc **PKPbc** 09 18 39.9 +0.1
comp=Z,5.1nm,0.6s,baz=69,slow=2.5,SNR=5.6
KASTN **Kahler Asten** 149.24 352 *e*PKPbc **PKiKP** 09 18 39.8 -0.4
baz=18,slow=2.4
PRU Pruhonice 149.24 344 ⇑*e*PKP **PKPbc** 09 18 39.2 -0.1
PRU *e*PKPAB **PKPab** 09 18 45.5 -0.3
MOX Moxa 149.27 348 *e*PKPbc **PKPbc** 09 18 39.6 +0.3
baz=18,slow=2.4
VYHS Vyhne 149.28 338 *e*PKP **PKPbc** 09 18 39.9 +0.4
VRAC Vranov 149.29 341 PKPbc **PKPbc** 09 18 39.8 +0.4
comp=Z,2.4nm,0.5s,baz=60,slow=1.2,SNR=4.6
VRAC Vranov 149.29 341 *e*PKP **PKPbc** 09 18 39.7 +0.2
ARR Arges 149.30 328 ⇑P **PKiKP** 09 18 40.6 +0.1
TANN Tannenbergstha 149.32 347 *e*PKPbc **PKPbc** 09 18 39.9 +0.3
baz=18,slow=2.4
WERD Werda 149.32 347 *e*PKPbc **PKiKP** 09 18 40.0 -0.3
baz=18,slow=2.4
JAVC Velka Javorina 149.36 340 *e*PKP **PKiKP** 09 18 40.7 +0.2
GUNZ Gunzen 149.40 347 *e*PKPbc **PKiKP** 09 18 40.3 -0.2
baz=18,slow=2.4
WERN Wernitzgruen 149.46 347 *e*PKPbc **PKiKP** 09 18 40.5 -0.2
baz=18,slow=2.4
NKC Novy Kostel 149.50 347 *e*PKPAB **PKPab** 09 18 47.8 +0.9
LEF Lefka 149.51 304 ⇑P **PKPbc** 09 18 40.4 0.0
KRUC Moravsky 149.57 341 *e*PKP **PKPbc** 09 18 40.1 0.0
MANZ Manzenberg 149.80 347 *e*PKPbc **PKiKP** 09 18 41.1 -0.3
baz=18,slow=2.4
ROTZ Rotzenmuhle 149.99 347 *e*PKPbc **PKiKP** 09 18 41.7 0.0
baz=18,slow=2.4
SIRR Siria 150.00 332 ⇑P **PKiKP** 09 18 41.7 -0.1
TNS Taunus Mts 150.19 352 *e*PKPbc **PKiKP** 09 18 42.3 +0.1
baz=18,slow=2.4
GRF Grafenberg Arr 150.26 348 *e*PKPbc **PKiKP** 09 18 42.3 0.0
baz=18,slow=2.4
KHC Kasperske Hory 150.28 345 ⇑*e*PKP **PKPbc** 09 18 41.7 -0.1
KHC *e*PKPAB **PKPab** 09 18 50.7 +0.5
CKRC Cesky Krumlov 150.38 344 ⇑*e*PKP **PKPbc** 09 18 41.6 -0.5
WET Wettzell 150.43 346 *e*PKPbc **PKiKP** 09 18 42.7 0.0
baz=18,slow=2.4
MILB Miltenberg 150.46 351 *e*PKPbc **PKiKP** 09 18 42.6 -0.1
baz=18,slow=2.4
GEC2 GERESS Array S 150.51 345 *e*PKPbc **PKiKP** 09 18 42.7 -0.2
baz=18,slow=2.4
GERES **GERESS Array B** 150.51 345 PKPbc **PKiKP** 09 18 42.5 0.0
comp=Z,4.1nm,0.6s,baz=42,slow=2.2,SNR=23
BZS Buzias 150.53 332 ⇑P **PKPbc** 09 18 42.2 -0.2
HERR Herculane 150.72 330 ⇑P **PKPbc** 09 18 41.4 -1.6
CONA Conrad Observa 150.75 341 *e*P **PKiKP** 09 18 43.3 -0.2
comp=Z,8.3nm,0.6s
MORH Mrgy, Hungar 151.28 336 ⇑P **PKPbc** 09 18 44.3 +0.1
MOA Molln 151.28 343 *e*P **PKPbc** 09 18 44.1 -0.1
comp=Z,4.3nm,0.5s
FRGS Fruska Gora 151.67 333 ⇑P **PKPbc** 09 18 44.2 -0.9
RJOB Jochberg 151.76 345 *e*PKPbc **PKPbc** 09 18 45.4 +0.1
baz=18,slow=2.4
VTS Vitosha 151.96 326 ⇑P **PKiKP** 09 18 46.1 -0.1
BFO Black Forest 152.06 351 *e*PKPbc **PKiKP** 09 18 46.2 +0.1
baz=18,slow=2.4
SOKA Soboth 152.12 341 *e*P **PKPbc** 09 18 45.8 -0.4
comp=Z,7.4nm,1.1s
KBA Koelnbreinsper 152.24 344 *e*P **PKiKP** 09 18 48.0 +1.3
comp=Z,7.9nm,0.8s
UBR Ueberruh 152.40 348 *e*PKPbc **PKPbc** 09 18 46.8 0.0
baz=18,slow=2.4
RETA Reutte 152.46 347 *e*P **PKiKP** 09 18 48.0 +1.0
comp=Z,1.3nm,0.5s
WTTA Wattenberg 152.48 346 *e*P **PKPbc** 09 18 47.1 0.0
comp=Z,6.2nm,0.5s
ABTA Abfaltersbach 152.76 344 *e*P **PKPbc** 09 18 47.0 -0.6
comp=Z,9.2nm,0.6s
FETA Feichten 152.91 347 *e*P **PKiKP** 09 18 48.2 +0.2
comp=Z,3.8nm,0.9s
ESDC Sonseca Array 160.42 14 PKPab **PKPab** 09 19 34.7 +0.7
comp=Z,0.5nm,0.7s,baz=357,slow=2.7,SNR=4.4
TORD Torodi Ar. Bea 172.41 176 PKP **PKPdf** 09 18 58.5 -1.1
comp=Z,1.3nm,0.8s,baz=319,slow=1.2,SNR=7.3
TORD PKPab **PKPab** 09 20 28.7 +1.4
comp=Z,0.4nm,0.6s,baz=186,slow=3.4,SNR=2.0

*IDC **10** 09:01:22.3±1.4, 28°.59S×175°.91W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.6/20, mbtmp3.9/2 Error ellipse: s-maj=64.8km s-min=44.9km az=173.0*
ISC 10 09:01:26.9±1.5, 28°.3S±0°.4×175°.8W±0°.3, h36km, n6,
σ1°34/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.16**	**264**	P	**P**		**09 09 41.6**	**+1.3**
	2.1nm,1.0s,baz=95,slow=6.8,SNR=1.5							
WRA	**Warramunga Arr**	**45.97**	**269**	P	**P**		**09 09 45.3**	**-1.5**
	1.3nm,0.7s,baz=101,slow=8.5,SNR=1.8							
FINES	**FINESS Array B**	**143.79**	**342**	PKP	**PKPdf**		**09 20 57.0**	**-0.4**
	5.4nm,0.8s,baz=48,slow=2.8,SNR=14							
NOA	**NORSAR Array B**	**146.94**	**354**	PKPbc	**PKPab**		**09 21 06.3**	**-0.1**
	2.2nm,0.7s,baz=14,slow=4.4,SNR=9.8							
AKASG	**Malin Array Be**	**150.70**	**327**	PKPbc	**PKPbc**		**09 21 16.6**	**+1.1**
	3.6nm,1.0s,baz=44,slow=2.5,SNR=8.3							
TORD	**Torodi Ar. Bea**	**164.73**	**171**	PKPab	**PKPab**		**09 22 22.6**	**-0.4**
	0.8nm,0.8s,baz=205,slow=2.9,SNR=4.4							

*IDC **10** 09:14:11.8±5.5, 12°.00S×166°.99E, h208km±53km, mb3.6/11, mb1 3.8/12, mb1mx3.6/36, mbtmp4.0/12, Error*

ellipse: s-maj=38.9km s-min=20.9km az=163.0
NEIC ***10*** *09:14:14.3±1.7, 12°.1S×0°.1×167°.1E±0°.2, h232km±2km, mb4.3/12, Error ellipse: s-maj=23.9km s-min=16.5km az=97.0*

ISC 10 09:14:12.9±0.6, 12°04S±0°.09×167°0E±0°.1, h220km, n32, σ1s0d/31, mb4.1/17, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**3.39**	**177**	Pn	**Pn**	**09 15 11.1**	**+2.9**
LIFNC	**LIFOU**	**8.69**	**179**	Pn	**Pn**	**09 16 13.0**	**-2.1**
MARNC	**Mare, Loyalty**	**9.44**	**174**	Pn	**Pn**	**09 16 24.6**	**-0.1**
DZM	**Mont Dzumac**	**9.99**	**183**	P	**Pn**	**09 16 32.0**	**+0.1**
	0.2nm,0.3s,baz=331,slow=18,SNR=2.1						
PINNC	**Pines Island,**	**10.52**	**178**	Pn	**Pn**	**09 16 40.0**	**+1.4**
EIDS	**Eidsvold**	**20.07**	**226**	P	**P**	**09 18 30.8**	**+1.0**
EIDS				IAmb	IAmb	09 18 31.7	
	comp=Z,8.3nm,0.7s						
BKZ	**Black Stump Fm**	**28.29**	**164**	P	**P**	**09 19 45.0**	**-1.0**
WR0	**Warramunga Arr**	**32.17**	**252**	P	**P**	**09 20 19.5**	**-0.9**
WR0				IAmb	IAmb	09 20 40.6	
	comp=Z,6.2nm,1.4s						
WB2	**Warramunga Arr**	**32.34**	**252**	P	**P**	**09 20 21.9**	**0.0**
WB2				IAmb	IAmb	09 20 44.3	
	comp=Z,5.6nm,1.1s						
WRA	**Warramunga Arr**	**32.35**	**252**	P	**P**	**09 20 21.4**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=84,slow=9.0,SNR=8.4						
ASAR	**Alice Springs**	**33.50**	**245**	P	**P**	**09 20 31.2**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=68,slow=9.8,SNR=9.3						
BBOO	**Buckleboo**	**35.11**	**229**	P	**P**	**09 20 45.6**	**+0.1**
BBOO				IAmb	IAmb	09 20 49.0	
	comp=Z,12nm,1.3s						
FITZ	**Fitzroy Crossi**	**40.36**	**256**	P	**P**	**09 21 29.7**	**0.0**
	comp=Z,2.5nm,1.0s,baz=9.5,slow=6.1,SNR=1.4						
FORT	**Forrest**	**40.53**	**236**	P	**P**	**09 21 31.1**	**+0.2**
FORT				IAmb	IAmb	09 21 47.1	
	comp=Z,17nm,0.9s						
MJAR	**Matsushiro Arr**	**55.44**	**332**	P	**P**	**09 23 23.5**	**-1.3**
	comp=Z,1.1nm,0.6s,baz=162,slow=8.0,SNR=2.3						
MJAR	**Matsushiro Arr**	**55.44**	**332**	IAmb	IAmb	09 23 23.8	
	comp=Z,5.5nm,1.5s						
CMAR	**Chiang Mai Arr**	**73.67**	**293**	P	**P**	**09 25 24.5**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=116,slow=4.1,SNR=1.8						
QSPA	**South Pole Qui**	**77.97**	**180**	P	**P**	**09 25 46.0**	**-0.7**
L19K	**White Mountain**	**79.74**	**17**	P	**P**	**09 25 57.4**	**+1.3**
SONM	**Songino Array**	**80.21**	**323**	P	**P**	**09 25 58.3**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=96,slow=1.4,SNR=1.9						
CCB	**Clear Creek Bu**	**83.69**	**18**	P	**P**	**09 26 16.5**	**-0.1**
CCB				IAmb	IAmb	09 26 17.2	
	comp=Z,4.9nm,0.6s						
HDA	**Harding Lake**	**83.78**	**18**	P	**P**	**09 26 17.4**	**+0.3**
IL31		**84.05**	**18**	P	**P**	**09 26 18.2**	**-0.2**
IL31				IAmb	IAmb	09 26 19.3	
	comp=Z,5.8nm,0.7s						
ILAR	**Eielson Array**	**84.05**	**18**	P	**P**	**09 26 18.4**	**-0.1**
	comp=Z,4.8nm,0.6s,baz=243,slow=5.1,SNR=66						
NVAR	**Mina Array Bea**	**85.70**	**49**	P	**P**	**09 26 28.4**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=239,slow=7.3,SNR=6.8						
ZALV	**Zalesovo Beam**	**95.10**	**324**	P	**P**	**09 27 11.0**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=97,slow=12,SNR=2.3						
MKAR	**Makanchi Array**	**95.11**	**317**	P	**P**	**09 27 11.9**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=91,slow=6.3,SNR=8.0						
TXAR	**Lajitas Array**	**95.19**	**61**	P	**P**	**09 27 11.6**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=215,slow=6.1,SNR=3.9						
ARCES	**ARCESS Array B**	**117.61**	**346**	PKP	**PKPdf**	**09 32 31.8**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=76,slow=1.8,SNR=12						
FINES	**FINESS Array B**	**123.15**	**339**	PKP	**PKPdf**	**09 32 42.8**	**-0.1**
	comp=Z,1.9nm,1.0s,baz=78,slow=2.7,SNR=5.2						
ESDC	**Sonseca Array**	**151.34**	**345**	PKPbc	**PKPbc**	**09 33 41.1**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=12,slow=2.5,SNR=2.6						
TORD	**Torodi Ar. Bea**	**165.65**	**276**	PKPab	**PKPab**	**09 34 51.6**	**-0.9**
	comp=Z,0.3nm,1.0s,baz=64,slow=7.2,SNR=2.1						

GEN 10 09:16:48.7, 43°.96N×10°.54E, h3km±1km, Ml0.6, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAIM	**Mastiano**	**0.06**	**216**	P	Pg	09 16 50.2	+0.2
MAIM				S	Sg	09 16 51.6	+0.7
CARD	**Cardoso**	**0.07**	**326**	P	Pg	09 16 50.5	+0.2
CARD				S	Sg	09 16 51.9	+0.6

IDC ***10*** *09:49:07.1±1.8, 47°.27N×150°.01E, h226km±19km, mb3.1/8, mb1 3.4/14, mb1mx3.3/37, mbtmp3.8/14, Error ellipse: s-maj=27.0km s-min=10.3km az=133.0*

ISC 10 09:49:04.2±0.7, 47°0N±0°.1×150°3E±0°.1, h200km, n28, σ2s19/32, mb3.4/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**4.82**	**223**	P	**Pn**	**09 50 17.6**	**+1.4**
NEM2				*e*S	**Sn**	**09 51 10.9**	**-2.0**
JNK	**Nakash**	**5.17**	**231**	P	**Pn**	**09 50 23.7**	**+3.0**
JTKR	**Abashiri--Toko**	**5.38**	**238**	P	**Pn**	**09 50 26.5**	**+3.1**
JAK	**Akkeshi**	**5.60**	**227**	P	**Pn**	**09 50 27.4**	**+1.2**
JAK				*e*S	**Sn**	**09 51 29.4**	**-1.6**
JMP	**Maruseppu**	**5.68**	**241**	P	**Pn**	**09 50 30.8**	**+3.5**
JAR	**Ashorobuto**	**5.88**	**234**	P	**Pn**	**09 50 33.0**	**+3.2**
ASAJ	**Asahikawa**	**6.09**	**245**	P	**Pn**	**09 50 36.5**	**+4.0**
	4.8nm,0.3s,baz=68,slow=14,SNR=28						
ASAJ	**Asahikawa**	**6.09**	**245**	P	**Pn**	**09 50 36.6**	**+4.0**
JOB	**Onbets**	**6.11**	**230**	P	**Pn**	**09 50 34.7**	**+1.9**
JOB				*e*S	**Sn**	**09 51 41.1**	**-1.8**
JKK2	**Kamakawa 2**	**6.12**	**242**	P	**Pn**	**09 50 36.4**	**+3.4**
JCH	**Churui**	**6.56**	**231**	P	**Pn**	**09 50 39.3**	**+0.7**
JCH				*e*S	**Sn**	**09 51 50.0**	**-3.5**
JNBK	**Urakawa-nobuka**	**7.12**	**231**	P	**Pn**	**09 50 45.6**	**-0.3**
JNBK				*e*S	Sn	09 52 00.5	-6.1
PETK	**Petropavlovsk-**	**7.78**	**35**	P	**Pn**	**09 50 55.2**	**+0.8**
	1.1nm,0.3s,baz=195,slow=10,SNR=16						
PETK				S	**Sn**	**09 52 21.6**	**-0.6**
	baz=214,slow=36,SNR=1.0						
JYM2	**Yakumo 2**	**8.56**	**239**	P	**Pn**	**09 51 05.1**	**+0.4**
JTM	**Tenmabayashi**	**9.07**	**230**	P	**Pn**	**09 51 10.5**	**-0.7**
JTM				*e*S	Sn	09 52 44.4	-8.4
JANG	**Nango**	**9.14**	**227**	P	Pn	09 51 11.1	-1.1
JANG				*e*S	Sn	09 52 45.6	-9.1
USRK	**Ussuriysk Ar.**	**13.09**	**264**	P	**Pn**	**09 52 03.1**	**+0.5**
	baz=74,slow=11,SNR=5.9						
MJAR	**Matsushiro Arr**	**13.75**	**225**	P	**Pn**	**09 52 13.6**	**+2.6**
	0.1nm,0.3s,baz=22,slow=14,SNR=8.4						
SEY	**Seymchan**	**16.03**	**4**	P	**P**	**09 52 36.9**	**-1.3**
	0.4nm,0.3s,baz=186,slow=9.5,SNR=6.0						
KSRS	**Korea Array**	**19.02**	**248**	P	**P**	**09 53 12.6**	**+1.6**
	0.2nm,0.3s,baz=50,slow=9.7,SNR=2.6						
ILAR	**Eielson Array**	**37.60**	**39**	P	**P**	**09 55 58.4**	**-0.7**
	0.5nm,0.5s,baz=257,slow=5.0,SNR=7.4						
MKAR	**Makanchi Array**	**45.09**	**296**	P	**P**	**09 56 57.4**	**-2.7**
	0.5nm,0.5s,baz=61,slow=7.7,SNR=4.2						
YKA	**Yellowknife Ar**	**51.90**	**36**	P	**P**	**09 57 51.4**	**-0.4**
	0.7nm,0.6s,baz=308,slow=6.1,SNR=2.7						
NVAR	**Mina Array Bea**	**64.05**	**61**	P	**P**	**09 59 17.3**	**+0.5**
	0.2nm,0.4s,baz=294,slow=7.0,SNR=2.8						
PDAR	**Pinedale Array**	**66.18**	**52**	P	**P**	**09 59 30.2**	**-0.2**
	0.2nm,0.5s,baz=327,slow=3.9,SNR=4.2						
WRA	**Warramunga Arr**	**68.14**	**196**	P	**P**	**09 59 43.1**	**+0.5**
	0.7nm,0.5s,baz=17,slow=6.0,SNR=14						
ASAR	**Alice Springs**	**71.85**	**196**	P	**P**	**10 00 07.1**	**+2.0**
	0.7nm,0.6s,baz=9.4,slow=6.0,SNR=15						
TXAR	**Lajitas Array**	**79.07**	**59**	P	**P**	**10 00 46.8**	**+0.4**
	0.4nm,0.6s,baz=291,slow=4.4,SNR=8.1						

KRNET ***10*** *10:02:38.8±0.1, 42°.51N×79°.65E, h19km, mb3.2*
SOME ***10*** *10:02:39.2, 42°.53N×79°.60E, h15km*
NNC ***10*** *10:02:39.4±0.5, 42°.58N×79°.61E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=3.6km s-min=1.9km az=139.0*

ISC 10 10:02:38.1±1.5, 42°52N±0°.04×79°62E±0°.04, h3km±10km, n57, σ1s26/96, 19C-11D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.65**	**350**	⇓*e*P	**Pb**	**10 02 51.9**	**-0.3**
	baz=15						
SHLS				⇓*e*S	**Sb**	**10 03 01.2**	**-0.5**
	baz=15						
SHLS	**Shalkode**	**0.65**	**350**	⇓*e*P	**Pb**	**10 02 51.9**	**-0.3**
	68nm,0.1s						
SHLS				*e*S	**Sb**	**10 03 01.2**	**-0.5**
	851nm,0.2s						
SHLS	**Shalkode**	**0.65**	**350**	P	**Pb**	**10 02 51.9**	**-0.3**
	80nm,0.1s						
SHLS				S	**Sb**	**10 03 01.2**	**-0.5**
	851nm,0.2s						
PDGK	**Podgornoye**	**0.81**	**353**	P	**Pg**	**10 02 53.9**	**+0.2**
	23nm,0.2s						
PDGK				S	**Sg**	**10 03 04.7**	**+0.4**
	52nm,0.3s						
PDGK	**Podgorneye**	**0.81**	**353**	⇑P	**Pg**	**10 02 53.9**	**+0.2**
	6.7nm,0.2s						
PDGK				⇓S	**Sg**	**10 03 04.7**	**+0.4**
	40nm,0.3s						
PRZ	**Przheval'sk**	**0.90**	**268**	⇑*i*P	**Pb**	**10 02 56.2**	**-0.3**
	baz=70						
PRZ				⇑*i*S	**Sb**	**10 03 08.8**	**-0.2**
	baz=70						
SATY	**Saty**	**1.04**	**302**	*e*P	**Pn**	**10 02 59.5**	**-0.3**
	baz=1.0						
SATY				*e*S	**Sn**	**10 03 13.5**	**-1.5**
	baz=1.0						
SATY	**Saty**	**1.04**	**302**	*e*P	**Pn**	**10 02 59.5**	**-0.3**
	3.7nm,0.2s						
SATY				*e*S	**Sn**	**10 03 13.5**	**-1.5**
	60nm,0.1s						
SATY	**Saty**	**1.04**	**302**	P	**Pn**	**10 02 58.8**	**-0.1**
	7.0nm,0.1s						
SATY				S	**Sn**	**10 03 13.0**	**-2.0**
	60nm,0.1s						
KTMS	**Ketmen**	**1.07**	**30**	*e*P	**Pb**	**10 02 58.7**	**-0.7**
	baz=29						
KTMS				*e*S	**Sb**	**10 03 12.6**	**-1.3**
	baz=29						
KTMS	**Ketmen**	**1.07**	**30**	*e*P	**Pb**	**10 02 58.7**	**-0.7**
	6.0nm,0.1s						
KTMS				*e*S	**Sb**	**10 03 12.6**	**-1.3**
	70nm,0.3s						
KTMS	**Ketmen**	**1.07**	**30**	P	**Pb**	**10 02 58.7**	**-0.7**
	6.0nm,0.1s						
KTMS				S	**Sb**	**10 03 12.6**	**-1.3**
	70nm,0.3s						
KPKS	**Kokpek**	**1.17**	**324**	*e*P	**Pb**	**10 03 00.7**	**-0.3**
	baz=24						
KPKS				*e*S	**Sn**	**10 03 16.0**	**-2.0**
	baz=24						
KPKS	**Kokpek**	**1.17**	**324**	*e*P	**Pb**	**10 03 00.7**	**-0.3**
	18nm,0.1s						
KPKS				*e*S	**Sn**	**10 03 16.1**	**-2.0**
	52nm,0.2s						
ANVS	**Anan'yevo**	**1.46**	**281**	⇑*i*P	**Pg**	**10 03 06.7**	**+0.5**
	baz=81						
ANVS				⇑*i*S	**Sg**	**10 03 26.3**	**+1.2**
	baz=81						
TARG	**Taragay, Kyrgy**	**1.56**	**240**	⇓*i*P	**Pn**	**10 03 07.3**	**+0.1**
	baz=41						
TARG				⇓*i*S	**Sg**	**10 03 28.8**	**+0.5**
	baz=41						
DJR	**Jarkent**	**1.82**	**4**	*e*P	**Pb**	**10 03 11.8**	**-0.3**
	1.3nm,0.2s						
DJR				*e*S	**Sb**	**10 03 34.9**	**-0.4**
	7.3nm,0.3s						
DJR	**Jarkent**	**1.82**	**4**	P	**Pb**	**10 03 11.8**	**-0.3**
	1.3nm,0.2s						
DJR				S	**Sb**	**10 03 34.9**	**-0.4**
	7.3nm,0.3s						
KDJ	**Kajisay**	**1.85**	**259**	⇑*i*P	**Pb**	**10 03 12.6**	**-0.1**
	baz=59						
KDJ				⇑*i*S	**Sg**	**10 03 37.5**	**0.0**
	baz=59						
KOTS	**Kotyrbulak**	**1.98**	**292**	*e*P	**Pg**	**10 03 16.1**	**+0.2**
	10nm,0.2s						
KOTS				*e*S	**Sg**	**10 03 42.5**	**+0.9**
	45nm,0.2s						
KOTS	**Kotyrbulak**	**1.98**	**292**	Pg	**Pg**	**10 03 16.1**	**+0.2**
	10nm,0.2s						
KOTS				Lg	Lg	10 03 42.5	
	45nm,0.2s						
MDOK	**Medeo**	**2.00**	**290**	*e*P	**Pb**	**10 03 15.9**	**+0.7**
	baz=90						
MDOK				*e*S	**Sg**	**10 03 42.3**	**0.0**
	baz=90						
MDOK	**Medeo**	**2.00**	**290**	*e*P	**Pb**	**10 03 15.9**	**+0.7**
	8.0nm,0.2s						
MDOK				*e*S	**Sg**	**10 03 42.3**	**0.0**
	16nm,0.4s						
MDOK	**Medeo**	**2.00**	**290**	⇑Pg	**Pb**	**10 03 16.0**	**+0.8**
	2.6nm,0.3s						
MDOK				⇑Lg	Lg	10 03 42.2	
	12nm,0.4s						
MDOK	**Medeo**	**2.00**	**290**	Pg	**Pb**	**10 03 15.9**	**+0.7**
	8.0nm,0.2s						
MDOK				Lg	Lg	10 03 42.3	
	16nm,0.4s						
TNSS	**Tian-Shan**	**2.03**	**286**	*e*P	**Pb**	**10 03 16.2**	**+0.2**
	baz=86						
TNSS				*e*S	**Sg**	**10 03 43.0**	**-0.5**
	baz=86						
TNSS	**Tian-Shan**	**2.03**	**286**	*e*P	**Pb**	**10 03 16.1**	**+0.2**
	9.8nm,0.3s						
TNSS				*e*S	**Sg**	**10 03 43.0**	**-0.5**
	15nm,0.2s						
TNSS	**Tian-Shan**	**2.03**	**286**	Pg	**Pb**	**10 03 16.2**	**+0.2**
	9.8nm,0.3s						
TNSS				Lg	Lg	10 03 43.0	
	15nm,0.2s						
ARXS	**Arharly**	**2.14**	**323**	*e*P	**Pb**	**10 03 17.9**	**+0.3**
	8.4nm,0.2s						
ARXS				*e*S	**Sb**	**10 03 45.4**	**+0.9**
	36nm,0.3s						
ARXS	**Arharly**	**2.14**	**323**	Pg	**Pb**	**10 03 17.9**	**+0.3**
	8.4nm,0.2s						
ARXS				Lg	Lg	10 03 45.4	
	36nm,0.3s						
IZV	**Izvestkoviy**	**2.27**	**284**	*e*P	**Pb**	**10 03 20.8**	**+0.9**
	11nm,0.2s						
IZV				*e*S	**Sg**	**10 03 50.6**	**-0.5**
	43nm,0.2s						
IZV	**Izvestkoviy**	**2.27**	**284**	Pg	**Pb**	**10 03 20.8**	**+0.9**
	11nm,0.2s						
IZV				Lg	Lg	10 03 50.6	
	43nm,0.2s						
CHKK	**Chushkaly**	**2.34**	**306**	*e*P	**Pb**	**10 03 21.9**	**+0.9**
	2.3nm,0.1s						
CHKK				*e*S	**Sg**	**10 03 52.2**	**-1.1**
	22nm,0.2s						
CHKK	**Chushkaly**	**2.34**	**306**	Pg	**Pb**	**10 03 21.9**	**+0.9**
	2.3nm,0.1s						
CHKK				Lg	Lg	10 03 52.2	
	22nm,0.2s						
MTBS	**Maitube**	**2.42**	**286**	*e*P	**Pb**	**10 03 23.5**	**+1.0**
	15nm,0.4s						
MTBS				*e*S	**Sg**	**10 03 55.2**	**-0.7**
	26nm,0.4s						
MTBS	**Maitube**	**2.42**	**286**	Pg	**Pb**	**10 03 23.5**	**+1.0**
	15nm,0.4s						
MTBS				Lg	Lg	10 03 55.2	
	26nm,0.4s						
KTBS	**Karatobe**	**2.46**	**300**	*e*P	**Pb**	**10 03 23.8**	**+0.8**
	6.7nm,0.3s						
KTBS				*e*S	**Sg**	**10 03 55.6**	**-1.4**
	42nm,0.3s						
KTBS	**Karatobe**	**2.46**	**300**	Pg	**Pb**	**10 03 23.8**	**+0.8**
	6.7nm,0.3s						
KTBS				Lg	Lg	10 03 55.7	
	42nm,0.3s						
ULHL	**Ulahol**	**2.52**	**265**	⇑*i*P	**Pb**	**10 03 22.3**	**-1.8**
	baz=65						
ULHL				⇑*i*S	**Sb**	**10 03 53.5**	**-2.0**
	baz=65						
BOOM	**Boomskoye usch**	**2.72**	**271**	⇓*i*P	**Pb**	**10 03 25.2**	**-2.3**
	baz=71						
BOOM				⇓*i*S	**Sb**	**10 03 58.5**	**-2.9**
	baz=71						
KST	**Kastek**	**2.74**	**282**	*e*P	**Pb**	**10 03 28.7**	**+0.8**
	5.1nm,0.3s						
KST				*e*S	**Sg**	**10 04 04.0**	**-2.1**
	7.0nm,0.7s						
KST	**Kastek**	**2.74**	**282**	Pg	**Pb**	**10 03 28.7**	**+0.8**
	5.1nm,0.3s						
KST				Lg	Lg	10 04 04.0	
	7.0nm,0.7s						
KUU	**Kurty**	**2.76**	**301**	*e*P	**Pb**	**10 03 28.4**	**+0.2**
	1.7nm,0.1s						
KUU				*e*S	**Sb**	**10 04 03.5**	**+1.1**
	21nm,0.3s						
KUU	**Kurty**	**2.76**	**301**	Pg	**Pb**	**10 03 28.4**	**+0.2**
	1.7nm,0.1s						
KUU				Lg	Lg	10 04 03.5	
	21nm,0.3s						
KAPS	**Kapalarasan**	**2.77**	**356**	*e*P	**Pb**	**10 03 28.9**	**+0.6**
	0.3nm,0.3s						
KAPS				*e*S	**Sb**	**10 04 04.7**	**+2.0**
	3.0nm,0.3s						
KAPS	**Kapalarasan**	**2.77**	**356**	Pg	**Pb**	**10 03 27.9**	**-0.5**
	0.3nm,0.3s						
KAPS				Lg	Lg	10 04 02.6	
	3.0nm,0.3s						
DGS	**Degeres**	**2.92**	**286**	*e*P	**Pb**	**10 03 31.6**	**+0.8**
	8.6nm,0.3s						
DGS				*e*S	**Sb**	**10 04 09.0**	**+2.0**
	25nm,0.4s						
DGS	**Degeres**	**2.92**	**286**	Pg	**Pb**	**10 03 31.7**	**+0.8**
	8.6nm,0.3s						
DGS				Lg	Lg	10 04 09.0	
	25nm,0.4s						
TKM2	**Tokmak 2**	**2.99**	**279**	⇑Pg	**Pg**	**10 03 34.1**	**-1.3**
	3.2nm,0.5s						
TKM2				⇑Lg	Lg	10 04 14.2	
	8.1nm,0.5s						
KRBS	**Karabastau**	**3.12**	**293**	*e*P	**Pb**	**10 03 35.6**	**+1.4**
	3.2nm,0.6s						
KRBS				*e*S	**Sg**	**10 04 15.9**	**-2.4**
	13nm,0.3s						
KRBS	**Karabastau**	**3.12**	**293**	Pg	**Pb**	**10 03 35.6**	**+1.4**
	3.2nm,0.6s						
KRBS				Lg	Lg	10 04 15.9	
	13nm,0.3s						
KZA	**Kyzart**	**3.27**	**264**	⇓*e*P	**Pn**	**10 03 32.9**	**+2.2**
	baz=64						
KZA				⇓*i*S	**Sn**	**10 04 11.8**	**+1.5**
	baz=64						
AAK	**Ala-Archa**	**3.79**	**274**	⇑Pg	**Pb**	**10 03 48.3**	**+2.6**
	2.3nm,0.8s						
AAK				⇓Lg	Lg	10 04 40.9	
	3.5nm,0.5s						
MAKZ	**Makanchi**	**4.61**	**21**	⇑Sn	**Sn**	**10 04 44.1**	**+1.3**
	1.7nm,0.6s						
MAKZ				⇑Lg	Lg	10 05 03.0	
	2.4nm,0.8s						
MK31	**Makanchi Array**	**4.68**	**23**	⇑Pn	**Pn**	**10 03 51.9**	**+2.2**
	0.8nm,0.4s,baz=207,slow=13,SNR=17						
MK31				⇑Sn	**Sn**	**10 04 45.0**	**+0.5**
	1.6nm,0.5s,baz=204,slow=24,SNR=6.4						
MK31				⇑Lg	Lg	10 05 06.0	
	0.3nm,0.2s,baz=200,slow=26,SNR=4.0						
MRKS	**Merke**	**4.72**	**275**	*e*P	**Pb**	**10 04 04.6**	**+3.0**
	2.3nm,0.3s						
MRKS				*e*S	**Sg**	**10 05 05.8**	**-4.0**
	3.8nm,0.3s						
MRKS	**Merke**	**4.72**	**275**	Pg	**Pb**	**10 04 04.6**	**+3.0**
	2.3nm,0.3s						
MRKS				Lg	Lg	10 05 05.8	
	3.8nm,0.3s						

MAN 10 10:07:30.0, 13°.45N×120°.75E, h4km, mb4.4, ML3.3, MS3.1, Mindoro

IDC ***10*** *10:17:42.3±4.1, 35°.24N×72°.01E, h189km±39km, mb3.4/5, mb1 3.4/9, mb1mx3.1/59, mbtmp3.9/9, Error ellipse: s-maj=29.5km s-min=20.1km az=3.0*

ISC 10 10:17:42.5±0.9, 35°34N±0°.09×72°2E±0°.1, h200km, n13, σ2s80/13, mb3.5/4, 1C-3D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**4.13**	**134**	*e*P	**Pn**	**10 18 43.0**	**-2.9**
THN				*e*S	Sn	10 19 19.7	-16
AAK	**Ala-Archa**	**7.50**	**13**	P	**Pn**	**10 19 32.1**	**+2.7**
	0.4nm,0.3s,baz=190,slow=11,SNR=1.9						
AAK				S	**Sn**	**10 20 48.4**	**-5.9**
	0.8nm,0.3s,baz=12,slow=15,SNR=5.9						
KK31	**Karatay Array**	**7.86**	**351**	⇓P	Pn	10 19 26.4	-7.4
	2.5nm,0.3s,baz=177,slow=11,SNR=63						
KK31				⇑S	Sn	10 20 50.8	-12
	4.2nm,0.5s,baz=172,slow=18,SNR=8.3						
GEYT	**Alibeck**	**11.59**	**287**	P	**Pn**	**10 20 20.9**	**-1.3**
	0.6nm,0.3s,baz=92,slow=13,SNR=1.9						
MKAR	**Makanchi Array**	**13.73**	**31**	P	**Pn**	**10 20 51.2**	**+2.2**
	0.1nm,0.3s,baz=209,slow=12,SNR=4.3						
KURBB	**Kurchatov Arra**	**15.95**	**15**	P	**P**	**10 21 16.6**	**+0.9**
	0.2nm,0.3s,baz=204,slow=11,SNR=26						
AB31	**Akbulak array**	**16.56**	**331**	⇓P	**P**	**10 21 19.4**	**-2.9**
	0.7nm,0.3s,baz=145,slow=11,SNR=37						
AB31				⇓S	S	10 24 12.1	-13
	0.9nm,0.6s,baz=153,slow=22,SNR=4.6						
AKTO	**Aktyubinsk**	**18.26**	**330**	P	**P**	**10 21 41.6**	**+0.7**
	0.4nm,0.3s,baz=156,slow=10.0,SNR=3.9						
ZALV	**Zalesovo Beam**	**20.60**	**22**	P	**P**	**10 22 07.2**	**+1.2**
	5.5nm,0.4s,baz=216,slow=12,SNR=16						
ARCES	**ARCESS Array B**	**42.58**	**338**	P	**P**	**10 25 20.6**	**+2.4**
	2.8nm,0.9s,baz=110,slow=7.1,SNR=3.9						
TORD	**Torodi Ar. Bea**	**66.66**	**270**	P	**P**	**10 28 11.7**	**-0.3**
	0.7nm,0.5s,baz=45,slow=5.9,SNR=7.0						
WRA	**Warramunga Arr**	**80.56**	**123**	P	**P**	**10 29 34.2**	**+1.5**
	0.3nm,0.4s,baz=325,slow=5.0,SNR=8.4						
ASAR	**Alice Springs**	**82.81**	**126**	P	**P**	**10 29 46.0**	**+1.5**
	0.2nm,0.5s,baz=311,slow=5.2,SNR=8.3						

MEX 10 10:24:41.3±0.9, 14°81N×93°18W, h78km±26km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.89**	**357**	*e*P	Pn	10 24 57.1	-1.8
PCIG				*i* S	Sn	10 25 10.5	-1.5
CCIG	**Comitan**	**1.77**	**34**	*e*P	Pn	10 25 10.2	0.0
CCIG				*e*S	Sn	10 25 30.8	-1.5
TGIG		**1.96**	**1**	*e*P	Pn	10 25 11.3	-1.3
TGIG				*e*S	Sn	10 25 37.7	+1.2

BJI ***10*** *10:26:42.3±0.0, 52°.46N×169°.64W, h18km, mB5.8/79,

plane solution: $M_0$1.10000×10^{18} NP1:ϕ_s241.00000°, δ18.00000°, λ99.00000°. NP2:ϕ_s51.00000°, δ72.00000°, λ87.00000°. Principal axes: T 1.1156, Plg63.0000°, Azm316.0000°; N -0.0413, Plg3.0000°, Azm52.0000°; P -1.0743, Plg27.0000°, Azm144.0000°;

NEIC **10** *10:27:07.3,52.22N×169.62W,h25km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_r9.61; $M_{\theta\theta}$-7.01; $M_{\phi\phi}$-2.60; $M_{\theta\phi}$0.70; $M_{\theta\phi}$-3.01; $M_{\phi\phi}$2.77; Fault plane solution: $M_0$9.47000×10^{17} NP1:ϕ_s253.02000°, δ40.04000°, λ106.49000°. NP2:ϕ_s51.87000°, δ51.91000°, λ76.58000°. Principal axes: T 10.2101, Plg78.0000°, Azm271.0000°; N -1.4749, Plg11.0000°, Azm60.0000°; P -8.7352, Plg6.0000°, Azm151.0000°;*

ISC 10 10:26:44.5±0.3,**52.01N**±0.03×**169.50W**±0.02,**h20**km±2km, **h21**km:**pP-P,n2099,**σ1.9**95/**1683,**mb5.6/609,**MS5.8/472, **303C-183D,Fault plane solution: NP1:**ϕ_s90.82087°, δ7.48197°,λ-63.47638°. **NP2:**ϕ_s244.10100°,δ83.30932°, λ-93.35648°. **Principal axes:** T Plg38.2214°, Azm337.1217°; N Plg3.3336°, Azm244.4925°; P Plg51.5795°, Azm150.2811°; **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.04**	**22**		**Sb**	**10 27 17.3**	**+0.1**
NIKH	**Nikolski High**	**1.04**	**22**		**Pb**	**10 27 02.6**	**-1.3**
NIKH	**Nikolski High** baz=201,SNR=495	**1.04**	**22**	P	**Pb**	**10 27 02.7**	**-1.2**
OKSP	**Okmok Steeple**	**1.45**	**30**		**Pn**	**10 27 07.8**	**-1.8**
OKTU	**Okmok Mt. Tuli**	**1.64**	**32**		**Pn**	**10 27 10.9**	**-1.3**
OKFG	**Magazine Ridge**	**1.71**	**34**		**Pn**	**10 27 11.8**	**-1.3**
OKFG					**Sn**	**10 27 32.6**	**-1.6**
MAPS	**Pakushin South**	**2.38**	**40**		**Pn**	**10 27 21.2**	**-1.1**
MAPS					**Sn**	**10 27 51.6**	**+0.8**
MNAT	**Makushin Natee**	**2.54**	**41**		**Pn**	**10 27 23.8**	**-0.7**
MNAT					**Sn**	**10 27 55.0**	**+0.2**
UNV	**Unalaska Valle**	**2.58**	**43**	Pn	**Pn**	**10 27 24.8**	**-0.3**
UNV	**Unalaska Valle** baz=225,SNR=110	**2.58**	**43**	P	**Pn**	**10 27 24.3**	**-0.8**
MTBL	**Makushin Table**	**2.60**	**40**		**Pn**	**10 27 25.0**	**-0.5**
KOFP	**Korovin Flat P**	**2.84**	**277**		**Pn**	**10 27 29.2**	**+0.4**
ATKA	**Atka Island**	**2.90**	**276**		**Pn**	**10 27 28.9**	**-0.6**
ATKA					**Sn**	**10 28 06.5**	**+2.8**
ATKA	**Atka Island**	**2.90**	**276**	⇑P	**Pn**	**10 27 28.9**	**-0.6**
KOKL	**Mount Kliuchef**	**2.91**	**278**		**Pn**	**10 27 31.0**	**+1.3**
AKMO	**Akutan Morgan**	**2.97**	**44**		**Pn**	**10 27 30.2**	**-0.2**
AKRB	**Akutan Reef Bi**	**2.97**	**43**		**Pn**	**10 27 30.7**	**+0.3**
AKBBA	**Akutan Broad B**	**3.00**	**44**		**Pn**	**10 27 30.9**	**0.0**
AKLV	**Akutan Long Va**	**3.04**	**43**		**Pn**	**10 27 31.6**	**+0.2**
AKLV					**Sn**	**10 28 09.4**	**+2.2**
AKGG	**Akutan Green G**	**3.05**	**43**		**Pn**	**10 27 32.0**	**+0.5**
AKUT	**Akutan**	**3.10**	**45**		**Pn**	**10 27 32.1**	**0.0**
AKUT					**Sn**	**10 28 10.1**	**+1.5**
AKSA	**Akutan Strait**	**3.13**	**46**		**Pn**	**10 27 32.5**	**-0.1**
WECS	**Westdahl Cape**	**3.80**	**46**		**Pn**	**10 27 42.1**	**+0.2**
WESP	**Westdahl Peak**	**3.80**	**47**		**Pn**	**10 27 42.0**	**+0.1**
WEBT	**Westdahl Beart**	**3.85**	**46**		**Pn**	**10 27 43.2**	**+0.7**
GSMY	**Great Sitkin M**	**4.05**	**273**		**Pn**	**10 27 45.8**	**+0.5**
GSTR	**Great Sitkin T**	**4.05**	**274**	Pn	**Pn**	**10 27 46.2**	**+0.9**
GSTD	**Great Sitkin T**	**4.10**	**273**		**Pn**	**10 27 46.2**	**+0.1**
GSTD					**Sn**	**10 28 35.7**	**+2.3**
ISLZ	**Isanotski Laza**	**4.41**	**50**		**Pn**	**10 27 50.1**	**-0.2**
ISNN	**Isanotski Nort**	**4.44**	**48**		**Pn**	**10 27 52.5**	**+1.8**
ADK	**Adak**	**4.45**	**271**	P	**Pn**	**10 27 51.1**	**+0.4**
ADK	**Adak**	**4.45**	**271**		**Pn**	**10 27 51.1**	**+0.4**
ADK	**Adak**	**4.45**	**271**	⇑P	**Pn**	**10 27 50.9**	**+0.2**
FALS	**False Pass**	**4.62**	**49**	Pn	**Pn**	**10 27 55.2**	**+2.1**
FALS	**False Pass** baz=234,SNR=12	**4.62**	**49**	P	**Pn**	**10 27 52.6**	**-0.5**
KIWB	**Kanaga Island**	**4.74**	**271**	Pn	**Pn**	**10 27 55.3**	**+0.5**
KIKV	**Kanaga Island**	**4.75**	**271**		**Pn**	**10 27 55.3**	**+0.4**
KIMD	**Kanaga Island**	**4.80**	**270**		**Pn**	**10 27 55.6**	**+0.1**
SPIA	**Saint Paul Isl**	**5.20**	**356**	Pn	**Pn**	**10 28 02.4**	**+1.4**
SPIA	**Saint Paul Isl** baz=174,SNR=21	**5.20**	**356**	P	**Pn**	**10 28 00.3**	**-0.7**
TASE	**Tanaga Southea**	**5.29**	**271**		**Pn**	**10 28 02.6**	**+0.3**
GAEA	**Gareloi East**	**5.73**	**271**		**Pn**	**10 28 10.0**	**+1.7**
GALAA	**Gareloi Lava P**	**5.75**	**271**		**Pn**	**10 28 10.1**	**+1.5**
SDPT	**Sand Point**	**6.32**	**54**	Pn	**Pn**	**10 28 17.3**	**+0.9**
SDPT	**Sand Point** baz=242	**6.32**	**54**	P	**Pn**	**10 28 16.5**	**+0.1**
CNBA	**Chernabura Isl**	**6.56**	**61**		**Pn**	**10 28 18.5**	**-1.2**
CHNA	**Chernabura Isl** baz=248	**6.56**	**61**	P	**Pn**	**10 28 19.1**	**-0.7**
CEAP	**Semis' Anvil P**	**6.75**	**274**		**Pn**	**10 28 23.8**	**+1.5**
CESW	**Semis' Southwe**	**6.76**	**273**		**Pn**	**10 28 23.9**	**+1.4**
AMKA	**Amchitka**	**6.99**	**269**		**Pn**	**10 28 26.4**	**+0.8**
VNFG	**Fog Glacier, M**	**7.24**	**50**		**Pn**	**10 28 30.3**	**+1.1**
LSPA	**Little Sitkin**	**7.37**	**274**		**Pn**	**10 28 32.4**	**+1.6**
VNSG	**Veniaminof 6**	**7.39**	**52**		**Pn**	**10 28 31.9**	**+0.8**
VNHG	**Veniaminof 1**	**7.40**	**51**		**Pn**	**10 28 32.5**	**+1.3**
LSSA	**Little Sitkin**	**7.41**	**274**		**Pn**	**10 28 33.3**	**+2.0**
CHGN	**Chignik**	**7.80**	**52**		**Pn**	**10 28 37.2**	**+0.6**
CHGN	**Chignik** baz=241,SNR=11	**7.80**	**52**	P	**Pn**	**10 28 38.3**	**+1.6**
CHIR	**Chirikof Islan**	**9.04**	**60**		**Pn**	**10 28 54.7**	**+1.1**
CHIR	**Chirikof Islan** baz=251	**9.04**	**60**	P	**Pn**	**10 28 54.0**	**+0.3**
SII	**Sitkinak Islan**	**10.04**	**57**		**Pn**	**10 29 07.6**	**+0.1**
SII	**Sitkinak Islan** baz=249	**10.04**	**57**	P	**Pn**	**10 29 07.7**	**+0.3**
SMY	**Shemya**	**10.06**	**281**	P	**Pn**	**10 29 08.3**	**+0.6**
SMY	**Shemya**	**10.06**	**281**	Pn	**Pn**	**10 29 08.3**	**+0.6**
SMY	**Shemya**	**10.06**	**281**	⇑P	**Pn**	**10 29 10.6**	**+2.9**
OHAK	**Old Harbor**	**10.74**	**55**		**Pn**	**10 29 15.2**	**-1.8**
OHAK	**Old Harbor** baz=248	**10.74**	**55**	P	**Pn**	**10 29 15.7**	**-1.3**
O18K	**Koktuh Hills**	**11.21**	**40**		**Pn**	**10 29 23.8**	**+0.4**
O18K	**Koktuh Hills** baz=232,SNR=12	**11.21**	**40**	P	**Pn**	**10 29 23.2**	**-0.2**
Q19K	**Cape Douglas,**	**11.34**	**46**		**Pn**	**10 29 24.7**	**-0.5**
Q19K	**Cape Douglas,** baz=239	**11.34**	**46**	P	**Pn**	**10 29 25.0**	**-0.2**
N18K	**Kilae Creek**	**11.49**	**36**		**Pn**	**10 29 29.3**	**+2.1**
N18K	**Kilae Creek** baz=227	**11.49**	**36**	P	**Pn**	**10 29 27.9**	**+0.7**
O19K	**Port Alsworth** baz=232,SNR=12	**11.77**	**40**	P	**Pn**	**10 29 30.5**	**-0.5**
GAMB	**Gambell** baz=173	**11.86**	**355**	P	**Pn**	**10 29 31.7**	**-0.5**
P19K	**Oil Pt** baz=237	**11.90**	**44**	P	**Pn**	**10 29 32.9**	**0.0**
N19K	**Bonanza Creek** baz=230,SNR=16	**12.10**	**37**	P	**Pn**	**10 29 35.9**	**+0.4**
O20K	**Slope Mountain** baz=237	**12.40**	**43**	P	**Pn**	**10 29 39.2**	**-0.5**
RSO	**Redoubt South**	**12.56**	**41**		**Pn**	**10 29 41.6**	**-0.4**
HOM	**Homer**	**12.60**	**46**	Pn	**Pn**	**10 29 42.6**	**+0.3**
HOM	**Homer** baz=240	**12.60**	**46**	P	**Pn**	**10 29 41.9**	**-0.4**
CNPM	**China Poot**	**12.71**	**47**	Pn	**Pn**	**10 29 42.3**	**-1.6**
ANM	**Nome** baz=191	**12.78**	**8**	P	**Pn**	**10 29 43.8**	**-0.9**
M19K	**Big River Lodg** baz=226	**12.86**	**34**	P	**Pn**	**10 29 45.1**	**-0.8**
L19K	**White Mountain**	**12.90**	**32**	Pn	**Pn**	**10 29 46.8**	**+0.3**
L19K	**White Mountain** baz=224,SNR=28	**12.90**	**32**	P	**Pn**	**10 29 45.5**	**-1.0**
BRSE	**Bradley Lake S** baz=242	**13.04**	**46**	P	**Pn**	**10 29 47.6**	**-0.7**
M20K	**Styx River** baz=229,SNR=15	**13.29**	**36**	P	**Pn**	**10 29 50.6**	**-1.3**
L20K	**Farewell, AK** baz=226,SNR=14	**13.43**	**33**	P	**Pn**	**10 29 52.2**	**-1.5**
TNA	**Tin City** baz=184	**13.62**	**3**	P	**Pn**	**10 29 54.2**	**-2.0**
SEW	**Seward**	**13.78**	**46**		**Pn**	**10 29 56.2**	**-2.2**
SEW	**Seward** baz=243	**13.78**	**46**	P	**Pn**	**10 29 56.0**	**-2.4**
O22K	**Cooper Landing** baz=241,SNR=38	**13.84**	**44**	P	**Pn**	**10 29 56.3**	**-3.0**
SUA	**Susitna One** baz=236	**13.93**	**40**	P	**Pn**	**10 29 59.8**	**-0.9**
SKT	**Skwentna** baz=232,SNR=7.3	**13.94**	**37**	P	**Pn**	**10 29 59.1**	**-1.5**
K20K	**Telida** baz=223,SNR=17	**14.00**	**30**	P	**Pn**	**10 30 01.2**	**-0.3**
RC01	**Rabbit Creek A** baz=239	**14.14**	**42**	P	**Pn**	**10 30 02.6**	**-0.8**
PPLA	**Purkeypile** baz=228,SNR=20	**14.29**	**34**	P	**Pn**	**10 30 05.2**	**-0.4**
J20K	**Nowinta River**	**14.60**	**27**		**Pn**	**10 30 09.4**	**-0.2**
J20K	**Nowinta River** baz=220,SNR=29	**14.60**	**27**	P	**Pn**	**10 30 08.7**	**-0.9**
PMR	**Palmer** baz=238	**14.65**	**41**	P	**Pn**	**10 30 10.1**	**-0.2**
CUT	**Chulitna** baz=233	**14.66**	**37**	P	**Pn**	**10 30 09.4**	**-1.1**
CAST	**Castle Rocks** baz=227	**14.68**	**32**	P	**Pn**	**10 30 10.3**	**-0.5**
CHUM	**Lake Minchumin** baz=225,SNR=13	**14.93**	**31**	P	**Pn**	**10 30 13.5**	**-0.6**
Q23K	**Middleton Isla** baz=250	**14.95**	**51**	P	**Pn**	**10 30 14.9**	**+0.4**
SML	**Sawmill** baz=239	**15.09**	**41**	P	**Pn**	**10 30 15.3**	**-1.0**
KTH	**Kantishna Hill** comp=Z,173nm,0.9s	**15.15**	**33**	IAmb	IAmb	10 30 48.6	
GLI	**Glacier Island** comp=Z,136nm,0.7s	**15.17**	**45**	IAmb	IAmb	10 30 45.5	
GLI	**Glacier Island** baz=244	**15.17**	**45**	P	**Pn**	**10 30 14.9**	**-2.5**
TRF	**Thorofare Moun** comp=Z,485nm,1.7s	**15.30**	**34**	IAmb	IAmb	10 30 38.8	
FID	**Port Fidalgo**	**15.39**	**46**		**Pn**	**10 30 16.4**	**-3.8**
BPAW	**Bear Paw Mtn.**	**15.50**	**31**	Pn	**Pn**	**10 30 20.5**	**-1.1**
BPAW	comp=Z,170nm,0.8s			IAmb	IAmb	10 30 44.9	
BPAW	**Bear Paw Mtn.** baz=227,SNR=46	**15.50**	**31**	P	**Pn**	**10 30 19.9**	**-1.7**
SCM	**Sheep Creek Mo**	**15.52**	**42**	P	**Pn**	**10 30 18.8**	**-3.2**
SCM	comp=Z,326nm,1.0s			pmax	pmax		
SCM	**Sheep Creek Mo**	**15.52**	**42**	Pn	**Pn**	**10 30 18.8**	**-3.2**
SCM	comp=Z,326nm,1.0s			IAmb	IAmb	10 30 52.8	
WAT1	**Susitna Watana** baz=235	**15.56**	**38**	P	**Pn**	**10 30 21.5**	**-1.0**
EYAK	**Cordova Ski Ar** baz=242	**15.64**	**48**	P	**Pn**	**10 30 20.5**	**-3.0**
WAT6	**Susitna Watana** baz=238	**15.73**	**39**	P	**Pn**	**10 30 23.0**	**-1.9**
KLU	**Klutina** baz=244,SNR=30	**15.95**	**44**	P	**Pn**	**10 30 23.9**	**-3.7**
MCK	**McKinley** baz=232,SNR=13	**15.95**	**35**	P	**Pn**	**10 30 26.3**	**-1.3**
I21K	**Tanana** comp=Z,279nm,1.0s	**15.97**	**28**	IAmb	IAmb	10 30 55.7	
I21K	**Tanana** baz=222,SNR=51	**15.97**	**28**	P	**Pn**	**10 30 26.4**	**-1.2**
BWN	**Browne** comp=Z,666nm,1.2s	**16.05**	**33**	IAmb	IAmb	10 30 49.7	
M24K	**Tolsona, Glenn** comp=Z,240nm,0.8s	**16.12**	**42**	IAmb	IAmb	10 30 42.3	
M24K	**Tolsona, Glenn** baz=242,SNR=12	**16.12**	**42**	P	**Pn**	**10 30 26.9**	**-2.9**
DHY	**Denali Highway**	**16.14**	**38**	Pn	**Pn**	**10 30 28.1**	**-2.0**
MLY	**Manley** baz=225,SNR=70	**16.22**	**29**	P	**Pn**	**10 30 29.0**	**-2.0**
HMT	**Hamilton** comp=Z,519nm,1.2s	**16.25**	**49**	IAmb	IAmb	10 30 49.7	
BMRM	**Bremner River** comp=Z,369nm,0.9s	**16.32**	**47**	IAmb	IAmb	10 30 56.9	
BMRM	**Bremner River** baz=248,SNR=17	**16.32**	**47**	P	**Pn**	**10 30 28.8**	**-3.5**
NEA2	**Nenana** baz=230,SNR=18	**16.45**	**32**	P	**Pn**	**10 30 30.8**	**-3.0**
N25K	**Chitina, Valde** baz=246,SNR=21	**16.57**	**45**	P	**Pn**	**10 30 32.4**	**-3.1**
HARP	**HAARP** baz=242,SNR=13	**16.68**	**42**	P	**Pn**	**10 30 34.9**	**-1.9**
WRH	**Wood River Hil**	**16.70**	**33**	Pn	**Pn**	**10 30 35.1**	**-1.9**
I23K	**Minto, Yukon-K** baz=228,SNR=15	**16.73**	**30**	P	**Pn**	**10 30 35.9**	**-1.4**
PAX	**Paxson** baz=240,SNR=13	**16.83**	**40**	P	**Pn**	**10 30 35.7**	**-3.0**
GLB	**Gilahina Butte**	**16.86**	**46**	Pn	**Pn**	**10 30 36.5**	**-2.6**
CRQM	**Cirque** comp=Z,313nm,1.0s	**16.91**	**49**	IAmb	IAmb	10 31 16.8	
CRQE	**Cirque** baz=251	**16.93**	**49**	P	**Pn**	**10 30 36.7**	**-3.4**
WAX	**Waxell Ridge** comp=Z,424nm,0.8s	**16.95**	**50**	IAmb	IAmb	10 31 08.2	
TCOL	**CIGO, UAF Yank** baz=231,SNR=12	**17.03**	**33**	P	**Pn**	**10 30 37.8**	**-3.3**
COLA	**College**	**17.04**	**33**	P	**Pn**	**10 30 39.3**	**-1.9**
COLA	comp=Z,201nm,1.2s			pmax	pmax		
COLA	**College**	**17.04**	**33**		**Pn**	**10 30 39.3**	**-1.9**
COLA	**College**	**17.04**	**33**	⇑P	**Pn**	**10 30 39.2**	**-2.0**
COLA	**College** baz=231	**17.04**	**33**	P	**Pn**	**10 30 38.0**	**-3.1**
TGL	**Tana Glacier**	**17.06**	**49**	Pn	**Pn**	**10 30 40.6**	**-1.1**
TGL	comp=Z,339nm,1.0s			IAmb	IAmb	10 31 05.3	
HDA	**Harding Lake**	**17.06**	**35**		**Pn**	**10 30 39.8**	**-1.8**
HDA	**Harding Lake** baz=234,SNR=17	**17.06**	**35**	P	**Pn**	**10 30 37.6**	**-4.0**
H23K	**Yun River** baz=226,SNR=37	**17.14**	**28**	P	**Pn**	**10 30 39.2**	**-3.3**
MCARA	**McCarthy VSAT** comp=Z,277nm,0.8s	**17.18**	**47**	IAmb	IAmb	10 31 11.7	
MCARA	**McCarthy VSAT** baz=249,SNR=22	**17.18**	**47**	P	**Pn**	**10 30 39.9**	**-3.2**
ISLE	**Juniper Island**	**17.24**	**49**	Pn	**Pn**	**10 30 43.1**	**-0.8**
ISLE	comp=Z,348nm,1.0s			IAmb	IAmb	10 31 13.0	
IL31		**17.30**	**34**	Pn	**Pn**	**10 30 42.1**	**-2.3**
ILAR	**Eielson Array** comp=Z,1.5nm,0.3s,baz=237,slow=11,SNR=67	**17.30**	**34**	P	**Pn**	**10 30 42.9**	**-1.6**
ILAR	baz=228,slow=11,SNR=1.3			S	**Sn**	**10 33 54.7**	**-1.4**
ILAR	baz=270,slow=3.1,SNR=5.5			ScP	**ScP**	**10 38 59.6**	**+0.1**
MESA	**MESA**	**17.30**	**51**		**Pn**	**10 30 44.9**	**+0.2**
MESA	comp=Z,645nm,1.0s			IAmb	IAmb	10 31 04.3	
MESA	**MESA** baz=254	**17.30**	**51**	P	**Pn**	**10 30 41.4**	**-3.3**
POKR	**Poker Plat Res** baz=231	**17.33**	**32**	P	**Pn**	**10 30 40.9**	**-4.0**
YAH	**Yahtse** comp=Z,358nm,0.8s	**17.45**	**51**	IAmb	IAmb	10 31 13.6	
RIDG	**Independent Ri**	**17.46**	**38**		**Pn**	**10 30 46.7**	**+0.1**
RIDG	**Independent Ri** baz=239,SNR=12	**17.46**	**38**	P	**Pn**	**10 30 42.5**	**-4.1**
M26K	**Nabesna, AK** baz=246,SNR=27	**17.59**	**43**	P	**Pn**	**10 30 45.5**	**-2.7**
H24K	**Nodor Dome** baz=229,SNR=27	**17.65**	**30**	P	**Pn**	**10 30 45.3**	**-3.6**
L26K	**Log Cabin Wild** baz=244,SNR=28	**17.71**	**41**	P	**Pn**	**10 30 45.8**	**-3.9**
TABL	**Table Mountain** comp=Z,512nm,1.1s	**17.76**	**51**	IAmb	IAmb	10 31 15.9	
CTG	**Chitna Glacier** baz=252,SNR=16	**17.82**	**49**	P	**Pn**	**10 30 48.3**	**-2.8**
SCRK	**Sand Creek** baz=240,SNR=29	**17.91**	**38**	P	**Pn**	**10 30 49.5**	**-2.7**
COLD	**Coldfoot**	**17.98**	**25**	P	**Pn**	**10 30 52.1**	**-0.8**
COLD	**Coldfoot** baz=221,SNR=29	**17.98**	**25**	P	**Pn**	**10 30 51.4**	**-1.5**
M27K	**Edge Creek, AK** baz=248,SNR=25	**18.05**	**44**	P	**Pn**	**10 30 51.3**	**-2.6**
PCA	**Pinnacle** comp=Z,336nm,0.8s	**18.10**	**52**	IAmb	IAmb	10 31 08.1	
PINM	**Pinnacle** baz=256,SNR=16	**18.10**	**52**	P	**Pn**	**10 30 52.7**	**-1.8**
PRP	**Porcupine Dome** baz=233,SNR=23	**18.21**	**33**	P	**Pn**	**10 30 51.5**	**-4.3**
J26K	**Charley River,** baz=239,SNR=49	**18.28**	**37**	P	**Pn**	**10 30 53.6**	**-3.1**
L27K	**Beaver Creek,**	**18.35**	**42**	P	**P**	**10 30 56.3**	**-1.2**
L27K	**Beaver Creek,** baz=246,SNR=15	**18.35**	**42**	P	**P**	**10 30 55.4**	**-2.1**
YUK3	**Moose Creek** baz=251,SNR=45	**18.47**	**47**	P	**P**	**10 30 56.3**	**-2.8**
BVCY	**Beaver Creek** baz=249,SNR=12	**18.51**	**45**	P	**P**	**10 30 57.3**	**-1.9**
K27K	**Chicken** baz=243	**18.68**	**39**	P	**P**	**10 30 58.7**	**-2.3**
FYU	**Fort Yukon** comp=Z,519nm,1.6s	**18.94**	**30**	IAmb	IAmb	10 31 38.5	
YUK4	**Talbot Arm** baz=255,SNR=7.3	**19.18**	**49**	P	**P**	**10 31 07.0**	**+0.3**
YUK6	**Outpost Mounta** baz=256,SNR=19	**19.21**	**50**	P	**P**	**10 31 07.4**	**+0.3**
TOLK	**Toolik Lake Re** baz=220,SNR=24	**19.21**	**22**	P	**P**	**10 31 05.9**	**-1.0**
PET	**Petropavlovsk**	**19.33**	**286**	*de*P	**P**	**10 31 08.0**	**-0.1**
PET				pmax	pmax		
PET	comp=Z,251nm,1.5s			MLR	MLR		
PET	**Petropavlovsk** comp=Z,15μm,22.0s	**19.33**	**286**	P	**P**	**10 31 08.1**	**-0.1**
EGAK	**Eagle** baz=242,SNR=47	**19.38**	**38**	P	**P**	**10 31 06.2**	**-2.4**
HYT	**Haines Junctio** baz=258,SNR=187	**19.59**	**51**	P	**P**	**10 31 11.0**	**-0.2**
DAWY	**Dawson** baz=246,SNR=27	**19.76**	**41**	P	**P**	**10 31 11.0**	**-1.9**
PEA0B	**Petropavlovsk-**	**19.88**	**286**	P	**P**	**10 31 13.6**	**-0.7**
PEA0B	comp=Z,1μm,1.7s			pmax	pmax		
PEA0B	**Petropavlovsk-**	**19.88**	**286**	P	**P**	**10 31 13.6**	**-0.7**
PETK	**Petropavlovsk-** comp=Z,47nm,0.3s,baz=83,slow=14,SNR=268	**19.88**	**286**	P	**P**	**10 31 13.7**	**-0.6**
PETK	baz=81,slow=9.1,SNR=1.2			S	**Sn**	**10 34 58.0**	**-0.7**
PETK	baz=62,slow=3.9,SNR=2.4			PcP	**PcP**	**10 35 30.7**	**0.0**
PETK	baz=147,slow=8.8,SNR=8.5			ScP	**ScP**	**10 39 05.9**	**+0.5**
PETK	**Petropavlovsk-**	**19.88**	**286**	P	**P**	**10 31 13.2**	**-1.0**
BILL	**Bilibino**	**19.89**	**333**	⇑*e*P	**Pn**	**10 31 16.0**	**+0.1**
BILL	comp=Z,177nm,1.1s			pmax	pmax		
BILL	comp=Z,11μm,15.0s			MLR	MLR		
BILL	**Bilibino**	**19.89**	**333**	P	**P**	**10 31 14.6**	**+0.4**
A21K	**Barrow** comp=Z,30μm,19.0s	**20.23**	**12**	IAMs_20	IAMs_20	10 40 26.2	
A21K	**Barrow** baz=203	**20.23**	**12**	P	**P**	**10 31 15.7**	**-2.2**
SIT	**Sitka**	**20.32**	**62**	P	Pn	10 31 19.9	-1.1
SIT	comp=Z,214nm,1.1s			pmax	pmax		
SIT	comp=Z,23μm,19.0s			MLR	MLR		
SIT	**Sitka**	**20.32**	**62**	P	**P**	**10 31 19.9**	**+0.9**
SIT	comp=Z,214nm,1.1s			IAmb	IAmb	10 31 39.7	
SIT	**Sitka** baz=270	**20.32**	**62**	P	**P**	**10 31 18.9**	**0.0**
SKAG	**Skagway** comp=Z,234nm,0.8s	**20.45**	**55**	IAmb	IAmb	10 31 38.5	
SKAG	**Skagway**	**20.45**	**55**	⇓P	Pn	10 31 21.7	-0.7
SKAG	**Skagway** baz=264,SNR=10	**20.45**	**55**	P	**P**	**10 31 20.2**	**-0.1**
BESE	**Bessie Mountai**	**20.61**	**58**	P	Pn	10 31 23.7	-0.8
BESE	comp=Z,286nm,1.1s			IAmb	IAmb	10 31 53.6	
WHY	**Whitehorse**	**20.83**	**52**	P	**P**	**10 31 25.6**	**+1.0**
WHY	comp=Z,395nm,0.9s			IAmb	IAmb	10 31 44.0	
WHY	**Whitehorse** baz=261,SNR=96	**20.83**	**52**	P	**P**	**10 31 23.6**	**-1.0**
JIS	**Juneau Island** comp=Z,277nm,1.1s	**20.85**	**59**	IAmb	IAmb	10 31 42.1	
MAYO	**Mayo, Yukon** baz=252,SNR=16	**21.05**	**44**	P	**P**	**10 31 26.0**	**-0.8**
SKR	**Severo-Kuril's**	**21.40**	**280**	*i*P	**P**	**10 31 30.0**	**-0.7**
SKR				*e*S	Sn	10 35 32.4	-2.8
SKR	comp=Z,2μm,9.5s			pmax	pmax		
SKR	comp=Z,126nm,1.1s			pmax	pmax		
SKR	comp=Z,2μm,9.8s			pmax	pmax		
SKR	comp=Z,9μm,19.0s			MLR	MLR		
CRAG	**Craig**	**21.63**	**66**	P	**P**	**10 31 37.9**	**+4.8**
CRAG	comp=Z,331nm,1.1s			IAmb	IAmb	10 32 01.2	
CRAG	**Craig**	**21.63**	**66**	⇓P	**P**	**10 31 39.7**	**+6.6**
CRAG	**Craig** baz=276	**21.63**	**66**	P	**P**	**10 31 33.3**	**+0.3**
EPYK	**Eagle Plains**	**21.74**	**36**	P	**P**	**10 31 31.3**	**-3.0**
EPYK	comp=Z,235nm,0.9s			IAmb	IAmb	10 31 55.4	
EPYK	comp=Z,32μm,18.0s			IAMs_20	IAMs_20	10 40 48.0	
EPYK	**Eagle Plains** baz=244,SNR=75	**21.74**	**36**	P	**P**	**10 31 30.6**	**-3.7**
FARO	**Faro, Yukon** baz=259,SNR=48	**21.83**	**48**	P	**P**	**10 31 33.1**	**-2.1**
WRAK	**Wrangell Islan** comp=Z,181nm,1.1s	**21.98**	**64**	IAmb	IAmb	10 31 56.2	
WRAK	**Wrangell Islan** comp=Z,30μm,19.0s	**21.98**	**64**	IAMs_20	IAMs_20	10 40 46.7	
WRAK	**Wrangell Islan** baz=274	**21.98**	**64**	P	**P**	**10 31 35.1**	**-1.8**
DIB	**Dawson Inlet,**	**22.36**	**72**	P	**P**	**10 31 42.5**	**+1.5**
MOBC	**Moresby Island**	**22.67**	**72**	P	**P**	**10 31 45.8**	**+1.5**
MOBC	comp=Z,223nm,1.3s			IAmb	IAmb	10 32 09.1	
MOBC	comp=Z,26μm,20.0s			IAMs_20	IAMs_20	10 40 02.4	
MMPY	**Sheldon Lake,** baz=260,SNR=39	**22.86**	**47**	P	**P**	**10 31 43.9**	**-2.4**
SEY	**Seymchan** comp=Z,42nm,0.8s,baz=104,slow=9.8,SNR=85	**22.86**	**313**	P	**P**	**10 31 45.5**	**-0.7**
SEY	comp=Z,9.4nm,1.0s,baz=168,slow=9.4,SNR=2.1			S	**S**	**10 35 55.1**	**+0.9**
SEY	comp=Z,24μm,18.2s,baz=98,slow=39			LR	LR	10 41 23.6	
DLBC	**Dease Lake** comp=Z,31nm,0.9s,baz=270,slow=9.1,SNR=21	**23.14**	**58**	P	**P**	**10 31 50.0**	**+0.8**
DLBC	comp=Z,10nm,1.1s,baz=196,slow=17,SNR=1.3			S	**S**	**10 35 59.3**	**-0.1**
DLBC	**Dease Lake** comp=Z,274nm,1.2s	**23.14**	**58**	IAmb	IAmb	10 32 10.4	
DLBC	comp=Z,28μm,19.0s			IAMs_20	IAMs_20	10 41 35.1	
MA2	**Magadan** comp=Z,44nm,0.5s,baz=92,slow=10,SNR=31	**23.28**	**305**	P	**P**	**10 31 50.4**	**0.0**
MA2	comp=Z,5.7nm,0.7s,baz=171,slow=17,SNR=1.4			S	**S**	**10 36 02.5**	**+1.0**
MA2	**Magadan**	**23.28**	**305**	⇓*e*P	**P**	**10 31 50.1**	**-0.4**
MA2	comp=Z,91nm,0.9s			pmax	pmax		
MA2	**Magadan**	**23.28**	**305**	P	**P**	**10 31 50.5**	**0.0**
RUBB	**Prince Rupert** comp=Z,127nm,1.1s	**23.44**	**69**	IAmb	IAmb	10 32 08.9	
INK	**Inuvik** comp=Z,72nm,0.8s,baz=233,slow=9.8,SNR=67	**23.69**	**33**	P	**P**	**10 31 52.3**	**-2.1**
INK	comp=Z,11nm,1.0s,baz=98,slow=15,SNR=1.5			S	**S**	**10 36 06.9**	**-1.1**
INK	**Inuvik**	**23.69**	**33**	P	**P**	**10 31 51.8**	**-2

baz=294,SNR=6.3
NKL Nikolayevsk 29.81 292 eP P 10 32 47.9 -1.8
NKL eS S 10 37 38.9 -6.0
NKL pmax pmax
comp=N,469nm,0.9s
NKL pmax pmax
comp=E,7.0nm,0.9s
NKL pmax pmax
comp=Z,60nm,0.9s
NKL MLR MLR
comp=N,3µm,11.0s
NKL MLR MLR
comp=Z,14µm,17.0s
B05A Bryant 30.19 78 P P 10 32 51.4 -1.7
baz=295,SNR=11
UGL Uglegorsk 30.47 284 eP P 10 32 56.2 +0.7
UGL eS S 10 37 50.3 -5.1
UGL pmax pmax
comp=Z,110nm,0.9s
UGL smax smax
comp=E,3µm,14.0s
UGL MLR MLR
comp=E,13µm,16.0s
YUK Yuzh-Kuril'sk 30.49 273 eP P 10 32 47.8 -8.0
YUK e 10 35 48.7
YUK eS S **10 37 49.3 -6.5**
YUK eSSS SSS 10 39 58.5
YUK pmax pmax
comp=E,352nm,1.3s
YUK pmax pmax
comp=Z,861nm,1.3s
YUK pmax pmax
comp=N,365nm,1.4s
YKA Yellowknife Ar 30.54 48 P P 10 32 56.2 +0.1
comp=N,26nm,0.7s,baz=273,slow=8.9,SNR=33
YKA S S **10 38 00.0 +3.7**
comp=N,0.7nm,0.6s,baz=318,slow=1.8,SNR=1.2
YKA ScP ScP **10 39 36.5 +1.1**
comp=N,4.4nm,1.0s,baz=242,slow=1.5,SNR=5.7
YKA LR LR 10 47 28.0
comp=N,25µm,19.0s,baz=0.0,slow=41
YKA Yellowknife Ar 30.54 48 ScP ScP 10 39 36.0 +0.6
E04D Cinebar 30.66 81 P P 10 32 56.2 -1.1
baz=298
D05A Enumclaw 30.73 80 P P 10 32 59.2 +1.4
D05A IAmb IAmb 10 33 22.0
comp=Z,146nm,1.0s
G03D McMinnville, O 30.88 84 P P 10 32 57.3 -1.9
baz=300
YSS Yuzh-Sakhalins 30.97 280⇑ eP P 10 32 58.1 -1.9
YSS eS S **10 37 56.9 -6.4**
YSS pmax pmax
comp=Z,1µm,12.3s
YSS pmax pmax
comp=N,500nm,13.2s
YSS pmax pmax
comp=Z,70nm,0.9s
YSS smax smax
comp=E,2µm,14.7s
YSS MLR MLR
comp=E,9µm,16.0s
YSS Yuzh-Sakhalins 30.97 280 P P 10 32 58.4 -1.6
YSS IAmb IAmb 10 33 05.1
comp=Z,57nm,0.8s
YSS IAMs_20 IAMs_20 10 44 22.5
comp=Z,17µm,21.0s
F04A Amboy 31.05 82 IAmb IAmb 10 33 21.7
comp=Z,104nm,1.3s
KEBM Edson Butte 31.43 89 IAMs_20 IAMs_20 10 44 16.0
comp=Z,13µm,18.0s
LTY Liberty 31.50 79 IAMs_20 IAMs_20 10 45 44.3
comp=Z,13µm,18.0s
F05D White Salmon 31.66 82 P P 10 32 49.5 -17
baz=299
H04A Detroit Lake 31.81 84 P P 10 33 09.9 +2.5
H04A IAmb IAmb 10 33 28.5
comp=Z,121nm,1.1s
B08A Colville Reser 31.81 76 IAmb IAmb 10 33 23.5
comp=Z,64nm,0.8s
B08A IAMs_20 IAMs_20 10 46 11.4
comp=Z,14µm,18.0s
KBO Bosley Butte 31.86 90 IAMs_20 IAMs_20 10 44 37.4
comp=Z,15µm,18.0s
HON Honolulu 31.90 159 P P 10 33 11.0 +2.6
HON pmax pmax
comp=Z,105nm,0.9s
HON Honolulu 31.90 159 P P 10 33 11.0 +2.6
HON IAmb IAmb 10 33 20.4
comp=Z,105nm,0.9s
K02D Willamette Mer 31.94 88 P P 10 33 00.4 -8.3
baz=303
I04A Tendick Farm, 32.13 86 P P 10 33 06.2 -4.1
baz=302
HUMO Hull Mountain 32.43 88 IAMs_20 IAMs_20 10 45 08.3
comp=Z,15µm,18.0s
HUMO Hull Mountain 32.43 88 ⇓P P 10 33 23.4 +10
KRMB Red Mountain 32.44 91 IAMs_20 IAMs_20 10 45 10.9
comp=Z,12µm,18.0s
JKA Kamikawa-asahi 32.46 275 P P 10 33 12.8 -0.3
ASAJ Asahikawa 32.46 275 P P 10 33 12.8 -0.3
ASAJ pmax pmax
comp=Z,184nm,0.9s
ASAJ MLR MLR
comp=Z,11µm,20.0s
I05D Terrebonne, OR 32.50 84 P P 10 33 08.4 -5.3
baz=301,SNR=7.0
F07A Phinny Hill Vi 32.59 81 P P 10 33 15.5 +1.2
F07A IAmb IAmb 10 33 37.7
comp=Z,51nm,1.0s
HAWA Hanford 32.59 80 IAmb IAmb 10 33 37.0
comp=Z,92nm,1.1s
HAWA Hanford 32.59 80 ⇓P P 10 33 15.6 +1.3
C09A Chrisman Ranch 32.70 77 IAmb IAmb 10 33 31.0
comp=Z,59nm,0.9s
E08A Dider Farm, El 32.83 79 IAmb IAmb 10 33 38.9
comp=Z,94nm,1.4s
KHMM Horse Mountain 32.92 91 IAmb IAmb 10 33 38.5
comp=Z,93nm,1.1s
KHMM IAMs_20 IAMs_20 10 45 24.6
comp=Z,15µm,18.0s
TIXI Tiksi 33.01 329⇑ eP P 10 33 17.4 -0.2
TIXI Tiksi 33.01 329 P P **10 33 14.0 -3.6**
PINE Pine Mountain 33.03 85 IAmb IAmb 10 33 40.0
comp=Z,179nm,1.4s
YBH Yreka Blue Hor 33.06 89 P P 10 33 19.1 +0.5
YBH pmax pmax
comp=Z,49nm,1.2s
YBH MLR MLR
comp=Z,11µm,18.0s
YBH Yreka Blue Hor 33.06 89 P P 10 33 19.1 +0.5
YBH IAMs_20 IAMs_20 10 45 28.3
comp=Z,11µm,18.0s
GRNR Gornyy 33.12 290⇑ iP P 10 33 18.6 -0.3
GRNR e 10 34 27.4
GRNR eS S **10 38 37.0 +0.2**
GRNR pmax pmax
comp=E,30nm,0.8s
GRNR pmax pmax
comp=Z,70nm,0.9s
GRNR smax smax
comp=E,4.0nm,0.8s
J05D Fort Rock, OR 33.12 86 P P 10 33 13.9 -5.2
baz=302
K04D Chiloquin, OR 33.16 87 P P **10 33 15.2 -4.2**
baz=303
M02C Callahan 33.17 90 P P **10 33 15.1 -4.4**
baz=305
NEW Newport 33.18 75 P P 10 33 20.3 +0.8
NEW pmax pmax
comp=Z,97nm,0.9s
NEW Newport 33.18 75 IAmb IAmb 10 33 35.0
comp=Z,80nm,0.9s
NEW Newport 33.18 75 IAMs_20 IAMs_20 10 47 13.5
comp=Z,14µm,18.0s
NEW Newport 33.18 75 P P **10 33 15.3 -4.2**
baz=297,SNR=31
KMRM Mail Ridge 33.32 92 IAmb IAmb 10 33 42.0
comp=Z,78nm,0.9s
KMRM IAMs_20 IAMs_20 10 45 44.5
comp=Z,12µm,18.0s
YAK Yakutsk 33.35 312 eP P 10 33 19.1 -1.6
YAK e*PP **pP 10 33 23.4 -2.5**
YAK e 10 34 29.7
YAK e 10 36 07.1
YAK eS S **10 38 37.8 -2.3**
YAK eSS **SnSn 10 40 40.7 -0.5**
YAK e 10 43 44.8
YAK pmax pmax
comp=E,7.0nm,0.9s
YAK pmax pmax
comp=N,14nm,0.9s
YAK pmax pmax
comp=Z,16nm,0.6s
YAK pmax pmax
comp=E,32nm,1.3s
YAK smax smax
comp=N,60nm,2.3s
YAK smax smax
comp=E,1µm,11.9s
YAK MLR MLR
comp=Z,16µm,18.0s
YAK MLR MLR
comp=N,8µm,17.0s
YAK MLR MLR
comp=E,9µm,14.0s
YAK Yakutsk 33.35 312 P P 10 33 20.4 -0.3
YAK IAmb IAmb 10 33 23.7
comp=Z,65nm,1.0s
YAK IAMs_20 IAMs_20 10 47 35.2
comp=Z,15µm,18.0s
E09A Wood Farm, Sta 33.37 79 IAmb IAmb 10 33 42.6
comp=Z,43nm,0.9s
N02D Trinity Center 33.50 90 P P 10 33 19.2 -3.2
baz=305,SNR=5.5
M04C Macdoel 33.57 89 P P 10 33 22.2 -0.9
baz=304,SNR=8.2
K05A Summer Lake 33.63 86 IAmb IAmb 10 33 54.2
comp=Z,130nm,1.2s
KCPM Cahto Peak 33.72 93 IAmb IAmb 10 33 53.6
comp=Z,102nm,1.2s
I07A Izee 33.77 83 IAmb IAmb 10 33 45.8
comp=Z,149nm,1.5s
WDC Whiskeytown Da 33.83 91 IAmb IAmb 10 33 56.8
comp=Z,170nm,1.7s
WDC Whiskeytown Da 33.83 91 ⇑P P 10 33 27.0 +1.9
O02D Mt. Diablo Mer 33.91 92 P P 10 33 23.5 -2.5
baz=306,SNR=9.5
HMH Humu'ula Sheep 34.15 156 IAMs_20 IAMs_20 10 46 27.6
comp=Z,13µm,18.0s
F10A Beach Ranch, E 34.19 79 ⇑P P 10 33 29.5 +1.1
MWH Moku'aweowe 34.24 156 IAMs_20 IAMs_20 10 46 43.8
comp=Z,12µm,18.0s
UWB Uwekahuna B 34.37 156 IAMs_20 IAMs_20 10 47 03.5
comp=Z,13µm,20.0s
UWE Uwekahuna 34.37 156 IAMs_20 IAMs_20 10 47 03.5
comp=Z,13µm,20.0s
AIN Ainahou 34.38 156 IAMs_20 IAMs_20 10 49 42.6
comp=Z,13µm,18.0s
OBL Observatory Le 34.38 156 IAMs_20 IAMs_20 10 47 02.6
comp=Z,12µm,20.0s
HATHI Halema'uma'u T 34.38 156 IAMs_20 IAMs_20 10 45 37.6
comp=Z,12µm,18.0s
NPH North Pit 34.39 156 IAMs_20 IAMs_20 10 47 14.8
comp=Z,12µm,20.0s
WRMHI West Rim 34.39 156 IAMs_20 IAMs_20 10 47 14.8
comp=Z,13µm,20.0s
BYL Byron's Ledge 34.39 156 IAMs_20 IAMs_20 10 47 13.9
comp=Z,11µm,19.0s
KKO Keanakako'i 34.40 156 IAMs_20 IAMs_20 10 47 15.2
comp=Z,11µm,19.0s
RIM Rim 34.40 156 IAMs_20 IAMs_20 10 46 55.2
comp=Z,11µm,20.0s
NPOC North of Pu'u 34.45 155 IAMs_20 IAMs_20 10 45 39.4
comp=Z,17µm,19.0s
HOPS Hopland Field 34.45 94 IAmb IAmb 10 33 45.1
comp=Z,116nm,1.4s
HOPS IAMs_20 IAMs_20 10 45 57.2
comp=Z,15µm,18.0s
O03E Paynes Creek 34.45 91 P P **10 33 30.2 -0.5**
baz=306,SNR=15
KHU Kahuku 34.46 156 IAMs_20 IAMs_20 10 47 22.8
comp=Z,10µm,18.0s
HLP Hilina Pali 34.49 156 IAMs_20 IAMs_20 10 46 38.5
comp=Z,12µm,18.0s
WALA Waterton Lakes 34.73 72 IAmb IAmb 10 33 48.6
comp=Z,90nm,0.9s
WALA IAMs_20 IAMs_20 10 47 28.3
comp=Z,12µm,20.0s
GDXM Geysers 34.73 94 IAmb IAmb 10 33 53.9
comp=Z,72nm,1.1s
GDXM IAMs_20 IAMs_20 10 46 49.7
comp=Z,24µm,18.0s
J08A Circle Bar Ran 34.78 84 IAmb IAmb 10 33 54.5
comp=Z,127nm,1.4s
JTMT Jette 35.11 75 IAmb IAmb 10 33 51.3
comp=Z,50nm,0.9s
WVOR Wild Horse Val 35.19 85 P P **10 33 38.2 +1.2**
WVOR pmax pmax
comp=Z,52nm,1.2s
WVOR Wild Horse Val 35.19 85 IAmb IAmb 10 34 11.0
comp=Z,70nm,1.1s
WVOR Wild Horse Val 35.19 85 ⇓P P 10 33 40.8 +3.7
JTM Tenmabayashi 35.24 271 IAMs_20 IAMs_20 10 50 47.6
comp=Z,11µm,20.0s
PLID Pearl Lake 35.38 80 IAMs_20 IAMs_20 10 48 49.1
comp=Z,18µm,18.0s
MSO Missoula 35.76 76 IAmb IAmb 10 33 57.9
comp=Z,136nm,1.7s
MSO IAMs_20 IAMs_20 10 48 51.7
comp=Z,11µm,18.0s
MSO Missoula 35.76 76 P P **10 33 41.1 -0.8**
baz=299,SNR=22
PAHR Pah Rah Range 36.30 90 IAmb IAmb 10 34 17.8
comp=Z,126nm,1.4s
VCNR Virginia City 36.38 90 IAmb IAmb 10 34 08.1
comp=Z,74nm,1.1s
KLR Kul'dur 36.50 290 *de*P P **10 33 46.6 -1.5**
KLR pmax pmax
comp=Z,109nm,1.8s
KLR MLR MLR
comp=Z,17µm,17.0s
PNTR Pine Nut 36.54 91 IAmb IAmb 10 34 09.5
comp=Z,131nm,1.1s
CMB Columbia Colle 36.70 93 IAMs_20 IAMs_20 10 47 38.6
comp=Z,9µm,18.0s
RES Resolute Bay 36.73 25 LR LR 10 52 56.2
comp=Z,14µm,18.2s,baz=272,slow=43
YERR Yerington 36.82 90 IAmb IAmb 10 34 22.4
comp=Z,157nm,1.4s
SAO San Andreas Ge 36.85 95 IAMs_20 IAMs_20 10 47 44.7
comp=Z,10µm,18.0s
ZEA Zeya 37.10 298 *eP* P **10 33 50.0 -3.1**
ZEA *e* 10 35 21.0
ZEA *eS* S **10 39 32.7 -5.1**
ZEA pmax pmax
comp=E,30nm,0.8s
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=Z,40nm,1.3s
ZEA pmax pmax
comp=E,400nm,8.4s
ZEA pmax pmax
comp=N,300nm,9.3s
ZEA pmax pmax
comp=Z,700nm,12.0s
ZEA smax smax
comp=N,900nm,15.0s
ZEA smax smax
comp=E,2µm,16.0s
H11N2 WAKE ISLAND Hy 37.12 219 T T 11 13 59.4
baz=23,slow=75,SNR=56
H11N3 WAKE ISLAND Hy 37.13 219 T T 11 13 46.2
baz=23,slow=75,SNR=58
H11N1 WAKE ISLAND Hy 37.14 219 T T 11 13 54.9
baz=23,slow=75,SNR=63
HLID Hailey 37.16 81 P P **10 33 53.3 -0.6**
baz=303,SNR=14
JMM Marumori 37.17 268 IAMs_20 IAMs_20 10 49 38.6
comp=Z,10µm,20.0s
EGMT Eagleton 37.66 72 P P **10 33 56.9 -1.1**
baz=299,SNR=48
LHV Little Huntoon 37.73 91 IAmb IAmb 10 34 38.1
comp=Z,166nm,1.6s
LHV IAMs_20 IAMs_20 10 48 31.7
comp=Z,12µm,18.0s
NVAR Mina Array Bea 37.74 90 P P **10 34 00.5 +1.5**
comp=Z,11nm,1.0s,baz=298,slow=7.7,SNR=28
NVAR S S **10 39 47.4 -0.9**
comp=Z,0.4nm,0.8s,baz=294,slow=8.8,SNR=1.4
NVAR ScP **ScP 10 40 01.5 -0.1**
comp=Z,2.0nm,0.8s,baz=278,slow=3.7,SNR=5.7
NVAR LR LR 10 46 05.9
comp=Z,3µm,21.3s,baz=302,slow=31
MDPB Devils Postpil 37.76 92 IAMs_20 IAMs_20 10 48 22.6
comp=Z,10µm,18.0s
BOZ Bozeman (W) 37.76 76 IAMs_20 IAMs_20 10 50 06.8
comp=Z,9µm,18.0s
BOZ Bozeman (W) 37.76 76 P P 10 33 58.0 -1.0
baz=301,SNR=32
ELK Elko 38.24 85 IAmb IAmb 10 34 23.9
comp=Z,129nm,1.8s
ELK IAMs_20 IAMs_20 10 47 17.1
comp=Z,10µm,20.0s
PAGB Antelope Grade 38.25 95 IAmb IAmb 10 34 20.7
comp=Z,70nm,1.1s
H11S1 WAKE ISLAND Hy 38.31 218 T T 11 15 19.3
baz=23,slow=76,SNR=1251
H11S2 WAKE ISLAND Hy 38.32 218 T T 11 15 21.9
baz=23,slow=76,SNR=1898
H11S3 WAKE ISLAND Hy 38.32 218 T T 11 15 36.7
baz=23,slow=76,SNR=342
JYT Yasato 38.58 266 IAmb IAmb 10 34 24.3
comp=Z,253nm,1.4s
JYT IAMs_20 IAMs_20 10 49 16.0
comp=Z,11µm,20.0s
JYT Yasato 38.58 266 ⇓P P 10 34 06.7 +0.9
JSD Sado 38.63 270 P P 10 34 07.8 +1.6
JSD IAmb IAmb 10 34 27.7
comp=Z,197nm,1.1s
JSD Sado 38.63 270 ⇑P P 10 34 07.7 +1.6
TPH Tonopah 38.63 90 IAmb IAmb 10 34 24.6
comp=Z,199nm,1.2s
YHH Holmes Hill 38.66 77 IAmb IAmb 10 34 22.4
comp=Z,62nm,0.8s
SMMC Simmler 38.68 96 P P 10 34 04.8 -1.9
baz=311
YNR Norris Junctio 38.80 77 IAmb IAmb 10 34 24.2
comp=Z,68nm,0.9s
USA0B Ussuriysk Arra 38.89 282 IAMs_20 IAMs_20 10 49 11.3
comp=Z,12µm,20.0s
USRK Ussuriysk Ar. 38.89 282 P P 10 34 07.8 -0.5
comp=Z,12nm,0.7s,baz=52,slow=8.5,SNR=38
USRK PcP **PcP 10 36 19.9 +1.1**
comp=Z,7.2nm,0.9s,baz=79,slow=2.2,SNR=4.1
USRK LR LR 10 49 12.3
comp=Z,12µm,21.7s,baz=60,slow=35
VES Vestal, Richgr 38.90 94 P P 10 34 07.6 -0.9
baz=311,SNR=8.3
FFC Flin Flon 38.98 58 P P 10 34 08.8 -0.1
FFC pmax pmax
comp=Z,35nm,1.0s
FFC MLR MLR
comp=Z,20µm,20.0s
FFC Flin Flon 38.98 58 P P 10 34 08.8 -0.1
FFC Flin Flon 38.98 58 IAMs_20 IAMs_20 10 51 02.8
comp=Z,20µm,20.0s
FFC Flin Flon 38.98 58 ⇓P P 10 34 08.8 -0.1
H17A Grant Village 39.03 77 P P 10 34 08.7 -1.2
baz=303,SNR=26
LKWY Lake 39.05 77 IAmb IAmb 10 34 27.2
comp=Z,61nm,0.8s
PKM Mcpherson Peak 39.07 96 P P 10 34 07.3 -2.9
baz=312
CWC Cottonwood Cre 39.13 93 P P 10 34 07.6 -3.0
baz=310
GRAC Grapevine Rang 39.22 91 P P 10 34 11.3 +0.1
baz=310,SNR=9.7
ISA Isabella, Lake 39.39 94 IAMs_20 IAMs_20 10 49 20.0
comp=Z,12µm,18.0s
ISA Isabella, Lake 39.39 94 P P 10 34 11.8 -0.9
baz=311,SNR=12
RLMT Red Lodge 39.43 75 IAmb IAmb 10 34 30.4
comp=Z,78nm,0.9s
RLMT Red Lodge 39.43 75 P P 10 34 12.7 -0.4
baz=302,SNR=44
R11A Troy Canyon, C 39.47 88 IAMs_20 IAMs_20 10 49 28.8
comp=Z,10µm,18.0s
R11A Troy Canyon, C 39.47 88 P P 10 34 13.0 -0.4
baz=308,SNR=23
ARVC Arvin 39.52 95 P P 10 34 05.7 -8.0
baz=311
VLA Vladivostok 39.55 281⇓ eP P 10 34 14.3 +0.5
VLA pmax pmax
comp=Z,116nm,1.0s
MJAR Matsushiro Arr 39.60 268 P P 10 34 14.7 +0.3
comp=Z,16nm,0.7s,baz=45,slow=6.6,SNR=23
MJAR PcP **PcP 10 36 22.5 +1.3**
comp=Z,16nm,1.0s,baz=72,slow=1.9,SNR=5.8
MJAR S S **10 40 18.6 +2.6**
comp=Z,0.7nm,0.5s,baz=109,slow=26,SNR=1.5
MJAR LR LR 10 50 17.9
comp=Z,11µm,20.8s,baz=60,slow=36
MAJO Matsushiro 39.60 268 *ce*P **P 10 34 14.9 +0.5**
MAJO pmax pmax
comp=Z,100nm,0.9s
MAJO MLR MLR
comp=Z,11µm,20.0s
MAJO Matsushiro 39.60 268 P P 10 34 15.2 +0.8
MAJO IAmb IAmb 10 34 37.0
comp=Z,143nm,0.9s
MAJO Matsushiro 39.60 268 IAMs_20 IAMs_20 10 49 36.0
comp=Z,12µm,20.0s
MAJO Matsushiro 39.60 268 ⇑P P 10 34 15.2 +0.8
MAT Matsushiro 39.60 268 P P 10 34 14.5 +0.1
MAT S S **10 40 16.6 +0.5**
MJB9 Matsu-Tunnel 39.60 268 IAmb IAmb 10 34 37.0
comp=Z,146nm,0.9s
MJB9 IAMs_20 IAMs_20 10 49 36.0
comp=Z,13µm,20.0s
MPMC Manual Prospec 39.74 93 P P 10 34 16.0 +0.3
baz=310,SNR=14
SPR3 Spring Creek 3 39.85 87 IAMs_20 IAMs_20 10 50 28.6
comp=Z,15µm,18.0s
FURC Furnace Creek, 39.86 92 P P 10 34 16.9 +0.4
baz=310,SNR=15
OSI Osito Audit: C 39.93 95 P P 10 34 15.1 -2.0
baz=312
TPNV Topopah Spring 39.94 91 IAMs_20 IAMs_20 10 50 26.2
comp=Z,14µm,18.0s
TPNV Topopah Spring 39.94 91 ⇑P P 10 34 17.9 +0.6
TPNV Topopah Spring 39.94 91 P P 10 34 17.7 +0.3
baz=310,SNR=26
LRMC Laurel Mtn Rad 40.00 94 P P 10 34 17.5 -0.3
baz=311,SNR=7.4
DUG Dugway, Tooele 40.06 84 P P 10 34 19.1 +0.8
DUG pmax pmax
comp=Z,69nm,1.4s
DUG Dugway, Tooele 40.06 84 IAmb IAmb 10 34 38.9
comp=Z,91nm,1.2s
DUG Dugway, Tooele 40.06 84 P P 10 34 17.8 -0.5
baz=307,SNR=26
MDJ Mudanjiang 40.10 284 P P 10 34 16.9 -1.5
MDJ pP pwP 10 34 27.5 -0.6
MDJ sP sP 10 34 30.9 +5.1
MDJ S S **10 40 27.1 +3.7**
MDJ pmax pmax
comp=Z,640nm,4.2s
MDJ LR LR
comp=Z,7µm,18.0s
MDJ LR LR
comp=Z,11µm,20.1s
MDJ LR LR
comp=Z,17µm,18.3s
MDJ Mudanjiang 40.10 284 IAMs_20 IAMs_20 10 52 56.6
comp=Z,16µm,19.0s
EDW2 Edwards Air Fo 40.20 94 P P 10 34 17.4 -2.0
baz=312
MSHR Mys Shultsa 40.30 281⇑ eP P 10 34 20.9 +0.9
MSHR pmax pmax
comp=Z,102nm,1.1s
PRN Pahroc Range 40.39 89 IAMs_20 IAMs_20 10 50 42.1
comp=Z,12µm,18.0s
PRN Pahroc Range 40.39 89 ⇑P P 10 34 22.4 +1.4
LAO LASA Array 40.40 72 IAmb IAmb 10 34 39.1
comp=Z,61nm,0.8s
LAO IAMs_20 IAMs_20 10 50 49.4
comp=Z,10µm,20.0s
LAO LASA Array 40.40 72 P P 10 34 20.4 -0.6
baz=302,SNR=16
DECC Green Verdugo 40.41 95 P P 10 34 21.4 +0.3
baz=312
PASC Pasadena Art C 40.55 95 IAMs_20 IAMs_20 10 50 22.8
comp=Z,8µm,18.0s
BW06 Boulder Array 40.55 79 IAmb IAmb 10 34 38.4
comp=Z,72nm,0.8s
BW06 Boulder Array 40.55 79 P P 10 34 22.0 -0.5
baz=305,SNR=45
PD31 Pinedale Array 40.55 79 IAmb IAmb 10 34 38.4
comp=Z,64nm,0.8s
PD31 Pinedale Array 40.55 79 ⇓P P 10 34 22.6 +0.1

PDAR	**Pinedale Array**	**40.55**	**79**	P	**P**		**10 34 22.6**	**+0.1**
	comp=Z,26nm,0.9s,baz=307,slow=4.2,SNR=93							
PDAR				S	**S**		**10 40 29.9**	**-0.7**
	comp=Z,0.7nm,0.9s,baz=327,slow=1.5,SNR=2.1							
PDAR				LR	LR		10 49 38.3	
	comp=Z,5µm,20.1s,baz=323,slow=34							
SHOC	**Shoshone, Teco**	**40.59**	**92**	P	**P**		**10 34 22.5**	**-0.1**
	baz=311,SNR=17							
GSC	**Goldstone, Bar**	**40.66**	**93**	IAmb	IAmb		10 34 41.1	
	comp=Z,131nm,1.4s							
GSC	**Goldstone, Bar**	**40.66**	**93**	P	**P**		**10 34 23.1**	**-0.1**
	baz=311,SNR=22							
DGMT	**Dagmar**	**40.66**	**68**	IAmb	IAmb		10 34 37.4	
	comp=Z,127nm,1.1s							
DGMT	**Dagmar**	**40.66**	**68**	IAMs_20	IAMs_20		10 51 13.0	
	comp=Z,15µm,20.0s							
DGMT	**Dagmar**	**40.66**	**68**	P	**P**		**10 34 22.2**	**-0.8**
	baz=300,SNR=18							
JGF	**Kuroka**	**40.74**	**268**	IAmb	IAmb		10 34 48.1	
	comp=Z,206nm,1.7s							
JGF	**Kuroka**	**40.74**	**268**	⇓P	**P**		**10 34 25.2**	**+1.5**
RRX	**Edison Barstow**	**40.82**	**94**	P	**P**		**10 34 21.7**	**-2.8**
	baz=312							
BFSC	**Mount Baldy Ra**	**40.83**	**95**	P	**P**		**10 34 24.3**	**-0.4**
	baz=312,SNR=13							
ALE	**Alert**	**40.95**	**11**	IAMs_20	IAMs_20		10 53 49.8	
	comp=Z,10µm,19.0s							
TUQ	**Turquoise Moun**	**41.11**	**92**	P	**P**		**10 34 26.5**	**-0.5**
	baz=311,SNR=18							
FCC	**Fort Churchill**	**41.23**	**50**	IAMs_20	IAMs_20		10 54 19.0	
	comp=Z,16µm,18.0s							
HEC	**Hector,Ludlow**	**41.26**	**93**	P	**P**		**10 34 28.8**	**+0.7**
	baz=312,SNR=9.7							
BBRC	**Big Bear Solar**	**41.27**	**94**	P	**P**		**10 34 28.7**	**+0.3**
	baz=312,SNR=7.5							
MVU	**Marysvale**	**41.46**	**86**	IAmb	IAmb		10 35 03.7	
	comp=Z,160nm,1.0s							
MURC	**Murrieta**	**41.55**	**95**	P	P		10 34 19.4	-11
	baz=313							
TMUT	**Trail Mountain**	**41.59**	**84**	IAmb	IAmb		10 35 01.4	
	comp=Z,65nm,0.9s							
P17A	**Butcher Ranch,**	**41.77**	**83**	IAmb	IAmb		10 35 08.5	
	comp=Z,152nm,1.7s							
RDMU	**Red Mountain**	**41.83**	**81**	IAmb	IAmb		10 34 54.9	
	comp=Z,108nm,1.1s							
PFO	**Pinyon Flats O**	**41.99**	**95**	P	**P**		**10 34 34.2**	**0.0**
PFO				pmax	pmax			
	comp=Z,39nm,1.2s							
PFO				MLR	MLR			
	comp=Z,6µm,18.0s							
PFO	**Pinyon Flats O**	**41.99**	**95**	P	**P**		**10 34 34.2**	**0.0**
PFO	**Pinyon Flats O**	**41.99**	**95**	P	**P**		**10 34 33.4**	**-0.8**
	baz=313,SNR=6.4							
TPFO	**Pinon Flats**	**42.00**	**95**	P	**P**		**10 34 33.5**	**-0.8**
	baz=313,SNR=7.2							
BELC	**Belle Mtn. Jos**	**42.01**	**94**	P	**P**		**10 34 34.6**	**+0.2**
	baz=312,SNR=9.6							
109C	**Camp Elliot, M**	**42.08**	**96**	P	**P**		**10 34 34.4**	**-0.4**
	baz=313							
SRU	**San Rafael Swe**	**42.12**	**84**	IAmb	IAmb		10 34 55.9	
	comp=Z,66nm,0.9s							
JWT	**Wachi**	**42.15**	**269**	P	**P**		**10 34 36.0**	**+0.7**
JWT				IAmb	IAmb		10 34 57.5	
	comp=Z,118nm,1.1s							
JWT				IAMs_20	IAMs_20		10 52 00.5	
	comp=Z,12µm,20.0s							
JWT	**Wachi**	**42.15**	**269**	⇑P	**P**		**10 34 36.9**	**+1.5**
BOD	**Bodaibo**	**42.16**	**309**	*e*P	**P**		**10 34 33.9**	**-1.2**
BOD				pmax	pmax			
	comp=Z,88nm,1.0s							
IRM	**Iron Mountain**	**42.44**	**93**	P	**P**		**10 34 38.0**	**+0.3**
	baz=312,SNR=20							
K22A	**Casper**	**42.45**	**77**	P	**P**		**10 34 35.1**	**-2.9**
	baz=305							
TULEG	**Thule**	**42.49**	**20**	*i* P	**P**		**10 34 37.8**	**+0.1**
TULEG				IAmb	IAmb		10 34 40.2	
	comp=Z,23nm,0.9s							
TULEG				IAMs_20	IAMs_20		10 55 49.8	
	comp=Z,14µm,17.1s							
TULEG	**Thule**	**42.49**	**20**	IAMs_20	IAMs_20		10 55 17.8	
	comp=Z,13µm,19.0s							
TULEG	**Thule**	**42.49**	**20**	⇑P	**P**		**10 34 38.4**	**+0.8**
BC3	**Big Chuckawall**	**42.58**	**94**	P	**P**		**10 34 37.6**	**-1.4**
	baz=312							
RWWY	**Rawlins**	**42.60**	**78**	IAMs_20	IAMs_20		10 53 10.9	
	comp=Z,9µm,18.0s							
U15A	**North Rim**	**42.72**	**88**	IAMs_20	IAMs_20		10 51 51.6	
	comp=Z,13µm,18.0s							
SWSC	**Sam W. Stewart**	**42.85**	**95**	P	**P**		**10 34 41.9**	**+0.8**
	baz=313,SNR=8.1							
O20A	**White River Ci**	**42.90**	**81**	IAmb	IAmb		10 35 03.1	
	comp=Z,136nm,0.9s							
O20A	**White River Ci**	**42.90**	**81**	P	**P**		**10 34 41.0**	**-0.6**
	baz=307,SNR=54							
RMX	**La Rumorosa**	**42.91**	**95**	IAMs_20	IAMs_20		10 51 32.9	
	comp=Z,8µm,18.0s							
PDMCI	**Parker Dam,Lak**	**42.96**	**92**	P	**P**		**10 34 42.0**	**+0.1**
	baz=312,SNR=17							
CN2	**Changchun**	**43.03**	**286**	*e*P	**P**		**10 34 41.4**	**-1.0**
CN2				*e*pP	pwP		10 34 51.4	-0.8
CN2				*e*PP	**PP**		**10 36 23.6**	**+1.4**
CN2				*e*S	**S**		**10 41 02.9**	**-3.9**
CN2				*e*sS	sS		10 41 19.2	+2.6
CN2				*e*SS	**SS**		**10 44 08.2**	**-11**
CN2				pmax	pmax			
	comp=Z,60nm,0.8s							
CN2				LR	LR			
	comp=Z,9µm,18.0s							
CN2				LR	LR			
	comp=Z,12µm,18.0s							
CN2				LR	LR			
	comp=Z,14µm,18.0s							
RSSD	**Black Hills**	**43.10**	**74**	P	**P**		**10 34 42.8**	**-0.4**
RSSD				pmax	pmax			
	comp=Z,34nm,0.8s							
RSSD				MLR	MLR			
	comp=Z,8µm,18.0s							
RSSD	**Black Hills**	**43.10**	**74**	P	**P**		**10 34 42.8**	**-0.4**
RSSD	**Black Hills**	**43.10**	**74**	IAMs_20	IAMs_20		10 53 13.8	
	comp=Z,8µm,18.0s							
RSSD	**Black Hills**	**43.10**	**74**	⇑P	**P**		**10 34 43.1**	**-0.1**
RSSD	**Black Hills**	**43.10**	**74**	P	**P**		**10 34 40.9**	**-2.3**
	baz=305							
HIA	**Hailar**	**43.33**	**296**	*c i* P	**P**		**10 34 44.3**	**-0.5**
HIA				pmax	pmax			
	comp=Z,102nm,1.4s							
HIA				MLR	MLR			
	comp=Z,11µm,19.0s							
HIA	**Hailar**	**43.33**	**296**	IAMs_20	IAMs_20		10 53 46.3	
	comp=Z,11µm,19.0s							
GLA	**Glamis**	**43.38**	**94**	P	**P**		**10 34 45.0**	**-0.3**
	baz=313,SNR=7.1							
PV21	**Cone Mtn., Par**	**43.41**	**83**	IAMs_20	IAMs_20		10 53 10.8	
	comp=Z,8µm,19.0s							
PV23	**Carpenter Ridg**	**43.46**	**83**	IAmb	IAmb		10 35 37.4	
	comp=Z,58nm,0.8s							
PV23				IAMs_20	IAMs_20		10 53 12.0	
	comp=Z,9µm,18.0s							
PV10	**Paradox Valley**	**43.49**	**84**	IAmb	IAmb		10 35 06.1	
	comp=Z,94nm,0.9s							
PV10				IAMs_20	IAMs_20		10 53 14.3	
	comp=Z,9µm,18.0s							
PV14	**Lion Creek, Pa**	**43.50**	**84**	IAmb	IAmb		10 35 21.6	
	comp=Z,71nm,1.1s							
PV22	**Blue Mesa, Par**	**43.54**	**83**	IAmb	IAmb		10 35 21.3	
	comp=Z,82nm,1.1s							
PV04	**Paradox Valley**	**43.56**	**83**	IAmb	IAmb		10 35 03.4	
	comp=Z,63nm,0.8s							
PV04				IAMs_20	IAMs_20		10 53 14.8	
	comp=Z,9µm,18.0s							
PV17	**East Wray Mesa**	**43.60**	**84**	IAmb	IAmb		10 35 06.1	
	comp=Z,67nm,0.9s							
PV16	**Nyswonger Mesa**	**43.60**	**84**	IAMs_20	IAMs_20		10 53 15.9	
	comp=Z,8µm,18.0s							
MDND	**Maddock**	**43.61**	**67**	P	**P**		**10 34 46.2**	**-0.9**
	baz=303,SNR=39							
PV05	**Paradox Valley**	**43.64**	**84**	IAmb	IAmb		10 35 12.8	
	comp=Z,115nm,1.2s							
PV05				IAMs_20	IAMs_20		10 53 17.8	
	comp=Z,7µm,18.0s							
PV11	**David Mesa, Pa**	**43.64**	**83**	IAmb	IAmb		10 35 22.0	
	comp=Z,90nm,0.8s							
PV11				IAMs_20	IAMs_20		10 53 16.8	
	comp=Z,8µm,18.0s							
PV18	**Skein Mesa, Pa**	**43.65**	**84**	IAmb	IAmb		10 35 06.4	
	comp=Z,71nm,0.8s							
PV12	**Saucer Basin,**	**43.67**	**83**	IAmb	IAmb		10 35 08.8	
	comp=Z,89nm,0.8s							
PV12				IAMs_20	IAMs_20		10 53 18.6	
	comp=Z,9µm,19.0s							
E28A	**Huff**	**43.68**	**69**	IAMs_20	IAMs_20		10 53 07.8	
	comp=Z,14µm,20.0s							
PV03	**Paradox Valley**	**43.68**	**84**	IAmb	IAmb		10 35 07.1	
	comp=Z,66nm,0.8s							
PV07	**Paradox Valley**	**43.69**	**83**	IAmb	IAmb		10 35 06.7	
	comp=Z,46nm,0.8s							
JCJ	**Chichijima**	**43.73**	**254**	P	**P**		**10 34 48.0**	**-0.2**
JHS	**Saijyo**	**43.75**	**270**	IAmb	IAmb		10 35 03.2	
	comp=Z,103nm,1.2s							
JHS	**Saijyo**	**43.75**	**270**	⇓P	**P**		**10 34 50.0**	**+1.7**
PV13	**Radium Mtn., P**	**43.76**	**84**	IAmb	IAmb		10 35 04.8	
	comp=Z,114nm,0.8s							
PV02	**Paradox Valley**	**43.78**	**84**	IAmb	IAmb		10 35 08.1	
	comp=Z,104nm,0.9s							
PV02				IAMs_20	IAMs_20		10 53 30.5	
	comp=Z,7µm,18.0s							
N23A	**Red Feather La**	**43.84**	**79**	P	**P**		**10 34 48.3**	**-0.9**
	baz=307,SNR=16							
PV15	**Paradox Valley**	**43.85**	**83**	IAmb	IAmb		10 35 24.4	
	comp=Z,76nm,1.0s							
PV15				IAMs_20	IAMs_20		10 53 42.4	
	comp=Z,7µm,18.0s							
WUAZ	**Wupatki**	**43.87**	**88**	IAmb	IAmb		10 35 11.6	
	comp=Z,55nm,0.8s							
WUAZ				IAMs_20	IAMs_20		10 52 27.3	
	comp=Z,12µm,18.0s							
WUAZ	**Wupatki**	**43.87**	**88**	⇓P	**P**		**10 34 50.4**	**+0.9**
WUAZ	**Wupatki**	**43.87**	**88**	P	**P**		**10 34 49.3**	**-0.2**
	baz=311,SNR=27							
Y14A	**Wickenburg**	**43.90**	**91**	IAMs_20	IAMs_20		10 52 59.3	
	comp=Z,8µm,18.0s							
PV01	**Paradox Valley**	**43.93**	**83**	IAmb	IAmb		10 35 06.0	
	comp=Z,80nm,0.8s							
PV01				IAMs_20	IAMs_20		10 53 35.5	
	comp=Z,7µm,18.0s							
JMN	**Monobe**	**44.12**	**268**	IAmb	IAmb		10 35 14.5	
	comp=Z,115nm,1.1s							
JMN				IAMs_20	IAMs_20		10 53 08.6	
	comp=Z,8µm,20.0s							
JMN	**Monobe**	**44.12**	**268**	⇑P	P		10 34 56.4	+5.0
113A	**Mohawk Valley,**	**44.22**	**93**	IAMs_20	IAMs_20		10 53 09.8	
	comp=Z,9µm,18.0s							
SMCO	**Snowmass**	**44.26**	**81**	IAmb	IAmb		10 35 26.0	
	comp=Z,110nm,1.9s							
SMCO	**Snowmass**	**44.26**	**81**	⇓P	**P**		**10 34 52.6**	**-0.3**
ULM	**Lac du Bonnet**	**44.39**	**62**	P	**P**		**10 34 52.8**	**-0.5**
	comp=Z,26nm,0.7s,baz=304,slow=7.7,SNR=27							
ULM				S	**S**		**10 41 27.3**	**+0.9**
	comp=Z,2.2nm,0.8s,baz=21,slow=15,SNR=1.5							
ULM				LR	LR		10 55 14.8	
	comp=Z,12µm,18.1s,baz=310,slow=39							
ULM	**Lac du Bonnet**	**44.39**	**62**	IAmb	IAmb		10 35 07.4	
	comp=Z,54nm,0.9s							
ULM				IAMs_20	IAMs_20		10 54 35.2	
	comp=Z,14µm,20.0s							
ULM	**Lac du Bonnet**	**44.39**	**62**	⇑P	**P**		**10 34 52.3**	**-1.0**
MVCO	**Mesa Verde**	**44.55**	**84**	IAmb	IAmb		10 36 01.4	
	comp=Z,124nm,1.6s							
MVCO	**Mesa Verde**	**44.55**	**84**	P	**P**		**10 34 53.9**	**-1.1**
	baz=310,SNR=15							
ISCO	**Idaho Springs**	**44.70**	**80**	P	**P**		**10 34 56.4**	**+0.1**
ISCO				pmax	pmax			
	comp=Z,24nm,1.1s							
ISCO	**Idaho Springs**	**44.70**	**80**	IAMs_20	IAMs_20		10 54 20.7	
	comp=Z,11µm,18.0s							
ISCO	**Idaho Springs**	**44.70**	**80**	P	**P**		**10 34 55.4**	**-0.8**
	baz=308,SNR=6.1							
W18A	**Petrified Fore**	**45.14**	**88**	IAMs_20	IAMs_20		10 53 37.9	
	comp=Z,16µm,18.0s							
W18A	**Petrified Fore**	**45.14**	**88**	P	**P**		**10 34 55.7**	**-4.0**
	baz=311							
CIT	**Chita**	**45.23**	**302**	*e*P	**P**		**10 34 59.6**	**-0.4**
CIT				*e*			10 35 09.3	
CIT				pmax	pmax			
	comp=Z,137nm,1.4s							
S22A	**4UR Ranch, Cre**	**45.24**	**83**	P	P		10 34 55.4	-5.1
	baz=310							
SNY	**Shenyang**	**45.30**	**285**	⇓P	**P**		**10 35 00.9**	**+0.3**
SNY				S	**S**		**10 41 44.2**	**+4.4**
SNY				pmax	pmax			
	comp=Z,25nm,1.0s							
SNY				pmax	pmax			
	comp=Z,2µm,8.7s							
SNY				LR	LR			
	comp=Z,11µm,18.4s							
SNY				LR	LR			
	comp=Z,8µm,19.0s							
SNY				LR	LR			
	comp=Z,14µm,18.5s							
NEEM	**North Greenlan**	**45.36**	**16**	*i* P	**P**		**10 35 00.2**	**-0.8**
NEEM				IAmb	IAmb		10 35 03.4	
	comp=Z,88nm,0.8s							
NEEM				IAMs_20	IAMs_20		10 58 03.4	
	comp=Z,13µm,18.2s							
214A	**Organ Pipe Nat**	**45.37**	**93**	IAmb	IAmb		10 35 15.6	
	comp=Z,72nm,1.1s							
214A	**Organ Pipe Nat**	**45.37**	**93**	P	**P**		**10 35 01.2**	**-0.1**
	baz=314,SNR=16							
KSRS	**Korea Array**	**45.37**	**277**	P	**P**		**10 35 01.4**	**+0.3**
	comp=Z,52nm,0.7s,baz=54,slow=7.6,SNR=161							
KSRS				LR	LR		10 52 25.0	
	comp=Z,6µm,21.1s,baz=54,slow=34							
KS19	**Wonju Array Si**	**45.37**	**277**	IAmb	IAmb		10 35 05.2	
	comp=Z,63nm,0.8s							
X18A	**Snowflake**	**45.40**	**88**	IAmb	IAmb		10 35 19.6	
	comp=Z,50nm,1.0s							
X18A				IAMs_20	IAMs_20		10 53 33.2	
	comp=Z,11µm,18.0s							
AGMN	**Agassiz Nation**	**45.46**	**64**	IAMs_20	IAMs_20		10 55 26.6	
	comp=Z,11µm,18.0s							
AGMN	**Agassiz Nation**	**45.46**	**64**	P	**P**		**10 35 00.2**	**-1.6**
	baz=304,SNR=38							
D32A	**Dogwood Acres,**	**45.46**	**66**	IAmb	IAmb		10 35 15.6	
	comp=Z,83nm,0.8s							
Q24A	**Divide**	**45.50**	**80**	P	**P**		**10 35 01.2**	**-1.4**
	baz=309							
YNCB	**YEONCHEON**	**45.61**	**278**	P	**P**		**10 35 03.7**	**+0.6**
	SNR=13							
KSUSN	**Ulsan**	**45.76**	**274**	P	**P**		**10 35 05.5**	**+1.2**
	SNR=6.9							
KSMUS	**Musan**	**45.80**	**278**	P	**P**		**10 35 06.2**	**+1.6**
	SNR=24							
NOR	**Nord**	**45.84**	**5**	*i* P	**P**		**10 35 05.2**	**+0.8**
NOR				IAmb	IAmb		10 35 07.5	
	comp=Z,34nm,0.9s							
NOR				IAMs_20	IAMs_20		10 57 44.4	
	comp=Z,20µm,16.6s							
NOR	**Nord**	**45.84**	**5**	P	**P**		**10 35 03.8**	**-0.6**
NOR				pmax	pmax			
	comp=Z,47nm,1.0s							
NOR	**Nord**	**45.84**	**5**	⇑P	**P**		**10 35 03.5**	**-0.8**
KSSOD	**Songwoldong**	**45.88**	**278**	P	**P**		**10 35 06.8**	**+1.6**
	SNR=9.8							
KSSAJ	**Sangju**	**45.89**	**276**	P	**P**		**10 35 06.5**	**+1.2**
	SNR=12							
SUSD	**Miller**	**45.89**	**70**	IAMs_20	IAMs_20		10 53 43.1	
	comp=Z,12µm,21.0s							
SUSD	**Miller**	**45.89**	**70**	P	**P**		**10 35 04.2**	**-1.1**
	baz=306,SNR=11							
KSSEO	**Seoul**	**45.96**	**278**	P	**P**		**10 35 07.6**	**+1.7**
	SNR=25							
KSSEO	**Seoul**	**45.96**	**278**	P	**P**		**10 35 07.0**	**+1.1**
	SNR=25							
SDCO	**Great Sand Dun**	**46.05**	**82**	IAmb	IAmb		10 35 28.9	
	comp=Z,45nm,1.0s							
SDCO	**Great Sand Dun**	**46.05**	**82**	P	**P**		**10 35 05.7**	**-1.3**
	baz=310,SNR=32							
KSSWO	**Suwon**	**46.07**	**277**	P	**P**		**10 35 08.2**	**+1.4**
	SNR=13							
KSCPR	**CHUPUNGNYEONG**	**46.13**	**276**	P	**P**		**10 35 08.6**	**+1.4**
	SNR=23							
INCN	**Inchon**	**46.14**	**278**	P	**P**		**10 35 07.2**	**-0.1**
INCN				pmax	pmax			
	comp=Z,133nm,0.8s							
INCN	**Inchon**	**46.14**	**278**	P	**P**		**10 35 07.2**	**-0.1**
INCN	**Inchon**	**46.14**	**278**	P	**P**		**10 35 07.0**	**-0.3**
INCN				P	**P**		**10 35 07.0**	**-0.3**
INCN	**Inchon**	**46.14**	**278**	⇑P	**P**		**10 35 07.8**	**+0.5**
KSGIC	**Gimchen**	**46.14**	**275**	P	**P**		**10 35 08.8**	**+1.5**
	SNR=6.0							
OKCB	**Cheongsan-myeo**	**46.16**	**276**	P	**P**		**10 35 09.0**	**+1.6**
	SNR=19							
OGNE	**Ogallala**	**46.16**	**76**	IAmb	IAmb		10 35 26.9	
	comp=Z,62nm,0.9s							
OGNE	**Ogallala**	**46.16**	**76**	P	P		10 35 00.9	-6.6
	baz=308							
PYTK	**Pyeongtaek**	**46.17**	**277**	P	**P**		**10 35 09.1**	**+1.6**
	SNR=12							
KSCEA	**Cheonan**	**46.18**	**277**	P	**P**		**10 35 09.7**	**+2.1**
	SNR=17							
SHHB	**Siheung-si**	**46.18**	**278**	P	**P**		**10 35 09.0**	**+1.4**
	SNR=22							
JTU	**Tsushima**	**46.36**	**273**	IAMs_20	IAMs_20		10 53 32.9	
	comp=Z,9µm,21.0s							
TUC	**Tucson**	**46.37**	**91**	P	**P**		**10 35 10.1**	**+0.8**
TUC				pmax	pmax			
	comp=Z,110nm,1.3s							
TUC				MLR	MLR			
	comp=Z,6µm,18.0s							
TUC	**Tucson**	**46.37**	**91**	P	**P**		**10 35 10.1**	**+0.8**
TUC				IAmb	IAmb		10 35 27.0	
	comp=Z,110nm,1.3s							
TUC	**Tucson**	**46.37**	**91**	IAMs_20	IAMs_20		10 53 45.7	
	comp=Z,6µm,18.0s							
TUC	**Tucson**	**46.37**	**91**	⇑P	**P**		**10 35 09.9**	**+0.6**
TUC	**Tucson**	**46.37**	**91**	P	**P**		**10 35 05.6**	**-3.7**
	baz=313							
JNU	**Nakatsue**	**46.38**	**270**	⇑P	**P**		**10 35 09.6**	**+0.2**
TJN	**Taejon**	**46.40**	**276**	*c i* P	**P**		**10 35 09.4**	**+0.1**
F33A	**5 Mile Ranch,**	**46.61**	**67**	IAmb	IAmb		10 35 24.6	
	comp=Z,82nm,0.9s							
NRIK	**Noril'sk**	**46.70**	**332**	P	**P**		**10 35 10.5**	**-0.8**
	comp=Z,20nm,0.4s,baz=73,slow=8.6,SNR=23							
NRIK				LR	LR		10 57 26.9	
	comp=Z,6µm,18.2s,baz=64,slow=40							
NRIK	**Noril'sk**	**46.70**	**332**	IAmb	IAmb		10 35 14.4	
	comp=Z,66nm,1.1s							
KSCO	**Kaye Shedlock'**	**47.00**	**78**	IAMs_20	IAMs_20		10 55 53.0	
	comp=Z,7µm,18.0s							
KSCO	**Kaye Shedlock'**	**47.00**	**78**	P	**P**		**10 35 09.9**	**-4.3**
	baz=309							
K31A	**O'Neill**	**47.09**	**72**	IAMs_20	IAMs_20		10 56 15.9	
	comp=Z,9µm,18.0s							
T25A	**Trinidad**	**47.11**	**82**	IAmb	IAmb		10 35 29.1	
	comp=Z,93nm,1.0s							
T25A	**Trinidad**	**47.11**	**82**	P	**P**		**10 35 14.2**	**-0.9**
	baz=310,SNR=34							
ANMO	**Albuquerque**	**47.28**	**85**	*de*P	**P**		**10 35 16.3**	**-0.2**
ANMO				pmax	pmax			
	comp=Z,60nm,1.3s							
ANMO				MLR	MLR			
	comp=Z,13µm,16.0s							
ANMO	**Albuquerque**	**47.28**	**85**	P	**P**		**10 35 17.1**	**+0.6**
ANMO				IAmb	IAmb		10 35 30.8	
	comp=Z,56nm,1.2s							
ANMO	**Albuquerque**	**47.28**	**85**	IAMs_20	IAMs_20		10 55 10.8	
	comp=Z,11µm,18.0s							
ANMO	**Albuquerque**	**47.28**	**85**	P	**P**		**10 35 14.6**	**-1.9**
	baz=312							
UPNV	**Upernavik**	**47.36**	**22**	*i* P	**P**		**10 35 17.1**	**+0.7**
UPNV				IAmb	IAmb		10 35 20.8	
	comp=Z,39nm,0.6s							
Y22D	**IRIS PASSCAL I**	**47.57**	**87**	IAMs_20	IAMs_20		10 55 01.6	
	comp=Z,15µm,18.0s							
ECSD	**EROS Data Cent**	**47.67**	**70**	P	**P**		**10 35 17.8**	**-1.4**
ECSD				IAmb	IAmb		10 35 32.8	
	comp=Z,72nm,0.8s							
ECSD	**EROS Data Cent**	**47.67**	**70**	IAMs_20	IAMs_20		10 55 19.1	
	comp=Z,12µm,20.0s							
ECSD	**EROS Data Cent**	**47.67**	**70**	P	**P**		**10 35 17.5**	**-1.8**
	baz=307,SNR=32							
JSU	**Suzuyama**	**47.75**	**269**	IAMs_20	IAMs_20		10 54 26.8	
	comp=Z,7µm,20.0s							
319A	**Douglas**	**47.94**	**91**	IAmb	IAmb		10 35 40.9	
	comp=Z,48nm,1.0s							
319A				IAMs_20	IAMs_20		10 54 53.8	
	comp=Z,10µm,18.0s							
EYMN	**Ely**	**48.07**	**62**	P	**P**		**10 35 21.5**	**-0.7**
EYMN	**Ely**	**48.07**	**62**	IAMs_20	IAMs_20		10 56 57.0	
	comp=Z,12µm,19.0s							
EYMN	**Ely**	**48.07**	**62**	P	**P**		**10 35 20.2**	**-2.0**
	baz=306,SNR=17							
121A	**Cookes Peak, D**	**48.08**	**89**	P	**P**		**10 35 22.1**	**-0.6**
	baz=313,SNR=9.3							
F36A	**Milaca**	**48.17**	**65**	IAmb	IAmb		10 35 36.7	
	comp=Z,66nm,1.1s							
BGNE	**Belgrade**	**48.19**	**73**	IAMs_20	IAMs_20		10 55 01.1	
	comp=Z,7µm,19.0s							
BGNE	**Belgrade**	**48.19**	**73**	P	**P**		**10 35 18.9**	**-4.4**
	baz=308							
DL2	**Dalian**	**48.28**	**283**	P	**P**		**10 35 24.3**	**+0.4**
DL2				S	**S**		**10 42 25.6**	**+3.2**
DL2				sS	**sS**		**10 42 37.1**	**+5.5**
DL2				pmax	pmax			
	comp=Z,81nm,1.1s							
DL2				pmax	pmax			
	comp=Z,750nm,6.3s							
DL2				LR	LR			
	comp=Z,6µm,17.1s							
DL2				LR	LR			
	comp=Z,5µm,18.4s							
DL2				LR	LR			
	comp=Z,9µm,17.8s							
HSIG		**48.56**	**95**	IAmb	IAmb		10 35 39.6	
	comp=Z,41nm,1.2s							
E38A	**The Farm, Brul**	**48.82**	**64**	IAMs_20	IAMs_20		10 57 04.1	
	comp=Z,11µm,18.0s							
NUUG	**Nuugaatsiaq**	**48.86**	**22**	*i* P	**P**		**10 35 28.3**	**+0.3**
CBKS	**Cedar Bluff**	**48.87**	**77**	IAmb	IAmb		10 35 46.6	
	comp=Z,76nm,0.9s							
CBKS	**Cedar Bluff**	**48.87**	**77**	P	**P**		**10 35 24.3**	**-4.3**
	baz=310							
L34A	**Svendsen Farm,**	**48.89**	**71**	IAMs_20	IAMs_20		10 55 35.4	
	comp=Z,8µm,20.0s							
SPMN	**Marine on St.**	**48.95**	**66**	IAmb	IAmb		10 35 43.1	
	comp=Z,79nm,1.0s							
SPMN	**Marine on St.**	**48.95**	**66**	P	**P**		**10 35 27.5**	**-1.6**
	baz=307,SNR=11							
N33A	**J Bar K, Exete**	**49.02**	**73**	IAMs_20

AMTX	**Amarillo**	**50.26**	**82**	IAmb	IAmb	10 35 56.8			**FNO**	**Franklin**	**52.61**	**79**	IAmb	IAmb	10 36 13.8			NJ2			PP	**PP**	**10 38 12.4**	**-0.4**
	comp=Z,38nm,0.8s									comp=Z,91nm,1.0s								NJ2			S	**S**	**10 43 49.0**	**+0.4**
AMTX	**Amarillo**	**50.26**	**82**	P	**P**	**10 35 35.8**	**-3.4**		**SFJD**	**Kangerlussuaq**	**52.74**	**26**	*i* P	**P**	**10 35 58.4**	**+1.2**		NJ2			sS	**sS**	**10 43 59.4**	**+1.7**
	baz=312								SFJD				IAmb	IAmb	10 36 00.4			NJ2			ScS	**ScS**	**10 45 56.1**	**-2.6**
G40A	**Rib Lake**	**50.39**	**64**	IAmb	IAmb	10 35 53.7				comp=Z,23nm,0.8s								NJ2			pmax	pmax		
	comp=Z,90nm,0.9s								SFJD				IAMs_20	IAMs_20	11 02 31.7				comp=Z,65nm,0.8s					
COWI	**Conover**	**50.46**	**63**	IAmb	IAmb	10 35 54.2				comp=Z,6µm,17.4s								NJ2			pmax	pmax		
	comp=Z,53nm,0.8s								**SFJD**	**Kangerlussuaq**	**52.74**	**26**	P	**P**	**10 35 56.5**	**-0.7**			comp=Z,1µm,4.3s					
COWI				IAMs_20	IAMs_20	10 58 13.4			SFJD				pmax	pmax				NJ2			LR	LR		
	comp=Z,11µm,19.0s									comp=Z,51nm,1.0s									comp=Z,4µm,18.9s					
K38A	**Parkersburg**	**50.56**	**68**	IAmb	IAmb	10 35 55.1			SFJD				MLR	MLR				NJ2			LR	LR		
	comp=Z,100nm,1.1s									comp=Z,10µm,19.0s									comp=Z,4µm,19.4s					
K38A				IAMs_20	IAMs_20	10 57 20.4			**SFJD**	**Kangerlussuaq**	**52.74**	**26**	P	**P**	**10 35 56.5**	**-0.7**		NJ2			LR	LR		
	comp=Z,15µm,20.0s								SFJD				IAmb	IAmb	10 36 01.2				comp=Z,7µm,19.0s					
KSU1	**Kansas State U**	**50.56**	**74**	IAmb	IAmb	10 36 01.4				comp=Z,51nm,0.9s								**TIY**	**Taiyuan**	**54.53**	**288**	*e*P	**P**	**10 36 13.1**	**+2.2**
	comp=Z,57nm,0.8s								**SFJD**	**Kangerlussuaq**	**52.74**	**26**	IAMs_20	IAMs_20	11 02 38.2			TIY				S	**S**	**10 43 47.6**	**-1.3**
KSU1	**Kansas State U**	**50.56**	**74**	IAMs_20	IAMs_20	10 59 32.9				comp=Z,10µm,19.0s								TIY			pmax	pmax		
	comp=Z,7µm,20.0s								**SFJD**	**Kangerlussuaq**	**52.74**	**26**	⇑P	**P**	**10 35 57.3**	**+0.1**			comp=Z,43nm,0.7s					
KSU1	**Kansas State U**	**50.56**	**74**	⇑P	**P**	**10 35 40.8**	**-0.6**		**L42A**	**Oliver, Polo**	**52.74**	**67**	IAmb	IAmb	10 36 10.7			TIY			pmax	pmax		
KSU1	**Kansas State U**	**50.56**	**74**	P	**P**	**10 35 37.8**	**-3.5**			comp=Z,94nm,0.9s									comp=Z,980nm,4.7s					
	baz=310								**TIA**	**Tai'an**	**52.74**	**283**	⇓P	**P**	**10 35 57.3**	**-0.4**		TIY			LR	LR		
SCIA	**State Center**	**50.77**	**69**	IAmb	IAmb	10 35 56.5			TIA				pmax	pmax					comp=Z,5µm,18.3s					
	comp=Z,100nm,1.1s									comp=Z,77nm,1.1s								TIY			LR	LR		
SCIA				IAMs_20	IAMs_20	10 57 16.0			TIA				pmax	pmax					comp=Z,5µm,20.5s					
	comp=Z,12µm,20.0s									comp=Z,1µm,4.9s								TIY			LR	LR		
SCIA	**State Center**	**50.77**	**69**	P	**P**	**10 35 40.7**	**-2.2**		TIA				LR	LR					comp=Z,6µm,19.3s					
	baz=309									comp=Z,6µm,17.1s								**U40A**	**Yellville**	**54.61**	**74**	IAmb	IAmb	10 36 41.3	
BJI	**Beijing**	**50.81**	**287**	P	**P**	**10 35 43.9**	**+0.7**		TIA				LR	LR					comp=Z,38nm,0.8s					
BJI				S	**S**	**10 42 56.8**	**-0.9**			comp=Z,7µm,17.3s								**U40A**	**Yellville**	**54.61**	**74**	P	**P**	**10 36 08.7**	**-2.7**
BJI				pmax	pmax				TIA				LR	LR					baz=313,SNR=16					
	comp=Z,51nm,0.7s									comp=Z,11µm,18.0s								**SLM**	**Saint Louis**	**54.62**	**71**	IAMs_20	IAMs_20	10 58 55.1	
BJI				pmax	pmax				**X34A**	**Smith Ranch, M**	**52.79**	**79**		pP	10 36 02.1	-1.5			comp=Z,10µm,19.0s					
	comp=Z,2µm,8.4s								**TX31**	**Lajitas Ar. Si**	**52.84**	**89**	⇑P	**P**	**10 35 58.4**	**-0.2**		**O44A**	**Mansfield**	**54.64**	**68**	IAmb	IAmb	10 36 24.8	
BJI				LR	LR				**TXAR**	**Lajitas Array**	**52.84**	**89**	P	**P**	**10 35 58.7**	**+0.1**			comp=Z,68nm,0.7s					
	comp=Z,13µm,18.0s									comp=Z,23nm,0.7s,baz=300,slow=5.5,SNR=183								O44A			IAMs_20	IAMs_20	10 59 56.3	
BJI				LR	LR				TXAR				LR	LR	10 57 59.2				comp=Z,13µm,20.0s					
	comp=Z,7µm,16.1s									comp=Z,4µm,18.6s,baz=0.0,slow=36								**J47A**	**Sunmer**	**54.66**	**63**	IAmb	IAmb	10 36 25.4	
BJI				LR	LR				**GUMO**	**Guam**	**52.85**	**241**	P	**P**	**10 35 57.2**	**-1.5**			comp=Z,70nm,0.9s					
	comp=Z,16µm,17.1s								GUMO				pmax	pmax				J47A			IAMs_20	IAMs_20	11 01 01.5	
BJT	**Baijiatuau**	**50.83**	**287**	IAmb	IAmb	10 35 46.9				comp=Z,180nm,1.0s									comp=Z,10µm,19.0s					
	comp=Z,146nm,1.7s								**GUMO**	**Guam**	**52.85**	**241**	P	**P**	**10 35 57.2**	**-1.5**		**WHTX**	**Lake Whitney,**	**54.80**	**82**	IAMs_20	IAMs_20	10 58 30.8	
BJT	**Baijiatuau**	**50.83**	**287**	IAMs_20	IAMs_20	11 00 22.1			**N41A**	**Harden Midland**	**52.90**	**69**	IAmb	IAmb	10 36 12.4				comp=Z,8µm,20.0s					
	comp=Z,12µm,18.0s									comp=Z,110nm,0.9s								**WHTX**	**Lake Whitney,**	**54.80**	**82**	P	**P**	**10 36 11.9**	**-0.9**
ILULI	**Ilulissat**	**51.00**	**24**	*i* P	**P**	**10 35 45.8**	**+1.6**		N41A				IAMs_20	IAMs_20	10 58 32.4				baz=314,SNR=13					
ILULI				IAMs_20	IAMs_20	11 05 00.8				comp=Z,13µm,20.0s								**W39A**	**Magazine**	**54.84**	**76**	IAmb	IAmb	10 36 37.1	
	comp=Z,7µm,16.2s								**P40A**	**Paris**	**52.97**	**71**	IAMs_20	IAMs_20	10 57 54.5				comp=Z,32nm,0.9s					
ILULI	**Ilulissat**	**51.00**	**24**	IAmb	IAmb	10 35 47.5				comp=Z,10µm,21.0s								**W39A**	**Magazine**	**54.84**	**76**	P	**P**	**10 36 11.1**	**-1.9**
	comp=Z,101nm,1.7s								**HHC**	**Hu-ho-hao-te**	**52.98**	**291**	*e*P	**P**	**10 36 00.9**	**+1.4**			baz=313,SNR=13					
ILULI				IAMs_20	IAMs_20	11 00 38.2			HHC				S	**S**	**10 43 23.5**	**-4.3**		**Q44A**	**Meyer Farm, Va**	**55.15**	**70**	IAmb	IAmb	10 36 28.7	
	comp=Z,6µm,19.0s								HHC				ScS	**ScS**	**10 45 48.5**	**+0.7**			comp=Z,67nm,0.9s					
I40A	**Norwalk**	**51.01**	**66**	IAmb	IAmb	10 35 58.5			HHC				SS	**SS**	**10 47 01.0**	**-5.4**		Q44A			IAMs_20	IAMs_20	10 59 32.1	
	comp=Z,81nm,0.9s								HHC				pmax	pmax					comp=Z,11µm,20.0s					
ULN	**Ulaanbaatar**	**51.05**	**301**	*c i* P	**P**	**10 35 45.2**	**+0.1**			comp=Z,59nm,1.0s								**SFIN**	**Lafayette**	**55.27**	**67**	P	**P**	**10 36 13.9**	**-2.2**
ULN				pmax	pmax				HHC				pmax	pmax					baz=312,SNR=14					
	comp=Z,41nm,0.9s									comp=Z,2µm,7.5s								**FCAR**	**Ozark Folk Cen**	**55.36**	**74**	IAmb	IAmb	10 36 46.6	
ULN				MLR	MLR				HHC				LR	LR					comp=Z,46nm,0.9s					
	comp=Z,14µm,18.0s									comp=Z,8µm,17.0s								FCAR			IAMs_20	IAMs_20	11 01 03.8	
ULN	**Ulaanbaatar**	**51.05**	**301**	P	**P**	**10 35 43.7**	**-1.4**		HHC				LR	LR					comp=Z,5µm,18.0s					
ULN	**Ulaanbaatar**	**51.05**	**301**	P	**P**	**10 35 43.6**	**-1.6**			comp=Z,8µm,17.0s								**MIAR**	**Mount Ida**	**55.40**	**77**	P	**P**	**10 36 16.5**	**-0.6**
ULN				P	**P**	**10 35 43.6**	**-1.6**		HHC				LR	LR				MIAR			pmax	pmax		
ULN	**Ulaanbaatar**	**51.05**	**301**	⇓P	**P**	**10 35 44.7**	**-0.5**			comp=Z,10µm,16.2s									comp=Z,53nm,0.9s					
ULN	**Ulaanbaatar**	**51.05**	**301**	P	**P**	**10 35 44.4**	**-0.7**		**ABTX**	**Abilene, Hawle**	**53.03**	**83**	IAmb	IAmb	10 36 32.3			**MIAR**	**Mount Ida**	**55.40**	**77**	IAmb	IAmb	10 36 42.2	
	comp=Z,24µmcomp=Z,4µmcomp=Z,198nm,1.0s									comp=Z,109nm,1.2s									comp=Z,62nm,1.1s					
OK032	**Salt Plains WL**	**51.09**	**78**	IAmb	IAmb	10 36 01.6			**ABTX**	**Abilene, Hawle**	**53.03**	**83**	P	**P**	**10 35 59.0**	**-0.9**		MIAR			IAMs_20	IAMs_20	11 02 43.2	
	comp=Z,42nm,0.9s									baz=314,SNR=29									comp=Z,6µm,18.0s					
OK032				IAMs_20	IAMs_20	11 00 08.2			**G45A**	**Suttons Bay**	**53.03**	**62**	IAmb	IAmb	10 36 13.8			**MIAR**	**Mount Ida**	**55.40**	**77**	⇓P	**P**	**10 36 16.4**	**-0.8**
	comp=Z,7µm,18.0s									comp=Z,45nm,0.8s								**MIAR**	**Mount Ida**	**55.40**	**77**	P	**P**	**10 36 15.5**	**-1.6**
SUMG	**Summit**	**51.15**	**17**	*i* P	**P**	**10 35 45.8**	**0.0**		G45A				IAMs_20	IAMs_20	11 00 08.4				baz=313,SNR=24					
SUMG				IAmb	IAmb	10 35 49.7				comp=Z,10µm,19.0s								**Z38A**	**Mt. Pleasant**	**55.43**	**79**	IAmb	IAmb	10 36 34.7	
	comp=Z,98nm,0.8s								**SLBS**	**Sierra La Lagu**	**53.05**	**99**	P	**P**	**10 36 01.1**	**+0.9**			comp=Z,58nm,0.8s					
SUMG				IAMs_20	IAMs_20	11 02 01.6			SLBS				IAmb	IAmb	10 36 19.2			**435B**	**Jarrell**	**55.57**	**83**	IAmb	IAmb	10 36 37.6	
	comp=Z,10µm,19.2s									comp=Z,87nm,1.2s									comp=Z,58nm,0.8s					
SUMG	**Summit**	**51.15**	**17**	P	**P**	**10 35 45.1**	**-0.7**		**TUL1**	**Leonard**	**53.15**	**77**	P	**P**	**10 35 58.8**	**-1.9**		435B			IAMs_20	IAMs_20	11 01 07.0	
SUMG				pmax	pmax					baz=312									comp=Z,9µm,18.0s					
	comp=Z,96nm,0.7s								**HPIG**		**53.31**	**92**	IAmb	IAmb	10 36 16.1			**435B**	**Jarrell**	**55.57**	**83**	P	P	10 36 10.6	-7.8
SUMG	**Summit**	**51.15**	**17**	P	**P**	**10 35 45.1**	**-0.7**			comp=Z,75nm,1.2s									baz=315					
SUMG	**Summit**	**51.15**	**17**	⇑P	**P**	**10 35 45.1**	**-0.7**		**I45A**	**Fountain**	**53.36**	**63**	IAMs_20	IAMs_20	11 00 02.1			**SCO**	**Scoresbysund**	**55.59**	**13**	*i* P	**P**	**10 36 18.0**	**0.0**
KAN17	**Caldwell West**	**51.21**	**77**	IAmb	IAmb	10 36 02.7				comp=Z,12µm,19.0s								SCO			IAmb	IAmb	10 36 21.0	
	comp=Z,50nm,1.0s								**S39A**	**Bolivar**	**53.44**	**74**	IAMs_20	IAMs_20	10 58 04.9				comp=Z,52nm,0.7s					
KS20	**Mayfield South**	**51.21**	**77**	IAmb	IAmb	10 36 03.3				comp=Z,6µm,20.0s								SCO			IAMs_20	IAMs_20	11 06 19.8	
	comp=Z,71nm,1.1s								**LOOK**	**Love County**	**53.60**	**80**	IAMs_20	IAMs_20	11 01 12.7				comp=Z,14µm,18.4s					
HSPB	**Hornsund (broa**	**51.22**	**359**	*e*P	**P**	**10 35 45.5**	**-0.4**			comp=Z,8µm,18.0s								**SCO**	**Scoresbysund**	**55.59**	**13**	P	**P**	**10 36 17.6**	**-0.4**
HSPB				IVmBBB		10 35 48.1			**L44A**	**Lake County Fo**	**53.63**	**66**	P	P	10 35 58.8	-5.3		SCO			pmax	pmax		
	comp=Z,713nm,1.6s									baz=311									comp=Z,248nm,1.6s					
HSPB				*e*S	**S**	**10 43 03.6**	**+1.0**		**U38A**	**Gravette**	**53.64**	**75**	IAmb	IAmb	10 36 20.6			SCO			MLR	MLR		
HSPB				IVMs_BB	IVMs_BB	11 03 47.5				comp=Z,37nm,0.9s									comp=Z,9µm,19.0s					
	comp=Z,2µm,17.6s								U38A				IAMs_20	IAMs_20	11 01 20.3			**SCO**	**Scoresbysund**	**55.59**	**13**	P	**P**	**10 36 17.6**	**-0.4**
F42A	**Maple Grove Fa**	**51.23**	**63**	IAMs_20	IAMs_20	10 58 45.6				comp=Z,7µm,19.0s								SCO			IAMs_20	IAMs_20	11 04 35.1	
	comp=Z,10µm,19.0s								**BJO1**	**Bjornoya**	**53.65**	**357**	*e*P	**P**	**10 36 02.4**	**-1.4**			comp=Z,9µm,19.0s					
KAN13	**South Haven SW**	**51.40**	**77**	IAmb	IAmb	10 36 04.6			BJO1				*e*S	**S**	**10 43 38.7**	**+2.9**		**SCO**	**Scoresbysund**	**55.59**	**13**	⇑P	**P**	**10 36 18.2**	**+0.2**
	comp=Z,93nm,1.0s								**R40A**	**Maddies Statio**	**53.66**	**72**	IAmb	IAmb	10 36 17.6			**WHAR**	**Wooly Hollow**	**55.67**	**75**	IAMs_20	IAMs_20	11 03 24.1	
SONM	**Songino Array**	**51.42**	**301**	P	**P**	**10 35 47.6**	**-0.3**			comp=Z,42nm,0.7s									comp=Z,6µm,19.0s					
	comp=Z,20nm,0.9s,baz=54,slow=5.8,SNR=70								R40A				IAMs_20	IAMs_20	11 00 38.8			**P46A**	**Rosedale**	**55.72**	**68**	IAmb	IAmb	10 36 32.5	
SONM				PcP	**PcP**	**10 37 03.7**	**+1.6**			comp=Z,7µm,19.0s									comp=Z,64nm,0.8s					
	comp=Z,7.6nm,0.8s,baz=75,slow=1.5,SNR=1.9								**GLMI**	**Grayling**	**53.74**	**62**	P	P	10 35 59.4	-5.5		**SCHQ**	**Schefferville**	**55.76**	**43**	P	**P**	**10 36 19.2**	**-0.2**
SONM				ScP	**ScP**	**10 40 59.8**	**+2.5**			baz=310									comp=Z,37nm,0.8s,baz=325,slow=8.3,SNR=21					
	comp=Z,1.6nm,0.8s,baz=36,slow=4.3,SNR=2.6								**ICESG**	**Greenland Ices**	**53.74**	**20**	*i* P	**P**	**10 36 04.4**	**-0.6**		SCHQ			LR	LR	11 03 01.5	
SONM				LR	LR	10 59 43.9			ICESG				IAmb	IAmb	10 36 07.3				comp=Z,9µm,18.2s,baz=318,slow=39					
	comp=Z,17µm,18.7s,baz=55,slow=39									comp=Z,85nm,0.7s								**SCHQ**	**Schefferville**	**55.76**	**43**	IAMs_20	IAMs_20	11 02 50.0	
SONM	**Songino Array**	**51.42**	**301**	P	**P**	**10 35 46.4**	**-1.4**		ICESG				IAMs_20	IAMs_20	11 03 29.8				comp=Z,10µm,18.0s					
SONM				IAmb	IAmb	10 35 51.2				comp=Z,17µm,16.8s								**SCHQ**	**Schefferville**	**55.76**	**43**	⇓P	**P**	**10 36 19.1**	**-0.3**
	comp=Z,76nm,1.4s								**SSE**	**Sheshan**	**53.75**	**276**	P	**P**	**10 36 05.7**	**+0.6**		**PBMO**	**Poplar Bluff**	**55.76**	**72**	IAmb	IAmb	10 36 38.2	
HOPEN	**Hopen**	**51.42**	**356**	*e*P	**P**	**10 35 47.0**	**-0.2**		SSE				pP	**sP**	**10 36 13.4**	**+0.7**			comp=Z,51nm,1.2s					
HOPEN				*e*S	**S**	**10 43 04.1**	**-1.2**		SSE				sP	**pwP**	**10 36 17.0**	**+2.0**		PBMO			IAMs_20	IAMs_20	11 01 00.3	
HOPEN				IVMs_BB	IVMs_BB	10 56 10.0			SSE				S	**S**	**10 43 39.7**	**+1.4**			comp=Z,8µm,19.0s					
	comp=Z,3µm,23.7s								SSE				pmax	pmax				**W41B**	**Gary Mavity, V**	**55.77**	**75**	P	**P**	**10 36 17.8**	**-1.9**
CROK	**Carrier**	**51.43**	**78**	IAmb	IAmb	10 36 05.0				comp=Z,32nm,0.8s									baz=313,SNR=5.5					
	comp=Z,60nm,0.8s								SSE				pmax	pmax				**OLIL**	**Olney**	**55.80**	**69**	IAMs_20	IAMs_20	11 00 22.1	
ZAK	**Zakamensk**	**51.46**	**305**	*e*P	**P**	**10 35 46.8**	**-1.3**			comp=Z,610nm,4.4s									comp=Z,12µm,20.0s					
ZAK				*e*		10 37 00.1			SSE				LR	LR				**237A**	**Washetta, Mont**	**55.80**	**80**	IAMs_20	IAMs_20	11 01 26.1	
ZAK				pmax	pmax					comp=Z,1µm,18.6s									comp=Z,7µm,18.0s					
	comp=Z,83nm,1.4s								**HDIL**	**Hopedale**	**53.90**	**68**	IAMs_20	IAMs_20	10 59 22.7			**LCAR**	**Lake Charles**	**55.81**	**74**	IAMs_20	IAMs_20	11 02 01.8	
ZAK				pmax	pmax					comp=Z,13µm,20.0s									comp=Z,5µm,20.0s					
	comp=Z,57nm,1.2s								**HDIL**	**Hopedale**	**53.90**	**68**	P	**P**	**10 36 04.0**	**-2.2**		**S44A**	**Carbondale**	**55.83**	**71**	IAmb	IAmb	10 36 39.5	
N38A	**Joes South For**	**51.46**	**71**	IAMs_20	IAMs_20	10 57 07.5				baz=311,SNR=14									comp=Z,46nm,0.8s					
	comp=Z,9µm,20.0s								**Z35A**	**Perchaven, San**	**54.01**	**80**	IAmb	IAmb	10 36 32.6			S44A			IAMs_20	IAMs_20	10 59 32.0	
BLOK	**Blackwell**	**51.72**	**77**	IAmb	IAmb	10 36 10.7				comp=Z,51nm,0.9s									comp=Z,11µm,21.0s					
	comp=Z,53nm,1.1s								Z35A				IAMs_20	IAMs_20	11 00 18.5			**SIUC**	**Southern Illin**	**55.84**	**71**	IAmb	IAmb	10 36 34.5	
MOY	**Mondy**	**51.81**	**308**	*e*P	**P**	**10 35 51.7**	**+1.0**			comp=Z,10µm,18.0s									comp=Z,52nm,0.8s					
MOY				pmax	pmax				**HHAR**	**Hobbs**	**54.01**	**75**	IAmb	IAmb	10 36 37.3			SIUC			IAMs_20	IAMs_20	10 59 42.0	
	comp=Z,96nm,1.4s									comp=Z,48nm,1.2s									comp=Z,10µm,20.0s					
L40A	**Anamosa**	**51.82**	**68**	IAmb	IAmb	10 36 06.7			HHAR				IAMs_20	IAMs_20	11 00 35.2			**X40A**	**Basin Creek Fa**	**55.89**	**76**	IAMs_20	IAMs_20	11 03 17.0	
	comp=Z,89nm,0.9s									comp=Z,6µm,18.0s									comp=Z,6µm,19.0s					
JFWS	**Jewell Farm**	**51.83**	**67**	IAmb	IAmb	10 36 03.9			**BTO**	**Baotou**	**54.02**	**292**	*e*P	**P**	**10 36 06.0**	**-1.2**		**X40A**	**Basin Creek Fa**	**55.89**	**76**	P	**P**	**10 36 18.6**	**-2.0**
	comp=Z,100nm,0.9s								BTO				S	**S**	**10 43 44.6**	**+2.6**			baz=314,SNR=10					
JFWS	**Jewell Farm**	**51.83**	**67**	P	**P**	**10 35 48.7**	**-2.1**		BTO				LR	LR				**833A**	**Chaparral WMA,**	**56.19**	**86**	P	**P**	**10 36 22.3**	**-0.6**
	baz=310,SNR=15									comp=Z,15µm,18.0s									baz=316,SNR=19					
KAPO	**Kapuskasing**	**51.92**	**56**	⇓P	**P**	**10 35 50.8**	**-0.6**		BTO				LR	LR				**PARMO**	**Parma**	**56.23**	**72**	IAMs_20	IAMs_20	11 01 33.9	
I42A	**Draeger Farm,**	**51.96**	**65**	IAmb	IAmb	10 36 05.5				comp=Z,22µm,20.0s									comp=Z,9µm,18.0s					
	comp=Z,113nm,0.9s								**DY2G**	**Dye2**	**54.27**	**24**	*i* P	**P**	**10 36 08.0**	**-0.8**		**HENM**	**Henderson Moun**	**56.36**	**72**	IAMs_20	IAMs_20	11 03 39.3	
P38A	**Dawn**	**52.04**	**72**	IAmb	IAmb	10 36 06.3			DY2G				IAMs_20	IAMs_20	11 05 16.9				comp=Z,7µm,18.0s					
	comp=Z,74nm,0.8s									comp=Z,7µm,17.7s								**PENMO**	**Penman**	**56.45**	**72**	IAMs_20	IAMs_20	11 01 31.7	
P38A				IAMs_20	IAMs_20	10 57 23.9			**X37A**	**Clayton**	**54.29**	**78**	IAmb	IAmb	10 36 26.2				comp=Z,8µm,18.0s					
	comp=Z,8µm,21.0s									comp=Z,87nm,0.9s								**PEBM**	**Pemiscott Bayo**	**56.55**	**73**	IAMs_20	IAMs_20	11 01 34.1	
T35A	**Sooner Cattle**	**52.04**	**76**	IAmb	IAmb	10 36 10.5			**P43A**	**Skaggs, Pawnee**	**54.37**	**69**	IAMs_20	IAMs_20	10 59 27.3				comp=Z,7µm,19.0s					
	comp=Z,44nm,0.9s									comp=Z,12µm,20.0s								**GNAR**	**Gosnell**	**56.55**	**73**	IAMs_20	IAMs_20	11 00 01.4	
T35A				IAMs_20	IAMs_20	11 01 34.3			**JCT**	**Junction City**	**54.42**	**85**	IAmb	IAmb	10 36 22.5				comp=Z,6µm,21.0s					
	comp=Z,5µm,18.0s									comp=Z,66nm,0.9s								**N49A**	**Columbus Grove**	**56.55**	**65**	IAmb	IAmb	10 36 38.6	
WMOK	**Wichita Mounta**	**52.12**	**80**	P	**P**	**10 35 51.7**	**-1.5**		JCT				IAMs_20	IAMs_20	11 00 38.7				comp=Z,76nm,0.9s					
WMOK				pmax	pmax					comp=Z,10µm,18.0s								N49A			IAMs_20	IAMs_20	11 01 34.8	
	comp=Z,74nm,0.8s								**JCT**	**Junction City**	**54.42**	**85**	⇓P	**P**	**10 36 09.3**	**-0.8**			comp=Z,11µm,18.0s					
WMOK	**Wichita Mounta**	**52.12**	**80**	IAmb	IAmb	10 36 09.3			**JCT**	**Junction City**	**54.42**	**85**	P	**P**	**10 36 08.9**	**-1.2**		**HICK**	**Hickman**	**56.63**	**72**	IAmb	IAmb	10 36 46.1	
	comp=Z,56nm,0.8s									baz=315,SNR=8.4									comp=Z,87nm,0.9s					
WMOK	**Wichita Mounta**	**52.12**	**80**	IAMs_20	IAMs_20	10 59 09.6			**MGMO**	**Mountain Grove**	**54.42**	**73**	IAmb	IAmb	10 36 28.0			HICK			IAMs_20	IAMs_20	11 03 47.2	
	comp=Z,9µm,18.0s									comp=Z,41nm,0.9s									comp=Z,6µm,18.0s					
WMOK	**Wichita Mounta**	**52.12**	**80**	⇑P	**P**	**10 35 53.2**	**+0.1**		MGMO				IAMs_20	IAMs_20	10 58 44.9			**LPAR**	**Lepanto**	**56.64**	**73**	IAMs_20	IAMs_20	11 02 45.6	
WMOK	**Wichita Mounta**	**52.12**	**80**	P	**P**	**10 35 51.1**	**-2.1**			comp=Z,7µm,20.0s									comp=Z,5µm,19.0s					
	baz=312,SNR=23								**CCM**	**Cathedral Cave**	**54.42**	**72**	P	**P**	**10 36 08.2**	**-1.8**		**T45A**	**Paducah**	**56.64**	**71**	IAMs_20	IAMs_20	11 00 07.6	
OK029	**Liberty Lake**	**52.22**	**78**	IAmb	IAmb	10 36 10.6			CCM				pmax	pmax					comp=Z,9µm,20.0s					
	comp=Z,87nm,0.9s									comp=Z,27nm,0.8s								**NATX**	**Nacogdoches**	**56.67**	**80**	IAmb	IAmb	10 36 43.7	
OK029				IAMs_20	IAMs_20	11 01 04.0			CCM				MLR	MLR					comp=Z,52nm,0.9s					
	comp=Z,6µm,18.0s									comp=Z,8µm,20.0s								NATX			IAMs_20	IAMs_20	10 59 48.0	
H43A	**Windswept, Lux**	**52.23**	**64**	IAMs_20	IAMs_20	10 59 18.4			**CCM**	**Cathedral Cave**	**54.42**	**72**	P	**P**	**10 36 08.2**	**-1.8**			comp=Z,7µm,21.0s					
	comp=Z,12µm,18.0s								CCM				IAmb	IAmb	10 36 23.9			**NATX**	**Nacogdoches**	**56.67**	**80**	P	**P**	**10 36 24.4**	**-1.8**
DBG	**Daneborg**	**52.28**	**10**	*i* P	**P**	**10 35 52.3**	**-1.5**			comp=Z,27nm,0.8s									baz=315					
DBG				IAmb	IAmb	10 35 55.2			**CCM**	**Cathedral Cave**	**54.42**	**72**	IAMs_20	IAMs_20	11 00 18.8			**SADO**	**Sadowa**	**56.70**	**58**	IAmb	IAmb	10 36 40.5	
	comp=Z,116nm,0.8s									comp=Z,8µm,20.0s									comp=Z,55nm,0.8s					
DBG				IAMs_20	IAMs_20	11 00 40.1			**CCM**	**Cathedral Cave**	**54.42**	**72**	⇑P	**P**	**10 36 08.2**	**-1.8**		SADO			IAMs_20	IAMs_20	11 02 09.2	
	comp=Z,15µm,17.3s								**CCM**	**Cathedral Cave**	**54.42**	**72**	P	P	10 36 04.8	-5.1			comp=Z,8µm,19.0s					
DBG	**Daneborg**	**52.28**	**10**	⇑P	**P**	**10 35 51.8**	**-2.0**			baz=312			

735A					IAMs_20	IAMs_20	11 00 50.5												
	comp=Z,8µm,18.0s																		
ISOG	**Isortoq, Green**	**56.80**	**22**	*i*	P	**P**	**10 36 27.4 +0.8**												
ISOG					IAmb	IAmb	10 36 31.6												
	comp=Z,70nm,0.6s																		
ISOG					IAMs_20	IAMs_20	11 04 02.4												
	comp=Z,11µm,19.0s																		
CCAR	**Cane Creek**	**56.92**	**76**		IAMs_20	IAMs_20	11 04 06.3												
	comp=Z,7µm,18.0s																		
O49A	**Covington**	**56.96**	**66**		IAmb	IAmb	10 36 41.3												
	comp=Z,61nm,1.0s																		
HALT	**Halls**	**56.99**	**73**		IAMs_20	IAMs_20	11 01 56.9												
	comp=Z,7µm,18.0s																		
ANGG	**Ammassalik, Gr**	**57.05**	**22**	*i*	P	**P**	**10 36 28.2 -0.2**												
ANGG					IAmb	IAmb	10 36 29.4												
	comp=Z,72nm,0.9s																		
ANGG					IAMs_20	IAMs_20	11 06 30.7												
	comp=Z,11µm,20.0s																		
WCI	**Wyandotte Cave**	**57.18**	**69**		P	**P**	**10 36 28.9 -0.9**												
WCI					pmax	pmax													
	comp=Z,82nm,1.0s																		
WCI					MLR	MLR													
	comp=Z,12µm,20.0s																		
WCI	**Wyandotte Cave**	**57.18**	**69**		P	**P**	**10 36 28.9 -0.9**												
WCI					IAmb	IAmb	10 36 43.3												
	comp=Z,82nm,1.0s																		
WCI	**Wyandotte Cave**	**57.18**	**69**		IAMs_20	IAMs_20	11 01 35.6												
	comp=Z,12µm,20.0s																		
WCI	**Wyandotte Cave**	**57.18**	**69**	⇑	P	**P**	**10 36 28.9 -0.9**												
WCI	**Wyandotte Cave**	**57.18**	**69**		P	**P**	**10 36 26.0 -3.7**												
	baz=313																		
P49A	**Miami Univ. Ec**	**57.19**	**66**		P	**P**	**10 36 27.1 -2.8**												
	baz=313,SNR=12																		
HKT	**Hockley**	**57.23**	**82**		P	**P**	**10 36 30.7 +0.6**												
HKT					pmax	pmax													
	comp=Z,128nm,1.6s																		
HKT					MLR	MLR													
	comp=Z,8µm,20.0s																		
HKT	**Hockley**	**57.23**	**82**		P	**P**	**10 36 30.7 +0.6**												
HKT					IAmb	IAmb	10 36 52.1												
	comp=Z,128nm,1.6s																		
HKT	**Hockley**	**57.23**	**82**		IAMs_20	IAMs_20	11 01 31.6												
	comp=Z,8µm,20.0s																		
HKT	**Hockley**	**57.23**	**82**	⇑	P	**P**	**10 36 30.6 +0.6**												
HAMF	**Hammerfest**	**57.29**	**355**	*e*	P	P	10 36 24.1 -5.9												
HAMF				*e*	S	**S**	**10 44 22.0 -2.5**												
HAMF				*e*	SS	**SS**	**10 48 14.9 +2.1**												
HAMF					IVMs_BB	IVMs_BB	11 06 57.2												
	comp=Z,2µm,18.6s																		
T47A	**Sharon Grove**	**57.56**	**70**		IAmb	IAmb	10 36 52.5												
	comp=Z,77nm,0.9s																		
W45A	**Hickory Valley**	**57.60**	**73**		IAMs_20	IAMs_20	11 03 15.1												
	comp=Z,5µm,20.0s																		
ZAA0	**Zalesovo Array**	**57.64**	**318**		IAMs_20	IAMs_20	11 03 39.6												
	comp=Z,7µm,18.0s																		
ZALV	**Zalesovo Beam**	**57.64**	**318**		P	**P**	**10 36 31.2 -1.5**												
	comp=Z,9.7nm,0.5s,baz=26,slow=7.4,SNR=17																		
ZALV					PcP	**PcP**	**10 37 26.9 +1.3**												
	comp=Z,15nm,0.7s,baz=41,slow=3.5,SNR=6.6																		
ZALV					LR	LR	11 03 59.3												
	comp=Z,8µm,18.1s,baz=49,slow=39																		
KVTX	**Kingsville**	**57.67**	**86**		IAMs_20	IAMs_20	11 01 43.0												
	comp=Z,8µm,18.0s																		
DELO	**Deloro Mine**	**57.67**	**58**		IAmb	IAmb	10 36 52.1												
	comp=Z,81nm,1.2s																		
DELO					IAMs_20	IAMs_20	11 03 05.9												
	comp=Z,11µm,19.0s																		
ACSO	**Alum Creek Sta**	**57.69**	**65**		IAmb	IAmb	10 36 46.4												
	comp=Z,56nm,0.9s																		
ACSO	**Alum Creek Sta**	**57.69**	**65**		P	**P**	**10 36 29.5 -3.8**												
	baz=313																		
M52A	**Chesterland**	**57.70**	**63**		IAMs_20	IAMs_20	11 03 03.9												
	comp=Z,9µm,20.0s																		
WVT	**Waverly**	**57.73**	**71**		P	**P**	**10 36 32.4 -1.2**												
WVT					pmax	pmax													
	comp=Z,80nm,1.2s																		
WVT	**Waverly**	**57.73**	**71**		P	**P**	**10 36 32.4 -1.2**												
WVT					IAmb	IAmb	10 36 53.9												
	comp=Z,80nm,1.2s																		
WVT	**Waverly**	**57.73**	**71**		IAMs_20	IAMs_20	11 00 39.4												
	comp=Z,7µm,21.0s																		
WVT	**Waverly**	**57.73**	**71**	⇓	P	**P**	**10 36 32.5 -1.2**												
WVT	**Waverly**	**57.73**	**71**		P	P	10 36 28.5 -5.1												
	baz=314																		
OXF	**Oxford**	**57.91**	**74**		P	**P**	**10 36 33.5 -1.4**												
	baz=314,SNR=17																		
TATO	**Taipei**	**57.93**	**270**		IAMs_20	IAMs_20	11 00 59.3												
	comp=Z,7µm,20.0s																		
TATO	**Taipei**	**57.93**	**270**		P	**P**	**10 36 37.6 +2.5**												
KEV	**Kevo**	**57.95**	**353**		P	**P**	**10 36 33.9 -0.8**												
KEV					pmax	pmax													
	comp=Z,42nm,0.9s																		
KEV	**Kevo**	**57.95**	**353**		P	**P**	**10 36 33.9 -0.8**												
KEV					IAmb	IAmb	10 36 46.0												
	comp=Z,42nm,0.9s																		
KEV					IAMs_20	IAMs_20	11 00 51.1												
	comp=Z,7µm,22.0s																		
KEV	**Kevo**	**57.95**	**353**	⇑	P	**P**	**10 36 34.0 -0.8**												
GAC	**Glen Almond**	**57.97**	**56**	⇓	P	**P**	**10 36 34.2 -1.0**												
143A	**Socs Landing,**	**57.98**	**77**		IAmb	IAmb	10 36 53.1												
	comp=Z,96nm,1.1s																		
143A					IAMs_20	IAMs_20	11 04 20.5												
	comp=Z,7µm,19.0s																		
J54A	**Appleton**	**57.99**	**59**		IAmb	IAmb	10 36 49.6												
	comp=Z,99nm,1.0s																		
ERPA	**Erie**	**58.05**	**61**		IAMs_20	IAMs_20	11 02 30.1												
	comp=Z,11µm,20.0s																		
ERPA	**Erie**	**58.05**	**61**		P	**P**	**10 36 32.7 -3.2**												
	baz=313																		
M53A	**WI Miller and**	**58.14**	**62**		IAMs_20	IAMs_20	11 03 26.6												
	comp=Z,9µm,20.0s																		
M53A	**WI Miller and**	**58.14**	**62**		P	P	10 36 30.3 -6.2												
	baz=313																		
MEDO	**Medina**	**58.16**	**59**		IAmb	IAmb	10 36 49.9												
	comp=Z,88nm,0.9s																		
P51A	**Williamsport**	**58.16**	**65**		IAmb	IAmb	10 36 49.4												
	comp=Z,58nm,1.1s																		
YHNB	**Yeheng**	**58.22**	**270**		IAMs_20	IAMs_20	11 00 59.1												
	comp=Z,5µm,20.0s																		
ZAIG	**Zacatecas**	**58.26**	**93**		IAmb	IAmb	10 36 51.7												
	comp=Z,74nm,1.5s																		
R50A	**Paris**	**58.27**	**67**		IAmb	IAmb	10 36 51.2												
	comp=Z,75nm,0.8s																		
441A	**DeRidder**	**58.27**	**80**		IAMs_20	IAMs_20	11 03 39.5												
	comp=Z,10µm,18.0s																		
ARA0	**ARCESS Array S**	**58.27**	**354**	*e*	P	**P**	**10 36 36.9 -0.1**												
ARCES	**ARCESS Array B**	**58.27**	**354**		P	**P**	**10 36 35.6 -1.4**												
	comp=Z,18nm,0.6s,baz=14,slow=7.8,SNR=38																		
ARCES					LR	LR	11 00 58.9												
	comp=Z,6µm,22.0s,baz=5.0,slow=35																		
ARCES	**ARCESS Array B**	**58.27**	**354**		IAmb	IAmb	10 36 39.8												
	comp=Z,63nm,1.2s																		
Y45A	**Yeager Farm, C**	**58.28**	**74**		IAMs_20	IAMs_20	11 02 53.4												
	comp=Z,5µm,19.0s																		
ALLY	**Alegheny Colle**	**58.29**	**62**		IAMs_20	IAMs_20	11 02 27.4												
	comp=Z,10µm,20.0s																		
WHN	**Wuhan**	**58.32**	**280**	⇑	P	**P**	**10 36 37.0 -0.8**												
WHN					sP	**pwP**	**10 36 47.5 -0.2**												
WHN					S	**S**	**10 44 41.8 +2.7**												
WHN					ScS	**ScS**	**10 46 27.4 +1.1**												
WHN					pmax	pmax													
	comp=Z,170nm,0.9s																		
WHN					LR	LR													
	comp=Z,4µm,18.5s																		
WHN					LR	LR													
	comp=Z,13µm,20.0s																		
WHN					LR	LR													
	comp=Z,10µm,17.0s																		
342A	**Flagon Creek P**	**58.36**	**78**		IAMs_20	IAMs_20	11 06 26.6												
	comp=Z,7µm,18.0s																		
PLAL	**Pickwick Lake**	**58.38**	**72**		IAmb	IAmb	10 36 57.4												
	comp=Z,139nm,1.6s																		
PLAL					IAMs_20	IAMs_20	11 02 38.6												
	comp=Z,6µm,18.0s																		
PECO	**Prince Edward**	**58.40**	**58**		IAmb	IAmb	10 36 57.3												
	comp=Z,82nm,1.0s																		
PECO					IAMs_20	IAMs_20	11 03 29.1												
	comp=Z,9µm,18.0s																		
NACB	**Ninganchiao**	**58.45**	**270**		IAmb	IAmb	10 37 00.0												
	comp=Z,60nm,1.0s																		
TRO	**Tromso**	**58.52**	**357**	*e*	P	**P**	**10 36 37.2 -1.4**												
TRO					IVmB_BB		10 36 38.1												
	comp=Z,785nm,2.0s																		
TRO				*e*	S	**S**	**10 44 38.7 -1.8**												
TRO					IVMs_BB	IVMs_BB	11 03 04.3												
	comp=Z,2µm,15.3s																		
JETT	**Jettan, Norway**	**58.53**	**356**	*e*	P	**P**	**10 36 39.4 +0.5**												

P52A	**Corning**	**58.58**	**65**		IAmb	IAmb	10 37 01.7												
	comp=Z,35nm,0.9s																		
P52A	**Corning**	**58.58**	**65**		P	P	10 36 32.7 -6.9												
	baz=314																		
V48A	**Smith Brothers**	**58.59**	**71**		IAmb	IAmb	10 36 58.8												
	comp=Z,38nm,1.1s																		
V48A					IAMs_20	IAMs_20	11 00 55.1												
	comp=Z,9µm,22.0s																		
CLTN	**Cedars of Leba**	**58.63**	**70**		IAmb	IAmb	10 36 55.3												
	comp=Z,53nm,0.9s																		
CLTN					IAMs_20	IAMs_20	11 01 18.2												
	comp=Z,12µm,21.0s																		
M54A	**Oil Creek Stat**	**58.65**	**62**		IAMs_20	IAMs_20	11 02 48.9												
	comp=Z,10µm,20.0s																		
M54A	**Oil Creek Stat**	**58.65**	**62**		P	**P**	**10 36 38.4 -1.6**												
	baz=314,SNR=7.1																		
U49A	**Red Boiling Sp**	**58.66**	**70**		IAmb	IAmb	10 36 59.5												
	comp=Z,44nm,1.1s																		
O53A	**New Philadelph**	**58.66**	**64**		IAmb	IAmb	10 36 53.1												
	comp=Z,82nm,1.0s																		
O53A	**New Philadelph**	**58.66**	**64**		P	P	10 36 34.8 -5.4												
	baz=314																		
NRS	**Narsarsuaq**	**58.70**	**28**	*i*	P	**P**	**10 36 41.7 +1.7**												
NRS					IAMs_20	IAMs_20	11 06 02.4												
	comp=Z,16µm,19.9s																		
NRS	**Narsarsuaq**	**58.70**	**28**	⇑	P	**P**	**10 36 41.6 +1.6**												
MMNY	**Mt. Morris Dam**	**58.75**	**59**		IAmb	IAmb	10 37 02.5												
	comp=Z,50nm,0.9s																		
N54A	**Moraine State**	**58.85**	**62**		IAMs_20	IAMs_20	11 03 48.2												
	comp=Z,8µm,19.0s																		
N54A	**Moraine State**	**58.85**	**62**		P	**P**	**10 36 39.7 -1.7**												
	baz=314,SNR=7.6																		
VBMS	**Vicksburg**	**58.85**	**76**		IAMs_20	IAMs_20	11 05 54.6												
	comp=Z,9µm,18.0s																		
VBMS	**Vicksburg**	**58.85**	**76**		P	**P**	**10 36 38.2 -3.4**												
	baz=315																		
J56A	**Wolcott**	**58.93**	**58**		IAMs_20	IAMs_20	11 03 28.1												
	comp=Z,7µm,18.0s																		
KTK1	**Kautokeino**	**58.93**	**355**	*e*	P	**P**	**10 36 40.8 -0.8**												
KTK1					IVmB_BB		10 36 43.5												
	comp=Z,452nm,1.7s																		
KTK1				*e*	S	**S**	**10 44 46.6 +0.5**												
KTK1					IVMs_BB	IVMs_BB	11 07 27.0												
	comp=Z,2µm,18.3s																		
Q52A	**Bidwell**	**58.97**	**65**		IAmb	IAmb	10 36 55.1												
	comp=Z,62nm,0.9s																		
LVZ	**Lovozero**	**59.06**	**350**	*c*	P	**P**	**10 36 42.3 -0.2**												
LVZ					pmax	pmax													
	comp=Z,101nm,0.8s																		
LVZ					MLR	MLR													
	comp=Z,7µm,19.0s																		
LVZ	**Lovozero**	**59.06**	**350**		P	**P**	**10 36 41.1 -1.4**												
LVZ					IAMs_20	IAMs_20	11 04 27.3												
	comp=Z,7µm,20.0s																		
LVZ	**Lovozero**	**59.06**	**350**	⇑	P	**P**	**10 36 41.4 -1.1**												
XAN	**Xi'an**	**59.12**	**287**		P	**P**	**10 36 42.6 -0.9**												
XAN					pP	pwP	10 36 56.0 +2.6												
XAN					pmax	pmax													
	comp=Z,28nm,1.7s																		
XAN					pmax	pmax													
	comp=Z,1µm,7.3s																		
XAN					LR	LR													
	comp=Z,5µm,18.3s																		
XAN					LR	LR													
	comp=Z,9µm,19.4s																		
XAN					LR	LR													
	comp=Z,13µm,22.6s																		
S51A	**Beattyville**	**59.13**	**67**		IAmb	IAmb	10 36 57.0												
	comp=Z,60nm,0.8s																		
LONY	**Lake Ozonia**	**59.18**	**56**		IAmb	IAmb	10 36 57.1												
	comp=Z,48nm,0.8s																		
LONY					IAMs_20	IAMs_20	11 02 58.4												
	comp=Z,11µm,20.0s																		
LONY	**Lake Ozonia**	**59.18**	**56**		P	**P**	**10 36 41.9 -1.8**												
	baz=314,SNR=14																		
LMQ	**La Malbaie**	**59.24**	**51**		IAmb	IAmb	10 37 11.4												
	comp=Z,56nm,1.1s																		
344A	**Westbrook Farm**	**59.27**	**77**		IAMs_20	IAMs_20	11 04 52.6												
	comp=Z,9µm,18.0s																		
J57A	**Williamstown**	**59.29**	**58**		IAMs_20	IAMs_20	11 03 55.5												
	comp=Z,7µm,18.0s																		
X48A	**Hartselle**	**59.35**	**72**		IAmb	IAmb	10 37 04.4												
	comp=Z,40nm,1.0s																		
X48A					IAMs_20	IAMs_20	11 05 28.5												
	comp=Z,6µm,19.0s																		
146A	**Union**	**59.44**	**75**		IAMs_20	IAMs_20	11 04 28.9												
	comp=Z,6µm,18.0s																		
SWET	**Sewanee**	**59.47**	**71**		IAmb	IAmb	10 37 04.7												
	comp=Z,38nm,1.1s																		
SWET					IAMs_20	IAMs_20	11 02 06.5												
	comp=Z,9µm,21.0s																		
K57A	**Scipio Center**	**59.49**	**59**		IAMs_20	IAMs_20	11 03 46.9												
	comp=Z,9µm,19.0s																		
APA	**Apatity**	**59.51**	**350**	⇓	P	**P**	**10 36 45.1 -0.5**												
APA				*i*			10 38 58.0												
APA				*i*	S	**S**	**10 44 47.0 -6.5**												
APA				*i*	PS	**PnS**	**10 45 04.0 -2.8**												
APA					pmax	pmax													
	comp=Z,13nm,0.9s																		
DGZ	**Jazzator, Alta**	**59.53**	**313**	*d*	P	**P**	**10 36 45.7 -0.5**												
DGZ					pmax	pmax													
	comp=Z,80nm,1.5s																		
DGZ					MLR	MLR													
	comp=Z,10µm,17.0s																		
FRNY	**Flat Rock**	**59.53**	**55**		IAmb	IAmb	10 36 59.7												
	comp=Z,30nm,0.9s																		
Z47A	**Carrollton**	**59.63**	**74**		IAMs_20	IAMs_20	11 07 03.9												
	comp=Z,7µm,18.0s																		
TPUB	**Ta-pu**	**59.68**	**270**		IAMs_20	IAMs_20	11 01 51.0												
	comp=Z,6µm,20.0s																		
J58A	**Remsen**	**59.69**	**57**		IAMs_20	IAMs_20	11 04 24.2												
	comp=Z,10µm,18.0s																		
QZH	**Quanzhou**	**59.74**	**272**	⇑	*i* P	**P**	**10 36 47.5 -0.2**												
QZH					S	**S**	**10 44 58.4 +0.9**												
QZH					pmax	pmax													
	comp=Z,65nm,1.4s																		
QZH					pmax	pmax													
	comp=Z,980nm,6.8s																		
QZH					LR	LR													
	comp=Z,2µm,17.8s																		
QZH					LR	LR													
	comp=Z,2µm,15.9s																		
QZH					LR	LR													
	comp=Z,2µm,19.4s																		
NCB	**Newcomb**	**59.81**	**56**		IAmb	IAmb	10 37 02.0												
	comp=Z,30nm,0.8s																		
MCWV	**Mont Chateau**	**59.83**	**63**		P	**P**	**10 36 44.4 -3.9**												
	baz=314																		
W50A	**Signal Mountai**	**59.84**	**70**		IAmb	IAmb	10 37 07.6												
	comp=Z,118nm,1.5s																		
W50A					IAMs_20	IAMs_20	11 02 06.3												
	comp=Z,11µm,21.0s																		
TZTN	**Tazewell**	**59.92**	**68**		IAmb	IAmb	10 37 24.6												
	comp=Z,49nm,1.1s																		
TZTN	**Tazewell**	**59.92**	**68**		P	**P**	**10 36 47.5 -1.4**												
	baz=315,SNR=9.7																		
V51A	**Loudon**	**59.98**	**69**		IAMs_20	IAMs_20	11 03 44.8												
	comp=Z,10µm,19.0s																		
J59A	**Piesco**	**60.02**	**57**		IAmb	IAmb	10 37 03.4												
	comp=Z,60nm,1.0s																		
J59A					IAMs_20	IAMs_20	11 05 43.0												
	comp=Z,8µm,18.0s																		
O56A	**Blue Knob Stat**	**60.11**	**62**		IAMs_20	IAMs_20	11 03 45.6												
	comp=Z,8µm,20.0s																		
O56A	**Blue Knob Stat**	**60.11**	**62**		P	**P**	**10 36 48.4 -1.8**												
	baz=315,SNR=13																		
CPCT	**Cooper Cave**	**60.13**	**70**		IAmb	IAmb	10 37 09.4												
	comp=Z,28nm,0.9s																		
CPCT					IAMs_20	IAMs_20	11 02 25.8												
	comp=Z,11µm,20.0s																		
FPAL	**Fort Paine**	**60.13**	**71**		IAMs_20	IAMs_20	11 02 05.0												
	comp=Z,9µm,22.0s																		
M57A	**Sunshine Farm,**	**60.14**	**60**		IAmb	IAmb	10 37 07.2												
	comp=Z,68nm,1.0s																		
BINY	**Binghamton**	**60.14**	**59**		IAMs_20	IAMs_20	11 04 27.1												
	comp=Z,9µm,20.0s																		
BINY	**Binghamton**	**60.14**	**59**		P	**P**	**10 36 49.4 -0.9**												
	baz=315,SNR=5.2																		
Y49A	**Blount Mountai**	**60.15**	**72**		IAmb	IAmb	10 37 08.4												
	comp=Z,38nm,0.8s																		
Y49A					IAMs_20	IAMs_20	11 02 13.4												
	comp=Z,5µm,20.0s																		
LOF	**Lofoten**	**60.16**	**359**	*e*	P	**P**	**10 36 49.1 -0.9**												
LOF					IVmB_BB		10 36 51.0												
	comp=Z,444nm,1.5s																		
LOF				*e*	S	**S**	**10 45 03.2 +1.4**												
LOF					IVMs_BB	IVMs_BB	11 04 51.2												

	comp=Z,1µm,21.8s																		
D62A	**Allapoint, All**	**60.18**	**51**		IAmb	IAmb	10 37 05.0												
	comp=Z,44nm,1.1s																		
D62A	**Allapoint, All**	**60.18**	**51**		P	**P**	**10 36 46.3 -4.2**												
	baz=316																		
SSPA	**Standing Stone**

K62A	**Royalston**	**61.76**	**56**	P		**P**		**10 36 59.6**	**-1.7**	
	baz=316,SNR=10									
KSCT	**Kent School, K**	**61.79**	**58**	IAmb		IAmb		10 37 15.9		
	comp=Z,63nm,0.9s									
KONS	**Konsvik**	**61.81**	**359**	*e*P		**P**		**10 37 00.7**	**-0.5**	
TRNY	**Table Rock, Ra**	**61.82**	**59**	IAmb		IAmb		10 37 18.6		
	comp=Z,44nm,0.9s									
TRNY				IAMs_20		IAMs_20		11 04 33.5		
	comp=Z,5µm,20.0s									
J63A	**Strafford**	**61.91**	**55**	P		**P**		**10 36 58.2**	**-4.1**	
	baz=316									
WUPA	**West Chester U**	**61.95**	**60**	IAMs_20		IAMs_20		11 05 17.1		
	comp=Z,10µm,19.0s									
QUA2	**Belchertown**	**61.98**	**57**	IAmb		IAmb		10 37 17.4		
	comp=Z,36nm,0.9s									
QUA2				IAMs_20		IAMs_20		11 04 52.7		
	comp=Z,10µm,19.0s									
152A	**Waverly Hall**	**61.98**	**72**	IAmb		IAmb		10 37 21.4		
	comp=Z,102nm,1.7s									
152A				IAMs_20		IAMs_20		11 07 54.1		
	comp=Z,5µm,19.0s									
P60A	**Greenville**	**62.02**	**60**	IAmb		IAmb		10 37 17.1		
	comp=Z,41nm,1.1s									
P60A	**Greenville**	**62.02**	**60**	P		**P**		**10 36 59.1**	**-3.9**	
	baz=316									
PAL	**Palisades**	**62.08**	**58**	IAMs_20		IAMs_20		11 05 35.6		
	comp=Z,6µm,18.0s									
PAL	**Palisades**	**62.08**	**58**	P		**P**		**10 37 00.3**	**-3.2**	
	baz=316									
MOR8	**Moi Rana**	**62.11**	**358**	*e*P		**P**		**10 37 01.0**	**-2.4**	
MOR8				IVmB_BB				10 37 04.7		
	comp=Z,590nm,0.7s									
MOR8				*e*S		**S**		**10 45 26.3**	**-0.5**	
MOR8				IVMs_BB		IVMs_BB		10 59 15.6		
	comp=Z,1µm,23.2s									
R58B	**Mineral**	**62.11**	**63**	IAmb		IAmb		10 37 18.3		
	comp=Z,58nm,0.9s									
PAULI	**Pauline**	**62.14**	**68**	IAmb		IAmb		10 37 17.6		
	comp=Z,31nm,0.7s									
KMSC	**Kings Mountain**	**62.18**	**68**	P		**P**		**10 37 02.1**	**-2.2**	
	baz=316									
GOGA	**Godfrey**	**62.19**	**71**	IAmb		IAmb		10 37 23.6		
	comp=Z,33nm,0.9s									
GOGA	**Godfrey**	**62.19**	**71**	IAMs_20		IAMs_20		11 03 40.4		
	comp=Z,11µm,22.0s									
GOGA	**Godfrey**	**62.19**	**71**	P		**P**		**10 37 02.3**	**-2.0**	
	baz=316,SNR=8.6									
CPNY	**Central Park**	**62.21**	**59**	IAMs_20		IAMs_20		11 05 48.9		
	comp=Z,8µm,19.0s									
CBN	**Corbin Frederi**	**62.22**	**63**	P		**P**		**10 37 01.4**	**-3.1**	
	baz=316									
HRV	**Adam Dziewonsk**	**62.22**	**56**	P		**P**		**10 37 05.5**	**+1.1**	
HRV				pmax		pmax				
	comp=Z,39nm,0.9s									
HRV	**Adam Dziewonsk**	**62.22**	**56**	P		**P**		**10 37 05.5**	**+1.1**	
HRV				IAmb		IAmb		10 37 18.6		
	comp=Z,39nm,0.8s									
HRV	**Adam Dziewonsk**	**62.22**	**56**	P		**P**		**10 37 01.1**	**-3.3**	
	baz=316									
WSPT	**Westport, CT**	**62.27**	**58**	IAmb		IAmb		10 37 18.9		
	comp=Z,72nm,1.0s									
WSPT				IAMs_20		IAMs_20		11 07 05.4		
	comp=Z,7µm,18.0s									
HODGE	**Hodges**	**62.30**	**69**	IAmb		IAmb		10 37 24.4		
	comp=Z,34nm,0.9s									
ZSN	**Zaisan**	**62.34**	**312**	⇑*i*P		**P**		**10 37 02.9**	**-2.3**	
	comp=Z,46nm,1.3s,baz=313									
ZSN				*e*S		**S**		**10 45 33.5**	**+3.3**	
	baz=313									
ZSN				*e*ScS		**ScS**		**10 47 01.2**	**+5.3**	
	baz=313									
ZSN	**Zaisan**	**62.34**	**312**	*c i*P		**P**		**10 37 02.8**	**-2.3**	
ZSN				*e*S		**S**		**10 45 33.5**	**+3.3**	
ZSN				pmax		pmax				
	comp=Z,46nm,1.3s									
N62A	**Caumsett State**	**62.37**	**58**	IAMs_20		IAMs_20		11 07 28.1		
	comp=Z,5µm,18.0s									
YLE	**Yale**	**62.37**	**58**	IAMs_20		IAMs_20		11 08 35.8		
	comp=Z,9µm,18.0s									
UCCT	**U. Connecticut**	**62.39**	**57**	IAmb		IAmb		10 37 19.9		
	comp=Z,61nm,0.9s									
UCCT				IAMs_20		IAMs_20		11 05 05.7		
	comp=Z,8µm,18.0s									
WES	**Weston**	**62.43**	**56**	IAmb		IAmb		10 37 19.9		
	comp=Z,60nm,0.8s									
BCX	**Boston College**	**62.55**	**56**	IAmb		IAmb		10 37 20.5		
	comp=Z,34nm,1.2s									
OUL	**Oulu**	**62.64**	**353**	P		**P**		**10 37 05.9**	**-0.9**	
OUL				pmax		pmax				
	comp=Z,98nm,0.9s									
BRYW	**Bryant College**	**62.66**	**56**	IAmb		IAmb		10 37 21.4		
	comp=Z,34nm,0.7s									
BRYW				IAMs_20		IAMs_20		11 05 23.7		
	comp=Z,9µm,19.0s									
L63A	**North Scituate**	**62.66**	**56**	IAMs_20		IAMs_20		11 06 44.7		
	comp=Z,9µm,19.0s									
L63A	**North Scituate**	**62.66**	**56**	P		**P**		**10 37 03.3**	**-4.0**	
	baz=316									
KURBB	**Kurchatov Arra**	**62.70**	**318**	P		**P**		**10 37 05.5**	**-1.9**	
352A	**Blakely**	**62.72**	**73**	IAMs_20		IAMs_20		11 07 36.5		
	comp=Z,6µm,19.0s									
M63A	**Gales Ferry**	**62.77**	**57**	IAMs_20		IAMs_20		11 07 42.6		
	comp=Z,7µm,18.0s									
JSC	**Jenkinsville**	**62.84**	**68**	IAmb		IAmb		10 37 22.5		
	comp=Z,44nm,0.8s									
451A	**Vernon**	**62.85**	**74**	IAMs_20		IAMs_20		11 07 51.2		
	comp=Z,6µm,18.0s									
UNM	**Universidad Na**	**62.92**	**93**	IAMs_20		IAMs_20		11 02 55.7		
	comp=Z,5µm,18.0s									
W57A	**Gilead**	**62.94**	**67**	IAmb		IAmb		10 37 23.1		
	comp=Z,38nm,0.8s									
154A	**Montrose**	**62.97**	**71**	IAMs_20		IAMs_20		11 03 53.1		
	comp=Z,11µm,22.0s									
L64A	**Middleborough**	**63.01**	**56**	P		P		10 37 03.3	-6.3	
	baz=317									
BIRD	**Birdtown, Kers**	**63.04**	**68**	IAmb		IAmb		10 37 23.9		
	comp=Z,41nm,0.8s									
M64A	**Tiverton**	**63.09**	**56**	IAmb		IAmb		10 37 24.4		
	comp=Z,65nm,1.0s									
M64A	**Tiverton**	**63.09**	**56**	P		**P**		**10 37 07.0**	**-3.2**	
	baz=317									
PRGR	**Permogore**	**63.31**	**342**	*e*P		**P**		**10 37 09.0**	**-2.3**	
PRGR				*e*S		**S**		**10 45 39.1**	**-2.7**	
PRGR				pmax		pmax				
	comp=Z,120nm,0.9s									
U59A	**Littleton**	**63.32**	**65**	IAmb		IAmb		10 37 26.2		
	comp=Z,56nm,0.8s									
TIGA	**Tifton**	**63.53**	**72**	IAMs_20		IAMs_20		11 03 02.1		
	comp=Z,5µm,22.0s									
TIGA	**Tifton**	**63.53**	**72**	P		P		10 37 08.3	-5.0	
	baz=317									
WMQ	**Urumqi**	**63.69**	**308**	*e*P		**P**		**10 37 13.9**	**-0.3**	
WMQ				pP		pwP		10 37 25.7	+1.5	
WMQ				PP		**PP**		**10 39 38.2**	**+4.3**	
WMQ				S		**S**		**10 45 45.8**	**-1.5**	
WMQ				SS		**SS**		**10 49 55.2**	**+0.9**	
WMQ				pmax		pmax				
	comp=Z,51nm,1.3s									
WMQ				pmax		pmax				
	comp=Z,1µm,7.1s									
WMQ				LR		LR				
	comp=Z,14µm,21.3s									
WMQ				LR		LR				
	comp=Z,6µm,21.3s									
WMQ				LR		LR				
	comp=Z,4µm,22.5s									
X58A	**Rowland**	**63.74**	**67**	IAmb		IAmb		10 37 28.9		
	comp=Z,56nm,0.8s									
DRLN	**Deer Lake**	**63.76**	**43**	⇑P		**P**		**10 37 15.1**	**+0.6**	
NSS	**Namsos**	**63.80**	**359**	*e*P		**P**		**10 37 13.8**	**-0.7**	
NSS				IVmB_BB				10 37 16.9		
	comp=Z,733nm,0.7s									
NSS				*e*S		**S**		**10 45 45.4**	**-2.4**	
NSS				IVMs_BB		IVMs_BB		11 04 31.1		
	comp=Z,1µm,16.4s									
255A	**Hazlehurst**	**63.84**	**71**	IAMs_20		IAMs_20		11 04 30.0		
	comp=Z,11µm,21.0s									
553A	**Crawfordville**	**63.94**	**74**	IAMs_20		IAMs_20		11 07 50.1		
	comp=Z,4µm,19.0s									
BRVK	**Borovoye**	**63.96**	**325**	*i* P		**P**		**10 37 14.6**	**-1.2**	
BRVK				pmax		pmax				
	comp=Z,122nm,1.3s									
BRVK	**Borovoye**	**63.96**	**325**	P		**P**		**10 37 14.2**	**-1.5**	
BRVK	**Borovoye**	**63.96**	**325**	P		**P**		**10 37 14.3**	**-1.5**	
BRVK				P		**P**		**10 37 14.3**	**-1.5**	
BRVK	**Borovoye**	**63.96**	**325**	⇑P		**P**		**10 37 14.4**	**-1.4**	
SVE	**Sverdlovsk**	**63.97**	**332**	*e*P		**P**		**10 37 15.9**	**+0.1**	
SVE				*e*				10 39 35.4		
SVE				*e*PPP		PPP		10 41 11.2		
SVE				*e*S		**S**		**10 45 49.9**	**-0.3**	
SVE				pmax		pmax				
	comp=Z,125nm,1.6s									
MK31	**Makanchi Array**	**64.00**	**313**	*i* P		**P**		**10 37 14.1**	**-2.1**	
MK31				pmax		pmax				
	comp=Z,8.0nm,0.6s									
MKAR	**Makanchi Array**	**64.00**	**313**	P		**P**		**10 37 14.5**	**-1.6**	
	comp=Z,8.4nm,0.5s,baz=51,slow=6.6,SNR=82									
MKAR				LR		LR		11 08 34.2		
	comp=Z,8µm,18.6s,baz=30,slow=39									
MKAR	**Makanchi Array**	**64.00**	**313**	*i* P		**P**		**10 37 14.1**	**-2.1**	
MKAR				pmax		pmax				
	comp=Z,7.0nm,0.4s									
MAKZ	**Makanchi**	**64.12**	**314**	IAMs_20		IAMs_20		11 08 26.4		
	comp=Z,9µm,19.0s									
JOF	**Joensuu**	**64.25**	**350**	P		**P**		**10 37 16.5**	**-1.0**	
JOF				pmax		pmax				
	comp=Z,64nm,0.9s									
NHSC	**New Hope**	**64.31**	**69**	P		**P**		**10 37 18.6**	**+0.2**	
	baz=317									
GZH	**Guangzhou**	**64.34**	**275**	P		**P**		**10 37 18.1**	**-0.6**	
GZH				S		**S**		**10 45 54.0**	**-1.7**	
CD2	**Chengdu**	**64.41**	**288**	P		**P**		**10 37 18.6**	**-0.5**	
CD2				S		**S**		**10 45 53.9**	**-2.6**	
CD2				SS		**SS**		**10 50 04.9**	**-1.1**	
CD2				pmax		pmax				
	comp=Z,150nm,0.9s									
CD2				pmax		pmax				
	comp=Z,2µm,8.5s									
CD2				LR		LR				
	comp=Z,7µm,22.6s									
CD2				LR		LR				
	comp=Z,6µm,18.6s									
CD2				LR		LR				
	comp=Z,8µm,20.6s									
TLIG	**Tlapa**	**64.64**	**94**	IAmb		IAmb		10 37 35.2		
	comp=Z,62nm,1.2s									
TLIG				IAMs_20		IAMs_20		11 09 21.1		
	comp=Z,4µm,18.0s									
257A	**Skidaway Islan**	**64.64**	**70**	IAMs_20		IAMs_20		11 07 27.4		
	comp=Z,8µm,20.0s									
VAF	**Ylistaro**	**64.89**	**354**	P		**P**		**10 37 20.6**	**-1.1**	
VAF				pmax		pmax				
	comp=Z,10.0nm,0.7s									
ARU	**Arti**	**64.91**	**333**	LR		LR		11 09 51.1		
	comp=Z,6µm,19.1s,baz=48,slow=40									
ARU	**Arti**	**64.91**	**333**	*d i*P		**P**		**10 37 21.1**	**-0.8**	
ARU								10 37 50.4		
ARU								10 39 38.8		
ARU				S		**S**		**10 46 00.8**	**-1.0**	
ARU				SS		**SS**		**10 50 13.6**	**+1.2**	
ARU				pmax		pmax				
	comp=Z,124nm,1.5s									
ARU	**Arti**	**64.91**	**333**	P		**P**		**10 37 20.8**	**-1.1**	
ARU				IAmb		IAmb		10 37 25.6		
	comp=Z,69nm,1.0s									
ARU				IAMs_20		IAMs_20		11 10 58.2		
	comp=Z,8µm,18.0s									
ARU	**Arti**	**64.91**	**333**	⇑P		**P**		**10 37 20.0**	**-1.9**	
SUF	**Sumiainen**	**64.95**	**352**	P		**P**		**10 37 21.4**	**-0.7**	
SUF				pmax		pmax				
	comp=Z,85nm,0.8s									
456A	**Hilliard**	**64.97**	**72**	IAMs_20		IAMs_20		11 05 04.2		
	comp=Z,8µm,22.0s									
KLMR	**Klimovskoe**	**65.11**	**345**	*c i*P		**P**		**10 37 20.6**	**-2.5**	
KLMR								10 39 42.4		
KLMR				S		**S**		**10 46 00.8**	**-3.4**	
KLMR				pmax		pmax				
	comp=Z,92nm,1.3s									
KLMR	**Klimovskoe**	**65.11**	**345**	⇑*i*P		**P**		**10 37 20.6**	**-2.5**	
KLMR				*e*P		**P**		**10 37 20.6**	**-2.5**	
KLMR				*e*P		**P**		**10 37 20.6**	**-2.5**	
KLMR				AMP				10 37 25.7		
	comp=Z,92nm,1.3s									
KLMR				PP		**PP**		**10 39 42.4**	**-3.4**	
KLMR				S		**S**		**10 46 00.8**	**-3.4**	
KLMR				S		**S**		**10 46 00.8**	**-3.4**	
KLMR				LR		LR		10 58 24.2		
KLMR				AMP				11 13 33.8		
	comp=Z,5µm,17.1s									
KIRV	**Kirov**	**65.31**	**339**	LR		LR		11 10 01.8		
	comp=Z,6µm,19.1s,baz=26,slow=40									
KIRV	**Kirov**	**65.31**	**339**	⇑*i*P		**P**		**10 37 22.7**	**-1.7**	
BRZS	**Berezniki**	**65.54**	**321**	⇑*i*P		**P**		**10 37 24.0**	**-2.1**	
	comp=Z,47nm,1.5s,baz=322									
BRZS				*e*S		S		10 46 19.9	+10	
	baz=322									
BRZS				*e*ScS		**SKiKP**		**10 47 30.0**	**-2.6**	
	baz=322									
BRZS	**Berezniki**	**65.54**	**321**	*c i*P		**P**		**10 37 24.0**	**-2.1**	
BRZS				pmax		pmax				
	comp=Z,47nm,1.5s									
TAOE	**Nuku Hiva Isla**	**65.65**	**148**	*e*S		**S**		**10 46 07.6**	**-4.4**	
	comp=Z,2µm,24.7s									
TAOE	**Nuku Hiva Isla**	**65.65**	**148**	*e*LR		LR		10 56 59.2		
	comp=Z,7µm,27.8s,baz=346									
TAOE	**Nuku Hiva Isla**	**65.65**	**148**	*e*T		T		11 49 12.5		
	comp=Z,38nm,0.2s									
TAOE	**Nuku Hiva Isla**	**65.65**	**148**	IAMs_20		IAMs_20		11 05 00.7		
	comp=Z,8µm,18.0s									
656A	**Willston**	**65.66**	**73**	IAMs_20		IAMs_20		11 09 46.6		
	comp=Z,5µm,19.0s									
MOL	**Molde**	**65.75**	**1**	*e*P		**P**		**10 37 26.4**	**-0.8**	
MOL				IVmB_BB				10 37 26.5		
	comp=Z,429nm,2.2s									
MOL				*e*S		**S**		**10 46 10.8**	**-1.0**	
MOL				IVMs_BB		IVMs_BB		11 06 24.8		
	comp=Z,2µm,21.1s									
GYA	**Guiyang**	**65.93**	**283**	⇓*i*P		**P**		**10 37 29.0**	**-0.1**	
GYA				pP		pwP		10 37 41.1	+2.0	
GYA				S		**S**		**10 46 16.6**	**+1.2**	
GYA				pmax		pmax				
	comp=Z,66nm,1.1s									
GYA				pmax		pmax				
	comp=Z,1µm,7.5s									
GYA				LR		LR				
	comp=Z,3µm,17.8s									
GYA				LR		LR				
	comp=Z,3µm,18.7s									
GYA				LR		LR				
	comp=Z,3µm,19.9s									
AKN	**Aaknes**	**66.13**	**2**	*e*P		**P**		**10 37 29.3**	**-0.4**	
AKN				*e*S		**S**		**10 46 13.4**	**-3.2**	
AKN				IVMs_BB		IVMs_BB		11 06 48.6		
	comp=Z,2µm,15.9s									
FINES	**FINESS Array B**	**66.22**	**352**	P		**P**		**10 37 29.3**	**-0.9**	
	comp=Z,74nm,0.7s,baz=9.6,slow=6.5,SNR=112									
FINES				PKP2bc				11 06 03.4		
	comp=Z,3.4nm,0.9s,baz=161,slow=8.1,SNR=7.5									
FINES				LR		LR		11 06 12.9		
	comp=Z,4µm,21.8s,baz=14,slow=36									
FOO	**Floro**	**66.66**	**3**	*e*P		**P**		**10 37 33.1**	**0.0**	
FOO				IVmB_BB				10 37 35.2		
	comp=Z,610nm,2.0s									
FOO				*e*S		**S**		**10 46 23.7**	**+0.8**	
FOO				IVMs_BB		IVMs_BB		11 10 48.9		
	comp=Z,844nm,5.7s									
RAF	**Rauma**	**66.96**	**354**	*e*P		**P**		**10 37 34.8**	**-0.2**	
TDK	**Taldyqorghan**	**67.11**	**314**	*e*P		**P**		**10 37 34.8**	**-1.5**	
	baz=315									
TDK				*e*S		**S**		**10 46 36.0**	**+7.1**	
	baz=315									
TDK				*e*ScS		**SKiKP**		**10 47 45.0**	**+10**	
	baz=315									
TDK				*e*LR		LR		11 07 13.4		
	comp=Z,5µm,18.0s,baz=315									
TDK	**Taldyqorghan**	**67.11**	**314**	*e*P		**P**		**10 37 34.8**	**-1.5**	
TDK				MLR		MLR				
	comp=Z,5µm,18.0s									
HYA	**Hoyanger**	**67.12**	**2**	*e*P		**P**		**10 37 37.5**	**+1.5**	
SUE	**Sulen**	**67.19**	**3**	*e*P		**P**		**10 37 36.2**	**-0.2**	
SUE				IVmB_BB				10 37 40.2		
	comp=Z,898nm,4.2s									
SUE				*e*S		**S**		**10 46 31.3**	**+1.9**	
SUE				IVMs_BB		IVMs_BB		11 11 05.3		
	comp=Z,973nm,22.9s									
DWPF	**Disney Wildern**	**67.24**	**73**	IAMs_20		IAMs_20		11 11 26.4		
	comp=Z,4µm,18.0s									
DWPF	**Disney Wildern**	**67.24**	**73**	⇑P		**P**		**10 37 38.0**	**+0.7**	
NB2	**NORSAR Subarra**	**67.30**	**360**	P		**P**		**10 37 36.5**	**-0.8**	
	comp=Z,180nm,1.7s,baz=359,slow=6.5									
NB2	**NORSAR Subarra**	**67.30**	**360**	P		**P**		**10 37 36.5**	**-0.8**	
	baz=359,slow=6.5									
NOA	**NORSAR Array B**	**67.30**	**360**	P		**P**		**10 37 36.7**	**-0.6**	
	comp=Z,26nm,0.7s,baz=0.4,slow=6.3,SNR=95									
NOA				LR		LR		11 06 31.5		
	comp=Z,2µm,20.3s,baz=5.0,slow=36									
NAO01	**NORSAR Array S**	**67.50**	**360**	IAmb		IAmb		10 37 40.8		
	comp=Z,57nm,1.3s									
MEF	**Metsahovi**	**67.57**	**353**	*e*P		**P**		**10 37 38.8**	**0.0**	
NC602	**NORSAR Array S**	**67.61**	**359**	*e*P		**P**		**10 37 39.3**	**+0.1**	
NC602				IVmB_BB				10 37 41.3		
	comp=Z,535nm,1.6s									
NC602				*e*S		**S**		**10 46 34.1**	**-0.4**	
NC602				*e*SS		**SS**		**10 50 54.1**	**+0.1**	
NC602				IVMs_BB		IVMs_BB		11 20 02.2		
	comp=Z,2µm,15.4s									
NORES	**NORESS Array B**	**67.61**	**359**	P		**P**		**10 37 38.3**	**-0.8**	
NORES				pmax		pmax				
	comp=Z,3.0nm,0.7s									
SKAR	**Skarslia**	**67.65**	**1**	*e*P		**P**		**10 37 38.8**	**-0.6**	
SKAR				IVmBBB				10 37 42.0		
	comp=Z,560nm,0.9s									
SKAR				*e*S		**S**		**10 46 34.0**	**-1.1**	
SKAR				IVMs_BB		IVMs_BB		11 07 40.7		
	comp=Z,1µm,24.3s									
ASK	**Askoy**	**67.78**	**3**	*e*P		**P**		**10 37 40.3**	**+0.1**	
ASK				*e*SKSac		**SKiKP**		**10 47 35.7**	**+0.3**	
BER	**Bergen**	**67.89**	**3**	P		**P**		**10 37 40.4**	**-0.5**	
BER				pmax		pmax				
	comp=Z,34nm,1.1s									
BER	**Bergen**	**67.89**	**3**	*e*P		**P**		**10 37 40.8**	**0.0**	
BER				IVmB_BB				10 37 43.4		
	comp=Z,340nm,1.8s									
BER				*e*S		**S**		**10 46 39.8**	**+2.0**	
BER				IVMs_BB		IVMs_BB		11 19 20.6		
	comp=Z,1µm,15.5s									
AAL	**Aland**	**67.91**	**355**	*e*P		**P**		**10 37 40.9**	**-0.1**	
PDGK	**Podgornoye**	**67.93**	**313**	P		**P**		**10 37 39.8**	**-1.8**	
ARXS	**Arharly**	**67.98**	**314**	*e*P		**P**		**10 37 40.6**	**-1.3**	
SHLS	**Shalkode**	**68.08**	**313**	⇑*i*P		**P**		**10 37 39.7**	**-2.9**	
	comp=Z,67nm,1.1s,baz=313									
SHLS				*e*S		**S**		**10 46 40.5**	**-0.5**	
	baz=313									
SHLS				*e*ScS		ScS		10 47 51.4	+11	
	baz=313									
SHLS	**Shalkode**	**68.08**	**313**	*c i*P		**P**		**10 37 39.6**	**-2.9**	
SHLS				*e*S		**S**		**10 46 40.4**	**-0.5**	
SHLS				pmax		pmax				
	comp=Z,67nm,1.1s									
HFS	**Hagfors**	**68.18**	**358**	P		**P**		**10 37 42.0**	**-0.8**	
	comp=Z,41nm,0.6s,baz=29,slow=3.3,SNR=5.4									
HFS	**Hagfors**	**68.18**	**358**	P		**P**		**10 37 42.0**	**-0.8**	
KPKS	**Kokpek**	**68.19**	**313**	⇑*i*P		**P**		**10 37 41.4**	**-1.8**	
	comp=Z,34nm,1.0s,baz=314									
KPKS				*e*S		S		10 46 53.7	+12	
	baz=314									
KPKS				*e*ScS		**ScS**		**10 47 49.4**	**+8.2**	
	baz=314									
KPKS	**Kokpek**	**68.19**	**313**	*c i*P		**P**		**10 37 41.4**	**-1.8**	
KPKS				pmax		pmax				
	comp=Z,34nm,1.0s									
UZB	**Uzynbulak**	**68.28**	**313**	*e*ScS		**SKiKP**		**10 47 44.1**	**+7.3**	
	baz=314									
UPP	**Uppsala**	**68.34**	**356**	*e*P		**P**		**10 37 43.6**	**-0.1**	
OSL	**Oslo**	**68.41**	**360**	*e*P		**P**		**10 37 45.1**	**+1.0**	
OSL				*e*S		**S**		**10 46 41.5**	**-2.5**	
JAY	**Jayapura**	**68.63**	**235**	LR		LR		11 06 48.8		
	comp=Z,2µm,18.6s,baz=12,slow=35									
JAY	**Jayapura**	**68.63**	**235**	P		**P**		**10 37 47.3**	**+1.1**	
JAY				pmax		pmax				
	comp=Z,41nm,1.2s									
JAY	**Jayapura**	**68.63**	**235**	P		**P**		**10 37 47.6**	**+1.4**	
	comp=Z,26nm,1.2s									
SATY	**Saty**	**68.63**	**313**	⇑*i*P		**P**		**10 37 43.9**	**-2.2**	
	comp=Z,64nm,2.7s,baz=314									
SATY				*e*S		S		10 47 00.2	+13	
	baz=314									
SATY				*e*ScS		**ScS**		**10 47 53.7**	**+9.0**	
	baz=314									
SATY	**Saty**	**68.63**	**313**	*c i*P		**P**		**10 37 43.8**	**-2.2**	
SATY				pmax		pmax				
	comp=Z,64nm,2.7s									
CHKK	**Chushkaly**	**68.64**	**315**	*e*P		**P**		**10 37 43.5**	**-2.4**	
	baz=315									
060A	**Indiantown**	**68.67**	**73**	IAMs_20		IAMs_20		11 10 13.3		
	comp=Z,4µm,20.0s									
KONO	**Kongsberg**	**68.70**	**0**	*de*P		**P**		**10 37 45.5**	**-0.4**	
KONO				pmax		pmax				
	comp=Z,57nm,1.0s									
KONO				MLR		MLR				
	comp=Z,3µm,19.0s									
KONO	**Kongsberg**	**68.70**	**0**	*e*P		**P**		**10 37 45.8**	**-0.2**	
KONO				*e*S		**S**		**10 46 48.2**	**+0.8**	
KONO				IVMs_BB		IVMs_BB		11 18 18.5		
	comp=Z,1µm,16.0s									
KONO	**Kongsberg**	**68.70**	**0**	P		**P**		**10 37 45.0**	**-1.0**	
KONO				IAmb		IAmb		10 37

comp=Z,4µm,18.9s
TNSS Tian-Shan 69.30 314 *e*P **P** **10 37 49.0 -1.6**
baz=315
STRU Stroemstad 69.31 360 *i* P **P** **10 37 49.1 -0.6**
PMOR Pomariorio Ree 69.32 158 *e*P **P** **10 37 49.5 -0.7**
comp=Z,109nm,1.1s
PMOR Pomariorio Ree 69.32 158 *e*T T 11 53 46.0
comp=Z,4.4nm,0.3s
MTBS Maitube 69.46 314⇑ *i*P **P** **10 37 49.5 -1.6**
baz=315
MTBS *e*ScS SKiKP 10 47 53.6 +15
baz=315
QIZ Qiongzhong 69.53 275 P **P** **10 37 51.9 +0.1**
QIZ S **S** **10 46 57.7 -0.8**
QIZ SS **SS** **10 51 25.1 -0.7**
QIZ pmax pmax
comp=Z,20nm,1.9s
QIZ pmax pmax
comp=Z,850nm,8.6s
QIZ LR LR
comp=Z,2µm,19.2s
QIZ LR LR
comp=Z,2µm,22.2s
QIZ LR LR
comp=Z,3µm,18.0s
VAH Vaihoa 69.61 157 *e*P **P** **10 37 51.2 -0.8**
comp=Z,90nm,1.0s
KDJ Kajisay 69.92 313 IAmb IAmb 10 37 57.0
comp=Z,39nm,0.8s
TARG Taragay, Kyrgy 69.96 313 IAmb IAmb 10 37 58.0
comp=Z,29nm,0.7s
SNART Snartemo 69.98 2 *i* P **P** **10 37 54.3 +0.3**
SNART IAmb IAmb 10 37 57.3
comp=Z,46nm,0.8s
SNART Snartemo 69.98 2 *e*P **P** **10 37 54.4 +0.5**
SGDS Sogindy 69.98 316⇑ *i*P **P** **10 37 52.8 -1.6**
comp=Z,51nm,1.4s,baz=316
TKM2 Tokmak 2 69.99 315 P **P** **10 37 54.2 -0.4**
SNR=45
TKM2 Tokmak 2 69.99 315 *i* P **P** **10 37 53.2 -1.4**
TKM2 pmax pmax
comp=Z,63nm,1.0s
HOMB Homborsund 70.07 1 *i* P **P** **10 37 53.9 -0.6**
HOMB IAmb IAmb 10 37 57.2
comp=Z,38nm,0.8s
HOMB Homborsund 70.07 1 *e*P **P** **10 37 54.0 -0.4**
HOMB IVmB_BB 10 37 57.3
comp=Z,480nm,0.8s
HOMB *e*S **S** **10 47 04.3 +0.7**
HOMB IVMs_BB IVMs_BB 11 19 48.6
comp=Z,2µm,15.5s
USP Ospenovka 70.19 316 P **P** **10 37 56.2 +0.7**
SNR=56
ULHL Ulahol 70.25 314 P **P** **10 37 57.5 +1.3**
SNR=21
MSVF Nonsavu 70.29 193 P **P** **10 37 57.9 +1.6**
MSVF pmax pmax
comp=Z,49nm,1.1s
MSVF Nonsavu 70.29 193 P **P** **10 37 57.9 +1.6**
MSVF IAmb IAmb 10 38 15.5
comp=Z,49nm,1.1s
MSVF Nonsavu 70.29 193⇑P **P** **10 37 58.4 +2.1**
CHMS Chumysh 70.30 315 P **P** **10 37 56.8 +0.6**
SNR=17
MOS Moscow 70.30 344 *e*P **P** **10 37 53.7 -2.2**
MOS *e* 10 38 05.4
MOS *e* 10 47 59.5
MOS pmax pmax
comp=Z,78nm,0.9s
MOS MLR MLR
comp=Z,4µm,20.0s
SLIT Slitere, Latvi 70.30 353 *e*P **P** **10 37 55.6 -0.2**
SLIT Slitere, Latvi 70.30 353⇑P **P** **10 37 54.5 -1.4**
KBK Karagaybulak 70.49 315 P **P** **10 37 58.2 +0.7**
SNR=32
FRU1 Bishkek 70.50 315 IAMs_20 IAMs_20 11 11 16.7
comp=Z,7µm,19.0s
AAK Ala-Archa 70.70 315 LR LR 11 11 43.2
comp=Z,7µm,18.7s,baz=26,slow=38
AAK Ala-Archa 70.70 315 P **P** **10 37 59.5 +0.6**
SNR=70
AAK Ala-Archa 70.70 315 *i* P **P** **10 37 59.4 +0.6**
SNR=93
AAK Ala-Archa 70.70 315 *i* P **P** **10 37 57.9 -0.9**
AAK pmax pmax
comp=Z,61nm,0.7s
AAK Ala-Archa 70.70 315 P **P** **10 37 57.8 -0.9**
AAK IAmb IAmb 10 38 00.9
comp=Z,63nm,0.8s
AAK Ala-Archa 70.70 315 IAMs_20 IAMs_20 11 11 22.3
comp=Z,6µm,19.0s
AAK Ala-Archa 70.70 315 P **P** **10 37 57.7 -1.1**
AAK P **P** **10 37 57.7 -1.1**
AAK Ala-Archa 70.70 315⇑P **P** **10 37 58.0 -0.9**
AB31 Akbulak array 70.70 328 *i* P **P** **10 37 57.6 -0.9**
ABKAR Akbulak array 70.70 328 IAmb IAmb 10 38 00.3
comp=Z,46nm,0.8s
ABKAR Akbulak array 70.70 328⇑P **P** **10 37 57.1 -1.4**
BORU Boraas 70.70 359 *i* P **P** **10 37 57.8 -0.5**
KZA Kyzart 70.82 315 P **P** **10 38 00.4 +0.5**
SNR=54
ONAU Onsala 70.95 359 *i* P **P** **10 37 58.8 -1.1**
EKS2 Erkin-Say 70.99 316 P **P** **10 38 01.3 +0.8**
SNR=76
UCH Uchtor 71.02 315 P **P** **10 38 02.7 +1.6**
SNR=26
OBN Obninsk 71.07 345⇓ *e*P **P** **10 37 59.4 -1.2**
OBN *e**PP **sP** **10 38 08.7 +0.3**
OBN *e**SP **pwP** **10 38 14.7 +4.0**
OBN *e*PPP PPP 10 42 22.0
OBN pmax pmax
comp=Z,143nm,1.7s
OBN Obninsk 71.07 345 IAMs_20 IAMs_20 11 12 13.9
comp=Z,4µm,20.0s
GOET G??ttrup 71.32 1 *e*P **P** **10 38 05.2 +3.2**
GOET IAMs_20 IAMs_20 11 17 35.7
comp=Z,3µm,18.9s
FABU Falkenberg 71.34 359 *i* P **P** **10 38 01.5 -0.7**
PPT Papeete 71.42 160 LR LR 11 10 04.9
comp=Z,2µm,18.0s,baz=332,slow=36
SLVN Son La 71.42 281 IAmb IAmb 10 38 17.3
comp=Z,75nm,1.2s
SLVN IAMs_20 IAMs_20 11 13 13.3
comp=Z,4µm,19.0s
PPT2 Papeete2 71.44 160 *e*S **S** **10 47 16.1 -4.5**
comp=Z,11µm,25.5s
PPT2 *e*LQ LQ 10 56 15.6
comp=Z,3µm,25.0s
PPT2 *e*LR LR 10 59 38.0
comp=Z,11µm,31.8s,baz=348
PPT2 Papeete2 71.44 160 *e*T T 11 56 26.0
comp=Z,2.1nm,0.2s
AML Almayashu 71.46 316 P **P** **10 38 05.6 +1.9**
SNR=48
AML Almayashu 71.46 316 *i* P **P** **10 38 03.1 -0.6**
SNR=11
AML Almayashu 71.46 316 P **P** **10 38 03.0 -0.7**
TIAR Tiarei 71.46 160 *e*P **P** **10 38 02.6 -0.8**
comp=Z,16nm,1.1s
DZA Taraz 71.84 318 *e*P **P** **10 38 04.5 -1.1**
baz=318
DZA *e*S **SKiKP** **10 47 35.7 -6.1**
baz=318
DZA *e*ScS **ScS** **10 48 15.4 +5.5**
baz=318
DZA Taraz 71.84 318 *e*P **P** **10 38 04.4 -1.1**
DEL Delary 71.85 358 *i* P **P** **10 38 05.0 -0.3**
MUD Monsted U'grnd 71.90 1 *i* P **P** **10 38 05.0 -0.6**
MUD *i* P **P** **10 38 05.2 -0.4**
MUD IAmb IAmb 10 38 07.6
comp=Z,34nm,1.0s
MUD IAMs_20 IAMs_20 11 17 43.2
comp=Z,3µm,17.2s
MUD Monsted U'grnd 71.90 1 P **P** **10 38 05.5 -0.1**
MUD pmax pmax
comp=Z,49nm,0.8s
PBUR Paburge 71.92 353 *e*P **P** **10 38 06.2 +0.4**
BLEU Blekinge 71.97 357 *i* P **P** **10 38 05.4 -0.6**
KK31 Karatay Array 72.01 318 P **P** **10 38 05.8 -0.7**
KK31 Karatay Array 72.01 318 IAmb IAmb 10 38 08.1
comp=Z,63nm,0.8s
KKAR Karatay Array 72.01 318 IAmb IAmb 10 38 08.1
comp=Z,63nm,0.8s
KKAR Karatay Array 72.01 318⇑P **P** **10 38 05.0 -1.5**
ISAL Salakas 72.01 351 *e*P **P** **10 38 08.1 +1.8**
IIGN Ignalina 72.22 351 *e*P **P** **10 38 08.1 +0.5**

BJUU Bjuv 72.27 359 *i* P **P** **10 38 07.8 +0.1**
PABE Paberze 72.27 352 *e*P **P** **10 38 08.3 +0.5**
SWI Sorong 72.28 244 P **P** **10 38 08.3 -0.1**
SWI pmax pmax
comp=Z,180nm,1.1s
SWI Sorong 72.28 244 P **P** **10 38 08.3 -0.1**
comp=Z,2µmcomp=Z,2µmcomp=Z,180nm,1.1s
SIJI Sorong 72.28 244 LR LR 11 06 50.7
comp=Z,869nm,19.3s,baz=60,slow=33
SIJI Sorong 72.28 244 P **P** **10 38 06.9 -1.6**
comp=Z,1µmcomp=Z,92nm,1.1s
EKA Eskdalemuir Ar 72.43 8 P **P** **10 38 08.5 -0.3**
comp=Z,12nm,0.6s,baz=355,slow=4.8,SNR=11
ESK Eskdalemuir 72.44 8 P **P** **10 38 10.1 +1.2**
ESK pmax pmax
comp=Z,42nm,0.9s
ESK Eskdalemuir 72.44 8 P **P** **10 38 10.1 +1.2**
ESK IAmb IAmb 10 38 21.3
comp=Z,42nm,0.9s
ESK Eskdalemuir 72.44 8 IAMs_20 IAMs_20 11 15 35.3
comp=Z,6µm,19.0s
ESK Eskdalemuir 72.44 8⇑P **P** **10 38 08.9 0.0**
LSA Lhasa 72.53 296 P **P** **10 38 10.8 +0.3**
LSA S **S** **10 47 26.0 -8.1**
LSA pmax pmax
comp=Z,300nm,0.9s
LSA LR LR
comp=Z,1µm,22.1s
LSA LR LR
comp=Z,2µm,15.7s
LSA LR LR
comp=Z,2µm,15.0s
LSA Lhasa 72.53 296 P **P** **10 38 10.6 +0.2**
LSA Lhasa 72.53 296 IAMs_20 IAMs_20 11 10 59.4
comp=Z,5µm,22.0s
LSA Lhasa 72.53 296 P **P** **10 38 10.3 -0.1**
KSH Kashi 72.56 312 P **P** **10 38 13.0 +3.0**
KSH pP PcP 10 38 24.8 -2.8
KSH S **S** **10 47 37.6 +4.2**
KSH sS sS 10 47 53.2 +10
KSH pmax pmax
comp=Z,85nm,1.1s
KSH pmax pmax
comp=Z,1µm,11.1s
KSH LR LR
comp=Z,12µm,19.9s
KSH LR LR
comp=Z,6µm,19.9s
KSH LR LR
comp=Z,15µm,15.2s
NACGM Naroch 72.60 350 *i* P **P** **10 38 09.2 -0.6**
COP Copenhagen 72.66 359 *i* P **P** **10 38 13.3 +3.2**
COP IAMs_20 IAMs_20 11 23 01.7
comp=Z,15µm,16.5s
MNK Minsk 72.88 349 *i* P **P** **10 38 08.1 -3.4**
MNK *i* 10 38 32.1
MNK *i* S **S** **10 47 27.8 -8.4**
MNK *i* 10 48 08.5
MNK *i* SS **SS** **10 52 22.7 +7.6**
MNK pmax pmax
comp=N,25nm,0.8s
MNK pmax pmax
comp=Z,87nm,0.8s
MNK Minsk 72.88 349 *i* P **P** **10 38 08.1 -3.3**
comp=E,1.0nm,0.8s
MNK *i* P **P** **10 38 08.1 -3.3**
comp=N,25nm,0.8s
MNK *i* P **P** **10 38 08.1 -3.3**
comp=Z,87nm,0.8s,baz=24
MNK *i* PcP **PcP** **10 38 32.2 +3.7**
MNK *i* PP PP 10 40 40.2 -13
MNK *i* PPP PPP 10 42 20.1
MNK *i* S **S** **10 47 27.9 -8.3**
MNK *i* SS **SS** **10 52 22.8 +7.7**
MNK *i* SSS SSS 10 55 44.0
MNK *i* LQ LQ 11 02 40.9
MNK *i* LR LR 11 08 48.7
MNK *i* LRM MLR 11 16 56.3
comp=E,360nm,18.9s
MNK *i* LRM MLR 11 18 53.9
comp=Z,5µm,18.9s
MNK *i* LRM MLR 11 18 57.7
comp=N,4µm,18.9s
IUG luzhnay 73.00 318⇑ *i*P **P** **10 38 11.1 -1.5**
baz=319
IUG *e*ScS **ScS** **10 48 29.5 +10**
baz=319
IUG luzhnay 73.00 318*c* *i*P **P** **10 38 11.0 -1.5**
IUG *e* 10 48 29.4
CHM Chimkent 73.03 318 *e*S **SKiKP** **10 47 47.6 +4.0**
baz=319
CHM *e*ScS **ScS** **10 48 27.5 +8.2**
baz=319
ITAN ITANAGAR 73.04 292 *e*P **P** **10 38 13.8 +0.9**
BSD Bornholm Skovb 73.18 357 *i* P **P** **10 38 11.0 -2.3**
BSD IAmb IAmb 10 38 18.4
comp=Z,28nm,1.0s
BSD IAMs_20 IAMs_20 11 19 46.5
comp=Z,3µm,16.6s
MOKO MOKOCHONG 73.21 291 *e*P **P** **10 38 14.8 +0.7**
RAR Rarotonga 73.40 171 LR LR 11 10 26.1
comp=Z,2µm,18.3s,baz=2.0,slow=36
BBSR BB Station 73.43 59 IAMs_20 IAMs_20 11 13 42.0
comp=Z,5µm,18.0s
FAKI Fak Fak 73.44 242 P **P** **10 38 15.0 -0.3**
FAKI Fak Fak 73.44 242⇓P **P** **10 38 16.2 +0.9**
FAKI Fak Fak 73.44 242 P **P** **10 38 15.4 +0.1**
comp=Z,2µmcomp=Z,2µmcomp=Z,122nm,1.1s
KLNR Kaliningrad 73.45 354⇑ *i*P **P** **10 38 15.1 +0.3**
KLNR pmax pmax
comp=Z,164nm,1.4s
RGN Rugen 73.79 358 IAMs_20 IAMs_20 11 14 51.7
comp=Z,4µm,19.0s
SUW Suwalki 73.82 352 *e*P **P** **10 38 16.3 -0.8**
SUW *e*S S 10 47 59.5 +13
SUW Suwalki 73.82 352 *e*P **P** **10 38 16.8 -0.2**
SUW Suwalki 73.82 352 P **P** **10 38 16.6 -0.4**
SUW pmax pmax
comp=Z,133nm,0.9s
SUW Suwalki 73.82 352 IAMs_20 IAMs_20 11 16 57.6
comp=Z,4µm,18.0s
VRH Novokhopyorsk 73.83 340 *e*P **P** **10 38 16.6 -0.5**
VRH pmax pmax
comp=Z,120nm,1.5s
KOHI KOHIMA 73.91 291 *e*P **P** **10 38 18.0 -0.2**
HPK Haverah Park 73.92 7 *e*P **P** **10 38 17.7 +0.1**
TAS Tashkent 73.98 318 P **P** **10 38 19.6 +1.3**
TAS pmax pmax
comp=Z,249nm,0.7s
TAS Tashkent 73.98 318 IAMs_20 IAMs_20 11 13 10.0
comp=Z,6µm,18.0s
TGUH Tegucigalpa,Un 74.28 87 *e*P **P** **10 38 23.3 +2.9**
NONG Nongkai 74.37 279 P **P** **10 38 21.6 +0.8**
comp=Z,5µmcomp=Z,108nm,1.1s
BSEG Bad Segeberg 74.43 0 P **P** **10 38 21.0 +0.4**
BSEG pmax pmax
comp=Z,47nm,0.9s
BSEG Bad Segeberg 74.43 0 *e*P **P** **10 38 21.7 +1.1**
comp=Z,16nm,0.8s,baz=4.1,slow=5.7
DRK Karamyk 74.45 315 IAMs_20 IAMs_20 11 13 50.5
comp=Z,7µm,19.0s
LBWR Ladybower, Pea 74.47 8 *e*P **P** **10 38 21.6 +0.7**
VORD Divnogorie 74.55 342 *e*P **P** **10 38 20.7 -0.6**
VORD pmax pmax
comp=Z,20nm,0.6s
SKNT Sakolnakorn 74.69 278 P **P** **10 38 23.2 +0.5**
comp=Z,73nm,0.9s
LLW Llanuwychllyn 74.84 9 *e*P **P** **10 38 23.0 0.0**
LLW IAmb IAmb 10 38 25.4
comp=Z,23nm,0.8s
FOEL Foel Wylfa 74.84 9 *e*P **P** **10 38 23.4 +0.3**
FOEL IAmb IAmb 10 38 25.6
comp=Z,74nm,1.0s
GKP Gorka Klasztor 74.94 356 *e*P **P** **10 38 23.7 +0.1**
UBPT Khong Chiam 75.08 276 P **P** **10 38 25.6 +0.7**
comp=Z,1µmcomp=Z,75nm,1.3s
UBPT Khong Chiam 75.08 276 P **P** **10 38 25.4 +0.5**
UBPT IAmb IAmb 10 38 49.2
comp=Z,69nm,1.0s
UBPT Khong Chiam 75.08 276⇑P **P** **10 38 25.4 +0.5**
HLM1 Long Mynd 75.24 8 *e*P **P** **10 38 25.5 +0.1**
HLM1 IAmb IAmb 10 38 28.4
comp=Z,23nm,0.9s
LIFNC LIFOU 75.27 202 IAMs_20 IAMs_20 11 13 57.1
comp=Z,3µm,18.0s

SHL Shillong 75.30 293 P **P** **10 38 25.6 -0.7**
SHL pmax pmax
comp=Z,147nm,1.1s
SHL Shillong 75.30 293 *e*P **P** **10 38 24.0 -2.3**
SHL *e*P **pP** **10 38 25.1 -6.9**
SHL IAmb IAmb 10 38 26.9
comp=Z,44nm,1.0s
SHL *i* x x 10 48 04.0
PAYA Payao 75.37 283 P **P** **10 38 30.5 +3.9**
comp=Z,2µmcomp=Z,170nm,1.0s
PAYA Payao 75.37 283 P **P** **10 38 30.0 +3.4**
comp=Z,599nmcomp=Z,42nm,1.0s
RSBS Rosebush, Pemb 75.62 10 *e*P **P** **10 38 27.4 -0.1**
RSBS IAmb IAmb 10 38 29.8
comp=Z,35nm,0.8s
MCH1 Michaelchurch 75.75 9 *e*P **P** **10 38 29.2 +0.9**
MCH1 Michaelchurch 75.75 9⇓P **P** **10 38 29.3 +1.1**
GTK Tadong 75.79 296 *e*P **P** **10 38 28.9 -0.2**
GTK IAmb IAmb 10 38 32.2
comp=Z,38nm,1.3s
NRDL Niedersach Rie 75.87 0 *e*P **P** **10 38 30.4 +1.6**
comp=Z,11nm,0.8s,baz=4.1,slow=5.7
KHON Khomkaen 75.89 278 P **P** **10 38 30.9 +1.3**
comp=Z,198nm,0.7s
KRAI Karang Ratu 75.91 245 P **P** **10 38 31.2 +1.6**
comp=Z,58nm,1.1s
IBBN Ibbenburen 76.03 2 *e*P **P** **10 38 31.4 +1.6**
comp=Z,24nm,0.7s,baz=4.1,slow=5.7
FLTG Flechtingen 76.03 360 *e*P **P** **10 38 30.7 +0.8**
comp=Z,12nm,0.7s,baz=4.1,slow=5.7
LAMP Lampang 76.15 282 P **P** **10 38 34.3 +3.2**
comp=Z,672nmcomp=Z,61nm,0.8s
BEL Belsk 76.17 353 *e*P **P** **10 38 30.0 -0.6**
BEL Belsk 76.17 353 P **P** **10 38 32.4 +1.8**
BEL pmax pmax
comp=Z,188nm,0.8s
CM34 Chiang Mai Arr 76.19 283 P **P** **10 38 31.0 -0.3**
SANI Sanana 76.24 248 P **P** **10 38 30.8 -0.7**
comp=Z,958nmcomp=Z,54nm,1.0s
TAPN Taplejung 76.26 297 *e*P **P** **10 38 32.1 +0.1**
comp=Z,125nm,0.7s
CM35 Chiang Mai Arr 76.32 283 P **P** **10 38 32.0 0.0**
CMMT Chiang Mai 76.34 283 P **P** **10 38 32.2 +0.1**
comp=Z,1µmcomp=Z,45nm,1.5s
CMMT Chiang Mai 76.34 283 P **P** **10 38 32.3 +0.1**
comp=Z,1µmcomp=Z,45nm,1.5s
CMMT Chiang Mai 76.34 283 P **P** **10 38 32.2 +0.1**
comp=Z,1µmcomp=Z,43nm,1.5s
CHTO Chiang Mai 76.34 283 P **P** **10 38 31.2 -0.9**
CHTO pmax pmax
comp=Z,124nm,1.6s
CHTO MLR MLR
comp=Z,5µm,19.0s
CHTO Chiang Mai 76.34 283 P **P** **10 38 32.4 +0.2**
comp=Z,1µmcomp=Z,38nm,1.4s
CHTO Chiang Mai 76.34 283 P **P** **10 38 31.2 -0.9**
CHTO IAmb IAmb 10 38 45.4
comp=Z,124nm,1.6s
CHTO Chiang Mai 76.34 283 IAMs_20 IAMs_20 11 16 03.3
comp=Z,5µm,19.0s
CHTO Chiang Mai 76.34 283 P **P** **10 38 31.4 -0.8**
CHTO P **P** **10 38 31.4 -0.8**
CHTO Chiang Mai 76.34 283⇑P **P** **10 38 31.4 -0.8**
CHTO Chiang Mai 76.34 283 P **P** **10 38 32.4 +0.2**
comp=Z,2µmcomp=Z,828nmcomp=Z,22nm,1.4s
AKASG Malin Array Be 76.44 348 P **P** **10 38 30.8 -1.4**
comp=Z,15nm,0.5s,baz=16,slow=5.9,SNR=54
AKASG LR LR 11 17 58.4
comp=Z,3µm,18.7s,baz=5.0,slow=40
AKBB Malin Array Si 76.44 348 IAMs_20 IAMs_20 11 13 18.0
comp=Z,4µm,20.0s
CM36 Chiang Mai Arr 76.48 283 P **P** **10 38 33.0 +0.1**
SPMM Sapulut 76.49 260 P **P** **10 38 33.0 -0.1**
CLZ Clausthal 76.53 0 *e*P **P** **10 38 33.4 +0.7**
baz=4.1,slow=5.7
CM32 Chiang Mai Arr 76.53 283 P **P** **10 38 34.0 +0.8**
MRSI Marisa 76.56 253 P **P** **10 38 33.2 -0.1**
comp=Z,2µmcomp=Z,2µmcomp=Z,70nm,1.3s
CM09 Chiang Mai Arr 76.60 283 P **P** **10 38 34.8 +1.2**
comp=Z,527nmcomp=Z,54nm,1.0s
CM09 Chiang Mai Arr 76.60 283 P **P** **10 38 34.9 +1.2**
comp=Z,527nmcomp=Z,54nm,1.0s
CM31 Chiang Mai Arr 76.62 283 P **P** **10 38 35.3 +1.6**
comp=Z,1µm,1.1s
CMAR Chiang Mai Arr 76.62 283 P **P** **10 38 34.1 +0.3**
comp=Z,19nm,0.8s,baz=27,slow=6.2,SNR=56
CMAR LR LR 11 17 07.0
comp=Z,5µm,18.2s,baz=79,slow=40
CMAR Chiang Mai Arr 76.62 283 *i* P **P** **10 38 34.0 +0.3**
CMAR pmax pmax
comp=Z,20nm,0.8s
CM02 Chiang Mai Arr 76.63 283 P **P** **10 38 34.9 +1.1**
comp=Z,639nmcomp=Z,78nm,0.8s
CM02 Chiang Mai Arr 76.63 283 P **P** **10 38 34.0 +0.2**
comp=Z,639nmcomp=Z,78nm,0.8s
CM15 Chiang Mai Arr 76.63 283 P **P** **10 38 35.2 +1.4**
comp=Z,854nmcomp=Z,39nm,0.9s
CM15 Chiang Mai Arr 76.63 283 P **P** **10 38 35.3 +1.4**
comp=Z,854nmcomp=Z,39nm,0.9s
CM01 Chiang Mai Arr 76.64 283 P **P** **10 38 34.9 +1.1**
comp=Z,564nmcomp=Z,60nm,1.1s
CM01 Chiang Mai Arr 76.64 283 P **P** **10 38 35.0 +1.1**
comp=Z,564nmcomp=Z,60nm,1.1s
CM04 Chiang Mai Arr 76.64 283 P **P** **10 38 34.9 +1.1**
comp=Z,534nmcomp=Z,58nm,0.9s
CM04 Chiang Mai Arr 76.64 283 P **P** **10 38 34.0 +0.1**
comp=Z,534nmcomp=Z,58nm,0.9s
CM05 Chiang Mai Arr 76.66 283 P **P** **10 38 34.9 +1.0**
comp=Z,479nmcomp=Z,59nm,1.1s
CM05 Chiang Mai Arr 76.66 283 P **P** **10 38 35.0 +1.0**
comp=Z,479nmcomp=Z,59nm,1.1s
CM13 Chiang Mai Arr 76.67 283 P **P** **10 38 35.1 +1.1**
comp=Z,535nmcomp=Z,46nm,0.8s
CM13 Chiang Mai Arr 76.67 283 P **P** **10 38 35.0 +1.1**
comp=Z,535nmcomp=Z,46nm,0.8s
PHIT Phitsanulok 76.70 281 P **P** **10 38 35.5 +1.3**
comp=Z,172nm,0.9s
PHIT Phitsanulok 76.70 281 P **P** **10 38 35.5 +1.3**
comp=Z,43nm,0.9s
DZM Mont Dzumac 76.71 203 *e*P **P** **10 38 32.9 -1.1**
comp=Z,80nm,1.1s
DZM *e*S **S** **10 48 15.3 -4.4**
comp=Z,3µm,27.0s
DZM Mont Dzumac 76.71 203 *e*LQ LQ 10 58 29.9
comp=Z,3µm,27.4s
DZM *e*LR LR 11 02 06.1
comp=Z,3µm,21.9s,baz=25
DZM Mont Dzumac 76.71 203 LR LR 11 10 21.4
comp=Z,3µm,18.1s,baz=20,slow=34
DZM Mont Dzumac 76.71 203 IAMs_20 IAMs_20 11 11 14.1
comp=Z,3µm,19.0s
CHAI Chaiyaphum 76.73 279 P **P** **10 38 35.3 +0.9**
comp=Z,2µmcomp=Z,35nm,1.0s
TOLI2 Tolitoli 76.74 254 IAmb IAmb 10 38 36.9
comp=Z,105nm,1.7s
ODAN Odare 76.82 297 *e*P **P** **10 38 35.2 +0.1**
comp=Z,110nm,0.8s
GTTG Gottingen 76.82 0 *e*P **P** **10 38 35.5 +1.2**
baz=4.1,slow=5.7
GUN Gumba 76.82 298 *e*P **P** **10 38 35.6 +0.4**
comp=Z,145nm,0.6s
JIRN Jiri 76.85 298 *e*P **P** **10 38 35.7 +0.3**
comp=Z,112nm,0.4s
BUG Bochum--Univer 76.89 2 P **P** **10 38 35.4 +0.7**
BUG pmax pmax
comp=Z,44nm,1.5s
BUG Bochum--Univer 76.89 2 *e*P **P** **10 38 36.7 +2.0**
baz=4.1,slow=5.7
ONTNC Ouen Toro 76.93 203 IAMs_20 IAMs_20 11 11 20.0
comp=Z,3µm,18.0s
OUENC Ouen Island, N 76.95 202 IAMs_20 IAMs_20 11 12 30.4
comp=Z,3µm,19.0s
AGT Agartala 76.97 292 *e*P **P** **10 38 37.1 +1.5**
AGT IAmb IAmb 10 38 38.7
comp=Z,255nm,0.7s
PINNC Pines Island, 76.99 202 IAMs_20 IAMs_20 11 08 19.7
comp=Z,3µm,20.0s
CLL Collm 77.04 358 *e*P **P** **10 38 35.0 -0.6**
comp=Z,72nm,1.6s
CLL *e*Pmax 10 38 37.0
CLL *e*sP **sP** **10 38 44.0 +0.6**
CLL *e*sP **PcP** **10 38 47.0 +0.5**
CLL *e*PP **PP** **10 41 30.0 +1.8**
CLL *e*PPP PPP 10 43 18.0
CLL *e*S **S** **10 48 24.0 +1.3**
CLL *e*sS **sS** **10 48 37.0 +4.5**
CLL *e*PS **PnS** **10 49 03.0 +1.0**

CLL eSS SS 10 53 22.0 +3.7
CLL e(SSS) 10 57 12.0
CLL eSSSS 10 59 06.0
CLL Lm MLR 11 16 00.0
comp=Z,4µm,19.5s
CLL Lmax 11 16 00.0
CLL Collm 77.04 358 eP P **10 38 35.0 -0.6**
CLL e*SP PcP **10 38 47.0 +0.5**
CLL eS S **10 48 24.0 +1.3**
CLL pmax pmax
comp=Z,72nm,1.6s
CLL MLR MLR
comp=Z,4µm,19.5s
CLL Collm 77.04 358 IAMs_20 IAMs_20 11 16 15.7
comp=Z,4µm,19.0s
CLL Collm 77.04 358 eP P **10 38 36.2 +0.7**
comp=Z,12nm,0.6s,baz=4.1,slow=5.7
MTDJ Mount Denham 77.04 77 IAMs_20 IAMs_20 11 18 10.4
comp=Z,3µm,20.0s
TBI Tubuai 77.06 161 eS S **10 48 21.9 -1.3**
comp=Z,5µm,31.5s
TBI Tubuai 77.06 161 eT T 12 03 25.6
comp=Z,4.8nm,0.3s
KASTN Kahler Asten 77.15 1 eP P **10 38 37.9 +1.6**
baz=4.1,slow=5.7
NEUB Neuenburg 77.16 359 eP P **10 38 37.0 +0.8**
baz=4.1,slow=5.7
GTBY Guantanamo Bay 77.19 74 IAMs_20 IAMs_20 11 14 55.9
comp=Z,5µm,20.0s
RAMN Ramite 77.19 297 eP P **10 38 37.5 +0.4**
comp=Z,77nm,0.5s
KKN Kakani 77.24 299 eP P **10 38 37.5 +0.1**
PKI Pulchoki 77.35 299 eP P **10 38 37.8 -0.3**
PKIN Phulchoki 77.35 299 eP P **10 38 38.0 -0.1**
COEN Coen 77.39 227 IAmb IAmb 10 38 54.3
comp=Z,67nm,1.5s
KSP Ksiaz 77.41 356 eP P **10 38 37.7 0.0**
KSP eS S **10 48 26.3 -0.4**
KSP Ksiaz 77.41 356 P P **10 38 37.8 +0.1**
KSP pmax pmax
comp=Z,43nm,1.7s
KSP Ksiaz 77.41 356 ⇑P P **10 38 37.2 -0.4**
FBE Freiberg 77.42 358 eP P **10 38 38.4 +0.7**
baz=4.1,slow=5.7
GKN Gorkha 77.42 299 eP P **10 38 38.3 0.0**
MHMT Maesarieng 77.44 283 P P **10 38 39.4 +1.1**
comp=Z,3µmcomp=Z,110nm,0.7s
MHMT Maesarieng 77.44 283 P P **10 38 39.5 +1.1**
comp=Z,3µmcomp=Z,110nm,0.7s
BRG Berggiesshubel 77.45 358 P P **10 38 37.8 -0.1**
BRG pmax pmax
comp=Z,40nm,1.5s
BRG Berggiesshubel 77.45 358 eP P **10 38 38.3 +0.4**
comp=Z,8.7nm,0.7s,baz=4.1,slow=5.7
BRG Berggiesshubel 77.45 358 eP P **10 38 37.7 -0.3**
BRG Amp 10 38 42.0
comp=Z,94nm,1.6s
BRG Berggiesshubel 77.45 358 P PcP **10 38 48.4 +0.1**
BRG Amp 10 38 50.6
comp=Z,23nm,1.0s
BRG Berggiesshubel 77.45 358 S S **10 48 35.0 +7.8**
BRG Berggiesshubel 77.45 358 SS SS 10 53 36.0 +11
BRG Amp 11 21 47.0
comp=N,1.2nm,18.6s
BRG Amp 11 21 51.0
comp=Z,2.5nm,19.1s
BRG Amp 11 21 54.0
comp=E,2.0nm,19.6s
DMN Daman 77.48 299 eP P **10 38 39.0 +0.2**
BEBN Eben Emael 77.49 3 dP P **10 38 37.6 -0.5**
UBBA Unterbreizbach 77.55 0 eP P **10 38 39.8 +1.5**
baz=4.1,slow=5.7
DANN Dangsing 77.62 300 eP P **10 38 39.8 +0.2**
CHVC Chvalec 77.67 356 eP P **10 38 39.3 +0.1**
CHVC AMS AMS 11 25 30.0
comp=E,3µm,15.9s
MEM Membach 77.69 3 dP P **10 38 39.0 -0.3**
MEM Membach 77.69 3 P P **10 38 39.4 +0.2**
MEM pmax pmax
comp=Z,52nm,1.1s
OSTC Ostas 77.70 356 eP P **10 38 39.7 +0.4**
OSTC eS S **10 48 36.9 +7.0**
OSTC AMS AMS 11 25 40.0
comp=Z,3µm,15.7s
BSTI Sart Tilman 77.70 3 dP P **10 38 40.4 +1.2**
BSTI dx x 10 38 42.5
BSTI dpP PcP **10 38 49.0 -0.3**
BTNL Ternell 77.72 3 dP P **10 38 38.8 -0.6**
BTNL dx x 10 38 42.6
BTNL dPcP PcP **10 38 48.9 -0.5**
BTNL dpP pwP **10 38 50.9 +1.2**
MOX Moxa 77.72 359 P P **10 38 39.7 +0.3**
MOX pmax pmax
comp=Z,40nm,1.1s
MOX Moxa 77.72 359 eP P **10 38 40.7 +1.2**
comp=Z,10nm,0.7s,baz=4.1,slow=5.7
SNF Seneffe 77.72 4 dP P **10 38 39.3 -0.1**
SNF dx x 10 38 43.3
UPC Upice 77.75 356 eS S **10 48 21.6 -8.9**
UPC AMS AMS 11 25 30.0
comp=Z,3µm,15.9s
PVCC Panska Ves 77.78 357 eP P **10 38 41.3 +1.5**
PVCC eS S **10 48 38.6 +7.8**
PVCC MLR MLR
comp=Z,3µm,20.2s
PVCC Panska Ves 77.78 357 eP P **10 38 41.3 +1.5**
PVCC eS S **10 48 38.6 +7.8**
PVCC AMS AMS 11 16 10.0
comp=Z,3µm,20.2s
AHRW Bad Neuenahr-A 77.79 2 eP P **10 38 41.8 +2.1**
comp=Z,16nm,0.7s,baz=4.1,slow=5.7
APSI Ampana 77.84 253 P P **10 38 40.6 +0.1**
comp=Z,553nmcomp=Z,25nm,1.1s
OJC Ojcow 77.84 354 eP P **10 38 39.5 -0.7**
OJC eS S **10 48 39.5 +8.0**
OJC Ojcow 77.84 354 P P **10 38 40.0 -0.1**
OJC pmax pmax
comp=Z,50nm,1.7s
OJC Ojcow 77.84 354 IAmb IAmb 10 38 44.1
comp=Z,76nm,1.3s
OJC Ojcow 77.84 354 ⇑P P **10 38 39.2 -0.9**
BCLA Clavier 77.86 3 κP P **10 38 40.0 -0.1**
comp=Z,31nm,1.4s
BCLA dx x 10 38 43.2
BCLA dpP PcP **10 38 49.6 -0.4**
BGES Gesves 77.88 4 dP P **10 38 39.5 -0.8**
BGES dx x 10 38 44.1
BGES dpP PcP **10 38 49.4 -0.7**
MPSI Mapaga 77.88 255 P P **10 38 40.9 +0.1**
comp=Z,3µmcomp=Z,50nm,1.1s
DPC Dobruska-Polom 77.90 356 eP P **10 38 40.5 0.0**
DPC eS S 10 48 22.7 -9.5
DPC MLR MLR
comp=Z,3µm,16.1s
DPC Dobruska-Polom 77.90 356 eP P **10 38 40.5 0.0**
DPC eS S 10 48 22.7 -9.5
DPC AMS AMS 11 25 40.0
comp=Z,3µm,16.1s
LVV L'vov 77.90 351 eP P **10 38 40.9 +0.5**
LVV e 10 38 53.3
LVV ePPP PPP 10 43 26.8
LVV eS S **10 48 30.7 -1.4**
LVV ePS PnS **10 49 10.9 -2.1**
LVV MLR MLR
comp=E,2µm,20.0s
LVV MLR MLR
comp=N,3µm,21.0s
LVV MLR MLR
comp=Z,4µm,20.0s
WERD Werda 77.91 359 eP P **10 38 41.4 +0.8**
baz=4.1,slow=5.7
TANN Tannenbergstha 77.94 359 eP P **10 38 41.4 +0.7**
baz=4.1,slow=5.7
BMRD Maredsous 77.95 4 dP P **10 38 40.5 -0.2**
BMRD dx x 10 38 44.2
BMRD dPcP PcP **10 38 50.2 -0.2**
BMRD dpP pwP **10 38 52.5 +1.6**
BMRD dsP sP 10 38 56.6 +8.1
GUNZ Gunzen 78.00 359 eP P **10 38 41.6 +0.7**
baz=4.1,slow=5.7
WERN Wernitzgruen 78.07 359 eP P **10 38 42.5 +1.0**
baz=4.1,slow=5.7
RCHB Rochefort 78.12 3 dP P **10 38 42.7 +1.1**
comp=Z,49nm,1.3s
NKC Novy Kostel 78.12 359 eP P **10 38 42.1 +0.4**
NKC eS S 10 48 44.2 +10
NKC MLR MLR
comp=Z,3µm,18.1s
NKC Novy Kostel 78.12 359 eP P **10 38 42.1 +0.4**
NKC ex x 10 48 44.2
NKC AMS AMS 11 21 20.0
comp=Z,3µm,18.1s
TNS Taunus Mts 78.13 1 P P **10 38 41.9 +0.1**
TNS pmax pmax
comp=Z,29nm,1.0s
TNS Taunus Mts 78.13 1 eP P **10 38 43.8 +2.0**
comp=Z,12nm,0.7s,baz=4.1,slow=5.7
DOU Dourbes 78.15 4 dP P **10 38 41.1 -0.7**
DOU dx x 10 38 45.0
DOU Dourbes 78.15 4 P P **10 38 41.8 0.0**
DOU pmax pmax
comp=Z,34nm,1.9s
GIVF Givet 78.15 4 eP P **10 38 42.0 +0.2**
GIVF pmax pmax
comp=Z,80nm,1.4s
KRLC Kraliky 78.16 356 P P **10 38 42.1 +0.2**
KRLC pmax pmax
comp=Z,70nm,1.0s
KRLC Kraliky 78.16 356 eP P **10 38 42.2 +0.3**
KRLC eS S **10 48 36.8 +1.9**
KRLC AMS AMS 11 22 50.0
comp=Z,3µm,18.0s
KOLN Koldanda 78.17 300 eP P **10 38 42.5 0.0**
BAIF Baives 78.17 4 eP P **10 38 42.2 +0.3**
BAIF pmax pmax
comp=Z,77nm,1.4s
PYUN Piuthan 78.23 301 eP P **10 38 43.0 +0.1**
comp=Z,53nm,0.4s
PRA Prague 78.25 357 AMS AMS 11 19 20.0
comp=Z,3µm,17.8s
DHRM DHARAMSHALA 78.30 308 eP P **10 38 43.0 -0.2**
DHRM IAmb IAmb 10 38 44.4
comp=Z,56nm,0.7s
PRU Pruhonice 78.32 357 eP P **10 38 42.5 -0.3**
PRU eS S **10 48 32.3 -4.3**
PRU MLR MLR
comp=Z,3µm,19.0s
PRU Pruhonice 78.32 357 eP P **10 38 42.5 -0.3**
PRU eS S **10 48 32.3 -4.3**
PRU AMS AMS 11 19 20.0
comp=Z,3µm,19.0s
OKC Ostrava-Krasne 78.33 355 eP P **10 38 44.0 +1.2**
OKC eS sS **10 48 44.6 -1.9**
OKC MLR MLR
comp=Z,3µm,16.9s
OKC Ostrava-Krasne 78.33 355 eP P **10 38 44.0 +1.2**
OKC eXS sS **10 48 44.6 -1.9**
OKC AMS AMS 11 25 40.0
comp=Z,3µm,16.9s
MANZ Manzenberg 78.38 359 eP P **10 38 43.8 +0.7**
baz=4.1,slow=5.7
UMPA Umpang Tak 78.40 281 P P **10 38 46.4 +2.7**
comp=Z,4µmcomp=Z,109nm,1.1s
UMPA Umpang Tak 78.40 281 P P **10 38 46.0 +2.3**
comp=Z,929nmcomp=Z,27nm,1.1s
MORC Moravsky Berou 78.42 355 ⇑P P **10 38 43.9 +0.5**
MORC Moravsky Berou 78.42 355 ⇑P P **10 38 43.9 +0.5**
MORC Moravsky Berou 78.42 355 IAmb IAmb 10 38 47.5
comp=Z,127nm,1.8s
MORC Moravsky Berou 78.42 355 ⇑iP P **10 38 42.5 -0.9**
MORC Moravsky Berou 78.42 355 eS S 10 48 49.8 +12
MORC Moravsky Berou 78.42 355 ⇑P P **10 38 43.0 -0.3**
MILB Miltenberg 78.54 1 eP P **10 38 45.6 +1.7**
comp=Z,20nm,0.7s,baz=4.1,slow=5.7
UTHA Uthaitani 78.55 281 P P **10 38 45.9 +1.4**
comp=Z,651nmcomp=Z,62nm,1.1s
UTHA Uthaitani 78.55 281 P P **10 38 45.0 +0.5**
comp=Z,162nmcomp=Z,16nm,1.1s
ROTZ Rotzenmuhle 78.59 359 eP P **10 38 44.8 +0.5**
baz=4.1,slow=5.7
NIE Niedzica 78.61 353 eP P **10 38 44.4 0.0**
NIE eS S 10 48 49.9 +10
NIE Niedzica 78.61 353 P P **10 38 44.5 0.0**
NIE pmax pmax
comp=Z,11nm,1.2s
NIL Nilore 78.61 311 P P **10 38 44.7 0.0**
NIL pmax pmax
comp=Z,108nm,0.9s
NIL Nilore 78.61 311 P P **10 38 44.7 0.0**
WLF Walferdange 78.64 3 dP P **10 38 44.6 +0.1**
comp=Z,33nm,1.6s
WLF Walferdange 78.64 3 IAMs_20 IAMs_20 11 20 16.1
comp=Z,3µm,19.0s
WLF Walferdange 78.64 3 eP P **10 38 46.8 +2.3**
baz=4.1,slow=5.7
PBCC Pribram 78.64 358 eP P **10 38 46.1 +1.6**
GRF Grafenberg Arr 78.68 360 eP P **10 38 45.9 +1.1**
baz=4.1,slow=5.7
SMLA Simla 78.79 307 eP P **10 38 44.9 -0.8**
SMLA IAmb IAmb 10 38 46.7
comp=Z,75nm,0.7s
BHK Bhakra 78.92 307 ex P **10 38 41.8 -4.6**
VRAC Vranov 78.93 356 ⇑P P **10 38 47.0 +0.8**
VRAC Vranov 78.93 356 P P **10 38 46.5 +0.4**
comp=Z,26nm,0.7s,baz=6.5,slow=6.3,SNR=30
VRAC Vranov 78.93 356 ⇑iP P **10 38 45.5 -0.6**
VRAC Vranov 78.93 356 eS S 10 48 55.9 +13
LANS Liptovska Anna 78.93 354 eP P **10 38 47.2 +1.0**
LANS pmax pmax
comp=Z,36nm,1.2s
LANS Liptovska Anna 78.93 354 eP P **10 38 47.2 +1.0**
KOLS Kolonicke sedl 78.94 352 eP P **10 38 46.9 +0.7**
KOLS pmax pmax
comp=Z,30nm,1.0s
KOLS Kolonicke sedl 78.94 352 eP P **10 38 46.9 +0.7**
KOLS Kolonicke sedl 78.94 352 eS S 10 48 53.9 +11
KOLS eL L 11 22 09.9
TREC Trest 78.99 357 eP P **10 38 47.7 +1.2**
TREC eS S 10 48 57.1 +13
TREC MLR MLR
comp=Z,4µm,16.1s
TREC Trest 78.99 357 eP P **10 38 47.7 +1.2**
TREC eSKS S 10 48 57.1 +13
TREC AMS AMS 11 26 20.0
comp=Z,4µm,16.1s
DDI Dehra Dun 79.00 305 eP P **10 38 46.4 -0.5**
DDI IAmb IAmb 10 38 48.9
comp=Z,69nm,1.3s
CRVS Cervenica-Dubn 79.03 353 eP P **10 38 46.0 -0.7**
CRVS pmax pmax
comp=Z,217nm,2.2s
CRVS Cervenica-Dubn 79.03 353 eP P **10 38 46.0 -0.7**
CRVS Cervenica-Dubn 79.03 353 eL L 11 21 06.8
CRVS Cervenica-Dubn 79.03 353 eS S 10 48 58.7 +14
SORM Soroca 79.08 348 ⇑P P **10 38 46.0 -0.9**
SORM Soroca 79.08 348 ⇑P P **10 38 46.0 -0.9**
FLN La Foliniere 79.17 7 eP P **10 38 47.2 -0.2**
FLN pmax pmax
comp=Z,21nm,0.8s
KRUC Moravsky 79.18 356 P P **10 38 47.1 -0.4**
KRUC pmax pmax
comp=Z,46nm,1.8s
KRUC Moravsky 79.18 356 ⇑iP P **10 38 46.9 -0.6**
KRUC Moravsky 79.18 356 eS **SKSac 10 48 59.2 -2.9**
KHC Kasperske Hory 79.21 358 eP P **10 38 44.5 -3.2**
KHC eS S **10 48 49.5 +3.3**
KHC MLR MLR
comp=Z,4µm,18.0s
KHC Kasperske Hory 79.21 358 eP P **10 38 44.5 -3.2**
KHC eS S **10 48 49.5 +3.3**
KHC AMS AMS 11 18 00.0
comp=Z,4µm,18.0s
KHC Kasperske Hory 79.21 358 ⇑P P **10 38 47.5 -0.2**
WET Wettzell 79.21 358 P P **10 38 48.1 +0.4**
WET Wettzell 79.21 358 eP P **10 38 48.4 +0.8**
baz=4.1,slow=5.7
UZH Uzhgorod 79.24 352 eP P **10 38 46.7 -1.1**
UZH i 10 38 54.6
UZH iS S **10 48 39.5 -6.9**
UZH i 10 49 03.7
JAVC Velka Javorina 79.33 355 ⇑iP P **10 38 48.7 +0.3**
JAVC Velka Javorina 79.33 355 eS **SKSac 10 49 01.2 -2.0**
GOF Gofitskoye 79.33 337 ⇑eP P **10 38 48.5 +0.1**
GOF pmax pmax
comp=Z,340nm,0.9s
ROSF Rostrenen 79.34 9 eP P **10 38 48.4 0.0**
ROSF pmax pmax
comp=Z,10.0nm,0.7s
GEC2 GERESS Array S 79.49 358 IAmb IAmb 10 38 53.4
comp=Z,102nm,1.7s
GEC2 IAMs_20 IAMs_20 11 18 28.5
comp=Z,4µm,18.0s
GEC2 GERESS Array S 79.49 358 eP P **10 38 49.9 +0.6**
baz=4.1,slow=5.7
GERES GERESS Array B 79.49 358 P P **10 38 49.3 0.0**
comp=Z,8.8nm,0.8s,baz=7.1,slow=4.3,SNR=37
CKRC Cesky Krumlov 79.50 357 eP P **10 38 49.3 0.0**
CKRC eS S **10 48 52.6 +3.4**
GRR Gorron 79.51 8 eP P **10 38 49.4 +0.1**
GRR pmax pmax
comp=Z,108nm,1.6s
KECS Kecovo 79.53 353 eP P **10 38 50.2 +0.8**
KECS pmax pmax
comp=Z,16nm,1.0s
KECS Kecovo 79.53 353 eP P **10 38 50.2 +0.8**
STU Stuttgart 79.59 1 P P **10 38 50.1 +0.3**
STU pmax pmax
comp=Z,96nm,1.0s
STU Stuttgart 79.59 1 eP P **10 38 51.5 +1.7**
baz=4.1,slow=5.7
VYHS Vyhne 79.62 354 eP P **10 38 50.0 0.0**
VYHS pmax pmax
comp=Z,68nm,1.2s
VYHS Vyhne 79.62 354 eP P **10 38 50.0 0.0**
SRDT SRDT 79.68 280 P P **10 38 52.2 +1.5**
comp=Z,7µmcomp=Z,65nm,1.2s
SRDT SRDT 79.68 280 P P **10 38 52.2 +1.5**
comp=Z,7µmcomp=Z,65nm,1.2s
SMOL Smolenice 79.68 355 eP P **10 38 50.6 +0.3**
SMOL pmax pmax
comp=Z,21nm,0.8s
SMOL Smolenice 79.68 355 eP P **10 38 50.6 +0.3**
TRPA Tarpa 79.71 352 ⇑P P **10 38 52.0 +1.6**
TRPA Tarpa 79.71 352 eP P **10 38 50.0 -0.3**
PATY Pattaya 79.72 278 P P **10 38 52.5 +1.7**
comp=Z,60nm,1.1s
PATY Pattaya 79.72 278 P P **10 38 52.6 +1.7**
comp=Z,16nm,1.1s
QUIF Quistinic 79.77 9 eP P **10 38 54.0 +3.3**
QUIF pmax pmax
comp=Z,93nm,1.8s
KBL Kabul 79.78 314 P P **10 38 50.0 -1.3**
KBL pmax pmax
comp=Z,83nm,1.0s
KBL Kabul 79.78 314 P P **10 38 50.0 -1.3**
KBL IAmb IAmb 10 39 03.3
comp=Z,83nm,0.9s
KBL IAMs_20 IAMs_20 11 20 47.8
comp=Z,4µm,19.0s
CDF Champ du Feu 79.92 2 eP P **10 38 51.0 -0.7**
CDF pmax pmax
comp=Z,32nm,1.0s
BURAR Bucovina Array 79.96 350 ⇑P P **10 38 51.6 -0.3**
BURAR Bucovina Array 79.96 350 ⇑P P **10 38 51.6 -0.3**
ZST Bratislava 80.02 356 eP P **10 38 52.8 +0.8**
ZST pmax pmax
comp=Z,160nm,1.1s
ZST Bratislava 80.02 356 eP P **10 38 52.8 +0.8**
BFO Black Forest 80.03 1 P P **10 38 51.1 -1.0**
BFO pmax pmax
comp=Z,66nm,1.5s
BFO MLR MLR
comp=Z,3µm,19.0s
BFO Black Forest 80.03 1 P P **10 38 51.1 -1.0**
BFO IAmb IAmb 10 38 56.4
comp=Z,66nm,1.5s
BFO IAMs_20 IAMs_20 11 19 03.7
comp=Z,3µm,19.0s
BFO Black Forest 80.03 1 eP P **10 38 54.1 +1.9**
comp=Z,12nm,1.0s,baz=4.1,slow=5.7
BFO Black Forest 80.03 1 P P **10 38 52.3 +0.1**
BOK Bokaro 80.07 296 eP P **10 38 52.7 -0.1**
BOK IAmb IAmb 10 38 54.5
comp=Z,74nm,0.3s
CLF Chambon-Foret 80.10 6 IAmb IAmb 10 39 05.7
comp=Z,95nm,1.0s
CLF IAMs_20 IAMs_20 11 21 08.7
comp=Z,5µm,19.0s
CLF Chambon-Foret 80.10 6 ⇑P P **10 38 53.5 +1.0**
KIS Kishinev 80.13 347 eP P **10 38 50.0 -2.7**
comp=Z,320nm,9.5s
KIS Kishinev 80.13 347 ePP PP 10 41 42.0 -12
KIS Kishinev 80.13 347 eP P **10 38 50.0 -2.7**
KIS e 10 39 07.0
KIS e 10 49 06.0
KIS pmax pmax
comp=Z,320nm,9.5s
PSZ Piszkesteto 80.13 354 ⇑P P **10 38 53.8 +1.0**
PSZ Piszkesteto 80.13 354 eP P **10 38 52.4 -0.4**
PSZ Piszkesteto 80.13 354 ⇑P P **10 38 53.8 +1.0**
PSZ Piszkesteto 80.13 354 IAmb IAmb 10 38 57.3
comp=Z,103nm,1.5s
PSZ Piszkesteto 80.13 354 ⇑P P **10 38 52.5 -0.2**
MAK Makhachkala 80.13 333 eP P **10 38 50.6 -2.1**
MAK e 10 41 50.9
MAK eS S **10 48 50.9 -5.1**
MAK eSS SS **10 54 05.0 -0.1**
MAK eSSS SSS 10 57 31.1
MAK pmax pmax
comp=Z,209nm,1.0s
SDDR Presa de Saban 80.18 72 IAmb IAmb 10 39 06.7
comp=Z,44nm,1.0s
FUR Furstenfeldbru 80.20 359 eP P **10 38 54.6 +1.5**
baz=4.1,slow=5.7
HAU Haudompre 80.30 3 eP P **10 38 52.4 -1.2**
HAU pmax pmax
comp=Z,24nm,0.7s
CONA Conrad Observa 80.34 356 iP P **10 38 53.7 -0.3**
comp=Z,63nm,1.2s,SNR=32
KVAR Kislovodsk Arr 80.45 337 P P **10 38 54.4 -0.2**
baz=275,slow=18
KIV Kislovodsk 80.45 337 ⇑P P **10 38 55.7 +1.1**
KIV Kislovodsk 80.45 337 iP P **10 38 53.8 -0.7**
SNR=7.6
KIV Kislovodsk 80.45 337 P P **10 38 54.7 +0.1**
KIV Kislovodsk 80.45 337 eP P **10 38 53.9 -0.7**
KIV e 10 41 56.5
KIV eS S **10 48 56.9 -2.7**
KIV eSS SS **10 54 09.4 -0.7**
KIV eSSS SSS 10 57 35.8
KIV pmax pmax
comp=Z,209nm,3.9s
KIV pmax pmax
comp=Z,66nm,1.0s
KIV Kislovodsk 80.45 337 P P **10 38 55.4 +0.8**
KIV IAmb IAmb 10 38 59.4
comp=Z,58nm,0.9s
KIV Kislovodsk 80.45 337 P P **10 38 54.0 -0.6**
KIV P P **10 38 54.0 -0.6**
KIV Kislovodsk 80.45 337 ⇑P P **10 38 54.1 -0.5**
MOA MoIn 80.47 357 iP P **10 38 54.8 +0.2**
comp=Z,14nm,0.7s
PHET Kaeng Krachan 80.48 279 P P **10 38 57.4 +2.4**
comp=Z,631nmcomp=Z,66nm,1.0s
PHET Kaeng Krachan 80.48 279 P P **10 38 57.4 +2.4**
comp=Z,162nmcomp=Z,17nm,1.0s
BIZ Bicaz 80.53 349 ⇑P P **10 38 55.0 +0.2**
SOP Sopron 80.55 356 eP P **10 38 51.2 -3.7**
SOP Sopron 80.55 356 P P **10 38 55.0 +0.1**
SOP pmax pmax
comp=Z,46nm,1.7s
ARCR ARCALIA 80.57 350 ⇑P P **10 38 55.7 +0.6**
SLE Schleitheim 80.59 1 P P **10 38 55.0 -0.2**
SLE pmax pmax
comp=Z,35nm,1.1s
KBZ Khabaz 80.61 337 P P **10 38 55.5 +0.2**
comp=Z,31nm,0.9s,baz=86,slow=3.3,SNR=53
KBZ LR LR 11 20 45.1
comp=Z,3µm,18.6s,baz=28,slow=40
VASR Vaslui 80.61 348 ⇑P P **10 38 55.5 +0.2**
RJOB Jochberg 80.62 358 eP P **10 38 56.3 +0.9**
comp=Z,48nm,0.8s,baz=4.1,slow=5.7
TTSI Tana Toraja 80.63 253 P P **10 38 55.8 0.0**
comp=Z,1µmcomp=Z,74nm,1.2s
UBR Ueberruh 80.69 0 eP P **10 38 57.6 +1.9**
baz=4.1,slow=5.7
EGYH Egyhazaskeszo 80.78 355 eP P **10 38 53.7 -2.5**
CSKK Cskako 80.79 355 eP P **10 38 56.6 +0.4**
ANN Anapa 80.81 341 eP P **10 38 55.1 -1.2**
SBUM Sibu 80.86 262 P P **10 38 58.0 +1.0**
RETA Reutte 80.89 360 iP P **10 38 57.3 +0.5**
comp=Z,32nm,1.2s,SNR=8.8
TESR Tescani 80.89 349 ⇑P P **10 38 56.7 -0.1**
LOR Lormes 80.94 5 P P **10 38 57.3 +0.2**

LOR pmax pmax
comp=Z,32nm,0.7s
DRGR 81.02 352 ⇑P P 10 38 57.5 -0.1
DRGR 81.02 352 ⇑P P 10 38 57.5 -0.1
MOTA Moosalm 81.03 360 *i* P P 10 38 58.0 +0.3
comp=Z,65nm,1.2s,SNR=23
ARSA Arzberg 81.03 357 *i* P P 10 38 58.3 +0.8
comp=Z,50nm,1.2s,SNR=12
WATA Walderalm 81.03 359 *i* P P 10 38 58.3 +0.6
comp=Z,65nm,1.4s,SNR=19
DAVA Damuels 81.08 0 *e*P P 10 38 58.4 +0.4
comp=Z,49nm,1.2s
WTTA Wattenberg 81.10 359 *i* P P 10 38 58.7 +0.5
comp=Z,82nm,1.3s,SNR=26
SQTA Sankt Quirin 81.15 360 *i* P P 10 38 58.8 +0.5
comp=Z,70nm,1.1s,SNR=20
ZEI Tsey 81.25 336 *e*P P 10 38 56.2 -2.8
ZEI pmax pmax
comp=Z,25nm,1.4s
KBA Koelnbreinsper 81.26 358 *i* P P 10 38 59.8 +0.8
comp=Z,152nm,1.1s,SNR=48
KBA Koelnbreinsper 81.26 358 P P 10 38 59.9 +0.9
KBA pmax pmax
comp=Z,89nm,0.7s
GEYT Alibeck 81.28 324 P P 10 38 58.7 -0.4
comp=Z,304nm,0.8s,baz=323,slow=2.2,SNR=29
GEYT LR LR 11 18 39.8
comp=Z,4µm,18.6s,baz=50,slow=38
GYA0B ALIBECK ARRAY 81.28 324 IAmb IAmb 10 39 19.7
comp=Z,47nm,1.0s
SIM Simferopol' 81.30 343 P P 10 38 57.0 -2.0
SIM pmax pmax
comp=Z,101nm,0.9s
FETA Feichten 81.35 360 *i* P P 10 39 00.0 +0.6
comp=Z,56nm,0.9s,SNR=35
AVF Avril sur Loir 81.39 5 *e*P P 10 38 58.1 -1.3
AVF pmax pmax
comp=Z,31nm,0.8s
GUDG Gudauri 81.40 335 P P 10 38 59.3 -0.6
SOC Sochi 81.49 339 *c* *i*P P 10 38 58.8 -1.2
SOC *e**PP *sP* 10 39 08.3 +0.5
SOC *e* 10 42 02.8
SOC *e*PPP PPP 10 43 50.8
SOC *e*S **S** **10 49 08.4 -1.8**
SOC *e*SSS SSS 10 57 46.2
SOC pmax pmax
comp=Z,24nm,0.6s
SOC MLR MLR
comp=Z,4µm,20.0s
KDU Kakadu 81.50 237 ⇑P P 10 38 59.9 -0.4
CTA Charters Tower 81.50 222 LR LR 11 09 18.6
comp=Z,1µm,21.8s,baz=24,slow=31
CTA Charters Tower 81.50 222 P P 10 39 00.9 +0.7
CTA pmax pmax
comp=Z,70nm,1.3s
CTAO Charters Tower 81.50 222 P P 10 39 00.3 +0.1
CTAO pmax pmax
comp=Z,75nm,1.2s
CTAO MLR MLR
comp=Z,2µm,20.0s
CTAO Charters Tower 81.50 222 P P 10 39 00.3 +0.1
CTAO IAmb IAmb 10 39 03.5
comp=Z,75nm,1.1s
CTAO Charters Tower 81.50 222 ⇑P P 10 39 00.6 +0.4
VRI Vrincioaia 81.51 349 ⇑P P 10 39 00.8 +0.7
VRI Vrincioaia 81.51 349 ⇑P P 10 39 00.8 +0.7
PLOR Plostina 81.53 349 ⇑P P 10 39 01.9 +1.6
PLOR Plostina 81.53 349 ⇑P P 10 39 01.9 +1.6
ONI Oni 81.55 336 P P 10 39 01.7 +1.3
BNSI Bone 81.55 252 P P 10 39 01.6 +0.9
comp=Z,951nmcomp=Z,47nm,1.3s
DOPR Dopca 81.57 350 ⇑P P 10 39 01.3 +0.9
DAVOX Davos/Dischmat 81.59 0 P P 10 39 01.4 +0.7
comp=Z,25nm,0.6s,baz=337,slow=8.5,SNR=37
BGF Bois d'Agland 81.59 5 *e*P P 10 38 59.2 -1.3
BGF pmax pmax
comp=Z,45nm,0.9s
ZKTA Zakatala 81.60 333 P P 10 39 01.4 +0.7
ABTA Abfaltersbach 81.61 359 *i* P P 10 39 00.7 0.0
comp=Z,52nm,1.2s,SNR=20
SOKA Soboth 81.62 357 *i* P P 10 39 01.0 +0.3
comp=Z,89nm,1.2s,SNR=28
PERS Pernice 81.66 357 *i* P P 10 39 00.5 -0.5
PERS *i* PcP **pP** 10 39 04.0 -2.5
PERS *i* pP **pwP** 10 39 12.0 +0.9
CABF La Chapelle 81.69 3 *e*P P 10 39 01.4 +0.3
CABF pmax pmax
comp=Z,58nm,0.9s
MYKA Terra Mystica 81.71 358 *i* P P 10 39 01.4 +0.2
comp=Z,76nm,1.6s,SNR=12
CHVG Ch'k'valeri 81.76 337 ⇑P P 10 39 02.6 +1.1
CHVG Ch'k'valeri 81.76 337 ⇑P P 10 39 02.6 +1.1
ZOU Zoufplan 81.79 358 IAms_20 IAms_20 11 21 19.5
comp=Z,4µm,20.0s
OBKA Obir 81.80 357 *i* P P 10 39 02.1 +0.3
comp=Z,52nm,0.8s,SNR=12
SEKA Sheki 81.84 333 P P 10 39 01.6 -0.4
TLCR 81.91 347 ⇑P P 10 39 03.5 +1.3
TLCR 81.91 347 ⇑P P 10 39 03.5 +1.3
MORH Mrgy, Hungar 81.91 354 ⇑P P 10 39 02.3 +0.1
MORH Mrgy, Hungar 81.91 354 *e*P P 10 39 00.3 -1.8
MORH Mrgy, Hungar 81.91 354 ⇑*i*P P 10 39 00.8 -1.3
DDFL Dedoflistskaro 81.92 334 P P 10 39 05.0 +2.6
PTCC Patocco-Chiusa 81.94 358 ⇑P P 10 39 02.0 -0.4
MLR Muntele Rosu 81.97 349 ⇑P P 10 39 05.1 +2.4
MLR Muntele Rosu 81.97 349 P P 10 39 02.3 -0.4
comp=Z,9.0nm,0.8s,baz=238,slow=7.0,SNR=9.0
MLR Muntele Rosu 81.97 349 IAmb IAmb 10 39 32.5
comp=Z,94nm,2.0s
MLR IAms_20 IAms_20 11 18 02.3
comp=Z,5µm,20.0s
CFR Carcaliu 82.01 348 ⇑P P 10 39 03.6 +1.0
CFR Carcaliu 82.01 348 P P 10 39 03.5 +0.8
CFR pmax pmax
comp=Z,34nm,1.9s
KOVH Kovagotottos 82.07 355 *e*P P 10 39 01.9 -1.1
STAL STALIGIAL 82.09 358 IAmb IAmb 10 39 07.5
comp=Z,39nm,1.1s
STAL IAms_20 IAms_20 11 21 41.4
comp=Z,3µm,20.0s
KALN Kalnik 82.11 356 *i* P P 10 39 02.2 -1.1
VOIR 82.13 350 ⇑P P 10 39 04.5 +1.0
VOIR 82.13 350 ⇑P P 10 39 04.5 +1.0
ARR Arges 82.24 350 ⇑P P 10 39 05.5 +1.5
KAPI Kappang 82.25 252 P P 10 39 05.5 +1.1
KAPI pmax pmax
comp=Z,116nm,1.6s
KAPI Kappang 82.25 252 P P 10 39 05.5 +1.1
KAPI IAmb IAmb 10 39 08.1
comp=Z,116nm,1.6s
LOT Lotru 82.25 351 ⇑P P 10 39 04.7 +0.5
LJU Ljubljana 82.27 357 ⇑*i*P P 10 39 06.1 +2.0
LJU Ljubljana 82.27 357 *i* P P 10 39 03.3 -0.8
LJU *e*PP **PP** 10 42 11.0 -0.7
LJU *e*S **S** **10 49 18.5 +0.4**
LJU *e*SS **SS** **10 54 47.1 +10**
MNGR Mingechevir, A 82.28 333 P P 10 39 04.3 +0.1
BKSI Bulukumba 82.28 251 P P 10 39 03.8 -0.7
comp=Z,2µmcomp=Z,938nmcomp=Z,40nm,0.8s
BZS Buzias 82.29 352 ⇑P P 10 39 04.0 -0.2
BZS Buzias 82.29 352 ⇑P P 10 39 04.0 -0.2
CTI Castel Tesino 82.32 359 IAmb IAmb 10 39 17.0
comp=Z,39nm,1.0s
MTN Manton Dam 82.32 238 IAmb IAmb 10 39 07.0
comp=Z,53nm,0.9s
MTN Manton Dam 82.32 238 ⇓P P 10 39 04.2 -0.4
PTJ Puntijarka 82.35 356 P P 10 39 01.9 -2.7
GZR Gura Zlata 82.40 351 P P 10 39 05.0 +0.1
KZRT Kazreti 82.43 335 P P 10 39 08.1 +3.0
CRES Cresnjev 82.45 357 ⇑*i*P P 10 39 05.6 +0.5
CEY Cerknica 82.58 357 ⇑*i*P P 10 39 04.9 -0.8
GANJ Ganja 82.61 333 P P 10 39 05.3 -0.7
MOSL Moslavina 82.61 356 *i* P P 10 39 06.1 +0.2
AKH Akhalkalaki 82.65 336 ⇑P P 10 39 07.5 +1.2
AKH Akhalkalaki 82.65 336 P P 10 39 06.0 -0.4
AKH Akhalkalaki 82.65 336 P P 10 39 07.9 +1.5
OZLJ Ozalj 82.66 356 *i* P P 10 39 06.9 +0.8
TIRR Tirgusor 82.68 347 ⇑P P 10 39 06.2 0.0
TIRR Tirgusor 82.68 347 ⇑P P 10 39 06.2 0.0
SALO Salr 82.75 360 ⇓P P 10 39 06.7 0.0
RJF Les Rejaudoux 82.76 6 *e*P P 10 39 06.2 -0.5
RJF pmax pmax
comp=Z,18nm,0.8s
SKDS Skadanscina 82.78 358 ⇑*i*P P 10 39 04.2 -2.6
BOJS Bojanci 82.78 357 ⇑*i*P P 10 39 05.9 -0.9
BOJS Bojanci 82.78 357 *i* P P 10 39 06.2 -0.6
BOJS *i* PcP PcP 10 39 07.8 -3.8
HRA Herat 82.80 319 IAmb IAmb 10 39 19.7
comp=Z,67nm,1.2s
KSM Kuching 82.80 263 P P 10 39 08.0 +0.7
LPL La Plagne 82.80 3 *e*P P 10 39 09.4 +2.2
LPL pmax pmax
comp=Z,32nm,1.0s
LPG La Plagne 82.82 3 *e*P P 10 39 08.8 +1.5
LPG pmax pmax
comp=Z,47nm,1.3s
GMAL Guarumal, Vera 82.88 87 *e*P P 10 39 13.9 +6.2
FRGS Fruska Gora 82.88 353 ⇑P P 10 39 08.1 +0.8
FRGS Fruska Gora 82.88 353 ⇑*i*P P 10 39 06.2 -1.1
BATM Batumi 82.91 337 P P 10 39 07.2 -0.3
SSB Saint Sauveur 82.96 4 IAms_20 IAms_20 11 22 54.4
comp=Z,3µm,20.0s
SSB Saint Sauveur 82.96 4 ⇑P P 10 39 07.5 -0.2
TEOL Teolo 83.01 359 IAms_20 IAms_20 11 22 17.6
comp=Z,3µm,20.0s
BCA Borcka 83.08 337 ⇑P P 10 39 08.6 +0.2
CAF Calviac 83.17 6 *e*P P 10 39 07.8 -1.0
CAF pmax pmax
comp=Z,21nm,0.9s
BEO Beograd 83.18 353 P P 10 39 11.9 +3.1
MRAK Mrakovica 83.20 355 *e*P P 10 39 09.0 0.0
BNI Bardonecchia 83.27 3 P P 10 39 11.0 +1.6
BNI pmax pmax
comp=Z,92nm,0.8s
BNI Bardonecchia 83.27 3 ⇑P P 10 39 10.0 +0.6
MONC Moncucco Torin 83.27 2 ⇓P P 10 39 11.4 +2.1
AOPR Arecibo Observ 83.32 69 IAmb IAmb 10 39 28.9
comp=Z,42nm,0.8s
ORIF Oris-en-Rattie 83.37 3 *e*P P 10 39 10.9 +0.9
ORIF pmax pmax
comp=Z,24nm,0.7s
SURA Surathani 83.39 276 P P 10 39 13.7 +3.4
comp=Z,7µmcomp=Z,70nm,1.5s
SURA Surathani 83.39 276 P P 10 39 13.7 +3.4
comp=Z,6µmcomp=Z,70nm,1.5s
BRJN Brijuni 83.43 358 *i* P P 10 39 08.2 -1.8
AZU Azuero 83.45 86 *e*P P 10 39 09.8 -0.8
BLY Banja Luka 83.45 355 *e*P P 10 39 11.6 +1.4
SOEI Soe 83.50 245 ⇑P P 10 39 12.3 +1.3
SOEI Soe 83.50 245 P P 10 39 09.1 -1.8
comp=Z,1µmcomp=Z,90nm,0.9s
GNI Garni 83.50 334 P P 10 39 10.5 -0.3
GNI Garni 83.50 334 P P 10 39 11.6 +0.8
GNI Garni 83.50 334 *c* *i*P P 10 39 11.0 +0.2
GNI pmax pmax
comp=Z,84nm,1.7s
GNI Garni 83.50 334 P P 10 39 11.7 +0.8
GNI Garni 83.50 334 IAms_20 IAms_20 11 23 40.1
comp=Z,4µm,19.0s
GNI Garni 83.50 334 P P 10 39 11.0 +0.2
GNI P P 10 39 11.0 +0.2
TEKS Tekeris 83.51 354 ⇑*i*P P 10 39 09.9 -0.7
ROSA Rosais 83.54 30 IAms_20 IAms_20 11 15 40.0
comp=Z,5µm,21.0s
MBDF Montbardon 83.59 3 *e*P P 10 39 11.7 +0.5
MBDF pmax pmax
comp=Z,55nm,0.9s
BOB Bobbio (Coli) 83.60 1 ⇑P P 10 39 11.3 +0.2
PRMA PARMA 83.61 0 IAms_20 IAms_20 11 23 42.6
comp=Z,4µm,19.0s
CHOM Cayeli-Rize 83.61 337 P P 10 39 10.8 -0.4
LKRN Lenkeran, Azer 83.69 331 P P 10 39 12.4 +0.9
NVLJ Novalja 83.74 357 *i* P P 10 39 10.8 -0.8
MGRS Mrkonjic Grad 83.79 355 *e*P P 10 39 13.9 +1.9
JBP Jabalpur 83.79 300 *e*P P 10 39 10.8 -1.5
JBP *e*S **S** **10 49 33.4 -0.8**
SJG San Juan 83.85 69 P P 10 39 13.4 +0.8
SJG pmax pmax
comp=Z,58nm,1.1s
SJG MLR MLR
comp=Z,4µm,19.0s
SJG San Juan 83.85 69 P P 10 39 13.4 +0.8
SJG IAmb IAmb 10 39 30.4
comp=Z,58nm,1.1s
SJG San Juan 83.85 69 IAMs_20 IAMs_20 11 20 11.0
comp=Z,4µm,19.0s
DIVS Divibare 83.92 353 ⇑*i*P P 10 39 11.2 -1.6
DIVS Divibare 83.92 353 IAmb IAmb 10 42 02.7
comp=Z,28nm,0.9s
DIVS IAMs_20 IAMs_20 11 20 53.8
comp=Z,3µm,19.0s
DIVS Divibare 83.92 353 ⇑P P 10 39 11.7 -1.1
KTUT Trabzon 83.95 338 ⇑P P 10 39 13.4 +0.5
KTUT Trabzon 83.95 338 P P 10 39 12.6 -0.2
HUMP Col San Antoni 84.00 68 IAmb IAmb 10 39 30.4
comp=Z,42nm,0.8s
PDPR Patillas Dam, 84.00 69 IAmb IAmb 10 39 30.4
comp=Z,39nm,1.1s
MSSA Maissana 84.05 1 IAmb IAmb 10 39 19.2
comp=Z,32nm,0.7s
SURT Suratani 84.06 277 P P 10 39 29.7 +16
SURT Suratani 84.06 277 P P 10 39 29.7 +16
EDFI Ende, Flores 84.14 248 P P 10 39 10.3 -3.9
comp=Z,379nmcomp=Z,27nm,1.3s
BBLS Lazići 84.20 354 ⇑*i*P P 10 39 13.0 -1.2
BATI Baumata 84.20 245 P P 10 39 12.8 -1.6
comp=Z,58nm,0.7s
NAX Nakhchivan 84.21 333 P P 10 39 14.0 -0.3
VLC Villacollemand 84.21 0 IAMs_20 IAMs_20 11 18 19.5
comp=Z,3µm,21.0s
VLC Villacollemand 84.21 0 ⇑P P 10 39 13.8 -0.3
KIJV Kijevo 84.23 356 *i* P P 10 39 14.9 +0.6
BOVS Bovan 84.25 352 ⇑P P 10 39 13.5 -0.8
DIKM Dikmen 84.28 342 ⇑P P 10 39 17.5 +3.0
DIKM Dikmen 84.28 342 P P 10 39 15.9 +1.4
DUGI Dugi Otok 84.30 357 *i* P P 10 39 14.4 -0.1
SKLT Songkhla 84.33 274 P P 10 39 18.5 +3.4
comp=Z,2µmcomp=Z,68nm,1.0s
SKLT Songkhla 84.33 274 P P 10 39 18.5 +3.4
comp=Z,2µmcomp=Z,68nm,1.0s
RUSF Rusfrel 84.33 4 ⇑P P 10 39 17.9 +3.1
STVI Saint Thomas 84.34 67 IAmb IAmb 10 39 33.6
comp=Z,72nm,1.1s
TRTT Trang 84.39 275 P P 10 39 18.2 +2.8
comp=Z,2µmcomp=Z,62nm,1.5s
TRTT Trang 84.39 275 P P 10 39 18.2 +2.8
KRAB Krabi 84.39 276 P P 10 39 20.1 +4.7
KRAB Krabi 84.39 276 P P 10 39 20.2 +4.8
comp=Z,20µmcomp=Z,165nm,1.0s
KOPR Koprukoy-ERZUR 84.40 336 P P 10 39 15.2 -0.2
MORI Morici 84.40 356 *i* P P 10 39 14.7 -0.3
AGRB Hanur-Agry 84.50 335 P P 10 39 16.3 +0.4
CAPC Capurgana 84.52 83 *e*P P 10 39 28.0 +12
ZIRJ Zirje 84.61 356 *i* P P 10 39 14.0 -2.2
KVT Kavak 84.67 341 P P 10 39 16.6 +0.1
KVT Kavak 84.67 341 P P 10 39 18.2 +1.6
RICI Ricice 84.70 355 *i* P P 10 39 17.0 +0.3
SJPF Ste Jean 84.72 9 *e*P P 10 39 17.7 +1.0
SJPF pmax pmax
comp=Z,22nm,0.7s
PLE Pljevlja 84.73 353 ⇓*i*P P 10 39 17.2 +0.3
FRF La Foret Royal 84.75 3 *e*P P 10 39 16.0 -0.9
FRF pmax pmax
comp=Z,77nm,1.1s
MTLF Montolieu 84.76 6 *e*P P 10 39 17.7 +0.8
MTLF pmax pmax
comp=Z,64nm,0.9s
MAKA Makarska 84.92 355 *i* P P 10 39 17.3 -0.4
SJCC San Jacinto, C 84.93 81 *e*P P 10 39 22.3 +4.0
LMR La Mourre 84.98 3 *e*P P 10 39 18.4 +0.4
LMR pmax pmax
comp=Z,60nm,1.1s
PGAV Gavieira, Arco 85.00 14 *e*P P 10 39 19.9 +1.6
comp=Z,56nm,1.9s
PGAV Gavieira, Arco 85.00 14 *e*S S 10 49 54.4 +8.4
PGAV Gavieira, Arco 85.00 14 *e*LQ LQ 11 04 38.8
PGAV *e*LR LR 11 10 32.5
comp=Z,6µm,16.0s
LCBC Los crdobas, 85.02 82 *e*P P 10 39 17.9 -0.7
HVAR Hvar 85.06 356 *i* P P 10 39 18.2 -0.2
BHPL Bhopal 85.09 302 *e*P P 10 39 18.1 -0.9
BHPL IAmb IAmb 10 39 19.2
comp=Z,71nm,1.0s
BHPL *e*S **SKSac** **10 49 37.4 -5.2**
VTS Vitosha 85.11 351 ⇑P P 10 39 19.6 +0.7
VTS Vitosha 85.11 351 ⇑P P 10 39 19.6 +0.7
VTS Vitosha 85.11 351 IAMs_20 IAMs_20 11 17 43.2
comp=Z,4µm,22.0s
VTS Vitosha 85.11 351 ⇑P P 10 39 17.8 -1.1
IVA Berane 85.15 353 ⇑*i*P P 10 39 18.6 -0.4
KOME Kolasin 85.20 353 ⇑*i*P P 10 39 19.3 0.0
BRY Bratogost 85.21 354 ⇑*i*P P 10 39 18.9 -0.5
BRY Bratogost 85.21 354 ⇓*i*P P 10 39 19.2 -0.2
CMLA Cha da Macela 85.23 28 IAMs_20 IAMs_20 11 18 58.7
comp=Z,5µm,18.0s
YEDI Yedisu-Bingol 85.24 337 P P 10 39 20.3 +0.7
NKY Niksic 85.27 354 ⇑*i*P P 10 39 19.5 -0.1
PCAB Cabril 85.28 14 *e*P P 10 39 21.6 +2.0
comp=Z,47nm,1.6s
KDZE Karadeniz Ereo 85.29 344 P P 10 39 18.4 -1.2
STON Ston 85.30 355 ⇑*i*P P 10 39 17.6 -2.0
STON Ston 85.30 355 *i* P P 10 39 17.6 -2.0
TOKT Tokat 85.30 340 P P 10 39 20.3 +0.6
VANB Van 85.32 335 P P 10 39 20.8 +0.8
NKME Niksic 85.32 354 ⇑*i*P P 10 39 19.8 0.0
PBRG Braganca 85.37 13 *e*P P 10 39 21.4 +1.3
comp=Z,39nm,0.8s
CRJC Cerrejon, Guaj 85.45 78 *e*P P 10 39 21.6 +0.8
MGAB Montegabbione 85.45 359 ⇑P P 10 39 19.6 -0.9
URIC Uribia, Colomb 85.45 77 *e*P P 10 39 27.0 +6.2
PLD Plovdiv 85.46 349 P P 10 39 20.3 -0.1
PLD pmax pmax
comp=Z,40nm,1.3s
EDRB Edirne 85.47 348 P P 10 39 21.8 +1.3
CEME Cevo 85.54 354 ⇑*i*P P 10 39 21.1 +0.2
SVSK Karacayir 85.59 340 P P 10 39 21.9 +0.8
CANT Cankiri 85.59 343 P P 10 39 22.3 +1.1
BNGB Bingl 85.63 337 P P 10 39 21.7 +0.2
PDG Podgorica 85.64 354 ⇑P P 10 39 21.2 -0.1
PDG Podgorica 85.64 354 *e*P P 10 39 19.8 -1.5
PDG Podgorica 85.64 354 IAmb IAmb 10 39 24.7
comp=Z,75nm,1.3s
PDG IAMs_20 IAMs_20 11 24 16.1
comp=Z,3µm,20.0s
PDG Podgorica 85.64 354 ⇑P P 10 39 20.1 -1.1
TTG Podgorica 85.64 354 ⇑*i*P P 10 39 21.7 +0.4
PBA Port Blair 85.64 283 IAMs_20 IAMs_20 11 22 02.5
comp=Z,4µm,19.0s
POLO Lamas de Olo 85.65 14 *e*P P 10 39 22.9 +1.4
comp=Z,23nm,1.6s
POLO Lamas de Olo 85.65 14 *e*SS SS 10 55 40.6 +14
HCY Herceg Novi 85.67 354 ⇑*i*P P 10 39 21.4 -0.1
HCY Herceg Novi 85.67 354 ⇑*i*P P 10 39 21.6 +0.1
ILIC ilic-Erzincan 85.69 339 P P 10 39 24.3 +2.5
JRMM Jerantut 85.74 271 P P 10 39 23.0 +0.8
PVRL Vila Real 85.75 14 *e*P P 10 39 23.3 +1.3
comp=Z,52nm,1.5s
KULM Kulim 85.78 273 P P 10 39 23.0 +0.6
BUM Brajici-Budva 85.79 354 ⇑*i*P P 10 39 22.4 +0.2
PGF Pioggiola 85.81 1 P P 10 39 22.9 +0.6
PGF pmax pmax
comp=Z,124nm,1.0s
PGF Pioggiola 85.81 1 P P 10 39 21.7 -0.6
CORM Corum 85.82 342 P P 10 39 22.8 +0.4
DRME Dracevica, Mon 85.88 354 *e*P P 10 39 21.0 -1.6
DRME Dracevica, Mon 85.88 354 ⇑*i*P P 10 39 22.9 +0.3
SKO Skopje 85.92 352 *i* P P 10 39 22.6 -0.1
KNRA Kununurra 85.94 238 IAmb IAmb 10 39 25.8
comp=Z,80nm,1.2s
MVO Moncorvo 85.96 13 *e*P P 10 39 24.3 +1.2
comp=Z,34nm,1.1s
MVO Moncorvo 85.96 13 *e*S S 10 50 01.5 +6.0
MVO Moncorvo 85.96 13 *e*LQ LQ 11 02 33.6
MVO *e*LR LR 11 09 12.3
comp=Z,4µm,18.0s
AQU L'Aquila 85.98 358 P P 10 39 24.5 +1.4
AQU pmax pmax
comp=Z,105nm,0.8s
AQU L'Aquila 85.98 358 ⇑*i*P P 10 39 23.5 +0.4
AQU L'Aquila 85.98 358 IAMs_20 IAMs_20 11 23 30.4
comp=Z,3µm,20.0s
AQU L'Aquila 85.98 358 ⇑P P 10 39 23.2 +0.1
PTK Pertek 86.03 338 P P 10 39 35.1 +11
SAUV Serdivan-Sakar 86.03 345 P P 10 39 24.6 +1.3
HRT Hereke 86.06 346 P P 10 39 23.9 +0.4
ARPR Arapgir-MALATY 86.08 339 P P 10 39 24.4 +0.6
ULC Ulcinj 86.10 353 ⇓*i*P P 10 39 23.9 +0.2
STIP Stip 86.13 351 *i* P P 10 39 23.1 -0.7
SEUS St. Eustatius 86.15 66 IAMs_20 IAMs_20 11 17 47.7
comp=Z,5µm,21.0s
MDUB Mudurnu 86.15 344 P P 10 39 24.5 +0.4
WBSI Waikabubak, Su 86.18 249 P P 10 39 21.2 -3.2
comp=Z,2µmcomp=Z,89nm,1.0s
YOZ Yozgat 86.20 341 P P 10 39 24.8 +0.4
PVIS Viseu 86.28 14 *e*P P 10 39 25.9 +1.3
comp=Z,39nm,1.7s
PHP Peshkopia 86.29 353 P P 10 39 23.3 -1.3
NVR Nevrokopi 86.30 350 P P 10 39 23.6 -1.1
GULT Gulveren 86.30 345 P P 10 39 25.4 +0.6
RDO Rodhopi 86.31 349 P P 10 39 24.2 -0.4
RDO Rodhopi 86.31 349 ⇑P P 10 39 24.2 -0.4
VIS Vishakhapatnam 86.34 294 *e*P P 10 39 24.7 -0.4
VIS IAmb IAmb 10 39 27.5
comp=Z,13nm,0.7s
YLV Yalova 86.35 346 P P 10 39 25.1 +0.1
BR131 Keskin Array S 86.44 342 IAmb IAmb 10 39 31.1
comp=Z,114nm,1.8s
BRTR Keskin Array B 86.44 342 P P 10 39 26.2 +0.6
comp=Z,8.0nm,0.7s,baz=68,slow=2.1,SNR=19
BRTR LR LR 11 22 55.5
comp=Z,2µm,18.4s,baz=42,slow=39
BRTR Keskin Array B 86.44 342 P P 10 39 24.5 -1.1
BRTR Keskin Array B 86.44 342 *i* P P 10 39 26.5 +0.9
BRTR pmax pmax
comp=Z,9.0nm,0.8s
LOD Lodumlu 86.45 343 P P 10 39 26.2 +0.7
VAY Valandovo 86.46 351 *i* P P 10 39 24.7 -0.7
ANTO Ankara 86.46 343 P P 10 39 26.2 +0.7
ANTO Ankara 86.46 343 P P 10 39 26.4 +0.9
ANTO pmax pmax
comp=Z,65nm,1.3s
ANTO Ankara 86.46 343 P P 10 39 26.4 +0.9
ANTO IAmb IAmb 10 39 59.5
comp=Z,65nm,1.3s
SMLC San Martn de 86.46 80 *e*P P 10 39 27.2 +1.4
PLAI Plampang 86.47 251 P P 10 39 23.4 -2.3
comp=Z,908nmcomp=Z,50nm,1.3s
ALN Alexandroupoli 86.49 348 P P 10 39 24.5 -1.0
ALN Alexandroupoli 86.49 348 P P 10 39 24.9 -0.6
ALN pmax pmax
comp=Z,52nm,1.4s
ALN Alexandroupoli 86.49 348 IAMs_20 IAMs_20 11 23 34.8
comp=Z,2µm,20.0s
ALN Alexandroupoli 86.49 348 ⇑P P 10 39 25.1 -0.5
GEMT Gemlik 86.51 346 P P 10 39 25.7 0.0
SVRC Sivrice-ELAZID 86.54 338 P P 10 39 27.2 +1.1
KAVA Kavala 86.58 349 P P 10 39 25.0 -1.0
KNT Kendrikon 86.58 351 P P 10 39 24.5 -1.5
CAVI Cavuskoy 86.64 345 P P 10 39 25.9 -0.4
MTE Manteigas 86.64 14 *e*P P 10 39 27.6 +1.2
comp=Z,34nm,2.0s
MTE Manteigas 86.64 14 *e*S S 10 50 05.7 +3.6
MTE Manteigas 86.64 14 *e*LQ LQ 11 05 05.6
MTE *e*LR LR 11 10 37.4
comp=Z,4µm,16.0s
MTE Manteigas 86.64 14 IAMs_20 IAMs_20 11 23 40.1
comp=Z,5µm,18.0s
MTE Manteigas 86.64 14 ⇓P P 10 39 27.6 +1.2
SRCK Saricakaya, Es 86.67 345 P P 10 39 25.9 -0.6
TIR Tirane 86.67 353 ⇑P P 10 39 26.6 +0.2
TIR Tirane 86.67 353 ⇑P P 10 39 26.6 +0.2
ANWB Willy Bob 86.69 65 IAMs_20 IAMs_20 11 20 16.8
comp=Z,6µm,20.0s
COI Coimbra 86.70 14 *e*P P 10 39 27.6 +1.0
comp=Z,51nm,1.4s
COI Coimbra 86.70 14 IAMs_20 IAMs_20 11 21 57.7
comp=Z,4µm,18.0s
WRAB Tennant Creek 86.70 232 P P 10 39 25.7 -1.0
WRAB pmax pmax
comp=Z,53nm,1.1s
WRAB Tennant Creek 86.70 232 P P 10 39 25.7 -1.0
WRAB IAmb IAmb 10 39 29.3
comp=Z,53nm,1.1s
WRAB Tennant Creek 86.70 232 ⇓P P 10 39 25.9 -0.8
WRA Warramunga Arr 86.71 232 P P 10 39 25.8 -1.0
comp=Z,29nm,0.9s,baz=44,slow=5.0,SNR=79
WRA LR LR 11 21 20.5
comp=Z,632nm,18.0s,baz=15,slow=38
DARE Darende-Malaty 86.77 339 P P 10 39 27.7 +0.6
AFSR Afar-Bala (An 86.82 343 P P 10 39 27.6 +0.3
OHR Ohrid 86.83 352 *i* P P 10 39 26.8 -0.5

PCAS	Casmilo, Conde	86.83	14	*e*P		P		10 39 28.0	+0.7	
	comp=Z,11nm,1.8s									
PCAS	Casmilo, Conde	86.83	14	*e*S		S		10 50 06.0	+2.1	
BORA	Eskisehir	86.85	345	P		P		10 39 27.9	+0.4	
BNN	Bunyan	86.85	340	P		P		10 39 28.2	+0.6	
SOH	Sokhos	86.88	350	P		P		10 39 28.8	+1.3	
SOH				pmax	pmax					
	comp=Z,25nm,1.9s									
AUBOZ	BOZOYUK	86.89	345	P		P		10 39 28.2	+0.6	
HATO	Hato, Curacao	86.89	74	IAMs_20	IAMs_20			11 20 01.2		
	comp=Z,5µm,20.0s									
SVRH	Sivrihisar-ESK	87.10	344	P		P		10 39 27.9	-0.8	
AUSIV	SIVRIHISAR	87.10	344	P		P		10 39 28.2	-0.5	
FNA	Florina	87.10	352	P		P		10 39 28.1	-0.5	
FNA				pmax	pmax					
	comp=Z,39nm,0.7s									
FNA	Florina	87.10	352	⇑P		P		10 39 28.3	-0.3	
MAZI	Mazidag	87.14	337	P		P		10 39 28.8	-0.2	
SARI	SarD1z-Kayseri	87.16	340	P		P		10 39 29.1	0.0	
MRVN	Minervino Murg	87.18	356	⇑P		P		10 39 30.1	+1.1	
PCBR	Castelo Branco	87.20	14	*e*P		P		10 39 30.1	+1.1	
	comp=Z,24nm,1.3s									
GADA	Gvkgeada	87.20	348	P		P		10 39 27.9	-1.1	
SERE	Sereflikochisa	87.21	342	P		P		10 39 30.2	+0.9	
PAOL	Paolisi	87.27	357	IAMs_20	IAMs_20			11 23 48.5		
	comp=Z,3µm,18.0s									
UCM	Universidad Co	87.29	10	P		P		10 39 32.0	+2.5	
UCM				S		S		10 50 10.2	+1.9	
OUR	Ouranopolis	87.29	350	P		P		10 39 30.1	+0.7	
KBN	Korca	87.31	352	IAMs_20	IAMs_20			11 24 00.5		
	comp=Z,3µm,20.0s									
PSBE	So Bento	87.32	15	*e*P		P		10 39 31.8	+2.1	
PSBE	So Bento	87.32	15	*e*S		S		10 50 08.4	-0.2	
TVSB	Tavsanli	87.43	345	P		P		10 39 30.5	+0.2	
BALB	Balikesir	87.48	347	IAmb	IAmb			10 39 43.4		
	comp=Z,41nm,0.9s									
BALB				IAMs_20	IAMs_20			11 22 47.0		
	comp=Z,4µm,21.0s									
EZN	Ezine	87.51	348	P		P		10 39 29.5	-1.0	
EZN	Ezine	87.51	348	P		P		10 39 31.2	+0.7	
KZN	Kozani	87.54	351	P		P		10 39 29.1	-1.7	
URFA	Urfa	87.55	338	P		P		10 39 30.8	-0.1	
CBOC	Ciudad Bolivar	87.57	84	*e*P		P		10 39 39.9	+8.5	
LIA	Limnos Island	87.58	349	P		P		10 39 31.4	+0.5	
KIZT	Kizilcal	87.58	343	P		P		10 39 31.1	0.0	
PMRV	Marv??o	87.61	14	*e*P		P		10 39 30.9	-0.2	
	comp=Z,23nm,1.3s									
PMRV	Marv??o	87.61	14	*e*S		S		10 50 12.2	+0.8	
PMRV	Marv??o	87.61	14	*e*LQ		LQ		11 03 17.4		
PMRV				*e*LR		LR		11 11 48.0		
	comp=Z,4µm,18.0s									
LIT	Litokhoron	87.68	351	P		P		10 39 28.5	-2.9	
PAIG	Pallouri	87.72	350	P		P		10 39 31.7	+0.1	
PMAFR	Mafra	87.78	15	*e*S		S		10 50 18.8	+5.7	
ES16	SONSECA Array	87.81	11	IAMs_20	IAMs_20			11 25 21.1		
	comp=Z,5µm,18.0s									
ESBB	Sonseca Array	87.83	11	IAmb	IAmb			10 39 35.8		
	comp=Z,29nm,1.1s									
ESBB				IAMs_20	IAMs_20			11 25 22.5		
	comp=Z,5µm,18.0s									
ESDC	Sonseca Array	87.83	11	P		P		10 39 31.8	-0.4	
	comp=Z,13nm,0.8s,baz=346,slow=4.6,SNR=43									
ESDC				LR	LR			11 18 33.7		
	comp=Z,3µm,21.5s,baz=320,slow=36									
ESDC	Sonseca Array	87.83	11	IAmb	IAmb			10 39 35.9		
	comp=Z,25nm,1.1s									
ES15	SONSECA Array	87.83	11	IAMs_20	IAMs_20			11 25 21.7		
	comp=Z,5µm,18.0s									
PMTG	Montargil	87.84	14	*e*P		P		10 39 31.6	-0.5	
	comp=Z,17nm,1.4s									
PMTG	Montargil	87.84	14	*e*S		S		10 50 13.2	-0.4	
ES14	SONSECA Array	87.85	11	IAMs_20	IAMs_20			11 25 22.0		
	comp=Z,5µm,18.0s									
ES12	SONSECA Array	87.87	11	IAMs_20	IAMs_20			11 25 22.5		
	comp=Z,5µm,18.0s									
PAB	San Pablo	87.91	11	P		P		10 39 33.4	+0.8	
PAB				pmax	pmax					
	comp=Z,13nm,0.9s									
PAB				MLR	MLR					
	comp=Z,5µm,20.0s									
PAB	San Pablo	87.91	11	P		P		10 39 33.4	+0.8	
PAB	San Pablo	87.91	11	IAMs_20	IAMs_20			11 21 09.7		
	comp=Z,5µm,20.0s									
PAB	San Pablo	87.91	11	⇓P		P		10 39 33.5	+0.9	
KMRS	Kahramanmaras	87.92	339	P		P		10 39 33.9	+1.3	
PTBC	PUERTO BERRIO,	88.00	82	*e*P		P		10 39 32.7	-0.6	
BRRC	Barranca, Sant	88.01	81	*e*P		P		10 39 35.8	+2.5	
LIS	Lisbon	88.04	15	*e*P		P		10 39 33.0	0.0	
LIS				IAMs_20	IAMs_20			11 25 20.0		
	comp=E,3µm,19.0s									
LIS	Lisbon	88.04	15	*e*P		P		10 39 33.0	0.0	
PRK	Paraskevi	88.09	348	P		P		10 39 33.1	-0.2	
OUZ	Omahuta	88.11	194	IAMs_20	IAMs_20			11 16 20.4		
	comp=Z,3µm,19.0s									
QLP	Quilpie	88.12	220	⇓P		P		10 39 34.0	+0.7	
QLP				⇓P		P		10 39 34.2	+0.9	
SHUT	Suhut-Afyon	88.13	344	P		P		10 39 33.9	+0.2	
PESTR	Estremoz	88.13	14	*e*P		P		10 39 34.0	+0.4	
	comp=Z,29nm,1.4s									
PESTR	Estremoz	88.13	14	*e*S		S		10 50 17.8	+1.4	
PESTR	Estremoz	88.13	14	IAMs_20	IAMs_20			11 22 51.7		
	comp=Z,3µm,18.0s									
PESTR	Estremoz	88.13	14	⇓P		P		10 39 34.3	+0.7	
LADK	Ladik-KONYA	88.16	343	P		P		10 39 33.6	-0.2	
GAZ	Gaziantep	88.17	339	P		P		10 39 32.8	-1.1	
SIGR	SIGRI	88.17	348	P		P		10 39 32.7	-1.0	
NEO	Neokhori	88.39	350	P		P		10 39 32.4	-2.4	
EVO	Evora	88.40	14	*e*P		P		10 39 35.8	+1.0	
	comp=Z,27nm,1.7s									
GUY2C	Guyana, Caldas	88.47	84	*e*P		P		10 39 37.0	+1.0	
SDV	Santo Domingo	88.48	78	IAMs_20	IAMs_20			11 22 04.7		
	comp=Z,4µm,22.0s									
NORC	Norcasia	88.51	83	*e*P		P		10 39 32.7	-3.0	
CEYT	Ceyhan	88.65	340	P		P		10 39 35.9	-0.1	
PNCL	Nicolau / Gran	88.73	15	*e*P		P		10 39 35.2	-1.1	
	comp=Z,41nm,1.2s									
PNCL	Nicolau / Gran	88.73	15	*e*S		S		10 50 21.3	-0.7	
BARC	Barichara	88.74	81	*e*P		P		10 39 36.0	-1.0	
AGG	Agios Georgios	88.76	351	P		P		10 39 35.6	-0.9	
AGG	Agios Georgios	88.76	351	IAmb	IAmb			10 39 48.5		
	comp=Z,36nm,0.9s									
AGG				IAMs_20	IAMs_20			11 23 44.9		
	comp=Z,3µm,20.0s									
AGG	Agios Georgios	88.76	351	⇑P		P		10 39 35.8	-0.8	
PSI	Prapat	88.79	273	P		P		10 39 37.3	+0.2	
PSI	Prapat	88.79	273	P		P		10 39 37.4	+0.3	
	comp=Z,944nmcomp=Z,70nm,1.1s,comp=Z,2µm,1.1s, comp=Z,148nm,1.1s									
PSI				P		P		10 39 37.1	0.0	
	comp=Z,944nmcomp=Z,70nm,1.1s,comp=Z,2µm,1.1s, comp=Z,148nm,1.1s									
MAKR	Makrakomi, Fth	88.79	351	P		P		10 39 36.8	+0.1	
BLCB	Balcova	88.83	347	P		P		10 39 35.4	-1.4	
YOTC	Yotoco, Valle	88.84	85	*e*P		P		10 39 39.3	+1.9	
ISP	Isparta	88.85	344	P		P		10 39 36.2	-0.9	
ARMA	Armidale	88.87	213	IAmb	IAmb			10 39 51.1		
	comp=Z,38nm,1.1s									
ARMA				IAMs_20	IAMs_20			11 13 30.9		
	comp=Z,3µm,21.0s									
ARMA	Armidale	88.87	213	⇑P		P		10 39 38.8	+1.8	
DLPL	La Plaine	88.87	66	IAMs_20	IAMs_20			11 22 01.7		
	comp=Z,5µm,20.0s									
PBAR	Barrancos	88.89	14	*e*P		P		10 39 37.8	+0.7	
	comp=Z,53nm,1.2s									
EVR	Evrytania	88.92	351	P		P		10 39 37.0	-0.4	
PBEJ	Beja	88.92	14	*e*P		P		10 39 38.3	+1.1	
	comp=Z,30nm,1.5s									
SPBC	San Pablo de B	88.93	82	*e*P		P		10 39 37.4	-0.3	
KYMI	Kymi, Euboea I	88.96	349	P		P		10 39 35.4	-2.0	
TOLC	Tolima	89.00	84	*e*P		P		10 39 37.7	-0.7	
MERS	Mersin	89.04	341	P		P		10 39 37.2	-0.7	
MESJ	Messejana	89.04	15	*e*P		P		10 39 37.7	-0.1	
MESJ				*e*SKSac		SKSac		10 50 04.0	-2.3	
MESJ				IAMs_20	IAMs_20			11 20 58.3		
	comp=Z,5µm,20.5s									
MESJ	Messejana	89.04	15	*e*P		P		10 39 37.7	-0.1	
MESJ				*e*				10 50 04.0		
TAHT	Tahtakopru-Hat	89.16	340	P		P		10 39 39.6	+1.2	
HYB	Hyderabad	89.24	298	*e*P		P		10 39 38.6	-0.4	
HYB				IAmb	IAmb			10 39 40.8		
	comp=Z,52nm,1.0s									
HYB	Hyderabad	89.24	298	*i* P		P		10 39 38.0	-1.1	
HYB				*e*pP		sP		10 39 46.0	-0.8	
HYB				*e*PP		PP		10 43 10.0	+0.8	
PCVE	Castro Verde	89.28	15	*e*P		P		10 39 42.4	+3.5	
	comp=Z,35nm,1.6s									
PCVE	Castro Verde	89.28	15	*e*S		S		10 50 26.0	-1.2	
RUSC	La Rusia	89.34	81	*e*P		P		10 39 39.3	-0.9	
SERG	Sergoula	89.39	351	P		P		10 39 39.6	+0.1	
EFP	Efpalio	89.39	351	P		P		10 39 39.2	-0.2	
TRIZ	Trizonia	89.44	351	P		P		10 39 39.7	+0.1	
KIZK	Mersin	89.49	341	P		P		10 39 39.3	-0.6	
MORF	Marmelete	89.50	15	*e*P		P		10 39 40.0	-0.1	
MORF				IAMs_20	IAMs_20			11 21 08.0		
	comp=E,4µm,17.9s									
MORF	Marmelete	89.50	15	*e*P		P		10 39 39.9	-0.1	
MORF	Marmelete	89.50	15	*e*P		P		10 39 43.1	+3.0	
	comp=E,53nm,1.5s									
MORF	Marmelete	89.50	15	*e*S		S		10 50 27.7	-1.7	
VILL	Villia	89.51	350	P		P		10 39 37.8	-2.3	
DION	Dionisos Attik	89.53	349	P		P		10 39 41.7	+1.6	
ILAM	Ilet Lapin Mar	89.53	66	IAMs_20	IAMs_20			11 20 50.2		
	comp=Z,4µm,20.0s									
PVAQ	Vaqueiros	89.55	14	*e*P		P		10 39 41.1	+0.9	
	comp=Z,32nm,2.0s									
PVAQ	Vaqueiros	89.55	14	*e*S		S		10 50 29.1	-0.6	
PVAQ	Vaqueiros	89.55	14	*e*LQ		LQ		11 06 36.2		
PVAQ				*e*LR		LR		11 12 10.5		
	comp=Z,4µm,18.0s									
LAKA	Lakka	89.57	351	P		P		10 39 40.6	+0.3	
ORTC	Ortega, Tolima	89.57	84	*e*P		P		10 39 38.8	-1.9	
FITZ	Fitzroy Crossi	89.59	239	P		P		10 39 39.8	-0.7	
FITZ				IAmb	IAmb			10 39 44.6		
	comp=Z,37nm,1.0s									
KEBE	Keben-Mersin	89.61	341	P		P		10 39 39.6	-1.0	
PFVI	Vila Bisbo	89.64	15	IAMs_20	IAMs_20			11 21 19.6		
	comp=Z,4µm,20.0s									
PBDV	Barranco-do-Ve	89.67	15	*e*P		P		10 39 43.1	+2.3	
	comp=Z,35nm,1.5s									
PBDV	Barranco-do-Ve	89.67	15	*e*S		S		10 50 27.5	-3.5	
TAMC	Tame, Arauca	89.71	80	*e*P		P		10 39 50.5	+9.2	
KLV	Kalavryta, Ach	89.75	351	P		P		10 39 36.7	-4.5	
POPC	Popayan, Colom	89.76	86	*e*P		P		10 39 40.1	-1.7	
VLY	Voula,Athens	89.76	350	P		P		10 39 37.9	-3.3	
BERE	Bereket-Mersin	89.80	342	P		P		10 39 40.8	-0.8	
IKL	Isikli	89.81	341	P		P		10 39 41.6	+0.1	
BBAC	Balboa, Cauca	89.81	87	*e*P		P		10 39 41.0	-1.0	
YER	Yerkesik	89.88	346	P		P		10 39 40.9	-1.0	
AKKU	Akkuyu-Mersin	89.92	342	P		P		10 39 41.0	-0.9	
CHIC	Chingaza	89.94	83	*e*P		P		10 39 43.9	+1.0	
PRAC	Prado	89.95	84	*e*P		P		10 39 40.8	-1.6	
ARNO	Arenosillo	90.00	14	P		P		10 39 42.3	0.0	
ARNO	Arenosillo	90.00	14	PS		PS		10 51 51.4	+10	
EPID	Epidavros	90.07	350	P		P		10 39 42.0	-0.7	
GAZI	Gazipasa	90.08	343	P		P		10 39 40.9	-1.8	
BODT	Bodrum	90.09	347	P		P		10 39 44.9	+2.1	
ASAR	Alice Springs	90.10	230	P		P		10 39 43.3	+0.5	
	comp=Z,40nm,0.7s,baz=31,slow=4.1,SNR=291									
ASAR				LR	LR			11 23 50.9		
	comp=Z,1µm,18.0s,baz=27,slow=38									
SOTA	Rioblanco	90.12	86	*e*P		P		10 39 46.1	+2.3	
CART	Cartagena	90.22	9	P		P		10 39 43.4	+0.1	
CART				S		S		10 50 26.9	-8.9	
CART	Cartagena	90.22	9	IAMs_20	IAMs_20			11 20 39.6		
	comp=Z,4µm,21.0s									
TRIP	Tripoli	90.25	351	P		P		10 39 40.2	-3.4	
DAT	Datca	90.38	346	P		P		10 39 43.9	-0.4	
VLX	Viachokerasia	90.39	351	P		P		10 39 46.2	+1.9	
EREN	Erenkoy	90.40	341	P		P		10 39 45.9	+1.7	
OTAV	Otavalo	90.46	89	P		P		10 39 46.7	+1.3	
OTAV				pmax	pmax					
	comp=Z,59nm,1.9s									
OTAV	Otavalo	90.46	89	P		P		10 39 46.6	+1.3	
OTAV				IAmb	IAmb			10 40 07.6		
	comp=Z,59nm,1.9s									
OTAV	Otavalo	90.46	89	*e*P		P		10 39 45.9	+0.5	
ITM	Ithomi	90.62	351	IAMs_20	IAMs_20			11 21 52.2		
	comp=Z,3µm,22.0s									
KSL	Kastellorizon	90.64	345	P		P		10 39 46.9	+1.6	
EMAL	Malaga-Limoner	90.64	12	P		P		10 39 45.5	+0.2	
EMAL				S		SKSac		10 50 17.3	+1.7	
URZ	Urewera	90.65	191	LR	LR			11 18 22.4		
	comp=Z,3µm,18.1s,baz=31,slow=34									
URZ	Urewera	90.65	191	IAMs_20	IAMs_20			11 17 34.6		
	comp=Z,4µm,19.0s									
SFS	San Fernando	90.69	13	S		S		10 50 34.4	-5.9	
CLTB	Caltabellotta	90.76	358	IAmb	IAmb			10 40 07.5		
	comp=Z,42nm,1.1s									
CLTB				IAMs_20	IAMs_20			11 28 33.7		
	comp=Z,3µm,21.0s									
ARG	Arkhangelos	90.80	346	⇑P		P		10 39 46.0	-0.1	
ARG	Arkhangelos	90.80	346	⇑P		P		10 39 47.0	+0.9	
POO	Poona	90.85	302	*ex*		x		10 39 44.0		
POO				*e*P		P		10 39 46.3	-0.3	
VLI	Veliai	90.98	350	P		P		10 39 46.1	-0.8	
LEF	Lefka	91.05	342	P		P		10 39 45.9	-1.3	
CSS	Mathiatis	91.12	341	P		P		10 39 47.5	-0.1	
FLOC	Florencia	91.14	86	*e*P		P		10 39 51.3	+3.3	
HIZ	Hauiti	91.17	192	IAMs_20	IAMs_20			11 17 20.5		
	comp=Z,5µm,21.0s									
CEU	Ceuta	91.37	13	P		P		10 39 45.7	-3.0	
CEU				S		SKSac		10 50 35.2	+15	
KTHA	Kythira Island	91.42	350	P		P		10 39 48.0	-1.0	
KARP	Karpathos	91.60	346	P		P		10 39 48.0	-1.0	
KARP	Karpathos	91.60	346	⇑P		P		10 39 47.4	-2.5	
BKZ	Black Stump Fm	91.61	191	IAMs_20	IAMs_20			11 16 45.2		
	comp=Z,3µm,20.0s									
MACC	Macarena, Meta	91.81	84	*e*P		P		10 39 53.0	+1.9	
IMMV	Iera Moni Meta	92.10	349	P		P		10 39 50.7	-1.4	
PMOZ	Porto Moniz, M	92.11	23	*e*S		S		10 50 48.4	-5.1	
PMOZ	Porto Moniz, M	92.11	23	*e*LR		LR		11 14 07.1		
	comp=Z,3µm,18.0s									
VAM	Vamos	92.13	349	P		P		10 39 50.5	-1.8	
IDI	Anoyia	92.16	348	P		P		10 39 52.3	-0.2	
	comp=Z,3.7nm,0.5s,baz=323,slow=8.6,SNR=2.2									
IDI	Anoyia	92.16	348	P		P		10 39 49.8	-2.7	
PVLZ	Peæn de	92.22	12	P		P		10 39 52.9	+0.2	
PVLZ				S		S		10 50 53.5	-0.7	
MELI	Melilla	92.28	11	P		P		10 39 48.6	-4.3	
MELI				S		SKSac		10 50 30.1	+5.2	
MMAI	Mount Meron Ar	92.57	339	P		P		10 39 55.0	+0.6	
	comp=Z,5.2nm,0.5s,baz=16,slow=7.5,SNR=4.3									
SHME	Shamm	92.60	320	P		P		10 39 52.4	-2.2	
SHME	Shamm	92.60	320	P		P		10 39 55.8	+1.2	
SHME				P		P		10 39 55.8	+1.2	
KEST	Kesra	92.62	1	P		P		10 39 55.5	+0.9	
	comp=Z,4.2nm,0.6s,baz=286,slow=1.1,SNR=3.7									
KEST	Kesra	92.62	1	IAMs_20	IAMs_20			11 28 55.2		
	comp=Z,3µm,20.0s									
BANOM	Banah	92.65	320	*i* P		P		10 39 53.9	-1.0	
	SNR=6.3									
ASF	Jabal al Asfar	93.04	338	P		P		10 39 56.7	+0.1	
	comp=Z,7.8nm,0.8s,baz=10,slow=1.8,SNR=11									
MASF	Masafi	93.20	320	P		P		10 39 58.6	+1.1	
MASF				P		P		10 39 58.6	+1.1	
MDH	Madha	93.21	319	P		P		10 39 55.0	-2.4	
MDH	Madha	93.21	319	P		P		10 39 58.1	+0.7	
MDH				P		P		10 39 58.1	+0.7	
MSFE	Esma-Masafi	93.21	320	P		P		10 39 55.2	-2.3	
UMQ	Umm Al-Quwin	93.26	320	P		P		10 39 58.6	+1.0	
UOSS	Minazif	93.56	319	P		P		10 39 57.2	-1.9	
UOSS	Minazif	93.56	319	P		P		10 39 58.5	-0.5	
UOSS				IAmb	IAmb			10 40 09.3		
	comp=Z,26nm,0.9s									
UOSS	Minazif	93.56	319	IAMs_20	IAMs_20			11 27 31.4		
	comp=Z,3µm,18.0s									
UOSS	Minazif	93.56	319	P		P		10 39 59.9	+0.8	
UOSS				P		P		10 39 59.9	+0.8	
AVE	Averroes	93.62	15	P		P		10 40 03.6	+4.4	
AVE				S		SKSac		10 50 44.5	+12	
HATD	Hatta, Dubai	93.70	319	*i* P		P		10 39 57.6	-2.0	
	SNR=5.8									
IFR	Ifrane	93.74	13	P		P		10 39 58.5	-1.4	
IFR				S		SKSac		10 50 48.0	+14	
NAZ	Nazwa, Dubai	93.74	320	*i* P		P		10 39 56.6	-3.3	
	SNR=5.4									
ASHO	Ashiyiah	93.86	319	P		P		10 39 58.5	-1.9	
STKA	Stephens Creek	93.87	220	P		P		10 40 01.4	+1.4	
	comp=Z,12nm,0.9s,baz=6.4,slow=4.8,SNR=12									
STKA				LR	LR			11 17 52.6		
	comp=Z,2µm,21.2s,baz=26,slow=33									
SNZO	South Karori	93.95	192	IAMs_20	IAMs_20			11 22 09.9		
	comp=Z,4µm,18.0s									
FAQ	Al Faqa, Dubai	93.99	320	P		P		10 39 57.2	-3.8	
NNZ	Nelson	94.03	193	IAMs_20	IAMs_20			11 20 00.1		
	comp=Z,5µm,19.0s									
BIDO	Bidbid	94.04	317	P		P		10 40 02.2	+0.9	
BIDO				P		P		10 40 02.2	+0.9	
SOHO	SOHO	94.16	319	P		P		10 40 02.6	+0.9	
SOHO				P		P		10 40 02.6	+0.9	
ASUD	Al Ashush, Dub	94.20	320	*i* P		P		10 40 00.9	-1.1	
	SNR=6.4									
HOQ	Hoqain	94.33	318	P		P		10 40 04.0	+1.4	
HOQ				P		P		10 40 04.0	+1.4	
WBK	Wadi Bani Khal	94.49	316	P		P		10 40 04.5	+1.2	
WBK				P		P		10 40 04.5	+1.2	
MDT	Midelt	94.51	13	P		P		10 40 03.0	-0.4	
	comp=Z,6.8nm,1.0s,baz=342,slow=5.3,SNR=11									
THZ	Tophouse	94.63	193	IAMs_20	IAMs_20			11 20 56.0		
	comp=Z,3µm,20.0s									
SHMA	Al-Shehemyia	94.75	324	P		P		10 40 05.8	+1.4	
SAKB	Bahrain	94.79	324	P		P		10 40 06.2	+1.5	
JRN	Qarnain Island	94.88	322	P		P		10 40 06.0	+1.0	
MZWR	Madinat Zayed	95.55	321	P		P		10 40 09.3	+1.2	
MZWR				P		P		10 40 09.3	+1.2	
TRNA	Turayna	95.68	323	P		P		10 40 10.0	+1.2	
GHWR	Ruwais	95.75	322	P		P		10 40 10.1	+1.1	
EIL	Elat	95.89	339	P		P		10 40 09.5	-0.1	
	comp=Z,3.2nm,0.6s,baz=63,slow=9.0,SNR=3.2									
UMZA	Um Al Zommool	95.98	319	P		P		10 40 11.3	+1.2	
SLWR	Sila	96.11	323	P		P		10 40 12.2	+1.5	
PALK	Pallekele	96.25	290	IAMs_20	IAMs_20			11 27 20.1		
	comp=Z,3µm,20.0s									
FOZ	Fox Glacier	96.83	195	IAMs_20	IAMs_20			11 19 09.0		
	comp=Z,3µm,20.0s									
DQM	DQM	97.47	316	P		Pdif		10 40 18.2	+1.3	
TOO	Toolangi	97.47	215	IAMs_20	IAMs_20			11 19 01.6		
	comp=Z,3µm,21.0s									
LBZ	Lake Benmore	97.60	195	IAMs_20	IAMs_20			11 19 55.6		
	comp=Z,3µm,20.0s									
PTGA	Pitinga	102.51	75	IAMs_20	IAMs_20			11 28 34.3		
	comp=Z,3µm,21.0s									
SOCY	Socotra	105.88	316	IAMs_20	IAMs_20			11 34 46.1		
	comp=Z,3µm,20.0s									
SACV	Santiago Islan	107.03	35	IAMs_20	IAMs_20			11 31 15.7		
	comp=Z,3µm,18.0s									
SAML	Samuel	107.04	83	IAMs_20	IAMs_20			11 33 34.4		
	comp=Z,2µm,20.0s									
TOC7	Torodi Ar. Sit	114.65	9	IAMs_20	IAMs_20			11 37 31.4		
	comp=Z,3µm,20.0s									
TOB1	Torodi Ar. Sit	114.66	9	IAMs_20	IAMs_20			11 39 20.5		
	comp=Z,3µm,19.0s									
TOC2	Torodi Ar. Sit	114.66	9	IAMs_20	IAMs_20			11 37 31.6		
	comp=Z,3µm,20.0s									
TOA2	Torodi Ar. Sit	114.67	9	IAMs_20	IAMs_20			11 37 31.8		
	comp=Z,3µm,20.0s									
TORD	Torodi Ar. Bea	114.67	9	PKP	PKPdf			10 45 23.7	+0.2	
	comp=Z,1.2nm,0.6s,baz=337,slow=2.7,SNR=4.1									
TORD				PKKPbc		PKKPbc		10 55 58.9	-0.3	
	comp=Z,3.8nm,

mb1 3.4/9, mb1mx3.2/38, mbtmp4.1/9, Error ellipse: s-maj=24.0km s-min=22.0km az=167.0

ISC 10 11:09:36.7±0.9, **20°05'S**±0.1×**178°33'W**±0.2, **h550**km, **n13**, σ1**9**11/14, **mb3.6**/8, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.12**	**303**	P	**P**	**11 10 58.6**	**-1.0**
	8.3nm,0.3s,baz=122,slow=22,SNR=35						
MSVF				S	**S**	**11 12 06.0**	**-1.1**
	baz=95,slow=14,SNR=1.2						
STKA	**Stephens Creek**	**37.71**	**244**	P	**P**	**11 16 06.3**	**+0.5**
	1.6nm,0.8s,baz=85,slow=10.0,SNR=5.0						
ASAR	**Alice Springs**	**44.32**	**256**	P	**P**	**11 16 59.9**	**+1.5**
	3.4nm,0.7s,baz=97,slow=8.1,SNR=48						
WRA	**Warramunga Arr**	**44.36**	**262**	P	**P**	**11 16 59.9**	**+1.2**
	1.2nm,0.3s,baz=94,slow=7.6,SNR=76						
VNDA	**Vanda**	**58.34**	**185**	P	**P**	**11 18 38.9**	**+0.1**
	0.7nm,0.5s,baz=9.9,slow=5.7,SNR=9.7						
QSPA	**South Pole Qui**	**70.03**	**180**	P	**P**	**11 19 52.8**	**-0.5**
	4.3nm,0.6s,baz=288,slow=0.3,SNR=44						
MAW	**Mawson**	**81.89**	**200**	P	**P**	**11 20 58.7**	**+0.3**
	0.9nm,0.5s,baz=102,slow=5.5,SNR=2.0						
TXAR	**Lajitas Array**	**87.07**	**57**	P	**P**	**11 21 25.6**	**+1.0**
	0.3nm,0.7s,baz=241,slow=7.0,SNR=5.2						
ILAR	**Eielson Array**	**87.93**	**13**	P	**P**	**11 21 27.9**	**+0.3**
	0.7nm,0.8s,baz=210,slow=5.6,SNR=3.3						
SNAA	**Sanae**	**88.48**	**179**	P	**P**	**11 21 28.7**	**-1.7**
VNA3	**Neumayer Olymp**	**88.62**	**176**	P	**P**	**11 21 29.7**	**-1.3**
VNA2	**Neumayer--Watz**	**89.06**	**177**	P	**P**	**11 21 32.0**	**-1.0**
	baz=197,slow=3.9						
VNA1	**Neumayer--Stat**	**89.29**	**177**	P	**P**	**11 21 33.3**	**-0.8**

*IDC **10** 11:10:17.7±3.2, 33°48'S×178°55'W, h0km, mb4.2/2, mb1 4.4/3, mb1mx3.8/36, mbtmp4.2/3, ML3.6/1, Error ellipse: s-maj=71.8km s-min=36.5km az=117.0*

ISC 10 11:10:21.5±2.4, **33°5S**±0.2×**178°3W**±0.4, **h41**km, **n17**, σ1**9**00/17, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**5.07**	**211**	P	**Pn**	**11 11 36.6**	**+1.7**
PKGZ	**Pakihiroa**	**5.28**	**213**	P	**Pn**	**11 11 37.8**	**-0.1**
HAZ	**Te Kaha**	**5.31**	**216**	P	**Pn**	**11 11 39.7**	**+1.5**
PUZ	**Puketiti**	**5.35**	**211**	P	**Pn**	**11 11 39.0**	**+0.2**
RUGZ	**Raukumara Rang**	**5.53**	**215**	P	**Pn**	**11 11 43.3**	**+1.9**
TWGZ	**Tauwhareparae**	**5.56**	**212**	P	**Pn**	**11 11 42.7**	**+1.0**
CNGZ	**Carnagh Statio**	**5.72**	**209**	P	**Pn**	**11 11 43.3**	**-0.6**
TKGZ	**Te Karaka**	**5.83**	**211**	P	**Pn**	**11 11 46.4**	**+1.0**
MWZ	**Matawai**	**5.89**	**214**	P	**Pn**	**11 11 45.7**	**-0.6**
URZ	**Urewera**	**6.04**	**217**	Pn	**Pn**	**11 11 47.8**	**-0.4**
	1.7nm,0.3s,baz=270,slow=4.0,SNR=13						
URZ				Sn	**Sn**	**11 12 55.0**	**-1.0**
	4.5nm,0.3s,baz=147,slow=21,SNR=6.4						
URZ	**Urewera**	**6.04**	**217**	P	**Pn**	**11 11 48.7**	**+0.5**
SNGZ	**Shannon Statio**	**6.34**	**213**	P	**Pn**	**11 11 52.6**	**+0.1**
MTHZ	**Maungataniwha**	**6.63**	**215**	P	**Pn**	**11 11 57.4**	**+1.0**
TLZ	**Tolley Road**	**6.95**	**224**	P	Pn	11 12 09.5	+8.7
ASAR	**Alice Springs**	**42.80**	**270**	P	**P**	**11 18 15.5**	**0.0**
	2.5nm,0.7s,baz=111,slow=7.4,SNR=18						
WRA	**Warramunga Arr**	**44.07**	**276**	P	**P**	**11 18 25.5**	**-0.2**
	2.8nm,0.8s,baz=119,slow=7.7,SNR=17						
FINES	**FINESS Array B**	**147.96**	**338**	PKPbc	**PKiKP**	**11 30 02.9**	**-0.4**
	2.0nm,0.9s,baz=48,slow=2.8,SNR=4.8						

*TUL **10** 11:10:53.6±0.8, 35°55N±0.0°×96°75W±0.0°, h6km±7km, ML2.9, mb_Lg2.7/39(NEIC), Error ellipse: s-maj=4.9km s-min=3.1km az=143.0*

*NEIC **10** 11:10:54.2±1.0, 35°56N±0.0°×96°77W±0.0°, h6km±6km, Error ellipse: s-maj=4.0km s-min=1.3km az=104.0*

*ANF **10** 11:10:54.2±0.3, 35°57'N×96°75'W, h6km, ML3.3/12, Error ellipse: s-maj=4.0km s-min=2.7km az=163.0*

ISC 10 11:10:54.1±1.0, **35°56N**±0.0°×**96°76W**±0.0°, **h6**km±8km, **n70**, σ0**9**48/75, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK011	**Prague**	**0.09**	**140**	Pg	**Pg**	**11 10 55.9**	**-0.2**
OK011				Sg	**Sg**	**11 10 57.5**	**0.0**
OK005	**Luther M Schoo**	**0.37**	**286**	Pg	**Pg**	**11 11 01.3**	**+0.1**
OK005				Sg	**Sg**	**11 11 06.7**	**+0.6**
OK031	**S. Brethren Rd**	**0.40**	**351**		**Pg**	**11 11 02.0**	**+0.1**
OK031				Sg	**Sg**	**11 11 07.8**	**+0.6**
OK001	**Jones High Sch**	**0.43**	**271**	Pg	**Pg**	**11 11 02.4**	**0.0**
OK001				Sg	**Sg**	**11 11 08.6**	**+0.5**
OK025	**Westminster Rd**	**0.47**	**273**		**Pg**	**11 11 03.1**	**-0.1**
OK025				Sg	**Sg**	**11 11 09.8**	**+0.4**
OKCSW	**OKLAHOMA CITY**	**0.57**	**255**		**Pg**	**11 11 04.7**	**-0.5**
OKCSW				Sg	**Sg**	**11 11 12.6**	**0.0**
OKCFA	**Oklahoma City**	**0.58**	**256**	Pg	**Pg**	**11 11 04.8**	**-0.5**
OKCFA				Sg	**Sg**	**11 11 13.2**	**+0.4**
OKCFA	**Oklahoma City**	**0.58**	**256**	P	**Pg**	**11 11 04.9**	**-0.4**
	baz=77,SNR=30						
OKCFA				S	**Sg**	**11 11 13.3**	**+0.4**
	baz=77						
FNO	**Franklin**	**0.60**	**241**		**Pg**	**11 11 05.4**	**-0.3**
FNO				Sg	**Sg**	**11 11 13.7**	**+0.2**
OK029	**Liberty Lake**	**0.62**	**293**		**Pg**	**11 11 05.6**	**-0.3**
QUOK	**Quay**	**0.62**	**4**		**Pg**	**11 11 05.6**	**-0.3**
TUL1	**Leonard**	**0.86**	**65**	P	**Pg**	**11 11 09.9**	**-0.7**
	baz=245						
TUL1				S	**Sg**	**11 11 21.9**	**+0.1**
	baz=245						
BLOK	**Blackwell**	**1.26**	**343**		**Pn**	**11 11 16.9**	**-1.3**
X34A	**Smith Ranch, M**	**1.30**	**223**		**Pn**	**11 11 18.0**	**-0.7**
CROK	**Carrier**	**1.37**	**314**		**Pn**	**11 11 19.0**	**-0.8**
T35A	**Sooner Cattle**	**1.37**	**8**		**Pn**	**11 11 18.5**	**-1.2**
T35B	**Sooner Cattle**	**1.37**	**8**	P	**Pn**	**11 11 18.6**	**-1.2**
	baz=188,SNR=55						
T35B				S	**Sb**	**11 11 37.7**	**-0.3**
	baz=188						
X37A	**Clayton**	**1.49**	**130**		**Pn**	**11 11 21.1**	**-0.3**
X37A	**Clayton**	**1.49**	**130**	P	**Pn**	**11 11 21.2**	**-0.1**
	baz=311,SNR=78						
X37A				S	**Sb**	**11 11 41.5**	**+0.2**
	baz=311						
KAN13	**South Haven SW**	**1.57**	**338**	Pn	**Pn**	**11 11 22.1**	**-0.4**
LOOK	**Love County**	**1.60**	**193**	Pn	**Pn**	**11 11 22.8**	**0.0**
KAN17	**Caldwell West**	**1.69**	**332**	Pn	**Pn**	**11 11 23.9**	**-0.2**
KAN17				lAmb_Lg		11 11 48.4	
	comp=Z,30nm,0.8s						
KAN14	**Manchester OK**	**1.71**	**325**	Pn	**Pn**	**11 11 24.2**	**-0.2**
OK032	**Salt Plains WL**	**1.71**	**317**	Pn	**Pn**	**11 11 24.3**	**-0.1**
KS20	**Mayfield South**	**1.79**	**339**	Pn	**Pn**	**11 11 25.2**	**-0.3**
KAN05	**Bluff City Nor**	**1.79**	**330**		**Pn**	**11 11 25.6**	**+0.1**
KAN05				lAmb_Lg		11 11 54.1	
	comp=Z,32nm,0.7s						
WMOK	**Wichita Mounta**	**1.85**	**244**		**Pn**	**11 11 26.3**	**0.0**
WMOK	**Wichita Mounta**	**1.85**	**244**	P	**Pn**	**11 11 26.2**	**0.0**
	baz=63,SNR=119						
WMOK				S	**Sb**	**11 11 51.6**	**0.0**
	baz=63						
KS21	**Milan North St**	**1.88**	**337**	lAmb_Lg		11 11 53.8	
	comp=Z,46nm,1.1s						
U32A	**Winter Ranch,**	**2.00**	**295**	S	**Sb**	**11 11 56.8**	**+0.8**
	baz=114						
KAN12	**Harper NE Stat**	**2.01**	**330**	Pn	**Pn**	**11 11 28.4**	**-0.1**
U38A	**Gravette**	**2.12**	**65**		**Pn**	**11 11 30.2**	**+0.2**
U38A	**Gravette**	**2.12**	**65**	P	**Pn**	**11 11 30.7**	**+0.7**
	baz=246,SNR=59						
U38A				S	**Sb**	**11 11 59.4**	**+0.1**
	baz=246						
Z35A	**Perchaven, San**	**2.26**	**191**	Pn	**Pn**	**11 11 31.3**	**-0.6**
Z35A	**Perchaven, San**	**2.26**	**191**	S	**Sb**	**11 12 03.0**	**-0.3**
	baz=10						
HHAR	**Hobbs**	**2.40**	**72**		**Pn**	**11 11 33.9**	**0.0**
Z38A	**Mt. Pleasant**	**2.72**	**147**	Pn	**Pn**	**11 11 37.7**	**-0.5**
MIAR	**Mount Ida**	**2.80**	**110**	Pn	**Pn**	**11 11 39.6**	**+0.3**
MIAR	**Mount Ida**	**2.80**	**110**	P	**Pn**	**11 11 40.3**	**+1.0**
	baz=292,SNR=22						
R32A	**Long Quarter,**	**3.26**	**332**	Pn	**Pn**	**11 11 45.9**	**+0.1**
U40A	**Yellville**	**3.27**	**75**		**Pn**	**11 11 45.7**	**-0.1**
U40A	**Yellville**	**3.27**	**75**	P	**Pn**	**11 11 45.8**	**0.0**
	baz=257,SNR=26						
X40A	**Basin Creek Fa**	**3.39**	**107**	Pn	**Pn**	**11 11 48.1**	**+0.6**
X40A				lAmb_Lg		11 12 50.4	
	comp=Z,15nm,0.9s						
S39A	**Bolivar**	**3.49**	**51**	Pn	**Pn**	**11 11 48.7**	**-0.2**
S39A	**Bolivar**	**3.49**	**51**	P	**Pn**	**11 11 49.4**	**+0.5**
	baz=233,SNR=14						
WLAR	**White Oak Lake**	**3.54**	**121**	lAmb_Lg		11 12 52.5	
	comp=Z,17nm,0.7s						
KSU1	**Kansas State U**	**3.54**	**2**	Pn	**Pn**	**11 11 48.8**	**-0.8**
WHTX	**Lake Whitney,**	**3.60**	**189**	Pn	**Pn**	**11 11 49.6**	**-0.8**
237A	**Washetta, Mont**	**3.63**	**167**	S	**Sn**	**11 12 34.3**	**+0.4**
	baz=348						
WHAR	**Wooly Hollow**	**3.66**	**93**	Pn	**Pn**	**11 11 51.2**	**0.0**
WHAR				lAmb_Lg		11 12 58.9	
	comp=Z,17nm,0.8s						
W41B	**Gary Mavity, V**	**3.71**	**95**	P	**Pn**	**11 11 52.1**	**+0.3**
	baz=277,SNR=12						
W41B				S	**Sn**	**11 12 36.1**	**+0.3**
	baz=277						
ABTX	**Abilene, Hawle**	**3.78**	**220**	Pn	**Pn**	**11 11 52.3**	**-0.5**
FCAR	**Ozark Folk Cen**	**3.78**	**84**	Pn	**Pn**	**11 11 52.6**	**-0.3**
FCAR				lAmb_Lg		11 12 55.8	
	comp=Z,20nm,0.7s						
MGMO	**Mountain Grove**	**3.96**	**65**	Pn	**Pn**	**11 11 55.1**	**-0.2**
MGMO				lAmb_Lg		11 13 03.5	
	comp=Z,17nm,0.8s						
CBKS	**Cedar Bluff**	**4.03**	**325**	Pn	**Pn**	**11 11 56.2**	**-0.2**
CBKS	**Cedar Bluff**	**4.03**	**325**	P	**Pn**	**11 11 56.4**	**0.0**
	baz=143,SNR=5.1						
AMTX	**Amarillo**	**4.09**	**262**	Pn	**Pn**	**11 11 57.2**	**+0.1**
AMTX				lAmb_Lg		11 13 09.4	
	comp=Z,22nm,0.8s						
R40A	**Maddies Statio**	**4.52**	**51**	Pn	**Pn**	**11 12 03.1**	**+0.1**
R40A				lAmb_Lg		11 13 29.8	
	comp=Z,9.2nm,0.7s						
LCAR	**Lake Charles**	**4.58**	**82**	Pn	**Pn**	**11 12 03.0**	**-0.9**
LCAR				lAmb_Lg		11 13 18.0	
	comp=Z,8.5nm,0.7s						
MSTX	**Muleshoe**	**5.20**	**254**	Pn	**Pn**	**11 12 12.0**	**-0.4**
N33A	**J Bar K, Exete**	**5.20**	**354**	lAmb_Lg		11 13 47.9	
	comp=Z,18nm,0.8s						
PBMO	**Poplar Bluff**	**5.26**	**75**	lAmb_Lg		11 13 48.8	
	comp=Z,18nm,0.8s						
N35A	**Tabor**	**5.37**	**9**	Pn	**Pn**	**11 12 14.2**	**-0.5**
P40A	**Paris**	**5.45**	**42**	Pn	**Pn**	**11 12 15.8**	**-0.1**
P40A				lAmb_Lg		11 13 46.6	
	comp=Z,15nm,0.7s						
W45A	**Hickory Valley**	**6.20**	**91**	lAmb_Lg		11 14 20.2	
	comp=Z,16nm,0.7s						
SCIA	**State Center**	**6.92**	**23**	lAmb_Lg		11 14 37.9	
	comp=Z,13nm,0.7s						
K31A	**O'Neill**	**7.23**	**348**	lAmb_Lg		11 14 52.0	
	comp=Z,13nm,0.7s						
L40A	**Anamosa**	**7.80**	**32**	lAmb_Lg		11 15 10.5	
	comp=Z,11nm,0.7s						
L42A	**Oliver, Polo**	**8.49**	**39**	lAmb_Lg		11 15 20.8	
	comp=Z,10nm,0.8s						
PHWY	**Pilot Hill**	**8.91**	**313**	lAmb_Lg		11 15 50.9	
	comp=Z,5.3nm,1.1s						

*CNRM **10** 11:12:02.3, 31°00N×8°55W, h7km, ml4.2*

*INMG **10** 11:12:04.4±2.3, 31°06N×8°52W, h24km±12km, ML3.3, Error ellipse: s-maj=12.9km s-min=9.2km az=130.0*

*LDG **10** 11:12:04.7±0.4, 31°07N×8°32W, h2km, Ml3.5/5, Error ellipse: s-maj=8.6km s-min=7.4km az=78.0*

*IGIL **10** 11:12:07.7, 31°34N×8°10W, h0km, ML3.3*

ISC 10 11:12:06.2±1.2, **31°42N**±0.06×**8°41W**±0.03, **h16**km±9km, **n65**, σ2**9**34/98, **1C-1D, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUK	**Oukaimeden**	**0.51**	**114**	P	**Pg**	**11 12 15.8**	**-0.7**
OUK				S	**Sg**	**11 12 23.5**	**+0.1**
TTIG	**Tnine Tigouga,**	**0.87**	**182**	P	P	11 12 11.3	0.0
EAH	**EAH**	**1.03**	**283**	P	**Pg**	**11 12 25.2**	**-1.0**
EAH				S	**Sb**	**11 12 40.5**	**+1.6**
EAH	**EAH**	**1.03**	**283**	P	**Pg**	**11 12 25.6**	**-0.6**
EAH				S	**Sn**	**11 12 41.0**	**+0.9**
EAH	**EAH**	**1.03**	**283**	P	P	11 12 25.6	+0.2
EAH				S	S	11 12 41.0	-0.4
AVE	**Averroes**	**2.06**	**24**	P	**Pb**	**11 12 43.8**	**+0.7**
AVE				S	**Sg**	**11 13 13.4**	**+1.1**
ZHG	**ZHG**	**2.51**	**36**	P	**Pn**	**11 12 48.3**	**+1.9**
ZHG				S	**Sb**	**11 13 21.6**	**-0.1**
TZRR	**Tazzarine**	**2.52**	**104**	P	**Pn**	**11 12 44.9**	**-1.7**
TZRR				S	**Sn**	**11 13 18.5**	**+1.6**
TZRR	**Tazzarine**	**2.52**	**104**	P	**Pn**	**11 12 45.0**	**-1.5**
TZRR	**Tazzarine**	**2.52**	**104**	P	P	11 12 45.0	0.0
CZD	**Col de Zad**	**3.28**	**60**	P	**Pn**	**11 12 58.6**	**+1.5**
CZD				S	**Sb**	**11 13 42.0**	**-1.8**
CZD	**Col de Zad**	**3.28**	**60**	P	**Pn**	**11 12 60.0**	**+2.8**
CZD	**Col de Zad**	**3.28**	**60**	P	P	11 12 60.0	+0.2
MD31	**MD31**	**3.42**	**64**	P	**Pn**	**11 13 00.2**	**+1.3**
MD31				S	**Sb**	**11 13 45.5**	**-2.2**
MDT	**Midelt**	**3.51**	**66**	P	**Pn**	**11 13 02.4**	**+2.2**
MDT				S	**Sb**	**11 13 47.6**	**-2.9**
MDT	**Midelt**	**3.51**	**66**	P	**Pn**	**11 13 02.4**	**+2.2**
MDT	**Midelt**	**3.51**	**66**	P	P	11 13 02.4	-0.1
ARF	**Arif**	**3.58**	**89**	P	**Pn**	**11 13 01.8**	**+0.6**
ARF				S	**Sn**	**11 13 46.7**	**+3.5**
LCRM	**LCR**	**3.75**	**52**	P	**Pn**	**11 13 04.1**	**+0.5**
LCRM				S	**Sn**	**11 13 51.8**	**+4.3**
RSA	**Sarsar**	**4.08**	**31**	P	**Pn**	**11 13 09.7**	**+1.8**
CHEFC	**Chefchaouen**	**4.49**	**34**	P	**Pn**	**11 13 14.5**	**+0.9**
CHEFC	**Chefchaouen**	**4.49**	**34**	P	**Pn**	**11 13 18.0**	**+4.4**
CHEFC	**Chefchaouen**	**4.49**	**34**	P	P	11 13 18.0	-0.1
SMIR	**Smir Dam**	**4.95**	**30**	P	**Pn**	**11 13 22.5**	**+2.7**
PALE	**Palemas**	**5.32**	**43**	P	**Pn**	**11 13 27.3**	**+2.2**
PALE				S	**Sn**	**11 14 33.5**	**+7.4**
TDRA	**Tendrara**	**5.64**	**72**	P	**Pn**	**11 13 29.0**	**-0.6**
TDRA				S	**Sn**	**11 13 47.9**	**+3.8**
JBK	**JBK**	**5.71**	**58**	P	**Pn**	**11 13 31.1**	**+0.6**
PFVI	**Vila Bisbo**	**5.71**	**357**	*e*Pn	**Pn**	**11 13 32.5**	**+2.2**
PFVI				*e*Sn	**Sn**	**11 14 38.0**	**+2.5**
PFVI				A	A	11 14 42.3	
	17nm,0.4s						
PBDV	**Barranco-do-Ve**	**5.82**	**4**	*e*Pn	**Pn**	**11 13 33.4**	**+1.5**
PBDV				*e*Sn	**Sn**	**11 14 39.3**	**+0.9**
PBDV				A	A	11 14 55.2	
	10nm,0.4s						
MORF	**Marmelete**	**5.88**	**358**	*e*P	**Pn**	**11 13 34.7**	**+2.1**
MORF				*e*S	**Sn**	**11 14 38.8**	**-0.9**
MORF				IAML		11 14 43.6	
	comp=E,33nm,0.4s						
MORF	**Marmelete**	**5.88**	**358**	*e*Pn	**Pn**	**11 13 34.7**	**+2.1**
MORF				*e*Sn	**Sn**	**11 14 42.4**	**+2.7**
MORF				A	A	11 14 58.2	
	comp=E,18nm,0.3s						
GOG	**Mont Gurugu**	**5.91**	**49**	P	**Pn**	**11 13 36.1**	**+2.9**
GOG				S	**Sn**	**11 14 47.4**	**+6.9**
PVAQ	**Vaqueiros**	**6.00**	**5**	*e*Pn	**Pn**	**11 13 35.9**	**+1.6**
PVAQ				*e*Sn	**Sn**	**11 14 43.5**	**+0.9**
PVAQ				A	A	11 14 47.3	
	comp=E,19nm,0.4s						
PVAQ	**Vaqueiros**	**6.00**	**5**	P	**Pn**	**11 13 36.1**	**+1.8**
PTEO	**Sao Teotonio**	**6.12**	**358**	*e*Pn	**Pn**	**11 13 38.1**	**+2.2**
PTEO				*e*Sn	**Sn**	**11 14 47.4**	**+1.9**
PTEO				A	A	11 15 04.5	
	comp=E,18nm,0.3s						
FIGM	**Figuig**	**6.13**	**81**	P	**Pn**	**11 13 36.5**	**+0.3**
PCVE	**Castro Verde**	**6.21**	**3**	*e*Pn	**Pn**	**11 13 39.1**	**+2.0**
PCVE				*e*Sn	**Sn**	**11 14 48.0**	**+0.3**
PCVE				A	A	11 15 04.8	
	comp=E,16nm,0.4s						
MESJ	**Messejana**	**6.41**	**1**	*e*P	**Pn**	**11 13 41.8**	**+1.9**
MESJ	**Messejana**	**6.41**	**1**	*e*Pn	**Pn**	**11 13 42.3**	**+2.4**
MESJ				*e*Sn	**Sn**	**11 14 54.7**	**+2.0**
MESJ				A	A	11 14 57.1	
	comp=E,14nm,0.3s						
PBEJ	**Beja**	**6.61**	**4**	*e*Pn	**Pn**	**11 13 44.7**	**+2.1**
PBEJ				*e*Sn	**Sn**	**11 14 59.2**	**+1.6**
PBEJ				A	A	11 15 17.2	
	comp=E,6.2nm,0.5s						
PNCL	**Nicolau / Gran**	**6.68**	**359**	*e*Pn	**Pn**	**11 13 45.7**	**+2.1**
PNCL				*e*Sn	**Sn**	**11 14 59.9**	**+0.6**
PNCL				A	A	11 15 25.6	
	comp=E,7.4nm,0.7s						
PBAR	**Barrancos**	**6.83**	**9**	*e*Pn	**Pn**	**11 13 47.5**	**+1.8**
PBAR				*e*Sn	**Sn**	**11 15 03.9**	**+0.7**
PBAR				A	A	11 15 08.8	
	comp=E,13nm,0.3s						
EVO	**Evora**	**7.10**	**3**	*e*Pn	**Pn**	**11 13 51.6**	**+2.1**
EVO				*e*Sn	**Sn**	**11 15 09.6**	**-0.2**
EVO				A	A	11 15 32.3	
	comp=E,14nm,0.3s						
PESTR	**Estremoz**	**7.46**	**5**	*e*Pn	**Pn**	**11 13 56.0**	**+1.6**
PESTR				*e*Sn	**Sn**	**11 15 19.6**	**+0.9**
PESTR	**Estremoz**	**7.46**	**5**	P	**Pn**	**11 13 56.2**	**+1.8**
PMAFR	**Mafra**	**7.55**	**355**	*e*Pn	**Pn**	**11 13 58.0**	**+2.4**
PMAFR				*e*Sn	**Sn**	**11 15 22.3**	**+1.4**
PMTG	**Montargil**	**7.63**	**1**	*e*Pn	**Pn**	**11 13 58.8**	**+2.1**
PMTG				*e*Sn	**Sn**	**11 15 22.8**	**-0.1**
PMRV	**Marv??o**	**8.04**	**6**	*e*Pn	**Pn**	**11 14 04.1**	**+1.9**
PMRV				*e*Sn	**Sn**	**11 15 32.1**	**-0.7**
PSBE	**So Bento**	**8.08**	**358**	*e*Pn	**Pn**	**11 14 06.0**	**+3.1**
PCBR	**Castelo Branco**	**8.44**	**5**	*e*Pn	**Pn**	**11 14 09.9**	**+2.2**
PCBR				*e*Sn	**Sn**	**11 15 43.0**	**+0.4**
PCAS	**Casmilo, Conde**	**8.62**	**360**	*e*Pn	**Pn**	**11 14 12.9**	**+2.7**
PCAS				*e*Sn	**Sn**	**11 15 46.0**	**-1.0**
MTE	**Manteigas**	**8.99**	**4**	*e*Pn	**Pn**	**11 14 17.4**	**+2.0**
MTE				*e*Sn	**Sn**	**11 15 54.8**	**-1.5**
PVIS	**Viseu**	**9.29**	**2**	*e*Sn	**Sn**	**11 16 05.3**	**+1.7**
MVO	**Moncorvo**	**9.79**	**6**	*e*Pn	**Pn**	**11 14 28.9**	**+2.6**
POLO	**Lamas de Olo**	**9.95**	**3**	*e*Pn	**Pn**	**11 14 30.8**	**+2.3**
POLO				*e*Sn	**Sn**	**11 16 19.7**	**-0.2**
PCAB	**Cabril**	**10.28**	**2**	*e*Pn	**Pn**	**11 14 36.3**	**+3.3**
PBRG	**Braganca**	**10.45**	**7**	*e*Pn	**Pn**	**11 14 38.0**	**+2.6**
PGAV	**Gavieira, Arco**	**10.53**	**1**	*e*Pn	**Pn**	**11 14 39.2**	**+2.7**
SJPF	**Ste Jean**	**12.99**	**24**	*e*Pn	**Pn**	**11 15 11.1**	**+1.0**
SJPF				*e*Sn	**Sn**	**11 17 32.2**	**-2.1**
	comp=E,1.2nm,0.3s						
ETSF	**Etsaut**	**13.05**	**26**	*e*Pn	**Pn**	**11 15 12.8**	**+1.9**
ETSF				*e*Sn	**Sn**	**11 17 33.1**	**-2.7**
	comp=E,1.4nm,0.4s						
EPF	**Esparros**	**13.51**	**29**	*e*Pn	**Pn**	**11 15 18.5**	**+1.2**
EPF				*e*Sn	**Sn**	**11 17 42.9**	**-4.2**
	comp=E,1.5nm,0.4s						
MTLF	**Montolieu**	**14.58**	**32**	*e*Pn	**Pn**	**11 15 31.5**	**-0.3**
MTLF				*e*Sn	**Sn**	**11 18 08.9**	**-4.1**
	comp=E,1.0nm,0.3s						
RJF	**Les Rejaudoux**	**15.88**	**26**	*e*Pn	**P**	**11 15 51.7**	**-0.9**
LASF	**Ste Croix**	**15.91**	**34**	*e*Pn	**Pn**	**11 15 48.5**	**-0.8**
LASF				*e*Sn	**Sn**	**11 18 38.9**	**-6.4**
	comp=E,1.1nm,0.5s						
VIVF	**Saint-Julien-l**	**16.88**	**34**	*e*Pn	**P**	**11 16 04.2**	**+0.5**

*IDC **10** 11:19:29.7±0.6, 52°13S×13°98E, h0km, mb4.5/14, mb1 4.6/14, mb1mx4.4/34, mbtmp4.5/14, MS4.7/12, Ms1 4.7/12, ms1mx4.4/28, Error ellipse: s-maj=23.4km s-min=15.1km az=66.0*

*NEIC **10** 11:19:32.8±2.2, 52°4S±0.1×13°6E±0.2, h10km±1km, mb4.9/19, Error ellipse: s-maj=22.8km s-min=18.3km az=82.0*

*GCMT **10** 11:19:35.8±0.2, 52°28S±0.01×14°38E±0.04, h22km, MW5.3/114, Moment Tensor Solution. s35,c43; s114,c167; Duration: 1ŝ1 Moment tensor: Scale 10^17 Nm; Mrr=1.36±.07; Mθθ 1.11±.04; Mϕϕ0.25±.04; Mrθ 0.22±.05; Mrϕ=-0.10±.02; Mθϕ=-0.20±.06; Best double couple: M=1.27500×10^17 NP1:ϕs91.00000°, δ40.00000°, λ-99.00000°. NP2:ϕs283.00000°, δ51.00000°, λ-82.00000°. Principal axes: T 1.1470, Plg6.0000°, Azm8.0000°; N 0.2590, Plg6.0000°, Azm99.0000°; P -1.4020, Plg82.0000°, Azm235.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 11:19:31.4±0.5, **52°29S**±0.07×**13°8E**±0.1, **h10**km, **n53**, σ2**9**25/44, **mb4.7**/16, **MS4.6**/12, **2C, Southwest of Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.55**	**17**	P	**P**	**11 24 09.0**	**-1.2**
	12nm,1.0s,baz=192,slow=13,SNR=2.8						
SUR				S	**S**	**11 27 51.6**	**-8.4**
	13nm,1.1s,baz=275,slow=19,SNR=1.5						
SUR				LR	LR	11 30 29.9	
	comp=Z,1μm,18.4s,baz=178,slow=32						
SUR	**Sutherland**	**20.55**	**17**	P	Pn	11 24 13.7	+1.3
SUR				lAmb	lAmb	11 24 18.9	
	comp=Z,47nm,0.8s						
SYO	**Syowa Base**	**20.72**	**154**	*e*P	**P**	**11 24 07.5**	**-4.0**
SYO	**Syowa Base**	**20.72**	**154**	*e*Pn	**P**	**11 24 11.0**	**-0.5**
SNAA	**Sanae**	**20.80**	**195**	P	**P**	**11 24 13.5**	**+1.0**
SNAA	**Sanae**	**20.80**	**195**	P	**P**	**11 24 13.9**	**+1.4**

KBZ	**Khabaz**	**98.90**	**21**	LR	LR	12 18 06.7	
	comp=Z,372nm,18.6s,baz=228,slow=36						
KVAR	**Kislovodsk Arr**	**99.07**	**21**	LR	LR	12 16 18.7	
	comp=Z,201nm,20.6s,baz=92,slow=34						
SONM	**Songino Array**	**127.03**	**57**	PKP	**PKPdf**	**11 38 34.0**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=232,slow=1.6,SNR=1.5						
TXAR	**Lajitas Array**	**129.17**	**269**	PKP	**PKPdf**	**11 38 40.1**	**+0.5**
	comp=Z,0.8nm,1.0s,baz=158,slow=4.0,SNR=6.0						
PDAR	**Pinedale Array**	**141.47**	**279**	PKhKP	PKPpre	11 38 54.4	
	comp=Z,1.4nm,0.9s,baz=101,slow=3.8,SNR=8.9						
NVAR	**Mina Array Bea**	**144.25**	**267**	PKP	**PKPdf**	**11 39 06.8**	**-0.5**
	comp=Z,1.0nm,0.9s,baz=150,slow=3.3,SNR=5.2						
YKA	**Yellowknife Ar**	**151.15**	**311**	PKPbc	**PKPbc**	**11 39 22.1**	**-1.3**
	comp=Z,4.7nm,0.7s,baz=92,slow=3.7,SNR=11						
YKA	**Yellowknife Ar**	**151.15**	**311**		**PKPbc**	**11 39 23.4**	**0.0**
ILAR	**Eielson Array**	**164.02**	**329**	PKPab	**PKPab**	**11 40 26.4**	**-0.3**
	comp=Z,1.7nm,1.0s,baz=24,slow=3.8,SNR=9.8						

*IDC **10** 11:38:21.4±2.0,6°.57S×154°.87E,h0km,mb4.2/4, mb1 4.4/5,mb1mx3.8/42,mbtmp4.3/5,ML4.2/1,Error ellipse: s-maj=43.4km s-min=27.5km az=18.0*

ISC 10 11:38:28.0±1.7,6°.6S±0°.3×154°.9E±0°.1,h56km,n8,σ1§60/6, mb4.2/4,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.71**	**120**	Pn	**Pn**	**11 39 48.6**	**-1.6**
	6.4nm,0.3s,baz=253,slow=20,SNR=1.8						
HNR				Sn	**Sn**	**11 40 56.5**	**+2.0**
	5.4nm,0.3s,baz=331,slow=13,SNR=2.5						
WRA	**Warramunga Arr**	**23.98**	**234**	P	**P**	**11 43 38.1**	**+0.6**
	5.9nm,0.6s,baz=59,slow=9.4,SNR=57						
ASAR	**Alice Springs**	**26.38**	**228**	P	**P**	**11 43 59.0**	**-0.3**
	1.4nm,0.6s,baz=60,slow=9.0,SNR=22						
H11S3	**WAKE ISLAND Hy**	**27.51**	**25**	T	T	12 12 41.8	
	baz=202,slow=75,SNR=38						
H11S2	**WAKE ISLAND Hy**	**27.52**	**25**	T	T	12 12 30.3	
	baz=202,slow=75,SNR=42						
H11S1	**WAKE ISLAND Hy**	**27.53**	**25**	T	T	12 12 29.3	
	baz=202,slow=75,SNR=30						
FITZ	**Fitzroy Crossi**	**30.75**	**246**	P	**P**	**11 44 38.3**	**+0.1**
	5.2nm,0.7s,baz=70,slow=9.3,SNR=14						
CMAR	**Chiang Mai Arr**	**60.56**	**295**	P	**P**	**11 48 33.8**	**+0.6**
	1.0nm,0.7s,baz=129,slow=4.8,SNR=6.4						

*SOME **10** 11:41:06.6,50°.75N×83°.62E,h0km*
*NNC **10** 11:41:06.7±3.6,49°.99N×87°.93E,h0km,mb3.8,mpv3.4, Error ellipse: s-maj=27.5km s-min=19.1km az=88.0*

ISC 10 11:41:05.9±0.9,50°.01N±0°.03×87°.99E±0°.04,h10km,n13, σ1§80/25,8C-1D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUR	**Chagan-Uzun**	**0.25**	**68**	Pg	**Pg**	**11 41 10.3**	**-0.7**
CUR				Sg	**Sg**	**11 41 14.1**	**-0.5**
AKAR	**Aktash**	**0.39**	**323**	Pg	**Pg**	**11 41 13.0**	**-0.6**
AKAR				Sg	**Sg**	**11 41 18.4**	**-0.5**
DGZ	**Jazzator, Alta**	**0.47**	**230**	Pg	**Pg**	**11 41 13.5**	**-1.6**
DGZ				Sg	**Sg**	**11 41 18.5**	**-2.9**
ULGR	**Ulagan, Altay**	**0.62**	**359**	Pg	**Pb**	**11 41 17.8**	**-1.0**
ULGR				Sg	**Sb**	**11 41 27.1**	**-0.4**
ARTR	**Artybash**	**1.85**	**346**	Pg	**Pg**	**11 41 41.4**	**+0.1**
ARTR				Sg	**Sg**	**11 42 05.5**	**+0.3**
UKR	**Ust'-Kan**	**2.25**	**296**	Pg	**Pb**	**11 41 46.7**	**0.0**
UKR				Sg	**Sg**	**11 42 15.9**	**-2.3**
TASR	**Tashtagol**	**2.76**	**359**	Pg	**Pg**	**11 41 58.3**	**-0.3**
TASR				Sg	**Sg**	**11 42 31.9**	**-2.5**
ZSN	**Zaisan**	**3.29**	**220**	*eP*	**Pg**	**11 42 08.6**	**-0.2**
	5.1nm,0.3s						
ZSN				*eS*	**Sg**	**11 42 49.9**	**-1.6**
	33nm,0.4s						
ELT	**Eltsovka**	**3.44**	**342**	Pg	**Pb**	**11 42 05.9**	**-0.8**
ELT				Sg	**Sb**	**11 42 47.0**	**-1.5**
MK31	**Makanchi Array**	**4.97**	**232**	⇑Pn	**Pn**	**11 42 23.8**	**+3.3**
	0.6nm,0.2s,baz=56,slow=12,SNR=74						
MK31				⇑Sn	**Sn**	**11 43 21.7**	**+3.6**
	1.7nm,0.5s,baz=60,slow=17,SNR=5.3						
MK31				⇑Lg	Lg	11 43 42.5	
	1.8nm,0.4s,baz=52,slow=31,SNR=6.8						
MAKZ	**Makanchi**	**5.12**	**234**	⇑Pn	**Pn**	**11 42 22.4**	**-0.2**
	3.3nm,0.5s						
MAKZ				⇓Sn	**Sn**	**11 43 24.2**	**+2.4**
	4.0nm,0.8s						
MAKZ				⇑Lg	Lg	11 43 45.9	
	7.0nm,0.5s						
KURBB	**Kurchatov Arra**	**6.09**	**279**	⇑Pn	**Pn**	**11 42 36.8**	**+1.0**
	2.5nm,0.3s						
KURBB				⇑Sn	**Sn**	**11 43 48.6**	**+3.1**
	8.9nm,0.7s						
KURBB				⇑Lg	Lg	11 44 18.9	
KAPS	**Kapalarasan**	**7.50**	**234**	*eP*	Pn	11 43 01.5	+6.2
	0.2nm,0.4s						
KAPS				*eS*	**Sn**	**11 44 20.4**	**0.0**
	0.5nm,0.7s						

*IDC **10** 12:02:26.5±0.6,52°.07N×169°.69W,h0km,mb4.3/38, mb1 4.5/40,mb1mx4.4/70,mbtmp4.3/40,ML4.3/2,MS4.2/6, Ms1 4.2/6,ms1mx3.7/47,Error ellipse: s-maj=17.4km s-min=10.8km az=174.0*
*NEIC **10** 12:02:29.0±3.0,52°.24N±0°.07×169°.83W±0°.10,h10km±1km, mb4.6/66,ML4.0/34(AEIC),Error ellipse: s-maj=15.4km s-min=5.5km az=142.0*
*AEIC **10** 12:02:31.4±4.4,52°.17N±0°.09×169°.6W±0°.1,h61km±4km, Error ellipse: s-maj=13.8km s-min=7.4km az=151.0*

ISC 10 12:02:29.1±1.8,52°.19N±0°.08×169°.71W±0°.05, h11km±10km,n173,σ1§10/163,mb4.6/66,MS4.2/8,2C,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.94**	**33**		**Pn**	**12 02 48.7**	**+0.6**
NIKH					**Sn**	**12 03 03.4**	**+1.9**
OKSO	**Okmok South**	**1.50**	**38**		**Pb**	**12 02 56.3**	**-0.6**
OKSO					**Sg**	**12 03 17.2**	**0.0**
OKTU	**Okmok Mt. Tuli**	**1.56**	**40**		**Pb**	**12 02 57.5**	**-0.5**
OKFG	**Magazine Ridge**	**1.64**	**41**		**Pn**	**12 02 58.3**	**+0.5**
OKFG					**Sb**	**12 03 20.3**	**+0.5**
MAPS	**Pakushin South**	**2.33**	**45**		**Pn**	**12 03 07.7**	**+0.4**
MAPS					**Sn**	**12 03 34.1**	**-1.7**
MNAT	**Makushin Natee**	**2.49**	**46**		**Pn**	**12 03 10.1**	**+0.6**
MNAT					**Sn**	**12 03 39.0**	**-0.8**
UNV	**Unalaska Valle**	**2.54**	**48**		**Pn**	**12 03 10.6**	**+0.4**
UNV					**Sn**	**12 03 40.5**	**-0.7**
MTBL	**Makushin Table**	**2.55**	**45**		**Pn**	**12 03 11.6**	**+1.3**
KOFP	**Korovin Flat P**	**2.70**	**273**		**Pn**	**12 03 14.8**	**+2.4**
ATKA	**Atka Island**	**2.76**	**272**		**Pn**	**12 03 14.5**	**+1.3**
KOKL	**Mount Kliuchef**	**2.77**	**274**		**Pb**	**12 03 16.2**	**-2.3**
AKGG	**Akutan Green G**	**3.00**	**47**		**Pn**	**12 03 18.0**	**+1.5**
AKUT	**Akutan**	**3.06**	**49**		**Pn**	**12 03 18.4**	**+1.1**
WECS	**Westdahl Cape**	**3.77**	**50**		**Pn**	**12 03 28.4**	**+1.3**
GSMY	**Great Sitkin M**	**3.92**	**270**		**Pn**	**12 03 30.6**	**+1.4**
ADK	**Adak**	**4.32**	**269**		**Pn**	**12 03 35.2**	**+0.6**
FALS	**False Pass**	**4.60**	**52**		**Pn**	**12 03 38.4**	**0.0**
KIWB	**Kanaga Island**	**4.61**	**269**		**Pn**	**12 03 37.7**	**-0.9**
KIMD	**Kanaga Island**	**4.67**	**268**		**Pn**	**12 03 40.9**	**+1.4**
SDPT	**Sand Point**	**6.32**	**56**	Pn	**Pn**	**12 04 03.6**	**+1.6**
OHAK	**Old Harbor**	**10.74**	**56**	Pn	**Pn**	**12 05 02.6**	**0.0**
Q19K	**Cape Douglas,**	**11.30**	**47**	Pn	**Pn**	**12 05 11.4**	**+1.0**
L19K	**White Mountain**	**12.81**	**33**	Pn	**Pn**	**12 05 32.8**	**+1.9**
SEW	**Seward**	**13.74**	**47**	Pn	**Pn**	**12 05 42.5**	**-1.1**
O22K	**Cooper Landing**	**13.80**	**45**		**Pn**	**12 05 43.7**	**-0.6**
RC01	**Rabbit Creek A**	**14.09**	**43**	Pn	**Pn**	**12 05 47.9**	**-0.4**
J20K	**Nowinta River**	**14.49**	**28**		**P**	**12 05 57.7**	**-2.8**
PWL	**Port Wells**	**14.58**	**45**	Pn	**Pn**	**12 05 53.0**	**-2.0**
CAST	**Castle Rocks**	**14.59**	**33**	Pn	**Pn**	**12 05 53.8**	**-1.4**
PMR	**Palmer**	**14.60**	**42**	Pn	**Pn**	**12 05 55.0**	**-0.3**
KNK	**Knik Glacier**	**14.79**	**43**	Pn	**Pn**	**12 05 56.7**	**-1.2**
SCM	**Sheep Creek Mo**	**15.46**	**43**		**Pn**	**12 06 05.7**	**-1.2**
SCM				IAmb	IAmb	12 06 10.9	
	comp=Z,90nm,1.4s						
KLU	**Klutina**	**15.91**	**45**		**Pn**	**12 06 10.5**	**-2.2**
KLU				IAmb	IAmb	12 06 16.4	
	comp=Z,50nm,1.3s						
BWN	**Browne**	**15.96**	**33**	Pn	**Pn**	**12 06 12.2**	**-1.0**
BWN				IAmb	IAmb	12 06 27.8	
	comp=Z,49nm,1.2s						
IMAR	**Indian Mountai**	**15.99**	**24**		**P**	**12 06 15.7**	**-1.5**
M24K	**Tolsona, Glenn**	**16.07**	**43**		**Pn**	**12 06 13.3**	**-1.5**
M24K				IAmb	IAmb	12 06 35.0	
	comp=Z,89nm,1.4s						
MLY	**Manley**	**16.12**	**30**	Pn	**Pn**	**12 06 14.2**	**-1.2**
MLY				IAmb	IAmb	12 06 31.1	
	comp=Z,47nm,1.4s						
BMRM	**Bremner River**	**16.29**	**48**	Pn	**Pn**	**12 06 15.9**	**-1.6**
BMRM				IAmb	IAmb	12 06 38.4	
	comp=Z,46nm,1.2s						
N25K	**Chitina, Valde**	**16.53**	**45**	Pn	**Pn**	**12 06 19.9**	**-0.8**
I23K	**Minto, Yukon-K**	**16.63**	**31**	IAmb	IAmb	12 06 30.3	
	comp=Z,29nm,1.4s						
PAX	**Paxon**	**16.77**	**41**	Pn	**Pn**	**12 06 22.6**	**-1.1**
GLB	**Gilahina Butte**	**16.82**	**46**	Pn	**Pn**	**12 06 23.0**	**-1.3**
H23K	**Yukon River**	**17.04**	**29**	P	**P**	**12 06 29.8**	**+1.0**
H23K				IAmb	IAmb	12 06 41.3	
	comp=Z,25nm,1.2s						
ILAR	**Eielson Array**	**17.21**	**34**	P	**Pn**	**12 06 27.8**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=232,slow=11,SNR=27						
M26K	**Nabesna, AK**	**17.54**	**44**		**Pn**	**12 06 33.3**	**0.0**
M26K				IAmb	IAmb	12 06 35.4	
	comp=Z,30nm,1.4s						
H24K	**Noodor Dome**	**17.55**	**30**	P	**Pn**	**12 06 33.8**	**+0.3**
SCRK	**Sand Creek**	**17.84**	**39**	P	**Pn**	**12 06 36.5**	**-0.6**
COLD	**Coldfoot**	**17.86**	**25**	P	**Pn**	**12 06 36.0**	**-1.2**
M27K	**Edge Creek, AK**	**18.01**	**45**	IAmb	IAmb	12 07 05.6	
	comp=Z,29nm,1.2s						
BCAR	**Beaver Creek A**	**18.32**	**43**	P	**Pn**	**12 06 41.9**	**-1.0**
DAWY	**Dawson**	**19.70**	**41**	P	**P**	**12 06 57.7**	**-0.4**
PETK	**Petropavlovsk-**	**19.71**	**286**	P	**P**	**12 06 58.2**	**0.0**
	comp=Z,9.1nm,0.3s,baz=90,slow=12,SNR=166						
PETK	**Petropavlovsk-**	**19.71**	**286**	P	**P**	**12 06 58.4**	**+0.2**
WHY	**Whitehorse**	**20.81**	**52**	P	Pn	12 07 11.8	-0.9
WHY				IAmb	IAmb	12 07 36.4	
	comp=Z,30nm,1.2s						
EPYK	**Eagle Plains**	**21.67**	**36**	P	**P**	**12 07 17.6**	**-1.7**
EPYK				IAmb	IAmb	12 07 31.4	
	comp=Z,23nm,0.8s						
SEY	**Seymchan**	**22.64**	**313**	P	**P**	**12 07 30.2**	**+0.5**
	comp=Z,7.1nm,0.8s,baz=94,slow=10,SNR=11						
SEY				LR	LR	12 16 33.0	
	comp=Z,362nm,19.6s,baz=270,slow=37						
MA2	**Magadan**	**23.07**	**304**	P	**P**	**12 07 35.4**	**+1.2**
	comp=Z,12nm,0.8s,baz=70,slow=10,SNR=5.2						
DLBC	**Dease Lake**	**23.15**	**59**	P	**P**	**12 07 35.1**	**-0.1**
	comp=Z,3.7nm,0.9s,baz=211,slow=7.9,SNR=3.8						
DLBC	**Dease Lake**	**23.15**	**59**	P	**P**	**12 07 36.3**	**+1.1**
DLBC				IAmb	IAmb	12 07 47.0	
	comp=Z,41nm,1.4s						
INK	**Inuvik**	**23.61**	**33**	P	**P**	**12 07 38.4**	**-1.1**
	comp=Z,3.0nm,0.5s,baz=251,slow=7.0,SNR=16						
INK				LR	LR	12 16 59.1	
	comp=Z,492nm,18.4s,baz=214,slow=37						
INK	**Inuvik**	**23.61**	**33**	P	**P**	**12 07 37.9**	**-1.6**
INK				IAmb	IAmb	12 07 48.8	
	comp=Z,7.9nm,1.0s						
YKA	**Yellowknife Ar**	**30.51**	**49**	P	**P**	**12 08 42.1**	**+0.4**
	comp=Z,3.9nm,0.9s,baz=273,slow=7.0,SNR=8.9						
NEW	**Newport**	**33.25**	**75**	P	**P**	**12 09 05.7**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=297,slow=6.8,SNR=1.9						
NEW	**Newport**	**33.25**	**75**	IAmb	IAmb	12 09 20.2	
	comp=Z,9.7nm,1.1s						
EDM	**Edmonton**	**33.41**	**65**	P	**P**	**12 09 07.4**	**+0.1**
EDM				IAmb	IAmb	12 09 22.9	
	comp=Z,11nm,0.8s						
J08A	**Circle Bar Ran**	**34.89**	**84**	P	**P**	**12 09 21.4**	**+1.1**
J08A				IAmb	IAmb	12 09 36.2	
	comp=Z,8.2nm,1.2s						
KLR	**Kul'dur**	**36.32**	**289**	P	**P**	**12 09 31.9**	**-0.6**
	comp=Z,4.2nm,0.5s,baz=69,slow=6.8,SNR=24						
H11N2	**WAKE ISLAND Hy**	**37.19**	**218**	T	T	12 50 27.1	
	baz=24,slow=76,SNR=20						
H11N3	**WAKE ISLAND Hy**	**37.19**	**218**	T	T	12 50 31.9	
	baz=24,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**37.20**	**218**	T	T	12 50 11.3	
	baz=24,slow=76,SNR=8.6						
NVAR	**Mina Array Bea**	**37.87**	**90**	P	**P**	**12 09 46.1**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=308,slow=7.4,SNR=3.7						
H11S1	**WAKE ISLAND Hy**	**38.38**	**218**	T	T	12 51 06.2	
	baz=23,slow=76,SNR=106						
H11S2	**WAKE ISLAND Hy**	**38.39**	**218**	T	T	12 51 29.1	
	baz=23,slow=76,SNR=58						
H11S3	**WAKE ISLAND Hy**	**38.39**	**218**	T	T	12 51 01.6	
	baz=23,slow=76,SNR=66						
MJAR	**Mayushiro Arr**	**39.48**	**268**	P	**P**	**12 09 58.2**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=14,slow=3.5,SNR=1.6						
R11A	**Troy Canyon, C**	**39.59**	**88**	P	**P**	**12 10 03.0**	**+2.6**
BW06	**Boulder Array**	**40.64**	**79**	P	**P**	**12 10 11.4**	**+2.2**
PDAR	**Pinedale Array**	**40.64**	**79**	P	**P**	**12 10 08.8**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=289,slow=2.8,SNR=11						
JCJ	**Chichijima**	**43.66**	**254**	LR	LR	12 27 18.2	
	comp=Z,186nm,19.8s,baz=18,slow=34						
ULM	**Lac du Bonnet**	**44.41**	**62**	P	**P**	**12 10 38.8**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=306,slow=11,SNR=2.0						
NEEM	**North Greenlan**	**45.22**	**16**	*i* P	**P**	**12 10 45.7**	**-0.1**
KSRS	**Korea Array**	**45.22**	**277**	P	**P**	**12 10 45.9**	**0.0**
	comp=Z,3.4nm,0.6s,baz=54,slow=7.1,SNR=13						
KSRS				LR	LR	12 29 22.9	
	comp=Z,168nm,19.4s,baz=26,slow=36						
NRIK	**Noril'sk**	**46.48**	**331**	P	**P**	**12 10 55.8**	**+0.3**
	comp=Z,5.6nm,0.6s,baz=76,slow=6.6,SNR=4.2						
TUC	**Tucson**	**46.51**	**91**	P	**P**	**12 10 55.4**	**-0.9**
TUC				IAmb	IAmb	12 11 11.9	
	comp=Z,7.1nm,1.2s						
ECSD	**EROS Data Cent**	**47.73**	**70**	P	**P**	**12 11 07.2**	**+1.6**
ECSD				IAmb	IAmb	12 11 16.2	
	comp=Z,4.4nm,0.9s						
SPITS	**Spitsbergen Ar**	**49.84**	**358**	P	**P**	**12 11 21.2**	**-0.2**
	comp=Z,2.3nm,0.5s,baz=58,slow=5.0,SNR=8.9						
DAG	**Danmarks Havn**	**49.99**	**8**	*i* P	**P**	**12 11 21.9**	**-0.6**
DAG				IAmb	IAmb	12 11 22.6	
	comp=Z,8.2nm,0.7s						
SUMG	**Summit**	**51.01**	**17**	*i* P	**P**	**12 11 30.9**	**+0.1**
SUMG				IAML		12 11 33.1	
	comp=Z,12nm,0.8s						
SUMG	**Summit**	**51.01**	**17**	P	**P**	**12 11 30.9**	**+0.1**
SONM	**Songino Array**	**51.21**	**301**	P	**P**	**12 11 32.4**	**+0.1**
	comp=Z,2.2nm,0.9s,baz=46,slow=7.3,SNR=10.0						
SONM				LR	LR	12 35 27.5	
	comp=Z,368nm,18.4s,baz=358,slow=39						
SONM	**Songino Array**	**51.21**	**301**	P	**P**	**12 11 31.5**	**-0.8**
SONM				IAmb	IAmb	12 11 35.5	
	comp=Z,4.8nm,1.2s						
P38A	**Dawn**	**52.10**	**72**	P	**P**	**12 11 39.6**	**+0.7**
P38A				IAmb	IAmb	12 11 51.0	
	comp=Z,6.9nm,0.8s						
HHC	**Hu-ho-hao-te**	**52.79**	**291**	*eP*	**P**	**12 11 44.9**	**+0.8**
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,260nm,5.6s						
TXAR	**Lajitas Array**	**52.96**	**89**	P	**P**	**12 11 44.5**	**-1.0**
	comp=Z,2.3nm,0.6s,baz=296,slow=5.6,SNR=46						
ICESG	**Greenland Ices**	**53.61**	**20**	*i* P	**P**	**12 11 49.4**	**-0.6**
ICESG				IAmb	IAmb	12 11 50.1	
	comp=Z,9.8nm,0.7s						
NJ2	**Nanjing**	**54.37**	**278**	*eP*	**P**	**12 11 56.2**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ZALV	**Zalesovo Beam**	**57.41**	**317**	P	**P**	**12 12 16.9**	**-0.3**
	comp=Z,1.6nm,0.4s,baz=49,slow=8.2,SNR=3.6						
ZALV				PcP	**PcP**	**12 13 11.0**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=90,slow=3.0,SNR=4.3						
ARCES	**ARCESS Array B**	**58.07**	**354**	P	**P**	**12 12 21.5**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=36,slow=4.5,SNR=11						
ARCES	**ARCESS Array B**	**58.07**	**354**	IAmb	IAmb	12 12 25.0	
	comp=Z,26nm,1.4s						
XAN	**Xi'an**	**58.95**	**287**	P	**P**	**12 12 28.0**	**-0.3**
XAN				pP	pwP	12 12 37.6	+3.0
XAN				pmax	pmax		
	comp=Z,11nm,1.4s						
GTA	**Gaotai**	**60.37**	**297**	*eP*	**P**	**12 12 40.8**	**+2.7**
GTA				pP	pwP	12 12 44.4	-0.1
GTA				sP	sP	12 12 48.2	+6.3
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,130nm,4.7s						
GTA				LR	LR		
	comp=N,230nm,16.7s						
GTA				LR	LR		
	comp=E,250nm,15.3s						
GTA				LR	LR		
	comp=Z,310nm,17.8s						
KURK	**Kurchatov**	**62.37**	**318**	P	**P**	**12 12 52.0**	**+0.8**
KURBB	**Kurchatov Arra**	**62.47**	**318**	P	**P**	**12 12 52.0**	**+0.1**
	comp=Z,5.0nm,0.8s,baz=42,slow=7.2,SNR=14						
WMQ	**Urumqi**	**63.48**	**308**	*eP*	**P**	**12 13 02.0**	**+3.2**
BVAR	**Borovoye Array**	**63.73**	**324**	P	**P**	**12 13 00.2**	**-0.1**
	comp=Z,7.7nm,0.7s,baz=117,slow=1.7,SNR=24						
BRVK	**Borovoye**	**63.74**	**324**	P	**P**	**12 12 59.4**	**-0.9**
MKAR	**Makanchi Array**	**63.77**	**313**	P	**P**	**12 13 00.0**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=49,slow=6.7,SNR=12						
CD2	**Chengdu**	**64.23**	**288**	P	**P**	**12 13 04.9**	**+1.0**
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
ARU	**Arti**	**64.68**	**333**	P	**P**	**12 13 06.4**	**0.0**
	comp=Z,1.8nm,0.2s,baz=26,slow=5.9,SNR=6.9						
ARU	**Arti**	**64.68**	**333**	IAmb	IAmb	12 13 07.3	
	comp=Z,9.7nm,1.0s						
FINES	**FINESS Array B**	**66.01**	**352**	P	**P**	**12 13 14.8**	**-0.2**
	comp=Z,5.5nm,0.6s,baz=18,slow=9.1,SNR=25						
FINES	**FINESS Array B**	**66.01**	**352**	P	**P**	**12 13 13.6**	**-1.4**
RAF	**Rauma**	**66.76**	**354**	*eP*	**P**	**12 13 19.2**	**-0.5**
NC303	**NORSAR Array S**	**66.93**	**359**	IAmb	IAmb	12 13 22.9	
	comp=Z,7.3nm,0.8s						
NB2	**NORSAR Subarra**	**67.11**	**360**	P	**P**	**12 13 21.7**	**-0.4**
	comp=Z,6.5nm,1.0s,baz=0.8,slow=6.5						
NB2	**NORSAR Subarra**	**67.11**	**360**	P	**P**	**12 13 21.6**	**-0.5**
	comp=Z,6.2nm,0.9s,baz=0.3,slow=6.5						
NOA	**NORSAR Array B**	**67.11**	**360**	P	**P**	**12 13 22.0**	**-0.1**
	comp=Z,2.8nm,0.7s,baz=0.4,slow=6.3,SNR=13						
MEF	**Metsahovi**	**67.37**	**352**	*eP*	**P**	**12 13 23.5**	**-0.1**
HFS	**Hagfors**	**67.99**	**358**	P	**P**	**12 13 27.1**	**-0.5**
	comp=Z,5.3nm,0.7s,baz=29,slow=3.4,SNR=16						
KONO	**Kongsberg**	**68.51**	**0**	P	**P**	**12 13 30.5**	**-0.4**
KONO				IAmb	IAmb	12 13 32.8	
	comp=Z,7.8nm,0.8s						
VSU	**Vasula**	**68.89**	**351**	*eP*	**P**	**12 13 33.3**	**+0.1**
MTSE	**Matsula**	**68.90**	**352**	*eP*	**P**	**12 13 33.4**	**+0.1**
KMI	**Kunming**	**69.11**	**284**	⇑P	**P**	**12 13 37.6**	**+2.2**
KMI				sP	PcP	12 13 51.4	-8.0
KMI				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KDJ	**Kajisay**	**69.70**	**313**	IAmb	IAmb	12 13 39.3	
	comp=Z,3.1nm,0.8s						
BOOM	**Boomskoye usch**	**69.96**	**314**	IAmb	IAmb	12 13 42.6	
	comp=Z,6.6nm,0.8s						
AKTO	**Aktyubinsk**	**70.06**	**330**	P	**P**	**12 13 40.4**	**-0.2**
	comp=Z,5.4nm,0.8s,baz=49,slow=5.2,SNR=17						
SLIT	**Slitere, Latvi**	**70.10**	**353**	*eP*	**P**	**12 13 40.5**	**-0.1**
ABKAR	**Akbulak array**	**70.47**	**328**	IAmb	IAmb	12 13 44.2	
	comp=Z,11nm,1.2s						
AAK	**Ala-Archa**	**70.48**	**315**	P	**P**	**12 13 43.3**	**-0.2**
	comp=Z,4.0nm,0.6s,baz=137,slow=3.1,SNR=9.1						
AAK	**Ala-Archa**	**70.48**	**315**	P	**P**	**12 13 43.4**	**-0.2**
AAK				IAmb	IAmb	12 13 44.3	
	comp=Z,5.8nm,0.8s						
KK31	**Karatay Array**	**71.78**	**318**	P	**P**	**12 13 50.7**	**-0.5**
KK31				IAmb	IAmb	12 13 53.3	
	comp=Z,6.7nm,0.8s						
KKAR	**Karatay Array**	**71.78**	**318**	P	**P**	**12 13 50.0**	**-1.2**
KKAR	**Karatay Array**	**71.78**	**318**	IAmb	IAmb	12 13 53.3	
	comp=Z,6.7nm,0.8s						
EKA	**Eskdalemuir Ar**	**72.26**	**8**	P	**P**	**12 13 53.8**	**0.0**
	comp=Z,0.7nm,0.4s,baz=352,slow=4.3,SNR=4.7						
KSH	**Kashi**	**72.34**	**312**	P	**P**	**12 13 58.2**	**+3.4**
KSH				sP	PcP	12 14 08.7	-4.0
KSH				pmax	pmax		
	comp=Z,11nm,0.8s						
MNK	**Minsk**	**72.67**	**349**	*i* P	**P**	**12 13 55.7**	**-0.6**
	comp=E,2.0nm,0.8s						
MNK				*i* P	**P**	**12 13 55.7**	**-0.6**
	comp=N,16nm,0.8s						
MNK				*i* P	**P**	**12 13 55.7**	**-0.6**
	comp=Z,11nm,0.8s,baz=11						
MNK				*i* PcP	**PcP**	**12 14 12.8**	**-0.8**
MNK				*i* PP	**PP**	**12 16 37.2**	**+0.1**
MNK				*i* PPP	PPP	12 18

ILAR	**Eielson Array**	**70.80**	**25**	P	**P**	**12 25 23.8**	**-1.4**	
	0.8nm,0.6s,baz=240,slow=6.2,SNR=12							
NVAR	**Mina Array Bea**	**89.73**	**51**	P	**P**	**12 27 08.4**	**+0.6**	
	0.4nm,0.6s,baz=234,slow=4.7,SNR=4.5							
LPAZ	**La Paz**	**150.39**	**101**	PKPbc	**PKiKP**	**12 34 03.0**	**+0.2**	
	0.7nm,0.4s,baz=270,slow=1.0,SNR=2.9							

IDC 10 12:26:13.8±9.5, 6.26S×154.33E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/40, mbtmp4.0/3, Error ellipse: s-maj=154.3km s-min=94.4km az=25.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.71**	**233**	P	P	12 31 27.7	0.0
	2.9nm,0.7s,baz=60,slow=9.8,SNR=7.4						
ASAR	**Alice Springs**	**26.18**	**226**	P	P	12 31 50.2	-0.1
	0.9nm,0.4s,baz=58,slow=8.9,SNR=24						
STKA	**Stephens Creek**	**28.13**	**203**	P	P	12 32 07.7	0.0
	0.7nm,0.6s,baz=7.0,slow=14,SNR=3.4						

*IDC **10** 12:41:42.8±0.5, 70.20N×128.45E, h0km, mb4.1/25, mb1 4.3/27, mb1mx4.2/43, mbtmp4.1/27, ML4.6/2, MS3.7/1, Ms1 3.7/1, ms1mx2.9/38, Error ellipse: s-maj=12.1km s-min=9.6km az=113.0*
*MOS **10** 12:41:42.2±1.0, 70.15N×128.49E, h8km, mb4.5/25, Error ellipse: s-maj=18.2km s-min=8.2km az=90.2*
*YARS **10** 12:41:42.8±0.0, 70.17N×128.26E, h10km*
*NEIC **10** 12:41:46.5±1.6, 70.25N±0.06×128.3E±0.2, h22km±4km, mb4.6/37, Error ellipse: s-maj=11.5km s-min=8.8km az=90.0*

ISC 10 12:41:44.8±0.3, 70.14N±0.03×128.40E±0.03, h10km, n141, σ1§85/164, mb4.4/57, 6C-5D, Northern and central Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIXI	**Tiksi**	**1.53**	**6**	Pg	**Pn**	**12 42 10.7**	**-1.4**
	50nm,0.3s,baz=176,slow=16,SNR=137						
TIXI				Lg	Lg	12 42 29.6	
	427nm,0.3s,baz=121,slow=15,SNR=15						
TIXI	**Tiksi**	**1.53**	**6**	*e*Pg	**Pn**	**12 42 10.9**	**-1.2**
	1μm,0.2s						
TIXI				*e*Sg	**Sn**	**12 42 29.8**	**-2.2**
	5μm,0.2s						
TIXI	**Tiksi**	**1.53**	**6**	*e*P	**Pn**	**12 42 10.9**	**-1.2**
TIXI				*e*S	**Sn**	**12 42 29.8**	**-2.2**
TIXI				pmax	pmax		
	comp=Z,1μm,0.2s						
TIXI				smax	smax		
	comp=E,5μm,0.2s						
BTGS	**Batagay**	**3.37**	**135**	*e*Pn	**Pn**	**12 42 37.3**	**0.0**
BTGS				*e*Pg	**Pb**	**12 42 43.9**	**-0.5**
	comp=E,22nm,0.3s						
BTGS				*e*Sn	**Sn**	**12 43 17.0**	**-0.2**
BTGS				*e*Sg	**Sb**	**12 43 29.0**	**+3.7**
	comp=E,873nm,0.6s						
BTGS	**Batagay**	**3.37**	**135**	*e*P	**Pn**	**12 42 37.3**	**0.0**
BTGS				*e*S	**Sn**	**12 43 17.0**	**-0.2**
BTGS				pmax	pmax		
	comp=Z,22nm,0.3s						
DEPR	**Deputatskiy**	**4.07**	**95**	*e*Pn	**Pn**	**12 42 47.1**	**+0.2**
DEPR				*e*Pg	**Pb**	**12 42 57.9**	**+1.5**
	comp=Z,246nm,0.5s						
DEPR				*e*Sn	**Sn**	**12 43 35.1**	**+0.6**
DEPR				*e*Sg	**Sb**	**12 43 51.3**	**+5.8**
	comp=Z,378nm,0.3s						
DEPR	**Deputatskiy**	**4.07**	**95**	*e*P	**Pn**	**12 42 47.1**	**+0.2**
DEPR				*e*S	**Sn**	**12 43 35.1**	**+0.6**
DEPR				pmax	pmax		
	comp=Z,246nm,0.5s						
YBGR	**Belaya Gora**	**6.49**	**96**	*e*Pn	**Pn**	**12 43 20.6**	**+0.4**
YBGR				*e*Pg	**Pb**	**12 43 40.1**	**+2.4**
	comp=Z,77nm,0.7s						
YBGR				*i* Sn	**Sn**	**12 44 34.0**	**-0.2**
YBGR				*e*Sg	**Sg**	**12 45 07.4**	**-5.5**
	comp=Z,422nm,0.8s						
YBGR	**Belaya Gora**	**6.49**	**96**	*e*P	**Pn**	**12 43 20.6**	**+0.4**
YBGR				*i* S	**Sn**	**12 44 34.0**	**-0.2**
YBGR				pmax	pmax		
	comp=Z,77nm,0.7s						
UNR	**Ust'-Nera**	**7.98**	**127**	*e*Pn	**Pn**	**12 43 40.1**	**-0.5**
UNR				*e*Pg	Pb	12 44 08.2	+5.3
	comp=Z,32nm,0.3s						
UNR				*e*Sn	**Sn**	**12 45 09.4**	**-1.3**
UNR				*e*Sg	**Sg**	**12 45 53.8**	**-6.6**
	comp=Z,525nm,1.0s						
UNR	**Ust'-Nera**	**7.98**	**127**	*e*P	**Pn**	**12 43 40.1**	**-0.5**
UNR				*e*S	**Sn**	**12 45 09.4**	**-1.3**
UNR				pmax	pmax		
	comp=Z,32nm,0.3s						
YAK	**Yakutsk**	**8.16**	**176**	Pn	Pn	12 43 51.4	+8.4
	comp=Z,0.2nm,0.3s,baz=169,slow=1.1,SNR=5.1						
YAK				Sn	**Sn**	**12 45 12.0**	**-3.1**
	comp=Z,0.2nm,0.3s,baz=186,slow=9.2,SNR=1.1						
YAK				Lg	Lg	12 46 05.0	
	comp=Z,0.3nm,0.3s,baz=90,slow=20,SNR=2.1						
YAK	**Yakutsk**	**8.16**	**176**	*e*Sn	**Sn**	**12 45 14.0**	**-1.1**
YAK				*e*Sg	**Sg**	**12 45 59.5**	**-6.7**
	comp=Z,90nm,1.6s						
YAK	**Yakutsk**	**8.16**	**176**	*e*P	Pn	12 43 53.1	+10
YAK				*e*		12 45 15.9	
YAK				pmax	pmax		
	comp=Z,16nm,0.9s						
YAK				smax	smax		
	comp=N,23nm,0.9s						
YAK				smax	smax		
	comp=E,24nm,0.9s						
YAK				MLR	MLR		
	comp=Z,358nm,13.0s						
YAK	**Yakutsk**	**8.16**	**176**	Pn	**Pn**	**12 43 45.3**	**+2.3**
SEY	**Seymchan**	**11.89**	**116**	Pn	**Pn**	**12 44 38.6**	**+4.4**
	comp=Z,0.1nm,0.3s,baz=198,slow=19,SNR=1.0						
SEY				Sn	**Sn**	**12 46 43.1**	**-3.6**
	comp=Z,0.2nm,0.3s,baz=306,slow=19,SNR=1.8						
SEY				Lg	Lg	12 47 58.8	
	comp=Z,0.4nm,0.3s,baz=2.8,slow=12,SNR=7.4						
BILL	**Bilibino**	**13.53**	**81**	*e*P	**Pn**	**12 44 55.6**	**-0.9**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,309nm,12.0s						
BOD	**Bodaibo**	**13.82**	**214**	*e*P	**Pn**	**12 45 04.8**	**+4.4**
NRIK	**Noril'sk**	**13.98**	**286**	Pn	**Pn**	**12 45 02.3**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=78,slow=8.0,SNR=1.7						
NRIK				Sn	Sn	12 47 25.8	-12
	comp=Z,0.2nm,0.3s,baz=47,slow=19,SNR=2.8						
NRIK				Lg	Lg	12 48 56.6	
	comp=Z,0.7nm,0.3s,baz=346,slow=23,SNR=7.3						
NRIK	**Noril'sk**	**13.98**	**286**	*e*P	**Pn**	**12 45 06.3**	**+3.7**
NRIK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MA2	**Magadan**	**14.11**	**127**	Pn	**Pn**	**12 45 05.2**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=156,slow=20,SNR=1.7						
MA2				Lg	Lg	12 49 12.3	
	comp=Z,0.1nm,0.3s,baz=49,slow=19,SNR=2.2						
MA2	**Magadan**	**14.11**	**127**	*e*P	**Pn**	**12 45 00.9**	**-3.5**
MA2				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ZEA	**Zeya**	**16.47**	**182**	*e*P	**P**	**12 45 38.6**	**+0.3**
ZEA				pmax	pmax		
	comp=N,10.0nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KLR	**Kul'dur**	**21.03**	**174**	P	**P**	**12 46 29.3**	**+0.9**
	comp=Z,3.2nm,0.8s,baz=341,slow=10,SNR=8.0						
KLR	**Kul'dur**	**21.03**	**174**	*e*P	**P**	**12 46 26.8**	**-1.5**
KLR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HIA	**Hailar**	**21.34**	**196**	*e*P	**P**	**12 46 32.3**	**+0.6**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PETK	**Petropavlovsk-**	**21.64**	**127**	P	**P**	**12 46 41.5**	**+6.6**
	comp=Z,1.3nm,0.4s,baz=22,slow=8.2,SNR=5.1						
MOY	**Mondy**	**22.44**	**229**	*e*P	**P**	**12 46 48.3**	**+4.7**
MOY				pmax	pmax		
	comp=Z,19nm,1.3s						
ZAK	**Zakamensk**	**23.06**	**224**	*e*P	P	12 46 59.6	+9.5
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
ULN	**Ulaanbaatar**	**24.61**	**216**	*e*P	**P**	**12 47 03.6**	**-1.4**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.4s						
SONM	**Songino Array**	**24.77**	**217**	P	**P**	**12 47 07.0**	**+0.6**
	comp=Z,4.1nm,0.9s,baz=13,slow=10,SNR=16						
SONM				Lg	Lg	12 54 52.3	
	comp=Z,2.8nm,1.1s,baz=11,slow=32,SNR=6.0						
SONM	**Songino Array**	**24.77**	**217**	*e*P	**P**	**12 47 07.5**	**+1.1**
SONM				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SONM	**Songino Array**	**24.77**	**217**	IAmb	IAmb	12 47 08.2	
	comp=Z,4.2nm,1.0s						
ZAA0	**Zalesovo Array**	**25.26**	**253**	P	**P**	**12 47 10.3**	**-0.3**
ZAA0				IAmb	IAmb	12 47 29.7	
	comp=Z,12nm,0.8s						
ZALV	**Zalesovo Beam**	**25.26**	**253**	P	**P**	**12 47 10.9**	**+0.3**
	comp=Z,8.2nm,0.9s,baz=32,slow=8.7,SNR=21						
ZALV	**Zalesovo Beam**	**25.26**	**253**	*e*P	**P**	**12 47 12.2**	**+1.6**
ZALV				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ZALV	**Zalesovo Beam**	**25.26**	**253**	P	**P**	**12 47 10.5**	**-0.1**
USRK	**Ussuriysk Ar.**	**25.07**	**174**	P	**P**	**12 47 19.2**	**+1.2**
	comp=Z,4.6nm,0.8s,baz=351,slow=9.3,SNR=6.9						
ASAJ	**Asahikawa**	**27.05**	**157**	LR	LR	12 59 15.0	
	comp=Z,169nm,20.2s,baz=331,slow=39						
IMAR	**Indian Mountai**	**27.52**	**60**	P	**P**	**12 47 32.1**	**+1.2**
DGZ	**Jazzator, Alta**	**28.08**	**245**	*i* P	**P**	**12 47 36.6**	**+0.4**
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BMAR	**Burnt Mountain**	**29.10**	**52**	P	**P**	**12 47 45.4**	**+0.4**
KURK	**Kurchatov**	**30.03**	**256**	P	**P**	**12 47 54.2**	**+0.9**
KURK	**Kurchatov**	**30.03**	**256**	P	**P**	**12 47 54.2**	**+0.9**
KURBB	**Kurchatov Arra**	**30.14**	**256**	P	**P**	**12 47 54.2**	**-0.1**
	comp=Z,3nm,0.8s,baz=33,slow=9.3,SNR=17						
A36M	**Sachs Harbour**	**30.32**	**36**	P	**P**	**12 47 56.4**	**+0.6**
A36M				IAmb	IAmb	12 48 00.7	
	comp=Z,8.2nm,0.8s						
IL31		**30.39**	**58**	P	**P**	**12 47 56.2**	**-0.2**
ILAR	**Eielson Array**	**30.39**	**58**	P	**P**	**12 47 56.6**	**+0.1**
	comp=Z,1.5nm,1.0s,baz=304,slow=4.3,SNR=22						
BVAR	**Borovoye Array**	**30.87**	**267**	P	**P**	**12 48 00.8**	**0.0**
	comp=Z,1.3nm,0.8s,baz=48,slow=2.2,SNR=5.6						
ARCES	**ARCESS Array B**	**31.47**	**319**	P	**P**	**12 48 04.9**	**-1.0**
	comp=Z,6.0nm,1.1s,baz=21,slow=7.8,SNR=1.9						
ARCES	**ARCESS Array B**	**31.47**	**319**	P	**P**	**12 48 04.9**	**-1.0**
ARCES				pmax	pmax		
	comp=Z,38nm,1.5s						
DOT	**Dot Lake**	**32.05**	**57**	P	**P**	**12 48 12.2**	**+1.0**
ARU	**Arti**	**32.13**	**281**	*i* eP	**P**	**12 48 11.1**	**-0.7**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MK31	**Makanchi Array**	**32.26**	**248**	P	**P**	**12 48 12.7**	**-0.3**
MK31				pmax	pmax		
	comp=Z,16nm,1.4s						
MK31	**Makanchi Array**	**32.26**	**248**	P	**P**	**12 48 12.7**	**-0.3**
MK31				IAmb	IAmb	12 48 21.2	
	comp=Z,16nm,1.4s						
MKAR	**Makanchi Array**	**32.26**	**248**	P	**P**	**12 48 12.6**	**-0.5**
	comp=Z,4.1nm,0.7s,baz=48,slow=7.8,SNR=24						
MKAR				PcP	**PcP**	**12 50 59.7**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=22,slow=3.2,SNR=1.9						
MKAR	**Makanchi Array**	**32.26**	**248**	*e*P	**P**	**12 48 12.3**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BCAR	**Beaver Creek A**	**33.16**	**56**	P	**P**	**12 48 21.8**	**+0.9**
KIRV	**Kirov**	**33.41**	**291**	*i* eP	**P**	**12 48 23.5**	**+0.6**
TJN	**Taejon**	**33.82**	**181**	*i* eP	**P**	**12 48 24.7**	**-2.0**
ABKAR	**Akbulak array**	**37.61**	**273**	P	**P**	**12 48 57.7**	**-1.4**
ABKAR				IAmb	IAmb	12 48 59.6	
	comp=Z,7.9nm,0.8s						
ABKAR	**Akbulak array**	**37.61**	**273**	P	**P**	**12 48 58.8**	**-0.4**
FINES	**FINESS Array B**	**37.90**	**310**	P	**P**	**12 49 00.5**	**-0.9**
	comp=Z,1.9nm,0.7s,baz=38,slow=9.9,SNR=5.1						
FINES	**FINESS Array B**	**37.90**	**310**	*e*P	**P**	**12 48 59.7**	**-1.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KDJ	**Kajisay**	**38.06**	**250**	P	**P**	**12 49 03.2**	**0.0**
KDJ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KDJ	**Kajisay**	**38.06**	**250**	P	**P**	**12 49 03.2**	**0.0**
BOOM	**Boomskoye usch**	**38.14**	**252**	P	**P**	**12 49 03.8**	**-0.1**
BOOM				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BOOM	**Boomskoye usch**	**38.14**	**252**	P	**P**	**12 49 03.8**	**-0.1**
BOOM				IAmb	IAmb	12 49 13.0	
	comp=Z,5.1nm,0.7s						
AAK	**Ala-Archa**	**38.48**	**253**	P	**P**	**12 49 07.0**	**+0.3**
	comp=Z,3.8nm,0.9s,baz=53,slow=3.9,SNR=8.2						
AAK	**Ala-Archa**	**38.48**	**253**	P	**P**	**12 49 06.6**	**-0.1**
AAK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
AAK	**Ala-Archa**	**38.48**	**253**	P	**P**	**12 49 06.6**	**-0.1**
AAK				IAmb	IAmb	12 49 16.1	
	comp=Z,8.2nm,0.9s						
KK31	**Karatay Array**	**39.38**	**258**	P	**P**	**12 49 13.3**	**-0.8**
KK31				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KK31	**Karatay Array**	**39.38**	**258**	P	**P**	**12 49 13.3**	**-0.8**
KKAR	**Karatay Array**	**39.38**	**258**	P	**P**	**12 49 13.8**	**-0.3**
KKAR	**Karatay Array**	**39.38**	**258**	P	**P**	**12 49 13.8**	**-0.3**
KKAR	**Karatay Array**	**39.38**	**258**	P	**P**	**12 49 13.8**	**-0.3**
KKAR				IAmb	IAmb	12 49 22.5	
	comp=Z,5.1nm,1.0s						
YKA	**Yellowknife Ar**	**40.51**	**40**	P	**P**	**12 49 22.9**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=346,slow=7.0,SNR=2.3						
YKA	**Yellowknife Ar**	**40.51**	**40**	*ce*P	**P**	**12 49 27.6**	**+4.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KSH	**Kashi**	**40.81**	**250**	P	P	12 49 31.2	+5.0
NB2	**NORSAR Subarra**	**41.84**	**320**	P	**P**	**12 49 32.6**	**-1.7**
	comp=Z,3.4nm,1.0s,baz=27,slow=8.6						
NOA	**NORSAR Array B**	**41.84**	**320**	P	**P**	**12 49 32.9**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=28,slow=8.2,SNR=4.4						
GAR	**Garm**	**43.13**	**255**	P	**P**	**12 49 44.9**	**-0.1**
GAR				IAmb	IAmb	12 49 53.7	
	comp=Z,16nm,1.1s						
MNK	**Minsk**	**43.37**	**303**	*i* P	**P**	**12 49 46.1**	**-0.5**
MNK				*i*		12 51 27.2	
MNK				*i*		12 51 34.0	
MNK				*i* PPP	PPP	12 52 00.6	
MNK				*i* S	**S**	**12 56 15.4**	**+1.5**
MNK				*i* SS	**SS**	**12 59 26.3**	**-0.7**
MNK				*i*		12 59 46.0	
MNK				*i* SSS	SSS	13 00 07.7	
MNK				pmax	pmax		
	comp=E,1.0nm,1.0s						
MNK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MNK				pmax	pmax		
	comp=N,15nm,1.0s						
MNK				MLR	MLR		
	comp=N,64nm,18.0s						
MNK				MLR	MLR		
	comp=E,17nm,18.0s						
MNK				MLR	MLR		
	comp=Z,252nm,18.0s						
MNK	**Minsk**	**43.37**	**303**	*i* P	**P**	**12 49 46.1**	**-0.5**
	comp=E,1.0nm,1.0s						
MNK				*i* P	**P**	**12 49 46.1**	**-0.5**
	comp=N,15nm,1.0s						
MNK				*i* P	**P**	**12 49 46.1**	**-0.5**
	comp=Z,8.0nm,1.0s,baz=29						
MNK				*i* PP	**PP**	**12 51 27.3**	**+0.2**
MNK				*i* PcP	**PcP**	**12 51 34.0**	**-0.9**
MNK				*i* PPP	PPP	12 52 00.7	
MNK				*i* S	**S**	**12 56 15.4**	**+1.5**
MNK				*i* SS	**SS**	**12 59 26.3**	**-0.7**
MNK				*i* SSS	SSS	13 00 07.8	
MNK				*i* LQ	LQ	13 02 41.5	
MNK				*i* LR	LR	13 03 54.3	
MNK				*i* LRM	MLR	13 09 30.4	
	comp=N,64nm,18.2s						
MNK				*i* LRM	MLR	13 09 30.9	
	comp=E,17nm,18.2s						
MNK				*i* LRM	MLR	13 09 31.0	
	comp=Z,252nm,18.2s						
CHGR	**Chuyangaron**	**43.82**	**256**	P	**P**	**12 49 50.2**	**-0.4**
AKASG	**Malin Array Be**	**46.32**	**300**	P	**P**	**12 50 09.4**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=31,slow=9.0,SNR=5.8						
AKASG	**Malin Array Be**	**46.32**	**300**	*e*P	**P**	**12 50 11.1**	**+0.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KIV	**Kislovodsk**	**48.05**	**284**	*e*P	**P**	**12 50 24.4**	**+0.5**
KIV				pmax	pmax		
	comp=Z,21nm,1.0s						
KBZ	**Khabaz**	**48.18**	**284**	P	**P**	**12 50 24.5**	**-0.2**
	comp=Z,5.0nm,0.9s,baz=70,slow=4.3,SNR=9.5						
KBZ	**Khabaz**	**48.18**	**284**	*e*P	**P**	**12 50 25.4**	**+0.7**
KBZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GEYT	**Alibeck**	**48.21**	**267**	P	**P**	**12 50 25.3**	**+0.2**
	comp=Z,4.4nm,0.9s,baz=291,slow=4.6,SNR=5.9						
ONI	**Oni**	**49.01**	**283**	P	**P**	**12 50 31.1**	**-0.2**
ONI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ONI	**Oni**	**49.01**	**283**	P	**P**	**12 50 31.1**	**-0.2**
ONI				IAmb	IAmb	12 50 33.3	
	comp=Z,7.4nm,1.0s						
CLL	**Collm**	**50.24**	**312**	*e*P	**P**	**12 50 39.0**	**-1.4**
	comp=Z,5.0nm,0.9s						
CLL				*i* pP	**sP**	**12 50 46.7**	**+1.7**
CLL	**Collm**	**50.24**	**312**	*e*P	**P**	**12 50 39.0**	**-1.4**
CLL				*i*		12 50 46.7	
CLL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BURAR	**Bucovina Array**	**50.26**	**301**	P	**P**	**12 50 39.5**	**-1.2**
SLVN	**Son La**	**50.96**	**210**	P	**P**	**12 50 45.6**	**-0.6**
SLVN				IAmb	IAmb	12 50 47.9	
	comp=Z,7.0nm,0.7s						
GERES	**GERESS Array B**	**52.33**	**311**	P	**P**	**12 50 55.7**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=33,slow=8.0,SNR=6.0						
GERES	**GERESS Array B**	**52.33**	**311**	*e*P	**P**	**12 50 55.9**	**-0.3**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	**GERESS Array B**	**52.33**	**311**	P	**P**	**12 50 55.6**	**-0.6**
C09A	**Chrisman Ranch**	**52.93**	**51**	P	**P**	**12 51 00.6**	**0.0**
JTMT	**Jette**	**54.01**	**48**	P	**P**	**12 51 09.7**	**+1.0**
JTMT				IAmb	IAmb	12 51 14.1	
	comp=Z,4.7nm,0.6s						
NONG	**Nongkai**	**54.29**	**210**	P	**P**	**12 51 12.2**	**+1.4**
	comp=Z,16nm,1.2s						
CMAR	**Chiang Mai Arr**	**54.67**	**215**	P	**P**	**12 51 13.5**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=6.6,slow=7.9,SNR=9.3						
CMAR	**Chiang Mai Arr**	**54.67**	**215**	*e*P	**P**	**12 51 13.4**	**-0.2**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRTR	**Keskin Array B**	**54.81**	**290**	P	**P**	**12 51 14.2**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=37,slow=5.1,SNR=4.7						
BRTR	**Keskin Array B**	**54.81**	**290**	*ce*P	**P**	**12 51 14.6**	**0.0**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ULM	**Lac du Bonnet**	**55.71**	**33**	P	**P**	**12 51 20.2**	**-0.5**
	comp=Z,3.4nm,0.7s,baz=350,slow=10,SNR=3.1						
ULM	**Lac du Bonnet**	**55.71**	**33**	*e*P	**P**	**12 51 24.6**	**+3.8**
ULM				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ULM	**Lac du Bonnet**	**55.71**	**33**	IAmb	IAmb	12 51 25.8	
	comp=Z,12nm,1.4s						
MCMT	**McKenzie Canyo**	**57.09**	**48**	P	**P**	**12 51 31.1**	**0.0**
UTHA	**Uthaitani**	**57.40**	**214**	P	**P**	**12 51 34.5**	**+1.4**
	comp=Z,448nmcomp=Z,16nm,0.8s						
YHB	**Horse Butte**	**57.58**	**47**	P	**P**	**12 51 34.0**	**-0.5**
YHB				IAmb	IAmb	12 51 37.9	
	comp=Z,9.1nm,1.3s						
PDAR	**Pinedale Array**	**59.85**	**46**	P	**P**	**12 51 49.1**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=101,slow=2.3,SNR=3.9						
KVN	**Kaiserville**	**61.09**	**55**	P	**P**	**12 51 58.8**	**+0.1**
KVN				pmax	pmax		
	comp=Z,5.0nm,1.4s						
KVN	**Kaiserville**	**61.09**	**55**	P	**P**	**12 51 58.8**	**+0.1**
KVN				IAmb	IAmb	12 52 05.8	
	comp=Z,5.0nm,1.4s						
NVAR	**Mina Array Bea**	**61.61**	**55**	P	**P**	**12 52 01.4**	**-0.8**
	comp=Z,0.7nm,0.9s,baz=312,slow=4.3,SNR=2.8						
SMCO	**Snowmass**	**63.88**	**45**	P	**P**	**12 52 15.1**	**-2.5**
SMCO				IAmb	IAmb	12 52 22.0	
	comp=Z,3.5nm,1.0s						
PV14	**Lion Creek, Pa**	**64.13**	**47**	P	**P**	**12 52 16.1**	**-3.0**
KNB	**Kanab**	**64.43**	**51**	P	**P**	**12 52 19.9**	**-1.1**
KNB				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KNB	**Kanab**	**64.43**	**51**	P	**P**	**12 52 19.9**	**-1.1**
KNB				IAmb	IAmb	12 52 26.6	
	comp=Z,5.6nm,1.1s						
ESDC	**Sonseca Array**	**65.18**	**321**	P	**P**	**12 52 24.7**	**-1.0**
	comp=Z,2.8nm,0.8s,baz=10,slow=6.8,SNR=25						
ESDC	**Sonseca Array**	**65.18**	**321**	P	**P**	**12 52 23.7**	**-2.0**
ESDC				IAmb	IAmb	12 52 30.5	
	comp=Z,6.0nm,1.5s						
S39A	**Bolivar**	**68.30**	**35**	P	**P**	**12 52 42.7**	**-2.8**
MGMO	**Mountain Grove**	**69.02**	**34**	P	**P**	**12 52 47.2**	**-2.8**
MGMO				IAmb	IAmb	12 52 53.5	
	comp=Z,7.3nm,1.1s						
U40A	**Yellville**	**69.68**	**35**	P	**P**	**12 52 56.9**	**+2.7**
LCAR	**Lake Charles**	**70.28**	**33**	P	**P**	**12 52 54.8**	**-3.0**
WVT	**Waverly**	**70.83**	**30**	P	**P**	**12 52 59.2**	**-1.9**
WVT				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WVT	**Waverly**	**70.83**	**30**	P	**P**	**12 52 59.2**	**-1.9**
FPAL	**Fort Paine**	**72.75**	**29**	P	**P**	**12 53 10.4**	**-2.4**
FPAL				IAmb	IAmb	12 53 17.1	
	comp=Z,7.1nm,0.8s						
TX31	**Lajitas Ar. Si**	**74.06**	**46**	P	**P**	**12 53 18.7**	**-1.9**
TX31				IAmb	IAmb	12 53 25.1	
	comp=Z,7.2nm,0.9s						
TX32	**Lajitas Array**	**74.06**	**46**	P	**P**	**12 53 18.8**	**-1.9**
TXAR	**Lajitas Array**	**74.06**	**46**	P	**P**	**12 53 19.1**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=8.2,slow=6.1,SNR=12						
TXAR	**Lajitas Array**	**74.06**	**46**	*e*P	**P**	**12 53 18.8**	**-1.9**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**89.93**	**174**	P	**P**	**12 54 42.8**	**-0.9**

		baz=234						
NDS				S		Sb	12 49 08.1	-1.0
		baz=234						
TNOU	**National Taiwa**		**0.38 320**	P		**Pg**	12 49 00.5	-1.2
		baz=314						
TNOU				S		**Sg**	12 49 05.7	-1.0
		baz=314						
TWA	**Mucha**		**0.43 287**	⇑*i* P		**Pb**	12 49 03.1	-1.1
		baz=278						
TWA				*i* S		**Sg**	12 49 08.8	+0.5
		baz=278						
NHY	**Taipei**		**0.46 293**	*e*P		**Pb**	12 49 04.1	-0.7
		baz=285						
NHY				*e*S		**Sb**	12 49 10.3	-1.5
		baz=285						
EWUT	**Wuta**		**0.47 210**	*e*P		**Pb**	12 49 03.7	-1.3
		baz=218						
EWUT				*e*S		**Sg**	12 49 09.8	+0.1
		baz=218						
NHDH	**Xindian Distri**		**0.48 283**	P		**Pb**	12 49 04.2	-0.8
		baz=275						
NHDH				S		**Sb**	12 49 10.6	-1.6
		baz=275						
ENTT	**Nioudou**		**0.48 243**	P		**Pb**	12 49 03.8	-1.3
		baz=244						
NWRT	**Kuosheng**		**0.48 315**	*e*P		**Pb**	12 49 04.5	-0.7
		baz=312						
NWRT				*e*S		**Sg**	12 49 10.5	+0.4
		baz=312						
ENA	**Nanau**		**0.51 212**	*e*P		**Pg**	12 49 04.1	0.0
		baz=219						
ENA				*e*S		**Sg**	12 49 10.6	-0.2
		baz=219						
YM01	**YM01**		**0.51 304**	⇑*i* P		**Pb**	12 49 05.2	-0.5
		baz=304						
YM01				S		**Sg**	12 49 11.6	+0.6
		baz=304						
TATO	**Taipei**		**0.51 283**	*e*P		**Pb**	12 49 04.7	-1.0
		baz=276						
TATO				*e*S		**Sg**	12 49 10.9	-0.1
		baz=276						
TAP	**Taipei**		**0.52 291**	*e*P		**Pb**	12 49 04.9	-0.7
		baz=291						
TAP				S		**Sb**	12 49 11.7	-1.6
		baz=291						
NDT	**Datong Townshi**		**0.54 242**	P		**Pg**	12 49 04.8	0.0
		baz=236						
ANP	**Anpu**		**0.57 305**	P		**Pb**	12 49 05.9	-0.8
		baz=305						
TWY	**Chenhua**		**0.57 316**	⇑*i* P		**Pb**	12 49 06.4	-0.3
		baz=309						
TWS1	**Kuangyinshan**		**0.61 293**	⇑*i* P		**Pb**	12 49 06.4	-0.9
		baz=294						
TWS1				S		**Sg**	12 49 14.4	+0.2
		baz=294						
NTST	**Danshui**		**0.61 300**	P		**Pb**	12 49 07.4	0.0
		baz=300						
NTST				S		**Sn**	12 49 18.3	-1.3
		baz=300						
YHNB	**Yeheng**		**0.63 253**	*e*P		**Pg**	12 49 06.2	-0.4
		baz=254						
YHNB				*e*S		**Sg**	12 49 13.1	-1.7
		baz=254						
NSK	**Sanguang**		**0.64 254**	⇑*i* P		**Pg**	12 49 06.3	-0.4
		baz=254						
NSK				S		**Sg**	12 49 14.0	-1.2
		baz=254						
NNS	**Nan Shan**		**0.73 236**	*e*P		**Pg**	12 49 08.3	-0.2
		baz=250						
PCYT	**Pengchaiyu**		**0.77 2**	*e*P		**Pb**	12 49 10.1	+0.1
		baz=1.0						
NCU	**National Centr**		**0.78 278**	P		**Pn**	12 49 10.6	-1.1
		baz=278						
NCU				S		**Sn**	12 49 22.0	-1.7
		baz=278						
NCUH	**Zhongli**		**0.78 278**	P		**Pn**	12 49 10.8	-1.0
		baz=278						
NCUH				*e*S		**Sn**	12 49 22.4	-1.3
		baz=278						
NACB	**Ninganchiao**		**0.79 211**	P		**Pb**	12 49 09.6	-0.8
		baz=222						
NACB				S		**Sg**	12 49 19.7	-0.1
		baz=222						
ETLH	**Xiulin Townshi**		**0.82 218**	*e*P		**Pb**	12 49 10.2	-0.8
		baz=229						
ETLH				*e*S		**Sg**	12 49 20.6	-0.3
		baz=229						
TWD	**Chiawan**		**0.87 208**	*e*P		**Pg**	12 49 10.8	-0.3
		baz=209						
TWD				*e*S		**Sg**	12 49 21.4	-1.0
		baz=209						
JYNG	**Yonagunijimaku**		**0.92 116**	P		**Pg**	12 49 12.0	0.0
JYNG				*e*S		**Sg**	12 49 24.0	0.0
FUSS	**Fushou**		**0.94 230**	*e*P		**Pb**	12 49 12.5	-0.7
		baz=232						
FUSS				*e*S		**Sn**	12 49 26.2	-1.8
		baz=232						
LIOB	**Emei**		**0.95 257**	*e*P		**Pn**	12 49 13.6	-0.5
		baz=252						
LIOB				*e*S		**Sn**	12 49 28.1	+0.2
		baz=252						
SBCB	**Hsinchu**		**0.96 266**	*e*P		**Pn**	12 49 13.8	-0.3
		baz=284						
SBCB				*e*S		**Sn**	12 49 27.6	-0.5
		baz=284						
NSTT	**Nanjuang**		**0.97 257**	*e*P		**Pb**	12 49 13.1	-0.3
		baz=258						
NSTT				*e*S		**Sn**	12 49 27.7	-0.6
		baz=258						
YOJ	**Yonaguni jima**		**0.97 114**	P		**Pg**	12 49 12.7	-0.3
YOJ				*e*S		**Sb**	12 49 26.1	-0.3
YOJ	**Yonaguni jima**		**0.97 114**	*e*P		**Pg**	12 49 12.7	-0.3
		baz=114						
YOJ				*e*S		**Sb**	12 49 26.0	-0.3
		baz=114						
HSN	**Hsinchu**		**0.97 267**	*e*P		**Pn**	12 49 13.5	-0.8
		baz=269						
HSN				*e*S		**Sn**	12 49 27.1	-1.2
		baz=269						
TWT	**Tachien**		**0.99 233**	*e*P		**Pn**	12 49 14.9	+0.2
		baz=227						
WHF	**Hehuan Shan**		**1.00 225**	*e*P		**Pn**	12 49 14.2	-0.9
		baz=226						
TDCB	**Techi**		**1.00 233**	*e*P		**Pb**	12 49 13.7	-0.3
		baz=229						
CHGB	**Renai**		**1.12 225**	*e*P		**Pn**	12 49 15.6	-0.9
		baz=227						
WHP	**Taichung City**		**1.15 240**	*e*P		**Pn**	12 49 16.2	-0.7
		baz=242						
ESL	**Shilin**		**1.18 208**	*e*P		**Pb**	12 49 16.2	-0.7
		baz=210						
NMLH	**Miaoli**		**1.18 255**	*e*P		**Pn**	12 49 18.1	+1.0
		baz=256						
NMLH				*e*S		**Sn**	12 49 34.1	+0.6
		baz=256						
OWD	**Renai**		**1.19 221**	*e*P		**Pn**	12 49 17.3	-0.2
		baz=228						
NSY	**Sanyi**		**1.24 250**	*e*P		**Pg**	12 49 19.0	+0.9
		baz=251						
NSY				*e*S		**Sn**	12 49 37.3	+2.3
		baz=251						
TWQ1	**Liyutan**		**1.26 246**	*e*P		**Pg**	12 49 19.2	+0.7
		baz=248						
TWQ1				*e*S		**Sn**	12 49 37.8	+2.3
		baz=248						
WCS	**Beigang Elemen**		**1.30 232**	*e*P		**Pg**	12 49 21.4	+2.1
		baz=241						
EGFH	**Guangfu**		**1.31 205**	*e*P		**Pg**	12 49 18.9	-0.6
		baz=214						
WDJ	**Dajia District**		**1.37 249**	*e*P		**Pg**	12 49 21.1	+0.4
		baz=266						
SMLT	**Sun Moon Lake**		**1.42 227**	*e*P		**Pg**	12 49 22.2	+0.6
		baz=220						
TYC	**Yuchr**		**1.44 229**	*e*P		**Pg**	12 49 22.2	+0.4
		baz=222						
SSLB	**Suanglung**		**1.45 223**	*e*P		**Pg**	12 49 21.8	-0.5
		baz=226						
HGSD	**Ruisui**		**1.47 203**	*e*P		**Pb**	12 49 21.0	-0.9
		baz=196						
HGSD				*e*S		**Sg**	12 49 45.7	+4.1
		baz=196						
EHY	**Hungye**		**1.50 206**	*e*P		**Pg**	12 49 22.3	-0.7
		baz=210						
WNT	**Mingjian**		**1.57 232**	*e*P		**Pg**	12 49 24.9	+0.4
		baz=226						
WJS	**Zhushan**		**1.58 229**	*e*P		**Pg**	12 49 24.7	0.0
		baz=224						
WHYT	**Xinyi Township**		**1.58 223**	*e*P		**Pg**	12 49 25.4	+0.7
		baz=226						
YULB	**Yu-li**		**1.61 205**	*e*P		**Pg**	12 49 24.6	-0.6
		baz=210						
IRIF	**Iriomote-Funau**		**1.63 108**	P		**Pn**	12 49 21.9	-1.4
IRIF				*e*S		**Sn**	12 49 42.9	-1.6
YUS	**Yu-Shan**		**1.69 216**	*e*P		**Pg**	12 49 25.9	-0.8
		baz=228						
ALS	**Alishan**		**1.75 220**	*e*P		**Pg**	12 49 27.7	-0.2
		baz=210						
CHN5	**Tsauling**		**1.77 225**	*e*P		**Pg**	12 49 27.9	-0.3
		baz=229						
WRL	**Guolierlin Hig**		**1.79 238**	*e*P		**Pg**	12 49 27.9	-0.8
		baz=257						
HATJ	**Hateruma jima**		**1.80 116**	*e*S		**Sn**	12 49 45.5	-3.2
WDLH	**Douliu**		**1.80 230**	*e*P		**Pg**	12 49 28.9	+0.1
		baz=233						
JKRS	**Kuro-shima**		**1.90 109**	P		**Pn**	12 49 26.4	-0.7
WTK	**Tuku**		**1.90 233**	*e*P		**Pb**	12 49 28.0	-1.4
		baz=253						
ELDTW	**Lidau**		**1.91 210**	*e*P		**Pg**	12 49 29.6	-1.3
		baz=201						
JIJ	**Ishigaki jima**		**1.98 104**	P		**Pn**	12 49 27.0	-1.2
TPUB	**Ta-pu**		**2.02 220**	*e*P		**Pg**	12 49 31.9	-1.1
		baz=211						
TPUB				*e*S		**Sg**	12 49 59.2	+0.1
		baz=211						
STYH	**Taoyuan**		**2.04 215**	*e*P		**Pg**	12 49 32.3	-1.1
		baz=220						
WTP	**Ta-pu**		**2.07 219**	*e*P		**Pb**	12 49 31.9	-0.2
		baz=224						
JISG	**Ishigakijimahi**		**2.08 97**	P		**Pn**	12 49 30.0	+0.4
TWK	**Hsinying**		**2.12 222**	*e*P		**Pg**	12 49 33.9	-1.2
		baz=227						
CHN1	**Nanshi**		**2.16 220**	*e*P		**Pb**	12 49 32.4	-1.4
		baz=225						
SGST	**Jiashian**		**2.21 217**	*e*P		**Pn**	12 49 32.0	+0.6
		baz=209						
TWGBT	**Beinan**		**2.21 204**	*e*P		**Pb**	12 49 33.8	-0.8
		baz=196						
MATB	**Ma-tsu**		**2.29 305**	*e*P		**Pn**	12 49 30.6	-1.8
		baz=300						
JTJ	**Tarama**		**2.43 95**	P		**Pn**	12 49 35.5	+1.1
SSD	**Sandimen**		**2.46 212**	*e*P		**Pb**	12 49 36.6	-2.4
		baz=217						
TSMG	**Majia**		**2.49 211**	*e*P		**Pb**	12 49 38.4	-1.0
		baz=217						
MASBT	**Mashibuluo**		**2.58 210**	*e*P		**Pb**	12 49 39.6	-1.3
		baz=216						
XPSS	**Dashiqiu**		**2.65 322**	*e*P		**Pn**	12 49 35.5	-1.9
		baz=317						
LYJJ	**Jianjiangzhen**		**2.66 310**	*e*P		**Pn**	12 49 35.8	-1.7
		baz=305						
SONM	**Songino Array**		**26.06 336**	P		**P**	12 54 29.6	+1.2
	1.7nm,0.9s,baz=155,slow=11,SNR=6.3							
MKAR	**Makanchi Array**		**38.41 315**	P		**P**	12 56 19.1	+2.8
	0.5nm,0.6s,baz=106,slow=7.7,SNR=2.9							
KURBB	**Kurchatov Arra**		**42.10 319**	P		**P**	12 56 48.4	+1.6
	0.3nm,0.7s,baz=115,slow=9.7,SNR=2.1							
WRA	**Warramunga Arr**		**46.11 164**	P		**P**	12 57 18.9	-0.5
	0.8nm,0.4s,baz=346,slow=8.5,SNR=16							
ASAR	**Alice Springs**		**49.59 166**	P		**P**	12 57 49.2	+2.9
	0.5nm,0.9s,baz=355,slow=9.3,SNR=6.4							

MEX 10 13:20:27.3±0.6, 14.50N×92.71W, h15km±39km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		**0.59**	**47**		*e*P		Pg	13 20 35.8	-3.2
THIG					*i* S		Sb	13 20 48.8	+1.1
PCIG		**1.29**	**338**		*e*P		Pn	13 20 47.4	-3.5
PCIG					*e*S		Sb	13 21 02.3	-5.5
CCIG	**Comitan**	**1.86**	**17**		*e*P		Pn	13 20 54.5	-4.3
CCIG					*e*S		Sn	13 21 17.2	-4.9
TGIG		**2.30**	**350**		*e*P		Pn	13 20 55.8	-9.1
TGIG					*e*S		Sn	13 21 26.4	-6.5
CMIG	**Matias Romero**	**3.32**	**321**		*e*P		Pn	13 21 15.7	-3.1
CMIG					*e*S		Sn	13 21 52.3	-5.7

MEX 10 13:22:49.8±0.4, 14.83N×92.92W, h73km±11km, MD4.2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		**0.63**	**83**		*e*P		Pn	13 23 03.2	-1.1
THIG					*e*S		Sn	13 23 14.1	-0.8
PCIG		**0.92**	**341**		*i* P		Pn	13 23 06.2	-1.3
PCIG					*i* S		Sn	13 23 18.9	-1.8
CCIG	**Comitan**	**1.63**	**27**		*e*P		Pn	13 23 15.4	-1.3
CCIG					*e*S		Sn	13 23 35.4	-1.7
TGIG		**1.95**	**354**		*e*P		Pn	13 23 17.9	-3.1
TGIG					*e*S		Sn	13 23 37.5	-7.1
CMIG	**Matias Romero**	**2.94**	**320**		*e*P		Pn	13 23 33.2	-1.1
CMIG					*e*S		Sn	13 24 05.5	-3.0

*IDC **10** 13:50:11.6±3.0, 32.80S×178.46W, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.8/20, mbtmp4.0/3, ML3.9/1, MS3.4/3, Ms1 3.4/3, ms1mx3.0/30, Error ellipse: s-maj=69.4km s-min=44.5km az=123.0*

*WEL **10** 13:50:14.3±1.1, 33°S±9'×17°8W±2°3, h33km, M4.7/9, mB5.5/2, ML4.8/10, MLv4.7/9, Mw(mB)5.0/2, Error ellipse: s-maj=0.0km s-min=0.0km az=110.5*

*NEIC **10** 13:50:24.3±2.7, 33°1S±0°2×179°8E±0°1, h10km±2km, mb4.4/4, Error ellipse: s-maj=32.3km s-min=8.8km az=149.0*

ISC 10 13:50:12.9±2.2, 33.0S±0.1×178.0W±0.3, h34km, n30, σ1§29/36, mb4.2/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.75**	**0**		S		**Sn**	**13 51 51.3**	**+0.1**
WMGZ	**Waiomatatini S**	**5.63**	**211**		P		**Pn**	**13 51 35.9**	**+1.7**
WMGZ					S		**Sn**	**13 52 39.5**	**+1.8**
PKGZ	**Pakihiroa**	**5.84**	**213**		P		**Pn**	**13 51 36.3**	**-0.8**
PKGZ					S		**Sn**	**13 52 42.3**	**-0.6**
HAZ	**Te Kaha**	**5.87**	**215**		P		**Pn**	**13 51 38.3**	**+0.9**
HAZ					S		**Sn**	**13 52 45.7**	**+2.2**
PUZ	**Puketiti**	**5.92**	**210**		P		**Pn**	**13 51 37.8**	**-0.3**
PUZ					S		**Sn**	**13 52 44.4**	**-0.3**
RUGZ	**Raukumara Rang**	**6.09**	**215**		P		**Pn**	**13 51 40.4**	**-0.1**
RUGZ					S		**Sn**	**13 52 49.5**	**+0.4**
TWGZ	**Tauwhareparae**	**6.12**	**212**		P		**Pn**	**13 51 41.9**	**+0.9**
TWGZ					S		**Sn**	**13 52 50.3**	**+0.5**
WHRZ	**Whale Island**	**6.36**	**219**		S		**Sn**	**13 52 57.9**	**+2.3**
TKGZ	**Te Karaka**	**6.40**	**211**		P		**Pn**	**13 51 43.4**	**-1.2**
TKGZ					S		**Sn**	**13 52 55.6**	**-0.9**
MWZ	**Matawai**	**6.46**	**214**		P		**Pn**	**13 51 45.1**	**-0.4**
MWZ					S		**Sn**	**13 52 56.9**	**-1.1**
URZ	**Urewera**	**6.60**	**216**		Pn		**Pn**	**13 51 48.1**	**+0.7**
	2.2nm,0.3s,baz=246,slow=4.9,SNR=13								
URZ					Sn		**Sn**	**13 52 59.8**	**-1.6**
	2.4nm,0.3s,baz=38,slow=0.5,SNR=6.7								
URZ	**Urewera**	**6.60**	**216**				**Pn**	**13 51 48.8**	**+1.4**
URZ	**Urewera**	**6.60**	**216**		P		**Pn**	**13 51 47.8**	**+0.4**
URZ					S		**Sn**	**13 52 59.6**	**-1.8**
OMRZ	**Omania**	**6.87**	**221**		P		Pb	13 52 01.8	-10
SNGZ	**Shannon Statio**	**6.91**	**212**		P		**Pn**	**13 51 52.6**	**+0.9**
SNGZ					S		**Sn**	**13 53 07.9**	**-1.1**
MTHZ	**Maungataniwha**	**7.19**	**215**		P		**Pn**	**13 51 57.3**	**+1.6**
MTHZ					S		**Sn**	**13 53 14.5**	**-1.7**
BKZ	**Black Stump Fm**	**7.61**	**215**		Pn		**Pn**	**13 52 01.5**	**0.0**
BKZ	**Black Stump Fm**	**7.61**	**215**		P		**Pn**	**13 52 03.1**	**+1.8**
NTVZ	**North Tongarir**	**7.96**	**219**		P		Pn	13 52 12.0	+5.7
DZM	**Mont Dzumac**	**17.60**	**304**		LR		LR	13 59 23.1	
	comp=Z,147nm,18.6s,baz=166,slow=32								
STKA	**Stephens Creek**	**34.02**	**261**		LR		LR	14 09 41.0	
	comp=Z,43nm,18.8s,baz=26,slow=35								
AS31	**Alice Springs**	**43.08**	**270**		P		**P**	**13 58 06.9**	**-2.9**
ASAR	**Alice Springs**	**43.08**	**270**		P		**P**	**13 58 10.2**	**+0.4**
	1.0nm,0.6s,baz=110,slow=7.6,SNR=28								
ASAR	**Alice Springs**	**43.08**	**270**		P		**P**	**13 58 07.8**	**-2.0**
WR0	**Warramunga Arr**	**44.12**	**275**		P		**P**	**13 58 18.7**	**+0.5**
WR0					IAmb		IAmb	13 58 37.0	
	comp=Z,6.7nm,1.1s								
WB2	**Warramunga Arr**	**44.29**	**275**		P		**P**	**13 58 19.3**	**-0.3**
WB2					IAmb		IAmb	13 58 20.4	
	comp=Z,9.7nm,1.1s								
WRA	**Warramunga Arr**	**44.30**	**275**		P		**P**	**13 58 19.7**	**0.0**
	comp=Z,1.4nm,0.5s,baz=115,slow=7.8,SNR=45								
FITZ	**Fitzroy Crossi**	**52.45**	**272**		LR		LR	14 21 18.7	
	comp=Z,45nm,19.3s,baz=113,slow=36								
QSPA	**South Pole Qui**	**57.10**	**180**		P		P	14 00 09.4	+14
FINES	**FINESS Array B**	**147.60**	**339**		PKPbc		**PKiKP**	**14 09 55.3**	**+0.4**
	comp=Z,2.5nm,0.7s,baz=67,slow=4.7,SNR=7.4								

*IDC **10** 11:58.0±1.5, 52.09N×170.17W, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.4/65, mbtmp3.5/7, ML3.3/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/37, Error ellipse: s-maj=42.3km s-min=29.7km az=2.0*

*NEIC **10** 14:11:58.7±2.4, 52.02N±0.04×169.46W±0.09, h10km±1km, ML3.1/17(AEIC), Error ellipse: s-maj=9.5km s-min=6.6km az=105.0*

*AEIC **10** 14:12:01.8±2.3, 52.17N±0.07×169.49W±0.07, h48km±6km, Error ellipse: s-maj=9.5km s-min=6.0km az=187.0*

ISC 10 14:12:00.9±1.2, 52.0N±0.1×169.48W±0.09, h30km, n29, σ1§27/27, mb3.8/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.01**	**22**				**Pn**	**14 12 18.1**	**-0.8**
NIKH							**Sb**	**14 12 32.8**	**+0.1**
OKSP	**Okmok Steeple**	**1.41**	**30**				**Pn**	**14 12 23.8**	**-0.7**
OKCE	**Okmok Cone E**	**1.60**	**29**				**Pn**	**14 12 27.2**	**+0.1**
OKTU	**Okmok Mt. Tuli**	**1.60**	**32**				**Pn**	**14 12 27.0**	**-0.2**
OKFG	**Magazine Ridge**	**1.67**	**34**				**Pn**	**14 12 27.8**	**-0.2**
OKFG							**Sb**	**14 12 48.9**	**-2.7**
MAPS	**Pakushin South**	**2.34**	**40**				**Pn**	**14 12 37.0**	**-0.2**
MSW	**Makushin Switc**	**2.48**	**40**				**Pn**	**14 12 39.3**	**0.0**
MNAT	**Makushin Natee**	**2.50**	**41**				**Pn**	**14 12 38.8**	**-0.7**
UNV	**Unalaska Valle**	**2.55**	**44**				**Pn**	**14 12 40.1**	**0.0**
UNV							**Sn**	**14 13 10.2**	**+0.1**
ATKA	**Atka Island**	**2.91**	**275**	Pn			**Pn**	**14 12 44.5**	**-0.6**
AKBBA	**Akutan Broad B**	**2.97**	**45**				**Pn**	**14 12 47.0**	**+1.1**
AKUT	**Akutan**	**3.06**	**45**	Pn			**Pn**	**14 12 48.0**	**+0.9**
ADK	**Adak**	**4.46**	**271**	Pn			**Pn**	**14 13 06.7**	**+0.4**
KIWB	**Kanaga Island**	**4.75**	**271**	Pn			**Pn**	**14 13 11.6**	**+1.3**
SPIA	**Saint Paul Isl**	**5.17**	**355**	Pn			**Pn**	**14 13 17.2**	**+1.1**
SDPT	**Sand Point**	**6.29**	**55**	Pn			**Pn**	**14 13 32.8**	**+1.3**
AMKA	**Amchitka**	**7.01**	**269**	Pn			**Pn**	**14 13 42.5**	**+1.2**
ILAR	**Eielson Array**	**17.26**	**34**	P			**P**	**14 16 03.8**	**+3.2**
	0.1nm,0.3s,baz=234,slow=9.9,SNR=2.0								
PETK	**Petropavlovsk-**	**19.89**	**286**	P			**P**	**14 16 26.4**	**-3.1**
	0.6nm,0.3s,baz=87,slow=13,SNR=30								
H11S1	**WAKE ISLAND Hy**	**38.34**	**218**	T			T	15 00 45.5	
	baz=23,slow=76,SNR=14								
H11S2	**WAKE ISLAND Hy**	**38.36**	**218**	T			T	15 00 47.4	
	baz=23,slow=76,SNR=7.9								
H11S3	**WAKE ISLAND Hy**	**38.36**	**218**	T			T	15 01 08.2	
	baz=23,slow=76,SNR=6.5								
NRIK	**Noril'sk**	**46.68**	**332**	LR			LR	14 43 38.6	
	comp=Z,22nm,19.1s,baz=20,slow=41								
TXAR	**Lajitas Array**	**52.82**	**89**	P			P	14 21 18.3	+4.9
	0.1nm,0.5s,baz=304,slow=6.4,SNR=2.1								
KURK	**Kurchatov**	**62.58**	**318**	P			**P**	**14 22 21.9**	**+0.4**
KURBB	**Kurchatov Arra**	**62.68**	**318**	P			**P**	**14 22 21.9**	**-0.4**
	0.2nm,0.4s,baz=42,slow=7.8,SNR=2.9								
BVAR	**Borovoye Array**	**63.93**	**324**	P			**P**	**14 22 31.5**	**+0.9**
	0.4nm,0.5s,baz=235,slow=49,SNR=1.7								
FINES	**FINESS Array B**	**66.19**	**352**	P			**P**	**14 22 44.5**	**-0.5**
	0.3nm,0.3s,baz=352,slow=8.4,SNR=1.7								
ASAR	**Alice Springs**	**90.13**	**230**	P			**P**	**14 24 58.2**	**+0.3**
	0.6nm,0.9s,baz=31,slow=4.9,SNR=3.6								

*IDC **10** 14:22:06.6±2.1, 51.37N×174.79W, h0km, mb4.0/6, mb1 4.0/7, mb1mx3.6/47, mbtmp3.9/7, ML3.7/1, Error ellipse: s-maj=57.2km s-min=29.0km az=135.0*

*AEIC **10** 14:22:11.3±1.1, 51.29N±0.09×174.80W±0.06, h20km±8km, ML3.1/14, Error ellipse: s-maj=12.4km s-min=5.2km az=170.0*

*NEIC **10** 14:22:12.2±1.2, 51.29N±0.09×174.78W±0.09, h44km±6km, Error ellipse: s-maj=14.0km s-min=6.6km az=159.0*

ISC 10 14:22:12.0±1.2, 51.3N±0.1×174.76W±0.07, h40km, n27, σ0§65/23, mb4.2/6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.99**	**20**				**Pn**	**14 22 29.0**	**-0.4**
ATKA							**Sn**	**14 22 43.2**	**+1.0**
GSIG	**Igitkin Island**	**1.02**	**315**				**Pn**	**14 22 29.3**	**-0.4**
KOFP	**Korovin Flat P**	**1.08**	**22**				**Pn**	**14 22 31.0**	**+0.3**
KOKL	**Mount Kliuchef**	**1.11**	**18**				**Pn**	**14 22 31.3**	**+0.3**
GSMY	**Great Sitkin M**	**1.12**	**314**				**Pn**	**14 22 31.0**	**-0.1**
GSTR	**Great Sitkin T**	**1.15**	**316**				**Pn**	**14 22 32.1**	**+0.4**
GSTD	**Great Sitkin T**	**1.17**	**313**				**Pn**	**14 22 31.7**	**-0.1**
GSTD							**Sn**	**14 22 47.4**	**+0.8**
ADK	**Adak**	**1.35**	**298**				**Pn**	**14 22 33.8**	**-0.5**
KIWB	**Kanaga Island**	**1.60**	**292**				**Pn**	**14 22 37.1**	**-0.7**
KIKV	**Kanaga Island**	**1.62**	**293**				**Pn**	**14 22 38.0**	**0.0**
KIMD	**Kanaga Island**	**1.62**	**288**				**Pn**	**14 22 37.9**	**-0.1**
TAFP	**Tanaga Falls P**	**2.11**	**289**				**Pn**	**14 22 45.2**	**+0.5**
TASE	**Tanaga Southea**	**2.12**	**287**				**Pn**	**14 22 45.4**	**+0.4**
AMKA	**Amchitka**	**3.73**	**274**	Pn			**Pn**	**14 23 07.0**	**0.0**
ILAR	**Eielson Array**	**19.78**	**36**	P			**P**	**14 26 38.4**	**-0.1**
	0.2nm,0.3s,baz=222,slow=7.9,SNR=16								
H11N2	**WAKE ISLAND Hy**	**34.64**	**211**	T			T	15 06 26.8	
	baz=20								
H11N3	**WAKE ISLAND Hy**	**34.64**	**211**	T			T	15 06 30.1	
	baz=20

TA01 IAML 14 40 46.3
comp=N,17μm,0.2s
TA01 Diego Aracena 0.99 132 Pg 14 40 33.0 +0.2
TA01 Sn Sg 14 40 45.6 +0.1
HMBC Humberstone 1.08 110 *eP* **Pg 14 40 34.5 +0.1**
HMBC *eS* Sg 14 40 48.4 -0.1
HMBC IAML 14 40 51.2
comp=E,29μm,0.5s
PB11 IPOC Station P 1.24 83⇑ *eP* **Pn 14 40 37.8 +0.2**
PB11 *i* S Sn 14 40 54.2 -0.4
PB11 IAML 14 40 55.4
comp=N,30μm,0.4s
PB11 IPOC Station P 1.24 83 Pn **Pn 14 40 38.1 +0.6**
AP01 Chacalluta 1.64 21⇑ *eP* **Pg 14 40 44.2 -1.0**
AP01 *eS* Sg 14 41 06.5 0.0
AP01 IAML 14 41 15.4
comp=E,15μm,0.6s
AP01 Chacalluta 1.64 21 Pg 14 40 44.4 -0.9
PB08 IPOC Station P 1.72 98⇑ *eP* **Pn 14 40 44.8 +0.4**
PB08 *i* S Sb 14 41 07.5 -0.2
PB08 IAML 14 41 14.3
comp=N,7μm,0.4s
PB08 IPOC Station P 1.72 98 Pn 14 40 44.7 +0.4
PB02 IPOC Station P 1.73 145 *eP* **Pn 14 40 43.6 -0.6**
PB02 *i* S Sn 14 41 05.6 -0.9
PB01 IPOC Station P 1.79 129 *eP* **Pn 14 40 45.0 0.0**
PB01 *eS* Sn 14 41 07.1 -0.9
PB01 IAML 14 41 14.2
comp=E,13μm,0.5s
PB01 IPOC Station P 1.79 129 Pn 14 40 45.0 0.0
PB07 IPOC Station P 2.07 151⇑ *eP* **Pn 14 40 48.2 -0.8**
PB07 *eS* Sn 14 41 12.0 -3.1
PB07 IAML 14 41 25.8
comp=E,5μm,0.6s
PB07 IPOC Station P 2.07 151 Pn 14 40 47.9 -1.1
PB03 IPOC Station P 2.41 152⇑ *eP* **Pn 14 40 52.9 -0.8**
PB03 *eS* Sn 14 41 22.8 -0.7
PB03 IAML 14 41 33.2
comp=E,3μm,0.6s
PB09 IPOC Station P 2.48 140 *eP* **Pn 14 40 55.1 +0.6**
PB09 *i* S Sn 14 41 28.3 +3.2
PB09 IAML 14 41 36.8
comp=E,6μm,0.6s
PB09 IPOC Station P 2.48 140 Pn 14 40 55.3 +0.7
PB04 IPOC Station P 2.53 163 *eP* **Pn 14 40 54.1 -1.2**
PB04 IAML 14 41 44.1
comp=E,4μm,0.4s
PB04 IPOC Station P 2.53 163 Pn 14 40 54.1 -1.2
PB06 IPOC Station P 3.07 155 Pn 14 41 01.5 -1.2
LVC Limon Verde 3.30 145 Pn **Pn 14 41 06.9 +0.8**
comp=E,28nm,0.3s,baz=321,slow=9.2,SNR=85
LVC Sn **Sn 14 41 45.3 -0.5**
comp=E,91nm,0.3s,baz=347,slow=9.3,SNR=3.8
LVC LR LR 14 41 47.4
comp=E,96nm,20.6s,baz=318,slow=28
LVC Lg Lg 14 41 53.6
comp=E,184nm,0.3s,baz=112,slow=18,SNR=3.9
LVC Limon Verde 3.30 145 *eP* **Pn 14 41 07.0 +0.9**
PB15 IPOC Station P 3.57 157 Pn 14 41 08.1 -1.5
PB10 IPOC Station P 3.61 174 Pn **Pn 14 41 07.5 -2.5**
LPAZ La Paz 4.50 37 Pn Pb 14 41 27.2 -6.2
comp=E,5.3nm,0.3s,baz=172,slow=2.7,SNR=47
LPAZ LR LR 14 43 18.9
comp=E,524nm,19.7s,baz=244,slow=43
LPAZ La Paz 4.50 37 Pn Pb 14 41 28.0 -5.3
PB14 IPOC Station P 4.72 174 Pn 14 41 23.0 -2.6
AC02 Maricunga 7.10 167 Pn **Pn 14 41 58.0 -0.5**
AC04 Llanos de Chal 8.26 181 Pn Pn 14 42 09.5 -4.4
NNA Nana 9.69 323 Pn **Pn 14 42 35.4 +1.8**
comp=E,2.1nm,0.3s,baz=180,slow=14,SNR=2.3
NNA Sn **Sn 14 44 21.2 -1.6**
comp=E,1.9nm,0.3s,baz=124,slow=5.4,SNR=1.9
NNA LR LR 14 46 11.6
comp=E,122nm,19.4s,baz=150,slow=37
SIV San Ignacio 10.19 69 Pn **Pn 14 42 38.7 -1.7**
comp=E,4.0nm,0.3s,baz=263,slow=9.1,SNR=34
SIV Sn **Sn 14 44 37.1 +2.1**
comp=E,0.2nm,0.3s,baz=3.6,slow=21,SNR=1.7
SIV LR LR 14 46 22.0
comp=E,99nm,18.4s,baz=296,slow=37
PTLB Pontes e Lacer 12.11 70 *eP* **Pn 14 43 06.1 -0.6**
SAML Samuel 13.24 36 Pn 14 43 21.4 -0.8
SAML Samuel 13.24 36 *eP* **Pn 14 43 20.8 -1.4**
CPUP Villa Florida 14.07 120 Pn **Pn 14 43 33.1 -0.4**
comp=E,0.3nm,0.3s,baz=310,slow=15,SNR=1.9
CPUP LR LR 14 49 56.9
comp=E,248nm,18.5s,baz=301,slow=42
CPUP Villa Florida 14.07 120 *eP* **Pn 14 43 34.5 +1.0**
AQDB Aquidauana 14.35 95 *eP* **Pn 14 43 36.1 -1.1**
ATAH Atahualpa 14.60 329 LR LR 14 49 51.9
comp=E,146nm,18.9s,baz=147,slow=40
SALV Santo Antonio 15.07 77 *eP* **Pn 14 43 48.0 +0.8**
H03N1 Juan Fernandez 15.22 206 T T 14 59 27.4
baz=32,slow=72,SNR=159
H03N2 Juan Fernandez 15.23 206 T T 14 59 30.3
baz=32,slow=72,SNR=129
H03N3 Juan Fernandez 15.24 206 T T 14 59 29.4
baz=32,slow=72,SNR=133
PP1B Ponte de Pedra 15.41 84 *eP* **Pn 14 43 51.3 -0.3**
CLDB Colider 17.15 61 *eP* **Pn 14 44 14.0 0.0**
PTGB Pitanga 18.13 109 *eP* **P 14 44 27.5 +1.1**
PCMB Pacaembu 18.51 99 *eP* **Pn 14 44 31.5 +0.8**
ARAG Araguaiana, MT 18.71 80 *eP* **P 14 44 31.5 -1.3**
CPSB Cacapava Do Su 18.97 127 *eP* **P 14 44 35.8 +0.1**
ITRB Iturama 19.39 93 *eP* **P 14 44 39.9 -0.4**
PLTB Pedras Altas 19.55 131 *eP* **P 14 44 42.0 0.0**
TRQA Tornquist 19.70 159 *eP* **P 14 44 44.2 +0.6**
NPGB Novo Progresso 19.82 52 *eP* **P 14 44 43.8 -1.2**
FRTB Fartura 20.18 104 *eP* **P 14 44 48.5 -0.5**
SNDB Serra Nova Dou 20.48 70 *eP* **P 14 44 50.5 -1.7**
PLCA Paso Flores 20.76 179 P **P 14 44 56.9 +1.8**
comp=E,4.5nm,0.8s,baz=355,slow=9.7,SNR=6.2
PLCA Paso Flores 20.76 179 P **P 14 44 52.1 -3.0**
PLCA Paso Flores 20.76 179 *eP* **P 14 44 55.2 +0.1**
TIJ01 Guaruva-PR 20.97 109 *eP* **P 14 44 58.1 +0.6**
BB19B Bebedouro 21.05 97 *eP* **P 14 44 57.0 -1.4**
ITTB Itaituba 21.42 46 *eP* **P 14 45 00.6 -1.7**
IPMB Ipameri, GO 21.61 89 *eP* **P 14 45 03.6 -0.8**
TER01 Tubaro-SC 21.66 118 *eP* **P 14 45 04.4 -0.4**
FLOC Florencia 21.85 347 P **P 14 45 08.6 +1.7**
FLOC IAmb IAmb 14 45 12.1
comp=E,34nm,1.3s
FLOC Florencia 21.85 347 *eP* **P 14 45 10.0 +3.1**
PTGA Pitinga 21.89 31 P **P 14 45 04.8 -2.5**
comp=E,8.6nm,0.3s,baz=214,slow=17,SNR=14
PTGA Pitinga 21.89 31 P **P 14 45 05.0 -2.4**
RCLB Rio Claro- Sao 21.99 101 *eP* **P 14 45 07.6 -0.9**
CRUC La Cruz 22.14 344 *eP* **P 14 45 15.5 +5.1**
BDFB Brasilia 22.26 83 P **P 14 45 09.9 -1.6**
comp=E,2.2nm,0.4s,baz=222,slow=15,SNR=1.8
BDFB LR LR 14 54 22.0
comp=Z,140nm,21.4s,baz=258,slow=38
PET01 Itanhaem-SP 22.37 106 *eP* **P 14 45 12.1 -0.4**
GARC Garzon, Huila 22.40 348 *eP* **P 14 45 15.6 +2.5**
VAO Valinhos 22.54 102 *eP* **P 14 45 14.8 +0.4**
SOTA Rioblanco 22.59 345 *eP* **P 14 45 21.3 +5.8**
BBAC Balboa, Cauca 22.65 344 *eP* **P 14 45 20.1 +4.4**
PCON Cinco Dias 22.73 346 *eP* P 14 45 28.9 +12
BETC Betania 22.88 348 *eP* **P 14 45 21.9 +3.9**
POPC Popayan, Colom 23.00 345 *eP* **P 14 45 23.1 +3.7**
PEXB Peixe 23.11 74 *eP* **P 14 45 20.6 +0.3**
MARP Paez Belalcaza 23.13 347 *eP* **P 14 45 21.2 +0.4**
PRAC Prado 23.79 350 *eP* **P 14 45 29.8 +2.7**
PARB Paraibuna 23.80 103 *eP* **P 14 45 26.6 -0.7**
ORTC Ortega, Tolima 24.04 349 *eP* **P 14 45 30.7 +1.1**
YOTC Yotoco, Valle 24.32 347 *eP* **P 14 45 35.5 +3.3**
BOAV Boa Vista 24.42 26 *eP* **P 14 45 33.7 +0.7**
BSCB Bom Sucesso 24.56 97 *eP* **P 14 45 34.0 -0.3**
PRPB Parauapebas 24.67 59 *eP* **P 14 45 35.5 +0.2**
TOLC Tolima 24.71 350 *eP* **P 14 45 39.8 +3.8**
ROSC El Rosal 24.81 352 LR LR 14 55 08.8
comp=Z,152nm,19.0s,baz=218,slow=36
SMTB Santa Maria do 25.13 67 *eP* **P 14 45 39.8 +0.4**
GUY2C Guyana, Caldas 25.35 350 *eP* **P 14 45 44.7 +2.8**
RUSC La Rusia 25.72 355 *eP* **P 14 45 45.6 +0.3**
MC01 Montes Claros 25.84 87 *eP* **P 14 45 44.9 -1.1**
JANB Januaria 25.86 84 *eP* **P 14 45 44.8 -1.4**
CBOC Ciudad Bolivar 26.09 349 *eP* **P 14 45 50.5 +2.3**
SDBA SAO DESIDERIO 26.09 77 *eP* **P 14 45 48.6 +0.4**
BARC Barichara 26.42 355 *eP* **P 14 45 51.5 +0.1**
PTBC PUERTO BERRIO, 26.50 352 *eP* **P 14 45 52.0 +0.2**
MCPB Macapa, AP 26.84 46 *eP* **P 14 45 55.0 +0.1**
DBBC Dabeiba 27.25 349 *eP* **P 14 46 04.9 +6.2**

CAM01 Campos-RJ 27.43 99 *eP* **P 14 45 59.8 -0.4**
ZARC Zaragoza, Cauc 27.50 352 *eP* **P 14 46 00.6 -0.2**
SJMB Sao Joao De Ma 28.12 93 *eP* **P 14 46 06.6 +0.2**
ALF01 Guarapari-ES 28.36 97 *eP* **P 14 46 08.3 -0.2**
SMLC San Martn de 28.69 354 *eP* **P 14 46 09.7 -1.7**
GUA01 Guaratinga, BA 29.76 89 *eP* **P 14 46 19.6 -1.4**
CMC01 Camacan, BA 30.28 86 *eP* **P 14 46 25.7 +0.1**
NBPN Ponto Novo - B 30.96 78 *eP* **P 14 46 30.4 -1.3**
NBLA Lagarto - SE 33.13 79 *eP* **P 14 46 48.7 -2.0**
NBMA Muriti-CE 33.61 73 *eP* **P 14 46 54.0 -1.0**
NBPB Pedra_Branca-C 33.69 69 *eP* **P 14 46 55.0 -0.6**
NBMO Morrinhos-CE 34.38 65 *eP* **P 14 47 00.4 -1.2**
NBAN Anadia - AL 34.98 78 *eP* **P 14 47 05.8 -1.1**
NBLV Livramento - P 35.27 74 *eP* **P 14 47 08.0 -1.4**
TXAR Lajitas Array 58.24 326 P **P 14 50 08.9 0.0**
comp=Z,0.4nm,0.6s,baz=151,slow=7.7,SNR=5.4
TXAR Lajitas Array 58.24 326 P **P 14 50 08.0 -0.9**
Q56A Snyder Ridge, 59.14 353 P **P 14 50 17.3 +2.3**
M55A Ridgway 61.49 353 P **P 14 50 32.0 +1.1**
VNA3 Neumayer Olymp 62.19 161 P **P 14 50 36.2 +0.8**
VNA2 Neumayer--Watz 62.78 161 P **P 14 50 40.1 +0.7**
baz=186,slow=8.2
SNAA Sanae 64.40 161 P **P 14 50 50.6 +0.5**
SNAA Sanae 64.40 161 P **P 14 50 50.0 -0.1**
SNAA IAmb IAmb 14 50 52.7
comp=Z,4.5nm,0.9s
PFO Pinyon Flats O 68.66 320 LR LR 15 18 36.9
comp=Z,47nm,19.4s,baz=164,slow=34
DBIC Dimbokro 70.16 75 P **P 14 51 26.0 -1.4**
comp=Z,3.4nm,0.7s,baz=256,slow=8.3,SNR=1.8
DBIC LR LR 15 21 08.8
comp=Z,73nm,19.5s,baz=194,slow=35
NVAR Mina Array Bea 73.06 323 P **P 14 51 45.4 +0.7**
comp=Z,0.8nm,0.8s,baz=136,slow=5.3,SNR=6.2
NVAR Mina Array Bea 73.06 323 P **P 14 51 43.3 -1.5**
ULM Lac du Bonnet 73.24 344 LR LR 15 26 35.3
comp=Z,43nm,18.9s,baz=34,slow=38
YNE Yellowstone No 73.75 332 P **P 14 51 50.0 +1.4**
YNE IAmb IAmb 14 51 51.9
comp=Z,6.0nm,0.8s
VNDA Vanda 78.07 190 P **P 14 52 13.7 +1.1**
comp=Z,0.6nm,1.0s,baz=113,slow=7.4,SNR=2.4
TORD Torodi Ar. Bea 78.66 72 P **P 14 52 16.0 -1.0**
comp=Z,11nm,0.8s,baz=255,slow=5.3,SNR=39
TORD LR LR 15 24 41.2
comp=Z,80nm,21.6s,baz=305,slow=34
TORD Torodi Ar. Bea 78.66 72 P **P 14 52 15.9 -1.0**
TORD IAmb IAmb 14 52 16.9
comp=Z,9.2nm,1.0s
BOSA Boshof 85.89 119 LR LR 15 28 01.1
comp=Z,53nm,21.2s,baz=202,slow=33
ESDC Sonseca Array 86.07 45 P **P 14 52 54.3 -1.0**
comp=Z,1.1nm,0.9s,baz=259,slow=4.3,SNR=5.5
ESDC LR LR 15 30 20.7
comp=Z,34nm,18.2s,baz=210,slow=35
YKA Yellowknife Ar 89.06 341 LR LR 15 36 33.8
comp=Z,42nm,19.1s,baz=0.0,slow=38
H11S2 WAKE ISLAND Hyd 25.79 279 T T 17 18 49.1
baz=102,slow=74,SNR=118
H11S1 WAKE ISLAND Hyd 25.76 279 T T 17 18 41.3
baz=102,slow=74,SNR=78
H11S3 WAKE ISLAND Hyd 25.77 279 T T 17 18 39.0
baz=102,slow=74,SNR=95
H11N3 WAKE ISLAND Hyd 25.80 280 T T 17 18 53.8
baz=101,slow=74,SNR=26
H11N2 WAKE ISLAND Hyd 25.81 280 T T 17 18 52.4
baz=101,slow=74,SNR=35
H11N1 WAKE ISLAND Hyd 25.81 280 T T 17 18 54.5
baz=101,slow=74,SNR=21
ASAR Alice Springs 130.36 210 PKP **PKPdf 14 59 25.7 0.0**
comp=Z,0.7nm,0.9s,baz=122,slow=1.6,SNR=7.2
WRA Warramunga Arr 133.28 214 PKP **PKPdf 14 59 31.6 +0.4**
comp=Z,0.4nm,0.6s,baz=165,slow=2.0,SNR=6.4
ZALV Zalesovo Beam 141.29 23 PKP **PKPdf 14 59 43.0 -1.9**
comp=Z,3.5nm,0.7s,baz=281,slow=1.8,SNR=8.3
ZALV Zalesovo Beam 141.29 23 PKPdf **PKPdf 14 59 46.3 +1.5**
MKAR Makanchi Array 145.42 33 PKPbc **PKPdf 14 59 52.6 +0.2**
comp=Z,4.5nm,0.7s,baz=328,slow=4.4,SNR=24
MKAR Makanchi Array 145.42 33 PKPdf 14 59 53.2 +0.8
KSH Kashi 145.54 48 PKPbc **PKPab 14 59 54.7 +1.3**
KSH LR LR
comp=N,310nm,13.7s
KSH LR LR
comp=E,520nm,17.1s
MJAR Matsushiro Ant 149.58 309 PKPbc **PKPbc 15 00 03.9 -0.3**
comp=E,1.8nm,0.6s,baz=130,slow=1.5,SNR=4.1
SONM Songino Array 152.06 4 PKPbc **PKPbc 15 00 09.7 -0.1**
comp=E,2.7nm,0.7s,baz=326,slow=1.0,SNR=14

IDC 10 14:44:42.9±2.4, 7°24S×150°24E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/19, mbtmp3.5/3, ML3.4/1 Error ellipse: s-maj=150.2km s-min=32.0km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.93**	**229**	P	P	14 49 15.5	-1.1
	0.1nm,0.3s,baz=54,slow=9.8,SNR=10						
ASAR	**Alice Springs**	**22.64**	**222**	P	P	14 49 46.3	+0.5
	0.6nm,0.6s,baz=54,slow=9.0,SNR=17						
ILAR	**Eielson Array**	**85.36**	**23**	P	P	14 57 22.0	+0.2
	0.3nm,0.3s,baz=251,slow=5.6,SNR=2.1						

IDC 10 14:45:34.2±2.0, 3°41N×123°53E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/28, mbtmp3.4/3, Error ellipse: s-maj=202.3km s-min=28.5km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.52**	**156**	P	P	14 51 04.4	-0.3
	0.4nm,0.3s,baz=334,slow=10,SNR=19						
ASAR	**Alice Springs**	**28.75**	**160**	P	P	14 51 34.0	+0.3
	0.4nm,0.6s,baz=334,slow=7.1,SNR=6.1						
MKAR	**Makanchi Array**	**56.03**	**327**	P	P	14 55 14.9	0.0
	0.2nm,0.4s,baz=131,slow=7.2,SNR=1.3						

*TAP **10** 14:48:50.7, 24°.92N×122°.66E, h20km±1km, ML2.9, D*
*JMA **10** 14:48:51.2±0.1, 24°.84N×122°.67E, h36km±2km, M2.1*
ISC 10 14:48:48.5±1.5, 24°.98N±0°.06×122°.70E±0°.03, h3km±15km, n58, σ0°87/65, 1C-5D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonaguni jimaku**	**0.57**	**157**	P	**Pb**	**14 49 00.9**	**-0.3**
JYNG				S	**Sg**	**14 49 08.0**	**+1.1**
YOJ	**Yonaguni jima**	**0.59**	**151**	P	**Pb**	**14 49 01.4**	**0.0**
YOJ				S	**Sg**	**14 49 08.7**	**+1.3**
YOJ	**Yonaguni jima**	**0.59**	**151**⇑	*eP*	**Pb**	**14 49 01.4**	**0.0**
	baz=144						
YOJ				*eS*	**Sg**	**14 49 08.7**	**+1.3**
	baz=144						
TWB1	**Santiao Chiao**	**0.65**	**273**	*eP*	**Pb**	**14 49 03.0**	**+0.5**
	baz=279						
TIPB	**Shuangxi**	**0.80**	**270**	*i* P	**Pb**	**14 49 05.3**	**+0.2**
	baz=274						
NTC	**Toucheng**	**0.80**	**261**	*eP*	**Pb**	**14 49 05.3**	**+0.2**
	baz=266						
NWF	**Wu-fen Shan**	**0.84**	**276**	*i* P	**Pb**	**14 49 06.5**	**+0.6**
	baz=281						
WFSB	**Wu-fen Shan**	**0.84**	**276**	*eP*	**Pn**	**14 49 06.5**	**-0.8**
	baz=281						
TWC	**Suao**	**0.86**	**245**⇓	*iP*	**Pg**	**14 49 05.1**	**+0.1**
	baz=247						
NDS	**Dongshan**	**0.96**	**249**⇓	*eP*	**Pg**	**14 49 06.8**	**-0.1**
	baz=244						
TWE	**Neicheng**	**0.97**	**255**	*i* P	**Pb**	**14 49 07.8**	**-0.3**
	baz=258						
EWUT	**Wuta**	**0.99**	**238**	*eP*	**Pg**	**14 49 07.2**	**-0.5**
	baz=240						
YM08	**YM08**	**1.03**	**282**	*eP*	**Pn**	**14 49 11.2**	**+1.2**
	baz=286						
ENA	**Nanau**	**1.03**	**238**	*eP*	**Pg**	**14 49 07.8**	**-0.5**
	baz=240						
YM01	**YM01**	**1.04**	**279**	*eP*	**Pn**	**14 49 09.6**	**-0.5**
	baz=284						
NHDH	**Xindian Distri**	**1.07**	**269**	*eP*	**Pn**	**14 49 10.1**	**-0.3**
	baz=273						
ENTT	**Nioudou**	**1.09**	**252**	*eP*	**Pg**	**14 49 09.4**	**0.0**
	baz=254						
ENTT				*eS*	**Sb**	**14 49 24.3**	**-0.3**
	baz=254						
TATO	**Taipei**	**1.10**	**270**	*eP*	**Pn**	**14 49 10.6**	**-0.3**
	baz=274						
NWLT	**Wulai**	**1.11**	**260**	*eP*	**Pb**	**14 49 10.5**	**+0.1**
	baz=263						
IRIF	**Iriomote-Funau**	**1.13**	**124**	P	**Pg**	**14 49 10.2**	**-0.1**
IRIF				S	**Sg**	**14 49 24.4**	**-0.6**
NDT	**Datong Townshi**	**1.14**	**251**	*eP*	**Pb**	**14 49 11.2**	**+0.3**
	baz=254						
YHNB	**Yeheng**	**1.24**	**256**	*eP*	**Pb**	**14 49 12.8**	**0.0**
	baz=271						
NSK	**Sanguang**	**1.26**	**256**	*eP*	**Pb**	**14 49 12.8**	**-0.2**
	baz=259						
ETL	**Fush Village**	**1.28**	**230**	*eP*	**Pg**	**14 49 13.2**	**+0.2**
	baz=223						
NACB	**Ninganchiao**	**1.29**	**232**⇓	*eP*	**Pg**	**14 49 12.2**	**-1.0**
	baz=233						
NNS	**Nan Shan**	**1.32**	**246**	*i* P	**Pg**	**14 49 13.7**	**-0.2**
	baz=248						
NNS				*eS*	**Sg**	**14 49 28.8**	**-2.2**
	baz=248						
TWD	**Chiawan**	**1.35**	**229**	*i* P	**Pn**	**14 49 14.3**	**+0.1**
	baz=229						
ETLH	**Xiulin Townshi**	**1.35**	**236**	*eP*	**Pg**	**14 49 14.2**	**-0.3**
	baz=236						
ETLH				*eS*	**Sg**	**14 49 31.9**	**-0.1**
	baz=236						
JKRS	**Kuro-shima**	**1.40**	**122**	P	**Pn**	**14 49 14.1**	**-0.9**
JIJ	**Ishigaki jima**	**1.45**	**115**	P	**Pn**	**14 49 15.3**	**-0.4**
ETM	**Tongmen**	**1.49**	**228**	*eP*	**Pn**	**14 49 16.5**	**+0.2**
	baz=228						
FUSS	**Fushou**	**1.51**	**242**	*eP*	**Pg**	**14 49 17.9**	**+0.4**
	baz=243						
JISG	**Ishigakijimahi**	**1.51**	**105**	P	**Pb**	**14 49 17.1**	**-0.2**
WHF	**Hehuan Shan**	**1.55**	**238**⇓	*iP*	**Pn**	**14 49 17.5**	**+0.1**
	baz=239						
LIOB	**Emei**	**1.57**	**258**	*eP*	**Pg**	**14 49 19.6**	**+1.0**
	baz=260						
NSTT	**Nanjuang**	**1.58**	**258**	*eP*	**Pb**	**14 49 18.1**	**-0.4**
	baz=260						
CHGB	**Renai**	**1.67**	**237**⇓	*eP*	**Pn**	**14 49 19.4**	**+0.5**
	baz=223						
WHP	**Taichung City**	**1.74**	**247**	P	**Pg**	**14 49 21.7**	**-0.3**
	baz=235						
WCS	**Beigang Elemen**	**1.87**	**241**	*eP*	**Pb**	**14 49 22.9**	**-0.5**
	baz=228						
HGSD	**Ruisui**	**1.89**	**219**	*eP*	**Pn**	**14 49 21.1**	**-0.6**
	baz=205						
EHY	**Hungye**	**1.93**	**221**	*eP*	**Pn**	**14 49 21.5**	**-0.9**
	baz=220						
SSLB	**Suanglung**	**1.99**	**234**	*eP*	**Pn**	**14 49 23.4**	**+0.3**
	baz=218						
TYC	**Yuchr**	**1.99**	**238**	*eP*	**Pb**	**14 49 25.1**	**-0.3**
	baz=222						
YULB	**Yu-li**	**2.04**	**219**	*eP*	**Pn**	**14 49 22.3**	**-1.5**
	baz=219						
TWF1	**Yuli**	**2.07**	**219**	*eP*	**Pn**	**14 49 22.9**	**-1.3**
	baz=234						
WHYT	**Xinyi Township**	**2.12**	**233**	*eP*	**Pn**	**14 49 25.8**	**+0.9**
	baz=220						
WNT	**Mingjian**	**2.14**	**240**	*eP*	**Pb**	**14 49 27.3**	**-0.7**
	baz=240						
YUS	**Yu-Shan**	**2.18**	**227**	*eP*	**Pn**	**14 49 26.4**	**+0.2**
	baz=227						
CHN5	**Tsauling**	**2.30**	**234**	*eP*	**Pb**	**14 49 29.5**	**-1.3**
	baz=218						
ELDTW	**Lidau**	**2.35**	**221**	P	**Pn**	**14 49 28.1**	**-0.2**
	baz=220						
TPUB	**Ta-pu**	**2.52**	**229**	*eP*	**Pn**	**14 49 31.9**	**+1.4**
	baz=215						
STYT	**Tauyuan**	**2.54**	**225**	*eP*	**Pn**	**14 49 31.4**	**+0.7**
	baz=211						
WTP	**Ta-pu**	**2.57**	**228**	P	**Pn**	**14 49 32.5**	**+1.3**
	baz=228						
TWK	**Hsinying**	**2.65**	**230**	*eP*	**Pn**	**14 49 33.6**	**+1.4**
	baz=230						
SLGT	**Liugui**	**2.73**	**224**	*eP*	**Pn**	**14 49 34.3**	**+1.0**
	baz=223						
TSMG	**Majia**	**2.94**	**220**	*eP*	**Pn**	**14 49 38.4**	**+2.2**
	baz=219						
MASBT	**Mashibuluo**	**3.02**	**219**	*eP*	**Pn**	**14 49 39.2**	**+1.9**
	baz=208						
SCZT	**Fangliau**	**3.22**	**217**	*eP*	**Pn**	**14 49 42.2**	**+2.1**
	baz=204						

*JMA **10** 15:14:15.2±0.1, 23°.12N×121°.49E, h32km±3km, M3.0*
*TAP **10** 15:14:16.0, 23°.21N×121°.34E, h47km, ML3.0, C*
ISC 10 15:14:16.8±0.9, 23°.16N±0°.02×121°.40E±0°.02, h34km±2km, n92, σ1°07/147, 6C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.07**	**207**⇑	*iP*	**Pb**	**15 14 23.7**	**+1.2**
	baz=153						
CHKT				*eS*	**Sb**	**15 14 29.7**	**+3.4**
	baz=153						
FULB	**Fuli**	**0.10**	**292**⇑	*iP*	**Pb**	**15 14 23.8**	**+1.1**
	baz=242						
FULB				*eS*	**Sb**	**15 14 29.9**	**+3.1**
	baz=242						
EYUL	**Yuli**	**0.20**	**338**	P	**Pn**	**15 14 23.8**	**+1.4**
	baz=345						
EYUL				*eS*	**Sb**	**15 14 29.6**	**+1.6**
	baz=345						
EDH	**Donghe**	**0.21**	**205**	P	**Pb**	**15 14 24.2**	**+0.7**
	baz=184						
EDH				*eS*	**Sb**	**15 14 30.9**	**+2.8**
	baz=184						
YULB	**Yu-li**	**0.25**	**338**	*i* P	**Pn**	**15 14 23.8**	**+0.1**
	baz=346						
YULB				S	**Sn**	**15 14 29.0**	**+2.1**
	baz=346						
HGSD	**Ruisui**	**0.33**	**4**	*i* P	**Pb**	**15 14 25.2**	**+0.1**
	baz=11						
HGSD				S	**Sb**	**15 14 32.0**	**+1.4**
	baz=11						
EHY	**Hungye**	**0.35**	**348**⇑	*iP*	**Pb**	**15 14 24.7**	**-0.6**
	baz=1.0						
EHY				*i* S	**Sn**	**15 14 30.5**	**-0.5**
	baz=1.0						
ELDTW	**Lidau**	**0.35**	**275**⇑	*iP*	**Pb**	**15 14 25.2**	**-0.2**
	baz=265						
ELDTW				*eS*	**Sn**	**15 14 31.4**	**+0.2**
	baz=265						
LONT	**Longtian**	**0.35**	**225**	*i* P	**Pb**	**15 14 25.1**	**-0.2**
	baz=206						
LONT				*eS*	**Sn**	**15 14 32.0**	**+1.0**
	baz=206						
TWGBT	**Beinan**	**0.45**	**221**⇑	*iP*	**Pb**	**15 14 25.8**	**-0.9**
	baz=207						
TWGBT				*eS*	**Sb**	**15 14 33.1**	**-0.4**
	baz=207						
TWG	**Pinlang**	**0.45**	**222**⇑	*iP*	**Pb**	**15 14 25.8**	**-0.9**
	baz=207						
TWG				*eS*	**Sb**	**15 14 33.1**	**-0.4**
	baz=207						
LDUT	**Ludao**	**0.49**	**172**	*i* P	**Pb**	**15 14 27.0**	**-0.2**
	baz=166						
LDUT				S	**Sn**	**15 14 35.7**	**+1.0**
	baz=166						
EGFH	**Guangfu**	**0.51**	**3**	P	**Pn**	**15 14 26.3**	**-1.2**
	baz=12						
EGFH				*eS*	**Sb**	**15 14 33.6**	**-1.4**
	baz=12						
YUS	**Yu-Shan**	**0.53**	**309**	*i* P	**Pb**	**15 14 27.9**	**-0.3**
	baz=310						
YUS				*eS*	**Sb**	**15 14 36.0**	**0.0**
	baz=310						
STYH	**Taoyuan**	**0.57**	**271**	P	**Pn**	**15 14 28.2**	**-0.3**
	baz=263						
STYH				*eS*	**Sn**	**15 14 36.7**	**0.0**
	baz=263						
ALS	**Alishan**	**0.65**	**303**	P	**Pn**	**15 14 29.6**	**-0.2**
	baz=308						
ALS				*eS*	**Sn**	**15 14 40.0**	**+1.0**
	baz=308						
ESL	**Shilin**	**0.65**	**3**	*eP*	**Pn**	**15 14 27.9**	**-1.8**
	baz=16						
ECL	**Taimali**	**0.69**	**216**	P	**Pn**	**15 14 28.4**	**-1.7**
	baz=203						
ECL				*eS*	**Sn**	**15 14 37.8**	**-2.0**
	baz=203						
SLGT	**Liugui**	**0.71**	**257**	*eP*	**Pn**	**15 14 30.5**	**0.0**
	baz=251						
SLGT				*eS*	**Sn**	**15 14 40.8

WTP	**Ta-pu**	**0.73**	**277**	⇓*i*	P	**Pn**	15 14 30.4	-0.3
	baz=273							
WTP				*e*	S	**Sn**	15 14 40.9	+0.2
	baz=273							
WHYT	**Xinyi Township**	**0.73**	**317**	P		**Pn**	15 14 30.4	-0.3
	baz=323							
WHYT				*e*	S	**Sn**	15 14 40.5	-0.3
	baz=323							
SSLB	**Suanglung**	**0.75**	**327**	P		**Pn**	15 14 30.1	-0.8
	baz=334							
SSLB				*e*	S	**Sn**	15 14 39.5	-1.7
	baz=334							
SGST	**Jiashian**	**0.76**	**264**	*i* P		**Pn**	15 14 30.1	-1.0
	baz=259							
SGST				S		**Sn**	15 14 41.2	-0.1
	baz=259							
CHN5	**Tsauling**	**0.79**	**303**	P		**Pn**	15 14 31.5	-0.1
	baz=303							
CHN5				*e*	S	**Sn**	15 14 42.8	+0.4
	baz=303							
CHN1	**Nanshi**	**0.80**	**272**	*i* P		**Pn**	15 14 31.5	-0.2
	baz=280							
CHN1				*e*	S	**Sn**	15 14 42.6	+0.1
	baz=280							
ETM	**Tongmen**	**0.81**	**6**	*e*P		**Pn**	15 14 29.8	-2.0
	baz=11							
OWD	**Renai**	**0.82**	**346**	*e*P		**Pn**	15 14 31.2	-0.9
	baz=356							
OWD				*e*	S	**Sn**	15 14 41.8	-1.3
	baz=356							
SSD	**Sandimen**	**0.82**	**240**	*e*P		**Pn**	15 14 31.7	-0.2
	baz=242							
SSD				*e*	S	**Sn**	15 14 43.1	+0.3
	baz=242							
TSMG	**Majia**	**0.83**	**237**	P		**Pn**	15 14 32.4	+0.3
	baz=231							
TSMG				*e*	S	**Sn**	15 14 43.5	+0.4
	baz=231							
SNST	**Tainan City**	**0.83**	**274**	*e*P		**Pn**	15 14 31.8	-0.3
	baz=271							
SNST				*e*	S	**Sn**	15 14 43.1	-0.1
	baz=271							
TWK	**Hsinying**	**0.84**	**277**	P		**Pn**	15 14 31.9	-0.4
	baz=274							
TWK				*e*	S	**Sn**	15 14 43.8	+0.2
	baz=274							
SMLT	**Sun Moon Lake**	**0.85**	**328**	*e*P		**Pn**	15 14 32.5	0.0
	baz=330							
SMLT				*e*	S	**Sn**	15 14 43.8	-0.1
	baz=330							
SCST	**Cishan**	**0.88**	**252**	P		**Pn**	15 14 33.2	+0.5
	baz=247							
SCST				*e*	S	**Sb**	15 14 46.8	+1.7
	baz=247							
MASBT	**Mashibuluo**	**0.89**	**233**	*i* P		**Pn**	15 14 32.7	-0.3
	baz=226							
TYC	**Yuchr**	**0.89**	**326**	P		**Pn**	15 14 32.7	-0.3
	baz=330							
TYC				*e*	S	**Sn**	15 14 44.1	-0.6
	baz=330							
WJS	**Zhushan**	**0.90**	**317**	*e*P		**Pn**	15 14 32.8	-0.3
	baz=318							
WJS				*e*	S	**Sn**	15 14 45.0	+0.1
	baz=318							
CHGB	**Renai**	**0.92**	**347**	P		**Pn**	15 14 32.8	-0.8
	baz=360							
CHGB				*e*	S	**Sn**	15 14 44.6	-1.1
	baz=360							
EAST	**Anshuo**	**0.93**	**213**	*e*P		**Pn**	15 14 31.7	-1.7
	baz=202							
CHN2	**Minshiung**	**0.93**	**294**	*e*P		**Pn**	15 14 33.5	+0.1
	baz=282							
CHN2				*e*	S	**Sn**	15 14 46.0	+0.5
	baz=282							
TWD	**Chiawan**	**0.93**	**11**	*e*P		**Pn**	15 14 31.0	-2.5
	baz=17							
WDLH	**Douliu**	**0.95**	**304**	P		**Pn**	15 14 33.5	-0.3
	baz=304							
WDLH				*e*	S	**Sn**	15 14 46.2	+0.1
	baz=304							
CHN3	**Shinhua**	**0.96**	**265**	*e*P		**Pn**	15 14 34.9	+1.1
	baz=276							
CHN3				*e*	S	**Sb**	15 14 48.4	+1.1
	baz=276							
CHY	**Chiayi**	**0.96**	**291**	*e*P		**Pn**	15 14 33.3	-0.5
	baz=290							
CHY				*e*	S	**Sn**	15 14 45.9	-0.4
	baz=290							
WNT	**Mingjian**	**0.97**	**318**	P		**Pn**	15 14 33.9	-0.1
	baz=319							
WNT				*e*	S	**Sn**	15 14 47.0	+0.4
	baz=319							
WHF	**Hehuan Shan**	**0.99**	**353**	*e*P		**Pn**	15 14 33.5	-1.1
	baz=3.0							
WCS	**Beigang Elemen**	**1.00**	**333**	P		**Pn**	15 14 34.4	0.0
	baz=337							
WCS				*e*	S	**Sn**	15 14 47.9	+0.6
	baz=337							
NACB	**Ninganchiao**	**1.02**	**10**	*e*P		**Pn**	15 14 32.4	-2.4
	baz=15							
ETLH	**Xiulin Townshi**	**1.04**	**4**	*e*P		**Pn**	15 14 34.3	-0.8
	baz=18							
ICHU	**Yijhu**	**1.05**	**281**	*e*P		**Pn**	15 14 34.1	-1.0
	baz=279							
ICHU				*e*	S	**Sn**	15 14 47.3	-1.3
	baz=279							
SNJT	**Kaohsiung City**	**1.06**	**248**	*e*P		**Pn**	15 14 35.9	+0.6
	baz=244							
SCZT	**Fangliau**	**1.06**	**223**	P		**Pn**	15 14 34.9	-0.4
	baz=205							
SCZT				*e*	S	**Sn**	15 14 49.4	+0.5
	baz=205							
WTK	**Tuku**	**1.07**	**300**	*e*P		**Pn**	15 14 34.2	-1.1
	baz=300							
WTK				*e*	S	**Sn**	15 14 47.6	-1.4
	baz=300							
SLIU	**Shizi**	**1.09**	**211**	*e*P		**Pn**	15 14 36.8	+1.1
	baz=199							
FUSS	**Fushou**	**1.09**	**353**	*e*P		**Pn**	15 14 34.9	-1.1
	baz=6.0							
TWT	**Tachien**	**1.11**	**349**	*e*P		**Pn**	15 14 36.8	+0.7
	baz=353							
CHN8	**Yiju**	**1.11**	**280**	P		**Pn**	15 14 35.3	-0.6
	baz=278							
CHN8				*e*	S	**Sn**	15 14 50.0	0.0
	baz=278							
LAY	**Lan-yu**	**1.12**	**173**	*e*P		**Pn**	15 14 34.9	-1.3
	baz=162							
WSF	**Szhu**	**1.18**	**294**	*e*P		**Pn**	15 14 35.7	-1.2
	baz=293							
WSF				*e*	S	**Sn**	15 14 50.5	-1.4
	baz=293							
WHP	**Taichung City**	**1.19**	**340**	P		**Pn**	15 14 37.6	+0.5
	baz=347							
WHP				*e*	S	**Sn**	15 14 53.5	+1.4
	baz=347							
WRL	**Guolierlin Hig**	**1.19**	**308**	*e*P		**Pn**	15 14 35.9	-1.2
	baz=309							
WRL				*e*	S	**Sn**	15 14 50.9	-1.2
	baz=309							
WCHH	**Zhanghua**	**1.20**	**320**	*e*P		**Pn**	15 14 37.1	0.0
	baz=321							
WCHH				*e*	S	**Sn**	15 14 52.4	+0.1
	baz=321							
NNS	**Nan Shan**	**1.27**	**359**	*e*P		**Pn**	15 14 39.2	+0.9
	baz=14							
ENA	**Nanau**	**1.30**	**14**	*e*P		**Pn**	15 14 38.1	-0.5
	baz=11							
TWQ1	**Liyutan**	**1.31**	**334**	*e*P		**Pn**	15 14 39.2	+0.4
	baz=337							
TWQ1				*e*	S	**Sn**	15 14 56.1	+1.0
	baz=337							
TWKBT	**Hengchun**	**1.33**	**204**	*e*P		**Pn**	15 14 37.3	-1.7
	baz=190							
NSY	**Sanyi**	**1.38**	**335**	*e*P		**Pn**	15 14 39.6	-0.1
	baz=338							
NSY				*e*	S	**Sn**	15 14 58.6	+1.8
	baz=338							
ENTT	**Nioudou**	**1.48**	**6**	*e*P		**Pn**	15 14 39.5	-1.6
	baz=21							
NDS	**Dongshan**	**1.50**	**11**	*e*P		**Pn**	15 14 41.5	+0.2
	baz=16							
TWC	**Suao**	**1.50**	**16**	*e*P		**Pn**	15 14 41.0	-0.3
	baz=13							
YHNB	**Yeheng**	**1.50**	**359**	*e*P		**Pn**	15 14 40.9	-0.6
	baz=14							
NSTT	**Nanjuang**	**1.51**	**346**	*e*P		**Pn**	15 14 41.1	-0.4
	baz=350							
NSK	**Sanguang**	**1.51**	**359**	*e*P		**Pn**	15 14 40.9	-0.6
	baz=14							
LIOB	**Emei**	**1.52**	**347**	*e*P		**Pn**	15 14 40.7	-0.9
	baz=350							
TWE	**Neicheng**	**1.57**	**9**	*e*P		**Pn**	15 14 43.0	+0.7
	baz=22							
WDGT	**Dungji**	**1.60**	**274**	*e*P		**Pn**	15 14 40.6	-2.1
	baz=273							
PHUB	**P'eng-hu**	**1.72**	**282**	*e*P		**Pn**	15 14 42.5	-1.8
	baz=281							
PNG	**Penghu**	**1.74**	**284**	*e*P		**Pn**	15 14 42.9	-1.7
	baz=283							
VCHM	**Qimei**	**1.81**	**272**	*e*P		**Pn**	15 14 43.8	-1.8
	baz=271							
TIPB	**Shuangxi**	**1.85**	**12**	*e*P		**Pn**	15 14 45.4	-0.7
	baz=16							
NWF	**Wu-fen Shan**	**1.93**	**10**	*e*P		**Pn**	15 14 47.3	-0.1
	baz=14							
YOJ	**Yonaguni jima**	**1.96**	**48**	P		**Pn**	15 14 47.3	-0.4
YOJ				*e*S		**Sn**	15 15 10.0	-1.2
YOJ	**Yonaguni jima**	**1.96**	**48**	*e*P		**Pn**	15 14 47.9	+0.2
	baz=52							
IRIF	**Iriomote-Funau**	**2.44**	**61**	P		**Pn**	15 14 54.3	+0.1
IRIF				S		**Sn**	15 15 23.5	+0.7
JKRS	**Kuro-shima**	**2.62**	**65**	P		**Pn**	15 14 56.9	+0.2
JIJ	**Ishigaki jima**	**2.79**	**64**	P		**Pn**	15 14 58.6	-0.4
JIJ				S		**Sn**	15 15 30.8	-0.6
PTMZ	**Houxiangcun**	**2.80**	**312**	*e*P		**Pn**	15 14 56.7	-2.5
	baz=312							
JISG	**Ishigakijimahi**	**3.02**	**61**	P		**Pn**	15 15 01.8	-0.4
JISG				S		**Sn**	15 15 36.2	-1.0
KNMB	**Chin-men Tao**	**3.05**	**296**	*e*P		**Pn**	15 15 00.5	-2.1
	baz=294							
JTJ	**Tarama**	**3.36**	**63**	P		**Pn**	15 15 07.0	+0.1
JIRB	**Irabujima**	**3.83**	**64**	P		**Pn**	15 15 13.6	+0.2
JMJ2	**Miyako jima3**	**3.92**	**66**	P		**Pn**	15 15 15.0	+0.4

TAP ***10*** *15:16:30.5,24.85N×122.01E,h7km,ML2.8,D*
JMA ***10*** *15:16:31.6±0.1,24.85N×121.94E,h39km,M2.2*
ISC 10 15:16:30.8±0.9,24.87N±0.03×122.01E±0.03,h14km±6km, n34,σ0°38/46,3C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.07**	**253**	*e*P	**Pg**	**15 16 33.2**	**-0.5**
	baz=266						
TWB1	**Santiao Chiao**	**0.14**	**352**	⇑*i*P	**Pg**	**15 16 34.6**	**0.0**
	baz=355						
TWB1				S	**Sg**	**15 16 37.3**	**+0.2**
	baz=355						
NTC	**Toucheng**	**0.16**	**266**	*i* P	**Pg**	**15 16 35.0**	**+0.1**
	baz=272						
NTC				*e*S	**Sg**	**15 16 37.9**	**+0.4**
	baz=272						
TIPB	**Shuangxi**	**0.20**	**302**	⇑*i*P	**Pg**	**15 16 35.8**	**+0.4**
	baz=306						
TIPB				S	**Sb**	**15 16 39.2**	**-0.6**
	baz=306						
NWF	**Wu-fen Shan**	**0.29**	**314**	⇑*i*P	**Pb**	**15 16 37.8**	**-0.1**
	baz=316						
NWF				S	**Sb**	**15 16 42.8**	**+0.2**
	baz=316						
WFSB	**Wu-fen Shan**	**0.29**	**314**	*i* P	**Pb**	**15 16 37.8**	**0.0**
	baz=316						
WFSB				S	**Sb**	**15 16 42.4**	**-0.1**
	baz=316						
TWC	**Suao**	**0.29**	**210**	P	**Pg**	**15 16 36.8**	**-0.3**
	baz=210						
TWE	**Neicheng**	**0.34**	**245**	*i* P	**Pg**	**15 16 38.0**	**+0.1**
	baz=246						
NDS	**Dongshan**	**0.35**	**229**	*e*P	**Pg**	**15 16 38.0**	**-0.1**
	baz=231						
TNOU	**National Taiwa**	**0.35**	**323**	*e*P	**Pg**	**15 16 37.1**	**-1.0**
	baz=323						
TNOU				*e*S	**Sg**	**15 16 42.4**	**-0.6**
	baz=323						
TWA	**Mucha**	**0.40**	**286**	P	**Pb**	**15 16 39.8**	**+0.1**
	baz=288						
TWA				*e*S	**Sb**	**15 16 46.0**	**+0.2**
	baz=288						
NHDH	**Xindian Distri**	**0.45**	**282**	*e*P	**Pb**	**15 16 41.2**	**+0.7**
	baz=284						
ENTT	**Nioudou**	**0.46**	**241**	P	**Pg**	**15 16 40.2**	**+0.2**
	baz=242						
EWUT	**Wuta**	**0.47**	**207**	*e*P	**Pb**	**15 16 40.6**	**-0.2**
	baz=207						
EWUT				*e*S	**Sb**	**15 16 47.4**	**-0.3**
	baz=207						
TATO	**Taipei**	**0.49**	**283**	*e*P	**Pb**	**15 16 40.9**	**-0.3**
	baz=285						
TATO				*e*S	**Sb**	**15 16 48.3**	**+0.2**
	baz=285						
YM01	**YM01**	**0.49**	**305**	P	**Pb**	**15 16 41.8**	**+0.6**
	baz=306						
YM08	**YM08**	**0.50**	**310**	P	**Pb**	**15 16 41.8**	**+0.4**
	baz=311						
ENA	**Nanau**	**0.50**	**209**	*e*P	**Pg**	**15 16 40.9**	**+0.2**
	baz=209						
NDT	**Datong Townshi**	**0.52**	**240**	*e*P	**Pb**	**15 16 41.5**	**-0.3**
	baz=241						
ANP	**Anpu**	**0.55**	**306**	*e*P	**Pb**	**15 16 42.5**	**+0.2**
	baz=307						
TWY	**Chenhua**	**0.55**	**318**	P	**Pb**	**15 16 43.0**	**+0.8**
	baz=319						
YHNB	**Yeheng**	**0.61**	**251**	P	**Pg**	**15 16 42.7**	**-0.1**
	baz=253						
NSK	**Sanguang**	**0.62**	**252**	*e*P	**Pg**	**15 16 43.0**	**-0.1**
	baz=253						
NACB	**Ninganchiao**	**0.79**	**209**	*e*P	**Pb**	**15 16 46.2**	**-0.1**
	baz=209						
NACB				*e*S	**Sb**	**15 16 57.0**	**+0.3**
	baz=209						
ETLH	**Xiulin Townshi**	**0.81**	**216**	*e*P	**Pb**	**15 16 47.2**	**+0.4**
	baz=217						
FUSS	**Fushou**	**0.93**	**229**	*e*P	**Pn**	**15 16 49.4**	**-0.3**
	baz=229						
LIOB	**Emei**	**0.93**	**257**	*e*P	**Pn**	**15 16 49.2**	**-0.3**
	baz=257						
JYNG	**Yonagunijimaku**	**0.95**	**116**	P	**Pg**	**15 16 49.3**	**+0.1**
JYNG				*e*S	**Sg**	**15 17 02.0**	**+0.5**
NSTT	**Nanjuang**	**0.95**	**256**	*e*P	**Pn**	**15 16 50.3**	**+0.6**
	baz=256						
YOJ	**Yonaguni jima**	**1.00**	**114**	P	**Pn**	**15 16 50.4**	**+0.1**
YOJ				*e*S	**Sb**	**15 17 02.7**	**-0.1**
CHGB	**Renai**	**1.11**	**224**	*e*P	**Pb**	**15 16 51.8**	**-0.1**
	baz=224						
IRIF	**Iriomote-Funau**	**1.65**	**108**	P	**Pn**	**15 16 58.7**	**-0.7**
JKRS	**Kuro-shima**	**1.93**	**109**	P	**Pn**	**15 17 03.1**	**0.0**
JIJ	**Ishigaki jima**	**2.00**	**104**	P	**Pn**	**15 17 04.2**	**0.0**

NOU ***10*** *15:16:27.9,39.63S×174.06E,h207km,MLv3.5/6,North Island, New Zealand*
WEL 10 15:16:31.4±0.7,40.3°S±4.1°×177.4°E±1.1°,h176km±5km,M2.7/19, ML2.9/7,MLv2.7/19,Error ellipse: s-maj=0.0km s-min=0.0km az=121.4,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEZ	**North Egmont**	**0.46**	**351**	P	Pn	15 16 56.6	+0.8
NEZ				S	Sn	15 17 16.9	+2.5
WAZ	**Wanganui**	**0.61**	**93**	P	Pn	15 16 57.9	+1.6
WAZ				S	Sn	15 17 18.9	+3.5
VRZ	**Vera Road**	**0.74**	**37**	P	Pn	15 16 57.0	-0.1
VRZ				S	Sn	15 17 17.5	+0.8
PKVZ	**Pokaka**	**0.99**	**65**	P	Pn	15 16 59.1	+0.3
PKVZ				S	Sn	15 17 20.5	+0.7
MTVZ	**Mangateitei**	**1.05**	**72**	P	Pn	15 16 59.7	+0.5
MTVZ				S	Sn	15 17 21.4	+0.8
DUWZ	**D'Urville Isla**	**1.10**	**191**	P	Pn	15 16 59.9	+0.4
DUWZ				S	Sn	15 17 21.8	+0.4
FWVZ	**Far West T-bar**	**1.15**	**67**	P	Pn	15 17 00.5	+0.3
WNVZ	**Wahianoa**	**1.16**	**70**	P	Pn	15 17 00.6	+0.4
WNVZ				S	Sn	15 17 22.5	+0.2
TWVZ	**Taurewa**	**1.17**	**56**	P	Pn	15 17 00.1	-0.1
WHVZ	**Whangaehu Hut**	**1.17**	**68**	P	Pn	15 17 00.7	+0.3
NGZ	**Ngauruhoe**	**1.22**	**64**	P	Pn	15 17 01.0	+0.3
NGZ				S	Sn	15 17 23.3	0.0
SNVZ	**South Ngauruho**	**1.24**	**65**	P	Pn	15 17 01.4	+0.4
MOVZ	**Moawhango**	**1.25**	**76**	P	Pn	15 17 01.0	+0.1
MOVZ				S	Sn	15 17 23.0	-0.5
NNVZ	**North Ngauruho**	**1.25**	**62**	P	Pn	15 17 01.4	+0.4
HIZ	**Hauiti**	**1.31**	**23**	P	Pn	15 17 00.7	-0.7
TMVZ	**Te Maari**	**1.32**	**63**	P	Pn	15 17 02.2	+0.6
OGWZ	**Otaki Gorge**	**1.32**	**146**	P	Pn	15 17 02.3	+0.9
OGWZ				S	Sn	15 17 25.0	+0.3
TSZ	**Takapari Road**	**1.40**	**104**	P	Pn	15 17 02.8	+0.6
TSZ				S	Sn	15 17 25.9	0.0
MRZ	**Mangatainoka R**	**1.42**	**132**	P	Pn	15 17 02.9	+0.6
MRZ				S	Sn	15 17 26.0	-0.1
BHHZ	**Black Hill Sta**	**1.47**	**81**	P	Pn	15 17 02.6	-0.2
BHHZ				S	Sn	15 17 25.6	-1.5
TCW	**Tory Channel**	**1.49**	**178**	P	Pn	15 17 03.6	+0.7
TCW				S	Sn	15 17 27.1	-0.4
CAW	**Cannon Point**	**1.54**	**154**	P	Pn	15 17 03.8	+0.4
HOWZ	**Holdsworth Sta**	**1.55**	**140**	P	Pn	15 17 04.0	+0.4
PNHZ	**Pukenui**	**1.56**	**98**	P	Pn	15 17 04.1	+0.5
NNZ	**Nelson**	**1.62**	**202**	P	Pn	15 17 03.9	-0.2
DVHZ	**Dannevirke**	**1.62**	**111**	P	Pn	15 17 04.7	+0.4
QRZ	**Quartz Range**	**1.68**	**229**	P	Pn	15 17 03.6	-1.2
KRHZ	**Kereru**	**1.68**	**88**	P	Pn	15 17 05.3	+0.3
TUWZ	**Tuamarina**	**1.71**	**186**	P	Pn	15 17 05.1	-0.1
TLZ	**Tolley Road**	**1.74**	**37**	P	Pn	15 17 04.5	-1.1
MTW	**Mount Morrison**	**1.75**	**146**	P	Pn	15 17 05.7	+0.2
KWHZ	**Kaweka Forest**	**1.75**	**81**	P	Pn	15 17 06.1	+0.4
BKZ	**Black Stump Fm**	**1.87**	**73**	P	Pn	15 17 06.5	-0.3
ANWZ	**Angora Road**	**1.90**	**114**	P	Pn	15 17 07.8	+0.7
MRHZ	**Matea Rd**	**1.94**	**64**	P	Pn	15 17 06.7	-1.0
BSWZ	**Blackbirch Sta**	**2.00**	**187**	P	Pn	15 17 08.4	+0.2
ARHZ	**Aropaoanui**	**2.22**	**79**	P	Pn	15 17 10.8	+0.2
MTHZ	**Maungataniwha**	**2.23**	**68**	P	Pn	15 17 10.2	-0.7
THZ	**Tophouse**	**2.26**	**205**	P	Pn	15 17 10.2	-1.0
KMRZ	**Kaimai**	**2.32**	**37**	P	Pn	15 17 11.9	0.0
MUGZ	**Murupara**	**2.36**	**59**	P	Pn	15 17 10.8	-1.5
RTZ	**Ruatahuna**	**2.43**	**64**	P	Pn	15 17 12.0	-1.2
URZ	**Urewera**	**2.70**	**58**	P	Pn	15 17 14.4	-1.9
DSZ	**Denniston Nort**	**2.71**	**221**	P	Pn	15 17 14.7	-1.7
KHZ	**Kahutara**	**2.73**	**190**	P	Pn	15 17 16.0	-0.6
MWZ	**Matawai**	**2.95**	**63**	P	Pn	15 17 17.6	-1.7
PRGZ	**Paritu Road**	**2.97**	**76**	P	Pn	15 17 18.7	-0.9
TKGZ	**Te Karaka**	**3.12**	**67**	P	Pn	15 17 20.5	-0.9
RUGZ	**Raukumara Rang**	**3.24**	**58**	P	Pn	15 17 20.9	-2.1
GVZ	**Greta Valley S**	**3.36**	**195**	P	Pn	15 17 21.6	-2.6
LTZ	**Lake Taylor**	**3.38**	**205**	P	Pn	15 17 22.7	-1.9
HAZ	**Te Kaha**	**3.43**	**56**	P	Pn	15 17 22.4	-2.8
PKGZ	**Pakihiroa**	**3.55**	**60**	P	Pn	15 17 23.8	-3.0
PUZ	**Puketiti**	**3.58**	**64**	P	Pn	15 17 25.0	-2.1
AMCZ	**Amberley**	**3.64**	**198**	P	Pn	15 17 26.0	-1.7
INZ	**Inchbonnie**	**3.64**	**214**	P	Pn	15 17 25.3	-2.5
WMGZ	**Waiomatatini S**	**3.81**	**61**	P	Pn	15 17 27.4	-2.6
OXZ	**Oxford**	**3.95**	**203**	P	Pn	15 17 28.7	-2.9
OKCZ	**Okains Bay**	**4.09**	**192**	P	Pn	15 17 31.9	-1.6
MQZ	**McQueen's Vall**	**4.14**	**196**	P	Pn	15 17 30.9	-3.2
MHCZ	**Mont Hutt**	**4.28**	**206**	P	Pn	15 17 32.9	-3.1
WACZ	**Wakanui South**	**4.57**	**202**	P	Pn	15 17 36.9	-2.7
ARCZ	**Arundel**	**4.78**	**207**	P	Pn	15 17 39.1	-3.4
TMZ	**Timaru**	**5.22**	**206**	P	Pn	15 17 45.2	-3.0
ODZ	**Otahua Downs**	**5.93**	**205**	P	Pn	15 17 54.4	-2.9

IDC ***10*** *15:22:34.5±1.3,58.90S×26.27W,h0km,mb4.3/2, mb1 4.2/2,mb1mx3.8/20,mbtmp4.2/2,Error ellipse: s-maj=91.1km s-min=50.0km az=103.0*
ISC 10 15:22:48.0±1.4,59.2S±0.2×25.3W±0.6,h100km,n10, σ1°06/10,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.51**	**155**	P	**Pn**	**15 25 54.7**	**-0.4**
VNA3	**Neumayer Olymp**	**13.69**	**158**	P	**Pn**	**15 25 56.6**	**-0.9**
VNA2	**Neumayer--Watz**	**13.91**	**155**	P	**Pn**	**15 25 59.4**	**-0.9**
	baz=319,slow=15						
SNAA	**Sanae**	**15.47**	**153**	P	**Pn**	**15 26 20.6**	**+0.3**
TORD	**Torodi Ar. Bea**	**75.32**	**27**	P	**P**	**15 34 19.4**	**-0.6**
	2.5nm,0.5s,baz=200,slow=6.0,SNR=28						
ASAR	**Alice Springs**	**95.69**	**161**	P	**P**	**15 36 03.8**	**+1.4**
	0.2nm,0.6s,baz=197,slow=4.1,SNR=1.6						
FINES	**FINESS Array B**	**126.67**	**28**	PKP	**PKPdf**	**15 41 37.3**	**-0.6**
	0.6nm,0.5s,baz=225,slow=1.2,SNR=6.6						
ARCES	**ARCESS Array B**	**133.46**	**22**	PKP	**PKPdf**	**15 41 50.9**	**+0.3**
	6.5nm,1.1s,baz=186,slow=1.6,SNR=4.2						
SONM	**Songino Array**	**149.78**	**90**	PKPbc	**PKPbc**	**15 42 26.5**	**+1.3**
	0.3nm,0.4s,baz=213,slow=2.6,SNR=2.1						
ILAR	**Eielson Array**	**152.90**	**307**	PKPbc	**PKPbc**	**15 42 30.6**	**-1.1**
	0.5nm,0.3s,baz=130,slow=2.8,SNR=6.8						

IDC ***10*** *15:23:23.5±0.6,24.24N×121.86E,h0km,mb4.1/23, mb1 4.2/26,mb1mx4.1/57,mbtmp4.2/26,ML3.8/2,MS4.0/22, Ms1 4.0/22,ms1mx3.8/42,Error ellipse: s-maj=17.3km s-min=13.6km az=72.0*
BJI ***10*** *15:23:25.7±0.0,24.26N×121.91E,h8km,mB4.8/37, mb4.3/50,ML4.5/10,Ms4.6/57,Ms7 4.5/52*
NIED ***10*** *15:23:27.0,24.17N×121.78E,h19km,MW4.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr1.02; Mθθ-0.68; Mϕϕ-0.34; Mrθ0.44; Mθϕ-0.42; Mϕr0.72; Fault plane solution: Mo1.30000×10¹⁶ NP1:ϕs41.00000°, δ65.00000°,λ78.00000°. NP2:ϕs248.00000°,δ27.00000°, λ114.00000°.*
JMA ***10*** *15:23:26.9,24.16N×121.78E,h19km±1km,M4.7*
ASIES ***10*** *15:23:27.7,24.26N×121.79E,h20km,MW4.5*
TAP ***10*** *15:23:27.1,24.24N×121.82E,h19km,ML4.9,B*
NEIC ***10*** *15:23:27.9±2.1,24.24N±0.02×121.81E±0.03,h19km±2km, mb4.6/36,Mwr4.6/24,ML4.7(TAP),Error ellipse: s-maj=3.5km s-min=3.3km az=118.0*
NEIC ***10*** *15:23:27.4,24.21N×121.84E,h25km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr0.48; Mθθ-1.52; Mϕϕ 1.04; Mrθ2.52; Mθϕ-5.13; Mϕr7.14; Fault plane solution: Mo9.24000×10¹⁵ NP1:ϕs12.70000°, δ88.05000°,λ55.77000°. NP2:ϕs279.83000°,δ34.28000°, λ176.53000°. Principal axes: T 8.3855, Plg37.0000°, Azm253.0000°; N 1.5282, Plg34.0000°, Azm14.0000°; P -9.9138, Plg34.0000°, Azm131.0000°;*
**ISC 10 15:23:27.1±

ETM				*e*S	**Sb**	**15 23 42.9 +1.5**
	baz=228					
TEYL	**Yanliau Villag**	**0.41**	**212**	*e*P	**Pb**	**15 23 36.6 +0.8**
	baz=211					
TEYL				*e*S	**Sn**	**15 23 44.2 -0.9**
	baz=211					
NDS	**Dongshan**	**0.43**	**346**⇓	*i*P	**Pg**	**15 23 35.7 -0.2**
	baz=346					
NDS				S	**Sg**	**15 23 41.8 0.0**
	baz=346					
NNS	**Nan Shan**	**0.48**	**298**⇓	*i*P	**Pg**	**15 23 36.7 -0.1**
	baz=296					
NNS				*i* S	**Sb**	**15 23 43.7 0.0**
	baz=296					
NDT	**Datong Townshi**	**0.48**	**323**	*i* P	**Pg**	**15 23 36.7 -0.2**
	baz=322					
NDT				*e*S	**Sb**	**15 23 43.9 +0.1**
	baz=322					
ENTT	**Nioudou**	**0.49**	**330**⇓	*i*P	**Pg**	**15 23 36.6 -0.3**
	baz=330					
ENTT				*i* S	**Sb**	**15 23 44.1 +0.2**
	baz=330					
WHF	**Hehuan Shan**	**0.52**	**262**⇓	*i*P	**Pg**	**15 23 37.8 0.0**
	baz=259					
WHF				S	**Sb**	**15 23 45.4 +0.2**
	baz=259					
TWE	**Neicheng**	**0.53**	**343**⇓	*i*P	**Pg**	**15 23 37.4 -0.2**
	baz=345					
TWE				*e*S	**Sb**	**15 23 45.3 +0.4**
	baz=345					
FUSS	**Fushou**	**0.54**	**273**⇓	*i*P	**Pb**	**15 23 38.1 0.0**
	baz=271					
FUSS				S	**Sb**	**15 23 46.0 +0.5**
	baz=271					
ESL	**Shilin**	**0.54**	**223**⇑	*i*P	**Pb**	**15 23 38.4 +0.4**
	baz=219					
ESL				*e*S	**Sn**	**15 23 47.2 -1.3**
	baz=219					
ILA	**Ilan**	**0.55**	**352**	*e*P	**Pg**	**15 23 38.4 +0.3**
	baz=353					
ILA				*e*S	**Sb**	**15 23 46.9 +1.2**
	baz=353					
TEGC	**Jichi Village**	**0.57**	**208**	*e*P	**Pn**	**15 23 39.6 -0.6**
	baz=206					
TEGC				*e*S	**Sn**	**15 23 49.8 +0.7**
	baz=206					
TWT	**Tachien**	**0.60**	**274**	P	**Pg**	**15 23 39.6 +0.5**
	baz=271					
TWT				S	**Sg**	**15 23 48.3 +1.1**
	baz=271					
YHNB	**Yeheng**	**0.61**	**317**	⇓P	**Pb**	**15 23 39.0 -0.2**
	baz=316					
YHNB				*e*S	**Sg**	**15 23 47.9 +0.3**
	baz=316					
YHNB	**Yeheng**	**0.61**	**317**		**Pb**	**15 23 39.0 -0.2**
YHNB				Sg	**Sg**	**15 23 47.7 +0.1**
TDCB	**Techi**	**0.62**	**274**	⇓P	**Pg**	**15 23 39.7 +0.3**
	baz=271					
TDCB				*e*S	**Sg**	**15 23 48.1 +0.4**
	baz=271					
CHGB	**Renai**	**0.62**	**256**⇓	*i*P	**Pg**	**15 23 39.8 +0.3**
	baz=253					
CHGB				S	**Sg**	**15 23 48.8 +0.9**
	baz=253					
NSK	**Sanguang**	**0.63**	**317**⇓	*i*P	**Pb**	**15 23 39.2 -0.3**
	baz=316					
NSK				*e*S	**Sg**	**15 23 48.1 0.0**
	baz=316					
EGS		**0.63**	**8**	*e*P	**Pg**	**15 23 40.1 +0.5**
	baz=10.0					
EGS				*e*S	**Sn**	**15 23 49.9 -0.8**
	baz=10.0					
NTC	**Toucheng**	**0.64**	**360**	*e*P	**Pg**	**15 23 39.5 -0.1**
NTC				*e*S	**Sg**	**15 23 48.6 +0.4**
NWLT	**Wulai**	**0.64**	**332**	⇓P	**Pb**	**15 23 39.3 -0.3**
	baz=331					
NWLT				*e*S	**Sg**	**15 23 48.0 -0.1**
	baz=331					
OWD	**Renai**	**0.66**	**247**	P	**Pg**	**15 23 40.3 +0.2**
	baz=244					
OWD				*e*S	**Sg**	**15 23 50.0 +1.2**
	baz=244					
EGFH	**Guangfu**	**0.66**	**214**⇑	*i*P	**Pg**	**15 23 40.2 0.0**
	baz=213					
EGFH				*e*S	**Sn**	**15 23 50.7 -0.6**
	baz=213					
TIPB	**Shuangxi**	**0.75**	**359**⇓	*i*P	**Pg**	**15 23 41.7 -0.2**
TIPB				*e*S	**Sg**	**15 23 51.9 0.0**
TWA	**Mucha**	**0.79**	**343**	*e*P	**Pb**	**15 23 42.3 -0.1**
	baz=344					
TWA				*e*S	**Sg**	**15 23 53.0 -0.2**
	baz=344					
NHDH	**Xindian Distri**	**0.80**	**339**	*e*P	**Pb**	**15 23 42.2 -0.1**
	baz=339					
NHDH				*e*S	**Sg**	**15 23 52.9 -0.3**
	baz=339					
TWB1	**Santiao Chiao**	**0.80**	**10**	*e*P	**Pg**	**15 23 42.7 -0.1**
	baz=12					
TWB1				*e*S	**Sn**	**15 23 54.2 -0.6**
	baz=12					
HGSD	**Ruisui**	**0.81**	**208**	*e*P	**Pn**	**15 23 43.4 -0.2**
	baz=206					
HGSD				*e*S	**Sn**	**15 23 55.2 +0.1**
	baz=206					
WHP	**Taichung City**	**0.81**	**274**⇑	*e*P	**Pg**	**15 23 43.2 +0.2**
	baz=270					
WHP				*e*S	**Sg**	**15 23 54.2 +0.4**
	baz=270					
TATO	**Taipei**	**0.82**	**337**	*e*P	**Pb**	**15 23 42.6 -0.1**
	baz=337					
TATO	**Taipei**	**0.82**	**337**	Pg	**Pb**	**15 23 42.7 -0.1**
TATO				Sg	**Sg**	**15 23 54.0 +0.1**
WPL	**Puli Township**	**0.83**	**256**	*e*P	**Pg**	**15 23 43.3 +0.1**
	baz=254					
WPL				*e*S	**Sn**	**15 23 54.9 -0.6**
	baz=254					
EHY	**Hungye**	**0.85**	**214**	*e*P	**Pb**	**15 23 42.7 -0.5**
	baz=212					
EHY				*e*S	**Sn**	**15 23 55.8 -0.2**
	baz=212					
DPDB	**Guoxing**	**0.85**	**258**	*e*P	**Pg**	**15 23 43.8 +0.1**
	baz=256					
DPDB				*e*S	**Sn**	**15 23 55.6 -0.5**
	baz=256					
NWF	**Wu-fen Shan**	**0.85**	**357**	P	**Pg**	**15 23 43.9 +0.1**
	baz=357					
NWF				*e*S	**Sg**	**15 23 55.5 +0.4**
	baz=357					
WFSB	**Wu-fen Shan**	**0.85**	**357**	*e*P	**Pg**	**15 23 43.8 +0.1**
	baz=357					
WFSB				*e*S	**Sg**	**15 23 55.2 +0.2**
	baz=357					
NJD	**Zhudong**	**0.85**	**307**	*e*P	**Pn**	**15 23 44.6 +0.5**
	baz=306					
BACT	**New Taipei Cit**	**0.86**	**335**	*e*P	**Pn**	**15 23 44.4 +0.2**
	baz=335					
WCS	**Beigang Elemen**	**0.86**	**260**⇑	*e*P	**Pg**	**15 23 43.8 0.0**
	baz=258					
WCS				*e*S	**Sg**	**15 23 55.6 +0.5**
	baz=258					
LIOB	**Emei**	**0.86**	**300**⇑	*e*P	**Pn**	**15 23 44.2 0.0**
	baz=299					
LIOB				*e*S	**Sg**	**15 23 55.5 +0.3**
	baz=299					
NSTT	**Nanjuang**	**0.86**	**299**	*e*P	**Pg**	**15 23 44.0 +0.1**
	baz=298					
NSTT				*e*S	**Sg**	**15 23 55.4 0.0**
	baz=298					
TAP	**Taipei**	**0.87**	**340**	*e*P	**Pn**	**15 23 44.6 +0.2**
	baz=340					
TAP				*e*S	**Sn**	**15 23 56.6 0.0**
	baz=340					
SSLB	**Suanglung**	**0.91**	**242**⇑	*e*P	**Pb**	**15 23 44.4 0.0**
	baz=240					
SSLB				*e*S	**Sg**	**15 23 56.7 -0.2**
	baz=240					
SSLB	**Suanglung**	**0.91**	**242**		**Pb**	**15 23 44.3 0.0**
SSLB				Sg	**Sb**	**15 23 56.4 +0.3**
SMLT	**Sun Moon Lake**	**0.92**	**249**⇑	*e*P	**Pb**	**15 23 44.7 +0.2**
	baz=247					
SMLT				*e*S	**Sn**	**15 23 57.5 -0.3**
	baz=247					
NTY	**Taoyuan**	**0.92**	**328**	*e*P	**Pn**	**15 23 45.6 +0.6**
	baz=328					
HSN1	**Hsinchu**	**0.93**	**307**	*e*P	**Pn**	**15 23 46.1 +0.9**
	baz=306					
HSN1				*e*S	**Sn**	**15 23 59.4 +1.3**
	baz=306					
TNOU	**National Taiwa**	**0.93**	**357**	*e*P	**Pb**	**15 23 43.5 -1.2**
	baz=357					
TNOU				*e*S	**Sb**	**15 23 56.2 -0.5**
	baz=357					
TYC	**Yuchr**	**0.95**	**251**⇑	*e*P	**Pb**	**15 23 45.0 +0.2**
	baz=249					
TYC				*e*S	**Sg**	**15 23 58.0 +0.1**
	baz=249					
NCUH	**Zhongli**	**0.95**	**322**	*e*P	**Pg**	**15 23 45.5 -0.1**
	baz=321					
NCUH				*e*S	**Sn**	**15 23 59.5 +0.8**
	baz=321					
NCU	**National Centr**	**0.95**	**322**	*e*P	**Pg**	**15 23 45.9 +0.3**
	baz=322					
NCU				*e*S	**Sn**	**15 24 00.2 +1.6**
	baz=322					
YULB	**Yu-li**	**0.96**	**211**	*e*P	**Pb**	**15 23 44.1 -1.0**
	baz=210					
YULB				*e*S	**Sn**	**15 23 58.9 +0.2**
	baz=210					
YULB	**Yu-li**	**0.96**	**211**		**Pb**	**15 23 44.1 -1.0**
YM01	**YM01**	**0.96**	**346**	*e*P	**Pb**	**15 23 45.3 +0.2**
	baz=346					
YM01				*e*S	**Sn**	**15 23 58.6 -0.1**
	baz=346					
TWS1	**Kuangyinshan**	**0.96**	**337**	*e*P	**Pb**	**15 23 44.9 -0.2**
	baz=337					
TWS1				*e*S	**Sn**	**15 23 59.0 +0.3**
	baz=337					
ECBN	**Changbin**	**0.96**	**201**	*e*P	**Pb**	**15 23 45.0 -0.2**
	baz=200					
ECBN				*e*S	**Sn**	**15 23 59.6 +0.9**
	baz=200					
SBCB	**Hsinchu**	**0.96**	**307**⇑	*e*P	**Pg**	**15 23 46.3 +0.5**
	baz=306					
TWQ1	**Liyutan**	**0.98**	**278**	*e*P	**Pg**	**15 23 46.6 +0.5**
	baz=276					
TWQ1				*e*S	**Sn**	**15 23 59.7 +0.5**
	baz=276					
HSN	**Hsinchu**	**0.98**	**307**	*e*P	**Pg**	**15 23 46.5 +0.4**
	baz=308					
HSN				*e*S	**Sn**	**15 24 00.2 +0.9**
	baz=308					
EYUL	**Yuli**	**0.98**	**209**	*e*P	**Pb**	**15 23 44.9 -0.7**
	baz=207					
EYUL				*e*S	**Sn**	**15 24 00.6 +1.2**
	baz=207					
TWF1	**Yuli**	**0.99**	**210**	*e*P	**Pb**	**15 23 44.7 -0.9**
	baz=208					
TWF1				*e*S	**Sn**	**15 24 00.1 +0.6**
	baz=208					
YM08	**YM08**	**0.99**	**347**	*e*P	**Pb**	**15 23 45.6 -0.1**
	baz=347					
YM08				*e*S	**Sn**	**15 23 59.6 0.0**
	baz=347					
NJN	**Zhunan**	**0.99**	**298**	*e*P	**Pg**	**15 23 47.4 +1.0**
	baz=297					
NWRT	**Kuosheng**	**0.99**	**351**	*e*P	**Pg**	**15 23 46.7 +0.3**
	baz=351					
NSY	**Sanyi**	**1.00**	**282**	*e*P	**Pg**	**15 23 47.6 +1.1**
	baz=280					
NSY				*e*S	**Sn**	**15 24 01.3 +1.5**
	baz=280					
NMLH	**Miaoli**	**1.00**	**289**	*e*P	**Pg**	**15 23 47.4 +0.9**
	baz=287					
NMLH				*e*S	**Sn**	**15 24 00.6 +0.7**
	baz=287					
ANP	**Anpu**	**1.01**	**344**	*e*P	**Pb**	**15 23 46.0 0.0**
	baz=344					
ANP				*e*S	**Sn**	**15 24 00.5 +0.5**
	baz=344					
NTST	**Danshui**	**1.01**	**340**	*e*P	**Pg**	**15 23 46.4 -0.2**
	baz=340					
NTST				*e*S	**Sn**	**15 24 01.3 +1.3**
	baz=340					
WHYT	**Xinyi Township**	**1.04**	**240**	*e*P	**Pn**	**15 23 46.9 +0.3**
	baz=239					
WHYT				*e*S	**Sg**	**15 24 02.1 +1.3**
	baz=239					
JYNG	**Yonagunijimaku**	**1.04**	**77**	P	**Pn**	**15 23 47.0 +0.3**
JYNG				*e*S	**Sg**	**15 24 02.2 +1.2**
WWF	**Wufeng**	**1.05**	**261**	*e*P	**Pg**	**15 23 48.3 +0.9**
	baz=259					
WWF				*e*S	**Sg**	**15 24 05.1 +3.7**
	baz=259					
TCU	**Taichung**	**1.06**	**267**⇑	*e*P	**Pg**	**15 23 48.6 +0.9**
	baz=265					
TCU				*e*S	**Sg**	**15 24 01.6 +0.1**
	baz=265					
NHW	**Xinwu Township**	**1.06**	**318**	*e*P	**Pg**	**15 23 47.6 -0.1**
	baz=317					
NHW				*e*S	**Sg**	**15 24 02.8 +1.1**
	baz=317					
TWY	**Chenhua**	**1.08**	**349**	*e*P	**Pg**	**15 23 48.0 +0.1**
	baz=349					
TWY				*e*S	**Sg**	**15 24 02.1 0.0**
	baz=349					
YUS	**Yu-Shan**	**1.08**	**228**	*e*P	**Pb**	**15 23 47.6 +0.1**
	baz=227					
WJS	**Zhushan**	**1.08**	**249**⇑	*e*P	**Pg**	**15 23 48.4 +0.3**
	baz=247					
WJS				*e*S	**Sg**	**15 24 04.5 +2.1**
	baz=247					
WDJ	**Dajia District**	**1.10**	**277**	*e*P	**Pg**	**15 23 48.7 +0.4**
	baz=276					
WDJ				*e*S	**Sg**	**15 24 04.6 +1.9**
	baz=276					
WNT1	**Nantou City**	**1.10**	**254**	*e*P	**Pg**	**15 23 48.9 +0.6**
	baz=252					
WNT1				*e*S	**Sg**	**15 24 06.2 +3.4**
	baz=252					
YOJ	**Yonaguni jima**	**1.10**	**77**	P	**Pb**	**15 23 47.9 +0.3**
YOJ				S	**Sg**	**15 24 03.9 +1.1**
YOJ	**Yonaguni jima**	**1.10**	**77**	*e*P	**Pg**	**15 23 48.2 -0.2**
	baz=78					
YOJ				*e*S	**Sg**	**15 24 04.0 +1.1**
	baz=78					
YOJ	**Yonaguni jima**	**1.10**	**77**		**Pb**	**15 23 47.9 +0.3**
YOJ				Sn	**Sg**	**15 24 04.0 +1.1**
WNT	**Mingjian**	**1.10**	**252**	*e*P	**Pg**	**15 23 49.0 +0.5**
	baz=251					
WNT				*e*S	**Sg**	**15 24 05.4 +2.5**
	baz=251					
FULB	**Fuli**	**1.13**	**206**	*e*P	**Pn**	**15 23 47.7 -0.2**
	baz=205					
FULB				*e*S	**Sg**	**15 24 04.6 +0.9**
	baz=205					
WCHH	**Zhanghua**	**1.17**	**264**⇑	*e*P	**Pg**	**15 23 49.8 0.0**
	baz=262					
WCHH				*e*S	**Sg**	**15 24 05.3 +0.2**
	baz=262					
WYL	**Yuanlin Townsh**	**1.17**	**258**	*e*P	**Pg**	**15 23 50.0 +0.2**
	baz=256					
WYL				*e*S	**Sg**	**15 24 08.0 +2.8**
	baz=256					
ALS	**Alishan**	**1.18**	**233**⇑	*e*P	**Pb**	**15 23 49.3 +0.3**
	baz=232					
ALS				*e*S	**Sg**	**15 24 05.7 +0.3**
	baz=232					
CHKT	**Chengkung**	**1.19**	**201**	*e*P	**Pn**	**15 23 48.1 -0.6**
	baz=200					
CHKT				*e*S	**Sn**	**15 24 04.9 +0.4**
	baz=200					
CHN5	**Tsauling**	**1.22**	**240**	*e*P	**Pg**	**15 23 50.4 -0.3**
	baz=239					
CHN5				*e*S	**Sg**	**15 24 07.5 +0.7**
	baz=239					
ECS	**Chishang**	**1.25**	**207**	*e*P	**Pn**	**15 23 49.6 0.0**
	baz=206					
ECS				*e*S	**Sg**	**15 24 08.4 +0.8**
	baz=206					
ELDTW	**Lidau**	**1.27**	**216**	*e*P	**Pn**	**15 23 49.2 -0.7**
	baz=215					
ELDTW				*e*S	**Sn**	**15 24 06.9 +0.4**
	baz=215					
WGK	**Gukeng**	**1.28**	**246**	*e*P	**Pg**	**15 23 51.7 -0.1**
	baz=244					
WGK				*e*S	**Sg**	**15 24 10.0 +1.5**
	baz=244					
WDLH	**Douliu**	**1.30**	**246**	*e*P	**Pg**	**15 23 51.8 -0.4**
	baz=245					
WDLH				*e*S	**Sg**	**15 24 09.9 +0.8**
	baz=245					
EDH	**Donghe**	**1.33**	**202**	*e*P	**Pn**	**15 23 50.2 -0.4**
	baz=201					
EDH				*e*S	**Sb**	**15 24 08.5 +0.3**
	baz=201					
WRL	**Guolierlin Hig**	**1.37**	**257**	*e*P	**Pb**	**15 23 52.5 +0.4**
	baz=256					
WRL				*e*S	**Sg**	**15 24 10.9 -0.4**
	baz=256					
CHN2	**Minshiung**	**1.42**	**242**	*e*P	**Pg**	**15 23 54.0 -0.5**
	baz=240					
CHN2				*e*S	**Sg**	**15 24 14.6 +1.7**
	baz=240					
PCYT	**Pengchaiyu**	**1.42**	**9**	⇑P	**Pb**	**15 23 52.9 -0.1**
	baz=10.0					
PCYT				*e*S	**Sg**	**15 24 12.2 -1.0**
	baz=10.0					
STYH	**Taoyuan**	**1.42**	**223**⇑	*e*P	**Pb**	**15 23 52.6 -0.4**
	baz=222					
STYH				*e*S	**Sb**	**15 24 11.7 +0.9**
	baz=222					
WTK	**Tuku**	**1.42**	**249**⇑	*e*P	**Pb**	**15 23 53.5 +0.5**
	baz=247					
WTK				*e*S	**Sg**	**15 24 13.3 +0.2**
	baz=247					
TPUB	**Ta-pu**	**1.43**	**231**⇑	*e*P	**Pb**	**15 23 53.5 +0.3**
	baz=229					
TPUB				*e*S	**Sg**	**15 24 12.6 -0.8**
	baz=229					
TPUB	**Ta-pu**	**1.43**	**231**	Pn	**Pb**	**15 23 53.5 +0.3**
TPUB				Sn	**Sg**	**15 24 12.6 -0.8**
STYT	**Tauyuan**	**1.44**	**223**⇑	*e*P	**Pb**	**15 23 53.2 -0.2**
	baz=222					
STYT				*e*S	**Sg**	**15 24 13.7 0.0**
	baz=222					
LONT	**Longtian**	**1.46**	**206**	*e*P	**Pn**	**15 23 51.8 -0.6**
	baz=206					
LONT				*e*S	**Sn**	**15 24 11.1 0.0**
	baz=206					
WTCT	**Ta-ch'eng**	**1.46**	**256**	*e*P	**Pb**	**15 23 54.0 +0.3**
	baz=255					
WTCT				*e*S	**Sg**	**15 24 13.9 -0.4**
	baz=255					
CHY	**Chiayi**	**1.48**	**241**	*e*P	**Pb**	**15 23 54.7 +0.8**
	baz=240					
CHY				*e*S	**Sg**	**15 24 15.3 +0.5**
	baz=240					
WTP	**Ta-pu**	**1.48**	**229**⇑	*e*P	**Pb**	**15 23 54.3 +0.3**
	baz=228					
WTP				*e*S	**Sg**	**15 24 14.6 -0.2**
	baz=228					
TWK	**Hsinying**	**1.55**	**233**⇑	*e*P	**Pb**	**15 23 55.4 +0.1**
	baz=231					
TWK				*e*S	**Sg**	**15 24 16.8 -0.5**
	baz=231					
TWG	**Pinlang**	**1.56**	**207**	*e*P	**Pn**	**15 23 52.8 -1.0**
	baz=206					
TWG				*e*S	**Sn**	**15 24 12.5 -1.0**
	baz=206					
TWG	**Pinlang**	**1.56**	**207**		**Pn**	**15 23 53.0 -0.8**
TWGBT	**Beinan**	**1.56**	**207**	*e*P	**Pn**	**15 23 52.7 -1.1**
	baz=206					
TWGBT				*e*S	**Sn**	**15 24 12.3 -1.2**
	baz=206					
LDUT	**Ludao**	**1.57**	**192**	*e*P	**Pn**	**15 23 52.8 -1.2**
	baz=192					
LDUT				*e*S	**Sn**	**15 24 12.5 -1.4**
	baz=192					
SNST	**Tainan City**	**1.58**	**231**	*e*P	**Pb**	**15 23 55.4 -0.2**
	baz=230					
SNST				*e*S	**Sg**	**15 24 17.1 -0.8**
	baz=230					
CHN1	**Nanshi**	**1.58**	**230**	*e*P	**Pb**	**15 23 56.0 +0.3**
	baz=228					
WSF	**Szhu**	**1.58**	**249**	*e*P	**Pb**	**15 23 55.7 0.0**
	baz=248					
WSF				*e*S	**Sg**	**15 24 18.0 -0.2**
	baz=248					
TTN	**Taitung**	**1.59**	**204**	*e*P	**Pb**	**15 23 55.8 0.0**
	baz=203					
SGST	**Jiashian**	**1.61**	**226**⇑	*e*P	**Pn**	**15 23 55.3 +0.8**
	baz=224					
SGST				*e*S	**Sg**	**15 24 17.9 -1.2**
	baz=224					
SLGT	**Liugui**	**1.63**	**222**⇑	*e*P	**Pb**	**15 23 56.5 -0.2**
	baz=221					
SLGT				*e*S	**Sg**	**15 24 18.8 -1.1**
	baz=221					
ICHU	**Yijhu**	**1.66**	**239**⇑	*e*P	**Pb**	**15 23 57.0 0.0**
	baz=238					
ICHU				*e*S	**Sg**	**15 24 19.4 -1.3**
	baz=238					
CHN8	**Yiju**	**1.72**	**240**	*e*P	**Pb**	**15 23 58.2 +0.1**
	baz=239					
CHN8				*e*S	**Sg**	**15 24 22.0 -0.6**
	baz=239					
IRIF	**Iriomote-Funau**	**1.73**	**86**	P	**Pn**	**15 23 56.5 +0.3**
IRIF				S	**Sb**	**15 24 19.3 -0.5**
CHN3	**Shinhua**	**1.76**	**230**	*e*P	**Pb**	**15 23 58.5 -0.3**
	baz=229					
ECL	**Taimali**	**1.80**	**207**	*e*P	**Pn**	**15 23 56.2 -1.0**
	baz=206					
ECL				*e*S	**Sn**	**15 24 20.5 +0.9**
	baz=206					
SCST	**Cishan**	**1.81**	**223**⇑	*e*P	**Pb**	**15 23 59.6 +0.1**
	baz=222					
SCST				*e*S	**Sg**	**15 24 23.8 -1.6**
	baz=222					
HATJ	**Hateruma jima**	**1.81**	**95**	P	**Pb**	**15 23 58.5 -1.1**
HATJ				*e*S	**Sb**	**15 24 22.2 +0.3**
SCLT	**Jiali**	**1.83**	**236**	*e*P	**Pb**	**15 23 59.5 -0.4**
	baz=234					
SCLT				*e*S	**Sg**	**15 24 24.6 -1.4**
	baz=234					
SSD	**Sandimen**	**1.83**	**217**	*e*P	**Pn**	**15 23 58.7 +1.1**
	baz=216					
TSMG	**Majia**	**1.86**	**216**	*e*P	**Pb**	**15 23 59.4 -1.0**
	baz=215					
TSMG				*e*S	**Sb**	**15 24 24.4 +1.1**
	baz=215					
TAI1	**Yung-k'ang**	**1.88**	**232**	*e*P	**Pb**	**15 23 59.7 -1.1**
	baz=231					
SGLT	**Jiouru**	**1.93**	**220**	*e*P	**Pb**	**15 24 01.8 +0.2**
	baz=219					
MASBT	**Mashibuluo**	**1.94**	**215**	*e*P	**Pn**	**15 23 60.0 +0.9**
	baz=214					
MASBT				*e*S	**Sb**	**15 24 25.7 0.0**
	baz=214					
TSPT	**Pingtung City**	**1.96**	**219**	*e*P	**Pb**	**15 24 02.5 +0.3**
	baz=218					
JKRS	**Kuro-shima**	**1.99**	**89**	P	**Pn**	**15 24 00.7 +1.0**
SNJT	**Kaohsiung City**	**2.00**	**224**	*e*P	**Pb**	**15 24 02.8 -0.2**
	baz=223					
EAST	**Anshuo**	**2.04**	**207**	*e*P	**Pn**	**15 24 00.2 -0.2**
	baz=206					
TAW	**Tawu**	**2.04**	**205**	*e*P	**Pn**	**15 24 01.3 +0.8**
	baz=204					
JIJ	**Ishigaki jima**	**2.11**	**86**	P	**Pn**	**15 24 01.9 +0.5**
JIJ				S	**Sn**	**15 24 28.1 +0.9**
SCZT	**Fangliau**	**2.15**	**212**	*e*P	**Pn**	**15 24 03.3 +1.3**
	baz=211					
SCZT				*e*S	**Sb**	**15 24 30.2 -1.5**
	baz=211					
LAY	**Lan-yu**	**2.18**	**187**	*e*P	**Pn**	**15 24 01.2 -1.2**
	baz=186					
LAY				*e*S	**Sn**	**15 24 25.3 -3.7**
	baz=186					
PNG	**Penghu**	**2.18**	**253**	*e*P	**Pn**	**15 24 03.0 +0.6**
	baz=252					
PNG				*e*S	**Sn**	**15 24 29.7 +0.7**
	baz=252					
PHUB	**P'eng-hu**	**2.19**	**252**	*e*P	**Pn**	**15 24 03.0 +0.5**
	baz=251					
PHUB				*e*S	**Sn**	**15 24 30.3 +1.3**
	baz=251					
SLIU	**Shizi**	**2.21**	**206**	*e*P	**Pn**	**15 24 03.3 +0.6**
	baz=205					
WDGT	**Dungji**	**2.21**	**245**	*e*P	**Pn**	**15 24 03.9 +1.2**
	baz=244					
WDGT				*e*S	**Sn**	**15 24 31.2 +1.6**
	baz=244					
JISG	**Ishigakijimahi**	**2.29**	**80**	P	**Pn**	**15 24 03.9 +0.1**
JISG				S	**Sn**	**15 24 32.5 +1.0**
WLCH	**Liuqiu**	**2.29**	**216**	*e*P	**Pb**	**15 24 06.8 -1.0**
	baz=215					
VWUC	**VWUC**	**2.30**	**290**	*e*P	**Pn**	**15 24 04.2 +0.2**
	baz=289					
VWUC				*e*S	**Sn**	**15 24 31.3 -0.6**
	baz=289					
HEN	**Hengchun**	**2.42**	**205**	*e*P	**Pn**	**15 24 07.7 +2.1**
	baz=204					
VCHM	**Qimei**	**2.42**	**246**	*e*P	**Pn**	**15 24 06.7 +1.0**
	baz=245					
VCHM				*e*S	**Sn**	**15 24 36.6 +1.7**

	baz=245								
TWK1	**Hengchun**	**2.45**	**203**	*e*P		**Pn**	**15 24 07.3**	**+1.2**
	baz=202								
TWKBT	**Hengchun**	**2.45**	**203**	*e*P		**Pn**	**15 24 07.2**	**+1.1**
	baz=202								
MATB	**Ma-tsu**	**2.58**	**319**	*e*P		**Pn**	**15 24 07.6**	**-0.2**
	baz=318								
MATB				*e*S		**Sn**	**15 24 38.2**	**-0.5**
	baz=318								
PTMZ	**Houxiangcun**	**2.60**	**289**	*e*P		**Pn**	**15 24 08.1**	**-0.1**
	baz=288								
PTMZ				*e*S		**Sn**	**15 24 39.0**	**-0.2**
	baz=288								
MSUT	**Lienchiang**	**2.60**	**319**	*e*P		**Pn**	**15 24 07.9**	**-0.3**
	baz=318								
JTJ	**Tarama**	**2.65**	**80**	P		**Pn**	**15 24 09.8**	**+1.0**
JTJ				*e*S		**Sn**	**15 24 42.4**	**+2.0**
LYJJ	**Jianjiangzhen**	**2.99**	**322**	*e*P		**Pn**	**15 24 13.2**	**-0.3**
	baz=321								
QZH	**Quanzhou**	**3.04**	**284**	⇑*i*Pn		**Pn**	**15 24 14.2**	**0.0**
QZH				Sn		**Sn**	**15 24 49.5**	**-0.6**
QZH				LR	LR				
	comp=E,5μm,9.5s								
QZH				LR	LR				
	comp=Z,5μm,12.6s								
XPSS	**Dashiqiu**	**3.08**	**332**	*e*P		**Pn**	**15 24 14.4**	**-0.4**
	baz=331								
JIRB	**Irabujima**	**3.10**	**78**	P		**Pn**	**15 24 16.2**	**+1.2**
JIRB				*e*S		**Sn**	**15 24 53.7**	**+2.1**
KNM	**Kinmen**	**3.11**	**274**	*e*P		**Pn**	**15 24 17.1**	**+2.0**
	baz=273								
KNMB	**Chin-men Tao**	**3.15**	**275**	*e*P		**Pn**	**15 24 15.8**	**+0.1**
	baz=274								
KNMB	**Chin-men Tao**	**3.15**	**275**			**Pn**	**15 24 15.7**	**-0.1**
JIKM	**Ikemajima**	**3.19**	**77**	P		**Pn**	**15 24 17.8**	**+1.6**
JIKM				*e*S		**Sn**	**15 24 56.0**	**+2.3**
JMJ	**Miyako jima 2**	**3.21**	**79**	*e*P		**Pn**	**15 24 18.5**	**+2.0**
	baz=80								
JMJ2	**Miyako jima3**	**3.23**	**80**	P		**Pn**	**15 24 18.7**	**+1.9**
JMJ2				S		**Sn**	**15 24 57.3**	**+2.6**
JOGS	**Gusukube**	**3.30**	**80**	*e*S		**Sn**	**15 24 58.9**	**+2.4**
AXDP	**Jialang**	**3.58**	**282**	*e*P		**Pn**	**15 24 23.2**	**+1.5**
	baz=281								
ZPLA	**Ao Xicun**	**3.74**	**266**	*e*P		**Pn**	**15 24 24.3**	**+0.4**
	baz=265								
JOW	**Kunigami**	**6.37**	**65**	Pn		**Pn**	**15 24 59.9**	**-0.2**
	8.2nm,0.3s,baz=130,slow=18,SNR=7.8								
JOW				Sn		**Sn**	**15 26 12.2**	**-0.2**
	2.4nm,0.3s,baz=95,slow=22,SNR=1.0								
JOW				LR	LR		15 27 30.4		
	comp=Z,794nm,21.4s,baz=288,slow=39								
JOW	**Kunigami**	**6.37**	**65**	Pn		**Pn**	**15 25 00.0**	**0.0**
SSE	**Sheshan**	**6.88**	**355**	Pn		**Pn**	**15 25 04.2**	**-2.7**
SSE				Sn		**Sn**	**15 26 22.9**	**-1.8**
SSE				smax	smax				
	comp=N,63nm,1.0s								
SSE				smax	smax				
	comp=E,69nm,1.1s								
SSE				LR	LR				
	comp=N,930nm,13.5s								
SSE				LR	LR				
	comp=E,1μm,13.9s								
GZH	**Guangzhou**	**7.86**	**263**	Pn		**Pn**	**15 25 16.8**	**-3.7**
GZH				Sn		**Sn**	**15 26 40.8**	**-8.3**
GZH				smax	smax				
	comp=N,310nm,1.2s								
GZH				smax	smax				
	comp=E,250nm,1.5s								
NJ2	**Nanjing**	**8.24**	**342**	*e*P		**Pn**	**15 25 24.7**	**-0.9**
NJ2				S		**Sn**	**15 26 52.7**	**-5.5**
NJ2				pmax	pmax				
	comp=Z,17nm,0.5s								
NJ2				smax	smax				
	comp=N,170nm,0.8s								
NJ2				smax	smax				
	comp=E,140nm,1.1s								
NJ2				LR	LR				
	comp=N,2μm,10.9s								
NJ2				LR	LR				
	comp=E,1μm,8.5s								
NJ2				LR	LR				
	comp=Z,2μm,12.8s								
WHN	**Wuhan**	**9.16**	**315**	P		**Pn**	**15 25 41.2**	**+2.9**
WHN				S		**Sn**	**15 27 24.7**	**+3.8**
WHN				LR	LR				
	comp=E,5μm,7.7s								
WHN				LR	LR				
	comp=Z,7μm,12.8s								
JNU	**Nakatsue**	**11.90**	**40**	Pn		**Pn**	**15 26 14.7**	**-1.2**
	0.2nm,0.3s,baz=231,slow=13,SNR=2.0								
QIZ	**Qiongzhong**	**12.29**	**247**	P		**Pn**	**15 26 21.8**	**+0.7**
QIZ				S		**Sn**	**15 28 40.4**	**+2.7**
QIZ				LR	LR				
	comp=N,730nm,18.0s								
QIZ				LR	LR				
	comp=E,510nm,17.8s								
QIZ				LR	LR				
	comp=Z,720nm,15.4s								
GYA	**Guiyang**	**13.90**	**282**	⇓P		**Pn**	**15 26 44.4**	**+1.1**
GYA				S		**Sn**	**15 29 18.9**	**+1.7**
GYA				pmax	pmax				
	comp=Z,9.0nm,1.0s								
GYA				pmax	pmax				
	comp=Z,260nm,6.6s								
GYA				LR	LR				
	comp=N,750nm,5.7s								
GYA				LR	LR				
	comp=Z,2μm,12.2s								
KSRS	**Korea Array**	**14.19**	**20**	Pn		**Pn**	**15 26 45.9**	**-1.1**
	baz=201,slow=12,SNR=3.6								
KSRS				LR	LR		15 33 00.8		
	comp=Z,414nm,19.0s,baz=203,slow=41								
XAN	**Xi'an**	**14.92**	**314**	P		**Pn**	**15 26 58.5**	**+1.4**
XAN				pP	P		15 27 04.6	+1.9	
XAN				pmax	pmax				
	comp=Z,5.0nm,1.0s								
XAN				pmax	pmax				
	comp=Z,90nm,5.2s								
XAN				LR	LR				
	comp=N,670nm,9.4s								
XAN				LR	LR				
	comp=Z,3μm,13.7s								
BJI	**Beijing**	**16.48**	**345**	P		**P**	**15 27 22.1**	**+2.3**
BJI				pmax	pmax				
	comp=Z,111nm,1.2s								
BJI				LR	LR				
	comp=N,870nm,15.1s								
BJI				LR	LR				
	comp=E,590nm,13.6s								
BJI				LR	LR				
	comp=Z,1μm,13.4s								
SLVN	**Son La**	**16.78**	**264**			**P**	**15 27 23.5**	**+0.1**
CD2	**Chengdu**	**17.35**	**297**	P		**P**	**15 27 31.1**	**+1.5**
CD2				pmax	pmax				
	comp=Z,20nm,1.1s								
CD2				pmax	pmax				
	comp=Z,170nm,4.1s								
CD2				LR	LR				
	comp=N,1μm,8.8s								
CD2				LR	LR				
	comp=E,2μm,12.2s								
CD2				LR	LR				
	comp=Z,2μm,14.3s								
KMI	**Kunming**	**17.38**	**277**	⇓P		**P**	**15 27 31.5**	**+1.3**
KMI				pP	pP		15 27 34.4	-0.9	
KMI				pmax	pmax				
	comp=Z,6.0nm,0.5s								
KMI				pmax	pmax				
	comp=Z,160nm,5.8s								
KMI				LR	LR				
	comp=N,570nm,12.6s								
KMI				LR	LR				
	comp=E,2μm,11.4s								
KMI				LR	LR				
	comp=Z,3μm,11.4s								
JCJ	**Chichijima**	**18.57**	**77**	LR	LR		15 34 14.1		
	comp=Z,477nm,19.2s,baz=220,slow=35								
HHC	**Hu-ho-hao-te**	**18.68**	**335**	*e*P		**Pn**	**15 27 47.2**	**+2.5**
HHC				S		**S**	**15 31 16.8**	**+0.3**
HHC				SS		**SnSn**	**15 31 31.0**	**+3.6**
HHC				pmax	pmax				
	comp=Z,18nm,0.8s								
HHC				pmax	pmax				
	comp=Z,270nm,7.0s								
HHC				LR	LR				
	comp=N,890nm,10.2s								
HHC				LR	LR				
	comp=E,580nm,12.3s								
HHC				LR	LR				
	comp=Z,1μm,12.3s								
LZH	**Lanzhou**	**19.51**	**311**	*e*P		**Pn**	**15 27 55.4**	**+0.7**
LZH				pP	sP		15 28 00.4	+0.4	
LZH				sP	pP		15 28 02.9	+4.0	
LZH				sS	sS		15 31 39.9	-2.3	
LZH				pmax	pmax				
	comp=Z,32nm,1.1s								
LZH				pmax	pmax				
	comp=Z,270nm,5.4s								
LZH				LR	LR				
	comp=N,1μm,13.0s								
LZH				LR	LR				
	comp=Z,2μm,14.6s								
CN2	**Changchun**	**19.76**	**8**	*e*P		**Pn**	**15 27 58.7**	**+1.2**
CN2				*e*S		**S**	**15 31 30.7**	**-7.2**
CN2				pmax	pmax				
	comp=Z,10.0nm,0.8s								
CN2				LR	LR				
	comp=N,330nm,14.0s								
CN2				LR	LR				
	comp=E,730nm,14.0s								
CN2				LR	LR				
	comp=Z,480nm,15.0s								
SGSI	**Sangihe**	**20.72**	**170**	P		Pn	15 28 08.8	-0.2	
	5μm243nm,0.4s								
USA0B	**Ussuriysk Arra**	**21.60**	**20**	P		**P**	**15 28 15.7**	**-0.1**
USA0B				lAmb	lAmb		15 28 30.3		
	comp=Z,39nm,1.8s								
USRK	**Ussuriysk Ar.**	**21.60**	**20**	P		**P**	**15 28 15.2**	**-0.6**
CMMT	**Chiang Mai**	**21.95**	**260**	P		**P**	**15 28 20.6**	**+0.8**
	comp=Z,14nm,1.1s								
CHTO	**Chiang Mai**	**21.95**	**260**			**P**	**15 28 19.9**	**+0.1**
CHTO	**Chiang Mai**	**21.95**	**260**	P		**P**	**15 28 21.1**	**+1.2**
	comp=Z,8.2nm,1.1s								
CMAR	**Chiang Mai Arr**	**22.07**	**259**	P		**P**	**15 28 20.9**	**-0.2**
	comp=Z,6.3nm,0.9s,baz=58,slow=8.8,SNR=17								
CMAR				LR	LR		15 37 36.8		
	comp=Z,432nm,19.3s,baz=114,slow=39								
CMAR	**Chiang Mai Arr**	**22.07**	**259**			**P**	**15 28 22.6**	**+1.6**
TOLI2	**Tolitoli**	**22.99**	**183**	P		**P**	**15 28 32.2**	**+1.3**
TOLI2				lAmb	lAmb		15 28 53.1		
	comp=Z,25nm,1.7s								
GTA	**Gaotai**	**23.98**	**314**	⇑P		**P**	**15 28 40.6**	**-0.1**
GTA				pP	sP		15 28 47.5	-0.3	
GTA				sP	pwP		15 28 50.2	+2.3	
GTA				S	**S**		**15 32 57.6**	**+0.8**	
GTA				pmax	pmax				
	comp=Z,6.0nm,1.4s								
GTA				pmax	pmax				
	comp=Z,110nm,4.0s								
GTA				LR	LR				
	comp=Z,260nm,13.1s								
GTA				LR	LR				
	comp=Z,1μm,14.5s								
GTA				LR	LR				
	comp=Z,1μm,13.5s								
GUMO	**Guam**	**24.18**	**112**	LR	LR		15 38 00.8		
	comp=Z,232nm,19.4s,baz=269,slow=36								
APSI	**Ampana**	**24.98**	**180**	P		**P**	**15 28 51.4**	**+1.7**
	comp=Z,21nm,1.4s								
HIA	**Hailar**	**25.06**	**357**	P		**P**	**15 28 50.1**	**-0.1**
HIA				lAmb	lAmb		15 28 51.9		
	comp=Z,23nm,1.6s								
KLR	**Kul'dur**	**26.15**	**15**	P		**P**	**15 28 59.0**	**-1.1**
	comp=Z,2.4nm,0.7s,baz=252,slow=9.8,SNR=6.6								
ULN	**Ulaanbaatar**	**26.36**	**337**	P		**P**	**15 29 01.6**	**-0.6**
ULN	**Ulaanbaatar**	**26.36**	**337**	P		**P**	**15 29 03.5**	**+1.3**
SONM	**Songino Array**	**26.57**	**336**	P		**P**	**15 29 02.8**	**-1.3**
	comp=Z,2.6nm,0.7s,baz=153,slow=9.9,SNR=17								
SONM				LR	LR		15 40 44.2		
	comp=Z,664nm,18.3s,baz=147,slow=39								
SONM	**Songino Array**	**26.57**	**336**	P		**P**	**15 29 03.7**	**-0.4**
SHL	**Shillong**	**27.18**	**279**	P		**P**	**15 29 09.6**	**-0.3**
SHL				lAmb	lAmb		15 29 43.6		
	comp=Z,8.2nm,0.7s								
LSA	**Lhasa**	**27.84**	**288**	P		**P**	**15 29 16.6**	**+0.5**
LSA				lAmb	lAmb		15 29 44.8		
	comp=Z,7.4nm,0.6s								
PSI	**Prapat**	**30.70**	**230**	P		**P**	**15 29 41.9**	**+0.7**
	comp=Z,6.6nm,1.0s,baz=7.2,slow=4.5,SNR=5.0								
PSI	**Prapat**	**30.70**	**230**	P		**P**	**15 29 42.6**	**+1.4**
	comp=Z,13nm,1.3s								
RPSI	**Rantau Prapat**	**30.78**	**229**	P		**P**	**15 29 41.9**	**+0.2**
RPSI	**Rantau Prapat**	**30.78**	**229**	P		**P**	**15 29 41.3**	**-0.4**
RPSI				lAmb	lAmb		15 29 44.3		
	comp=Z,14nm,1.2s								
JAY	**Jayapura**	**32.29**	**143**	LR	LR		15 40 49.3		
	comp=Z,206nm,19.9s,baz=267,slow=32								
LEM	**Lembang**	**33.83**	**206**	LR	LR		15 45 15.4		
	comp=Z,79nm,18.0s,baz=10.0,slow=39								
WMQ	**Urumqi**	**34.06**	**314**	*e*P		**P**	**15 30 13.0**	**+2.7**
WMQ				pP	pwP		15 30 17.5	+2.0	
WMQ				pmax	pmax				
	comp=Z,22nm,0.7s								
WMQ				pmax	pmax				
	comp=Z,220nm,5.5s								
WMQ				LR	LR				
	comp=Z,350nm,10.3s								
WMQ				LR	LR				
	comp=Z,230nm,13.1s								
BATI	**Baumata**	**34.26**	**177**	LR	LR		15 45 40.4		
	comp=Z,79nm,19.6s,baz=135,slow=39								
YAK	**Yakutsk**	**38.17**	**6**	P		**P**	**15 30 44.2**	**-0.9**
MK31	**Makanchi Array**	**38.73**	**316**	P		**P**	**15 30 48.9**	**-1.2**
MKAR	**Makanchi Array**	**38.73**	**316**	P		**P**	**15 30 50.4**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=99,slow=8.1,SNR=10								
MKAR				LR	LR		15 48 00.4		
	comp=Z,304nm,18.8s,baz=102,slow=38								
MKAR	**Makanchi Array**	**38.73**	**316**	P		**P**	**15 30 47.9**	**-2.1**
MAKZ	**Makanchi**	**38.93**	**316**	P		**P**	**15 30 51.1**	**-0.6**
MAKZ				lAmb	lAmb		15 30 58.2		
	comp=Z,12nm,1.2s								
PEA0B	**Petropavlovsk-**	**39.51**	**34**	P		**P**	**15 30 57.6**	**+1.1**
PEA0B				lAmb	lAmb		15 31 19.0		
	comp=Z,29nm,1.6s								
PETK	**Petropavlovsk-**	**39.51**	**34**	LR	LR		15 47 02.8		
	comp=Z,194nm,20.9s,baz=217,slow=36								
PETK	**Petropavlovsk-**	**39.51**	**34**	P		**P**	**15 30 57.4**	**+0.9**
PET	**Petropavlovsk**	**39.95**	**34**	P		**P**	**15 30 59.5**	**-0.7**
PET				lAmb	lAmb		15 31 00.1		
	comp=Z,18nm,1.0s								
PRZ	**Przheval'sk**	**40.10**	**308**	P		**P**	**15 31 01.8**	**+0.1**
ZALV	**Zalesovo Beam**	**40.54**	**327**	P		**P**	**15 31 03.6**	**-1.4**
	comp=Z,2.0nm,0.5s,baz=109,slow=9.4,SNR=7.5								
ZALV				LR	LR		15 49 09.0		
	comp=Z,335nm,18.4s,baz=122,slow=38								
ZALV	**Zalesovo Beam**	**40.54**	**327**	P		**P**	**15 31 04.1**	**-0.9**
KSH	**Kashi**	**41.38**	**303**	P		**P**	**15 31 16.8**	**+4.5**
KSH				pP	pwP		15 31 20.4	+2.8	
KSH				pmax	pmax				
	comp=Z,9.0nm,1.5s								
KSH				LR	LR				
	comp=Z,220nm,13.3s								
KSH				LR	LR				
	comp=Z,630nm,17.5s								
KURK	**Kurchatov**	**42.45**	**320**	P		**P**	**15 31 20.6**	**-0.1**
KURBB	**Kurchatov Arra**	**42.47**	**320**	P		**P**	**15 31 20.6**	**-0.3**
	comp=Z,2.9nm,0.9s,baz=116,slow=7.5,SNR=20								
PALK	**Pallekele**	**42.82**	**254**	LR	LR		15 50 57.0		
	comp=Z,129nm,18.0s,baz=163,slow=39								
COEN	**Coen**	**43.29**	**149**	P		**P**	**15 31 28.8**	**+0.9**
SEY	**Seymchan**	**43.75**	**20**	PcP		**PcP**	**15 33 17.2**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=244,slow=3.3,SNR=5.2								
WRAB	**Tennant Creek**	**45.55**	**163**	P		**P**	**15 31 46.9**	**+1.0**
WRAB				lAmb	lAmb		15 31 53.7		
	comp=Z,14nm,1.4s								
WRA	**Warramunga Arr**	**45.55**	**163**	P		**P**	**15 31 45.0**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=349,slow=9.7,SNR=19								
PSA00	**Pilbara Seismi**	**45.55**	**183**	P		**P**	**15 31 45.5**	**-0.4**
GAR	**Garm**	**45.70**	**302**	P		**P**	**15 31 47.8**	**+0.6**
KK31	**Karatay Array**	**45.92**	**307**	P		**P**	**15 31 49.6**	**+0.9**
KK31				lAmb	lAmb		15 31 50.7		
	comp=Z,10nm,1.3s								
KKAR	**Karatay Array**	**45.92**	**307**	P		**P**	**15 31 49.8**	**+1.1**
KKAR	**Karatay Array**	**45.92**	**307**	P		**P**	**15 31 49.6**	**+0.9**
KKAR				lAmb	lAmb		15 31 50.7		
	comp=Z,10nm,1.3s								
KWAJ	**Kwajalein Atol**	**46.26**	**101**	P		**P**	**15 31 52.6**	**+0.9**
CHGR	**Chuyangaron**	**46.59**	**301**	P		**P**	**15 31 54.4**	**+0.3**
KBL	**Kabul**	**46.69**	**295**	P		**P**	**15 31 56.0**	**+0.9**
TIXI	**Tiksi**	**47.63**	**3**	P		**P**	**15 32 00.2**	**-1.4**
TIXI				lAmb	lAmb		15 32 07.5		
	comp=Z,8.7nm,1.1s								
BVAR	**Borovoye Array**	**48.02**	**321**	P		**P**	**15 32 04.7**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=153,slow=10.0,SNR=6.8								
BRVK	**Borovoye**	**48.09**	**321**	P		**P**	**15 32 05.7**	**+0.2**
BRVK				lAmb	lAmb		15 32 09.1		
	comp=Z,4.0nm,0.9s								
AS31	**Alice Springs**	**49.02**	**165**	P		**P**	**15 32 12.1**	**-0.8**
ASAR	**Alice Springs**	**49.02**	**165**	P		**P**	**15 32 12.4**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=343,slow=7.1,SNR=16								
ASAR	**Alice Springs**	**49.02**	**165**	P		**P**	**15 32 13.4**	**+0.5**
ABKAR	**Akbulak array**	**53.84**	**314**	P		**P**	**15 32 48.9**	**+0.1**
ABKAR				lAmb	lAmb		15 32 50.4		
	comp=Z,9.7nm,0.9s								
ABKAR	**Akbulak array**	**53.84**	**314**	P		**P**	**15 32 49.0**	**+0.3**
AKTO	**Aktyubinsk**	**55.16**	**316**	P		**P**	**15 32 58.0**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=84,slow=6.5,SNR=7.7								
GEYT	**Alibeck**	**55.29**	**300**	P		**P**	**15 32 59.2**	**-0.3**
	comp=Z,22nm,0.3s,baz=203,slow=14,SNR=9.1								
GEYT				LR	LR		16 01 42.4		
	comp=Z,143nm,19.0s,baz=50,slow=42								
GYA0B	**ALIBECK ARRAY**	**55.29**	**300**	P		**P**	**15 33 00.5**	**+0.9**
ARU	**Arti**	**55.44**	**323**	P		**P**	**15 32 59.0**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=19,slow=1.7,SNR=6.6								
ARU	**Arti**	**55.44**	**323**	P		**P**	**15 32 59.3**	**-0.9**
STKA	**Stephens Creek**	**58.89**	**160**	P		**P**	**15 33 23.7**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=333,slow=8.1,SNR=1.6								
KIRV	**Kirov**	**60.53**	**325**	P		**P**	**15 33 34.6**	**-1.3**
	comp=Z,8.9nm,0.7s,baz=80,slow=12,SNR=5.7								
GNI	**Garni**	**65.27**	**305**	P		**P**	**15 34 07.2**	**-0.8**
	comp=Z,3.1nm,0.4s,baz=137,slow=5.3,SNR=5.3								
GNI	**Garni**	**65.27**	**305**	lAmb	lAmb		15 34 11.3		
	comp=Z,28nm,1.6s								
KLMR	**Klimovskoe**	**65.45**	**328**	*e*P		**P**	**15 34 06.0**	**-2.6**
KLMR				AMP			15 34 11.0		
	comp=Z,24nm,1.7s								
KBZ	**Khabaz**	**65.92**	**309**	P		**P**	**15 34 11.2**	**-0.7**
	comp=Z,7.2nm,0.9s,baz=101,slow=4.5,SNR=11								
KBZ				LR	LR		16 07 52.5		
	comp=Z,138nm,18.0s,baz=67,slow=40								
ILAR	**Eielson Array**	**68.91**	**27**	P		**P**	**15 34 30.1**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=292,slow=8.6,SNR=5.2								
FINES	**FINESS Array B**	**71.72**	**330**	P		**P**	**15 34 47.6**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=60,slow=5.0,SNR=7.7								
FINES				LR	LR		16 09 14.7		
	comp=Z,332nm,18.4s,baz=76,slow=38								
AKASG	**Malin Array Be**	**73.24**	**318**	P		**P**	**15 34 55.7**	**-1.2**
	comp=Z,2.2nm,0.6s,baz=61,slow=6.3,SNR=8.6								
NACGM	**Naroch**	**73.35**	**323**	*i* P		**P**	**15 34 57.7**	**+0.2**
BRTR	**Keskin Array B**	**73.63**	**307**	P		**P**	**15 34 59.2**	**-0.5**
	comp=Z,5.8nm,1.0s,baz=103,slow=5.6,SNR=14								
BRTR	**Keskin Array B**	**73.63**	**307**	P		**P**	**15 34 59.7**	**0.0**
NB2	**NORSAR Subarra**	**78.47**	**332**	P		**P**	**15 35 26.0**	**-0.7**
	comp=Z,4.5nm,1.2s,baz=56,slow=5.6								
NOA	**NORSAR Array B**	**78.47**	**332**	P		**P**	**15 35 25.0**	**-1.7**
	comp=Z,0.5nm,0.6s,baz=59,slow=5.6,SNR=5.0								
NOA				LR	LR		16 12 55.5		
	comp=Z,120nm,20.4s,baz=5.0,slow=38								
URZ	**Urewera**	**80.92**	**139**	LR	LR		16 05 42.7		
	comp=Z,35nm,20.4s,baz=31,slow=31								
GERES	**GERESS Array B**	**83.19**	**321**	P		**P**	**15 35 51.7**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=39,slow=6.4,SNR=3.0								
GERES				LR	LR		16 16 54.0		
	comp=Z,70nm,19.2s,baz=60,slow=39								
KMBO	**Kilima Mbogo**	**85.51**	**267**	P		**P**	**15 36 04.7**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=168,slow=16,SNR=3.2								
PPT	**Papeete**	**95.79**	**107**	LR	LR		16 11 18.4		
	comp=Z,67nm,20.3s,baz=310,slow=30								
ULM	**Lac du Bonnet**	**98.68**	**23**	LR	LR		16 24 48.4		
	comp=Z,53nm,18.4s,baz=322,slow=37								
ESDC	**Sonseca Array**	**98.79**	**321**	LR	LR		16 26 58.0		
	comp=Z,53nm,19.5s,baz=345,slow=39								

*IDC **10** 15:25:47.7±6.0,36°.92N×71°.59E,h89^{km}±52^{km}, mb3.4/6, mb1 3.6/11,mb1mx3.3/57,mbtmp3.8/11,ML3.8/5 Error ellipse: s-maj=46.8km s-min=23.5km az=32.0*

*MOS **10** 15:25:50.6±0.9,37°.20N×71°.59E,h122^{km},mb4.4/4, Error ellipse: s-maj=11.5km s-min=4.3km az=77.2*

*NEIC **10** 15:25:52.2±2.2,37°.23N±0°.05×71°.49E±0°.07,h124^{km}±2^{km}, mb4.7/10, Error ellipse: s-maj=8.7km s-min=7.6km az=117.0*

*NNC **10** 15:25:52.9±4.1,37°.67N×71°.29E, h0^{km}, mb4.5, mpv4.4, Error ellipse: s-maj=31.9km s-min=20.6km az=171.0*

*SOME **10** 15:25:59.1,38°.80N×72°.15E, h10^{km}*

ISC 10 15:25:50.3±0.5, 37°.18N±0°.04×71°.61E±0°.05, h106^{km}, n122, σ2^{s}.05/145, mb3.9/15, 17C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	ISC	Res
GAR	**Garm**	**2.09**	**331**			**Pn**	**15 26 26.1**	**+1.8**	
DRK	**Karamyk**	**2.31**	**4**			**Pn**	**15 26 30.3**	**+3.0**	
CHGR	**Chuyangaron**	**2.44**	**308**			**Pn**	**15 26 29.6**	**+0.8**	
CHGR					Sn	**Sn**	**15 26 58.3**	**-0.1**	
CEP	**Cherat**	**3.35**	**176**	P		**Pn**	**15 26 43.7**	**+2.6**	
KBL	**Kabul**	**3.36**	**219**	PN		**Pn**	**15 26 43.9**	**+2.8**	
KBL	**Kabul**	**3.36**	**219**	Pn		**Pn**	**15 26 43.9**	**+2.8**	
KBL					Sn	**Sn**	**15 27 21.3**	**+0.9**	
CHCP	**Chirah Chowk**	**3.76**	**158**	P		**Pn**	**15 26 49.7**	**+3.3**	
NIL	**Nilore**	**3.77**	**159**	PN		**Pn**	**15 26 49.7**	**+3.3**	
NIL	**Nilore**	**3.77**	**159**			**Pn**	**15 26 49.7**	**+3.3**	
KSH	**Kashi**	**4.15**	**54**	P		**Pn**	**15 26 49.9**	**-1.8**	
KSH				S		**Sn**	**15 27 32.3**	**-7.0**	
KSH				smax	smax				
	comp=N,340nm,0.6s								
KSH				smax	smax				
	comp=E,230nm,0.4s								
ARSB	**Arslanbob**	**4.28**	**14**	PN	

SNR=9.7
FRU1 Bishkek 6.08 21 PN **Pn** **15 27 20.7 +2.9**
FRU1 Bishkek 6.08 21 **Pn** **15 27 20.7 +2.9**
FRU1 Sn **Sn** **15 28 27.2 +1.2**
ULHL Ulahol 6.19 34 P **Pn** **15 27 21.3 +1.9**
SNR=5.8
DHRM DHARAMSHALA 6.25 140 *e*P **Pn** **15 27 22.6 +2.4**
DHRM *e*S **Sn** **15 28 26.6 -3.7**
DHRM IAML 15 28 32.1
comp=E,322nm,0.5s
BOOM Boomskoye usch 6.26 31 PN **Pn** **15 27 21.9 +1.6**
BOOM Boomskoye usch 6.26 31 Pn **Pn** **15 27 21.9 +1.6**
CHMS Chumysh 6.29 22 P **Pn** **15 27 22.7 +2.2**
SNR=15
USP Ospenovka 6.47 19 P **Pn** **15 27 24.7 +1.7**
SNR=14
TKM2 Tokmak 2 6.50 27 P **Pn** **15 27 25.4 +1.8**
SNR=38
TKM2 Tokmak 2 6.50 27 ⇑P **Pn** **15 27 25.1 +1.6**
comp=E,16nm,0.6s
TKM2 ⇑S **Sn** **15 28 39.3 +3.0**
comp=E,15nm,1.4s
TKM2 Tokmak 2 6.50 27 PN **Pn** **15 27 25.8 +2.3**
TKM2 S **Sn** **15 28 39.3 +3.0**
KDJ Kajisay 6.55 39 PN **Pn** **15 27 25.6 +1.4**
KDJ Kajisay 6.55 39 **Pn** **15 27 25.6 +1.4**
TARG Taragay, Kyrgy 6.61 45 **Pn** **15 27 25.4 +0.2**
SGDS Sogindy 6.68 19 ⇑*i*P **Pn** **15 27 27.2 +1.4**
baz=20
SGDS *e*S **Sn** **15 28 41.1 +0.7**
baz=20
SGDS Sogindy 6.68 19 *e*PN **Pn** **15 27 27.2 +1.4**
SGDS pmax pmax
comp=Z,2μm,0.2s
MTBS Maitube 7.00 30 ⇑*e*P **Pn** **15 27 32.2 +2.0**
baz=31
TNSS Tian-Shan 7.14 33 *e*P **Pn** **15 27 34.0 +1.7**
baz=34
AAA Alma-Ata 7.26 32 *e*P **Pn** **15 27 36.6 +2.8**
baz=33
AAA Alma-Ata 7.26 32 *e*PN **Pn** **15 27 36.5 +2.8**
MDOK Medeo 7.29 33 *e*P **Pn** **15 27 36.6 +2.5**
baz=34
MDOK Medeo 7.29 33 *e*PN **Pn** **15 27 36.6 +2.5**
PRZ Przheval'sk 7.44 42 PN **Pn** **15 27 38.8 +2.5**
PRZ Przheval'sk 7.44 42 **Pn** **15 27 38.8 +2.5**
SMLA Simla 7.59 141 *e*P **Pn** **15 27 38.7 +0.5**
SMLA *e*S **Sn** **15 28 56.1 -6.4**
SMLA IAML 15 29 01.0
comp=E,85nm,0.3s
SMLA IAML 15 29 01.2
comp=N,148nm,0.4s
KUU Kurty 7.61 27 *e*P **Pn** **15 27 38.8 +0.3**
baz=28
KUU Kurty 7.61 27 *e*PN **Pn** **15 27 38.7 +0.3**
CHKK Chushkaly 7.83 30 *e*P **Pn** **15 27 42.5 +1.2**
baz=31
SATY Saty 7.85 39 *e*P **Pn** **15 27 43.0 +1.3**
baz=41
SATY Saty 7.85 39 *e*PN **Pn** **15 27 43.0 +1.3**
BTLS Baital 8.07 12 ⇑*i*P **Pn** **15 27 45.2 +0.5**
comp=N,3.7nm,0.5s,baz=13
BTLS Baital 8.07 12 *c i*PN **Pn** **15 27 45.1 +0.5**
BTLS pmax pmax
comp=Z,4.0nm,0.5s
UZB Uzynbulak 8.23 41 *e*P **Pn** **15 27 47.6 +0.7**
baz=42
UZB Uzynbulak 8.23 41 *e*PN **Pn** **15 27 47.6 +0.7**
KPKS Kokpek 8.28 38 *e*P **Pn** **15 27 48.9 +1.2**
baz=40
KPKS Kokpek 8.28 38 *e*PN **Pn** **15 27 48.8 +1.2**
SHLS Shalkode 8.47 43 *e*P **Pn** **15 27 54.1 +3.8**
comp=Z,2.8nm,0.5s,baz=45
SHLS Shalkode 8.47 43 *e*PN **Pn** **15 27 54.0 +3.8**
SHLS pmax pmax
comp=Z,3.0nm,0.5s
GYA0B ALIBECK ARRAY 10.74 278 Pn **Pn** **15 28 19.0 -2.0**
MK31 Makanchi Array 12.46 36 P **Pn** **15 28 44.6 +0.9**
MK31 Makanchi Array 12.46 36 Pn **Pn** **15 28 44.6 +0.9**
MKAR Makanchi Array 12.46 36 P **Pn** **15 28 43.3 -0.4**
comp=Z,0.2nm,0.3s,baz=225,slow=14,SNR=8.5
MKAR Makanchi Array 12.46 36 *i* P **Pn** **15 28 44.9 +1.2**
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MKAR Makanchi Array 12.46 36 Pn **Pn** **15 28 44.4 +0.6**
BRZS Berezniki 12.82 3 *e*P **Pn** **15 28 46.9 -1.6**
baz=3.3
BRZS Berezniki 12.82 3 *e*P **Pn** **15 28 46.9 -1.6**
WMQ Urumqi 13.91 57 *e*P **Pn** **15 29 05.9 +3.1**
KURBB Kurchatov Arra 14.33 18 P **Pn** **15 29 05.8 -2.2**
comp=Z,0.0nm,0.3s,baz=207,slow=10,SNR=4.1
KURK Kurchatov 14.44 18 P **Pn** **15 29 05.8 -3.5**
KURK Kurchatov 14.44 18 P **Pn** **15 29 05.8 -3.5**
AB31 Akbulak array 14.75 329 ⇑P **Pn** **15 29 12.2 -1.1**
comp=Z,0.7nm,0.3s,baz=162,slow=9.5,SNR=38
AB31 ⇑S **Sn** **15 31 52.5 -3.4**
comp=Z,2.0nm,0.6s,baz=153,slow=23,SNR=7.3
AB31 Akbulak array 14.75 329 P **Pn** **15 29 12.2 -1.1**
AB31 S **Sn** **15 31 52.5 -3.4**
ABKAR Akbulak array 14.75 329 **Pn** **15 29 12.5 -0.8**
BHPL Bhopal 14.76 159 *e*P **P** **15 29 18.6 +1.6**
BHPL *e*S Sn 15 31 45.2 -12
BVAR Borovoye Array 15.87 357 P **Pn** **15 29 27.7 +0.3**
comp=Z,0.4nm,0.3s,baz=165,slow=12,SNR=6.0
AKTO Aktyubinsk 16.45 328 P **P** **15 29 35.3 -0.2**
comp=Z,0.6nm,0.3s,baz=118,slow=15,SNR=6.9
AKTO Aktyubinsk 16.45 328 ⇓P **P** **15 29 36.1 +0.7**
comp=Z,2.7nm,0.7s
AKTO ⇓S **Sn** **15 32 33.2 -3.8**
comp=Z,3.4nm,0.7s
DGZ Jazzator, Alta 16.95 37 ⇓*e*P **Pn** **15 29 40.4 -0.5**
DGZ pmax pmax
comp=Z,1.0nm,0.7s
ZAA0 Zalesovo Array 19.10 24 P **P** **15 30 05.0 +0.5**
ZALV Zalesovo Beam 19.10 24 P **P** **15 30 05.6 +1.1**
comp=Z,0.5nm,0.3s,baz=214,slow=11,SNR=7.3
ZALV Zalesovo Beam 19.10 24 P **P** **15 30 04.6 +0.2**
ARU Arti 21.16 340 ⇑*e*P **P** **15 30 25.8 -0.9**
ARU pmax pmax
comp=Z,6.0nm,1.4s
GTA Gaotai 22.21 76 ⇑P **P** **15 30 41.6 +3.4**
GTA pP pP 15 31 01.8 +2.0
GTA sP sP 15 31 16.3 +2.7
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA pmax pmax
comp=Z,44nm,6.2s
GTA LR LR
comp=N,260nm,14.2s
GTA LR LR
comp=E,1μm,14.2s
GTA LR LR
comp=Z,1μm,13.8s
HHC Hu-ho-hao-te 31.07 71 *e*P **P** **15 31 58.2 -0.2**
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax
comp=Z,220nm,7.0s
SLVN Son La 32.10 110 P **P** **15 32 08.0 +0.5**
HIA Hailar 36.50 55 ⇑*e*P **P** **15 32 45.1 -0.1**
HIA *i* *PP **pP** **15 33 10.3 -0.2**
HIA pmax pmax
comp=Z,9.0nm,1.6s
FINES FINESS Array B 37.20 325 P **P** **15 32 51.1 +0.2**
comp=Z,0.5nm,0.5s,baz=116,slow=9.4,SNR=1.7
FINES FINESS Array B 37.20 325 P **P** **15 32 50.8 -0.1**
ARCES ARCESS Array B 40.71 337 P **P** **15 33 21.2 +1.1**
comp=Z,1.3nm,0.6s,baz=106,slow=7.7,SNR=7.6
ARCES ARCESS Array B 40.71 337 P **P** **15 33 21.8 +1.7**
ARCES pmax pmax
comp=Z,54nm,1.8s
ARCES ARCESS Array B 40.71 337 P **P** **15 33 21.8 +1.7**
NC602 NORSAR Array S 43.96 322 P **P** **15 33 46.7 +0.3**
NC602 IAmb IAmb 15 34 11.5
comp=Z,38nm,1.8s
NC303 NORSAR Array S 44.08 323 P **P** **15 33 49.6 +2.2**
NC303 IAmb IAmb 15 33 51.3
comp=Z,6.3nm,1.2s
NB201 NORSAR Array S 44.10 323 P **P** **15 33 46.8 -0.8**
NB201 IAmb IAmb 15 34 12.9
comp=Z,35nm,1.7s
NB2 NORSAR Subarra 44.14 323 P **P** **15 33 49.1 +1.1**
comp=Z,0.5nm,0.5s,baz=91,slow=7.9
NOA NORSAR Array B 44.14 323 P **P** **15 33 49.0 +1.1**
comp=Z,0.7nm,0.6s,baz=94,slow=7.8,SNR=6.0

KLR Kul'dur 44.35 54 ⇑*e*P **P** **15 33 48.0 -1.7**
KLR pmax pmax
comp=Z,19nm,2.3s
NC204 NORSAR Array S 44.37 323 P **P** **15 33 51.2 +1.3**
NC204 IAmb IAmb 15 34 11.7
comp=Z,18nm,1.4s
TORD Torodi Ar. Bea 66.22 269 P **P** **15 36 26.0 -1.2**
comp=Z,0.4nm,0.5s,baz=51,slow=6.5,SNR=3.3
TOLK Toolik Lake Re 70.14 15 P **P** **15 36 52.1 +1.2**
TOLK IAmb IAmb 15 36 57.6
comp=Z,21nm,1.5s
IMAR Indian Mountai 71.38 18 P **P** **15 36 58.5 +0.2**
H24K Noodor Dome 72.86 16 P **P** **15 37 08.6 +1.3**
K20K Telida 73.41 20 P **P** **15 37 11.5 +1.1**
WRA Warramunga Arr 81.94 122 P **P** **15 37 57.1 -1.3**
comp=Z,0.8nm,0.9s,baz=324,slow=4.2,SNR=2.5
ASAR Alice Springs 84.24 125 P **P** **15 38 09.1 -1.1**
comp=Z,0.3nm,0.9s,baz=326,slow=4.8,SNR=1.4

TAP ***10*** *15:27:38.4,24.24N×121.81E,h17km,ML3.4,B*
JMA ***10*** *15:27:38.0±0.1,24.16N×121.79E,h22km±2km,M2.3*
ISC 10 15:27:38.4±0.9,24.22N±0.02×121.83E±0.02,h18km±2km,
n80,σ0.58/134,2C-10D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village** baz=321	**0.12**	**321**	P		**Pg**	**15 27 42.0**	**-0.3**
EHP				S		**Sg**	**15 27 45.0**	**-0.1**
ETL	**Fush Village** baz=248	**0.19**	**253**	⇓*i*P		**Pg**	**15 27 43.4**	**+0.1**
ETL				*i* S		**Sg**	**15 27 47.0**	**+0.4**
NACB	**Ninganchiao** baz=255	**0.21**	**259**	⇓*i*P		**Pb**	**15 27 43.4**	**-0.1**
NACB				S		**Sg**	**15 27 47.2**	**+0.1**
ENA	**Nanau** baz=342	**0.23**	**340**	⇓*i*P		**Pb**	**15 27 43.3**	**-0.5**
ENA				*i* S		**Sb**	**15 27 47.0**	**-0.4**
EWUT	**Wuta** baz=350	**0.23**	**349**	*i* P		**Pb**	**15 27 43.5**	**-0.4**
EWUT				S		**Sb**	**15 27 47.0**	**-0.6**
TWD	**Chiawan** baz=237	**0.25**	**237**	⇓*i*P		**Pg**	**15 27 44.2**	**+0.1**
TWD				*i* S		**Sg**	**15 27 48.7**	**+0.7**
HWA	**Hwalien** baz=225	**0.31**	**220**	*e*P		**Pb**	**15 27 46.4**	**+0.9**
HWA				*e*S		**Sn**	**15 27 52.6**	**-1.5**
ETLH	**Xiulin Townshi** baz=265	**0.31**	**268**	⇓*i*P		**Pg**	**15 27 45.0**	**-0.2**
ETLH				*i* S		**Sb**	**15 27 49.8**	**-0.5**
ETM	**Tongmen** baz=230	**0.39**	**231**	*e*P		**Pb**	**15 27 47.0**	**+0.1**
ETM				*e*S		**Sb**	**15 27 53.0**	**+0.4**
TWC	**Suao** baz=1.0	**0.39**	**3**	⇑*i*P		**Pg**	**15 27 46.3**	**-0.3**
TWC				*i* S		**Sg**	**15 27 51.7**	**-0.4**
TEYL	**Yanliau Villag** baz=212	**0.40**	**211**	*e*P		**Pb**	**15 27 47.5**	**+0.4**
TEYL				*e*S		**Sn**	**15 27 55.0**	**-1.5**
NDS	**Dongshan** baz=346	**0.43**	**347**	⇓*i*P		**Pg**	**15 27 47.0**	**-0.2**
NDS				*i* S		**Sg**	**15 27 52.9**	**-0.3**
NNS	**Nan Shan** baz=297	**0.47**	**299**	⇓*i*P		**Pg**	**15 27 47.8**	**-0.2**
NNS				*i* S		**Sg**	**15 27 54.3**	**-0.2**
NDT	**Datong Townshi** baz=322	**0.48**	**324**	P		**Pb**	**15 27 47.9**	**-0.4**
NDT				S		**Sg**	**15 27 54.2**	**-0.5**
ENTT	**Nioudou** baz=322	**0.48**	**331**	⇓*i*P		**Pb**	**15 27 47.9**	**-0.5**
ENTT				*i* S		**Sg**	**15 27 54.9**	**+0.1**
WHF	**Hehuan Shan** baz=262	**0.52**	**262**	⇓*i*P		**Pg**	**15 27 48.8**	**-0.1**
WHF				*i* S		**Sg**	**15 27 56.1**	**0.0**
TWE	**Neicheng** baz=344	**0.52**	**344**	⇓*i*P		**Pb**	**15 27 48.6**	**-0.5**
TWE				S		**Sb**	**15 27 55.7**	**-0.6**
FUSS	**Fushou** baz=273	**0.53**	**274**	P		**Pg**	**15 27 49.2**	**0.0**
FUSS				S		**Sg**	**15 27 56.5**	**+0.1**
ESL	**Shilin** baz=227	**0.54**	**222**	⇑*i*P		**Pg**	**15 27 49.4**	**+0.2**
ESL				S		**Sg**	**15 27 57.7**	**+1.2**
ILA	**Ilan** baz=347	**0.55**	**353**	*e*P		**Pb**	**15 27 49.5**	**0.0**
ILA				*e*S		**Sb**	**15 27 57.3**	**+0.2**
TEGC	**Jichi Village** baz=199	**0.57**	**207**	*e*P		**Pg**	**15 27 50.1**	**+0.3**
TEGC				*e*S		**Sn**	**15 28 00.2**	**-0.2**
TWT	**Tachien** baz=271	**0.59**	**274**	*e*P		**Pg**	**15 27 50.7**	**+0.4**
TWT				S		**Sg**	**15 27 58.6**	**+0.3**
TDCB	**Techi** baz=272	**0.61**	**274**	P		**Pg**	**15 27 50.7**	**+0.1**
TDCB				S		**Sb**	**15 27 58.5**	**-0.4**
YHNB	**Yeheng** baz=317	**0.61**	**318**	P		**Pb**	**15 27 50.1**	**-0.4**
YHNB				S		**Sb**	**15 27 58.1**	**-0.7**
CHGB	**Renai** baz=250	**0.61**	**256**	P		**Pg**	**15 27 50.8**	**+0.1**
CHGB				S		**Sg**	**15 27 59.4**	**+0.4**
NSK	**Sanguang** baz=316	**0.63**	**317**	P		**Pb**	**15 27 50.4**	**-0.5**
NSK				S		**Sb**	**15 27 58.8**	**-0.5**
NTC	**Toucheng** baz=360	**0.64**	**0**	*e*P		**Pb**	**15 27 50.9**	**-0.1**
NTC				*e*S		**Sb**	**15 27 59.1**	**-0.4**
OWD	**Renai** baz=246	**0.65**	**246**	P		**Pg**	**15 27 51.4**	**+0.1**
OWD				S		**Sg**	**15 28 00.6**	**+0.6**
EGFH	**Guangfu** baz=228	**0.66**	**214**	*e*P		**Pg**	**15 27 51.4**	**0.0**
EGFH				*e*S		**Sg**	**15 28 00.8**	**+0.7**
TIPB	**Shuangxi** baz=359	**0.75**	**0**	*e*P		**Pb**	**15 27 53.1**	**0.0**
TIPB				*e*S		**Sb**	**15 28 02.3**	**-0.7**
NHDH	**Xindian Distri** baz=338	**0.79**	**340**	*e*P		**Pb**	**15 27 53.9**	**+0.2**
NHDH				*e*S		**Sb**	**15 28 03.9**	**-0.2**
TWA	**Mucha** baz=343	**0.79**	**344**	*e*P		**Pg**	**15 27 54.2**	**+0.2**
TWA				*e*S		**Sb**	**15 28 04.0**	**-0.1**
TWB1	**Santiao Chiao** baz=10.0	**0.80**	**11**	*e*P		**Pb**	**15 27 54.1**	**+0.2**
TWB1				*e*S		**Sb**	**15 28 03.8**	**-0.6**
WHP	**Taichung City** baz=274	**0.81**	**275**	P		**Pn**	**15 27 54.9**	**-0.1**
WHP				S		**Sg**	**15 28 04.6**	**-0.3**
HGSD	**Ruisui** baz=199	**0.81**	**207**	*e*P		**Pn**	**15 27 54.9**	**0.0**
HGSD				*e*S		**Sn**	**15 28 08.6**	**+2.1**
EHY	**Hungye** baz=213	**0.84**	**213**	*e*P		**Pb**	**15 27 53.7**	**-0.8**
WCS	**Beigang Elemen** baz=259	**0.85**	**259**	*e*P		**Pg**	**15 27 55.1**	**+0.1**
LIOB	**Emei** baz=299	**0.85**	**300**	*e*P		**Pg**	**15 27 55.2**	**+0.1**
LIOB				*e*S		**Sg**	**15 28 06.4**	**0.0**
NWF	**Wu-fen Shan** baz=349	**0.85**	**357**	P		**Pb**	**15 27 55.0**	**+0.2**
NWF				S		**Sb**	**15 28 06.2**	**+0.3**
WFSB	**Wu-fen Shan** baz=349	**0.85**	**357**	*e*P		**Pg**	**15 27 55.1**	**0.0**
WFSB				*e*S		**Sb**	**15 28 05.5**	**-0.3**
NSTT	**Nanjuang** baz=298	**0.86**	**299**	*e*P		**Pg**	**15 27 55.1**	**-0.1**
NSTT				*e*S		**Sb**	**15 28 06.0**	**0.0**
SSLB	**Suanglung** baz=251	**0.90**	**242**	*e*P		**Pb**	**15 27 55.1**	**-0.5**
SSLB				*e*S		**Sg**	**15 28 07.3**	**-0.7**
SMLT	**Sun Moon Lake** baz=249	**0.91**	**249**	*e*P		**Pn**	**15 27 56.2**	**-0.1**
SMLT				*e*S		**Sn**	**15 28 09.3**	**+0.2**
TYC	**Yuchr** baz=245	**0.94**	**251**	*e*P		**Pg**	**15 27 56.5**	**-0.2**
TYC				*e*S		**Sn**	**15 28 09.4**	**-0.3**
NCUH	**Zhongli** baz=320	**0.95**	**322**	*e*P		**Pn**	**15 27 56.7**	**-0.2**
NCUH				*e*S		**Sn**	**15 28 11.3**	**+1.3**
YULB	**Yu-li** baz=211	**0.95**	**211**	*e*P		**Pb**	**15 27 54.5**	**-1.9**
YM01	**YM01** baz=344	**0.95**	**346**	P		**Pb**	**15 27 56.6**	**+0.1**
YM01				S		**Sb**	**15 28 09.1**	**+0.2**
TWS1	**Kuangyinshan** baz=336	**0.96**	**337**	P		**Pb**	**15 27 56.2**	**-0.3**
TWS1				S		**Sg**	**15 28 09.7**	**0.0**
SBCB	**Hsinchu** baz=306	**0.96**	**307**	*e*P		**Pn**	**15 27 56.8**	**-0.2**
SBCB				*e*S		**Sn**	**15 28 11.3**	**+1.1**
TWQ1	**Liyutan** baz=278	**0.97**	**278**	*e*P		**Pg**	**15 27 57.8**	**+0.5**
TWQ1				*e*S		**Sn**	**15 28 11.5**	**+1.0**
HSN	**Hsinchu** baz=308	**0.97**	**307**	*e*S		**Sg**	**15 28 11.3**	**+1.1**
EYUL	**Yuli** baz=223	**0.98**	**208**	*e*P		**Pg**	**15 27 57.5**	**0.0**
NSY	**Sanyi** baz=274	**0.99**	**282**	*e*P		**Pg**	**15 27 58.6**	**+0.9**
NSY				*e*S		**Sg**	**15 28 12.6**	**+1.8**
NMLH	**Miaoli** baz=288	**1.00**	**289**	P		**Pg**	**15 27 58.4**	**+0.6**
NTST	**Danshui** baz=338	**1.00**	**340**	*e*P		**Pb**	**15 27 56.8**	**-0.5**
NTST				*e*S		**Sg**	**15 28 11.9**	**+0.7**
ANP	**Anpu** baz=342	**1.01**	**344**	P		**Pn**	**15 27 57.7**	**0.0**
ANP				*e*S		**Sb**	**15 28 10.6**	**+0.3**
WHYT	**Xinyi Township** baz=247	**1.03**	**240**	*e*P		**Pg**	**15 27 58.2**	**-0.2**
WHYT				*e*S		**Sg**	**15 28 13.3**	**+1.3**
JYNG	**Yonagunijimaku**	**1.05**	**77**	P		**Pn**	**15 27 58.3**	**+0.1**
WJS	**Zhushan** baz=243	**1.08**	**249**	*e*P		**Pg**	**15 27 59.4**	**+0.1**
WNT	**Mingjian** baz=243	**1.10**	**252**	*e*P		**Pg**	**15 28 00.1**	**+0.4**
YOJ	**Yonaguni jima**	**1.11**	**77**	P		**Pb**	**15 27 59.1**	**0.0**
YOJ	**Yonaguni jima** baz=77	**1.11**	**77**	*e*P		**Pb**	**15 27 59.1**	**0.0**
FULB	**Fuli** baz=222	**1.12**	**206**	*e*P		**Pb**	**15 27 59.5**	**+0.2**
WCHH	**Zhanghua** baz=263	**1.17**	**264**	*e*P		**Pg**	**15 28 00.6**	**-0.4**
ALS	**Alishan** baz=233	**1.17**	**233**	*e*P		**Pb**	**15 28 00.3**	**0.0**
CHN5	**Tsauling** baz=240	**1.22**	**240**	*e*P		**Pb**	**15 28 01.3**	**+0.3**
ELDTW	**Lidau** baz=204	**1.26**	**216**	*e*P		**Pn**	**15 27 59.9**	**-1.3**
WRL	**Guolierlin Hig** baz=257	**1.36**	**257**	*e*P		**Pb**	**15 28 03.6**	**+0.2**
STYH	**Taoyuan** baz=223	**1.42**	**223**	*e*P		**Pb**	**15 28 04.0**	**-0.3**
TPUB	**Ta-pu** baz=230	**1.43**	**230**	*e*P		**Pb**	**15 28 04.7**	**+0.2**
CHY	**Chiayi** baz=241	**1.47**	**241**	*e*P		**Pb**	**15 28 05.7**	**+0.5**
WTP	**Ta-pu** baz=231	**1.47**	**229**	*e*P		**Pb**	**15 28 05.4**	**+0.1**
WTP				*e*S		**Sg**	**15 28 25.0**	**-1.0**
TWK	**Hsinying** baz=232	**1.55**	**233**	*e*P		**Pb**	**15 28 06.5**	**0.0**
TWG	**Pinlang** baz=207	**1.55**	**207**	*e*P		**Pb**	**15 28 05.8**	**-0.8**
CHN1	**Nanshi** baz=229	**1.57**	**229**	*e*P		**Pb**	**15 28 07.1**	**+0.1**
WSF	**Szhu** baz=248	**1.58**	**249**	*e*P		**Pb**	**15 28 07.1**	**+0.1**
SGST	**Jiashian** baz=212	**1.60**	**226**	*e*P		**Pb**	**15 28 07.0**	**-0.5**
SGST				*e*S		**Sg**	**15 28 29.3**	**-0.9**
IRIF	**Iriomote-Funau**	**1.74**	**86**	P		**Pn**	**15 28 08.2**	**+0.4**
IRIF				*e*S		**Sn**	**15 28 30.0**	**+0.5**
SSD	**Sandimen** baz=202	**1.83**	**217**	*e*P		**Pb**	**15 28 10.8**	**-0.6**
JIJ	**Ishigaki jima**	**2.12**	**86**	*e*S		**Sn**	**15 28 39.2**	**+0.4**

TAP 10 15:32:02.0,24.25N×121.81E,h18km,ML3.8,4C-16D,B,
Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village** baz=319	**0.09**	**317**	P		Pg	15 32 05.7	+0.1
EHP				S		Sg	15 32 08.6	+0.6
ETL	**Fush Village** baz=247	**0.19**	**243**	⇓*i*P		Pg	15 32 07.0	+0.2
ETL				S		Sg	15 32 10.8	+0.7
ENA	**Nanau** baz=341	**0.19**	**341**	⇓*i*P		Pg	15 32 07.0	+0.1
ENA				*i* S		Sg	15 32 10.5	+0.4
EWUT	**Wuta** baz=349	**0.20**	**352**	⇓*i*P		Pb	15 32 07.2	+0.3
EWUT				*i* S		Sg	15 32 10.9	+0.6
NACB	**Ninganchiao** baz=254	**0.21**	**250**	⇓*i*P		Pb	15 32 07.1	0.0
NACB				*i* S		Sg	15 32 11.1	+0.6
TWD	**Chiawan** baz=236	**0.25**	**230**	⇓*i*P		Pb	15 32 07.9	-0.1
TWD				S		Sb	15 32 12.4	+0.4
ETLH	**Xiulin Townshi** baz=264	**0.30**	**263**	⇓P		Pg	15 32 08.7	+0.1
ETLH				S		Sg	15 32 13.3	+0.2
HWA	**Hwalien** baz=224	**0.33**	**215**	*e*P		Pb	15 32 10.1	+0.8
HWA				*e*S		Sn	15 32 16.2	-1.9
TWC	**Suao** baz=1.0	**0.36**	**6**	⇓*i*P		Pb	15 32 09.9	-0.2
TWC				*i* S		Sb	15 32 15.3	-0.1
NDS	**Dongshan** baz=345	**0.40**	**348**	⇓*i*P		Pb	15 32 10.7	+0.1
NDS				*i* S		Sb	15 32 16.4	0.0

	baz=345							
ETM	**Tongmen**	**0.40**	**226**	P		Pb	15 32 10.5	-0.1
	baz=236							
ETM				S		Sb	15 32 16.7	+0.3
	baz=236							
TEYL	**Yanliau Villag**	**0.42**	**207**	P		Pb	15 32 11.2	+0.2
	baz=198							
TEYL				S		Sb	15 32 18.4	+1.3
	baz=198							
NNS	**Nan Shan**	**0.44**	**296**	⇓*i* P		Pb	15 32 11.4	0.0
	baz=296							
NNS				*i* S		Sb	15 32 17.8	0.0
	baz=296							
NDT	**Datong Townshi**	**0.45**	**323**	⇑*i* P		Pb	15 32 11.6	+0.2
	baz=321							
NDT				S		Sb	15 32 18.1	+0.3
	baz=321							
ENTT	**Nioudou**	**0.45**	**331**	⇓*i* P		Pb	15 32 11.6	+0.1
	baz=321							
ENTT				*i* S		Sb	15 32 18.4	+0.5
	baz=321							
TWE	**Neicheng**	**0.49**	**345**	⇓*i* P		Pb	15 32 12.2	0.0
	baz=344							
TWE				*i* S		Sb	15 32 19.4	+0.4
	baz=344							
WHF	**Hehuan Shan**	**0.51**	**259**	⇓*i* P		Pg	15 32 12.5	+0.1
	baz=261							
WHF				*i* S		Sb	15 32 19.6	-0.2
	baz=261							
FUSS	**Fushou**	**0.52**	**270**	P		Pb	15 32 12.9	+0.3
	baz=272							
FUSS				S		Sb	15 32 19.9	0.0
	baz=272							
ILA	**Ilan**	**0.52**	**354**	⇓*i* P		Pb	15 32 13.0	+0.4
	baz=347							
ILA				*i* S		Sb	15 32 21.0	+1.2
	baz=347							
ESL	**Shilin**	**0.55**	**219**	⇑*i* P		Pg	15 32 12.9	-0.1
	baz=227							
ESL				S		Sb	15 32 21.5	+0.9
	baz=227							
TWT	**Tachien**	**0.58**	**271**	P		Pb	15 32 14.5	+0.8
	baz=271							
TWT				S		Sb	15 32 22.1	+0.5
	baz=271							
YHNB	**Yeheng**	**0.58**	**317**	⇓*i* P		Pb	15 32 13.8	+0.1
	baz=316							
YHNB				S		Sb	15 32 21.7	+0.2
	baz=316							
TDCB	**Techi**	**0.59**	**271**	*e*P		Pb	15 32 14.5	+0.5
	baz=272							
TDCB				*e*S		Sb	15 32 22.2	+0.2
	baz=272							
NSK	**Sanguang**	**0.59**	**316**	⇓*i* P		Pb	15 32 13.9	0.0
	baz=316							
NSK				*i* S		Sb	15 32 22.3	+0.3
	baz=316							
NTC	**Toucheng**	**0.61**	**2**	P		Pb	15 32 14.3	+0.2
	baz=360							
NTC				S		Sb	15 32 22.5	+0.2
	baz=360							
CHGB	**Renai**	**0.61**	**253**	⇑*i* P		Pb	15 32 14.4	+0.2
	baz=249							
CHGB				S		Sb	15 32 23.0	+0.5
	baz=249							
EGS		**0.61**	**11**	*e*P		Pb	15 32 14.8	+0.7
	baz=15							
OWD	**Renai**	**0.65**	**244**	P		Pg	15 32 14.9	0.0
	baz=245							
OWD				*e*S		Sb	15 32 24.1	+0.6
	baz=245							
EGFH	**Guangfu**	**0.67**	**211**	*e*P		Pb	15 32 15.1	-0.1
	baz=225							
TIPB	**Shuangxi**	**0.72**	**1**	P		Pg	15 32 16.4	+0.2
	baz=359							
TIPB				S		Sg	15 32 26.0	+0.1
	baz=359							
NHDH	**Xindian Distri**	**0.76**	**340**	*e*P		Pg	15 32 17.2	+0.3
	baz=338							
NHDH				*e*S		Sg	15 32 27.4	+0.4
	baz=338							
TWA	**Mucha**	**0.76**	**344**	*e*P		Pn	15 32 17.4	-0.5
	baz=343							
TWA				S		Sg	15 32 27.4	+0.4
	baz=343							
TWB1	**Santiao Chiao**	**0.78**	**12**	*e*P		Pg	15 32 17.3	0.0
	baz=10.0							
TWB1				*e*S		Sg	15 32 27.6	0.0
	baz=10.0							
WHP	**Taichung City**	**0.79**	**273**	*e*P		Pn	15 32 17.9	-0.4
	baz=273							
WHP				S		Sg	15 32 28.6	+0.7
	baz=273							
NWF	**Wu-fen Shan**	**0.82**	**358**	⇓*i* P		Pn	15 32 18.6	-0.2
	baz=349							
NWF				S		Sg	15 32 29.5	+0.5
	baz=349							
WFSB	**Wu-fen Shan**	**0.82**	**358**	P		Pn	15 32 18.7	0.0
	baz=349							
WFSB				*e*S		Sg	15 32 28.8	-0.2
	baz=349							
LIOB	**Emei**	**0.82**	**299**	P		Pn	15 32 18.6	-0.2
	baz=299							
LIOB				S		Sn	15 32 29.9	-0.7
	baz=299							
HGSD	**Ruisui**	**0.83**	**205**	*e*P		Pb	15 32 17.7	-0.2
	baz=196							
HGSD				*e*S		Sn	15 32 31.3	+0.8
	baz=196							
NSTT	**Nanjuang**	**0.83**	**298**	⇑*i* P		Pn	15 32 18.6	-0.2
	baz=298							
NSTT				S		Sg	15 32 29.6	+0.4
	baz=298							
TAP	**Taipei**	**0.84**	**341**	*e*P		Pn	15 32 19.5	+0.6
	baz=339							
TAP				*e*S		Sn	15 32 31.1	+0.3
	baz=339							
WCS	**Beigang Elemen**	**0.84**	**257**	*e*P		Pg	15 32 18.4	0.0
	baz=259							
WCS				*e*S		Sb	15 32 28.4	-0.6
	baz=259							
EHY	**Hungye**	**0.86**	**211**	*e*P		Pb	15 32 17.1	-1.3
	baz=212							
SSLB	**Suanglung**	**0.90**	**240**	P		Pb	15 32 18.8	-0.4
	baz=249							
SSLB				*e*S		Sb	15 32 30.4	-0.6
	baz=249							
SMLT	**Sun Moon Lake**	**0.91**	**247**	P		Pb	15 32 19.4	+0.2
	baz=249							
SMLT				S		Sg	15 32 31.7	0.0
	baz=249							
NCUH	**Zhongli**	**0.92**	**322**	*e*P		Pn	15 32 20.4	+0.4
	baz=320							
NCUH				*e*S		Sn	15 32 33.9	+1.1
	baz=320							
NCU	**National Centr**	**0.92**	**322**	*e*P		Pn	15 32 20.4	+0.4
	baz=320							
NCU				*e*S		Sn	15 32 34.0	+1.2
	baz=320							
TWS1	**Kuangyinshan**	**0.92**	**337**	P		Pb	15 32 19.6	+0.1
	baz=336							
TWS1				S		Sn	15 32 33.1	+0.2
	baz=336							
YM01	**YM01**	**0.92**	**346**	P		Pn	15 32 20.3	+0.1
	baz=329							
YM01				*e*S		Sn	15 32 32.8	-0.2
	baz=329							
SBCB	**Hsinchu**	**0.93**	**306**	*e*P		Pn	15 32 20.6	+0.5
	baz=299							
SBCB				*e*S		Sn	15 32 35.4	+2.4
	baz=299							
TYC	**Yuchr**	**0.93**	**249**	*e*P		Pb	15 32 19.5	-0.2
	baz=244							
TYC				*e*S		Sg	15 32 32.8	+0.3
	baz=244							
HSN	**Hsinchu**	**0.94**	**306**	*e*P		Pn	15 32 20.7	+0.3
	baz=308							
HSN				*e*S		Sn	15 32 34.5	+1.1
	baz=308							
TWQ1	**Liyutan**	**0.95**	**276**	P		Pg	15 32 21.1	+0.6
	baz=277							
TWQ1				*e*S		Sn	15 32 34.2	+0.6
	baz=277							
YULB	**Yu-li**	**0.97**	**209**	P		Pb	15 32 19.0	-1.3
	baz=210							
NSY	**Sanyi**	**0.97**	**280**	*e*P		Pg	15 32 21.8	+0.9
	baz=273							
NSY				*e*S		Sn	15 32 35.3	+1.2
	baz=273							
NMLH	**Miaoli**	**0.97**	**288**	*e*P		Pg	15 32 22.0	+1.1
	baz=294							
NMLH				*e*S		Sn	15 32 33.9	-0.2
	baz=294							
NTST	**Danshui**	**0.97**	**340**	P		Pg	15 32 21.4	+0.5
	baz=338							
NTST				*e*S		Sn	15 32 35.5	+1.4
	baz=338							
ANP	**Anpu**	**0.97**	**344**	*e*P		Pg	15 32 21.1	+0.1
	baz=343							
ANP				*e*S		Sg	15 32 34.0	+0.2
	baz=343							
EYUL	**Yuli**	**1.00**	**207**	*e*P		Pg	15 32 21.4	-0.1
	baz=222							
WHYT	**Xinyi Township**	**1.03**	**238**	*e*P		Pn	15 32 21.5	-0.1
	baz=240							
TWY	**Chenhua**	**1.04**	**350**	*e*P		Pg	15 32 22.8	+0.5
	baz=333							
TWY				*e*S		Sg	15 32 37.4	+1.4
	baz=333							
WDJ	**Dajia District**	**1.07**	**276**	*e*P		Pg	15 32 23.6	+0.8
	baz=277							
WDJ				*e*S		Sg	15 32 39.1	+2.3
	baz=277							
WJS	**Zhushan**	**1.07**	**247**	*e*P		Pg	15 32 22.8	0.0
	baz=247							
WJS				*e*S		Sg	15 32 39.0	+2.0
	baz=247							
YUS	**Yu-Shan**	**1.09**	**226**	*e*P		Pb	15 32 22.4	-0.2
	baz=227							
WNT	**Mingjian**	**1.09**	**251**	*e*P		Pg	15 32 23.4	+0.3
	baz=250							
WNT				*e*S		Sg	15 32 39.7	+2.2
	baz=250							
YOJ	**Yonaguni jima**	**1.12**	**79**	*e*P		Pn	15 32 22.0	-0.8
	baz=68							
YOJ				*e*S		Sn	15 32 37.7	0.0
	baz=68							
FULB	**Fuli**	**1.14**	**204**	*e*P		Pb	15 32 23.2	0.0
	baz=224							
FULB				*e*S		Sg	15 32 41.1	+1.9
	baz=224							
WCHH	**Zhanghua**	**1.15**	**262**	*e*P		Pg	15 32 24.2	-0.2
	baz=276							
WCHH				*e*S		Sg	15 32 41.1	+1.6
	baz=276							
ALS	**Alishan**	**1.17**	**232**	*e*P		Pn	15 32 23.4	-0.4
	baz=233							
CHN5	**Tsauling**	**1.22**	**238**	*e*P		Pg	15 32 25.3	-0.3
	baz=239							
ELDTW	**Lidau**	**1.28**	**215**	*e*P		Pn	15 32 23.7	-1.4
	baz=203							
WDLH	**Douliu**	**1.29**	**245**	*e*P		Pg	15 32 26.4	-0.5
	baz=245							
EDH	**Donghe**	**1.35**	**200**	*e*P		Pn	15 32 25.5	-0.5
	baz=191							
WRL	**Guolierlin Hig**	**1.35**	**256**	*e*P		Pb	15 32 26.8	0.0
	baz=256							
CHN2	**Minshiung**	**1.41**	**240**	*e*P		Pg	15 32 29.0	-0.2
	baz=242							
CHN2				*e*S		Sg	15 32 49.5	+1.8
	baz=242							
WTK	**Tuku**	**1.41**	**247**	P		Pb	15 32 28.1	+0.3
	baz=248							
WTK				*e*S		Sg	15 32 48.9	+1.2
	baz=248							
STYH	**Taoyuan**	**1.43**	**222**	*e*P		Pn	15 32 27.6	+0.5
	baz=224							
STYH				*e*S		Sn	15 32 45.6	+0.3
	baz=224							
TPUB	**Ta-pu**	**1.43**	**229**	*e*P		Pb	15 32 27.9	-0.3
	baz=232							
TPUB				*e*S		Sg	15 32 47.4	-1.0
	baz=232							
CHY	**Chiayi**	**1.47**	**240**	*e*P		Pb	15 32 29.2	+0.4
	baz=242							
CHY				*e*S		Sg	15 32 49.5	0.0
	baz=242							
LONT	**Longtian**	**1.47**	**205**	*e*P		Pn	15 32 24.8	-2.9
	baz=206							
WTP	**Ta-pu**	**1.48**	**228**	P		Pb	15 32 28.9	-0.1
	baz=230							
WTP				*e*S		Sb	15 32 48.3	+0.8
	baz=230							
TWK	**Hsinying**	**1.55**	**231**	*e*P		Pb	15 32 30.0	-0.3
	baz=233							
TWK				*e*S		Sg	15 32 51.1	-1.1
	baz=233							
TWG	**Pinlang**	**1.57**	**206**	*e*P		Pn	15 32 27.5	-1.5
	baz=207							
TWGBT	**Beinan**	**1.57**	**205**	*e*P		Pn	15 32 26.9	-2.1
	baz=207							
WSF	**Szhu**	**1.57**	**248**	*e*P		Pb	15 32 30.2	-0.4
	baz=249							
WSF				*e*S		Sg	15 32 52.9	+0.1
	baz=249							
CHN1	**Nanshi**	**1.58**	**228**	P		Pb	15 32 30.8	+0.1
	baz=230							
CHN1				*e*S		Sg	15 32 52.5	-0.4
	baz=230							
SGST	**Jiashian**	**1.61**	**224**	*e*P		Pn	15 32 29.8	+0.2
	baz=227							
SGST				*e*S		Sb	15 32 51.5	+0.1
	baz=227							
ICHU	**Yijhu**	**1.65**	**238**	*e*P		Pb	15 32 31.8	-0.2
	baz=238							
CHN8	**Yiju**	**1.71**	**239**	*e*P		Pb	15 32 32.0	-1.0
	baz=238							
SCST	**Cishan**	**1.81**	**222**	*e*P		Pb	15 32 34.3	-0.4
	baz=223							
SCST				*e*S		Sb	15 32 58.3	+1.2
	baz=223							
ECL	**Taimali**	**1.82**	**206**	*e*P		Pb	15 32 34.1	-0.7
	baz=199							
SSD	**Sandimen**	**1.84**	**216**	*e*P		Pb	15 32 34.0	-1.1
	baz=227							
TSMG	**Majia**	**1.87**	**215**	*e*P		Pb	15 32 34.6	-1.0
	baz=215							
MASBT	**Mashibuluo**	**1.95**	**214**	*e*P		Pn	15 32 34.9	+0.6
	baz=213							
SCZT	**Fangliau**	**2.16**	**211**	*e*P		Pn	15 32 38.4	+1.2
	baz=201							
PHUB	**P'eng-hu**	**2.17**	**251**	*e*P		Pn	15 32 37.4	+0.1
	baz=251							
PHUB				*e*S		Sn	15 33 04.4	+0.6
	baz=251							
SLIU	**Shizi**	**2.22**	**205**	*e*P		Pn	15 32 39.2	+1.2
	baz=200							

*UPP **10** 15:34:00.8±2.3, 54.˚44N×16.˚56E, h0km, ML1.8, Suspected explosion*

DNK 10 15:33:59.7±1.6, **54.˚43N×16.˚88E, h0km, ML1.4, Suspected explosion, Poland**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSD	**Bornholm Skovb**	**1.33**	**302**	*i* P		Pg	15 34 23.7	-1.4
BSD				*i* S		Sg	15 34 41.8	-0.5
BSD				IAML			15 34 47.1	
	comp=Z,2.0nm,0.4s							
BLEU	**Blekinge**	**1.98**	**343**	*e*		Pn	15 34 34.0	-0.4
	baz=153,slow=14							
BLEU				*i* P		Pb	15 34 34.5	-2.0
BLEU				P		Pg	15 34 34.7	-2.9
BLEU				*e*S		Sn	15 34 59.4	-0.4
BLEU				S		Sb	15 35 00.1	-1.6
DEL	**Delary**	**2.67**	**321**	*i* P		Pn	15 34 44.3	+0.4
VXJU	**Vaexsjoe**	**2.73**	**337**	P		Pn	15 34 45.2	+0.5
VXJU	**Vaexsjoe**	**2.73**	**337**	P		Pn	15 34 45.2	+0.5
BJUU	**Bjuv**	**2.75**	**308**	P		Pn	15 34 44.1	-1.0
BJUU	**Bjuv**	**2.75**	**308**	P		Pn	15 34 44.1	-1.0
BYXU	**Byxelkrok**	**2.87**	**1**	P		Pn	15 34 47.8	+1.1
BYXU	**Byxelkrok**	**2.87**	**1**	P		Pn	15 34 47.8	+1.1

*UPP **10** 15:42:37.0±2.3, 54.˚45N×16.˚45E, h0km, ML1.8, Suspected explosion*

DNK 10 15:42:35.6±1.3, **54.˚40N×16.˚79E, h0km, ML1.4, Suspected explosion, Poland**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSD	**Bornholm Skovb**	**1.30**	**304**	*i* P		Pg	15 42 59.8	-0.7
BSD				*e*S		Sg	15 43 17.5	+0.1
BSD				IAML			15 43 20.4	
	comp=Z,4.9nm,0.4s							
BLEU	**Blekinge**	**1.99**	**344**	*e*		Pn	15 43 09.5	-1.0
	baz=167,slow=14							
BLEU				P		Pb	15 43 10.5	-2.2
BLEU				*i* P		Pg	15 43 10.6	-3.1
BLEU				S		Sn	15 43 35.6	-0.5
BLEU				*i* S		Sb	15 43 36.0	-1.9
BLEU				IAML			15 43 38.9	
	comp=Z,0.4nm,0.3s							
BLEU	**Blekinge**	**1.99**	**344**	*e*		Pn	15 43 09.5	-1.0
	baz=167,slow=14							
BLEU				*i* P		Pb	15 43 10.6	-2.0
BLEU				*i* S		Sn	15 43 36.0	0.0
BLEU				IAML			15 43 38.9	
	comp=Z,0.4nm,0.3s							
DEL	**Delary**	**2.66**	**323**	*i* P		Pn	15 43 19.9	+0.3
DEL	**Delary**	**2.66**	**323**	*i* P		Pn	15 43 19.9	+0.3
BJUU	**Bjuv**	**2.73**	**310**	P		Pn	15 43 19.6	-1.1
BJUU	**Bjuv**	**2.73**	**310**	P		Pn	15 43 19.6	-1.1
VXJU	**Vaexsjoe**	**2.74**	**338**	P		Pn	15 43 20.7	-0.1
VXJU	**Vaexsjoe**	**2.74**	**338**	P		Pn	15 43 20.7	-0.1
OSKU	**Oskarshamn**	**2.83**	**352**	P		Pn	15 43 22.8	+0.7
OSKU	**Oskarshamn**	**2.83**	**352**	P		Pn	15 43 22.8	+0.7
BYXU	**Byxelkrok**	**2.90**	**2**	P		Pn	15 43 23.8	+0.8
BYXU	**Byxelkrok**	**2.90**	**2**	P		Pn	15 43 23.8	+0.8
VSTU	**Vaestervik**	**3.27**	**358**	P		Pn	15 43 28.2	+0.1
VSTU	**Vaestervik**	**3.27**	**358**	P		Pn	15 43 28.2	+0.1
EKSU	**Eksjoe**	**3.29**	**346**	P		Pn	15 43 29.2	+0.8
EKSU	**Eksjoe**	**3.29**	**346**	P		Pn	15 43 29.2	+0.8

RSNC 10 15:48:58.3±1.0, **7.˚45N×73.˚18W, h129**km±4km, **ML3.1, Mw3.7, 4C-4D, Fault plane solution: NP1:**ϕ⊕0.00000°, δ47.00000°, λ58.00000°., **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PAMC	**Pamplona, Colo**	**0.49**	**103**	⇑*e*P		Pn	15 49 18.1	+0.3
PAMC				*e*S		Sn	15 49 32.1	-0.3
PAMC				*i*			15 49 35.7	
	comp=Z,708nm,0.8s							
BRRC	**Barranca, Sant**	**0.63**	**237**	⇑*i* P		Pn	15 49 17.9	-0.2
BRRC				*i*			15 49 18.0	
	comp=Z,469nm,0.2s							
BRRC				*e*S		Sn	15 49 32.5	-0.4
OCAC	**Ocana**	**0.80**	**350**	*e*P		Pn	15 49 19.2	-0.4
OCAC				*e*S		Sn	15 49 35.4	-0.2
OCAC				*i*			15 49 38.4	
	comp=Z,515nm,0.2s							
BARC	**Barichara**	**0.85**	**180**	⇑*i* P		Pn	15 49 19.8	-0.3
BARC				*e*S		Sn	15 49 36.2	-0.3
BARC				*i*			15 49 37.9	
	comp=Z,291nm,0.2s							
RUSC	**La Rusia**	**1.55**	**176**	*e*P		Pn	15 49 26.9	-0.5
RUSC				*e*S		Sn	15 49 48.9	-0.6
PTBC	**PUERTO BERRIO,**	**1.55**	**235**	*e*P		Pn	15 49 25.9	-1.1
PTBC				*e*S		Sn	15 49 48.0	-0.8
PTBC				*i*			15 49 51.7	
	comp=Z,132nm,0.4s							
SMLC	**San Martn de**	**1.61**	**327**	*e*P		Pn	15 49 26.7	-0.9
SMLC				*e*S		Sn	15 49 48.8	-1.2
SMLC				*i*			15 49 49.9	
	comp=Z,188nm,0.2s							
ZARC	**Zaragoza, Cauc**	**1.66**	**272**	⇓*e*P		Pn	15 49 27.9	-0.3
ZARC				*e*S		Sn	15 49 50.9	-0.1
ZARC				*i*			15 49 52.4	
	comp=Z,258nm,0.2s							
TAMC	**Tame, Arauca**	**1.71**	**126**	⇓*i* P		Pn	15 49 28.8	0.0
TAMC				*e*S		Sn	15 49 51.1	-0.9
TAMC				*i*			15 49 51.9	
	comp=Z,76nm,0.3s							
SPBC	**San Pablo de B**	**1.99**	**206**	*e*P		Pn	15 49 32.2	0.0
SPBC				*e*S		Sn	15 49 58.2	+0.1
SPBC				*i*			15 50 05.4	
	comp=Z,154nm,0.6s							
LL2C	**La Loma 2 Cana**	**2.11**	**353**	*e*P		Pn	15 49 34.4	+0.8
LL2C				*e*S		Sn	15 50 00.2	-0.4
LL2C				*i*			15 50 03.6	
	comp=Z,145nm,0.5s							
UREC	**San Jos de Ur**	**2.35**	**278**	*e*P		Pn	15 49 34.8	-1.8
UREC				*e*S		Sn	15 50 03.4	-2.6
UREC				*i*			15 50 08.3	
	comp=Z,107nm,0.2s							
SOCV	**Socops**	**2.45**	**70**	⇓*i* P		Pn	15 49 36.8	-1.1
SOCV				*e*S		Sn	15 50 05.8	-2.4
NORC	**Norcasia**	**2.51**	**222**	*e*P		Pn	15 49 38.2	-0.5
NORC				*e*S		Sn	15 50 08.6	-1.1
NORC				*i*			15 50 15.6	
	comp=Z,91nm,0.2s							
ARGC	**Ariguani, Magd**	**2.62**	**336**	*e*S		Sn	15 50 11.9	-0.1
ARGC				*i*			15 50 22.9	
	comp=Z,20nm,0.3s							
HELC	**Santa Helena**	**2.64**	**242**	*e*P		Pn	15 49 40.3	-0.4
HELC				*e*S		Sn	15 50 12.8	-0.3
HELC				*i*			15 50 21.5	
	comp=Z,86nm,0.5s							
ROSC	**El Rosal**	**2.83**	**204**	*e*P		Pn	15 49 44.3	+1.2
ROSC				*e*S		Sn	15 50 17.5	+0.1
ROSC				*i*			15 50 26.7	
	comp=Z,70nm,0.3s							
CHIC	**Chingaza**	**2.85**	**191**	*e*P		Pn	15 49 44.0	+0.6
CHIC				*e*S		Sn	15 50 17.9	-0.2
CHIC				*i*			15 50 27.4	
	comp=Z,27nm,0.6s							
SDV	**Santo Domingo**	**2.90**	**60**	*e*P		Pn	15 49 43.4	-0.4
SDV				*i*			15 49 43.8	
	comp=Z,37nm,0.2s							
SDV				*e*S		Sn	15 50 16.9	-1.9
DBBC	**Dabeiba**	**3.04**	**262**	⇑*e*P		Pn	15 49 44.8	-0.7
GUY2C	**Guyana, Caldas**	**3.10**	**225**	⇓*e*P		Pn	15 49 46.2	-0.4
GUY2C				*e*S		Sn	15 50 23.3	-0.6
GUY2C				*i*			15 50 35.5	
	comp=Z,55nm,0.4s							
SJCC	**San Jacinto, C**	**3.13**	**321**	*e*P		Pn	15 49 45.6	-1.1
SJCC				*e*S		Sn	15 50 19.8	-4.3
SJCC				*i*			15 50 24.6	
	comp=Z,22nm,0.3s							
CBOC	**Ciudad Bolivar**	**3.22**	**241**	*e*P		Pn	15 49 47.5	-0.5
CBOC				*i*			15 50 38.3	
	comp=Z,28nm,0.4s							
VILC	**Villavicencio,**	**3.35**	**189**	*e*P		Pn	15 49 48.1	-1.5
VILC				*e*S		Sn	15 50 27.9	-1.5
VILC				*i*			15 50 43.6	
	comp=Z,48nm,0.4s							
TOLC	**Tolima**	**3.55**	**217**	*e*P		Pn	15 49 53.4	+0.9
TOLC				*e*S		Sn	15 50 34.2	-0.1
TOLC				*i*			15 50 47.4	
	comp=Z,34nm,0.3s							
CRJC	**Cerrejon, Guaj**	**3.56**	**5**	*e*P		Pn	15 49 50.5	-1.9
CRJC				*e*S		Sn	15 50 26.6	-7.6
CRJC				*i*			15 50 33.9	
	comp=Z,37nm,0.2s							
ELOV	**Elorza**	**3.70**	**97**	*e*P		Pn	15 49 53.0	-1.0
ELOV				*e*S		Sn	15 50 31.9	-5.3
ORTC	**Ortega, Tolima**	**4.07**	**210**	*e*P		Pn	15 49 58.6	-0.5
ORTC				*e*S		Sn	15 50 45.7	-0.5
ORTC				*i*			15 50 55.9	
	comp=Z,26nm,0.3s							
PRAC	**Prado**	**4.08**	**205**	*e*P		Pn	15 49 58.5	-0.7
PRAC				*e*S		Sn	15 50 45.3	-1.1
PRAC				*i*			15 50 57.5	
	comp=Z,36nm,0.5s							

*NEIC **10** 16:19:23.6±2.4, 8.˚62S±0.˚08×112.˚49E±0.˚05, h66km±5km, mb4.8/74, Error ellipse: s-maj=12.2km s-min=7.6km az=188.0*
*IDC **10** 16:19:24.0±1.8, 8.˚54S×112.˚60E, h77km±15km, mb4.3/23, mb1 4.3/26, mb1mx4.3/31, mbtmp4.6/26, MS3.3/7, Ms1 3.3/7, ms1mx3.1/32, Error ellipse: s-maj=13.8km s-min=10.6km az=52.0*
*KLM **10** 16:19:24, 8.˚98S×112.˚49E, h58km, mb4.7*
*DJA **10** 16:19:24.7±0.3, 9.˚5S±4.˚×11.˚3E±.˚, h42km±7km, M4.8/25, mB5.3/14, mb5.0/22, MLv4.9/25, Mw(mB)4.7/14*

ISC 10 16:19:23.5±0.7, **8.74S**±0

KRKI	**Karangkates**	0.58	355	P		**Pn**	**16 19 38.6**	**+1.0**	
KRKI				S		**Sn**	**16 19 49.5**	**+1.6**	
PWJI	**Pagerwojo**	**0.99**	**315**	P		**Pn**	**16 19 43.0**	**+0.8**	
PWJI				S		**Sn**	**16 19 57.2**	**+1.0**	
GMJI	**Gumukmas**	**1.03**	**64**	P		**Pn**	**16 19 42.8**	**+0.1**	
GMJI				S		**Sn**	**16 19 58.2**	**+1.1**	
SJI	**Sawahan**	**1.24**	**324**	P		**Pn**	**16 19 46.7**	**+1.3**	
PCJI	**Pacitan**	**1.42**	**292**	P		**Pn**	**16 19 48.8**	**+1.1**	
PCJI				S		**Sn**	**16 20 06.4**	**+0.6**	
JAGI	**Jajag, Banyuwa**	**1.65**	**81**	Pn		**Pn**	**16 19 51.0**	**+0.4**	
JAGI				Sn		**Sn**	**16 20 10.3**	**-0.8**	
JAGI	**Jajag, Banyuwa**	**1.65**	**81**	P		**Pn**	**16 19 51.3**	**+0.7**	
JAGI				S		**Sn**	**16 20 11.1**	**-0.1**	
GRJI	**Gresik**	**1.81**	**359**	P		**Pn**	**16 19 55.1**	**+2.3**	
BYJI	**Banyuwangi**	**1.90**	**74**	P		**Pn**	**16 19 56.4**	**+2.4**	
ABJI	**Asem Bagus**	**1.95**	**61**	P		**Pn**	**16 19 56.7**	**+2.1**	
TBJI	**Tambak Boyo**	**2.01**	**341**	P		**Pn**	**16 19 57.7**	**+2.2**	
UGM	**Wanagama**	**2.13**	**292**			**Pn**	**16 19 58.2**	**+1.2**	
UGM				Sn		**Sn**	**16 20 21.4**	**-1.3**	
UGM	**Wanagama**	**2.13**	**292**	P		**Pn**	**16 19 58.4**	**+1.3**	
KMMI	**Kalianget**	**2.21**	**41**	P		**Pn**	**16 19 59.0**	**+0.8**	
YOGI	**Yogyakarta**	**2.37**	**292**	P		**Pn**	**16 20 01.6**	**+1.3**	
SMRI	**Semarang**	**2.65**	**309**	Pn		**Pn**	**16 20 05.9**	**+1.9**	
SMRI	**Semarang**	**2.65**	**309**	P		**Pn**	**16 20 06.1**	**+2.1**	
DNP	**Denpasar**	**2.67**	**89**	P		**Pn**	**16 20 06.5**	**+2.1**	
SRBI	**Singaraja**	**2.75**	**77**	P		**Pn**	**16 20 07.3**	**+1.8**	
BWJI	**Bawean**	**2.87**	**3**	P		**Pn**	**16 20 09.4**	**+2.3**	
KLNI	**Mataram**	**3.56**	**85**	P		**Pn**	**16 20 16.7**	**+0.2**	
CTJI	**Waduk Cacaban**	**3.71**	**297**	P		**Pn**	**16 20 20.8**	**+2.3**	
KPJI	**Karang Pucung**	**3.81**	**291**	P		**Pn**	**16 20 22.5**	**+2.7**	
TWSI	**Taliwang, Sumb**	**4.32**	**90**	P		**Pn**	**16 20 28.6**	**+1.7**	
CISI	**Cisompet, Garu**	**4.79**	**284**	Pn		**Pn**	**16 20 34.1**	**+0.8**	
CISI				Sn		**Sn**	**16 21 24.2**	**-3.4**	
CISI	**Cisompet, Garu**	**4.79**	**284**	P		**Pn**	**16 20 34.3**	**+1.0**	
LEM	**Lembang**	**5.20**	**291**	P		**Pn**	**16 20 40.6**	**+1.6**	
	7.3nm,0.3s,baz=356,slow=20,SNR=15								
LEM				S		**Sn**	**16 21 36.9**	**-1.0**	
	9.5nm,0.3s,baz=135,slow=23,SNR=1.5								
LEM				LR		LR	16 22 54.0		
	comp=Z,182nm,20.6s,baz=66,slow=40								
PLAI	**Plampang**	**5.21**	**91**	P		**Pn**	**16 20 40.7**	**+1.8**	
	1.9nm2µm213nm,0.9s								
CNJI	**Cibinong**	**5.51**	**285**	P		**Pn**	**16 20 44.4**	**+1.3**	
	1.7nm4µm144nm,0.7s								
BBKI	**Banjar Baru**	**5.73**	**24**	P		**Pn**	**16 20 49.4**	**+3.3**	
	1.0nm3µm292nm,0.8s								
PBKI	**Pangkalan Bun**	**6.05**	**352**	P		**Pn**	**16 20 52.8**	**+2.4**	
	1.6nm6µm361nm,0.5s								
DBJI	**Dramaga**	**6.11**	**290**	P		**Pn**	**16 20 53.2**	**+2.0**	
	0.3nm2µm49nm,0.7s								
KBKI	**Kotabaru**	**6.51**	**34**	P		**Pn**	**16 20 59.3**	**+2.5**	
	0.3nm923nm49nm,0.5s								
PKKI	**Palangkaraya**	**6.62**	**13**	P		**Pn**	**16 21 00.9**	**+2.7**	
	0.5nm2µm171nm,0.8s								
XMI	**Christmas Isla**	**6.94**	**255**	P		**Pn**	**16 21 01.3**	**-1.3**	
	145nm,0.5s								
XMIS	**Christmas Isla**	**6.98**	**255**			**Pn**	**16 21 01.7**	**-1.5**	
XMIS	**Christmas Isla**	**6.98**	**255**	P		**Pn**	**16 21 01.5**	**-1.7**	
	126nm,0.8s								
KAPI	**Kappang**	**8.09**	**63**	P		**Pn**	**16 21 14.5**	**-3.8**	
	0.5nm,0.3s,baz=172,slow=12,SNR=1.3								
KAPI				S		**Sn**	**16 22 45.0**	**-3.2**	
	0.5nm,0.3s,baz=176,slow=10,SNR=1.6								
KAPI				LR		LR	16 24 47.3		
	comp=Z,52nm,18.7s,baz=226,slow=41								
KAPI	**Kappang**	**8.09**	**63**	Pn		**Pn**	**16 21 19.4**	**+1.2**	
MTKI	**Muara Teweh, K**	**8.10**	**17**	P		**Pn**	**16 21 20.6**	**+2.1**	
	2µm91nm,0.8s								
BKSI	**Bulukumba**	**8.28**	**66**	P		**Pn**	**16 21 24.4**	**+3.4**	
	31nm,0.5s								
BNSI	**Bone**	**8.69**	**61**	P		**Pn**	**16 21 29.6**	**+3.1**	
	36nm,1.0s								
STKI	**Sintang**	**8.80**	**353**	P		**Pn**	**16 21 32.0**	**+3.9**	
	0.2nm3µm54nm,0.6s								
EDFI	**Ende, Flores**	**9.08**	**91**	P		**Pn**	**16 21 32.3**	**+0.4**	
	1µm41nm,0.6s								
LWLI	**Liwa**	**9.16**	**293**	P		**Pn**	**16 21 35.9**	**+2.8**	
	4µm119nm,0.8s								
TTSI	**Tana Toraja**	**9.21**	**53**	P		**Pn**	**16 21 36.1**	**+2.5**	
	588nm16nm,1.0s								
MDSI	**Maura Dua**	**9.29**	**297**	P		**Pn**	**16 21 37.8**	**+3.1**	
	439nm13nm,1.0s								
MMRI	**Maumere**	**9.62**	**90**	Pn		**Pn**	**16 21 40.1**	**+0.8**	
KSM	**Kuching**	**10.38**	**348**	P		**Pn**	**16 21 53.0**	**+3.4**	
EGSI	**Enggano, Bengk**	**10.70**	**288**	P		**Pn**	**16 21 53.9**	**0.0**	
	3µm70nm,0.6s								
KSI	**Kapahiang**	**11.07**	**297**	P		**Pn**	**16 22 00.5**	**+1.4**	
	4µm367nm,0.7s								
BATI	**Baumata**	**11.10**	**98**	P		**Pn**	**16 21 59.1**	**-0.3**	
	10.0nm,0.3s,baz=20,slow=2.7,SNR=12								
BATI				S		**Sn**	**16 23 54.4**	**-7.5**	
	2.2nm,0.3s,baz=265,slow=22,SNR=1.5								
BATI	**Baumata**	**11.10**	**98**	P		**Pn**	**16 21 59.0**	**-0.5**	
	30nm,0.7s								
SBUM	**Sibu**	**11.12**	**359**	P		**Pn**	**16 22 04.0**	**+4.4**	
MASI	**Maura Aman, Be**	**11.62**	**298**	P		**Pn**	**16 22 08.3**	**+1.7**	
	219nm,0.8s								
MPSI	**Mapaga**	**11.64**	**40**	P		**Pn**	**16 22 09.8**	**+3.0**	
	862nm18nm,0.9s								
SOEI	**Soe**	**11.65**	**96**	Pn		**Pn**	**16 22 06.1**	**-1.0**	
SOEI	**Soe**	**11.65**	**96**	P		**Pn**	**16 22 08.8**	**+1.7**	
	54nm,0.7s								
TOLI2	**Tolitoli**	**12.79**	**41**	Pn		**Pn**	**16 22 25.4**	**+2.9**	
MRSI	**Marisa**	**13.12**	**46**	P		**P**	**16 22 36.1**	**+1.9**	
SPMM	**Sapulut**	**13.93**	**17**	P		**P**	**16 22 41.0**	**-2.2**	
GIRL	**Giralia**	**13.93**	**173**	Pn		**Pn**	**16 22 33.5**	**-4.0**	
GTOI	**Gorontalo**	**14.01**	**49**	P		**P**	**16 22 41.6**	**-2.5**	
	315nm42nm,0.7s								
PSA00	**Pilbara Seismi**	**14.59**	**152**	Pn		**Pn**	**16 22 43.5**	**-2.6**	
SANI	**Sanana**	**14.97**	**64**	P		**P**	**16 22 55.5**	**+0.7**	
	33nm,0.8s								
FITZ	**Fitzroy Crossi**	**15.79**	**127**	P		**Pn**	**16 23 00.1**	**-1.4**	
	1.0nm,0.3s,baz=322,slow=9.7,SNR=32								
FITZ				S		Sn	16 25 40.9	-15	
	0.3nm,0.3s,baz=274,slow=22,SNR=2.5								
FITZ	**Fitzroy Crossi**	**15.79**	**127**	Pn		**Pn**	**16 22 59.5**	**-2.0**	
MNI	**Manado**	**15.92**	**51**	P		P	16 23 13.4	+8.1	
KNRA	**Kununurra**	**17.31**	**115**	P		**P**	**16 23 21.4**	**+0.6**	
TNTI	**Ternate**	**17.56**	**58**			**P**	**16 23 25.5**	**+2.0**	
TNTI				IAmb		IAmb	16 23 27.4		
	comp=Z,38nm,0.7s								
TNTI	**Ternate**	**17.56**	**58**	P		**P**	**16 23 26.7**	**+3.2**	
	comp=Z,58nm,0.9s								
RPSI	**Rantau Prapat**	**17.67**	**309**	P		**P**	**16 23 21.4**	**-3.4**	
GSI	**Gunungsitoli**	**17.91**	**303**	P		**P**	**16 23 24.8**	**-2.6**	
GAMI	**Galela, Maluku**	**18.50**	**56**	P		**Pn**	**16 23 36.7**	**+1.8**	
MTN	**Manton Dam**	**18.74**	**104**			**P**	**16 23 37.1**	**+0.6**	
MTN				IAmb		IAmb	16 23 49.1		
	comp=Z,27nm,0.5s								
SIJI	**Sorong**	**20.25**	**68**	P		**P**	**16 23 51.4**	**-1.6**	
	comp=Z,20nm,0.6s,baz=217,slow=22,SNR=1.8								
FAKI	**Fak Fak**	**20.46**	**75**	P		**P**	**16 23 54.6**	**-0.7**	
FAKI				IAmb		IAmb	16 24 35.6		
	comp=Z,43nm,1.1s								
MORW	**Morawa**	**20.50**	**171**	P		Pn	16 23 58.0	-0.3	
WRA	**Warramunga Arr**	**23.87**	**120**	P		**P**	**16 24 30.4**	**+0.1**	
	comp=Z,8.3nm,0.6s,baz=292,slow=11,SNR=138								
WRA				PcP		**PcP**	**16 28 11.7**	**+0.1**	
	comp=Z,1.4nm,0.4s,baz=288,slow=1.4,SNR=7.6								
WRA				ScP		**ScP**	**16 31 42.4**	**-1.1**	
	comp=Z,0.9nm,0.5s,baz=283,slow=1.8,SNR=11								
WRAB	**Tennant Creek**	**23.88**	**120**	P		**P**	**16 24 30.4**	**0.0**	
WB2	**Warramunga Arr**	**23.88**	**120**	P		**P**	**16 24 30.9**	**+0.5**	
WR0	**Warramunga Arr**	**24.05**	**120**	P		**P**	**16 24 32.7**	**+0.8**	
WR0				IAmb		IAmb	16 24 33.5		
	comp=Z,13nm,0.6s								
NWAO	**Narrogin (SRO)**	**24.47**	**170**	P		**P**	**16 24 37.5**	**+2.1**	
NWAO				IAmb		IAmb	16 25 10.0		
	comp=Z,76nm,1.6s								
AS31	**Alice Springs**	**25.29**	**128**	P		**P**	**16 24 44.1**	**+0.9**	
ASAR	**Alice Springs**	**25.29**	**128**	P		**P**	**16 24 44.1**	**+0.9**	
	comp=Z,5.4nm,0.7s,baz=304,slow=9.4,SNR=114								
ASAR				PcP		**PcP**	**16 28 15.6**	**+0.9**	
	comp=Z,1.5nm,0.3s,baz=307,slow=2.0,SNR=8.4								
ASAR				ScP		**ScP**	**16 31 47.4**	**0.0**	
	comp=Z,0.4nm,0.7s,baz=296,slow=2.4,SNR=2.1								
ASAR	**Alice Springs**	**25.29**	**128**	P		**P**	**16 24 44.0**	**+0.8**	
FORT	**Forrest**	**26.30**	**149**	P		**P**	**16 24 53.9**	**+1.8**	
FORT				IAmb		IAmb	16 25 14.3		
	comp=Z,42nm,1.1s								
CM31	**Chiang Mai Arr**	**30.16**	**334**	P		**P**	**16 25 27.8**	**+1.2**	
CM31				IAmb		IAmb	16 25 35.0		
	comp=Z,22nm,1.8s								
CMAR	**Chiang Mai Arr**	**30.16**	**334**	P		**P**	**16 25 25.4**	**-1.2**	
	comp=Z,3.7nm,0.8s,baz=169,slow=8.1,SNR=21								
CMAR				PcP		**PcP**	**16 28 27.3**	**+0.9**	
	comp=Z,2.4nm,0.7s,baz=194,slow=3.2,SNR=12								
CMAR				LR		LR	16 37 46.6		
	comp=Z,51nm,21.6s,baz=184,slow=37								
CMAR	**Chiang Mai Arr**	**30.16**	**334**	P		**P**	**16 25 26.5**	**-0.1**	
CHTO	**Chiang Mai**	**30.47**	**334**	P		**P**	**16 25 29.7**	**+0.3**	
COEN	**Coen**	**30.50**	**103**	P		**P**	**16 25 30.6**	**+0.9**	
COEN				IAmb		IAmb	16 25 47.0		
	comp=Z,40nm,1.4s								
BBOO	**Buckleboo**	**32.38**	**141**	P		**P**	**16 25 46.7**	**+0.6**	
BBOO				IAmb		IAmb	16 26 25.2		
	comp=Z,30nm,1.4s								
TPUB	**Ta-pu**	**32.82**	**14**	P		**P**	**16 25 48.9**	**-1.0**	
NACB	**Ninganchiao**	**33.89**	**15**	P		**P**	**16 25 59.1**	**-0.2**	
NACB				IAmb		IAmb	16 26 26.0		
	comp=Z,17nm,0.8s								
CTAO	**Charters Tower**	**34.50**	**113**	P		**P**	**16 26 06.5**	**+1.8**	
KMI	**Kunming**	**34.97**	**344**	⇑P		**P**	**16 26 12.5**	**+3.6**	
KMI				pP		pP	16 26 31.3	+4.3	
KMI				pmax		pmax			
	comp=Z,7.0nm,0.5s								
PALK	**Pallekele**	**35.47**	**296**	P		**P**	**16 26 12.9**	**-0.2**	
STKA	**Stephens Creek**	**35.49**	**135**	P		**P**	**16 26 14.1**	**+1.1**	
	comp=Z,9.3nm,0.4s,baz=317,slow=8.4,SNR=72								
STKA				PcP		**PcP**	**16 28 41.4**	**+0.3**	
	comp=Z,7.5nm,0.5s,baz=354,slow=3.6,SNR=9.2								
STKA				LR		LR	16 42 31.2		
	comp=Z,70nm,18.6s,baz=1.7,slow=39								
STKA	**Stephens Creek**	**35.49**	**135**	P		**P**	**16 26 14.6**	**+1.6**	
STKA						**PcP**	**16 28 42.1**	**+1.1**	
ENH	**Enshi**	**38.89**	**356**	P		**P**	**16 26 41.6**	**-0.2**	
ENH				IAmb		IAmb	16 26 42.3		
	comp=Z,10nm,0.4s								
SHL	**Shillong**	**39.57**	**330**	P		**P**	**16 26 47.6**	**-0.1**	
H08S2	**Diego Garcia H**	**39.61**	**269**	T		T	17 09 01.5		
	baz=95,slow=75,SNR=6.4								
H08S3	**Diego Garcia H**	**39.62**	**269**	T		T	17 08 54.2		
	baz=95,slow=75,SNR=4.3								
H08S1	**Diego Garcia H**	**39.63**	**269**	T		T	17 08 49.4		
	baz=95,slow=75,SNR=3.3								
CD2	**Chengdu**	**40.30**	**348**	P		**P**	**16 26 54.5**	**+0.9**	
CD2				pmax		pmax			
	comp=Z,20nm,0.8s								
NJ2	**Nanjing**	**41.01**	**8**	*eP*		**P**	**16 27 02.2**	**+2.9**	
NJ2				pmax		pmax			
	comp=Z,9.0nm,0.5s								
ARMA	**Armidale**	**42.40**	**126**	P		**P**	**16 27 14.1**	**+3.2**	
ARMA				IAmb		IAmb	16 27 20.4		
	comp=Z,31nm,1.6s								
ODAN	**Odare**	**42.96**	**326**	*eP*		**P**	**16 27 14.9**	**-0.7**	
	comp=Z,24nm,0.6s								
TAPN	**Taplejung**	**43.18**	**327**	*eP*		**P**	**16 27 16.9**	**-0.5**	
	comp=Z,17nm,0.6s								
LSA	**Lhasa**	**43.39**	**333**	P		**P**	**16 27 20.2**	**+0.9**	
LSA				pmax		pmax			
	comp=Z,55nm,0.7s								
LSA	**Lhasa**	**43.39**	**333**	P		**P**	**16 27 19.6**	**+0.2**	
LSA				IAmb		IAmb	16 27 21.2		
	comp=Z,10nm,0.7s								
JIRN	**Jiri**	**44.25**	**326**	*eP*		**P**	**16 27 25.6**	**-0.5**	
	comp=Z,20nm,0.5s								
PKI	**Pulchoki**	**44.62**	**325**	*eP*		**P**	**16 27 28.5**	**-0.5**	
PKIN	**Phulchoki**	**44.63**	**325**	*eP*		**P**	**16 27 28.4**	**-0.7**	
	comp=Z,7.6nm,0.4s								
DMN	**Daman**	**44.83**	**325**	*eP*		**P**	**16 27 30.5**	**-0.1**	
	comp=Z,12nm,0.4s								
JNU	**Nakatsue**	**45.15**	**22**	P		**P**	**16 27 32.4**	**-0.4**	
JNU				IAmb		IAmb	16 27 36.0		
	comp=Z,17nm,1.0s								
GKN	**Gorkha**	**45.39**	**325**	*eP*		**P**	**16 27 34.0**	**-0.9**	
	comp=Z,16nm,0.3s								
JCJ	**Chichijima**	**45.79**	**38**	P		**P**	**16 27 35.9**	**-1.9**	
KOLN	**Kaldanda**	**45.82**	**323**	*eP*		**P**	**16 27 37.3**	**-1.1**	
	comp=Z,15nm,0.3s								
JTU	**Tsushima**	**45.90**	**20**	P		**P**	**16 27 38.4**	**-0.2**	
DANN	**Dangsing**	**46.16**	**324**	*eP*		**P**	**16 27 40.1**	**-1.1**	
	comp=Z,21nm,0.5s								
PYUN	**Piuthan**	**46.43**	**323**	*eP*		**P**	**16 27 42.4**	**-0.8**	
	comp=Z,10nm,0.4s								
HNR	**Honiara**	**46.82**	**95**	P		**P**	**16 27 47.3**	**+1.1**	
JMN	**Monobe**	**46.86**	**25**	P		**P**	**16 27 45.6**	**-0.6**	
JHS	**Saijyo**	**47.66**	**23**	P		**P**	**16 27 51.6**	**-0.9**	
KSAR	**Wonju Array Be**	**48.14**	**16**	P		**P**	**16 27 57.2**	**+1.2**	
KSRS	**Korea Array**	**48.16**	**16**	P		**P**	**16 27 55.9**	**-0.3**	
	comp=Z,5.0nm,0.7s,baz=203,slow=8.4,SNR=20								
KSRS				PcP		**PcP**	**16 29 21.8**	**-0.7**	
	comp=Z,1.4nm,0.8s,baz=208,slow=5.0,SNR=3.1								
KSRS				LR		LR	16 52 23.0		
	comp=Z,43nm,18.2s,baz=166,slow=41								
KS19	**Wonju Array Si**	**48.19**	**16**	P		**P**	**16 27 57.0**	**+0.6**	
BJT	**Baijiatuan**	**48.62**	**4**	P		**P**	**16 27 59.1**	**-0.6**	
BJT				IAmb		IAmb	16 28 00.0		
	comp=Z,5.8nm,0.5s								
BJI	**Beijing**	**48.65**	**4**	P		**P**	**16 27 59.6**	**-0.2**	
BJI				pmax		pmax			
	comp=Z,8.0nm,0.5s								
JWT	**Wachi**	**48.83**	**25**	P		**P**	**16 28 00.4**	**-1.0**	
GTA	**Gaotai**	**49.33**	**347**	⇓P		**P**	**16 28 06.0**	**+0.7**	
GTA				pP		pP	16 28 13.6	-11	
GTA				sP		sP	16 28 17.8	-15	
GTA				pmax		pmax			
	comp=Z,5.0nm,0.8s								
HHC	**Hu-ho-hao-te**	**49.34**	**359**	*eP*		**P**	**16 28 09.2**	**+3.9**	
HHC				pmax		pmax			
	comp=Z,16nm,0.8s								
HHC				pmax		pmax			
	comp=Z,130nm,6.6s								
INU	**Inuyama**	**49.58**	**26**	P		**P**	**16 28 06.0**	**-1.1**	
JGF	**Kuroka**	**49.94**	**27**	P		**P**	**16 28 08.9**	**-1.0**	
MAJO	**Matsushiro**	**51.10**	**27**	P		**P**	**16 28 17.1**	**-1.6**	
MAJO				IAmb		IAmb	16 28 22.1		
	comp=Z,30nm,1.6s								
MAT	**Matsushiro**	**51.10**	**27**	P		**P**	**16 28 16.3**	**-2.3**	
MJAR	**Matsushiro Arr**	**51.10**	**27**	P		**P**	**16 28 16.9**	**-1.8**	
	comp=Z,4.4nm,0.6s,baz=195,slow=7.2,SNR=11								
MJAR	**Matsushiro Arr**	**51.10**	**27**	P		**P**	**16 28 19.8**	**+1.2**	
MDJ	**Mudanjiang**	**55.30**	**15**	P		**P**	**16 28 48.9**	**-0.3**	
MDJ				IAmb		IAmb	16 29 38.2		
	comp=Z,26nm,1.4s								
USA0B	**Ussuriysk Arra**	**55.56**	**17**	P		**P**	**16 28 50.9**	**-0.2**	
USA0B				IAmb		IAmb	16 28 51.6		
	comp=Z,18nm,0.9s								
USRK	**Ussuriysk Ar.**	**55.56**	**17**	P		**P**	**16 28 50.3**	**-0.8**	
	comp=Z,17nm,0.8s,baz=210,slow=4.0,SNR=41								
USRK	**Ussuriysk Ar.**	**55.56**	**17**	P		**P**	**16 28 50.9**	**-0.2**	
JTM	**Tenmabayashi**	**55.87**	**26**	P		**P**	**16 28 52.6**	**-0.8**	
NIL	**Nilore**	**56.27**	**321**	P		**P**	**16 28 54.2**	**-2.2**	
NIL				IAmb		IAmb	16 28 55.1		
	comp=Z,9.8nm,0.8s								
ULN	**Ulaanbaatar**	**56.56**	**356**	P		**P**	**16 28 57.5**	**-0.9**	
ULN				IAmb		IAmb	16 28 58.7		
	comp=Z,4.7nm,0.6s								
SONM	**Songino Array**	**56.58**	**355**	P		**P**	**16 28 58.1**	**-0.4**	
	comp=Z,4.2nm,0.6s,baz=177,slow=8.3,SNR=43								
SONM				PcP		**PcP**	**16 29 54.3**	**+0.1**	
	comp=Z,3.2nm,0.8s,baz=181,slow=3.7,SNR=6.6								
SONM	**Songino Array**	**56.58**	**355**	P		**P**	**16 28 58.4**	**-0.1**	
SONM						**PcP**	**16 29 54.3**	**+0.1**	
WMQ	**Urumqi**	**56.95**	**339**	*eP*		**P**	**16 29 04.8**	**+3.7**	
WMQ				pmax		pmax			
	comp=Z,28nm,0.7s								
WMQ				pmax		pmax			
	comp=Z,150nm,4.9s								
KSH	**Kashi**	**58.75**	**327**	P		**P**	**16 29 12.1**	**-1.8**	
KSH				sP		sP	16 29 38.3	-3.2	
KSH				pmax		pmax			
	comp=Z,6.0nm,0.8s								
KBL	**Kabul**	**59.53**	**319**	P		**P**	**16 29 17.4**	**-2.0**	
KBL				IAmb		IAmb	16 29 20.1		
	comp=Z,6.1nm,0.8s								
PRZ	**Przheval'sk**	**59.74**	**331**	P		**P**	**16 29 20.8**	**0.0**	
PRZ				IAmb		IAmb	16 29 22.0		
	comp=Z,14nm,1.1s								
KDJ	**Kajisay**	**60.06**	**330**	P		**P**	**16 29 22.4**	**-0.5**	
KDJ				IAmb		IAmb	16 29 24.6		
	comp=Z,7.2nm,0.9s								
BOOM	**Boomskoye usch**	**60.94**	**330**	P		**P**	**16 29 28.2**	**-0.7**	
BOOM				IAmb		IAmb	16 29 29.1		
	comp=Z,6.3nm,0.9s								
KZA	**Kyzart**	**60.99**	**329**	P		**P**	**16 29 29.1**	**-0.5**	
	SNR=12								
TKM2	**Tokmak 2**	**61.43**	**330**	P		**P**	**16 29 31.6**	**-0.7**	
	SNR=13								
MK31	**Makanchi Array**	**61.49**	**337**	P		**P**	**16 29 31.5**	**-0.9**	
MK31				IAmb		IAmb	16 29 32.3		
	comp=Z,3.9nm,0.8s								
MKAR	**Makanchi Array**	**61.49**	**337**	P		**P**	**16 29 31.6**	**-0.8**	
	comp=Z,4.8nm,0.4s,baz=148,slow=7.5,SNR=74								
MKAR	**Makanchi Array**	**61.49**	**337**	P		**P**	**16 29 31.4**	**-1.0**	
KBK	**Karagaybulak**	**61.56**	**329**	P		**P**	**16 29 32.9**	**-0.2**	
	SNR=14								
GAR	**Garm**	**61.57**	**323**	P		**P**	**16 29 30.8**	**-2.3**	
GAR				IAmb		IAmb	16 29 33.0		
	comp=Z,8.0nm,0.8s								
AAK	**Ala-Archa**	**61.78**	**329**	P		**P**	**16 29 34.3**	**-0.3**	
	SNR=6.3								
AAK	**Ala-Archa**	**61.78**	**329**	P		**P**	**16 29 34.4**	**-0.1**	
AAK				IAmb		IAmb	16 29 36.0		
	comp=Z,6.8nm,0.9s								
AML	**Almayashu**	**61.83**	**328**	P		**P**	**16 29 34.5**	**-0.7**	
	SNR=11								
CHGR	**Chuyangaron**	**62.03**	**323**	P		**P**	**16 29 33.0**	**-3.3**	
CHGR				IAmb		IAmb	16 29 34.2		
	comp=Z,7.8nm,0.8s								
EKS2	**Erkin-Say**	**62.16**	**329**	P		**P**	**16 29 36.6**	**-0.5**	
	SNR=16								
USP	**Ospenovka**	**62.23**	**329**	P		**P**	**16 29 36.6**	**-0.8**	
	SNR=5.5								
OPO	**Ambohidratompo**	**63.94**	**254**	P		**P**	**16 29 50.8**	**+1.4**	
	comp=Z,3.4nm,0.8s,baz=166,slow=23,SNR=3.7								
KK31	**Karatay Array**	**64.19**	**327**	P		**P**	**16 29 49.1**	**-1.3**	
KKAR	**Karatay Array**	**64.19**	**327**	P		**P**	**16 29 49.1**	**-1.2**	
KKAR	**Karatay Array**	**64.19**	**327**	P		**P**	**16 29 49.0**	**-1.4**	
KKAR				IAmb		IAmb	16 29 51.2		
	comp=Z,3.7nm,0.9s								
ZAA0	**Zalesovo Array**	**66.69**	**343**	P		**P**	**16 30 05.0**	**-1.2**	
ZAA0				IAmb		IAmb	16 30 05.6		
	comp=Z,7.3nm,0.9s								
ZALV	**Zalesovo Beam**	**66.69**	**343**	P		**P**	**16 30 04.8**	**-1.4**	
	comp=Z,5.6nm,0.4s,baz=153,slow=5.0,SNR=17								
MAW	**Mawson**	**67.38**	**198**	LR		LR	16 52 29.7		
	comp=Z,34nm,21.1s,baz=58,slow=29								
GEYT	**Alibeck**	**68.73**	**316**	P		**P**	**16 30 19.4**	**-0.1**	
	comp=Z,9.9nm,0.7s,baz=152,slow=9.4,SNR=3.5								
YAK	**Yakutsk**	**71.81**	**8**	P		**P**	**16 30 36.6**	**-1.0**	
PETK	**Petropavlovsk-**	**72.56**	**27**	P		**P**	**16 30 41.5**	**-0.9**	
	comp=Z,3.0nm,0.6s,baz=209,slow=2.7,SNR=8.9								
VNDA	**Vanda**	**73.30**	**170**	P		**P**	**16 30 48.0**	**+1.6**	
	comp=Z,0.7nm,0.8s,baz=351,slow=2.5,SNR=4.0								
VNDA				LR		LR	16 59 46.0		
	comp=Z,29nm,21.4s,baz=326,slow=33								
ABKAR	**Akbulak array**	**73.76**	**327**	P		**P**	**16 30 48.7**	**-0.8**	
ABKAR				IAmb		IAmb	16 30 49.5		
	comp=Z,16nm,0.8s								

SSPA	**Standing Stone** baz=341	**146.91**	**15**	P		**PKPbc**	**16 38 58.1 +0.4**
WVT	**Waverly**	**147.03**	**31**			**PKPbc**	**16 38 58.3 +0.1**
WVT	**Waverly** baz=321	**147.03**	**31**	P		**PKPbc**	**16 38 58.6 +0.5**
O56A	**Blue Knob Stat** baz=340,SNR=5.7	**147.08**	**16**	P		**PKPbc**	**16 38 58.6 +0.3**
N59A	**State Game Lan** baz=345,SNR=9.5	**147.12**	**12**	P		**PKPbc**	**16 38 59.0 +0.7**
MCWV	**Mont Chateau** baz=337	**147.28**	**18**	P		**PKPbc**	**16 38 59.3 +0.5**
PAL	**Palisades** baz=348	**147.36**	**9**	P		**PKPbc**	**16 38 59.4 +0.5**
OXF	**Oxford**	**147.40**	**35**			**PKPbc**	**16 38 59.3 +0.1**
OXF	**Oxford** baz=317	**147.40**	**35**	P		**PKPbc**	**16 38 59.4 +0.1**
P60A	**Greenville** baz=345	**148.21**	**12**	P		**PKPbc**	**16 39 01.2 0.0**
TZTN	**Tazewell** baz=328	**148.70**	**25**	P		**PKPbc**	**16 39 03.0 +0.4**
X48A	**Hartselle**	**148.73**	**32**			**PKPbc**	**16 39 01.8 -1.0**
BDFB	**Brasilia** comp=Z,5.2nm,0.5s,baz=176,slow=4.9,SNR=5.5	**149.03**	**219**	PKPbc		**PKPbc**	**16 39 04.3 +0.1**
BLA	**Blacksburg** baz=334	**149.32**	**20**	P		**PKPbc**	**16 39 04.5 +0.2**
LRAL	**Lakeview Retre**	**149.84**	**34**			**PKPbc**	**16 39 05.6 0.0**
LRAL	**Lakeview Retre** baz=319	**149.84**	**34**	P		**PKPbc**	**16 39 05.8 +0.2**
T59A	**Double "B" Far**	**150.44**	**16**			**PKiKP**	**16 39 07.3 -0.3**
KMSC	**Kings Mountain** baz=331	**150.82**	**24**	P		**PKPbc**	**16 39 08.1 +0.3**
BRAL	**Brewton** baz=317	**151.19**	**37**	P		**PKiKP**	**16 39 10.0 +0.6**
GOGA	**Godfrey** baz=326	**151.36**	**29**	P		**PKiKP**	**16 39 09.9 +0.3**
TIGA	**Tifton** baz=323	**152.89**	**31**	P		**PKPbc**	**16 39 12.4 -0.2**
NHSC	**New Hope** baz=332	**153.06**	**24**	P		**PKiKP**	**16 39 13.2 +0.1**

MEX 10 16:25:41.4±1.0, 18°31N×101°38W, h66km±12km, MD4.4, 1C, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
UON	**La Union**	**0.54**	**231**	*i* P	Pn		16 25 52.4	-1.8
UON				*i* S	Sn		16 26 01.8	-1.9
ZIIG	**Zihuatanejo**	**0.71**	**187**	*i* P	Pn		16 25 54.3	-1.9
ZIIG				*i* S	Sn		16 26 05.3	-1.7
ARIG	**Puente Sto Nin**	**0.98**	**92**	*e*P	Pn		16 25 57.7	-1.7
ARIG				*e*S	Sn		16 26 11.2	-1.7
MEIG	**Mezcala**	**1.72**	**103**	*i* P	Pn		16 26 08.3	-1.0
MEIG				*i* S	Sn		16 26 29.0	-1.3
PLIG	**Platanillo**	**1.78**	**87**	*e*P	Pn		16 26 09.0	-1.2
PLIG				*i* S	Sn		16 26 30.8	-1.1
MMIG	**Aquila**	**1.87**	**270**	*i* P	Pn		16 26 10.4	-0.8
MMIG				*i* S	Sn		16 26 27.3	-6.5
DAIG	**Los Arroyos**	**2.09**	**128**	*i* P	Pn		16 26 12.6	-1.6
DAIG				*i* S	Sn		16 26 37.9	-1.4
COIG	**Colima**	**2.35**	**292**	*e*P	Pn		16 26 18.4	+0.6
COIG				*e*S	Sn		16 26 47.2	+1.4
EZ5V		**2.40**	**299**	*e*P	Pn		16 26 20.4	+1.6
EZ5V				*e*S	Sn		16 26 49.5	+2.3
R15V		**2.61**	**289**	*e*P	Pn		16 26 22.3	+1.0
R15V				⇑*e*S	Sn		16 26 53.6	+1.6
PPM	**Popocatepetl**	**2.71**	**74**	*e*P	Pn		16 26 23.5	+0.4
PPM				*e*S	Sn		16 26 54.5	-0.6
TLIG	**Tlapa**	**2.78**	**105**	*e*P	Pn		16 26 22.7	-1.0
TLIG				*i* S	Sn		16 26 52.8	-3.4
MGIG	**Malinaltepec**	**2.83**	**112**	*e*P	Pn		16 26 23.3	-1.1
MGIG				*i* S	Sn		16 27 04.9	+7.4
HLIG	**Huajuapan de L**	**3.43**	**98**	*e*P	Pn		16 26 32.0	-0.7
HLIG				*e*S	Sn		16 27 08.3	-4.0
TOIG	**Toxpalan**	**4.11**	**92**	*e*P	Pn		16 26 41.6	-0.2
TOIG				*e*S	Sn		16 27 23.8	-4.9

MEX 10 16:35:29.4±1.1, 14°41N×94°57W, h10km, MD4.4, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PCIG		**1.83**	**45**	*i* P	Pn		16 35 57.3	-3.6
PCIG				*i* S	Sn		16 36 19.5	-4.6
CMIG	**Matias Romero**	**2.68**	**354**	*e*P	Pn		16 36 09.9	-2.7
CMIG				*i* S	Sn		16 36 43.8	-1.4
TGIG		**2.73**	**30**	*e*P	Pn		16 36 10.0	-3.4
TGIG				*i* S	Sn		16 36 45.1	-1.5
CCIG	**Comitan**	**2.99**	**51**	*e*P	Pn		16 36 14.5	-2.6
CCIG				*e*S	Sn		16 36 52.5	-0.7

*IDC **10** 16:43:55.5±0.6, 13°.65S×76°.75W, h0km, mb4.4/18, mb1 4.5/23, mb1mx4.5/33, mbtmp4.4/23, ML3.5/5, MS3.9/5, Ms1 3.9/5, ms1mx3.5/28, Error ellipse: s-maj=19.5km s-min=10.6km az=69.0*

*NEIC **10** 16:43:59.3±1.9, 13°.62S±0°.05×76°.7W±0°.1, h23km±3km, mb4.8/124, ML4.8(ARE), Error ellipse: s-maj=14.6km s-min=7.0km az=74.0*

*VAO **10** 16:44:00.9±0.4, 13°.75S×76°.34W, h10km, mb4.6*

ISC 10 16:44:00.7±0.4, **13°.62S**±0°.05×**76°.65W**±0°.08, **h33**km, **n254**, σ1°**33**/225, **mb4.8**/76, **MS3.8**/4, **1C, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
NNA	**Nana**	**1.64**	**353**	Pn	**Pn**		**16 44 26.0**	**-1.2**
	506nm,0.3s,baz=172,slow=12,SNR=185							
NNA				Lg	Lg		16 44 47.9	
	4μm,0.3s,baz=209,slow=12,SNR=33							
NNA				LR	LR		16 45 03.9	
	comp=Z,2μm,19.8s,baz=110,slow=41							
NNA	**Nana**	**1.64**	**353**	Pn	**Pn**		**16 44 26.2**	**-1.0**
ATAH	**Atahualpa**	**6.67**	**345**	Pn	**Pn**		**16 45 37.3**	**+0.5**
	5.7nm,0.3s,baz=133,slow=3.6,SNR=20							
ATAH				Sn	**Sn**		**16 46 53.5**	**+1.5**
	4.8nm,0.3s,baz=30,slow=7.2,SNR=1.6							
ATAH				Lg	Lg		16 47 14.2	
	11nm,0.3s,baz=50,slow=4.8,SNR=5.1							
CZSB	**Cruzeiro do Su**	**7.02**	**34**	*e*P	**Pn**		**16 45 42.6**	**+1.3**
PSGCX	**Pisagua**	**8.63**	**134**		**Pn**		**16 46 01.8**	**-1.6**
LPAZ	**La Paz**	**8.65**	**109**	Pn	**Pn**		**16 46 05.4**	**+1.2**
	0.1nm,0.3s,baz=270,slow=6.3,SNR=5.1							
LPAZ				Sn	Sn		16 47 52.6	+12
	0.4nm,0.3s,baz=178,slow=25,SNR=1.1							
LPAZ				LR	LR		16 50 15.9	
	comp=Z,688nm,20.3s,baz=290,slow=44							
LPAZ	**La Paz**	**8.65**	**109**	Pn	**Pn**		**16 46 05.6**	**+1.4**
LPAZ	**La Paz**	**8.65**	**109**	*e*P	Pn		16 46 02.7	+5.8
LPAZ	**La Paz**	**8.65**	**109**	*e*P	**Pn**		**16 46 02.7**	**-1.5**
PB11	**IPOC Station P**	**9.06**	**133**	Pn	**Pn**		**16 46 07.6**	**-1.9**
TA02	**Huaiquique**	**9.09**	**138**		**Pn**		**16 46 08.7**	**-0.9**
TA01	**Diego Aracena**	**9.27**	**139**	Pn	**Pn**		**16 46 11.1**	**-1.0**
PB08	**IPOC Station P**	**9.67**	**133**		**Pn**		**16 46 17.1**	**-0.8**
PB01	**IPOC Station P**	**10.06**	**138**		**Pn**		**16 46 22.3**	**-0.8**
PB07	**IPOC Station P**	**10.32**	**142**		**Pn**		**16 46 25.7**	**-1.0**
PB04	**IPOC Station P**	**10.64**	**145**	Pn	**Pn**		**16 46 29.6**	**-1.5**
PB09	**IPOC Station P**	**10.76**	**140**		**Pn**		**16 46 33.3**	**+0.5**
ETMB	**Extrema**	**10.89**	**71**	*e*P	**Pn**		**16 46 34.6**	**+0.1**
PB06	**IPOC Station P**	**11.26**	**144**	Pn	**Pn**		**16 46 41.8**	**+2.2**
PB10	**IPOC Station P**	**11.41**	**150**	Pn	**Pn**		**16 46 42.5**	**+1.1**
TBTG	**Tabatinga, AM**	**11.49**	**36**	*e*P	**Pn**		**16 46 44.2**	**+1.6**
TBTG	**Tabatinga, AM**	**11.49**	**36**	*e*P	**Pn**		**16 46 44.9**	**+2.2**
LVC	**Limon Verde**	**11.57**	**142**	Pn	**Pn**		**16 46 44.5**	**+0.4**
	1.3nm,0.3s,baz=338,slow=11,SNR=12							
LVC				Sn	**Sn**		**16 48 50.3**	**-2.0**
	0.2nm,0.3s,baz=54,slow=18,SNR=1.3							
LVC				Lg	Lg		16 49 44.2	
	baz=209,slow=22,SNR=1.7							
LVC	**Limon Verde**	**11.57**	**142**	Pn	**Pn**		**16 46 43.6**	**-0.5**
LVC	**Limon Verde**	**11.57**	**142**	*e*P	**Pn**		**16 46 42.7**	**-1.4**
PB15	**IPOC Station P**	**11.71**	**146**		**Pn**		**16 46 46.6**	**+0.7**
AF01	**San Pedro de A**	**12.28**	**140**	Pn	**Pn**		**16 46 51.0**	**-2.6**
PB14	**IPOC Station P**	**12.43**	**153**	Pn	**Pn**		**16 46 54.1**	**-1.6**
PTLC	**Puerto Leguiza**	**13.82**	**8**	*e*P	**Pn**		**16 47 11.3**	**-3.3**
OTAV	**Otavalo**	**13.88**	**352**		Pn		16 47 10.0	-5.8
OTAV	**Otavalo**	**13.88**	**352**	*e*P	**P**		**16 47 27.1**	**+3.5**
OTAV	**Otavalo**	**13.88**	**352**	*e*P	**P**		**16 47 21.6**	**-2.0**
CUSE	**Cuicocha Este**	**13.95**	**353**	*e*P	P		16 47 31.6	+7.3
PAC1	**Pacto, Paraso**	**13.96**	**351**	*e*P	**Pn**		**16 47 17.6**	**+1.0**
SAML	**Samuel**	**14.00**	**72**	Pn	**Pn**		**16 47 14.1**	**-2.8**
SAML	**Samuel**	**14.00**	**72**	*e*P	**Pn**		**16 47 14.6**	**-2.3**
SAML	**Samuel**	**14.00**	**72**	*e*P	**Pn**		**16 47 14.7**	**-2.1**
AC02	**Maricunga**	**14.91**	**153**		**Pn**		**16 47 28.2**	**-1.5**
CRUC	**La Cruz**	**15.09**	**359**	*e*P	**P**		**16 47 35.1**	**-1.9**
FLOC	**Florencia**	**15.14**	**4**	P	**Pn**		**16 47 31.6**	**-0.7**
FLOC				IAmb	IAmb		16 47 58.8	
	comp=Z,34nm,0.9s							
FLOC	**Florencia**	**15.14**	**4**	*e*P	**Pn**		**16 47 33.2**	**+0.9**
SIV	**San Ignacio**	**15.24**	**101**	Pn	**Pn**		**16 47 33.9**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=279,slow=12,SNR=16							
BBAC	**Balboa, Cauca**	**15.55**	**358**	*e*P	**Pn**		**16 47 38.1**	**+0.2**
SOTA	**Rioblanco**	**15.65**	**0**	*e*P	**P**		**16 47 42.9**	**-0.5**
GARC	**Garzon, Huila**	**15.75**	**4**	*e*P	**Pn**		**16 47 40.4**	**-0.1**
PCON	**Cinco Dias**	**15.85**	**1**	*e*P	**P**		**16 47 47.5**	**+1.9**
MACC	**Macarena, Meta**	**15.91**	**10**	*e*P	**Pn**		**16 47 43.1**	**+0.8**
VILB	**Vilhena**	**16.02**	**90**	*e*P	**Pn**		**16 47 43.4**	**-0.4**
POPC	**Popayan, Colom**	**16.06**	**360**	*e*P	**P**		**16 47 49.1**	**+1.6**
BETC	**Betania**	**16.24**	**4**	*e*P	**P**		**16 47 51.5**	**+2.1**
MARP	**Paez Belalcaza**	**16.37**	**2**	*e*P	**P**		**16 47 50.8**	**-0.3**
GUVC	**San Jose del G**	**16.55**	**14**	*e*P	**Pn**		**16 47 51.5**	**+1.0**
PTLB	**Pontes e Lacer**	**17.05**	**98**	*e*P	**Pn**		**16 47 55.9**	**-0.9**
PRAC	**Prado**	**17.31**	**6**	*e*P	P		16 48 12.4	+11
ORTC	**Ortega, Tolima**	**17.47**	**5**	*e*P	**P**		**16 48 06.0**	**+3.0**
VILC	**Villavicencio,**	**17.86**	**10**	*e*P	**P**		**16 48 10.1**	**+2.7**
TOLC	**Tolima**	**18.14**	**4**	*e*P	**P**		**16 48 13.9**	**+3.3**
CHIC	**Chingaza**	**18.36**	**9**	*e*P	**P**		**16 48 10.4**	**-2.8**
ROSC	**El Rosal**	**18.49**	**7**	P	**P**		**16 48 14.9**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=49,slow=23,SNR=1.6							
ROSC				LR	LR		16 56 16.5	
	comp=Z,675nm,19.9s,baz=228,slow=40							
GUY2C	**Guyana, Caldas**	**18.77**	**4**	*e*P	**Pn**		**16 48 20.4**	**+2.0**
MACA	**Manacapuru-AM**	**18.89**	**58**	*e*P	**Pn**		**16 48 20.2**	**+0.8**
NORC	**Norcasia**	**19.14**	**5**	*e*P	**Pn**		**16 48 23.4**	**+0.9**
ZON	**Zonda**	**19.28**	**159**	P	**Pn**		**16 48 23.1**	**-1.0**
SPBC	**San Pablo de B**	**19.32**	**8**	*e*P	**Pn**		**16 48 25.8**	**+1.2**
CBOC	**Ciudad Bolivar**	**19.37**	**2**	*e*P	**P**		**16 48 23.2**	**-0.9**
RUSC	**La Rusia**	**19.71**	**11**	P	**Pn**		**16 48 30.0**	**+0.4**
RUSC				IAmb	IAmb		16 48 35.6	
	comp=Z,49nm,0.8s							
RUSC	**La Rusia**	**19.71**	**11**	*e*P	**Pn**		**16 48 30.9**	**+1.3**
HELC	**Santa Helena**	**19.71**	**3**	*e*P	**Pn**		**16 48 34.0**	**+4.4**
H03N1	**Juan Fernandez** baz=6.0,slow=75,SNR=863	**19.84**	**186**	T	T		17 09 12.8	
H03N2	**Juan Fernandez** baz=6.0,slow=75,SNR=908	**19.84**	**186**	T	T		17 09 24.1	
VA01	**Torpederas**	**19.85**	**168**	P	**P**		**16 48 27.9**	**-0.9**
VA01				IAmb	IAmb		16 48 46.6	
	comp=Z,68nm,1.0s							
H03N3	**Juan Fernandez** baz=6.0,slow=75,SNR=1028	**19.85**	**186**	T	T		17 09 24.5	
PTBC	**PUERTO BERRIO,**	**20.15**	**6**	*e*P	**P**		**16 48 33.0**	**+0.6**
BARC	**Barichara**	**20.38**	**10**	*e*P	**P**		**16 48 35.9**	**+0.9**
SALV	**Santo Antonio**	**20.39**	**99**	*e*P	**P**		**16 48 34.6**	**-0.4**
TAMC	**Tame, Arauca**	**20.50**	**14**	*e*P	Pn		16 48 37.8	-0.8
DBBC	**Dabeiba**	**20.51**	**1**	*e*P	Pn		16 48 38.1	-0.5
CLDB	**Colider**	**20.56**	**85**	*e*P	**P**		**16 48 36.5**	**-0.4**
MT09	**Talagante**	**20.71**	**167**	P	**P**		**16 48 38.3**	**-0.2**
PTGA	**Pitinga** comp=Z,18nm,0.9s,baz=249,slow=11,SNR=13	**20.90**	**54**	P	**P**		**16 48 40.8**	**+0.3**
PTGA	**Pitinga**	**20.90**	**54**	P	**P**		**16 48 39.5**	**-1.0**
PTGA				IAmb	IAmb		16 48 51.4	
	comp=Z,19nm,0.8s							
ZARC	**Zaragoza, Cauc**	**21.05**	**5**	⇑*e*P	**P**		**16 48 43.2**	**+1.0**
PAMC	**Pamplona, Colo**	**21.19**	**11**	*e*P	**P**		**16 48 44.5**	**+0.4**
UREC	**San Jos de Ur**	**21.26**	**3**	*e*P	**P**		**16 48 45.3**	**+0.9**
PP1B	**Ponte de Pedra**	**21.33**	**103**	*e*P	**P**		**16 48 45.1**	**-0.1**
ELOV	**Tuna**	**21.59**	**20**	*e*P	**P**		**16 48 48.9**	**-0.1**
GO05	**Huala**	**21.72**	**169**	P	**P**		**16 48 48.5**	**-0.6**
BO02	**Sierra Bellavi**	**21.74**	**167**	P	**P**		**16 48 50.8**	**+1.4**
NPGB	**Novo Progresso**	**21.93**	**75**	*e*P	**P**		**16 48 52.6**	**+0.9**
OCAC	**Ocana**	**21.97**	**9**	*e*P	**P**		**16 48 53.4**	**+1.3**
CPUP	**Villa Florida** comp=Z,4.2nm,0.9s,baz=302,slow=9.1,SNR=5.9	**22.09**	**128**	P	**P**		**16 48 52.6**	**-0.6**
CPUP				LR	LR		16 59 38.8	
	comp=Z,311nm,18.0s,baz=294,slow=43							
CPUP	**Villa Florida**	**22.09**	**128**	P	**P**		**16 48 55.8**	**+2.7**
CPUP	**Villa Florida**	**22.09**	**128**	*e*P	**P**		**16 48 53.7**	**+0.5**
SMLC	**San Martn de**	**22.42**	**7**	*e*P	**P**		**16 48 56.1**	**-0.8**
SOCV	**Socops**	**22.51**	**15**	*e*P	**P**		**16 48 56.4**	**-1.5**
SDV	**Santo Domingo** comp=Z,13nm,0.7s,baz=94,slow=10,SNR=5.7	**23.14**	**15**	P	**P**		**16 49 04.9**	**+0.3**
SDV	**Santo Domingo**	**23.14**	**15**	P	**P**		**16 49 03.0**	**-1.6**
SDV				IAmb	IAmb		16 49 16.4	
	comp=Z,23nm,1.0s							
SDV	**Santo Domingo**	**23.14**	**15**	*e*P	**P**		**16 49 07.3**	**+2.7**
SJCC	**San Jacinto, C**	**23.41**	**4**	P	**P**		**16 49 08.7**	**+1.7**
SJCC	**San Jacinto, C**	**23.41**	**4**	*e*P	**P**		**16 49 09.5**	**+2.4**
ARAG	**Araguaiana, MT**	**24.11**	**98**	*e*P	**P**		**16 49 14.8**	**+1.0**
ITQB	**Itaqui**	**24.46**	**134**	P	**P**		**16 49 16.3**	**-0.4**
ITQB	**Itaqui**	**24.46**	**134**	*e*P	**P**		**16 49 18.8**	**+2.0**
CRJC	**Cerrejon, Guaj**	**24.77**	**9**	*e*P	**P**		**16 49 17.2**	**-2.5**
SNDB	**Serra Nova Dou**	**24.77**	**89**	*e*P	**P**		**16 49 21.3**	**+1.5**
ITRB	**Iturama**	**25.88**	**107**	*e*P	**P**		**16 49 30.9**	**+1.0**
FRTB	**Fartura**	**27.40**	**115**	*e*P	**P**		**16 49 45.1**	**+1.6**
PRPB	**Parapeabas**	**27.43**	**77**	*e*P	**P**		**16 49 45.3**	**+1.5**
PLCA	**Paso Flores** comp=Z,5.3nm,1.1s,baz=15,slow=8.4,SNR=3.9	**27.53**	**170**	P	**P**		**16 49 42.6**	**-1.9**
PLCA				LR	LR		16 58 33.8	
	comp=Z,76nm,19.8s,baz=349,slow=32							
PLCA	**Paso Flores**	**27.53**	**170**	P	**P**		**16 49 42.9**	**-1.6**
PLCA	**Paso Flores**	**27.53**	**170**	*e*P	**P**		**16 49 45.4**	**+0.9**
TRQA	**Tornquist**	**27.61**	**154**	*e*P	**P**		**16 49 46.0**	**+0.8**
PEXB	**Peixe**	**27.67**	**90**	*e*P	**P**		**16 49 46.2**	**+0.3**
IPMB	**Ipameri, GO**	**27.69**	**103**	*e*P	**P**		**16 49 45.6**	**-0.5**
BDFB	**Brasilia** comp=Z,3.2nm,0.7s,baz=239,slow=8.5,SNR=4.5	**27.77**	**98**	P	**P**		**16 49 47.0**	**0.0**
BDFB				LR	LR		17 01 21.1	
	comp=Z,284nm,18.1s,baz=307,slow=38							
PLTB	**Pedras Altas**	**27.79**	**134**	P	**P**		**16 49 47.1**	**+0.2**
PLTB				IAmb	IAmb		16 49 47.8	
	comp=Z,26nm,1.1s							
PLTB	**Pedras Altas**	**27.79**	**134**	*e*P	**P**		**16 49 46.9**	**+0.1**
SMTB	**Santa Maria do**	**28.88**	**84**	*e*P	**P**		**16 49 56.9**	**+0.2**
RCLB	**Rio Claro- Sao**	**28.99**	**112**	*e*P	**P**		**16 49 59.0**	**+1.3**
DR12	**Loma Pena Alta**	**32.99**	**13**	P	**P**		**16 50 32.1**	**-0.8**
CBYP	**Canovanas**	**33.43**	**19**	P	**P**		**16 50 34.7**	**-2.0**
CUPR	**Culebra, Puert**	**33.65**	**20**	P	**P**		**16 50 37.3**	**-1.3**
CUPR				IAmb	IAmb		16 50 40.5	
	comp=Z,11nm,0.8s							
NBPS	**Pedro II - PI**	**35.91**	**79**	*e*P	**P**		**16 50 58.4**	**0.0**
CMC01	**Camacan, BA**	**35.96**	**97**	*e*P	**P**		**16 50 59.5**	**+0.8**
GDU01	**Guandu, BA**	**36.00**	**95**	*e*P	**P**		**16 50 59.0**	**-0.1**
NBPB	**Pedra_Branca-C**	**37.38**	**81**	*e*P	**P**		**16 51 11.4**	**+0.6**
NBMO	**Morrinhos-CE**	**37.57**	**78**	*e*P	**P**		**16 51 12.8**	**+0.4**
NBMA	**Muriti-CE**	**37.73**	**84**	*e*P	**P**		**16 51 14.2**	**+0.4**
NBLA	**Lagarto - SE**	**38.03**	**90**	*e*P	**P**		**16 51 15.5**	**-0.8**
NBCL	**Cascavel-CE**	**38.97**	**80**	*e*P	**P**		**16 51 24.6**	**+0.3**
NBLV	**Livramento - P**	**39.52**	**85**	*e*P	**P**		**16 51 29.3**	**+0.4**
NBPA	**Parau_RN**	**39.70**	**83**	*e*P	**P**		**16 51 31.6**	**+1.2**
NBAN	**Anadia - AL**	**39.70**	**89**	*e*P	**P**		**16 51 30.0**	**-0.4**
NBRF	**Rio Formoso -**	**40.99**	**88**	*e*P	**P**		**16 51 40.8**	**-0.3**
NBPV	**Pedro Velho**	**41.30**	**84**	*e*P	**P**		**16 51 44.9**	**+1.3**
W57A	**Gilead**	**48.61**	**356**	P	**P**		**16 52 40.4**	**-0.9**
W57A				IAmb	IAmb		16 52 42.2	
	comp=Z,16nm,1.1s							
FPAL	**Fort Paine**	**48.65**	**350**	P	**P**		**16 52 40.3**	**-1.3**
FPAL				IAmb	IAmb		16 52 41.5	
	comp=Z,6.2nm,1.1s							
KMSC	**Kings Mountain**	**48.70**	**355**	P	**P**		**16 52 40.7**	**-1.2**
KMSC				IAmb	IAmb		16 52 42.9	
	comp=Z,17nm,1.4s							
V58A	**Windy Hill, Pi**	**49.20**	**357**	P	**P**		**16 52 44.7**	**-1.1**
W50A	**Signal Mountai**	**49.24**	**351**	P	**P**		**16 52 44.9**	**-1.3**
W50A				IAmb	IAmb		16 53 04.7	
	comp=Z,8.0nm,1.1s							
SWET	**Sewanee**	**49.36**	**350**	P	**P**		**16 52 44.4**	**-2.7**
SWET				IAmb	IAmb		16 52 46.8	
	comp=Z,4.8nm,0.6s							
V52A	**Sevierville**	**49.63**	**353**	P	**P**		**16 52 47.0**	**-2.1**
V52A				IAmb	IAmb		16 52 49.1	
	comp=Z,11nm,1.1s							
U59A	**Littleton**	**49.71**	**359**	P	**P**		**16 52 49.2**	**-0.5**
U56A	**King**	**49.82**	**356**	P	**P**		**16 52 50.6**	**0.0**
U56A				IAmb	IAmb		16 52 51.4	
	comp=Z,15nm,0.9s							
V48A	**Smith Brothers**	**50.03**	**349**	P	**P**		**16 52 50.6**	**-1.5**
V48A				IAmb	IAmb		16 52 51.9	
	comp=Z,7.1nm,0.7s							
TXAR	**Lajitas Array** comp=Z,0.8nm,0.8s,baz=147,slow=8.7,SNR=9.3	**50.04**	**329**	P	**P**		**16 52 52.1**	**-0.4**
TX32	**Lajitas Array**	**50.04**	**329**	P	**P**		**16 52 52.2**	**-0.3**
TZTN	**Tazewell**	**50.32**	**353**	P	**P**		**16 52 53.5**	**-0.9**
TZTN				IAmb	IAmb		16 53 02.5	
	comp=Z,11nm,1.2s							
T59A	**Double "B" Far**	**50.33**	**359**	P	**P**		**16 52 53.7**	**-0.6**
T59A				IAmb	IAmb		16 52 55.2	
	comp=Z,9.7nm,0.8s							
T57A	**Hurt**	**50.41**	**357**	P	**P**		**16 52 53.9**	**-1.1**
MIAR	**Mount Ida**	**50.53**	**342**	P	**P**		**16 52 55.4**	**-0.6**
WVT	**Waverly**	**50.60**	**348**	P	**P**		**16 52 54.2**	**-2.2**
WHAR	**Wooly Hollow**	**50.85**	**343**	P	**P**		**16 52 58.2**	**-0.2**
JSRW	**J. Sargeant Re**	**51.05**	**359**	P	**P**		**16 52 59.1**	**-0.8**
X37A	**Clayton**	**51.14**	**340**	P	**P**		**16 53 00.9**	**+0.3**
X37A				IAmb	IAmb		16 53 28.9	
	comp=Z,12nm,0.7s							
S57A	**Dark Hollow, R**	**51.15**	**358**	P	**P**		**16 52 60.0**	**-0.6**
S57A				IAmb	IAmb		16 53 01.3	
	comp=Z,12nm,1.0s							
W39A	**Magazine**	**51.20**	**342**	P	**P**		**16 53 01.7**	**+0.8**
W39A				IAmb	IAmb		16 53 02.4	
	comp=Z,8.6nm,1.1s							
R58B	**Mineral**	**51.32**	**359**	P	**P**		**16 53 01.8**	**-0.1**
S54A	**Dingess, Beckl**	**51.33**	**355**	P	**P**		**16 53 01.3**	**-0.7**
S54A				IAmb	IAmb		16 53 02.2	
	comp=Z,8.8nm,0.8s							
FCAR	**Ozark Folk Cen**	**51.37**	**344**	P	**P**		**16 53 00.7**	**-1.5**
R55A	**Marlinton**	**51.73**	**357**	P	**P**		**16 53 04.1**	**-0.9**
R55A				IAmb	IAmb		16 53 05.8	
	comp=Z,8.3nm,0.8s							
PBMO	**Poplar Bluff**	**51.78**	**346**	P	**P**		**16 53 04.2**	**-1.1**
PBMO				IAmb	IAmb		16 53 05.2	
	comp=Z,7.9nm,1.0s							
PMSA	**Palmer Station**	**51.83**	**173**	*e*P	**P**		**16 53 07.2**	**+1.9**
U40A	**Yellville**	**52.01**	**343**	P	**P**		**16 53 06.0**	**-1.0**
U40A				IAmb	IAmb		16 53 07.6	
	comp=Z,11nm,0.8s							
R50A	**Paris**	**52.13**	**352**	P	**P**		**16 53 06.1**	**-1.7**
R50A				IAmb	IAmb		16 53 07.9	
	comp=Z,14nm,1.0s							
HHAR	**Hobbs**	**52.25**	**342**	P	**P**		**16 53 07.9**	**-1.0**
R49A	**Shelbyville**	**52.25**	**352**	P	**P**		**16 53 07.5**	**-1.3**
R49A				IAmb	IAmb		16 53 09.1	
	comp=Z,6.6nm,0.6s							
WCI	**Wyandotte Cave**	**52.36**	**350**	P	**P**		**16 53 07.9**	**-1.7**
WCI				IAmb	IAmb		16 53 09.9	
	comp=Z,14nm,1.1s							
S44A	**Carbondale**	**52.40**	**347**	P	**P**		**16 53 08.3**	**-1.6**
S44A				IAmb	IAmb		16 53 09.7	
	comp=Z,13nm,0.8s							
SIUC	**Southern Illin**	**52.41**	**347**	P	**P**		**16 53 08.2**	**-1.7**
SIUC				IAmb	IAmb		16 53 09.9	
	comp=Z,12nm,0.6s							
Q56A	**Snyder Ridge,**	**52.44**	**358**	P	**P**		**16 53 09.6**	**-0.6**
Q56A

	comp=Z,0.9nm,0.9s,baz=107,slow=2.3,SNR=6.1								
PCBR	**Castelo Branco**	**83.29**	**46**	*eP*		**P**	**16 56 25.8**	**+1.5**
	comp=Z,11nm,2.1s								
PVIS	**Viseu**	**83.35**	**46**	*eP*		**P**	**16 56 26.4**	**+1.7**
	comp=Z,16nm,1.8s								
POLO	**Lamas de Olo**	**83.69**	**45**	*eP*		**P**	**16 56 28.1**	**+1.6**
DLBC	**Dease Lake**	**83.91**	**335**	P		**P**	**16 56 27.7**	**+0.5**
	comp=Z,5.5nm,0.9s,baz=152,slow=5.6,SNR=6.3								
ESDC	**Sonseca Array**	**85.73**	**48**	P		**P**	**16 56 37.3**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=252,slow=5.6,SNR=12								
SUMG	**Summit**	**89.59**	**11**	P		**P**	**16 56 55.0**	**+0.1**
INK	**Inuvik**	**91.13**	**342**	P		**P**	**16 57 01.5**	**-0.2**
	comp=Z,5.5nm,0.9s,baz=100,slow=7.3,SNR=5.0								
ILAR	**Eielson Array**	**94.05**	**336**	P		**P**	**16 57 13.8**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=156,slow=3.4,SNR=7.4								
H11N3	**WAKE ISLAND Hyd**	**19.10**	**285**	T		T	19 12 51.9		
	baz=95,slow=75,SNR=174								
H11N2	**WAKE ISLAND Hyd**	**19.11**	**285**	T		T	19 12 49.9		
	baz=95,slow=75,SNR=162								
H11N1	**WAKE ISLAND Hyd**	**19.12**	**285**	T		T	19 12 51.6		
	baz=95,slow=75,SNR=58								
H11S2	**WAKE ISLAND Hyd**	**19.18**	**284**	T		T	19 13 00.4		
	baz=94,slow=74,SNR=138								
H11S1	**WAKE ISLAND Hyd**	**19.19**	**284**	T		T	19 13 02.3		
	baz=94,slow=74,SNR=138								
H11S3	**WAKE ISLAND Hyd**	**19.20**	**284**	T		T	19 13 01.9		
	baz=94,slow=74,SNR=50								
KBZ	**Khabaz**	**120.58**	**47**	PKP		**PKPdf**	**17 02 48.2**	**-1.0**
	comp=Z,2.9nm,0.9s,baz=269,slow=0.8,SNR=5.3								
ASAR	**Alice Springs**	**132.40**	**219**	PKP		**PKPdf**	**17 03 12.4**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=121,slow=2.3,SNR=7.0								
WRA	**Warramunga Arr**	**134.81**	**223**	PKP		**PKiKP**	**17 03 17.3**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=139,slow=1.7,SNR=8.6								
ZALV	**Zalesovo Beam**	**137.19**	**16**	PKP		**PKPdf**	**17 03 21.0**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=286,slow=2.6,SNR=5.4								
MKAR	**Makanchi Array**	**142.50**	**24**	PKP		**PKPdf**	**17 03 29.8**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=297,slow=1.6,SNR=2.0								
KSH	**Kashi**	**144.70**	**38**	PKP		**PKPdf**	**17 03 34.9**	**+0.3**
KSH				pPKP		sPKPdf	17 03 47.6	-1.5
KSH				LR		LR			
	comp=N,140nm,10.2s								
KSH				LR		LR			
	comp=E,110nm,8.1s								
SONM	**Songino Array**	**145.80**	**356**	PKPbc		**PKPab**	**17 03 37.2**	**0.0**
	comp=E,4.0nm,0.8s,baz=351,slow=2.8,SNR=20								
KSRS	**Korea Array**	**147.71**	**322**	PKPbc		**PKPbc**	**17 03 40.6**	**-1.7**
	comp=E,1.3nm,0.8s,baz=30,slow=3.7,SNR=4.8								

*IDC **10** 16:48:35.5±1.4,51.91°N×169.44°W,h0km,mb3.7/5, mb1 3.9/6,mb1mx3.5/44,mbtmp3.8/6,ML3.5/1,MS3.1/1, Ms1 3.1/1,ms1mx2.5/48,Error ellipse: s-maj=42.9km s-min=31.8km az=9.0*

*NEIC **10** 16:48:39.1±1.4,51.98N±0.05×169.57W±0.08,h10km±1km, ML2.8/18(AEIC),Error ellipse: s-maj=8.4km s-min=7.8km az=141.0*

*AEIC **10** 16:48:41.8±1.2,52.07N±0.05×169.55W±0.08,h53km±7km, Error ellipse: s-maj=7.8km s-min=5.9km az=46.0*

ISC 10 16:48:40.4±1.1,51.9N±0.1×169.49W±0.08,h30km,n24, σ0s73/22,mb3.9/5,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.12**	**20**		**Pn**	**16 48 59.9**	**-0.2**
NIKH					**Sb**	**16 49 14.7**	**-0.8**
OKSP	**Okmok Steeple**	**1.52**	**28**		**Pn**	**16 49 05.5**	**-0.1**
OKSO	**Okmok South**	**1.65**	**29**		**Sn**	**16 49 28.5**	**+0.9**
OKTU	**Okmok Mt. Tuli**	**1.71**	**30**		**Pn**	**16 49 08.4**	**+0.2**
OKNC	**Okmok New Cone**	**1.75**	**28**		**Pn**	**16 49 09.4**	**+0.7**
MAPS	**Pakushin South**	**2.44**	**38**		**Pn**	**16 49 18.6**	**+0.4**
MAPS					**Sn**	**16 49 48.0**	**+1.0**
MSW	**Makushin Switc**	**2.58**	**38**		**Pn**	**16 49 21.0**	**+0.8**
MNAT	**Makushin Natee**	**2.60**	**40**		**Pn**	**16 49 21.0**	**+0.6**
UNV	**Unalaska Valle**	**2.65**	**42**		**Pn**	**16 49 21.8**	**+0.8**
KOFP	**Korovin Flat P**	**2.86**	**279**		**Pn**	**16 49 24.9**	**+0.9**
ATKA	**Atka Island**	**2.92**	**277**		**Pn**	**16 49 25.1**	**+0.4**
AKUT	**Akutan**	**3.16**	**44**	Pn	**Pn**	**16 49 29.6**	**+1.6**
ADK	**Adak**	**4.46**	**272**	Pn	**Pn**	**16 49 46.2**	**+0.4**
AMKA	**Amchitka**	**7.00**	**270**	Pn	**Pn**	**16 50 21.8**	**+1.1**
PETK	**Petropavlovsk-**	**19.91**	**286**	P	**P**	**16 53 08.9**	**-0.4**
	0.7nm,0.3s,baz=89,slow=14,SNR=24						
TIXI	**Tiksi**	**33.08**	**329**	LR	LR	17 07 47.4	
	comp=Z,35nm,21.9s,baz=190,slow=35						
H11S1	**WAKE ISLAND Hy**	**38.24**	**218**	T	T	17 37 08.4	
	baz=22						
H11S2	**WAKE ISLAND Hy**	**38.26**	**218**	T	T	17 37 17.0	
	baz=22						
H11S3	**WAKE ISLAND Hy**	**38.26**	**218**	T	T	17 37 12.0	
	baz=22						
TXAR	**Lajitas Array**	**52.83**	**88**	P	**P**	**16 57 52.5**	**-0.6**
	0.1nm,0.6s,baz=318,slow=7.5,SNR=1.5						
ARCES	**ARCESS Array B**	**58.36**	**354**	P	**P**	**16 58 31.8**	**-0.3**
	3.6nm,0.9s,baz=11,slow=6.7,SNR=4.7						
MKAR	**Makanchi Array**	**64.06**	**313**	P	**P**	**16 59 10.9**	**-0.2**
	1.2nm,1.0s,baz=54,slow=7.3,SNR=1.4						
FINES	**FINESS Array B**	**66.31**	**352**	P	**P**	**16 59 25.3**	**0.0**
	0.9nm,0.7s,baz=357,slow=9.7,SNR=3.7						
ASAR	**Alice Springs**	**90.05**	**230**	P	**P**	**17 01 36.9**	**-0.1**
	0.3nm,0.7s,baz=22,slow=5.0,SNR=5.4						

*IDC **10** 16:54:50.1±61.0,33.58N×71.50E,h231km±240km, mb3.3/3,mb1 3.2/4,mb1mx2.8/49,mbtmp3.8/4,ML3.2/1, Error ellipse: s-maj=794.8km s-min=65.9km az=170.0*

*SOME **10** 16:55:10.7,37.72N×71.85E,h15km*

*NEIC **10** 16:55:11.2±1.8,36.52N±0.06×70.27E±0.03,h202km±7km, mb4.0/2,Error ellipse: s-maj=8.7km s-min=3.3km az=180.0*

ISC 10 16:55:10.8±0.9,36.51N±0.06×70.39E±0.07,h200km,n31, σ1s92/42,1C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.25**	**210**		**Pn**	**16 55 52.2**	**-0.1**
KBL				Sn	**Sn**	**16 56 22.5**	**-2.0**
CHGR	**Chuyangaron**	**2.35**	**336**		**Pn**	**16 55 53.1**	**-0.1**
CHGR				Sn	**Sn**	**16 56 24.4**	**-1.9**
GAR	**Garm**	**2.48**	**359**		**Pn**	**16 55 55.1**	**+0.4**
DRK	**Karamyk**	**3.16**	**20**		**Pn**	**16 56 03.7**	**+1.0**
NIL	**Nilore**	**3.70**	**140**		**Pn**	**16 56 09.9**	**+0.9**
NIL				Sn	**Sn**	**16 56 54.0**	**-0.5**
TAS	**Tashkent**	**4.88**	**350**	Pn	**Pn**	**16 56 24.3**	**+0.7**
ARSB	**Arslanbob**	**5.21**	**22**	Pn	**Pn**	**16 56 29.1**	**+1.1**
IUG	**Iuzhnay**	**5.63**	**357**	*eP*	**Pn**	**16 56 35.5**	**+2.2**
	220nm,0.1s						
IUG				*eS*	**Sn**	**16 57 35.4**	**-3.3**
	73nm,0.4s						
DZA	**Taraz**	**6.41**	**6**	*eP*	**Pn**	**16 56 46.6**	**+3.3**
	94nm,0.0s						
DZA				*eS*	**Sn**	**16 57 55.3**	**-1.5**
	83nm,0.4s						
DHRM	**DHARAMSHALA**	**6.48**	**129**	*eP*	**Pn**	**16 56 44.8**	**+0.3**
DHRM				*eS*	**Sn**	**16 57 55.0**	**-3.6**
KK31	**Karatay Array**	**6.58**	**1**	Pn	**Pn**	**16 56 45.5**	**-0.1**
	1.1nm,0.3s,baz=177,slow=12,SNR=14						
KK31				⇓Sn	**Sn**	**16 57 56.6**	**-4.1**
	1.2nm,0.3s,baz=187,slow=27,SNR=5.5						
KK31	**Karatay Array**	**6.58**	**1**		**Pn**	**16 56 44.9**	**-0.7**
KK31				Sn	**Sn**	**16 57 56.9**	**-3.9**
KKAR	**Karatay Array**	**6.58**	**1**		**Pn**	**16 56 44.9**	**-0.6**
MRKS	**Merke**	**6.60**	**19**	*eP*	**Pn**	**16 56 48.0**	**+2.2**
	3.0nm,0.3s						
MRKS				*eS*	**Sn**	**16 57 57.5**	**-3.7**
	18nm,0.8s						
AAK	**Ala-Archa**	**6.89**	**26**	⇓Pn	**Pn**	**16 56 50.3**	**+0.6**
	1.4nm,0.5s						
AAK				⇑Sn	**Sn**	**16 58 05.6**	**-2.5**
	5.3nm,0.5s						
AAK	**Ala-Archa**	**6.89**	**26**		**Pn**	**16 56 50.1**	**+0.4**
AAK					**Sn**	**16 58 07.4**	**-0.7**
BOOM	**Boomskoye usch**	**7.35**	**34**	Pn	**Pn**	**16 56 57.2**	**+1.5**
KST	**Kastek**	**7.80**	**32**	*eP*	**Pn**	**16 57 06.1**	**+4.6**
	2.1nm,0.5s						
KST				*eS*	**Sn**	**16 58 28.5**	**-1.2**
	6.7nm,0.8s						
MK31	**Makanchi Array**	**13.57**	**37**	P	**Pn**	**16 58 16.0**	**+0.7**
MKAR	**Makanchi Array**	**13.57**	**37**	P	**Pn**	**16 58 17.0**	**+1.6**
	0.1nm,0.3s,baz=214,slow=12,SNR=5.3						
MKAR	**Makanchi Array**	**13.57**	**37**	P	**Pn**	**16 58 17.0**	**+1.6**
ABKAR	**Akbulak array**	**14.84**	**332**		**P**	**16 58 32.2**	**+0.5**
ABKAR	**Akbulak array**	**14.84**	**332**		**Pn**	**16 58 30.7**	**-0.2**
ZAA0	**Zalesovo Array**	**20.11**	**25**	P	**P**	**16 59 29.2**	**+0.1**
ZAA0				IAmb	IAmb	16 59 35.9	
	comp=Z,1.6nm,0.8s						
ZALV	**Zalesovo Beam**	**20.11**	**25**	P	**P**	**16 59 29.5**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=213,slow=9.6,SNR=5.0						
ZALV	**Zalesovo Beam**	**20.11**	**25**	P	**P**	**16 59 29.5**	**+0.4**
FINES	**FINESS Array B**	**37.20**	**326**	P	**P**	**17 02 03.1**	**+0.7**
	comp=Z,1.2nm,1.0s,baz=149,slow=11,SNR=1.3						
FINES	**FINESS Array B**	**37.20**	**326**	P	**P**	**17 02 03.1**	**+0.7**
ARCES	**ARCESS Array B**	**40.95**	**338**	P	**P**	**17 02 34.3**	**+0.9**
	comp=Z,5.0nm,1.1s,baz=109,slow=7.7,SNR=4.1						
ARCES	**ARCESS Array B**	**40.95**	**338**	P	**P**	**17 02 34.3**	**+0.9**
ARCES	**ARCESS Array B**	**40.95**	**338**	IAmb	IAmb	17 02 44.5	
	comp=Z,14nm,1.3s						

*JMA **10** 16:56:25.7±0.1,24.12N×122.84E,h51km±4km,M2.0*

*TAP **10** 16:56:26.1,24.15N×122.82E,h43km,ML2.7,D*

ISC 10 16:56:26.3±1.2,24.10N±0.05×122.85E±0.02,h42km±14km, n68,σ1s03/105,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.36**	**13**	P	**Pn**	**16 56 35.3**	**-0.1**
JYNG				S	**Sn**	**16 56 42.0**	**+0.3**
YOJ	**Yonaguni jima**	**0.39**	**22**	P	**Pn**	**16 56 35.6**	**-0.1**
YOJ				S	**Sn**	**16 56 42.5**	**+0.2**
YOJ	**Yonaguni jima**	**0.39**	**22**	*i* P	**Pn**	**16 56 35.6**	**-0.1**
	baz=27						
YOJ				*i* S	**Sn**	**16 56 42.5**	**+0.2**
	baz=27						
IRIF	**Iriomote-Funau**	**0.83**	**73**	P	**Pn**	**16 56 41.3**	**-0.3**
IRIF				S	**Sn**	**16 56 53.1**	**+0.4**
JKRS	**Kuro-shima**	**1.06**	**82**	P	**Pn**	**16 56 45.2**	**+0.5**
JKRS				S	**Sn**	**16 56 58.8**	**+0.5**
ENA	**Nanau**	**1.07**	**288**	P	**Pn**	**16 56 44.6**	**-0.2**
	baz=286						
ENA				*eS*	**Sn**	**16 56 58.5**	**+0.1**
	baz=286						
ETL	**Fush Village**	**1.13**	**273**	*eP*	**Pn**	**16 56 44.4**	**-1.2**
	baz=258						
ETL				*eS*	**Sn**	**16 56 59.3**	**-0.7**
	baz=258						
TWD	**Chiawan**	**1.15**	**269**	*eP*	**Pn**	**16 56 45.4**	**-0.5**
	baz=267						
TWD				*eS*	**Sn**	**16 56 59.2**	**-1.3**
	baz=267						
NACB	**Ninganchiao**	**1.15**	**274**	P	**Pn**	**16 56 45.5**	**-0.4**
	baz=259						
NACB				*eS*	**Sn**	**16 56 59.3**	**-1.2**
	baz=259						
NDS	**Dongshan**	**1.17**	**297**	*eP*	**Pn**	**16 56 45.6**	**-0.6**
	baz=296						
NDS				*eS*	**Sn**	**16 57 00.3**	**-0.5**
	baz=296						
JIJ	**Ishigaki jima**	**1.21**	**77**	P	**Pn**	**16 56 46.2**	**-0.5**
JIJ				S	**Sn**	**16 57 01.1**	**-0.7**
TWE	**Neicheng**	**1.25**	**300**	*eP*	**Pn**	**16 56 47.6**	**+0.4**
	baz=308						
ETM	**Tongmen**	**1.25**	**264**	*eP*	**Pn**	**16 56 46.5**	**-0.8**
	baz=262						
ETM				*eS*	**Sn**	**16 57 01.8**	**-1.2**
	baz=262						
ETLH	**Xiulin Townshi**	**1.26**	**275**	P	**Pn**	**16 56 46.7**	**-0.7**
	baz=273						
ETLH				*eS*	**Sn**	**16 57 02.2**	**-1.0**
	baz=273						
TIPB	**Shuangxi**	**1.28**	**313**	*eP*	**Pn**	**16 56 47.1**	**-0.6**
	baz=312						
TIPB				*eS*	**Sn**	**16 57 02.4**	**-1.3**
	baz=312						
ENTT	**Nioudou**	**1.29**	**295**	P	**Pn**	**16 56 48.2**	**+0.3**
	baz=280						
ENTT				*eS*	**Sn**	**16 57 04.0**	**+0.1**
	baz=280						
NDT	**Datong Townshi**	**1.32**	**293**	*eP*	**Pn**	**16 56 48.5**	**+0.2**
	baz=279						
NDT				*eS*	**Sn**	**16 57 04.5**	**-0.2**
	baz=279						
ESL	**Shilin**	**1.33**	**258**	*eP*	**Pn**	**16 56 47.7**	**-0.7**
	baz=255						
EGFH	**Guangfu**	**1.38**	**252**	*eP*	**Pn**	**16 56 48.3**	**-0.7**
	baz=249						
EGFH				*eS*	**Sn**	**16 57 05.6**	**-0.4**
	baz=249						
NWF	**Wu-fen Shan**	**1.38**	**315**	*eP*	**Pn**	**16 56 48.5**	**-0.5**
	baz=314						
NNS	**Nan Shan**	**1.39**	**284**	*eS*	**Sn**	**16 57 06.4**	**-0.2**
	baz=282						
JISG	**Ishigakijimahi**	**1.41**	**70**	P	**Pn**	**16 56 48.9**	**-0.6**
JISG				S	**Sn**	**16 57 05.9**	**-1.0**
HGSD	**Ruisui**	**1.44**	**246**	P	**Pn**	**16 56 49.3**	**-0.6**
	baz=243						
HGSD				*eS*	**Sn**	**16 57 05.7**	**-1.9**
	baz=243						
WHF	**Hehuan Shan**	**1.45**	**272**	P	**Pn**	**16 56 49.5**	**-0.9**
	baz=270						
WHF				*eS*	**Sn**	**16 57 07.8**	**-0.7**
	baz=270						
YHNB	**Yeheng**	**1.46**	**293**	P	**Pn**	**16 56 50.5**	**+0.2**
	baz=278						
YHNB				*eS*	**Sn**	**16 57 07.3**	**-1.0**
	baz=278						
FUSS	**Fushou**	**1.48**	**276**	P	**Pn**	**16 56 50.5**	**-0.2**
	baz=262						
FUSS				*eS*	**Sn**	**16 57 08.3**	**-0.6**
	baz=262						
NSK	**Sanguang**	**1.48**	**293**	*eP*	**Pn**	**16 56 50.8**	**+0.3**
	baz=279						
EHY	**Hungye**	**1.52**	**247**	P	**Pn**	**16 56 50.7**	**-0.3**
	baz=245						
EHY				*eS*	**Sn**	**16 57 08.2**	**-1.4**
	baz=245						
CHGB	**Renai**	**1.54**	**269**	P	**Pn**	**16 56 51.4**	**0.0**
	baz=267						
CHGB				*eS*	**Sn**	**16 57 09.4**	**-0.9**
	baz=267						
OWD	**Renai**	**1.54**	**265**	P	**Pn**	**16 56 51.4**	**-0.1**
	baz=263						
OWD				*eS*	**Sn**	**16 57 09.2**	**-1.1**
	baz=263						
YULB	**Yu-li**	**1.59**	**244**	P	**Pn**	**16 56 51.8**	**-0.2**
	baz=232						
YULB				*eS*	**Sn**	**16 57 09.9**	**-1.4**
	baz=232						
EYUL	**Yuli**	**1.59**	**242**	*eP*	**Pn**	**16 56 51.8**	**-0.2**
	baz=230						
EYUL				*eS*	**Sn**	**16 57 09.9**	**-1.5**
	baz=230						
FULB	**Fuli**	**1.69**	**238**	*eP*	**Pn**	**16 56 52.9**	**-0.5**
	baz=227						
FULB				*eS*	**Sn**	**16 57 12.4**	**-1.4**
	baz=227						
WHP	**Taichung City**	**1.75**	**276**	*eP*	**Pn**	**16 56 55.6**	**+1.3**
	baz=264						
LIOB	**Emei**	**1.76**	**288**	*eP*	**Pn**	**16 56 54.8**	**+0.5**
	baz=286						
LIOB				*eS*	**Sn**	**16 57 16.8**	**+1.2**
	baz=286						
SSLB	**Suanglung**	**1.77**	**260**	*eP*	**Pn**	**16 56 54.5**	**+0.1**
	baz=258						
JTJ	**Tarama**	**1.77**	**72**	P	**Pn**	**16 56 54.5**	**+0.1**
JTJ				*eS*	**Sn**	**16 57 15.1**	**-0.6**
WCS	**Beigang Elemen**	**1.78**	**269**	*eP*	**Pn**	**16 56 54.7**	**+0.2**
	baz=267						
SMLT	**Sun Moon Lake**	**1.80**	**264**	*eP*	**Pn**	**16 56 55.4**	**+0.4**
	baz=261						
SMLT				*eS*	**Sn**	**16 57 16.0**	**-0.6**
	baz=261						
EDH	**Donghe**	**1.81**	**232**	*eP*	**Pn**	**16 56 54.2**	**-0.8**
	baz=222						
TYC	**Yuchr**	**1.84**	**264**	*eP*	**Pn**	**16 56 55.0**	**-0.3**
	baz=262						
TYC				*eS*	**Sn**	**16 57 17.7**	**+0.4**
	baz=262						
YUS	**Yu-Shan**	**1.84**	**251**	*eP*	**Pn**	**16 56 56.4**	**+0.5**
	baz=249						
WHYT	**Xinyi Township**	**1.88**	**258**	*eP*	**Pn**	**16 56 57.5**	**+1.6**
	baz=256						
ELDTW	**Lidau**	**1.91**	**242**	P	**Pn**	**16 56 56.2**	**-0.3**
	baz=239						
ELDTW				*eS*	**Sn**	**16 57 18.0**	**-1.4**
	baz=239						
WJS	**Zhushan**	**1.96**	**262**	*eP*	**Pn**	**16 56 59.2**	**+2.1**
	baz=260						
ALS	**Alishan**	**1.97**	**253**	*eP*	**Pn**	**16 56 58.3**	**+0.9**
	baz=251						
LONT	**Longtian**	**1.98**	**233**	*eP*	**Pn**	**16 56 57.3**	**0.0**
	baz=224						
LONT				*eS*	**Sn**	**16 57 19.8**	**-1.1**
	baz=224						
WNT	**Mingjian**	**2.00**	**264**	*eP*	**Pn**	**16 56 59.4**	**+1.9**
	baz=262						
CHN5	**Tsauling**	**2.06**	**256**	P	**Pn**	**16 56 60.0**	**+1.6**
	baz=246						
CHN5				*eS*	**Sn**	**16 57 24.4**	**+1.5**
	baz=246						
TWGBT	**Beinan**	**2.07**	**232**	*eP*	**Pn**	**16 56 58.4**	**-0.1**
	baz=223						
TWG	**Pinlang**	**2.07**	**232**	*eP*	**Pn**	**16 56 58.7**	**+0.1**
	baz=223						
STYH	**Taoyuan**	**2.12**	**245**	*eP*	**Pn**	**16 56 59.5**	**+0.3**
	baz=233						
WDLH	**Douliu**	**2.16**	**260**	*eP*	**Pn**	**16 57 01.1**	**+1.3**
	baz=257						
TPUB	**Ta-pu**	**2.19**	**249**	*eP*	**Pn**	**16 57 01.8**	**+1.6**
	baz=239						
WTP	**Ta-pu**	**2.22**	**248**	*eP*	**Pn**	**16 57 02.4**	**+1.7**
	baz=237						
JIRB	**Irabujima**	**2.23**	**71**	*eS*	**Sn**	**16 57 26.6**	**-0.5**
WTK	**Tuku**	**2.29**	**260**	*eP*	**Pn**	**16 57 03.0**	**+1.4**
	baz=249						
ECL	**Taimali**	**2.30**	**230**	*eP*	**Pn**	**16 57 01.3**	**-0.4**
	baz=238						
SLGT	**Liugui**	**2.31**	**242**	*eP*	**Pn**	**16 57 03.4**	**+1.6**
	baz=232						
SGST	**Jiashian**	**2.32**	**245**	*eP*	**Pn**	**16 57 03.5**	**+1.5**
	baz=234						
CHN1	**Nanshi**	**2.32**	**247**	*eP*	**Pn**	**16 57 04.5**	**+2.5**
	baz=245						
CHN1				*eS*	**Sn**	**16 57 30.7**	**+1.4**
	baz=245						
TWK	**Hsinying**	**2.32**	**250**	*eP*	**Pn**	**16 57 04.0**	**+2.0**
	baz=247						
TWK				*eS*	**Sn**	**16 57 32.4**	**+3.0**
	baz=247						
SSD	**Sandimen**	**2.45**	**237**	*eP*	**Pn**	**16 57 04.2**	**+0.4**
	baz=229						
TSMG	**Majia**	**2.46**	**236**	*eP*	**Pn**	**16 57 04.4**	**+0.5**
	baz=228						
SCST	**Cishan**	**2.48**	**241**	*eP*	**Pn**	**16 57 06.8**	**+2.6**
	baz=239						
EAST	**Anshuo**	**2.52**	**228**	*eP*	**Pn**	**16 57 05.9**	**+1.2**
	baz=234						
MASBT	**Mashibuluo**	**2.52**	**234**	*eP*	**Pn**	**16 57 05.0**	**+0.3**
	baz=227						
SCZT	**Fangliau**	**2.68**	**231**	*eP*	**Pn**	**16 57 08.9**	**+2.0**
	baz=222						

*MOS **10** 16:59:36.0±1.0,52.12N×169.52W,h23km,mb5.2/78, MS4.1/5,Error ellipse: s-maj=7.1km s-min=4.4km az=92.4*

*NEIC **10** 16:59:37.6±2.4,52.13N±0.04×169.45W±0.07,h21km±4km, mb4.9/331,ML4.5/33(AEIC),Error ellipse: s-maj=7.7km s-min=4.3km az=129.0*

*GCMT **10** 16:59:38.6±0.4,51.90N±0.03×169.40W±0.05,h15km, MW5.0/84,Moment Tensor Solution. s24,c26; s84,c105; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.84±.08; $M_{\theta\theta}$-1.09±.09; $M_{\phi\phi}$-0.74±.05; $M_{r\theta}$3.70±.32; $M_{\theta\phi}$-0.19±.06; $M_{\phi r}$0.98±.32; Best double couple: $M_0$4.11200×10^{16} NP1:ϕ_s249.00000°,δ11.00000°,λ84.00000°. NP2: ϕ_s75.00000°,δ79.00000°,λ91.00000°. Principal axes: T 4.4500, Plg56.0000°, Azm346.0000°; N -0.6750, Plg1.0000°, Azm254.0000°; P -3.7730, Plg34.0000°, Azm164.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*AEIC **10** 16:59:38.2±2.6,52.07N±0.04×169.47W±0.06,h35km±3km Error ellipse: s-maj=6.4km s-min=4.3km az=50.0*

*ANF **10** 16:59:40.4±1.4,52.23N×169.43W,h34km±8km,ML4.7/3, Error ellipse: s-maj=8.6km s-min=4.3km az=67.0*

*IDC **10** 16:59:40.2±2.1,52.15N×169.59W,h44km±18km,mb4.5/47, mb1 4.6/49,mb1mx4.5/77,mbtmp4.7/49,ML4.4/2,MS4.1/22, Ms1 4.1/22,ms1mx3.9/41,Error ellipse: s-maj=14.7km s-min=8.9km az=170.0*

*BGR **10** 16:59:41.9±0.0,52.86N×173.14W,h33km,mb4.7*

ISC 10 16:59:38.8±0.6,52.14N±0.06×169.47W±0.04,h32km±3km, h35km:pP-P,n994,σ1s12/943,mb4.9/319,MS4.2/34, 120C-83D,Fault plane solution: NP1:ϕ_s200.11591°, δ31.04274°,λ14.32077°. NP2:ϕ_s97.77834°,δ82.67179°, λ120.24961°. Principal axes: T Plg44.1094°, Azm37.5218°; N Plg29.9771°, Azm273.5242°; P Plg31.0405°, Azm163.2117°; **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.92**	**24**		**Sb**	**17 00 09.9**	**+1.8**
NIKH	**Nikolski High**	**0.92**	**24**		**Pn**	**16 59 55.2**	**-0.2**
NIKH	**Nikolski High**	**0.92**	**24**	P	**Pn**	**16 59 55.5**	**+0.1**
	baz=203,SNR=94						
NIKH				S	**Sn**	**17 00 06.1**	**-1.3**
	baz=203						
OKSP	**Okmok Steeple**	**1.33**	**32**		**Pn**	**17 00 01.1**	**0.0**
OKSO	**Okmok South**	**1.46**	**33**		**Pn**	**17 00 03.2**	**+0.3**
OKCE	**Okmok Cone E**	**1.52**	**31**		**Pn**	**17 00 04.5**	**+0.8**
OKNC	**Okmok New Cone**	**1.55**	**31**		**Pn**	**17 00 05.3**	**+1.1**
OKNC					**Sb**	**17 00 25.1**	**-1.1**
OKFG	**Magazine Ridge**	**1.59**	**36**		**Pn**	**17 00 05.4**	**+0.8**
OKFG					**Sb**	**17 00 25.9**	**-1.3**
MAPS	**Pakushin South**	**2.27**	**41**		**Pn**	**17 00 14.6**	**+0.7**
MAPS					**Sn**	**17 00 42.6**	**+1.8**
MNAT	**Makushin Natee**	**2.43**	**43**		**Pn**	**17 00 16.9**	**+0.7**
MNAT					**Sn**	**17 00 46.3**	**+1.6**
UNV	**Unalaska Valle**	**2.48**	**45**		**Pn**	**17 00 46.9**	**+0.9**
UNV	**Unalaska Valle**	**2.48**	**45**		**Pn**	**17 00 16.4**	**-0.4**
UNV	**Unalaska Valle**	**2.48**	**45**

baz=230
RSO Redoubt South 12.45 41 Pn 17 02 35.4 +1.8
CNPM China Poot 12.61 47 Pn Pn 17 02 35.9 +0.2
M19K Big River Lodg 12.74 34 Pn 17 02 39.7 +2.2
M19K Big River Lodg 12.74 34 P Pn 17 02 38.3 +0.8
baz=226
L19K White Mountain 12.78 32 Pn 17 02 40.0 +2.0
L19K White Mountain 12.78 32 P Pn 17 02 38.8 +0.8
baz=224,SNR=8.5
BRLK Bradley Lake 12.88 46 Pn Pn 17 02 39.8 +0.5
SPCR Spurr Chakacha 13.09 39 P Pn 17 02 43.5 +1.2
baz=234
M20K Styx River 13.17 36 Pn 17 02 46.2 +2.9
M20K Styx River 13.17 36 P Pn 17 02 43.9 +0.6
baz=229,SNR=6.4
TNA Tin City 13.49 3 Pn Pn 17 02 51.0 +3.4
SEW Seward 13.68 46 Pn 17 02 49.0 -1.2
SEW Seward 13.68 46 P Pn 17 02 50.2 0.0
baz=243
O22K Cooper Landing 13.73 45 Pn 17 02 48.8 -2.2
O22K Cooper Landing 13.73 45 P Pn 17 02 51.6 +0.7
baz=241,SNR=8.6
SKT Skwentna 13.82 38 Pn 17 02 50.9 -1.2
SKT Skwentna 13.82 38 P Pn 17 02 52.4 +0.2
baz=232
SUA Susitna One 13.82 40 Pn Pn 17 02 51.0 -1.3
SUA Susitna One 13.82 40 P Pn 17 02 52.2 0.0
baz=236
K20K Telida 13.88 30 Pn 17 02 55.4 +2.4
K20K Telida 13.88 30 P Pn 17 02 52.5 -0.4
baz=223,SNR=7.1
RC01 Rabbit Creek A 14.03 43 Pn Pn 17 02 54.5 -0.5
RC01 Rabbit Creek A 14.03 43 P Pn 17 02 55.5 +0.4
baz=239
PPLA Purkeypile 14.17 34 Pn 17 02 55.8 -1.3
PPLA Purkeypile 14.17 34 P Pn 17 02 56.6 -0.5
baz=228
J20K Nowinta River 14.47 28 Pn 17 03 01.4 +0.5
J20K Nowinta River 14.47 28 P Pn 17 03 01.5 +0.5
baz=220
PWL Port Wells 14.52 45 Pn 17 02 59.3 -2.4
CAST Castle Rocks 14.56 32 Pn 17 03 02.9 +0.7
CAST Castle Rocks 14.56 32 P Pn 17 03 03.9 +1.7
baz=227
CHUM Lake Minchumin 14.80 31 P Pn 17 03 07.1 +1.6
baz=225,SNR=6.9
SML Sawmill 14.98 42 P Pn 17 03 06.6 -1.3
SML Sawmill 14.98 42 Pn Pn 17 03 06.6 -1.3
SML Sawmill 14.98 42 P Pn 17 03 07.6 -0.3
baz=239
KTH Kantishna Hill 15.04 33 Pn 17 03 09.5 +0.8
KTH IAmb IAmb 17 03 29.4
comp=Z,59nm,1.1s
GLI Glacier Island 15.07 46 Pn Pn 17 03 06.3 -2.7
GLI IAmb IAmb 17 03 43.2
comp=Z,55nm,1.0s
HIN Hinchinbrook I 15.13 48 Pn Pn 17 03 08.3 -1.7
HIN IAmb IAmb 17 03 41.1
comp=Z,84nm,1.0s
FID Port Fidalgo 15.29 47 Pn Pn 17 03 08.6 -3.3
FID IAmb IAmb 17 03 38.9
comp=Z,46nm,1.0s
BPAW Bear Paw Mtn. 15.38 32 Pn 17 03 13.0 -0.1
BPAW IAmb IAmb 17 03 19.7
comp=Z,45nm,0.8s
BPAW Bear Paw Mtn. 15.38 32 P Pn 17 03 13.6 +0.5
baz=227,SNR=29
SCM Sheep Creek Mo 15.41 42 P Pn 17 03 11.7 -1.8
SCM pmax pmax
comp=Z,67nm,0.8s
SCM Sheep Creek Mo 15.41 42 Pn 17 03 11.7 -1.8
SCM IAmb IAmb 17 03 30.6
comp=Z,67nm,0.8s
WAT1 Susitna Watana 15.44 38 P Pn 17 03 14.0 0.0
baz=236
EYAK Cordova Ski Ar 15.54 48 Pn Pn 17 03 13.3 -1.8
EYAK IAmb IAmb 17 04 03.7
comp=Z,92nm,1.5s
EYAK Cordova Ski Ar 15.54 48 P Pn 17 03 14.1 -1.1
baz=248
WAT6 Susitna Watana 15.62 40 P Pn 17 03 16.4 0.0
baz=238
RND Reindeer 15.67 36 P Pn 17 03 16.5 -0.4
RND pmax pmax
comp=Z,25nm,1.0s
RND Reindeer 15.67 36 Pn 17 03 16.5 -0.4
DIV Divide 15.76 46 Pn 17 03 16.2 -1.9
DIV IAmb IAmb 17 03 41.0
comp=Z,122nm,1.7s
MCK McKinley 15.84 35 P Pn 17 03 19.3 +0.3
MCK pmax pmax
comp=Z,31nm,1.2s
MCK McKinley 15.84 35 Pn 17 03 19.3 +0.3
MCK McKinley 15.84 35 P Pn 17 03 19.3 +0.3
baz=232
I21K Tanana 15.84 28 Pn 17 03 19.3 +0.3
I21K Tanana 15.84 28 P Pn 17 03 19.8 +0.8
baz=223,SNR=16
KLU Klutina 15.85 45 Pn 17 03 16.6 -2.6
KLU IAmb IAmb 17 03 32.2
comp=Z,48nm,1.0s
KLU Klutina 15.85 45 P Pn 17 03 17.1 -2.1
baz=244,SNR=16
BWN Browne 15.93 33 P Pn 17 03 20.7 +0.5
BWN IAmb IAmb 17 03 53.6
comp=Z,76nm,1.0s
KAIM Kayak Island 15.95 51 Pn Pn 17 03 19.9 -0.5
IMAR Indian Mountai 15.99 24 Pn 17 03 20.4 -0.6
M24K Tolsona, Glenn 16.02 42 P Pn 17 03 20.0 -1.4
M24K IAmb IAmb 17 03 41.7
comp=Z,153nm,1.4s
M24K Tolsona, Glenn 16.02 42 P Pn 17 03 20.4 -1.0
baz=242,SNR=7.3
DHY Denali Highway 16.03 38 P Pn 17 03 22.3 +0.7
DHY Denali Highway 16.03 38 P Pn 17 03 21.4 -0.3
baz=237
MLY Manley 16.10 29 P P 17 03 25.2 -0.3
MLY IAmb IAmb 17 03 38.3
comp=Z,58nm,1.0s
MLY Manley 16.10 29 P Pn 17 03 23.8 +1.4
baz=225
HMT Hamilton 16.15 50 P Pn 17 03 21.5 -1.6
HMT IAmb IAmb 17 03 59.9
comp=Z,82nm,1.0s
BMRM Bremner River 16.22 47 P Pn 17 03 22.4 -1.5
BMRM IAmb IAmb 17 04 00.7
comp=Z,47nm,0.9s
BMRM Bremner River 16.22 47 P Pn 17 03 22.4 -1.5
baz=248
RDOG Red Dog Mine 16.28 9 P Pn 17 03 23.5 -1.2
RDOG IAmb IAmb 17 03 43.9
comp=Z,73nm,1.3s
SUCK Suckling Hills 16.30 51 P P 17 03 27.5 -0.1
NEA2 Nenana 16.33 32 P Pn 17 03 25.4 0.0
NEA2 Nenana 16.33 32 P Pn 17 03 25.1 -0.2
baz=230,SNR=6.7
BERG Berg Lake 16.43 50 P Pn 17 03 25.6 -1.0
BERG IAmb IAmb 17 03 39.1
comp=Z,114nm,1.3s
N25K Chitina, Valde 16.47 45 P Pn 17 03 25.7 -1.4
N25K Chitina, Valde 16.47 45 P Pn 17 03 25.9 -1.3
baz=246,SNR=10
HARP HAARP 16.57 42 P Pn 17 03 27.3 -1.1
baz=243
WRH Wood River Hil 16.58 34 P Pn 17 03 27.7 -0.8
I23K Minto, Yukon-K 16.61 31 P Pn 17 03 28.2 -0.5
I23K Minto, Yukon-K 16.61 31 P Pn 17 03 26.9 -1.9
baz=228,SNR=14
PAX Paxson 16.72 40 P Pn 17 03 29.1 -1.2
PAX pmax pmax
comp=Z,12nm,0.8s
PAX Paxson 16.72 40 P Pn 17 03 29.1 -1.2
PAX Paxson 16.72 40 P Pn 17 03 29.0 -1.4
baz=240
GLB Gilahina Butte 16.75 46 P Pn 17 03 28.9 -1.8
CCB Clear Creek Bu 16.79 33 P Pn 17 03 29.7 -1.4
CRQM Cirque 16.82 49 P Pn 17 03 31.3 -0.4
CRQM IAmb IAmb 17 04 03.8
comp=Z,80nm,1.2s
VRDI Verde Repeater 16.83 47 P Pn 17 03 30.0 -1.9
CRQE Cirque 16.84 49 P Pn 17 03 30.5 -1.4
baz=251
MDM Murphy Dome 16.84 32 P Pn 17 03 31.6 -0.2
WAX Waxell Ridge 16.85 50 P Pn 17 03 31.6 -0.4
WAX IAmb IAmb 17 03 52.9
comp=Z,108nm,0.9s
TCOL CIGO, UAF Yank 16.91 33 P Pn 17 03 31.2 -1.4
COLA College 16.92 33 P Pn 17 03 31.5 -1.1
COLA pmax pmax
comp=Z,35nm,1.1s
COLA College 16.92 33 P Pn 17 03 31.5 -1.1
COLA College 16.92 33 P Pn 17 03 31.8 -0.8
baz=231
HDA Harding Lake 16.94 35 P Pn 17 03 32.5 -0.5
HDA Harding Lake 16.94 35 P Pn 17 03 32.2 -0.8
baz=234
TGL Tana Glacier 16.96 49 P Pn 17 03 32.6 -0.7
TGL IAmb IAmb 17 04 01.2
comp=Z,70nm,0.9s
H23K Yukon River 17.02 29 P Pn 17 03 33.7 -0.3
H23K Yukon River 17.02 29 P Pn 17 03 34.0 +0.1
baz=226
MCARA McCarthy VSAT 17.08 47 P Pn 17 03 34.0 -0.8
MCARA IAmb IAmb 17 03 54.9
comp=Z,49nm,0.8s
MCARA McCarthy VSAT 17.08 47 P Pn 17 03 34.1 -0.7
baz=249
ISLE Juniper Island 17.14 50 P Pn 17 03 35.2 -0.5
ISLE IAmb IAmb 17 03 58.3
comp=Z,104nm,1.2s
IL31 17.18 34 P Pn 17 03 33.4 -2.5
ILAR Eielson Array 17.18 34 P Pn 17 03 35.0 -1.0
comp=Z,0.8nm,0.3s,baz=227,slow=9.3,SNR=21
ILAR S Sn 17 06 48.2 +2.4
comp=Z,0.1nm,0.3s,baz=236,slow=19,SNR=1.9
ILAR ScP ScP 17 11 47.7 -2.7
comp=Z,0.1nm,0.3s,baz=267,slow=3.3,SNR=3.3
ILAR Eielson Array 17.18 34 P Pn 17 03 33.4 -2.6
ILAR Eielson Array 17.18 34 P Pn 17 03 33.4 -2.6
MESA MESA 17.20 51 P Pn 17 03 34.0 -2.5
MESA MESA 17.20 51 P Pn 17 03 35.4 -1.2
baz=254
POKR Poker Plat Res 17.21 32 P Pn 17 03 34.9 -1.4
POKR Poker Plat Res 17.21 32 P Pn 17 03 35.9 -0.5
baz=231
RIDG Independent Ri 17.35 38 P Pn 17 03 36.8 -1.4
RIDG Independent Ri 17.35 38 P Pn 17 03 37.5 -0.6
baz=239
YAH Yahtse 17.35 51 P Pn 17 03 38.1 -0.3
YAH IAmb IAmb 17 04 03.8
comp=Z,113nm,1.0s
MENT Mentasta 17.41 42 P Pn 17 03 37.5 -1.4
GRNC Granite Creek 17.45 50 P Pn 17 03 39.2 -0.4
GRNC IAmb IAmb 17 03 50.9
comp=Z,76nm,1.0s
M26K Nabesna, AK 17.48 44 P Pn 17 03 38.6 -1.3
M26K IAmb IAmb 17 03 55.9
comp=Z,86nm,1.4s
M26K Nabesna, AK 17.48 44 P Pn 17 03 39.4 -0.5
baz=246,SNR=10
H24K Noodor Dome 17.53 30 P Pn 17 03 40.0 -0.3
H24K Noodor Dome 17.53 30 P Pn 17 03 39.8 -0.5
baz=229
BARN Barnard Glacie 17.60 49 P Pn 17 03 40.1 -1.3
L26K Log Cabin Wild 17.60 42 P Pn 17 03 40.7 -0.6
L26K Log Cabin Wild 17.60 42 P P 17 03 42.0 -0.1
baz=244
DOT Dot Lake 17.61 39 P Pn 17 03 39.6 -1.7
TABL Table Mountain 17.66 51 P Pn 17 03 42.5 +0.3
TABL IAmb IAmb 17 04 27.6
comp=Z,111nm,1.0s
CTG Chitna Glacier 17.72 49 P Pn 17 03 42.3 -0.5
baz=252
CTGM Chitina Glacier 17.72 49 P Pn 17 03 41.2 -1.7
CTGM IAmb IAmb 17 04 02.5
comp=Z,37nm,0.7s
SCRK Sand Creek 17.80 38 P Pn 17 03 42.4 -1.4
SCRK Sand Creek 17.80 38 P Pn 17 03 42.9 -0.8
baz=240,SNR=9.2
LOGN Logan Glacier 17.83 50 P Pn 17 03 44.1 -0.2
LOGN IAmb IAmb 17 04 21.2
comp=Z,55nm,1.0s
COLD Coldfoot 17.85 25 P Pn 17 03 43.7 -0.6
COLD Coldfoot 17.85 25 P Pn 17 03 44.0 -0.3
baz=221,SNR=11
M27K Edge Creek, AK 17.95 45 P Pn 17 03 44.4 -1.2
M27K Edge Creek, AK 17.95 45 P Pn 17 03 44.4 -1.2
baz=248
PCA Pinnacle 18.00 52 P Pn 17 03 45.2 -1.1
PCA IAmb IAmb 17 03 54.3
comp=Z,59nm,0.8s
PINM Pinnacle 18.01 52 P Pn 17 03 45.8 -0.5
baz=256
PRP Porcupine Dome 18.09 33 P Pn 17 03 45.0 -2.3
PRP Porcupine Dome 18.09 33 P Pn 17 03 47.0 -0.4
baz=234
J26K Charley River, 18.17 37 P Pn 17 03 47.2 -1.0
baz=239,SNR=14
L27K Beaver Creek, 18.24 42 P P 17 03 48.5 -0.7
L27K Beaver Creek, 18.24 42 P P 17 03 48.8 -0.3
baz=246
BCAR Beaver Creek A 18.26 42 P P 17 03 48.4 -1.0
BCPM Bancas Point 18.28 53 P P 17 03 48.3 -1.2
BCPM IAmb IAmb 17 04 19.2
comp=Z,102nm,1.4s
YUK3 Moose Creek 18.37 47 P P 17 03 50.6 -0.1
baz=251
FYU Fort Yukon 18.82 31 P P 17 03 52.8 -2.6
FYU IAmb IAmb 17 04 32.3
comp=Z,96nm,1.6s
TOLK Toolik Lake Re 19.08 22 P P 17 03 58.8 +0.5
TOLK Toolik Lake Re 19.08 22 P P 17 03 57.3 -1.0
baz=220
YUK6 Outpost Mounta 19.11 50 P P 17 03 58.7 -0.2
baz=256
EGAK Eagle 19.26 38 P P 17 03 59.0 -1.2
EGAK Eagle 19.26 38 P P 17 04 00.6 +0.4
baz=242
PET Petropavlovsk 19.31 285 ⇑ eP Pn 17 04 01.7 -0.3
PET pmax pmax
comp=Z,43nm,1.5s
PET Petropavlovsk 19.31 285 P P 17 04 00.4 -0.4
HYT Haines Junctio 19.50 51 P P 17 04 02.6 -0.3
HYT IAmb IAmb 17 04 09.5
comp=Z,120nm,0.9s
HYT Haines Junctio 19.50 51 P Pn 17 04 05.5 +1.2
baz=258,SNR=51
BMAR Burnt Mountain 19.56 29 P P 17 04 02.6 -1.0
DAWY Dawson 19.65 41 P P 17 04 02.5 -2.0
DAWY Dawson 19.65 41 P P 17 04 05.0 +0.5
baz=247,SNR=5.4
BILL Bilibino 19.78 333 ⇓ eP Pn 17 04 08.1 +0.6
BILL pmax pmax
comp=Z,24nm,1.2s
BILL MLR MLR
comp=Z,295nm,14.0s
BILL Bilibino 19.78 333 P P 17 04 03.0 -2.8
PEA0B Petropavlovsk- 19.86 286 ceP P 17 04 06.7 -0.2
PEA0B Petropavlovsk- 19.86 286 P P 17 04 06.9 +0.1
PEA0B IAmb IAmb 17 04 20.4
comp=Z,146nm,1.3s
PETK Petropavlovsk- 19.86 286 P P 17 04 06.5 -0.4
comp=Z,11nm,0.3s,baz=84,slow=14,SNR=329
PETK LR LR 17 12 04.8
comp=Z,305nm,20.7s,baz=90,slow=38
PETK Petropavlovsk- 19.86 286 P P 17 04 06.1 -0.8
PETK Petropavlovsk- 19.86 286 P P 17 04 06.1 -0.8
SKAG Skagway 20.36 55 P Pn 17 04 14.3 0.0
SKAG IAmb IAmb 17 04 26.2
comp=Z,66nm,0.8s
SKAG Skagway 20.36 55 P Pn 17 04 13.4 -0.9
baz=264,SNR=6.5
BESE Bessie Mountai 20.53 58 P P 17 04 15.2 +1.1
BESE IAmb IAmb 17 04 35.6
comp=Z,60nm,1.0s
WHY Whitehorse 20.73 52 P P 17 04 17.2 +0.8
WHY IAmb IAmb 17 04 34.7
comp=Z,54nm,0.9s
WHY Whitehorse 20.73 52 P P 17 04 17.3 +1.0
baz=261,SNR=18
JIS Juneau Island 20.76 59 P P 17 04 15.9 -0.7
JIS IAmb IAmb 17 04 37.6
comp=Z,35nm,0.8s
EPYK Eagle Plains 21.62 36 P P 17 04 24.0 -1.8
EPYK IAmb IAmb 17 04 46.0
comp=Z,52nm,0.8s
EPYK Eagle Plains 21.62 36 P P 17 04 24.0 -1.8
baz=245,SNR=34
FARO Faro, Yukon 21.73 48 P P 17 04 27.1 +0.1
baz=259
DIB Dawson Inlet, 22.30 73 P P 17 04 32.2 -1.0
DIB IAmb IAmb 17 05 00.8
comp=Z,83nm,1.4s
MOBC Moresby Island 22.61 72 P 17 04 36.9 +0.3
MOBC IAmb IAmb 17 05 20.2
comp=Z,40nm,1.1s
MMPY Sheldon Lake, 22.75 48 P P 17 04 38.2 +0.3
baz=260
SEY Seymchan 22.78 313 P P 17 04 37.6 -0.5
comp=Z,16nm,1.0s,baz=101,slow=9.0,SNR=18
SEY PcP PcP 17 08 28.9 +0.5
comp=Z,2.6nm,0.8s,baz=45,slow=14,SNR=3.0
DLBC Dease Lake 23.06 59 P P 17 04 41.9 +0.7
comp=Z,12nm,1.0s,baz=260,slow=7.7,SNR=7.7
DLBC Dease Lake 23.06 59 P P 17 04 41.2 +0.1
DLBC IAmb IAmb 17 04 57.4
comp=Z,62nm,1.4s
MA2 Magadan 23.22 304 P P 17 04 42.2 -0.4
comp=Z,12nm,0.6s,baz=93,slow=9.6,SNR=7.5
MA2 Magadan 23.22 304 deP P 17 04 44.1 +1.4
MA2 pmax pmax
comp=Z,8.0nm,0.6s
MA2 Magadan 23.22 304 P P 17 04 41.9 -0.8
MA2 IAmb IAmb 17 04 44.8
comp=Z,28nm,1.0s
RUBB Prince Rupert 23.37 69 P P 17 04 45.5 +1.3
RUBB IAmb IAmb 17 05 00.7
comp=Z,45nm,1.2s
INK Inuvik 23.57 33 P P 17 04 44.5 -1.5
comp=Z,20nm,0.8s,baz=249,slow=8.1,SNR=16
INK Inuvik 23.57 33 P P 17 04 43.8 -2.2
INK pmax pmax
comp=Z,21nm,0.8s
INK Inuvik 23.57 33 P P 17 04 43.8 -2.2
INK IAmb IAmb 17 04 49.3
comp=Z,21nm,0.8s
INK Inuvik 23.57 33 P P 17 04 44.8 -1.2
baz=245,SNR=15
TGTN Hyland Airport 24.02 51 P P 17 04 49.9 -0.5
baz=266,SNR=8.3
BBB Bella Bella 25.13 73 P P 17 05 01.9 +1.5
comp=Z,12nm,1.0s,baz=259,slow=10,SNR=2.5
BBB Bella Bella 25.13 73 IAmb IAmb 17 05 25.5
comp=Z,50nm,1.2s
WRGLY Wrigley 26.37 47 P P 17 05 11.5 -0.1
baz=267,SNR=9.8
A36M Sachs Harbour 27.65 28 P P 17 05 23.2 +0.3
A36M IAmb IAmb 17 06 18.0
comp=Z,28nm,1.1s
LLLB Lillooet 29.33 74 P P 17 05 37.5 -0.8
B05A Bryant 30.14 78 P P 17 05 45.6 +0.2
baz=295
YKA Yellowknife Ar 30.44 49 P P 17 05 48.7 +0.8
comp=Z,9.3nm,0.9s,baz=274,slow=8.8,SNR=15
YKA Yellowknife Ar 30.44 49 iP P 17 05 49.4 +1.5
YKA pmax pmax
comp=Z,12nm,1.0s
YKA Yellowknife Ar 30.44 49 P P 17 05 46.4 -1.5
D05A Enumclaw 30.68 80 P P 17 05 49.4 -0.8
D05A IAmb IAmb 17 06 08.4
comp=Z,26nm,1.0s
YSS Yuzh-Sakhalins 30.97 280 P 17 05 51.3 -1.4
LON Longmire 31.00 81 P P 17 05 53.9 +0.9
LON pmax pmax
comp=Z,43nm,2.0s
LON Longmire 31.00 81 P P 17 05 53.9 +0.9
LON IAmb IAmb 17 06 11.6
comp=Z,43nm,2.0s
B08A Colville Reser 31.76 77 P P 17 06 00.6 +0.8
B08A IAmb IAmb 17 06 19.4
comp=Z,16nm,1.0s
H04A Detroit Lake 31.77 84 P P 17 06 01.3 +1.5
H04A IAmb IAmb 17 06 19.6
comp=Z,21nm,1.0s
JKA Kamikawa-asahi 32.46 275 P P 17 06 07.2 +1.3
ASAJ Asahikawa 32.47 275 P P 17 06 05.5 -0.3
comp=Z,30nm,1.0s,baz=102,slow=9.3,SNR=5.4
ASAJ Asahikawa 32.47 275 P P 17 06 07.2 +1.3
ASAJ pmax pmax
comp=Z,49nm,1.1s
HAWA Hanford 32.55 80 P P 17 06 07.4 +0.8
HAWA IAmb IAmb 17 06 30.9
comp=Z,15nm,1.1s
D08A Wollman Farm, 32.60 78 P P 17 06 07.1 0.0
D08A IAmb IAmb 17 06 26.5
comp=Z,26nm,1.6s
C09A Chrisman Ranch 32.65 77 P P 17 06 08.3 +0.8
C09A IAmb IAmb 17 06 26.8
comp=Z,9.5nm,0.9s
E08A Dider Farm, El 32.79 79 P P 17 06 08.7 +0.1
E08A IAmb IAmb 17 06 28.9
comp=Z,14nm,1.2s
TIXI Tiksi 32.90 329 ⇑ eP P 17 06 09.2 -0.2
TIXI Tiksi 32.90 329 P P 17 06 08.9 -0.5
KHMM Horse Mountain 32.91 92 P P 17 06 10.4 +0.5
PINE Pine Mountain 33.00 85 P P 17 06 10.5 -0.4
PINE IAmb IAmb 17 06 42.3
comp=Z,20nm,1.2s
YBH Yreka Blue Hor 33.04 89 P P 17 06 11.8 +0.7
YBH pmax pmax
comp=Z,15nm,1.3s
YBH Yreka Blue Hor 33.04 89 P P 17 06 11.8 +0.7
YBH IAmb IAmb 17 06 42.8
comp=Z,15nm,1.3s
NEW Newport 33.13 75 P P 17 06 12.0 +0.3
NEW pmax pmax
comp=Z,16nm,0.9s
NEW Newport 33.13 75 P P 17 06 12.0 +0.3
NEW IAmb IAmb 17 06 30.9
comp=Z,16nm,0.9s
NEW Newport 33.13 75 P P 17 06 11.9 +0.3
baz=297,SNR=7.1
YAK Yakutsk 33.28 311 ceP P 17 06 11.8 -0.9
YAK pmax pmax
comp=Z,17nm,1.0s
YAK Yakutsk 33.28 311 P P 17 06 11.4 -1.3
YAK IAmb IAmb 17 06 13.4
comp=Z,17nm,1.0s
EDM Edmonton 33.30 65 P P 17 06 12.3 -0.8
EDM pmax pmax
comp=Z,20nm,0.8s
EDM Edmonton 33.30 65 P P 17 06 12.3 -0.8
EDM IAmb IAmb 17 06 16.1
comp=Z,20nm,0.8s
KMRM Mail Ridge 33.31 93 P P 17 06 14.6 +1.2
E09A Wood Farm, Sta 33.33 79 P P 17 06 13.2 -0.2
E09A IAmb IAmb 17 06 30.2
comp=Z,17nm,1.2s
G08A Pilot Rock 33.44 81 P P 17 06 14.2 -0.4
K05A Summer Lake 33.61 87 P P 17 06 16.4 +0.3
K05A IAmb IAmb 17 06 36.6
comp=Z,24nm,1.1s
KCPM Cahto Peak 33.70 93 P P 17 06 17.8 +0.9
I07A Izee 33.73 84 P P 17 06 18.1 +1.0
I07A IAmb IAmb 17 06 48.6
comp=Z,10nm,1.0s
WDC Whiskeytown Da 33.81 91 P P 17 06 18.6 +0.9
WDC pmax pmax
comp=Z,22nm,1.3s
WDC Whiskeytown Da 33.81 91 P P 17 06 18.6 +0.9
WDC IAmb IAmb 17 06 49.0
comp=Z,22nm,1.3s
O02D Mt. Diablo Mer 33.90 92 P P 17 06 17.6 -0.9
baz=306
BMO Blue Mountains 34.67 81 P P 17 06 25.2 0.0
BMO pmax pmax
comp=Z,17nm,1.5s
BMO Blue Mountains 34.67 81 P P 17 06 25.2 0.0
BMO IAmb IAmb 17 06 43.4
comp=Z,17nm,1.5s
WALA Waterton Lakes 34.67 72 P P 17 06 26.2 +1.0
WALA IAmb IAmb 17 06 44.4
comp=Z,12nm,0.9s
J08A Circle Bar Ran 34.75 84 P 17 06 26.2 +0.3
WVOR Wild Horse Val 35.16 85 P P 17 06 29.9 +0.4
WVOR pmax pmax
comp=Z,10.0nm,1.0s
WVOR Wild Horse Val 35.16 85 P P 17 06 29.9 +0.4
WVOR IAmb IAmb 17 07 01.9
comp=Z,9.8nm,0.9s
BEKR Beckworth 35.58 90 P 17 06 33.6 +0.5
MSO Missoula 35.71 76 P P 17 06 34.0 -0.1
MSO IAmb IAmb 17 06 53.8
comp=Z,20nm,1.4s
MSO Missoula 35.71 76 P P 17 06 34.3 +0.2

baz=299
PAHR Pah Rah Range 36.28 90 P **P** **17 06 38.9 -0.2**
PAHR IAmb IAmb 17 07 09.9
comp=Z,15nm,1.2s
MFID Camas Ranch 36.34 82 P **P** **17 06 40.0 +0.4**
KLR Kul'dur 36.48 289 P **P** **17 06 39.3 -1.1**
comp=Z,3.9nm,0.4s,baz=74,slow=5.6,SNR=24
KLR Kul'dur 36.48 289 *ce*P **P** **17 06 39.4 -1.1**
KLR pmax pmax
comp=Z,16nm,1.3s
PNTR Pine Nut 36.52 91 P **P** **17 06 40.7 -0.6**
PNTR IAmb IAmb 17 07 01.5
comp=Z,38nm,1.3s
ZEA Zeya 37.05 298 *e*P **P** **17 06 44.5 -0.8**
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ZEA MLR MLR
comp=N,200nm,14.0s
ZEA MLR MLR
comp=Z,200nm,16.0s
HLID Hailey 37.12 81 P **P** **17 06 45.0 -1.3**
HLID IAmb IAmb 17 07 04.2
comp=Z,26nm,1.8s
HLID Hailey 37.12 81 P **P** **17 06 46.8 +0.5**
baz=303
H11N2 WAKE ISLAND Hy 37.23 219 T T 17 46 39.9
baz=24,slow=76,SNR=17
H11N3 WAKE ISLAND Hy 37.24 219 T T 17 46 42.2
baz=24,slow=76,SNR=24
H11N1 WAKE ISLAND Hy 37.25 219 T T 17 46 37.8
baz=24,slow=76,SNR=19
MCMT McKenzie Canyo 37.38 78 P **P** **17 06 49.1 +0.6**
EGMT Eagleton 37.60 72 P **P** **17 06 50.6 +0.5**
EGMT Eagleton 37.60 72 P **P** **17 06 50.8 +0.6**
baz=299
BOZ Bozeman (W) 37.71 76 P **P** **17 06 51.1 -0.1**
BOZ pmax pmax
comp=Z,20nm,1.6s
BOZ Bozeman (W) 37.71 76 P **P** **17 06 51.1 -0.1**
BOZ IAmb IAmb 17 07 06.7
comp=Z,20nm,1.6s
BOZ Bozeman (W) 37.71 76 P **P** **17 06 51.6 +0.4**
baz=301
NVAR Mina Array Bea 37.72 91 P **P** **17 06 52.6 +1.2**
comp=Z,1.6nm,0.8s,baz=299,slow=8.2,SNR=11
NVAR ScP **ScP** **17 12 49.4 -3.4**
comp=Z,0.6nm,0.7s,baz=297,slow=4.0,SNR=3.4
NVAR Mina Array Bea 37.72 91 P **P** **17 06 51.5 0.0**
MDPB Devils Postpil 37.74 92 P **P** **17 06 51.9 +0.2**
ELK Elko 38.21 85 P **P** **17 06 55.4 -0.2**
ELK pmax pmax
comp=Z,5.0nm,0.9s
ELK Elko 38.21 85 **P** **17 06 55.4 -0.2**
H11S1 WAKE ISLAND Hy 38.42 218 T T 17 48 17.9
baz=23,slow=76,SNR=146
H11S2 WAKE ISLAND Hy 38.44 218 T T 17 48 19.1
baz=23,slow=76,SNR=136
H11S3 WAKE ISLAND Hy 38.44 218 T T 17 48 46.3
baz=23,slow=76,SNR=148
TPH Tonopah 38.61 90 P **P** **17 06 59.5 +0.6**
TPH pmax pmax
comp=Z,45nm,1.3s
TPH Tonopah 38.61 90 P **P** **17 06 59.5 +0.6**
TPH IAmb IAmb 17 07 35.1
comp=Z,45nm,1.3s
YHH Holmes Hill 38.61 77 P **P** **17 06 58.9 -0.1**
YHH IAmb IAmb 17 07 18.6
comp=Z,11nm,0.8s
SMMC Simmler 38.67 96 P **P** **17 07 00.2 +0.9**
baz=311
GCMT Greycliff 38.78 75 P **P** **17 07 00.4 +0.1**
USRK Ussuriysk Ar. 38.88 282 P **P** **17 06 59.6 -1.3**
comp=Z,2.4nm,0.8s,baz=59,slow=8.4,SNR=2.7
USRK LR LR 17 22 06.0
comp=Z,223nm,21.9s,baz=56,slow=35
FFC Flin Flon 38.89 59 P **P** **17 07 01.0 +0.1**
FFC pmax pmax
comp=Z,9.0nm,1.0s
FFC Flin Flon 38.89 59 P **P** **17 07 01.0 +0.1**
H17A Grant Village 38.99 77 P **P** **17 07 02.1 0.0**
H17A Grant Village 38.99 77 P **P** **17 07 02.2 +0.2**
baz=303
YNE Yellowstone No 39.00 76 P **P** **17 07 02.1 0.0**
IMW Indian Meadow 39.04 78 P **P** **17 07 03.8 +1.2**
PKM Mcpherson Peak 39.07 96 P **P** **17 07 02.6 -0.1**
baz=312
FLWY Flagg Ranch 39.08 78 P **P** **17 07 04.4 +1.5**
CWC Cottonwood Cre 39.12 93 P **P** **17 07 03.6 +0.4**
baz=310
HVU Hansel Valley 39.12 82 P **P** **17 07 03.7 +0.6**
HVU pmax pmax
comp=Z,8.0nm,0.8s
HVU Hansel Valley 39.12 82 P **P** **17 07 03.7 +0.6**
GRAC Grapevine Rang 39.20 92 P **P** **17 07 03.9 +0.2**
baz=310
MOOW Moose Ponds 39.24 78 P **P** **17 07 04.7 +0.6**
TPAW Teton Pass 39.26 79 P **P** **17 07 03.8 -0.6**
RLMT Red Lodge 39.38 76 P **P** **17 07 04.8 -0.5**
RLMT IAmb IAmb 17 07 25.2
comp=Z,13nm,0.8s
RLMT Red Lodge 39.38 76 P **P** **17 07 04.8 -0.5**
baz=302
ISA Isabella, Lake 39.38 94 P **P** **17 07 05.1 -0.1**
ISA pmax pmax
comp=Z,8.0nm,1.0s
ISA Isabella, Lake 39.38 94 P **P** **17 07 05.1 -0.1**
ISA Isabella, Lake 39.38 94 P **P** **17 07 04.7 -0.5**
baz=311
REDW Red Top Meadow 39.39 79 P **P** **17 07 05.4 0.0**
R11A Troy Canyon, C 39.45 89 P **P** **17 07 06.5 +0.6**
R11A Troy Canyon, C 39.45 89 P **P** **17 07 06.3 +0.4**
baz=308
BGU Big Grassy Mou 39.46 83 P **P** **17 07 07.7 +1.7**
MAJO Matsushiro 39.62 268⇓ *e*P **P** **17 07 08.2 +1.0**
MAJO pmax pmax
comp=Z,61nm,3.5s
MAJO Matsushiro 39.62 268 P **P** **17 07 07.5 +0.3**
MAJO IAmb IAmb 17 07 13.4
comp=Z,26nm,1.2s
MAT Matsushiro 39.62 268 P **P** **17 07 07.2 0.0**
MAT *e*S **S** **17 13 13.4 +5.4**
MJAR Matsushiro Arr 39.62 268 P **P** **17 07 07.2 0.0**
comp=Z,3.5nm,0.9s,baz=41,slow=7.0,SNR=3.9
MPMC Manual Prospec 39.73 93 P **P** **17 07 09.0 +0.7**
baz=311
SPR3 Spring Creek 3 39.82 87 **P** **17 07 08.8 -0.3**
FURC Furnace Creek, 39.85 92 P **P** **17 07 09.1 +0.1**
baz=310
TPNV Topopah Spring 39.92 91 P **P** **17 07 09.6 -0.2**
TPNV pmax pmax
comp=Z,7.0nm,0.9s
TPNV Topopah Spring 39.92 91 P **P** **17 07 09.6 -0.2**
TPNV Topopah Spring 39.92 91 P **P** **17 07 10.9 +1.1**
baz=310
HWUT Hardware Ranch 39.96 82 P **P** **17 07 09.3 -0.8**
LRMC Laurel Mtn Rad 39.99 94 P **P** **17 07 10.2 -0.2**
baz=311
DUG Dugway, Tooele 40.03 84 P **P** **17 07 09.7 -1.0**
DUG pmax pmax
comp=Z,26nm,1.4s
DUG Dugway, Tooele 40.03 84 P **P** **17 07 09.7 -1.0**
DUG IAmb IAmb 17 07 28.5
comp=Z,26nm,1.4s
DUG Dugway, Tooele 40.03 84 P **P** **17 07 10.3 -0.4**
baz=307
TCUT Toone Canyon 40.34 82 P **P** **17 07 12.8 -0.6**
PRN Patroc Range 40.37 89 P **P** **17 07 14.0 +0.5**
PSUT Pine Spring 40.40 87 P **P** **17 07 14.2 +0.3**
BW06 Boulder Array 40.51 79 P **P** **17 07 14.4 -0.3**
baz=305
PD31 Pinedale Array 40.51 79 P **P** **17 07 13.9 -0.8**
PDAR Pinedale Array 40.51 79 P **P** **17 07 15.5 +0.7**
comp=Z,5.5nm,0.8s,baz=306,slow=5.1,SNR=38
DGMT Dagmar 40.59 68 **P** **17 07 14.9 -0.2**
DGMT IAmb IAmb 17 07 29.9
comp=Z,29nm,1.1s
DGMT Dagmar 40.59 68 P **P** **17 07 15.3 +0.2**
baz=301
GSC Goldstone, Bar 40.64 93 P **P** **17 07 16.1 +0.4**
GSC pmax pmax
comp=Z,14nm,1.1s
GSC Goldstone, Bar 40.64 93 P **P** **17 07 16.1 +0.4**
GSC Goldstone, Bar 40.64 93 P **P** **17 07 16.6 +0.9**
baz=311
BFSC Mount Baldy Ra 40.83 95 P **P** **17 07 18.2 +0.9**
baz=312
FCC Fort Churchill 41.14 50 P **P** **17 07 21.5 +2.1**
FCC pmax pmax
comp=Z,177nm,1.8s
FCC Fort Churchill 41.14 50 P **P** **17 07 21.5 +2.1**
HEC Hector,Ludlow 41.24 93 P **P** **17 07 21.3 +0.7**
baz=312
CCUT Cedar City 41.32 88 P **P** **17 07 22.8 +1.4**
MVU Marysvale 41.43 86 P **P** **17 07 23.4 +1.0**
MVU IAmb IAmb 17 07 39.7
comp=Z,29nm,1.1s
MSU Marysvale 41.45 86 P **P** **17 07 22.8 +0.3**
MSU Marysvale 41.45 86 **P** **17 07 22.8 +0.3**
TMUT Trail Mountain 41.56 84 P **P** **17 07 23.1 -0.3**
TMUT IAmb IAmb 17 07 44.8
comp=Z,23nm,1.3s
MTPU Mount Pierson 41.73 86 IAmb IAmb 17 07 43.5
comp=Z,26nm,1.8s
RDMU Red Mountain 41.79 82 P **P** **17 07 26.3 +1.1**
RDMU IAmb IAmb 17 07 44.6
comp=Z,16nm,0.9s
Q16A Castle Valley 41.81 85 IAmb IAmb 17 07 44.2
comp=Z,21nm,1.2s
PFO Pinyon Flats O 41.98 95 LR LR 17 23 03.9
comp=Z,206nm,18.2s,baz=300,slow=33
PFO Pinyon Flats O 41.98 95 P **P** **17 07 27.7 +0.9**
PFO pmax pmax
comp=Z,11nm,1.4s
PFO Pinyon Flats O 41.98 95 P **P** **17 07 27.7 +0.9**
PFO Pinyon Flats O 41.98 95 P **P** **17 07 27.4 +0.6**
baz=313
KNB Kanab 41.99 88 P **P** **17 07 27.3 +0.4**
KNB pmax pmax
comp=Z,14nm,1.4s
KNB Kanab 41.99 88 **P** **17 07 27.3 +0.4**
TPFO Pinon Flats 41.99 95 P **P** **17 07 27.5 +0.7**
baz=313
BELC Belle Mtn. Jos 42.00 94 P **P** **17 07 27.9 +0.9**
baz=312
SRU San Rafael Swe 42.09 84 IAmb IAmb 17 07 53.8
comp=Z,12nm,0.8s
BOD Bodaibo 42.09 309 *e*P **P** **17 07 25.8 -1.4**
BOD pmax pmax
comp=Z,22nm,1.3s
K22A Casper 42.40 77 P **P** **17 07 30.1 -0.1**
baz=306
IRM Iron Mountain 42.42 93 P **P** **17 07 30.9 +0.6**
baz=312
MONP2 Monument Peak 42.49 96 P **P** **17 07 32.3 +1.2**
baz=313
BC3 Big Chuckawall 42.57 94 P **P** **17 07 31.4 -0.2**
baz=312
SWSC Sam W. Stewart 42.84 95 P **P** **17 07 34.3 +0.7**
baz=313
IKP In-Ko-Pah, Jac 42.85 96 P **P** **17 07 33.7 -0.1**
baz=313
O20A White River Ci 42.86 81 IAmb IAmb 17 07 36.4
comp=Z,31nm,1.1s
O20A White River Ci 42.86 81 P **P** **17 07 33.6 -0.3**
baz=307
PDMCI Parker Dam,Lak 42.95 92 P **P** **17 07 35.3 +0.9**
baz=312
CN2 Changchun 43.02 286 *e*P **P** **17 07 33.3 -1.6**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
RSSD Black Hills 43.04 74 P **P** **17 07 35.7 +0.3**
RSSD pmax pmax
comp=Z,7.0nm,0.8s
RSSD Black Hills 43.04 74 P **P** **17 07 35.7 +0.3**
RSSD Black Hills 43.04 74 P **P** **17 07 35.4 0.0**
baz=305
HIA Hailar 43.29 296 *d* P **P** **17 07 36.9 -0.2**
HIA pmax pmax
comp=Z,16nm,1.2s
PV21 Cone Mtn., Par 43.38 83 P **P** **17 07 38.7 +0.5**
PV14 Lion Creek, Pa 43.47 84 IAmb IAmb 17 07 56.5
comp=Z,13nm,1.1s
PV04 Paradox Valley 43.53 84 P **P** **17 07 39.6 +0.3**
PV04 IAmb IAmb 17 08 02.4
comp=Z,11nm,0.8s
PV17 East Wray Mesa 43.56 84 IAmb IAmb 17 07 59.6
comp=Z,19nm,1.0s
PV16 Nyswonger Mesa 43.57 84 P **P** **17 07 40.0 +0.3**
PV05 Paradox Valley 43.60 84 IAmb IAmb 17 07 57.4
comp=Z,15nm,1.1s
PV11 David Mesa, Pa 43.61 84 IAmb IAmb 17 08 04.4
comp=Z,17nm,0.8s
PV18 Skein Mesa, Pa 43.62 84 IAmb IAmb 17 08 04.4
comp=Z,15nm,0.8s
PV12 Saucer Basin, 43.64 84 P **P** **17 07 40.2 0.0**
PV12 IAmb IAmb 17 08 09.5
comp=Z,16nm,0.9s
PV03 Paradox Valley 43.65 84 IAmb IAmb 17 08 03.8
comp=Z,11nm,0.9s
PV07 Paradox Valley 43.66 83 IAmb IAmb 17 08 05.2
comp=Z,11nm,0.9s
PV13 Radium Mtn., P 43.73 84 P **P** **17 07 41.2 +0.2**
PV13 IAmb IAmb 17 08 05.4
comp=Z,21nm,0.8s
PV02 Paradox Valley 43.75 84 P **P** **17 07 40.6 -0.5**
PV02 IAmb IAmb 17 07 57.1
comp=Z,18nm,1.0s
N23A Red Feather La 43.79 79 P **P** **17 07 41.9 +0.3**
baz=307
PV15 Paradox Valley 43.82 83 IAmb IAmb 17 07 58.5
comp=Z,25nm,1.3s
WUAZ Wupatki 43.85 89 IAmb IAmb 17 08 00.8
comp=Z,11nm,0.9s
WUAZ Wupatki 43.85 89 P **P** **17 07 42.3 +0.4**
baz=311
Y14A Wickenburg 43.89 92 P **P** **17 07 42.6 +0.4**
PV01 Paradox Valley 43.89 84 P **P** **17 07 42.3 0.0**
PV01 IAmb IAmb 17 08 06.6
comp=Z,13nm,0.8s
ULM Lac du Bonnet 44.31 62 P **P** **17 07 45.4 +0.2**
comp=Z,9.7nm,0.9s,baz=312,slow=7.2,SNR=6.5
ULM LR LR 17 27 26.7
comp=Z,281nm,18.8s,baz=303,slow=38
ULM Lac du Bonnet 44.31 62 P **P** **17 07 45.9 +0.6**
ULM pmax pmax
comp=Z,10.0nm,0.9s
ULM Lac du Bonnet 44.31 62 P **P** **17 07 45.9 +0.6**
ULM IAmb IAmb 17 07 47.2
comp=Z,10nm,0.9s
MVCO Mesa Verde 44.52 85 P **P** **17 07 47.5 +0.1**
baz=310
ISCO Idaho Springs 44.66 80 P **P** **17 07 51.0 +2.4**
ISCO pmax pmax
comp=Z,4.0nm,0.8s
ISCO Idaho Springs 44.66 80 P **P** **17 07 48.5 0.0**
baz=308
S22A 4UR Ranch, Cre 45.20 83 P **P** **17 07 53.5 +0.6**
baz=310
NEEM North Greenlan 45.23 16 *i* P **P** **17 07 53.1 +0.5**
NEEM IAmb IAmb 17 07 53.7
comp=Z,12nm,0.8s
214A Organ Pipe Nat 45.35 93 IAmb IAmb 17 07 55.9
comp=Z,12nm,0.9s
214A Organ Pipe Nat 45.35 93 P **P** **17 07 54.6 +0.8**
baz=314
KSRS Korea Array 45.37 277 P **P** **17 07 53.3 -0.5**
comp=Z,9.8nm,0.9s,baz=55,slow=7.4,SNR=26
KSRS LR LR 17 25 48.4
comp=Z,129nm,21.5s,baz=56,slow=35
KS19 Wonju Array Si 45.37 277 P **P** **17 07 53.7 -0.1**
AGMN Agassiz Nation 45.39 64 P **P** **17 07 53.9 +0.1**
AGMN IAmb IAmb 17 08 07.7
comp=Z,28nm,1.1s
AGMN Agassiz Nation 45.39 64 P **P** **17 07 53.6 -0.2**
baz=304
KSAR Wonju Array Be 45.40 277 P **P** **17 07 53.9 -0.1**
KSAR Wonju Array Be 45.40 277 P **P** **17 07 53.9 -0.1**
SDCO Great Sand Dun 46.02 82 P **P** **17 08 00.3 +1.0**
baz=310
TUC Tucson 46.36 91 P **P** **17 08 02.1 +0.3**
TUC pmax pmax
comp=Z,9.0nm,0.9s
TUC Tucson 46.36 91 P **P** **17 08 02.1 +0.3**
TUC IAmb IAmb 17 08 03.7
comp=Z,8.7nm,0.9s
TUC Tucson 46.36 91 P **P** **17 08 02.1 +0.3**
baz=313
JNU Nakatsue 46.40 270 P **P** **17 08 01.0 -1.0**
comp=Z,7.4nm,0.9s,baz=14,slow=7.5,SNR=4.5
TJN Taejon 46.41 276 *ce*P **P** **17 08 02.5 +0.5**
B35A Bob, Littlefor 46.53 63 IAmb IAmb 17 08 16.5
comp=Z,24nm,1.1s
NRIK Noril'sk 46.60 332 P **P** **17 08 02.2 -0.8**
comp=Z,5.5nm,0.5s,baz=68,slow=8.8,SNR=13
NRIK LR LR 17 30 18.9
comp=Z,201nm,18.3s,baz=56,slow=40
NRIK Noril'sk 46.60 332 *c i* P **P** **17 08 03.2 +0.1**
NRIK pmax pmax
comp=Z,27nm,1.8s
NRIK Noril'sk 46.60 332 P **P** **17 08 02.7 -0.3**
T25A Trinidad 47.07 82 IAmb IAmb 17 08 10.4
comp=Z,17nm,1.0s
T25A Trinidad 47.07 82 P **P** **17 08 08.0 +0.5**
baz=310
UPNV Upernavik 47.23 22 *i* P **P** **17 08 08.4 +0.4**
UPNV IAmb IAmb 17 08 11.2
comp=Z,33nm,1.1s
ANMO Albuquerque 47.25 85 LR LR 17 26 21.7
comp=Z,187nm,18.6s,baz=316,slow=34
ANMO Albuquerque 47.25 85⇓ *e*P **P** **17 08 10.0 +1.1**
ANMO pmax pmax
comp=Z,3.0nm,1.3s
ANMO Albuquerque 47.25 85 P **P** **17 08 08.8 0.0**
ANMO IAmb IAmb 17 08 27.2
comp=Z,16nm,1.4s
ANMO Albuquerque 47.25 85 P **P** **17 08 09.5 +0.6**
baz=312
LENM Lemitar 47.45 87 P **P** **17 08 11.7 +1.3**
ECSD EROS Data Cent 47.61 70 IAmb IAmb 17 08 28.5
comp=Z,13nm,1.2s
ECSD EROS Data Cent 47.61 70 P **P** **17 08 10.7 -0.7**
baz=307
BNM Barren Site 47.67 86 P **P** **17 08 13.0 +0.7**
EYMN Ely 47.99 62 IAmb IAmb 17 08 16.3
comp=Z,14nm,0.8s
EYMN Ely 47.99 62 P **P** **17 08 14.0 -0.2**
baz=306
121A Cookes Peak, D 48.06 89 IAmb IAmb 17 08 40.9
comp=Z,9.1nm,0.9s
121A Cookes Peak, D 48.06 89 P **P** **17 08 14.0 -1.2**
baz=313
F36A Milaca 48.10 66 IAmb IAmb 17 08 32.4
comp=Z,7.8nm,0.8s
SPMN Marine on St. 48.88 66 P **P** **17 08 21.5 +0.4**
baz=307
FRB Frobisher Bay 49.20 35 P **P** **17 08 24.0 +0.7**
FRB pmax pmax
comp=Z,15nm,1.0s
SPITS Spitsbergen Ar 49.90 358 P **P** **17 08 28.5 0.0**
comp=Z,4.6nm,0.4s,baz=39,slow=5.5,SNR=26
SPITS Spitsbergen Ar 49.90 358 P **P** **17 08 28.4 0.0**
SPITS pmax pmax
comp=Z,58nm,1.3s
DAG Danmarks Havn 50.03 8⇑ *i* P **P** **17 08 29.2 -0.1**
DAG IAmb IAmb 17 08 30.1
comp=Z,20nm,0.7s
DAG Danmarks Havn 50.03 8 P **P** **17 08 29.3 -0.1**
DAG pmax pmax
comp=Z,39nm,0.9s
MNTX Cornudas Mount 50.11 88 IAmb IAmb 17 08 49.3
comp=Z,9.8nm,0.8s
MNTX Cornudas Mount 50.11 88 P **P** **17 08 31.3 +0.6**
baz=314
AMTX Amarillo 50.22 82 IAmb IAmb 17 08 54.8
comp=Z,7.1nm,0.8s
AMTX Amarillo 50.22 82 P **P** **17 08 32.1 +0.5**
baz=312
G40A Rib Lake 50.31 64 IAmb IAmb 17 08 45.7
comp=Z,15nm,1.0s
ULN Ulaanbaatar 51.00 301 *de*P **P** **17 08 37.6 +0.3**
ULN pmax pmax
comp=Z,11nm,0.8s
ULN Ulaanbaatar 51.00 301 P **P** **17 08 36.9 -0.4**
ULN IAmb IAmb 17 08 39.0
comp=Z,15nm,1.1s
ULN Ulaanbaatar 51.00 301 P **P** **17 08 36.2 -1.1**
comp=Z,52nm,1.0s
SUMG Summit 51.02 17 *i* P **P** **17 08 38.2 +0.8**
SUMG IAmb IAmb 17 08 40.3
comp=Z,43nm,0.9s
SUMG Summit 51.02 17 P **P** **17 08 38.0 +0.6**
SUMG pmax pmax
comp=Z,48nm,1.0s
SUMG Summit 51.02 17 P **P** **17 08 38.0 +0.6**
SONM Songino Array 51.37 301 P **P** **17 08 40.1 0.0**
comp=Z,6.7nm,0.9s,baz=54,slow=7.3,SNR=32
SONM PcP **PcP** **17 09 55.1 +0.7**
comp=Z,2.0nm,0.7s,baz=76,slow=3.2,SNR=1.8
SONM LR LR 17 32 37.2
comp=Z,469nm,18.8s,baz=55,slow=38
SONM Songino Array 51.37 301 P **P** **17 08 40.2 +0.2**
SONM IAmb IAmb 17 08 41.5
comp=Z,18nm,1.2s
E43A Lone Tree Farm 51.38 61 IAmb IAmb 17 08 42.6
comp=Z,14nm,0.8s
ZAK Zakamensk 51.40 305 *e*P **P** **17 08 40.1 -0.1**
ZAK *e* 17 09 55.9
ZAK pmax pmax
comp=Z,17nm,1.4s
N38A Joes South For 51.40 71 IAmb IAmb 17 09 11.9
comp=Z,22nm,0.8s
MOY Mondy 51.74 308 *e*P **P** **17 08 43.4 +0.6**
MOY pmax pmax
comp=Z,28nm,1.8s
L40A Anamosa 51.75 68 IAmb IAmb 17 09 01.9
comp=Z,13nm,0.8s
JFWS Jewell Farm 51.76 67 P **P** **17 08 41.7 -1.2**
baz=310
WMOK Wichita Mounta 52.08 80 P **P** **17 08 46.1 +0.7**
WMOK pmax pmax
comp=Z,12nm,1.0s
WMOK Wichita Mounta 52.08 80 IAmb IAmb 17 09 01.4
comp=Z,9.2nm,0.8s
WMOK Wichita Mounta 52.08 80 P **P** **17 08 45.4 -0.1**
baz=312
DBG Daneborg 52.15 10 *i* P **P** **17 08 45.5 +0.2**
DBG IAmb IAmb 17 08 46.1
comp=Z,21nm,0.6s
SFJD Kangerlussuaq 52.61 26 *i* P **P** **17 08 48.6 -0.2**
SFJD Kangerlussuaq 52.61 26 P **P** **17 08 49.6 +0.8**
SFJD pmax pmax
comp=Z,98nm,2.0s
SFJD Kangerlussuaq 52.61 26 P **P** **17 08 49.6 +0.8**
TIA Tai'an 52.73 283⇓ P **P** **17 08 50.9 +0.7**
TIA pmax pmax
comp=Z,20nm,1.0s
TX32 Lajitas Array 52.81 89 IAmb IAmb 17 09 09.8
comp=Z,18nm,0.9s
TXAR Lajitas Array 52.81 89 P **P** **17 08 51.4 +0.4**
comp=Z,8.2nm,0.8s,baz=299,slow=5.5,SNR=98
TXAR LR LR 17 30 48.5
comp=Z,186nm,18.3s,baz=0.0,slow=35
TXAR Lajitas Array 52.81 89 P **P** **17 08 51.0 0.0**
TXAR Lajitas Array 52.81 89 P **P** **17 08 51.0 0.0**
E46A Sault Ste Mari 52.84 60 IAmb IAmb 17 08 53.4
comp=Z,13nm,0.8s
HHC Hu-ho-hao-te 52.95 291 *e*P **P** **17 08 50.2 -1.7**
HHC S **S** **17 16 13.3 -5.6**
HHC pmax pmax
comp=Z,19nm,0.7s
HHC pmax pmax
comp=Z,84nm,6.2s
HHC LR LR
comp=N,310nm,13.6s
HHC LR LR
comp=E,270nm,14.5s
HHC LR LR
comp=Z,340nm,13.6s
ICESG Greenland Ices 53.61 20 *i* P **P** **17 08 56.2 -0.4**
ICESG IAmb IAmb 17 08 59.0
comp=Z,29nm,0.7s
HDIL Hopedale 53.83 68 P **P** **17 08 57.3 -0.9**
baz=311
DY2G Dye2 54.14 24 *i* P **P** **17 09 00.4 0.0**
DY2G IAmb IAmb 17 09 03.5
comp=Z,14nm,0.9s
X37A Clayton 54.24 78 P **P** **17 09 01.0 -0.3**
CCM Cathedral Cave 54.36 72 P **P** **17 09 01.2 -0.9**
baz=312
JCT Junction City 54.39 85 P **P** **17 09 02.1 -0.4**
baz=315
TIY Taiyuan 54.51 288 *e*P **P** **17 09 04.9 +1.6**
TIY LR LR
comp=N,130nm,6.7s
TIY LR LR
comp=E,150nm,8.5s

TIY LR LR
comp=Z,190nm,11.6s
NJ2 Nanjing 54.52 278 *e*P **P** **17 09 02.5 -0.8**
NJ2 pmax pmax
comp=Z,13nm,0.5s
U40A Yellville 54.55 75 IAmb IAmb 17 09 21.8
comp=Z,7.1nm,0.8s
U40A Yellville 54.55 75 P **P** **17 09 02.1 -1.5**
baz=313
WHTX Lake Whitney, 54.77 82 P **P** **17 09 06.0 +0.9**
baz=314
W39A Magazine 54.78 76 IAmb IAmb 17 09 44.7
comp=Z,24nm,1.1s
W39A Magazine 54.78 76 P **P** **17 09 04.3 -0.9**
baz=313
SFIN Lafayette 55.20 67 P **P** **17 09 08.2 0.0**
baz=312
FCAR Ozark Folk Cen 55.30 75 IAmb IAmb 17 09 27.6
comp=Z,14nm,1.0s
MIAR Mount Ida 55.35 77 P **P** **17 09 09.0 -0.3**
MIAR pmax pmax
comp=Z,18nm,1.2s
MIAR Mount Ida 55.35 77 P **P** **17 09 09.0 -0.3**
MIAR IAmb IAmb 17 09 46.5
comp=Z,18nm,1.1s
MIAR Mount Ida 55.35 77 P **P** **17 09 09.0 -0.3**
baz=313
SCHQ Schefferville 55.65 43 P **P** **17 09 11.4 +0.2**
comp=Z,12nm,0.9s,baz=335,slow=7.8,SNR=8.6
SCHQ LR LR 17 35 51.4
comp=Z,248nm,18.4s,baz=321,slow=39
SCHQ Schefferville 55.65 43 IAmb IAmb 17 09 24.9
comp=Z,21nm,1.1s
W41B Gary Mavity, V 55.72 75 P **P** **17 09 11.7 -0.3**
baz=313
OLIL Olney 55.73 69 IAmb IAmb 17 09 25.7
comp=Z,20nm,0.9s
833A Chaparral WMA, 56.16 86 P **P** **17 09 16.0 +0.8**
baz=316
SADO Sadowa 56.62 59 LR LR 17 35 00.5
comp=Z,182nm,19.2s,baz=348,slow=37
WCI Wyandotte Cave 57.12 69 P **P** **17 09 21.4 -0.4**
baz=313
P49A Miami Univ. Ec 57.12 66 P **P** **17 09 20.6 -1.3**
baz=313
ZAA0 Zalesovo Array 57.55 318 P **P** **17 09 24.2 -0.5**
ZAA0 IAmb IAmb 17 09 26.2
comp=Z,13nm,1.4s
ZALV Zalesovo Beam 57.55 318 P **P** **17 09 24.4 -0.3**
comp=Z,2.5nm,0.4s,baz=36,slow=7.1,SNR=12
ZALV PcP **PcP** **17 10 16.8 -1.0**
comp=Z,4.1nm,0.7s,baz=32,slow=3.1,SNR=6.8
ZALV LR LR 17 35 04.4
comp=Z,149nm,20.1s,baz=56,slow=37
ZALV Zalesovo Beam 57.55 318 P **P** **17 09 23.3 -1.4**
WVT Waverly 57.67 71 P **P** **17 09 25.7 -0.1**
WVT pmax pmax
comp=Z,13nm,1.2s
WVT Waverly 57.67 71 P **P** **17 09 25.7 -0.1**
WVT IAmb IAmb 17 09 57.8
comp=Z,13nm,1.2s
WVT Waverly 57.67 71 P **P** **17 09 25.2 -0.6**
baz=314
OXF Oxford 57.86 74 P **P** **17 09 26.9 -0.3**
OXF pmax pmax
comp=Z,33nm,1.1s
OXF Oxford 57.86 74 **P** **17 09 26.9 -0.3**
OXF Oxford 57.86 74 P **P** **17 09 27.2 0.0**
baz=314
ARA0 ARCESS Array S 58.15 354 *e*P **P** **17 09 28.6 -0.1**
ARCES ARCESS Array B 58.15 354 P **P** **17 09 28.8 +0.1**
comp=Z,14nm,1.0s,baz=27,slow=7.3,SNR=14
ARCES LR LR 17 36 46.3
comp=Z,147nm,18.6s,baz=15,slow=38
ARCES ARCESS Array B 58.15 354 P **P** **17 09 28.5 -0.2**
ARCES pmax pmax
comp=Z,30nm,1.2s
ARCES ARCESS Array B 58.15 354 P **P** **17 09 28.5 -0.2**
R50A Paris 58.20 67 IAmb IAmb 17 09 42.7
comp=Z,10nm,0.8s
WHN Wuhan 58.32 280 ⇑P **P** **17 09 30.9 +0.5**
PLAL Pickwick Lake 58.32 73 IAmb IAmb 17 10 00.4
comp=Z,8.2nm,0.8s
TRO Tromso 58.39 357 *e*P **P** **17 09 30.8 +0.5**
JETT Jettan, Norway 58.40 356 *e*P **P** **17 09 32.2 +1.7**
CLTN Cedars of Leba 58.57 70 IAmb IAmb 17 09 49.7
comp=Z,8.9nm,1.0s
M54A Oil Creek Stat 58.57 62 P **P** **17 09 32.5 +0.4**
baz=314
O53A New Philadelph 58.59 64 P **P** **17 09 31.7 -0.5**
baz=314
N54A Moraine State 58.77 62 P **P** **17 09 33.5 0.0**
baz=314
VBMS Vicksburg 58.81 77 P **P** **17 09 34.1 +0.4**
baz=315
LVZ Lovozero 58.93 350 *de*P **P** **17 09 34.5 +0.3**
LVZ pmax pmax
comp=Z,44nm,1.0s
LVZ Lovozero 58.93 350 P **P** **17 09 34.0 -0.2**
LONY Lake Ozonia 59.09 56 IAmb IAmb 17 09 49.0
comp=Z,12nm,0.9s
LONY Lake Ozonia 59.09 56 P **P** **17 09 35.6 0.0**
baz=314
XAN Xi'an 59.10 287 P **P** **17 09 36.6 +0.7**
XAN pP sP 17 09 47.4 -0.8
XAN pmax pmax
comp=Z,34nm,1.3s
LMQ La Malbaie 59.14 51 P **P** **17 09 35.5 -0.4**
SSLB Suanglung 59.15 270 P **P** **17 09 35.5 -0.8**
L56A Greenwood 59.27 60 P **P** **17 09 36.5 -0.4**
DGZ Jazzator, Alta 59.45 313 *c i*P **P** **17 09 38.8 +0.6**
DGZ pmax pmax
comp=Z,11nm,1.0s
W50A Signal Mountai 59.78 71 IAmb IAmb 17 10 11.5
comp=Z,11nm,1.0s
O56A Blue Knob Stat 60.03 62 IAmb IAmb 17 10 22.5
comp=Z,20nm,1.2s
O56A Blue Knob Stat 60.03 62 P **P** **17 09 42.0 -0.2**
baz=315
BINY Binghamton 60.05 59 P **P** **17 09 42.0 -0.4**
baz=315
FPAL Fort Paine 60.07 71 IAmb IAmb 17 09 42.9
comp=Z,11nm,0.8s
SSPA Standing Stone 60.14 61 P **P** **17 09 43.4 +0.5**
SSPA IAmb IAmb 17 09 56.4
comp=Z,14nm,0.8s
SSPA Standing Stone 60.14 61 P **P** **17 09 42.8 -0.1**
baz=315
STEI Steigen 60.20 358 *e*P **P** **17 09 42.7 -0.1**
I60A Shoreham 60.29 56 P **P** **17 09 43.5 -0.3**
baz=315
LRAL Lakeview Retre 60.33 73 P **P** **17 09 43.7 -0.6**
baz=315
TKL Tuckaleechee C 60.35 69 LR LR 17 36 59.5
comp=Z,208nm,18.4s,baz=326,slow=37
TKL Tuckaleechee C 60.35 69 IAmb IAmb 17 09 57.3
comp=Z,9.7nm,0.9s
F62A Pittston Farm, 60.49 52 P **P** **17 09 44.8 -0.4**
baz=316
GTA Gaotai 60.53 297 ⇑P **P** **17 09 45.3 -0.4**
GTA pP pwP 17 09 56.8 -1.5
GTA sP sP 17 10 00.5 +2.2
GTA pmax pmax
comp=Z,7.0nm,1.1s
GTA pmax pmax
comp=Z,64nm,6.2s
GTA LR LR
comp=N,230nm,16.0s
GTA LR LR
comp=E,370nm,16.7s
GTA LR LR
comp=Z,410nm,17.1s
LZH Lanzhou 60.62 292 *e*P **P** **17 09 48.6 +2.2**
LZH pP sP 17 09 57.4 -1.4
LZH sP pwP 17 09 59.9 +1.0
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,98nm,6.2s
LZH LR LR
comp=N,400nm,15.7s
LZH LR LR
comp=E,390nm,16.0s
LZH LR LR
comp=Z,360nm,18.2s
G62A West of Eustis 60.70 53 P **P** **17 09 46.1 -0.6**
baz=316

LBNH Lisbon 60.70 55 P **P** **17 09 45.9 -0.8**
baz=316
FAUS Fauske 60.75 358 *e*P **P** **17 09 47.0 +0.4**
H62A Milan 60.85 54 P **P** **17 09 48.2 +0.5**
P57A Homestead Farm 60.88 62 IAmb IAmb 17 09 49.8
comp=Z,9.6nm,0.9s
J61A Chester 61.02 56 P **P** **17 09 48.7 -0.2**
baz=316
N59A State Game Lan 61.08 60 P **P** **17 09 49.0 -0.3**
baz=315
BLA Blacksburg 61.16 66 P **P** **17 09 50.5 +0.5**
baz=315
PKME Peaks-Kenny Pk 61.27 52 P **P** **17 09 50.4 -0.1**
baz=316
BATG Bathurst New B 61.35 49 **P** **17 09 51.0 0.0**
J62A Henniker 61.49 56 P **P** **17 09 51.1 -0.9**
baz=316
I63A Otisfield 61.51 54 P **P** **17 09 52.1 -0.1**
baz=316
K62A Royalston 61.67 56 P **P** **17 09 53.2 -0.1**
baz=316
KONS Konsvik 61.67 359 *e*P **P** **17 09 53.2 +0.4**
J63A Strafford 61.82 55 P **P** **17 09 53.5 -0.7**
baz=316
T57A Hurt 61.97 65 IAmb IAmb 17 09 58.8
comp=Z,11nm,1.0s
MOR8 Moi Rana 61.98 358 *e*P **P** **17 09 54.2 -0.8**
KMSC Kings Mountain 62.12 68 P **P** **17 09 56.4 0.0**
baz=316
GOGA Godfrey 62.13 71 P **P** **17 09 56.0 -0.4**
baz=316
ZSN Zaisan 62.26 312 *e*P **P** **17 09 56.5 -0.7**
comp=Z,15nm,1.3s,baz=312
ZSN Zaisan 62.26 312 *e*P **P** **17 09 56.5 -0.7**
ZSN pmax pmax
comp=Z,15nm,1.3s
T59A Double "B" Far 62.93 64 P **P** **17 10 01.2 -0.6**
LMN Caledonia Moun 62.99 49 P **P** **17 10 02.3 +0.3**
PRGR Permogore 63.19 342 *e*P **P** **17 10 02.3 -0.7**
PRGR pmax pmax
comp=Z,88nm,1.5s
M65A Busby, Falmout 63.29 56 P **P** **17 10 03.8 -0.2**
baz=317
WMQ Urumqi 63.62 308 *e*P **P** **17 10 07.2 +0.8**
WMQ pP sP 17 10 18.1 -0.9
WMQ sP pwP 17 10 20.8 +1.7
WMQ pmax pmax
comp=Z,25nm,1.1s
WMQ pmax pmax
comp=Z,94nm,3.9s
WMQ LR LR
comp=N,470nm,18.1s
WMQ LR LR
comp=E,280nm,15.7s
WMQ LR LR
comp=Z,230nm,19.3s
NSS Namsos 63.66 359 *e*P **P** **17 10 06.4 +0.3**
BVAR Borovoye Array 63.85 324 P **P** **17 10 07.5 -0.2**
comp=Z,16nm,0.6s,baz=130,slow=2.3,SNR=49
SVE Sverdlovsk 63.86 332 *e*P **P** **17 10 08.5 +0.9**
SVE pmax pmax
comp=Z,33nm,1.3s
BRVK Borovoye 63.87 324 *c i*P **P** **17 10 07.9 +0.2**
BRVK pmax pmax
comp=Z,47nm,1.7s
BRVK Borovoye 63.87 324 P **P** **17 10 07.7 0.0**
MK31 Makanchi Array 63.92 313 IAmb IAmb 17 10 08.7
comp=Z,6.4nm,1.0s
MKAR Makanchi Array 63.92 313 P **P** **17 10 07.8 -0.4**
comp=Z,2.0nm,0.4s,baz=53,slow=6.6,SNR=64
MKAR LR LR 17 41 17.8
comp=Z,191nm,18.6s,baz=24,slow=39
CD2 Chengdu 64.38 288 P **P** **17 10 12.5 +1.0**
CD2 pP sP 17 10 23.2 -0.7
CD2 pmax pmax
comp=Z,50nm,1.0s
CD2 LR LR
comp=N,390nm,15.7s
CD2 LR LR
comp=E,200nm,15.7s
CD2 LR LR
comp=Z,450nm,16.7s
TLIG Tlapa 64.63 94 P **P** **17 10 13.7 +0.4**
TLIG IAmb IAmb 17 10 14.8
comp=Z,9.1nm,0.9s
ARU Arti 64.80 333 P **P** **17 10 12.9 -0.9**
comp=Z,4.0nm,0.8s,baz=15,slow=7.4,SNR=18
ARU Arti 64.80 333 *d i*P **P** **17 10 13.6 -0.1**
ARU 17 10 45.5
ARU 17 12 33.5
ARU S **S** **17 18 51.8 -0.1**
ARU pmax pmax
comp=Z,30nm,1.2s
ARU Arti 64.80 333 P **P** **17 10 13.6 -0.1**
KLMR Klimovskoe 64.99 345 *e*P **P** **17 10 12.9 -2.0**
KLMR pmax pmax
comp=Z,27nm,1.3s
KLMR Klimovskoe 64.99 345 *e*P **P** **17 10 12.9 -2.0**
KLMR AMP 17 10 15.7
comp=Z,27nm,1.3s
KIRV Kirov 65.19 339 P **P** **17 10 16.5 +0.3**
comp=Z,12nm,0.5s,baz=86,slow=3.1,SNR=11
BRZS Berezniki 65.45 321 ⇑*i*P **P** **17 10 17.7 -0.4**
comp=Z,8.7nm,0.9s,baz=321
BRZS Berezniki 65.45 321 *c i*P **P** **17 10 17.7 -0.4**
BRZS pmax pmax
comp=Z,9.0nm,0.9s
MOL Molde 65.61 2 *e*P **P** **17 10 18.6 -0.2**
GYA Guiyang 65.92 283 ⇓*i*P **P** **17 10 22.4 +0.8**
GYA pP sP 17 10 34.1 +0.1
GYA pmax pmax
comp=Z,30nm,1.1s
AKN Aaknes 66.00 2 *e*P **P** **17 10 21.5 +0.1**
FIA1 FINESS Array S 66.09 352 P **P** **17 10 21.8 -0.2**
FINES FINESS Array B 66.09 352 P **P** **17 10 21.8 -0.2**
comp=Z,9.5nm,0.5s,baz=18,slow=6.1,SNR=45
FINES LR LR 17 41 46.6
comp=Z,100nm,19.4s,baz=5.0,slow=38
FINES FINESS Array B 66.09 352 *i* P **P** **17 10 22.2 +0.2**
FINES pmax pmax
comp=Z,10.0nm,0.5s
RAF Rauma 66.83 354 *e*P **P** **17 10 27.1 +0.4**
NC303 NORSAR Array S 66.98 360 P **P** **17 10 27.8 +0.1**
HYA Hoyanger 66.99 2 *e*P **P** **17 10 28.4 +0.6**
TDK Taldyqorghan 67.03 314 *e*P **P** **17 10 27.2 -1.1**
baz=314
TDK Taldyqorghan 67.03 314 *e*P **P** **17 10 27.2 -1.1**
NB2 NORSAR Subarra 67.17 360 P **P** **17 10 29.3 +0.3**
comp=Z,4.8nm,0.6s,baz=359,slow=6.2
NB2 NORSAR Subarra 67.17 360 P **P** **17 10 29.3 +0.3**
baz=359,slow=6.2
NOA NORSAR Array B 67.17 360 P **P** **17 10 28.0 -1.0**
comp=Z,6.2nm,0.6s,baz=0.3,slow=6.3,SNR=32
NOA LR LR 17 39 22.1
comp=Z,61nm,19.9s,baz=0.0,slow=36
CMIG Matias Romero 67.25 91 LR LR 17 35 48.4
comp=Z,102nm,20.0s,baz=298,slow=32
MEF Metsahovi 67.44 353 *e*P **P** **17 10 31.2 +0.6**
NC602 NORSAR Array S 67.48 359 *e*P **P** **17 10 31.1 +0.3**
NC602 NORSAR Array S 67.48 359 P **P** **17 10 29.9 -0.9**
NORES NORESS Array B 67.48 359 P **P** **17 10 31.4 +0.6**
NORES pmax pmax
comp=Z,3.0nm,0.9s
SKAR Skarslia 67.52 1 *e*P **P** **17 10 31.8 +0.6**
AAL Aland 67.78 355 *e*P **P** **17 10 33.1 +0.4**
ARXS Arharly 67.90 314 *e*P **P** **17 10 33.9 0.0**
SHLS Shalkode 68.00 313 ⇑*i*P **P** **17 10 33.5 -1.1**
comp=Z,18nm,1.1s,baz=312
SHLS Shalkode 68.00 313 *c i*P **P** **17 10 33.5 -1.1**
SHLS pmax pmax
comp=Z,18nm,1.1s
HFS Hagfors 68.05 358 P **P** **17 10 34.5 +0.1**
comp=Z,18nm,0.6s,baz=35,slow=3.6,SNR=62
KPKS Kokpek 68.11 313 ⇑*i*P **P** **17 10 35.0 -0.3**
comp=Z,12nm,0.9s,baz=313
KPKS Kokpek 68.11 313 *c i*P **P** **17 10 34.9 -0.3**
KPKS pmax pmax
comp=Z,12nm,0.9s
UZB Uzynbulak 68.21 313 ⇑*i*P **P** **17 10 35.5 -0.5**
comp=Z,11nm,1.7s,baz=313
UZB Uzynbulak 68.21 313 *c i*P **P** **17 10 35.4 -0.5**
UZB pmax pmax
comp=Z,11nm,1.7s
UPP Uppsala 68.21 356 *e*P **P** **17 10 36.0 +0.6**
ODD1 Odda 68.26 2 *e*P **P** **17 10 36.2 +0.4**
CHKK Chushkaly 68.56 315 *e*P **P** **17 10 36.9 -1.0**
baz=314
SATY Saty 68.56 313 ⇑*i*P **P** **17 10 37.5 -0.6**
comp=Z,5.8nm,0.9s,baz=313
SATY Saty 68.56 313 *c i*P **P** **17 10 37.5 -0.6**
SATY pmax pmax
comp=Z,6.0nm,0.9s
KONO Kongsberg 68.57 1 *ce*P **P** **17 10 38.3 +0.6**
KONO pmax pmax
comp=Z,19nm,0.8s
KONO Kongsberg 68.57 1 *e*P **P** **17 10 38.6 +0.9**
KONO Kongsberg 68.57 1 P **P** **17 10 38.6 +0.9**
BLS5 Blasjo 68.75 2 *e*P **P** **17 10 39.5 +0.6**
KUU Kurty 68.81 315 *e*P **P** **17 10 38.1 -1.5**
baz=315
KUU Kurty 68.81 315 *e*P **P** **17 10 38.0 -1.5**
BTLS Baital 68.87 317 ⇑*i*P **P** **17 10 39.5 -0.4**
comp=Z,10nm,0.8s,baz=317
BTLS Baital 68.87 317 *c i*P **P** **17 10 39.4 -0.4**
BTLS pmax pmax
comp=Z,10.0nm,0.8s
KMY Karmoy 68.92 3 *e*P **P** **17 10 40.6 +0.8**
VSU Vasula 68.97 351 *e*P **P** **17 10 41.0 +0.9**
VSU Vasula 68.97 351 *c i*P **P** **17 10 40.7 +0.5**
VSU pmax pmax
comp=Z,78nm,0.7s
MTSE Matsula 68.98 353 *e*P **P** **17 10 41.2 +0.9**
MDOK Medeo 69.08 314 *e*P **P** **17 10 41.1 -0.3**
baz=314
MDOK Medeo 69.08 314 *e*P **P** **17 10 41.0 -0.3**
AAA Alma-Ata 69.10 314 *e*P **P** **17 10 40.9 -0.5**
baz=314
AAA Alma-Ata 69.10 314 *e*P **P** **17 10 40.9 -0.5**
TNSS Tian-Shan 69.22 314 *e*P **P** **17 10 41.7 -0.9**
baz=314
KMI Kunming 69.27 284 ⇓P **P** **17 10 44.2 +1.3**
KMI pP pP 17 10 53.5 +1.6
KMI pmax pmax
comp=Z,21nm,0.6s
KMI pmax pmax
comp=Z,150nm,3.8s
MTBS Maitube 69.38 314 ⇑*i*P **P** **17 10 42.7 -0.4**
baz=314
KDJ Kajisay 69.84 313 IAmb IAmb 17 10 47.8
comp=Z,13nm,0.9s
SGDS Sogindy 69.90 316 ⇑*i*P **P** **17 10 46.4 0.0**
comp=Z,9.5nm,1.3s,baz=316
TKM2 Tokmak 2 69.91 315 P **P** **17 10 47.2 +0.6**
SNR=19
USP Ospenovka 70.11 316 P **P** **17 10 48.5 +0.9**
SNR=27
ULHL Ulahol 70.17 314 P **P** **17 10 49.0 +0.8**
SNR=11
SLIT Slitere, Latvi 70.17 353 *e*P **P** **17 10 48.3 +0.7**
MOS Moscow 70.18 344 *e*P **P** **17 10 45.0 -2.7**
AKTO Aktyubinsk 70.18 330 P **P** **17 10 48.2 +0.4**
comp=Z,10nm,0.6s,baz=48,slow=6.5,SNR=38
CHMS Chumysh 70.22 315 P **P** **17 10 49.1 +0.8**
SNR=9.8
KBK Karagaybulak 70.41 315 P **P** **17 10 50.2 +0.6**
SNR=14
AAK Ala-Archa 70.62 315 P **P** **17 10 51.8 +0.9**
SNR=17
AAK Ala-Archa 70.62 315 *c i*P **P** **17 10 51.6 +0.7**
AAK pmax pmax
comp=Z,65nm,0.8s
AAK Ala-Archa 70.62 315 P **P** **17 10 51.3 +0.5**
KZA Kyzart 70.74 315 P **P** **17 10 52.9 +1.0**
SNR=11
EKS2 Erkin-Say 70.91 316 P **P** **17 10 53.5 +0.9**
SNR=15
UCH Uchtor 70.94 315 P **P** **17 10 54.2 +1.0**
SNR=6.3
OBN Obninsk 70.95 345 P **P** **17 10 51.8 -0.5**
comp=Z,3.2nm,0.4s,baz=16,slow=2.6,SNR=6.0
OBN Obninsk 70.95 345 *c i*P **P** **17 10 52.0 -0.4**
OBN *PP **sP** **17 11 04.0 -1.0**
OBN *e* 17 11 11.8
OBN 17 13 27.0
OBN pmax pmax
comp=Z,10.0nm,0.6s
OBN MLR MLR
comp=Z,154nm,19.0s
BELG Belogornoye 71.28 337 P **P** **17 10 53.2 -1.2**
comp=Z,67nm,0.9s,baz=144,slow=1.8,SNR=20
AML Almayashu 71.38 316 P **P** **17 10 57.0 +1.2**
SNR=11
SLVN Son La 71.42 281 IAmb IAmb 17 11 10.7
comp=Z,13nm,1.1s
PPT Papeete 71.54 160 LR LR 17 39 33.9
comp=Z,56nm,18.4s,baz=320,slow=33
DZA Taraz 71.76 318 *e*P **P** **17 10 57.0 -0.6**
baz=317
DZA Taraz 71.76 318 *e*P **P** **17 10 57.0 -0.6**
KKAR Karatay Array 71.92 318 P **P** **17 10 58.4 -0.1**
KKAR Karatay Array 71.92 318 P **P** **17 10 58.4 -0.1**
KKAR Karatay Array 71.92 318 IAmb IAmb 17 10 59.9
comp=Z,21nm,0.9s
IIGN Ignalina 72.09 351 *e*P **P** **17 11 00.2 +0.9**
PABE Paberze 72.15 352 *e*P **P** **17 11 00.5 +0.9**
EKA Eskdalemuir Ar 72.30 8 P **P** **17 11 00.7 +0.2**
comp=Z,5.1nm,0.7s,baz=353,slow=4.3,SNR=9.8
EKA Eskdalemuir Ar 72.30 8 P **P** **17 11 00.9 +0.4**
NACGM Naroch 72.47 350 *i* P **P** **17 11 02.1 +0.6**
KSH Kashi 72.49 312 P **P** **17 11 06.1 +4.0**
KSH pP pwP 17 11 17.2 +2.2
KSH PcP **PcP** **17 11 23.1 +3.4**
KSH pmax pmax
comp=Z,34nm,1.0s
KSH LR LR
comp=N,360nm,18.0s
KSH LR LR
comp=E,320nm,15.2s
KSH LR LR
comp=Z,310nm,19.4s
LSA Lhasa 72.50 296 P **P** **17 11 04.3 +1.6**
LSA pmax pmax
comp=Z,110nm,1.0s
MNK Minsk 72.75 350 *i* P **P** **17 11 02.3 -0.9**
MNK *i* 17 11 19.4
MNK *i* 17 13 43.9
MNK *i* PPP PPP 17 15 28.5
MNK *i* S **S** **17 20 25.7 -0.5**
MNK *i* 17 21 06.8
MNK *i* SSS SSS 17 28 16.1
MNK pmax pmax
comp=N,13nm,0.9s
MNK pmax pmax
comp=Z,34nm,0.9s
MNK MLR MLR
comp=E,12nm,20.0s
MNK MLR MLR
comp=Z,259nm,20.0s
MNK MLR MLR
comp=N,130nm,20.0s
MNK Minsk 72.75 350 *i* P **P** **17 11 02.4 -0.9**
MNK *i* P **P** **17 11 02.4 -0.9**
comp=N,13nm,0.9s,baz=11
MNK *i* P **P** **17 11 02.4 -0.9**
comp=Z,34nm,0.9s
MNK *i* PcP **PcP** **17 11 19.4 -1.0**
MNK *i* PP **PP** **17 13 44.0 -0.5**
MNK *i* PPP PPP 17 15 28.6
MNK *i* S **S** **17 20 25.7 -0.4**
MNK *i* SS SS 17 25 19.8 +15
MNK *i* SSS SSS 17 28 16.1
MNK *i* LQ LQ 17 35 43.2
MNK *i* LR LR 17 39 09.5
MNK *i* LRM MLR 17 45 46.7
comp=E,12nm,20.0s
MNK *i* LRM MLR 17 45 48.8
comp=Z,259nm,20.0s
MNK *i* LRM MLR 17 46 15.9
comp=N,130nm,19.7s
IUG Iuzhnay 72.91 318 ⇑*i*P **P** **17 11 04.8 +0.2**
baz=318
IUG Iuzhnay 72.91 318 *c i*P **P** **17 11 04.8 +0.2**
SUW Suwalki 73.69 352 *e*P **P** **17 11 09.2 +0.4**
VRH Novokhopyorsk 73.72 340 *e*P **P** **17 11 08.4 -0.6**
VRH pmax pmax
comp=Z,30nm,1.2s
BSEG Bad Segeberg 74.30 0 *e*P **P** **17 11 13.9 +1.6**
comp=Z,11nm,1.0s,baz=2.7,slow=5.6
VORD Divnogorie 74.43 342 *e*P **P** **17 11 13.4 +0.3**
VORD pmax pmax
comp=Z,10.0nm,0.6s

UBPT Khong Chiam 75.08 276 P P 17 11 26.8 +9.4
UBPT Khong Chiam 75.08 276 P P 17 11 26.9 +9.4
UBPT Khong Chiam 75.08 276 P **P** **17 11 19.0 +1.6**
comp=Z,101µmcomp=Z,15nm,0.9s
SHL Shillong 75.27 293 P **P** **17 11 17.8 -0.9**
SHL pmax pmax
comp=Z,86nm,1.6s
SHL Shillong 75.27 293 P **P** **17 11 17.8 -0.9**
PAYA Payao 75.36 283 P **P** **17 11 20.9 +1.9**
PAYA Payao 75.36 283 P **P** **17 11 20.9 +1.9**
comp=Z,76nmcomp=Z,9.9nm,1.0s
NRDL Niedersach Rie 75.74 0 *eP* **P** **17 11 21.7 +1.1**
comp=Z,5.8nm,0.9s,baz=2.7,slow=5.6
IBBN Ibbenburen 75.90 2 *eP* **P** **17 11 23.4 +1.8**
baz=2.7,slow=5.6
FLTG Flechtingen 75.90 360 *eP* **P** **17 11 22.5 +0.9**
comp=Z,3.6nm,0.8s,baz=2.7,slow=5.6
CM34 Chiang Mai Arr 76.18 283 P **P** **17 11 25.0 +1.3**
UTTA Uttaradit 76.18 281 P **P** **17 11 24.9 +1.2**
UTTA Uttaradit 76.18 281 P **P** **17 11 25.0 +1.2**
TAPN Taplejung 76.22 297 *eP* **P** **17 11 24.8 +0.6**
comp=Z,30nm,0.7s
CM35 Chiang Mai Arr 76.31 283 P **P** **17 11 25.0 +0.5**
AKASG Malin Array Be 76.32 348 P **P** **17 11 23.6 -0.4**
comp=Z,6.1nm,0.6s,baz=15,slow=5.9,SNR=28
AKASG LR LR 17 52 08.2
comp=Z,80nm,18.1s,baz=15,slow=41
AKBB Malin Array Si 76.32 348 *ceP* **P** **17 11 23.8 -0.2**
AKBB Malin Array Si 76.32 348 P **P** **17 11 22.7 -1.3**
AKBB IAmb IAmb 17 11 24.7
comp=Z,16nm,1.1s
CM33 Chiang Mai Arr 76.33 283 P **P** **17 11 25.0 +0.4**
CMMT Chiang Mai 76.33 283 P **P** **17 11 26.0 +1.4**
CMMT Chiang Mai 76.33 283 P **P** **17 11 26.1 +1.4**
comp=Z,6.6nm,1.2s
CMMT Chiang Mai 76.33 283 P **P** **17 11 25.0 +0.4**
comp=Z,6.3nm,1.2s
CHTO Chiang Mai 76.33 283 P **P** **17 11 24.3 -0.3**
CHTO pmax pmax
comp=Z,11nm,1.3s
CHTO Chiang Mai 76.33 283 P **P** **17 11 26.2 +1.6**
comp=Z,6.6nm,1.2s
CHTO Chiang Mai 76.33 283 P **P** **17 11 24.3 -0.3**
CHTO IAmb IAmb 17 11 26.2
comp=Z,11nm,1.3s
CHTO Chiang Mai 76.33 283 P **P** **17 11 25.6 +1.0**
comp=Z,3.8nm,1.2s
CLZ Clausthal 76.39 0 *eP* **P** **17 11 26.0 +1.5**
comp=Z,13nm,1.1s,baz=2.7,slow=5.6
CM36 Chiang Mai Arr 76.47 283 P **P** **17 11 28.0 +2.6**
CM32 Chiang Mai Arr 76.52 283 P P 17 11 32.0 +6.4
CM09 Chiang Mai Arr 76.59 283 P **P** **17 11 28.3 +2.3**
comp=Z,105nmcomp=Z,17nm,1.0s
CM09 Chiang Mai Arr 76.59 283 P **P** **17 11 28.4 +2.3**
comp=Z,105nmcomp=Z,17nm,1.0s
CM31 Chiang Mai Arr 76.61 283 P P 17 11 31.1 +4.9
comp=Z,3µmcomp=Z,320nm,0.9s
CM31 Chiang Mai Arr 76.61 283 IAmb IAmb 17 11 43.8
comp=Z,17nm,1.0s
CMAR Chiang Mai Arr 76.61 283 P **P** **17 11 25.9 -0.2**
comp=Z,7.4nm,1.1s,baz=26,slow=6.3,SNR=29
CMAR LR LR 17 49 40.4
comp=Z,115nm,18.1s,baz=76,slow=39
CMAR Chiang Mai Arr 76.61 283 *i* P **P** **17 11 27.0 +0.8**
CMAR pmax pmax
comp=Z,7.0nm,1.0s
CM02 Chiang Mai Arr 76.62 283 P **P** **17 11 28.0 +1.8**
comp=Z,137nmcomp=Z,20nm,1.0s
CM02 Chiang Mai Arr 76.62 283 P **P** **17 11 28.0 +1.8**
comp=Z,137nmcomp=Z,20nm,1.0s
CM15 Chiang Mai Arr 76.62 283 P **P** **17 11 27.8 +1.6**
comp=Z,106nmcomp=Z,16nm,1.0s
CM15 Chiang Mai Arr 76.62 283 P **P** **17 11 27.9 +1.7**
comp=Z,106nmcomp=Z,16nm,1.0s
CM01 Chiang Mai Arr 76.63 283 P **P** **17 11 28.5 +2.3**
comp=Z,130nmcomp=Z,19nm,1.0s
CM01 Chiang Mai Arr 76.63 283 P **P** **17 11 28.6 +2.3**
comp=Z,130nmcomp=Z,19nm,1.0s
CM04 Chiang Mai Arr 76.63 283 P **P** **17 11 28.1 +1.8**
comp=Z,169nmcomp=Z,24nm,1.0s
CM04 Chiang Mai Arr 76.63 283 P **P** **17 11 28.0 +1.8**
comp=Z,169nmcomp=Z,24nm,1.0s
CM05 Chiang Mai Arr 76.65 283 P **P** **17 11 27.9 +1.6**
comp=Z,131nmcomp=Z,18nm,0.9s
CM05 Chiang Mai Arr 76.65 283 P **P** **17 11 28.0 +1.6**
comp=Z,131nmcomp=Z,18nm,0.9s
CM13 Chiang Mai Arr 76.66 283 P **P** **17 11 28.0 +1.6**
comp=Z,139nmcomp=Z,19nm,1.0s
CM13 Chiang Mai Arr 76.66 283 P **P** **17 11 28.1 +1.6**
comp=Z,139nmcomp=Z,19nm,1.0s
GTTG Gottingen 76.69 0 *eP* **P** **17 11 27.7 +1.6**
baz=2.7,slow=5.6
PHIT Phitsanulok 76.69 281 P **P** **17 11 30.6 +4.0**
PHIT Phitsanulok 76.69 281 P **P** **17 11 30.7 +4.0**
ODAN Odare 76.78 297 *eP* **P** **17 11 27.5 +0.2**
JIRN Jiri 76.81 298 *eP* **P** **17 11 28.5 +0.9**
comp=Z,34nm,0.5s
CLL Collm 76.91 358⇑ *iP* **P** **17 11 28.0 +0.7**
comp=Z,14nm,1.2s
CLL *i* PcP **sP** **17 11 39.5 -0.5**
CLL *e*(SSS) 17 30 12.0
CLL Lm MLR 17 51 00.0
comp=Z,100nm,19.4s
CLL Lm MLR 17 51 00.0
comp=Z,100nm,19.4s
CLL Collm 76.91 358⇑ *iP* **P** **17 11 28.0 +0.7**
CLL *i* 17 11 39.5
CLL pmax pmax
comp=Z,14nm,1.2s
CLL Collm 76.91 358 IAmb IAmb 17 11 29.2
comp=Z,6.9nm,0.7s
CLL Collm 76.91 358 *eP* **P** **17 11 28.3 +1.0**
comp=Z,4.0nm,0.9s,baz=2.7,slow=5.6
KASTN Kahler Asten 77.02 1 *eP* **P** **17 11 29.5 +1.5**
baz=2.7,slow=5.6
NEUB Neuenburg 77.02 359 *eP* **P** **17 11 29.3 +1.3**
comp=Z,9.3nm,0.9s,baz=2.7,slow=5.6
KKN Kakani 77.20 299 *eP* **P** **17 11 30.2 +0.6**
FBE Freiberg 77.29 358 *eP* **P** **17 11 30.5 +1.1**
comp=Z,13nm,1.1s,baz=2.7,slow=5.6
PKI Pulchoki 77.30 299 *eP* **P** **17 11 30.6 +0.2**
PKIN Phulchoki 77.30 299 *eP* **P** **17 11 30.5 +0.2**
BRG Berggiesshubel 77.32 358 *eP* **P** **17 11 30.7 +1.0**
comp=Z,9.4nm,1.1s,baz=2.7,slow=5.6
BRG Berggiesshubel 77.32 358 *eP* **P** **17 11 31.0 +1.3**
BRG Amp 17 11 32.0
comp=Z,18nm,1.3s
BRG Berggiesshubel 77.32 358 P P 17 11 40.1 +10
BRG Amp 17 11 42.8
comp=Z,12nm,1.2s
GKN Gorkha 77.38 299 *eP* **P** **17 11 31.0 +0.4**
comp=Z,27nm,0.7s
UBBA Unterbreizbach 77.42 0 *eP* **P** **17 11 31.7 +1.6**
baz=2.7,slow=5.6
MHMT Maesarieng 77.43 283 P **P** **17 11 33.3 +2.5**
MHMT Maesarieng 77.43 283 P **P** **17 11 33.0 +2.2**
comp=Z,34nm,1.0s
DMN Daman 77.43 299 *eP* **P** **17 11 31.6 +0.6**
CHVC Chvalec 77.54 356 *eP* **P** **17 11 32.3 +1.3**
MEM Membach 77.56 3 *dP* **P** **17 11 31.9 +0.9**
MEM *d*PcP **PcP** **17 11 41.6 +0.4**
BSTI Sart Tilman 77.57 3 *dP* **P** **17 11 32.5 +1.4**
BSTI *d*PcP **sP** **17 11 43.7 -0.1**
OSTC Ostas 77.57 356 *eP* **P** **17 11 32.1 +1.0**
DANN Dangsing 77.57 300 *eP* **P** **17 11 32.5 +0.7**
comp=Z,84nm,0.9s
BTNL Ternell 77.58 3 *dP* **P** **17 11 32.2 +1.0**
BTNL *d*PcP **PcP** **17 11 42.0 +0.7**
MOX Moxa 77.59 359 *eP* **P** **17 11 32.3 +1.1**
comp=Z,8.8nm,1.1s,baz=2.7,slow=5.6
SNF Seneffe 77.59 4 *dP* **P** **17 11 32.6 +1.4**
SNF *d*PcP **pwP** **17 11 44.1 -0.2**
UPC Upice 77.62 356 *eP* **P** **17 11 32.5 +1.1**
UPC Upice 77.62 356 *eP* **P** **17 11 32.5 +1.1**
PVCC Panska Ves 77.65 357 *eP* **P** **17 11 32.7 +1.2**
PVCC Panska Ves 77.65 357 *eP* **P** **17 11 32.7 +1.2**
OJC Ojcow 77.72 354 IAmb IAmb 17 11 34.0
comp=Z,16nm,1.1s
BCLA Clavier 77.72 3 *dP* **P** **17 11 31.5 -0.4**
BCLA *d*PcP **PcP** **17 11 42.1 +0.2**
BGES Gesves 77.75 4 *dP* **P** **17 11 33.3 +1.2**
BGES *d*PcP **PcP** **17 11 42.9 +0.9**
DPC Dobruska-Polom 77.77 356 *eP* **P** **17 11 33.3 +1.0**
DPC Dobruska-Polom 77.77 356 *eP* **P** **17 11 33.3 +1.0**
LVV L'vov 77.77 351 *eP* **P** **17 11 32.5 +0.3**

WERD Werda 77.78 359 *eP* **P** **17 11 33.4 +1.1**
comp=Z,1.9nm,0.9s,baz=2.7,slow=5.6
TANN Tannenbergstha 77.81 359 *eP* **P** **17 11 33.4 +0.9**
baz=2.7,slow=5.6
BHOU Houvegnez 77.81 3 *dP* **P** **17 11 31.9 -0.6**
BMRD Maredsous 77.82 4 *dP* **P** **17 11 33.0 +0.6**
BMRD *d*PcP **sP** **17 11 44.5 -0.6**
GUNZ Gunzen 77.86 359 *eP* **P** **17 11 33.7 +0.9**
comp=Z,3.2nm,1.0s,baz=2.7,slow=5.6
MPSI Mapaga 77.94 255 P **P** **17 11 32.7 -0.9**
comp=Z,1µmcomp=Z,9.0nm,0.8s
WERN Wernitzgruen 77.94 359 *eP* **P** **17 11 33.9 +0.7**
baz=2.7,slow=5.6
NKC Novy Kostel 77.99 359 *eP* **P** **17 11 34.6 +1.1**
NKC Novy Kostel 77.99 359 *eP* **P** **17 11 34.6 +1.1**
TNS Taunus Mts 78.00 1 *eP* **P** **17 11 35.1 +1.6**
comp=Z,5.3nm,0.8s,baz=2.7,slow=5.6
DOU Dourbes 78.02 4 *dP* **P** **17 11 34.4 +0.9**
GIVF Givet 78.02 4 *eP* **P** **17 11 34.1 +0.5**
GIVF pmax pmax
comp=Z,23nm,1.2s
KRLC Kraliky 78.03 356 *eP* **P** **17 11 34.8 +1.1**
KRLC Kraliky 78.03 356 *eP* **P** **17 11 34.8 +1.1**
BAIF Baives 78.04 4 *eP* **P** **17 11 34.4 +0.7**
BAIF pmax pmax
comp=Z,29nm,1.4s
KWP Kalwaria Pacla 78.08 352 P **P** **17 11 34.6 +0.7**
KWP Kalwaria Pacla 78.08 352 P **P** **17 11 34.6 +0.7**
KOLN Koldanda 78.11 300 *eP* **P** **17 11 35.0 +0.3**
PYUN Piuthan 78.18 301 *eP* **P** **17 11 35.4 +0.3**
comp=Z,73nm,1.1s
PRU Pruhonice 78.19 357 *eP* **P** **17 11 35.3 +0.8**
PRU Pruhonice 78.19 357 *eP* **P** **17 11 35.3 +0.8**
MANZ Manzenberg 78.24 359 *eP* **P** **17 11 36.1 +1.2**
comp=Z,2.3nm,0.9s,baz=2.7,slow=5.6
MORC Moravsky Berou 78.29 355⇓ P **P** **17 11 35.9 +0.8**
MORC Moravsky Berou 78.29 355⇓ P **P** **17 11 35.9 +0.8**
MORC Moravsky Berou 78.29 355 IAmb IAmb 17 11 37.4
comp=Z,16nm,1.1s
MORC Moravsky Berou 78.29 355 *eP* **P** **17 11 36.0 +0.8**
MILB Miltenberg 78.41 1 *eP* **P** **17 11 37.3 +1.6**
comp=Z,7.8nm,0.9s,baz=2.7,slow=5.6
ROTZ Rotzenmuhle 78.46 359 *eP* **P** **17 11 37.4 +1.3**
comp=Z,4.6nm,1.0s,baz=2.7,slow=5.6
WLF Walferdange 78.51 3 *dP* **P** **17 11 36.2 -0.1**
WLF Walferdange 78.51 3 *eP* **P** **17 11 38.8 +2.5**
comp=Z,5.5nm,0.8s,baz=2.7,slow=5.6
PBCC Pribram 78.51 358 *eP* **P** **17 11 37.2 +0.9**
NIL Nilore 78.54 311 P **P** **17 11 37.2 +0.4**
NIL pmax pmax
comp=Z,45nm,1.0s
NIL Nilore 78.54 311 P **P** **17 11 37.2 +0.4**
UTHA Uthaitani 78.54 281 P P 17 11 46.5 +10
UTHA Uthaitani 78.54 281 P P 17 11 46.5 +10
comp=Z,3.5nm,1.1s
GRA1 Grenberg Arr 78.55 360 IAmb IAmb 17 11 39.4
comp=Z,14nm,0.9s
GRF Grafenberg Arr 78.55 360 *eP* **P** **17 11 38.0 +1.5**
comp=Z,8.3nm,0.7s,baz=2.7,slow=5.6
GRFO Grafenberg 78.55 360 P **P** **17 11 37.8 +1.3**
GRFO pmax pmax
comp=Z,17nm,1.0s
GRFO Grafenberg 78.55 360 P **P** **17 11 37.8 +1.3**
GRFO IAmb IAmb 17 11 39.4
comp=Z,17nm,1.0s
VRAC Vranov 78.80 356⇑ P **P** **17 11 39.2 +1.2**
VRAC Vranov 78.80 356 P **P** **17 11 37.7 -0.2**
comp=Z,11nm,0.8s,baz=12,slow=6.3,SNR=18
VRAC Vranov 78.80 356⇑ P **P** **17 11 39.2 +1.2**
VRAC Vranov 78.80 356 *eP* **P** **17 11 39.1 +1.2**
LANS Liptovska Anna 78.80 354 *eP* **P** **17 11 40.1 +2.1**
LANS pmax pmax
comp=Z,14nm,1.1s
LANS Liptovska Anna 78.80 354 *eP* **P** **17 11 40.1 +2.1**
KOLS Kolonicke sedl 78.81 352 *eP* **P** **17 11 38.8 +0.8**
KOLS Kolonicke sedl 78.81 352 *eP* **P** **17 11 38.8 +0.8**
CRVS Cervenica-Dubn 78.91 353 *eP* **P** **17 11 39.6 +1.1**
CRVS pmax pmax
comp=Z,38nm,1.8s
CRVS Cervenica-Dubn 78.91 353 *eP* **P** **17 11 39.6 +1.1**
SORM Soroca 78.95 348⇑ P **P** **17 11 38.6 -0.1**
SORM Soroca 78.95 348⇑ P **P** **17 11 38.6 -0.1**
KRUC Moravsky 79.05 356 *eP* **P** **17 11 40.2 +0.9**
KHC Kasperske Hory 79.08 358 *eP* **P** **17 11 40.8 +1.3**
KHC *e* 17 11 52.5
KHC Kasperske Hory 79.08 358 *eP* **P** **17 11 40.8 +1.3**
KHC *ex* x 17 11 52.5
WET Wettzell 79.08 358 *eP* **P** **17 11 40.6 +1.2**
comp=Z,6.1nm,1.1s,baz=2.7,slow=5.6
JAVC Velka Javorina 79.20 355 *eP* **P** **17 11 42.5 +2.3**
LDF La Druitiere 79.24 7 *eP* **P** **17 11 40.5 +0.2**
LDF pmax pmax
comp=Z,19nm,1.0s
GEC2 GERESS Array S 79.36 358 IAmb IAmb 17 11 43.4
comp=Z,9.7nm,1.1s
GEC2 GERESS Array S 79.36 358 *eP* **P** **17 11 42.2 +1.1**
comp=Z,7.1nm,1.1s,baz=2.7,slow=5.6
GERES GERESS Array B 79.36 358 P **P** **17 11 41.6 +0.5**
comp=Z,4.5nm,1.0s,baz=9.9,slow=3.1,SNR=20
CKRC Cesky Krumlov 79.37 357 *eP* **P** **17 11 41.6 +0.5**
GRR Gorron 79.38 8 *eP* **P** **17 11 41.5 +0.4**
GRR pmax pmax
comp=Z,53nm,1.5s
VYHS Vyhne 79.50 354 *eP* **P** **17 11 43.0 +1.3**
VYHS pmax pmax
comp=Z,21nm,1.2s
VYHS Vyhne 79.50 354 *eP* **P** **17 11 43.0 +1.3**
SMOL Smolenice 79.55 355 *eP* **P** **17 11 43.9 +1.9**
SMOL pmax pmax
comp=Z,12nm,1.2s
SMOL Smolenice 79.55 355 *eP* **P** **17 11 43.9 +1.9**
TRPA Tarpa 79.58 352⇑ P **P** **17 11 42.5 +0.3**
QUIF Quistinic 79.64 9 *eP* **P** **17 11 43.0 +0.5**
QUIF pmax pmax
comp=Z,137nm,2.2s
KBL Kabul 79.70 314 P **P** **17 11 42.9 -0.5**
KBL pmax pmax
comp=Z,22nm,0.9s
KBL Kabul 79.70 314 P **P** **17 11 42.9 -0.5**
CDF Champ du Feu 79.79 2 *eP* **P** **17 11 44.1 +0.7**
CDF pmax pmax
comp=Z,22nm,1.3s
BURAR Bucovina Array 79.83 350⇓ P **P** **17 11 44.0 +0.3**
BURAR Bucovina Array 79.83 350⇓ P **P** **17 11 44.0 +0.3**
BURAR Bucovina Array 79.83 350 IAmb IAmb 17 11 46.2
comp=Z,6.9nm,0.9s
ZST Bratislava 79.89 356 *eP* **P** **17 11 46.0 +2.2**
ZST pmax pmax
comp=Z,88nm,1.2s
ZST Bratislava 79.89 356 *eP* **P** **17 11 46.0 +2.2**
BFO Black Forest 79.89 1 P **P** **17 11 44.7 +0.8**
BFO pmax pmax
comp=Z,23nm,1.4s
BFO Black Forest 79.89 1 P **P** **17 11 44.7 +0.8**
BFO IAmb IAmb 17 11 46.3
comp=Z,23nm,1.4s
BFO Black Forest 79.89 1 *eP* **P** **17 11 45.5 +1.6**
comp=Z,14nm,1.2s,baz=2.7,slow=5.6
PSZ Piszkesteto 80.00 354⇓ P **P** **17 11 45.8 +1.2**
PSZ Piszkesteto 80.00 354⇓ P **P** **17 11 45.8 +1.2**
PSZ Piszkesteto 80.00 354 IAmb IAmb 17 11 47.3
comp=Z,24nm,1.3s
HAU Haudompre 80.17 3 *eP* **P** **17 11 46.1 +0.7**
HAU pmax pmax
comp=Z,20nm,1.2s
CONA Conrad Observa 80.21 356 *i* P **P** **17 11 47.5 +1.8**
comp=Z,25nm,1.1s,SNR=10
KIV Kislovodsk 80.34 337⇑ P **P** **17 11 47.2 +0.7**
KIV Kislovodsk 80.34 337 *eP* **P** **17 11 44.1 -2.4**
KIV pmax pmax
comp=Z,26nm,1.1s
KIV Kislovodsk 80.34 337 P **P** **17 11 47.2 +0.7**
MOA Molln 80.34 357 *eP* **P** **17 11 47.7 +1.4**
comp=Z,7.8nm,1.0s
HINF Hinteralfeld 80.38 3 *eP* **P** **17 11 47.0 +0.5**
HINF pmax pmax
comp=Z,17nm,1.2s
BIZ Bicaz 80.40 349⇑ P **P** **17 11 47.8 +1.2**
RJOB Jochberg 80.48 358 *eP* **P** **17 11 48.6 +1.4**
comp=Z,26nm,1.0s,baz=2.7,slow=5.6
KBZ Khabaz 80.50 337 P **P** **17 11 47.5 +0.4**
comp=Z,11nm,0.9s,baz=131,slow=0.3,SNR=19
KBZ Khabaz 80.50 337 *ceP* **P** **17 11 49.0 +1.8**
UBR Ueberruh 80.56 0 *eP* **P** **17 11 49.2 +1.7**

comp=Z,9.6nm,1.1s,baz=2.7,slow=5.6
RETA Reutte 80.75 360 *i* P **P** **17 11 50.0 +1.4**
comp=Z,16nm,1.2s,SNR=5.5
LOR Lormes 80.81 5 *eP* **P** **17 11 49.5 +0.7**
LOR pmax pmax
comp=Z,24nm,1.2s
MOTA Moosalm 80.89 360 *i* P **P** **17 11 50.8 +1.3**
comp=Z,24nm,1.2s,SNR=7.6
DRGR 80.90 352⇓ P **P** **17 11 50.1 +0.7**
DRGR 80.90 352⇓ P **P** **17 11 50.1 +0.7**
ARSA Arzberg 80.90 357 *i* P **P** **17 11 51.3 +2.0**
comp=Z,16nm,1.1s,SNR=5.7
WATA Walderalm 80.90 359 *i* P **P** **17 11 51.2 +1.7**
comp=Z,22nm,1.1s,SNR=5.6
DAVA Damuels 80.95 0 *eP* **P** **17 11 52.3 +2.5**
comp=Z,7.6nm,1.0s
WTTA Wattenberg 80.97 359 *eP* **P** **17 11 51.2 +1.2**
comp=Z,18nm,0.9s,SNR=7.6
SSF Saint Saulge 81.00 5 *eP* **P** **17 11 50.6 +0.8**
SSF pmax pmax
comp=Z,27nm,1.1s
SQTA Sankt Quirin 81.02 360 *i* P **P** **17 11 51.7 +1.6**
comp=Z,25nm,1.1s,SNR=10
KBA Koelnbreinsper 81.13 358 *i* P **P** **17 11 53.0 +2.2**
comp=Z,54nm,1.2s,SNR=13
ZEI Tsey 81.14 336 *eP* **P** **17 11 50.8 -0.1**
ZEI pmax pmax
comp=Z,6.0nm,1.3s
GEYT Alibeck 81.18 324 P **P** **17 11 51.1 +0.1**
comp=Z,22nm,0.3s,baz=320,slow=4.4,SNR=15
GEYT LR LR 17 52 46.8
comp=Z,76nm,18.7s,baz=85,slow=39
GYA0B ALIBECK ARRAY 81.18 324 IAmb IAmb 17 11 53.1
comp=Z,23nm,1.1s
MFF Saint Martin d 81.21 7 *eP* **P** **17 11 51.8 +0.8**
MFF pmax pmax
comp=Z,44nm,1.3s
FETA Feichten 81.22 360 *i* P **P** **17 11 52.9 +1.7**
comp=Z,24nm,1.1s,SNR=10
AVF Avril sur Loir 81.26 5 *eP* **P** **17 11 50.7 -0.5**
AVF pmax pmax
comp=Z,16nm,1.1s
SOC Sochi 81.38 339 *ciP* **P** **17 11 51.5 -0.4**
SOC *e* 17 15 00.2
SOC *e*PPP PPP 17 16 47.2
SOC *e*S **S** **17 22 00.8 +0.5**
SOC *e*SSS SSS 17 30 43.1
SOC pmax pmax
comp=Z,8.0nm,0.6s
SOC MLR MLR
comp=Z,112nm,15.0s
SMF Signal de Mont 81.43 5 *eP* **P** **17 11 52.8 +0.6**
SMF pmax pmax
comp=Z,30nm,1.2s
ONI Oni 81.44 336 IAmb IAmb 17 12 09.2
comp=Z,11nm,1.1s
DAVOX Davos/Dischmat 81.46 0 P **P** **17 11 54.0 +1.5**
comp=Z,4.1nm,0.5s,baz=158,slow=19,SNR=8.1
BGF Bois d'Agland 81.46 5 *eP* **P** **17 11 53.0 +0.7**
BGF pmax pmax
comp=Z,43nm,1.4s
ABTA Abfaltersbach 81.48 359 *i* P **P** **17 11 54.4 +1.9**
comp=Z,24nm,1.2s,SNR=5.8
SOKA Soboth 81.49 357 *i* P **P** **17 11 53.9 +1.4**
comp=Z,34nm,1.1s,SNR=11
CABF La Chapelle 81.56 3 *eP* **P** **17 11 54.1 +1.2**
CABF pmax pmax
comp=Z,38nm,1.3s
MYKA Terra Mystica 81.58 358 *eP* **P** **17 11 54.7 +1.7**
comp=Z,16nm,1.5s
OBKA Obir 81.67 357 *eP* **P** **17 11 55.1 +1.5**
comp=Z,27nm,1.6s
TCF Toulx Ste Croi 81.69 6 *eP* **P** **17 11 54.1 +0.5**
TCF pmax pmax
comp=Z,31nm,1.6s
VOIR 82.00 350⇑ P **P** **17 11 58.3 +3.0**
VOIR 82.00 350⇑ P **P** **17 11 58.3 +3.0**
BZS Buzias 82.16 352⇓ P **P** **17 11 56.9 +0.9**
BZS Buzias 82.16 352⇓ P **P** **17 11 56.9 +0.9**
CTI Castel Tesino 82.19 359 IAmb IAmb 17 11 58.1
comp=Z,18nm,1.2s
GZR Gura Zlata 82.28 351⇓ P **P** **17 11 57.3 +0.6**
GZR Gura Zlata 82.28 351⇓ P **P** **17 11 57.3 +0.6**
AKH Akhalkalaki 82.53 336⇑ P **P** **17 11 59.7 +1.4**
RJF Les Rejaudoux 82.63 6 *eP* **P** **17 11 58.9 +0.4**
RJF pmax pmax
comp=Z,18nm,1.2s
LPL La Plagne 82.67 3 *eP* **P** **17 12 00.9 +1.9**
LPL pmax pmax
comp=Z,5.0nm,0.8s
LPG La Plagne 82.69 3 *eP* **P** **17 12 02.0 +2.9**
LPG pmax pmax
comp=Z,4.0nm,0.7s
HRA Herat 82.71 319 IAmb IAmb 17 12 01.2
comp=Z,16nm,1.1s
SSB Saint Sauveur 82.83 4 P **P** **17 12 00.8 +1.3**
SSB pmax pmax
comp=Z,16nm,1.3s
SSB Saint Sauveur 82.83 4 P **P** **17 12 00.8 +1.3**
SSB IAmb IAmb 17 12 16.1
comp=Z,16nm,1.3s
LFF La Frestale 82.93 7 *eP* **P** **17 12 01.0 +1.0**
LFF pmax pmax
comp=Z,20nm,1.1s
CAF Calviac 83.04 6 *eP* **P** **17 12 01.5 +0.8**
CAF pmax pmax
comp=Z,13nm,1.1s
BNI Bardonecchia 83.13 3 P **P** **17 12 04.1 +2.8**
ORIF Oris-en-Rattie 83.24 3 *eP* **P** **17 12 03.3 +1.5**
ORIF pmax pmax
comp=Z,9.0nm,1.0s
VIVF Saint-Julien-l 83.25 4 *eP* **P** **17 12 02.9 +1.2**
VIVF pmax pmax
comp=Z,8.0nm,1.0s
GNI Garni 83.39 334 P **P** **17 12 02.8 +0.1**
comp=Z,2.3nm,0.5s,baz=225,slow=3.3,SNR=5.7
GNI Garni 83.39 334⇓ *eP* **P** **17 12 04.8 +2.1**
GNI pmax pmax
comp=Z,14nm,1.7s
GNI Garni 83.39 334 P **P** **17 12 03.6 +0.9**
SURA Surathani 83.39 276 P P 17 12 10.1 +7.3
MBDF Montbardon 83.46 3 *eP* **P** **17 12 04.8 +1.8**
MBDF pmax pmax
comp=Z,11nm,0.8s
DIVS Divibare 83.80 353 IAmb IAmb 17 12 19.6
comp=Z,5.8nm,0.9s
KTUT Trabzon 83.84 338⇓ P **P** **17 12 05.9 +1.1**
SBF Sospel 84.34 2 *eP* **P** **17 12 08.1 +0.7**
SBF pmax pmax
comp=Z,21nm,0.8s
SJPF Ste Jean 84.58 9 *eP* **P** **17 12 09.6 +1.1**
SJPF pmax pmax
comp=Z,5.0nm,0.7s
MTLF Montolieu 84.63 6 *eP* **P** **17 12 09.8 +1.1**
MTLF pmax pmax
comp=Z,18nm,1.0s
EPF Esparros 84.80 7 *eP* **P** **17 12 09.9 +0.2**
EPF pmax pmax
comp=Z,24nm,1.4s
LMR La Mourre 84.84 3 *eP* **P** **17 12 10.9 +1.1**
LMR pmax pmax
comp=Z,18nm,1.0s
ETSF Etsaut 84.86 8 *eP* **P** **17 12 11.5 +1.5**
ETSF pmax pmax
comp=Z,13nm,0.8s
MURB Monte Urbino 84.96 359 P **P** **17 12 11.4 +0.9**
VTS Vitosha 84.98 351⇓ P **P** **17 12 11.3 +0.5**
VTS Vitosha 84.98 351⇓ P **P** **17 12 11.3 +0.5**
PDG Podgorica 85.51 354⇑ P **P** **17 12 13.9 +0.8**
GURO Guroymak-BITLI 85.60 336 IAmb IAmb 17 12 16.8
comp=Z,14nm,1.4s
PGF Pioggiola 85.68 1 *eP* **P** **17 12 15.0 +0.8**
PGF pmax pmax
comp=Z,39nm,1.1s
AQU L'Aquila 85.85 358 P **P** **17 12 16.0 +1.1**
AQU pmax pmax
comp=Z,24nm,0.9s
AQU L'Aquila 85.85 358 P **P** **17 12 16.0 +1.1**
BRTR Keskin Array B 86.33 342 P **P** **17 12 17.3 -0.2**
comp=Z,3.1nm,0.8s,baz=68,slow=1.8,SNR=7.1
BRTR Keskin Array B 86.33 342 *iP* **P** **17 12 20.2 +2.7**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
WRAB Tennant Creek 86.80 232⇑ *eP* **P** **17 12 19.1 -0.5**
WRAB pmax pmax

comp=Z,11nm,1.3s
WRAB Tennant Creek 86.80 232 P **P** **17 12 19.4 -0.3**
WRAB IAmb IAmb 17 12 21.8
comp=Z,7.2nm,0.9s
WRA Warramunga Arr 86.81 232 P **P** **17 12 17.7 -2.0**
comp=Z,5.3nm,0.8s,baz=34,slow=5.5,SNR=22
ESBB Sonseca Array 87.69 11 IAmb IAmb 17 12 37.6
comp=Z,7.2nm,0.9s
ESDC Sonseca Array 87.70 11 P **P** **17 12 22.9 -1.1**
comp=Z,4.8nm,0.9s,baz=347,slow=4.7,SNR=22
ESDC Sonseca Array 87.70 11 P **P** **17 12 24.5 +0.5**
ESDC IAmb IAmb 17 12 37.6
comp=Z,7.5nm,1.1s
PSI Prapat 88.80 273 P **P** **17 12 29.4 -0.2**
PSI pmax pmax
comp=Z,24nm,1.0s
PSI Prapat 88.80 273 P **P** **17 12 29.1 -0.5**
RPSI Rantau Prapat 88.88 273 P **P** **17 12 29.4 -0.4**
FITZ Fitzroy Crossi 89.68 273 P **P** **17 12 32.7 -0.6**
comp=Z,3.4nm,0.9s,baz=25,slow=8.3,SNR=6.3
AS31 Alice Springs 90.20 230 P **P** **17 12 35.5 -0.2**
ASAR Alice Springs 90.20 230 P **P** **17 12 35.6 -0.1**
comp=Z,8.4nm,0.8s,baz=31,slow=4.3,SNR=55
ASAR Alice Springs 90.20 230 P **P** **17 12 35.0 -0.7**
ASAR Alice Springs 90.20 230 P **P** **17 12 35.0 -0.7**
KARP Karpathos 91.48 346 P **P** **17 12 41.0 -0.7**
STKA Stephens Creek 93.98 220 P **P** **17 12 52.7 -0.2**
comp=Z,2.3nm,0.8s,baz=350,slow=5.5,SNR=3.8
KMBO Kilima Mbogo 124.46 327 PKP **PKPdf** **17 18 34.7 -0.3**
comp=Z,2.0nm,0.8s,baz=22,slow=5.5,SNR=3.7
BELA Belgrano 2 149.49 163 PKPdf **PKPbc** **17 19 20.9 -2.0**
MAW Mawson 150.65 218 PKIKP **PKPdf** **17 19 21.9 +1.6**
MAW Mawson 150.65 218 PKPdf **PKPdf** **17 19 21.9 +1.6**
MAW **pPKPdf** **17 19 30.9 +0.9**
BOSA Boshof 154.06 329 PKP **PKPdf** **17 19 25.8 -1.1**
comp=Z,2.7nm,0.8s,baz=162,slow=6.4,SNR=1.9
BOSA PKPbc **PKiKP** **17 19 35.6 +0.7**
comp=Z,3.4nm,0.8s,baz=283,slow=1.7,SNR=6.0

*HEL **10** 17:06:05.9±0.1, 67.07N×20.94E, h0km, ML2.0, ML2.2(UPP), Explosion*
*UPP **10** 17:06:05.1±0.1, 67.07N×20.91E, h0km, ML2.2, Explosion*
*IDC **10** 17:06:06.1±1.1, 67.08N×21.09E, h0km, mb1 2.7/4, mb1mx2.7/53, mbtmp2.7/4, ML1.9/4, Error ellipse: s-maj=19.0km s-min=8.9km az=104.0*
*BER **10** 17:06:07.3±1.5, 66.96N×21.29E, h0km, ML1.7, Suspected explosion*

ISC 10 17:06:04.9±0.8, **67.07N**±0.02×**20.87E**±0.03, **h0**km, **n45, σ0s97/63, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MASU	**Masugnsbyn**	**0.59**	**48**	P		**Pg**	**17 06 16.1**	**-0.1**
MASU				S		**Sg**	**17 06 23.8**	**0.0**
MASU	**Masugnsbyn**	**0.59**	**48**	*i* P		**Pg**	**17 06 16.1**	**-0.1**
MASU				*i* S		**Sg**	**17 06 23.8**	**0.0**
ERTU	**Ertsjaerv**	**0.73**	**134**	P		**Pg**	**17 06 18.7**	**-0.2**
ERTU				S		**Sg**	**17 06 28.4**	**0.0**
ERTU	**Ertsjaerv**	**0.73**	**134**	*e*P		**Pg**	**17 06 18.4**	**-0.5**
PAJU	**Pajala**	**0.88**	**92**	P		**Pg**	**17 06 21.2**	**-0.6**
PAJU				S		**Sg**	**17 06 33.2**	**+0.1**
PAJU	**Pajala**	**0.88**	**92**	*e*P		**Pg**	**17 06 20.9**	**-0.8**
PAJU				*e*S		**Sg**	**17 06 33.8**	**+0.7**
HARU	**Harads**	**0.91**	**177**	P		**Pg**	**17 06 22.1**	**-0.1**
HARU	**Harads**	**0.91**	**177**	*e*P		**Pg**	**17 06 22.1**	**-0.1**
RATU	**Laukkuluspa**	**0.91**	**328**	P		**Pg**	**17 06 22.2**	**-0.1**
RATU	**Laukkuluspa**	**0.91**	**328**	*e*P		**Pg**	**17 06 22.2**	**-0.1**
KUA	**Kurravaara**	**0.92**	**347**	P		**Pg**	**17 06 22.2**	**-0.3**
KUA	**Kurravaara**	**0.92**	**347**	*e*P		**Pg**	**17 06 22.2**	**-0.3**
LANU	**Lannavaara**	**1.08**	**23**	P		**Pg**	**17 06 24.8**	**-0.8**
LANU	**Lannavaara**	**1.08**	**23**	*e*P		**Pg**	**17 06 24.7**	**-0.8**
baz=205								
LANU				*e*SB		**Sb**	**17 06 40.3**	**-0.8**
KLF	**Kolari**	**1.22**	**81**	*e*P		**Pg**	**17 06 27.2**	**-1.0**
KLF				*e*SB		**Sg**	**17 06 43.8**	**-0.3**
SJUU	**Sjulsmark**	**1.59**	**169**	P		**Pn**	**17 06 34.4**	**+0.1**
SJUU	**Sjulsmark**	**1.59**	**169**	*e*P		**Pn**	**17 06 34.4**	**+0.1**
TOF	**Tornio**	**1.70**	**124**	*e*P		**Pn**	**17 06 35.7**	**0.0**
TOF				MSG			17 06 55.9	
comp=Z,15nm,0.2s								
TOF				*e*SG		**Sn**	**17 06 58.2**	**+0.1**
HEF	**Hetta**	**1.72**	**37**	*e*P		**Pn**	**17 06 35.8**	**-0.3**
baz=218								
HEF				MSG			17 06 57.1	
comp=Z,12nm,0.2s								
HEF				*e*SG		**Sn**	**17 06 58.0**	**-0.7**
KIF	**Kilpisjarvi**	**1.95**	**359**	*e*P		**Pb**	**17 06 40.9**	**-0.3**
KIF				*e*S		**Sg**	**17 07 07.5**	**+0.1**
KIF	**Kilpisjarvi**	**1.95**	**359**	*e*PB		**Pb**	**17 06 40.8**	**-0.4**
baz=180								
KIF				MSG			17 07 04.4	
comp=Z,20nm,0.2s								
KIF				*e*SG		**Sg**	**17 07 07.5**	**+0.1**
RNF	**Rovaniemi**	**2.08**	**100**	*e*PB		**Pn**	**17 06 41.9**	**+0.8**
RNF				*e*SG		**Sb**	**17 07 09.6**	**-0.3**
N2IH	**Innhavet**	**2.10**	**298**	*e*P		**Pb**	**17 06 43.8**	**-0.1**
N2IH				IAML			17 07 15.8	
comp=Z,10nm,0.2s								
KTK1	**Kautokeino**	**2.15**	**23**	*e*P		**Pb**	**17 06 43.8**	**-0.8**
KTK1				IAML			17 07 14.5	
comp=Z,5.9nm,0.3s								
FAUS	**Fauske**	**2.20**	**281**	*e*P		**Pb**	**17 06 45.0**	**-0.5**
FAUS				*e*S		**Sg**	**17 07 14.9**	**-0.5**
FAUS				IAML			17 07 18.9	
comp=Z,12nm,0.5s								
SGF	**Sodankyl**	**2.23**	**78**	*e*PB		**Pn**	**17 06 44.0**	**+1.0**
SGF				*e*SG		**Sb**	**17 07 13.8**	**-0.4**
N2TV	**Tvrnvik**	**2.29**	**285**	*e*P		**Pb**	**17 06 46.9**	**0.0**
STEI	**Steigen**	**2.33**	**294**	*e*P		**Pb**	**17 06 46.6**	**-1.2**
OUL	**Oulu**	**2.85**	**132**	*e*P		**Pn**	**17 06 53.1**	**+1.5**
OBF0	**Syolatti, Pyha**	**2.93**	**150**	*e*PB		**Pb**	**17 06 56.4**	**-1.5**
ARA0	**ARCESS Array S**	**3.02**	**33**	*e*P		**Pn**	**17 06 54.8**	**+0.8**
ARA0	**ARCESS Array S**	**3.02**	**33**	*e*P		**Pn**	**17 06 54.3**	**+0.4**
baz=214								
ARA0				*e*SB		**Sn**	**17 07 33.1**	**+2.4**
ARCES	**ARCESS Array B**	**3.02**	**33**	Pn		**Pn**	**17 06 54.4**	**+0.5**
baz=214,slow=14,SNR=34								
ARCES				Sn		**Sn**	**17 07 31.5**	**+0.7**
baz=214,slow=24,SNR=11								
KONS	**Konsvik**	**3.12**	**263**	*e*P		**Pb**	**17 06 58.3**	**-2.9**
OUF	**Merijarvi**	**3.14**	**148**	*e*P		**Pn**	**17 06 56.9**	**+1.3**
OUF				MSG			17 07 37.0	
comp=Z,1.7nm,0.2s								
VRF	**Varrio**	**3.44**	**75**	*e*P		**Pn**	**17 07 00.7**	**+0.9**
MSF	**Maaselka**	**3.47**	**106**	*e*P		**Pn**	**17 07 02.3**	**+2.1**
KEV	**Kevo**	**3.53**	**37**	*e*P		**Pn**	**17 07 01.0**	**+0.2**
KEV				*e*SG		**Sb**	**17 07 52.5**	**+1.2**
KU6	**Riekki**	**3.75**	**102**	*e*P		**Pn**	**17 07 06.4**	**+2.4**
HUSU	**Husum**	**3.81**	**191**	*e*P		**Pn**	**17 07 06.6**	**+1.9**
baz=7.0								
VAF	**Ylistaro**	**4.11**	**168**	*e*P		**Pn**	**17 07 10.5**	**+1.6**
HEMU	**Hemsoen**	**4.57**	**197**	*e*P		**Pn**	**17 07 17.1**	**+1.9**
FINES	**FINESS Array B**	**6.08**	**156**	Pn		**Pn**	**17 07 37.3**	**+1.3**
comp=Z,0.1nm,0.3s,baz=346,slow=17,SNR=7.3								
FINES				Sn		**Sn**	**17 08 46.4**	**+0.3**
comp=Z,0.2nm,0.3s,baz=346,slow=29,SNR=2.0								
FINES				Lg		Lg	17 09 15.8	
comp=Z,0.2nm,0.3s,baz=335,slow=26,SNR=1.8								
NOA	**NORSAR Array B**	**7.38**	**219**	Pn		**Pn**	**17 07 54.2**	**+0.5**
comp=Z,0.0nm,0.3s,baz=14,slow=10,SNR=1.1								
HFS	**Hagfors**	**7.65**	**208**	Pn		**Pn**	**17 07 57.6**	**+0.1**
comp=Z,0.1nm,0.3s,baz=23,slow=15,SNR=1.4								

*NEIC **10** 17:10:25.6±1.8, 15.54S×0.07×72.60W×0.09, h89km±6km, mb4.4/27, Error ellipse: s-maj=14.2km s-min=8.6km az=59.0*
*VAO **10** 17:10:25.8±0.4, 15.49S×72.58W, h93km, mb4.6*
*IDC **10** 17:10:26.9±1.3, 15.47S×72.70W, h109km±12km, mb4.2/8, mb1 4.2/14, mb1mx3.8/48, mbtmp4.6/14, MS2.9/2, Ms1 2.9/2, ms1mx2.6/31, Error ellipse: s-maj=14.9km s-min=9.7km az=40.0*

ISC 10 17:10:26.4±0.4, **15.61S**±0.05×**72.66W**±0.06, **h108**km, **n128, σ1s71/135, mb4.5/16, 6C, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AP01	**Chacalluta**	**3.53**	**141**	*e*P		**Pn**	**17 11 20.0**	**+0.6**
AP01				*e*S		**Sn**	**17 12 00.1**	**-0.3**
AP01	**Chacalluta**	**3.53**	**141**	Pn		**Pn**	**17 11 20.0**	**+0.6**
LPAZ	**La Paz**	**4.41**	**99**	P		**Pn**	**17 11 35.2**	**+3.4**
	15nm,0.3s,baz=278,slow=9.7,SNR=206							
LPAZ				S		**Sn**	**17 12 26.2**	**+3.7**
	2.4nm,0.3s,baz=39,slow=24,SNR=10							
LPAZ	**La Paz**	**4.41**	**99**	Pn		**Pn**	**17 11 35.0**	**+3.2**
LPAZ	**La Paz**	**4.41**	**99**	*e*P		**Pn**	**17 11 35.2**	**+3.4**
LPAZ				*e*S		**Sn**	**17 12 21.6**	**-0.9**
PSGC	**Pisagua**	**4.64**	**149**	*e*P		**Pn**	**17 11 33.7**	**-0.8**
PSGC				*e*S		**Sn**	**17 12 23.7**	**-3.7**
PSGCX	**Pisagua**	**4.64**	**149**	Pn		**Pn**	**17 11 34.0**	**-0.5**
PB11	**IPOC Station P**	**5.02**	**146**	*e*P		**Pn**	**17 11 39.0**	**-0.7**
PB11				*e*S		**Sn**	**17 12 33.1**	**-3.6**
PB11	**IPOC Station P**	**5.02**	**146**	Pn		**Pn**	**17 11 38.9**	**-0.8**
TA02	**Huaiquique**	**5.22**	**153**	Pn		**Pn**	**17 11 41.8**	**-0.4**
HMBC	**Humberstone**	**5.34**	**151**	*e*P		**Pn**	**17 11 43.0**	**-0.9**
HMBC				*e*S		**Sn**	**17 12 40.7**	**-3.6**
NNA	**Nana**	**5.43**	**311**	P		**Pn**	**17 11 43.9**	**-1.2**
51nm,0.3s,baz=129,slow=14,SNR=44								
NNA				S		**Sn**	**17 12 43.3**	**-3.1**
48nm,0.3s,baz=27,slow=11,SNR=8.5								
NNA				LR		LR	17 13 31.4	
comp=Z,110nm,21.2s,baz=180,slow=35								
NNA	**Nana**	**5.43**	**311**	Pn		**Pn**	**17 11 44.4**	**-0.7**
TA01	**Diego Aracena**	**5.46**	**155**	*e*P		**Pn**	**17 11 44.6**	**-0.8**
TA01				*e*S		Sn	17 12 40.8	-6.2
TA01	**Diego Aracena**	**5.46**	**155**	Pn		**Pn**	**17 11 44.7**	**-0.8**
PB08	**IPOC Station P**	**5.61**	**144**	*i*P		**Pn**	**17 11 47.8**	**0.0**
PB08				*e*S		**Sn**	**17 12 47.3**	**-3.9**
PB08	**IPOC Station P**	**5.61**	**144**	Pn		**Pn**	**17 11 47.6**	**-0.2**
PB07	**IPOC Station P**	**6.63**	**157**	Pn		**Pn**	**17 12 00.8**	**-0.6**
PB09	**IPOC Station P**	**6.95**	**153**	Pn		**Pn**	**17 12 04.4**	**-1.5**
PB04	**IPOC Station P**	**7.09**	**161**			**Pn**	**17 12 06.4**	**-1.4**
PB06	**IPOC Station P**	**7.63**	**158**			**Pn**	**17 12 13.7**	**-1.4**
LVC	**Limon Verde**	**7.81**	**154**	P		**Pn**	**17 12 18.1**	**+0.5**
24nm,0.3s,baz=330,slow=9.8,SNR=76								
LVC				S		**Sn**	**17 13 42.4**	**-2.3**
16nm,0.3s,baz=188,slow=18,SNR=19								
LVC	**Limon Verde**	**7.81**	**154**	Pn		**Pn**	**17 12 17.6**	**-0.1**
LVC	**Limon Verde**	**7.81**	**154**	*e*P		**Pn**	**17 12 17.9**	**+0.2**
CZSB	**Cruzeiro do Su**	**7.83**	**360**	*e*P		**Pn**	**17 12 14.9**	**-2.8**
PB10	**IPOC Station P**	**8.11**	**166**	Pn		**Pn**	**17 12 19.6**	**-1.7**
PB15	**IPOC Station P**	**8.13**	**159**			**Pn**	**17 12 20.4**	**-1.5**
AF01	**San Pedro de A**	**8.44**	**151**	Pn		Pn	17 12 23.2	-2.9
ETMB	**Extrema**	**8.53**	**48**	*e*P		**Pn**	**17 12 25.6**	**-1.5**
PB14	**IPOC Station P**	**9.21**	**167**			**Pn**	**17 12 34.3**	**-2.3**
ATAH	**Atahualpa**	**10.12**	**326**	P		**Pn**	**17 12 48.3**	**-0.9**
1.3nm,0.3s,baz=133,slow=15,SNR=6.0								
ATAH				S		**Sn**	**17 14 38.2**	**-2.9**
0.7nm,0.3s,baz=75,slow=19,SNR=1.6								
SIV	**San Ignacio**	**11.16**	**93**	P		**Pn**	**17 13 01.5**	**-1.4**
2.0nm,0.3s,baz=275,slow=13,SNR=22								
SAML	**Samuel**	**11.38**	**56**	Pn		**Pn**	**17 13 02.1**	**-3.7**
SAML	**Samuel**	**11.38**	**56**	*e*P		**Pn**	**17 13 02.5**	**-3.3**
AC02	**Maricunga**	**11.64**	**164**	Pn		**Pn**	**17 13 12.0**	**+2.4**
TBTG	**Tabatinga, AM**	**11.67**	**14**	*e*P		**Pn**	**17 13 06.3**	**-3.4**
VILB	**Vilhena**	**12.37**	**79**	*e*P		**Pn**	**17 13 16.6**	**-2.2**
PTLB	**Pontes e Lacer**	**13.04**	**91**	*e*P		**Pn**	**17 13 25.3**	**-2.3**
ZON	**Zonda**	**16.27**	**168**	Pn		**Pn**	**17 14 05.1**	**-3.6**
OTAV	**Otavalo**	**16.75**	**340**	*e*P		**Pn**	**17 14 13.8**	**-1.3**
AQDB	**Aquidauana**	**16.84**	**109**			**Pn**	**17 14 14.3**	**-1.4**
AQDB					IAmb	IAmb	17 14 16.1	
comp=Z,24nm,1.1s								
AQDB	**Aquidauana**	**16.84**	**109**	*e*P		**Pn**	**17 14 15.4**	**-0.3**
CLDB	**Colider**	**17.08**	**76**	*e*P		**Pn**	**17 14 17.9**	**-0.8**
MACA	**Manacapuru-AM**	**17.09**	**45**	*e*P		**P**	**17 14 18.3**	**-0.6**
PP1B	**Ponte de Pedra**	**17.16**	**99**	*e*P		**Pn**	**17 14 19.1**	**-0.6**
CPUP	**Villa Florida**	**17.83**	**129**	P		**P**	**17 14 27.0**	**+0.1**
comp=Z,0.4nm,0.3s,baz=298,slow=9.3,SNR=8.2								
CPUP	**Villa Florida**	**17.83**	**129**			**P**	**17 14 27.0**	**+0.1**
CPUP	**Villa Florida**	**17.83**	**129**	*e*P		**P**	**17 14 27.3**	**+0.4**
PCON	**Cinco Dias**	**18.20**	**348**	*e*P		Pn	17 14 42.0	+9.3
NPGB	**Novo Progresso**	**18.97**	**65**	*e*P		**P**	**17 14 39.2**	**-0.3**
PTGA	**Pitinga**	**19.38**	**41**	P		**P**	**17 14 43.7**	**-0.3**
comp=Z,2.1nm,0.3s,baz=214,slow=12,SNR=20								
PTGA				LR		LR	17 23 06.6	
comp=Z,46nm,20.0s,baz=119,slow=39								
PTGA	**Pitinga**	**19.38**	**41**	P		**P**	**17 14 43.6**	**-0.3**
PTGA					IAmb	IAmb	17 15 03.6	
comp=Z,15nm,0.7s								
ORTC	**Ortega, Tolima**	**19.57**	**352**	*e*P		**Pn**	**17 14 48.3**	**0.0**
ITTB	**Itaituba**	**20.05**	**58**	*e*P		**P**	**17 14 50.6**	**-0.5**
ARAG	**Araguaiana, MT**	**20.08**	**93**	*e*P		**P**	**17 14 51.8**	**+0.3**
TRCB	**Terra Rica**	**20.21**	**114**	P		**P**	**17 14 52.0**	**-0.9**
TOLC	**Tolima**	**20.24**	**352**	*e*P		Pn	17 14 58.2	+1.8
ITQB	**Itaqui**	**20.33**	**136**	P		**P**	**17 14 53.4**	**-0.7**
ITQB	**Itaqui**	**20.33**	**136**	*e*P		**P**	**17 14 55.8**	**+1.7**
GUY2C	**Guyana, Caldas**	**20.88**	**352**	*e*P		Pn	17 15 04.0	-0.1
SNDB	**Serra Nova Dou**	**21.06**	**83**	*e*P		**P**	**17 15 00.8**	**-1.3**
PCMB	**Pacaembu**	**21.13**	**110**	*e*P		**P**	**17 15 02.4**	**-0.4**
PTGB	**Pitanga**	**21.33**	**118**	*e*P		**P**	**17 15 06.5**	**+1.5**
BOAV	**Boa Vista**	**21.55**	**35**	*e*P		**P**	**17 15 07.1**	**-0.1**
ITRB	**Iturama**	**21.63**	**104**	*e*P		**P**	**17 15 07.8**	**-0.3**
DBBC	**Dabeiba**	**22.76**	**351**	*e*P		**P**	**17 15 22.9**	**+3.0**
PAMC	**Pamplona, Colo**	**22.80**	**360**	*e*P		**P**	**17 15 15.0**	**-5.8**
CPSB	**Cacapava Do Su**	**22.96**	**133**	*e*P		**P**	**17 15 21.5**	**-0.2**
FRTB	**Fartura**	**23.07**	**113**	*e*P		**P**	**17 15 23.3**	**+0.4**
LC01	**Cunco**	**23.21**	**178**	P		**P**	**17 15 23.0**	**-0.8**
IPMB	**Ipameri, GO**	**23.52**	**99**	*e*P		**P**	**17 15 26.4**	**-0.7**
BB19B	**Bebedouro**	**23.53**	**107**	*e*P		**P**	**17 15 26.4**	**-0.7**
PLTB	**Pedras Altas**	**23.67**	**136**	P		**P**	**17 15 28.3**	**+0.1**
PLTB	**Pedras Altas**	**23.67**	**136**	*e*P		**P**	**17 15 29.1**	**+0.9**
BDFB	**Brasilia**	**23.74**	**93**	P		**P**	**17 15 28.7**	**-0.4**
comp=Z,1.9nm,0.3s,baz=254,slow=12,SNR=3.8								
BDFB	**Brasilia**	**23.74**	**93**	P		**P**	**17 15 28.2**	**-0.8**
PEXB	**Peixe**	**23.90**	**85**	*e*P		**P**	**17 15 29.8**	**-0.7**
TRQA	**Tornquist**	**24.27**	**159**	P		**P**	**17 15 32.2**	**-1.3**
TRQA					IAmb	IAmb	17 15 50.2	
comp=Z,26nm,1.5s								
TRQA	**Tornquist**	**24.27**	**159**	*e*P		**P**	**17 15 35.1**	**+1.6**
CNLB	**Canela**	**24.28**	**128**	*e*P		**P**	**17 15 33.8**	**0.0**
PRPB	**Paraupebas**	**24.29**	**70**	*e*P		**P**	**17 15 33.8**	**-0.2**
SMLC	**San Martn de**	**24.30**	**357**	*e*P		**P**	**17 15 32.8**	**-1.1**
SDV	**Santo Domingo**	**24.42**	**5**	P		**P**	**17 15 35.8**	**+0.5**
comp=Z,1.8nm,0.3s,baz=14,slow=12,SNR=1.4								
SDV	**Santo Domingo**	**24.42**	**5**	P		**P**	**17 15 35.2**	**-0.1**
SDV					IAmb	IAmb	17 15 44.8	
comp=Z,14nm,1.1s								
RCLB	**Rio Claro- Sao**	**24.68**	**110**	*e*P		**P**	**17 15 38.2**	**+0.7**
SPB	**Sao Paulo**	**25.03**	**112**	P		**P**	**17 15 40.5**	**-0.1**
SPB					IAmb	IAmb	17 15 43.4	
comp=Z,23nm,1.1s								
SPB	**Sao Paulo**	**25.03**	**112**	*e*P		**P**	**17 15 42.1**	**+1.5**
PLCA	**Paso Flores**	**25.10**	**176**	P		**P**	**17 15 42.9**	**+1.8**
comp=Z,3.7nm,0.9s,baz=359,slow=14,SNR=3.7								
PLCA	**Paso Flores**	**25.10**	**176**	P		**P**	**17 15 43.3**	**+2.2**
PLCA					IAmb	IAmb	17 15 53.7	
comp=Z,14nm,1.5s								
PLCA	**Paso Flores**	**25.10**	**176**	*e*P		**P**	**17 15 43.1**	**+2.0**
TER01	**Tubaro-SC**	**25.26**	**125**	*e*P		**P**	**17 15 44.2**	**+1.6**
MCPB	**Macapa, AP**	**25.37**	**55**	*e*P		**P**	**17 15 44.4**	**+0.7**
BSCB	**Bom Sucesso**	**26.99**	**106**	*e*P		**P**	**17 15 58.6**	**+0.1**
JANB	**Januaria**	**27.34**	**93**	*e*P		**P**	**17 16 01.4**	**-0.2**
CVTR	**Volcan Turrial**	**27.74**	**336**	P		**P**	**17 16 05.8**	**+0.3**
CVTR					IAmb	IAmb	17 16 10.5	
comp=Z,15nm,0.6s								
DIAM	**Diamantina, MG**	**27.85**	**100**	*e*P		**P**	**17 16 06.4**	**+0.2**
DUB01	**Friburgo-RJ**	**29.34**	**107**	*e*P		**P**	**17 16 19.6**	**+0.3**
NAN01	**Guarapari, ES**	**31.22**	**99**	*e*P		**P**	**17 16 36.4**	**+0.6**
GUA01	**Guaratinga, BA**	**31.57**	**96**	*e*P		**P**	**17 16 39.1**	**+0.2**
NBPN	**Ponto Novo - B**	**31.93**	**85**	*e*P		**P**	**17 16 40.9**	**-1.3**
NBPB	**Pedra_Branca-C**	**33.97**	**76**	*e*P		**P**	**17 16 60.0**	**0.0**
USHA	**Ushuaia**	**39.27**	**176**	P		**P**	**17 17 46.0**	**+1.7**
comp=Z,39nm,0.5s,baz=63,slow=0.5,SNR=6.7								
Y52A	**Lilburn**	**50.39**	**348**	P		**P**	**17 19 14.3**	**+1.6**
Y52A					IAmb	IAmb	17 19 27.1	
comp=Z,12nm,1.4s								
TXAR	**Lajitas Array**	**53.79**	**326**	pP		pP	17 20 07.6	+2.3
comp=Z,0.4nm,0.6s,baz=153,slow=8.1,SNR=5.4								
ABTX	**Abilene, Hawle**	**54.47**	**332**	P		**P**	**17 19 43.7**	**+0.7**
WMOK	**Wichita Mounta**	**55.89**	**334**	P		**P**	**17 19 56.4**	**+3.3**
WMOK						**pP**	**17 20 20.8**	**+0.5**
WMOK					IAmb	IAmb	17 20 23.9	
comp=Z,5.4nm,0.9s								
SDCO	**Great Sand Dun**	**61.40**	**331**	P		**P**	**17 20 32.8**	**+1.2**
SDCO				sP		**pP**	**17 21 03.8**	**+4.9**
VNA3	**Neumayer Olymp**	**66.76**	**162**	P		**P**	**17 21 07.2**	**+1.4**
VNA1	**Neumayer--Stat**	**66.99**	**161**	P		**P**	**17 21 08.9**	**+1.7**
VNA2	**Neumayer--Watz**	**67.35**	**161**	P		**P**	**17 21 10.9**	**+1.4**
baz=284,slow=6.8								
SNAA	**Sanae**	**68.97**	**161**	P		**P**	**17 21 21.0**	**+1.2**
SNAA	**Sanae**	**68.97**	**161**	P		**P**	**17 21 21.0**	**+1.2**
comp=Z,4.9nm,0.6s,baz=274,slow=7.0,SNR=13								
SNAA	**Sanae**	**68.97**	**161**	P		**P**	**17 21 20.9**	**+1.2**
SNAA					IAmb	IAmb	17 21 21.9	
comp=Z,5.9nm,0.7s								
DBIC	**Dimbokro**	**70.69**	**77**	P		**P**	**17 21 30.2**	**-0.9**
comp=Z,5.3nm,0.6s,baz=257,slow=4.7,SNR=8.1								
WVOR	**Wild Horse Val**	**71.58**	**326**	P		**P**	**17 21 37.1**	**+1.0**
WVOR					IAmb	IAmb	17 21 40.2	
comp=Z,3.8nm,0.9s								
KOWA	**Kowa**	**74.14**	**70**	P		**P**	**17 21 51.1**	**-0.5**
KOWA					IAmb	IAmb	17 22 05.8	
comp=Z,7.5nm,1.3s								
QSPA	**South Pole Qui**	**74.54**	**180**	P		**P**	**17 21 55.0**	**+1.8**
QSPA	**South Pole Qui**	**74.54**	**180**	P		**P**	**17 21 55.1**	**+1.8**
TORD	**Torodi Ar. Bea**	**78.89**	**73**	P		**P**	**17 22 17.7**	**-0.7**
comp=Z,7.1nm,0.7s,baz=260,slow=5.2,SNR=30								
TORD	**Torodi Ar. Bea**	**78.89**	**73**	P		**P**	**17 22 17.8**	**-0.7**
TORD					IAmb	IAmb	17 22 18.6	
comp=Z,5.5nm,0.8s								
ESDC	**Sonseca Array**	**84.26**	**46**	P		**P**	**17 22 46.6**	**+0.4**
comp=Z,2.2nm,0.8s,baz=256,slow=5.5,SNR=15								
ESDC	**Sonseca Array**	**84.26**	**46**	P		**P**	**17 22 47.1**	**+0.8**
ESDC					IAmb	IAmb	17 22 48.1	
comp=Z,3.7nm,1.1s								
TSUM	**Tsumeb**	**85.21**	**108**	P		**P**	**17 22 52.9**	**+1.3**
ASAR	**Alice Springs**	**133.11**	**214**	PKP		**PKPdf**	**17 29 30.7**	**+0.5**
comp=Z,0.4nm,0.9s,baz=152,slow=2.7,SNR=1.7								
WRA	**Warramunga Arr**	**135.81**	**218**	PKP		**PKPdf**	**17 29 36.1**	**+0.7**
comp=Z,0.7nm,0.8s,baz=149,slow=1.9,SNR=7.2								
ZALV	**Zalesovo Beam**	**137.89**	**20**	PKP		**PKPdf**	**17 29 37.1**	**-1.0**
comp=Z,1.6nm,0.6s,baz=289,slow=1.4,SNR=6.6								
SONM	**Songino Array**	**147.86**	**1**	PKPbc		**PKPbc**	**17 29 60.0**	**+0.9**
comp=Z,1.5nm,0.6s,baz=328,slow=1.4,SNR=8.9								
CMAR	**Chiang Mai Arr**	**171.49**	**69**	PKPab		**PKPab**	**17 31 44.6**	**+0.1**
comp=Z,0.5nm,0.3s,baz=290,slow=5.4,SNR=4.5								

*NEIC **10** 17:10:47.1±1.7, 58.75S×0.12×24.22W×0.10, h10km±1km, mb4.8/28, Error ellipse: s-maj=23.6km s-min=6.6km az=16.0*
*IDC **10** 17:10:50.3±0.6, 59.26S×25.73W, h0km, mb4.5/10, mb1 4.6/12, mb1mx4.3/30, mbtmp4.5/12, ML4.5/2, MS3.8/8, Ms1 3.8/8, ms1mx3.6/19, Error ellipse: s-maj=22.5km s-min=17.7km az=69.0*

ISC 10 17:10:51.1±0.6, **59.0S**±0.1×**25.3W**±0.1, **h18**km, **n70, σ1s24/57, mb4.7/19, MS3.8/7, 1C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op

	comp=Z,0.2nm,0.4s,baz=106,slow=5.1,SNR=2.0							
CMAR	**Chiang Mai Arr**	**123.03**	**111**	PKP		**PKiKP**	**17 29 48.2**	**+2.0**
	comp=Z,0.8nm,0.6s,baz=240,slow=4.2,SNR=5.6							
NOA	**NORSAR Array B**	**123.05**	**20**	PKP		**PKiKP**	**17 29 47.0**	**+2.0**
	comp=Z,0.4nm,0.7s,baz=200,slow=1.4,SNR=2.5							
NVAR	**Mina Array Bea**	**123.47**	**290**	PKP		**PKiKP**	**17 29 49.6**	**+2.8**
	comp=Z,0.2nm,0.5s,baz=131,slow=2.5,SNR=1.8							
NVAR	**Mina Array Bea**	**123.47**	**290**	PKP		**PKiKP**	**17 29 46.3**	**-0.6**
FINES	**FINESS Array B**	**126.54**	**28**	PKP		**PKiKP**	**17 29 53.9**	**+2.0**
	comp=Z,0.5nm,0.5s,baz=146,slow=3.7,SNR=3.9							
ABKAR	**Akbulak array**	**128.19**	**56**			**PKiKP**	**17 29 55.4**	**-0.1**
ARCES	**ARCESS Array B**	**133.33**	**22**	PKP		**PKiKP**	**17 30 07.0**	**+1.7**
	comp=Z,0.8nm,0.5s,baz=220,slow=2.4,SNR=8.0							
ZALV	**Zalesovo Beam**	**142.68**	**66**	PKP		**PKiKP**	**17 30 25.4**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=235,slow=5.1,SNR=2.6							
INK	**Inuvik**	**148.75**	**317**	PKPbc		**PKiKP**	**17 30 36.4**	**-0.4**
	comp=Z,2.9nm,0.6s,baz=40,slow=1.5,SNR=6.0							
INK	**Inuvik**	**148.75**	**317**	PKPdf		**PKPdf**	**17 30 29.2**	**-2.4**
SONM	**Songino Array**	**149.77**	**90**	PKPbc		**PKPab**	**17 30 41.1**	**-3.2**
	comp=Z,1.7nm,0.4s,baz=226,slow=2.7,SNR=9.5							
SONM	**Songino Array**	**149.77**	**90**	PKPdf		**PKPdf**	**17 30 32.0**	**-2.1**
BCAR	**Beaver Creek A**	**150.14**	**305**			**PKPbc**	**17 30 38.3**	**-0.9**
K27K	**Chicken**	**150.61**	**307**			**PKiKP**	**17 30 40.4**	**-0.5**
DOT	**Dot Lake**	**151.31**	**305**			**PKiKP**	**17 30 42.2**	**-0.1**
ILAR	**Eielson Array**	**152.82**	**307**	PKPbc		**PKiKP**	**17 30 46.2**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=128,slow=1.0,SNR=8.1							
ILAR	**Eielson Array**	**152.82**	**307**			**PKPbc**	**17 30 44.1**	**-1.1**

*TRN **10** 17:20:00.3, 13.7°77N×58.4°46W, h71km, MD3.8*
ISC 10 17:20:00.2±3.2, 13°85N±0.0°06×58°5W±0.2°, h10km, n29, σ1°90/43, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBGH	**Gun Hill**	**1.21**	**235**	*e*P	**Pn**	**17 20 23.6**	**+0.4**
BBGH				*e*S	**Sb**	**17 20 39.7**	**+0.8**
MPOM	**Morne Pois Mar**	**2.32**	**285**	*e*P	**Pn**	**17 20 38.0**	**-0.5**
MPOM				*e*S	**Sn**	**17 21 06.3**	**-0.9**
MCLT	**Moule a Chique**	**2.33**	**267**	*e*P	**Pn**	**17 20 40.2**	**+1.5**
MCLT				*e*S	**Sn**	**17 21 08.5**	**+1.1**
SLBI	**Saint Lucia, B**	**2.37**	**275**	*e*P	**Pn**	**17 20 40.3**	**+1.1**
SLBI				*e*S	**Sn**	**17 21 07.0**	**-1.2**
SLB	**Belfond**	**2.42**	**270**	*e*S	**Sn**	**17 21 09.5**	**-0.3**
ILAM	**Ilet Lapin Mar**	**2.44**	**293**	*e*P	**Pn**	**17 20 40.4**	**+0.2**
ILAM				*e*S	**Sn**	**17 21 10.6**	**+0.5**
LPMF	**Morne Lapointe**	**2.46**	**287**	*e*P	**Pn**	**17 20 40.2**	**-0.3**
ZAM	**Aeronautique**	**2.52**	**287**	*e*P	**Pn**	**17 20 41.0**	**-0.2**
BIM	**Bigot**	**2.54**	**286**	*e*S	**Sn**	**17 21 11.3**	**-1.4**
SSV	**Crater Summit**	**2.63**	**259**	*e*S	**Sn**	**17 21 14.7**	**-0.2**
SVV	**Soufriere Volc**	**2.65**	**259**	*e*S	**Sn**	**17 21 14.0**	**-1.3**
FDF	**Fort de France**	**2.68**	**290**	*e*P	**Pn**	**17 20 43.6**	**+0.2**
FDF				*e*S	**Sn**	**17 21 15.2**	**-0.8**
SVB	**Belmont**	**2.69**	**258**	*e*P	**Pn**	**17 20 44.1**	**+0.4**
SVB				*e*S	**Sn**	**17 21 14.8**	**-1.6**
BAMF	**Morne Balai**	**2.70**	**291**	*e*P	**Pn**	**17 20 44.8**	**+1.0**
CXM	**Morne La Croix**	**2.72**	**291**	*e*P	**Pn**	**17 20 45.5**	**+1.4**
SVN	**Savane Anatole**	**2.73**	**292**	*e*P	**Pn**	**17 20 45.0**	**+0.8**
PCM	**Pelee Case Pet**	**2.76**	**291**	*e*P	**Pn**	**17 20 45.4**	**+0.8**
DLPL	**La Plaine**	**3.00**	**300**	*e*S	**Sn**	**17 21 24.4**	**+0.3**
GCMP	**Grenada, Carri**	**3.12**	**245**	*e*P	**Pn**	**17 20 49.5**	**0.0**
GCMP				*e*S	**Sn**	**17 21 24.8**	**-2.0**
DSLB	**Salisbury**	**3.20**	**300**	*e*P	**Pn**	**17 20 51.2**	**+0.5**
DSLB				*e*S	**Sn**	**17 21 27.8**	**-1.1**
MDCT	**Cottage Hill,**	**3.33**	**302**	*e*S	**Sn**	**17 21 31.2**	**-0.8**
MAGL	**Barre de l'ile**	**3.37**	**309**	*e*P	**Pn**	**17 20 54.0**	**+1.0**
MAGL				*e*S	**Sn**	**17 21 33.2**	**0.0**
TDBA	**Terre de Bas,**	**3.59**	**304**	*e*P	**Pn**	**17 20 56.8**	**+0.7**
TDBA				*e*S	**Sn**	**17 21 38.8**	**+0.2**
TBG	**Guadaloupe-3**	**3.60**	**304**	*e*P	**Pn**	**17 20 56.2**	**0.0**
TBG				*e*S	**Sn**	**17 21 38.8**	**0.0**
CBE	**Ff, Capester**	**3.69**	**307**	*e*P	**Pn**	**17 20 58.5**	**+1.0**
CBE				*e*S	**Sn**	**17 21 40.4**	**-0.8**
ABD	**La Joyeuse, An**	**3.86**	**313**	*e*P	**Pn**	**17 21 00.6**	**+0.9**
ABD				*e*S	**Sn**	**17 21 44.0**	**-1.2**
ANBD	**Bethesda, Anti**	**4.45**	**316**	*e*P	**Pn**	**17 21 08.4**	**+0.6**
ANBD	**Bethesda, Anti**	**4.45**	**316**	*e*S	**Sn**	**17 21 57.8**	**-1.9**
ANWB	**Willy Bob**	**4.92**	**321**	*e*S	**Sn**	**17 22 09.0**	**-2.2**

*IDC **10** 17:30:57.4±0.7, 55°.97S×26°.53W, h0km, mb4.3/9, mb1 4.4/10, mb1mx4.2/23, mbtmp4.3/10, ML3.7/1, MS3.6/8, Ms1 3.6/8, ms1mx3.4/19, Error ellipse: s-maj=24.1km s-min=17.3km az=71.0*
*NEIC **10** 17:31:03.2±1.2, 56°.0S±0°.1×26°.63W±0°.08, h42km±6km, mb4.6/26, Error ellipse: s-maj=17.5km s-min=5.6km az=193.0*
ISC 10 17:31:02.5±0.6, 55°.99S±0°.09×26°.62W±0°.09, h35km, n51, σ0°80/42, mb4.5/16, MS3.5/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.91**	**283**	Pn	**Pn**	**17 32 27.9**	**+0.4**
VNA1	**Neumayer--Stat**	**16.73**	**159**	P	**P**	**17 34 57.3**	**+1.5**
VNA3	**Neumayer Olymp**	**16.94**	**161**	P	**P**	**17 34 58.9**	**+0.8**
VNA2	**Neumayer--Watz**	**17.13**	**158**	P	**P**	**17 35 00.7**	**+0.5**
	baz=316,slow=14						
VNA2	**Neumayer--Watz**	**17.13**	**158**	PcP	**PcP**	**17 39 41.9**	**+0.5**
SNAA	**Sanae**	**18.67**	**157**	P	**P**	**17 35 17.9**	**+0.7**
SNAA	**Sanae**	**18.67**	**157**	PcP	**PcP**	**17 39 44.1**	**+0.1**
SNAA	**Sanae**	**18.67**	**157**	P	**P**	**17 35 16.3**	**-0.8**
	0.3nm,0.3s,baz=274,slow=11,SNR=14						
SNAA				LR	LR	17 40 46.7	
	comp=Z,142nm,21.0s,baz=294,slow=32						
SNAA	**Sanae**	**18.67**	**157**	P	**P**	**17 35 17.3**	**+0.1**
PMSA	**Palmer Station**	**20.18**	**229**	P	**P**	**17 35 35.2**	**+1.6**
	11nm,0.7s,baz=63,slow=5.3,SNR=12						
PMSA				S	**S**	**17 39 16.5**	**-1.3**
	2.7nm,0.6s,baz=314,slow=20,SNR=6.3						
PMSA				LR	LR	17 42 14.2	
	comp=Z,215nm,18.6s,baz=12,slow=33						
PMSA	**Palmer Station**	**20.18**	**229**	P	**P**	**17 35 34.9**	**+1.3**
BELA	**Belgrano 2**	**22.16**	**184**	P	**P**	**17 35 52.9**	**-2.0**
BELA				IAmb	IAmb	17 35 58.2	
	comp=Z,15nm,0.7s						
PLCA	**Paso Flores**	**32.30**	**279**	LR	LR	17 51 00.6	
	comp=Z,90nm,18.2s,baz=164,slow=37						
QSPA	**South Pole Qui**	**34.26**	**180**	P	**P**	**17 37 44.8**	**-0.1**
	comp=Z,4.7nm,0.6s,baz=209,slow=2.4,SNR=36						
QSPA	**South Pole Qui**	**34.26**	**180**	P	**P**	**17 37 44.5**	**-0.4**
CPUP	**Villa Florida**	**37.01**	**310**	P	**P**	**17 38 08.5**	**-0.2**
	comp=Z,3.1nm,0.7s,baz=157,slow=8.6,SNR=6.5						
CPUP				LR	LR	17 51 24.2	
	comp=Z,47nm,20.7s,baz=208,slow=33						
CPUP	**Villa Florida**	**37.01**	**310**	P	**P**	**17 38 08.3**	**-0.3**
CPUP				IAmb	IAmb	17 38 09.5	
	comp=Z,8.8nm,1.1s						
ZON	**Zonda**	**38.11**	**292**	P	**P**	**17 38 17.2**	**-0.7**
ZON				IAmb	IAmb	17 38 19.2	
	comp=Z,6.2nm,0.7s						
VA01	**Torpederas**	**38.52**	**287**	P	**P**	**17 38 22.5**	**+1.2**
MAW	**Mawson**	**40.01**	**143**	P	**P**	**17 38 33.5**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=234,slow=7.0,SNR=6.4						
MAW				LR	LR	17 52 55.9	
	comp=Z,69nm,21.3s,baz=242,slow=33						
MAW	**Mawson**	**40.01**	**143**	IAmb	IAmb	17 38 41.2	
	comp=Z,3.4nm,1.4s						
AQDB	**Aquidauana**	**41.57**	**317**	P	**P**	**17 38 46.0**	**-0.8**
AQDB				IAmb	IAmb	17 38 57.7	
	comp=Z,12nm,1.3s						
GO03	**Copiap**	**42.08**	**294**	P	**P**	**17 38 50.3**	**-0.6**
GO03				IAmb	IAmb	17 38 50.8	
	comp=Z,12nm,0.8s						
AC02	**Maricunga**	**42.13**	**296**	P	**P**	**17 38 52.2**	**+0.3**
AC02				IAmb	IAmb	17 38 53.4	
	comp=Z,15nm,0.8s						
BDFB	**Brasilia**	**43.47**	**329**	LR	LR	17 56 36.0	
	comp=Z,96nm,18.2s,baz=317,slow=35						
PB15	**IPOC Station P**	**45.32**	**298**	P	**P**	**17 39 16.1**	**-1.0**
PB15				IAmb	IAmb	17 39 20.2	
	comp=Z,11nm,0.8s						
LVC	**Limon Verde**	**45.55**	**299**	P	**P**	**17 39 18.8**	**-0.4**
LVC				IAmb	IAmb	17 39 21.9	
	comp=Z,9.1nm,0.7s						
BOSA	**Boshof**	**45.65**	**75**	LR	LR	17 54 29.7	
	comp=Z,175nm,18.4s,baz=187,slow=31						
VNDA	**Vanda**	**46.65**	**183**	P	**P**	**17 39 27.0**	**+0.2**
	comp=Z,3.7nm,0.7s,baz=195,slow=5.9,SNR=21						
VNDA	**Vanda**	**46.65**	**183**	P	**P**	**17 39 26.8**	**+0.1**
PB07	**IPOC Station P**	**46.77**	**299**	P	**P**	**17 39 27.5**	**-1.0**
PB01	**IPOC Station P**	**47.16**	**300**	P	**P**	**17 39 31.1**	**-0.4**
PB08	**IPOC Station P**	**47.76**	**301**	P	**P**	**17 39 36.0**	**-0.5**
PB08				IAmb	IAmb	17 39 38.6	
	comp=Z,12nm,1.2s						
H10S2	**ASCENSION HYDR**	**47.85**	**16**	T	T	18 31 34.6	
	baz=31,slow=74,SNR=6.2						
H10S3	**ASCENSION HYDR**	**47.86**	**16**	T	T	18 31 34.0	
	baz=189,slow=74,SNR=17						
LBTB	**Lobatse**	**48.69**	**73**	P	**P**	**17 39 43.8**	**+0.5**
H10N1	**ASCENSION HYDR**	**48.97**	**16**	T	T	18 33 18.4	
	baz=189,slow=76						
H10N3	**ASCENSION HYDR**	**48.97**	**16**	T	T	18 33 17.3	
	baz=189,slow=76						
H10N2	**ASCENSION HYDR**	**48.99**	**16**	T	T	18 33 17.3	
	baz=189,slow=76						
LPAZ	**La Paz**	**50.60**	**305**	P	**P**	**17 39 59.1**	**+0.6**
	comp=Z,6.9nm,0.7s,baz=148,slow=5.2,SNR=25						
LPAZ	**La Paz**	**50.60**	**305**	P	**P**	**17 39 58.9**	**+0.4**
SAML	**Samuel**	**54.99**	**314**	P	**P**	**17 40 30.0**	**-0.2**
SAML				IAmb	IAmb	17 40 30.5	
	comp=Z,4.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**72.85**	**29**	P	**P**	**17 42 28.0**	**+0.5**
	comp=Z,1.1nm,0.4s,baz=199,slow=6.1,SNR=9.0						
TORD	**Torodi Ar. Bea**	**72.85**	**29**	P	**P**	**17 42 26.8**	**-0.7**
STKA	**Stephens Creek**	**91.91**	**170**	LR	LR	18 24 58.2	
	comp=Z,38nm,18.1s,baz=205,slow=35						
ASAR	**Alice Springs**	**98.95**	**162**	P	**Pdif**	**17 44 37.9**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=184,slow=3.7,SNR=6.0						
NVAR	**Mina Array Bea**	**121.67**	**293**	PKP	**PKiKP**	**17 49 52.4**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=142,slow=3.1,SNR=2.0						
FINES	**FINESS Array B**	**124.18**	**28**	PKP	**PKiKP**	**17 49 55.5**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=153,slow=2.1,SNR=6.5						
ILAR	**Eielson Array**	**150.31**	**312**	PKPbc	**PKPbc**	**17 50 48.2**	**-0.2**
	comp=Z,4.9nm,0.7s,baz=141,slow=2.2,SNR=31						
ILAR	**Eielson Array**	**150.31**	**312**		**PKPbc**	**17 50 47.9**	**-0.6**
SONM	**Songino Array**	**150.41**	**86**	PKPbc	**PKPbc**	**17 50 49.2**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=223,slow=3.7,SNR=8.6						

MEX 10 17:52:02.7±0.8, 15°.97N×98°.27W, h6km±17km, MD3.6, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.44**	**19**	*i* P	Pg	17 52 10.9	-0.4
PNIG				*i* S	Sg	17 52 17.5	+0.3
PEIG	**Puerto Escondi**	**1.08**	**88**	*i* P	Pg	17 52 20.4	-3.1
PEIG				*i* S	Sg	17 52 34.7	-2.9
MGIG	**Malinaltepec**	**1.30**	**345**	*e*P	Pn	17 52 26.8	-0.9
MGIG				*e*S	Sg	17 52 41.7	-3.0
TLIG	**Tlapa**	**1.61**	**350**	*i* P	Pn	17 52 29.5	-2.2
TLIG				*i* S	Sn	17 52 50.5	-2.4
DAIG	**Los Arroyos**	**1.69**	**309**	*e*P	Pn	17 52 31.9	-0.8
DAIG				*e*S	Sn	17 52 53.5	-1.1
HLIG	**Huajuapan de L**	**1.91**	**14**	*i* P	Pn	17 52 32.2	-3.7
HLIG				*i* S	Sn	17 52 56.8	-3.5

*NNC **10** 18:09:50.6±3.5, 37°.58N×77°.64E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=25.2km s-min=22.0km az=112.0*
*IDC **10** 18:09:50.3±3.2, 37°.83N×77°.90E, h0km, mb3.6/2, mb1 3.4/6, mb1mx3.1/54, mbtmp3.2/6, ML2.6/3, Error ellipse: s-maj=47.0km s-min=37.3km az=69.0*
ISC 10 18:09:53.6±3.0, 38°.0N±0°.2×77°.8E±0°.1, h10km, n27, σ1°63/23, 4C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**5.10**	**5**	Pg	**Pg**	**18 11 30.8**	**-0.5**
	10nm,0.9s						
SATY				Lg	Lg	18 12 43.8	
	26nm,1.0s						
TNSS	**Tian-Shan**	**5.10**	**353**	Pg	**Pg**	**18 11 30.7**	**-0.7**
	7.0nm,0.6s						
TNSS				Lg	Lg	18 12 43.8	
	7.6nm,0.9s						
IZV	**Izvestkoviy**	**5.14**	**350**	Pg	**Pg**	**18 11 31.7**	**-0.4**
	2.9nm,0.8s						
IZV				Lg	Lg	18 12 45.3	
	18nm,0.5s						
MDOK	**Medeo**	**5.22**	**354**	⇑Pg	**Pg**	**18 11 32.0**	**-1.5**
	5.4nm,0.7s						
MDOK				Lg	Lg	18 12 51.6	
	20nm,0.6s						
MDOK	**Medeo**	**5.22**	**354**	Pg	**Pg**	**18 11 32.4**	**-1.1**
	3.6nm,0.5s						
MDOK				Lg	Lg	18 12 46.8	
	22nm,0.6s						
TKM2	**Tokmak 2**	**5.22**	**342**	⇓Pg	**Pg**	**18 11 34.8**	**+1.1**
	4.0nm,0.8s						
TKM2				⇓Lg	Lg	18 12 47.0	
	6.2nm,0.6s						
UZB	**Uzynbulak**	**5.25**	**10**	Pg	Pb	18 11 32.0	+6.5
	3.8nm,0.3s						
UZB				Lg	Lg	18 12 46.2	
	10nm,1.1s						
KST	**Kastek**	**5.26**	**345**	Pg	**Pg**	**18 11 33.8**	**-0.5**
	5.2nm,0.9s						
KST				Lg	Lg	18 12 49.3	
	17nm,0.7s						
MTBS	**Maitube**	**5.26**	**349**	Pg	**Pg**	**18 11 33.7**	**-0.6**
	1.2nm,0.1s						
MTBS				Lg	Lg	18 12 49.1	
	8.8nm,0.6s						
KOTS	**Kotyrbulak**	**5.28**	**354**	Pg	**Pg**	**18 11 34.0**	**-0.8**
	6.5nm,0.5s						
KOTS				Lg	Lg	18 12 49.6	
	42nm,0.9s						
AAK	**Ala-Archa**	**5.31**	**332**	Pn	**Pn**	**18 11 16.9**	**+3.8**
	0.5nm,0.3s,baz=352,slow=13,SNR=3.9						
AAK				Pg	**Pb**	**18 11 28.7**	**+2.2**
	0.5nm,0.3s,baz=338,slow=12,SNR=4.7						
AAK				Lg	Lg	18 12 45.0	
	0.5nm,0.3s,baz=154,slow=18,SNR=2.4						
AAK	**Ala-Archa**	**5.31**	**332**	⇓Pg	**Pg**	**18 11 33.7**	**-1.6**
	6.9nm,0.8s						
AAK				⇑Lg	Lg	18 12 49.3	
	32nm,1.2s						
SHLS	**Shalkode**	**5.33**	**13**	Pg	**Pg**	**18 11 35.6**	**-0.1**
	15nm,0.6s						
SHLS				Lg	Lg	18 12 51.9	
	22nm,0.8s						
DGS	**Degeres**	**5.49**	**344**	Pg	**Pg**	**18 11 36.9**	**-1.8**
	4.2nm,0.7s						
DGS				Lg	Lg	18 12 54.4	
	8.6nm,0.7s						
PDGK	**Podgornoye**	**5.50**	**13**	Pg	Pb	18 11 36.0	+6.2
	0.9nm,0.4s						
PDGK				Lg	Lg	18 12 52.7	
	5.0nm,0.9s						
PDGK	**Podgornoye**	**5.50**	**13**	⇓Pg	**Pg**	**18 11 39.5**	**+0.6**
	4.0nm,0.7s						
PDGK				⇑Lg	Lg	18 12 58.3	
	11nm,0.7s						
KTBS	**Karatobe**	**5.80**	**352**	Pg	**Pg**	**18 11 43.3**	**-1.3**
	3.6nm,0.6s						
KTBS				Lg	Lg	18 13 05.3	
	18nm,0.8s						
CHKK	**Chushkaly**	**5.91**	**354**	Pg	Pg	18 11 44.4	-2.3
CHKK				Lg	Lg	18 13 07.2	
MRKS	**Merke**	**5.92**	**325**	Pg	**Pg**	**18 11 45.7**	**-1.2**
	2.2nm,0.5s						
MRKS				Lg	Lg	18 13 09.7	
	6.9nm,0.7s						
KRBS	**Karabastau**	**5.94**	**345**	Pg	**Pg**	**18 11 45.3**	**-2.1**
	3.3nm,0.7s						
KRBS				Lg	Lg	18 13 08.9	
	3.9nm,0.6s						
ARXS	**Arharly**	**6.23**	**0**	Pg	Pb	18 11 49.6	+7.4
	3.8nm,0.6s						
ARXS				Lg	Lg	18 13 16.5	
KK31	**Karatay Array**	**7.56**	**315**	⇑Pg	Pg	18 12 12.0	-6.4
	0.2nm,0.3s,baz=136,slow=16						
KK31				⇓Lg	Lg	18 13 56.8	
	0.6nm,0.3s,baz=143,slow=26						
MKAR	**Makanchi Array**	**9.41**	**19**	Pn	**Pn**	**18 12 10.6**	**+1.4**
	0.1nm,0.3s,baz=202,slow=12,SNR=6.1						
KURBB	**Kurchatov Arra**	**12.66**	**2**	Pn	**Pn**	**18 12 52.0**	**-1.6**
	0.0nm,0.3s,baz=184,slow=12,SNR=1.5						
BVAR	**Borovoye Array**	**15.91**	**343**	Pn	**Pn**	**18 13 34.8**	**-2.8**
	baz=152,slow=16,SNR=1.5						
FINES	**FINESS Array B**	**39.42**	**324**	P	**P**	**18 17 23.1**	**-0.2**
	0.8nm,0.7s,baz=94,slow=7.6,SNR=4.1						
NOA	**NORSAR Array B**	**46.53**	**322**	P	**P**	**18 18 20.0**	**-1.0**
	0.4nm,0.6s,baz=90,slow=7.6,SNR=3.8						

*JMA **10** 18:16:59.0±0.2, 40°.76N×142°.65E, h22km±4km, M4.0*
*NIED **10** 18:16:59.0, 40°.76N×142°.65E, h22km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr3.56; Mθθ-0.65; Mφφ-2.91; Mrθ1.10; Mrφ-1.98; Mθφ7.19; Fault plane solution: M₀8.23000×10¹⁴ NP1:φs11.00000°, δ77.00000°, λ80.00000°. NP2:φs229.00000°, δ16.00000°, λ127.00000°.*
*IDC **10** 18:17:00.6±0.9, 40°.82N×142°.92E, h49km±5km, mb3.7/16, mb1 3.8/20, mb1mx3.7/49, mbtmp4.0/20, MS2.9/4, Ms1 2.9/4, ms1mx2.6/41 Error ellipse: s-maj=24.1km s-min=10.6km az=90.0*
*NEIC **10** 18:17:00.2±1.2, 40°.79N±0°.06×142°.9E±0°.1, h44km±8km, mb4.4/14, Error ellipse: s-maj=14.3km s-min=7.8km az=108.0*
ISC 10 18:16:59.1±0.6, 40°.79N±0°.04×142°.75E±0°.07, h34km±1km, n80, σ1°30/88, mb4.3/23, 7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKEN	**Kujiedanarisaw**	**0.98**	**234**	⇓P	**Pn**	**18 17 15.5**	**-1.0**
JKEN				S	**Sn**	**18 17 27.0**	**-2.2**
JANG	**Nango**	**1.03**	**246**	⇓P	**Pn**	**18 17 16.5**	**-0.6**
JANG				S	**Sn**	**18 17 28.9**	**-1.4**
JARK	**Aomorirokkasho**	**1.07**	**282**	⇓P	**Pn**	**18 17 17.1**	**-0.6**
JARK				S	**Sn**	**18 17 28.6**	**-2.8**
JTH	**Tanohata**	**1.09**	**219**	P	**Pn**	**18 17 17.2**	**-0.7**
JTH				S	**Sn**	**18 17 30.7**	**-1.1**
JAHD	**Aomorihigashid**	**1.17**	**294**	⇓P	**Pn**	**18 17 18.6**	**-0.4**
ERM	**Erimo**	**1.26**	**14**	Pn	**Pb**	**18 17 22.0**	**-0.3**
JEM	**Erimo**	**1.26**	**14**	P	**Pb**	**18 17 22.5**	**+0.2**
JEM				S	**Sb**	**18 17 40.2**	**+1.9**
JTM	**Tenmabayashi**	**1.28**	**270**	⇓P	**Pn**	**18 17 20.4**	**-0.1**
JTM	**Tenmabayashi**	**1.28**	**270**		**Pn**	**18 17 20.4**	**-0.1**
JOT	**Ohata**	**1.42**	**295**	⇓P	**Pn**	**18 17 22.3**	**-0.1**
JOT				S	**Sn**	**18 17 39.6**	**-0.3**
JNBK	**Urakawa-nobuka**	**1.49**	**0**	P	**Pb**	**18 17 25.6**	**-0.6**
JKB	**Kayabe**	**1.69**	**311**	P	**Pn**	**18 17 26.7**	**+0.4**
JKB				S	**Sn**	**18 17 47.4**	**+0.6**
JAH	**Hinai**	**1.72**	**250**	⇓P	**Pn**	**18 17 27.6**	**+1.0**
JOM	**Ohasama**	**1.73**	**221**	P	**Pn**	**18 17 27.3**	**+0.6**
JCH	**Churui**	**1.88**	**14**	P	**Pb**	**18 17 31.0**	**-1.8**
JCH				*e*S	**Sb**	**18 17 54.0**	**-1.9**
JSR	**Shiriuchi**	**1.91**	**294**	P	**Pn**	**18 17 30.2**	**+1.0**
JSR				S	**Sn**	**18 17 53.1**	**+1.1**
JIAM	**Iburiatsuma**	**1.93**	**342**	P	**Pb**	**18 17 32.9**	**-0.8**
JBT2	**Biratori 2**	**2.01**	**352**	P	**Pb**	**18 17 33.3**	**-1.6**
JIW	**Iwasaki**	**2.09**	**265**	P	**Pn**	**18 17 33.1**	**+1.3**
JEW	**Eniwo**	**2.27**	**335**		**Pn**	**18 17 34.8**	**+0.7**
JMM	**Marumori**	**3.29**	**208**		**Pn**	**18 17 48.2**	**-0.1**
JKA	**Kamikawa-asahi**	**3.33**	**358**		**Pn**	**18 17 49.3**	**+0.6**
ASAJ	**Asahikawa**	**3.33**	**358**	P	**Pn**	**18 17 51.4**	**+2.6**
	5.0nm,0.3s,baz=207,slow=15,SNR=63						
ASAJ				S	**Sn**	**18 18 29.6**	**+2.6**
	4.8nm,0.3s,baz=141,slow=26,SNR=3.7						
JSD	**Sado**	**4.43**	**233**	Pn	**Pn**	**18 18 06.3**	**+2.4**
JYT	**Yasato**	**4.98**	**205**	Pn	**Pn**	**18 18 11.5**	**+0.1**
MAJO	**Matsushiro**	**5.53**	**221**	P	**Pn**	**18 18 18.2**	**-0.9**
MAT	**Matsushiro**	**5.53**	**221**	P	**Pn**	**18 18 22.0**	**+2.9**
MAT				*e*S	**Sn**	**18 19 26.2**	**+4.7**
MJAR	**Matsushiro Arr**	**5.53**	**221**	P	**Pn**	**18 18 22.2**	**+3.1**
	0.3nm,0.3s,baz=29,slow=14,SNR=13						
MJAR	**Matsushiro Arr**	**5.53**	**221**		**Pn**	**18 18 18.2**	**-0.8**
YSS	**Yuzh-Sakhalins**	**6.16**	**0**	Pn	**Pn**	**18 18 27.4**	**-0.2**
JGF	**Kuroka**	**6.70**	**221**	Pn	**Pn**	**18 18 37.2**	**+2.1**
INU	**Inuyama**	**7.07**	**222**	Pn	**Pn**	**18 18 41.8**	**+1.6**
JWT	**Wachi**	**7.99**	**229**	Pn	**Pn**	**18 18 54.4**	**+1.7**
USA0B	**Ussuriysk Arra**	**8.65**	**297**	Pn	**Pn**	**18 19 03.1**	**+1.3**
USRK	**Ussuriysk Ar.**	**8.65**	**297**	P	**Pn**	**18 19 04.6**	**+2.8**
	baz=97,slow=15,SNR=15						
USRK				LR	LR	18 22 18.1	
	com

NOA				pP		**sP**	**18 28 27.7**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=37,slow=6.2,SNR=4.5							
AKASG	**Malin Array Be**	**71.97**	**322**	P		**P**	**18 28 18.9**	**0.0**
	comp=Z,0.4nm,0.4s,baz=44,slow=6.3,SNR=4.0							
AKASG				pP		**sP**	**18 28 31.4**	**-1.4**
	comp=Z,0.7nm,0.4s,baz=43,slow=6.4,SNR=4.6							
KNB	**Kanab**	**76.19**	**53**	P		**P**	**18 28 43.4**	**-0.7**
KNB				IAmb		IAmb	18 29 32.7	
	comp=Z,13nm,1.8s							
CLL	**Collm**	**78.35**	**330**	*e*P		**P**	**18 28 55.0**	**-0.7**
	comp=Z,6.0nm,1.4s							

*IDC **10** 18:35:27.2±1.4, 12.65S×167.29E, h0km, mb3.9/5, mb1 4.1/7, mb1mx3.8/23, mbtmp4.0/7, ML4.2/2, MS2.9/2, Ms1 2.9/2, ms1mx2.7/22, Error ellipse: s-maj=34.3km s-min=25.5km az=143.0*

ISC 10 18:35:32.5±1.1, 12.7S±0.1×167.3E±0.1, h35km, n7, σ0.45/8, mb3.9/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**7.91**	**294**	Pn		**Pn**	**18 37 25.2**	**+0.1**
	7.6nm,0.3s,baz=288,slow=10,SNR=1.2							
HNR				Sn		**Sn**	**18 38 53.4**	**+0.1**
	4.4nm,0.3s,baz=294,slow=13,SNR=1.2							
HNR				LR		LR	18 40 36.7	
	comp=Z,106nm,19.0s,baz=92,slow=39							
DZM	**Mont Dzumac**	**9.35**	**185**	Pn		**Pn**	**18 37 44.8**	**-0.1**
	0.8nm,0.3s,baz=334,slow=22,SNR=6.7							
DZM				LR		LR	18 40 31.5	
	comp=Z,45nm,20.9s,baz=34,slow=32							
STKA	**Stephens Creek**	**30.35**	**227**	P		**P**	**18 41 41.6**	**+0.6**
	2.0nm,0.6s,baz=61,slow=12,SNR=5.8							
WRA	**Warramunga Arr**	**32.38**	**253**	P		**P**	**18 41 58.6**	**-0.6**
	0.8nm,0.7s,baz=87,slow=8.7,SNR=6.6							
ASAR	**Alice Springs**	**33.45**	**246**	P		**P**	**18 42 08.1**	**-0.4**
	1.0nm,0.7s,baz=74,slow=9.4,SNR=10							
ILAR	**Eielson Array**	**84.61**	**18**	P		**P**	**18 48 01.8**	**-0.2**
	0.3nm,0.3s,baz=231,slow=5.7,SNR=1.8							
NVAR	**Mina Array Bea**	**85.95**	**49**	P		**P**	**18 48 09.8**	**+0.2**
	0.1nm,0.3s,baz=224,slow=7.5,SNR=2.6							

*TUL **10** 18:41:33.8±0.9, 36.03N±0.01×97.12W±0.01, h5km±7km, ML3.1, mb_Lg2.9/60(NEIC), Error ellipse: s-maj=2.2km s-min=1.0km az=155.0*
*NEIC **10** 18:41:34.1±0.6, 36.040N±0.009×97.14W±0.02, h5km±7km, Error ellipse: s-maj=2.3km s-min=1.3km az=103.0*
*ANF **10** 18:41:34.0±0.3, 36.05N×97.10W, h5km, ML3.1/8, Error ellipse: s-maj=3.5km s-min=2.3km az=144.0*

ISC 10 18:41:33.9±1.1, 36.05N±0.02×97.13W±0.02, h3km±11km, n71, σ0.59/53, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OK031	**S. Brethren Rd**	**0.26**	**112**	Pg		**Pg**	**18 41 39.0**	**+0.2**
OK031				Sg		**Sg**	**18 41 42.7**	**+0.6**
OK029	**Liberty Lake**	**0.36**	**226**	Pg		**Pg**	**18 41 40.9**	**+0.1**
OK029				Sg		**Sg**	**18 41 46.1**	**+0.5**
QUOK	**Quay**	**0.36**	**70**	Pg		**Pg**	**18 41 41.4**	**+0.5**
QUOK				Sg		**Sg**	**18 41 46.6**	**+1.0**
OK005	**Luther M Schoo**	**0.40**	**187**	Pg		**Pg**	**18 41 41.5**	**0.0**
OK025	**Westminster Rd**	**0.50**	**200**			**Pg**	**18 41 43.5**	**+0.1**
OKCFA	**Oklahoma City**	**0.68**	**202**			**Pg**	**18 41 46.8**	**-0.2**
OKCFA	**Oklahoma City**	**0.68**	**202**	P		**Pg**	**18 41 46.8**	**-0.2**
	baz=23							
OKCSW	**OKLAHOMA CITY**	**0.69**	**201**			**Pg**	**18 41 46.8**	**-0.2**
BLOK	**Blackwell**	**0.71**	**355**			**Pg**	**18 41 47.9**	**+0.4**
FNO	**Franklin**	**0.82**	**196**			**Pg**	**18 41 49.1**	**-0.5**
CROK	**Carrier**	**0.82**	**304**			**Pg**	**18 41 49.9**	**+0.2**
T35A	**Sooner Cattle**	**1.00**	**30**			**Pg**	**18 41 53.0**	**0.0**
T35B	**Sooner Cattle**	**1.00**	**30**	P		**Pg**	**18 41 53.0**	**-0.1**
	baz=209							
T35B				S		**Sb**	**18 42 06.6**	**-0.8**
	baz=209							
KAN13	**South Haven SW**	**1.00**	**344**			**Pg**	**18 41 53.3**	**+0.2**
TUL1	**Leonard**	**1.10**	**97**	P		**Pb**	**18 41 53.9**	**-1.5**
	baz=277							
TUL1				S		**Sg**	**18 42 08.8**	**-0.3**
	baz=277							
TUL1	**Leonard**	**1.10**	**97**	P		**Pb**	**18 41 54.0**	**-1.5**
	baz=277							
TUL1				S		**Sg**	**18 42 08.8**	**-0.3**
	baz=277							
KAN17	**Caldwell West**	**1.11**	**333**			**Pb**	**18 41 55.4**	**-0.4**
KAN14	**Manchester OK**	**1.13**	**324**	Pg		**Pb**	**18 41 55.3**	**-0.7**
OK032	**Salt Plains WL**	**1.15**	**311**			**Pb**	**18 41 55.6**	**-0.8**
KAN05	**Bluff City Nor**	**1.21**	**331**			**Pn**	**18 41 57.1**	**-0.7**
KS20	**Mayfield South**	**1.23**	**344**			**Pb**	**18 41 57.3**	**-0.4**
KAN12	**Harper NE Stat**	**1.43**	**331**			**Pb**	**18 42 00.6**	**-0.5**
U32A	**Winter Ranch,**	**1.55**	**283**			**Pb**	**18 42 02.4**	**-0.8**
U32A				IAmb_Lg			18 42 26.2	
	comp=Z,65nm,0.8s							
U32A	**Winter Ranch,**	**1.55**	**283**	P		**Pb**	**18 42 02.4**	**-0.8**
	baz=102							
X34A	**Smith Ranch, M**	**1.56**	**202**			**Pb**	**18 42 02.3**	**-1.0**
WMOK	**Wichita Mounta**	**1.88**	**226**			**Pn**	**18 42 06.8**	**-0.1**
WMOK	**Wichita Mounta**	**1.88**	**226**	P		**Pn**	**18 42 07.1**	**+0.2**
	baz=46							
WMOK				S		**Sb**	**18 42 32.8**	**+0.1**
	baz=46							
WMOK	**Wichita Mounta**	**1.88**	**226**	P		**Pn**	**18 42 07.1**	**+0.2**
	baz=46							
WMOK				S		**Sb**	**18 42 32.6**	**-0.1**
	baz=46							
X37A	**Clayton**	**2.05**	**135**			**Pn**	**18 42 09.4**	**+0.1**
X37A				IAmb_Lg			18 42 40.6	
	comp=Z,62nm,0.9s							
X37A	**Clayton**	**2.05**	**135**	P		**Pn**	**18 42 09.5**	**+0.3**
	baz=316							
LOOK	**Love County**	**2.05**	**181**			**Pn**	**18 42 09.2**	**-0.1**
R32A	**Long Quarter,**	**2.68**	**332**	IAmb_Lg			18 43 07.0	
	comp=Z,31nm,0.8s							
Z35A	**Perchaven, San**	**2.71**	**182**	Pn		**Pn**	**18 42 18.1**	**-0.3**
Z35A	**Perchaven, San**	**2.71**	**182**	P		**Pn**	**18 42 18.3**	**-0.1**
	baz=2.2							
W39A	**Magazine**	**2.86**	**106**			**Pn**	**18 42 20.5**	**+0.2**
W39A	**Magazine**	**2.86**	**106**	P		**Pn**	**18 42 20.7**	**+0.4**
	baz=288							
W39A	**Magazine**	**2.86**	**106**	P		**Pn**	**18 42 20.9**	**+0.5**
	baz=288							
W39A				S		**Sn**	**18 42 56.6**	**+1.3**
	baz=288							
KSU1	**Kansas State U**	**3.07**	**8**			**Pn**	**18 42 23.4**	**+0.1**
KSU1				IAmb_Lg			18 43 13.9	
	comp=Z,22nm,0.8s							
MIAR	**Mount Ida**	**3.27**	**116**			**Pn**	**18 42 26.4**	**+0.3**
MIAR	**Mount Ida**	**3.27**	**116**	P		**Pn**	**18 42 26.6**	**+0.5**
	baz=298							
MIAR	**Mount Ida**	**3.27**	**116**	P		**Pn**	**18 42 26.9**	**+0.8**
	baz=298							
Z38A	**Mt. Pleasant**	**3.30**	**147**	IAmb_Lg			18 43 19.5	
	comp=Z,22nm,0.8s							
S39A	**Bolivar**	**3.47**	**61**			**Pn**	**18 42 28.8**	**0.0**
U40A	**Yellville**	**3.47**	**84**			**Pn**	**18 42 28.5**	**-0.4**
X40A	**Basin Creek Fa**	**3.85**	**113**	S		**Sn**	**18 43 20.7**	**+1.0**
	baz=295							
AMTX	**Amarillo**	**3.89**	**254**	IAmb_Lg			18 43 36.7	
	comp=Z,25nm,0.8s							
ABTX	**Abilene, Hawle**	**4.00**	**212**	IAmb_Lg			18 43 40.8	
	comp=Z,14nm,1.1s							
ABTX	**Abilene, Hawle**	**4.00**	**212**	Pb		**Pb**	**18 42 45.6**	**+0.6**
	baz=31							
WHAR	**Wooly Hollow**	**4.02**	**99**	IAmb_Lg			18 43 45.7	
	comp=Z,20nm,0.8s							
FCAR	**Ozark Folk Cen**	**4.07**	**91**	IAmb_Lg			18 43 46.8	
	comp=Z,21nm,0.7s							
MGMO	**Mountain Grove**	**4.07**	**73**	IAmb_Lg			18 43 49.5	
	comp=Z,26nm,0.8s							
P38A	**Dawn**	**4.57**	**38**	IAmb_Lg			18 44 06.5	
	comp=Z,14nm,0.8s							
N35A	**Tabor**	**4.94**	**13**	IAmb_Lg			18 44 21.0	
	comp=Z,26nm,0.7s							
CCM	**Cathedral Cave**	**5.12**	**65**	IAmb_Lg			18 44 16.6	
	comp=Z,27nm,0.8s							
P40A	**Paris**	**5.32**	**48**	IAmb_Lg			18 44 29.4	
	comp=Z,16nm,0.7s							
BGNE	**Belgrade**	**5.41**	**352**	IAmb_Lg			18 44 39.5	
	comp=Z,26nm,0.8s							
PBMO	**Poplar Bluff**	**5.45**	**80**	IAmb_Lg			18 44 32.7	
	comp=Z,26nm,0.7s							
N38A	**Joes South For**	**5.64**	**32**	IAmb_Lg			18 44 35.5	
	comp=Z,20nm,0.7s							
T25A	**Trinidad**	**5.96**	**283**	IAmb_Lg			18 44 47.9	
	comp=Z,15nm,1.0s							
JCT	**Junction City**	**5.99**	**203**	IAmb_Lg			18 44 48.3	
	comp=Z,26nm,1.2s							
S44A	**Carbondale**	**6.52**	**73**	IAmb_Lg			18 44 59.7	
	comp=Z,21nm,0.9s							
SIUC	**Southern Illin**	**6.56**	**73**	IAmb_Lg			18 45 01.5	
	comp=Z,22nm,0.7s							
SCIA	**State Center**	**6.60**	**26**	IAmb_Lg			18 45 06.7	
	comp=Z,14nm,0.7s							
K38A	**Parkersburg**	**7.40**	**26**	IAmb_Lg			18 45 47.0	
	comp=Z,14nm,1.1s							
O44A	**Mansfield**	**7.96**	**56**	IAmb_Lg			18 45 46.8	
	comp=Z,18nm,0.8s							
T47A	**Sharon Grove**	**8.13**	**80**	IAmb_Lg			18 46 02.0	
	comp=Z,18nm,1.1s							
L42A	**Oliver, Polo**	**8.31**	**42**	IAmb_Lg			18 46 01.9	
	comp=Z,11nm,0.8s							
CLTN	**Cedars of Leba**	**8.75**	**87**	IAmb_Lg			18 46 13.6	
	comp=Z,8.6nm,1.1s							
WCI	**Wyandotte Cave**	**8.92**	**73**	IAmb_Lg			18 46 32.6	
	comp=Z,12nm,0.7s							
U49A	**Red Boiling Sp**	**9.18**	**84**	IAmb_Lg			18 46 47.7	
	comp=Z,11nm,1.2s							
W50A	**Signal Mountai**	**9.66**	**92**	IAmb_Lg			18 46 45.4	
	comp=Z,10nm,0.8s							

MEX 10 18:44:16.8±0.8, 17.63N×94.34W, h178km±8km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMIG	**Matias Romero**	**0.75**	**224**	*i* P		Pn	18 44 40.8	-1.9
CMIG				*i* S		Sn	18 44 60.0	-2.5
TGIG		**1.44**	**126**	*e*P		Pn	18 44 47.0	-1.1
TGIG				*i* S		Sn	18 45 09.6	-2.7
PCIG		**2.20**	**151**	*e*P		Pn	18 44 54.5	-1.4
PCIG				*i* S		Sn	18 45 22.2	-4.1
VHO	**Vista Hermosa**	**2.35**	**257**	*i* P		Pn	18 44 57.2	-0.6
VHO				*i* S		Sn	18 45 27.9	-1.9
TOIG	**Toxpalan**	**2.64**	**280**	*e*P		Pn	18 45 00.2	-0.9
TOIG				*i* S		Sn	18 45 33.5	-2.0
PEIG	**Puerto Escondi**	**3.14**	**239**	*i* P		Pn	18 45 03.3	-3.8
PEIG				*i* S		Sn	18 45 41.0	-5.4
HLIG	**Huajuapan de L**	**3.31**	**274**	*e*P		Pn	18 45 07.8	-1.5
HLIG				*e*S		Sn	18 45 41.8	-8.5

*IDC **10** 18:53:58.4±4.8, 33.79S×177.82W, h0km, mb4.3/2, mb1 4.6/2, mb1mx3.8/25, mbtmp4.3/2, MS3.6/2, Ms1 3.6/2, ms1mx2.9/35, Error ellipse: s-maj=299.9km s-min=40.3km az=167.0*
*NEIC **10** 18:54:03.1±0.9, 33.05S±0.1×178.1W±0.2, h10km±1km, mb4.6/15, Error ellipse: s-maj=28.4km s-min=19.4km az=81.0*

ISC 10 18:54:05.6±1.0, 32.9S±0.1×178.1W±0.1, h34km, n30, σ1.8/10/28, mb4.4/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OUZ	**Omahuta**	**7.28**	**249**	Pn		**Pn**	**18 55 49.0**	**-0.6**
BFZ	**Birch Farm**	**9.02**	**209**	Pn		**Pn**	**18 56 11.1**	**-2.3**
NNZ	**Nelson**	**10.76**	**217**	Pn		**Pn**	**18 56 36.6**	**-0.5**
THZ	**Tophouse**	**11.40**	**216**	Pn		**Pn**	**18 56 48.5**	**+2.5**
KHZ	**Kahutara**	**11.60**	**212**	Pn		**Pn**	**18 56 48.4**	**-0.3**
LTZ	**Lake Taylor**	**12.48**	**215**	Pn		**Pn**	**18 56 58.2**	**-2.6**
DZM	**Mont Dzumac**	**17.40**	**304**	LR		LR	19 03 38.9	
	comp=Z,235nm,18.1s,baz=186,slow=32							
STKA	**Stephens Creek**	**33.91**	**261**	LR		LR	19 13 58.9	
	comp=Z,71nm,18.6s,baz=207,slow=35							
CTAO	**Chatham Tower**	**34.18**	**283**	P		**P**	**19 00 48.2**	**+0.3**
BBOO	**Buckleboo**	**38.28**	**257**	P		**P**	**19 01 22.9**	**+0.1**
BBOO				IAmb		IAmb	19 01 30.1	
	comp=Z,28nm,1.4s							
COEN	**Coen**	**39.92**	**289**	P		**P**	**19 01 35.3**	**-1.4**
AS31	**Alice Springs**	**42.95**	**270**	P		**P**	**19 02 01.6**	**+0.1**
ASAR	**Alice Springs**	**42.95**	**270**	P		**P**	**19 02 01.8**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=108,slow=7.7,SNR=33							
WR0	**Warramunga Arr**	**43.98**	**275**	P		**P**	**19 02 09.7**	**-0.1**
WB2	**Warramunga Arr**	**44.15**	**275**	P		**P**	**19 02 10.9**	**-0.2**
WB2				IAmb		IAmb	19 02 12.9	
	comp=Z,7.4nm,1.1s							
WRAB	**Tennant Creek**	**44.15**	**275**	P		**P**	**19 02 11.1**	**-0.1**
WRAB				IAmb		IAmb	19 02 12.5	
	comp=Z,20nm,1.5s							
WRA	**Warramunga Arr**	**44.16**	**275**	P		**P**	**19 02 11.0**	**-0.3**
	comp=Z,2.4nm,0.3s,baz=117,slow=7.7,SNR=52							
FORT	**Forrest**	**45.38**	**257**	P		**P**	**19 02 21.5**	**+0.7**
MTN	**Manton Dam**	**50.32**	**281**	P		**P**	**19 02 58.4**	**-0.9**
KNRA	**Kununurra**	**50.84**	**276**	P		**P**	**19 03 04.3**	**+1.1**
FITZ	**Fitzroy Crossi**	**52.31**	**272**	P		**P**	**19 03 12.9**	**-1.2**
FITZ				IAmb		IAmb	19 03 22.8	
	comp=Z,6.7nm,1.2s							
CASY	**Casey**	**52.94**	**209**	P		**P**	**19 03 19.6**	**+1.5**
QSPA	**South Pole Qui**	**57.26**	**180**	P		**P**	**19 03 50.5**	**+1.0**
QSPA				IAmb		IAmb	19 04 05.0	
	comp=Z,2.7nm,0.7s							
PMSA	**Palmer Station**	**70.07**	**155**	P		**P**	**19 05 12.7**	**-1.1**
PMSA				IAmb		IAmb	19 05 27.7	
	comp=Z,4.0nm,1.1s							
SNAA	**Sanae**	**75.70**	**178**	P		**P**	**19 05 47.8**	**+0.6**
SNAA				IAmb		IAmb	19 06 11.2	
	comp=Z,8.8nm,1.5s							
FINES	**FINESS Array B**	**147.41**	**339**	PKPbc		**PKPbc**	**19 13 45.5**	**+0.5**
	comp=Z,3.8nm,0.8s,baz=35,slow=3.3,SNR=15							
NB2	**NORSAR Subarra**	**151.16**	**351**	PKP		**PKiKP**	**19 13 55.0**	**-0.1**
	comp=Z,1.1nm,1.0s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**151.16**	**351**	PKPbc		**PKiKP**	**19 13 55.0**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=14,slow=4.1,SNR=2.4							
AKASG	**Malin Array Be**	**153.16**	**320**	PKPbc		**PKPbc**	**19 13 59.4**	**+0.1**
	comp=Z,0.1nm,0.2s,baz=48,slow=2.4,SNR=4.7							
BRTR	**Keskin Array B**	**153.61**	**294**	PKPbc		**PKPbc**	**19 14 00.1**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=144,slow=5.0,SNR=3.6							

IDC 10 18:55:05.3±10.0, 14.00S×167.18E, h132km±94km, mb3.5/3, mb1 3.6/4, mb1mx3.3/31, mbtmp3.9/4, ML3.6/1, Error ellipse: s-maj=101.1km s-min=47.1km az=168.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.06**	**185**	P		Pn	18 56 59.6	0.0
	0.8nm,0.3s,baz=75,slow=9.6,SNR=12							
DZM				S		Sn	18 58 22.0	-7.3
	0.4nm,0.3s,baz=71,slow=15,SNR=2.1							
STKA	**Stephens Creek**	**29.40**	**228**	P		P	19 00 56.4	+0.2
	1.8nm,0.5s,baz=59,slow=9.2,SNR=6.6							
WRA	**Warramunga Arr**	**31.92**	**255**	P		P	19 01 19.0	+0.4
	0.3nm,0.5s,baz=84,slow=9.1,SNR=8.0							
ASAR	**Alice Springs**	**32.86**	**248**	P		P	19 01 26.2	-0.6
	0.7nm,0.5s,baz=80,slow=9.3,SNR=18							
ARCES	**ARCESS Array B**	**119.53**	**345**	PKP		PKPdf	19 13 38.5	-0.2
	5.7nm,1.1s,baz=58,slow=2.2,SNR=3.5							

WEL 10 18:55:08.5, 39.3×17.8E±, h23km±6km, M2.3/12, ML2.7/14, MLv2.3/12, Error ellipse: s-maj=0.0km s-min=0.0km az=86.2, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TKGZ	**Te Karaka**	**0.10**	**28**	P		Pb	18 55 13.2	+0.4
RIGZ	**Rimuhau**	**0.18**	**187**	P		Pb	18 55 14.1	+0.4
MWZ	**Matawai**	**0.28**	**313**	P		Pb	18 55 15.5	+0.4
RAGZ	**Rawiri**	**0.29**	**276**	P		Pb	18 55 15.9	+0.6
CNGZ	**Carnagh Statio**	**0.33**	**83**	P		Pb	18 55 16.8	+1.0
TWGZ	**Tauwhareparae**	**0.38**	**23**	P		Pb	18 55 17.4	+0.8
PRGZ	**Paritu Road**	**0.40**	**170**	P		Pb	18 55 17.7	+0.6
SNGZ	**Shannon Statio**	**0.44**	**234**	P		Pb	18 55 18.1	+0.6
KNZ	**Kokohu**	**0.51**	**190**	P		Pb	18 55 18.6	-0.1
RUGZ	**Raukumara Rang**	**0.57**	**351**	P		Pb	18 55 19.8	0.0
PUZ	**Puketiti**	**0.58**	**39**	P		Pb	18 55 20.1	+0.1
URZ	**Urewera**	**0.60**	**296**			Pb	18 55 20.2	-0.1
URZ	**Urewera**	**0.60**	**296**	P		Pb	18 55 20.5	+0.3
RTZ	**Ruatahuna**	**0.64**	**262**	P		Pb	18 55 21.5	+0.5
PKGZ	**Pakihiroa**	**0.67**	**20**	P		Pb	18 55 21.9	+0.3
RAHZ	**Arahi**	**0.68**	**234**	P		Pn	18 55 22.2	-0.5
HAZ	**Te Kaha**	**0.77**	**360**	P		Pb	18 55 23.0	-0.1
MTHZ	**Maungatapere**	**0.81**	**246**	P		Pb	18 55 24.0	+0.1
WMGZ	**Waiomatatini S**	**0.86**	**35**	P		Pb	18 55 24.2	-0.4
BKZ	**Black Stump Fm**	**1.20**	**237**			Pn	18 55 27.6	-2.3

*NEIC **10** 19:00:30.3±1.0, 19.37N±0.05×66.34W±0.02, h10km±9km, Error ellipse: s-maj=6.9km s-min=1.9km az=167.0*
*RSPR **10** 19:00:32.2, 19.53N×66.34W, h38km±15km, MD3.3/15*

ISC 10 19:00:31.2±1.6, 19.40N±0.08×66.32W±0.04, h19km, n55, σ0.58/59, 11C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EMPR	**Esperanza - Ma**	**0.94**	**192**	*i*P		**Pn**	**19 00 49.5**	**+0.1**
EMPR	**Esperanza - Ma**	**0.94**	**192**	*e*S		**Sg**	**19 01 02.9**	**+0.9**
EMPR	**Esperanza - Ma**	**0.94**	**192**			**Pn**	**19 00 49.5**	**+0.1**
EMPR						**Sg**	**19 01 02.9**	**+0.9**
EMPR	**Esperanza - Ma**	**0.94**	**192**	IAML			19 01 12.4	
	comp=E,483nm,0.6s							
EMPR				IAML			19 01 17.3	
	comp=N,418nm,0.8s							
GCPR	**Guaynabo City**	**1.11**	**169**	*i*P		**Pn**	**19 00 51.3**	**-0.4**
GCPR	**Guaynabo City**	**1.11**	**169**	*e*S		**Sb**	**19 01 05.1**	**-0.8**
GCPR	**Guaynabo City**	**1.11**	**169**			**Pn**	**19 00 51.3**	**-0.4**
GCPR						**Sb**	**19 01 05.1**	**-0.8**
GCPR	**Guaynabo City**	**1.11**	**169**	IAML			19 01 07.1	
	comp=E,215nm,0.9s							
GCPR				IAML			19 01 08.4	
	comp=N,186nm,0.5s							
AOPR	**Arecibo Observ**	**1.13**	**202**	*i*P		**Pn**	**19 00 51.3**	**-0.7**
AOPR	**Arecibo Observ**	**1.13**	**202**	*e*S		**Sb**	**19 01 06.5**	**+0.1**
AOPR	**Arecibo Observ**	**1.13**	**202**			**Pn**	**19 00 51.3**	**-0.7**
AOPR						**Sb**	**19 01 06.5**	**+0.1**
AGPR	**Aguadilla, PR**	**1.20**	**219**	*i*P		**Pn**	**19 00 52.4**	**-0.5**
AGPR	**Aguadilla, PR**	**1.20**	**219**	*e*S		**Sb**	**19 01 08.5**	**+0.2**
AGPR	**Aguadilla, PR**	**1.20**	**219**			**Pn**	**19 00 52.4**	**-0.5**
AGPR						**Sb**	**19 01 08.5**	**+0.2**
AGPR	**Aguadilla, PR**	**1.20**	**219**	IAML			19 01 26.7	
	comp=N,190nm,0.8s							
CBYP	**Canovanas**	**1.21**	**159**	*i*P		**Pn**	**19 00 52.9**	**-0.2**
CBYP	**Canovanas**	**1.21**	**159**	*e*S		**Sn**	**19 01 10.1**	**+1.2**
CBYP	**Canovanas**	**1.21**	**159**			**Pn**	**19 00 52.9**	**-0.2**
CBYP						**Sn**	**19 01 10.1**	**+1.2**
SJG	**San Juan**	**1.29**	**173**			**Pn**	**19 00 53.6**	**-0.6**
SJG				IAML			19 01 20.0	
	comp=N,189nm,0.7s							
SJG				IAML			19 01 20.7	
	comp=N,178nm,0.6s							
HUMP	**Col San Antoni**	**1.33**	**161**	*i*P		**Pn**	**19 00 55.2**	**+0.5**
HUMP	**Col San Antoni**	**1.33**	**161**	*e*S		**Sn**	**19 01 12.3**	**+0.4**
HUMP	**Col San Antoni**	**1.33**	**161**			**Pn**	**19 00 55.2**	**+0.5**
HUMP						**Sn**	**19 01 12.3**	**+0.4**
HUMP	**Col San Antoni**	**1.33**	**161**	IAML			19 01 15.2	
	comp=E,236nm,0.4s							
HUMP				IAML			19 01 17.2	
	comp=N,141nm,0.7s							
CELP	**Cerrillos**	**1.34**	**191**	*i*P		**Pn**	**19 00 54.6**	**-0.3**
CELP	**Cerrillos**	**1.34**	**191**	*e*S		**Sn**	**19 01 10.9**	**-1.4**
CELP	**Cerrillos**	**1.34**	**191**			**Pn**	**19 00 54.6**	**-0.3**
CELP						**Sn**	**19 01 10.9**	**-1.4**
OBIP	**Obispado Ponce**	**1.38**	**192**			**Pn**	**19 00 54.2**	**-1.2**
OBIP				IAML			19 01 18.4	
	comp=E,146nm,0.5s							
OBIP				IAML			19 01 22.7	
	comp=N,154nm,0.6s							
PDPR	**Patillas Dam,**	**1.41**	**169**	*i*P		**Pn**	**19 00 55.8**	**+0.1**
PDPR	**Patillas Dam,**	**1.41**	**169**			**Pn**	**19 00 54.9**	**-0.9**
PDPR				IAML			19 01 17.6	
	comp=E,222nm,0.8s							
LSP	**Las Mesas**	**1.42**	**211**	*i*P		**Pn**	**19 00 56.0**	**-0.1**
LSP	**Las Mesas**	**1.42**	**211**	*e*S		**Sn**	**19 01 14.6**	**+0.4**
IGPR	**InterUniversit**	**1.44**	**172**	*i*P		**Pn**	**19 00 56.6**	**+0.3**
IGPR	**InterUniversit**	**1.44**	**172**	*e*S		**Sn**	**19 01 15.6**	**+0.8**
CUPR	**Culebra, Puert**	**1.47**	**138**	*i*P		**Pn**	**19 00 56.1**	**-0.5**
CUPR	**Culebra, Puert**	**1.47**	**138**			**Pn**	**19 00 56.1**	**-0.5**
MTP	**Monte Pirata**	**1.49**	**151**	*i*P		**Pn**	**19 00 56.9**	**0.0**
MTP	**Monte Pirata**	**1.49**	**151**	*e*S		**Sn**	**19 01 16.6**	**+0.8**
MTP	**Monte Pirata**	**1.49**	**151**			**Pn**	**19 00 56.9**	**0.0**
MTP						**Sn**	**19 01 16.6**	**+0.8**
IDE	**Isla Desecheo**	**1.49**	**227**	*i*P		**Pn**	**19 00 57.1**	**+0.1**
IDE	**Isla Des

OK025	**Westminster Rd**	**1.34**	**168**	Pn	**Pn**	**19 27 22.0**	**+0.4**
OK001	**Jones High Sch**	**1.37**	**167**		**Pb**	**19 27 22.9**	**+0.3**
OKCFA	**Oklahoma City**	**1.49**	**173**	Pn	**Pb**	**19 27 24.4**	**-0.3**
OKCFA				IAmb_Lg		19 27 47.3	
	comp=Z,508nm,0.8s						
OKCFA	**Oklahoma City**	**1.49**	**173**	P	**Pb**	**19 27 24.8**	**+0.1**
	baz=354,SNR=28						
OKCFA				S	**Sg**	**19 27 45.2**	**+0.2**
	baz=354						
OKCSW	**OKLAHOMA CITY**	**1.50**	**172**	Pn	**Pb**	**19 27 24.8**	**-0.1**
FNO	**Franklin**	**1.65**	**172**	Pn	**Pb**	**19 27 27.1**	**-0.4**
R32A	**Long Quarter,**	**1.73**	**332**		**Pb**	**19 27 28.6**	**-0.3**
R32A	**Long Quarter,**	**1.73**	**332**	P	**Pb**	**19 27 28.9**	**0.0**
	baz=151,SNR=78						
R32A				S	**Sb**	**19 27 51.8**	**+1.2**
	baz=151						
TUL1	**Leonard**	**1.81**	**122**	P	**Pb**	**19 27 29.9**	**-0.3**
	baz=304,SNR=32						
TUL1				Sb	**Sg**	**19 27 54.5**	**-1.0**
	baz=304						
TUL1	**Leonard**	**1.81**	**122**	P	**Pb**	**19 27 29.7**	**-0.5**
	baz=304,SNR=68						
TUL1				Sb	**Sg**	**19 27 54.1**	**-1.3**
	baz=304						
X34A	**Smith Ranch, M**	**2.29**	**183**	Pn	**Pn**	**19 27 36.5**	**+1.8**
X34A				IAmb_Lg		19 28 15.9	
	comp=Z,268nm,0.7s						
WMOK	**Wichita Mounta**	**2.33**	**203**	Pn	**Pn**	**19 27 36.9**	**+1.6**
WMOK				IAmb_Lg		19 28 10.8	
	comp=Z,286nm,0.7s						
WMOK	**Wichita Mounta**	**2.33**	**203**	P	**Pb**	**19 27 37.9**	**-1.2**
	baz=23						
WMOK	**Wichita Mounta**	**2.33**	**203**	P	**Pb**	**19 27 37.4**	**-1.7**
	baz=23						
WMOK				S	**Sb**	**19 28 06.8**	**-0.9**
	baz=23						
KSU1	**Kansas State U**	**2.36**	**21**		**Pn**	**19 27 36.9**	**+1.2**
KSU1				IAmb_Lg		19 28 10.2	
	comp=Z,298nm,1.0s						
KSU1	**Kansas State U**	**2.36**	**21**	P	**Pn**	**19 27 37.2**	**+1.6**
	baz=200,SNR=23						
KSU1	**Kansas State U**	**2.36**	**21**	P	**Pn**	**19 27 37.1**	**+1.5**
	baz=200,SNR=45						
KSU1				S	**Sn**	**19 28 06.5**	**+2.0**
	baz=200						
CBKS	**Cedar Bluff**	**2.52**	**320**	Pn	**Pn**	**19 27 39.2**	**+1.4**
CBKS				IAmb_Lg		19 28 23.6	
	comp=Z,433nm,0.8s						
CBKS	**Cedar Bluff**	**2.52**	**320**	P	**Pn**	**19 27 39.5**	**+1.6**
	baz=139,SNR=23						
CBKS				S	**Sb**	**19 28 14.7**	**+1.5**
	baz=139						
CBKS	**Cedar Bluff**	**2.52**	**320**	P	**Pn**	**19 27 39.4**	**+1.5**
	baz=139,SNR=34						
CBKS				Sb	**Sb**	**19 28 15.1**	**+1.9**
	baz=139						
U38A	**Gravette**	**2.69**	**99**	Pn	**Pn**	**19 27 38.2**	**-1.9**
U38A				IAmb_Lg		19 28 25.1	
	comp=Z,230nm,0.8s						
LOOK	**Love County**	**2.92**	**172**		**Pn**	**19 27 44.5**	**+1.1**
LOOK				IAmb_Lg		19 28 37.2	
	comp=Z,159nm,0.9s						
X37A	**Clayton**	**2.97**	**140**		**Pn**	**19 27 45.5**	**+1.5**
X37A				IAmb_Lg		19 28 36.8	
	comp=Z,167nm,0.8s						
HHAR	**Hobbs**	**3.07**	**100**	Pn	**Pn**	**19 27 46.8**	**+1.4**
HHAR				IAmb_Lg		19 28 39.4	
	comp=Z,264nm,0.8s						
HHAR	**Hobbs**	**3.07**	**100**	P	**Pn**	**19 27 47.4**	**+1.9**
	baz=283						
S39A	**Bolivar**	**3.56**	**76**		**Pn**	**19 27 53.1**	**+0.9**
S39A	**Bolivar**	**3.56**	**76**	P	**Pn**	**19 27 53.1**	**+0.9**
	baz=258,SNR=56						
Z35A	**Perchaven, San**	**3.57**	**174**		**Pn**	**19 27 53.4**	**+1.1**
Z35A				IAmb_Lg		19 28 55.2	
	comp=Z,268nm,1.3s						
Z35A	**Perchaven, San**	**3.57**	**174**	S	**Sn**	**19 28 37.1**	**+2.8**
	baz=355						
W39A	**Magazine**	**3.58**	**117**		**Pn**	**19 27 53.3**	**+0.9**
W39A				IAmb_Lg		19 28 52.9	
	comp=Z,321nm,0.8s						
W39A	**Magazine**	**3.58**	**117**	S	**Sn**	**19 28 36.2**	**+1.6**
	baz=300						
W39A	**Magazine**	**3.58**	**117**	P	**Pn**	**19 27 53.5**	**+1.0**
	baz=300,SNR=19						
W39A				S	**Sn**	**19 28 36.2**	**+1.6**
	baz=300						
AMTX	**Amarillo**	**3.82**	**240**	Pn	**Pn**	**19 27 57.0**	**+1.3**
AMTX				IAmb_Lg		19 29 06.6	
	comp=Z,213nm,0.9s						
AMTX	**Amarillo**	**3.82**	**240**	P	**Pn**	**19 27 58.1**	**+2.3**
	baz=57						
AMTX				Sb	**Sg**	**19 28 56.4**	**-3.4**
	baz=57						
N33B	**J Bar K, Exete**	**3.84**	**3**	P	**Pn**	**19 27 56.9**	**+0.8**
	baz=182						
U40A	**Yellville**	**3.92**	**96**		**Pn**	**19 27 58.1**	**+1.0**
U40A	**Yellville**	**3.92**	**96**	P	**Pn**	**19 27 58.4**	**+1.3**
	baz=279,SNR=17						
U40A	**Yellville**	**3.92**	**96**	P	**Pn**	**19 27 58.1**	**+1.0**
	baz=279,SNR=30						
U40A				S	**Sn**	**19 28 44.3**	**+1.4**
	baz=279						
MIAR	**Mount Ida**	**4.08**	**124**	Pn	**Pn**	**19 28 01.1**	**+1.9**
MIAR				IAmb_Lg		19 29 06.7	
	comp=Z,341nm,1.2s						
MIAR	**Mount Ida**	**4.08**	**124**	S	**Sn**	**19 28 48.3**	**+1.4**
	baz=306						
MIAR	**Mount Ida**	**4.08**	**124**	P	**Pn**	**19 28 00.9**	**+1.7**
	baz=306,SNR=13						
MIAR				S	**Sn**	**19 28 48.1**	**+1.2**
	baz=306						
Z38A	**Mt. Pleasant**	**4.25**	**148**	Pn	**Pn**	**19 28 02.5**	**+0.9**
Z38A				IAmb_Lg		19 29 16.8	
	comp=Z,304nm,0.8s						
P38A	**Dawn**	**4.25**	**49**	Pn	**Pn**	**19 28 02.7**	**+1.0**
P38A				IAmb_Lg		19 29 15.7	
	comp=Z,219nm,0.7s						
P38A	**Dawn**	**4.25**	**49**	P	**Pn**	**19 28 02.4**	**+0.7**
	baz=231,SNR=20						
N35A	**Tabor**	**4.27**	**21**		**Pn**	**19 28 03.3**	**+1.4**
N35A	**Tabor**	**4.27**	**21**	P	**Pn**	**19 28 03.4**	**+1.4**
	baz=202,SNR=17						
MGMO	**Mountain Grove**	**4.34**	**85**		**Pn**	**19 28 04.3**	**+1.5**
MGMO				IAmb_Lg		19 29 13.6	
	comp=Z,272nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.45**	**300**	Pn	**Pn**	**19 28 05.9**	**+1.5**
KSCO				IAmb_Lg		19 29 18.6	
	comp=Z,116nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.45**	**300**	P	**Pn**	**19 28 06.1**	**+1.7**
	baz=117						
KSCO				S	**Sn**	**19 28 56.4**	**+0.3**
	baz=117						
KSCO				Sb	**Sg**	**19 29 16.2**	**-3.7**
	baz=117						
R40A	**Maddies Statio**	**4.52**	**70**		**Pn**	**19 28 06.2**	**+1.0**
R40A	**Maddies Statio**	**4.52**	**70**	P	**Pn**	**19 28 06.3**	**+1.0**
	baz=253,SNR=66						
BGNE	**Belgrade**	**4.52**	**356**		**Pn**	**19 28 07.0**	**+1.5**
BGNE	**Belgrade**	**4.52**	**356**	P	**Pn**	**19 28 06.7**	**+1.3**
	baz=175,SNR=15						
BGNE	**Belgrade**	**4.52**	**356**	P	**Pn**	**19 28 06.7**	**+1.3**
	baz=175						
BGNE				S	**Sn**	**19 28 57.9**	**0.0**
	baz=175						
ABTX	**Abilene, Hawle**	**4.55**	**201**	IAmb_Lg		19 29 20.8	
	comp=Z,100nm,0.9s						
ABTX	**Abilene, Hawle**	**4.55**	**201**	S	**Sn**	**19 28 59.8**	**+1.1**
	baz=20						
FCAR	**Ozark Folk Cen**	**4.59**	**101**	Pn	**Pn**	**19 28 07.0**	**+0.7**
FCAR				IAmb_Lg		19 29 19.5	
	comp=Z,198nm,0.8s						
X40A	**Basin Creek Fa**	**4.62**	**120**		**Pn**	**19 28 07.5**	**+0.8**
X40A				IAmb_Lg		19 29 23.9	
	comp=Z,207nm,0.7s						
X40A	**Basin Creek Fa**	**4.62**	**120**	P	**Pn**	**19 28 08.2**	**+1.5**
	baz=303						
X40A				S	**Sn**	**19 29 01.2**	**+1.1**
	baz=303						
X40A				Sb	**Sb**	**19 29 17.4**	**+3.9**
	baz=303						
WHAR	**Wooly Hollow**	**4.65**	**109**		**Pn**	**19 28 07.1**	**0.0**
WHAR				IAmb_Lg		19 29 24.9	
	comp=Z,266nm,1.0s						
W41B	**Gary Mavity, V**	**4.72**	**110**	P	**Pn**	**19 28 09.0**	**+0.9**
	baz=293,SNR=7.2						
W41B				S	**Sn**	**19 29 03.5**	**+0.7**
	baz=293						
WHTX	**Lake Whitney,**	**4.89**	**178**		**Pn**	**19 28 11.4**	**+1.0**
WHTX	**Lake Whitney,**	**4.89**	**178**	P	**Pn**	**19 28 11.5**	**+1.0**
	baz=358,SNR=36						
WHTX	**Lake Whitney,**	**4.89**	**178**	P	**Pn**	**19 28 11.5**	**+1.1**
	baz=358						
WHTX				S	**Sn**	**19 29 06.9**	**0.0**
	baz=358						
WLAR	**White Oak Lake**	**4.92**	**129**	IAmb_Lg		19 29 43.3	
	comp=Z,247nm,1.1s						
MSTX	**Muleshoe**	**5.08**	**236**	Pn	**Pn**	**19 28 13.6**	**+0.5**
MSTX	**Muleshoe**	**5.08**	**236**	P	**Pn**	**19 28 14.6**	**+1.5**
	baz=54						
MSTX				Sb	**Sb**	**19 29 33.0**	**+6.1**
	baz=54						
237A	**Washetta, Mont**	**5.12**	**162**	Pn	**Pn**	**19 28 13.5**	**0.0**
237A				IAmb_Lg		19 29 54.1	
	comp=Z,94nm,0.9s						
P40A	**Paris**	**5.16**	**58**		**Pn**	**19 28 13.5**	**-0.6**
P40A				IAmb_Lg		19 29 42.8	
	comp=Z,138nm,0.8s						
L34A	**Svendsen Farm,**	**5.17**	**11**		**Pn**	**19 28 14.1**	**-0.1**
N38A	**Joes South For**	**5.22**	**40**		**Pn**	**19 28 15.4**	**+0.5**
N38A	**Joes South For**	**5.22**	**40**	P	**Pn**	**19 28 15.4**	**+0.5**
	baz=223,SNR=10						
CCM	**Cathedral Cave**	**5.25**	**75**	Pn	**Pn**	**19 28 15.7**	**+0.3**
CCM				IAmb_Lg		19 29 49.0	
	comp=Z,100nm,0.8s						
CCM	**Cathedral Cave**	**5.25**	**75**	P	**Pn**	**19 28 15.7**	**+0.3**
	baz=259,SNR=7.1						
CCM	**Cathedral Cave**	**5.25**	**75**	P	**Pn**	**19 28 15.7**	**+0.3**
	baz=259						
OGNE	**Ogallala**	**5.28**	**321**	Pn	**Pn**	**19 28 17.3**	**+1.4**
OGNE	**Ogallala**	**5.28**	**321**	P	**Pn**	**19 28 17.9**	**+2.1**
	baz=138						
OGNE				S	**Sn**	**19 29 16.1**	**-0.6**
	baz=138						
LCAR	**Lake Charles**	**5.32**	**97**	Pn	**Pn**	**19 28 16.8**	**+0.5**
LCAR				IAmb_Lg		19 29 48.8	
	comp=Z,199nm,1.0s						
T25A	**Trinidad**	**5.39**	**275**		**Pn**	**19 28 20.0**	**+2.5**
T25A				IAmb_Lg		19 29 48.5	
	comp=Z,172nm,0.8s						
T25A	**Trinidad**	**5.39**	**275**	P	**Pn**	**19 28 19.5**	**+2.0**
	baz=91						
Z41A	**Richland Creek**	**5.40**	**131**	S	**Sn**	**19 29 19.0**	**-0.4**
	baz=314						
CCAR	**Cane Creek**	**5.67**	**120**	IAmb_Lg		19 30 06.1	
	comp=Z,205nm,0.9s						
NATX	**Nacogdoches**	**5.70**	**153**	P	**Pn**	**19 28 22.6**	**+1.1**
	baz=335						
K31A	**O'Neill**	**5.78**	**352**		**Pn**	**19 28 24.4**	**+1.7**
PBMO	**Poplar Bluff**	**5.82**	**89**		**Pn**	**19 28 23.9**	**+0.7**
PBMO				IAmb_Lg		19 30 13.8	
	comp=Z,171nm,0.8s						
SCIA	**State Center**	**6.08**	**33**		**Pn**	**19 28 27.7**	**+0.9**
SCIA	**State Center**	**6.08**	**33**	P	**Pn**	**19 28 28.4**	**+1.5**
	baz=216						
SCIA				S	**Sn**	**19 29 35.9**	**-0.4**
	baz=216						
435B	**Jarrell**	**6.09**	**179**	P	**Pn**	**19 28 27.5**	**+0.5**
	baz=360						
435B				S	**Sn**	**19 29 36.0**	**-0.6**
	baz=360						
SLM	**Saint Louis**	**6.15**	**71**		**Pn**	**19 28 27.0**	**-0.7**
SLM				IAmb_Lg		19 30 09.4	
	comp=Z,174nm,1.0s						
Q24A	**Divide**	**6.26**	**292**	P	**Pn**	**19 28 30.1**	**+0.6**
	baz=107						
Q24A				S	**Sn**	**19 29 41.3**	**+0.3**
	baz=107						
SDCO	**Great Sand Dun**	**6.29**	**280**	Pn	**Pn**	**19 28 31.3**	**+1.4**
N41A	**Harden Midland**	**6.55**	**52**		**Pn**	**19 28 35.0**	**+1.8**
JCT	**Junction City**	**6.64**	**196**		**Pn**	**19 28 35.0**	**+0.6**
JCT				IAmb_Lg		19 30 40.9	
	comp=Z,127nm,0.9s						
JCT	**Junction City**	**6.64**	**196**	P	**Pn**	**19 28 34.7**	**+0.2**
	baz=15						
JCT				S	**Sn**	**19 29 47.4**	**-2.6**
	baz=15						
143A	**Socs Landing,**	**6.64**	**127**	IAmb_Lg		19 30 43.7	
	comp=Z,120nm,0.8s						
S44A	**Carbondale**	**6.76**	**81**		**Pn**	**19 28 36.3**	**+0.1**
SIUC	**Southern Illin**	**6.79**	**81**		**Pn**	**19 28 35.5**	**-1.1**
HALT	**Halls**	**6.80**	**96**	IAmb_Lg		19 30 51.3	
	comp=Z,172nm,0.7s						
ISCO	**Idaho Springs**	**6.88**	**297**		**Pn**	**19 28 39.5**	**+1.4**
ISCO	**Idaho Springs**	**6.88**	**297**	P	**Pn**	**19 28 39.2**	**+1.2**
	baz=112						
ISCO				S	**Sn**	**19 29 56.3**	**0.0**
	baz=112						
K38A	**Parkersburg**	**6.88**	**32**		**Pn**	**19 28 38.5**	**+0.8**
ECSD	**EROS Data Cent**	**6.88**	**6**	Pn	**Pn**	**19 28 37.8**	**0.0**
ECSD				IAmb_Lg		19 30 35.2	
	comp=Z,96nm,0.8s						
ECSD	**EROS Data Cent**	**6.88**	**6**	P	**Pn**	**19 28 37.6**	**-0.2**
	baz=187,SNR=11						
ECSD				S	**Sn**	**19 29 53.6**	**-2.3**
	baz=187						
P43A	**Skaggs, Pawnee**	**6.98**	**64**		**Pn**	**19 28 39.4**	**+0.3**
P43A				IAmb_Lg		19 30 38.0	
	comp=Z,122nm,0.8s						
P43A	**Skaggs, Pawnee**	**6.98**	**64**	P	**Pn**	**19 28 39.4**	**+0.3**
	baz=249,SNR=5.3						
OXF	**Oxford**	**7.13**	**107**	Pn	**Pn**	**19 28 40.5**	**-0.7**
OXF	**Oxford**	**7.13**	**107**	P	**Pn**	**19 28 41.6**	**+0.3**
	baz=292,SNR=5.4						
OXF	**Oxford**	**7.13**	**107**	P	**Pn**	**19 28 41.1**	**-0.1**
	baz=292,SNR=12						
OXF				S	**Sn**	**19 30 00.3**	**-1.9**
	baz=292						
Q44A	**Meyer Farm, Va**	**7.14**	**71**	IAmb_Lg		19 30 53.4	
	comp=Z,126nm,0.9s						
L40A	**Anamosa**	**7.18**	**42**		**Pn**	**19 28 38.9**	**-3.0**
Y45A	**Yeager Farm, C**	**7.30**	**112**	IAmb_Lg		19 30 55.2	
	comp=Z,73nm,0.8s						
ANMO	**Albuquerque**	**7.38**	**257**	Pn	**Pn**	**19 28 43.9**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=350,slow=5.1,SNR=3.3						
ANMO				Lg	Lg	19 30 43.9	
	comp=Z,2.3nm,0.3s,baz=332,slow=21,SNR=4.7						
ANMO	**Albuquerque**	**7.38**	**257**	Pn	**Pn**	**19 28 44.7**	**-0.2**
PHWY	**Pilot Hill**	**7.48**	**308**	Pn	**Pn**	**19 28 46.4**	**+0.2**
PHWY				IAmb_Lg		19 31 05.7	
	comp=Z,68nm,0.8s						
HDIL	**Hopedale**	**7.51**	**58**		**Pn**	**19 28 46.4**	**+0.1**
N23A	**Red Feather La**	**7.58**	**304**	P	**Pn**	**19 28 48.9**	**+1.3**
	baz=119						
SUSD	**Miller**	**7.60**	**353**	IAmb_Lg		19 31 11.2	
	comp=Z,143nm,1.0s						
SUSD	**Miller**	**7.60**	**353**	S	**Sn**	**19 30 12.6**	**-1.1**
	baz=172						
BNM	**Barren Site**	**7.79**	**252**	Pn	**Pn**	**19 28 52.1**	**+1.6**
OLIL	**Olney**	**7.80**	**73**	IAmb_Lg		19 31 05.6	
	comp=Z,105nm,1.1s						
I37A	**Lemond, Waseca**	**7.83**	**23**	IAmb_Lg		19 31 21.0	
	comp=Z,113nm,0.9s						
O44A	**Mansfield**	**7.92**	**63**	IAmb_Lg		19 31 09.9	
	comp=Z,135nm,0.7s						
WVT	**Waverly**	**7.97**	**93**	Pn	**Pn**	**19 28 52.4**	**-0.3**
WVT	**Waverly**	**7.97**	**93**	P	**Pn**	**19 28 51.9**	**-0.8**
	baz=278						
WVT				S	**Sn**	**19 30 17.5**	**-5.2**
	baz=278						
735A	**Kenedy**	**8.02**	**181**	Pn	**Pn**	**19 28 54.9**	**+1.5**
735A				IAmb_Lg		19 31 31.4	
	comp=Z,103nm,1.0s						
PLAL	**Pickwick Lake**	**8.02**	**101**	Pn	**Pn**	**19 28 52.3**	**-1.1**
PLAL				IAmb_Lg		19 31 09.5	
	comp=Z,71nm,0.8s						
L42A	**Oliver, Polo**	**8.03**	**48**		**Pn**	**19 28 54.2**	**+0.7**
Y22D	**IRIS PASSCAL I**	**8.04**	**252**	IAmb_Lg		19 31 31.5	
	comp=Z,133nm,0.8s						
MNTX	**Cornudas Mount**	**8.21**	**233**	Pn	**Pn**	**19 28 56.6**	**+0.6**
MNTX	**Cornudas Mount**	**8.21**	**233**	P	**Pn**	**19 28 57.1**	**+1.0**
	baz=49,SNR=11						
MNTX	**Cornudas Mount**	**8.21**	**233**	P	**Pn**	**19 28 57.1**	**+1.0**
	baz=49						
MNTX				S	**Sn**	**19 30 27.5**	**-1.2**
	baz=49						
146A	**Union**	**8.27**	**118**	IAmb_Lg		19 31 36.8	
	comp=Z,69nm,0.9s						
JFWS	**Jewell Farm**	**8.29**	**41**	Pn	**Pn**	**19 28 56.9**	**-0.2**
JFWS				IAmb_Lg		19 31 22.6	
	comp=Z,114nm,0.8s						
JFWS	**Jewell Farm**	**8.29**	**41**	P	**Pn**	**19 28 57.4**	**+0.3**
	baz=226,SNR=6.2						
JFWS	**Jewell Farm**	**8.29**	**41**	P	**Pn**	**19 28 56.5**	**-0.6**
	baz=226,SNR=9.5						
JFWS				S	**Sn**	**19 30 28.4**	**-2.2**
	baz=226						
T47A	**Sharon Grove**	**8.47**	**86**	IAmb_Lg		19 31 25.3	
	comp=Z,88nm,0.8s						
RSSD	**Black Hills**	**8.69**	**328**	Pn	**Pn**	**19 29 04.0**	**+1.2**
M44A	**Midewin, Midew**	**8.73**	**56**	Pn	**Pn**	**19 29 03.1**	**0.0**
M44A				IAmb_Lg		19 31 37.2	
	comp=Z,114nm,0.9s						
RWWY	**Rawlins**	**8.80**	**306**	IAmb_Lg		19 31 51.2	
	comp=Z,85nm,1.1s						
I40A	**Norwalk**	**8.82**	**35**		**Pn**	**19 29 04.3**	**-0.1**
I40A				IAmb_Lg		19 31 50.5	
	comp=Z,57nm,0.7s						
V48A	**Smith Brothers**	**8.84**	**94**	IAmb_Lg		19 31 34.1	
	comp=Z,57nm,0.9s						
PV02	**Paradox Valley**	**8.88**	**282**	IAmb_Lg		19 31 48.4	
	comp=Z,41nm,1.0s						
K22A	**Casper**	**8.91**	**313**	IAmb_Lg		19 32 00.4	
	comp=Z,90nm,0.9s						
K22A	**Casper**	**8.91**	**313**	P	**Pn**	**19 29 06.9**	**+1.2**
	baz=127						
PV12	**Saucer Basin,**	**8.94**	**283**	IAmb_Lg		19 31 52.4	
	comp=Z,43nm,1.1s						
SFIN	**Lafayette**	**8.98**	**64**	IAmb_Lg		19 31 40.3	
	comp=Z,83nm,0.8s						
SFIN	**Lafayette**	**8.98**	**64**	P	**Pn**	**19 29 06.6**	**0.0**
	baz=250						
X48A	**Hartselle**	**8.99**	**103**	IAmb_Lg		19 31 40.2	
	comp=Z,87nm,1.0s						
PV11	**David Mesa, Pa**	**8.99**	**282**	IAmb_Lg		19 31 57.7	
	comp=Z,53nm,1.0s						
F33A	**5 Mile Ranch,**	**9.00**	**6**	IAmb_Lg		19 31 46.9	
	comp=Z,73nm,1.0s						
PV04	**Paradox Valley**	**9.03**	**283**	IAmb_Lg		19 31 47.6	
	comp=Z,41nm,1.2s						
TXAR	**Lajitas Array**	**9.05**	**215**	Pn	**Pn**	**19 29 08.2**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=46,slow=12,SNR=19						
TXAR				Lg	Lg	19 31 39.4	
	comp=Z,1.4nm,0.3s,baz=34,slow=23,SNR=6.9						
BLO	**Bloomington**	**9.09**	**72**	IAmb_Lg		19 31 58.7	
	comp=Z,108nm,0.8s						
SPMN	**Marine on St.**	**9.10**	**22**	IAmb_Lg		19 31 51.0	
	comp=Z,42nm,0.7s						
PV23	**Carpenter Ridg**	**9.12**	**283**	IAmb_Lg		19 31 58.9	
	comp=Z,39nm,0.9s						
WCI	**Wyandotte Cave**	**9.14**	**78**	IAmb_Lg		19 31 48.2	
	comp=Z,93nm,0.8s						
WCI	**Wyandotte Cave**	**9.14**	**78**	P	**Pn**	**19 29 10.1**	**+1.3**
	baz=265						
CLTN	**Cedars of Leba**	**9.18**	**92**	IAmb_Lg		19 31 57.1	
	comp=Z,55nm,0.9s						
F36A	**Milaca**	**9.49**	**18**	IAmb_Lg		19 32 06.7	
	comp=Z,44nm,1.2s						
U49A	**Red Boiling Sp**	**9.56**	**89**	IAmb_Lg		19 32 00.2	
	comp=Z,36nm,1.0s						
SWET	**Sewanee**	**9.66**	**96**	IAmb_Lg		19 32 10.2	
	comp=Z,53nm,1.1s						
I42A	**Draeger Farm,**	**9.67**	**41**	IAmb_Lg		19 32 06.8	
	comp=Z,62nm,0.8s						
Y49A	**Blount Mountai**	**9.69**	**105**	IAmb_Lg		19 32 05.5	
	comp=Z,56nm,0.8s						
E28A	**Huff**	**9.93**	**348**	IAmb_Lg		19 32 26.6	
	comp=Z,70nm,0.7s						
P48A	**Milroy**	**9.98**	**71**	IAmb_Lg		19 32 29.7	
	comp=Z,59nm,0.7s						
PDAR	**Pinedale Array**	**10.85**	**306**	Pn	**Pn**	**19 29 30.3**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=117,slow=17,SNR=4.1						
PDAR				Lg	Lg	19 32 37.2	
	comp=Z,2.1nm,0.3s,baz=110,slow=32,SNR=9.8						
TKL	**Tuckaleechee C**	**11.29**	**92**	Lg	Lg	19 32 48.2	
	comp=Z,1.9nm,0.3s,baz=185,slow=22,SNR=10						
ULM	**Lac du Bonnet**	**13.42**	**5**	Pn	Pn	19 30 00.4	-6.8
	comp=Z,0.2nm,0.3s,baz=324,slow=23,SNR=1.5						
ULM				Sn	Sn	19 32 24.5	-12
	comp=Z,0.9nm,0.3s,baz=254,slow=17,SNR=3.1						
ULM				Lg	Lg	19 33 50.8	
	comp=Z,0.4nm,0.3s,baz=277,slow=19,SNR=2.4						
SADO	**Sadowa**	**16.06**	**55**	Lg	Lg	19 35 16.9	
	comp=Z,0.5nm,0.3s,baz=12,slow=4.9,SNR=3.5						
ZAM	**Aeronautique**	**39.45**	**115**[1]	eP	**P**	**19 34 26.5**	**-0.7**
TRMF	**Trois Ilets**	**39.45**	**115**[1]	eP	**P**	**19 34 25.9**	**-1.3**
LPMF	**Morne Lapointe**	**39.49**	**114**[1]	eP	**P**	**19 34 27.4**	**-0.2**
MVM	**Montagne Vaucl**	**39.56**	**114**	eP	**P**	**19 34 28.7**	**+0.6**
ILAR	**Eielson Array**	**40.13**	**330**	P	**P**	**19 34 33.0**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=104,slow=7.1,SNR=8.3						
ILAR	**Eielson Array**	**40.13**	**330**	P	**P**	**19 34 33.0**	**+0.6**
ARCES	**ARCESS Array B**	**66.09**	**19**	P	**P**	**19 37 43.7**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=316,slow=7.6,SNR=1.5						
FINES	**FINESS Array B**	**71.93**	**25**	P	**P**	**19 38 20.6**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=0.0,slow=4.6,SNR=3.7						
AKASG	**Malin Array Be**	**81.07**	**31**	P	**P**	**19 39 12.4**	**+0.6**
	comp=Z,0.2nm,0.2s,baz=317,slow=4.4,SNR=4.8						

IDC 10 19:32:38.4±3.4, 4°.17N×95°.26E, h0km, mb3.9/2, mb1 4.1/4, mb1mx3.5/39, mbtmp3.8/4, ML3.5/2, MS3.1/1, Ms1 3.3/1, ms1mx2.5/43, Error ellipse: s-maj=71.9km s-min=43.4km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.90**	**110**	Pn		Pn		19 33 41.0	+1.3
	4.7nm,0.3s,baz=0.5,slow=12,SNR=11								
PSI				Sn		Sn		19 34 28.8	+2.5
	10.0nm

WRA	**Warramunga Arr**	**13.19 155**	P	Pn	19 52 52.2	+1.9
	0.3nm,0.3s,baz=336,slow=12,SNR=8.4					
ASAR	**Alice Springs**	**16.46 162**	P	P	19 53 28.9	-1.5
	0.5nm,0.3s,baz=344,slow=12,SNR=29					
MKAR	**Makanchi Array**	**68.22 328**	P	P	20 00 31.9	+0.2
	0.3nm,0.4s,baz=121,slow=7.6,SNR=7.1					

*IDC **10** 19:54:15.4±1.2, 33˚.20S×178˚.43W, h0km, mb4.1/5, mb1 4.3/6, mb1mx3.9/40, mbtmp4.1/6, ML3.9/1, Error ellipse: s-maj=34.2km s-min=31.1km az=144.0*
*NEIC **10** 19:54:17.7±1.6, 33˚.35S±0˚.06×178˚.5W±0˚.3, h10km±1km, mb4.4/7, Error ellipse: s-maj=37.6km s-min=8.6km az=81.0*

ISC 10 19:54:21.3±0.9, 33˚.38S±0˚.09×178˚.5W±0˚.1, h41km, n34, σ1°27/32, mb4.3/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.92**	**211**	Pn	**Pn**	**19 55 30.8**	**-1.9**
URZ	**Urewera**	**6.04**	**215**	Pn	**Pn**	**19 55 47.7**	**-0.2**
	2.6nm,0.3s,baz=250,slow=4.2,SNR=14						
URZ				Sn	**Sn**	**19 56 57.4**	**+1.6**
	7.1nm,0.3s,baz=104,slow=17,SNR=11						
URZ	**Urewera**	**6.04**	**215**	Pn	**Pn**	**19 55 47.2**	**-0.8**
OUZ	**Omahuta**	**6.79**	**252**	Pn	**Pn**	**19 55 57.3**	**-1.1**
BKZ	**Black Stump Fm**	**7.05**	**214**	Pn	**Pn**	**19 55 59.6**	**-2.4**
BFZ	**Birch Farm**	**8.41**	**208**	Pn	**Pn**	**19 56 18.0**	**-2.6**
THZ	**Tophouse**	**10.79**	**217**	Pn	**Pn**	**19 56 49.4**	**-3.8**
CTA	**Charters Tower**	**33.98**	**284**	P	**P**	**20 01 01.8**	**+0.7**
	4.6nm,0.8s,baz=130,slow=11,SNR=2.3						
CTA	**Charters Tower**	**33.98**	**284**	P	**P**	**20 01 01.8**	**+0.7**
AS31	**Alice Springs**	**42.61**	**270**	P	**P**	**20 02 14.2**	**+0.5**
ASAR	**Alice Springs**	**42.61**	**270**	P	**P**	**20 02 14.1**	**+0.3**
	4.2nm,0.7s,baz=110,slow=7.5,SNR=46						
ASAR	**Alice Springs**	**42.61**	**270**	P	**P**	**20 02 14.1**	**+0.3**
WR0	**Warramunga Arr**	**43.69**	**276**	P	**P**	**20 02 22.4**	**-0.1**
WR0				IAmb	IAmb	20 02 40.0	
	comp=Z,13nm,1.4s						
WB2	**Warramunga Arr**	**43.86**	**276**	P	**P**	**20 02 23.7**	**-0.1**
WRAB	**Tennant Creek**	**43.86**	**276**	P	**P**	**20 02 22.9**	**-0.9**
WRAB				IAmb	IAmb	20 02 40.6	
	comp=Z,5.6nm,1.0s						
WRA	**Warramunga Arr**	**43.87**	**276**	P	**P**	**20 02 23.8**	**0.0**
	comp=Z,1.7nm,0.5s,baz=117,slow=7.7,SNR=29						
SBA	**Scott Base**	**45.05**	**184**	P	**P**	**20 02 33.6**	**+1.2**
SBA				IAmb	IAmb	20 02 54.3	
	comp=Z,4.4nm,1.5s						
FITZ	**Fitzroy Crossi**	**51.99**	**272**	P	**P**	**20 03 26.6**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=168,slow=13,SNR=1.3						
CASY	**Casey**	**52.33**	**209**	P	**P**	**20 03 29.0**	**+0.5**
CASY				IAmb	IAmb	20 03 32.0	
	comp=Z,5.4nm,0.9s						
QSPA	**South Pole Qui**	**56.74**	**180**	P	**P**	**20 04 02.4**	**+1.6**
	comp=Z,0.8nm,0.7s,baz=27,slow=12,SNR=1.9						
QSPA	**South Pole Qui**	**56.74**	**180**	P	**P**	**20 04 01.7**	**+0.9**
QSPA				IAmb	IAmb	20 04 26.5	
	comp=Z,5.6nm,1.1s						
SNAA	**Sanae**	**75.20**	**179**	P	P	20 06 09.9	+11
VNA3	**Neumayer Olymp**	**75.37**	**176**	P	P	20 06 12.3	+12
VNA2	**Neumayer--Watz**	**75.80**	**177**	P	P	20 06 15.2	+13
	baz=172,slow=5.2						
VNA1	**Neumayer--Stat**	**76.03**	**177**	P	P	20 06 16.5	+13
FINES	**FINESS Array B**	**147.76**	**338**	PKPbc	**PKPbc**	**20 14 00.0**	**-0.8**
	comp=Z,2.6nm,0.9s,baz=44,slow=5.8,SNR=10						
FINES	**FINESS Array B**	**147.76**	**338**		**PKPbc**	**20 14 00.0**	**-0.8**
NB2	**NORSAR Subarra**	**151.61**	**350**	PKP	**PKPbc**	**20 14 09.9**	**-0.5**
	comp=Z,3.0nm,1.0s,baz=20,slow=4.4						
NOA	**NORSAR Array B**	**151.61**	**350**	PKPbc	**PKiKP**	**20 14 11.1**	**+0.3**
	comp=Z,0.2nm,0.7s,baz=333,slow=1.9,SNR=1.4						
NOA				PKPab	**PKPab**	**20 14 17.9**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=21,slow=3.2,SNR=5.0						
NOA	**NORSAR Array B**	**151.61**	**350**		**PKPab**	**20 14 17.9**	**-1.2**
AKASG	**Malin Array Be**	**153.33**	**319**	PKPbc	**PKPbc**	**20 14 14.4**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=62,slow=2.7,SNR=1.4						
AKASG	**Malin Array Be**	**153.33**	**319**		**PKPbc**	**20 14 14.3**	**-0.1**
BRTR	**Keskin Array B**	**153.51**	**293**	PKPbc	**PKiKP**	**20 14 15.8**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=179,slow=4.0,SNR=2.4						
BRTR	**Keskin Array B**	**153.51**	**293**		**PKiKP**	**20 14 15.8**	**+0.3**

IDC 10 19:54:43.0±3.2, 33˚.29S×178˚.34W, h0km, mb4.2/2, mb1 4.4/3, mb1mx3.8/39, mbtmp4.2/3, ML4.1/1, Error ellipse: s-maj=74.4km s-min=37.0km az=118.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.18**	**215**	Pn	Pn	19 56 16.0	+0.5
	4.7nm,0.3s,baz=262,slow=2.5,SNR=6.3						
URZ				Sn	Sn	19 57 25.5	-1.4
	3.6nm,0.3s,baz=178,slow=19,SNR=1.5						
ASAR	**Alice Springs**	**42.75**	**270**	P	P	20 02 42.2	0.0
	2.6nm,0.6s,baz=110,slow=7.5,SNR=7.7						
WRA	**Warramunga Arr**	**43.99**	**275**	P	P	20 02 52.3	0.0
	1.4nm,0.5s,baz=116,slow=7.7,SNR=9.8						
FINES	**FINESS Array B**	**147.73**	**338**	PKPbc	PKPbc	20 14 27.9	-0.9
	1.1nm,0.5s,baz=57,slow=5.1,SNR=4.9						

*IDC **10** 19:55:07.2±1.0, 31˚.87N×141˚.56E, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.6/57, mbtmp3.6/8, ML3.1/2, MS3.0/3, Ms1 3.0/3, ms1mx2.6/41, Error ellipse: s-maj=37.4km s-min=18.2km az=75.0*

ISC 10 19:55:10.9±0.8, 31˚.87N±0˚.09×141˚.5E±0˚.2, h26km, n11, σ0°87/10, mb3.7/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**4.80**	**172**	Pn	**Pn**	**19 56 21.5**	**0.0**
	2.9nm,0.3s,baz=87,slow=20,SNR=1.6						
JCJ				Sn	**Sn**	**19 57 15.4**	**-0.9**
	3.9nm,0.3s,baz=137,slow=22,SNR=1.7						
MJAR	**Matsushiro Arr**	**5.39**	**331**	Pn	**Pn**	**19 56 29.3**	**-0.3**
	0.2nm,0.3s,baz=195,slow=29,SNR=6.9						
MJAR				Sn	**Sn**	**19 57 29.9**	**-0.9**
	0.1nm,0.3s,baz=203,slow=37,SNR=1.1						
KSRS	**Korea Array**	**12.46**	**300**	LR	LR	20 02 46.8	
	comp=Z,25nm,19.0s,baz=70,slow=37						
TIXI	**Tiksi**	**40.42**	**354**	LR	LR	20 19 48.5	
	comp=Z,30nm,19.0s,baz=197,slow=37						
ZALV	**Zalesovo Beam**	**45.55**	**316**	P	**P**	**20 03 29.1**	**+0.8**
	0.4nm,0.4s,baz=110,slow=7.8,SNR=3.6						
MKAR	**Makanchi Array**	**47.05**	**306**	P	**P**	**20 03 40.9**	**+0.6**
	1.1nm,0.7s,baz=91,slow=8.8,SNR=4.8						
WRA	**Warramunga Arr**	**51.97**	**189**	P	**P**	**20 04 17.8**	**-0.1**
	0.6nm,0.5s,baz=7.0,slow=8.6,SNR=8.0						
ASAR	**Alice Springs**	**55.69**	**188**	P	**P**	**20 04 45.8**	**+0.7**
	0.3nm,0.7s,baz=2.0,slow=6.9,SNR=6.0						
NVAR	**Mina Array Bea**	**78.08**	**52**	P	**P**	**20 07 08.8**	**+0.9**
	0.1nm,0.3s,baz=303,slow=5.3,SNR=2.1						
SCHQ	**Schefferville**	**90.28**	**16**	LR	LR	20 52 06.2	
	comp=Z,12nm,20.4s,baz=122,slow=38						
TXAR	**Lajitas Array**	**93.23**	**53**	P	**P**	**20 08 22.4**	**-1.1**
	0.3nm,0.7s,baz=311,slow=4.7,SNR=3.7						

MEX 10 20:11:10.0±1.9, 17˚.00N×94˚.83W, h119km±18km, MD4.3, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.11**	**332**	*i* P	Pn	20 11 25.4	-0.9
CMIG				*i* S	Sn	20 11 36.8	-1.8
TUIG	**Tuzandepetl**	**1.10**	**21**	*i* P	Pn	20 11 31.6	-1.3
TUIG				*i* S	Sn	20 11 48.5	-1.9
TGIG		**1.65**	**97**	*i* P	Pn	20 11 37.9	-1.3
TGIG				*i* S	Sn	20 11 58.4	-3.0
VHO	**Vista Hermosa**	**1.82**	**273**	*i* P	Pn	20 11 41.8	+0.4
VHO				*eS*	Sn	20 12 05.8	+0.5
PCIG		**2.01**	**129**	*i* P	Pn	20 11 43.1	-0.5
PCIG				*eS*	Sn	20 12 08.1	-1.1
TOIG	**Toxpalan**	**2.40**	**297**	*i* P	Pn	20 11 48.1	-0.4
TOIG				*i* S	Sn	20 12 17.0	-1.0
PEIG	**Puerto Escondi**	**2.43**	**246**	*i* P	Pn	20 11 46.5	-2.4
PEIG				*i* S	Sn	20 12 17.8	-1.0
CCIG	**Comitan**	**2.68**	**105**	*i* P	Pn	20 11 51.4	-0.9
CCIG				*i* S	Sn	20 12 22.8	-1.9
TPIG	**Tehuac#an**	**2.80**	**301**	*eS*	Sn	20 12 24.7	-2.7
LVIG	**Laguna Verde**	**3.10**	**331**	*i* P	Pn	20 11 54.2	-3.4
LVIG				*eS*	Sn	20 12 27.2	-7.1
PNIG	**Pinotepa**	**3.21**	**260**	*i* P	Pn	20 11 57.1	-2.0
PNIG				*eS*	Sn	20 12 33.4	-3.6
TLIG	**Tlapa**	**3.61**	**280**	*i* P	Pn	20 12 04.6	+0.1
TLIG				*i* S	Sn	20 12 44.1	-2.5
MGIG	**Malinaltepec**	**3.64**	**274**	*i* P	Pn	20 12 04.7	-0.2
MGIG				*i* S	Sn	20 12 46.9	-0.6
PPM	**Popocatepetl**	**4.16**	**300**	*i* P	Pn	20 12 13.7	+1.6
PPM				*eS*	Sn	20 12 59.4	-0.8
DAIG	**Los Arroyos**	**4.61**	**271**	*i* P	Pn	20 12 16.5	-1.2
DAIG				*eS*	Sn	20 13 01.1	-9.3
MEIG	**Mezcala**	**4.66**	**282**	*i* P	Pn	20 12 18.6	+0.2
MEIG				*eS*	Sn	20 13 04.8	-6.9
PLIG	**Platanillo**	**4.66**	**288**	*i* P	Pn	20 12 19.4	+0.9
PLIG				*eS*	Sn	20 13 07.0	-4.7

*IDC **10** 20:12:39.8±0.7, 31˚.20N×142˚.14E, h0km, mb4.1/14, mb1 4.3/20, mb1mx4.1/46, mbtmp4.1/20, ML3.7/5, MS3.4/4, Ms1 3.5/4, ms1mx2.9/43, Error ellipse: s-maj=20.7km s-min=14.9km az=78.0*
*JMA **10** 20:12:41.8±0.1, 31˚.31N×142˚.34E, h47km, M4.2*
*NIED **10** 20:12:41.9, 31˚.31N×142˚.34E, h47km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-1.32; Mθθ0.20; Mφφ 1.12; Mrθ0.09; Mθφ-0.30; Mφr-0.85; Fault plane solution: M₀1.52000×10¹⁵ NP1: φs349.00000°, δ62.00000°, λ-85.00000°. NP2: φs159.00000°, δ28.00000°, λ-99.00000°.*
*NEIC **10** 20:12:44.3±1.3, 31˚.17N±0˚.07×142˚.1E±0˚.1, h24km±5km, mb4.6/40 Error ellipse: s-maj=16.6km s-min=9.7km az=70.0*

ISC 10 20:12:43.5±0.5, 31˚.25N±0˚.06×142˚.16E±0˚.08, h24km, n90, σ1°18/95, mb4.6/31, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**2.70**	**313**	P	**Pn**	**20 13 25.3**	**-0.1**
JHJ2	**Mitsune**	**2.72**	**314**	P	**Pn**	**20 13 25.2**	**-0.4**
JHJ2	**Mitsune**	**2.72**	**314**	Pn	**Pn**	**20 13 26.4**	**+0.7**
JHJ	**Hachijo jima 2**	**2.74**	**314**	Pn	**Pn**	**20 13 25.2**	**-0.8**
	45nm,0.3s,baz=127,slow=5.1,SNR=1.7						
JHJ				Sn	**Sn**	**20 13 56.5**	**-1.9**
	17nm,0.3s,baz=70,slow=20,SNR=1.6						
BSO1	**Boso 1**	**3.54**	**344**	P	**Pn**	**20 13 35.5**	**-0.9**
BSO3	**Boso 3**	**3.81**	**339**	P	**Pn**	**20 13 40.0**	**-0.3**
BSO4	**Boso 4**	**4.03**	**338**	P	**Pn**	**20 13 42.8**	**-0.8**
CBIJ	**Chichi jima**	**4.14**	**180**	P	**Pn**	**20 13 45.2**	**+0.1**
JCJ	**Chichijima**	**4.14**	**180**	Pn	**Pn**	**20 13 43.6**	**-1.6**
	7.0nm,0.3s,baz=298,slow=23,SNR=9.5						
JCJ				Sn	**Sn**	**20 14 30.3**	**-2.4**
	9.8nm,0.3s,baz=289,slow=21,SNR=1.8						
JCJ	**Chichijima**	**4.14**	**180**		**Pn**	**20 13 43.2**	**-1.9**
JYT	**Yasato**	**5.23**	**342**	Pn	**Pn**	**20 13 58.7**	**-1.5**
JRY	**Ryogami san**	**5.48**	**331**	P	**Pn**	**20 14 03.9**	**+0.3**
JHO	**Hitachi**	**5.51**	**347**	P	**Pn**	**20 14 03.2**	**-0.8**
JHO				*eS*	**Sn**	**20 15 03.5**	**-3.1**
JAG	**Ashikaga**	**5.63**	**337**	P	**Pn**	**20 14 05.4**	**-0.3**
JAG				*eS*	**Sn**	**20 15 07.8**	**-1.8**
JGF	**Kuroka**	**5.91**	**319**	Pn	**Pn**	**20 14 09.6**	**+0.1**
INU	**Inuyama**	**5.94**	**315**	Pn	**Pn**	**20 14 05.7**	**-4.2**
MJAR	**Matsushiro Arr**	**6.22**	**329**	Pn	**Pn**	**20 14 13.7**	**-0.1**
	1.0nm,0.3s,baz=152,slow=12,SNR=43						
MJAR				Sn	**Sn**	**20 15 24.0**	**0.0**
	0.2nm,0.3s,baz=130,slow=22,SNR=1.2						
MJAR	**Matsushiro Arr**	**6.22**	**329**		**Pn**	**20 14 14.1**	**+0.4**
MAJO	**Matsushiro**	**6.22**	**329**	Pn	**Pn**	**20 14 15.0**	**+1.3**
MAT	**Matsushiro**	**6.22**	**329**	P	**Pn**	**20 14 14.6**	**+0.8**
MAT				S	**Sn**	**20 15 22.9**	**-1.2**
MJB9	**Matsu-Tunnel**	**6.22**	**329**	Pn	**Pn**	**20 14 14.5**	**+0.7**
JMM	**Marumori**	**6.70**	**351**	Pn	**Pn**	**20 14 18.7**	**-1.6**
JWT	**Wachi**	**6.94**	**307**	Pn	**Pn**	**20 14 26.9**	**+3.3**
JSD	**Sado**	**7.50**	**336**	Pn	**Pn**	**20 14 29.9**	**-1.3**
JTM	**Tenmabayashi**	**9.56**	**355**	Pn	**Pn**	**20 14 58.1**	**-1.4**
ASAJ	**Asahikawa**	**12.85**	**1**	Pn	**Pn**	**20 15 42.6**	**-2.0**
	0.4nm,0.3s,baz=191,slow=10,SNR=1.2						
JOW	**Kunigami**	**12.91**	**254**	LR	LR	20 19 33.3	
	comp=Z,107nm,21.5s,baz=141,slow=32						
KSRS	**Korea Array**	**13.28**	**302**	Pn	**Pn**	**20 15 53.3**	**+2.8**
	0.2nm,0.3s,baz=115,slow=14,SNR=4.6						
KSRS				LR	LR	20 20 42.3	
	comp=Z,92nm,19.1s,baz=136,slow=36						
USRK	**Ussuriysk Ar.**	**15.21**	**331**	Pn	**Pn**	**20 16 15.9**	**-0.7**
	baz=122,slow=11,SNR=3.4						
YHNB	**Yeheng**	**19.48**	**255**	P	**P**	**20 17 08.0**	**-0.7**
YHNB				IAmb	IAmb	20 17 23.4	
	comp=Z,46nm,1.3s						
KLR	**Kul'dur**	**19.61**	**339**	P	**P**	**20 17 10.0**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=154,slow=7.7,SNR=7.8						
YULB	**Yu-li**	**20.09**	**252**	P	**P**	**20 17 14.9**	**-0.5**
YULB				IAmb	IAmb	20 17 41.7	
	comp=Z,38nm,1.2s						
SSLB	**Suanglung**	**20.20**	**254**	P	**P**	**20 17 16.3**	**-0.3**
SSLB				IAmb	IAmb	20 17 32.0	
	comp=Z,52nm,1.1s						
DAV	**Davao City (W)**	**28.62**	**216**	LR	LR	20 31 59.8	
	comp=Z,153nm,18.1s,baz=329,slow=41						
SONM	**Songino Array**	**31.82**	**312**	P	**P**	**20 19 07.4**	**+1.0**
	comp=Z,2.6nm,0.8s,baz=118,slow=8.6,SNR=12						
SONM	**Songino Array**	**31.82**	**312**	P	**P**	**20 19 06.6**	**+0.3**
CHTO	**Chiang Mai**	**40.82**	**263**	P	**P**	**20 20 20.7**	**-2.6**
CMAR	**Chiang Mai Arr**	**40.98**	**262**	P	**P**	**20 20 23.6**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=53,slow=7.2,SNR=6.7						
CMAR				LR	LR	20 38 24.6	
	comp=Z,70nm,18.2s,baz=168,slow=38						
ZAA0	**Zalesovo Array**	**46.40**	**317**	P	**P**	**20 21 07.8**	**-0.1**
ZALV	**Zalesovo Beam**	**46.40**	**317**	P	**P**	**20 21 07.7**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=101,slow=7.5,SNR=7.2						
ZALV				PcP	**PcP**	**20 22 42.9**	**+0.5**
	comp=Z,1.9nm,1.0s,baz=114,slow=3.5,SNR=2.5						
ZALV	**Zalesovo Beam**	**46.40**	**317**	P	**P**	**20 21 07.2**	**-0.6**
MK31	**Makanchi Array**	**47.90**	**307**	P	**P**	**20 21 20.1**	**+0.5**
MK31				IAmb	IAmb	20 21 22.4	
	comp=Z,6.7nm,0.9s						
MKAR	**Makanchi Array**	**47.90**	**307**	P	**P**	**20 21 20.2**	**+0.6**
	comp=Z,4.7nm,0.8s,baz=87,slow=8.1,SNR=12						
MKAR	**Makanchi Array**	**47.90**	**307**	P	**P**	**20 21 19.7**	**+0.1**
CHIR	**Chirikof Isln**	**49.35**	**41**	P	**P**	**20 21 31.4**	**+0.7**
PRZ	**Przheval'sk**	**51.13**	**302**	P	**P**	**20 21 45.3**	**+0.7**
PRZ				IAmb	IAmb	20 21 46.8	
	comp=Z,8.1nm,0.8s						
IMAR	**Indian Mountai**	**51.38**	**28**	P	**P**	**20 21 46.1**	**+0.2**
WR0	**Warramunga Arr**	**51.43**	**189**	P	**P**	**20 21 45.0**	**-1.7**
WR0				IAmb	IAmb	20 22 13.5	
	comp=Z,9.0nm,1.1s						
WRAB	**Tennant Creek**	**51.44**	**189**	P	**P**	**20 21 46.1**	**-0.6**
WRAB				IAmb	IAmb	20 22 01.4	
	comp=Z,10nm,1.0s						
WB2	**Warramunga Arr**	**51.44**	**189**	P	**P**	**20 21 46.3**	**-0.5**
WB2				IAmb	IAmb	20 22 13.6	
	comp=Z,8.4nm,0.9s						
WRA	**Warramunga Arr**	**51.45**	**189**	P	**P**	**20 21 46.3**	**-0.5**
	comp=Z,3.9nm,0.7s,baz=4.9,slow=6.9,SNR=38						
TARG	**Taragay, Kyrgy**	**51.70**	**301**	P	**P**	**20 21 49.9**	**+0.8**
KDJ	**Kajisay**	**52.09**	**301**	P	**P**	**20 21 52.1**	**+0.3**
BOOM	**Boomskoye usch**	**52.92**	**302**	P	**P**	**20 21 58.8**	**+0.8**
MDM	**Murphy Dome**	**53.55**	**30**	P	**P**	**20 22 03.9**	**+1.9**
MDM				IAmb	IAmb	20 22 05.1	
	comp=Z,4.6nm,1.0s						
FRU1	**Bishkek**	**53.81**	**303**	P	**P**	**20 22 04.7**	**+0.3**
AAK	**Ala-Archa**	**53.94**	**302**	P	**P**	**20 22 05.8**	**+0.5**
ILAR	**Eielson Array**	**54.12**	**30**	P	**P**	**20 22 06.1**	**0.0**
	comp=Z,1.0nm,0.5s,baz=263,slow=6.2,SNR=9.4						
PAX	**Paxson**	**54.72**	**32**	P	**P**	**20 22 11.8**	**+1.2**
BRVK	**Borovoye**	**55.08**	**316**	P	**P**	**20 22 12.9**	**-0.4**
BRVK				IAmb	IAmb	20 22 19.6	
	comp=Z,5.8nm,1.4s						
AS31	**Alice Springs**	**55.17**	**189**	P	**P**	**20 22 13.9**	**-0.3**
ASAR	**Alice Springs**	**55.17**	**189**	P	**P**	**20 22 14.0**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=18,slow=11,SNR=20						
SCRK	**Sand Creek**	**55.37**	**31**	P	**P**	**20 22 16.6**	**+1.2**
SCRK				IAmb	IAmb	20 22 17.5	
	comp=Z,4.7nm,0.8s						
BCAR	**Beaver Creek A**	**56.39**	**32**	P	**P**	**20 22 24.7**	**+2.1**
KKAR	**Karatay Array**	**56.70**	**304**	P	**P**	**20 22 25.9**	**+0.9**
KKAR				IAmb	IAmb	20 22 28.3	
	comp=Z,11nm,1.1s						
KKAR	**Karatay Array**	**56.70**	**304**	P	**P**	**20 22 25.7**	**+0.6**
GAR	**Garm**	**57.89**	**299**	P	**P**	**20 22 34.2**	**+0.6**
CHGR	**Chuyangaron**	**58.85**	**299**	P	**P**	**20 22 41.0**	**+0.6**
ARU	**Arti**	**61.16**	**321**	P	**P**	**20 22 55.9**	**+0.1**
ARU				IAmb	IAmb	20 23 11.0	
	comp=Z,5.5nm,1.0s						
ABKAR	**Akbulak array**	**62.23**	**313**	P	**P**	**20 23 02.8**	**-0.2**
ABKAR	**Akbulak array**	**62.23**	**313**	P	**P**	**20 23 03.1**	**+0.1**
ABKAR				IAmb	IAmb	20 23 19.4	
	comp=Z,3.0nm,1.1s						
HRA	**Herat**	**65.53**	**297**	P	**P**	**20 23 26.5**	**+1.2**
HRA				IAmb	IAmb	20 23 27.4	
	comp=Z,7.4nm,1.4s						
FINES	**FINESS Array B**	**74.23**	**333**	P	**P**	**20 24 18.1**	**0.0**
	comp=Z,1.0nm,0.5s,baz=62,slow=6.0,SNR=11						
KBZ	**Khabaz**	**75.19**	**312**	P	**P**	**20 24 24.3**	**+0.4**
	comp=Z,3.3nm,0.9s,baz=102,slow=5.1,SNR=4.6						
NVAR	**Mina Array Bea**	**78.00**	**52**	P	**P**	**20 24 41.0**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=291,slow=5.9,SNR=7.3						
AKASG	**Malin Array Be**	**79.27**	**323**	P	**P**	**20 24 46.8**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=51,slow=5.6,SNR=4.2						
NC204	**NORSAR Array S**	**79.72**	**338**	P	**P**	**20 24 49.1**	**0.0**
NB2	**NORSAR Subarra**	**79.76**	**338**	P	**P**	**20 24 49.0**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=41,slow=5.6						
NOA	**NORSAR Array B**	**79.76**	**338**	P	**P**	**20 24 48.9**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=41,slow=5.3,SNR=9.2						
PDAR	**Pinedale Array**	**81.30**	**45**	P	**P**	**20 24 58.6**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=338,slow=1.0,SNR=2.4						
RDMU	**Red Mountain**	**82.54**	**47**	P	**P**	**20 25 05.9**	**+1.2**
RDMU				IAmb	IAmb	20 25 17.2	
	comp=Z,9.4nm,1.1s						
SRU	**San Rafael Swe**	**82.77**	**48**	P	**P**	**20 25 06.9**	**+1.1**
SRU				IAmb	IAmb	20 25 08.4	
	comp=Z,3.3nm,0.8s						
PV23	**Carpenter Ridg**	**84.11**	**48**	P	**P**	**20 25 13.7**	**+0.8**
PV05	**Paradox Valley**	**84.27**	**49**	P	**P**	**20 25 15.0**	**+1.3**
PV05				IAmb	IAmb	20 25 16.5	
	comp=Z,4.5nm,0.9s						
PV18	**Skein Mesa, Pa**	**84.30**	**48**		**P**	**20 25 13.9**	**+0.2**
PV18				IAmb	IAmb	20 25 16.5	
	comp=Z,5.2nm,0.8s						
PV03	**Paradox Valley**	**84.33**	**48**	P	**P**	**20 25 14.7**	**+0.7**
PV03				IAmb	IAmb	20 25 16.7	
	comp=Z,3.9nm,1.0s						
TX31	**Lajitas Ar. Si**	**93.14**	**53**	P	**P**	**20 25 56.8**	**+0.8**
TX32	**Lajitas Array**	**93.14**	**53**	P	**P**	**20 25 57.0**	**+1.1**
TX32				IAmb	IAmb	20 25 59.5	
	comp=Z,3.0nm,0.8s						
TXAR	**Lajitas Array**	**93.14**	**53**	P	**P**	**20 25 56.9**	**+0.9**
	comp=Z,2.6nm,0.8s,baz=294,slow=2.6,SNR=25						
TXAR	**Lajitas Array**	**93.14**	**53**	P	**P**	**20 25 56.5**	**+0.5**

*NEIC **10** 20:16:03.0±1.7, 40˚.74N±0˚.06×140˚.4E±0˚.2, h186km±4km, mb4.3/14, Error ellipse: s-maj=17.4km s-min=8.9km az=100.0*
*MOS **10** 20:16:02.9±1.1, 40˚.90N×140˚.13E, h170km, mb4.5/9, Error ellipse: s-maj=9.8km s-min=6.4km az=78.8*
*JMA **10** 20:16:04.1±0.1, 40˚.86N×140˚.15E, h163km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φs123.00000°, δ53.00000°, λ163.00000°. NP2: φs224.00000°, δ77.00000°, λ38.00000°. Principal axes: T Plg36.0000°, Azm90.0000°; N Plg50.0000°, Azm240.0000°; P Plg15.0000°, Azm349.0000°;*
*NIED **10** 20:16:04.2, 40˚.86N×140˚.15E, h163km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.69; Mθθ-2.06; Mφφ 1.38; Mrθ-0.06; Mθφ-0.19; Mφr-1.22; Fault plane solution: M₀2.19000×10¹⁵ NP1: φs228.00000°, δ67.00000°, λ30.00000°. NP2: φs125.00000°, δ62.00000°, λ154.00000°.*
*IDC **10** 20:16:04.2±1.4, 40˚.85N×140˚.05E, h165km±13km, mb3.8/18, mb1 3.9/25, mb1mx3.7/46, mbtmp4.2/25, MS3.7/2, Ms1 3.7/2, ms1mx2.7/49 Error ellipse: s-maj=13.1km s-min=11.0km az=109.0*

ISC 10 20:16:03.4±0.5, 40˚.82N±0˚.03×140˚.21E±0˚.05, h164km±4km, n137, σ1°44/166, mb4.3/38, 9C-13D, Eastern Honshu

YSS				*e*S	**Sn**	**20 18 45.8**	**-1.9**
YSS				pmax	pmax			
	comp=Z,120nm,0.6s							
YSS				smax	smax			
	comp=N,40nm,1.0s							
YSS	**Yuzh-Sakhalins**	**6.40**	**16**	Pn	**Pn**	**20 17 35.3**	**-0.1**
JWT	**Wachi**	**6.70**	**216**	Pn	**Pn**	**20 17 39.4**	**-0.1**
USA0B	**Ussuriysk Arra**	**6.95**	**302**	P	**Pn**	**20 17 43.2**	**+0.5**
USA0B	**Ussuriysk Arra**	**6.95**	**302**	Pn	**Pn**	**20 17 43.2**	**+0.5**
USRK	**Ussuriysk Ar.**	**6.95**	**302**	P	**Pn**	**20 17 42.6**	**-0.1**
	baz=101,slow=14,SNR=11							
USRK	**Ussuriysk Ar.**	**6.95**	**302**	P	**Pn**	**20 17 43.0**	**+0.3**
USRK	**Ussuriysk Ar.**	**6.95**	**302**	Pn	**Pn**	**20 17 43.0**	**+0.3**
KUR	**Kuril'sk**	**7.14**	**49**	P	**Pn**	**20 17 45.7**	**+0.6**
KUR				*e*S	**Sn**	**20 19 03.6**	**-1.6**
KUR				smax	smax			
	comp=N,95nm,0.2s							
KUR				smax	smax			
	comp=E,91nm,0.3s							
JHJ	**Hachijo jima 2**	**7.70**	**183**	P	**Pn**	**20 17 50.7**	**-2.0**
	comp=E,27nm,0.3s,baz=277,slow=24,SNR=1.2							
JHJ				S	**Sn**	**20 19 13.2**	**-5.6**
	comp=E,24nm,0.3s,baz=90,slow=20,SNR=1.6							
MDJ	**Mudanjiang**	**8.69**	**299**		**Pn**	**20 18 06.8**	**+1.1**
KSRS	**Korea Array**	**10.12**	**255**	P	**Pn**	**20 18 25.4**	**+0.8**
	comp=E,0.1nm,0.3s,baz=74,slow=13,SNR=4.1							
TYV	**Tymovskoe**	**10.19**	**9**	*e*P	**Pn**	**20 18 25.8**	**+0.4**
TYV				*e*S	**S**	**20 20 18.7**	**-0.6**
TYV				pmax	pmax			
	comp=Z,500nm,2.7s							
TYV				pmax	pmax			
	comp=Z,79nm,0.6s							
TYV				smax	smax			
	comp=N,15nm,1.8s							
TYV				smax	smax			
	comp=E,14nm,1.8s							
TYV				smax	smax			
	comp=N,400nm,3.6s							
TYV				smax	smax			
	comp=E,400nm,3.6s							
KLR	**Kul'dur**	**10.31**	**327**	P	**Pn**	**20 18 27.6**	**+0.5**
	comp=E,0.4nm,0.3s,baz=152,slow=11,SNR=2.6							
JNU	**Nakatsue**	**10.71**	**227**	P	**Pn**	**20 18 33.4**	**+0.9**
	comp=E,0.3nm,0.3s,baz=18,slow=3.2,SNR=1.7							
JCJ	**Chichijima**	**13.79**	**173**	P	**Pn**	**20 19 08.9**	**-3.1**
	comp=E,14nm,0.3s,baz=262,slow=23,SNR=9.9							
MA2	**Magadan**	**19.91**	**16**	P	**P**	**20 20 21.8**	**-0.2**
	comp=E,0.8nm,0.3s,baz=202,slow=9.6,SNR=7.6							
MA2	**Magadan**	**19.91**	**16**	*de*P	**P**	**20 20 21.3**	**-0.7**
MA2				pmax	pmax			
	comp=Z,12nm,0.9s							
MA2	**Magadan**	**19.91**	**16**	P	**P**	**20 20 20.4**	**-1.6**
MA2				IAmb	IAmb	20 20 22.6		
	comp=Z,14nm,0.7s							
HHC	**Hu-ho-hao-te**	**21.64**	**280**	*e*P	**P**	**20 20 39.0**	**-1.7**
HHC				pmax	pmax			
	comp=Z,12nm,0.9s							
HHC				pmax	pmax			
	comp=E,160nm,5.9s							
YAK	**Yakutsk**	**22.17**	**347**	P	**P**	**20 20 43.4**	**-2.4**
	comp=Z,12nm,0.4s,baz=121,slow=3.2,SNR=15							
YAK	**Yakutsk**	**22.17**	**347**	*e*P	**P**	**20 20 42.6**	**-3.2**
YAK				pmax	pmax			
	comp=Z,35nm,0.9s							
YAK				pmax	pmax			
	comp=N,14nm,1.2s							
YAK				pmax	pmax			
	comp=E,5.0nm,0.9s							
YAK	**Yakutsk**	**22.17**	**347**	P	**P**	**20 20 42.8**	**-2.9**
SEY	**Seymchan**	**23.30**	**14**	P	**P**	**20 20 56.4**	**+0.2**
	comp=E,5.0nm,0.4s,baz=197,slow=8.5,SNR=28							
SSLB	**Suanglung**	**23.44**	**229**	P	**P**	**20 20 55.1**	**-2.7**
BOD	**Bodaibo**	**23.87**	**324**	*e*P	**P**	**20 20 59.7**	**-1.7**
BOD				pmax	pmax			
	comp=Z,15nm,0.3s							
SONM	**Songino Array**	**25.04**	**298**	P	**P**	**20 21 12.3**	**0.0**
	comp=Z,0.8nm,0.4s,baz=94,slow=9.0,SNR=3.6							
TIXI	**Tiksi**	**31.42**	**353**	P	**P**	**20 22 08.4**	**-0.2**
	comp=Z,2.6nm,0.5s,baz=130,slow=6.9,SNR=3.3							
TIXI	**Tiksi**	**31.42**	**353**	*e*P	**P**	**20 22 07.4**	**-1.1**
TIXI	**Tiksi**	**31.42**	**353**	P	**P**	**20 22 05.8**	**-2.7**
TIXI				IAmb	IAmb	20 22 09.8		
	comp=Z,4.4nm,0.8s							
DGZ	**Jazzator, Alta**	**37.50**	**302**	*d* iP	**P**	**20 23 02.0**	**+0.8**
DGZ				pmax	pmax			
	comp=Z,18nm,0.8s							
WMQ	**Urumqi**	**38.41**	**292**	*e*P	**P**	**20 23 09.5**	**+0.7**
ZAA0	**Zalesovo Array**	**38.73**	**309**	P	**P**	**20 23 09.7**	**-1.5**
ZAA0				IAmb	IAmb	20 23 12.7		
	comp=Z,3.7nm,0.6s							
ZALV	**Zalesovo Beam**	**38.73**	**309**	P	**P**	**20 23 11.3**	**+0.1**
	comp=Z,3.6nm,0.5s,baz=92,slow=8.2,SNR=12							
ZALV	**Zalesovo Beam**	**38.73**	**309**	P	**P**	**20 23 09.6**	**-1.7**
ZALV	**Zalesovo Beam**	**38.73**	**309**	P	**P**	**20 23 09.6**	**-1.7**
NRIK	**Noril'sk**	**39.45**	**334**	P	**P**	**20 23 16.8**	**-0.2**
	comp=Z,3.2nm,0.5s,baz=84,slow=9.5,SNR=2.5							
MK31	**Makanchi Array**	**41.40**	**298**	P	**P**	**20 23 32.6**	**-0.8**
MK31				pmax	pmax			
	comp=Z,7.0nm,0.9s							
MK31	**Makanchi Array**	**41.40**	**298**	P	**P**	**20 23 32.6**	**-0.8**
MK31				IAmb	IAmb	20 23 34.2		
	comp=Z,6.6nm,0.9s							
MKAR	**Makanchi Array**	**41.40**	**298**	P	**P**	**20 23 33.6**	**+0.3**
	comp=Z,4.0nm,0.7s,baz=83,slow=11,SNR=19							
MKAR	**Makanchi Array**	**41.40**	**298**	P	**P**	**20 23 33.2**	**-0.2**
JIRN	**Jiri**	**45.88**	**271**	*e*P	**P**	**20 24 10.3**	**+0.5**
RAMN	**Ramite**	**45.93**	**270**	*e*P	**P**	**20 24 10.7**	**+0.6**
	comp=Z,8.5nm,0.3s							
KKN	**Kakani**	**46.50**	**272**	*e*P	**P**	**20 24 15.0**	**+0.6**
PKI	**Pulchoki**	**46.51**	**271**	*e*P	**P**	**20 24 15.1**	**+0.4**
PKIN	**Phulchoki**	**46.52**	**271**	*e*P	**P**	**20 24 15.0**	**+0.3**
	comp=Z,4.3nm,0.5s							
DMN	**Daman**	**46.72**	**272**	*e*P	**P**	**20 24 16.8**	**+0.6**
ILAR	**Eielson Array**	**46.85**	**34**	P	**P**	**20 24 18.1**	**+1.7**
	comp=Z,1.1nm,0.6s,baz=283,slow=8.7,SNR=5.4							
ILAR	**Eielson Array**	**46.85**	**34**	*e*P	**P**	**20 24 18.7**	**+2.3**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
GKN	**Gorkha**	**46.88**	**272**	*e*P	**P**	**20 24 17.9**	**+0.6**
DANN	**Dangsing**	**47.37**	**273**	*e*P	**P**	**20 24 22.1**	**+0.9**
BRVK	**Borovoye**	**47.44**	**310**	*ce*P	**P**	**20 24 20.5**	**-0.6**
BRVK				pmax	pmax			
	comp=Z,5.0nm,1.0s							
BRVK	**Borovoye**	**47.44**	**310**	P	**P**	**20 24 19.2**	**-1.9**
BRVK				IAmb	IAmb	20 24 22.1		
	comp=Z,5.6nm,1.1s							
KOLN	**Koldanda**	**47.78**	**273**	*e*P	**P**	**20 24 25.0**	**+0.6**
AAK	**Ala-Archa**	**47.95**	**295**	*ce*P	**P**	**20 24 26.0**	**+0.6**
AAK				*i* *PP	**pP**	**20 25 00.8**	**-0.4**
AAK				pmax	pmax			
	comp=Z,17nm,2.5s							
PYUN	**Piuthan**	**48.08**	**273**	*e*P	**P**	**20 24 27.5**	**+0.9**
	comp=Z,13nm,0.4s							
KSH	**Kashi**	**48.10**	**291**	P	**P**	**20 24 30.9**	**+4.4**
KSH				pmax	pmax			
	comp=Z,4.0nm,0.5s							
KK31	**Karatay Array**	**50.49**	**297**	P	**P**	**20 24 42.9**	**-1.5**
KK31				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KK31	**Karatay Array**	**50.49**	**297**	P	**P**	**20 24 42.9**	**-1.5**
KKAR	**Karatay Array**	**50.49**	**297**	P	**P**	**20 24 42.4**	**-2.1**
KKAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KKAR	**Karatay Array**	**50.49**	**297**	P	**P**	**20 24 42.3**	**-2.1**
KKAR	**Karatay Array**	**50.49**	**297**	P	**P**	**20 24 42.4**	**-2.1**
KKAR				IAmb	IAmb	20 24 45.3		
	comp=Z,2.3nm,0.8s							
INK	**Inuvik**	**51.47**	**28**	P	**P**	**20 24 53.5**	**+2.1**
	comp=Z,1.2nm,0.4s,baz=303,slow=7.8,SNR=3.5							
SVE	**Sverdlovsk**	**51.72**	**316**	*e*P	**P**	**20 24 53.5**	**+0.1**
SVE				pmax	pmax			
	comp=Z,8.0nm,0.8s							
GAR	**Garm**	**52.30**	**292**	P	**P**	**20 24 56.4**	**-1.7**
GAR				IAmb	IAmb	20 24 59.3		
	comp=Z,12nm,1.4s							
ARU	**Arti**	**52.94**	**316**	*d* iP	**P**	**20 25 01.8**	**-0.5**
ARU				*PP	**pP**	**20 25 39.1**	**0.0**
ARU						20 27 02.2		
ARU				S	**S**	**20 32 19.6**	**+1.1**
ARU				SS	**SS**	**20 35 59.1**	**-0.1**
ARU				pmax	pmax			
	comp=Z,5.0nm,0.8s							
ARU	**Arti**	**52.94**	**316**	P	**P**	**20 25 01.4**	**-0.9**
ARU				IAmb	IAmb	20 25 03.4		
	comp=Z,4.9nm,0.7s							
CHGR	**Chuyangaron**	**53.27**	**292**	P	**P**	**20 25 05.2**	**0.0**
ABKAR	**Akbulak array**	**54.83**	**308**	P	**P**	**20 25 15.7**	**-0.5**
ABKAR	**Akbulak array**	**54.83**	**308**	P	**P**	**20 25 15.4**	**-0.7**
ABKAR				IAmb	IAmb	20 25 17.0		
	comp=Z,5.9nm,0.6s							
DLBC	**Dease Lake**	**56.26**	**39**	LR	LR	20 51 18.3		
	comp=Z,59nm,18.3s,baz=294,slow=38							
ARCES	**ARCESS Array B**	**60.13**	**338**	P	**P**	**20 25 52.3**	**-0.6**
	comp=Z,3.7nm,0.9s,baz=52,slow=7.9,SNR=8.6							
ARCES	**ARCESS Array B**	**60.13**	**338**	*e*P	**P**	**20 25 53.8**	**+0.9**
ARCES				pmax	pmax			
	comp=Z,4.0nm,1.0s							
WRA	**Warramunga Arr**	**60.70**	**186**	P	**P**	**20 25 57.2**	**-0.1**
	comp=Z,1.3nm,0.4s,baz=7.0,slow=7.6,SNR=31							
GEYT	**Alibeck**	**61.24**	**297**	P	**P**	**20 26 01.1**	**+0.1**
	comp=Z,30nm,0.6s,baz=109,slow=7.8,SNR=2.8							
ASAR	**Alice Springs**	**64.42**	**186**	P	**P**	**20 26 22.8**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=359,slow=5.7,SNR=4.3							
FINES	**FINESS Array B**	**65.04**	**331**	P	**P**	**20 26 25.3**	**-0.2**
	comp=Z,3.1nm,0.6s,baz=39,slow=9.3,SNR=16							
FINES	**FINESS Array B**	**65.04**	**331**	*e*P	**P**	**20 26 25.7**	**+0.2**
FINES				pmax	pmax			
	comp=Z,3.0nm,0.6s							
KIV	**Kislovodsk**	**67.75**	**309**	*e*P	**P**	**20 26 44.1**	**+0.9**
KIV				pmax	pmax			
	comp=Z,7.0nm,1.0s							
KBZ	**Khabaz**	**67.76**	**309**	P	**P**	**20 26 43.8**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=38,slow=2.0,SNR=4.1							
KBZ	**Khabaz**	**67.76**	**309**	*e*P	**P**	**20 26 46.5**	**+3.4**
KBZ				pmax	pmax			
	comp=Z,1.0nm,0.5s							
NB2	**NORSAR Subarra**	**70.34**	**336**	P	**P**	**20 26 58.7**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=37,slow=6.5							
NOA	**NORSAR Array B**	**70.34**	**336**	P	**P**	**20 26 58.4**	**-0.4**
	comp=Z,3.0nm,1.1s,baz=52,slow=7.1,SNR=8.8							
NORES	**NORESS Array B**	**70.48**	**336**	P	**P**	**20 26 59.7**	**+0.1**
AKASG	**Malin Array Be**	**70.75**	**321**	P	**P**	**20 27 01.2**	**-0.2**
	comp=Z,1.6nm,0.4s,baz=45,slow=6.6,SNR=12							
NVAR	**Mina Array Bea**	**73.48**	**53**	P	**P**	**20 27 20.3**	**+2.2**
	comp=Z,1.2nm,0.6s,baz=285,slow=5.1,SNR=11							
PDAR	**Pinedale Array**	**75.69**	**45**	P	**P**	**20 27 32.2**	**+1.5**
	comp=Z,0.9nm,0.5s,baz=80,slow=0.4,SNR=8.7							
CLL	**Collm**	**77.36**	**329**	*i* P	**P**	**20 27 40.0**	**+0.3**
PFO	**Pinyon Flats O**	**77.72**	**56**	LR	LR	20 56 29.6		
	comp=Z,45nm,21.5s,baz=272,slow=31							
ANMO	**Albuquerque**	**82.86**	**49**	*e*P	**P**	**20 28 12.7**	**+3.0**
ANMO				pmax	pmax			
	comp=Z,2.0nm,1.3s							
TXAR	**Lajitas Array**	**88.53**	**52**	P	**P**	**20 28 39.1**	**+1.5**
	comp=Z,1.0nm,0.7s,baz=295,slow=3.1,SNR=8.0							
SNAA	**Sanae**	**144.06**	**199**	PKPdf	**PKPab**	**20 35 17.1**	**+1.0**
LPAZ	**La Paz**	**145.39**	**53**	PKPbc	**PKPbc**	**20 35 23.9**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=316,slow=3.6,SNR=4.7							
VNA2	**Neumayer--Watz**	**145.65**	**198**	PKiKP	**PKPbc**	**20 35 22.7**	**+1.2**
VNA3	**Neumayer Olymp**	**145.95**	**197**	PKPab	**PKPdf**	**20 35 22.3**	**+1.0**
VNA1	**Neumayer--Stat**	**146.05**	**198**	PKiKP	**PKPab**	**20 35 24.2**	**+0.6**

IDC ***10*** *20:22:13.7±1.0,31.1°19N×142.1°15E,h0km,mb3.9/9, mb1 4.0/12,mb1mx3.8/33,mbtmp3.9/12,ML3.5/3,MS3.2/2, Ms1 3.2/2,ms1mx2.6/40,Error ellipse: s-maj=44.9km s-min=16.5km az=76.0*
JMA ***10*** *20:22:15.1±0.2,31.2°26N×142.3°32E,h40km,M3.9*
NEIC ***10*** *20:22:16.5±2.2,31.1°18N±0.0°5×142.3°E±0.2,h20km±6km, mb4.6/2,Error ellipse: s-maj=29.8km s-min=4.2km az=78.0*

ISC 10 20:22:18.2±0.7,31.2°22N±0.0°7×142.3°E±0.1,h37km,n34, σ1s46/36,mb3.9/11,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.80**	**312**	*e*S		**Sn**		**20 23 31.1**	**-1.9**
BSO1	**Boso 1**	**3.59**	**343**	P		**Pn**		**20 23 09.4**	**-1.5**
BSO3	**Boso 3**	**3.87**	**338**	P		**Pn**		**20 23 14.3**	**-0.6**
CBIJ	**Chichi jima**	**4.11**	**181**	P		**Pn**		**20 23 17.8**	**-0.7**
JCJ	**Chichijima**	**4.11**	**181**	Pn		**Pn**		**20 23 17.8**	**-0.7**
	4.8nm,0.3s,baz=284,slow=23,SNR=6.3								
JCJ				Sn		**Sn**		**20 24 02.2**	**-3.1**
	6.1nm,0.3s,baz=300,slow=20,SNR=1.8								
JCJ	**Chichijima**	**4.11**	**181**			**Pn**		**20 23 16.8**	**-1.7**
JHU	**Hanno**	**5.25**	**332**	P		**Pn**		**20 23 33.0**	**-1.2**
JHU				*e*S		**Sn**		**20 24 30.9**	**-2.6**
JYT	**Yasato**	**5.29**	**341**	P		**Pn**		**20 23 33.5**	**-1.1**
JYT	**Yasato**	**5.29**	**341**	Pn		**Pn**		**20 23 31.9**	**-2.7**
JNY	**Yasuok**	**5.54**	**319**	P		**Pn**		**20 23 39.8**	**+1.6**
JRY	**Ryogami san**	**5.55**	**330**	P		**Pn**		**20 23 38.1**	**-0.2**
JRY				*e*S		**Sn**		**20 24 41.3**	**+0.4**
JHO	**Hitachi**	**5.56**	**346**	P		**Pn**		**20 23 36.7**	**-1.7**
JAG	**Ashikaga**	**5.70**	**336**	P		**Pn**		**20 23 39.9**	**-0.4**
MJAR	**Matsushiro Arr**	**6.30**	**329**	Pn		**Pn**		**20 23 47.9**	**-0.6**
	0.5nm,0.3s,baz=155,slow=13,SNR=24								
MJAR	**Matsushiro Arr**	**6.30**	**329**			**Pn**		**20 23 47.3**	**-1.2**
MAJO	**Matsushiro**	**6.30**	**329**			**Pn**		**20 23 47.4**	**-1.1**
MAT	**Matsushiro**	**6.30**	**329**	P		**Pn**		**20 23 48.6**	**+0.1**
MAT				*e*S		**Sn**		**20 24 56.8**	**-2.4**
JMM	**Marumori**	**6.74**	**350**	Pn		**Pn**		**20 23 52.6**	**-1.9**
KSRS	**Korea Array**	**13.39**	**302**	LR		LR		20 29 38.1	
	comp=Z,44nm,18.9s,baz=120,slow=33								
KLR	**Kul'dur**	**19.67**	**339**	P		**Pn**		**20 26 43.8**	**-1.6**
	0.2nm,0.3s,baz=149,slow=14,SNR=3.8								
SONM	**Songino Array**	**31.92**	**312**	P		**P**		**20 28 41.8**	**+1.5**
	0.6nm,0.4s,baz=108,slow=8.4,SNR=4.1								
ZALV	**Zalesovo Beam**	**46.50**	**317**	P		**P**		**20 30 41.5**	**-0.1**
	0.9nm,0.6s,baz=102,slow=10,SNR=3.0								
MKAR	**Makanchi Array**	**48.00**	**307**	P		**P**		**20 30 54.0**	**+0.6**
	0.9nm,0.6s,baz=89,slow=9.0,SNR=9.7								
IMAR	**Indian Mountai**	**51.35**	**28**	P		**P**		**20 31 19.3**	**+0.7**
WR0	**Warramunga Arr**	**51.43**	**189**	P		**P**		**20 31 20.1**	**+0.5**
WR0				IAmb		IAmb		20 31 26.2	
	comp=Z,5.1nm,1.1s								
WB2	**Warramunga Arr**	**51.44**	**190**	P		**P**		**20 31 18.6**	**-1.2**
WB2				IAmb		IAmb		20 31 20.6	
	comp=Z,23nm,1.5s								
WRA	**Warramunga Arr**	**51.44**	**190**	P		**P**		**20 31 20.1**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=5.9,slow=7.8,SNR=33								
ASAR	**Alice Springs**	**55.16**	**189**	P		**P**		**20 31 47.5**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=16,slow=11,SNR=16								
ARCES	**ARCESS Array B**	**59.59**	**340**	LR		LR		21 12 08.0	
	comp=Z,28nm,18.3s,baz=270,slow=43								
FINES	**FINESS Array B**	**74.30**	**333**	P		**P**		**20 33 52.1**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=42,slow=8.8,SNR=6.9								
AKASG	**Malin Array Be**	**79.36**	**323**	P		**P**		**20 34 20.6**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=52,slow=4.6,SNR=1.5								
NB2	**NORSAR Subarra**	**79.83**	**338**	P		**P**		**20 34 23.2**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=41,slow=5.6								
NOA	**NORSAR Array B**	**79.83**	**338**	P		**P**		**20 34 23.1**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=41,slow=5.4,SNR=4.7								
TXAR	**Lajitas Array**	**93.06**	**53**	P		**P**		**20 35 31.1**	**+2.6**
	comp=Z,0.5nm,0.7s,baz=302,slow=3.3,SNR=7.1								

IDC ***10*** *20:41:07.4±7.9,37.5°59N×22.1°89E,h0km,mb3.5/4, mb1 3.6/4,mb1mx3.3/51,mbtmp3.6/4,Error ellipse: s-maj=285.8km s-min=31.1km az=173.0*
ISK ***10*** *20:41:09.7,38.1°18N×22.1°73E,h18km,ML3.1/10*
ATH ***10*** *20:41:09.4,38.1°2N×22.1°70E,h13km±1km,ML3.1/16,Error ellipse: s-maj=1.6km s-min=0.5km az=191.0*
THE ***10*** *20:41:09.7,38.1°2N×22.1°72E,h1km±1km,ML3.0/31,Error ellipse: s-maj=1.4km s-min=0.4km az=126.0*

ISC 10 20:41:09.6±0.9,38.1°3N±0.0°1×22.7°2E±0.0°1,h9km±6km, n98,σ0s77/159,mb3.6/3,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THAL	**Thalero**	**0.10**	**206**	P		**Pg**		**20 41 12.3**	**+0.2**
LTK	**Loutraki**	**0.22**	**118**	P		**Pg**		**20 41 14.2**	**0.0**
LTK				S		**Sg**		**20 41 16.9**	**-0.3**
	5μm,0.5s								
LTK	**Loutraki**	**0.22**	**118**	P		**Pg**		**20 41 14.2**	**0.0**
LTK				S		**Sg**		**20 41 17.9**	**+0.7**
LTK				AML	AML			20 41 18.8	
	comp=N,10200μm,0.5s								
LTK				AML	AML			20 41 19.1	
	comp=E,9486μm,0.5s								
LOUT	**Loutraki**	**0.24**	**125**	P		**Pg**		**20 41 14.4**	**-0.1**
LOUT				S		**Sg**		**20 41 18.5**	**+0.6**
	comp=E,5μm,0.4s								
LOUT	**Loutraki**	**0.24**	**125**	P		**Pg**		**20 41 14.5**	**-0.1**
LOUT				S		**Sg**		**20 41 18.5**	**+0.6**
LOUT				AML	AML			20 41 18.5	
	comp=E,1849μm,0.5s								
LOUT				AML	AML			20 41 19.3	
	comp=N,2143μm,0.5s								
DLFA	**Delphi**	**0.39**	**333**	P		**Pg**		**20 41 17.1**	**-0.2**
DLFA				S		**Sg**		**20 41 23.2**	**+0.7**
DLFA				AML	AML			20 41 23.8	
	comp=N,14190μm,0.3s								
DLFA				AML	AML			20 41 24.1	
	comp=E,13924μm,0.3s								
VIL2	**Platees**	**0.44**	**79**	P		**Pg**		**20 41 18.4**	**+0.2**
VIL2				AML	AML			20 41 30.0	
	comp=E,6095μm,0.4s								
VIL2				AML	AML			20 41 31.4	
	comp=N,5842μm,0.4s								
KLV	**Kalavryta, Ach**	**0.46**	**260**	P		**Pg**		**20 41 17.9**	**-0.6**
KLV				S		**Sg**		**20 41 24.3**	**-0.3**
	comp=N,2μm,0.3s								
KLV	**Kalavryta, Ach**	**0.46**	**260**	P		**Pg**		**20 41 18.0**	**-0.6**
KLV				S		**Sg**		**20 41 24.3**	**-0.3**
KLV				AML	AML			20 41 25.2	
	comp=N,3473μm,0.3s								
KLV				AML	AML			20 41 25.7	
	comp=E,4647μm,0.3s								
VILL	**Villia**	**0.47**	**85**	P		**Pg**		**20 41 18.7**	**-0.1**
VILL				S		**Sb**		**20 41 27.3**	**+0.2**
	comp=E,3μm,0.4s								
ALIK	**Aliki, Aigiali**	**0.50**	**286**	P		**Pg**		**20 41 19.3**	**0.0**
ALIK				S		**Sb**		**20 41 27.2**	**-0.7**
TRIZ	**Trizonia**	**0.56**	**295**	P		**Pg**		**20 41 20.2**	**-0.3**
TRIZ				S		**Sg**		**20 41 28.5**	**+0.6**
	comp=E,3μm,0.3s								
TRIZ	**Trizonia**	**0.56**	**295**	P		**Pg**		**20 41 20.2**	**-0.3**
TRIZ				S		**Sg**		**20 41 27.8**	**-0.2**
LKR	**Lokris**	**0.57**	**23**	P		**Pg**		**20 41 20.1**	**-0.5**
LKR				S		**Sg**		**20 41 28.8**	**+0.7**
LKR	**Lokris**	**0.57**	**23**	P		**Pg**		**20 41 20.1**	**-0.5**
LKR				S		**Sg**		**20 41 28.3**	**+0.2**
LKR				AML	AML			20 41 32.5	
	comp=E,17928μm,0.2s								
LKR				AML	AML			20 41 33.2	
	comp=N,11832μm,0.2s								
LAKA	**Lakka**	**0.59**	**281**	P		**Pg**		**20 41 20.8**	**-0.3**
LAKA				S		**Sg**		**20 41 28.7**	**-0.3**
	comp=N,2μm,0.3s								
LAKA	**Lakka**	**0.59**	**281**	P		**Pg**		**20 41 20.7**	**-0.5**
LAKA				S		**Sg**		**20 41 28.7**	**-0.3**
LAKA				AML	AML			20 41 29.9	
	comp=N,5331μm,0.3s								
LAKA				AML	AML			20 41 31.9	
	comp=E,4815μm,0.3s								
SERG	**Sergoula**	**0.59**	**299**	P		**Pg**		**20 41 19.9**	**-1.3**
EPID	**Epidavros**	**0.60**	**148**	P		**Pg**		**20 41 21.1**	**-0.2**
EPID				S		**Sb**		**20 41 30.1**	**-0.8**
	comp=E,3μm,0.5s								
EPID	**Epidavros**	**0.60**	**148**	P		**Pg**		**20 41 20.7**	**-0.5**
EPID				S		**Sg**		**20 41 29.2**	**0.0**
EFP	**Efpalio**	**0.71**	**295**	P		**Pg**		**20 41 22.8**	**-0.5**
EFP				S		**Sg**		**20 41 32.9**	**+0.4**
	comp=E,1μm,0.2s								
EFP	**Efpalio**	**0.71**	**295**	P		**Pg**		**20 41 22.7**	**-0.6**
EFP				S		**Sg**		**20 41 32.0**	**-0.5**
EFP				AML	AML			20 41 37.1	
	comp=E,2470μm,0.2s								
EFP				AML	AML			20 41 37.2	
	comp=N,2661μm,0.2s								
UPR	**University Cam**	**0.75**	**282**	P		**Pg**		**20 41 23.9**	**-0.2**
UPR				S		**Sb**		**20 41 35.1**	**-0.1**
ATH	**Athens Observa**	**0.80**	**101**	P		**Pg**		**20 41 25.1**	**+0.1**
ATH				S		**Sb**		**20 41 36.5**	**-0.2**
	comp=N,1μm,0.4s								
ATH	**Athens Observa**	**0.80**	**101**	P		**Pg**		**20 41 25.2**	**+0.1**
ATH				AML	AML			20 41 38.3	
	comp=E,2460μm,0.3s								
ATH				AML	AML			20 41 38.8	
	comp=N,1773μm,0.4s								
VLX	**Vlachokerasia**	**0.80**	**200**	P		**Pg**		**20 41 24.4**	**-0.7**
VLX				S		**Sg**		**20 41 34.6**	**-0.9**
	comp=N,2μm,0.6

THL	**Klokotos Trika**	**1.54**	**339**	P	**Pn**	**20 41 37.1**	**-0.1**
THL				S	**Sg**	**20 41 59.5**	**+0.4**
	comp=N,188nm,0.5s						
VLS	**Valsamata**	**1.68**	**272**	P	**Pb**	**20 41 39.8**	**-0.9**
VLS				S	**Sb**	**20 42 02.8**	**+0.8**
	comp=N,290nm,0.4s						
NYDR	**Nydri-Lefkada**	**1.69**	**291**	P	**Pb**	**20 41 41.5**	**+0.6**
NYDR				S	**Sg**	**20 42 03.9**	**-0.1**
	comp=N,202nm,0.7s						
EVGI	**Lefkada island**	**1.69**	**288**	P	**Pb**	**20 41 40.9**	**-0.1**
EVGI				S	**Sb**	**20 42 03.2**	**+0.8**
	comp=N,328nm,0.5s						
FSK	**Fiskardo**	**1.73**	**282**	P	**Pb**	**20 41 41.3**	**-0.2**
FSK				S	**Sb**	**20 42 02.7**	**-0.7**
	comp=N,275nm,0.7s						
TSLK	**Tsoukalades, L**	**1.76**	**294**	P	**Pb**	**20 41 42.9**	**+0.8**
DRAG	**Dragano-Lefkad**	**1.77**	**289**	P	**Pb**	**20 41 42.6**	**+0.3**
DRAG				S	**Sb**	**20 42 05.7**	**+1.0**
KEF5	**Kardakata, Kep**	**1.78**	**276**	P	**Pb**	**20 41 41.8**	**-0.6**
KEF5				S	**Sb**	**20 42 05.7**	**+0.9**
DMLN	**Damoulianata-K**	**1.85**	**274**	P	**Pb**	**20 41 43.2**	**-0.5**
DMLN				S	**Sb**	**20 42 06.8**	**-0.1**
	comp=N,500nm,0.5s						
KEF3	**Kipouria, Keph**	**1.87**	**273**	P	**Pb**	**20 41 42.9**	**-1.1**
KEF3				S	**Sb**	**20 42 07.0**	**-0.4**
KTHA	**Kythira Island**	**1.89**	**172**	P	**Pb**	**20 41 42.8**	**-1.4**
KTHA				S	**Sb**	**20 42 07.7**	**-0.2**
	comp=N,350nm,0.8s						
KTHA	**Kythira Island**	**1.89**	**172**	PN	**Pb**	**20 41 42.9**	**-1.3**
KTHA				SN	**Sb**	**20 42 07.4**	**-0.5**
PAIG	**Paliouri**	**1.95**	**22**	P	**Pn**	**20 41 41.7**	**-1.1**
PAIG				S	**Sb**	**20 42 09.5**	**-0.1**
	comp=N,128nm,0.5s						
LIT	**Litokhoron**	**1.98**	**355**	P	**Pn**	**20 41 43.0**	**-0.3**
KPRO	**Kipourio**	**2.11**	**330**	P	**Pn**	**20 41 45.8**	**+0.6**
KPRO				S	**Sn**	**20 42 12.2**	**+0.7**
	comp=N,165nm,0.5s						
KZN	**Kozani**	**2.30**	**342**	P	**Pn**	**20 41 48.0**	**+0.2**
KZN				S	**Sn**	**20 42 17.4**	**+1.2**
OUR	**Ouranopolis**	**2.41**	**24**	P	**Pn**	**20 41 48.4**	**-0.8**
OUR				S	**Sn**	**20 42 17.4**	**-1.5**
	comp=N,122nm,0.4s						
OUR	**Ouranopolis**	**2.41**	**24**	PN	**Pn**	**20 41 48.5**	**-0.8**
APE	**Apeiranthos**	**2.47**	**114**	P	**Pn**	**20 41 50.2**	**+0.1**
APE				S	**Sn**	**20 42 21.7**	**+1.3**
	comp=N,90nm,0.7s						
APE	**Apeiranthos**	**2.47**	**114**	PN	**Pn**	**20 41 50.1**	**0.0**
HORT	**Hortiatis**	**2.48**	**7**	PN	**Pn**	**20 41 49.5**	**-0.8**
SIGR	**SIGRI**	**2.68**	**65**	P	**Pn**	**20 41 52.3**	**-0.6**
SIGR				S	**Sb**	**20 42 27.8**	**-3.0**
	comp=N,85nm,0.6s						
SIGR	**SIGRI**	**2.68**	**65**	PN	**Pn**	**20 41 52.7**	**-0.2**
SOH	**Sokhos**	**2.73**	**10**	P	**Pn**	**20 41 53.6**	**-0.1**
SOH				S	**Sn**	**20 42 27.9**	**+0.9**
GRG	**Griva**	**2.84**	**355**	PN	**Pn**	**20 41 55.4**	**+0.3**
IMMV	**Iera Moni Meta**	**2.85**	**159**	PN	**Pn**	**20 41 56.9**	**+1.7**
FNA	**Florina**	**2.85**	**339**	PN	**Pn**	**20 41 55.6**	**+0.3**
KNT	**Kendrikon**	**3.03**	**3**	PN	**Pn**	**20 41 57.6**	**-0.2**
URLA	**Izmir**	**3.06**	**84**	PN	**Pn**	**20 41 58.0**	**-0.2**
BOZC	**Bozcaada**	**3.11**	**56**	PN	**Pn**	**20 41 58.9**	**0.0**
VAY	**Valandovo**	**3.19**	**358**	*i* Pn	**Pn**	**20 42 00.9**	**+0.9**
SMG	**Samos**	**3.28**	**96**	P	**Pn**	**20 42 01.1**	**-0.1**
SMG				S	**Sn**	**20 42 42.9**	**+2.5**
	comp=N,48nm,0.5s						
GVD	**Gavdhos**	**3.46**	**161**	PN	**Pn**	**20 42 05.2**	**+1.5**
STIP	**Stip**	**3.59**	**354**	*i* Pn	**Pn**	**20 42 06.2**	**+0.8**
ZKR	**Zakros**	**4.12**	**136**	PN	**Pn**	**20 42 14.4**	**+1.7**
KARP	**Karpathos**	**4.40**	**125**	PN	**Pn**	**20 42 17.7**	**+1.1**
ESDC	**Sonseca Array**	**20.80**	**283**	P	Pn	20 45 52.9	-0.8
	comp=N,0.5nm,0.8s,baz=76,slow=10,SNR=4.9						
KURBB	**Kurchatov Arra**	**40.86**	**54**	P	**P**	**20 48 52.3**	**+0.7**
	comp=N,0.3nm,0.3s,baz=278,slow=8.3,SNR=1.7						
MKAR	**Makanchi Array**	**43.85**	**59**	P	**P**	**20 49 16.1**	**+0.1**
	comp=N,1.4nm,1.0s,baz=277,slow=7.6,SNR=4.7						
ZALV	**Zalesovo Beam**	**44.43**	**48**	P	**P**	**20 49 22.3**	**+1.7**
	comp=N,0.3nm,0.3s,baz=266,slow=8.7,SNR=1.9						

*IDC **10** 20:56:13.9±0.7,31°.18N×142°.13E,h0km,mb4.0/16,*
mb1 4.1/20,mb1mx4.0/46,mbtmp4.0/20,ML3.7/4,Error
ellipse: s-maj=23.3km s-min=15.1km az=73.0
*JMA **10** 20:56:15.5±0.1,31°.33N×142°.44E,h49km,M4.2*
*NEIC **10** 20:56:17.9±1.9,31°.18N±0°.08×142°.0E±0°.2,h21km±7km,*
mb4.5/16,Error ellipse: s-maj=19.9km s-min=9.7km
az=71.0

ISC 10 20:56:17.3±0.6,31°.18N±0°.06×142°.01E±0°.09,h24km,n59,
σ1s26/65,mb4.1/22,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHCJ	**Hachijojimakas**	**2.66**	**316**	P		**Pn**	**20 56 59.6**	**+1.0**
JHJ2	**Mitsune**	**2.68**	**317**	Pn		**Pn**	**20 56 58.1**	**-0.7**
JHJ	**Hachijo jima 2**	**2.70**	**316**	Pn		**Pn**	**20 56 59.1**	**-0.1**
	26nm,0.3s,baz=100,slow=17,SNR=1.5							
JHJ				Sn		**Sn**	**20 57 29.1**	**-2.0**
	27nm,0.3s,baz=150,slow=20,SNR=1.4							
BSO1	**Boso 1**	**3.57**	**346**	P		**Pn**	**20 57 09.4**	**-1.2**
BSO3	**Boso 3**	**3.83**	**341**	P		**Pn**	**20 57 13.7**	**-0.7**
BSO4	**Boso 4**	**4.05**	**340**	P		**Pn**	**20 57 17.3**	**-0.3**
BSO4				*e*S		**Sn**	**20 58 03.3**	**-1.0**
CBIJ	**Chichi jima**	**4.07**	**178**	P		**Pn**	**20 57 19.0**	**+0.9**
JCJ	**Chichijima**	**4.07**	**178**	Pn		**Pn**	**20 57 17.6**	**-0.4**
	4.1nm,0.3s,baz=342,slow=22,SNR=8.2							
JCJ				Sn		**Sn**	**20 58 01.5**	**-3.5**
	4.1nm,0.3s,baz=273,slow=22,SNR=1.8							
JCJ	**Chichijima**	**4.07**	**178**	Pn		**Pn**	**20 57 17.2**	**-0.9**
JHU	**Hanno**	**5.19**	**335**	P		**Pn**	**20 57 33.2**	**-0.2**
JYT	**Yasato**	**5.26**	**344**	Pn		**Pn**	**20 57 34.7**	**+0.4**
JRY	**Ryogami san**	**5.48**	**333**	P		**Pn**	**20 57 37.7**	**+0.3**
JAG	**Ashikaga**	**5.65**	**339**	P		**Pn**	**20 57 39.3**	**-0.4**
JAG				*e*S		**Sn**	**20 58 41.0**	**-2.8**
JGF	**Kuroka**	**5.88**	**320**	Pn		**Pn**	**20 57 43.2**	**+0.3**
INU	**Inuyama**	**5.90**	**316**	Pn		**Pn**	**20 57 43.3**	**+0.2**
MJAR	**Matsushiro Arr**	**6.21**	**330**	Pn		**Pn**	**20 57 47.4**	**0.0**
	1.0nm,0.3s,baz=152,slow=12,SNR=49							
MJAR				Sn		**Sn**	**20 58 55.0**	**-2.7**
	0.0nm,0.3s,baz=132,slow=22,SNR=1.1							
MJAR	**Matsushiro Arr**	**6.21**	**330**			**Pn**	**20 57 48.0**	**+0.5**
MAJO	**Matsushiro**	**6.21**	**330**			**Pn**	**20 57 48.2**	**+0.7**
MAT	**Matsushiro**	**6.21**	**330**	P		**Pn**	**20 57 48.7**	**+1.2**
MAT				*e*S		**Sn**	**20 58 56.9**	**-0.9**
MJB9	**Matsu-Tunnel**	**6.22**	**330**			Lg	20 59 35.7	
JMM	**Marumori**	**6.75**	**352**	Pn		**Pn**	**20 57 53.0**	**-1.7**
KSRS	**Korea Array**	**13.21**	**302**	Pn		**P**	**20 59 28.2**	**-4.8**
	0.2nm,0.3s,baz=119,slow=17,SNR=4.8							
KLR	**Kul'dur**	**19.62**	**340**	P		**P**	**21 00 43.4**	**-0.5**
	0.5nm,0.3s,baz=181,slow=11,SNR=7.9							
YULB	**Yu-li**	**19.96**	**252**	P		**P**	**21 00 48.1**	**+0.4**
YULB				IAmb		IAmb	21 00 49.7	
	comp=Z,14nm,0.9s							
SSLB	**Suanglung**	**20.06**	**254**	P		**P**	**21 00 49.1**	**+0.2**
SSLB				IAmb		IAmb	21 00 52.7	
	comp=Z,45nm,1.4s							
ULN	**Ulaanbaatar**	**31.36**	**312**	P		**P**	**21 02 37.5**	**+1.3**
SONM	**Songino Array**	**31.77**	**312**	P		**P**	**21 02 42.0**	**+2.3**
	comp=Z,1.2nm,0.6s,baz=111,slow=8.1,SNR=7.6							
SONM	**Songino Array**	**31.77**	**312**	P		**P**	**21 02 39.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**40.85**	**262**	P		**P**	**21 03 57.8**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=63,slow=6.2,SNR=5.2							
CMAR	**Chiang Mai Arr**	**40.85**	**262**	P		**P**	**21 03 57.3**	**0.0**
ZALV	**Zalesovo Beam**	**46.37**	**317**	P		**P**	**21 04 42.1**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=104,slow=8.4,SNR=4.8							
ZALV				PcP		**PcP**	**21 06 16.9**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=85,slow=1.6,SNR=2.6							
ZALV	**Zalesovo Beam**	**46.37**	**317**	P		**P**	**21 04 41.6**	**+0.3**
MKAR	**Makanchi Array**	**47.84**	**307**	P		**P**	**21 04 54.2**	**+1.2**
	comp=Z,1.5nm,0.5s,baz=84,slow=9.7,SNR=17							
MKAR	**Makanchi Array**	**47.84**	**307**	P		**P**	**21 04 53.9**	**+0.9**
KURK	**Kurchatov**	**50.08**	**312**	P		**P**	**21 05 11.2**	**+1.2**
KURBB	**Kurchatov Arra**	**50.14**	**312**	P		**P**	**21 05 11.3**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=88,slow=7.2,SNR=14							
WR0	**Warramunga Arr**	**51.35**	**189**	P		**P**	**21 05 19.2**	**-0.7**
WR0				IAmb		IAmb	21 05 21.3	
	comp=Z,5.0nm,1.1s							
WRAB	**Tennant Creek**	**51.35**	**189**	P		**P**	**21 05 20.2**	**+0.4**
WRAB				IAmb		IAmb	21 05 47.5	
	comp=Z,10nm,1.2s							
WRA	**Warramunga Arr**	**51.36**	**189**	P		**P**	**21 05 20.0**	**0.0**
	comp=Z,1.5nm,0.5s,baz=6.2,slow=7.3,SNR=37							
BOOM	**Boomskoye usch**	**52.85**	**302**	P		**P**	**21 05 32.3**	**+1.1**
BOOM				IAmb		IAmb	21 05 35.4	
	comp=Z,5.3nm,1.5s							
AAK	**Ala-Archa**	**53.87**	**302**	P		**P**	**21 05 40.0**	**+1.3**
	comp=Z,2.1nm,0.7s,baz=130,slow=6.0,SNR=7.3							
AAK	**Ala-Archa**	**53.87**	**302**	P		**P**	**21 05 39.8**	**+1.1**
ILAR	**Eielson Array**	**54.24**	**30**	P		**P**	**21 05 40.1**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=268,slow=5.7,SNR=5.3							
BVAR	**Borovoye Array**	**54.98**	**316**	P		**P**	**21 05 47.5**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=112,slow=9.8,SNR=3.6							
ASAR	**Alice Springs**	**55.09**	**189**	P		**P**	**21 05 47.7**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=14,slow=14,SNR=17							
KK31	**Karatay Array**	**56.63**	**304**	P		**P**	**21 05 59.3**	**+0.9**
KK31				IAmb		IAmb	21 06 00.5	
	comp=Z,3.7nm,0.7s							
KKAR	**Karatay Array**	**56.63**	**304**	P		**P**	**21 05 59.6**	**+1.2**
KKAR				IAmb		IAmb	21 06 00.5	
	comp=Z,3.7nm,0.7s							
NIL	**Nilore**	**57.10**	**292**	P		**P**	**21 06 01.1**	**-0.7**
NIL				IAmb		IAmb	21 06 04.4	
	comp=Z,5.8nm,0.9s							
GAR	**Garm**	**57.81**	**299**	P		**P**	**21 06 08.4**	**+1.5**
CHGR	**Chuyangaron**	**58.78**	**299**	P		**P**	**21 06 14.8**	**+1.1**
ABKAR	**Akbulak array**	**62.18**	**313**	P		**P**	**21 06 37.6**	**+1.1**
ABKAR	**Akbulak array**	**62.18**	**313**	P		**P**	**21 06 37.3**	**+0.7**
FINES	**FINESS Array B**	**74.23**	**333**	P		**P**	**21 07 52.1**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=66,slow=4.8,SNR=12							
NVAR	**Mina Array Bea**	**78.13**	**52**	P		**P**	**21 08 15.7**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=297,slow=6.7,SNR=2.4							
AKASG	**Malin Array Be**	**79.25**	**323**	P		**P**	**21 08 20.9**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=54,slow=4.5,SNR=2.5							
NB2	**NORSAR Subarra**	**79.78**	**338**	P		**P**	**21 08 23.3**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=41,slow=5.3							
NOA	**NORSAR Array B**	**79.78**	**338**	P		**P**	**21 08 23.2**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=41,slow=5.3,SNR=8.5							
BRTR	**Keskin Array B**	**83.13**	**313**	P		**P**	**21 08 42.7**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=45,slow=4.7,SNR=3.0							
TXAR	**Lajitas Array**	**93.28**	**53**	P		**P**	**21 09 31.2**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=302,slow=3.4,SNR=8.7							

*IDC **10** 20:59:27.6±0.8,31°.19N×142°.12E,h0km,mb3.9/13,*
mb1 4.0/17,mb1mx3.8/47,mbtmp3.9/17,ML3.5/4,MS3.5/1,
Ms1 3.5/1,ms1mx2.4/38,Error ellipse: s-maj=24.3km
s-min=15.7km az=74.0
*JMA **10** 20:59:29.7±0.1,31°.31N×142°.35E,h48km,M4.2*
*NEIC **10** 20:59:30.6±1.2,31°.26N±0°.04×142°.2E±0°.1,h18km±5km,*
mb4.2/7,Error ellipse: s-maj=16.3km s-min=2.8km
az=69.0

ISC 10 20:59:30.9±0.6,31°.24N±0°.06×142°.22E±0°.09,h24km,n48,
σ1s14/54,mb4.0/16,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHCJ	**Hachijojimakas**	**2.75**	**312**	*e*S		**Sn**	**21 00 45.5**	**-0.6**
JHJ2	**Mitsune**	**2.77**	**313**	P		**Pn**	**21 00 13.3**	**-0.4**
JHJ2				*e*S		**Sn**	**21 00 46.1**	**-0.3**
JHJ2	**Mitsune**	**2.77**	**313**	Pn		**Pn**	**21 00 13.7**	**0.0**
JHJ	**Hachijo jima 2**	**2.79**	**313**	Pn		**Pn**	**21 00 13.4**	**-0.7**
	9.6nm,0.3s,baz=93,slow=22,SNR=1.2							
JHJ				Sn		**Sn**	**21 00 45.4**	**-1.6**
	26nm,0.3s,baz=104,slow=22,SNR=1.6							
BSO1	**Boso 1**	**3.56**	**343**	P		**Pn**	**21 00 23.8**	**-0.4**
CBIJ	**Chichi jima**	**4.13**	**180**	P		**Pn**	**21 00 33.0**	**+0.5**
CBIJ				*e*S		**Sn**	**21 01 20.4**	**+0.3**
JCJ	**Chichijima**	**4.13**	**180**	Pn		**Pn**	**21 00 32.8**	**+0.2**
	3.2nm,0.3s,baz=278,slow=13,SNR=1.9							
JCJ				Sn		**Sn**	**21 01 17.1**	**-3.0**
	6.0nm,0.3s,baz=277,slow=22,SNR=1.6							
JHU	**Hanno**	**5.21**	**333**	P		**Pn**	**21 00 47.1**	**-0.3**
JHU				*e*S		**Sn**	**21 01 45.0**	**-1.8**
JYT	**Yasato**	**5.25**	**342**	Pn		**Pn**	**21 00 49.0**	**+1.1**
JRY	**Ryogami san**	**5.51**	**331**	P		**Pn**	**21 00 51.7**	**+0.2**
JHO	**Hitachi**	**5.53**	**346**	P		**Pn**	**21 00 50.9**	**-0.9**
JHO				*e*S		**Sn**	**21 01 49.5**	**-5.1**
JAG	**Ashikaga**	**5.66**	**337**	P		**Pn**	**21 00 53.3**	**-0.3**
JGF	**Kuroka**	**5.96**	**318**	Pn		**Pn**	**21 00 57.8**	**+0.2**
INU	**Inuyama**	**5.98**	**315**	Pn		**Pn**	**21 00 57.8**	**-0.1**
MJAR	**Matsushiro Arr**	**6.25**	**329**	Pn		**Pn**	**21 01 01.7**	**0.0**
	0.7nm,0.3s,baz=155,slow=11,SNR=23							
MJAR				Sn		**Sn**	**21 02 12.2**	**-0.2**
	0.2nm,0.3s,baz=138,slow=23,SNR=2.1							
MJAR	**Matsushiro Arr**	**6.25**	**329**			**Pn**	**21 01 02.0**	**+0.3**
MAJO	**Matsushiro**	**6.25**	**329**			**Pn**	**21 01 01.5**	**-0.2**
MAT	**Matsushiro**	**6.25**	**329**	P		**Pn**	**21 01 02.7**	**+1.0**
MAT				*e*S		**Sn**	**21 02 09.7**	**-2.7**
JMM	**Marumori**	**6.71**	**350**	Pn		**Pn**	**21 01 07.7**	**-0.3**
JWT	**Wachi**	**6.99**	**307**	Pn		**Pn**	**21 01 11.8**	**0.0**
JSD	**Sado**	**7.53**	**335**	Pn		**Pn**	**21 01 18.2**	**-0.9**
JTM	**Tenmabayashi**	**9.57**	**355**	Pn		**Pn**	**21 01 46.3**	**-0.9**
ERM	**Erimo**	**10.78**	**4**	Pn		**Pn**	**21 02 02.9**	**-0.8**
KLR	**Kul'dur**	**19.63**	**339**	P		**P**	**21 03 57.5**	**-0.2**
	0.3nm,0.3s,baz=158,slow=9.2,SNR=5.6							
SONM	**Songino Array**	**31.87**	**312**	P		**P**	**21 05 55.6**	**+1.4**
	1.7nm,0.8s,baz=101,slow=12,SNR=6.4							
SONM	**Songino Array**	**31.87**	**312**	IAmb		IAmb	21 05 56.4	
	comp=Z,3.2nm,1.2s							
CMAR	**Chiang Mai Arr**	**41.04**	**262**	P		**P**	**21 07 11.4**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=46,slow=6.6,SNR=5.3							
ZALV	**Zalesovo Beam**	**46.45**	**317**	P		**P**	**21 07 55.8**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=97,slow=9.4,SNR=3.9							
MKAR	**Makanchi Array**	**47.95**	**307**	P		**P**	**21 08 07.8**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=86,slow=9.7,SNR=13							
KURK	**Kurchatov**	**50.17**	**312**	P		**P**	**21 08 24.7**	**+0.3**
KURBB	**Kurchatov Arra**	**50.23**	**312**	P		**P**	**21 08 24.7**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=88,slow=7.2,SNR=9.6							
WRA	**Warramunga Arr**	**51.45**	**189**	P		**P**	**21 08 33.9**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=6.7,slow=7.3,SNR=26							
WRA				LR		LR	21 31 22.5	
	comp=Z,46nm,18.9s,baz=0.0,slow=37							
BOOM	**Boomskoye usch**	**52.98**	**302**	P		**P**	**21 08 46.5**	**+0.7**
AAK	**Ala-Archa**	**54.00**	**302**	P		**P**	**21 08 53.4**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=152,slow=6.4,SNR=6.1							
AAK	**Ala-Archa**	**54.00**	**302**	IAmb		IAmb	21 08 54.6	
	comp=Z,1.7nm,0.6s							
ILAR	**Eielson Array**	**54.09**	**30**	P		**P**	**21 08 54.0**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=265,slow=6.2,SNR=2.1							
ASAR	**Alice Springs**	**55.17**	**189**	P		**P**	**21 09 01.6**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=3.4,slow=5.4,SNR=12							
KK31	**Karatay Array**	**56.75**	**304**	P		**P**	**21 09 13.4**	**+0.5**
KK31				IAmb		IAmb	21 09 14.3	
	comp=Z,2.6nm,0.7s							
KKAR	**Karatay Array**	**56.75**	**304**	P		**P**	**21 09 13.5**	**+0.6**
KKAR	**Karatay Array**	**56.75**	**304**	P		**P**	**21 09 13.2**	**+0.3**
KKAR				IAmb		IAmb	21 09 14.3	
	comp=Z,2.6nm,0.7s							
CHGR	**Chuyangaron**	**58.91**	**299**	P		**P**	**21 09 28.2**	**0.0**
ABKAR	**Akbulak array**	**62.27**	**313**	P		**P**	**21 09 51.5**	**+0.7**
ABKAR	**Akbulak array**	**62.27**	**313**	P		**P**	**21 09 50.7**	**-0.2**
ABKAR				IAmb		IAmb	21 10 12.4	
	comp=Z,1.2nm,0.9s							
FINES	**FINESS Array B**	**74.26**	**333**	P		**P**	**21 11 05.7**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=41,slow=6.1,SNR=8.0							
NVAR	**Mina Array Bea**	**77.95**	**52**	P		**P**	**21 11 29.3**	**+1.8**
	comp=Z,0.3nm,0.5s,baz=313,slow=6.0,SNR=2.6							
NB2	**NORSAR Subarra**	**79.79**	**338**	P		**P**	**21 11 36.5**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=41,slow=5.6							
NOA	**NORSAR Array B**	**79.79**	**338**	P		**P**	**21 11 37.0**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=41,slow=5.3,SNR=6.1							
TXAR	**Lajitas Array**	**93.09**	**53**	P		**P**	**21 12 44.7**	**+1.5**
	comp=Z,0.5nm,0.7s,baz=315,slow=2.6,SNR=5.9							

MEX 10 21:03:11.8±0.4,13°.77N×92°.87W,h16km±149km,MD3.8,
Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCIG		**1.96**	**350**	*e*P		Pn	21 03 40.7	-3.6
PCIG				*i* S		Sn	21 04 03.7	-4.8
CCIG	**Comitan**	**2.60**	**16**	*e*P		Pn	21 03 52.9	-0.4
CCIG				*i* S		Sn	21 04 24.1	-0.6
CMIG	**Matias Romero**	**3.83**	**330**	*e*P		Pn	21 04 06.5	-3.6

*IDC **10** 21:06:50.1±0.7,31°.18N×142°.14E,h0km,mb4.2/19,*
mb1 4.4/24,mb1mx4.2/47,mbtmp4.2/24,ML4.0/4,Error
ellipse: s-maj=19.6km s-min=14.5km az=76.0
*JMA **10** 21:06:50.9±0.2,31°.25N×142°.33E,h45km,M4.5*
*NEIC **10** 21:06:54.6±1.3,31°.21N±0°.05×142°.15E±0°.1,h26km±3km,*
mb4.7/46,Error ellipse: s-maj=12.2km s-min=7.8km
az=80.0

ISC 10 21:06:53.3±0.5,31°.22N±0°.05×142°.17E±0°.07,h24km,n102,
σ1s40/112,mb4.5/35,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHCJ	**Hachijojimakas**	**2.73**	**313**	P		**Pn**	**21 07 34.6**	**-1.1**
JHJ2	**Mitsune**	**2.74**	**314**	P		**Pn**	**21 07 35.0**	**-0.8**
JHJ2	**Mitsune**	**2.74**	**314**	Pn		**Pn**	**21 07 35.3**	**-0.6**
JHJ	**Hachijo jima 2**	**2.77**	**314**	Pn		**Pn**	**21 07 35.5**	**-0.7**
	48nm,0.3s,baz=85,slow=21,SNR=2.2							
JHJ				Sn		**Sn**	**21 08 06.5**	**-2.4**
	32nm,0.3s,baz=54,slow=22,SNR=1.8							
JMKN	**Mikurajimanish**	**3.44**	**321**	P		**Pn**	**21 07 44.6**	**-0.8**
BSO1	**Boso 1**	**3.57**	**344**	P		**Pn**	**21 07 45.8**	**-0.9**
BSO1				*e*S		**Sn**	**21 08 26.7**	**-1.1**
BSO3	**Boso 3**	**3.83**	**339**	P		**Pn**	**21 07 49.7**	**-0.9**
BSO4	**Boso 4**	**4.06**	**338**	P		**Pn**	**21 07 52.6**	**-1.3**
CBIJ	**Chichi jima**	**4.11**	**180**	P		**Pn**	**21 07 53.5**	**-1.1**
CBIJ				*e*S		**Sn**	**21 08 39.1**	**-2.9**
JCJ	**Chichijima**	**4.11**	**180**	Pn		**Pn**	**21 07 53.9**	**-0.8**
	12nm,0.3s,baz=4.0,slow=20,SNR=13							
JCJ				Sn		**Sn**	**21 08 39.2**	**-2.8**
	17nm,0.3s,baz=303,slow=21,SNR=2.2							
JOD2	**Odawara 2**	**4.79**	**328**	P		**Pn**	**21 08 03.4**	**-0.6**
JSG	**Sagara**	**4.80**	**317**	Pn		**Pn**	**21 08 05.0**	**+0.9**
JHU	**Hanno**	**5.21**	**333**	P		**Pn**	**21 08 09.1**	**-0.7**
JHU				*e*S		**Sn**	**21 09 06.5**	**-2.6**
JYT	**Yasato**	**5.26**	**342**	Pn		**Pn**	**21 08 11.0**	**+0.6**
JRY	**Ryogami san**	**5.50**	**331**	*e*S		**Sn**	**21 09 14.9**	**-1.5**
JHO	**Hitachi**	**5.54**	**347**	P		**Pn**	**21 08 12.5**	**-1.8**
JHO				*e*S		**Sn**	**21 09 11.8**	**-5.4**
JAG	**Ashikaga**	**5.66**	**337**	P		**Pn**	**21 08 15.6**	**-0.4**
JGF	**Kuroka**	**5.94**	**319**			**Pn**	**21 08 22.2**	**+2.4**
INU	**Inuyama**	**5.96**	**315**			**Pn**	**21 08 22.2**	**+2.1**
MJAR	**Matsushiro Arr**	**6.25**	**329**	Pn		**Pn**	**21 08 24.2**	**+0.2**
	2.0nm,0.3s,baz=153,slow=12,SNR=79							
MJAR				Sn		**Sn**	**21 09 33.7**	**-0.9**
	0.4nm,0.3s,baz=136,slow=22,SNR=1.6							
MJAR	**Matsushiro Arr**	**6.25**	**329**			**Pn**	**21 08 24.6**	**+0.5**
MAJO	**Matsushiro**	**6.25**	**329**			**Pn**	**21 08 24.9**	**+0.8**
MAT	**Matsushiro**	**6.25**	**329**	P		**Pn**	**21 08 24.4**	**+0.4**
MAT				S		**Sn**	**21 09 32.7**	**-2.0**
MJB9	**Matsu-Tunnel**	**6.25**	**329**	Pn		**Pn**	**21 08 24.9**	**+0.8**
JMM	**Marumori**	**6.73**	**351**			**Pn**	**21 08 29.2**	**-1.3**
**JW

ARCES	**ARCESS Array B**	**69.66**	**340**	P		**P**	**21 18 01.5**	**+1.1**
	comp=Z,2.5nm,0.8s,baz=74,slow=9.5,SNR=4.1							
FINES	**FINESS Array B**	**74.26**	**333**	P		**P**	**21 18 28.5**	**+0.4**
	comp=Z,2.1nm,0.6s,baz=54,slow=5.3,SNR=28							
KBZ	**Khabaz**	**75.21**	**312**	P		**P**	**21 18 35.1**	**+1.2**
	comp=Z,2.6nm,0.8s,baz=159,slow=7.4,SNR=5.2							
NVAR	**Mina Array Bea**	**78.00**	**52**	P		**P**	**21 18 51.5**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=293,slow=5.4,SNR=6.1							
NVAR	**Mina Array Bea**	**78.00**	**52**	P		**P**	**21 18 51.0**	**+0.8**
AKASG	**Malin Array Be**	**79.30**	**323**	P		**P**	**21 18 56.9**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=52,slow=6.2,SNR=5.6							
NC204	**NORSAR Array S**	**79.75**	**338**	P		**P**	**21 18 59.5**	**+0.4**
NB2	**NORSAR Subarra**	**79.79**	**338**	P		**P**	**21 18 59.1**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=40,slow=5.6							
NOA	**NORSAR Array B**	**79.79**	**338**	P		**P**	**21 18 59.4**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=41,slow=5.3,SNR=17							
PDAR	**Pinedale Array**	**81.31**	**45**	P		**P**	**21 19 08.8**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=270,slow=2.7,SNR=3.7							
BRTR	**Keskin Array B**	**83.20**	**313**	P		**P**	**21 19 18.8**	**+0.9**
	comp=Z,1.7nm,0.8s,baz=35,slow=2.3,SNR=4.9							
TX31	**Lajitas Ar. Si**	**93.15**	**53**	P		**P**	**21 20 05.8**	**-0.1**
TX32	**Lajitas Array**	**93.15**	**53**	P		**P**	**21 20 06.7**	**+0.8**
TX32				IAmb	IAmb		21 20 22.5	
	comp=Z,2.1nm,0.8s							
TXAR	**Lajitas Array**	**93.15**	**53**	P		**P**	**21 20 07.3**	**+1.4**
	comp=Z,1.5nm,0.7s,baz=296,slow=2.3,SNR=18							
TXAR	**Lajitas Array**	**93.15**	**53**	P		**P**	**21 20 06.7**	**+0.8**

*IDC **10** 21:11:31.1±2.7,21.60S×178.78W,h594km±23km,mb3.3/4, mb1 3.4/6,mb1mx3.1/29,mbtmp4.2/6, Error ellipse: s-maj=47.6km s-min=26.3km az=135.0*

*NEIC **10** 21:11:32.0±2.3,21.4S±0.1×178.8W±0.2,h601km±11km, mb4.4/18, Error ellipse: s-maj=23.5km s-min=11.5km az=123.0*

ISC 10 21:11:32.2±0.8,**21.47S**±0.09×**178.9W**±0.1,**h602**km,**n38,** σ1**9**95/39,**mb4.2**/10,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.72**	**321**	P	**P**	**21 13 03.0**	**-0.3**
	1.4nm,0.3s,baz=142,slow=14,SNR=7.3						
MSVF	**Nonsavu**	**4.72**	**321**	P	**P**	**21 13 02.8**	**-0.5**
RAO	**Raoul Island**	**7.79**	**174**	P	**P**	**21 13 33.2**	**+3.7**
OUZ	**Omahuta**	**15.21**	**204**	P	**P**	**21 14 42.7**	**+0.6**
OUZ				IAmb	IAmb	21 14 44.6	
	comp=Z,23nm,1.0s						
URZ	**Urewera**	**17.09**	**191**	P	**P**	**21 14 57.4**	**-1.8**
	comp=Z,0.9nm,0.3s,baz=50,slow=14,SNR=1.2						
URZ				S	**S**	**21 17 38.8**	**-8.8**
	comp=Z,0.5nm,0.3s,baz=0.3,slow=16,SNR=2.1						
URZ	**Urewera**	**17.09**	**191**	P	**P**	**21 14 58.0**	**-1.3**
URZ				IAmb	IAmb	21 15 07.0	
	comp=Z,18nm,1.0s						
BKZ	**Black Stump Fm**	**18.08**	**192**	P	**P**	**21 15 07.1**	**-1.3**
BKZ				IAmb	IAmb	21 15 24.1	
	comp=Z,8.8nm,0.9s						
KNTN	**Kanton**	**19.84**	**21**	P	**P**	**21 15 22.3**	**-2.2**
SNZO	**South Karori**	**20.52**	**194**	P	**P**	**21 15 27.3**	**-2.9**
QRZ	**Quartz Range**	**20.63**	**199**	P	**P**	**21 15 30.9**	**-0.4**
QRZ				IAmb	IAmb	21 15 37.4	
	comp=Z,9.6nm,0.8s						
NNZ	**Nelson**	**20.75**	**197**	P	**P**	**21 15 32.6**	**+0.2**
TUWZ	**Tuamarina**	**20.81**	**195**	P	**P**	**21 15 31.9**	**-1.0**
RPZ	**Rata Peaks**	**23.72**	**198**	P	**P**	**21 15 59.8**	**+1.0**
WHZ	**Wether Hill Ro**	**26.65**	**201**	P	**P**	**21 16 25.5**	**+1.0**
WHZ				IAmb	IAmb	21 16 38.7	
	comp=Z,24nm,1.2s						
CTAO	**Charters Tower**	**32.61**	**266**	P	**P**	**21 17 15.8**	**-0.5**
CTAO				IAmb	IAmb	21 17 23.5	
	comp=Z,18nm,1.1s						
STKA	**Stephens Creek**	**36.65**	**245**	P	**P**	**21 17 49.8**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=85,slow=12,SNR=4.0						
STKA	**Stephens Creek**	**36.65**	**245**	P	**P**	**21 17 49.5**	**-0.1**
WR0	**Warramunga Arr**	**43.49**	**263**	P	**P**	**21 18 43.4**	**-0.7**
AS31	**Alice Springs**	**43.52**	**258**	P	**P**	**21 18 44.2**	**-0.2**
ASAR	**Alice Springs**	**43.52**	**258**	P	**P**	**21 18 44.0**	**-0.5**
	comp=Z,5.0nm,0.8s,baz=97,slow=7.7,SNR=36						
ASAR				PcP	**PcP**	**21 20 18.6**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=115,slow=3.7,SNR=6.3						
WB2	**Warramunga Arr**	**43.67**	**263**	P	**P**	**21 18 44.8**	**-0.8**
WB2				IAmb	IAmb	21 18 45.4	
	comp=Z,6.8nm,0.9s						
WRAB	**Tennant Creek**	**43.67**	**263**	P	**P**	**21 18 44.5**	**-1.1**
WRAB				IAmb	IAmb	21 18 45.9	
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr**	**43.68**	**263**	P	**P**	**21 18 44.3**	**-1.3**
	comp=Z,2.8nm,0.6s,baz=107,slow=7.3,SNR=42						
SOEI	**Soe**	**55.74**	**273**	P	**P**	**21 20 14.6**	**+0.7**
SOEI				IAmb	IAmb	21 20 15.9	
	comp=Z,41nm,1.1s						
VNDA	**Vanda**	**56.88**	**185**	P	**P**	**21 20 22.9**	**+2.4**
TOLI2	**Tolitoli**	**63.03**	**283**	P	**P**	**21 21 03.4**	**+1.1**
TOLI2				IAmb	IAmb	21 21 11.8	
	comp=Z,4.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**89.69**	**290**	P	**P**	**21 23 29.7**	**+1.9**
	comp=Z,1.4nm,0.7s,baz=127,slow=3.4,SNR=6.0						
ARCES	**ARCESS Array B**	**129.72**	**349**	PKP	**PKPdf**	**21 29 31.9**	**-1.4**
	comp=Z,3.6nm,0.9s,baz=8.5,slow=1.8,SNR=4.4						
FINES	**FINESS Array B**	**136.47**	**343**	PKhKP	PKPpre	21 29 42.3	
	comp=Z,1.2nm,0.7s,baz=54,slow=2.4,SNR=1.6						
FINES				PKP	**PKPdf**	**21 29 46.1**	**0.0**
	comp=Z,1.2nm,0.7s,baz=31,slow=3.2,SNR=3.5						
AKASG	**Malin Array Be**	**143.46**	**330**	PKP	PKPab	21 29 56.6	-1.1
	comp=Z,1.7nm,0.5s,baz=41,slow=4.5,SNR=9.4						
BRTR	**Keskin Array B**	**146.88**	**311**	PKPbc	**PKPbc**	**21 30 08.2**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=166,slow=2.5,SNR=3.6						
DPC	**Dobruska-Polom**	**148.79**	**341**	*e*PKP	**PKPbc**	**21 30 12.8**	**0.0**
CLL	**Collm**	**148.81**	**346**	*e*PKPbc	**PKPbc**	**21 30 12.0**	**-0.7**
KRLC	**Kraliky**	**148.90**	**340**	*e*PKP	**PKPbc**	**21 30 13.4**	**+0.4**
PRU	**Pruhonice**	**149.63**	**343**	*e*PKP	**PKPbc**	**21 30 14.9**	**+0.2**
KHC	**Kasperske Hory**	**150.67**	**343**	*e*PKP	**PKPdf**	**21 30 09.3**	**-1.7**
KHC				*ex*	x	21 30 17.1	
CKRC	**Cesky Krumlov**	**150.75**	**342**	*e*PKP	**PKPbc**	**21 30 17.4**	**0.0**
GERES	**GERESS Array B**	**150.90**	**343**	PKPbc	**PKPbc**	**21 30 17.5**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=64,slow=2.3,SNR=5.6						

*IDC **10** 21:11:32.3±0.7,31.19N×142.17E, h0km, mb4.2/15, mb1 4.4/19,mb1mx4.3/38,mbtmp4.2/19,ML3.7/4,MS3.5/7, Ms1 3.5/7,ms1mx3.0/45, Error ellipse: s-maj=20.2km s-min=15.3km az=77.0*

*NIED **10** 21:11:34.2,31.24N×142.26E,h42km,MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr=1.72; Mθθ=0.14; Mφφ=1.58; Mrθ=0.28; Mθφ=-0.31; Mφr=-1.61; Fault plane solution: M0=2.34000×10^15^ NP1: φs=350.00000°,δ67.00000°,λ=-89.00000°. NP2: φs=167.00000°,δ23.00000°,λ=-92.00000°.*

*JMA **10** 21:11:34.2±0.2,31.24N×142.26E,h42km,M4.3*

*NEIC **10** 21:11:38.3±1.5,31.24N±0.06×142.10E±0.04,h35km±6km, mb4.6/53, Error ellipse: s-maj=8.9km s-min=4.3km az=154.0*

ISC 10 21:11:37.3±0.5,**31.21N**±0.05×**142.16E**±0.07,**h35**km,**n114,** σ1**9**26/117,**mb4.5**/48,**MS3.6**/5,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.73**	**313**	P	**Pn**	**21 12 17.4**	**-1.2**
JHJ2	**Mitsune**	**2.74**	**314**	Pn	**Pn**	**21 12 18.5**	**-0.4**
JHJ	**Hachijo jima 2**	**2.77**	**314**	Pn	**Pn**	**21 12 19.0**	**-0.2**
	19nm,0.3s,baz=93,slow=21,SNR=1.2						
JHJ				Sn	**Sn**	**21 12 49.7**	**-1.7**
	44nm,0.3s,baz=66,slow=20,SNR=1.9						
CBIJ	**Chichi jima**	**4.10**	**180**	P	**Pn**	**21 12 36.8**	**-0.7**
CBIJ				S	**Sn**	**21 13 23.0**	**-1.3**
JCJ	**Chichijima**	**4.10**	**180**	Pn	**Pn**	**21 12 36.8**	**-0.7**
	12nm,0.3s,baz=351,slow=22,SNR=10						
JCJ				Sn	**Sn**	**21 13 19.9**	**-4.3**
	14nm,0.3s,baz=290,slow=22,SNR=2.4						
JCJ	**Chichijima**	**4.10**	**180**	Pn	**Pn**	**21 12 37.0**	**-0.5**
JSG	**Sagara**	**4.80**	**317**	Pn	**Pn**	**21 12 47.4**	**+0.3**
JHU	**Hanno**	**5.21**	**333**	P	**Pn**	**21 12 52.6**	**-0.2**
JYT	**Yasato**	**5.26**	**342**	Pn	**Pn**	**21 12 53.5**	**0.0**
JRY	**Ryogami san**	**5.51**	**331**	P	**Pn**	**21 12 56.6**	**-0.3**
JHO	**Hitachi**	**5.55**	**347**	P	**Pn**	**21 12 55.2**	**-2.1**
JHO				eS	**Sn**	**21 13 56.0**	**-3.8**
JAG	**Ashikaga**	**5.67**	**337**	P	**Pn**	**21 12 58.2**	**-0.8**
JAG				eS	**Sn**	**21 13 59.4**	**-3.4**
JGF	**Kuroka**	**5.94**	**319**	Pn	**Pn**	**21 13 03.3**	**+0.5**
INU	**Inuyama**	**5.96**	**315**		**Pn**	**21 13 03.8**	**+0.8**
MJAR	**Matsushiro Arr**	**6.25**	**329**	Pn	**Pn**	**21 13 06.4**	**-0.6**
	1.0nm,0.3s,baz=151,slow=11,SNR=39						
MJAR				Sn	**Sn**	**21 14 14.8**	**-2.4**
	0.2nm,0.3s,baz=127,slow=20,SNR=1.8						
MJAR	**Matsushiro Arr**	**6.25**	**329**		**Pn**	**21 13 07.2**	**+0.1**
MAJO	**Matsushiro**	**6.25**	**329**		**Pn**	**21 13 07.3**	**+0.2**
MAT	**Matsushiro**	**6.25**	**329**	P	**Pn**	**21 13 07.0**	**0.0**
MAT				*e*S	**Sn**	**21 14 14.6**	**-2.6**
JMM	**Marumori**	**6.73**	**351**	Pn	**Pn**	**21 13 12.5**	**-1.2**
JMM					**Sn**	**21 14 25.1**	**-4.0**
JWT	**Wachi**	**6.96**	**307**	Pn	**Pn**	**21 13 18.2**	**+1.4**
JMN	**Monobe**	**7.43**	**292**	Pn	**Pn**	**21 13 24.8**	**+1.5**
JSD	**Sado**	**7.53**	**336**	Pn	**Pn**	**21 13 23.1**	**-1.5**
JTM	**Tenmabayashi**	**9.60**	**355**	Pn	**Pn**	**21 13 51.4**	**-1.5**
JMZ	**Minamidaito 2**	**11.01**	**244**	Pn	**Pn**	**21 14 09.7**	**-2.7**
JOW	**Kunigami**	**12.90**	**254**	LR	LR	21 18 08.9	
	comp=Z,125nm,20.6s,baz=212,slow=31						
KSRS	**Korea Array**	**13.30**	**302**	Pn	**Pn**	**21 14 46.2**	**+2.6**
	0.1nm,0.3s,baz=111,slow=13,SNR=8.9						
KSRS				LR	LR	21 19 25.3	
	comp=Z,148nm,18.1s,baz=118,slow=35						
YHNB	**Yeheng**	**19.47**	**256**	P	**P**	**21 16 01.0**	**-0.3**
KLR	**Kul'dur**	**19.64**	**339**	P	**Pn**	**21 16 02.8**	**-1.6**
	0.3nm,0.3s,baz=147,slow=5.4,SNR=7.6						
NJ2	**Nanjing**	**19.86**	**279**	*e*P	**Pn**	**21 16 06.2**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
YULB	**Yu-li**	**20.09**	**252**	P	**P**	**21 16 07.6**	**-0.3**
YULB				IAmb	IAmb	21 16 08.6	
	comp=Z,25nm,0.8s						
SSLB	**Suanglung**	**20.19**	**254**	P	Pn	21 16 09.8	-1.3
SSLB				IAmb	IAmb	21 16 11.6	
	comp=Z,50nm,1.3s						
TPUB	**Ta-pu**	**20.67**	**253**	P	**P**	**21 16 14.6**	**+0.3**
TPUB				IAmb	IAmb	21 16 32.8	
	comp=Z,21nm,1.0s						
BJT	**Baijiatuan**	**22.82**	**300**	P	**P**	**21 16 37.0**	**-0.1**
BJI	**Beijing**	**22.82**	**300**	P	**P**	**21 16 35.0**	**-2.1**
BJI				pmax	pmax		
	comp=Z,8.0nm,1.2s						
HHC	**Hu-ho-hao-te**	**26.43**	**300**	*e*P	**P**	**21 17 12.7**	**+1.8**
HHC				pmax	pmax		
	comp=Z,18nm,0.7s						
HHC				pmax	pmax		
	comp=Z,210nm,7.6s						
XAN	**Xi'an**	**28.07**	**285**	P	**P**	**21 17 24.7**	**-0.9**
XAN				pP	sP	21 17 38.6	+1.6
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
XAN	**Xi'an**	**28.07**	**285**	P	**P**	**21 17 24.5**	**-1.1**
SONM	**Songino Array**	**31.85**	**312**	P	**P**	**21 17 60.0**	**+1.0**
	comp=Z,3.1nm,0.8s,baz=118,slow=8.3,SNR=11						
SONM	**Songino Array**	**31.85**	**312**	P	**P**	**21 18 00.4**	**+1.4**
GTA	**Gaotai**	**35.25**	**295**	*e*P	**P**	**21 18 30.8**	**+2.1**
GTA				pP	sP	21 18 38.6	-1.6
GTA				sP	pwP	21 18 42.0	-3.4
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CMMT	**Chiang Mai**	**40.81**	**263**	P	**P**	**21 19 15.7**	**0.0**
	comp=Z,5.7nm,0.9s						
CHTO	**Chiang Mai**	**40.82**	**263**	P	**P**	**21 19 15.8**	**+0.1**
	comp=Z,5.7nm,0.9s						
CHTO	**Chiang Mai**	**40.82**	**263**	P	**P**	**21 19 15.2**	**-0.5**
CM31	**Chiang Mai Arr**	**40.98**	**262**	P	**P**	**21 19 16.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**40.98**	**262**	P	**P**	**21 19 16.5**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=56,slow=6.8,SNR=14						
CMAR				LR	LR	21 36 46.2	
	comp=Z,63nm,18.7s,baz=167,slow=37						
WMQ	**Urumqi**	**44.25**	**302**	*e*P	**P**	**21 19 45.4**	**+2.0**
WMQ				pmax	pmax		
	comp=Z,15nm,0.9s						
ZAA0	**Zalesovo Array**	**46.43**	**317**	P	**P**	**21 20 00.4**	**0.0**
ZALV	**Zalesovo Beam**	**46.43**	**317**	P	**P**	**21 20 00.5**	**+0.1**
	comp=Z,2.9nm,0.8s,baz=87,slow=7.2,SNR=8.2						
ZALV				PcP	**PcP**	**21 21 34.8**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=118,slow=3.8,SNR=5.7						
MKAR	**Makanchi Array**	**47.92**	**307**	P	**P**	**21 20 12.7**	**+0.5**
	comp=Z,4.4nm,0.8s,baz=86,slow=9.0,SNR=19						
MKAR				LR	LR	21 41 32.8	
	comp=Z,52nm,19.5s,baz=73,slow=38						
MKAR	**Makanchi Array**	**47.92**	**307**	P	**P**	**21 20 12.8**	**+0.6**
K20K	**Telida**	**50.88**	**31**	P	**P**	**21 20 36.2**	**+1.8**
K20K				IAmb	IAmb	21 20 50.1	
	comp=Z,12nm,1.4s						
PRZ	**Przheval'sk**	**51.15**	**302**	P	**P**	**21 20 37.7**	**+0.6**
RSO	**Redoubt South**	**51.19**	**35**	P	**P**	**21 20 39.6**	**+2.5**
WR0	**Warramunga Arr**	**51.40**	**189**	P	**P**	**21 20 38.8**	**0.0**
WR0				IAmb	IAmb	21 20 39.6	
	comp=Z,11nm,1.0s						
WRAB	**Tennant Creek**	**51.40**	**189**	P	**P**	**21 20 39.1**	**+0.3**
WRAB				IAmb	IAmb	21 20 39.8	
	comp=Z,9.8nm,0.9s						
WB2	**Warramunga Arr**	**51.41**	**189**	P	**P**	**21 20 39.0**	**+0.2**
WB2				IAmb	IAmb	21 20 39.9	
	comp=Z,9.5nm,0.9s						
WRA	**Warramunga Arr**	**51.41**	**189**	P	**P**	**21 20 38.7**	**-0.2**
	comp=Z,8.5nm,0.8s,baz=8.2,slow=8.0,SNR=33						
IMAR	**Indian Mountai**	**51.41**	**28**	P	**P**	**21 20 39.0**	**+0.5**
TARG	**Taragay, Kyrgy**	**51.72**	**301**	IAmb	IAmb	21 20 43.7	
	comp=Z,5.7nm,0.7s						
SKT	**Skwentna**	**51.90**	**33**	P	**P**	**21 20 42.9**	**+0.7**
SKT				IAmb	IAmb	21 20 54.5	
	comp=Z,5.6nm,1.2s						
KDJ	**Kajisay**	**52.10**	**301**	P	**P**	**21 20 44.6**	**+0.4**
KDJ				IAmb	IAmb	21 20 45.4	
	comp=Z,8.0nm,1.4s						
MLY	**Manley**	**52.53**	**30**	P	**P**	**21 20 47.9**	**+1.1**
SEW	**Seward**	**52.82**	**36**	P	**P**	**21 20 48.0**	**-0.9**
BOOM	**Boomskoye usch**	**52.94**	**302**	P	**P**	**21 20 51.4**	**+1.0**
H23K	**Yukon River**	**53.10**	**29**	P	**P**	**21 20 51.8**	**+0.7**
H23K				IAmb	IAmb	21 20 55.1	
	comp=Z,8.4nm,1.4s						
NEA2	**Nenana**	**53.20**	**30**	P	**P**	**21 20 53.3**	**+1.6**
NEA2				IAmb	IAmb	21 20 55.6	
	comp=Z,9.3nm,1.2s						
KSH	**Kashi**	**53.53**	**298**	P	P	21 20 59.2	+4.5
KSH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MDM	**Murphy Dome**	**53.58**	**30**	P	**P**	**21 20 55.9**	**+1.3**
MDM				IAmb	IAmb	21 20 56.3	
	comp=Z,6.7nm,1.2s						
AAK	**Ala-Archa**	**53.96**	**302**	P	**P**	**21 20 58.0**	**+0.1**
AAK				IAmb	IAmb	21 20 59.4	
	comp=Z,4.3nm,0.8s						
IL31		**54.15**	**30**	P	**P**	**21 20 58.7**	**+0.2**
IL31				IAmb	IAmb	21 21 01.3	
	comp=Z,5.9nm,1.2s						
ILAR	**Eielson Array**	**54.15**	**30**	P	**P**	**21 20 58.6**	**0.0**
	comp=Z,2.0nm,0.9s,baz=275,slow=6.0,SNR=10						
ILAR	**Eielson Array**	**54.15**	**30**	P	**P**	**21 20 58.8**	**+0.1**
BRVK	**Borovoye**	**55.11**	**316**	P	**P**	**21 21 05.5**	**-0.3**
BRVK				IAmb	IAmb	21 21 07.2	
	comp=Z,4.6nm,0.9s						
AS31	**Alice Springs**	**55.13**	**189**	P	**P**	**21 21 06.5**	**+0.2**
ASAR	**Alice Springs**	**55.14**	**189**	P	**P**	**21 21 06.3**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=17,slow=12,SNR=26						
ASAR	**Alice Springs**	**55.14**	**189**	P	**P**	**21 21 06.0**	**-0.2**
BCAR	**Beaver Creek A**	**56.42**	**32**	P	**P**	**21 21 16.6**	**+1.5**
DRK	**Karamyk**	**56.67**	**299**	P	**P**	**21 21 17.6**	**0.0**
DRK				IAmb	IAmb	21 21 19.5	
	comp=Z,5.2nm,0.6s						
KK31	**Karatay Array**	**56.72**	**304**	P	**P**	**21 21 18.2**	**+0.7**
KK31				IAmb	IAmb	21 21 19.2	
	comp=Z,10nm,0.9s						
KKAR	**Karatay Array**	**56.72**	**304**	P	**P**	**21 21 18.1**	**+0.6**
KKAR				IAmb	IAmb	21 21 19.3	
	comp=Z,10nm,0.9s						
NIL	**Nilore**	**57.20**	**292**	P	**P**	**21 21 21.4**	**+0.3**
NIL				IAmb	IAmb	21 21 23.0	
	comp=Z,7.8nm,0.8s						
GAR	**Garm**	**57.91**	**299**	P	**P**	**21 21 26.5**	**+0.4**
INK	**Inuvik**	**59.32**	**25**	P	**P**	**21 21 36.6**	**+1.4**
INK				IAmb	IAmb	21 21 38.2	
	comp=Z,3.5nm,0.9s						
KBL	**Kabul**	**60.23**	**294**	P	**P**	**21 21 41.8**	**-0.6**
KBL				IAmb	IAmb	21 21 43.7	
	comp=Z,3.4nm,0.7s						
ARU	**Arti**	**61.19**	**321**	P	**P**	**21 21 48.5**	**+0.2**
A36M	**Sachs Harbour**	**61.45**	**21**	P	**P**	**21 21 50.9**	**+1.1**
PALK	**Pallekele**	**61.90**	**261**	P	**P**	**21 21 54.6**	**+0.9**
CRAG	**Craig**	**62.05**	**40**	P	**P**	**21 21 56.5**	**+2.5**
ABKAR	**Akbulak array**	**62.25**	**313**	P	**P**	**21 21 55.6**	**+0.1**
ABKAR	**Akbulak array**	**62.25**	**313**	P	**P**	**21 21 56.0**	**+0.4**
ABKAR				IAmb	IAmb	21 22 13.5	
	comp=Z,2.2nm,0.9s						
FINES	**FINESS Array B**	**74.26**	**333**	P	**P**	**21 23 10.7**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=56,slow=5.4,SNR=9.6						
FINES				LR	LR	22 00 45.8	
	comp=Z,33nm,21.1s,baz=4.0,slow=40						
KBZ	**Khabaz**	**75.21**	**312**	P	**P**	**21 23 17.6**	**+1.3**
	comp=Z,2.8nm,0.8s,baz=51,slow=2.8,SNR=5.2						
NVAR	**Mina Array Bea**	**78.02**	**52**	P	**P**	**21 23 33.5**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=280,slow=4.3,SNR=5.3						
GURO	**Guroymak-BITLI**	**78.35**	**308**	P	**P**	**21 23 35.0**	**+0.7**
ELK	**Elko**	**78.86**	**49**	LR	LR	21 52 47.7	
	comp=Z,29nm,21.5s,baz=277,slow=31						
AKASG	**Malin Array Be**	**79.30**	**323**	P	**P**	**21 23 39.1**	**0.0**
	comp=Z,1.1nm,0.5s,baz=48,slow=5.6,SNR=6.8						
NC405	**NORSAR Array S**	**79.58**	**338**	P	**P**	**21 23 40.0**	**-0.5**
NC405				IAmb	IAmb	21 23 41.0	
	comp=Z,11nm,1.1s						
NC204	**NORSAR Array S**	**79.76**	**338**	P	**P**	**21 23 41.7**	**+0.2**
NC204				IAmb	IAmb	21 23 57.1	
	comp=Z,10nm,0.9s						
NB2	**NORSAR Subarra**	**79.79**	**338**	P	**P**	**21 23 41.9**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=41,slow=5.3						
NOA	**NORSAR Array B**	**79.79**	**338**	P	**P**	**21 23 41.8**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=40,slow=5.2,SNR=14						
MARD	**Mardin**	**79.83**	**307**	P	**P**	**21 23 43.0**	**+0.5**
FXWY	**Fox Creek**	**79.94**	**45**	P	**P**	**21 23 43.9**	**+0.8**
PDAR	**Pinedale Array**	**81.32**	**45**	P	**P**	**21 23 50.8**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=270,slow=3.6,SNR=6.5						
RDMU	**Red Mountain**	**82.56**	**47**	P	**P**	**21 23 57.6**	**+0.5**
RDMU				IAmb	IAmb	21 23 59.5	
	comp=Z,3.6nm,0.7s						
BRTR	**Keskin Array B**	**83.20**	**313**	P	**P**	**21 24 01.2**	**+0.9**
	comp=Z,3.3nm,0.9s,baz=111,slow=2.8,SNR=6.6						
PV17	**East Wray Mesa**	**84.27**	**48**	P	**P**	**21 24 06.5**	**+0.6**
PV03	**Paradox Valley**	**84.35**	**48**	P	**P**	**21 24 06.1**	**-0.2**
PV03				IAmb	IAmb	21 24 09.0	
	comp=Z,8.2nm,1.3s						
CLL	**Collm**	**86.45**	**331**	*e*P	**P**	**21 24 16.0**	**-0.2**
	comp=Z,8.0nm,1.5s						
ANMO	**Albuquerque**	**87.86**	**50**	LR	LR	21 58 43.9	
	comp=Z,32nm,21.0s,baz=308,slow=32						
TX31	**Lajitas Ar. Si**	**93.16**	**53**	P	**P**	**21 24 47.8**	**-0.5**
TX32	**Lajitas Array**	**93.16**	**53**	P	**P**	**21 24 47.7**	**-0.6**
TX32				IAmb	IAmb	21 24 50.4	
	comp=Z,3.1nm,0.9s						
TXAR	**Lajitas Array**	**93.16**	**53**	P	**P**	**21 24 49.5**	**+1.2**
	comp=Z,2.0nm,0.8s,baz=298,slow=2.9,SNR=15						
TXAR	**Lajitas Array**	**93.16**	**53**	P	**P**	**21 24 48.4**	**+0.1**
VNA2	**Neumayer--Watz**	**136.87**	**194**	Pdiff	**Pdif**	**21 28 03.1**	**+1.1**

*IDC **10** 21:21:43.2±1.6, 13.83N×56.82E, h0km, mb3.6/7, mb1 3.9/7,mb1mx3.5/39,mbtmp3.6/7,MS2.9/2,Ms1 2.9/2, ms1mx2.6/29, Error ellipse: s-maj=40.3km s-min=29.1km az=18.0*

ISC 10 21:21:45.6±1.3,**13.8N**±0.2×**56.8E**±0.2,**h15**km,**n12,** σ0**9**9/7,**mb3.8**/7,**Socotra region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBZ	**Khabaz**	**32.10**	**341**	P	**P**	**21 28 12.6**	**+0.5**
	2.6nm,1.0s,baz=129,slow=9.3,SNR=3.7						
BRTR	**Keskin Array B**	**32.88**	**326**	LR	LR	21 41 23.2	
	comp=Z,14nm,21.9s,baz=73,slow=36						
MKAR	**Makanchi Array**	**39.18**	**28**	P	**P**	**21 29 13.4**	**+0.4**
	0.3nm,0.6s,baz=225,slow=8.0,SNR=1.1						
CMAR	**Chiang Mai Arr**	**40.65**	**78**	P	**P**	**21 29 26.4**	**+0.9**
	0.4nm,0.4s,baz=285,slow=10,SNR=2.1						

comp=Z,6.1nm,0.6s
WB2 Warramunga Arr 32.80 116 P **P** **21 31 59.0 +0.5**
WB2 IAmb IAmb 21 32 12.4
comp=Z,7.7nm,1.3s
WR0 Warramunga Arr 32.98 116 P **P** **21 32 00.5 +0.6**
WR0 IAmb IAmb 21 32 13.4
comp=Z,10nm,1.3s
ASAR Alice Springs 33.79 123 P **P** **21 32 07.3 +0.3**
comp=Z,1.0nm,0.9s,baz=297,slow=7.5,SNR=5.3
STKA Stephens Creek 43.48 130 P **P** **21 33 29.1 +0.9**
comp=Z,3.5nm,0.6s,baz=304,slow=11,SNR=10.0
STKA Stephens Creek 43.48 130 P **P** **21 33 29.0 +0.9**
SONM Songino Array 54.60 3 P **P** **21 34 54.9 +1.7**
comp=Z,0.6nm,0.6s,baz=169,slow=8.4,SNR=5.4
SONM Songino Array 54.60 3 P **P** **21 34 56.2 +3.1**
SONM IAmb IAmb 21 35 06.0
comp=Z,1.6nm,0.8s
MKAR Makanchi Array 56.65 343 P **P** **21 35 08.9 +1.2**
comp=Z,0.8nm,0.6s,baz=146,slow=8.2,SNR=8.0
USA0B Ussuriysk Arra 57.12 24 P **P** **21 35 08.0 -3.0**
USRK Ussuriysk Ar. 57.12 24 P **P** **21 35 12.5 +1.5**
comp=Z,1.2nm,0.6s,baz=224,slow=4.0,SNR=1.6
USRK Ussuriysk Ar. 57.12 24 P **P** **21 35 07.8 -3.3**
ZALV Zalesovo Beam 62.62 348 P **P** **21 35 48.8 +0.2**
comp=Z,0.5nm,0.3s,baz=155,slow=5.3,SNR=3.0
TXAR Lajitas Array 146.23 45 PKPbc **PKiKP** **21 45 07.5 -1.4**
comp=Z,0.2nm,0.5s,baz=289,slow=3.5,SNR=3.8

MEX 10 22:02:18.8±0.4, 15°22N×93°12W, h102km±10km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.49**	**348**	*e*P	Pn	22 02 33.5	-1.3
PCIG				*e*S	Sn	22 02 44.9	-1.7
TGIG		**1.55**	**360**	*e*P	Pn	22 02 42.5	-3.3
TGIG				*i* S	Sn	22 02 58.1	-8.3
CMIG	**Matias Romero**	**2.52**	**318**	*e*P	Pn	22 02 57.5	-0.8
CMIG				*e*S	Sn	22 03 26.9	-1.7

*IDC **10** 22:05:18.2±1.5, 31°16N×142°10E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/30, mbtmp3.6/5, ML2.6/1, Error ellipse: s-maj=56.6km s-min=25.7km az=77.0*
*JMA **10** 22:05:19.8±0.1, 31°32N×142°26E, h53km, M3.9*
ISC 10 22:05:22.6±1.0, 31°27N±0°08×142°2E±0°3, h35km, n8, σ1s10/9, mb3.8/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.16**	**180**	P	**Pn**	**22 06 23.0**	**-0.6**
CBIJ				*e*S	**Sn**	**22 07 10.3**	**-0.7**
JHO	**Hitachi**	**5.49**	**347**	P	**Pn**	**22 06 40.6**	**-1.2**
JAG	**Ashikaga**	**5.61**	**337**	*e*S	**Sn**	**22 07 45.2**	**-1.5**
MJAR	**Matsushiro Arr**	**6.19**	**329**	Pn	**Pn**	**22 06 52.3**	**+0.8**
	0.2nm,0.3s,baz=151,slow=11,SNR=7.1						
MKAR	**Makanchi Array**	**47.88**	**307**	P	**P**	**22 13 58.0**	**+0.9**
	0.3nm,0.5s,baz=88,slow=9.1,SNR=1.5						
WRA	**Warramunga Arr**	**51.47**	**189**	P	**P**	**22 14 24.4**	**-0.2**
	1.4nm,0.8s,baz=5.7,slow=7.3,SNR=14						
ASAR	**Alice Springs**	**55.19**	**189**	P	**P**	**22 14 52.0**	**+0.1**
	0.5nm,0.5s,baz=5.1,slow=6.3,SNR=10						
TXAR	**Lajitas Array**	**93.13**		P	**P**	**22 18 34.6**	**+1.2**
	0.2nm,0.6s,baz=298,slow=3.0,SNR=2.6						

*IDC **10** 22:17:53.8±0.7, 31°20N×142°14E, h0km, mb4.2/15, mb1 4.4/19, mb1mx4.2/44, mbtmp4.2/19, ML3.9/3, MS3.1/2, Ms1 3.1/2, ms1mx2.6/30, Error ellipse: s-maj=20.9km s-min=15.5km az=80.0*
*NEIC **10** 22:17:55.9±1.2, 31°22N±0°07×142°2E±0°1, h10km±1km, mb4.7/43, Error ellipse: s-maj=15.6km s-min=10.8km az=73.0*
*JMA **10** 22:17:55.3±0.2, 31°34N×142°50E, h43km, M4.2*
ISC 10 22:17:57.2±0.6, 31°19N±0°06×142°14E±0°08, h24km, n96, σ1s24/98, mb4.5/41, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.75**	**315**	Pn	**Pn**	**22 18 40.2**	**+0.5**
BSO3	**Boso 3**	**3.85**	**340**	P	**Pn**	**22 18 53.4**	**-1.3**
BSO4	**Boso 4**	**4.08**	**339**	P	**Pn**	**22 18 57.3**	**-0.6**
CBIJ	**Chichi jima**	**4.08**	**179**	P	**Pn**	**22 18 59.2**	**+1.1**
JCJ	**Chichijima**	**4.08**	**179**	Pn	**Pn**	**22 18 58.0**	**-0.1**
	17nm,0.3s,baz=92,slow=23,SNR=6.5						
JCJ				Sn	**Sn**	**22 19 40.8**	**-4.4**
	10nm,0.3s,baz=294,slow=20,SNR=1.7						
JCJ	**Chichijima**	**4.08**	**179**	Pn	**Pn**	**22 18 59.1**	**+1.0**
JSG	**Sagara**	**4.81**	**317**		**Pn**	**22 19 08.5**	**+0.4**
JHU	**Hanno**	**5.22**	**334**	*e*S	**Sn**	**22 20 13.2**	**-0.1**
JYT	**Yasato**	**5.28**	**343**	Pn	**Pn**	**22 19 14.4**	**0.0**
JRY	**Ryogami san**	**5.52**	**332**	P	**Pn**	**22 19 18.0**	**+0.1**
JHO	**Hitachi**	**5.56**	**347**	P	**Pn**	**22 19 16.6**	**-1.8**
JAG	**Ashikaga**	**5.68**	**338**	P	**Pn**	**22 19 19.6**	**-0.4**
JAG				*e*S	**Sn**	**22 20 21.9**	**-2.5**
JGF	**Kuroka**	**5.94**	**319**	Pn	**Pn**	**22 19 26.9**	**+3.2**
INU	**Inuyama**	**5.97**	**315**		**Pn**	**22 19 24.6**	**+0.6**
MJAR	**Matsushiro Arr**	**6.26**	**330**	Pn	**Pn**	**22 19 27.9**	**-0.1**
	0.8nm,0.3s,baz=149,slow=11,SNR=67						
MJAR	**Matsushiro Arr**	**6.26**	**330**		**Pn**	**22 19 28.6**	**+0.5**
MAJO	**Matsushiro**	**6.26**	**330**	Pn	**Pn**	**22 19 29.3**	**+1.3**
MAT	**Matsushiro**	**6.26**	**330**	P	**Pn**	**22 19 29.3**	**+1.3**
MAT				S	**Sn**	**22 20 38.5**	**-0.3**
JWT	**Wachi**	**6.96**	**308**	Pn	**Pn**	**22 19 39.2**	**+1.5**
JMN	**Monobe**	**7.43**	**292**	Pn	**Pn**	**22 19 45.8**	**+1.8**
JSD	**Sado**	**7.54**	**336**	Pn	**Pn**	**22 19 44.8**	**-0.8**
JHS	**Saijyo**	**8.47**	**299**	Pn	**Pn**	**22 19 59.6**	**+1.3**
JTM	**Tenmabayashi**	**9.61**	**355**	Pn	**Pn**	**22 20 12.5**	**-1.5**
ERM	**Erimo**	**10.83**	**4**	Pn	**Pn**	**22 20 30.5**	**-0.2**
JTU	**Tsushima**	**11.22**	**291**	Pn	**Pn**	**22 20 36.4**	**+0.4**
KSRS	**Korea Array**	**13.30**	**302**	Pn	**P**	**22 21 09.2**	**-4.7**
	0.2nm,0.3s,baz=110,slow=13,SNR=6.3						
USRK	**Ussuriysk Ar.**	**15.25**	**331**	Pn	**Pn**	**22 21 29.4**	**-1.5**
	baz=142,slow=11,SNR=4.2						
USRK	**Ussuriysk Ar.**	**15.25**	**331**		**Pn**	**22 21 31.8**	**+0.9**
YHNB	**Yeheng**	**19.45**	**256**	P	**P**	**22 22 23.0**	**+0.8**
KLR	**Kul'dur**	**19.65**	**339**	P	**P**	**22 22 23.9**	**-0.2**
	0.4nm,0.3s,baz=159,slow=9.6,SNR=9.2						
KLR				LR	LR	22 31 02.3	
	comp=Z,42nm,18.4s,baz=204,slow=40						
NJ2	**Nanjing**	**19.85**	**279**	*e*P	**P**	**22 22 21.2**	**-5.2**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
YULB	**Yu-li**	**20.07**	**252**	P	**P**	**22 22 29.0**	**+0.1**
SSLB	**Suanglung**	**20.17**	**254**	P	**P**	**22 22 30.6**	**+0.6**
SSLB				IAmb	IAmb	22 22 31.3	
	comp=Z,34nm,1.2s						
KNMB	**Chin-men Tao**	**22.03**	**258**	P	**P**	**22 22 49.6**	**-0.4**
KNMB				IAmb	IAmb	22 22 59.1	
	comp=Z,45nm,1.0s						
BJT	**Baijiatuau**	**22.82**	**300**	P	**P**	**22 22 55.0**	**-3.3**
BJI	**Beijing**	**22.82**	**300**	P	**P**	**22 22 56.5**	**-1.8**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XAN	**Xi'an**	**28.06**	**285**	P	**P**	**22 23 45.9**	**-0.9**
XAN				pP	pP	22 23 49.0	-2.6
XAN				pmax	pmax		
	comp=Z,11nm,0.8s						
ULN	**Ulaanbaatar**	**31.44**	**312**	P	**P**	**22 24 17.4**	**+0.6**
ULN				IAmb	IAmb	22 24 19.3	
	comp=Z,7.9nm,1.1s						
SONM	**Songino Array**	**31.85**	**312**	P	**P**	**22 24 21.7**	**+1.4**
	comp=Z,2.4nm,0.7s,baz=113,slow=9.0,SNR=14						
SONM	**Songino Array**	**31.85**	**312**	P	**P**	**22 24 21.1**	**+0.8**
SONM				IAmb	IAmb	22 24 22.8	
	comp=Z,9.6nm,1.3s						
CD2	**Chengdu**	**32.78**	**280**	*e*P	**P**	**22 24 28.4**	**-0.1**
GTA	**Gaotai**	**35.24**	**295**	*e*P	**P**	**22 24 50.3**	**+0.3**
GTA				pP	pwP	22 25 00.1	-4.9
GTA				sP	sP	22 25 03.9	+7.0
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,59nm,5.1s						
GTA				LR	LR		
	comp=N,88nm,15.3s						
GTA				LR	LR		
	comp=E,130nm,16.0s						
GTA				LR	LR		
	comp=Z,110nm,16.4s						
CHTO	**Chiang Mai**	**40.80**	**263**	P	**P**	**22 25 37.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**40.96**	**262**	P	**P**	**22 25 37.5**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=56,slow=6.5,SNR=8.0						
CMAR	**Chiang Mai Arr**	**40.96**	**262**	P	**P**	**22 25 38.2**	**0.0**
WMQ	**Urumqi**	**44.25**	**302**	*e*P	**P**	**22 26 05.8**	**+1.0**
WMQ				pmax	pmax		
	comp=Z,16nm,0.7s						
ZAA0	**Zalesovo Array**	**46.43**	**317**	P	**P**	**22 26 21.8**	**0.0**
ZAA0				IAmb	IAmb	22 26 22.9	
	comp=Z,3.0nm,0.7s						
ZALV	**Zalesovo Beam**	**46.43**	**317**	P	**P**	**22 26 21.2**	**-0.6**
	comp=Z,3.6nm,0.8s,baz=108,slow=9.5,SNR=9.5						
ZALV				PcP	**PcP**	**22 27 56.6**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=85,slow=2.5,SNR=3.6						
MK31	**Makanchi Array**	**47.92**	**307**	P	**P**	**22 26 33.4**	**-0.2**
MK31				IAmb	IAmb	22 26 34.9	
	comp=Z,5.0nm,0.7s						
MKAR	**Makanchi Array**	**47.92**	**307**	P	**P**	**22 26 34.1**	**+0.6**
	comp=Z,5.1nm,0.7s,baz=87,slow=10,SNR=6.9						
WR0	**Warramunga Arr**	**51.38**	**189**	P	**P**	**22 27 00.1**	**+0.1**
WR0				IAmb	IAmb	22 27 01.0	
	comp=Z,8.3nm,1.2s						
WRAB	**Tennant Creek**	**51.38**	**189**	P	**P**	**22 27 00.1**	**+0.1**
WRAB				IAmb	IAmb	22 27 17.2	
	comp=Z,13nm,0.7s						
WB2	**Warramunga Arr**	**51.39**	**189**	P	**P**	**22 27 00.2**	**+0.1**
WB2				IAmb	IAmb	22 27 15.0	
	comp=Z,18nm,1.2s						
WRA	**Warramunga Arr**	**51.39**	**189**	P	**P**	**22 27 00.3**	**+0.2**
	comp=Z,3.7nm,0.6s,baz=6.2,slow=7.3,SNR=35						
KDJ	**Kajisay**	**52.10**	**301**	P	**P**	**22 27 05.5**	**-0.1**
NEA2	**Nenana**	**53.22**	**30**	P	**P**	**22 27 13.4**	**+0.2**
NEA2				IAmb	IAmb	22 27 16.7	
	comp=Z,5.6nm,1.0s						
KSH	**Kashi**	**53.53**	**298**	P	P	22 27 20.7	+4.6
KSH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ILAR	**Eielson Array**	**54.17**	**30**	P	**P**	**22 27 20.4**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=269,slow=6.2,SNR=9.3						
BRVK	**Borovoye**	**55.11**	**316**	P	**P**	**22 27 28.5**	**+1.3**
ASAR	**Alice Springs**	**55.12**	**189**	P	**P**	**22 27 27.9**	**+0.4**
	comp=Z,2.3nm,0.5s,baz=5.3,slow=6.1,SNR=44						
ASAR	**Alice Springs**	**55.12**	**189**	P	**P**	**22 27 27.6**	**0.0**
BCAR	**Beaver Creek A**	**56.44**	**32**	P	**P**	**22 27 37.9**	**+1.2**
DRK	**Karamyk**	**56.67**	**299**	P	**P**	**22 27 39.4**	**+0.4**
KK31	**Karatay Array**	**56.72**	**304**	P	**P**	**22 27 39.6**	**+0.6**
KK31				IAmb	IAmb	22 27 40.7	
	comp=Z,9.0nm,0.8s						
KKAR	**Karatay Array**	**56.72**	**304**	P	**P**	**22 27 39.7**	**+0.8**
KKAR	**Karatay Array**	**56.72**	**304**	P	**P**	**22 27 39.7**	**+0.8**
KKAR				IAmb	IAmb	22 27 40.7	
	comp=Z,9.0nm,0.8s						
NIL	**Nilore**	**57.20**	**292**	P	**P**	**22 27 42.7**	**+0.2**
NIL				IAmb	IAmb	22 27 45.1	
	comp=Z,7.1nm,0.6s						
BTK	**Batken**	**57.25**	**300**	P	**P**	**22 27 43.5**	**+0.6**
BTK				IAmb	IAmb	22 27 43.8	
	comp=Z,5.9nm,1.1s						
GAR	**Garm**	**57.91**	**299**	P	**P**	**22 27 47.6**	**+0.1**
CHGR	**Chuyangaron**	**58.87**	**299**	P	**P**	**22 27 54.6**	**+0.4**
KBL	**Kabul**	**60.23**	**295**	P	**P**	**22 28 03.5**	**-0.2**
KBL				IAmb	IAmb	22 28 09.9	
	comp=Z,4.4nm,1.1s						
ARU	**Arti**	**61.20**	**321**	P	**P**	**22 28 09.8**	**+0.1**
ARU				IAmb	IAmb	22 28 11.0	
	comp=Z,9.1nm,1.1s						
ABKAR	**Akbulak array**	**62.25**	**313**	P	**P**	**22 28 17.6**	**+0.6**
HRA	**Herat**	**65.54**	**297**	P	**P**	**22 28 39.1**	**0.0**
HRA				IAmb	IAmb	22 28 40.9	
	comp=Z,2.7nm,0.8s						
FINES	**FINESS Array B**	**74.27**	**333**	P	**P**	**22 29 32.0**	**0.0**
	comp=Z,2.3nm,0.9s,baz=46,slow=8.2,SNR=7.0						
KBZ	**Khabaz**	**75.21**	**312**	P	**P**	**22 29 39.4**	**+1.6**
	comp=Z,2.9nm,0.9s,baz=69,slow=4.2,SNR=5.4						
LRM	**Limekiln Ridge**	**77.92**	**44**	P	**P**	**22 29 54.0**	**+0.5**
NVAR	**Mina Array Bea**	**78.03**	**52**	P	**P**	**22 29 55.1**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=282,slow=6.0,SNR=7.5						
GURO	**Guroymak-BITLI**	**78.35**	**308**	P	**P**	**22 29 56.8**	**+1.0**
AKASG	**Malin Array Be**	**79.31**	**323**	P	**P**	**22 30 00.8**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=51,slow=5.8,SNR=6.2						
NB2	**NORSAR Subarra**	**79.81**	**338**	P	**P**	**22 30 03.5**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=40,slow=5.6						
NOA	**NORSAR Array B**	**79.81**	**338**	P	**P**	**22 30 03.3**	**+0.1**
	comp=Z,2.3nm,0.9s,baz=41,slow=5.4,SNR=9.8						
PDAR	**Pinedale Array**	**81.34**	**45**	P	**P**	**22 30 12.2**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=318,slow=2.4,SNR=4.2						
BRTR	**Keskin Array B**	**83.20**	**313**	P	**P**	**22 30 22.6**	**+0.9**
	comp=Z,1.8nm,0.9s,baz=56,slow=8.8,SNR=5.3						
ULM	**Lac du Bonnet**	**84.04**	**33**	LR	LR	23 06 51.7	
	comp=Z,15nm,21.8s,baz=294,slow=35						
PV14	**Lion Creek, Pa**	**84.19**	**48**	P	**P**	**22 30 26.4**	**-0.6**
PV14				IAmb	IAmb	22 30 30.7	
	comp=Z,13nm,1.3s						
PV19	**Morning Glory**	**84.26**	**48**	P	**P**	**22 30 26.9**	**-0.4**
PV17	**East Wray Mesa**	**84.29**	**48**	P	**P**	**22 30 27.3**	**-0.1**
PV17				IAmb	IAmb	22 30 30.0	
	comp=Z,9.0nm,1.0s						
PV16	**Nyswonger Mesa**	**84.30**	**48**	P	**P**	**22 30 27.4**	**-0.1**
PV16				IAmb	IAmb	22 30 29.4	
	comp=Z,5.0nm,1.0s						
PV11	**David Mesa, Pa**	**84.33**	**48**	P	**P**	**22 30 27.7**	**0.0**
PV03	**Paradox Valley**	**84.38**	**48**	P	**P**	**22 30 28.2**	**+0.3**
PV03				IAmb	IAmb	22 30 30.3	
	comp=Z,6.9nm,1.1s						
PV13	**Radium Mtn., P**	**84.45**	**48**	P	**P**	**22 30 28.7**	**+0.4**
PV13				IAmb	IAmb	22 30 31.2	
	comp=Z,13nm,1.5s						
CLL	**Collm**	**86.46**	**331**	*i* P	**P**	**22 30 38.4**	**+0.7**
TX31	**Lajitas Ar. Si**	**93.18**	**53**	P	**P**	**22 31 10.1**	**+0.2**
TX32	**Lajitas Array**	**93.18**	**53**	P	**P**	**22 31 10.2**	**+0.3**
TX32				IAmb	IAmb	22 31 12.6	
	comp=Z,4.1nm,1.1s						
TXAR	**Lajitas Array**	**93.18**	**53**	P	**P**	**22 31 10.6**	**+0.7**
	comp=Z,2.6nm,1.0s,baz=276,slow=2.4,SNR=16						

*TRN **10** 22:49:53.6, 13°78N×58°47W, h87km, MD3.6*
ISC 10 22:49:53.0±2.9, 13°84N±0°05×58°5W±0°2, h10km, n25, σ1s24/37, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.19**	**232**	*e*S	**Sn**	**22 50 33.0**	**+1.2**
BBGH	**Gun Hill**	**1.24**	**236**	*e*P	**Pg**	**22 50 17.5**	**+0.6**
BBGH				*e*S	**Sn**	**22 50 34.2**	**+1.0**
MPOM	**Morne Pois Mar**	**2.37**	**285**	*e*P	**Pn**	**22 50 32.1**	**+0.2**
MPOM				*e*S	**Sn**	**22 51 01.2**	**+0.3**
MCLT	**Moule a Chique**	**2.38**	**267**	*e*P	**Pn**	**22 50 32.6**	**+0.6**
MCLT				*e*S	**Sn**	**22 51 00.2**	**-1.0**
SLBI	**Saint Lucia, B**	**2.41**	**275**	*e*P	**Pn**	**22 50 32.1**	**-0.4**
SLBI				*e*S	**Sn**	**22 51 01.2**	**-0.8**
MVM	**Montagne Vaucl**	**2.43**	**287**	*e*P	**Pn**	**22 50 32.9**	**0.0**
ILAM	**Ilet Lapin Mar**	**2.48**	**292**	*e*S	**Sn**	**22 51 03.0**	**-0.8**
ZAM	**Aeronautique**	**2.56**	**287**	*e*P	**Pn**	**22 50 34.7**	**+0.1**
BIM	**Bigot**	**2.58**	**285**	*e*P	**Pn**	**22 50 34.5**	**-0.4**
BIM				*e*S	**Sn**	**22 51 04.6**	**-1.8**
FDF	**Fort de France**	**2.72**	**289**	*e*P	**Pn**	**22 50 36.4**	**-0.4**
FDF				*e*S	**Sn**	**22 51 10.1**	**+0.3**
SVB	**Belmont**	**2.73**	**258**	*e*P	**Pn**	**22 50 37.9**	**+0.9**
SVB	**Belmont**	**2.73**	**258**	*e*	**Pg**	**22 50 46.6**	**+1.1**
SVB				*e*S	**Sn**	**22 51 08.9**	**-1.3**
BAMF	**Morne Balai**	**2.74**	**291**	*e*P	**Pn**	**22 50 38.0**	**+0.9**
CXM	**Morne La Croix**	**2.76**	**291**	*e*P	**Pn**	**22 50 38.4**	**+1.0**
PML	**Morne Lenard**	**2.76**	**290**	*e*P	**Pn**	**22 50 39.7**	**+2.3**
PCM	**Pelee Case Pet**	**2.80**	**291**	*e*P	**Pn**	**22 50 39.3**	**+1.4**
GCMP	**Grenada, Carri**	**3.15**	**245**	*e*P	**Pn**	**22 50 41.7**	**-1.0**
GCMP				*e*S	**Sn**	**22 51 18.5**	**-1.9**
DSLB	**Salisbury**	**3.24**	**300**	*e*P	**Pn**	**22 50 44.7**	**+0.7**
DSLB				*e*S	**Sn**	**22 51 21.9**	**-0.8**
MAGL	**Barre de l'ile**	**3.41**	**308**	*e*P	**Pn**	**22 50 47.8**	**+1.5**
MAGL				*e*S	**Sn**	**22 51 25.9**	**-0.9**
GRGR	**Grenville**	**3.51**	**241**	*e*P	**Pn**	**22 50 46.3**	**-1.4**
GRGR				*e*S	**Sn**	**22 51 27.5**	**-1.9**
CBE	**Ff, Capester**	**3.73**	**307**	*e*P	**Pn**	**22 50 51.5**	**+0.7**
CBE				*e*S	**Sn**	**22 51 34.8**	**0.0**
ANBD	**Bethesda, Anti**	**4.48**	**316**	*e*P	**Pn**	**22 51 01.1**	**+0.1**
ANBD	**Bethesda, Anti**	**4.48**	**316**	*e*S	**Sn**	**22 51 51.1**	**-2.1**
ANWB	**Willy Bob**	**4.95**	**321**	*e*P	**Pn**	**22 51 07.9**	**+0.5**
ANWB	**Willy Bob**	**4.95**	**321**	*e*S	**Sn**	**22 52 01.4**	**-3.3**

MAN 10 23:06:57.3, 10°42N×126°04E, h20km, mb4.2, ML3.0, MS2.7, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.83**	**221**	⇓ *i* P	Pn	23 07 13.7	-0.2
SCPH				*i* S	Sn	23 07 25.7	+0.1

*IDC **10** 23:07:44.8±3.4, 33°49S×178°12W, h0km, mb4.1/2, mb1 4.4/2, mb1mx3.8/20, mbtmp4.1/2, MS3.1/1, Ms1 3.1/1, ms1mx2.7/21, Error ellipse: s-maj=197.6km s-min=39.3km az=166.0*
*WEL **10** 23:07:51.3±0.5, 32°S±15°×17°9W±3°7, h33km, M4.6/6, mB5.3/4, ML5.0/12, MLv4.6/6, Mw(mB)4.8/4, Error ellipse: s-maj=0.1km s-min=0.0km az=112.1*
ISC 10 23:07:51.0±1.3, 32°6S±0°1×178°5W±0°3, h33km, n25, σ1s64/38, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.39**	**9**	P	**Pn**	**23 08 39.6**	**-2.0**
GLKZ				S	**Sn**	**23 09 19.2**	**-1.5**
MXZ	**Matakaoa Point**	**5.57**	**207**	S	**Sn**	**23 10 15.2**	**+0.7**
WMGZ	**Waiomatatini S**	**5.76**	**205**	P	**Pn**	**23 09 14.7**	**+0.6**
WMGZ				S	**Sn**	**23 10 20.5**	**+1.4**
PKGZ	**Pakihiroa**	**5.95**	**207**	P	**Pn**	**23 09 15.2**	**-1.6**
PKGZ				S	**Sn**	**23 10 23.5**	**-0.3**
HAZ	**Te Kaha**	**5.95**	**210**	P	**Pn**	**23 09 16.3**	**-0.5**
HAZ				S	**Sn**	**23 10 25.4**	**+1.6**
PUZ	**Puketiti**	**6.04**	**205**	P	**Pn**	**23 09 16.5**	**-1.5**
PUZ				S	**Sn**	**23 10 25.4**	**-0.6**
RUGZ	**Raukumara Rang**	**6.17**	**209**	P	**Pn**	**23 09 19.4**	**-0.5**
RUGZ				S	**Sn**	**23 10 28.5**	**-0.9**
TWGZ	**Tauwhareparae**	**6.24**	**206**	P	**Pn**	**23 09 20.5**	**-0.3**
TWGZ				S	**Sn**	**23 10 30.6**	**-0.3**
CNGZ	**Carnagh Statio**	**6.43**	**204**	P	**Pn**	**23 09 22.7**	**-0.6**
MWZ	**Matawai**	**6.55**	**208**	P	**Pn**	**23 09 26.0**	**+0.9**
MWZ				S	**Sn**	**23 10 35.3**	**-3.3**
URZ	**Urewera**	**6.66**	**211**	P	**Pn**	**23 09 26.3**	**-0.2**
URZ				S	**Sn**	**23 10 40.8**	**-0.4**
RTZ	**Ruatahuna**	**7.01**	**210**	P	**Pn**	**23 09 31.6**	**+0.2**
RTZ				S	**Sn**	**23 10 48.0**	**-2.1**
RAHZ	**Arahi**	**7.23**	**208**	P	**Pn**	**23 09 35.6**	**+1.3**
RAHZ				S	**Sn**	**23 10 53.6**	**-1.6**
MTHZ	**Maungataniwha**	**7.27**	**210**	P	**Pn**	**23 09 36.4**	**+1.5**
MTHZ				S	**Sn**	**23 10 55.1**	**-1.3**
WHHZ	**Waihua**	**7.31**	**207**	P	**Pn**	**23 09 38.9**	**+3.5**
BKZ	**Black Stump Fm**	**7.68**	**210**	P	**Pn**	**23 09 40.2**	**-0.4**
BKZ				S	**Sn**	**23 11 02.8**	**-3.7**
KRHZ	**Kereru**	**8.13**	**209**	P	**Pn**	**23 09 45.1**	**-1.7**
KRHZ				S	**Sn**	**23 11 13.9**	**-3.6**
HNR	**Honiara**	**30.48**	**314**	LR	LR	23 24 20.3	
	comp=Z,34nm,19.7s,baz=350,slow=32						
ASAR	**Alice Springs**	**42.61**	**270**	P	**P**	**23 15 46.0**	**+1.7**
	1.6nm,0.6s,baz=109,slow=7.4,SNR=12						
WRA	**Warramunga Arr**	**43.80**	**275**	P	**P**	**23 15 55.2**	**+1.3**
	2.3nm,0.6s,baz=118,slow=7.7,SNR=22						
KURBB	**Kurchatov Arra**	**122.29**	**313**	PKP	**PKPdf**	**23 26 42.6**	**+0.5**
	0.2nm,0.4s,baz=111,slow=1.1,SNR=4.6						
FINES	**FINESS Array B**	**147.07**	**338**	PKPbc	**PKPbc**	**23 27 30.3**	**+0.7**
	4.2nm,0.8s,baz=56,slow=3.7,SNR=14						
NB2	**NORSAR Subarra**	**150.87**	**350**	PKP	**PKPbc**	**23 27 40.1**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=18,slow=2.6						
NOA	**NORSAR Array B**	**150.87**	**350**	PKPbc	**PKPbc**	**23 27 40.6**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=22,slow=4.7,SNR=5.1						
AKASG	**Malin Array Be**	**152.76**	**320**	PKPbc	**PKiKP**	**23 27 45.5**	**+1.3**
	comp=Z,0.5nm,0.4s,baz=64,slow=2.2,SNR=1.7						

*IDC **10** 23:09:54.8±1.4, 31°19N×142°20E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/40, mbtmp3.6/6, ML2.8/1, Error ellipse: s-maj=54.6km s-min=27.4km az=70.0*
*JMA **10** 23:09:56.3±0.2, 31°28N×142°44E, h41km, M3.9*
ISC 10 23:09:59.7±1.1, 31°2N±0°1×142°2E±0°3, h35km, n12, σ0s71/12, mb3.6/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**3.85**	**338**	P	**Pn**	**23 10 55.5**	**-0.7**
CBIJ	**Chichi jima**	**4.12**	**181**	P	**Pn**	**23 10 59.5**	**-0.7**
JHU	**Hanno**	**5.23**	**333**	P	**Pn**	**23 11 15.1**	**-0.3**
JRY	**Ryogami san**	**5.53**	**331**	P	**Pn**	**23 11 19.8**	**+0.2**
**J

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**18.22**	**203**	P	**P**	**00 01 43.0**	**-0.1**
	0.7nm,0.3s,baz=22,slow=11,SNR=8.4						
DZM	**Mont Dzumac**	**22.34**	**148**	P	**P**	**00 02 21.9**	**-0.2**
	8.6nm,0.5s,baz=260,slow=5.9,SNR=16						
WRA	**Warramunga Arr**	**25.16**	**227**	P	**P**	**00 02 46.1**	**-1.3**
	0.7nm,0.6s,baz=54,slow=9.2,SNR=6.3						
WRA				PcP	**PcP**	**00 06 08.4**	**-0.6**
	0.4nm,0.4s,baz=60,slow=2.2,SNR=2.6						
ASAR	**Alice Springs**	**27.90**	**222**	P	**P**	**00 03 10.6**	**-1.1**
	1.2nm,0.4s,baz=55,slow=8.9,SNR=32						
STKA	**Stephens Creek**	**30.64**	**201**	P	**P**	**00 03 36.9**	**+1.5**
	0.9nm,0.5s,baz=31,slow=12,SNR=2.9						
SONM	**Songino Array**	**65.60**	**327**	P	**P**	**00 08 00.5**	**+1.6**
	0.7nm,0.5s,baz=147,slow=7.1,SNR=4.0						
VNDA	**Vanda**	**74.28**	**178**	P	**P**	**00 08 50.5**	**+0.2**
	1.1nm,0.6s,baz=336,slow=7.1,SNR=15						
MKAR	**Makanchi Array**	**79.85**	**319**	P	**P**	**00 09 20.9**	**-0.7**
	0.5nm,0.6s,baz=102,slow=6.7,SNR=2.1						
ILAR	**Eielson Array**	**80.42**	**22**	P	**P**	**00 09 23.7**	**-0.5**
	0.3nm,0.5s,baz=248,slow=3.7,SNR=5.3						
TORD	**Torodi Ar. Bea**	**150.72**	**291**	PKPbc	**PKPbc**	**00 17 02.6**	**-0.3**
	0.5nm,0.3s,baz=69,slow=1.8,SNR=24						

*IDC **11** 00:08:08.8±3.5, 3°.86N×135°.71E, h35km±33km, mb3.5/5, mb1 3.7/9, mb1mx3.5/40, mbtmp3.8/9, ML3.7/4, MS2.6/2, Ms1 2.6/2, ms1mx2.4/44, Error ellipse: s-maj=20.8km s-min=16.4km az=27.0*

*JMA **11** 00:08:10.7, 33°.92N×135°.68E, h56km±1km, M3.8 Broadband fault plane solution: P waves. NP1: ϕ_s91.00000°, δ18.00000°, λ-161.00000°. NP2: ϕ_s343.00000°, δ84.00000°, λ-73.00000°. Principal axes: T Plg37.0000°, Azm58.0000°; N Plg17.0000°, Azm161.0000°; P Plg48.0000°, Azm271.0000°;*

JMA Felt II J1.

*NIED **11** 00:08:10.8, 33°.92N×135°.68E, h56km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-2.20; $M_{θθ}$1.14; $M_{φφ}$ 1.05; $M_{rθ}$2.13; $M_{θφ}$-2.32; $M_{φr}$-5.44; Fault plane solution: $M_0$6.55000×10^{14} NP1: ϕ_s337.00000°, δ79.00000°, λ-75.00000°. NP2: ϕ_s104.00000°, δ18.00000°, λ-142.00000°.*

ISC 11 00:08:10.5±0.9, 33°.91N±0°.04×135°.68E±0°.03, h57km±6km, n31, σ0s61/40, mb3.6/5, 6C-7D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTNC	**Tanabenakahech**	**0.11**	**214**	⇑P	**Pn**	**00 08 19.4**	**+0.2**
JTNC				S	**Sn**	**00 08 25.4**	**0.0**
JWM	**Minabe**	**0.28**	**258**	⇑P	**Pn**	**00 08 20.1**	**0.0**
JWM				S	**Sn**	**00 08 26.6**	**-0.4**
JMMH	**Miemihama**	**0.30**	**107**	⇓P	**Pn**	**00 08 20.3**	**+0.1**
JMMH				S	**Sn**	**00 08 27.2**	**0.0**
JWY	**Kouya**	**0.32**	**346**	⇓P	**Pn**	**00 08 20.7**	**+0.2**
JWY				S	**Sn**	**00 08 27.3**	**-0.4**
JKN2	**Miekihoku**	**0.59**	**56**	⇓P	**Pn**	**00 08 23.1**	**-0.1**
JKN2				/ S	**Sn**	**00 08 32.1**	**-0.4**
JHE	**Heguri**	**0.74**	**0**	⇓P	**Pn**	**00 08 25.1**	**0.0**
JHE				S	**Sn**	**00 08 35.5**	**-0.3**
JAWN	**Awajishima-nag**	**0.87**	**312**	⇑P	**Pn**	**00 08 26.9**	**+0.2**
JAWN				eS	**Sn**	**00 08 38.4**	**-0.2**
TTO1	**TONANKAI O.B.S**	**0.96**	**107**	⇓P	**Pn**	**00 08 28.0**	**+0.4**
TTO1				X		00 08 42.0	
JIE	**Ise**	**0.98**	**60**	⇓P	**Pn**	**00 08 28.1**	**0.0**
JIE				eS	**Sn**	**00 08 40.1**	**-1.0**
TSUJ	**Tsu 2**	**1.01**	**37**	⇑P	**Pn**	**00 08 28.4**	**-0.1**
TSUJ				S	**Sn**	**00 08 40.8**	**-1.0**
JAI	**Aioi**	**1.03**	**264**	⇑P	**Pn**	**00 08 29.1**	**+0.3**
JAI				eS	**Sn**	**00 08 42.1**	**-0.3**
TTO2	**TONANKAI O.B.S**	**1.13**	**98**	⇓P	**Pn**	**00 08 30.2**	**+0.3**
TTO2				X		00 08 46.0	
JKS	**Kasai**	**1.28**	**327**	⇑P	**Pn**	**00 08 32.1**	**0.0**
JKS				eS	**Sn**	**00 08 47.6**	**-0.6**
JWT	**Wachi**	**1.39**	**350**	P	**Pn**	**00 08 33.8**	**+0.1**
MAT	**Matsushiro**	**3.34**	**37**	P	**Pn**	**00 09 00.5**	**+0.2**
MAT				S	**Sn**	**00 09 39.2**	**+0.4**
MJAR	**Matsushiro Arr**	**3.34**	**37**	Pn	**Pn**	**00 08 59.7**	**-0.6**
	1.4nm,0.3s,baz=205,slow=13,SNR=32						
MJAR				Sn	**Sn**	**00 09 39.2**	**+0.4**
	2.5nm,0.3s,baz=279,slow=9.9,SNR=12						
MJAR				Lg	Lg	00 09 55.5	
	0.9nm,0.3s,baz=222,slow=33,SNR=3.6						
MJAR				LR	LR	00 10 07.4	
	comp=Z,86nm,21.8s,baz=150,slow=35						
JHJ	**Hachijo jima 2**	**3.51**	**102**	Pn	**Pn**	**00 09 02.8**	**+0.2**
	33nm,0.3s,baz=93,slow=22,SNR=2.1						
JHJ				Sn	**Sn**	**00 09 41.2**	**-1.8**
	63nm,0.3s,baz=263,slow=22,SNR=4.4						
JNU	**Nakatsue**	**4.09**	**260**	Pn	**Pn**	**00 09 10.5**	**0.0**
	12nm,0.3s,baz=140,slow=6.5,SNR=45						
JNU				Sn	**Sn**	**00 09 55.2**	**-1.9**
	3.9nm,0.3s,baz=309,slow=17,SNR=2.1						
KSRS	**Korea Array**	**7.24**	**301**	Pn	**Pn**	**00 09 54.2**	**+0.6**
	0.5nm,0.3s,baz=118,slow=14,SNR=3.3						
KSRS				Sn	**Sn**	**00 11 13.6**	**-0.8**
	0.9nm,0.3s,baz=117,slow=24,SNR=6.8						
KSRS				LR	LR	00 12 29.1	
	comp=Z,52nm,18.3s,baz=125,slow=36						
SONM	**Songino Array**	**25.97**	**311**	P	**P**	**00 13 38.8**	**+1.0**
	0.6nm,0.5s,baz=121,slow=11,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**31.09**	**109**	T	T	00 46 57.8	
	baz=303,slow=75,SNR=27						
H11N1	**WAKE ISLAND Hy**	**31.09**	**109**	T	T	00 46 51.8	
	baz=303,slow=75,SNR=23						
H11N3	**WAKE ISLAND Hy**	**31.11**	**109**	T	T	00 46 54.0	
	baz=303,slow=75,SNR=21						
H11S3	**WAKE ISLAND Hy**	**31.62**	**111**	T	T	00 47 40.6	
	baz=305,slow=75,SNR=53						
H11S1	**WAKE ISLAND Hy**	**31.62**	**111**	T	T	00 47 31.2	
	baz=305,slow=75,SNR=35						
H11S2	**WAKE ISLAND Hy**	**31.63**	**111**	T	T	00 47 40.4	
	baz=305,slow=75,SNR=43						
JAY	**Jayapura**	**36.54**	**172**	LR	LR	00 28 48.8	
	comp=Z,556nm,18.4s,baz=14,slow=34						
MKAR	**Makanchi Array**	**41.91**	**304**	P	**P**	**00 15 55.7**	**+0.4**
	0.7nm,0.6s,baz=84,slow=11,SNR=5.5						
KURBB	**Kurchatov Arra**	**44.33**	**310**	P	**P**	**00 16 14.7**	**-0.1**
	0.4nm,0.6s,baz=95,slow=10,SNR=4.6						
WRA	**Warramunga Arr**	**53.56**	**182**	P	**P**	**00 17 25.5**	**-0.2**
	0.8nm,0.4s,baz=358,slow=7.5,SNR=15						
ASAR	**Alice Springs**	**57.28**	**182**	P	**P**	**00 17 52.5**	**0.0**
	0.5nm,0.5s,baz=16,slow=13,SNR=8.2						

IDC 11 00:20:22.3±7.4, 3°.77S×149°.35E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/35, mbtmp3.8/4, MS3.8/2, Ms1 3.8/2, ms1mx3.4/21, Error ellipse: s-maj=172.7km s-min=52.0km az=175.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.74**	**221**	P	P	00 25 15.5	+0.1
	2.2nm,0.9s,baz=41,slow=11,SNR=7.7						
ASAR	**Alice Springs**	**24.78**	**216**	P	P	00 25 45.9	-0.1
	0.3nm,0.3s,baz=53,slow=8.3,SNR=2.3						
FITZ	**Fitzroy Crossi**	**27.23**	**237**	P	P	00 26 08.2	0.0
	2.3nm,0.8s,baz=45,slow=10.0,SNR=2.8						
LEM	**Lembang**	**41.65**	**264**	LR	LR	00 47 23.6	
	comp=Z,171nm,20.3s,baz=102,slow=39						
SEY	**Seymchan**	**66.56**	**2**	LR	LR	00 58 17.4	
	comp=Z,44nm,20.2s,baz=176,slow=34						
VNDA	**Vanda**	**74.00**	**177**	P	P	00 31 59.4	+0.1
	0.9nm,0.5s,baz=355,slow=5.2,SNR=13						

*IDC **11** 00:20:53.0±1.7, 3°.65S×150°.23E, h0km, mb4.2/6, mb1 4.4/6, mb1mx3.9/37, mbtmp4.2/6, MS4.3/5, Ms1 4.2/5, ms1mx3.8/22, Error ellipse: s-maj=58.1km s-min=23.0km az=117.0*

ISC 11 00:20:55.9±1.8, 3°.7S±0°.2×150°.2E±0°.4, h19km, n20, σ0s59/7, mb4.1/6, MS4.3/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**11.23**	**121**	LR	LR	00 28 22.8	
	comp=Z,740nm,19.2s,baz=303,slow=40						
WRA	**Warramunga Arr**	**22.40**	**222**	P	**P**	**00 25 54.3**	**+0.8**
	6.2nm,0.7s,baz=49,slow=9.8,SNR=27						
DZM	**Mont Dzumac**	**24.14**	**141**	eLR	LR	00 33 00.8	
	comp=Z,2μm,25.7s						
DZM	**Mont Dzumac**	**24.14**	**141**	LR	LR	00 34 37.6	
	comp=Z,1μm,20.1s,baz=278,slow=34						
ASAR	**Alice Springs**	**25.38**	**217**	P	**P**	**00 26 21.7**	**-0.5**
	2.0nm,0.8s,baz=48,slow=7.7,SNR=8.2						
H11S3	**WAKE ISLAND Hy**	**27.35**	**36**	T	T	00 55 43.7	
	baz=216,slow=76						
H11S2	**WAKE ISLAND Hy**	**27.36**	**36**	T	T	00 55 49.8	
	baz=216,slow=76						
H11S1	**WAKE ISLAND Hy**	**27.37**	**36**	T	T	00 55 45.5	
	baz=216,slow=76						
FITZ	**Fitzroy Crossi**	**28.02**	**237**	P	**P**	**00 26 46.0**	**0.0**
	15nm,0.8s,baz=67,slow=7.6,SNR=25						
FITZ				LR	LR	00 38 30.9	
	comp=Z,844nm,20.5s,baz=42,slow=38						
H11N1	**WAKE ISLAND Hy**	**28.43**	**35**	T	T	00 56 58.6	
	baz=216,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.44**	**35**	T	T	00 56 58.6	
	baz=216						
H11N2	**WAKE ISLAND Hy**	**28.45**	**35**	T	T	00 56 57.5	
	baz=216,slow=74						
STKA	**Stephens Creek**	**29.21**	**195**	LR	LR	00 40 08.7	
	comp=Z,279nm,18.2s,baz=17,slow=40						
CMAR	**Chiang Mai Arr**	**55.06**	**295**	P	**P**	**00 30 26.7**	**-0.3**
	0.7nm,0.3s,baz=114,slow=6.2,SNR=5.7						
PPT2	**Papeete2**	**60.52**	**108**	eLR	LR	00 50 00.1	
	comp=Z,122nm,24.5s						
TBI	**Tubuai**	**61.37**	**115**	eLR	LR	00 50 23.3	
	comp=Z,257nm,30.5s						
SONM	**Songino Array**	**64.01**	**329**	P	**P**	**00 31 28.7**	**+0.3**
	0.7nm,0.6s,baz=140,slow=6.4,SNR=3.6						
ILAR	**Eielson Array**	**82.09**	**23**	P	**P**	**00 33 14.8**	**-0.2**
	0.9nm,0.8s,baz=236,slow=6.4,SNR=6.8						
PDAR	**Pinedale Array**	**99.98**	**47**	LR	LR	01 14 57.5	
	comp=Z,151nm,20.5s,baz=272,slow=32						
TORD	**Torodi Ar. Bea**	**147.51**	**289**	PKPbc	**PKPbc**	**00 40 40.5**	**+0.5**
	2.4nm,0.7s,baz=55,slow=3.3,SNR=12						

*IDC **11** 00:22:53.8±3.5, 3°.48S×149°.74E, h0km, mb4.1/5, mb1 4.4/5, mb1mx3.9/36, mbtmp4.2/5, MS4.2/5, Ms1 4.2/5, ms1mx3.8/30, Error ellipse: s-maj=97.1km s-min=29.6km az=101.0*

*GCMT **11** 00:22:59.0±0.3, 3°.39S±0°.01×149°.48E±0°.02, h16km±1km, MW4.9/112, Moment Tensor Solution. s26,c28; s112,c147; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.06±.10; $M_{θθ}$0.91±.11; $M_{φφ}$-0.97±.10; $M_{rθ}$-0.07±.27; $M_{θφ}$2.57±.09; $M_{φr}$0.51±.27; Best double couple: $M_0$2.78300×10^{16} NP1:ϕ_s100.00000°, δ80.00000°, λ-3.00000°. NP2:ϕ_s190.00000°, δ87.00000°, λ-170.00000°. Principal axes: T 2.7260, Plg5.0000°, Azm325.0000°; N 0.1140, Plg80.0000°, Azm206.0000°; P -2.8400, Plg9.0000°, Azm55.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 11 00:22:59.6±3.1, 3°.4S±0°.2×149°.2E±0°.6, h19km, n14, σ0s81/6, mb4.1/5, MS4.3/5, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.91**	**220**	P	**P**	**00 27 51.4**	**-0.6**
	12nm,1.0s,baz=49,slow=9.6,SNR=8.3						
ASAR	**Alice Springs**	**24.98**	**215**	P	**P**	**00 28 23.3**	**+0.9**
	4.1nm,0.9s,baz=49,slow=9.1,SNR=4.8						
BATI	**Baumata**	**26.21**	**254**	LR	LR	00 39 19.2	
	comp=Z,1μm,21.6s,baz=80,slow=37						
FITZ	**Fitzroy Crossi**	**27.30**	**236**	P	**P**	**00 28 43.5**	**+0.1**
	6.3nm,0.9s,baz=80,slow=8.8,SNR=3.8						
H11S3	**WAKE ISLAND Hy**	**27.76**	**38**	T	T	00 57 44.9	
	baz=216						
H11S2	**WAKE ISLAND Hy**	**27.77**	**38**	T	T	00 57 50.9	
	baz=216						
H11S1	**WAKE ISLAND Hy**	**27.78**	**38**	T	T	00 57 42.4	
	baz=216						
KSRS	**Korea Array**	**45.20**	**336**	LR	LR	00 47 23.8	
	comp=Z,240nm,18.9s,baz=150,slow=32						
CMAR	**Chiang Mai Arr**	**54.02**	**296**	P	**P**	**00 32 23.1**	**-0.1**
	0.6nm,0.3s,baz=110,slow=7.8,SNR=1.6						
SONM	**Songino Array**	**63.26**	**329**	P	**P**	**00 33 27.5**	**+0.3**
	0.4nm,0.3s,baz=120,slow=8.8,SNR=1.3						
ILAR	**Eielson Array**	**82.25**	**23**	LR	LR	01 07 12.0	
	comp=Z,65nm,20.7s,baz=280,slow=32						
MAW	**Mawson**	**85.47**	**203**	LR	LR	01 11 25.7	
	comp=Z,149nm,20.1s,baz=62,slow=34						
BBB	**Bella Bella**	**88.19**	**38**	LR	LR	01 07 23.9	
	comp=Z,117nm,20.6s,baz=246,slow=30						
TORD	**Torodi Ar. Bea**	**146.45**	**289**	PKPbc	**PKPdf**	**00 42 38.5**	**-0.7**
	1.2nm,1.0s,baz=53,slow=3.4,SNR=4.4						

ROM 11 00:26:29.0±0.1, 44°.169N±0°.004×10°.877E±0°.003, h10km, ML2.3/9, 3C, Error ellipse: s-maj=0.3km s-min=0.2km az=7.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTCR	**Monte La Croce**	**0.17**	**148**	P	Pg	00 26 33.1	+0.4
MTCR				S	Sg	00 26 36.5	+1.2
MTCR				AML	AML		
	comp=N,2340μm,0.6s						
MTCR				AML	AML		
	comp=E,4195μm,0.3s						
MTCR				AML	AML		
	comp=N,2475μm,1.2s						
MTCR				AML	AML		
	comp=N,2470μm,1.2s						
MTCR				AML	AML		
	comp=E,4200μm,0.3s						
ZCCA	**Zocca**	**0.20**	**22**	⇑P	Pg	00 26 33.4	+0.2
ZCCA				S	Sg	00 26 37.6	+1.6
ZCCA				AML	AML		
	comp=E,2165μm,1.6s						
ZCCA				AML	AML		
	comp=N,3720μm,0.5s						
ZCCA				AML	AML		
	comp=E,2110μm,1.6s						
ZCCA				AML	AML		
	comp=E,2350μm,0.4s						
ZCCA				AML	AML		
	comp=N,3725μm,0.5s						
ZCCA				AML	AML		
	comp=N,3960μm,0.5s						
ZCCA				AML	AML		
	comp=E,2245μm,0.4s						
ZCCA				AML	AML		
	comp=E,2355μm,0.4s						
BDI	**Bagni Di Lucca**	**0.23**	**242**	⇑P	Pg	00 26 34.4	+0.7
BDI				S	Sg	00 26 38.6	+1.7
BDI				AML	AML		
	comp=E,1440μm,0.4s						
BDI				AML	AML		
	comp=E,1190μm,0.8s						
BDI				AML	AML		
	comp=N,1525μm,0.4s						
BDI				AML	AML		
	comp=N,1550μm,0.4s						
MPPT	**Montemurlo**	**0.26**	**144**	P	Pg	00 26 34.7	+0.3
MPPT				S	Sb	00 26 39.2	-1.1
MPPT				AML	AML		
	comp=E,815μm,0.6s						
MPPT				AML	AML		
	comp=N,903μm,0.5s						
MPPT				AML	AML		
	comp=E,872μm,0.5s						
MPPT				AML	AML		
	comp=N,940μm,0.4s						
CARD	**Cardoso**	**0.32**	**243**	P	Pg	00 26 35.6	+0.3
CARD				S	Sb	00 26 41.5	-0.5
CARD				AML	AML		
	comp=E,827μm,0.1s						
CARD				AML	AML		
	comp=N,754μm,0.4s						
SARO	**Sassorosso**	**0.34**	**273**	P	Pg	00 26 36.2	+0.3
SARO				S	Sb	00 26 42.0	-0.8
SARO				AML	AML		
	comp=N,847μm,0.4s						
SARO				AML	AML		
	comp=E,496μm,0.3s						
VLC	**Villacollemand**	**0.35**	**269**	P	Pg	00 26 36.4	+0.4
VLC				S	Sb	00 26 42.5	-0.5
VLC				AML	AML		
	comp=E,437μm,0.4s						
VLC				AML	AML		
	comp=N,1049μm,1.3s						
VLC				AML	AML		
	comp=E,472μm,1.4s						
VLC				AML	AML		
	comp=N,1022μm,1.3s						
VLC				AML	AML		
	comp=N,1052μm,1.3s						
VLC				AML	AML		
	comp=N,1050μm,1.3s						
VLC				AML	AML		
	comp=E,436μm,0.4s						
SEI	**Scarperia**	**0.36**	**108**	P	Pg	00 26 36.8	+0.6
SEI				S	Sb	00 26 42.6	-0.7
SEI				AML	AML		
	comp=E,968μm,0.3s						
SEI				AML	AML		
	comp=N,1185μm,0.3s						
SEI				AML	AML		
	comp=E,1340μm,0.3s						
SEI				AML	AML		
	comp=N,1605μm,1.4s						
MAIM	**Mastiano**	**0.38**	**228**	P	Pg	00 26 36.8	+0.4
MAIM				S	Sb	00 26 42.7	-1.0
MAIM				AML	AML		
	comp=E,177μm,0.3s						
MAIM				AML	AML		
	comp=N,200μm,0.8s						
MAIM				AML	AML		
	comp=E,218μm,1.3s						
MAIM				AML	AML		
	comp=N,248μm,0.4s						
CRMI	**Carmignano**	**0.39**	**170**	P	Pg	00 26 36.7	+0.1
MTRZ	**Monterenzio**	**0.47**	**64**	P	Pg	00 26 38.0	-0.2
MTRZ				S	Sg	00 26 43.7	-0.7
MTRZ				AML	AML		
	comp=E,1425μm,0.5s						
MTRZ				AML	AML		
	comp=N,1320μm,0.5s						
MTRZ				AML	AML		
	comp=E,1460μm,0.5s						
MTRZ				AML	AML		
	comp=N,1360μm,0.5s						
PII	**Pisa**	**0.51**	**210**	P	Pg	00 26 39.2	+0.2
PII				AML	AML		
	comp=E,370μm,0.2s						
PII				AML	AML		
	comp=N,606μm,0.3s						
EQUI	**Equi**	**0.52**	**270**	P	Pg	00 26 39.1	0.0
EQUI				S	Sg	00 26 46.9	+0.9
EQUI				AML	AML		
	comp=E,161μm,0.9s						
EQUI				AML	AML		
	comp=N,229μm,0.4s						
RUFI	**Rufina**	**0.56**	**126**	⇑P	Pg	00 26 40.3	+0.4
RUFI				S	Sb	00 26 48.3	-0.7
GRAM	**Graiana**	**0.67**	**299**	P	Pg	00 26 42.2	+0.3
GRAM				AML	AML		
	comp=E,683μm,0.3s						
GRAM				AML	AML		
	comp=N,638μm,0.4s						
SFI	**Santa Sofia**	**0.75**	**110**	P	Pg	00 26 43.5	+0.1
SFI				AML	AML		
	comp=N,138μm,0.7s						
SFI				AML	AML		
	comp=E,146μm,0.3s						
PLMA	**Palmaria, Port**	**0.75**	**261**	P	Pg	00 26 43.4	0.0
PLMA				AML	AML		
	comp=E,189μm,1.4s						
PLMA				AML	AML		
	comp=N,168μm,1.1s						
ASQU	**Asqua**	**0.76**	**119**	P	Pg	00 26 43.7	+0.1
ASQU				AML	AML		
	comp=N,111μm,0.8s						
ASQU				AML	AML		
	comp=E,127μm,0.7s						
CSNT	**Castellina Chi**	**0.76**	**157**	P	Pg	00 26 43.4	-0.2
CSNT				S	Sb	00 26 54.5	-0.2
CSNT				AML	AML		
	comp=N,178μm,0.8s						
CSNT				AML	AML		
	comp=E,172μm,1.3s						
CRE	**Caprese Michel**	**0.95**	**125**	P	Pg	00 26 47.1	-0.2
CRE				AML	AML		
	comp=N,148μm,0.4s						
CRE				AML	AML		
	comp=E,112μm,1.5s						
MSSA	**Maissana**	**0.99**	**279**	P	Pg	00 26 47.3	-0.7
MSSA				AML	AML		
	comp=E,118μm,0.6s						
MSSA				AML	AML		
	comp=N,136μm,0.8s						
GROG	**Isola di Gorgo**	**1.03**	**224**	P	Pg	00 26 48.3	-0.5
GROG				AML	AML		
	comp=E,72μm,0.4s						
GROG				AML	AML		
	comp=N,61μm,0.8s						
PARC	**Parchiule**	**1.11**	**117**	P	Pb	00 26 49.4	-0.9
PARC				AML	AML		
	comp=E,65μm,1.3s						
PARC				AML	AML		
	comp=N,54μm,1.3s						
CAFI	**Castiglion Fio**	**1.15**	**136**	P	Pb	00 26 49.9	-1.1
CAFI				AML	AML		
	comp=N,58μm,1.1s						
CAFI				AML	AML		
	comp=E,66μm,0.7s						
BOB	**Bobbio (Coli)**	**1.19**	**301**	AML	AML		
	comp=E,134μm,1.1s						
BOB				AML	AML		
	comp=N,152μm,0.6s						
GORR	**Gorreto**	**1.22**	**292**	P	Pn	00 26 51.1	-1.0
GORR				AML	AML		
	comp=E,176μm,0.7s						
GORR				AML	AML		
	comp=N,126μm,1.4s						
PE3	**Peglio**	**1.26**	**111**	P	Pn	00 26 52.4	-0.3
PE3				AML	AML		
	comp=N,155μm,0.6s						
PE3				AML	AML		
	comp=E,179μm,0.5s						

*LDG **11** 00:26:54.4±0.1, 44°.18N×10°.91E, h10km, Ml2.2/12, Error ellipse: s-maj=2.8km s-min=2.0km az=20.0*

ISC 11 00:26:52.9±2.3, 44°.19N±0°.06×11°.0E±0°.1, h12km, n16, σ3s90/26, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGF	**Pioggiola**	**2.18**	**222**	ePn	**Pn**	**00 27 28.8**	**-0.2**
PGF	**Pioggiola**	**2.18**	**222**	ePg	**Pg**	**00 27 34.9**	**+0.3**
SBF	**Sospel**	**2.56**	**264**	eP	**Pn**	**00 27 36.2**	**+1.9**
SBF				eSn	**Sn**	**00 28 02.6**	**-2.9**
	3.5nm,0.3s						
MBDF	**Montbardon**	**3.05**	**282**	eP	**Pn**	**00 27 43.7**	**+2.6**
FRF	**La Foret Royal**	**3.18**	**260**	eP	**Pn**	**00 27 45.9**	**+3.1**
FRF				eSn	**Sn**	**00 28 17.4**	**-3.2**
	1.1nm,0.2s						
LPG	**La Plagne**	**3.27**	**295**	eP	**Pn**	**00 27 47.2**	**+3.0**
LPG				eSn	**Sn**	**00 28 20.2**	**-2.9**
	1.4nm,0.3s						
LPL	**La Plagne**	**3.29**	**295**	eP	**Pn**	**00 27 47.3**	**+2.9**
LPL				eSn	**Sn**	**00 28 20.7**	**-2.8**
	1.1nm,0.4s						
LMR	**La Mourre**	**3.34**	**257**	eP	**Pn**	**00 27 48.2**	**+3.3**
LMR				eSn	**Sn**	**00 28 21.0**	**-3.4**
	0.7nm,0.2s						
ORIF	**Oris-en-Rattie**	**3.71**	**283**	eP	**Pn**	**00 27 54.2**	**+4.2**
ORIF				eSn	**Sn**	**00 28 30.5**	**-3.1**
	1.0nm,0.4s						
SMRF	**Simiane la Rot**	**3.89**	**269**	eP	**Pn**	**00 27 55.4**	**+2.9**
CABF	**La Chapelle**	**4.20**	**307**	eP	**Pn**	**00 27 59.6**	**+2.8**
CABF				eSn	**Sn**	**00 28 42.5**	**-3.4**
	0.3nm,0.2s						
HINF	**Hinteralfeld**	**4.62**	**323**	eP	**Pn**	**00 28 04.8**	**+2.2**
HINF				eSn	**Sn**	**00 28 53.5**	**-2.6**
	3.1nm,0.4s						
CDF	**Champ du Feu**	**4.94**	**330**	ePn	**Pn**	**00 28 07.6**	**+0.7**
CDF				eSn	**Sn**	**00 29 01.1**	**-2.9**
	0.9nm,0.3s						
HAU	**Haudompre**	**4.99**	**322**	eP	**Pn**	**00 28 09.8**	**+2.2**
HAU				eSn	**Sn**	**00 29 02.1**	**-3

h19km±1km, ML2.2/7, Error ellipse: s-maj=0.5km s-min=0.1km az=4.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTCR	**Monte La Croce**	**0.15**	**154**	P	Pg	00 26 59.1	0.0
MTCR				S	Sg	00 27 02.4	+0.3
MTCR				AML	AML		
	comp=N,2340μm,0.6s						
MTCR				AML	AML		
	comp=E,4195μm,0.3s						
MTCR				AML	AML		
	comp=N,2475μm,1.2s						
MTCR				AML	AML		
	comp=N,2470μm,1.2s						
MTCR				AML	AML		
	comp=E,4200μm,0.3s						
ZCCA	**Zocca**	**0.19**	**15**	P	Pg	00 26 59.3	-0.3
ZCCA				S	Sg	00 27 03.8	+0.8
ZCCA				AML	AML		
	comp=E,2165μm,1.6s						
ZCCA				AML	AML		
	comp=N,3720μm,0.5s						
ZCCA				AML	AML		
	comp=E,2110μm,1.6s						
ZCCA				AML	AML		
	comp=N,3960μm,0.5s						
ZCCA				AML	AML		
	comp=E,2350μm,0.4s						
ZCCA				AML	AML		
	comp=N,3725μm,0.5s						
ZCCA				AML	AML		
	comp=E,2245μm,0.4s						
ZCCA				AML	AML		
	comp=E,2355μm,0.4s						
BDI	**Bagni Di Lucca**	**0.24**	**246**	P	Pg	00 27 00.2	0.0
BDI				S	Sg	00 27 04.8	+0.6
BDI				AML	AML		
	comp=N,1525μm,0.4s						
BDI				AML	AML		
	comp=E,1440μm,0.4s						
BDI				AML	AML		
	comp=N,1550μm,0.4s						
BDI				AML	AML		
	comp=E,1190μm,0.8s						
MPPT	**Montemurlo**	**0.24**	**147**	P	Pb	00 27 00.1	0.0
MPPT				S	Sg	00 27 04.8	+0.6
MPPT				AML	AML		
	comp=E,815μm,0.6s						
MPPT				AML	AML		
	comp=N,903μm,0.5s						
MPPT				AML	AML		
	comp=N,940μm,0.4s						
MPPT				AML	AML		
	comp=E,872μm,0.5s						
CARD	**Cardoso**	**0.33**	**246**	P	Pg	00 27 01.7	0.0
CARD				S	Sb	00 27 07.2	+0.4
CARD				AML	AML		
	comp=E,827μm,0.1s						
CARD				AML	AML		
	comp=N,754μm,0.4s						
SEI	**Scarperia**	**0.34**	**108**	P	Pg	00 27 01.8	0.0
SEI				S	Sb	00 27 07.3	+0.2
SEI				AML	AML		
	comp=E,968μm,0.3s						
SEI				AML	AML		
	comp=N,1185μm,0.3s						
SEI				AML	AML		
	comp=E,1340μm,0.3s						
SEI				AML	AML		
	comp=N,1605μm,1.4s						
SARO	**Sassorosso**	**0.36**	**273**	P	Pg	00 27 02.0	-0.2
SARO				S	Sb	00 27 07.9	+0.1
SARO				AML	AML		
	comp=E,496μm,0.3s						
SARO				AML	AML		
	comp=N,847μm,0.4s						
SARO	**Sassorosso**	**0.36**	**273**	P	Pg	00 27 02.1	-0.1
SARO				S	Sb	00 27 07.8	0.0
VLC	**Villacollemand**	**0.37**	**270**	P	Pb	00 27 02.5	-0.1
VLC				S	Sb	00 27 08.4	+0.3
VLC				AML	AML		
	comp=E,437μm,0.4s						
VLC				AML	AML		
	comp=N,1049μm,1.3s						
VLC				AML	AML		
	comp=E,472μm,1.4s						
VLC				AML	AML		
	comp=N,1022μm,1.3s						
VLC				AML	AML		
	comp=N,1052μm,1.3s						
VLC				AML	AML		
	comp=N,1050μm,1.3s						
VLC				AML	AML		
	comp=E,436μm,0.4s						
MAIM	**Mastiano**	**0.39**	**230**	P	Pb	00 27 02.8	0.0
MAIM				S	Sb	00 27 09.2	+0.7
MAIM				AML	AML		
	comp=E,177μm,0.3s						
MAIM				AML	AML		
	comp=N,200μm,0.8s						
MAIM				AML	AML		
	comp=E,218μm,1.3s						
MAIM				AML	AML		
	comp=N,248μm,0.4s						
MTRZ	**Monterenzio**	**0.46**	**62**	P	Pg	00 27 03.0	-0.9
MTRZ				AML	AML		
	comp=E,1425μm,0.5s						
MTRZ				AML	AML		
	comp=E,1460μm,0.5s						
MTRZ				AML	AML		
	comp=N,1360μm,0.5s						
MTRZ				AML	AML		
	comp=N,1320μm,0.5s						
PII	**Pisa**	**0.52**	**212**	P	Pg	00 27 05.4	+0.4
PII				AML	AML		
	comp=E,370μm,0.2s						
PII				AML	AML		
	comp=N,606μm,0.3s						
PII	**Pisa**	**0.52**	**212**	P	Pg	00 27 05.3	+0.4
PII				S	Sb	00 27 12.6	+0.5
EQUI	**Equi**	**0.54**	**271**	P	Pb	00 27 05.3	0.0
EQUI				S	Sg	00 27 12.7	0.0
EQUI				AML	AML		
	comp=N,229μm,0.4s						
EQUI				AML	AML		
	comp=E,161μm,0.9s						
RUFI	**Rufina**	**0.54**	**126**	P	Pg	00 27 05.4	0.0
GRAM	**Graiana**	**0.69**	**299**	P	Pg	00 27 08.1	+0.1
GRAM				AML	AML		
	comp=N,638μm,0.4s						
GRAM				AML	AML		
	comp=E,683μm,0.3s						
SFI	**Santa Sofia**	**0.73**	**111**	AML	AML		
	comp=E,146μm,0.3s						
SFI				AML	AML		
	comp=N,138μm,0.7s						
ASQU	**Asqua**	**0.74**	**120**	P	Pb	00 27 08.2	-0.5
ASQU				AML	AML		
	comp=E,127μm,0.7s						
ASQU				AML	AML		
	comp=N,111μm,0.8s						
CSNT	**Castellina Chi**	**0.74**	**158**	AML	AML		
	comp=N,178μm,0.8s						
CSNT				AML	AML		
	comp=E,172μm,1.3s						
PLMA	**Palmaria, Port**	**0.77**	**262**	AML	AML		
	comp=N,168μm,1.1s						
PLMA				AML	AML		
	comp=E,189μm,1.4s						
CRE	**Caprese Michel**	**0.93**	**125**	AML	AML		
	comp=N,148μm,0.4s						
CRE				AML	AML		
	comp=E,112μm,1.5s						
MSSA	**Maissana**	**1.01**	**279**	AML	AML		
	comp=E,118μm,0.6s						
MSSA				AML	AML		
	comp=N,136μm,0.8s						
GROG	**Isola di Gorgo**	**1.04**	**225**	AML	AML		
	comp=N,61μm,0.8s						
GROG				AML	AML		
	comp=E,72μm,0.4s						
PARC	**Parchiule**	**1.09**	**118**	AML	AML		
	comp=E,65μm,1.3s						
PARC				AML	AML		
	comp=N,54μm,1.3s						
CAFI	**Castiglion Fio**	**1.13**	**137**	AML	AML		
	comp=E,66μm,0.7s						
CAFI				AML	AML		
	comp=N,58μm,1.1s						
BOB	**Bobbio (Coli)**	**1.21**	**301**	AML	AML		
	comp=E,134μm,1.1s						
BOB				AML	AML		
	comp=N,152μm,0.6s						
GORR	**Gorreto**	**1.24**	**292**	AML	AML		
	comp=N,126μm,1.4s						
GORR				AML	AML		
	comp=E,176μm,0.7s						
PE3	**Peglio**	**1.24**	**112**	AML	AML		
	comp=E,179μm,0.5s						
PE3				AML	AML		
	comp=N,155μm,0.6s						
ABTA	**Abfaltersbach**	**2.82**	**23**	*e*Pn	Pn	00 27 40.4	+1.8
	comp=N,2.3nm,0.3s						
ABTA				*e*Sn	Sb	00 28 16.6	-1.8
	comp=N,3.6nm,0.5s						
SQTA	**Sankt Quirin**	**3.06**	**4**	*i* Pn	Pb	00 27 45.3	-3.1
	comp=N,1.7nm,0.2s						
WTTA	**Wattenberg**	**3.14**	**9**	*i* Pn	Pn	00 27 46.3	+3.2
	comp=N,2.2nm,0.3s						
MOTA	**Moosalm**	**3.19**	**2**	*i* Pn	Pb	00 27 47.4	-3.1
	comp=N,1.1nm,0.3s						
MOTA				*e*Sn	Sb	00 28 25.8	-3.1
	comp=N,11nm,0.8s						
RETA	**Reutte**	**3.33**	**358**	*i* Pn	Pn	00 27 48.7	+3.2
	comp=N,0.5nm,0.1s						
KBA	**Koelnbreinsper**	**3.38**	**30**	*e*Pn	Pn	00 27 47.8	+1.4
	comp=N,0.6nm,0.3s						
MOA	**Molln**	**4.37**	**31**	*i* Pn	Pn	00 28 01.5	+1.7
	comp=N,1.8nm,0.3s						

LDG ***11*** *00:27:16.8±0.3, 44°.13N×10°.83E, h2km, Ml2.3/10, Error ellipse: s-maj=6.0km s-min=3.2km az=83.0*

ROM 11 00:27:12.8±0.2, 44°.166N±0°.009×10°.89E±0°.01, h10km±1km, Md1.6/7, Error ellipse: s-maj=0.9km s-min=0.7km az=30.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTCR	**Monte La Croce**	**0.16**	**152**	P	Pg	00 27 16.8	+0.4
MTCR				S	Sg	00 27 20.2	+1.3
MTCR				END			
ZCCA	**Zocca**	**0.19**	**18**	P	Pg	00 27 17.0	+0.1
ZCCA				S	Sg	00 27 21.5	+1.7
ZCCA				END			
BDI	**Bagni Di Lucca**	**0.24**	**244**	P	Pg	00 27 18.0	+0.3
BDI				S	Sg	00 27 22.5	+1.5
BDI				AML	AML		
	comp=E,1440μm,0.4s						
BDI				AML	AML		
	comp=N,1550μm,0.4s						
BDI				END			
MPPT	**Montemurlo**	**0.25**	**146**	P	Pg	00 27 18.5	+0.5
MPPT				S	Sb	00 27 22.7	-1.1
MPPT				END			
CARD	**Cardoso**	**0.33**	**245**	P	Pb	00 27 20.7	0.0
CARD				S	Sb	00 27 25.5	-0.5
CARD				END			
SEI	**Scarperia**	**0.35**	**108**	P	Pg	00 27 19.3	-0.5
SEI				S	Sb	00 27 26.0	-0.7
SEI				END			
VLC	**Villacollemand**	**0.36**	**269**	P	Pg	00 27 20.2	+0.2
VLC				S	Sb	00 27 26.1	-1.0
VLC				END			
MTRZ	**Monterenzio**	**0.46**	**63**	P	Pg	00 27 22.0	+0.2
EQUI	**Equi**	**0.53**	**270**	P	Pg	00 27 22.9	-0.2
EQUI				S	Sg	00 27 30.4	+0.2
GRAM	**Graiana**	**0.68**	**299**	P	Pg	00 27 25.9	0.0
GRAM				S	Sb	00 27 36.1	0.0
PGF	**Pioggiola**	**2.13**	**221**	*e*Pn	Pb	00 27 50.7	-0.7
PGF	**Pioggiola**	**2.13**	**221**	*e*P	Pg	00 27 53.0	-0.5
PGF	**Pioggiola**	**2.13**	**221**	*e*Sn	Pg	00 27 53.5	0.0
	comp=N,4.0nm,0.4s						
SBF	**Sospel**	**2.51**	**264**	*e*P	Pb	00 27 59.0	+1.0
MBDF	**Montbardon**	**3.00**	**282**	*e*Pn	Pn	00 28 02.4	+1.9
MBDF				*e*Sn	Sn	00 28 37.9	+1.3
	comp=N,1.4nm,0.5s						
FRF	**La Foret Royal**	**3.13**	**260**	*e*Pn	Pn	00 28 04.3	+2.2
FRF				*e*Sn	Sn	00 28 40.4	+0.9
	comp=N,1.4nm,0.4s						
LPG	**La Plagne**	**3.23**	**296**	*e*Pn	Pn	00 28 06.5	+2.7
LPG	**La Plagne**	**3.23**	**296**	*e*P	Pb	00 28 09.7	-0.7
LPG				*e*Sn	Sn	00 28 44.3	+1.9
	comp=N,0.9nm,0.3s						
LPL	**La Plagne**	**3.25**	**296**	*e*Pn	Pb	00 28 07.4	-3.3
LPL				*e*Sn	Sn	00 28 43.3	+0.5
	comp=N,2.3nm,0.5s						
LMR	**La Mourre**	**3.28**	**257**	*e*Pn	Pn	00 28 06.3	+2.1
LMR				*e*Sn	Sn	00 28 43.4	+0.2
	comp=N,0.8nm,0.3s						
ORIF	**Oris-en-Rattie**	**3.66**	**284**	*e*Sn	Sn	00 28 52.3	-0.4
	comp=N,3.8nm,0.7s						
SMRF	**Simiane la Rot**	**3.84**	**269**	*e*Pn	Pn	00 28 14.7	+2.9
VIVF	**Saint-Julien-l**	**4.50**	**281**	*e*Pn	Pn	00 28 23.6	+2.6
HINF	**Hinteralfeld**	**4.61**	**324**	*e*P	Pb	00 28 29.3	-4.4
HINF				*e*Sn	Sn	00 29 17.1	+1.1
	comp=N,1.8nm,0.5s						
CDF	**Champ du Feu**	**4.93**	**331**	*e*Sn	Sn	00 29 24.5	+0.5
	comp=N,1.4nm,0.4s						
HAU	**Haudompre**	**4.97**	**322**	*e*P	Pb	00 28 33.9	-6.0
HAU				*e*Sn	Sn	00 29 24.8	-0.2
	comp=N,2.2nm,0.4s						
LASF	**Ste Croix**	**5.07**	**271**	*e*Pn	Pn	00 28 31.0	+2.3
SFTF	**Sexfontaines**	**5.73**	**317**	*e*Sn	Sn	00 29 43.1	-0.4
	comp=N,7.8nm,0.4s						

IDC 11 00:33:53.2±4.4, 3°.37S×148°.63E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/36, mbtmp3.6/3, Error ellipse: s-maj=141.2km s-min=53.8km az=110.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.58**	**219**	P	P	00 38 44.0	-0.7
	1.5nm,0.8s,baz=43,slow=10,SNR=5.5						
ASAR	**Alice Springs**	**24.69**	**214**	P	P	00 39 16.1	-0.2
	0.2nm,0.3s,baz=45,slow=8.4,SNR=4.1						
FITZ	**Fitzroy Crossi**	**26.86**	**235**	P	P	00 39 36.8	+1.0
	2.4nm,0.8s,baz=80,slow=11,SNR=2.7						
H11S3	**WAKE ISLAND Hy**	**28.08**	**39**	T	T	01 08 49.1	
	baz=216						
H11S2	**WAKE ISLAND Hy**	**28.09**	**39**	T	T	01 08 45.6	
	baz=216						
H11S1	**WAKE ISLAND Hy**	**28.10**	**39**	T	T	01 08 43.0	
	baz=216						
H02S1	**DAWSON INLET T**	**86.04**	**36**	T	T	02 20 10.9	
	SNR=5.0						
TORD	**Torodi Ar. Bea**	**145.91**	**289**	PKPbc	PKPdf	00 53 34.8	-0.4
	0.9nm,1.1s,baz=72,slow=2.0,SNR=3.3						

DJA ***11*** *00:39:43.3±0.8, 7°.5S×7°.12°.7E±1°.0, h398km±11km, M4.1/6, mb3.7/2, MLv4.4/6*

IDC ***11*** *00:39:43.4±1.4, 6°.88S×126°.88E, h413km±17km, mb3.3/10, mb1 3.3/15, mb1mx3.2/39, mbtmp4.1/15, Error ellipse: s-maj=23.4km s-min=9.3km az=71.0*

ISC 11 00:39:42.8±0.6, 6°.825S±0°.06×127°.01E±0°.08, h407km, n22, σ1s16/27, mb3.6/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRAI	**Karang Ratu**	**3.74**	**22**	P	**P**	**00 40 53.7**	**+0.8**
KRAI				S	**S**	**00 41 48.4**	**-1.5**
SOEI	**Soe**	**3.98**	**223**	P	**P**	**00 40 56.6**	**+1.4**
SOEI				S	**S**	**00 41 53.7**	**-0.4**
BATI	**Baumata**	**4.72**	**224**	P	**P**	**00 41 03.3**	**+1.1**
	86nm,0.3s,baz=71,slow=3.4,SNR=29						
BATI				S	**S**	**00 42 04.6**	**-2.4**
	58nm,0.3s,baz=97,slow=6.4,SNR=12						
BATI	**Baumata**	**4.72**	**224**	P	**P**	**00 41 03.1**	**+0.9**
SANI	**Sanana**	**4.85**	**348**	P	**P**	**00 41 03.3**	**-0.2**
EDFI	**Ende, Flores**	**5.61**	**250**	P	**P**	**00 41 10.5**	**-0.9**
	0.0nm8.6nm,0.9s						
FAKI	**Fak Fak**	**6.50**	**54**	P	**P**	**00 41 20.3**	**-1.4**
KAPI	**Kappang**	**7.44**	**284**	P	**P**	**00 41 32.3**	**+0.3**
	2.1nm,0.3s,baz=185,slow=7.2,SNR=3.7						
FITZ	**Fitzroy Crossi**	**11.29**	**187**	P	**P**	**00 42 14.9**	**+0.4**
	0.5nm,0.3s,baz=24,slow=9.7,SNR=14						
JAY	**Jayapura**	**14.30**	**73**	P	**P**	**00 42 49.5**	**+1.8**
	0.5nm,0.3s,baz=351,slow=21,SNR=0.9						
WRA	**Warramunga Arr**	**14.86**	**152**	P	**P**	**00 42 53.7**	**+0.1**
	0.9nm,0.3s,baz=330,slow=12,SNR=44						
WRA				S	**S**	**00 45 28.4**	**-3.2**
	0.6nm,0.3s,baz=316,slow=19,SNR=8.9						
ASAR	**Alice Springs**	**18.01**	**159**	P	**P**	**00 43 27.9**	**+0.6**
	1.6nm,0.3s,baz=337,slow=8.6,SNR=39						
ASAR				S	**S**	**00 46 32.9**	**0.0**
	0.2nm,0.3s,baz=346,slow=24,SNR=10						
STKA	**Stephens Creek**	**28.41**	**153**	P	**P**	**00 45 02.9**	**+0.7**
	4.2nm,0.6s,baz=331,slow=8.9,SNR=7.4						
CMAR	**Chiang Mai Arr**	**37.38**	**313**	P	**P**	**00 46 18.7**	**-0.4**
	1.9nm,0.3s,baz=149,slow=8.9,SNR=1.8						
KSRS	**Korea Array**	**44.05**	**1**	P	**P**	**00 47 13.2**	**+0.7**
	0.6nm,0.3s,baz=186,slow=12,SNR=4.6						
USRK	**Ussuriysk Ar.**	**50.98**	**5**	P	**P**	**00 48 05.1**	**+0.2**
	1.5nm,0.6s,baz=200,slow=8.6,SNR=4.5						
SONM	**Songino Array**	**57.38**	**344**	P	**P**	**00 48 50.9**	**+0.3**
	0.4nm,0.3s,baz=156,slow=7.8,SNR=3.9						
PETK	**Petropavlovsk-**	**65.12**	**20**	P	**P**	**00 49 41.9**	**+0.3**
	1.0nm,0.4s,baz=191,slow=3.8,SNR=4.4						
MKAR	**Makanchi Array**	**66.48**	**328**	P	**P**	**00 49 49.8**	**-0.5**
	0.5nm,0.4s,baz=117,slow=8.6,SNR=6.0						
ZALV	**Zalesovo Beam**	**70.14**	**335**	P	**P**	**00 50 11.7**	**-0.8**
	1.4nm,0.4s,baz=133,slow=8.3,SNR=4.1						
VNDA	**Vanda**	**73.00**	**173**	P	**P**	**00 50 28.9**	**-0.1**
	0.3nm,0.6s,baz=285,slow=8.4,SNR=1.6						
MAW	**Mawson**	**74.04**	**201**	P	**P**	**00 50 35.6**	**+0.5**
	2.1nm,1.2s,baz=1.4,slow=7.2,SNR=1.4						

IDC ***11*** *00:44:14.0±1.1, 30°.81S×69°.28W, h0km, mb3.8/3, mb1 3.9/8, mb1mx3.8/24, mbtmp3.7/8, ML3.8/5, MS2.9/5, Ms1 3.0/5, ms1mx2.8/28, Error ellipse: s-maj=30.1km s-min=21.0km az=110.0*

GUC ***11*** *00:44:18.3±0.7, 30°.58S×69°.43W, h6km±2km, ML4.3*

ISC 11 00:44:14.8±1.1, 30°.62S±0°.02×69°.24W±0°.05, h4km±8km, n28, σ1s56/44, mb3.9/4, 2C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO03	**El Pedregal**	**1.27**	**260**	⇓*i* P	**Pg**	**00 44 40.4**	**+1.2**
CO03				*i* S	**Sn**	**00 44 57.0**	**0.0**
GO04	**Tololo Observa**	**1.42**	**288**	⇓*i* P	**Pg**	**00 44 43.5**	**+1.5**
GO04				*i* S	**Sg**	**00 45 02.0**	**+1.5**
GO04				IAML		00 45 04.7	
	comp=N,27μm,0.3s						
CO02	**Combarbal**	**1.62**	**248**	⇓*i* P	**Pg**	**00 44 46.5**	**+0.5**
CO02				*i* S	**Sg**	**00 45 08.1**	**+1.1**
CO02				IAML		00 45 10.2	
	comp=E,8μm,0.5s						
CO05	**La Serena**	**1.87**	**291**	*e*P	**Pg**	**00 44 49.7**	**-0.9**
CO05				*i* S	**Sg**	**00 45 14.3**	**-0.5**
CO05				IAML		00 45 18.8	
	comp=N,3μm,0.3s						
LCO	**Las Campanas**	**2.04**	**321**	*e*P	**Pg**	**00 44 54.1**	**+0.1**
LCO				*i* S	**Sg**	**00 45 20.9**	**+0.4**
CO06	**Fray Jorge**	**2.07**	**268**	*e*P	**Pg**	**00 44 53.4**	**-1.1**
CO06				*i* S	**Sg**	**00 45 19.9**	**-1.3**
CO06				IAML		00 45 21.7	
	comp=N,2μm,0.3s						
VA03	**San Esteban**	**2.42**	**207**	*e*P	**Pg**	**00 45 00.8**	**-0.4**
VA03				*i* S	**Sg**	**00 45 33.4**	**+0.9**
VA03				IAML		00 45 38.0	
	comp=E,4μm,0.3s						
ROCH	**El Roble**	**2.79**	**212**	*e*P	**Pb**	**00 45 05.1**	**-0.3**
ROCH				*i* S	**Sg**	**00 45 43.0**	**-1.5**
ROCH				IAML		00 45 47.7	
	comp=N,2μm,0.3s						
AC04	**Llanos de Chal**	**2.89**	**326**	*e*P	**Pb**	**00 45 05.6**	**-1.3**
AC04				*i* S	**Sb**	**00 45 42.6**	**0.0**
AC04				IAML		00 45 48.4	
	comp=E,1μm,0.3s						
MT05	**Renca**	**3.05**	**204**	*e*P	**Pb**	**00 45 09.2**	**-0.5**
MT05				*i* S	**Sb**	**00 45 48.2**	**+1.0**
MT05				IAML		00 45 54.8	
	comp=E,1μm,0.5s						
GO03	**Copiap**	**3.14**	**344**	*e*P	**Pb**	**00 45 09.9**	**-1.3**
GO03				*i* S	**Sb**	**00 45 49.4**	**-0.4**
GO03				IAML		00 46 02.7	
	comp=N,376nm,0.4s						
LMEL	**Las Melosas**	**3.32**	**194**	*e*P	**Pb**	**00 45 13.8**	**-0.7**
LMEL				*i* S	**Sb**	**00 45 57.0**	**+1.7**
LMEL				IAML		00 46 05.5	
	comp=N,292nm,0.3s						
AC06	**Mina Casimiro**	**3.39**	**343**	*e*P	**Pb**	**00 45 12.9**	**-2.6**
MT09	**Talagante**	**3.48**	**205**	*e*P	**Pb**	**00 45 14.2**	**-2.9**
MT09				IAML		00 46 10.2	
	comp=E,424nm,0.4s						
VA05	**Santo Domingo**	**3.64**	**213**	*e*P	**Pb**	**00 45 16.2**	**-3.5**
VA05				*i* S	**Sb**	**00 46 02.5**	**-1.8**
VA05				IAML		00 46 13.7	
	comp=E,897nm,0.2s						
AC02	**Maricunga**	**3.77**	**1**	⇑*i* P	**Pb**	**00 45 20.6**	**-1.6**
AC02				*i* S	**Sb**	**00 46 08.1**	**-0.4**
BO01	**Tunca**	**4.08**	**202**	⇑*i* P	**Pn**	**00 45 21.8**	**+3.8**
LVC	**Limon Verde**	**7.98**	**2**	Pn	**Pn**	**00 46 14.0**	**+2.0**
	comp=E,0.8nm,0.3s,baz=348,slow=17,SNR=2.7						
LVC				Sn	**Sn**	**00 47 43.0**	**+0.1**
	comp=E,1.3nm,0.3s,baz=205,slow=22,SNR=1.9						
LVC				Lg	Lg	00 48 25.3	
	comp=E,1.7nm,0.3s,baz=226,slow=16,SNR=5.3						
LVC				LR	LR	00 49 36.7	
	comp=E,71nm,20.3s,baz=190,slow=40						
PLCA	**Paso Flores**	**10.15**	**186**	Pn	**Pn**	**00 46 40.5**	**-0.9**
	comp=E,0.2nm,0.3s,baz=354,slow=11,SNR=6.8						
PLCA				LR	LR	00 50 45.4	
	comp=E,75nm,20.2s,baz=28,slow=39						
CPUP	**Villa Florida**	**11.31**	**71**	Pn	**Pn**	**00 46 58.5**	**+1.2**
	comp=E,0.7nm,0.3s,baz=228,slow=11,SNR=6.8						
CPUP				Lg	Lg	00 50 19.0	
	comp=E,0.6nm,0.3s,baz=339,slow=8.1,SNR=4.0						
CPUP				LR	LR	00 51 59.3	
	comp=E,141nm,18.2s,baz=222,slow=41						
LPAZ	**La Paz**	**14.30**	**4**	Pn	**Pn**	**00 47 39.8**	**+1.1**
	comp=E,0.1nm,0.3s,baz=188,slow=6.7,SNR=1.8						
LPAZ				LR	LR	00 55 00.2	
	comp=E,30nm,21.6s,baz=178,slow=45						
SIV	**San Ignacio**	**16.36**	**29**	Pn	**P**	**00 48 07.6**	**-0.9**
	comp=E,0.2nm,0.3s,baz=220,slow=10,SNR=6.8						
SIV				LR	LR	00 54 15.4	
	comp=E,42nm,19.7s,baz=293,slow=36						
USHA	**Ushuaia**	**24.21**	**179**	P	**P**	**00 49 29.1**	**-3.2**
	comp=E,26nm,0.5s,baz=204,slow=0.2,SNR=5.1						
BDFB	**Brasilia**	**24.49**	**57**	P	**P**	**00 49 35.7**	**+0.3**
	comp=E,2.7nm,0.6s,baz=214,slow=8.8,SNR=4.5						
TXAR	**Lajitas Array**	**68.04**	**328**	P	**P**	**00 55 16.1**	**+0.5**
	comp=E,0.4nm,0.7s,baz=149,slow=8.5,SNR=4.5						
TORD	**Torodi Ar. Bea**	**80.80**	**69**	P	**P**	**00 56 30.3**	**+0.2**
	comp=E,0.5nm,0.7s,baz=243,slow=4.7,SNR=5.4						
ZALV	**Zalesovo Beam**	**150.11**	**31**	PKPbc	**PKiKP**	**01 04 08.5**	**+1.3**
	comp=E,1.0nm,0.5s,baz=292,slow=4.0,SNR=2.5						
ZALV				PKPab	**pPKPab**	**01 04 14.3**	**-0.1**
	comp=E,1.0nm,0.5s,baz=298,slow=3.2,SNR=5.3						
MKAR	**Makanchi Array**	**152.73**	**46**	PKPab	**PKPab**	**01 04 21.4**	**-2.2**
	comp=E,1.9nm,1.0s,baz=296,slow=2.0,SNR=2.8						

IDC ***11*** *00:44:14.9±0.9, 31°.16N×142°.19E, h0km, mb3.9/9, mb1 4.1/11, mb1mx3.9/34, mbtmp3.9/11, ML4.3/1, Error ellipse: s-maj=27.7km s-min=20.6km az=93.0*

ISC 11 00:44:18.6±0.9, 31°.2N±0°.1×142°.2E±0°.1, h24km, n11, σ0s58/11, mb3.7/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**6.27**	**330**	Pn	**Pn**	**00 45 49.2**	**-0.4**
	0.2nm,0.3s,baz=146,slow=12,SNR=8.3						
JOW	**Kunigami**	**12.89**	**254**	Pn	**Pn**	**00 47 20.6**	**+0.2**
	3.3nm,0.3s,baz=217,slow=19,SNR=2.5						
MA2	**Magadan**	**28.98**	**9**	P	**P**	**00 50 16.4**	**+0.2**
	5.1nm,0.4s,baz=190,slow=6.1,SNR=2.2						
SONM	**Songino Array**	**31.86**	**312**	P	**P**	**00 50 42.7**	**+0.8**
	0.4nm,0.5s,baz=107,sl

TXAR	**Lajitas Array**	**93.18**	**53**	P		**P**		**00 57 31.8**	**+0.5**
	0.3nm,0.7s,baz=334,slow=2.1,SNR=3.6								

GUC 11 00:53:46.8±0.6, 35.86S×74.19W, h4km±15km, ML3.6, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**1.31**	**139**	*e*P	Pg	00 54 13.5	+1.5
CCSP				*i* S	Sg	00 54 28.0	-1.0
GO05	**Huala**	**2.03**	**66**	*e*P	Pn	00 54 20.9	-0.8
GO05				*i* S	Sn	00 54 47.1	-0.5
GO05				IAML		00 54 51.9	
	comp=E,488nm,0.3s						
ML02	**Panimavida**	**2.25**	**88**	*e*P	Pn	00 54 24.3	-0.5
ML02				*i* S	Sn	00 54 53.5	+0.5
ML02				IAML		00 55 10.1	
	comp=E,806nm,0.7s						
BO03	**Pichilemu**	**2.28**	**54**	*e*P	Pn	00 54 25.4	+0.3
BO03				*i* S	Sn	00 54 53.8	+0.2
BO03				IAML		00 55 06.5	
	comp=N,351nm,0.6s						
BO01	**Tunca**	**2.94**	**61**	*e*P	Pn	00 54 34.5	+0.3
BO02	**Sierra Bellavi**	**2.98**	**70**	*e*P	Pn	00 54 35.2	+0.3
VA05	**Santo Domingo**	**3.06**	**45**	*e*P	Pn	00 54 35.8	0.0
MT09	**Talagante**	**3.36**	**53**	*e*P	Pn	00 54 41.0	+0.9
CO02	**Combarbal**	**5.35**	**31**	*e*P	Pn	00 55 09.7	+2.1
CO03	**El Pedregal**	**5.80**	**31**	⇑*i*P	Pn	00 55 15.8	+2.1
CO03				*i* S	Sn	00 56 17.2	-3.5

NNC 11 00:56:36.8±2.5, 36.80N×70.82E, h53km±102km, mb3.5, mpv3.4, 1C-2D, Error ellipse: s-maj=25.7km s-min=20.5km az=115.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.30**	**358**	⇓P	Pn	00 58 07.1	0.0
	0.9nm,0.3s,baz=175,slow=12,SNR=19						
KK31				⇑S	Sn	00 59 18.2	+0.6
	1.7nm,0.5s,baz=189,slow=24,SNR=6.0						
AAK	**Ala-Archa**	**6.48**	**25**	P	Pn	00 58 10.2	+0.5
	1.7nm,0.5s						
AAK				S	Sn	00 59 23.0	+0.8
	3.9nm,0.6s						
TKM2	**Tokmak 2**	**7.13**	**30**	⇓P	Pn	00 58 17.9	-0.7
	1.1nm,0.6s						
AB31	**Akbulak array**	**14.75**	**331**	P	Pn	01 00 02.2	+0.1
	0.4nm,0.6s,baz=163,slow=11,SNR=6.7						

ISK 11 01:02:54.2, 39.68N×43.73E, h5km, ML2.6/14
DDA 11 01:02:54.1, 39.62N×43.74E, h12km, ML2.3
ISC 11 01:02:54.4±1.1, 39.66N±0.03×43.73E±0.03, h5km±9km, n26, σ1s06/35, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DYDN	**Diyadin**	**0.12**	**195**	*i* P	**Pg**	**01 02 57.1**	**+0.2**
DYDN				IAML		01 02 59.0	
	comp=E,3μm,0.2s						
DYDN				*i* S	**Sg**	**01 02 59.4**	**+0.8**
IGDI	**IGDIR**	**0.34**	**52**	*i* P	**Pg**	**01 03 01.3**	**+0.2**
IGDI				*i* S	**Sb**	**01 03 06.8**	**-2.1**
IGDI				IAML		01 03 10.0	
	comp=N,289nm,0.2s						
IGDI				IAML		01 03 13.0	
	comp=E,550nm,0.6s						
TASB	**TASBURUN-IGDIR**	**0.51**	**50**	PG	**Pg**	**01 03 04.6**	**+0.3**
TASB				SG	**Sg**	**01 03 11.5**	**+0.6**
AGRB	**Hanur-Agry**	**0.57**	**262**	PG	**Pg**	**01 03 05.8**	**+0.3**
AGRB				SG	**Sb**	**01 03 14.1**	**-1.6**
VMUR	**Van-Muradiye**	**0.68**	**190**	*i* P	**Pg**	**01 03 06.9**	**-0.5**
VMUR				*i* S	**Sb**	**01 03 17.3**	**-1.3**
VMUR				IAML		01 03 21.0	
	comp=N,129nm,0.6s						
VMUR				IAML		01 03 23.0	
	comp=E,126nm,0.4s						
ERCV	**ERCIS-VAN**	**0.70**	**206**	PG	**Pb**	**01 03 08.8**	**-0.5**
DIGO	**Kars**	**0.80**	**340**	*i* P	**Pg**	**01 03 10.1**	**+0.2**
DIGO				IAML		01 03 32.0	
	comp=E,197nm,0.8s						
DIGO				IAML		01 03 32.0	
	comp=N,236nm,0.5s						
GNI	**Garni**	**0.92**	**57**	PG	**Pg**	**01 03 11.8**	**-0.3**
EAK	**Akyaka**	**1.03**	**355**	*i* P	**Pn**	**01 03 15.3**	**-0.5**
EAK				*i* S	**Sn**	**01 03 34.2**	**+3.5**
EAK				IAML		01 03 38.0	
	comp=E,195nm,0.7s						
EAK				IAML		01 03 42.0	
	comp=N,190nm,0.7s						
MLAZ	**Malazgirt-MUS**	**1.05**	**241**	PG	**Pb**	**01 03 14.5**	**-0.7**
KARS	**Kars**	**1.09**	**333**	PG	**Pg**	**01 03 14.9**	**-0.4**
VANB	**Van**	**1.09**	**194**	PN	**Pn**	**01 03 17.7**	**+1.2**
ADCV	**BITLIS_Adilcev**	**1.15**	**223**	*i* P	**Pn**	**01 03 17.0**	**-0.4**
ADCV				*i* S	**Sn**	**01 03 34.0**	**+0.3**
TVAN	**Van**	**1.15**	**193**	*i* P	**Pn**	**01 03 17.4**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.39**	**311**	PN	**Pg**	**01 03 21.0**	**-0.1**
AKDM	**Akdamar-Van**	**1.45**	**204**	PN	**Pg**	**01 03 22.1**	**-0.1**
KOPR	**Koprukoy-ERZUR**	**1.48**	**284**	PN	**Pb**	**01 03 22.3**	**-0.3**
GURO	**Guroymak-BITLI**	**1.72**	**231**	PN	**Pb**	**01 03 25.8**	**-0.8**
AKH	**Akhalkalaki**	**1.76**	**354**	PN	**Pb**	**01 03 26.4**	**-0.9**
BLIS	**Bitlis-Merkez**	**1.77**	**226**	*i* P	**Pb**	**01 03 27.4**	**0.0**
BLIS				*i* S	**Sg**	**01 03 51.7**	**+0.5**
BLIS				IAML		01 03 56.0	
	comp=N,28nm,0.7s						
BLIS				IAML		01 03 56.0	
	comp=E,33nm,0.6s						
VRTB	**Varto-Mus**	**1.83**	**255**	PN	**Pb**	**01 03 27.3**	**-1.2**
MUSM	**Mu-Merkez**	**1.96**	**242**	*i* P	**Pb**	**01 03 30.4**	**-0.2**
MUSM				*i* S	**Sg**	**01 03 57.5**	**+0.1**
MUSM				IAML		01 03 59.0	
	comp=E,14nm,0.7s						
KARO	**Karliova-Bingo**	**2.10**	**261**	PN	**Pb**	**01 03 31.3**	**-1.8**
SIRT	**Sirnak**	**2.38**	**206**	PN	**Pn**	**01 03 35.3**	**+1.1**
BNGB	**Bingl**	**2.46**	**255**	PN	**Pn**	**01 03 36.2**	**+0.9**
YEDI	**Yedisu-Bingol**	**2.47**	**266**	PN	**Pn**	**01 03 36.4**	**+0.9**

IDC 11 01:04:16.2±3.8, 2.30S×150.55E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/33, mbtmp4.0/3, MS3.5/3, Ms1 3.4/3, ms1mx3.1/18, Error ellipse: s-maj=147.7km s-min=46.6km az=115.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**9.83**	**269**		LR	01 10 16.3	
	comp=Z,230nm,18.3s,baz=250,slow=37						
WRA	**Warramunga Arr**	**23.63**	**221**	P	P	01 09 28.2	-1.0
	4.4nm,1.1s,baz=46,slow=11,SNR=8.0						
ASAR	**Alice Springs**	**26.66**	**216**	P	P	01 09 57.5	+0.6
	2.0nm,1.0s,baz=50,slow=7.5,SNR=7.4						
FITZ	**Fitzroy Crossi**	**29.04**	**236**	P	P	01 10 19.6	+1.3
	2.3nm,0.9s,baz=54,slow=12,SNR=2.1						
STKA	**Stephens Creek**	**30.61**	**195**	LR	LR	01 22 58.5	
	comp=Z,68nm,19.9s,baz=21,slow=37						
PDAR	**Pinedale Array**	**98.83**	**47**	LR	LR	01 55 57.6	
	comp=Z,24nm,21.7s,baz=276,slow=31						
TORD	**Torodi Ar. Bea**	**147.35**	**291**	PKPbc	PKPdf	01 24 01.5	+0.9
	0.2nm,0.4s,baz=70,slow=2.1,SNR=5.6						

IDC 11 01:05:06.5±1.9, 3.43S×149.65E, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.9/32, mbtmp4.0/7, MS3.6/6, Ms1 3.6/6, ms1mx3.2/23, Error ellipse: s-maj=59.5km s-min=24.4km az=114.0
ISC 11 01:05:09.6±1.8, 3.5S±0.2×149.6E±0.4, h20km, n19, σ0s53/8, mb3.9/7, MS3.5/3, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**11.84**	**121**	LR	LR	01 12 23.5	
	comp=Z,172nm,18.2s,baz=294,slow=37						
GUMO	**Guam**	**17.58**	**344**	LR	LR	01 14 28.4	
	comp=Z,95nm,21.9s,baz=164,slow=32						
SIJI	**Sorong**	**18.53**	**278**	LR	LR	01 15 20.7	
	comp=Z,262nm,20.8s,baz=60,slow=33						
WRA	**Warramunga Arr**	**22.16**	**221**	P	**P**	**01 10 04.2**	**-0.3**
	3.9nm,0.8s,baz=47,slow=9.7,SNR=3.5						
ASAR	**Alice Springs**	**25.19**	**216**	P	**P**	**01 10 34.6**	**+0.5**
	0.4nm,0.4s,baz=51,slow=9.5,SNR=1.6						
ASAR				LR	LR	01 20 02.4	
	comp=Z,83nm,19.6s,baz=60,slow=36						
H11S3	**WAKE ISLAND Hy**	**27.53**	**37**	T	T	01 39 44.6	
	baz=220,slow=76,SNR=9.7						
H11S2	**WAKE ISLAND Hy**	**27.54**	**37**	T	T	01 39 42.8	
	baz=220,slow=76,SNR=8.7						
H11S1	**WAKE ISLAND Hy**	**27.55**	**37**	T	T	01 39 43.0	
	baz=220,slow=76,SNR=9.0						
FITZ	**Fitzroy Crossi**	**27.64**	**236**	P	**P**	**01 10 56.3**	**+0.1**
	5.8nm,0.9s,baz=44,slow=12,SNR=6.4						
H11N1	**WAKE ISLAND Hy**	**28.60**	**36**	T	T	01 41 05.4	
	baz=223						
H11N3	**WAKE ISLAND Hy**	**28.61**	**36**	T	T	01 41 02.2	
	baz=223,slow=74						
H11N2	**WAKE ISLAND Hy**	**28.62**	**36**	T	T	01 41 02.5	
	baz=223,slow=74						
CMAR	**Chiang Mai Arr**	**54.45**	**295**	P	**P**	**01 14 36.2**	**+0.1**
	1.0nm,0.3s,baz=116,slow=6.2,SNR=4.8						
PETK	**Petropavlovsk-**	**56.77**	**6**	LR	LR	01 35 11.3	
	comp=Z,41nm,20.5s,baz=180,slow=32						
SONM	**Songino Array**	**63.53**	**329**	P	**P**	**01 15 39.2**	**+0.5**
	0.4nm,0.6s,baz=146,slow=5.7,SNR=3.6						
MKAR	**Makanchi Array**	**77.25**	**319**	P	**P**	**01 17 02.1**	**-0.5**
	1.7nm,1.0s,baz=94,slow=7.3,SNR=3.8						
ILAR	**Eielson Array**	**82.13**	**23**	P	**P**	**01 17 28.8**	**+0.1**
	0.3nm,0.7s,baz=249,slow=4.6,SNR=4.7						
YBH	**Yreka Blue Hor**	**90.53**	**48**	LR	LR	01 49 03.4	
	comp=Z,145nm,21.4s,baz=268,slow=29						
TORD	**Torodi Ar. Bea**	**146.89**	**289**	PKPbc	**PKPbc**	**01 24 50.9**	**-0.8**
	1.2nm,0.9s,baz=61,slow=3.0,SNR=5.0						

TRN 11 01:27:01.3, 11.14N×62.39W, h110km, MD3.8
IDC 11 01:27:02.6±2.4, 11.24N×62.53W, h128km±26km, mb3.2/6, mb1 3.4/7, mb1mx3.2/33, mbtmp3.6/7, Error ellipse: s-maj=29.2km s-min=21.3km az=37.0
FUNV 11 01:27:02.6, 11.09N×62.31W, h111km, MW4.0
ISC 11 01:27:00.1±0.7, 11.11N±0.03×62.37W±0.03, h118km±7km, n51, σ1s78/82, mb3.5/7, 3C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRUV	**Carupano**	**0.95**	**243**	⇑*i*P	**Pn**	**01 27 22.6**	**+1.1**
CRUV				*e*S	**Sn**	**01 27 38.2**	**+0.7**
TRN	**Trinidad (W)**	**1.06**	**116**	⇑*i*P	**Pn**	**01 27 24.0**	**+1.5**
TRN				*e*S	**Sn**	**01 27 39.1**	**-0.3**
TRN	**Trinidad (W)**	**1.06**	**116**	*e*P	**Pn**	**01 27 23.6**	**+1.1**
TRN				*e*S	**Sn**	**01 27 39.2**	**-0.2**
GRFF	**Grenada Fort F**	**1.12**	**34**	*e*P	**Pn**	**01 27 23.9**	**+0.7**
GRFF				*e*S	**Sn**	**01 27 40.2**	**-0.5**
TPP	**Pointe-a-Pierr**	**1.20**	**131**	*e*P	**Pn**	**01 27 25.3**	**+1.3**
TPP				*e*S	**Sn**	**01 27 43.9**	**+1.8**
GRGR	**Grenville**	**1.24**	**35**	*e*P	**Pn**	**01 27 25.1**	**+0.8**
GRGR				*e*S	**Sn**	**01 27 42.0**	**-0.8**
GRGR	**Grenville**	**1.24**	**35**	*e*P	**Pn**	**01 27 25.2**	**+0.8**
GRGR				*e*S	**Sn**	**01 27 42.6**	**-0.2**
GRHS	**Sauteurs**	**1.32**	**33**	*e*P	**Pn**	**01 27 25.8**	**+0.5**
GRHS				*e*S	**Sn**	**01 27 44.5**	**+0.1**
GRSS	**Sisters**	**1.40**	**32**	*e*P	**Pn**	**01 27 26.7**	**+0.5**
GRSS				*e*S	**Sn**	**01 27 44.8**	**-1.2**
TBH	**Brigand Hill**	**1.43**	**116**	*e*P	**Pn**	**01 27 27.4**	**+0.9**
BQT	**Bacolet**	**1.62**	**88**	*e*P	**Pn**	**01 27 30.7**	**+1.9**
GCMP	**Grenada, Carri**	**1.65**	**34**	*e*P	**Pn**	**01 27 29.7**	**+0.5**
GCMP				*e*S	**Sn**	**01 27 50.6**	**-0.7**
TOSP	**Speyside**	**1.81**	**84**	⇑*i*P	**Pn**	**01 27 31.7**	**+0.6**
TOSP				*e*S	**Sn**	**01 27 54.2**	**-0.5**
CUMV	**Cumana_UDO**	**1.91**	**249**	*e*P	**Pn**	**01 27 35.1**	**+2.7**
CUMV				*e*S	**Sn**	**01 27 58.2**	**+1.2**
SVOC	**Richmond Hill,**	**2.32**	**29**	*e*S	**Sn**	**01 28 06.0**	**-0.2**
SVB	**Belmont**	**2.41**	**27**	*e*P	**Pn**	**01 27 38.7**	**0.0**
SVB				*e*S	**Sn**	**01 28 08.1**	**-0.3**
PCRV	**Puerto La Cruz**	**2.41**	**248**	P	**Pn**	**01 27 41.0**	**+2.3**
	2.2nm,0.3s,baz=83,slow=2.5,SNR=17						
PCRV				S	**Sn**	**01 28 09.2**	**+0.8**
	4.9nm,0.3s,baz=262,slow=16,SNR=9.6						
PCRV	**Puerto La Cruz**	**2.41**	**248**	*e*P	**Pn**	**01 27 40.4**	**+1.7**
PCRV				*e*S	**Sn**	**01 28 09.0**	**+0.7**
MCLT	**Moule a Chique**	**2.94**	**28**	*e*P	**Pn**	**01 27 46.9**	**+1.4**
MCLT				*e*S	**Sn**	**01 28 19.6**	**-0.9**
RIOV	**Rio Grande**	**3.07**	**170**	*e*P	**Pn**	**01 27 49.0**	**+1.7**
RIOV				*e*S	**Sn**	**01 28 21.4**	**-2.3**
SLBI	**Saint Lucia, B**	**3.20**	**25**	*e*P	**Pn**	**01 27 49.3**	**+0.3**
SLBI				*e*S	**Sn**	**01 28 25.2**	**-1.5**
PRGV	**PARIAGUAN**	**3.24**	**224**	*e*P	**Pn**	**01 27 51.0**	**+1.6**
PRGV				*e*S	**Sn**	**01 28 26.8**	**-0.8**
BBGH	**Gun Hill**	**3.41**	**53**	*e*P	**Pn**	**01 27 53.1**	**+1.3**
BBGH	**Gun Hill**	**3.41**	**53**	*e*	**Pn**	**01 27 55.0**	**+3.2**
BBGH				*e*S	**Sn**	**01 28 31.0**	**-0.7**
BBSP	**Saint Philip**	**3.47**	**55**	*e*P	**Pn**	**01 27 53.2**	**+0.6**
BBSP	**Saint Philip**	**3.47**	**55**	*e*	**Pn**	**01 27 55.5**	**+2.9**
BBSP				*e*S	**Sn**	**01 28 32.1**	**-1.0**
BIM	**Bigot**	**3.62**	**20**	*e*P	**Pn**	**01 27 55.2**	**+0.6**
BIM				*e*S	**Sn**	**01 28 35.6**	**-1.1**
H05S1	**Guadeloupe/Mar**	**3.62**	**24**	P	**Pn**	**01 27 51.0**	**-3.5**
H05S1				S	**Sn**	**01 28 35.1**	**-1.5**
MPOM	**Morne Pois Mar**	**3.63**	**24**	*e*P	**Pn**	**01 27 55.2**	**+0.6**
MPOM				*e*S	**Sn**	**01 28 36.0**	**-0.9**
FDF	**Fort de France**	**3.79**	**18**	*e*P	**Pn**	**01 27 57.3**	**+0.4**
FDF				*e*S	**Sn**	**01 28 40.1**	**-0.8**
BIRV	**Birongo**	**3.88**	**261**	*e*P	**Pn**	**01 28 00.8**	**+2.8**
BIRV				*e*S	**Sn**	**01 28 42.1**	**-0.8**
ILAM	**Ilet Lapin Mar**	**3.92**	**22**	*e*P	**Pn**	**01 27 59.2**	**+0.6**
ILAM				*e*S	**Sn**	**01 28 42.1**	**-1.9**
MERV	**Las Mercedes**	**4.28**	**245**	*e*P	**Pn**	**01 28 04.9**	**+1.5**
MERV				*e*S	**Sn**	**01 28 50.9**	**-1.7**
DSLB	**Salisbury**	**4.40**	**12**	*e*P	**Pn**	**01 28 05.5**	**+0.6**
TACV	**Tcata**	**4.68**	**259**	*e*P	**Pn**	**01 28 10.7**	**+1.9**
TACV				*e*S	**Sn**	**01 28 59.9**	**-2.2**
MAGL	**Barre de l'ile**	**4.93**	**12**	*e*P	**Pn**	**01 28 13.5**	**+1.4**
CACV	**CAICARA DEL OR**	**5.42**	**230**	*e*P	Pn	01 28 13.9	-4.8
CACV				*e*S	Sn	01 29 08.4	-1.1
ANBD	**Bethesda, Anti**	**5.93**	**6**	*e*P	**Pn**	**01 28 26.9**	**+1.3**
BAUV	**El Baul**	**5.99**	**249**	*e*P	**Pn**	**01 28 26.6**	**+0.3**
BAUV				*e*S	**Sn**	**01 29 30.5**	**-3.1**
PAYV	**Puerto Ayacuch**	**7.70**	**223**	*e*P	**Pn**	**01 28 49.3**	**-0.2**
PAYV				*e*S	**Sn**	**01 30 08.2**	**-7.1**
MDP	**Montagnes des**	**11.33**	**121**	P	**Pn**	**01 29 36.2**	**-2.4**
	0.2nm,0.3s,baz=319,slow=15,SNR=2.2						
PTGA	**Pitinga**	**12.00**	**168**	P	**Pn**	**01 29 47.3**	**-0.2**
	2.5nm,0.3s,baz=353,slow=17,SNR=40						
SIV	**San Ignacio**	**26.96**	**177**	P	**P**	**01 32 33.9**	**+3.1**
	0.6nm,0.5s,baz=359,slow=4.0,SNR=6.8						
LPAZ	**La Paz**	**27.81**	**192**	P	**P**	**01 32 33.3**	**-5.8**
	0.9nm,0.3s,baz=40,slow=8.7,SNR=9.4						
TXAR	**Lajitas Array**	**42.51**	**301**	P	**P**	**01 34 44.5**	**+0.3**
	0.2nm,0.4s,baz=121,slow=10,SNR=8.3						
TXAR				PcP	**PcP**	**01 36 34.9**	**0.0**
	0.2nm,0.7s,baz=123,slow=3.3,SNR=1.6						
PDAR	**Pinedale Array**	**51.63**	**316**	P	**P**	**01 35 54.0**	**-1.0**
	0.2nm,0.4s,baz=116,slow=8.4,SNR=2.8						
TORD	**Torodi Ar. Bea**	**62.52**	**81**	P	**P**	**01 37 13.9**	**+2.1**
	0.2nm,0.4s,baz=284,slow=6.6,SNR=9.4						
NB2	**NORSAR Subarra**	**72.41**	**29**	P	**P**	**01 38 14.9**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=263,slow=6.2						
NOA	**NORSAR Array B**	**72.41**	**29**	P	**P**	**01 38 15.0**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=262,slow=6.3,SNR=4.2						
FINES	**FINESS Array B**	**79.59**	**29**	P	**P**	**01 38 55.1**	**+1.1**
	comp=Z,4.0nm,1.2s,baz=282,slow=2.7,SNR=7.4						
KMBO	**Kilima Mbogo**	**99.66**	**89**	P	**Pdif**	**01 40 32.4**	**+0.8**
	comp=Z,0.8nm,0.4s,baz=59,slow=21,SNR=2.6						

BGR 11 01:28:54.1±0.0, 16.60S×178.43W, h33km, Ms4.2
NEIC 11 01:29:47.3±1.6, 17.6S±0.1×179.0W±0.1, h532km±7km, mb4.1/41, Error ellipse: s-maj=21.1km s-min=16.0km az=142.0
IDC 11 01:29:48.6±0.8, 17.72S×179.05W, h555km±6km, mb3.6/22, mb1 3.8/24, mb1mx3.7/43, mbtmp4.4/24, Error ellipse: s-maj=14.7km s-min=9.5km az=142.0
ISC 11 01:29:46.9±0.5, 17.62S±0.10×178.87W±0.08, h539km, n153, σ1s08/144, mb4.1/40, 17C-7D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.94**	**267**	P	**P**	**01 31 01.6**	**+0.9**
	5.5nm,0.3s,baz=119,slow=5.2,SNR=30						
MSVF				S	**S**	**01 32 03.5**	**+2.6**
	baz=21,slow=22,SNR=11						
MSVF	**Nonsavu**	**2.94**	**267**	P	**P**	**01 31 00.6**	**-0.1**
AFI	**Afiamalu**	**7.76**	**63**	P	**P**	**01 31 41.6**	**-0.5**
	5.8nm,0.3s,baz=282,slow=2.6,SNR=5.4						
AFI				S	**S**	**01 33 09.2**	**-7.1**
	2.8nm,0.3s,baz=321,slow=20,SNR=1.8						
OUENC	**Ouen Island, N**	**14.25**	**248**	P	**P**	**01 32 48.4**	**-0.3**
DZM	**Mont Dzumac**	**14.51**	**250**	P	**P**	**01 32 49.8**	**-1.8**
	0.8nm,0.3s,baz=105,slow=17,SNR=5.2						

URZ	**Urewera**	**20.86**	**189**	P	**P**	**01 33 49.2**	**-2.0**
	9.5nm,0.3s,baz=262,slow=1.7,SNR=20						
TOO	**Toolangi**	**37.02**	**230**	P	**P**	**01 36 11.1**	**+0.1**
TAU	**Tasmania Unive**	**38.16**	**221**	P	**P**	**01 36 20.6**	**+0.4**
STKA	**Stephens Creek**	**38.39**	**241**	P	**P**	**01 36 21.9**	**-0.3**
	5.7nm,0.4s,baz=93,slow=11,SNR=15						
STKA	**Stephens Creek**	**38.39**	**241**	P	**P**	**01 36 22.2**	**-0.1**
JAY	**Jayapura**	**42.41**	**286**	P	**P**	**01 36 53.7**	**-0.9**
	6.3nm,0.5s,baz=134,slow=2.3,SNR=6.6						
BBOO	**Buckleboo**	**43.16**	**241**	P	**P**	**01 36 59.7**	**-0.6**
BBOO				IAmb	IAmb	01 37 03.3	
	comp=Z,18nm,1.2s						
WR0	**Warramunga Arr**	**44.06**	**259**	P	**P**	**01 37 06.7**	**-0.7**
WR0				IAmb	IAmb	01 37 14.0	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**44.25**	**259**	P	**P**	**01 37 07.4**	**-1.5**
	comp=Z,0.7nm,0.3s,baz=89,slow=7.8,SNR=24						
WRA				PcP	**PcP**	**01 38 42.2**	**+0.5**
	comp=Z,1.1nm,1.0s,baz=94,slow=4.4,SNR=4.6						
WRA				S	**S**	**01 42 59.2**	**-4.5**
	comp=Z,0.4nm,0.7s,baz=95,slow=5.8,SNR=1.9						
AS31	**Alice Springs**	**44.45**	**254**	P	**P**	**01 37 09.9**	**-0.5**
AS31				IAmb	IAmb	01 37 10.1	
	comp=Z,3.3nm,0.4s						
ASAR	**Alice Springs**	**44.45**	**254**	P	**P**	**01 37 09.7**	**-0.7**
	comp=Z,7.3nm,0.4s,baz=89,slow=8.0,SNR=112						
ASAR				PcP	**PcP**	**01 38 42.6**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=106,slow=3.7,SNR=4.6						
ASAR				S	**S**	**01 43 03.2**	**-3.2**
	comp=Z,3.3nm,0.9s,baz=84,slow=17,SNR=14						
GUMO	**Guam**	**47.35**	**309**	P	**P**	**01 37 32.8**	**+0.4**
	comp=Z,34nm,0.4s,baz=1.6,slow=23,SNR=1.9						
GUMO	**Guam**	**47.35**	**309**	IAmb	IAmb	01 37 40.6	
	comp=Z,87nm,1.1s						
MTN	**Manton Dam**	**48.37**	**268**	P	**P**	**01 37 39.1**	**-1.0**
FORT	**Forrest**	**49.74**	**244**	P	**P**	**01 37 49.2**	**-0.8**
KNRA	**Kununurra**	**50.08**	**264**	P	**P**	**01 37 52.0**	**-0.8**
FITZ	**Fitzroy Crossi**	**52.64**	**260**	P	**P**	**01 38 11.1**	**-0.2**
FITZ				IAmb	IAmb	01 38 26.4	
	comp=Z,13nm,1.4s						
VNDA	**Vanda**	**60.70**	**185**	P	**P**	**01 39 07.2**	**+1.6**
	comp=Z,0.4nm,0.4s,baz=23,slow=7.3,SNR=2.2						
VNDA	**Vanda**	**60.70**	**185**	P	**P**	**01 39 07.0**	**+1.4**
MJAR	**Matsushiro Arr**	**67.41**	**324**	P	**P**	**01 39 48.5**	**-0.4**
	comp=Z,5.9nm,0.5s,baz=155,slow=6.5,SNR=13						
MJAR	**Matsushiro Arr**	**67.41**	**324**	P	**P**	**01 39 48.6**	**-0.4**
MJAR				IAmb	IAmb	01 39 49.6	
	comp=Z,4.4nm,0.8s						
MAJO	**Matsushiro**	**67.42**	**324**	P	**P**	**01 39 48.9**	**0.0**
SSLB	**Suanglung**	**71.71**	**303**	P	**P**	**01 40 14.3**	**-0.6**
QSPA	**Suanglung**	**72.43**	**180**	P	**P**	**01 40 19.6**	**+1.1**
QSPA				IAmb	IAmb	01 40 20.3	
	comp=Z,3.8nm,0.9s						
PEA0B	**Petropavlovsk-**	**73.29**	**346**	P	**P**	**01 40 23.4**	**+0.1**
PEA0B				IAmb	IAmb	01 40 42.7	
	comp=Z,8.9nm,0.9s						
PETK	**Petropavlovsk-**	**73.29**	**346**	P	**P**	**01 40 23.3**	**0.0**
	comp=Z,4.6nm,0.7s,baz=145,slow=8.3,SNR=7.3						
KSRS	**Korea Array**	**74.19**	**319**	P	**P**	**01 40 29.7**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=115,slow=5.8,SNR=2.9						
KSAR	**Wonju Array Be**	**74.21**	**318**	P	**P**	**01 40 28.9**	**0.0**
USRK	**Usuriysk Ar.**	**76.13**	**326**	P	**P**	**01 40 41.4**	**+2.0**
	comp=Z,2.1nm,0.6s,baz=114,slow=6.6,SNR=3.9						
ISA	**Isabella, Lake**	**77.93**	**46**	P	**P**	**01 40 50.3**	**+0.7**
MDPB	**Devils Postpil**	**78.58**	**44**	P	**P**	**01 40 54.2**	**+0.9**
YBH	**Yreka Blue Hor**	**78.58**	**39**	P	**P**	**01 40 54.7**	**+1.8**
	comp=Z,1.5nm,0.7s,baz=238,slow=9.5,SNR=2.7						
PNTR	**Pine Nut**	**79.03**	**43**	P	**P**	**01 40 56.5**	**+1.0**
PNTR				I

OSTC	**Ostas**	**144.99**	**343**	*e*PKP	**PKPab**	**01 48 24.4**	**+0.1**		
CHVC	**Chvalec**	**145.00**	**343**	*e*PKP	**PKPab**	**01 48 24.3**	**-0.1**		
CLZ	**Clausthal**	**145.08**	**350**	*e*PKPbc	**PKPbc**	**01 48 24.4**	**-0.2**		
	baz=17,slow=3.1								
CLL	**Collm**	**145.08**	**347**	⇑*i*PKPbc	**PKPbc**	**01 48 23.9**	**+0.2**		
	comp=Z,16nm,0.6s								
CLL				*i* PKPab	**PKPab**	**01 48 24.9**	**+0.3**		
CLL	**Collm**	**145.08**	**347**	*e*PKPbc	**PKPbc**	**01 48 24.2**	**+0.6**		
	baz=17,slow=3.1								
DPC	**Dobruska-Polom**	**145.15**	**343**	*e*PKP	**PKPab**	**01 48 24.8**	**-0.1**		
KRLC	**Kraliky**	**145.26**	**342**	*e*PKP	**PKPbc**	**01 48 24.9**	**+0.6**		
BRG	**Berggiesshubel**	**145.28**	**346**	*e*PKPbc	**PKPbc**	**01 48 25.0**	**+0.7**		
	baz=17,slow=3.1								
DOPR	**Dopca**	**145.29**	**330**	⇑P	**PKPab**	**01 48 25.6**	**0.0**		
MORC	**Moravsky Berou**	**145.30**	**341**	⇓P	**PKPab**	**01 48 25.3**	**-0.3**		
MORC	**Moravsky Berou**	**145.30**	**341**		**PKPbc**	**01 48 25.1**	**+0.6**		
MORC	**Moravsky Berou**	**145.30**	**341**	*e*PKP	**PKPbc**	**01 48 24.9**	**+0.5**		
MLR	**Muntele Rosu**	**145.36**	**329**	⇓P	**PKPbc**	**01 48 25.6**	**+0.7**		
FBE	**Freiberg**	**145.37**	**346**	*e*PKPbc	**PKPab**	**01 48 25.6**	**-0.1**		
	baz=17,slow=3.1								
GTTG	**Gottingen**	**145.43**	**350**	*e*PKPbc	**PKPbc**	**01 48 25.4**	**+0.7**		
	baz=17,slow=3.1								
PVCC	**Panska Ves**	**145.45**	**345**	*e*PKP	**PKPbc**	**01 48 25.6**	**+0.8**		
VOIR		**145.84**	**329**	⇑P	**PKPbc**	**01 48 26.3**	**+0.2**		
DRGR		**145.88**	**333**	⇑P	**PKPbc**	**01 48 26.8**	**+0.5**		
PRA	**Prague**	**145.90**	**345**	*e*PKP	**PKPbc**	**01 48 27.0**	**+0.9**		
PRU	**Pruhonice**	**145.95**	**344**	*e*PKP	**PKPbc**	**01 48 26.9**	**+0.7**		
MOX	**Moxa**	**146.00**	**348**	*e*L	L	02 46 37.8			
	comp=Z,36nm,20.1s								
VRAC	**Vranov**	**146.00**	**342**	*e*PKP	**PKPbc**	**01 48 27.5**	**+1.1**		
TANN	**Tannenbergstha**	**146.04**	**347**	*e*PKPbc	**PKPbc**	**01 48 27.2**	**+0.7**		
	baz=17,slow=3.1								
WERD	**Werda**	**146.04**	**347**	*e*PKPbc	**PKPbc**	**01 48 27.2**	**+0.7**		
	baz=17,slow=3.1								
JAVC	**Velka Javorina**	**146.06**	**340**	*e*PKP	**PKPab**	**01 48 28.2**	**-0.4**		
ARR	**Arges**	**146.09**	**330**	⇑P	**PKPab**	**01 48 28.1**	**-0.7**		
PSZ	**Piszkesteto**	**146.10**	**337**	PKPbc	**PKPbc**	**01 48 27.5**	**+0.7**		
GUNZ	**Gunzen**	**146.12**	**347**	*e*PKPbc	**PKPbc**	**01 48 27.7**	**+1.0**		
	baz=17,slow=3.1								
KRUC	**Moravsky**	**146.28**	**342**	*e*PKP	**PKPbc**	**01 48 27.8**	**+0.6**		
PBCC	**Pribram**	**146.37**	**345**	*e*PKP	**PKPbc**	**01 48 28.0**	**+0.6**		
MANZ	**Manzenberg**	**146.52**	**347**	*e*PKPbc	**PKPbc**	**01 48 28.5**	**+0.7**		
	baz=17,slow=3.1								
CSS	**Mathiatis**	**146.56**	**307**	PKPbc	**PKPbc**	**01 48 28.6**	**+0.2**		
ROTZ	**Rotzenmuhle**	**146.71**	**347**	*e*PKPbc	**PKPbc**	**01 48 29.0**	**+0.7**		
	baz=17,slow=3.1								
LEF	**Lefka**	**146.83**	**308**	⇑P	**PKPbc**	**01 48 29.3**	**+0.2**		
GZR	**Gura Zlata**	**146.94**	**332**	⇑P	**PKPbc**	**01 48 29.2**	**0.0**		
GRF	**Grafenberg Arr**	**146.98**	**348**	*e*L	L	02 49 46.0			
	comp=Z,40nm,18.6s								
KHC	**Kasperske Hory**	**146.99**	**345**	*e*PKP	**PKPbc**	**01 48 29.8**	**+0.7**		
CKRC	**Cesky Krumlov**	**147.08**	**344**	*e*PKP	**PKPbc**	**01 48 30.0**	**+0.6**		
GEC2	**GERESS Array S**	**147.22**	**345**	PKPbc	**PKPbc**	**01 48 30.0**	**+0.2**		
GERES	**GERESS Array B**	**147.22**	**345**	PKPbc	**PKPbc**	**01 48 30.2**	**+0.4**		
	comp=Z,5.1nm,0.7s,baz=31,slow=3.2,SNR=31								
BZS	**Buzias**	**147.28**	**333**	⇑P	**PKPbc**	**01 48 30.1**	**+0.2**		
CONA	**Conrad Observa**	**147.45**	**341**	*i* P	**PKPbc**	**01 48 31.4**	**+1.0**		
	comp=Z,5.8nm,0.7s,SNR=6.4								
HERR	**Herculane**	**147.49**	**331**	⇑P	**PKPbc**	**01 48 30.7**	**+0.2**		
MOA	**Molln**	**147.98**	**343**	*e*P	**PKPbc**	**01 48 32.1**	**+0.4**		
	comp=Z,0.9nm,0.3s								
FRGS	**Fruska Gora**	**148.41**	**334**	⇑P	**PKPbc**	**01 48 33.2**	**+0.3**		
AKAS	**Kas**	**148.74**	**312**	PKPbc	**PKPbc**	**01 48 33.6**	**-0.5**		
VTS	**Vitosha**	**148.78**	**328**	⇓P	**PKPbc**	**01 48 34.1**	**+0.1**		
SOKA	**Soboth**	**148.82**	**341**	*e*P	**PKPbc**	**01 48 33.7**	**-0.2**		
	comp=Z,2.3nm,0.6s								
KBA	**Koelnbreinsper**	**148.94**	**344**	*e*P	**PKPbc**	**01 48 33.9**	**-0.4**		
	comp=Z,3.7nm,0.5s								
WATA	**Walderalm**	**149.14**	**346**	*e*P	**PKPbc**	**01 48 34.9**	**+0.1**		
	comp=Z,4.1nm,0.4s								
RETA	**Reutte**	**149.18**	**347**	*e*P	**PKPbc**	**01 48 35.1**	**+0.3**		
	comp=Z,3.0nm,0.5s								
DIVS	**Divibare**	**149.19**	**333**	PKPbc	**PKPbc**	**01 48 35.0**	**+0.1**		
WTTA	**Wattenberg**	**149.19**	**346**	*i* P	**PKPbc**	**01 48 35.3**	**+0.4**		
	comp=Z,6.9nm,0.3s,SNR=5.5								
MOTA	**Moosalm**	**149.24**	**347**	*e*P	**PKPbc**	**01 48 35.1**	**+0.1**		
	comp=Z,2.6nm,0.4s								
MYKA	**Terra Mystica**	**149.27**	**343**	*e*P	**PKPbc**	**01 48 34.6**	**-0.4**		
	comp=Z,3.5nm,0.4s								
SQTA	**Sankt Quirin**	**149.33**	**346**	*i* P	**PKPbc**	**01 48 35.6**	**+0.4**		
	comp=Z,4.7nm,0.4s,SNR=5.4								
ABTA	**Abfaltersbach**	**149.47**	**345**	*i* P	**PKPbc**	**01 48 35.1**	**-0.4**		
	comp=Z,6.6nm,0.6s,SNR=5.1								
DAVA	**Damuels**	**149.55**	**348**	*e*P	**PKiKP**	**01 48 36.4**	**-0.1**		
	comp=Z,2.4nm,0.4s								
FETA	**Feichten**	**149.63**	**347**	*e*P	**PKPbc**	**01 48 36.4**	**+0.4**		
	comp=Z,2.4nm,0.5s								
ESDC	**Sonseca Array**	**157.58**	**10**	PKPab	**PKPab**	**01 49 17.2**	**-0.1**		
	comp=Z,1.1nm,1.1s,baz=328,slow=4.4,SNR=4.8								
KEST	**Kesra**	**160.54**	**340**	PKPab	**PKPab**	**01 49 29.6**	**-0.8**		
	comp=Z,2.3nm,0.7s,baz=45,slow=7.1,SNR=4.1								

IDC ***11*** *01:40:22.3±0.6,8.˚62S×105.˚95E, h0km, mb4.3/20, mb1 4.4/20, mb1mx4.3/34, mbtmp4.3/20, MS3.6/12, Ms1 3.6/12, ms1mx3.3/38, Error ellipse: s-maj=23.0km s-min=12.7km az=64.0*

KLM ***11*** *01:40:22, 8.˚88S×105.˚77E, h10km, mb4.9*

NEIC ***11*** *01:40:22.6±2.2, 8.˚87S±0.˚05×105.˚84E±0.˚09, h10km±1km, mb4.7/31, Error ellipse: s-maj=15.5km s-min=7.6km az=289.0*

DJA ***11*** *01:40:24.2±0.8, 9˚S±2˚×107˚6E±˚, h35km±15km, M4.8/18, mb5.1/12, mB5.4/5, MLv4.7/18, Mw(mB)4.8/5*

ISC 11 01:40:21.7±2.6, 8.˚83S±0.˚04×105.˚82E±0.˚05, h4km±15km, n146, σ1§26/140, mb4.7/52, MS3.8/15, 1D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMIS	**Christmas Isla**	**1.65**	**186**	Pn	**Pn**	**01 40 50.2**	**-1.3**
XMIS				Sn	**Sn**	**01 41 09.5**	**-3.8**
SKJI	**Sukabumi**	**1.95**	**22**	P	**Pn**	**01 40 54.3**	**-1.4**
SKJI				S	**Sn**	**01 41 20.8**	**+0.1**
CNJI	**Cibinong**	**1.99**	**41**	P	**Pn**	**01 40 55.4**	**-0.8**
CNJI				S	**Sn**	**01 41 21.9**	**+0.3**
CISI	**Cisompet, Garu**	**2.35**	**58**		**Pn**	**01 40 59.8**	**-1.3**
CISI	**Cisompet, Garu**	**2.35**	**58**	P	**Pn**	**01 40 59.7**	**-1.5**
DBJI	**Dramaga**	**2.44**	**22**	P	**Pn**	**01 41 02.6**	**+0.1**
DBJI				S	**Sn**	**01 41 32.5**	**-0.3**
CBJI	**Citeko**	**2.60**	**23**	P	**Pn**	**01 41 02.3**	**-2.4**
LEM	**Lembang**	**2.67**	**42**	Pn	**Pn**	**01 41 06.7**	**+1.0**
	91nm,0.3s,baz=178,slow=5.7,SNR=31						
LEM				Sn	**Sn**	**01 41 38.4**	**-0.3**
	26nm,0.3s,baz=307,slow=21,SNR=3.7						
LEM				LR	LR	01 42 08.3	
	comp=Z,815nm,18.2s,baz=118,slow=44						
LEM	**Lembang**	**2.67**	**42**	P	**Pn**	**01 41 07.0**	**+1.3**
SBJI	**Serang**	**2.71**	**7**	P	**Pn**	**01 41 06.1**	**0.0**
TNG	**Tangerang**	**2.76**	**17**	P	Pn	01 40 58.5	-8.4
CMJI	**Cimerak**	**2.80**	**68**	P	**Pn**	**01 41 06.6**	**-0.8**
JCJI	**Jatiwangi**	**3.36**	**46**	P	**Pn**	**01 41 13.8**	**-1.3**
KPJI	**Karang Pucung**	**3.42**	**64**	P	**Pn**	**01 41 16.5**	**+0.6**
BLSI	**Bandar Lampung**	**3.49**	**351**	P	**Pb**	**01 41 25.3**	**+1.2**
CTJI	**Waduk Cacaban**	**3.79**	**62**	P	**Pn**	**01 41 22.6**	**+1.6**
CTJI				S	**Sn**	**01 42 05.6**	**-0.6**
KLI	**Kotabumi**	**4.05**	**346**	P	**Pb**	**01 41 34.7**	**+0.9**
LWLI	**Liwa**	**4.17**	**335**	P	**Pn**	**01 41 26.2**	**-0.2**
MDSI	**Maura Dua**	**4.61**	**339**	P	**Pn**	**01 41 32.4**	**+0.1**
UGM	**Wanagama**	**4.74**	**79**		**Pn**	**01 41 32.8**	**-1.4**
UGM	**Wanagama**	**4.74**	**79**	P	**Pn**	**01 41 34.2**	**+0.1**
SMRI	**Semarang**	**4.91**	**69**	Pn	**Pn**	**01 41 35.1**	**-1.3**
SMRI	**Semarang**	**4.91**	**69**	P	**Pn**	**01 41 37.4**	**+1.0**
EGSI	**Enggano, Bengk**	**4.93**	**314**	P	**Pn**	**01 41 35.1**	**-1.6**
PCJI	**Pacitan**	**5.34**	**84**	P	**Pn**	**01 41 42.4**	**+0.1**
	1.1nm3µm244nm,0.8s						
LHSI	**Lahat**	**5.47**	**335**	P	**Pn**	**01 41 44.7**	**+0.6**
	0.4nm103nm,1.0s						
PWJI	**Pagerwojo**	**5.97**	**83**	P	**Pn**	**01 41 51.0**	**0.0**
	0.8nm3µm205nm,0.7s						
SJI	**Sawahan**	**5.99**	**80**	P	**Pn**	**01 41 52.3**	**+1.0**
	0.7nm154nm,0.5s						
KRKI	**Karangkates**	**6.59**	**85**	P	**Pn**	**01 42 00.8**	**+1.2**
	2.0nm15µm318nm,0.7s						
GMJI	**Gumukmas**	**7.56**	**86**	P	**Pn**	**01 42 14.0**	**+1.1**
	0.3nm71nm,1.0s						
JAGI	**Jajag, Banyuwa**	**8.25**	**88**	Pn	**Pn**	**01 42 22.0**	**-0.3**
JAGI	**Jajag, Banyuwa**	**8.25**	**88**	P	**Pn**	**01 42 23.1**	**+0.8**
	2µm169nm,1.2s						
ABJI	**Asem Bagus**	**8.39**	**84**	P	**Pn**	**01 42 25.1**	**+0.9**
	146nm,0.6s						
SRBI	**Singaraja**	**9.32**	**86**	P	**Pn**	**01 42 35.5**	**-1.5**
	167nm,0.8s						
TWSI	**Taliwang, Sumb**	**10.93**	**90**	P	**Pn**	**01 42 59.6**	**+0.4**
	48nm,0.6s						
PLAI	**Plampang**	**11.82**	**91**	P	**Pn**	**01 43 11.2**	**0.0**
	114nm,0.8s						
KAPI	**Kappang**	**14.34**	**76**	LR	LR	01 50 14.8	
	comp=Z,252nm,19.6s,baz=275,slow=42						
KAPI	**Kappang**	**14.34**	**76**	Pn	**Pn**	**01 43 43.8**	**-2.0**
TTSI	**Tana Toraja**	**15.06**	**68**	P	**Pn**	**01 43 56.3**	**+0.8**
	28nm,0.9s						
EDFI	**Ende, Flores**	**15.69**	**91**	P	**Pn**	**01 44 02.1**	**-1.8**
	23nm,0.6s						
MMRI	**Maumere**	**16.23**	**91**	Pn	**Pn**	**01 44 09.4**	**-1.4**
MMRI				IAmb	IAmb	01 44 31.6	
	comp=Z,68nm,0.7s						
MPSI	**Mapaga**	**16.72**	**58**	P	**Pn**	**01 44 17.4**	**+0.3**
SPMM	**Sapulut**	**17.13**	**39**	P	**P**	**01 44 25.0**	**+0.9**
TOLI2	**Tolitoli**	**17.88**	**57**	Pn	**Pn**	**01 44 29.1**	**-2.5**
SOEI	**Soe**	**18.23**	**94**		**Pn**	**01 44 34.4**	**-1.6**
SOEI				IAmb	IAmb	01 45 00.3	
	comp=Z,85nm,1.1s						
FITZ	**Fitzroy Crossi**	**21.34**	**118**	P	**P**	**01 45 12.0**	**+1.9**
	comp=Z,6.6nm,0.9s,baz=300,slow=4.3,SNR=7.0						
FITZ				LR	LR	01 53 09.8	
	comp=Z,50nm,19.3s,baz=301,slow=36						
FITZ	**Fitzroy Crossi**	**21.34**	**118**	P	**P**	**01 45 11.7**	**+1.5**
NWAO	**Narrogin (SRO)**	**26.20**	**158**	P	**P**	**01 46 00.6**	**+2.8**
	comp=Z,14nm,0.9s,baz=97,slow=5.3,SNR=3.3						
NWAO	**Narrogin (SRO)**	**26.20**	**158**	IAmb	IAmb	01 46 04.2	
	comp=Z,43nm,1.2s						
SIJI	**Sorong**	**26.54**	**74**	LR	LR	01 58 57.2	
	comp=Z,108nm,19.6s,baz=40,slow=42						
H01W3	**Cape Leeuwin H**	**27.03**	**165**	T	T	02 14 23.2	
	baz=345,slow=76,SNR=17						
H01W1	**Cape Leeuwin H**	**27.04**	**165**	T	T	02 14 26.1	
	baz=345,slow=76,SNR=13						
H01W2	**Cape Leeuwin H**	**27.04**	**165**	T	T	02 14 27.6	
	baz=345,slow=76,SNR=6.7						
CM31	**Chiang Mai Arr**	**27.95**	**346**	P	**P**	**01 46 12.5**	**-1.0**
CM31				IAmb	IAmb	01 46 23.5	
	comp=Z,9.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**27.95**	**346**	P	**P**	**01 46 13.6**	**0.0**
	comp=Z,7.8nm,0.7s,baz=180,slow=8.7,SNR=36						
CMAR				LR	LR	01 59 21.1	
	comp=Z,203nm,18.7s,baz=207,slow=41						
CMAR	**Chiang Mai Arr**	**27.95**	**346**	P	**P**	**01 46 12.8**	**-0.8**
QIZ	**Qiongzhong**	**27.96**	**8**	P	**P**	**01 46 14.4**	**+0.7**
QIZ				S	**S**	**01 51 01.0**	**+2.5**
QIZ				LR	LR		
	comp=Z,240nm,10.8s						
QIZ				LR	LR		
	comp=Z,340nm,17.8s						
QIZ				LR	LR		
	comp=Z,370nm,16.9s						
CHTO	**Chiang Mai**	**28.29**	**346**	P	**P**	**01 46 15.8**	**-0.8**
CHTO				IAmb	IAmb	01 46 17.4	
	comp=Z,9.8nm,0.8s						
WRA	**Warramunga Arr**	**29.70**	**115**	P	**P**	**01 46 30.1**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=290,slow=11,SNR=17						
ASAR	**Alice Springs**	**30.65**	**122**	P	**P**	**01 46 38.4**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=300,slow=8.3,SNR=6.4						
ASAR				LR	LR	01 59 15.9	
	comp=Z,86nm,20.0s,baz=317,slow=37						
H08S2	**Diego Garcia H**	**33.00**	**270**	T	T	02 21 46.5	
	baz=88						
H08S3	**Diego Garcia H**	**33.01**	**270**	T	T	02 21 43.5	
	baz=88						
H08S1	**Diego Garcia H**	**33.02**	**270**	T	T	02 21 46.4	
	baz=88						
SHL	**Shillong**	**36.78**	**339**	P	**P**	**01 47 30.1**	**-0.9**
SHL				IAmb	IAmb	01 47 46.4	
	comp=Z,14nm,0.9s						
WHN	**Wuhan**	**39.99**	**11**	⇓P	P	01 48 07.1	+9.4
STKA	**Stephens Creek**	**40.33**	**130**	P	**P**	**01 48 02.1**	**+1.4**
	comp=Z,1.6nm,0.4s,baz=303,slow=8.6,SNR=6.3						
STKA				LR	LR	02 05 03.7	
	comp=Z,104nm,20.1s,baz=356,slow=37						
LSA	**Lhasa**	**40.83**	**340**	P	**P**	**01 48 05.5**	**+0.3**
LSA				IAmb	IAmb	01 48 07.3	
	comp=Z,18nm,1.0s						
JIRN	**Jiri**	**40.95**	**333**	*e*P	**P**	**01 48 07.2**	**+1.0**
	comp=Z,87nm,0.8s						
PKI	**Pulchoki**	**41.23**	**332**	*e*P	**P**	**01 48 09.0**	**+0.5**
	comp=Z,15nm,0.7s						
PKIN	**Phulchoki**	**41.24**	**332**	*e*P	**P**	**01 48 09.0**	**+0.5**
	comp=Z,13nm,0.7s						
DMN	**Daman**	**41.41**	**332**	*e*P	**P**	**01 48 10.7**	**+0.9**
	comp=Z,47nm,0.8s						
KKN	**Kakani**	**41.48**	**332**	*e*P	**P**	**01 48 11.1**	**+0.8**
	comp=Z,61nm,0.9s						
GKN	**Gorkha**	**41.96**	**331**	*e*P	**P**	**01 48 15.1**	**+0.9**
	comp=Z,83nm,1.1s						
KOLN	**Koldanda**	**42.27**	**330**	*e*P	**P**	**01 48 17.7**	**+0.9**
	comp=Z,61nm,0.9s						
NJ2	**Nanjing**	**42.52**	**16**	*e*P	**P**	**01 48 18.8**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
DANN	**Dangsing**	**42.67**	**331**	*e*P	**P**	**01 48 20.9**	**+0.7**
	comp=Z,79nm,0.9s						
XAN	**Xi'an**	**42.73**	**4**	P	**P**	**01 48 19.2**	**-1.1**
XAN				pP	pP	01 48 22.0	+2.3
XAN				pmax	pmax		
	comp=Z,14nm,0.6s						
XAN				LR	LR		
	comp=Z,280nm,15.1s						
XAN				LR	LR		
	comp=Z,270nm,15.9s						
XAN				LR	LR		
	comp=Z,380nm,16.7s						
XAN	**Xi'an**	**42.73**	**4**	P	**P**	**01 48 19.9**	**-0.4**
PYUN	**Piuthan**	**42.84**	**330**	*e*P	**P**	**01 48 22.5**	**+1.0**
	comp=Z,64nm,1.0s						
GUMO	**Guam**	**44.71**	**61**	P	**P**	**01 48 34.3**	**-2.1**
	comp=Z,47nm,0.8s,baz=249,slow=8.6,SNR=2.1						
LZH	**Lanzhou**	**44.71**	**358**	*e*P	**P**	**01 48 36.3**	**0.0**
LZH				pP	pwP	01 48 41.0	-2.0
LZH				sP	pP	01 48 44.3	+8.5
LZH				pmax	pmax		
	comp=Z,25nm,1.3s						
LZH				pmax	pmax		
	comp=Z,86nm,5.6s						
LZH				LR	LR		
	comp=Z,300nm,15.7s						
LZH				LR	LR		
	comp=Z,280nm,16.8s						
LZH				LR	LR		
	comp=Z,250nm,19.5s						
TIA	**Tai'an**	**46.05**	**13**	P	**P**	**01 48 45.9**	**-0.8**
TIA				pmax	pmax		
	comp=Z,13nm,0.8s						
GTA	**Gaotai**	**48.32**	**354**	*e*P	**P**	**01 49 05.2**	**+0.6**
GTA				pP	pwP	01 49 11.0	-0.2
GTA				sP	pP	01 49 15.2	+11
GTA				pmax	pmax		
	comp=Z,13nm,1.1s						
GTA				pmax	pmax		
	comp=Z,130nm,5.0s						
GTA				LR	LR		
	comp=Z,250nm,13.8s						
GTA				LR	LR		
	comp=Z,98nm,14.5s						
GTA				LR	LR		
	comp=Z,190nm,15.3s						
HHC	**Hu-ho-hao-te**	**49.71**	**6**	*e*P	**P**	**01 49 16.1**	**+0.9**
HHC				pmax	pmax		
	comp=Z,17nm,0.7s						
HHC				pmax	pmax		
	comp=Z,100nm,6.0s						
HHC				LR	LR		
	comp=Z,250nm,15.3s						
HHC				LR	LR		
	comp=Z,220nm,14.5s						
HHC				LR	LR		
	comp=Z,250nm,14.5s						
KSRS	**Korea Array**	**50.48**	**23**	P	**P**	**01 49 19.9**	**-1.0**
	comp=Z,5.0nm,0.8s,baz=212,slow=8.8,SNR=19						
KS19	**Wonju Array Si**	**50.50**	**23**	P	**P**	**01 49 18.7**	**-2.4**
KS19				IAmb	IAmb	01 49 21.9	
	comp=Z,12nm,0.9s						
JHS	**Saijyo**	**50.66**	**29**	P	**P**	**01 49 20.4**	**-2.0**
WMQ	**Urumqi**	**54.92**	**344**	*e*P	**P**	**01 49 54.1**	**+0.2**
WMQ				sP	pwP	01 50 03.9	+3.4
WMQ				pmax	pmax		
	comp=Z,25nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,150nm,5.3s						
CN2	**Changchun**	**55.33**	**17**	*e*P	**P**	**01 49 56.3**	**-0.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KBL	**Kabul**	**55.43**	**323**	P	**P**	**01 49 56.5**	**-1.4**
KBL				IAmb	IAmb	01 50 15.3	
	comp=Z,4.0nm,0.6s						
SONM	**Songino Array**	**56.42**	**0**	P	**P**	**01 50 05.1**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=173,slow=8.2,SNR=12						
SONM				LR	LR	02 16 58.0	
	comp=Z,72nm,19.8s,baz=133,slow=39						
SONM	**Songino Array**	**56.42**	**0**	P	**P**	**01 50 03.9**	**-0.7**
SONM				IAmb	IAmb	01 50 16.2	
	comp=Z,5.5nm,1.0s						
ULN	**Ulaanbaatar**	**56.45**	**1**	P	**P**	**01 50 04.4**	**-0.4**
ULN				IAmb	IAmb	01 50 16.3	
	comp=Z,4.4nm,0.9s						
KDJ	**Kajisay**	**57.09**	**335**	P	**P**	**01 50 08.7**	**-0.9**
KDJ				IAmb	IAmb	01 50 13.5	
	comp=Z,12nm,1.2s						
USRK	**Ussuriysk Ar.**	**57.86**	**22**	P	**P**	**01 50 13.8**	**-0.8**
	comp=Z,4.6nm,0.7s,baz=195,slow=4.0,SNR=8.2						
USRK	**Ussuriysk Ar.**	**57.86**	**22**	P	**P**	**01 50 12.9**	**-1.7**
GAR	**Garm**	**57.90**	**328**	P	**P**	**01 50 12.6**	**-2.7**
GAR				IAmb	IAmb	01 50 33.5	
	comp=Z,5.7nm,0.7s						
BOOM	**Boomskoye usch**	**57.91**	**334**	P	**P**	**01 50 13.9**	**-1.5**
CHGR	**Chuyangaron**	**58.27**	**327**	P	**P**	**01 50 17.0**	**-0.8**
CHGR				IAmb	IAmb	01 50 32.8	
	comp=Z,7.6nm,0.7s						
MK31	**Makanchi Array**	**59.22**	**341**	P	**P**	**01 50 23.4**	**-0.7**
MK31				IAmb	IAmb	01 50 39.1	
	comp=Z,6.3nm,0.9s						
MKAR	**Makanchi Array**	**59.22**	**341**	P	**P**	**01 50 24.4**	**+0.3**
	comp=Z,5.0nm,0.6s,baz=142,slow=7.8,SNR=25						
MKAR	**Makanchi Array**	**59.22**	**341**	P	**P**	**01 50 23.4**	**-0.7**
KLR	**Kul'dur**	**62.13**	**19**	P	**P**	**01 50 42.9**	**-1.0**
	comp=Z,2.7nm,0.9s,baz=250,slow=4.5,SNR=5.6						
ZAA0	**Zalesovo Array**	**65.02**	**346**	P	**P**	**01 51 02.8**	**-0.1**
ZAA0				IAmb	IAmb	01 51 19.9	
	comp=Z,8.7nm,1.1s						
ZALV	**Zalesovo Beam**	**65.02**	**346**	P	**P**	**01 51 02.9**	**0.0**
	comp=Z,1.8nm,0.5s,baz=90,slow=6.4,SNR=11						
ZALV				LR	LR	02 22 31.8	
	comp=Z,96nm,18.4s,baz=146,slow=39						
ZALV	**Zalesovo Beam**	**65.02**	**346**	P	**P**	**01 51 02.4**	**-0.5**
MAW	**Mawson**	**65.29**	**197**	P	**P**	**01 51 07.1**	**+2.5**
	comp=Z,2.0nm,0.7s,baz=9,6,slow=5.1,SNR=5.3						
BRVK	**Borovoye**	**68.66**	**338**	P	**P**	**01 51 25.3**	**-0.9**
BRVK				IAmb	IAmb	01 51 36.6	
	comp=Z,4.0nm,0.6s						
ABKAR	**Akbulak array**	**70.39**	**330**	P	**P**	**01 51 36.8**	**-0.1**
YAK	**Yakutsk**	**73.04**	**12**	P	**P**	**01 51 51.9**	**-0.7**
VNDA	**Vanda**	**74.40**	**169**	P	**P**	**01 52 02.4**	**+1.9**
	comp=Z,1.0nm,0.7s,baz=296,slow=5.9,SNR=7.6						
VNDA				LR	LR	02 20 21.7	
	comp=Z,18nm,20.6s,baz=318,slow=32						
GURO	**Guroymak-BITLI**	**75.66**	**313**	P	**P**	**01 52 08.3**	**-0.3**
PETK	**Petropavlovsk-**	**75.75**	**29**	P	**P**	**01 52 07.7**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=224,slow=6.0,SNR=2.4						
PETK	**Petropavlovsk-**	**75.75**	**29**	P	**P**	**01 52 08.0**	**-0.6**
KBZ	**Khabaz**	**77.23**	**319**	P	**P**	**01 52 17.9**	**+0.8**
	comp=Z,3.9nm,1.0s,baz=130,slow=7.3,SNR=5.1						
NRIK	**Noril'sk**	**79.02**	**353**	LR	LR	02 31 44.0	
	comp=Z,72nm,18.0s,baz=306,slow=39						
SEY	**Seymchan**	**79.91**	**20**	P	**P**	**01 52 31.5**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=191,slow=8.9,SNR=4.4						
QSPA	**South Pole Qui**	**81.17**	**180**	P	**P**	**01 52 38.3**	**-0.3**
QSPA				IAmb	IAmb	01 52 41.3	
	comp=Z,5.2nm,0.8s						
BRTR	**Keskin Array B**	**82.17**	**312**	P	**P**	**01 52 44.9**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=124,slow=6.6,SNR=6.5						
SNAA	**Sanae**	**87.44**	**197**	P	**P**	**01 53 13.0**	**+2.8**
AKASG	**Malin Array Be**	**88.39**	**

Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.42**	**256**	PN	**Pn**	**02 06 00.3**	**+0.1**
MKZ				S	**Sn**	**02 06 07.2**	**+0.1**
MKZ	**Mys Kozlova**	**0.42**	**256**	*e*P	**Pn**	**02 06 00.3**	**+0.1**
MKZ				*e*S	**Sn**	**02 06 07.2**	**+0.1**
TUMD	**Tumrok D**	**1.29**	**296**	*e*P	**Pn**	**02 06 12.1**	**+0.1**
TUMD				*e*S	**Sn**	**02 06 27.8**	**-0.3**
KZV	**Kizimen**	**1.31**	**291**	PN	**Pn**	**02 06 12.4**	**0.0**
KZV				S	**Sn**	**02 06 28.2**	**-0.6**
KZV	**Kizimen**	**1.31**	**291**	*e*P	**Pn**	**02 06 12.4**	**0.0**
KZV				*e*S	**Sn**	**02 06 28.2**	**-0.6**
TUMR	**Tumrok**	**1.46**	**296**	PN	**Pn**	**02 06 14.9**	**+0.6**
TUMR				S	**Sn**	**02 06 32.9**	**+0.7**
TUMR	**Tumrok**	**1.46**	**296**	*e*P	**Pn**	**02 06 14.9**	**+0.6**
TUMR				*e*S	**Sn**	**02 06 32.9**	**+0.7**
KBTR	**Krutoberegovo**	**1.57**	**8**	PN	**Pn**	**02 06 16.5**	**+0.8**
KBTR				S	**Sn**	**02 06 36.1**	**+1.3**
KBTR	**Krutoberegovo**	**1.57**	**8**	*e*P	**Pn**	**02 06 16.5**	**+0.8**
KBTR				*e*S	**Sn**	**02 06 36.1**	**+1.3**
KBG	**Krutoberegovo**	**1.61**	**5**	PN	**Pn**	**02 06 16.9**	**+0.7**
KBG				S	**Sn**	**02 06 36.4**	**+0.7**
KBG	**Krutoberegovo**	**1.61**	**5**	*e*P	**Pn**	**02 06 16.9**	**+0.7**
KBG				*e*S	**Sn**	**02 06 36.4**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**1.62**	**323**	PN	**Pn**	**02 06 17.6**	**+1.1**
BZGR				S	**Sn**	**02 06 38.7**	**+2.4**
BZGR	**Bezymyannyi-Gr**	**1.62**	**323**	*e*P	**Pn**	**02 06 17.6**	**+1.1**
BZGR				*e*S	**Sn**	**02 06 38.7**	**+2.4**
ZLN	**Zelenaya**	**1.65**	**326**	PN	**Pn**	**02 06 18.3**	**+1.4**
ZLN				S	**Sn**	**02 06 38.4**	**+1.5**
ZLN	**Zelenaya**	**1.65**	**326**	*e*P	**Pn**	**02 06 18.3**	**+1.4**
ZLN				*e*S	**Sn**	**02 06 38.4**	**+1.5**
KMNR	**Kamenistaya**	**1.67**	**312**	PN	**Pn**	**02 06 18.2**	**+1.0**
KMNR				S	**Sn**	**02 06 38.9**	**+1.5**
KMNR	**Kamenistaya**	**1.67**	**312**	*e*P	**Pn**	**02 06 18.2**	**+1.0**
KMNR				*e*S	**Sn**	**02 06 38.9**	**+1.5**
BZMR	**Bezymyannaya**	**1.69**	**320**	PN	**Pn**	**02 06 18.9**	**+1.4**
BZMR	**Bezymyannaya**	**1.69**	**320**	*e*P	**Pn**	**02 06 18.9**	**+1.4**
BZWR	**Bezymyannyi-We**	**1.71**	**321**	PN	**Pn**	**02 06 19.0**	**+1.2**
BZWR	**Bezymyannyi-We**	**1.71**	**321**	*e*P	**Pn**	**02 06 19.0**	**+1.2**
LGNR	**Loginova**	**1.74**	**326**	PN	**Pn**	**02 06 20.2**	**+1.9**
LGNR	**Loginova**	**1.74**	**326**	*e*P	**Pn**	**02 06 20.2**	**+1.9**
CIRR	**Tsirk**	**1.75**	**327**	PN	**Pn**	**02 06 20.1**	**+1.8**
CIRR	**Tsirk**	**1.75**	**327**	*e*P	**Pn**	**02 06 20.1**	**+1.8**
KIRR	**Kirishev**	**1.76**	**318**	PN	**Pn**	**02 06 19.9**	**+1.4**
KIRR				S	**Sn**	**02 06 41.6**	**+1.8**
KIRR	**Kirishev**	**1.76**	**318**	*e*P	**Pn**	**02 06 19.9**	**+1.4**
KIRR				*e*S	**Sn**	**02 06 41.6**	**+1.8**
KPT	**Kopyto**	**1.82**	**317**	PN	**Pn**	**02 06 20.6**	**+1.4**
KPT	**Kopyto**	**1.82**	**317**	*e*P	**Pn**	**02 06 20.6**	**+1.4**
KII	**Karymskiy**	**1.85**	**252**	PN	**Pn**	**02 06 21.0**	**+1.3**
KII				S	**Sn**	**02 06 42.8**	**+0.9**
KII	**Karymskiy**	**1.85**	**252**	*e*P	**Pn**	**02 06 21.0**	**+1.3**
KII				*e*S	**Sn**	**02 06 42.8**	**+0.9**
KRSR	**Krestovskiy**	**1.89**	**327**	PN	**Pn**	**02 06 20.9**	**+0.7**
KRSR	**Krestovskiy**	**1.89**	**327**	*e*P	**Pn**	**02 06 20.9**	**+0.7**
KLY	**Klyuchi**	**1.94**	**329**	PN	**Pn**	**02 06 21.4**	**+0.6**
KLY				S	**Sn**	**02 06 44.4**	**+0.5**
KLY	**Klyuchi**	**1.94**	**329**	*e*P	**Pn**	**02 06 21.4**	**+0.6**
KLY				*e*S	**Sn**	**02 06 44.4**	**+0.5**
SMKR	**Semkarok**	**2.00**	**345**	PN	**Pn**	**02 06 23.3**	**+1.6**
SMKR				S	**Sn**	**02 06 47.4**	**+1.8**
SMKR	**Semkarok**	**2.00**	**345**	*e*P	**Pn**	**02 06 23.3**	**+1.6**
SMKR				*e*S	**Sn**	**02 06 47.4**	**+1.8**
BDR	**Baidarnaya**	**2.04**	**341**	PN	**Pn**	**02 06 23.9**	**+1.7**
BDR				S	**Sn**	**02 06 48.8**	**+2.4**
BDR	**Baidarnaya**	**2.04**	**341**	*e*P	**Pn**	**02 06 23.9**	**+1.7**
BDR				*e*S	**Sn**	**02 06 48.8**	**+2.4**
BKI	**Bering**	**2.12**	**74**	PN	**Pn**	**02 06 24.6**	**+1.4**
BKI				S	**Sn**	**02 06 48.4**	**+0.2**
BKI	**Bering**	**2.12**	**74**	*e*P	**Pn**	**02 06 24.6**	**+1.4**
BKI				*e*S	**Sn**	**02 06 48.4**	**+0.2**
SPN	**Mys Shipunski**	**2.12**	**223**	PN	**Pn**	**02 06 23.4**	**+0.2**
SPN				S	**Sn**	**02 06 47.5**	**-0.8**
SPN	**Mys Shipunski**	**2.12**	**223**	*e*P	**Pn**	**02 06 23.4**	**+0.2**
SPN				*e*S	**Sn**	**02 06 47.5**	**-0.8**
SRKR	**Sorokina**	**2.12**	**341**	PN	**Pn**	**02 06 24.6**	**+1.2**
SRKR	**Sorokina**	**2.12**	**341**	*e*P	**Pn**	**02 06 24.6**	**+1.2**
NLC	**Nalytchevo**	**2.36**	**232**	PN	**Pn**	**02 06 27.5**	**+1.0**
NLC				S	**Sn**	**02 06 55.2**	**+1.1**
NLC	**Nalytchevo**	**2.36**	**232**	*e*P	**Pn**	**02 06 27.5**	**+1.0**
NLC				*e*S	**Sn**	**02 06 55.2**	**+1.1**
ESO	**Esso**	**2.48**	**302**	PN	**Pn**	**02 06 31.6**	**+3.3**
ESO	**Esso**	**2.48**	**302**	*e*P	**Pn**	**02 06 31.6**	**+3.3**
SDLR	**Sedlovina**	**2.51**	**238**	PN	**Pn**	**02 06 30.6**	**+1.8**
SDLR				S	**Sn**	**02 07 00.2**	**+2.0**
SDLR	**Sedlovina**	**2.51**	**238**	*e*P	**Pn**	**02 06 30.6**	**+1.8**
SDLR				*e*S	**Sn**	**02 07 00.2**	**+2.0**
SMAR	**Somma**	**2.56**	**238**	PN	**Pn**	**02 06 31.3**	**+1.8**
SMAR				S	**Sn**	**02 07 01.4**	**+1.9**
SMAR	**Somma**	**2.56**	**238**	*e*P	**Pn**	**02 06 31.3**	**+1.8**
SMAR				*e*S	**Sn**	**02 07 01.4**	**+1.9**
KRER	**Koryakskii**	**2.56**	**239**	PN	**Pn**	**02 06 31.8**	**+2.3**
KRER				S	**Sn**	**02 07 01.1**	**+1.5**
KRER	**Koryakskii**	**2.56**	**239**	*e*P	**Pn**	**02 06 31.8**	**+2.3**
KRER				*e*S	**Sn**	**02 07 01.1**	**+1.5**
UGLR	**Uglovaya**	**2.58**	**237**	PN	**Pn**	**02 06 31.7**	**+2.0**
UGLR				S	**Sn**	**02 07 01.8**	**+1.9**
UGLR	**Uglovaya**	**2.58**	**237**	*e*P	**Pn**	**02 06 31.7**	**+2.0**
UGLR				*e*S	**Sn**	**02 07 01.8**	**+1.9**
KRX	**Arik**	**2.58**	**241**	PN	**Pn**	**02 06 31.9**	**+2.1**
KRX				S	**Sn**	**02 07 01.7**	**+1.7**
KRX	**Arik**	**2.58**	**241**	*e*P	**Pn**	**02 06 31.9**	**+2.1**
KRX				*e*S	**Sn**	**02 07 01.7**	**+1.7**
AVH	**Avacha**	**2.59**	**239**	PN	**Pn**	**02 06 32.2**	**+2.4**
AVH				S	**Sn**	**02 07 02.8**	**+2.7**
AVH	**Avacha**	**2.59**	**239**	*e*P	**Pn**	**02 06 32.2**	**+2.4**
AVH				*e*S	**Sn**	**02 07 02.8**	**+2.7**
KOK	**Koryaka**	**2.63**	**240**	PN	**Pn**	**02 06 32.4**	**+2.1**
KOK	**Koryaka**	**2.63**	**240**	*e*P	**Pn**	**02 06 32.4**	**+2.1**
DALK	**Dalny**	**2.72**	**235**	PN	**Pn**	**02 06 33.1**	**+1.6**
DALK				S	**Sn**	**02 07 04.4**	**+1.3**
DALK	**Dalny**	**2.72**	**235**	*e*P	**Pn**	**02 06 33.1**	**+1.6**
DALK				*e*S	**Sn**	**02 07 04.4**	**+1.3**
PET	**Petropavlovsk**	**2.77**	**235**	*e*PN	**Pn**	**02 06 33.8**	**+1.6**
PET				*e*S	**Sn**	**02 07 05.2**	**+0.8**
PET	comp=Z,71nm,0.4s			pmax	pmax		
PET	comp=E,433nm,0.5s			smax	smax		
PET	comp=N,965nm,0.6s			smax	smax		
PET	**Petropavlovsk**	**2.77**	**235**	*e*P	**Pn**	**02 06 34.0**	**+1.8**
PET				*e*S	**Sn**	**02 07 05.7**	**+1.3**
GNL	**Ganaly**	**2.81**	**252**	PN	**Pn**	**02 06 34.7**	**+1.9**
GNL	**Ganaly**	**2.81**	**252**	*e*P	**Pn**	**02 06 34.7**	**+1.9**
KRMR	**Karymshinskiy**	**3.14**	**236**	PN	**Pn**	**02 06 39.6**	**+2.3**
KRMR				S	**Sn**	**02 07 15.5**	**+2.0**
KRMR	**Karymshinskiy**	**3.14**	**236**	*e*P	**Pn**	**02 06 39.6**	**+2.3**
KRMR				*e*S	**Sn**	**02 07 15.5**	**+2.0**
PEA0B	**Petropavlovsk-**	**3.20**	**243**	*de*PN	**Pn**	**02 06 40.0**	**+1.9**
PETK	**Petropavlovsk-**	**3.20**	**243**	P	**Pn**	**02 06 40.4**	**+2.3**
PETK	comp=N,4.8nm,0.3s,baz=83,slow=20,SNR=28			S	**Sn**	**02 07 16.5**	**+1.5**
PETK	comp=N,3.4nm,0.3s,baz=89,slow=19,SNR=2.5			LR	LR	02 08 16.6	
RUS	**Russkaya**	**3.23**	**228**	PN	**Pn**	**02 06 41.6**	**+3.1**
RUS				S	**Sn**	**02 07 15.7**	**0.0**
RUS	**Russkaya**	**3.23**	**228**	*e*P	**Pn**	**02 06 41.6**	**+3.1**
RUS				*e*S	**Sn**	**02 07 15.7**	**0.0**
MTVR	**Mutnovka**	**3.34**	**231**	PN	**Pn**	**02 06 42.1**	**+1.9**
MTVR				S	**Sn**	**02 07 19.3**	**+0.6**
MTVR	**Mutnovka**	**3.34**	**231**	*e*P	**Pn**	**02 06 42.1**	**+1.9**
MTVR				*e*S	**Sn**	**02 07 19.3**	**+0.6**
GRL	**Gorelyy**	**3.35**	**233**	PN	**Pn**	**02 06 42.6**	**+2.4**
GRL	**Gorelyy**	**3.35**	**233**	*e*P	**Pn**	**02 06 42.6**	**+2.4**
ASAK	**Asacha**	**3.54**	**232**	PN	**Pn**	**02 06 45.8**	**+3.0**
ASAK				S	**Sn**	**02 07 26.4**	**+3.0**
ASAK	**Asacha**	**3.54**	**232**	*e*P	**Pn**	**02 06 45.8**	**+3.0**
ASAK				*e*S	**Sn**	**02 07 26.4**	**+3.0**
APC	**Apacha**	**3.58**	**243**	PN	**Pn**	**02 06 45.9**	**+2.6**
APC	**Apacha**	**3.58**	**243**	*e*P	**Pn**	**02 06 45.9**	**+2.6**
KDTR	**Khodutka, Kamc**	**3.87**	**224**	PN	**Pn**	**02 06 48.6**	**+1.3**
KDTR	**Khodutka, Kamc**	**3.87**	**224**	*e*P	**Pn**	**02 06 48.6**	**+1.3**
KDTR				*e*S	**Sn**	**02 07 30.3**	**-1.2**
MA2	**Magadan**	**8.03**	**313**	LR	LR	02 11 19.0	
KUR	comp=N,32nm,18.5s,baz=118,slow=42 **Kuril'sk**	**13.28**	**231**	*e*PN	**Pn**	**02 08 55.3**	**-0.7**
KUR	comp=Z,360nm,1.4s			pmax	pmax		
BILL	**Bilibino**	**13.55**	**6**	*e*P	**Pn**	**02 08 59.1**	**-0.5**
BILL	comp=Z,7.0nm,0.3s			pmax	pmax		
YAK	**Yakutsk**	**18.53**	**307**	LR	LR	02 17 30.8	
KSRS	comp=Z,38nm,19.9s,baz=88,slow=38 **Korea Array**	**29.09**	**248**	LR	LR	02 22 49.4	
ULN	comp=Z,27nm,18.6s,baz=165,slow=35 **Ulaanbaatar**	**34.51**	**282**	*e*P	**P**	**02 12 32.2**	**-2.1**
ULN	comp=Z,1.0nm,0.9s			pmax	pmax		
H11N2	**WAKE ISLAND Hy**	**35.03**	**173**	T	T	02 49 58.4	
H11N3	baz=356,slow=76,SNR=65 **WAKE ISLAND Hy**	**35.05**	**173**	T	T	02 50 00.1	
H11N1	baz=356,slow=76,SNR=71 **WAKE ISLAND Hy**	**35.05**	**173**	T	T	02 49 56.7	
DGZ	baz=356,slow=76,SNR=77 **Jazzator, Alta**	**44.22**	**296**	*e*P	**P**	**02 13 54.7**	**-0.5**
DGZ	comp=Z,1.0nm,1.1s			pmax	pmax		
KURK	**Kurchatov**	**48.08**	**302**	P	**P**	**02 14 24.0**	**-1.3**
KURBB	**Kurchatov Arra**	**48.18**	**302**	P	**P**	**02 14 24.0**	**-2.1**
MKAR	comp=Z,1.2nm,0.6s,baz=56,slow=8.2,SNR=11 **Makanchi Array**	**48.72**	**296**	P	**P**	**02 14 27.7**	**-2.6**
BVAR	comp=Z,0.5nm,0.6s,baz=62,slow=5.6,SNR=2.3 **Borovoye Array**	**50.50**	**309**	P	**P**	**02 14 41.7**	**-2.0**
ARU	comp=Z,0.6nm,0.4s,baz=122,slow=5.4,SNR=3.6 **Arti**	**53.17**	**318**	*d*P	**P**	**02 15 02.3**	**-1.3**
ARU				S	**S**	**02 22 32.8**	**+1.9**
ARU				SS	**SS**	**02 26 05.3**	**-4.7**
ARU	comp=Z,5.0nm,1.5s			pmax	pmax		
AAK	**Ala-Archa**	**55.62**	**297**	*e*P	**P**	**02 15 20.6**	**-1.1**
AAK	comp=Z,2.0nm,0.8s			pmax	pmax		
FINES	**FINESS Array B**	**59.22**	**337**	P	**P**	**02 15 45.8**	**-0.8**
FINES	comp=Z,2.8nm,0.7s,baz=33,slow=8.9,SNR=16 **FINESS Array B**	**59.22**	**337**	*e*P	**P**	**02 15 46.2**	**-0.4**
FINES	comp=Z,3.0nm,0.7s			pmax	pmax		
NB2	**NORSAR Subarra**	**62.41**	**345**	P	**P**	**02 16 07.4**	**-0.9**
NOA	comp=Z,0.4nm,0.5s,baz=19,slow=6.9 **NORSAR Array B**	**62.41**	**345**	P	**P**	**02 16 07.7**	**-0.7**
AKASG	comp=Z,0.7nm,0.6s,baz=19,slow=6.9,SNR=6.6 **Malin Array Be**	**67.97**	**330**	P	**P**	**02 16 43.4**	**-1.0**
TXAR	comp=Z,1.1nm,0.4s,baz=29,slow=7.2,SNR=4.1 **Lajitas Array**	**68.77**	**69**	P	**P**	**02 16 52.8**	**+2.8**
KBZ	comp=Z,0.2nm,0.5s,baz=294,slow=4.3,SNR=4.2 **Khabaz**	**69.33**	**318**	P	**P**	**02 16 53.0**	**0.0**
WRA	comp=Z,0.7nm,0.4s,baz=45,slow=1.4,SNR=2.6 **Warramunga Arr**	**78.10**	**207**	P	**P**	**02 17 45.5**	**+0.9**
ASAR	comp=Z,0.3nm,0.5s,baz=19,slow=5.3,SNR=2.0 **Alice Springs**	**81.77**	**206**	P	**P**	**02 18 06.3**	**+2.0**
ESDC	comp=Z,0.4nm,0.4s,baz=13,slow=4.3,SNR=5.7 **Sonseca Array**	**85.31**	**350**	P	**P**	**02 18 23.3**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=1.5,slow=4.7,SNR=7.3						

MEX 11 02:31:53.2±0.8, 17°.42N×94°.64W, h141km±6km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.41**	**216**	*i* P	Pn	02 32 11.4	-1.7
CMIG				*i* S	Sn	02 32 26.0	-2.2
TGIG		**1.58**	**114**	*i* P	Pn	02 32 21.8	-1.3
TGIG				*i* S	Sn	02 32 43.8	-2.1
VHO	**Vista Hermosa**	**2.03**	**260**	*i* P	Pn	02 32 27.2	-1.2
VHO				*i* S	Sn	02 32 54.1	-1.3
PCIG		**2.18**	**141**	*i* P	Pn	02 32 28.5	-1.5
PCIG				*e*S	Sn	02 32 56.2	-2.1
TOIG	**Toxpalan**	**2.41**	**286**	*i* P	Pn	02 32 32.0	-0.9
TOIG				*i* S	Sn	02 33 00.8	-2.6
PEIG	**Puerto Escondi**	**2.79**	**240**	*e*P	Pn	02 32 32.8	-4.8
PEIG				*e*S	Sn	02 33 04.6	-7.3

IDC ***11*** *02:38:16.5±1.1, 27°.48N×56°.49E, h0km, mb4.1/15, mb1 4.2/21, mb1mx4.0/53, mbtmp4.1/21, ML3.8/6, MS3.2/7, Ms1 3.2/7, ms1mx2.8/44, Error ellipse: s-maj=21.0km s-min=15.5km az=165.0*

MOS ***11*** *02:38:18.4±1.4, 27°.43N×56°.56E, h29km, mb4.5/17, Error ellipse: s-maj=9.3km s-min=5.6km az=105.0*

THR ***11*** *02:38:18.3±1.0, 27°.50N×56°.61E, h15km±9km, ML4.3*

TEH ***11*** *02:38:18.6, 27°.52N×56°.59E, h12km, ML4.4*

NEIC ***11*** *02:38:18.3±2.5, 27°.46N±0°.05×56°.61E±0°.06, h11km±4km, mb4.2/27, mb_Lg4.4(TEH), Error ellipse: s-maj=8.0km s-min=6.4km az=124.0*

DSN ***11*** *02:38:19.2±1.2, 27°.57N×56°.57E, h10km, ML3.9/10, Error ellipse: s-maj=41.9km s-min=10.0km az=100.0*

OMAN ***11*** *02:38:23.2±0.1, 27°.33N×56°.79E, h10km, ml3.9/19, ms2.8/1, Error ellipse: s-maj=1.7km s-min=1.2km az=322.0*

ISC 11 02:38:19.0±0.7, 27°.49N±0°.03×56°.55E±0°.04, h15km±4km, n232, σ1°58/254, mb4.3/38, MS3.2/8, 8C-6D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.05**	**190**	*e*Pg	**Pg**	**02 38 21.0**	**-0.9**
IBND				*e*Sg	**Sg**	**02 38 23.9**	**+0.2**
GENO	**Geno**	**0.35**	**254**	Pg	**Pg**	**02 38 26.2**	**0.0**
GENO	**Geno**	**0.35**	**254**	*e*Pg	**Pg**	**02 38 26.3**	**0.0**
BNDS	**Bandar-Abbas**	**0.35**	**254**	*e*Pg	**Pg**	**02 38 26.7**	**+0.4**
BNDS				IAML		02 38 41.3	
	comp=N,13μm,0.3s						
BNDS	**Bandar-Abbas**	**0.35**	**254**	*e*Pg	**Pg**	**02 38 26.7**	**+0.4**
KHNJ	**Kahnooj**	**1.12**	**66**	Pg	**Pn**	**02 38 38.4**	**-1.7**
KHNJ				Sg	**Sb**	**02 38 54.4**	**-0.1**
KHNJ	**Kahnooj**	**1.12**	**66**	*e*Pg	**Pn**	**02 38 38.5**	**-1.7**
KHNJ				*e*Sg	**Sb**	**02 38 54.5**	**-0.1**
SHME	**Shamm**	**1.48**	**194**	*e*P	**Pn**	**02 38 45.6**	**+0.4**
	SNR=16						
SHME				S	**Sg**	**02 39 08.0**	**+1.1**
SHME	**Shamm**	**1.48**	**194**	*e*Pn	**Pb**	**02 38 46.8**	**+0.5**
SHME	**Shamm**	**1.48**	**194**	P	**Pb**	**02 38 46.8**	**+0.5**
	SNR=30						
SHME				S	**Sg**	**02 39 07.8**	**+0.9**
BANOM	**Banah**	**1.58**	**188**	*e*P	**Pn**	**02 38 47.4**	**+0.9**
	SNR=93						
BANOM				S	**Sg**	**02 39 10.9**	**+0.9**
BANOM	**Banah**	**1.58**	**188**	*e*Pn	**Pb**	**02 38 48.6**	**+0.7**
BANOM	**Banah**	**1.58**	**188**	P	**Pb**	**02 38 48.7**	**+0.7**
	SNR=105						
BANOM				S	**Sg**	**02 39 09.9**	**-0.1**
LAR1	**LAR**	**1.94**	**276**	*e*Pn	**Pb**	**02 38 53.3**	**-0.8**
LAR1				*e*		02 39 35.9	
	comp=Z,44μm,0.5s						
MASF	**Masafi**	**2.14**	**189**	P	**Pn**	**02 38 56.7**	**+2.4**
	SNR=37						
MASF				S	**Sb**	**02 39 24.8**	**+0.9**
NGRK	**Negar Kerman**	**2.15**	**4**	Pn	**Pn**	**02 38 55.9**	**+1.3**
NGRK	**Negar Kerman**	**2.15**	**4**	*e*Pn	**Pn**	**02 38 55.9**	**+1.3**
NGRK				*e*		02 39 31.6	
	comp=Z,32μm,0.4s						
MSFE	**Esma-Masafi**	**2.15**	**189**	*e*P	**Pn**	**02 38 56.4**	**+2.0**
	SNR=38						
MSFE	**Esma-Masafi**	**2.15**	**189**	*e*Pn	**Pb**	**02 38 57.2**	**-0.6**
MDH	**Madha**	**2.20**	**186**	*e*P	**Pn**	**02 38 56.5**	**+1.5**
	SNR=17						
MDH	**Madha**	**2.20**	**186**	*e*Pn	**Pn**	**02 38 55.7**	**+0.7**
MDH	**Madha**	**2.20**	**186**	P	**Pn**	**02 38 56.9**	**+1.9**
	SNR=7.4						
MDH				S	**Sn**	**02 39 23.9**	**+2.0**
KBAM	**BAM**	**2.34**	**45**	*e*Pn	**Pn**	**02 38 58.9**	**+1.8**
KBAM				*e*		02 39 38.1	
	comp=Z,15μm,0.4s						
KRBR	**Kerman**	**2.49**	**4**	*e*Pn	**Pn**	**02 39 01.2**	**+2.0**
KRBR				*e*Sg	**Sb**	**02 39 36.0**	**+1.9**
KRBR				IAML		02 39 38.2	
	comp=E,2μm,0.6s						
KRBR				IAML		02 39 39.5	
	comp=N,2μm,0.5s						
KRBR	**Kerman**	**2.49**	**4**	*e*Pn	**Pn**	**02 39 01.2**	**+2.0**
TVBK	**TV Kerman**	**2.49**	**4**	Pn	**Pn**	**02 39 01.3**	**+2.0**
TVBK	**TV Kerman**	**2.49**	**4**	*e*Pn	**Pn**	**02 39 01.4**	**+2.1**
TVBK				*e*		02 39 44.6	
	comp=Z,24μm,0.5s						
CHMN	**Cheshme madani**	**2.51**	**20**	*e*Pn	**Pn**	**02 39 01.2**	**+1.6**
CHMN				*e*		02 39 46.6	
	comp=N,13μm,0.7s						
UOSS	**Minazif**	**2.56**	**187**	*e*P	**Pb**	**02 39 03.1**	**-1.5**
	SNR=7.6						
UOSS	**Minazif**	**2.56**	**187**		**Pn**	**02 39 02.5**	**+2.6**
UOSS	**Minazif**	**2.56**	**187**		**Pn**	**02 39 01.5**	**+1.6**
UOSS	**Minazif**	**2.56**	**187**	P	**Pb**	**02 39 03.5**	**-1.1**
UOSS				S	**Sb**	**02 39 35.2**	**-0.7**
NAZ	**Nazwa, Dubai**	**2.62**	**198**	*e*P	**Pb**	**02 39 04.0**	**-1.7**
	SNR=18						
NAZ	**Nazwa, Dubai**	**2.62**	**198**	*e*Pn	**Pn**	**02 39 03.4**	**+2.6**
NAZ	**Nazwa, Dubai**	**2.62**	**198**	P	**Pb**	**02 39 04.1**	**-1.6**
	SNR=18						
NAZ				S	**Sb**	**02 39 35.8**	**-1.9**
HATD	**Hatta, Dubai**	**2.68**	**188**	*e*P	**Pn**	**02 39 04.4**	**+2.8**
	SNR=16						
HATD	**Hatta, Dubai**	**2.68**	**188**	*e*Pn	**Pn**	**02 39 04.2**	**+2.5**
HATD	**Hatta, Dubai**	**2.68**	**188**	P	**Pb**	**02 39 05.9**	**-0.9**
	SNR=22						
HATD				S	**Sb**	**02 39 37.8**	**-1.7**
JHRM	**Jahrom**	**2.81**	**292**	*e*Pn	**Pn**	**02 39 05.5**	**+2.0**
ASHO	**Ashiyiah**	**2.83**	**189**	*e*P	**Pn**	**02 39 06.0**	**+2.2**
	SNR=38						
ASHO	**Ashiyiah**	**2.83**	**189**	*e*Pn	**Pn**	**02 39 05.9**	**+2.2**
ASHO	**Ashiyiah**	**2.83**	**189**	P	**Pn**	**02 39 06.3**	**+2.5**
	SNR=38						
ASHO				S	**Sb**	**02 39 43.5**	**-0.4**
FAQ	**Al Faqa, Dubai**	**2.87**	**198**	*e*P	**Pn**	**02 39 06.2**	**+1.9**
	SNR=33						
FAQ	**Al Faqa, Dubai**	**2.87**	**198**	*e*Pn	**Pn**	**02 39 06.6**	**+2.4**
FAQ	**Al Faqa, Dubai**	**2.87**	**198**	P	**Pn**	**02 39 06.4**	**+2.2**
	SNR=15						
FAQ				S	**Sb**	**02 39 44.6**	**-0.3**
KHGB	**Koh Gabri**	**2.87**	**359**	*e*		02 39 49.6	
	comp=Z,9μm,0.4s						
KHGB				*e*Pn	**Pn**	**02 39 06.7**	**+2.2**
LMD1	**Lamerd**	**3.01**	**268**	*e*Pn	**Pn**	**02 39 08.3**	**+2.1**
LMD1				*e*		02 40 19.9	
	comp=Z,10μm,0.6s						
ASUD	**Al Ashush, Dub**	**3.06**	**201**	*i* P	**Pn**	**02 39 09.4**	**+2.6**
	SNR=44						
ASUD	**Al Ashush, Dub**	**3.06**	**201**	*e*Pn	**Pn**	**02 39 09.2**	**+2.4**
ASUD	**Al Ashush, Dub**	**3.06**	**201**	P	**Pn**	**02 39 09.4**	**+2.6**
	SNR=44						
ASUD				S	**Sb**	**02 39 48.5**	**-1.8**
AJN	**Ajban**	**3.24**	**206**	*e*Pn	**Pn**	**02 39 12.0**	**+2.7**
QIR1	**Qir**	**3.25**	**288**	*e*Pn	**Pn**	**02 39 11.3**	**+1.8**
SOHO	**SOHO**	**3.35**	**180**	*e*Pn	**Pn**	**02 39 12.6**	**+1.8**
SOHO	**SOHO**	**3.35**	**180**	P	**Pn**	**02 39 13.7**	**+3.0**
ALNE	**Al Ain**	**3.50**	**192**	P	**Pn**	**02 39 14.1**	**+1.2**
ALNE	**Al Ain**	**3.50**	**192**	*e*Pn	**Pn**	**02 39 15.1**	**+2.2**
ALNE	**Al Ain**	**3.50**	**192**	P	**Pn**	**02 39 16.5**	**+3.6**
	SNR=12						
HOQ	**Hoqain**	**3.96**	**170**	P	**Pn**	**02 39 20.3**	**+1.1**
CHBR	**Chabahar**	**4.00**	**117**	*e*Pn	**Pn**	**02 39 20.3**	**+0.6**
CHBR	**Chabahar**	**4.00**	**117**	*e*Pn	**Pn**	**02 39 20.3**	**+0.6**
ARQ	**Araqi**	**4.14**	**180**	P	**Pn**	**02 39 23.0**	**+1.3**
	SNR=14						
SHI	**Shiraz**	**4.14**	**302**	*e*Pn	**Pn**	**02 39 23.4**	**+1.5**
IBAF	**Bafgh**	**4.17**	**348**	*e*Pn	**Pn**	**02 39 23.6**	**+1.3**
BIDO	**Bidbid**	**4.21**	**160**	*e*Pn	**Pn**	**02 39 23.2**	**+0.6**
BIDO	**Bidbid**	**4.21**	**160**	P	**Pn**	**02 39 24.1**	**+1.5**
ZHDN	**Zahedan**	**4.21**	**62**	*e*Pn	**Pn**	**02 39 24.3**	**+1.6**
IMEH	**Mehriz**	**4.23**	**337**	*e*Pn	**Pn**	**02 39 24.7**	**+1.5**
ZHSF	**Zahedan**	**4.27**	**59**	*e*Pn	**Pn**	**02 39 24.4**	**+0.7**
ZHSF	**Zahedan**	**4.27**	**59**	*e*Pn	**Pn**	**02 39 24.4**	**+0.7**
SMDO	**Samad**	**4.62**	**163**	P	**Pn**	**02 39 31.3**	**+2.9**
NGCH	**Negor - Chabah**	**4.63**	**116**	*e*Pn	**

GHAJ					IAmb	IAmb	02 42 50.0		
	comp=Z,18nm,1.1s								
GAZ	**Gaziantep**	**18.95**	**305**		P	**P**	**02 42 38.4**	**-1.2**	
GAZ					IAmb	IAmb	02 42 56.9		
	comp=Z,5.2nm,0.6s								
MMAI	**Mount Meron Ar**	**19.07**	**292**		P	**P**	**02 42 41.3**	**+0.4**	
	comp=Z,1.0nm,0.3s,baz=107,slow=14,SNR=8.9								
EIL	**Elat**	**19.09**	**282**		P	**P**	**02 42 40.3**	**-0.8**	
	comp=Z,0.4nm,0.3s,baz=105,slow=7.4,SNR=6.6								
EIL					LR	LR	02 51 13.2		
	comp=Z,36nm,18.0s,baz=78,slow=41								
KK31	**Karatay Array**	**19.25**	**32**		P	**P**	**02 42 41.2**	**-1.7**	
KK31					pmax	pmax			
	comp=Z,6.0nm,1.1s								
KK31	**Karatay Array**	**19.25**	**32**		P	**P**	**02 42 41.2**	**-1.7**	
KKAR	**Karatay Array**	**19.25**	**32**		P	**P**	**02 42 41.5**	**-1.4**	
KKAR					pmax	pmax			
	comp=Z,6.0nm,1.1s								
KKAR	**Karatay Array**	**19.25**	**32**		P	**P**	**02 42 41.5**	**-1.4**	
KKAR	**Karatay Array**	**19.25**	**32**		P	**P**	**02 42 41.2**	**-1.7**	
KKAR					IAmb	IAmb	02 43 08.8		
	comp=Z,5.5nm,1.1s								
KBZ	**Khabaz**	**19.59**	**329**		P	**Pn**	**02 42 47.9**	**+0.1**	
	comp=Z,0.1nm,0.3s,baz=147,slow=11,SNR=7.0								
KBZ	**Khabaz**	**19.59**	**329**	ǁ	*e*P	**Pn**	**02 42 48.5**	**+0.7**	
KBZ					pmax	pmax			
	comp=Z,7.0nm,1.3s								
PYA1	**Pyatigorsk**	**19.77**	**330**	ǁ	*e*P	**Pn**	**02 42 49.8**	**-0.2**	
KVAR	**Kislovodsk Arr**	**19.86**	**329**		P	**P**	**02 42 49.5**	**-0.1**	
	baz=122,slow=15,SNR=3.5								
DOMR	**Dombai**	**19.86**	**326**	ǁ	*e*P	**P**	**02 42 50.1**	**+0.4**	
KIV	**Kislovodsk**	**19.86**	**329**		*e*P	**P**	**02 42 50.4**	**+0.8**	
KIV					pmax	pmax			
	comp=Z,11nm,0.9s								
KIV	**Kislovodsk**	**19.86**	**329**			**P**	**02 42 48.3**	**-1.3**	
KIV					IAmb	IAmb	02 43 00.8		
	comp=Z,9.2nm,0.7s								
KSH	**Kashi**	**20.10**	**48**		P	**P**	**02 42 48.3**	**-4.0**	
KSH					pmax	pmax			
	comp=Z,7.0nm,0.9s								
ARXR	**Arkhyz**	**20.23**	**326**		*de*P	**P**	**02 42 54.4**	**+0.7**	
ATD	**Arta Tunnel**	**20.44**	**222**		LR	LR	02 52 15.9		
	comp=Z,79nm,18.7s,baz=32,slow=41								
BNN	**Bunyan**	**20.65**	**308**		P	**P**	**02 42 56.7**	**-1.5**	
BNN					IAmb	IAmb	02 43 23.1		
	comp=Z,25nm,0.8s								
AAK	**Ala-Archa**	**21.01**	**39**		P	**P**	**02 43 02.4**	**+0.4**	
	comp=Z,3.9nm,0.8s,baz=217,slow=9.4,SNR=7.8								
AAK					LR	LR	02 52 15.5		
	comp=Z,76nm,19.8s,baz=240,slow=40								
AAK	**Ala-Archa**	**21.01**	**39**	ǁ	*e*P	**P**	**02 43 02.6**	**+0.5**	
AAK					pmax	pmax			
	comp=Z,21nm,1.3s								
AAK	**Ala-Archa**	**21.01**	**39**		P	**P**	**02 43 01.9**	**-0.2**	
AAK					IAmb	IAmb	02 43 05.8		
	comp=Z,4.3nm,0.8s								
SOC	**Sochi**	**21.04**	**324**		*e*P	**P**	**02 43 01.0**	**-1.2**	
SOC					*e*		02 43 20.4		
SOC					*e*S	**S**	**02 46 55.0**	**-0.9**	
SOC					*e*SS	**SnSn**	**02 47 16.6**	**-0.7**	
SOC					*e*SSS	SSS	02 47 36.4		
SOC					pmax	pmax			
	comp=Z,12nm,0.8s								
SOC					MLR	MLR			
	comp=Z,41nm,14.0s								
BOOM	**Boomskoye usch**	**21.75**	**42**		P	**P**	**02 43 10.1**	**+0.1**	
BOOM					pmax	pmax			
	comp=Z,8.0nm,1.1s								
BOOM	**Boomskoye usch**	**21.75**	**42**		P	**P**	**02 43 10.1**	**+0.1**	
BOOM					IAmb	IAmb	02 43 19.2		
	comp=Z,8.0nm,1.1s								
ABKAR	**Akbulak array**	**21.89**	**6**		P	**P**	**02 43 10.6**	**-0.7**	
KDJ	**Kajisay**	**22.28**	**44**		P	**P**	**02 43 14.6**	**-1.2**	
KDJ					pmax	pmax			
	comp=Z,10.0nm,1.0s								
KDJ	**Kajisay**	**22.28**	**44**		P	**P**	**02 43 14.6**	**-1.2**	
KDJ					IAmb	IAmb	02 43 21.7		
	comp=Z,9.9nm,1.0s								
BR131	**Keskin Array S**	**22.57**	**309**		P	**P**	**02 43 18.9**	**0.0**	
BR131					pmax	pmax			
	comp=Z,15nm,0.9s								
BR131	**Keskin Array S**	**22.57**	**309**		P	**P**	**02 43 18.9**	**0.0**	
BR131					IAmb	IAmb	02 43 24.6		
	comp=Z,15nm,0.8s								
BRTR	**Keskin Array B**	**22.57**	**309**		P	**P**	**02 43 19.1**	**+0.2**	
	comp=Z,8.1nm,0.9s,baz=132,slow=11,SNR=18								
BRTR					LR	LR	02 53 30.6		
	comp=Z,73nm,18.1s,baz=109,slow=41								
BRTR	**Keskin Array B**	**22.57**	**309**		P	**P**	**02 43 18.9**	**0.0**	
AKTO	**Aktyubinsk**	**22.94**	**2**		P	**P**	**02 43 22.5**	**+0.1**	
	comp=Z,15nm,0.9s,baz=184,slow=10,SNR=27								
AKTO					LR	LR	02 53 53.1		
	comp=Z,76nm,18.5s,baz=176,slow=41								
ANN	**Anapa**	**23.07**	**323**		*e*P	P	02 43 16.4	-7.4	
ANN					*e*S	S	02 47 16.3	-18	
ANN					pmax	pmax			
	comp=Z,22nm,0.8s								
SIM	**Simferopol'**	**24.99**	**320**		P	**P**	**02 43 44.9**	**+2.9**	
SIM					pmax	pmax			
	comp=Z,16nm,0.7s								
BRVK	**Borovoye**	**27.50**	**18**		*ce*P	**P**	**02 44 06.5**	**+1.8**	
BRVK					pmax	pmax			
	comp=Z,2.0nm,0.8s								
BVAR	**Borovoye Array**	**27.50**	**18**		P	**P**	**02 44 04.7**	**0.0**	
	comp=Z,0.6nm,0.4s,baz=202,slow=15,SNR=6.2								
MKAR	**Makanchi Array**	**27.94**	**40**		P	**P**	**02 44 09.8**	**+1.1**	
	comp=Z,1.1nm,0.6s,baz=224,slow=8.8,SNR=6.0								
MKAR	**Makanchi Array**	**27.94**	**40**		*i* P	**P**	**02 44 12.5**	**+3.8**	
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
IDI	**Anoyia**	**28.03**	**294**		P	**P**	**02 44 10.4**	**+0.7**	
	comp=Z,4.6nm,0.9s,baz=117,slow=6.8,SNR=3.8								
KURBB	**Kurchatov Arra**	**28.51**	**30**		P	**P**	**02 44 14.0**	**+0.3**	
	comp=Z,2.0nm,0.9s,baz=228,slow=8.5,SNR=14								
KURK	**Kurchatov**	**28.62**	**30**		P	**P**	**02 44 14.0**	**-0.6**	
KURK	**Kurchatov**	**28.62**	**30**		P	**P**	**02 44 14.0**	**-0.6**	
ARU	**Arti**	**28.95**	**2**		LR	LR	02 56 27.5		
	comp=Z,53nm,18.1s,baz=176,slow=38								
ARU	**Arti**	**28.95**	**2**	*d*	*i* P	**P**	**02 44 17.0**	**-0.5**	
ARU					S	**S**	**02 49 06.4**	**-1.2**	
ARU					pmax	pmax			
	comp=Z,5.0nm,1.4s								
WMQ	**Urumqi**	**29.87**	**49**		*e*P	**P**	**02 44 28.2**	**+2.3**	
AKASG	**Malin Array Be**	**31.10**	**326**		P	**P**	**02 44 35.8**	**-0.8**	
	comp=Z,4.7nm,0.7s,baz=125,slow=8.1,SNR=14								
AKASG	**Malin Array Be**	**31.10**	**326**		*ce*P	**P**	**02 44 38.2**	**+1.6**	
AKASG					pmax	pmax			
	comp=Z,4.0nm,0.6s								
AKBB	**Malin Array Si**	**31.10**	**326**		*ce*P	**P**	**02 44 36.4**	**-0.2**	
AKBB	**Malin Array Si**	**31.10**	**326**		P	**P**	**02 44 36.2**	**-0.4**	
OBN	**Obninsk**	**31.18**	**338**		*e*P	**P**	**02 44 37.9**	**+0.7**	
OBN					*e*		02 45 38.8		
OBN					pmax	pmax			
	comp=Z,6.0nm,0.5s								
OBN	**Obninsk**	**31.18**	**338**		P	**P**	**02 44 38.0**	**+0.7**	
DGZ	**Jazzator, Alta**	**32.41**	**38**	ǁ	*e*P	**P**	**02 44 50.4**	**+2.1**	
DGZ					pmax	pmax			
	comp=Z,2.0nm,0.8s								
ZALV	**Zalesovo Beam**	**33.61**	**30**		P	**P**	**02 44 58.1**	**-0.4**	
	comp=Z,3.7nm,0.4s,baz=243,slow=9.8,SNR=11								
ZALV	**Zalesovo Beam**	**33.61**	**30**		*i* P	**P**	**02 45 00.7**	**+2.2**	
ZALV					pmax	pmax			
	comp=Z,4.0nm,0.4s								
KOLS	**Kolonicke sedl**	**33.97**	**318**		*e*P	**P**	**02 45 06.2**	**+4.4**	
KOLS	**Kolonicke sedl**	**33.97**	**318**		*e*P	**P**	**02 45 06.2**	**+4.4**	
MNK	**Minsk**	**34.14**	**330**		*i* P	**P**	**02 45 01.5**	**-1.7**	
MNK					*i*		02 46 14.6		
MNK					*i*		02 47 40.1		
MNK					*i* S	**S**	**02 50 27.5**	**-1.2**	
MNK					*i* SS	**SnSn**	**02 52 36.2**	**-0.5**	
MNK					pmax	pmax			
	comp=Z,12nm,0.9s								
MNK					pmax	pmax			
	comp=N,6.0nm,0.9s								
MNK					pmax	pmax			
	comp=E,1.0nm,0.9s								
MNK					MLR	MLR			
	comp=E,9.0nm,18.0s								
MNK					MLR	MLR			
	comp=N,56nm,18.0s								
MNK					MLR	MLR			
	comp=Z,183nm,18.0s								
MNK	**Minsk**	**34.14**	**330**		*i* P	**P**	**02 45 01.6**	**-1.6**	
	comp=E,1.0nm,0.9s								
MNK					*i* P	**P**	**02 45 01.6**	**-1.6**	
	comp=N,6.0nm,0.9s								
MNK					*i* P	**P**	**02 45 01.6**	**-1.6**	
	comp=Z,12nm,0.9s,baz=130								
MNK					*i* PP	**PnPn**	**02 46 14.7**	**-2.2**	
MNK					*i* PPP	PPP	02 46 26.0		
MNK					*i* PcP	**PcP**	**02 47 40.1**	**+0.1**	
MNK					*i* S	**S**	**02 50 27.6**	**-1.1**	
MNK					*i* SS	**SnSn**	**02 52 36.2**	**-0.5**	
MNK					*i* SSS	SSS	02 52 51.0		
MNK					*i* LQ	LQ	02 56 17.7		
MNK					*i* LR	LR	02 58 39.6		
MNK					*i* LRM	MLR	03 00 15.8		
	comp=E,9.0nm,18.1s								
MNK					*i* LRM	MLR	03 00 16.5		
	comp=N,56nm,18.1s								
MNK					*i* LRM	MLR	03 00 18.4		
	comp=Z,183nm,18.1s								
NACGM	**Naroch**	**34.89**	**330**		*i* P	**P**	**02 45 07.2**	**-2.4**	
VSU	**Vasula**	**37.27**	**334**	ǁ	*e*P	**P**	**02 45 29.4**	**-0.5**	
VSU					pmax	pmax			
	comp=Z,23nm,0.8s								
KRLC	**Kraliky**	**37.71**	**318**		*e*P	**P**	**02 45 38.1**	**+4.2**	
KRLC	**Kraliky**	**37.71**	**318**		*e*P	**P**	**02 45 38.1**	**+4.2**	
DPC	**Dobruska-Polom**	**38.08**	**318**		*e*P	**P**	**02 45 36.2**	**-0.9**	
DPC	**Dobruska-Polom**	**38.08**	**318**		*e*P	**P**	**02 45 36.2**	**-0.9**	
GERES	**GERESS Array B**	**39.20**	**315**		P	**P**	**02 45 45.3**	**-1.1**	
	comp=Z,1.1nm,0.8s,baz=111,slow=7.3,SNR=6.9								
KHC	**Kasperske Hory**	**39.36**	**315**		*e*P	**P**	**02 45 46.9**	**-0.9**	
KHC	**Kasperske Hory**	**39.36**	**315**		*e*P	**P**	**02 45 46.9**	**-0.9**	
FINES	**FINESS Array B**	**39.59**	**338**		P	**P**	**02 45 48.9**	**-0.6**	
	comp=Z,2.1nm,0.6s,baz=138,slow=9.6,SNR=14								
CHTO	**Chiang Mai**	**39.77**	**93**		P	**P**	**02 45 50.3**	**-1.2**	
CHTO					pmax	pmax			
	comp=Z,3.0nm,0.7s								
CHTO	**Chiang Mai**	**39.77**	**93**		P	**P**	**02 45 50.3**	**-1.2**	
CHTO					IAmb	IAmb	02 45 55.5		
	comp=Z,2.6nm,0.7s								
WTTA	**Wattenberg**	**40.12**	**312**		*e*P	**P**	**02 45 53.7**	**-0.6**	
	comp=Z,7.4nm,1.1s								
WATA	**Walderalm**	**40.17**	**312**		*e*P	**P**	**02 45 53.9**	**-0.8**	
	comp=Z,5.1nm,0.7s								
SQTA	**Sankt Quirin**	**40.39**	**312**		*e*P	**P**	**02 45 55.0**	**-1.4**	
	comp=Z,2.8nm,0.7s								
MOTA	**Moosalm**	**40.49**	**312**		*e*P	**P**	**02 45 56.4**	**-0.9**	
	comp=Z,5.2nm,0.8s								
FETA	**Feichten**	**40.67**	**311**		*e*P	**P**	**02 45 57.7**	**-1.1**	
	comp=Z,3.9nm,0.9s								
RETA	**Reutte**	**40.75**	**312**		*e*P	**P**	**02 46 00.0**	**+0.7**	
	comp=Z,2.6nm,0.7s								
DAVA	**Damuels**	**41.29**	**311**		*e*P	**P**	**02 46 02.5**	**-1.4**	
	comp=Z,3.8nm,0.6s								
ULN	**Ulaanbaatar**	**43.95**	**48**	ǁ	*e*P	**P**	**02 46 27.5**	**+2.0**	
ULN					pmax	pmax			
	comp=Z,2.0nm,0.8s								
NB2	**NORSAR Subarra**	**45.16**	**331**		P	**P**	**02 46 33.5**	**-1.4**	
	comp=Z,3.4nm,0.8s,baz=114,slow=7.9								
NOA	**NORSAR Array B**	**45.16**	**331**		P	**P**	**02 46 33.3**	**-1.6**	
	comp=Z,3.5nm,0.9s,baz=116,slow=7.9,SNR=13								
ARCES	**ARCESS Array B**	**45.77**	**345**		P	**P**	**02 46 39.0**	**-0.5**	
	comp=Z,3.5nm,1.0s,baz=137,slow=9.8,SNR=3.3								
ARCES	**ARCESS Array B**	**45.77**	**345**		P	**P**	**02 46 39.0**	**-0.5**	
HHC	**Hu-ho-hao-te**	**46.72**	**59**		*e*P	**P**	**02 46 48.1**	**+0.6**	
HHC					pmax	pmax			
	comp=Z,12nm,0.8s								
HHC					pmax	pmax			
	comp=Z,78nm,4.2s								
WHN	**Wuhan**	**50.16**	**72**	ǁ	P	P	02 47 08.8	-5.3	
ESDC	**Sonseca Array**	**50.99**	**300**		P	**P**	**02 47 19.4**	**-0.8**	
	comp=Z,0.2nm,0.4s,baz=70,slow=6.8,SNR=5.3								
TORD	**Torodi Ar. Bea**	**52.99**	**266**		P	**P**	**02 47 34.5**	**-0.9**	
	comp=Z,0.8nm,0.4s,baz=62,slow=7.5,SNR=13								
BILL	**Bilibino**	**71.78**	**22**		*e*P	**P**	**02 49 42.8**	**+2.4**	
BILL					*e*		02 52 21.4		
BILL					pmax	pmax			
	comp=Z,4.0nm,1.0s								

IDC ***11*** *02:41:33.5s1.2,27.52N×56.48E,h0km,mb4.0/15, mb1 4.0/20,mb1mx3.9/52,mbtmp4.0/20,ML3.8/4,MS3.1/2, Ms1 3.0/2,ms1mx2.5/47,Error ellipse: s-maj=25.2km s-min=15.9km az=167.0*

MOS ***11*** *02:41:35.60.8,27.62N×56.43E,h22km,mb4.5/12,Error ellipse: s-maj=9.8km s-min=6.0km az=93.9*

TEH ***11*** *02:41:35.5,27.56N×56.57E,h8km,ML4.1*

THR ***11*** *02:41:35.00.5,27.53N×56.60E,h14km±8km, ML4.0*

NEIC ***11*** *02:41:35.72.5,27.47N±0.05×56.56E±0.05,h10km±1km, mb4.1/20,mb_Lg4.1(TEH),Error ellipse: s-maj=8.9km s-min=7.1km az=326.0*

DSN ***11*** *02:41:36.91.5,27.57N×56.29E,h10km,ML3.7/9,Error ellipse: s-maj=45.4km s-min=13.0km az=88.0*

OMAN ***11*** *02:41:37.40.1,27.51N×56.70E,h10km,ml3.8/17,Error ellipse: s-maj=1.7km s-min=1.4km az=326.0*

ISC 11 02:41:35.5±0.8, 27.52N±0.02×56.56E±0.03, h16km±5km, n155,σ1$70/182, mb4.2/35, 8C-5D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.07**	**197**			*e*Pg	**Pg**	**02 41 37.9**	**-0.8**
IBND						*e*Sg	**Sg**	**02 41 40.7**	**-0.1**
GENO	**Geno**	**0.36**	**252**			Pg	**Pb**	**02 41 43.2**	**-0.5**
GENO						Sg	**Sb**	**02 41 50.2**	**+0.9**
GENO	**Geno**	**0.36**	**252**			*e*Pg	**Pb**	**02 41 43.3**	**-0.5**
GENO						*e*Sg	**Sb**	**02 41 50.2**	**+0.9**
BNDS	**Bandar-Abbas**	**0.37**	**252**			*e*Pg	**Pg**	**02 41 43.1**	**0.0**
BNDS						IAML		02 41 52.0	
	comp=N,14μm,0.4s								
BNDS	**Bandar-Abbas**	**0.37**	**252**			*e*Pg	**Pg**	**02 41 43.2**	**0.0**
KHNJ	**Kahnooj**	**1.10**	**67**			Pg	**Pn**	**02 41 55.5**	**-0.8**
KHNJ	**Kahnooj**	**1.10**	**67**			*e*Pg	**Pn**	**02 41 55.5**	**-0.8**
SHME	**Shamm**	**1.51**	**195**			P	**Pb**	**02 42 03.6**	**+0.5**
SHME						S	**Sg**	**02 42 25.2**	**+1.0**
SHME	**Shamm**	**1.51**	**195**			P	**Pb**	**02 42 03.6**	**+0.5**
SHME						S	**Sg**	**02 42 24.2**	**0.0**
BANOM	**Banah**	**1.60**	**188**			P	**Pb**	**02 42 05.0**	**+0.2**
BANOM						S	**Sg**	**02 42 28.1**	**+0.8**
BANOM	**Banah**	**1.60**	**188**			P	**Pb**	**02 42 05.1**	**+0.3**
BANOM						S	**Sg**	**02 42 27.5**	**+0.2**
LAR1	**LAR**	**1.95**	**275**			*e*Pn	**Pb**	**02 42 10.4**	**-0.3**
LAR1						*e*		02 42 56.4	
	comp=Z,29μm,0.4s								
NGRK	**Negar Kerman**	**2.13**	**4**			Pn	**Pn**	**02 42 12.6**	**+1.8**
NGRK	**Negar Kerman**	**2.13**	**4**			*e*Pn	**Pn**	**02 42 12.7**	**+1.9**
NGRK						*e*		02 42 48.7	
	comp=Z,12μm,0.4s								
MASF	**Masafi**	**2.17**	**190**			P	**Pb**	**02 42 14.3**	**-0.1**
MASF						S	**Sg**	**02 42 43.5**	**-1.7**
MSFE	**Esma-Masafi**	**2.18**	**190**			*e*P	**Pb**	**02 42 13.6**	**-1.0**
	SNR=24								
MDH	**Madha**	**2.22**	**186**			P	**Pb**	**02 42 14.1**	**-1.1**
MDH	**Madha**	**2.22**	**186**			P	**Pb**	**02 42 14.2**	**-1.1**
KBAM	**BAM**	**2.32**	**45**			*e*Pn	**Pn**	**02 42 16.0**	**+2.8**
KBAM						*e*		02 42 57.4	
	comp=Z,7μm,0.8s								
KRBR	**Kerman**	**2.46**	**4**			*e*Pn	**Pn**	**02 42 17.0**	**+1.7**
KRBR						*e*Sg	**Sb**	**02 42 52.0**	**+2.2**
KRBR						IAML		02 42 54.8	
	comp=N,588nm,0.6s								
KRBR	**Kerman**	**2.46**	**4**			*e*Pn	**Pn**	**02 42 17.0**	**+1.7**
TVBK	**TV Kerman**	**2.47**	**4**			Pn	**Pn**	**02 42 18.2**	**+2.8**
TVBK	**TV Kerman**	**2.47**	**4**			*e*Pn	**Pn**	**02 42 18.2**	**+2.8**
TVBK						*e*		02 42 57.0	
	comp=Z,11μm,0.4s								
CHMN	**Cheshme madani**	**2.49**	**20**			Pn	**Pn**	**02 42 18.6**	**+2.9**
CHMN	**Cheshme madani**	**2.49**	**20**			*e*Pn	**Pn**	**02 42 18.6**	**+2.9**
CHMN						*e*		02 42 54.4	
	comp=Z,4μm,0.8s								
UOSS	**Minazif**	**2.58**	**187**			P	**Pb**	**02 42 20.5**	**-0.9**
UOSS	**Minazif**	**2.58**	**187**			Pn	**Pn**	**02 42 16.5**	**-0.1**
UOSS	**Minazif**	**2.58**	**187**			P	**Pb**	**02 42 19.5**	**-2.0**
UOSS						S	**Sb**	**02 42 53.5**	**+0.6**
NAZ	**Nazwa, Dubai**	**2.64**	**198**			P	**Pb**	**02 42 21.0**	**-1.5**
NAZ						S	**Sg**	**02 42 59.0**	**-1.5**
HATD	**Hatta, Dubai**	**2.71**	**188**			P	**Pb**	**02 42 22.9**	**-0.7**
HATD	**Hatta, Dubai**	**2.71**	**188**			P	**Pb**	**02 42 22.0**	**-1.5**
KHGB	**Koh Gabri**	**2.85**	**359**			*e*Pn	**Pn**	**02 42 23.5**	**+2.9**
KHGB						*e*		02 43 12.2	
	comp=Z,3μm,1.0s								
ASHO	**Ashiyiah**	**2.85**	**189**			*e*P	**Pn**	**02 42 23.3**	**+2.9**
	SNR=17								
ASHO	**Ashiyiah**	**2.85**	**189**			P	**Pb**	**02 42 24.4**	**-1.8**
FAQ	**Al Faqa, Dubai**	**2.89**	**198**			*e*P	**Pn**	**02 42 21.4**	**+0.5**
	SNR=14								
FAQ	**Al Faqa, Dubai**	**2.89**	**198**			P	**Pn**	**02 42 23.2**	**+2.3**
FAQ						S	**Sb**	**02 43 00.9**	**-1.0**
LMD1	**Lamerd**	**3.02**	**267**			*e*Pn	**Pn**	**02 42 25.1**	**+2.3**
LMD1						*e*		02 43 31.7	
	comp=Z,9μm,0.6s								
ASUD	**Al Ashush, Dub**	**3.08**	**201**			P	**Pn**	**02 42 26.1**	**+2.5**
ASUD	**Al Ashush, Dub**	**3.08**	**201**			P	**Pn**	**02 42 26.4**	**+2.9**
ASUD						S	**Sb**	**02 43 05.4**	**-2.0**
AJN	**Ajban**	**3.26**	**206**			P	**Pn**	**02 42 29.1**	**+3.1**
AJN						S	**Sb**	**02 43 10.2**	**-2.4**
SOHO	**SOHO**	**3.37**	**180**			P	**Pn**	**02 42 30.6**	**+3.1**
SOHO						S	**Sb**	**02 43 14.9**	**-0.6**
ALNE	**Al Ain**	**3.52**	**192**			P	**Pn**	**02 42 31.7**	**+2.1**
ALNE	**Al Ain**	**3.52**	**192**			P	**Pn**	**02 42 32.4**	**+2.8**
ALNE						S	**Sn**	**02 43 13.8**	**+2.9**
HOQ	**Hoqain**	**3.97**	**170**			P	**Pn**	**02 42 38.6**	**+2.8**
HOQ						S	**Sn**	**02 43 22.9**	**+0.8**
CHBR	**Chabahar**	**4.00**	**118**			*e*P	**Pn**	**02 42 37.8**	**+1.6**
CHBR	**Chabahar**	**4.00**	**118**			*e*Pn	**Pn**	**02 42 37.8**	**+1.6**
IBAF	**Bafgh**	**4.15**	**348**			*e*Pn	**Pn**	**02 42 41.0**	**+2.6**
ARQ	**Araqi**	**4.16**	**181**			P	**Pn**	**02 42 41.6**	**+3.2**
ARQ						S	**Sn**	**02 43 31.3**	**+4.5**
ZHDN	**Zahedan**	**4.18**	**62**			Pn	**Pn**	**02 42 42.6**	**+3.7**
ZHDN	**Zahedan**	**4.18**	**62**			*e*Pn	**Pn**	**02 42 42.6**	**+3.7**
IMEH	**Mehriz**	**4.22**	**337**			*e*Pn	**Pn**	**02 42 41.1**	**+1.7**
BIDO	**Bidbid**	**4.22**	**160**			P	**Pn**	**02 42 41.0**	**+1.8**
BIDO						S	**Sn**	**02 43 31.1**	**+2.9**
ZHSF	**Zahedan**	**4.25**	**60**			*e*Pn	**Pn**	**02 42 40.8**	**+1.0**
ZHSF	**Zahedan**	**4.25**	**60**			*e*Pn	**Pn**	**02 42 40.8**	**+1.0**
NGCH	**Negor - Chabah**	**4.63**	**117**			*e*Pn	**Pn**	**02 42 48.4**	**+3.6**
SMDO	**Samad**	**4.64**	**163**			P	**Pn**	**02 42 47.6**	**+2.6**
SMDO						S	**Sn**	**02 43 39.3**	**+0.7**
WSAR	**Wadi Sarin**	**4.65**	**156**			Pn	**Pn**	**02 42 46.1**	**+1.0**
	comp=Z,5.1nm,0.3s,baz=354,slow=9.4,SNR=7.0								
WSAR						Sn	**Sn**	**02 43 37.3**	**-1.5**
	comp=Z,4.2nm,0.3s,baz=270,slow=8.1,SNR=2.2								
WSAR	**Wadi Sarin**	**4.65**	**156**			P	**Pn**	**02 42 47.1**	**+2.0**
WSAR						S	**Sn**	**02 43 37.9**	**-0.9**
NHDN	**Nehbandan**	**4.92**	**37**			*e*Pn	Pn	02 42 56.1	+7.2
ISAD	**Sadrabad**	**5.05**	**331**			*e*Pn	**Pn**	**02 42 53.5**	**+2.7**
SRVN	**Saravan**	**5.19**	**90**			*e*Pn	**Pn**	**02 42 55.5**	**+2.9**
IRAM	**Ramesheh**	**5.62**	**321**			*e*Pn	**Pn**	**02 43 01.9**	**+3.3**
IGAR	**Gharneh**	**6.25**	**322**			*e*Pn	**Pn**	**02 43 09.0**	**+1.7**
IZEF	**Zefreh**	**6.49**	**327**			*e*Pn	**Pn**	**02 43 11.7**	**+1.0**
IPIR	**Pirpir**	**7.12**	**318**			*e*Pn	**Pn**	**02 43 20.9**	**+1.6**
GYA0B	**ALIBECK ARRAY**	**10.47**	**7**			Pn	**Pn**	**02 44 06.1**	**+1.1**
NIL	**Nilore**	**15.61**	**63**			P	**Pn**	**02 45 16.1**	**+1.1**
NIL						pmax	pmax		
	comp=Z,6.0nm,0.7s								
NIL	**Nilore**	**15.61**	**63**			Pn	**Pn**	**02 45 16.1**	**+1.1**
NIL						IAmb	IAmb	02 45 24.8	
	comp=Z,6.3nm,0.7s								
GNI	**Garni**	**15.96**	**325**			Pn	**Pn**	**02 45 21.3**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=144,slow=19,SNR=1.9								
GNI	**Garni**	**15.96**	**325**	ǁ	*e*P		**Pn**	**02 45 18.1**	**-1.4**
GNI	**Garni**	**15.96**	**325**		P	Pn	**Pn**	**02 45 20.5**	**+1.0**
GNI						IAmb	IAmb	02 45 29.7	
	comp=Z,8.8nm,0.6s								
GAR	**Garm**	**16.21**	**42**			Pn	**Pn**	**02 45 23.6**	**+0.8**
**GUR

KURK	Kurchatov	28.60	30	P		P	02 47 30.5	-0.3
WMQ	Urumqi	29.85	49	eP		P	02 47 45.1	+3.0
AKASG	Malin Array Be	31.09	326	P		P	02 47 51.8	-1.0
	comp=Z,2.6nm,0.6s,baz=132,slow=8.5,SNR=8.7							
AKASG	Malin Array Be	31.09	326	*i* P		P	02 47 54.0	+1.1
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.6s							
AKASG	Malin Array Be	31.09	326	P		P	02 47 54.8	+2.0
AKASG				IAmb	IAmb		02 48 01.4	
	comp=Z,1.8nm,1.4s							
AKBB	Malin Array Si	31.09	326⇑	eP		P	02 47 52.4	-0.5
AKBB	Malin Array Si	31.09	326	P		P	02 47 53.0	+0.1
OBN	Obninsk	31.17	338	eP		P	02 47 53.6	+0.1
OBN				pmax	pmax			
	comp=Z,6.0nm,0.8s							
KIRV	Kirov	31.45	353⇓	eP		P	02 47 56.3	+0.3
DGZ	Jazzator, Alta	32.38	38⇓	eP		P	02 48 04.5	0.0
DGZ				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ZAA0	Zalesovo Array	33.58	30	P		P	02 48 17.7	+3.0
ZALV	Zalesovo Beam	33.58	30	P		P	02 48 15.0	+0.3
	comp=Z,2.4nm,0.4s,baz=238,slow=8.5,SNR=9.7							
ZALV	Zalesovo Beam	33.58	30	*i* P		P	02 48 17.2	+2.5
ZALV				pmax	pmax			
	comp=Z,3.0nm,0.4s							
ZALV	Zalesovo Beam	33.58	30	P		P	02 48 15.1	+0.4
MNK	Minsk	34.13	330	*i* P		P	02 48 16.5	-3.0
MNK				*i*			02 49 29.9	
MNK				*i*			02 50 53.0	
MNK				*i* S		S	02 53 42.8	-1.9
MNK				*i* SS		SnSn	02 55 51.5	-1.2
MNK				*i*			02 58 40.8	
MNK				pmax	pmax			
	comp=N,5.0nm,0.6s							
MNK				pmax	pmax			
	comp=E,1.0nm,0.6s							
MNK				pmax	pmax			
	comp=Z,5.0nm,0.6s							
MNK				MLR	MLR			
	comp=Z,107nm,16.0s							
MNK				MLR	MLR			
	comp=N,49nm,16.0s							
MNK				MLR	MLR			
	comp=E,10.0nm,16.0s							
MNK	Minsk	34.13	330	*i* P		P	02 48 16.5	-2.9
	comp=E,1.0nm,0.7s							
MNK				*i* P		P	02 48 16.5	-2.9
	comp=N,5.0nm,0.7s							
MNK				*i* P		P	02 48 16.5	-2.9
	comp=Z,5.0nm,0.7s,baz=130							
MNK				*i* PP		PnPn	02 49 30.0	-3.2
MNK				*i* PPP		PPP	02 49 40.2	
MNK				*i* PcP		PcP	02 50 53.0	-3.3
MNK				*i* S		S	02 53 42.8	-1.9
MNK				*i* SS		SnSn	02 55 51.5	-1.2
MNK				*i* SSS		SSS	02 56 07.3	
MNK				*i* LQ		LQ	02 59 57.2	
MNK				*i* LR		LR	03 01 05.4	
MNK				*i* LRM		MLR	03 05 28.4	
	comp=Z,107nm,15.7s							
MNK				*i* LRM		MLR	03 05 29.0	
	comp=N,49nm,15.7s							
MNK				*i* LRM		MLR	03 05 32.3	
	comp=E,10.0nm,15.7s							
NACGM	Naroch	34.88	330	*i* P		P	02 48 26.0	0.0
VSU	Vasula	37.26	334⇓	eP		P	02 48 46.2	0.0
VSU				pmax	pmax			
	comp=Z,21nm,1.1s							
GERES	GERESS Array B	39.19	315	P		P	02 49 01.8	-1.0
	comp=Z,0.5nm,0.8s,baz=129,slow=7.7,SNR=2.9							
KHC	Kasperske Hory	39.35	315	eP		P	02 49 03.7	-0.4
KHC	Kasperske Hory	39.35	315	eP		P	02 49 03.7	-0.4
FINES	FINESS Array B	39.58	338	P		P	02 49 05.5	-0.1
	comp=Z,1.9nm,0.5s,baz=137,slow=9.3,SNR=16							
FINES	FINESS Array B	39.58	338	*i* P		P	02 49 05.8	+0.1
FINES				pmax	pmax			
	comp=Z,2.0nm,0.5s							
WTTA	Wattenberg	40.11	312	*i* P		P	02 49 09.3	-1.3
	comp=Z,3.9nm,0.6s							
WATA	Walderalm	40.17	312	*i* P		P	02 49 10.5	-0.5
	comp=Z,6.6nm,1.3s							
SQTA	Sankt Quirin	40.39	312	*i* P		P	02 49 11.9	-0.9
	comp=Z,3.0nm,0.5s							
MOTA	Moosalm	40.48	312	eP		P	02 49 13.2	-0.5
	comp=Z,3.4nm,0.9s							
FETA	Feichten	40.66	311	eP		P	02 49 14.5	-0.6
	comp=Z,2.0nm,0.6s							
DAVA	Damuels	41.29	311	eP		P	02 49 19.4	-0.9
	comp=Z,4.6nm,0.5s							
SONM	Songino Array	43.48	48	P		P	02 49 39.2	+1.1
	comp=Z,1.1nm,0.8s,baz=260,slow=8.2,SNR=4.6							
SONM	Songino Array	43.48	48	IAmb		IAmb	02 49 43.7	
	comp=Z,1.5nm,1.1s							
ULN	Ulaanbaatar	43.93	48⇓	eP		P	02 49 41.6	-0.1
ULN				pmax	pmax			
	comp=Z,1.0nm,1.1s							
NB2	NORSAR Subarra	45.15	331	P		P	02 49 50.0	-1.2
	comp=Z,3.9nm,1.1s,baz=117,slow=7.9							
NOA	NORSAR Array B	45.15	331	P		P	02 49 50.5	-0.7
	comp=Z,2.0nm,0.8s,baz=116,slow=7.9,SNR=8.9							
HHC	Hu-ho-hao-te	46.70	59	eP		P	02 50 05.9	+2.2
HHC				pmax	pmax			
	comp=Z,17nm,0.9s							
HHC				pmax	pmax			
	comp=Z,160nm,6.5s							
BOD	Bodaibo	49.91	36	eP		P	02 50 36.1	+8.0
BOD				pmax	pmax			
	comp=Z,30nm,1.2s							
ESDC	Sonseca Array	50.99	300	P		P	02 50 35.2	-1.4
	comp=Z,0.3nm,0.6s,baz=71,slow=7.0,SNR=1.9							
TORD	Torodi Ar. Bea	53.01	266	P		P	02 50 51.2	-0.7
	comp=Z,0.8nm,0.6s,baz=61,slow=6.8,SNR=6.4							
BILL	Bilibino	71.75	22	eP		P	02 52 57.6	+1.0
BILL				*e*			02 55 33.7	
BILL				pmax	pmax			
	comp=Z,4.0nm,1.0s							

IDC 11 02:42:09.5±6.3, 30°.53S×178°.47W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/22, mbtmp3.7/2, MS3.1/1, Ms1 3.1/1, ms1mx2.7/21, Error ellipse: s-maj=254.8km s-min=55.1km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PPT	Papeete	29.27	70	LR	LR	02 57 24.9	
	comp=Z,39nm,21.7s,baz=206,slow=31						
ASAR	Alice Springs	42.70	267	P	P	02 50 08.5	+0.1
	0.5nm,0.5s,baz=109,slow=7.5,SNR=5.0						
WRA	Warramunga Arr	43.70	273	P	P	02 50 16.4	-0.2
	0.6nm,0.4s,baz=113,slow=7.9,SNR=19						
FINES	FINESS Array B	145.12	340	PKPbc	PKPbc	03 01 46.8	-0.9
	0.8nm,0.4s,baz=46,slow=3.7,SNR=10						

*IDC **11** 02:46:17.3±0.7, 52°.09N×169°.54W, h0km, mb4.2/26, mb1 4.3/28, mb1mx4.2/44, mbtmp4.2/28, ML3.9/2, MS3.4/6, Ms1 3.4/6, ms1mx3.0/36, Error ellipse: s-maj=20.0km s-min=13.3km az=173.0*

*AEIC **11** 02:46:19±2.2, 51°.94N±0°.08×169°.41W±0°.09, h22km±4km, Error ellipse: s-maj=12.4km s-min=7.2km az=165.0*

*NEIC **11** 02:46:21.9±1.5, 52°.10N±0°.08×169°.60W±0°.10, h30km±5km, mb4.4/25, ML3.8(AEIC), Error ellipse: s-maj=12.8km s-min=7.3km az=156.0*

ISC 11 02:46:22.0±0.6, 52°.2N±0°.1×169°.55W±0°.05, h30km, n98, σ1s25/88, mb4.3/37, MS3.3/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	Nikolski High	0.93	27		Pn	02 46 39.1	+0.1
OKSP	Okmok Steeple	1.35	34		Pn	02 46 44.8	0.0
OKSO	Okmok South	1.48	34		Pn	02 46 47.0	+0.4
OKTU	Okmok Mt. Tuli	1.54	36		Pn	02 46 48.1	+0.6
OKER	Okmok East Rim	1.59	34		Pn	02 46 49.2	+1.0
OKFG	Magazine Ridge	1.61	38		Pn	02 46 49.0	+0.6
MAPS	Pakushin South	2.29	42		Pn	02 46 58.3	+0.5
MREP	Makushin Rep't	2.38	44		Pn	02 46 59.4	+0.4
MSW	Makushin Switc	2.43	42		Pn	02 47 00.4	+0.6
MNAT	Makushin Natee	2.45	44		Pn	02 47 00.5	+0.5
UNV	Unalaska Valle	2.50	46		Pn	02 47 01.0	+0.3
MTBL	Makushin Table	2.52	42		Pn	02 47 02.1	+1.2
KOFP	Korovin Flat P	2.80	274		Pn	02 47 06.1	+1.3
ATKA	Atka Island	2.86	273		Pn	02 47 05.8	+0.3
AKMO	Akutan Morgan	2.89	46		Pn	02 47 07.3	+1.3
AKBBA	Akutan Broad B	2.93	47		Pn	02 47 07.5	+1.0
AKUT	Akutan	3.02	47	Pn	Pn	02 47 08.8	+1.0
WECS	Westdahl Cape	3.73	48		Pn	02 47 18.4	+0.9
GSMY	Great Sitkin M	4.01	271		Pn	02 47 22.2	+0.8
GSTD	Great Sitkin T	4.07	271		Pn	02 47 22.9	+0.7
ADK	Adak	4.42	269	Pn	Pn	02 47 25.0	-1.9
KIWB	Kanaga Island	4.71	269	Pn	Pn	02 47 29.1	-1.8
KIKV	Kanaga Island	4.72	270		Pn	02 47 33.6	+2.6
TAFP	Tanaga Falls P	5.21	271		Pn	02 47 40.0	+2.1
TASE	Tanaga Southea	5.25	270		Pn	02 47 40.4	+1.9
GALAA	Gareloi Lava P	5.72	270		Pn	02 47 47.0	+2.2
SDPT	Sand Point	6.26	56	Pn	Pn	02 47 51.2	-1.0
CESW	Semis' Southwe	6.73	272		Pn	02 48 00.1	+1.5
AMKA	Amchitka	6.96	268	Pn	Pn	02 47 59.3	-2.6
O22K	Cooper Landing	13.76	45		Pn	02 49 32.8	-2.0
KNK	Knik Glacier	14.75	43	Pn	Pn	02 49 47.1	-1.2
M24K	Tolsona, Glenn	16.04	42	Pn	Pn	02 50 03.5	-1.7
M24K				IAmb	IAmb	02 50 15.3	
	comp=Z,15nm,0.6s						
MLY	Manley	16.11	30		Pn	02 50 08.9	+2.8
N25K	Chitina, Valde	16.50	45	Pn	Pn	02 50 09.9	-1.1
ILAR	Eielson Array	17.20	34	P	Pn	02 50 18.6	-1.2
	comp=Z,0.2nm,0.3s,baz=239,slow=10,SNR=8.4						
ILAR				LR	LR	02 57 34.9	
	comp=Z,92nm,18.5s,baz=232,slow=39						
M27K	Edge Creek, AK	17.97	45		Pn	02 50 30.5	+1.1
PEA0B	Petropavlovsk-	19.81	286	P	P	02 50 48.9	-1.0
PEA0B				IAmb	IAmb	02 50 51.5	
	comp=Z,15nm,0.6s						
PETK	Petropavlovsk-	19.81	286	P	P	02 50 49.9	0.0
	comp=Z,4.2nm,0.3s,baz=84,slow=14,SNR=21						
PETK	Petropavlovsk-	19.81	286	P	P	02 50 47.5	-2.4
EPYK	Eagle Plains	21.64	36	P	P	02 51 07.8	-1.8
EPYK				IAmb	IAmb	02 51 25.3	
	comp=Z,10nm,0.9s						
SEY	Seymchan	22.74	313	P	P	02 51 21.6	+0.3
	comp=Z,1.5nm,0.2s,baz=0,slow=20,SNR=1.5						
DLBC	Dease Lake	23.09	50	P	P	02 51 28.7	+3.6
	comp=Z,2.3nm,0.8s,baz=91,slow=25,SNR=3.0						
MA2	Magadan	23.18	304	P	P	02 51 25.8	0.0
	comp=Z,3.7nm,0.4s,baz=86,slow=15,SNR=2.0						
MA2	Magadan	23.18	304	IAmb	IAmb	02 51 49.6	
	comp=Z,13nm,1.2s						
INK	Inuvik	23.59	33	P	P	02 51 29.0	-0.7
	comp=Z,1.7nm,0.4s,baz=197,slow=9.1,SNR=10						
YKA	Yellowknife Ar	30.47	49	P	P	02 52 32.7	+1.0
	comp=Z,0.7nm,0.6s,baz=270,slow=9.3,SNR=7.3						
YKA				LR	LR	03 05 51.7	
	comp=Z,62nm,18.1s,baz=0.0,slow=38						
KLR	Kul'dur	36.43	289	LR	LR	03 08 28.2	
	comp=Z,42nm,20.2s,baz=90,slow=36						
H11N2	WAKE ISLAND Hy	37.21	218	T	T	03 33 28.5	
	baz=24						
H11N3	WAKE ISLAND Hy	37.22	218	T	T	03 33 25.1	
	baz=24						
H11N1	WAKE ISLAND Hy	37.23	218	T	T	03 33 28.9	
	baz=24,SNR=3.4						
NVAR	Mina Array Bea	37.77	91	P	P	02 53 37.8	+2.4
	comp=Z,0.3nm,0.5s,baz=280,slow=7.1,SNR=2.7						
NVAR				LR	LR	03 07 08.4	
	comp=Z,43nm,19.4s,baz=264,slow=33						
NVAR	Mina Array Bea	37.77	91	P	P	02 53 33.1	-2.4
H11S1	WAKE ISLAND Hy	38.40	218	T	T	03 34 57.6	
	baz=22,slow=76,SNR=56						
H11S2	WAKE ISLAND Hy	38.41	218	T	T	03 34 58.8	
	baz=22,slow=76,SNR=70						
H11S3	WAKE ISLAND Hy	38.42	218	T	T	03 34 58.0	
	baz=22,slow=76,SNR=45						
MJAR	Matsushiro Arr	39.58	268	P	P	02 53 50.6	+0.2
	comp=Z,1.0nm,0.3s,baz=49,slow=8.5,SNR=1.8						
PDAR	Pinedale Array	40.55	79	P	P	02 53 59.1	+0.4
	comp=Z,2.6nm,1.1s,baz=307,slow=5.4,SNR=7.6						
ULM	Lac du Bonnet	44.35	62	P	P	02 54 28.0	-1.1
	comp=Z,1.3nm,0.4s,baz=307,slow=5.1,SNR=1.9						
KSRS	Korea Array	45.32	277	P	P	02 54 37.7	+0.7
	comp=Z,2.8nm,0.6s,baz=64,slow=7.7,SNR=6.8						
KSRS				LR	LR	03 15 10.0	
	comp=Z,50nm,19.6s,baz=162,slow=38						
MNTX	Cornudas Mount	50.16	88	P	P	02 55 14.4	-0.2
ULN	Ulaanbaatar	50.95	301	P	P	02 55 20.1	-0.5
ULN				IAmb	IAmb	02 55 22.7	
	comp=Z,2.6nm,0.6s						
SONM	Songino Array	51.32	301	P	P	02 55 24.3	+1.0
	comp=Z,0.5nm,0.5s,baz=57,slow=5.3,SNR=4.4						
SONM	Songino Array	51.32	301	P	P	02 55 22.8	-0.5
TX31	Lajitas Ar. Si	52.86	89	P	P	02 55 34.2	-0.7
TX31				IAmb	IAmb	02 55 47.2	
	comp=Z,7.3nm,0.8s						
TX32	Lajitas Array	52.86	89	P	P	02 55 34.5	-0.4
TX32				IAmb	IAmb	02 55 47.1	
	comp=Z,2.5nm,0.8s						
TXAR	Lajitas Array	52.86	89	P	P	02 55 34.9	0.0
	comp=Z,1.5nm,0.7s,baz=296,slow=5.5,SNR=26						
TXAR				ScP	ScP	03 00 43.9	+5.1
	comp=Z,0.5nm,0.7s,baz=300,slow=5.9,SNR=7.4						
TXAR	Lajitas Array	52.86	89	P	P	02 55 34.5	-0.4
SCHQ	Schefferville	55.67	43	LR	LR	03 19 39.7	
	comp=Z,44nm,18.4s,baz=182,slow=36						
ZALV	Zalesovo Beam	57.51	318	P	P	02 56 07.7	-0.3
	comp=Z,1.3nm,0.4s,baz=48,slow=6.0,SNR=3.0						
ARCES	ARCESS Array B	58.13	354	P	P	02 56 11.9	-0.2
	comp=Z,3.4nm,0.8s,baz=32,slow=7.1,SNR=5.7						
KURK	Kurchatov	62.47	318	P	P	02 56 42.9	+0.8
KURBB	Kurchatov Arra	62.57	318	P	P	02 56 42.9	+0.1
	comp=Z,1.8nm,0.4s,baz=46,slow=7.9,SNR=25						
BVAR	Borovoye Array	63.82	324	P	P	02 56 51.4	+0.4
	comp=Z,4.1nm,0.5s,baz=108,slow=2.3,SNR=22						
BRVK	Borovoye	63.83	324	P	P	02 56 51.2	+0.1
BRVK				IAmb	IAmb	02 56 52.2	
	comp=Z,3.6nm,0.8s						
MKAR	Makanchi Array	63.88	313	P	P	02 56 50.9	-0.7
	comp=Z,0.5nm,0.3s,baz=46,slow=6.8,SNR=12						
FINES	FINESS Array B	66.07	352	P	P	02 57 05.3	-0.1
	comp=Z,3.3nm,0.7s,baz=12,slow=7.8,SNR=27						
NB2	NORSAR Subarra	67.16	360	P	P	02 57 11.9	-0.6
	comp=Z,0.6nm,0.5s,baz=0.1,slow=6.5						
NOA	NORSAR Array B	67.16	360	P	P	02 57 12.8	+0.3
	comp=Z,1.2nm,0.7s,baz=0.1,slow=6.3,SNR=10						
AKTO	Aktyubinsk	70.15	330	P	P	02 57 31.6	+0.4
	comp=Z,2.7nm,0.6s,baz=63,slow=9.4,SNR=13						
ABKAR	Akbulak array	70.56	328	P	P	02 57 33.3	-0.5
ABKAR				IAmb	IAmb	02 57 34.8	
	comp=Z,2.4nm,0.8s						
AAK	Ala-Archa	70.58	315	P	P	02 57 35.0	+0.8
	baz=188,slow=5.1						
AAK	Ala-Archa	70.58	315	P	P	02 57 31.2	-3.0
AAK				IAmb	IAmb	02 57 35.5	
	comp=Z,4.0nm,0.8s						
BELG	Belogornoye	71.25	337	P	P	02 57 38.3	+0.5
	comp=Z,15nm,0.7s,baz=342,slow=5.6,SNR=3.5						
KK31	Karatay Array	71.88	318	P	P	02 57 41.9	0.0
KK31				IAmb	IAmb	02 57 42.7	
	comp=Z,4.0nm,0.7s						
KKAR	Karatay Array	71.88	318	P	P	02 57 41.4	-0.5
BTK	Batken	74.28	316	P	P	02 57 56.5	+0.3
BTK				IAmb	IAmb	02 57 57.4	
	comp=Z,6.9nm,0.8s						
GAR	Garm	75.37	316	P	P	02 58 02.8	+0.2
CHGR	Chuyangaron	76.15	316	P	P	02 58 07.3	+0.2
AKASG	Malin Array Be	76.30	348	P	P	02 58 07.0	-0.5
	comp=Z,0.8nm,0.5s,baz=16,slow=6.2,SNR=2.5						
CMAR	Chiang Mai Arr	76.56	283	P	P	02 58 09.3	-0.2
	comp=Z,1.0nm,0.3s,baz=17,slow=6.6,SNR=4.4						
CMAR	Chiang Mai Arr	76.56	283	P	P	02 58 09.5	0.0
GERES	GERESS Array B	79.35	358	P	P	02 58 24.9	+0.3
	comp=Z,0.4nm,0.6s,baz=318,slow=1.3,SNR=3.1						
KBZ	Khaaz	80.47	337	P	P	02 58 31.2	+0.6
	comp=Z,0.8nm,0.2s,baz=41,slow=1.9,SNR=4.1						
WRA	Warramunga Arr	86.78	231	P	P	02 59 01.8	-1.4
	comp=Z,1.7nm,0.9s,baz=46,slow=5.5,SNR=7.9						
ESDC	Sonseca Array	87.70	11	P	P	02 59 07.7	+0.1
	comp=Z,0.6nm,0.9s,baz=344,slow=4.0,SNR=4.4						
ASAR	Alice Springs	90.17	230	P	P	02 59 18.6	-0.6
	comp=Z,3.0nm,0.6s,baz=27,slow=4.7,SNR=35						
TORD	Torodi Ar. Bea	114.53	9	PKKPbc	PKKPbc	03 15 32.9	-2.8
	comp=Z,0.3nm,0.6s,baz=166,slow=1.9,SNR=4.9						
TORD				PKKPab	PKKPab	03 15 46.1	-0.4
	comp=Z,0.3nm,0.6s,baz=128,slow=1.0,SNR=4.0						
MAW	Mawson	150.63	218	PKPab	PKPab	03 06 16.0	-0.4
	comp=Z,1.7nm,0.8s,baz=118,slow=2.9,SNR=6.2						

MEX 11 03:02:04.4±0.6, 15°.93N×98°.48W, h5km, MD3.7, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.57	36	*i* P	Pg	03 02 15.0	-0.4
PNIG				*i* S	Sg	03 02 23.5	+0.7
MGIG	Malinaltepec	1.31	353	*i* P	Pg	03 02 25.3	-4.2
MGIG				*e*S	Sg	03 02 42.0	-4.5
DAIG	Los Arroyos	1.56	314	eP	Pn	03 02 29.4	-3.5
DAIG				*e*S	Sn	03 02 49.0	-4.5
HLIG	Huajuapan de L	2.00	19	eP	Pn	03 02 39.0	-0.1
HLIG				*i* S	Sb	03 03 07.1	+0.4

IDC 11 03:22:47.0±3.9, 6°.52S×148°.84E, h0km, mb3.4/1, mb1 3.7/2, mb1mx3.4/33, mbtmp3.4/2, ML3.5/1, Error ellipse: s-maj=126.7km s-min=50.6km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	19.40	225	P	P	03 27 13.7	-1.2
	0.2nm,0.3s,baz=51,slow=11,SNR=10.0						
ASAR	Alice Springs	22.29	219	P	P	03 27 47.0	+0.9
	0.8nm,0.4s,baz=52,slow=8.8,SNR=17						
TORD	Torodi Ar. Bea	146.99	284	PKPbc	PKPbc	03 42 32.0	-0.9
	0.3nm,0.9s,baz=70,slow=4.0,SNR=1.4						

*IDC **11** 03:32:46.6±1.1, 43°.49N×140°.75E, h195km±11km, mb3.4/6, mb1 3.4/9, mb1mx3.1/34, mbtmp3.8/9, Error ellipse: s-maj=28.6km s-min=18.5km az=145.0*

*JMA **11** 03:32:47.4±0.1, 43°.53N×140°.69E, h190km±1km, M3.0*

ISC 11 03:32:46.7±0.8, 43°.47N±0°.07×140°.76E±0°.06, h198km±7km, n30, σ0s70/38, mb3.6/6, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSK	Shakotan	0.23	242	P	Pn	03 33 12.7	-0.1
JSK				eS	S	03 33 31.9	-0.9
JISS	Ishikarishitsu	0.52	111	P	Pn	03 33 14.1	+0.5
JHR	Hokuryu	0.76	68	P	Pn	03 33 15.2	+0.5
JEW	Eniwo	0.80	141	P	Pn	03 33 15.8	+0.8
JSH	Shimam	0.97	213	P	Pn	03 33 16.3	+0.3
JSH				eS	S	03 33 38.3	-0.4
JNB	Noboribetsu	1.02	168	P	Pn	03 33 16.8	+0.5
JAB	Ashibetsu	1.07	87	P	Pn	03 33 17.4	+0.8
JAB				eS	S	03 33 40.9	+1.1
JYG	Yagishiri	1.08	26	P	Pn	03 33 16.4	-0.3
JFR	Furan	1.37	102	P	Pn	03 33 19.2	+0.1
ASAJ	Asahikawa	1.48	63	P	Pn	03 33 20.3	+0.4
	14nm,0.3s,baz=250,slow=10,SNR=35						
ASAJ				S	S	03 33 45.2	-0.7
	1.6nm,0.3s,baz=53,slow=20,SNR=9.5						
JKK2	Kamakawa 2	1.50	74	P	Pn	03 33 20.6	+0.4
JKK2				eS	S	03 33 45.7	-0.4
JOSM	Okushiri--Mats	1.67	215	P	Pn	03 33 22.1	+0.3
JNBK	Urakawa-nobuka	1.89	128	P	Pn	03 33 24.3	+0.5
JRBN	Rebuntou	1.97	6	P	Pn	03 33 24.2	-0.4
JSE	Soyaes	1.99	41	P	Pn	03 33 25.2	+0.4
JOMM	Oshimamatsumae	2.02	196	P	Pn	03 33 25.9	+0.7
JWK2	Keihoku	2.02	23	P	Pn	03 33 25.6	+0.4
JCH	Churui	2.09	113	P	Pn	03 33 25.0	-0.9
JCH				eS	S	03 33 54.1	-2.3
JAR	Ashorobuto	2.20	93	P	Pn	03 33 27.6	+0.5
JAR				eS	S	03 33 59.5	+0.9
JTKR	Abashiri--Toko	2.34	76	P	Pn	03 33 29.0	+0.4
JTKR				eS	S	03 34 01.3	+0.1
MJAR	Matsushiro Arr	7.19	197	P	Pn	03 34 29.2	-0.2
	0.2nm,0.3s,baz=8.8,slow=13,SNR=6.9						
KLR	Kul'dur	8.49	316	P	Pn	03 34 45.7	-0.4
	0.1nm,0.3s,baz=131,slow=13,SNR=6.4						
PETK	Petropavlovsk-	14.80	43	P	P	03 36 07.0	-0.3
	0.2nm,0.3s,baz=234,slow=12,SNR=2.1						
SONM	Songino Array	24.29	292	P	P	03 37 46.0	+0.1
	0.9nm,0.5s,baz=83,slow=7.7,SNR=6.4						
ZALV	Zalesovo Beam	37.45	306	P	P	03 39 40.9	+0.3
	1.2nm,0.4s,baz=90,slow=10,SNR=5.0						
MKAR	Makanchi Array	40.56	296	P	P	03 40 07.3	+0.7
	0.6nm,0.6s,baz=85,slow=13,SNR=5.3						
INK	Inuvik	48.96	29	P	P	03 41 12.9	+0.5
	1.5nm,0.6s,baz=315,slow=5.7,SNR=4.3						
FINES	FINESS Array B	62.93	331	P	P	03 42 51.3	-0.2
	1.2nm,0.5s,baz=51,slow=8.0,SNR=9.2						
NB2	NORSAR Subarra	68.09	336	P	P	03 43 24.3	-0.3
	comp=Z,0.3nm,0.6s,baz=39,slow=6.5						
NOA	NORSAR Array B	68.09	336	P	P	03 43 23.6	-1.0
	comp=Z,0.4nm,0.6s,baz=38,slow=6.4,SNR=4.0						

TAP 11 03:38:50.8, 23°.14N×120°.96E, h9km, ML2.3, 1C-1D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELDTW	Lidau	0.08	46⇑	*i* P	Pg	03 38 53.7	+0.6
	baz=51						
ELDTW				*i* S	Sg	03 38 55.0	+0.3
	baz=51						
STYH	Taoyu

	baz=50							
YULB				*e*S		Sb	03 39 06.1	-0.4
	baz=50							
TTN	**Taitung**	**0.42**	**155**	P		Pb	03 38 59.7	-0.7
	baz=154							
TTN				S		Sb	03 39 07.2	+0.3
	baz=154							
SNST	**Tainan City**	**0.43**	**281**	*e*P		Pb	03 38 60.0	-0.6
	baz=281							
SNST				*e*S		Sb	03 39 06.5	-0.8
	baz=281							
TWK	**Hsinying**	**0.45**	**287**	P		Pb	03 39 00.9	-0.1
	baz=287							
TWK				S		Sb	03 39 07.2	-0.7
	baz=287							
SSD	**Sandimen**	**0.49**	**218**	*i* P		Pg	03 39 00.9	+0.6
	baz=216							
SSD				S		Sb	03 39 08.8	-0.1
	baz=216							
SCST	**Cishan**	**0.49**	**240**	*e*S		Sb	03 39 09.4	+0.4
	baz=239							
EHY	**Hungye**	**0.50**	**42**	P		Pg	03 39 00.9	+0.4
	baz=43							
TSMG	**Majia**	**0.52**	**214**	*e*P		Pg	03 39 01.2	+0.4
	baz=213							
CHN5	**Tsauling**	**0.53**	**331**	P		Pb	03 39 02.4	+0.1
	baz=330							
ECL	**Taimali**	**0.54**	**180**	*e*P		Pb	03 39 02.4	0.0
	baz=179							
ECL				*e*S		Sb	03 39 09.6	-0.6
	baz=179							
CHN3	**Shinhua**	**0.55**	**264**	*e*S		Sb	03 39 11.3	+0.8
	baz=263							
HGSD	**Ruisui**	**0.56**	**50**	P		Pb	03 39 02.8	0.0
	baz=50							
HGSD				S		Sb	03 39 11.5	+0.6
	baz=50							
WHYT	**Xinyi Township**	**0.57**	**350**	*e*P		Pb	03 39 02.5	-0.4
	baz=350							
WHYT				*e*S		Sg	03 39 09.9	+0.6
	baz=350							
CHN2	**Minshiung**	**0.59**	**312**	*e*S		Sb	03 39 12.2	+0.3
	baz=311							
MASBT	**Mashibuluo**	**0.60**	**210**	*e*P		Pb	03 39 03.6	+0.1
	baz=209							
MASBT				*e*S		Sb	03 39 12.7	+0.6
	baz=209							
CHY	**Chiayi**	**0.61**	**307**	*e*S		Sb	03 39 12.6	+0.2
	baz=306							
SSLB	**Suanglung**	**0.65**	**360**	P		Pg	03 39 03.5	+0.1
	baz=359							
SSLB				*e*S		Sb	03 39 14.1	+0.5
	baz=359							
WDLH	**Douliu**	**0.67**	**325**	*e*P		Pb	03 39 04.4	-0.3
	baz=325							
WDLH				*e*S		Sb	03 39 14.2	0.0
	baz=325							
EGFH	**Guangfu**	**0.69**	**39**	*e*P		Pb	03 39 05.0	0.0
	baz=39							
EGFH				*e*S		Sb	03 39 15.3	+0.7
	baz=39							

TAP 11 03:38:58.6,23.°14N×120.°95E,h8km,ML2.1,1C,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.08**	**52**	⇑*i*P	Pg	03 39 01.6	+0.7
	baz=56						
ELDTW				*i* S	Sg	03 39 02.9	+0.4
	baz=56						
STYH	**Taoyuan**	**0.16**	**282**	P	Pg	03 39 03.2	+1.2
	baz=281						
STYH				S	Sg	03 39 05.6	+1.3
	baz=281						
STYT	**Tauyuan**	**0.17**	**279**	P	Pg	03 39 03.4	+1.1
	baz=278						
STYT				S	Sg	03 39 06.1	+1.3
	baz=278						
ECS	**Chishang**	**0.26**	**99**	S	Sb	03 39 09.1	-1.0
	baz=99						
LONT	**Longtian**	**0.29**	**143**	*i* P	Pb	03 39 05.6	-0.4
	baz=143						
LONT				*i* S	Sb	03 39 09.9	-1.1
	baz=143						
SLGT	**Liugui**	**0.31**	**243**	*e*P	Pb	03 39 06.4	0.0
	baz=242						
SLGT				*e*S	Sb	03 39 11.4	-0.3
	baz=242						
WTP	**Ta-pu**	**0.32**	**290**	P	Pg	03 39 05.6	+0.6
	baz=289						
WTP				S	Sb	03 39 11.1	-1.0
	baz=289						
FULB	**Fuli**	**0.33**	**79**	P	Pb	03 39 06.0	-0.7
	baz=79						
FULB				*i* S	Sb	03 39 11.5	-0.7
	baz=79						
TPUB	**Ta-pu**	**0.33**	**299**	*e*P	Pg	03 39 05.8	+0.5
	baz=299						
TPUB				S	Sb	03 39 11.7	-0.6
	baz=299						
TWG	**Pinlang**	**0.34**	**160**	*i* P	Pb	03 39 06.5	-0.4
	baz=158						
TWG				*i* S	Sb	03 39 11.3	-1.1
	baz=158						
SGST	**Jiashian**	**0.34**	**261**	P	Pb	03 39 06.3	-0.6
	baz=260						
SGST				S	Sb	03 39 11.9	-0.6
	baz=260						
TWGBT	**Beinan**	**0.34**	**159**	P	Pb	03 39 06.3	-0.6
	baz=158						
TWGBT				S	Sb	03 39 11.8	-0.8
	baz=158						
YUS	**Yu-Shan**	**0.35**	**1**	P	Pg	03 39 06.4	+0.6
YUS				S	Sg	03 39 11.3	+0.9
EDH	**Donghe**	**0.37**	**116**	P	Pb	03 39 07.6	+0.1
	baz=116						
EDH				*e*S	Sb	03 39 13.4	0.0
	baz=116						
CHN1	**Nanshi**	**0.39**	**277**	S	Sb	03 39 13.8	-0.1
	baz=277						
CHKT	**Chengkung**	**0.39**	**95**	P	Pb	03 39 07.6	-0.2
	baz=95						
CHKT				S	Sb	03 39 14.1	+0.1
	baz=95						
ALS	**Alishan**	**0.39**	**341**	*i* P	Pb	03 39 07.3	-0.8
	baz=341						
ALS				*i* S	Sb	03 39 13.8	-0.6
	baz=341						
EYUL	**Yuli**	**0.40**	**59**	*e*S	Sb	03 39 14.2	-0.2
	baz=58						
TTN	**Taitung**	**0.42**	**154**	*e*P	Pb	03 39 08.2	-0.2
	baz=153						
TTN				S	Sb	03 39 15.4	+0.5
	baz=153						
TWK	**Hsinying**	**0.44**	**287**	S	Sg	03 39 13.9	+0.9
	baz=287						
SSD	**Sandimen**	**0.48**	**217**	P	Pb	03 39 09.5	+0.1
	baz=215						
SSD				S	Sb	03 39 16.8	+0.1
	baz=215						
SCST	**Cishan**	**0.48**	**239**	*e*S	Sb	03 39 16.4	-0.3
	baz=238						
EHY	**Hungye**	**0.51**	**43**	*e*P	Pb	03 39 09.6	-0.2
	baz=44						
EHY				*e*S	Sb	03 39 17.6	+0.3
	baz=44						
EHY	**Hungye**	**0.51**	**43**	S	Pb	03 39 09.3	-0.5
	baz=43						
TSMG	**Majia**	**0.51**	**213**	*e*P	Pb	03 39 09.3	-0.6
	baz=212						
TSMG	**Majia**	**0.51**	**213**	*e*S	Pb	03 39 09.2	-0.7
	baz=213						
CHN5	**Tsauling**	**0.52**	**332**	*e*P	Pb	03 39 10.3	+0.2
	baz=331						
CHN5				S	Sb	03 39 18.5	+0.7
	baz=331						
CHN5	**Tsauling**	**0.52**	**332**	S	Pb	03 39 10.3	+0.2
	baz=330						
ECL	**Taimali**	**0.54**	**179**	S	Sb	03 39 17.7	-0.5
	baz=178						
WHYT	**Xinyi Township**	**0.56**	**351**	*e*S	Sb	03 39 18.3	-0.8
	baz=351						
HGSD	**Ruisui**	**0.56**	**51**	P	Pb	03 39 10.9	+0.1
	baz=51						
HGSD				S	Sb	03 39 19.5	+0.5
	baz=51						
SSLB	**Suanglung**	**0.65**	**1**	*e*P	Pb	03 39 11.8	-0.5
SSLB				*e*S	Sb	03 39 21.6	+0.2
LDUT	**Ludao**	**0.67**	**134**	*e*S	Sb	03 39 22.6	+0.6
	baz=133						

*JMA **11** 03:43:16.5±0.1,24.°17N×121.°74E,h31km±1km,M3.0*
*TAP **11** 03:43:16.9,24.°25N×121.°82E,h18km,ML3.7,B*
ISC 11 03:43:17.2±0.8,24.°25N±0.°01×121.°83E±0.°02,h18km±4km, n137,σ0°76/203,3C-23D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.10**	**308**	⇓*i*P	Pg	03 43 20.7	-0.1
	baz=311						
EHP				S	Sg	03 43 23.1	-0.2
	baz=311						
ENA	**Nanau**	**0.19**	**337**	⇓*i*P	Pb	03 43 21.9	-0.2
	baz=339						
ENA				*i* S	Sg	03 43 25.4	+0.1
	baz=339						
EWUT	**Wuta**	**0.20**	**348**	⇓*i*P	Pb	03 43 22.1	0.0
	baz=347						
EWUT				*i* S	Sg	03 43 25.7	+0.3
	baz=347						
ETL	**Fush Village**	**0.21**	**244**	P	Pb	03 43 22.2	-0.1
	baz=246						
ETL				S	Sg	03 43 26.0	+0.4
	baz=246						
NACB	**Ninganchiao**	**0.22**	**250**	⇓*i*P	Pb	03 43 22.2	-0.4
	baz=252						
NACB				*i* S	Sg	03 43 26.4	+0.4
	baz=252						
TWD	**Chiawan**	**0.27**	**231**	⇓*i*P	Pb	03 43 23.1	-0.4
	baz=235						
TWD				*i* S	Sb	03 43 27.9	+0.2
	baz=235						
ETLH	**Xiulin Townshi**	**0.32**	**262**	⇓P	Pb	03 43 23.8	-0.6
	baz=262						
ETLH				S	Sb	03 43 28.9	-0.3
	baz=262						
HWA	**Hwalien**	**0.34**	**216**	⇓*e*P	Pb	03 43 25.4	+0.8
	baz=223						
HWA				*e*S	Sb	03 43 31.3	+1.5
	baz=223						
TWC	**Suao**	**0.36**	**4**	⇓P	Pb	03 43 24.7	-0.3
	baz=10.0						
TWC				*i* S	Sb	03 43 30.1	-0.3
	baz=10.0						
NDS	**Dongshan**	**0.39**	**345**	⇓*i*P	Pb	03 43 25.6	-0.1
	baz=345						
NDS				*i* S	Sb	03 43 31.6	+0.2
	baz=345						
ETM	**Tongmen**	**0.41**	**227**	⇑P	Pb	03 43 25.7	-0.3
	baz=235						
ETM				*e*S	Sb	03 43 32.4	+0.4
	baz=235						
TEYL	**Yanliau Villag**	**0.43**	**209**	P	Pb	03 43 26.4	0.0
	baz=198						
TEYL				*e*S	Sb	03 43 33.4	+0.9
	baz=198						
NDT	**Datong Townshi**	**0.45**	**321**	⇓*i*P	Pb	03 43 26.4	-0.2
	baz=320						
NDT				S	Sb	03 43 33.2	+0.1
	baz=320						
NNS	**Nan Shan**	**0.45**	**295**	⇓*i*P	Pb	03 43 26.5	-0.3
	baz=295						
NNS				*i* S	Sb	03 43 32.8	-0.4
	baz=295						
ENTT	**Nioudou**	**0.45**	**329**	⇓*i*P	Pb	03 43 26.4	-0.3
	baz=329						
ENTT				*i* S	Sb	03 43 33.2	+0.1
	baz=329						
TWE	**Neicheng**	**0.49**	**343**	⇓P	Pb	03 43 27.2	-0.1
	baz=343						
TWE				*i* S	Sb	03 43 34.5	+0.4
	baz=343						
ILA	**Ilan**	**0.52**	**352**	*e*P	Pb	03 43 27.8	0.0
	baz=346						
ILA				*e*S	Sb	03 43 35.6	+0.7
	baz=346						
WHF	**Hehuan Shan**	**0.52**	**258**	⇓*i*P	Pb	03 43 27.6	-0.5
	baz=260						
WHF				S	Sb	03 43 34.9	-0.5
	baz=260						
FUSS	**Fushou**	**0.53**	**270**	⇓P	Pb	03 43 27.9	-0.2
	baz=271						
FUSS				S	Sb	03 43 35.5	0.0
	baz=271						
ESL	**Shilin**	**0.56**	**220**	⇑*i*P	Pb	03 43 28.2	-0.3
	baz=224						
ESL				S	Sb	03 43 36.9	+0.7
	baz=224						
YHNB	**Yeheng**	**0.58**	**316**	⇓*i*P	Pb	03 43 28.8	-0.2
	baz=315						
YHNB				*i* S	Sb	03 43 37.1	+0.1
	baz=315						
TWT	**Tachien**	**0.59**	**270**	P	Pb	03 43 29.2	+0.1
	baz=270						
TWT				S	Sb	03 43 37.6	+0.3
	baz=270						
TEGC	**Jichi Village**	**0.60**	**206**	*e*P	Pb	03 43 29.3	+0.2
	baz=205						
TEGC				*e*S	Sb	03 43 38.8	+1.6
	baz=205						
EGS		**0.60**	**9**	*e*P	Pb	03 43 29.6	+0.5
	baz=15						
NSK	**Sanguang**	**0.60**	**315**	⇓*i*P	Pb	03 43 29.0	-0.2
	baz=315						
NSK				*i* S	Sb	03 43 37.2	-0.1
	baz=315						
NTC	**Toucheng**	**0.60**	**0**	P	Pb	03 43 29.0	-0.2
	baz=7.0						
NWLT	**Wulai**	**0.60**	**331**	⇓P	Pb	03 43 29.1	-0.1
	baz=330						
NWLT				S	Sb	03 43 37.2	-0.1
	baz=330						
TDCB	**Techi**	**0.61**	**270**	⇓*i*P	Pb	03 43 29.4	0.0
	baz=271						
TDCB				*i* S	Sb	03 43 37.5	-0.2
	baz=271						
CHGB	**Renai**	**0.62**	**252**	⇓*i*P	Pb	03 43 29.6	-0.1
	baz=253						
CHGB				*i* S	Sb	03 43 38.4	+0.2
	baz=253						
OWD	**Renai**	**0.66**	**244**	P	Pb	03 43 30.2	-0.1
	baz=244						
EGFH	**Guangfu**	**0.68**	**212**	*e*P	Pb	03 43 30.8	+0.2
	baz=225						
TIPB	**Shuangxi**	**0.72**	**0**	⇓P	Pb	03 43 31.4	+0.2
	baz=360						
TIPB				*i* S	Sb	03 43 41.0	+0.2
	baz=360						
TWA	**Mucha**	**0.76**	**343**	P	Pb	03 43 32.1	+0.2
	baz=343						
TWA				S	Sb	03 43 42.3	+0.4
	baz=343						
NHDH	**Xindian Distri**	**0.76**	**339**	*e*P	Pb	03 43 32.4	+0.5
	baz=338						
NHDH				S	Sb	03 43 42.8	+0.9
	baz=338						
TWB1	**Santiao Chiao**	**0.77**	**11**	*e*P	Pb	03 43 32.3	+0.2
	baz=4.0						
TWB1				*e*S	Sb	03 43 43.1	+0.9
	baz=4.0						
TATO	**Taipei**	**0.78**	**337**	*e*P	Pb	03 43 32.6	+0.3
	baz=329						
WHP	**Taichung City**	**0.80**	**272**	*e*P	Pb	03 43 33.1	+0.4
	baz=273						
WHP				*e*S	Sb	03 43 43.8	+0.5
	baz=273						
NWF	**Wu-fen Shan**	**0.82**	**357**	P	Pb	03 43 33.4	+0.5
	baz=349						
NWF				S	Sb	03 43 44.8	+1.2
	baz=349						
WFSB	**Wu-fen Shan**	**0.82**	**357**	⇓P	Pb	03 43 33.4	+0.5
	baz=349						
WFSB				S	Sb	03 43 44.5	+0.9
	baz=349						
NHY	**Taipei**	**0.82**	**344**	*e*P	Pb	03 43 33.3	+0.4
	baz=342						
WPL	**Puli Township**	**0.83**	**253**	*e*P	Pb	03 43 33.2	+0.2
	baz=254						
LIOB	**Emei**	**0.84**	**298**	*e*P	Pn	03 43 33.7	-0.4
	baz=298						
LIOB				*e*S	Sb	03 43 44.9	+0.7
	baz=298						
TAP	**Taipei**	**0.84**	**340**	*e*P	Pn	03 43 34.1	0.0
	baz=330						
HGSD	**Ruisui**	**0.84**	**206**	*e*P	Pb	03 43 33.4	+0.2
	baz=197						
NSTT	**Nanjuang**	**0.84**	**297**	⇓P	Pb	03 43 33.5	+0.2
	baz=297						
NSTT				*i* S	Sb	03 43 44.8	+0.5
	baz=297						
DPDB	**Guoxing**	**0.85**	**255**	*e*P	Pb	03 43 33.6	+0.1
	baz=247						
WCS	**Beigang Elemen**	**0.86**	**257**	*e*P	Pn	03 43 34.1	-0.2
	baz=258						
EHY	**Hungye**	**0.87**	**212**	*e*P	Pg	03 43 32.4	-1.8
	baz=213						
NTY	**Taoyuan**	**0.89**	**327**	*e*P	Pn	03 43 34.9	+0.1
	baz=327						
TNOU	**National Taiwa**	**0.90**	**357**	*e*P	Pg	03 43 33.3	-1.3
	baz=351						
TNOU				*e*S	Sg	03 43 45.3	-1.2
	baz=351						
HSN1	**Hsinchu**	**0.90**	**306**	*e*P	Pn	03 43 35.4	+0.4
	baz=299						
HSN1				*e*S	Sn	03 43 49.2	+1.6
	baz=299						
SSLB	**Suanglung**	**0.92**	**240**	P	Pg	03 43 34.2	-0.9
	baz=249						
SSLB				*e*S	Sg	03 43 46.1	-1.2
	baz=249						
NCUH	**Zhongli**	**0.92**	**321**	*e*P	Pb	03 43 34.9	+0.2
	baz=320						
SMLT	**Sun Moon Lake**	**0.92**	**247**	*e*P	Pb	03 43 34.5	-0.2
	baz=248						
SMLT				*e*S	Sb	03 43 47.2	+0.6
	baz=248						
YM01	**YM01**	**0.92**	**345**	*e*P	Pn	03 43 35.3	0.0
	baz=344						
NCU	**National Centr**	**0.92**	**321**	*e*P	Pb	03 43 34.9	+0.3
	baz=317						
NCU				*e*S	Sn	03 43 49.0	+0.9
	baz=317						
TWS1	**Kuangyinshan**	**0.92**	**336**	*e*P	Pb	03 43 34.8	+0.1
	baz=336						
TWS1				*e*S	Sn	03 43 47.9	-0.3
	baz=336						
SBCB	**Hsinchu**	**0.94**	**305**	*e*P	Pn	03 43 36.2	+0.8
	baz=298						
SBCB				*e*S	Sn	03 43 49.6	+1.2
	baz=298						
TYC	**Yuchr**	**0.95**	**249**	*e*P	Pb	03 43 34.9	-0.2
	baz=241						
HSN	**Hsinchu**	**0.95**	**305**	*e*P	Pn	03 43 35.5	-0.2
	baz=301						
HSN				*e*S	Sn	03 43 50.1	+1.3
	baz=301						
YM08	**YM08**	**0.96**	**347**	*e*P	Pn	03 43 35.6	-0.2
	baz=346						
TWQ1	**Liyutan**	**0.96**	**276**	*e*P	Pn	03 43 36.3	+0.4
	baz=276						
TWQ1				*e*S	Sn	03 43 50.1	+0.9
	baz=276						
NJN	**Zhunan**	**0.97**	**297**	*e*P	Pn	03 43 36.4	+0.5
	baz=296						
ANP	**Anpu**	**0.97**	**343**	*e*P	Pn	03 43 36.1	0.0
	baz=343						
NSY	**Sanyi**	**0.98**	**280**	*e*P	Pn	03 43 36.9	+0.8
	baz=280						
ECBN	**Changbin**	**0.99**	**200**	*e*P	Pg	03 43 35.6	-0.8
	baz=203						
EYUL	**Yuli**	**1.01**	**207**	*e*P	Pn	03 43 36.5	+0.1
	baz=222						
TWF1	**Yuli**	**1.02**	**208**	*e*P	Pg	03 43 35.4	-1.6
	baz=222						
NHW	**Xinwu Township**	**1.03**	**317**	*e*P	Pg	03 43 33.7	-3.5
	baz=329						
JYNG	**Yonagunijimaku**	**1.04**	**79**	P	Pb	03 43 36.9	+0.2
JYNG				S	Sn	03 43 52.1	+1.1
TWY	**Chenhua**	**1.04**	**349**	*e*P	Pn	03 43 37.5	+0.6
	baz=332						
WHYT	**Xinyi Township**	**1.05**	**238**	*e*P	Pn	03 43 37.1	+0.1
	baz=239						
WWF	**Wufeng**	**1.05**	**259**	*e*P	Pn	03 43 38.2	+1.2
	baz=255						
TCU	**Taichung**	**1.05**	**265**	*e*P	Pn	03 43 38.2	+1.1
	baz=264						
WDJ	**Dajia District**	**1.08**	**275**	*e*P	Pn	03 43 38.4	+0.9
	baz=276						
WDJ				*e*S	Sn	03 43 53.8	+1.7
	baz=276						
WJS	**Zhushan**	**1.09**	**247**	*e*P	Pn	03 43 39.0	+1.4
	baz=242						
WNT1	**Nantou City**	**1.10**	**252**	*e*P	Pn	03 43 38.9	+1.2
	baz=243						
YUS	**Yu-Shan**	**1.10**	**227**	*e*P	Pg	03 43 37.5	-1.2
	baz=227						
YOJ	**Yonaguni jima**	**1.10**	**79**	P	Pb	03 43 37.8	+0.1
YOJ				S	Sn	03 43 53.0	+0.5
YOJ	**Yonaguni jima**	**1.10**	**79**	P	Pb	03 43 37.7	-0.1
	baz=69						
WNT	**Mingjian**	**1.11**	**251**	*e*P	Pn	03 43 39.0	+1.2
	baz=241						
FULB	**Fuli**	**1.16**	**205**	*e*P	Pb	03 43 38.4	-0.2
	baz=222						
WCHH	**Zhanghua**	**1.17**	**262**	*e*P	Pg	03 43 39.9	+0.1
	baz=261						
WYL	**Yuanlin Townsh**	**1.17**	**256**	*e*P	Pg	03 43 39.8	-0.1
	baz=255						
ALS	**Alishan**	**1.19**	**232**	⇑P	Pb	03 43 39.1	-0.3
	baz=233						
CHKT	**Chengkung**	**1.22**	**200**	*e*P	Pn	03 43 39.1	-0.2
	baz=189						
CHN5	**Tsauling**	**1.23**	**238**	*e*P	Pn	03 43 39.9	+0.3
	baz=240						
CHN5				*e*S	Sn	03 43 57.8	+1.9
	baz=240						
WGK	**Gukeng**	**1.28**	**244**	*e*P	Pg	03 43 41.7	-0.3
	baz=243						
ELDTW	**Lidau**	**1.29**	**215**	*e*P	Pn	03 43 40.2	-0.2
	baz=205						
EDH	**Donghe**	**1.36**	**201**	*e*P	Pn	03 43 40.8	-0.5
	baz=191						
WRL	**Guolierlin Hig**	**1.37**	**256**	*e*P	Pb	03 43 42.2	-0.1
	baz=255						
PCYT	**Pengchaiyu**	**1.39**	**9**	*e*P	Pn	03 43 42.0	+0.3
	baz=6.0						
CHN2	**Minshiung**	**1.43**	**240**	*e*P	Pb	03 43 43.3	0.0
	baz=227						
WTK	**Tuku**	**1.43**	**247**	*e*P	Pb	03 43 43.1	-0.2
	baz=246						
STYH	**Taoyuan**	**1.44**	**222**	*e*P	Pb	03 43 43.2	-0.3
	baz=223						
TPUB	**Ta-pu**	**1.45**	**229**	*e*P	Pb	03 43 43.3	-0.3
	baz=230						
TPUB				*e*S	Sg	03 44 03.4	-0.5
	baz=230						
STYT	**Tauyuan**	**1.46**	**222**	*e*P	Pn	03 43 43.2	+0.5
	baz=223						
STYT				*e*S	Sb	03 44 03.0	+0.8
	baz=223						
LONT	**Longtian**	**1.48**	**206**	*e*P	Pn	03 43 41.3	-1.6
	baz=209						
CHY	**Chiayi**	**1.48**	**240**	*e*P	Pb	03 43 44.5	+0.3
	baz=227						
WTP	**Ta-pu**	**1.49**	**228**	*e*P	Pb	03 43 44.1	-0.4
	baz=229						
WTP				*e*S	Sg	03 44 04.2	-1.3
	baz=229						
TWK	**Hsinying**	**1.57**	**232**	*e*P	Pb	03 43 45.2	-0.5
	baz=233						
TWK				*e*S	Sg	03 44 06.4	-1.4
	baz=233						
TWGBT	**Beinan**	**1.58**	**206**	*e*P	Pn	03 43 44.5	+0.2
	baz=209						
SNST	**Tainan City**	**1.59**	**230**	*e*P	Pb	03 43 45.5	-0.6
	baz=229						
CHN1	**Nanshi**	**1.59**	**229**	*e*P	Pb	03 43 45.5	-0.6
	baz=229						
CHN1				*e*S	Sg	03 44 07.5	-1.1
	baz=229						
LDUT	**Ludao**	**1.60**	**192**	*e*P	Pn	03 43 43.2	-1.4
	baz=185						
SGST	**Jiashian**	**1.63**	**225**	*e*P	Pn	03 43 45.5	+0.5
	baz=226						
SGST				*e*S	Sb	03 44 07.8	+0.9
	baz=226						
SLGT	**Liugui**	**1.65**	**221**	*e*P	Pb	03 43 46.6	-0.5
	baz=221						
ICHU	**Yijhu**	**1.67**	**238**	*e*P	Pb	03 43 46.8	-0.6
	baz=237						
CHN8	**Yiju**	**1.73**	**239**	*e*P	Pn	03 43 47.0	+0.7
	baz=237						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IRIF	Iriomote-Funau	1.74	87	P	Pn	03 43 46.5	0.0
IRIF				eS	Sn	03 44 08.8	+0.5
SCST	Cishan	1.83	222	eP	Pb	03 43 50.0	-0.1
	baz=222						
ECL	Taimali	1.83	206	eP	Pb	03 43 49.2	-0.9
	baz=199						
SSD	Sandimen	1.85	216	eP	Pn	03 43 49.4	+1.3
	baz=210						
TSMG	Majia	1.88	215	eP	Pn	03 43 49.6	+1.1
	baz=210						
MASBT	Mashibuluo	1.96	214	eP	Pn	03 43 50.8	+1.2
	baz=214						
MASBT				eS	Sb	03 44 15.9	-0.7
	baz=214						
JKRS	Kuro-shima	1.99	90	P	Pn	03 43 50.5	+0.5
JKRS				S	Sn	03 44 16.2	+1.7
EAST	Anshuo	2.06	206	eP	Pn	03 43 51.5	+0.5
	baz=201						
JIJ	Ishigaki jima	2.12	86	P	Pn	03 43 51.8	+0.1
JIJ				S	Sn	03 44 18.0	+0.4
SCZT	Fangliau	2.17	211	eP	Pn	03 43 53.4	+0.9
	baz=211						
SCZT				eS	Sb	03 44 21.7	-0.9
	baz=211						
PNG	Penghu	2.19	252	eP	Pn	03 43 52.5	-0.1
	baz=250						
PHUB	P'eng-hu	2.19	251	eP	Pn	03 43 52.6	-0.1
	baz=250						
PHUB				eS	Sn	03 44 20.0	+0.7
	baz=250						
WDGT	Dungji	2.21	244	eP	Pn	03 43 53.7	+0.6
	baz=241						
SLIU	Shizi	2.23	205	eP	Pn	03 43 54.9	+1.6
	baz=202						
VWUC	VWUC	2.28	289	eP	Pn	03 43 53.8	-0.2
	baz=285						
JISG	Ishigakijimahi	2.29	81	P	Pn	03 43 53.6	-0.5
JISG				eS	Sn	03 44 21.6	-0.3
VCHM	Qimei	2.43	245	eP	Pn	03 43 56.3	+0.3
	baz=230						
VCHM				eS	Sn	03 44 26.4	+1.1
	baz=230						
TWKBT	Hengchun	2.48	202	eP	Pn	03 43 56.6	-0.1
	baz=198						
MATB	Ma-tsu	2.55	318	eP	Pn	03 43 57.6	0.0
	baz=312						
MSUT	Lienchiang	2.57	318	eP	Pn	03 43 58.2	+0.2
	baz=312						
PTMZ	Houxiangcun	2.58	288	eP	Pn	03 43 57.7	-0.4
	baz=283						
JTJ	Tarama	2.65	81	P	Pn	03 44 00.5	+1.5
JTJ				S	Sn	03 44 32.2	+1.5
LYJJ	Jianjiangzhen	2.95	321	eP	Pn	03 44 02.7	-0.5
	baz=315						
XPSS	Dashiqiu	3.05	331	eP	Pn	03 44 04.4	-0.2
	baz=325						
KNM	Kinmen	3.10	274	eP	Pn	03 44 06.8	+1.6
	baz=269						
KNMB	Chin-men Tao	3.14	275	eP	Pn	03 44 05.5	-0.3
	baz=271						
KNMB				eS	Sn	03 44 43.8	+0.9
	baz=271						
AXDP	Jialang	3.57	281	eP	Pn	03 44 13.2	+1.6
	baz=278						
AXDP				eS	Sn	03 44 54.8	+1.4
	baz=278						
ZPLA	Ao Xicun	3.74	266	eP	Pn	03 44 14.0	+0.1
	baz=263						

MEX 11 03:44:23.7±0.3, 15°.16N×92°.86W, h75km±10km, MD3.5, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCIG		0.64	327	eP	Pn	03 44 37.0	-1.4
PCIG				eS	Sn	03 44 42.8	-6.3

UPA 11 03:45:22.1±0.4, 8°.83N×77°.34W, h23km±4km, MW4.4
RSNC 11 03:45:23.9±0.7, 8°.76N×77°.37W, h32km±2km, ML2.9
ISC 11 03:45:23.0±1.0, 8°.76N±0°.04×77°.36W±0°.02, h33km±8km, n29, σ1^{s}12/58, 6C-2D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAPC	Capurgana	0.13	176	⇑iP	Pn	03 45 29.0	+1.7
CAPC				eS	Sb	03 45 34.0	+1.0
UPD2	Meteti	0.68	252	⇓iP	Pb	03 45 35.6	-0.9
UPD2				i S	Sb	03 45 45.6	-0.1
UPD2	Meteti	0.68	252	⇓eP	Pb	03 45 35.5	-0.9
UPD2				eS	Sb	03 45 45.5	-0.2
LCBC	Los crdobas,	0.99	84	eP	Pn	03 45 41.0	+0.5
LCBC				eS	Sn	03 45 58.0	+4.7
LCBC				i		03 46 00.6	
	comp=Z,125nm,0.3s						
CNTA3	Canitas, Panam	1.58	287	eP	Pn	03 45 47.9	-0.7
CNTA3				eS	Sn	03 46 07.3	-0.6
PTAC	Punta Ardita,	1.67	195	⇑eP	Pn	03 45 50.0	+0.2
PTAC				eS	Sn	03 46 11.2	+1.1
PTAC	Punta Ardita,	1.67	195	eP	Pn	03 45 49.9	0.0
PTAC				eS	Sn	03 46 09.8	-0.3
PTAC				i		03 46 14.5	
	comp=Z,105nm,0.4s						
CHPO	Chepo, Panama	1.78	283	eP	Pn	03 45 50.5	-0.9
CHPO				eS	Sn	03 46 12.5	-0.4
UREC	San Jos de Ur	2.07	119	eP	Pn	03 45 55.7	+0.3
UREC				eS	Sn	03 46 17.2	-2.9
UREC				i		03 46 22.9	
	comp=Z,60nm,0.2s						
DBBC	Dabeiba	2.08	147	eP	Pn	03 45 55.9	+0.3
DBBC				ePg	Pb	03 45 59.2	-0.8
DBBC				eS	Sn	03 46 21.4	+1.1
DBBC				eSg	Sb	03 46 25.8	+0.3
DBBC				i		03 46 36.8	
	comp=Z,160nm,0.5s						
MIRA3	Miramar, Colon	2.10	293	eS	Sn	03 46 22.4	+1.4
UPA	Univ. de Panam	2.16	276	⇑eP	Pn	03 45 56.5	-0.2
UPA				eS	Sn	03 46 23.4	+1.1
UPA	Univ. de Panam	2.16	276	eP	Pn	03 45 56.8	+0.1
UPA				eS	Sn	03 46 22.4	+0.2
UPA				i		03 46 24.9	
	comp=Z,34nm,0.4s						
CHOR3	La Chorrera	2.38	273	⇑eP	Pn	03 45 59.8	+0.1
CHOR3				eS	Sn	03 46 29.2	+1.4
SJCC	San Jacinto, C	2.43	62	eP	Pn	03 46 00.3	-0.1
SJCC				eS	Sn	03 46 27.8	-1.2
BCIP	Isla Barro Col	2.48	280	eP	Pn	03 46 01.1	+0.1
BCIP				eS	Sn	03 46 31.1	+0.9
BCIP	Isla Barro Col	2.48	280	eP	Pn	03 46 01.1	+0.1
BCIP				eS	Sn	03 46 30.3	+0.1
BCIP				i		03 46 33.8	
	comp=Z,38nm,0.3s						
VTON	El Valle, Cocl	2.73	267	eP	Pn	03 46 05.0	+0.5
VTON				eS	Sn	03 46 37.2	+0.8
ZARC	Zaragoza, Cauc	2.78	117	eP	Pn	03 46 06.0	+0.8
ZARC				eS	Sn	03 46 36.7	-1.0
ZARC				i		03 46 39.8	
	comp=Z,65nm,0.4s						
AZU	Azuero	3.04	252	eP	Pn	03 46 09.2	+0.5
AZU				eS	Sn	03 46 44.5	+0.4
AZU	Azuero	3.04	252	eP	Pn	03 46 09.4	+0.6
AZU				eS	Sn	03 46 42.5	-1.6
AZU				i		03 46 55.6	
	comp=Z,82nm,0.8s						
HELC	Santa Helena	3.13	144	⇑eP	Pn	03 46 11.2	+0.7
PTBC	PUERTO BERRIO,	3.63	127	eP	Pn	03 46 16.9	+0.1
PTBC				eS	Sn	03 46 57.2	-1.4
PTBC				i		03 47 00.6	
	comp=Z,23nm,0.3s						
LL2C	La Loma 2 Cana	3.95	78	eP	Pn	03 46 22.3	+0.9
LL2C				eS	Sn	03 47 06.1	-0.5
LL2C				i		03 47 12.9	
	comp=Z,43nm,0.2s						
GMAL	Guarumal, Vera	3.96	256	⇑eP	Pn	03 46 23.6	+2.2
GMAL				eS	Sn	03 47 07.3	+0.6
BRRC	Barranca, Sant	3.97	114	eP	Pn	03 46 22.8	+1.2
BRRC				eS	Sn	03 47 07.3	+0.3
BRRC				i		03 47 11.9	
	comp=Z,9.9nm,0.2s						
OCAC	Ocana	4.03	97	eP	Pn	03 46 22.6	0.0
OCAC				eS	Sn	03 47 08.2	-0.5
BARC	Barichara	4.67	117	eP	Pn	03 46 32.6	+1.2
BARC				eS	Sn	03 47 24.0	-0.6
BARC				i		03 47 28.8	
	comp=Z,9.5nm,0.4s						
RUSC	La Rusia	5.11	124	eP	Pn	03 46 37.8	+0.1
RUSC				eS	Sn	03 47 35.4	-0.4
RUSC				i		03 47 42.4	
	comp=Z,5.4nm,0.5s						

IDC 11 03:48:59.0±0.7, 31°.24N×142°.13E, h0km, mb4.1/19, mb1 4.2/23, mb1mx4.1/63, mbtmp4.1/23, ML3.9/3, MS3.2/3, Ms1 3.3/3, ms1mx2.7/40, Error ellipse: s-maj=20.3km s-min=15.0km az=72.0
JMA 11 03:48:59.7±0.2, 31°.29N×142°.40E, h48km, M4.1
NEIC 11 03:49:01.7±1.2, 31°.24N±0°.07×142°.5E±0°.1, h23km±6km, mb4.5/22, Error ellipse: s-maj=15.8km s-min=9.8km az=83.0
ISC 11 03:49:03.1±0.6, 31°.31N±0°.05×142°.39E±0°.09, h35km, n70, σ1^{s}66/74, mb4.3/29, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	3.54	341	P	Pn	03 49 54.0	-1.2
BSO3	Boso 3	3.83	336	P	Pn	03 49 58.4	-0.9
BSO3				eS	Sn	03 50 41.7	-1.3
BSO4	Boso 4	4.06	335	P	Pn	03 50 01.9	-0.7
CBIJ	Chichi jima	4.20	183	P	Pn	03 50 02.7	-2.0
CBIJ				eS	Sn	03 50 49.9	-2.6
JCJ	Chichijima	4.20	183	Pn	Pn	03 50 03.1	-1.6
	11nm,0.3s,baz=356,slow=21,SNR=8.2						
JCJ				Sn	Sn	03 50 49.0	-3.6
	9.2nm,0.3s,baz=300,slow=20,SNR=1.9						
JHU	Hanno	5.22	331	eS	Sn	03 51 14.0	-3.8
JHO	Hitachi	5.50	345	P	Pn	03 50 20.9	-1.7
JHO				eS	Sn	03 51 20.8	-3.9
JRY	Ryogami san	5.53	329	P	Pn	03 50 22.4	-0.6
JAG	Ashikaga	5.66	335	P	Pn	03 50 24.0	-0.8
JAG				eS	Sn	03 51 26.8	-1.7
JGF	Kuroka	6.00	317	Pn	Pn	03 50 30.9	+1.4
JFK	Kawauchi	6.17	349	eS	Sn	03 51 36.2	-5.0
MJAR	Matsushiro Arr	6.27	327	Pn	Pn	03 50 32.6	-0.6
	1.0nm,0.3s,baz=154,slow=11,SNR=70						
MJAR	Matsushiro Arr	6.27	327		Pn	03 50 33.3	+0.1
MAJO	Matsushiro	6.28	327	Pn	Pn	03 50 33.8	+0.6
MAT	Matsushiro	6.28	327	P	Pn	03 50 32.9	-0.3
MAT				S	Sn	03 51 42.3	-1.4
JMM	Marumori	6.68	349		Pn	03 50 38.6	0.0
JWT	Wachi	7.07	306	Pn	Pn	03 50 45.0	+0.9
JMK	Ichinoseki	7.69	353	eS	Sn	03 52 12.8	-5.6
JTM	Tenmabayashi	9.52	354	Pn	Pn	03 51 17.2	-0.5
JNU	Nakatsue	9.92	284	Pn	Pn	03 51 24.6	+1.3
	0.2nm,0.3s,baz=100,slow=6.4,SNR=6.8						
JNU	Nakatsue	9.92	284		Pn	03 51 24.3	+1.0
KSRS	Korea Array	13.43	301	Pn	Pn	03 52 13.9	+2.8
	0.3nm,0.3s,baz=116,slow=12,SNR=8.1						
KSRS				LR	LR	03 57 09.7	
	comp=Z,94nm,18.1s,baz=114,slow=37						
USRK	Ussuriysk Ar.	15.26	330	Pn	Pn	03 52 34.1	-1.8
	baz=142,slow=14,SNR=3.8						
KLR	Kul'dur	19.62	339	P	P	03 53 28.9	+0.5
	0.5nm,0.3s,baz=140,slow=10,SNR=13						
SSLB	Suanglung	20.41	254	P	P	03 53 36.8	-0.5
HIA	Hailar	24.75	323	P	P	03 54 21.3	-0.1
HIA				IAmb	IAmb	03 54 22.6	
	comp=Z,10nm,0.8s						
XAN	Xi'an	28.24	285	P	P	03 54 51.3	-1.6
ULN	Ulaanbaatar	31.52	312	P	P	03 55 22.6	+0.6
ULN				IAmb	IAmb	03 55 27.1	
	comp=Z,9.1nm,1.4s						
SONM	Songino Array	31.93	312	P	P	03 55 26.5	+0.9
	comp=Z,1.7nm,0.8s,baz=123,slow=8.6,SNR=8.4						
SONM	Songino Array	31.93	312	P	P	03 55 26.8	+1.2
SONM				IAmb	IAmb	03 55 29.6	
	comp=Z,5.8nm,1.3s						
CMAR	Chiang Mai Arr	41.19	262	P	P	03 56 43.8	-0.8
	comp=Z,1.2nm,0.4s,baz=36,slow=8.6,SNR=4.4						
CMAR				LR	LR	04 16 13.2	
	comp=Z,34nm,18.0s,baz=80,slow=40						
ZALV	Zalesovo Beam	46.50	317	P	P	03 57 26.5	-0.3
	comp=Z,1.8nm,0.5s,baz=72,slow=4.8,SNR=4.7						
ZALV				LR	LR	04 16 00.9	
	comp=Z,22nm,18.1s,baz=62,slow=35						
ZALV	Zalesovo Beam	46.50	317	P	P	03 57 26.8	0.0
MK31	Makanchi Array	48.02	307	P	P	03 57 39.2	+0.4
MK31				IAmb	IAmb	03 57 43.2	
	comp=Z,4.0nm,0.9s						
MKAR	Makanchi Array	48.02	307	P	P	03 57 39.1	+0.3
	comp=Z,4.3nm,0.8s,baz=89,slow=9.5,SNR=15						
KURK	Kurchatov	50.24	312	P	P	03 57 56.3	+0.7
KURBB	Kurchatov Arra	50.30	312	P	P	03 57 56.3	+0.2
	comp=Z,2.7nm,0.9s,baz=86,slow=7.2,SNR=19						
WRA	Warramunga Arr	51.54	190	P	P	03 58 05.8	+0.1
	comp=Z,5.5nm,0.8s,baz=5.3,slow=7.1,SNR=63						
TARG	Taragay, Kyrgy	51.84	301	IAmb	IAmb	03 58 11.4	
	comp=Z,5.1nm,1.0s						
BOOM	Boomskoye usch	53.07	302	P	P	03 58 19.1	+2.0
IL31		53.96	30	P	P	03 58 23.0	-0.1
ILAR	Eielson Array	53.96	30	P	P	03 58 25.2	+2.1
	comp=Z,0.8nm,0.7s,baz=263,slow=6.2,SNR=9.1						
AAK	Ala-Archa	54.08	302	P	P	03 58 24.6	0.0
	comp=Z,2.0nm,0.6s,baz=105,slow=7.8,SNR=5.4						
AAK	Ala-Archa	54.08	302	P	P	03 58 25.0	+0.4
BVAR	Borovoye Array	55.12	316	P	P	03 58 32.5	+0.8
	comp=Z,1.8nm,0.7s,baz=142,slow=5.6,SNR=5.3						
BRVK	Borovoye	55.18	316	P	P	03 58 32.9	+0.8
BRVK				IAmb	IAmb	03 58 33.6	
	comp=Z,3.0nm,0.8s						
AS31	Alice Springs	55.26	189	P	P	03 58 32.8	-0.3
ASAR	Alice Springs	55.26	189	P	P	03 58 33.5	+0.5
	comp=Z,2.2nm,0.5s,baz=7.6,slow=6.6,SNR=39						
ASAR	Alice Springs	55.26	189	P	P	03 58 33.1	+0.1
KK31	Karatay Array	56.84	304	P	P	03 58 44.6	+0.4
KK31				IAmb	IAmb	03 58 59.6	
	comp=Z,10.0nm,1.1s						
KKAR	Karatay Array	56.84	304	P	P	03 58 44.6	+0.4
GAR	Garm	58.04	299	P	P	03 58 53.3	+0.4
CHGR	Chuyangaron	59.01	299	P	P	03 58 59.8	+0.3
KBL	Kabul	60.38	295	P	P	03 59 09.6	+0.4
KBL				IAmb	IAmb	03 59 23.5	
	comp=Z,3.8nm,0.6s						
ARU	Arti	61.25	321	P	P	03 59 14.4	-0.1
	comp=Z,1.2nm,0.5s,baz=63,slow=5.3,SNR=6.1						
ARU	Arti	61.25	321	P	P	03 59 14.6	+0.2
ARU				IAmb	IAmb	03 59 15.9	
	comp=Z,6.1nm,0.9s						
ABKAR	Akbulak array	62.34	313	P	P	03 59 22.3	+0.4
AKTO	Aktyubinsk	63.18	315	P	P	03 59 28.8	+1.2
	comp=Z,1.0nm,0.5s,baz=75,slow=15,SNR=3.9						
FINES	FINESS Array B	74.27	333	P	P	04 00 36.0	-0.3
	comp=Z,1.5nm,0.9s,baz=72,slow=6.2,SNR=6.1						
KBZ	Khabaz	75.30	312	P	P	04 00 46.3	+3.7
	comp=Z,1.8nm,0.8s,baz=17,slow=1.7,SNR=5.5						
NVAR	Mina Array Bea	77.80	52	P	P	04 01 00.5	+3.3
	comp=Z,0.4nm,0.5s,baz=277,slow=5.5,SNR=7.1						
GURO	Guroymak-BITLI	78.45	308	P	P	04 01 01.6	+0.9
GURO				IAmb	IAmb	04 01 03.4	
	comp=Z,5.9nm,1.5s						
HFS	Hagfors	79.64	337	P	P	04 01 07.5	+0.9
	comp=Z,2.3nm,0.9s,baz=151,slow=3.3,SNR=3.0						
NB2	NORSAR Subarra	79.78	338	P	P	04 01 08.1	+0.6
	comp=Z,2.9nm,0.8s,baz=42,slow=5.6						
NOA	NORSAR Array B	79.78	338	P	P	04 01 08.2	+0.8
	comp=Z,1.3nm,0.8s,baz=41,slow=5.4,SNR=7.3						
PDAR	Pinedale Array	81.11	45	P	P	04 01 17.5	+2.3
	comp=Z,0.2nm,0.5s,baz=347,slow=2.8,SNR=3.8						
BR131	Keskin Array S	83.29	313	P	P	04 01 26.4	-0.1
BRTR	Keskin Array B	83.29	313	P	P	04 01 26.8	+0.2
	comp=Z,1.1nm,1.0s,baz=134,slow=3.6,SNR=6.4						
ISCO	Idaho Springs	85.25	46		P	04 01 36.2	-0.6
ISCO				IAmb	IAmb	04 01 39.7	
	comp=Z,3.1nm,0.6s						
TXAR	Lajitas Array	92.94	53	P	P	04 02 16.3	+3.2
	comp=Z,1.1nm,0.7s,baz=296,slow=3.0,SNR=19						

IDC 11 03:58:20.4±5.5, 6°.75S×128°.61E, h191km±57km, mb3.4/4, mb1 3.7/6, mb1mx3.3/36, mbtmp4.1/6, Error ellipse: s-maj=120.3km s-min=16.5km az=69.0
ISC 11 03:58:21.3±1.1, 6°.7S±0°.4×128°.8E±1°.0, h200km, n6, σ1^{s}39/8, mb3.7/4, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.17	158	P	Pn	04 01 33.4	-0.1
	1.3nm,0.3s,baz=334,slow=13,SNR=31						
WRA				S	S	04 04 09.8	-1.4
	0.8nm,0.3s,baz=334,slow=21,SNR=11						
ASAR	Alice Springs	17.52	164	P	Pn	04 02 13.6	-0.3
	2.3nm,0.3s,baz=344,slow=11,SNR=51						
ASAR				S	S	04 05 25.9	+2.1
	0.2nm,0.3s,baz=355,slow=27,SNR=2.0						
STKA	Stephens Creek	27.71	156	P	P	04 03 51.6	+0.6
	0.9nm,0.4s,baz=304,slow=18,SNR=2.9						
SONM	Songino Array	57.83	342	P	P	04 07 53.0	+1.0
	0.3nm,0.3s,baz=160,slow=4.6,SNR=3.6						
MKAR	Makanchi Array	67.38	327	P	P	04 08 54.1	-0.9
	0.6nm,0.4s,baz=115,slow=8.0,SNR=8.4						
KURBB	Kurchatov Arra	71.69	329	P	P	04 09 20.2	-1.0
	0.9nm,0.5s,baz=133,slow=5.1,SNR=10						

MEX 11 04:00:46.2±2.0, 15°.93N×98°.51W, h4km±28km, MD4.0, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.59	38	i P	Pg	04 00 57.3	-0.3
PNIG				i S	Sg	04 01 05.9	+0.7
PNIG	Pinotepa	0.59	38	eP	Pg	04 00 57.3	-0.3
PNIG				eS	Sg	04 01 05.5	+0.2
MGIG	Malinaltepec	1.31	355	eP	Pg	04 01 06.8	-4.5
MGIG				eS	Sg	04 01 23.5	-4.8
MGIG	Malinaltepec	1.31	355	eP	Pg	04 01 07.6	-3.7
MGIG				eS	Sg	04 01 24.1	-4.2
PEIG	Puerto Escondi	1.31	87	eP	Pn	04 01 09.2	-2.1
PEIG				i S	Sn	04 01 35.7	+6.5
PEIG	Puerto Escondi	1.31	87	eP	Pn	04 01 09.2	-2.1
PEIG				eS	Sg	04 01 25.0	-3.3
DAIG	Los Arroyos	1.55	315	eP	Pn	04 01 10.3	-4.3
DAIG				i S	Sn	04 01 31.1	-4.0
DAIG	Los Arroyos	1.55	315	eP	Pn	04 01 09.2	-5.4
DAIG				eS	Sn	04 01 25.5	-10
FTIG	Fresnillo de T	2.00	10	eP	Pn	04 01 18.1	-2.8
FTIG				eS	Sn	04 01 42.0	-4.6
FTIG	Fresnillo de T	2.00	10	eP	Pn	04 01 18.1	-2.9
FTIG				i S	Sn	04 01 42.0	-4.6
HLIG	Huajuapan de L	2.01	19	eP	Pn	04 01 21.8	+0.6
HLIG				eS	Sb	04 01 47.9	-1.1
HLIG	Huajuapan de L	2.01	19	eP	Pn	04 01 18.2	-2.9
HLIG				eS	Sn	04 01 41.4	-5.5
VHO	Vista Hermosa	2.05	56	i P	Pn	04 01 19.9	-1.7
VHO				i S	Sb	04 01 51.0	+1.0
VHO	Vista Hermosa	2.05	56	i P	Pn	04 01 19.9	-1.7
VHO				eS	Sn	04 01 43.8	-3.9
MEIG	Mezcala	2.26	332	eP	Pn	04 01 20.2	-4.2
MEIG				eS	Sn	04 01 51.7	-1.0
MEIG	Mezcala	2.26	332	eP	Pn	04 01 20.9	-3.5
MEIG				eS	Sn	04 01 46.8	-5.9
TOIG	Toxpalan	2.56	32	eP	Pn	04 01 29.0	+0.4
TOIG				i S	Sb	04 02 06.2	+1.5
TOIG	Toxpalan	2.56	32	eP	Pb	04 01 32.0	-0.9
TOIG				eS	Sb	04 02 05.2	+0.4
PLIG	Platanillo	2.63	339	eP	Pb	04 01 31.9	-2.1
PLIG				eS	Sn	04 02 01.9	-0.1
PLIG	Platanillo	2.63	339	eP	Pn	04 01 28.5	-1.0
PLIG				eS	Sn	04 02 02.9	+0.9
TPIG	Tehuac#an	2.71	24	eP	Pb	04 01 35.6	+0.2
TPIG				eS	Sb	04 02 08.1	-1.0
TPIG	Tehuac#an	2.71	24	eP	Pb	04 01 35.4	0.0
TPIG				eS	Sn	04 02 01.9	-2.2
MAVM	Malinalco, Edo	3.16	343	i P	Pb	04 01 42.9	-0.2
MAVM				i S	Sn	04 02 10.8	-4.4

AEIC 11 04:01:54±1.9, 52°.00N±0°.08×169°.3W±0°.1, h30km±9km, ML3.2, Error ellipse: s-maj=13.3km s-min=9.4km az=135.0
NEIC 11 04:01:55.3±1.6, 52°.0N±0°.1×169°.53W±0°.07, h36km±58km, Error ellipse: s-maj=17.8km s-min=3.1km az=161.0
IDC 11 04:02:09.9±14.0, 52°.30N×169°.38W, h147km±128km, mb3.2/6, mb1 3.3/7, mb1mx3.1/50, mbtmp3.5/7, ML2.9/1, Error ellipse: s-maj=60.2km s-min=28.6km az=17.0
ISC 11 04:01:56.2±1.4, 52°.1N±0°.2×169°.6W±0°.1, h30km, n22, σ1^{s}83/22, mb3.6/6, Fox Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	1.01	25		Pn	04 02 12.6	-1.6
OKSP	Okmok Steeple	1.42	33		Pn	04 02 18.3	-1.7
OKSO	Okmok South	1.55	33		Pn	04 02 20.6	-1.2
OKCE	Okmok Cone E	1.61	31		Pn	04 02 21.6	-0.9
OKTU	Okmok Mt. Tuli	1.62	34		Pn	04 02 21.3	-1.3
OKFG	Magazine Ridge	1.68	36		Pn	04 02 22.1	-1.4
MAPS	Pakushin South	2.36	41		Pn	04 02 31.6	-1.3
MSW	Makushin Switc	2.50	41		Pn	04 02 33.7	-1.1
UNV	Unalaska Valle	2.57	45		Pn	04 02 34.3	-1.4
AKMO	Akutan Morgan	2.95	45		Pn	04 02 40.4	-0.6
AKBBA	Akutan Broad B	2.99	46		Pn	04 02 41.0	-0.5
AKUT	Akutan	3.09	46	Pn	Pn	04 02 38.0	-4.8
ADK	Adak	4.41	270	Pn	Pn	04 02 58.9	-2.1
KIWB	Kanaga Island	4.70	270	Pn	Pn	04 03 03.3	-1.6
AMKA	Amchitka	6.95	269	Pn	Pn	04 03 36.7	+0.8
ILAR	Eielson Array	17.27	34	P	P	04 05 59.6	+3.6
	0.1nm,0.3s,baz=232,slow=8.8,SNR=5.3						
INK	Inuvik	23.67	33	P	P	04 07 03.8	-0.8
	1.9nm,0.7s,baz=203,slow=7.7,SNR=2.0						
SONM	Songino Array	51.35	301	P	P	04 10 59.0	+1.3
	0.4nm,0.4s,baz=52,slow=9.3,SNR=2.4						
TXAR	Lajitas Array	52.87	89	P	P	04 11 09.7	+0.5
	0.2nm,0.8s,baz=306,slow=7.6,SNR=4.2						
MKAR	Makanchi Array	63.93	313	P	P	04 12 25.8	-0.2
	0.1nm,0.3s,baz=47,slow=8.3,SNR=1.4						
FINES	FINESS Array B	66.16	352	P	P	04 12 39.6	-0.6
	1.3nm,0.7s,baz=17,slow=10,SNR=3.7						
NOA	NORSAR Array B	67.25	360	P	P	04 12 47.1	-0.1
	0.3nm,0.7s,baz=24,slow=5.9,SNR=2.5						

ROM 11 04:15:51.8±0.2, 40°.279N±0°.005×15°.907E±0°.006, h10km±1km, Md1.1/5, Error ellipse: s-maj=0.6km s-min=0.2km az=200.0, Southern Italy

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AG11	Viggiano (PZ)	0.06	33	P	Pg	04 15 54.2	+0.1
AG11				S	Sg	04 15 56.0	+0.2
AG11				END			
MCEL	Monticello	0.09	300	P	Pg	04 15 54.8	+0.3
MCEL				S	Sg	04 15 57.3	+0.9
MCEL				END			
SIRI	Monte Sirino -	0.10	197	P	Pg	04 15 54.8	+0.2
SIRI				S	Sg	04 15 57.1	+0.6
SIRI				END			
MTSN	Montesano sull	0.12	264	P	Pg	04 15 55.2	+0.4
MTSN				S	Sg	04 15 57.4	+0.4
MTSN				END			
SCHR	S. Chirico Rap	0.15	121	P	Pg	04 15 55.8	+0.5
SCHR				S	Sg	04 15 58.9	+1.1
SCHR				END			

IDC 11 04:50:45.4±14.0, 4°.81S×128°.32E, h0km, mb4.0/1, mb1 3.8/3, mb1mx3.5/33, mbtmp3.6/3, ML3.4/2, Error ellipse: s-maj=206.9km s-min=122.1km az=152.0, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.15	159	Pn	Pn	04 54 33.6	-0.3
	0.1nm,0.3s,baz=338,slow=13,SNR=10						
ASAR	Alice Springs	19.51	164	P	P	04 55 14.4	+0.1
	0.2nm,0.3s,baz=344,slow=9.8,SNR=9.1						
STKA	Stephens Creek	29.67	157	P	P	04 56 53.0	+0.1
	1.6nm,0.9s,baz=304,slow=7.3,SNR=2.9						

IDC 11 04:51:41.0±3.0, 20°.50S×176°.58W, h268km±28km, mb3.5/5, mb1 3.7/8, mb1mx3.4/32, mbtmp4.2/8, Error ellipse: s-maj=27.5km s-min=24.2km az=10.0
ISC 11 04:51:37.9±1.3, 20°.6S±0°.2×176°.4W±0°.2, h234km, n8, σ1^{s}42/8, mb3.7/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.95	298	P	Pn	04 53 06.7	+1.4
	9.2nm,0.3s,baz=174,slow=16,SNR=13						
DZM	Mont Dzumac	16.04	262	P	Pn	04 55 11.8	+0.4
	1.9nm,0.3s,baz=84,slow=19,SNR=16						
URZ	Urewera	18.48	196	P	P	04 55 37.3	+0.8

0.9nm,0.3s,baz=283,slow=3.3,SNR=7.4
CTA Charters Tower 34.96 264 P **P** 04 58 07.6 -0.5
3.7nm,0.5s,baz=92,slow=8.4
ASAR Alice Springs 45.94 257 P **P** 04 59 36.9 -1.0
3.4nm,0.7s,baz=95,slow=8.2,SNR=33
WRA Warramunga Arr 46.06 262 P **P** 04 59 36.5 -2.3
0.8nm,0.3s,baz=95,slow=7.5,SNR=45
QSPA South Pole Qui 69.48 180 P **P** 05 02 21.5 +0.7
1.6nm,1.0s,baz=91,slow=2.0,SNR=3.2
TXAR Lajitas Array 85.86 57 P **P** 05 03 51.5 -0.2
0.5nm,0.8s,baz=210,slow=7.2,SNR=7.5

*IDC **11** 04:56:59.5±0.7,32.58S×178.38W, h0km, mb4.3/8, mb1 4.5/10, mb1mx4.2/31, mbtmp4.3/10, ML4.4/2, MS3.7/10, Ms1 3.7/10, ms1mx3.4/34, Error ellipse: s-maj=23.3km s-min=19.2km az=96.0*
*NEIC **11** 04:57:01.9±1.7,32.61S±0.08×178.4W±0.2, h10km±1km, mb4.8/17, Error ellipse: s-maj=25.3km s-min=12.3km az=107.0*
*WEL **11** 04:57:02.9±0.5,32.5S±9.9°×17.9W±2.2°, h33km, M4.7/19, mB5.1/13, ML5.2/21, MLv5.0/19, Mw(mB)4.5/13, Error ellipse: s-maj=0.0km s-min=0.0km az=112.2*

ISC 11 04:57:04.6±0.6, 32.70S±0.05×178.5W±0.1, h33km, n84, σ1§67/92, mb4.6/15, MS3.7/9, 1C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.47**	**8**	P		Pn	04 57 50.6	-5.7
GLKZ				S		**Sn**	**04 58 30.7**	**-5.4**
RAO	**Raoul Island**	**3.48**	**8**	Pn		Pn	04 57 52.8	-3.5
	71nm,0.3s,baz=108,slow=20,SNR=2.3							
RAO				Sn		**Sn**	**04 58 30.6**	**-5.8**
	96nm,0.3s,baz=75,slow=20,SNR=2.0							
MXZ	**Matakaoa Point**	**5.51**	**207**	P		**Pn**	**04 58 22.5**	**-1.8**
MXZ				S		**Sn**	**04 59 27.0**	**+0.5**
WMGZ	**Waiomatatini S**	**5.70**	**205**	P		**Pn**	**04 58 28.1**	**+1.3**
WMGZ				S		**Sn**	**04 59 33.6**	**+2.5**
PKGZ	**Pakihiroa**	**5.88**	**207**	P		**Pn**	**04 58 27.4**	**-2.0**
PKGZ				S		**Sn**	**04 59 37.6**	**+1.8**
HAZ	**Te Kaha**	**5.89**	**210**	P		**Pn**	**04 58 29.2**	**-0.3**
HAZ				S		**Sn**	**04 59 39.6**	**+3.8**
PUZ	**Puketiti**	**5.98**	**205**	P		**Pn**	**04 58 28.0**	**-2.7**
PUZ				S		**Sn**	**04 59 38.5**	**+0.5**
RUGZ	**Raukumara Rang**	**6.11**	**210**	P		**Pn**	**04 58 31.1**	**-1.5**
RUGZ				S		**Sn**	**04 59 43.5**	**+2.1**
TWGZ	**Tauwhareparae**	**6.17**	**207**	P		**Pn**	**04 58 34.0**	**+0.6**
TWGZ				S		**Sn**	**04 59 44.1**	**+1.2**
CNGZ	**Carnagh Statio**	**6.36**	**204**	P		**Pn**	**04 58 36.6**	**+0.7**
TKGZ	**Te Karaka**	**6.45**	**206**	P		**Pn**	**04 58 37.1**	**-0.1**
TKGZ				S		**Sn**	**04 59 48.0**	**-1.6**
MWZ	**Matawai**	**6.49**	**209**	P		**Pn**	**04 58 36.6**	**-1.2**
MWZ				S		**Sn**	**04 59 49.9**	**-0.7**
URZ	**Urewera**	**6.60**	**212**	Pn		**Pn**	**04 58 38.7**	**-0.6**
	4.8nm,0.3s,baz=28,slow=3.5,SNR=15							
URZ				Sn		**Sn**	**04 59 52.7**	**-0.6**
	14nm,0.3s,baz=278,slow=23,SNR=7.5							
URZ	**Urewera**	**6.60**	**212**			**Pn**	**04 58 39.8**	**+0.5**
URZ	**Urewera**	**6.60**	**212**	P		**Pn**	**04 58 38.5**	**-0.8**
URZ				S		**Sn**	**04 59 52.5**	**-0.8**
RAGZ	**Rawiri**	**6.67**	**209**	P		**Pn**	**04 58 40.5**	**+0.2**
RAGZ				S		**Sn**	**04 59 54.1**	**-1.1**
RIGZ	**Rimuhau**	**6.72**	**206**	P		**Pn**	**04 58 40.8**	**-0.1**
RIGZ				S		**Sn**	**04 59 56.3**	**0.0**
PRGZ	**Paritu Road**	**6.87**	**204**	P		Pn	04 58 38.3	-4.6
PRGZ				S		**Sn**	**04 59 58.8**	**-1.2**
MUGZ	**Murupara**	**6.93**	**212**	P		**Pn**	**04 58 41.7**	**-2.2**
MUGZ				S		**Sn**	**05 00 00.7**	**-0.8**
SNGZ	**Shannon Statio**	**6.95**	**208**	P		**Pn**	**04 58 43.1**	**-1.0**
SNGZ				S		**Sn**	**05 00 00.7**	**-1.2**
RTZ	**Ruatahuna**	**6.95**	**211**	P		**Pn**	**04 58 43.5**	**-0.7**
RTZ				S		**Sn**	**05 00 00.6**	**-1.5**
KNZ	**Kokohu**	**7.03**	**205**	P		**Pn**	**04 58 45.7**	**+0.6**
KNZ				S		**Sn**	**05 00 02.1**	**-1.7**
RAHZ	**Arahi**	**7.16**	**209**	P		Pn	04 58 42.3	-4.7
RAHZ				S		**Sn**	**05 00 07.1**	**-0.1**
MTHZ	**Maungataniwha**	**7.21**	**210**	P		**Pn**	**04 58 48.1**	**+0.4**
MTHZ				S		**Sn**	**05 00 07.9**	**-0.5**
NMHZ	**Naumai**	**7.43**	**210**	P		**Pn**	**04 58 51.9**	**+1.2**
NMHZ				S		**Sn**	**05 00 13.9**	**0.0**
BKZ	**Black Stump Fm**	**7.62**	**211**			**Pn**	**04 58 53.5**	**+0.1**
BKZ	**Black Stump Fm**	**7.62**	**211**	P		**Pn**	**04 58 52.3**	**-1.0**
BKZ				S		**Sn**	**05 00 17.1**	**-1.4**
OTVZ	**Oturere**	**8.00**	**215**	P		**Pn**	**04 58 58.3**	**-0.3**
OTVZ				S		**Sn**	**05 00 27.7**	**-0.3**
KRHZ	**Kereru**	**8.07**	**209**	P		**Pn**	**04 58 56.4**	**-3.2**
KRHZ				S		**Sn**	**05 00 25.4**	**-4.2**
FWVZ	**Far West T-bar**	**8.12**	**215**	P		**Pn**	**04 59 01.9**	**+1.6**
FWVZ				S		**Sn**	**05 00 28.6**	**-2.5**
MOVZ	**Moawhango**	**8.15**	**213**	P		**Pn**	**04 59 00.5**	**-0.1**
MOVZ				S		**Sn**	**05 00 27.5**	**-4.1**
WNVZ	**Wahianoa**	**8.16**	**214**	P		**Pn**	**04 59 00.3**	**-0.5**
MSVF	**Nonsavu**	**15.23**	**347**	LR		LR	05 05 40.6	
	comp=Z,393nm,18.6s,baz=166,slow=34							
DZM	**Mont Dzumac**	**17.04**	**305**	*e*Pn		P	05 01 11.4	+9.4
	14nm,0.8s							
DZM				*e*LR		LR	05 05 05.7	
	comp=Z,556nm,22.9s							
DZM	**Mont Dzumac**	**17.04**	**305**	P		**P**	**05 01 06.4**	**+4.4**
	0.4nm,0.3s,baz=126,slow=19,SNR=2.0							
DZM				LR		LR	05 06 35.5	
	comp=Z,737nm,18.4s,baz=170,slow=34							
EIDS	**Eidsvold**	**27.52**	**277**	P		**P**	**05 02 48.3**	**+0.1**
EIDS				IAmb	IAmb		05 02 53.3	
	comp=Z,33nm,1.4s							
PPT2	**Papeete2**	**30.07**	**67**	*e*LR		LR	05 11 00.5	
	comp=Z,91nm,21.8s							
PPT	**Papeete**	**30.08**	**67**	LR		LR	05 12 03.6	
	comp=Z,74nm,21.3s,baz=268,slow=30							
STKA	**Stephens Creek**	**33.61**	**260**	P		**P**	**05 03 43.2**	**+1.3**
	comp=Z,1.8nm,0.8s,baz=104,slow=8.3,SNR=3.1							
STKA				LR		LR	05 16 25.7	
	comp=Z,228nm,18.9s,baz=33,slow=35							
STKA	**Stephens Creek**	**33.61**	**260**	IAmb		IAmb	05 03 44.7	
	comp=Z,1.4nm,1.2s							
CTA	**Charters Tower**	**33.82**	**283**	P		**P**	**05 03 44.6**	**+0.7**
	comp=Z,11nm,0.6s,baz=109,slow=10.0,SNR=21							
CTAO	**Charters Tower**	**33.82**	**283**	P		**P**	**05 03 44.1**	**+0.2**
CTAO				IAmb		IAmb	05 03 53.0	
	comp=Z,39nm,1.3s							
AS31	**Alice Springs**	**42.62**	**270**	P		**P**	**05 04 58.4**	**+0.4**
ASAR	**Alice Springs**	**42.62**	**270**	P		**P**	**05 04 58.8**	**+0.8**
	comp=Z,6.1nm,0.6s,baz=107,slow=7.5,SNR=74							
WR0	**Warramunga Arr**	**43.64**	**275**	P		**P**	**05 05 06.8**	**+0.6**
WR0				IAmb		IAmb	05 05 20.9	
	comp=Z,21nm,1.4s							
WB2	**Warramunga Arr**	**43.80**	**275**	P		**P**	**05 05 08.6**	**+1.1**
WB2				IAmb		IAmb	05 05 22.3	
	comp=Z,16nm,0.6s							
WRA	**Warramunga Arr**	**43.81**	**275**	P		**P**	**05 05 08.2**	**+0.6**
	comp=Z,12nm,0.8s,baz=120,slow=7.7,SNR=78							
WRA				LR		LR	05 22 19.2	
	comp=Z,87nm,19.9s,baz=55,slow=35							
FORT	**Forrest**	**45.09**	**257**	P		**P**	**05 05 17.6**	**-0.1**
VNDA	**Vanda**	**45.77**	**186**	P		**P**	**05 05 24.6**	**+2.2**
	comp=Z,0.5nm,0.9s,baz=33,slow=5.4,SNR=2.5							
VNDA				LR		LR	05 21 40.6	
	comp=Z,51nm,20.0s,baz=7.0,slow=32							
VNDA	**Vanda**	**45.77**	**186**	IAmb		IAmb	05 05 24.7	
	comp=Z,2.9nm,1.4s							
MTN	**Manton Dam**	**49.97**	**281**	P		**P**	**05 05 55.5**	**-0.2**
FITZ	**Fitzroy Crossi**	**51.97**	**272**	P		**P**	**05 06 11.1**	**+0.3**
FITZ				IAmb		IAmb	05 06 11.5	
	comp=Z,5.8nm,0.9s							
CASY	**Casey**	**52.92**	**209**	P		**P**	**05 06 17.4**	**+0.3**
CASY				IAmb		IAmb	05 06 18.3	
	comp=Z,7.3nm,1.0s							
QSPA	**South Pole Qui**	**57.41**	**180**	P		**P**	**05 06 50.7**	**+1.0**
	comp=Z,2.3nm,1.0s,baz=84,slow=3.7,SNR=5.2							
QSPA	**South Pole Qui**	**57.41**	**180**	IAmb		IAmb	05 07 07.0	
	comp=Z,6.4nm,0.8s							
MAW	**Mawson**	**70.01**	**201**	P		**P**	**05 08 12.8**	**+0.3**
	comp=Z,2.4nm,0.9s,baz=238,slow=3.7,SNR=4.3							
MAW	**Mawson**	**70.01**	**201**	IAmb		IAmb	05 08 20.7	
	comp=Z,2.7nm,1.5s							
SYO	**Syowa Base**	**74.78**	**193**	*e*P		**P**	**05 08 41.2**	**+0.3**
SNAA	**Sanae**	**75.87**	**179**	P		P	05 08 56.5	+9.2
VNA3	**Neumayer Olymp**	**76.04**	**176**	P		P	05 08 57.9	+10
VNA2	**Neumayer--Watz**	**76.47**	**177**	P		P	05 09 00.1	+9.5
	baz=176,slow=4.7							
VNA1	**Neumayer--Stat**	**76.70**	**177**	P		P	05 09 01.5	+10
TWG	**Pinlang**	**79.83**	**305**	P		**P**	**05 09 09.5**	**-0.4**

PLCA	**Paso Flores**	**81.25**	**133**	LR		LR	05 39 54.6	
	comp=Z,29nm,18.7s,baz=180,slow=32							
PETK	**Petropavlovsk-**	**87.93**	**346**	LR		LR	05 51 02.0	
	comp=Z,29nm,18.5s,baz=175,slow=37							
ISA	**Isabella, Lake**	**88.23**	**45**	P		**P**	**05 09 52.6**	**+0.2**
ISA				IAmb		IAmb	05 10 06.4	
	comp=Z,8.3nm,1.5s							
NVAR	**Mina Array Bea**	**90.21**	**43**	P		**P**	**05 10 02.5**	**+0.7**
	comp=Z,1.3nm,0.9s,baz=217,slow=7.1,SNR=8.0							
KLR	**Kul'dur**	**92.81**	**330**	LR		LR	05 49 33.9	
	comp=Z,36nm,18.4s,baz=154,slow=34							
BJT	**Baijiatuao**	**94.26**	**316**	P		**P**	**05 10 20.7**	**+0.5**
BJT				IAmb		IAmb	05 10 42.7	
	comp=Z,9.1nm,1.4s							
MA2	**Magadan**	**95.40**	**345**	P		**P**	**05 10 26.6**	**+1.6**
CPUP	**Villa Florida**	**98.88**	**129**	LR		LR	05 46 40.6	
	comp=Z,28nm,21.6s,baz=221,slow=30							
MKAR	**Makanchi Array**	**118.91**	**309**	PKP		**PKPdf**	**05 15 48.7**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=183,slow=0.3,SNR=4.8							
ARCES	**ARCESS Array B**	**140.74**	**347**	PKhKP		PKPpre	05 16 24.9	
	comp=Z,4.0nm,0.9s,baz=29,slow=2.3,SNR=2.2							
ARCES				PKP		**PKPdf**	**05 16 31.3**	**+1.4**
	comp=Z,2.7nm,0.8s,baz=45,slow=2.7,SNR=6.2							
KBZ	**Khabaz**	**145.99**	**301**	PKPbc		**PKPbc**	**05 16 41.0**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=194,slow=6.0,SNR=2.7							
FINES	**FINESS Array B**	**147.14**	**338**	PKPbc		**PKPbc**	**05 16 43.2**	**-0.3**
	comp=Z,18nm,0.9s,baz=50,slow=4.1,SNR=35							
NB2	**NORSAR Subarra1**	**150.95**	**350**	PKP		**PKPbc**	**05 16 53.2**	**0.0**
	comp=Z,1.4nm,0.7s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**150.95**	**350**	PKPbc		**PKPbc**	**05 16 53.0**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=14,slow=4.1,SNR=14							
AKASG	**Malin Array Be**	**152.82**	**320**	PKPbc		**PKPbc**	**05 16 56.6**	**-1.1**
	comp=Z,2.6nm,0.6s,baz=49,slow=2.1,SNR=9.3							
AKASG	**Malin Array Be**	**152.82**	**320**			**PKiKP**	**05 16 58.5**	**+0.6**
BRTR	**Keskin Array B**	**153.24**	**294**	PKPbc		**PKPbc**	**05 16 59.0**	**-0.2**
	comp=Z,2.8nm,0.7s,baz=151,slow=2.8,SNR=7.6							
DBIC	**Dimbokro**	**153.43**	**166**	PKPbc		**PKPbc**	**05 17 00.1**	**-0.1**
	comp=Z,3.1nm,0.9s,baz=197,slow=4.6,SNR=2.3							
CLL	**Collm**	**159.59**	**339**	*e*PKPab		**PKPab**	**05 17 34.0**	**-3.7**
	comp=Z,6.0nm,0.6s							
TORD	**Torodi Ar. Bea**	**160.53**	**181**	PKPab		**PKPab**	**05 17 42.5**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=140,slow=3.3,SNR=2.0							
GERES	**GERESS Array B**	**161.46**	**334**	PKPab		**PKPab**	**05 17 45.3**	**-0.9**
	comp=Z,0.3nm,0.2s,baz=7.6,slow=3.0,SNR=4.2							

*IDC **11** 05:01:52.2±0.7,31.27N×142.10E, h0km, mb3.8/11, mb1 4.0/14, mb1mx3.9/36, mbtmp3.8/14, ML3.7/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/44, Error ellipse: s-maj=25.2km s-min=16.4km az=81.0*

ISC 11 05:01:56.5±0.7, 31.25N±0.09×141.9E±0.1, h29km, n17, σ1§31/18, mb3.7/11, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.15**	**176**	Pn		**Pn**	**05 02 57.8**	**-0.1**
	7.1nm,0.3s,baz=287,slow=18,SNR=4.2							
MJAR	**Matsushiro Arr**	**6.10**	**331**	Pn		**Pn**	**05 03 25.6**	**+0.9**
	0.7nm,0.3s,baz=156,slow=12,SNR=17							
MAT	**Matsushiro**	**6.10**	**331**	P		**Pn**	**05 03 26.1**	**+1.4**
MAT				*e*S		**Sn**	**05 04 33.2**	**-0.4**
KSRS	**Korea Array**	**13.09**	**302**	Pn		**P**	**05 05 06.6**	**-3.7**
	0.2nm,0.3s,baz=115,slow=13,SNR=4.1							
KSRS				LR		LR	05 10 22.1	
	comp=Z,52nm,18.2s,baz=210,slow=38							
KLR	**Kul'dur**	**19.52**	**340**	P		**P**	**05 06 21.1**	**-0.3**
	0.4nm,0.3s,baz=142,slow=8.5,SNR=7.4							
SONM	**Songino Array**	**31.65**	**312**	P		**P**	**05 08 19.3**	**+2.1**
	0.6nm,0.5s,baz=113,slow=11,SNR=4.0							
MKAR	**Makanchi Array**	**47.37**	**307**	P		**P**	**05 10 32.0**	**+1.5**
	1.0nm,0.6s,baz=89,slow=8.3,SNR=10.0							
WRA	**Warramunga Arr**	**51.42**	**189**	P		**P**	**05 10 58.9**	**0.0**
	2.4nm,0.5s,baz=5.7,slow=7.2,SNR=36							
ILAR	**Eielson Array**	**54.22**	**30**	P		**P**	**05 11 17.8**	**-1.4**
	0.6nm,0.8s,baz=261,slow=6.0,SNR=6.4							
ASAR	**Alice Springs**	**55.14**	**189**	P		**P**	**05 11 26.6**	**+0.3**
	1.2nm,0.5s,baz=1.6,slow=5.7,SNR=23							
FINES	**FINESS Array B**	**74.12**	**333**	P		**P**	**05 13 30.1**	**+0.4**
	0.4nm,0.5s,baz=64,slow=8.7,SNR=6.0							
NVAR	**Mina Array Bea**	**78.17**	**52**	P		**P**	**05 13 53.5**	**0.0**
	0.2nm,0.6s,baz=274,slow=5.4,SNR=3.7							
AKASG	**Malin Array Be**	**79.13**	**323**	P		**P**	**05 13 58.3**	**+0.1**
	0.4nm,0.4s,baz=52,slow=5.1,SNR=2.8							
NOA	**NORSAR Array B**	**79.67**	**338**	P		**P**	**05 14 00.8**	**-0.2**
	0.2nm,0.7s,baz=42,slow=5.5,SNR=3.2							
PDAR	**Pinedale Array**	**81.45**	**45**	P		**P**	**05 14 10.9**	**-0.3**
	0.1nm,0.5s,baz=280,slow=5.0,SNR=2.6							
TXAR	**Lajitas Array**	**93.31**	**53**	P		**P**	**05 15 09.2**	**+0.1**
	0.9nm,0.7s,baz=301,slow=3.3,SNR=16							
LPAZ	**La Paz**	**148.87**	**68**	PKPbc		**PKPbc**	**05 21 43.2**	**+0.5**
	0.6nm,0.7s,baz=27,slow=4.5,SNR=3.0							

IDC 11 05:23:56.4±3.8, 4.84S×152.05E, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.5/37, mbtmp3.8/2, Error ellipse: s-maj=143.2km s-min=51.9km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.87**	**227**	P		P	05 29 01.6	0.0
	1.6nm,0.4s,baz=52,slow=9.9,SNR=36							
ASAR	**Alice Springs**	**25.62**	**221**	P		P	05 29 27.9	+0.1
	0.9nm,0.6s,baz=54,slow=8.9,SNR=9.4							
TORD	**Torodi Ar. Bea**	**149.61**	**288**	PKPbc		PKPbc	05 43 48.5	-0.5
	0.5nm,0.6s,baz=77,slow=3.1,SNR=2.6							

IDC 11 05:29:02.0±2.8, 31.91S×178.22W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/42, mbtmp3.8/3, MS3.3/1, Ms1 3.3/1, ms1mx2.6/35, Error ellipse: s-maj=70.3km s-min=44.3km az=124.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.40**	**210**	Pn		Pn	05 30 51.2	-0.1
	baz=328,slow=9.5							
URZ				Sn		Sn	05 32 10.3	-5.5
	1.5nm,0.3s,baz=217,slow=23,SNR=5.7							
DZM	**Mont Dzumac**	**16.80**	**302**	LR		LR	05 38 21.9	
	comp=Z,107nm,18.8s,baz=211,slow=33							
ASAR	**Alice Springs**	**42.86**	**269**	P		P	05 37 02.8	+0.5
	0.5nm,0.5s,baz=108,slow=7.3,SNR=6.1							
WRA	**Warramunga Arr**	**43.98**	**274**	P		P	05 37 10.7	-0.7
	1.1nm,0.6s,baz=116,slow=7.6,SNR=10							
FINES	**FINESS Array B**	**146.49**	**339**	PKPbc		PKPdf	05 48 43.6	+0.6
	1.5nm,0.5s,baz=43,slow=3.4,SNR=14							

IDC 11 05:31:32.6±2.5, 5.94S×151.81E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/44, mbtmp3.3/3, Error ellipse: s-maj=180.8km s-min=31.3km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.95**	**229**	P		P	05 36 28.0	-0.1
	0.6nm,0.8s,baz=55,slow=10,SNR=2.3							
ASAR	**Alice Springs**	**24.64**	**223**	P		P	05 36 55.2	+0.1
	0.4nm,0.6s,baz=52,slow=10,SNR=5.6							
ILAR	**Eielson Array**	**83.58**	**22**	P		P	05 44 02.5	0.0
	0.3nm,0.7s,baz=240,slow=4.6,SNR=4.7							
TORD	**Torodi Ar. Bea**	**149.69**	**286**	PKPbc		PKPbc	05 51 25.0	-0.5
	0.3nm,0.5s,baz=66,slow=1.9,SNR=1.8							

MEX 11 05:34:25.4±0.8, 33.04N×116.54W, h16km±208km, MD3.5, Southern California

KRSC 11 05:39:04.2±0.9, 51.22N×158.25E, h50km±13km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.60**	**350**	*i* P		Pn	05 39 18.2	+1.5
KDTR				*e*S		Sn	05 39 26.7	+1.1
PAU	**Pauzhetka**	**0.93**	**286**	*e*P		Pn	05 39 22.5	+1.5
PAU				*e*S		Sn	05 39 34.7	+1.3
ASAK	**Asacha**	**1.18**	**350**	*e*P		Pn	05 39 26.4	+1.9
ASAK				*e*S		Sn	05 39 41.1	+1.5
RUS	**Russkaya**	**1.23**	**8**	*e*P		Pn	05 39 26.2	+1.2
RUS				*e*S		Sn	05 39 41.2	+0.8
MTVR	**Mutnovka**	**1.26**	**358**	*e*P		Pn	05 39 27.5	+1.8
MTVR				*e*S		Sn	05 39 43.1	+1.5
GRL	**Gorelyy**	**1.34**	**355**	*e*P		Pn	05 39 28.9	+2.3
GRL				*e*S		Sn	05 39 45.1	+1.7
MIPR	**Malaya Ipel'ka**	**1.40**	**319**	*e*P		Pn	05 39 29.7	+2.3
MIPR				*e*S		Sn	05 39 47.4	+2.6
SKR	**Severo-Kuril's**	**1.45**	**249**	*e*P		Pn	05 39 29.4	+1.4
SKR				*e*S		Sn	05 39 46.8	+0.9
KRMR	**Karymshinskiy**	**1.61**	**358**	*e*P		Pn	05 39 33.0	+2.7
KRMR				*e*S		Sn	05 39 52.8	+2.9
ALID	**Alaid**	**1.74**	**259**	*e*P		Pn	05 39 34.0	+1.9
ALID				*e*S		Sn	05 39 54.5	+1.3
PET	**Petropavlovsk**	**1.82**	**8**	*e*P		Pn	05 39 35.2	+2.1
PET				*e*S		Sn	05 39 56.8	+1.8
APC	**Apacha**	**1.83**	**339**	*e*P		Pn	05 39 36.0	+2.7
DALK	**Dalny**	**1.84**	**10**	*e*P		Pn	05 39 35.4	+2.1
DALK				*e*S		Sn	05 39 57.0	+1.6
UGLR	**Uglovaya**	**2.02**	**10**	*e*P		Pn	05 39 38.7	+2.7
AVH	**Avacha**	**2.07**	**8**	*e*P		Pn	05 39 39.5	+2.9
SMAR	**Somma**	**2.07**	**9**	*e*P		Pn	05 39 39.5	+2.7
KOK	**Koryaka**	**2.09**	**6**	*e*P		Pn	05 39 40.1	+3.2
SDLR	**Sedlovina**	**2.10**	**11**	*e*P		Pn	05 39 39.0	+2.0
KRER	**Koryakskii**	**2.11**	**8**	*e*P		Pn	05 39 40.0	+2.8
KRX	**Arik**	**2.16**	**6**	*e*P		Pn	05 39 40.7	+2.9
SPN	**Mys Shipunski**	**2.17**	**30**	*e*P		Pn	05 39 40.3	+2.4
SPN				*e*S		Sn	05 40 05.9	+2.2
GNL	**Ganaly**	**2.48**	**356**	*e*P		Pn	05 39 45.5	+3.2
MKZ	**Mys Kozlova**	**3.95**	**31**	*e*P		Pn	05 40 04.8	+2.6
KZV	**Kízimen**	**4.09**	**17**	*e*P		Pn	05 40 07.5	+3.2
TUMR	**Tumrok**	**4.23**	**15**	*e*P		Pn	05 40 11.4	+5.2
KBTR	**Krutoberegovo**	**5.69**	**27**	*e*P		Pn	05 40 29.5	+3.5

*PGC **11** 05:42:32.7±0.1, 55.89N×129.96W, h11km, ML2.8/3, 5km Sse of Stewart, Bc British Columbia, Canada*
*NEIC **11** 05:42:33.3±0.5, 55.90N±0.03×130.08W±0.09, h16km±6km, Error ellipse: s-maj=7.6km s-min=4.5km az=74.0*

ISC 11 05:42:29.8±0.9, 56.06N±0.04×129.80W±0.07, h10km, n13, σ1§35/19, British Columbia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRAK	**Wrangell Islan**	**1.47**	**285**	Pn		**Pg**	**05 42 57.7**	**-0.2**
WRAK				IAML			05 43 17.8	
	145nm,0.2s							
RUBB	**Prince Rupert**	**1.75**	**189**	Pn		**Pn**	**05 43 00.4**	**+0.2**
RUBB				Sn		**Sn**	**05 43 21.3**	**-1.3**
RUBB	**Prince Rupert**	**1.75**	**189**	Pn		**Pn**	**05 43 00.4**	**+0.2**
RUBB				IAML			05 43 22.9	
	comp=E,37nm,0.3s							
CRAG	**Craig**	**1.97**	**254**	Pn		**Pn**	**05 43 03.0**	**-0.1**
CRAG				IAML			05 43 30.0	
	comp=N,50nm,1.0s							
CRAG				IAML			05 43 30.3	
	comp=E,47nm,0.3s							
KITB	**Kitimat**	**2.09**	**161**	Pn		**Pn**	**05 43 05.6**	**+0.8**
KITB				Sg		**Sb**	**05 43 34.2**	**+0.4**
KITB	**Kitimat**	**2.09**	**161**	Pn		**Pn**	**05 43 05.6**	**+0.8**
KITB				Sg		**Sb**	**05 43 34.2**	**+0.4**
DLBC	**Dease Lake**	**2.39**	**357**	Pn		**Pb**	**05 43 13.9**	**+1.0**
DLBC				Sn		**Sg**	**05 43 44.7**	**-1.8**
DLBC	**Dease Lake**	**2.39**	**357**	Pn		**Pb**	**05 43 13.9**	**+1.0**
DLBC				IAML			05 44 48.8	
	comp=N,18nm,3.9s							
BUTB	**Butedale**	**3.10**	**165**	Pg		**Pb**	**05 43 25.5**	**+0.4**
BUTB				Sg		**Sb**	**05 44 04.6**	**+1.7**
DIB	**Dawson Inlet,**	**3.26**	**210**	Pn		**Pn**	**05 43 20.9**	**+0.1**
DIB	**Dawson Inlet,**	**3.26**	**210**	Pn		**Pn**	**05 43 20.7**	**-0.1**
DIB				IAML			05 44 33.6	
	comp=N,30nm,3.1s							
BBB	**Bella Bella**	**4.01**	**165**	Pg		**Pb**	**05 43 41.1**	**+0.7**
BBB				Sg		**Sb**	**05 44 31.4**	**+2.5**
UBRB	**Upper Baezaeko**	**4.60**	**131**	S

UPC				*e*SG	**Sg**	**05 50 09.0**	**+1.1**		
	comp=Z,70nm,0.4s								
KRUC	**Moravsky**	**1.62**	**234**	*e*Pn	**Pb**	**05 49 47.6**	**0.0**		
	baz=52								
KRUC				*e*Sg	**Sg**	**05 50 09.8**	**+1.0**		
	166nm,0.5s,baz=52								
KRUC	**Moravsky**	**1.62**	**234**	*e*PN	**Pb**	**05 49 47.6**	**0.0**		
KRUC				*e*SG	**Sg**	**05 50 09.8**	**+1.0**		
SMOL	**Smolenice**	**1.65**	**203**	*e*SN	**Sg**	**05 50 09.9**	**+0.2**		
STHS	**Stebnicka Huta**	**1.96**	**107**	*e*PN	**Pg**	**05 49 53.8**	**-0.6**		
TREC	**Trest**	**2.02**	**250**	*e*PG	**Pb**	**05 49 54.3**	**-0.1**		
TREC				*e*SG	**Sg**	**05 50 21.8**	**+0.1**		
	comp=Z,90nm,0.6s								
ZST	**Bratislava**	**2.02**	**205**	*e*PN	**Pn**	**05 49 52.9**	**+0.7**		
ZST				*e*SN	**Sn**	**05 50 18.4**	**+0.2**		
ZST				*e*LG	Lg	05 50 20.8			
KECS	**Kecovo**	**2.08**	**138**	*e*PN	**Pn**	**05 49 52.6**	**-0.4**		
KECS				*e*SN	**Sn**	**05 50 18.0**	**-1.6**		
CRVS	**Cervenica-Dubn**	**2.31**	**118**	*e*PN	**Pg**	**05 50 00.2**	**-0.9**		
PSZ	**Piszkesteto**	**2.34**	**154**	⇑P	**Pn**	**05 49 56.4**	**-0.2**		
PSZ	**Piszkesteto**	**2.34**	**154**	⇓S	**Sn**	**05 50 25.2**	**-1.0**		
PSZ	**Piszkesteto**	**2.34**	**154**	*e*P	**Pn**	**05 49 56.9**	**+0.2**		
PSZ				*e*S	**Sb**	**05 50 28.3**	**-1.2**		
PRU	**Pruhonice**	**2.48**	**270**	*e*PG	**Pb**	**05 50 02.1**	**-0.1**		
PRU				*e*SG	**Sb**	**05 50 34.7**	**+1.5**		
	comp=Z,35nm,0.5s								
PVCC	**Panska Ves**	**2.49**	**283**	*e*PG	**Pg**	**05 50 04.0**	**-0.6**		
PVCC				*e*SG	**Sg**	**05 50 37.3**	**+0.4**		
	comp=Z,86nm,0.3s								
CONA	**Conrad Observa**	**2.68**	**219**	*e*Pn	**Pn**	**05 50 01.9**	**+0.6**		
	1.7nm,0.3s								
CONA				*e*Sn	**Sn**	**05 50 34.4**	**-0.2**		
	16nm,0.3s								
KOLS	**Kolonicke sedl**	**2.77**	**112**	*e*PG	**Pg**	**05 50 11.1**	**+1.2**		
BRG	**Berggiesshubel**	**2.96**	**288**	*e*Pg	**Pg**	**05 50 12.2**	**-1.3**		
BRG				*e*Sg	**Sg**	**05 50 51.4**	**-0.3**		
BRG	**Berggiesshubel**	**2.96**	**288**	Pg	**Pg**	**05 50 12.0**	**-1.4**		
BRG				Sg	**Sg**	**05 50 51.5**	**-0.3**		
BRG				Amp		05 50 54.8			
	comp=Z,39nm,0.4s								
KHC	**Kasperske Hory**	**3.25**	**256**	*e*PN	**Pn**	**05 50 09.2**	**+0.1**		
KHC				*e*PG	**Pg**	**05 50 17.5**	**-1.6**		
KHC				*e*SN	**Sn**	**05 50 47.5**	**-1.0**		
KHC				*e*SG	**Sg**	**05 50 59.2**	**-2.1**		
	comp=Z,39nm,0.4s								
GEC2	**GERESS Array S**	**3.28**	**250**	*e*Pg	**Pg**	**05 50 19.2**	**-0.4**		
GEC2				*e*Sg	**Sg**	**05 51 00.7**	**-1.4**		
ARSA	**Arzberg**	**3.37**	**215**	*e*Pn	**Pn**	**05 50 11.9**	**+1.2**		
	comp=Z,2.1nm,0.3s								
ARSA				*i* Sn	**Sn**	**05 50 52.1**	**+0.7**		
	comp=Z,3.5nm,0.5s								
MOA	**Molln**	**3.48**	**233**	*i* Pn	**Pn**	**05 50 12.8**	**+0.5**		
	comp=Z,0.9nm,0.2s								
MOA				*i* Sn	**Sn**	**05 50 56.7**	**+2.4**		
	comp=Z,5.8nm,0.3s								
CLL	**Collm**	**3.65**	**292**	*e*Pg	**Pg**	**05 50 26.0**	**-0.7**		
CLL				*i* Sg	**Sg**	**05 51 14.6**	**+0.6**		
	comp=Z,25nm,0.5s								
CLL	**Collm**	**3.65**	**292**	*e*Pg	**Pg**	**05 50 27.8**	**+1.1**		
CLL				*e*Sg	**Sg**	**05 51 14.8**	**+0.9**		
WET	**Wettzell**	**3.69**	**258**	*e*Sg	**Sg**	**05 51 14.9**	**-0.4**		
TANN	**Tannenbergstha**	**3.82**	**278**	*e*Pn	**Pn**	**05 50 16.9**	**0.0**		
TANN				*e*Pg	**Pg**	**05 50 28.7**	**-1.3**		
TANN				*e*Sg	**Sg**	**05 51 18.3**	**-1.1**		
WERD	**Werda**	**3.92**	**278**	*e*Pg	**Pg**	**05 50 30.2**	**-1.7**		
WERD				*e*Sg	**Sg**	**05 51 20.6**	**-2.1**		
DRGR		**4.34**	**137**	⇑P	**Pn**	**05 50 24.4**	**+0.3**		
SIRR	**Siria**	**4.37**	**149**	⇑P	**Pn**	**05 50 24.6**	**+0.2**		
MOX	**Moxa**	**4.37**	**281**	*e*Sg	**Sg**	**05 51 40.1**	**+2.8**		
GRF	**Grafenberg Arr**	**4.64**	**268**	*e*Sg	**Sg**	**05 51 45.1**	**-0.8**		
BZS	**Buzias**	**4.93**	**153**	⇓P	**Pn**	**05 50 32.6**	**+0.5**		
BURAR	**Bucovina Array**	**5.13**	**116**	⇑P	**Pn**	**05 50 34.9**	**0.0**		
CLZ	**Clausthal**	**5.37**	**293**	*e*Sg	**Sg**	**05 52 11.7**	**+2.4**		
GZR	**Gura Zlata**	**5.51**	**146**	⇑P	**Pn**	**05 50 39.1**	**-1.1**		
MOTA	**Moosalm**	**5.52**	**244**	Pg	**Pg**	**05 51 03.7**	**+1.1**		
	comp=Z,3.1nm,0.5s								
MOTA				*e*Sg	**Sg**	**05 52 19.3**	**+5.3**		
	comp=Z,24nm,0.7s								
DEL	**Delary**	**6.99**	**339**	*i* P	**Pn**	**05 50 59.7**	**-0.6**		
DEL				*i*		05 51 06.3			
CDF	**Champ du Feu**	**7.45**	**262**	*e*Pn	**Pn**	**05 51 04.7**	**-2.1**		
CDF	**Champ du Feu**	**7.45**	**262**	*e*P	**Pn**	**05 51 10.0**	**+3.2**		
CDF				*e*Sg	**Sg**	**05 53 09.2**	**-6.8**		
	comp=Z,3.5nm,0.4s								
HINF	**Hinteralfeld**	**7.91**	**258**	*e*Pn	**Pn**	**05 51 10.2**	**-2.9**		
HINF	**Hinteralfeld**	**7.91**	**258**	*e*P	**Pn**	**05 51 15.9**	**+2.8**		
HINF				*e*Sg	**Sg**	**05 53 23.0**	**-7.7**		
	comp=Z,1.1nm,0.3s								
HAU	**Haudompre**	**8.17**	**260**	*e*Pn	**Pn**	**05 51 12.4**	**-4.2**		
HAU	**Haudompre**	**8.17**	**260**	*e*P	**Pn**	**05 51 19.4**	**+2.8**		
HAU				*e*Sg	**Sg**	**05 53 32.3**	**-6.6**		
	comp=Z,3.3nm,0.5s								

TRN ***11*** *05:52:33.7, 13.˚79N×58.˚41W, h93km, MD3.8*
ISC 11 05:52:32.8±3.0, 13.˚83N±0.˚06×58.˚4W±0.˚2, h10km, n28, σ1§21/39, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**1.31**	**239**	*e*P	**Pb**	**05 52 58.0**	**+0.6**
BBGH				*e*S	**Sg**	**05 53 16.4**	**+1.5**
BCHC	**Barbados, Cave**	**1.37**	**240**	*e*S	**Sg**	**05 53 18.1**	**+1.2**
MPOM	**Morne Pois Mar**	**2.45**	**285**	*e*P	**Pn**	**05 53 13.2**	**+0.3**
MPOM				*e*S	**Sn**	**05 53 42.8**	**-0.1**
MCLT	**Moule a Chique**	**2.46**	**268**	*e*P	**Pn**	**05 53 13.7**	**+0.7**
MCLT				*e*S	**Sn**	**05 53 42.3**	**-0.9**
SLBI	**Saint Lucia, B**	**2.49**	**275**	*e*P	**Pn**	**05 53 13.6**	**+0.2**
SLBI				*e*S	**Sn**	**05 53 42.5**	**-1.5**
SLCP	**Castries, St.**	**2.51**	**274**	*e*P	**Pn**	**05 53 13.6**	**-0.1**
SLCP				*e*S	**Sn**	**05 53 42.9**	**-1.4**
MVM	**Montagne Vaucl**	**2.51**	**287**	*e*P	**Pn**	**05 53 13.9**	**+0.1**
LPMF	**Morne Lapointe**	**2.58**	**287**	*e*P	**Pn**	**05 53 14.7**	**-0.1**
ZAM	**Aeronautique**	**2.64**	**287**	*e*P	**Pn**	**05 53 15.5**	**0.0**
TRMF	**Trois Ilets**	**2.65**	**286**	*e*P	**Pn**	**05 53 15.7**	**0.0**
BIM	**Bigot**	**2.67**	**285**	*e*P	**Pn**	**05 53 15.6**	**-0.3**
BIM				*e*S	**Sn**	**05 53 48.0**	**-0.4**
FDF	**Fort de France**	**2.80**	**289**	*e*P	**Pn**	**05 53 17.9**	**+0.2**
FDF				*e*S	**Sn**	**05 53 50.3**	**-1.4**
SVOC	**Richmond Hill,**	**2.81**	**257**	*e*S	**Sn**	**05 53 50.4**	**-1.4**
SVB	**Belmont**	**2.81**	**259**	*e*P	**Pn**	**05 53 18.3**	**+0.4**
SVB				*e*S	**Sn**	**05 53 50.7**	**-1.3**
BAMF	**Morne Balai**	**2.83**	**291**	*e*P	**Pn**	**05 53 19.0**	**+0.9**
CXM	**Morne La Croix**	**2.84**	**290**	*e*P	**Pn**	**05 53 19.6**	**+1.2**
PML	**Morne Lenard**	**2.85**	**290**	*e*P	**Pn**	**05 53 19.3**	**+0.9**
PCM	**Pelee Case Pet**	**2.88**	**290**	*e*P	**Pn**	**05 53 19.6**	**+0.7**
GCMP	**Grenada, Carri**	**3.22**	**246**	*e*S	**Sn**	**05 54 00.1**	**-1.9**
DSLB	**Salisbury**	**3.32**	**299**	*e*P	**Pn**	**05 53 25.2**	**+0.3**
DSLB				*e*S	**Sn**	**05 54 04.2**	**-0.3**
MAGL	**Barre de l'ile**	**3.48**	**308**	*e*P	**Pn**	**05 53 28.0**	**+0.9**
MAGL				*e*S	**Sn**	**05 54 07.6**	**-0.9**
GRGR	**Grenville**	**3.58**	**242**	*e*P	**Pn**	**05 53 28.8**	**+0.4**
GRGR				*e*S	**Sn**	**05 54 08.2**	**-2.6**
GRFF	**Grenada Fort F**	**3.69**	**242**	*e*S	**Sn**	**05 54 11.2**	**-2.4**
TDBA	**Terre de Bas,**	**3.71**	**303**	*e*P	**Pn**	**05 53 31.2**	**+1.0**
CBE	**Ff, Capester**	**3.81**	**306**	*e*S	**Sn**	**05 54 15.7**	**-0.7**
ABD	**La Joyeuse, An**	**3.97**	**312**	*e*S	**Sn**	**05 54 18.1**	**-2.2**
ANBD	**Bethesda, Anti**	**4.55**	**315**	*e*P	**Pn**	**05 53 42.1**	**+0.4**
ANBD	**Bethesda, Anti**	**4.55**	**315**	*e*S	**Sn**	**05 54 31.7**	**-3.0**

IDC ***11*** *06:42:40.3±0.9, 50.˚37N×34.˚11E, h0km, mb3.4/1, mb1 3.8/9, mb1mx3.5/51, mbtmp3.6/9, ML3.5/8, Error ellipse: s-maj=11.8km s-min=10.5km az=37.0*
ISC 11 06:42:37.7±0.8, 50.˚69N±0.˚07×34.˚08E±0.˚06, h10km, n10, σ1§62/14, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**3.09**	**272**	Pn	**Pb**	**06 43 31.0**	**-1.6**
	9.2nm,0.3s,baz=86,slow=12,SNR=32						
AKASG				Sn	**Sb**	**06 44 09.9**	**-0.4**
	14nm,0.3s,baz=82,slow=17,SNR=5.4						
MLR	**Muntele Rosu**	**7.53**	**229**	Pn	**Pn**	**06 44 30.1**	**+2.5**
	0.3nm,0.3s,baz=132,slow=17,SNR=1.5						
MLR				Sn	**Sn**	**06 45 51.3**	**-1.6**
	0.5nm,0.3s,baz=255,slow=20,SNR=1.8						
BELG	**Belogornoye**	**8.62**	**73**	Pn	**Pn**	**06 44 43.6**	**+1.3**
	1.7nm,0.3s,baz=259,slow=10,SNR=1.7						
BELG				Sn	**Sn**	**06 46 17.3**	**-2.1**
	0.6nm,0.3s,baz=15,slow=20,SNR=1.5						
BELG				Lg	Lg	06 47 07.3	
	1.8nm,0.3s,baz=267,slow=22,SNR=9.4						

KBZ	**Khabaz**	**9.19**	**136**	Pn	**Pn**	**06 44 48.7**	**-1.5**		
	0.8nm,0.3s,baz=163,slow=22,SNR=6.2								
FINES	**FINESS Array B**	**11.66**	**341**	Pn	**Pn**	**06 45 25.6**	**+1.8**		
	0.7nm,0.3s,baz=150,slow=13,SNR=23								
FINES				Sn	**Sn**	**06 47 33.0**	**-0.9**		
	0.9nm,0.3s,baz=151,slow=21,SNR=3.1								
FINES				Lg	Lg	06 48 50.0			
	baz=145,slow=25,SNR=1.8								
HFS	**Hagfors**	**14.88**	**317**	Pn	**Pn**	**06 46 07.3**	**-0.6**		
	0.3nm,0.3s,baz=130,slow=14,SNR=7.6								
AKTO	**Aktyubinsk**	**15.20**	**82**	Pn	**Pn**	**06 46 12.5**	**+0.2**		
	0.3nm,0.3s,baz=286,slow=10,SNR=2.2								
NOA	**NORSAR Array B**	**16.40**	**318**	Pn	**Pn**	**06 46 27.5**	**-0.2**		
	0.0nm,0.3s,baz=126,slow=12,SNR=3.0								
ARCES	**ARCESS Array B**	**19.34**	**351**	Pn	**Pn**	**06 47 05.6**	**+1.6**		
	baz=162,slow=12,SNR=8.4								
TORD	**Torodi Ar. Bea**	**45.76**	**227**	P	**P**	**06 51 00.6**	**+1.3**		
	0.5nm,0.8s,baz=20,slow=8.1,SNR=3.4								

NOU 11 06:45:13.4, 15.˚61S×167.˚58E, h118km, mb3.9/8, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.40**	**294**	P	Pn	06 45 31.8	+1.3
DVP	**Devils Point**	**2.18**	**165**	P	Pn	06 45 49.2	+0.1
KOUNC	**Koumac, New Ca**	**5.83**	**212**	P	Pn	06 46 37.4	-0.1
YATNC	**Mamie plateau,**	**6.45**	**186**	P	Pn	06 46 43.7	-2.2
DZM	**Mont Dzumac**	**6.52**	**189**	P	Pn	06 46 46.6	-0.3
NOUC	**Port Laguerre**	**6.57**	**190**	P	Pn	06 46 48.4	+0.9
OUENC	**Ouen Island, N**	**6.81**	**186**	P	Pn	06 46 51.8	+1.1

IDC 11 06:45:47.1±2.2, 16.˚40S×178.˚84E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/26, mbtmp3.8/3, MS3.0/2, Ms1 3.0/2, ms1mx2.7/34, Error ellipse: s-maj=68.6km s-min=16.1km az=115.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.53**	**209**	Pg	Pn	06 46 15.4	-0.4
	8.5nm,0.3s,baz=229,slow=4.8,SNR=44						
MSVF				Lg	Lg	06 46 35.0	
	40nm,0.3s,baz=270,slow=20,SNR=5.7						
MSVF				LR	LR	06 46 47.3	
	comp=Z,117nm,18.3s,baz=4.4,slow=39						
AFI	**Afiamalu**	**9.39**	**76**	LR	LR	06 50 54.6	
	comp=Z,59nm,21.5s,baz=250,slow=33						
HNR	**Honiara**	**19.66**	**288**	LR	LR	06 56 34.2	
	comp=Z,68nm,18.4s,baz=131,slow=33						
WRA	**Warramunga Arr**	**42.34**	**258**	P	P	06 53 42.8	-0.5
	1.3nm,1.1s,baz=83,slow=9.5,SNR=2.7						
ASAR	**Alice Springs**	**42.69**	**253**	P	P	06 53 47.0	+0.8
	1.3nm,0.9s,baz=82,slow=9.4,SNR=8.4						
ILAR	**Eielson Array**	**85.04**	**14**	P	P	06 58 23.8	-0.5
	0.9nm,0.8s,baz=231,slow=6.5,SNR=7.4						

MOS ***11*** *06:45:52.3±1.1, 43.˚06N×146.˚05E, h49km, mb4.5/12, Error ellipse: s-maj=10.3km s-min=6.9km az=112.1*
NIED ***11*** *06:45:53.6, 43.˚11N×146.˚00E, h45km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr2.35; Mθθ-1.44; Mφφ-0.91; Mrθ 1.00; Mrφ-1.22; Mθφ1.16; Fault plane solution: M0 2.83000×1015 NP1:φ=45.00000°, δ61.00000°, λ85.00000°. NP2:φ=237.00000°, δ29.00000°, λ100.00000°.*
SKHL ***11*** *06:45:53.1±0.1, 43.˚20N×146.˚30E, h61km±7km, mb4.8/5*
JMA ***11*** *06:45:53.5±0.1, 43.˚11N×146.˚00E, h45km±1km, M4.3 JMA Felt II J1.*
NEIC ***11*** *06:45:55.4±1.4, 43.˚1N±0.˚1×145.˚88E±0.˚05, h59km±11km, mb4.4/9, Error ellipse: s-maj=17.8km s-min=2.9km az=167.0*
IDC ***11*** *06:45:55.6±2.7, 43.˚14N×146.˚00E, h57km±24km, mb3.7/16, mb1 4.0/19, mb1mx3.7/58, mbtmp4.0/19, ML3.4/3, MS3.5/13, Ms1 3.5/13, ms1mx3.2/34, Error ellipse: s-maj=19.0km s-min=17.5km az=169.0*

ISC 11 06:45:53.4±0.6, 43.˚11N±0.˚05×146.˚11E±0.˚05, h40km±4km, n111, σ1§41/117, mb4.2/30, MS3.6/10, 8C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.37**	**314**	P	**Pn**	**06 46 02.3**	**-0.1**
NEM2				*e*S	**Sn**	**06 46 08.6**	**-0.2**
NMR	**Nemuro--Hokkai**	**0.38**	**313**	⇓*i*PN	**Pn**	**06 46 02.4**	**-0.2**
NMR				*i* S	**Sn**	**06 46 08.6**	**-0.5**
NMR	**Nemuro--Hokkai**	**0.38**	**313**	*e*P	**Pn**	**06 46 02.4**	**-0.2**
NMR				*e*S	**Sn**	**06 46 08.6**	**-0.5**
JKHN	**Kushirohamanak**	**0.70**	**268**	P	**Pn**	**06 46 06.2**	**-0.6**
JKHN				*e*S	**Sn**	**06 46 15.1**	**-1.2**
GLVR	**Golovnino**	**0.76**	**326**	⇑*i*PN	**Pn**	**06 46 07.5**	**-0.2**
GLVR				*e*S	**Sn**	**06 46 17.8**	**-0.2**
GLVR				pmax	pmax		
	comp=Z,2μm,0.2s						
GLVR				pmax	pmax		
	comp=E,699nm,0.1s						
GLVR				pmax	pmax		
	comp=N,428nm,0.2s						
GLVR				smax	smax		
	comp=N,11μm,0.7s						
GLVR				smax	smax		
	comp=E,6μm,0.4s						
GLVR	**Golovnino**	**0.76**	**326**	*e*P	**Pn**	**06 46 07.5**	**-0.2**
GLVR				AMB	AMB	06 46 08.2	
	comp=E,2μm,0.2s						
GLVR				*e*S	**Sn**	**06 46 17.8**	**-0.2**
GLVR				A	A	06 46 18.3	
	comp=E,11μm,0.5s						
GLVR				A	A	06 46 18.3	
	comp=E,6μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**0.94**	**349**	*d i*PN	**Pn**	**06 46 09.8**	**-0.4**
YUK				*i* S	**Sn**	**06 46 21.5**	**-1.0**
YUK				pmax	pmax		
	comp=N,181nm,0.2s						
YUK				pmax	pmax		
	comp=Z,2μm,0.2s						
YUK				pmax	pmax		
	comp=E,192nm,0.1s						
YUK				smax	smax		
	comp=N,5μm,0.7s						
YUK				smax	smax		
	comp=E,7μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**0.94**	**349**	*e*P	**Pn**	**06 46 09.4**	**-0.8**
YUK				AMB	AMB	06 46 13.7	
	comp=E,2μm,0.4s						
YUK				*e*S	**Sn**	**06 46 21.7**	**-0.8**
YUK				A	A	06 46 22.1	
	comp=E,8μm,0.6s						
YUK				A	A	06 46 22.1	
	comp=E,10μm,0.6s						
JAK	**Akkeshi**	**1.04**	**264**	P	**Pn**	**06 46 10.7**	**-0.8**
JAK				*e*S	**Sn**	**06 46 23.6**	**-1.2**
JNSB	**Nemuroshibetsu**	**1.05**	**310**	P	**Pn**	**06 46 11.1**	**-0.5**
JRA	**Rausu**	**1.10**	**319**	P	**Pn**	**06 46 12.1**	**-0.2**
JRA				*e*S	**Sn**	**06 46 25.3**	**-0.9**
JNK	**Nakash**	**1.12**	**296**	P	**Pn**	**06 46 11.8**	**-0.8**
JNK				*e*S	**Sn**	**06 46 24.9**	**-1.9**
RUSJ	**Misakicho**	**1.18**	**328**	*e*Pn	**Pn**	**06 46 13.4**	**0.0**
RUSJ				*e*S	**Sn**	**06 46 28.5**	**+0.3**
JOB	**Onbets**	**1.68**	**264**	P	**Pn**	**06 46 19.6**	**-0.7**
JOB				*e*S	**Sn**	**06 46 39.3**	**-1.3**
JAR	**Ashorobuto**	**1.72**	**277**	P	**Pn**	**06 46 20.5**	**-0.4**
JAR				*e*S	**Sn**	**06 46 41.0**	**-0.6**
JTKR	**Abashiri--Toko**	**1.82**	**299**	P	**Pn**	**06 46 22.6**	**+0.4**
ERM	**Erimo**	**2.44**	**244**	PN	**Pn**	**06 46 31.8**	**+1.1**
ERM	**Erimo**	**2.44**	**244**		**Pn**	**06 46 31.8**	**+1.1**
JEM	**Erimo**	**2.44**	**244**		**Pn**	**06 46 33.1**	**+2.5**
KUR	**Kuril'sk**	**2.47**	**30**	*e*PN	**Pn**	**06 46 33.7**	**+2.5**
KUR				*e*S	**Sn**	**06 47 01.7**	**+1.6**
KUR				pmax	pmax		
	comp=Z,112nm,0.3s						
KUR				pmax	pmax		
	comp=E,67nm,0.2s						
KUR				pmax	pmax		
	comp=Z,96nm,0.2s						
KUR				smax	smax		
	comp=N,773nm,0.3s						
KUR				smax	smax		
	comp=E,404nm,0.3s						
KUR	**Kuril'sk**	**2.47**	**30**	*e*P	**Pn**	**06 46 28.8**	**-2.4**
KUR				AMB	AMB	06 46 38.0	
	comp=E,112nm,0.3s						
KUR				*e*S	**Sn**	**06 46 56.0**	**-4.1**
KUR				A	A	06 47 09.1	
	comp=E,770nm,0.3s						
KUR				A	A	06 47 09.1	
	comp=E,400nm,0.3s						
JKA	**Kamikawa-asahi**	**2.74**	**293**		**Pn**	**06 46 34.6**	**-0.2**
JKA	**Kamikawa-asahi**	**2.74**	**293**	*e*P	**Pn**	**06 46 36.2**	**+1.3**
ASAJ	**Asahikawa**	**2.74**	**293**	P	**Pn**	**06 46 36.1**	**+1.3**
	comp=E,9.9nm,0.3s,baz=115,slow=12,SNR=24						
ASAJ				S	**Sn**	**06 47 12.6**	**+5.8**
	comp=E,29nm,0.3s,baz=202,slow=29,SNR=4.4						
ASAJ				LR	LR	06 47 54.2	
	comp=E,684nm,19.5s,baz=152,slow=45						
JEW	**Eniwo**	**3.43**	**267**		**Pn**	**06 46 44.0**	**-0.3**
JTM	**Tenmabayashi**	**4.42**	**240**	Pn	**Pn**	**06 46 58.9**	**+1.0**
YSS	**Yuzh-Sakhalins**	**4.52**	**329**	*i* PN	**Pn**	**06 47 00.2**	**+0.9**
YSS	**Yuzh-Sakhalins**	**4.52**	**329**	*e*P	**Pn**	**06 47 00.6**	**+1.3**
YSS				AMB	AMB	06 47 01.0	
	comp=E,40nm,0.7s						
JSD	**Sado**	**7.83**	**232**	Pn	**Pn**	**06 47 43.8**	**-0.9**
TYV	**Tymovskoe**	**8.11**	**344**	*e*P	**Pn**	**06 47 49.1**	**+0.6**
TYV				AMB	AMB	06 47 51.8	
	comp=E,5.0nm,0.3s						
MAJO	**Matsushiro**	**8.94**	**225**	*i* PN	**Pn**	**06 47 59.4**	**-0.5**
MAJO	**Matsushiro**	**8.94**	**225**	Pn	**Pn**	**06 47 56.9**	**-3.1**
MJAR	**Matsushiro Arr**	**8.94**	**225**	P	**Pn**	**06 47 59.7**	**-0.2**
	comp=E,0.1nm,0.3s,baz=33,slow=14,SNR=5.6						
MJAR				LR	LR	06 51 23.8	
	comp=E,94nm,18.7s,baz=15,slow=37						
USRK	**Ussuriysk Ar.**	**10.29**	**281**	P	**Pn**	**06 48 21.8**	**+3.3**
	baz=84,slow=14,SNR=4.9						
USRK				LR	LR	06 52 17.8	
	comp=E,152nm,19.8s,baz=64,slow=37						
USRK	**Ussuriysk Ar.**	**10.29**	**281**	PN	**Pn**	**06 48 18.3**	**-0.2**
USRK	**Ussuriysk Ar.**	**10.29**	**281**		**Pn**	**06 48 18.3**	**-0.2**
KLR	**Kul'dur**	**11.68**	**307**	P	**Pn**	**06 48 39.8**	**+2.4**
	comp=E,0.2nm,0.3s,baz=112,slow=16,SNR=9.4						
KLR	**Kul'dur**	**11.68**	**307**	*ce*Pn	**Pn**	**06 48 40.9**	**+3.5**
KLR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KLR	**Kul'dur**	**11.68**	**307**	*e*P	**Pn**	**06 48 40.9**	**+3.5**
PETK	**Petropavlovsk-**	**12.64**	**34**	P	P	06 48 56.9	-4.2
	comp=Z,0.6nm,0.3s,baz=198,slow=12,SNR=2.7						
PETK				LR	LR	06 54 30.5	
	comp=Z,90nm,18.8s,baz=194,slow=41						
EKMR	**Ekimchan**	**13.27**	**323**	*e*P	**Pn**	**06 49 00.0**	**+0.9**
KSRS	**Korea Array**	**14.98**	**254**	P	**P**	**06 49 27.8**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=61,slow=14,SNR=2.9						
KSRS				LR	LR	06 54 34.4	
	comp=Z,119nm,19.3s,baz=66,slow=35						
JTU	**Tsushima**	**15.57**	**242**	Pn	**Pn**	**06 49 27.8**	**-2.2**
JTU				IAmb	IAmb	06 49 49.9	
	comp=Z,49nm,1.2s						
BILL	**Bilibino**	**27.19**	**16**	*e*P	**P**	**06 51 31.3**	**-1.6**
BILL				*e*		06 52 14.5	
BILL				pmax	pmax		
	comp=Z,6.0nm,1.2s						
BILL	**Bilibino**	**27.19**	**16**	*e*P	**P**	**06 51 31.3**	**-1.6**
ULN	**Ulaanbaatar**	**27.58**	**294**	*ce*P	**P**	**06 51 37.4**	**+0.6**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ULN	**Ulaanbaatar**	**27.58**	**294**	*e*P	**P**	**06 51 37.4**	**+0.6**
SONM	**Songino Array**	**28.03**	**294**	P	**P**	**06 51 41.2**	**+0.4**
	comp=Z,2.5nm,0.8s,baz=90,slow=7.8,SNR=7.5						
SONM	**Songino Array**	**28.03**	**294**	P	**P**	**06 51 39.5**	**-1.3**
H11N2	**WAKE ISLAND Hy**	**29.13**	**137**	T	T	07 22 38.0	
	baz=328,slow=75,SNR=1587						
H11N1	**WAKE ISLAND Hy**	**29.14**	**137**	T	T	07 22 39.0	
	baz=328,slow=75,SNR=1090						
H11N3	**WAKE ISLAND Hy**	**29.15**	**137**	T	T	07 22 39.3	
	baz=328,slow=75,SNR=1186						
H11S1	**WAKE ISLAND Hy**	**30.07**	**138**	T	T	07 23 50.0	
	baz=329,slow=76,SNR=1398						
H11S3	**WAKE ISLAND Hy**	**30.08**	**138**	T	T	07 23 50.9	
	baz=329,slow=76,S

KIV	Kislovodsk	69.62 311	*e*P	P	06 56 56.9	-1.7
KIV			pmax	pmax		
	comp=Z,10.0nm,0.9s					
KIV			MLR	MLR		
	comp=Z,22nm,18.0s					
KIV	**Kislovodsk**	**69.62 311**	*e*P	**P**	**06 56 56.9**	**-1.7**
KBZ	**Khabaz**	**69.66 311**	P	**P**	**06 56 59.3**	**+0.7**
	comp=Z,3.9nm,0.8s,baz=36,slow=3.7,SNR=8.4					
KBZ	**Khabaz**	**69.66 311**	*e*P	**P**	**06 56 59.7**	**+1.1**
KBZ	**Khabaz**	**69.66 311**	eP	**P**	**06 56 59.7**	**+1.1**
NB2	**NORSAR Subarra**	**69.92 338**	P	**P**	**06 56 59.6**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=33,slow=6.2					
NOA	**NORSAR Array B**	**69.92 338**	P	**P**	**06 56 59.5**	**-0.5**
	comp=Z,3.8nm,0.9s,baz=34,slow=6.1,SNR=13					
NOA			LR	LR	07 31 13.2	
	comp=Z,36nm,19.0s,baz=350,slow=39					
PDAR	**Pinedale Array**	**70.90 49**	P	**P**	**06 57 06.5**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=243,slow=0.3,SNR=4.1					
AKASG	**Malin Array Be**	**71.64 323**	P	**P**	**06 57 10.0**	**-0.6**
	comp=Z,2.7nm,0.3s,baz=42,slow=6.4,SNR=13					
AKBB	**Malin Array Si**	**71.64 323**	*ce*P	**P**	**06 57 10.5**	**-0.1**
CLL	**Collm**	**77.53 332**	*i* P	**P**	**06 57 44.8**	**+0.1**
	comp=Z,5.0nm,0.8s					
CLL			Lm	MLR	08 46 00.0	
	comp=Z,100nm,19.4s					
CLL	**Collm**	**77.53 332**	*i* P	**P**	**06 57 44.8**	**+0.1**
CLL			pmax	pmax		
	comp=Z,5.0nm,0.8s					
EKA	**Eskdalemuir Ar**	**78.52 343**	P	**P**	**06 57 49.6**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=21,slow=3.9,SNR=5.8					
GERES	**GERESS Array B**	**79.34 330**	LR	LR	07 35 48.1	
	comp=Z,38nm,19.0s,baz=52,slow=38					
TXAR	**Lajitas Array**	**83.64 56**	P	**P**	**06 58 19.1**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=298,slow=3.9,SNR=12					
PPT	**Papeete**	**84.34 120**	LR	LR	07 31 19.9	
	comp=Z,40nm,21.0s,baz=23,slow=32					
H03N2	**Juan Fernandez**	**143.72 90**	T	T	09 46 08.0	
	baz=301,slow=77,SNR=4.7					
H03N3	**Juan Fernandez**	**143.74 90**	T	T	09 46 02.9	
	baz=301,slow=77,SNR=3.9					
H03N1	**Juan Fernandez**	**143.74 90**	T	T	09 46 04.4	
	baz=301,slow=77,SNR=4.7					

IDC 11 07:21:14.8±1.4, 30.02N×142.46E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.5/52, mbtmp3.6/5, ML3.3/2, MS4.3/1, Ms1 4.3/1, ms1mx2.7/45, Error ellipse: s-maj=57.1km s-min=26.0km az=98.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**2.93**	**185**	Pn	Pn	07 22 02.7	+0.1
	10nm,0.3s,baz=274,slow=23,SNR=8.0						
JCJ				Sn	Sn	07 22 35.5	-3.0
	21nm,0.3s,baz=278,slow=22,SNR=6.8						
MJAR	**Matsushiro Arr**	**7.41**	**332**	Pn	Pn	07 23 04.0	-0.3
	0.2nm,0.3s,baz=158,slow=12,SNR=6.5						
BATI	**Baumata**	**43.90**	**207**	LR	LR	07 46 56.4	
	comp=Z,334nm,18.8s,baz=140,slow=35						
WRA	**Warramunga Arr**	**50.29**	**190**	P	P	07 30 13.0	-0.2
	0.4nm,0.7s,baz=8.4,slow=7.4,SNR=4.8						
NVAR	**Mina Array Bea**	**78.53**	**52**	P	P	07 33 18.1	-0.3
	0.3nm,0.5s,baz=285,slow=6.5,SNR=4.3						
TXAR	**Lajitas Array**	**93.66**	**53**	P	P	07 34 34.1	+0.4
	0.4nm,0.8s,baz=292,slow=2.6,SNR=3.9						

NNC 11 07:23:02.3±2.3, 53.70N×88.20E, h0km, mb3.6, mpv3.2, 7C-1D, Error ellipse: s-maj=18.7km s-min=11.1km az=54.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**2.02**	**278**	⇑P	Pn	07 23 37.2	-0.5
	6.2nm,0.9s						
ZAA0				⇑S	Sb	07 24 05.0	-0.6
	21nm,0.9s						
KURBB	**Kurchatov Arra**	**6.70**	**247**	⇓Pn	Pn	07 24 42.3	+0.4
	3.8nm,0.6s						
KURBB				⇑Sn	Sn	07 25 58.6	-0.3
	11nm,0.6s						
KURBB				⇑Lg	Lg	07 26 34.2	
	15nm,0.6s						
MK31	**Makanchi Array**	**7.88**	**211**	⇑Pn	Pn	07 24 59.3	+1.1
	0.9nm,0.6s,baz=28,slow=14,SNR=6.5						
MK31				⇑Sn	Sn	07 26 29.6	+1.6
	3.8nm,0.9s,baz=32,slow=25,SNR=2.9						
MK31				⇑Lg	Lg	07 27 12.8	
	5.1nm,0.8s,baz=235,slow=25,SNR=3.6						

IDC 11 07:32:56.0±0.7, 2.76S×139.58E, h0km, mb4.0/10, mb1 4.2/11, mb1mx4.0/36, mbtmp4.1/11, ML4.4/2, MS4.0/17, Ms1 4.0/17, ms1mx3.8/37, Error ellipse: s-maj=17.4km s-min=10.9km az=163.0
DJA 11 07:32:58.9±0.3, 2.5S×14.0E±°, h54km±7km, M4.8/8, mB5.0/1, mb4.6/8, MLv4.8/4, Mw(mB)4.3/1
NEIC 11 07:33:06.1±1.6, 2.9S±0.1×139.4E±0.1, h63km±7km, mb4.6/21, Error ellipse: s-maj=16.6km s-min=12.9km az=223.0

ISC 11 07:33:00.6±0.5, 2.70S±0.06×139.53E±0.04, h27km, n67, σ1§89/55, mb4.4/20, MS4.0/14, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.65**	**80**	P	**Pb**	**07 33 12.3**	**-1.1**
GENI				S	**Sb**	**07 33 23.1**	**+1.0**
JAY	**Jayapura**	**1.19**	**81**	Pg	**Pn**	**07 33 18.9**	**-2.6**
	136nm,0.3s,baz=234,slow=8.5,SNR=385						
JAY				Lg	Lg	07 33 32.5	
	792nm,0.3s,baz=94,slow=19,SNR=30						
JAY	**Jayapura**	**1.19**	**81**	P	**Pn**	**07 33 18.9**	**-2.6**
JAY				S	**Sn**	**07 33 32.9**	**-4.0**
WAMI	**Wamena**	**1.43**	**215**	P	**Pb**	**07 33 27.5**	**+0.9**
SRPI	**Serui, Papua**	**3.39**	**284**	P	**Pn**	**07 33 50.2**	**-1.6**
FAKI	**Fak Fak**	**7.27**	**268**	Pn	**Pn**	**07 34 46.5**	**+1.3**
FAKI	**Fak Fak**	**7.27**	**268**	P	**Pn**	**07 34 44.3**	**-0.9**
	0.4nm44nm,1.6s						
SIJI	**Sorong**	**8.46**	**282**	Pn	Pn	07 35 06.0	+4.5
	3.3nm,0.3s,baz=107,slow=19,SNR=1.3						
SIJI				LR	LR	07 39 16.1	
	comp=Z,787nm,18.1s,baz=272,slow=45						
SIJI	**Sorong**	**8.46**	**282**	P	**Pn**	**07 34 57.8**	**-3.7**
	816nm14nm,0.6s						
COEN	**Coen**	**11.75**	**162**	Pn	**Pn**	**07 35 47.4**	**+0.8**
MTN	**Manton Dam**	**13.06**	**219**	Pn	**Pn**	**07 36 03.6**	**-0.8**
KNRA	**Kununurra**	**16.69**	**219**		**Pn**	**07 36 51.7**	**-1.1**
KNRA				IAmb	IAmb	07 37 14.0	
	comp=Z,82nm,1.4s						
SOEI	**Soe**	**16.70**	**245**	P	**P**	**07 36 56.0**	**+0.8**
SOEI	**Soe**	**16.70**	**245**	P	**Pn**	**07 36 52.7**	**-0.3**
	comp=Z,116nm,1.0s						
DAV	**Davao City (W)**	**16.97**	**305**	LR	LR	07 43 58.6	
	comp=Z,380nm,18.1s,baz=158,slow=39						
GUMO	**Guam**	**17.03**	**18**	LR	LR	07 43 35.7	
	comp=Z,527nm,18.3s,baz=209,slow=38						
BATI	**Baumata**	**17.43**	**244**	P	**P**	**07 37 03.1**	**0.0**
	comp=Z,3.8nm,0.3s,baz=253,slow=20,SNR=2.3						
WRAB	**Tennant Creek**	**17.86**	**196**	P	**Pn**	**07 37 06.9**	**-0.3**
WRAB				IAmb	IAmb	07 37 31.9	
	comp=Z,22nm,0.8s						
WRA	**Warramunga Arr**	**17.87**	**196**	P	**Pn**	**07 37 04.0**	**-3.4**
	comp=Z,0.8nm,0.3s,baz=18,slow=12,SNR=43						
WRA				LR	LR	07 44 22.4	
	comp=Z,1μm,18.6s,baz=20,slow=38						
CTAO	**Charters Tower**	**18.48**	**160**	P	**P**	**07 37 15.0**	**+0.3**
CTAO				IAmb	IAmb	07 37 16.0	
	comp=Z,39nm,1.5s						
TOLI2	**Tolitoli**	**19.12**	**281**	P	**Pn**	**07 37 22.5**	**-0.2**
BKSI	**Bulukumba**	**19.53**	**262**	P	**P**	**07 37 21.6**	**-4.6**
KAPI	**Kappang**	**19.86**	**263**	LR	LR	07 48 08.9	
	comp=Z,98nm,18.2s,baz=104,slow=46						
FITZ	**Fitzroy Crossi**	**20.48**	**221**	P	**P**	**07 37 34.2**	**-2.4**
	comp=Z,3.8nm,0.7s,baz=40,slow=12,SNR=16						
FITZ				LR	LR	07 46 07.6	
	comp=Z,807nm,21.9s,baz=40,slow=39						
FITZ	**Fitzroy Crossi**	**20.48**	**221**	P	**P**	**07 37 35.5**	**-1.1**
HNR	**Honiara**	**21.36**	**109**	P	**P**	**07 37 50.1**	**+4.0**
AS31	**Alice Springs**	**21.54**	**194**	P	**P**	**07 37 47.7**	**-0.2**
ASAR	**Alice Springs**	**21.54**	**194**	P	**P**	**07 37 46.2**	**-1.7**
	comp=Z,5.6nm,0.7s,baz=27,slow=10,SNR=22						
ASAR				LR	LR	07 47 37.2	
	comp=Z,375nm,18.3s,baz=20,slow=41						
ASAR	**Alice Springs**	**21.54**	**194**	P	**P**	**07 37 47.0**	**-0.9**
PSA00	**Pilbara Seismi**	**26.80**	**224**	P	**P**	**07 38 39.6**	**+0.9**
STKA	**Stephens Creek**	**29.08**	**176**	P	**P**	**07 38 58.9**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=348,slow=8.2,SNR=5.7						
STKA				LR	LR	07 51 47.5	
	comp=Z,951nm,19.5s,baz=344,slow=39						
FORT	**Forrest**	**29.96**	**200**	P	**P**	**07 39 06.1**	**-0.6**
CAN	**Canberra**	**33.62**	**166**	P	**P**	**07 39 39.7**	**+0.7**
TOO	**Toolangi**	**35.13**	**172**	P	**P**	**07 39 52.4**	**+0.4**
TOO				IAmb	IAmb	07 39 57.6	
	comp=Z,12nm,1.4s						
MJAR	**Matsushiro Arr**	**39.06**	**358**	LR	LR	07 54 56.8	
	comp=Z,148nm,19.6s,baz=125,slow=34						
NJ2	**Nanjing**	**39.75**	**332**	*e*P	**P**	**07 40 34.8**	**+3.7**
NJ2				pmax	pmax		
	comp=Z,16nm,0.9s						
MSVF	**Nonsavu**	**40.62**	**114**	LR	LR	07 58 00.9	
	comp=Z,109nm,18.6s,baz=274,slow=37						
KSRS	**Korea Array**	**41.38**	**346**	LR	LR	07 57 40.1	
	comp=Z,131nm,18.9s,baz=125,slow=36						
CMAR	**Chiang Mai Arr**	**45.15**	**299**	P	**P**	**07 41 14.2**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=117,slow=6.4,SNR=4.4						
URZ	**Urewera**	**49.30**	**141**	LR	LR	08 01 13.7	
	comp=Z,187nm,19.6s,baz=31,slow=34						
AFI	**Afiamalu**	**49.35**	**106**	LR	LR	07 59 30.3	
	comp=Z,166nm,20.0s,baz=254,slow=32						
TUWZ	**Tuamarina**	**49.42**	**146**	P	**P**	**07 41 49.5**	**+1.3**
HHC	**Hu-ho-hao-te**	**50.30**	**332**	*e*P	P	07 42 00.2	+5.1
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,170nm,6.6s						
HHC				LR	LR		
	comp=N,420nm,16.2s						
HHC				LR	LR		
	comp=E,380nm,17.9s						
HHC				LR	LR		
	comp=Z,280nm,16.2s						
KLR	**Kul'dur**	**52.16**	**354**	P	**P**	**07 42 09.8**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=162,slow=3.2,SNR=2.1						
GTA	**Gaotai**	**55.55**	**323**	*e*P	**P**	**07 42 30.6**	**-3.3**
GTA				pP	sP	07 42 48.8	+3.2
GTA				sP	pP	07 42 56.7	+14
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,62nm,4.9s						
GTA				LR	LR		
	comp=N,170nm,18.5s						
GTA				LR	LR		
	comp=E,140nm,18.9s						
GTA				LR	LR		
	comp=Z,150nm,16.0s						
PETK	**Petropavlovsk-**	**57.67**	**13**	LR	LR	08 10 43.6	
	comp=Z,79nm,18.0s,baz=183,slow=39						
WMQ	**Urumqi**	**65.51**	**321**	*e*P	**P**	**07 43 44.4**	**+2.6**
CASY	**Casey**	**66.65**	**192**	P	**P**	**07 43 48.6**	**+0.1**
CASY				IAmb	IAmb	07 43 54.5	
	comp=Z,8.0nm,1.2s						
MKAR	**Makanchi Array**	**70.28**	**322**	P	**P**	**07 44 11.9**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=114,slow=6.7,SNR=5.5						
MKAR	**Makanchi Array**	**70.28**	**322**	P	**P**	**07 44 13.0**	**+1.3**
PPT	**Papeete**	**70.98**	**108**	LR	LR	08 13 54.7	
	comp=Z,54nm,18.8s,baz=344,slow=35						
KURBB	**Kurchatov Arra**	**74.19**	**325**	P	**P**	**07 44 35.4**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=111,slow=5.1,SNR=1.7						
VNDA	**Vanda**	**75.72**	**175**	P	**P**	**07 44 43.4**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=322,slow=9.5,SNR=6.5						
VNDA				LR	LR	08 16 34.1	
	comp=Z,254nm,21.5s,baz=353,slow=35						
VNDA	**Vanda**	**75.72**	**175**	P	**P**	**07 44 41.3**	**-1.9**
BVAR	**Borovoye Array**	**79.78**	**325**	P	**P**	**07 45 07.1**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=142,slow=7.5,SNR=4.8						
L19K	**White Mountain**	**81.25**	**26**	P	**P**	**07 45 16.0**	**+2.0**
L19K				IAmb	IAmb	07 45 26.0	
	comp=Z,10nm,1.3s						
M20K	**Styx River**	**81.89**	**26**	P	**P**	**07 45 18.6**	**+1.1**
M20K				IAmb	IAmb	07 45 41.5	
	comp=Z,11nm,1.4s						
K20K	**Telida**	**82.04**	**25**	P	**P**	**07 45 19.9**	**+1.7**
K20K				IAmb	IAmb	07 45 33.4	
	comp=Z,10nm,1.3s						
J20K	**Nowinta River**	**82.33**	**24**	P	**P**	**07 45 22.0**	**+2.4**
J20K				IAmb	IAmb	07 45 27.4	
	comp=Z,12nm,1.4s						
MLY	**Manley**	**84.00**	**24**	P	**P**	**07 45 30.0**	**+1.6**
MLY				IAmb	IAmb	07 45 41.1	
	comp=Z,4.2nm,1.0s						
ABKAR	**Akbulak array**	**85.24**	**320**	P	**P**	**07 45 35.4**	**+0.5**
ILAR	**Eielson Array**	**85.49**	**24**	P	**P**	**07 45 35.0**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=258,slow=5.5,SNR=6.2						
BMAR	**Burnt Mountain**	**87.09**	**22**	P	**P**	**07 45 45.9**	**+2.2**
QSPA	**South Pole Qui**	**87.24**	**180**	P	**P**	**07 45 44.1**	**-0.4**
QSPA				IAmb	IAmb	07 45 54.1	
	comp=Z,6.6nm,1.1s						
BCAR	**Beaver Creek A**	**87.28**	**27**	P	**P**	**07 45 47.2**	**+2.5**
YKA	**Yellowknife Ar**	**99.69**	**27**	LR	LR	08 28 37.7	
	comp=Z,101nm,21.1s,baz=0.0,slow=34						
DBIC	**Dimbokro**	**144.29**	**278**	PKP	PKPbc	07 52 33.5	-0.1
	comp=Z,2.2nm,0.8s,baz=153,slow=2.3,SNR=1.4						

MEX 11 07:38:57.2±1.2, 15.64N×92.63W, h166km±8km, MD4.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.57**	**277**	*i* P	Pn	07 39 19.8	-0.8
PCIG				*i* S	Sn	07 39 36.8	-1.7
CCIG	**Comitan**	**0.80**	**37**	*i* P	Pn	07 39 21.4	-0.8
CCIG				*e*S	Sn	07 39 39.4	-2.1
TGIG		**1.23**	**338**	*i* P	Pn	07 39 23.5	-2.0
TGIG				*e*S	Sn	07 39 45.0	-2.3
CMIG	**Matias Romero**	**2.60**	**304**	*e*P	Pn	07 39 39.9	-0.4
CMIG				*i* S	Sn	07 40 11.3	-2.4

DDA 11 07:43:32.0, 35.98N×29.62E, h14km±5km, MW3.8
ISK 11 07:43:34.2, 36.13N×29.63E, h2km, ML3.4/32
NIC 11 07:43:34.3±0.0, 36.18N×29.68E, h2km±3.1km, Ml3.3/2
ATH 11 07:43:34.0, 36.08N×29.61E, h10km±2km, ML3.4/5, Error ellipse: s-maj=10.5km s-min=2.0km az=322.0
THE 11 07:43:37.8, 36.16N×29.49E, h0km±2km, ML3.2/1, Error ellipse: s-maj=6.2km s-min=0.7km az=110.0

ISC 11 07:43:35.5±0.8, 36.10N±0.03×29.64E±0.02, h10km, n87, σ1§22/115, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSL	**Kastellorizon**	**0.07**	**321**	P	**Pg**	**07 43 35.8**	**-1.9**
KSL				S	**Sg**	**07 43 37.0**	**-2.4**
KSL				AML	AML	07 43 37.2	
KSL				AML	AML	07 43 37.3	
KSL	**Kastellorizon**	**0.07**	**321**	P	**Pg**	**07 43 35.8**	**-1.9**
KSL				S	**Sg**	**07 43 36.9**	**-2.4**
AKAS	**Kas**	**0.14**	**349**	*i* P	**Pg**	**07 43 36.7**	**-2.0**
AKAS	**Kas**	**0.14**	**349**	PG	**Pg**	**07 43 36.8**	**-2.0**
AKAS				SG	**Sg**	**07 43 38.8**	**-2.3**
DEMR	**Demre-Antalya**	**0.26**	**57**	PG	**Pg**	**07 43 39.8**	**-1.0**
AKUM	**Antalya-Kumluc**	**0.61**	**68**	*i* P	**Pg**	**07 43 46.2**	**-1.2**
AKUM				*i* S	**Sb**	**07 43 56.9**	**-0.1**
ELL	**Elmali**	**0.69**	**19**	PG	**Pg**	**07 43 46.2**	**-2.6**
ELL	**Elmali**	**0.69**	**19**	P	**Pg**	**07 43 46.2**	**-2.6**
ELL				S	**Sg**	**07 43 57.7**	**-0.1**
FETY	**Fethiye**	**0.70**	**320**	PG	**Pg**	**07 43 48.1**	**-0.9**
FETY				SG	**Sg**	**07 43 58.4**	**+0.2**
CAME	**Cameli-Denizli**	**0.89**	**342**	PG	**Pg**	**07 43 51.5**	**-1.1**
CAEL	**Denizli, Camel**	**1.06**	**346**	*i* P	**Pg**	**07 43 54.8**	**-1.0**
CAEL				*i* S	**Sn**	**07 44 14.2**	**+2.9**
DALY	**Dalyan (Mula)**	**1.07**	**312**	*i* P	**Pg**	**07 43 54.5**	**-1.6**
DALY				*i* S	**Sn**	**07 44 12.1**	**+0.6**
DALY	**Dalyan (Mula)**	**1.07**	**312**	PG	**Pg**	**07 43 55.1**	**-1.0**
KORT	**Korkueli**	**1.07**	**32**	PG	**Pg**	**07 43 55.3**	**-0.8**
GOLH	**Golhisar**	**1.14**	**357**	*i* S	**Sn**	**07 44 15.8**	**+2.4**
ARG	**Arkhangelos**	**1.23**	**276**	P	**Pn**	**07 43 58.5**	**-0.2**
ARG				S	**Sb**	**07 44 15.0**	**+0.3**
	1μm,0.8s						
ARG	**Arkhangelos**	**1.23**	**276**	P	**Pn**	**07 43 58.3**	**-0.5**
ARG				AML	AML	07 44 22.5	
	comp=N,1335μm,0.5s						
ARG				AML	AML	07 44 23.7	
	comp=E,2990μm,1.0s						
ARG	**Arkhangelos**	**1.23**	**276**	PN	**Pn**	**07 43 58.6**	**-0.2**
ARG	**Arkhangelos**	**1.23**	**276**	P	**Pn**	**07 43 58.6**	**-0.2**
ARG				S			
TURN	**Turunc**	**1.31**	**302**	*i* P	**Pn**	**07 43 59.8**	**0.0**
TURN				*i* S	**Sg**	**07 44 19.6**	**+1.9**
TURN	**Turunc**	**1.31**	**302**	PN	**Pn**	**07 43 59.6**	**-0.3**
BUCA	**Burdur, Bucak-**	**1.44**	**31**	*i* P	**Pn**	**07 44 01.0**	**-0.6**
TAVA	**DENIZLI_Tavas**	**1.48**	**337**	*i* P	**Pn**	**07 44 02.2**	**-0.2**
TAVA				*i* S	**Sg**	**07 44 25.5**	**+2.2**
YER	**Yerkesik**	**1.50**	**314**	P	**Pn**	**07 44 02.8**	**+0.2**
YER				S	**Sb**	**07 44 22.5**	**-0.2**
YER	**Yerkesik**	**1.50**	**314**	PN	**Pn**	**07 44 02.7**	**+0.2**
MULA	**Mugla, Merkez-**	**1.57**	**318**	*i* P	**Pb**	**07 44 04.8**	**+0.1**
MULA				*i* S	**Sg**	**07 44 27.9**	**+1.9**
BRDR	**BURDUR-Merkez**	**1.63**	**12**	*i* P	**Pb**	**07 44 05.7**	**-0.1**
BRDR				*i* S	**Sg**	**07 44 30.3**	**+2.3**
DAT	**Datca**	**1.78**	**291**	P	**Pn**	**07 44 06.6**	**+0.2**
DAT	**Datca**	**1.78**	**291**	PN	**Pn**	**07 44 06.3**	**-0.1**
KEPZ	**Antalya-Kepez**	**1.78**	**63**	*i* P	**Pb**	**07 44 07.3**	**-0.8**
BASM	**Basmaki-Afyon**	**1.85**	**10**	PN	**Pb**	**07 44 08.8**	**-0.7**
ISP	**Isparta**	**1.86**	**22**	P	**Pb**	**07 44 09.5**	**-0.2**
ISP	**Isparta**	**1.86**	**22**	PN	**Pb**	**07 44 09.0**	**-0.7**
BDRM	**Kayabasi**	**2.01**	**299**	*i* P	**Pn**	**07 44 09.9**	**+0.3**
BDRM				*i* S	**Sg**	**07 44 39.2**	**-1.0**
NIS1	**Nisyros Isl.**	**2.05**	**285**	P	**Pn**	**07 44 10.0**	**0.0**
NIS1	**Nisyros Isl.**	**2.05**	**285**	PN	**Pn**	**07 44 10.5**	**+0.5**
KARP	**Karpathos**	**2.08**	**255**	P	**Pn**	**07 44 11.1**	**+0.5**
KARP				S	**Sn**	**07 44 37.5**	**+0.9**
KARP	**Karpathos**	**2.08**	**255**	P	**Pn**	**07 44 11.5**	**+0.9**
KARP				AML	AML	07 44 41.2	
	comp=N,1026μm,0.4s						
KARP				AML	AML	07 44 44.2	
	comp=E,641μm,0.6s						
KARP	**Karpathos**	**2.08**	**255**	PN	**Pn**	**07 44 11.2**	**+0.6**
KARP	**Karpathos**	**2.08**	**255**	P	**Pn**	**07 44 11.1**	**+0.5**
KARP				S	**Sb**	**07 44 39.9**	**+0.5**
AYDN	**Tasoluk**	**2.10**	**318**	*i* P	**Pn**	**07 44 11.7**	**+0.9**
AYDN				*i* S	**Sg**	**07 44 41.8**	**-1.3**
BAGO	**Egridir - ISPA**	**2.10**	**26**	*i* P	**Pb**	**07 44 12.1**	**-1.7**
BODT	**Bodrum**	**2.11**	**298**	P	**Pn**	**07 44 10.8**	**0.0**
BODT				S	**Sn**	**07 44 36.6**	**-0.5**
BODT	**Bodrum**	**2.11**	**298**	PN	**Pn**	**07 44 11.4**	**+0.6**
GAZI	**Gazipasa**	**2.17**	**86**	*i* P	**Pn**	**07 44 10.9**	**-0.8**
GAZI				*i* S	**Sb**	**07 44 43.0**	**+1.1**
SEDI	**Konya, Seydise**	**2.17**	**51**	*i* P	**Pb**	**07 44 14.5**	**-0.5**
SEDI				*i* S	**Sg**	**07 44 45.7**	**+0.4**
KZIL	**AFYON_Kizioren**	**2.19**	**10**	*i* P	**Pn**	**07 44 13.0**	**+0.9**
PASA	**Karahalli, USA**	**2.25**	**357**	*i* P	**Pn**	**07 44 13.2**	**+0.3**
PASA				*i* S	**Sg**	**07 44 45.6**	**-2.3**
AYDB	**Zeytinkoy-Aydi**	**2.32**	**323**	PN	**Pn**	**07 44 14.1**	**+0.3**
DDIM	**Aydin, Didim**	**2.35**	**306**	*i* P	**Pn**	**07 44 15.3**	**+1.0**
DDIM				*i* S	**Sb**	**07 44 48.6**	**+1.5**
AKMS	**Akamas**	**2.45**	**115**	P	**Pn**	**07 44 16.0**	**+0.5**
AKMS				S	**Sn**	**07 44 47.5**	**+2.0**
AKMS				AML	AML	07 44 48.1	
	comp=E,0.5nm,0.8s						
AKMS				AML	AML	07 44 48.1	
	comp=E,0.5nm,0.8s						
AKMS				AML	AML	07 44 48.5	
	comp=E,0.4nm,0.6s						
AKMS				AML	AML	07 44 48.5	
	comp=E,0.4nm,0.6s						
GCAM	**G?zelcaml?**	**2.50**	**310**	*i* P	**Pn**	**07 44 16.4**	**+0.1**
GCAM	**G?zelcaml?**	**2.50**	**310**	PN	**Pn**	**07 44 17.2**	**+0.9**
YVAC	**Isparta, Yalva**	**2.52**	**30**	*i* P	**Pn**	**07 44 18.4**	**+1.8**
YVAC				*i* S	**Sb**	**07 44 52.8**	**+0.8**
KULA	**Kula-Manisa**	**2.54**	**342**	P	**Pn**	**07 44 17.3**	**+0.5**
KULA	**Kula-Manisa**	**2.54**	**342**	PN	**Pn**	**07 44 16.8**	**0.0**
DOGA	**KONYA_Doganhis**	**2.58**	**38**	*i* P	**Pb**	**07 44 20.8**	**-1.2**
ALFC	**Alefka**	**2.59**	**110**	P	**Pn**	**07 44 16.6**	**-0.9**
ALFC				S	**Sn**	**07 44 49.0**	**-0.1**
ALFC				AML	AML	07 44 50.8	
	comp=E,0.4nm,0.9s						
ALFC				AML	AML	07 44 50.8	
	comp=E,0.4nm,0.9s						
ALFC				AML	AML	07 45 04.2	
	comp=E,0.3nm,0.8s						
ALFC				AML	AML	07 45 04.2	
	comp=E,0.3nm,0.8s						
SMG	**Samos**	**2.76**	**306**	P	**Pn**	**07 44 19.8**	**0.0**
SMG	**Samos**	**2.76**	**306**	P	**Pn**	**07 44 19.9**	**0.0**
KKBE	**Karaman, Kazim**	**2.88**	**66**	*i* P	**Pn**	**07 44 23.7**	**+2.1**
BERE	**Bereket-Mersin**	**2.91**	**84**	PN	**Pn**	**07 44 23.2**	**+1.2**
DGB	**zmir**	**2.94**	**312**	*i* P	**Pn**	**07 44 22.4**	**+0.1**
ZKR	**Zakros**	**2.95**	**252**	P	**Pn**	**07 44 23.6**	**+1.1**
ZKR	**Zakros**	**2.95**	**252**	P	**Pn**	**07 44 23.6**	**+1.1**
ZKR				AML	AML	07 45 02.6	
	comp=E,474μm,0.4s						
ZKR				AML	AML	07 45 07.2

H11N2	**WAKE ISLAND Hy**	**40.05**	**75**	T	T	08 49 56.4			
	baz=266,slow=74,SNR=5.5								
H11N3	**WAKE ISLAND Hy**	**40.06**	**75**	T	T	08 49 58.9			
	baz=266,slow=74,SNR=7.7								
MKAR	**Makanchi Array**	**49.19**	**322**	P	**P**	**08 07 02.2**	**+1.0**		
	3.4nm,0.7s,baz=110,slow=8.8,SNR=5.9								
KURBB	**Kurchatov Arra**	**53.17**	**324**	P	**P**	**08 07 31.7**	**+0.7**		
	1.9nm,0.6s,baz=123,slow=7.9,SNR=4.2								
ARCES	**ARCESS Array B**	**81.08**	**339**	P	**P**	**08 10 26.1**	**-1.8**		
	5.2nm,0.9s,baz=45,slow=5.7,SNR=7.1								
FINES	**FINESS Array B**	**82.87**	**331**	P	**P**	**08 10 35.5**	**-1.9**		
	0.7nm,0.5s,baz=50,slow=6.0,SNR=3.4								
VNDA	**Vanda**	**93.06**	**173**	P	**P**	**08 11 27.1**	**+1.1**		
	1.0nm,0.9s,baz=338,slow=5.4,SNR=5.1								

IDC 11 07:59:38.9±1.7, 2°84.8S×139°63.6E, h0km, mb3.7/3, mb1 4.1/4, mb1mx3.6/39, mbtmp3.8/4, ML3.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/32, Error ellipse: s-maj=38.3km s-min=12.2km az=150.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.12**	**73**	Pg	Pn	08 00 01.9	0.0
	11nm,0.3s,baz=247,slow=9.2,SNR=14						
JAY				Lg	Lg	08 00 14.3	
	35nm,0.3s,baz=153,slow=18,SNR=15						
WRA	**Warramunga Arr**	**17.77**	**197**	P	Pn	08 03 46.7	-1.1
	0.4nm,0.3s,baz=14,slow=12,SNR=22						
FITZ	**Fitzroy Crossi**	**20.45**	**221**	P	P	08 04 19.0	+0.9
	3.1nm,0.7s,baz=32,slow=7.2,SNR=7.9						
ASAR	**Alice Springs**	**21.43**	**195**	P	P	08 04 28.8	0.0
	2.4nm,0.6s,baz=23,slow=9.3,SNR=31						
ASAR				LR	LR	08 13 48.3	
	comp=Z,70nm,20.3s,baz=36,slow=40						
ILAR	**Eielson Array**	**85.57**	**24**	P	P	08 12 18.2	-0.7
	0.5nm,0.9s,baz=242,slow=5.7,SNR=2.9						

NNC 11 08:00:22.3±3.0, 53°54N×87°83E, h0km, mb3.9, mpv3.5, 6C-2D, Error ellipse: s-maj=24.4km s-min=12.1km az=65.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.83**	**284**	⇑P	Pn	08 00 54.0	-0.9
	9.7nm,0.7s						
ZAA0				⇑S	Sb	08 01 20.3	+0.2
	65nm,1.0s						
KURBB	**Kurchatov Arra**	**6.43**	**247**	⇑Pn	Pn	08 01 59.0	+0.9
	16nm,0.8s						
KURBB				⇓Sn	Sn	08 03 11.1	-1.1
	34nm,0.7s						
KURBB				⇑Lg	Lg	08 03 46.3	
	53nm,0.7s						
MK31	**Makanchi Array**	**7.63**	**210**	⇑Pn	Pn	08 02 16.7	+2.0
	0.7nm,0.3s,baz=28,slow=13,SNR=26						
MK31				⇓Sn	Sn	08 03 42.8	+1.0
	4.4nm,0.7s,baz=39,slow=17,SNR=4.5						
MK31				Lg	Lg	08 04 23.7	
	12nm,0.7s,baz=32,slow=31,SNR=3.9						
MAKZ	**Makanchi**	**7.71**	**211**	Sn	Sn	08 03 46.3	+2.5
	6.0nm,0.7s						
MAKZ				⇑Lg	Lg	08 04 23.8	
	28nm,1.2s						

*KNET **11** 08:00:56.7±0.4, 43°.22N×74°.74E, h12km±2km, ml1.4, Error ellipse: s-maj=3.1km s-min=2.4km az=21.0*
*SOME **11** 08:00:56.7, 43°.22N×74°.72E, h10km*
*NNC **11** 08:00:57.0±0.2, 43°.22N×74°.72E, h0km, mb3.3, mpv3.2, Error ellipse: s-maj=2.2km s-min=1.4km az=137.0*

ISC 11 08:00:56.9±0.9, 43°23N±0°.02×74°72E±0°.02, h12km±6km, n47, σ0°976/85, 15C-6D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USP	**Ospenovka**	**0.16**	**284**	⇑P	**Pg**	**08 01 00.6**	**-0.2**
	56nm,0.2s,SNR=154						
USP				⇓S	**Sg**	**08 01 03.3**	**-0.2**
	454nm,0.6s						
CHMS	**Chumysh**	**0.23**	**174**	⇑P	**Pg**	**08 01 02.0**	**+0.1**
	14nm,0.2s,SNR=11						
CHMS				⇓S	**Sg**	**08 01 05.6**	**+0.5**
	87nm,0.2s						
SGDS	**Sogindy**	**0.23**	**344**	P	**Pg**	**08 01 01.4**	**-0.5**
	35nm,0.1s						
SGDS				S	**Sg**	**08 01 04.9**	**-0.5**
	155nm,0.6s						
KBK	**Karagaybulak**	**0.59**	**163**	⇑P	**Pb**	**08 01 09.0**	**-0.4**
	5.7nm,0.1s,SNR=10						
KBK				⇓S	**Sb**	**08 01 18.0**	**+0.2**
	49nm,0.3s						
AAK	**Ala-Archa**	**0.61**	**196**	⇑P	**Pb**	**08 01 09.3**	**-0.3**
	4.1nm,0.2s,SNR=8.5						
AAK				⇑S	**Sb**	**08 01 17.5**	**-0.8**
	14nm,0.4s						
AAK	**Ala-Archa**	**0.61**	**196**	⇑P	**Pb**	**08 01 09.1**	**-0.5**
	3.8nm,0.4s						
AAK				⇑S	**Sb**	**08 01 17.3**	**-1.0**
	8.2nm,0.4s						
TKM2	**Tokmak 2**	**0.71**	**115**	⇑P	**Pg**	**08 01 10.1**	**-0.7**
	2.1nm,0.1s						
TKM2				⇑S	**Sg**	**08 01 20.1**	**-0.1**
	26nm,0.2s						
DGS	**Degeres**	**0.77**	**89**	*e*P	**Pg**	**08 01 10.9**	**-0.9**
	9.4nm,0.2s						
DGS				*e*S	**Sg**	**08 01 21.6**	**-0.4**
	42nm,0.2s						
DGS	**Degeres**	**0.77**	**89**	P	**Pg**	**08 01 10.9**	**-0.9**
	9.4nm,0.2s						
DGS				S	**Sg**	**08 01 21.6**	**-0.4**
	42nm,0.2s						
KRBS	**Karabastau**	**0.84**	**56**	*e*P	**Pg**	**08 01 12.7**	**-0.5**
	4.9nm,0.2s						
KRBS				*e*S	**Sg**	**08 01 24.2**	**0.0**
	12nm,0.2s						
KRBS	**Karabastau**	**0.84**	**56**	P	**Pg**	**08 01 12.7**	**-0.5**
	4.9nm,0.2s						
KRBS				S	**Sg**	**08 01 24.2**	**0.0**
	12nm,0.2s						
EKS2	**Erkin-Say**	**0.89**	**231**	⇑P	**Pb**	**08 01 14.5**	**+0.1**
	4.0nm,0.2s,SNR=16						
KST	**Kastek**	**0.93**	**101**	*e*P	**Pg**	**08 01 14.5**	**-0.4**
	9.9nm,0.2s						
KST				*e*S	**Sb**	**08 01 27.3**	**-0.2**
	12nm,0.4s						
KST	**Kastek**	**0.93**	**101**	P	**Pg**	**08 01 14.5**	**-0.4**
	9.9nm,0.2s						
KST				S	**Sb**	**08 01 27.3**	**-0.2**
	12nm,0.4s						
MRKS	**Merke**	**1.20**	**247**	*e*P	**Pn**	**08 01 19.6**	**0.0**
	5.4nm,0.1s						
MRKS				*e*S	**Sn**	**08 01 36.1**	**+0.3**
	13nm,0.2s						
MRKS	**Merke**	**1.20**	**247**	P	**Pn**	**08 01 19.6**	**0.0**
	5.4nm,0.1s						
MRKS				S	**Sn**	**08 01 36.1**	**+0.3**
	13nm,0.2s						
KZA	**Kyzart**	**1.21**	**161**	⇑P	**Pn**	**08 01 20.3**	**+0.2**
	2.6nm,0.1s,SNR=9.1						
KZA				⇓S	**Sn**	**08 01 37.3**	**+0.6**
	8.3nm,0.2s						
MTBS	**Maitube**	**1.25**	**94**	*e*P	**Pg**	**08 01 20.8**	**-0.3**
	2.1nm,0.1s						
MTBS				*e*S	**Sn**	**08 01 38.0**	**+0.8**
	10nm,0.2s						
MTBS	**Maitube**	**1.25**	**94**	P	**Pg**	**08 01 20.8**	**-0.3**
	2.1nm,0.1s						
MTBS				S	**Sn**	**08 01 38.0**	**+0.8**
	10nm,0.2s						
AML	**Almayashu**	**1.33**	**215**	⇑P	**Pg**	**08 01 22.6**	**0.0**
	7.4nm,0.2s,SNR=5.6						
KUU	**Kurty**	**1.35**	**60**	*e*P	**Pb**	**08 01 22.1**	**-0.2**
	4.6nm,0.4s						
KUU				*e*S	**Sg**	**08 01 40.5**	**0.0**
	23nm,0.3s						
KUU	**Kurty**	**1.35**	**60**	P	Pb	**08 01 22.1**	**-0.2**
	4.6nm,0.4s						
KUU				S	**Sg**	**08 01 40.5**	**0.0**
	23nm,0.3s						
IZV	**Izvestkoviy**	**1.40**	**97**	*e*P	**Pg**	**08 01 23.5**	**-0.4**
	3.9nm,0.1s						
IZV				*e*S	**Sg**	**08 01 42.7**	**+0.6**
	9.3nm,0.1s						
IZV	**Izvestkoviy**	**1.40**	**97**	P	**Pg**	**08 01 23.5**	**-0.4**
	3.9nm,0.1s						
IZV				S	**Sg**	**08 01 42.7**	**+0.6**
	9.3nm,0.1s						
ULHL	**Ulahol**	**1.49**	**131**	⇓P	**Pb**	**08 01 24.7**	**0.0**
	1.3nm,0.1s,SNR=9.0						
KTBS	**Karatobe**	**1.51**	**71**	*e*P	**Pb**	**08 01 24.7**	**-0.2**
	8.2nm,0.3s						
KTBS				*e*S	**Sg**	**08 01 44.9**	**-0.7**
	24nm,0.3s						
KTBS	**Karatobe**	**1.51**	**71**	P	**Pb**	**08 01 24.7**	**-0.2**
	8.2nm,0.3s						
KTBS				S	**Sg**	**08 01 44.9**	**-0.7**
	24nm,0.3s						
TNSS	**Tian-Shan**	**1.64**	**96**	*e*P	**Pb**	**08 01 27.6**	**+0.2**
	3.6nm,0.2s						
TNSS				*e*S	**Sg**	**08 01 49.8**	**-0.1**
	5.9nm,0.3s						
TNSS	**Tian-Shan**	**1.64**	**96**	P	**Pb**	**08 01 27.6**	**+0.2**
	3.6nm,0.2s						
TNSS				S	**Sg**	**08 01 49.8**	**-0.1**
	5.9nm,0.3s						
MDOK	**Medeo**	**1.71**	**91**	*e*P	**Pg**	**08 01 28.8**	**-0.9**
	14nm,0.3s						
MDOK				*e*S	**Sg**	**08 01 52.0**	**+0.2**
	18nm,0.5s						
MDOK	**Medeo**	**1.71**	**91**	⇑P	**Pg**	**08 01 28.8**	**-0.9**
	6.7nm,0.4s						
MDOK				⇑S	**Sg**	**08 01 50.9**	**-0.9**
	13nm,0.6s						
MDOK	**Medeo**	**1.71**	**91**	Pg	**Pg**	**08 01 28.8**	**-0.9**
	14nm,0.3s						
MDOK				Lg	Lg	08 01 52.0	
	18nm,0.5s						
KOTS	**Kotyrbulak**	**1.75**	**89**	*e*P	**Pg**	**08 01 29.8**	**-0.7**
	5.1nm,0.1s						
KOTS				*e*S	**Sg**	**08 01 53.5**	**+0.3**
	22nm,0.2s						
KOTS	**Kotyrbulak**	**1.75**	**89**	P	**Pg**	**08 01 29.8**	**-0.7**
	5.1nm,0.1s						
KOTS				S	**Sg**	**08 01 53.5**	**+0.3**
	22nm,0.2s						
CHKK	**Chushkaly**	**1.77**	**68**	*e*P	**Pb**	**08 01 29.4**	**+0.2**
	3.3nm,0.1s						
CHKK				*e*S	**Sg**	**08 01 53.0**	**-0.7**
	16nm,0.2s						
CHKK	**Chushkaly**	**1.77**	**68**	P	**Pb**	**08 01 29.4**	**+0.2**
	3.3nm,0.1s						
CHKK				S	**Sg**	**08 01 53.0**	**-0.7**
	16nm,0.2s						
BTLS	**Baital**	**1.88**	**345**	*e*P	**Pb**	**08 01 31.7**	**+0.6**
	5.5nm,0.2s						
BTLS				*e*S	**Sg**	**08 01 56.9**	**-0.4**
	14nm,0.3s						
BTLS	**Baital**	**1.88**	**345**	P	**Pb**	**08 01 31.7**	**+0.6**
	5.5nm,0.2s						
BTLS				P	Pg	08 01 41.5	+8.5
	9.2nm,0.0s						
BTLS				S	Sn	08 01 43.9	-8.6
	28nm,0.4s						
BTLS				S	**Sg**	**08 01 56.8**	**-0.4**
	14nm,0.3s						
ARXS	**Arharly**	**2.46**	**65**	*e*P	**Pb**	**08 01 42.4**	**+1.2**
	5.5nm,0.4s						
ARXS				*e*S	**Sg**	**08 02 15.1**	**-0.9**
	14nm,0.4s						
ARXS	**Arharly**	**2.46**	**65**	Pg	Pb	**08 01 42.4**	**+1.2**
	5.5nm,0.4s						
ARXS				Lg	Lg	08 02 15.1	
	14nm,0.4s						
SATY	**Saty**	**2.70**	**92**	*e*P	**Pb**	**08 01 46.8**	**+1.5**
	2.9nm,0.2s						
SATY				*e*S	**Sg**	**08 02 22.6**	**-1.2**
	9.4nm,0.2s						
SATY	**Saty**	**2.70**	**92**	Pg	Pb	**08 01 46.8**	**+1.5**
	2.9nm,0.2s						
SATY				Lg	Lg	08 02 22.6	
	9.4nm,0.2s						
KPKS	**Kokpek**	**2.90**	**84**	*e*P	**Pb**	**08 01 50.1**	**+1.4**
	1.8nm,0.2s						
KPKS				*e*S	**Sg**	**08 02 28.7**	**-1.5**
	7.2nm,0.2s						
KK31	**Karatay Array**	**3.08**	**269**	⇓Pg	**Pb**	**08 01 52.3**	**+0.6**
	0.5nm,0.4s,baz=83,slow=16,SNR=4.5						
KK31				⇑Lg	Lg	08 02 33.4	
	0.9nm,0.3s,baz=83,slow=28,SNR=6.4						
UZB	**Uzynbulak**	**3.15**	**90**	*e*P	**Pb**	**08 01 54.6**	**+1.7**
	2.4nm,0.2s						
UZB				*e*S	**Sg**	**08 02 36.0**	**-2.0**
	4.0nm,0.2s						
UZB	**Uzynbulak**	**3.15**	**90**	Pg	Pb	**08 01 54.6**	**+1.7**
	2.4nm,0.2s						
UZB				Lg	Lg	08 02 36.0	
	4.0nm,0.2s						
PDGK	**Podgornoye**	**3.49**	**87**	Pg	Pb	**08 02 00.9**	**+2.3**
	1.1nm,0.3s						
PDGK				Lg	Lg	08 02 46.3	
	1.8nm,0.3s						

MEX 11 08:09:43.4±1.6, 13°98N×92°32W, h60km±36km, MD4.1, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.92**	**3**	*i* P	Pn	08 09 59.0	-1.4
THIG				*i* S	Sn	08 10 11.4	-1.6
PCIG		**1.92**	**333**	*e*P	Pn	08 10 11.6	-2.2
PCIG				*e*S	Sn	08 10 30.5	-6.3
CCIG	**Comitan**	**2.29**	**4**	*e*P	Pn	08 10 21.8	+2.8
CCIG				*e*S	Sn	08 10 49.6	+3.3
TGIG		**2.88**	**345**	*e*P	Pn	08 10 26.9	-0.1
TGIG				*e*S	Sn	08 10 59.3	-1.2
CMIG	**Matias Romero**	**3.96**	**322**	*e*P	Pn	08 10 40.2	-1.4
CMIG				*e*S	Sn	08 11 23.9	-2.8

*THR **11** 08:13:02.6±0.8, 37°.23N×54°.44E, h15km±8km, ML3.4*
*TEH **11** 08:13:04.2, 37°.23N×54°.49E, h21km, ML3.6*
*NNC **11** 08:13:06.7±2.1, 37°.80N×54°.56E, h0km, mb3.7, Error ellipse: s-maj=22.1km s-min=10.8km az=45.0*

ISC 11 08:13:04.2±0.9, 37°30N±0°.05×54°51E±0°.04, h30km, n44, σ2°16/48, 4C-1D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**0.71**	**93**	*e*Pg	**Pb**	**08 13 18.6**	**+0.4**
IMND				*e*Sg	**Sn**	**08 13 28.9**	**+0.7**
IMND				*e*		08 13 29.9	
	comp=Z,53μm,0.2s						
IGLO	**Ghaloghah**	**0.97**	**215**	*e*Pg	**Pn**	**08 13 21.9**	**0.0**
IGLO				*e*Sg	**Sn**	**08 13 33.9**	**-0.9**
IGLO				*e*		08 13 42.3	
	comp=Z,26μm,0.3s						
MRVT	**Maraveh tapeh**	**1.30**	**74**	*e*Pg	**Pb**	**08 13 28.4**	**+0.3**
MRVT				IAML		08 13 49.9	
	comp=E,553nm,0.2s						
MRVT				IAML		08 13 50.2	
	comp=N,538nm,0.3s						
MRVT	**Maraveh tapeh**	**1.30**	**74**	*e*Pg	**Pb**	**08 13 28.5**	**+0.3**
SHRO	**Shahrood**	**1.78**	**137**	*e*Pg	**Pn**	**08 13 34.3**	**+1.3**
SHRO	**Shahrood**	**1.78**	**137**	*e*Pn	**Pn**	**08 13 34.3**	**+1.3**
IPRN	**Peran**	**2.04**	**239**	*e*Pn	**Pn**	**08 13 38.4**	**+1.8**
IPRN				*e*		08 14 25.6	
	comp=Z,6μm,0.4s						
IFIR	**Firoozkooh**	**2.18**	**221**	*e*Pn	**Pn**	**08 13 41.2**	**+2.5**
IFIR				*e*		08 13 55.2	
	comp=Z,2μm,0.3s						
BJRD	**Bojnurd**	**2.34**	**79**	*e*Pn	**Pn**	**08 13 43.3**	**+2.6**
BJRD	**Bojnurd**	**2.34**	**79**	*e*Pn	**Pn**	**08 13 43.3**	**+2.6**
IDMV	**Damavand**	**2.64**	**230**	*e*Pn	**Pn**	**08 13 47.9**	**+2.9**
IDMV				*e*		08 14 02.3	
	comp=Z,3μm,0.4s						
SBZV	**Sabzevar**	**2.65**	**109**	*e*Pn	**Pn**	**08 13 47.0**	**+2.0**
ISFR	**Sfrayin**	**2.80**	**94**	*e*Pn	**Pn**	**08 13 49.8**	**+2.7**
ISFR				*e*		08 14 50.3	
	comp=Z,2μm,0.6s						
GYA0B	**ALIBECK ARRAY**	**2.93**	**77**	⇑Pn	**Pb**	**08 13 52.8**	**-2.9**
GYA0B				⇓Lg	Lg	08 14 36.6	
QALM	**Alamut, Qazvin**	**3.22**	**256**	*e*Pn	**Pn**	**08 13 56.8**	**+3.9**
IVRN	**Varamin**	**3.22**	**225**	*e*Pn	**Pn**	**08 13 54.0**	**+1.2**
IEMG	**Emamgholi**	**3.30**	**87**	*e*Pn	**Pn**	**08 13 56.9**	**+2.8**
IAKL	**Akhelmad**	**3.47**	**100**	*e*Pn	**Pn**	**08 13 58.6**	**+2.2**
ISFB	**Sefidab**	**3.47**	**213**	*e*Pn	**Pn**	**08 13 57.7**	**+1.4**
KRSH	**Karshahi**	**3.85**	**211**	*e*Pn	**Pn**	**08 14 03.1**	**+1.6**
IKRD	**Kardeh**	**4.04**	**96**	*e*Pn	**Pn**	**08 14 07.3**	**+3.1**
ANAR	**Anarak**	**4.15**	**189**	*e*Pn	**Pn**	**08 14 07.2**	**+1.5**
IRAZ	**Razeghan**	**4.16**	**244**	*e*Pn	**Pn**	**08 14 09.5**	**+3.7**
TKDS	**Koohdasht(Taba**	**4.25**	**149**	*e*Pn	**Pn**	**08 14 08.5**	**+1.5**
QSDN	**Sirdan**	**4.35**	**261**	*e*Pn	**Pn**	**08 14 10.6**	**+2.1**
IMYA	**Miami**	**4.59**	**100**	*e*Pn	**Pn**	**08 14 14.2**	**+2.5**
TPRV	**Parvadeh(Tabas**	**4.62**	**157**	*e*Pn	**Pn**	**08 14 14.1**	**+2.0**
IKLH	**Kolahrood**	**4.64**	**212**	*e*Pn	**Pn**	**08 14 13.8**	**+1.3**
YZKH	**Yazd**	**4.90**	**179**	*e*Pn	**Pn**	**08 14 17.7**	**+1.8**
YZKH	**Yazd**	**4.90**	**179**	*e*Pn	**Pn**	**08 14 17.7**	**+1.8**
AFRZ	**Afriz**	**5.34**	**135**	*e*Pn	**Pn**	**08 14 23.9**	**+1.9**
ISAD	**Sadrabad**	**5.42**	**187**	*e*Pn	**Pn**	**08 14 23.9**	**+0.7**
GRMI	**Germi**	**5.43**	**288**	*e*Pn	**Pn**	**08 14 24.7**	**+1.4**
GRMI	**Germi**	**5.43**	**288**	*e*Pn	**Pn**	**08 14 24.7**	**+1.4**
ITEG	**Tejag**	**5.60**	**140**	*e*Pn	**Pn**	**08 14 27.7**	**+2.1**
IRAM	**Ramesheh**	**5.75**	**198**	*e*Pn	**Pn**	**08 14 30.1**	**+2.3**
IBAF	**Bafgh**	**5.76**	**171**	*e*Pn	**Pn**	**08 14 29.4**	**+1.6**
SHRT	**Shahrakht**	**5.96**	**126**	*e*Pn	**Pn**	**08 14 32.6**	**+2.2**
SHRT	**Shahrakht**	**5.96**	**126**	*e*Pn	**Pn**	**08 14 32.6**	**+2.2**
IKOO	**Kooshah**	**6.11**	**141**	*e*Pn	**Pn**	**08 14 34.6**	**+2.0**
BSRN	**Basiran**	**6.54**	**143**	*e*Pn	**Pn**	**08 14 40.5**	**+2.0**
BSRN	**Basiran**	**6.54**	**143**	*e*Pn	**Pn**	**08 14 40.5**	**+2.0**
AB31	**Akbulak array**	**12.58**	**17**	⇑Pn	**Pn**	**08 16 01.0**	**0.0**
	comp=Z,0.7nm,0.7s,baz=205,slow=14,SNR=4.7						
AB31				Sn	**Sn**	**08 18 15.9**	**-4.1**
	comp=Z,0.4nm,0.5s,baz=189,slow=25,SNR=9.6						
AKTO	**Aktyubinsk**	**13.37**	**10**	⇑Pn	**Pn**	**08 16 11.3**	**-0.5**
	comp=Z,1.7nm,0.8s						
AKTO				⇑Sn	**Sn**	**08 18 36.0**	**-3.2**
	comp=Z,0.8nm,0.6s						

*IDC **11** 08:19:44.9±0.6, 2°.81S×139°.60E, h0km, mb4.2/11, mb1 4.5/13, mb1mx4.3/27, mbtmp4.3/13, ML4.0/2, MS4.1/7, Ms1 4.2/7, ms1mx3.7/33, Error ellipse: s-maj=13.6km s-min=9.9km az=144.0*
*DJA **11** 08:19:49.0±0.5, 3°S±3°×14°0E±°, h16km±5km, M4.9/24, mB5.3/7, mb4.8/24, MLv5.2/6, Mw(mB)4.7/7*
*BJI **11** 08:19:50.8±0.0, 2°.26S×139°.43E, h10km, mB5.1/19, mb4.7/29, Ms4.5/14, Ms7 4.3/14*
*GCMT **11** 08:19:51.8±0.4, 2°.90S±0°.03×139°.89E±0°.03, h20km±1km, MW5.0/59, Moment Tensor Solution. s27,c29; s59,c79; Duration: 1ꜱ1 Moment tensor: Scale 10^16 Nm; Mrr 2.20±.23; Mθθ -2.00±.16; Mϕϕ -0.20±.16; Mrθ -1.57±.31; Mθϕ 1.58±.10; Mϕr 3.11±.50; Best double couple: Mo 4.36700×10^16 NP1 ϕs 94.00000°, δ 26.00000°, λ 40.00000°. NP2 ϕs 326.00000°, δ 74.00000°, λ 110.00000°. Principal axes: T 4.3610, Plg57.0000°, Azm263.0000°; N 0.0100, Plg19.0000°, Azm141.0000°; P -4.3730, Plg26.0000°, Azm41.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **11** 08:19:52.8±2.2, 2°.85S±0°.09×139°.5E±0°.1, h47km±6km, mb4.8/33 Error ellipse: s-maj=16.7km s-min=10.6km az=49.0*

ISC 11 08:19:51.9±0.4, 2°.86S±0°.05×139°.64E±0°.05, h46km, n97, σ2°14/99, mb4.8/31, MS4.3/12, 1D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.59**	**63**	P	**Pn**	**08 20 00.8**	**-3.3**
GENI				S	**Sn**	**08 20 11.5**	**-1.3**
JAY	**Jayapura**	**1.12**	**72**	Pg	**Pn**	**08 20 07.4**	**-3.8**
	137nm,0.3s,baz=243,slow=9.7,SNR=251						
JAY				Lg	Lg	08 20 20.8	
	1μm,0.3s,baz=94,slow=19,SNR=41						
JAY	**Jayapura**	**1.12**	**72**	P	**Pn**	**08 20 07.1**	**-4.1**
JAY				S	**Sn**	**08 20 21.5**	**-4.0**
WAMI	**Wamena**	**1.38**	**222**	P	**Pn**	**08 20 17.9**	**+3.2**
SRPI	**Serui, Papua**	**3.54**	**286**	P	**Pn**	**08 20 42.1**	**-2.3**
SRPI				S	**Sn**	**08 21 23.1**	**-1.9**
BAKI	**Biak**	**3.90**	**295**	P	**Pn**	**08 20 45.8**	**-3.6**
MMPI	**Merauke**	**5.62**	**172**	P	**Pn**	**08 21 15.0**	**+2.0**
	5.8nm641nm,0.6s						
FAKI	**Fak Fak**	**7.38**	**269**	Pn	**Pn**	**08 21 35.2**	**-2.0**
FAKI	**Fak Fak**	**7.38**	**269**	P	**Pn**	**08 21 35.8**	**-1.4**
	0.4nm67nm,1.0s						
SIJI	**Sorong**	**8.60**	**283**	Pn	**Pn**	**08 21 53.0**	**-0.9**
	5.0nm,0.3s,baz=101,slow=19,SNR=4.0						
SIJI				LR	LR	08 25 32.0	
	comp=Z,1μm,21.7s,baz=96,slow=41						
SIJI	**Sorong**	**8.60**	**283**	P	**Pn**	**08 21 51.8**	**-2.1**
	24nm,1.1s						
SWI	**Sorong**	**8.61**	**283**	P	**Pn**	**08 21 52.2**	**-1.8**
	33nm,0.5s						
KRAI	**Karang Ratu**	**11.24**	**267**	P	**Pn**	**08 22 29.3**	**-0.8**
	2μm36nm,1.6s						
COEN	**Coen**	**11.57**	**163**	Pn	**Pn**	**08 22 34.9**	**+0.4**
MTN	**Manton Dam**	**13.01**	**220**	Pn	**Pn**	**08 22 52.3**	**-1.9**
SANI	**Sanana**	**13.66**	**273**	P	**Pn**	**08 23 00.2**	**-3.0**
	903nm102nm,0.9s						
KNRA	**Kununurra**	**16.64**	**219**	Pn	**Pn**	**08 23 39.7**	**-2.4**
KNRA				IAmb	IAmb	08 24 06.1	
	comp=Z,76nm,0.8s						
SOEI	**Soe**	**16.74**	**245**		**P**	**08 23 44.5**	**-0.6**
SOEI	**Soe**	**16.74**	**245**	P	**P**	**08 23 44.0**	**-1.1**
	comp=Z,2μmcomp=Z,181nm,1.2s						
GUMO	**Guam**	**17.15**	**17**	LR	LR	08 31 00.3	
	comp=Z,756nm,18.0s,baz=209,slow=40						
BATI	**Baumata**	**17.46**	**245**	P	**P**	**08 23 53.9**	**+0.9**
	comp=Z,14nm,0.3s,baz=86,slow=1.8,SNR=14						
BATI	**Baumata**	**17.46**	**245**	P	**P**	**08 23 53.3**	**+0.3**
	comp=Z,115nm,0.7s						
WRAB	**Tennant Creek**	**17.74**	**197**	Pn	**Pn**	**08 23 53.6**	**-2.1**
WRAB				IAmb	IAmb	08 24 13.8	
	comp=Z,74nm,0.9s						
WRA	**Warramunga Arr**	**17.75**	**197**	P	**Pn**	**08 23 53.0**	**-2.9**
	comp=Z,0.9nm,0.3s,baz=21,slow=12,SNR=48						
WRA				S	**Sn**	**08 27 03.8**	**-9.1**
	baz=18,slow=24,SNR=4.6						
APSI	**Ampana**	**18.09**	**276**	P	**P**	**08 23 58.9**	**-1.0**
	comp=Z,56nm,

MDSI	**Maura Dua**	**35.42**	**266**	P	P	08 26 53.9	+10	
QIZ	**Qiongzhong**	**36.50**	**308**	P	**P**	**08 26 52.5**	**-0.6**	
QIZ				S	**S**	**08 32 31.2**	**-1.1**	
QIZ				LR	LR			
	comp=Z,190nm,19.5s							
QIZ				LR	LR			
	comp=Z,310nm,16.1s							
QIZ				LR	LR			
	comp=Z,290nm,20.5s							
NJ2	**Nanjing**	**39.94**	**332**	*e*P	**P**	**08 27 22.8**	**+1.0**	
NJ2				pmax	pmax			
	comp=Z,20nm,0.8s							
TAU	**Tasmania Unive**	**40.46**	**171**	P	**P**	**08 27 27.0**	**+0.9**	
RPSI	**Rantau Prapat**	**41.07**	**277**	P	**P**	**08 27 29.3**	**-2.2**	
PSI	**Prapat**	**41.09**	**278**	P	**P**	**08 27 29.3**	**-2.5**	
	comp=Z,3.1nm,0.4s,baz=176,slow=3.8,SNR=3.8							
PSI	**Prapat**	**41.09**	**278**	P	**P**	**08 27 35.7**	**+3.9**	
	comp=Z,5.0nm,1.2s,comp=Z,10nm,1.1s							
PSI				P	**P**	**08 27 35.7**	**+3.9**	
	comp=Z,5.0nm,1.2s,comp=Z,10nm,1.1s							
CMAR	**Chiang Mai Arr**	**45.32**	**299**	P	**P**	**08 28 04.2**	**-1.6**	
	comp=Z,1.6nm,0.6s,baz=132,slow=7.1,SNR=4.9							
KMI	**Kunming**	**45.33**	**310**	‖P	**P**	**08 28 09.5**	**+3.5**	
KMI				pmax	pmax			
	comp=Z,12nm,0.5s							
XAN	**Xi'an**	**46.73**	**324**	P	**P**	**08 28 15.7**	**-1.0**	
XAN				pP	pP	08 28 27.6	-1.9	
XAN				pmax	pmax			
	comp=Z,9.0nm,1.1s							
XAN				LR	LR			
	comp=Z,330nm,15.9s							
XAN				LR	LR			
	comp=Z,190nm,16.7s							
XAN				LR	LR			
	comp=Z,190nm,17.5s							
CD2	**Chengdu**	**47.92**	**317**	P	**P**	**08 28 28.3**	**+2.3**	
CD2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
CD2				LR	LR			
	comp=Z,310nm,13.3s							
CD2				LR	LR			
	comp=Z,500nm,14.9s							
CD2				LR	LR			
	comp=Z,460nm,21.1s							
CN2	**Changchun**	**48.17**	**346**	*e*P	P	08 28 37.7	+10	
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
CN2				LR	LR			
	comp=N,400nm,19.0s							
CN2				LR	LR			
	comp=E,300nm,19.0s							
CN2				LR	LR			
	comp=Z,500nm,20.0s							
BKZ	**Black Stump Fm**	**49.27**	**142**	P	**P**	**08 28 39.5**	**+3.2**	
RPZ	**Rata Peaks**	**49.29**	**150**	P	**P**	**08 28 38.5**	**+2.2**	
HHC	**Hu-ho-hao-te**	**50.49**	**332**	*e*P	**P**	**08 28 48.5**	**+2.9**	
HHC				S	**S**	**08 36 00.5**	**+4.1**	
HHC				pmax	pmax			
	comp=Z,10.0nm,0.5s							
HHC				pmax	pmax			
	comp=Z,290nm,6.5s							
HHC				LR	LR			
	comp=Z,220nm,13.6s							
HHC				LR	LR			
	comp=Z,330nm,14.5s							
LZH	**Lanzhou**	**51.16**	**323**	*e*P	**P**	**08 28 49.8**	**-1.0**	
LZH				pP	pP	08 29 04.0	+0.3	
LZH				pmax	pmax			
	comp=Z,27nm,1.3s							
LZH				pmax	pmax			
	comp=Z,120nm,6.2s							
LZH				LR	LR			
	comp=Z,280nm,15.0s							
LZH				LR	LR			
	comp=Z,220nm,17.3s							
KLR	**Kul'dur**	**52.33**	**353**	P	**P**	**08 28 59.1**	**+0.1**	
	comp=Z,2.1nm,0.9s,baz=97,slow=6.9,SNR=2.6							
GTA	**Gaotai**	**55.74**	**323**	*e*P	**P**	**08 29 24.1**	**-0.2**	
GTA				pP	pP	08 29 34.5	-2.8	
GTA				sP	sP	08 29 38.5	-4.2	
GTA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
GTA				pmax	pmax			
	comp=Z,70nm,4.8s							
GTA				LR	LR			
	comp=Z,120nm,20.0s							
GTA				LR	LR			
	comp=Z,150nm,19.6s							
GTA				LR	LR			
	comp=Z,190nm,18.2s							
SONM	**Songino Array**	**58.25**	**334**	P	**P**	**08 29 41.5**	**-0.4**	
	comp=Z,0.6nm,0.5s,baz=163,slow=6.2,SNR=4.8							
SONM	**Songino Array**	**58.25**	**334**	P	**P**	**08 29 41.5**	**-0.4**	
WMQ	**Urumqi**	**65.71**	**321**	*e*P	**P**	**08 30 34.5**	**+2.5**	
WMQ				pmax	pmax			
	comp=Z,32nm,0.7s							
CASY	**Casey**	**66.52**	**192**	P	**P**	**08 30 37.7**	**+1.0**	
MK31	**Makanchi Array**	**70.48**	**322**	P	**P**	**08 31 03.4**	**+1.6**	
MKAR	**Makanchi Array**	**70.48**	**322**	P	**P**	**08 31 01.5**	**-0.3**	
	comp=Z,1.3nm,0.7s,baz=107,slow=8.1,SNR=6.3							
MKAR	**Makanchi Array**	**70.48**	**322**	P	**P**	**08 31 00.4**	**-1.4**	
MAKZ	**Makanchi Array**	**70.67**	**322**	P	**P**	**08 31 03.4**	**+0.4**	
MAKZ				IAmb	IAmb	08 32 35.0		
	comp=Z,24nm,1.6s							
KSH	**Kashi**	**71.86**	**313**	P	P	08 31 16.6	+6.1	
NIL	**Nilore**	**72.16**	**307**	P	**P**	**08 31 11.5**	**-0.8**	
NIL				IAmb	IAmb	08 32 26.6		
	comp=Z,12nm,1.1s							
ZALV	**Zalesovo Beam**	**72.53**	**330**	P	**P**	**08 31 13.2**	**-0.8**	
	comp=Z,1.0nm,0.5s,baz=72,slow=11,SNR=2.3							
ZALV	**Zalesovo Beam**	**72.53**	**330**	P	**P**	**08 31 13.3**	**-0.6**	
AAK	**Ala-Archa**	**73.96**	**316**	P	**P**	**08 31 23.0**	**+0.1**	
GAR	**Garm**	**75.89**	**311**	P	**P**	**08 31 33.1**	**-1.0**	
GAR				IAmb	IAmb	08 32 56.9		
	comp=Z,18nm,1.3s							
SBA	**Scott Base**	**76.31**	**174**	P	**P**	**08 31 37.3**	**+1.8**	
SBA				IAmb	IAmb	08 31 46.0		
	comp=Z,19nm,1.4s							
CHGR	**Chuyangaron**	**76.68**	**311**	P	**P**	**08 31 37.5**	**-1.0**	
CHGR				IAmb	IAmb	08 33 00.8		
	comp=Z,13nm,0.9s							
MAW	**Mawson**	**82.34**	**202**	P	**P**	**08 32 08.6**	**+0.1**	
	comp=Z,1.6nm,0.8s,baz=79,slow=8.0,SNR=6.6							
IMAR	**Indian Mountai**	**83.28**	**22**	P	**P**	**08 32 13.9**	**+0.5**	
MLY	**Manley**	**84.10**	**24**	P	**P**	**08 32 18.4**	**+0.7**	
MLY				IAmb	IAmb	08 33 39.8		
	comp=Z,16nm,1.4s							
ABKAR	**Akbulak array**	**85.44**	**320**	P	**P**	**08 32 23.8**	**-0.9**	
IL31		**85.58**	**24**	P	**P**	**08 32 24.2**	**-0.8**	
IL31				IAmb	IAmb	08 32 36.2		
	comp=Z,20nm,1.6s							
ILAR	**Eielson Array**	**85.58**	**24**	P	**P**	**08 32 24.2**	**-0.9**	
	comp=Z,2.7nm,0.8s,baz=259,slow=4.8,SNR=20							
ILAR				LR	LR	09 10 18.4		
	comp=Z,102nm,19.2s,baz=245,slow=36							
ILAR	**Eielson Array**	**85.58**	**24**	P	**P**	**08 32 24.4**	**-0.7**	
QSPA	**South Pole Qui**	**87.09**	**180**	P	**P**	**08 32 32.6**	**-0.1**	
BMAR	**Burnt Mountain**	**87.19**	**22**	P	**P**	**08 32 34.2**	**+1.1**	
BCAR	**Beaver Creek A**	**87.36**	**27**	P	**P**	**08 32 35.1**	**+1.1**	
GNI	**Garni**	**95.58**	**310**	LR	LR	09 20 52.6		
	comp=Z,17nm,20.7s,baz=93,slow=38							
SNAA	**Sanae**	**101.75**	**191**	P	**Pdif**	**08 33 41.8**	**+2.2**	
VNA2	**Neumayer--Watz**	**103.22**	**191**	P	**Pdif**	**08 33 47.4**	**+1.3**	
TORD	**Torodi Ar. Bea**	**137.19**	**286**	PKP	**PKPdf**	**08 39 10.9**	**-0.4**	
	comp=Z,0.5nm,0.8s,baz=74,slow=2.0,SNR=1.9							
DBIC	**Dimbokro**	**144.43**	**277**	PKP	**PKPab**	**08 39 21.5**	**-1.0**	
	comp=Z,3.0nm,0.6s,baz=43,slow=2.0,SNR=5.7							
LPAZ	**La Paz**	**146.60**	**126**	PKPbc	**PKPab**	**08 39 30.9**	**-0.5**	
	comp=Z,0.8nm,0.7s,baz=276,slow=2.5,SNR=4.4							

*ECX **11** 08:20:31.5±0.4, 27.70N×111.65W, h10km±226km, MD2.8*
*MEX **11** 08:20:31.9±0.4, 27.53N×111.56W, h10km±9km, MD3.5*
ISC 11 08:20:30.3±1.1, 27.7N±0.1×111.66W±0.06, h10km, n6, σ0.9 29/12, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**0.66**	**233**	*e*P	**Pg**	**08 20 42.8**	**-0.2**
SRIG				*e*S	**Sg**	**08 20 51.8**	**+0.2**
SRIG	**Santa Rosalia**	**0.66**	**233**	*e*P	**Pg**	**08 20 42.8**	**-0.2**
SRIG				*e*S	**Sg**	**08 20 51.9**	**+0.3**
GUYB	**Guaymas**	**0.71**	**75**	*e*P	**Pg**	**08 20 44.1**	**0.0**
GUYB				*e*S	**Sg**	**08 20 53.1**	**-0.4**
GUYB	**Guaymas**	**0.71**	**75**	*e*P	**Pg**	**08 20 44.0**	**-0.1**
GUYB				*e*S	**Sg**	**08 20 53.9**	**+0.4**
HSIG		**1.44**	**26**	*e*P	**Pn**	**08 20 56.1**	**-0.3**
HSIG				*i* S	**Sb**	**08 21 15.5**	**0.0**
HSIG		**1.44**	**26**	*e*P	**Pn**	**08 20 56.8**	**+0.4**
HSIG				*e*S	**Sb**	**08 21 15.6**	**0.0**

*IDC **11** 08:20:59.6±1.0, 2.61S×139.57E, h0km, mb4.4/6, mb1 4.8/8, mb1mx4.3/27, mbtmp4.6/8, ML4.7/2, MS4.0/2, Ms1 4.0/2, ms1mx3.5/32, Error ellipse: s-maj=26.1km s-min=11.8km az=172.0*
ISC 11 08:21:03.2±0.8, 2.7S±0.1×139.70E±0.09, h27km, n12, σ0.76/11, mb4.5/5, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.02**	**81**	Pg	**Pb**	**08 21 22.5**	**+0.3**
	36nm,0.3s,baz=225,slow=14,SNR=0.7						
JAY				Lg	Lg	08 21 36.9	
	442nm,0.3s,baz=61,slow=21,SNR=5.8						
SIJI	**Sorong**	**8.62**	**282**	Pn	**Pn**	**08 23 07.2**	**+0.9**
	7.6nm,0.3s,baz=49,slow=22,SNR=5.9						
BATI	**Baumata**	**17.59**	**244**	P	**Pn**	**08 25 07.2**	**+0.5**
	7.2nm,0.3s,baz=150,slow=4.6,SNR=4.8						
WRA	**Warramunga Arr**	**17.94**	**197**	P	**Pn**	**08 25 11.0**	**+0.1**
	1.9nm,0.3s,baz=14,slow=13,SNR=10						
FITZ	**Fitzroy Crossi**	**20.61**	**221**	P	**P**	**08 25 40.0**	**-0.5**
	7.1nm,0.7s,baz=28,slow=16,SNR=1.2						
HNR	**Honiara**	**21.21**	**109**	LR	LR	08 34 12.6	
	comp=Z,336nm,19.4s,baz=310,slow=37						
ASAR	**Alice Springs**	**21.60**	**195**	P	**P**	**08 25 51.7**	**+0.4**
	11nm,0.8s,baz=24,slow=9.8,SNR=0.9						
PSI	**Prapat**	**41.12**	**277**	P	**P**	**08 28 44.2**	**-1.4**
	10nm,1.0s,baz=0.0,slow=20,SNR=2.8						
CMAR	**Chiang Mai Arr**	**45.28**	**299**	P	**P**	**08 29 19.1**	**0.0**
	2.7nm,0.3s,baz=112,slow=6.3,SNR=1.8						
MKAR	**Makanchi Array**	**70.37**	**322**	P	**P**	**08 32 15.5**	**+0.7**
	2.5nm,0.8s,baz=98,slow=8.0,SNR=1.7						
MKAR				LR	LR	09 05 19.7	
	comp=Z,108nm,18.1s,baz=93,slow=38						
ILAR	**Eielson Array**	**85.40**	**24**	P	**P**	**08 33 37.6**	**-0.4**
	3.3nm,1.0s,baz=265,slow=4.4,SNR=4.2						
DBIC	**Dimbokro**	**144.46**	**278**	PKP	**PKPab**	**08 40 35.9**	**-0.7**
	3.7nm,0.8s,baz=63,slow=5.0,SNR=1.6						

*WEL **11** 08:47:19.5±0.7, 33.5S±6.1×17.8W±1.4, h33km, M4.5/33, mB4.9/18, ML5.5/36, MLv5.2/33, Mw(mB)4.2/18, Error ellipse: s-maj=0.0km s-min=0.0km az=112.1*
*IDC **11** 08:47:19.3±0.6, 33.04S×178.49W, h0km, mb4.5/11, mb1 4.6/12, mb1mx4.5/23, mbtmp4.5/12, ML4.6/1, MS4.2/13, Ms1 4.2/13, ms1mx4.1/23, Error ellipse: s-maj=24.2km s-min=19.0km az=102.0*
*NOU **11** 08:47:20.4, 33.62S×177.53W, h76km, mb4.7/8, South of Kermadec Islands*
*NEIC **11** 08:47:21.4±2.1, 33.10S±0.03×178.38W±0.10, h10km±1km, mb5.0/32, Error ellipse: s-maj=13.9km s-min=5.1km az=257.0*
*MOS **11** 08:47:23.5±1.4, 33.01S×178.59W, h30km, mb5.2/15, Error ellipse: s-maj=14.6km s-min=11.0km az=87.3*
*GCMT **11** 08:47:26.4±0.4, 33.06S±0.04×177.89W±0.03, h20km±1km, MW4.9/72, Moment Tensor Solution. s19,c23; s72,c90; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.40±.21; Mθθ -0.41±.13; Mϕϕ -1.99±.14; Mrθ -0.53±.26; Mϕθ -0.56±.08; Mϕr 2.06±.24; Best double couple: Mo 3.09800×10^16 NP1: ϕ 210.00000°, δ 27.00000°, λ 119.00000°. NP2: ϕ 358.00000°, δ 67.00000°, λ 76.00000°. Principal axes: T 3.3450, Plg66.0000°, Azm244.0000°; N -0.4950, Plg13.0000°, Azm4.0000°; P -2.8510, Plg20.0000°, Azm98.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 11 08:47:23.9±0.4, 33.16S±0.05×178.34W±0.07, h32km, n232, σ1.9 74/246, mb5.0/35, MS4.2/16, 6C-2D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.90**	**5**	P	Pn	08 48 15.7	-5.9
GLKZ				S	**Sn**	**08 48 59.6**	**-6.6**
RAO	**Raoul Island**	**3.91**	**5**	Sn	**Sn**	**08 49 02.5**	**-4.0**
	130nm,0.3s,baz=74,slow=24,SNR=4.0						
RAO	**Raoul Island**	**3.91**	**5**	Pn	**Pn**	**08 48 18.7**	**-3.0**
MXZ	**Matakaoa Point**	**5.18**	**211**	Pn	**Pn**	**08 48 36.6**	**-2.5**
MXZ	**Matakaoa Point**	**5.18**	**211**	P	**Pn**	**08 48 35.6**	**-3.6**
MXZ				S	**Sn**	**08 49 35.4**	**-2.4**
WMGZ	**Waiomatatini S**	**5.35**	**209**	P	**Pn**	**08 48 39.5**	**-2.0**
WMGZ				S	**Sn**	**08 49 43.9**	**+1.8**
PKGZ	**Pakihiroa**	**5.55**	**211**	P	**Pn**	**08 48 41.4**	**-2.9**
PKGZ				S	**Sn**	**08 49 46.9**	**-0.2**
HAZ	**Te Kaha**	**5.57**	**213**	P	**Pn**	**08 48 42.8**	**-1.7**
HAZ				S	**Sn**	**08 49 49.8**	**+2.3**
PUZ	**Puketiti**	**5.63**	**208**	P	**Pn**	**08 48 42.3**	**-3.1**
PUZ				S	**Sn**	**08 49 48.4**	**-0.6**
RUGZ	**Raukumara Rang**	**5.79**	**213**	P	**Pn**	**08 48 45.4**	**-2.3**
RUGZ				S	**Sn**	**08 49 54.2**	**+1.1**
TWGZ	**Tauwhareparae**	**5.84**	**210**	P	**Pn**	**08 48 45.8**	**-2.5**
TWGZ				S	**Sn**	**08 49 53.6**	**-0.5**
CNGZ	**Carnagh Statio**	**6.01**	**207**	P	**Pn**	**08 48 47.9**	**-2.7**
CNGZ				S	**Sn**	**08 49 58.6**	**+0.3**
WHRZ	**Whale Island**	**6.05**	**218**	P	**Pn**	**08 48 51.8**	**+0.7**
KUZ	**Kuaotunu**	**6.05**	**232**	P	**Pn**	**08 48 51.7**	**+0.6**
MWZ	**Matawai**	**6.16**	**212**	P	**Pn**	**08 48 49.7**	**-3.0**
MWZ				S	**Sn**	**08 49 59.7**	**-2.4**
URZ	**Urewera**	**6.29**	**215**	Pn	**Pn**	**08 48 52.5**	**-2.0**
	13nm,0.3s,baz=298,slow=1.7,SNR=58						
URZ				Sn	**Sn**	**08 50 03.9**	**-1.3**
	20nm,0.3s,baz=177,slow=21,SNR=14						
URZ	**Urewera**	**6.29**	**215**	Pn	**Pn**	**08 48 52.4**	**-2.1**
URZ	**Urewera**	**6.29**	**215**	P	**Pn**	**08 48 51.6**	**-2.9**
URZ				S	**Sn**	**08 50 03.4**	**-1.8**
RAGZ	**Rawiri**	**6.34**	**212**	P	**Pn**	**08 48 51.5**	**-3.8**
RAGZ				S	**Sn**	**08 50 05.2**	**-1.4**
PRGZ	**Paritu Road**	**6.52**	**207**	P	**Pn**	**08 48 54.0**	**-3.5**
PRGZ				S	**Sn**	**08 50 08.3**	**-2.5**
MHGZ	**Mahia Peninsul**	**6.71**	**206**	P	**Pn**	**08 48 56.3**	**-3.9**
MHGZ				S	**Sn**	**08 50 11.7**	**-3.8**
PRRZ	**Plateau Road**	**6.83**	**217**	P	**Pn**	**08 49 01.1**	**-0.9**
PRRZ				S	**Sn**	**08 50 17.9**	**-0.7**
ALRZ	**Allen Road**	**6.91**	**217**	P	**Pn**	**08 49 02.0**	**-0.9**
ALRZ				S	**Sn**	**08 50 19.5**	**-0.9**
MRHZ	**Matea Rd**	**7.08**	**215**	P	**Pn**	**08 49 03.0**	**-2.3**
MRHZ				S	**Sn**	**08 50 21.0**	**-3.7**
NMHZ	**Naumai**	**7.11**	**212**	P	**Pn**	**08 49 03.7**	**-2.1**
NMHZ				S	**Sn**	**08 50 24.3**	**-1.2**
BKZ	**Black Stump Fm**	**7.31**	**213**	P	**Pn**	**08 49 05.0**	**-3.4**
BKZ				S	**Sn**	**08 50 27.0**	**-2.8**
RATZ	**Rangitukua**	**7.43**	**218**	P	**Pn**	**08 49 09.0**	**-1.1**
MCHZ	**McNeill Hill**	**7.44**	**211**	P	**Pn**	**08 49 07.3**	**-3.0**
MCHZ				S	**Sn**	**08 50 31.2**	**-2.4**
KWHZ	**Kaweka Forest**	**7.55**	**213**	P	**Pn**	**08 49 09.0**	**-2.7**
KWHZ				S	**Sn**	**08 50 33.2**	**-3.1**
TMVZ	**Te Maari**	**7.65**	**217**	P	**Pn**	**08 49 11.1**	**-2.1**
NTVZ	**North Tongariro**	**7.65**	**218**	P	**Pn**	**08 49 11.4**	**-1.8**
KAHZ	**Kahuranaki**	**7.66**	**209**	P	Pn	08 49 08.3	-5.0
ETVZ	**East Tongariro**	**7.66**	**217**	P	**Pn**	**08 49 11.3**	**-2.1**
HIZ	**Hauiti**	**7.69**	**224**	Pn	**Pn**	**08 49 14.3**	**+0.7**
HIZ	**Hauiti**	**7.69**	**224**	P	**Pn**	**08 49 14.5**	**+0.9**
OTVZ	**Oturere**	**7.71**	**217**	P	**Pn**	**08 49 13.1**	**-1.0**
NNVZ	**North Ngauruho**	**7.71**	**218**	P	**Pn**	**08 49 13.2**	**-0.9**
WTVZ	**West Tongariro**	**7.71**	**218**	P	**Pn**	**08 49 12.4**	**-1.6**
SNVZ	**South Ngauruho**	**7.74**	**217**	P	**Pn**	**08 49 13.4**	**-1.1**
NGZ	**Ngauruhoe**	**7.75**	**217**	P	**Pn**	**08 49 13.4**	**-1.2**
KRHZ	**Kereru**	**7.75**	**212**	P	Pn	08 49 08.8	-5.7
TWVZ	**Taurewa**	**7.75**	**219**	P	**Pn**	**08 49 13.2**	**-1.4**
BHHZ	**Black Hill Sta**	**7.77**	**214**	P	**Pn**	**08 49 12.7**	**-2.0**
TUVZ	**Tukino**	**7.79**	**217**	P	**Pn**	**08 49 13.1**	**-2.0**
FWVZ	**Far West T-bar**	**7.83**	**217**	P	**Pn**	**08 49 15.3**	**-0.5**
MOVZ	**Moawhango**	**7.85**	**216**	P	**Pn**	**08 49 14.4**	**-1.6**
WNVZ	**Wahianoa**	**7.87**	**217**	P	**Pn**	**08 49 13.9**	**-2.3**
PXZ	**Pawanui**	**7.87**	**208**	P	**Pn**	**08 49 13.0**	**-3.1**
PNHZ	**Pukenui**	**8.05**	**211**	P	**Pn**	**08 49 14.9**	**-3.7**
WPHZ	**Waipukurau**	**8.07**	**210**	P	**Pn**	**08 49 15.4**	**-3.5**
TSZ	**Takapari Road**	**8.27**	**212**	P	**Pn**	**08 49 18.2**	**-3.4**
BFZ	**Birch Farm**	**8.67**	**208**	P	Pn	08 49 22.0	-5.1
MSVF	**Nonsavu**	**15.70**	**347**	LR	LR	08 55 18.9	
	comp=Z,398nm,19.3s,baz=175,slow=31						
MSVF	**Nonsavu**	**15.70**	**347**	*i* P	**Pn**	**08 50 59.9**	**-2.9**
MSVF				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MSVF	**Nonsavu**	**15.70**	**347**	P	**P**	**08 51 07.5**	**+1.0**
OUENC	**Ouen Island, N**	**16.90**	**306**	P	**P**	**08 51 19.5**	**-0.3**
OUENC				IAmb	IAmb	08 51 35.7	
	comp=Z,286nm,1.6s						
DZM	**Mont Dzumac**	**17.40**	**306**	*e*P	**P**	**08 51 27.3**	**+1.8**
	comp=Z,193nm,1.2s						
DZM				*e*LR	LR	08 55 24.0	
	comp=Z,2μm,23.0s						
DZM	**Mont Dzumac**	**17.40**	**306**	P	**P**	**08 51 28.5**	**+3.0**
	comp=Z,0.5nm,0.3s,baz=111,slow=16,SNR=12						
DZM				LR	LR	08 57 04.6	
	comp=Z,2μm,18.4s,baz=160,slow=34						
DZM	**Mont Dzumac**	**17.40**	**306**	P	**P**	**08 51 25.5**	**0.0**
AFI	**Afiamalu**	**20.07**	**19**	P	**P**	**08 51 55.3**	**+0.5**
AFI				pmax	pmax		
	comp=Z,118nm,1.2s						
AFI	**Afiamalu**	**20.07**	**19**	P	**P**	**08 51 55.3**	**+0.5**
AFI				IAmb	IAmb	08 52 14.8	
	comp=Z,118nm,1.2s						
RAR	**Rarotonga**	**20.32**	**59**	LR	LR	08 59 22.1	
	comp=Z,759nm,18.8s,baz=229,slow=36						
ARMA	**Armidale**	**25.63**	**268**	P	**P**	**08 52 50.4**	**-0.4**
	baz=24,SNR=4.5						
TBI	**Tubuai**	**27.18**	**76**	*e*LR	LR	08 59 44.1	
	comp=Z,543nm,21.0s						
EIDS	**Eidsvold**	**27.71**	**278**	P	**P**	**08 53 08.0**	**-1.4**
EIDS				IAmb	IAmb	08 53 36.2	
	comp=Z,44nm,1.6s						
RMQ	**Roma**	**29.22**	**274**	P	**P**	**08 53 23.5**	**+0.6**
	baz=28,SNR=12						
TOO	**Toolangi**	**29.70**	**251**	P	**P**	**08 53 29.3**	**+2.2**
TOO				pmax	pmax		
	comp=Z,15nm,1.3s						
TOO	**Toolangi**	**29.70**	**251**	P	**P**	**08 53 29.3**	**+2.2**
PPT2	**Papeete2**	**30.13**	**66**	*e*LR	LR	09 01 12.0	
	comp=Z,516nm,20.8s						
PPT	**Papeete**	**30.14**	**66**	LR	LR	09 03 57.7	
	comp=Z,566nm,18.5s,baz=256,slow=33						
STKA	**Stephens Creek**	**33.66**	**261**	P	**P**	**08 54 01.2**	**-0.7**
	comp=Z,3.8nm,0.9s,baz=98,slow=10,SNR=4.8						
STKA				LR	LR	09 07 14.4	
	comp=Z,526nm,18.1s,baz=77,slow=36						
CTAO	**Charters Tower**	**34.05**	**283**	P	**P**	**08 54 06.0**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,131nm,2.0s						
CTAO	**Charters Tower**	**34.05**	**283**	P	**P**	**08 54 06.0**	**+0.6**
HTT	**Hallett**	**35.54**	**258**	P	**P**	**08 54 18.4**	**+0.2**
	baz=34,SNR=6.7						
BBOO	**Buckleboo**	**38.02**	**258**	P	**P**	**08 54 38.2**	**-1.0**
	baz=37,SNR=6.6						
BBOO	**Buckleboo**	**38.02**	**258**	P	**P**	**08 54 37.8**	**-1.3**
BBOO				IAmb	IAmb	08 54 39.0	
	comp=Z,80nm,1.9s						
QIS	**Mount Isa**	**39.31**	**278**	P	**P**	**08 54 50.4**	**+0.2**
	baz=38,SNR=13						
COEN	**Coen**	**39.83**	**289**	P	**P**	**08 54 55.7**	**+1.2**
COEN				IAmb	IAmb	08 55 11.3	
	comp=Z,46nm,1.6s						
TAOE	**Nuku Hiva Isla**	**42.71**	**64**	*e*LR	LR	09 06 54.7	
	comp=Z,296nm,21.2s						
AS31	**Alice Springs**	**42.74**	**270**	P	**P**	**08 55 17.6**	**-0.9**
ASAR	**Alice Springs**	**42.74**	**270**	P	**P**	**08 55 17.5**	**-0.9**
	comp=Z,17nm,0.8s,baz=109,slow=7.2,SNR=154						
ASAR				PcP	**PcP**	**08 57 09.3**	**-0.4**
	comp=Z,2.5nm,1.0s,baz=114,slow=3.5,SNR=4.2						
ASAR				S	**S**	**09 01 37.4**	**-3.0**
	comp=Z,2.7nm,1.0s,baz=117,slow=16,SNR=9.7						
ASAR				LR	LR	09 12 32.1	
	comp=Z,215nm,18.1s,baz=116,slow=36						
ASAR	**Alice Springs**	**42.74**	**270**	P	**P**	**08 55 17.4**	**-1.1**
WRAB	**Tennant Creek**	**43.98**	**275**	*i* P	**P**	**08 55 27.1**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,16nm,0.9s						
WRAB	**Tennant Creek**	**43.98**	**275**	P	**P**	**08 55 27.9**	**-0.5**
WRAB				IAmb	IAmb	08 55 29.8	
	comp=Z,35nm,1.1s						
WRA	**Warramunga Arr**	**43.98**	**275**	P	**P**	**08 55 27.7**	**-0.7**
	comp=Z,20nm,1.0s,baz=116,slow=7.5,SNR=58						
WRA				S	**S**	**09 01 53.6**	**-4.8**
	comp=Z,2.1nm,1.0s,baz=126,slow=11,SNR=5.3						
FORT	**Forrest**	**45.12**	**258**	P	**P**	**08 55 35.7**	**-1.7**
FORT				IAmb	IAmb	08 55 36.5	
	comp=Z,27nm,0.9s						
SBA	**Scott Base**	**45.28**	**184**	P	**P**	**08 55 39.4**	**+1.4**
SBA				pmax	pmax		
	comp=Z,37nm,1.7s						
SBA	**Scott Base**	**45.28**	**184**	P	**P**	**08 55 39.4**	**+1.4**
SBA				IAmb	IAmb	08 56 04.3	
	comp=Z,37nm,1.7s						
VNDA	**Vanda**	**45.33**	**186**	P	**P**	**08 55 41.2**	**+2.8**
	comp=Z,1.1nm,1.0s,baz=25,slow=14,SNR=3.1						
VNDA	**Vanda**	**45.33**	**186**	P	**P**	**08 55 41.2

ISA	**Isabella, Lake**	**88.46**	**45**	P	**P**	**09 00 13.1**	**+0.1**		
ISA				pmax	pmax				
	comp=Z,9.0nm,1.3s								
ISA	**Isabella, Lake**	**88.46**	**45**	P	**P**	**09 00 13.1**	**+0.1**		
ISA				IAmb	IAmb	09 00 35.1			
	comp=Z,9.3nm,1.2s								
ISA	**Isabella, Lake**	**88.46**	**45**	P	**P**	**09 00 14.5**	**+1.5**		
	baz=226								
LRMC	**Laurel Mtn Rad**	**88.80**	**45**	P	**P**	**09 00 16.1**	**+1.3**		
	baz=227								
BELC	**Belle Mtn. Jos**	**88.83**	**47**	P	**P**	**09 00 17.6**	**+2.7**		
	baz=228								
HSIG		**88.87**	**54**	P	**P**	**09 00 16.1**	**+1.1**		
HSIG				IAmb	IAmb	09 00 18.4			
	comp=Z,16nm,1.8s								
BC3	**Big Chuckawall**	**88.94**	**48**	P	**P**	**09 00 18.3**	**+2.9**		
	baz=228								
CMB	**Columbia Colle**	**89.00**	**42**	P	**P**	**09 00 15.7**	**+0.2**		
CMB				pmax	pmax				
	comp=Z,9.0nm,1.4s								
CMB	**Columbia Colle**	**89.00**	**42**	P	**P**	**09 00 15.7**	**+0.2**		
CMB				IAmb	IAmb	09 00 37.0			
	comp=Z,8.7nm,1.4s								
HEC	**Hector,Ludlow**	**89.17**	**47**	P	**P**	**09 00 17.8**	**+1.4**		
	baz=228								
GSC	**Goldstone, Bar**	**89.21**	**46**	P	**P**	**09 00 17.1**	**+0.5**		
GSC				pmax	pmax				
	comp=Z,24nm,1.9s								
GSC	**Goldstone, Bar**	**89.21**	**46**	P	**P**	**09 00 17.1**	**+0.5**		
GSC				IAmb	IAmb	09 00 51.2			
	comp=Z,24nm,1.9s								
O02D	**Mt. Diablo Mer**	**89.21**	**39**	P	**P**	**09 00 18.3**	**+1.8**		
	baz=224								
USRK	**Ussuriysk Ar.**	**89.29**	**327**	P	**P**	**09 00 16.8**	**+0.2**		
	comp=Z,4.0nm,0.9s,baz=174,slow=7.7,SNR=4.8								
MPMC	**Manual Prospec**	**89.31**	**45**	P	**P**	**09 00 18.2**	**+1.0**		
	baz=227								
IRM	**Iron Mountain**	**89.46**	**48**	P	**P**	**09 00 19.6**	**+1.9**		
	baz=228								
SHOC	**Shoshone, Teco**	**89.93**	**46**	P	**P**	**09 00 21.1**	**+1.3**		
	baz=228								
NVAR	**Mina Array Bea**	**90.45**	**43**	P	**P**	**09 00 23.1**	**+0.7**		
	comp=Z,0.7nm,0.9s,baz=213,slow=8.4,SNR=6.0								
NVAR				LR	LR	09 34 43.6			
	comp=Z,118nm,19.6s,baz=220,slow=31								
NVAR	**Mina Array Bea**	**90.45**	**43**	P	**P**	**09 00 22.8**	**+0.3**		
TYV	**Tymovskoe**	**90.45**	**336**	*e*P	**P**	**09 00 21.3**	**-0.5**		
TYV				pmax	pmax				
	comp=Z,200nm,3.4s								
TYV				pmax	pmax				
	comp=Z,20nm,1.2s								
NONG	**Nongkai**	**90.50**	**291**	P	**P**	**09 00 25.7**	**+2.8**		
TPH	**Tonopah**	**90.83**	**44**	P	**P**	**09 00 25.0**	**+0.8**		
TPH				pmax	pmax				
	comp=Z,56nm,1.6s								
TPH	**Tonopah**	**90.83**	**44**	P	**P**	**09 00 25.0**	**+0.8**		
TUC	**Tucson**	**91.05**	**52**	P	**P**	**09 00 27.0**	**+1.7**		
TUC				pmax	pmax				
	comp=Z,7.0nm,1.4s								
TUC	**Tucson**	**91.05**	**52**	P	**P**	**09 00 27.0**	**+1.7**		
X16A	**Lo Mia Camp, P**	**91.96**	**50**	P	**P**	**09 00 30.7**	**+1.2**		
X16A				IAmb	IAmb	09 00 33.0			
	comp=Z,12nm,1.8s								
KLR	**Kul'dur**	**93.26**	**330**	*i* P	**P**	**09 00 33.3**	**-1.6**		
KLR				pmax	pmax				
	comp=Z,9.0nm,1.6s								
TXAR	**Lajitas Array**	**94.11**	**58**	P	**P**	**09 00 40.1**	**+0.6**		
	comp=Z,0.6nm,1.0s,baz=204,slow=2.7,SNR=4.7								
TXAR				LR	LR	09 36 30.3			
	comp=Z,150nm,18.7s,baz=0.0,slow=31								
KMI	**Kunming**	**94.80**	**297**	⇑P	**P**	**09 00 45.3**	**+2.4**		
KMI				sP	pP	09 00 50.2	-1.1		
KMI				pmax	pmax				
	comp=Z,8.0nm,0.6s								
ANMO	**Albuquerque**	**95.52**	**52**	*i* P	**P**	**09 00 49.2**	**+3.3**		
LLLB	**Lillooet**	**97.14**	**32**	P	**P**	**09 00 52.5**	**-0.2**		
LPAZ	**La Paz**	**97.28**	**115**	LR	LR	09 36 40.8			
	comp=Z,52nm,21.3s,baz=224,slow=30								
HHC	**Hu-ho-hao-te**	**97.93**	**314**	*e*P	**P**	**09 00 56.4**	**-0.2**		
HHC				pmax	pmax				
	comp=Z,13nm,0.7s								
HHC				pmax	pmax				
	comp=Z,200nm,5.9s								
CPUP	**Villa Florida**	**98.50**	**129**	LR	LR	09 39 57.3			
	comp=Z,206nm,18.2s,baz=216,slow=32								
BILL	**Bilibino**	**101.54**	**354**	*e*P	**Pdif**	**09 01 13.8**	**+1.9**		
BILL				*e*		09 05 21.1			
BILL				*e*PPP	PPP	09 07 35.4			
BILL				pmax	pmax				
	comp=Z,5.0nm,1.2s								
BILL				MLR	MLR				
	comp=Z,216nm,20.0s								
WMQ	**Urumqi**	**114.68**	**307**	*e*P	**PKiKP**	**09 06 01.9**	**+1.1**		
WMQ				pmax	pmax				
	comp=Z,360nm,5.3s								
MKAR	**Makanchi Array**	**119.30**	**309**	PKP	**PKPdf**	**09 06 08.9**	**-0.6**		
	comp=Z,1.0nm,0.9s,baz=119,slow=1.5,SNR=3.6								
KURK	**Kurchatov**	**122.72**	**313**	PKIKP	**PKPdf**	**09 06 14.7**	**-1.3**		
KURK	**Kurchatov**	**122.72**	**313**		**PKPdf**	**09 06 14.7**	**-1.3**		
KURBB	**Kurchatov Arra**	**122.75**	**312**	PKP	**PKPdf**	**09 06 14.7**	**-1.3**		
	comp=Z,1.0nm,0.5s,baz=108,slow=2.1,SNR=9.7								
BVAR	**Borovoye Array**	**128.14**	**314**	PKP	**PKPdf**	**09 06 25.9**	**-0.4**		
	comp=Z,1.3nm,0.8s,baz=179,slow=5.9,SNR=6.5								
BRVK	**Borovoye**	**128.21**	**314***c*	*i* PKIKP	**PKiKP**	**09 06 26.7**	**-0.3**		
BRVK				pmax	pmax				
	comp=Z,7.0nm,2.5s								
ARU	**Arti**	**135.00**	**319**	*i* PKIKP	**PKiKP**	**09 06 40.7**	**+0.1**		
ARU						09 09 12.5			
KLMR	**Klimovskoe**	**143.02**	**330**	*e*PKHKP	PKPpre	09 06 48.5			
KLMR				pmax	pmax				
	comp=Z,21nm,1.6s								
KLMR	**Klimovskoe**	**143.02**	**330**	*e*PKPdf	PKPab	09 06 48.6	-0.3		
KLMR				AMP		09 07 03.1			
	comp=Z,21nm,1.6s								
GNI	**Garni**	**145.00**	**294***c*	*i* PKIKP	**PKiKP**	**09 07 00.0**	**-1.8**		
GNI				pmax	pmax				
	comp=Z,12nm,1.3s								
ZEI	**Tsey**	**145.65**	**299**	*i* PKIKP	**PKPdf**	**09 06 58.6**	**-0.5**		
ZEI				pmax	pmax				
	comp=Z,11nm,1.4s								
VRH	**Novokhopyorsk**	**145.79**	**314**	*e*PKIKP	**PKPdf**	**09 06 57.1**	**-1.6**		
VRH				pmax	pmax				
	comp=Z,10.0nm,1.0s								
VANB	**Van**	**145.97**	**291**	*e*P	**PKPab**	**09 07 01.2**	**+0.2**		
ONI	**Oni**	**145.98**	**298**	PKP2	**PKPbc**	**09 07 00.1**	**-0.2**		
ONI	**Oni**	**145.98**	**298**		**PKPbc**	**09 07 00.1**	**-0.2**		
AKDM	**Akdamar-Van**	**146.27**	**291**	*e*P	**PKPdf**	**09 07 00.6**	**+0.3**		
AGRB	**Hanur-Agry**	**146.33**	**293**	*e*P	**PKPbc**	**09 07 01.4**	**-0.2**		
KBZ	**Khabaz**	**146.33**	**300**	PKPbc	**PKPbc**	**09 07 01.0**	**-0.1**		
	comp=Z,7.6nm,1.0s,baz=242,slow=2.6,SNR=12								
MOS	**Moscow**	**146.40**	**323**	*e*PKP2	**PKPdf**	**09 07 00.1**	**+0.5**		
MOS				pmax	pmax				
	comp=Z,84nm,1.1s								
KIV	**Kislovodsk**	**146.46**	**301**	*i* PKP2	**PKPab**	**09 07 02.7**	**0.0**		
KIV				pmax	pmax				
	comp=Z,11nm,1.1s								
NEY	**Neytrino**	**146.49**	**300***c*	*i* PKP2	**PKiKP**	**09 07 05.9**	**+1.1**		
GURO	**Guroymak-BITLI**	**147.03**	**291**		**PKPbc**	**09 07 03.3**	**-0.3**		
OBN	**Obninsk**	**147.22**	**323**	PKPbc	**PKPbc**	**09 07 03.1**	**-0.2**		
	comp=Z,4.3nm,0.4s,baz=82,slow=5.6,SNR=4.8								
OBN	**Obninsk**	**147.22**	**323**	*e*PKP2	**PKPbc**	**09 07 03.3**	**0.0**		
OBN				*e*		09 10 26.7			
OBN				pmax	pmax				
	comp=Z,19nm,1.0s								
FIA1	**FINESS Array S**	**147.60**	**338**		**PKPbc**	**09 07 03.8**	**-0.4**		
FINES	**FINESS Array B**	**147.61**	**338**	PKPbc	**PKPbc**	**09 07 03.8**	**-0.4**		
	comp=Z,25nm,0.9s,baz=80,slow=4.3,SNR=48								
MAZI	**Mazidag**	**148.21**	**289**	*e*P	**PKPdf**	**09 07 04.7**	**+1.3**		
MEF	**Metsahovi**	**149.08**	**338**	*e*P	**PKPbc**	**09 07 07.8**	**-0.2**		
RAF	**Rauma**	**149.21**	**341**	*e*P	**PKPbc**	**09 07 07.3**	**-1.0**		
VSU	**Vasula**	**149.59**	**334**	*e*P	**PKPbc**	**09 07 09.3**	**-0.1**		
ILIC	**Ilic-Erzincan**	**149.75**	**293**	*e*P	**PKPbc**	**09 07 10.6**	**0.0**		
ANN	**Anapa**	**150.09**	**303**	*i* PKP2	**PKPbc**	**09 07 11.2**	**+0.2**		
ANN				pmax	pmax				
	comp=Z,43nm,1.2s								
AAL	**Aland**	**150.40**	**341**	*e*P	**PKPbc**	**09 07 10.5**	**-0.7**		
MTSE	**Matsula**	**150.43**	**336**	*e*P	**PKPbc**	**09 07 11.3**	**-0.1**		
DARE	**Darende-Malaty**	**150.59**	**291**	*e*P	**PKPbc**	**09 07 12.4**	**-0.2**		
SVSK	**Karacayir**	**150.95**	**294**	*e*P	PKPpre	09 07 01.8			
NC303	**NORSAR Array S**	**151.22**	**350**		**PKPbc**	**09 07 12.8**	**-0.4**		
NC405	**NORSAR Array S**	**151.27**	**350**		**PKPbc**	**09 07 12.9**	**-0.5**		
NC405					**PKPab**	**09 07 20.5**	**-1.0**		
UPP	**Uppsala**	**151.28**	**343**	*e*P	**PKPbc**	**09 07 12.0**	**-1.3**		
NB2	**NORSAR Subarra**	**151.42**	**350**	PKP	**PKPbc**	**09 07 13.1**	**-0.7**		
	comp=Z,15nm,1.1s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**151.42**	**350**	PKPbc	**PKPbc**	**09 07 13.5**	**-0.3**		
	comp=Z,4.3nm,1.0s,baz=20,slow=4.7,SNR=12								
SARI	**SarD1z-Kayseri**	**151.43**	**291**	*e*P	**PKPbc**	**09 07 14.3**	**-0.4**		
NBO00	**NORSAR Array S**	**151.49**	**351**		**PKPbc**	**09 07 12.5**	**-1.4**		
TAHT	**Tahtakopru-Hat**	**151.54**	**286**	*e*P	**PKiKP**	**09 07 15.7**	**+0.5**		
MNK	**Minsk**	**151.77**	**327**	*i* PKIKP	**PKPdf**	**09 07 07.7**	**-0.6**		
MNK				*i*		09 10 55.1			
MNK				*i* PPP	PPP	09 14 19.6			
MNK				*i* SS	SS	09 30 22.7	+3.8		
MNK				*i* SSS	SSS	09 36 07.7			
MNK				pmax	pmax				
	comp=Z,24nm,0.9s								
MNK				pmax	pmax				
	comp=E,2.0nm,0.9s								
MNK				pmax	pmax				
	comp=N,10.0nm,0.9s								
MNK	**Minsk**	**151.77**	**327**	*i* PKP	**PKPdf**	**09 07 07.8**	**-0.5**		
	comp=E,2.0nm,0.9s								
MNK				*i* PKP	**PKPdf**	**09 07 07.8**	**-0.5**		
	comp=N,10.0nm,0.9s								
MNK				*i* PKP	**PKPdf**	**09 07 07.8**	**-0.5**		
	comp=Z,24nm,0.9s,baz=52								
MNK				*i* SKP		09 10 41.2			
MNK				*i* PKS	**PKSdf**	**09 10 42.4**	**-0.2**		
MNK				*i* PP	**PP**	**09 10 55.1**	**-0.1**		
MNK				*i* PPP	PPP	09 14 19.6			
MNK				*i* SKKS		09 23 04.3			
MNK				*i* SS	**SS**	**09 30 22.7**	**+3.9**		
MNK				*i* SSS	SSS	09 36 07.7			
MNK				*i* LQ	LQ	10 04 29.0			
MNK				*i* LR	LR	10 07 43.6			
MNK				*i* LRM	MLR	10 11 50.5			
	comp=E,15nm,15.4s								
MNK				*i* LRM	MLR	10 11 50.5			
	comp=N,196nm,15.4s								
MNK				*i* LRM	MLR	10 11 50.5			
	comp=Z,203nm,15.4s								
BNN	**Bunyan**	**151.87**	**291**	*e*P	**PKiKP**	**09 07 16.4**	**+0.4**		
NACGM	**Naroch**	**152.01**	**329**	*i* PKP	**PKPbc**	**09 07 15.0**	**-0.2**		
YOZ	**Yozgat**	**152.25**	**293**	*e*P	**PKPbc**	**09 07 15.7**	**-0.8**		
AKASG	**Malin Array Be**	**153.25**	**319**	PKPbc	**PKPbc**	**09 07 17.9**	**-0.3**		
	comp=Z,1.4nm,0.7s,baz=73,slow=2.7,SNR=7.5								
AKASG	**Malin Array Be**	**153.25**	**319**		**PKPbc**	**09 07 17.2**	**-0.9**		
BRTR	**Keskin Array B**	**153.54**	**294**	PKPbc	**PKiKP**	**09 07 19.8**	**+0.3**		
	comp=Z,3.1nm,0.7s,baz=143,slow=4.3,SNR=9.8								
BRTR				PKPab	**sPKPbc**	**09 07 30.4**	**-0.5**		
	comp=Z,2.3nm,0.7s,baz=150,slow=3.3,SNR=4.5								
AFSR	**Afar-Bala (An**	**154.00**	**293**	*e*P	PKPdf	09 07 01.8	-10		
CRVS	**Cervenica-Dubn**	**158.40**	**323**	*e*PKP2	**PKPab**	**09 07 53.3**	**+1.1**		
DPC	**Dobruska-Polom**	**159.69**	**332**	*e*PKP2	**PKPab**	**09 07 57.9**	**+0.1**		
DPC	**Dobruska-Polom**	**159.69**	**332**	*e*PKPAB	**PKPab**	**09 07 57.9**	**+0.1**		
VYHS	**Vyhne**	**159.98**	**325**	*e*PKP2	**PKPab**	**09 07 58.9**	**-0.2**		
CLL	**Collm**	**160.05**	**339**	⇓ *i* PKPab	**PKPab**	**09 07 58.8**	**-0.4**		
	comp=Z,16nm,1.1s								
CLL				Lm	MLR	09 31 00.0			
	comp=Z,200nm,19.6s								
CLL				LmV		10 26 00.0			
	comp=Z,100nm,18.8s								
CLL	**Collm**	**160.05**	**339**	⇓ *i* PKP2	**PKPab**	**09 07 58.8**	**-0.4**		
CLL				pmax	pmax				
	comp=Z,16nm,1.1s								
TORD	**Torodi Ar. Bea**	**160.08**	**180**	PKPab	**PKPab**	**09 07 59.9**	**-0.3**		
	comp=Z,1.5nm,1.1s,baz=202,slow=1.9,SNR=3.0								
BRG	**Berggiesshubel**	**160.13**	**337**	P	**PKPab**	**09 08 06.2**	**+6.6**		
BRG				Amp		09 08 07.2			
	comp=Z,11nm,1.3s								
KHC	**Kasperske Hory**	**161.72**	**334**	*e*PKP2	**PKPab**	**09 08 06.7**	**0.0**		
KHC	**Kasperske Hory**	**161.72**	**334**	*e*PKPAB	**PKPab**	**09 08 06.7**	**0.0**		
GERES	**GERESS Array B**	**161.92**	**334**	PKPab	**PKPab**	**09 08 06.5**	**-1.1**		
	comp=Z,0.8nm,0.7s,baz=42,slow=6.2,SNR=7.0								
SENIN	**Lac Senin/Sane**	**166.12**	**344**		**PKPab**	**09 08 26.6**	**+0.4**		

IDC 11 08:54:09.6±3.0, 32.99S×178.51W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/23, mbtmp3.7/3, ML3.6/1, Error ellipse: s-maj=72.8km s-min=45.4km az=125.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.35**	**213**	Pn	Pn	08 55 43.2	-1.2
	1.2nm,0.3s,baz=262,slow=4.2,SNR=6.3						
ASAR	**Alice Springs**	**42.60**	**270**	P	P	09 02 07.4	-0.3
	0.6nm,0.6s,baz=111,slow=7.6,SNR=6.9						
WRA	**Warramunga Arr**	**43.82**	**275**	P	P	09 02 18.0	+0.4
	0.9nm,0.9s,baz=112,slow=7.9,SNR=6.8						
FINES	**FINESS Array B**	**147.40**	**338**	PKPbc	PKPbc	09 13 53.8	-0.7
	0.4nm,0.5s,baz=11,slow=2.8,SNR=2.5						

MEX 11 09:13:53.6±0.6, 14.67N×92.43W, h89km±8km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.28**	**34**	*i* P	Pn	09 14 05.2	-1.6
THIG				*i* S	Sn	09 14 14.7	-1.9
PCIG		**1.28**	**323**	*e*P	Pn	09 14 15.4	-1.2
PCIG				*e*S	Sn	09 14 31.6	-2.3
CCIG	**Comitan**	**1.62**	**10**	*e*P	Pn	09 14 20.6	-0.5
CCIG				*i* S	Sn	09 14 45.0	+3.2
CMIG	**Matias Romero**	**3.37**	**316**	*e*P	Pn	09 14 37.1	-7.1
CMIG				*e*S	Sn	09 15 16.5	-6.8

HEL ***11*** *09:17:38.6±0.1, 67.72N×26.88E, h0km, ML2.0, Explosion*
UPP ***11*** *09:17:39.9±2.6, 67.70N×27.07E, h12km±37km, ML2.0, Suspected explosion*
NAO ***11*** *09:17:39.3±1.4, 67.76N×27.13E, h1km±12km, ML2.4*
KOLA ***11*** *09:17:40.9, 68.08N×27.02E, h0km, ML2.6, Finland, Lapland*
BER ***11*** *09:17:41.4±3.3, 67.78N×27.06E, h0km, ML1.7, ML2.4(NAO), Suspected explosion*

ISC 11 09:17:38.9±0.8, 67.73N±0.02×26.92E±0.02, h0km, n45, σ0.96/77, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGF	**Sodankyl**	**0.32**	**208**	PG	**Pg**	**09 17 43.9**	**-1.2**
SGF				SG	**Sg**	**09 17 49.4**	**+0.1**
VRF	**Varrio**	**1.03**	**88**	PG	**Pg**	**09 17 56.8**	**-1.8**
VRF				MSG		09 18 10.5	
	comp=Z,7.9nm,0.2s						
RNF	**Rovaniemi**	**1.18**	**198**	PN	**Pg**	**09 18 00.4**	**-1.1**
	baz=21						
RNF				SN	**Sg**	**09 18 17.7**	**+1.0**
KLF	**Kolari**	**1.24**	**248**	PN	**Pg**	**09 18 00.8**	**-1.8**
KLF				SN	**Sg**	**09 18 18.9**	**+0.2**
HEF	**Hetta**	**1.40**	**301**	Pg	**Pg**	**09 18 04.8**	**-1.0**
HEF				Lg	Lg	09 18 25.4	
HEF	**Hetta**	**1.40**	**301**	*e*P	**Pg**	**09 18 04.4**	**-1.4**
HEF				*e*S	**Sn**	**09 18 24.5**	**-0.4**
HEF	**Hetta**	**1.40**	**301**	PN	**Pg**	**09 18 04.3**	**-1.4**
	baz=123						
HEF				MSG		09 18 20.3	
	comp=Z,12nm,0.2s						
HEF				SN	**Sn**	**09 18 26.1**	**+1.2**
PAJU	**Pajala**	**1.63**	**246**	P	**Pn**	**09 18 09.1**	**+0.3**
PAJU				S	**Sn**	**09 18 30.5**	**-0.1**
PAJU	**Pajala**	**1.63**	**246**	PN	**Pn**	**09 18 07.7**	**-1.2**
	baz=60						
PAJU				SN	**Sn**	**09 18 30.7**	**+0.2**
KTK1	**Kautokeino**	**1.88**	**315**	*e*P	**Pn**	**09 18 12.3**	**+0.1**
KTK1				*e*S	**Sn**	**09 18 37.0**	**+0.5**
KTK1				IAML		09 18 40.3	
	comp=Z,12nm,0.2s						
ARA0	**ARCESS Array S**	**1.89**	**345**	Pn	**Pn**	**09 18 12.2**	**-0.2**
	baz=162,slow=18						
ARA0				Pg	**Pb**	**09 18 14.3**	**+0.1**
ARA0				Sg	**Sb**	**09 18 38.2**	**0.0**
	baz=164,slow=28						
ARA0	**ARCESS Array S**	**1.89**	**345**	PG	**Pn**	**09 18 12.7**	**+0.3**
	baz=163						
ARA0				SG	**Sb**	**09 18 38.3**	**0.0**
LANU	**Lannavaara**	**1.89**	**282**	P	**Pn**	**09 18 12.8**	**+0.3**
LANU				S	**Sb**	**09 18 38.5**	**0.0**
LANU	**Lannavaara**	**1.89**	**282**	PG	**Pn**	**09 18 12.0**	**-0.5**
MASU	**Masugnsbyn**	**1.91**	**264**	P	**Pn**	**09 18 13.3**	**+0.7**
TOF	**Tornio**	**1.95**	**213**	PG	**Pn**	**09 18 12.9**	**-0.2**
	baz=34						
TOF				MSG		09 18 36.1	
	comp=Z,16nm,0.2s						
TOF				SG	**Sn**	**09 18 39.1**	**+0.9**
MSF	**Maaselka**	**2.01**	**154**	PG	**Pn**	**09 18 14.9**	**+0.8**
MSF				SG	**Sn**	**09 18 39.9**	**+0.1**
KEV	**Kevo**	**2.04**	**1**	Pn	**Pn**	**09 18 15.1**	**+0.7**
KEV				Pg	**Pb**	**09 18 16.6**	**-0.1**
KEV				Sn	**Sn**	**09 18 41.3**	**+0.8**
KEV	**Kevo**	**2.04**	**1**	Pn	**Pn**	**09 18 15.1**	**+0.7**
KEV				Pg	**Pb**	**09 18 16.6**	**-0.1**
KEV				Sn	**Sn**	**09 18 41.3**	**+0.8**
KEV	**Kevo**	**2.04**	**1**	PG	**Pn**	**09 18 14.7**	**+0.3**
	baz=180						
KEV				MSG		09 18 39.2	
	comp=Z,7.8nm,0.2s						
KEV				SG	**Sb**	**09 18 42.5**	**-0.1**
KU6	**Riekki**	**2.08**	**144**	PG	**Pn**	**09 18 15.1**	**+0.2**
KU6				MSG		09 18 40.3	
	comp=Z,7.9nm,0.2s						
KU6				SG	**Sn**	**09 18 42.0**	**+0.6**
ERTU	**Ertsjaerv**	**2.19**	**240**	P	**Pn**	**09 18 17.0**	**+0.5**
ERTU	**Ertsjaerv**	**2.19**	**240**	PG	**Pn**	**09 18 16.5**	**0.0**
ERTU				SG	**Sb**	**09 18 46.8**	**-0.1**
APA0	**Apatity Array**	**2.32**	**90**	Pn	**Pn**	**09 18 18.9**	**+0.6**
	baz=286,slow=14						
APA0				Pg	**Pb**	**09 18 20.4**	**-1.2**
	baz=292,slow=16						
APA0				Lg	Lg	09 18 48.0	
	baz=274,slow=37						
APA0	**Apatity Array**	**2.32**	**90**	Pn	**Pn**	**09 18 18.9**	**+0.6**
	baz=286,slow=14						
APA0				Pg	**Pb**	**09 18 20.4**	**-1.2**
	baz=292,slow=16						
APA0	**Apatity Array**	**2.32**	**90**	P	**Pn**	**09 18 19.0**	**+0.6**
APA0				S	**Sn**	**09 18 47.9**	**+0.3**
APA	**Apatity**	**2.49**	**91**	P	**Pn**	**09 18 22.7**	**+2.1**
APA				S	**Sn**	**09 18 53.4**	**+1.8**
KUA	**Kurravaara**	**2.50**	**278**	P	**Pn**	**09 18 22.2**	**+1.4**
DUNU	**Dundret**	**2.52**	**259**	P	**Pn**	**09 18 21.6**	**+0.5**
KOVU	**Salmi**	**2.59**	**284**	P	**Pn**	**09 18 22.1**	**0.0**
KIF	**Kilpisjarvi**	**2.60**	**302**	Pn	**Pn**	**09 18 24.1**	**+2.0**
KIF				Sn	**Sb**	**09 18 57.5**	**-1.4**
KIF	**Kilpisjarvi**	**2.60**	**302**	Pn	**Pn**	**09 18 24.1**	**+2.0**
KIF	**Kilpisjarvi**	**2.60**	**302**	PG	**Pn**	**09 18 24.1**	**+2.0**
KIF				MSG		09 18 55.6	
	comp=Z,6.1nm,0.2s						
KIF				SG	**Sb**	**09 18 59.9**	**+1.1**
OUL	**Oulu**	**2.69**	**189**	Pn	**Pn**	**09 18 24.4**	**+1.1**
OUL				Sn	**Sn**	**09 18 58.0**	**+1.6**
OUL	**Oulu**	**2.69**	**189**	Pn	**Pn**	**09 18 24.4**	**+1.1**
OUL				Sn	**Sn**	**09 18 58.0**	**+1.6**
OUL	**Oulu**	**2.69**	**189**	PB	**Pn**	**09 18 24.3**	**+1.0**
	baz=7.0						
OUL				SG	**Sb**	**09 19 01.3**	**+0.1**
RATU	**Laukkuluspa**	**2.79**	**275**	P	**Pn**	**09 18 25.4**	**+0.7**
RATU				S	**Sn**	**09 19 00.3**	**+1.3**
HARU	**Harads**	**2.82**	**239**	P	**Pn**	**09 18 25.6**	**+0.5**
NIKU	**Nikkaluokta**	**3.00**	**276**	P	**Pn**	**09 18 28.7**	**+1.1**
SJUU	**Sjulsmark**	**3.08**	**226**	P	**Pn**	**09 18 28.7**	**0.0**
OBF0	**Syolatti, Pyha**	**3.42**	**200**	SB	**Sn**	**09 19 16.2**	**+1.6**
OUF	**Merijarvi**	**3.49**	**196**	PB	**Pn**	**09 18 35.1**	**+0.7**
	baz=17						
FIA0	**FINESS Array S**	**6.32**	**184**	Pn	**Pn**	**09 19 13.7**	**+0.5**
	baz=15,slow=12						
FIA0	**FINESS Array S**	**6.32**	**184**	Pn	**Pn**	**09 19 13.7**	**+0.5**
	baz=15,slow=12						

SOME ***11*** *09:24:32.9, 38.80N×75.22E, h5km*
IDC ***11*** *09:24:35.3±1.7, 38.74N×74.99E, h0km, mb3.7/4, mb1 3.8/7, mb1mx3.5/51, mbtmp3.7/7, ML3.5/3, MS2.5/1, Ms1 2.5/1, ms1mx2.2/41, Error ellipse: s-maj=29.0km s-min=23.0km az=119.0*
NNC ***11*** *09:24:37.5±1.0, 38.92N×75.23E, h0km, mb4.6, mpv4.1, Error ellipse: s-maj=7.7km s-min=6.0km az=154.0*

ISC 11 09:24:37.4±1.2, 38.79N±0.07×75.08E±0.04, h10km, n68, σ2.98/92, mb3.6/4, 9C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZA	**Kyzart**	**3.28**	**2**	P	**Pn**	**09 25 31.1**	**+1.7**
	SNR=8.9						
UCH	**Uchtor**	**3.46**	**353**	P	**Pn**	**09 25

MDOK					*e*S	**Sb**	**09 26 59.4**	**+5.2**
	39nm,0.5s							
MDOK	**Medeo**	**4.61**	**18**	⇓Pg	**Pb**	**09 25 60.0**	**+1.4**
	13nm,0.6s							
MDOK				⇑Lg	Lg	09 26 57.7		
	45nm,0.7s							
MDOK	**Medeo**	**4.61**	**18**	Pg	**Pb**	**09 25 57.9**	**-0.6**
	15nm,0.3s							
MDOK				Lg	Lg	09 26 59.4		
	39nm,0.5s							
SGDS	**Sogindy**	**4.67**	**356**	Pg	**Pb**	**09 26 00.2**	**+0.8**
	17nm,0.7s							
SGDS				Lg	Lg	09 27 03.2		
	6.5nm,0.4s							
KOTS	**Kotyrbulak**	**4.70**	**18**	*e*P	**Pb**	**09 26 00.1**	**+0.1**
	16nm,0.4s							
KOTS				*e*S	**Sg**	**09 27 03.1**	**-5.1**
	44nm,0.8s							
KOTS	**Kotyrbulak**	**4.70**	**18**	Pg	**Pb**	**09 26 00.1**	**+0.1**
	16nm,0.4s							
KOTS				Lg	Lg	09 27 03.1		
	44nm,0.8s							
KRBS	**Karabastau**	**4.92**	**5**	*e*P	**Pb**	**09 26 05.7**	**+2.0**
	18nm,0.5s							
KRBS				*e*S	**Sg**	**09 27 12.7**	**-2.7**
	18nm,0.5s							
KRBS	**Karabastau**	**4.92**	**5**	Pg	**Pb**	**09 26 05.7**	**+2.0**
	18nm,0.5s							
KRBS				Lg	Lg	09 27 12.7		
	18nm,0.5s							
SATY	**Saty**	**4.95**	**30**	*e*P	**Pb**	**09 26 04.4**	**+0.1**
	18nm,0.7s							
SATY				*e*S	**Sb**	**09 27 10.4**	**+6.5**
	34nm,0.8s							
SATY	**Saty**	**4.95**	**30**	Pg	**Pb**	**09 26 04.4**	**+0.1**
	18nm,0.7s							
SATY				Lg	Lg	09 27 10.4		
	34nm,0.8s							
KTBS	**Karatobe**	**5.06**	**13**	*e*P	**Pb**	**09 26 07.3**	**+1.2**
	17nm,0.3s							
KTBS				*e*S	**Sg**	**09 27 15.6**	**-4.3**
	52nm,0.6s							
KTBS	**Karatobe**	**5.06**	**13**	Pg	**Pb**	**09 26 07.3**	**+1.2**
	17nm,0.3s							
KTBS				Lg	Lg	09 27 15.6		
	52nm,0.6s							
IUG	**Iuzhnay**	**5.10**	**313**	*e*P	**Pb**	**09 26 08.5**	**+1.6**
	505nm,0.7s							
IUG				*e*S	**Sg**	**09 27 17.6**	**-3.7**
	43nm,0.8s							
IUG	**Iuzhnay**	**5.10**	**313**	Pg	**Pb**	**09 26 08.5**	**+1.6**
	505nm,0.7s							
IUG				Lg	Lg	09 27 17.6		
	43nm,0.8s							
KUU	**Kurty**	**5.18**	**10**	*e*P	**Pb**	**09 26 08.2**	**+0.1**
	13nm,0.5s							
KUU				*e*S	**Sb**	**09 27 17.2**	**+6.7**
	86nm,0.4s							
KUU	**Kurty**	**5.18**	**10**	Pg	**Pb**	**09 26 08.2**	**+0.1**
	13nm,0.5s							
KUU				Lg	Lg	09 27 17.2		
	86nm,0.4s							
KURS	**Kuram**	**5.24**	**25**	*e*P	**Pb**	**09 26 09.6**	**+0.5**
	16nm,0.8s							
KURS				*e*S	**Sg**	**09 27 19.6**	**-6.1**
	18nm,0.8s							
KURS	**Kuram**	**5.24**	**25**	Pg	**Pb**	**09 26 09.6**	**+0.5**
	16nm,0.8s							
KURS				Lg	Lg	09 27 19.6		
	18nm,0.8s							
CHKK	**Chushkaly**	**5.26**	**15**	⇑*i*P	**Pb**	**09 26 09.7**	**+0.2**
	16nm,0.3s							
CHKK				*e*S	**Sb**	**09 27 19.6**	**+7.0**
	26nm,0.3s							
CHKK	**Chushkaly**	**5.26**	**15**	Pg	**Pb**	**09 26 09.7**	**+0.2**
	16nm,0.3s							
CHKK				Lg	Lg	09 27 19.6		
	26nm,0.3s							
UZB	**Uzynbulak**	**5.28**	**33**	*e*P	**Pb**	**09 26 09.9**	**+0.1**
	13nm,0.4s							
UZB				*e*S	**Sb**	**09 27 20.2**	**+6.9**
	21nm,0.6s							
UZB	**Uzynbulak**	**5.28**	**33**	Pg	**Pb**	**09 26 09.9**	**+0.1**
	13nm,0.4s							
UZB				Lg	Lg	09 27 20.2		
	21nm,0.6s							
KPKS	**Kokpek**	**5.40**	**29**	*e*P	**Pb**	**09 26 12.2**	**+0.3**
	31nm,0.4s							
KPKS				*e*S	**Sb**	**09 27 23.9**	**+7.0**
	26nm,0.4s							
SHLS	**Shalkode**	**5.48**	**36**	*e*P	**Pb**	**09 26 16.7**	**+3.5**
	26nm,0.3s							
SHLS				*e*S	**Sg**	**09 27 31.8**	**-1.5**
	26nm,0.6s							
SHLS	**Shalkode**	**5.48**	**36**	Pg	**Pb**	**09 26 16.7**	**+3.5**
	26nm,0.3s							
SHLS				Lg	Lg	09 27 31.8		
	26nm,0.6s							
KK31	**Karatay Array**	**5.52**	**323**	Pn	**Pn**	**09 26 00.9**	**+1.2**
	1.4nm,0.2s,baz=127,slow=13,SNR=16							
KK31				⇓Lg	Lg	09 27 31.8		
	15nm,1.1s,baz=149,slow=27,SNR=3.9							
PDGK	**Podgornoye**	**5.63**	**35**	Pg	**Pb**	**09 26 17.0**	**+1.2**
	12nm,0.3s							
PDGK				Lg	Lg	09 27 32.1		
	11nm,0.4s							
PDGK	**Podgornoye**	**5.63**	**35**	⇑Pn	**Pn**	**09 25 59.9**	**-1.3**
	3.6nm,0.7s							
PDGK				⇑Pg	**Pb**	**09 26 16.8**	**+1.0**
	17nm,0.6s							
PDGK				⇑Lg	Lg	09 27 29.7		
	34nm,0.9s							
ARXS	**Arharly**	**5.79**	**20**	*e*P	**Pb**	**09 26 20.7**	**+2.1**
	26nm,0.6s							
ARXS				*e*S	**Sg**	**09 27 38.3**	**-5.1**
	13nm,0.7s							
ARXS	**Arharly**	**5.79**	**20**	Pg	**Pb**	**09 26 20.7**	**+2.1**
	26nm,0.6s							
ARXS				Lg	Lg	09 27 38.3		
	13nm,0.7s							
KTMS	**Ketmen**	**6.12**	**39**	*e*P	**Pb**	**09 26 25.9**	**+1.7**
	0.3nm,0.1s							
KTMS				*e*S	**Sg**	**09 27 47.3**	**-6.6**
	11nm,0.6s							
KTMS	**Ketmen**	**6.12**	**39**	Pg	**Pb**	**09 26 25.9**	**+1.7**
	0.3nm,0.1s							
KTMS				Lg	Lg	09 27 47.3		
	11nm,0.6s							
BTLS	**Baital**	**6.29**	**353**	*e*P	**Pb**	**09 26 30.1**	**+3.1**
	3.0nm,0.3s							
BTLS				*e*S	**Sg**	**09 27 54.7**	**-4.6**
	6.5nm,0.3s							
BTLS	**Baital**	**6.29**	**353**	Pg	**Pb**	**09 26 30.1**	**+3.1**
	3.0nm,0.3s							
BTLS				Lg	Lg	09 27 54.7		
	6.5nm,0.3s							
DJR	**Jarkent**	**6.56**	**31**	*e*P	**Pb**	**09 26 33.7**	**+1.9**
	8.9nm,0.5s							
DJR				*e*S	**Sg**	**09 28 00.9**	**-7.2**
	6.3nm,0.3s							
DJR	**Jarkent**	**6.56**	**31**	Pg	**Pb**	**09 26 33.7**	**+1.9**
	8.9nm,0.5s							
DJR				Lg	Lg	09 28 00.9		
	6.3nm,0.3s							
KAPS	**Kapalarasan**	**7.23**	**25**	*e*P	**Pb**	**09 26 44.5**	**+1.5**
	3.6nm,0.7s							
KAPS				*e*S	Sb	09 28 19.5	+10	
	7.2nm,0.6s							
KAPS	**Kapalarasan**	**7.23**	**25**	Pg	**Pb**	**09 26 44.5**	**+1.5**
	3.6nm,0.7s							
KAPS				Lg	Lg	09 28 19.5		
	7.2nm,0.6s							
MKAR	**Makanchi Array**	**9.59**	**31**	Pn	**Pn**	**09 26 56.8**	**+1.3**
	0.2nm,0.3s,baz=201,slow=14,SNR=6.0							
KURBB	**Kurchatov Arra**	**12.08**	**11**	Lg	Lg	09 31 00.6		
	0.1nm,0.3s,baz=195,slow=28,SNR=4.3							
AKTO	**Aktyubinsk**	**16.78**	**319**	Pn	**Pn**	**09 28 30.8**	**-1.6**
	0.7nm,0.3s,baz=172,slow=9.9,SNR=8.2							
SONM	**Songino Array**	**24.37**	**58**	P	**P**	**09 29 56.4**	**+0.6**
	0.6nm,0.5s,baz=262,slow=9.7,SNR=3.7							
ARCES	**ARCESS Array B**	**40.33**	**336**	P	**P**	**09 32 15.6**	**+0.9**
	3.7nm,1.0s,baz=106,slow=9.5,SNR=4.2							
NOA	**NORSAR Array B**	**44.55**	**321**	P	**P**	**09 32 48.5**	**-0.6**
	0.3nm,0.7s,baz=83,slow=7.2,SNR=2.5							
TORD	**Torodi Ar. Bea**	**68.98**	**270**	P	**P**	**09 35 41.2**	**-2.0**
	0.2nm,0.3s,baz=51,slow=6.1,SNR=5.4							

ROM 11 09:26:23.1±0.1, **43°419N**±0.007×**12°972E**±0.006, **h0**km, **ML1.1/4, 5C-2D, Error ellipse: s-maj=0.8km s-min=0.4km az=209.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MMUR	**Monte Murano**	**0.03**	**39**	⇑P	Pg	Pg	09 26 23.6	-0.1
MMUR				S	Sg	Sg	09 26 23.8	-0.3
MMUR				AML	AML			
	comp=E,12850μm,1.0s							
MMUR				AML	AML			
	comp=N,15300μm,0.1s							
MMUR				AML	AML			
	comp=E,12850μm,1.0s							
MMUR				AML	AML			
	comp=N,15350μm,0.1s							
MMUR				AML	AML			
	comp=E,12830μm,1.0s							
ARVD	**Arcevia**	**0.08**	**344**	⇑P	Pg		09 26 25.0	+0.3
ARVD				S	Sg		09 26 26.6	+0.8
ARVD				AML	AML			
	comp=E,231μm,1.0s							
ARVD				AML	AML			
	comp=N,142μm,0.5s							
EL6	**Elcito**	**0.13**	**133**	⇑P	Pg		09 26 26.0	+0.4
CING	**Cingoli**	**0.17**	**105**	⇓P	Pg		09 26 26.8	+0.5
CING				S	Sg		09 26 29.9	+1.4
CING				AML	AML			
	comp=N,32μm,0.7s							
CING				AML	AML			
	comp=E,45μm,1.4s							
MPAG	**Monte Paganucc**	**0.26**	**324**	⇑P	Pg		09 26 28.6	+0.5
MPAG				S	Sg		09 26 33.3	+1.8
MPAG				AML	AML			
	comp=E,34μm,1.3s							
MPAG				AML	AML			
	comp=N,24μm,1.0s							
MPAG				AML	AML			
	comp=E,60μm,0.7s							
MPAG				AML	AML			
	comp=N,52μm,0.8s							
FSSB	**Fossombrone**	**0.31**	**333**	⇑P	Pg		09 26 29.6	+0.6
FSSB				S	Sb		09 26 35.1	-2.0
FSSB				AML	AML			
	comp=E,56μm,0.2s							
FSSB				AML	AML			
	comp=N,93μm,0.3s							
FSSB				AML	AML			
	comp=N,164μm,0.3s							
FSSB				AML	AML			
	comp=E,103μm,0.3s							
PIEI	**Pieia**	**0.34**	**290**	⇓P	Pg		09 26 29.9	+0.3
PIEI				S	Sb		09 26 36.1	-1.9
PIEI				AML	AML			
	comp=E,27μm,0.3s							
PIEI				AML	AML			
	comp=N,19μm,1.6s							
PIEI				AML	AML			
	comp=E,73μm,0.3s							
PIEI				AML	AML			
	comp=N,33μm,0.3s							
CDCA	**Citt' di Caste**	**0.54**	**274**	AML	AML			
	comp=N,1385μm,0.3s							
CDCA				AML	AML			
	comp=E,802μm,1.4s							

*KRSZO **11** 09:26:23.8±0.8, 45°.29N×14°.78E, h11km±4km, ML2.9/6, Error ellipse: s-maj=2.9km s-min=2.5km az=62.0*
*LJU **11** 09:26:23.1, 45°.30N×14°.75E, h18km, ML2.5*
*RHSSO **11** 09:26:24.6±0.5, 45°.32N×14°.76E, h6km±4km, ML2.4/6*

ISC 11 09:26:24.1±0.8, **45°31N**±0°.02×**14°73E**±0°.02, **h14**km±6km, **n67, σ0°81/102, 2C-7D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RIY	**Rijeka**	**0.18**	**275**	*i* Pg	**Pg**	**Pg**	**09 26 27.9**	**-0.3**
RIY				S	Sg	**Sg**	**09 26 31.3**	**+0.2**
GBRS	**Gornja Briga**	**0.23**	**14**	*i* Pg	**Pg**	**Pg**	**09 26 29.2**	**+0.1**
GBRS				IAML			09 26 33.3	
	comp=Z,748nm,0.1s							
KNDS	**Knezji Dol**	**0.33**	**312**	*i* Pg	**Pg**	**Pg**	**09 26 30.5**	**-0.4**
KNDS				*i* Sg	**Sg**	**Sg**	**09 26 36.1**	**+0.5**
KNDS				IAML			09 26 38.3	
	comp=Z,137nm,0.1s							
BOJS	**Bojanci**	**0.41**	**62**	⇓*i* Pg	**Pg**	**Pg**	**09 26 31.8**	**-0.6**
BOJS				*i* Sg	**Sg**	**Sg**	**09 26 37.8**	**-0.3**
BOJS				IAML			09 26 39.1	
	comp=Z,144nm,0.1s							
CEY	**Cerknica**	**0.48**	**334**	⇓*i* Pg	**Pg**	**Pg**	**09 26 33.0**	**-0.6**
CEY				*e*Sg	**Sg**	**Sg**	**09 26 40.7**	**+0.6**
CEY	**Cerknica**	**0.48**	**334**	⇑*i* Pg	**Pg**	**Pg**	**09 26 33.2**	**-0.4**
CEY				*i* Sg	**Sb**	**Sb**	**09 26 41.2**	**-0.1**
CEY				IAML			09 26 43.8	
	comp=Z,360nm,0.2s							
VISS	**Visnje**	**0.50**	**9**	*i* Pg	**Pg**	**Pg**	**09 26 33.5**	**-0.5**
VISS				*i* Sg	**Sg**	**Sg**	**09 26 40.8**	**+0.1**
VISS				IAML			09 26 42.1	
	comp=Z,200nm,0.1s							
SKDS	**Skadanscina**	**0.56**	**295**	*i* Pg	**Pg**	**Pg**	**09 26 34.1**	**-0.9**
SKDS				*i* Sg	**Sb**	**Sb**	**09 26 43.3**	**-0.3**
SKDS				IAML			09 26 44.2	
	comp=Z,66nm,0.1s							
OZLJ	**Ozalj**	**0.60**	**59**	*e*Pg	**Pg**	**Pg**	**09 26 35.4**	**-0.5**
OZLJ				Sg	**Sg**	**Sg**	**09 26 43.7**	**-0.2**
GBAS	**Gorenja Brezov**	**0.66**	**342**	*i* Pg	**Pg**	**Pg**	**09 26 36.4**	**-0.6**
GBAS				IAML			09 26 49.5	
	comp=Z,121nm,0.2s							
CRES	**Cresnjev**	**0.72**	**44**	⇓*i* Pg	**Pg**	**Pg**	**09 26 37.8**	**-0.4**
CRES				*e*Sg	**Sg**	**Sg**	**09 26 47.3**	**-0.5**
CRES	**Cresnjev**	**0.72**	**44**	*i* Pg	**Pg**	**Pg**	**09 26 37.8**	**-0.4**
CRES				*i* Sg	**Sg**	**Sg**	**09 26 47.5**	**-0.3**
CRES				IAML			09 26 50.0	
	comp=Z,87nm,0.1s							
CRES	**Cresnjev**	**0.72**	**44**	Pg	**Pg**	**Pg**	**09 26 37.7**	**-0.4**
	comp=Z,0.5nm,SNR=42							
CRES				Sg	**Sg**	**Sg**	**09 26 47.3**	**-0.5**
LJU	**Ljubljana**	**0.75**	**349**	*e*Pg	**Pg**	**Pg**	**09 26 38.0**	**-0.7**
LJU				*e*Sg	**Sg**	**Sg**	**09 26 48.6**	**+0.1**
JAVS	**Javornik**	**0.75**	**321**	*e*Pg	**Pg**	**Pg**	**09 26 37.2**	**-1.5**
JAVS				IAML			09 26 52.6	
	comp=Z,48nm,0.1s							
NVLJ	**Novalja**	**0.75**	**172**	*e*Pg	**Pg**	**Pg**	**09 26 37.4**	**-1.3**
NVLJ				Sg	**Sb**	**Sb**	**09 26 49.1**	**0.0**
LEGS	**Legarje**	**0.76**	**33**	⇓*i* Pg	**Pg**	**Pg**	**09 26 38.5**	**-0.3**
PDKS	**Podkum**	**0.77**	**14**	⇓*i* Pg	**Pg**	**Pg**	**09 26 38.8**	**-0.4**
PDKS				*i* Sg	**Sb**	**Sb**	**09 26 49.8**	**0.0**
PDKS				IAML			09 26 54.6	
	comp=Z,43nm,0.1s							
VNDS	**Vrh nad Dolski**	**0.79**	**358**	*i* Pg	**Pg**	**Pg**	**09 26 39.1**	**-0.4**
VNDS				*i* Sg	**Sb**	**Sb**	**09 26 50.5**	**+0.2**
VNDS				IAML			09 26 55.8	
	comp=Z,74nm,0.2s							
BRJN	**Brijuni**	**0.80**	**240**	*e*Pg	**Pg**	**Pg**	**09 26 39.6**	**-0.1**
BRJN				Sg	**Sg**	**Sg**	**09 26 50.4**	**+0.1**
CRNS	**Crni Vrh**	**0.84**	**337**	*e*Pg	**Pg**	**Pg**	**09 26 39.6**	**-0.8**
GCIS	**Gornji Cirnik**	**0.84**	**48**	*i* Pg	**Pg**	**Pg**	**09 26 39.9**	**-0.5**
GCIS				IAML			09 26 55.1	
	comp=Z,64nm,0.2s							
VOJS	**Vojsko**	**0.94**	**321**	*i* Pg	**Pg**	**Pg**	**09 26 40.9**	**-1.3**
VOJS				*i* Sg	**Sn**	**Sn**	**09 26 55.9**	**-0.3**
VOJS				IAML			09 26 59.0	
	comp=Z,69nm,0.2s							
GOLS	**Golise**	**0.94**	**41**	*i* Pg	**Pb**	**Pb**	**09 26 41.9**	**-0.3**
GOLS				IAML			09 26 58.3	
	comp=Z,79nm,0.2s							
MOZS	**Mozjanca**	**1.00**	**349**	*i* Pg	**Pg**	**Pg**	**09 26 43.6**	**+0.1**
MOZS				IAML			09 27 00.0	
	comp=Z,91nm,0.2s							
PTJ	**Puntijarka**	**1.05**	**55**	*e*Pg	**Pg**	**Pg**	**09 26 44.2**	**-0.3**
PTJ				Sg	**Sb**	**Sb**	**09 26 57.4**	**-0.5**
PTJ	**Puntijarka**	**1.05**	**55**	Pg	**Pg**	**Pg**	**09 26 44.2**	**-0.3**
	comp=Z,0.8nm,SNR=32							
PTJ				Sg	**Sn**	**Sn**	**09 26 58.6**	**-0.5**
UDBI	**Udbina**	**1.07**	**136**	*e*Pg	**Pb**	**Pb**	**09 26 43.1**	**-1.4**
UDBI				Sg	**Sg**	**Sg**	**09 26 58.5**	**-0.3**
GORS	**Gorjuse**	**1.13**	**333**	*i* Pg	**Pb**	**Pb**	**09 26 45.2**	**-0.3**
GORS				IAML			09 27 04.5	
	comp=Z,79nm,0.2s							
CADS	**Cadrg**	**1.15**	**323**	*e*Pg	**Pb**	**Pb**	**09 26 44.5**	**-1.3**
CADS				IAML			09 27 06.5	
	comp=Z,175nm,0.3s							
OBKA	**Obir**	**1.21**	**354**	*e*Pn	**Pg**	**Pg**	**09 26 47.2**	**-0.1**
	comp=Z,12nm,0.1s,SNR=15							
OBKA				*e*Sn	**Sg**	**Sg**	**09 27 04.8**	**+1.7**
	comp=Z,111nm,0.3s							
OBKA	**Obir**	**1.21**	**354**	Pg	**Pg**	**Pg**	**09 26 47.2**	**-0.1**
	comp=Z,0.4nm,SNR=24							
OBKA				Lg	Lg		09 27 04.4	
GROS	**Grobnik**	**1.27**	**25**	*i* Pg	**Pn**	**Pn**	**09 26 47.6**	**+0.1**
GROS				IAML			09 27 07.0	
	comp=Z,49nm,0.2s							
DUGI	**Dugi Otok**	**1.34**	**170**	*e*Pn		**Pn**	**09 26 48.5**	**+0.2**
DUGI				Sg		**Sg**	**09 27 08.1**	**+0.9**
PERS	**Pernice**	**1.35**	**11**	*i* Pg		**Pb**	**09 26 49.2**	**0.0**
PERS				IAML			09 27 09.5	
	comp=Z,63nm,0.2s							
SOKA	**Soboth**	**1.39**	**9**	*i* Pn		**Pb**	**09 26 49.9**	**+0.1**
	comp=Z,4.7nm,0.3s,SNR=9.8							
MOSL	**Moslavina**	**1.46**	**77**	*e*Pn		**Pn**	**09 26 49.5**	**-0.5**
KALN	**Kalnik**	**1.46**	**55**	*e*Pn		**Pb**	**09 26 51.0**	**-0.1**
KALN				Sn		**Sb**	**09 27 10.2**	**+0.7**
MYKA	**Terra Mystica**	**1.52**	**330**	*i* Pn		**Pb**	**09 26 52.6**	**+0.4**
	comp=Z,9.5nm,0.2s,SNR=6.7							
MYKA				*i* Sn		**Sg**	**09 27 14.7**	**+1.5**
	comp=Z,24nm,0.2s							
KOGS	**Kog**	**1.56**	**42**	Pn		**Pn**	**09 26 51.7**	**+0.3**
	comp=Z,0.9nm,SNR=6.5							
MRAK	**Mrakovica**	**1.56**	**100**	*e*Pn		**Pb**	**09 26 52.5**	**-0.3**
MRAK				*e*Sn		**Sb**	**09 27 12.6**	**+0.1**
MORI	**Morici**	**1.60**	**154**	*e*Pn		**Pb**	**09 26 53.2**	**-0.2**
MORI				Sn		**Sg**	**09 27 15.7**	**0.0**
POLC	**Polcenigo**	**1.72**	**295**	⇓P		**Pb**	**09 26 54.7**	**-0.8**
KIJV	**Kijevo**	**1.77**	**137**	*e*Pn		**Pb**	**09 26 56.6**	**+0.3**
ZIRJ	**Zirje**	**1.78**	**158**	*e*Pn		**Pb**	**09 26 55.5**	**-0.9**
ZIRJ				Sn		**Sb**	**09 27 18.1**	**-0.6**
BLY	**Banja Luka**	**1.83**	**107**	*e*Pn		**Pn**	**09 26 55.7**	**+0.6**
BLY				*e*Sn		**Sb**	**09 27 19.0**	**-1.0**
BEHE	**Becsehely**	**1.84**	**50**	*e*P		**Pn**	**09 26 55.7**	**+0.4**
BEHE	**Becsehely**	**1.84**	**50**	*e*Pn		**Pb**	**09 26 55.5**	**+0.2**
BEHE				*e*Sn		**Sb**	**09 27 20.3**	**-0.1**
BEHE	**Becsehely**	**1.84**	**50**	Pg		**Pn**	**09 26 55.7**	**+0.4**
	comp=Z,0.2nm,SNR=3.1							
MGRS	**Mrkonjic Grad**	**1.90**	**117**	*e*Pn		**Pn**	**09 26 57.1**	**+1.0**
MGRS				*e*Sn		**Sb**	**09 27 21.3**	**-0.7**
VARN	**Col Varnada, M**	**1.97**	**291**	⇑P		**Pn**	**09 26 57.7**	**+0.6**
KBA	**Koelnbreinsper**	**2.02**	**332**	*e*Pn		**Pb**	**09 26 59.5**	**-1.1**
	comp=Z,0.8nm,0.2s							
KBA				*e*Sg		**Sb**	**09 27 25.9**	**+0.3**
	comp=Z,9.7nm,0.3s							
ARSA	**Arzberg**	**2.02**	**15**	*e*Pn		**Pb**	**09 27 01.0**	**+0.5**
	comp=Z,2.5nm,0.2s,SNR=6.5							
ARSA				*e*Sg		**Sb**	**09 27 26.0**	**+0.5**
	comp=Z,10nm,0.5s							
ABTA	**Abfaltersbach**	**2.11**	**314**	*i* Pn		**Pb**	**09 27 02.8**	**+0.5**
	comp=Z,1.8nm,0.2s							
ABTA				*e*Sg		**Sg**	**09 27 31.6**	**-0.4**
	comp=Z,29nm,0.5s							
HVAR	**Hvar**	**2.46**	**149**	*e*Pn		**Pn**	**09 27 04.7**	**+0.9**
KOVH	**Kovagotottos**	**2.48**	**71**	*e*P		**Pn**	**09 27 03.5**	**-0.6**
KOVH	**Kovagotottos**	**2.48**	**71**	Pn		**Pn**	**09 27 03.5**	**-0.6**
	comp=Z,0.3nm,SNR=14							
RICI	**Ricice**	**2.50**	**136**	*e*Pn		**Pn**	**09 27 06.1**	**+1.7**
DOSS	**Dosso del Somm**	**2.55**	**284**	P		**Pn**	**09 27 05.9**	**+0.7**
MAKA	**Makarska**	**2.60**	**140**	*i* Pn		**Pn**	**09 27 08.0**	**+2.2**
CONA	**Conrad Observa**	**2.73**	**16**	*e*Pn		**Pn**	**09 27 09.0**	**+1.4**
	comp=Z,0.6nm,0.1s							
ABSI	**Aberstueckl**	**2.77**	**302**	⇓P		**Pn**	**09 27 09.4**	**+1.2**
STON	**Ston**	**3.24**	**138**	*e*Pn		**Pn**	**09 27 15.9**	**+1.4**
STON				*e*Sn		**Sn**	**09 27 54.5**	**+1.6**
STON	**Ston**	**3.24**	**138**	*e*Pn		**Pn**	**09 27 16.5**	**+2.0**
FETA	**Feichten**	**3.27**	**303**	*e*Pg		**Pg**	**09 27 25.0**	**-1.7**
	comp=Z,2.8nm,0.4s							
DRME	**Dracevica, Mon**	**4.49**	**133**	*e*Pn		**Pn**	**09 27 33.3**	**+1.6**
DRME				*e*Sn		**Sn**	**09 28 24.1**	**+0.4**
CLL	**Collm**	**6.11**	**350**	*e*Sg		**Sg**	**09 29 38.0**	**-2.1**

MEX 11 09:31:27.5±0.8, **16°23N**×**98°10W**, **h5**km, **MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.17**	**352**	*i* P		Pg	09 31 30.3	-0.6
	baz=171,slow=5.9							
PNIG				*i* S		Sg	09 31 33.2	+0.1
PEIG	**Puerto Escondi**	**0.94**	**104**	*e*P		Pg	09 31 42.6	-3.1
PEIG				*i* S		Sg	09 31 56.8	-1.1
MGIG	**Malinaltepec**	**1.12**	**333**	*e*P		Pg	09 31 45.9	-3.3
MGIG				*i* S		Sg	09 32 00.9	-2.9
VHO	**Vista Hermosa**	**1.56**	**57**	*i* P		Pn	09 31 52.3	-3.8
VHO				*e*S		Sn	09 32 13.2	-3.6
HLIG	**Huajuapan de L**	**1.62**	**10**	*e*P		Pn	09 31 53.5	-3.4
HLIG				*e*S		Sn	09 32 14.3	-4.0
FTIG	**Fresnillo de T**	**1.67**	**359**	*e*P		Pn	09 31 54.5	-3.1
FTIG				*e*S		Sn	09 32 15.6	-4.0
DAIG	**Los Arroyos**	**1.68**	**298**	*e*P		Pn	09 31 52.7	-4.9
DAIG				*i* S		Sn	09 32 13.8	-5.8

MEX 11 09:41:33.2±0.8, **18°30N**×**102°44W**, **h22**km, **MD3.9, Michoacan**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.86**	**270**	*e*P		Pb	09 41 46.1	-3.5
MMIG				*e*S		Sb	09 41 58.1	-2.6
ZIIG	**Zihuatanejo**	**1.15**	**127**	*e*P		Pn	09 41 51.6	-2.4
ZIIG				*i* S		Sb	09 42 05.7	-3.3
COIG	**Colima**	**1.48**	**307**	*i* P		Pn	09 41 55.4	-3.2
COIG			

IDC ***11*** *10:20:38.0±2.7,6°.20S×130°.81E,h106km±35km,mb3.7/1, mb1 3.5/6,mb1mx3.3/36,mbtmp3.8/6,Error ellipse: s-maj=46.0km s-min=21.5km az=91.0*

ISC 11 10:20:35.8±0.9,**6°.35S**±0°.06×**130°.8E**±0°.1,**h100km,n6,** σ3**65**/10,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.46**	**5**	**P**	**Pn**	**10 21 56.1**	**+1.3**
	2.5nm,0.3s,baz=252,slow=23,SNR=23						
SIJI				S	**Sn**	**10 22 51.6**	**-4.8**
	4.6nm,0.3s,baz=228,slow=23,SNR=12						
JAY	**Jayapura**	**10.60**	**69**	P	**Pn**	**10 23 04.8**	**0.0**
	0.9nm,0.3s,baz=90,slow=19,SNR=4.6						
FITZ	**Fitzroy Crossi**	**12.71**	**203**	P	**Pn**	**10 23 35.4**	**+2.5**
	0.2nm,0.3s,baz=31,slow=9.9,SNR=12						
FITZ				S	**Sn**	**10 25 47.7**	**-5.0**
	0.2nm,0.3s,baz=306,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	**13.95**	**166**	P	**P**	**10 23 52.7**	**-1.3**
	0.1nm,0.3s,baz=347,slow=14,SNR=1.6						
WRA				S	**Sn**	**10 26 20.3**	**-2.6**
	0.5nm,0.3s,baz=336,slow=12,SNR=11						
ASAR	**Alice Springs**	**17.48**	**170**	P	**Pn**	**10 24 38.5**	**+5.1**
	0.2nm,0.3s,baz=348,slow=9.3,SNR=12						
ASAR				S	**Sn**	**10 27 46.8**	**-1.4**
	0.1nm,0.3s,baz=327,slow=14,SNR=4.4						
MKAR	**Makanchi Array**	**68.11**	**326**	P	**P**	**10 31 25.9**	**+0.9**
	0.8nm,0.4s,baz=111,slow=8.4,SNR=7.3						

SLM ***11*** *10:24:45.0±1.2,35°.781N±0°.009×90°.127W±0°.007, h7km±3km,Md2.5/34,mb_Lg2.3/19(NEIC),Error ellipse: s-maj=1.3km s-min=0.8km az=196.0*

NEIC 11 10:24:45.2±1.1,**35.787N**±0.008×**90.13W**±0.01, **h11km±2km,Error ellipse: s-maj=1.7km s-min=0.7km az=122.0,Arkansas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAR	**Manila South**	**0.02**	**261**		Pg	10 24 48.0	+0.9
DLAR	**Dell**	**0.10**	**77**		Pg	10 24 47.6	-0.4
DLAR					Sg	10 24 50.0	+0.1
LVAR	**Leachville**	**0.15**	**329**		Pg	10 24 48.5	-0.1
LVAR					Sg	10 24 51.5	+0.3
GNAR	**Gosnell**	**0.20**	**26**		Pg	10 24 49.5	0.0
GNAR				Sg	Sg	10 24 53.2	+0.8
LPAR	**Lepanto**	**0.23**	**218**		Pg	10 24 49.7	-0.4
LPAR				Sg	Sg	10 24 53.8	+0.4
CHNM	**Channel**	**0.30**	**32**		Pg	10 24 51.3	0.0
CHNM					Sg	10 24 56.1	+0.7
ARPT	**Arp**	**0.37**	**95**		Pg	10 24 52.4	-0.2
ARPT					Sg	10 24 58.3	+0.8
PEBM	**Pemiscott Bayo**	**0.39**	**33**		Pg	10 24 52.7	-0.2
PEBM				Sg	Sg	10 24 58.0	-0.2
SFTN	**Shelby Forest**	**0.44**	**168**		Pg	10 24 53.4	-0.4
SFTN					Sg	10 24 59.7	+0.1
HBAR	**Harrisburg**	**0.49**	**242**		Pg	10 24 54.6	-0.1
HBAR				Sg	Sg	10 25 01.8	+0.6
LNXT	**Lenox**	**0.60**	**58**		Pg	10 24 56.8	-0.1
LNXT				Sg	Sg	10 25 05.1	+0.2
HALT	**Halls**	**0.65**	**79**	Pg	Pg	10 24 56.7	-1.1
PEMMO	**Penman**	**0.78**	**31**		Pg	10 24 59.9	-0.3
GLAT	**Glass**	**0.83**	**54**		Pg	10 25 01.2	0.0
LCAR	**Lake Charles**	**0.88**	**289**		Pg	10 25 01.0	-1.2
EBZ	**Ebenezer Churc**	**0.90**	**135**		Pg	10 25 02.5	-0.1
PARMO	**Parma**	**0.93**	**19**		Pg	10 25 02.2	-0.8
W45A	**Hickory Valley**	**0.99**	**129**	Pg	Pg	10 25 03.1	-1.2
PBMO	**Poplar Bluff**	**1.02**	**346**		Pb	10 25 03.7	-1.1
HICK	**Hickman**	**1.05**	**44**		Pb	10 25 04.7	-0.5
HENM	**Henderson Moun**	**1.07**	**30**		Pb	10 25 05.3	-0.3
OXF	**Oxford**	**1.40**	**155**		Pn	10 25 10.3	-0.2
CGM3	**Cape Girardeau**	**1.55**	**14**		Pb	10 25 13.4	-0.5
FCAR	**Ozark Folk Cen**	**1.63**	**274**		Pn	10 25 13.8	+0.1
T45A	**Paducah**	**1.71**	**44**	Pn	Pn	10 25 15.1	+0.2
WHAR	**Wooly Hollow**	**1.83**	**255**	Pn	Pn	10 25 16.6	0.0
PLAL	**Pickwick Lake**	**1.86**	**115**		Pn	10 25 16.8	-0.1
PWLA	**Pickwick Lake**	**1.87**	**115**		Pn	10 25 16.9	-0.1
WVT	**Waverly**	**1.89**	**79**	Pn	Pn	10 25 18.2	+0.9
Y45A	**Yeager Farm, C**	**1.98**	**166**	Pn	Pn	10 25 18.7	+0.2
S44A	**Carbondale**	**2.03**	**20**	Pn	Pn	10 25 19.1	-0.1
SIUC	**Southern Illin**	**2.06**	**21**	IAmb_Lg		10 25 54.8	
	comp=Z,13nm,0.7s						
MGMO	**Mountain Grove**	**2.20**	**309**	IAmb_Lg		10 25 55.0	
	comp=Z,9.4nm,0.7s						
U40A	**Yellville**	**2.28**	**285**		Pn	10 25 23.0	+0.3
CCAR	**Cane Creek**	**2.30**	**216**	Pn	Pn	10 25 23.0	0.0
V48A	**Smith Brothers**	**2.69**	**90**	Pn	Pn	10 25 28.8	+0.5
T47A	**Sharon Grove**	**2.72**	**63**	Pn	Pn	10 25 28.2	-0.5
MIAR	**Mount Ida**	**3.09**	**247**	IAmb_Lg		10 26 30.7	
	comp=Z,7.2nm,0.8s						
Z47A	**Carrollton**	**3.09**	**146**	IAmb_Lg		10 26 24.5	
	comp=Z,8.6nm,0.7s						
HHAR	**Hobbs**	**3.13**	**280**	IAmb_Lg		10 26 30.6	
	comp=Z,6.3nm,0.8s						
Y49A	**Blount Mountai**	**3.61**	**121**	Pn	Pn	10 25 41.5	+0.5
Y49A				IAmb_Lg		10 26 43.7	
	comp=Z,6.6nm,1.0s						
P43A	**Skaggs, Pawnee**	**3.88**	**7**	IAmb_Lg		10 26 47.0	
	comp=Z,10nm,1.1s						
FPAL	**Fort Paine**	**3.90**	**107**	Pn	Pn	10 25 47.7	+2.7
FPAL				IAmb_Lg		10 26 57.4	
	comp=Z,7.8nm,1.0s						
W50A	**Signal Mountai**	**3.97**	**97**	IAmb_Lg		10 26 55.7	
	comp=Z,6.8nm,0.8s						
P40A	**Paris**	**4.04**	**338**	IAmb_Lg		10 26 51.0	
	comp=Z,6.3nm,0.8s						
P46A	**Rosedale**	**4.47**	**30**	IAmb_Lg		10 27 13.1	
	comp=Z,6.5nm,0.8s						

SOME ***11*** *10:35:52.7,43°.83N×69°.73E*
NNC ***11*** *10:35:53.5±1.3,43°.87N×69°.70E,h13km±12km,mb4.0, mpv3.9,Error ellipse: s-maj=10.2km s-min=5.0km az=56.0, Suspected Mining explosion.*
KRNET ***11*** *10:35:54.2±0.1,43°.66N×69°.24E,mb3.6*

ISC 11 10:35:52.3±0.9,**43°.61N**±0°.04×**69°.30E**±0°.04,**h0km,n42,** σ1**61**/60,**34C-3D,Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**1.56**	**160**	P	**Pg**	**10 36 23.1**	**+1.0**
	885nm,0.2s						
IUG				S	**Sn**	**10 36 45.0**	**+2.7**
	150nm,0.2s						
DZA	**Taraz**	**1.65**	**115**	P	**Pb**	**10 36 22.1**	**-1.4**
	516nm,0.1s						
DZA				S	**Sb**	**10 36 43.4**	**-1.5**
	257nm,0.2s						
TAS	**Tashkent**	**2.28**	**180**	⇑*i*P	**Pb**	**10 36 33.0**	**-1.3**
	baz=79						
TAS				⇑*i*S	**Sb**	**10 37 01.2**	**-1.9**
	baz=79						
TRKS	**Terek-Say**	**2.48**	**146**	⇑*i*P	**Pb**	**10 36 36.5**	**-1.4**
	baz=46						
TRKS				⇑*i*S	**Sb**	**10 37 08.0**	**-1.0**
	baz=46						
MNAS	**Manas**	**2.60**	**114**	⇑*i*P	**Pb**	**10 36 37.0**	**-2.9**
	baz=15						
MNAS				⇑*i*S	**Sn**	**10 37 08.9**	**+0.8**
	baz=15						
MRKS	**Merke**	**3.00**	**105**	Pg	**Pb**	**10 36 43.9**	**-2.8**
	13nm,0.3s						
MRKS				Lg	Lg	10 37 20.9	
	30nm,0.3s						
EKS2	**Erkin-Say**	**3.41**	**105**	⇓*i*P	**Pn**	**10 36 48.8**	**+2.0**
	baz=5.0						
EKS2				⇓*i*S	**Sn**	**10 37 28.4**	**+0.3**
	baz=5.0						
EKS2	**Erkin-Say**	**3.41**	**105**	P	**Pb**	**10 36 51.0**	**-2.6**
	SNR=14						
AML	**Almayashu**	**3.55**	**113**	⇑*e*P	**Pn**	**10 36 50.6**	**+1.6**
	baz=13						
AML				⇑*i*S	**Sn**	**10 37 32.1**	**+0.2**
	baz=13						
AML	**Almayashu**	**3.55**	**113**	P	**Pb**	**10 36 53.6**	**-2.6**
	SNR=6.3						
BTLS	**Baital**	**3.69**	**66**	Pg	**Pb**	**10 36 55.0**	**-3.4**
	24nm,0.3s						
BTLS				Lg	Lg	10 37 40.0	
	11nm,0.4s						
USP	**Ospenovka**	**3.80**	**93**	⇑*i*P	**Pn**	**10 36 54.0**	**+1.9**
	baz=94						
USP				⇑*i*S	**Sn**	**10 37 37.7**	**+0.1**
	baz=94						
USP	**Ospenovka**	**3.80**	**93**	P	**Pb**	**10 36 59.2**	**-1.0**
	SNR=10						
SGDS	**Sogindy**	**3.88**	**90**	Pg	**Pb**	**10 36 59.2**	**-2.4**
	6.7nm,0.2s						
SGDS				Lg	Lg	10 37 46.9	
	16nm,0.2s						
AAK	**Ala-Archa**	**3.92**	**103**	⇑*i*P	**Pn**	**10 36 56.3**	**+2.4**
	baz=3.0						
AAK				⇑*i*S	**Sn**	**10 37 40.9**	**+0.1**
	baz=3.0						
AAK	**Ala-Archa**	**3.92**	**103**	P	**Pb**	**10 36 59.9**	**-2.5**
	SNR=13						
AAK	**Ala-Archa**	**3.92**	**103**	⇑Pg	**Pb**	**10 37 00.4**	**-2.1**
	7.3nm,0.5s						
AAK				⇑Lg	Lg	10 37 50.7	
	9.2nm,0.4s						
UCH	**Uchtor**	**4.07**	**108**	⇑*e*P	**Pn**	**10 36 58.2**	**+2.0**
	baz=8.0						
UCH				⇑*i*S	**Sn**	**10 37 44.1**	**-0.7**
	baz=8.0						
UCH	**Uchtor**	**4.07**	**108**	P	**Pb**	**10 37 06.0**	**+0.9**
	SNR=7.3						
ARLS	**Aral**	**4.09**	**114**	⇑*e*P	**Pn**	**10 36 57.8**	**+1.6**
	baz=14						
ARLS				⇑*i*S	**Sn**	**10 37 44.8**	**-0.1**
	baz=14						
KRBS	**Karabastau**	**4.63**	**87**	Pg	**Pb**	**10 37 12.8**	**-1.5**
	7.3nm,0.2s						
KRBS				Lg	Lg	10 38 10.5	
	16nm,0.2s						
KZA	**Kyzart**	**4.64**	**107**	⇑*e*P	**Pn**	**10 37 05.4**	**+1.5**
	baz=8.0						
KZA				⇑*i*S	**Sn**	**10 37 57.1**	**-1.5**
	baz=8.0						
KZA	**Kyzart**	**4.64**	**107**	P	**Pb**	**10 37 12.9**	**-1.8**
	SNR=12						
TKM2	**Tokmak 2**	**4.65**	**96**	⇑*i*P	**Pn**	**10 37 05.7**	**+1.8**
	baz=97						
TKM2				⇑*i*S	**Sn**	**10 37 57.2**	**-1.5**
	baz=97						
TKM2	**Tokmak 2**	**4.65**	**96**	⇑Pg	**Pb**	**10 37 14.4**	**-0.4**
	3.6nm,0.6s						
TKM2				⇑Lg	Lg	10 38 12.6	
	15nm,0.8s						
GAR	**Garm**	**4.67**	**170**	⇑*e*P	**Pn**	**10 37 05.8**	**+1.7**
	baz=70						
GAR				⇑*i*S	**Sn**	**10 37 58.7**	**-0.4**
	baz=70						
DGS	**Degeres**	**4.73**	**92**	Pg	**Pb**	**10 37 15.5**	**-0.6**
	7.9nm,0.4s						
DGS				Lg	Lg	10 38 15.3	
	16nm,0.2s						
KST	**Kastek**	**4.89**	**94**	Pg	**Pb**	**10 37 18.1**	**-0.8**
	6.7nm,0.2s						
KST				Lg	Lg	10 38 19.5	
	11nm,0.3s						
CHGR	**Chuyangaron**	**4.95**	**181**	⇑*i*P	**Pn**	**10 37 09.6**	**+1.7**
	baz=81						
CHGR				⇑*i*S	**Sn**	**10 38 04.3**	**-1.6**
	baz=81						
BOOM	**Boomskoye usch**	**4.99**	**101**	⇑*e*P	**Pn**	**10 37 09.9**	**+1.3**
	baz=1.0						
BOOM				⇑*i*S	**Sn**	**10 38 06.0**	**-1.1**
	baz=1.0						
KUU	**Kurty**	**5.11**	**84**	Pg	**Pb**	**10 37 21.0**	**-1.5**
	3.9nm,0.3s						
KUU				Lg	Lg	10 38 24.6	
	14nm,0.2s						
MTBS	**Maitube**	**5.22**	**93**	Pg	**Pb**	**10 37 24.1**	**-0.3**
	4.4nm,0.3s						
MTBS				Lg	Lg	10 38 29.7	
	11nm,0.3s						
ULHL	**Ulahol**	**5.28**	**103**	⇑*e*P	**Pn**	**10 37 15.0**	**+2.5**
	baz=3.0						
ULHL				⇑*i*S	**Sn**	**10 38 13.3**	**-0.9**
	baz=3.0						
KTBS	**Karatobe**	**5.36**	**86**	Pg	**Pb**	**10 37 26.2**	**-0.6**
	5.7nm,0.2s						
KTBS				Lg	Lg	10 38 33.5	
	12nm,0.5s						
IZV	**Izvestkoviy**	**5.37**	**94**	Pg	**Pb**	**10 37 26.9**	**-0.1**
	4.4nm,0.3s						
IZV				Lg	Lg	10 38 34.9	
	13nm,0.3s						
CHKK	**Chushkaly**	**5.58**	**85**	Pg	**Pb**	**10 37 30.2**	**-0.3**
	4.5nm,0.3s						
CHKK				Lg	Lg	10 38 40.4	
	16nm,0.2s						
TNSS	**Tian-Shan**	**5.61**	**93**	Pg	**Pb**	**10 37 30.9**	**-0.3**
	2.2nm,0.5s						
TNSS				Lg	Lg	10 38 41.6	
	5.3nm,0.3s						
MDOK	**Medeo**	**5.67**	**92**	Pg	**Pb**	**10 37 32.0**	**-0.1**
	3.8nm,0.2s						
MDOK				Lg	Lg	10 38 43.4	
	7.4nm,0.3s						
ARXS	**Arharly**	**6.19**	**81**	Pg	**Pb**	**10 37 42.3**	**+1.4**
	3.7nm,0.3s						
ARXS				Lg	Lg	10 39 01.2	
	6.3nm,0.3s						
PDGK	**Podgornoye**	**7.42**	**89**	Pg	**Pb**	**10 38 03.9**	**+2.0**
	0.7nm,0.2s						
PDGK				Lg	Lg	10 39 38.6	
	1.6nm,0.6s						
PDGK	**Podgornoye**	**7.42**	**89**	⇑Pg	**Pb**	**10 38 02.9**	**+1.0**
	2.3nm,0.9s						
PDGK				⇑Lg	Lg	10 39 39.6	
	3.6nm,0.7s						
AB31	**Akbulak array**	**8.58**	**314**	Pn	**Pn**	**10 37 57.2**	**-0.4**
	0.3nm,0.5s,baz=120,slow=15,SNR=8.4						
AB31				⇓Sn	**Sn**	**10 39 35.0**	**0.0**
	0.2nm,0.3s,baz=119,slow=23,SNR=5.5						

IDC ***11*** *10:53:22.9±1.6,34°.78N×24°.82E,h0km,mb3.4/2, mb1 3.7/5,mb1mx3.4/35,mbtmp3.5/5,ML3.7/3,Error ellipse: s-maj=34.3km s-min=11.5km az=98.0*
ATH ***11*** *10:53:23.4,34°.80N×25°.03E,h15km±5km,ML3.0/8,Error ellipse: s-maj=7.0km s-min=1.8km az=2.0*
THE ***11*** *10:53:23.0,34°.81N×25°.06E,h9km±1km,ML2.8/6,Error ellipse: s-maj=1.6km s-min=0.4km az=9.0*

ISC 11 10:53:22.2±1.6,**34.82N**±0°.06×**25.05E**±0°.02,**h7km**±11**km, n30,**σ1**00**/43,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMBK	**Timbaki Herakl**	**0.35**	**317**	P	**Pb**	**10 53 30.4**	**-0.4**
TMBK				S	**Sb**	**10 53 36.0**	**-0.5**
	2μm,0.5s						
KSTL	**Kastelli Herak**	**0.49**	**2**	P	**Pb**	**10 53 32.5**	**-0.7**
KSTL				S	**Sg**	**10 53 39.3**	**+1.2**
IACM	**Heraklion**	**0.49**	**2**	P	**Pn**	**10 53 34.8**	**-0.9**
IDI	**Anoyia**	**0.49**	**344**	Pg	**Pb**	**10 53 32.5**	**-0.8**
	39nm,0.3s,baz=208,slow=10,SNR=144						
IDI				Lg	Lg	10 53 39.8	
	136nm,0.3s,baz=348,slow=20,SNR=30						
IDI				LR	LR	10 54 04.4	
	comp=Z,150nm,18.1s,baz=74,slow=82						
IDI	**Anoyia**	**0.49**	**344**	P	**Pb**	**10 53 32.6**	**-0.7**
IDI				S	**Sb**	**10 53 40.2**	**-0.5**
	2μm,0.4s						
IDI	**Anoyia**	**0.49**	**344**	P	**Pb**	**10 53 32.5**	**-0.8**
IDI				S	**Sb**	**10 53 40.3**	**-0.5**
IDI				AML	AML	10 53 41.2	
	comp=E,4880μm,0.4s						
IDI				AML	AML	10 53 42.0	
	comp=N,4392μm,0.3s						
FRMA	**Ierapetra Chan**	**0.59**	**70**	P	**Pn**	**10 53 35.9**	**-1.2**
FRMA				S	**Sn**	**10 53 46.5**	**-0.5**
	comp=N,438nm,0.5s						
NPS	**Neapolis**	**0.64**	**46**	P	**Pb**	**10 53 35.1**	**-0.7**
NPS				S	**Sb**	**10 53 45.1**	**+0.2**
	comp=N,1μm,0.4s						
NPS	**Neapolis**	**0.64**	**46**	P	**Pb**	**10 53 35.0**	**-0.7**
NPS				S	**Sb**	**10 53 45.2**	**+0.3**
NPS				AML	AML	10 53 49.2	
	comp=N,2419μm,0.5s						
NPS				AML	AML	10 53 52.6	
	comp=E,2589μm,0.6s						
PRNS	**Prines Rethymn**	**0.71**	**321**	P	**Pb**	**10 53 36.9**	**-0.1**
PRNS				S	**Sb**	**10 53 48.1**	**+1.1**
GVD	**Gavdhos**	**0.80**	**272**	P	**Pn**	**10 53 38.7**	**-1.2**
GVD	**Gavdhos**	**0.80**	**272**	P	**Pn**	**10 53 38.7**	**-1.2**
GVD				AML	AML	10 53 59.3	
	comp=N,2797μm,0.5s						
GVD				AML	AML	10 54 00.4	
	comp=E,2506μm,0.6s						
VAM	**Vamos**	**0.92**	**310**	P	**Pb**	**10 53 40.0**	**-0.5**
VAM				S	**Sb**	**10 53 53.3**	**+0.4**
	comp=E,955nm,0.6s						
VAM	**Vamos**	**0.92**	**310**	P	**Pb**	**10 53 39.9**	**-0.6**
VAM				AML	AML	10 53 58.5	
	comp=N,2155μm,0.7s						
VAM				AML	AML	10 53 59.2	
	comp=E,1680μm,0.5s						
STIA	**Sitia Lasithi**	**0.94**	**65**	P	**Pb**	**10 53 40.5**	**-0.3**
STIA				S	**Sn**	**10 53 54.2**	**-1.2**
ZKR	**Zakros**	**1.00**	**72**	P	**Pb**	**10 53 41.5**	**-0.4**
ZKR				S	**Sn**	**10 53 56.0**	**-1.1**
	comp=E,500nm,0.4s						
ZKR	**Zakros**	**1.00**	**72**	P	**Pb**	**10 53 41.5**	**-0.4**
ZKR				S	**Sn**	**10 53 56.4**	**-0.7**
ZKR				AML	AML	10 54 02.7	
	comp=E,1296μm,0.4s						
ZKR				AML	AML	10 54 04.3	
	comp=N,755μm,0.4s						
IMMV	**Iera Moni Meta**	**1.09**	**307**	P	**Pb**	**10 53 43.0**	**-0.4**
IMMV				S	**Sn**	**10 53 59.0**	**-0.3**
IMMV	**Iera Moni Meta**	**1.09**	**307**	P	**Pg**	**10 53 42.8**	**-0.4**
IMMV				AML	AML	10 54 05.1	
	comp=N,1474μm,0.6s						
IMMV				AML	AML	10 54 08.5	
	comp=E,1126μm,0.4s						
SANT	**Santorini**	**1.59**	**12**	P	**Pg**	**10 53 53.2**	**+0.5**
SANT				AML	AML	10 54 20.3	
	comp=E,1063μm,0.7s						
SANT				AML	AML	10 54 21.9	
	comp=N,318μm,0.4s						
SNT5	**Nea Kammeni, S**	**1.61**	**10**	P	**Pb**	**10 53 52.0**	**-0.2**
ANKY	**Antikythira Is**	**1.78**	**307**	P	**Pb**	**10 53 55.2**	**+0.1**
KARP	**Karpathos**	**1.87**	**66**	P	**Pg**	**10 53 57.7**	**-0.4**
MHLO	**Agia Marina, M**	**1.94**	**344**	P	**Pb**	**10 53 57.4**	**-0.6**
MHLO				AML	AML	10 54 35.7	
	comp=N,2722μm,0.6s						
MHLO				AML	AML	10 54 36.2	
	comp=E,2319μm,0.7s						
KTHA	**Kythira Island**	**2.17**	**312**	P	**Pb**	**10 54 01.6**	**-0.2**
AKASG	**Malin Array Be**	**16.16**	**10**	Pn	**P**	**10 57 11.4**	**-1.7**
	comp=E,0.7nm,0.3s,baz=195,slow=10,SNR=5.0						
GERES	**GERESS Array B**	**16.35**	**332**	Pn	**P**	**10 57 13.7**	**-1.5**
	comp=E,0.1nm,0.3s,baz=147,slow=15,SNR=1.4						
KBZ	**Khabaz**	**16.41**	**52**	Pn	**P**	**10 57 17.6**	**+1.8**
	comp=E,0.1nm,0.3s,baz=272,slow=8.1,SNR=5.3						
TORD	**Torodi Ar. Bea**	**30.20**	**230**	P	**P**	**10 59 33.5**	**0.0**
	comp=E,0.3nm,0.6s,baz=34,slow=9.9,SNR=2.0						
MKAR	**Makanchi Array**	**44.04**	**56**	P	**P**	**11 01 34.1**	**+3.6**
	comp=E,0.4nm,0.7s,baz=292,slow=7.6,SNR=2.4						

TAP 11 11:10:52.6,24°.26N×121°.68E,h7km,ML2.0,1C,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.07**	**47**	*e*P	Pg	11 10 54.8	+0.3
	baz=52						
EHP				S	Sg	11 10 57.0	+1.2
	baz=52						
ETL	**Fush Village**	**0.12**	**209**	P	Pg	11 10 55.8	+0.6
	baz=208						
ETL				S	Sg	11 10 58.1	+1.1
	baz=208						
NACB	**Ninganchiao**	**0.12**	**223**	⇑P	Pg	11 10 55.8	+0.6
	baz=222						
NACB				S	Sg	11 10 58.1	+1.1
	baz=222						
ENA	**Nanau**	**0.17**	**17**	P	Pg	11 10 57.0	+0.8
	baz=19						
ENA				S	Sg	11 11 00.6	+2.0
	baz=19						
ETLH	**Xiulin Townshi**	**0.19**	**253**	P	Pg	11 10 57.3	+0.8
	baz=253						
ETLH				S	Sg	11 11 01.2	+2.0
	baz=253						
TWD	**Chiawan**	**0.20**	**204**	P	Pg	11 10 57.5	+1.0
	baz=201						
TWD				S	Sg	11 11 01.2	+1.9
	baz=201						
EWUT	**Wuta**	**0.20**	**25**	*e*P	Pg	11 10 57.6	+0.9
	baz=25						
EWUT				*e*S	Sg	11 11 01.3	+1.8
	baz=25						
HWA	**Hwalien**	**0.29**	**194**	*e*P	Pb	11 10 59.3	-0.9
	baz=192						
HWA				*e*S	Sb	11 11 04.7	-0.5
	baz=192						
NNSB	**Datong**	**0.32**	**301**	P	Pb	11 11 00.0	-0.7
	baz=301						
NNSB				S	Sb	11 11 04.8	-1.3
	baz=301						
NNS	**Nan Shan**	**0.33**	**302**	P	Pg	11 10 59.8	+0.6
	baz=302						
NNS				*i* S	Sb	11 11 05.2	-1.3
	baz=302						
ETM	**Tongmen**	**0.34**	**211**	P	Pg	11 10 59.8	+0.5
	baz=210						
ETM				*e*S	Sb	11 11 06.5	-0.2
	baz=210						
NDS	**Dongshan**	**0.37**	**4**	*e*P	Pb	11 11 01.1	-0.4
	baz=4.0						
NDS				*e*S	Sb	11 11 07.3	-0.2
	baz=4.0						
NDT	**Datong Townshi**	**0.37**	**335**	*i* P	Pb	11 11 00.9	-0.6
	baz=335						
NDT				S	Sb	11 11 07.1	-0.5
	baz=335						
TWC	**Suao**	**0.38**	**23**	P	Pg	11 11 00.6	+0.6
	baz=24						
TWC				S	Sb	11 11 07.0	-0.7
	baz=24						
ENTT	**Nioudou**	**0.39**	**344**	P	Pb	11 11 01.6	-0.3
	baz=345						
ENTT				S	Sb	11 11 07.4	-0.7
	baz=345						
TEYL	**Yanliau Villag**	**0.40**	**191**	*e*S	Sg	11 11 06.9	+1.2
	baz=191						
WHF	**Hehuan Shan**	**0.40**	**253**	*i* P	Pb	11 11 01.5	-0.8
	baz=252						
WHF				*i* S	Sb	11 11 08.4	-0.3
	baz=252						
FUSS	**Fushou**	**0.40**	**268**	*e*P	Pb	11 11 01.7	-0.5
	baz=268						
FUSS				S	Sb	11 11 08.0	-0.7
	baz=268						
TWE	**Neicheng**	**0.46**	**358**	*i* P	Pb	11 11 03.1	+0.1
	baz=359						
TWE				S	Sb	11 11 10.2	+0.3
	baz=359						
TWT	**Tachien**	**0.46**	**269**	P	Pb	11 11 03.4	+0.2
	baz=268						
TWT				*e*S	Sb	11 11 10.6	+0.2
	baz=268						
YHNB	**Yeheng**	**0.49**	**325**	P	Pb	11 11 03.6	0.0
	baz=325						
YHNB				S	Sb	11 11 11.1	0.0
	baz=325						
ESL	**Shilin**	**0.50**	**207**	P	Pb	11 11 03.4	-0.3
	baz=206						
ILA	**Ilan**	**0.51**	**7**	*e*S	Sb	11

EGS				*e*S		Sb	11 11 15.4	+0.7
	baz=22							
EGFH	**Guangfu**	**0.64**	**202**	*e*P		Pb	11 11 05.6	-0.4
	baz=201							
EGFH				*e*S		Sb	11 11 15.3	+0.2
	baz=201							
WHP	**Taichung City**	**0.67**	**271**	*e*P		Pb	11 11 07.1	+0.4
	baz=271							
WHP				*e*S		Sb	11 11 17.0	+0.7
	baz=271							
TIPB	**Shuangxi**	**0.72**	**10**	*e*P		Pb	11 11 07.6	+0.2
	baz=10.0							
LIOB	**Emei**	**0.72**	**302**	*e*P		Pb	11 11 08.1	+0.6
	baz=302							
LIOB				*e*S		Sb	11 11 18.5	+0.9
	baz=302							
TWA	**Mucha**	**0.72**	**353**	*e*P		Pb	11 11 07.4	-0.1
	baz=353							
TWA				*e*S		Sb	11 11 18.6	+1.0
	baz=353							
WCS	**Beigang Elemen**	**0.73**	**254**	*e*P		Pb	11 11 08.2	+0.5
	baz=253							
TAP	**Taipei**	**0.79**	**348**	*e*S		Sb	11 11 20.0	+0.4
	baz=348							
TWB1	**Santiao Chiao**	**0.79**	**20**	*e*P		Pb	11 11 08.6	-0.1
	baz=21							
SMLT	**Sun Moon Lake**	**0.81**	**242**	*e*P		Pb	11 11 09.1	0.0
	baz=241							
SMLT				*e*S		Sb	11 11 21.1	+0.9
	baz=241							
SSLB	**Suanglung**	**0.82**	**235**	P		Pb	11 11 09.4	+0.2
	baz=234							
SSLB				S		Sb	11 11 20.6	+0.3
	baz=234							
SBCB	**Hsinchu**	**0.83**	**310**	*e*P		Pb	11 11 09.8	+0.5
	baz=309							
SBCB				*e*S		Sb	11 11 21.4	+0.8
	baz=309							
NCU	**National Centr**	**0.84**	**327**	*e*P		Pb	11 11 09.7	+0.2
	baz=327							
HSN	**Hsinchu**	**0.84**	**310**	*e*P		Pb	11 11 09.4	-0.2
	baz=312							
TWS1	**Kuangyinshan**	**0.87**	**344**	*e*P		Pb	11 11 10.1	+0.1
	baz=344							
TWS1				*e*S		Sn	11 11 23.0	-1.1
	baz=344							
YULB	**Yu-li**	**0.94**	**202**	*e*P		Pg	11 11 10.8	+0.2
	baz=202							
TWY	**Chenhua**	**1.01**	**356**	*e*P		Pb	11 11 12.6	+0.2
	baz=356							
CHN5	**Tsauling**	**1.13**	**234**	*e*P		Pb	11 11 14.7	+0.1
	baz=234							

TAP 11 11:11:12.2,25.00N×122.00E,h19km,ML1.8,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.01**	**329**	P	Pg	11 11 15.9	+0.4
	baz=11						
TWB1				S	Sg	11 11 18.4	+0.7
	baz=11						
TIPB	**Shuangxi**	**0.16**	**260**	*i* P	Pg	11 11 17.3	+0.6
	baz=260						
TIPB				*i* S	Sg	11 11 20.6	+0.9
	baz=260						
TIPB	**Shuangxi**	**0.16**	**260**	*e*S	Pg	11 11 17.3	+0.6
	baz=10.0						
EGS		**0.16**	**201**	*e*P	Pg	11 11 16.7	0.0
	baz=196						
EGS				S	Sg	11 11 20.8	+1.0
	baz=196						
NTC	**Toucheng**	**0.21**	**226**	P	Pg	11 11 17.7	+0.4
	baz=226						
NTC				*e*S	Sg	11 11 22.3	+1.4
	baz=226						
NWF	**Wu-fen Shan**	**0.21**	**291**	*e*P	Pg	11 11 17.8	+0.4
	baz=290						
NWF				S	Sg	11 11 22.2	+1.2
	baz=290						
ILA	**Ilan**	**0.32**	**224**	*e*P	Pb	11 11 19.9	+0.4
	baz=222						
ILA				*e*S	Sb	11 11 25.5	+1.3
	baz=222						
TWA	**Mucha**	**0.37**	**267**	P	Pb	11 11 20.3	-0.1
	baz=266						
TWA				*e*S	Sb	11 11 26.4	+0.5
	baz=266						
TWC	**Suao**	**0.41**	**199**	*e*P	Pb	11 11 21.4	+0.4
	baz=197						

*NEIC **11** 11:20:37.5±0.4,18.0S±0.2×173.6W±0.1,h10km±2km, mb4.4/6,Error ellipse: s-maj=27.3km s-min=19.0km az=342.0*
*IDC **11** 11:20:43.2±51.0,17.39S×174.92W,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.6/29,mbtmp4.0/3,Error ellipse: s-maj=955.5km s-min=174.6km az=80.0*
ISC 11 11:20:37.2±1.6,18.0S±0.2×173.6W±0.1,h10km,n10, σ0s90/10,mb4.2/7,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.66**	**108**	P	**Pn**	**11 21 33.7**	**-0.2**
RAO	**Raoul Island**	**11.89**	**199**	Pn	**Pn**	**11 23 26.4**	**-0.4**
STKA	**Stephens Creek**	**42.62**	**242**	P	**P**	**11 28 35.0**	**+1.1**
	2.0nm,0.8s,baz=85,slow=12,SNR=3.5						
BBOO	**Buckleboo**	**47.38**	**242**	P	**P**	**11 29 12.5**	**+0.8**
WR0	**Warramunga Arr**	**48.91**	**259**	P	**P**	**11 29 23.1**	**-0.7**
WR0				IAmb	IAmb	11 29 46.8	
	comp=Z,12nm,1.5s						
WB2	**Warramunga Arr**	**49.09**	**259**	P	**P**	**11 29 24.2**	**-0.9**
WB2				IAmb	IAmb	11 29 51.0	
	comp=Z,5.9nm,1.2s						
WRA	**Warramunga Arr**	**49.10**	**259**	P	**P**	**11 29 24.3**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=96,slow=7.5,SNR=19						
AS31	**Alice Springs**	**49.16**	**254**	P	**P**	**11 29 25.1**	**-0.6**
AS31				IAmb	IAmb	11 29 51.4	
	comp=Z,2.4nm,1.5s						
ASAR	**Alice Springs**	**49.16**	**254**	P	**P**	**11 29 24.9**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=89,slow=8.0,SNR=17						
QSPA	**South Pole Qui**	**72.08**	**180**	P	**P**	**11 32 02.1**	**+0.6**
QSPA				IAmb	IAmb	11 32 12.0	
	comp=Z,4.5nm,1.4s						

IDC 11 11:25:38.9±54.0,16.56S×175.70W,h557km±91km, mb3.1/3,mb1 3.3/4,mb1mx2.8/39,mbtmp4.1/4,Error ellipse: s-maj=847.9km s-min=129.5km az=77.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.09**	**258**	P	P	11 27 18.8	0.0
	2.0nm,0.3s,baz=103,slow=12,SNR=10						
STKA	**Stephens Creek**	**41.54**	**240**	P	P	11 32 38.5	+0.1
	1.1nm,0.5s,baz=45,slow=2.9,SNR=4.6						
WRA	**Warramunga Arr**	**47.43**	**258**	P	P	11 33 23.4	-0.5
	0.5nm,0.4s,baz=96,slow=7.0,SNR=16						
ASAR	**Alice Springs**	**47.65**	**253**	P	P	11 33 25.6	0.0
	3.5nm,0.5s,baz=88,slow=8.1,SNR=74						

IDC 11 11:36:33.3±5.5,17.21N×82.19W,h0km,mb3.8/2, mb1 4.0/2,mb1mx3.4/47,mbtmp3.9/2,Error ellipse: s-maj=353.8km s-min=29.3km az=44.0,North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**23.08**	**305**	P	P	11 41 41.1	+0.2
	0.4nm,0.8s,baz=112,slow=9.9,SNR=4.3						
SIV	**San Ignacio**	**39.01**	**147**	P	P	11 44 01.9	0.0
	12nm,0.9s,baz=316,slow=8.4,SNR=7.6						
WRA	**Warramunga Arr**	**145.31**	**260**	PKPbc	PKPbc	11 56 12.9	-0.9
	0.8nm,0.7s,baz=89,slow=3.7,SNR=6.1						
ASAR	**Alice Springs**	**145.64**	**253**	PKPbc	PKPdf	11 56 13.5	-1.0
	0.3nm,0.8s,baz=94,slow=3.7,SNR=2.6						

*VIE **11** 11:48:32.4±0.7,51.33N×16.14E,h0km,mb2.4/3,ml2.7/4, Error ellipse: s-maj=10.0km s-min=4.4km az=68.0 66 km WNW of Wroclaw Suspected Mining induced.*
ISC 11 11:48:30.7±1.4,51.44N±0.06×16.17E±0.04,h0km,n22, σ0s68/46,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.60**	**172**	*e*Pg	**Pg**	**11 48 42.4**	**+0.2**
KSP				*e*Sg	**Sg**	**11 48 50.8**	**+0.9**
CHVC	**Chvalec**	**0.85**	**185**	*e*PG	**Pg**	**11 48 47.2**	**+0.2**
CHVC				*e*SG	**Sg**	**11 48 59.1**	**+1.1**
	comp=Z,43nm,0.6s						
OSTC	**Ostas**	**0.88**	**178**	*e*PG	**Pg**	**11 48 47.9**	**+0.3**
OSTC				*e*SG	**Sg**	**11 49 00.1**	**+1.1**
	comp=Z,51nm,0.8s						
UPC	**Upice**	**0.94**	**186**	*e*PG	**Pg**	**11 48 48.8**	**+0.2**
UPC				*e*SG	**Sb**	**11 49 02.0**	**-0.7**
	comp=Z,102nm,0.4s						
DPC	**Dobruska-Polom**	**1.09**	**175**	*e*PG	**Pg**	**11 48 51.3**	**-0.3**
DPC				*e*SG	**Sg**	**11 49 06.2**	**+0.5**
	comp=Z,32nm,0.5s						
PVCC	**Panska Ves**	**1.36**	**229**	*e*PG	**Pg**	**11 48 56.4**	**-0.3**
PVCC				*e*SG	**Sn**	**11 49 15.9**	**+0.3**
	comp=Z,132nm,0.3s						
KRLC	**Kraliky**	**1.42**	**164**	*e*PG	**Pn**	**11 48 57.1**	**-0.7**
KRLC				*e*SG	**Sg**	**11 49 16.1**	**-0.1**
	comp=Z,22nm,0.4s						
BRG	**Berggiesshubel**	**1.51**	**249**	Pg	**Pn**	**11 48 58.5**	**-0.5**
BRG				Sg	**Sg**	**11 49 19.3**	**+0.1**
BRG				Amp		11 49 21.9	
	comp=Z,49nm,0.5s						
PRU	**Pruhonice**	**1.78**	**216**	*e*PG	**Pn**	**11 49 03.4**	**+0.7**
PRU				*e*SG	**Sb**	**11 49 27.0**	**0.0**
	comp=Z,24nm,0.4s						
MORC	**Moravsky Berou**	**1.88**	**152**	*e*PN	**Pn**	**11 49 02.9**	**-1.2**
MORC				*e*SG	**Sn**	**11 49 29.0**	**+0.5**
CLL	**Collm**	**1.99**	**268**	*e*Pg	**Pb**	**11 49 08.0**	**+0.3**
CLL				*i* Sg	**Sb**	**11 49 33.1**	**+0.1**
	comp=Z,34nm,0.6s						
OKC	**Ostrava-Krasne**	**2.04**	**141**	*e*SG	**Sb**	**11 49 34.1**	**-0.3**
	comp=Z,32nm,0.7s						
VRAC	**Vranov**	**2.15**	**173**	*e*PN	**Pn**	**11 49 07.6**	**-0.2**
VRAC				*e*SG	**Sb**	**11 49 38.2**	**+0.6**
KRUC	**Moravsky**	**2.38**	**176**	*e*PN	**Pb**	**11 49 13.9**	**-0.5**
KRUC				*e*SG	**Sg**	**11 49 46.9**	**-0.3**
NKC	**Novy Kostel**	**2.65**	**244**	*e*PN	**Pn**	**11 49 14.0**	**-0.7**
NKC				*e*PG	**Pb**	**11 49 19.7**	**+0.7**
NKC				*e*SG	**Sg**	**11 49 55.5**	**-0.2**
	comp=Z,26nm,0.3s						
KHC	**Kasperske Hory**	**2.84**	**217**	*e*PN	**Pn**	**11 49 17.4**	**0.0**
KHC				*e*PG	**Pb**	**11 49 22.4**	**+0.1**
KHC				*e*SN	**Sn**	**11 49 51.4**	**-0.9**
KHC				*e*SG	**Sg**	**11 50 02.0**	**0.0**
	comp=Z,12nm,0.4s						
CKRC	**Cesky Krumlov**	**2.88**	**205**	*e*PN	**Pn**	**11 49 18.1**	**+0.3**
CKRC				*e*PG	**Pb**	**11 49 23.2**	**+0.3**
CKRC				*e*SG	**Sg**	**11 50 01.3**	**-1.9**
	comp=Z,9.6nm,0.4s						
LANS	**Liptovska Anna**	**3.12**	**136**	*e*PG	**Pg**	**11 49 31.8**	**+1.4**
LANS				*e*SG	**Sg**	**11 50 09.8**	**-1.0**
MODS	**Modra-Piesok**	**3.15**	**166**	*e*PG	**Pg**	**11 49 30.6**	**-0.4**
MODS				*e*SG	**Sg**	**11 50 10.4**	**-1.4**
CONA	**Conrad Observa**	**3.52**	**183**	*e*Pn	**Pn**	**11 49 27.0**	**+0.4**
	comp=Z,2.3nm,0.3s						
CONA				Sg	**Sg**	**11 50 24.8**	**+1.1**
	comp=Z,7.0nm,0.3s						
MOA	**Molln**	**3.80**	**200**	*i* Pn	**Pn**	**11 49 30.6**	**+0.2**
	comp=Z,1.0nm,0.2s						
MOA				*e*Sg	**Sg**	**11 50 32.6**	**0.0**
	comp=Z,6.3nm,0.3s						
ARSA	**Arzberg**	**4.21**	**186**	Sg	**Sg**	**11 50 46.0**	**+0.1**
	comp=Z,7.0nm,0.5s						

*KNET **11** 11:58:13.0±0.3,43.01N×74.54E,h17km±2km,ml1.8,Error ellipse: s-maj=3.0km s-min=2.3km az=46.0*
*SOME **11** 11:58:13.7,43.03N×74.53E,h10km*
*NNC **11** 11:58:13.4±0.4,43.02N×74.58E,h0km,mb3.4,mpv3.0, Error ellipse: s-maj=3.0km s-min=1.4km az=132.0*
*KRNET **11** 11:58:13.5±0.1,43.03N×74.54E,h16km,mb2.7*
ISC 11 11:58:13.5±0.8,43.02N±0.02×74.55E±0.01,h17km±5km, n78,σ0s96/144,43C-11D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMS	**Chumysh**	**0.15**	**97**	⇑*i*P	**Pg**	**11 58 17.2**	**-0.5**
	baz=99						
CHMS				⇑*i*S	**Sg**	**11 58 19.7**	**-0.7**
	baz=99						
CHMS	**Chumysh**	**0.15**	**97**	⇑P	**Pg**	**11 58 17.2**	**-0.5**
	18nm,0.1s,SNR=45						
CHMS				⇑S	**Sg**	**11 58 19.8**	**-0.7**
	359nm,0.1s						
FRU1	**Bishkek**	**0.22**	**164**	⇑*i*P	**Pg**	**11 58 18.1**	**-0.5**
	baz=63						
FRU1				⇑*i*S	**Sg**	**11 58 21.3**	**-0.8**
	baz=63						
USP	**Ospenovka**	**0.25**	**352**	⇑*i*P	**Pg**	**11 58 18.7**	**-0.5**
	baz=54						
USP				⇑*i*S	**Sg**	**11 58 22.5**	**-0.5**
	baz=54						
USP	**Ospenovka**	**0.25**	**352**	⇑P	**Pg**	**11 58 18.9**	**-0.3**
	25nm,0.1s,SNR=119						
USP				⇑S	**Sg**	**11 58 22.6**	**-0.5**
	237nm,0.1s						
AAK	**Ala-Archa**	**0.38**	**186**	⇑*i*P	**Pg**	**11 58 21.4**	**0.0**
	baz=84						
AAK				⇑*i*S	**Sg**	**11 58 26.8**	**-0.1**
	baz=84						
AAK	**Ala-Archa**	**0.38**	**186**	⇑P	**Pg**	**11 58 21.5**	**0.0**
	20nm,0.1s,SNR=31						
AAK				⇓S	**Sg**	**11 58 26.9**	**+0.1**
	180nm,0.2s						
AAK	**Ala-Archa**	**0.38**	**186**	⇓P	**Pg**	**11 58 21.4**	**0.0**
	5.1nm,0.3s						
AAK				⇑S	**Sg**	**11 58 26.7**	**-0.2**
	68nm,0.3s						
SGDS	**Sogindy**	**0.44**	**8**	S	**Sg**	**11 58 28.1**	**-0.4**
	95nm,0.1s						
KBK	**Karagaybulak**	**0.47**	**141**	⇑*i*P	**Pg**	**11 58 22.9**	**-0.1**
	baz=40						
KBK				⇑*i*S	**Sg**	**11 58 29.7**	**+0.3**
	baz=40						
KBK	**Karagaybulak**	**0.47**	**141**	⇓P	**Pg**	**11 58 22.9**	**-0.1**
	22nm,0.1s,SNR=6.6						
KBK				⇑S	**Sg**	**11 58 29.9**	**+0.6**
	22nm,0.1s						
EKS2	**Erkin-Say**	**0.67**	**238**	⇓*i*P	**Pg**	**11 58 26.0**	**-0.7**
	baz=37						
EKS2				⇓*i*S	**Sg**	**11 58 35.4**	**-0.2**
	baz=37						
EKS2	**Erkin-Say**	**0.67**	**238**	⇑P	**Pg**	**11 58 26.4**	**-0.3**
	13nm,0.1s,SNR=8.8						
EKS2				⇓S	**Sg**	**11 58 35.4**	**-0.2**
	13nm,0.1s						
TKM2	**Tokmak 2**	**0.78**	**97**	⇑P	**Pg**	**11 58 27.4**	**-1.3**
	1.5nm,0.4s						
TKM2				⇑S	**Sg**	**11 58 38.3**	**-0.8**
	9.9nm,0.2s						
UCH	**Uchtor**	**0.79**	**182**	⇑*i*P	**Pg**	**11 58 28.5**	**-0.5**
	baz=81						
UCH				⇑*i*S	**Sg**	**11 58 39.4**	**-0.2**
	baz=81						
UCH	**Uchtor**	**0.79**	**182**	⇓P	**Pg**	**11 58 28.7**	**-0.3**
	2.5nm,0.1s,SNR=5.7						
UCH				⇑S	**Sg**	**11 58 39.0**	**-0.6**
	39nm,0.2s						
DGS	**Degeres**	**0.93**	**76**	*e*P	**Pb**	**11 58 31.1**	**-0.1**
	baz=76						
DGS				*e*S	**Sb**	**11 58 43.3**	**0.0**
	baz=76						
DGS	**Degeres**	**0.93**	**76**	*e*P	**Pb**	**11 58 31.1**	**-0.1**
	5.3nm,0.2s						
DGS				*e*S	**Sb**	**11 58 43.3**	**0.0**
	28nm,0.2s						
DGS	**Degeres**	**0.93**	**76**	P	**Pb**	**11 58 31.1**	**-0.1**
	5.3nm,0.2s						
DGS				S	**Sb**	**11 58 43.3**	**0.0**
	28nm,0.2s						
MRKS	**Merke**	**1.01**	**255**	*e*P	**Pb**	**11 58 32.5**	**-0.2**
	baz=54						
MRKS				*e*S	**Sb**	**11 58 45.4**	**-0.3**
	baz=54						
MRKS	**Merke**	**1.01**	**255**	*e*P	**Pb**	**11 58 32.5**	**-0.2**
	5.2nm,0.1s						
MRKS				*e*S	**Sb**	**11 58 45.4**	**-0.3**
	33nm,0.1s						
MRKS	**Merke**	**1.01**	**255**	P	**Pb**	**11 58 32.4**	**-0.2**
	5.2nm,0.1s						
MRKS				S	**Sb**	**11 58 45.4**	**-0.3**
	33nm,0.1s						

KST	**Kastek**	**1.04**	**88**	*e*P		**Pb**	**11 58 33.4**	**+0.2**
	baz=89							
KST				*e*S		**Sb**	**11 58 47.1**	**+0.5**
	baz=89							
KST	**Kastek**	**1.04**	**88**	*e*P		**Pb**	**11 58 33.4**	**+0.2**
	3.0nm,0.1s							
KST				*e*S		**Sb**	**11 58 47.1**	**+0.5**
	30nm,0.3s							
KST	**Kastek**	**1.04**	**88**	P		**Pb**	**11 58 33.4**	**+0.2**
	3.0nm,0.1s							
KST				S		**Sb**	**11 58 47.1**	**+0.5**
	30nm,0.3s							
KRBS	**Karabastau**	**1.07**	**50**	*e*P		**Pb**	**11 58 33.5**	**-0.1**
	baz=51							
KRBS				*e*S		**Sb**	**11 58 47.3**	**-0.1**
	baz=51							
KRBS	**Karabastau**	**1.07**	**50**	*e*P		**Pb**	**11 58 33.5**	**-0.1**
	1.9nm,0.1s							
KRBS				*e*S		**Sb**	**11 58 47.2**	**-0.1**
	6.4nm,0.1s							
KRBS	**Karabastau**	**1.07**	**50**	P		**Pb**	**11 58 33.5**	**-0.1**
	1.9nm,0.1s							
KRBS				S		**Sb**	**11 58 47.2**	**-0.1**
	6.4nm,0.1s							
KZA	**Kyzart**	**1.07**	**151**	⇑*i*P		**Pb**	**11 58 33.9**	**0.0**
	baz=51							
KZA				⇑*i*S		**Sb**	**11 58 48.3**	**+0.5**
	baz=51							
KZA	**Kyzart**	**1.07**	**151**	⇓P		**Pb**	**11 58 34.0**	**0.0**
	4.6nm,0.2s,SNR=8.3							
KZA				⇓S		**Sb**	**11 58 48.4**	**+0.5**
	17nm,0.2s							
AML	**Almayashu**	**1.09**	**216**	⇑*i*P		**Pb**	**11 58 33.9**	**-0.2**
	baz=15							
AML				⇑*i*S		**Sb**	**11 58 48.4**	**+0.2**
	baz=15							
AML	**Almayashu**	**1.09**	**216**	⇑P		**Pb**	**11 58 34.0**	**-0.2**
	10.0nm,0.1s,SNR=23							
AML				⇑S		**Sb**	**11 58 48.2**	**0.0**
	12nm,0.3s							
BOOM	**Boomskoye usch**	**1.15**	**117**	⇑*i*P		**Pn**	**11 58 35.0**	**-0.1**
	baz=17							
BOOM				⇑*i*S		**Sn**	**11 58 50.7**	**+0.1**
	baz=17							
ARLS	**Aral**	**1.17**	**188**	⇑*i*P		**Pn**	**11 58 35.4**	**+0.1**
	baz=88							
ARLS				⇑*i*S		**Sn**	**11 58 51.1**	**+0.1**
	baz=88							
MTBS	**Maitube**	**1.38**	**85**	*e*P		**Pb**	**11 58 39.3**	**+0.3**
	baz=85							
MTBS				*e*S		**Sb**	**11 58 57.1**	**+0.6**
	baz=85							
MTBS	**Maitube**	**1.38**	**85**	*e*P		**Pb**	**11 58 39.3**	**+0.3**
	1.9nm,0.1s							
MTBS				*e*S		**Sb**	**11 58 57.1**	**+0.6**
	14nm,0.2s							
MTBS	**Maitube**	**1.38**	**85**	P		**Pb**	**11 58 39.3**	**+0.3**
	1.9nm,0.1s							
MTBS				S		**Sb**	**11 58 57.1**	**+0.6**
	14nm,0.2s							
ULHL	**Ulahol**	**1.47**	**121**	⇑*i*P		**Pb**	**11 58 40.8**	**+0.2**
	baz=21							
ULHL				⇑*i*S		**Sb**	**11 59 00.3**	**+1.2**
	baz=21							
ULHL	**Ulahol**	**1.47**	**121**	⇑P		**Pb**	**11 58 40.8**	**+0.2**
	4.7nm,0.1s,SNR=31							
ULHL				⇓S		**Sg**	**11 59 00.4**	**-0.6**
	4.3nm,0.2s							
IZV	**Izvestkoviy**	**1.52**	**89**	*e*P		**Pb**	**11 58 42.0**	**+0.7**
	baz=89							
IZV				*e*S		**Sg**	**11 59 01.9**	**-0.6**
	baz=89							
IZV	**Izvestkoviy**	**1.52**	**89**	*e*P		**Pb**	**11 58 42.0**	**+0.7**
	1.5nm,0.1s							
IZV				*e*S		**Sg**	**11 59 01.9**	**-0.6**
	14nm,0.3s							
IZV	**Izvestkoviy**	**1.52**	**89**	P		**Pb**	**11 58 42.0**	**+0.7**
	1.5nm,0.1s							
IZV				S		**Sg**	**11 59 01.9**	**-0.6**
	14nm,0.3s							
KUU	**Kurty**	**1.57**	**56**	*e*P		**Pb**	**11 58 42.6**	**+0.4**
	baz=56							
KUU				*e*S		**Sg**	**11 59 03.1**	**-1.1**
	baz=56							
KUU	**Kurty**	**1.57**	**56**	*e*P		**Pb**	**11 58 42.6**	**+0.4**
	2.3nm,0.1s							
KUU				*e*S		**Sg**	**11 59 03.1**	**-1.1**
	13nm,0.2s							
KUU	**Kurty**	**1.57**	**56**	P		**Pb**	**11 58 42.6**	**+0.4**
	2.3nm,0.1s							
KUU				S		**Sg**	**11 59 03.1**	**-1.1**
	13nm,0.2s							
MNAS	**Manas**	**1.59**	**251**	⇑*i*P		**Pb**	**11 58 42.2**	**-0.5**
	baz=51							
MNAS				⇑*i*S		**Sb**	**11 59 03.4**	**+0.8**
	baz=51							
KTBS	**Karatobe**	**1.71**	**65**	*e*P		**Pb**	**11 58 45.0**	**+0.5**
	baz=66							
KTBS				*e*S		**Sg**	**11 59 07.4**	**-1.1**
	baz=66							
KTBS	**Karatobe**	**1.71**	**65**	*e*P		**Pb**	**11 58 45.0**	**+0.5**
	2.0nm,0.2s							
KTBS				*e*S		**Sg**	**11 59 07.4**	**-1.1**
	13nm,0.3s							
KTBS	**Karatobe**	**1.71**	**65**	P		**Pb**	**11 58 45.0**	**+0.5**
	2.0nm,0.2s							
KTBS				S		**Sg**	**11 59 07.4**	**-1.1**
	13nm,0.3s							
TNSS	**Tian-Shan**	**1.76**	**89**	*e*P		**Pb**	**11 58 46.6**	**+1.0**
	baz=89							
TNSS				*e*S		**Sg**	**11 59 09.6**	**-0.7**
	baz=89							
TNSS	**Tian-Shan**	**1.76**	**89**	*e*P		**Pb**	**11 58 46.6**	**+1.0**
	1.7nm,0.2s							
TNSS				*e*S		**Sg**	**11 59 09.6**	**-0.7**
	12nm,0.2s							
TNSS	**Tian-Shan**	**1.76**	**89**	P		**Pb**	**11 58 46.6**	**+1.0**
	1.7nm,0.2s							
TNSS				S		**Sg**	**11 59 09.6**	**-0.7**
	12nm,0.2s							
MDOK	**Medeo**	**1.84**	**85**	*e*P		**Pb**	**11 58 47.9**	**+1.1**
	baz=85							
MDOK				*e*S		**Sg**	**11 59 11.9**	**-0.9**
	baz=85							
MDOK	**Medeo**	**1.84**	**85**	*e*P		**Pb**	**11 58 47.9**	**+1.1**
	3.0nm,0.3s							
MDOK				*e*S		**Sg**	**11 59 11.8**	**-0.9**
	12nm,0.3s							
MDOK	**Medeo**	**1.84**	**85**	Sn		**Sb**	**11 59 09.5**	**-0.1**
	8.0nm,0.5s							
MDOK	**Medeo**	**1.84**	**85**	Pg		**Pb**	**11 58 47.9**	**+1.1**
	3.0nm,0.3s							
MDOK				Lg		Lg	11 59 11.8	
	12nm,0.3s							
KOTS	**Kotyrbulak**	**1.89**	**83**	*e*P		**Pg**	**11 58 49.1**	**-0.8**
	baz=83							
KOTS				*e*S		**Sg**	**11 59 14.0**	**-0.4**
	baz=83							
KOTS	**Kotyrbulak**	**1.89**	**83**	*e*P		**Pg**	**11 58 49.1**	**-0.8**
	4.2nm,0.3s							
KOTS				*e*S		**Sg**	**11 59 14.0**	**-0.4**
	23nm,0.3s							
KOTS	**Kotyrbulak**	**1.89**	**83**	P		**Pg**	**11 58 49.1**	**-0.8**
	4.2nm,0.3s							
KOTS				S		**Sg**	**11 59 14.0**	**-0.4**
	23nm,0.3s							
CHKK	**Chushkaly**	**1.96**	**64**	*

KDJ				⇑*i*S		**Sb**	**11 59 18.0**	**-0.3**
	baz=14								
ANVS	**Anan'yevo**	**2.31**	**95**	⇑*i*P		**Pb**	**11 58 53.5**	**-1.3**
	baz=95								
ANVS				⇑*i*S		**Sb**	**11 59 22.9**	**-0.2**
	baz=95								
ARXS	**Arharly**	**2.67**	**62**	*e*P		**Pb**	**11 59 01.7**	**+0.9**
	4.9nm,0.3s								
ARXS				*e*S		**Sb**	**11 59 36.2**	**+2.8**
	8.3nm,0.3s								
ARXS	**Arharly**	**2.67**	**62**	Pg		**Pb**	**11 59 01.7**	**+0.9**
	4.9nm,0.3s								
ARXS				Lg		Lg	11 59 36.2		
	8.3nm,0.3s								
SATY	**Saty**	**2.83**	**88**	*e*P		**Pb**	**11 59 05.1**	**+1.4**
	1.4nm,0.2s								
SATY				*e*S		**Sg**	**11 59 41.9**	**-2.6**
	8.2nm,0.1s								
SATY	**Saty**	**2.83**	**88**	Pg		**Pb**	**11 59 05.1**	**+1.4**
	1.4nm,0.2s								
SATY				Lg		Lg	11 59 41.9		
	8.2nm,0.1s								
KK31	**Karatay Array**	**2.96**	**273**	⇓Pg		**Pb**	**11 59 06.9**	**+1.0**
	0.4nm,0.4s,baz=94,slow=15,SNR=6.8								
KK31				⇑Lg		Lg	11 59 46.0		
	1.5nm,0.3s,baz=96,slow=28,SNR=10								
KPKS	**Kokpek**	**3.06**	**80**	*e*P		**Pb**	**11 59 08.9**	**+1.4**
	6.5nm,0.6s								
KPKS				*e*S		**Sb**	**11 59 47.9**	**+3.3**
	10nm,0.2s								
UZB	**Uzynbulak**	**3.28**	**86**	*e*P		**Pb**	**11 59 13.7**	**+2.3**
	4.0nm,0.3s								
UZB				*e*S		**Sg**	**11 59 55.5**	**-3.4**
	5.1nm,0.2s								
UZB	**Uzynbulak**	**3.28**	**86**	Pg		**Pb**	**11 59 13.7**	**+2.3**
	4.0nm,0.3s								
UZB				Lg		Lg	11 59 55.5		
	5.1nm,0.2s								
IUG	**luzhnay**	**3.45**	**257**	*e*P		**Pb**	**11 59 16.4**	**+2.2**
	92nm,0.3s								
IUG				*e*S		**Sg**	**12 00 00.9**	**-3.3**
	11nm,0.2s								
IUG	**luzhnay**	**3.45**	**257**	Pg		**Pb**	**11 59 16.4**	**+2.2**
	92nm,0.3s								
IUG				Lg		Lg	12 00 00.9		
	11nm,0.2s								
PDGK	**Podgornoye**	**3.63**	**83**	Pg		**Pb**	**11 59 19.3**	**+1.9**
	0.5nm,0.4s								
PDGK				Lg		Lg	12 00 05.8		
	2.4nm,0.5s								
PDGK	**Podgornoye**	**3.63**	**83**	Lg		Lg	12 00 05.3		
	3.3nm,0.5s								

IDC ***11*** *12:37:17.2±15.0, 36.31N×135.88E, h170km±173km, mb2.9/2, mb1 3.1/2, mb1mx2.7/46, mbtmp3.3/2, Error ellipse: s-maj=338.6km s-min=68.3km az=83.0*
JMA ***11*** *12:37:43.0±0.1, 36.55N×137.60E, h1km±2km, M2.1*
ISC 11 12:37:42.7±1.1, 36°55N±0.08×137°65E±0.05, h11km, n6, σ0§13/10, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTT	**Ttatey**	**0.26**	**283**	P	**Pg**	**12 37 48.0**	**0.0**
JTT				*e*S	**Sg**	**12 37 51.6**	**0.0**
JNG	**Nsakai**	**0.39**	**111**	P	**Pb**	**12 37 51.9**	**+0.1**
JGN	**Niukaw**	**0.42**	**219**	P	**Pg**	**12 37 51.0**	**0.0**
JGN				S	**Sg**	**12 37 56.5**	**-0.1**
MAT	**Matsushiro**	**0.45**	**91**	P	**Pb**	**12 37 52.8**	**+0.1**
MAT				S	**Sb**	**12 37 59.5**	**0.0**
MAT	**Matsushiro**	**0.45**	**91**	P	**Pb**	**12 37 52.8**	**+0.1**
MAT				S	**Sb**	**12 37 59.5**	**0.0**
MJAR	**Matsushiro Arr**	**0.46**	**91**	P	**Pb**	**12 37 52.5**	**-0.3**
	2.5nm,0.3s,baz=276,slow=17,SNR=80						

IDC 11 12:48:36.7±21.0, 16°80N×82°39W, h0km, mb3.0/1, mb1 3.6/1, mb1mx3.2/28, mbtmp3.1/1, Error ellipse: s-maj=1044.0km s-min=60.2km az=53.0, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**23.16**	**306**	P	P	12 53 44.9	-0.2
	0.5nm,0.8s,baz=112,slow=12,SNR=4.0						
WRA	**Warramunga Arr**	**145.05**	**259**	PKPbc	PKPbc	13 08 15.6	-0.8
	0.6nm,0.7s,baz=112,slow=3.5,SNR=5.5						
ASAR	**Alice Springs**	**145.34**	**253**	PKPbc	PKPbc	13 08 16.4	-0.8
	0.6nm,1.0s,baz=104,slow=3.9,SNR=4.4						

IDC ***11*** *12:50:31.1±1.2, 57.41S×26.16W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.9/23, mbtmp4.1/3, MS2.9/1, Ms1 3.0/1, ms1mx2.5/16, Error ellipse: s-maj=48.1km s-min=32.5km az=93.0*
NEIC ***11*** *12:50:36.3±1.5, 57.46S±0.07×25.8W±0.2, h35km±2km, mb4.1/10, Error ellipse: s-maj=21.2km s-min=10.9km az=97.0*
ISC 11 12:50:39.3±0.8, 57°5S±0.1×25°9W±0.1, h65km, n24, σ0§84/19, mb4.2/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**6.80**	**294**	Pn	**Pn**	**12 52 17.1**	**+0.9**
VNA1	**Neumayer--Stat**	**15.16**	**157**	P	**Pn**	**12 54 08.6**	**-0.6**
VNA3	**Neumayer Olymp**	**15.37**	**160**	P	**Pn**	**12 54 10.9**	**-0.9**
VNA2	**Neumayer--Watz**	**15.56**	**157**	P	**Pn**	**12 54 13.6**	**-0.7**
	baz=319,slow=14						
SNAA	**Sanae**	**17.10**	**155**	P	**P**	**12 54 35.0**	**+0.5**
SNAA	**Sanae**	**17.10**	**155**		**Pn**	**12 54 34.1**	**+0.4**
PMSA	**Palmer Station**	**19.55**	**232**	P	**P**	**12 55 01.4**	**+0.3**
BELA	**Belgrano 2**	**20.68**	**185**	P	**P**	**12 55 12.3**	**-1.1**
BELA				IAmb	IAmb	12 55 14.0	
	comp=Z,6.9nm,1.1s						
QSPA	**South Pole Qui**	**32.74**	**180**	P	**P**	**12 57 06.0**	**+0.6**
QSPA				IAmb	IAmb	12 57 27.9	
	comp=Z,2.5nm,0.9s						
VNDA	**Vanda**	**45.14**	**182**	P	**P**	**12 58 49.6**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=188,slow=7.8,SNR=5.3						
VNDA				LR	LR	13 15 09.5	
	comp=Z,16nm,21.0s,baz=299,slow=33						
VNDA	**Vanda**	**45.14**	**182**	P	**P**	**12 58 49.0**	**+0.5**
VNDA				IAmb	IAmb	12 59 06.7	
	comp=Z,1.2nm,0.8s						
H10S2	**ASCENSION HYDR**	**49.21**	**15**	T	T	13 52 00.3	
	baz=188,slow=74,SNR=8.7						
H10S3	**ASCENSION HYDR**	**49.21**	**15**	T	T	13 52 00.1	
	baz=32,slow=74,SNR=20						
H10N1	**ASCENSION HYDR**	**50.33**	**15**	T	T	13 53 24.5	
	baz=188,SNR=24						
H10N3	**ASCENSION HYDR**	**50.33**	**15**	T	T	13 53 24.5	
	baz=188,SNR=24						
H10N2	**ASCENSION HYDR**	**50.34**	**15**	T	T	13 53 25.6	
	baz=188,SNR=18						
LPAZ	**La Paz**	**51.82**	**305**	P	**P**	**12 59 40.6**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=145,slow=4.3,SNR=5.9						
LPAZ	**La Paz**	**51.82**	**305**	P	**P**	**12 59 39.7**	**-1.6**
LPAZ				IAmb	IAmb	12 59 42.4	
	comp=Z,1.5nm,0.6s						
RCBR	**Riachuelo**	**52.15**	**347**	P	**P**	**12 59 42.9**	**0.0**
SAML	**Samuel**	**56.35**	**314**	P	**P**	**13 00 12.9**	**-0.6**
SAML				IAmb	IAmb	13 00 21.7	
	comp=Z,3.0nm,1.2s						
TORD	**Torodi Ar. Bea**	**73.98**	**28**	P	**P**	**13 02 08.5**	**+0.9**
	comp=Z,2.9nm,0.6s,baz=198,slow=6.5,SNR=19						
TORD	**Torodi Ar. Bea**	**73.98**	**28**	P	**P**	**13 02 08.1**	**+0.5**
TORD				IAmb	IAmb	13 02 09.0	
	comp=Z,2.6nm,0.7s						
ILAR	**Eielson Array**	**151.63**	**309**	PKPbc	**PKPbc**	**13 10 23.6**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=136,slow=2.4,SNR=9.3						
ILAR	**Eielson Array**	**151.63**	**309**		**PKiKP**	**13 10 24.2**	**-0.7**

IDC 11 12:53:09.3±3.9, 28°47S×177°96W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.4/31, mbtmp3.4/2, Error ellipse: s-maj=82.5km s-min=19.6km az=65.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.78**	**177**	Pn	Pn	12 53 28.2	+0.5
	92nm,0.3s,baz=64,slow=11,SNR=7.8						
RAO				Sn	Sn	12 53 39.8	-0.3
	298nm,0.3s,baz=25,slow=22,SNR=11						
ASAR	**Alice Springs**	**43.28**	**265**	P	P	13 01 12.0	-1.0
	0.5nm,1.0s,baz=105,slow=7.5,SNR=5.1						
WRA	**Warramunga Arr**	**44.09**	**270**	P	P	13 01 20.1	+0.6
	0.3nm,0.3s,baz=110,slow=8.0,SNR=13						
FINES	**FINESS Array B**	**143.34**	**341**	PKP	PKPbc	13 12 43.4	+1.3
	1.7nm,0.9s,baz=66,slow=4.6,SNR=6.0						

IDC ***11*** *12:53:57.7±25.0, 29.38N×80.95E, h0km, mb4.0/3, mb1 4.0/4, mb1mx3.4/54, mbtmp4.0/4, ML3.4/1, MS3.6/1, Ms1 3.6/1, ms1mx2.6/42, Error ellipse: s-maj=538.0km s-min=78.7km az=127.0*
NDI ***11*** *12:54:05.9±2.4, 29.80N×80.55E, h6km±148km, ML3.1*
ISC 11 12:54:02.5±1.5, 29°67N±0.08×80°63E±0.09, h10km, n10, σ1§13/12, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTH	**Pithoragarh**	**0.38**	**252**	*e*PG	**Pg**	**12 54 09.8**	**-0.3**
PTH				*e*SG	**Sg**	**12 54 14.9**	**-0.3**
DDI	**Dehra Dun**	**2.33**	**287**	*e*P	**Pb**	**12 54 44.9**	**+0.3**
DDI				*e*S	**Sn**	**12 55 10.1**	**+0.4**
SMLA	**Simla**	**3.33**	**297**	*ex*	Pn	12 54 51.4	-3.2
SMLA				*i* x	**Pb**	**12 55 01.5**	**0.0**
SMLA				*e*S	**Sn**	**12 55 36.1**	**+2.0**
SMLA				IAML		12 55 44.9	
	comp=E,85nm,0.4s						
SMLA				IAML		12 55 45.1	
	comp=N,72nm,0.4s						
DHRM	**DHARAMSHALA**	**4.52**	**306**	*ex*	Pn	12 55 00.5	-11
DHRM				*e*S	**Sn**	**12 56 02.3**	**-1.7**
DHRM				IAML		12 56 25.5	
	comp=E,49nm,0.3s						
DHRM				IAML		12 56 26.3	
	comp=N,30nm,0.7s						
BHPL	**Bhopal**	**7.02**	**205**	*e*S	**Sn**	**12 57 06.2**	**+0.9**
MKAR	**Makanchi Array**	**17.14**	**4**	P	**Pn**	**12 58 03.6**	**+1.5**
	comp=N,0.1nm,0.3s,baz=181,slow=11,SNR=6.6						
KURBB	**Kurchatov Arra**	**20.99**	**356**	P	**P**	**12 58 44.8**	**-1.0**
	comp=N,0.8nm,0.3s,baz=182,slow=10,SNR=10.0						
FINES	**FINESS Array B**	**47.59**	**328**	P	**P**	**13 02 37.9**	**-0.2**
	comp=N,0.7nm,0.4s,baz=111,slow=10,SNR=7.5						
ARCES	**ARCESS Array B**	**50.50**	**338**	P	**P**	**13 03 00.1**	**-0.3**
	comp=N,3.8nm,1.0s,baz=96,slow=8.3,SNR=4.4						
SEY	**Seymchan**	**55.76**	**32**	LR	LR	13 27 43.4	
	comp=N,51nm,19.1s,baz=174,slow=36						

IDC ***11*** *13:04:39.0±1.1, 52.19N×169.64W, h0km, mb3.7/10, mb1 3.9/12, mb1mx3.7/41, mbtmp3.7/12, ML3.6/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/41, Error ellipse: s-maj=31.2km s-min=17.7km az=166.0*
NEIC ***11*** *13:04:41.6±0.8, 52.02N±0.05×169.5W±0.1, h10km±1km, ML3.3(AEIC), Error ellipse: s-maj=13.0km s-min=4.8km az=123.0*
AEIC ***11*** *13:04:43±1.9, 52.2N±0.2×169.6W±0.1, h66km±9km, Error ellipse: s-maj=23.8km s-min=9.1km az=157.0*
ISC 11 13:04:45.9±0.9, 52°3N±0.2×169°63W±0.08, h50km, n41, σ0§90/38, mb3.8/10, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.82**	**35**		**Pn**	**13 05 00.6**	**-0.6**
OKSP	**Okmok Steeple**	**1.25**	**40**		**Pn**	**13 05 06.5**	**-0.4**
OKCE	**Okmok Cone E**	**1.43**	**38**		**Pn**	**13 05 10.1**	**+0.7**
OKTU	**Okmok Mt. Tuli**	**1.45**	**41**		**Pn**	**13 05 09.7**	**0.0**
OKNC	**Okmok New Cone**	**1.47**	**38**		**Pn**	**13 05 10.5**	**+0.6**
OKFG	**Magazine Ridge**	**1.52**	**43**		**Pn**	**13 05 10.4**	**-0.1**
MAPS	**Pakushin South**	**2.21**	**46**		**Pn**	**13 05 19.7**	**-0.3**
MSW	**Makushin Switc**	**2.35**	**46**		**Pn**	**13 05 22.1**	**+0.1**
MNAT	**Makushin Natee**	**2.38**	**47**		**Pn**	**13 05 22.4**	**+0.1**
UNV	**Unalaska Valle**	**2.44**	**49**		**Pn**	**13 05 22.8**	**-0.3**
KOFP	**Korovin Flat P**	**2.75**	**271**		**Pn**	**13 05 27.4**	**0.0**
KOKL	**Mount Kliuchef**	**2.81**	**272**		**Pn**	**13 05 28.5**	**+0.3**
ATKA	**Atka Island**	**2.81**	**270**		**Pn**	**13 05 27.6**	**-0.6**
AKMO	**Akutan Morgan**	**2.82**	**49**		**Pn**	**13 05 28.7**	**+0.3**
ZRO	**Akutan Zero**	**2.83**	**49**		**Pn**	**13 05 29.1**	**+0.5**
AKUT	**Akutan**	**2.96**	**50**	Pn	**Pn**	**13 05 31.1**	**+0.9**
GSTR	**Great Sitkin T**	**3.96**	**269**	Pn	**Pn**	**13 05 42.7**	**-1.4**
GSMY	**Great Sitkin M**	**3.97**	**269**		**Pn**	**13 05 44.2**	**+0.1**
GSTD	**Great Sitkin T**	**4.02**	**269**		**Pn**	**13 05 44.7**	**-0.2**
GSCK	**Great Sitkin C**	**4.04**	**268**		**Pn**	**13 05 45.1**	**0.0**
ADK	**Adak**	**4.37**	**267**		**Pn**	**13 05 49.4**	**-0.2**
KIWB	**Kanaga Island**	**4.66**	**267**		**Pn**	**13 05 53.4**	**-0.2**
KIMD	**Kanaga Island**	**4.73**	**266**		**Pn**	**13 05 54.0**	**-0.5**
TASE	**Tanaga Southea**	**5.21**	**268**		**Pn**	**13 06 01.6**	**+0.4**
AMKA	**Amchitka**	**6.92**	**267**		**Pn**	**13 06 24.8**	**+0.2**
KDAK	**Kodiak Island**	**11.20**	**54**	Pn	**Pn**	**13 07 20.3**	**-2.7**
	0.4nm,0.3s,baz=194,slow=5.5,SNR=11						
ILAR	**Eielson Array**	**17.09**	**34**	Pn	**Pn**	**13 08 39.4**	**-1.6**
	0.1nm,0.3s,baz=234,slow=11,SNR=7.1						
PETK	**Petropavlovsk-**	**19.73**	**285**	P	**P**	**13 09 11.5**	**+0.5**
	1.6nm,0.3s,baz=90,slow=13,SNR=12						
INK	**Inuvik**	**23.49**	**33**	P	**P**	**13 09 49.8**	**-0.8**
	2.7nm,0.8s,baz=207,slow=6.1,SNR=7.2						
KLR	**Kul'dur**	**36.33**	**289**	P	**P**	**13 11 44.4**	**-0.1**
	0.7nm,0.4s,baz=40,slow=7.9,SNR=4.0						
KLR				LR	LR	13 27 32.0	
	comp=Z,33nm,18.5s,baz=108,slow=38						
H11S1	**WAKE ISLAND Hy**	**38.49**	**218**	T	T	13 53 08.7	
	baz=22,slow=76,SNR=19						
H11S2	**WAKE ISLAND Hy**	**38.51**	**218**	T	T	13 53 07.6	
	baz=22,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**38.51**	**218**	T	T	13 53 14.4	
	baz=22,slow=76,SNR=10						
PDAR	**Pinedale Array**	**40.57**	**79**	P	**P**	**13 12 22.3**	**+1.8**
	0.2nm,0.4s,baz=344,slow=8.4,SNR=2.2						
KSRS	**Korea Array**	**45.25**	**277**	P	**P**	**13 12 59.7**	**+1.6**
	1.2nm,0.8s,baz=61,slow=7.9,SNR=3.7						
SONM	**Songino Array**	**51.20**	**301**	P	**P**	**13 13 42.4**	**-1.6**
	0.3nm,0.4s,baz=72,slow=9.3,SNR=2.0						
TXAR	**Lajitas Array**	**52.91**	**89**	P	**P**	**13 13 55.9**	**-1.0**
	0.3nm,0.8s,baz=294,slow=5.1,SNR=3.7						
MKAR	**Makanchi Array**	**63.73**	**313**	P	**P**	**13 15 12.4**	**+0.4**
	0.2nm,0.3s,baz=56,slow=6.9,SNR=8.3						
FINES	**FINESS Array B**	**65.91**	**352**	P	**P**	**13 15 27.2**	**+1.3**
	1.3nm,0.5s,baz=7.0,slow=9.3,SNR=9.4						
NOA	**NORSAR Array B**	**67.00**	**360**	P	**P**	**13 15 33.7**	**+0.8**
	0.7nm,0.7s,baz=359,slow=6.2,SNR=3.7						
ASAR	**Alice Springs**	**90.23**	**230**	P	**P**	**13 17 40.4**	**-0.4**
	0.5nm,0.6s,baz=30,slow=4.8,SNR=13						

IDC ***11*** *13:09:08.0±10.0, 22.82S×65.98W, h202km±77km, mb3.0/1, mb1 3.2/2, mb1mx2.9/17, mbtmp3.6/2, Error ellipse: s-maj=138.1km s-min=80.5km az=49.0*
GUC ***11*** *13:09:08.4±0.6, 23.08S×66.82W, h220km±8km, ML3.8*
ISC 11 13:09:07.0±1.9, 23°06S±0.08×66°7W±0.1, h200km, n18, σ1§13/31, 4C-2D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.07**	**282**	*e*P	**Pn**	**13 09 48.3**	**+1.6**
LVC				*e*S	**Sn**	**13 10 18.9**	**+1.5**
PB15	**IPOC Station P**	**2.54**	**266**	*e*P	**Pn**	**13 09 52.9**	**+1.3**
PB15				*e*S	**Sn**	**13 10 27.2**	**+1.0**
PB09	**IPOC Station P**	**2.65**	**298**	⇑*i*P	**Pn**	**13 09 54.7**	**+1.9**
PB09				*e*S	**Sn**	**13 10 30.1**	**+1.6**
PB09				IAML		13 10 35.4	
	comp=N,96nm,0.3s						
PB06	**IPOC Station P**	**2.66**	**277**	*e*P	**Pn**	**13 09 54.0**	**+1.2**
PB06				*i* S	**Sn**	**13 10 29.2**	**+0.6**
PB06				IAML		13 10 30.1	
	comp=N,211nm,0.3s						
PB03	**IPOC Station P**	**2.98**	**289**	⇑*i*P	**Pn**	**13 09 57.5**	**+0.8**
PB03				*i* S	**Sn**	**13 10 35.0**	**-0.3**
PB03				*e*S	**Sn**	**13 10 35.0**	**-0.3**
PB03				IAML		13 10 37.4	
	comp=E,263nm,0.2s						
PB07	**IPOC Station P**	**3.22**	**294**	⇑*i*P	**Pn**	**13 10 00.3**	**+0.8**
PB07				*e*S	**Sn**	**13 10 39.8**	**-0.6**
PB05	**IPOC Station P**	**3.22**	**273**	*i* P	**Pn**	**13 10 00.1**	**+0.7**
PB04	**IPOC Station P**	**3.25**	**282**	*e*P	**Pn**	**13 10 00.6**	**+0.8**
PB04				*e*S	**Sn**	**13 10 40.3**	**-0.8**
PB01	**IPOC Station P**	**3.26**	**307**	*e*P	**Pn**	**13 10 00.7**	**+0.8**
PB01				*e*S	**Sn**	**13 10 41.2**	**0.0**
PB02	**IPOC Station P**	**3.42**	**300**	*e*P	**Pn**	**13 10 02.3**	**+0.5**
PB02				*e*S	**Sn**	**13 10 43.6**	**-1.0**
PB10	**IPOC Station P**	**3.56**	**262**	⇑*i*P	**Pn**	**13 10 03.8**	**+0.5**
PB08	**IPOC Station P**	**3.68**	**322**	⇑*i*P	**Pn**	**13 10 06.8**	**+1.5**
PB14	**IPOC Station P**	**3.72**	**244**	*e*P	**Pn**	**13 10 05.5**	**-0.1**
PB14				*e*S	**Sn**	**13 10 49.9**	**-1.6**
HMBC	**Humberstone**	**4.04**	**313**	⇓*e*P	**Pn**	**13 10 09.0**	**-0.5**
HMBC				*e*S	**Sn**	**13 10 56.8**	**-1.8**
TA01	**Diego Aracena**	**4.06**	**307**	*e*P	**Pn**	**13 10 09.8**	**+0.2**
TA01				*i* S	**Sn**	**13 10 56.8**	**-2.0**
LPAZ	**La Paz**	**6.87**	**349**	P	**Pn**	**13 10 47.0**	**+0.9**
	comp=E,1.0nm,0.3s,baz=176,slow=8.2,SNR=17						
LPAZ				S	**Sn**	**13 12 04.3**	**-0.4**
	comp=E,0.1nm,0.3s,baz=53,slow=20,SNR=1.5						
TORD	**Torodi Ar. Bea**	**75.99**	**69**	P	P	13 20 29.2	-3.4
	comp=E,0.5nm,1.0s,baz=250,slow=3.8,SNR=1.4						
MKAR	**Makanchi Array**	**145.63**	**39**	PKPbc	**PKPdf**	**13 28 20.1**	**-1.3**
	comp=E,0.6nm,0.6s,baz=313,slow=2.9,SNR=5.1						

MEX 11 13:23:26.6±0.8, 18°19N×103°57W, h6km, MD3.6, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.24**	**66**	*i* P	Pg	13 23 30.9	-0.4
MMIG				*i* S	Sg	13 23 34.1	-0.3
COIG	**Colima**	**0.99**	**354**	*e*P	Pg	13 23 42.6	-3.0
COIG				*i* S	Sg	13 23 55.1	-3.4
R15V		**1.05**	**338**	*i* P	Pg	13 23 43.9	-2.8
R15V				*i* S	Sg	13 23 57.3	-3.1
EZ5V		**1.28**	**359**	*i* P	Pg	13 23 48.0	-3.2
EZ5V				*i* S	Sg	13 24 05.4	-2.5

IDC 11 13:28:54.5±5.2, 4.99S×151.26E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/21, mbtmp3.3/3, Error ellipse: s-maj=152.8km s-min=38.8km az=104.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.19**	**226**	P	P	13 33 52.6	+0.1
	0.6nm,0.5s,baz=50,slow=10.0,SNR=7.8						
ASAR	**Alice Springs**	**25.00**	**220**	P	P	13 34 20.1	-0.1
	0.5nm,0.7s,baz=56,slow=8.6,SNR=11						
MKAR	**Makanchi Array**	**79.46**	**319**	P	P	13 41 03.0	0.0
	0.2nm,0.6s,baz=107,slow=6.1,SNR=1.7						

MEX 11 13:32:20.1±0.6, 15°08N×94°09W, h41km±72km, MD3.7, Near coast of Oaxaca

INET ***11*** *13:52:00.7, 13.05N×86.60W, h10km, MW3.9*
IDC ***11*** *13:52:07.2±1.6, 13.13N×86.41W, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.6/31, mbtmp3.5/5, ML3.0/2, MS2.9/4, Ms1 2.9/4, ms1mx2.6/27, Error ellipse: s-maj=56.6km s-min=26.7km az=43.0*
SNET ***11*** *13:52:08.6±0.9, 13.02N×86.66W, h13km±7km, ML3.5*
ISC 11 13:52:10.7±2.9, 12°9N±0.2×86°7W±0.1, h29km±24km, n16, σ1§00/21, mb3.5/3, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**1.18**	**290**	*e*P	**Pn**	**13 52 30.0**	**-1.3**
CNCH				*e*S	**Sn**	**13 52 46.1**	**-0.3**
LCND	**La Caada**	**1.24**	**291**	*e*P	**Pn**	**13 52 30.7**	**-1.4**
LCND				*e*S	**Sn**	**13 52 47.2**	**-0.6**
LCND				IAML		13 52 54.1	
	comp=Z,931nm,0.5s						
JUCU	**Jucuarın**	**1.56**	**284**	*e*P	**Pn**	**13 52 35.7**	**-0.8**
JUCU				*e*S	**Sb**	**13 52 58.0**	**-0.3**
JUCU				IAML		13 53 02.1	
BLLM	**Bellamira**	**1.60**	**291**	*e*P	**Pn**	**13 52 36.2**	**-0.8**
COEB	**Comit de Eme**	**1.89**	**289**	*e*P	**Pn**	**13 52 40.4**	**-0.7**
COEG	**Centro de Oper**	**2.25**	**289**	*e*P	**Pn**	**13 52 45.0**	**-1.1**
COEG				*e*S	**Sn**	**13 53 14.1**	**+1.3**
PAVA	**Las Pavas**	**2.33**	**291**	*e*P	**Pn**	**13 52 46.9**	**-0.3**
PAVA				*e*S	**Sn**	**13 53 16.4**	**+1.4**
SJTE	**Alcalda de S**	**2.37**	**288**	*e*P	**Pn**	**13 52 46.8**	**-0.8**
SJTE				*e*S	**Sn**	**13 53 16.5**	**+0.8**
MTO3	**Montecristo**	**3.00**	**301**	*e*P	**Pn**	**13 52 56.3**	**-0.2**
JTS	**Las Juntas de**	**3.08**	**146**	Pn	**Pn**	**13 52 58.4**	**+0.9**
	comp=Z,2.3nm,0.3s,baz=31,slow=17,SNR=4.6						
JTS				Sn	**Sb**	**13 53 42.8**	**+0.7**
	comp=Z,6.9nm,0.3s,baz=349,slow=17,SNR=3.7						
JTS				LR	LR	13 54 16.4	
	comp=Z,103nm,22.0s,baz=52,slow=41						
CMIG	**Matias Romero**	**8.95**	**299**	Pn	**Pn**	**13 54 19.5**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=180,slow=6.1,SNR=2.3						
CMIG				LR	LR	13 58 04.4	
	comp=Z,74nm,19.8s,baz=134,slow=39						
SJG	**San Juan**	**20.47**	**73**	LR	LR	14 04 09.0	
	comp=Z,38nm,20.6s,baz=234,slow=36						
TXAR	**Lajitas Array**	**22.73**	**319**	P	**P**	**13 57 11.5**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=142,slow=9.2,SNR=7.9						
LPIG	**La Paz**	**24.98**	**300**	LR	LR	14 06 40.2	
	comp=Z,45nm,19.7s,baz=157,slow=35						
ILAR	**Eielson Array**	**65.93**	**336**	P	**P**	**14 02 53.9**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=139,slow=4.9,SNR=4.2						
ESDC	**Sonseca Array**	**76.35**	**52**	P	**P**	**14 03 56.6**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=283,slow=6.2,SNR=4.0						

**MEX 11 14:01:54.

WB2					IAmb	IAmb	14 27 11.5	
	comp=Z,3.6nm,1.1s							
WR0	**Warramunga Arr**	**34.52**	**119**	P	**P**		**14 27 10.8**	**0.0**
WR0					IAmb	IAmb	14 27 22.8	
	comp=Z,2.1nm,1.0s							
ASAR	**Alice Springs**	**35.53**	**125**	P	**P**		**14 27 19.8**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=299,slow=7.9,SNR=62							
ASAR	**Alice Springs**	**35.53**	**125**	P	**P**		**14 27 19.4**	**-0.2**
AS31	**Alice Springs**	**35.53**	**125**	P	**P**		**14 27 19.7**	**+0.1**
AS31					IAmb	IAmb	14 27 26.3	
	comp=Z,0.8nm,0.5s							
STKA	**Stephens Creek**	**45.40**	**131**	P	**P**		**14 28 42.0**	**+1.2**
	comp=Z,3.5nm,0.7s,baz=308,slow=6.0,SNR=7.6							
STKA	**Stephens Creek**	**45.40**	**131**	IAmb	IAmb		14 28 42.4	
	comp=Z,0.9nm,0.7s							
SONM	**Songino Array**	**52.30**	**3**	P	**P**		**14 29 34.2**	**+0.6**
	comp=Z,3.1nm,0.6s,baz=182,slow=9.1,SNR=15							
SONM	**Songino Array**	**52.30**	**3**	P	**P**		**14 29 33.2**	**-0.3**
MKAR	**Makanchi Array**	**54.27**	**343**	P	**P**		**14 29 47.5**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=154,slow=9.0,SNR=25							
ZALV	**Zalesovo Beam**	**60.23**	**348**	P	**P**		**14 30 28.9**	**-0.8**
	comp=Z,2.8nm,0.4s,baz=160,slow=4.7,SNR=12							
VNDA	**Vanda**	**79.11**	**169**	P	**P**		**14 32 29.3**	**+3.8**
	comp=Z,0.6nm,0.8s,baz=24,slow=4.5,SNR=5.0							
VNDA	**Vanda**	**79.11**	**169**	P	**P**		**14 32 27.5**	**+2.0**
VNDA					IAmb	IAmb	14 32 37.8	
	comp=Z,1.5nm,1.1s							
TXAR	**Lajitas Array**	**144.92**	**43**	PKP	**PKPdf**		**14 39 58.7**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=252,slow=1.2,SNR=15							

*MEX **11** 14:23:18.0±0.5, 32°.58N×115°.61W, h16km±16km, MD3.5*
ECX 11 14:23:17.3±0.7, 32°.60N×115°.69W, h8km±3km, MD1.6,
ML1.8, 7C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.06**	**330**	*i* P	Pg	14 23 18.8	-0.2
SGL				*i* S	Sg	14 23 20.5	+0.1
WESC	**Westside Schoo**	**0.16**	**348**	*i* P	Pg	14 23 20.8	+0.1
YUH2	**Yuha Desert**	**0.20**	**283**	*i* P	Pg	14 23 20.8	-0.6
YUH2				*e* S	Sg	14 23 23.9	-0.2
RMX	**La Rumorosa**	**0.33**	**270**	*i* P	Pg	14 23 22.5	-1.3
SWSC	**Sam W. Stewart**	**0.35**	**345**	*e* P	Pg	14 23 23.8	-0.5
IKP	**In-Ko-Pah, Jac**	**0.36**	**278**	*i* P	Pg	14 23 23.6	-0.7
IKP				*e* S	Sg	14 23 28.6	-0.4
CRR	**Carrizo Plain**	**0.37**	**321**	*i* P	Pg	14 23 24.1	-0.4
CPBX	**Cerro Prieto**	**0.37**	**119**	*e* P	Pg	14 23 24.2	-0.4
CPBX				*e*		14 23 32.0	
CPBX				IAML		14 23 32.0	
	comp=E,287nm,0.1s						
CPBX				IAML		14 23 32.4	
	comp=N,264nm,0.1s						
CPBX				*e*		14 23 32.4	
MBIG	**Mexicali**	**0.46**	**115**	*e* P	Pg	14 23 24.1	-2.1
MBIG				*i* S	Sg	14 23 30.4	-1.8
COA	**Coachella**	**0.55**	**61**	*e* P	Pg	14 23 27.3	-0.6
CBKC	**Canebrake**	**0.56**	**302**	*e* P	Pg	14 23 27.8	-0.3
EMSC	**East Mesa**	**0.61**	**77**	*e* P	Pg	14 23 28.3	-0.8
MONP2	**Monument Peak**	**0.68**	**295**	*e* P	Pg	14 23 29.5	-1.0
MONP2				*e* S	Sg	14 23 38.5	-0.8
BAR	**Barrett**	**0.83**	**276**	*e* P	Pg	14 23 32.1	-1.2
BAR				*i* S	Sg	14 23 43.3	-0.8
TJIG	**Tijuana**	**0.85**	**259**	*i* P	Pg	14 23 32.3	-1.3
TJIG				*i* S	Sg	14 23 43.0	-1.6
GLA	**Glamis**	**0.86**	**58**	*i* P	Pg	14 23 31.8	-1.9
GLA				*i* S	Sg	14 23 43.0	-1.9
CBX	**Cerro Bola**	**0.87**	**251**	*i* P	Pg	14 23 32.7	-1.3
CBX				*i* S	Sg	14 23 43.8	-1.6
CBX	**Cerro Bola**	**0.87**	**251**	*e* P	Pg	14 23 32.8	-1.2
MATG	**Mataguay Scout**	**1.00**	**307**	*e* P	Pg	14 23 35.4	-1.1
EML	**El Monte Cty P**	**1.01**	**287**	*e* P	Pg	14 23 35.1	-1.7
EML				*e* S	Sg	14 23 48.5	-1.5

*IDC **11** 15:00:45.6±6.1, 26°.22S×64°.92W, h35km±39km, mb3.5/2,*
mb1 3.8/6, mb1mx3.6/22, mbtmp3.7/6, ML3.6/4, MS2.8/2,
Ms1 2.8/2, ms1mx2.5/16, Error ellipse: s-maj=78.0km
s-min=24.2km az=26.0
ISC 11 15:00:46.9±1.5, 26°.0S±0°.1×64°.8W±0°.1, h35km, n7, σ1s34/7,
Tucuman Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**5.07**	**311**	Pn	**Pn**	**15 02 01.3**	**+0.6**
	0.6nm,0.3s,baz=137,slow=6.1,SNR=6.0						
CPUP	**Villa Florida**	**6.71**	**94**	Pn	**Pn**	**15 02 23.6**	**+0.6**
	0.9nm,0.3s,baz=269,slow=11,SNR=8.3						
CPUP				Pg		15 02 50.0	
	1.7nm,0.3s,baz=270,slow=14,SNR=6.3						
CPUP				Lg	Lg	15 04 11.6	
	2.8nm,0.3s,baz=200,slow=13,SNR=3.1						
CPUP				LR	LR	15 05 10.2	
	comp=Z,70nm,21.3s,baz=226,slow=39						
LPAZ	**La Paz**	**10.18**	**342**	Pn	**Pn**	**15 03 13.3**	**+2.1**
	0.2nm,0.3s,baz=187,slow=8.1,SNR=7.2						
SIV	**San Ignacio**	**10.57**	**20**	Pn	**Pn**	**15 03 16.0**	**0.0**
	0.5nm,0.3s,baz=214,slow=12,SNR=4.3						
SIV				Sn	**Sn**	**15 05 12.6**	**-0.6**
	0.3nm,0.3s,baz=266,slow=19,SNR=1.3						
NNA	**Nana**	**18.00**	**319**	LR	LR	15 11 25.5	
	comp=Z,33nm,20.6s,baz=200,slow=35						
TXAR	**Lajitas Array**	**66.49**	**325**	P	**P**	**15 11 31.9**	**-1.2**
	0.4nm,0.7s,baz=144,slow=7.8,SNR=5.5						
TORD	**Torodi Ar. Bea**	**75.46**	**67**	P	**P**	**15 12 27.9**	**+0.1**
	0.5nm,0.5s,baz=255,slow=4.6,SNR=3.8						

MEX 11 15:01:09.7±1.3, 14°.82N×93°.72W, h109km±52km, MD3.6,
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.00**	**29**	*e* P	Pn	15 01 30.3	-0.6
PCIG				*i* S	Sn	15 01 44.8	-2.0
CMIG	**Matias Romero**	**2.52**	**334**	*i* S	Sn	15 02 18.2	-1.5

IDC 11 15:32:37.5±3.5, 33°.05S×178°.13W, h0km, mb3.6/2,
mb1 3.8/3, mb1mx3.6/21, mbtmp3.6/3, ML3.3/1, MS3.5/1,
Ms1 3.5/1, ms1mx2.7/20, Error ellipse: s-maj=76.9km
s-min=37.7km az=116.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.48**	**215**	Pn	Pn	15 34 14.0	-0.1
	0.6nm,0.3s,baz=282,slow=7.4,SNR=6.7						
URZ				Sn	Sn	15 35 30.8	+2.1
	5.5nm,0.3s,baz=199,slow=18,SNR=13						
ASAR	**Alice Springs**	**42.92**	**270**	P	P	15 40 38.1	-0.1
	0.4nm,0.6s,baz=110,slow=7.8,SNR=11						
WRA	**Warramunga Ar**	**44.15**	**275**	P	P	15 40 48.0	-0.2
	0.6nm,0.5s,baz=118,slow=7.7,SNR=19						
JAY	**Jayapura**	**49.06**	**299**	LR	LR	16 01 29.0	
	comp=Z,52nm,19.3s,baz=56,slow=35						
FINES	**FINESS Array B**	**147.58**	**338**	PKPbc	PKPbc	15 52 22.2	-0.7
	0.3nm,0.5s,baz=96,slow=2.8,SNR=1.1						

*PRU **11** 15:37:45.0±0.0, 51°.54N×16°.14E, h0km*
*VIE **11** 15:37:48.2±0.8, 51°.31N×16°.18E, h0km, mb2.3/2, ml2.5/2,*
Error ellipse: s-maj=9.6km s-min=5.4km az=75.0 62 km
WNW of Wroclaw Suspected Mining induced.
ISC 11 15:37:44.3±1.3, 51°.57N±0°.06×16°.14E±0°.03, h0km, n21,
σ0s72/44, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.73**	**172**	*e* Pg	**Pg**	**15 37 58.3**	**+0.1**
KSP				*e* Sg	**Sg**	**15 38 07.5**	**-0.2**
CHVC	**Chvalec**	**0.98**	**183**	*e* PG	**Pg**	**15 38 03.2**	**+0.2**
CHVC				*e* SG	**Sg**	**15 38 15.6**	**-0.1**
	comp=Z,26nm,0.4s						
OSTC	**Ostas**	**1.01**	**177**	*e* PG	**Pg**	**15 38 03.7**	**+0.1**
OSTC				*e* SG	**Sg**	**15 38 16.9**	**+0.2**
UPC	**Upice**	**1.06**	**184**	*e* PG	**Pg**	**15 38 04.4**	**-0.2**
UPC				*e* SG	**Sg**	**15 38 18.1**	**-0.3**
DPC	**Dobruska-Polom**	**1.22**	**174**	*e* PG	**Pg**	**15 38 07.0**	**-0.7**
DPC				*e* SG	**Sg**	**15 38 22.7**	**-0.8**
	comp=Z,12nm,0.3s						
PVCC	**Panska Ves**	**1.44**	**224**	*e* PG	**Pn**	**15 38 11.2**	**-0.3**
PVCC				*e* SG	**Sn**	**15 38 31.0**	**-0.1**
	comp=Z,57nm,0.3s						
BRG	**Berggiesshubel**	**1.54**	**244**	Pg	**Pb**	**15 38 13.7**	**0.0**
BRG				Sg	**Sg**	**15 38 34.5**	**+0.7**
BRG				Amp		15 38 35.5	
	comp=Z,40nm,0.4s						
KRLC	**Kraliky**	**1.55**	**164**	*e* PG	**Pn**	**15 38 12.2**	**-0.9**
KRLC				*e* SG	**Sg**	**15 38 32.1**	**-1.8**
	comp=Z,14nm,0.5s						
PRU	**Pruhonice**	**1.88**	**213**	*e* PG	**Pb**	**15 38 18.9**	**-0.5**
PRU				*e* SG	**Sb**	**15 38 43.6**	**+0.2**
	comp=Z,22nm,0.5s						
CLL	**Collm**	**1.98**	**264**	*i* Pn	**Pn**	**15 38 18.0**	**-1.0**
CLL				*i* Pg	**Pb**	**15 38 21.4**	**+0.3**
CLL				*i*		15 38 24.9	
CLL				*e* Sg	**Sb**	**15 38 47.0**	**+0.7**
	comp=Z,15nm,0.7s						
MORC	**Moravsky Berou**	**2.00**	**153**	*e* PN	**Pn**	**15 38 18.4**	**-1.0**
MORC				*e* SG	**Sb**	**15 38 47.3**	**+0.3**
VRAC	**Vranov**	**2.28**	**172**	*e* PN	**Pn**	**15 38 22.6**	**-0.5**
KRUC	**Moravsky**	**2.51**	**176**	*e* PN	**Pn**	**15 38 26.9**	**+0.6**
KRUC				*e* SG	**Sb**	**15 39 02.3**	**+0.6**
OJC	**Ojcow**	**2.68**	**119**	*e* Pg	**Pg**	**15 38 35.0**	**-0.6**
OJC				*e* Sg	**Sg**	**15 39 10.6**	**+0.2**
NKC	**Novy Kostel**	**2.69**	**242**	*e* PN	**Pn**	**15 38 29.1**	**+0.3**
NKC				*e* PG	**Pg**	**15 38 34.9**	**-0.9**
NKC				*e* SG	**Sg**	**15 39 11.6**	**+1.0**
	comp=Z,22nm,0.3s						
JAVC	**Velka Javorina**	**2.88**	**159**	*e* PN	**Pn**	**15 38 31.6**	**+0.1**
KHC	**Kasperske Hory**	**2.94**	**215**	*e* PN	**Pn**	**15 38 31.9**	**-0.3**
KHC				*e* PG	**Pb**	**15 38 38.2**	**+0.7**
KHC				*e* SG	**Sg**	**15 39 18.6**	**0.0**
	comp=Z,8.5nm,0.4s						
CKRC	**Cesky Krumlov**	**2.99**	**204**	*e* PN	**Pn**	**15 38 33.4**	**+0.5**
CKRC				*e* PG	**Pb**	**15 38 38.9**	**+0.5**
CKRC				*e* SG	**Sg**	**15 39 18.4**	**-1.9**
	comp=Z,6.7nm,0.5s						
LANS	**Liptovska Anna**	**3.22**	**137**	*e* PG	**Pg**	**15 38 46.5**	**+0.5**
LANS				*e* SG	**Sg**	**15 39 28.2**	**+0.4**
MODS	**Modra-Piesok**	**3.28**	**167**	*e* PG	**Pg**	**15 38 46.9**	**-0.2**
MODS				*e* SG	**Sg**	**15 39 31.0**	**+1.4**
CONA	**Conrad Observa**	**3.65**	**183**	*i* Pn	**Pn**	**15 38 43.0**	**+1.0**
	comp=Z,0.5nm,0.2s						
CONA				*e* Sg	**Sg**	**15 39 40.3**	**-1.0**
	comp=Z,3.3nm,0.3s						

MEX 11 15:39:05.3±0.7, 15°.76N×96°.64W, h10km±81km, MD3.8,
Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PEIG	**Puerto Escondi**	**0.54**	**296**	*i* P	Pg	15 39 14.5	-1.4
PEIG				*e* S	Sg	15 39 22.3	-0.8
VHO	**Vista Hermosa**	**1.31**	**356**	*e* P	Pn	15 39 22.4	-7.5
VHO				*e* S	Sb	15 39 38.6	-8.4
PNIG	**Pinotepa**	**1.56**	**294**	*e* P	Pn	15 39 30.4	-2.8
PNIG				*i* S	Sn	15 39 49.1	-4.4
CMIG	**Matias Romero**	**2.14**	**52**	*e* P	Pn	15 39 35.6	-5.5
CMIG				*i* S	Sn	15 40 04.0	-3.9
TOIG	**Toxpalan**	**2.36**	**350**	*i* P	Pn	15 39 41.7	-2.5
TOIG				*e* S	Sn	15 40 08.7	-4.5

*TUL **11** 15:41:59.5±1.3, 36°.76N±0°.01×98°.08W±0°.01, h6km±4km,*
ML2.5, mb_Lg2.2/8(NEIC), Error ellipse: s-maj=2.1km
s-min=1.4km az=175.0
NEIC 11 15:41:59.6±0.5, 36°.74N±0°.01×98°.08W±0°.01, h9km±3km,
Error ellipse: s-maj=2.0km s-min=1.3km az=201.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OK032	**Salt Plains WL**	**0.13**	**302**		Pg	15 42 02.5	0.0
OK032				Sg	Sg	15 42 04.6	0.0
KAN14	**Manchester OK**	**0.24**	**22**	Pg	Pg	15 42 04.5	0.0
CROK	**Carrier**	**0.24**	**162**		Pg	15 42 04.9	+0.4
KAN17	**Caldwell West**	**0.40**	**39**		Pg	15 42 06.3	-1.0
KAN05	**Bluff City Nor**	**0.41**	**24**	Pg	Pg	15 42 07.5	-0.1
KAN13	**South Haven SW**	**0.55**	**60**	Pg	Pg	15 42 10.2	-0.2
KAN13				Sg	Sg	15 42 17.9	+0.3
KAN12	**Harper NE Stat**	**0.56**	**6**	Pg	Pg	15 42 10.2	-0.3
KS20	**Mayfield South**	**0.65**	**40**	Pg	Pg	15 42 11.8	-0.2
BLOK	**Blackwell**	**0.69**	**88**		Pg	15 42 12.7	-0.2
U32A	**Winter Ranch,**	**0.83**	**245**	Pg	Pg	15 42 15.4	-0.1
OK029	**Liberty Lake**	**1.06**	**152**	Pg	Pg	15 42 19.6	-0.4
QUOK	**Quay**	**1.24**	**117**		Pn	15 42 22.6	-0.4
QUOK				Sg	Sb	15 42 39.2	0.0
T35A	**Sooner Cattle**	**1.27**	**81**		Pn	15 42 23.1	-0.3
OK031	**S. Brethren Rd**	**1.27**	**128**	Pn	Pn	15 42 23.3	-0.2
OK025	**Westminster Rd**	**1.30**	**152**	Pn	Pn	15 42 23.9	0.0
R32A	**Long Quarter,**	**1.76**	**343**	Pn	Pb	15 42 31.5	-0.5
WMOK	**Wichita Mounta**	**2.08**	**196**	Pn	Pn	15 42 36.0	+1.4
CBKS	**Cedar Bluff**	**2.46**	**328**	IAmb_Lg		15 43 16.3	
	comp=Z,4.9nm,0.8s						
KSU1	**Kansas State U**	**2.63**	**26**	IAmb_Lg		15 43 27.6	
	comp=Z,6.8nm,1.1s						
S39A	**Bolivar**	**3.91**	**74**		Pn	15 42 59.7	-0.1
S39A				IAmb_Lg		15 44 03.6	
	comp=Z,3.9nm,0.8s						
N35A	**Tabor**	**4.54**	**24**	IAmb_Lg		15 44 32.9	
	comp=Z,16nm,0.8s						

*DJA **11** 15:47:42.8±1.3, 0°.S±2°×12°.5E±°, h25km±12km, M4.5/14,*
mb4.8/7, mB4.9/4, MLv4.5/14, Mw(mB)4.2/4
*NEIC **11** 15:47:45.0±1.6, 0°.26S±0°.09×124°.39E±0°.08, h71km±9km,*
mb4.4/15, Error ellipse: s-maj=13.6km s-min=11.1km
az=192.0
*IDC **11** 15:47:45.1±2.3, 0°.21S×124°.38E, h66km±22km, mb3.8/16,*
mb1 3.9/18, mb1mx3.7/50, mbtmp4.1/18, MS3.2/7,
Ms1 3.2/7, ms1mx2.9/38, Error ellipse: s-maj=17.6km
s-min=12.8km az=82.0
ISC 11 15:47:44.0±0.5, 0°.25S±0°.05×124°.48E±0°.06, h60km, n63,
σ1s24/62, mb4.2/22, MS3.2/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNI	**Manado**	**1.73**	**12**	P	**Pn**	**15 48 12.0**	**+0.2**
SANI	**Sanana**	**2.33**	**140**	P	**Pn**	**15 48 18.8**	**-1.3**
SANI				S	**Sn**	**15 48 45.3**	**-2.3**
MRSI	**Marisa**	**2.64**	**286**	P	**Pn**	**15 48 21.9**	**-2.3**
APSI	**Ampana**	**2.91**	**257**	P	**Pn**	**15 48 28.5**	**+0.7**
TNTI	**Ternate**	**3.06**	**71**		**Pn**	**15 48 32.1**	**+2.1**
GAMI	**Galela, Maluku**	**3.91**	**58**	P	**Pn**	**15 48 41.0**	**-0.6**
TOLI2	**Tolitoli**	**3.94**	**290**		**Pn**	**15 48 41.6**	**-0.4**
MPSI	**Mapaga**	**4.62**	**277**	P	**Pn**	**15 48 52.2**	**+0.9**
KKSI	**Kolaka, Sulawe**	**4.81**	**216**	P	**Pn**	**15 48 54.1**	**+0.1**
KRAI	**Karang Ratu**	**4.96**	**128**	P	**Pn**	**15 48 55.1**	**-0.9**
MSAI	**Masohi**	**5.40**	**125**	P	**Pn**	**15 49 00.3**	**-1.8**
	0.1nm373nm33nm,0.6s						
TTSI	**Tana Toraja**	**5.42**	**239**	P	**Pn**	**15 49 04.2**	**+1.9**
	0.9nm3µm176nm,0.5s						
BNSI	**Bone**	**6.00**	**227**	P	**Pn**	**15 49 10.5**	**+0.2**
	0.3nm725nm66nm,0.6s						
PMSI	**Majene**	**6.43**	**240**	P	**Pn**	**15 49 16.5**	**+0.3**
	0.4nm1µm107nm,0.8s						
BKSI	**Bulukumba**	**6.65**	**221**	P	**Pn**	**15 49 18.2**	**-1.0**
	0.2nm31nm,0.7s						
KAPI	**Kappang**	**6.68**	**225**	P	**Pn**	**15 49 21.3**	**+1.7**
	4.4nm,0.3s,baz=105,slow=2.8,SNR=15						
KAPI				S	**Sn**	**15 50 35.1**	**+0.7**
	5.3nm,0.3s,baz=279,slow=22,SNR=9.1						
KAPI				LR	LR	15 51 51.5	
	comp=Z,69nm,20.1s,baz=98,slow=37						
KAPI	**Kappang**	**6.68**	**225**		**Pn**	**15 49 20.6**	**+1.0**
KAPI	**Kappang**	**6.68**	**225**	P	**Pn**	**15 49 19.7**	**+0.1**
	0.2nm24nm,0.5s						
SIJI	**Serong**	**6.81**	**95**	P	**Pn**	**15 49 24.5**	**+3.1**
	1.8nm,0.3s,baz=211,slow=23,SNR=9.3						
MKS	**Makassar**	**7.02**	**225**	P	**Pn**	**15 49 24.5**	**+0.2**
DAV	**Davao City (W)**	**7.36**	**9**	LR	LR	15 52 20.5	
	comp=Z,233nm,21.8s,baz=279,slow=38						
FAKI	**Fak Fak**	**8.20**	**109**	Pn	**Pn**	**15 49 39.7**	**-0.7**
BATI	**Baumata**	**9.92**	**185**	LR	LR	15 53 34.0	
	comp=Z,158nm,21.5s,baz=141,slow=35						
PTKI	**Pontianak**	**15.08**	**270**	P	P	15 51 31.2	+14
KNRA	**Kununurra**	**15.90**	**165**		**P**	**15 51 26.7**	**0.0**
KNRA				IAmb	IAmb	15 51 28.0	
	comp=Z,21nm,1.3s						
LEM	**Lembang**	**18.04**	**248**	LR	LR	15 58 29.8	
	comp=Z,88nm,19.6s,baz=44,slow=36						
WRA	**Warramunga Arr**	**21.82**	**154**	P	**P**	**15 52 31.1**	**-0.4**
	comp=Z,4.9nm,0.7s,baz=336,slow=12,SNR=29						
WB2	**Warramunga Arr**	**21.82**	**154**	P	**P**	**15 52 31.5**	**0.0**
WB2				IAmb	IAmb	15 52 37.3	
	comp=Z,18nm,1.2s						
WR0	**Warramunga Arr**	**21.92**	**154**	P	**P**	**15 52 32.4**	**-0.2**
TPUB	**Ta-pu**	**23.71**	**351**	P	**P**	**15 52 50.2**	**-0.5**
AS31	**Alice Springs**	**25.00**	**159**	P	**P**	**15 53 04.2**	**+1.7**
ASAR	**Alice Springs**	**25.01**	**159**	P	**P**	**15 53 03.5**	**+1.0**
	comp=Z,1.7nm,1.0s,baz=340,slow=7.4,SNR=15						
ASAR				PcP	**PcP**	**15 56 37.8**	**+1.4**
	comp=Z,0.8nm,0.4s,baz=352,slow=2.0,SNR=20						
ASAR	**Alice Springs**	**25.01**	**159**	P	**P**	**15 53 03.4**	**+0.9**
PSI	**Prapat**	**25.73**	**277**	LR	LR	16 03 07.5	
	comp=Z,135nm,18.6s,baz=270,slow=36						
JOW	**Kunigami**	**27.18**	**7**	LR	LR	16 04 45.3	
	comp=Z,77nm,20.6s,baz=274,slow=38						
CMAR	**Chiang Mai Arr**	**31.23**	**308**	P	**P**	**15 53 59.4**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=138,slow=7.1,SNR=10						
CMAR				PcP	**PcP**	**15 56 53.0**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=170,slow=1.6,SNR=8.0						
CMAR				LR	LR	16 06 48.0	
	comp=Z,28nm,20.8s,baz=125,slow=37						
CMAR	**Chiang Mai Arr**	**31.23**	**308**	P	**P**	**15 53 57.5**	**-0.7**
CHTO	**Chiang Mai**	**31.43**	**308**	P	**P**	**15 53 57.6**	**-2.3**
CHTO				IAmb	IAmb	15 54 01.4	
	comp=Z,3.7nm,0.8s						
STKA	**Stephens Creek**	**35.37**	**154**	P	**P**	**15 54 35.3**	**+1.3**
	comp=Z,1.4nm,0.9s,baz=345,slow=16,SNR=2.0						
STKA	**Stephens Creek**	**35.37**	**154**	P	**P**	**15 54 33.2**	**-0.8**
JWT	**Wachi**	**36.80**	**15**	P	**P**	**15 54 46.3**	**+0.2**
KSRS	**Korea Array**	**37.66**	**4**	P	**P**	**15 54 54.8**	**+1.5**
	comp=Z,0.8nm,0.6s,baz=174,slow=9.9,SNR=3.1						
MJAR	**Matsushiro Arr**	**38.77**	**18**	P	**P**	**15 55 01.9**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=196,slow=11,SNR=2.8						
USA0B	**Ussuriysk Arra**	**44.76**	**8**	P	**P**	**15 55 50.5**	**-1.1**
USA0B				IAmb	IAmb	15 56 04.3	
	comp=Z,6.1nm,0.8s						
USRK	**Ussuriysk Ar.**	**44.76**	**8**	P	**P**	**15 55 52.5**	**+1.0**
	comp=Z,1.9nm,0.4s,baz=194,slow=7.0,SNR=14						
USRK	**Ussuriysk Ar.**	**44.76**	**8**	P	**P**	**15 55 50.5**	**-1.1**
SONM	**Songino Array**	**50.42**	**344**	P	**P**	**15 56 35.4**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=157,slow=7.9,SNR=11						
SONM	**Songino Array**	**50.42**	**344**	P	**P**	**15 56 35.6**	**+0.1**
SONM				IAmb	IAmb	15 56 37.8	
	comp=Z,3.2nm,1.0s						
MK31	**Makanchi Array**	**59.61**	**328**	P	**P**	**15 57 39.9**	**-2.0**
MK31				IAmb	IAmb	15 57 43.0	
	comp=Z,2.5nm,0.7s						
MKAR	**Makanchi Array**	**59.61**	**328**	P	**P**	**15 57 40.9**	**-1.0**
	comp=Z,2.6nm,0.6s,baz=119,slow=8.2,SNR=22						
MKAR				PcP	**PcP**	**15 58 27.4**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=126,slow=5.4,SNR=2.2						
MAKZ	**Makanchi**	**59.79**	**328**	P	**P**	**15 57 41.9**	**-1.2**
MAKZ				IAmb	IAmb	15 57 52.5	
	comp=Z,6.1nm,1.2s						
KDJ	**Kajisay**	**59.90**	**321**	P	**P**	**15 57 42.1**	**-2.0**
KDJ				IAmb	IAmb	15 57 46.3	
	comp=Z,2.9nm,0.8s						
PETK	**Petropavlovsk-**	**59.94**	**22**	P	**P**	**15 57 45.2**	**+1.3**
	comp=Z,1.2nm,0.5s,baz=207,slow=4.3,SNR=7.4						
PETK	**Petropavlovsk-**	**59.94**	**22**	P	**P**	**15 57 44.3**	**+0.4**
YAK	**Yakutsk**	**62.25**	**3**	P	**P**	**15 57 59.4**	**+0.1**
	comp=Z,4.7nm,0.6s,baz=210,slow=1.3,SNR=2.2						
YAK	**Yakutsk**	**62.25**	**3**	P	**P**	**15 57 59.6**	**+0.3**
ZALV	**Zalesovo Beam**	**63.16**	**335**	P	**P**	**15 58 03.5**	**-2.0**
	comp=Z,0.7nm,0.4s,baz=136,slow=5.1,SNR=4.3						
AKTO	**Aktyubinsk**	**75.41**	**323**	P	**P**	**15 59 20.4**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=112,slow=9.1,SNR=7.0						
ARU	**Arti**	**77.11**	**329**	P	**P**	**15 59 29.6**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=10,slow=11,SNR=3.2						
QSPA	**South Pole Qui**	**89.68**	**180**	P	**P**	**16 00 36.8**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=248,slow=1.0,SNR=7.4						
QSPA	**South Pole Qui**	**89.68**	**180**	P	**P**	**16 00 35.2**	**-0.2**
ARCES	**ARCESS Array B**	**93.38**	**340**	P	**P**	**16 00 53.5**	**+1.2**
	comp=Z,5.1nm,1.1s,baz=114,slow=2.9,SNR=4.8						
TORD	**Torodi Ar. Bea**	**121.90**	**285**	PKP	**PKPdf**	**16 06 32.7**	**0.0**
	comp=Z,0.4nm,0.6s,baz=89,slow=1.

SVRC	**Sivrice-ELAZID**	**0.64**	**66**	PG	**Pb**	**15 51 08.8**	**-1.1**
SVRC				SG	**Sb**	**15 51 18.4**	**-0.8**
URFA	**Urfa**	**0.71**	**163**	PG	**Pg**	**15 51 10.1**	**+0.3**
URFA				SG	**Sg**	**15 51 19.7**	**+0.7**
HEKM	**Malatya_Hekimh**	**0.89**	**328**	*i* P	**Pg**	**15 51 12.7**	**-0.6**
HEKM				*i* S	**Sg**	**15 51 25.4**	**+0.5**
DARE	**Darende-Malaty**	**0.96**	**298**	PG	**Pg**	**15 51 13.9**	**-0.7**
DARE				SG	**Sb**	**15 51 28.6**	**+0.1**
ARPR	**Arapgir-MALATY**	**0.99**	**350**	PG	**Pg**	**15 51 14.9**	**-0.2**
ARPR				SG	**Sb**	**15 51 29.8**	**+0.6**
SANL	**SANLIURFA_Merk**	**1.01**	**160**	*i* P	**Pg**	**15 51 15.5**	**0.0**
SANL				*i* S	**Sb**	**15 51 29.3**	**-0.3**
GZT	**Gaziantep**	**1.10**	**226**	*i* P	**Pg**	**15 51 16.8**	**-0.5**
GZT				*i* S	**Sg**	**15 51 32.5**	**+0.9**
KOVA	**Elazig, Kovanc**	**1.14**	**59**	*i* P	**Pg**	**15 51 17.7**	**-0.3**
KOVA				*i* S	**Sn**	**15 51 34.2**	**-0.8**
KEMA	**Kemaliye**	**1.15**	**357**	*i* P	**Pg**	**15 51 16.5**	**-1.6**
KEMA				*i* S	**Sg**	**15 51 33.1**	**+0.1**
ELBS	**KAHRAMANMARAS**	**1.15**	**281**	*i* P	**Pg**	**15 51 16.5**	**-1.6**
CUGUR	**Gurin_SVAS**	**1.18**	**301**	*i* P	**Pg**	**15 51 16.5**	**-2.3**
CUGUR				*i* S	**Sb**	**15 51 35.8**	**+1.0**
SURC	**SANLIURFA_SURC**	**1.24**	**178**	*i* P	**Pn**	**15 51 20.1**	**-0.1**
SURC				*i* S	**Sg**	**15 51 36.1**	**+0.1**
DIYA	**Diyarbakir**	**1.24**	**99**	*i* P	**Pn**	**15 51 19.9**	**-0.4**
DIYA				*i* S	**Sn**	**15 51 38.3**	**+0.9**
REFA	**Refahiye_ERZN**	**1.28**	**7**	*i* P	Pg	15 51 28.9	+8.2
REFA				*i* S	Sn	15 51 51.9	+13
ILIC	**ilic-Erzincan**	**1.33**	**0**	PN	**Pg**	**15 51 22.1**	**+0.5**
KHMN	**Narli-Kahraman**	**1.33**	**237**	PN	**Pn**	**15 51 21.7**	**+0.2**
KHMN				SN	**Sn**	**15 51 40.9**	**+1.3**
KAHM	**Kahramanmaras,**	**1.39**	**245**	*i* P	**Pn**	**15 51 21.7**	**-0.5**
KAHM				*i* S	**Sb**	**15 51 40.8**	**+0.2**
GAZ	**Gaziantep**	**1.43**	**229**	PN	**Pn**	**15 51 23.3**	**+0.4**
GAZ				SN	**Sg**	**15 51 43.5**	**+1.3**
KMRS	**Kahramanmaras**	**1.46**	**245**	PN	**Pn**	**15 51 23.3**	**+0.1**
CUKAN	**kangal_SIVAS**	**1.47**	**325**	*i* P	**Pn**	**15 51 22.5**	**-1.0**
HANI	**Diyarbakir_Han**	**1.47**	**78**	*i* P	**Pb**	**15 51 23.5**	**-0.5**
HANI				*i* S	**Sg**	**15 51 44.7**	**+1.3**
HCB	**Kahramanmara**	**1.53**	**240**	*i* P	**Pn**	**15 51 23.6**	**-0.6**
HCB				*i* S	**Sn**	**15 51 44.1**	**-0.3**
MAZI	**Mazidag**	**1.63**	**113**	PN	**Pb**	**15 51 26.2**	**-0.6**
SARI	**SarD1z-Kayseri**	**1.71**	**280**	PN	**Pb**	**15 51 28.1**	**-0.1**
ERZN	**Erzincan**	**1.72**	**31**	PN	**Pb**	**15 51 27.3**	**-1.0**
KAMA	**Osmaniye**	**1.77**	**239**	*i* P	**Pn**	**15 51 26.0**	**-1.6**
KUZU	**Kuzuini**	**1.79**	**222**	*i* P	**Pn**	**15 51 26.6**	**-1.2**
EUZM	**Uzumlu**	**1.81**	**29**	*i* P	**Pb**	**15 51 29.0**	**-0.9**
ANDN	**Andirin**	**1.84**	**254**	*i* P	**Pn**	**15 51 28.5**	**0.0**
CUZAR	**Zara_SIVAS**	**1.87**	**341**	*i* P	**Pb**	**15 51 30.8**	**-0.1**
CUZAR				*i* S	**Sb**	**15 51 55.0**	**+0.4**
BNGB	**Bingl**	**1.87**	**62**	PN	**Pb**	**15 51 30.1**	**-0.8**
MARD	**Mardin**	**1.93**	**114**	*i* P	**Pn**	**15 51 29.4**	**-0.4**
MARD				*i* S	**Sn**	**15 51 53.3**	**-1.2**
YEDI	**Yedisu-Bingol**	**2.03**	**49**	PN	**Pb**	**15 51 32.3**	**-1.3**
SCER	**sogukcermik**	**2.07**	**328**	*i* P	**Pb**	**15 51 33.6**	**-0.6**
SCER				*i* S	**Sb**	**15 52 00.6**	**+0.4**
KELT	**Kelkit**	**2.09**	**15**	*i* P	**Pb**	**15 51 33.5**	**-1.2**
KELT				*i* S	**Sb**	**15 51 59.7**	**-1.4**
SUSE	**Susehri**	**2.10**	**352**	*i* P	**Pb**	**15 51 34.5**	**-0.3**
SUSE				*i* S	**Sb**	**15 52 00.8**	**-0.6**
BTMN	**Batman**	**2.15**	**95**	*i* P	**Pn**	**15 51 33.1**	**+0.4**
SVSK	**Karacayir**	**2.17**	**326**	PN	**Pn**	**15 51 34.3**	**+1.4**
ALUC	**Giresun/Alucra**	**2.23**	**4**	*i* P	**Pb**	**15 51 35.9**	**-1.0**
CUSAR	**Sarkisla-SIVAS**	**2.23**	**306**	*i* P	**Pb**	**15 51 35.9**	**-1.1**
BNN	**Bunyan**	**2.25**	**290**	PN	**Pn**	**15 51 35.4**	**+1.2**
KARO	**Karliova-Bingo**	**2.27**	**58**	PN	**Pn**	**15 51 35.5**	**+0.9**
MUSM	**Mu-Merkez**	**2.39**	**75**	*i* P	**Pn**	**15 51 36.9**	**+0.8**
RSDY	**Resadiye-TOKAT**	**2.47**	**337**	PN	**Pn**	**15 51 38.8**	**+1.7**
YAHY	**KAYSERI_Yahyal**	**2.53**	**270**	*i* P	**Pn**	**15 51 38.8**	**+0.8**
BAYT	**Aydıntepe-Bayb**	**2.58**	**28**	PN	**Pn**	**15 51 40.2**	**+1.5**
TAHT	**Tahtakopru-Hat**	**2.58**	**228**	PN	**Pn**	**15 51 39.4**	**+0.8**
TOKT	**Tokat**	**2.70**	**325**	PN	**Pn**	**15 51 41.7**	**+1.4**
GURO	**Guroymak-BITLI**	**2.76**	**80**	PN	**Pn**	**15 51 42.6**	**+1.4**
YAYL	**Yayladag**	**2.87**	**224**	PN	**Pn**	**15 51 43.2**	**+0.6**
CMRD	**Camardi-Nigde**	**2.87**	**262**	PN	**Pn**	**15 51 43.5**	**+0.9**
YOZ	**Yozgat**	**2.95**	**302**	PN	**Pn**	**15 51 45.2**	**+1.4**
SIRT	**Sirnak**	**3.13**	**100**	PN	**Pn**	**15 51 47.9**	**+1.7**
KOPR	**Koprukoy-ERZUR**	**3.17**	**53**	PN	**Pn**	**15 51 48.3**	**+1.5**
MERS	**Mersin**	**3.45**	**250**	PN	**Pn**	**15 51 51.7**	**+1.1**
AKDM	**Akdamar-Van**	**3.48**	**85**	PN	**Pn**	**15 51 53.2**	**+2.0**

*IDC **11** 15:51:31.6±5.0,33°.64S×178°.49W,h0km,mb4.1/3,*
mb1 4.3/3,mb1mx3.8/42,mbtmp4.1/3,Error ellipse:
s-maj=210.8km s-min=60.9km az=166.0
*WEL **11** 15:52:09.2±0.6,32°.S±4°×17°.9E±°,h33km,M4.4/16,*
mB5.0/16,ML4.8/24,MLv4.6/16,Mw(mB)4.3/16,Error
ellipse: s-maj=0.0km s-min=0.0km az=110.0

ISC 11 15:52:08.1±1.2,32°.76S±0°.08×179°.9E±0°.2,h250km,n46,
σ2s83/73,mb3.7/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.96**	**29**	S	**S**	**15 53 55.3**	**-6.5**
MXZ	**Matakaoa Point**	**4.96**	**195**	P	**Pn**	**15 53 25.8**	**+2.5**
MXZ				S	**S**	**15 54 25.5**	**+2.1**
WMGZ	**Waiomatatini S**	**5.19**	**193**	P	**Pn**	**15 53 29.0**	**+2.9**
WMGZ				S	**S**	**15 54 30.0**	**+1.6**
HAZ	**Te Kaha**	**5.27**	**198**	P	**Pn**	**15 53 29.0**	**+1.9**
HAZ				S	**S**	**15 54 33.0**	**+2.8**
PKGZ	**Pakihiroa**	**5.33**	**196**	P	**Pn**	**15 53 28.6**	**+0.7**
PKGZ				S	**S**	**15 54 31.7**	**+0.2**
PUZ	**Puketiti**	**5.46**	**194**	P	**Pn**	**15 53 30.5**	**+1.0**
PUZ				S	**S**	**15 54 35.8**	**+1.2**
RUGZ	**Raukumara Rang**	**5.50**	**199**	P	**Pn**	**15 53 30.1**	**+0.5**
RUGZ				S	**S**	**15 54 35.3**	**-0.1**
TWGZ	**Tauwhareparae**	**5.62**	**196**	P	**Pn**	**15 53 35.4**	**+3.9**
TWGZ				S	**S**	**15 54 42.6**	**+4.4**
CNGZ	**Carnagh Statio**	**5.87**	**193**	P	**Pn**	**15 53 34.6**	**+0.1**
CNGZ				S	**S**	**15 54 38.2**	**-5.5**
TOZ	**Tahuroa Road**	**6.12**	**215**	P	Pn	15 53 43.7	+6.1
MUGZ	**Murupara**	**6.24**	**203**	P	**Pn**	**15 53 40.9**	**+1.8**
MUGZ				S	**S**	**15 54 53.2**	**+1.1**
RTZ	**Ruatahuna**	**6.30**	**201**	P	**Pn**	**15 53 39.7**	**-0.3**
SNGZ	**Shannon Statio**	**6.36**	**198**	P	**Pn**	**15 53 42.7**	**+2.1**
SNGZ				S	**S**	**15 54 55.2**	**+0.5**
ALRZ	**Allen Road**	**6.47**	**205**	P	**Pn**	**15 53 45.7**	**+3.7**
RAHZ	**Arahi**	**6.55**	**200**	P	**Pn**	**15 53 46.4**	**+3.4**
RAHZ				S	**S**	**15 55 00.9**	**+1.7**
MTHZ	**Maungataniwha**	**6.56**	**201**	P	**Pn**	**15 53 46.5**	**+3.3**
MTHZ				S	**S**	**15 54 59.4**	**0.0**
TLZ	**Tolley Road**	**6.59**	**211**	P	Pn	15 53 49.0	+5.4
KUTZ	**Kaahu Road**	**6.61**	**209**	P	Pn	15 53 49.4	+5.7
MRHZ	**Matea Rd**	**6.68**	**204**	P	**Pn**	**15 53 47.7**	**+3.0**
MRHZ				S	**S**	**15 55 04.1**	**+1.9**
NMHZ	**Naumai**	**6.80**	**201**	P	**Pn**	**15 53 49.8**	**+3.6**
ARHZ	**Aropaoanui**	**6.90**	**199**	P	**Pn**	**15 53 50.3**	**+2.9**
ARHZ				S	**S**	**15 55 08.1**	**+1.1**
BKZ	**Black Stump Fm**	**6.96**	**202**	P	**Pn**	**15 53 49.5**	**+1.4**
BKZ				S	**S**	**15 55 09.6**	**+1.0**
MCHZ	**McNeill Hill**	**7.15**	**200**	P	**Pn**	**15 53 53.6**	**+3.0**
KWHZ	**Kaweka Forest**	**7.22**	**202**	P	**Pn**	**15 53 52.3**	**+0.9**
KWHZ				S	**S**	**15 55 14.5**	**0.0**
FWVZ	**Far West T-bar**	**7.37**	**207**	P	**Pn**	**15 53 56.6**	**+3.0**
BHHZ	**Black Hill Sta**	**7.39**	**204**	P	**Pn**	**15 53 53.4**	**-0.3**
WNVZ	**Wahianoa**	**7.42**	**207**	P	**Pn**	**15 53 55.7**	**+1.7**
PNHZ	**Pukenui**	**7.73**	**202**	P	**Pn**	**15 53 57.8**	**-0.1**
PNHZ				S	**S**	**15 55 26.2**	**-0.2**
TSZ	**Takapari Road**	**7.94**	**202**	P	**Pn**	**15 54 00.8**	**+0.2**
TSZ				S	**S**	**15 55 28.9**	**-2.2**
MRZ	**Mangatainoka R**	**8.61**	**202**	P	**Pn**	**15 54 08.2**	**-0.8**
MRZ				S	**S**	**15 55 42.1**	**-4.4**
TIWZ	**Tintock**	**8.62**	**201**	P	**Pn**	**15 54 09.2**	**+0.1**
TIWZ				S	**S**	**15 55 43.6**	**-3.3**
HOWZ	**Holdsworth Sta**	**8.84**	**202**	P	**Pn**	**15 54 11.2**	**-0.8**
HOWZ				S	**S**	**15 55 45.1**	**-7.0**
OGWZ	**Otaki Gorge**	**8.88**	**204**	P	**Pn**	**15 54 12.2**	**-0.3**
OGWZ				S	**S**	**15 55 47.2**	**-5.8**
KIW	**Kapiti Island**	**9.02**	**205**	P	**Pn**	**15 54 13.6**	**-0.5**
KIW				S	**S**	**15 55 53.5**	**-2.5**
MTW	**Mount Morrison**	**9.09**	**201**	P	**Pn**	**15 54 15.4**	**+0.5**
MTW				S	**S**	**15 55 54.5**	**-3.1**
CAW	**Cannon Point**	**9.18**	**203**	P	**Pn**	**15 54 15.0**	**-1.2**
CAW				S	**S**	**15 55 55.5**	**-4.3**
TRWZ	**Traveller**	**9.25**	**200**	P	**Pn**	**15 54 17.7**	**+0.6**
TRWZ				S	**S**	**15 55 58.7**	**-2.8**
PAWZ	**Paruwai Farm**	**9.31**	**201**	P	**Pn**	**15 54 17.4**	**-0.5**
PAWZ				S	**S**	**15 55 56.6**	**-6.3**
DUWZ	**D'Urville Isla**	**9.34**	**209**	P	**Pn**	**15 54 18.4**	**+0.2**
DUWZ				S	**S**	**15 56 00.5**	**-3.2**
WEL	**Wellington**		**9.44**	**204**	P	**Pn**	**15 54 19.3**	**-0.1**
PLWZ	**Palliser**		**9.54**	**201**	P	**Pn**	**15 54 20.2**	**-0.5**
PLWZ					S	**S**	**15 56 02.7**	**-5.5**
TUWZ	**Tuamarina**		**9.87**	**207**	P	**Pn**	**15 54 23.2**	**-1.7**
TUWZ					S	**S**	**15 56 08.2**	**-7.6**
CTA	**Charters Tower**		**32.51**	**284**	P	**P**	**15 58 18.0**	**+2.2**
	7.0nm,1.2s,baz=135,slow=10.0,SNR=3.1							
ASAR	**Alice Springs**		**41.25**	**271**	P	**P**	**15 59 30.2**	**+1.0**
	0.6nm,0.5s,baz=108,slow=7.8,SNR=20							
WRA	**Warramunga Arr**		**42.46**	**276**	P	**P**	**15 59 39.4**	**+0.5**
	1.2nm,0.3s,baz=129,slow=8.3,SNR=34							
FINES	**FINESS Array B**		**146.68**	**337**	PKPbc	**PKPdf**	**16 11 17.5**	**0.0**
	1.0nm,0.7s,baz=19,slow=6.0,SNR=2.0							

*IDC **11** 15:58:20.0±56.0,13°.48S×168°.48E,h0km,mb3.6/3,*
mb1 3.7/3,mb1mx3.5/40,mbtmp3.6/3,Error ellipse:
s-maj=946.4km s-min=70.6km az=63.0
*NOU **11** 15:58:47.4,14°.79S×167°.24E,h102km,MLv4.8/12,*
Vanuatu Islands

ISC 11 15:58:47.0±2.6,14°.8S±0°.2×167°.2E±0°.2,h100km,n13,
σ0s99/13,mb3.4/3,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.66**	**175**	P	**Pn**	**15 59 05.6**	**+1.5**
DVP	**Devils Point**	**3.09**	**161**	P	**Pn**	**15 59 35.0**	**+1.0**
KOUNC	**Koumac, New Ca**	**6.35**	**205**	P	**Pn**	**16 00 19.3**	**+1.2**
MARNC	**Mare, Loyalty**	**6.72**	**173**	P	**Pn**	**16 00 21.7**	**-1.3**
YATNC	**Mamie plateau,**	**7.24**	**182**	P	**Pn**	**16 00 29.9**	**-0.3**
DZM	**Mont Dzumac**	**7.28**	**185**	P	**Pn**	**16 00 31.0**	**+0.2**
NOUC	**Port Laguerre**	**7.33**	**186**	P	**Pn**	**16 00 31.6**	**+0.3**
ONTNC	**Ouen Toro**	**7.51**	**185**	P	**Pn**	**16 00 34.7**	**+0.8**
OUENC	**Ouen Island, N**	**7.60**	**182**	P	**Pn**	**16 00 35.2**	**+0.1**
PINNC	**Pines Island,**	**7.79**	**178**	P	**Pn**	**16 00 38.4**	**+0.7**
STKA	**Stephens Creek**	**28.87**	**229**	P	**P**	**16 04 36.7**	**+0.4**
	0.4nm,0.4s,baz=62,slow=14,SNR=4.2							
WRA	**Warramunga Arr**	**31.70**	**256**	P	**P**	**16 05 00.6**	**-0.9**
	0.4nm,0.8s,baz=82,slow=9.0,SNR=1.5							
ASAR	**Alice Springs**	**32.55**	**249**	P	**P**	**16 05 07.7**	**-1.1**
	0.4nm,0.4s,baz=75,slow=9.2,SNR=15							

*INET **11** 16:04:24.9,11°.98N×88°.29W,h20km,MW3.2*
*UCR **11** 16:04:29.9±1.0,12°.03N±88°.31W,h19km±5km,ML3.3,*
mb4.3(NEIC)
*SNET **11** 16:04:29.7±1.0,12°.04N±88°.34W,h14km±6km,ML3.4*
*NEIC **11** 16:04:33.9±2.1,12°.18N±0°.07×88°.07W±0°.06,h62km±15km,*
mb4.3/3,Error ellipse: s-maj=10.5km s-min=7.7km
az=209.0
*IDC **11** 16:04:37.8±2.8,12°.51N×88°.11W,h75km±32km,mb3.7/3,*
mb1 3.7/5,mb1mx3.3/50,mbtmp3.8/5,MS3.1/2,Ms1 3.1/2,
ms1mx2.4/45,Error ellipse: s-maj=70.0km s-min=26.1km
az=37.0

ISC 11 16:04:30.6±1.5,12°.08N±0°.06×88°.24W±0°.05,h33km±11km,
n57,σ1s40/67,mb4.2/5,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	**Jucuar¡n**	**1.17**	**360**	*eP*	**Pn**	**16 04 51.2**	**+0.4**
JUCU				*eS*	**Sb**	**16 05 08.8**	**+1.5**
JUCU				IAML		16 05 18.7	
	comp=Z,650nm,0.4s						
JUCU	**Jucuar¡n**	**1.17**	**360**	*eP*	**Pn**	**16 04 51.2**	**+0.4**
JUCU				*eS*	**Sb**	**16 05 08.8**	**+1.5**
JUCU				IAML		16 05 18.7	
	comp=Z,650nm,0.4s						
CNCH	**Conchagua**	**1.26**	**18**	*eP*	**Pn**	**16 04 53.0**	**+0.9**
CNCH	**Conchagua**	**1.26**	**18**	*eP*	**Pn**	**16 04 53.0**	**+0.9**
LCND	**La Caada**	**1.27**	**16**	*eP*	**Pn**	**16 04 53.0**	**+0.9**
LCND				*eS*	**Sb**	**16 05 11.5**	**+1.3**
LCND				IAML		16 05 21.5	
	comp=Z,756nm,0.3s						
LCND	**La Caada**	**1.27**	**16**	*eP*	**Pn**	**16 04 53.0**	**+0.9**
LCND				*eS*	**Sb**	**16 05 11.5**	**+1.3**
LCND				IAML		16 05 21.5	
	comp=Z,756nm,0.3s						
CRIN	**San Cristobal**	**1.32**	**62**	Pn	**Pb**	**16 04 54.0**	**-0.9**
CRIN				Sn	**Sn**	**16 05 08.3**	**-1.0**
LCY	**Lacayo**	**1.34**	**358**	*eP*	**Pn**	**16 04 54.3**	**+1.1**
LCY	**Lacayo**	**1.34**	**358**	*eP*	**Pn**	**16 04 54.3**	**+1.1**
VSM	**San Miguel**	**1.35**	**359**	*eP*	**Pb**	**16 04 54.5**	**-0.9**
VSM	**San Miguel**	**1.35**	**359**	*eP*	**Pb**	**16 04 54.5**	**-0.9**
BLLM	**Bellamira**	**1.36**	**0**	*eP*	**Pn**	**16 04 54.4**	**+1.1**
BLLM	**Bellamira**	**1.36**	**0**	*eP*	**Pn**	**16 04 54.4**	**+1.1**
PACA	**Pacayal**	**1.39**	**357**	*eP*	**Pb**	**16 04 55.1**	**-1.0**
PACA				IAML		16 05 17.4	
	comp=Z,204nm,0.3s						
PACA	**Pacayal**	**1.39**	**357**	*eP*	**Pb**	**16 04 55.1**	**-1.0**
PACA				IAML		16 05 17.4	
	comp=Z,204nm,0.3s						
TECA	**Tecapa**	**1.43**	**350**	*eP*	**Pn**	**16 04 55.2**	**+0.7**
TECA	**Tecapa**	**1.43**	**350**	*eP*	**Pn**	**16 04 55.2**	**+0.7**
COEB	**Comit de Eme**	**1.44**	**349**	*eP*	**Pn**	**16 04 55.5**	**+0.9**
COEB				IAML		16 05 25.5	
	comp=Z,515nm,0.3s						
COEB	**Comit de Eme**	**1.44**	**349**	*eP*	**Pn**	**16 04 55.5**	**+0.9**
COEB				IAML		16 05 25.5	
	comp=Z,515nm,0.3s						
TECO	**Alcaldia de Te**	**1.55**	**340**	*eP*	**Pn**	**16 04 56.8**	**+0.9**
TECO				*eS*	**Sb**	**16 05 17.7**	**-0.3**
CNGN	**Cerro Negro**	**1.57**	**74**	Pn	**Pb**	**16 04 58.0**	**-1.0**
SJTE	**Alcalda de S**	**1.70**	**334**	*eP*	**Pn**	**16 04 58.0**	**0.0**
SJTE				*eS*	**Sn**	**16 05 20.5**	**+1.8**
SJTE				IAML		16 05 28.8	
	comp=Z,175nm,0.4s						
SJTE	**Alcalda de S**	**1.70**	**334**	*eP*	**Pn**	**16 04 58.0**	**0.0**
SJTE				*eS*	**Sn**	**16 05 20.5**	**+1.8**
SJTE				IAML		16 05 28.8	
	comp=Z,175nm,0.4s						
LFRS	**El Faro**	**1.73**	**333**	*eP*	**Pn**	**16 04 59.2**	**+0.6**
LFRS				*eS*	**Sb**	**16 05 22.3**	**-1.1**
LFRS	**El Faro**	**1.73**	**333**	*eP*	**Pn**	**16 04 59.2**	**+0.6**
LFRS				*eS*	**Sb**	**16 05 22.3**	**-1.1**
PAVA	**Las Pavas**	**1.76**	**337**	*eP*	**Pn**	**16 04 59.9**	**+0.9**
PAVA				IAML		16 05 33.4	
	comp=Z,513nm,0.5s						
PAVA	**Las Pavas**	**1.76**	**337**	*eP*	**Pn**	**16 04 59.9**	**+0.9**
PAVA				IAML		16 05 33.4	
	comp=Z,513nm,0.5s						
TACO	**Tacachico**	**2.17**	**330**	*eP*	**Pn**	**16 05 05.8**	**+1.3**
TACO	**Tacachico**	**2.17**	**330**	*eP*	**Pn**	**16 05 05.8**	**+1.3**
TGUH	**Tegucigalpa,Un**	**2.19**	**25**	*eP*	**Pn**	**16 05 06.4**	**+1.6**
TGUH	**Tegucigalpa,Un**	**2.19**	**25**	*eP*	**Pn**	**16 05 06.4**	**+1.6**
TGUH	**Tegucigalpa,Un**	**2.19**	**25**		**Pn**	**16 05 06.4**	**+1.6**
CEVE	**Cerro Verde**	**2.20**	**322**	*eP*	**Pn**	**16 05 06.1**	**+1.0**
CEVE				IAML		16 05 45.5	
	comp=Z,606nm,0.4s						
CEVE	**Cerro Verde**	**2.20**	**322**	*eP*	**Pn**	**16 05 06.1**	**+1.0**
CEVE				IAML		16 05 45.5	
	comp=Z,606nm,0.4s						
SBLS	**San Blas**	**2.21**	**323**	*eP*	**Pn**	**16 05 06.3**	**+1.0**
SBLS	**San Blas**	**2.21**	**323**	*eP*	**Pn**	**16 05 06.3**	**+1.0**
MATN	**Matagalpa**	**2.42**	**69**	Pn	**Pn**	**16 05 08.5**	**+0.6**
MTO3	**Montecristo**	**2.55**	**335**	*eP*	**Pn**	**16 05 11.5**	**+1.5**
MTO3	**Montecristo**	**2.55**	**335**	*eP*	**Pn**	**16 05 11.5**	**+1.5**
MTO3	**Montecristo**	**2.55**	**335**	Pn	**Pn**	**16 05 11.8**	**+1.8**
MTO3				Sn	**Sb**	**16 05 44.6**	**-2.5**
ESQI	**Esquipulas**	**2.69**	**337**	Pn	**Pn**	**16 05 14.2**	**+2.4**
ORTG	**Ortega, Santa**	**3.22**	**122**	Pn	**Pn**	**16 05 20.1**	**+1.2**
ORTG				Sn	**Sn**	**16 05 54.8**	**-1.4**
JTS	**Las Juntas de**	**3.68**	**118**	P	**Pb**	**16 05 34.4**	**-0.7**
	comp=Z,2.4nm,0.3s,baz=18,slow=19,SNR=1.8						
RIMA	**Rio Macho**	**4.87**	**118**		**Pn**	**16 05 44.5**	**+2.7**
PEZE	**Perez Zeledon,**	**5.22**	**120**	Pn	**Pn**	**16 05 49.1**	**+2.6**
SRBA	**San Rafael, Bu**	**5.57**	**120**		**Pn**	**16 05 53.9**	**+2.6**
CMIG	**Matias Romero**	**8.14**	**309**	P	**Pn**	**16 06 29.5**	**+3.1**
	comp=Z,0.5nm,0.3s,baz=156,slow=0.8,SNR=3.6						
ATAH	**Atahualpa**	**21.45**	**152**	LR	LR	16 17 04.1	
	comp=Z,35nm,18.2s,baz=341,slow=34						
TXAR	**Lajitas Array**	**22.38**	**322**	P	**P**	**16 09 28.6**	**+2.3**
	comp=Z,0.7nm,0.5s,baz=146,slow=11,SNR=11						
TXAR	**Lajitas Array**	**22.38**	**322**	P	**P**	**16 09 26.2**	**-0.2**
TX31	**Lajitas Ar. Si**	**22.39**	**322**	P	**P**	**16 09 28.6**	**+2.3**
TX31				IAmb	IAmb	16 09 41.4	
	comp=Z,8.7nm,0.9s						
S39A	**Bolivar**	**25.91**	**351**	P	**P**	**16 09 58.6**	**-1.1**
S39A				IAmb	IAmb	16 10 01.4	
	comp=Z,8.8nm,0.8s						
ULM	**Lac du Bonnet**	**38.58**	**352**	P	**P**	**16 11 49.4**	**-0.9**
	comp=Z,3.3nm,0.5s,baz=169,slow=9.3,SNR=4.3						
ULM	**Lac du Bonnet**	**38.58**	**352**	P	**P**	**16 11 48.6**	**-1.6**
	comp=Z,3.7nm,0.6s			IAmb	IAmb	16 11 49.8	
SCHQ	**Schefferville**	**45.86**	**17**	P	**P**	**16 12 48.5**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=210,slow=16,SNR=2.3						
FINES	**FINESS Array B**	**90.65**	**26**	LR	LR	16 58 43.3	
	comp=Z,9.8nm,18.5s,baz=50,slow=36						
CMAR	**Chiang Mai Arr**	**148.84**	**347**	PKPbc	**PKPbc**	**16 24 15.8**	**0.0**
	comp=Z,0.4nm,0.3s,baz=344,slow=3.0,SNR=5.5						

*NORS **11** 16:07:37.9±0.0,42°.92N×43°.22E,h13km,MPVA3.4*
*TIF **11** 16:07:38.2,42°.92N×43°.22E,h10km±1km*

ISC 11 16:07:38.3±1.0,42°.91N±0°.02×43°.25E±0°.02,h11km±9km,
n18,σ1s28/35,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	**Digorskoe uzhe**	**0.25**	**93**	*i* Pg	**Pg**	**16 07 44.1**	**+0.6**
DIGR				*e*Sg	**Sg**	**16 07 47.6**	**+0.6**
ONI	**Oni**	**0.36**	**155**	P	**Pb**	**16 07 46.2**	**-0.5**
ONI				S	**Sb**	**16 07 51.6**	**-0.7**
ONI	**Oni**	**0.36**	**155**	*i* Pg	**Pb**	**16 07 46.2**	**-0.5**
ONI				*e*Sg	**Sb**	**16 07 51.7**	**-0.7**
ZEI	**Tsey**	**0.50**	**104**	*e*Pg	**Pg**	**16 07 48.0**	**0.0**
ZEI				*e*Sg	**Sg**	**16 07 55.6**	**+1.0**
NEY	**Neytrino**	**0.51**	**311**	*e*Pg	**Pg**	**16 07 48.0**	**-0.2**
NEY				*e*Sg	**Sg**	**16 07 54.3**	**-0.8**
TKB	**Tkibuli**	**0.59**	**198**	P	**Pb**	**16 07 50.3**	**-0.4**
TKB				S	**Sb**	**16 07 59.1**	**0.0**
KORR	**Kora**	**0.63**	**74**	*e*Pg	**Pb**	**16 07 52.1**	**+0.8**
KORR				*e*Sg	**Sb**	**16 08 00.8**	**+0.7**
NCK	**Nalchik**	**0.64**	**24**	*e*Pg	**Pb**	**16 07 52.0**	**+0.5**
NCK				*e*Sg	**Sb**	**16 08 00.7**	**+0.4**
LACR	**Lac**	**0.78**	**96**	*i* Pg	**Pb**	**16 07 54.1**	**+0.2**
LACR				*e*Sg	**Sb**	**16 08 04.7**	**+0.2**
CHVG	**Ch'k'valeri**	**0.88**	**257**	P	**Pb**	**16 07 55.2**	**-0.3**
CHVG				S	**Sb**	**16 08 06.8**	**-0.5**
SHA1	**Shidzhatmaz**	**0.93**	**333**	*i* Pg	**Pb**	**16 07 56.3**	**-0.2**
SHA1				*e*Sg	**Sb**	**16 08 08.2**	**-0.8**
GUDG	**Gudauri**	**1.01**	**116**	P	**Pg**	**16 07 53.6**	**-4.2**
GUDG				S	**Sg**	**16 08 06.7**	**-4.3**
PNSH	**Pansheti**	**1.05**	**105**	P	**Pn**	**16 07 59.5**	**+0.5**
PNSH				S	**Sn**	**16 08 13.6**	**-0.2**
BKRG	**Bakuriani**	**1.17**	**170**	P	**Pg**	**16 08 01.1**	**+0.3**
BKRG				S	**Sn**	**16 08 17.9**	**+1.0**
ABS	**Abastumani**	**1.20**	**196**	P	**Pg**	**16 08 01.3**	**-0.1**
ABS				S	**Sn**	**16 08 18.2**	**+0.6**
AKH	**Akhalkalaki**	**1.51**	**173**	P	**Pg**	**16 08 07.2**	**-0.1**
AKH				S	**Sg**	**16 08 28.1**	**+1.1**
TRLG	**Trialeti**	**1.51**	**155**	P	**Pg**	**16 08 08.0**	**+0.7**
TRLG				S	**Sg**	**16 08 29.1**	**+2.1**
DGRG	**David-gareji**	**2.15**	**132**	P	**Pg**	**16 08 19.5**	**-0.1**

**MEX 11 16:09:09.9±0.

KS20	**Mayfield South**	**0.31**	**47**	Pg	Pg	16 39 23.3	+0.1
OK032	**Salt Plains WL**	**0.37**	**234**	Pg	Pg	16 39 24.3	-0.1
CROK	**Carrier**	**0.53**	**193**	Pg	Pg	16 39 27.4	0.0
BLOK	**Blackwell**	**0.56**	**117**	Pg	Pg	16 39 28.1	0.0
T35A	**Sooner Cattle**	**1.06**	**95**	Pg	Pg	16 39 36.3	-1.3
QUOK	**Quay**	**1.24**	**133**	Pg	Pb	16 39 40.4	-0.6
OK029	**Liberty Lake**	**1.26**	**166**	Pn	Pn	16 39 39.8	-1.5
OK031	**S. Brethren Rd**	**1.33**	**143**	Pn	Pn	16 39 40.9	-1.4
R32A	**Long Quarter,**	**1.56**	**334**	Pn	Pn	16 39 45.6	+0.2
FNO	**Franklin**	**1.80**	**169**	Pn	Pn	16 39 47.7	-0.9
KSU1	**Kansas State U**	**2.29**	**25**	Pn	Pn	16 39 55.0	-0.5
KSU1	comp=Z,12nm,0.8s			IAmb_Lg		16 40 32.1	
WMOK	**Wichita Mounta**	**2.41**	**199**	Pn	Pn	16 39 58.5	+1.5
HHAR	**Hobbs**	**3.22**	**102**	Pn	Pn	16 40 08.9	+0.7
S39A	**Bolivar**	**3.66**	**78**	IAmb_Lg		16 41 13.6	
	comp=Z,6.2nm,1.0s						
W39A	**Magazine**	**3.75**	**118**	IAmb_Lg		16 41 24.6	
	comp=Z,9.5nm,0.8s						
AMTX	**Amarillo**	**3.78**	**237**	IAmb_Lg		16 41 27.0	
	comp=Z,11nm,0.8s						
MIAR	**Mount Ida**	**4.25**	**124**	IAmb_Lg		16 41 35.2	
	comp=Z,9.1nm,1.0s						
P38A	**Dawn**	**4.27**	**51**	IAmb_Lg		16 41 44.3	
	comp=Z,7.2nm,0.9s						
OGNE	**Ogallala**	**5.10**	**321**	IAmb_Lg		16 42 02.7	
	comp=Z,10.0nm,0.7s						
T25A	**Trinidad**	**5.26**	**273**	IAmb_Lg		16 42 10.1	
	comp=Z,5.3nm,1.1s						
PBMO	**Poplar Bluff**	**5.94**	**90**	IAmb_Lg		16 42 25.7	
	comp=Z,5.9nm,0.9s						

MEX 11 16:45:53.0±0.5, 14°49N×93°20W, h53km±111km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.20**	**359**	*i* P	Pn	16 46 12.0	-1.6

*NOU **11** 17:08:00.9, 40°.85S×171°.68E, h0km, MLv3.9/7, Off W. Coast of S. Island, N.Z.*
*WEL **11** 17:08:04.7, 41°.5±.7×17°.2E±1°.3, h51km±24km, M3.3/19, ML3.7/36, MLv3.3/19, Error ellipse: s-maj=0.0km s-min=0.0km az=78.0*
ISC 11 17:08:01.2±1.2, 40°.92S±0°.04×171°.86E±0°.05, h9km, n58, σ0s85/60, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**1.15**	**137**	P	**Pb**	**17 08 23.0**	**-0.4**
THZ				S	**Sg**	**17 08 38.5**	**+0.1**
NNZ	**Nelson**	**1.19**	**105**	P	**Pb**	**17 08 23.5**	**-0.3**
NNZ				S	**Sb**	**17 08 39.5**	**+0.2**
DUWZ	**D'Urville Isla**	**1.57**	**86**	P	**Pn**	**17 08 28.7**	**-0.6**
TUWZ	**Tuamarina**	**1.65**	**109**	P	**Pb**	**17 08 31.3**	**-0.5**
BSWZ	**Blackbirch Sta**	**1.71**	**118**	P	**Pb**	**17 08 33.1**	**+0.3**
INZ	**Inchbonnie**	**1.83**	**190**	P	**Pn**	**17 08 33.9**	**+1.0**
TCW	**Tory Channel**	**1.85**	**100**	P	**Pn**	**17 08 34.1**	**+1.0**
LTZ	**Lake Taylor**	**1.89**	**171**	P	**Pn**	**17 08 34.0**	**+0.3**
KHZ	**Kahutara**	**1.95**	**141**	P	**Pb**	**17 08 36.0**	**-0.9**
GVZ	**Greta Valley S**	**2.23**	**157**	P	**Pn**	**17 08 38.6**	**+0.3**
WVZ	**Waitaha Valley**	**2.31**	**201**	P	**Pn**	**17 08 41.1**	**+1.7**
KHEZ	**Kahui Hut**	**2.31**	**46**	P	**Pn**	**17 08 40.1**	**+0.5**
AMCZ	**Amberley**	**2.33**	**166**	P	**Pg**	**17 08 45.2**	**-0.7**
PREZ	**Palmer Road**	**2.36**	**49**	P	**Pn**	**17 08 41.0**	**+0.8**
PKE	**Pukeiti**	**2.37**	**44**	P	**Pn**	**17 08 40.5**	**+0.2**
OXZ	**Oxford**	**2.41**	**177**	P	**Pn**	**17 08 40.8**	**0.0**
CAW	**Cannon Point**	**2.43**	**95**	P	**Pn**	**17 08 42.3**	**+1.2**
DREZ	**Durham Road**	**2.49**	**47**	P	**Pn**	**17 08 42.3**	**+0.4**
OGWZ	**Otaki Gorge**	**2.51**	**89**	P	**Pn**	**17 08 43.5**	**+1.3**
MHCZ	**Mount Hutt**	**2.62**	**185**	P	**Pn**	**17 08 44.1**	**+0.3**
MHEZ	**Mangahewa**	**2.64**	**47**	P	**Pn**	**17 08 44.6**	**+0.6**
PLWZ	**Palliser**	**2.64**	**105**	P	**Pn**	**17 08 45.5**	**+1.5**
GCSZ	**Gaunt Creek Bo**	**2.66**	**205**	P	**Pn**	**17 08 48.5**	**-0.4**
WAZ	**Wanganui**	**2.66**	**65**	P	**Pn**	**17 08 44.9**	**+0.7**
PAWZ	**Paruwai Farm**	**2.73**	**101**	P	**Pb**	**17 08 48.9**	**-1.3**
MTW	**Mount Morrison**	**2.76**	**96**	P	**Pn**	**17 08 47.0**	**+1.3**
HOWZ	**Holdsworth Sta**	**2.77**	**91**	P	**Pb**	**17 08 52.2**	**+1.3**
MRZ	**Mangatainoka R**	**2.83**	**86**	P	**Pn**	**17 08 51.5**	**-0.4**
MQZ	**McQueen's Vall**	**2.85**	**168**	P	**Pn**	**17 08 46.1**	**-0.7**
VRZ	**Vera Road**	**2.85**	**52**	P	**Pn**	**17 08 47.0**	**+0.1**
RPZ	**Rata Peaks**	**2.86**	**192**	P	**Pn**	**17 08 48.2**	**+1.2**
FOZ	**Fox Glacier**	**3.02**	**210**	P	**Pn**	**17 08 50.2**	**+1.0**
ARCZ	**Arundel**	**3.07**	**189**	P	**Pn**	**17 08 50.1**	**+0.2**
TSZ	**Takapari Road**	**3.24**	**76**	P	**Pn**	**17 08 53.0**	**+0.7**
WNVZ	**Wahianoa**	**3.27**	**62**	P	**Pn**	**17 08 53.4**	**+0.5**
WHVZ	**Whangaehu Hut**	**3.29**	**61**	P	**Pn**	**17 08 54.1**	**+0.9**
TWVZ	**Taurewa**	**3.31**	**57**	P	**Pn**	**17 08 53.3**	**0.0**
HIZ	**Hauiti**	**3.33**	**45**	P	**Pn**	**17 08 53.2**	**-0.3**
MOVZ	**Moawhango**	**3.34**	**64**	P	**Pn**	**17 08 54.3**	**+0.7**
NGZ	**Ngauruhoe**	**3.36**	**60**	P	**Pn**	**17 08 54.7**	**+0.7**
WTVZ	**West Tongariro**	**3.38**	**59**	P	**Pn**	**17 08 54.8**	**+0.6**
TMZ	**Timaru**	**3.52**	**190**	P	**Pn**	**17 08 56.2**	**+0.1**
KRHZ	**Kereru**	**3.67**	**71**	P	**Pb**	**17 09 05.5**	**-0.9**
JCZ	**Jackson Bay**	**3.89**	**215**	P	**Pn**	**17 09 03.3**	**+2.1**
BKZ	**Black Stump Fm**	**3.96**	**65**	P	**Pn**	**17 09 03.2**	**+1.0**
ODZ	**Otahua Downs**	**4.22**	**192**	P	**Pn**	**17 09 05.5**	**-0.2**
TOZ	**Tahuroa Road**	**4.25**	**43**	P	**Pn**	**17 09 06.0**	**-0.2**
AWAZ	**Awhitu Peninsu**	**4.42**	**30**	P	**Pn**	**17 09 08.2**	**-0.1**
WTAZ	**Waiatarua**	**4.51**	**29**	P	**Pn**	**17 09 10.2**	**+0.6**
MKAZ	**Moumakai**	**4.59**	**35**	P	**Pn**	**17 09 11.2**	**+0.4**
ETAZ	**East Tamaki Re**	**4.62**	**32**	P	**Pn**	**17 09 11.6**	**+0.3**
RVAZ	**Riverhead Bore**	**4.65**	**28**	P	**Pn**	**17 09 11.8**	**+0.2**
MBAZ	**Motutapu North**	**4.77**	**31**	P	**Pn**	**17 09 13.8**	**+0.6**
WIAZ	**Waiheke Island**	**4.85**	**33**	P	**Pn**	**17 09 14.8**	**+0.5**
MWZ	**Matawai**	**5.08**	**61**	P	**Pn**	**17 09 20.1**	**+2.6**
KUZ	**Kuaotunu**	**5.14**	**37**	P	**Pn**	**17 09 18.3**	**-0.1**
WCZ	**Waipu Caves**	**5.34**	**22**	P	**Pn**	**17 09 21.0**	**-0.1**
OUZ	**Omahuta**	**5.85**	**14**	P	**Pn**	**17 09 28.5**	**+0.4**

*JMA **11** 17:21:09.6±0.3, 24°.85N×122°.65E, h37km, M2.0*
*TAP **11** 17:21:10.4, 24°.87N×122°.63E, h9km±1km, ML2.5, D*
ISC 11 17:21:09.3±1.2, 24°.89N±0°.06×122°.68E±0°.03, h25km±12km, n43, σ0s82/56, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.49**	**151**	P	**Pb**	**17 21 19.9**	**+0.4**
JYNG				S	**Sb**	**17 21 25.8**	**-0.5**
YOJ	**Yonaguni jima**	**0.52**	**145**	P	**Pb**	**17 21 20.4**	**+0.6**
YOJ				S	**Sb**	**17 21 27.3**	**+0.3**
YOJ	**Yonaguni jima**	**0.52**	**145**	*i* P	**Pb**	**17 21 20.5**	**+0.6**
	baz=139						
YOJ				S	**Sb**	**17 21 27.5**	**+0.5**
	baz=139						
TWB1	**Santiao Chiao**	**0.64**	**281**	*e*P	**Pb**	**17 21 21.6**	**-0.3**
	baz=283						
NTC	**Toucheng**	**0.78**	**268**	*e*P	**Pb**	**17 21 23.4**	**-0.7**
	baz=268						
TIPB	**Shuangxi**	**0.78**	**276**	P	**Pb**	**17 21 24.3**	**-0.1**
	baz=278						
TWC	**Suao**	**0.81**	**250**	*i* P	**Pb**	**17 21 24.6**	**-0.1**
	baz=249						
NWF	**Wu-fen Shan**	**0.84**	**283**	*e*P	**Pb**	**17 21 25.4**	**+0.1**
	baz=284						
WFSB	**Wu-fen Shan**	**0.84**	**283**	*e*P	**Pb**	**17 21 25.2**	**-0.1**
	baz=284						
NDS	**Dongshan**	**0.91**	**254**	*e*P	**Pb**	**17 21 26.0**	**-0.6**
	baz=254						
EWUT	**Wuta**	**0.93**	**242**	P	**Pb**	**17 21 26.7**	**-0.1**
	baz=241						
EWUT				*e*S	**Sb**	**17 21 37.7**	**-1.1**
	baz=241						
TWE	**Neicheng**	**0.94**	**260**	P	**Pb**	**17 21 26.7**	**-0.3**
	baz=260						
TWE				*e*S	**Sn**	**17 21 39.4**	**-0.1**
	baz=260						
ENA	**Nanau**	**0.97**	**242**	*e*P	**Pb**	**17 21 26.9**	**-0.6**
	baz=241						
ENA				*e*S	**Sn**	**17 21 40.0**	**-0.4**
	baz=241						
YM08	**YM08**	**1.04**	**287**	*e*P	**Pb**	**17 21 29.3**	**+0.6**
	baz=288						
YM01	**YM01**	**1.04**	**285**	*e*P	**Pn**	**17 21 28.7**	**+0.3**
	baz=286						
ENTT	**Nioudou**	**1.04**	**257**	*e*P	**Pb**	**17 21 28.9**	**+0.1**
	baz=256						
NWLT	**Wulai**	**1.08**	**264**	*e*P	**Pb**	**17 21 29.4**	**+0.1**
	baz=264						
IRIF	**Iriomote-Funau**	**1.10**	**120**	P	**Pn**	**17 21 28.9**	**-0.2**
IRIF				*e*S	**Sb**	**17 21 44.1**	**+0.5**
NDT	**Datong Townshi**	**1.10**	**255**	*e*P	**Pb**	**17 21 30.5**	**+0.8**
	baz=255						
YHNB	**Yeheng**	**1.21**	**260**	*e*P	**Pb**	**17 21 31.7**	**+0.1**
	baz=260						
NACB	**Ninganchiao**	**1.22**	**235**	P	**Pb**	**17 21 31.8**	**0.0**
	baz=233						
NACB				*e*S	**Sb**	**17 21 47.0**	**-0.1**
	baz=233						
NSK	**Sanguang**	**1.22**	**260**	*e*P	**Pb**	**17 21 32.1**	**+0.3**
	baz=260						
NNSB	**Datong**	**1.27**	**249**	*e*P	**Pb**	**17 21 33.0**	**+0.4**
	baz=248						
NNS	**Nan Shan**	**1.27**	**250**	*e*P	**Pb**	**17 21 33.5**	**+0.8**
	baz=249						
ETLH	**Xiulin Townshi**	**1.28**	**239**	*e*P	**Pb**	**17 21 33.3**	**+0.4**
	baz=237						
HATJ	**Hateruma jima**	**1.31**	**129**	P	**Pn**	**17 21 31.8**	**-0.3**
JKRS	**Kuro-shima**	**1.37**	**118**	P	**Pn**	**17 21 33.3**	**+0.5**
JKRS				S	**Sn**	**17 21 48.6**	**-1.6**
JIJ	**Ishigaki jima**	**1.43**	**111**	P	**Pn**	**17 21 34.2**	**+0.6**
JIJ				S	**Sn**	**17 21 51.7**	**+0.1**
FUSS	**Fushou**	**1.46**	**244**	*e*P	**Pb**	**17 21 36.7**	**+0.8**
	baz=243						
WHF	**Hehuan Shan**	**1.49**	**241**	*e*P	**Pb**	**17 21 36.3**	**-0.2**
	baz=239						
JISG	**Ishigakijimahi**	**1.51**	**101**	P	**Pn**	**17 21 34.1**	**-0.7**
JISG				*e*S	**Sn**	**17 21 52.7**	**-0.9**
LIOB	**Emei**	**1.53**	**261**	*e*P	**Pb**	**17 21 39.8**	**+2.7**
	baz=261						
NSTT	**Nanjuang**	**1.55**	**261**	*e*P	**Pb**	**17 21 39.9**	**+2.6**
	baz=260						
ESL	**Shilin**	**1.56**	**227**	*e*P	**Pn**	**17 21 36.1**	**+0.6**
	baz=225						
CHGB	**Renai**	**1.60**	**239**	*e*P	**Pb**	**17 21 39.1**	**+0.7**
	baz=238						
CHGB				*e*S	**Sb**	**17 21 57.4**	**-0.9**
	baz=238						
WHP	**Taichung City**	**1.69**	**249**	*e*P	**Pb**	**17 21 41.4**	**+1.5**
	baz=249						
DPDB	**Guoxing**	**1.81**	**242**	*e*P	**Pb**	**17 21 42.7**	**+0.8**
	baz=241						
JTJ	**Tarama**	**1.85**	**97**	P	**Pn**	**17 21 39.5**	**0.0**
JTJ				S	**Sn**	**17 22 01.6**	**-0.5**
SMLT	**Sun Moon Lake**	**1.91**	**239**	*e*P	**Pb**	**17 21 43.6**	**+0.1**
	baz=238						
SSLB	**Suanglung**	**1.92**	**236**	*e*P	**Pb**	**17 21 44.6**	**+0.9**
	baz=234						
TYC	**Yuchr**	**1.93**	**240**	*e*P	**Pb**	**17 21 45.1**	**+1.3**
	baz=239						
YULB	**Yu-li**	**1.95**	**221**	*e*P	**Pn**	**17 21 41.4**	**+0.5**
	baz=219						
WHYT	**Xinyi Township**	**2.05**	**235**	*e*P	**Pb**	**17 21 44.5**	**-1.3**
	baz=234						

MEX 11 18:05:43.4±1.5, 16°78N×95°12W, h10km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.39**	**36**	*e*P	Pg	18 05 48.0	-3.0
CMIG				*e*S	Sg	18 05 55.9	-0.3
PEIG	**Puerto Escondi**	**2.10**	**249**	*e*P	Pn	18 06 14.5	-4.2
PEIG				*e*S	Sn	18 06 40.9	-3.9
PCIG		**2.11**	**120**	*e*P	Pn	18 06 11.7	-7.2
PCIG				*e*S	Sn	18 06 42.2	-2.9

*THE **11** 18:07:28.9, 34°.99N×25°.23E, h1km±1km, ML3.1/14, Error ellipse: s-maj=1.4km s-min=0.5km az=181.0*
*ISK **11** 18:07:29.1, 34°.99N×25°.24E, h7km, ML3.1/8*
*ATH **11** 18:07:29.4, 35°.02N×25°.23E, h13km±2km, ML3.1/10, Error ellipse: s-maj=3.9km s-min=1.0km az=16.0*
*IDC **11** 18:07:30.9±1.6, 34°.93N×25°.01E, h0km, mb3.8/2, mb1 3.8/3, mb1mx3.4/28, mbtmp3.8/3, ML4.0/1, MS2.6/1, Ms1 2.7/1, ms1mx2.2/38, Error ellipse: s-maj=76.4km s-min=26.3km az=132.0*
ISC 11 18:07:29.7±1.1, 35°.02N±0°.03×25°.23E±0°.02, h3km±9km, n50, σ0s96/77, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRKL	**Herakleio**	**0.31**	**340**	P	**Pg**	**18 07 35.8**	**+0.2**
HRKL				S	**Sg**	**18 07 41.2**	**+1.6**
	8μm,0.7s						
HRKL	**Herakleio**	**0.31**	**340**	PG	**Pg**	**18 07 36.1**	**+0.5**
HRKL				SG	**Sg**	**18 07 41.6**	**+2.0**
KSTL	**Kastelli Herak**	**0.31**	**335**	P	**Pg**	**18 07 33.8**	**-1.8**
KSTL				S	**Sg**	**18 07 37.1**	**-2.6**
IACM	**Heraklion**	**0.31**	**335**	P	**Pg**	**18 07 35.9**	**+0.2**
IACM				S	**Sb**	**18 07 42.0**	**-1.3**
	16μm,0.7s						
IACM	**Heraklion**	**0.31**	**335**	P	**Pg**	**18 07 35.8**	**+0.2**
IACM				S	**Sg**	**18 07 41.0**	**+1.2**
IACM				AML	AML	18 07 47.7	
	comp=N,32290μm,0.5s						
IACM				AML	AML	18 07 51.7	
	comp=E,27208μm,0.7s						
IDI	**Anoyia**	**0.39**	**313**	P	**Pg**	**18 07 36.7**	**-0.4**
IDI				S	**Sg**	**18 07 42.8**	**+0.7**
	comp=E,1μm,0.5s						
IDI	**Anoyia**	**0.39**	**313**	P	**Pg**	**18 07 36.7**	**-0.4**
IDI				S	**Sg**	**18 07 42.3**	**+0.2**
IDI				AML	AML	18 07 45.4	
	comp=E,2250μm,0.5s						
IDI				AML	AML	18 07 45.7	
	comp=N,2327μm,0.5s						
TMBK	**Timbaki Herakl**	**0.39**	**277**	P	**Pg**	**18 07 37.1**	**0.0**
TMBK				S	**Sg**	**18 07 42.5**	**+0.4**
	comp=N,1μm,0.6s						
NPS	**Neapolis**	**0.39**	**53**	P	**Pg**	**18 07 36.9**	**-0.3**
NPS				S	**Sg**	**18 07 43.1**	**+0.8**
	comp=N,7μm,0.4s						
NPS	**Neapolis**	**0.39**	**53**	P	**Pg**	**18 07 37.0**	**-0.3**
NPS				S	**Sg**	**18 07 42.8**	**+0.5**
NPS				AML	AML	18 07 43.4	
	comp=N,14315μm,0.3s						
NPS				AML	AML	18 07 46.0	
	comp=E,13451μm,0.5s						
FRMA	**Ierapetra Chan**	**0.41**	**91**	P	**Pb**	**18 07 38.9**	**-0.6**
FRMA				S	**Sb**	**18 07 47.2**	**+1.0**
	comp=E,2μm,0.3s						
PRNS	**Prines Rethymn**	**0.69**	**300**	P	**Pg**	**18 07 43.0**	**+0.1**
PRNS				S	**Sb**	**18 07 54.1**	**-0.1**
STIA	**Sitia Lasithi**	**0.73**	**76**	P	**Pg**	**18 07 43.3**	**-0.3**
STIA				S	**Sb**	**18 07 54.2**	**-1.1**
ZKR	**Zakros**	**0.81**	**83**	P	**Pg**	**18 07 44.3**	**-0.9**
ZKR				S	**Sb**	**18 07 56.7**	**-1.1**
	comp=E,2μm,0.3s						
ZKR	**Zakros**	**0.81**	**83**	P	**Pg**	**18 07 44.4**	**-0.9**
ZKR				S	**Sb**	**18 07 56.9**	**-0.9**
ZKR				AML	AML	18 07 59.4	
	comp=N,2365μm,0.3s						
ZKR				AML	AML	18 07 59.6	
	comp=E,5309μm,0.4s						
ZKR	**Zakros**	**0.81**	**83**	PG	**Pg**	**18 07 45.2**	**-0.1**
ZKR				SG	**Sb**	**18 07 56.6**	**-1.2**
VAM	**Vamos**	**0.93**	**295**	P	**Pg**	**18 07 46.3**	**-1.1**
VAM				S	**Sb**	**18 08 00.2**	**-0.9**
	comp=E,978nm,0.4s						
VAM	**Vamos**	**0.93**	**295**	P	**Pg**	**18 07 46.3**	**-1.1**
VAM				S	**Sg**	**18 07 60.0**	**+0.5**
VAM				AML	AML	18 08 01.9	
	comp=N,1756μm,0.4s						
VAM				AML	AML	18 08 07.2	
	comp=E,2096μm,0.4s						
GVD	**Gavdhos**	**0.96**	**259**	P	**Pg**	**18 07 47.5**	**-0.5**
GVD				S	**Sb**	**18 08 01.2**	**-0.7**
	comp=E,605nm,0.5s						
GVD	**Gavdhos**	**0.96**	**259**	P	**Pg**	**18 07 47.7**	**-0.3**
GVD				AML	AML	18 08 09.3	
	comp=N,1015μm,0.6s						
GVD				AML	AML	18 08 16.3	
	comp=E,1378μm,0.4s						
GVD	**Gavdhos**	**0.96**	**259**	PG	**Pb**	**18 07 48.1**	**-0.8**
IMMV	**Iera Moni Meta**	**1.11**	**293**	P	**Pg**	**18 07 50.4**	**-0.6**
IMMV				S	**Sb**	**18 08 06.0**	**-0.4**
	comp=E,782nm,0.7s						
IMMV	**Iera Moni Meta**	**1.11**	**293**	P	**Pg**	**18 07 50.2**	**-0.8**
IMMV				S	**Sg**	**18 08 05.4**	**0.0**
IMMV				AML	AML	18 08 08.6	
	comp=N,1537μm,0.5s						
IMMV				AML	AML	18 08 10.1	
	comp=E,838μm,0.5s						
IMMV	**Iera Moni Meta**	**1.11**	**293**	PN	**Pb**	**18 07 51.1**	**-0.4**
IMMV				SN	**Sn**	**18 08 07.3**	**-0.6**
KNDR	**Palaiochora Ch**	**1.28**	**280**	PN	**Pg**	**18 07 54.9**	**+0.6**
THR6	**Thira Island,**	**1.34**	**6**	P	**Pn**	**18 07 54.6**	**-0.6**
SANT	**Santorini**	**1.36**	**8**	P	**Pn**	**18 07 54.6**	**-0.9**
SANT				S	**Sb**	**18 08 13.2**	**-0.3**
	comp=E,1μm,0.7s						
SANT	**Santorini**	**1.36**	**8**	P	**Pn**	**18 07 54.6**	**-0.9**
SANT				AML	AML	18 08 18.4	
	comp=E,3724μm,0.6s						
SANT				AML	AML	18 08 18.5	
	comp=N,1250μm,0.6s						
SANT	**Santorini**	**1.36**	**8**	PN	**Pb**	**18 07 55.6**	**-0.1**
SANT				SN	**Sg**	**18 08 14.6**	**+1.3**
SNT5	**Nea Kammeni, S**	**1.38**	**5**	P	**Pn**	**18 07 55.1**	**-0.7**
SNT5				S	**Sg**	**18 08 15.0**	**+0.9**
	comp=N,998nm,0.4s						
THR3	**Thira Island,**	**1.39**	**6**	P	**Pn**	**18 07 54.9**	**-1.0**
THR5	**Thira Island,**	**1.39**	**4**	P	**Pn**	**18 07 54.7**	**-1.3**
THR8	**Santorini-Mono**	**1.40**	**8**	P	**Pn**	**18 07 54.9**	**-1.1**
KARP	**Karpathos**	**1.66**	**71**	P	**Pn**	**18 07 58.7**	**-1.0**
KARP				S	**Sn**	**18 08 20.8**	**-0.8**
KARP	**Karpathos**	**1.66**	**71**	P	**Pn**	**18 07 58.9**	**-0.8**
KARP				AML	AML	18 08 29.7	
	comp=N,1071μm,0.4s						
KARP				AML	AML	18 08 33.9	
	comp=E,653μm,0.3s						
KARP	**Karpathos**	**1.66**	**71**	PN	**Pn**	**18 07 59.5**	**-0.2**
MHLO	**Agia Marina, M**	**1.79**	**338**	P	**Pn**	**18 08 00.2**	**-1.3**
MHLO				S	**Sn**	**18 08 23.9**	**-0.8**
	comp=E,992nm,0.7s						
APE	**Apeiranthos**	**2.06**	**7**	P	**Pn**	**18 08 04.5**	**-0.6**
APE				S	**Sn**	**18 08 30.6**	**-0.7**
	comp=E,128nm,0.6s						
APE	**Apeiranthos**	**2.06**	**7**	P	**Pn**	**18 08 05.2**	**+0.1**
APE				AML	AML	18 08 40.2	
	comp=N,235μm,0.6s						
APE				AML	AML	18 08 42.3	
	comp=E,265μm,0.5s						
APE	**Apeiranthos**	**2.06**	**7**	PN	**Pn**	**18 08 05.3**	**+0.2**
KTHA	**Kythira Island**	**2.15**	**305**	P	**Pn**	**18 08 06.9**	**+0.5**
KTHA	**Kythira Island**	**2.15**	**305**	PN	**Pn**	**18 08 06.6**	**+0.2**
ARG	**Arkhangelos**	**2.64**	**62**	PN	**Pn**	**18 08 13.5**	**+0.4**
DALY	**Dalyan (Mula)**	**3.30**	**56**	PN	**Pn**	**18 08 22.2**	**0.0**
ITM	**Ithomi**	**3.43**	**310**	PN	**Pn**	**18 08 25.5**	**+1.5**
CAME	**Cameli-Denizli**	**3.82**	**59**	PN	**Pn**	**18 08 30.1**	**+0.7**
AKASG	**Malin Array Be**	**15.94**	**9**	Pn	**P**	**18 11 16.9**	**-1.5**
	comp=E,0.6nm,0.3s,baz=201,slow=11,SNR=7.0						
NOA	**NORSAR Array B**	**27.55**	**345**	LR	LR	18 26 00.3	
	comp=E,10nm,18.6s,baz=15,slow=40						
TORD	**Torodi Ar. Bea**	**30.45**	**230**	P	**P**	**18 13 43.6**	**+0.1**
	comp=E,1.8nm,0.6s,baz=37,slow=8.9,SNR=12						
MKAR	**Makanchi Array**	**43.80**	**56**	P	**P**	**18 15 39.9**	**+3.3**
	comp=E,0.4nm,0.5s,baz=268,slow=7.4,SNR=5.2						

*NEIC **11** 18:23:29.7±1.5, 19°.25N±0°.05×67°.24W±0°.05, h35km±7km, Error ellipse: s-maj=9.3km s-min=3.4km az=219.0*
*RSPR **11** 18:23:31.7, 19°.05N×67°.28W, h73km±11km, MD3.0/5*
ISC 11 18:23:30.2±1.6, 19°.15N±0°.09×67°.26W±0°.04, h27km, n34, σ0s88/32, 4C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.69**	**168**	⇑*e*P	**Pn**	**18 23 43.9**	**-0.3**
AGPR	**Aguadilla, PR**	**0.69**	**168**	*e*S	**Sb**	**18 23 53.1**	**+0.1**
AGPR	**Aguadilla, PR**	**0.69**	**168**		**Pn**	**18 23 43.9**	**-0.3**
AGPR					**Sb**	**18 23 53.1**	**+0.1**
AGPR	**Aguadilla, PR**	**0.69**	**168**	IAML		18 23 55.2	
	comp=E,171nm,0.4s						
AGPR				IAML		18 23 56.7	
	comp=N,127nm,0.3s						
AOPR	**Arecibo Observ**	**0.93**	**149**	⇑*e*P	**Pb**	**18 23 48.1**	**+0.3**
AOPR	**Arecibo Observ**	**0.93**	**149**	*e*S	**Sb**	**18 24 00.5**	**+0.7**
AOPR	**Arecibo Observ**	**0.93**	**149**		**Sb**	**18 24 00.5**	**+0.7**
AOPR	**Arecibo Observ**	**0.93**	**149**		**Pn**	**18 23 46.1**	**-1.5**
AOPR	**Arecibo Observ**	**0.93**	**149**	IAML		18 24 00.8	
	comp=N,116nm,0.3s						
AOPR				IAML		18 24 05.5	
	comp=E,232nm,0.2s						
EMPR	**Esperanza - Ma**	**0.96**	**134**	⇑*e*P	**Pb**	**18 23 50.4**	**+2.1**
EMPR	**Esperanza - Ma**	**0.96**	**134**	*e*S	**Sb**	**18 24 01.7**	**+1.0**
EMPR	**Esperanza - Ma**	**0.96**	**134**		**Sb**	**18 24 01.7**	**+1.0**
EMPR	**Esperanza - Ma**	**0.96**	**134**		**Pb**	**18 23 47.8**	**-0.6**
EMPR	**Esperanza - Ma**	**0.96**	**134**	IAML		18 24 09.4	
	comp=E,122nm,1.6s						
EMPR				IAML		18 24 10.5	
	comp=N,91nm,1.2s						
CRPR	**Cabo Rojo, PR**	**1.15**	**173**	⇑*e*P	**Pn**	**18 23 50.2**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.15**	**173**	*e*S	**Sn**	**18 24

CHGR				⇑*i*S		Sn	18 45 01.7	-0.4	
	baz=61								
OHH	**Osh**	**2.17**	**41**	⇑*i*P		Pn	18 44 54.6	0.0	
	baz=40								
OHH				⇑*i*S		Sn	18 45 22.5	+0.8	
	baz=40								
SFK	**Sufi-Kurgan**	**2.30**	**60**	⇑*i*P		Pn	18 44 56.1	-0.4	
	baz=59								
SFK				⇑*i*S		Sn	18 45 25.2	+0.2	
	baz=59								
TRKS	**Terek-Say**	**2.63**	**4**	⇑*i*P		Pn	18 45 00.4	-0.5	
	baz=4.0								
TRKS				⇑*i*S		Sn	18 45 32.8	-0.2	
	baz=4.0								
TAS	**Tashkent**	**2.71**	**334**	⇑*i*P		Pn	18 45 03.1	+1.2	
	baz=33								
TAS				⇑*i*S		Sn	18 45 36.8	+2.0	
	baz=33								
MNAS	**Manas**	**3.78**	**18**	⇑*e*P		Pn	18 45 17.1	+0.3	
	baz=18								
MNAS				⇑*i*S		Sn	18 46 02.0	+0.6	
	baz=18								
AML	**Almayashu**	**3.86**	**33**	⇑*e*P		Pn	18 45 18.2	+0.1	
	baz=32								
AML				⇑*i*S		Sn	18 46 03.9	+0.1	
	baz=32								
KK31	**Karatay Array**	**4.20**	**356**	⇑Pn		Pn	18 45 25.3	+2.8	
	1.0nm,0.3s,baz=176,slow=12,SNR=43								
KK31				⇓Sn		Sb	18 46 18.1	-5.0	
	1.7nm,0.4s,baz=177,slow=32,SNR=8.4								
UCH	**Uchtor**	**4.31**	**39**	⇑*e*P		Pn	18 45 24.3	-0.1	
	baz=38								
UCH				⇑*i*S		Sn	18 46 14.4	-0.5	
	baz=38								
EKS2	**Erkin-Say**	**4.34**	**29**	⇑*i*P		Pn	18 45 24.8	+0.3	
	baz=29								
EKS2				⇑*i*S		Sn	18 46 15.2	0.0	
	baz=29								
AAK	**Ala-Archa**	**4.62**	**35**	⇓*e*P		Pn	18 45 28.5	+0.2	
	baz=35								
AAK				⇓*i*S		Sn	18 46 21.7	-0.4	
	baz=35								
AAK	**Ala-Archa**	**4.62**	**35**	Pn		Pn	18 45 32.3	+4.0	
	2.9nm,0.6s								
AAK				⇓Sn		Sn	18 46 27.5	+5.3	
	8.4nm,0.8s								
ULHL	**Ulahol**	**5.26**	**49**	⇑*e*P		Pn	18 45 37.1	-0.1	
	baz=49								
ULHL				⇑*i*S		Sn	18 46 36.6	-1.4	
	baz=49								
TKM2	**Tokmak 2**	**5.36**	**40**	⇓Pn		Pn	18 45 42.4	+3.8	
	1.8nm,0.5s								
TKM2				⇓Sn		Sn	18 46 45.6	+5.1	
	2.1nm,0.5s								
AB31	**Akbulak array**	**12.99**	**326**	⇑Pn		Pn	18 47 22.8	+0.1	
	0.3nm,0.5s,baz=160,slow=9.6,SNR=11								
AB31				⇓Sn		Sn	18 49 45.4	-1.9	
	1.1nm,0.7s,baz=155,slow=21,SNR=3.5								

UPA ***11*** *18:44:21.4±0.5,8°.84N×77°.47W,h22km±7km,MW4.0*
RSNC ***11*** *18:44:22.6±1.0,8°.75N×77°.32W,h26km±4km,ML3.0, Mw3.3*

ISC 11 18:44:20.2±1.1,8°.86N±0°.05×77°.39W±0°.03,h27km±9km, n21,σ1°30/32,1C-3D,Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CAPC	**Capurgana**	**0.23**	**171**	⇓*i*P			**Pb**	**18 44 26.6**	**+0.1**
CAPC				*e*S			**Sb**	**18 44 31.1**	**+0.4**
CAPC				*i*				18 44 32.4	
	comp=Z,3μm,0.2s								
UPD2	**Meteti**	**0.69**	**243**	⇓*i*P			**Pb**	**18 44 33.5**	**-0.3**
	baz=63,slow=3.5								
UPD2				*i* S			**Sb**	**18 44 41.9**	**-1.1**
LCBC	**Los crdobas,**	**1.01**	**90**	*i* P			**Pb**	**18 44 39.4**	**+0.3**
LCBC				*i* S			**Sn**	**18 44 52.7**	**+0.8**
LCBC	**Los crdobas,**	**1.01**	**90**	⇑*i*P			**Pb**	**18 44 39.4**	**+0.3**
LCBC				*e*S			**Sn**	**18 44 52.1**	**+0.2**
LCBC				*i*				18 45 02.1	
	comp=Z,305nm,0.2s								
CNTA3	**Canitas, Panam**	**1.52**	**284**	*e*P			**Pn**	**18 44 44.8**	**-0.9**
CNTA3				*e*S			**Sn**	**18 45 04.0**	**-0.8**
CHPO	**Chepo, Panama**	**1.73**	**280**	*i* P			**Pn**	**18 44 48.7**	**+0.1**
PTAC	**Punta Ardita,**	**1.75**	**194**	*i* P			**Pn**	**18 44 49.4**	**+0.5**
PTAC				*i* S			**Sn**	**18 45 10.5**	**+0.2**
PTAC	**Punta Ardita,**	**1.75**	**194**	⇓*e*P			**Pn**	**18 44 49.4**	**+0.5**
PTAC				*i*				18 44 50.4	
	comp=Z,173nm,0.1s								
PTAC				*e*S			**Sn**	**18 45 09.6**	**-0.8**
UPA	**Univ. de Panam**	**2.12**	**273**	*i* P			**Pn**	**18 45 13.4**	**-0.1**
UPA				*i* S			**Sn**	**18 45 19.3**	**-0.2**
UREC	**San Jos de Ur**	**2.14**	**121**	*e*P			**Pn**	**18 44 54.2**	**0.0**
UREC				*e*S			**Sn**	**18 45 19.5**	**-0.4**
UREC				*i*				18 45 21.1	
	comp=Z,33nm,0.4s								
TABO3	**Taboga, Panama**	**2.14**	**268**	*e*P			**Pn**	**18 44 54.5**	**+0.2**
DBBC	**Dabeiba**	**2.17**	**147**	*e*P			**Pn**	**18 44 55.0**	**+0.2**
DBBC				*e*S			**Sn**	**18 45 21.6**	**+0.8**
DBBC				*i*				18 45 31.1	
	comp=Z,288nm,0.4s								
CHOR3	**La Chorrera**	**2.35**	**271**	*e*P			**Pb**	**18 45 05.3**	**+3.4**
SJCC	**San Jacinto, C**	**2.41**	**65**	*i* P			**Pn**	**18 44 57.3**	**-0.7**
BCIP	**Isla Barro Col**	**2.44**	**277**	*e*P			**Pn**	**18 44 58.4**	**0.0**
VTON	**El Valle, Cocl**	**2.71**	**265**	*e*P			**Pn**	**18 45 02.8**	**+0.8**
ZARC	**Zaragoza, Cauc**	**2.85**	**118**	*e*P			**Pn**	**18 45 04.2**	**+0.2**
ZARC				*e*S			**Sn**	**18 45 35.4**	**-2.0**
ZARC				*i*				18 45 38.6	
	comp=Z,46nm,0.3s								
AZU	**Azuero**	**3.05**	**250**	*e*P			**Pn**	**18 45 06.9**	**+0.2**
CALO3	**Calobre, Verag**	**3.46**	**261**	*i* P			**Pn**	**18 45 08.1**	**-4.2**
CACAO	**El Cacao, Vera**	**3.75**	**247**	*e*P			**Pn**	**18 45 13.8**	**-2.6**
GMAL	**Guarumal, Vera**	**3.96**	**254**	*e*P			**Pn**	**18 45 19.4**	**+0.2**

UPA ***11*** *18:45:05.6±0.8,8°.96N×77°.36W,h16km±10km,MW4.6*
RSNC ***11*** *18:45:07.7±1.2,8°.85N×77°.38W,h26km±3km,ML3.6, Mw3.7*
IDC ***11*** *18:45:07.9±2.3,9°.01N×77°.21W,h59km±24km,mb3.6/1, mb1 3.9/5,mb1mx3.4/33,mbtmp4.0/5,ML2.8/3,MS3.0/8, Ms1 3.0/8,ms1mx2.8/33,Error ellipse: s-maj=42.2km s-min=17.6km az=14.0*

ISC 11 18:45:05.8±1.0,8°.95N±0°.03×77°.36W±0°.02,h29km±8km, n62,σ1°43/88,MS3.0/4,8C-16D,Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CAPC	**Capurgana**	**0.31**	**178**	⇓*i*P			**Pb**	**18 45 13.1**	**-0.3**
CAPC				*e*S			**Sb**	**18 45 17.3**	**-1.2**
UPD2	**Meteti**	**0.76**	**238**	⇓*i*P			**Pn**	**18 45 19.9**	**-0.7**
	baz=50,slow=2.2								
UPD2				*i* S			**Sb**	**18 45 30.3**	**-0.3**
LCBC	**Los crdobas,**	**0.98**	**95**	⇓*i*P			**Pn**	**18 45 23.8**	**+0.1**
LCBC	**Los crdobas,**	**0.98**	**95**	⇓*i*P			**Pb**	**18 45 25.8**	**+1.5**
LCBC				*e*S			**Sb**	**18 45 39.0**	**+2.1**
LCBC				*i*				18 45 49.3	
	comp=Z,2μm,0.3s								
CNTA3	**Canitas, Panam**	**1.53**	**280**	⇓*i*P			**Pn**	**18 45 31.1**	**-0.2**
CNTA3				*i* S			**Sn**	**18 45 50.2**	**-0.1**
CHPO	**Chepo, Panama**	**1.75**	**277**	⇓*e*P			**Pn**	**18 45 34.0**	**-0.2**
CHPO				*i* S			**Sn**	**18 45 56.3**	**+0.8**
PTAC	**Punta Ardita,**	**1.85**	**194**	⇓*i*P			**Pn**	**18 45 35.8**	**+0.2**
PTAC				*i* S			**Sn**	**18 45 57.6**	**-0.4**
PTAC	**Punta Ardita,**	**1.85**	**194**	*e*P			**Pn**	**18 45 35.6**	**0.0**
PTAC				*e*S			**Sn**	**18 45 57.2**	**-0.8**
PTAC				*i*				18 46 02.4	
	comp=Z,852nm,0.3s								
MIRA3	**Miramar, Colon**	**2.04**	**288**	⇑*i*P			**Pn**	**18 45 39.9**	**+1.6**
MIRA3				*i* S			**Sn**	**18 46 04.0**	**+1.2**
UPA	**Univ. de Panam**	**2.15**	**271**	⇑*i*P			**Pn**	**18 45 40.4**	**+0.7**
UPA				*i* S			**Sn**	**18 46 05.9**	**+0.4**
UREC	**San Jos de Ur**	**2.17**	**123**	⇑*e*P			**Pn**	**18 45 40.5**	**+0.5**
UREC				*e*S			**Sn**	**18 46 06.0**	**+0.1**
UREC				*i*				18 46 07.1	
	comp=Z,179nm,0.2s								
TABO3	**Taboga, Panama**	**2.17**	**266**	⇓*i*P			**Pn**	**18 45 40.5**	**+0.5**
TABO3				*i* S			**Sn**	**18 46 06.2**	**+0.1**
DBBC	**Dabeiba**	**2.23**	**149**	*e*P			**Pn**	**18 45 41.7**	**+0.6**
SJCC	**San Jacinto, C**	**2.35**	**66**	*e*P			**Pn**	**18 45 42.7**	**+0.1**
SJCC				*i* S			**Sn**	**18 46 11.5**	**+1.0**
CHOR3	**La Chorrera**	**2.38**	**269**	⇓*i*P			**Pn**	**18 45 43.7**	**+0.8**
CHOR3				*i* S			**Sn**	**18 46 12.6**	**+1.5**

SABA3	**Sabanitas, Col**	**2.44**	**280**	⇓*i*P			**Pn**	**18 45 45.1**	**+1.4**
SABA3				*e*S			**Sn**	**18 46 12.0**	**-0.7**
BCIP	**Isla Barro Col**	**2.46**	**275**	⇑*i*P			**Pn**	**18 45 44.7**	**+0.8**
BCIP				*i* S			**Sn**	**18 46 10.7**	**-2.4**
BCIP	**Isla Barro Col**	**2.46**	**275**	⇑*i*P			**Pn**	**18 45 44.7**	**+0.8**
BCIP				*e*S			**Sn**	**18 46 13.6**	**+0.6**
BCIP				*i*				18 46 26.0	
	comp=Z,488nm,0.8s								
SOLC	**Bahia Solano**	**2.71**	**181**	*e*P			**Pn**	**18 45 48.4**	**+1.0**
SOLC				*i*				18 45 58.1	
	comp=Z,233nm,0.5s								
SOLC				*e*S			**Sn**	**18 46 18.3**	**-1.0**
VTON	**El Valle, Cocl**	**2.74**	**263**	⇑*e*P			**Pn**	**18 45 48.7**	**+0.7**
VTON				*e*S			**Sn**	**18 46 21.9**	**+1.7**
ZARC	**Zaragoza, Cauc**	**2.87**	**120**	⇑*e*P			**Pn**	**18 45 50.6**	**+0.9**
ZARC				*e*S			**Sn**	**18 46 22.2**	**-1.1**
ZARC				*i*				18 46 25.2	
	comp=Z,328nm,0.3s								
PNME	**Penonome**	**2.97**	**261**	⇓*e*P			**Pn**	**18 45 51.2**	**+0.1**
PCRI3	**Pocri, Los San**	**3.02**	**245**	⇓*e*P			**Pn**	**18 45 52.1**	**+0.4**
AZU	**Azuero**	**3.10**	**248**	⇓*i*P			**Pn**	**18 45 53.3**	**+0.4**
	baz=51,slow=8.6								
AZU				*i* S			**Sn**	**18 46 25.8**	**-3.3**
ARGC	**Ariguani, Magd**	**3.20**	**73**	*e*S			**Sn**	**18 46 30.2**	**-1.3**
ARGC				*i*				18 46 33.4	
	comp=Z,98nm,0.5s								
HELC	**Santa Helena**	**3.29**	**146**	⇓*e*P			**Pn**	**18 45 57.0**	**+1.2**
HELC	**Santa Helena**	**3.29**	**146**	*e*P			**Pn**	**18 45 56.1**	**+0.3**
HELC				*e*S			**Sn**	**18 46 33.5**	**-0.6**
HELC				*e*S			Sb	18 46 34.8	-8.7
CBOC	**Ciudad Bolivar**	**3.35**	**156**	*e*P			**Pn**	**18 45 59.3**	**+2.9**
CBOC				*i*				18 46 17.2	
	comp=Z,72nm,0.6s								
CBOC				*e*S			**Sn**	**18 46 36.8**	**+1.5**
PESE3	**Pese, Herrera**	**3.38**	**252**	*e*P			**Pn**	**18 45 57.3**	**+0.6**
CALO3	**Calobre, Verag**	**3.50**	**260**	*e*P			**Pb**	**18 46 07.6**	**+0.5**
SFRA3	**San Francisco,**	**3.64**	**259**	⇑*e*P			**Pn**	**18 46 01.9**	**+1.7**
PTBC	**PUERTO BERRIO,**	**3.75**	**130**	*e*P			**Pn**	**18 46 02.1**	**+0.3**
PTBC				*e*S			**Sn**	**18 46 43.7**	**-1.3**
PTBC				*i*				18 46 48.9	
	comp=Z,67nm,0.3s								
LL1C	**La Loma 1 Cana**	**3.80**	**81**	*e*P			**Pn**	**18 46 02.6**	**+0.1**
LL1C				*e*S			**Sn**	**18 46 48.7**	**+2.4**
CACAO	**El Cacao, Vera**	**3.82**	**246**	*e*P			**Pb**	**18 46 11.2**	**-1.3**
MESA3	**La Mesa, Verag**	**3.87**	**258**	*e*P			**Pn**	**18 46 04.5**	**+1.1**
RSUS3	**Rio de Jesus,**	**3.88**	**256**	⇓*e*P			**Pn**	**18 46 04.8**	**+1.3**
LL2C	**La Loma 2 Cana**	**3.92**	**81**	*e*P			**Pn**	**18 46 03.5**	**-0.5**
LL2C				*e*S			**Sn**	**18 46 49.5**	**+0.3**
GMAL	**Guarumal, Vera**	**4.01**	**253**	⇓*i*P			**Pn**	**18 46 07.6**	**+2.2**
BRRC	**Barranca, Sant**	**4.05**	**117**	*e*P			**Pn**	**18 46 07.6**	**+1.7**
BRRC				*e*S			**Sn**	**18 46 52.2**	**-0.2**
BRRC				*i*				18 47 00.7	
	comp=Z,83nm,0.5s								
OCAC	**Ocana**	**4.06**	**100**	*e*P			**Pn**	**18 46 06.6**	**+0.4**
OCAC				*e*S			**Sn**	**18 46 52.2**	**-0.7**
NORC	**Norcasia**	**4.17**	**144**	*e*P			**Pn**	**18 46 08.0**	**+0.3**
NORC				*i*				18 47 03.8	
	comp=Z,32nm,0.6s								
GUY2C	**Guyana, Caldas**	**4.20**	**152**	*e*P			**Pn**	**18 46 12.6**	**+4.2**
GUY2C				*e*S			**Sn**	**18 46 57.6**	**+0.8**
GUY2C				*i*				18 47 18.6	
	comp=Z,41nm,0.6s								
CVALL	**Valledupar, Ce**	**4.33**	**69**	*e*P			**Pn**	**18 46 10.4**	**+0.6**
CVALL				*e*S			**Sn**	**18 46 58.0**	**-1.3**
CVALL				*i*				18 47 00.7	
	comp=Z,187nm,0.4s								
CHGR2	**Aguacate**	**4.73**	**270**	*i* P			**Pn**	**18 46 15.8**	**+0.5**
BARC	**Barichara**	**4.76**	**119**	*e*S			**Sn**	**18 47 07.8**	**-2.4**
BARC				*i*				18 47 24.6	
	comp=Z,82nm,0.5s								
TOLC	**Tolima**	**4.79**	**155**	*e*P			Pn	18 46 22.0	+5.6
CRJC	**Cerrejon, Guaj**	**4.87**	**65**	*e*P			**Pn**	**18 46 18.0**	**+0.8**
CRJC				*e*S			**Sn**	**18 47 09.7**	**-3.1**
PAMC	**Pamplona, Colo**	**4.88**	**109**	*e*S			**Sn**	**18 47 13.2**	**-0.5**
PAMC				*i*				18 47 16.8	
	comp=Z,84nm,0.5s								
YOTC	**Yotoco, Valle**	**5.04**	**168**	*e*P			**Pn**	**18 46 20.1**	**+0.5**
YOTC				*e*S			**Sn**	**18 47 15.8**	**-1.2**
ROSC	**El Rosal**	**5.08**	**143**	P			**Pn**	**18 46 22.0**	**+1.5**
	comp=Z,2.4nm,0.3s,baz=274,slow=19,SNR=1.7								
ROSC					LR		LR	18 48 37.2	
	comp=Z,167nm,20.7s,baz=280,slow=42								
ORTC	**Ortega, Tolima**	**5.43**	**157**	*e*P			Pn	18 46 30.4	+5.4
ORTC				*e*S			**Sn**	**18 47 31.6**	**+5.0**
SDV	**Santo Domingo**	**6.65**	**90**	P			**Pn**	**18 46 42.4**	**+0.6**
	comp=Z,1.9nm,0.3s,baz=295,slow=10,SNR=6.9								
SDV				S			**Sn**	**18 47 54.0**	**-2.8**
	comp=Z,21nm,0.3s,baz=25,slow=23,SNR=21								
JTS	**Las Juntas de**	**7.60**	**281**	P			**Pn**	**18 46 57.2**	**+2.4**
	comp=Z,6.3nm,0.3s,baz=8.4,slow=18,SNR=9.1								
JTS					LR		LR	18 50 42.5	
	comp=Z,81nm,20.9s,baz=146,slow=43								
CMIG	**Matias Romero**	**18.88**	**297**	P			**Pn**	**18 49 25.0**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=73,slow=14,SNR=3.7								
CMIG					LR		LR	18 57 12.8	
	comp=Z,30nm,19.9s,baz=79,slow=38								
PTGA	**Pitinga**	**19.82**	**118**	LR			LR	18 58 10.5	
	comp=Z,41nm,21.0s,baz=88,slow=40								
NNA	**Nana**	**20.81**	**179**	LR			LR	18 59 40.8	
	comp=Z,69nm,21.3s,baz=16,slow=42								
LPAZ	**La Paz**	**26.69**	**160**	LR			LR	19 03 30.8	
	comp=Z,35nm,20.3s,baz=260,slow=41								
SIV	**San Ignacio**	**29.57**	**147**	P			**P**	**18 51 06.4**	**-2.0**
	comp=Z,0.3nm,0.4s,baz=304,slow=11,SNR=4.1								
LVC	**Limon Verde**	**32.44**	**165**	LR			LR	19 07 01.7	
	comp=Z,32nm,21.5s,baz=294,slow=40								
ESDC	**Sonseca Array**	**71.57**	**51**	LR			LR	19 25 45.4	
	comp=Z,11nm,18.6s,baz=285,slow=34								
ASAR	**Alice Springs**	**146.72**	**240**	PKPbc			**PKPdf**	**19 04 44.1**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=120,slow=3.5,SNR=12								
WRA	**Warramunga Arr**	**147.48**	**247**	PKPbc			**PKPdf**	**19 04 46.0**	**+0.4**
	comp=Z,1.5nm,0.5s,baz=104,slow=3.8,SNR=15								

NEIC ***11*** *18:47:05.9±2.8,51°.4N±0°.1×174°.67W±0°.09,h6km±2km, mb4.0/33,Error ellipse: s-maj=15.6km s-min=8.2km az=189.0*
IDC ***11*** *18:47:07.7±2.1,51°.99N×174°.95W,h0km,mb3.9/6, mb1 4.0/9,mb1mx3.7/39,mbtmp3.9/9,ML3.5/3,Error ellipse: s-maj=62.6km s-min=19.7km az=171.0*

ISC 11 18:47:06.2±1.0,51°.4N±0°.2×174°.80W±0°.06,h10km,n57, σ1°32/55,mb4.0/9,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GSTR	**Great Sitkin T**	**1.07**	**314**				**Pg**	**18 47 28.6**	**+1.8**
ADK	**Adak**	**1.28**	**295**				**Pb**	**18 47 30.1**	**-0.4**
KIWB	**Kanaga Island**	**1.54**	**289**				**Pb**	**18 47 33.8**	**-1.1**
AMKA	**Amchitka**	**3.69**	**273**				**Pn**	**18 48 02.3**	**-1.0**
SDPT	**Sand Point**	**9.45**	**59**	Pn			**Pn**	**18 49 24.9**	**+2.7**
CHGN	**Chignik**	**10.86**	**57**	Pn			**Pn**	**18 49 41.5**	**-0.1**
CHIR	**Chirikof Islan**	**12.22**	**61**	Pn			**Pn**	**18 50 00.4**	**+0.2**
OHAK	**Old Harbor**	**13.83**	**57**	Pn			**Pn**	**18 50 21.6**	**-0.5**
Q19K	**Cape Douglas,**	**14.22**	**50**	Pn			Pn	18 50 15.8	-12
KDAK	**Kodiak Island**	**14.36**	**55**	Pn			**Pn**	**18 50 28.2**	**-1.1**
	0.5nm,0.3s,baz=294,slow=7.5,SNR=11								
KDAK	**Kodiak Island**	**14.36**	**55**				**Pn**	**18 50 27.9**	**-1.4**
SVW2	**Sparrevohn**	**14.41**	**40**	Pn			**Pn**	**18 50 27.1**	**-2.9**
L19K	**White Mountain**	**15.31**	**37**	Pn			**Pn**	**18 50 41.9**	**-0.3**
L19K							lAmb	lAmb	18 51 05.4
	comp=Z,7.9nm,1.2s								
M19K	**Big River Lodg**	**15.33**	**39**	Pn			**Pn**	**18 50 41.5**	**-0.9**
M19K							lAmb	lAmb	18 51 12.4
	comp=Z,7.9nm,1.1s								
CNPM	**China Poot**	**15.60**	**49**	Pn			**Pn**	**18 50 45.8**	**-0.1**
K20K	**Telida**	**16.31**	**35**				**P**	**18 50 56.7**	**-1.3**
K20K							lAmb	lAmb	18 51 13.0
	comp=Z,17nm,1.6s								
SKT	**Skwentna**	**16.52**	**41**				**P**	**18 50 59.8**	**-0.6**
J20K	**Nowinta River**	**16.80**	**32**				**P**	**18 51 04.3**	**+0.9**
PETK	**Petropavlovsk-**	**16.90**	**287**	Pn			**P**	**18 51 03.7**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=90,slow=13,SNR=7.0								
CAST	**Castle Rocks**	**17.07**	**36**				**Pn**	**18 51 05.0**	**+0.3**
GHO	**Glory Hole Cre**	**17.53**	**44**	Pn			**Pn**	**18 51 07.8**	**-2.6**
GHO							lAmb	lAmb	18 51 09.4
	comp=Z,26nm,1.6s								
SML	**Sawmill**	**17.80**	**44**	P			**P**	**18 51 15.4**	**+0.8**
BPAW	**Bear Paw Mtn.**	**17.86**	**35**	P			**P**	**18 51 17.0**	**+1.8**
IMAR	**Indian Mountai**	**18.14**	**28**	P			**Pn**	**18 51 17.3**	**-0.6**
I21K	**Tanana**	**18.16**	**32**	P			**Pn**	**18 51 18.2**	**+0.1**
SCM	**Sheep Creek Mo**	**18.25**	**44**	P			**Pn**	**18 51 18.7**	**-0.6**
SCM							lAmb	lAmb	18 51 21.8
	comp=Z,15nm,1.0s								

FID	**Port Fidalgo**	**18.25**	**48**	P			**Pn**	**18 51 17.2**	**-2.1**
RND	**Reindeer**	**18.30**	**39**	P			**P**	**18 51 19.8**	**-0.3**
RND				lAmb			lAmb	18 51 56.7	
	comp=Z,13nm,1.4s								
MLY	**Manley**	**18.49**	**33**	P			**Pn**	**18 51 22.8**	**+0.6**
MLY				lAmb			lAmb	18 51 44.3	
	comp=Z,12nm,1.4s								
KLU	**Klutina**	**18.75**	**46**	P			**P**	**18 51 24.0**	**-1.1**
KLU				lAmb			lAmb	18 51 42.3	
	comp=Z,23nm,1.5s								
KAIM	**Kayak Island**	**19.02**	**51**	P			**P**	**18 51 26.0**	**-1.8**
I23K	**Minto, Yukon-K**	**19.03**	**34**	P			**P**	**18 51 27.9**	**0.0**
WRH	**Wood River Hil**	**19.12**	**36**	P			**P**	**18 51 26.8**	**-2.2**
WRH				lAmb			lAmb	18 51 33.0	
	comp=Z,14nm,1.6s								
CCB	**Clear Creek Bu**	**19.32**	**36**	P			**P**	**18 51 30.5**	**-0.7**
MDM	**Murphy Dome**	**19.33**	**35**	P			**P**	**18 51 30.5**	**-0.8**
MDM				lAmb			lAmb	18 51 33.4	
	comp=Z,9.2nm,1.5s								
N25K	**Chitina, Valde**	**19.39**	**46**	P			**P**	**18 51 30.6**	**-1.4**
N25K				lAmb			lAmb	18 52 09.4	
	comp=Z,23nm,1.6s								
HDA	**Harding Lake**	**19.52**	**37**	P			**P**	**18 51 34.0**	**+0.6**
HDA				lAmb			lAmb	18 51 35.8	
	comp=Z,12nm,1.3s								
ILAR	**Eielson Array**	**19.73**	**36**	P			**P**	**18 51 35.6**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=224,slow=8.1,SNR=7.0								
H24K	**Noodor Dome**	**19.93**	**33**	P			**P**	**18 51 38.6**	**+0.7**
RIDG	**Independent Ri**	**20.05**	**40**	P			**P**	**18 51 38.1**	**-1.1**
RIDG				lAmb			lAmb	18 51 55.5	
	comp=Z,13nm,1.5s								
SCRK	**Sand Creek**	**20.50**	**40**	P			**P**	**18 51 43.4**	**-0.8**
SCRK				lAmb			lAmb	18 51 45.8	
	comp=Z,6.4nm,0.6s								
BCAR	**Beaver Creek A**	**21.09**	**44**	P			**P**	**18 51 48.6**	**-1.9**
TOLK	**Toolik Lake Re**	**21.14**	**26**	P			**P**	**18 51 49.6**	**-1.4**
TOLK				lAmb			lAmb	18 52 25.2	
	comp=Z,13nm,1.2s								
K27K	**Chicken**	**21.30**	**41**	P			**P**	**18 51 53.0**	**+0.4**
K27K				lAmb			lAmb	18 51 57.8	
	comp=Z,2.9nm,0.6s								
BMAR	**Burnt Mountain**	**21.90**	**31**	P			**P**	**18 52 01.6**	**+2.4**
EGAK	**Eagle**	**21.94**	**39**	P			**P**	**18 52 00.3**	**+0.8**
EGAK				lAmb			lAmb	18 52 03.5	
	comp=Z,6.4nm,0.7s								
EPYK	**Eagle Plains**	**24.23**	**37**	P			**P**	**18 52 23.4**	**+0.6**
INK	**Inuvik**	**26.05**	**34**	P			**P**	**18 52 39.0**	**-0.2**
JWT	**Wachi**	**38.82**	**265**	P			**P**	**18 54 31.6**	**+0.5**
KSRS	**Korea Array**	**42.14**	**274**	P			**P**	**18 55 01.0**	**+2.5**
	comp=Z,1.2nm,0.8s,baz=48,slow=8.9,SNR=4.8								
PDAR	**Pinedale Array**	**43.91**	**75**	P			**P**	**18 55 16.0**	**+2.9**
	comp=Z,0.6nm,0.7s,baz=325,slow=2.3,SNR=4.5								
PDAR	**Pinedale Array**	**43.91**	**75**	P			**P**	**18 55 12.7**	**-0.4**
ULM	**Lac du Bonnet**	**47.57**	**59**	P			**P**	**18 55 42.4**	**+0.8**
	com

CNPM	**China Poot**	**15.75**	**49**	Pn	Pn	19 18 29.6	-1.4
M20K	**Styx River**	**15.98**	**40**	Pn	Pn	19 18 32.4	-1.5
M20K				IAmb	IAmb	19 19 18.3	
	comp=Z,22nm,2.0s						
BPAW	**Bear Paw Mtn.**	**18.02**	**35**	P	P	19 19 01.0	+1.3
I23K	**Minto, Yukon-K**	**19.19**	**34**	P	P	19 19 11.0	-1.5
I23K				IAmb	IAmb	19 19 40.9	
	comp=Z,16nm,1.6s						
CCB	**Clear Creek Bu**	**19.48**	**36**	P	P	19 19 13.1	-2.5
CCB				IAmb	IAmb	19 20 00.4	
	comp=Z,19nm,2.0s						
MDM	**Murphy Dome**	**19.49**	**35**	P	P	19 19 13.9	-1.9
N25K	**Chitina, Valde**	**19.54**	**46**	P	P	19 19 14.7	-1.7
N25K				IAmb	IAmb	19 19 55.8	
	comp=Z,24nm,1.5s						
HDA	**Harding Lake**	**19.68**	**37**	P	P	19 19 17.1	-0.8
RIDG	**Independent Ri**	**20.21**	**40**	P	P	19 19 22.3	-1.4
RIDG				IAmb	IAmb	19 19 46.2	
	comp=Z,15nm,1.5s						
ISLE	**Juniper Island**	**20.33**	**50**	P	P	19 19 24.6	-0.5
MENT	**Mentasta**	**20.38**	**43**	P	P	19 19 25.9	+0.4
SCRK	**Sand Creek**	**20.66**	**40**	P	P	19 19 26.7	-1.9
SCRK				IAmb	IAmb	19 20 06.7	
	comp=Z,15nm,1.8s						
K27K	**Chicken**	**21.46**	**41**	P	P	19 19 33.6	-3.4
K27K				IAmb	IAmb	19 20 02.7	
	comp=Z,21nm,1.9s						
EGAK	**Eagle**	**22.10**	**39**	P	P	19 19 41.8	-2.1
EGAK				IAmb	IAmb	19 20 22.9	
	comp=Z,18nm,1.7s						
WMR	**Waimanalo Ridg**	**32.77**	**149**	P	P	19 21 17.9	-3.9

*IDC **11** 19:22:07.5±2.8, 6°.33S×129°.86E, h66km±34km, mb3.6/3, mb1 4.1/7, mb1mx3.5/36, mbtmp4.1/7, ML4.3/4, Error ellipse: s-maj=51.6km s-min=22.4km az=88.0*
*NEIC **11** 19:22:10.5±2.9, 6°.18S±0°.05×130°.38E±0°.08, h109km±7km, mb4.2/9, Error ellipse: s-maj=11.9km s-min=6.6km az=82.0*
ISC 11 19:22:08.8±0.6, **6°.22S**±0°.05×**130°.34E**±0°.06, **h100**km, **n29,** σ**2**s**43**/34, **mb4.1**/6, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SAUI	**Saumlaki**	**1.99**	**152**			**Pn**	**19 22 45.8**	**+4.5**
SAUI					Sn	**Sn**	**19 23 08.8**	**+2.7**
FAKI	**Fak Fak**	**3.79**	**30**			**Pn**	**19 23 07.2**	**+2.0**
FAKI					Sn	**Sn**	**19 23 48.5**	**-0.3**
SIJI	**Sorong**	**5.39**	**10**	P		**Pn**	**19 23 27.7**	**+0.7**
	4.5nm,0.3s,baz=202,slow=23,SNR=35							
SIJI				S		**Sn**	**19 24 23.7**	**-4.1**
	4.5nm,0.3s,baz=53,slow=24,SNR=8.3							
MTN	**Manton Dam**	**6.63**	**173**			**Pn**	**19 23 44.4**	**+0.7**
MTN					Sn	**Sn**	**19 24 55.2**	**-2.7**
SOEI	**Soe**	**6.97**	**239**	Pn		**Pn**	**19 23 51.6**	**+3.1**
SOEI					Sn	**Sn**	**19 25 07.6**	**+1.3**
TNTI	**Ternate**	**7.55**	**337**	Pn		**Pn**	**19 23 57.2**	**+0.9**
BATI	**Baumata**	**7.71**	**239**	P		**Pn**	**19 24 01.2**	**+2.8**
	6.9nm,0.3s,baz=281,slow=1.2,SNR=10							
KNRA	**Kununurra**	**9.53**	**189**			**Pn**	**19 24 22.3**	**-0.8**
FITZ	**Fitzroy Crossi**	**12.67**	**201**	P		Pn	19 25 02.2	-3.2
	1.0nm,0.3s,baz=23,slow=7.4,SNR=62							
FITZ				S		Sn	19 27 12.6	-12
	2.0nm,0.3s,baz=76,slow=20,SNR=6.6							
WRAB	**Tennant Creek**	**14.18**	**164**			**Pn**	**19 25 23.9**	**-1.2**
WRA	**Warramunga Arr**	**14.18**	**164**	P		**Pn**	**19 25 24.0**	**-1.2**
	1.9nm,0.3s,baz=338,slow=13,SNR=98							
WRA				S		Sn	19 27 52.4	-9.1
	1.9nm,0.3s,baz=342,slow=22,SNR=6.4							
WB2	**Warramunga Arr**	**14.19**	**164**	Pn		**Pn**	**19 25 23.0**	**-2.3**
WR0	**Warramunga Arr**	**14.26**	**164**	Pn		**Pn**	**19 25 23.4**	**-2.7**
COEN	**Coen**	**14.78**	**122**	Pn		**Pn**	**19 25 34.7**	**+1.8**
JAGI	**Jajag, Banyuwa**	**16.21**	**261**	Pn		**Pn**	**19 25 50.0**	**-0.9**
JAGI				IAmb	IAmb	19 26 25.8		
	comp=Z,23nm,1.2s							
AS31	**Alice Springs**	**17.68**	**169**	P		**P**	**19 26 09.2**	**+0.9**
ASAR	**Alice Springs**	**17.68**	**169**	P		**P**	**19 26 09.6**	**+1.3**
	comp=Z,1.4nm,0.3s,baz=344,slow=9.4,SNR=62							
ASAR				S		**Sn**	**19 29 17.7**	**-8.3**
	comp=Z,0.5nm,0.3s,baz=2.0,slow=29,SNR=6.6							
PSA00	**Pilbara Seismi**	**18.34**	**213**	P		**P**	**19 26 15.7**	**+0.2**
PSA00				IAmb	IAmb	19 26 18.6		
	comp=Z,22nm,1.5s							
PSA00	**Pilbara Seismi**	**18.34**	**213**	P		**P**	**19 26 14.5**	**-0.9**
PSA00				IAmb	IAmb	19 26 18.4		
	comp=Z,7.5nm,1.6s							
CISI	**Cisompet, Garu**	**22.41**	**265**	P		**P**	**19 26 59.1**	**-0.3**
CISI				IAmb	IAmb	19 27 07.0		
	comp=Z,12nm,1.0s							
BBOO	**Buckleboo**	**26.99**	**169**	P		**P**	**19 27 43.8**	**+2.5**
CMAR	**Chiang Mai Arr**	**39.50**	**309**	P		**P**	**19 29 30.6**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=139,slow=7.1,SNR=6.7							
MK31	**Makanchi Array**	**67.77**	**326**	P		**P**	**19 32 56.0**	**+0.2**
MK31				IAmb	IAmb	19 32 58.4		
	comp=Z,2.1nm,0.8s							
MKAR	**Makanchi Array**	**67.77**	**326**	P		**P**	**19 32 57.1**	**+1.3**
	comp=Z,1.5nm,0.7s,baz=126,slow=8.0,SNR=11							
MKAR	**Makanchi Array**	**67.77**	**326**	P		**P**	**19 32 56.9**	**+1.0**
KURBB	**Kurchatov Arra**	**72.03**	**328**	P		**P**	**19 33 22.5**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=133,slow=4.6,SNR=6.5							
KURK	**Kurchatov**	**72.03**	**328**	P		**P**	**19 33 22.5**	**+0.7**
ABKAR	**Akbulak array**	**82.11**	**321**	P		**P**	**19 34 17.3**	**-1.1**
QSPA	**South Pole Qui**	**83.75**	**180**	P		**P**	**19 34 25.4**	**-1.4**
QSPA				IAmb	IAmb	19 35 01.1		
	comp=Z,4.9nm,1.4s							

*NAO **11** 19:23:49.7±1.0, 66°.34N×31°.18E, ML2.6*
*IDC **11** 19:23:50.6±1.9, 66°.37N×31°.07E, h0km, mb1 3.0/4, mb1mx2.9/40, mbtmp3.0/4, ML2.3/4, Error ellipse: s-maj=25.1km s-min=7.6km az=88.0*
*HEL **11** 19:23:51.7±0.2, 66°.38N×31°.36E, h19km±1km, ML2.4, Confirmed Earthquake*
*UPP **11** 19:23:52.4±2.7, 66°.44N×30°.88E, h0km, ML2.2, Suspected explosion*
*KOLA **11** 19:23:52.1, 66°.40N×31°.34E, h0km, ML2.5, Karelia*
*BER **11** 19:23:52.5±4.7, 66°.32N×31°.46E, h15km±11km, ML2.5(HEL), Confirmed Earthquake*
ISC 11 19:23:49.8±1.1, **66°.33N**±0°.02×**31°.43E**±0°.03, **h15**km±9km, **n56,** σ**1**s**46**/100, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KU6	**Riekki**	**0.69**	**245**	*eP*		**Pb**	**19 24 04.0**	**+0.5**
KU6				*eS*		**Sb**	**19 24 13.0**	**+0.1**
KU6	**Riekki**	**0.69**	**245**	*eP*		**Pb**	**19 24 04.0**	**+0.5**
KU6				*eS*		**Sb**	**19 24 13.0**	**+0.1**
KU4	**Liikasenvaara**	**0.75**	**274**	*eP*		**Pb**	**19 24 04.5**	**+0.1**
KU4				*eS*		**Sg**	**19 24 13.4**	**-0.8**
MSF	**Maaselka**	**1.06**	**248**	*eP*		**Pg**	**19 24 10.1**	**-0.1**
MSF				*eS*		**Sg**	**19 24 23.9**	**-0.1**
MSF	**Maaselka**	**1.06**	**248**	*eP*		**Pg**	**19 24 10.1**	**-0.1**
MSF				*eS*		**Sg**	**19 24 23.9**	**-0.1**
KU1	**Kurvinen**	**1.08**	**226**	*eP*		**Pn**	**19 24 11.0**	**+0.7**
KU1				*eS*		**Sg**	**19 24 24.8**	**0.0**
APA0	**Apatity Array**	**1.43**	**25**	Pg		**Pg**	**19 24 16.7**	**-0.4**
	baz=198,slow=16							
APA0				Lg		Lg	19 24 34.5	
	baz=203,slow=18							
APA0	**Apatity Array**	**1.43**	**25**	Pg		**Pg**	**19 24 16.7**	**-0.4**
	baz=198,slow=16							
APA0				Sg		**Sb**	**19 24 34.5**	**+0.5**
	baz=203,slow=18							
APA0	**Apatity Array**	**1.43**	**25**	P		**Pg**	**19 24 16.7**	**-0.4**
APA0				S		**Sb**	**19 24 34.6**	**+0.7**
KU2	**Taivalkoski**	**1.45**	**246**	*eP*		**Pb**	**19 24 16.9**	**+0.5**
KU2				*eS*		**Sn**	**19 24 35.1**	**+1.1**
APA	**Apatity**	**1.47**	**31**	P		**Pg**	**19 24 17.7**	**-0.3**
APA				S		**Sb**	**19 24 36.1**	**+0.9**
APZ9	**Apatity**	**1.47**	**31**	Pg		**Pg**	**19 24 17.6**	**-0.5**
APZ9				Lg		Lg	19 24 36.9	
APZ9	**Apatity**	**1.47**	**31**	Pg		**Pg**	**19 24 17.6**	**-0.5**
APZ9				Sg		**Sg**	**19 24 36.9**	**-0.3**
VRF	**Varrio**	**1.60**	**334**	*eP*		**Pb**	**19 24 18.6**	**-0.4**
VRF				*eS*		**Sn**	**19 24 37.6**	**-0.2**
VRF				MSG			19 24 40.0	
	comp=Z,41nm,0.2s							
VRF	**Varrio**	**1.60**	**334**	*eP*		**Pb**	**19 24 18.6**	**-0.4**
VRF				*eS*		**Sn**	**19 24 37.6**	**-0.2**
VRF				MSG			19 24 40.0	
	comp=Z,41nm,0.2s							
LVZ	**Lovozero**	**2.02**	**37**	*eP*		**Pn**	**19 24 23.5**	**+0.3**
LVZ				*eS*		**Sn**	**19 24 48.5**	**+0.3**
LVZ	**Lovozero**	**2.02**	**37**	*eP*		**Pn**	**19 24 23.5**	**+0.3**
LVZ				*eS*		**Sn**	**19 24 48.5**	**+0.3**
RNF	**Rovaniemi**	**2.19**	**280**	*eP*		**Pn**	**19 24 27.6**	**+2.0**
RNF				*eS*		**Sn**	**19 24 53.2**	**+0.8**
RNF				MSG			19 24 59.4	
	comp=Z,28nm,0.1s							
RNF	**Rovaniemi**	**2.19**	**280**	*eP*		**Pn**	**19 24 27.6**	**+2.0**
RNF				*eS*		**Sn**	**19 24 53.2**	**+0.8**
RNF				MSG			19 24 59.4	
	comp=Z,28nm,0.1s							
SGF	**Sodankyl**	**2.24**	**302**	*eP*		**Pn**	**19 24 27.8**	**+1.6**
SGF				*eS*		**Sn**	**19 24 54.0**	**+0.5**
SGF				MSG			19 24 57.0	
	comp=Z,23nm,0.1s							
SGF	**Sodankyl**	**2.24**	**302**	*eP*		**Pn**	**19 24 27.8**	**+1.6**
SGF				*eS*		**Sn**	**19 24 54.0**	**+0.5**
SGF				MSG			19 24 57.0	
	comp=Z,23nm,0.1s							
OUL	**Oulu**	**2.60**	**244**	*eP*		**Pn**	**19 24 33.4**	**+2.1**
OUL				MSG			19 25 10.8	
	comp=Z,21nm,0.1s							
OUL	**Oulu**	**2.60**	**244**	*eP*		**Pn**	**19 24 33.4**	**+2.1**
OUL				MSG			19 25 10.8	
	comp=Z,21nm,0.1s							
KJN	**Kajaani**	**2.74**	**217**	*eP*		**Pn**	**19 24 35.7**	**+2.6**
KJN				*eS*		**Sn**	**19 25 08.6**	**+2.7**
TOF	**Tornio**	**2.89**	**268**	*eP*		**Pn**	**19 24 36.6**	**+1.4**
TOF				*eS*		**Sn**	**19 25 09.3**	**-0.2**
TOF	**Tornio**	**2.89**	**268**	*eP*		**Pn**	**19 24 36.6**	**+1.4**
TOF				*eS*		**Sn**	**19 25 09.3**	**-0.2**
PAJU	**Pajala**	**3.38**	**286**	P		**Pn**	**19 24 43.1**	**+1.1**
PAJU				S		**Sn**	**19 25 20.7**	**-1.1**
JOF	**Joensuu**	**3.42**	**181**	*eP*		**Pn**	**19 24 42.5**	**0.0**
JOF				*eS*		**Sn**	**19 25 21.8**	**-0.9**
JOF	**Joensuu**	**3.42**	**181**	*eP*		**Pn**	**19 24 42.5**	**0.0**
JOF				*eS*		**Sn**	**19 25 21.8**	**-0.9**
OUF	**Merijarvi**	**3.43**	**238**	*eP*		**Pn**	**19 24 44.1**	**+1.6**
OUF				*eS*		**Sn**	**19 25 21.9**	**-0.9**
OUF	**Merijarvi**	**3.43**	**238**	*eP*		**Pn**	**19 24 44.1**	**+1.6**
OUF				*eSB*		**Sb**	**19 25 32.6**	**+1.1**
HEF	**Hetta**	**3.66**	**308**	*eP*		**Pn**	**19 24 46.4**	**+0.6**
HEF				*eP*		Pb	19 24 46.5	-7.5
HEF				*eS*		**Sn**	**19 25 27.2**	**-1.4**
HEF	**Hetta**	**3.66**	**308**	*eP*		**Pn**	**19 24 46.5**	**+0.8**
HEF				*eS*		**Sn**	**19 25 27.2**	**-1.4**
ERTU	**Ertsjaerv**	**3.72**	**278**	P		**Pn**	**19 24 47.5**	**+1.0**
ERTU				S		**Sn**	**19 25 29.3**	**-0.7**
KEV	**Kevo**	**3.83**	**336**	*eP*		**Pn**	**19 24 48.7**	**+0.8**
KEV				*eP*		Pb	19 24 49.1	-7.8
KEV				*eS*		**Sn**	**19 25 30.8**	**-1.8**
KEV	**Kevo**	**3.83**	**336**	*eP*		**Pn**	**19 24 49.1**	**+1.1**
KEV				*eS*		**Sn**	**19 25 30.8**	**-1.8**
ARA0	**ARCESS Array S**	**3.92**	**328**	Pn		**Pn**	**19 24 50.0**	**+0.6**
	baz=144,slow=16							
ARA0				Pg		**Pb**	**19 24 59.3**	**+0.8**
	baz=145,slow=18							
ARA0				Sn		**Sn**	**19 25 33.6**	**-1.4**
	baz=136,slow=28							
ARA0				Lg		Lg	19 25 48.3	
	baz=141,slow=37							
ARA0	**ARCESS Array S**	**3.92**	**328**	Pn		**Pn**	**19 24 50.0**	**+0.6**
	baz=144,slow=16							
ARA0				Pg		**Pb**	**19 24 59.3**	**+0.8**
	baz=145,slow=18							
ARA0				Sn		**Sn**	**19 25 33.6**	**-1.4**
	baz=136,slow=28							
ARA0				Sg		**Sb**	**19 25 48.3**	**+2.6**
	baz=141,slow=37							
ARCES	**ARCESS Array B**	**3.92**	**328**	Pn		**Pn**	**19 24 50.1**	**+0.8**
	baz=143,slow=13,SNR=16							
ARCES				Sn		**Sn**	**19 25 33.7**	**-1.3**
	baz=141,slow=24,SNR=7.1							
ARCES				Lg		Lg	19 25 48.8	
	baz=145,slow=30,SNR=12							
LANU	**Lannavaara**	**4.06**	**299**	P		**Pn**	**19 24 51.8**	**+0.5**
SJUU	**Sjulsmark**	**4.11**	**263**	P		**Pn**	**19 24 53.3**	**+1.4**
KTK1	**Kautokeino**	**4.13**	**314**	*eP*		**Pb**	**19 25 03.3**	**+1.3**
HARU	**Harads**	**4.23**	**273**	P		**Pn**	**19 24 54.2**	**+0.6**
DUNU	**Dundret**	**4.38**	**285**	P		**Pn**	**19 24 56.3**	**+0.6**
RATU	**Laukkuluspa**	**4.87**	**293**	P		**Pn**	**19 25 02.9**	**+0.5**
FIA0	**FINESS Array S**	**5.44**	**208**	Pn		**Pn**	**19 25 11.8**	**+1.7**
	baz=23,slow=14							
FIA0				Sn		**Sn**	**19 26 12.9**	**+0.5**
	baz=30,slow=28							
FIA0				Lg		Lg	19 26 36.8	
	baz=21,slow=28							
FIA0	**FINESS Array S**	**5.44**	**208**	Pn		**Pn**	**19 25 11.8**	**+1.7**
	baz=23,slow=14							
FIA0				Sn		**Sn**	**19 26 12.9**	**+0.5**
	baz=30,slow=28							
FINES	**FINESS Array B**	**5.44**	**208**	Pn		**Pn**	**19 25 12.2**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=24,slow=13,SNR=26							
FINES				Pg		**Pb**	**19 25 21.9**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=28,slow=14,SNR=6.5							
FINES				Sn		**Sn**	**19 26 13.2**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=26,slow=21,SNR=7.0							
FINES				Lg		Lg	19 26 37.9	
	comp=Z,2.2nm,0.3s,baz=25,slow=27,SNR=20							
TRO	**Tromso**	**5.75**	**311**	*eP*		**Pn**	**19 25 15.2**	**+0.8**
STEI	**Steigen**	**6.51**	**292**	*eP*		**Pn**	**19 25 24.7**	**-0.1**
HFS	**Hagfors**	**10.10**	**240**	Pn		**Pn**	**19 26 13.9**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=51,slow=13,SNR=6.3							
NB2	**NORSAR Subarra**	**10.39**	**249**	Pn		**Pn**	**19 26 17.3**	**-0.7**
	baz=50,slow=14							
NB2	**NORSAR Subarra**	**10.39**	**249**	Pn		**Pn**	**19 26 17.3**	**-0.7**
	baz=50,slow=14							
NOA	**NORSAR Array B**	**10.39**	**249**	Pn		**Pn**	**19 26 15.8**	**-2.2**
	comp=Z,0.0nm,0.3s,baz=84,slow=15,SNR=1.1							
NOA				Lg		Lg	19 29 14.0	
	comp=Z,0.0nm,0.3s,baz=44,slow=27,SNR=3.9							
NRA0	**NORESS Array S**	**10.46**	**247**	Pn		**Pn**	**19 26 18.5**	**-0.5**
	baz=46,slow=11							
NRA0				Sn		**Sn**	**19 28 09.2**	**-6.6**
	baz=62,slow=28							
NRA0				Lg		Lg	19 29 13.2	
	baz=42,slow=28							
NRA0	**NORESS Array S**	**10.46**	**247**	Pn		**Pn**	**19 26 18.5**	**-0.5**
	baz=46,slow=11							
NRA0				Sn		**Sn**	**19 28 09.2**	**-6.6**
	baz=62,slow=28							

IDC 11 19:29:26.5±1.6, **3°.27N**×**126°.93E**, **h0**km, **mb3.4**/6, **mb1 3.6**/6, **mb1mx3.4**/39, **mbtmp3.5**/6, **MS3.3**/2, **Ms1 3.3**/2, **ms1mx2.7**/22, **Error ellipse: s-maj=112.1km s-min=20.6km az=68.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**20.48**	**59**	LR		LR	19 39 55.4	
	comp=Z,166nm,22.0s,baz=276,slow=31							
FITZ	**Fitzroy Crossi**	**21.27**	**183**	P		P	19 34 14.5	-0.2
	1.7nm,0.9s,baz=346,slow=8.3,SNR=1.5							
FITZ				LR		LR	19 41 34.9	
	comp=Z,49nm,21.8s,baz=240,slow=34							
WRA	**Warramunga Arr**	**24.19**	**163**	P		P	19 34 44.3	-0.6
	0.5nm,0.4s,baz=342,slow=11,SNR=8.7							
ASAR	**Alice Springs**	**27.62**	**166**	P		P	19 35 17.8	+1.8
	0.1nm,0.4s,baz=347,slow=11,SNR=1.4							
STKA	**Stephens Creek**	**37.63**	**159**	P		P	19 36 43.0	-0.4
	0.8nm,0.6s,baz=320,slow=14,SNR=3.7							
MKAR	**Makanchi Array**	**58.04**	**325**	P		P	19 39 21.5	0.0
	0.3nm,0.6s,baz=116,slow=9.0,SNR=4.4							
KURBB	**Kurchatov Arra**	**62.23**	**327**	P		P	19 39 49.6	-0.5
	0.2nm,0.5s,baz=122,slow=6.3,SNR=2.6							

*NNC **11** 19:52:02.7±1.5, 41°.98N×80°.65E, h0km, mb2.5, mpv2.7, Error ellipse: s-maj=14.5km s-min=8.9km az=57.0*
*SOME **11** 19:52:02.2, 42°.00N×80°.58E, h5km*
*KRNET **11** 19:52:04.0±0.1, 41°.60N×80°.65E, mb2.4*
ISC 11 19:52:03.8±2.7, **42°.30N**±0°.08×**81°.0E**±0°.1, **h4**km±14km, **n18,** σ**1**s**85**/32, **11C-3D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SHLS	**Shalkode**	**1.39**	**309**	*eP*		**Pn**	**19 52 27.1**	**-3.0**
	11nm,0.2s							
SHLS				*eS*		**Sg**	**19 52 44.9**	**-3.6**
	15nm,0.2s							
SHLS	**Shalkode**	**1.39**	**309**	P		**Pn**	**19 52 27.1**	**-3.0**
	11nm,0.2s							
SHLS				S		**Sg**	**19 52 44.9**	**-3.6**
	15nm,0.2s							
PDGK	**Podgornoye**	**1.49**	**314**	P		**Pb**	**19 52 31.9**	**-0.1**
	0.7nm,0.2s							
PDGK				S		**Sg**	**19 52 53.2**	**+1.6**
	1.1nm,0.3s							
PDGK	**Podgornoye**	**1.49**	**314**	⇑P		**Pb**	**19 52 32.0**	**-0.1**
	0.6nm,0.3s							
PDGK				⇓S		**Sg**	**19 52 54.4**	**+2.8**
	4.7nm,0.7s							
UZB	**Uzynbulak**	**1.65**	**302**	*eP*		**Pn**	**19 52 33.7**	**0.0**
	1.4nm,0.2s							
UZB				*eS*		**Sn**	**19 52 55.9**	**+0.4**
	1.6nm,0.3s							
UZB	**Uzynbulak**	**1.65**	**302**	P		**Pn**	**19 52 33.7**	**0.0**
	1.4nm,0.2s							
UZB				S		**Sn**	**19 52 55.9**	**+0.4**
	1.6nm,0.3s							
PRZ	**Przheval'sk**	**1.90**	**277**	⇑*iP*		**Pb**	**19 52 39.5**	**+0.4**
	baz=99							
PRZ				⇑*iS*		**Sb**	**19 53 05.5**	**+2.4**
	baz=99							
KPKS	**Kokpek**	**2.03**	**306**	*eP*		**Pb**	**19 52 40.7**	**-0.6**
	6.2nm,0.1s							
KPKS				*eS*		**Sg**	**19 53 09.0**	**-0.1**
	6.5nm,0.2s							
DJR	**Jarkent**	**2.20**	**338**	*eP*		**Pg**	**19 52 46.4**	**+0.4**
	0.1nm,0.2s							
DJR				*eS*		**Sg**	**19 53 18.3**	**+3.7**
	0.6nm,0.5s							
DJR	**Jarkent**	**2.20**	**338**	Pg		**Pg**	**19 52 45.8**	**-0.2**
	0.1nm,0.2s							
DJR				Lg		Lg	19 53 18.3	
	0.6nm,0.5s							
TARG	**Taragay, Kyrgy**	**2.41**	**257**	⇑*iP*		**Pn**	**19 52 42.7**	**-1.6**
	baz=74							
TARG				⇑*iS*		**Sn**	**19 53 12.5**	**-2.0**
	baz=74							
ANVS	**Anan'yevo**	**2.47**	**282**	⇑*iP*		**Pb**	**19 52 48.9**	**0.0**
	baz=99							
ANVS				⇑*iS*		**Sb**	**19 53 21.1**	**+1.4**
	baz=99							
KDJ	**Kajisay**	**2.80**	**268**	⇑*iP*		**Pn**	**19 52 51.0**	**+1.4**
	baz=83							
KDJ				⇑*iS*		**Sn**	**19 53 23.2**	**-0.7**
	baz=83							
MDOK	**Medeo**	**3.00**	**288**	Lg		Lg	19 53 33.4	
	1.9nm,0.6s							
KTBS	**Karatobe**	**3.43**	**296**	*eP*		**Pb**	**19 53 03.5**	**-1.7**
	0.5nm,0.4s							
KTBS				*eS*		**Sb**	**19 53 47.5**	**+0.3**
	3.6nm,0.3s							
KTBS	**Karatobe**	**3.43**	**296**	Pg		**Pb**	**19 53 03.5**	**-1.7**
	0.5nm,0.4s							
KTBS				Lg		Lg	19 53 47.5	
	3.6nm,0.3s							
ULHL	**Ulahol**	**3.49**	**271**	⇑*iP*		**Pn**	**19 53 00.1**	**+1.0**
	baz=83							
ULHL				⇑*iS*		**Sn**	**19 53 41.0**	**+0.1**
	baz=83							
BOOM	**Boomskoye usch**	**3.71**	**275**	⇓*iP*		**Pn**	**19 53 03.4**	**+1.3**
	baz=86							
BOOM				⇓*iS*		**Sn**	**19 53 47.1**	**+0.8**
	baz=86							

*TUL **11** 20:08:00±1.7, 35°.96N×0°.01×97°.31W±0°.02, h5km±7km, ML2.8, mb_Lg2.4/22(NEIC), Error ellipse: s-maj=2.1km s-min=1.6km az=107.0*
NEIC 11 20:08:00.1±1.2, **35°.97N**±0°.01×**97°.32W**±0°.02, **h7**km±7km, **Error ellipse: s-maj=2.1km s-min=1.7km az=99.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OK029	**Liberty Lake**	**0.20**	**214**			Pg	20 08 04.2	0.0
OK029				Sg		Sg	20 08 07.3	+0.4
OK025	**Westminster Rd**	**0.38**	**183**			Pg	20 08 06.8	-0.8
OK025				Sg		Sg	20 08 13.2	+0.5
OK031	**S. Brethren Rd**	**0.39**	**92**			Pg	20 08 07.7	+0.1
OK031				Sg		Sg	20 08 13.3	+0.6
QUOK	**Quay**	**0.53**	**67**			Pg	20 08 10.3	-0.1
QUOK				Sg		Sg	20 08 17.9	+0.5
OKCFA	**Oklahoma City**	**0.56**	**191**			Pg	20 08 10.8	-0.1
OKCFA				Sg		Sg	20 08 18.6	+0.4
OKCSW	**OKLAHOMA CITY**	**0.57**	**190**			Pg	20 08 11.0	-0.1
OKCSW				Sg		Sg	20 08 19.3	+0.8
FNO	**Franklin**	**0.71**	**186**			Pg	20 08 13.5	-0.3
FNO				Sg		Sg	20 08 23.5	+0.4
CROK	**Carrier**	**0.76**	**315**			Pg	20 08 14.9	+0.1
CROK				Sg		Sg	20 08 25.1	+0.4
BLOK	**Blackwell**	**0.80**	**6**			Pg	20 08 15.3	-0.1
BLOK				Sg		Sb	20 08 26.9	-0.5
GC02	**Grant County #**	**0.99**	**334**			Pg	20 08 18.9	-0.2
KAN13	**South Haven SW**	**1.05**

	comp=Z,50nm,1.1s						
MAW	**Mawson**	**22.48 145**	P	**P**	**20 15 51.4**	**-0.8**
	comp=Z,4.5nm,0.8s,baz=302,slow=11,SNR=10						
MAW			LR	LR	20 22 43.5		
	comp=Z,263nm,22.0s,baz=294,slow=32						
MAW	**Mawson**	**22.48 145**	P	**P**	**20 15 53.0**	**+0.8**
MAW				**S**	**20 19 57.5**	**-1.0**
SNAA	**Sanae**	**23.46 204**	P	**P**	**20 16 02.6**	**+0.3**
SNAA	**Sanae**	**23.46 204**	P	**P**	**20 16 02.5**	**+0.2**
	comp=Z,12nm,0.8s,baz=75,slow=7.9,SNR=49						
SNAA			LR	LR	20 23 07.8		
	comp=Z,314nm,21.4s,baz=50,slow=31						
SNAA	**Sanae**	**23.46 204**	P	**P**	**20 16 02.0**	**-0.3**
SNAA			IAmb	IAmb	20 16 15.6		
	comp=Z,28nm,1.2s						
BOSA	**Boshof**	**24.07 354**	P	**P**	**20 16 08.1**	**-0.6**
	comp=Z,14nm,0.8s,baz=178,slow=11,SNR=15						
BOSA			LR	LR	20 24 05.4		
	comp=Z,516nm,19.5s,baz=183,slow=33						
BOSA	**Boshof**	**24.07 354**	P	**P**	**20 16 08.1**	**-0.6**
BOSA			IAmb	IAmb	20 16 22.3		
	comp=Z,21nm,1.0s						
VNA2	**Neumayer--Watz**	**24.25 208**	P	**P**	**20 16 10.5**	**+0.7**
	baz=53,slow=11						
VNA1	**Neumayer--Stat**	**24.36 209**	P	**P**	**20 16 12.2**	**+1.3**
VNA3	**Neumayer Olymp**	**25.05 208**	P	**P**	**20 16 17.2**	**0.0**
LBTB	**Lobatse**	**27.62 355**	P	**P**	**20 16 41.5**	**+0.7**
	comp=Z,5.6nm,1.0s,baz=157,slow=10.0,SNR=3.4						
LBTB			LR	LR	20 25 51.9		
	comp=Z,433nm,21.1s,baz=176,slow=33						
LBTB	**Lobatse**	**27.62 355**	P	**P**	**20 16 39.5**	**-1.3**
LBTB			IAmb	IAmb	20 16 44.7		
	comp=Z,19nm,1.3s						
BELA	**Belgrano 2**	**33.51 200**	P	**P**	**20 17 31.1**	**-1.1**
TSUM	**Tsumeb**	**34.34 342**	P	**P**	**20 17 39.7**	**-0.4**
TSUM			IAmb	IAmb	20 17 41.2		
	comp=Z,8.0nm,0.8s						
QSPA	**South Pole Qui**	**37.60 180**	P	**P**	**20 18 07.2**	**-0.5**
	comp=Z,7.7nm,0.7s,baz=253,slow=12,SNR=68						
QSPA	**South Pole Qui**	**37.60 180**	P	**P**	**20 18 07.0**	**-0.7**
QSPA			IAmb	IAmb	20 18 08.2		
	comp=Z,9.3nm,0.8s						
CASY	**Casey**	**40.78 142**	P	**P**	**20 18 35.4**	**+1.5**
PMSA	**Palmer Station**	**45.06 217**	P	**P**	**20 19 10.3**	**+1.8**
	comp=Z,5.7nm,1.0s,baz=119,slow=10,SNR=1.5						
SHEL	**Horse Pasture**	**45.27 311**	P	**P**	**20 19 09.0**	**-1.8**
VNDA	**Vanda**	**47.01 168**	P	**P**	**20 19 24.4**	**+0.6**
	comp=Z,3.0nm,0.7s,baz=239,slow=7.7,SNR=11						
VNDA			LR	LR	20 38 18.6		
	comp=Z,205nm,21.7s,baz=211,slow=35						
VNDA	**Vanda**	**47.01 168**	P	**P**	**20 19 24.1**	**+0.3**
VNDA			IAmb	IAmb	20 19 24.8		
	comp=Z,3.9nm,0.8s						
SBA	**Scott Base**	**47.34 169**	P	**P**	**20 19 27.1**	**+0.7**
KMBO	**Kilima Mbogo**	**51.88 12**	LR	LR	20 39 42.4		
	comp=Z,138nm,20.6s,baz=95,slow=33						
LL07	**Hotel Espejo d**	**63.45 234**	P	**P**	**20 21 22.9**	**+0.1**
PLCA	**Paso Flores**	**63.54 237**	P	**P**	**20 21 25.3**	**+1.7**
	comp=Z,2.4nm,0.9s,baz=168,slow=5.5,SNR=3.2						
PLCA			LR	LR	20 45 02.1		
	comp=Z,33nm,20.8s,baz=153,slow=32						
PLCA	**Paso Flores**	**63.54 237**	P	**P**	**20 21 23.4**	**-0.1**
DBIC	**Dimbokro**	**65.37 324**	P	**P**	**20 21 37.4**	**+1.8**
	comp=Z,1.2nm,0.6s,baz=164,slow=6.7,SNR=1.0						
DBIC			LR	LR	20 43 55.2		
	comp=Z,66nm,19.2s,baz=172,slow=30						
CPUP	**Villa Florida**	**66.84 257**	LR	LR	20 44 27.6		
	comp=Z,50nm,21.6s,baz=176,slow=30						
TORD	**Torodi Ar. Bea**	**69.33 332**	P	**P**	**20 22 00.4**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=176,slow=6.2,SNR=9.6						
TORD			LR	LR	20 46 29.6		
	comp=Z,51nm,21.4s,baz=145,slow=31						
TORD	**Torodi Ar. Bea**	**69.33 332**	P	**P**	**20 22 00.2**	**-0.5**
TORD			IAmb	IAmb	20 22 12.1		
	comp=Z,6.0nm,0.8s						
ASAR	**Alice Springs**	**80.56 117**	P	**P**	**20 23 07.0**	**+1.2**
	comp=Z,2.0nm,1.0s,baz=223,slow=4.3,SNR=7.6						
ASAR	**Alice Springs**	**80.56 117**	P	**P**	**20 23 06.1**	**+0.3**
AS31	**Alice Springs**	**80.56 117**	P	**P**	**20 23 04.9**	**-0.9**
RPSI	**Rantau Prapat**	**80.62 73**	P	**P**	**20 23 06.7**	**+0.6**
RPSI			IAmb	IAmb	20 23 08.5		
	comp=Z,11nm,1.1s						
KHZ	**Kahutara**	**80.75 155**	P	**P**	**20 23 06.0**	**-0.3**
LPAZ	**La Paz**	**80.94 255**	P	**P**	**20 23 11.2**	**+2.6**
	comp=Z,1.0nm,0.8s,baz=159,slow=7.4,SNR=1.9						
LPAZ			LR	LR	20 55 44.2		
	comp=Z,30nm,18.9s,baz=124,slow=33						
LPAZ	**La Paz**	**80.94 255**	P	**P**	**20 23 06.6**	**-2.0**
SAML	**Samuel**	**83.74 264**	P	**P**	**20 23 21.5**	**-0.9**
SAML			IAmb	IAmb	20 23 33.7		
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**83.79 115**	P	**P**	**20 23 23.1**	**+0.4**
	comp=Z,2.3nm,1.0s,baz=209,slow=5.6,SNR=6.4						
KEST	**Kesra**	**89.48 345**	LR	LR	21 04 29.1		
	comp=Z,78nm,21.4s,baz=246,slow=36						
ULM	**Lac du Bonnet**	**145.73 289**	PKPbc	**PKPdf**	**20 30 30.9**	**+0.1**
	comp=Z,4.5nm,1.0s,baz=104,slow=4.2,SNR=2.6						
PDAR	**Pinedale Array**	**150.24 268**	PKPbc	**PKiKP**	**20 30 45.8**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=122,slow=3.4,SNR=4.2						
PDAR	**Pinedale Array**	**150.24 268**	PKPdf	**PKPdf**	**20 30 36.7**	**-2.1**
PDAR				**PKiKP**	**20 30 45.8**	**+1.1**
NVAR	**Mina Array Bea**	**152.81 252**	PKPbc	**PKiKP**	**20 30 52.3**	**+2.1**
	comp=Z,0.7nm,0.7s,baz=145,slow=3.3,SNR=4.8						
NVAR	**Mina Array Bea**	**152.81 252**	PKPdf	**PKPdf**	**20 30 40.6**	**-2.2**
NVAR				**pPKPbc**	**20 30 51.5**	**-0.1**

MEX 11 20:12:53.6±0.3, 15°24N×93°21W, h102km±8km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.46**	**358**	*i* P	Pn	20 13 08.2	-1.2
PCIG				*i* S	Sn	20 13 19.4	-1.8
CMIG	**Matias Romero**	**2.45**	**319**	*e*P	Pn	20 13 31.0	-1.2
CMIG				*i* S	Sn	20 13 56.5	-5.2

*JMA **11** 20:19:04.6±0.1, 35°.66N×138°.87E, h168km±1km, M3.3*
*IDC **11** 20:19:04.2±1.1, 35°.52N×138°.60E, h156km±9km, mb3.2/3, mb1 3.4/3, mb1mx3.0/27, mbtmp3.7/3, Error ellipse: s-maj=43.8km s-min=21.9km az=71.0*
ISC 11 20:19:04.8±1.0, 35°.69N±0°.08×138°.8E±0°.1, h167km±7km, n12, σ0s54/20, mb3.7/3, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYN	**Shimob**	**0.28**	**227**	P	**Pn**	**20 19 27.4**	**0.0**
JRY	**Ryogami san**	**0.34**	**15**	P	**Pn**	**20 19 27.9**	**+0.4**
JRY				S	**Sn**	**20 19 45.3**	**+0.3**
JSGW	**Sagamiharawaka**	**0.35**	**104**	P	**Pn**	**20 19 27.3**	**-0.2**
JSGW				S	**Sn**	**20 19 44.6**	**-0.1**
JOD2	**Odawara 2**	**0.49**	**151**	P	**Pn**	**20 19 27.9**	**-0.1**
JOD2				S	**Sn**	**20 19 45.6**	**-0.2**
JFNN	**Fujinakano**	**0.50**	**190**	P	**Pn**	**20 19 28.5**	**+0.4**
JFNN				S	**Sn**	**20 19 46.3**	**+0.4**
JAG	**Ashikaga**	**0.91**	**36**	P	**Pn**	**20 19 30.5**	**+0.1**
JAG				S	**Sn**	**20 19 50.3**	**0.0**
MJAR	**Matsushiro Arr**	**0.97**	**331**	P	**Pn**	**20 19 30.3**	**-0.7**
	2.0nm,0.3s,baz=171,slow=8.4,SNR=151						
MJAR				S	**Sn**	**20 19 50.0**	**-1.3**
	1.3nm,0.3s,baz=162,slow=16,SNR=14						
MAT	**Matsushiro**	**0.98**	**331**	P	**Pn**	**20 19 31.2**	**+0.3**
MAT				S	**Sn**	**20 19 50.9**	**-0.3**
MAT	**Matsushiro**	**0.98**	**331**	P	**Pn**	**20 19 31.3**	**+0.3**
MAT				S	**Sn**	**20 19 51.2**	**0.0**
MKAR	**Makanchi Array**	**43.06**	**303**	P	**P**	**20 26 48.7**	**+0.7**
	0.1nm,0.4s,baz=94,slow=8.8,SNR=4.4						
WRA	**Warramunga Arr**	**55.49**	**185**	P	**P**	**20 28 21.4**	**-1.0**
	0.7nm,0.6s,baz=0.4,slow=7.2,SNR=20						
FINES	**FINESS Array B**	**69.00**	**332**	P	**P**	**20 29 52.1**	**+0.3**
	0.9nm,0.6s,baz=46,slow=8.2,SNR=5.1						

*JMA **11** 20:33:00.5±0.1, 23°.10N×121°.55E, h14km±3km, M2.5*
*TAP **11** 20:33:02.3, 23°.14N×121°.38E, h22km, ML2.8, C*
ISC 11 20:33:01.2±0.9, 23°12N±0°.02×121°46E±0°.02, h18km±2km, n74, σ0s87/121, 1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHKT	**Chengkung**	**0.09**	**259**	*i* P	**Pg**	**20 33 06.5**	**+1.8**
	baz=181						
CHKT				S	**Sg**	**20 33 09.6**	**+2.5**
	baz=181						
FULB	**Fuli**	**0.17**	**298**	P	**Pg**	**20 33 06.8**	**+1.0**
	baz=304						
ECBN	**Changbin**	**0.20**	**357**	P	**Pg**	**20 33 07.8**	**+1.7**
	baz=30						
ECBN				*e*S	**Sg**	**20 33 12.1**	**+2.7**
	baz=30						
EDH	**Donghe**	**0.20**	**225**	*e*P	**Pg**	**20 33 07.8**	**+1.7**
	baz=199						
EDH				*e*S	**Sg**	**20 33 11.9**	**+2.3**
	baz=199						
ECS	**Chishang**	**0.23**	**264**	*e*P	**Pb**	**20 33 07.1**	**+0.5**
	baz=252						
ECS				*e*S	**Sb**	**20 33 10.8**	**+0.6**
	baz=252						
EYUL	**Yuli**	**0.26**	**330**	*e*P	**Pb**	**20 33 08.6**	**+1.2**
	baz=335						
EYUL				*e*S	**Sb**	**20 33 13.6**	**+2.1**
	baz=335						
TWF1	**Yuli**	**0.28**	**327**	P	**Pb**	**20 33 08.2**	**+0.6**
	baz=328						
TWF1				*e*S	**Sb**	**20 33 12.9**	**+0.9**
	baz=328						
YULB	**Yu-li**	**0.31**	**331**	P	**Pb**	**20 33 08.6**	**+0.3**
	baz=330						
YULB				*e*S	**Sb**	**20 33 13.3**	**+0.2**
	baz=330						
LONT	**Longtian**	**0.37**	**236**	*e*P	**Pb**	**20 33 10.0**	**+0.7**
	baz=235						
LONT				*e*S	**Sb**	**20 33 15.0**	**+0.3**
	baz=235						
HGSD	**Ruisui**	**0.38**	**355**	*e*P	**Pb**	**20 33 09.7**	**+0.4**
	baz=18						
EHY	**Hungye**	**0.41**	**342**	P	**Pg**	**20 33 09.8**	**+0.2**
	baz=339						
EHY				*e*S	**Sg**	**20 33 15.1**	**-0.2**
	baz=339						
ELDTW	**Lidau**	**0.42**	**280**	*i*P	**Pg**	**20 33 09.6**	**-0.2**
	baz=277						
ELDTW				*e*S	**Sg**	**20 33 14.5**	**-1.1**
	baz=277						
LDUT	**Ludao**	**0.44**	**179**	*e*P	**Pn**	**20 33 11.9**	**-0.7**
	baz=169						
LDUT				*e*S	**Sn**	**20 33 19.3**	**-0.8**
	baz=169						
TWGBT	**Beinan**	**0.46**	**230**	*e*P	**Pg**	**20 33 10.8**	**+0.3**
	baz=230						
TWGBT				*e*S	**Sg**	**20 33 17.2**	**+0.4**
	baz=230						
TWG	**Pinlang**	**0.47**	**231**	P	**Pg**	**20 33 11.0**	**+0.4**
	baz=230						
TWG				*e*S	**Sg**	**20 33 17.3**	**+0.3**
	baz=230						
EGFH	**Guangfu**	**0.55**	**357**	*e*P	**Pg**	**20 33 12.0**	**-0.2**
	baz=349						
YUS	**Yu-Shan**	**0.60**	**308**	P	**Pg**	**20 33 13.0**	**-0.2**
	baz=304						
YUS				*e*S	**Sg**	**20 33 20.8**	**-0.5**
	baz=304						
STYH	**Taoyuan**	**0.63**	**275**	P	**Pb**	**20 33 13.5**	**-0.2**
	baz=273						
STYH				*e*S	**Sb**	**20 33 21.4**	**-0.8**
	baz=273						
STYT	**Tauyuan**	**0.65**	**274**	P	**Pb**	**20 33 13.3**	**-0.7**
	baz=267						
STYT				*e*S	**Sb**	**20 33 22.4**	**-0.3**
	baz=267						
ESL	**Shilin**	**0.69**	**358**	*e*P	**Pg**	**20 33 15.1**	**+0.2**
	baz=353						
ESL				*e*S	**Sb**	**20 33 22.7**	**-1.3**
	baz=353						
ECL	**Taimali**	**0.70**	**222**	P	**Pb**	**20 33 14.0**	**-0.8**
	baz=215						
ECL				*e*S	**Sb**	**20 33 22.4**	**-1.7**
	baz=215						
ALS	**Alishan**	**0.72**	**303**	P	**Pb**	**20 33 15.3**	**0.0**
	baz=304						
SLGT	**Liugui**	**0.76**	**261**	*e*P	**Pb**	**20 33 15.9**	**0.0**
	baz=253						
TPUB	**Ta-pu**	**0.79**	**284**	P	**Pb**	**20 33 16.5**	**+0.2**
	baz=288						
TPUB				*e*S	**Sb**	**20 33 26.8**	**+0.1**
	baz=288						
WTP	**Ta-pu**	**0.79**	**279**	P	**Pb**	**20 33 16.6**	**+0.1**
	baz=278						
WTP				*e*S	**Sb**	**20 33 26.6**	**-0.3**
	baz=278						
WHYT	**Xinyi Township**	**0.80**	**316**	*e*P	**Pg**	**20 33 17.0**	**+0.1**
	baz=311						
WHYT				*e*S	**Sb**	**20 33 26.8**	**-0.4**
	baz=311						
SGST	**Jiashian**	**0.81**	**268**	*e*P	**Pb**	**20 33 16.3**	**-0.4**
	baz=265						
SGST				*e*S	**Sb**	**20 33 27.6**	**+0.2**
	baz=265						
SSLB	**Suanglung**	**0.81**	**325**	*e*P	**Pb**	**20 33 16.3**	**-0.6**
	baz=335						
SSLB				*e*S	**Sb**	**20 33 25.9**	**-1.7**
	baz=335						
ETM	**Tongmen**	**0.84**	**2**	*e*P	**Pb**	**20 33 16.5**	**-0.9**
	baz=7.0						
SSD	**Sandimen**	**0.85**	**244**	*e*P	**Pb**	**20 33 17.4**	**0.0**
	baz=236						
CHN1	**Nanshi**	**0.86**	**275**	P	**Pg**	**20 33 18.1**	**+0.1**
	baz=279						
CHN1				*e*S	**Sg**	**20 33 29.6**	**+0.1**
	baz=279						
CHN5	**Tsauling**	**0.86**	**304**	P	**Pg**	**20 33 18.1**	**0.0**
	baz=304						
CHN5				*e*S	**Sg**	**20 33 29.7**	**+0.1**
	baz=304						
OWD	**Renai**	**0.87**	**343**	*e*P	**Pb**	**20 33 17.1**	**-0.8**
	baz=345						
SNST	**Tainan City**	**0.89**	**277**	*e*P	**Pg**	**20 33 18.7**	**+0.1**
	baz=275						
SNST				*e*S	**Sg**	**20 33 30.9**	**+0.5**
	baz=275						
TWK	**Hsinying**	**0.91**	**280**	P	**Pb**	**20 33 18.6**	**+0.1**
	baz=278						
TWK				*e*S	**Sg**	**20 33 31.2**	**+0.3**
	baz=278						
MASBT	**Mashibuluo**	**0.92**	**237**	*e*P	**Pb**	**20 33 18.2**	**-0.3**
	baz=231						
MASBT				*e*S	**Sb**	**20 33 28.6**	**-1.8**
	baz=231						
SMLT	**Sun Moon Lake**	**0.92**	**326**	P	**Pb**	**20 33 18.5**	**-0.2**
	baz=333						
SMLT				*e*S	**Sb**	**20 33 30.6**	**0.0**
	baz=333						
EAST	**Anshuo**	**0.93**	**218**	*e*P	**Pb**	**20 33 17.9**	**-0.8**
	baz=212						
TYC	**Yuchr**	**0.96**	**325**	P	**Pn**	**20 33 19.8**	**0.0**
	baz=336						
TYC				*e*S	**Sb**	**20 33 31.3**	**-0.3**
	baz=336						
TWD	**Chiawan**	**0.97**	**7**	*e*P	**Pb**	**20 33 19.8**	**+0.4**
	baz=358						
WJS	**Zhushan**	**0.97**	**316**	*e*P	**Pg**	**20 33 20.2**	**+0.1**
	baz=316						
WJS				*e*S	**Sn**	**20 33 33.3**	**0.0**
	baz=316						
CHGB	**Renai**	**0.97**	**344**	*e*P	**Pb**	**20 33 19.1**	**-0.6**
	baz=346						
CHGB				*e*S	**Sb**	**20 33 30.4**	**-1.9**
	baz=346						
CHN3	**Shinhua**	**1.01**	**268**	*e*P	**Pg**	**20 33 22.0**	**+1.2**
	baz=267						
CHN3				*e*S	**Sn**	**20 33 36.6**	**+2.4**
	baz=267						
WDLH	**Douliu**	**1.02**	**304**	*e*P	**Pg**	**20 33 21.2**	**+0.2**
	baz=304						
CHY	**Chiayi**	**1.03**	**292**	*e*P	**Pn**	**20 33 20.9**	**+0.3**
	baz=291						
WHF	**Hehuan Shan**	**1.04**	**350**	*e*P	**Pb**	**20 33 19.9**	**-1.0**
	baz=3.0						
WHF				*e*S	**Sb**	**20 33 32.9**	**-1.5**
	baz=3.0						
WNT	**Mingjian**	**1.04**	**317**	P	**Pg**	**20 33 21.5**	**+0.1**
	baz=316						
WNT				*e*S	**Sn**	**20 33 35.0**	**0.0**
	baz=316						
ETL	**Fush Village**	**1.05**	**8**	*e*P	**Pg**	**20 33 21.8**	**+0.3**
ETL				*e*S	**Sg**	**20 33 36.2**	**+0.9**
NACB	**Ninganchiao**	**1.06**	**7**	*e*P	**Pb**	**20 33 20.6**	**-0.4**
	baz=11						
NACB				*e*S	**Sb**	**20 33 34.2**	**-0.3**
	baz=11						
WCS	**Beigang Elemen**	**1.06**	**332**	*e*P	**Pb**	**20 33 21.1**	**0.0**
	baz=339						
WCS				*e*S	**Sn**	**20 33 35.3**	**-0.2**
	baz=339						
WNT1	**Nantou City**	**1.06**	**318**	*e*P	**Pb**	**20 33 21.1**	**0.0**
	baz=317						
WNT1				*e*S	**Sb**	**20 33 35.0**	**+0.3**
	baz=317						
SCZT	**Fangliau**	**1.07**	**227**	*e*P	**Pb**	**20 33 21.1**	**-0.1**
	baz=218						
ETLH	**Xiulin Townshi**	**1.08**	**1**	*e*P	**Pb**	**20 33 21.6**	**+0.1**
	baz=4.0						
ICHU	**Yijhu**	**1.11**	**283**	*e*P	**Pg**	**20 33 22.8**	**0.0**
	baz=282						
FUSS	**Fushou**	**1.14**	**350**	*e*P	**Pn**	**20 33 22.0**	**-0.6**
	baz=2.0						
CHN8	**Yiju**	**1.17**	**281**	*e*S	**Sg**	**20 33 39.4**	**+0.2**
	baz=281						
WHP	**Taichung City**	**1.25**	**338**	*e*P	**Pg**	**20 33 25.1**	**-0.3**
	baz=349						
WSF	**Szhu**	**1.25**	**295**	*e*P	**Pn**	**20 33 23.4**	**-0.4**
	baz=294						
WSF				*e*S	**Sb**	**20 33 40.2**	**+0.1**
	baz=294						
ENA	**Nanau**	**1.33**	**11**	*e*P	**Pn**	**20 33 24.9**	**+0.1**
	baz=2.0						
TWQ1	**Liyutan**	**1.38**	**333**	*e*S	**Sb**	**20 33 43.9**	**+0.2**
	baz=332						
ENTT	**Nioudou**	**1.52**	**4**	*e*P	**Pn**	**20 33 28.3**	**+0.8**
	baz=21						
YHNB	**Yeheng**	**1.55**	**357**	*e*P	**Pn**	**20 33 28.3**	**+0.4**
	baz=15						
NSTT	**Nanjuang**	**1.56**	**344**	*e*P	**Pb**	**20 33 29.6**	**0.0**
	baz=345						
LIOB	**Emei**	**1.57**	**345**	*e*P	**Pb**	**20 33 29.7**	**-0.1**
	baz=345						
TWE	**Neicheng**	**1.61**	**7**	*e*P	**Pn**	**20 33 28.5**	**-0.2**
	baz=9.0						
PHUB	**P'eng-hu**	**1.78**	**283**	*e*P	**Pn**	**20 33 31.0**	**-0.1**
	baz=283						
PHUB				*e*S	**Sn**	**20 33 51.4**	**-1.9**
	baz=283						
PNG	**Penghu**	**1.81**	**285**	*e*P	**Pn**	**20 33 31.6**	**+0.1**
	baz=283						
JYNG	**Yonagunijimaku**	**1.90**	**45**	P	**Pn**	**20 33 33.3**	**+0.6**
JYNG				*e*S	**Sn**	**20 33 55.7**	**-0.5**
YOJ	**Yonaguni jima**	**1.95**	**46**	P	**Pn**	**20 33 34.2**	**+0.8**
YOJ				*e*S	**Sn**	**20 33 56.5**	**-0.9**
HATJ	**Hateruma jima**	**2.34**	**66**	P	**Pn**	**20 33 38.3**	**-0.5**
IRIF	**Iriomote-Funau**	**2.41**	**59**	P	**Pn**	**20 33 40.6**	**+1.0**
IRIF				*e*S	**Sn**	**20 34 09.1**	**+0.4**
JKRS	**Kuro-shima**	**2.59**	**64**	P	**Pn**	**20 33 43.6**	**+1.5**
JKRS				*e*S	**Sn**	**20 34 13.6**	**+0.5**
JIJ	**Ishigaki jima**	**2.75**	**63**	P	**Pn**	**20 33 44.9**	**+0.5**
JIJ				S	**Sn**	**20 34 16.1**	**-1.1**
JISG	**Ishigakijimahi**	**2.99**	**60**	P	**Pn**	**20 33 47.9**	**+0.2**
JISG				S	**Sn**	**20 34 20.9**	**-2.2**

JMA 11 20:48:56.9, 36°32N×139°17E, h11km±1km, M0.4, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAG	**Ashikaga**	**0.25**	**65**	P	Pg	20 49 02.2	+0.1
JAG				S	Sg	20 49 05.4	-0.2
JRY	**Ryogami san**	**0.37**	**216**	P	Pg	20 49 04.4	+0.1
JRY				S	Sg	20 49 09.3	0.0

*BJI **11** 20:49:00.4±0.0, 35°.45N×140°.39E, h47km, mB4.9/51, mb4.9/73, Ms4.4/65, Ms7 4.2/63*
*BGR **11** 20:49:00.9±0.0, 34°.26N×139°.68E, h33km, mb5.0, Ms4.5*
*MOS **11** 20:49:05.8±1.0, 35°.52N×139°.72E, h56km, mb5.4/41, Error ellipse: s-maj=6.5km s-min=4.0km az=118.9*
*NEIC **11** 20:49:07.3±2.2, 35°.50N±0°.04×139°.91E±0°.07, h51km±3km, mb5.3/412, Mww5.1, Error ellipse: s-maj=8.5km s-min=6.0km az=116.0*
*JMA **11** 20:49:07.1±0.2, 35°.55N×139°.83E, h57km±2km, M5.2 Broadband fault plane solution: P waves. NP1: ϕs201.00000°, δ55.00000°, λ-137.00000°. NP2: ϕs83.00000°, δ56.00000°, λ-44.00000°. Principal axes: T Plg1.0000°, Azm142.0000°; N Plg37.0000°, Azm233.0000°; P Plg53.0000°, Azm51.0000°;*
*NIED **11** 20:49:07.2, 35°.55N×139.83E, h57km, MW5.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr-1.92; Mθθ2.07; Mϕϕ-0.15; Mrθ0.10; Mθϕ2.75; Mϕr1.83; Fault plane solution: M₀3.82000×10¹⁶ NP1: ϕs202.00000°, δ68.00000°, λ-137.00000°. NP2: ϕs93.00000°, δ50.00000°, λ-29.00000°.*
*IDC **11** 20:49:07.6±0.4, 35°.47N×139°.66E, h58km±3km, mb4.9/44, mb1 4.9/48, mb1mx4.9/50, mbtmp5.1/48, MS4.0/18, Ms1 4.0/18, ms1mx3.8/65 Error ellipse: s-maj=9.4km s-min=8.6km az=84.0*
*NEIC **11** 20:49:09, 35°.39N×139°.95E, h46km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr-2.51; Mθθ3.10; Mϕϕ-0.59; Mrθ-0.62; Mθϕ2.96; Mϕr2.61; Fault plane solution: M₀4.91000×10¹⁶ NP1:ϕs95.00000°, δ53.00000°, λ-32.00000°. NP2:ϕs206.00000°, δ64.00000°, λ-138.00000°. Principal axes: T 4.8285, Plg6.0000°, Azm329.0000°; N 0.1633, Plg43.0000°, Azm233.0000°; P -4.9918, Plg47.0000°, Azm65.0000°;*
*GCMT **11** 20:49:10.3±0.3, 35°.45N±0°.02×139°.78E±0°.02, h44km±1km, MW5.1/99, Moment Tensor Solution. s47,c56; s99,c158; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.39±.20; Mθθ2.50±.14; Mϕϕ-0.10±.13; Mrθ-0.02±.12; Mθϕ3.47±.10; Mϕr2.49±.10; Best double couple: M₀4.89700×10¹⁶ NP1:ϕs92.00000°, δ50.00000°, λ-28.00000°. NP2: ϕs201.00000°, δ69.00000°, λ-137.00000°. Principal axes: T 5.1850, Plg11.0000°, Azm322.0000°; N -0.5670, Plg43.0000°, Azm222.0000°; P -4.6100, Plg45.0000°, Azm64.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 11 20:49:06.5±0.3, 35°50N±0°.03×139°90E±0°.03, h52km±2km, h52km:pP-P, n1264, σ1s78/1211, mb5.3/348, MS4.1/34, 104C-55D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOK	**Tokyo**	**0.22**	**328**	P	**Pn**	**20 49 16.6**	**+1.4**
TOK				S	**Sn**	**20 49 23.9**	**+2.6**
JCN	**Nagara**	**0.26**	**108**	⇑P	**Pn**	**20 49 17.7**	**+2.2**
JCN				S	**Sn**	**20 49 26.0**	**+4.2**
JYO	**Yokosk**	**0.34**	**215**	⇓P	**Pn**	**20 49 17.7**	**+1.5**
JYO				S	**Sn**	**20 49 25.5**	**+2.5**
JKUC	**kamogawauchiur**	**0.42**	**144**	⇑P	**Pn**	**20 49 18.5**	**+1.5**
JSMT	**Sammumatsuo**	**0.47**	**72**	P	**Pn**	**20 49 19.6**	**+2.1**
JSGW

JSG	Sagara	1.63	240			Pn	20 49 33.6	+0.8
JNY	Yasuok	1.67	266	⇑	P	Pn	20 49 34.6	+1.1
JFFD	Fukushimafurud	1.68	18	⇑	P	Pn	20 49 33.7	+0.2
JFFD					S	Sn	20 49 53.3	-0.5
JNG	Nsakai	1.72	302	⇑	P	Pn	20 49 34.9	+0.7
MJAR	Matsushiro Arr	1.72	308		P	Pn	20 49 33.1	-1.0
	596nm,0.3s,baz=145,slow=12,SNR=8056							
MJAR					S	Sn	20 49 56.9	+1.8
	273nm,0.3s,baz=147,slow=20,SNR=5.2							
MJAR	Matsushiro Arr	1.72	308		P	Pn	20 49 33.6	-0.5
MJAR	Matsushiro Arr	1.72	308		Pn	Pn	20 49 33.6	-0.5
MAJO	Matsushiro	1.73	308	⇑	iP	Pn	20 49 34.7	+0.5
MAJO	Matsushiro	1.73	308			Pn	20 49 34.6	+0.4
MAT	Matsushiro	1.73	308		P	Pn	20 49 34.7	+0.5
MAT					S	Sn	20 49 55.6	+0.6
MAT	Matsushiro	1.73	308		P	Pn	20 49 34.6	+0.4
MJB9	Matsu-Tunnel	1.73	308			Pn	20 49 34.7	+0.5
JKKS	Kakegawashinom	1.74	245	⇓	P	Pn	20 49 35.4	+1.1
ONAJ	Iwakimizuishiy	1.76	24	⇓	P	Pn	20 49 34.9	+0.3
ONAJ					S	Sn	20 49 55.6	-0.3
JYZW	Yoshizawa	1.84	255		P	Pn	20 49 36.6	+0.8
HMMJ	Hamamatsu 2	1.90	251	⇓	P	Pn	20 49 37.1	+0.6
JFY	Yanaizu	1.91	355	⇑	P	Pn	20 49 37.2	+0.5
JFT	Otama	2.05	10		P	Pn	20 49 39.3	+0.8
JSSY	Shinshiroyabe	2.05	254	⇓	P	Pn	20 49 39.2	+0.7
JGF	Kuroka	2.08	274	⇑	P	Pn	20 49 40.3	+1.3
JGF	Kuroka	2.08	274			Pn	20 49 40.4	+1.3
JJN	Nakama	2.13	319	⇑	P	Pn	20 49 40.4	+0.7
JAO	Obara	2.17	265		P	Pn	20 49 41.3	+1.0
JGN	Niukaw	2.22	290	⇑	P	Pn	20 49 42.2	+1.2
JIZZ	Izumozaki	2.25	335	⇑	P	Pn	20 49 42.1	+0.9
JTT	Ttatey	2.36	299	⇑	P	Pn	20 49 44.0	+1.2
JMST	Minamisoumatoc	2.36	19		P	Pn	20 49 43.5	+0.7
INU	Inuyama	2.36	267			Pn	20 49 43.4	+0.6
JNS	Sasagawa	2.36	349	⇑	P	Pn	20 49 43.3	+0.5
JHJ	Hachijo jima 2	2.38	182		P	Pn	20 49 44.0	+0.9
	6μm,0.3s,baz=131,slow=20,SNR=1086							
JHJ					S	Sn	20 50 11.2	+0.2
	4μm,0.3s,baz=68,slow=22,SNR=15							
JHJ2	Mitsune	2.38	182	⇑	P	Pn	20 49 43.8	+0.7
JHJ2	Mitsune	2.38	182			Pn	20 49 43.8	+0.7
JYAR	Yonezawaarcadi	2.42	5	⇑	P	Pn	20 49 44.7	+1.1
JAA	Atsumi	2.42	250	⇓	P	Pn	20 49 44.0	+0.3
JMM	Marumori	2.47	17			Pn	20 49 45.0	+0.7
JYTA	Yamagatataniai	2.58	273	⇑	P	Pn	20 49 46.9	+1.0
JYS	Shirataka	2.72	3	⇑	P	Pn	20 49 49.0	+1.2
JSZ	Suzu	2.82	314	⇑	P	Pn	20 49 48.9	-0.2
JSD	Sado	2.86	333	⇑	P	Pn	20 49 49.4	-0.2
JSD	Sado	2.86	333		Pn	Pn	20 49 49.3	-0.3
JJH	Hakui	2.90	300	⇑	P	Pn	20 49 50.8	+0.6
JOU	Okura	2.93	12	⇑	P	Pn	20 49 51.9	+1.3
JKG	Kaga	3.00	286	⇑	P	Pn	20 49 52.8	+1.2
JYA	Atsumi	3.09	357	⇑	P	Pn	20 49 54.0	+1.2
JOFO	Osakifurukawao	3.20	14		P	Pn	20 49 56.3	+2.0
JHG	Hegura jima	3.35	315		P	Pn	20 49 56.5	+0.1
JYK	Kaneyama	3.43	6	⇑	P	Pn	20 49 59.0	+1.5
JWT	Wachi	3.68	268			Pn	20 50 01.4	+0.5
JTB	Tobi-shima	3.70	356		P	Pn	20 50 02.0	+0.8
JRG	Rokugo	3.93	8	⇑	P	Pn	20 50 06.5	+2.1
JSZ	Iwateshizukuis	4.32	11		P	Pn	20 50 11.9	+2.3
JKZ	Kuzumaki	4.62	14	⇑	P	Pn	20 50 15.1	+1.3
JTH	Tanohata	4.70	19		P	Pn	20 50 15.5	+0.7
JAH	Hinai	4.72	7	⇑	P	Pn	20 50 17.1	+2.0
JANG	Nango	5.03	14	⇓	P	Pn	20 50 20.0	+0.6
JMN	Monobe	5.27	252		Pn	Pn	20 50 23.4	+0.6
JTM	Tenmabayashi	5.36	10		Pn	Pn	20 50 24.8	+0.9
JHS	Saijyo	5.58	267			Pn	20 50 28.2	+1.2
JOT	Ohata	5.94	8		P	Pn	20 50 33.2	+1.3
JEW	Eniwo	7.43	9			Pn	20 50 52.2	-0.1
ULDB	Ullung-do Bore	7.52	288		P	Pn	20 50 56.0	+2.5
	SNR=9.2							
ULDB	Ullung-do Bore	7.52	288		P	Pn	20 50 56.0	+2.5
	SNR=9.2							
JNU	Nakatsue	7.83	255		P	Pn	20 50 59.3	+1.4
	3.5nm,0.3s,baz=44,slow=4.4,SNR=17							
JNU					LR	LR	20 54 34.6	
	comp=Z,1μm,18.7s,baz=88,slow=43							
JNU	Nakatsue	7.83	255			Pn	20 50 58.2	+0.3
KSULJ	Ulijin	8.58	281		P	Pn	20 51 11.0	+2.9
	SNR=8.8							
KSULJ	Ulijin	8.58	281		P	Pn	20 51 11.0	+2.9
	SNR=8.8							
KSPHA	Pohang	8.58	278		P	Pn	20 51 11.0	+2.9
	SNR=6.2							
KSPHA	Pohang	8.58	278		P	Pn	20 51 11.0	+2.9
	SNR=6.2							
JCJ	Chichijima	8.60	166		P	Pn	20 51 06.4	-2.0
	336nm,0.3s,baz=354,slow=4.8,SNR=126							
JCJ					S	Sn	20 52 37.3	-6.8
	60nm,0.3s,baz=296,slow=22,SNR=1.7							
JCJ					LR	LR	20 54 35.0	
	comp=Z,358nm,20.3s,baz=356,slow=38							
JCJ	Chichijima	8.60	166			Pn	20 51 05.6	-2.8
UJN	ULJIN	8.61	283		P	Pn	20 51 10.3	+1.9
	SNR=7.3							
UJN	ULJIN	8.61	283		P	Pn	20 51 10.3	+1.9
	SNR=7.3							
JTU	Tsushima	8.67	267		Pn	Pn	20 51 09.5	+0.1
IMWB	Imwonan-gil	8.69	285		P	Pn	20 51 11.5	+1.9
	SNR=14							
IMWB	Imwonan-gil	8.69	285		P	Pn	20 51 11.5	+1.9
	SNR=14							
KSBUS	Busan	8.82	271		P	Pn	20 51 17.0	+5.7
	SNR=7.2							
KSBUS	Busan	8.82	271		P	Pn	20 51 17.0	+5.7
	SNR=7.2							
JSU	Suzuyama	8.84	246		Pn	Pn	20 51 11.4	-0.3
ASAJ	Asahikawa	8.85	13		P	Pn	20 51 10.5	-1.3
	16nm,0.3s,baz=232,slow=7.7,SNR=60							
ASAJ					S	Sn	20 52 45.5	-4.5
	3.0nm,0.3s,baz=232,slow=18,SNR=2.5							
ASAJ					LR	LR	20 54 44.5	
	comp=Z,835nm,22.0s,baz=206,slow=38							
ASAJ	Asahikawa	8.85	13		P	Pn	20 51 09.9	-1.9
JKA	Kamikawa-asahi	8.85	13		Pn	Pn	20 51 09.9	-1.8
KSADO	Andong	8.93	279		P	Pn	20 51 16.0	+3.1
	SNR=21							
KSADO	Andong	8.93	279		P	Pn	20 51 16.0	+3.1
	SNR=21							
KSTBA	Taebaek	8.99	284		P	Pn	20 51 16.4	+2.7
	SNR=17							
KSTBA	Taebaek	8.99	284		P	Pn	20 51 16.4	+2.7
	SNR=17							
NMR	Nemuro--Hokkai	9.06	28	⇓	iP	Pn	20 51 11.9	-2.6
KSGWL	Sabuk	9.10	284		P	Pn	20 51 18.0	+2.8
	SNR=13							
KSGWL	Sabuk	9.10	284		P	Pn	20 51 18.0	+2.8
	SNR=13							
KSEUS	ULSEONG	9.14	279		P	Pn	20 51 18.5	+2.8
	SNR=25							
KSEUS	ULSEONG	9.14	279		P	Pn	20 51 18.5	+2.8
	SNR=25							
KSJMJ	Jumunjin	9.26	288		P	Pn	20 51 20.6	+3.2
	SNR=11							
KSJMJ	Jumunjin	9.26	288		P	Pn	20 51 20.6	+3.2
	SNR=11							
KSDGY	Daegwallycong	9.29	287		P	Pn	20 51 20.1	+2.2
	SNR=17							
KSDGY	Daegwallycong	9.29	287		P	Pn	20 51 20.1	+2.2
	SNR=17							
GLVR	Golovnino	9.30	26		eP	Pn	20 51 16.0	-1.8
GLVR					pmax	pmax		
	comp=Z,465nm,0.4s							
KSYOW	Yeongwol	9.39	284		P	Pn	20 51 22.2	+3.1
	SNR=38							
KSYOW	Yeongwol	9.39	284		P	Pn	20 51 22.2	+3.1
	SNR=38							
RUSJ	Misakicho	9.53	24	⇑	iP	Pn	20 51 20.2	-0.7
RUSJ					i S	Sn	20 53 01.8	-4.7
KSGIC	Gimchen	9.61	277		P	Pn	20 51 24.7	+2.6
	SNR=6.2							
KSGIC	Gimchen	9.61	277		P	Pn	20 51 24.7	+2.6
	SNR=6.2							
GRPR	Tuman	9.61	26		eP	Pn	20 51 19.1	-3.0
GRPR					pmax	pmax		
	comp=Z,491nm,0.3s							
GRPR					pmax	pmax		
	comp=E,236nm,0.5s							
GRPR					pmax	pmax		
	comp=N,192nm,0.3s							
KSMGY	Mungyeong	9.66	280		P	Pn	20 51 25.1	+2.3
	SNR=8.3							
KSMGY	Mungyeong	9.66	280		P	Pn	20 51 25.1	+2.3
	SNR=8.3							
YUK	Yuzh-Kuril'sk	9.68	26		eP	Pn	20 51 21.2	-1.8
YUK					pmax	pmax		
	comp=Z,396nm,0.5s							
YUK					pmax	pmax		
	comp=N,305nm,0.4s							
YUK					pmax	pmax		
	comp=E,237nm,0.4s							
KSCPR	CHUPUNGNYEONG	9.71	278		P	Pn	20 51 27.3	+3.7
	SNR=9.3							
KSCPR	CHUPUNGNYEONG	9.71	278		P	Pn	20 51 27.3	+3.7
	SNR=9.3							
SEHB	SEOHWA	9.73	290		P	Pn	20 51 26.3	+2.4
	SNR=15							
SEHB	SEOHWA	9.73	290		P	Pn	20 51 26.3	+2.4
	SNR=15							
KSWJU	Wonju	9.73	285		P	Pn	20 51 27.0	+3.1
	SNR=15							
KSWJU	Wonju	9.73	285		P	Pn	20 51 27.0	+3.1
	SNR=15							
KSCHJ	Chungju	9.74	282		P	Pn	20 51 28.0	+4.1
	SNR=11							
KSCHJ	Chungju	9.74	282		P	Pn	20 51 28.0	+4.1
	SNR=11							
KSIJA	INJE	9.78	288		P	Pn	20 51 27.5	+3.0
	SNR=35							
KSIJA	INJE	9.78	288		P	Pn	20 51 27.5	+3.0
	SNR=35							
MSHR	Mys Shultsa	9.81	319		ceP	Pn	20 51 25.6	+0.8
MSHR					pmax	pmax		
	comp=Z,55nm,1.0s							
VLA	Vladivostok	9.82	323		i P	Pn	20 51 25.1	+0.1
KSRS	Korea Array	9.84	285		P	Pn	20 51 28.1	+2.7
	comp=Z,8.2nm,0.3s,baz=96,slow=14,SNR=112							
KSRS					LR	LR	20 55 13.5	
	comp=Z,1μm,19.5s,baz=92,slow=38							
TEY	Ternei	9.85	346	⇑	eP	Pn	20 51 28.2	+2.8
TEY					pmax	pmax		
	comp=Z,50nm,0.6s							
TEY					pmax	pmax		
	comp=N,50nm,0.5s							
TEY					pmax	pmax		
	comp=E,20nm,0.8s							
TEY					pmax	pmax		
	comp=N,140nm,1.0s							
TEY					pmax	pmax		
	comp=Z,140nm,1.0s							
TEY					pmax	pmax		
	comp=E,60nm,1.0s							
KSBON	Boeun	9.86	279		P	Pn	20 51 28.3	+2.8
	SNR=15							
KSBON	Boeun	9.86	279		P	Pn	20 51 28.3	+2.8
	SNR=15							
OKCB	Cheongsan-myeo	9.86	278		P	Pn	20 51 29.0	+3.4
	SNR=5.3							
OKCB	Cheongsan-myeo	9.86	278		P	Pn	20 51 29.0	+3.4
	SNR=5.3							
KSAR	Wonju Array Be	9.87	285		P	Pn	20 51 27.8	+2.1
KSAR	Wonju Array Be	9.87	285		Pn	Pn	20 51 27.8	+2.1
KS19	Wonju Array Si	9.89	285		Pn	Pn	20 51 27.4	+1.3
HAMB	Hamyang	9.91	274		P	Pn	20 51 31.0	+4.7
	SNR=18							
HAMB	Hamyang	9.91	274		P	Pn	20 51 31.0	+4.7
	SNR=18							
KSCHC	Chuncheon	9.98	287		P	Pn	20 51 30.0	+2.8
	SNR=10							
KSCHC	Chuncheon	9.98	287		P	Pn	20 51 30.0	+2.8
	SNR=10							
EMSB	Eumseong	10.03	282		P	Pn	20 51 32.0	+4.1
	SNR=20							
EMSB	Eumseong	10.03	282		P	Pn	20 51 32.0	+4.1
	SNR=20							
HWCB	Hwacheon	10.17	289		P	Pn	20 51 34.0	+4.2
	SNR=17							
HWCB	Hwacheon	10.17	289		P	Pn	20 51 34.0	+4.2
	SNR=17							
NAWB	Namwon	10.20	273		P	Pn	20 51 35.0	+4.7
	SNR=18							
NAWB	Namwon	10.20	273		P	Pn	20 51 35.0	+4.7
	SNR=18							
TJN	Taejon	10.21	279		i P	Pn	20 51 30.5	+0.2
KSICN	Icheon	10.22	284		P	Pn	20 51 33.9	+3.4
	SNR=14							
KSICN	Icheon	10.22	284		P	Pn	20 51 33.9	+3.4
	SNR=14							
KSJEO	Jeonju	10.26	276		P	Pn	20 51 36.0	+4.9
	SNR=9.9							
KSJEO	Jeonju	10.26	276		P	Pn	20 51 36.0	+4.9
	SNR=9.9							
KSCEA	Cheonan	10.31	281		P	Pn	20 51 35.6	+3.9
	SNR=14							
KSCEA	Cheonan	10.31	281		P	Pn	20 51 35.6	+3.9
	SNR=14							
SUCA	Sunchang	10.42	273		P	Pn	20 51 38.0	+4.8
	SNR=13							
SUCA	Sunchang	10.42	273		P	Pn	20 51 38.0	+4.8
	SNR=13							
KSJEU	Jeongeup	10.58	274		P	Pn	20 51 39.9	+4.5
	SNR=15							
KSJEU	Jeongeup	10.58	274		P	Pn	20 51 39.9	+4.5
	SNR=15							
KSSWO	Suwon	10.58	283		P	Pn	20 51 38.7	+3.3
	SNR=15							
KSSWO	Suwon	10.58	283		P	Pn	20 51 38.7	+3.3
	SNR=15							
KSDDC	Dongducheon	10.59	287		P	Pn	20 51 39.9	+4.3
	SNR=5.3							
USA0B	Ussuriysk Arra	10.60	327		P	Pn	20 51 36.8	+1.1
USA0B	Ussuriysk Arra	10.60	327		Pn	Pn	20 51 36.8	+1.1
USRK	Ussuriysk Ar.	10.60	327		P	Pn	20 51 36.2	+0.5
	baz=147,slow=12,SNR=36							
USRK					LR	LR	20 55 34.9	
	comp=E,754nm,20.4s,baz=141,slow=37							
USRK	Ussuriysk Ar.	10.60	327			Pn	20 51 35.0	-0.6
KSSEO	Seoul	10.64	285		P	Pn	20 51 39.4	+3.2
	SNR=8.5							
KSSEO	Seoul	10.64	285		P	Pn	20 51 39.4	+3.2
	SNR=8.6							
KSSEO	Seoul	10.64	285		P	Pn	20 51 39.4	+3.2
	SNR=8.5							
KSSEO	Seoul	10.64	285		P	Pn	20 51 39.4	+3.2
	SNR=8.6							
KSGUS	GUNSAN	10.68	277		P	Pn	20 51 41.8	+5.0
	SNR=7.9							
KSGUS	GUNSAN	10.68	277		P	Pn	20 51 41.8	+5.0
	SNR=7.9							
YNCB	YEONCHEON	10.71	288		P	Pn	20 51 40.8	+3.6
	SNR=40							
YNCB	YEONCHEON	10.71	288		P	Pn	20 51 40.8	+3.6
	SNR=40							
HAWB	Hwaseong-si	10.71	282		P	Pn	20 51 41.0	+3.7
	SNR=12							
HAWB	Hwaseong-si	10.71	282		P	Pn	20 51 41.0	+3.7
	SNR=12							
KSMUS	Musan	10.82	287		P	Pn	20 51 41.9	+3.2
	SNR=31							
KSMUS	Musan	10.82	287		P	Pn	20 51 41.9	+3.2
	SNR=31							
GOCB	Gochang-gun	10.86	273		P	Pn	20 51 44.0	+4.8
	SNR=12							
GOCB	Gochang-gun	10.86	273		P	Pn	20 51 44.0	+4.8
	SNR=12							
INCN	Inchon	10.87	284		P	Pn	20 51 39.5	+0.2
INCN	Inchon	10.87	284			Pn	20 51 39.5	+0.2
SMKB	Mukjeong-gil	10.87	275		P	Pn	20 51 44.0	+4.6
	SNR=8.5							
SMKB	Mukjeong-gil	10.87	275		P	Pn	20 51 44.0	+4.6
	SNR=8.5							
KSSES	Seosan	10.95	281		P	Pn	20 51 44.0	+3.5
	SNR=16							
KSSES	Seosan	10.95	281		P	Pn	20 51 44.0	+3.5
	SNR=16							
KSGAH	Ganghwa	11.04	285		P	Pn	20 51 44.8	+3.1
	SNR=11							
KSDEI	Deokjeokdo	11.26	283		P	Pn	20 51 48.1	+3.4
	SNR=6.3							
KUR	Kuril'sk	11.46	30		eP	Pn	20 51 46.1	-1.2
KUR					pmax	pmax		
	comp=Z,153nm,0.5s							
YSS	Yuzh-Sakhalins	11.64	10		ceP	Pn	20 51 48.1	-1.8
YSS					pmax	pmax		
	comp=Z,114nm,0.7s							
YSS	Yuzh-Sakhalins	11.64	10		Pn	Pn	20 51 47.3	-2.5
MDJ	Mudanjiang	12.04	322		P	Pn	20 51 56.7	+1.3
MDJ					pP	P	20 52 04.6	-2.2
MDJ					sP		20 52 10.6	
MDJ					S	Sn	20 54 09.0	+0.9
MDJ					sS	S	20 54 20.4	-15
MDJ					pmax	pmax		
	comp=Z,48nm,0.7s							
MDJ					pmax	pmax		
	comp=Z,620nm,6.1s							
MDJ					LR	LR		
	comp=Z,1μm,12.8s							
MDJ					LR	LR		
	comp=Z,810nm,14.0s							
MDJ					LR	LR		
	comp=Z,1μm,18.2s							
DACB	Daecheong-do R	12.42	285		P	Pn	20 52 04.2	+3.6
	SNR=9.4							
KSBAR	Backryungdo	12.43	286		P	Pn	20 52 04.4	+3.7
	SNR=5.4							
JOW	Kunigami	13.17	232		P	Pn	20 52 10.7	-0.2
	comp=Z,1.0nm,0.3s,baz=38,slow=17,SNR=2.8							
UGL	Uglegorsk	13.66	6		eP	P	20 52 25.7	+1.0
UGL					eS	Sn	20 54 42.7	-4.8
UGL					pmax	pmax		
	comp=Z,80nm,0.8s							
CN2	Changchun	13.87	311		eP	Pn	20 52 19.9	-0.4
CN2					epP	P	20 52 27.9	+0.8
CN2					eS	Sn	20 54 52.7	+0.1
CN2					pmax	pmax		
	comp=Z,20nm,0.9s							
CN2					pmax	pmax		
	comp=Z,400nm,8.0s							
CN2					LR	LR		
	comp=Z,500nm,13.0s							
CN2					LR	LR		
	comp=Z,400nm,13.0s							
CN2					LR	LR		
	comp=Z,600nm,14.0s							
SNY	Shenyang	14.22	301	⇓	P	Pn	20 52 25.8	+0.8
SNY					S	Sn	20 55 06.2	+4.9
SNY					pmax	pmax		
	comp=Z,19nm,1.0s							
SNY					LR	LR		
	comp=Z,530nm,11.8s							
SNY					LR	LR		
	comp=Z,610nm,15.9s							
SNY					LR	LR		
	comp=Z,980nm,16.9s							
DL2	Dalian	14.96	289		P	P	20 52 37.1	-2.1
DL2					S	Sn	20 55 24.5	+5.5
DL2					pmax	pmax		
	comp=Z,140nm,0.8s							
DL2					pmax	pmax		
	comp=Z,570nm,5.4s							
DL2					LR	LR		
	comp=Z,610nm,10.4s							
DL2					LR	LR		
	comp=Z,950nm,15.7s							
DL2					LR	LR		
	comp=Z,1μm,17.1s							
KLR	Kul'dur	14.97	339		P	Pn	20 52 33.6	-1.2
	comp=Z,1.2nm,0.3s,baz=165,slow=12,SNR=40							
KLR	Kul'dur	14.97	339		i P	Pn	20 52 33.4	-1.4
GRNR	Gornyy	15.47	352	⇓	iP	Pn	20 52 37.8	-3.4
GRNR					eS	Sn	20 55 26.9	-4.6
GRNR					pmax	pmax		
	comp=Z,10.0nm,0.7s							
GRNR					smax	smax		
	comp=N,2.0nm,0.6s							
GRNR					MLR	MLR		
	comp=E,230nm,16.0s							
GRNR					MLR	MLR		
	comp=N,150nm,17.0s							
GRNR					MLR	MLR		
	comp=Z,420nm,16.0s							
TYV	Tymovskoe	15.49	7		eP	P	20 52 45.9	+0.9
TYV					eS	S	20 55 41.3	-3.9
TYV					pmax	pmax		
	comp=Z,77nm,1.4s							
TYV					pmax	pmax		
	comp=Z,200nm,3.0s							
TYV					smax	smax		
	comp=N,600nm,3.8s							
TYV					smax	smax		
	comp=E,400nm,3.8s							
TYV					smax	smax		
	comp=N,14nm,1.7s							
TYV					smax	smax		
	comp=E,30nm,1.7s							
SSE	Sheshan	16.25	260		P	Pn	20 52 51.8	+0.5
SSE					S	Sn	20 55 50.0	-0.6
SSE					pmax	pmax		
	comp=E,6.0nm,0.5s							
SSE					pmax	pmax		
	comp=E,67nm,5.3s							
SSE					LR	LR		
	comp=E,300nm,19.0s							
SSE					LR	LR		
	comp=E,200nm,17.5s							
NJ2	Nanjing	17.83	265		eP	P	20 53 11.8	+0.7
NJ2					pP	pP	20 53 22.9	+0.2
NJ2					PP	PnPn	20 53 25.3	+2.6
NJ2					sP	sP	20 53 27.2	-2.0
NJ2					S	Sn	20 56 29.8	+1.0
NJ2					pmax	pmax		
	comp=E,12nm,1.0s							
NJ2					pmax	pmax		
	comp=E,380nm,8.1s							
NJ2					LR	LR		
	comp=E,520nm,9.5s							
NJ2					LR	LR		
	comp=E,400nm,9.0s							
NJ2					LR	LR		
	comp=E,500nm,10.4s							
OKH	Okha	18.17	6		deP	P	20 53 10.0	-4.6
OKH					MLR	MLR		
	comp=N,500nm,9.0s							
OKH					MLR	MLR		
	comp=Z,300nm,19.0s							
OKH					MLR	MLR		
	comp=E,700nm,13.0s							
YOJ	Yonaguni jima	18.28	238		P	Pn	20 53 16.5	+0.1
YOJ					pmax	pmax		
	comp=Z,81nm,0.7s							
YOJ	Yonaguni jima	18.28	238		P	Pn	20 53 16.5	+0.1
TIA	Tai'an	18.48	279		P	Pn	20 53 21.1	+2.3
TIA					pmax	pmax		
	comp=Z,18nm,1.0s							
TIA					pmax	pmax		
	comp=Z,230nm,2.7s							
TIA					LR	LR		
	comp=Z,200nm,4.7s							
TIA					LR	LR		
	comp=Z,450nm,11.4s							
TIA					LR	LR		
	comp=Z,870nm,17.1s							
TATO	Taipei	19.03	242			P	20 53 24.6	+0.4
SKR	Severo-Kuril's	19.18	33		eP	P	20 53 25.7	0.0
SKR					eS	S	20 56 51.3	-8.9
SKR					pmax	pmax		
	comp=Z,72nm,1.4s							
SKR					pmax	pmax		
	comp=Z,300nm,3.1s							
SKR					pmax	pmax		
	comp=Z,100nm,5.1s							
SKR					MLR	MLR		
	comp=Z,200nm,16.0s							
BJI	Beijing	19.28	291		P	P	20 53 24.9	-2.0
BJI					PP	PnPn	20 53 43.1	+0.6
BJI					S	S	20 56 58.4	-4.0
BJI					SS	SnS

comp=N,150nm,0.9s
ZEA pmax pmax
comp=E,60nm,0.9s
ZEA pmax pmax
comp=Z,270nm,0.7s
ZEA MLR MLR
comp=E,100nm,11.0s
ZEA MLR MLR
comp=N,200nm,11.0s
ZEA MLR MLR
comp=Z,200nm,14.0s
TPUB Ta-pu 20.69 239 P **P** **20 53 40.7 -1.7**
PEA0B Petropavlovsk- 21.62 30*ce*P **P** **20 53 52.6 +0.5**
PEA0B Petropavlovsk- 21.62 30 P **P** **20 53 53.2 +1.1**
PETK Petropavlovsk- 21.62 30 P **P** **20 53 52.4 +0.3**
comp=Z,23nm,0.8s,baz=214,slow=10,SNR=20
PETK LR LR 21 03 30.7
comp=Z,122nm,18.2s,baz=209,slow=40
PETK Petropavlovsk- 21.62 30 P **P** **20 53 51.2 -0.9**
PET Petropavlovsk 21.96 31 *e*P **P** **20 53 56.9 +1.2**
PET *e*S **S** **20 57 50.6 -4.4**
PET pmax pmax
comp=Z,122nm,1.1s
PET MLR MLR
comp=Z,500nm,19.0s
PET MLR MLR
comp=Z,700nm,19.0s
PET Petropavlovsk 21.96 31 P **P** **20 53 55.9 +0.2**
PET IAmb IAmb 20 53 59.4
comp=Z,101nm,1.1s
TIY Taiyuan 22.14 284 *e*P **P** **20 53 59.8 +1.9**
TIY PP sP 20 54 25.5 +9.2
TIY pmax pmax
comp=Z,18nm,0.5s
TIY LR LR
comp=Z,120nm,7.4s
TIY LR LR
comp=Z,450nm,15.3s
TIY LR LR
comp=Z,580nm,20.3s
GUMO Guam 22.27 167 P **P** **20 53 58.8 -0.5**
comp=Z,101nm,0.6s,baz=344,slow=7.5,SNR=12
GUMO Guam 22.27 167 P **P** **20 53 59.7 +0.4**
GUMO pmax pmax
comp=Z,269nm,0.9s
GUMO Guam 22.27 167 P **P** **20 53 59.7 +0.4**
HHC Hu-ho-hao-te 22.86 292 *e*P **P** **20 54 04.1 -1.5**
HHC S **S** **20 58 08.7 -2.6**
HHC SS **SnSn** **20 58 51.2 +5.2**
HHC pmax pmax
comp=Z,23nm,0.8s
HHC pmax pmax
comp=Z,150nm,6.1s
HHC LR LR
comp=Z,300nm,12.8s
HHC LR LR
comp=Z,450nm,12.3s
HHC LR LR
comp=Z,490nm,14.0s
CIT Chita 25.00 320 *e*P **P** **20 54 21.9 -3.4**
CIT *e* 20 54 37.2
CIT *e* 20 54 41.1
CIT *e* 20 55 06.5
CIT *e* 20 55 11.0
CIT pmax pmax
comp=Z,48nm,1.0s
MA2 Magadan 25.11 13 P **P** **20 54 27.5 +1.3**
comp=Z,132nm,0.7s,baz=189,slow=9.1,SNR=22
MA2 Magadan 25.11 13*ce*P **P** **20 54 27.8 +1.5**
MA2 pmax pmax
comp=Z,115nm,0.7s
MA2 Magadan 25.11 13 P **P** **20 54 27.6 +1.4**
XAN Xi'an 25.44 276 P **P** **20 54 28.6 -1.0**
XAN S **S** **20 59 00.5 +7.5**
XAN pmax pmax
comp=Z,17nm,0.8s
XAN LR LR
comp=Z,620nm,19.9s
XAN LR LR
comp=Z,420nm,18.3s
XAN LR LR
comp=Z,710nm,20.7s
ULN Ulaanbaatar 27.25 307*ce*P **P** **20 54 43.4 -2.5**
ULN pmax pmax
comp=Z,23nm,1.1s
ULN Ulaanbaatar 27.25 307 P **P** **20 54 43.0 -3.0**
ULN Ulaanbaatar 27.25 307 P **P** **20 54 43.8 -2.1**
comp=Z,60nm,0.9s
YAK Yakutsk 27.33 349 P **P** **20 54 45.3 -0.9**
comp=Z,53nm,0.5s,baz=152,slow=4.3,SNR=83
YAK LR LR 21 05 42.3
comp=Z,456nm,19.9s,baz=117,slow=36
YAK Yakutsk 27.33 349*c* P **P** **20 54 45.2 -0.9**
YAK *e*S **S** **20 59 21.1 -0.9**
YAK *e**SS **sS** **20 59 45.3 +1.0**
YAK *e*SS **SnSn** **21 00 45.5 +11**
YAK pmax pmax
comp=Z,171nm,1.0s
YAK pmax pmax
comp=N,79nm,1.0s
YAK pmax pmax
comp=E,20nm,1.0s
YAK smax smax
comp=N,96nm,1.6s
YAK smax smax
comp=E,45nm,1.8s
YAK Yakutsk 27.33 349 P **P** **20 54 44.7 -1.5**
SONM Songino Array 27.68 307 P **P** **20 54 47.8 -1.9**
comp=E,10nm,0.7s,baz=113,slow=9.0,SNR=78
SONM PcP **PcP** **20 58 06.0 +0.5**
comp=E,1.7nm,0.7s,baz=102,slow=1.5,SNR=2.5
SONM ScP **ScP** **21 01 42.3 +0.4**
comp=E,2.1nm,0.8s,baz=132,slow=3.1,SNR=7.9
SONM LR LR 21 06 38.0
comp=E,589nm,18.7s,baz=102,slow=38
SONM Songino Array 27.68 307 **ScP** **21 01 41.8 -0.1**
SONM Songino Array 27.68 307 P **P** **20 54 47.3 -2.4**
H11N2 WAKE ISLAND Hy 28.49 116 T T 21 24 41.3
baz=307
H11N1 WAKE ISLAND Hy 28.50 116 T T 21 24 38.2
baz=307,slow=74
H11N3 WAKE ISLAND Hy 28.51 116 T T 21 25 16.3
baz=307,slow=74
SEY Seymchan 28.54 12 P **P** **20 54 58.3 +1.4**
comp=E,33nm,0.8s,baz=204,slow=7.7,SNR=23
SEY LR LR 21 07 42.4
comp=E,257nm,18.2s,baz=198,slow=39
H11S3 WAKE ISLAND Hy 29.13 119 T T 21 25 34.1
baz=310,slow=76,SNR=249
H11S1 WAKE ISLAND Hy 29.13 118 T T 21 25 29.5
baz=310,slow=76,SNR=324
H11S2 WAKE ISLAND Hy 29.14 119 T T 21 25 29.4
baz=310,slow=76,SNR=270
LZH Lanzhou 29.15 282 *e*P **P** **20 55 04.6 +1.6**
LZH pP pP 20 55 17.0 +0.8
LZH sP sP 20 55 23.1 +0.8
LZH *e*S **S** **20 59 56.4 +4.8**
LZH SS **SnSn** **21 01 25.3 +5.4**
LZH pmax pmax
comp=E,42nm,1.3s
LZH pmax pmax
comp=E,170nm,4.9s
LZH LR LR
comp=E,590nm,13.5s
LZH LR LR
comp=E,470nm,13.6s
LZH LR LR
comp=E,580nm,16.0s
GYA Guiyang 29.77 262 ⇑P **P** **20 55 06.9 -1.6**
GYA pP pP 20 55 21.1 -0.6
GYA S **S** **20 59 56.1 -5.4**
GYA pmax pmax
comp=E,10.0nm,1.0s
GYA LR LR
comp=E,330nm,17.3s
ZAK Zakamensk 30.30 311 *e*P **P** **20 55 09.3 -3.6**
ZAK pmax pmax
comp=Z,9.0nm,1.1s
CD2 Chengdu 30.48 272 P **P** **20 55 15.5 +0.9**
CD2 S **S** **21 00 14.1 +1.8**
CD2 pmax pmax
comp=Z,20nm,0.9s
CD2 pmax pmax
comp=Z,160nm,9.0s
CD2 LR LR
comp=Z,1μm,21.8s
CD2 LR LR
comp=Z,980nm,19.8s
CD2 LR LR
comp=Z,980nm,19.2s
QIZ Qiongzhong 31.19 246 P **P** **20 55 21.1 +0.2**
QIZ S **S** **21 00 25.2 +1.7**
QIZ LR LR
comp=Z,180nm,11.7s
QIZ LR LR
comp=Z,190nm,15.9s
QIZ LR LR
comp=Z,250nm,14.6s
GTA Gaotai 31.88 289 *e*P **P** **20 55 26.2 -0.8**
GTA pP pP 20 55 38.1 -2.1
GTA sP sP 20 55 42.9 -3.5
GTA PcP **PcP** **20 58 16.2 -0.4**
GTA S **S** **21 00 35.0 +0.8**
GTA SS **SnSn** **21 02 28.5 +2.4**
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,38nm,4.5s
GTA LR LR
comp=Z,80nm,14.5s
GTA LR LR
comp=Z,290nm,14.9s
GTA LR LR
comp=Z,370nm,16.4s
MOY Mondy 32.03 312 *e*P **P** **20 55 26.6 -1.6**
AMKA Amchitka 32.26 48 P **P** **20 55 31.4 +1.5**
KMI Kunming 33.53 262 ⇑P **P** **20 55 44.3 +2.6**
KMI pP pP 20 55 55.1 +0.1
KMI sP sP 20 55 59.7 -1.4
KMI pmax pmax
comp=Z,14nm,0.8s
KMI pmax pmax
comp=Z,190nm,7.4s
KMI LR LR
comp=Z,380nm,17.9s
KMI LR LR
comp=Z,200nm,17.0s
KMI LR LR
comp=Z,340nm,23.3s
SLVN Son La 34.46 256 P **P** **20 55 48.2 -1.3**
KIWB Kanaga Island 34.52 48 P **P** **20 55 49.3 -0.3**
BILL Bilibino 35.84 17 *e*P **P** **20 56 01.3 +0.5**
BILL *e**PP **pP** **20 56 12.1 -2.1**
BILL *e* 20 57 23.2
BILL *e* 20 58 26.6
BILL pmax pmax
comp=Z,10.0nm,0.4s
BILL MLR MLR
comp=Z,162nm,17.0s
BILL Bilibino 35.84 17 P **P** **20 56 00.9 +0.1**
BILL IAmb IAmb 20 56 02.6
comp=Z,40nm,1.2s
TIXI Tiksi 36.68 354 P **P** **20 56 07.4 -0.5**
comp=Z,25nm,0.6s,baz=140,slow=6.6,SNR=64
TIXI Tiksi 36.68 354*ce*P **P** **20 56 07.2 -0.7**
TIXI Tiksi 36.68 354 P **P** **20 56 06.8 -1.0**
TIXI IAmb IAmb 20 56 11.2
comp=Z,27nm,0.7s
NONG Nongkai 36.86 252 P **P** **20 56 09.3 -0.8**
comp=Z,8μmcomp=Z,128nm,1.0s
CHAI Chaiyaphum 39.03 250 P **P** **20 56 27.9 -0.5**
comp=Z,712nmcomp=Z,96nm,0.9s
UTTA Uttaradit 39.06 254 P **P** **20 56 30.4 +1.8**
comp=Z,224nmcomp=Z,22nm,0.7s
LAMP Lampang 39.35 255 P P 20 56 47.7 +17
PBKT Sadao Pong 39.42 252 P P 20 56 46.5 +15
PBKT Sadao Pong 39.42 252 P pP 20 56 46.5 +1.4
PHIT Phitsanulok 39.49 253 P P 20 56 46.9 +15
NIKH Nikolski High 39.71 48 P **P** **20 56 35.2 +1.6**
baz=265
CMMT Chiang Mai 39.73 256 P **P** **20 56 37.4 +3.2**
comp=Z,10nm,0.7s
CMMT Chiang Mai 39.73 256 P **P** **20 56 32.9 -1.3**
comp=Z,9.6nm,0.7s
CHTO Chiang Mai 39.74 256 P **P** **20 56 33.3 -1.0**
CHTO pmax pmax
comp=Z,7.0nm,0.8s
CHTO Chiang Mai 39.74 256 P **P** **20 56 37.5 +3.3**
comp=Z,10nm,0.7s
CHTO Chiang Mai 39.74 256 P **P** **20 56 33.3 -1.0**
CHTO Chiang Mai 39.74 256 P **P** **20 56 35.0 +0.8**
comp=Z,5.7nm,0.7s
CM31 Chiang Mai Arr 39.93 256 P **P** **20 56 34.3 -1.5**
CMAR Chiang Mai Arr 39.93 256 P **P** **20 56 34.9 -0.9**
comp=Z,2.6nm,0.6s,baz=54,slow=7.9,SNR=22
CMAR LR LR 21 14 40.0
comp=Z,116nm,19.5s,baz=96,slow=39
CM04 Chiang Mai Arr 39.94 256 P P 20 56 51.2 +15
CM02 Chiang Mai Arr 39.94 256 P P 20 56 51.2 +15
CM15 Chiang Mai Arr 39.95 256 P P 20 56 51.1 +15
CM05 Chiang Mai Arr 39.96 256 P P 20 56 52.7 +17
CM13 Chiang Mai Arr 39.98 256 P **P** **20 56 40.6 +4.3**
comp=Z,70nmcomp=Z,8.4nm,0.8s
DGZ Jazzator, Alta 40.32 307 *i* P **P** **20 56 38.1 -0.9**
DGZ pmax pmax
comp=Z,36nm,0.4s
WMQ Urumqi 40.46 298 *e*P **P** **20 56 40.5 +0.4**
WMQ pP pP 20 56 52.9 -0.8
WMQ sP sP 20 57 00.5 +0.8
WMQ pmax pmax
comp=Z,70nm,0.9s
WMQ pmax pmax
comp=Z,260nm,5.5s
WMQ LR LR
comp=Z,350nm,25.1s
GAMB Gambell 40.66 31 P **P** **20 56 43.0 +1.7**
baz=249
LSA Lhasa 41.15 276 P **P** **20 56 46.0 -0.3**
UNV Unalaska Valle 41.18 46 P **P** **20 56 48.5 +2.8**
baz=266
UTHA Uthaitani 41.19 252 P P 20 57 00.7 +14
ZAA0 Zalesovo Array 42.07 314 P **P** **20 56 51.8 -1.2**
ZAA0 IAmb IAmb 20 56 53.7
comp=Z,66nm,0.8s
ZALV Zalesovo Beam 42.07 314 P **P** **20 56 52.4 -0.6**
comp=Z,32nm,0.5s,baz=90,slow=6.7,SNR=184
ZALV PcP **PcP** **20 58 46.7 -0.3**
comp=Z,13nm,0.5s,baz=98,slow=3.2,SNR=12
ZALV ScP **ScP** **21 02 32.7 -0.4**
comp=Z,2.2nm,0.8s,baz=94,slow=4.3,SNR=3.9
ZALV LR LR 21 13 53.5
comp=Z,124nm,18.7s,baz=108,slow=35
ZALV Zalesovo Beam 42.07 314 **P** **20 56 52.1 -0.9**
ZSN Zaisan 42.10 304 ⇑*i*P **P** **20 56 52.9 -0.6**
comp=Z,29nm,0.8s,baz=304
ZSN Zaisan 42.10 304*c i*P **P** **20 56 52.8 -0.6**
ZSN pmax pmax
comp=Z,29nm,0.8s
SRDT SRDT 42.17 251 P P 20 57 08.8 +15
SRDT SRDT 42.17 251 P **P** **20 56 51.4 -2.8**
comp=Z,5μmcomp=Z,41nm,0.9s
SHL Shillong 42.18 270 P **P** **20 56 51.9 -2.6**
SHL pmax pmax
comp=Z,12nm,0.8s
SHL Shillong 42.18 270 P **P** **20 56 51.9 -2.6**
KHLT Khaolaem Dam 42.31 252 P P 20 57 11.0 +16
TNA Tin City 42.79 29 P **P** **20 57 01.7 +3.0**
baz=252
ANM Nome 43.54 31 P **P** **20 57 06.9 +2.1**
baz=255
KSM Kuching 43.61 226 P **P** **20 57 05.0 -0.9**
MK31 Makanchi Array 43.92 303 P **P** **20 57 07.1 -1.0**
MK31 pmax pmax
comp=Z,32nm,0.7s
MK31 Makanchi Array 43.92 303 P **P** **20 57 07.1 -1.0**
MK31 IAmb IAmb 20 57 11.7
comp=Z,32nm,0.7s
MKAR Makanchi Array 43.92 303 P **P** **20 57 07.5 -0.6**
comp=Z,38nm,0.7s,baz=84,slow=9.8,SNR=273
MKAR PcP **PcP** **20 58 53.4 0.0**
comp=Z,5.1nm,0.7s,baz=85,slow=4.9,SNR=2.2
MKAR ScP **ScP** **21 02 40.1 -0.7**
comp=Z,1.4nm,0.8s,baz=76,slow=6.1,SNR=3.1
MKAR LR LR 21 16 10.1
comp=Z,333nm,19.3s,baz=80,slow=37
MKAR Makanchi Array 43.92 303 P **P** **20 57 07.1 -1.0**
MAKZ Makanchi 44.13 303 P **P** **20 57 08.9 -0.9**
MAKZ pmax pmax
comp=Z,34nm,0.7s
MAKZ Makanchi 44.13 303 P **P** **20 57 08.9 -0.9**
MAKZ IAmb IAmb 20 57 13.4
comp=Z,34nm,0.7s
KAPI Kappang 44.53 209 P **P** **20 57 12.7 -0.5**
KAPI pmax pmax
comp=Z,20nm,0.9s
KAPI Kappang 44.53 209 P **P** **20 57 12.7 -0.5**
KAPI Kappang 44.53 209 P **P** **20 57 12.0 -1.2**
comp=Z,24nm,1.1s
SDPT Sand Point 44.75 44 P **P** **20 57 14.7 +0.2**
baz=269
SURA Surathani 45.07 244 P P 20 57 34.0 +16
RDOG Red Dog Mine 45.42 26 P **P** **20 57 23.0 +3.3**
baz=254,SNR=5.3
SURT Suratani 45.83 245 P P 20 57 39.3 +16
RAMN Ramite 45.90 275 *e*P **P** **20 57 23.7 -0.7**
comp=Z,49nm,0.5s
CHGN Chignik 45.92 43 P **P** **20 57 23.9 +0.1**
CHGN Chignik 45.92 43 P **P** **20 57 26.5 +2.7**
baz=270
TRTT Trang 45.92 243 P P 20 57 39.0 +15
KURK Kurchatov 45.93 309 P **P** **20 57 23.7 -0.3**
KURK 20 58 59.9
JIRN Jiri 45.95 276 *e*P **P** **20 57 24.3 -0.6**
comp=Z,66nm,0.6s
KURBB Kurchatov Arra 46.00 309 P **P** **20 57 23.7 -0.9**
comp=Z,164nm,0.8s,baz=85,slow=7.8,SNR=9.1
KURBB PcP **PcP** **20 58 59.9 -0.5**
comp=Z,4.0nm,0.5s,baz=90,slow=3.3,SNR=1.8
KRAB Krabi 46.02 244 P P 20 57 40.3 +15
SHLS Shalkode 46.48 299⇑*i*P **P** **20 57 25.6 -3.0**
comp=Z,30nm,1.1s,baz=298
SHLS Shalkode 46.48 299*c i*P **P** **20 57 25.6 -3.0**
SHLS pmax pmax
comp=Z,30nm,1.1s
PKI Pulchoki 46.62 276 *e*P **P** **20 57 28.8 -1.3**
comp=Z,26nm,0.7s
PKIN Phulchoki 46.63 276 *e*P **P** **20 57 28.8 -1.3**
comp=Z,44nm,0.7s
KKN Kakani 46.63 276 *e*P **P** **20 57 29.2 -0.9**
comp=Z,35nm,0.6s
UZB Uzynbulak 46.80 299⇑*i*P **P** **20 57 30.5 -0.7**
comp=Z,36nm,1.2s,baz=299
UZB *e*S **S** **21 04 15.4 -2.4**
baz=299
UZB Uzynbulak 46.80 299*c i*P **P** **20 57 30.4 -0.7**
UZB *e*S **S** **21 04 15.3 -2.4**
UZB pmax pmax
comp=Z,36nm,1.2s
DMN Daman 46.85 276 *e*P **P** **20 57 30.7 -1.1**
comp=Z,44nm,0.8s
TDK Taldyqorghan 46.87 301 *e*P **P** **20 57 30.0 -1.5**
baz=301
TDK Taldyqorghan 46.87 301 *e*P **P** **20 57 30.0 -1.5**
MMRI Maumere 46.96 204 P **P** **20 57 31.7 -0.6**
MMRI IAmb IAmb 20 58 00.4
comp=Z,67nm,1.3s
KPKS Kokpek 46.98 299⇑*i*P **P** **20 57 31.9 -0.6**
comp=Z,50nm,1.6s,baz=299
KPKS Kokpek 46.98 299*c i*P **P** **20 57 31.8 -0.6**
KPKS pmax pmax
comp=Z,50nm,1.6s
GKN Gorkha 47.07 277 *e*P **P** **20 57 32.4 -1.1**
comp=Z,128nm,0.9s
SATY Saty 47.26 299⇑*i*P **P** **20 57 34.3 -0.4**
comp=Z,38nm,1.8s,baz=299
SATY Saty 47.26 299*c i*P **P** **20 57 34.3 -0.4**
SATY pmax pmax
comp=Z,38nm,1.8s
IPM Ipoh 47.30 238 P **P** **20 57 36.0 +0.8**
SOEI Soe 47.37 201 P **P** **20 57 35.6 -0.1**
SOEI IAmb IAmb 20 58 10.8
comp=Z,47nm,0.9s
SVW2 Sparrevohn 47.48 37 P **P** **20 57 37.7 +1.7**
SVW2 IAmb IAmb 20 57 39.6
comp=Z,49nm,1.2s
CHIR Chirikof Islan 47.49 44 P **P** **20 57 37.1 +1.0**
CHIR Chirikof Islan 47.49 44 P **P** **20 57 37.3 +1.2**
baz=273
O18K Koktuh Hills 47.64 38 IAmb IAmb 20 57 42.3
comp=Z,37nm,0.8s
DANN Dangsing 47.64 278 *e*P **P** **20 57 37.7 -0.3**
comp=Z,222nm,0.8s
L19K White Mountain 47.87 35 P **P** **20 57 40.6 +1.6**
L19K IAmb IAmb 20 57 42.3
comp=Z,32nm,1.2s
L19K White Mountain 47.87 35 P **P** **20 57 40.9 +1.9**
baz=268,SNR=9.6
KOLN Koldanda 48.00 277 *e*P **P** **20 57 40.0 -0.8**
N19K Bonanza Creek 48.01 37 P **P** **20 57 42.1 +1.9**
N19K Bonanza Creek 48.01 37 P **P** **20 57 42.2 +2.0**
baz=269,SNR=8.8
O19K Port Alsworth 48.08 38 IAmb IAmb 20 57 44.5
comp=Z,36nm,0.8s
O19K Port Alsworth 48.08 38 P **P** **20 57 42.7 +2.1**
baz=270,SNR=8.0
CHKK Chushkaly 48.10 300⇑*e*P **P** **20 57 40.7 -0.3**
baz=300
MDOK Medeo 48.21 299 *i* P **P** **20 57 42.3 +0.2**
baz=299
MDOK Medeo 48.21 299 *i* P **P** **20 57 42.2 +0.2**
SII Sitkinak Islan 48.26 43 P **P** **20 57 43.2 +1.1**
K20K Telida 48.28 33 P **P** **20 57 44.1 +1.9**
K20K IAmb IAmb 20 57 45.5
comp=Z,52nm,1.1s
K20K Telida 48.28 33 P **P** **20 57 44.3 +2.2**
baz=267,SNR=22
AAA Alma-Ata 48.29 299 *e*P **P** **20 57 42.0 -0.6**
baz=299
AAA Alma-Ata 48.29 299 *e*P **P** **20 57 42.0 -0.6**
J20K Nowinta River 48.29 32 P **P** **20 57 44.2 +2.0**
J20K IAmb IAmb 20 57 45.5
comp=Z,36nm,1.0s
J20K Nowinta River 48.29 32 P **P** **20 57 44.3 +2.1**
baz=266,SNR=22
TNSS Tian-Shan 48.31 299 *i* P **P** **20 57 43.5 +0.3**
baz=299
L20K Farewell, AK 48.33 35 P **P** **20 57 44.8 +2.2**
baz=268,SNR=9.4
A21K Barrow 48.34 23 P **P** **20 57 44.6 +2.2**
baz=258
KDJ Kajisay 48.35 298 P **P** **20 57 43.0 -0.3**
KDJ pmax pmax
comp=Z,26nm,0.6s
KDJ Kajisay 48.35 298 P **P** **20 57 43.0 -0.3**
KDJ IAmb IAmb 20 57 43.9
comp=Z,26nm,0.6s
PYUN Piuthan 48.36 278 *e*P **P** **20 57 43.0 -0.5**
comp=Z,203nm,0.8s
Q19K Cape Douglas, 48.45 39 P **P** **20 57 44.1 +0.6**
Q19K Cape Douglas, 48.45 39 P **P** **20 57 44.1 +0.6**
baz=272,SNR=8.4
KUU Kurty 48.55 300⇑*i*P **P** **20 57 43.9 -0.7**
comp=Z,67nm,1.1s,baz=300
KUU Kurty 48.55 300*c i*P **P** **20 57 43.8 -0.7**
KUU pmax pmax
comp=Z,67nm,1.1s
IMAR Indian Mountai 48.59 30 P **P** **20 57 46.1 +1.6**
IMAR PcP **PcP** **20 59 10.7 +1.3**
P19K Oil Pt 48.64 38 P **P** **20 57 46.8 +1.9**
P19K Oil Pt 48.64 38 P **P** **20 57 46.6 +1.6**
baz=271,SNR=6.6
MTBS Maitube 48.66 299⇑*i*P **P** **20 57 45.4 0.0**
baz=299
M20K Styx River 48.67 35 P **P** **20 57 47.5 +2.3**
M20K IAmb IAmb 20 57 48.7
comp=Z,37nm,1.6s
M20K Styx River 48.67 35 P **P** **20 57 47.6 +2.3**
baz=269,SNR=6.7
OHAK Old Harbor 48.71 42 P **P** **20 57 46.0 +0.5**
OHAK Old Harbor 48.71 42 P **P** **20 57 46.4 +1.0**
baz=273
PBA Port Blair 48.73 253 P P 20 57 46.8 +0.6
MTN Manton Dam 48.79 191 P **P** **20 57 44.9 -1.6**
MTN IAmb IAmb 20 58 07.4
comp=Z,64nm,1.3s
RSO Redoubt South 48.86 37 P **P** **20 57 48.1 +1.3**
O20K Slope Mountain 48.93 38 P **P** **20 57 48.3 +1.0**
baz=272
ULHL Ulahol 49.00 298 P **P** **20 57 48.3 +0.1**
SNR=7.7
KDAK Kodiak Island 49.05 41 P **P** **20 57 49.2 +1.1**
comp=Z,50nm,0.5s,baz=288,slow=4.4,SNR=118
KDAK Kodiak Island 49.05 41 P **P** **20 57 48.9 +0.8**
KDAK Kodiak Island 49.05 41 P **P** **20 57 49.2 +1.1**
baz=274
CHUM Lake Minchumin 49.08 33 P **P** **20 57 50.7 +2.5**
baz=268,SNR=17

SPCR Spurr Chakacha 49.12 36 P P 20 57 50.8 +2.1
baz=271,SNR=14
PPLA Purkeypile 49.12 34 P P 20 57 51.0 +2.2
PPLA Purkeypile 49.12 34 P P 20 57 50.9 +2.2
baz=269,SNR=9.7
BOOM Boomskoye usch 49.16 299 IAmb IAmb 20 57 50.6
comp=Z,21nm,0.7s
CAST Castle Rocks 49.18 33 P P 20 57 50.5 +1.4
CAST Castle Rocks 49.18 33 P P 20 57 51.1 +2.1
baz=269,SNR=13
I21K Tanana 49.27 31 P P 20 57 51.7 +2.0
I21K IAmb IAmb 20 57 53.2
comp=Z,25nm,0.9s
I21K Tanana 49.27 31 P P 20 57 51.9 +2.2
baz=268,SNR=17
TKM2 Tokmak 2 49.30 299 P P 20 57 51.1 +0.6
SNR=81
SKT Skwentna 49.43 35 P P 20 57 52.3 +1.3
baz=271,SNR=5.9
HOM Homer 49.44 38 P P 20 57 53.2 +2.1
baz=273
BPAW Bear Paw Mtn. 49.67 33 IAmb IAmb 20 57 56.0
comp=Z,35nm,1.3s
BPAW Bear Paw Mtn. 49.67 33 P P 20 57 54.3 +1.5
baz=269,SNR=11
KTH Kantishna Hill 49.70 33 IAmb IAmb 20 57 56.2
comp=Z,50nm,1.1s
KZA Kyzart 49.76 298 P P 20 57 55.4 +1.1
SNR=52
MLY Manley 49.79 31 IAmb IAmb 20 57 57.0
comp=Z,40nm,1.0s
MLY Manley 49.79 31 P P 20 57 55.9 +2.2
baz=269,SNR=31
BRZS Berezniki 49.80 309⇑ *iP* P 20 57 53.2 -0.8
comp=Z,33nm,0.5s,baz=309
BRZS Berezniki 49.80 309 *c iP* P 20 57 53.2 -0.8
BRZS pmax pmax
comp=Z,33nm,0.5s
SUA Susitna One 49.81 36 P P 20 57 54.7 +0.7
SUA IAmb IAmb 20 57 58.2
comp=Z,49nm,1.2s
SUA Susitna One 49.81 36 P P 20 57 55.1 +1.1
baz=272,SNR=9.3
BRLK Bradley Lake 49.82 38 IAmb IAmb 20 57 57.4
comp=Z,40nm,0.8s
KBK Karagaybulak 49.83 299 P P 20 57 54.9 +0.4
SNR=55
SGDS Sogindy 49.85 300⇑ *iP* P 20 57 54.1 -0.4
comp=Z,14nm,0.8s,baz=300
CHMS Chumysh 49.88 299 P P 20 57 54.8 +0.1
SNR=18
BTLS Baital 49.89 302⇑ *iP* P 20 57 54.1 -0.6
comp=Z,18nm,0.5s,baz=302
BTLS Baital 49.89 302 *c iP* P 20 57 54.1 -0.6
BTLS pmax pmax
comp=Z,18nm,0.5s
BRSE Bradley Lake S 49.90 38 P P 20 57 55.7 +1.2
baz=273,SNR=6.6
KSH Kashi 49.93 295 P P 20 57 58.9 +3.7
KSH sP sP 20 58 18.4 +3.3
KSH pmax pmax
comp=Z,48nm,0.7s
PSI Prapat 49.96 239 P P 20 57 56.3 +0.6
PSI pmax pmax
comp=Z,14nm,0.8s
PSI Prapat 49.96 239 P P 20 57 55.9 +0.2
comp=Z,21nm,1.0s
TRF Thorofare Moun 49.98 33 P P 20 57 56.4 +1.0
baz=271
USP Ospenovka 49.99 300 P P 20 57 55.6 0.0
SNR=79
CUT Chulitna 50.01 35 P P 20 57 56.2 +0.8
baz=272
RPSI Rantau Prapat 50.03 239 P 20 57 56.3 +0.2
COLD Coldfoot 50.08 28 P P 20 57 57.7 +1.9
baz=268
AAK Ala-Archa 50.15 299 P P 20 57 57.2 +0.2
SNR=5.3
AAK Ala-Archa 50.15 299 *i* P P 20 57 57.0 0.0
SNR=6.0
AAK Ala-Archa 50.15 299 *ce*P P 20 57 56.7 -0.3
AAK pmax pmax
comp=Z,114nm,1.0s
AAK Ala-Archa 50.15 299 P P 20 57 56.6 -0.3
AAK IAmb IAmb 20 57 57.9
comp=Z,50nm,1.1s
UCH Uchtor 50.25 299 P P 20 57 58.6 +0.5
SNR=30
H23K Yukon River 50.31 30 P P 20 58 00.2 +2.6
baz=269,SNR=41
RC01 Rabbit Creek A 50.32 36 IAmb IAmb 20 57 59.9
comp=Z,54nm,1.2s
RC01 Rabbit Creek A 50.32 36 P P 20 57 58.6 +0.9
baz=273,SNR=6.3
O22K Cooper Landing 50.36 37 P P 20 57 58.3 +0.3
O22K Cooper Landing 50.36 37 P P 20 57 58.9 +0.9
baz=274
I23K Minto, Yukon-K 50.38 31 P P 20 57 58.6 +0.5
I23K PcP PcP 20 59 17.8 +1.9
I23K IAmb IAmb 20 59 37.3
comp=Z,36nm,1.3s
I23K Minto, Yukon-K 50.38 31 P P 20 58 00.0 +2.0
baz=270,SNR=9.2
TOLK Toolik Lake Re 50.39 27 IAmb IAmb 20 58 01.2
comp=Z,47nm,1.2s
TOLK Toolik Lake Re 50.39 27 P P 20 57 59.8 +1.6
baz=267,SNR=5.4
NEA2 Nenana 50.51 32 P P 20 58 00.9 +1.8
baz=271,SNR=35
SEW Seward 50.52 38 P P 20 57 59.4 +0.2
SEW Seward 50.52 38 P P 20 57 60.0 +0.8
baz=274
PMR Palmer 50.58 36 IAmb IAmb 20 58 01.6
comp=Z,63nm,1.3s
PMR Palmer 50.58 36 P P 20 58 00.7 +1.0
baz=273,SNR=5.3
MCK McKinley 50.58 33 IAmb IAmb 20 58 05.1
comp=Z,32nm,1.0s
MCK McKinley 50.58 33 P P 20 58 00.9 +1.2
baz=272,SNR=9.1
RND Reindeer 50.63 33 IAmb IAmb 20 58 02.2
comp=Z,37nm,0.9s
EKS2 Erkin-Say 50.66 299 P P 20 58 00.9 +0.1
SNR=10
GHO Glory Hole Cre 50.67 36 IAmb IAmb 20 58 25.3
comp=Z,39nm,0.9s
BVAR Borovoye Array 50.71 313 P P 20 58 00.3 -0.6
comp=Z,29nm,0.6s,baz=116,slow=6.5,SNR=90
BVAR sP sP 20 58 22.2 +1.5
comp=Z,15nm,0.7s,baz=111,slow=7.9,SNR=3.9
PWJI Pagerwojo 50.75 217 P P 20 58 02.1 +0.7
comp=Z,58nm,0.7s
BRVK Borovoye 50.77 313 *ce*P P 20 58 00.8 -0.4
BRVK pmax pmax
comp=Z,34nm,0.8s
BRVK Borovoye 50.77 313 P P 20 58 00.4 -0.8
BRVK IAmb IAmb 20 58 02.4
comp=Z,48nm,1.1s
WAT1 Susitna Watana 50.79 34 P P 20 58 02.0 +0.7
baz=273
AML Almayashu 50.86 299 P P 20 58 03.2 +0.7
SNR=48
AML Almayashu 50.86 299 *i* P P 20 58 03.3 +0.7
SNR=52
KNK Knik Glacier 50.91 36 P P 20 58 03.4 +1.2
baz=274,SNR=6.0
WRH Wood River Hil 50.93 32 IAmb IAmb 20 58 06.1
comp=Z,21nm,0.8s
SML Sawmill 50.95 36 IAmb IAmb 20 58 05.0
comp=Z,41nm,0.9s
SML Sawmill 50.95 36 P P 20 58 03.7 +1.1
baz=274,SNR=9.5
H24K Noodor Dome 50.99 30 IAmb IAmb 20 58 06.2
comp=Z,36nm,1.0s
H24K Noodor Dome 50.99 30 P P 20 58 05.1 +2.4
baz=271,SNR=21
TCOL CIGO, UAF Yank 51.02 32 P P 20 58 04.2 +1.3
baz=272
COLA College 51.02 32 P P 20 58 03.3 +0.4
COLA pmax pmax
comp=Z,38nm,0.7s
COLA College 51.02 32 P P 20 58 03.3 +0.4
COLA College 51.02 32 P P 20 58 04.1 +1.2
baz=272
WAT6 Susitna Watana 51.18 34 P P 20 58 05.5 +1.1
baz=274,SNR=5.4
POKR Poker Plat Res 51.19 31 P P 20 58 06.4 +2.1
baz=272,SNR=19
DHY Denali Highway 51.31 34 P P 20 58 06.5 +1.1
baz=274,SNR=7.9
SCM Sheep Creek Mo 51.42 35 P P 20 58 06.8 +0.7
SCM pmax pmax
comp=Z,52nm,1.0s
SCM Sheep Creek Mo 51.42 35 P P 20 58 06.8 +0.7
SCM IAmb IAmb 20 58 08.8
comp=Z,52nm,1.0s
HDA Harding Lake 51.43 32 IAmb IAmb 20 58 07.8
comp=Z,52nm,1.1s
HDA Harding Lake 51.43 32 P P 20 58 06.7 +0.7
baz=273,SNR=17
IL31 51.44 32 IAmb IAmb 20 58 08.0
comp=Z,29nm,0.8s
ILAR Eielson Array 51.44 32 P P 20 58 07.1 +1.0
comp=Z,26nm,0.8s,baz=271,slow=6.2,SNR=147
GLI Glacier Island 51.62 37 P P 20 58 08.6 +1.2
baz=276
LHSI Lahat 51.89 229 P P 20 58 10.2 +0.2
comp=Z,48nm,0.9s
M24K Tolsona, Glenn 51.94 35 P P 20 58 11.2 +1.3
M24K Tolsona, Glenn 51.94 35 P P 20 58 12.0 +2.0
baz=275
GSI Gunungsitoli 51.96 239 P P 20 58 11.5 +0.9
comp=Z,66nm,0.8s
PRP Porcupine Dome 51.98 31 IAmb IAmb 20 58 12.9
comp=Z,16nm,0.6s
PRP Porcupine Dome 51.98 31 P P 20 58 11.8 +1.5
baz=273,SNR=7.7
KNRA Kununurra 51.98 194 P P 20 58 10.6 +0.1
KNRA IAmb IAmb 20 58 37.5
comp=Z,26nm,0.8s
MDSI Maura Dua 52.01 228 P P 20 58 08.9 -2.0
comp=Z,24nm,1.1s
FYU Fort Yukon 52.04 29 IAmb IAmb 20 58 14.2
comp=Z,58nm,1.1s
J25K Salcha River, 52.10 32 P P 20 58 12.2 +1.1
baz=274
KLU Klutina 52.12 36 P P 20 58 13.1 +1.8
baz=276,SNR=10
Q23K Middleton Isla 52.15 38 P P 20 58 12.8 +1.4
baz=277
MASI Maura Aman, Be 52.16 231 P pP 20 58 28.9 +2.8
PAX Paxson 52.19 34 P P 20 58 12.3 +0.5
PAX 20 59 23.8
PAX pmax pmax
comp=Z,31nm,1.4s
PAX Paxson 52.19 34 P P 20 58 12.2 +0.5
PAX IAmb IAmb 20 58 14.5
comp=Z,31nm,1.4s
PAX PcP PcP 20 59 23.8 +1.0
PAX Paxson 52.19 34 P P 20 58 13.0 +1.1
baz=275,SNR=7.6
EYAK Cordova Ski Ar 52.31 37 P P 20 58 14.5 +1.9
baz=277
BHK Bhakra 52.32 285 *ex* P 20 58 06.6 -6.5
DZA Taraz 52.33 300 *eP* P 20 58 12.1 -1.0
baz=300
DZA Taraz 52.33 300 *eP* P 20 58 12.0 -1.0
HARP HAARP 52.39 35 P P 20 58 15.2 +2.0
baz=276,SNR=7.5
RIDG Independent Ri 52.40 33 P P 20 58 14.1 +0.8
baz=275,SNR=7.4
LWLI Liwa 52.50 227 P pP 20 58 30.9 +2.2
N25K Chitina, Valde 52.74 36 P P 20 58 16.7 +0.8
baz=277
DOT Dot Lake 52.76 33 P P 20 58 16.8 +0.9
DOT IAmb IAmb 20 58 17.9
comp=Z,17nm,0.8s
SCRK Sand Creek 52.76 33 IAmb IAmb 20 58 18.2
comp=Z,30nm,0.8s
SCRK Sand Creek 52.76 33 P P 20 58 17.0 +0.9
baz=276,SNR=39
BMRM Bremner River 52.82 36 P P 20 58 18.3 +1.8
baz=278,SNR=11
KKAR Karatay Array 52.85 301 P P 20 58 16.6 -0.3
KKAR pmax pmax
comp=Z,63nm,0.9s
KKAR Karatay Array 52.85 301 P P 20 58 16.6 -0.3
MENT Mentasta 52.99 34 IAmb IAmb 20 58 20.9
comp=Z,25nm,0.8s
DRK Karamyk 53.02 296 P P 20 58 18.5 0.0
KAIM Kayak Island 53.05 38 P P 20 58 20.9 +2.8
baz=278
GLB Gilahina Butte 53.13 36 IAmb IAmb 20 58 21.9
comp=Z,40nm,1.3s
L26K Log Cabin Wild 53.15 34 IAmb IAmb 20 58 22.0
comp=Z,40nm,0.9s
L26K Log Cabin Wild 53.15 34 P P 20 58 20.9 +2.1
baz=277,SNR=9.6
VRDI Verde Repeater 53.34 36 IAmb IAmb 20 58 23.3
comp=Z,31nm,1.0s
M26K Nabesna, AK 53.39 34 IAmb IAmb 20 58 23.8
comp=Z,48nm,1.2s
M26K Nabesna, AK 53.39 34 P P 20 58 22.5 +1.9
baz=278,SNR=9.7
IUG Iuzhnay 53.47 300⇑ *iP* P 20 58 21.7 +0.1
baz=300
IUG Iuzhnay 53.47 300 *c iP* P 20 58 21.7 +0.1
MCARA McCarthy VSAT 53.52 36 P P 20 58 23.5 +2.0
baz=278,SNR=8.7
CRQM Cirque 53.56 36 P P 20 58 23.4 +1.3
CRQM IAmb IAmb 20 58 25.1
comp=Z,45nm,0.9s
CRQE Cirque 53.58 36 P P 20 58 24.2 +2.1
baz=279
BGLC Bering Glacier 53.59 37 P P 20 58 24.1 +2.1
baz=279
K27K Chicken 53.59 32 P P 20 58 23.6 +1.7
K27K IAmb IAmb 20 58 24.9
comp=Z,35nm,1.1s
L27K Beaver Creek, 53.83 34 IAmb IAmb 20 58 27.0
comp=Z,60nm,1.2s
L27K Beaver Creek, 53.83 34 P P 20 58 26.0 +2.2
baz=278,SNR=22
BCAR Beaver Creek A 53.85 34 P P 20 58 25.8 +1.9
EGAK Eagle 53.88 31 IAmb IAmb 20 58 27.4
comp=Z,36nm,1.4s
EGAK Eagle 53.88 31 P P 20 58 25.0 +0.8
baz=278,SNR=12
M27K Edge Creek, AK 53.91 34 IAmb IAmb 20 58 27.6
comp=Z,36nm,0.8s
NIL Nilore 53.94 289 P P 20 58 25.1 0.0
NIL pmax pmax
comp=Z,34nm,0.8s
NIL Nilore 53.94 289 P P 20 58 25.1 0.0
NIL IAmb IAmb 20 58 26.3
comp=Z,34nm,0.8s
BARN Barnard Glacie 54.22 36 IAmb IAmb 20 58 29.6
comp=Z,25nm,0.7s
GRNC Granite Creek 54.23 36 IAmb IAmb 20 58 29.6
comp=Z,33nm,0.8s
MESA MESA 54.23 37 P P 20 58 28.3 +1.3
baz=280
TAS Tashkent 54.24 299 P P 20 58 27.3 +0.1
TAS pmax pmax
comp=Z,95nm,0.6s
TAS Tashkent 54.24 299 P P 20 58 27.2 +0.1
BVCY Beaver Creek 54.37 34 P P 20 58 29.5 +1.8
baz=280
CTG Chitna Glacier 54.39 36 P P 20 58 29.9 +1.9
baz=280,SNR=7.8
CTGM Chitina Glacie 54.39 36 IAmb IAmb 20 58 30.8
comp=Z,30nm,0.7s
YUK3 Moose Creek 54.66 35 P P 20 58 31.8 +1.7
baz=280,SNR=11
DAWY Dawson 54.75 32 P P 20 58 31.3 +0.8
baz=280
FITZ Fitzroy Crossi 54.99 197 P P 20 58 32.5 -0.2
PINM Pinnacle 55.08 37 P P 20 58 34.7 +1.7
baz=282
WRAB Tennant Creek 55.38 186 *ce*P P 20 58 34.6 -0.8
WRAB pmax pmax
comp=Z,44nm,1.3s
WRA Warramunga Arr 55.39 186 P P 20 58 35.0 -0.5
comp=Z,16nm,0.4s,baz=0.4,slow=7.4,SNR=97
WRA pP pP 20 58 51.1 +1.5
comp=Z,21nm,0.5s,baz=1.9,slow=7.5,SNR=8.0
EPYK Eagle Plains 55.46 29 P P 20 58 37.7 +2.1
baz=280,SNR=43
SVE Sverdlovsk 55.50 319 *d iP* P 20 58 36.1 +0.2
SVE pmax pmax
comp=Z,94nm,1.1s
YUK4 Talbot Arm 55.60 35 P P 20 58 39.0 +2.2
baz=282,SNR=6.2
YUK6 Outpost Mounta 55.82 36 P P 20 58 40.9 +2.4
baz=283,SNR=12
HYT Haines Junctio 56.26 36 P P 20 58 43.2 +1.8
HYT IAmb IAmb 20 58 45.3
comp=Z,33nm,0.7s
HYT Haines Junctio 56.26 36 P P 20 58 44.2 +2.7
baz=283,SNR=17
INK Inuvik 56.30 26 P P 20 58 43.0 +1.5
comp=Z,33nm,0.7s,baz=294,slow=6.4,SNR=54
INK Inuvik 56.30 26 P P 20 58 43.0 +1.5
INK Inuvik 56.30 26 IAmb IAmb 20 58 43.8
comp=Z,38nm,0.8s
INK Inuvik 56.30 26 P P 20 58 42.9 +1.5
baz=282,SNR=16
ARU Arti 56.71 319 P P 20 58 44.2 -0.3
comp=Z,10nm,0.4s,baz=83,slow=5.2,SNR=84
ARU Arti 56.71 319 *c iP* P 20 58 44.2 -0.3
ARU *PP pP 20 58 58.7 0.0
ARU 20 59 37.2
ARU 21 00 52.0
ARU S S 21 06 35.7 +2.6
ARU SS SS 21 10 20.3 -0.6
ARU pmax pmax
comp=Z,127nm,1.5s
ARU Arti 56.71 319 P P 20 58 44.1 -0.5
KBL Kabul 56.83 291 P P 20 58 45.0 -1.0
KBL pmax pmax
comp=Z,21nm,0.8s
KBL Kabul 56.83 291 P P 20 58 45.0 -1.0
KBL IAmb IAmb 20 58 48.8
comp=Z,21nm,0.8s
HYB Hyderabad 56.94 269 *i* P P 20 58 46.0 -0.8
WHY Whitehorse 57.55 36 IAmb IAmb 20 58 54.0
comp=Z,39nm,1.0s
WHY Whitehorse 57.55 36 P P 20 58 52.8 +2.3
baz=286,SNR=8.6
SKAG Skagway 57.65 37 IAmb IAmb 20 58 54.9
comp=Z,46nm,1.0s
SKAG Skagway 57.65 37 P P 20 58 53.6 +2.5
baz=286
FARO Faro, Yukon 57.83 34 P P 20 58 54.4 +2.0
baz=286
A36M Sachs Harbour 58.13 21 P P 20 58 56.1 +1.8
baz=287
JIS Juneau Island 58.46 38 IAmb IAmb 20 59 00.4
comp=Z,38nm,0.9s
MMPY Sheldon Lake, 58.65 33 P P 20 59 00.5 +2.3
baz=287,SNR=9.9
AKTO Aktyubinsk 58.80 312 P P 20 58 59.0 -0.3
comp=Z,32nm,0.8s,baz=74,slow=7.0,SNR=51
AKTO Aktyubinsk 58.80 312 P P 20 58 59.0 -0.3
AS31 Alice Springs 59.12 186 P P 20 59 01.2 -0.6
ASAR Alice Springs 59.12 186 P P 20 59 01.1 -0.6
comp=Z,4.4nm,0.5s,baz=5.4,slow=7.2,SNR=55
ASAR Alice Springs 59.12 186 P P 20 59 01.0 -0.7
PSA00 Pilbara Seismi 59.86 202 IAmb IAmb 20 59 19.5
comp=Z,19nm,1.0s
PSA00 Pilbara Seismi 59.86 202 IAmb IAmb 20 59 19.4
comp=Z,5.5nm,0.8s
CRAG Craig 60.02 41 P P 20 59 09.3 +1.7
baz=290
WRAK Wrangell Islan 60.10 40 P P 20 59 09.9 +1.7
baz=290
POO Poona 60.21 272 *eP* P 20 59 07.0 -2.6
TGTN Hyland Airport 60.33 33 P P 20 59 12.2 +2.4
baz=290,SNR=17
DLBC Dease Lake 60.58 37 P P 20 59 13.9 +2.3
comp=Z,15nm,0.7s,baz=294,slow=6.4,SNR=18
DLBC Dease Lake 60.58 37 P P 20 59 12.4 +0.8
DLBC IAmb IAmb 20 59 14.8
comp=Z,19nm,0.8s
WTLY Watson Lake, Y 60.59 35 P P 20 59 13.1 +1.6
baz=291
KIRV Kirov 60.74 323 P P 20 59 12.5 0.0
comp=Z,73nm,0.7s,baz=79,slow=2.7,SNR=39
KIRV Kirov 60.74 323 *ce*P P 20 59 11.7 -0.8
PRGR Permogore 61.39 327 *eP* P 20 59 16.4 -0.4
PRGR *e**SP pP 20 59 32.4 +1.3
PRGR *eS* S 21 07 32.4 -1.1
PRGR pmax pmax
comp=Z,28nm,0.8s
SPA0 Spitsbergen Ar 61.79 349 *eP* P 20 59 20.4 +1.0
SPITS Spitsbergen Ar 61.79 349 P P 20 59 19.8 +0.5
comp=Z,6.9nm,0.4s,baz=78,slow=7.8,SNR=22
WRGLY Wrigley 61.79 31 P P 20 59 21.1 +1.6
baz=293
EUNU Eureka 61.88 8 P P 20 59 20.3 +0.3
EUNU IAmb IAmb 20 59 40.1
comp=Z,17nm,0.8s
HRA Herat 62.02 294 P P 20 59 21.6 -0.2
HRA IAmb IAmb 20 59 23.2
comp=Z,28nm,0.7s
NOR Nord 62.50 356 *i* P P 20 59 24.4 +0.3
NOR IAmb IAmb 20 59 27.9
comp=Z,7.9nm,0.7s
HSPB Hornsund (broa 62.69 348 *eP* P 20 59 26.3 +1.0
GEYT Alibeck 63.51 299 P P 20 59 31.4 -0.1
comp=Z,202nm,0.8s,baz=56,slow=5.6,SNR=14
GEYT LR LR 21 29 10.7
comp=Z,138nm,19.1s,baz=225,slow=38
APA Apatity 63.58 336⇓ *iP* P 20 59 30.7 -0.7
APA pmax pmax
comp=Z,9.0nm,0.8s
APA MLR MLR
comp=Z,500nm,21.0s
BBB Bella Bella 64.02 43 P P 20 59 35.6 +1.2
comp=Z,6.3nm,0.8s,baz=298,slow=10.0,SNR=5.5
BELG Belogornoye 64.09 317 P P 20 59 34.6 -0.4
comp=Z,82nm,0.9s,baz=25,slow=1.0,SNR=28
RES Resolute Bay 64.39 14 P P 20 59 37.6 +1.0
comp=Z,23nm,0.5s,baz=307,slow=4.9,SNR=9.0
RES Resolute Bay 64.39 14 IAmb IAmb 20 59 38.3
comp=Z,44nm,1.1s
KLMR Klimovskoe 64.40 328 *eP* P 20 59 36.1 -0.8
KLMR pmax pmax
comp=Z,60nm,1.7s
KLMR Klimovskoe 64.40 328 *eP* P 20 59 36.2 -0.7
KLMR AMP 20 59 39.7
comp=Z,60nm,1.7s
HAMF Hammerfest 64.86 341 *eP* P 20 59 38.8 -0.9
ARA0 ARCESS Array S 65.00 339 *eP* P 20 59 39.9 -0.7
ARCES ARCESS Array B 65.00 339 P P 20 59 40.7 0.0
comp=Z,10nm,0.6s,baz=59,slow=7.9,SNR=53
ARCES PP PP 21 02 04.4 +0.8
comp=Z,6.7nm,1.0s,baz=55,slow=11,SNR=4.0
ARCES LR LR 21 31 32.3
comp=Z,127nm,19.0s,baz=95,slow=39
ARCES ARCESS Array B 65.00 339 P P 20 59 40.4 -0.3
YKA Yellowknife Ar 65.74 29 P P 20 59 46.4 +0.8
comp=Z,14nm,0.8s,baz=301,slow=5.5,SNR=31
YKA Yellowknife Ar 65.74 29 P P 20 59 45.1 -0.4
KTK1 Kautokeino 65.96 339 *eP* P 20 59 46.8 -0.1
JETT Jettan, Norway 66.42 341 *eP* P 20 59 51.0 +1.2
TRO Tromso 66.77 341 *eP* P 20 59 51.1 -0.9
FORT Forrest 66.86 191 P P 20 59 53.0 0.0
STKA Stephens Creek 67.04 178 P P 20 59 54.2 +0.1
comp=Z,5.7nm,0.8s,baz=341,slow=8.6,SNR=13
STKA Stephens Creek 67.04 178 P P 20 59 54.1 0.0
NEEM North Greenlan 67.12 3 *i* P P 20 59 54.8 +0.3
NEEM IAmb IAmb 20 59 56.6
comp=Z,35nm,0.8s
AFI Afiamalu 67.12 128 LR LR 21 24 03.6
comp=Z,97nm,20.4s,baz=295,slow=31
DAG Danmarks Havn 67.19 355 *i* P P 20 59 54.5 -0.1
DAG IAmb IAmb 20 59 56.7
comp=Z,14nm,0.7s
MOS Moscow 67.75 323 *eP* P 20 59 57.1 -1.3
MOS *e**PP pP 21 00 13.7 +0.8
MOS *e* 21 02 26.0
MOS *eS* S 21 08 48.9 -3.2
MOS *e**SS sS 21 09 17.4 +1.0
MOS pmax pmax
comp=Z,39nm,0.9s
VRH Novokhopyorsk 67.89 318 *eP* P 20 59 58.7 -0.7
VRH pmax pmax
comp=Z,30nm,0.6s
LLLB Lillooet 68.21 43 IAmb IAmb 21 00 04.0
comp=Z,28nm,0.9s
PGC Sidney 68.28 45 IAmb IAmb 21 00 04.6
comp=Z,28nm,0.8s
MAK Makhachkala 68.44 308 *eP* P 21 00 03.1 +0.1
MAK *e* 21 02 32.9
MAK *eS* S 21 09 01.3 +0.6
MAK pmax pmax
comp=Z,408nm,1.7s
MAK MLR MLR
comp=Z,245nm,18.0s

OBN	**Obninsk**	**68.59**	**323**	P		**P**		**21 00 03.8**	**+0.1**
	comp=Z,2.9nm,0.4s,baz=341,slow=0.8,SNR=5.3									
OBN	**Obninsk**	**68.59**	**323**	*e*P		**P**		**21 00 03.8**	**+0.1**
OBN				*e**PP		**pP**		**21 00 19.2**	**+1.0**
OBN				*e*				21 00 28.1		
OBN				*e*				21 02 37.3		
OBN				*e*PPP	PPP			21 04 16.3		
OBN				pmax	pmax					
	comp=Z,36nm,1.3s									
OBN				MLR	MLR					
	comp=Z,190nm,21.0s									
A04D	**Lummi Island**	**68.67**	**45**	P		**P**		**21 00 06.0**	**+1.7**	
	baz=300									
N2IH	**Innhavet**	**68.69**	**340**	*e*P		**P**		**21 00 04.2**	**+0.1**	
STEI	**Steigen**	**68.91**	**341**	*e*P		**P**		**21 00 05.5**	**0.0**	
AKT	**Akhty**	**69.01**	**306**	*e*P		**P**		**21 00 06.5**	**-0.2**	
AKT				*e*				21 00 30.5		
AKT				pmax	pmax					
	comp=Z,15nm,0.4s									
GNBR	**Gunib**	**69.06**	**308**	*i* P		**P**		**21 00 07.1**	**+0.1**	
LOF	**Lofoten**	**69.22**	**341**	*e*P		**P**		**21 00 06.7**	**-0.7**	
E03A	**Lebam**	**69.25**	**47**	P		**P**		**21 00 09.9**	**+1.9**	
B05A	**Bryant**	**69.25**	**45**	P		**P**		**21 00 09.9**	**+1.9**	
	baz=300,SNR=13									
FAUS	**Fauske**	**69.28**	**340**	*e*P		**P**		**21 00 07.7**	**-0.1**	
VORD	**Divnogorie**	**69.34**	**318**	*e*P		**P**		**21 00 07.3**	**-1.1**	
VORD				pmax	pmax					
	comp=Z,20nm,1.0s									
D04E	**Lakebay**	**69.41**	**46**	P		**P**		**21 00 11.4**	**+2.4**	
	baz=300									
GROC	**Groznyy**	**69.41**	**309**	*e*P		**P**		**21 00 07.0**	**-2.1**	
GROC				*e**PP		**pP**		**21 00 21.0**	**-2.6**	
GROC				*e**SP		**sP**		**21 00 26.5**	**-2.9**	
GROC				*e*				21 00 29.6		
GROC				*e*				21 02 39.4		
GROC				*e*S		**S**		**21 09 06.0**	**-6.3**	
GROC				pmax	pmax					
	comp=Z,6.0nm,0.6s									
NBB08	**Skaug oppvekst**	**69.45**	**340**	*e*P		**P**		**21 00 09.9**	**+1.0**	
B06A	**Marblemount**	**69.48**	**45**	IAmb	IAmb			21 00 12.0		
	comp=Z,61nm,1.1s									
FIA1	**FINESS Array S**	**69.60**	**332**	P		**P**		**21 00 09.2**	**-0.6**	
FIA1				IAmb	IAmb			21 00 27.7		
	comp=Z,44nm,1.1s									
FINES	**FINESS Array B**	**69.60**	**332**	P		**P**		**21 00 09.5**	**-0.4**	
	comp=Z,19nm,0.7s,baz=86,slow=5.5,SNR=133									
FINES				pP		**pP**		**21 00 26.2**	**+1.8**	
	comp=Z,26nm,0.7s,baz=64,slow=8.9,SNR=7.2									
FINES				PP		**PP**		**21 02 45.0**	**+1.3**	
	comp=Z,4.1nm,0.8s,baz=53,slow=13,SNR=4.1									
FINES				LR	LR			21 35 15.2		
	comp=Z,66nm,19.3s,baz=27,slow=40									
FINES	**FINESS Array B**	**69.60**	**332**	P		**P**		**21 00 09.3**	**-0.5**	
FINES						**PP**		**21 02 38.6**	**-5.1**	
F04D	**Rainier, OR**	**69.82**	**47**	P		**P**		**21 00 12.4**	**+0.9**	
	baz=300									
E04D	**Cinebar**	**69.84**	**47**	P		**P**		**21 00 14.1**	**+2.4**	
	baz=301,SNR=15									
D05A	**Enumclaw**	**69.86**	**46**	P		**P**		**21 00 13.8**	**+2.0**	
D05A				IAmb	IAmb			21 00 15.3		
	comp=Z,54nm,0.9s									
NBB05	**Inndyr**	**69.87**	**340**	*e*P		**P**		**21 00 11.7**	**+0.3**	
NBB30	**Finnes**	**70.00**	**340**	*e*P		**P**		**21 00 12.4**	**+0.2**	
N2RO	**R st**	**70.04**	**341**	*e*P		**P**		**21 00 12.6**	**+0.2**	
NBB17	**Glomfjord BVr**	**70.05**	**340**	*e*P		**P**		**21 00 12.3**	**-0.2**	
WSAR	**Wadi Sarin**	**70.08**	**285**	P		**P**		**21 00 09.7**	**-3.8**	
G03D	**McMinnville, O**	**70.11**	**48**	P		**P**		**21 00 15.5**	**+2.2**	
	baz=301									
C06D	**Leavenworth**	**70.12**	**45**	P		**P**		**21 00 14.9**	**+1.6**	
	baz=301									
GOF	**Gofitskoye**	**70.20**	**312**⇑	*e*P		**P**		**21 00 13.9**	**0.0**	
GOF				pmax	pmax					
	comp=Z,43nm,0.9s									
NBB15	**Halsa Church**	**70.21**	**340**	*e*P		**P**		**21 00 14.2**	**+0.7**	
I02D	**Swisshome**	**70.31**	**50**	P		**P**		**21 00 16.8**	**+2.3**	
	baz=301									
NBB13	**Alf Garage**	**70.36**	**340**	*e*P		**P**		**21 00 14.6**	**+0.2**	
MOR8	**Moi Rana**	**70.37**	**339**	*e*P		**P**		**21 00 13.4**	**-1.2**	
COR	**Corvallis**	**70.40**	**49**	P		**P**		**21 00 17.2**	**+2.1**	
COR				pmax	pmax					
	comp=Z,98nm,1.1s									
COR	**Corvallis**	**70.40**	**49**	P		**P**		**21 00 17.2**	**+2.1**	
KONS	**Konsvik**	**70.51**	**340**	*e*P		**P**		**21 00 16.3**	**+1.0**	
BANOM	**Banah**	**70.54**	**288**	P		**P**		**21 00 16.4**	**+0.1**	
SHME	**Shamm**	**70.59**	**289**	*i* P		**P**		**21 00 16.7**	**+0.1**	
	SNR=8.2									
LTY	**Liberty**	**70.60**	**45**	IAmb	IAmb			21 00 18.4		
	comp=Z,26nm,0.6s									
J01E	**Myrtle Point**	**70.74**	**50**	P		**P**		**21 00 19.6**	**+2.4**	
	baz=301									
H04D	**Lebanon**	**70.78**	**49**	P		**P**		**21 00 19.5**	**+2.1**	
	baz=301									
B08A	**Colville Reser**	**70.79**	**44**	IAmb	IAmb			21 00 20.0		
	comp=Z,46nm,1.1s									
ZEI	**Tsey**	**70.82**	**309**	*e*P		**P**		**21 00 15.4**	**-2.6**	
ZEI				pmax	pmax					
	comp=Z,6.0nm,0.9s									
I03D	**Drain, OR**	**70.83**	**50**	P		**P**		**21 00 20.1**	**+2.4**	
	baz=301,SNR=10									
F05D	**White Salmon**	**70.85**	**47**	P		**P**		**21 00 19.7**	**+1.9**	
	baz=301									
MSFE	**Esma-Masafi**	**70.93**	**288**	P		**P**		**21 00 18.6**	**-0.1**	
KBZ	**Khabaz**	**70.97**	**310**	P		**P**		**21 00 18.5**	**0.0**	
	comp=Z,20nm,0.9s,baz=56,slow=1.8,SNR=32									
KBZ	**Khabaz**	**70.97**	**310**	*ce*P		**P**		**21 00 17.9**	**-0.6**	
KBZ				pmax	pmax					
	comp=Z,19nm,0.9s									
KIV	**Kislovodsk**	**70.98**	**311**	⇓P		**P**		**21 00 18.8**	**0.0**	
KIV	**Kislovodsk**	**70.98**	**311**	*i* P		**P**		**21 00 19.5**	**+0.7**	
	SNR=9.2									
KIV	**Kislovodsk**	**70.98**	**311**	*e*P		**P**		**21 00 19.3**	**+0.5**	
KIV				pmax	pmax					
	comp=Z,42nm,1.1s									
KIV				MLR	MLR					
	comp=Z,59nm,17.0s									
KIV	**Kislovodsk**	**70.98**	**311**	P		**P**		**21 00 18.7**	**-0.1**	
KIV				IAmb	IAmb			21 00 38.4		
	comp=Z,46nm,0.9s									
MEF	**Metsahovi**	**71.00**	**332**	*e*P		**P**		**21 00 18.4**	**0.0**	
H04A	**Detroit Lake**	**71.03**	**48**	IAmb	IAmb			21 00 21.9		
	comp=Z,38nm,0.8s									
UOSS	**Minazif**	**71.11**	**288**	P		**P**		**21 00 19.9**	**+0.1**	
K02D	**Willamette Mer**	**71.14**	**51**	P		**P**		**21 00 21.8**	**+2.1**	
	baz=301,SNR=7.4									
VSU	**Vasula**	**71.15**	**329**	*e*P		**P**		**21 00 19.4**	**0.0**	
VSU	**Vasula**	**71.15**	**329**	*i* P		**P**		**21 00 19.1**	**-0.3**	
VSU				pmax	pmax					
	comp=Z,55nm,0.8s									
HATD	**Hatta, Dubai**	**71.23**	**287**	P		**P**		**21 00 20.7**	**+0.3**	
G05D	**Wamic, OR**	**71.27**	**47**	P		**P**		**21 00 22.4**	**+2.0**	
	baz=302,SNR=6.5									
SOHO	**SOHO**	**71.27**	**287**	*i* P		**P**		**21 00 20.5**	**-0.2**	
	SNR=5.5									
SOHO	**SOHO**	**71.27**	**287**	P		**P**		**21 00 19.4**	**-1.3**	
EDM	**Edmonton**	**71.31**	**37**	IAmb	IAmb			21 00 23.2		
	comp=Z,59nm,1.2s									
ASHO	**Ashiyiah**	**71.36**	**287**	P		**P**		**21 00 20.5**	**-0.8**	
I04A	**Tendick Farm,**	**71.36**	**49**	P		**P**		**21 00 22.8**	**+1.8**	
	baz=302,SNR=23									
E07A	**Sunnyside**	**71.44**	**46**	IAmb	IAmb			21 00 24.4		
	comp=Z,52nm,1.0s									
L02E	**Cave Junction**	**71.46**	**51**	P		**P**		**21 00 23.9**	**+2.3**	
	baz=301,SNR=6.0									
RAF	**Rauma**	**71.49**	**333**	*e*P		**P**		**21 00 20.9**	**-0.5**	
HUMO	**Hull Mountain**	**71.64**	**51**	P		**P**		**21 00 22.9**	**+0.2**	
FAQ	**Al Faqa, Dubai**	**71.69**	**288**	P		**P**		**21 00 22.3**	**-1.0**	
D08A	**Wollman Farm,**	**71.72**	**45**	IAmb	IAmb			21 00 25.6		
	comp=Z,53nm,0.9s									
HAWA	**Hanford**	**71.72**	**46**	P		**P**		**21 00 23.8**	**+0.7**	
HAWA				IAmb	IAmb			21 00 25.9		
	comp=Z,40nm,0.9s									
I05D	**Terrebonne, OR**	**71.73**	**48**	P		**P**		**21 00 25.1**	**+1.9**	
	baz=302									
AKH	**Akhalkalaki**	**71.80**	**308**	⇓P		**P**		**21 00 24.5**	**+0.7**	
J04D	**Umpqua Nationa**	**71.83**	**50**	P		**P**		**21 00 25.8**	**+1.7**	
	baz=302,SNR=12									
ASUD	**Al Ashush, Dub**	**71.95**	**288**	P		**P**		**21 00 24.4**	**-0.4**	
CHVG	**Ch'k'valeri**	**72.00**	**310**	⇑P		**P**		**21 00 25.1**	**+0.3**	
KHMM	**Horse Mountain**	**72.05**	**52**	IAmb	IAmb			21 00 28.9		
	comp=Z,33nm,0.9s									
NEW	**Newport**	**72.08**	**43**	P		**P**		**21 00 26.9**	**+1.6**	
	comp=Z,36nm,0.8s,baz=305,slow=4.4,SNR=30									
NEW	**Newport**	**72.08**	**43**	IAmb	IAmb			21 00 27.8		
	comp=Z,42nm,0.9s									
NEW	**Newport**	**72.08**	**43**	P		**P**		**21 00 26.9**	**+1.6**	
	baz=303,SNR=17									
MTSE	**Matsula**	**72.19**	**331**	*e*P		**P**		**21 00 25.9**	**+0.3**	
SUMG	**Summit**	**72.21**	**359**	*i* P		**P**		**21 00 27.0**	**+1.0**	
SUMG				IAmb	IAmb			21 00 30.1		
	comp=Z,22nm,0.9s									
SUMG	**Summit**	**72.21**	**359**	P		**P**		**21 00 26.7**	**+0.7**	
SUMG				pmax	pmax					
	comp=Z,36nm,0.8s									
SUMG	**Summit**	**72.21**	**359**	P		**P**		**21 00 26.7**	**+0.7**	
SUMG				IAmb	IAmb			21 00 49.5		
	comp=Z,36nm,0.8s									
L04D	**Klamath Falls**	**72.25**	**51**	P		**P**		**21 00 28.6**	**+2.1**	
	baz=302,SNR=22									
YBH	**Yreka Blue Hor**	**72.25**	**51**	P		**P**		**21 00 28.5**	**+2.1**	
	comp=Z,21nm,0.9s,baz=3.1,slow=4.1,SNR=41									
YBH	**Yreka Blue Hor**	**72.25**	**51**	P		**P**		**21 00 27.5**	**+1.1**	
YBH				IAmb	IAmb			21 00 29.9		
	comp=Z,25nm,0.9s									
NSS	**Namsos**	**72.28**	**339**	*e*P		**P**		**21 00 26.0**	**0.0**	
M02C	**Callahan**	**72.34**	**52**	P		**P**		**21 00 29.5**	**+2.5**	
	baz=302,SNR=11									
J05D	**Fort Rock, OR**	**72.35**	**49**	P		**P**		**21 00 29.4**	**+2.3**	
	baz=302,SNR=22									
K04D	**Chiloquin, OR**	**72.38**	**50**	P		**P**		**21 00 29.4**	**+2.1**	
	baz=302									
KARS	**Kars**	**72.47**	**308**	IAmb	IAmb			21 00 46.8		
	comp=Z,103nm,1.5s									
G08A	**Pilot Rock**	**72.65**	**47**	P		**P**		**21 00 29.6**	**+0.8**	
N02D	**Trinity Center**	**72.66**	**52**	P		**P**		**21 00 31.2**	**+2.3**	
	baz=302,SNR=13									
AAL	**Aland**	**72.70**	**333**	*e*P		**P**		**21 00 28.2**	**-0.4**	
KCPM	**Cahto Peak**	**72.77**	**53**	IAmb	IAmb			21 00 32.4		
	comp=Z,33nm,0.7s									
M04C	**Macdoel**	**72.78**	**51**	P		**P**		**21 00 31.6**	**+1.9**	
	baz=302,SNR=26									
WDC	**Whiskeytown Da**	**72.97**	**52**	P		**P**		**21 00 32.1**	**+1.5**	
WDC				pmax	pmax					
	comp=Z,25nm,1.1s									
WDC	**Whiskeytown Da**	**72.97**	**52**	P		**P**		**21 00 32.1**	**+1.5**	
BCA	**Borcka**	**72.97**	**309**	⇑P		**P**		**21 00 30.3**	**-0.3**	
SOC	**Sochi**	**73.01**	**312**	*e*P		**P**		**21 00 28.1**	**-2.7**	
SOC				*e*				21 03 11.4		
SOC				*e*PPP	PPP			21 04 55.2		
SOC				*e*S		**S**		**21 09 51.5**	**-2.3**	
SOC				pmax	pmax					
	comp=Z,12nm,0.6s									
SOC				MLR	MLR					
	comp=Z,111nm,18.0s									
O02D	**Mt. Diablo Mer**	**73.03**	**53**	P		**P**		**21 00 33.4**	**+2.3**	
	baz=302,SNR=16									
MNK	**Minsk**	**73.07**	**326**	*i* P		**P**		**21 00 28.8**	**-2.1**	
MNK				*i* *PP		**pP**		**21 00 40.6**	**-5.0**	
MNK				*i*				21 00 45.1		
MNK				*i*				21 03 11.6		
MNK				*i* PPP	PPP			21 04 58.8		
MNK				*i* S		**S**		**21 09 52.6**	**-1.6**	
MNK				*i* SS		**SS**		**21 14 35.3**	**+0.3**	
MNK				*i* SSS	SSS			21 17 41.6		
MNK				pmax	pmax					
	comp=N,7.0nm,0.9s									
MNK				pmax	pmax					
	comp=E,2.0nm,1.0s									
MNK				pmax	pmax					
	comp=Z,29nm,1.0s									
MNK				MLR	MLR					
	comp=E,13nm,16.0s									
MNK				MLR	MLR					
	comp=N,80nm,16.0s									
MNK				MLR	MLR					
	comp=Z,204nm,16.0s									
MNK	**Minsk**	**73.07**	**326**	*i* P		**P**		**21 00 28.8**	**-2.1**	
	comp=E,2.0nm,1.0s									
MNK				*i* P		**P**		**21 00 28.8**	**-2.1**	
	comp=N,7.0nm,0.9s									
MNK				*i* P		**P**		**21 00 28.8**	**-2.1**	
	comp=Z,29nm,1.0s,baz=52									
MNK				*i* pP		**pP**		**21 00 40.6**	**-4.9**	
MNK				*i* PcP		**PcP**		**21 00 45.1**	**-2.3**	
MNK				*i* PP		**PP**		**21 03 11.7**	**-1.9**	
MNK				*i* PPP	PPP			21 04 58.8		
MNK				*i* S		**S**		**21 09 52.7**	**-1.5**	
MNK				*i* SS		**SS**		**21 14 35.4**	**+0.4**	
MNK				*i* SSS	SSS			21 17 41.7		
MNK				*i* LQ	LQ			21 28 55.4		
MNK				*i* LR	LR			21 31 22.4		
MNK				*i* LRM	MLR			21 35 50.5		
	comp=E,13nm,16.1s									
MNK				*i* LRM	MLR			21 35 50.8		
	comp=N,80nm,16.1s									
MNK				*i* LRM	MLR			21 35 56.6		
	comp=Z,204nm,16.1s									
ISAL	**Salakas**	**73.20**	**327**	*e*P		**P**		**21 00 32.3**	**+0.6**	
IIGN	**Ignalina**	**73.30**	**327**	*e*P		**P**		**21 00 33.0**	**+0.8**	
NACGM	**Naroch**	**73.33**	**326**	*i* P		**P**		**21 00 33.3**	**+0.8**	
WALA	**Waterton Lakes**	**73.39**	**41**	IAmb	IAmb			21 00 35.7		
	comp=Z,27nm,0.8s									
SLIT	**Slitere, Latvi**	**73.51**	**330**	*e*P		**P**		**21 00 32.8**	**-0.6**	
O03E	**Paynes Creek**	**73.60**	**52**	P		**P**		**21 00 35.8**	**+1.3**	
	baz=303,SNR=12									
ANN	**Anapa**	**73.71**	**314**	*e*P		**P**		**21 00 34.6**	**-0.2**	
ANN				*e**PP		**pP**		**21 00 45.0**	**-4.5**	
ANN				*e*S		**SKiKP**		**21 09 58.0**	**-1.7**	
ANN				pmax	pmax					
	comp=Z,51nm,1.1s									
GDXM	**Geysers**	**73.75**	**54**	IAmb	IAmb			21 00 38.8		
	comp=Z,60nm,1.9s									
BMO	**Blue Mountains**	**73.87**	**46**	IAmb	IAmb			21 00 38.7		
	comp=Z,36nm,0.9s									
PABE	**Paberze**	**74.19**	**328**	*e*P		**P**		**21 00 38.0**	**+0.5**	
ORV	**Oroville**	**74.19**	**53**	P		**P**		**21 00 38.5**	**+0.6**	
ORV				pmax	pmax					
	comp=Z,26nm,1.2s									
ORV	**Oroville**	**74.19**	**53**	P		**P**		**21 00 38.5**	**+0.6**	
WVOR	**Wild Horse Val**	**74.42**	**49**	IAmb	IAmb			21 00 42.2		
	comp=Z,28nm,0.9s									
PLID	**Pearl Lake**	**74.50**	**45**	P		**P**		**21 00 40.1**	**+0.3**	
MSO	**Missoula**	**74.67**	**43**	IAmb	IAmb			21 00 42.8		
	comp=Z,32nm,1.1s									
MSO	**Missoula**	**74.67**	**43**	P		**P**		**21 00 41.7**	**+1.1**	
	baz=306,SNR=14									
PBUR	**Paburge**	**74.72**	**329**	*e*P		**P**		**21 00 40.9**	**+0.4**	
AKASG	**Malin Array Be**	**74.76**	**322**	P		**P**		**21 00 40.5**	**-0.4**	
	comp=Z,7.2nm,0.4s,baz=49,slow=6.3,SNR=34									
AKASG				pP		**pP**		**21 00 56.7**	**+1.1**	
	comp=Z,17nm,0.5s,baz=48,slow=6.2,SNR=12									
AKASG				LR	LR			21 36 22.5		
	comp=Z,194nm,19.6s,baz=40,slow=38									
AKBB	**Malin Array Si**	**74.76**	**322**	P		**P**		**21 00 40.1**	**-0.8**	
AKBB				pmax	pmax					
	comp=Z,24nm,0.7s									
AKBB	**Malin Array Si**	**74.76**	**322**	P		**P**		**21 00 40.0**	**-0.8**	
AKBB				IAmb	IAmb			21 01 00.8		
	comp=Z,24nm,0.7s									
BEKR	**Beckworth**	**74.76**	**52**	IAmb	IAmb			21 00 44.0		
	comp=Z,34nm,0.9s									
NC303	**NORSAR Array S**	**74.93**	**337**	IAmb	IAmb			21 01 00.2		
	comp=Z,29nm,1.0s									
HFS	**Hagfors**	**74.97**	**335**	P		**P**		**21 00 41.8**	**-0.2**	
	comp=Z,8.0nm,0.5s,baz=77,slow=3.2,SNR=62									
HFS				pP		**pP**		**21 00 58.0**	**+1.4**	
	comp=Z,15nm,0.8s,baz=46,slow=6.4,SNR=7.2									
NB2	**NORSAR Subarra**	**75.12**	**337**	P		**P**		**21 00 42.1**	**-0.7**	
	comp=Z,33nm,0.9s,baz=41,slow=5.9									
NB2	**NORSAR Subarra**	**75.12**	**337**	P		**P**		**21 00 42.1**	**-0.7**	
	baz=41,slow=5.9									
NOA	**NORSAR Array B**	**75.12**	**337**	P		**P**		**21 00 42.5**	**-0.3**	
	comp=Z,13nm,0.8s,baz=41,slow=5.8,SNR=58									
NOA				PP		**PP**		**21 03 30.3**	**-0.5**	
	comp=Z,3.7nm,0.8s,baz=46,slow=8.7,SNR=4.4									
NOA				LR	LR			21 37 03.1		
	comp=Z,130nm,19.8s,baz=285,slow=38									
NC602	**NORSAR Array S**	**75.25**	**337**	*e*P		**P**		**21 00 43.1**	**-0.4**	
NC602	**NORSAR Array S**	**75.25**	**337**	IAmb	IAmb			21 01 09.5		
	comp=Z,48nm,1.4s									
NBO00	**NORSAR Array S**	**75.27**	**337**	P		**P**		**21 00 42.6**	**-1.1**	
NBO00				IAmb	IAmb			21 01 01.1		
	comp=Z,42nm,0.8s									
ILULI	**Ilulissat**	**75.28**	**4**	IAmb	IAmb			21 01 42.0		
	comp=Z,74nm,1.4s									
NAO01	**NORSAR Array S**	**75.37**	**337**	IAmb	IAmb			21 01 02.5		
	comp=Z,50nm,1.1s									
PAHR	**Pah Rah Range**	**75.47**	**52**	IAmb	IAmb			21 00 48.2		
	comp=Z,80nm,1.6s									
SUW	**Suwalki**	**75.52**	**327**	*e*P		**P**		**21 00 44.9**	**-0.2**	
SUW	**Suwalki**	**75.52**	**327**	IAmb	IAmb			21 01 02.3		
	comp=Z,42nm,1.0s									
VCNR	**Virginia City**	**75.53**	**52**	P		**P**		**21 00 47.1**	**+1.3**	
SIM	**Simferopol'**	**75.56**	**315**	*e*P		**P**		**21 00 47.7**	**+2.1**	
SIM				*e*				21 01 01.0		
SIM				pmax	pmax					
	comp=Z,16nm,0.7s									
MFID	**Camas Ranch**	**75.56**	**47**	IAmb	IAmb			21 00 48.2		
	comp=Z,26nm,0.7s									
FFC	**Flin Flon**	**75.65**	**32**	P		**P**		**21 00 46.7**	**+0.8**	
FFC				pmax	pmax					
	comp=Z,43nm,0.9s									
FFC	**Flin Flon**	**75.65**	**32**	P		**P**		**21 00 46.7**	**+0.8**	
FFC				IAmb	IAmb			21 00 47.8		
	comp=Z,43nm,0.9s									
PNTR	**Pine Nut**	**75.68**	**52**	IAmb	IAmb			21 00 49.9		
	comp=Z,83nm,1.6s									
ICESG	**Greenland Ices**	**75.72**	**360**	*i* P		**P**		**21 00 47.4**	**+0.8**	
ICESG				IAmb	IAmb			21 00 49.2		
	comp=Z,13nm,0.8s									
CMB	**Columbia Colle**	**75.76**	**53**	IAmb	IAmb			21 00 49.7		
	comp=Z,89nm,1.6s									
MARD	**Mardin**	**75.77**	**306**	P		**P**		**21 00 46.7**	**-0.4**	
MARD				IAmb	IAmb			21 01 05.1		
	comp=Z,30nm,0.7s									
FCC	**Fort Churchill**	**75.91**	**26**	IAmb	IAmb			21 00 49.0		
	comp=Z,46nm,1.1s									
YERR	**Yerington**	**75.97**	**52**	P		**P**		**21 00 49.4**	**+1.0**	
OSL	**Oslo**	**76.12**	**336**	*e*P		**P**		**21 00 48.9**	**+0.4**	
EGMT	**Eagleton**	**76.23**	**40**	P		**P**		**21 00 50.1**	**+0.7**	
EGMT	**Eagleton**	**76.23**	**40**	P		**P**		**21 00 50.9**	**+1.4**	
	baz=308,SNR=43									
DLMT	**Dillon**	**76.29**	**44**	IAmb	IAmb			21 00 52.7		
	comp=Z,50nm,0.9s									
HLID	**Hailey**	**76.31**	**46**	P		**P**		**21 00 52.0**	**+1.9**	
	baz=306,SNR=26									
SKAR	**Skarslia**	**76.31**	**338**	*e*P		**P**		**21 00 50.5**	**+0.8**	
BMN	**Battle Mountai**	**76.43**	**50**	IAmb	IAmb			21 00 54.1		
	comp=Z,43nm,1.1s									
PMPB	**Monarch Peak**	**76.50**	**55**	P		**P**		**21 00 51.5**	**+0.3**	
FOO	**Floro**	**76.55**	**340**	*e*P		**P**		**21 00 52.1**	**+1.2**	
RYN	**Ryan**	**76.63**	**52**	IAmb	IAmb			21 00 55.1		
	comp=Z,57nm,1.4s									
STRU	**Stroemstad**	**76.65**	**336**	*i* P		**P**		**21 00 51.3**	**-0.2**	
BOZ	**Bozeman (W)**	**76.69**	**43**	IAmb	IAmb			21 00 55.0		
	comp=Z,30nm,1.0s									
BOZ	**Bozeman (W)**	**76.69**	**43**	P		**P**		**21 00 53.7**	**+1.5**	
	baz=307,SNR=32									
SORM	**Soroca**	**76.79**	**320**	⇑P		**P**		**21 00 52.4**	**-0.2**	
LHV	**Little Huntoon**	**76.86**	**52**	P		**P**		**21 00 55.0**	**+1.9**	
NVAR	**Mina Array Bea**	**76.89**	**52**	P		**P**		**21 00 55.5**	**+2.0**	
	comp=Z,20nm,0.7s,baz=299,slow=5.5,SNR=180									
NV11	**Mina Array Sit**	**76.98**	**52**	IAmb	IAmb			21 00 57.1		
	comp=Z,54nm,1.6s									
BLEU	**Blekinge**	**76.99**	**332**	*i* P		**P**		**21 00 52.7**	**-0.7**	
MLAC	**Mammoth, Mammo**	**77.00**	**53**	P		**P**		**21 00 56.2**	**+2.0**	
	baz=305									
SUE	**Sulen**	**77.07**	**339**	*e*P		**P**		**21 00 54.9**	**+1.1**	
PAGB	**Antelope Grade**	**77.14**	**55**	IAmb	IAmb			21 00 58.0		
	comp=Z,50nm,1.0s									
BORU	**Boraas**	**77.15**	**334**	*i* P		**P**		**21 00 53.8**	**-0.5**	
VOG	**Valley Oaks Go**	**77.39**	**54**	P		**P**		**21 00 58.2**	**+2.1**	
	baz=305									
ASK	**Askoy**	**77.41**	**339**	*e*P		**P**		**21 00 56.6**	**+0.9**	
ODD1	**Odda**	**77.44**	**338**	*e*P		**P**		**21 00 57.2**	**+1.2**	
YHB	**Horse Butte**	**77.45**	**44**	P		**P**		**21 00 57.9**	**+1.2**	
YHB				IAmb	IAmb			21 00

BRTR PP **PP** **21 04 01.9 -1.8**
comp=Z,4.5nm,1.0s,baz=74,slow=6.6,SNR=4.7
LRMC Laurel Mtn Rad **79.00 54** P **P** **21 01 06.6 +1.4**
baz=306
TPNV Topopah Spring **79.07 52** IAmb IAmb 21 01 08.5
comp=Z,49nm,1.1s
TPNV Topopah Spring **79.07 52** P **P** **21 01 07.3 +1.7**
baz=306,SNR=67
VRI Vrincioaia **79.09 319** ⇑P **P** **21 01 06.9 +1.5**
EDW2 Edwards Air Fo **79.14 55** P **P** **21 01 07.7 +1.8**
baz=306,SNR=23
PLOR Plostina **79.15 319** ⇑P **P** **21 01 07.0 +1.3**
HWUT Hardware Ranch **79.17 46** IAmb IAmb 21 01 09.2
comp=Z,43nm,1.1s
TLBR Topalu **79.23 318** ⇑P **P** **21 01 05.5 -0.6**
DECC Green Verdugo **79.27 56** P **P** **21 01 08.0 +1.3**
baz=306
DUG Dugway, Tooele **79.28 48** IAmb IAmb 21 01 09.8
comp=Z,49nm,1.2s
DUG Dugway, Tooele **79.28 48** P **P** **21 01 08.6 +1.9**
baz=308,SNR=26
KOLS Kolonicke sedl **79.34 324** *e*P **P** **21 01 07.2 +0.6**
KOLS *e* 21 01 13.8
KOLS *e* 21 04 06.9
KOLS pmax pmax
comp=Z,16nm,1.1s
KOLS Kolonicke sedl **79.34 324** *e*P **P** **21 01 07.2 +0.6**
KOLS *e* 21 01 13.8
KOLS *e*PP **PP** **21 04 06.9 +0.5**
STHS Stebnicka Huta **79.50 324** *e*P P 21 01 12.4 +4.9
STHS Stebnicka Huta **79.50 324** *e* P 21 01 12.4 +4.9
UZH Uzhgorod **79.53 323** *e*P **P** **21 01 07.2 -0.5**
UZH *i* 21 01 12.7
UZH *i* 21 01 25.3
ARCR ARCALIA **79.54 321** ⇑P **P** **21 01 09.1 +1.3**
TCUT Toone Canyon **79.56 47** IAmb IAmb 21 01 11.2
comp=Z,31nm,0.9s
PRN Pahroc Range **79.57 51** IAmb IAmb 21 01 11.5
comp=Z,33nm,1.0s
NEHR Nehoiu **79.61 319** ⇑P **P** **21 01 09.1 +0.8**
BW06 Boulder Array **79.61 45** P **P** **21 01 09.6 +1.1**
baz=309,SNR=13
PDAR Pinedale Array **79.61 45** P **P** **21 01 09.5 +0.9**
comp=Z,6.7nm,0.7s,baz=275,slow=1.2,SNR=51
OJC Ojcow **79.62 326** *e*P **P** **21 01 08.4 +0.2**
OJC Ojcow **79.62 326** IAmb IAmb 21 01 27.9
comp=Z,32nm,1.0s
ICOR Ion Corvin **79.64 317** ⇑P **P** **21 01 08.8 +0.5**
GSC Goldstone, Bar **79.68 54** P **P** **21 01 10.3 +1.4**
baz=306
CIS Catalina Islan **79.72 56** P **P** **21 01 10.3 +1.3**
baz=306,SNR=5.0
DOPR Dopca **79.74 320** ⇓P **P** **21 01 10.0 +1.1**
SOCY Socotra **79.74 278** P **P** **21 01 07.3 -2.2**
CRVS Cervenica-Dubn **79.75 324** *e*P **P** **21 01 09.8 +0.9**
CRVS pmax pmax
comp=Z,16nm,1.0s
CRVS Cervenica-Dubn **79.75 324** *e*P **P** **21 01 09.8 +0.9**
CRVS *e*PP **PP** **21 04 10.7 +0.8**
MLR Muntele Rosu **79.76 319** ⇓P **P** **21 01 10.6 +1.4**
MLR Muntele Rosu **79.76 319** P **P** **21 01 09.8 +0.7**
MLR pmax pmax
comp=Z,10.0nm,0.8s
MLR Muntele Rosu **79.76 319** P **P** **21 01 09.8 +0.7**
RRX Edison Barstow **79.81 54** P **P** **21 01 11.3 +1.8**
baz=306
JLU Jordanelle **79.86 47** P **P** **21 01 10.9 +1.0**
NIE Niedzica **79.95 325** *e*P **P** **21 01 11.2 +1.2**
SECR **79.99 319** ⇑P **P** **21 01 10.6 +0.3**
SHPR Sheep Range **80.04 52** IAmb IAmb 21 01 14.0
comp=Z,34nm,1.0s
MPU Maple Canyon **80.11 48** IAmb IAmb 21 01 14.2
comp=Z,65nm,1.3s
TUQ Turquoise Moun **80.18 53** P **P** **21 01 13.4 +1.7**
baz=307,SNR=32
NUUK Nuuk **80.23 5** *i* P **P** **21 01 12.7 +1.6**
NUUK IAmb IAmb 21 01 15.0
comp=Z,25nm,1.0s
VOIR **80.27 320** ⇑P **P** **21 01 12.4 +0.6**
HEC Hector,Ludlow **80.27 54** P **P** **21 01 13.8 +1.7**
baz=307,SNR=16
MURC Murrieta **80.42 56** P **P** **21 01 14.0 +1.2**
baz=306,SNR=5.3
LANS Liptovska Anna **80.52 325** *e*P **P** **21 01 14.4 +1.3**
LANS *e*SP 21 01 32.0
LANS *e* 21 04 17.4
LANS pmax pmax
comp=Z,6.0nm,0.6s
LANS Liptovska Anna **80.52 325** *e*P **P** **21 01 14.4 +1.3**
LANS *e* 21 01 17.7
LANS *e*SP **sP** **21 01 32.0 -1.7**
LANS *e*PP **PP** **21 04 17.4 +1.1**
ARR Arges **80.53 320** ⇓P **P** **21 01 14.6 +1.4**
DRGR **80.57 322** ⇓P **P** **21 01 13.9 +0.5**
MSU Marysvale **80.70 49** P **P** **21 01 15.8 +1.3**
MSU Marysvale **80.70 49** P **P** **21 01 15.8 +1.3**
KSP Ksiaz **80.75 328** *e*P **P** **21 01 14.8 +0.5**
TMUT Trail Mountain **80.81 48** IAmb IAmb 21 01 18.2
comp=Z,46nm,1.5s
BSEG Bad Segeberg **80.86 333** *e*L L 21 39 50.0
comp=Z,312nm,19.1s
109C Camp Elliot, M **80.90 56** IAmb IAmb 21 01 17.8
comp=Z,39nm,0.8s
109C Camp Elliot, M **80.90 56** P **P** **21 01 16.7 +1.3**
baz=306
PFO Pinyon Flats O **80.91 55** P **P** **21 01 16.1 +0.5**
PFO pmax pmax
comp=Z,40nm,1.0s
PFO Pinyon Flats O **80.91 55** P **P** **21 01 16.1 +0.5**
PFO IAmb IAmb 21 01 18.1
comp=Z,40nm,1.0s
PFO Pinyon Flats O **80.91 55** P **P** **21 01 17.0 +1.5**
baz=307,SNR=25
TPFO Pinon Flats **80.92 55** P **P** **21 01 17.0 +1.4**
baz=307,SNR=26
LCMT Little Creek M **80.96 51** IAmb IAmb 21 01 19.0
comp=Z,45nm,0.9s
MORC Moravsky Berou **80.97 326** ⇓P **P** **21 01 16.1 +0.6**
MORC Moravsky Berou **80.97 326** *e*P **P** **21 01 15.7 +0.2**
MORC *e* 21 01 32.5
P17A Butcher Ranch, **80.98 48** IAmb IAmb 21 01 18.9
comp=Z,83nm,1.3s
BELC Belle Mtn. Jos **80.99 55** P **P** **21 01 17.1 +1.1**
baz=307,SNR=29
MTPU Mount Pierson **80.99 50** IAmb IAmb 21 01 19.8
comp=Z,34nm,1.0s
RDMU Red Mountain **80.99 46** IAmb IAmb 21 01 18.9
comp=Z,81nm,1.2s
OSTC Ostas **80.99 327** *e*P P 21 01 22.0 +6.4
COPA Copaceanca **81.04 319** ⇑P **P** **21 01 15.5 -0.3**
Q16A Castle Valley **81.07 48** IAmb IAmb 21 01 19.7
comp=Z,112nm,1.8s
KRLC Kraliky **81.09 327** *e*P **P** **21 01 16.6 +0.5**
KRLC Kraliky **81.09 327** *e*P **P** **21 01 16.6 +0.5**
DPC Dobruska-Polom **81.10 327** *e*P **P** **21 01 16.8 +0.7**
DPC Dobruska-Polom **81.10 327** *e*P **P** **21 01 16.8 +0.7**
UPC Upice **81.12 328** *e*P **P** **21 01 16.8 +0.6**
UPC MLR MLR
comp=Z,800nm,18.1s
UPC Upice **81.12 328** *e*P **P** **21 01 16.8 +0.6**
PSZ Piszkesteto **81.18 324** ⇓P **P** **21 01 17.5 +0.9**
PSZ Piszkesteto **81.18 324** *e*P **P** **21 01 19.7 +3.0**
KNB Kanab **81.22 51** IAmb IAmb 21 01 20.7
comp=Z,68nm,1.0s
VYHS Vyhne **81.28 325** *e*P **P** **21 01 17.6 +0.5**
VYHS *e*SP 21 01 35.4
VYHS *e* 21 04 23.1
VYHS pmax pmax
comp=Z,11nm,1.0s
VYHS Vyhne **81.28 325** *e*P **P** **21 01 17.6 +0.5**
VYHS *e* 21 01 20.1
VYHS *e*SP **sP** **21 01 35.4 -2.3**
VYHS *e*PP **PP** **21 04 23.1 +0.6**
BAR Barrett **81.32 56** IAmb IAmb 21 01 20.0
comp=Z,31nm,0.8s
SRU San Rafael Swe **81.34 48** P **P** **21 01 18.5 +0.6**
SRU pmax pmax
comp=Z,39nm,0.9s
SRU San Rafael Swe **81.34 48** P **P** **21 01 18.5 +0.6**
SRU IAmb IAmb 21 01 20.5
comp=Z,39nm,0.9s
MONP2 Monument Peak **81.36 56** P **P** **21 01 19.5 +1.4**
baz=307,SNR=18
K22A Casper **81.40 43** P **P** **21 01 19.1 +1.0**
baz=311

ULM Lac du Bonnet **81.45 32** P **P** **21 01 18.5 +0.6**
comp=Z,18nm,0.8s,baz=305,slow=5.4,SNR=23
IRM Iron Mountain **81.46 54** P **P** **21 01 19.9 +1.5**
baz=307,SNR=29
MDND Maddock **81.47 36** P **P** **21 01 19.0 +0.9**
baz=315
GZR Gura Zlata **81.48 321** ⇑P **P** **21 01 18.9 +0.6**
BC3 Big Chuckawall **81.56 55** P **P** **21 01 20.3 +1.3**
baz=307,SNR=26
JAVC Velka Javorina **81.56 326** *e*P **P** **21 01 20.3 +1.6**
JAVC *e* 21 01 36.9
RWWY Rawlins **81.64 44** IAmb IAmb 21 01 21.7
comp=Z,28nm,1.0s
IKP In-Ko-Pah, Jac **81.72 56** P **P** **21 01 21.2 +1.4**
baz=307,SNR=20
PVCC Panska Ves **81.73 328** *e*P **P** **21 01 20.2 +0.8**
PVCC Panska Ves **81.73 328** *e*P **P** **21 01 20.2 +0.8**
VRAC Vranov **81.73 326** ⇑P **P** **21 01 20.1 +0.6**
VRAC Vranov **81.73 326** *e*P **P** **21 01 20.0 +0.5**
VRAC *e* 21 01 36.7
BRG Berggiesshubel **81.74 329** *e*P **P** **21 01 19.6 +0.1**
comp=Z,5.5nm,0.7s,baz=45,slow=4.5
BRG Berggiesshubel **81.74 329** *e*P **P** **21 01 19.9 +0.5**
BRG Amp 21 01 23.8
comp=Z,9.4nm,0.7s
BRG pP **pP** **21 01 36.2 +1.9**
BRG Amp 21 01 36.8
comp=Z,16nm,1.0s
BRG PP **PP** **21 04 24.6 -1.5**
BRG Amp 21 04 28.4
comp=Z,5.9nm,1.0s
SWSC Sam W. Stewart **81.75 55** P **P** **21 01 21.0 +1.1**
baz=307,SNR=6.9
RSSD Black Hills **81.78 41** P **P** **21 01 20.2 0.0**
RSSD pmax pmax
comp=Z,36nm,1.7s
RSSD Black Hills **81.78 41** P **P** **21 01 20.1 0.0**
RSSD Black Hills **81.78 41** P **P** **21 01 20.9 +0.8**
baz=312
CLL Collm **81.81 330** ⇑*i*P **P** **21 01 19.6 -0.2**
comp=Z,15nm,0.9s
CLL *i* Pmax 21 01 21.5
comp=Z,22nm,0.9s
CLL *e*pP **pP** **21 01 35.0 +0.4**
CLL *e* 21 04 16.0
CLL Collm **81.81 330** ⇑*i*P **P** **21 01 19.6 -0.2**
CLL *e**PP **pP** **21 01 35.0 +0.4**
CLL pmax pmax
comp=Z,22nm,0.9s
CLL Collm **81.81 330** *e*P **P** **21 01 19.8 0.0**
comp=Z,15nm,0.9s,baz=45,slow=4.5
CLL *e*L L 21 41 24.5
comp=Z,188nm,21.6s
E28A Huff **81.83 37** IAmb IAmb 21 01 21.9
comp=Z,43nm,1.3s
SMOL Smolenice **81.92 325** *e*P **P** **21 01 21.4 +0.9**
SMOL *e*SP 21 01 39.0
SMOL pmax pmax
comp=Z,6.0nm,1.0s
SMOL Smolenice **81.92 325** *e*P **P** **21 01 21.4 +0.9**
SMOL *e*pP **pP** **21 01 33.7 -1.7**
SMOL *e*sP **sP** **21 01 39.0 -2.1**
SMOL Smolenice **81.92 325** *e* **P** **21 01 24.6 +4.1**
BZS Buzias **81.93 321** ⇓P **P** **21 01 20.7 +0.1**
KRUC Moravsky **82.00 326** *e*P **P** **21 01 21.4 +0.5**
KRUC *e* 21 01 37.9
SRO2 Moca **82.01 324** *e*P **P** **21 01 23.0 +2.1**
SRO2 Moca **82.01 324** *e*P **P** **21 01 23.0 +2.1**
SRO Srobarova **82.01 325** *e*P **P** **21 01 23.5 +2.6**
SRO *e*SP 21 01 39.8
SRO Srobarova **82.01 325** *e*P **P** **21 01 23.5 +2.6**
SRO *e* 21 01 24.4
SRO *e*sP **sP** **21 01 39.8 -1.8**
HERR Herculane **82.02 320** ⇑P **P** **21 01 21.5 +0.5**
CSS Mathiatis **82.03 307** IAmb IAmb 21 01 42.1
comp=Z,23nm,0.8s
PDMCI Parker Dam,Lak **82.03 53** P **P** **21 01 22.8 +1.5**
baz=308,SNR=11
O20A White River Ci **82.05 46** IAmb IAmb 21 01 23.9
comp=Z,26nm,0.9s
O20A White River Ci **82.05 46** P **P** **21 01 22.8 +1.2**
baz=310,SNR=15
MODS Modra-Piesok **82.10 325** *e*P **P** **21 01 21.2 -0.2**
MODS pmax pmax
comp=Z,12nm,1.3s
MODS Modra-Piesok **82.10 325** *e*P **P** **21 01 21.2 -0.2**
MODS *e*sP **pP** **21 01 38.8 +2.5**
PRU Pruhonice **82.14 328** *e*P **P** **21 01 22.4 +0.8**
PRU Pruhonice **82.14 328** *e*P **P** **21 01 22.4 +0.8**
TREC Trest **82.24 327** *e*P **P** **21 01 22.7 +0.6**
TREC Trest **82.24 327** *e*P **P** **21 01 22.7 +0.6**
GLA Glamis **82.34 55** P **P** **21 01 24.4 +1.4**
baz=308,SNR=5.1
CSKK Cskako **82.36 324** *e*P **P** **21 01 24.4 +1.7**
MDVR Moldovita **82.45 321** ⇓P **P** **21 01 23.2 -0.2**
PV21 Cone Mtn., Par **82.62 48** IAmb IAmb 21 01 27.5
comp=Z,34nm,0.9s
PV23 Carpenter Ridg **82.67 48** P **P** **21 01 26.2 +1.2**
PV22 Blue Mesa, Par **82.75 47** IAmb IAmb 21 01 28.2
comp=Z,53nm,1.2s
EGYH Egyhazaskeszo **82.76 325** *e*P P 21 01 34.2 +9.3
GHAJ Ghor Haditha **82.77 303** IAmb IAmb 21 01 43.4
comp=Z,23nm,0.5s
NKC Novy Kostel **82.85 329** *e*P **P** **21 01 27.9 +2.6**
NKC Novy Kostel **82.85 329** *e*P **P** **21 01 27.9 +2.6**
TIH Tihany **82.87 324** *e*P **P** **21 01 26.9 +1.5**
MOX Moxa **82.88 330** *e*P **P** **21 01 25.6 +0.1**
comp=Z,4.8nm,0.7s,baz=45,slow=4.5
MOX *e*L L 21 40 10.5
comp=Z,208nm,21.7s
N23A Red Feather La **82.88 44** P **P** **21 01 27.8 +1.8**
baz=312,SNR=16
PV03 Paradox Valley **82.90 48** IAmb IAmb 21 01 29.0
comp=Z,60nm,1.1s
PV07 Paradox Valley **82.90 47** IAmb IAmb 21 01 28.9
comp=Z,30nm,1.2s
SOP Sopron **82.93 325** *e*P **P** **21 01 25.1 -0.6**
PV13 Radium Mtn., P **82.98 48** P **P** **21 01 27.6 +1.1**
MORH Mrgy, Hungar **82.99 323** *e*P **P** **21 01 21.6 -4.5**
MORH Mrgy, Hungar **82.99 323** *e*P **P** **21 01 25.6 -0.5**
PV02 Paradox Valley **83.00 48** IAmb IAmb 21 01 29.6
comp=Z,51nm,1.1s
Y14A Wickenburg **83.00 53** IAmb IAmb 21 01 29.1
comp=Z,25nm,1.0s
WUAZ Wupatki **83.07 51** IAmb IAmb 21 01 29.9
comp=Z,49nm,1.0s
WUAZ Wupatki **83.07 51** P **P** **21 01 28.8 +1.9**
baz=309,SNR=26
CONA Conrad Observa **83.07 326** *e*P **P** **21 01 27.5 +0.9**
comp=Z,12nm,1.1s,SNR=6.9
CONA *e*P **PP** **21 04 38.2 +0.9**
comp=Z,25nm,1.4s
ELL Elmali **83.09 311** P **P** **21 01 27.4 +0.4**
ELL pmax pmax
comp=Z,62nm,0.7s
ELL Elmali **83.09 311** P **P** **21 01 27.4 +0.4**
CKRC Cesky Krumlov **83.11 327** *e*P **P** **21 01 26.9 +0.2**
VTS Vitosha **83.13 318** ⇓P **P** **21 01 27.9 +0.8**
VTS Vitosha **83.13 318** IAmb IAmb 21 01 47.0
comp=Z,18nm,0.7s
PV01 Paradox Valley **83.14 48** IAmb IAmb 21 01 30.2
comp=Z,50nm,1.1s
FRGS Fruska Gora **83.16 322** ⇑P **P** **21 01 27.3 +0.2**
FRGS Fruska Gora **83.16 322** ⇑*i*P **P** **21 01 27.1 +0.1**
KHC Kasperske Hory **83.20 328** *e*P **P** **21 01 27.6 +0.4**
KHC *e* 21 01 38.9
KHC Kasperske Hory **83.20 328** *e*P **P** **21 01 27.6 +0.4**
KHC *e*pP **pP** **21 01 38.9 -3.2**
BOVS Bovan **83.25 320** ⇑P **P** **21 01 26.9 -0.5**
GEC2 GERESS Array S **83.36 328** *e*L L 21 40 28.6
comp=Z,232nm,19.5s
GERES GERESS Array B **83.36 328** P **P** **21 01 27.9 -0.2**
comp=Z,1.5nm,0.4s,baz=39,slow=6.2,SNR=13
GERES pP **pP** **21 01 44.0 +1.0**
comp=Z,6.3nm,0.8s,baz=36,slow=5.0,SNR=8.5
GERES PP **PP** **21 04 38.1 -1.5**
comp=Z,1.5nm,0.8s,baz=40,slow=6.9,SNR=3.8
WET Wettzell **83.49 328** *e*L L 21 39 52.7
comp=Z,226nm,19.5s
X16A Lo Mia Camp, P **83.72 52** IAmb IAmb 21 01 33.4
comp=Z,35nm,1.1s
ARSA Arzberg **83.72 326** *e*P **P** **21 01 31.0 +1.1**
comp=Z,9.4nm,1.2s
ARSA *e*P **PP** **21 04 41.2 -1.4**
comp=Z,4.8nm,1.1s

GRA1 Grafenberg Arr **83.78 329** IAmb IAmb 21 01 49.4
comp=Z,36nm,0.9s
GRF Grafenberg Arr **83.78 329** *e*P **P** **21 01 30.6 +0.5**
comp=Z,14nm,0.9s,baz=45,slow=4.5
GRF *e*L L 21 41 56.5
comp=Z,148nm,19.1s
GRFO Grafenberg **83.78 329** P **P** **21 01 29.8 -0.3**
GRFO pmax pmax
comp=Z,30nm,0.8s
GRFO Grafenberg **83.78 329** P **P** **21 01 29.8 -0.3**
GRFO IAmb IAmb 21 01 49.3
comp=Z,30nm,0.8s
MVCO Mesa Verde **83.78 48** IAmb IAmb 21 01 33.4
comp=Z,38nm,1.1s
MVCO Mesa Verde **83.78 48** P **P** **21 01 32.1 +1.5**
baz=310,SNR=16
ISCO Idaho Springs **83.80 45** P **P** **21 01 32.4 +1.6**
baz=312,SNR=7.9
DIVS Divibare **83.81 321** ⇑*i*P **P** **21 01 30.3 -0.2**
MOA Molln **83.85 327** *e*P **P** **21 01 31.8 +1.2**
comp=Z,8.6nm,1.2s
MOA *e*P **PP** **21 04 43.3 -0.3**
comp=Z,17nm,1.6s
KALN Kalnik **84.11 324** *i* P **P** **21 01 31.4 -0.4**
SUSD Miller **84.20 38** IAmb IAmb 21 01 33.9
comp=Z,46nm,0.9s
SUSD Miller **84.20 38** P **P** **21 01 32.8 +0.5**
baz=316
BBLS Lazići **84.28 321** ⇑*i*P **P** **21 01 33.3 +0.5**
MOSL Moslavina **84.34 324** *i* P **P** **21 01 32.5 -0.6**
214A Organ Pipe Nat **84.35 55** P **P** **21 01 34.0 +0.6**
214A IAmb IAmb 21 01 36.0
comp=Z,27nm,1.1s
214A Organ Pipe Nat **84.35 55** P **P** **21 01 34.7 +1.3**
baz=309,SNR=13
W18A Petrified Fore **84.36 51** P **P** **21 01 34.6 +1.1**
baz=310
PERS Pernice **84.37 325** *i* P **P** **21 01 33.4 +0.2**
PERS *i* pP **pP** **21 01 49.6 +1.5**
PERS *e*PP **PP** **21 04 47.7 -0.2**
SOKA Soboth **84.37 325** *e*P **P** **21 01 33.4 +0.2**
comp=Z,17nm,0.7s
SOKA *e*P **PP** **21 04 47.9 -0.1**
comp=Z,5.7nm,1.5s
S22A 4UR Ranch, Cre **84.44 47** P **P** **21 01 35.9 +1.8**
baz=311,SNR=30
RUDO Rudo **84.47 321** *e*P **P** **21 01 33.6 -0.1**
TNS Taunus Mts **84.49 331** *e*L L 21 43 24.9
comp=Z,102nm,21.3s
F33A 5 Mile Ranch, **84.49 36** IAmb IAmb 21 01 35.5
comp=Z,54nm,1.2s
GOLS Golise **84.59 325** *i* P **P** **21 01 34.2 -0.1**
MRAK Mrakovica **84.71 323** *e*P **P** **21 01 34.5 -0.5**
OBKA Obir **84.72 326** *i* P **P** **21 01 34.9 -0.1**
comp=Z,4.9nm,0.7s
OBKA *e*P **PP** **21 04 51.1 +0.3**
comp=Z,16nm,1.6s
BLY Banja Luka **84.76 323** *e*P **P** **21 01 34.9 -0.2**
CRES Cresnjev **84.81 325** *e*P **P** **21 01 34.3 -1.1**
KBA Koelnbreinsper **84.84 327** *e*P **P** **21 01 35.6 -0.2**
comp=Z,14nm,0.9s
FUR Furstenfeldbru **84.93 328** *e*L L 21 40 58.4
comp=Z,178nm,21.8s
UPM Unac-Piva **85.00 321** *e*P **P** **21 01 36.4 -0.3**
OGNE Ogallala **85.03 42** P **P** **21 01 37.1 +0.4**
baz=314
MYKA Terra Mystica **85.05 326** *e*P **P** **21 01 35.3 -1.4**
comp=Z,12nm,0.7s
MGRS Mrkonjic Grad **85.05 323** *e*P **P** **21 01 37.2 +0.6**
LJU Ljubljana **85.08 325** *e*P **P** **21 01 33.5 -3.2**
EYMN Ely **85.08 32** IAmb IAmb 21 01 38.2
comp=Z,29nm,1.1s
EYMN Ely **85.08 32** P **P** **21 01 37.1 +0.4**
baz=320
BTNL Ternell **85.09 332** *d*pP **pP** **21 01 51.8 +0.1**
BTNL *d*sP sP 21 01 57.5 +0.1
MEM Membach **85.12 333** *d*P **P** **21 01 36.0 -0.8**
MEM *d*pP **pP** **21 01 49.7 -2.0**
SDCO Great Sand Dun **85.23 46** IAmb IAmb 21 01 40.8
comp=Z,19nm,1.1s
SDCO Great Sand Dun **85.23 46** P **P** **21 01 39.5 +1.5**
baz=312,SNR=20
CEY Cerknica **85.35 325** ⇑*i*P **P** **21 01 37.5 -0.6**
PDG Podgorica **85.37 320** ⇓P **P** **21 01 38.0 -0.2**
PDG Podgorica **85.37 320** *e*P **P** **21 01 38.1 -0.2**
JAVS Javornik **85.41 325** *i* P **P** **21 01 37.6 -0.9**
JAVS *e*pP **pP** **21 01 53.9 +0.4**
BRY Bratogost **85.41 321** *e*P **P** **21 01 37.6 -1.0**
WATA Walderalm **85.43 328** *e*P **P** **21 01 38.4 -0.3**
comp=Z,5.9nm,0.9s
WTTA Wattenberg **85.46 328** *e*P **P** **21 01 38.8 0.0**
comp=Z,4.1nm,0.7s
ABTA Abfaltersbach **85.47 327** *i* P **P** **21 01 37.7 -1.1**
comp=Z,5.3nm,0.8s
TUC Tucson **85.47 53** P **P** **21 01 39.7 +0.7**
TUC pmax pmax
comp=Z,13nm,1.1s
TUC Tucson **85.47 53** P **P** **21 01 39.7 +0.7**
TUC Tucson **85.47 53** P **P** **21 01 40.4 +1.4**
baz=310
BCLA Clavier **85.54 333** *d*P **P** **21 01 38.8 -0.1**
BCLA *d*PcP **PcP** **21 01 42.1 +0.3**
BCLA *d*pP **pP** **21 01 53.4 -0.4**
BCLA *d*sP **sP** **21 01 59.3 -0.2**
DRME Dracevica, Mon **85.58 320** *e*P **P** **21 01 39.2 -0.1**
UDBI Udbina **85.61 324** *i* P **P** **21 01 38.6 -0.9**
MOTA Moosalm **85.63 328** *e*P **P** **21 01 38.3 -1.4**
comp=Z,7.0nm,1.1s
BGES Gesves **85.64 333** *d*P **P** **21 01 38.6 -0.8**
BGES *d*PcP **PcP** **21 01 41.2 -1.1**
RETA Reutte **85.67 328** *e*P **P** **21 01 39.5 -0.3**
comp=Z,10nm,0.9s
SQTA Sankt Quirin **85.68 328** *e*P **P** **21 01 39.8 -0.1**
comp=Z,3.5nm,0.6s
KIJV Kijevo **85.68 323** *i* P **P** **21 01 38.9 -0.9**
TRI Trieste **85.68 325** P **P** **21 01 38.5 -1.2**
TRI pmax pmax
comp=Z,16nm,0.8s
TRI Trieste **85.68 325** P **P** **21 01 38.5 -1.2**
TRI IAmb IAmb 21 01 56.8
comp=Z,16nm,0.8s
RICI Ricice **85.69 322** *i* P **P** **21 01 39.2 -0.6**
STAL STALIGIAL **85.75 326** IAmb IAmb 21 02 03.2
comp=Z,21nm,0.7s
WLF Walferdange **85.83 332** *d*pP pP 21 01 57.2 +1.9
BMRD Maredsous **85.83 333** *d*P **P** **21 01 39.1 -1.2**
BMRD *d*PcP **PcP** **21 01 42.1 -1.0**
BMRD *d*pP **pP** **21 01 55.9 +0.6**
STON Ston **85.86 321** *e*P **P** **21 01 38.5 -2.1**
ECSD EROS Data Cent **85.88 37** IAmb IAmb 21 01 42.2
comp=Z,16nm,0.9s
ECSD EROS Data Cent **85.88 37** P **P** **21 01 41.0 +0.2**
baz=317
BFO Black Forest **86.03 330** P **P** **21 01 40.9 -0.5**
BFO pmax pmax
comp=Z,20nm,1.0s
BFO Black Forest **86.03 330** P **P** **21 01 40.9 -0.5**
BFO IAmb IAmb 21 02 00.6
comp=Z,20nm,1.0s
BFO Black Forest **86.03 330** *e*L L 21 39 38.4
comp=Z,253nm,18.6s
KSCO Kaye Shedlock' **86.03 44** P **P** **21 01 42.7 +0.9**
baz=314
FETA Feichten **86.05 328** *i* P **P** **21 01 41.7 0.0**
comp=Z,5.0nm,0.8s
E38A The Farm, Brul **86.09 33** IAmb IAmb 21 01 43.0
comp=Z,27nm,0.9s
DAVA Damuels **86.20 329** *e*P **P** **21 01 41.3 -1.2**
comp=Z,7.0nm,0.6s
T25A Trinidad **86.28 46** IAmb IAmb 21 01 45.7
comp=Z,22nm,0.9s
T25A Trinidad **86.28 46** P **P** **21 01 44.5 +1.4**
baz=313,SNR=11
ZIRJ Zirje **86.32 323** *i* P **P** **21 01 41.9 -1.0**
DUGI Dugi Otok **86.35 324** *i* P **P** **21 01 42.1 -0.9**
CTI Castel Tesino **86.39 327** IAmb IAmb 21 02 01.3
comp=Z,19nm,1.1s
ANMO Albuquerque **86.51 49** P **P** **21 01 45.4 +1.1**
ANMO pmax pmax
comp=Z,15nm,1.3s
ANMO Albuquerque **86.51 49** P **P** **21 01 45.4 +1.1**
ANMO Albuquerque **86.51 49** P **P** **21 01 45.4 +1.1**
baz=312
SPMN Marine on St. **86.58 34** P **P** **21 01 44.4 +0.3**
baz=320

BGNE	**Belgrade**	**86.78**	**40**	P		**P**	**21 01 45.5**	**+0.2**
	baz=316							
TEOL	**Teolo**	**86.91**	**326**	IAmb		IAmb	21 02 10.9	
	comp=Z,19nm,0.6s							
SCHQ	**Schefferville**	**87.14**	**15**	P		**P**	**21 01 47.5**	**+0.8**
	comp=Z,16nm,0.9s,baz=5.7,slow=5.2,SNR=15							
SCHQ	**Schefferville**	**87.14**	**15**	P		**P**	**21 01 47.0**	**+0.3**
SCHQ				IAmb		IAmb	21 01 48.6	
	comp=Z,16nm,0.9s							
121A	**Cookes Peak, D**	**87.26**	**51**	IAmb		IAmb	21 01 51.0	
	comp=Z,52nm,2.0s							
121A	**Cookes Peak, D**	**87.26**	**51**	P		**P**	**21 01 48.9**	**+0.9**
	baz=311							
COWI	**Conover**	**87.53**	**32**	IAmb		IAmb	21 01 50.3	
	comp=Z,28nm,1.2s							
SGRT	**San Giovanni R**	**87.67**	**322**	P		**P**	**21 01 49.9**	**+0.3**
G40A	**Rib Lake**	**87.72**	**33**	IAmb		IAmb	21 01 51.4	
	comp=Z,37nm,1.1s							
CBKS	**Cedar Bluff**	**87.78**	**42**	P		**P**	**21 01 50.3**	**+0.1**
	baz=315							
ZCCA	**Zocca**	**88.00**	**326**	IAmb		IAmb	21 02 17.5	
	comp=Z,18nm,0.8s							
MURB	**Monte Urbino**	**88.11**	**324**	IAmb		IAmb	21 02 11.9	
	comp=Z,27nm,0.8s							
NRCA	**Norcia**	**88.16**	**324**	IAmb		IAmb	21 02 11.4	
	comp=Z,24nm,0.9s							
AQU	**L'Aquila**	**88.38**	**323**	P		**P**	**21 01 53.0**	**+0.1**
AQU				pmax		pmax		
	comp=Z,24nm,0.8s							
AQU	**L'Aquila**	**88.38**	**323**	⇑*iP*		**P**	**21 01 52.6**	**-0.3**
AQU	**L'Aquila**	**88.38**	**323**	P		**P**	**21 01 53.0**	**+0.1**
AQU				IAmb		IAmb	21 02 14.7	
	comp=Z,24nm,0.8s							
INTR	**Introdacqua**	**88.39**	**323**	IAmb		IAmb	21 02 10.7	
	comp=Z,20nm,0.7s							
SCIA	**State Center**	**88.90**	**37**	P		**P**	**21 01 56.1**	**+0.7**
	baz=319							
KSU1	**Kansas State U**	**89.27**	**40**	P		**P**	**21 01 57.2**	**+0.1**
	baz=317							
MNTX	**Cornudas Mount**	**89.34**	**51**	P		**P**	**21 01 58.5**	**+0.8**
	baz=312							
MSTX	**Muleshoe**	**89.41**	**48**	P		**P**	**21 01 58.9**	**+0.8**
	baz=314							
AMTX	**Amarillo**	**89.43**	**46**	IAmb		IAmb	21 02 00.5	
	comp=Z,18nm,1.0s							
AMTX	**Amarillo**	**89.43**	**46**	P		**P**	**21 01 59.1**	**+1.1**
	baz=314							
JFWS	**Jewell Farm**	**89.54**	**34**	IAmb		IAmb	21 01 59.5	
	comp=Z,19nm,1.0s							
JFWS	**Jewell Farm**	**89.54**	**34**	P		**P**	**21 01 58.8**	**+0.5**
	baz=321							
L40A	**Anamosa**	**89.74**	**35**	P		**P**	**21 01 59.0**	**-0.3**
L40A				IAmb		IAmb	21 02 00.7	
	comp=Z,22nm,0.9s							
BLOK	**Blackwell**	**90.65**	**42**	IAmb		IAmb	21 02 05.5	
	comp=Z,30nm,1.4s							
N41A	**Harden Midland**	**90.96**	**36**	P		**P**	**21 02 04.7**	**-0.3**
L44A	**Lake County Fo**	**91.18**	**33**	P		**P**	**21 02 06.2**	**+0.2**
	baz=323							
WMOK	**Wichita Mounta**	**91.22**	**45**	P		**P**	**21 02 07.0**	**+0.6**
WMOK				pmax		pmax		
	comp=Z,10.0nm,1.0s							
WMOK	**Wichita Mounta**	**91.22**	**45**	P		**P**	**21 02 07.0**	**+0.6**
WMOK				IAmb		IAmb	21 02 08.3	
	comp=Z,10.0nm,1.0s							
WMOK	**Wichita Mounta**	**91.22**	**45**	P		**P**	**21 02 07.1**	**+0.8**
	baz=316,SNR=6.3							
P40A	**Paris**	**91.29**	**38**	IAmb		IAmb	21 02 08.3	
	comp=Z,18nm,0.9s							
HDIL	**Hopedale**	**91.83**	**35**	P		**P**	**21 02 09.3**	**+0.3**
	baz=322							
TXAR	**Lajitas Array**	**92.03**	**51**	P		**P**	**21 02 11.5**	**+1.2**
	comp=Z,6.0nm,0.6s,baz=303,slow=2.8,SNR=33							
TXAR				pP		**sP**	**21 02 28.9**	**-2.1**
	comp=Z,2.0nm,0.5s,baz=293,slow=2.9,SNR=3.9							
TXAR	**Lajitas Array**	**92.03**	**51**	P		**P**	**21 02 10.9**	**+0.7**
S39A	**Bolivar**	**92.04**	**39**	P		**P**	**21 02 09.7**	**-0.4**
S39A				IAmb		IAmb	21 02 10.9	
	comp=Z,11nm,0.9s							
TUL1	**Leonard**	**92.05**	**42**	P		**P**	**21 02 11.0**	**+0.9**
	baz=318							
R40A	**Maddies Statio**	**92.12**	**38**	IAmb		IAmb	21 02 11.8	
	comp=Z,8.5nm,0.8s							
ABTX	**Abilene, Hawle**	**92.22**	**47**	IAmb		IAmb	21 02 13.2	
	comp=Z,24nm,1.1s							
ABTX	**Abilene, Hawle**	**92.22**	**47**	P		**P**	**21 02 11.8**	**+0.8**
	baz=315							
U38A	**Gravette**	**92.42**	**41**	IAmb		IAmb	21 02 13.2	
	comp=Z,13nm,1.0s							
CCM	**Cathedral Cave**	**92.82**	**38**	P		**P**	**21 02 13.8**	**+0.2**
CCM				pmax		pmax		
	comp=Z,18nm,1.2s							
CCM	**Cathedral Cave**	**92.82**	**38**	P		**P**	**21 02 13.8**	**+0.2**
CCM				IAmb		IAmb	21 02 34.5	
	comp=Z,18nm,1.1s							
CCM	**Cathedral Cave**	**92.82**	**38**	P		**P**	**21 02 14.0**	**+0.4**
	baz=321							
U40A	**Yellville**	**93.29**	**40**	IAmb		IAmb	21 02 17.1	
	comp=Z,16nm,0.9s							
U40A	**Yellville**	**93.29**	**40**	P		**P**	**21 02 16.1**	**+0.3**
	baz=320							
JCT	**Junction City**	**93.64**	**48**	IAmb		IAmb	21 02 18.8	
	comp=Z,9.6nm,0.7s							
JCT	**Junction City**	**93.64**	**48**	P		**P**	**21 02 18.2**	**+0.6**
	baz=315							
W39A	**Magazine**	**93.67**	**41**	P		**P**	**21 02 17.7**	**+0.1**
	baz=319							
FCAR	**Ozark Folk Cen**	**94.03**	**40**	IAmb		IAmb	21 02 19.7	
	comp=Z,38nm,1.9s							
E62A	**Clayton Lake**	**94.07**	**20**	P		**P**	**21 02 19.0**	**-0.2**
	baz=336							
MIAR	**Mount Ida**	**94.27**	**42**	P		**P**	**21 02 21.0**	**+0.6**
	baz=319							
LCAR	**Lake Charles**	**94.40**	**39**			**P**	**21 02 20.3**	**-0.6**
F62A	**Pittston Farm,**	**94.61**	**20**	P		**P**	**21 02 22.3**	**+0.6**
	baz=336							
X40A	**Basin Creek Fa**	**94.72**	**41**	P		**P**	**21 02 22.5**	**0.0**
	baz=320							
P49A	**Miami Univ. Ec**	**94.74**	**33**	P		**P**	**21 02 22.5**	**+0.1**
	baz=325							
M53A	**WI Miller and**	**94.86**	**29**	P		**P**	**21 02 23.1**	**+0.1**
	baz=328							
G62A	**West of Eustis**	**95.06**	**21**	P		**P**	**21 02 25.1**	**+1.3**
	baz=336							
WCI	**Wyandotte Cave**	**95.08**	**35**	P		**P**	**21 02 24.0**	**0.0**
	baz=324							
KEST	**Kesra**	**95.48**	**322**	P		**P**	**21 02 26.4**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=3.3,slow=9.0,SNR=2.2							
KEST				pP		**pP**	**21 02 43.2**	**+2.2**
	comp=Z,6.1nm,0.9s,baz=317,slow=4.3,SNR=4.9							
U49A	**Red Boiling Sp**	**96.71**	**35**	IAmb		IAmb	21 02 32.8	
	comp=Z,14nm,1.2s							
T50A	**Nancy**	**96.73**	**35**	IAmb		IAmb	21 02 32.9	
	comp=Z,7.5nm,0.8s							
ESDC	**Sonseca Array**	**98.11**	**333**	P		**P**	**21 02 37.6**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=21,slow=4.6,SNR=2.5							
ESDC				pP		**pP**	**21 02 52.9**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=11,slow=3.7,SNR=5.8							
ESDC	**Sonseca Array**	**98.11**	**333**	P		**P**	**21 02 37.1**	**-0.7**
TORD	**Torodi Ar. Bea**	**117.51**	**313**	PKP		**PKPdf**	**21 07 46.5**	**-0.6**
	comp=Z,1.9nm,0.5s,baz=26,slow=1.4,SNR=48							
TORD				pPKP		**pPKPdf**	**21 08 03.0**	**+0.3**
	comp=Z,3.2nm,0.7s,baz=9.8,slow=2.3,SNR=8.0							
TORD				PKKPab		**PKKPab**	**21 18 14.6**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=234,slow=3.4,SNR=9.5							
TORD	**Torodi Ar. Bea**	**117.51**	**313**			**PKPdf**	**21 07 46.1**	**-1.0**
MAW	**Mawson**	**117.63**	**205**	PKP		**PKiKP**	**21 07 46.5**	**+0.8**
MAW				pPKP		**pPKPdf**	**21 08 03.2**	**+1.9**
	comp=Z,1.3nm,0.5s,baz=94,slow=2.1,SNR=7.7							
	comp=Z,2.0nm,0.6s,baz=50,slow=4.6,SNR=4.5							
MAW	**Mawson**	**117.63**	**205**			**PKiKP**	**21 07 46.1**	**+0.4**
KOWA	**Kowa**	**119.67**	**319**	PKPdf		**PKPdf**	**21 07 50.8**	**-0.5**
KOWA	**Kowa**	**119.67**	**319**	P		**PKPdf**	**21 07 51.1**	**-0.1**
BOSA	**Boshof**	**125.07**	**258**	PKP		**PKPdf**	**21 08 01.4**	**0.0**
	comp=Z,3.2nm,0.7s,baz=22,slow=1.8,SNR=7.3							
BOSA				pPKP		**pPKPdf**	**21 08 17.1**	**+0.2**
	comp=Z,3.5nm,0.8s,baz=100,slow=4.5,SNR=2.5							
QSPA	**South Pole Qui**	**125.25**	**180**	PKPdf		**PKPdf**	**21 08 00.0**	**-0.4**
DBIC	**Dimbokro**	**126.53**	**314**	PKP		**PKPdf**	**21 08 04.6**	**+0.1**
	comp=Z,3.1nm,0.4s,baz=43,slow=3.3,SNR=13							
DBIC				pPKP		**pPKPdf**	**21 08 21.1**	**+1.0**
	comp=Z,6.4nm,0.8s,baz=33,slow=2.1,SNR=4.3							
TIC	**Toumodi**	**126.65**	**315**	*e*PKIKP		**PKiKP**	**21 08 05.1**	**-0.1**
KIC	**Kosan Boka**	**126.71**	**314**	*e*PKIKP		**PKiKP**	**21 08 05.5**	**+0.2**
	comp=Z,9.8nm,0.7s							
LIC	**Lamto**	**126.99**	**314**	*e*PKIKP		**PKPdf**	**21 08 04.9**	**-0.5**
	comp=Z,17nm,0.7s							

SDV	**Santo Domingo**	**127.28**	**39**	*e*P		**PKiKP**	**21 08 06.6**	**-0.1**
OTAV	**Otavalo**	**129.60**	**54**	*e*P		**PKiKP**	**21 08 13.2**	**+1.5**
BELA	**Belgrano 2**	**137.46**	**182**			PKPpre	21 08 09.7	
BOAV	**Boa Vista**	**137.73**	**31**	*e*P		**PKiKP**	**21 08 28.0**	**+0.4**
SNAA	**Sanae**	**138.93**	**197**	PKPdf		**PKiKP**	**21 08 28.3**	**0.0**
CZSB	**Cruzeiro do Su**	**139.33**	**55**	*e*P		**PKPdf**	**21 08 29.5**	**+1.0**
VNA2	**Neumayer--Watz**	**140.51**	**196**	PKPdf		**PKiKP**	**21 08 31.3**	**-0.2**
VNA3	**Neumayer Olymp**	**140.77**	**195**	PKPdf		**PKiKP**	**21 08 31.9**	**-0.1**
VNA1	**Neumayer--Stat**	**140.91**	**196**	PKPdf		**PKiKP**	**21 08 32.8**	**+0.6**
ITTB	**Itaituba**	**145.82**	**29**	*e*P		**PKPab**	**21 08 41.2**	**+0.2**
SAML	**Samuel**	**146.20**	**44**	PKP2		**PKPdf**	**21 08 41.1**	**+0.5**
SAML	**Samuel**	**146.20**	**44**	PKPdf		**PKPdf**	**21 08 41.1**	**+0.5**
SAML	**Samuel**	**146.20**	**44**	*e*P		**PKPbc**	**21 08 41.5**	**-0.2**
TMAB	**Tom-Au,PA,Br**	**146.21**	**14**	*e*P		**PKPab**	**21 08 43.0**	**+0.6**
PMSA	**Palmer Station**	**147.34**	**161**	*e*P		**PKPbc**	**21 08 44.4**	**+0.9**
ROSB	**Rosrio**	**147.35**	**7**	*e*P		**PKPdf**	**21 08 43.3**	**+0.7**
NBMO	**Morrinhos-CE**	**147.97**	**360**	*e*P		**PKPbc**	**21 08 46.5**	**-0.2**
H03N2	**Juan Fernandez**	**148.05**	**98**	T		T	23 55 04.0	
	baz=287,slow=75,SNR=86							
H03N3	**Juan Fernandez**	**148.06**	**98**	T		T	23 55 12.1	
	baz=287,slow=75,SNR=105							
H03N1	**Juan Fernandez**	**148.07**	**98**	T		T	23 55 03.2	
	baz=287,slow=75,SNR=96							
NPGB	**Novo Progresso**	**148.40**	**30**	*e*P		**PKPbc**	**21 08 47.1**	**-0.7**
LPAZ	**La Paz**	**148.52**	**60**	PKPbc		**PKPbc**	**21 08 49.4**	**+0.6**
	comp=Z,12nm,0.7s,baz=317,slow=2.1,SNR=37							
LPAZ	**La Paz**	**148.52**	**60**	PKIKP		**PKPdf**	**21 08 45.9**	**+0.7**
LPAZ	**La Paz**	**148.52**	**60**	PKPdf		**PKPdf**	**21 08 45.9**	**+0.7**
LPAZ	**La Paz**	**148.52**	**60**	*e*P		**PKPdf**	**21 08 46.9**	**+1.7**
NBPS	**Pedro II - PI**	**149.02**	**3**	*e*P		**PKPbc**	**21 08 48.3**	**-1.3**
PRPB	**Parauapebas**	**149.47**	**19**	*e*P		**PKPbc**	**21 08 48.8**	**-1.8**
NBPB	**Pedra_Branca-C**	**150.19**	**359**	*e*P		**PKPbc**	**21 08 49.9**	**-2.4**
RCBR	**Riachuelo**	**150.22**	**352**	*e*P		**PKPbc**	**21 08 50.2**	**-2.2**
PB01	**IPOC Station P**	**150.51**	**69**			**PKPbc**	**21 08 52.6**	**-0.3**
PB07	**IPOC Station P**	**150.60**	**70**			**PKPbc**	**21 08 53.2**	**-0.1**
NBPV	**Pedro Velho**	**150.72**	**350**	*e*P		**PKPbc**	**21 08 51.4**	**-2.1**
VILB	**Vilhena**	**151.13**	**44**	*e*P		**PKPdf**	**21 08 50.3**	**+1.7**
PB06	**IPOC Station P**	**151.38**	**72**			**PKiKP**	**21 08 55.3**	**-0.2**
LVC	**Limon Verde**	**151.84**	**71**	PKIKP		**PKiKP**	**21 08 57.8**	**+1.0**
LVC	**Limon Verde**	**151.84**	**71**			**PKiKP**	**21 08 57.8**	**+1.0**
LVC	**Limon Verde**	**151.84**	**71**	*e*P		**PKPdf**	**21 08 51.1**	**+1.2**
NBLV	**Livramento - P**	**151.84**	**353**	*e*P		**PKPbc**	**21 08 53.4**	**-2.9**
SMTB	**Santa Maria do**	**152.62**	**16**	*e*P		**PKPdf**	**21 08 52.3**	**+1.4**
NBRF	**Rio Formoso -**	**152.92**	**349**	*e*P		**PKPbc**	**21 08 55.7**	**-2.8**
LCO	**Las Campanas**	**153.39**	**85**	PKIKP		**PKiKP**	**21 09 00.9**	**+1.2**
LCO	**Las Campanas**	**153.39**	**85**			**PKiKP**	**21 09 00.9**	**+1.2**
PTLB	**Pontes e Lacer**	**153.75**	**45**	*e*P		**PKPdf**	**21 08 55.3**	**+2.9**
NBAN	**Anadia - AL**	**154.05**	**351**	*e*P		**PKPbc**	**21 08 57.7**	**-3.4**
SNDB	**Serra Nova Dou**	**154.48**	**26**	*e*P		**PKPdf**	**21 08 56.8**	**+3.3**
BO02	**Sierra Bellavi**	**154.94**	**97**			**PKPbc**	**21 09 02.1**	**-0.3**
NBPN	**Ponto Novo - B**	**155.46**	**0**	*e*P		**PKPdf**	**21 08 57.9**	**+3.0**
PLCA	**Paso Flores**	**155.55**	**111**	pPKP		pPKPdf	21 09 09.4	-0.5
	comp=Z,1.5nm,0.7s,baz=278,slow=3.7,SNR=2.0							
PEXB	**Peixe**	**155.55**	**20**	*e*P		**PKPdf**	**21 08 58.8**	**+3.8**
BDFB	**Brasilia**	**158.99**	**22**	PKPab		**PKPab**	**21 09 37.2**	**+1.4**
	comp=Z,1.6nm,0.3s,baz=72,slow=3.2,SNR=4.7							
JANB	**Januaria**	**159.30**	**12**	*e*P		**PKPdf**	**21 09 02.7**	**+3.0**
NBIT	**Itapeh - BA**	**159.51**	**358**	*e*P		**PKPdf**	**21 09 03.8**	**+4.0**
DIAM	**Diamantina, MG**	**162.57**	**11**	*e*P		**PKPdf**	**21 09 07.2**	**+4.0**
CPUP	**Villa Florida**	**162.64**	**63**	*e*P		**PKPdf**	**21 09 07.3**	**+4.4**
BSCB	**Bom Sucesso**	**164.98**	**17**	*e*P		**PKPdf**	**21 09 09.5**	**+4.1**
ALF01	**Guarapari-ES**	**165.16**	**2**	*e*P		**PKPdf**	**21 09 09.6**	**+4.2**
RCLB	**Rio Claro- Sao**	**165.44**	**28**	*e*P		**PKPdf**	**21 09 09.9**	**+4.3**
TIJ01	**Guaruva-PR**	**167.28**	**40**	*e*P		**PKPdf**	**21 09 11.5**	**+4.4**
CPSB	**Cacapava Do Su**	**167.70**	**69**	*e*P		**PKPdf**	**21 09 10.9**	**+3.8**

MEX 11 20:52:37.4±0.5, 15°.03N×92°.71W, h100$^{km}_{\pm 6}$, MD4.1, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.44**	**106**	*i* P	Pn	20 52 52.3	-0.5
THIG				*i* S	Sn	20 53 03.4	-0.9
PCIG		**0.83**	**324**	*i* P	Pn	20 52 54.9	-1.2
PCIG				*i* S	Sn	20 53 08.5	-1.7
CCIG	**Comitan**	**1.36**	**24**	*i* P	Pn	20 53 01.2	-1.0
CCIG				*i* S	Sn	20 53 18.8	-2.1
TGIG		**1.78**	**347**	*e*P	Pn	20 53 04.2	-3.1
TGIG				*i* S	Sn	20 53 25.1	-5.0
CMIG	**Matias Romero**	**2.93**	**315**	*e*P	Pn	20 53 21.4	-0.8

*CNRM **11** 21:03:05.2, 35°.87N×4°.70W, h124km, ml2.5*
*IGIL **11** 21:03:05.7, 35°.88N×4°.67W, h13km, ML2.8*
*MDD **11** 21:03:06.0±0.7, 35°.93N×4°.60W, h119km±5km, mb2.1/17,*
Error ellipse: s-maj=5.4km s-min=3.8km az=176.0,
PRIMO
*INMG **11** 21:03:06.3±1.6, 35°.96N×4°.59W, h118km±6km, ML2.7,*
Error ellipse: s-maj=3.4km s-min=3.2km az=162.0

ISC 11 21:03:04.0±1.2, 35°.94N±0°.02×4°.62W±0°.03, h129$^{km}_{\pm 6}$**, n108, σ1$46/188, 6C-1D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECEU	**Ceuta**	**0.62**	**266**	P	**Pn**	**21 03 25.4**	**+1.7**
	73nm,0.1s,SNR=82						
ECEU				S	**Sn**	**21 03 38.4**	**-0.1**
	11nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**0.64**	**349**	⇑P	**Pn**	**21 03 23.9**	**0.0**
	24nm,0.1s,SNR=18						
EMIJ				S	**Sn**	**21 03 37.6**	**-1.3**
	7.6nm,0.1s,SNR=7.6						
PVLZ	**Peæn de**	**0.81**	**161**	P	**Pn**	**21 03 24.9**	**-0.2**
PVLZ				S	**Sn**	**21 03 38.7**	**-2.3**
PVLZ	**Peæn de**	**0.81**	**161**	P	**Pn**	**21 03 24.9**	**-0.2**
PVLZ				S	**Sn**	**21 03 38.7**	**-2.3**
EMAL	**Malaga-Limoner**	**0.83**	**10**	P	**Pn**	**21 03 25.9**	**+0.6**
EMAL				S	**Sn**	**21 03 41.0**	**-0.5**
EMAL	**Malaga-Limoner**	**0.83**	**10**	P	**Pn**	**21 03 25.9**	**+0.6**
EMAL				S	**Sn**	**21 03 41.0**	**-0.5**
EJIF	**Jimena Fronter**	**0.86**	**307**	⇑P	**Pn**	**21 03 27.4**	**+1.9**
	SNR=18						
EJIF				S	**Sn**	**21 03 42.1**	**+0.2**
	SNR=7.9						
PALE	**Palemas**	**0.91**	**142**	P	**Pn**	**21 03 26.6**	**+0.5**
PALE				S	**Sn**	**21 03 42.0**	**-0.7**
PALE	**Palemas**	**0.91**	**142**	P	**Pn**	**21 03 26.1**	**+0.1**
PALE	**Palemas**	**0.91**	**142**	P	**Pn**	**21 03 26.1**	**+0.1**
CHEFC	**Chefchaouen**	**1.02**	**216**	P	**Pn**	**21 03 26.5**	**-0.7**
CHEFC				S	**Sn**	**21 03 44.5**	**-0.1**
CHEFC	**Chefchaouen**	**1.02**	**216**	S	Sn	21 03 29.0	-16
ELGU	**Los Guajares,**	**1.22**	**41**	⇑P	**Pn**	**21 03 28.9**	**-0.1**
	5.8nm,0.0s,SNR=18						
ELGU				S	**Sn**	**21 03 46.4**	**-1.8**
	8.9nm,0.1s,SNR=7.9						
EGOR	**Sierra Gorda,**	**1.24**	**19**	P	**Pn**	**21 03 31.0**	**+1.7**
	4.0nm,0.2s,SNR=18						
EGOR				S	**Sn**	**21 03 49.6**	**+1.1**
	1.3nm,0.1s,SNR=7.9						
EALB	**Alboran**	**1.28**	**90**	P	**Pn**	**21 03 29.9**	**+0.3**
	7.1nm,0.1s,SNR=8.8						
EALB				S	**Sn**	**21 03 47.6**	**-1.5**
	6.1nm,0.2s,SNR=6.2						
ESPR	**Espera**	**1.36**	**313**	⇑P	**Pn**	**21 03 32.1**	**+1.6**
	14nm,0.1s,SNR=18						
ESPR				S	**Sn**	**21 03 50.2**	**-0.5**
	2.9nm,0.1s,SNR=14						
RSA	**Sarsar**	**1.44**	**223**	P	**Pn**	**21 03 33.2**	**+1.7**
RSA				S	**Sn**	**21 03 54.2**	**+1.9**
GOG	**Mont Gurugu**	**1.50**	**118**	P	**Pn**	**21 03 32.2**	**+0.1**
GOG				S	**Sn**	**21 03 56.1**	**+2.6**
EQUE	**Quentar**	**1.58**	**37**	P	**Pn**	**21 03 35.0**	**+1.9**
	1.5nm,0.2s,SNR=8.7						
EQUE				S	**Sn**	**21 03 55.9**	**+0.8**
	1.4nm,0.1s,SNR=7.9						
EBER	**Berja**	**1.69**	**55**	⇑P	**Pn**	**21 03 34.9**	**+0.5**
	1.5nm,0.2s,SNR=18						
EBER				S	**Sn**	**21 03 56.8**	**-0.8**
	1.2nm,0.1s,SNR=10						
GORA	**Gorafe**	**1.99**	**39**	S	**Sn**	**21 04 04.0**	**+0.2**
	3.0nm,0.2s,SNR=7.9						
TAF	**Taforalt**	**2.12**	**121**	P	**Pn**	**21 03 40.7**	**+1.2**
TAF				S	**Sn**	**21 04 09.0**	**+2.3**
ENIJ	**Nijar**	**2.20**	**61**	S	**Sn**	**21 04 08.2**	**-0.1**
	0.6nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**2.22**	**1**	P	**Pn**	**21 03 41.9**	**+1.2**
	3.8nm,0.1s,SNR=52						
EADA				S	**Sn**	**21 04 07.5**	**-1.4**
	24nm,0.0s,SNR=33						
ECAB	**El Cabril**	**2.23**	**343**	P	**Pn**	**21 03 41.6**	**+0.8**
	1.0nm,0.1s,SNR=38						
ECAB				S	**Sn**	**21 04 07.3**	**-1.6**
	23nm,0.1s,SNR=52						
EQES	**Quesada**	**2.23**	**33**	P	**Pn**	**21 03 42.7**	**+1.8**
	0.8nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**21 04 09.4**	**+0.1**
	7.5nm,0.1s,SNR=8.8						
LCRM	**LCR**	**2.26**	**185**	P	**Pn**	**21 03 41.4**	**+0.1**
LCRM				S	Sn	**21 04 09.0**	**-0.9**
LCRM	**LCR**	**2.26**	**185**	P	**Pn**	**21 03 41.4**	**+0.1**
LCRM				S	Sn	**21 04 09.0**	**-0.9**
LCRM	**LCR**	**2.26**	**185**	P	**Pn**	**21 03 41.4**	**+0.1**
LCRM				S	**Sn**	**21 04 09.0**	**-0.9**
JBK	**JBK**	**2.32**	**133**	P	**Pn**	**21 03 43.2**	**+1.1**
JBK				S	**Sn**	**21 04 10.3**	**-1.0**
EMIN	**Mina Concepcio**	**2.46**	**318**	⇑P	**Pn**	**21 03 44.7**	**+1.1**
	5.0nm,0.0s,SNR=18						
EMIN				S	**Sn**	**21 04 12.6**	**-1.4**
	24nm,0.1s,SNR=45						
SESP	**Santiago Espad**	**2.73**	**37**	P	**Pn**	**21 03 48.6**	**+1.3**
	0.6nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**21 04 20.0**	**-0.6**
	1.5nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.80**	**305**	P	**Pn**	**21 03 48.9**	**+0.9**
	16nm,0.1s,SNR=70						
EGRO				S	**Sn**	**21 04 20.5**	**-1.3**
	17nm,0.1s						
PVAQ	**Vaqueiros**	**2.89**	**301**	P	**Pn**	**21 03 49.9**	**+0.8**
PVAQ				S	**Sn**	**21 04 22.9**	**-1.0**
	41nm,0.2s						
PVAQ	**Vaqueiros**	**2.89**	**301**	*e*P	**Pn**	**21 03 49.9**	**+0.8**
PVAQ				*e*S	**Sn**	**21 04 22.9**	**-1.0**
PVAQ				A	A	21 04 25.0	
	41nm,0.2s						
PVAQ	**Vaqueiros**	**2.89**	**301**	P	**Pn**	**21 03 49.7**	**+0.6**
PVAQ				S	**Sn**	**21 04 22.8**	**-1.0**
PVAQ	**Vaqueiros**	**2.89**	**301**	P	**Pn**	**21 03 49.7**	**+0.6**
PVAQ				S	**Sn**	**21 04 22.8**	**-1.0**
PVAQ	**Vaqueiros**	**2.89**	**301**	P	**Pn**	**21 03 49.7**	**+0.6**
PVAQ				S	**Sn**	**21 04 22.8**	**-1.0**
CZD	**Col de Zad**	**2.92**	**187**	P	**Pn**	**21 03 50.8**	**+0.9**
CZD				S	**Sn**	**21 04 24.3**	**-1.0**
CZD	**Col de Zad**	**2.92**	**187**	S	**Sn**	**21 04 24.0**	**-1.2**
CZD	**Col de Zad**	**2.92**	**187**	S	**Sn**	**21 04 24.0**	**-1.2**
PBAR	**Barrancos**	**2.95**	**320**	P	**Pn**	**21 03 51.1**	**+1.1**
PBAR				S	**Sn**	**21 04 24.0**	**-1.4**
	28nm,0.5s						
PBAR	**Barrancos**	**2.95**	**320**	*e*P	**Pn**	**21 03 51.1**	**+1.1**
PBAR				*e*S	**Sn**	**21 04 24.0**	**-1.4**
PBAR				A	A	21 04 26.8	
	28nm,0.5s						
PBDV	**Barranco-do-Ve**	**2.97**	**297**	P	**Pn**	**21 03 51.2**	**+1.0**
PBDV				S	**Sn**	**21 04 24.8**	**-1.0**
	14nm,0.1s						
PBDV	**Barranco-do-Ve**	**2.97**	**297**	*e*P	**Pn**	**21 03 51.2**	**+1.0**
PBDV				*e*S	**Sn**	**21 04 24.8**	**-1.0**
PBDV				A	A	21 04 27.6	
	14nm,0.1s						
MD31	**MD31**	**3.07**	**182**	P	**Pn**	**21 03 52.0**	**+0.4**
MD31				S	**Sn**	**21 04 26.3**	**-2.0**
MDT	**Midelt**	**3.12**	**180**	P	**Pn**	**21 03 52.5**	**+0.3**
MDT				S	**Sn**	**21 04 27.9**	**-1.6**
MDT	**Midelt**	**3.12**	**

PCBR	**Castelo Branco**	**4.50**	**331**	*e*P	**Pn**	**21 04 12.1**	**+1.7**
PCBR				*e*S	**Sn**	**21 04 59.8**	**-2.2**
PCBR				A	A	21 05 18.9	
	comp=N,4.9nm,0.5s						
ECHE	**Chera**	**4.65**	**37**	S	**Sn**	**21 05 03.2**	**-2.5**
	comp=N,0.1nm,0.0s,SNR=7.9						
PMAFR	**Mafra**	**4.78**	**310**	S	**Sn**	**21 05 06.2**	**-2.4**
	comp=N,1.3nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**4.78**	**310**	*e*S	**Sn**	**21 05 07.7**	**-0.9**
MTE	**Manteigas**	**5.01**	**333**	S	**Sn**	**21 05 15.5**	**+1.2**
MTE	**Manteigas**	**5.01**	**333**	*e*S	**Sn**	**21 05 15.5**	**+1.2**
PCAS	**Casmilo, Conde**	**5.12**	**324**	S	**Sn**	**21 05 13.9**	**-3.0**
	comp=N,4.4nm,0.5s						
PCAS	**Casmilo, Conde**	**5.12**	**324**	*e*S	**Sn**	**21 05 13.9**	**-3.0**
PCAS				A	A	21 05 30.3	
	comp=N,4.4nm,0.5s						
TZRR	**Tazzarine**	**5.20**	**189**	P	**Pn**	**21 04 21.6**	**+1.6**
TZRR				S	**Sn**	**21 05 22.3**	**+3.2**
ETOR	**Torete**	**5.27**	**22**	P	**Pn**	**21 04 22.3**	**+1.5**
	comp=N,1.6nm,0.2s,SNR=7.9						
ETOR				S	**Sn**	**21 05 17.5**	**-3.0**
	comp=N,1.9nm,0.1s,SNR=6.5						
PVIS	**Viseu**	**5.42**	**333**	P	**Pn**	**21 04 24.0**	**+1.3**
PVIS				S	**Sn**	**21 05 24.8**	**+0.8**
	comp=N,2.2nm,0.3s						
PVIS	**Viseu**	**5.42**	**333**	*e*P	**Pn**	**21 04 24.0**	**+1.3**
PVIS				*e*S	**Sn**	**21 05 24.8**	**+0.8**
PVIS				A	A	21 05 26.4	
	comp=N,4.5nm,0.3s						
OUK	**Oukaimeden**	**5.45**	**211**	P	**Pn**	**21 04 25.1**	**+1.6**
OUK				S	**Sn**	**21 05 22.0**	**-3.2**
EMOS	**Mosqueruela**	**5.49**	**35**	S	**Sn**	**21 05 23.0**	**-3.0**
	comp=N,0.2nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**5.55**	**341**	P	**Pn**	**21 04 26.4**	**+2.0**
	comp=N,0.4nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**21 05 25.1**	**-2.0**
	comp=N,0.7nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.55**	**341**	*e*P	**Pn**	**21 04 24.7**	**+0.3**
MVO				*e*S	**Sn**	**21 05 27.2**	**+0.1**
MVO				A	A	21 05 40.8	
	comp=N,4.5nm,0.4s						
PVRL	**Vila Real**	**5.85**	**336**	S	**Sn**	**21 05 32.9**	**-1.6**
PVRL	**Vila Real**	**5.85**	**336**	*e*S	**Sn**	**21 05 32.9**	**-1.6**
POLO	**Lamas de Olo**	**5.97**	**336**	P	**Pn**	**21 04 32.9**	**+2.8**
POLO				S	**Sn**	**21 05 36.6**	**-0.7**
	comp=N,1.2nm,0.4s						
POLO	**Lamas de Olo**	**5.97**	**336**	*e*P	**Pn**	**21 04 32.9**	**+2.8**
POLO				*e*S	**Sn**	**21 05 36.6**	**-0.7**
POLO				A	A	21 05 51.5	
	comp=N,1.2nm,0.4s						
ECAL	**Calabor**	**6.21**	**345**	S	**Sn**	**21 05 41.4**	**-1.8**
	comp=N,0.5nm,0.3s,SNR=7.9						
TTIG	**Tnine Tigouga,**	**6.26**	**212**	P	**Pn**	**21 04 33.8**	**-0.3**
TTIG				S	**Sn**	**21 05 41.6**	**-3.0**
TTIG	**Tnine Tigouga,**	**6.26**	**212**	P	**Pn**	**21 04 33.0**	**-1.2**
TTIG	**Tnine Tigouga,**	**6.26**	**212**	P	**Pn**	**21 04 33.0**	**-1.2**
PCAB	**Cabril**	**6.34**	**336**	S	**Sn**	**21 05 46.1**	**-0.2**
PCAB	**Cabril**	**6.34**	**336**	*e*S	**Sn**	**21 05 46.1**	**-0.2**
ELOB	**Lobios**	**6.50**	**337**	S	**Sn**	**21 05 48.2**	**-1.9**
	comp=N,0.3nm,0.2s,SNR=7.9						
PGAV	**Gavieira, Arco**	**6.65**	**336**	S	**Sn**	**21 05 52.9**	**-1.0**
PGAV	**Gavieira, Arco**	**6.65**	**336**	*e*S	**Sn**	**21 05 52.9**	**-1.0**

NNC 11 21:05:44.6±1.8, 37.77N×77.96E, h1km±8km, mb4.0, mpv3.6, 4C-5D, Error ellipse: s-maj=18.8km s-min=11.6km az=82.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.29**	**4**	Pg	Pb	21 07 21.8	+3.8
	4.9nm,0.3s						
SATY				Lg	Lg	21 08 36.6	
	7.6nm,0.6s						
TNSS	**Tian-Shan**	**5.32**	**352**	Pg	Pb	21 07 20.3	+1.8
	5.9nm,0.3s						
TNSS				Lg	Lg	21 08 30.9	
	5.1nm,0.8s						
IZV	**Izvestkoviy**	**5.36**	**349**	Pg	Pb	21 07 21.4	+2.2
	3.3nm,0.4s						
IZV				Lg	Lg	21 08 35.7	
	10nm,0.6s						
MDOK	**Medeo**	**5.43**	**353**	⇓Pg	Pb	21 07 24.1	+3.7
	4.0nm,0.5s						
MDOK				⇑Lg	Lg	21 08 37.4	
	19nm,0.8s						
MDOK	**Medeo**	**5.43**	**353**	Pg	Pb	21 07 23.3	+2.9
	2.9nm,0.5s						
MDOK				Lg	Lg	21 08 37.0	
	12nm,0.6s						
TKM2	**Tokmak 2**	**5.45**	**341**	⇓Pg	Pg	21 07 25.5	-3.6
	1.3nm,0.3s						
TKM2				⇑Lg	Lg	21 08 39.0	
	7.7nm,0.8s						
AAK	**Ala-Archa**	**5.54**	**332**	Pg	Pb	21 07 26.4	+4.2
	2.6nm,0.6s						
AAK				⇑Lg	Lg	21 08 41.2	
	8.7nm,0.7s						
PDGK	**Podgornoye**	**5.67**	**11**	⇓Pn	Pn	21 07 11.0	+0.8
	1.4nm,0.5s						
PDGK				⇓Pg	Pb	21 07 26.9	+2.5
	2.6nm,0.7s						
PDGK				⇑Sn	Sn	21 08 16.5	+0.5
	7.0nm,0.6s						
PDGK				⇓Lg	Lg	21 08 46.8	
	8.0nm,0.7s						
DGS	**Degeres**	**5.72**	**344**	Pg	Pb	21 07 27.9	+2.7
	3.6nm,0.3s						
DGS				Lg	Lg	21 08 46.4	
	8.5nm,0.6s						
KTBS	**Karatobe**	**6.02**	**351**	Pg	Pb	21 07 33.7	+3.5
	1.6nm,0.3s						
KTBS				Lg	Lg	21 08 56.6	
	9.8nm,0.6s						
KRBS	**Karabastau**	**6.17**	**344**	Pg	Pb	21 07 37.1	+4.3
	2.0nm,0.4s						
KRBS				Lg	Lg	21 08 59.5	
	7.2nm,0.7s						

*NOU **11** 21:07:43.4, 36.92S×179.36W, h96km, MLv4.7/7, East of North Island, N.Z.*
*IDC **11** 21:07:48.0±2.1, 36.79S×179.48E, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.8/35, mbtmp4.0/2, Error ellipse: s-maj=82.6km s-min=45.6km az=19.0*
*NEIC **11** 21:07:50.5±2.9, 37.2S±0.1×179.8E±0.2, h28km±16km, mb4.4/5, Error ellipse: s-maj=25.5km s-min=13.8km az=75.0.*
*WEL **11** 21:07:54.7±1.2, 37.3S±8.1×17.9E±.1, h33km, M3.8/10, ML4.1/10, MLv3.8/10, Error ellipse: s-maj=0.0km s-min=0.0km az=137.6*

ISC 11 21:07:49.3±2.0, 37.12S±0.06×179.82E±0.08, h17km±10km, n116, σ1§45/129, mb4.1/5, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.28**	**249**	**Pg**	**Pb**	**21 08 13.3**	**-0.7**
MXZ	**Matakaoa Point**	**1.28**	**249**	P	**Pb**	**21 08 13.1**	**+0.2**
MXZ				S	**Sb**	**21 08 28.1**	**-1.0**
WMGZ	**Waiomatatini S**	**1.32**	**237**	P	**Pg**	**21 08 15.9**	**+1.3**
WMGZ				S	**Sg**	**21 08 32.6**	**+0.7**
PUZ	**Puketiti**	**1.56**	**232**	P	**Pg**	**21 08 18.9**	**-0.4**
PUZ				S	**Sb**	**21 08 38.3**	**+1.0**
PKGZ	**Pakihiroa**	**1.58**	**240**	P	**Pb**	**21 08 18.7**	**+0.6**
PKGZ				S	**Sb**	**21 08 37.1**	**-0.7**
HAZ	**Te Kaha**	**1.74**	**248**	P	**Pb**	**21 08 20.4**	**-0.3**
HAZ				S	**Sb**	**21 08 40.5**	**-1.8**
TWGZ	**Tauwhareparae**	**1.80**	**233**	P	**Pb**	**21 08 22.4**	**+0.6**
TWGZ				S	**Sb**	**21 08 44.3**	**+0.2**
CNGZ	**Carnagh Statio**	**1.87**	**222**	P	**Pb**	**21 08 24.0**	**+1.1**
CNGZ				S	**Sg**	**21 08 49.1**	**-0.3**
RUGZ	**Raukumara Rang**	**1.90**	**243**	P	**Pb**	**21 08 23.2**	**-0.3**
RUGZ				S	**Sb**	**21 08 46.0**	**-1.0**
TKGZ	**Te Karaka**	**2.04**	**229**	P	**Pb**	**21 08 25.4**	**-0.5**
TKGZ				S	**Sn**	**21 08 49.4**	**+1.4**
MWZ	**Matawai**	**2.18**	**235**	P	**Pb**	**21 08 26.9**	**-1.4**
MWZ				S	**Sn**	**21 08 51.9**	**+0.4**
RIGZ	**Rimuhau**	**2.27**	**225**	P	**Pb**	**21 08 28.6**	**-1.2**
RIGZ				S	**Sn**	**21 08 55.7**	**+2.1**
RAGZ	**Rawiri**	**2.35**	**233**	P	**Pb**	**21 08 30.0**	**-1.1**
RAGZ				S	**Sn**	**21 08 56.7**	**+1.1**
PRGZ	**Paritu Road**	**2.36**	**220**	P	**Pn**	**21 08 30.1**	**+2.8**
PRGZ				S	**Sb**	**21 08 58.8**	**-1.4**

WHRZ	**Whale Island**	**2.38**	**251**	P	**Pn**	**21 08 29.3**	**+1.8**
WHRZ				S	**Sn**	**21 08 56.0**	**-0.3**
URZ	**Urewera**	**2.43**	**241**		**Pn**	**21 08 29.6**	**+1.4**
URZ	**Urewera**	**2.43**	**241**	P	**Pn**	**21 08 30.2**	**+2.0**
URZ				S	**Sn**	**21 08 58.0**	**+0.5**
KNZ	**Kokohu**	**2.54**	**221**	P	**Pn**	**21 08 31.7**	**+2.0**
SNGZ	**Shannon Statio**	**2.57**	**229**	P	**Pn**	**21 08 32.3**	**+2.2**
SNGZ				S	**Sn**	**21 09 00.8**	**-0.2**
EDRZ	**Edgecumbe**	**2.63**	**247**	P	**Pn**	**21 08 32.8**	**+1.7**
MARZ	**Manawahe**	**2.64**	**250**	P	**Pn**	**21 08 32.5**	**+1.4**
MARZ				S	**Sn**	**21 09 00.1**	**-2.7**
OPRZ	**Ohinepanea**	**2.69**	**253**	P	**Pn**	**21 08 32.7**	**+0.9**
RTZ	**Ruatahuna**	**2.70**	**235**	P	**Pn**	**21 08 34.2**	**+2.3**
RTZ				S	**Sn**	**21 09 04.8**	**+0.6**
MUGZ	**Murupara**	**2.77**	**240**	P	**Pn**	**21 08 34.8**	**+1.9**
MUGZ				S	**Sn**	**21 09 05.4**	**-0.5**
RAHZ	**Arahi**	**2.81**	**229**	P	**Pn**	**21 08 35.5**	**+2.1**
WHHZ	**Waihua**	**2.82**	**225**	P	**Pn**	**21 08 35.7**	**+2.1**
TARZ	**Mount Tarawera**	**2.85**	**246**	P	**Pn**	**21 08 35.9**	**+1.8**
RRRZ	**Republican Roa**	**2.89**	**244**	P	**Pn**	**21 08 36.1**	**+1.6**
TGRZ	**Tauranga**	**2.90**	**257**	P	**Pn**	**21 08 35.5**	**+0.9**
OMRZ	**Omania**	**2.91**	**249**	P	**Pn**	**21 08 36.5**	**+1.7**
MTHZ	**Maungataniwha**	**2.92**	**233**	P	**Pn**	**21 08 37.3**	**+2.4**
HLRZ	**Highlands Stat**	**2.97**	**247**	P	**Pn**	**21 08 37.6**	**+1.9**
KARZ	**Kaharoa**	**2.98**	**251**	P	**Pn**	**21 08 37.3**	**+1.5**
HSRZ	**Hossack Road**	**3.07**	**246**	P	**Pn**	**21 08 39.2**	**+2.1**
ARHZ	**Aropaoanui**	**3.09**	**225**	P	**Pn**	**21 08 39.3**	**+2.1**
NMHZ	**Naumai**	**3.09**	**229**	P	**Pn**	**21 08 39.7**	**+2.4**
ALRZ	**Allen Road**	**3.10**	**241**	P	**Pn**	**21 08 38.2**	**+0.7**
MRHZ	**Matea Rd**	**3.19**	**236**	P	**Pn**	**21 08 40.3**	**+1.7**
KUZ	**Kuaotunu**	**3.30**	**275**	P	**Pn**	**21 08 39.6**	**-0.5**
BKZ	**Black Stump Fm**	**3.32**	**231**		**Pn**	**21 08 42.1**	**+2.1**
BKZ	**Black Stump Fm**	**3.32**	**231**	P	**Pn**	**21 08 42.4**	**+1.9**
CKHZ	**Cape Kidnapper**	**3.33**	**219**	P	**Pn**	**21 08 42.1**	**+1.6**
MCHZ	**McNeill Hill**	**3.38**	**226**	P	**Pn**	**21 08 43.3**	**+2.0**
TOZ	**Tahuroa Road**	**3.49**	**259**	P	**Pn**	**21 08 43.5**	**+0.8**
KWHZ	**Kaweka Forest**	**3.53**	**228**	P	**Pn**	**21 08 44.8**	**+1.5**
KAHZ	**Kahuranaki**	**3.53**	**220**	P	**Pn**	**21 08 44.8**	**+1.4**
PXZ	**Pawanui**	**3.72**	**218**	P	**Pn**	**21 08 46.3**	**+0.4**
MKAZ	**Moumakai**	**3.72**	**269**	P	**Pn**	**21 08 46.3**	**+0.4**
WIAZ	**Waiheke Island**	**3.76**	**274**	P	**Pn**	**21 08 46.9**	**+0.4**
BHHZ	**Black Hill Sta**	**3.79**	**230**	P	**Pn**	**21 08 46.4**	**-0.5**
TMVZ	**Te Maari**	**3.81**	**237**	P	**Pn**	**21 08 48.9**	**+1.7**
NTVZ	**North Tongarir**	**3.82**	**238**	P	**Pn**	**21 08 48.8**	**+1.4**
OTVZ	**Oturere**	**3.86**	**237**	P	**Pn**	**21 08 49.3**	**+1.4**
NNVZ	**North Ngauruho**	**3.88**	**237**	P	**Pn**	**21 08 50.1**	**+1.9**
SNVZ	**South Ngauruho**	**3.89**	**237**	P	**Pn**	**21 08 50.1**	**+1.7**
NGZ	**Ngauruhoe**	**3.91**	**237**	P	**Pn**	**21 08 50.4**	**+1.8**
ETAZ	**East Tamaki Re**	**3.91**	**271**	P	**Pn**	**21 08 49.4**	**+0.9**
MOVZ	**Moawhango**	**3.93**	**233**	P	**Pn**	**21 08 50.2**	**+1.3**
MBAZ	**Motutapu North**	**3.95**	**274**	P	**Pn**	**21 08 49.9**	**+0.8**
WPHZ	**Waipukurau**	**3.96**	**221**	P	**Pn**	**21 08 50.0**	**+0.8**
WHVZ	**Whangaehu Hut**	**3.97**	**236**	P	**Pn**	**21 08 51.2**	**+1.6**
FWVZ	**Far West T-bar**	**3.98**	**236**	P	**Pn**	**21 08 51.3**	**+1.6**
PNHZ	**Pukenui**	**3.98**	**224**	P	**Pn**	**21 08 50.0**	**+0.5**
WNVZ	**Wahianoa**	**3.99**	**235**	P	**Pn**	**21 08 50.8**	**+1.0**
TRVZ	**Turoa**	**4.01**	**236**	P	**Pn**	**21 08 51.6**	**+1.6**
ABAZ	**Army Bay**	**4.03**	**276**	P	**Pn**	**21 08 51.1**	**+1.0**
AWAZ	**Awhitu Peninsu**	**4.13**	**269**	P	**Pn**	**21 08 52.9**	**+1.3**
HIZ	**Hauiti**	**4.17**	**249**	Pn	**Pn**	**21 08 53.9**	**+1.8**
HIZ	**Hauiti**	**4.17**	**249**	P	**Pn**	**21 08 54.2**	**+2.1**
WTAZ	**Waiatarua**	**4.20**	**271**	P	**Pn**	**21 08 53.8**	**+1.3**
RVAZ	**Riverhead Bore**	**4.21**	**273**	P	**Pn**	**21 08 53.8**	**+1.2**
TSZ	**Takapari Road**	**4.21**	**225**	P	**Pn**	**21 08 52.8**	**+0.1**
DVHZ	**Dannevirke**	**4.27**	**221**	P	**Pn**	**21 08 53.4**	**-0.1**
VRZ	**Vera Road**	**4.46**	**242**	P	**Pn**	**21 08 58.3**	**+2.2**
BFZ	**Birch Farm**	**4.52**	**217**	Pn	**Pn**	**21 08 56.9**	**0.0**
BFZ				Sn	**Sn**	**21 09 47.0**	**-2.0**
BFZ	**Birch Farm**	**4.52**	**217**	P	**Pn**	**21 08 56.8**	**0.0**
POWZ	**Post Office Ro**	**4.55**	**223**	P	**Pn**	**21 08 57.4**	**0.0**
WCZ	**Waipu Caves**	**4.56**	**283**	P	**Pn**	**21 08 57.6**	**+0.2**
PRWZ	**Pori Road**	**4.56**	**220**	P	**Pn**	**21 08 57.8**	**+0.3**
WAZ	**Wanganui**	**4.62**	**234**	P	**Pn**	**21 09 00.6**	**+2.3**
TIWZ	**Tintock**	**4.77**	**219**	P	**Pn**	**21 09 00.6**	**+0.3**
DREZ	**Durham Road**	**4.88**	**243**	P	**Pn**	**21 09 05.4**	**+3.5**
PKE	**Pukeiti**	**5.04**	**244**	P	**Pn**	**21 09 08.1**	**+4.1**
OUZ	**Omahuta**	**5.37**	**289**		**Pn**	**21 09 09.0**	**+0.4**
OUZ	**Omahuta**	**5.37**	**289**	P	**Pn**	**21 09 08.9**	**+0.3**
MSWZ	**Moikau Station**	**5.57**	**218**	Pn	**Pn**	**21 09 12.2**	**+0.9**
PLWZ	**Palliser**	**5.68**	**217**	Pn	**Pn**	**21 09 11.3**	**-1.6**
DUWZ	**D'Urville Isla**	**5.88**	**229**	P	**Pn**	**21 09 15.0**	**-0.7**
BSWZ	**Blackbirch Sta**	**6.50**	**223**	Pn	**Pn**	**21 09 24.0**	**-0.1**
QRZ	**Quartz Range**	**6.78**	**235**	Pn	**Pn**	**21 09 27.2**	**-0.7**
THZ	**Tophouse**	**7.08**	**227**	Pn	**Pn**	**21 09 30.5**	**-1.6**
CTZ	**Chatham Island**	**7.15**	**159**	P	**Pn**	**21 09 39.6**	**+6.9**
KHZ	**Kahutara**	**7.17**	**220**	P	**Pn**	**21 09 34.2**	**+1.0**
LTZ	**Lake Taylor**	**8.10**	**223**	Pn	**Pn**	**21 09 44.9**	**-1.1**
MQZ	**McQueen's Vall**	**8.55**	**217**	Pn	**Pn**	**21 09 51.1**	**-1.1**
OXZ	**Oxford**	**8.59**	**221**	Pn	**Pn**	**21 09 51.6**	**-1.2**
MHCZ	**Mount Hutt**	**8.98**	**222**	P	**Pn**	**21 09 57.5**	**-0.6**
RPZ	**Rata Peaks**	**9.38**	**223**	Pn	**Pn**	**21 10 02.5**	**-1.2**
LBZ	**Lake Benmore**	**10.29**	**222**	Pn	**Pn**	**21 10 14.4**	**-1.8**
ODZ	**Otahua Downs**	**10.51**	**218**	Pn	**Pn**	**21 10 16.6**	**-2.5**
COEN	**Coen**	**39.94**	**296**	P	**P**	**21 15 22.6**	**-0.2**
COEN				IAmb	IAmb	21 15 25.6	
	comp=Z,29nm,1.4s						
AS31	**Alice Springs**	**41.43**	**276**	P	**P**	**21 15 34.7**	**-0.4**
ASAR	**Alice Springs**	**41.43**	**276**	P	**P**	**21 15 34.0**	**-1.0**
	comp=Z,1.5nm,0.5s,baz=118,slow=7.9,SNR=36						
ASAR	**Alice Springs**	**41.43**	**276**	P	**P**	**21 15 34.4**	**-0.6**
WR0	**Warramunga Arr**	**42.86**	**281**	P	**P**	**21 15 46.2**	**-0.5**
WR0				IAmb	IAmb	21 15 57.8	
	comp=Z,7.2nm,1.3s						
FORT	**Forrest**	**42.96**	**263**	P	**P**	**21 15 47.8**	**+0.3**
WB2	**Warramunga Arr**	**43.02**	**281**	P	**P**	**21 15 47.0**	**-1.0**
WB2				IAmb	IAmb	21 15 51.5	
	comp=Z,4.6nm,1.1s						
WRA	**Warramunga Arr**	**43.03**	**281**	P	**P**	**21 15 46.7**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=121,slow=7.6,SNR=34						
H03S2	**Juan Fernandez**	**78.28**	**124**	T	T	22 46 10.3	
	baz=231						
H03S1	**Juan Fernandez**	**78.29**	**124**	T	T	22 46 17.4	
	baz=231						
H03S3	**Juan Fernandez**	**78.30**	**124**	T	T	22 46 21.0	
	baz=231						
H03N3	**Juan Fernandez**	**78.51**	**123**	T	T	22 46 24.8	
	baz=235,slow=72,SNR=9.9						
H02N2	**Juan Fernandez**	**78.51**	**123**	T	T	22 46 23.8	
	baz=235,slow=72,SNR=7.8						
H03N1	**Juan Fernandez**	**78.53**	**123**	T	T	22 46 20.1	
	baz=235,slow=72,SNR=11						
FINES	**FINESS Array B**	**150.62**	**334**	PKPbc	**PKPbc**	**21 27 40.0**	**+0.7**
	comp=Z,1.5nm,0.9s,baz=28,slow=6.6,SNR=5.4						
TORD	**Torodi Ar. Bea**	**156.07**	**185**	PKPab	**PKPab**	**21 28 12.6**	**+2.2**
	comp=Z,0.4nm,0.6s,baz=185,slow=3.3,SNR=2.6						

*IDC **11** 21:16:06.5±0.4, 14.58N×93.77W, h0km, mb4.6/41, mb1 4.7/44, mb1mx4.7/59, mbtmp4.6/44, ML4.8/3, MS4.9/28, Ms1 4.9/28, ms1mx4.7/44, Error ellipse: s-maj=18.1km s-min=7.2km az=57.0*
*GCG **11** 21:16:07.6±3.1, 13.63N×94.13W, h50km, MD4.8*
*SNET **11** 21:16:08.9±0.7, 14.41N×93.83W, h9km±72km, ML4.7*
*UCR **11** 21:16:09.0±0.9, 14.44N×93.75W, h1km±37km, ML4.2, mb5.2(NEIC)*
*MOS **11** 21:16:09.8±1.2, 14.51N×93.81W, h30km, mb5.2/5, MS5.2/7, Error ellipse: s-maj=8.3km s-min=4.7km az=107.2*
*MEX **11** 21:16:10.1±1.4, 14.43N×93.97W, h13km, MD5.3*
*GCMT **11** 21:16:11.2±0.2, 14.56N±0.01×94.05W±0.02, h15km±1km, MW5.3/108, Moment Tensor Solution. s75,c113; s108,c160; Duration: 1§0 Moment tensor: Scale 10^17 Nm; Mrr0.38±.02; Mθθ-0.42±.01; Mφφ0.04±.01; Mrθ0.65±.06; Mθφ0.11±.01; Mφr-0.62±.06; Best double couple: M0.0.98800×10^17 NP1:φ260.00000°, δ17.00000°, λ42.00000°. NP2:φ130.00000°, δ79.00000°, λ103.00000°. Principal axes: T 1.0120, Plg54.0000°, Azm55.0000°; N -0.0490, Plg12.0000°, Azm307.0000°; P -0.9640, Plg33.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **11** 21:16:13.0±0.0, 14.50N×93.80W, h30km, mB5.6/9, Ms5.5/11, Ms7 5.2/11*
*NEIC **11** 21:16:13.2±1.9, 14.56N±0.06×93.87W±0.07, h29km±2km, mb5.2/579, Md5.3(MEX), Error ellipse: s-maj=11.0km s-min=7.2km az=48.0*

ISC 11 21:16:10.6±0.3, 14.53N±0.04×93.91W±0.03, h21km±3km,

h21km:pP-P, n1090, σ1§60/962, mb5.2/331, MS5.1/54, 9C-25D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.35**	**30**	*e*P	**Pn**	**21 16 31.8**	**-2.4**
PCIG				*i* S	**Sn**	**21 16 50.3**	**-1.2**
THIG		**1.64**	**76⇑**	*e*P	**Pn**	**21 16 36.3**	**-1.8**
THIG				*i* S	**Sn**	**21 16 57.7**	**-0.8**
RTAL	**Retalhuleu**	**2.14**	**90**	*e*P	**Pn**	**21 16 43.7**	**-1.4**
RTAL				*e*S	**Sn**	**21 17 10.9**	**-0.3**
RTAL	**Retalhuleu**	**2.14**	**90**	Pn	**Pn**	**21 16 43.7**	**-1.4**
TGIG		**2.36**	**19**	*e*P	**Pn**	**21 16 47.5**	**-0.7**
CCIG	**Comitan**	**2.44**	**44**	*e*P	**Pn**	**21 16 49.8**	**+0.4**
CCIG	**Comitan**	**2.44**	**44**	Pn	**Pn**	**21 16 49.9**	**+0.5**
HUEH	**Huehuetenango**	**2.46**	**71**	*e*P	**Pn**	**21 16 49.8**	**+0.1**
HUEH				*e*S	**Sn**	**21 17 20.5**	**+1.3**
HUEH	**Huehuetenango**	**2.46**	**71**		**Pn**	**21 16 50.1**	**+0.5**
CMIG	**Matias Romero**	**2.72**	**340**	Pn	**Pn**	**21 16 50.6**	**-2.5**
	72nm,0.3s,baz=160,slow=11,SNR=400						
CMIG				Sn	**Sn**	**21 17 22.1**	**-3.3**
	296nm,0.3s,baz=220,slow=28,SNR=7.6						
CMIG				LR	LR	21 17 23.0	
	comp=Z,5μm,18.2s,baz=220,slow=28						
CMIG	**Matias Romero**	**2.72**	**340**	*e*P	**Pn**	**21 16 50.5**	**-2.6**
CMIG				*e*S	**Sn**	**21 17 21.0**	**-4.3**
FUG	**Fuego 3**	**2.97**	**91**	*e*P	**Pn**	**21 16 56.4**	**-0.3**
PCG	**Pacaya**	**3.20**	**92**	*e*P	**Pn**	**21 17 00.2**	**+0.3**
NBG	**Las Nubes**	**3.45**	**89**	*e*P	**Pn**	**21 17 04.6**	**+1.3**
TUIG	**Tuzandepetl**	**3.52**	**352**	*e*P	**Pn**	**21 17 01.2**	**-2.9**
TUIG				*e*S	**Sb**	**21 17 52.4**	**-2.2**
VHO	**Vista Hermosa**	**3.71**	**313**	*e*P	**Pn**	**21 17 06.0**	**-1.0**
VHO				*e*S	**Sn**	**21 17 48.6**	**-1.6**
SLOZ	**Alcaldia de Sa**	**4.03**	**97**	*e*P	**Pn**	**21 17 09.3**	**-1.9**
SLOZ				IAML		21 18 13.9	
	comp=Z,697nm,0.7s						
RTR	**El Retiro**	**4.18**	**98**	*e*P	**Pn**	**21 17 12.7**	**-0.7**
RTR	**El Retiro**	**4.18**	**98**	*e*P	**Pn**	**21 17 12.7**	**-0.7**
SBLS	**San Blas**	**4.21**	**99**	*e*P	**Pn**	**21 17 13.0**	**-0.8**
SBLS	**San Blas**	**4.21**	**99**	*e*P	**Pn**	**21 17 13.0**	**-0.8**
CEVE	**Cerro Verde**	**4.21**	**99**	*e*P	**Pn**	**21 17 12.9**	**-1.0**
CEVE				IAML		21 18 34.1	
	comp=Z,4μm,0.6s						
CEVE	**Cerro Verde**	**4.21**	**99**	*e*P	**Pn**	**21 17 12.9**	**-1.0**
CEVE				IAML		21 18 34.1	
	comp=Z,4μm,0.6s						
SNJE	**San Jose**	**4.22**	**98**	*e*P	**Pn**	**21 17 13.1**	**-0.9**
SNJE	**San Jose**	**4.22**	**98**	*e*P	**Pn**	**21 17 13.1**	**-0.9**
MTO3	**Montecristo**	**4.41**	**91**		**Pn**	**21 17 16.2**	**-0.3**
ESQI	**Esquipulas**	**4.42**	**89**	Pn	**Pn**	**21 17 16.3**	**-0.3**
TACO	**Tacachico**	**4.45**	**97**	*e*P	**Pn**	**21 17 15.0**	**-1.9**
TACO	**Tacachico**	**4.45**	**97**	*e*P	**Pn**	**21 17 15.0**	**-1.9**
PNIG	**Pinotepa**	**4.47**	**295**	*e*P	**Pn**	**21 17 14.3**	**-2.9**
PNIG				*i* S	Sn	21 17 59.2	-9.4
BOQS	**Boqueron**	**4.56**	**99**	*e*P	**Pn**	**21 17 17.9**	**-0.7**
BOQS	**Boqueron**	**4.56**	**99**	*e*P	**Pn**	**21 17 17.9**	**-0.7**
PETF	**Flores**	**4.56**	**58**	*e*P	**Pn**	**21 17 17.9**	**-0.5**
PETF				*e*S	**Sn**	**21 18 12.3**	**+1.6**
PETF	**Flores**	**4.56**	**58**	Pn	**Pn**	**21 17 18.8**	**+0.4**
SNET	**Serv Nac Est T**	**4.61**	**100**	Pn	**Pn**	**21 17 19.0**	**-0.2**
TOIG	**Toxpalan**	**4.67**	**320**	*e*P	**Pn**	**21 17 20.4**	**+0.4**
TOIG				*e*S	**Sn**	**21 18 15.6**	**+2.0**
SJTE	**Alcalda de S**	**4

comp=Z,235nm,1.1s
JCT Junction City 16.78 342 P P 21 20 05.5 -1.0
JCT pmax pmax
comp=Z,96nm,0.9s
JCT Junction City 16.78 342 P 21 20 05.5 -1.0
JCT Junction City 16.78 342 P Pn 21 20 02.9 -1.5
baz=160,SNR=20
342A Flagon Creek P 16.83 5 Pn 21 20 06.0 +0.9
H06E1 SOCORRO T-PHAS 16.84 287 T T 21 37 20.4
SNR=16
344A Westbrook Farm 17.10 9 Pn 21 20 08.8 +0.4
344A IAmb IAmb 21 20 32.9
comp=Z,205nm,1.2s
NATX Nacogdoches 17.17 358 Pn 21 20 09.3 +0.1
NATX Nacogdoches 17.17 358 P Pn 21 20 06.8 -2.5
baz=177
346A Big Creek Wild 17.27 13 P 21 20 11.2 -0.6
346A IAmb IAmb 21 20 22.2
comp=Z,225nm,1.2s
TXAR Lajitas Array 17.28 330 P Pn 21 20 11.1 +0.4
comp=Z,0.5nm,0.3s,baz=140,slow=14,SNR=24
TXAR S Sn **21 23 23.9 +1.3**
comp=Z,0.0nm,0.3s,baz=105,slow=22,SNR=1.3
TXAR LR LR 21 26 53.3
comp=Z,1µm,18.2s,baz=0.0,slow=37
TXAR Lajitas Array 17.28 330 Pn P 21 20 11.8 -0.3
TX31 Lajitas Ar. Si 17.28 330 P P 21 20 12.2 +0.1
TX31 IAmb IAmb 21 20 27.7
comp=Z,197nm,1.1s
TX32 Lajitas Array 17.28 330 P P 21 20 12.3 +0.2
237A Washetta, Mont 17.48 355 P P 21 20 13.8 -0.4
237A IAmb IAmb 21 20 24.3
comp=Z,241nm,1.4s
SLBS Sierra La Lagu 17.67 303 P P 21 20 17.9 +1.4
451A Vernon 17.69 24 Pn Pn 21 20 15.2 -0.4
451A IAmb IAmb 21 20 20.0
comp=Z,272nm,1.5s
WHTX Lake Whitney, 17.69 350 P P 21 20 17.2 +0.7
WHTX Lake Whitney, 17.69 350 P Pn 21 20 13.8 -1.8
baz=168
BRAL Brewton 17.72 20 P P 21 20 17.2 +0.3
BRAL IAmb IAmb 21 20 39.6
comp=Z,398nm,1.4s
BRAL Brewton 17.72 20 P Pn 21 20 13.9 -2.1
baz=202
060A Indiantown 17.74 43 P 21 20 17.2 +0.1
060A IAmb IAmb 21 20 24.4
comp=Z,155nm,0.8s
DWPF Disney Wildern 17.81 39 Pn 21 20 16.8 -0.4
DWPF IAmb IAmb 21 20 40.3
comp=Z,342nm,1.5s
DWPF Disney Wildern 17.81 39 P Pn 21 20 12.7 -4.4
baz=223
553A Crawfordville 17.87 28 P Pn 21 20 18.0 +0.1
553A IAmb IAmb 21 20 45.2
comp=Z,150nm,1.1s
VBMS Vicksburg 17.88 9 P 21 20 18.5 -0.2
VBMS IAmb IAmb 21 20 26.9
comp=Z,239nm,1.3s
VBMS Vicksburg 17.88 9 P Pn 21 20 15.4 -2.7
baz=191
656A Willston 18.13 34 P P 21 20 21.5 +0.1
656A IAmb IAmb 21 20 44.3
comp=Z,307nm,1.2s
LPIG La Paz 18.16 304 P Pn 21 20 19.2 -2.3
comp=Z,20nm,0.3s,baz=100,slow=6.1,SNR=4.9
LPIG LR LR 21 26 44.3
comp=Z,2µm,18.4s,baz=66,slow=35
LPIG La Paz 18.16 304 *i* P Pn 21 20 20.7 -0.8
CSIG Choix 18.22 314 *i* P P 21 20 23.3 +0.9
143A Socs Landing, 18.24 7 P P 21 20 23.5 +1.0
143A IAmb IAmb 21 20 46.8
comp=Z,259nm,1.2s
146A Union 18.56 13 P Pn 21 20 26.7 +0.3
146A IAmb IAmb 21 20 42.7
comp=Z,243nm,1.4s
Z38A Mt. Pleasant 18.68 357 Pn 21 20 28.4 +0.6
Z41A Richland Creek 18.68 3 P P 21 20 25.2 -2.1
baz=183
250A Grady 18.72 21 P Pn 21 20 28.2 -0.2
250A IAmb IAmb 21 20 53.6
comp=Z,224nm,1.4s
GTBY Guantanamo Bay 18.74 71 P 21 20 27.7 -0.4
GTBY IAmb IAmb 21 20 50.6
comp=Z,159nm,1.4s
ABTX Abilene, Hawle 18.76 345 P Pn 21 20 28.9 +0.1
ABTX IAmb IAmb 21 20 45.8
comp=Z,142nm,1.3s
ABTX Abilene, Hawle 18.76 345 P P 21 20 27.7 -0.7
baz=162,SNR=21
352A Blakely 18.77 24 P Pn 21 20 29.2 +0.2
352A IAmb IAmb 21 20 55.3
comp=Z,189nm,1.1s
SJCC San Jacinto, C 18.87 102 P P 21 20 29.7 0.0
SJCC San Jacinto, C 18.87 102 *e*P P 21 20 30.0 +0.2
DBBC Dabeiba 18.91 111 *e*P Pn 21 20 31.4 +0.5
Z35A Perchaven, San 18.97 351 P Pn 21 20 32.9 +1.6
Z35A IAmb IAmb 21 20 49.2
comp=Z,106nm,0.9s
WLAR White Oak Lake 19.09 2 Pn Pn 21 20 33.9 +1.1
WLAR IAmb IAmb 21 20 46.3
comp=Z,296nm,1.3s
UREC San Jos de Ur 19.24 109 *e*P P 21 20 33.6 -0.1
TIGA Tifton 19.31 28 IAmb IAmb 21 20 45.6
comp=Z,150nm,1.1s
TIGA Tifton 19.31 28 P P 21 20 31.8 -2.5
baz=212
Z47A Carrollton 19.33 15 IAmb IAmb 21 20 57.0
comp=Z,100nm,0.9s
CCAR Cane Creek 19.40 5 P Pn 21 20 37.8 +1.3
LRAL Lakeview Retre 19.47 18 P Pn 21 20 36.7 -0.6
LRAL Lakeview Retre 19.47 18 P P 21 20 33.8 -2.3
baz=200,SNR=14
456A Hilliard 19.48 32 P Pn 21 20 37.9 +0.5
456A IAmb IAmb 21 21 02.0
comp=Z,163nm,1.1s
CBOC Ciudad Bolivar 19.59 114 *e*P Pn 21 20 39.5 +0.4
TUMC Tumaco 19.60 129 P P 21 20 38.2 +0.5
TUMC IAmb IAmb 21 20 58.5
comp=Z,227nm,1.1s
LOOK Love County 19.61 352 P Pn 21 20 40.2 +1.2
LOOK IAmb IAmb 21 20 58.6
comp=Z,195nm,1.2s
Y45A Yeager Farm, C 19.66 11 P Pn 21 20 40.4 +0.8
Y45A IAmb IAmb 21 21 00.7
comp=Z,272nm,1.2s
X40A Basin Creek Fa 19.90 3 P P 21 20 38.4 -2.4
baz=183
152A Waverly Hall 19.91 23 IAmb IAmb 21 21 07.3
comp=Z,108nm,1.2s
MIAR Mount Ida 19.93 1 P P 21 20 40.1 -1.1
MIAR pmax pmax
comp=Z,132nm,1.2s
MIAR Mount Ida 19.93 1 P P 21 20 40.1 -1.1
MIAR IAmb IAmb 21 20 55.4
comp=Z,132nm,1.1s
MIAR Mount Ida 19.93 1 P P 21 20 37.7 -3.5
baz=181,SNR=18
ZARC Zaragoza, Cauc 19.95 108 *e*P P 21 20 41.9 +0.4
X37A Clayton 20.02 356 P 21 20 42.8 +0.7
X37A IAmb IAmb 21 21 07.9
comp=Z,110nm,1.1s
MNTX Cornudas Mount 20.06 330 P P 21 20 42.6 0.0
MNTX Cornudas Mount 20.06 330 P P 21 20 42.6 0.0
baz=146,SNR=40
255A Hazlehurst 20.23 29 P P 21 20 45.1 +0.7
255A IAmb IAmb 21 21 13.9
comp=Z,198nm,1.2s
YOTC Yotoco, Valle 20.23 119 *e*P P 21 20 44.4 -0.3
SMLC San Martn de 20.24 104 *e*P P 21 20 41.9 -2.7
X34A Smith Ranch, M 20.30 351 P Pn 21 20 46.3 -0.9
X34A IAmb IAmb 21 20 58.5
comp=Z,262nm,1.4s
OXF Oxford 20.31 11 P Pn 21 20 46.9 -0.4
OXF pmax pmax
comp=Z,263nm,1.1s
OXF Oxford 20.31 11 Pn 21 20 46.9 -0.4
OXF Oxford 20.31 11 P P 21 20 44.6 -0.6
baz=192,SNR=8.3
Z51A Franklin 20.32 21 P Pn 21 20 46.4 -1.0
GUY2C Guyana, Caldas 20.46 115 *e*P Pn 21 20 49.0 -0.6
154A Montrose 20.52 27 P P 21 20 48.5 +1.0
154A IAmb IAmb 21 21 05.7
comp=Z,130nm,0.9s
W39A Magazine 20.58 0 IAmb IAmb 21 21 00.1
comp=Z,121nm,1.2s
W39A Magazine 20.58 0 P P 21 20 46.6 -1.5
baz=180,SNR=24
WMOK Wichita Mounta 20.60 349 P P 21 20 45.8 -2.6
baz=166,SNR=25
W41B Gary Mavity, V 20.61 4 P P 21 20 46.1 -2.4
baz=184,SNR=17
BBAC Balboa, Cauca 20.62 126 *e*P P 21 20 49.7 +0.8
GUYB Guaymas 20.63 313 *i* P P 21 20 49.7 +1.0
PTBC PUERTO BERRIO, 20.69 111 *e*P P 21 20 49.6 0.0
WHAR Wooly Hollow 20.73 4 P 21 20 50.2 +0.5
WHAR IAmb IAmb 21 21 04.3
comp=Z,90nm,1.1s
NORC Norcasia 20.74 114 *e*P Pn 21 20 51.7 -0.9
POPC Popayan, Colom 20.77 123 *e*P P 21 20 51.7 +1.1
X48A Hartselle 20.79 16 P P 21 20 49.1 -1.2
LGNH Logne 20.80 76 P P 21 20 51.5 +0.8
LGNH IAmb IAmb 21 21 09.8
comp=Z,81nm,1.1s
TOLC Tolima 20.80 117 *e*P Pn 21 20 53.8 +0.3
OTAV Otavalo 20.86 132 P P 21 20 52.7 +0.8
OTAV pmax pmax
comp=Z,38nm,1.1s
OTAV Otavalo 20.86 132 P P 21 20 52.7 +0.8
OTAV Otavalo 20.86 132 *e*P P 21 20 49.7 -2.2
MSTX Muleshoe 20.96 339 P P 21 20 51.4 -1.0
baz=155,SNR=26
W45A Hickory Valley 20.98 11 P P 21 20 53.7 +1.2
TULM Tulcn-Chalpat 21.03 129 *e*P P 21 20 55.6 +1.9
PLAL Pickwick Lake 21.04 13 IAmb IAmb 21 21 06.6
comp=Z,227nm,1.4s
OKCFA Oklahoma City 21.04 352 P P 21 20 53.4 +0.2
GOGA Godfrey 21.06 25 P P 21 20 49.6 -3.7
baz=209,SNR=11
SOTA Rioblanco 21.06 124 *e*P P 21 20 54.9 +0.9
PCON Cinco Dias 21.11 123 *e*P P 21 20 56.4 +1.7
HBAR Harrisburg 21.14 7 P P 21 20 55.6 +1.4
MARP Paez Belalcaza 21.18 122 *e*P P 21 20 57.0 +1.8
OK025 Westminster Rd 21.19 352 IAmb IAmb 21 21 03.6
comp=Z,87nm,0.7s
ORTC Ortega, Tolima 21.20 118 *e*P P 21 20 56.1 +0.9
Y52A Lilburn 21.22 23 P P 21 20 54.6 -0.4
Y52A IAmb IAmb 21 21 16.0
comp=Z,80nm,0.9s
LPAR Lepanto 21.24 8 P P 21 20 56.6 +1.4
FPAL Fort Paine 21.29 19 IAmb IAmb 21 21 09.8
comp=Z,188nm,1.4s
SRIG Santa Rosalia 21.30 310 P P 21 20 57.4 +1.4
SRIG IAmb IAmb 21 21 09.7
comp=Z,80nm,1.1s
FCAR Ozark Folk Cen 21.34 4 IAmb IAmb 21 21 06.8
comp=Z,82nm,1.1s
TUL1 Leonard 21.36 356 P P 21 20 53.6 -2.9
baz=175,SNR=6.7
SPBC San Pablo de B 21.41 112 *e*P P 21 20 57.8 +0.4
OK029 Liberty Lake 21.42 352 IAmb IAmb 21 21 03.4
comp=Z,146nm,1.3s
AMTX Amarillo 21.45 342 P P 21 20 58.1 +0.5
AMTX Amarillo 21.45 342 P P 21 20 56.7 -0.9
baz=159
OK031 S. Brethren Rd 21.50 354 IAmb IAmb 21 21 25.7
comp=Z,176nm,1.4s
URIC Uribia, Colomb 21.53 95 *e*P P 21 20 56.0 -2.5
ROSC El Rosal 21.55 115 P P 21 20 59.9 +0.6
comp=Z,96nm,0.9s,baz=270,slow=20,SNR=38
ROSC S S **21 25 01.7 +4.0**
comp=Z,9.5nm,0.4s,baz=37,slow=23,SNR=1.7
ROSC El Rosal 21.55 115 P P 21 21 00.1 +0.8
ROSC pmax pmax
comp=Z,311nm,1.2s
ROSC El Rosal 21.55 115 P P 21 21 00.1 +0.8
ROSC El Rosal 21.55 115 *e*P P 21 21 02.2 +2.9
X51A Calhoun 21.56 21 P P 21 20 59.6 +0.8
X51A IAmb IAmb 21 21 22.5
comp=Z,106nm,1.4s
LCAR Lake Charles 21.59 6 IAmb IAmb 21 21 23.9
comp=Z,140nm,1.4s
PRAC Prado 21.61 118 *e*P P 21 21 00.8 +1.3
GNAR Gosnell 21.63 9 P P 21 21 00.4 +1.0
HHAR Hobbs 21.66 360 IAmb IAmb 21 21 02.4
comp=Z,47nm,0.5s
HALT Halls 21.69 10 P P 21 21 01.8 +1.7
QUOK Quay 21.70 354 IAmb IAmb 21 21 16.9
comp=Z,93nm,1.0s
U40A Yellville 21.76 2 P P 21 20 58.2 -2.7
baz=183,SNR=28
PEBM Pemiscott Bayo 21.80 9 P P 21 21 04.2 +2.9
SWET Sewanee 21.82 18 IAmb IAmb 21 21 20.1
comp=Z,98nm,1.3s
BARC Barichara 21.83 109 *e*P P 21 21 03.8 +1.7
LNXT Lenox 21.85 10 P P 21 21 03.5 +1.7
319A Douglas 21.90 323 P P 21 21 04.2 +1.6
319A IAmb IAmb 21 21 22.5
comp=Z,150nm,1.2s
GARC Garzon, Huila 21.93 122 *e*P P 21 21 04.0 +0.9
121A Cookes Peak, D 21.94 327 P P 21 21 04.3 +1.3
baz=142,SNR=11
W50A Signal Mountai 21.99 19 IAmb IAmb 21 21 26.4
comp=Z,97nm,1.3s
PAMC Pamplona, Colo 22.00 107 *e*P P 21 21 03.7 -0.4
GLAT Glass 22.05 10 P P 21 21 04.9 +1.0
V48A Smith Brothers 22.06 15 IAmb IAmb 21 21 31.7
comp=Z,82nm,1.2s
SDDR Presa de Saban 22.10 75 P P 21 21 05.8 +1.0
SDDR IAmb IAmb 21 21 22.8
comp=Z,82nm,1.2s
RGRS Roger Stewart 22.15 32 P P 21 21 07.7 +2.7
FLOC Florencia 22.15 124 *e*P P 21 21 06.7 +1.4
PENMO Penman 22.17 9 P P 21 21 06.2 +1.0
CHIC Chingaza 22.17 114 *e*P P 21 21 07.3 +1.4
CROK Carrier 22.19 351 IAmb IAmb 21 21 13.9
comp=Z,61nm,0.7s
UTMT University of 22.19 11 P P 21 21 07.0 +1.5
WVT Waverly 22.19 13 P P 21 21 03.7 -1.8
WVT pmax pmax
comp=Z,116nm,1.3s
WVT Waverly 22.19 13 P P 21 21 03.7 -1.8
WVT IAmb IAmb 21 21 19.7
comp=Z,116nm,1.2s
WVT Waverly 22.19 13 P P 21 21 01.3 -4.2
baz=196
RUSC La Rusia 22.20 111 *e*P P 21 21 07.2 +0.9
U32A Winter Ranch, 22.23 349 P P 21 21 07.0 +1.0
CSU Charleston Sou 22.27 32 P P 21 21 06.9 +0.5
NHSC New Hope 22.32 32 P P 21 21 07.6 +0.8
NHSC New Hope 22.32 32 P P 21 21 04.8 -2.0
baz=217
HICK Hickman 22.32 10 P P 21 21 08.5 +1.6
BLOK Blackwell 22.34 353 IAmb IAmb 21 21 26.0
comp=Z,74nm,1.2s
PBMO Poplar Bluff 22.38 7 IAmb IAmb 21 21 35.9
comp=Z,115nm,1.1s
HENM Henderson Moun 22.45 9 P P 21 21 10.1 +1.8
OK032 Salt Plains WL 22.52 351 IAmb IAmb 21 21 17.0
comp=Z,52nm,0.8s
CLTN Cedars of Leba 22.52 16 IAmb IAmb 21 21 35.4
comp=Z,70nm,1.1s
MGMO Mountain Grove 22.58 3 IAmb IAmb 21 21 21.8
comp=Z,122nm,1.1s
KAN13 South Haven SW 22.62 353 P P 21 21 10.7 +0.6
KAN13 IAmb IAmb 21 21 37.1
comp=Z,59nm,0.9s
KAN14 Manchester OK 22.63 352 P P 21 21 07.3 -2.9
BG3 Lake Jocassee 22.65 24 IAmb IAmb 21 21 33.0
comp=Z,101nm,1.3s
KAN17 Caldwell West 22.69 352 IAmb IAmb 21 21 35.4
comp=Z,69nm,1.1s
SC01 Santiago de lo 22.69 74 P P 21 21 10.5 -0.5
GRTK Grand Turk 22.73 69 P P 21 21 12.5 +1.2
Y22D IRIS PASSCAL I 22.75 331 P P 21 21 14.0 +2.4
Y22D IRIS PASSCAL I 22.75 331 P P 21 21 13.6 +1.9
baz=146
JSC Jenkinsville 22.75 28 P P 21 21 12.1 +0.6
JSC pmax pmax
comp=Z,52nm,1.2s
JSC Jenkinsville 22.75 28 P P 21 21 12.1 +0.6
KS20 Mayfield South 22.84 352 IAmb IAmb 21 21 41.2
comp=Z,102nm,1.3s
BANI BANI 22.90 77 P P 21 21 13.4 0.0
TKL Tuckaleechee C 22.93 22 P P 21 21 10.9 -2.5
comp=Z,1.1nm,0.4s,baz=175,slow=11,SNR=1.6
TKL S S **21 25 18.3 -4.0**
comp=Z,5.5nm,1.0s,baz=105,slow=22,SNR=1.3
TKL LR LR 21 32 11.4
comp=Z,3µm,19.5s,baz=172,slow=42
TKL Tuckaleechee C 22.93 22 P P 21 21 14.8 +1.4
Y57A Sumter 22.94 30 P P 21 21 14.8 +1.3
Y57A IAmb IAmb 21 21 25.6
comp=Z,153nm,1.4s
KAN12 Harper NE Stat 22.97 352 IAmb IAmb 21 21 23.3
comp=Z,87nm,0.9s
U49A Red Boiling Sp 23.07 17 IAmb IAmb 21 21 30.4
comp=Z,97nm,1.1s
S39A Bolivar 23.08 1 IAmb IAmb 21 21 21.9
comp=Z,92nm,0.8s
V52A Sevierville 23.16 22 IAmb IAmb 21 21 44.5
comp=Z,94nm,1.3s
TAMC Tame, Arauca 23.17 108 *e*P P 21 21 16.6 +0.6
T47A Sharon Grove 23.18 14 IAmb IAmb 21 21 22.8
comp=Z,73nm,1.1s
Y58A Scranton 23.21 31 P P 21 21 17.4 +1.2
Y58A IAmb IAmb 21 21 37.9
comp=Z,136nm,1.4s
ANMO Albuquerque 23.27 333 P P 21 21 15.3 -1.7
comp=Z,4.2nm,0.6s,baz=142,slow=12,SNR=15
ANMO S S **21 25 30.1 +1.7**
comp=Z,1.3nm,0.6s,baz=196,slow=12,SNR=1.7
ANMO Albuquerque 23.27 333 P P 21 21 17.7 +0.7
ANMO Albuquerque 23.27 333 P P 21 21 17.4 +0.4
baz=148
MACC Macarena, Meta 23.32 120 *e*P P 21 21 18.4 +0.9
BIRD Birdtown, Kers 23.42 29 P P 21 21 18.8 +0.5
BIRD IAmb IAmb 21 21 39.2
comp=Z,60nm,1.1s
KMSC Kings Mountain 23.44 27 IAmb IAmb 21 21 40.6
comp=Z,112nm,1.4s
KMSC Kings Mountain 23.44 27 P P 21 21 14.6 -3.9
baz=212,SNR=5.2
S44A Carbondale 23.44 9 IAmb IAmb 21 21 36.9
comp=Z,125nm,0.9s
SDV Santo Domingo 23.46 101 P P 21 21 18.0 -1.1
comp=Z,18nm,0.6s,baz=270,slow=0.5,SNR=6.3
SDV S S **21 25 28.4 -3.5**
comp=Z,8.7nm,0.2s,baz=247,slow=13,SNR=1.7
SDV LR LR 21 30 24.2
comp=Z,1µm,21.8s,baz=290,slow=37
SDV Santo Domingo 23.46 101 P P 21 21 19.9 +0.8
SDV Santo Domingo 23.46 101 *e*P P 21 21 19.5 +0.4
TUC Tucson 23.46 322 P P 21 21 21.5 +2.6
TUC pmax pmax
comp=Z,113nm,1.3s
TUC Tucson 23.46 322 *i* P P 21 21 19.0 +0.2
TUC Tucson 23.46 322 P P 21 21 21.5 +2.6
TUC IAmb IAmb 21 21 32.6
comp=Z,113nm,1.3s
TUC Tucson 23.46 322 P P 21 21 19.5 +0.6
baz=135
CCM Cathedral Cave 23.55 5 P P 21 21 17.1 -2.5
CCM pmax pmax
comp=Z,48nm,1.2s
CCM Cathedral Cave 23.55 5 P P 21 21 17.1 -2.5
CCM Cathedral Cave 23.55 5 P P 21 21 16.1 -3.5
baz=186
Y59A Loris 23.68 32 P P 21 21 21.4 +0.5
Y59A IAmb IAmb 21 21 41.0
comp=Z,66nm,0.8s
R40A Maddies Statio 23.72 3 IAmb IAmb 21 21 28.5
comp=Z,73nm,1.1s
TZTN Tazewell 23.80 21 IAmb IAmb 21 21 46.1
comp=Z,75nm,1.2s
TZTN Tazewell 23.80 21 P P 21 21 18.6 -3.4
baz=205
DR12 Loma Pena Alta 23.87 76 P P 21 21 22.8 -0.1
X58A Rowland 23.89 31 P P 21 21 24.9 +2.1
X58A IAmb IAmb 21 21 36.4
comp=Z,96nm,1.2s
Y60A Bolivia 24.04 33 P P 21 21 24.3 +0.1
Y60A IAmb IAmb 21 21 53.6
comp=Z,70nm,0.8s
W57A Gilead 24.06 29 P P 21 21 24.4 0.0
W57A IAmb IAmb 21 21 50.9
comp=Z,80nm,1.1s
V55A Taylorsville 24.10 26 IAmb IAmb 21 21 55.2
comp=Z,105nm,1.4s
R32A Long Quarter, 24.18 351 P P 21 21 26.1 +0.6
R32A IAmb IAmb 21 21 36.0
comp=Z,85nm,1.1s
SLM Saint Louis 24.23 7 IAmb IAmb 21 21 26.1
comp=Z,38nm,0.5s
T25A Trinidad 24.39 339 P P 21 21 28.7 +1.0
baz=155,SNR=18
U54A Nelsons Funny 24.42 24 IAmb IAmb 21 21 55.5
comp=Z,45nm,0.8s
214A Organ Pipe Nat 24.48 318 P P 21 21 29.8 +1.4
214A IAmb IAmb 21 21 42.3
comp=Z,55nm,1.1s
214A Organ Pipe Nat 24.48 318 P P 21 21 29.3 +0.9
baz=131
WCI Wyandotte Cave 24.55 15 P P 21 21 28.4 -0.5
WCI pmax pmax
comp=Z,60nm,1.0s
WCI Wyandotte Cave 24.55 15 P P 21 21 28.4 -0.5
WCI IAmb IAmb 21 21 36.3
comp=Z,60nm,0.9s
WCI Wyandotte Cave 24.55 15 P P 21 21 25.1 -3.9
baz=198
KSU1 Kansas State U 24.59 355 IAmb IAmb 21 21 36.2
comp=Z,101nm,1.1s
KSU1 Kansas State U 24.59 355 P P 21 21 25.8 -3.6
baz=174,SNR=7.6
X18A Snowflake 24.62 327 P P 21 21 31.1 +1.2
X18A IAmb IAmb 21 21 42.2
comp=Z,117nm,1.3s
OLIL Olney 24.65 11 IAmb IAmb 21 21 36.7
comp=Z,71nm,1.0s
Q44A Meyer Farm, Va 24.66 9 IAmb IAmb 21 21 56.2
comp=Z,50nm,0.9s
CBKS Cedar Bluff 24.73 349 IAmb IAmb 21 21 39.9
comp=Z,109nm,1.3s
CBKS Cedar Bluff 24.73 349 P P 21 21 30.1 -0.5
baz=166
S51A Beattyville 24.78 20 IAmb IAmb 21 21 58.7
comp=Z,107nm,1.5s
U56A King 24.87 27 IAmb IAmb 21 21 60.0
comp=Z,106nm,1.4s
R49A Shelbyville 24.90 16 P P 21 21 31.6 -0.5
P40A Paris 24.96 3 IAmb IAmb 21 21 38.7
comp=Z,44nm,0.8s
W18A Petrified Fore 24.97 328 P P 21 21 33.7 +0.7
W18A IAmb IAmb 21 21 46.9
comp=Z,56nm,1.1s
W18A Petrified Fore 24.97 328 P P 21 21 34.4 +1.4
baz=141
V58A Windy Hill, Pi 24.99 29 IAmb IAmb 21 22 01.9
comp=Z,64nm,1.1s
P38A Dawn 25.00 1 IAmb IAmb 21 21 41.9
comp=Z,55nm,0.9s
R50A Paris 25.14 18 P P 21 21 36.5 +2.3
R50A IAmb IAmb 21 21 58.1
comp=Z,47nm,1.1s
CNNC Cliffs of the 25.16 32 P P 21 21 35.2 +0.8
CNNC IAmb IAmb 21 21 48.9
comp=Z,25nm,0.3s
SFX San Felipe 25.28 314 P P 21 21 36.2 +0.6
P43A Skaggs, Pawnee 25.31 8 P P 21 21 36.4 +0.6
P43A IAmb IAmb 21 22 02.6
comp=Z,46nm,1.1s
SDCO Great Sand Dun 25.31 338 P P 21 21 37.1 +0.9
baz=153,SNR=18
X16A Lo Mia Camp, P 25.36 324 IAmb IAmb 21 21 49.7
comp=Z,49nm,1.0s
KSCO Kaye Shedlock' 25.57 344 P P 21 21 39.0 +0.7
KSCO IAmb IAmb 21 21 52.6
comp=Z,67nm,1.1s
KSCO Kaye Shedlock' 25.57 344 P P 21 21 38.6 +0.2
baz=169
BLA Blacksburg 25.59 26 P P 21 21 40.4 +2.0
BLA pmax pmax
comp=Z,142nm,1.5s
BLA Blacksburg 25.59 26 P P 21 21 40.4 +2.0
BLA IAmb IAmb 21 22 05.8
comp=Z,142nm,1.4s
BLA Blacksburg 25.59 26 P P 21 21 36.4 -2.0
baz=211
P46A Rosedale 25.68 12 IAmb IAmb 21 21 47.1
comp=Z,96nm,0.9s
S54A Dinges, Beckl 25.74 23 P P 21 21 39.8 0.0
S22A 4UR Ranch, Cre 25.82 336 P P 21 21 40.7 0.0
baz=150
T57A Hurt 25.91 28 P P 21 21 43.4 +2.1
Y14A Wickenburg 25.93 322 IAmb IAmb 21 21 54.0

comp=Z,60nm,1.2s
P48A Milroy 25.93 15 IAmb IAmb 21 22 06.0
comp=Z,42nm,0.9s
CRPR Cabo Rojo, PR 25.95 79 P **P** **21 21 42.8 +1.0**
CRPR IAmb IAmb 21 21 51.3
comp=Z,56nm,1.3s
R53A Hurricane 25.96 22 P **P** **21 21 42.8 +1.0**
O44A Mansfield 25.97 10 IAmb IAmb 21 21 48.7
comp=Z,39nm,0.9s
MVCO Mesa Verde 26.06 333 IAmb IAmb 21 21 53.7
comp=Z,51nm,0.9s
MVCO Mesa Verde 26.06 333 P **P** **21 21 42.8 -0.1**
baz=146,SNR=9.1
Q51A Peebles 26.12 19 P **P** **21 21 46.0 +2.8**
WUAZ Wupatki 26.13 326 IAmb IAmb 21 21 59.4
comp=Z,68nm,0.9s
WUAZ Wupatki 26.13 326 P **P** **21 21 43.7 +0.2**
baz=139,SNR=14
P49A Miami Univ. Ec 26.19 16 IAmb IAmb 21 22 10.4
comp=Z,66nm,1.4s
P49A Miami Univ. Ec 26.19 16 P **P** **21 21 39.6 -4.1**
baz=200
N41A Harden Midland 26.22 5 IAmb IAmb 21 21 51.0
comp=Z,59nm,1.2s
HDIL Hopedale 26.25 8 P **P** **21 21 45.9 +1.7**
HDIL IAmb IAmb 21 21 52.1
comp=Z,97nm,1.4s
SFIN Lafayette 26.44 12 IAmb IAmb 21 22 12.3
comp=Z,44nm,1.0s
SFIN Lafayette 26.44 12 P **P** **21 21 41.9 -4.0**
baz=195
ATAH Atahualpa 26.46 143 P **P** **21 21 47.5 +0.7**
comp=Z,33nm,0.8s,baz=335,slow=6.0,SNR=19
ATAH S **S** **21 26 21.4 +1.3**
comp=Z,2.0nm,0.6s,baz=342,slow=17,SNR=0.8
ATAH LR LR 21 29 17.9
comp=Z,1µm,20.6s,baz=321,slow=30
GLA Glamis 26.49 318 IAmb IAmb 21 21 59.5
comp=Z,53nm,1.1s
GLA Glamis 26.49 318 P **P** **21 21 43.1 -3.5**
baz=129
R55A Marlinton 26.62 25 P **P** **21 21 49.4 +1.6**
PV01 Paradox Valley 26.86 334 IAmb IAmb 21 22 03.1
comp=Z,58nm,1.0s
SJG San Juan 26.87 79 LR LR 21 33 23.5
comp=Z,1µm,19.8s,baz=242,slow=39
PDMCI Parker Dam,Lak 26.87 321 P **P** **21 21 45.7 -4.2**
baz=132,SNR=6.2
O49A Covington 26.91 16 P **P** **21 21 51.7 +1.5**
O49A IAmb IAmb 21 22 17.2
comp=Z,117nm,1.4s
PV13 Radium Mtn., P 26.99 333 IAmb IAmb 21 22 04.0
comp=Z,48nm,0.9s
PV02 Paradox Valley 27.00 334 IAmb IAmb 21 22 02.4
comp=Z,51nm,1.1s
PV15 Paradox Valley 27.00 334 IAmb IAmb 21 22 02.0
comp=Z,104nm,1.5s
BGNE Belgrade 27.04 353 IAmb IAmb 21 22 11.6
comp=Z,40nm,0.9s
BGNE Belgrade 27.04 353 P **P** **21 21 50.1 -1.3**
baz=171
PV05 Paradox Valley 27.05 333 IAmb IAmb 21 22 03.7
comp=Z,47nm,1.0s
SWSC Sam W. Stewart 27.06 316 P **P** **21 21 48.5 -3.2**
baz=128
P52A Corning 27.07 20 P **P** **21 21 48.8 -2.9**
baz=206
PV03 Paradox Valley 27.08 334 IAmb IAmb 21 22 05.4
comp=Z,45nm,1.0s
IKP In-Ko-Pah, Jac 27.09 316 P **P** **21 21 50.5 -1.6**
baz=127
PV18 Skein Mesa, Pa 27.10 333 IAmb IAmb 21 22 05.0
comp=Z,65nm,1.1s
JSRW J. Sargeant Re 27.11 29 P **P** **21 21 52.1 0.0**
PV12 Saucer Basin, 27.12 334 IAmb IAmb 21 22 03.5
comp=Z,82nm,1.0s
SMCO Snowmass 27.12 337 IAmb IAmb 21 22 13.6
comp=Z,52nm,1.2s
PV11 David Mesa, Pa 27.13 334 IAmb IAmb 21 22 10.1
comp=Z,65nm,1.0s
PV07 Paradox Valley 27.15 334 IAmb IAmb 21 22 05.1
comp=Z,54nm,1.1s
HUMP Col San Antoni 27.15 79 **PcP** **21 25 13.6 +0.4**
PV17 East Wray Mesa 27.15 333 IAmb IAmb 21 22 04.8
comp=Z,87nm,1.2s
PV16 Nyswonger Mesa 27.16 333 IAmb IAmb 21 22 05.6
comp=Z,76nm,1.2s
PV19 Morning Glory 27.19 333 IAmb IAmb 21 22 10.5
comp=Z,77nm,1.3s
ISCO Idaho Springs 27.19 340 P **P** **21 21 50.9 -2.3**
baz=154,SNR=26
P53A Whipple 27.19 22 P **P** **21 21 54.1 +1.3**
PV20 West Nyswonger 27.21 333 P **P** **21 21 53.1 -0.1**
PV04 Paradox Valley 27.22 334 IAmb IAmb 21 22 05.7
comp=Z,82nm,1.0s
PV14 Lion Creek, Pa 27.26 333 P **P** **21 21 53.3 -0.4**
PV14 IAmb IAmb 21 22 11.2
comp=Z,90nm,1.3s
OGNE Ogallala 27.26 346 P **P** **21 21 54.9 +1.4**
OGNE Ogallala 27.26 346 P **P** **21 21 52.4 -1.1**
baz=163
PV10 Paradox Valley 27.27 333 P **P** **21 21 54.4 +0.6**
PV10 IAmb IAmb 21 22 10.6
comp=Z,85nm,1.2s
BC3 Big Chuckawall 27.27 318 P **P** **21 21 54.4 +0.7**
baz=129,SNR=22
CBX Cerro Bola 27.28 314 P **P** **21 21 55.1 +1.3**
SCIA State Center 27.29 1 P **P** **21 21 50.6 -3.0**
baz=181,SNR=7.4
PV22 Blue Mesa, Par 27.29 334 IAmb IAmb 21 22 11.7
comp=Z,93nm,1.4s
PV23 Carpenter Ridg 27.32 334 IAmb IAmb 21 22 03.7
comp=Z,50nm,0.9s
R58B Mineral 27.33 28 P **P** **21 21 54.7 +0.7**
IRM Iron Mountain 27.40 319 P **P** **21 21 56.1 +1.3**
baz=130,SNR=11
MTP Monte Pirata 27.43 79 P **P** **21 21 55.1 -0.1**
MONP2 Monument Peak 27.45 316 P **P** **21 21 56.4 +1.0**
baz=126
BAR Barrett 27.50 315 P **P** **21 21 56.6 +0.9**
L40A Anamosa 27.54 4 IAmb IAmb 21 22 03.0
comp=Z,88nm,1.2s
CBN Corbin Frederi 27.76 29 P **P** **21 21 55.9 -2.0**
baz=216
BELC Belle Mtn. Jos 27.84 318 P **P** **21 21 59.5 +0.6**
baz=129,SNR=7.0
TPFO Pinon Flats 27.90 317 P **P** **21 22 00.4 +1.1**
baz=128
PFO Pinyon Flats O 27.91 317 P **P** **21 21 59.7 +0.3**
comp=Z,2.6nm,0.8s,baz=94,slow=3.8,SNR=6.5
PFO LR LR 21 33 20.5
comp=Z,4µm,18.1s,baz=132,slow=37
PFO Pinyon Flats O 27.91 317 P **P** **21 22 01.2 +1.8**
PFO Pinyon Flats O 27.91 317 P **P** **21 22 01.3 +1.9**
baz=128
109C Camp Elliot, M 27.91 315 P **P** **21 22 00.7 +1.4**
109C IAmb IAmb 21 22 09.6
comp=Z,50nm,1.3s
109C Camp Elliot, M 27.91 315 P **P** **21 22 00.3 +0.9**
baz=126
MCWV Mont Chateau 27.92 24 P **P** **21 21 59.1 -0.2**
baz=210
O53A New Philadelph 27.93 21 P **P** **21 21 57.6 -1.8**
baz=207
KNB Kanab 28.03 326 IAmb IAmb 21 22 11.9
comp=Z,72nm,1.4s
L44A Lake County Fo 28.04 10 P **P** **21 21 56.9 -3.4**
baz=192
K38A Parkersburg 28.04 2 IAmb IAmb 21 22 06.6
comp=Z,67nm,1.1s
PKCU Pink Cliffs 28.08 328 P **P** **21 22 02.2 +1.1**
PKCU IAmb IAmb 21 22 14.2
comp=Z,55nm,1.3s
N23A Red Feather La 28.29 341 P **P** **21 22 03.2 +0.3**
baz=155
O20A White River Ci 28.43 337 P **P** **21 22 06.3 +2.2**
O20A White River Ci 28.43 337 P **P** **21 22 04.2 +0.1**
baz=150
JFWS Jewell Farm 28.46 6 P **P** **21 22 01.3 -2.8**
baz=187,SNR=5.7
PHWY Pilot Hill 28.51 342 P **P** **21 22 05.9 +1.0**
L48A N Adams 28.53 15 P **P** **21 22 06.6 +1.9**
L48A IAmb IAmb 21 22 35.1
comp=Z,61nm,1.1s
SRU San Rafael Swe 28.53 332 P **P** **21 22 06.3 +1.3**
SRU pmax pmax
comp=Z,20nm,1.2s
SRU San Rafael Swe 28.53 332 P **P** **21 22 06.3 +1.3**
N53A Lisbon 28.56 21 P **P** **21 22 06.3 +1.3**
HEC Hector,Ludlow 28.58 319 P **P** **21 22 05.7 +0.3**
baz=130
SZCU Shurtz Canyon 28.60 327 IAmb IAmb 21 22 17.3
comp=Z,66nm,1.5s
Q16A Castle Valley 28.67 331 IAmb IAmb 21 22 21.6
comp=Z,49nm,1.4s
TUQ Turquoise Moun 28.71 320 P **P** **21 22 06.5 -0.1**
baz=131,SNR=30
MSU Marysvale 28.84 329 P **P** **21 22 08.9 +1.2**
MSU Marysvale 28.84 329 P **P** **21 22 08.9 +1.2**
MVU Marysvale 28.84 329 P **P** **21 22 10.1 +2.2**
MVU IAmb IAmb 21 22 26.3
comp=Z,123nm,1.4s
O56A Blue Knob Stat 28.95 25 P **P** **21 22 09.9 +1.4**
O56A Blue Knob Stat 28.95 25 P **P** **21 22 07.9 -0.6**
baz=212
N54A Moraine State 29.00 22 P **P** **21 22 10.6 +1.7**
N54A Moraine State 29.00 22 P **P** **21 22 08.5 -0.4**
baz=209
TCRU Three Creeks R 29.04 329 P **P** **21 22 10.4 +0.7**
CIS Catalina Islan 29.11 314 P **P** **21 22 09.5 -0.5**
baz=124
GSC Goldstone, Bar 29.18 319 P **P** **21 22 11.7 +1.0**
GSC pmax pmax
comp=Z,13nm,1.2s
GSC Goldstone, Bar 29.18 319 P **P** **21 22 11.7 +1.0**
GSC Goldstone, Bar 29.18 319 P **P** **21 22 11.3 +0.6**
baz=129
ECSD EROS Data Cent 29.20 356 IAmb IAmb 21 22 17.5
comp=Z,69nm,1.2s
ECSD EROS Data Cent 29.20 356 P **P** **21 22 06.9 -3.8**
baz=175,SNR=25
RDMU Red Mountain 29.33 335 P **P** **21 22 12.8 +0.7**
MWC Mount Wilson 29.34 316 P **P** **21 22 13.3 +1.1**
MWC pmax pmax
comp=Z,44nm,1.3s
MWC Mount Wilson 29.34 316 P **P** **21 22 13.3 +1.1**
MWC IAmb IAmb 21 22 25.2
comp=Z,44nm,1.2s
PASC Pasadena Art C 29.39 316 P **P** **21 22 13.9 +1.4**
I40A Norwalk 29.40 5 P **P** **21 22 11.4 -1.0**
I40A IAmb IAmb 21 22 20.2
comp=Z,22nm,0.6s
RWWY Rawlins 29.42 339 P **P** **21 22 13.6 +0.6**
RWWY IAmb IAmb 21 22 24.0
comp=Z,94nm,1.2s
SSPA Standing Stone 29.53 25 P **P** **21 22 16.7 +3.0**
SSPA Standing Stone 29.53 25 P **P** **21 22 10.1 -3.5**
baz=213
PRN Pahroc Range 29.54 324 P **P** **21 22 14.9 +1.0**
ALLY Alegheny Colle 29.55 21 P **P** **21 22 14.2 +0.5**
ALLY IAmb IAmb 21 22 35.8
comp=Z,41nm,1.4s
I42A Draeger Farm, 29.58 7 P **P** **21 22 14.1 +0.1**
EDW2 Edwards Air Fo 29.68 317 P **P** **21 22 15.2 0.0**
baz=127
MPU Maple Canyon 29.76 332 P **P** **21 22 16.6 +0.6**
SMRT St. Maarten 29.78 79 P **P** **21 22 17.4 +1.3**
LRMC Laurel Mtn Rad 29.85 319 P **P** **21 22 15.7 -1.0**
baz=128,SNR=5.1
M55A Ridgway 29.89 23 P **P** **21 22 17.6 +0.7**
TPNV Topopah Spring 29.91 322 IAmb IAmb 21 22 30.7
comp=Z,50nm,1.2s
TPNV Topopah Spring 29.91 322 P **P** **21 22 17.1 -0.1**
baz=132,SNR=7.7
NLU North Lily Min 29.92 331 P **P** **21 22 17.4 +0.1**
OSI Osito Audit: C 30.01 316 P **P** **21 22 18.3 +0.3**
OSI IAmb IAmb 21 22 34.1
comp=Z,39nm,1.2s
K22A Casper 30.06 341 P **P** **21 22 19.6 +1.1**
K22A IAmb IAmb 21 22 29.9
comp=Z,56nm,1.3s
K22A Casper 30.06 341 P **P** **21 22 18.4 -0.1**
baz=155,SNR=7.0
MPMC Manual Prospec 30.09 320 P **P** **21 22 19.4 +0.6**
baz=129,SNR=20
SUSD Miller 30.13 353 P **P** **21 22 18.4 -0.5**
SUSD IAmb IAmb 21 22 26.3
comp=Z,53nm,1.0s
SUSD Miller 30.13 353 P **P** **21 22 16.2 -2.7**
baz=170
JLU Jordanelle 30.16 333 P **P** **21 22 20.1 +0.6**
TBTG Tabatinga, AM 30.20 126 *eP* **P** **21 22 18.6 -1.2**
H43A Windswept, Lux 30.30 9 P **P** **21 22 19.6 -0.7**
SPR3 Spring Creek 3 30.30 327 IAmb IAmb 21 22 31.6
comp=Z,35nm,1.0s
SPR3 PcP **PcP** **21 25 22.3 +1.2**
CTU Camp Tracy 30.36 333 P **P** **21 22 21.5 +0.3**
DUG Dugway, Tooele 30.45 331 P **P** **21 22 23.1 +1.1**
DUG pmax pmax
comp=Z,23nm,1.3s
DUG Dugway, Tooele 30.45 331 P **P** **21 22 23.1 +1.1**
DUG Dugway, Tooele 30.45 331 P **P** **21 22 22.9 +0.9**
baz=142
ISA Isabella, Lake 30.47 318 P **P** **21 22 23.8 +1.7**
ISA PcP **PcP** **21 25 22.5 +1.2**
ISA Isabella, Lake 30.47 318 P **P** **21 22 21.9 -0.3**
baz=128
R11A Troy Canyon, C 30.50 325 P **P** **21 22 23.9 +1.5**
baz=135,SNR=10
TCUT Toone Canyon 30.56 333 P **P** **21 22 23.8 +0.8**
RSSD Black Hills 30.74 346 P **P** **21 22 24.9 +0.3**
RSSD pmax pmax
comp=Z,20nm,1.4s
RSSD Black Hills 30.74 346 P **P** **21 22 24.9 +0.3**
RSSD Black Hills 30.74 346 P **P** **21 22 23.3 -1.3**
baz=160
PKM Mcpherson Peak 30.90 316 P **P** **21 22 25.9 -0.2**
baz=125
VES Vestal, Richgr 30.97 318 P **P** **21 22 28.2 +1.8**
baz=127
HWUT Hardware Ranch 31.03 334 P **P** **21 22 28.9 +1.8**
TIN Tinemaha, Big 31.18 320 P **P** **21 22 29.8 +1.4**
baz=130
BW06 Boulder Array 31.20 337 P **P** **21 22 29.1 +0.4**
BW06 Boulder Array 31.20 337 P **P** **21 22 28.7 +0.1**
baz=150
PDAR Pindale Array 31.20 337 P **P** **21 22 27.6 -1.0**
comp=Z,2.5nm,0.9s,baz=130,slow=11,SNR=10
PDAR PcP **PcP** **21 25 22.3 -1.0**
comp=Z,0.9nm,0.6s,baz=139,slow=4.3,SNR=2.9
PDAR LR LR 21 37 56.7
comp=Z,939nm,18.2s,baz=153,slow=42
GLMI Grayling 31.21 13 P **P** **21 22 30.4 +1.9**
GLMI IAmb IAmb 21 22 33.8
comp=Z,74nm,1.2s
F36A Milaca 31.24 1 IAmb IAmb 21 22 35.0
comp=Z,52nm,1.3s
NNA Nana 31.30 146 P **P** **21 22 28.2 -1.4**
comp=Z,16nm,0.9s,baz=295,slow=5.5,SNR=2.9
NNA Nana 31.30 146 IAmb IAmb 21 22 45.4
comp=Z,34nm,1.1s
MEDO Medina 31.48 22 P **P** **21 22 30.6 -0.1**
F42A Maple Grove Fa 31.51 8 P **P** **21 22 31.8 +0.7**
PAGB Antelope Grade 31.68 317 P **P** **21 22 34.5 +1.8**
HVU Hansel Valley 31.70 333 IAmb IAmb 21 22 43.2
comp=Z,56nm,1.2s
AHID Auburn Hatcher 31.80 336 P **P** **21 22 34.0 +0.2**
AHID IAmb IAmb 21 22 45.3
comp=Z,60nm,1.5s
K57A Scipio Center 31.85 25 P **P** **21 22 34.5 +0.5**
K57A IAmb IAmb 21 22 40.8
comp=Z,55nm,1.4s
NV11 Mina Array Sit 32.03 323 IAmb IAmb 21 22 49.4
comp=Z,56nm,1.1s
E38A The Farm, Brul 32.04 3 P **P** **21 22 35.0 -0.7**
E38A IAmb IAmb 21 22 42.0
comp=Z,39nm,1.1s
ELK Elko 32.06 329 P **P** **21 22 36.5 +0.2**
comp=Z,4.9nm,0.8s,baz=143,slow=6.8,SNR=14
ELK LR LR 21 37 40.9
comp=Z,5µm,18.4s,baz=139,slow=40
MDPB Devils Postpil 32.07 321 IAmb IAmb 21 22 49.0
comp=Z,25nm,1.0s
NVAR Mina Array Bea 32.12 322 P **P** **21 22 37.1 +0.4**
comp=Z,9.9nm,0.8s,baz=133,slow=8.8,SNR=48
NVAR PcP **PcP** **21 25 25.6 -0.2**
comp=Z,5.1nm,1.0s,baz=126,slow=2.3,SNR=4.0
NVAR LR LR 21 36 27.0
comp=Z,4µm,18.1s,baz=134,slow=38
LHV Little Huntoon 32.12 322 IAmb IAmb 21 22 57.6
comp=Z,44nm,1.1s
J56A Wolcott 32.17 24 P **P** **21 22 37.0 +0.1**
J56A IAmb IAmb 21 22 43.6
comp=Z,28nm,1.0s
REDW Red Top Meadow 32.20 336 IAmb IAmb 21 22 56.2
comp=Z,57nm,1.1s
E43A Lone Tree Farm 32.28 9 P **P** **21 22 38.8 +1.0**
E43A IAmb IAmb 21 22 52.7
comp=Z,25nm,1.1s
PMPB Monarch Peak 32.32 317 P **P** **21 22 39.2 +0.8**
PMPB IAmb IAmb 21 22 54.3
comp=Z,39nm,1.0s
LOHW Long Hollow 32.32 337 IAmb IAmb 21 22 50.3
comp=Z,36nm,1.1s
TPAW Teton Pass 32.35 337 IAmb IAmb 21 22 56.2
comp=Z,63nm,1.3s
RYN Ryan 32.38 322 IAmb IAmb 21 22 52.1
comp=Z,24nm,1.1s
KVN Kaiserville 32.41 323 IAmb IAmb 21 22 52.3
comp=Z,29nm,1.1s
MOOW Moose Ponds 32.49 337 IAmb IAmb 21 22 51.7
comp=Z,22nm,1.1s
FXWY Fox Creek 32.50 337 IAmb IAmb 21 22 50.0
comp=Z,36nm,1.4s
IMW Indian Meadow 32.69 337 **PcP** **21 25 28.2 +0.8**
FLWY Flagg Ranch 32.76 337 P **P** **21 22 43.8 +1.5**
FLWY IAmb IAmb 21 22 56.4
comp=Z,37nm,1.2s
BMN Battle Mountai 32.87 326 IAmb IAmb 21 22 56.1
comp=Z,41nm,1.1s
DELO Deloro Mine 32.95 22 P **P** **21 22 43.8 +0.1**
DELO IAmb IAmb 21 22 50.1
comp=Z,29nm,1.1s
YPP Pitchstone Pla 32.96 337 P **P** **21 22 45.7 +1.6**
H17A Grant Village 32.98 338 P **P** **21 22 46.6 +2.3**
H17A IAmb IAmb 21 22 57.4
comp=Z,42nm,1.2s
YERR Yerington 33.03 322 IAmb IAmb 21 22 56.3
comp=Z,42nm,1.3s
SAO San Andreas Ge 33.06 317 P **P** **21 22 46.2 +1.4**
SAO pmax pmax
comp=Z,10.0nm,0.9s
SAO San Andreas Ge 33.06 317 P **P** **21 22 46.2 +1.4**
LKWY Lake 33.06 338 P **P** **21 22 47.0 +2.0**
LKWY pmax pmax
comp=Z,25nm,0.9s
LKWY Lake 33.06 338 P **P** **21 22 47.0 +2.0**
LKWY IAmb IAmb 21 22 59.6
comp=Z,25nm,0.9s
YMP Mirror Lake Pl 33.13 339 P **P** **21 22 47.5 +1.8**
YMP IAmb IAmb 21 23 15.7
comp=Z,44nm,1.1s
CMB Columbia Colle 33.13 320 P **P** **21 22 45.9 +0.5**
CMB pmax pmax
comp=Z,21nm,1.3s
CMB Columbia Colle 33.13 320 P **P** **21 22 45.9 +0.5**
RLMT Red Lodge 33.16 340 IAmb IAmb 21 22 57.1
comp=Z,67nm,1.4s
RLMT Red Lodge 33.16 340 P **P** **21 22 45.7 -0.1**
baz=152,SNR=10
K61A Williamstown 33.20 28 P **P** **21 22 47.2 +1.2**
baz=218
YUF Upper Falls 33.23 338 P **P** **21 22 48.2 +1.8**
YUF IAmb IAmb 21 23 07.0
comp=Z,47nm,1.3s
YNR Norris Junctio 33.29 338 P **P** **21 22 48.0 +1.0**
YNR IAmb IAmb 21 23 00.8
comp=Z,23nm,1.0s
YNE Yellowstone No 33.31 339 P **P** **21 22 47.8 +0.6**
YNE IAmb IAmb 21 23 00.0
comp=Z,25nm,0.8s
PNTR Pine Nut 33.31 322 P **P** **21 22 48.6 +1.4**
PNTR IAmb IAmb 21 23 11.8
comp=Z,46nm,1.1s
YMR Madison River 33.36 338 P **P** **21 22 49.1 +1.6**
YMR IAmb IAmb 21 22 58.0
comp=Z,43nm,1.1s
EYMN Ely 33.38 3 P **P** **21 22 45.2 -2.2**
EYMN IAmb IAmb 21 22 55.7
comp=Z,22nm,1.1s
EYMN Ely 33.38 3 P **P** **21 22 44.4 -3.1**
baz=184
YHH Holmes Hill 33.42 338 IAmb IAmb 21 23 03.7
comp=Z,38nm,1.4s
VCNR Virginia City 33.48 322 P **P** **21 22 50.5 +1.9**
VCNR IAmb IAmb 21 23 02.4
comp=Z,21nm,0.5s
YHB Horse Butte 33.51 337 P **P** **21 22 51.2 +2.3**
MDND Maddock 33.56 353 P **P** **21 22 51.5 +2.5**
PAHR Pah Rah Range 33.59 323 IAmb IAmb 21 23 02.6
comp=Z,48nm,1.2s
RUBR Rubicon Trail 33.62 322 P **P** **21 22 52.9 +3.0**
LAO LASA Array 33.68 345 P **P** **21 22 51.6 +1.5**
LAO IAmb IAmb 21 23 00.8
comp=Z,74nm,1.4s
LAO LASA Array 33.68 345 P **P** **21 22 48.5 -1.7**
baz=158
AGMN Agassiz Nation 33.71 358 P **P** **21 22 47.8 -2.5**
baz=176,SNR=18
HLID Hailey 33.84 333 IAmb IAmb 21 23 02.4
comp=Z,21nm,0.9s
HLID Hailey 33.84 333 P **P** **21 22 51.6 -0.1**
baz=142,SNR=20
I60A Shoreham 34.12 27 P **P** **21 22 53.2 -0.6**
baz=217
BEKR Beckworth 34.26 322 IAmb IAmb 21 23 08.5
comp=Z,30nm,1.2s
MFID Camas Ranch 34.37 331 P **P** **21 22 58.4 +2.2**
MFID IAmb IAmb 21 23 11.4
comp=Z,26nm,1.2s
BOZ Bozeman (W) 34.40 338 IAmb IAmb 21 23 13.9
comp=Z,30nm,1.2s
BOZ Bozeman (W) 34.40 338 P **P** **21 22 57.2 +0.7**
baz=149,SNR=9.3
ORV Oroville 34.75 321 IAmb IAmb 21 23 12.7
comp=Z,28nm,1.1s
DGMT Dagmar 34.90 348 P **P** **21 23 02.1 +1.5**
DGMT IAmb IAmb 21 23 09.4
comp=Z,54nm,1.1s
DGMT Dagmar 34.90 348 P **P** **21 22 57.6 -3.0**
baz=162
WVOR Wild Horse Val 35.04 327 IAmb IAmb 21 23 17.4
comp=Z,57nm,1.2s
BOAV Boa Vista 35.09 107 *eP* **P** **21 23 01.3 -1.4**
GDXM Geysers 35.11 319 P **P** **21 23 03.8 +1.1**
O03E Paynes Creek 35.39 322 P **P** **21 23 04.4 -0.6**
baz=129
I63A Otisfield 35.52 29 P **P** **21 23 06.6 +0.6**
baz=221
J08A Circle Bar Ran 35.62 329 P **P** **21 23 07.6 +0.7**
ULM Lac du Bonnet 35.66 358 P **P** **21 23 04.5 -2.7**
comp=Z,8.4nm,0.6s,baz=170,slow=10,SNR=17
ULM LR LR 21 40 04.4
comp=Z,1µm,18.9s,baz=167,slow=40
ULM Lac du Bonnet 35.66 358 IAmb IAmb 21 23 13.2
comp=Z,29nm,1.0s
PLID Pearl Lake 35.75 333 IAmb IAmb 21 23 18.5
comp=Z,47nm,1.1s
EGMT Eagleton 35.89 342 IAmb IAmb 21 23 18.8
comp=Z,37nm,0.9s
EGMT Eagleton 35.89 342 P **P** **21 23 09.3 0.0**
baz=153,SNR=18
WDC Whiskeytown Da 36.01 322 P **P** **21 23 10.6 +0.4**
WDC pmax pmax
comp=Z,16nm,1.3s
WDC Whiskeytown Da 36.01 322 P **P** **21 23 10.6 +0.4**
KCPM Cahto Peak 36.12 320 P **P** **21 23 12.2 +0.9**
KCPM IAmb IAmb 21 23 36.4
comp=Z,36nm,1.2s
BMO Blue Mountains 36.16 331 IAmb IAmb 21 23 25.8
comp=Z,34nm,1.4s
MSO Missoula 36.30 337 IAmb IAmb 21 23 26.4
comp=Z,44nm,1.2s
MSO Missoula 36.30 337 P **P** **21 23 13.3 +0.5**
baz=146,SNR=12
N02D Trinity Center 36.35 322 P **P** **21 23 13.5 +0.2**
baz=128
M04C Macdoel 36.35 324 P **P** **21 23 14.3 +1.0**
baz=130
K05A Summer Lake 36.45 326 P **P** **21 23 15.9 +1.7**
KMRM Mail Ridge 36.51 320 P **P** **21 23 16.4 +1.8**
ETMB Extrema 36.59 130 *eP* **P** **21 23 14.0 -1.5**
YBH Yreka Blue Hor 36.82 323 P **P** **21 23 16.4 -1.0**
comp=Z,3.4nm,0.6s,baz=111,slow=4.2,SNR=10
YBH LR LR 21 39 57.0
comp=Z,3µm,21.4s,baz=148,slow=39
PTGA Pitinga 36.85 111 P **P** **21 23 16.8 -1.0**
comp=Z,12nm,0.7s,baz=303,slow=9.3,SNR=23
PTGA Pitinga 36.85 111 P **P** **21 23 16.8 -1.0**

PTGA IAmb IAmb 21 23 27.5
comp=Z,41nm,0.8s
L04D Klamath Falls 36.90 324 P **P** **21 23 18.4 +0.4**
baz=130
KHMM Horse Mountain 36.91 321 IAmb IAmb 21 23 29.8
comp=Z,28nm,0.9s
F10A Beach Ranch, E 36.98 333 IAmb IAmb 21 23 30.4
comp=Z,41nm,0.9s
J05D Fort Rock, OR 37.01 326 P **P** **21 23 19.1 +0.2**
baz=132
JCC Jacoby Creek, 37.06 321 **P** **21 23 20.2 +1.1**
JTMT Jette 37.19 337 IAmb IAmb 21 23 31.7
comp=Z,28nm,1.1s
F62A Pittston Farm, 37.20 28 P **P** **21 23 22.1 +1.7**
baz=220
G08A Pilot Rock 37.26 330 **PcP** **21 25 41.3 +0.9**
MACA Manacapuru-AM 37.32 116 *e*P **P** **21 23 20.3 -1.4**
J04D Umpqua Nationa 37.45 325 P **P** **21 23 23.4 +0.6**
baz=131
KBO Bosley Butte 38.01 322 P **P** **21 23 29.4 +2.0**
WALA Waterton Lakes 38.16 339 P **P** **21 23 29.8 +1.2**
F07A Phinny Hill Vi 38.17 330 P **P** **21 23 28.9 +0.3**
E08A Dider Farm, El 38.20 332 P **P** **21 23 31.2 +2.4**
HAWA Hanford 38.35 331 P **P** **21 23 31.7 +1.7**
SAML Samuel 38.37 126 P **P** **21 23 27.7 -2.9**
SAML pmax pmax
comp=Z,20nm,0.9s
SAML Samuel 38.37 126 P **P** **21 23 27.7 -2.9**
SAML Samuel 38.37 126 *e*P **P** **21 23 28.2 -2.4**
G05D Wamic, OR 38.39 328 P **P** **21 23 29.9 -0.5**
baz=134
J01E Myrtle Point 38.42 324 P **P** **21 23 32.1 +1.4**
baz=129
I03D Drain, OR 38.44 325 P **P** **21 23 31.9 +1.2**
baz=130
H04A Detroit Lake 38.46 327 IAmb IAmb 21 23 41.3
comp=Z,60nm,1.1s
KEBM Edson Butte 38.48 323 P **P** **21 23 32.2 +0.9**
BUCK Buck Mountain 38.56 326 P **P** **21 23 32.6 +0.6**
BUCK IAmb IAmb 21 23 43.6
comp=Z,71nm,1.3s
D08A Wollman Farm, 38.56 332 P **P** **21 23 32.8 +0.9**
E07A Sunnyside 38.62 331 P **P** **21 23 33.7 +1.3**
H04D Lebanon 38.64 326 P **P** **21 23 32.6 +0.1**
baz=132
NEW Newport 38.73 335 P **P** **21 23 33.3 +0.1**
comp=Z,5.8nm,0.6s,baz=148,slow=6.1,SNR=9.0
NEW LR LR 21 42 19.8
comp=Z,2µm,19.5s,baz=151,slow=41
NEW Newport 38.73 335 P **P** **21 23 32.8 -0.5**
baz=142
F05D White Salmon 38.91 329 P **P** **21 23 35.1 +0.3**
baz=134
I02D Swisshome 38.97 325 P **P** **21 23 37.3 +2.0**
baz=130
COR Corvallis 38.99 326 P **P** **21 23 38.0 +2.6**
COR pmax pmax
comp=Z,69nm,1.2s
COR Corvallis 38.99 326 P **P** **21 23 38.0 +2.6**
COR IAmb IAmb 21 23 54.5
comp=Z,69nm,1.2s
G03D McMinnville, O 39.38 327 P **P** **21 23 39.3 +0.6**
baz=132
F04A Amboy 39.43 328 P **P** **21 23 40.8 +1.7**
LTY Liberty 39.51 331 IAmb IAmb 21 23 49.5
comp=Z,49nm,1.4s
LPAZ La Paz 39.82 139 P **P** **21 23 41.8 -1.6**
comp=Z,9.4nm,0.9s,baz=324,slow=6.8,SNR=19
LPAZ LR LR 21 38 30.9
comp=Z,1µm,21.4s,baz=328,slow=34
D05A Enumclaw 40.09 330 P **P** **21 23 46.4 +1.9**
D05A IAmb IAmb 21 23 56.3
comp=Z,32nm,1.0s
C06D Leavenworth 40.10 332 P **P** **21 23 45.0 +0.3**
baz=137
E03A Lebam 40.43 328 P **P** **21 23 49.7 +2.3**
E03A IAmb IAmb 21 23 60.0
comp=Z,60nm,1.0s
FFC Flin Flon 40.60 353 P **P** **21 23 50.0 +1.3**
FFC pmax pmax
comp=Z,12nm,1.0s
FFC Flin Flon 40.60 353 P **P** **21 23 50.0 +1.3**
B06A Marblemount 40.81 332 P **P** **21 23 52.0 +1.5**
B05A Bryant 40.91 331 P **P** **21 23 51.1 -0.2**
baz=136
NLWA Neilton Lookou 41.15 329 P **P** **21 23 54.9 +1.5**
NLWA IAmb IAmb 21 24 05.6
comp=Z,44nm,1.2s
EDM Edmonton 41.56 342 P **P** **21 23 56.7 +0.1**
EDM pmax pmax
comp=Z,57nm,1.0s
EDM Edmonton 41.56 342 P **P** **21 23 56.7 +0.1**
EDM IAmb IAmb 21 24 05.5
comp=Z,57nm,1.0s
PB11 IPOC Station P 41.60 144 P **P** **21 23 57.3 -0.1**
PB11 IAmb IAmb 21 23 58.5
comp=Z,64nm,1.1s
TA02 Huaiquique 41.74 145 P **P** **21 23 57.8 -0.7**
TA02 IAmb IAmb 21 23 59.5
comp=Z,42nm,1.2s
TA01 Diego Aracena 41.95 146 P **P** **21 23 59.8 -0.3**
TA01 IAmb IAmb 21 24 09.3
comp=Z,45nm,1.1s
ITTB Itatuba 42.24 114 *e*P **P** **21 24 00.6 -2.1**
MALB Monte Alegre 42.49 109 *e*P **P** **21 24 04.5 -0.3**
LLLB Lilooet 42.52 334 IAmb IAmb 21 24 14.8
comp=Z,42nm,1.1s
PB07 IPOC Station P 43.05 146 P **P** **21 24 09.0 -0.3**
VILB Vilhena 43.12 128 *e*P **P** **21 24 09.1 -0.8**
PB04 IPOC Station P 43.41 147 P **P** **21 24 11.5 -0.7**
PB04 IAmb IAmb 21 24 36.3
comp=Z,80nm,1.5s
PB09 IPOC Station P 43.46 146 IAmb IAmb 21 24 17.1
comp=Z,50nm,1.3s
NPGB Novo Progresso 43.83 117 *e*P **P** **21 24 13.2 -2.4**
MCPB Macapa, AP 43.96 106 *e*P **P** **21 24 15.3 -1.4**
PB06 IPOC Station P 44.02 147 IAmb IAmb 21 24 18.2
comp=Z,44nm,1.2s
RPN Rapa Nui 44.03 200 P **P** **21 24 17.3 +0.4**
comp=Z,98nm,0.5s,baz=359,slow=2.2,SNR=4.7
RPN LR LR 21 37 49.1
comp=Z,830nm,20.7s,baz=20,slow=30
RPN Rapa Nui 44.03 200 IAmb IAmb 21 24 19.3
comp=Z,155nm,0.8s
FCC Fort Churchill 44.16 360 IAmb IAmb 21 24 24.6
comp=Z,34nm,1.0s
LVC Limon Verde 44.29 146 P **P** **21 24 19.1 -0.4**
comp=Z,10nm,0.8s,baz=310,slow=5.7,SNR=5.8
LVC LR LR 21 41 53.8
comp=Z,772nm,18.6s,baz=323,slow=35
LVC Limon Verde 44.29 146 P **P** **21 24 19.5 0.0**
LVC Limon Verde 44.29 146 *e*P **P** **21 24 18.1 -1.4**
SIV San Ignacio 44.41 132 P **P** **21 24 18.7 -1.4**
comp=Z,15nm,0.8s,baz=328,slow=7.8,SNR=38
PB15 IPOC Station P 44.48 147 P **P** **21 24 21.4 +0.6**
AF01 San Pedro de A 44.97 146 P **P** **21 24 25.4 +0.6**
SCHQ Schefferville 45.40 22 P **P** **21 24 27.4 -0.1**
comp=Z,1.9nm,0.6s,baz=217,slow=17,SNR=2.0
SCHQ LR LR 21 44 58.9
comp=Z,3µm,19.3s,baz=216,slow=38
SCHQ Schefferville 45.40 22 IAmb IAmb 21 24 34.1
comp=Z,16nm,1.2s
CLDB Colider 45.43 122 *e*P **P** **21 24 26.1 -2.2**
PTLB Pontes e Lacer 45.48 130 *e*P **P** **21 24 27.3 -1.4**
BBB Bella Bella 46.41 331 P **P** **21 24 36.5 +1.0**
comp=Z,6.4nm,1.0s,baz=128,slow=6.4,SNR=3.5
BBB LR LR 21 47 26.6
comp=Z,2µm,18.4s,baz=156,slow=40
AC06 Mina Casimiro 47.50 151 P **P** **21 24 45.0 +0.6**
AC06 IAmb IAmb 21 24 45.4
comp=Z,26nm,0.8s
AC02 Maricunga 47.64 150 IAmb IAmb 21 24 47.9
comp=Z,36nm,0.9s
PRPB Parauapebas 48.32 112 *e*P **P** **21 24 50.4 -0.6**
SALV Santo Antonio 48.37 127 *e*P **P** **21 24 49.6 -1.7**
TMAB Tom-Au,PA,Br 48.38 107 *e*P **P** **21 24 52.6 +1.1**
LCO Las Campanas 48.75 153 *e*P **P** **21 24 54.1 -0.2**
LCO Las Campanas 48.75 153 P **P** **21 24 54.1 -0.2**
SNDB Serra Nova Dou 49.76 120 *e*P **P** **21 24 59.8 -2.2**
CO06 Fray Jorge 49.79 155 P **P** **21 25 02.2 +0.3**
PP1B Ponte de Pedra 50.01 128 *e*P **P** **21 25 02.7 -1.1**
YKA Yellowknife Ar 50.10 348 P **P** **21 25 03.0 -0.9**
comp=Z,10nm,0.6s,baz=149,slow=7.8,SNR=32
AQDB Aquidauana 51.19 132 IAmb IAmb 21 25 12.8
comp=Z,30nm,1.3s
AQDB Aquidauana 51.19 132 *e*P **P** **21 25 11.3 -1.4**
ARAG Araguaiana, MT 51.31 124 *e*P **P** **21 25 12.1 -1.6**
DLBC Dease Lake 51.43 337 P **P** **21 25 14.9 +0.8**
comp=Z,7.0nm,0.7s,baz=133,slow=5.3,SNR=8.5
DLBC LR LR 21 47 09.4
comp=Z,1µm,18.1s,baz=138,slow=36
DLBC Dease Lake 51.43 337 P **P** **21 25 15.1 +1.0**
SMTB Santa Maria do 51.48 114 *e*P **P** **21 25 14.2 -0.8**
ZON Zonda 51.81 152 IAmb IAmb 21 25 18.7
comp=Z,59nm,1.2s
VA01 Torpederas 51.85 156 P **P** **21 25 17.2 -0.1**
FRB Frobisher Bay 52.23 14 P **P** **21 25 17.4 -2.4**
comp=Z,5.3nm,0.6s,baz=223,slow=11,SNR=7.8
FRB LR LR 21 51 07.7
comp=Z,1µm,18.8s,baz=208,slow=40
ROSB Rosrio 52.27 105 *e*P **P** **21 25 21.6 +0.8**
PEXB Peixe 52.36 118 *e*P **P** **21 25 20.5 -1.1**
MT01 Popeta 52.74 156 IAmb IAmb 21 25 32.3
comp=Z,44nm,1.4s
MT09 Talagante 52.77 156 IAmb IAmb 21 25 28.7
comp=Z,41nm,1.1s
TGTN Hyland Airport 53.00 340 P **P** **21 25 26.4 +0.8**
baz=137,SNR=5.8
BO02 Sierra Bellavi 53.74 156 P **P** **21 25 31.2 -0.3**
BO02 IAmb IAmb 21 25 32.4
comp=Z,44nm,1.4s
CPUP Villa Florida 53.99 139 P **P** **21 25 30.5 -2.8**
comp=Z,18nm,1.1s,baz=322,slow=9.0,SNR=9.9
CPUP LR LR 21 49 40.0
comp=Z,713nm,18.3s,baz=328,slow=37
CPUP Villa Florida 53.99 139 IAmb IAmb 21 25 33.3
comp=Z,61nm,1.5s
CPUP Villa Florida 53.99 139 *e*P **P** **21 25 31.2 -2.1**
SKAG Skagway 54.19 335 P **P** **21 25 33.9 -0.4**
SKAG IAmb IAmb 21 26 00.8
comp=Z,42nm,1.3s
BDFB Brasilia 54.37 122 P **P** **21 25 34.8 -1.6**
comp=Z,36nm,1.0s,baz=290,slow=7.6,SNR=28
ITRB Iturama 54.71 127 *e*P **P** **21 25 40.0 +1.3**
WHY Whitehorse 54.76 337 P **P** **21 25 39.4 +0.8**
WHY Whitehorse 54.76 337 P **P** **21 25 38.6 0.0**
baz=129
MMPY Sheldon Lake, 54.77 340 P **P** **21 25 38.9 +0.3**
baz=134
PCMB Pacaembu 55.14 130 *e*P **P** **21 25 40.2 -1.6**
FARO Faro, Yukon 55.21 339 P **P** **21 25 42.4 +0.6**
baz=132
NBPS Pedro II - PI 55.29 106 *e*P **P** **21 25 42.3 -0.8**
SDBA SAO DESIDERIO 55.43 116 *e*P **P** **21 25 42.5 -1.5**
IPMB Ipameri, GO 55.44 124 *e*P **P** **21 25 42.9 -1.2**
HYT Haines Junctio 55.88 336 **P** **21 25 47.7 +0.9**
HYT IAmb IAmb 21 25 57.4
comp=Z,42nm,1.4s
HYT Haines Junctio 55.88 336 P **P** **21 25 47.2 +0.5**
baz=126
YUK6 Outpost Mounta 56.29 336 P **P** **21 25 49.5 -0.2**
baz=125
PTGB Pitanga 56.46 133 *e*P **P** **21 25 49.1 -2.2**
YUK4 Talbot Arm 56.63 336 P **P** **21 25 52.6 +0.4**
baz=125
ITQB Itaqui 56.78 141 P **P** **21 25 51.9 -1.5**
ITQB Itaqui 56.78 141 *e*P **P** **21 25 52.3 -1.1**
BB19B Bebedouro 56.89 127 *e*P **P** **21 25 53.2 -1.1**
LC01 Cunco 57.00 160 IAmb IAmb 21 25 55.6
comp=Z,44nm,1.1s
JANB Januaria 57.17 119 *e*P **P** **21 25 55.2 -1.3**
YAH Yahtse 57.36 334 P **P** **21 25 58.5 +1.2**
FRTB Fartura 57.43 130 *e*P **P** **21 25 56.8 -1.4**
NBPB Pedra_Branca-C 57.44 106 *e*P **P** **21 25 59.1 +0.7**
CTGM Chitina Glacie 57.51 335 P **P** **21 25 59.4 +1.1**
CTGM IAmb IAmb 21 26 17.2
comp=Z,27nm,1.2s
LR03 Panguipulli 57.51 160 P **P** **21 25 58.4 +0.1**
GRNC Granite Creek 57.56 334 P **P** **21 25 59.5 +0.7**
YUK3 Moose Creek 57.59 336 P **P** **21 25 57.4 -1.6**
baz=124
BARN Barnard Glacie 57.69 335 P **P** **21 26 00.8 +1.1**
BARN IAmb IAmb 21 26 10.9
comp=Z,26nm,1.0s
TGL Tana Glacier 58.02 334 P **P** **21 26 02.8 +0.9**
BVCY Beaver Creek 58.11 336 P **P** **21 26 02.1 -0.3**
baz=124
NBCL Cascavel-CE 58.18 104 *e*P **P** **21 26 05.0 +1.3**
MC01 Montes Claros 58.28 120 *e*P **P** **21 26 03.0 -1.3**
RCLB Rio Claro- Sao 58.42 128 *e*P **P** **21 26 03.6 -1.5**
MCARA McCarthy VSAT 58.42 335 P **P** **21 26 05.4 +0.8**
baz=121
M27K Edge Creek, AK 58.47 336 P **P** **21 26 06.5 +1.5**
M27K IAmb IAmb 21 26 22.8
comp=Z,38nm,1.5s
VRDI Verde Repeater 58.52 334 P **P** **21 26 07.2 +1.7**
VRDI IAmb IAmb 21 26 15.6
comp=Z,28nm,1.2s
LL04 Puerto Octay 58.65 161 P **P** **21 26 06.3 0.0**
LL04 IAmb IAmb 21 26 18.7
comp=Z,24nm,1.2s
L27K Beaver Creek, 58.84 337 IAmb IAmb 21 26 19.3
comp=Z,37nm,1.3s
L27K Beaver Creek, 58.84 337 P **P** **21 26 08.0 +0.6**
baz=123,SNR=6.6
NBMA Muriti-CE 58.85 108 *e*P **P** **21 26 08.5 +0.1**
BMRM Bremner River 58.88 334 P **P** **21 26 09.6 +1.8**
BMRM IAmb IAmb 21 26 18.7
comp=Z,38nm,1.2s
BMRM Bremner River 58.88 334 P **P** **21 26 08.8 +1.0**
baz=119
NBPN Ponto Novo - B 58.90 112 *e*P **P** **21 26 07.3 -1.3**
M26K Nabesna, AK 58.94 336 IAmb IAmb 21 26 18.8
comp=Z,39nm,1.2s
M26K Nabesna, AK 58.94 336 P **P** **21 26 08.9 +0.7**
baz=121
EPYK Eagle Plains 59.04 341 P **P** **21 26 09.7 +0.9**
EPYK IAmb IAmb 21 26 17.8
comp=Z,20nm,1.0s
EPYK Eagle Plains 59.04 341 P **P** **21 26 09.1 +0.3**
baz=130
PLCA Paso Flores 59.09 159 P **P** **21 26 08.2 -1.3**
comp=Z,24nm,1.2s,baz=348,slow=8.1,SNR=10
PLCA LR LR 21 45 29.4
comp=Z,447nm,21.3s,baz=350,slow=30
PLCA Paso Flores 59.09 159 IAmb IAmb 21 26 10.2
comp=Z,35nm,1.2s
PLCA Paso Flores 59.09 159 *e*P **P** **21 26 08.8 -0.7**
VAO Valinhos 59.18 128 *e*P **P** **21 26 08.5 -2.0**
N25K Chitina, Valde 59.19 334 P **P** **21 26 11.1 +1.2**
N25K Chitina, Valde 59.19 334 P **P** **21 26 09.0 -1.0**
baz=119
CPSB Cacapava Do Su 59.27 139 *e*P **P** **21 26 09.6 -1.2**
DIAM Diamantina, MG 59.29 122 *e*P **P** **21 26 10.4 -0.9**
L26K Log Cabin Wild 59.40 336 P **P** **21 26 11.9 +0.5**
baz=121
INK Inuvik 59.42 344 P **P** **21 26 10.9 -0.3**
comp=Z,11nm,0.6s,baz=125,slow=6.6,SNR=16
INK LR LR 21 54 21.9
comp=Z,1µm,19.4s,baz=148,slow=39
INK Inuvik 59.42 344 P **P** **21 26 11.0 -0.3**
baz=134,SNR=5.9
HIN Hinchinbrook I 59.44 333 P **P** **21 26 12.9 +1.2**
DIV Divide 59.46 334 P **P** **21 26 12.3 +0.5**
K27K Chicken 59.46 338 IAmb IAmb 21 26 21.6
comp=Z,31nm,1.1s
MENT Mentasta 59.50 336 IAmb IAmb 21 26 21.8
comp=Z,42nm,1.4s
EGAK Eagle 59.54 339 IAmb IAmb 21 26 22.9
comp=Z,16nm,0.9s
EGAK Eagle 59.54 339 P **P** **21 26 12.0 -0.2**
baz=124
KHLH Kahului Airpor 59.59 286 P **P** **21 26 13.9 +0.7**
SFJD Kangerlussuaq 59.59 18 P **P** **21 26 11.2 -1.3**
comp=Z,7.3nm,1.0s,baz=226,slow=5.6,SNR=2.2
SFJD Kangerlussuaq 59.59 18 IAmb IAmb 21 26 19.0
comp=Z,16nm,1.1s
PET01 Itanhaem-SP 59.68 130 *e*P **P** **21 26 12.9 -0.8**
KLU Klutina 59.69 334 P **P** **21 26 11.9 -1.5**
baz=118
BSCB Bom Sucesso 59.78 125 *e*P **P** **21 26 14.3 -0.3**
HARP HAARP 59.81 335 P **P** **21 26 14.4 +0.2**
baz=119
GLI Glacier Island 59.92 333 P **P** **21 26 14.6 -0.3**
LL01 San Ignacio de 59.98 162 P **P** **21 26 15.7 +0.2**
LL01 IAmb IAmb 21 26 16.9
comp=Z,36nm,1.3s
M24K Tolsona, Glenn 60.09 335 P **P** **21 26 18.1 +2.0**
M24K Tolsona, Glenn 60.09 335 P **P** **21 26 17.1 +1.0**
baz=118
PLTB Pedras Altas 60.10 141 IAmb IAmb 21 26 16.0
comp=Z,35nm,1.1s
PLTB Pedras Altas 60.10 141 *e*P **P** **21 26 14.8 -1.7**
SCRK Sand Creek 60.14 337 IAmb IAmb 21 26 28.3
comp=Z,32nm,1.2s
SCRK Sand Creek 60.14 337 P **P** **21 26 16.5 0.0**
baz=121,SNR=13
RES Resolute Bay 60.16 360 P **P** **21 26 15.7 -0.6**
comp=Z,10nm,0.5s,baz=196,slow=3.0,SNR=5.3
PAX Paxson 60.21 336 P **P** **21 26 17.4 +0.4**
PAX pmax pmax
comp=Z,40nm,1.2s
PAX Paxson 60.21 336 P **P** **21 26 17.4 +0.4**
PAX IAmb IAmb 21 26 28.4
comp=Z,40nm,1.2s
PAX Paxson 60.21 336 P **P** **21 26 16.4 -0.6**
baz=119,SNR=8.3
CNLB Canela 60.23 137 *e*P **P** **21 26 16.4 -1.2**
TRQA Tornquist 60.28 151 P **P** **21 26 16.5 -1.1**
TRQA pmax pmax
comp=Z,47nm,1.2s
TRQA Tornquist 60.28 151 P **P** **21 26 16.5 -1.1**
TRQA Tornquist 60.28 151 *e*P **P** **21 26 16.6 -1.1**
GO07 Milladeo Hill, 60.29 163 P **P** **21 26 18.0 +0.4**
RIDG Independent Ri 60.35 337 P **P** **21 26 19.2 +1.4**
RIDG Independent Ri 60.35 337 P **P** **21 26 17.1 -0.8**
baz=120,SNR=12
PARB Paraibuna 60.39 128 *e*P **P** **21 26 18.3 -0.4**
NBLV Livramento - P 60.55 107 *e*P **P** **21 26 20.4 +0.3**
GDU01 Guandu, BA 60.66 115 *e*P **P** **21 26 20.9 +0.3**
KNK Knik Glacier 60.75 333 P **P** **21 26 21.6 +1.0**
KNK Knik Glacier 60.75 333 P **P** **21 26 19.1 -1.5**
baz=115
SML Sawmill 60.86 334 P **P** **21 26 21.0 -0.4**
baz=116
WAT6 Susitna Watana 60.95 335 P **P** **21 26 22.0 -0.1**
baz=117,SNR=6.4
RCBR Riachuelo 60.97 105 P **P** **21 26 22.8 0.0**
RCBR pmax pmax
comp=Z,54nm,1.2s
RCBR Riachuelo 60.97 105 P **P** **21 26 22.8 0.0**
RCBR Riachuelo 60.97 105 *e*P **P** **21 26 23.6 +0.7**
J25K Salcha River, 60.99 337 P **P** **21 26 22.0 -0.3**
baz=120,SNR=6.8
DHY Denali Highway 61.03 335 P **P** **21 26 24.3 +1.7**
DHY IAmb IAmb 21 26 31.4
comp=Z,19nm,1.2s
DHY Denali Highway 61.03 335 P **P** **21 26 24.1 +1.4**
baz=117
BRSE Bradley Lake S 61.10 331 P **P** **21 26 24.0 +1.0**
baz=112
PMR Palmer 61.11 333 P **P** **21 26 24.4 +1.4**
PMR pmax pmax
comp=Z,32nm,1.1s
PMR Palmer 61.11 333 P **P** **21 26 24.4 +1.4**
PMR IAmb IAmb 21 26 33.0
comp=Z,32nm,1.1s
NBLA Lagarto - SE 61.13 111 *e*P **P** **21 26 22.4 -1.5**
RC01 Rabbit Creek A 61.17 333 P **P** **21 26 25.7 +2.3**
RC01 Rabbit Creek A 61.17 333 P **P** **21 26 23.9 +0.5**
baz=114
BRLK Bradley Lake 61.18 331 P **P** **21 26 25.4 +1.8**
KDAK Kodiak Island 61.30 329 P **P** **21 26 23.9 -0.4**
comp=Z,6.4nm,0.9s,baz=127,slow=5.1,SNR=5.2
KDAK Kodiak Island 61.30 329 IAmb IAmb 21 26 34.6
comp=Z,38nm,1.4s
KDAK Kodiak Island 61.30 329 P **P** **21 26 22.9 -1.5**
baz=109
NBIT Itapeh - BA 61.30 116 *e*P **P** **21 26 25.5 +0.5**
WAT1 Susitna Watana 61.40 335 P **P** **21 26 24.1 -0.9**
baz=116
CMC01 Camacan, BA 61.42 117 *e*P **P** **21 26 26.1 +0.3**
HDA Harding Lake 61.48 337 P **P** **21 26 26.1 +0.6**
HDA Harding Lake 61.48 337 P **P** **21 26 25.7 +0.2**
baz=118
PRP Porcupine Dome 61.50 338 P **P** **21 26 25.2 -0.6**
baz=120,SNR=8.0
VAS01 Vassouras-RJ 61.51 126 *e*P **P** **21 26 26.6 +0.3**
SJMB Sao Joao De Ma 61.54 121 *e*P **P** **21 26 25.6 -1.0**
ILAR Eielson Array 61.63 337 P **P** **21 26 25.6 -1.0**
comp=Z,6.5nm,0.7s,baz=139,slow=4.8,SNR=36
GUA01 Guaratinga, BA 61.72 118 *e*P **P** **21 26 28.3 +0.5**
NBPV Pedro Velho 61.74 106 *e*P **P** **21 26 28.4 +0.3**
SUA Susitna One 61.77 333 P **P** **21 26 27.9 +0.3**
baz=113
BSFB Barra de Sao F 61.88 121 *e*P **P** **21 26 28.0 -0.9**
CCB Clear Creek Bu 61.92 337 IAmb IAmb 21 26 40.9
comp=Z,29nm,1.5s
CUT Chulitna 61.94 334 P **P** **21 26 29.7 +1.1**
CUT Chulitna 61.94 334 P **P** **21 26 29.6 +1.1**
baz=114
MCK McKinley 61.95 336 P **P** **21 26 28.2 -0.5**
baz=116,SNR=6.4
WRH Wood River Hil 61.95 337 IAmb IAmb 21 26 44.8
comp=Z,16nm,1.1s
NBAN Anadia - AL 61.99 109 *e*P **P** **21 26 29.5 -0.2**
POKR Poker Plat Res 62.00 337 IAmb IAmb 21 26 38.8
comp=Z,38nm,1.1s
POKR Poker Plat Res 62.00 337 P **P** **21 26 28.7 -0.3**
baz=118
NAN01 Guarapari, ES 62.02 120 *e*P **P** **21 26 30.1 +0.3**
TCOL CIGO, UAF Yank 62.05 337 P **P** **21 26 31.2 +1.9**
O20K Slope Mountain 62.11 331 P **P** **21 26 30.2 +0.3**
baz=110
MDM Murphy Dome 62.23 337 IAmb IAmb 21 26 41.1
comp=Z,33nm,1.4s
DUB01 Friburgo-RJ 62.25 125 *e*P **P** **21 26 29.9 -1.5**
SKT Skwentna 62.32 333 P **P** **21 26 31.8 +0.6**
SKT Skwentna 62.32 333 P **P** **21 26 30.6 -0.5**
baz=112,SNR=5.6
SPCR Spurr Chakacha 62.32 332 P **P** **21 26 30.8 -0.5**
baz=112
TRF Thorofare Moun 62.38 335 P **P** **21 26 31.5 -0.3**
baz=114
NEA2 Nenana 62.38 336 IAmb IAmb 21 26 47.5
comp=Z,29nm,1.4s
NEA2 Nenana 62.38 336 P **P** **21 26 30.9 -0.6**
baz=116
RIB01 Linhares ES 62.49 121 *e*P **P** **21 26 31.8 -1.1**
H24K Noodor Dome 62.51 338 P **P** **21 26 31.4 -1.1**
baz=118,SNR=12
NBRF Rio Formoso - 62.68 108 *e*P **P** **21 26 34.4 +0.1**
CAM01 Campos-RJ 62.69 124 *e*P **P** **21 26 34.2 0.0**
I23K Minto, Yukon-K 62.74 337 P **P** **21 26 33.5 -0.4**
baz=116,SNR=17
ALF01 Guarapari-ES 62.85 123 *e*P **P** **21 26 34.4 -0.9**
BPAW Bear Paw Mtn. 62.93 336 P **P** **21 26 34.4 -0.8**
baz=114,SNR=8.4
O19K Port Alsworth 62.95 331 P **P** **21 26 37.1 +1.8**
PPLA Purkeypile 62.95 334 P **P** **21 26 36.7 +1.1**
PPLA Purkeypile 62.95 334 P **P** **21 26 35.1 -0.4**
baz=112,SNR=5.3
M20K Styx River 62.98 333 IAmb IAmb 21 26 44.8
comp=Z,16nm,1.0s
M20K Styx River 62.98 333 P **P** **21 26 35.7 0.0**
baz=111
CAST Castle Rocks 63.11 335 P **P** **21 26 34.8 -1.6**
baz=113,SNR=14
H23K Yukon River 63.11 338 P **P** **21 26 35.5 -0.9**
baz=116
MLY Manley 63.22 337 P **P** **21 26 36.4 -0.8**
baz=115,SNR=21
N19K Bonanza Creek 63.23 331 P **P** **21 26 37.1 -0.3**
baz=109
O18K Koktuh Hills 63.26 330 IAmb IAmb 21 26 47.1
comp=Z,30nm,1.2s
CHUM Lake Minchumin 63.38 335 P **P** **21 26 36.7 -1.4**
baz=113
L20K Farewell, AK 63.52 333 P **P** **21 26 38.1 -1.1**
baz=110,SNR=7.6
I21K Tanana 63.76 336 P **P** **21 26 40.0 -0.6**
baz=114
SVW2 Sparrevohn 63.83 332 IAmb IAmb 21 26 49.7
comp=Z,22nm,1.2s
L19K White Mountain 63.85 333 IAmb IAmb 21 26 52.3
comp=Z,21nm,1.1s
K20K Telida 63.91 334 P **P** **21 26 39.9 -1.9**
baz=111,SNR=10
CHGN Chignik 63.94 326 P **P** **21 26 43.7 +1.7**
COLD Coldfoot 63.97 339 IAmb IAmb 21 26 54.1
comp=Z,32nm,1.2s
COLD Coldfoot 63.97 339 P **P** **21 26 42.6 +0.6**
baz=116,SNR=5.7
ICESG Greenland Ices 64.17 19 *i* P **P** **21 26 42.4 -1.4**
ICESG IAMs_20 IAMs_20 21 57 30.1
comp=Z,2µm,15.6s

J20K Nowinta River 64.24 335 IAmb IAmb 21 26 54.6
comp=Z,35nm,1.1s
J20K Nowinta River 64.24 335 P **P** **21 26 42.5 -1.3**
baz=111,SNR=5.7
TOLK Toolik Lake Re 64.40 340 P **P** **21 26 46.1 +1.2**
TOLK IAmb IAmb 21 27 05.6
comp=Z,44nm,1.4s
TOLK Toolik Lake Re 64.40 340 P **P** **21 26 45.3 +0.4**
baz=118
TTA Tatalina 64.60 333 P **P** **21 26 47.4 +1.1**
TTA pmax pmax
comp=Z,39nm,1.0s
TTA Tatalina 64.60 333 P **P** **21 26 47.4 +1.1**
SUMG Summit 66.23 16 *i* P **P** **21 26 56.3 -0.8**
SUMG IAmb IAmb 21 26 59.6
comp=Z,20nm,0.7s
SUMG IAMs_20 IAMs_20 21 59 09.9
comp=Z,2μm,15.5s
SUMG Summit 66.23 16 P **P** **21 26 56.2 -0.9**
SUMG pmax pmax
comp=Z,44nm,0.9s
SUMG Summit 66.23 16 P **P** **21 26 56.2 -0.9**
NEEM North Greenlan 66.51 9 *i* P **P** **21 26 58.6 -0.1**
NEEM IAMs_20 IAMs_20 22 00 22.2
comp=Z,2μm,15.1s
UNV Unalaska Valle 68.14 322 P **P** **21 27 09.2 +0.2**
baz=95
RDOG Red Dog Mine 68.81 338 P **P** **21 27 13.9 +0.9**
baz=104
DAG Danmarks Havn 72.58 13 *i* P **P** **21 27 34.6 -1.2**
DAG IAmb IAmb 21 27 36.3
comp=Z,12nm,0.6s
DAG IAMs_20 IAMs_20 22 03 34.8
comp=Z,2μm,16.1s
NOR Nord 73.86 9 *i* P **P** **21 27 42.6 -0.7**
NOR IAMs_20 IAMs_20 22 06 25.4
comp=Z,2μm,13.8s
MORF Marmelete 77.63 54 *e*P **P** **21 28 07.1 +1.4**
MORF IAMs_20 IAMs_20 22 04 13.7
comp=Z,1μm,27.9s
MORF Marmelete 77.63 54 *e*P **P** **21 28 07.1 +1.4**
MESJ Messejana 77.88 54 *e*P **P** **21 28 08.5 +1.4**
MESJ *e*S **S** **21 38 00.2 +0.9**
MESJ IAMs_20 IAMs_20 22 04 44.4
comp=Z,676nm,15.4s
MESJ Messejana 77.88 54 *e*P **P** **21 28 08.4 +1.4**
MESJ *e*S **S** **21 38 00.2 +0.9**
SPA0 Spitsbergen Ar 79.94 11 *e*P **P** **21 28 18.1 +0.4**
SPITS Spitsbergen Ar 79.94 11 P **P** **21 28 16.6 -1.0**
comp=Z,1.8nm,0.5s,baz=306,slow=3.0,SNR=6.0
BILL Bilibino 80.28 338 *e*P **P** **21 28 19.5 -0.1**
BILL *e* 21 28 26.6
BILL *e* 21 31 25.1
BILL *e*PPP PPP 21 33 12.2
BILL pmax pmax
comp=Z,6.0nm,0.4s
BILL MLR MLR
comp=Z,631nm,18.0s
BILL Bilibino 80.28 338 P **P** **21 28 19.9 +0.3**
PAB San Pablo 80.57 52 P **P** **21 28 22.8 +0.9**
PAB pmax pmax
comp=Z,19nm,1.3s
PAB San Pablo 80.57 52 P **P** **21 28 22.8 +0.9**
ESDC Sonseca Array 80.84 51 P **P** **21 28 21.8 -1.5**
comp=Z,5.5nm,1.2s,baz=293,slow=5.0,SNR=14
ESDC LR LR 22 01 45.8
comp=Z,670nm,18.7s,baz=275,slow=34
BER Bergen 82.01 30 *e*P **P** **21 28 29.4 +0.5**
LOF Lofoten 82.98 21 *e*P **P** **21 28 34.7 +0.9**
SKAR Skarslia 83.33 29 *e*P **P** **21 28 35.8 -0.1**
KONS Konsvik 83.42 23 *e*P **P** **21 28 38.1 +1.9**
STEI Steigen 83.64 21 *e*P **P** **21 28 37.6 +0.4**
FAUS Fauske 83.88 22 *e*P **P** **21 28 39.6 +1.2**
MOR8 Moi Rana 84.04 23 *e*P **P** **21 28 40.4 +1.0**
TRO Tromso 84.15 19 *e*P **P** **21 28 40.9 +1.1**
HOMB Homborsund 84.17 31 *e*P **P** **21 28 40.5 +0.4**
KONO Kongsberg 84.27 30 *i* P **P** **21 28 40.2 -0.4**
KONO pmax pmax
comp=Z,8.0nm,0.9s
KONO Kongsberg 84.27 30 *e*P **P** **21 28 41.6 +0.9**
KONO Kongsberg 84.27 30 P **P** **21 28 42.0 +1.3**
DOU Dourbes 84.35 40 *d*P **P** **21 28 40.1 -1.1**
comp=Z,25nm,2.6s
DOU *d*pP **pP** **21 28 48.7 +1.4**
BMRD Maredsous 84.40 40 *d*P **P** **21 28 39.1 -2.4**
comp=Z,14nm,1.7s
BMRD *d*PcP **PcP** **21 28 45.8 +0.6**
BMRD *d*pP **sP** **21 28 49.8 -0.1**
NB2 NORSAR Subarra 84.56 28 P **P** **21 28 42.1 -0.1**
comp=Z,311nm,3.3s,baz=294,slow=5.1
NB2 NORSAR Subarra 84.56 28 P **P** **21 28 42.1 -0.1**
baz=294,slow=5.1
NOA NORSAR Array B 84.56 28 P **P** **21 28 42.0 -0.1**
comp=Z,5.4nm,0.8s,baz=291,slow=5.0,SNR=23
NOA LR LR 22 05 15.9
comp=Z,710nm,19.8s,baz=295,slow=35
BGES Gesves 84.58 39 *d*P **P** **21 28 41.8 -0.6**
comp=Z,21nm,1.2s
JETT Jettan, Norway 84.65 19 *e*P **P** **21 28 43.8 +1.3**
BCLA Clavier 84.70 39 *d*P **P** **21 28 44.0 +1.0**
comp=Z,25nm,1.4s
OSL Oslo 84.71 29 *e*P **P** **21 28 43.5 +0.7**
BSTI Sart Tilman 84.81 39 *d*P **P** **21 28 44.2 +0.6**
BSTI *d*pP **sP** **21 28 51.3 -0.7**
NC602 NORSAR Array S 84.82 28 *e*P **P** **21 28 44.0 +0.6**
MEM Membach 85.08 39 *d*P **P** **21 28 44.2 -0.6**
comp=Z,22nm,1.4s
MEM *d*pP **pP** **21 28 51.4 +0.5**
BHOU Houvegnez 85.15 39 *d*P **P** **21 28 45.2 -0.1**
comp=Z,32nm,1.4s
BHOU *d*pP **pP** **21 28 52.5 +1.2**
BTNL Ternell 85.16 39 *d*P **P** **21 28 45.1 -0.3**
comp=Z,20nm,1.5s
WLF Walferdange 85.44 40 *d*P **P** **21 28 47.2 +0.4**
comp=Z,30nm,1.3s
WLF *d*pP **pP** **21 28 53.8 +1.0**
BUG Bochum--Univer 85.59 38 *e*P **P** **21 28 46.7 -0.7**
comp=Z,401nm,3.5s,baz=291,slow=4.8
AHRW Bad Neuenahr-A 85.75 39 *e*P **P** **21 28 48.4 +0.2**
comp=Z,19nm,1.1s,baz=291,slow=4.8
KTK1 Kautokeino 85.80 19 *e*P **P** **21 28 48.4 +0.2**
ARA0 ARCESS Array S 86.21 18 *e*P **P** **21 28 49.7 -0.5**
ARCES ARCESS Array B 86.21 18 P **P** **21 28 49.0 -1.2**
comp=Z,1.8nm,0.5s,baz=291,slow=3.9,SNR=15
ARCES ARCESS Array B 86.21 18 P **P** **21 28 49.0 -1.2**
KOWA Kowa 86.34 76 P **P** **21 28 51.6 -0.3**
KASTN Kahler Asten 86.35 38 *e*P **P** **21 28 50.3 -1.0**
comp=Z,16nm,1.3s,baz=291,slow=4.8
BSEG Bad Segeberg 86.54 35 *e*P **P** **21 28 51.9 -0.1**
comp=Z,70nm,1.7s,baz=291,slow=4.8
BSEG *e*L L 22 11 49.4
comp=Z,985nm,18.5s
TNS Taunus Mts 86.68 39 *e*L L 22 04 04.6
comp=Z,653nm,21.6s
NRDL Niedersach Rie 86.92 36 *e*P **P** **21 28 53.3 -0.5**
comp=Z,60nm,1.9s,baz=291,slow=4.8
BNI Bardonecchia 87.15 44 IAmb IAmb 21 29 04.5
comp=Z,28nm,1.1s
SENIN Lac Senin/Sane 87.17 43 IAmb IAmb 21 29 04.6
comp=Z,24nm,1.1s
BFO Black Forest 87.21 41 *e*P **P** **21 28 54.7 -0.8**
comp=Z,25nm,1.7s,baz=291,slow=4.8
BFO *e*L L 22 10 46.3
comp=Z,1μm,18.5s
TIC Toumodi 87.29 84 *e*PKP1 **P** **21 28 57.2 +0.6**
LIC Lamto 87.38 84 *e*PKP1 **P** **21 28 56.7 -0.3**
comp=Z,104nm,1.2s
DBIC Dimbokro 87.44 84 P **P** **21 28 55.8 -1.4**
comp=Z,9.3nm,1.0s,baz=280,slow=7.2,SNR=5.2
DBIC Dimbokro 87.44 84 P **P** **21 28 56.3 -0.9**
DBIC IAmb IAmb 21 29 06.1
comp=Z,28nm,1.2s
SEY Seymchan 87.51 335 P **P** **21 28 56.0 -0.6**
comp=Z,3.7nm,0.7s,baz=56,slow=3.6,SNR=12
SEY Seymchan 87.51 335 P **P** **21 28 56.0 -0.6**
KIC Kosan Boka 87.63 84 *e*PKP1 **P** **21 28 57.5 -0.7**
comp=Z,69nm,1.3s
MOX Moxa 88.44 38 *e*P **P** **21 29 00.2 -1.1**
comp=Z,87nm,2.5s,baz=291,slow=4.8
MOX *e*L L 22 09 27.2
comp=Z,1μm,19.2s
DAVA Damuels 88.54 41 *e*P **P** **21 29 02.5 +0.4**
comp=Z,11nm,0.8s
GRF Grafenberg Arr 88.55 39 *e*P **P** **21 29 01.8 0.0**
comp=Z,81nm,2.0s,baz=291,slow=4.8
GRF *e*L L 22 09 21.1
comp=Z,910nm,20.1s
AAL Aland 88.87 27 *e*P **P** **21 29 04.4 +1.4**
CLL Collm 89.01 37 *e*P **P** **21 29 03.0 -1.0**
CLL *i* pP **pP** **21 29 10.6 +0.6**
comp=Z,13nm,1.1s
CLL *e*sP **pwP** **21 29 16.0 +2.4**
CLL *e*PP **PP** **21 32 32.0 -1.4**
CLL *e*SKKSac S 21 39 42.0 -9.3
CLL *e*S **ScS** **21 39 57.0 +0.6**
CLL *e*PS **PS** **21 40 59.0 +1.2**
CLL LmV 22 08 00.0
comp=Z,600nm,21.9s
CLL LmH 22 10 00.0
comp=N,500nm,19.9s
CLL LmH 22 10 00.0
comp=E,400nm,19.1s
CLL Collm 89.01 37 *e*P **P** **21 29 02.0 -2.0**
CLL *i* *PP **pP** **21 29 10.6 +0.6**
CLL *e*S S 21 39 42.0 -9.3
CLL MLR MLR
comp=Z,600nm,21.9s
CLL Collm 89.01 37 *e*L L 22 08 48.9
comp=Z,572nm,21.8s
RETA Reutte 89.04 41 *i* P **P** **21 29 04.7 +0.4**
comp=Z,5.5nm,0.6s
NKC Novy Kostel 89.09 38 *e*P **P** **21 29 03.0 -1.4**
NKC *e* 21 29 11.9
NKC MLR MLR
comp=Z,1μm,17.3s
NKC Novy Kostel 89.09 38 *e*P **P** **21 29 03.0 -1.4**
NKC *e*pP **sP** **21 29 11.9 -1.0**
NKC AMS AMS 22 09 40.0
comp=Z,1μm,17.3s
FUR Furstenfeldbru 89.12 40 *e*L L 22 12 25.2
comp=Z,826nm,18.3s
FETA Feichten 89.18 41 *e*P **P** **21 29 05.5 +0.4**
comp=Z,5.9nm,0.7s
MOTA Moosalm 89.30 41 *e*P **P** **21 29 04.9 -0.8**
comp=Z,6.1nm,0.9s
MSSA Maissana 89.31 44 P **P** **21 29 05.6 0.0**
TIXI Tiksi 89.36 348 P **P** **21 29 03.3 -1.9**
comp=Z,2.1nm,0.5s,baz=54,slow=3.1,SNR=7.4
TIXI Tiksi 89.36 348 *i* P **P** **21 29 04.8 -0.4**
TIXI Tiksi 89.36 348 P **P** **21 29 04.2 -1.0**
TIXI IAmb IAmb 21 29 18.0
comp=Z,29nm,1.5s
SQTA Sankt Quirin 89.42 41 *e*P **P** **21 29 07.0 +0.8**
comp=Z,15nm,1.7s
WATA Walderalm 89.61 41 *e*P **P** **21 29 08.0 +0.9**
comp=Z,5.6nm,1.2s
WTTA Wattenberg 89.67 41 *e*P **P** **21 29 07.6 +0.2**
comp=Z,2.7nm,0.8s
BRG Berggiesshubel 89.73 37 *e*P **P** **21 29 07.3 0.0**
BRG Amp 21 29 09.8
comp=Z,4.4nm,1.0s
BRG Berggiesshubel 89.73 37 P P 21 29 14.8 +7.4
BRG Amp 21 29 16.1
comp=Z,36nm,1.4s
WET Wettzell 89.75 39 *e*L L 22 09 47.4
comp=Z,1μm,19.7s
KHC Kasperske Hory 90.18 39 *e*P **P** **21 29 08.4 -1.2**
KHC *e* 21 29 16.8
KHC MLR MLR
comp=Z,1μm,19.2s
KHC Kasperske Hory 90.18 39 *e*P **P** **21 29 08.4 -1.2**
KHC *e*pP **pP** **21 29 16.8 +1.2**
KHC *e*SKS **SKSac** **21 39 43.7 +4.0**
KHC AMS AMS 22 09 40.0
comp=Z,1μm,19.2s
PVCC Panska Ves 90.23 37 AMS AMS 22 12 50.0
comp=Z,800nm,17.0s
PRA Prague 90.33 38 AMS AMS 22 11 00.0
comp=Z,800nm,19.3s
GEC2 GERESS Array S 90.37 39 IAmb IAmb 21 29 19.1
comp=Z,24nm,1.3s
GEC2 GERESS Array S 90.37 39 *e*L L 22 05 55.0
comp=Z,1μm,21.7s
GERES GERESS Array B 90.37 39 P **P** **21 29 09.2 -1.4**
comp=Z,1.0nm,0.7s,baz=298,slow=2.9,SNR=8.7
GERES LR LR 22 10 53.0
comp=Z,722nm,18.6s,baz=310,slow=36
ABTA Abfaltersbach 90.42 41 *e*P **P** **21 29 10.0 -0.8**
comp=Z,20nm,1.4s
PRU Pruhonice 90.43 38 *e*P **P** **21 29 10.0 -0.6**
PRU *e* 21 29 17.5
PRU *e* 21 39 42.6
PRU MLR MLR
comp=Z,900nm,16.8s
PRU Pruhonice 90.43 38 *e*P **P** **21 29 10.0 -0.6**
PRU *e*pP **pP** **21 29 17.5 +0.8**
PRU *e*SKS **SKSac** **21 39 42.6 +1.6**
PRU AMS AMS 22 12 30.0
comp=Z,900nm,16.8s
GKP Gorka Klasztor 90.61 34 *e*P **P** **21 29 12.9 +1.5**
CKRC Cesky Krumlov 90.75 39 *e*SKS **SKSac** **21 39 46.1 +3.2**
CKRC AMS AMS 22 10 20.0
comp=Z,1μm,20.4s
FINES FINESS Array B 90.80 25 P **P** **21 29 10.8 -1.3**
comp=Z,1.5nm,0.6s,baz=320,slow=3.6,SNR=11
KBA Koelnbreinsper 90.82 41 *e*P **P** **21 29 12.8 0.0**
comp=Z,9.6nm,1.4s
CHVC Chvalec 91.07 37 *e*P **P** **21 29 13.4 -0.3**
CHVC *ex* x 21 29 20.3
CHVC AMS AMS 22 11 10.0
comp=Z,700nm,17.0s
UPC Upice 91.08 37 *e*SKS **SKSac** **21 39 52.1 +7.4**
UPC AMS AMS 22 13 20.0
comp=Z,800nm,18.1s
MOA Molln 91.10 40 *e*P **P** **21 29 14.1 +0.2**
comp=Z,9.3nm,1.4s
KSP Ksiaz 91.11 37 *e*P **P** **21 29 13.2 -0.6**
OSTC Ostas 91.18 37 *e*P **P** **21 29 14.0 -0.2**
OSTC *ex* x 21 29 21.4
OSTC *e*SKS **SKSac** **21 39 52.3 +7.0**
OSTC AMS AMS 22 11 00.0
comp=Z,700nm,18.0s
MYKA Terra Mystica 91.18 41 *e*P **P** **21 29 14.3 0.0**
comp=Z,12nm,1.4s
TREC Trest 91.27 38 AMS AMS 22 12 50.0
comp=Z,1μm,17.4s
DPC Dobruska-Polom 91.33 37 *e*P **P** **21 29 14.8 -0.1**
DPC *e* 21 29 22.0
DPC *e* 21 39 48.6
DPC MLR MLR
comp=Z,1μm,16.6s
DPC Dobruska-Polom 91.33 37 *e*P **P** **21 29 14.8 -0.1**
DPC *e*pP **pP** **21 29 22.0 +1.1**
DPC *e*SKS **SKSac** **21 39 48.6 +2.4**
DPC AMS AMS 22 13 40.0
comp=Z,1μm,16.6s
CADS Cadrg 91.40 41 *i* P **P** **21 29 14.1 -1.2**
CADS *e*SKSac **SKSac** **21 39 50.8 +3.9**
KRLC Kraliky 91.71 37 *e*P **P** **21 29 16.8 +0.1**
KRLC *e* 21 29 23.7
KRLC MLR MLR
comp=Z,800nm,16.6s
KRLC Kraliky 91.71 37 *e*P **P** **21 29 16.8 +0.1**
KRLC *e*pP **pP** **21 29 23.7 +1.0**
KRLC AMS AMS 22 14 00.0
comp=Z,800nm,16.6s
OBKA Obir 91.81 41 *e*P **P** **21 29 17.0 -0.3**
comp=Z,15nm,1.5s
KRUC Moravsky 91.91 38 *e*P **P** **21 29 18.4 +0.9**
VRAC Vranov 91.92 38 ⇑P P 21 29 25.1 +7.4
VRAC Vranov 91.92 38 ⇑P P 21 29 25.1 +7.5
VRAC Vranov 91.92 38 *e*P **P** **21 29 18.8 +1.2**
LJU Ljubljana 91.98 41 *e*P **P** **21 29 17.1 -0.8**
LJU *e*SKSac **SKSac** **21 39 50.8 +0.8**
LJU *e*S **S** **21 40 19.3 +0.5**
SOKA Soboth 92.05 41 *e*P **P** **21 29 18.1 -0.3**
comp=Z,14nm,1.3s
KEST Kesra 92.05 52 P **P** **21 29 16.8 -1.8**
comp=Z,1.6nm,0.5s,baz=300,slow=8.5,SNR=6.0
TORD Torodi Ar. Bea 92.05 76 P **P** **21 29 16.2 -2.7**
comp=Z,0.6nm,0.6s,baz=286,slow=4.9,SNR=7.8
CONA Conrad Observa 92.05 39 *e*P **P** **21 29 17.5 -0.9**
comp=Z,16nm,1.6s
ARSA Arzberg 92.12 40 *e*P **P** **21 29 18.3 -0.3**
comp=Z,9.9nm,1.6s
PDKS Podkum 92.27 41 *i* P **P** **21 29 18.3 -1.0**
MORC Moravsky Berou 92.28 37 ⇑P **P** **21 29 15.5 -3.8**
MORC Moravsky Berou 92.28 37 ⇑P **P** **21 29 15.5 -3.8**
MORC Moravsky Berou 92.28 37 *e*P **P** **21 29 20.7 +1.4**
OKC Ostrava-Krasne 92.61 37 *e*SKS **SKSac** **21 40 01.3 +7.9**
OKC AMS AMS 22 13 40.0
comp=Z,1μm,17.4s
ZST Bratislava 92.70 39 *e*P P 21 29 29.4 +8.2
ZST Bratislava 92.70 39 *e* P 21 29 29.4 +8.2
MODS Modra-Piesok 92.73 38 *e*P P 21 29 28.2 +6.8
MODS Modra-Piesok 92.73 38 *e* P 21 29 28.2 +6.8
JAVC Velka Javorina 92.75 38 *e*P **P** **21 29 21.5 0.0**
SMOL Smolenice 92.76 38 *e*P P 21 29 29.3 +7.8
SMOL Smolenice 92.76 38 *e* P 21 29 29.3 +7.8
PABE Paberze 93.02 30 *e*P **P** **21 29 23.9 +1.4**
SUW Suwalki 93.39 32 *e*P **P** **21 29 25.9 +1.7**
OJC Ojcow 93.39 36 *e*P **P** **21 29 24.0 -0.3**
VYHS Vyhne 93.61 38 *e*P P 21 29 32.1 +6.7
VYHS Vyhne 93.61 38 *e* P 21 29 32.1 +6.7
LANS Liptovska Anna 93.69 37 *e*P **P** **21 29 29.3 +3.5**
LANS *e* 21 29 34.4
LANS Liptovska Anna 93.69 37 *e*P **P** **21 29 29.3 +3.5**
LANS *e* 21 29 34.4
NIE Niedzica 94.05 37 *e*P **P** **21 29 28.2 +0.7**
KOVH Kovagotottos 94.22 40 *e*P **P** **21 29 29.9 +1.6**
PSZ Piszkesteto 94.50 38 *e*P **P** **21 29 31.5 +1.8**
MORH Mrgy, Hungar 94.50 40 ⇑P **P** **21 29 29.2 -0.3**
MORH Mrgy, Hungar 94.50 40 *e*P **P** **21 29 29.0 -0.6**
NACGM Naroch 94.70 30 *i* P **P** **21 29 29.3 -1.0**
CRVS Cervenica-Dubn 94.96 37 *e*P **P** **21 29 34.9 +3.3**
CRVS Cervenica-Dubn 94.96 37 *e*P **P** **21 29 34.9 +3.3**
CRVS *e* 21 29 39.5
KWP Kalwaria Pacla 95.32 36 *e*P **P** **21 29 32.2 -1.0**
KWP Kalwaria Pacla 95.32 36 P **P** **21 29 33.3 +0.1**
KWP pmax pmax
comp=Z,343nm,1.2s
KWP Kalwaria Pacla 95.32 36 P **P** **21 29 33.3 +0.1**
KOLS Kolonicke sedl 95.42 36 *e*P **P** **21 29 37.1 +3.4**
KOLS *e* 21 29 42.3
KOLS Kolonicke sedl 95.42 36 *e*P **P** **21 29 37.1 +3.4**
KOLS *e* 21 29 42.3
MNK Minsk 95.46 30 *i* P **P** **21 29 30.9 -2.8**
MNK *i* 21 33 21.2
MNK *i* PPP PPP 21 35 23.6
MNK *i* S **SKSac** **21 40 03.7 -4.9**
MNK *i* PS **PS** **21 42 06.6 -2.2**
MNK *i* SS **SS** **21 47 13.1 -2.8**
MNK *i* SSS SSS 21 50 58.7
MNK pmax pmax
comp=E,1.0nm,1.0s
MNK pmax pmax
comp=Z,4.0nm,1.0s
MNK pmax pmax
comp=N,4.0nm,1.0s
MNK MLR MLR
comp=N,136nm,18.0s
MNK MLR MLR
comp=Z,834nm,18.0s
MNK MLR MLR
comp=E,99nm,18.0s
MNK Minsk 95.46 30 *i* P **P** **21 29 30.9 -2.8**
comp=E,1.0nm,1.0s
MNK *i* P **P** **21 29 30.9 -2.8**
comp=N,4.0nm,1.0s
MNK *i* P **P** **21 29 30.9 -2.8**
comp=Z,4.0nm,1.0s,baz=304
MNK *i* PP **PP** **21 33 21.3 -2.7**
MNK *i* PPP PPP 21 35 23.6
MNK *i* S **SKSac** **21 40 03.7 -4.9**
MNK *i* PS **PS** **21 42 06.7 -2.2**
MNK *i* SS **SS** **21 47 13.1 -2.7**
MNK *i* SSS SSS 21 50 58.7
MNK *i* LQ LQ 22 03 50.1
MNK *i* LRM MLR 22 12 22.6
comp=N,136nm,18.2s
MNK *i* LRM MLR 22 12 22.9
comp=Z,834nm,18.2s
MNK *i* LRM MLR 22 12 23.3
comp=E,99nm,18.2s
UZH Uzhgorod 95.58 37 *e*P **P** **21 29 35.3 +0.9**
UZH *e* 21 29 42.2
FRGS Fruska Gora 95.71 41 ⇑P P 21 29 40.6 +5.5
LVV L'vov 95.97 35 *e*P P 21 29 42.7 +6.5
KLMR Klimovskoe 96.23 21 *e*P **P** **21 29 40.7 +3.6**
KLMR pmax pmax
comp=Z,11nm,1.5s
KLMR Klimovskoe 96.23 21 *e*P **P** **21 29 40.8 +3.6**
KLMR AMP 21 29 48.2
comp=Z,11nm,1.5s
SIRR Siria 96.34 39 ⇓P **P** **21 29 38.2 +0.2**
BZS Buzias 96.62 40 ⇓P **P** **21 29 39.1 -0.1**
BZS Buzias 96.62 40 ⇓P **P** **21 29 39.1 -0.1**
DRGR 96.72 38 ⇓P **P** **21 29 39.5 -0.3**
DRGR 96.72 38 ⇓P **P** **21 29 39.5 -0.3**
GZR Gura Zlata 97.45 39 ⇓P **P** **21 29 42.4 -0.7**
GZR Gura Zlata 97.45 39 ⇓P **P** **21 29 42.4 -0.7**
PRGR Permogore 97.64 18 *e*P Pdif 21 29 47.2 +3.7
PRGR pmax pmax
comp=Z,22nm,1.1s
BURAR Bucovina Array 97.78 37 ⇓P Pdif 21 29 51.2 +6.5
BURAR Bucovina Array 97.78 37 ⇓P Pdif 21 29 51.2 +6.6
BELA Belgrano 2 97.99 169 P **P** **21 29 43.9 -0.7**
AKASG Malin Array Be 98.29 33 P **P** **21 29 45.3 -1.3**
comp=Z,0.1nm,0.2s,baz=299,slow=4.0,SNR=1.5
AKASG LR LR 22 17 33.4
comp=Z,835nm,18.0s,baz=15,slow=38
ARR Arges 98.59 39 ⇑P Pdif 21 29 48.6 +0.3
OBN Obninsk 99.04 26 *e*P **Pdif** **21 29 52.2 +2.3**
OBN *e* 21 33 51.4
OBN *e*PPP PPP 21 35 55.1
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,928nm,19.0s
MOS Moscow 99.07 25 *e*P **Pdif** **21 29 56.4 +6.4**
ZALV Zalesovo Beam 111.79 1 PP **PP** **21 35 30.3 +5.0**
comp=Z,4.2nm,1.0s,baz=340,slow=8.1,SNR=6.8
SONM Songino Array 115.33 345 PP PP 21 35 56.9 +6.2
comp=Z,1.0nm,0.9s,baz=30,slow=4.0,SNR=4.9
HHC Hu-ho-hao-te 120.06 338 *e*PKP **PKPdf** **21 34 58.2 -2.1**
HHC LR LR
comp=Z,550nm,17.9s
HHC LR LR
comp=Z,380nm,17.0s
GEYT Alibeck 121.58 26 PKP **PKPdf** **21 35 00.9 -2.3**
comp=Z,12nm,0.5s,baz=356,slow=4.3,SNR=2.5
WMQ Urumqi 121.92 359 *e*PKP **PKiKP** **21 35 04.0 +0.1**
WMQ LR LR
comp=Z,410nm,23.1s
BOSA Boshof 122.25 115 PKP **PKPdf** **21 35 03.0 -1.8**
comp=Z,3.4nm,0.9s,baz=270,slow=6.1,SNR=3.6
NJ2 Nanjing 124.05 326 *e*PKP **PKiKP** **21 35 08.7 +0.4**
GTA Gaotai 124.84 347 *e*PKP **PKiKP** **21 35 10.4 +0.5**
GTA LR LR
comp=Z,210nm,18.2s
GTA LR LR
comp=Z,240nm,20.4s
GTA LR LR
comp=Z,170nm,18.9s
KSH Kashi 125.42 10 PKP **PKiKP** **21 35 17.1 +6.1**
STKA Stephens Creek 126.70 241 PKP **PKPdf** **21 35 11.1 -2.0**
comp=Z,8.5nm,1.1s,baz=93,slow=6.0,SNR=3.9
LZH Lanzhou 126.94 342 ⇑PKP **PKiKP** **21 35 15.3 +1.1**
LZH sPKP 21 35 26.0
LZH PP **PP** **21 37 16.0 +5.9**
LZH SKKS 21 44 01.3
LZH LR LR
comp=Z,670nm,17.6s
LZH LR LR
comp=Z,480nm,17.9s
LZH LR LR
comp=Z,580nm,20.1s
ENH Enshi 130.08 333 **PKPdf** **21 35 18.9 -0.8**
WRA Warramunga Arr 133.73 256 PKP **PKPdf** **21 35 25.2 -1.5**
comp=Z,1.5nm,0.6s,baz=90,slow=2.6,SNR=9.5
ASAR Alice Springs 134.09 251 PKP **PKPdf** **21 35 27.1 -0.3**
comp=Z,3.1nm,1.1s,baz=190,slow=2.2,SNR=6.4
ASAR Alice Springs 134.09 251 PKIKP **PKPdf** **21 35 26.6 -0.8**
ASAR Alice Springs 134.09 251 **PKPdf** **21 35 26.6 -0.8**
CHTO Chiang Mai 144.53 339 PKIKP **PKPab** **21 35 44.1 -0.7**
CHTO Chiang Mai 144.53 339 PKPdf **PKPab** **21 35 44.1 -0.7**
CMAR Chiang Mai Arr 144.86 338 PKP **PKPab** **21 35 44.8 -1.2**
comp=Z,20nm,1.0s,baz=347,slow=3.6,SNR=43
CMAR Chiang Mai Arr 144.86 338 pPKPdf pPKPdf 21 35 52.9 -0.5
UTTA Uttaradit 144.90 336 PKP PKPbc 21 35 46.4 +0.2
KAPI Kappang 145.56 283 PKPbc **PKPdf** **21 35 47.3 -1.0**
comp=Z,27nm,1.1s,baz=89,slow=3.2,SNR=8.3
KAPI Kappang 145.56 283 **PKPdf** **21 35 48.2 -0.2**

KAPI			pPKPdf	pPKPab	21 35 54.7	0.0
UMPA	**Umpang Tak**	**146.96 337**	PKP	**PKiKP**	**21 35 56.8**	**+1.6**
PSA00	**Pilbara Seismi**	**147.20 253**		**PKPdf**	**21 35 51.4**	**+0.5**
PSI	**Prapat**	**158.60 323**	PKIKP	**PKPdf**	**21 36 09.5**	**+1.6**
PSI					21 36 43.1	
RPSI	**Rantau Prapat**	**158.68 322**	PKPdf	**PKPdf**	**21 36 09.4**	**+1.7**
RPSI				**PKPab**	**21 36 43.1**	**+0.1**

BJI **11** *21:19:13.1±0.0, 6˚.37S×147˚.29E, h41km, mB5.3/63, mb5.4/87, Ms5.0/75, Ms7 4.7/72*

MOS **11** *21:19:17.4±0.9, 5˚.94S×146˚.52E, h34km, mb5.5/24, MS4.7/15, Error ellipse: s-maj=8.1km s-min=5.1km az=103.5*

NEIC **11** *21:19:18.7±1.6, 5˚.98S±0˚.06×146˚.66E±0˚.07, h26km±1km, mb5.5/235, Ms_20 5.2/143, Mwb5.4/51, Mww5.5, Mwc5.5(GCMT), Error ellipse: s-maj=12.4km s-min=10.1km az=107.0*

NEIC **11** *21:19:18.9, 5˚.97S×146˚.66E, h23km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr1.27; Mθθ-1.06; Mφφ-0.20; Mrθ-0.03; Mθφ0.64; Mφr-0.01; Fault plane solution: M₀1.34000×10¹⁷ NP1:φs119.07000°, δ44.60000°, λ91.52000°. NP2:φs296.94000°, δ45.42000°, λ88.50000°. Principal axes: T 1.2662, Plg89.0000°, Azm139.0000°; N 0.1397, Plg1.0000°, Azm298.0000°; P -1.4060, Plg0.0000°, Azm28.0000°;*

DJA **11** *21:19:19.8±0.5, 6˚S±2˚×14˚7E±˚, h33km±4km, M5.4/82, mB5.8/51, mb5.5/82, MLv5.6/3, Mw(mB)5.4/51, MwMwp5.2/18, Mwp5.4/18*

IDC **11** *21:19:19.6±1.2, 6˚.01S×146˚.69E, h43km±10km, mb5.0/42, mb1 5.0/47, mb1mx5.0/55, mbtmp5.2/47, ML5.1/5, MS4.9/25, Ms1 4.9/25, ms1mx4.8/33, Error ellipse: s-maj=11.4km s-min=7.9km az=95.0*

GCMT **11** *21:19:22.7±0.1, 5˚.97S±0˚.01×146˚.72E±0˚.01, h39km, MW5.5/140, Moment Tensor Solution. s135,c239; s140,c245; Duration: 1s4 Moment tensor: Scale 10¹⁷ Nm; Mrr2.07±.03; Mθθ-1.96±.02; Mφφ-0.11±.02; Mrθ-0.61±.03; Mθφ1.00±.02; Mφr0.23±.03; Best double couple: M₀2.32500×10¹⁷ NP1:φs115.00000°, δ37.00000°, λ92.00000°. NP2:φs293.00000°, δ53.00000°, λ89.00000°. Principal axes: T 2.1630, Plg82.0000°, Azm196.0000°; N 0.3240, Plg1.0000°, Azm293.0000°; P -2.4870, Plg8.0000°, Azm23.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC **11** *21:19:23, 5˚.98S×146˚.76E, h46km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr2.06; Mθθ-1.70; Mφφ-0.36; Mrθ-1.25; Mθφ0.67; Mφr0.60; Fault plane solution: M₀2.45000×10¹⁷ NP1:φs111.00000°, δ28.00000°, λ87.00000°. NP2:φs294.00000°, δ62.00000°, λ91.00000°. Principal axes: T 2.4846, Plg73.0000°, Azm208.0000°; N -0.0801, Plg1.0000°, Azm114.0000°; P -2.4045, Plg17.0000°, Azm23.0000°;*

NEIC **11** *21:19:23, 5˚.96S×146˚.78E, h40km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr1.93; Mθθ-1.95; Mφφ0.02; Mrθ-0.56; Mθφ1.01; Mφr0.29; Fault plane solution: M₀2.28000×10¹⁷ NP1:φs111.00000°, δ37.00000°, λ87.00000°. NP2:φs294.00000°, δ53.00000°, λ92.00000°. Principal axes: T 2.0225, Plg82.0000°, Azm215.0000°; N 0.4444, Plg2.0000°, Azm113.0000°; P -2.4669, Plg8.0000°, Azm23.0000°;*

ISC 11 21:19:19.9±0.4, **6˚.04S**±0˚.03×**146˚.68E**±0˚.03, **h45**km±3km, **h47**km:**pP-P, n966**, σt**58**/884, **mb5.5**/277, **MS5.1**/122, **22C-5D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
MANU	**Manus Island**	**4.03**	**10**		**Pn**	**21 20 17.9**	**-1.2**
RABL	**Rabaul**	**5.76**	**72**		**Pn**	**21 20 42.4**	**-0.6**
RABL	**Rabaul**	**5.76**	**72**	P	**Pn**	**21 20 43.3**	**+0.3**
MMPI	**Merauke**	**6.69**	**248**	P	**Pn**	**21 20 58.3**	**+2.6**
JAY	**Jayapura** baz=126,slow=18	**6.91**	**300**	S	**Sn**	**21 22 22.4**	**+6.4**
JAY	comp=Z,18μm,20.4s,slow=42			LR	LR	21 24 10.9	
JAY	**Jayapura**	**6.91**	**300**	P	**Pn**	**21 20 58.8**	**+0.1**
GENI	**Genyem** 5.3nm9μm8μm507nm,0.8s	**7.33**	**298**	P	**Pn**	**21 21 04.5**	**-0.1**
COEN	**Coen** baz=8.6	**8.59**	**203**	P	**Pn**	**21 21 23.4**	**+1.6**
COEN	**Coen**	**8.59**	**203**	Pn	**Pn**	**21 21 22.2**	**+0.4**
COEN				Sn	**Sn**	**21 22 58.0**	**+0.5**
SRPI	**Serui, Papua** 3μm116nm,0.4s	**11.20**	**291**	P	**Pn**	**21 21 58.0**	**+0.5**
BAKI	**Biak**	**11.59**	**294**	P	Pn	21 22 09.8	+6.9
MTSU	**Mount Surprise** baz=12,SNR=18	**12.24**	**191**	P	**Pn**	**21 22 12.9**	**+1.1**
HNR	**Honiara** 17nm,0.3s,baz=251,slow=4.3,SNR=7.9	**13.58**	**105**	P	**Pn**	**21 22 31.3**	**+1.3**
HNR	5.0nm,0.3s,baz=155,slow=18,SNR=0.9			S	**Sn**	**21 25 03.3**	**+3.8**
HNR	**Honiara**	**13.58**	**105**	Pn	**Pn**	**21 22 29.8**	**-0.2**
CTA	**Charters Tower** 3.5nm,0.3s,baz=1.7,slow=14,SNR=45	**13.97**	**182**	P	**Pn**	**21 22 35.6**	**+0.2**
CTA	comp=Z,12μm,21.1s,baz=5.0,slow=36			LR	LR	21 27 45.0	
CTAO	**Charters Tower**	**13.97**	**182**	P	**Pn**	**21 22 36.9**	**+1.5**
CTAO	**Charters Tower**	**13.97**	**182**	Pn	**Pn**	**21 22 36.9**	**+1.5**
FAKI	**Fak Fak**	**14.71**	**282**	Pn	**Pn**	**21 22 45.1**	**-0.2**
FAKI	**Fak Fak** 5μm3μm145nm,1.0s	**14.71**	**282**	P	**Pn**	**21 22 46.9**	**+1.6**
KDU	**Kakadu** baz=16,SNR=136	**15.49**	**244**	P	**Pn**	**21 22 56.3**	**+0.9**
QIS	**Mount Isa** baz=16,SNR=22	**15.98**	**205**	P	**Pn**	**21 23 02.5**	**+0.8**
SIJI	**Sorong** 4.3nm,0.3s,baz=101,slow=12,SNR=14	**16.21**	**288**	P	**Pn**	**21 23 04.3**	**-0.4**
SIJI	comp=Z,3μm,18.1s,baz=124,slow=45			LR	LR	21 31 34.0	
SIJI	**Sorong** 2μm252nm,1.0s	**16.21**	**288**	P	**Pn**	**21 23 05.4**	**+0.7**
SWI	**Sorong** 3μm6μm621nm,1.0s	**16.22**	**288**	P	**P**	**21 23 06.2**	**-1.1**
MTN	**Manton Dam** baz=17,SNR=64	**16.75**	**245**	P	**P**	**21 23 12.7**	**-0.5**
MTN	**Manton Dam**	**16.75**	**245**	Pn	**Pn**	**21 23 11.0**	**-0.5**
BNDI	**Bandanaira** 14μm1μm,0.9s	**16.77**	**274**	P	**P**	**21 23 13.5**	**+0.1**
PATS	**Pohnpei** baz=17,SNR=4.2	**17.27**	**42**	P	**P**	**21 23 20.8**	**+1.9**
PATS	**Pohnpei**	**17.27**	**42**	P	**Pn**	**21 23 18.2**	**+0.2**
PATS	comp=Z,551nm,1.1s			IAmb	IAmb	21 23 35.6	
MSAI	**Masohi** comp=Z,49nm,0.7s	**17.89**	**278**	P	**P**	**21 23 30.6**	**+4.8**
WR0	**Warramunga Arr**	**18.18**	**219**		**Pn**	**21 23 29.2**	**0.0**
WRAB	**Tennant Creek**	**18.29**	**220**	*ce*P	**P**	**21 23 30.2**	**+0.1**
WRAB	comp=Z,40nm,0.7s			pmax	pmax		
WRAB	**Tennant Creek**	**18.29**	**220**		**Pn**	**21 23 30.6**	**+0.2**
WB2	**Warramunga Arr** baz=18	**18.29**	**220**	P	**Pn**	**21 23 31.0**	**+0.5**
WB2	**Warramunga Arr**	**18.29**	**220**		**Pn**	**21 23 30.4**	**-0.1**
WRA	**Warramunga Arr** comp=Z,4.5nm,0.3s,baz=44,slow=11,SNR=207	**18.30**	**220**	P	**P**	**21 23 30.3**	**0.0**
WRA	comp=Z,0.7nm,0.3s,baz=40,slow=22,SNR=3.0			S	**Sn**	**21 26 49.9**	**-4.3**
WRA	comp=Z,0.9nm,0.3s,baz=37,slow=1.6,SNR=7.9			PcP	**PcP**	**21 28 01.6**	**+0.6**
WRA	comp=Z,8μm,19.0s,baz=40,slow=40			LR	LR	21 31 30.3	
WRA	comp=Z,0.1nm,0.3s,baz=55,slow=2.1,SNR=2.3			ScP	**ScP**	**21 31 36.3**	**+3.4**
KRAI	**Karang Ratu** comp=Z,6μmcomp=Z,313nm,0.9s	**18.42**	**278**	P	**Pn**	**21 23 34.2**	**+2.1**
GUMO	**Guam** comp=Z,17nm,0.3s,baz=184,slow=10.0,SNR=20	**19.58**	**355**	P	**P**	**21 23 45.0**	**+0.7**
GUMO	comp=Z,2.5nm,0.3s,baz=53,slow=20,SNR=1.0			S	**Sn**	**21 27 25.4**	**+0.4**
GUMO	comp=Z,2μm,19.4s,baz=172,slow=35			LR	LR	21 30 42.4	
GUMO	**Guam**	**19.58**	**355**	P	**P**	**21 23 44.0**	**-0.2**
GUMO	comp=Z,412nm,0.9s			IAmb	IAmb	21 23 48.9	
EIDS	**Eidsvold** baz=20,SNR=16	**19.68**	**168**	P	**P**	**21 23 46.2**	**+0.8**
EIDS	**Eidsvold**	**19.68**	**168**	P	**P**	**21 23 45.9**	**+0.5**
KNRA	**Kununurra**	**20.01**	**240**	P	**P**	**21 23 48.2**	**-0.6**
	baz=20,SNR=82						
KNRA	**Kununurra**	**20.01**	**240**	P	**P**	**21 23 48.2**	**-0.9**
KNRA	comp=Z,8μm,18.0s			IAMs_20	IAMs_20	21 32 18.1	
GAMI	**Galela, Maluku** comp=Z,22μmcomp=Z,3μmcomp=Z,230nm,0.8s	**20.42**	**292**	P	Pn	21 23 55.9	0.0
TNTI	**Ternate**	**20.43**	**289**	P	**P**	**21 23 53.6**	**0.0**
TNTI	comp=Z,160nm,1.1s			IAmb	IAmb	21 24 05.0	
TNTI	**Ternate** comp=Z,2μmcomp=Z,3μmcomp=Z,166nm,1.7s	**20.43**	**289**	P	Pn	21 23 56.2	+0.1
RMQ	**Roma** baz=20,SNR=26	**20.43**	**175**	P	Pn	21 23 55.3	-0.7
QLP	**Quilpie** baz=21,SNR=55	**20.57**	**186**	P	**P**	**21 23 55.7**	**+0.7**
SANI	**Sanana** comp=Z,3μmcomp=Z,5μmcomp=Z,287nm,1.3s	**21.01**	**280**	P	**P**	**21 24 00.8**	**+0.9**
AS31	**Alice Springs**	**21.41**	**214**	P	**P**	**21 24 03.7**	**-0.4**
ASAR	**Alice Springs** comp=Z,14nm,0.5s,baz=54,slow=8.7,SNR=184	**21.41**	**214**	P	**P**	**21 24 04.7**	**+0.6**
ASAR	comp=Z,3.0nm,0.8s,baz=29,slow=17,SNR=2.1			S	**S**	**21 28 01.0**	**+1.6**
ASAR	comp=Z,7.0nm,0.7s,baz=49,slow=3.9,SNR=5.6			PcP	**PcP**	**21 28 07.0**	**+0.3**
ASAR	comp=Z,3.9nm,0.8s,baz=38,slow=4.3,SNR=3.3			ScP	**ScP**	**21 31 44.4**	**+4.3**
ASAR	comp=Z,10μm,19.1s,baz=41,slow=40			LR	LR	21 33 28.4	
ASAR	**Alice Springs**	**21.41**	**214**	P	**P**	**21 24 03.8**	**-0.3**
ASPA	**Alice Springs** baz=22	**21.41**	**214**	P	**P**	**21 24 06.1**	**+2.0**
ANA2	**Anatahan**	**22.25**	**358**	P	**P**	**21 24 11.5**	**-1.7**
ANA2	comp=Z,85nm,0.7s			IAmb	IAmb	21 24 33.6	
SOEI	**Soe**	**22.50**	**259**	P	**P**	**21 24 16.1**	**+0.1**
SOEI	**Soe** comp=Z,6μmcomp=Z,520nm,1.1s	**22.50**	**259**	P	**P**	**21 24 19.6**	**+3.6**
MNI	**Manado** comp=Z,9μmcomp=Z,1μm,1.0s	**23.03**	**288**	P	**P**	**21 24 21.8**	**+0.3**
BATI	**Baumata** comp=Z,77nm,0.6s,baz=239,slow=7.7,SNR=19	**23.15**	**258**	P	**P**	**21 24 23.8**	**+1.2**
BATI	comp=Z,9.2nm,0.4s,baz=55,slow=18,SNR=1.8			S	**S**	**21 28 27.4**	**-3.6**
BATI	comp=Z,6μm,18.8s,baz=90,slow=43			LR	LR	21 35 53.6	
BATI	**Baumata** comp=Z,2μmcomp=Z,2μmcomp=Z,143nm,0.6s	**23.15**	**258**	P	**P**	**21 24 25.2**	**+2.6**
FITZ	**Fitoy Crossi** baz=24,SNR=323	**23.77**	**238**	P	**P**	**21 24 27.4**	**-1.1**
FITZ	**Fitzroy Crossi** comp=Z,176nm,0.7s,baz=63,slow=8.4,SNR=94	**23.77**	**238**	P	**P**	**21 24 28.3**	**-0.2**
FITZ	comp=Z,5.4nm,0.9s,baz=72,slow=23,SNR=1.2			S	**S**	**21 28 35.3**	**-5.8**
FITZ	comp=Z,6μm,18.7s,baz=60,slow=40			LR	LR	21 35 02.8	
FITZ	**Fitzroy Crossi** comp=Z,7μm,18.0s	**23.77**	**238**	IAMs_20	IAMs_20	21 34 42.2	
MMRI	**Maumere**	**24.37**	**262**	P	**P**	**21 24 33.2**	**-0.9**
MMRI	**Maumere** comp=Z,2μmcomp=Z,4μmcomp=Z,235nm,0.6s	**24.37**	**262**	P	**P**	**21 24 35.6**	**+1.5**
GTOI	**Gorontalo** comp=Z,4μmcomp=Z,342nm,0.7s	**24.54**	**285**	P	**P**	**21 24 37.8**	**+2.2**
ARMA	**Armidale** baz=25,SNR=9.9	**24.70**	**170**	P	**P**	**21 24 38.6**	**+1.6**
ARMA	**Armidale**	**24.70**	**170**	P	**P**	**21 24 37.4**	**+0.4**
LIFNC	**LIFOU**	**24.75**	**128**	P	**P**	**21 24 37.7**	**+0.3**
DAV	**Davao City (W)** comp=Z,1μm,18.6s,baz=126,slow=36	**24.75**	**301**	LR	LR	21 34 17.9	
DZM	**Mont Dzumac** comp=Z,253nm,1.4s	**24.88**	**132**	*e*P	**P**	**21 24 38.2**	**-0.5**
DZM	comp=Z,2μm,28.1s			*e*S	**S**	**21 28 54.0**	**-5.0**
DZM	comp=Z,9μm,27.3s			*e*LR	LR	21 30 39.7	
DZM	**Mont Dzumac** comp=Z,43nm,0.8s,baz=326,slow=10,SNR=20	**24.88**	**132**	P	**P**	**21 24 38.7**	**-0.1**
DZM	comp=Z,3μm,21.8s,baz=279,slow=34			LR	LR	21 33 32.8	
DZM	**Mont Dzumac**	**24.88**	**132**	P	**P**	**21 24 38.4**	**-0.3**
DZM	comp=Z,148nm,1.3s			IAmb	IAmb	21 24 41.6	
EDFI	**Ende, Flores** comp=Z,1μmcomp=Z,134nm,0.8s	**24.92**	**262**	P	**P**	**21 24 39.9**	**+0.7**
KKSI	**Kolaka, Sulawe** comp=Z,2μmcomp=Z,55nm,0.6s	**24.99**	**273**	P	**P**	**21 24 42.5**	**+2.8**
ONTNC	**Ouen Toro**	**25.03**	**132**	P	**P**	**21 24 39.7**	**-0.3**
ONTNC	comp=Z,61nm,0.8s			IAmb	IAmb	21 24 40.8	
CMSA	**Cobar Meteorol** baz=25,SNR=24	**25.39**	**182**	P	**P**	**21 24 43.6**	**+0.5**
APSI	**Ampana** comp=Z,4μmcomp=Z,307nm,1.6s	**25.49**	**281**	P	**P**	**21 24 47.1**	**+2.9**
MRSI	**Marisa** comp=Z,2μmcomp=Z,1μmcomp=Z,122nm,0.7s	**25.53**	**284**	P	**P**	**21 24 45.7**	**+1.1**
WRKA	**Warakurna** baz=26,SNR=81	**25.83**	**221**	P	**P**	**21 24 46.5**	**-0.7**
PINNC	**Pines Island,**	**25.95**	**132**	P	**P**	**21 24 48.1**	**-0.2**
PINNC	comp=Z,128nm,1.1s			IAmb	IAmb	21 24 55.1	
BSSI	**Bau Bau, Buton**	**26.04**	**268**	P	P	21 24 58.5	+9.3
STKA	**Stephens Creek** baz=26,SNR=64	**26.14**	**190**	P	**P**	**21 24 50.0**	**0.0**
STKA	**Stephens Creek** comp=Z,21nm,0.6s,baz=353,slow=8.6,SNR=46	**26.14**	**190**	P	**P**	**21 24 49.2**	**-0.8**
STKA	comp=Z,3.4nm,1.0s,baz=321,slow=22,SNR=1.5			S	**S**	**21 29 15.5**	**-3.1**
STKA	comp=Z,8μm,19.0s,baz=9.7,slow=38			LR	LR	21 36 03.6	
STKA	**Stephens Creek**	**26.14**	**190**	P	**P**	**21 24 49.9**	**0.0**
STKA	comp=Z,19nm,1.5s			pmax	pmax		
STKA	comp=Z,2μm,19.0s			MLR	MLR		
STKA	**Stephens Creek**	**26.14**	**190**	P	**P**	**21 24 49.9**	**0.0**
BKSI	**Bulukumba** comp=Z,2μmcomp=Z,1μmcomp=Z,118nm,1.0s	**26.43**	**270**	P	**P**	**21 24 56.8**	**+4.0**
BNSI	**Bone** comp=Z,2μmcomp=Z,2μmcomp=Z,114nm,1.0s	**26.51**	**272**	P	**P**	**21 24 56.8**	**+3.3**
TOLI2	**Tolitoli**	**26.81**	**285**	P	**P**	**21 24 55.9**	**-0.3**
TOLI2	comp=Z,93nm,1.0s			IAmb	IAmb	21 24 57.6	
KAPI	**Kappang** comp=Z,20nm,0.8s,baz=119,slow=5.4,SNR=5.1	**26.82**	**271**	P	**P**	**21 24 56.8**	**+0.5**
KAPI	comp=Z,3.0nm,0.7s,baz=174,slow=22,SNR=1.4			S	**S**	**21 29 27.2**	**-2.4**
KAPI	comp=Z,1μm,20.4s,baz=112,slow=39			LR	LR	21 36 56.2	
KAPI	**Kappang**	**26.82**	**271**	P	**P**	**21 24 55.6**	**-0.6**
KAPI	**Kappang** comp=Z,990nmcomp=Z,67nm,1.1s	**26.82**	**271**	P	**P**	**21 24 59.7**	**+3.5**
TTSI	**Tana Toraja** comp=Z,3μmcomp=Z,91nm,1.0s	**26.93**	**275**	P	**P**	**21 25 01.5**	**+4.2**
WBSI	**Waikabubak, Su** comp=Z,3μmcomp=Z,217nm,1.0s	**27.26**	**261**	P	**P**	**21 25 04.8**	**+4.5**
MPSI	**Mapaga** comp=Z,2μmcomp=Z,115nm,1.4s	**27.47**	**282**	P	**P**	**21 25 02.7**	**+0.6**
YNG	**Young** baz=28,SNR=10	**28.17**	**177**	P	**P**	**21 25 08.2**	**+0.1**
HTT	**Hallett** baz=28,SNR=27	**28.20**	**194**	P	**P**	**21 25 08.1**	**-0.3**
BBOO	**Buckleboo** baz=28,SNR=20	**28.42**	**199**	P	**P**	**21 25 10.7**	**+0.4**
BBOO	**Buckleboo**	**28.42**	**199**	P	**P**	**21 25 10.2**	**-0.2**
BBOO	comp=Z,6μm,20.0s			IAMs_20	IAMs_20	21 37 15.3	
PLAI	**Plampang** comp=Z,73nm,1.0s	**28.79**	**263**	P	P	21 25 18.7	+4.8
CAN	**Canberra** comp=Z,3μm,20.0s	**29.22**	**176**	IAMs_20	IAMs_20	21 36 35.8	
CNB	**Canberra Magne** baz=29,SNR=4.5	**29.24**	**175**	P	**P**	**21 25 19.4**	**+1.7**
TWSI	**Taliwang, Sumb** comp=Z,37nm,0.7s	**29.66**	**263**	P	P	21 25 27.7	+6.1
PSAC2	**Pilbara Seismi** comp=Z,8μm,18.0s	**30.16**	**237**	IAMs_20	IAMs_20	21 38 55.6	
PSAD1	**Pilbara Seismi** comp=Z,8μm,18.0s	**30.16**	**237**	IAMs_20	IAMs_20	21 38 56.0	
FORT	**Forrest** baz=30,SNR=11	**30.19**	**213**	P	**P**	**21 25 26.4**	**+0.3**
FORT	**Forrest**	**30.19**	**213**	P	**P**	**21 25 25.6**	**-0.5**
FORT	comp=Z,46nm,0.7s			IAmb	IAmb	21 25 36.7	
FORT	comp=Z,7μm,19.0s			IAMs_20	IAMs_20	21 38 45.1	
PSA00	**Pilbara Seismi** comp=Z,44nm,0.7s	**30.20**	**237**	IAmb	IAmb	21 25 28.1	
PSA00				IAMs_20	IAMs_20	21 38 41.0	
	comp=Z,6μm,18.0s						
PSA00	**Pilbara Seismi** comp=Z,20nm,0.8s	**30.20**	**237**	IAmb	IAmb	21 25 28.5	
PSAC1	**Pilbara Seismi** comp=Z,6μm,18.0s	**30.22**	**237**	IAMs_20	IAMs_20	21 39 06.4	
PSAC3	**Pilbara Seismi** comp=Z,8μm,19.0s	**30.24**	**237**	IAMs_20	IAMs_20	21 38 44.0	
KBKI	**Kotabaru** comp=Z,36nm,0.8s	**30.52**	**274**	P	**P**	**21 25 32.7**	**+3.4**
ARPS	**Mount Arapiles** baz=31,SNR=10	**30.91**	**188**	P	**P**	**21 25 33.5**	**+1.1**
TOO	**Toolangi** baz=32,SNR=5.8	**31.41**	**182**	P	**P**	**21 25 37.7**	**+0.9**
TOO	**Toolangi**	**31.41**	**182**	P	**P**	**21 25 37.7**	**+0.9**
TOO	comp=Z,18nm,0.9s			pmax	pmax		
TOO	comp=Z,5μm,21.0s			MLR	MLR		
TOO	**Toolangi**	**31.41**	**182**	P	**P**	**21 25 37.7**	**+0.9**
TOO	comp=Z,5μm,21.0s			IAMs_20	IAMs_20	21 37 40.7	
BBKI	**Banjar Baru** comp=Z,46nm,0.9s	**31.82**	**273**	P	**P**	**21 25 44.5**	**+3.8**
SPMM	**Sapulut**	**32.00**	**289**	P	**P**	**21 25 43.0**	**+0.7**
MTKI	**Muara Teweh, K** comp=Z,2μmcomp=Z,84nm,0.5s	**32.11**	**278**	P	**P**	**21 25 45.2**	**+1.9**
JAGI	**Jajag, Banyuwa**	**32.35**	**264**	P	**P**	**21 25 43.8**	**-1.5**
JAGI	**Jajag, Banyuwa** comp=Z,73nm,1.1s	**32.35**	**264**	P	**P**	**21 25 48.6**	**+3.3**
MSVF	**Nonsavu** comp=Z,18nm,1.0s,baz=233,slow=8.8,SNR=4.5	**32.77**	**114**	P	**P**	**21 25 48.5**	**-0.5**
MSVF	comp=Z,851nm,21.7s,baz=300,slow=32			LR	LR	21 36 34.3	
MSVF	**Nonsavu**	**32.77**	**114**	P	**P**	**21 25 49.2**	**+0.2**
MSVF	comp=Z,91nm,1.5s			pmax	pmax		
MSVF	comp=Z,2μm,19.0s			MLR	MLR		
MSVF	**Nonsavu** comp=Z,91nm,1.4s	**32.77**	**114**	P	**P**	**21 25 49.2**	**+0.2**
MSVF				IAmb	IAmb	21 25 58.4	
GMJI	**Gumukmas**	**33.04**	**264**	P	P	21 25 59.6	+8.2
JCJ	**Chichijima** comp=Z,34nm,0.5s,baz=169,slow=4.3,SNR=5.4	**33.22**	**353**	P	**P**	**21 25 51.9**	**-0.8**
JCJ	**Chichijima**	**33.22**	**353**	P	**P**	**21 25 51.5**	**-1.3**
MEEK	**Meekatharra** baz=34,SNR=102	**33.69**	**229**	P	**P**	**21 25 57.1**	**+0.2**
PWJI	**Pagerwojo** comp=Z,68nm,0.9s	**34.66**	**265**	P	**P**	**21 26 09.6**	**+4.2**
SJI	**Sawahan** comp=Z,57nm,0.9s	**34.69**	**265**	P	P	21 26 11.9	+6.1
PBKI	**Pangkalan Bun** comp=Z,207nm,0.8s	**35.05**	**274**	P	**P**	**21 26 12.3**	**+3.4**
PCJI	**Pacitan** comp=Z,171nm,1.1s	**35.28**	**264**	P	P	21 26 16.6	+5.8
GIRL	**Giralia** baz=35,SNR=6.8	**35.38**	**239**	P	**P**	**21 26 14.0**	**+2.5**
GIRL	**Giralia** comp=Z,4μm,18.0s	**35.38**	**239**	IAMs_20	IAMs_20	21 42 09.0	
SBUM	**Sibu**	**35.42**	**283**	P	**P**	**21 26 13.0**	**+1.0**
STKI	**Sintang** comp=Z,73nm,1.6s	**35.65**	**279**	P	**P**	**21 26 16.0**	**+2.0**
UGM	**Wanagama**	**35.93**	**265**	P	**P**	**21 26 15.9**	**-0.5**
SMRI	**Semarang**	**36.01**	**266**	P	**P**	**21 26 17.4**	**+0.3**
SMRI	**Semarang** comp=Z,158nm,1.3s	**36.01**	**266**	P	P	21 26 23.0	+5.9
MORW	**Morawa** baz=37,SNR=21	**36.91**	**228**	P	**P**	**21 26 25.0**	**+0.4**
MORW	**Morawa** comp=Z,94nm,1.5s	**36.91**	**228**	IAmb	IAmb	21 26 29.2	
KSM	**Kuching**	**37.07**	**280**	P	**P**	**21 26 28.0**	**+1.9**
JOW	**Kunigami**	**37.22**	**332**	P	**P**	**21 26 28.8**	**-0.4**
BLDU	**Ballidu** baz=37,SNR=32	**37.28**	**225**	P	**P**	**21 26 27.8**	**+0.2**
KPJI	**Karang Pucung** comp=Z,1μmcomp=Z,123nm,0.9s	**37.50**	**266**	P	**P**	**21 26 31.8**	**+2.0**
CMJI	**Cimerak** comp=Z,110nm,1.0s	**37.98**	**265**	P	**P**	**21 26 37.9**	**+4.1**
YOJ	**Yonaguni jima**	**38.09**	**324**	P	**P**	**21 26 34.2**	**-0.3**
YOJ	comp=Z,279nm,1.0s			pmax	pmax		
YOJ	**Yonaguni jima**	**38.09**	**324**	P	**P**	**21 26 34.1**	**-0.3**
NWAO	**Narrogin (SRO)** baz=38,SNR=15	**38.29**	**222**	P	**P**	**21 26 36.6**	**+0.5**
NWAO	**Narrogin (SRO)** comp=Z,12nm,0.5s,baz=56,slow=9.5,SNR=19	**38.29**	**222**	P	**P**	**21 26 36.0**	**-0.2**
NWAO	**Narrogin (SRO)**	**38.29**	**222**	P	**P**	**21 26 36.0**	**-0.2**
NWAO	**Narrogin (SRO)** comp=Z,3μm,18.0s	**38.29**	**222**	IAMs_20	IAMs_20	21 43 20.4	
YULB	**Yu-li** comp=Z,78nm,0.7s	**38.34**	**321**	IAmb	IAmb	21 26 41.5	
MUN	**Mundaring** baz=38,SNR=9.8	**38.41**	**224**	P	**P**	**21 26 37.6**	**+0.4**
CISI	**Cisompet, Garu**	**38.61**	**265**	P	**P**	**21 26 38.3**	**-0.9**
CISI	**Cisompet, Garu** comp=Z,2μmcomp=Z,154nm,0.9s	**38.61**	**265**	P	**P**	**21 26 39.4**	**+0.2**
TPUB	**Ta-pu**	**38.70**	**320**	P	**P**	**21 26 38.9**	**-0.8**
SSLB	**Suanglung** comp=Z,73nm,0.7s	**38.84**	**321**	IAmb	IAmb	21 26 44.3	
CNJI	**Cibinong** comp=Z,5μmcomp=Z,581nm,1.2s	**39.29**	**266**	P	**P**	**21 26 45.4**	**+0.6**
TATO	**Taipei**	**39.38**	**323**	P	**P**	**21 26 45.7**	**+0.4**
CBJI	**Citeko** comp=Z,173nm,0.7s	**39.59**	**267**	P	**P**	**21 26 51.1**	**+3.8**
DBJI	**Dramaga** comp=Z,4μmcomp=Z,46nm,0.7s	**39.68**	**267**	P	**P**	**21 26 50.5**	**+2.4**
SKJI	**Sukabumi** comp=Z,319nm,0.9s	**39.86**	**266**	P	**P**	**21 26 51.0**	**+1.4**
JSU	**Suzuyama** comp=Z,106nm,1.3s	**40.42**	**338**	IAmb	IAmb	21 26 56.3	
PPBI	**Pangkal Pinang** comp=Z,95nm,1.3s	**40.61**	**274**	P	**P**	**21 26 58.7**	**+2.9**
XMIS	**Christmas Isla**	**40.81**	**261**	P	**P**	**21 26 58.5**	**+1.0**
KNMB	**Chin-men Tao**	**40.97**	**319**	P	**P**	**21 26 58.9**	**+0.3**
QZH	**Quanzhou**	**41.17**	**320**	*i*P	**P**	**21 27 00.5**	**+0.3**
QZH				S	**S**	**21 33 12.4**	**+1.8**
QZH	comp=Z,99nm,0.7s			pmax	pmax		
QZH	comp=Z,270nm,14.2s			LR	LR		
QZH	comp=Z,370nm,15.8s			LR	LR		
JNU	**Nakatsue** comp=Z,690nm,17.6s	**41.73**	**340**	P	**P**	**21 27 05.3**	**+0.6**
INU	**Inuyama**	**42.16**	**348**	P	**P**	**21 27 07.5**	**-0.6**
URZ	**Urewera** comp=Z,117nm,0.9s,baz=139,slow=4.9,SNR=47	**42.31**	**144**	P	**P**	**21 27 09.6**	**+0.2**
URZ	**Urewera** comp=Z,11nm,0.5s,baz=302,slow=22,SNR=7.9	**42.31**	**144**	IAMs_20	IAMs_20	21 44 41.6	
MDSI	**Maura Dua** comp=Z,1μmcomp=Z,47nm,1.1s	**42.34**	**270**	P	**P**	**21 27 10.3**	**+0.3**
NNZ	**Nelson** comp=Z,2μm,19.0s	**42.37**

comp=Z,2μm,21.0s
LBZ Lake Benmore 43.39 155 P P 21 27 18.8 +0.8
MLZ Mavora Lakes 43.39 158 P P 21 27 20.6 +2.5
MLZ IAmb IAmb 21 27 23.5
comp=Z,93nm,1.5s
BTDF Bukit Timah Da 43.46 278 P P 21 27 21.3 +2.2
comp=Z,1μmcomp=Z,80nm,1.5s
JTU Tsushima 43.52 339 IAmb IAmb 21 27 23.7
comp=Z,124nm,1.2s
KSI Kapahiang 43.98 271 P P 21 27 24.2 +0.9
comp=Z,67nm,0.7s
QIZ Qiongzhong 44.01 305 P P 21 27 23.8 +0.4
QIZ S **S 21 33 54.7 +2.1**
QIZ pmax pmax
comp=Z,41nm,1.2s
QIZ pmax pmax
comp=Z,180nm,6.5s
QIZ LR LR
comp=Z,520nm,30.6s
QIZ LR LR
comp=Z,500nm,16.9s
QIZ LR LR
comp=Z,820nm,25.2s
QIZ Qiongzhong 44.01 305 P P 21 27 22.7 -0.7
QIZ IAmb IAmb 21 27 25.2
comp=Z,46nm,1.0s
JMM Marumori 44.02 353 P P 21 27 22.9 -0.2
JMM IAmb IAmb 21 27 25.3
comp=Z,85nm,1.0s
SSE Sheshan 44.24 328 P P 21 27 26.2 +1.2
SSE pP **pP 21 27 34.9 -3.3**
SSE S **S 21 33 59.0 +3.5**
SSE pmax pmax
comp=Z,72nm,0.9s
SSE LR LR
comp=Z,240nm,18.9s
MASI Maura Aman, Be 44.38 272 P P 21 27 27.7 +1.2
comp=Z,3μmcomp=Z,189nm,0.6s
TJN Taejon 45.91 338*c*eP **P 21 27 38.7 +0.5**
NJ2 Nanjing 46.23 327 ⇑P **P 21 27 41.5 +0.7**
NJ2 pP **pP 21 27 50.6 -3.4**
NJ2 sP **sP 21 27 55.7 -3.9**
NJ2 S **S 21 34 26.1 +1.8**
NJ2 sS **sS 21 34 41.8 -4.1**
NJ2 pmax pmax
comp=Z,70nm,0.7s
NJ2 pmax pmax
comp=Z,510nm,5.9s
NJ2 LR LR
comp=Z,620nm,18.5s
NJ2 LR LR
comp=Z,440nm,16.7s
NJ2 LR LR
comp=Z,780nm,22.7s
KSRS Korea Array 46.67 339 P P 21 27 44.6 +0.5
comp=Z,73nm,1.0s,baz=157,slow=9.0,SNR=102
KSRS LR LR 21 44 31.1
comp=Z,1μm,20.9s,baz=155,slow=32
INCN Inchon 47.16 338 P P 21 27 47.9 -0.1
INCN pmax pmax
comp=Z,141nm,1.1s
INCN Inchon 47.16 338 P P 21 27 47.9 -0.1
MNSI Mandailing Nat 47.50 277 P P 21 27 52.2 +1.1
comp=Z,32μmcomp=Z,50nm,0.6s
WHN Wuhan 47.76 321 ⇑P **P 21 27 53.7 +1.0**
WHN pmax pmax
comp=Z,520nm,1.5s
WHN LR LR
comp=Z,2μm,21.4s
WHN LR LR
comp=Z,1μm,18.3s
WHN LR LR
comp=Z,2μm,26.9s
SKLT Songkhla 47.79 285 P P 21 27 55.3 +2.1
comp=Z,2μmcomp=Z,148nm,1.6s
SKLT Songkhla 47.79 285 P P 21 27 55.4 +2.2
comp=Z,2μmcomp=Z,148nm,1.6s
RPSI Rantau Prapat 48.47 279 P P 21 27 57.5 -1.0
PSI Prapat 48.48 279 P P 21 27 57.5 -1.3
PSI pmax pmax
comp=Z,267nm,1.5s
PSI MLR MLR
comp=Z,500nm,21.0s
PSI Prapat 48.48 279 P P 21 27 59.3 +0.5
comp=Z,1μmcomp=Z,60nm,1.6s,comp=Z,3μm,1.6s,
comp=Z,127nm,1.6s
PSI P **P 21 27 59.3 +0.5**
comp=Z,1μmcomp=Z,60nm,1.6s,comp=Z,3μm,1.6s,
comp=Z,127nm,1.6s
TRTT Trang 48.85 286 P P 21 28 02.5 +1.1
comp=Z,160nm,0.8s
TRTT Trang 48.85 286 P P 21 28 02.5 +1.1
comp=Z,160nm,0.8s
TSI Tuntungan 48.97 280 P P 21 28 04.8 +2.4
comp=Z,129nm,0.5s
NONG Nongkai 49.17 300 P P 21 28 04.4 +0.6
comp=Z,93nm,0.9s
NONG Nongkai 49.17 300 P P 21 28 04.4 +0.6
comp=Z,94nm,0.9s
PATY Pattaya 49.26 293 P P 21 28 06.3 +1.8
comp=Z,3μmcomp=Z,126nm,0.9s
PATY Pattaya 49.26 293 P P 21 28 06.3 +1.8
comp=Z,904nmcomp=Z,33nm,0.9s
SURA Surathani 49.26 287 P P 21 28 06.0 +1.5
comp=Z,16μmcomp=Z,152nm,1.6s
SURA Surathani 49.26 287 P P 21 28 06.1 +1.5
comp=Z,16μmcomp=Z,151nm,1.6s
CHAI Chaiyaphum 49.32 297 P P 21 28 05.4 +0.4
comp=Z,997nmcomp=Z,108nm,1.0s
CHAI Chaiyaphum 49.32 297 P P 21 28 05.4 +0.4
comp=Z,248nmcomp=Z,27nm,1.0s
KRAB Krabi 49.42 286 P P 21 28 07.5 +1.7
comp=Z,122μmcomp=Z,1μm,0.7s
KRAB Krabi 49.42 286 P P 21 28 07.5 +1.7
comp=Z,30μmcomp=Z,337nm,0.7s
GSI Gunungsitoli 49.56 277 P P 21 28 06.7 -0.3
GSI Gunungsitoli 49.56 277 P P 21 28 08.2 +1.3
comp=Z,122nm,0.7s
SLVN Son La 49.99 304 P P 21 28 10.6 +0.4
SLVN IAmb IAmb 21 28 12.8
comp=Z,49nm,1.2s
SURT Suratani 50.00 287 P P 21 28 11.4 +1.2
comp=Z,47nmcomp=Z,4.4nm,1.1s
SURT Suratani 50.00 287 P P 21 28 11.5 +1.2
comp=Z,47nmcomp=Z,4.4nm,1.1s
ASAJ Asahikawa 50.05 356 P P 21 28 10.5 +0.4
comp=Z,93nm,1.2s,baz=161,slow=7.3,SNR=9.8
ASAJ Asahikawa 50.05 356 P P 21 28 11.4 +1.3
ASAJ pmax pmax
comp=Z,73nm,1.2s
JKA Kamikawa-asahi 50.05 356 P P 21 28 11.4 +1.4
JKA IAmb IAmb 21 28 13.8
comp=Z,72nm,1.2s
PKDT Phuket 50.16 285 P P 21 28 12.6 +1.2
comp=Z,4μmcomp=Z,368nm,1.0s
PKDT Phuket 50.16 285 P P 21 28 12.0 +0.6
comp=Z,4μmcomp=Z,368nm,1.0s
TPTI 50.28 279 P P 21 28 13.8 +1.4
comp=Z,1μmcomp=Z,75nm,0.8s
TIA Tai'an 50.34 329 P P 21 28 11.8 -0.6
TIA pP **pP 21 28 24.8 -1.0**
TIA S **S 21 35 20.5 -1.8**
TIA pmax pmax
comp=Z,9.0nm,0.6s
TIA LR LR
comp=Z,660nm,22.8s
TIA LR LR
comp=Z,410nm,16.4s
TIA LR LR
comp=Z,770nm,18.5s
DL2 Dalian 50.38 335 P P 21 28 13.8 +1.1
DL2 S **S 21 35 29.4 +6.7**
DL2 pmax pmax
comp=Z,50nm,1.1s
DL2 LR LR
comp=Z,710nm,19.6s
DL2 LR LR
comp=Z,550nm,22.6s
DL2 LR LR
comp=Z,1μm,22.9s
PHET Kaeng Krachan 50.39 292 P P 21 28 14.5 +1.4
comp=Z,2μmcomp=Z,258nm,0.9s
PHET Kaeng Krachan 50.39 292 P P 21 28 14.5 +1.4
comp=Z,518nmcomp=Z,66nm,0.9s
GYA Guiyang 50.47 312 ⇓*i*P **P 21 28 15.3 +1.6**
GYA pP pP 21 28 24.8 -2.0
GYA S **S 21 35 24.9 +0.3**
GYA pmax pmax
comp=Z,43nm,1.6s
GYA pmax pmax
comp=Z,270nm,8.6s
GYA LR LR
comp=Z,450nm,17.8s
ENH Enshi 50.73 318 P P 21 28 15.8 +0.3
PHIT Phitsanulok 51.20 298 P P 21 28 20.7 +1.5
comp=Z,3μmcomp=Z,288nm,1.0s
PHIT Phitsanulok 51.20 298 P P 21 28 20.7 +1.5
comp=Z,707nmcomp=Z,72nm,1.0s
UTTA Uttaradit 51.30 298 P P 21 28 21.0 +1.1
comp=Z,1μmcomp=Z,132nm,1.1s
UTTA Uttaradit 51.30 298 P P 21 28 21.0 +1.1
comp=Z,279nmcomp=Z,33nm,1.1s
SRDT SRDT 51.33 294 P P 21 28 22.4 +2.2
comp=Z,196nm,1.4s
SRDT SRDT 51.33 294 P P 21 28 22.5 +2.2
comp=Z,196nm,1.4s
SRDT SRDT 51.33 294 P P 21 28 22.4 +2.2
comp=Z,187nm,1.4s
UTHA Uthaitani 51.46 295 P P 21 28 22.3 +1.1
comp=Z,2μmcomp=Z,184nm,1.1s
UTHA Uthaitani 51.46 295 P P 21 28 22.4 +1.2
comp=Z,394nmcomp=Z,46nm,1.1s
USA0B Ussuriysk Arra 51.73 347 P P 21 28 22.5 -0.2
USA0B pmax pmax
comp=Z,25nm,0.8s
USA0B Ussuriysk Arra 51.73 347 P P 21 28 22.4 -0.2
USRK Ussuriysk Ar. 51.73 347 P P 21 28 22.9 +0.2
comp=Z,16nm,0.6s,baz=170,slow=6.8,SNR=28
USRK LR LR 21 49 03.2
comp=Z,420nm,18.5s,baz=153,slow=34
SNY Shenyang 52.10 338 ⇓P **P 21 28 26.0 +0.5**
SNY S **S 21 35 45.7 -0.6**
SNY pmax pmax
comp=Z,23nm,0.6s
SNY pmax pmax
comp=Z,310nm,3.6s
SNY LR LR
comp=Z,800nm,23.1s
SNY LR LR
comp=Z,650nm,18.0s
SNY LR LR
comp=Z,2μm,22.9s
UMPA Umpang Tak 52.22 296 P P 21 28 28.5 +1.7
comp=Z,2μmcomp=Z,195nm,0.8s
UMPA Umpang Tak 52.22 296 P P 21 28 28.6 +1.7
comp=Z,469nmcomp=Z,48nm,0.8s
LAMP Lampang 52.41 299 P P 21 28 30.3 +2.1
comp=Z,895nmcomp=Z,103nm,1.2s
LAMP Lampang 52.41 299 P P 21 28 30.0 +1.8
comp=Z,224nmcomp=Z,26nm,1.2s
MDJ Mudanjiang 52.71 345 P P 21 28 30.6 +0.6
MDJ pP pP 21 28 43.0 -0.3
MDJ PcS **PcS 21 33 35.3 -2.4**
MDJ S **S 21 35 58.8 +4.2**
MDJ sS sS 21 36 19.6 +4.6
MDJ ScS **ScS 21 38 15.9 0.0**
MDJ pmax pmax
comp=Z,35nm,1.0s
MDJ pmax pmax
comp=Z,310nm,3.5s
MDJ LR LR
comp=Z,430nm,16.4s
MDJ LR LR
comp=Z,200nm,10.4s
MDJ LR LR
comp=Z,1μm,24.5s
MDJ Mudanjiang 52.71 345 P **P 21 28 30.0 +0.1**
KMI Kunming 52.76 308 ⇑P **P 21 28 32.0 +1.0**
KMI pP pP 21 28 42.2 -2.0
KMI PP **PP 21 30 31.8 +1.0**
KMI S **S 21 35 52.0 -4.5**
KMI ScS **ScS 21 38 15.6 -2.0**
KMI pmax pmax
comp=Z,53nm,1.4s
KMI pmax pmax
comp=Z,220nm,4.2s
KMI LR LR
comp=Z,320nm,23.2s
KMI LR LR
comp=Z,470nm,21.7s
KMI LR LR
comp=Z,820nm,25.9s
YSS Yuzh-Sakhalins 52.87 357 *i* P **P 21 28 31.8 +0.7**
YSS pmax pmax
comp=Z,22nm,0.5s
YSS Yuzh-Sakhalins 52.87 357 P **P 21 28 32.5 +1.4**
YSS IAmb IAmb 21 28 40.6
comp=Z,51nm,1.0s
CM36 Chiang Mai Arr 52.87 299 P P 21 28 33.0 +1.3
CM35 Chiang Mai Arr 52.88 299 P P 21 28 32.0 +0.3
CM04 Chiang Mai Arr 52.93 298 P P 21 28 33.6 +1.5
comp=Z,640nmcomp=Z,69nm,1.2s
CM04 Chiang Mai Arr 52.93 298 P P 21 28 33.6 +1.5
comp=Z,640nmcomp=Z,69nm,1.2s
CM09 Chiang Mai Arr 52.94 298 P P 21 28 33.7 +1.6
comp=Z,634nmcomp=Z,71nm,1.1s
CM09 Chiang Mai Arr 52.94 298 P P 21 28 33.0 +0.9
comp=Z,634nmcomp=Z,71nm,1.1s
CM01 Chiang Mai Arr 52.95 298 P P 21 28 33.8 +1.6
comp=Z,627nmcomp=Z,66nm,1.2s
CM01 Chiang Mai Arr 52.95 298 P P 21 28 33.9 +1.6
comp=Z,627nmcomp=Z,66nm,1.2s
CM34 Chiang Mai Arr 52.95 299 P P 21 28 34.0 +1.7
CM05 Chiang Mai Arr 52.96 298 P P 21 28 33.8 +1.5
comp=Z,457nmcomp=Z,47nm,1.0s
CM05 Chiang Mai Arr 52.96 298 P P 21 28 33.0 +0.7
comp=Z,457nmcomp=Z,47nm,1.0s
CM02 Chiang Mai Arr 52.97 298 P P 21 28 33.8 +1.4
comp=Z,609nmcomp=Z,68nm,1.1s
CM02 Chiang Mai Arr 52.97 298 P P 21 28 33.9 +1.5
comp=Z,609nmcomp=Z,68nm,1.1s
CM31 Chiang Mai Arr 52.98 298 P P 21 28 34.1 +1.6
comp=Z,15μmcomp=Z,2μm,1.1s
CM31 Chiang Mai Arr 52.98 298 P P 21 28 33.2 +0.7
CMAR Chiang Mai Arr 52.98 298 P P 21 28 33.2 +0.7
comp=Z,47nm,1.0s,baz=122,slow=5.6,SNR=127
CMAR PcP **PcP 21 29 41.7 +0.8**
comp=Z,14nm,1.1s,baz=105,slow=4.4,SNR=1.5
CMAR LR LR 21 50 16.9
comp=Z,215nm,21.6s,baz=172,slow=35
CMAR PKPPKP **P'P'df 21 58 59.9 +0.6**
comp=Z,0.6nm,0.4s,baz=298,slow=1.9,SNR=4.4
CMAR PKP2bc 21 59 14.8
comp=Z,1.1nm,0.4s,baz=284,slow=2.2,SNR=6.3
CMAR Chiang Mai Arr 52.98 298 *i* P **P 21 28 33.5 +1.0**
CMAR pmax pmax
comp=Z,32nm,0.8s
CMAR Chiang Mai Arr 52.98 298 P P 21 28 33.1 +0.6
CM15 Chiang Mai Arr 53.00 298 P P 21 28 34.1 +1.5
comp=Z,572nmcomp=Z,69nm,1.1s
CM15 Chiang Mai Arr 53.00 298 P P 21 28 34.0 +1.5
comp=Z,572nmcomp=Z,69nm,1.1s
CM13 Chiang Mai Arr 53.00 298 P P 21 28 34.1 +1.4
comp=Z,506nmcomp=Z,57nm,1.1s
CM13 Chiang Mai Arr 53.00 298 P P 21 28 34.0 +1.4
comp=Z,506nmcomp=Z,57nm,1.1s
CMMT Chiang Mai 53.12 299 P P 21 28 34.2 +0.7
comp=Z,831nmcomp=Z,65nm,1.4s
CMMT Chiang Mai 53.12 299 P P 21 28 34.2 +0.7
comp=Z,831nmcomp=Z,65nm,1.4s
CMMT Chiang Mai 53.12 299 P P 21 28 34.2 +0.7
comp=Z,793nmcomp=Z,62nm,1.4s
CM33 Chiang Mai Arr 53.12 299 P P 21 28 34.0 +0.5
CHTO Chiang Mai 53.12 299 P P 21 28 33.5 0.0
CHTO pmax pmax
comp=Z,104nm,1.4s
CHTO MLR MLR
comp=Z,400nm,20.0s
CHTO Chiang Mai 53.12 299 P P 21 28 34.3 +0.8
comp=Z,849nmcomp=Z,66nm,1.4s
CHTO Chiang Mai 53.12 299 P P 21 28 33.5 0.0
CHTO IAmb IAmb 21 28 36.6
comp=Z,104nm,1.4s
CHTO Chiang Mai 53.12 299 P P 21 28 34.3 +0.8
comp=Z,477nmcomp=Z,37nm,1.4s
CM32 Chiang Mai Arr 53.14 299 P P 21 28 35.0 +1.4
CN2 Changchun 53.19 341 *e*P **P 21 28 34.3 +0.8**
CN2 *e*S **S 21 36 00.9 -0.2**
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,600nm,18.0s
CN2 LR LR
comp=Z,500nm,18.0s
CN2 LR LR
comp=Z,700nm,16.0s
XAN Xi'an 53.51 321 P P 21 28 35.5 -0.6
XAN pP pP 21 28 47.8 -1.7
XAN S **S 21 36 00.9 -5.0**
XAN sS sS 21 36 29.3 +2.8
XAN SS **SS 21 39 46.0 -0.9**
XAN pmax pmax
comp=Z,180nm,1.1s
XAN pmax pmax
comp=Z,350nm,3.8s
XAN LR LR
comp=Z,350nm,22.3s
XAN LR LR
comp=Z,170nm,18.3s
XAN LR LR
comp=Z,620nm,19.9s
BJT Baijiatuau 53.76 331 P P 21 28 37.4 -0.4
BJT pmax pmax
comp=Z,60nm,1.0s
BJT Baijiatuau 53.76 331 P P 21 28 37.4 -0.4
BJT IAmb IAmb 21 28 39.0
comp=Z,60nm,1.0s
MHMT Maesarieng 53.77 298 P P 21 28 40.3 +2.1
comp=Z,1μmcomp=Z,70nm,1.4s
MHMT Maesarieng 53.77 298 P P 21 28 40.4 +2.1
BJI Beijing 53.78 331 P P 21 28 37.4 -0.5
BJI S **S 21 36 08.3 -0.9**
BJI pmax pmax
comp=Z,75nm,1.3s
BJI LR LR
comp=Z,430nm,21.8s
BJI LR LR
comp=Z,480nm,19.2s
BJI LR LR
comp=Z,820nm,19.3s
TIY Taiyuan 53.96 327 *e*P **P 21 28 39.1 -0.3**
TIY S **S 21 36 13.7 +1.7**
TIY pmax pmax
comp=Z,33nm,0.5s
TIY pmax pmax
comp=Z,170nm,4.8s
TIY LR LR
comp=Z,170nm,7.3s
TIY LR LR
comp=Z,130nm,6.0s
TIY LR LR
comp=Z,600nm,22.0s
UGL Uglegorsk 55.03 356 *e*P **P 21 28 48.8 +2.0**
UGL *e*S **S 21 36 25.6 -0.2**
UGL pmax pmax
comp=Z,100nm,1.2s
UGL smax smax
comp=E,760nm,6.4s
UGL MLR MLR
comp=Z,1μm,13.0s
UGL MLR MLR
comp=E,1μm,18.0s
UGL MLR MLR
comp=N,900nm,14.0s
CD2 Chengdu 55.07 314 P P 21 28 48.2 +0.7
CD2 S **S 21 36 29.6 +2.5**
CD2 SS **SS 21 40 15.3 +3.6**
CD2 pmax pmax
comp=N,70nm,0.6s
CD2 pmax pmax
comp=N,440nm,8.8s
CD2 LR LR
comp=N,400nm,13.2s
CD2 LR LR
comp=N,350nm,14.2s
CD2 LR LR
comp=N,480nm,18.9s
KLR Kul'dur 56.56 348 P P 21 28 58.1 +0.3
comp=N,14nm,1.0s,baz=178,slow=5.3,SNR=21
KLR LR LR 21 50 21.8
comp=N,634nm,22.0s,baz=158,slow=33
KLR Kul'dur 56.56 348*c*eP **P 21 28 57.3 -0.5**
KLR pmax pmax
comp=Z,27nm,1.1s
HHC Hu-ho-hao-te 56.69 329 *e*P **P 21 28 59.8 +0.7**
HHC pP pP 21 29 08.4 -4.2
HHC S **S 21 36 49.0 +0.5**
HHC ScS **ScS 21 38 39.4 -5.4**
HHC SS **SS 21 40 37.9 +0.8**
HHC pmax pmax
comp=Z,54nm,1.1s
HHC pmax pmax
comp=Z,240nm,5.8s
HHC LR LR
comp=Z,540nm,17.7s
HHC LR LR
comp=Z,380nm,16.2s
HHC LR LR
comp=Z,900nm,17.0s
TYV Tymovskoe 56.78 357 *e*P **P 21 29 00.7 +1.4**
TYV *e*S **S 21 36 54.4 +5.4**
TYV pmax pmax
comp=Z,400nm,3.2s
TYV pmax pmax
comp=Z,42nm,1.4s
TYV smax smax
comp=N,300nm,3.9s
TYV smax smax
comp=E,400nm,4.1s
BTO Baotou 57.33 327 *e*P **P 21 29 04.8 +1.2**
LZH Lanzhou 58.03 320 ⇑P **P 21 29 09.2 +0.6**
LZH pP pP 21 29 19.6 -2.5
LZH sP sP 21 29 24.5 -3.0
LZH S **S 21 37 03.2 -3.1**
LZH SS **SS 21 40 58.9 +0.5**
LZH pmax pmax
comp=E,100nm,1.3s
LZH pmax pmax
comp=E,340nm,6.0s
LZH LR LR
comp=E,440nm,15.2s
LZH LR LR
comp=E,400nm,15.0s
LZH LR LR
comp=E,480nm,18.3s
PEA0B Petropavlovsk- 59.66 8*c*eP **P 21 29 20.8 +1.4**
PEA0B Petropavlovsk- 59.66 8 P **P 21 29 20.4 +1.0**
PEA0B IAMs_20 IAMs_20 21 49 45.9
comp=Z,2μm,22.0s
PETK Petropavlovsk- 59.66 8 P **P 21 29 19.8 +0.4**
comp=Z,43nm,0.9s,baz=188,slow=7.5,SNR=26
PETK LR LR 21 50 41.8
comp=Z,2μm,21.9s,baz=193,slow=32
PETK Petropavlovsk- 59.66 8 P **P 21 29 20.4 +1.0**
PETK Petropavlovsk- 59.66 8 P **P 21 29 20.4 +1.0**
PET Petropavlovsk 59.71 8 *e*P **P 21 29 21.2 +1.5**
PET *e*S **S 21 37 28.0 +0.9**
PET *e* 21 39 10.1
PET *e*SS **SS 21 41 21.8 -1.9**
PET pmax pmax
comp=Z,52nm,1.1s
PET pmax pmax
comp=Z,300nm,17.2s
PET MLR MLR
comp=Z,800nm,21.0s
PET MLR MLR
comp=Z,700nm,20.0s
PET Petropavlovsk 59.71 8 P **P 21 29 20.7 +1.0**
PET IAmb IAmb 21 29 22.3
comp=Z,36nm,1.0s
HIA Hailar 59.88 340 P **P 21 29 21.0 0.0**
HIA pmax pmax
comp=Z,125nm,1.2s
HIA MLR MLR
comp=Z,700nm,22.0s
HIA Hailar 59.88 340 P **P 21 29 21.0 0.0**
ZEA Zeya 61.76 347 *e*P **P 21 29 33.8 +0.1**
ZEA *e*S **S 21 37 57.3 +4.0**
ZEA pmax pmax
comp=E,10.0nm,0.5s
ZEA pmax pmax
comp=N,20nm,0.9s
ZEA pmax pmax
comp=Z,40nm,0.8s
ZEA smax smax
comp=N,100nm,10.2s
ZEA MLR MLR
comp=E,100nm,17.0s

ZEA MLR MLR
comp=N,200nm,15.0s
ZEA MLR MLR
comp=Z,200nm,17.0s
AIN Ainahou 62.29 65 IAMs_20 IAMs_20 21 48 06.0
comp=Z,1µm,21.0s
BYL Byron's Ledge 62.48 65 IAMs_20 IAMs_20 21 48 16.0
comp=Z,1µm,18.0s
GTA Gaotai 62.56 320 ⇑P **P** **21 29 39.8 +0.2**
GTA pP pP 21 29 49.8 -3.3
GTA sP sP 21 29 53.8 -4.7
GTA S **S** **21 38 00.2 -4.1**
GTA pmax pmax
comp=Z,30nm,0.9s
GTA pmax pmax
comp=Z,140nm,4.9s
GTA LR LR
comp=Z,250nm,18.2s
GTA LR LR
comp=Z,240nm,18.2s
GTA LR LR
comp=Z,250nm,16.4s
SMY Shemya 63.00 18 P **P** **21 29 43.0 +1.0**
SMY pmax pmax
comp=Z,292nm,1.2s
SMY Shemya 63.00 18 P **P** **21 29 43.0 +1.0**
PPT Papeete 63.19 107 LR LR 21 53 32.8
comp=Z,224nm,21.8s,baz=302,slow=32
PPT2 Papeete2 63.20 107 *e*S **S** **21 38 09.9 -2.9**
comp=Z,331nm,25.2s
PPT2 Papeete2 63.20 107 *e*LR LR 21 48 27.4
comp=Z,1µm,23.2s,baz=268
TIAR Tiarei 63.41 107 *e*P **P** **21 29 47.0 +1.5**
comp=Z,37nm,1.6s
TBI Tubuai 63.65 113 *e*S **S** **21 38 16.7 -1.5**
comp=Z,875nm,27.0s
TBI *e*LQ LQ 21 45 59.4
comp=Z,609nm,28.2s
TBI *e*LR LR 21 48 40.6
comp=Z,2µm,33.8s,baz=281
AMKA Amchitka 63.67 22 P **P** **21 29 47.3 +0.9**
ULN Ulaanbaatar 63.99 331 *ce*P **P** **21 29 49.0 +0.2**
ULN pmax pmax
comp=Z,82nm,1.3s
ULN Ulaanbaatar 63.99 331 P **P** **21 29 49.2 +0.3**
ULN IAmb IAmb 21 29 50.7
comp=Z,56nm,1.0s
ULN Ulaanbaatar 63.99 331 P **P** **21 29 49.1 +0.2**
comp=Z,3µmcomp=Z,246nm,1.5s
LSA Lhasa 64.00 307 P **P** **21 29 50.4 +0.7**
LSA LR LR
comp=Z,330nm,10.8s
LSA LR LR
comp=Z,910nm,10.2s
LSA Lhasa 64.00 307 P **P** **21 29 50.4 +0.7**
LSA pmax pmax
comp=Z,17nm,0.8s
LSA Lhasa 64.00 307 P **P** **21 29 50.4 +0.7**
SONM Songino Array 64.28 331 P **P** **21 29 50.7 0.0**
comp=Z,42nm,1.1s,baz=145,slow=7.7,SNR=108
SONM PKP2bc 21 58 44.7
comp=Z,4.6nm,1.0s,baz=270,slow=1.4,SNR=7.0
SONM LR LR 21 58 56.2
comp=Z,658nm,19.4s,baz=131,slow=37
SONM Songino Array 64.28 331 IAmb IAmb 21 29 53.0
comp=Z,86nm,1.4s
CIT Chita 64.37 338 *e*P **P** **21 29 51.6 +0.5**
CIT *e* 21 30 07.7
CIT *e* 21 30 25.1
CIT pmax pmax
comp=Z,223nm,1.5s
PMOR Pomariorio Ree 64.76 104 *e*P **P** **21 29 55.8 +1.5**
comp=Z,391nm,1.3s
CASY Casey 65.14 195 P **P** **21 29 56.0 +0.1**
CASY Casey 65.14 195 IAMs_20 IAMs_20 21 56 13.7
comp=Z,2µm,19.0s
KIWB Kanaga Island 65.42 24 P **P** **21 29 58.4 +0.6**
MA2 Magadan 65.48 2 P **P** **21 29 57.5 -0.7**
comp=Z,19nm,0.9s,baz=168,slow=3.6,SNR=4.7
MA2 Magadan 65.48 2 *ce*P **P** **21 29 58.8 +0.7**
MA2 pmax pmax
comp=Z,42nm,1.3s
MA2 Magadan 65.48 2 IAmb IAmb 21 30 00.8
comp=Z,47nm,1.1s
MA2 IAMs_20 IAMs_20 21 53 43.9
comp=Z,1µm,22.0s
ADK Adak 65.63 24 P **P** **21 29 59.8 +0.6**
ADK pmax pmax
comp=Z,96nm,1.1s
ADK Adak 65.63 24 P **P** **21 29 59.8 +0.6**
RAMN Ramite 66.69 303 *e*P **P** **21 30 08.0 +1.1**
comp=Z,19nm,0.4s
PALK Pallekele 67.13 280 P **P** **21 30 09.2 -0.5**
PALK pmax pmax
comp=Z,69nm,1.2s
PALK Pallekele 67.13 280 P **P** **21 30 09.2 -0.5**
PALK IAmb IAmb 21 30 12.2
comp=Z,69nm,1.1s
PALK Pallekele 67.13 280 P **P** **21 30 12.6 +2.9**
comp=Z,61nm,1.3s
JIRN Jiri 67.27 303 *e*P **P** **21 30 10.8 +0.1**
comp=Z,40nm,0.8s
ZAK Zakamensk 67.52 332 *e*P **P** **21 30 10.7 -0.8**
ZAK pmax pmax
comp=Z,82nm,1.2s
PKI Pulchoki 67.89 303 *e*P **P** **21 30 14.2 -0.4**
comp=Z,36nm,1.0s
PKIN Phulchoki 67.91 303 *e*P **P** **21 30 14.1 -0.5**
KKN Kakani 68.08 303 *e*P **P** **21 30 16.1 +0.5**
DMN Daman 68.16 303 *e*P **P** **21 30 16.7 +0.5**
comp=Z,32nm,0.6s
IRK Irkutsk 68.33 334 *e*P **P** **21 30 15.9 -0.6**
IRK pmax pmax
comp=Z,54nm,1.2s
GKN Gorkha 68.68 303 *e*P **P** **21 30 19.0 -0.3**
comp=Z,83nm,1.1s
SEY Seymchan 68.91 3 P **P** **21 30 19.9 +0.1**
comp=Z,29nm,1.0s,baz=173,slow=5.6,SNR=15
SEY LR LR 22 00 29.8
comp=Z,574nm,19.2s,baz=173,slow=36
YAK Yakutsk 69.13 352 P **P** **21 30 21.0 -0.1**
comp=Z,13nm,0.6s,baz=154,slow=0.8,SNR=17
YAK Yakutsk 69.13 352 *e*P **P** **21 30 20.8 -0.3**
YAK *e**PP **pP** **21 30 33.8 -1.0**
YAK *e*S **S** **21 39 22.0 -1.1**
YAK *e**SS **sS** **21 39 49.3 +4.8**
YAK *e*SS **SS** **21 43 46.4 -3.8**
YAK pmax pmax
comp=Z,56nm,1.1s
YAK pmax pmax
comp=N,22nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK smax smax
comp=N,48nm,1.9s
YAK smax smax
comp=E,86nm,1.7s
YAK Yakutsk 69.13 352 P **P** **21 30 21.3 +0.1**
YAK IAmb IAmb 21 30 22.3
comp=Z,49nm,0.9s
MOY Mondy 69.45 332 *e*P **P** **21 30 22.9 -0.6**
MOY pmax pmax
comp=Z,88nm,1.5s
KOLN Koldanda 69.47 302 *e*P **P** **21 30 24.1 -0.2**
comp=Z,105nm,1.1s
DANN Dangsing 69.53 303 *e*P **P** **21 30 24.6 -0.1**
comp=Z,21nm,0.5s
NIKH Nikolski High 69.75 27 P **P** **21 30 24.9 -0.3**
baz=228
PYUN Piuthan 70.09 303 *e*P **P** **21 30 27.5 -0.6**
comp=Z,56nm,0.5s
HYB Hyderabad 71.17 291 *i*P **P** **21 30 35.0 +0.4**
HYB *es*P **pP** **21 30 47.0 -1.6**
UNV Unalaska Valle 71.39 27 P **P** **21 30 35.1 0.0**
baz=230
VNDA Vanda 71.90 177 P **P** **21 30 37.7 -0.1**
comp=Z,13nm,0.6s,baz=325,slow=6.4,SNR=63
VNDA Vanda 71.90 177 P **P** **21 30 38.4 +0.5**
VNDA pmax pmax
comp=Z,19nm,0.8s
VNDA Vanda 71.90 177 P **P** **21 30 38.4 +0.5**
SPIA Saint Paul Isl 72.06 23 P **P** **21 30 39.7 +0.7**
baz=226
SBA Scott Base 72.55 176 IAMs_20 IAMs_20 21 58 16.2
comp=Z,1µm,19.0s
WMQ Urumqi 72.61 319 ⇑P **P** **21 30 43.2 +0.4**
WMQ pP pP 21 30 50.4 -6.2
WMQ sP PcP 21 30 56.5 -3.6
WMQ pmax pmax
comp=Z,47nm,1.3s
WMQ pmax pmax
comp=Z,310nm,4.7s
FALS False Pass 73.43 27 P **P** **21 30 48.1 +0.8**
baz=232
SDPT Sand Point 75.09 28 IAmb IAmb 21 30 58.5
comp=Z,69nm,0.9s
SDPT Sand Point 75.09 28 P **P** **21 30 56.5 -0.4**
baz=235
BILL Bilibino 75.19 7 *de*P **P** **21 30 57.9 +0.6**
BILL *e* 21 31 09.7
BILL *e* 21 33 46.5
BILL *e*PPP PPP 21 35 36.6
BILL *e*S **S** **21 40 35.4 +3.0**
BILL pmax pmax
comp=Z,75nm,1.3s
BILL MLR MLR
comp=Z,631nm,18.0s
BILL Bilibino 75.19 7 IAMs_20 IAMs_20 22 08 45.3
comp=Z,1µm,19.0s
DGZ Jazzator, Alta 75.48 325 *i*P **P** **21 30 59.0 -0.5**
DGZ pmax pmax
comp=Z,11nm,1.1s
POO Poona 75.78 291 *e*P **P** **21 31 00.0 -1.8**
ZSN Zaisan 75.99 322 *e*P **P** **21 31 01.4 -0.9**
baz=322
ZSN Zaisan 75.99 322 *e*P **P** **21 31 01.4 -0.9**
GAMB Gambell 76.31 18 IAMs_20 IAMs_20 22 00 59.0
comp=Z,1µm,18.0s
GAMB Gambell 76.31 18 P **P** **21 31 03.7 +0.1**
baz=223
CHGN Chignik 76.59 28 IAmb IAmb 21 31 11.2
comp=Z,67nm,1.0s
CHGN Chignik 76.59 28 P **P** **21 31 05.2 -0.2**
baz=237
MKAR Makanchi Array 77.32 321 P **P** **21 31 09.3 -0.6**
comp=Z,14nm,0.8s,baz=111,slow=6.3,SNR=62
MKAR PKPPKP **P'P'df** **21 58 18.7 +1.0**
comp=Z,1.6nm,1.0s,baz=270,slow=0.7,SNR=4.9
MKAR Makanchi Array 77.32 321 *i*P **P** **21 31 09.1 -0.8**
MKAR pmax pmax
comp=Z,15nm,0.9s
MAKZ Makanchi 77.52 321 P **P** **21 31 10.3 -0.7**
MAKZ pmax pmax
comp=Z,33nm,1.1s
MAKZ Makanchi 77.52 321 P **P** **21 31 10.3 -0.7**
MAKZ IAmb IAmb 21 31 12.4
comp=Z,33nm,1.1s
CHIR Chirikof Islan 77.66 29 P **P** **21 31 11.6 +0.1**
baz=239
SHLS Shalkode 77.84 316 *e*P **P** **21 31 10.0 -3.0**
comp=Z,26nm,1.5s,baz=316
SHLS Shalkode 77.84 316 *e*P **P** **21 31 10.0 -3.0**
SHLS pmax pmax
comp=Z,26nm,1.5s
UZB Uzynbulak 78.14 316 ⇑*i*P **P** **21 31 13.0 -1.7**
comp=Z,37nm,2.0s,baz=316
UZB Uzynbulak 78.14 316 *c**i*P **P** **21 31 13.0 -1.7**
UZB pmax pmax
comp=Z,37nm,2.0s
TIXI Tiksi 78.41 354 P **P** **21 31 14.0 -1.4**
comp=Z,23nm,0.9s,baz=137,slow=4.5,SNR=17
TIXI Tiksi 78.41 354 *ce*P **P** **21 31 14.6 -0.8**
TIXI Tiksi 78.41 354 P **P** **21 31 14.0 -1.4**
TIXI IAmb IAmb 21 31 18.8
comp=Z,38nm,1.1s
KPKS Kokpek 78.48 316 *e*P **P** **21 31 15.5 -1.0**
comp=Z,27nm,1.3s,baz=316
KPKS Kokpek 78.48 316 *e*P **P** **21 31 15.4 -1.0**
KPKS pmax pmax
comp=Z,27nm,1.3s
SATY Saty 78.53 316 *e*P **P** **21 31 16.5 -0.4**
comp=Z,18nm,1.4s,baz=316
SATY Saty 78.53 316 *e*P **P** **21 31 16.4 -0.4**
SATY pmax pmax
comp=Z,18nm,1.4s
TNA Tin City 78.72 18 P **P** **21 31 16.9 -0.3**
baz=226
SII Sitkinak Islan 78.73 29 P **P** **21 31 17.8 +0.3**
SII Sitkinak Islan 78.73 29 P **P** **21 31 17.3 -0.2**
baz=240
ANM Nome 78.85 19 IAMs_20 IAMs_20 21 58 39.2
comp=Z,1µm,20.0s
ANM Nome 78.85 19 P **P** **21 31 17.7 -0.2**
baz=229
ZAA0 Zalesovo Array 78.87 328 P **P** **21 31 16.7 -1.6**
ZAA0 IAMs_20 IAMs_20 22 04 49.1
comp=Z,875nm,22.0s
ZALV Zalesovo Beam 78.87 328 P **P** **21 31 16.4 -1.9**
comp=Z,6.9nm,0.5s,baz=109,slow=6.2,SNR=44
ZALV PKKPbc **PKKPbc** **21 50 10.3 -4.0**
comp=Z,1.4nm,0.7s,baz=297,slow=0.3,SNR=4.8
ZALV PKPPKP 21 58 15.9
comp=Z,1.7nm,0.8s,baz=278,slow=2.2,SNR=4.5
ZALV LR LR 22 05 11.3
comp=Z,806nm,21.9s,baz=106,slow=35
ZALV Zalesovo Beam 78.87 328 P **P** **21 31 16.5 -1.7**
ZALV Zalesovo Beam 78.87 328 P **P** **21 31 16.5 -1.7**
KDJ Kajisay 79.09 315 P **P** **21 31 20.0 0.0**
KDJ pmax pmax
comp=Z,36nm,1.1s
KDJ Kajisay 79.09 315 P **P** **21 31 20.0 0.0**
KDJ IAmb IAmb 21 31 21.3
comp=Z,36nm,1.1s
KSH Kashi 79.16 312 P **P** **21 31 21.7 +1.3**
KSH PcP **PcP** **21 31 29.1 +0.5**
KSH pmax pmax
comp=Z,22nm,1.3s
KSH LR LR
comp=Z,280nm,14.0s
KSH LR LR
comp=Z,320nm,15.6s
KSH LR LR
comp=Z,370nm,15.9s
ARXS Arharly 79.31 317 *e*P **P** **21 31 20.7 -0.3**
OHAK Old Harbor 79.48 29 P **P** **21 31 21.6 +0.1**
baz=241
MDOK Medeo 79.51 316 *e*P **P** **21 31 20.7 -1.6**
baz=316
MDOK Medeo 79.51 316 *e*P **P** **21 31 20.6 -1.6**
TNSS Tian-Shan 79.54 316 *e*P **P** **21 31 22.3 -0.4**
baz=316
AAA Alma-Ata 79.61 316 *e*P **P** **21 31 20.8 -1.9**
baz=316
AAA Alma-Ata 79.61 316 *e*P **P** **21 31 20.8 -1.9**
NIL Nilore 79.69 306 P **P** **21 31 23.0 -0.2**
NIL pmax pmax
comp=Z,79nm,1.0s
NIL Nilore 79.69 306 P **P** **21 31 23.0 -0.2**
CHKK Chushkaly 79.77 316 *e*P **P** **21 31 21.4 -2.1**
baz=316
ULHL Ulahol 79.78 315 P **P** **21 31 23.5 -0.3**
SNR=13
MTBS Maitube 79.93 316 *e*P **P** **21 31 22.0 -2.3**
baz=316
BOOM Boomskoye usch 80.07 315 IAmb IAmb 21 31 26.5
comp=Z,39nm,1.2s
KDAK Kodiak Island 80.08 28 P **P** **21 31 24.2 -0.6**
comp=Z,33nm,1.1s,baz=213,slow=6.1,SNR=6.4
KDAK Kodiak Island 80.08 28 P **P** **21 31 24.9 +0.2**
KDAK pmax pmax
comp=Z,26nm,1.0s
KDAK Kodiak Island 80.08 28 P **P** **21 31 24.9 +0.2**
KDAK Kodiak Island 80.08 28 P **P** **21 31 24.7 0.0**
baz=242
Q19K Cape Douglas, 80.15 27 P **P** **21 31 24.2 -1.0**
baz=241,SNR=9.2
KUU Kurty 80.22 316 *e*P **P** **21 31 24.5 -1.5**
comp=Z,46nm,1.2s,baz=316
KUU Kurty 80.22 316 *e*P **P** **21 31 24.4 -1.5**
KUU pmax pmax
comp=Z,46nm,1.2s
SVW2 Sparrevohn 80.41 25 IAmb IAmb 21 31 29.8
comp=Z,46nm,1.0s
KZA Kyzart 80.44 314 P **P** **21 31 27.8 +0.2**
SNR=36
TKM2 Tokmak 2 80.44 315 P **P** **21 31 26.7 -0.6**
SNR=19
O19K Port Alsworth 80.48 26 P **P** **21 31 26.2 -0.6**
baz=240
P19K Oil Pt 80.69 26 IAmb IAmb 21 31 29.3
comp=Z,56nm,0.8s
P19K Oil Pt 80.69 26 P **P** **21 31 27.2 -0.8**
baz=241,SNR=6.5
N19K Bonanza Creek 80.72 25 P **P** **21 31 28.8 +0.5**
N19K Bonanza Creek 80.72 25 P **P** **21 31 28.4 +0.1**
baz=240,SNR=8.8
KBK Karagaybulak 80.82 315 P **P** **21 31 30.2 +0.9**
SNR=6.1
UCH Uchtor 81.01 314 P **P** **21 31 30.7 +0.1**
SNR=21
KURK Kurchatov 81.05 323 P **P** **21 31 28.8 -1.3**
KURK Kurchatov 81.05 323 P **P** **21 31 28.8 -1.3**
KURK **PP** **21 34 36.6 +1.1**
CHMS Chumysh 81.06 315 P **P** **21 31 30.2 -0.2**
SNR=6.1
KURBB Kurchatov Arra 81.07 323 P **P** **21 31 28.8 -1.4**
comp=Z,8.2nm,0.9s,baz=112,slow=4.3,SNR=33
KURBB PP **PP** **21 34 36.6 +0.9**
comp=Z,2.0nm,0.9s,baz=116,slow=8.1,SNR=5.9
FRU1 Bishkek 81.09 315 P **P** **21 31 30.7 +0.1**
FRU1 pmax pmax
comp=Z,25nm,1.2s
FRU1 Bishkek 81.09 315 P **P** **21 31 30.7 +0.1**
AAK Ala-Archa 81.14 315 P **P** **21 31 30.2 -0.8**
comp=Z,9.0nm,0.8s,baz=134,slow=5.6,SNR=25
AAK Ala-Archa 81.14 315 P **P** **21 31 30.8 -0.2**
SNR=12
AAK Ala-Archa 81.14 315 *ce*P **P** **21 31 30.9 -0.1**
AAK pmax pmax
comp=Z,94nm,1.7s
AAK Ala-Archa 81.14 315 P **P** **21 31 30.4 -0.6**
O20K Slope Mountain 81.17 26 P **P** **21 31 30.1 -0.5**
baz=241
L19K White Mountain 81.27 24 IAmb IAmb 21 31 33.5
comp=Z,34nm,0.9s
L19K White Mountain 81.27 24 P **P** **21 31 31.5 +0.4**
baz=239,SNR=17
SGDS Sogindy 81.28 316 *e*P **P** **21 31 28.9 -2.7**
baz=316
RSO Redoubt South 81.29 26 P **P** **21 31 31.5 0.0**
USP Ospenovka 81.31 315 P **P** **21 31 31.2 -0.5**
SNR=24
AML Almayashu 81.56 314 P **P** **21 31 34.8 +1.3**
SNR=16
EKS2 Erkin-Say 81.65 315 P **P** **21 31 33.5 -0.2**
SNR=27
L20K Farewell, AK 81.82 24 P **P** **21 31 34.3 +0.4**
baz=240,SNR=11
M20K Styx River 81.82 25 IAmb IAmb 21 31 36.2
comp=Z,29nm,0.8s
M20K Styx River 81.82 25 P **P** **21 31 34.1 0.0**
baz=241,SNR=16
BRSE Bradley Lake S 81.84 27 P **P** **21 31 34.8 +0.6**
baz=243
RDOG Red Dog Mine 81.87 17 P **P** **21 31 35.0 +0.9**
RDOG IAmb IAmb 21 31 38.3
comp=Z,58nm,1.0s
RDOG Red Dog Mine 81.87 17 P **P** **21 31 34.5 +0.4**
baz=231
SPCR Spurr Chakacha 81.88 25 P **P** **21 31 34.4 0.0**
baz=242
MAW Mawson 82.09 203 P **P** **21 31 35.6 +0.3**
baz=82,SNR=13
MAW Mawson 82.09 203 P **P** **21 31 34.8 -0.5**
comp=Z,14nm,0.9s,baz=75,slow=6.3,SNR=18
MAW LR LR 22 07 20.2
comp=Z,867nm,19.6s,baz=72,slow=35
MAW Mawson 82.09 203 P **P** **21 31 35.6 +0.3**
MAW pmax pmax
comp=Z,8.0nm,1.4s
MAW MLR MLR
comp=Z,200nm,19.0s
MAW Mawson 82.09 203 P **P** **21 31 35.6 +0.3**
CAPN Captain Cook N 82.13 26 P **P** **21 31 35.6 0.0**
baz=243
BTLS Baital 82.14 317 ⇑*i*P **P** **21 31 34.5 -1.6**
comp=Z,18nm,1.3s,baz=317
BTLS Baital 82.14 317 *c**i*P **P** **21 31 34.4 -1.6**
BTLS pmax pmax
comp=Z,18nm,1.3s
K20K Telida 82.18 23 IAmb IAmb 21 31 38.4
comp=Z,26nm,0.9s
K20K Telida 82.18 23 P **P** **21 31 36.2 +0.3**
baz=240,SNR=18
DRK Karamyk 82.26 311 P **P** **21 31 36.5 -0.6**
SKT Skwentna 82.53 25 P **P** **21 31 37.3 -0.5**
baz=242
J20K Nowinta River 82.57 22 IAmb IAmb 21 31 39.8
comp=Z,62nm,1.3s
J20K Nowinta River 82.57 22 P **P** **21 31 38.1 +0.3**
baz=240,SNR=21
SEW Seward 82.59 27 IAmb IAmb 21 31 43.1
comp=Z,88nm,1.4s
SEW Seward 82.59 27 P **P** **21 31 37.9 -0.1**
baz=244
SUA Susitna One 82.63 25 P **P** **21 31 38.2 -0.1**
baz=243
O22K Cooper Landing 82.63 27 IAmb IAmb 21 31 57.6
comp=Z,50nm,0.8s
O22K Cooper Landing 82.63 27 P **P** **21 31 38.2 0.0**
baz=244
PPLA Purkeypile 82.70 24 IAmb IAmb 21 31 43.6
comp=Z,42nm,1.5s
PPLA Purkeypile 82.70 24 P **P** **21 31 38.0 -0.7**
baz=241
RC01 Rabbit Creek A 82.89 26 IAmb IAmb 21 31 40.8
comp=Z,54nm,1.1s
RC01 Rabbit Creek A 82.89 26 P **P** **21 31 38.9 -0.7**
baz=244,SNR=7.8
CAST Castle Rocks 82.99 23 IAmb IAmb 21 31 41.3
comp=Z,32nm,1.1s
CAST Castle Rocks 82.99 23 P **P** **21 31 39.2 -0.8**
baz=242,SNR=16
CHUM Lake Minchumin 83.13 23 P **P** **21 31 40.6 -0.1**
baz=241,SNR=24
CUT Chulitna 83.26 25 P **P** **21 31 39.8 -1.6**
baz=243
GAR Garm 83.26 310 IAmb IAmb 21 31 42.7
comp=Z,38nm,1.2s
KBL Kabul 83.29 306 P **P** **21 31 41.3 -1.2**
KBL pmax pmax
comp=Z,26nm,1.3s
KBL Kabul 83.29 306 P **P** **21 31 41.3 -1.2**
KBL IAmb IAmb 21 31 42.8
comp=Z,26nm,1.2s
PMR Palmer 83.38 26 IAmb IAmb 21 31 42.6
comp=Z,27nm,1.0s
PMR Palmer 83.38 26 P **P** **21 31 41.1 -1.0**
baz=244
DZA Taraz 83.45 314 *e*P **P** **21 31 40.9 -2.1**
baz=314
DZA Taraz 83.45 314 *e*P **P** **21 31 40.8 -2.1**
KTH Kantishna Hill 83.52 24 IAmb IAmb 21 31 43.6
comp=Z,42nm,1.1s
KNK Knik Glacier 83.59 26 P **P** **21 31 42.5 -0.7**
KNK IAmb IAmb 21 31 44.8
comp=Z,32nm,0.9s
KNK Knik Glacier 83.59 26 P **P** **21 31 42.7 -0.5**
baz=245,SNR=5.9
TRF Thorofare Moun 83.72 24 P **P** **21 31 42.6 -1.4**
baz=243
Q23K Middleton Isla 83.74 28 P **P** **21 31 42.6 -1.4**
baz=247
BPAW Bear Paw Mtn. 83.75 23 IAmb IAmb 21 31 46.3
comp=Z,43nm,1.4s
BPAW Bear Paw Mtn. 83.75 23 P **P** **21 31 42.9 -1.0**
baz=242,SNR=16
SML Sawmill 83.81 26 P **P** **21 31 43.7 -0.6**
baz=245,SNR=21
I21K Tanana 83.88 22 IAmb IAmb 21 31 46.9
comp=Z,38nm,1.0s
I21K Tanana 83.88 22 P **P** **21 31 44.7 +0.1**
baz=241,SNR=22
QSPA South Pole Qui 83.93 180 P **P** **21 31 44.8 -0.2**
QSPA IAmb IAmb 21 31 46.7
comp=Z,34nm,0.9s
GLI Glacier Island 83.97 27 P **P** **21 31 43.6 -1.6**
baz=246
CHGR Chuyangaron 84.07 310 IAmb IAmb 21 31 46.7
comp=Z,43nm,0.9s
KK31 Karatay Array 84.08 314 IAmb IAmb 21 31 46.9
comp=Z,49nm,1.4s
KKAR Karatay Array 84.08 314 IAmb IAmb 21 31 46.9
comp=Z,49nm,1.4s
WAT1 Susitna Watana 84.16 25 P **P** **21 31 44.9 -1.2**
baz=245
IUG Iuzhnay 84.20 313 *e*P **P** **21 31 45.5 -1.4**
baz=313
IUG Iuzhnay 84.20 313 *e*P **P** **21 31 45.4 -1.4**

SCM Sheep Creek Mo 84.26 26 IAmb IAmb 21 31 48.3
comp=Z,55nm,1.1s
MLY Manley 84.27 22 IAmb IAmb 21 31 48.3
comp=Z,40nm,0.8s
MLY Manley 84.27 22 P P 21 31 46.2 -0.5
baz=242,SNR=42
MCK McKinley 84.39 24 P P 21 31 46.0 -1.3
baz=244,SNR=21
BRZS Berezniki 84.42 321 eP P 21 31 45.9 -1.8
comp=Z,47nm,1.9s,baz=321
BRZS Berezniki 84.42 321 eP P 21 31 45.9 -1.8
BRZS pmax pmax
comp=Z,47nm,1.9s
EYAK Cordova Ski Ar 84.45 27 P P 21 31 45.7 -1.8
baz=248
NEA2 Nenana 84.71 23 IAmb IAmb 21 31 49.5
comp=Z,26nm,0.9s
NEA2 Nenana 84.71 23 P P 21 31 47.2 -1.6
baz=244,SNR=22
KLU Klutina 84.74 26 IAmb IAmb 21 31 51.0
comp=Z,40nm,1.0s
KLU Klutina 84.74 26 P P 21 31 48.8 -0.4
baz=247,SNR=7.6
DHY Denali Highway 84.75 25 IAmb IAmb 21 31 50.7
comp=Z,37nm,0.9s
DHY Denali Highway 84.75 25 P P 21 31 48.6 -0.6
baz=246,SNR=18
KAIM Kayak Island 84.83 28 P P 21 31 49.6 +0.1
baz=249
I23K Minto, Yukon-K 84.85 22 IAmb IAmb 21 31 53.6
comp=Z,11nm,0.6s
I23K Minto, Yukon-K 84.85 22 P P 21 31 48.6 -0.9
baz=244,SNR=12
M24K Tolsona, Glenn 84.87 26 IAmb IAmb 21 31 51.3
comp=Z,36nm,0.8s
M24K Tolsona, Glenn 84.87 26 P P 21 31 49.1 -0.6
baz=247,SNR=5.8
WRH Wood River Hil 85.04 23 IAmb IAmb 21 31 51.1
comp=Z,42nm,1.0s
H23K Yukon River 85.08 22 IAmb IAmb 21 31 52.1
comp=Z,25nm,0.9s
H23K Yukon River 85.08 22 P P 21 31 50.5 -0.2
baz=244,SNR=16
BMRM Bremner River 85.13 27 IAmb IAmb 21 31 54.7
comp=Z,38nm,1.0s
BMRM Bremner River 85.13 27 P P 21 31 50.7 -0.3
baz=248
CCB Clear Creek Bu 85.23 23 IAmb IAmb 21 31 51.8
comp=Z,37nm,0.9s
TCOL CIGO, UAF Yank 85.30 23 P P 21 31 50.9 -0.8
N25K Chitina, Valde 85.37 27 P P 21 31 52.3 +0.1
baz=248
BGLC Bering Glacier 85.44 28 P P 21 31 52.4 0.0
baz=250
HDA Harding Lake 85.47 24 IAmb IAmb 21 31 53.9
comp=Z,15nm,0.8s
COLD Coldfoot 85.48 20 IAmb IAmb 21 31 54.4
comp=Z,26nm,1.0s
COLD Coldfoot 85.48 20 P P 21 31 52.7 +0.1
baz=243
PAX Paxson 85.50 25 P P 21 31 52.3 -0.6
baz=248,SNR=5.3
POKR Poker Plat Res 85.57 23 P P 21 31 51.9 -1.2
baz=246
IL31 85.64 23 P P 21 31 51.8 -1.6
IL31 IAmb IAmb 21 31 53.5
comp=Z,38nm,0.8s
ILAR Eielson Array 85.64 23 P P 21 31 52.0 -1.4
comp=Z,29nm,0.7s,baz=251,slow=4.7,SNR=140
ILAR LR LR 22 06 21.3
comp=Z,806nm,19.9s,baz=198,slow=33
ILAR Eielson Array 85.64 23 P P 21 31 51.4 -2.0
GLB Gilahina Butte 85.66 27 IAmb IAmb 21 31 54.9
comp=Z,29nm,0.8s
H24K Noodor Dome 85.70 22 P P 21 31 53.4 -0.4
baz=245,SNR=12
VRDI Verde Repeater 85.75 27 IAmb IAmb 21 31 55.4
comp=Z,28nm,1.0s
MCARA McCarthy VSAT 86.00 27 P P 21 31 55.6 +0.3
MCARA IAmb IAmb 21 31 57.3
comp=Z,40nm,1.4s
MCARA McCarthy VSAT 86.00 27 P P 21 31 54.7 -0.6
baz=250
RIDG Independent Ri 86.06 25 P P 21 31 54.8 -0.8
baz=248,SNR=16
MESA MESA 86.08 28 P P 21 31 54.4 -1.6
baz=251
J25K Salcha River, 86.18 24 P P 21 31 55.3 -0.9
baz=248,SNR=46
MENT Mentasta 86.24 25 IAmb IAmb 21 31 57.8
comp=Z,16nm,0.8s
TOLK Toolik Lake Re 86.33 19 P P 21 31 57.5 +0.6
TOLK IAmb IAmb 21 31 58.6
comp=Z,18nm,0.9s
TOLK Toolik Lake Re 86.33 19 P P 21 31 57.2 +0.3
baz=243
DOT Dot Lake 86.35 25 IAmb IAmb 21 31 58.6
comp=Z,38nm,1.0s
M26K Nabesna, AK 86.36 26 P P 21 31 56.8 -0.3
M26K IAmb IAmb 21 31 58.6
comp=Z,30nm,1.4s
M26K Nabesna, AK 86.36 26 P P 21 31 56.8 -0.3
baz=250
L26K Log Cabin Wild 86.43 25 IAmb IAmb 21 31 58.7
comp=Z,18nm,0.8s
PRP Porcupine Dome 86.47 23 P P 21 31 56.2 -1.5
baz=247
SCRK Sand Creek 86.50 24 IAmb IAmb 21 31 58.8
comp=Z,18nm,1.0s
SCRK Sand Creek 86.50 24 P P 21 31 57.3 -0.6
baz=249,SNR=9.3
BARN Barnard Glacie 86.51 28 IAmb IAmb 21 31 59.7
comp=Z,31nm,0.7s
BVAR Borovoye Array 86.61 324 P P 21 31 56.7 -1.8
comp=Z,9.1nm,0.8s,baz=134,slow=6.2,SNR=23
CTG Chitna Glacier 86.62 28 P P 21 31 58.6 0.0
baz=251,SNR=7.7
BRVK Borovoye 86.68 324 ceP P 21 31 57.5 -1.3
BRVK pmax pmax
comp=Z,10.0nm,1.0s
LOGN Logan Glacier 86.74 28 IAmb IAmb 21 32 00.6
comp=Z,24nm,0.8s
PINM Pinnacle 86.86 29 P P 21 31 58.6 -1.0
baz=252
FYU Fort Yukon 86.98 22 P P 21 32 00.4 +0.4
FYU IAmb IAmb 21 32 02.9
comp=Z,35nm,1.0s
L27K Beaver Creek, 87.09 26 IAmb IAmb 21 32 02.2
comp=Z,28nm,1.1s
L27K Beaver Creek, 87.09 26 P P 21 32 00.4 -0.3
baz=251,SNR=17
YUK3 Moose Creek 87.28 27 P P 21 32 01.6 -0.2
baz=252,SNR=8.6
BVCY Beaver Creek 87.30 26 P P 21 32 01.5 -0.2
baz=252,SNR=7.1
EGAK Eagle 87.93 24 P P 21 32 04.4 -0.1
baz=251,SNR=21
YUK4 Talbot Arm 87.98 28 P P 21 32 05.8 +0.7
baz=254,SNR=9.5
YUK6 Outpost Mounta 88.00 28 P P 21 32 05.2 -0.1
baz=254
HYT Haines Junctio 88.38 28 IAmb IAmb 21 32 08.7
comp=Z,25nm,0.9s
HYT Haines Junctio 88.38 28 P P 21 32 07.1 +0.2
baz=255,SNR=12
DAWY Dawson 88.44 25 P P 21 32 07.2 +0.1
baz=253,SNR=32
SIT Sitka 88.54 32 P P 21 32 07.1 -0.5
baz=257
HRA Herat 88.79 305 IAmb IAmb 21 32 10.0
comp=Z,30nm,1.3s
SKAG Skagway 89.09 30 P P 21 32 09.8 -0.3
baz=257
BESE Bessie Mountai 89.13 31 P P 21 32 10.4 -0.1
CRAG Craig 89.40 34 P P 21 32 11.5 -0.2
baz=259
WRAK Wrangell Islan 90.01 33 P P 21 32 15.5 +1.0
WRAK IAmb IAmb 21 32 18.5
comp=Z,54nm,1.3s
WRAK Wrangell Islan 90.01 33 P P 21 32 14.4 -0.1
baz=259
EPYK Eagle Plains 90.16 23 P P 21 32 14.3 -0.8
baz=255
SYO Syowa Base 90.45 200⇑ eP P 21 32 16.2 -0.2
DLBC Dease Lake 91.59 32 P P 21 32 22.1 +0.1
comp=Z,14nm,1.2s,baz=294,slow=1.5,SNR=4.3
DLBC Dease Lake 91.59 32 P P 21 32 22.4 +0.5
DLBC IAmb IAmb 21 32 25.9
comp=Z,23nm,1.4s
BBB Bella Bella 91.79 38 P P 21 32 23.4 +0.5
comp=Z,23nm,1.1s,baz=242,slow=5.2,SNR=7.8
BBB Bella Bella 91.79 38 P P 21 32 23.1 +0.2
INK Inuvik 91.80 21 P P 21 32 21.4 -1.2
comp=Z,24nm,1.2s,baz=232,slow=8.1,SNR=7.3
INK Inuvik 91.80 21 IAmb IAmb 21 32 23.6
comp=Z,36nm,1.3s
INK Inuvik 91.80 21 P P 21 32 21.0 -1.6
baz=258
GEYT Alibeck 92.53 308 P P 21 32 25.6 -1.2
comp=Z,63nm,0.8s,baz=196,slow=10,SNR=6.0
KHMM Horse Mountain 93.60 49 P P 21 32 31.8 0.0
KCPM Cahto Peak 93.61 51 P P 21 32 31.0 -0.8
J01E Myrtle Point 93.64 47 P P 21 32 30.8 -0.9
baz=265
AKTO Aktyubinsk 93.75 320 P P 21 32 29.8 -2.2
comp=Z,2.0nm,0.8s,baz=100,slow=6.1,SNR=6.0
K02D Willamette Mer 93.80 48 P P 21 32 31.4 -1.1
baz=265
L02E Cave Junction 93.80 48 P P 21 32 31.6 -0.9
baz=265
ARU Arti 93.94 326 P P 21 32 29.9 -2.8
comp=Z,0.9nm,0.7s,baz=121,slow=5.9,SNR=5.1
ARU PP PP 21 36 20.6 +1.6
comp=Z,0.4nm,0.3s,baz=92,slow=12,SNR=5.3
ARU Arti 93.94 326 c iP P 21 32 30.2 -2.5
ARU 21 36 14.1
ARU S SKSac 21 43 01.5 -2.2
ARU pmax pmax
comp=Z,7.0nm,1.1s
ARU Arti 93.94 326 IAMs_20 IAMs_20 22 20 14.7
comp=Z,1μm,20.0s
NLWA Neilton Lookou 94.03 43 P P 21 32 33.8 +0.4
NLWA IAmb IAmb 21 32 36.4
comp=Z,26nm,1.3s
GDXM Geysers 94.15 52 P P 21 32 34.4 +0.2
GDXM IAmb IAmb 21 32 37.6
comp=Z,17nm,1.3s
O02D Mt. Diablo Mer 94.26 50 P P 21 32 34.7 0.0
baz=266,SNR=14
G03D McMinnville, O 94.28 45 P P 21 32 34.2 -0.4
baz=266
M02C Callahan 94.30 49 P P 21 32 34.8 0.0
baz=266,SNR=9.7
HUMO Hull Mountain 94.31 48 P P 21 32 35.9 +1.1
HUMO IAmb IAmb 21 32 37.5
comp=Z,29nm,1.3s
N02D Trinity Center 94.38 49 P P 21 32 35.0 -0.2
baz=266,SNR=8.4
YBH Yreka Blue Hor 94.43 49 P P 21 32 35.2 -0.3
comp=Z,27nm,1.3s,baz=154,slow=13,SNR=11
YBH Yreka Blue Hor 94.43 49 P P 21 32 36.4 +0.9
YBH pmax pmax
comp=Z,25nm,1.2s
YBH Yreka Blue Hor 94.43 49 P P 21 32 36.4 +0.9
YBH IAmb IAmb 21 32 38.1
comp=Z,24nm,1.2s
WDC Whiskeytown Da 94.48 50 P P 21 32 36.4 +0.8
WDC pmax pmax
comp=Z,25nm,1.2s
WDC Whiskeytown Da 94.48 50 P P 21 32 36.4 +0.8
WDC IAmb IAmb 21 32 38.1
comp=Z,25nm,1.2s
H04D Lebanon 94.60 46 P P 21 32 34.7 -1.3
baz=266
D04E Lakebay 94.76 43 P P 21 32 35.4 -1.2
baz=266
L04D Klamath Falls 94.77 48 P P 21 32 35.6 -1.5
baz=266
E04D Cinebar 94.86 44 P P 21 32 35.7 -1.4
baz=266
A04D Lummi Island 94.90 42 P P 21 32 36.1 -1.1
baz=266
O03E Paynes Creek 95.02 50 P P 21 32 37.2 -1.0
baz=266,SNR=7.1
ORV Oroville 95.20 51 IAmb IAmb 21 32 40.9
comp=Z,20nm,1.1s
B05A Bryant 95.28 42 P P 21 32 38.6 -0.4
baz=267
D05A Enumclaw 95.29 43 P P 21 32 39.9 +0.8
D05A IAmb IAmb 21 32 47.6
comp=Z,28nm,1.1s
LLLB Lillooet 95.53 40 P P 21 32 40.6 +0.3
LLLB IAmb IAmb 21 32 43.8
comp=Z,21nm,1.3s
J05D Fort Rock, OR 95.61 47 P P 21 32 40.1 -0.8
baz=267,SNR=7.2
G05D Wamic, OR 95.66 45 P P 21 32 40.3 -0.6
baz=267
K05A Summer Lake 95.84 48 IAmb IAmb 21 32 43.9
comp=Z,22nm,1.3s
PINE Pine Mountain 95.85 47 P P 21 32 42.4 +0.3
LTY Liberty 96.19 43 IAmb IAmb 21 32 45.6
comp=Z,23nm,1.5s
BELA Belgrano 2 96.21 180 IAmb IAmb 21 32 44.6
comp=Z,24nm,1.2s
E07A Sunnyside 96.73 44 P P 21 32 46.2 +0.4
E07A IAmb IAmb 21 32 48.2
comp=Z,24nm,1.3s
PAHR Pah Rah Range 96.84 51 P P 21 32 47.0 +0.4
YERR Yerington 96.93 52 P P 21 32 46.3 -0.8
HAWA Hanford 96.94 44 IAmb IAmb 21 32 49.1
comp=Z,22nm,1.3s
MDPB Devils Postpil 97.00 53 P Pdif 21 32 47.6 0.0
B08A Colville Reser 97.12 42 IAmb IAmb 21 32 49.0
comp=Z,22nm,1.4s
E08A Dider Farm, El 97.27 44 P Pdif 21 32 48.5 +0.3
E08A IAmb IAmb 21 32 50.7
comp=Z,32nm,1.4s
G08A Pilot Rock 97.32 45 IAmb IAmb 21 32 50.1
comp=Z,12nm,1.3s
CIS Catalina Islan 97.38 57 P P 21 32 49.0 0.0
baz=268
D08A Wollman Farm, 97.38 43 P Pdif 21 32 48.7 0.0
D08A IAmb IAmb 21 32 50.4
comp=Z,14nm,1.3s
ISA Isabella, Lake 97.42 55 P Pdif 21 32 49.6 +0.3
ISA pmax pmax
comp=Z,6.0nm,1.2s
ISA Isabella, Lake 97.42 55 P Pdif 21 32 49.6 +0.3
ISA Isabella, Lake 97.42 55 P P 21 32 48.7 -0.5
baz=268
LHV Little Huntoon 97.48 52 P Pdif 21 32 49.6 +0.3
WVOR Wild Horse Val 97.49 48 P P 21 32 49.2 -0.2
WVOR pmax pmax
comp=Z,8.0nm,1.3s
WVOR Wild Horse Val 97.49 48 P P 21 32 49.2 -0.2
NVAR Mina Array Bea 97.64 52 P P 21 32 49.3 -1.0
comp=Z,4.6nm,1.0s,baz=258,slow=4.6,SNR=20
NVAR PP PP 21 36 46.9 -1.7
comp=Z,0.4nm,0.7s,baz=269,slow=9.0,SNR=2.1
MWC Mount Wilson 97.71 56 P Pdif 21 32 50.8 +0.1
MWC pmax pmax
comp=Z,42nm,1.4s
MWC Mount Wilson 97.71 56 P Pdif 21 32 50.8 0.0
EDW2 Edwards Air Fo 97.78 56 P P 21 32 50.5 -0.4
baz=268,SNR=6.4
E09A Wood Farm, Sta 97.91 44 IAmb IAmb 21 32 53.4
comp=Z,21nm,1.1s
LRMC Laurel Mtn Rad 98.06 55 P P 21 32 51.9 -0.2
baz=268
MPMC Manual Prospec 98.23 55 P P 21 32 52.5 -0.5
baz=269
TPH Tonopah 98.49 53 P P 21 32 54.1 0.0
TPH pmax pmax
comp=Z,37nm,1.5s
TPH Tonopah 98.49 53 P Pdif 21 32 54.1 0.0
TPH IAmb IAmb 21 32 55.6
comp=Z,37nm,1.5s
TJX Tijuana 98.49 58 IAMs_20 IAMs_20 22 09 11.1
comp=Z,1μm,21.0s
BMN Battle Mountai 98.52 50 P P 21 32 54.0 -0.2
BMN pmax pmax
comp=Z,5.0nm,1.0s
BMN Battle Mountai 98.52 50 P P 21 32 54.0 -0.2
F10A Beach Ranch, E 98.54 45 IAmb IAmb 21 32 56.0
comp=Z,10.0nm,1.0s
NEW Newport 98.60 42 P P 21 32 53.5 -0.6
comp=Z,8.1nm,0.8s,baz=257,slow=3.9,SNR=13
NEW Newport 98.60 42 P Pdif 21 32 54.6 +0.4
NEW pmax pmax
comp=Z,8.0nm,0.8s
NEW Newport 98.60 42 Pdif 21 32 54.6 +0.4
NEW IAmb IAmb 21 32 57.7
comp=Z,8.4nm,0.8s
NEW Newport 98.60 42 P Pdif 21 32 54.9 +0.7
baz=271
PFO Pinyon Flats O 99.02 57 P Pdif 21 32 56.8 +0.3
comp=Z,3.6nm,1.1s,baz=234,slow=3.7,SNR=2.9
PFO Pinyon Flats O 99.02 57 IAmb IAmb 21 32 58.9
comp=Z,9.9nm,1.3s
PFO Pinyon Flats O 99.02 57 P Pdif 21 32 56.9 +0.4
baz=269
TPFO Pinon Flats 99.02 57 P Pdif 21 32 56.6 +0.1
baz=269
MONP2 Monument Peak 99.03 58 P Pdif 21 32 57.2 +0.5
baz=269
HEC Hector,Ludlow 99.15 56 P Pdif 21 32 57.3 +0.4
baz=269
TPNV Topopah Spring 99.24 54 P Pdif 21 32 57.9 +0.4
baz=269
IKP In-Ko-Pah, Jac 99.29 58 P Pdif 21 32 57.7 0.0
baz=269
YKA Yellowknife Ar 99.35 28 P Pdif 21 32 56.6 -0.5
comp=Z,5.4nm,0.9s,baz=277,slow=3.5,SNR=7.7
BELC Belle Mtn. Jos 99.41 57 P Pdif 21 32 58.4 +0.2
baz=269
TUQ Turquoise Moun 99.49 55 P Pdif 21 32 59.0 +0.4
baz=269
SWSC Sam W. Stewart 99.56 58 P Pdif 21 32 59.3 +0.5
baz=269
MFID Camas Ranch 99.56 47 IAmb IAmb 21 33 00.9
comp=Z,12nm,1.3s
R11A Troy Canyon, C 99.78 52 P Pdif 21 33 00.1 +0.2
baz=270
BC3 Big Chuckawall 99.86 57 P Pdif 21 33 00.8 +0.6
baz=269
SNAA Sanae 99.91 189 P Pdif 21 33 00.4 +0.9
ELK Elko 100.03 50 P Pdif 21 33 00.4 -0.6
comp=Z,3.7nm,1.1s,baz=246,slow=4.5,SNR=6.5
ELK Elko 100.03 50 P Pdif 21 33 00.6 -0.4
ELK Elko 100.03 50 Pdif Pdif 21 33 00.6 -0.4
IRM Iron Mountain 100.12 56 P Pdif 21 33 01.5 +0.2
baz=270
GUVIX Guadalupe Vict 100.16 58 IAMs_20 IAMs_20 22 08 35.3
comp=Z,797nm,20.0s
HLID Hailey 100.59 47 Pdif Pdif 21 33 03.2 -0.1
HLID Hailey 100.59 47 P Pdif 21 33 03.2 -0.1
baz=272
SPR3 Spring Creek 3 100.75 52 Pdif Pdif 21 33 04.8 +0.4
PDMCI Parker Dam,Lak 100.95 56 P Pdif 21 33 05.3 +0.5
baz=270
VNA2 Neumayer--Watz 101.27 188 P Pdif 21 33 05.7 +0.1
VNA3 Neumayer Olymp 101.30 188 P Pdif 21 33 06.2 +0.5
VNA1 Neumayer--Stat 101.64 188 P Pdif 21 33 07.3 +0.1
DUG Dugway, Tooele 101.89 50 P Pdif 21 33 09.3 +0.1
baz=272
BOZ Bozeman (W) 102.47 45 P Pdif 21 33 12.7 +1.0
baz=274
IMW Indian Meadow 103.08 46 IAMs_20 IAMs_20 22 12 19.4
comp=Z,676nm,20.0s
FLWY Flagg Ranch 103.24 46 IAMs_20 IAMs_20 22 13 04.6
comp=Z,896nm,20.0s
EGMT Eagleton 103.54 42 P Pdif 21 33 17.1 +0.9
baz=276
KLMR Klimovskoe 103.57 331 eP Pdif 21 33 10.0 -5.9
KLMR pmax pmax
comp=Z,9.0nm,1.1s
KLMR Klimovskoe 103.57 331 eP Pdif Pdif 21 33 10.1 -5.9
KLMR AMP 21 33 14.6
comp=Z,9.0nm,1.1s
KLMR eP P 21 37 21.4 -11
ONI Oni 103.79 312 IAMs_20 IAMs_20 22 24 42.6
comp=Z,653nm,20.0s
KBZ Khabaz 104.10 313 PP PP 21 37 35.4 -1.4
comp=Z,3.3nm,1.0s,baz=67,slow=7.7,SNR=6.9
BW06 Boulder Array 104.18 48 P Pdif 21 33 19.6 +0.3
baz=275
PDAR Pinedale Array 104.18 48 Pdiff Pdif 21 33 18.9 -0.4
comp=Z,1.3nm,0.8s,baz=294,slow=0.9,SNR=11
PDAR PKiKP PP 21 37 37.4 -0.4
comp=Z,0.5nm,0.7s,baz=236,slow=1.0,SNR=4.8
KARS Kars 104.22 310 IAMs_20 IAMs_20 22 28 46.9
comp=Z,1μm,21.0s
KIV Kislovodsk 104.23 314 IAMs_20 IAMs_20 22 24 07.1
comp=Z,476nm,19.0s
APA Apatity 104.31 339 ‖ iP Pdif 21 33 29.5 +10
APA pmax pmax
comp=Z,5.0nm,0.9s
APA MLR MLR
comp=Z,1μm,17.0s
PV05 Paradox Valley 104.89 52 IAMs_20 IAMs_20 22 07 51.6
comp=Z,475nm,22.0s
PV23 Carpenter Ridg 104.94 52 IAMs_20 IAMs_20 22 18 09.1
comp=Z,1μm,21.0s
PV11 David Mesa, Pa 105.06 52 IAMs_20 IAMs_20 22 21 32.2
comp=Z,679nm,18.0s
ARCES ARCESS Array B 106.19 342 Pdiff Pdif 21 33 25.9 -1.5
comp=Z,3.4nm,0.8s,baz=68,slow=8.0,SNR=7.4
ARCES PKKPbc PKKPbc 21 48 59.6 -3.7
comp=Z,2.9nm,0.9s,baz=259,slow=2.3,SNR=9.0
OBN Obninsk 106.38 326 eP Pdif 21 33 29.4 +0.9
OBN e 21 37 53.7
OBN ePPP PPP 21 40 07.3
OBN e 21 44 49.1
OBN eSS SS 21 52 58.8 +6.2
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,559nm,19.0s
K22A Casper 106.42 47 IAMs_20 IAMs_20 22 12 30.7
comp=Z,946nm,22.0s
ANMO Albuquerque 107.25 55 P PKiKP 21 37 42.7 +0.6
baz=275
PHWY Pilot Hill 107.37 49 IAMs_20 IAMs_20 22 15 14.2
comp=Z,542nm,18.0s
ISCO Idaho Springs 107.44 50 P PKiKP 21 37 43.1 +0.7
baz=277
SDCO Great Sand Dun 107.76 52 P PKiKP 21 37 43.7 +0.6
baz=276
FURI Furi 108.64 277 IAMs_20 IAMs_20 22 27 28.8
comp=Z,580nm,20.0s
GAZ Gaziantep 109.12 307 IAMs_20 IAMs_20 22 30 37.2
comp=Z,397nm,19.0s
FINES FINESS Array B 109.56 334 Pdiff Pdif 21 33 40.0 -2.5
comp=Z,0.7nm,0.6s,baz=67,slow=6.4,SNR=5.8
FINES PKiKP PKiKP 21 37 46.8 +1.4
comp=Z,2.0nm,0.9s,baz=87,slow=4.9,SNR=3.8
SNOP Sinop 109.93 312 IAMs_20 IAMs_20 22 27 04.0
comp=Z,382nm,20.0s
TXAR Lajitas Array 110.06 61 PKKPab PKKPab 21 49 01.8 +1.3
comp=Z,1.4nm,0.8s,baz=112,slow=6.9,SNR=8.3
ILGA Ilgaz 111.21 312 IAMs_20 IAMs_20 22 27 36.9
comp=Z,431nm,20.0s
MNK Minsk 111.36 327 i PKiKP PKiKP 21 37 44.1 -4.8
MNK i 21 38 25.6
MNK i PPP PPP 21 40 46.6
MNK i 21 44 54.7
MNK i PS PS 21 48 01.7 -0.2
MNK i SS SS 21 53 58.5 -1.1
MNK i SSS SSS 21 58 09.4
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=Z,7.0nm,0.9s
MNK pmax pmax
comp=N,14nm,0.9s
MNK Minsk 111.36 327 i PKP PKiKP 21 37 44.2 -4.7
comp=E,1.0nm,0.9s
MNK i PKP PKiKP 21 37 44.2 -4.7
comp=N,14nm,0.9s
MNK i PKP PKiKP 21 37 44.2 -4.7
comp=Z,7.0nm,0.9s,baz=69
MNK i PP PP 21 38 25.7 -3.7
MNK i PPP PPP 21 40 46.7
MNK i SKS SKSdf 21 44 54.8 -2.5
MNK i PS PS 21 48 01.7 -0.1
MNK i SS SS 21 53 58.6 -1.0
MNK i SSS SSS 21 58 09.4
MNK i LQ LQ 22 05 48.9
MNK i LR LR 22 07 52.2
MNK i LRM MLR 22 11 21.1
comp=N,95nm,20.1s
MNK i LRM MLR 22 11 21.4
comp=Z,932nm,20.1s
MNK i LRM MLR 22 11 21.8
comp=E,111nm,18.7s
AKASG Malin Array Be 111.85 323 PP PP 21 38 31.1 -2.0
comp=E,1.8nm,0.6s,baz=61,slow=7.4,SNR=13
ECSD EROS Data Cent 113.33 45 P PKiKP 21 37 53.5 +0.5
baz=285
WMOK Wichita Mounta 113.55 55 P PKiKP 21 37 54.1 +0.3

baz=279
OK032 Salt Plains WL 113.65 52 IAMs_20 IAMs_20 22 21 14.7
comp=Z,589nm,21.0s
BOSA Boshof 113.96 235 PKiKP **PKiKP 21 37 55.3 +0.4**
comp=Z,3.7nm,0.7s,baz=114,slow=4.7,SNR=7.4
ISP Isparta 114.26 309 IAMs_20 IAMs_20 22 25 27.3
comp=Z,378nm,20.0s
I37A Lemond, Waseca 115.48 44 **PKPdf 21 37 57.6 +0.4**
NOA NORSAR Array B 115.86 338 PKP **PKiKP 21 37 57.2 -0.2**
comp=Z,1.4nm,0.9s,baz=53,slow=2.0,SNR=3.4
P38A Dawn 116.61 49 IAMs_20 IAMs_20 22 20 23.8
comp=Z,753nm,18.0s
U38A Gravette 116.73 52 **PKiKP 21 38 00.0 +0.2**
UZH Uzhgorod 116.79 322 *e*PKiKP **PKPdf 21 37 58.0 -1.5**
UZH *e* 21 38 03.6
S39A Bolivar 117.26 51 IAMs_20 IAMs_20 22 22 31.2
comp=Z,627nm,20.0s
W39A Magazine 117.48 53 P **PKPdf 21 38 01.2 -0.1**
baz=283
MIAR Mount Ida 117.79 54 P **PKiKP 21 38 02.5 +0.6**
baz=283
U40A Yellville 117.95 52 P **PKPdf 21 38 02.2 0.0**
baz=284
JFWS Jewell Farm 118.01 44 P **PKiKP 21 38 02.1 0.0**
baz=289
SANT Santorini 118.53 308 IAMs_20 IAMs_20 22 24 02.2
comp=Z,406nm,18.0s
W41B Gary Mavity, V 118.72 53 P **PKPdf 21 38 03.0 -0.6**
baz=284
CCM Cathedral Cave 118.76 50 PKiKP **PKPdf 21 38 02.9 -0.7**
CCM Cathedral Cave 118.76 50 PKPdf **PKPdf 21 38 02.9 -0.7**
CCM Cathedral Cave 118.76 50 P **PKPdf 21 38 02.8 -0.8**
baz=286
KRLC Kraliky 119.40 325 *e*PKiKP **PKiKP 21 38 05.3 +0.7**
KRLC Kraliky 119.40 325 *e*PKPDF **PKiKP 21 38 05.3 +0.7**
P43A Skaggs, Pawnee 119.58 48 IAMs_20 IAMs_20 22 20 33.1
comp=Z,828nm,20.0s
Q44A Meyer Farm, Va 120.18 48 IAMs_20 IAMs_20 22 22 22.1
comp=Z,718nm,18.0s
BRG Berggiesshubel 120.56 327 *e*PKP **PKPdf 21 38 06.6 -0.1**
BRG Amp 21 38 08.2
comp=Z,9.7nm,1.4s
BRG Amp 22 10 38.0
comp=N,0.4nm,18.3s
BRG Amp 22 10 45.0
comp=E,0.5nm,17.5s
BRG Amp 22 10 50.0
comp=E,0.5nm,17.5s
KBN Korca 120.76 314 IAMs_20 IAMs_20 22 14 25.5
comp=Z,487nm,20.0s
CLL Collm 120.82 328 *e*(PKiKP) 21 38 06.0
CLL *e*PP PP 21 39 35.0 -0.6
CLL *e*PS PKKPdf 21 49 30.0 +43
CLL *e*PPS PPS 21 50 48.0
CLL Collm 120.82 328 *e*PKiKP **PKPdf 21 38 04.0 -3.2**
CLL *e* 21 39 35.0
CONA Conrad Observa 120.96 324 *e*P **PKPdf 21 38 07.3 -0.4**
comp=Z,2.7nm,1.0s
SFIN Lafayette 121.09 46 P **PKiKP 21 38 08.3 +0.1**
baz=291
OXF Oxford 121.14 53 P **PKiKP 21 38 08.4 0.0**
baz=286
CKRC Cesky Krumlov 121.42 325 *e*PKPDF **PKPdf 21 38 07.8 -0.7**
ARSA Arzberg 121.49 323 *e*P **PKPdf 21 38 07.8 -0.9**
comp=Z,2.8nm,1.0s
KHC Kasperske Hory 121.67 326 *e*PKiKP **PKPdf 21 38 06.5 -2.5**
KHC Kasperske Hory 121.67 326 *e*PKPDF **PKPdf 21 38 06.5 -2.5**
GERES GERESS Array B 121.75 325 PKP **PKPdf 21 38 07.5 -1.7**
comp=Z,1.5nm,0.7s,baz=65,slow=1.8,SNR=12
GERES PKKPbc **PKKPab 21 48 08.1 -0.6**
comp=Z,0.3nm,0.4s,baz=197,slow=3.0,SNR=3.8
GERES PKKP **PKKPdf 21 48 43.2 -1.7**
comp=Z,0.8nm,0.8s,baz=222,slow=1.3,SNR=4.8
WVT Waverly 121.92 51 PKiKP **PKPdf 21 38 09.4 -0.4**
WVT Waverly 121.92 51 **PKPdf 21 38 09.4 -0.4**
WVT Waverly 121.92 51 P **PKPdf 21 38 09.4 -0.4**
baz=288
MOA Molln 121.94 324 *i* P **PKPdf 21 38 08.6 -0.9**
comp=Z,3.8nm,1.6s
SOKA Soboth 122.06 323 *e*P **PKPdf 21 38 09.2 -0.7**
comp=Z,5.2nm,1.5s
PLAL Pickwick Lake 122.07 52 IAMs_20 IAMs_20 22 22 28.6
comp=Z,809nm,22.0s
PLCA Paso Flores 122.27 147 PKP **PKiKP 21 38 10.8 +0.1**
comp=Z,19nm,0.8s,baz=229,slow=1.9,SNR=24
WCI Wyandotte Cave 122.42 48 P **PKPdf 21 38 10.7 0.0**
baz=290
OBKA Obir 122.43 323 *i* P **PKPdf 21 38 09.8 -0.8**
comp=Z,3.5nm,1.2s
AAM Ann Arbor 122.75 43 P **PKiKP 21 38 11.4 0.0**
baz=295
KBA Koelnbreinsper 122.87 324 *e*P **PKPdf 21 38 10.2 -1.3**
comp=Z,4.7nm,1.7s
MYKA Terra Mystica 122.92 323 *e*P **PKPdf 21 38 10.4 -1.1**
comp=Z,1.4nm,0.4s
CLTN Cedars of Leba 123.09 51 IAMs_20 IAMs_20 22 29 19.5
comp=Z,606nm,19.0s
P49A Miami Univ. Ec 123.10 46 P **PKPdf 21 38 11.8 -0.2**
baz=292
R49A Shelbyville 123.22 48 IAMs_20 IAMs_20 22 28 41.6
comp=Z,753nm,19.0s
LRAL Lakeview Retre 123.47 54 P **PKPdf 21 38 12.9 +0.1**
baz=286
ABTA Abfaltersbach 123.53 324 *i* P **PKPdf 21 38 11.6 -1.1**
comp=Z,5.7nm,1.1s
WATA Walderalm 123.76 325 *i* P **PKPdf 21 38 12.4 -0.8**
comp=Z,10nm,1.4s
WTTA Wattenberg 123.76 325 *i* P **PKPdf 21 38 12.8 -0.5**
comp=Z,12nm,1.5s
T50A Nancy 123.92 49 IAMs_20 IAMs_20 22 25 44.1
comp=Z,608nm,20.0s
TSUM Tsumeb 123.95 242 PKPdf **PKiKP 21 38 15.3 +0.7**
MOTA Moosalm 124.03 325 *i* P **PKPdf 21 38 12.9 -0.8**
comp=Z,9.3nm,1.4s
SQTA Sankt Quirin 124.03 325 *i* P **PKPdf 21 38 13.1 -0.5**
comp=Z,10nm,1.4s
ACSO Alum Creek Sta 124.06 45 P **PKPdf 21 38 13.8 0.0**
baz=294
SCHQ Schefferville 124.40 23 PKP **PKPdf 21 38 13.1 -0.9**
comp=Z,3.1nm,0.6s,baz=16,slow=7.4,SNR=5.7
FETA Feichten 124.42 325 *i* P **PKPdf 21 38 14.2 -0.3**
comp=Z,7.9nm,1.1s
V51A Loudon 124.70 50 PKPdf **PKiKP 21 38 15.6 +0.1**
V51A IAMs_20 IAMs_20 22 29 50.1
comp=Z,536nm,19.0s
DAVA Damuels 124.75 325 *i* P **PKPdf 21 38 14.3 -0.8**
comp=Z,7.6nm,0.8s
P52A Corning 124.90 45 P **PKiKP 21 38 15.8 +0.1**
baz=294
INTR Introdacqua 124.96 318 PKPdf **PKPdf 21 38 14.6 -0.9**
TZTN Tazewell 125.05 49 IAMs_20 IAMs_20 22 25 46.2
comp=Z,723nm,19.0s
TZTN Tazewell 125.05 49 P **PKPdf 21 38 15.8 0.0**
baz=291
M53A WI Miller and 125.13 43 P **PKPdf 21 38 15.8 0.0**
baz=297
O53A New Philadelph 125.29 44 P **PKPdf 21 38 15.9 -0.2**
baz=296
BMRD Maredsous 125.60 331 *d*PKP **PKiKP 21 38 18.6 +1.9**
PLVO Plevna 125.66 37 PKPdf **PKPdf 21 38 16.5 -0.2**
M54A Oil Creek Stat 125.78 42 P **PKPdf 21 38 16.9 -0.1**
baz=298
N54A Moraine State 125.81 43 P **PKPdf 21 38 17.2 +0.1**
baz=297
GOGA Godfrey 126.18 53 IAMs_20 IAMs_20 22 24 54.7
comp=Z,702nm,19.0s
GOGA Godfrey 126.18 53 P **PKPdf 21 38 17.9 -0.1**
baz=289
CRIN San Cristobal 126.66 79 IAMs_20 IAMs_20 22 41 24.1
comp=Z,358nm,20.0s
TIGA Tifton 126.70 55 P **PKPdf 21 38 19.0 -0.1**
baz=288
O56A Blue Knob Stat 127.09 43 P **PKPdf 21 38 19.3 -0.4**
baz=298
BLA Blacksburg 127.12 47 P **PKPdf 21 38 19.9 +0.2**
baz=294
KMSC Kings Mountain 127.24 50 P **PKPdf 21 38 19.7 -0.3**
baz=292
SSPA Standing Stone 127.37 42 **PKPdf 21 38 19.8 -0.3**
SSPA Standing Stone 127.37 42 IAMs_20 IAMs_20 22 34 43.7
comp=Z,653nm,20.0s
SSPA Standing Stone 127.37 42 P **PKPdf 21 38 19.7 -0.4**
baz=299
LONY Lake Ozonia 127.38 36 P **PKPdf 21 38 19.6 -0.4**
baz=304
BINY Binghamton 127.83 40 P **PKPdf 21 38 20.7 -0.2**
baz=302

BNI Bardonecchia 127.86 325 PKiKP **PKPdf 21 38 20.5 -0.6**
BNI MLR MLR
comp=Z,600nm,19.0s
BNI Bardonecchia 127.86 325 **PKPdf 21 38 20.5 -0.6**
BNI IAMs_20 IAMs_20 22 29 22.9
comp=Z,629nm,19.0s
T57A Hurt 128.05 47 IAMs_20 IAMs_20 22 31 25.3
comp=Z,759nm,20.0s
W57A Gilead 128.25 49 IAMs_20 IAMs_20 22 25 46.9
comp=Z,713nm,20.0s
I60A Shoreham 128.58 36 P **PKPdf 21 38 22.2 -0.1**
baz=305
N59A State Game Lan 128.63 41 P **PKPdf 21 38 22.6 +0.1**
baz=301
TRQA Tornquist 128.67 151 *e*P **PKiKP 21 38 23.5 +0.1**
LBNH Lisbon 129.14 35 P **PKPdf 21 38 23.1 -0.3**
baz=307
F62A Pittston Farm, 129.20 33 P **PKPdf 21 38 23.7 +0.3**
baz=310
K61A Williamstown 129.26 38 P **PKPdf 21 38 23.6 0.0**
baz=305
P60A Greenville 129.28 42 P **PKPdf 21 38 23.3 -0.4**
baz=300
J61A Chester 129.31 37 P **PKPdf 21 38 23.5 -0.2**
baz=306
G62A West of Eustis 129.33 34 P **PKPdf 21 38 23.7 0.0**
baz=309
L61B Northampton 129.75 38 P **PKiKP 21 38 25.1 -0.2**
baz=305
PAL Palisades 129.78 40 P **PKiKP 21 38 25.1 -0.3**
baz=303
J62A Henniker 129.81 36 P **PKPdf 21 38 24.4 -0.2**
baz=306
K62A Royalston 129.89 37 P **PKPdf 21 38 24.8 0.0**
baz=306
LCO Las Campanas 129.93 136 PKiKP **PKiKP 21 38 27.4 +0.9**
LCO Las Campanas 129.93 136 **PKiKP 21 38 27.4 +0.9**
L63A North Scituate 130.74 38 P **PKPdf 21 38 26.0 -0.4**
baz=306
L64A Middleborough 131.16 37 P **PKPdf 21 38 27.0 -0.2**
baz=307
M66A Nantucket 131.98 37 P **PKPdf 21 38 28.2 -0.6**
baz=307
NNA Nana 133.17 113 PKiKP **PKiKP 21 38 33.0 -0.1**
NNA Nana 133.17 113 PKPdf **PKiKP 21 38 33.0 -0.1**
ATAH Atahualpa 133.17 106 PKP **PKiKP 21 38 33.4 -0.2**
comp=Z,12nm,0.6s,baz=220,slow=4.8,SNR=16
ATAH SKP 21 42 02.8
comp=Z,9.9nm,0.8s,baz=271,slow=7.0,SNR=5.7
OTAV Otavalo 134.60 96 PKiKP **PKiKP 21 38 36.0 -0.5**
OTAV MLR MLR
comp=Z,300nm,21.0s
OTAV Otavalo 134.60 96 **PKiKP 21 38 36.0 -0.5**
OTAV IAMs_20 IAMs_20 22 31 20.2
comp=Z,330nm,21.0s
LVC Limon Verde 135.03 130 PKP **PKiKP 21 38 36.8 -0.3**
comp=Z,20nm,0.8s,baz=248,slow=4.4,SNR=16
LVC SKP 21 42 08.1
comp=Z,5.8nm,0.9s,baz=260,slow=5.9,SNR=3.1
LVC Limon Verde 135.03 130 PKPdf **PKiKP 21 38 37.0 -0.1**
BBAC Balboa, Cauca 136.02 93 *e*P PKPpre 21 38 32.3
POPC Popayan, Colom 136.64 93 *e*P **PKPdf 21 38 38.2 -0.4**
PCON Cinco Dias 136.90 93 *e*P **PKiKP 21 38 42.8 +1.5**
YOTC Yotoco, Valle 137.10 91 *e*P PKPpre 21 38 32.1
ES02 SONSECA Array 137.32 326 IAMs_20 IAMs_20 22 34 26.3
comp=Z,453nm,18.0s
ES17 SONSECA Array 137.33 326 IAMs_20 IAMs_20 22 34 26.4
comp=Z,557nm,18.0s
ES03 SONSECA Array 137.33 326 IAMs_20 IAMs_20 22 25 20.5
comp=Z,433nm,19.0s
ESDC Sonseca Array 137.34 326 PP PP 21 41 26.1 +2.4
comp=Z,1.5nm,1.0s,baz=38,slow=6.6,SNR=5.8
ESDC SKPbc **SKPbc 21 42 08.3 -0.5**
comp=Z,1.5nm,0.9s,baz=24,slow=3.4,SNR=3.8
ES04 SONSECA Array 137.34 326 IAMs_20 IAMs_20 22 25 20.8
comp=Z,409nm,19.0s
ES16 SONSECA Array 137.35 326 IAMs_20 IAMs_20 22 35 36.0
comp=Z,476nm,19.0s
ES12 SONSECA Array 137.35 326 IAMs_20 IAMs_20 22 38 16.1
comp=Z,362nm,18.0s
MARP Paez Belalcaza 137.39 92 *e*P PKPpre 21 38 33.7
DBBC Dabeiba 137.39 86 *e*P PKPpre 21 38 32.3
CBOC Ciudad Bolivar 137.55 88 *e*P PKPpre 21 38 32.7
PLTB Pedras Altas 137.72 154 *e*P **PKiKP 21 38 41.2 -0.7**
URES San Jos de Ur 138.07 85 *e*P PKPpre 21 38 35.6
GUY2C Guyana, Caldas 138.16 89 *e*P PKPpre 21 38 32.1
ORTC Ortega, Tolima 138.19 91 *e*P PKPpre 21 38 33.0
SJCC San Jacinto, C 138.39 82 PKPdf **PKiKP 21 38 42.7 -1.0**
SJCC San Jacinto, C 138.39 82 *e*P **PKPdf 21 38 41.6 0.0**
PRAC Prado 138.53 91 *e*P PKPpre 21 38 33.7
NORC Norcasia 138.67 88 *e*P PKPpre 21 38 33.7
ZARC Zaragoza, Cauc 138.74 86 *e*P PKPpre 21 38 35.6
CPSB Cacapava Do Su 138.96 153 *e*P **PKiKP 21 38 43.5 -0.9**
LPAZ La Paz 139.04 123 PKhKP PKPpre 21 38 34.9
comp=Z,6.7nm,0.7s,baz=272,slow=2.9,SNR=14
LPAZ PKP **PKPdf 21 38 44.1 +0.6**
comp=Z,26nm,0.8s,baz=314,slow=3.8,SNR=28
LPAZ SKPbc **SKPbc 21 42 13.2 -1.8**
comp=Z,5.0nm,1.0s,baz=272,slow=1.5,SNR=2.7
LPAZ La Paz 139.04 123 PKIKP **PKiKP 21 38 44.9 -0.8**
LPAZ La Paz 139.04 123 PKPdf **PKiKP 21 38 44.9 -0.8**
LPAZ La Paz 139.04 123 *e*P PKPpre 21 38 35.7
PTBC PUERTO BERRIO 139.12 87 *e*P PKPpre 21 38 34.8
ROSC El Rosal 139.18 90 PKP **PKPdf 21 38 42.5 -1.0**
comp=Z,8.6nm,0.4s,baz=279,slow=7.1,SNR=8.4
SPBC San Pablo de B 139.47 88 *e*P PKPpre 21 38 36.9
CHIC Chingaza 139.75 90 *e*P PKPpre 21 38 36.1
CPUP Villa Florida 140.29 145 PKP **PKPdf 21 38 42.9 -1.8**
comp=Z,8.4nm,0.9s,baz=227,slow=4.4,SNR=6.3
CPUP Villa Florida 140.29 145 PKIKP **PKPdf 21 38 45.7 +1.0**
CPUP Villa Florida 140.29 145 PKPdf **PKPdf 21 38 45.7 +1.0**
CPUP Villa Florida 140.29 145 *e*P **PKiKP 21 38 47.0 -0.2**
BARC Barichara 140.39 87 *e*P PKPpre 21 38 38.3
RUSC La Rusia 140.46 88 **PKPdf 21 38 41.2 -4.8**
RUSC La Rusia 140.46 88 *e*P PKPpre 21 38 37.6
CNLB Canela 141.02 155 *e*P **PKiKP 21 38 48.7 -0.1**
TBTG Tabatinga, AM 142.08 105 *e*P **PKiKP 21 38 50.8 -0.5**
TER01 Tubaro-SC 142.41 157 *e*P **PKiKP 21 38 50.3 -1.2**
SDV Santo Domingo 142.91 83 PKhKP PKPpre 21 38 43.7
comp=Z,20nm,0.5s,baz=325,slow=4.8,SNR=3.3
SDV PKP **PKPdf 21 38 49.0 -1.0**
comp=Z,31nm,0.6s,baz=273,slow=1.2,SNR=11
SDV SKPbc **SKiKP 21 42 26.1 +0.3**
comp=Z,6.4nm,0.3s,baz=292,slow=4.6,SNR=1.9
SDV Santo Domingo 142.91 83 *e*P **PKPdf 21 38 51.3 +1.4**
PTGB Pitanga 144.40 150 *e*P **PKPdf 21 38 53.2 +1.1**
TORD Torodi Ar. Bea 144.79 284 PKP **PKPab 21 38 51.5 -0.4**
comp=Z,112nm,1.0s,baz=69,slow=3.2,SNR=163
TORD SKPbc **SKiKP 21 42 29.4 -0.1**
comp=Z,2.4nm,0.8s,baz=68,slow=1.5,SNR=4.2
TORD SKKPbc **SKKPbc 21 50 26.5 -2.8**
comp=Z,3.1nm,1.2s,baz=296,slow=2.3,SNR=5.7
TIJ01 Guaruva-PR 145.30 155 *e*P **PKPdf 21 38 55.4 +1.6**
ICMP Isla Caja de M 145.52 67 **PKPdf 21 38 53.9 -0.2**
AQDB Aquidauana 145.68 141 *e*P **PKPdf 21 38 54.4 0.0**
SJG San Juan 145.80 67 PKPbc **PKPdf 21 38 53.9 -0.7**
comp=Z,41nm,0.6s,baz=307,slow=2.6,SNR=20
SJG San Juan 145.80 67 PKIKP **PKPdf 21 38 54.2 -0.4**
SJG San Juan 145.80 67 **PKPdf 21 38 54.2 -0.4**
SJG San Juan 145.80 67 *e*P **PKPdf 21 38 54.5 -0.1**
PTLB Pontes e Lacer 146.69 130 *e*P **PKPbc 21 38 57.2 -0.6**
SAML Samuel 146.72 116 PKIKP **PKPdf 21 38 56.6 +0.3**
SAML MLR MLR
comp=Z,400nm,21.0s
SAML Samuel 146.72 116 **PKPdf 21 38 56.6 +0.3**
SAML IAMs_20 IAMs_20 22 33 28.2
comp=Z,412nm,21.0s
SAML Samuel 146.72 116 *e*P **PKPdf 21 38 56.9 +0.6**
SAML Samuel 146.72 116 *e*P **PKPdf 21 38 57.0 +0.6**
FRTB Fartura 146.77 152 *e*P **PKPbc 21 38 58.3 +0.4**
PET01 Itanhaem-SP 146.93 156 *e*P **PKPbc 21 38 59.0 +0.6**
VILB Vilhena 147.31 125 *e*P **PKPbc 21 38 58.5 -1.1**
PCMB Pacaembu 147.38 148 *e*P **PKPdf 21 38 58.4 +1.1**
VAO Valinhos 148.21 156 *e*P **PKPbc 21 39 00.8 -1.2**
PP1B Ponte de Pedra 148.30 138 *e*P **PKPbc 21 39 00.6 -1.7**
RCLB Rio Claro- Sao 148.49 154 *e*P **PKPdf 21 39 00.6 +1.5**
SMRT St. Maarten 148.61 65 IAMs_20 IAMs_20 22 38 50.4
comp=Z,419nm,20.0s
PCRV Puerto La Cruz 148.74 80 PKPbc **PKPbc 21 39 02.4 -1.1**
comp=Z,16nm,0.6s,baz=337,slow=8.5,SNR=7.7
SALV Santo Antonio 148.93 135 *e*P **PKPdf 21 39 01.1 +1.3**
BB19B Bebedouro 149.21 151 *e*P **PKPdf 21 39 02.1 +1.8**
ITRB Iturama 149.42 147 *e*P **PKPdf 21 39 02.1 +1.5**
KOWA Kowa 149.99 289 **PKPbc 21 39 05.0 -1.6**
VAS01 Vassouras-RJ 150.16 161 *e*P **PKPdf 21 39 04.2 +2.5**

DUB01 Friburgo-RJ 150.68 163 *e*P **PKPdf 21 39 04.6 +2.0**
BSCB Bom Sucesso 150.88 158 *e*P **PKPdf 21 39 04.1 +1.1**
CAM01 Campos-RJ 151.13 164 *e*P **PKPdf 21 39 04.8 +1.6**
MACA Manacapuru-AM 151.19 108 *e*P **PKPbc 21 39 06.8 -2.7**
SVB Belmont 151.57 73 PKPdf **PKPdf 21 39 04.7 +0.6**
SVB **PKPbc 21 39 10.4 +0.1**
KIC Kosan Boka 151.58 272 *e*PKP1 **PKiKP 21 39 12.4 +1.6**
comp=Z,160nm,0.7s
KIC Kosan Boka 151.58 272 *e*PKP1 **PKPdf 21 39 06.1 +2.0**
comp=Z,27nm,1.2s
ARAG Araguaiana, MT 151.68 140 *e*P **PKPdf 21 39 06.6 +2.4**
DBIC Dimbokro 151.70 273 PKP **PKPdf 21 39 03.7 -0.6**
comp=Z,13nm,1.1s,baz=100,slow=1.9,SNR=6.0
DBIC PKPbc **PKiKP 21 39 10.9 -0.1**
comp=Z,80nm,0.6s,baz=106,slow=1.8,SNR=133
DBIC Dimbokro 151.70 273 PKPdf **PKPdf 21 39 04.5 +0.3**
DBIC pPKPdf **PKiKP 21 39 12.5 +1.5**
TIC Toumodi 151.86 273 *e*PKP1 **PKiKP 21 39 13.1 +1.7**
TIC Toumodi 151.86 273 *e*PKP1 **PKPdf 21 39 04.9 +0.3**
LIC Lamto 151.87 272 *e*PKP1 **PKiKP 21 39 12.1 +0.7**
comp=Z,372nm,0.7s
LIC Lamto 151.87 272 *e*PKP1 **PKPdf 21 39 05.5 +1.0**
comp=Z,41nm,1.1s
IPMB Ipameri, GO 151.97 149 *e*P **PKPdf 21 39 07.0 +2.3**
CLDB Colider 152.03 127 *e*P **PKPdf 21 39 05.5 +0.8**
ALF01 Guarapari-ES 152.53 165 *e*P **PKPdf 21 39 08.1 +2.8**
BOAV Boa Vista 152.64 96 *e*P **PKPbc 21 39 09.4 -3.4**
DIAM Diamantina, MG 153.75 157 *e*P **PKPdf 21 39 08.5 +1.2**
RIB01 Linhares ES 153.87 165 *e*P **PKPdf 21 39 10.3 +3.0**
BDFB Brasilia 154.01 146 PKP **PKPdf 21 39 08.3 +0.6**
comp=Z,21nm,0.8s,baz=54,slow=2.0,SNR=20
BDFB PKPbc **PKiKP 21 39 16.0 +0.1**
comp=Z,31nm,0.8s,baz=205,slow=1.4,SNR=16
BDFB Brasilia 154.01 146 PKPbc **PKiKP 21 39 16.6 +0.7**
BSFB Barra do Sao F 154.20 163 *e*P **PKPdf 21 39 10.2 +2.4**
SJMB Sao Joao De Ma 154.22 163 *e*P **PKPdf 21 39 11.4 +3.6**
NPGB Novo Progresso 154.46 120 *e*P **PKPdf 21 39 08.9 +0.6**
SNDB Serra Nova Dou 154.71 135 *e*P **PKPdf 21 39 11.4 +2.8**
MC01 Montes Claros 155.08 155 *e*P **PKPdf 21 39 12.6 +3.4**
ITTB Itaituba 155.35 114 *e*P **PKPdf 21 39 10.5 +0.9**
JANB Januaria 156.38 153 *e*P **PKPdf 21 39 11.3 +0.4**
PEXB Peixe 156.62 140 *e*P **PKPdf 21 39 14.2 +3.0**
GUA01 Guaratinga, BA 156.63 164 *e*P **PKPdf 21 39 14.5 +3.4**
MALB Monte Alegre 157.67 110 *e*P **PKPdf 21 39 13.5 +1.0**
NBIT Itapeh - BA 158.31 164 *e*P **PKPdf 21 39 16.0 +2.8**
SDBA SAO DESIDERIO 158.36 148 *e*P **PKPdf 21 39 16.6 +3.2**
SMTB Santa Maria do 159.48 136 *e*P **PKPdf 21 39 15.5 +0.8**
PRPB Parauapebas 159.56 126 *e*P **PKPdf 21 39 18.5 +3.7**
MCPB Macapa, AP 160.25 108 *e*P **PKPdf 21 39 19.9 +4.3**
NBLA Lagarto - SE 162.51 165 *e*P **PKPdf 21 39 22.4 +4.5**
TMAB Tom-Au,PA,Br 163.05 119 *e*P **PKPdf 21 39 22.8 +4.3**
ROSB Rosrio 166.03 129 *e*P **PKPdf 21 39 26.4 +5.3**
NBLV Livramento - P 166.22 165 *e*P **PKPdf 21 39 27.0 +5.7**

MEX 11 21:20:01.8±1.2, 31°.04N×110°.09W, h3km, MD4.3, Eastern Arizona-Sonora border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time (h m s)	Res ISC
NZIG	**Nacozari, Sono**	**0.80**	**145**	*e*P			Pg	21 20 15.5	-1.7
NZIG				*e*S			Sg	21 20 27.8	+0.1
TUC	**Tucson**	**1.40**	**335**	*i* P			Pn	21 20 23.5	-4.8
TUC				*i* S			Sg	21 20 43.2	-3.7
HSIG		**2.14**	**201**	*e*P			Pn	21 20 35.7	-2.7
HSIG				*i* S			Sn	21 21 01.1	-4.4
214A	**Organ Pipe Nat**	**2.50**	**292**	*i* P			Pn	21 20 36.3	-7.1
214A				*i* S			Sn	21 21 12.1	-2.3

*TUL **11** 21:28:18.1±1.3, 36°.29N±0°.02×97°.52W±0°.03, h13km±6km, ML2.8,mb_Lg2.8/22(NEIC), Error ellipse: s-maj=4.3km s-min=1.3km az=49.0*

NEIC 11 21:28:17.9±1.2, 36°.29N±0°.02×97°.53W±0°.04, h5km±7km, Error ellipse: s-maj=5.0km s-min=1.9km az=60.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time (h m s)	Res ISC
CROK	**Carrier**	**0.42**	**301**				Pg	21 28 26.8	+0.7
OK029	**Liberty Lake**	**0.49**	**173**				Pg	21 28 27.9	+0.5
BLOK	**Blackwell**	**0.54**	**28**				Pg	21 28 28.6	+0.4
BLOK						Sg	Sg	21 28 35.9	+0.7
GC02	**Grant County #**	**0.62**	**335**				Pg	21 28 30.1	+0.3
GC02						Sg	Sg	21 28 38.8	+0.8
OK031	**S. Brethren Rd**	**0.65**	**121**				Pg	21 28 30.5	+0.1
OK031						Sg	Sg	21 28 39.3	+0.4
QUOK	**Quay**	**0.68**	**100**				Pg	21 28 30.9	0.0
QUOK						Sg	Sg	21 28 39.6	-0.1
OK025	**Westminster Rd**	**0.72**	**167**				Pg	21 28 31.9	+0.1
KAN13	**South Haven SW**	**0.72**	**3**				Pg	21 28 32.0	+0.2
OK032	**Salt Plains WL**	**0.75**	**313**				Pg	21 28 32.4	+0.1
KAN14	**Manchester OK**	**0.75**	**333**	Pg			Pg	21 28 31.5	-0.8
KAN17	**Caldwell West**	**0.78**	**346**				Pg	21 28 32.9	0.0
KAN05	**Bluff City Nor**	**0.86**	**342**	Pg			Pg	21 28 34.1	-0.4
OKCFA	**Oklahoma City**	**0.87**	**176**				Pg	21 28 34.8	+0.2
OKCSW	**OKLAHOMA CITY**	**0.88**	**175**	Pg			Pg	21 28 34.8	0.0
KS20	**Mayfield South**	**0.94**	**359**	Pg			Pg	21 28 35.8	-0.1
T35A	**Sooner Cattle**	**1.03**	**52**				Pg	21 28 37.5	-0.2
FNO	**Franklin**	**1.03**	**174**				Pg	21 28 37.4	-0.3
KAN12	**Harper NE Stat**	**1.07**	**340**				Pg	21 28 38.3	-0.2
U32A	**Winter Ranch,**	**1.19**	**275**	Pn			Pg	21 28 40.3	-0.4
X34A	**Smith Ranch, M**	**1.70**	**188**				Pb	21 28 49.5	-0.2
WMOK	**Wichita Mounta**	**1.85**	**214**	Pn		Pn	Pn	21 28 50.0	-0.3
LOOK	**Love County**	**2.31**	**173**	Pn		Pn	Pn	21 28 55.6	-0.9
R32A	**Long Quarter,**	**2.33**	**337**	Pn		Pn	Pn	21 28 56.5	-0.4
X37A	**Clayton**	**2.45**	**133**	Pn		Pn	Pn	21 28 58.0	-0.5
X37A					lAmb_Lg			21 29 37.3	
comp=Z,25nm,0.7s									
U38A	**Gravette**	**2.54**	**86**				Pn	21 29 01.0	+1.2
HHAR	**Hobbs**	**2.90**	**89**				Pn	21 29 05.6	+0.9
KSU1	**Kansas State U**	**2.90**	**14**	Pn		Pn	Pn	21 29 03.0	-1.7
KSU1							Pg	21 29 12.3	-1.2
Z35A	**Perchaven, San**	**2.96**	**175**	Pn		Pn	Pn	21 29 04.3	-1.2
CBKS	**Cedar Bluff**	**3.07**	**326**	Pn		Pn	Pn	21 29 06.2	-0.9
W39A	**Magazine**	**3.24**	**109**	Pn		Pn	Pn	21 29 09.3	0.0
W39A					lAmb_Lg			21 30 07.7	
comp=Z,20nm,0.7s									
S39A	**Bolivar**	**3.65**	**66**	Pn		Pn	Pn	21 29 15.0	0.0
S39A					lAmb_Lg			21 30 13.8	
comp=Z,26nm,1.0s									
AMTX	**Amarillo**	**3.66**	**249**		lAmb_Lg			21 30 25.0	
comp=Z,17nm,0.7s									
MIAR	**Mount Ida**	**3.67**	**117**	Pn		Pn	Pn	21 29 14.9	-0.4
U40A	**Yellville**	**3.78**	**88**	Pn		Pn	Pn	21 29 16.2	-0.6
U40A					lAmb_Lg			21 30 19.6	
comp=Z,23nm,0.8s									
ABTX	**Abilene, Hawle**	**4.05**	**206**	Pn		Pn	Pn	21 29 21.5	+1.0
WHTX	**Lake Whitney,**	**4.29**	**179**	Pn		Pn	Pn	21 29 21.6	-2.1
MGMO	**Mountain Grove**	**4.32**	**77**				Pn	21 29 22.6	-1.5
MGMO					lAmb_Lg			21 30 33.9	
comp=Z,20nm,0.7s									
WHAR	**Wooly Hollow**	**4.38**	**102**	Pn		Pn	Pn	21 29 24.4	-0.5
P38A	**Dawn**	**4.59**	**42**	Pn		Pn	Pn	21 29 27.3	-0.6
KSCO	**Kaye Shedlock'**	**4.87**	**305**	Pn		Pn	Pn	21 29 29.3	-2.6
MSTX	**Muleshoe**	**4.88**	**243**	Pn		Pn	Pn	21 29 30.3	-1.7
BGNE	**Belgrade**	**5.14**	**355**	Pn		Pn	Pn	21 29 33.6	-1.8
CCM	**Cathedral Cave**	**5.32**	**69**	lAmb_Lg				21 31 04.8	
comp=Z,21nm,1.0s									
P40A	**Paris**	**5.41**	**52**	lAmb_Lg				21 31 13.5	
comp=Z,19nm,0.9s									
N38A	**Joes South For**	**5.62**	**36**	lAmb_Lg				21 31 24.6	
comp=Z,16nm,0.7s									
PBMO	**Poplar Bluff**	**5.74**	**83**	lAmb_Lg				21 31 20.2	
com

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.29**	**28**	*i* P	**Pb**	**21 35 04.2**	**-0.4**
PCIG				*i* S	**Sn**	**21 35 23.4**	**+1.2**
THIG		**1.57**	**77**	*i* P	**Pn**	**21 35 08.8**	**+0.3**
THIG				*i* S	**Sb**	**21 35 29.8**	**+0.1**
RTAL	**Retalhuleu**	**2.09**	**91**	Pn	**Pn**	**21 35 15.8**	**+0.1**
TGIG		**2.31**	**18**	*e*P	**Pn**	**21 35 19.8**	**+1.0**
TGIG				*i* S	**Sn**	**21 35 49.0**	**+1.3**
TGBT	**Tuxtla Gutierr**	**2.32**	**18**	*i* P	**Pb**	**21 35 21.7**	**-0.6**
TGBT				*i* S	**Sg**	**21 35 52.7**	**-1.8**
CCIG	**Comitan**	**2.38**	**44**	*e*P	**Pb**	**21 35 21.9**	**-1.4**
CCIG				*i* S	**Sg**	**21 35 55.0**	**-1.4**
CCIG	**Comitan**	**2.38**	**44**		**Pb**	**21 35 21.5**	**-1.9**
HUEH	**Huehuetenango**	**2.39**	**71**		**Pb**	**21 35 21.9**	**-1.7**
CMIG	**Matias Romero**	**2.70**	**339**	Pn	**Pn**	**21 35 23.1**	**-1.0**
	7.9nm,0.3s,baz=164,slow=11,SNR=110						
CMIG				Sn	**Sn**	**21 35 56.8**	**-0.5**
	22nm,0.3s,baz=89,slow=14,SNR=6.9						
CMIG	**Matias Romero**	**2.70**	**339**	*e*P	**Pn**	**21 35 23.1**	**-1.0**
PEIG	**Puerto Escondi**	**3.49**	**295**	*e*P	**Pn**	**21 35 32.3**	**-2.6**
VHO	**Vista Hermosa**	**3.73**	**312**	*e*P	**Pn**	**21 35 38.6**	**+0.2**
MTO3	**Montecristo**	**4.35**	**92**	Pn	**Pn**	**21 35 47.8**	**+0.8**
ESQI	**Esquipulas**	**4.37**	**89**	Pn	**Pn**	**21 35 50.0**	**+2.9**
PETF	**Flores**	**4.49**	**58**	Pn	**Pn**	**21 35 50.5**	**+1.8**
PNIG	**Pinotepa**	**4.51**	**294**	*e*P	**Pn**	**21 35 46.7**	**-2.3**
SNET	**Serv Nac Est T**	**4.56**	**100**	Pn	**Pn**	**21 35 51.1**	**+1.3**
TOIG	**Toxpalan**	**4.67**	**319**	*e*P	**Pn**	**21 35 53.8**	**+2.4**
HLIG	**Huajuapan de L**	**5.00**	**311**	*e*P	**Pn**	**21 35 57.7**	**+1.8**
MGIG	**Malinaltepec**	**5.31**	**301**	*e*P	**Pn**	**21 36 00.3**	**+0.1**
DAIG	**Los Arroyos**	**6.09**	**294**	*e*P	**Pn**	**21 36 10.0**	**-0.8**
TGUH	**Tegucigalpa,Un**	**6.39**	**94**	Pn	**Pn**	**21 36 15.9**	**+0.9**
PPM	**Popocatepetl**	**6.40**	**315**	*e*P	**Pn**	**21 36 18.5**	**+3.1**
MEIG	**Mezcala**	**6.47**	**302**	*e*P	**Pn**	**21 36 16.4**	**+0.4**
PLIG	**Platanillo**	**6.62**	**306**	*e*P	**Pn**	**21 36 19.5**	**+1.3**
CRIN	**San Cristobal**	**6.87**	**105**	Pn	**Pn**	**21 36 22.5**	**+1.1**
CNGN	**Cerro Negro**	**7.25**	**106**	Pn	**Pn**	**21 36 28.4**	**+1.7**
MATN	**Matagalpa**	**7.87**	**101**	Pn	**Pn**	**21 36 35.5**	**+0.3**
ACON	**Acoyapa**	**8.83**	**106**	Pn	**Pn**	**21 36 50.4**	**+2.0**
HZTE	**Horizontes, Gu**	**8.92**	**114**	Pn	**Pn**	**21 36 51.3**	**+1.7**
ORTG	**Ortega, Santa**	**9.20**	**116**		**Pn**	**21 36 56.0**	**+2.5**
DUNO	**Dulce Nombre,**	**9.30**	**118**	Pn	**Pn**	**21 36 57.1**	**+2.3**
JTS	**Las Juntas de**	**9.67**	**115**	Pn	Pn	21 37 05.1	+5.2
	0.9nm,0.3s,baz=313,slow=9.5,SNR=3.9						
JTS	**Las Juntas de**	**9.67**	**115**	Pn	**Pn**	**21 37 03.9**	**+4.0**
CAO2	**Cobano, Puntar**	**9.82**	**119**	Pn	**Pn**	**21 37 03.4**	**+1.4**
RIMA	**Rio Macho**	**10.86**	**115**		**Pn**	**21 37 18.6**	**+2.1**
PEZE	**Perez Zeledon,**	**11.20**	**116**	Pn	**Pn**	**21 37 23.1**	**+2.1**
SRBA	**San Rafael, Bu**	**11.55**	**116**		**Pn**	**21 37 27.4**	**+1.7**
ZAIG	**Zacatecas**	**11.61**	**316**	Pn	**Pn**	**21 37 28.4**	**+1.7**
CDITO	**Canoas**	**12.29**	**118**	Pn	**Pn**	**21 37 36.7**	**+0.9**
BRU2	**Volcan**	**12.34**	**116**	Pn	**Pn**	**21 37 38.0**	**+1.4**
SOR	**Soroa**	**13.13**	**50**	Pn	**Pn**	**21 37 48.3**	**+1.1**
LCCY	**Blossom Villag**	**14.10**	**67**	Pn	**Pn**	**21 38 01.5**	**+1.0**
CBCY	**The Bluff, Cay**	**14.41**	**67**	Pn	**Pn**	**21 38 06.2**	**+1.4**
HKT	**Hockley**	**15.42**	**354**		**Pn**	**21 38 19.9**	**+1.6**
HKT				IAmb	IAmb	21 38 29.6	
	comp=Z,59nm,1.9s						
435B	**Jarrell**	**16.50**	**349**	Pn	**P**	**21 38 34.0**	**-1.1**
HPIG		**16.52**	**320**	Pn	**Pn**	**21 38 33.8**	**+1.0**
JCT	**Junction City**	**16.76**	**342**		**P**	**21 38 37.2**	**-0.8**
344A	**Westbrook Farm**	**17.05**	**9**	Pn	**Pn**	**21 38 39.7**	**+0.5**
344A				IAmb	IAmb	21 38 51.4	
	comp=Z,46nm,1.4s						
NATX	**Nacogdoches**	**17.13**	**358**	Pn	**Pn**	**21 38 40.8**	**+0.5**
TX32	**Lajitas Array**	**17.27**	**330**	P	**P**	**21 38 44.9**	**+1.2**
TXAR	**Lajitas Array**	**17.27**	**330**	P	**P**	**21 38 43.0**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=152,slow=12,SNR=8.0						
TXAR	**Lajitas Array**	**17.27**	**330**		**P**	**21 38 45.1**	**+1.4**
TX31	**Lajitas Ar. Si**	**17.28**	**330**	P	**P**	**21 38 44.8**	**+1.1**
TX31				IAmb	IAmb	21 38 54.6	
	comp=Z,42nm,1.2s						
WHTX	**Lake Whitney,**	**17.66**	**350**		**P**	**21 38 47.3**	**-0.5**
BRAL	**Brewton**	**17.67**	**20**		**Pn**	**21 38 46.9**	**0.0**
BRAL				IAmb	IAmb	21 39 20.3	
	comp=Z,52nm,1.2s						
ABTX	**Abilene, Hawle**	**18.74**	**345**	P	**Pn**	**21 38 60.0**	**-0.1**
WLAR	**White Oak Lake**	**19.05**	**2**	P	**Pn**	**21 39 04.6**	**+0.8**
WLAR				IAmb	IAmb	21 39 10.7	
	comp=Z,23nm,0.8s						
Z47A	**Carrollton**	**19.28**	**15**	P	**P**	**21 39 05.7**	**0.0**
Z47A				IAmb	IAmb	21 39 15.5	
	comp=Z,18nm,0.8s						
456A	**Hilliard**	**19.41**	**32**	P	**P**	**21 39 07.0**	**-0.1**
LRAL	**Lakeview Retre**	**19.42**	**18**		**Pn**	**21 39 07.9**	**-0.3**
MIAR	**Mount Ida**	**19.90**	**1**		**Pn**	**21 39 13.5**	**-0.4**
X37A	**Clayton**	**19.99**	**356**	P	**Pn**	**21 39 15.5**	**+0.5**
X37A				IAmb	IAmb	21 39 30.6	
	comp=Z,32nm,1.5s						
MNTX	**Cornudas Mount**	**20.06**	**330**	P	Pn	21 39 15.2	-0.7
OXF	**Oxford**	**20.26**	**11**	P	Pn	21 39 17.2	-1.0
X34A	**Smith Ranch, M**	**20.27**	**350**	P	Pn	21 39 18.4	0.0
X34A				IAmb	IAmb	21 39 35.9	
	comp=Z,18nm,0.9s						
154A	**Montrose**	**20.46**	**27**	P	Pn	21 39 19.8	-0.8
W39A	**Magazine**	**20.54**	**0**	P	Pn	21 39 20.8	-0.7
WHAR	**Wooly Hollow**	**20.69**	**4**		Pn	21 39 22.5	-0.8
WHAR				IAmb	IAmb	21 39 35.9	
	comp=Z,17nm,1.1s						
X48A	**Hartselle**	**20.73**	**16**	P	Pn	21 39 24.6	+0.8
X48A				IAmb	IAmb	21 39 30.0	
	comp=Z,31nm,1.1s						
FNO	**Franklin**	**20.85**	**352**	P	**P**	**21 39 23.6**	**+0.8**
MSTX	**Muleshoe**	**20.94**	**339**	P	Pn	21 39 25.6	-0.8
PLAL	**Pickwick Lake**	**20.99**	**13**	P	Pn	21 39 25.3	-1.4
PLAL				IAmb	IAmb	21 39 51.5	
	comp=Z,50nm,1.8s						
OK025	**Westminster Rd**	**21.16**	**352**	P	**P**	**21 39 26.4**	**+0.3**
OK025				IAmb	IAmb	21 39 32.9	
	comp=Z,20nm,0.9s						
Y52A	**Lilburn**	**21.16**	**23**	P	**P**	**21 39 27.6**	**+1.5**
Y52A				IAmb	IAmb	21 39 46.8	
	comp=Z,15nm,0.9s						
FPAL	**Fort Paine**	**21.24**	**19**	P	**P**	**21 39 27.1**	**+0.2**
FPAL				IAmb	IAmb	21 39 59.0	
	comp=Z,18nm,1.2s						
FCAR	**Ozark Folk Cen**	**21.29**	**4**	P	**P**	**21 39 27.5**	**0.0**
FCAR				IAmb	IAmb	21 39 30.6	
	comp=Z,14nm,0.9s						
HSIG		**21.38**	**315**	P	**P**	**21 39 29.2**	**+0.7**
AMTX	**Amarillo**	**21.43**	**342**	P	**P**	**21 39 29.0**	**-0.1**
AMTX				IAmb	IAmb	21 39 33.4	
	comp=Z,26nm,0.9s						
ROSC	**El Rosal**	**21.52**	**115**	P	**P**	**21 39 28.7**	**-1.8**
	comp=Z,11nm,0.5s,baz=187,slow=23,SNR=1.8						
ROSC	**El Rosal**	**21.52**	**115**	P	**P**	**21 39 32.3**	**+1.8**
LCAR	**Lake Charles**	**21.55**	**6**	P	**P**	**21 39 32.2**	**+1.9**
HHAR	**Hobbs**	**21.63**	**360**	P	**P**	**21 39 31.7**	**+0.6**
QUOK	**Quay**	**21.67**	**354**	P	**P**	**21 39 32.5**	**+1.0**
QUOK				IAmb	IAmb	21 39 45.4	
	comp=Z,26nm,1.2s						
U40A	**Yellville**	**21.72**	**2**	P	**P**	**21 39 33.4**	**+1.3**
U40A				IAmb	IAmb	21 40 27.3	
	comp=Z,22nm,1.4s						
SWET	**Sewanee**	**21.76**	**18**	P	**P**	**21 39 32.5**	**-0.1**
SWET				IAmb	IAmb	21 39 51.8	
	comp=Z,25nm,1.5s						
U38A	**Gravette**	**21.79**	**359**	P	**P**	**21 39 33.7**	**+0.9**
U38A				IAmb	IAmb	21 39 35.4	
	comp=Z,52nm,1.9s						
319A	**Douglas**	**21.91**	**322**	P	**P**	**21 39 35.1**	**+0.9**
319A				IAmb	IAmb	21 40 27.8	
	comp=Z,21nm,1.2s						
121A	**Cookes Peak, D**	**21.94**	**327**	P	**P**	**21 39 35.7**	**+1.1**
121A				IAmb	IAmb	21 39 37.9	
	comp=Z,33nm,1.1s						
W50A	**Signal Mountai**	**21.94**	**19**	P	**P**	**21 39 35.5**	**+1.0**
V48A	**Smith Brothers**	**22.01**	**15**	P	**P**	**21 39 35.6**	**+0.4**
FLOC	**Florencia**	**22.13**	**124**	P	**P**	**21 39 38.6**	**+1.9**
WVT	**Waverly**	**22.14**	**13**	P	**P**	**21 39 38.0**	**+1.3**
RUSC	**La Rusia**	**22.16**	**111**	P	**P**	**21 39 38.7**	**+1.2**
U32A	**Winter Ranch,**	**22.21**	**349**	P	**P**	**21 39 38.3**	**+0.9**
PBMO	**Poplar Bluff**	**22.33**	**7**	P	**P**	**21 39 39.3**	**+0.6**
PBMO				IAmb	IAmb	21 40 10.3	
	comp=Z,25nm,1.1s						
OK032	**Salt Plains WL**	**22.49**	**351**	P	**P**	**21 39 41.1**	**+0.8**
MGMO	**Mountain Grove**	**22.54**	**3**	P	**P**	**21 39 41.2**	**+0.2**
MGMO				IAmb	IAmb	21 40 00.5	
	comp=Z,21nm,1.2s						
BNM	**Barren Site**	**22.67**	**332**	P	**P**	**21 39 44.3**	**+1.8**
KS20	**Mayfield South**	**22.81**	**352**	P	**P**	**21 39 45.2**	**+1.4**
LENM	**Lemitar**	**22.84**	**331**	P	**P**	**21 39 45.2**	**+0.9**
KAN12	**Harper NE Stat**	**22.94**	**351**	P	**P**	**21 39 45.4**	**+0.2**
S39A	**Bolivar**	**23.04**	**1**	IAmb	IAmb	21 39 46.2	
	comp=Z,19nm,0.8s						
ANMO	**Albuquerque**	**23.26**	**333**	P	**P**	**21 39 49.4**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=145,slow=14,SNR=3.4						
ANMO	**Albuquerque**	**23.26**	**333**	P	**P**	**21 39 50.4**	**+1.8**
TUC	**Tucson**	**23.47**	**322**	P	**P**	**21 39 52.1**	**+1.5**
TUC				IAmb	IAmb	21 39 53.4	
	comp=Z,21nm,1.4s						
R32A	**Long Quarter,**	**24.15**	**351**	P	**P**	**21 39 57.7**	**+0.6**
T25A	**Trinidad**	**24.37**	**339**	P	**P**	**21 40 00.5**	**+1.1**
T25A				IAmb	IAmb	21 40 02.1	
	comp=Z,22nm,1.3s						
214A	**Organ Pipe Nat**	**24.49**	**318**	P	**P**	**21 40 01.2**	**+0.9**
WCI	**Wyandotte Cave**	**24.50**	**14**	P	**P**	**21 39 59.3**	**-1.0**
WCI				IAmb	IAmb	21 40 21.3	
	comp=Z,17nm,1.1s						
Q44A	**Meyer Farm, Va**	**24.62**	**9**	P	**P**	**21 39 59.9**	**-1.4**
Q44A				IAmb	IAmb	21 40 01.8	
	comp=Z,13nm,0.9s						
X18A	**Snowflake**	**24.62**	**327**	P	**P**	**21 40 02.0**	**+0.3**
W18A	**Petrified Fore**	**24.97**	**328**	P	**P**	**21 40 06.3**	**+1.5**
X16A	**Lo Mia Camp, P**	**25.36**	**324**	P	**P**	**21 40 09.1**	**+0.8**
113A	**Mohawk Valley,**	**25.63**	**318**	P	**P**	**21 40 10.9**	**+0.4**
113A				IAmb	IAmb	21 40 12.7	
	comp=Z,18nm,1.5s						
P46A	**Rosedale**	**25.63**	**12**	P	**P**	**21 40 09.1**	**-1.4**
P46A				IAmb	IAmb	21 40 19.8	
	comp=Z,14nm,0.8s						
Y14A	**Wickenburg**	**25.93**	**321**	IAmb	IAmb	21 40 18.6	
	comp=Z,19nm,1.6s						
MVCO	**Mesa Verde**	**26.05**	**333**	P	**P**	**21 40 15.1**	**+0.4**
Q51A	**Peebles**	**26.07**	**19**	P	**P**	**21 40 11.3**	**-3.1**
WUAZ	**Wupatki**	**26.13**	**326**	P	**P**	**21 40 16.0**	**+0.7**
WUAZ				IAmb	IAmb	21 40 20.9	
	comp=Z,13nm,1.1s						
N38A	**Joes South For**	**26.14**	**1**	P	**P**	**21 40 13.8**	**-1.3**
GLA	**Glamis**	**26.50**	**318**		**P**	**21 40 19.7**	**+1.2**
GLA				IAmb	IAmb	21 40 43.0	
	comp=Z,7.3nm,0.7s						
PV01	**Paradox Valley**	**26.85**	**334**	P	**P**	**21 40 23.1**	**+1.2**
PV01				IAmb	IAmb	21 40 24.3	
	comp=Z,10nm,1.1s						
PV13	**Radium Mtn., P**	**26.98**	**333**	P	**P**	**21 40 23.8**	**+0.8**
PV13				IAmb	IAmb	21 40 36.8	
	comp=Z,6.9nm,0.8s						
PV02	**Paradox Valley**	**26.99**	**334**	P	**P**	**21 40 23.2**	**+0.1**
PV02				IAmb	IAmb	21 40 25.5	
	comp=Z,11nm,1.1s						
PV15	**Paradox Valley**	**26.99**	**334**	P	**P**	**21 40 24.2**	**+1.1**
PV15				IAmb	IAmb	21 40 28.8	
	comp=Z,11nm,1.1s						
PV05	**Paradox Valley**	**27.04**	**333**	P	**P**	**21 40 23.5**	**0.0**
PV05				IAmb	IAmb	21 40 35.0	
	comp=Z,9.5nm,1.1s						
PV03	**Paradox Valley**	**27.07**	**333**	P	**P**	**21 40 25.1**	**+1.2**
PV03				IAmb	IAmb	21 41 03.9	
	comp=Z,20nm,1.4s						
PV18	**Skein Mesa, Pa**	**27.09**	**333**	P	**P**	**21 40 24.3**	**+0.3**
SMCO	**Snowmass**	**27.11**	**337**	P	**P**	**21 40 23.6**	**-0.7**
PV12	**Saucer Basin,**	**27.11**	**334**	P	**P**	**21 40 24.4**	**+0.3**
PV12				IAmb	IAmb	21 40 30.3	
	comp=Z,18nm,1.1s						
PV11	**David Mesa, Pa**	**27.12**	**333**	P	**P**	**21 40 23.9**	**-0.4**
PV11				IAmb	IAmb	21 41 17.0	
	comp=Z,17nm,1.0s						
PV07	**Paradox Valley**	**27.14**	**334**	P	**P**	**21 40 25.8**	**+1.4**
PV07				IAmb	IAmb	21 40 26.8	
	comp=Z,14nm,1.2s						
PV17	**East Wray Mesa**	**27.14**	**333**	P	**P**	**21 40 25.8**	**+1.4**
PV16	**Nyswonger Mesa**	**27.15**	**333**	P	**P**	**21 40 25.2**	**+0.7**
PV16				IAmb	IAmb	21 41 19.1	
	comp=Z,10nm,0.9s						
PV04	**Paradox Valley**	**27.21**	**333**	P	**P**	**21 40 26.2**	**+1.1**
PV04				IAmb	IAmb	21 41 11.5	
	comp=Z,8.2nm,0.9s						
W13A	**Hualapai Mount**	**27.26**	**322**	P	**P**	**21 40 26.3**	**+0.8**
PV22	**Blue Mesa, Par**	**27.28**	**334**	P	**P**	**21 40 26.1**	**+0.4**
PV22				IAmb	IAmb	21 40 27.9	
	comp=Z,17nm,1.4s						
PV23	**Carpenter Ridg**	**27.31**	**333**	P	**P**	**21 40 26.4**	**+0.4**
PV23				IAmb	IAmb	21 41 02.7	
	comp=Z,16nm,1.1s						
PV21	**Cone Mtn., Par**	**27.39**	**334**	P	**P**	**21 40 27.3**	**+0.7**
PV21				IAmb	IAmb	21 41 03.5	
	comp=Z,12nm,0.8s						
KNB	**Kanab**	**28.03**	**326**	P	**P**	**21 40 33.0**	**+0.6**
KNB				IAmb	IAmb	21 40 34.8	
	comp=Z,8.5nm,1.1s						
PKCU	**Pink Cliffs**	**28.08**	**328**	P	**P**	**21 40 34.0**	**+1.0**
PKCU				IAmb	IAmb	21 40 56.8	
	comp=Z,6.4nm,0.7s						
O20A	**White River Ci**	**28.42**	**336**	P	**P**	**21 40 36.4**	**+0.6**
MTPU	**Mount Pierson**	**28.47**	**329**	P	**P**	**21 40 37.2**	**+0.7**
MTPU				IAmb	IAmb	21 40 43.1	
	comp=Z,16nm,1.6s						
SRU	**San Rafael Swe**	**28.52**	**332**	P	**P**	**21 40 36.7**	**-0.1**
SRU				IAmb	IAmb	21 40 45.3	
	comp=Z,5.2nm,0.6s						
SZCU	**Shurtz Canyon**	**28.60**	**327**	P	**P**	**21 40 37.5**	**0.0**
Q16A	**Castle Valley**	**28.66**	**331**	P	**P**	**21 40 38.5**	**+0.5**
Q16A				IAmb	IAmb	21 40 49.7	
	comp=Z,7.9nm,1.0s						
CCUT	**Cedar City**	**28.71**	**326**	P	**P**	**21 40 39.9**	**+1.4**
CCUT				IAmb	IAmb	21 40 51.0	
	comp=Z,8.8nm,1.2s						
P17A	**Butcher Ranch,**	**28.91**	**332**	P	**P**	**21 40 41.3**	**+1.1**
P17A				IAmb	IAmb	21 40 51.0	
	comp=Z,7.8nm,1.1s						
SHPR	**Sheep Range**	**28.98**	**323**	P	**P**	**21 40 41.6**	**+0.8**
TMUT	**Trail Mountain**	**28.98**	**331**	P	**P**	**21 40 42.4**	**+1.4**
ECSD	**EROS Data Cent**	**29.17**	**356**	IAmb	IAmb	21 40 49.4	
	comp=Z,6.3nm,0.7s						
RWWY	**Rawlins**	**29.41**	**339**	P	**P**	**21 40 45.7**	**+1.1**
RWWY				IAmb	IAmb	21 40 47.0	
	comp=Z,11nm,0.9s						
PRN	**Pahroc Range**	**29.54**	**324**	P	**P**	**21 40 47.1**	**+1.4**
PSUT	**Pine Spring**	**29.70**	**327**	P	**P**	**21 40 48.5**	**+1.2**
NLU	**North Lily Min**	**29.91**	**331**	P	**P**	**21 40 49.6**	**+0.5**
TPNV	**Topopah Spring**	**29.92**	**322**	P	**P**	**21 40 49.7**	**+0.6**
TPNV				IAmb	IAmb	21 41 14.6	
	comp=Z,22nm,1.9s						
SPR3	**Spring Creek 3**	**30.30**	**327**	P	**P**	**21 40 53.4**	**+0.7**
SPR3				IAmb	IAmb	21 40 54.5	
	comp=Z,6.7nm,1.1s						
TCUT	**Toone Canyon**	**30.55**	**333**	P	**P**	**21 40 54.9**	**+0.1**
TCUT				IAmb	IAmb	21 41 06.3	
	comp=Z,12nm,1.0s						
SPMN	**Marine on St.**	**30.57**	**1**	P	**P**	**21 40 52.1**	**-2.5**
SPMN				IAmb	IAmb	21 40 53.5	
	comp=Z,12nm,1.1s						
ANWB	**Willy Bob**	**30.94**	**80**	P	**P**	**21 40 56.8**	**-1.3**
BGU	**Big Grassy Mou**	**31.13**	**331**	P	**P**	**21 41 00.0**	**+0.3**
BGU				IAmb	IAmb	21 41 02.1	
	comp=Z,12nm,1.6s						
TPH	**Tonopah**	**31.25**	**323**	P	**P**	**21 41 01.1**	**+0.2**
HVU	**Hansel Valley**	**31.69**	**332**	P	**P**	**21 41 05.1**	**+0.4**
HVU				IAmb	IAmb	21 41 07.0	
	comp=Z,11nm,1.3s						
AHID	**Auburn Hatcher**	**31.79**	**336**	P	**P**	**21 41 05.8**	**+0.2**
NV11	**Mina Array Sit**	**32.03**	**322**	P	**P**	**21 41 08.7**	**+1.0**
ELK	**Elko**	**32.06**	**329**	P	**P**	**21 41 08.1**	**+0.1**
	comp=Z,3.1nm,0.9s,baz=138,slow=6.8,SNR=11						
ELK	**Elko**	**32.06**	**329**	P	**P**	**21 41 09.0**	**+0.9**
ELK				IAmb	IAmb	21 41 10.6	
	comp=Z,5.6nm,1.1s						
MDPB	**Devils Postpil**	**32.08**	**320**	P	**P**	**21 41 08.5**	**+0.2**
MDPB				IAmb	IAmb	21 41 10.8	
	comp=Z,8.5nm,1.1s						
NVAR	**Mina Array Bea**	**32.12**	**322**	P	**P**	**21 41 10.1**	**+1.5**
	comp=Z,6.3nm,1.0s,baz=143,slow=9.1,SNR=30						
NVAR				PcP	**PcP**	**21 43 57.7**	**-0.2**
	comp=Z,1.4nm,0.9s,baz=154,slow=3.6,SNR=4.6						
LHV	**Little Huntoon**	**32.12**	**322**	P	**P**	**21 41 09.9**	**+1.6**
LHV				IAmb	IAmb	21 41 38.1	
	comp=Z,6.5nm,1.1s						
REDW	**Red Top Meadow**	**32.19**	**336**	P	**P**	**21 41 09.4**	**+0.3**
SNOW	**Snow King Moun**	**32.24**	**337**	P	**P**	**21 41 10.0**	**+0.4**
LOHW	**Long Hollow**	**32.31**	**337**	P	**P**	**21 41 10.3**	**+0.1**
LOHW				IAmb	IAmb	21 41 12.2	
	comp=Z,9.8nm,1.4s						
TPAW	**Teton Pass**	**32.34**	**336**	P	**P**	**21 41 10.9**	**+0.3**
RYN	**Ryan**	**32.38**	**322**	P	**P**	**21 41 10.8**	**0.0**
RYN				IAmb	IAmb	21 41 12.9	
	comp=Z,5.5nm,1.2s						
KVN	**Kaiserville**	**32.41**	**323**	P	**P**	**21 41 12.2**	**+1.0**
KVN				IAmb	IAmb	21 41 13.0	
	comp=Z,5.9nm,1.2s						
MOOW	**Moose Ponds**	**32.48**	**337**	P	**P**	**21 41 12.3**	**+0.7**
MOOW				IAmb	IAmb	21 41 13.5	
	comp=Z,13nm,1.7s						
FXWY	**Fox Creek**	**32.49**	**336**	P	**P**	**21 41 11.1**	**-0.7**
FXWY				IAmb	IAmb	21 41 30.0	
	comp=Z,14nm,1.8s						
IMW	**Indian Meadow**	**32.68**	**337**	P	**P**	**21 41 14.2**	**+0.7**
IMW				IAmb	IAmb	21 41 15.3	
	comp=Z,7.7nm,1.4s						
BMN	**Battle Mountai**	**32.87**	**326**	P	**P**	**21 41 15.5**	**+0.4**
BMN				IAmb	IAmb	21 41 17.4	
	comp=Z,9.0nm,1.2s						
YERR	**Yerington**	**33.04**	**322**	P	**P**	**21 41 17.8**	**+1.2**
YERR				IAmb	IAmb	21 41 19.4	
	comp=Z,7.0nm,1.0s						
CMB	**Columbia Colle**	**33.14**	**320**	P	**P**	**21 41 17.1**	**-0.2**
CMB				IAmb	IAmb	21 41 18.6	
	comp=Z,6.4nm,1.4s						
RLMT	**Red Lodge**	**33.14**	**340**	P	**P**	**21 41 18.2**	**+0.8**
YNE	**Yellowstone No**	**33.29**	**339**	P	**P**	**21 41 19.5**	**+0.6**
YNE				IAmb	IAmb	21 41 48.2	
	comp=Z,7.1nm,1.1s						
PNTR	**Pine Nut**	**33.32**	**322**	P	**P**	**21 41 19.4**	**+0.3**
PNTR				IAmb	IAmb	21 41 37.7	
	comp=Z,5.3nm,0.6s						
YHH	**Holmes Hill**	**33.41**	**338**	P	**P**	**21 41 20.9**	**+1.0**
YHH				IAmb	IAmb	21 41 22.3	
	comp=Z,5.9nm,1.3s						
YHB	**Horse Butte**	**33.50**	**337**	P	**P**	**21 41 22.0**	**+1.3**
PAHR	**Pah Rah Range**	**33.59**	**323**	P	**P**	**21 41 22.0**	**+0.6**
AGMN	**Agassiz Nation**	**33.68**	**358**	IAmb	IAmb	21 41 29.2	
	comp=Z,6.5nm,0.7s						
HLID	**Hailey**	**33.84**	**333**	P	**P**	**21 41 23.5**	**0.0**
MCMT	**McKenzie Canyo**	**34.20**	**336**	P	**P**	**21 41 27.8**	**+1.1**
BEKR	**Beckworth**	**34.27**	**322**	P	**P**	**21 41 28.5**	**+1.2**
BEKR				IAmb	IAmb	21 41 29.8	
	comp=Z,9.3nm,1.3s						
MFID	**Camas Ranch**	**34.37**	**331**	P	**P**	**21 41 28.8**	**+0.8**
BOZ	**Bozeman (W)**	**34.38**	**338**	P	**P**	**21 41 29.0**	**+0.8**
DLMT	**Dillon**	**34.55**	**336**	P	**P**	**21 41 29.7**	**+0.1**
ORV	**Oroville**	**34.76**	**321**	P	**P**	**21 41 32.6**	**+1.3**
ORV				IAmb	IAmb	21 41 34.0	
	comp=Z,8.6nm,1.4s						
LRM	**Limekiln Ridge**	**34.88**	**337**	P	**P**	**21 41 33.4**	**+0.8**
J08A	**Circle Bar Ran**	**35.61**	**329**	P	**P**	**21 41 39.7**	**+0.9**
J08A				IAmb	IAmb	21 41 40.8	
	comp=Z,12nm,1.2s						
ULM	**Lac du Bonnet**	**35.63**	**358**	P	**P**	**21 41 39.9**	**+1.2**
	comp=Z,1.5nm,0.5s,baz=136,slow=1.1,SNR=3.3						
MOQ	**Mont Orford**	**35.67**	**26**	P	**P**	**21 41 39.0**	**-0.2**
PLID	**Pearl Lake**	**35.74**	**333**	P	**P**	**21 41 40.3**	**+0.3**
PLID				IAmb	IAmb	21 41 50.9	
	comp=Z,10.0nm,1.1s						
EGMT	**Eagleton**	**35.87**	**342**	P	**P**	**21 41 41.0**	**+0.1**
MSO	**Missoula**	**36.29**	**337**	P	**P**	**21 41 44.7**	**+0.1**
MSO				IAmb	IAmb	21 41 55.2	
	comp=Z,6.1nm,1.1s						
F10A	**Beach Ranch, E**	**36.97**	**333**	IAmb	IAmb	21 42 00.8	
	comp=Z,9.9nm,0.8s						
JTMT	**Jette**	**37.18**	**337**	P	**P**	**21 41 51.9**	**-0.

comp=E,16037µm,0.2s
MMB Musomiste 0.20 346 P **Pg** 21 44 18.9 -0.7
KVLA Kavala 0.64 135 P **Pg** 21 44 27.7 0.0
KVLA S **Sg** 21 44 36.1 +0.2
SOH Sokhos 0.66 210 P **Pg** 21 44 28.1 0.0
SOH S **Sg** 21 44 36.6 -0.1
comp=E,565nm,0.3s
SOH Sokhos 0.66 210 P **Pg** 21 44 28.1 0.0
SOH S **Sg** 21 44 36.9 +0.2
SOH AML AML 21 44 37.6
comp=E,899µm,0.2s
SOH AML AML 21 44 38.8
comp=N,1949µm,0.4s
SOH Sokhos 0.66 210 *i* Pg **Pg** 21 44 28.1 0.0
SOH *i* Sg **Sg** 21 44 37.3 +0.6
KAVA Kavala 0.67 126 P **Pg** 21 44 27.7 -0.7
KAVA S **Sg** 21 44 36.8 -0.3
comp=N,800nm,0.1s
KAVA Kavala 0.67 126 P **Pg** 21 44 28.5 +0.1
KAVA AML AML 21 44 42.4
comp=E,1675µm,0.1s
KAVA AML AML 21 44 42.9
comp=N,2360µm,0.1s
KNT Kendrikon 0.71 252 P **Pg** 21 44 29.3 +0.1
KNT S **Sg** 21 44 39.3 +0.8
KNT Kendrikon 0.71 252 P **Pg** 21 44 29.9 +0.7
KNT Kendrikon 0.71 252 PG **Pg** 21 44 29.9 +0.7
KNT Kendrikon 0.71 252 *i* Pg **Pg** 21 44 30.1 +0.9
KNT *i* Sg **Sg** 21 44 39.2 +0.8
KKB Krupnik 0.71 312 P **Pg** 21 44 28.6 -0.6
RZN Rozhen 0.75 66 P **Pg** 21 44 30.8 +0.8
VAY Valandovo 0.92 266 *e*Pg **Pb** 21 44 34.8 +0.8
VAY *e*Sg **Sg** 21 44 46.2 +1.0
VAY Valandovo 0.92 266 *i* Sg **Sg** 21 44 46.2 +1.0
VAY *e*Lg Lg 21 44 51.5
comp=E,31nm,0.3s
HORT Hortiatis 0.95 214 P **Pg** 21 44 33.3 -0.4
HORT S **Sg** 21 44 46.8 +0.8
comp=E,158nm,0.5s
HORT Hortiatis 0.95 214 P **Pg** 21 44 33.5 -0.2
HORT Hortiatis 0.95 214 PG **Pg** 21 44 33.6 -0.2
HORT SG **Sb** 21 44 47.4 0.0
THE Thessaloniki 0.98 220 P **Pg** 21 44 34.0 -0.3
THE S **Sg** 21 44 47.6 +0.5
comp=E,115nm,0.4s
THE Thessaloniki 0.98 220 P **Pg** 21 44 34.0 -0.3
THE S **Sg** 21 44 47.1 0.0
THE AML AML 21 44 48.3
comp=N,298µm,0.2s
THE AML AML 21 44 50.3
comp=E,273µm,0.2s
THE Thessaloniki 0.98 220 *i* Pg **Pg** 21 44 34.0 -0.3
THE *i* Sg **Sg** 21 44 47.3 +0.2
PLD Plovdiv 0.99 43 PG **Pb** 21 44 35.5 +0.4
PLD SG **Sn** 21 44 49.9 -0.5
PLD Plovdiv 0.99 43 P **Pb** 21 44 35.4 +0.4
PLD Plovdiv 0.99 43 *i* Pg **Pg** 21 44 34.9 +0.4
PLD *i* Sg **Sb** 21 44 49.7 +1.3
PLG Polygyros 1.05 195 P **Pg** 21 44 35.4 -0.2
PLG S **Sg** 21 44 49.2 0.0
comp=E,198nm,0.3s
PLG Polygyros 1.05 195 P **Pg** 21 44 35.4 -0.2
THAS Thassos island 1.05 138 P **Pg** 21 44 35.0 -0.6
THAS S **Sg** 21 44 49.4 +0.1
comp=E,688nm,0.3s
THAS Thassos island 1.05 138 P **Pg** 21 44 35.1 -0.5
THAS AML AML 21 44 51.5
comp=N,1743µm,0.2s
THAS AML AML 21 44 51.7
comp=E,958µm,0.4s
OUR Ouranopolis 1.06 172 P **Pg** 21 44 35.4 -0.5
OUR S **Sb** 21 44 50.6 0.0
comp=E,405nm,0.3s
OUR Ouranopolis 1.06 172 P **Pg** 21 44 35.7 -0.2
OUR AML AML 21 44 52.1
comp=N,794µm,0.2s
OUR AML AML 21 44 52.6
comp=E,830µm,0.3s
OUR Ouranopolis 1.06 172 PG **Pg** 21 44 36.1 +0.2
OUR SG **Sb** 21 44 50.8 +0.2
GRG Griva 1.14 248 P **Pg** 21 44 37.1 -0.2
GRG S **Sg** 21 44 52.7 +0.7
comp=E,82nm,0.3s
GRG Griva 1.14 248 PN **Pg** 21 44 37.8 +0.5
GRG Griva 1.14 248 *i* Pg **Pg** 21 44 37.0 -0.2
GRG *i* Sg **Sb** 21 44 53.3 +0.6
STIP Stip 1.24 285 *i* Pg **Pb** 21 44 35.5 -4.0
STIP *i* Sg **Sg** 21 44 50.3 -5.2
STIP *e*Lg Lg 21 44 50.8
comp=E,26nm,0.3s
KDZ Kurdzhali 1.25 77 P **Pb** 21 44 38.1 -1.4
VTS Vitosha 1.30 341 ⇓P **Pn** 21 44 39.7 -0.8
VTS ⇓S **Sg** 21 44 56.6 -0.5
VTS Vitosha 1.30 341 *e*Pg **Pn** 21 44 39.6 -0.8
VTS *e*Sg **Sg** 21 44 56.1 -1.1
VTS Vitosha 1.30 341 P **Pn** 21 44 39.6 -0.8
VTS Vitosha 1.30 341 *i* Pg **Pn** 21 44 39.6 -0.8
VTS *i* Sg **Sb** 21 44 58.2 +0.7
RDO Rodhopi 1.34 100 P **Pn** 21 44 39.7 -1.1
RDO S **Sn** 21 44 59.0 0.0
comp=E,315nm,0.1s
RDO Rodhopi 1.34 100 P **Pn** 21 44 40.2 -0.7
RDO Rodhopi 1.34 100 PN **Pn** 21 44 40.9 +0.1
RDO SN **Sn** 21 44 59.9 +0.9
DIM Dimitrovgrad 1.46 63 P **Pn** 21 44 43.0 +0.5
PAIG Paliouri 1.46 183 P **Pn** 21 44 41.5 -1.1
PAIG S **Sn** 21 45 01.3 -0.8
comp=E,62nm,0.3s
PAIG Paliouri 1.46 183 P **Pn** 21 44 41.6 -0.9
BOSS Bosilegrad 1.48 319 *e*Pg **Pn** 21 44 43.3 +0.5
BOSS *e*Sg **Sg** 21 45 04.0 +1.0
SMTH Samothraki Isl 1.60 124 P **Pn** 21 44 43.4 -1.1
SMTH S **Sn** 21 45 05.0 -0.6
ALN Alexandroupoli 1.77 105 P **Pn** 21 44 46.3 -0.5
ALN S **Sn** 21 45 10.3 +0.6
comp=E,58nm,0.4s
ALN Alexandroupoli 1.77 105 PN **Pn** 21 44 47.8 +1.0
LIA Limnos Island 1.83 144 P **Pn** 21 44 46.5 -1.1
LIA S **Sn** 21 45 10.9 -0.2
comp=E,78nm,0.4s
FNA Florina 1.93 252 *e*Pn **Pn** 21 44 49.5 +0.5
FNA Florina 1.93 252 PN **Pn** 21 44 50.2 +1.2
GADA Gvkgeada 2.00 126 P **Pn** 21 44 49.6 -0.3
GADA S **Sn** 21 45 15.6 +0.3
comp=E,40nm,0.4s
GADA Gvkgeada 2.00 126 PN **Pn** 21 44 50.2 +0.3
GADA SN **Sb** 21 45 16.5 -1.0
BARS Barje 2.05 315 *e*Pn **Pn** 21 44 49.8 -0.9
ZAPS Zavoj 2.07 336 *e*Pn **Pb** 21 44 52.9 -0.7
ZAPS *e*Sn **Sn** 21 45 17.1 -0.1
UKOP Uzunkopru-Edir 2.16 96 PN **Pn** 21 44 53.1 +1.0
ERIK Erikli-Kesan 2.18 108 PN **Pn** 21 44 53.7 +1.3
EDRB Edirne 2.26 77 PN **Pn** 21 44 54.9 +1.4
GELI Tayfur-Gelibol 2.26 115 PN **Pn** 21 44 53.9 +0.4
BOZC Bozcaada 2.31 131 PN **Pn** 21 44 55.0 +0.7
BLKB Belogradchik 2.38 340 ⇑S **Sg** 21 45 32.8 +0.9
AGG Agios Georgios 2.62 206 PN **Pn** 21 44 59.4 +0.9
ZAGS Zajecar 2.68 335 *e*Pn **Pn** 21 45 00.4 +1.1
ZAGS *e*Sn **Sn** 21 45 34.0 +1.8
SIGR SIGRI 2.69 143 PN **Pn** 21 44 59.7 +0.3
SELS Selova 2.70 314 *e*Pn **Pn** 21 44 59.4 -0.2
BOVS Bovan 2.72 326 ⇑P **Pb** 21 45 05.4 +0.7
BOVS Bovan 2.72 326 ⇓S **Sb** 21 45 40.8 +2.4
BOVS Bovan 2.72 326 *e*Pn **Pn** 21 45 01.2 +1.3
GRUS Gruza 3.38 319 *e*Pn **Pn** 21 45 08.5 -0.4
IVAS Ivanjica 3.47 310 *e*Pn **Pn** 21 45 11.4 +1.2
HERR Herculane 3.63 344 ⇑P **Pb** 21 45 20.8 +0.6
HERR Herculane 3.63 344 ⇓S **Sg** 21 46 10.6 -1.6
MDVR Moldovita 3.72 336 ⇓P **Pg** 21 45 26.8 +0.1
DIVS Divibare 3.89 315 *e*Pn **Pn** 21 45 15.9 -0.2
GZR Gura Zlata 4.07 350 ⇓P **Pg** 21 45 35.8 +2.4
GZR Gura Zlata 4.07 350 ⇓S **Sg** 21 46 22.5 -3.7
BZS Buzias 4.51 340 ⇓P **Pg** 21 45 40.4 -1.5
BZS Buzias 4.51 340 ⇓S **Sg** 21 46 37.0 -3.3

NEIC ***11*** *22:11:32.7±0.4, 4.°91N±0.°08×127.°4E±0.°2, h142km±11km, mb4.1/8, Error ellipse: s-maj=22.7km s-min=11.4km az=87.0*
IDC ***11*** *22:11:33.3±1.5, 4.°72N×127.°10E, h152km±15km, mb3.4/5, mb1 3.6/7, mb1mx3.3/34, mbtmp3.9/7, MS3.2/2, Ms1 3.2/2, ms1mx2.9/32, Error ellipse: s-maj=65.3km s-min=13.1km az=63.0*
MAN ***11*** *22:11:39.6, 4.°56N×125.°84E, h6km, mb4.4, ML3.2, MS3.0*
ISC 11 22:11:32.5±0.8, 4.°89N±0.°08×127.°5E±0.°1, h150km, n20, σ0.°57/22, mb3.9/8, 2C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.85**	**319**	P	**Pn**	**22 12 17.4**	**-0.7**
	60nm,0.3s,baz=162,slow=20,SNR=2.0						
DAV				S	**Sn**	**22 12 53.3**	**+0.1**
	34nm,0.3s,baz=143,slow=20,SNR=1.5						
KCP	**Kidapawan**	**3.15**	**312**	*e*P	**Pn**	**22 12 21.9**	**0.0**
BUKP	**Musuan**	**3.80**	**321**	*i*P	**Pn**	**22 12 30.1**	**-0.1**
BUKP				*e*S	**Sn**	**22 13 15.9**	**+0.9**
SIJI	**Sorong**	**6.88**	**146**	P	**Pn**	**22 13 11.7**	**+0.6**
	3.7nm,0.3s,baz=290,slow=23,SNR=6.7						
SIJI				LR	LR	22 15 38.8	
	comp=Z,229nm,19.0s,baz=98,slow=35						
TOLI2	**Tolitoli**	**7.64**	**241**	Pn	**Pn**	**22 13 21.0**	**-0.3**
KNRA	**Kununurra**	**20.48**	**176**	P	**P**	**22 15 58.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**22.92**	**184**	P	**P**	**22 16 24.0**	**+0.4**
	1.0nm,0.5s,baz=10,slow=8.0,SNR=12						
FITZ				LR	LR	22 26 24.6	
	comp=Z,51nm,19.4s,baz=120,slow=39						
FITZ	**Fitzroy Crossi**	**22.92**	**184**	P	**P**	**22 16 24.0**	**+0.4**
WRAB	**Tennant Creek**	**25.59**	**165**	P	**P**	**22 16 48.5**	**+0.5**
WRAB				IAmb	IAmb	22 17 01.2	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**25.59**	**165**	P	**P**	**22 16 47.4**	**-0.6**
	comp=Z,2.4nm,0.4s,baz=335,slow=11,SNR=48						
WB2	**Warramunga Arr**	**25.60**	**165**	P	**P**	**22 16 48.2**	**+0.2**
WB2				IAmb	IAmb	22 16 50.2	
	comp=Z,6.9nm,1.0s						
WR0	**Warramunga Arr**	**25.66**	**164**	P	**P**	**22 16 48.7**	**+0.1**
WR0				IAmb	IAmb	22 16 49.8	
	comp=Z,3.2nm,0.9s						
PSA00	**Pilbara Seismi**	**27.34**	**196**	P	**P**	**22 17 04.1**	**+0.5**
ASAR	**Alice Springs**	**29.08**	**168**	P	**P**	**22 17 18.9**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=345,slow=6.9,SNR=11						
ASAR				PcP	**PcP**	**22 20 21.9**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=343,slow=2.1,SNR=2.2						
ASAR	**Alice Springs**	**29.08**	**168**	P	**P**	**22 17 19.0**	**0.0**
JMN	**Monobe**	**29.31**	**11**	P	**P**	**22 17 21.0**	**0.0**
STKA	**Stephens Creek**	**38.97**	**161**	P	**P**	**22 18 44.4**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=342,slow=7.9,SNR=5.5						
STKA	**Stephens Creek**	**38.97**	**161**	IAmb	IAmb	22 18 45.2	
	comp=Z,3.7nm,1.5s						
MKAR	**Makanchi Array**	**57.02**	**324**	P	**P**	**22 21 03.0**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=115,slow=7.7,SNR=5.5						
TORD	**Torodi Ar. Bea**	**123.23**	**289**	PKP	**PKPdf**	**22 30 12.2**	**-0.4**
	comp=Z,0.3nm,0.9s,baz=72,slow=1.7,SNR=1.9						

IDC ***11*** *22:22:10.3±4.4, 30.°91N×141.°46E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.5/35, mbtmp3.5/5, ML2.8/1, Error ellipse: s-maj=171.3km s-min=22.6km az=71.0*
ISC 11 22:22:12.2±3.4, 31.°0N±0.°3×141.°4E±0.°9, h10km, n6, σ2.°60/7, mb3.7/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**6.11**	**335**	Pn	**Pn**	**22 23 42.0**	**-0.7**
	0.2nm,0.3s,baz=161,slow=11,SNR=11						
MAT	**Matsushiro**	**6.12**	**335**	P	**Pb**	**22 24 01.2**	**+2.4**
MAT				*e*S	**Sb**	**22 25 08.3**	**-3.8**
SONM	**Songino Array**	**31.49**	**312**	P	**P**	**22 28 36.0**	**+1.8**
	0.2nm,0.4s,baz=116,slow=9.9,SNR=3.6						
MKAR	**Makanchi Array**	**47.51**	**307**	P	**P**	**22 30 47.7**	**+0.2**
	0.5nm,0.5s,baz=86,slow=9.2,SNR=5.9						
WRA	**Warramunga Arr**	**51.12**	**189**	P	**P**	**22 31 13.8**	**-1.4**
	0.5nm,0.5s,baz=5.3,slow=7.2,SNR=9.7						
ASAR	**Alice Springs**	**54.84**	**188**	P	**P**	**22 31 41.6**	**-1.1**
	0.4nm,0.5s,baz=12,slow=6.7,SNR=6.7						

IDC ***11*** *22:22:22.9±1.1, 31.°03N×142.°27E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.8/35, mbtmp3.8/9, ML2.6/2, Error ellipse: s-maj=40.8km s-min=20.5km az=74.0*
ISC 11 22:22:26.8±1.1, 31.°1N±0.°2×142.°2E±0.°3, h24km, n9, σ1.°16/9, mb3.8/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**6.38**	**330**	Pn	**Pn**	**22 23 58.3**	**-1.0**
	0.5nm,0.3s,baz=149,slow=11,SNR=18						
USRK	**Ussuriysk Ar.**	**15.38**	**331**	Pn	**Pn**	**22 26 01.2**	**-0.9**
	baz=161,slow=13,SNR=3.2						
SONM	**Songino Array**	**31.96**	**312**	P	**P**	**22 28 53.1**	**+2.2**
	0.8nm,0.7s,baz=122,slow=10,SNR=5.4						
MKAR	**Makanchi Array**	**48.03**	**307**	P	**P**	**22 31 03.3**	**-0.7**
	1.3nm,0.6s,baz=87,slow=9.8,SNR=8.5						
WRA	**Warramunga Arr**	**51.29**	**189**	P	**P**	**22 31 28.4**	**-0.6**
	1.3nm,0.7s,baz=5.3,slow=7.6,SNR=11						
ASAR	**Alice Springs**	**55.01**	**189**	P	**P**	**22 31 55.9**	**-0.4**
	0.6nm,0.6s,baz=3.5,slow=6.0,SNR=4.3						
FINES	**FINESS Array B**	**74.40**	**333**	P	**P**	**22 34 03.0**	**+0.6**
	0.9nm,0.7s,baz=83,slow=5.7,SNR=4.3						
NVAR	**Mina Array Bea**	**78.06**	**52**	P	**P**	**22 34 24.0**	**+0.1**
	0.3nm,0.5s,baz=308,slow=4.4,SNR=3.9						
NOA	**NORSAR Array B**	**79.93**	**338**	P	**P**	**22 34 33.8**	**+0.3**
	0.9nm,0.8s,baz=39,slow=5.2,SNR=3.5						

IDC ***11*** *22:22:39.4±1.2, 31.°17N×142.°24E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.7/34, mbtmp3.7/7, ML2.8/1, Error ellipse: s-maj=57.1km s-min=23.1km az=79.0*
ISC 11 22:22:43.3±1.1, 31.°1N±0.°2×142.°2E±0.°3, h24km, n7, σ0.°57/7, mb3.8/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**6.31**	**330**	Pn	**Pn**	**22 24 15.2**	**+0.3**
	0.2nm,0.3s,baz=146,slow=11,SNR=5.4						
MKAR	**Makanchi Array**	**47.37**	**307**	P	**P**	**22 31 20.2**	**+0.2**
	0.6nm,0.6s,baz=90,slow=8.6,SNR=2.5						
WRA	**Warramunga Arr**	**51.35**	**189**	P	**P**	**22 31 46.0**	**+0.1**
	0.6nm,0.4s,baz=6.3,slow=7.4,SNR=6.8						
ASAR	**Alice Springs**	**55.07**	**189**	P	**P**	**22 32 13.4**	**+0.1**
	0.5nm,0.6s,baz=3.4,slow=6.7,SNR=6.2						
FINES	**FINESS Array B**	**74.33**	**333**	P	**P**	**22 34 17.8**	**-0.7**
	1.3nm,0.8s,baz=76,slow=5.9,SNR=2.3						
NOA	**NORSAR Array B**	**79.86**	**338**	P	**P**	**22 34 48.9**	**-0.7**
	0.4nm,0.7s,baz=57,slow=1.9,SNR=1.2						
TXAR	**Lajitas Array**	**93.19**	**53**	P	**P**	**22 35 56.4**	**+0.4**
	0.4nm,0.7s,baz=284,slow=3.6,SNR=3.1						

IDC ***11*** *22:35:03.9±1.1, 17.°99S×178.°60W, h618km±12km, mb3.1/8, mb1 3.4/9, mb1mx3.0/48, mbtmp4.0/9, Error ellipse: s-maj=28.3km s-min=16.2km az=146.0*
NEIC ***11*** *22:35:03.1±1.6, 18.°25S±0.°1×178.°5W±0.°2, h601km±9km, mb4.3/12, Error ellipse: s-maj=24.6km s-min=10.1km az=120.0*
ISC 11 22:35:02.4±0.6, 18.°0S±0.°1×178.°4W±0.°1, h600km, n26, σ1.°38/27, mb3.8/14, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.35**	**274**	P	**P**	**22 36 24.7**	**+0.9**
	2.8nm,0.3s,baz=129,slow=16,SNR=8.2						
MSVF				S	**S**	**22 37 33.1**	**+3.1**
	baz=358,slow=22,SNR=1.1						
RAO	**Raoul Island**	**11.21**	**178**	P	**P**	**22 37 36.0**	**+2.9**
	264nm,0.3s,baz=96,slow=19,SNR=6.4						
RAO	**Raoul Island**	**11.21**	**178**	P	**P**	**22 37 33.6**	**+0.5**
KNTN	**Kanton**	**16.50**	**24**	P	**P**	**22 38 23.0**	**-1.5**
QRZ	**Quartz Range**	**24.04**	**197**	P	**P**	**22 39 31.4**	**-0.6**
QRZ				IAmb	IAmb	22 39 47.8	
	comp=Z,9.0nm,0.9s						
PLWZ	**Palliser**	**24.11**	**192**	P	**P**	**22 39 30.0**	**-2.6**
KHZ	**Kahutara**	**25.28**	**194**	P	**P**	**22 39 42.5**	**-0.4**
LTZ	**Lake Taylor**	**25.94**	**196**		**P**	**22 39 46.6**	**-2.1**
LTZ				IAmb	IAmb	22 39 48.2	
	comp=Z,17nm,1.2s						
MLZ	**Mavora Lakes**	**29.50**	**199**	P	**P**	**22 40 19.1**	**-0.6**
MLZ				IAmb	IAmb	22 40 20.5	
	comp=Z,16nm,1.2s						
COEN	**Coen**	**37.08**	**271**	P	**P**	**22 41 23.3**	**-0.3**
COEN				IAmb	IAmb	22 41 40.8	
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**38.56**	**241**	P	**P**	**22 41 34.7**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=330,slow=13,SNR=3.4						
WRA	**Warramunga Arr**	**44.59**	**260**	P	**P**	**22 42 21.9**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=90,slow=7.7,SNR=8.6						
AS31	**Alice Springs**	**44.74**	**254**	P	**P**	**22 42 23.9**	**-0.2**
ASAR	**Alice Springs**	**44.74**	**254**	P	**P**	**22 42 23.4**	**-0.7**
	comp=Z,3.9nm,0.7s,baz=87,slow=8.8,SNR=46						
KNRA	**Kununurra**	**50.45**	**264**	P	**P**	**22 43 05.5**	**-1.1**
KNRA				IAmb	IAmb	22 43 12.8	
	comp=Z,12nm,1.1s						
QSPA	**South Pole Qui**	**72.06**	**180**	P	**P**	**22 45 25.9**	**-0.9**
	comp=Z,1.1nm,0.9s,baz=280,slow=2.2,SNR=2.2						
NVAR	**Mina Array Bea**	**79.51**	**44**	P	**P**	**22 46 08.9**	**+0.6**
	comp=Z,1.7nm,0.9s,baz=226,slow=9.3,SNR=11						
PRN	**Pahroc Range**	**81.16**	**46**	P	**P**	**22 46 17.9**	**+1.1**
PRN				IAmb	IAmb	22 46 18.8	
	comp=Z,2.5nm,0.8s						
ILAR	**Eielson Array**	**85.98**	**13**	P	**P**	**22 46 39.0**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=228,slow=5.6,SNR=5.1						
TX31	**Lajitas Ar. Si**	**86.07**	**58**	P	**P**	**22 46 41.3**	**+0.1**
TX32	**Lajitas Array**	**86.07**	**58**	P	**P**	**22 46 41.2**	**0.0**
TXAR	**Lajitas Array**	**86.07**	**58**	P	**P**	**22 46 42.4**	**+1.2**
	comp=Z,1.4nm,0.7s,baz=223,slow=5.6,SNR=11						
PDAR	**Pinedale Array**	**87.44**	**43**	P	**P**	**22 46 47.4**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=218,slow=3.6,SNR=8.8						
CLL	**Collm**	**145.54**	**347**	⇓*i*PKPbc	**PKPdf**	**22 53 34.5**	**+1.5**
	comp=Z,8.0nm,1.2s						
CLL	**Collm**	**145.54**	**347**		**PKPdf**	**22 53 34.6**	**+1.5**
GERES	**GERESS Array B**	**147.69**	**345**	PKPbc	**PKPbc**	**22 53 40.2**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=31,slow=4.6,SNR=9.9						

TUL ***11*** *23:06:55.9±1.3, 36.°58N±0.°02×98.°29W±0.°03, h7km±6km, ML2.6, mb_Lg2.6/31(NEIC), Error ellipse: s-maj=4.4km s-min=2.3km az=127.0*
NEIC 11 23:06:56.2±1.1, 36.°57N±0.°02×98.°26W±0.°02, h7km±6km, Error ellipse: s-maj=2.8km s-min=2.0km az=180.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CROK	**Carrier**	**0.23**	**106**		Pg	23 07 01.5	+0.7
CROK				Sg	Sg	23 07 05.2	+1.4
OK032	**Salt Plains WL**	**0.24**	**9**		Pg	23 07 00.9	0.0
OK032				Sg	Sg	23 07 04.5	+0.3
GC02	**Grant County #**	**0.43**	**48**	Pg	Pg	23 07 04.7	+0.2
GC02				Sg	Sg	23 07 11.0	+0.9
KAN14	**Manchester OK**	**0.46**	**31**	Pg	Pg	23 07 05.0	0.0
KAN14				Sg	Sg	23 07 11.5	+0.5
KAN17	**Caldwell West**	**0.62**	**40**		Pg	23 07 08.0	-0.1
KAN17				Sg	Sg	23 07 16.1	0.0
KAN05	**Bluff City Nor**	**0.62**	**30**	Pg	Pg	23 07 07.1	-1.0
KAN05				Sg	Sg	23 07 16.7	+0.4
U32A	**Winter Ranch,**	**0.63**	**253**		Pg	23 07 07.6	-0.6
U32A				Sg	Sg	23 07 16.1	-0.4
KAN12	**Harper NE Stat**	**0.76**	**16**	Pg	Pg	23 07 10.3	-0.4
KAN13	**South Haven SW**	**0.77**	**54**		Pg	23 07 10.8	-0.1
BLOK	**Blackwell**	**0.86**	**77**		Pg	23 07 12.6	-0.1
KS20	**Mayfield South**	**0.87**	**40**	Pg	Pg	23 07 12.2	-0.6
OK029	**Liberty Lake**	**1.01**	**140**		Pg	23 07 15.1	-0.4
OK025	**Westminster Rd**	**1.23**	**143**		Pb	23 07 19.2	-0.6
OK031	**S. Brethren Rd**	**1.30**	**118**		Pn	23 07 20.6	-0.2
QUOK	**Quay**	**1.31**	**107**		Pn	23 07 20.9	-0.1
OKCFA	**Oklahoma City**	**1.32**	**150**		Pn	23 07 20.6	-0.5
OKCSW	**OKLAHOMA CITY**	**1.34**	**150**	Pn	Pn	23 07 20.8	-0.5
T35A	**Sooner Cattle**	**1.45**	**76**		Pn	23 07 22.9	+0.2
FNO	**Franklin**	**1.48**	**152**		Pn	23 07 23.4	+0.1
WMOK	**Wichita Mounta**	**1.88**	**193**		Pn	23 07 29.1	+0.4
R32A	**Long Quarter,**	**1.89**	**349**		Pn	23 07 29.1	+0.2
X34A	**Smith Ranch, M**	**1.99**	**170**	Pn	Pn	23 07 31.2	+1.0
CBKS	**Cedar Bluff**	**2.53**	**333**	Pn	Pn	23 07 37.6	-0.1
LOOK	**Love County**	**2.72**	**161**	Pn	Pn	23 07 39.6	-0.6
KSU1	**Kansas State U**	**2.85**	**27**		Pb	23 07 48.6	+1.3
KSU1				IAmb_Lg		23 08 32.2	
	comp=Z,12nm,0.9s						
X37A	**Clayton**	**3.07**	**129**	Pn	Pn	23 07 45.1	0.0
X37A					Pb	23 07 52.6	+1.5
U38A	**Gravette**	**3.12**	**91**	Pn	Pn	23 07 46.2	+0.4
AMTX	**Amarillo**	**3.25**	**240**	Pn	Pn	23 07 47.5	-0.1
AMTX					Pb	23 07 54.6	+0.3
AMTX				IAmb_Lg		23 08 38.3	
	comp=Z,22nm,1.2s						
Z35A	**Perchaven, San**	**3.33**	**165**	Pn	Pn	23 07 48.1	-0.6
HHAR	**Hobbs**	**3.50**	**93**	Pn	Pn	23 07 50.1	-0.8
W39A	**Magazine**	**3.88**	**109**	IAmb_Lg		23 09 08.0	
	comp=Z,12nm,0.7s						
ABTX	**Abilene, Hawle**	**4.10**	**197**	Pn	Pn	23 07 58.8	-0.4
S39A	**Bolivar**	**4.10**	**73**	Pn	Pn	23 07 59.3	0.0
S39A				IAmb_Lg		23 09 07.1	
	comp=Z,14nm,0.8s						
MIAR	**Mount Ida**	**4.32**	**116**	Pn	Pn	23 08 01.9	-0.4
U40A	**Yellville**	**4.36**	**91**	Pn	Pn	23 08 03.5	+0.6
U40A				IAmb_Lg		23 09 16.1	
	comp=Z,16nm,0.7s						
MSTX	**Muleshoe**	**4.51**	**236**	Pn	Pn	23 08 03.9	-1.1
WHTX	**Lake Whitney,**	**4.61**	**171**	Pn	Pn	23 08 05.9	-0.4
N35A	**Tabor**	**4.75**	**25**		Lg	23 09 29.2	
P38A	**Dawn**	**4.82**	**49**	Pn	Pn	23 08 09.1	0.0
P38A					Pg	23 08 25.4	-3.0
P38A				IAmb_Lg		23 09 38.6	
	comp=Z,12nm,0.9s						
MGMO	**Mountain Grove**	**4.84**	**81**	Pn	Pn	23 08 08.8	-0.6
MGMO				IAmb_Lg		23 09 30.4	
	comp=Z,12nm,0.7s						
X40A	**Basin Creek Fa**	**4.89**	**114**	Pn	Pn	23 08 09.8	-0.2
X40A				IAmb_Lg		23 09 41.5	
	comp=Z,6.8nm,0.8s						
T25A	**Trinidad**	**4.97**	**278**	IAmb_Lg		23 09 41.2	
	comp=Z,9.9nm,0.8s						
FCAR	**Ozark Folk Cen**	**5.00**	**96**	IAmb_Lg		23 09 39.6	
	comp=Z,5.9nm,0.7s						
WHAR	**Wooly Hollow**	**5.01**	**103**	IAmb_Lg		23 09 44.6	
	comp=Z,10nm,0.8s						
R40A	**Maddies Statio**	**5.07**	**68**	Pn	Pn	23 08 12.6	0.0
R40A				IAmb_Lg		23 09 43.9	
	comp=Z,11nm,1.1s						
LCAR	**Lake Charles**	**5.76**	**93**	IAmb_Lg		23 09 58.9	
	comp=Z,6.8nm,0.9s						
CCM	**Cathedral Cave**	**5.79**	**73**	IAmb_Lg		23 10 13.1	
	comp=Z,9.4nm,0.8s

MDH	**Madha**	**4.64**	**278**	P		**Pn**	**23 08 25.6**	**0.0**
MDH				S		**Sn**	**23 09 16.7**	**-1.5**
ARQ	**Araqi**	**4.66**	**253**	P		**Pn**	**23 08 28.3**	**+2.4**
ARQ				S		**Sn**	**23 09 20.4**	**+1.6**
UOSS	**Minazif**	**4.70**	**273**	*i* P		**Pn**	**23 08 25.9**	**-0.6**
	SNR=6.5							
UOSS	**Minazif**	**4.70**	**273**	P		**Pn**	**23 08 26.4**	**-0.1**
UOSS				S		**Sn**	**23 09 16.4**	**-3.5**
BANOM	**Banah**	**4.74**	**285**	*i* P		**Pn**	**23 08 27.0**	**0.0**
	SNR=8.8							
BANOM				S		**Sn**	**23 09 17.6**	**-3.2**
BANOM	**Banah**	**4.74**	**285**	P		**Pn**	**23 08 27.3**	**+0.2**
	SNR=8.8							
BANOM				S		**Sn**	**23 09 18.6**	**-2.2**
HATD	**Hatta, Dubai**	**4.77**	**272**	P		**Pn**	**23 08 27.3**	**-0.1**
HATD	**Hatta, Dubai**	**4.77**	**272**	P		**Pn**	**23 08 28.0**	**+0.6**
HATD				S		**Sn**	**23 09 18.8**	**-2.6**
MASF	**Masafi**	**4.77**	**278**	P		**Pn**	**23 08 27.8**	**+0.4**
MASF				S		**Sn**	**23 09 19.8**	**-1.8**
ASHO	**Ashiyiah**	**4.84**	**270**	P		**Pn**	**23 08 29.0**	**+0.6**
ASHO	**Ashiyiah**	**4.84**	**270**	P		**Pn**	**23 08 29.3**	**+0.9**
	SNR=8.6							
ASHO				S		**Sn**	**23 09 23.1**	**-0.2**
MHTO	**MHTO**	**4.90**	**221**	P		**Pn**	**23 08 30.7**	**+1.5**
MHTO				S		**Sn**	**23 09 23.3**	**-1.4**
SHME	**Shamm**	**4.91**	**286**	*i* P		**Pn**	**23 08 31.5**	**+2.2**
	SNR=7.8							
SHME	**Shamm**	**4.91**	**286**	P		**Pn**	**23 08 30.7**	**+1.4**
	SNR=7.9							
SHME				S		**Sn**	**23 09 26.7**	**+1.9**
FAQ	**Al Faqa, Dubai**	**5.26**	**271**	*i* P		**Pn**	**23 08 36.3**	**+2.1**
	SNR=9.0							
FAQ	**Al Faqa, Dubai**	**5.26**	**271**	P		**Pn**	**23 08 36.5**	**+2.4**
	SNR=8.9							
FAQ				S		**Sn**	**23 09 36.0**	**+2.4**
UMZA	**Um Al Zommool**	**6.05**	**252**	P		**Pn**	**23 08 46.7**	**+1.7**
UMZA				S		**Sn**	**23 09 53.8**	**+0.7**

MEX 11 23:07:39.5±0.4, 14°49N×93°88W, h5km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.37**	**28**	*i* P	Pn	23 08 01.4	-3.8
PCIG				*i* S	Sb	23 08 18.7	-4.7

*ISK **11** 23:22:44.1, 39°66N×25°66E, h5km, ML2.7/17*
*DDA **11** 23:22:45.1, 39°66N×25°71E, h7km±2km, ML2.5*
*ATH **11** 23:22:45.2, 39°68N×25°68E, h16km±3km, ML2.2/6, Error ellipse: s-maj=3.4km s-min=1.0km az=214.0*
*THE **11** 23:22:45.0, 39°69N×25°69E, h10km±1km, ML2.2/8, Error ellipse: s-maj=1.6km s-min=0.7km az=130.0*
ISC 11 23:22:44.8±0.9, 39°67N±0°02×25°67E±0°02, h14km±7km, n62, σ0s55/95, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOZC	**Bozcaada**	**0.34**	**59**	*i* P	**Pg**	**23 22 51.6**	**-0.2**
BOZC				*i* S	**Sg**	**23 22 56.1**	**-0.4**
BOZC				IAML		23 22 57.0	
	comp=N,449nm,0.3s						
BOZC	**Bozcaada**	**0.34**	**59**	PG	**Pg**	**23 22 51.6**	**-0.2**
BOZC				SG	**Sg**	**23 22 56.7**	**+0.2**
KOCA	**Canakkale, Ayv**	**0.40**	**114**	*i* P	**Pg**	**23 22 52.9**	**+0.1**
KOCA				*i* S	**Sg**	**23 22 58.2**	**+0.1**
GPNR	**Gulpinar-Canak**	**0.41**	**120**	PG	**Pg**	**23 22 52.9**	**-0.2**
LIA	**Limnos Island**	**0.44**	**302**	P	**Pg**	**23 22 54.0**	**+0.4**
LIA				S	**Sg**	**23 23 00.2**	**+0.6**
	comp=N,198nm,0.3s						
LIA	**Limnos Island**	**0.44**	**302**	P	**Pg**	**23 22 54.0**	**+0.4**
LIA				S	**Sg**	**23 22 59.9**	**+0.3**
LIA				AML	AML	23 23 05.5	
	comp=E,415μm,0.3s						
LIA				AML	AML	23 23 07.0	
	comp=N,370μm,0.3s						
SIGR	**SIGRI**	**0.47**	**163**	P	**Pg**	**23 22 53.9**	**-0.3**
SIGR				S	**Sg**	**23 23 01.0**	**+0.4**
	comp=N,748nm,0.4s						
SIGR	**SIGRI**	**0.47**	**163**	P	**Pg**	**23 22 53.9**	**-0.3**
SIGR				S	**Sg**	**23 23 00.8**	**+0.2**
SIGR				AML	AML	23 23 01.4	
	comp=E,1310μm,0.3s						
SIGR				AML	AML	23 23 01.4	
	comp=N,1654μm,0.4s						
SIGR	**SIGRI**	**0.47**	**163**	PG	**Pg**	**23 22 53.9**	**-0.3**
SIGR				SG	**Sg**	**23 23 00.5**	**-0.1**
EZN	**Ezine**	**0.53**	**72**	P	**Pg**	**23 22 54.8**	**-0.4**
EZN				S	**Sg**	**23 23 02.1**	**-0.2**
	comp=N,220nm,0.3s						
EZN	**Ezine**	**0.53**	**72**	PG	**Pg**	**23 22 54.9**	**-0.3**
ECEA	**Canakkale, Ece**	**0.54**	**45**	*i* P	**Pg**	**23 22 55.8**	**+0.3**
ECEA				*i* S	**Sb**	**23 23 03.5**	**-0.2**
EFSA	**Agios Efstrati**	**0.54**	**257**	P	**Pb**	**23 22 56.5**	**+0.4**
EFSA				S	**Sg**	**23 23 03.8**	**+1.1**
GADA	**Gvkgeada**	**0.55**	**18**	P	**Pg**	**23 22 55.5**	**-0.3**
GADA				S	**Sb**	**23 23 03.6**	**-0.6**
	comp=N,240nm,0.3s						
GADA	**Gvkgeada**	**0.55**	**18**	PG	**Pg**	**23 22 55.4**	**-0.3**
GADA				SG	**Sb**	**23 23 03.5**	**-0.6**
GOKA	**anakkale-Gk**	**0.56**	**19**	*i* P	**Pg**	**23 22 55.8**	**0.0**
GOKA				*i* S	**Sb**	**23 23 03.9**	**-0.3**
GOKA				IAML		23 23 05.0	
	comp=E,457nm,0.2s						
GOKC	**Gokceada-Canak**	**0.57**	**19**	PG	**Pg**	**23 22 55.8**	**-0.2**
PRK	**Paraskevi**	**0.62**	**132**	P	**Pb**	**23 22 57.9**	**+0.4**
PRK				S	**Sb**	**23 23 06.7**	**+0.5**
	comp=E,348nm,0.4s						
PRK	**Paraskevi**	**0.62**	**132**	P	**Pb**	**23 22 57.8**	**+0.2**
PRK				S	**Sb**	**23 23 06.4**	**+0.2**
PRK				AML	AML	23 23 10.3	
	comp=E,601μm,0.5s						
PRK				AML	AML	23 23 10.8	
	comp=N,801μm,0.3s						
SMTH	**Samothraki Isl**	**0.81**	**352**	P	**Pg**	**23 23 00.4**	**-0.2**
SMTH				S	**Sg**	**23 23 10.6**	**-0.7**
SMTH	**Samothraki Isl**	**0.81**	**352**	P	**Pg**	**23 23 00.5**	**-0.2**
SMTH				S	**Sg**	**23 23 10.7**	**-0.6**
SMTH				AML	AML	23 23 13.3	
	comp=E,131μm,0.2s						
SMTH				AML	AML	23 23 14.8	
	comp=N,183μm,0.3s						
AYVA	**Ayvalik**	**0.86**	**114**	*i* P	**Pg**	**23 23 00.8**	**-0.7**
AYVA				*i* S	**Sg**	**23 23 13.1**	**+0.2**
GELI	**Tayfur-Gelibol**	**0.96**	**40**	PG	**Pg**	**23 23 02.9**	**-0.4**
CAVK	**Edirne/Enez-Ca**	**1.09**	**20**	*i* P	**Pb**	**23 23 05.1**	**-0.5**
LPK	**Lapseki**	**1.09**	**49**	PN	**Pb**	**23 23 05.4**	**-0.2**
BUHA	**Balikesir, Bur**	**1.10**	**98**	*i* P	**Pb**	**23 23 05.6**	**-0.1**
BUHA				*i* S	**Sb**	**23 23 20.4**	**+0.5**
PSRA	**Psara**	**1.12**	**184**	P	**Pb**	**23 23 06.2**	**+0.1**
ENEZ	**Enez**	**1.13**	**19**	P	**Pb**	**23 23 06.2**	**0.0**
ENEZ				S	**Sb**	**23 23 20.6**	**-0.2**
	comp=N,238nm,0.3s						
ENEZ	**Enez**	**1.13**	**19**	PN	**Pb**	**23 23 06.1**	**-0.1**
SKY	**Skiros Island**	**1.17**	**228**	P	**Pb**	**23 23 06.3**	**-0.7**
SKY				AML	AML	23 23 25.8	
	comp=E,373μm,0.2s						
SKY				AML	AML	23 23 26.6	
	comp=N,296μm,0.2s						
THAS	**Thassos island**	**1.19**	**322**	P	**Pb**	**23 23 06.6**	**-0.6**
THAS				S	**Sg**	**23 23 23.2**	**-0.1**
	comp=N,92nm,0.3s						
THAS	**Thassos island**	**1.19**	**322**	P	**Pb**	**23 23 06.8**	**-0.4**
THAS				S	**Sb**	**23 23 21.8**	**-0.7**
THAS				AML	AML	23 23 24.6	
	comp=E,188μm,0.3s						
THAS				AML	AML	23 23 24.8	
	comp=N,187μm,0.3s						
ERIK	**Erikli-Kesan**	**1.19**	**32**	PN	**Pb**	**23 23 07.1**	**-0.1**
ERIK				SN	**Sn**	**23 23 24.5**	**+1.4**
ALN	**Alexandroupoli**	**1.26**	**13**	P	**Pn**	**23 23 07.5**	**-0.6**
ALN				S	**Sb**	**23 23 24.0**	**-0.6**
	comp=N,52nm,0.5s						
ALN	**Alexandroupoli**	**1.26**	**13**	P	**Pn**	**23 23 07.9**	**-0.2**
ALN	**Alexandroupoli**	**1.26**	**13**	PN	**Pn**	**23 23 08.2**	**+0.1**
ZEDA	**zmir-Bergama**	**1.29**	**122**	*i* P	**Pn**	**23 23 08.6**	**+0.1**
ZEDA				*i* S	**Sb**	**23 23 26.2**	**+0.8**
KESN	**Edirne-Kesan**	**1.39**	**33**	*i* P	**Pn**	**23 23 10.0**	**-0.2**
KESN				*i* S	**Sb**	**23 23 28.8**	**+0.1**
KESN				IAML		23 23 31.0	
	comp=E,104nm,0.3s						
KESN				IAML		23 23 33.0	
	comp=N,59nm,0.3s						
KRBG	**Karabiga-Canak**	**1.44**	**59**	PN	**Pn**	**23 23 11.3**	**+0.7**
OUR	**Ouranopolis**	**1.46**	**298**	P	**Pn**	**23 23 10.6**	**-0.2**
OUR				S	**Sn**	**23 23 30.1**	**+0.4**
OUR	**Ouranopolis**	**1.46**	**298**	P	**Pn**	**23 23 11.7**	**+0.9**
OUR	**Ouranopolis**	**1.46**	**298**	PN	**Pn**	**23 23 11.3**	**+0.5**
RDO	**Rodhopi**	**1.48**	**356**	P	**Pn**	**23 23 11.2**	**+0.1**
RDO				S	**Sn**	**23 23 30.5**	**+0.2**
RDO	**Rodhopi**	**1.48**	**356**	P	**Pn**	**23 23 11.2**	**+0.1**
RDO	**Rodhopi**	**1.48**	**356**	PN	**Pn**	**23 23 11.1**	**0.0**
URLA	**Izmir**	**1.49**	**151**	*i* P	**Pn**	**23 23 10.6**	**-0.6**
BALY	**Balya**	**1.50**	**87**	*i* P	**Pn**	**23 23 11.8**	**+0.4**
BALY				*i* S	**Sn**	**23 23 31.2**	**+0.3**
KNL	**Balıkesir**	**1.55**	**66**	*i* P	**Pb**	**23 23 13.1**	**-0.2**
KNL				*i* S	**Sb**	**23 23 33.4**	**+0.6**
KNL				IAML		23 23 37.0	
	comp=E,107nm,0.6s						
KNL				IAML		23 23 37.0	
	comp=N,69nm,0.4s						
PAIG	**Paliouri**	**1.56**	**280**	P	**Pn**	**23 23 12.0**	**-0.1**
ZEYE	**Izmir, Urla-Ze**	**1.56**	**155**	*i* P	**Pn**	**23 23 11.1**	**-1.1**
ZEYE				*i* S	**Sn**	**23 23 30.2**	**-2.1**
KAVA	**Kavala**	**1.60**	**327**	P	**Pn**	**23 23 12.6**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.61**	**100**	*i* P	**Pn**	**23 23 13.0**	**+0.1**
STEP				*i* S	**Sb**	**23 23 34.9**	**+0.4**
STEP				IAML		23 23 37.0	
	comp=E,36nm,0.4s						
UKOP	**Uzunkopru-Edir**	**1.64**	**26**	PN	**Pb**	**23 23 14.6**	**-0.2**
MAR3	**Marsite Statio**	**1.64**	**49**	PN	**Pb**	**23 23 14.5**	**-0.4**
MAR4	**Marsite Statio**	**1.68**	**48**	PN	**Pb**	**23 23 15.3**	**-0.3**
BALB	**Balikesir**	**1.70**	**90**	PN	**Pn**	**23 23 14.9**	**+0.7**
MRMT	**Marmara Adasi**	**1.75**	**57**	PN	**Pb**	**23 23 16.2**	**-0.5**
EDC	**Edincik**	**1.81**	**67**	PN	**Pn**	**23 23 16.8**	**+1.1**
DGB	**zmir**	**1.87**	**149**	*i* P	**Pn**	**23 23 16.4**	**0.0**
KCTX	**Karacabey (Bur**	**2.15**	**73**	PN	**Pn**	**23 23 21.3**	**+1.0**
EDRB	**Edirne**	**2.33**	**20**	PN	**Pn**	**23 23 24.1**	**+1.4**
SLVT	**Silivri**	**2.49**	**50**	PN	**Pn**	**23 23 26.4**	**+1.5**

IDC 11 23:22:55.2±3.6, 30°87N×141°18E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/32, mbtmp3.5/4, ML3.1/2, Error ellipse: s-maj=173.3km s-min=28.1km az=74.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**3.86**	**167**	Pn	Pn	23 23 56.1	+0.3
	3.7nm,0.3s,baz=301,slow=18,SNR=1.9						
JCJ				Sn	Sn	23 24 42.3	+0.4
	2.9nm,0.3s,baz=288,slow=22,SNR=1.7						
MJAR	**Matsushiro Arr**	**6.18**	**337**	Pn	Pn	23 24 27.3	-0.4
	0.2nm,0.3s,baz=156,slow=11,SNR=5.5						
WRA	**Warramunga Arr**	**50.94**	**188**	P	P	23 31 58.3	-0.2
	0.3nm,0.4s,baz=6.7,slow=7.6,SNR=7.8						
ASAR	**Alice Springs**	**54.67**	**188**	P	P	23 32 26.0	0.0
	0.2nm,0.6s,baz=2.5,slow=5.3,SNR=5.0						

MEX 11 23:24:29.5±0.8, 15°54N×93°46W, h184km±25km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.28**	**54**	*i* P	Pn	23 24 52.9	-1.2
PCIG				*i* S	Sn	23 25 10.5	-2.6
TGIG		**1.27**	**15**	*i* P	Pn	23 25 09.8	+10
TGIG				*i* S	Sn	23 25 40.6	+17
CCIG	**Comitan**	**1.47**	**60**	*i* P	Pn	23 25 11.1	+9.3
CCIG				*i* S	Sn	23 25 44.0	+17
CMIG	**Matias Romero**	**2.06**	**319**	*eP*	Pn	23 25 11.8	+4.3

*IDC **11** 23:27:24.8±0.8, 31°21N×142°25E, h0km, mb3.9/9, mb1 4.1/13, mb1mx3.9/33, mbtmp3.9/13, ML3.6/4, MS2.5/1, Ms1 2.5/1, ms1mx2.2/57, Error ellipse: s-maj=27.6km s-min=16.4km az=78.0*
*JMA **11** 23:27:27.3±0.1, 31°26N×142°21E, h46km, M4.0*
ISC 11 23:27:29.4±0.7, 31°23N±0°05×142°3E±0°1, h35km, n26, σ1s70/31, mb4.0/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.79**	**313**	*eS*	**Sn**	**23 28 41.9**	**-1.9**
JHJ	**Hachijo jima 2**	**2.81**	**313**	Pn	**Pn**	**23 28 11.3**	**-0.5**
	20nm,0.3s,baz=68,slow=16,SNR=1.7						
JHJ				Sn	**Sn**	**23 28 42.0**	**-2.5**
	28nm,0.3s,baz=186,slow=19,SNR=2.1						
BSO1	**Boso 1**	**3.57**	**343**	P	**Pn**	**23 28 21.2**	**-0.6**
BSO3	**Boso 3**	**3.85**	**338**	P	**Pn**	**23 28 25.4**	**-0.4**
BSO4	**Boso 4**	**4.08**	**337**	*eS*	**Sn**	**23 29 14.8**	**-0.7**
CBIJ	**Chichi jima**	**4.12**	**181**	P	**Pn**	**23 28 29.7**	**-0.2**
CBIJ				*eS*	**Sn**	**23 29 14.8**	**-2.1**
JCJ	**Chichijima**	**4.12**	**181**	Pn	**Pn**	**23 28 29.4**	**-0.5**
	4.5nm,0.3s,baz=15,slow=16,SNR=1.7						
JCJ				Sn	**Sn**	**23 29 14.4**	**-2.5**
	9.9nm,0.3s,baz=196,slow=19,SNR=1.8						
JHU	**Hanno**	**5.23**	**333**	P	**Pn**	**23 28 45.1**	**0.0**
JRY	**Ryogami san**	**5.53**	**331**	P	**Pn**	**23 28 49.1**	**-0.1**
JHO	**Hitachi**	**5.54**	**346**	P	**Pn**	**23 28 48.3**	**-1.1**
JAG	**Ashikaga**	**5.68**	**337**	P	**Pn**	**23 28 50.8**	**-0.4**
JAG				*eS*	**Sn**	**23 29 53.0**	**-2.1**
JFK	**Kawauchi**	**6.22**	**350**	P	**Pn**	**23 28 57.4**	**-1.3**
JFK				*eS*	**Sn**	**23 30 02.9**	**-5.8**
MJAR	**Matsushiro Arr**	**6.27**	**329**	Pn	**Pn**	**23 28 58.9**	**-0.4**
	0.7nm,0.3s,baz=146,slow=11,SNR=25						
MAT	**Matsushiro**	**6.27**	**329**	P	**Pn**	**23 29 00.9**	**+1.5**
MAT				*eS*	**Sn**	**23 30 07.3**	**-2.5**
JOW	**Kunigami**	**12.99**	**254**	LR	LR	23 34 58.9	
	comp=Z,23nm,19.5s,baz=82,slow=35						
KLR	**Kul'dur**	**19.65**	**339**	P	**P**	**23 31 55.0**	**+0.1**
	0.2nm,0.3s,baz=170,slow=8.5,SNR=5.5						
SONM	**Songino Array**	**31.89**	**312**	P	**P**	**23 33 52.4**	**+1.0**
	1.0nm,0.7s,baz=118,slow=8.3,SNR=5.9						
MKAR	**Makanchi Array**	**47.97**	**307**	P	**P**	**23 36 05.0**	**+0.4**
	1.1nm,0.5s,baz=90,slow=10,SNR=4.2						
WRA	**Warramunga Arr**	**51.45**	**190**	P	**P**	**23 36 31.4**	**+0.2**
	1.6nm,0.5s,baz=6.2,slow=7.5,SNR=29						
ILAR	**Eielson Array**	**54.09**	**30**	P	**P**	**23 36 49.9**	**-0.4**
	0.4nm,0.3s,baz=249,slow=7.6,SNR=4.2						
ASAR	**Alice Springs**	**55.17**	**189**	P	**P**	**23 36 58.9**	**+0.3**
	1.3nm,0.7s,baz=17,slow=12,SNR=17						
FINES	**FINESS Array B**	**74.28**	**333**	P	**P**	**23 39 03.7**	**+1.0**
	1.0nm,0.8s,baz=56,slow=7.1,SNR=7.0						
NVAR	**Mina Array Bea**	**77.94**	**52**	P	**P**	**23 39 25.8**	**+1.5**
	0.6nm,0.7s,baz=305,slow=7.2,SNR=6.0						
NB2	**NORSAR Subarra**	**79.80**	**338**	P	**P**	**23 39 34.8**	**+1.0**
	comp=Z,1.6nm,0.7s,baz=40,slow=5.3						
NOA	**NORSAR Array B**	**79.80**	**338**	P	**P**	**23 39 34.6**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=39,slow=5.2,SNR=4.8						
TXAR	**Lajitas Array**	**93.08**	**53**	P	**P**	**23 40 41.8**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=322,slow=2.6,SNR=7.3						

*NNC **11** 23:30:22.4±0.8, 44°32N×81°39E, h0km±4km, mb3.7, mpv3.6, Error ellipse: s-maj=6.4km s-min=2.8km az=122.0*
*SOME **11** 23:30:23.7, 44°32N×81°27E, h15km*
ISC 11 23:30:19.6±1.3, 44°32N±0°04×81°52E±0°04, h13km±11km, n57, σ1s86/86, 11C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.27**	**227**	*eP*	**Pg**	**23 30 44.8**	**+0.9**
	8.9nm,0.2s						
KTMS				*eS*	**Sn**	**23 31 00.3**	**+0.3**
	344nm,0.2s						
KTMS	**Ketmen**	**1.27**	**227**	P	**Pg**	**23 30 44.8**	**+0.9**
	8.9nm,0.2s						
KTMS				S	**Sn**	**23 31 00.3**	**+0.3**
	344nm,0.2s						
DJR	**Jarkent**	**1.31**	**271**	*eP*	**Pg**	**23 30 45.7**	**+0.9**
	17nm,0.1s						
DJR				*eS*	**Sb**	**23 31 01.3**	**+0.4**
	189nm,0.2s						
DJR	**Jarkent**	**1.31**	**271**	P	**Pg**	**23 30 45.7**	**+0.9**
	17nm,0.1s						
DJR				S	**Sb**	**23 31 01.3**	**+0.4**
	189nm,0.2s						
PDGK	**Podgornoye**	**1.83**	**238**	P	**Pg**	**23 30 54.0**	**-0.7**
	6.3nm,0.1s						
PDGK				S	**Sb**	**23 31 16.4**	**+0.5**
	46nm,0.2s						
PDGK	**Podgornoye**	**1.83**	**238**	⇑P	**Pg**	**23 30 53.5**	**-1.2**
	5.0nm,0.3s						
PDGK				⇓S	**Sb**	**23 31 16.4**	**+0.5**
	93nm,0.6s						
KAPS	**Kapalarasan**	**1.88**	**302**	*eP*	**Pg**	**23 30 56.3**	**+0.7**
	10nm,0.2s						
KAPS				*eS*	**Sb**	**23 31 19.6**	**+2.5**
	29nm,0.2s						
KAPS	**Kapalarasan**	**1.88**	**302**	P	**Pg**	**23 30 56.3**	**+0.7**
	10nm,0.2s						
KAPS				S	**Sb**	**23 31 19.6**	**+2.5**
	29nm,0.2s						
SHLS	**Shalkode**	**1.95**	**234**	*eP*	**Pn**	**23 30 52.0**	**-0.5**
	27nm,0.1s						
SHLS				*eS*	**Sn**	**23 31 12.5**	**-4.4**
	192nm,0.3s						
SHLS	**Shalkode**	**1.95**	**234**	P	**Pn**	**23 30 52.0**	**-0.5**
	27nm,0.1s						
SHLS				S	**Sn**	**23 31 12.5**	**-4.4**
	192nm,0.3s						
UZB	**Uzynbulak**	**2.22**	**239**	*eP*	**Pg**	**23 31 00.6**	**-1.5**
	8.1nm,0.1s						
UZB				*eS*	**Sb**	**23 31 27.4**	**+0.4**
	84nm,0.4s						
UZB	**Uzynbulak**	**2.22**	**239**	Pg	**Pg**	**23 31 00.6**	**-1.5**
	8.1nm,0.1s						
UZB				Lg	Lg	23 31 27.5	
	84nm,0.4s						
KPKS	**Kokpek**	**2.29**	**249**	*eP*	**Pb**	**23 31 01.5**	**+0.8**
	45nm,0.1s						
KPKS				*eS*	**Sb**	**23 31 29.4**	**+0.5**
	365nm,0.3s						
TDK	**Taldyqorghan**	**2.39**	**288**	*eP*	**Pb**	**23 31 04.5**	**+2.0**
	165nm,0.3s						
TDK				*eS*	**Sb**	**23 31 33.5**	**+1.6**
	100nm,0.2s						
TDK	**Taldyqorghan**	**2.39**	**288**	Pg	**Pb**	**23 31 04.5**	**+2.0**
	165nm,0.3s						
TDK				Lg	Lg	23 31 33.5	
	100nm,0.2s						
MAKZ	**Makanchi**	**2.50**	**6**	⇑Pn	**Pb**	**23 31 04.9**	**+0.5**
	1.9nm,0.2s						
MAKZ				⇑Sn	**Sb**	**23 31 35.8**	**+0.8**
	13nm,0.3s						
MAKZ				⇑Lg	Lg	23 31 42.6	
	13nm,0.3s						
MK31	**Makanchi Array**	**2.52**	**11**	Pn	**Pb**	**23 31 05.0**	**+0.3**
	1.5nm,0.2s,baz=202,slow=12,SNR=62						
MK31				Sn	**Sb**	**23 31 37.2**	**+1.6**
	4.1nm,0.2s,baz=202,slow=24,SNR=11						
MK31				⇑Lg	Lg	23 31 42.8	
	25nm,0.5s						
KURS	**Kuram**	**2.63**	**253**	*eP*	**Pb**	**23 31 07.7**	**+1.2**
	2.2nm,0.2s						
KURS				*eS*	**Sb**	**23 31 39.8**	**+1.1**
	29nm,0.3s						
KURS	**Kuram**	**2.63**	**253**	Pg	**Pb**	**23 31 07.7**	**+1.2**
	2.2nm,0.2s						
KURS				Lg	Lg	23 31 39.8	
	29nm,0.3s						
SATY	**Saty**	**2.65**	**243**	*eP*	**Pb**	**23 31 08.1**	**+1.1**
	7.1nm,0.1s						
SATY				*eS*	**Sb**	**23 31 40.4**	**+1.0**
	77nm,0.1s						
SATY	**Saty**	**2.65**	**243**	Pg	**Pb**	**23 31 08.1**	**+1.1**
	7.1nm,0.1s						
SATY				Lg	Lg	23 31 40.4	
	77nm,0.1s						
ARXS	**Arharly**	**2.72**	**269**	*eP*	**Pb**	**23 31 09.1**	**+0.9**
	50nm,0.2s						
ARXS				*eS*	**Sb**	**23 31 43.0**	**+1.5**
	92nm,0.2s						
ARXS	**Arharly**	**2.72**	**269**	Pg	**Pb**	**23 31 09.1**	**+0.9**
	50nm,0.2s						
ARXS				Lg	Lg	23 31 43.0	
	92nm,0.2s						
CHKK	**Chushkaly**	**3.37**	**264**	*eP*	**Pb**	**23 31 20.5**	**+1.3**
	4.8nm,0.1s						
CHKK				*eS*	**Sb**	**23 32 01.1**	**+1.1**
	89nm,0.2s						
CHKK	**Chushkaly**	**3.37**	**264**	Pg	**Pb**	**23 31 20.5**	**+1.3**
	4.8nm,0.1s						
CHKK				Lg	Lg	23 32 01.1	
	89nm,0.2s						
KOTS	**Kotyrbulak**	**3.44**	**253**	*eP*	**Pb**	**23 31 22.2**	**+1.7**
	4.5nm,0.2s						
KOTS				*eS*	**Sb**	**23 32 04.2**	**+2.0**
	66nm,0.2s						
KOTS	**Kotyrbulak**	**3.44**	**253**	Pg	**Pb**	**23 31 22.2**	**+1.7**
	4.5nm,0.2s						
KOTS				Lg	Lg	23 32 04.2	
	66nm,0.2s						
MDOK	**Medeo**	**3.51**	**252**	*eP*	**Pg**	**23 31 26.6**	**-0.2**
	4.4nm,0.3s						
MDOK				*eS*	**Sg**	**23 32 12.2**	**0.0**
	27nm,0.5s						
MDOK	**Medeo**	**3.51**	**252**	⇓Pg	**Pb**	**23 31 23.3**	**+1.7**
	4.7nm,0.4s						
MDOK				⇓Lg	Lg	23 32 08.3	
	32nm,0.7s						
MDOK	**Medeo**	**3.51**	**252**	Pg	**Pb**	**23 31 22.5**	**+0.9**
	4.4nm,0.3s						
MDOK				Lg	Lg	23 32 06.0	
	18nm,0.5s						
KNDC	**Almaty**	**3.54**	**253**	⇑Pg	**Pg**	**23 31 25.3**	**-2.1**
	15nm,0.6s						
KNDC				⇓Lg	Lg	23 32 10.7	
	43nm,0.4s						
KTBS	**Karatobe**	**3.61**	**262**	*eP*	**Pb**	**23 31 24.5**	**+1.2**
	3.9nm,0.2s						
KTBS				*eS*	**Sb**	**23 32 08.2**	**+1.1**
	66nm,0.3s						
**KT

27nm,0.4s
DGS **Degeres** **4.37 258** Pg **Pb** **23 31 37.6 +1.4**
2.9nm,0.4s
DGS Lg Lg 23 32 31.0
27nm,0.4s
TKM2 **Tokmak 2** **4.59 254** ⇓Pn **Pn** **23 31 30.4 +1.5**
0.5nm,0.5s
TKM2 ⇓Pg **Pb** **23 31 43.6 +3.5**
6.3nm,0.8s
TKM2 ⇑Lg Lg 23 32 44.2
13nm,0.4s
SGDS **Sogindy** **5.12 263** Pg **Pb** **23 31 51.9 +2.8**
1.0nm,0.2s
BTLS **Baital** **5.45 280** *eP* **Pg** **23 32 00.5 -3.4**
3.1nm,0.3s
BTLS *eS* **Sg** **23 33 09.0 -5.3**
5.3nm,0.7s
BTLS **Baital** **5.45 280** Pg **Pg** **23 32 00.5 -3.4**
3.1nm,0.3s
AAK **Ala-Archa** **5.45 254** ⇑Pg **Pb** **23 31 59.2 +4.5**
5.3nm,1.1s
AAK ⇓Lg Lg 23 33 11.3
7.8nm,0.6s
KURBB **Kurchatov Arra** **6.64 343** ⇑Lg Lg 23 33 51.6
19nm,0.7s
OTUK **Ortayu** **7.53 305** ⇑Lg Lg 23 34 18.1
5.2nm,0.6s
KK31 **Karatay Array** **8.14 265** ⇑Lg Lg 23 34 35.9
3.5nm,0.6s,baz=70,slow=30,SNR=9.7

SOME ***11*** *23:35:28.3,42.˚10N×80.˚65E,h5km*
NNC ***11*** *23:35:30.0±1.0,42.˚05N×80.˚58E,h0km,mb3.8,mpv3.7, Error ellipse: s-maj=6.3km s-min=4.7km az=143.0*
KRNET ***11*** *23:35:32.1±0.1,41.˚96N×80.˚78E,mb3.4*
ISC 11 23:35:34.3±2.1,42.˚28N±0.˚05×80.˚48E±0.˚06,h5km±11km, n60,σ1=87/92,29C-5D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**1.16 320**		*eP*	Pn	23 35 52.8	-4.6
SHLS	136nm,0.2s			*eS*	**Sb**	**23 36 10.9**	**-1.3**
SHLS	**Shalkode**	**1.16 320**		P	Pn	23 35 52.7	-4.6
SHLS	136nm,0.2s			S	**Sb**	**23 36 10.9**	**-1.3**
KTMS	**Ketmen**	**1.17 355**		*eP*	**Pn**	**23 35 55.2**	**-2.3**
KTMS	20nm,0.3s			*eS*	**Sn**	**23 36 14.8**	**+0.8**
KTMS	**Ketmen**	**1.17 355**		P	**Pn**	**23 35 55.2**	**-2.3**
KTMS	33nm,0.1s			S	**Sn**	**23 36 14.8**	**+0.8**
PDGK	**Podgornoye**	**1.28 326**		P	**Pn**	**23 35 57.8**	**-1.2**
PDGK	13nm,0.2s			S	**Sg**	**23 36 19.0**	**+3.6**
PDGK	**Podgornoye**	**1.28 326**		⇓P	**Pn**	**23 35 58.0**	**-1.0**
PDGK	11nm,0.4s			⇑S	**Sg**	**23 36 18.6**	**+3.2**
UZB	**Uzynbulak**	**1.38 309**		*eP*	**Pn**	**23 35 59.7**	**-0.7**
UZB	19nm,0.3s			*eS*	**Sg**	**23 36 21.8**	**+3.1**
UZB	**Uzynbulak**	**1.38 309**		P	**Pn**	**23 35 59.7**	**-0.7**
UZB	19nm,0.3s			S	**Sg**	**23 36 21.8**	**+3.1**
PRZ	**Przheval'sk**	**1.56 278**		⇑*iP*	**Pg**	**23 36 04.5**	**+0.4**
PRZ	baz=88			⇑*iS*	**Sg**	**23 36 28.0**	**+3.7**
SATY	**Saty**	**1.72 298**		*eP*	**Pb**	**23 36 06.3**	**-0.1**
SATY	25nm,0.1s			*eS*	**Sg**	**23 36 34.1**	**+4.7**
SATY	**Saty**	**1.72 298**		Pg	**Pb**	**23 36 06.3**	**-0.1**
SATY	25nm,0.1s			Lg	Lg	23 36 34.1	
KPKS	**Kokpek**	**1.77 313**		*eP*	**Pb**	**23 36 06.6**	**-0.8**
KPKS	63nm,0.1s			*eS*	**Sg**	**23 36 34.5**	**+3.2**
TARG	**Taragay, Kyrgy**	**2.07 255**		⇑*iP*	**Pb**	**23 36 09.9**	**-2.7**
TARG	baz=65			⇑*iS*	**Sb**	**23 36 37.5**	**-1.3**
KURS	**Kuram**	**2.08 306**		*eP*	**Pb**	**23 36 12.2**	**-0.4**
KURS	11nm,0.3s			*eS*	**Sg**	**23 36 43.9**	**+2.6**
KURS	**Kuram**	**2.08 306**		Pg	**Pb**	**23 36 12.2**	**-0.4**
KURS	11nm,0.3s			Lg	Lg	23 36 43.9	
DJR	**Jarkent**	**2.11 346**		*eP*	**Pb**	**23 36 12.0**	**-1.2**
DJR	5.9nm,0.1s			*eS*	**Sg**	**23 36 43.7**	**+1.6**
DJR	**Jarkent**	**2.11 346**		Pg	**Pb**	**23 36 12.0**	**-1.2**
DJR	5.9nm,0.1s			Lg	Lg	23 36 43.7	
ANVS	**Anan'yevo**	**2.14 285**		⇑*iP*	**Pb**	**23 36 12.8**	**-0.9**
ANVS	baz=91			⇑*iS*	**Sg**	**23 36 42.7**	**-0.3**
KDJ	**Kajisay**	**2.46 268**		⇑*iP*	**Pn**	**23 36 15.8**	**+0.5**
KDJ	baz=75			⇑*iS*	**Sb**	**23 36 47.9**	**-1.8**
KOTS	**Kotyrbulak**	**2.66 292**		*eP*	**Pb**	**23 36 21.8**	**-0.7**
KOTS	9.2nm,0.2s			*eS*	**Sg**	**23 37 00.4**	**+0.7**
KOTS	**Kotyrbulak**	**2.66 292**		Pg	**Pb**	**23 36 21.8**	**-0.7**
KOTS	9.2nm,0.2s			Lg	Lg	23 37 00.4	
MDOK	**Medeo**	**2.68 290**		*eP*	**Pb**	**23 36 21.8**	**-1.0**
MDOK	5.5nm,0.2s			*eS*	**Sg**	**23 37 00.5**	**+0.2**
MDOK	**Medeo**	**2.68 290**		⇑Pg	**Pb**	**23 36 21.3**	**-1.5**
MDOK	5.0nm,0.5s			⇑Lg	Lg	23 37 00.0	
MDOK	**Medeo**	**2.68 290**		Pg	**Pb**	**23 36 21.8**	**-1.0**
MDOK	5.5nm,0.2s			Lg	Lg	23 37 00.5	
TNSS	**Tian-Shan**	**2.71 287**		*eP*	**Pb**	**23 36 22.6**	**-1.0**
TNSS	9.1nm,0.3s			*eS*	**Sg**	**23 37 02.6**	**+1.1**
TNSS	**Tian-Shan**	**2.71 287**		Pg	**Pb**	**23 36 22.6**	**-1.0**
TNSS	9.1nm,0.3s			Lg	Lg	23 37 02.7	
ARXS	**Arharly**	**2.74 316**		*eP*	**Pb**	**23 36 23.2**	**-0.6**
ARXS	6.0nm,0.1s			*eS*	**Sg**	**23 37 03.1**	**+0.9**
ARXS	**Arharly**	**2.74 316**		Pg	**Pb**	**23 36 23.2**	**-0.6**
ARXS	6.0nm,0.1s			Lg	Lg	23 37 03.1	
KNDC	**Almaty**	**2.75 291**		⇑Pg	**Pb**	**23 36 23.6**	**-0.5**
KNDC	16nm,0.5s			⇑Lg	Lg	23 37 02.9	
IZV	**Izvestkoviy**	**2.95 286**		*eP*	**Pb**	**23 36 25.6**	**-1.9**
IZV	5.7nm,0.2s			*eS*	**Sg**	**23 37 06.9**	**-2.2**
IZV	**Izvestkoviy**	**2.95 286**		Pg	**Pb**	**23 36 25.6**	**-1.9**
IZV	5.7nm,0.2s			Lg	Lg	23 37 06.9	
CHKK	**Chushkaly**	**3.00 303**		*eP*	**Pb**	**23 36 27.8**	**-0.5**
CHKK	3.7nm,0.3s			*eS*	**Sg**	**23 37 10.3**	**-0.5**
CHKK	**Chushkaly**	**3.00 303**		Pg	**Pb**	**23 36 27.8**	**-0.5**
CHKK	3.7nm,0.3s			Lg	Lg	23 37 10.3	
MTBS	**Maitube**	**3.10 287**		*eP*	**Pb**	**23 36 28.8**	**-1.2**
MTBS	3.7nm,0.3s			*eS*	**Sg**	**23 37 12.6**	**-1.4**
MTBS	**Maitube**	**3.10 287**		Pg	**Pb**	**23 36 28.8**	**-1.2**
MTBS	3.7nm,0.3s			Lg	Lg	23 37 12.6	
TDK	**Taldyqorghan**	**3.11 332**		*eP*	**Pb**	**23 36 29.4**	**-0.7**
TDK	13nm,0.2s			*eS*	**Sg**	**23 37 13.3**	**-0.8**
TDK	**Taldyqorghan**	**3.11 332**		Pg	**Pb**	**23 36 29.4**	**-0.7**
TDK	13nm,0.2s			Lg	Lg	23 37 13.3	
KAPS	**Kapalarasan**	**3.11 345**		*eP*	**Pb**	**23 36 28.7**	**-1.5**
KAPS	7.0nm,0.3s			*eS*	**Sb**	**23 37 12.2**	**+3.6**
KAPS	**Kapalarasan**	**3.11 345**		Pg	**Pb**	**23 36 28.7**	**-1.5**
KAPS	7.0nm,0.3s			Lg	Lg	23 37 12.2	
KTBS	**Karatobe**	**3.13 298**		*eP*	**Pb**	**23 36 29.6**	**-0.9**
KTBS	3.2nm,0.1s			*eS*	**Sg**	**23 37 13.5**	**-1.4**
KTBS	**Karatobe**	**3.13 298**		Pg	**Pb**	**23 36 29.6**	**-0.9**
KTBS	3.2nm,0.1s			Lg	Lg	23 37 13.5	
ULHL	**Ulahol**	**3.15 271**		⇑*iP*	**Pn**	**23 36 25.7**	**+0.9**
ULHL	baz=76			⇑*iS*	**Sn**	**23 37 05.2**	**+2.4**
BOOM	**Boomskoye usch**	**3.37 275**		⇑*iP*	**Pn**	**23 36 29.0**	**+1.2**
BOOM	baz=80			⇑*iS*	**Sn**	**23 37 10.8**	**+2.5**
KST	**Kastek**	**3.42 284**		*eP*	**Pb**	**23 36 35.3**	**-0.2**
KST	7.6nm,0.2s			*eS*	**Sg**	**23 37 22.1**	**-1.9**
KST	**Kastek**	**3.42 284**		Pg	**Pb**	**23 36 35.3**	**-0.2**
KST	7.6nm,0.2s			Lg	Lg	23 37 22.1	
KUU	**Kurty**	**3.44 299**		*eP*	**Pb**	**23 36 34.6**	**-1.1**
KUU	3.0nm,0.3s			*eS*	**Sg**	**23 37 21.9**	**-2.7**
KUU	**Kurty**	**3.44 299**		Pg	**Pb**	**23 36 34.6**	**-1.1**
KUU	3.0nm,0.3s			Lg	Lg	23 37 21.9	
DGS	**Degeres**	**3.60 287**		*eP*	**Pb**	**23 36 35.8**	**-2.7**
DGS	4.6nm,0.3s			*eS*	**Sb**	**23 37 24.0**	**+1.5**
DGS	**Degeres**	**3.60 287**		Pg	**Pb**	**23 36 35.8**	**-2.7**
DGS	4.6nm,0.3s			Lg	Lg	23 37 24.0	
TKM2	**Tokmak 2**	**3.66 282**		⇑*iP*	**Pn**	**23 36 33.7**	**+1.9**
TKM2	baz=86			⇑*iS*	**Sn**	**23 37 18.8**	**+3.3**
TKM2	**Tokmak 2**	**3.66 282**		⇑Pn	**Pn**	**23 36 31.2**	**-0.7**
TKM2	2.9nm,0.5s			⇑Lg	Lg	23 37 29.8	
KRBS	**Karabastau**	**3.80 294**		*eP*	**Pb**	**23 36 40.7**	**-1.2**
KRBS	1.6nm,0.2s			*eS*	**Sg**	**23 37 33.3**	**-3.0**
KRBS	**Karabastau**	**3.80 294**		Pg	**Pb**	**23 36 40.7**	**-1.2**
KRBS	1.6nm,0.2s			Lg	Lg	23 37 33.3	
KZA	**Kyzart**	**3.89 269**		⇑*iP*	**Pn**	**23 36 36.4**	**+1.2**
KZA	baz=73			⇑*iS*	**Sn**	**23 37 23.0**	**+1.5**
AAK	**Ala-Archa**	**4.44 277**		⇓Pg	**Pb**	**23 36 53.4**	**+0.5**
AAK	4.1nm,0.7s			⇑Lg	Lg	23 37 53.1	
SGDS	**Sogindy**	**4.46 287**		Pg	**Pb**	**23 36 52.5**	**-0.6**
SGDS	2.3nm,0.3s			Lg	Lg	23 37 52.4	
MAKZ	**Makanchi**	**4.65 13**		⇓Pn	**Pn**	**23 36 46.0**	**+0.8**
MAKZ	3.5nm,0.5s			⇑Sn	**Sn**	**23 37 44.2**	**+4.5**
MAKZ	2.9nm,0.8s			⇑Lg	Lg	23 38 05.3	
MK31	**Makanchi Array**	**4.70 15**		⇓Pn	**Pn**	**23 36 45.0**	**-0.9**
MK31	0.3nm,0.2s,baz=201,slow=13,SNR=102			⇑Sn	**Sn**	**23 37 45.7**	**+4.9**
MK31	3.9nm,0.7s,baz=180,slow=21,SNR=7.3			⇑Lg	Lg	23 38 03.8	
KK31	5.4nm,0.5s,baz=196,slow=28,SNR=8.3 **Karatay Array**	**7.39 280**		⇑Lg	Lg	23 39 28.0	
	1.2nm,0.5s,baz=93,slow=26,SNR=6.7						
OTUK	**Ortayu**	**8.28 319**		⇓Lg	Lg	23 39 59.3	
	5.3nm,1.1s						

JMA ***11*** *23:38:08.7,39.˚12N×141.˚77E,h67km±1km,M3.7 Broadband fault plane solution: P waves. NP1: φs44.00000°,δ31.00000°,λ69.00000°. NP2:φs249.00000°, δ61.00000°,λ102.00000°. Principal axes: T Plg71.0000°, Azm187.0000°; N Plg11.0000°, Azm63.0000°; P Plg15.0000°, Azm330.0000°;*
JMA Felt II J1.
NIED ***11*** *23:38:08.7,39.˚12N×141.˚77E,h67km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr3.46; Mθθ-0.91; Mφφ-2.55; Mrθ-3.18; Mθφ-1.62; Mφr-2.68; Fault plane solution: M06.44000×10^14 NP1: φs225.00000°,δ70.00000°,λ100.00000°. NP2: φs19.00000°,δ22.00000°,λ65.00000°.*
NEIC ***11*** *23:38:10.8±2.1,39.˚11N±0.˚05×141.˚6E±0.˚1,h75km±14km, mb4.2/4 Error ellipse: s-maj=14.4km s-min=2.3km az=120.0*
IDC ***11*** *23:38:12.2±2.6,39.˚06N×141.˚59E,h108km±22km,mb3.7/4, mb1 3.6/8,mb1mx3.3/41,mbtmp3.9/8,Error ellipse: s-maj=35.9km s-min=18.4km az=77.0*
ISC 11 23:38:09.0±0.9,39.˚10N±0.˚03×141.˚72E±0.˚06,h65km±6km, n44,σ2=96/55,mb4.2/6,4C-6D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.05 242**		⇑P	**Pn**	**23 38 18.6**	**+0.1**
OFUJ				S	**Sn**	**23 38 25.5**	**0.0**
JKMT	**Kesennumamotoy**	**0.35 214**		⇓P	**Pn**	**23 38 20.2**	**+0.2**
JKMT				S	**Sn**	**23 38 28.3**	**+0.3**
JMK	**Ichinoseki**	**0.42 249**		⇑P	**Pn**	**23 38 20.7**	**+0.1**
JMK				S	**Sn**	**23 38 29.6**	**+0.5**
MIYJ	**Miyakonagasawa**	**0.48 9**		⇑P	**Pn**	**23 38 20.8**	**-0.4**
MIYJ				S	**Sn**	**23 38 29.5**	**-0.6**
JOM	**Ohasama**	**0.50 318**		⇑P	**Pn**	**23 38 21.3**	**-0.1**
JOM				S	**Sn**	**23 38 30.6**	**+0.2**
JIO	**Ouri**	**0.71 204**		⇓P	**Pn**	**23 38 23.7**	**+0.1**
JIO				S	**Sn**	**23 38 34.4**	**0.0**
JRG	**Rokugo**	**0.90 290**		⇓P	**Pn**	**23 38 26.1**	**+0.2**
JRG				S	**Sn**	**23 38 39.2**	**+0.8**
JYK	**Kaneyama**	**1.08 261**		⇓P	**Pn**	**23 38 28.7**	**+0.5**
JYK				S	**Sn**	**23 38 43.5**	**+0.9**
JOU	**Okura**	**1.11 229**		P	**Pn**	**23 38 28.8**	**+0.2**
JOU				S	**Sn**	**23 38 43.9**	**+0.6**
JANG	**Nango**	**1.28 353**		⇓P	**Pn**	**23 38 30.0**	**-0.9**
JANG				S	**Sn**	**23 38 46.8**	**-0.5**
JAH	**Hinai**	**1.37 323**		⇓P	**Pn**	**23 38 32.3**	**+0.2**
JAH				S	**Sn**	**23 38 50.0**	**+0.6**
JMM	**Marumori**	**1.43 211**		P	**Pn**	**23 38 32.7**	**-0.2**
JMM				S	**Sn**	**23 38 50.6**	**-0.3**
JMM	**Marumori**	**1.43 211**			**Pn**	**23 38 33.0**	**+0.1**
JMM				Sn	**Sn**	**23 38 49.9**	**-1.0**
JTM	**Tenmabayashi**	**1.76 344**		Pn	**Pn**	**23 38 37.7**	**+0.5**
JSD	**Sado**	**2.92 250**		Pn	**Pn**	**23 38 54.0**	**+1.1**
ERM	**Erimo**	**3.11 20**		Pn	**Pn**	**23 38 60.0**	**+4.4**
JYT	**Yasato**	**3.12 203**		Pn	**Pn**	**23 38 56.5**	**+0.8**
JYT				Sn	**Sn**	**23 39 31.7**	**0.0**
MAJO	**Matsushiro**	**3.78 229**			**Pn**	**23 39 06.3**	**+1.6**
MAT	**Matsushiro**	**3.78 229**		P	**Pn**	**23 39 07.4**	**+2.7**
MAT				*eS*	**Sn**	**23 39 53.5**	**+5.5**
MJAR	**Matsushiro Arr**	**3.78 229**		P	**Pn**	**23 39 06.2**	**+1.5**
MJAR	0.3nm,0.3s,baz=37,slow=12,SNR=14			S	**Sn**	**23 39 39.6**	**-8.3**
	0.3nm,0.3s,baz=158,slow=26,SNR=5.8						
MJAR	**Matsushiro Arr**	**3.78 229**		Pn	**Pn**	**23 39 06.4**	**+1.6**
JGF	**Kuroka**	**4.93 226**			**Pn**	**23 39 22.0**	**+1.5**
ASAJ	**Asahikawa**	**5.05 7**		P	**Pn**	**23 39 26.2**	**+4.1**
ASAJ	1.4nm,0.3s,baz=210,slow=14,SNR=2.3			S	**Sn**	**23 40 14.5**	**-4.6**
	2.1nm,0.3s,baz=251,slow=18,SNR=1.6						
USA0B	**Ussuriysk Arra**	**8.89 308**		Pn	**Pn**	**23 40 14.6**	**+0.1**
USRK	**Ussuriysk Ar.**	**8.89 308**		P	**Pn**	**23 40 17.5**	**+3.0**
	baz=120,slow=14,SNR=12						
USRK	**Ussuriysk Ar.**	**8.89 308**			**Pn**	**23 40 15.4**	**+0.9**
KSRS	**Korea Array**	**10.97 266**		P	**Pn**	**23 40 46.0**	**+3.0**
	0.2nm,0.3s,baz=115,slow=29,SNR=4.6						
JMZ	**Minamidaito 2**	**15.92 217**		Pn	**Pn**	**23 41 49.0**	**+0.1**
H11N2	**WAKE ISLAND Hy**	**29.05 124**		T	T	00 14 29.5	
	baz=318,slow=76						
H11N1	**WAKE ISLAND Hy**	**29.06 124**		T	T	00 14 31.7	
	baz=318,slow=76						
H11N3	**WAKE ISLAND Hy**	**29.07 124**		T	T	00 14 32.4	
	baz=318,slow=76						
H11S1	**WAKE ISLAND Hy**	**29.83 126**		T	T	00 15 26.8	
	baz=319,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.83 126**		T	T	00 15 38.1	
	baz=319,slow=76						
H11S2	**WAKE ISLAND Hy**	**29.85 126**		T	T	00 15 31.4	
	baz=319,slow=76						
MIDW	**Midway**	**35.47 95**			**S**	**23 50 31.0**	**+1.4**
ZAA0	**Zalesovo Array**	**40.73 311**		P	**P**	**23 45 42.1**	**-1.0**
ZALV	**Zalesovo Beam**	**40.73 311**		P	**P**	**23 45 42.0**	**-1.0**
	2.2nm,0.6s,baz=86,slow=8.6,SNR=6.6						
ZALV	**Zalesovo Beam**	**40.73 311**		P	**P**	**23 45 42.3**	**-0.8**
MK31	**Makanchi Array**	**43.26 300**		P	**P**	**23 46 02.9**	**-0.9**
MK31	comp=Z,3.9nm,0.9s			IAmb	IAmb	23 46 04.1	
MKAR	**Makanchi Array**	**43.26 300**		P	**P**	**23 46 01.4**	**-2.4**
	comp=Z,2.4nm,0.8s,baz=88,slow=7.4,SNR=15						
MKAR	**Makanchi Array**	**43.26 300**		P	**P**	**23 46 03.0**	**-0.8**
MAKZ	**Makanchi**	**43.46 300**		P	**P**	**23 46 05.3**	**-0.1**
MAKZ	comp=Z,4.4nm,1.1s			IAmb	IAmb	23 46 14.6	
WRA	**Warramunga Arr**	**59.14 188**		P	**P**	**23 48 01.2**	**-1.6**
	comp=Z,1.4nm,0.5s,baz=5.8,slow=6.8,SNR=19						
ASAR	**Alice Springs**	**62.87 188**		P	**P**	**23 48 26.6**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=3.4,slow=5.5,SNR=5.2						

IDC ***11*** *23:40:39.7±0.9,31.˚17N×142.˚18E,h0km,mb3.9/8, mb1 4.0/11,mb1mx3.8/38,mbtmp3.9/11,ML3.4/3,MS3.0/1, Ms1 3.0/1,ms1mx2.4/58,Error ellipse: s-maj=32.7km s-min=17.4km az=73.0*
NEIC ***11*** *23:40:44.4±1.0,31.˚14N±0.˚07×142.˚1E±0.˚2,h23km±6km, mb4.6/10,Error ellipse: s-maj=21.6km s-min=4.6km az=63.0*
ISC 11 23:40:43.4±0.6,31.˚12N±0.˚07×142.˚0E±0.˚1,h24km,n27, σ1=38/29,mb4.1/14,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.73 317**		Pn	**Pn**	**23 41 26.6**	**+0.8**
JHJ	**Hachijo jima 2**	**2.76 317**		Pn	**Pn**	**23 41 26.0**	**-0.2**
JHJ	15nm,0.3s,baz=77,slow=19,SNR=1.6			Sn	**Sn**	**23 41 54.5**	**-4.3**
	14nm,0.3s,baz=73,slow=19,SNR=1.2						
JCJ	**Chichijima**	**4.02 178**		Pn	**Pn**	**23 41 43.9**	**+0.4**
	6.2nm,0.3s,baz=15,slow=20,SNR=11						
JCJ	5.1nm,0.3s,baz=287,slow=19,SNR=1.4			Sn	**Sn**	**23 42 26.8**	**-3.0**
MJAR	**Matsushiro Arr**	**6.27 331**		Pn	**Pn**	**23 42 14.3**	**-0.1**
	0.3nm,0.3s,baz=153,slow=11,SNR=9.3						
MJAR	**Matsushiro Arr**	**6.27 331**			**Pn**	**23 42 15.2**	**+0.7**
MAJO	**Matsushiro**	**6.27 331**		Pn	**Pn**	**23 42 15.9**	**+1.4**
MAT	**Matsushiro**	**6.27 331**		P	**Pn**	**23 42 15.7**	**+1.2**
MAT				*eS*	**Sn**	**23 43 24.3**	**-1.1**
JNU	**Nakatsue**	**9.67 285**		LR	LR	23 45 58.4	
	comp=Z,106nm,22.0s,baz=36,slow=33						
SONM	**Songino Array**	**31.83 312**		P	**P**	**23 47 07.0**	**+0.6**
	0.7nm,0.7s,baz=125,slow=8.8,SNR=4.5						
MK31	**Makanchi Array**	**47.89 307**		P	**P**	**23 49 20.7**	**+1.1**
MKAR	**Makanchi Array**	**47.89 307**		P	**P**	**23 49 20.4**	**+0.8**
	0.8nm,0.5s,baz=83,slow=9.9,SNR=12						
CHGN	**Chignik**	**47.99 40**		P	**P**	**23 49 20.6**	**+0.5**
MAKZ	**Makanchi**	**48.10 307**		P	**P**	**23 49 21.7**	**+0.5**
MAKZ	comp=Z,3.5nm,0.9s			IAmb	IAmb	23 49 41.4	
O18K	**Koktuh Hills**	**50.05 36**		P	**P**	**23 49 33.6**	**-2.3**
O18K	comp=Z,6.3nm,0.9s			IAmb	IAmb	23 49 36.2	
WR0	**Warramunga Arr**	**51.30 189**		P	**P**	**23 49 46.2**	**+0.6**
WR0	comp=Z,13nm,1.5s			IAmb	IAmb	23 50 01.1	
WB2	**Warramunga Arr**	**51.31 189**		P	**P**	**23 49 46.3**	**+0.6**
WB2	comp=Z,9.5nm,1.4s			IAmb	IAmb	23 49 55.4	
WRA	**Warramunga Arr**	**51.31 189**		P	**P**	**23 49 45.7**	**0.0**
	comp=Z,0.8nm,0.3s,baz=6.1,slow=7.4,SNR=10						
AS31	**Alice Springs**	**55.03 189**		P	**P**	**23 50 13.7**	**+0.5**
ASAR	**Alice Springs**	**55.03 189**		P	**P**	**23 50 13.7**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=4.7,slow=6.0,SNR=12						
KNTN	**Kanton**	**55.41 119**		P	**P**	**23 50 16.1**	**0.0**
KK31	**Karatay Array**	**56.69 304**		P	**P**	**23 50 26.2**	**+1.3**
KK31	comp=Z,2.0nm,0.7s			IAmb	IAmb	23 50 26.7	
KKAR	**Karatay Array**	**56.69 304**		P	**P**	**23 50 26.4**	**+1.5**
CHGR	**Chuyangaron**	**58.83 299**		P	**P**	**23 50 41.5**	**+1.4**
CHGR	comp=Z,9.8nm,0.7s			IAmb	IAmb	23 50 42.4	
FINES	**FINESS Array B**	**74.29 333**		P	**P**	**23 52 18.1**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=74,slow=5.9,SNR=5.1						
NVAR	**Mina Array Bea**	**78.15 52**		P	**P**	**23 52 40.6**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=305,slow=6.3,SNR=3.9						
NOA	**NORSAR Array B**	**79.84 338**		P	**P**	**23 52 48.6**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=41,slow=5.3,SNR=3.6						
TXAR	**Lajitas Array**	**93.29 53**		P	**P**	**23 53 57.0**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=307,slow=2.8,SNR=5.4						

BJI ***11*** *23:51:48.2±0.0,6.˚22S×147.˚24E,h25km,mB5.2/32, mb5.1/66,Ms4.7/18,Ms7 4.4/19*
NEIC ***11*** *23:51:52.8,5.˚97S×146.˚67E,h13km,Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr6.74; Mθθ-4.85; Mφφ-1.89; Mrθ1.49; Mθφ2.28; Mφr-1.70; Fault plane solution: M06.82000×10^16 NP1:φs124.52000°, δ54.44000°,λ96.61000°. NP2:φs293.26000°,δ36.09000°, λ80.86000°. Principal axes: T 7.1552, Plg79.0000°, Azm61.0000°; N -0.7250, Plg5.0000°, Azm301.0000°; P -6.4302, Plg9.0000°, Azm210.0000°;*
MOS ***11*** *23:51:53.4±0.9,5.˚91S×146.˚59E,h33km,mb5.2/30 Error ellipse: s-maj=9.7km s-min=6.0km az=103.4*
NEIC ***11*** *23:51:53.0±1.5,5.˚98S±0.˚06×146.˚69E±0.˚07,h12km±3km, mb5.2/130,Mwb5.2/6,Error ellipse: s-maj=9.5km s-min=9.1km az=94.0*
IDC ***11*** *23:51:54.7±2.5,5.˚98S×146.˚72E,h33km±18km,mb4.8/33, mb1 4.9/37,mb1mx4.7/56,mbtmp5.0/37,ML4.9/4,MS4.2/25, Ms1 4.2/25,ms1mx4.1/37,Error ellipse: s-maj=13.0km s-min=8.8km az=94.0*
DJA ***11*** *23:51:58.3±0.4,6.˚S±2.˚×14.˚7E±.˚,h55km±4km,M5.2/54, mB5.5/26,mb5.3/54,MLv5.8/4,Mw(mB)5.0/26, MwMwp5.0/1,Mwp5.3/1*
GCMT ***11*** *23:52:00.0±0.2,5.˚98S±0.˚01×146.˚75E±0.˚02,h39km, MW5.1/101,Moment Tensor Solution. s81,c98; s101,c141; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.18±.19; Mθθ-4.83±.12; Mφφ-0.34±.14; Mrθ-1.66±.13; Mθφ2.74±.09; Mφr0.80±.16; Best double couple: M05.94700×10^16 NP1:φs115.00000°,δ36.00000°, λ90.00000°. NP2:φs296.00000°,δ54.00000°,λ90.00000°. Principal axes: T 5.4730, Plg81.0000°, Azm206.0000°; N 0.9530, Plg0.0000°, Azm115.0000°; P -6.4210, Plg9.0000°,*

Azm25.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 11 23:51:57.2±0.2,5.**99S**±0.04×**146.74E**±0.04,**h52**km,**n461**, σ1§**46**/427,**mb5.1**/165,**MS4.2**/31,**68C-34D**,**Fault plane solution: NP1**:ϕs152.63817°,δ20.90180°,λ134.98842°. **NP2**:ϕs285.70111°,δ75.38495°,λ74.89103°. **Principal axes:** T Plg57.0341°, Azm175.9022°; N Plg14.6090°, Azm289.5983°; P Plg28.8262°, Azm27.8458°; **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.97**	**9**		**Pn**	**23 52 53.6**	**-1.9**
RABL	**Rabaul**	**5.69**	**72**		**Pn**	**23 53 18.9**	**-0.3**
RABL	**Rabaul**	**5.69**	**72**	P	**Pn**	**23 53 20.3**	**+1.1**
MMPI	**Merauke**	**6.77**	**248**	P	Pn	23 53 39.2	+5.2
JAY	**Jayapura**	**6.94**	**300**	Pn	**Pn**	**23 53 38.5**	**+2.1**
	2.9nm,0.3s,baz=128,slow=4.8,SNR=4.7						
JAY				Sn	**Sn**	**23 55 01.4**	**+7.4**
	0.4nm,0.3s,baz=18,slow=19,SNR=1.0						
JAY				LR	LR	23 56 46.9	
	comp=Z,4μm,20.5s,baz=114,slow=42						
JAY	**Jayapura**	**6.94**	**300**	P	Pn	23 53 55.7	+19
GENI	**Genyem**	**7.37**	**297**	P	**Pn**	**23 53 44.1**	**+1.8**
	2.5nm4μm244nm,0.8s						
COEN	**Coen**	**8.66**	**204**	Pn	**Pn**	**23 53 57.9**	**-2.1**
HNR	**Honiara**	**13.53**	**105**	Pn	**Pn**	**23 55 08.5**	**+2.1**
	21nm,0.3s,baz=187,slow=6.5,SNR=1.9						
HNR				Sn	**Sn**	**23 57 42.7**	**+7.4**
	15nm,0.3s,baz=288,slow=20,SNR=1.3						
HNR	**Honiara**	**13.53**	**105**	P	**Pn**	**23 55 03.4**	**-3.1**
HNR	**Honiara**	**13.53**	**105**	Pn	**Pn**	**23 55 03.4**	**-3.1**
CTA	**Charters Tower**	**14.02**	**182**	Pn	**Pn**	**23 55 12.7**	**-0.5**
	0.7nm,0.3s,baz=2.0,slow=15,SNR=3.1						
CTA				Sn	**Sn**	**23 57 51.9**	**+4.4**
	0.8nm,0.3s,baz=66,slow=20,SNR=1.6						
CTAO	**Charters Tower**	**14.02**	**182**	P	**Pn**	**23 55 13.7**	**+0.5**
CTAO	**Charters Tower**	**14.02**	**182**	Pn	**Pn**	**23 55 13.7**	**+0.5**
FAKI	**Fak Fak**	**14.77**	**281**	P	**Pn**	**23 55 22.6**	**-0.4**
	79nm,0.9s						
SIJI	**Sorong**	**16.26**	**288**	Pn	**Pn**	**23 55 41.9**	**-0.4**
	11nm,0.3s,baz=59,slow=12,SNR=11						
SIJI				Sn	**S**	**23 58 48.8**	**-3.5**
	3.4nm,0.3s,baz=119,slow=19,SNR=1.7						
SIJI				LR	LR	00 04 09.9	
	comp=Z,818nm,18.2s,baz=85,slow=45						
SIJI	**Sorong**	**16.26**	**288**	P	**P**	**23 55 44.0**	**-0.5**
	1μm70nm,0.6s						
SWI	**Sorong**	**16.27**	**288**	P	**P**	**23 55 45.1**	**+0.5**
	2μm194nm,0.7s						
BNDI	**Bandanaira**	**16.83**	**274**	P	**P**	**23 55 50.6**	**-0.2**
	24μm620nm,1.3s						
MTN	**Manton Dam**	**16.83**	**245**	Pn	**Pn**	**23 55 48.1**	**-1.3**
PATS	**Pohnpei**	**17.19**	**42**		**Pn**	**23 55 54.0**	**+0.1**
MSAI	**Masohi**	**17.95**	**278**	P	P	23 56 11.8	+8.6
WR0	**Warramunga Arr**	**18.26**	**219**		**P**	**23 56 05.4**	**-1.3**
WRAB	**Tennant Creek**	**18.36**	**220**	*ce*P	**P**	**23 56 07.1**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,59nm,1.0s						
WRAB	**Tennant Creek**	**18.36**	**220**	P	**P**	**23 56 06.8**	**-1.0**
WB2	**Warramunga Arr**	**18.37**	**220**		**P**	**23 56 07.1**	**-0.7**
WRA	**Warramunga Arr**	**18.38**	**220**	P	**P**	**23 56 06.3**	**-1.6**
	comp=Z,4.2nm,0.3s,baz=45,slow=11,SNR=167						
WRA				S	Sn	23 59 20.3	-13
	comp=Z,0.2nm,0.3s,baz=35,slow=21,SNR=1.8						
WRA				LR	LR	00 04 06.4	
	comp=Z,2μm,19.1s,baz=45,slow=40						
WRA				ScP	**ScP**	**00 04 11.2**	**+2.3**
	comp=Z,0.0nm,0.3s,baz=40,slow=2.3,SNR=1.9						
KRAI	**Karang Ratu**	**18.48**	**277**	P	**Pn**	**23 56 12.1**	**+2.5**
	comp=Z,172nm,0.8s						
GUMO	**Guam**	**19.54**	**355**	P	**P**	**23 56 19.8**	**-0.8**
	comp=Z,8.7nm,0.3s,baz=216,slow=7.8,SNR=5.3						
GUMO	**Guam**	**19.54**	**355**	IAmb	IAmb	23 56 24.9	
	comp=Z,346nm,1.1s						
EIDS	**Eidsvold**	**19.71**	**168**	P	**P**	**23 56 22.0**	**-0.5**
LBMI	**Labuha**	**19.92**	**285**	P	**Pn**	**23 56 27.0**	**+0.1**
KNRA	**Kununurra**	**20.09**	**240**	P	**P**	**23 56 24.8**	**-1.9**
KNRA				IAmb	IAmb	23 56 49.0	
	comp=Z,143nm,1.1s						
GAMI	**Galela, Maluku**	**20.46**	**292**	P	Pn	23 56 39.0	+5.8
TNTI	**Ternate**	**20.48**	**289**	P	**P**	**23 56 29.9**	**-0.9**
SANI	**Sanana**	**21.07**	**280**	P	P	23 56 45.2	+8.0
AS31	**Alice Springs**	**21.48**	**214**	P	**P**	**23 56 40.8**	**-0.9**
ASAR	**Alice Springs**	**21.48**	**214**	P	**P**	**23 56 41.5**	**-0.2**
	comp=Z,11nm,0.5s,baz=56,slow=9.0,SNR=176						
ASAR				S	**S**	**00 00 37.0**	**-0.3**
	comp=Z,7.4nm,0.9s,baz=31,slow=17,SNR=2.2						
ASAR				ScP	**ScP**	**00 04 19.4**	**+3.3**
	comp=Z,2.3nm,1.0s,baz=35,slow=3.4,SNR=2.1						
ASAR				LR	LR	00 06 04.8	
	comp=Z,3μm,18.7s,baz=42,slow=40						
ASAR	**Alice Springs**	**21.48**	**214**	P	**P**	**23 56 40.4**	**-1.2**
ASAR					**PcP**	**00 00 41.7**	**-1.5**
SOEI	**Soe**	**22.57**	**259**	P	**P**	**23 56 52.6**	**-0.9**
SOEI	**Soe**	**22.57**	**259**	P	**P**	**23 56 59.2**	**+5.7**
	comp=Z,2μmcomp=Z,246nm,1.1s						
MNI	**Manado**	**23.08**	**288**	P	**P**	**23 57 02.1**	**+3.4**
	comp=Z,4μmcomp=Z,347nm,1.1s						
BATI	**Baumata**	**23.22**	**258**	P	**P**	**23 56 60.0**	**-0.1**
	comp=Z,34nm,0.4s,baz=144,slow=3.8,SNR=6.2						
BATI	**Baumata**	**23.22**	**258**	P	**P**	**23 57 02.8**	**+2.7**
	comp=Z,1μmcomp=Z,91nm,0.8s						
FITZ	**Fitzroy Crossi**	**23.85**	**238**	P	**P**	**23 57 05.1**	**-0.8**
	comp=Z,136nm,0.8s,baz=66,slow=8.0,SNR=188						
FITZ	**Fitzroy Crossi**	**23.85**	**238**	P	**P**	**23 57 04.7**	**-1.2**
LUWI	**Luwuk**	**24.42**	**281**	P	**P**	**23 57 11.4**	**+0.3**
LUWI	**Luwuk**	**24.42**	**281**	P	**P**	**23 57 13.4**	**+2.3**
	comp=Z,5μmcomp=Z,188nm,0.7s						
MMRI	**Maumere**	**24.44**	**262**	P	**P**	**23 57 10.3**	**-1.1**
MMRI	**Maumere**	**24.44**	**262**	P	**P**	**23 57 16.0**	**+4.6**
	comp=Z,123nm,0.9s						
GTOI	**Gorontalo**	**24.59**	**285**	P	**P**	**23 57 14.5**	**+1.8**
	comp=Z,2μmcomp=Z,124nm,0.7s						
LIFNC	**LIFOU**	**24.73**	**128**	P	**P**	**23 57 13.3**	**-0.5**
ARMA	**Armidale**	**24.73**	**170**	P	**P**	**23 57 13.2**	**-0.8**
DZM	**Mont Dzumac**	**24.86**	**132**	*e*P	**P**	**23 57 15.0**	**-0.2**
	comp=Z,114nm,0.8s						
DZM				*e*S	**S**	**00 01 34.7**	**-0.1**
	comp=Z,471nm,28.9s						
DZM				*e*LR	LR	00 03 27.5	
	comp=Z,2μm,27.4s						
DZM	**Mont Dzumac**	**24.86**	**132**	P	**P**	**23 57 14.9**	**-0.3**
	comp=Z,60nm,0.7s,baz=149,slow=23,SNR=40						
DZM	**Mont Dzumac**	**24.86**	**132**	P	**P**	**23 57 15.1**	**-0.1**
DZM				IAmb	IAmb	23 57 16.3	
	comp=Z,61nm,0.7s						
EDFI	**Ende, Flores**	**24.99**	**262**	P	**P**	**23 57 16.9**	**+0.4**
	comp=Z,521nmcomp=Z,59nm,0.7s						
ONTNC	**Ouen Toro**	**25.02**	**132**	P	**P**	**23 57 15.7**	**-0.8**
ONTNC				IAmb	IAmb	23 57 17.4	
	comp=Z,57nm,0.8s						
OUENC	**Ouen Island, N**	**25.37**	**132**	P	**P**	**23 57 19.1**	**-0.5**
OUENC				IAmb	IAmb	23 57 20.5	
	comp=Z,29nm,0.7s						
KWAJ	**Kwajalein Atol**	**25.47**	**55**	P	**P**	**23 57 20.2**	**-0.5**
KWAJ				pmax	pmax		
	comp=Z,288nm,1.1s						
KWAJ	**Kwajalein Atol**	**25.47**	**55**	P	**P**	**23 57 20.2**	**-0.5**
APSI	**Ampana**	**25.54**	**280**	P	**P**	**23 57 24.1**	**+2.8**
	comp=Z,1μmcomp=Z,92nm,1.6s						
MRSI	**Marisa**	**25.58**	**284**	P	**P**	**23 57 27.7**	**+6.0**
	comp=Z,69nm,0.8s						
MARNC	**Mare, Loyalty**	**25.73**	**129**	P	**P**	**23 57 22.3**	**-0.6**
PINNC	**Pines Island,**	**25.93**	**132**	P	**P**	**23 57 24.1**	**-0.6**
PINNC				IAmb	IAmb	23 57 26.2	
	comp=Z,86nm,1.2s						
STKA	**Stephens Creek**	**26.20**	**190**	P	**P**	**23 57 26.3**	**-0.8**
	comp=Z,18nm,0.6s,baz=355,slow=8.6,SNR=40						
STKA				LR	LR	00 08 40.5	
	comp=Z,2μm,19.1s,baz=12,slow=38						
STKA	**Stephens Creek**	**26.20**	**190**	P	**P**	**23 57 26.2**	**-0.8**
BKSI	**Bulukumba**	**26.50**	**270**	P	**P**	**23 57 36.5**	**+6.5**
	comp=Z,51nm,1.0s						
BNSI	**Bone**	**26.57**	**272**	P	P	23 57 38.0	+7.4
TOLI2	**Tolitoli**	**26.86**	**284**	P	**P**	**23 57 31.4**	**-1.9**
TOLI2				IAmb	IAmb	23 57 33.5	
	comp=Z,46nm,1.1s						
KAPI	**Kappang**	**26.88**	**271**	P	**P**	**23 57 33.5**	**0.0**
	comp=Z,4.6nm,0.3s,baz=110,slow=6.9,SNR=6.5						
KAPI	**Kappang**	**26.88**	**271**	P	**P**	**23 57 32.2**	**-1.2**
KAPI	**Kappang**	**26.88**	**271**	P	**P**	**23 57 37.5**	**+4.0**
	comp=Z,497nmcomp=Z,34nm,1.3s						
TTSI	**Tana Toraja**	**26.99**	**275**	P	P	23 57 42.3	+7.8
	comp=Z,27nm,1.9s						
NJ2	**Nanjing**	**46.23**	**327**	⇑P	**P**	**00 00 18.1**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,33nm,0.8s						
KSRS	**Korea Array**	**46.65**	**339**	P	**P**	**00 00 20.7**	**+0.2**
	comp=Z,34nm,0.9s,baz=156,slow=9.1,SNR=70						
KSRS				LR	LR	00 17 06.8	
	comp=Z,274nm,20.5s,baz=146,slow=32						
JTM	**Tenmabayashi**	**46.84**	**354**	P	**P**	**00 00 22.2**	**+0.3**
INCN	**Inchon**	**47.14**	**338**	P	**P**	**00 00 24.0**	**-0.4**
INCN				pmax	pmax		
	comp=Z,55nm,1.0s						
INCN	**Inchon**	**47.14**	**338**	P	**P**	**00 00 24.0**	**-0.4**
MNSI	**Mandailing Nat**	**47.56**	**277**	P	P	00 00 32.9	+4.8
	comp=Z,33nm,0.8s						
WHN	**Wuhan**	**47.77**	**321**	⇓P	**P**	**00 00 28.9**	**-0.4**
WHN				S	**S**	**00 07 24.8**	**+2.5**
WHN				pmax	pmax		
	comp=Z,120nm,1.0s						
WHN				LR	LR		
	comp=Z,440nm,20.0s						
RPSI	**Rantau Prapat**	**48.52**	**279**	P	**P**	**00 00 35.1**	**-0.4**
PSI	**Prapat**	**48.54**	**279**	P	**P**	**00 00 35.2**	**-0.6**
	comp=Z,12nm,0.4s,baz=175,slow=3.7,SNR=17						
PSI	**Prapat**	**48.54**	**279**	P	**P**	**00 00 35.7**	**-0.1**
	comp=Z,494nmcomp=Z,11nm,0.7s,comp=Z,999nm,0.7s, comp=Z,23nm,0.7s						
PSI				P	**P**	**00 00 35.7**	**-0.1**
	comp=Z,494nmcomp=Z,11nm,0.7s,comp=Z,999nm,0.7s, comp=Z,23nm,0.7s						
TRTT	**Trang**	**48.90**	**286**	P	**P**	**00 00 38.7**	**+0.3**
	comp=Z,54nm,1.3s						
TRTT	**Trang**	**48.90**	**286**	P	**P**	**00 00 38.0**	**-0.4**
	comp=Z,54nm,1.3s						
TSI	**Tuntungan**	**49.02**	**280**	P	P	00 00 42.7	+3.3
	comp=Z,95nm,1.4s						
NONG	**Nongkai**	**49.21**	**300**	P	**P**	**00 00 40.5**	**-0.2**
	comp=Z,43nm,0.9s						
SURA	**Surathani**	**49.31**	**287**	P	**P**	**00 00 42.2**	**+0.7**
	comp=Z,14μmcomp=Z,47nm,1.2s						
SURA	**Surathani**	**49.31**	**287**	P	**P**	**00 00 42.3**	**+0.7**
	comp=Z,14μmcomp=Z,46nm,1.2s						
CHAI	**Chaiyaphum**	**49.35**	**297**	P	**P**	**00 00 41.8**	**0.0**
	comp=Z,427nmcomp=Z,36nm,0.7s						
CHAI	**Chaiyaphum**	**49.35**	**297**	P	**P**	**00 00 41.0**	**-0.8**
	comp=Z,106nmcomp=Z,8.8nm,0.7s						
GSI	**Gunungsitoli**	**49.62**	**277**	P	**P**	**00 00 43.2**	**-0.7**
SLVN	**Son La**	**50.02**	**304**	P	**P**	**00 00 46.9**	**0.0**
SURT	**Suratani**	**50.05**	**287**	P	P	00 00 49.8	+2.7
	comp=Z,1.8nm,1.1s						
SURT	**Suratani**	**50.05**	**287**	P	P	00 00 49.9	+2.7
	comp=Z,1.8nm,1.1s						
PKDT	**Phuket**	**50.21**	**285**	P	**P**	**00 00 48.8**	**+0.4**
	comp=Z,9μmcomp=Z,116nm,1.0s						
PKDT	**Phuket**	**50.21**	**285**	P	**P**	**00 00 48.0**	**-0.4**
	comp=Z,9μmcomp=Z,116nm,1.0s						
TIA	**Tai'an**	**50.33**	**329**	⇑P	**P**	**00 00 48.3**	**-0.6**
TIA				pmax	pmax		
	comp=Z,18nm,0.7s						
TPTI		**50.34**	**279**	P	P	00 00 51.5	+2.1
	comp=Z,28nm,1.0s						
PHET	**Kaeng Krachan**	**50.43**	**292**	P	**P**	**00 00 50.8**	**+0.8**
	comp=Z,895nmcomp=Z,101nm,1.0s						
PHET	**Kaeng Krachan**	**50.43**	**292**	P	**P**	**00 00 50.9**	**+0.9**
	comp=Z,230nmcomp=Z,26nm,1.0s						
GYA	**Guiyang**	**50.48**	**312**	⇓P	**P**	**00 00 51.2**	**+0.8**
GYA				pmax	pmax		
	comp=Z,15nm,1.3s						
ENH	**Enshi**	**50.73**	**317**	P	**P**	**00 00 51.9**	**-0.2**
ENH				IAmb	IAmb	00 00 54.6	
	comp=Z,30nm,1.0s						
PHIT	**Phitsanulok**	**51.24**	**298**	P	**P**	**00 00 57.1**	**+1.1**
	comp=Z,118nm,1.0s						
PHIT	**Phitsanulok**	**51.24**	**298**	P	**P**	**00 00 57.1**	**+1.1**
	comp=Z,29nm,1.0s						
UTTA	**Uttaradit**	**51.33**	**298**	P	**P**	**00 00 57.4**	**+0.7**
	comp=Z,427nmcomp=Z,55nm,1.0s						
UTTA	**Uttaradit**	**51.33**	**298**	P	**P**	**00 00 57.5**	**+0.7**
	comp=Z,107nmcomp=Z,14nm,1.0s						
SRDT	**SRDT**	**51.37**	**294**	P	**P**	**00 00 58.4**	**+1.3**
	comp=Z,58nm,1.5s						
SRDT	**SRDT**	**51.37**	**294**	P	P	00 00 58.5	+1.4
	comp=Z,58nm,1.5s						
SRDT	**SRDT**	**51.37**	**294**	P	**P**	**00 00 58.4**	**+1.3**
	comp=Z,56nm,1.5s						
UTHA	**Uthaitani**	**51.50**	**295**	P	**P**	**00 00 58.8**	**+0.8**
	comp=Z,631nmcomp=Z,69nm,1.0s						
UTHA	**Uthaitani**	**51.50**	**295**	P	**P**	**00 00 58.9**	**+0.8**
	comp=Z,157nmcomp=Z,17nm,1.0s						
USA0B	**Ussuriysk Arra**	**51.70**	**347**	P	**P**	**00 00 59.2**	**+0.2**
USA0B				pmax	pmax		
	comp=Z,19nm,1.2s						
USA0B	**Ussuriysk Arra**	**51.70**	**347**	P	**P**	**00 00 59.1**	**+0.2**
USRK	**Ussuriysk Ar.**	**51.70**	**347**	P	**P**	**00 00 59.6**	**+0.6**
	comp=Z,16nm,1.0s,baz=167,slow=8.3,SNR=13						
USRK				LR	LR	00 21 38.3	
	comp=Z,85nm,18.3s,baz=141,slow=34						
USRK	**Ussuriysk Ar.**	**51.70**	**347**	P	**P**	**00 00 59.3**	**+0.3**
UMPA	**Umpang Tak**	**52.26**	**296**	P	**P**	**00 01 04.7**	**+1.0**
	comp=Z,1μmcomp=Z,96nm,1.0s						
UMPA	**Umpang Tak**	**52.26**	**296**	P	**P**	**00 01 04.0**	**+0.3**
	comp=Z,273nmcomp=Z,24nm,1.0s						
LAMP	**Lampang**	**52.44**	**299**	P	P	00 01 06.5	+1.5
	comp=Z,387nmcomp=Z,40nm,1.0s						
LAMP	**Lampang**	**52.44**	**299**	P	P	00 01 06.5	+1.5
	comp=Z,96nmcomp=Z,10.0nm,1.0s						
MDJ	**Mudanjiang**	**52.68**	**345**	P	**P**	**00 01 06.4**	**+0.1**
MDJ				IAmb	IAmb	00 01 08.5	
	comp=Z,26nm,1.1s						
KMI	**Kunming**	**52.79**	**308**	⇓P	**P**	**00 01 09.2**	**+1.5**
KMI				pP	pP	00 01 13.7	-8.9
KMI				sP	sP	00 01 16.3	-13
KMI				pmax	pmax		
	comp=Z,24nm,1.3s						
CM04	**Chiang Mai Arr**	**52.96**	**298**	P	**P**	**00 01 10.1**	**+1.2**
	comp=Z,292nmcomp=Z,34nm,1.1s						
CM04	**Chiang Mai Arr**	**52.96**	**298**	P	**P**	**00 01 10.2**	**+1.3**
	comp=Z,292nmcomp=Z,34nm,1.1s						
CM09	**Chiang Mai Arr**	**52.97**	**298**	P	P	00 01 10.3	+1.4
	comp=Z,319nmcomp=Z,36nm,1.1s						
CM01	**Chiang Mai Arr**	**52.99**	**298**	P	**P**	**00 01 10.4**	**+1.3**
	comp=Z,282nmcomp=Z,33nm,1.1s						
CM01	**Chiang Mai Arr**	**52.99**	**298**	P	P	00 01 10.5	+1.4
	comp=Z,282nmcomp=Z,33nm,1.1s						
CM05	**Chiang Mai Arr**	**52.99**	**298**	P	**P**	**00 01 10.3**	**+1.2**
	comp=Z,194nmcomp=Z,23nm,1.1s						
CM02	**Chiang Mai Arr**	**53.01**	**298**	P	**P**	**00 01 10.5**	**+1.3**
	comp=Z,249nmcomp=Z,29nm,1.1s						
CM02	**Chiang Mai Arr**	**53.01**	**298**	P	**P**	**00 01 10.6**	**+1.3**
	comp=Z,249nmcomp=Z,29nm,1.1s						
CM31	**Chiang Mai Arr**	**53.02**	**298**	P	P	00 01 11.1	+1.8
	comp=Z,685nm,0.7s						
CM31	**Chiang Mai Arr**	**53.02**	**298**	P	**P**	**00 01 09.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**53.02**	**298**	P	**P**	**00 01 10.2**	**+1.0**
	comp=Z,20nm,1.0s,baz=119,slow=5.6,SNR=64						
CMAR				LR	LR	00 25 18.7	
	comp=Z,55nm,18.0s,baz=178,slow=38						
CMAR				PKP2bc		00 31 51.2	
	comp=Z,0.7nm,0.3s,baz=288,slow=3.7,SNR=6.9						
CMAR	**Chiang Mai Arr**	**53.02**	**298**	*ce*P	**P**	**00 01 10.3**	**+1.0**
CMAR				pmax	pmax		
	comp=Z,22nm,0.9s						
CM15	**Chiang Mai Arr**	**53.03**	**298**	P	P	00 01 10.9	+1.5
	comp=Z,34nm,1.0s						
CM13	**Chiang Mai Arr**	**53.04**	**298**	P	**P**	**00 01 10.5**	**+1.1**
	comp=Z,236nmcomp=Z,29nm,1.1s						
CM13	**Chiang Mai Arr**	**53.04**	**298**	P	**P**	**00 01 10.6**	**+1.1**
	comp=Z,238nmcomp=Z,29nm,1.1s						
CMMT	**Chiang Mai**	**53.15**	**299**	P	**P**	**00 01 10.8**	**+0.5**
	comp=Z,412nmcomp=Z,27nm,1.3s						
CMMT	**Chiang Mai**	**53.15**	**299**	P	**P**	**00 01 10.8**	**+0.5**
	comp=Z,412nmcomp=Z,27nm,1.3s						
CMMT	**Chiang Mai**	**53.15**	**299**	P	**P**	**00 01 10.8**	**+0.5**
	comp=Z,393nmcomp=Z,26nm,1.3s						
CHTO	**Chiang Mai**	**53.16**	**299**	P	**P**	**00 01 10.3**	**0.0**
CHTO				pmax	pmax		
	comp=Z,37nm,1.2s						
CHTO	**Chiang Mai**	**53.16**	**299**	P	**P**	**00 01 10.9**	**+0.6**
	comp=Z,27nm,1.3s						
CHTO	**Chiang Mai**	**53.16**	**299**	P	**P**	**00 01 10.3**	**0.0**
CHTO				IAmb	IAmb	00 01 12.1	
	comp=Z,37nm,1.2s						
CHTO	**Chiang Mai**	**53.16**	**299**	P	**P**	**00 01 10.9**	**+0.6**
	comp=Z,15nm,1.3s						
XAN	**Xi'an**	**53.51**	**321**	pP	P	00 01 18.6	+5.9
XAN				pmax	pmax		
	comp=Z,87nm,1.2s						
WBSI	**Waikabubak, Su**	**27.33**	**261**	P	**P**	**23 57 41.4**	**+3.9**
	comp=Z,2μmcomp=Z,180nm,1.0s						
MPSI	**Mapaga**	**27.52**	**282**	P	**P**	**23 57 39.5**	**+0.3**
	comp=Z,914nmcomp=Z,38nm,0.6s						
BBOO	**Buckleboo**	**28.48**	**199**	P	**P**	**23 57 46.2**	**-1.3**
BBOO				IAmb	IAmb	23 57 47.7	
	comp=Z,53nm,1.4s						
PSA00	**Pilbara Seismi**	**30.29**	**237**	P	**P**	**23 58 02.6**	**-1.1**
PSA00				IAmb	IAmb	23 58 03.9	
	comp=Z,34nm,0.6s						
PSA00	**Pilbara Seismi**	**30.29**	**237**	P	**P**	**23 58 02.6**	**-1.1**
PSA00				IAmb	IAmb	23 58 03.9	
	comp=Z,19nm,0.6s						
TOO	**Toolangi**	**31.46**	**182**	P	**P**	**23 58 13.9**	**+0.1**
TOO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TOO	**Toolangi**	**31.46**	**182**	P	**P**	**23 58 13.9**	**+0.1**
SPMM	**Sapulut**	**32.04**	**289**	P	**P**	**23 58 19.0**	**-0.3**
JAGI	**Jajag, Banyuwa**	**32.42**	**264**	P	**P**	**23 58 20.7**	**-1.8**
JAGI				IAmb	IAmb	23 58 24.9	
	comp=Z,35nm,1.0s						
MSVF	**Nonsavu**	**32.73**	**114**	P	**P**	**23 58 25.5**	**+0.2**
	comp=Z,24nm,1.0s,baz=194,slow=9.1,SNR=7.0						
MSVF	**Nonsavu**	**32.73**	**114**	P	**P**	**23 58 25.5**	**+0.2**
MSVF				IAmb	IAmb	23 58 28.3	
	comp=Z,46nm,1.1s						
JCJ	**Chichijima**	**33.18**	**353**	P	**P**	**23 58 27.5**	**-1.5**
SJI	**Sawahan**	**34.76**	**265**	P	P	23 58 49.1	+6.1
	comp=Z,24nm,1.0s						
JMZ	**Minamidaito 2**	**35.03**	**335**	P	**P**	**23 58 43.8**	**-1.2**
SBUM	**Sibu**	**35.48**	**283**	P	**P**	**23 58 50.0**	**+0.9**
STKI	**Sintang**	**35.71**	**278**	P	**P**	**23 58 54.3**	**+3.2**
MORW	**Morawa**	**36.99**	**228**	P	**P**	**23 59 00.6**	**-1.3**
MORW				IAmb	IAmb	23 59 02.4	
	comp=Z,53nm,1.4s						
JOW	**Kunigami**	**37.21**	**332**	P	**P**	**23 59 04.3**	**+0.6**
	comp=Z,77nm,0.7s,baz=147,slow=8.5,SNR=30						
JOW				LR	LR	00 10 53.0	
	comp=Z,367nm,19.9s,baz=126,slow=31						
KPJI	**Karang Pucung**	**37.57**	**266**	P	P	23 59 12.5	+5.5
	comp=Z,41nm,0.6s						
YULB	**Yu-li**	**38.35**	**320**	IAmb	IAmb	23 59 17.1	
	comp=Z,28nm,0.7s						
CISI	**Cisompet, Garu**	**38.68**	**265**	IAmb	IAmb	23 59 20.5	
	comp=Z,46nm,0.8s						
CISI	**Cisompet, Garu**	**38.68**	**265**	P	**P**	**23 59 17.6**	**+1.2**
	comp=Z,70nm,0.8s						
TPUB	**Ta-pu**	**38.71**	**320**	IAmb	IAmb	23 59 17.5	
	comp=Z,63nm,0.8s						
SSLB	**Suanglung**	**38.85**	**321**	IAmb	IAmb	23 59 19.8	
	comp=Z,40nm,1.1s						
LEM	**Lembang**	**38.88**	**267**	LR	LR	00 18 38.6	
	comp=Z,214nm,18.8s,baz=111,slow=41						
TPI	**Tanjungpandan**	**39.10**	**273**	P	**P**	**23 59 22.1**	**+2.3**
	comp=Z,41nm,1.0s						
YHNB	**Yeheng**	**39.23**	**322**	P	**P**	**23 59 20.4**	**-0.4**
CNJI	**Cibinong**	**39.36**	**266**	P	**P**	**23 59 25.0**	**+3.0**
	comp=Z,2μmcomp=Z,193nm,0.9s						
TATO	**Taipei**	**39.38**	**322**	P	**P**	**23 59 21.5**	**-0.5**
JHJ	**Hachijo jima 2**	**39.45**	**351**	LR	LR	00 13 23.1	
	comp=Z,260nm,19.0s,baz=90,slow=33						
SKJI	**Sukabumi**	**39.93**	**266**	P	P	23 59 32.7	+5.9
	comp=Z,211nm,0.7s						
JSU	**Suzuyama**	**40.40**	**338**	P	**P**	**23 59 29.3**	**-1.0**
PPBI	**Pangkal Pinang**	**40.67**	**274**	P	P	23 59 47.1	+14
KNMB	**Chin-men Tao**	**40.98**	**319**	P	**P**	**23 59 35.8**	**+0.6**
KNMB				IAmb	IAmb	23 59 38.3	
	comp=Z,77nm,1.1s						
QZH	**Quanzhou**	**41.18**	**319**	⇑*i*P	**P**	**23 59 36.8**	**0.0**
QZH				*e*S	**S**	**00 05 49.4**	**+2.6**
QZH				pmax	pmax		
	comp=Z,35nm,0.8s						
HIZ	**Hauiti**	**41.20**	**146**	P	**P**	**23 59 39.2**	**+2.3**
JMN	**Monobe**	**41.34**	**344**	IAm

XAN pmax pmax
comp=Z,150nm,3.9s
XAN LR LR
comp=Z,130nm,19.9s
XAN LR LR
comp=Z,140nm,18.3s
XAN LR LR
comp=Z,270nm,23.9s
BJT Baijiatuau 53.75 331 P P 00 01 13.8 -0.5
BJT pmax pmax
comp=Z,20nm,0.9s
BJT Baijiatuau 53.75 331 P P 00 01 13.8 -0.5
BJT IAmb IAmb 00 01 15.8
comp=Z,20nm,0.9s
BJI Beijing 53.77 331 P P 00 01 14.0 -0.3
BJI pmax pmax
comp=Z,29nm,1.4s
MHMT Maesarieng 53.80 298 P P 00 01 16.9 +1.9
comp=Z,28nm,0.7s
MHMT Maesarieng 53.80 298 P P 00 01 16.9 +1.9
CD2 Chengdu 55.08 314 P P 00 01 24.1 -0.1
CD2 pmax pmax
comp=Z,30nm,1.2s
KLR Kul'dur 56.53 348 P P 00 01 34.6 +0.5
comp=Z,3.1nm,0.5s,baz=200,slow=5.0,SNR=13
KLR LR LR 00 25 01.7
comp=Z,87nm,18.1s,baz=182,slow=35
KLR Kul'dur 56.53 348 *i* P **P 00 01 33.1 -1.0**
KLR pmax pmax
comp=Z,7.0nm,1.0s
BTO Baotou 57.33 327 *e*P **P 00 01 41.1 +1.0**
LZH Lanzhou 58.03 319 ⇑P **P 00 01 45.8 +0.6**
LZH pP pP 00 01 52.0 -7.5
LZH sP sP 00 01 55.4 -10
LZH pmax pmax
comp=Z,38nm,1.3s
LZH pmax pmax
comp=Z,160nm,6.2s
LZH LR LR
comp=Z,200nm,16.2s
LZH LR LR
comp=Z,200nm,16.0s
LZH LR LR
comp=Z,160nm,17.8s
PEA0B Petropavlovsk- 59.60 8 *ce*P **P 00 01 56.7 +1.2**
PEA0B Petropavlovsk- 59.60 8 P **P 00 01 56.0 +0.5**
PETK Petropavlovsk- 59.60 8 P **P 00 01 56.0 +0.4**
comp=Z,23nm,1.0s,baz=191,slow=5.6,SNR=8.9
PETK LR LR 00 23 18.0
comp=Z,424nm,22.0s,baz=195,slow=32
PETK Petropavlovsk- 59.60 8 P **P 00 01 55.9 +0.4**
HIA Hailar 59.85 340 P **P 00 01 57.7 +0.3**
HIA pmax pmax
comp=Z,53nm,1.2s
HIA Hailar 59.85 340 P **P 00 01 57.7 +0.3**
ZEA Zeya 61.73 347 *e*P **P 00 02 10.3 +0.3**
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,20nm,1.0s
SHL Shillong 61.80 303 P **P 00 02 10.8 -0.5**
SHL pmax pmax
comp=Z,18nm,0.7s
SHL Shillong 61.80 303 P **P 00 02 10.8 -0.5**
SHL IAmb IAmb 00 02 12.1
comp=Z,18nm,0.7s
GTA Gaotai 62.57 320 ⇑P **P 00 02 16.4 +0.3**
GTA pP pP 00 02 20.8 -10
GTA sP sP 00 02 24.8 -12
GTA pmax pmax
comp=Z,10.0nm,0.9s
PPT Papeete 63.15 107 LR LR 00 27 11.5
comp=Z,65nm,18.8s,baz=232,slow=34
PPT2 Papeete2 63.15 107 *e*S **S 00 10 48.3 +0.1**
comp=Z,56nm,24.2s
PPT2 Papeete2 63.15 107 *e*LR LR 00 21 15.7
comp=Z,301nm,23.8s
AMKA Amchitka 63.60 22 P **P 00 02 23.7 +1.2**
TBI Tubuai 63.61 113 *e*S **S 00 10 55.4 +1.7**
comp=Z,198nm,24.0s
TBI Tubuai 63.61 113 *e*LR LR 00 21 27.3
comp=Z,373nm,31.0s
ULN Ulaanbaatar 63.98 331 P **P 00 02 25.9 +0.7**
ULN pmax pmax
comp=Z,24nm,1.0s
ULN Ulaanbaatar 63.98 331 P **P 00 02 25.9 +0.7**
ULN IAmb IAmb 00 02 28.1
comp=Z,24nm,1.0s
ULN Ulaanbaatar 63.98 331 P **P 00 02 26.0 +0.7**
comp=Z,101nm,1.1s
LSA Lhasa 64.03 307 P **P 00 02 26.4 0.0**
LSA pmax pmax
comp=Z,7.0nm,0.7s
LSA Lhasa 64.03 307 P **P 00 02 26.4 0.0**
SONM Songino Array 64.27 331 P **P 00 02 25.3 -1.9**
comp=Z,4.5nm,0.4s,baz=144,slow=5.4,SNR=38
SONM PKPPKP **P'P'df 00 31 16.1 +0.1**
comp=Z,2.0nm,0.8s,baz=122,slow=1.9,SNR=4.0
SONM PKP2bc 00 31 22.2
comp=Z,2.0nm,0.9s,baz=296,slow=2.3,SNR=8.4
SONM LR LR 00 31 41.8
comp=Z,132nm,19.2s,baz=130,slow=37
SONM Songino Array 64.27 331 P **P 00 02 27.2 0.0**
SONM pmax pmax
comp=Z,42nm,1.5s
SONM Songino Array 64.27 331 P **P 00 02 27.2 0.0**
SONM IAmb IAmb 00 02 29.2
comp=Z,42nm,1.5s
KIWB Kanaga Island 65.35 24 P **P 00 02 34.8 +0.9**
PALK Pallekele 67.19 280 P **P 00 02 46.1 -0.5**
comp=Z,17nm,1.0s,baz=251,slow=10,SNR=4.1
ZAK Zakamensk 67.51 332 *e*P **P 00 02 46.4 -1.5**
ZAK pmax pmax
comp=Z,30nm,1.3s
ZAK pmax pmax
comp=Z,5.0nm,1.4s
SEY Seymchan 68.86 3 P **P 00 02 55.6 -0.3**
comp=Z,13nm,1.0s,baz=188,slow=9.4,SNR=12
SEY LR LR 00 29 01.3
comp=Z,157nm,21.9s,baz=172,slow=32
YAK Yakutsk 69.09 351 LR LR 00 31 47.6
comp=Z,90nm,21.6s,baz=96,slow=35
YAK Yakutsk 69.09 351 *e*P **P 00 02 56.6 -0.8**
YAK *e**PP **pP 00 03 10.7 -1.3**
YAK *e* 00 03 21.1
YAK *e* 00 05 29.4
YAK *e*PPP PPP 00 07 12.1
YAK *e*S **S 00 11 59.4 +0.8**
YAK *e**SS **sS 00 12 20.5 -1.8**
YAK *e* 00 12 49.5
YAK *e*SS **SS 00 16 27.2 +1.5**
YAK pmax pmax
comp=Z,26nm,1.2s
YAK pmax pmax
comp=N,12nm,1.2s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,75nm,2.9s
YAK pmax pmax
comp=N,46nm,2.1s
YAK pmax pmax
comp=E,28nm,2.0s
YAK smax smax
comp=N,39nm,2.3s
YAK smax smax
comp=E,34nm,2.0s
VNDA Vanda 71.94 177 P **P 00 03 14.4 -0.2**
comp=E,13nm,0.6s,baz=322,slow=6.6,SNR=49
VNDA LR LR 00 33 30.5
comp=E,218nm,18.1s,baz=350,slow=35
SBA Scott Base 72.59 176 P **P 00 03 19.4 +0.9**
SBA pmax pmax
comp=Z,11nm,1.1s
SBA Scott Base 72.59 176 P **P 00 03 19.4 +0.9**
WMQ Urumqi 72.61 319 *e*P **P 00 03 19.7 +0.4**
WMQ pmax pmax
comp=Z,29nm,0.7s
WMQ pmax pmax
comp=Z,150nm,4.7s
BILL Bilibino 75.13 7 ⇓*e*P **P 00 03 34.1 +0.7**
BILL *i* S **S 00 13 13.0 +5.3**
BILL pmax pmax
comp=Z,26nm,1.2s
BILL MLR MLR
comp=Z,154nm,18.0s

DGZ Jazzator, Alta 75.47 325 *i* P **P 00 03 34.9 -1.1**
DGZ pmax pmax
comp=Z,2.0nm,0.3s
ZSN Zaisan 75.99 322 *e*P **P 00 03 36.9 -1.9**
baz=322
ZSN Zaisan 75.99 322 *e*P **P 00 03 36.9 -1.9**
MK31 Makanchi Array 77.33 321 P **P 00 03 45.5 -0.9**
MK31 pmax pmax
comp=Z,8.0nm,1.1s
MK31 Makanchi Array 77.33 321 P **P 00 03 45.5 -0.9**
MKAR Makanchi Array 77.33 321 P **P 00 03 45.7 -0.7**
comp=Z,3.0nm,0.5s,baz=99,slow=8.7,SNR=22
MAKZ Makanchi 77.53 320 P **P 00 03 46.9 -0.6**
MAKZ pmax pmax
comp=Z,11nm,1.0s
MAKZ Makanchi 77.53 320 P **P 00 03 46.9 -0.6**
SHLS Shalkode 77.85 316 *e*P **P 00 03 46.7 -2.8**
comp=Z,11nm,1.2s,baz=316
SHLS Shalkode 77.85 316 *e*P **P 00 03 46.7 -2.8**
SHLS pmax pmax
comp=Z,11nm,1.2s
UZB Uzynbulak 78.15 316 *e*P **P 00 03 50.3 -0.9**
comp=Z,3.9nm,0.5s,baz=316
UZB Uzynbulak 78.15 316 *e*P **P 00 03 50.3 -0.9**
UZB pmax pmax
comp=Z,4.0nm,0.5s
PRZ Przheval'sk 78.36 315 P **P 00 03 52.4 -0.1**
PRZ pmax pmax
comp=Z,18nm,0.8s
PRZ Przheval'sk 78.36 315 P **P 00 03 52.4 -0.1**
PRZ IAmb IAmb 00 03 54.0
comp=Z,18nm,0.8s
TIXI Tiksi 78.37 354 P **P 00 03 50.2 -1.4**
comp=Z,16nm,1.0s,baz=151,slow=3.7,SNR=9.3
TIXI Tiksi 78.37 354 *ce*P **P 00 03 51.0 -0.6**
TIXI Tiksi 78.37 354 P **P 00 03 50.2 -1.4**
KPKS Kokpek 78.49 316 *e*P **P 00 03 50.5 -2.6**
baz=316
KPKS Kokpek 78.49 316 *e*P **P 00 03 50.4 -2.6**
SATY Saty 78.54 316 *e*P **P 00 03 51.6 -1.9**
baz=316
SATY Saty 78.54 316 *e*P **P 00 03 51.5 -1.9**
ZALV Zalesovo Beam 78.86 328 P **P 00 03 52.9 -1.8**
comp=Z,4.2nm,0.5s,baz=106,slow=6.1,SNR=15
ZALV PKKPbc **PKKPbc 00 22 49.1 -1.7**
comp=Z,1.2nm,0.5s,baz=318,slow=1.3,SNR=6.3
ZALV LR LR 00 37 47.4
comp=Z,210nm,21.7s,baz=118,slow=35
KSH Kashi 79.18 312 P **P 00 03 57.8 +0.9**
KSH PcP **PcP 00 04 05.7 +0.6**
KSH pmax pmax
comp=Z,8.0nm,1.4s
MDOK Medeo 79.52 316 *e*P **P 00 03 55.9 -2.9**
baz=316
MDOK Medeo 79.52 316 *e*P **P 00 03 55.8 -2.9**
CHKK Chushkaly 79.78 316 *e*P **P 00 03 58.2 -1.8**
baz=316
MTBS Maitube 79.94 316 *e*P **P 00 03 59.2 -1.7**
baz=316
KDAK Kodiak Island 80.01 28 P **P 00 03 59.8 -1.0**
comp=Z,53nm,1.3s,baz=234,slow=7.0,SNR=4.8
KDAK Kodiak Island 80.01 28 P **P 00 04 01.7 +0.9**
KDAK pmax pmax
comp=Z,49nm,1.4s
KDAK Kodiak Island 80.01 28 P **P 00 04 01.7 +0.9**
KDAK IAmb IAmb 00 04 04.2
comp=Z,49nm,1.4s
KDAK Kodiak Island 80.01 28 P **P 00 04 01.7 +0.9**
baz=242
Q19K Cape Douglas, 80.08 27 P **P 00 04 02.3 +1.1**
Q19K Cape Douglas, 80.08 27 P **P 00 04 01.2 0.0**
baz=241
KUU Kurty 80.24 316 *e*P **P 00 04 01.1 -1.3**
comp=Z,21nm,1.1s,baz=316
KUU Kurty 80.24 316 *e*P **P 00 04 01.1 -1.3**
KUU pmax pmax
comp=Z,21nm,1.1s
SVW2 Sparrevohn 80.34 25 P **P 00 04 04.1 +1.5**
SVW2 IAmb IAmb 00 04 06.0
comp=Z,17nm,0.9s
KZA Kyzart 80.45 314 P **P 00 04 04.1 0.0**
SNR=7.0
TKM2 Tomak 2 80.46 315 P **P 00 04 03.4 -0.5**
SNR=9.9
P19K Oil Pt 80.62 26 P **P 00 04 03.9 -0.2**
baz=241
N19K Bonanza Creek 80.65 25 P **P 00 04 04.9 +0.5**
N19K IAmb IAmb 00 04 06.0
comp=Z,19nm,1.1s
N19K Bonanza Creek 80.65 25 P **P 00 04 05.0 +0.6**
baz=240,SNR=6.4
UCH Uchor 81.02 314 P **P 00 04 07.3 +0.1**
SNR=8.1
KURK Kurchatov 81.05 323 P **P 00 04 05.3 -1.2**
KURK Kurchatov 81.05 323 P **P 00 04 05.3 -1.2**
KURBB Kurchatov Arra 81.07 323 P **P 00 04 05.3 -1.3**
comp=Z,3.3nm,0.8s,baz=108,slow=4.5,SNR=12
AAK Ala-Archa 81.15 315 P **P 00 04 06.8 -0.7**
comp=Z,3.2nm,0.7s,baz=123,slow=4.2,SNR=8.0
AAK Ala-Archa 81.15 315 *ce*P **P 00 04 07.4 -0.1**
AAK pmax pmax
comp=Z,31nm,1.6s
AAK Ala-Archa 81.15 315 P **P 00 04 07.5 -0.1**
L19K White Mountain 81.20 24 IAmb IAmb 00 04 10.4
comp=Z,14nm,0.8s
L19K White Mountain 81.20 24 P **P 00 04 08.3 +1.1**
baz=239,SNR=9.9
SGDS Sogindy 81.29 315 *e*P **P 00 04 06.0 -2.2**
baz=316
USP Ospenovka 81.33 315 P **P 00 04 07.8 -0.5**
SNR=9.2
HOM Homer 81.33 27 P **P 00 04 08.2 +0.4**
baz=242
AML Almayashu 81.58 314 P **P 00 04 10.5 +0.3**
SNR=9.8
EKS2 Erkin-Say 81.67 315 P **P 00 04 10.1 -0.1**
SNR=9.5
L20K Farewell, AK 81.75 24 P **P 00 04 11.1 +1.0**
baz=240,SNR=5.2
M20K Styx River 81.75 25 P **P 00 04 10.8 +0.6**
baz=241
RDOG Red Dog Mine 81.81 17 P **P 00 04 13.1 +2.9**
baz=231
K20K Telida 82.11 23 IAmb IAmb 00 04 14.0
comp=Z,14nm,0.9s
K20K Telida 82.11 23 P **P 00 04 12.8 +0.8**
baz=240,SNR=6.9
BTLS Baital 82.14 317 *e*P **P 00 04 11.2 -1.3**
baz=317
BTLS Baital 82.14 317 *e*P **P 00 04 11.1 -1.4**
MAW Mawson 82.16 203 P **P 00 04 11.5 -0.7**
comp=Z,9.6nm,1.0s,baz=85,slow=5.6,SNR=12
MAW LR LR 00 39 46.7
comp=Z,221nm,19.6s,baz=62,slow=35
MAW Mawson 82.16 203 P **P 00 04 11.7 -0.4**
MAW pmax pmax
comp=Z,3.0nm,1.0s
MAW Mawson 82.16 203 P **P 00 04 11.7 -0.4**
J20K Nowinta River 82.50 22 IAmb IAmb 00 04 16.0
comp=Z,19nm,1.1s
J20K Nowinta River 82.50 22 P **P 00 04 14.9 +0.9**
baz=239,SNR=9.5
SEW Seward 82.52 27 P **P 00 04 14.8 +0.7**
baz=244
RC01 Rabbit Creek A 82.82 26 P **P 00 04 15.4 -0.3**
baz=244
CAST Castle Rocks 82.92 23 P **P 00 04 16.1 -0.1**
baz=241
CHUM Lake Minchumin 83.06 23 P **P 00 04 17.7 +0.8**
baz=241
PMR Palmer 83.31 26 P **P 00 04 18.0 -0.1**
baz=244
KBL Kabul 83.31 306 P **P 00 04 17.6 -1.5**
KBL pmax pmax
comp=Z,7.0nm,1.0s
KBL Kabul 83.31 306 P **P 00 04 17.6 -1.5**
KNK Knik Glacier 83.52 26 P **P 00 04 19.6 +0.3**
baz=245
BPAW Bear Paw Mtn. 83.68 23 P **P 00 04 19.8 -0.3**
baz=242
SML Sawmill 83.74 26 P **P 00 04 20.4 -0.1**
baz=245
I21K Tanana 83.81 22 P **P 00 04 21.5 +0.9**
baz=241,SNR=7.4
QSPA South Pole Qui 83.98 180 P **P 00 04 21.2 -0.6**
comp=Z,13nm,0.7s,baz=199,slow=0.6,SNR=72
QSPA South Pole Qui 83.98 180 P **P 00 04 21.6 -0.2**

QSPA IAmb IAmb 00 04 32.8
comp=Z,16nm,0.8s
WAT1 Susitna Watana 84.09 25 P **P 00 04 21.7 -0.5**
baz=245
CHGR Chuyangaron 84.09 310 IAmb IAmb 00 04 24.5
comp=Z,13nm,0.7s
KK31 Karatay Array 84.10 314 IAmb IAmb 00 04 23.0
comp=Z,16nm,1.2s
MLY Manley 84.20 22 IAmb IAmb 00 04 23.9
comp=Z,17nm,0.8s
MLY Manley 84.20 22 P **P 00 04 23.0 +0.2**
baz=242,SNR=21
IUG Iuzhnay 84.22 313 *e*P **P 00 04 21.7 -1.8**
baz=313
IUG Iuzhnay 84.22 313 *e*P **P 00 04 21.6 -1.8**
MCK McKinley 84.32 24 P **P 00 04 22.9 -0.4**
baz=244
WAT6 Susitna Watana 84.32 25 P **P 00 04 23.1 -0.4**
baz=246
BRZS Berezniki 84.42 321 *e*P **P 00 04 22.9 -1.3**
comp=Z,10nm,1.3s,baz=321
BRZS Berezniki 84.42 321 *e*P **P 00 04 22.8 -1.3**
BRZS pmax pmax
comp=Z,10.0nm,1.3s
NEA2 Nenana 84.64 23 P **P 00 04 24.5 -0.4**
baz=244
KLU Klutina 84.67 26 P **P 00 04 25.6 +0.4**
baz=247
DHY Denali Highway 84.68 25 P **P 00 04 25.6 +0.2**
baz=246
I23K Minto, Yukon-K 84.78 22 P **P 00 04 25.6 0.0**
baz=244
M24K Tolsona, Glenn 84.80 26 P **P 00 04 26.6 +0.8**
baz=247
H23K Yukon River 85.01 22 IAmb IAmb 00 04 28.1
comp=Z,9.2nm,0.8s
H23K Yukon River 85.01 22 P **P 00 04 27.1 +0.3**
baz=244,SNR=6.5
BMRM Bremner River 85.06 27 P **P 00 04 27.2 0.0**
baz=248
TCOL CIGO, UAF Yank 85.23 23 P **P 00 04 27.6 -0.3**
baz=245
N25K Chitina, Valde 85.30 27 P **P 00 04 29.0 +0.6**
baz=248
COLD Coldfoot 85.41 20 IAmb IAmb 00 04 30.0
comp=Z,12nm,1.0s
COLD Coldfoot 85.41 20 P **P 00 04 29.7 +0.9**
baz=243
PAX Paxson 85.43 25 P **P 00 04 29.0 0.0**
baz=248
ILAR Eielson Array 85.57 23 P **P 00 04 28.4 -1.1**
comp=Z,13nm,0.7s,baz=252,slow=5.1,SNR=63
ILAR LR LR 00 38 47.5
comp=Z,162nm,21.4s,baz=262,slow=33
H24K Noodor Dome 85.64 22 P **P 00 04 30.0 +0.1**
baz=245,SNR=5.6
RIDG Independent Ri 85.99 24 P **P 00 04 31.5 -0.2**
baz=248
J25K Salcha River, 86.11 24 P **P 00 04 32.0 -0.3**
baz=248
L26K Log Cabin Wild 86.36 25 P **P 00 04 34.0 +0.5**
baz=249
SCRK Sand Creek 86.43 24 P **P 00 04 33.7 -0.3**
baz=249
CTG Chitna Glacier 86.55 28 P **P 00 04 34.2 -0.5**
baz=251
BVAR Borovoye Array 86.61 324 P **P 00 04 32.9 -2.0**
comp=Z,2.4nm,0.5s,baz=148,slow=5.7,SNR=18
BRVK Borovoye 86.68 324 *e*P **P 00 04 33.0 -2.3**
BRVK pmax pmax
comp=Z,5.0nm,0.9s
M27K Edge Creek, AK 86.76 26 P **P 00 04 36.4 +0.7**
baz=251
J26L Joseph Creek 86.79 24 P **P 00 04 36.1 +0.4**
baz=249
FYU Fort Yukon 86.91 22 IAmb IAmb 00 04 38.4
comp=Z,23nm,1.0s
L27K Beaver Creek, 87.02 26 IAmb IAmb 00 04 40.4
comp=Z,13nm,1.1s
L27K Beaver Creek, 87.02 26 P **P 00 04 37.3 +0.5**
baz=251
BVCY Beaver Creek 87.23 26 P **P 00 04 38.7 +0.9**
baz=252
K27K Chicken 87.24 25 P **P 00 04 38.5 +0.8**
baz=250
EGAK Eagle 87.86 24 P **P 00 04 41.2 +0.5**
baz=251,SNR=9.7
HYT Haines Junctio 88.30 28 P **P 00 04 43.6 +0.5**
baz=255,SNR=7.4
DAWY Dawson 88.37 25 P **P 00 04 44.0 +0.8**
baz=253,SNR=17
EPYK Eagle Plains 90.09 23 P **P 00 04 51.4 +0.1**
baz=255
SYO Syowa Base 90.52 200 ⇑*e*X **P 00 04 52.0 -1.1**
SYO Syowa Base 90.52 200 ‖*e*PcP **PcP 00 04 56.0 +1.8**
WSAR Wadi Sarin 90.60 293 P **P 00 04 52.9 -1.6**
comp=Z,3.3nm,0.7s,baz=151,slow=7.0,SNR=4.4
GEYT Alibeck 92.55 308 LR LR 00 51 25.3
comp=Z,24nm,18.4s,baz=150,slow=39
O02D Mt. Diablo Mer 94.18 50 P **P 00 05 12.4 +1.6**
baz=266
M02C Callahan 94.22 49 P **P 00 05 11.8 +0.9**
baz=266
HUMO Hull Mountain 94.23 48 P **P 00 05 10.3 -0.7**
HUMO IAmb IAmb 00 05 14.5
comp=Z,12nm,1.3s
N02D Trinity Center 94.30 49 P **P 00 05 12.3 +1.0**
baz=266
YBH Yreka Blue Hor 94.35 49 P **P 00 05 11.7 +0.1**
comp=Z,7.7nm,1.1s,baz=138,slow=6.0,SNR=5.9
YBH Yreka Blue Hor 94.35 49 P **P 00 05 13.4 +1.8**
YBH IAmb IAmb 00 05 13.7
comp=Z,13nm,1.3s
WDC Whiskeytown Da 94.39 50 P **P 00 05 12.8 +1.1**
WDC pmax pmax
comp=Z,11nm,1.3s
WDC Whiskeytown Da 94.39 50 P **P 00 05 12.8 +1.1**
WDC IAmb IAmb 00 05 24.1
comp=Z,11nm,1.3s
O03E Paynes Creek 94.94 50 P **P 00 05 14.7 +0.4**
baz=266
M04C Macdoel 95.00 49 P **P 00 05 15.1 +0.5**
baz=266
LLLB Lillooet 95.46 40 IAmb IAmb 00 05 18.9
comp=Z,9.7nm,1.3s
J05D Fort Rock, OR 95.53 47 P **P 00 05 16.9 -0.2**
baz=267
BELA Belgrano 2 96.25 180 P **P 00 05 18.7 -0.8**
BELA IAmb IAmb 00 05 20.0
comp=Z,11nm,1.0s
HAWA Hanford 96.86 44 P **P 00 05 23.4 +0.5**
HAWA IAmb IAmb 00 05 24.8
comp=Z,5.7nm,0.9s
B08A Colville Reser 97.04 42 IAmb IAmb 00 05 26.6
comp=Z,4.2nm,0.8s
NVAR Mina Array Bea 97.56 52 P Pdif 00 05 26.6 0.0
comp=Z,1.6nm,0.8s,baz=262,slow=5.6,SNR=11
NVAR LR LR 00 46 36.4
comp=Z,132nm,18.3s,baz=273,slow=34
EDW2 Edwards Air Fo 97.70 56 P Pdif 00 05 28.5 +1.5
baz=268
MPMC Manual Prospec 98.15 55 P Pdif 00 05 30.3 +1.2
baz=269
NEW Newport 98.52 42 IAmb IAmb 00 05 33.4
comp=Z,4.7nm,0.8s
NEW Newport 98.52 42 Pdiff Pdif 00 05 31.1 +0.8
baz=271
FURC Furnace Creek, 98.66 54 Pdiff Pdif 00 05 32.6 +1.5
baz=269
MONP2 Monument Peak 98.95 58 Pdiff Pdif 00 05 33.9 +1.1
baz=269
TPNV Topopah Spring 99.16 54 Pdiff **Pdif 00 05 34.7 +1.1**
baz=269
YKA Yellowknife Ar 99.28 28 LR LR 00 46 55.4
comp=Z,56nm,21.2s,baz=0.0,slow=33
R11A Troy Canyon, C 99.70 52 Pdiff **Pdif 00 05 36.1 +0.1**
baz=270
SNAA Sanae 99.97 189 P **Pdif 00 05 36.2 -0.1**
HLID Hailey 100.50 47 Pdiff **Pdif 00 05 40.2 +0.7**
baz=272
SPR3 Spring Creek 3 100.67 52 Pdif **Pdif 00 05 41.2 +0.8**
VNA2 Neumayer--Watz 101.33 188 P **Pdif 00 05 42.3 0.0**
baz=147,slow=3.7
VNA3 Neumayer Olymp 101.35 188 P **Pdif 00 05 42.0 -0.4**
VNA1 Neumayer--Stat 101.70 188 P **Pdif 00 05 44.0 +0.1**
HVU Hansel Valley 101.78 49 P **Pdif 00 05 46.7 +1.6**
HVU Hansel Valley 101.78 49 Pdif **Pdif 00 05 46.7 +1.6**

PDAR Pinedale Array 104.10 48 Pdiff **Pdif** 00 05 55.3 -0.2
comp=Z,0.4nm,0.5s,baz=252,slow=4.4,SNR=6.2
ARCES ARCESS Array B 106.17 342 Pdiff **Pdif** 00 06 02.5 -1.3
comp=Z,4.6nm,1.0s,baz=66,slow=9.0,SNR=7.1
ARCES PKKPbc **PKKPbc** 00 21 35.9 -3.9
comp=Z,2.9nm,0.9s,baz=267,slow=1.8,SNR=9.0
FINES FINESS Array B 109.55 334 Pdiff **Pdif** 00 06 19.4 +0.4
comp=Z,0.6nm,0.6s,baz=72,slow=6.8,SNR=5.2
FINES PKiKP **PKiKP** 00 10 22.4 +0.7
comp=Z,1.7nm,0.9s,baz=90,slow=1.4,SNR=3.5
FINES PKKPbc **PKKPbc** 00 21 26.9 -1.9
comp=Z,0.6nm,0.8s,baz=318,slow=2.6,SNR=3.4
TXAR Lajitas Array 109.98 61 PKKPbc PKKPbc 00 21 24.1 -2.5
comp=Z,0.2nm,0.6s,baz=127,slow=6.0,SNR=2.0
AKASG Malin Array Be 111.85 323 PP **PP** 00 11 08.8 -0.8
comp=Z,1.1nm,0.7s,baz=55,slow=6.6,SNR=6.6
BOSA Boshof 114.04 235 PKiKP **PKiKP** 00 10 31.7 +0.2
comp=Z,1.5nm,0.6s,baz=69,slow=0.8,SNR=11
U40A Yellville 117.87 52 P **PKPdf** 00 10 37.2 -1.3
baz=284
CCM Cathedral Cave 118.67 50 P **PKiKP** 00 10 40.0 0.0
baz=286
CLL Collm 120.82 328 *i* PKiKP **PKPdf** 00 10 42.9 -0.7
CLL *e*PS **PS** 00 22 00.0 -4.5
CLL *e*(SS) 00 29 18.0
CLL *e*SSS SSS 00 33 24.0
CLL Lm MLR 01 03 00.0
comp=Z,200nm,21.3s
CLL Collm 120.82 328 *i* PKiKP **PKPdf** 00 10 42.9 -0.7
GERES GERESS Array B 121.75 325 PKP **PKPdf** 00 10 43.9 -1.8
comp=Z,0.5nm,0.5s,baz=79,slow=2.9,SNR=6.2
GERES PKKP **PKKPdf** 00 21 19.9 -1.4
comp=Z,0.4nm,0.7s,baz=132,slow=2.0,SNR=3.5
PLCA Paso Flores 122.27 147 PKP **PKiKP** 00 10 47.6 +0.5
comp=Z,9.4nm,0.7s,baz=198,slow=1.0,SNR=18
PLCA Paso Flores 122.27 147 PKPdf **PKiKP** 00 10 47.8 +0.8
LRAL Lakeview Retre 123.39 54 PKPdf **PKPdf** 00 10 48.3 -0.8
TSUM Tsumeb 124.03 242 PKPdf **PKiKP** 00 10 51.8 +0.6
AC02 Maricunga 132.35 135 PKPdf **PKiKP** 00 11 08.8 +0.7
LVC Limon Verde 135.01 130 PKiKP **PKiKP** 00 11 14.0 +0.6
LVC Limon Verde 135.01 130 PKPdf **PKiKP** 00 11 14.0 +0.6
LPAZ La Paz 139.01 123 PKhKP PKPpre 00 11 12.4
comp=Z,4.6nm,0.7s,baz=249,slow=4.7,SNR=6.8
LPAZ PKP **PKPdf** 00 11 20.6 +0.8
comp=Z,17nm,0.8s,baz=330,slow=2.4,SNR=28
ROSC El Rosal 139.11 90 PKhKP PKPpre 00 11 13.4
comp=Z,19nm,0.5s,baz=168,slow=22,SNR=7.1
ROSC PKP **PKPdf** 00 11 19.3 -0.5
comp=Z,15nm,0.6s,baz=253,slow=15,SNR=4.7
ROSC El Rosal 139.11 90 PKPpre 00 11 15.1
ROSC PKPdf **PKPdf** 00 11 20.1 +0.3
CPUP Villa Florida 140.29 145 PKhKP PKPpre 00 11 16.7
comp=Z,22nm,1.1s,baz=243,slow=4.0,SNR=4.4
CPUP PKP **PKPdf** 00 11 20.1 -1.1
comp=Z,22nm,1.1s,baz=225,slow=3.3,SNR=11
SDV Santo Domingo 142.84 83 PKPdf **PKPdf** 00 11 24.3 -2.0
TORD Torodi Ar. Bea 144.84 284 PKP **PKPab** 00 11 28.3 -0.3
comp=Z,35nm,0.8s,baz=65,slow=3.5,SNR=129
MLPR Magueyes Islan 144.94 67 **PKPab** 00 11 28.2 -0.6
AQDB Aquidauana 145.68 141 PKPdf **PKPdf** 00 11 30.9 +0.1
KOWA Kowa 150.04 289 **PKPbc** 00 11 42.8 -0.3
KIC Kosan Boka 151.65 272 *e*PKP1 **PKiKP** 00 11 48.2 +0.8
comp=Z,105nm,0.7s
DBIC Dimbokro 151.76 273 PKPbc **PKPbc** 00 11 47.3 +0.1
comp=Z,52nm,0.6s,baz=94,slow=2.1,SNR=118
DBIC Dimbokro 151.76 273 **PKiKP** 00 11 47.5 -0.1
DBIC **pPKPdf** 00 11 57.0 0.0
TIC Toumodi 151.93 273 *e*PKP1 **PKiKP** 00 11 48.8 +0.8
LIC Lamto 151.93 272 *e*PKP1 **PKiKP** 00 11 47.8 -0.1
comp=Z,292nm,0.9s
BDFB Brasilia 154.01 146 PKP **PKPdf** 00 11 44.3 +0.2
comp=Z,12nm,0.7s,baz=286,slow=0.4,SNR=15
BDFB PKPbc **PKiKP** 00 11 52.4 +0.1
comp=Z,18nm,0.5s,baz=226,slow=0.4,SNR=29
BDFB Brasilia 154.01 146 PKPbc **PKiKP** 00 11 52.7 +0.4

*IDC **11** 23:56:57.9±1.1,26°.29N×88°.89E, h0km, mb3.8/11, mb1 3.9/11,mb1mx3.6/59, mbtmp3.8/11, MS4.0/2, Ms1 3.9/2,ms1mx2.8/57 Error ellipse: s-maj=71.8km s-min=18.2km az=57.0*
*NEIC **11** 23:56:59.4±1.8,26°.1N±0°.1×89°.56E±0°.04, h18km±6km, mb4.0/15, Error ellipse: s-maj=17.9km s-min=4.6km az=190.0*
*DMN **11** 23:57:03.6±0.7,26°.10N×89°.62E, h50km, Ml4.6/2, Error ellipse: s-maj=29.3km s-min=14.1km az=26.0*
ISC 11 23:56:56.2±1.6, 26°.10N±0°.07×89°.61E±0°.03, h6km±11km, n42, σ1°49/44, mb4.0/13, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	
						h m s	ISC
TAPN	**Taplejung**	**2.11**	**307**	*e*Pg		**Pg**	**23 57 37.0 +0.3**
TAPN				*e*Sg		**Sb**	**23 58 01.1 -0.5**
SHL	**Shillong**	**2.11**	**104**			**Pb**	**23 57 34.4 -0.7**
SHL				Sn		**Sn**	**23 57 59.8 +0.8**
SHL	**Shillong**	**2.11**	**104**	*e*PN		**Pg**	**23 57 37.0 +0.3**
SHL				*e*SN		**Sn**	**23 57 58.0 -1.0**
ODAN	**Odare**	**2.13**	**291**	*e*Pg		**Pg**	**23 57 36.2 -0.9**
ODAN				*e*Sg		**Sb**	**23 58 01.8 -0.4**
RAMN	**Ramite**	**2.83**	**288**	*e*Pg		**Pb**	**23 57 46.8 -0.5**
RAMN				*e*Sg		**Sn**	**23 58 18.5 +1.7**
553nm,0.3s							
JIRN	**Jiri**	**3.43**	**298**	*e*Pn		**Pb**	**23 57 54.8 -2.8**
JIRN				*e*Sn		**Sn**	**23 58 32.0 +0.3**
365nm,0.3s							
LSA	**Lhasa**	**3.84**	**20**			**Pn**	**23 57 59.1 +2.8**
PKI	**Pulchoki**	**4.03**	**292**	*e*Pn		**Pn**	**23 58 02.1 +3.3**
PKIN	**Phulchoki**	**4.04**	**292**	*e*Pn		**Pn**	**23 58 02.1 +3.2**
KKN	**Kakani**	**4.22**	**294**	*e*Pn		**Pn**	**23 58 05.5 +4.2**
HYB	**Hyderabad**	**13.42**	**232**	*e*S		**Sn**	**00 02 37.0 +0.1**
HYB				*i* P		**Pn**	**00 00 07.0 -0.3**
NIL	**Nilore**	**16.05**	**302**			**Pn**	**00 00 42.2 -0.4**
NIL					IAmb	IAmb	00 00 54.2
comp=Z,9.0nm,1.0s							
TARG	**Taragay, Kyrgy**	**18.38**	**331**	P		**P**	**00 01 13.3 +1.1**
TARG					IAmb	IAmb	00 01 28.7
comp=Z,5.7nm,0.8s							
XAN	**Xi'an**	**18.47**	**60**	P		**P**	**00 01 12.5 -0.4**
XAN	**Xi'an**	**18.47**	**60**	P		**P**	**00 01 12.5 -0.4**
XAN	**Xi'an**	**18.47**	**60**	P		**P**	**00 01 12.1 -0.8**
PRZ	**Przheval'sk**	**18.76**	**333**	P		**Pn**	**00 01 17.8 +1.3**
PRZ					IAmb	IAmb	00 01 30.5
comp=Z,11nm,0.6s							
KDJ	**Kajisay**	**18.98**	**331**	P		**P**	**00 01 17.4 -1.2**
BOOM	**Boomskoye usch**	**19.83**	**329**	P		**Pn**	**00 01 29.6 +0.2**
BOOM					IAmb	IAmb	00 02 01.2
comp=Z,10nm,1.4s							
DRK	**Karamyk**	**20.01**	**316**	P		**P**	**00 01 30.6 +0.7**
DRK					IAmb	IAmb	00 01 41.1
comp=Z,6.0nm,0.6s							
AAK	**Ala-Archa**	**20.63**	**327**	P		**P**	**00 01 33.4 -3.1**
comp=Z,0.8nm,0.6s,baz=166,slow=4.2,SNR=1.4							
AAK	**Ala-Archa**	**20.63**	**327**	P		**P**	**00 01 37.8 +1.2**
GAR	**Garm**	**20.68**	**313**	P		Pn	00 01 38.6 -0.8
GAR					IAmb	IAmb	00 01 43.3
comp=Z,4.8nm,0.7s							
CHGR	**Chuyangaron**	**21.28**	**311**	P		**P**	**00 01 44.6 +1.1**
CHGR					IAmb	IAmb	00 01 47.8
comp=Z,12nm,1.1s							
MK31	**Makanchi Array**	**21.46**	**346**	P		**P**	**00 01 45.3 0.0**
MK31					IAmb	IAmb	00 01 49.5
comp=Z,3.0nm,0.8s							
MKAR	**Makanchi Array**	**21.46**	**346**	P		**P**	**00 01 45.0 -0.2**
comp=Z,4.2nm,0.7s,baz=153,slow=11,SNR=23							
KURBB	**Kurchatov Arra**	**25.92**	**344**	P		**P**	**00 02 28.9 -0.1**
comp=Z,2.0nm,0.5s,baz=162,slow=9.0,SNR=11							
ZALV	**Zalesovo Beam**	**28.05**	**354**	P		**P**	**00 02 47.6 -0.5**
comp=Z,1.0nm,0.5s,baz=166,slow=8.2,SNR=4.6							
BVAR	**Borovoye Array**	**30.51**	**337**	P		**P**	**00 03 08.9 -1.0**
comp=Z,0.4nm,0.5s,baz=165,slow=6.0,SNR=1.8							
ABKAR	**Akbulak array**	**32.60**	**323**	P		**P**	**00 03 28.9 +0.5**
ABKAR					IAmb	IAmb	00 04 06.2
comp=Z,6.7nm,1.8s							
GNI	**Garni**	**39.69**	**302**	LR		LR	00 22 31.5
comp=Z,160nm,21.0s,baz=253,slow=39							
FINES	**FINESS Array B**	**54.81**	**328**	P		**P**	**00 06 26.3 -0.5**
comp=Z,0.8nm,0.5s,baz=88,slow=10.0,SNR=7.1							
FINES	**FINESS Array B**	**54.81**	**328**	P		**P**	**00 06 26.3 -0.5**
ARCES	**ARCESS Array B**	**56.79**	**338**	P		**P**	**00 06 41.0 +0.1**
comp=Z,3.5nm,1.0s,baz=102,slow=8.4,SNR=1.6							
GERES	**GERESS Array B**	**61.77**	**313**	P		**P**	**00 07 14.2 -1.5**
comp=Z,0.2nm,0.3s,baz=64,slow=8.9,SNR=2.4							
GERES	**GERESS Array B**	**61.77**	**313**	P		**P**	**00 07 14.7 -1.1**
GERES	**GERESS Array B**	**61.77**	**313**	P		**P**	**00 07 14.7 -1.1**
NOA	**NORSAR Array B**	**61.95**	**327**	P		**P**	**00 07 15.3 -1.4**
comp=Z,0.7nm,0.8s,baz=114,slow=6.3,SNR=2.9							
WRA	**Warramunga Arr**	**63.09**	**132**	P		P	00 07 31.7 +6.9
comp=Z,0.8nm,0.7s,baz=318,slow=6.5,SNR=4.9							
ASAR	**Alice Springs**	**65.45**	**135**	P		P	00 07 47.2 +7.0
comp=Z,0.5nm,0.7s,baz=320,slow=6.5,SNR=4.6							
SCHQ	**Schefferville**	**96.89**	**347**	LR		LR	01 01 12.0
comp=Z,80nm,20.5s,baz=1.5,slow=40							
TXAR	**Lajitas Array**	**123.43**	**14**	PKP		**PKPdf**	**00 15 55.0 -0.1**
comp=Z,0.2nm,0.7s,baz=347,slow=3.7,SNR=1.9							

*IDC **12** 00:01:58.1±0.7,52°.20N×169°.47W, h0km, mb4.2/28, mb1 4.4/30,mb1mx4.2/59, mbtmp4.2/30, ML4.1/1, MS3.7/2, Ms1 3.6/2,ms1mx2.9/48, Error ellipse: s-maj=20.4km s-min=12.9km az=175.0*
*NEIC **12** 00:02:00.1±2.5,52°.02N±0°.04×169°.54W±0°.09, h10km±1km, mb4.3/71, ML3.8(AEIC), Error ellipse: s-maj=9.4km s-min=7.1km az=291.0*
*AEIC **12** 00:02:01±3.1,52°.00N±0°.07×169°.47W±0°.09, h35km±6km, Error ellipse: s-maj=10.3km s-min=7.1km az=157.0*
*MOS **12** 00:02:01.1±1.1,52°.24N×169°.39W, h33km, mb4.7/11, Error ellipse: s-maj=14.4km s-min=8.7km az=104.9*
ISC 12 00:02:02.9±0.5, 52°.11N±0°.07×169°.54W±0°.04, h30km, n196, σ1°34/201, mb4.4/65, MS3.8/5, 10C-1D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	
						h m s	ISC
NIKH	**Nikolski High**	**0.96**	**26**			**Pn**	**00 02 19.8 -0.5**
NIKH						**Sb**	**00 02 34.6 +1.4**
OKSP	**Okmok Steeple**	**1.37**	**33**			**Pn**	**00 02 25.1 -1.0**
OKCE	**Okmok Cone E**	**1.56**	**32**			**Pn**	**00 02 28.7 +0.1**
OKTU	**Okmok Mt. Tuli**	**1.57**	**35**			**Pn**	**00 02 28.5 -0.2**
OKNC	**Okmok New Cone**	**1.60**	**32**			**Pn**	**00 02 29.7 +0.6**
OKFG	**Magazine Ridge**	**1.64**	**37**			**Pn**	**00 02 29.5 -0.1**
OKFG						**Sb**	**00 02 51.2 -1.4**
MAPS	**Pakushin South**	**2.31**	**42**			**Pn**	**00 02 38.9 0.0**
MAPS						**Sn**	**00 03 07.5 +1.1**
MSW	**Makushin Switc**	**2.46**	**42**			**Pn**	**00 02 41.0 +0.1**
MNAT	**Makushin Natee**	**2.48**	**43**			**Pn**	**00 02 41.5 +0.3**
UNV	**Unalaska Valle**	**2.53**	**45**			**Pn**	**00 02 41.7 -0.1**
UNV	**Unalaska Valle**	**2.53**	**45**			**Sn**	**00 03 12.9 +1.3**
KOFP	**Korovin Flat P**	**2.81**	**275**			**Pn**	**00 02 46.7 +0.9**
ATKA	**Atka Island**	**2.87**	**274**			**Pn**	**00 02 46.2 -0.3**
ATKA	**Atka Island**	**2.87**	**274**			**Sn**	**00 03 20.4 +0.4**
AKUT	**Akutan**	**3.04**	**47**			**Pn**	**00 02 50.0 +1.1**
GSTR	**Great Sitkin T**	**4.02**	**272**	Pn		**Pn**	**00 03 03.0 +0.6**
GSTD	**Great Sitkin T**	**4.07**	**272**			**Pn**	**00 03 03.9 +0.7**
GSTD						**Sn**	**00 03 52.1 +2.2**
ADK	**Adak**	**4.42**	**270**			**Pn**	**00 03 08.4 +0.5**
ADK						**Sn**	**00 03 59.5 +1.3**
FALS	**False Pass**	**4.58**	**51**	Pn		**Pn**	**00 03 13.4 +3.5**
KIWB	**Kanaga Island**	**4.71**	**270**	Pn		**Pn**	**00 03 13.0 +1.2**
SPIA	**Saint Paul Isl**	**5.09**	**356**			**Pn**	**00 03 19.8 +2.8**
TASE	**Tanaga Southea**	**5.26**	**270**			**Pn**	**00 03 20.5 +1.1**
SDPT	**Sand Point**	**6.28**	**55**	Pn		**Pn**	**00 03 33.2 -0.2**
CESW	**Semis' Southwe**	**6.73**	**272**			**Pn**	**00 03 41.2 +1.6**
AMKA	**Amchitka**	**6.97**	**268**			**Pn**	**00 03 43.7 +0.9**
CHGN	**Chignik**	**7.75**	**53**	Pn		**Pn**	**00 03 55.7 +2.2**
CHIR	**Chirikof Islan**	**9.00**	**60**	Pn		**Pn**	**00 04 12.5 +1.8**
OHAK	**Old Harbor**	**10.70**	**55**	Pn		**Pn**	**00 04 35.1 +1.1**
O18K	**Koktuh Hills**	**11.14**	**40**	Pn		**Pn**	**00 04 41.4 +1.4**
KDAK	**Kodiak Island**	**11.27**	**53**	Pn		**Pn**	**00 04 39.1 -2.6**
0.6nm,0.3s,baz=170,slow=4.0,SNR=11							
KDAK	**Kodiak Island**	**11.27**	**53**			**Pn**	**00 04 40.4 -1.3**
N19K	**Bonanza Creek**	**12.03**	**38**	Pn		**Pn**	**00 04 55.5 +3.4**
TTA	**Tatalina**	**13.02**	**28**	Pn		**Pn**	**00 05 05.9 +0.3**
J20K	**Nowinta River**	**14.51**	**28**	Pn		**Pn**	**00 05 28.6 +2.7**
PWL	**Port Wells**	**14.56**	**45**	Pn		**Pn**	**00 05 25.1 -1.5**
CAST	**Castle Rocks**	**14.60**	**32**	P		**P**	**00 05 32.4 -0.8**
KNK	**Knik Glacier**	**14.78**	**43**	Pn		**P**	**00 05 32.6 -2.6**
KTH	**Kantishna Hill**	**15.08**	**33**	Pn		**Pn**	**00 05 34.7 +1.1**
KTH					IAmb	IAmb	00 05 42.7
comp=Z,14nm,1.2s							
BPAW	**Bear Paw Mtn.**	**15.42**	**32**			**Pn**	**00 05 38.8 +0.8**
BPAW					IAmb	IAmb	00 05 43.6
comp=Z,17nm,1.1s							
SCM	**Sheep Creek Mo**	**15.45**	**42**	Pn		**Pn**	**00 05 37.6 -1.0**
SCM					IAmb	IAmb	00 05 45.2
comp=Z,37nm,1.2s							
I21K	**Tanana**	**15.88**	**28**			**Pn**	**00 05 45.1 +1.1**
I21K					IAmb	IAmb	00 05 51.7
comp=Z,17nm,1.1s							
KLU	**Klutina**	**15.89**	**45**	Pn		**Pn**	**00 05 42.1 -2.1**
KLU					IAmb	IAmb	00 05 48.1
comp=Z,18nm,1.1s							
M24K	**Tolsona, Glenn**	**16.06**	**42**	Pn		**Pn**	**00 05 45.0 -1.4**
M24K					IAmb	IAmb	00 06 01.8
comp=Z,30nm,1.1s							
DHY	**Denali Highway**	**16.07**	**38**	Pn		**Pn**	**00 05 45.0 -1.6**
MLY	**Manley**	**16.14**	**29**			**P**	**00 05 48.9 -1.4**
MLY					IAmb	IAmb	00 05 59.9
comp=Z,16nm,1.1s							
BMRM	**Bremner River**	**16.27**	**47**	Pn		**Pn**	**00 05 47.1 -1.9**
BMRM					IAmb	IAmb	00 05 53.8
comp=Z,28nm,1.4s							
NEA2	**Nenana**	**16.38**	**32**	Pn		**Pn**	**00 05 50.1 -0.2**
N25K	**Chitina, Valde**	**16.52**	**45**	Pn		**Pn**	**00 05 50.5 -1.7**
N25K					IAmb	IAmb	00 05 57.2
comp=Z,18nm,1.3s							
WRH	**Wood River Hil**	**16.63**	**34**	Pn		**Pn**	**00 05 53.6 +0.1**
I23K	**Minto, Yukon-K**	**16.65**	**31**			**P**	**00 05 55.2 -0.6**
PAX	**Paxson**	**16.77**	**40**	Pn		**Pn**	**00 05 54.1 -1.2**
GLB	**Gilahina Butte**	**16.80**	**46**	Pn		**Pn**	**00 05 54.0 -1.7**
GLB					IAmb	IAmb	00 06 13.1
comp=Z,18nm,1.3s							
CCB	**Clear Creek Bu**	**16.83**	**33**	Pn		**Pn**	**00 05 55.3 -0.7**
CRQM	**Cirque**	**16.86**	**49**	Pn		**Pn**	**00 05 55.6 -1.0**
CRQM					IAmb	IAmb	00 06 06.9
comp=Z,36nm,1.2s							
MDM	**Murphy Dome**	**16.89**	**32**	Pn		**Pn**	**00 05 56.5 -0.3**
WAX	**Waxell Ridge**	**16.90**	**50**			**P**	**00 05 59.0 +0.3**
WAX					IAmb	IAmb	00 06 03.2
comp=Z,75nm,1.5s							
H23K	**Yukon River**	**17.06**	**29**			**Pn**	**00 05 59.5 +0.6**
MCARA	**McCarthy VSAT**	**17.13**	**47**			**P**	**00 06 00.7 -0.5**
MCARA					IAmb	IAmb	00 06 17.7
comp=Z,13nm,0.8s							
ILAR	**Eielson Array**	**17.22**	**34**	P		**Pn**	**00 05 56.8 -4.2**
baz=232,slow=7.9,SNR=1.4							
RIDG	**Independent Ri**	**17.39**	**38**	Pn		**Pn**	**00 06 03.1 0.0**
RIDG					IAmb	IAmb	00 06 21.9
comp=Z,17nm,1.5s							
H24K	**Noodor Dome**	**17.57**	**30**			**P**	**00 06 06.3 +0.1**
BARN	**Barnard Glacie**	**17.65**	**49**			**Pn**	**00 06 06.0 -0.3**
DOT	**Dot Lake**	**17.65**	**39**			**P**	**00 06 07.5 +0.5**
TABL	**Table Mountain**	**17.71**	**51**			**P**	**00 06 08.6 +0.7**
TABL					IAmb	IAmb	00 06 18.6
comp=Z,39nm,1.2s							
SCRK	**Sand Creek**	**17.84**	**38**			**P**	**00 06 09.2 -0.1**
LOGN	**Logan Glacier**	**17.88**	**50**			**P**	**00 06 10.7 +1.0**
LOGN					IAmb	IAmb	00 06 19.9
comp=Z,47nm,1.4s							
COLD	**Coldfoot**	**17.89**	**25**			**P**	**00 06 09.9 +0.3**
M27K	**Edge Creek, AK**	**17.99**	**45**			**P**	**00 06 11.0 +0.1**
M27K					IAmb	IAmb	00 06 22.1
comp=Z,13nm,1.1s							
PCA	**Pinnacle**	**18.05**	**52**	P		**P**	**00 06 12.2 +0.7**
PCA					IAmb	IAmb	00 06 17.1
comp=Z,34nm,1.0s							
L27K	**Beaver Creek,**	**18.29**	**42**	P		**Pn**	**00 06 15.7 +1.6**
PET	**Petropavlovsk**	**19.28**	**285**	*i* P		**P**	**00 06 22.8 -2.1**
EGAK	**Eagle**	**19.31**	**38**	P		**Pn**	**00 06 25.8 -0.5**
HYT	**Haines Junctio**	**19.54**	**51**	Pn		**Pn**	**00 06 30.8 +1.5**
HYT					IAmb	IAmb	00 06 31.6
comp=Z,21nm,0.6s							
BMAR	**Burnt Mountain**	**19.61**	**29**	P		**Pn**	**00 06 29.4 -0.5**
DAWY	**Dawson**	**19.69**	**41**	P		**P**	**00 06 29.7 +0.2**
BILL	**Bilibino**	**19.78**	**333**	‖ *e*P		**P**	**00 06 28.7 -1.6**
BILL					pmax	pmax	
comp=Z,6.0nm,0.5s							
BILL					MLR	MLR	
comp=Z,99nm,19.0s							
PEA0B	**Petropavlovsk-**	**19.83**	**286**	P		**P**	**00 06 31.4 +0.5**
PETK	**Petropavlovsk-**	**19.83**	**286**	P		**P**	**00 06 30.8 -0.1**
comp=Z,2.6nm,0.3s,baz=87,slow=13,SNR=26							
PETK	**Petropavlovsk-**	**19.83**	**286**	P		**P**	**00 06 30.6 -0.3**
WHY	**Whitehorse**	**20.78**	**52**	P		Pn	00 06 44.6 +0.7
WHY					IAmb	IAmb	00 06 58.5
comp=Z,19nm,1.1s							
JIS	**Juneau Island**	**20.81**	**59**	P		Pn	00 06 44.0 -0.1
JIS					IAmb	IAmb	00 06 50.8
comp=Z,22nm,1.4s							
EPYK	**Eagle Plains**	**21.67**	**36**	P		**P**	**00 06 50.1 -0.6**
EPYK					IAmb	IAmb	00 06 51.9
comp=Z,23nm,1.1s							
SEY	**Seymchan**	**22.77**	**313**	P		**P**	**00 07 02.2 -0.2**
comp=Z,6.9nm,1.0s,baz=71,slow=14,SNR=5.1							
MA2	**Magadan**	**23.20**	**304**	P		**P**	**00 07 05.9 -0.9**
comp=Z,12nm,0.9s,baz=143,slow=17,SNR=2.2							
INK	**Inuvik**	**23.62**	**33**	P		**P**	**00 07 07.6 -3.3**
comp=Z,4.8nm,0.9s,baz=236,slow=10.0,SNR=4.7							
INK	**Inuvik**	**23.62**	**33**	P		**P**	**00 07 09.7 -1.2**
INK					IAmb	IAmb	00 07 13.2
comp=Z,4.7nm,0.8s							
YUK	**Yuzh-Kuril'sk**	**30.46**	**273**	*i* P		**P**	**00 08 11.4 -1.2**
YKA	**Yellowknife Ar**	**30.49**	**49**	P		**P**	**00 08 10.9 -1.8**
comp=Z,3.9nm,0.9s,baz=271,slow=6.6,SNR=2.8							
YKA					LR	LR	00 22 52.2
comp=Z,132nm,19.4s,baz=0.0,slow=41							
YKA	**Yellowknife Ar**	**30.49**	**49**	P		**P**	**00 08 13.5 +0.7**
ASAJ	**Asahikawa**	**32.42**	**275**	P		**P**	**00 08 31.0 +1.0**
comp=Z,3.2nm,0.3s,baz=339,slow=16,SNR=3.7							
TIXI	**Tiksi**	**32.90**	**329**	P		**P**	**00 08 33.5 -0.3**
comp=Z,3.1nm,0.8s,baz=80,slow=9.0,SNR=4.3							
TIXI	**Tiksi**	**32.90**	**329**	*ce*P		**P**	**00 08 34.1 +0.3**
YAK	**Yakutsk**	**33.26**	**311**	*i* P		**P**	**00 08 36.6 -0.5**
YAK					pmax	pmax	
comp=Z,13nm,0.4s							
EDM	**Edmonton**	**33.35**	**65**	P		**P**	**00 08 38.8 +0.8**
EDM					IAmb	IAmb	00 08 55.8
comp=Z,4.8nm,0.7s							
WALA	**Waterton Lakes**	**34.72**	**72**	P		**P**	**00 08 52.0 +2.0**
WALA					IAmb	IAmb	00 09 00.7
comp=Z,6.2nm,1.1s							
KLR	**Kul'dur**	**36.44**	**289**	P		**P**	**00 09 04.0 -0.7**
comp=Z,0.9nm,0.3s,baz=87,slow=8.1,SNR=5.8							
KLR	**Kul'dur**	**36.44**	**289**	*i* P		**P**	**00 09 02.8 -1.9**
KLR					pmax	pmax	
comp=Z,3.0nm,1.2s							
RES	**Resolute Bay**	**36.65**	**25**	P		**P**	**00 09 07.0 +0.9**
H11N2	**WAKE ISLAND Hy**	**37.19**	**219**	T		T	00 49 16.2
baz=23,slow=75,SNR=3.8							
H11N3	**WAKE ISLAND Hy**	**37.19**	**219**	T		T	00 49 19.1
baz=23							
H11N1	**WAKE ISLAND Hy**	**37.20**	**219**	T		T	00 49 17.3
baz=23,slow=75,SNR=4.0							
RYN	**Ryan**	**37.51**	**90**	P		**P**	**00 09 15.6 +1.5**
EGMT	**Eagleton**	**37.65**	**72**	P		**P**	**00 09 16.5 +1.5**
EGMT					IAmb	IAmb	00 09 17.7
comp=Z,9.1nm,1.1s							
NVAR	**Mina Array Bea**	**37.77**	**91**	P		**P**	**00 09 17.4 +1.1**
comp=Z,0.3nm,0.6s,baz=301,slow=7.0,SNR=2.2							
NVAR	**Mina Array Bea**	**37.77**	**91**	P		**P**	**00 09 18.4 +2.1**
H11S1	**WAKE ISLAND Hy**	**38.39**	**218**	T		T	00 50 42.7
baz=23,slow=76,SNR=42							
H11S2	**WAKE ISLAND Hy**	**38.39**	**218**	T		T	00 50 43.9
baz=23,slow=76,SNR=34							
H11S3	**WAKE ISLAND Hy**	**38.39**	**218**	T		T	00 50 40.5
baz=23,slow=76,SNR=34							
MJAR	**Matsushiro Ar**	**39.58**	**268**	P		**P**	**00 09 30.9 -0.4**
comp=Z,1.2nm,0.3s,baz=32,slow=11,SNR=1.4							
PDAR	**Pinedale Array**	**40.56**	**79**	P		**P**	**00 09 39.2 -0.4**
comp=Z,0.6nm,0.3s,baz=282,slow=4.7,SNR=5.8							
RDMU	**Red Mountain**	**41.83**	**81**	P		**P**	**00 09 51.8 +1.7**
RDMU					IAmb	IAmb	00 10 05.5
comp=Z,4.9nm,0.9s							
O20A	**White River Ci**	**42.91**	**81**	P		**P**	**00 09 60.0 +1.2**
O20A					IAmb	IAmb	00 10 13.2
comp=Z,9.2nm,1.1s							
KSRS	**Korea Array**	**45.33**	**277**	P		**P**	**00 10 18.9 +0.9**
comp=Z,2.7nm,0.6s,baz=58,slow=8.6,SNR=7.9							
T25A	**Trinidad**	**47.12**	**82**	P		**P**	**00 10 35.1 +2.8**
T25A					IAmb	IAmb	00 10 47.8
comp=Z,6.2nm,1.0s							
DAG	**Danmarks Havn**	**50.06**	**8**	*i* P		**P**	**00 10 53.0 -1.1**
DAG					IAmb	IAmb	00 10 54.2
com

OBN			*i* SS	**SS**	**00 27 03.9**	**+1.8**
OBN			pmax	pmax		
	comp=Z,4.0nm,0.4s					
KK31	**Karatay Array**	**71.91 318**	P	**P**	**00 13 22.8**	**-0.2**
KKAR	**Karatay Array**	**71.91 318**	P	**P**	**00 13 22.4**	**-0.6**
KKAR	**Karatay Array**	**71.91 318**	P	**P**	**00 13 22.8**	**-0.2**
KKAR			IAmb	IAmb	00 13 23.7	
	comp=Z,5.4nm,0.8s					
KSH	**Kashi**	**72.47 312**	P	**P**	**00 13 30.3**	**+3.8**
KSH			pmax	pmax		
	comp=Z,8.0nm,1.1s					
MNK	**Minsk**	**72.77 349**	*i* P	**P**	**00 13 27.1**	**-0.7**
MNK			*i*		00 13 45.1	
MNK			*i*		00 16 07.3	
MNK			*i* PPP	PPP	00 17 51.5	
MNK			*i* S	**S**	**00 22 47.5**	**-3.6**
MNK			*i*		00 23 30.5	
MNK			*i* SS	**SS**	**00 27 31.7**	**+2.0**
MNK			*i* SSS	SSS	00 30 46.4	
MNK			pmax	pmax		
	comp=N,9.0nm,1.0s					
MNK			pmax	pmax		
	comp=Z,11nm,1.0s					
MNK			pmax	pmax		
	comp=E,1.0nm,0.9s					
MNK			MLR	MLR		
	comp=E,6.0nm,17.0s					
MNK			MLR	MLR		
	comp=Z,163nm,17.0s					
MNK			MLR	MLR		
	comp=N,64nm,22.0s					
MNK	**Minsk**	**72.77 349**	*i* P	**P**	**00 13 27.1**	**-0.7**
	comp=E,1.0nm,0.9s					
MNK			*i* P	**P**	**00 13 27.1**	**-0.7**
	comp=N,9.0nm,1.0s					
MNK			*i* P	**P**	**00 13 27.1**	**-0.7**
	comp=Z,11nm,1.1s,baz=12					
MNK			*i* PcP	**PcP**	**00 13 45.1**	**+0.1**
MNK			*i* PP	**PP**	**00 16 07.3**	**-1.8**
MNK			*i* PPP	PPP	00 17 51.5	
MNK			*i* S	**S**	**00 22 47.6**	**-3.5**
MNK			*i* SS	**SS**	**00 27 31.7**	**+2.0**
MNK			*i* SSS	SSS	00 30 46.5	
MNK			*i* LQ	LQ	00 40 17.3	
MNK			*i* LR	LR	00 45 14.8	
MNK			*i* LRM	MLR	00 47 30.8	
	comp=E,6.0nm,17.4s					
MNK			*i* LRM	MLR	00 47 42.1	
	comp=Z,163nm,16.6s					
MNK			*i* LRM	MLR	00 47 48.2	
	comp=N,64nm,21.7s					
GAR	**Garm**	**75.40 316**	P	**P**	**00 13 43.4**	**-0.2**
CHGR	**Chuyangaron**	**76.18 316**	P	**P**	**00 13 47.5**	**-0.6**
AKASG	**Malin Array Be**	**76.34 348**	P	**P**	**00 13 47.2**	**-1.3**
	comp=N,1.4nm,0.5s,baz=13,slow=6.2,SNR=6.1					
AKBB	**Malin Array Si**	**76.34 348**	*ce*P	**P**	**00 13 48.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**76.57 283**	P	**P**	**00 13 51.2**	**+0.8**
	comp=N,0.9nm,0.3s,baz=24,slow=5.4,SNR=6.9					
CMAR	**Chiang Mai Arr**	**76.57 283**	*ce*P	**P**	**00 13 50.9**	**+0.5**
CMAR			pmax	pmax		
	comp=Z,1.0nm,0.3s					
CLL	**Collm**	**76.93 358**	*e*P	**P**	**00 13 52.0**	**+0.1**
CLL	**Collm**	**76.93 358**	*e*P	**P**	**00 13 52.0**	**+0.1**
MORC	**Moravsky Berou**	**78.31 355**	*e*P	**P**	**00 14 00.4**	**+0.7**
NIL	**Nilore**	**78.52 311**	P	**P**	**00 14 01.7**	**+0.5**
VRAC	**Vranov**	**78.82 356**	*e*P	**P**	**00 14 03.6**	**+1.1**
LANS	**Liptovska Anna**	**78.82 354**	*e*P	**P**	**00 14 04.2**	**+1.6**
LANS			pmax	pmax		
	comp=Z,3.0nm,1.0s					
LANS	**Liptovska Anna**	**78.82 354**	*e*P	**P**	**00 14 04.2**	**+1.6**
KRUC	**Moravsky**	**79.08 356**	*e*P	**P**	**00 14 04.6**	**+0.7**
JAVC	**Velka Javorina**	**79.22 355**	*e*P	**P**	**00 14 06.7**	**+1.9**
GERES	**GERESS Array B**	**79.38 358**	P	**P**	**00 14 04.1**	**-1.6**
	comp=Z,0.7nm,0.7s,baz=339,slow=6.0,SNR=5.6					
KBL	**Kabul**	**79.69 314**	P	**P**	**00 14 07.4**	**-0.4**
KBL			IAmb	IAmb	00 14 07.9	
	comp=Z,6.0nm,0.9s					
CONA	**Conrad Observa**	**80.23 356**	*i* P	**P**	**00 14 11.7**	**+1.4**
	comp=Z,4.9nm,1.0s					
KBZ	**Khabaz**	**80.51 337**	P	**P**	**00 14 10.6**	**-1.1**
	comp=Z,3.7nm,0.9s,baz=32,slow=4.2,SNR=7.2					
KBZ	**Khabaz**	**80.51 337**	*ce*P	**P**	**00 14 12.7**	**+1.0**
KBZ			pmax	pmax		
	comp=Z,3.0nm,0.9s					
RETA	**Reutte**	**80.78 360**	*i* P	**P**	**00 14 15.0**	**+1.7**
	comp=Z,4.5nm,1.4s					
ARSA	**Arzberg**	**80.92 357**	*e*P	**P**	**00 14 15.4**	**+1.5**
	comp=Z,4.4nm,1.0s					
MOTA	**Moosalm**	**80.92 360**	*i* P	**P**	**00 14 14.9**	**+0.8**
	comp=Z,8.0nm,1.3s					
WTTA	**Wattenberg**	**81.00 359**	*i* P	**P**	**00 14 15.5**	**+1.0**
	comp=Z,4.3nm,1.0s					
SQTA	**Sankt Quirin**	**81.04 359**	*e*P	**P**	**00 14 16.1**	**+1.4**
	comp=Z,5.8nm,1.0s					
KBA	**Koelnbreinsper**	**81.16 358**	*e*P	**P**	**00 14 17.1**	**+1.7**
	comp=Z,11nm,1.1s					
FETA	**Feichten**	**81.25 360**	*i* P	**P**	**00 14 17.2**	**+1.4**
	comp=Z,5.6nm,1.1s					
ABTA	**Abfaltersbach**	**81.50 359**	*i* P	**P**	**00 14 18.0**	**+0.9**
	comp=Z,6.3nm,1.2s					
SOKA	**Soboth**	**81.51 357**	*e*P	**P**	**00 14 18.3**	**+1.2**
	comp=Z,7.4nm,1.2s					
TEOL	**Teolo**	**82.90 359**	P	**P**	**00 14 24.2**	**-0.2**
NRCA	**Norcia**	**85.40 358**	P	**P**	**00 14 37.5**	**+0.3**
NRCA			IAmb	IAmb	00 14 40.5	
	comp=Z,3.8nm,0.8s					
WRA	**Warramunga Arr**	**86.76 231**	P	**P**	**00 14 42.7**	**-1.3**
	comp=Z,1.0nm,0.9s,baz=32,slow=5.6,SNR=5.7					
ESDC	**Sonseca Array**	**87.73 11**	P	**P**	**00 14 48.2**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=350,slow=5.5,SNR=6.1					
ESDC	**Sonseca Array**	**87.73 11**	IAmb	IAmb	00 14 50.1	
	comp=Z,1.2nm,0.9s					
PSI	**Prapat**	**88.76 273**	P	**P**	**00 14 53.9**	**0.0**
	comp=Z,3.5nm,0.7s,baz=2.6,slow=10,SNR=4.1					
FITZ	**Fitzroy Crossi**	**89.63 239**	P	**P**	**00 14 56.9**	**-0.7**
	comp=Z,1.1nm,0.9s,baz=45,slow=7.1,SNR=1.5					
ASAR	**Alice Springs**	**90.15 230**	P	**P**	**00 14 59.9**	**-0.1**
	comp=Z,2.4nm,0.9s,baz=28,slow=5.1,SNR=14					

NIED **12** *00:54:17.9,26°.37N×128°.95E,h27km,MW3.7,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.61; $M_{\theta\theta}$-0.49; $M_{\phi\phi}$-2.12; $M_{r\theta}$1.77; $M_{\theta\phi}$-2.10; $M_{r\phi}$0.85; Fault plane solution: M_o3.71000×10^{14} NP1:ϕ_s53.00000°, δ63.00000°, λ112.00000°. NP2:ϕ_s192.00000°, δ35.00000°, λ54.00000°.*

JMA 12 00:54:17.8±0.2,26°.37N×128°.95E,h27km±3km,M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**0.76**	**307**	P	Pb	00 54 32.2	-0.3
JOW				*e*S	Sb	00 54 42.6	+0.1
JYRO	**Yoronjima**	**0.79**	**326**	P	Pb	00 54 32.4	-0.6
JYRO				*e*S	Sb	00 54 43.1	-0.2
JNTH	**Nagotoyohara**	**0.84**	**280**	P	Pb	00 54 33.4	-0.5
JNTH				*e*S	Sb	00 54 44.6	-0.2
JOKE	**Okinoerabujima**	**1.04**	**341**	P	Pb	00 54 37.2	-0.1
JJT3	**Tamagusuku3**	**1.07**	**258**	P	Pn	00 54 37.1	+0.1
JJT3				S	Sb	00 54 51.8	+0.5
JIH	**Iheya**	**1.10**	**307**	P	Pn	00 54 37.7	+0.3
JIH				*e*S	Sn	00 54 51.4	-0.4
JTK	**Tokunoshima**	**1.41**	**0**	P	Pn	00 54 42.1	+0.4
JTK				*e*S	Sn	00 54 59.9	+0.5
JAGN	**Aguni-jima**	**1.55**	**278**	P	Pn	00 54 44.3	+0.7
JAGN				S	Sn	00 55 03.5	+0.8
JAMN	**Amaminishikomi**	**1.88**	**6**	P	Pn	00 54 49.0	+0.9
JKE	**Kume jima 2**	**1.94**	**269**	P	Pn	00 54 48.8	-0.2
JMZ	**Minamidaito 2**	**2.11**	**105**	P	Pn	00 54 52.5	+1.1
JMZ				S	Sn	00 55 16.5	-0.3
JKDJ	**Kitadaitoujima**	**2.15**	**101**	P	Pn	00 54 53.1	+1.2
JKDJ				S	Sn	00 55 18.3	+0.6

NEIC **12** *00:55:33.7±1.1,37°.05N±0°.02×97°.92W±0°.03,h6km±5km, Error ellipse: s-maj=3.6km s-min=2.1km az=132.0*
ANF **12** *00:55:33.5±0.3,37°.06N×97°.95W,h6km,ML3.8/14,Error ellipse: s-maj=3.4km s-min=3.0km az=84.0*

ISC 12 00:55:34.0±0.9,37°.05N±0°.02×97°.94W±0°.02,h4km±7km, n126,σ1^{s}25/135,Kansas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAN05	**Bluff City Nor**	**0.08**	**42**		**Pg**	**00 55 35.1**	**-0.6**
KAN05					**Sg**	**00 55 36.3**	**-0.6**
KAN14	**Manchester OK**	**0.09**	**192**		**Pg**	**00 55 35.7**	**-0.2**
KAN14					**Sg**	**00 55 37.5**	**+0.2**
KAN17	**Caldwell West**	**0.14**	**92**		**Pg**	**00 55 36.3**	**-0.5**
KAN17					**Sg**	**00 55 38.4**	**-0.3**
GC02	**Grant County #**	**0.21**	**162**		**Pg**	**00 55 37.6**	**-0.4**
GC02					**Sg**	**00 55 41.0**	**+0.2**
KAN06	**Argonia West S**	**0.21**	**18**		**Pg**	**00 55 37.5**	**-0.6**
KAN06					**Sg**	**00 55 40.5**	**-0.4**
KAN12	**Harper NE Stat**	**0.25**	**349**		**Pg**	**00 55 38.2**	**-0.7**
KAN12					**Sg**	**00 55 41.8**	**-0.5**
KS21	**Milan North St**	**0.32**	**43**		**Pg**	**00 55 39.6**	**-0.7**
KS21					**Sg**	**00 55 44.2**	**-0.4**
OK032	**Salt Plains WL**	**0.33**	**222**		**Pg**	**00 55 40.0**	**-0.4**
OK032					**Sg**	**00 55 44.8**	**+0.2**
KS20	**Mayfield South**	**0.36**	**59**		**Pg**	**00 55 40.2**	**-0.7**
KS20					**Sg**	**00 55 45.2**	**-0.4**
KAN13	**South Haven SW**	**0.37**	**95**		**Pg**	**00 55 40.5**	**-0.6**
KAN13					**Sg**	**00 55 45.6**	**-0.4**
CROK	**Carrier**	**0.55**	**184**		**Pg**	**00 55 43.9**	**-0.5**
CROK					**Sg**	**00 55 51.6**	**+0.1**
BLOK	**Blackwell**	**0.65**	**116**		**Pg**	**00 55 45.6**	**-0.8**
BLOK					**Sg**	**00 55 54.8**	**-0.1**
U32A	**Winter Ranch,**	**1.08**	**232**		**Pg**	**00 55 53.7**	**-1.1**
U32A					**Sg**	**00 56 08.7**	**-0.2**
U32A	**Winter Ranch,** baz=51	**1.08**	**232**	P	**Pg**	**00 55 53.7**	**-1.1**
T35A	**Sooner Cattle**	**1.15**	**96**		**Pg**	**00 55 54.7**	**-1.4**
T35A					**Sg**	**00 56 09.7**	**-1.3**
T35B	**Sooner Cattle** baz=278,SNR=216	**1.15**	**96**	P	**Pg**	**00 55 54.7**	**-1.4**
T35B				S	**Sg**	**00 56 09.6**	**-1.4**
	baz=278						
OK029	**Liberty Lake**	**1.31**	**163**		**Pn**	**00 55 57.8**	**-1.3**
QUOK	**Quay**	**1.32**	**131**		**Pn**	**00 55 57.7**	**-1.5**
OK031	**S. Brethren Rd**	**1.41**	**141**		**Pn**	**00 55 59.2**	**-1.2**
R32A	**Long Quarter,**	**1.50**	**336**		**Pn**	**00 56 00.5**	**-1.3**
R32A	**Long Quarter,** baz=155	**1.50**	**336**	P	**Pn**	**00 56 00.7**	**-1.0**
R32A				S	**Sn**	**00 56 20.6**	**-1.2**
	baz=155						
OK025	**Westminster Rd**	**1.54**	**162**		**Pn**	**00 56 01.6**	**-0.7**
OKCFA	**Oklahoma City**	**1.68**	**166**		**Pn**	**00 56 03.7**	**-0.5**
OKCFA	**Oklahoma City** baz=347,SNR=6.3	**1.68**	**166**	P	**Pn**	**00 56 03.5**	**-0.7**
OKCFA				S	**Sb**	**00 56 26.8**	**-0.1**
	baz=347						
OKCSW	**OKLAHOMA CITY**	**1.69**	**166**		**Pn**	**00 56 03.7**	**-0.6**
FNO	**Franklin**	**1.84**	**166**		**Pn**	**00 56 05.6**	**-0.8**
TUL1	**Leonard** baz=304,SNR=79	**2.07**	**123**	P	**Pn**	**00 56 09.8**	**+0.3**
TUL1				S	**Sb**	**00 56 37.8**	**-0.5**
	baz=304						
TUL1	**Leonard** baz=304	**2.07**	**123**	P	**Pn**	**00 56 09.8**	**+0.3**
TUL1				Sb	**Sb**	**00 56 37.9**	**-0.3**
	baz=304						
CBKS	**Cedar Bluff**	**2.26**	**322**		**Pn**	**00 56 11.9**	**-0.4**
CBKS	**Cedar Bluff** baz=140,SNR=14	**2.26**	**322**	P	**Pn**	**00 56 11.9**	**-0.4**
CBKS	**Cedar Bluff** baz=140	**2.26**	**322**	P	**Pn**	**00 56 11.8**	**-0.4**
CBKS				S	**Sb**	**00 56 43.2**	**-0.6**
	baz=140						
KSU1	**Kansas State U**	**2.30**	**27**		**Pn**	**00 56 12.4**	**-0.4**
KSU1	**Kansas State U** baz=207,SNR=19	**2.30**	**27**	P	**Pn**	**00 56 12.3**	**-0.4**
KSU1				S	**Sn**	**00 56 41.8**	**+0.3**
	baz=207						
KSU1	**Kansas State U** baz=207	**2.30**	**27**	P	**Pn**	**00 56 12.4**	**-0.4**
KSU1				Sb	**Sb**	**00 56 44.0**	**-0.9**
	baz=207						
WMOK	**Wichita Mounta**	**2.41**	**197**		**Pn**	**00 56 13.5**	**-0.6**
WMOK	**Wichita Mounta** baz=16,SNR=41	**2.41**	**197**	P	**Pn**	**00 56 13.8**	**-0.4**
WMOK				S	**Sn**	**00 56 44.0**	**-0.1**
	baz=16						
WMOK	**Wichita Mounta** baz=16	**2.41**	**197**	Pb	**Pb**	**00 56 18.4**	**+0.5**
X34A	**Smith Ranch, M**	**2.44**	**178**		**Pn**	**00 56 14.0**	**-0.7**
X34A				IAmb_Lg		00 56 55.0	
	comp=Z,51nm,0.7s						
U38A	**Gravette**	**2.92**	**101**		**Pn**	**00 56 20.9**	**-0.3**
U38A	**Gravette** baz=283,SNR=75	**2.92**	**101**	P	**Pn**	**00 56 21.2**	**-0.1**
LOOK	**Love County**	**3.11**	**168**		**Pn**	**00 56 23.4**	**-0.4**
LOOK				IAmb_Lg		00 57 19.1	
	comp=Z,53nm,1.1s						
X37A	**Clayton**	**3.22**	**139**		**Pn**	**00 56 25.1**	**-0.3**
X37A				IAmb_Lg		00 57 21.6	
	comp=Z,40nm,0.7s						
X37A	**Clayton** baz=321,SNR=44	**3.22**	**139**	P	**Pn**	**00 56 25.1**	**-0.3**
HHAR	**Hobbs**	**3.31**	**102**		**Pn**	**00 56 26.5**	**-0.1**
AMTX	**Amarillo**	**3.73**	**236**		**Pn**	**00 56 31.9**	**-0.5**
AMTX				IAmb_Lg		00 57 35.8	
	comp=Z,42nm,0.8s						
AMTX	**Amarillo** baz=53	**3.73**	**236**	Pb	**Pb**	**00 56 41.1**	**+0.7**
AMTX				Sb	**Sg**	**00 57 30.4**	**-3.3**
	baz=53						
S39A	**Bolivar**	**3.73**	**79**		**Pn**	**00 56 31.7**	**-0.7**
S39A	**Bolivar** baz=262,SNR=43	**3.73**	**79**	P	**Pn**	**00 56 31.3**	**-1.1**
Z35A	**Perchaven, San**	**3.75**	**171**	Pn	**Pn**	**00 56 30.4**	**-2.2**
Z35A				IAmb_Lg		00 57 38.2	
	comp=Z,39nm,1.2s						
W39A	**Magazine**	**3.84**	**118**	Pg	**Pb**	**00 56 44.0**	**+1.7**
W39A	**Magazine** baz=300	**3.84**	**118**	Pb	**Pb**	**00 56 42.1**	**-0.1**
U40A	**Yellville**	**4.14**	**98**	IAmb_Lg		00 57 42.5	
	comp=Z,59nm,0.7s						
U40A	**Yellville** baz=281,SNR=23	**4.14**	**98**	P	**Pn**	**00 56 37.1**	**-1.0**
KSCO	**Kaye Shedlock'**	**4.19**	**299**	Pn	**Pn**	**00 56 39.0**	**+0.2**
KSCO				IAmb_Lg		00 57 56.8	
	comp=Z,29nm,0.8s						
N35A	**Tabor**	**4.21**	**24**		**Pn**	**00 56 38.0**	**-0.9**
P38A	**Dawn**	**4.31**	**52**		**Pn**	**00 56 39.9**	**-0.5**
P38A	**Dawn** baz=235,SNR=13	**4.31**	**52**	P	**Pn**	**00 56 39.9**	**-0.5**
MIAR	**Mount Ida**	**4.34**	**124**		**Pn**	**00 56 40.8**	**+0.1**
MIAR				IAmb_Lg		00 57 51.8	
	comp=Z,30nm,0.9s						
MIAR	**Mount Ida** baz=307,SNR=13	**4.34**	**124**	P	**Pn**	**00 56 40.8**	**+0.1**
BGNE	**Belgrade**	**4.36**	**358**	Pn	**Pn**	**00 56 39.3**	**-1.7**
BGNE				IAmb_Lg		00 57 58.5	
	comp=Z,58nm,0.8s						
Z38A	**Mt. Pleasant**	**4.49**	**147**		**Pn**	**00 56 40.6**	**-2.1**
Z38A				IAmb_Lg		00 57 58.0	
	comp=Z,26nm,0.8s						
MGMO	**Mountain Grove**	**4.53**	**87**		**Pn**	**00 56 42.8**	**-0.6**
MGMO				IAmb_Lg		00 58 08.0	
	comp=Z,28nm,0.8s						
ABTX	**Abilene, Hawle**	**4.63**	**198**	Pn	**Pn**	**00 56 42.8**	**-2.0**
R40A	**Maddies Statio**	**4.67**	**73**		**Pn**	**00 56 44.5**	**-0.8**
R40A				IAmb_Lg		00 58 01.2	
	comp=Z,40nm,0.9s						
R40A	**Maddies Statio** baz=256,SNR=40	**4.67**	**73**	P	**Pn**	**00 56 44.4**	**-0.8**
FCAR	**Ozark Folk Cen**	**4.83**	**102**	Pn	**Pn**	**00 56 46.8**	**-0.7**
FCAR				IAmb_Lg		00 58 08.7	
	comp=Z,34nm,0.7s						
X40A	**Basin Creek Fa**	**4.87**	**120**		**Pn**	**00 56 48.0**	**-0.1**
X40A				IAmb_Lg		00 58 08.9	
	comp=Z,40nm,0.8s						
WHAR	**Wooly Hollow**	**4.90**	**109**		**Pn**	**00 56 47.6**	**-0.8**
WHAR				IAmb_Lg		00 58 12.3	
	comp=Z,44nm,0.8s						
W41B	**Gary Mavity, V** baz=294	**4.97**	**110**	Sb	**Sb**	**00 58 06.6**	**+4.9**
MSTX	**Muleshoe**	**5.00**	**233**		**Pn**	**00 56 49.9**	**0.0**
OGNE	**Ogallala**	**5.03**	**322**		**Pn**	**00 56 50.0**	**-0.3**
OGNE				IAmb_Lg		00 58 22.9	
	comp=Z,32nm,0.8s						
OGNE	**Ogallala** baz=139	**5.03**	**322**	P	**Pn**	**00 56 50.7**	**+0.4**
L34A	**Svendsen Farm,**	**5.06**	**13**	Pn	**Pn**	**00 56 49.9**	**-0.8**
L34A				IAmb_Lg		00 58 22.6	
	comp=Z,38nm,0.7s						
T25A	**Trinidad**	**5.17**	**273**		**Pn**	**00 56 51.4**	**-1.0**
T25A				IAmb_Lg		00 58 17.9	
	comp=Z,34nm,0.7s						
T25A	**Trinidad** baz=89	**5.17**	**273**	Sb	**Sb**	**00 58 13.2**	**+5.4**
N38A	**Joes South For**	**5.24**	**43**	Pn	**Pn**	**00 56 51.7**	**-1.4**
N38A				Pg	**Pb**	**00 57 09.5**	**+3.4**
N38A				IAmb_Lg		00 58 31.9	
	comp=Z,43nm,0.8s						
P40A	**Paris**	**5.25**	**60**	Pg	**Pb**	**00 57 09.7**	**+3.2**
P40A				IAmb_Lg		00 58 25.6	
	comp=Z,26nm,0.8s						
237A	**Washetta, Mont**	**5.33**	**160**	Pn	**Pn**	**00 56 50.5**	**-3.9**
CCM	**Cathedral Cave**	**5.41**	**77**		**Pn**	**00 56 54.4**	**-1.1**
CCM				IAmb_Lg		00 58 25.5	
	comp=Z,35nm,0.9s						
LCAR	**Lake Charles**	**5.55**	**98**	Pn	**Pn**	**00 56 56.5**	**-0.8**
LCAR				IAmb_Lg		00 58 29.1	
	comp=Z,22nm,0.7s						
CCAR	**Cane Creek**	**5.92**	**120**	IAmb_Lg		00 58 45.8	
	comp=Z,25nm,0.8s						
PBMO	**Poplar Bluff**	**6.02**	**90**	Pn	**Pn**	**00 57 03.2**	**-0.6**
435B	**Jarrell**	**6.26**	**177**	IAmb_Lg		00 58 56.2	
	comp=Z,22nm,0.7s						
LPAR	**Lepanto**	**6.33**	**101**	Pn	**Pn**	**00 57 07.5**	**-0.6**
PARMO	**Parma**	**6.58**	**91**	Pn	**Pn**	**00 57 09.8**	**-1.7**
ISCO	**Idaho Springs**	**6.62**	**297**	Pn	**Pn**	**00 57 12.2**	**-0.2**
N41A	**Harden Midland**	**6.62**	**54**	Pn	**Pn**	**00 57 11.1**	**-1.0**
N41A				IAmb_Lg		00 59 06.6	
	comp=Z,20nm,0.7s						
JCT	**Junction City**	**6.73**	**194**	Pn	**Pn**	**00 57 13.3**	**-0.4**
JCT				IAmb_Lg		00 59 16.1	
	comp=Z,24nm,0.9s						
K38A	**Parkersburg**	**6.86**	**34**	IAmb_Lg		00 59 22.2	
	comp=Z,26nm,0.8s						
LNXT	**Lenox**	**6.86**	**95**	Pn	**Pn**	**00 57 14.0**	**-1.4**
S44A	**Carbondale**	**6.95**	**82**	Pn	**Pn**	**00 57 15.9**	**-0.6**
S44A				IAmb_Lg		00 59 15.0	
	comp=Z,34nm,0.8s						
SIUC	**Southern Illin**	**6.98**	**82**	Pn	**Pn**	**00 57 15.6**	**-1.4**
SIUC				IAmb_Lg		00 59 16.4	
	comp=Z,26nm,0.7s						
HICK	**Hickman**	**7.01**	**92**	Pn	**Pn**	**00 57 16.7**	**-0.6**
HALT	**Halls**	**7.02**	**97**	Pn	**Pn**	**00 57 16.2**	**-1.3**
P43A	**Skaggs, Pawnee**	**7.10**	**66**	Pn	**Pn**	**00 57 17.5**	**-1.2**
L40A	**Anamosa**	**7.21**	**44**	Pn	**Pn**	**00 57 18.9**	**-1.3**
L40A				IAmb_Lg		00 59 39.0	
	comp=Z,18nm,0.7s						
ANMO	**Albuquerque**	**7.22**	**256**	Pn	**Pn**	**00 57 19.4**	**-1.0**
PHWY	**Pilot Hill**	**7.22**	**308**	Pn	**Pn**	**00 57 18.4**	**-2.2**
PHWY				IAmb_Lg		00 59 24.8	
	comp=Z,15nm,0.9s						
Q44A	**Meyer Farm, Va**	**7.29**	**73**	Pn	**Pn**	**00 57 19.6**	**-1.6**
OXF	**Oxford**	**7.38**	**108**	Pn	**Pn**	**00 57 21.7**	**-0.8**
OXF				IAmb_Lg		00 59 28.9	
	comp=Z,25nm,0.9s						
SUSD	**Miller**	**7.43**	**354**	IAmb_Lg		00 59 47.7	
	comp=Z,26nm,0.9s						
SMCO	**Snowmass**	**7.43**	**289**	Pn	**Pn**	**00 57 23.4**	**-0.2**
Y45A	**Yeager Farm, C**	**7.55**	**112**	Pn	**Pn**	**00 57 23.5**	**-1.3**
HDIL	**Hopedale**	**7.60**	**60**	Pn	**Pn**	**00 57 23.6**	**-2.0**
HDIL				IAmb_Lg		00 59 37.9	
	comp=Z,22nm,0.8s						
BNM	**Barren Site**	**7.65**	**250**	Pn	**Pn**	**00 57 25.3**	**-1.1**
O44A	**Mansfield**	**8.04**	**64**	IAmb_Lg		01 00 02.4	
	comp=Z,24nm,0.8s						
WVT	**Waverly**	**8.18**	**93**	IAmb_Lg		00 59 50.1	
	comp=Z,11nm,0.9s						
PLAL	**Pickwick Lake**	**8.25**	**102**	IAmb_Lg		00 59 51.3	
	comp=Z,11nm,0.8s						
JFWS	**Jewell Farm**	**8.31**	**43**	Pn	**Pn**	**00 57 34.2**	**-1.1**
JFWS				IAmb_Lg		01 00 09.0	
	comp=Z,13nm,0.7s						
MVCO	**Mesa Verde**	**8.44**	**274**	Pn	**Pn**	**00 57 37.0**	**-0.2**
RSSD	**Black Hills**	**8.45**	**329**		**Pn**	**00 57 37.5**	**+0.1**
146A	**Union**	**8.52**	**118**	Pn	**Pn**	**00 57 37.2**	**-1.0**
K22A	**Casper**	**8.65**	**313**	Pn	**Pn**	**00 57 38.9**	**-1.2**
K22A				IAmb_Lg		01 00 25.3	
	comp=Z,11nm,0.9s						
T47A	**Sharon Grove**	**8.67**	**87**	IAmb_Lg		01 00 05.7	
	comp=Z,15nm,0.8s						
PV11	**David Mesa, Pa**	**8.76**	**281**	IAmb_Lg		01 00 19.6	
	comp=Z,11nm,1.1s						
PV16	**Nyswonger Mesa**	**8.79**	**282**	Pn	**Pn**	**00 57 42.3**	**+0.2**
M44A	**Midewin, Midew**	**8.82**	**58**	Pn	**Pn**	**00 57 40.6**	**-1.6**
I40A	**Norwalk**	**8.82**	**37**	Pn	**Pn**	**00 57 41.6**	**-0.6**
PV14	**Lion Creek, Pa**	**8.88**	**282**	IAmb_Lg		01 00 30.1	
	comp=Z,9.7nm,1.1s						
SPMN	**Marine on St.**	**9.04**	**24**	IAmb_Lg		01 00 21.7	
	comp=Z,11nm,0.9s						
V48A	**Smith Brothers**	**9.06**	**95**	IAmb_Lg		01 00 21.5	
	comp=Z,12nm,0.7s						
TX31	**Lajitas Ar. Si**	**9.07**	**214**	Pn	**Pn**	**00 57 45.2**	**-0.6**
TXAR	**Lajitas Array**	**9.07**	**214**	Pn	**Pn**	**00 57 45.6**	**-0.2**
BLO	**Bloomington**	**9.24**	**73**	IAmb_Lg		01 00 31.6	
	comp=Z,23nm,0.7s						
WCI	**Wyandotte Cave**	**9.31**	**79**	IAmb_Lg		01 00 35.7	
	comp=Z,15nm,0.8s						
CLTN	**Cedars of Leba**	**9.39**	**92**	IAmb_Lg		01 00 30.4	
	comp=Z,19nm,1.3s						

IDC 12 01:02:11.4±4.2,8°.56S×106°.04E,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.5/32,mbtmp3.8/4,Error ellipse: s-maj=183.6km s-min=30.4km az=48.0,South of Jawa

| Code

	17nm,0.3s						
PDGK	Podgornoye	1.56	325	⇓P	Pb	01 12 13.7	+0.2
	13nm,0.5s						
PDGK				⇑S	Sg	01 12 34.9	+0.5
	68nm,0.5s						
UZB	Uzynbulak	1.66	311	eP	Pb	01 12 15.8	+0.5
	baz=11						
UZB				eS	Sg	01 12 37.8	+0.2
	baz=11						
UZB	Uzynbulak	1.66	311	eP	Pb	01 12 15.8	+0.5
	21nm,0.4s						
UZB				eS	Sg	01 12 37.9	+0.2
	42nm,0.2s						
UZB	Uzynbulak	1.66	311	P	Pb	01 12 15.8	+0.5
	21nm,0.4s						
UZB				S	Sg	01 12 37.9	+0.2
	42nm,0.2s						
PRZ	Przheval'sk	1.77	284	⇑iP	Pg	01 12 18.7	+0.3
	baz=84						
PRZ				⇑iS	Sg	01 12 42.4	+1.0
	baz=84						
SATY	Saty	1.98	301	eP	Pg	01 12 22.9	+0.6
	31nm,0.4s						
SATY				eS	Sg	01 12 50.1	+2.1
	49nm,0.2s						
SATY	Saty	1.98	301	Pg	Pg	01 12 22.9	+0.6
	31nm,0.4s						
SATY				Lg	Lg	01 12 50.1	
	49nm,0.2s						
KPKS	Kokpek	2.05	314	eP	Pg	01 12 23.5	-0.2
	baz=14						
KPKS				eS	Sg	01 12 51.1	+0.8
	baz=14						
KPKS	Kokpek	2.05	314	eP	Pg	01 12 23.4	-0.2
	20nm,0.1s						
KPKS				eS	Sg	01 12 51.1	+0.8
	114nm,0.3s						
TARG	Taragay, Kyrgy	2.20	262	⇓iP	Pb	01 12 25.5	+0.7
	baz=62						
TARG				⇓iS	Sg	01 12 54.2	-1.0
	baz=62						
DJR	Jarkent	2.37	344	eP	Pb	01 12 28.4	+1.1
	7.4nm,0.2s						
DJR				eS	Sg	01 12 59.9	-0.5
	112nm,0.5s						
DJR	Jarkent	2.37	344	Pg	Pb	01 12 28.4	+1.1
	7.4nm,0.2s						
DJR				Lg	Lg	01 12 59.9	
	112nm,0.5s						
ANVS	Anan'yevo	2.37	289	⇑iP	Pb	01 12 27.6	+0.1
	baz=88						
ANVS				⇑iS	Sb	01 12 58.0	+0.9
	baz=88						
KDJ	Kajisay	2.64	273	⇑iP	Pb	01 12 31.3	-0.7
	baz=72						
KDJ				⇑iS	Sb	01 13 04.7	0.0
	baz=72						
KOTS	Kotyrbulak	2.91	295	eP	Pb	01 12 37.9	+1.3
	8.3nm,0.2s						
KOTS				eS	Sg	01 13 16.4	-1.4
	56nm,0.4s						
KOTS	Kotyrbulak	2.91	295	Pg	Pb	01 12 37.9	+1.3
	8.3nm,0.2s						
KOTS				Lg	Lg	01 13 16.4	
	56nm,0.4s						
MDOK	Medeo	2.92	293	eP	Pb	01 12 38.4	+1.4
	5.4nm,0.4s						
MDOK				eS	Sg	01 13 16.6	-1.7
	35nm,0.5s						
MDOK	Medeo	2.92	293	⇓Pg	Pb	01 12 37.3	+0.4
	4.9nm,0.5s						
MDOK				⇓Lg	Lg	01 13 15.8	
	26nm,0.5s						
MDOK	Medeo	2.92	293	Pg	Pb	01 12 38.4	+1.4
	5.4nm,0.4s						
MDOK				Lg	Lg	01 13 16.6	
	35nm,0.5s						
TNSS	Tian-Shan	2.95	290	eP	Pb	01 12 38.4	+0.8
	7.2nm,0.2s						
TNSS				eS	Sg	01 13 16.9	-2.3
	18nm,0.3s						
TNSS	Tian-Shan	2.95	290	Pg	Pb	01 12 38.4	+0.8
	7.2nm,0.2s						
TNSS				Lg	Lg	01 13 16.9	
	18nm,0.3s						
ARXS	Arharly	3.02	316	eP	Pb	01 12 39.7	+1.3
	6.6nm,0.3s						
ARXS				eS	Sg	01 13 18.7	-2.5
	35nm,0.4s						
ARXS	Arharly	3.02	316	Pg	Pb	01 12 39.7	+1.3
	6.6nm,0.3s						
ARXS				Lg	Lg	01 13 18.7	
	35nm,0.4s						
IZV	Izvestkoviy	3.19	289	eP	Pb	01 12 42.8	+1.4
	6.0nm,0.3s						
IZV				eS	Sg	01 13 24.0	-2.7
	63nm,0.5s						
IZV	Izvestkoviy	3.19	289	Pg	Pb	01 12 42.8	+1.4
	6.0nm,0.3s						
IZV				Lg	Lg	01 13 24.0	
	63nm,0.5s						
CHKK	Chushkaly	3.27	304	eP	Pb	01 12 44.0	+1.2
	2.1nm,0.2s						
CHKK				eS	Sg	01 13 26.1	-3.4
	38nm,0.4s						
CHKK	Chushkaly	3.27	304	Pg	Pb	01 12 44.0	+1.2
	2.1nm,0.2s						
CHKK				Lg	Lg	01 13 26.1	
	38nm,0.4s						
ULHL	Ulahol	3.34	275	⇑iP	Pb	01 12 41.1	-2.9
	baz=74						
ULHL				⇑iS	Sb	01 13 21.1	-3.7
	baz=74						
MTBS	Maitube	3.34	290	eP	Pb	01 12 45.2	+1.2
	3.7nm,0.4s						
MTBS				eS	Sg	01 13 28.4	-3.3
	34nm,0.3s						
MTBS	Maitube	3.34	290	Pg	Pb	01 12 45.2	+1.2
	3.7nm,0.4s						
MTBS				Lg	Lg	01 13 28.4	
	34nm,0.3s						
KAPS	Kapalarasan	3.37	343	eP	Pb	01 12 42.8	-1.6
	8.2nm,0.4s						
KAPS				eS	Sb	01 13 24.8	-0.8
	11nm,0.4s						
KAPS	Kapalarasan	3.37	343	Pg	Pb	01 12 42.8	-1.6
	8.2nm,0.4s						
KAPS				Lg	Lg	01 13 24.8	
	11nm,0.4s						
TDK	Taldyqorghan	3.38	331	eP	Pb	01 12 46.2	+1.6
	23nm,0.2s						
TDK				eS	Sg	01 13 30.2	-2.9
	26nm,0.4s						
TDK	Taldyqorghan	3.38	331	Pg	Pb	01 12 46.2	+1.6
	23nm,0.2s						
TDK				Lg	Lg	01 13 30.2	
	26nm,0.4s						
KTBS	Karatobe	3.39	300	eP	Pb	01 12 45.7	+0.9
	2.4nm,0.2s						
KTBS				eS	Sb	01 13 29.3	+3.0
	77nm,0.4s						
KTBS	Karatobe	3.39	300	Pg	Pb	01 12 45.7	+0.9
	2.4nm,0.2s						
KTBS				Lg	Lg	01 13 29.3	
	77nm,0.4s						
BOOM	Boomskoye usch	3.57	278	⇑eP	Pb	01 12 44.3	-3.7
	baz=78						
BOOM				⇑iS	Sb	01 13 26.6	-5.0
	baz=78						
KST	Kastek	3.65	287	eP	Pb	01 12 50.0	+0.8
	12nm,0.3s						
KST				eS	Sb	01 13 36.6	+2.9
	30nm,0.6s						
KST	Kastek	3.65	287	Pg	Pb	01 12 50.0	+0.8
	12nm,0.3s						
KST				Lg	Lg	01 13 36.6	
	30nm,0.6s						
KUU	Kurty	3.70	301	eP	Pb	01 12 51.2	+1.2
	3.0nm,0.5s						
KUU				eS	Sb	01 13 38.7	+3.7
	23nm,0.3s						
KUU	Kurty	3.70	301	Pg	Pb	01 12 51.2	+1.2
	3.0nm,0.5s						
KUU				Lg	Lg	01 13 38.7	
	23nm,0.3s						
DGS	Degeres	3.84	290	eP	Pb	01 12 54.4	+2.0
	4.8nm,0.3s						
DGS				eS	Sg	01 13 44.0	-3.6
	24nm,0.3s						
DGS	Degeres	3.84	290	Pg	Pb	01 12 54.4	+2.0
	4.8nm,0.3s						
DGS				Lg	Lg	01 13 44.0	
	24nm,0.3s						
TKM2	Tokmak 2	3.89	284	⇑iP	Pn	01 12 48.7	+4.0
	baz=84						
TKM2				⇑iS	Sn	01 13 34.5	+3.9
	baz=84						
TKM2	Tokmak 2	3.89	284	⇓Pg	Pb	01 12 50.9	-2.4
	2.2nm,0.4s						
TKM2				⇑Lg	Lg	01 13 44.8	
	9.0nm,0.5s						
KRBS	Karabastau	4.05	295	eP	Pb	01 12 57.6	+1.5
	1.3nm,0.3s						
KRBS				eS	Sb	01 13 49.6	+4.3
	28nm,0.3s						
KRBS	Karabastau	4.05	295	Pg	Pb	01 12 57.6	+1.5
	1.3nm,0.3s						
KRBS				Lg	Lg	01 13 49.6	
	28nm,0.3s						
AAK	Ala-Archa	4.65	279	⇓Pg	Pg	01 13 11.5	-2.0
	4.6nm,0.8s						
AAK				⇑Lg	Lg	01 14 10.5	
SGDS	Sogindy	4.70	289	Pg	Pb	01 13 09.6	+2.6
	1.6nm,0.4s						
SGDS				Lg	Lg	01 14 10.1	
	5.9nm,1.0s						
MAKZ	Makanchi	4.83	10	⇓Pn	Pn	01 13 01.0	+3.6
	4.9nm,0.7s						
MAKZ				⇑Lg	Lg	01 14 15.3	
	6.3nm,0.8s						
MK31	Makanchi Array	4.86	13	⇓Pn	Pn	01 13 01.9	+4.0
	1.6nm,0.5s,baz=200,slow=13,SNR=64						
MK31				⇑Sn	Sb	01 14 01.0	-7.5
	0.7nm,0.3s,baz=181,slow=25,SNR=7.3						
MK31				⇑Lg	Lg	01 14 16.7	
	6.2nm,0.6s,baz=192,slow=28,SNR=8.0						
MRKS	Merke	5.59	279	eP	Pb	01 13 26.4	+4.1
	2.6nm,0.4s						
MRKS				eS	Sg	01 14 39.0	-4.9
	5.3nm,0.4s						
MRKS	Merke	5.59	279	Pg	Pb	01 13 26.4	+4.1
	2.6nm,0.4s						
BTLS	Baital	5.69	304	eP	Pb	01 13 27.2	+3.3
	0.9nm,0.3s						
BTLS				eS	Sg	01 14 40.1	-6.9
	1.4nm,0.4s						
BTLS	Baital	5.69	304	Pg	Pb	01 13 27.2	+3.3
	0.9nm,0.3s						
KK31	Karatay Array	7.61	281	⇓Pg	Pb	01 13 59.7	+3.1
	0.6nm,0.5s						
KK31				Lg	Lg	01 15 45.7	
	2.6nm,0.7s,baz=96,slow=26,SNR=5.4						

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*IDC **12** 01:25:29.1±1.1, 2°.95S×130°.41E, h0^{km}, mb4.0/4, mb1 4.2/7, mb1mx3.9/29, mbtmp4.0/7, ML3.7/3, Error ellipse: s-maj=44.4km s-min=17.9km az=87.0*

ISC 12 01:25:31.8±1.0**, 3°.11S**±0°.07×**130°.7E**±0°.3**, h24**^{km}**, n7, σ2**^{s}**13**/9**, mb4.0**/3**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	2.30	15	Pn	Pn	01 26 07.7	-0.6
	17nm,0.3s,baz=232,slow=16,SNR=71						
SIJI				Sn	Sn	01 26 35.6	-0.3
	26nm,0.3s,baz=232,slow=23,SNR=5.6						
FITZ	Fitzroy Crossi	15.69	198	Pn	Pn	01 29 11.6	+0.1
	0.1nm,0.3s,baz=22,slow=9.8,SNR=3.5						
WRA	Warramunga Arr	17.11	168	Pn	P	01 29 32.0	+1.0
	0.8nm,0.3s,baz=348,slow=11,SNR=29						
WRA				Sn	Sn	01 32 35.3	-3.8
	0.1nm,0.3s,baz=356,slow=25,SNR=3.6						
ASAR	Alice Springs	20.67	172	P	Pn	01 30 13.6	+1.1
	6.6nm,0.6s,baz=349,slow=10,SNR=54						
ASAR				S	S	01 33 58.7	-1.4
	0.1nm,0.3s,baz=0.2,slow=28,SNR=1.7						
STKA	Stephens Creek	30.40	161	P	P	01 31 45.2	+3.0
	0.8nm,0.4s,baz=343,slow=6.4,SNR=3.7						
MKAR	Makanchi Array	65.39	326	P	P	01 36 11.7	-0.8
	0.8nm,0.5s,baz=121,slow=7.6,SNR=8.2						
ZALV	Zalesovo Beam	68.44	333	P	P	01 36 31.2	-0.4
	0.5nm,0.4s,baz=116,slow=9.8,SNR=1.5						

IDC 12 01:34:24.5±13.0**, 27°.93N**×**84°.70E, h0**^{km}**, mb4.0**/3**, mb1 3.9**/4**, mb1mx3.4**/40**, mbtmp3.8**/4**, ML3.7**/1**, Error ellipse: s-maj=276.6km s-min=89.2km az=132.0, Nepal-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	18.92	355	P	P	01 38 47.0	+0.3
	0.2nm,0.3s,baz=182,slow=11,SNR=8.2						
ZALV	Zalesovo Beam	25.99	0	P	P	01 39 58.5	-0.3
	0.6nm,0.5s,baz=183,slow=10,SNR=1.9						
FINES	FINESS Array B	50.95	328	P	P	01 43 27.3	-0.1
	2.2nm,0.9s,baz=116,slow=8.7,SNR=6.5						
ARCES	ARCESS Array B	53.45	338	P	P	01 43 45.9	0.0
	2.6nm,0.9s,baz=103,slow=7.8,SNR=1.8						

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*BJI **12** 01:41:57.5±0.0, 6°.03S×147°.04E, h27^{km}, mB5.1/26, mb4.8/46, Ms4.7/5, Ms7 4.4/7*

*IDC **12** 01:41:59.9±2.3, 5°.99S×146°.76E, h20^{km}±14^{km}, mb4.5/19, mb1 4.7/21, mb1mx4.6/30, mbtmp4.7/21, ML4.3/2, MS3.9/25, Ms1 3.9/25, ms1mx3.8/32, Error ellipse: s-maj=14.2km s-min=9.0km az=109.0*

*MOS **12** 01:42:00.9±1.1, 5°.96S×146°.56E, h37^{km}, mb5.0/25, Error ellipse: s-maj=12.5km s-min=8.3km az=102.0*

*NEIC **12** 01:42:01.6±2.3, 5°.92S±0°.04×146°.56E±0°.08, h21^{km}±3^{km}, mb5.0/92, Error ellipse: s-maj=12.0km s-min=5.8km az=107.0*

*DJA **12** 01:42:05.7±0.4, 6°S±3°×14°7E±°, h59^{km}±4^{km}, M5.0/31, mb4.9/31, mB5.5/8, MLv4.9/4, Mw(mB)5.0/8, MwMwp6.2/1, Mwp6.2/1*

*GCMT **12** 01:42:07.6±0.4, 6°.08S±0°.02×146°.73E±0°.03, h37^{km}, MW5.0/58, Moment Tensor Solution. s35,c38; s58,c78; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.33±.29; $M_{\theta\theta}$-3.22±.17; $M_{\phi\phi}$-0.11±.19; $M_{r\theta}$-0.06±.15; $M_{\theta\phi}$2.74±.14; $M_{\phi r}$-0.15±.18; Best double couple: $M_0$4.08100×10^{16} NP1:ϕ_s295.00000°,δ45.00000°,λ83.00000°. NP2: ϕ_s125.00000°,δ45.00000°,λ97.00000°. Principal axes: T 3.3440, Plg85.0000°, Azm119.0000°; N 1.4660, Plg5.0000°, Azm300.0000°; P -4.8180, Plg0.0000°, Azm210.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 01:42:03.8±0.3**, 6°.01S**±0°.04×**146°.74E**±0°.05**, h52**^{km}**, n311, σ1**^{s}**62**/288**, mb4.9**/98**, MS4.0**/27**, 6C, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	3.99	9		Pn	01 43 01.2	-1.3
RABL	Rabaul	5.69	72		Pn	01 43 27.7	+1.8
RABL	Rabaul	5.69	72	P	Pn	01 43 29.4	+3.5
JAY	Jayapura	6.95	300	Pn	Pn	01 43 45.1	+2.0
	0.8nm,0.3s,baz=327,slow=3.9,SNR=4.2						
JAY				Sn	Sn	01 45 06.8	+5.9
	1.0nm,0.3s,baz=65,slow=16,SNR=0.9						
JAY				LR	LR	01 46 53.4	
	comp=Z,2μm,20.9s,baz=154,slow=42						
JAY	Jayapura	6.95	300	P	Pn	01 43 47.6	+4.5
	0.1nm26nm,0.9s						
GENI	Genyem	7.38	297	P	Pn	01 43 53.1	+4.1
	1.0nm3μm148nm,0.8s						
COEN	Coen	8.64	204	P	Pn	01 44 06.0	-0.4
	baz=8.7						
COEN				S	Sn	01 45 41.4	-1.0
	baz=8.7						
COEN	Coen	8.64	204	Pn	Pn	01 44 05.5	-0.8
MTSU	Mount Surprise	12.28	191	P	Pn	01 44 56.2	+0.1
	baz=12,SNR=5.1						
CTA	Charters Tower	14.00	182	Pn	Pn	01 45 20.9	+1.4
	1.0nm,0.3s,baz=4.3,slow=14,SNR=17						
CTAO	Charters Tower	14.00	182	P	Pn	01 45 18.5	-1.0
CTAO	Charters Tower	14.00	182	Pn	Pn	01 45 18.5	-1.0
KDU	Kakadu	15.56	244	P	Pn	01 45 38.5	-1.4
	baz=16,SNR=17						
QIS	Mount Isa	16.04	205	P	Pn	01 45 45.9	-0.1
	baz=16,SNR=8.0						
SIJI	Sorong	16.27	288	Pn	P	01 45 51.2	0.0
	2.8nm,0.3s,baz=64,slow=10,SNR=7.5						
SIJI				LR	LR	01 53 27.0	
	comp=Z,670nm,22.0s,baz=19,slow=42						
SIJI	Sorong	16.27	288	P	P	01 45 52.4	+1.2
	55nm,1.2s						
MTN	Manton Dam	16.82	245	P	Pn	01 45 55.7	-0.2
	baz=17,SNR=5.6						
MTN	Manton Dam	16.82	245	Pn	Pn	01 45 52.4	-3.5
WRAB	Tennant Creek	18.35	220	ceP	P	01 46 12.6	-1.6
WRAB				pmax	pmax		
	comp=Z,15nm,1.0s						
WRAB	Tennant Creek	18.35	220	P	P	01 46 13.4	-0.8
WB2	Warramunga Arr	18.35	220	P	P	01 46 13.4	-0.8
WRA	Warramunga Arr	18.36	220	P	P	01 46 14.1	-0.3
	comp=Z,0.8nm,0.3s,baz=42,slow=11,SNR=41						
WRA				S	Sn	01 49 39.8	+0.6
	baz=42,slow=21,SNR=4.9						
WRA				PcP	PcP	01 50 44.6	+0.5
	comp=Z,0.2nm,0.3s,baz=24,slow=0.6,SNR=6.0						
WRA				LR	LR	01 54 11.7	
	comp=Z,672nm,18.7s,baz=30,slow=40						
WRA				ScP	ScP	01 54 18.9	+3.4
	comp=Z,0.0nm,0.3s,baz=36,slow=2.2,SNR=2.7						
GUMO	Guam	19.56	355	P	P	01 46 27.2	-0.3
	comp=Z,1.9nm,0.3s,baz=137,slow=9.9,SNR=3.7						
GUMO				LR	LR	01 53 17.5	
	comp=Z,276nm,20.0s,baz=158,slow=35						
EIDS	Eidsvold	19.69	168	P	Pn	01 46 30.3	-0.4
	baz=20,SNR=8.3						
EIDS	Eidsvold	19.69	168	P	Pn	01 46 30.4	-0.3
KNRA	Kununurra	20.08	240	P	P	01 46 32.2	-0.9
	baz=20,SNR=8.8						
KNRA	Kununurra	20.08	240	P	P	01 46 32.3	-0.9
KNRA				IAmb	IAmb	01 46 56.1	
	comp=Z,52nm,1.0s						
RMQ	Roma	20.45	175	P	Pn	01 46 39.7	+0.1
	baz=21,SNR=18						
QLP	Quilpie	20.60	186	P	Pn	01 46 40.1	-1.3
	baz=21,SNR=5.4						
AS31	Alice Springs	21.46	214	P	P	01 46 48.1	+0.1
ASAR	Alice Springs	21.47	214	P	P	01 46 48.1	+0.1
	comp=Z,3.5nm,0.5s,baz=56,slow=8.4,SNR=30						
ASAR				S	S	01 50 45.1	+1.5
	comp=Z,5.8nm,0.9s,baz=36,slow=20,SNR=6.1						
ASAR				LR	LR	01 56 19.3	
	comp=Z,1μm,18.4s,baz=44,slow=40						
ASAR	Alice Springs	21.47	214	P	P	01 46 47.1	-1.0
ASAR	Alice Springs	21.47	214	P	P	01 46 47.1	-1.0
SOEI	Soe	22.57	259	P	P	01 46 58.7	-1.4
SOEI				IAmb	IAmb	01 47 26.3	
	comp=Z,66nm,0.9s						
SOEI	Soe	22.57	259	P	P	01 46 58.7	-1.4
	comp=Z,75nm,0.8s						
BATI	Baumata	23.22	258	P	P	01 47 06.7	+0.1
	comp=Z,17nm,0.3s,baz=38,slow=4.1,SNR=4.3						
BATI				LR	LR	01 58 25.9	
	comp=Z,724nm,20.6s,baz=79,slow=42						
BATI	Baumata	23.22	258	P	P	01 47 08.3	+1.6
	comp=Z,775nmcomp=Z,76nm,0.8s						
KMSI	Cibinong	23.65	285	P	P	01 47 27.0	+16
FITZ	Fitzroy Crossi	23.84	238	P	P	01 47 11.3	-1.1
	baz=24,SNR=52						
FITZ	Fitzroy Crossi	23.84	238	P	P	01 47 11.3	-1.1
	comp=Z,27nm,0.7s,baz=66,slow=7.6,SNR=69						
FITZ				LR	LR	01 57 35.7	
	comp=Z,577nm,18.1s,baz=57,slow=39						
FITZ	Fitzroy Crossi	23.84	238	P	P	01 47 12.2	-0.2
FITZ				IAmb	IAmb	01 47 21.5	
	comp=Z,41nm,0.9s						
MMRI	Maumere	24.44	262	P	P	01 47 18.0	+0.1
ARMA	Armidale	24.71	170	P	P	01 47 21.6	+1.2
	baz=25,SNR=4.6						
ARMA	Armidale	24.71	170	P	P	01 47 21.6	+1.2
DAV	Davao City (W)	24.79	301	LR	LR	01 57 21.0	
	comp=Z,139nm,21.7s,baz=149,slow=37						
DZM	Mont Dzumac	24.85	132	eP	P	01 47 21.0	-0.7
	comp=Z,100nm,0.9s						
DZM				eS	S	01 51 36.5	-4.7
	comp=Z,193nm,27.4s						
DZM				eLR	LR	01 53 30.2	
	comp=Z,868nm,28.8s						
DZM	Mont Dzumac	24.85	132	P	P	01 47 21.3	-0.4
	comp=Z,40nm,0.8s,baz=141,slow=23,SNR=18						
DZM				LR	LR	01 56 18.3	
	comp=Z,176nm,21.1s,baz=268,slow=34						
DZM	Mont Dzumac	24.85	132	P	P	01 47 21.4	-0.3
EDFI	Ende, Flores	24.99	262	P	P	01 47 21.4	-1.7
	comp=Z,21nm,0.7s						
ONTNC	Ouen Toro	25.00	132	P	P	01 47 22.4	-0.5
CMSA	Cobar Meteorol	25.41	182	P	P	01 47 28.5	+2.0
	baz=26,SNR=6.7						
MRSI	Marisa	25.58	284	P	P	01 47 50.7	+22
MARNC	Mare, Loyalty	25.71	129	P	P	01 47 30.9	+1.5
WRKA	Warakurna	25.89	221	P	P	01 47 30.1	-0.9
	baz=26,SNR=14						
STKA	Stephens Creek	26.18	190	P	P	01 47 33.5	0.0
	baz=26,SNR=5.6						
STKA	Stephens Creek	26.18	190	P	P	01 47 33.1	-0.5
	comp=Z,4.5nm,0.6s,baz=354,slow=7.3,SNR=12						
STKA				ScP	ScP	01 54 40.1	+4.9
	comp=Z,2.3nm,0.8s,baz=302,slow=4.5,SNR=3.1						
STKA				LR	LR	01 58 45.0	
	comp=Z,955nm,18.4s,baz=16,slow=38						
STKA	Stephens Creek	26.18	190	P	P	01 47 34.6	+1.0
STKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
STKA	Stephens Creek	26.18	190	P	P	01 47 34.6	+1.0
TOLI2	Tolitoli	26.87	284	P	P	01 47 38.4	-1.6
KAPI	Kappang	26.88	271	P	P	01 47 45.3	+5.2
	comp=Z,9.7nm,0.7s,baz=103,slow=14,SNR=4.4						
KAPI				LR	LR	02 01 02.0	
	comp=Z,89nm,18.6s,baz=113,slow=42						
KAPI	Kappang	26.88	271	P	P	01 47 39.8	-0.3
KAPI				pmax	pmax		
	comp=Z,42nm,1.5s						
KAPI	Kappang	26.88	271	P	P	01 47 39.8	-0.3
KAPI				IAmb	IAmb	01 48 00.1	
	comp=Z,42nm,1.4s						
TTSI	Tana Toraja	27.00	275	P	P	01 47 54.3	+13
YNG	Young	28.19	177	P	P	01 47 53.6	+2.0
	baz=28,SNR=7.6						
HTT	Hallett	28.23	194	P	P	01 47 52.9	+0.9
	baz=28,SNR=12						
ARPS	Mount Arapiles	30.94	188	P	P	01 48 16.8	+1.0
	baz=31,SNR=5.4						
MSVF	Nonsavu	32.72	114	P	P	01 48 31.6	-0.2
	comp=Z,20nm,1.0s,baz=223,slow=4.0,SNR=4.6						
MSVF				LR	LR	01 59 19.4	
	comp=Z,107nm,20.1s,baz=192,slow=32						
MSVF	Nonsavu	32.72	114	iP	P	01 48 32.5	+0.7
MSVF				pmax	pmax		
	comp=Z,16nm,0.8s						
MSVF	Nonsavu	32.72	114	P	P	01 48 33.9	+2.1
MEEK	Meekatharra	33.75	229	P	P	01 48 40.6	-0.1
	baz=34,SNR=17						
JOW	Kunigami	37.23	332	P	P	01 49 10.1	-0.3
BLDU	Ballidu	37.34	225	P	P	01 49 11.0	-0.4
	baz=37						
NWAO	Narrogin (SRO)	38.35	222	P	P	01 49 20.3	+0.4
	comp=Z,11nm,1.0s,baz=18,slow=12,SNR=1.7						
YULB	Yu-li	38.36	321	IAmb	IAmb	01 49 38.8	
	comp=Z,14nm,0.8s						
TPUB	Ta-pu	38.72	320	P	P	01 49 21.6	-1.5
TPUB				IAmb	IAmb	01 49 23.9	
	comp=Z,30nm,0.8s						
NACB	Ninganchiao	38.75	322	IAmb	IAmb	01 49 25.8	
	comp=Z,31nm,0.8s						
SSLB	Suanglung	38.87	321	P	P	01 49 24.2	-0.1
YHNB	Yeheng	39.24	322	IAmb	IAmb	01 49 32.9	
	comp=Z,42nm,1.2s						
TATO	Taipei	39.40	322	P	P	01 49 28.1	-0.6
JMN	Monobe	41.36	344	P	P	01 49 44.9	+0.1
JMN				IAmb	IAmb	01 49 46.6	
	comp=Z,22nm,0.8s						
JNU	Nakatsue	41.73	340	P	P	01 49 48.1	+0.2
JNU				IAmb	IAmb	01 49 49.4	
	comp=Z,28nm,1.0s						
WNVZ	Wahianoa	42.16	146	P	P	01 49 54.5	+3.0
URZ	Urewera	42.30	144	P	P	01 49 51.3	-1.2
	comp=Z,11nm,0.7s,baz=120,slow=22,SNR=5.3						
MDSI	Maura Dua	42.41	270	P	P	01 49 55.8	+2.1
	comp=Z,1μmcomp=Z,6.9nm,0.8s						
BKZ	Black Stump Fm	42.55	145	P	P	01 49 56.1	+1.5
KWHZ	Kaweka Forest	42.69	146	P	P	01 49 57.8	+2.1
TUWZ	Tuamarina	42.80	150	P	P	01 49 58.3	+1.8
KRHZ	Kereru	42.81	146	P	P	01 49 58.4	+1.7

PNHZ **Pukenui** 42.90 146 P **P** 01 49 58.9 +1.5
OGWZ **Otaki Gorge** 42.98 148 P **P** 01 49 59.7 +1.7
MJAR **Matsushiro Arr** 43.08 350 P **P** 01 49 57.8 -1.0
comp=Z,4.6nm,1.0s,baz=164,slow=8.0,SNR=8.4
MJAR LR LR 02 07 19.7
comp=Z,49nm,18.4s,baz=225,slow=35
MJAR Matsushiro Arr 43.08 350 P **P** **01 49 58.8 0.0**
MJAR pmax pmax
comp=Z,5.0nm,1.1s
MJAR Matsushiro Arr 43.08 350 P **P** **01 49 58.8 0.0**
MRZ Mangatainoka R 43.09 148 P **P** **01 50 00.1 +1.2**
DVHZ Dannevirke 43.15 147 P **P** **01 50 00.6 +1.2**
HOWZ Holdsworth Sta 43.22 148 P **P** **01 50 01.3 +1.3**
BFZ Birch Farm 43.46 147 P **P** **01 50 02.9 +1.1**
NJ2 Nanjing 46.25 327 *e*P **P** **01 50 24.8 +0.7**
NJ2 pmax pmax
comp=Z,12nm,0.5s
KSRS Korea Array 46.67 339 P **P** **01 50 27.8 +0.5**
comp=Z,13nm,1.0s,baz=157,slow=9.2,SNR=26
KSRS LR LR 02 07 04.1
comp=Z,166nm,21.9s,baz=154,slow=32
KSAR Wonju Array Be 46.67 339 P **P** **01 50 28.0 +0.7**
KSAR Wonju Array Be 46.67 339 P **P** **01 50 28.0 +0.7**
KS19 Wonju Array Si 46.73 339 P **P** **01 50 27.4 -0.4**
KS19 IAmb IAmb 01 50 29.3
comp=Z,20nm,1.1s
WHN Wuhan 47.78 321 P **P** **01 50 37.0 +0.9**
RPSI Rantau Prapat 48.53 279 P **P** **01 50 42.3 +0.1**
RPSI IAmb IAmb 01 50 51.9
comp=Z,28nm,1.3s
PSI Prapat 48.55 279 P **P** **01 50 42.3 -0.2**
PSI pmax pmax
comp=Z,28nm,1.3s
PSI Prapat 48.55 279 P **P** **01 50 44.5 +2.0**
comp=Z,22μmcomp=Z,5μmcomp=Z,93nm,0.5s
NONG Nongkai 49.22 300 P **P** **01 50 47.9 +0.5**
comp=Z,23nm,0.9s
NONG Nongkai 49.22 300 P **P** **01 50 47.0 -0.4**
comp=Z,23nm,0.9s
CHAI Chaiyaphum 49.36 297 P **P** **01 50 49.5 +1.0**
comp=Z,4.8nm,0.8s
SLVN Son La 50.03 304 P **P** **01 50 53.7 +0.1**
PKDT Phuket 50.22 285 P **P** **01 50 56.8 +1.8**
comp=Z,62nm,1.1s
PKDT Phuket 50.22 285 P **P** **01 50 56.0 +1.0**
comp=Z,62nm,1.1s
PHET Kaeng Krachan 50.44 292 P **P** **01 50 58.0 +1.3**
comp=Z,12nm,0.9s
PHIT Phitsanulok 51.25 298 P **P** **01 51 04.7 +2.0**
comp=Z,43nm,0.9s
PHIT Phitsanulok 51.25 298 P **P** **01 51 04.0 +1.3**
comp=Z,11nm,0.9s
UTTA Uttaradit 51.34 298 P **P** **01 51 04.0 +0.6**
comp=Z,3.5nm,0.8s
UTHA Uthaitani 51.51 295 P **P** **01 51 06.1 +1.4**
comp=Z,91nmcomp=Z,8.4nm,0.9s
USRK Ussuriysk Ar. 51.72 347 P **P** **01 51 05.3 -0.5**
comp=Z,4.0nm,0.8s,baz=138,slow=8.9,SNR=5.5
UMPA Umpang Tak 52.27 296 P **P** **01 51 11.9 +1.5**
comp=Z,202nmcomp=Z,12nm,0.9s
CM36 Chiang Mai Arr 52.92 298 P **P** **01 51 16.0 +0.8**
CM04 Chiang Mai Arr 52.98 298 P **P** **01 51 17.5 +1.9**
comp=Z,110nmcomp=Z,15nm,0.9s
CM04 Chiang Mai Arr 52.98 298 P **P** **01 51 17.0 +1.4**
comp=Z,110nmcomp=Z,15nm,0.9s
CM09 Chiang Mai Arr 52.98 298 P **P** **01 51 17.6 +2.0**
comp=Z,116nmcomp=Z,14nm,1.0s
CM09 Chiang Mai Arr 52.98 298 P **P** **01 51 17.7 +2.1**
comp=Z,116nmcomp=Z,14nm,1.0s
CM01 Chiang Mai Arr 53.00 298 P **P** **01 51 17.7 +1.9**
comp=Z,105nmcomp=Z,8.0nm,0.8s
CM01 Chiang Mai Arr 53.00 298 P **P** **01 51 17.0 +1.2**
comp=Z,105nmcomp=Z,8.0nm,0.8s
CM05 Chiang Mai Arr 53.01 298 P **P** **01 51 17.3 +1.5**
comp=Z,91nmcomp=Z,12nm,1.0s
CM05 Chiang Mai Arr 53.01 298 P **P** **01 51 17.0 +1.2**
comp=Z,91nmcomp=Z,12nm,1.0s
CM02 Chiang Mai Arr 53.02 298 P **P** **01 51 17.7 +1.8**
comp=Z,106nmcomp=Z,12nm,0.9s
CM02 Chiang Mai Arr 53.02 298 P **P** **01 51 17.0 +1.1**
comp=Z,106nmcomp=Z,12nm,0.9s
CMAR Chiang Mai Arr 53.03 298 P **P** **01 51 17.2 +1.2**
comp=Z,5.2nm,0.6s,baz=120,slow=5.9,SNR=23
CMAR LR LR 02 12 00.5
comp=Z,40nm,21.4s,baz=184,slow=34
CMAR Chiang Mai Arr 53.03 298 P **P** **01 51 16.1 +0.1**
CM15 Chiang Mai Arr 53.04 298 P **P** **01 51 18.3 +2.2**
CM15 Chiang Mai Arr 53.04 298 P **P** **01 51 18.3 +2.2**
CM13 Chiang Mai Arr 53.05 298 P **P** **01 51 17.9 +1.8**
comp=Z,106nmcomp=Z,12nm,0.9s
CM13 Chiang Mai Arr 53.05 298 P **P** **01 51 17.9 +1.8**
comp=Z,106nmcomp=Z,12nm,0.9s
CMMT Chiang Mai 53.16 299 P **P** **01 51 18.6 +1.6**
CMMT Chiang Mai 53.16 299 P **P** **01 51 18.6 +1.6**
comp=Z,11nm,1.0s
CHTO Chiang Mai 53.17 299 P **P** **01 51 16.6 -0.4**
CHTO pmax pmax
comp=Z,18nm,1.3s
CHTO Chiang Mai 53.17 299 P **P** **01 51 18.7 +1.7**
comp=Z,12nm,1.0s
CHTO Chiang Mai 53.17 299 P **P** **01 51 16.6 -0.4**
CHTO IAmb IAmb 01 51 27.6
comp=Z,18nm,1.2s
CHTO Chiang Mai 53.17 299 P **P** **01 51 18.7 +1.7**
comp=Z,6.6nm,1.0s
XAN Xi'an 53.53 321 P **P** **01 51 18.9 -0.5**
XAN pP pP 01 51 34.2 +0.6
XAN pmax pmax
comp=Z,30nm,1.1s
BJI Beijing 53.79 331 P **P** **01 51 22.2 +1.1**
BJI pP **pP** **01 51 29.0 -6.4**
BJI sP sP 01 51 32.6 -8.8
BJI pmax pmax
comp=Z,11nm,0.8s
CD2 Chengdu 55.10 314 P **P** **01 51 30.8 -0.1**
CD2 pmax pmax
comp=Z,20nm,0.8s
KLR Kul'dur 56.55 348 *ce*P **P** **01 51 42.6 +1.7**
HHC Hu-ho-hao-te 56.71 328 *e*P **P** **01 51 46.6 +4.3**
HHC pmax pmax
comp=Z,15nm,1.2s
HHC pmax pmax
comp=Z,130nm,5.7s
LZH Lanzhou 58.05 319 *e*P **P** **01 51 53.1 +1.1**
LZH pP pP 01 52 03.7 -3.1
LZH sP sP 01 52 09.5 -3.4
LZH pmax pmax
comp=Z,31nm,1.3s
LZH pmax pmax
comp=Z,110nm,6.0s
PETK Petropavlovsk- 59.62 8 P **P** **01 52 03.2 +0.9**
comp=Z,5.0nm,0.7s,baz=106,slow=4.8,SNR=4.6
PETK LR LR 02 13 25.8
comp=Z,238nm,21.8s,baz=203,slow=32
ZEA Zeya 61.75 347 *e*P P 01 52 05.3 -11
ZEA pmax pmax
comp=Z,10.0nm,0.4s
SHL Shillong 61.81 303 P **P** **01 52 17.8 -0.2**
SHL pmax pmax
comp=Z,7.0nm,0.9s
SHL Shillong 61.81 303 P **P** **01 52 17.8 -0.2**
SHL IAmb IAmb 01 52 34.3
comp=Z,7.2nm,0.9s
GTA Gaotai 62.59 320 *e*P **P** **01 52 23.2 +0.4**
GTA pP pP 01 52 32.4 -5.4
GTA sP sP 01 52 37.5 -6.4
GTA pmax pmax
comp=Z,5.0nm,1.0s
PPT2 Papeete2 63.14 107 *e*S **S** **02 00 53.4 -1.3**
comp=Z,3μm,36.8s
PPT2 Papeete2 63.14 107 *e*LR LR 02 11 05.4
comp=Z,118nm,24.2s
AMKA Amchitka 63.62 22 P **P** **01 52 30.6 +1.4**
ULN Ulaanbaatar 63.99 331 *ce*P **P** **01 52 32.7 +0.7**
ULN pmax pmax
comp=Z,12nm,1.3s
ULN Ulaanbaatar 63.99 331 P **P** **01 52 32.1 +0.1**
ULN IAmb IAmb 01 52 33.5
comp=Z,7.5nm,0.9s
ULN Ulaanbaatar 63.99 331 P **P** **01 52 32.8 +0.7**
comp=Z,44nm,1.3s
SONM Songino Array 64.29 331 P **P** **01 52 34.4 +0.5**
comp=Z,3.6nm,0.9s,baz=146,slow=5.9,SNR=18
SONM LR LR 02 21 30.2
comp=Z,70nm,19.7s,baz=135,slow=37
SONM PKP2bc 02 21 30.4
comp=Z,1.8nm,1.0s,baz=312,slow=2.5,SNR=7.0
SONM Songino Array 64.29 331 P **P** **01 52 34.0 +0.1**
SONM pmax pmax
comp=Z,17nm,1.5s
SONM Songino Array 64.29 331 P **P** **01 52 34.0 +0.1**
SONM IAmb IAmb 01 52 36.0
comp=Z,16nm,1.5s
CASY Casey 65.18 195 P **P** **01 52 39.1 -0.1**
ZAK Zakamensk 67.53 332 *e*P **P** **01 52 53.7 -1.0**
ZAK pmax pmax
comp=Z,12nm,1.2s
YAK Yakutsk 69.11 351 *e*P **P** **01 53 04.2 0.0**
YAK pmax pmax
comp=Z,20nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.3s
YAK pmax pmax
comp=E,2.0nm,1.0s
VNDA Vanda 71.92 177 P **P** **01 53 21.8 +0.7**
comp=E,4.1nm,0.7s,baz=333,slow=6.2,SNR=27
VNDA LR LR 02 23 25.7
comp=E,76nm,19.1s,baz=344,slow=35
VNDA Vanda 71.92 177 P **P** **01 53 22.2 +1.1**
VNDA pmax pmax
comp=Z,7.0nm,1.0s
VNDA Vanda 71.92 177 P **P** **01 53 22.2 +1.1**
WMQ Urumqi 72.63 319 *e*P **P** **01 53 28.3 +2.2**
WMQ pmax pmax
comp=Z,18nm,0.9s
WMQ pmax pmax
comp=Z,150nm,5.1s
WMQ LR LR
comp=Z,560nm,17.9s
BILL Bilibino 75.16 7 *e*P **P** **01 53 41.3 +1.1**
BILL *e* 01 53 54.8
BILL *e* 01 56 35.4
BILL pmax pmax
comp=Z,16nm,1.3s
BILL MLR MLR
comp=Z,104nm,17.0s
BILL Bilibino 75.16 7 P **P** **01 53 40.7 +0.5**
DGZ Jazzator, Alta 75.49 325 *i* P **P** **01 53 41.2 -1.5**
DGZ pmax pmax
comp=Z,5.0nm,1.3s
MK31 Makanchi Array 77.34 321 P **P** **01 53 52.3 -0.8**
MK31 pmax pmax
comp=Z,7.0nm,1.2s
MK31 Makanchi Array 77.34 321 P **P** **01 53 52.3 -0.8**
MKAR Makanchi Array 77.34 321 P **P** **01 53 51.8 -1.3**
comp=Z,3.5nm,0.9s,baz=102,slow=5.6,SNR=17
MKAR Makanchi Array 77.34 321 *i* P **P** **01 53 52.5 -0.6**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
TIXI Tiksi 78.39 354 *ce*P **P** **01 53 57.4 -1.0**
ZALV Zalesovo Beam 78.88 328 P **P** **01 53 59.8 -1.6**
comp=Z,1.9nm,0.5s,baz=112,slow=6.5,SNR=6.7
ZALV LR LR 02 28 05.2
comp=Z,64nm,21.2s,baz=110,slow=35
ZALV Zalesovo Beam 78.88 328 P **P** **01 53 59.7 -1.8**
KSH Kashi 79.19 312 P **P** **01 54 03.9 +0.3**
KSH pmax pmax
comp=Z,4.0nm,0.6s
NIL Nilore 79.72 306 P **P** **01 54 06.1 -0.4**
NIL pmax pmax
comp=Z,20nm,1.2s
NIL Nilore 79.72 306 P **P** **01 54 06.1 -0.4**
NIL IAmb IAmb 01 54 07.2
comp=Z,20nm,1.1s
KDAK Kodiak Island 80.03 28 P **P** **01 54 08.3 +0.8**
baz=242
BOOM Boomskoye usch 80.10 315 P **P** **01 54 07.6 -1.0**
BOOM pmax pmax
comp=Z,3.0nm,0.7s
BOOM Boomskoye usch 80.10 315 P **P** **01 54 07.6 -1.0**
SVW2 Sparrevohn 80.36 25 P **P** **01 54 10.3 +1.0**
SVW2 IAmb IAmb 01 54 39.0
comp=Z,13nm,1.0s
P19K Oil Pt 80.64 26 P **P** **01 54 11.2 +0.4**
baz=241
N19K Bonanza Creek 80.67 25 P **P** **01 54 12.1 +1.0**
baz=240
AAK Ala-Archa 81.17 315 *ce*P **P** **01 54 13.2 -1.1**
AAK pmax pmax
comp=Z,20nm,1.7s
AAK Ala-Archa 81.17 315 P **P** **01 54 13.7 -0.6**
L19K White Mountain 81.22 24 IAmb IAmb 01 54 15.9
comp=Z,12nm,1.0s
L19K White Mountain 81.22 24 P **P** **01 54 15.5 +1.6**
baz=239
L20K Farewell, AK 81.77 24 P **P** **01 54 18.3 +1.5**
baz=240
M20K Styx River 81.77 25 IAmb IAmb 01 54 20.3
comp=Z,15nm,1.1s
M20K Styx River 81.77 25 P **P** **01 54 18.1 +1.2**
baz=241
K20K Telida 82.14 23 P **P** **01 54 20.3 +1.6**
baz=240
MAW Mawson 82.14 203 P **P** **01 54 17.6 -1.0**
baz=82,SNR=5.2
MAW Mawson 82.14 203 LR LR 02 30 02.1
comp=Z,100nm,19.3s,baz=62,slow=35
MAW Mawson 82.14 203 P **P** **01 54 17.5 -1.1**
MAW pmax pmax
comp=Z,1.0nm,0.4s
MAW Mawson 82.14 203 P **P** **01 54 17.5 -1.1**
J20K Nowinta River 82.52 22 IAmb IAmb 01 54 22.7
comp=Z,6.9nm,0.9s
J20K Nowinta River 82.52 22 P **P** **01 54 22.1 +1.4**
baz=240
CAST Castle Rocks 82.94 23 IAmb IAmb 01 54 23.6
comp=Z,5.6nm,0.8s
CAST Castle Rocks 82.94 23 P **P** **01 54 22.7 -0.2**
baz=242
CHUM Lake Minchumin 83.08 23 P **P** **01 54 24.3 +0.8**
baz=241
PMR Palmer 83.33 26 P **P** **01 54 24.8 -0.1**
baz=244
KTH Kantishna Hill 83.47 24 IAmb IAmb 01 54 25.9
comp=Z,11nm,1.0s
BPAW Bear Paw Mtn. 83.70 23 P **P** **01 54 26.7 -0.1**
baz=242
SML Sawmill 83.76 26 P **P** **01 54 27.5 +0.3**
baz=245
I21K Tanana 83.83 22 IAmb IAmb 01 54 29.2
comp=Z,11nm,1.1s
I21K Tanana 83.83 22 P **P** **01 54 28.3 +0.9**
baz=242
QSPA South Pole Qui 83.96 180 LR LR 02 30 22.2
comp=Z,171nm,20.6s,baz=12,slow=35
QSPA South Pole Qui 83.96 180 P **P** **01 54 28.2 -0.1**
QSPA IAmb IAmb 01 54 39.1
comp=Z,6.2nm,0.8s
CHGR Chuyangaron 84.10 310 P **P** **01 54 29.2 -0.3**
CHGR IAmb IAmb 01 54 39.5
comp=Z,12nm,1.0s
WAT1 Susitna Watana 84.11 25 P **P** **01 54 28.9 0.0**
baz=245
KK31 Karatay Array 84.11 314 P **P** **01 54 28.5 -0.9**
KK31 pmax pmax
comp=Z,4.0nm,1.1s
KK31 Karatay Array 84.11 314 P **P** **01 54 28.5 -0.9**
KKAR Karatay Array 84.11 314 P **P** **01 54 28.2 -1.2**
KKAR Karatay Array 84.11 314 P **P** **01 54 28.2 -1.2**
MLY Manley 84.22 22 IAmb IAmb 01 54 30.6
comp=Z,11nm,0.8s
MLY Manley 84.22 22 P **P** **01 54 29.8 +0.3**
baz=243
MCK McKinley 84.34 24 P **P** **01 54 29.6 -0.4**
baz=244
NEA2 Nenana 84.66 23 IAmb IAmb 01 54 31.8
comp=Z,6.9nm,0.8s
NEA2 Nenana 84.66 23 P **P** **01 54 31.4 -0.3**
baz=244
KLU Klutina 84.69 26 P **P** **01 54 33.0 +1.1**
DHY Denali Highway 84.70 25 IAmb IAmb 01 54 33.0
comp=Z,12nm,0.9s
DHY Denali Highway 84.70 25 P **P** **01 54 32.5 +0.5**
baz=246
I23K Minto, Yukon-K 84.80 22 P **P** **01 54 32.6 +0.4**
baz=244
WRH Wood River Hil 84.99 23 IAmb IAmb 01 54 33.4
comp=Z,13nm,1.0s
H23K Yukon River 85.03 22 IAmb IAmb 01 54 47.4
comp=Z,14nm,1.3s
H23K Yukon River 85.03 22 P **P** **01 54 34.2 +0.7**
baz=244

CCB Clear Creek Bu 85.18 23 IAmb IAmb 01 54 34.1
comp=Z,11nm,0.8s
TCOL CIGO, UAF Yank 85.25 23 P **P** **01 54 34.2 -0.4**
baz=245
COLA College 85.26 23 P **P** **01 54 34.0 -0.6**
COLA pmax pmax
comp=Z,15nm,0.9s
COLA College 85.26 23 P **P** **01 54 34.0 -0.6**
HDA Harding Lake 85.42 24 IAmb IAmb 01 54 36.2
comp=Z,5.4nm,0.8s
HDA Harding Lake 85.42 24 P **P** **01 54 35.1 -0.4**
baz=246
ILAR Eielson Array 85.59 23 P **P** **01 54 34.9 -1.4**
comp=Z,9.3nm,0.7s,baz=252,slow=5.1,SNR=69
ILAR LR LR 02 28 44.5
comp=Z,90nm,21.7s,baz=278,slow=33
H24K Noodor Dome 85.66 22 P **P** **01 54 36.9 +0.2**
baz=245
RIDG Independent Ri 86.01 24 IAmb IAmb 01 54 38.9
comp=Z,8.3nm,0.9s
RIDG Independent Ri 86.01 24 P **P** **01 54 38.5 +0.1**
baz=248
J25K Salcha River, 86.13 24 P **P** **01 54 39.0 0.0**
baz=248
DOT Dot Lake 86.30 25 P **P** **01 54 40.2 +0.3**
DOT IAmb IAmb 01 54 40.8
comp=Z,11nm,0.9s
L26K Log Cabin Wild 86.38 25 P **P** **01 54 40.9 +0.6**
baz=250
SCRK Sand Creek 86.45 24 P **P** **01 54 40.9 +0.2**
baz=249
CTG Chitna Glacier 86.57 28 P **P** **01 54 42.4 +1.0**
baz=252
M27K Edge Creek, AK 86.78 26 P **P** **01 54 43.6 +1.1**
baz=251
J26L Joseph Creek 86.81 24 P **P** **01 54 43.1 +0.6**
baz=249
L27K Beaver Creek, 87.04 26 IAmb IAmb 01 54 44.5
comp=Z,7.1nm,1.1s
L27K Beaver Creek, 87.04 26 P **P** **01 54 44.2 +0.7**
baz=251
YUK3 Moose Creek 87.23 27 P **P** **01 54 45.6 +0.9**
baz=252
BVCY Beaver Creek 87.25 26 P **P** **01 54 45.8 +1.3**
baz=252
K27K Chicken 87.26 25 P **P** **01 54 45.8 +1.3**
baz=251
EGAK Eagle 87.88 24 IAmb IAmb 01 54 48.7
comp=Z,7.2nm,0.8s
EGAK Eagle 87.88 24 P **P** **01 54 48.0 +0.6**
baz=252
HYT Haines Junctio 88.32 28 IAmb IAmb 01 54 54.5
comp=Z,8.4nm,0.9s
DAWY Dawson 88.39 25 P **P** **01 54 50.9 +1.0**
baz=253
HRA Herat 88.83 305 P **P** **01 54 52.0 -0.9**
HRA IAmb IAmb 01 54 53.5
comp=Z,6.1nm,1.3s
EPYK Eagle Plains 90.11 23 P **P** **01 54 58.4 +0.5**
baz=256
ABKAR Akbulak array 92.42 319 P **P** **01 55 06.6 -2.4**
GEYT Alibeck 92.57 308 LR LR 02 43 15.9
comp=Z,16nm,18.1s,baz=40,slow=40
O02D Mt. Diablo Mer 94.19 50 P **P** **01 55 19.5 +2.0**
baz=266
M02C Callahan 94.23 49 P **P** **01 55 19.8 +2.1**
baz=266
YBH Yreka Blue Hor 94.36 49 P **P** **01 55 19.1 +0.8**
YBH pmax pmax
comp=Z,8.0nm,1.3s
YBH Yreka Blue Hor 94.36 49 P **P** **01 55 19.1 +0.8**
YBH IAmb IAmb 01 55 20.3
comp=Z,8.3nm,1.2s
WDC Whiskeytown Da 94.41 50 P **P** **01 55 19.5 +1.2**
WDC pmax pmax
comp=Z,8.0nm,1.3s
WDC Whiskeytown Da 94.41 50 P **P** **01 55 19.5 +1.2**
WDC IAmb IAmb 01 55 19.8
comp=Z,7.9nm,1.2s
O03E Paynes Creek 94.95 50 P **P** **01 55 22.3 +1.4**
baz=266
ORV Oroville 95.14 51 IAmb IAmb 01 55 23.7
comp=Z,4.8nm,1.1s
PAHR Pah Rah Range 96.78 51 P **P** **01 55 30.1 +0.7**
B08A Colville Reser 97.06 42 P **P** **01 55 30.0 -0.3**
B08A IAmb IAmb 01 55 33.1
comp=Z,6.7nm,1.2s
NVAR Mina Array Bea 97.58 52 P Pdif 01 55 34.0 +0.8
comp=Z,1.2nm,0.8s,baz=259,slow=5.7,SNR=6.9
NVAR LR LR 02 36 15.9
comp=Z,53nm,18.3s,baz=272,slow=33
NVAR Mina Array Bea 97.58 52 P Pdif 01 55 33.5 +0.3
BMO Blue Mountains 98.42 46 IAmb IAmb 01 55 38.0
comp=Z,3.2nm,1.1s
F10A Beach Ranch, E 98.48 45 IAmb IAmb 01 55 38.7
comp=Z,3.5nm,0.9s
NEW Newport 98.53 42 IAmb IAmb 01 55 38.7
comp=Z,3.7nm,1.0s
NEW Newport 98.53 42 P Pdif 01 55 38.6 +1.6
baz=271
YKA Yellowknife Ar 99.30 28 LR LR 02 39 33.3
comp=Z,13nm,19.5s,baz=0.0,slow=35
SNAA Sanae 99.94 189 Pdiff **Pdif** **01 55 42.9 0.0**
SPR3 Spring Creek 3 100.69 52 Pdif **Pdif** **01 55 48.6 +1.4**
VNA2 Neumayer--Watz 101.30 188 Pdiff **Pdif** **01 55 48.9 0.0**
PDAR Pinedale Array 104.11 48 Pdiff **Pdif** **01 56 02.7 +0.5**
comp=Z,0.6nm,0.9s,baz=270,slow=4.4,SNR=5.2
TXAR Lajitas Array 109.99 61 PKiKP **PKiKP** **02 00 30.6 +0.3**
comp=Z,0.6nm,1.0s,baz=352,slow=2.7,SNR=3.9
MNK Minsk 111.38 327 *i* P **Pdif** **01 56 30.7 -3.1**
MNK *i* 02 07 36.1
MNK *i* PS PKKPbc 02 10 37.4 -52
MNK *i* SS SS 02 16 38.2 -4.3
MNK *i* SSS SSS 02 20 45.8
MNK pmax pmax
comp=Z,7.0nm,1.3s
MNK pmax pmax
comp=E,2.0nm,1.3s
MNK pmax pmax
comp=N,12nm,1.2s
MNK MLR MLR
comp=Z,169nm,20.0s
MNK MLR MLR
comp=N,21nm,15.0s
MNK MLR MLR
comp=E,7.0nm,17.0s
MNK Minsk 111.38 327 *i* P **Pdif** **01 56 30.7 -3.1**
comp=E,2.0nm,1.3s
MNK *i* P **Pdif** **01 56 30.7 -3.1**
comp=N,12nm,1.2s
MNK *i* P **Pdif** **01 56 30.7 -3.1**
comp=Z,7.0nm,1.3s,baz=69
MNK *i* PKP PKiKP 02 00 22.1 -10
MNK *i* PP **PP** **02 01 05.7 -7.0**
MNK *i* PPP PPP 02 03 26.4
MNK *i* SKS **SKSdf** **02 07 36.2 -3.5**
MNK *i* PS **PS** **02 10 37.4 -7.8**
MNK *i* SS **SS** **02 16 38.2 -4.2**
MNK *i* SSS SSS 02 20 45.8
MNK *i* LQ LQ 02 39 12.4
MNK *i* LR LR 02 44 40.5
MNK *i* LRM MLR 02 46 57.3
comp=Z,169nm,20.3s
MNK *i* LRM MLR 02 47 04.5
comp=N,21nm,15.2s
MNK *i* LRM MLR 02 47 16.1
comp=E,7.0nm,17.4s
CLL Collm 120.84 328 *e*PKPdf **PKiKP** **02 00 51.0 +0.6**
CLL Lm MLR 02 54 00.0
comp=Z,100nm,19.3s
GERES GERESS Array B 121.77 325 PKP **PKPdf** **02 00 50.5 -1.8**
comp=Z,0.4nm,0.7s,baz=114,slow=1.6,SNR=3.9
PLCA Paso Flores 122.25 147 PKP **PKiKP** **02 00 53.6 0.0**
comp=Z,3.8nm,0.8s,baz=232,slow=3.7,SNR=7.9
LC01 Cunco 122.78 145 **PKiKP** **02 00 55.6 +1.0**
PB11 IPOC Station P 135.97 126 PKPdf **PKiKP** **02 01 21.0 -0.8**
LPAZ La Paz 138.99 123 PKhKP PKPpre 02 01 18.8
comp=Z,3.9nm,0.8s,baz=264,slow=2.9,SNR=12
LPAZ PKP **PKiKP** **02 01 27.6 -1.0**
comp=Z,9.8nm,0.8s,baz=260,slow=6.0,SNR=19
LPAZ La Paz 138.99 123 PKiKP **PKPdf** **02 01 27.4 +1.0**
LPAZ La Paz 138.99 123 PKPdf **PKPdf** **02 01 27.4 +1.0**
CPUP Villa Florida 140.27 145 PKP **PKPdf** **02 01 28.5 +0.8**
comp=Z,9.6nm,1.1s,baz=254,slow=1.8,SNR=8.0
CPUP Villa Florida 140.27 145 PKiKP **PKiKP** **02 01 29.2 -1.1**
CPUP Villa Florida 140.27 145 PKPdf **PKiKP** **02 01 29.1 -1.1**

RUSC	**La Rusia**	**140.40**	**88**	PKPdf	**PKPdf**	**02 01 25.4**	**-3.4**
TORD	**Torodi Ar. Bea**	**144.84**	**284**	PKP	**PKPab**	**02 01 35.1**	**-0.1**
	comp=Z,19nm,0.8s,baz=66,slow=3.1,SNR=8.4						
TORD				SKPbc	**SKiKP**	**02 05 14.7**	**+2.7**
	comp=Z,1.0nm,0.8s,baz=102,slow=1.8,SNR=4.6						
TORD	**Torodi Ar. Bea**	**144.84**	**284**	PKPdf	PKPbc	02 01 35.3	0.0
OBIP	**Obispado Ponce**	**145.33**	**67**	PKPdf	**PKPbc**	**02 01 36.4**	**-0.4**
SJG	**San Juan**	**145.73**	**67**	PKiKP	**PKPdf**	**02 01 37.0**	**-0.5**
SJG	**San Juan**	**145.73**	**67**	PKPdf	**PKPdf**	**02 01 37.0**	**-0.5**
PDPR	**Patillas Dam,**	**145.88**	**67**	PKPdf	**PKPdf**	**02 01 37.4**	**-0.4**
HUMP	**Col San Antoni**	**146.00**	**66**	PKPbc	**PKPbc**	**02 01 38.9**	**+0.1**
KIC	**Kosan Boka**	**151.65**	**272**	*e*PKP1	**PKiKP**	**02 01 55.0**	**+1.0**
	comp=Z,47nm,0.8s						
DBIC	**Dimbokro**	**151.77**	**273**	PKPbc	**PKiKP**	**02 01 54.5**	**+0.3**
	comp=Z,26nm,0.7s,baz=107,slow=1.9,SNR=38						
TIC	**Toumodi**	**151.93**	**273**	*e*PKP1	**PKiKP**	**02 01 55.6**	**+1.0**
LIC	**Lamto**	**151.93**	**272**	*e*PKP1	**PKiKP**	**02 01 54.6**	**0.0**
	comp=Z,117nm,0.8s						
BDFB	**Brasilia**	**153.99**	**146**	PKP	**PKPdf**	**02 01 51.8**	**+1.0**
	comp=Z,12nm,1.0s,baz=186,slow=3.7,SNR=10						
BDFB				PKPbc	**PKiKP**	**02 01 59.6**	**+0.7**
	comp=Z,6.4nm,0.5s,baz=233,slow=1.1,SNR=9.9						
BDFB	**Brasilia**	**153.99**	**146**	PKiKP	**PKPdf**	**02 01 52.2**	**+1.4**
BDFB	**Brasilia**	**153.99**	**146**	PKPdf	**PKPdf**	**02 01 52.2**	**+1.4**

FUNV 12 01:43:01.0, 11°43N×69°47W, h20km, MW3.5, 1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MONV	**Montecano**	**0.71**	**317**	⇓*iP*		Pb 01 43 14.3	-0.5
MONV				*eS*		Sg 01 43 24.8	+0.1
JACV	**Jacura**	**0.71**	**119**	*eP*		Pb 01 43 14.9	+0.1
JACV				*eS*		Sg 01 43 25.5	+0.8
SIQV	**Siquisique**	**0.85**	**203**	*eP*		Pb 01 43 16.4	-0.7
SIQV				*eS*		Sb 01 43 27.7	-0.3
HATO	**Hato, Curacao**	**0.90**	**34**	*eP*		Pb 01 43 17.4	-0.5
HATO				*eS*		Sb 01 43 29.8	+0.4
AUA1	**Aruba**	**1.19**	**334**	*eP*		Pb 01 43 22.9	-0.1
AUA1				*eS*		Sn 01 43 38.3	+0.2
DABV	**Dabajuro**	**1.25**	**246**	*eP*		Pn 01 43 23.1	-0.3
DABV				*eS*		Sb 01 43 39.4	-0.3
TURV	**Turiamo**	**1.88**	**121**	*eP*		Pn 01 43 30.8	-1.2
TURV				*eS*		Sn 01 43 53.2	-1.9
BENV	**Beln**	**2.35**	**128**	*eP*		Pn 01 43 38.4	-0.2
BENV				*eS*		Sn 01 44 05.6	-1.3
TACV	**Tcata**	**2.72**	**118**	*eP*		Pn 01 43 42.2	-1.5
TACV				*eS*		Sn 01 44 14.3	-1.8
SDV	**Santo Domingo**	**2.78**	**204**	*eP*		Pn 01 43 44.5	-0.1
SDV				*eS*		Sn 01 44 15.9	-1.8
BAUV	**El Baul**	**2.85**	**150**	*eP*		Pn 01 43 45.0	-0.4
BAUV				*eS*		Sn 01 44 16.8	-2.3
BIRV	**Birongo**	**3.28**	**107**	*eP*		Pn 01 43 49.7	-1.7
BIRV				*eS*		Sn 01 44 27.3	-2.6
SOCV	**Socops**	**3.41**	**204**	*eP*		Pn 01 43 52.4	-0.9
SOCV				*eS*		Sn 01 44 30.6	-2.6
MERV	**Las Mercedes**	**3.80**	**124**	*eP*		Pn 01 43 57.5	-1.0
MERV				*eS*		Sn 01 44 39.3	-3.4
ELOV	**Elorza**	**4.40**	**180**	*eP*		Pn 01 44 05.8	-1.0
ELOV				*eS*		Sn 01 44 53.2	-4.4
CACV	**CAICARA DEL OR**	**4.81**	**143**	*eP*		Pn 01 44 16.6	+4.3
PCRV	**Puerto La Cruz**	**4.91**	**104**	*eP*		Pn 01 44 12.5	-1.3
PAYV	**Puerto Ayacuch**	**6.24**	**163**	*eP*		Pn 01 44 30.5	-1.5

IDC **12** *01:51:42.3±3.2, 6°.86S×146°.72E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/24, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=109.8km s-min=32.3km az=113.0*

ISC 12 01:51:48.1±3.3, 6°.8S±0°.3×146°.4E±0°.7, h30km, n6, σ1§**52**/6**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.55**	**221**	P	**P**	**01 55 52.6**	**+1.0**
	0.1nm,0.3s,baz=43,slow=12,SNR=8.8						
ASAR	**Alice Springs**	**20.63**	**214**	P	**P**	**01 56 26.1**	**+0.8**
	0.4nm,0.4s,baz=51,slow=8.4,SNR=4.6						
FITZ	**Fitzroy Crossi**	**23.16**	**239**	P	**P**	**01 56 51.3**	**-1.0**
	1.7nm,0.7s,baz=60,slow=7.5,SNR=7.1						
MKAR	**Makanchi Array**	**77.76**	**321**	P	**P**	**02 03 43.6**	**+1.3**
	0.8nm,0.7s,baz=101,slow=7.3,SNR=4.9						
TORD	**Torodi Ar. Bea**	**144.73**	**283**	PKPbc	**PKPbc**	**02 11 21.0**	**-1.0**
	2.0nm,0.7s,baz=68,slow=3.3,SNR=12						
DBIC	**Dimbokro**	**151.49**	**271**	PKPbc	**PKPbc**	**02 11 39.0**	**-1.3**
	1.9nm,0.5s,baz=86,slow=3.7,SNR=3.6						

ISK **12** *02:08:48.8, 43°.46N×45°.48E, h5km, ML3.2/9*
IDC **12** *02:08:50.0±0.7, 43°.53N×45°.68E, h134km±7km, mb3.4/10, mb1 3.6/22, mb1mx3.4/45, mbtmp4.0/22, MS3.5/2, Ms1 3.5/2, ms1mx2.3/45, Error ellipse: s-maj=12.3km s-min=9.7km az=110.0*
TIF **12** *02:08:49.8, 43°.70N×45°.65E, h37km±3km*
NEIC **12** *02:08:50.0±1.8, 43°.67N±0°.08×45°.74E±0°.09, h122km±8km, mb4.0/16, Error ellipse: s-maj=11.6km s-min=9.3km az=167.0*
NORS **12** *02:08:50.4±0.0, 43°.48N×45°.58E, h135km±2km, MPVA4.7*
DRS **12** *02:08:51.4±0.0, 44°.17N×44°.74E, h34km*
MOS **12** *02:08:51.0±0.0, 43°.50N×45°.52E, h128km±2km, MPVA4.7*

ISC 12 02:08:50.0±0.5, 43°62N±0°.03×45°58E±0°.02, h133km±4km, n210, σ1§**98**/336**, mb3.9**/21**, 7C-13D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GROC	**Groznyy**	**0.44**	**159**	*eP*	**Pn**	**02 09 10.5**	**+1.4**
GROC				*eS*	**Sn**	**02 09 24.4**	**+0.8**
GROC	**Groznyy**	**0.44**	**159**	*i* Pg	**Pn**	**02 09 10.7**	**+1.5**
GROC				*e*Sg	**Sn**	**02 09 23.7**	**+0.1**
TRKR	**Terskaya**	**0.62**	**280**	⇑*iP*	**Pn**	**02 09 12.6**	**+2.5**
TRKR				*eS*	**Sn**	**02 09 28.8**	**+3.4**
TRKR	**Terskaya**	**0.62**	**280**	*e*Pg	**Pn**	**02 09 12.4**	**+2.2**
TRKR				*e*Sg	**Sn**	**02 09 26.5**	**+1.0**
KMGR	**Komgaron**	**0.76**	**223**	*eP*	**Pn**	**02 09 12.9**	**+1.6**
KMGR				*eS*	**Sn**	**02 09 29.8**	**+2.5**
KMGR	**Komgaron**	**0.76**	**223**	*e*Pg	**Pn**	**02 09 12.8**	**+1.5**
KMGR				*e*Sg	**Sn**	**02 09 27.8**	**+0.4**
DVE	**Vedeno**	**0.77**	**148**	*i* P	**Pn**	**02 09 12.3**	**+1.0**
DVE				*e*S	**Sn**	**02 09 26.9**	**-0.6**
DVE	**Vedeno**	**0.77**	**148**	*i* Pg	**Pn**	**02 09 12.3**	**+1.0**
DVE				*e*Sg	**Sn**	**02 09 26.9**	**-0.6**
BTKR	**Batakoyurt**	**0.79**	**253**	⇓*iP*	**Pn**	**02 09 13.8**	**+2.4**
BTKR				*eS*	**Sn**	**02 09 30.7**	**+3.0**
BTKR	**Batakoyurt**	**0.79**	**253**	*i* Pg	**Pn**	**02 09 13.6**	**+2.2**
BTKR				*e*Sg	**Sn**	**02 09 28.2**	**+0.6**
VLKR	**Vladikavkaz**	**0.87**	**229**	*eP*	**Pn**	**02 09 13.5**	**+1.4**
VLKR				*eS*	**Sn**	**02 09 31.0**	**+2.2**
VLKR	**Vladikavkaz**	**0.87**	**229**	*e*Pg	**Pn**	**02 09 13.3**	**+1.2**
VLKR				*e*Sg	**Sn**	**02 09 27.2**	**-1.7**
DLMR	**Dylym**	**0.94**	**125**	⇑*iP*	**Pn**	**02 09 13.8**	**+1.2**
DLMR				*eS*	**Sn**	**02 09 30.5**	**+0.6**
DLMR				pmax	pmax		
	comp=Z,2μm,0.2s						
DLMR	**Dylym**	**0.94**	**125**	*e*Pg	**Pn**	**02 09 13.9**	**+1.2**
DLMR				*e*Sg	**Sn**	**02 09 30.6**	**+0.7**
PRTR	**Priterechnaya**	**0.95**	**279**	*eP*	**Pn**	**02 09 15.0**	**+2.3**
PRTR				*eS*	**Sn**	**02 09 33.0**	**+3.1**
PRTR	**Priterechnaya**	**0.95**	**279**	*e*Pg	**Pn**	**02 09 15.0**	**+2.3**
PRTR				*e*Sg	**Sn**	**02 09 33.0**	**+3.1**
ARNR	**Ardon**	**1.04**	**246**	*eP*	**Pn**	**02 09 15.5**	**+2.0**
ARNR				*eS*	**Sn**	**02 09 31.7**	**+0.3**
ARNR	**Ardon**	**1.04**	**246**	*e*Pg	**Pn**	**02 09 15.5**	**+2.0**
ARNR				*e*Sg	**Sn**	**02 09 31.7**	**+0.3**
BTLR	**Botlikh**	**1.06**	**153**	*eP*	**Pn**	**02 09 14.7**	**+0.8**
BTLR				*eS*	**Sn**	**02 09 32.1**	**+0.1**
BTLR	**Botlikh**	**1.06**	**153**	*e*Pg	**Pn**	**02 09 14.7**	**+0.8**
BTLR				*e*Sg	**Sn**	**02 09 32.1**	**+0.1**
DBC	**Dubki**	**1.09**	**123**	⇑*iP*	**Pn**	**02 09 15.0**	**+0.9**
DBC				*eS*	**Sn**	**02 09 32.7**	**+0.2**
DBC				pmax	pmax		
	comp=Z,865nm,0.2s						
DBC	**Dubki**	**1.09**	**123**	*i* Pg	**Pn**	**02 09 15.1**	**+1.0**
DBC				*e*Sg	**Sn**	**02 09 32.5**	**0.0**
STDR	**Stavd-Durt**	**1.13**	**258**	*eP*	**Pn**	**02 09 16.5**	**+2.1**
STDR				*eS*	**Sn**	**02 09 33.2**	**+0.2**
STDR	**Stavd-Durt**	**1.13**	**258**	*e*Pg	**Pn**	**02 09 16.5**	**+2.1**
STDR				*e*Sg	**Sn**	**02 09 33.2**	**+0.2**
PNSH	**Pansheti**	**1.21**	**216**	P	**Pn**	**02 09 15.2**	**-0.2**
PNSH				S	**Sn**	**02 09 32.9**	**-1.8**
PNSH	**Pansheti**	**1.21**	**216**	P	**Pn**	**02 09 15.2**	**-0.2**
PNSH				S	**Sn**	**02 09 32.9**	**-1.8**
MTEO	**Meteo**	**1.21**	**220**	P	**Pn**	**02 09 15.7**	**0.0**
MTEO				S	**Sn**	**02 09 33.2**	**-1.9**
LACR	**Lac**	**1.22**	**230**	⇓*iP*	**Pn**	**02 09 16.0**	**+0.5**
LACR				*eS*	**Sn**	**02 09 34.1**	**-0.8**
LACR	**Lac**	**1.22**	**230**	*i* Pg	**Pn**	**02 09 15.8**	**+0.3**
LACR				*e*Sg	**Sn**	**02 09 33.9**	**-0.9**
KRNR	**Karanay**	**1.25**	**129**	*eP*	**Pn**	**02 09 16.8**	**+1.0**
KRNR				*eS*	**Sn**	**02 09 35.8**	**+0.4**
KRNR	**Karanay**	**1.25**	**129**	*e*Pg	**Pn**	**02 09 16.8**	**+1.0**
KRNR				*e*Sg	**Sn**	**02 09 35.8**	**+0.4**
LSNR	**Lesken**	**1.32**	**256**	⇓*iP*	**Pn**	**02 09 18.1**	**+1.7**
LSNR				*eS*	**Sn**	**02 09 36.4**	**-0.1**
LSNR	**Lesken**	**1.32**	**256**	*i* Pg	**Pn**	**02 09 18.1**	**+1.7**
LSNR				*e*Sg	**Sn**	**02 09 36.4**	**-0.1**
XNZR	**Khunzakh**	**1.35**	**142**	*eP*	**Pn**	**02 09 18.3**	**+1.7**
XNZR				*eS*	**Sn**	**02 09 37.7**	**+0.3**
XNZR	**Khunzakh**	**1.35**	**142**	*e*Pg	**Pn**	**02 09 18.3**	**+1.4**
XNZR				*e*Sg	**Sn**	**02 09 37.7**	**+0.3**
BUJR	**Buynaksk**	**1.37**	**125**	*eP*	**Pn**	**02 09 18.6**	**+1.7**
BUJR				*eS*	**Sn**	**02 09 39.0**	**+1.6**
BUJR	**Buynaksk**	**1.37**	**125**	*e*Pg	**Pn**	**02 09 18.6**	**+1.7**
BUJR				*e*Sg	**Sn**	**02 09 39.0**	**+1.6**
GUDG	**Gudauri**	**1.40**	**215**	P	Pn	02 09 12.7	-4.8
GUDG				S	**Sn**	**02 09 32.4**	**-6.0**
GUDG	**Gudauri**	**1.40**	**215**	P	Pn	02 09 12.6	-4.9
GUDG				S	**Sn**	**02 09 32.4**	**-6.0**
NCK	**Nalchik**	**1.45**	**266**	⇓*eP*	**Pn**	**02 09 19.2**	**+1.5**
NCK				*eS*	**Sn**	**02 09 38.7**	**-0.2**
NCK	**Nalchik**	**1.45**	**266**	*e*Pg	**Pn**	**02 09 19.2**	**+1.5**
NCK				*e*Sg	**Sn**	**02 09 38.6**	**-0.2**
ARKR	**Arakani**	**1.45**	**134**	*eP*	**Pn**	**02 09 18.7**	**+0.9**
ARKR				*eS*	**Sn**	**02 09 39.3**	**+0.3**
ARKR	**Arakani**	**1.45**	**134**	*e*Pg	**Pn**	**02 09 18.7**	**+0.9**
ARKR				*e*Sg	**Sn**	**02 09 39.4**	**+0.3**
KANR	**Karaman**	**1.46**	**106**	*eP*	**Pn**	**02 09 19.7**	**+1.9**
KANR				*eS*	**Sn**	**02 09 40.3**	**+1.4**
KANR				pmax	pmax		
	comp=Z,888nm,0.3s						
KANR	**Karaman**	**1.46**	**106**	*e*Pg	**Pn**	**02 09 20.2**	**+2.5**
KANR				*e*Sg	**Sn**	**02 09 42.8**	**+3.8**
ZEI	**Tsey**	**1.48**	**237**	*eP*	**Pn**	**02 09 18.8**	**+0.5**
ZEI				*eS*	**Sn**	**02 09 38.4**	**-1.4**
ZEI	**Tsey**	**1.48**	**237**	*e*Pg	**Pn**	**02 09 18.8**	**+0.5**
ZEI				*e*Sg	**Sn**	**02 09 38.4**	**-1.4**
MAK	**Makhachkala**	**1.55**	**114**	*eP*	**Pn**	**02 09 21.0**	**+2.2**
MAK				*eS*	**Sn**	**02 09 43.0**	**+2.1**
MAK	**Makhachkala**	**1.55**	**114**	*e*Pg	**Pn**	**02 09 21.0**	**+2.2**
MAK				*e*Sg	**Sn**	**02 09 43.0**	**+2.1**
GNBR	**Gunib**	**1.59**	**140**	*eP*	**Pn**	**02 09 21.1**	**+1.7**
GNBR				*eS*	**Sn**	**02 09 41.8**	**-0.1**
GNBR	**Gunib**	**1.59**	**140**	*e*Pg	**Pn**	**02 09 21.1**	**+1.7**
GNBR				*e*Sg	**Sn**	**02 09 41.8**	**-0.1**
DIGR	**Digorskoe uzhe**	**1.62**	**245**	*eP*	**Pn**	**02 09 20.5**	**+0.6**
DIGR				*eS*	**Sn**	**02 09 41.2**	**-1.5**
DIGR	**Digorskoe uzhe**	**1.62**	**245**	*e*Pg	**Pn**	**02 09 20.5**	**+0.6**
DIGR				*e*Sg	**Sn**	**02 09 41.2**	**-1.5**
PYA1	**Pyatigorsk**	**1.85**	**285**	⇓*eP*	**Pn**	**02 09 23.6**	**+1.3**
PYA1				*eS*	**Sn**	**02 09 46.2**	**-0.9**
PYA1	**Pyatigorsk**	**1.85**	**285**	*e*Pg	**Pn**	**02 09 23.6**	**+1.3**
PYA1				*e*Sg	**Sn**	**02 09 46.2**	**-0.9**
KMKR	**Kumukh**	**1.86**	**142**	⇑*iP*	**Pn**	**02 09 24.2**	**+1.5**
KMKR				*i* S	**Sn**	**02 09 48.2**	**+0.6**
KMKR				pmax	pmax		
	comp=Z,2μm,0.2s						
ONI	**Oni**	**1.86**	**237**	P	**Pn**	**02 09 24.2**	**+1.6**
ONI				S	**Sn**	**02 09 48.6**	**+1.2**
ONI	**Oni**	**1.86**	**237**	⇓*eP*	**Pn**	**02 09 24.2**	**+1.6**
ONI				*eS*	**Sn**	**02 09 48.3**	**+0.9**
ONI	**Oni**	**1.86**	**237**		**Pn**	**02 09 24.0**	**+1.5**
ONI	**Oni**	**1.86**	**237**	*e*Pg	**Pn**	**02 09 24.2**	**+1.6**
ONI				*e*Sg	**Sn**	**02 09 48.3**	**+0.9**
SEAG	**Tbilisi Sea**	**1.94**	**197**	P	**Pn**	**02 09 24.5**	**+1.0**
SEAG				S	**Sn**	**02 09 49.2**	**+0.3**
SEAG	**Tbilisi Sea**	**1.94**	**197**	P	**Pn**	**02 09 24.4**	**+1.0**
SEAG				S	**Sn**	**02 09 49.2**	**+0.3**
KBZ	**Khabaz**	**1.95**	**274**	P	**Pn**	**02 09 24.3**	**+0.9**
	comp=Z,3.2nm,0.3s,baz=114,slow=1.7,SNR=103						
KBZ				S	**Sn**	**02 09 47.2**	**-1.8**
	comp=Z,34nm,0.3s,baz=293,slow=14,SNR=17						
BTNK	**Botanikuri**	**2.01**	**197**	P	**Pn**	**02 09 21.6**	**-2.8**
BTNK				S	**Sn**	**02 09 47.4**	**-3.3**
BTNK	**Botanikuri**	**2.01**	**197**	P	**Pn**	**02 09 21.5**	**-2.8**
BTNK				S	**Sn**	**02 09 47.3**	**-3.3**
BEYR	**Belyy Ugol+**	**2.04**	**282**	*eP*	**Pn**	**02 09 25.8**	**+1.2**
BEYR				*eS*	**Sn**	**02 09 49.6**	**-1.5**
BEYR	**Belyy Ugol+**	**2.04**	**282**	*e*Pg	**Pn**	**02 09 25.8**	**+1.2**
BEYR				*e*Sg	**Sn**	**02 09 49.6**	**-1.5**
URKR	**Urkarakh**	**2.09**	**133**	*eP*	**Pn**	**02 09 27.0**	**+1.6**
URKR				*eS*	**Sn**	**02 09 52.7**	**+0.2**
URKR	**Urkarakh**	**2.09**	**133**	*e*Pg	**Pn**	**02 09 27.0**	**+1.6**
URKR				*e*Sg	**Sn**	**02 09 52.6**	**+0.2**
NEY	**Neytrino**	**2.11**	**261**	*eP*	**Pn**	**02 09 26.8**	**+1.1**
NEY				*eS*	**Sn**	**02 09 50.6**	**-2.4**
NEY	**Neytrino**	**2.11**	**261**	*e*Pg	**Pn**	**02 09 26.8**	**+1.1**
NEY				*e*Sg	**Sn**	**02 09 50.4**	**-2.4**
KIV0	**Kislovodsk Arr**	**2.11**	**280**	*i* Pg	**Pn**	**02 09 26.8**	**+1.2**
KIV0				*e*Sg	**Sn**	**02 09 52.8**	**-0.2**
KVAR	**Kislovodsk Arr**	**2.11**	**280**	P	**Pn**	**02 09 26.5**	**+0.9**
	baz=90,slow=20,SNR=16						
KVAR				S	**Sn**	**02 09 51.7**	**-1.2**
	baz=100,slow=22,SNR=49						
KIV	**Kislovodsk**	**2.12**	**280**	⇓*iP*	**Pn**	**02 09 26.8**	**+1.1**
KIV				*eS*	**Sn**	**02 09 52.8**	**-0.3**
KIV	**Kislovodsk**	**2.12**	**280**	PN	**Pn**	**02 09 26.4**	**+0.7**
KIV				SN	**Sn**	**02 09 53.6**	**+0.6**
KIV	**Kislovodsk**	**2.12**	**280**		**Pn**	**02 09 26.7**	**+1.0**
KIV	**Kislovodsk**	**2.12**	**280**	*e*Pg	**Pn**	**02 09 26.8**	**+1.1**
KIV				*e*Sg	**Sn**	**02 09 52.8**	**-0.3**
SHA1	**Shidzhatmaz**	**2.12**	**274**	*eP*	**Pn**	**02 09 26.9**	**+1.0**
SHA1				*eS*	**Sn**	**02 09 51.9**	**-1.4**
SHA1	**Shidzhatmaz**	**2.12**	**274**	*e*Pg	**Pn**	**02 09 26.9**	**+1.0**
SHA1				*e*Sg	**Sn**	**02 09 51.9**	**-1.4**
DGRG	**David-gareji**	**2.17**	**184**	P	**Pn**	**02 09 27.5**	**+1.2**
DGRG				S	**Sn**	**02 09 54.4**	**+0.4**
DGRG	**David-gareji**	**2.17**	**184**	P	**Pn**	**02 09 27.4**	**+1.2**
DGRG				S	**Sn**	**02 09 54.4**	**+0.4**
DDFL	**Dedoflistskaro**	**2.20**	**169**	P	**Pn**	**02 09 28.9**	**+2.2**
DDFL				S	**Sn**	**02 09 58.8**	**+3.9**
DDFL	**Dedoflistskaro**	**2.20**	**169**	P	**Pn**	**02 09 28.9**	**+2.2**
DDFL				S	**Sn**	**02 09 58.7**	**+3.9**
ALER	**Alexandrovskoy**	**2.23**	**302**	⇓*iP*	**Pn**	**02 09 29.2**	**+2.2**
ALER				*eS*	**Sn**	**02 09 55.7**	**+0.3**
ALER	**Alexandrovskoy**	**2.23**	**302**	*i* Pn	**Pn**	**02 09 29.2**	**+2.2**
ALER				*e*Sn	**Sn**	**02 09 55.6**	**+0.3**
TKB	**Tkibuli**	**2.28**	**237**	P	**Pn**	**02 09 29.0**	**+1.4**
TKB				S	**Sn**	**02 09 56.9**	**+0.5**
TKB	**Tkibuli**	**2.28**	**237**	P	**Pn**	**02 09 29.0**	**+1.4**
TKB				S	**Sn**	**02 09 56.9**	**+0.5**
GOF	**Gofitskoye**	**2.32**	**309**	⇓*iP*	**Pn**	**02 09 30.3**	**+2.3**
GOF				*eS*	**Sn**	**02 09 59.8**	**+2.5**
GOF	**Gofitskoye**	**2.32**	**309**	*i* Pn	**Pn**	**02 09 30.3**	**+2.3**
GOF				*e*Sn	**Sn**	**02 09 59.8**	**+2.5**
TRLG	**Trialeti**	**2.34**	**208**	P	**Pn**	**02 09 29.4**	**+0.8**
TRLG				S	**Sn**	**02 09 58.9**	**+0.8**
TRLG	**Trialeti**	**2.34**	**208**	P	**Pn**	**02 09 29.3**	**+0.8**
TRLG				S	**Sn**	**02 09 58.8**	**+0.8**
BRNG	**Burnasheti**	**2.37**	**214**	P	**Pn**	**02 09 30.1**	**+1.2**
BRNG				S	**Sn**	**02 10 00.1**	**+1.4**
KZRT	**Kazreti**	**2.39**	**202**	P	**Pn**	**02 09 29.3**	**+0.3**
KZRT				S	**Sn**	**02 09 58.8**	**-0.2**
KZRT	**Kazreti**	**2.39**	**202**	P	**Pn**	**02 09 29.3**	**+0.3**
KZRT				S	**Sn**	**02 09 58.7**	**-0.2**
BKRG	**Bakuriani**	**2.39**	**220**	P	**Pn**	**02 09 30.1**	**+0.9**
BKRG				S	**Sn**	**02 10 00.2**	**+1.0**
BKRG	**Bakuriani**	**2.39**	**220**	P	**Pn**	**02 09 30.1**	**+0.9**
BKRG				S	**Sn**	**02 10 00.2**	**+1.0**
DMNI	**Dmanisi**	**2.50**	**205**	P	**Pn**	**02 09 30.9**	**+0.4**
DMNI				S	**Sn**	**02 10 01.3**	**-0.3**
DMNI	**Dmanisi**	**2.50**	**205**	P	**Pn**	**02 09 30.9**	**+0.4**
DMNI				S	**Sn**	**02 10 01.3**	**-0.3**
AKT	**Akhty**	**2.66**	**143**	*i* P	**Pn**	**02 09 33.2**	**+0.7**
AKT	**Akhty**	**2.66**	**143**	*e*Pn	**Pn**	**02 09 33.5**	**+1.0**
AKT				*e*Sn	**Sn**	**02 10 04.0**	**-1.1**
AKH	**Akhalkalaki**	**2.69**	**216**	P	**Pn**	**02 09 34.1**	**+1.1**
AKH	**Akhalkalaki**	**2.69**	**216**	P	**Pn**	**02 09 34.0**	**+1.1**
AKH	**Akhalkalaki**	**2.69**	**216**	PN	**Pn**	**02 09 33.4**	**+0.5**
AKH				SN	**Sn**	**02 10 04.3**	**-1.6**
CHVG	**Ch'k'valeri**	**2.71**	**252**	P	**Pn**	**02 09 35.2**	**+2.3**
CHVG				S	**Sn**	**02 10 06.0**	**0.0**
CHVG	**Ch'k'valeri**	**2.71**	**252**	P	**Pn**	**02 09 35.2**	**+2.3**
CHVG				S	**Sn**	**02 10 06.0**	**0.0**
KSMR	**Kasumkent**	**2.75**	**136**	⇓*eP*	**Pn**	**02 09 35.4**	**+1.8**
KSMR				*eS*	**Sn**	**02 10 07.8**	**+0.6**
KSMR	**Kasumkent**	**2.75**	**136**	*e*Pn	**Pn**	**02 09 35.4**	**+1.8**
KSMR				*e*Sn	**Sn**	**02 10 07.8**	**+0.6**
ABS	**Abastumani**	**2.76**	**229**	P	**Pn**	**02 09 35.1**	**+1.3**
ABS				S	**Sn**	**02 10 08.4**	**+1.0**
BGD	**Bogdanovka**	**2.77**	**213**	P	**Pn**	**02 09 36.5**	**+2.5**
BGD	**Bogdanovka**	**2.77**	**213**	P	**Pn**	**02 09 36.4**	**+2.5**
NVNR	**Nevinnomyssk**	**2.79**	**292**	*eP*	**Pn**	**02 09 35.6**	**+1.6**
NVNR				*eS*	**Sn**	**02 10 09.0**	**+1.2**
NVNR	**Nevinnomyssk**	**2.79**	**292**	*e*Pn	**Pn**	**02 09 35.6**	**+1.6**
NVNR				*e*Sn	**Sn**	**02 10 09.0**	**+1.2**
DOMR	**Dombai**	**2.90**	**265**	*eP*	**Pn**	**02 09 34.4**	**-1.1**
DOMR				*eS*	**Sn**	**02 10 12.4**	**+1.8**
DOMR	**Dombai**	**2.90**	**265**	*e*Pn	**Pn**	**02 09 34.4**	**-1.1**
DOMR				*e*Sn	**Sn**	**02 10 12.4**	**+1.8**
ARXR	**Arkhyz**	**3.13**	**271**	*i* P	**Pn**	**02 09 41.6**	**+3.1**
ARXR	**Arkhyz**	**3.13**	**271**	*e*Pn	**Pn**	**02 09 41.8**	**+3.3**
ARXR				*e*Sn	**Sn**	**02 10 12.8**	**-3.1**
AHMR	**Akhmetovskaya**	**3.32**	**281**	*eP*	**Pn**	**02 09 43.1**	**+2.2**
AHMR				*eS*	**Sn**	**02 10 17.4**	**-2.9**
AHMR	**Akhmetovskaya**	**3.32**	**281**	*e*Pn	**Pn**	**02 09 43.1**	**+2.2**
AHMR				*e*Sn	**Sn**	**02 10 17.4**	**-2.9**
KARS	**Kars**	**3.52**	**213**	P	**Pn**	**02 09 44.7**	**+1.1**
KARS	**Kars**	**3.52**	**213**	PN	**Pn**	**02 09 44.3**	**+0.7**
KARS	**Kars**	**3.52**	**213**		**Pn**	**02 09 44.7**	**+1.1**
GNI	**Garni**	**3.52**	**190**	P	**Pn**	**02 09 44.4**	**+0.8**
	comp=Z,16nm,0.3s,baz=324,slow=3.9,SNR=67						
GNI				S	**Sn**	**02 10 23.9**	**-1.2**
	comp=Z,5.2nm,0.3s,baz=179,slow=14,SNR=3.7						
GNI	**Garni**	**3.52**	**190**	*ce*P	**Pn**	**02 09 44.8**	**+1.2**
GNI				pmax	pmax		
	comp=Z,59nm,0.6s						
GNI	**Garni**	**3.52**	**190**	PN	**Pn**	**02 09 44.2**	**+0.6**
GNI				SN	**Sn**	**02 10 24.9**	**-0.2**
GNI	**Garni**	**3.52**	**190**	*i* Pn	**Pn**	**02 09 45.0**	**+1.3**
GNI				*e*Sn	**Sn**	**02 10 23.9**	**-1.2**
BCA	**Borcka**	**3.64**	**

PSZ					pmax	pmax			
	comp=Z,7.0nm,1.2s								
PSZ	**Piszkesteto**	**18.39**	**292**		P	**Pn**	**02**	**12**	**56.7 +0.4**
CHGR	**Chuyangaron**	**18.42**	**98**		P	**P**	**02**	**12**	**52.4 -2.6**
CHGR					IAmb	IAmb	02	13	24.9
	comp=Z,10nm,1.1s								
BRVK	**Borovoye**	**18.86**	**51**		P	**P**	**02**	**12**	**59.3 -0.3**
BRVK					pmax	pmax			
	comp=Z,5.0nm,0.9s								
BRVK	**Borovoye**	**18.86**	**51**		P	**P**	**02**	**12**	**59.3 -0.3**
BRVK					IAmb	IAmb	02	13	03.2
	comp=Z,5.0nm,0.8s								
BVAR	**Borovoye Array**	**18.91**	**51**		P	**P**	**02**	**13**	**00.4 +0.2**
	comp=Z,0.4nm,0.3s,baz=222,slow=20,SNR=5.1								
BVAR					S	**S**	**02**	**16**	**20.1 -7.7**
	comp=Z,0.2nm,0.3s,baz=284,slow=25,SNR=2.5								
MORC	**Moravsky Berou**	**20.12**	**298**		P	**P**	**02**	**13**	**14.7 +1.4**
MORC	**Moravsky Berou**	**20.12**	**298**		P	**P**	**02**	**13**	**14.7 +1.4**
VRAC	**Vranov**	**20.69**	**296**	*e*SG		**S**	**02**	**17**	**06.4 +3.5**
AAK	**Ala-Archa**	**21.09**	**83**	*i* P		**P**	**02**	**13**	**30.5 +6.7**
AAK					pmax	pmax			
	comp=Z,8.0nm,1.7s								
CONA	**Conrad Observa**	**21.10**	**292**	*e*P		**P**	**02**	**13**	**28.0 +4.1**
	comp=Z,2.8nm,0.9s								
FINES	**FINESS Array B**	**21.28**	**334**		P	**P**	**02**	**13**	**27.4 +1.8**
	comp=Z,1.1nm,0.3s,baz=137,slow=8.5,SNR=12								
GERES	**GERESS Array B**	**22.56**	**295**		P	**P**	**02**	**13**	**40.3 +1.4**
	comp=Z,0.7nm,0.5s,baz=96,slow=8.9,SNR=10								
KBA	**Koelnbreinsper**	**22.83**	**290**	*e*P		**P**	**02**	**13**	**43.6 +2.0**
	comp=Z,2.2nm,0.5s								
ZOU	**Zoufplan**	**23.12**	**289**		P	**P**	**02**	**13**	**46.2 +1.9**
ZOU					IAmb	IAmb	02	14	29.6
	comp=Z,9.8nm,1.6s								
KURBB	**Kurchatov Arra**	**23.35**	**61**		pP	pP	02	14	10.0 -2.2
	comp=Z,0.3nm,0.3s,baz=271,slow=11,SNR=2.2								
ABTA	**Abfaltersbach**	**23.42**	**289**	*e*P		**P**	**02**	**13**	**49.6 +2.7**
	comp=Z,4.0nm,1.0s								
MURB	**Monte Urbino**	**23.92**	**281**		P	**P**	**02**	**13**	**54.6 +3.1**
WTTA	**Wattenberg**	**23.98**	**291**	*e*P		**P**	**02**	**13**	**54.6 +2.5**
	comp=Z,3.3nm,0.7s								
WATA	**Walderalm**	**24.02**	**291**	*e*P		**P**	**02**	**13**	**55.4 +3.0**
	comp=Z,5.0nm,1.2s								
CTI	**Castel Tesino**	**24.08**	**288**		P	**P**	**02**	**13**	**55.0 +2.0**
CTI					pmax	pmax			
	comp=Z,4.0nm,0.8s								
CTI	**Castel Tesino**	**24.08**	**288**		P	**P**	**02**	**13**	**55.0 +2.0**
CTI					IAmb	IAmb	02	13	56.2
	comp=Z,3.9nm,0.8s								
SQTA	**Sankt Quirin**	**24.27**	**291**	*e*P		**P**	**02**	**13**	**57.0 +2.2**
	comp=Z,2.9nm,0.7s								
MOTA	**Moosalm**	**24.34**	**291**	*i* P		**P**	**02**	**13**	**58.2 +2.8**
	comp=Z,4.1nm,1.0s								
DAVOX	**Davos/Dischmat**	**25.22**	**290**	LR		LR	02	26	27.1
	comp=Z,22nm,20.0s,baz=260,slow=42								
HFS	**Hagfors**	**25.34**	**322**	P		**P**	**02**	**14**	**05.7 +1.5**
	comp=Z,1.8nm,0.6s,baz=113,slow=11,SNR=7.3								
HFS					pP	**pP**	**02**	**14**	**34.7 +2.2**
	comp=Z,1.8nm,0.5s,baz=125,slow=13,SNR=2.1								
MKAR	**Makanchi Array**	**25.91**	**70**	P		**P**	**02**	**14**	**09.2 -0.3**
	comp=Z,0.2nm,0.3s,baz=260,slow=11,SNR=4.6								
MKAR					pP	**pP**	**02**	**14**	**38.1 +0.4**
	comp=Z,1.9nm,0.7s,baz=283,slow=6.8,SNR=8.6								
NB2	**NORSAR Subarra**	**26.84**	**323**	P		pP	02	14	44.1 -1.9
	comp=Z,2.6nm,1.0s,baz=116,slow=9.3								
NOA	**NORSAR Array B**	**26.84**	**323**	P		**P**	**02**	**14**	**18.5 +0.8**
	comp=Z,0.4nm,0.7s,baz=121,slow=9.4,SNR=2.6								
NOA					pP	**pP**	**02**	**14**	**45.2 -0.8**
	comp=Z,1.0nm,0.8s,baz=119,slow=10.0,SNR=2.5								
ARCES	**ARCESS Array B**	**27.95**	**345**	P		**P**	**02**	**14**	**29.0 +1.7**
	comp=Z,1.9nm,0.9s,baz=155,slow=8.7,SNR=1.5								
ARCES					pP	**pP**	**02**	**14**	**54.1 -1.7**
	comp=Z,3.9nm,1.0s,baz=140,slow=9.6,SNR=2.6								
ESDC	**Sonseca Array**	**36.79**	**281**	P		**P**	**02**	**15**	**44.8 0.0**
	comp=Z,0.3nm,0.9s,baz=62,slow=8.8,SNR=4.7								
TORD	**Torodi Ar. Bea**	**48.29**	**245**	P		**P**	**02**	**17**	**17.6 -0.2**
	comp=Z,2.7nm,0.6s,baz=34,slow=8.5,SNR=23								
TORD	**Torodi Ar. Bea**	**48.29**	**245**	P		**P**	**02**	**17**	**17.7 -0.1**
TORD					IAmb	IAmb	02	17	18.2
	comp=Z,2.8nm,0.8s								
DBIC	**Dimbokro**	**57.39**	**245**	P		**P**	**02**	**18**	**23.9 -0.7**
	comp=Z,1.1nm,0.3s,baz=52,slow=7.7,SNR=11								
SRIT	**Nakonsritamara**	**58.40**	**110**	P		**P**	**02**	**18**	**32.7 +1.1**
ASAJ	**Asahikawa**	**65.61**	**52**	LR		LR	02	51	45.0
	comp=Z,181nm,18.9s,baz=72,slow=39								
BOSA	**Boshof**	**74.25**	**198**	P		**P**	**02**	**20**	**12.3 0.0**
	comp=Z,3.6nm,1.0s,baz=40,slow=4.2,SNR=4.3								

JMA ***12*** *02:25:51.6±0.1,36.43N×141.12E,h44km±2km,M2.2*
IDC ***12*** *02:25:57.3±3.1,35.49N×140.06E,h0km,mb3.6/2,*
mb1 3.9/2,mb1mx3.4/33,mbtmp3.6/2,Error ellipse:
s-maj=87.2km s-min=31.6km az=58.0
ISC 12 02:25:53.2±1.5,36.53N±0.06×141.1E±0.1,h32km,n10,
σ1§11/14,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h	m	s	Res ISC
JHO	**Hitachi**	**0.39**	**281**	P			**Pb**	**02**	**26**	**02.1**	**0.0**
JHO						*e*S	**Sb**	**02**	**26**	**09.0**	**+0.9**
JHYU	**Hitachinakayam**	**0.42**	**243**	S			**Sb**	**02**	**26**	**08.9**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.60**	**341**	P			**Pb**	**02**	**26**	**05.0**	**-0.4**
ONAJ				S			**Sb**	**02**	**26**	**14.2**	**+0.5**
JYT	**Yasato**	**0.75**	**246**	P			**Pn**	**02**	**26**	**06.1**	**-1.4**
JYT				S			**Sn**	**02**	**26**	**16.0**	**-1.8**
JFK	**Kawauchi**	**0.84**	**351**	P			**Pb**	**02**	**26**	**08.1**	**-1.3**
JFT	**Otama**	**1.13**	**330**	P			**Pb**	**02**	**26**	**13.8**	**-0.4**
JFT				S			**Sb**	**02**	**26**	**29.2**	**+0.5**
JAG	**Ashikaga**	**1.29**	**266**	P			**Pn**	**02**	**26**	**14.7**	**-0.2**
MJAR	**Matsushiro Arr**	**2.28**	**271**	Pn			**Pn**	**02**	**26**	**29.7**	**+1.0**
	0.1nm,0.3s,baz=125,slow=14,SNR=2.5										
WRA	**Warramunga Arr**	**56.53**	**188**	P			**P**	**02**	**35**	**32.5**	**+0.1**
	0.6nm,0.6s,baz=4.9,slow=7.2,SNR=9.0										
ASAR	**Alice Springs**	**60.25**	**188**	P			**P**	**02**	**36**	**00.4**	**+2.0**
	0.3nm,0.5s,baz=4.4,slow=7.0,SNR=4.9										

BJI ***12*** *02:29:09.7±0.0,44.82N×150.47E,h42km,mB5.0/20,*
mb4.7/39,Ms4.2/7,Ms7 3.9/4
MOS ***12*** *02:29:19.4±1.0,44.83N×149.67E,h93km,mb4.5/21,Error*
ellipse: s-maj=8.0km s-min=6.6km az=114.9
SKHL ***12*** *02:29:20.5±0.6,44.70N×149.60E,h100km±9km,mb5.1/7,*
msha5.9/5
NEIC ***12*** *02:29:20.2±1.4,44.9N±0.1×149.7E±0.1,h79km±7km,*
mb4.7/31,Error ellipse: s-maj=15.3km s-min=11.5km
az=160.0
JMA ***12*** *02:29:20.4±0.5,44.96N×149.57E,h30km,M4.8*
IDC ***12*** *02:29:21.1±2.2,44.99N×149.51E,h87km±19km,mb3.8/19,*
mb1 4.0/25,mb1mx3.9/36,mbtmp4.2/25,MS4.1/2,
Ms1 4.1/2,ms1mx2.7/50,Error ellipse: s-maj=16.4km
s-min=12.1km az=147.0
ISC 12 02:29:18.7±0.9,44.73N±0.05×149.75E±0.06,h77km±6km,
n197,σ1§64/215,mb4.5/55,17C-2D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h	m	s	Res ISC
KUR	**Kuril'sk**	**1.43**	**291**	*i* PN			**Pn**	**02**	**29**	**44.2**	**+1.3**
KUR	**Kuril'sk**	**1.43**	**291**	*i* P			**Pn**	**02**	**29**	**44.0**	**+1.1**
KUR						AMB	AMB	02	29	44.0	
	2µm,0.4s										
KUR					*i* S		**Sn**	**02**	**30**	**01.9**	**+0.7**
KUR					A		A	02	30	05.0	
	6µm,0.3s										
KUR					A		A	02	30	05.0	
	3µm,0.3s										
YUK	**Yuzh-Kuril'sk**	**2.87**	**257**	*e*PN			**Pn**	**02**	**30**	**04.4**	**+2.2**
YUK					*e*S		**Sn**	**02**	**30**	**36.1**	**+0.4**
YUK					pmax	pmax					
	comp=N,139nm,0.1s										
YUK					pmax	pmax					
	comp=E,89nm,0.1s										
YUK					pmax	pmax					
	comp=Z,425nm,0.1s										
YUK					smax	smax					
	comp=N,1µm,0.3s										
YUK					smax	smax					
	comp=E,1µm,0.3s										
YUK	**Yuzh-Kuril'sk**	**2.87**	**257**	*e*P			**Pn**	**02**	**30**	**04.0**	**+1.8**
YUK					AMB		AMB	02	30	05.0	
	comp=E,200nm,0.3s										
YUK					*e*S		**Sn**	**02**	**30**	**37.0**	**+1.3**
YUK					A		A	02	30	38.0	
	comp=E,2µm,0.4s										
YUK					A		A	02	30	38.0	
	comp=E,1µm,0.4s										

GRPR	**Tuman**	**2.94**	**257**	*e*PN		**Pn**	**02**	**30**	**04.6 +1.4**
GRPR					*e*S	**Sn**	**02**	**30**	**37.3 -0.2**
GRPR					pmax	pmax			
	comp=N,169nm,0.1s								
GRPR					pmax	pmax			
	comp=E,117nm,0.1s								
GRPR					pmax	pmax			
	comp=Z,218nm,0.1s								
GRPR					smax	smax			
	comp=E,775nm,0.4s								
GRPR					smax	smax			
	comp=N,768nm,0.2s								
GRPR	**Tuman**	**2.94**	**257**	*e*P		**Pn**	**02**	**30**	**04.0 +0.8**
GRPR					AMB	AMB	02	30	05.0
	comp=N,169nm,0.3s								
GRPR					AMB	AMB	02	30	05.0
	comp=N,117nm,0.3s								
GRPR					AMB	AMB	02	30	05.0
	comp=N,218nm,0.3s								
GRPR					*e*S	**Sn**	**02**	**30**	**37.0 -0.5**
GRPR					A	A	02	30	39.0
	comp=N,768nm,0.3s								
GRPR					A	A	02	30	39.0
	comp=N,775nm,0.3s								
NEM2	**Nemuro 2**	**3.19**	**246**	P		**Pn**	**02**	**30**	**07.6 +1.0**
NEM2					*e*S	**Sn**	**02**	**30**	**42.3 -1.2**
GLVR	**Golovnino**	**3.20**	**253**	*e*PN		**Pn**	**02**	**30**	**08.6 +2.0**
GLVR					*e*S	**Sn**	**02**	**30**	**44.1 +0.5**
GLVR					pmax	pmax			
	comp=Z,222nm,0.1s								
GLVR					smax	smax			
	comp=E,2µm,0.5s								
GLVR					smax	smax			
	comp=N,2µm,0.3s								
GLVR	**Golovnino**	**3.20**	**253**	*e*P		**Pn**	**02**	**30**	**08.0 +1.4**
GLVR					AMB	AMB	02	30	09.0
	comp=N,222nm,0.3s								
GLVR					*e*S	**Sn**	**02**	**30**	**44.0 +0.5**
GLVR					A	A	02	30	47.0
	comp=N,2µm,0.4s								
GLVR					A	A	02	30	47.0
	comp=N,2µm,0.4s								
NMR	**Nemuro--Hokkai**	**3.20**	**246**	*e*PN		**Pn**	**02**	**30**	**07.7 +1.0**
NMR					*e*S	**Sn**	**02**	**30**	**42.6 -1.1**
NMR	**Nemuro--Hokkai**	**3.20**	**246**	*e*P		**Pn**	**02**	**30**	**07.0 +0.3**
NMR					*e*S	**Sn**	**02**	**30**	**42.0 -1.7**
RUSJ	**Misakicho**	**3.28**	**261**	*i* PN		**Pn**	**02**	**30**	**11.3 +3.5**
RUSJ					*e*S	**Sn**	**02**	**30**	**48.5 +2.8**
JRA	**Rausu**	**3.41**	**258**	P		**Pn**	**02**	**30**	**12.1 +2.6**
JRA					*e*S	**Sn**	**02**	**30**	**50.6 +1.8**
JNK	**Nakash**	**3.79**	**254**	P		**Pn**	**02**	**30**	**16.9 +2.1**
JAK	**Akkeshi**	**4.04**	**246**	P		**Pn**	**02**	**30**	**19.3 +1.2**
JTKR	**Abashiri--Toko**	**4.26**	**262**	P		**Pn**	**02**	**30**	**23.6 +2.6**
JAR	**Ashorobuto**	**4.54**	**254**	P		**Pn**	**02**	**30**	**27.5 +2.5**
JAR					*e*S	**Sn**	**02**	**31**	**16.3 -0.2**
JMP	**Maruseppu**	**4.64**	**263**	P		**Pn**	**02**	**30**	**28.8 +2.5**
JOB	**Onbets**	**4.65**	**249**	P		**Pn**	**02**	**30**	**28.5 +2.1**
JOB					*e*S	**Sn**	**02**	**31**	**18.1 -1.0**
JCH	**Churui**	**5.09**	**248**	P		**Pn**	**02**	**30**	**33.8 +1.4**
JCH					*e*S	**Sn**	**02**	**31**	**28.1 -1.7**
JKK2	**Kamakawa 2**	**5.10**	**263**	P		**Pn**	**02**	**30**	**35.3 +2.8**
JKA	**Kamikawa-asahi**	**5.16**	**266**	Pn		**Pn**	**02**	**30**	**34.2 +0.9**
JKA	**Kamikawa-asahi**	**5.16**	**266**			**Sn**	**02**	**31**	**30.4 -1.0**
JKA	**Kamikawa-asahi**	**5.16**	**266**	*e*P		**Pn**	**02**	**30**	**34.2 +0.9**
ASAJ	**Asahikawa**	**5.16**	**266**	P		**Pn**	**02**	**30**	**34.4 +1.0**
	comp=N,6.1nm,0.3s,baz=77,slow=20,SNR=9.3								
ASAJ					S	**Sn**	**02**	**31**	**30.4 -1.1**
	comp=N,1.5nm,0.3s,baz=38,slow=23,SNR=1.1								
ASAJ	**Asahikawa**	**5.16**	**266**	P		**Pn**	**02**	**30**	**36.2 +2.8**
YSS	**Yuzh-Sakhalins**	**5.37**	**297**	*e*PN		**Pn**	**02**	**30**	**38.1 +1.9**
YSS					*e*S	**Sn**	**02**	**31**	**36.2 -0.4**
YSS					pmax	pmax			
	comp=Z,50nm,0.5s								
YSS					smax	smax			
	comp=E,70nm,0.8s								
YSS	**Yuzh-Sakhalins**	**5.37**	**297**	Pn		**Pn**	**02**	**30**	**36.5 +0.3**
YSS	**Yuzh-Sakhalins**	**5.37**	**297**	*e*P		**Pn**	**02**	**30**	**38.0 +1.9**
YSS					AMB	AMB	02	30	38.0
	comp=E,50nm,0.5s								
YSS					*e*S	**Sn**	**02**	**31**	**36.0 -0.6**
JEM	**Erimo**	**5.51**	**243**	P		**Pn**	**02**	**30**	**41.2 +3.0**
JEM	**Erimo**	**5.51**	**243**	Pn		Pn	02	30	34.5 -3.7
JWK2	**Keihoku**	**5.60**	**279**	P		**Pn**	**02**	**30**	**43.2 +3.9**
JNBK	**Urakawa-nobuka**	**5.64**	**247**	P		**Pn**	**02**	**30**	**41.1 +1.1**
JNBK					*e*S	**Sn**	**02**	**31**	**40.8 -2.6**
JBT2	**Biratori 2**	**5.69**	**253**	P		**Pn**	**02**	**30**	**42.1 +1.5**
JNB	**Noboribetsu**	**6.71**	**253**	P		**Pn**	**02**	**30**	**56.3 +1.7**
JNB					*e*S	**Sn**	**02**	**32**	**08.0 -1.5**
UGL	**Uglegorsk**	**6.83**	**312**	*e*PN		**Pn**	**02**	**30**	**57.1 +1.0**
UGL					*e*S	**Sn**	**02**	**32**	**15.3 +3.1**
UGL					smax	smax			
	comp=N,200nm,0.8s								
UGL					smax	smax			
	comp=E,2µm,0.8s								
UGL	**Uglegorsk**	**6.83**	**312**	*e*P		**Pn**	**02**	**30**	**57.8 +1.7**
UGL					AMB	AMB	02	31	00.9
	comp=E,40nm,0.4s								
UGL					*e*S	**Sn**	**02**	**32**	**11.0 -1.2**
JKB	**Kayabe**	**6.96**	**249**	P		**Pn**	**02**	**30**	**59.2 +1.2**
JKB					*e*S	**Sn**	**02**	**32**	**11.2 -4.4**
SKR	**Severo-Kuril's**	**7.34**	**34**	*e*P		**Pn**	**02**	**31**	**04.8 +1.7**
JANG	**Nango**	**7.47**	**237**	P		**Pn**	**02**	**31**	**04.3 -0.7**
JANG					*e*S	Sn	02	32	21.9 -6.3
JTM	**Tenmabayashi**	**7.50**	**241**	P		**Pn**	**02**	**31**	**05.9 +0.5**
JTM					*e*S	**Sn**	**02**	**32**	**23.6 -5.2**
TYV	**Tymovskoe**	**7.77**	**325**	*e*PN		**Pn**	**02**	**31**	**11.0 +2.0**
TYV					*e*S	**Sn**	**02**	**32**	**34.0 -1.4**
TYV					pmax	pmax			
	comp=Z,200nm,2.7s								
TYV					pmax	pmax			
	comp=Z,12nm,1.1s								
TYV					smax	smax			
	comp=N,15nm,1.3s								
TYV					smax	smax			
	comp=E,22nm,1.2s								
TYV	**Tymovskoe**	**7.77**	**325**	*e*P		**Pn**	**02**	**31**	**11.0 +2.0**
TYV					AMB	AMB	02	31	15.8
	comp=E,12nm,0.6s								
TYV					*e*S	**Sn**	**02**	**32**	**34.0 -1.4**
TYV					A	A	02	32	37.0
	comp=E,15nm,1.0s								
TYV					A	A	02	32	37.0
	comp=E,21nm,1.0s								
JOSM	**Okushiri--Mats**	**7.93**	**254**	P		**Pn**	**02**	**31**	**13.7 +2.5**
PAU	**Pauzhetka**	**8.23**	**32**	*e*P		**Pn**	**02**	**31**	**19.4 +4.2**
JRG	**Rokugo**	**8.62**	**235**	*e*S		**Sn**	**02**	**32**	**51.5 -4.7**
JIO	**Ouri**	**8.88**	**228**	*e*S		Sn	02	32	56.2 -6.3
PETK	**Petropavlovsk-**	**9.88**	**29**	P		**Pn**	**02**	**31**	**38.5 +0.8**
	comp=E,0.2nm,0.3s,baz=222,slow=14,SNR=1.7								
MJA0	**Matsu Arr-Jizo**	**11.96**	**231**	*e*PN		**Pn**	**02**	**32**	**07.7 +1.6**
MJAR	**Matsushiro Arr**	**11.98**	**231**	P		**Pn**	**02**	**32**	**06.1 -0.3**
	comp=E,0.1nm,0.3s,baz=32,slow=13,SNR=5.1								
USRK	**Ussuriysk Ar.**	**12.70**	**274**	P		**Pn**	**02**	**32**	**16.3 +0.2**
	baz=84,slow=14,SNR=14								
KLR	**Kul'dur**	**13.08**	**297**	P		**Pn**	**02**	**32**	**21.2 0.0**
	comp=E,0.0nm,0.3s,baz=81,slow=8.0,SNR=1.8								
KLR	**Kul'dur**	**13.08**	**297**	*i* PN		**Pn**	**02**	**32**	**23.2 +2.0**
KLR	**Kul'dur**	**13.08**	**297**	*e*P		**Pn**	**02**	**32**	**23.2 +2.0**
EKMR	**Ekimchan**	**13.82**	**313**	*e*P		**Pn**	**02**	**32**	**30.0 -1.0**
JHJ2	**Mitsune**	**13.93**	**217**	Pn		**Pn**	**02**	**32**	**35.3 +2.9**
MA2	**Magadan**	**14.88**	**2**	P		**Pn**	**02**	**32**	**44.2 -0.5**
	comp=E,0.6nm,0.3s,baz=329,slow=22,SNR=1.8								
ZEA	**Zeya**	**17.17**	**310**	*e*P		Pn	02	33	03.1 -10
ZEA	**Zeya**	**17.17**	**310**	*e*P		**P**	**02**	**33**	**14.0 +0.1**
KROS	**Kirovskiy**	**17.60**	**312**	*e*P		**P**	**02**	**33**	**18.1 -0.5**
KROS					AMB	AMB	02	33	19.3
	comp=E,7.0nm,0.3s								
SEY	**Seymchan**	**18.30**	**4**	P		**P**	**02**	**33**	**25.4 -0.9**
	comp=E,0.5nm,0.3s,baz=183,slow=7.4,SNR=12								
JCJ	**Chichijima**	**18.61**	**202**	LR		LR	02	41	24.7
	comp=E,2µm,18.8s,baz=48,slow=38								
YAK	**Yakutsk**	**20.91**	**333**	P		**P**	**02**	**33**	**52.3 -2.2**
	comp=E,8.9nm,0.3s,baz=125,slow=3.5,SNR=9.7								
YAK	**Yakutsk**	**20.91**	**333**	*e*P		**P**	**02**	**33**	**51.7 -2.8**
YAK					pmax	pmax			
	comp=Z,35nm,0.9s								
YAK					pmax	pmax			
	comp=E,5.0nm,0.8s								
YAK	**Yakutsk**	**20.91**	**333**	P		**P**	**02**	**33**	**52.3 -2.2**
YAK					IAmb	IAmb	02	33	54.1
	comp=Z,36nm,0.8s								
BILL	**Bilibino**	**24.92**	**15**	*de*P		**P**	**02**	**34**	**33.8 -0.4**
BILL					pmax	pmax			
	comp=Z,6.0nm,0.9s								

BILL					MLR	MLR			
	comp=Z,421nm,18.0s								
BILL	**Bilibino**	**24.92**	**15**	*e*P		**P**	**02**	**34**	**33.8 -0.4**
NJ2	**Nanjing**	**27.15**	**253**	*e*P		**P**	**02**	**34**	**55.6 +1.0**
NJ2					pmax	pmax			
	comp=Z,16nm,0.5s								
HHC	**Hu-ho-hao-te**	**28.11**	**276**	*e*P		**P**	**02**	**35**	**05.7 +2.4**
HHC					sP	pP	02	35	22.9 +1.7
HHC					pmax	pmax			
	comp=Z,17nm,1.1s								
HHC					pmax	pmax			
	comp=Z,53nm,5.8s								
H11N2	**WAKE ISLAND Hy**	**28.72**	**145**		T	T	03	06	09.6
	baz=335,slow=75,SNR=402								
H11N1	**WAKE ISLAND Hy**	**28.73**	**145**		T	T	03	06	11.2
	baz=335,slow=75,SNR=421								
H11N3	**WAKE ISLAND Hy**	**28.73**	**145**		T	T	03	06	14.1
	baz=335,slow=75,SNR=396								
TIXI	**Tiksi**	**28.81**	**346**	P		**P**	**02**	**35**	**05.9 -3.1**
	comp=Z,5.3nm,0.5s,baz=137,slow=6.2,SNR=7.1								
TIXI	**Tiksi**	**28.81**	**346**	IAmb		IAmb	02	35	06.5
	comp=Z,6.1nm,0.6s								
ULN	**Ulaanbaatar**	**29.39**	**292**	*ce*P		**P**	**02**	**35**	**15.1 +0.5**
ULN					pmax	pmax			
	comp=Z,5.0nm,0.7s								
ULN	**Ulaanbaatar**	**29.39**	**292**	P		**P**	**02**	**35**	**14.7 0.0**
ULN	**Ulaanbaatar**	**29.39**	**292**	*e*P		**P**	**02**	**35**	**15.1 +0.5**
H11S1	**WAKE ISLAND Hy**	**29.74**	**146**	T		T	03	07	27.4
	baz=336,slow=76,SNR=382								
H11S3	**WAKE ISLAND Hy**	**29.75**	**146**	T		T	03	07	24.2
	baz=336,slow=76,SNR=304								
H11S2	**WAKE ISLAND Hy**	**29.76**	**146**	T		T	03	07	28.4
	baz=336,slow=76,SNR=337								
SONM	**Songino Array**	**29.83**	**292**	P		**P**	**02**	**35**	**17.8 -0.7**
	comp=Z,1.6nm,0.6s,baz=81,slow=7.9,SNR=10								
SONM	**Songino Array**	**29.83**	**292**	*e*P		**P**	**02**	**35**	**18.3 -0.2**
SONM					pmax	pmax			
	comp=Z,2.0nm,0.6s								
SONM	**Songino Array**	**29.83**	**292**	P		**P**	**02**	**35**	**18.4 -0.1**
LZH	**Lanzhou**	**35.60**	**272**	*e*P		**P**	**02**	**36**	**08.2 -0.8**
LZH					pmax	pmax			
	comp=Z,23nm,1.3s								
LZH					LR	LR			
	comp=Z,260nm,14.2s								
LZH					LR	LR			
	comp=Z,240nm,14.0s								
LZH					LR	LR			
	comp=Z,240nm,16.3s								
GTA	**Gaotai**	**36.97**	**280**	*e*P		**P**	**02**	**36**	**21.3 +0.7**
GTA					pmax	pmax			
	comp=Z,8.0nm,0.8s								
CD2	**Chengdu**	**38.36**	**265**	P		**P**	**02**	**36**	**33.1 +0.9**
CD2					pmax	pmax			
	comp=Z,20nm,0.7s								
ILAR	**Eielson Array**	**39.59**	**37**	P		**P**	**02**	**36**	**42.1 0.0**
	comp=Z,1.0nm,0.7s,baz=266,slow=8.9,SNR=9.8								
ILAR	**Eielson Array**	**39.59**	**37**	*e*P		**P**	**02**	**36**	**43.1 +1.0**
ILAR					pmax	pmax			
	comp=Z,1.0nm,0.7s								
ZALV	**Zalesovo Beam**	**41.91**	**307**	P		**P**	**02**	**36**	**59.1 -2.1**
	comp=Z,1.6nm,0.5s,baz=61,slow=6.9,SNR=6.0								
ZALV					PcP	**PcP**	**02**	**38**	**52.7 -2.6**
	comp=Z,0.4nm,0.3s,baz=69,slow=4.8,SNR=2.2								
ZALV	**Zalesovo Beam**	**41.91**	**307**	*e*P		**P**	**02**	**36**	**59.8 -1.4**
ZALV					pmax	pmax			
	comp=Z,2.0nm,0.4s								
WMQ	**Urumqi**	**43.47**	**292**	*e*P		**P**	**02**	**37**	**

MNK			*i* *PP	PcP	02 40 41.6	+0.3	
MNK			*i*		02 42 52.7		
MNK			*i* PPP	PPP	02 44 34.4		
MNK			*i* S	S	02 49 16.8	-3.0	
MNK			*i* *SS	SKiKP	02 49 58.8	-0.6	
MNK			*i* SS	SS	02 53 53.1	+5.6	
MNK			pmax	pmax			
	comp=Z,8.0nm,0.9s						
MNK			pmax	pmax			
	comp=N,7.0nm,0.8s						
MNK			pmax	pmax			
	comp=E,1.0nm,1.0s						
MNK			MLR	MLR			
	comp=Z,390nm,25.0s						
MNK			MLR	MLR			
	comp=N,156nm,22.0s						
MNK			MLR	MLR			
	comp=E,14nm,22.0s						
MNK	**Minsk**	**69.50 328**	*i* P	**P**	**02 40 18.6**	**+0.1**	
	comp=E,1.0nm,1.0s						
MNK			*i* P	**P**	**02 40 18.6**	**+0.1**	
	comp=N,7.0nm,0.8s						
MNK			*i* P	**P**	**02 40 18.6**	**+0.1**	
	comp=Z,8.0nm,0.8s,baz=221						
MNK			*i* pP	**PcP**	**02 40 41.7**	**+0.4**	
MNK			*i* PP	**PP**	**02 42 52.7**	**+0.3**	
MNK			*i* PPP	PPP	02 44 34.5		
MNK			*i* S	**S**	**02 49 16.9**	**-2.9**	
MNK			*i* sS	**SKiKP**	**02 49 58.8**	**-0.5**	
MNK			*i* SS	**SS**	**02 53 53.1**	**+5.6**	
MNK			*i* SSS	SSS	02 57 12.9		
MNK			*i* LQ	LQ	03 06 10.2		
MNK			*i* LR	LR	03 09 31.0		
MNK			*i* LRM	MLR	03 13 09.6		
	comp=Z,390nm,25.3s						
MNK			*i* LRM	MLR	03 13 11.0		
	comp=N,156nm,22.4s						
MNK			*i* LRM	MLR	03 13 19.0		
	comp=E,14nm,21.7s						
ASAR	**Alice Springs**	**69.59 195**	P	**P**	**02 40 22.3**	**+2.9**	
	comp=E,0.8nm,0.8s,baz=17,slow=6.0,SNR=7.2						
KIV	**Kislovodsk**	**70.48 313**	*e*P	**P**	**02 40 26.6**	**+1.7**	
KIV			pmax	pmax			
	comp=Z,13nm,1.1s						
KBZ	**Khabaz**	**70.53 313**	P	**P**	**02 40 25.6**	**+0.5**	
	comp=Z,7.4nm,1.0s,baz=75,slow=1.1,SNR=11						
KBZ	**Khabaz**	**70.53 313**	*e*P	**P**	**02 40 26.6**	**+1.6**	
KBZ			pmax	pmax			
	comp=Z,7.0nm,1.0s						
ONI	**Oni**	**71.02 311**	P	**P**	**02 40 28.3**	**+0.1**	
ONI			pmax	pmax			
	comp=Z,10.0nm,1.4s						
ONI	**Oni**	**71.02 311**	P	**P**	**02 40 28.3**	**+0.1**	
ONI			IAmb	IAmb	02 40 31.6		
	comp=Z,10nm,1.4s						
AKASG	**Malin Array Be**	**71.88 325**	P	**P**	**02 40 32.5**	**-0.6**	
	comp=Z,1.5nm,0.3s,baz=36,slow=6.5,SNR=16						
AKASG	**Malin Array Be**	**71.88 325**	*e*P	**P**	**02 40 32.8**	**-0.3**	
AKASG			pmax	pmax			
	comp=Z,2.0nm,0.3s						
AKBB	**Malin Array Si**	**71.88 325**	*ce*P	**P**	**02 40 33.3**	**+0.2**	
AKBB	**Malin Array Si**	**71.88 325**	P	**P**	**02 40 31.8**	**-1.2**	
AKBB			IAmb	IAmb	02 40 33.6		
	comp=Z,6.6nm,0.8s						
SORM	**Soroca**	**74.22 324**	⇑P	**P**	**02 40 46.5**	**-0.4**	
SORM	**Soroca**	**74.22 324**	⇑P	**P**	**02 40 46.5**	**-0.4**	
GURO	**Guroymak-BITLI**	**74.62 309**	P	**P**	**02 40 50.9**	**+1.3**	
KWP	**Kalwaria Pacla**	**75.31 328**	*e*P	**P**	**02 40 53.9**	**+0.6**	
OJC	**Ojcow**	**75.91 329**	*e*P	**P**	**02 40 57.2**	**+0.5**	
BURAR	**Bucovina Array**	**75.93 325**	⇑P	**P**	**02 40 56.2**	**-0.7**	
BURAR	**Bucovina Array**	**75.93 325**	⇑P	**P**	**02 40 56.2**	**-0.7**	
BURAR	**Bucovina Array**	**75.93 325**	P	**P**	**02 40 56.5**	**-0.5**	
MARD	**Mardin**	**76.19 309**	P	**P**	**02 40 59.4**	**+0.7**	
MARD			IAmb	IAmb	02 41 02.0		
	comp=Z,7.5nm,0.6s						
PLOR	**Plostina**	**76.73 323**	⇑P	P	02 40 50.4	-11	
PLOR	**Plostina**	**76.73 323**	⇑P	P	02 40 50.4	-11	
OKC	**Ostrava-Krasne**	**76.82 330**	*e*P	P	02 40 55.7	-6.1	
OKC	**Ostrava-Krasne**	**76.82 330**	*e*P	P	02 40 55.7	-6.1	
CHVC	**Chvalec**	**76.91 332**	*e*P	**P**	**02 41 02.9**	**+0.6**	
DPC	**Dobruska-Polom**	**77.02 331**	*e*P	**P**	**02 41 03.3**	**+0.3**	
DPC	**Dobruska-Polom**	**77.02 331**	*e*P	**P**	**02 41 03.3**	**+0.3**	
KRLC	**Kraliky**	**77.09 331**	*e*P	**P**	**02 41 03.7**	**+0.3**	
KRLC	**Kraliky**	**77.09 331**	*e*P	**P**	**02 41 03.7**	**+0.3**	
CLL	**Collm**	**77.28 334**	⇑*i*P	**P**	**02 41 04.2**	**-0.2**	
	comp=Z,6.0nm,0.7s						
CLL	**Collm**	**77.28 334**	⇑*i*P	**P**	**02 41 04.2**	**-0.2**	
CLL			*e**SP	**pP**	**02 41 21.0**	**-3.6**	
CLL			pmax	pmax			
	comp=Z,6.0nm,0.7s						
CLL	**Collm**	**77.28 334**	P	**P**	**02 41 03.5**	**-0.9**	
CLL			IAmb	IAmb	02 41 05.1		
	comp=Z,5.9nm,0.7s						
PRU	**Pruhonice**	**77.93 332**	*e*P	**P**	**02 41 08.9**	**+0.9**	
PRU	**Pruhonice**	**77.93 332**	*e*P	**P**	**02 41 08.9**	**+0.9**	
ARR	**Arges**	**77.97 324**	⇑P	**P**	**02 41 09.7**	**+1.3**	
BRTR	**Keskin Array B**	**78.20 315**	P	**P**	**02 41 10.6**	**+0.7**	
	comp=Z,0.7nm,0.5s,baz=26,slow=2.2,SNR=3.4						
GZR	**Gura Zlata**	**78.72 325**	⇑P	**P**	**02 41 12.3**	**-0.2**	
GZR	**Gura Zlata**	**78.72 325**	⇑P	**P**	**02 41 12.3**	**-0.2**	
KHC	**Kasperske Hory**	**78.98 332**	*e*P	**P**	**02 41 13.9**	**0.0**	
KHC	**Kasperske Hory**	**78.98 332**	*e*P	**P**	**02 41 13.9**	**0.0**	
CKRC	**Cesky Krumlov**	**79.01 332**	*e*P	**P**	**02 41 14.8**	**+0.8**	
GERES	**GERESS Array B**	**79.19 332**	P	**P**	**02 41 15.1**	**0.0**	
	comp=Z,0.9nm,0.5s,baz=40,slow=6.4,SNR=11						
GERES	**GERESS Array B**	**79.19 332**	*e*P	**P**	**02 41 15.9**	**+0.8**	
GERES			pmax	pmax			
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**79.19 332**	P	**P**	**02 41 14.3**	**-0.8**	
CONA	**Conrad Observa**	**79.24 330**	*e*P	**P**	**02 41 16.9**	**+1.5**	
	comp=Z,1.8nm,0.6s						
MDVR	**Moldovita**	**79.65 325**	⇓P	**P**	**02 41 16.5**	**-1.1**	
TXAR	**Lajitas Array**	**80.55 58**	P	**P**	**02 41 24.5**	**+1.7**	
	comp=Z,0.4nm,0.4s,baz=298,slow=4.4,SNR=15						
SOKA	**Soboth**	**80.60 330**	*e*P	**P**	**02 41 23.7**	**+1.0**	
	comp=Z,1.7nm,0.8s						
VTS	**Vitosha**	**80.79 323**	P	**P**	**02 41 23.5**	**-0.3**	
VTS			pmax	pmax			
	comp=Z,3.0nm,0.8s						
VTS	**Vitosha**	**80.79 323**	P	**P**	**02 41 23.5**	**-0.3**	
KBA	**Koelnbreinsper**	**80.84 331**	*e*P	**P**	**02 41 25.4**	**+1.3**	
	comp=Z,1.7nm,0.6s						
OBKA	**Obir**	**80.92 330**	*i* P	**P**	**02 41 25.6**	**+1.2**	
	comp=Z,1.5nm,0.8s						
WATA	**Walderalm**	**81.21 333**	*i* P	**P**	**02 41 26.8**	**+0.7**	
	comp=Z,1.8nm,0.5s						
WTTA	**Wattenberg**	**81.25 333**	*i* P	**P**	**02 41 26.8**	**+0.5**	
	comp=Z,2.5nm,0.5s						
HICK	**Hickman**	**83.11 44**	P	P	02 41 29.7	-6.2	
KBN	**Korca**	**83.47 323**	P	**P**	**02 41 36.7**	**-1.1**	
KBN			pmax	pmax			
	comp=Z,16nm,1.4s						
KBN	**Korca**	**83.47 323**	P	**P**	**02 41 36.7**	**-1.1**	
KBN			IAmb	IAmb	02 41 44.6		
	comp=Z,16nm,1.4s						
P52A	**Corning**	**83.93 38**	P	**P**	**02 41 36.6**	**-3.5**	
P52A			IAmb	IAmb	02 41 44.9		
	comp=Z,19nm,1.4s						
NRCA	**Norcia**	**84.61 330**	P	**P**	**02 41 43.9**	**+0.3**	
NRCA			IAmb	IAmb	02 41 47.4		
	comp=Z,3.9nm,0.7s						
H03N2	**Juan Fernandez**	**141.10 90**	T	T	05 26 28.4		
	baz=305,slow=77,SNR=15						
H03N3	**Juan Fernandez**	**141.11 90**	T	T	05 26 27.8		
	baz=305,slow=77,SNR=14						
H03N1	**Juan Fernandez**	**141.11 90**	T	T	05 26 29.5		
	baz=305,slow=77,SNR=13						
VNA2	**Neumayer--Watz**	**151.44 195**	PKiKP	**PKPbc**	**02 49 03.3**	**+1.1**	

TUL ***12*** *02:41:39.1±1.0,36.59N±0.03×97.38W±0.05,h7km±7km, ML2.7,mb_Lg2.5/35(NEIC),Error ellipse: s-maj=5.9km s-min=2.1km az=58.0*

NEIC 12 02:41:38.9±0.8,36.57N±0.03×97.38W±0.05,h5km±7km, Error ellipse: s-maj=6.7km s-min=2.5km az=65.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLOK	**Blackwell**	**0.23**	**36**		Pg	02 41 43.7	+0.2
KAN13	**South Haven SW**	**0.45**	**350**	Pg	Pg	02 41 47.6	0.0
GC02	**Grant County #**	**0.47**	**306**		Pg	02 41 48.4	+0.3
CROK	**Carrier**	**0.49**	**262**		Pg	02 41 48.9	+0.6
KAN17	**Caldwell West**	**0.56**	**327**		Pg	02 41 49.8	+0.1
KAN14	**Manchester OK**	**0.60**	**310**	Pg	Pg	02 41 50.7	+0.2
KAN05	**Bluff City Nor**	**0.66**	**324**	Pg	Pg	02 41 51.6	-0.1
KS20	**Mayfield South**	**0.67**	**348**	Pg	Pg	02 41 51.8	0.0
QUOK	**Quay**	**0.68**	**126**		Pg	02 41 52.0	+0.1
OK032	**Salt Plains WL**	**0.70**	**289**	Pg	Pg	02 41 52.2	-0.2
OK031	**S. Brethren Rd**	**0.76**	**144**		Pg	02 41 53.4	-0.1
OK029	**Liberty Lake**	**0.78**	**184**		Pg	02 41 54.0	+0.2
T35A	**Sooner Cattle**	**0.78**	**64**		Pg	02 41 53.6	-0.3
KAN12	**Harper NE Stat**	**0.88**	**326**	Pg	Pg	02 41 55.3	-0.4
OK025	**Westminster Rd**	**0.99**	**178**		Pg	02 41 57.8	-0.1
OKCFA	**Oklahoma City**	**1.16**	**183**	Pg	Pg	02 42 01.0	-0.1
OKCSW	**OKLAHOMA CITY**	**1.17**	**182**		Pg	02 42 00.7	-0.6
FNO	**Franklin**	**1.31**	**181**		Pn	02 42 03.6	-0.3
U32A	**Winter Ranch,**	**1.32**	**262**	Pn	Pn	02 42 03.1	-0.9
X34A	**Smith Ranch, M**	**2.00**	**191**	Pn	Pn	02 42 12.6	-0.8
X34A				IAmb_Lg		02 42 48.3	
	comp=Z,30nm,0.8s						
R32A	**Long Quarter,**	**2.13**	**331**	Pn	Pn	02 42 15.1	0.0
WMOK	**Wichita Mounta**	**2.16**	**212**		Pn	02 42 16.3	+0.8
WMOK				IAmb_Lg		02 42 50.1	
	comp=Z,15nm,0.7s						
U38A	**Gravette**	**2.42**	**92**		Pn	02 42 19.8	+0.7
X37A	**Clayton**	**2.57**	**140**	Pn	Pn	02 42 22.7	+1.5
KSU1	**Kansas State U**	**2.60**	**13**	Pn	Pn	02 42 21.3	-0.3
HHAR	**Hobbs**	**2.79**	**95**		Pn	02 42 24.1	-0.1
CBKS	**Cedar Bluff**	**2.91**	**321**	Pn	Pn	02 42 25.6	-0.3
CBKS				IAmb_Lg		02 43 18.3	
	comp=Z,11nm,0.8s						
W39A	**Magazine**	**3.23**	**114**	Pn	Pn	02 42 29.7	-0.5
W39A				IAmb_Lg		02 43 24.6	
	comp=Z,18nm,1.1s						
Z35A	**Perchaven, San**	**3.24**	**178**	Pn	Pn	02 42 30.6	+0.3
S39A	**Bolivar**	**3.43**	**70**	Pn	Pn	02 42 32.2	-0.8
S39A				IAmb_Lg		02 43 33.2	
	comp=Z,12nm,0.8s						
U40A	**Yellville**	**3.66**	**92**	Pn	Pn	02 42 35.9	-0.3
MIAR	**Mount Ida**	**3.70**	**122**	Pn	Pn	02 42 36.9	+0.2
MIAR				IAmb_Lg		02 43 37.7	
	comp=Z,11nm,0.8s						
AMTX	**Amarillo**	**3.88**	**246**	Pn	Pn	02 42 40.0	+0.7
AMTX				IAmb_Lg		02 43 48.0	
	comp=Z,18nm,0.7s						
MGMO	**Mountain Grove**	**4.14**	**80**	IAmb_Lg		02 43 52.4	
	comp=Z,12nm,0.9s						
X40A	**Basin Creek Fa**	**4.25**	**118**	Pn	Pn	02 42 44.1	-0.2
P38A	**Dawn**	**4.30**	**44**	Pn	Pn	02 42 44.9	-0.1
P38A				IAmb_Lg		02 44 00.1	
	comp=Z,9.6nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.30**	**98**	Pn	Pn	02 42 45.1	+0.1
WHAR	**Wooly Hollow**	**4.33**	**106**	Pn	Pn	02 42 46.5	+1.2
WHAR				IAmb_Lg		02 43 56.7	
	comp=Z,12nm,1.2s						
R40A	**Maddies Statio**	**4.42**	**66**	Pn	Pn	02 42 46.7	+0.1
R40A				IAmb_Lg		02 44 10.5	
	comp=Z,12nm,1.1s						
N35A	**Tabor**	**4.49**	**17**	Pn	Pn	02 42 47.0	-0.6
N35A				IAmb_Lg		02 44 11.9	
	comp=Z,13nm,0.7s						
BGNE	**Belgrade**	**4.87**	**353**	IAmb_Lg		02 44 20.0	
	comp=Z,7.7nm,0.8s						
LCAR	**Lake Charles**	**5.05**	**94**	Pn	Pn	02 42 54.6	-0.7
CCM	**Cathedral Cave**	**5.11**	**71**	Pn	Pn	02 42 56.3	+0.2
CCM				IAmb_Lg		02 44 28.9	
	comp=Z,12nm,0.9s						
P40A	**Paris**	**5.14**	**53**	Pn	Pn	02 42 56.0	-0.5
P40A				IAmb_Lg		02 44 22.1	
	comp=Z,11nm,0.8s						
N38A	**Joes South For**	**5.32**	**36**	IAmb_Lg		02 44 34.2	
	comp=Z,10nm,0.7s						
L34A	**Svendsen Farm,**	**5.44**	**8**	IAmb_Lg		02 44 36.1	
	comp=Z,8.8nm,0.7s						
PBMO	**Poplar Bluff**	**5.59**	**86**	IAmb_Lg		02 44 39.6	
	comp=Z,8.0nm,0.8s						
S44A	**Carbondale**	**6.59**	**78**	IAmb_Lg		02 45 10.8	
	comp=Z,8.3nm,0.7s						

IDC 12 02:43:31.0±2.0,4.19S×152.86E,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.6/47,mbtmp3.8/3,MS3.1/4,Ms1 3.1/4, ms1mx2.8/36,Error ellipse: s-maj=58.3km s-min=45.7km az=124.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**8.75**	**127**	LR	LR	02 49 27.6	
	comp=Z,69nm,20.2s,baz=207,slow=41						
JAY	**Jayapura**	**12.25**	**277**	LR	LR	02 50 24.2	
	comp=Z,83nm,22.0s,baz=58,slow=34						
DZM	**Mont Dzumac**	**22.12**	**145**	LR	LR	02 56 19.3	
	comp=Z,107nm,19.9s,baz=79,slow=35						
WRA	**Warramunga Arr**	**23.89**	**228**	P	P	02 48 47.4	+0.7
	1.2nm,0.4s,baz=52,slow=9.8,SNR=30						
ASAR	**Alice Springs**	**26.64**	**222**	P	P	02 49 11.9	+0.3
	0.5nm,0.9s,baz=52,slow=9.0,SNR=3.0						
H11N1	**WAKE ISLAND Hy**	**27.47**	**30**	T	T	03 18 12.0	
	baz=213						
H11N3	**WAKE ISLAND Hy**	**27.49**	**30**	T	T	03 18 15.1	
	baz=213						
H11N2	**WAKE ISLAND Hy**	**27.49**	**30**	T	T	03 18 13.2	
	baz=213						
KLR	**Kul'dur**	**56.28**	**344**	LR	LR	03 17 22.6	
	comp=Z,23nm,18.3s,baz=268,slow=36						
VNDA	**Vanda**	**73.43**	**178**	P	P	02 55 04.3	-0.3
	1.2nm,0.8s,baz=353,slow=5.7,SNR=8.9						
TORD	**Torodi Ar. Bea**	**150.17**	**289**	PKPbc	PKPbc	03 03 24.3	-0.7
	2.4nm,0.9s,baz=66,slow=2.2,SNR=12						

MOS ***12*** *02:44:49.7±1.0,36.89N×141.26E,h24km,mb4.9/30,Error ellipse: s-maj=9.1km s-min=5.6km az=117.0*

BGR ***12*** *02:44:50.9±0.0,36.42N×141.75E,h33km,mb4.9,Ms3.9*

NEIC ***12*** *02:44:51.3±2.0,36.82N±0.04×141.23E±0.08,h21km±4km, mb4.6/137,Error ellipse: s-maj=9.4km s-min=5.8km az=113.0*

BJI ***12*** *02:44:52.7±0.0,36.81N×141.14E,h50km,mB4.8/22, mb4.7/52,Ms4.0/11,Ms7 3.8/11*

JMA ***12*** *02:44:53.2±0.1,36.81N×141.23E,h41km±1km,M4.5*

JMA Felt III J1.

NIED ***12*** *02:44:53.3,36.81N×141.23E,h41km,MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr3.52; Mθθ-0.76; Mφφ-2.77; Mrθ4.09; Mrφ-2.19; Mθφ2.19; Fault plane solution: M06.05000×10^15 NP1:φs55.00000°, δ71.00000°,λ107.00000°. NP2:φs191.00000°,δ25.00000°, λ49.00000°.*

IDC ***12*** *02:44:54.7±1.5,36.88N×141.14E,h50km±13km,mb4.2/24, mb1 4.3/31,mb1mx4.2/50,mbtmp4.4/31,ML3.8/7,MS3.5/24, Ms1 3.5/24,ms1mx3.3/50 Error ellipse: s-maj=14.1km s-min=10.3km az=128.0*

ISC 12 02:44:52.9±0.6,36.80N±0.03×141.30E±0.05,h41km±4km, n340,σ1§23/301,mb4.6/137,MS3.7/24,38C-10D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.50**	**307**	P	**Pn**	**02 45 03.4**	**-0.3**
ONAJ				S	**Sn**	**02 45 10.3**	**-1.0**
JHO	**Hitachi**	**0.62**	**252**	P	**Pn**	**02 45 04.8**	**-0.4**
JHO				S	**Sn**	**02 45 12.9**	**-1.1**
JFFD	**Fukushimafurud**	**0.66**	**296**	P	**Pn**	**02 45 05.4**	**-0.4**
JFFD				S	**Sn**	**02 45 13.5**	**-1.5**
JFK	**Kawauchi**	**0.66**	**329**	P	**Pn**	**02 45 05.6**	**-0.2**
JFK				S	**Sn**	**02 45 14.1**	**-0.9**
JHYU	**Hitachinakayam**	**0.74**	**231**	P	**Pn**	**02 45 06.6**	**-0.2**
JHYU				S	**Sn**	**02 45 15.9**	**-0.9**
JFT	**Otama**	**1.05**	**313**	P	**Pn**	**02 45 11.7**	**+0.6**
JYT	**Yasato**	**1.06**	**237**		**Pn**	**02 45 11.0**	**-0.2**
JYT				Sn	**Sn**	**02 45 23.6**	**-1.2**
JMM	**Marumori**	**1.13**	**339**	P	**Pn**	**02 45 12.2**	**-0.1**
JMM				S	**Sn**	**02 45 26.2**	**-0.4**
JMM	**Marumori**	**1.13**	**339**		**Pn**	**02 45 12.0**	**-0.2**
JFY	**Yanaizu**	**1.41**	**296**	P	**Pn**	**02 45 16.3**	**+0.2**
MJAR	**Matsushiro Arr**	**2.50**	**265**	P	**Pn**	**02 45 31.2**	**+0.3**
	9.4nm,0.3s,baz=89,slow=16,SNR=152						
MJAR				S	**Sn**	**02 45 59.2**	**-1.1**
	15nm,0.3s,baz=81,slow=16,SNR=4.3						
MJAR				LR	LR	02 46 45.8	
	comp=Z,574nm,21.5s,baz=95,slow=47						
MJAR	**Matsushiro Arr**	**2.50**	**265**	Pn	**Pn**	**02 45 31.6**	**+0.6**
MAJO	**Matsushiro**	**2.50**	**265**	*i* P	**Pn**	**02 45 32.4**	**+1.4**
MAJO	**Matsushiro**	**2.50**	**265**	Pn	**Pn**	**02 45 31.9**	**+0.9**
MAT	**Matsushiro**	**2.50**	**265**	P	**Pn**	**02 45 32.4**	**+1.4**
MAT				S	**Sn**	**02 46 01.8**	**+1.5**
MJB9	**Matsu-Tunnel**	**2.50**	**265**	Pn	**Pn**	**02 45 32.7**	**+1.6**
JSD	**Sado**	**2.71**	**298**	Pn	**Pn**	**02 45 33.8**	**-0.1**
JGF	**Kuroka**	**3.41**	**251**		**Pn**	**02 45 46.2**	**+2.7**
INU	**Inuyama**	**3.76**	**249**	Pn	**Pn**	**02 45 50.4**	**+2.1**
JHJ2	**Mitsune**	**3.88**	**199**	Pn	**Pn**	**02 45 51.2**	**+1.3**
JHJ	**Hachijo jima 2**	**3.88**	**199**	P	**Pn**	**02 45 51.9**	**+1.9**
	66nm,0.3s,baz=179,slow=7.5,SNR=6.5						
JHJ				S	**Sn**	**02 46 33.5**	**-0.8**
	124nm,0.3s,baz=52,slow=19,SNR=2.8						
JTM	**Tenmabayashi**	**3.98**	**357**	Pn	**Pn**	**02 45 52.9**	**+1.5**
JWT	**Wachi**	**5.01**	**254**	Pn	**Pn**	**02 46 07.7**	**+2.1**
JMN	**Monobe**	**6.80**	**245**		**Pn**	**02 46 29.6**	**-0.5**
JHS	**Saijyo**	**6.88**	**257**		**Pn**	**02 46 29.0**	**-2.2**
JKA	**Kamikawa-asahi**	**7.37**	**7**		**Pn**	**02 46 37.6**	**-0.3**
ASAJ	**Asahikawa**	**7.37**	**7**	P	**Pn**	**02 46 37.6**	**-0.3**
	3.2nm,0.3s,baz=198,slow=14,SNR=7.4						
ASAJ				S	**Sn**	**02 48 00.3**	**+0.1**
	2.5nm,0.3s,baz=143,slow=20,SNR=1.7						
JNU	**Nakatsue**	**9.31**	**250**	P	**Pn**	**02 47 06.6**	**+2.1**
	0.8nm,0.3s,baz=55,slow=8.6,SNR=9.4						
JNU				LR	LR	02 50 51.6	
	comp=Z,212nm,19.6s,baz=95,slow=39						
JNU	**Nakatsue**	**9.31**	**250**		**Pn**	**02 47 06.3**	**+1.8**
JCJ	**Chichijima**	**9.71**	**175**	P	**Pn**	**02 47 07.5**	**-2.4**
	10nm,0.3s,baz=102,slow=23,SNR=11						
JCJ				S	**Sn**	**02 48 49.0**	**-8.7**
	6.9nm,0.3s,baz=291,slow=22,SNR=1.8						
JCJ	**Chichijima**	**9.71**	**175**		**Pn**	**02 47 09.5**	**-0.5**
YSS	**Yuzh-Sakhalins**	**10.20**	**6**	*e*P	**Pn**	**02 47 17.7**	**+1.1**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS				MLR	MLR		
	comp=Z,500nm,13.0s						
USRK	**Ussuriysk Ar.**	**10.23**	**319**	P	**Pn**	**02 47 18.1**	**+1.1**
	baz=134,slow=13,SNR=44						
USRK				LR	LR	02 50 58.1	
	comp=Z,441nm,19.2s,baz=135,slow=36						
USRK	**Ussuriysk Ar.**	**10.23**	**319**		**Pn**	**02 47 16.7**	**-0.4**
USA0B	**Ussuriysk Arra**	**10.23**	**319**	P	**Pn**	**02 47 17.2**	**+0.2**
USA0B	**Ussuriysk Arra**	**10.23**	**319**		**Pn**	**02 47 17.2**	**+0.2**
KSRS	**Korea Array**	**10.70**	**277**	P	**Pn**	**02 47 25.4**	**+1.9**
	comp=Z,0.8nm,0.3s,baz=87,slow=13,SNR=13						
KSRS				LR	LR	02 51 16.0	
	comp=Z,316nm,20.7s,baz=90,slow=36						
KSAR	**Wonju Array Be**	**10.73**	**277**	P	**Pn**	**02 47 23.6**	**-0.3**
KSAR	**Wonju Array Be**	**10.73**	**277**	Pn	**Pn**	**02 47 23.6**	**-0.3**
MDJ	**Mudanjiang**	**11.81**	**315**	P	Pn	02 47 44.3	+5.6
MDJ				pmax	pmax		
	comp=Z,36nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,170nm,7.1s						
MDJ	**Mudanjiang**	**11.81**	**315**	Pn	**Pn**	**02 47 42.3**	**+3.6**
TYV	**Tymovskoe**	**14.09**	**4**	*e*P	**Pn**	**02 48 08.3**	**-1.4**
TYV				*e*S	**Sn**	**02 50 42.1**	**-2.4**
TYV				pmax	pmax		
	comp=Z,15nm,0.9s						
TYV				pmax	pmax		
	comp=Z,200nm,3.4s						
TYV				smax	smax		
	comp=E,400nm,4.1s						
TYV				smax	smax		
	comp=N,300nm,4.7s						
KLR	**Kul'dur**	**14.23**	**334**	P	**Pn**	**02 48 11.4**	**-0.2**
	comp=N,0.2nm,0.3s,baz=308,slow=12,SNR=2.6						
KLR				LR	LR	02 53 34.8	
	comp=N,285nm,18.6s,baz=230,slow=37						
KLR	**Kul'dur**	**14.23**	**334**	*i* P	**Pn**	**02 48 11.6**	**0.0**
KLR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
JOW	**Kunigami**	**14.86**	**232**	LR	LR	02 53 43.0	
	comp=Z,178nm,20.1s,baz=178,slow=36						
NJ2	**Nanjing**	**19.10**	**262**	⇓P	**P**	**02 49 11.9**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,19nm,0.7s						
ZEA	**Zeya**	**19.55**	**334**	*e*P	**P**	**02 49 15.2**	**-1.6**
ZEA				pmax	pmax		
	comp=E,10.0nm,0.8s						
ZEA				pmax	pmax		
	comp=N,10.0nm,0.6s						
ZEA				pmax	pmax		
	comp=Z,20nm,0.7s						
ZEA				MLR	MLR		
	comp=Z,100nm,14.0s						
BJI	**Beijing**	**19.93**	**287**	P	**P**	**02 49 20.3**	**-0.8**
BJI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
PETK	**Petropavlovsk-**	**19.93**	**30**	LR	LR	02 57 41.8	
	comp=Z,80nm,18.2s,baz=208,slow=38						
BJT	**Baijiatuau**	**19.93**	**287**	P	**P**	**02 49 20.6**	**-0.5**
BJT				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BJT	**Baijiatuau**	**19.93**	**287**	P	**P**	**02 49 20.6**	**-0.5**
HIA	**Hailar**	**20.00**	**315**	P	**P**	**02 49 19.0**	**-2.8**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.4s						
HIA	**Hailar**	**20.00**	**315**	P

comp=Z,24nm,1.1s
LZH LR LR
comp=Z,240nm,13.2s
LZH LR LR
comp=Z,220nm,13.0s
LZH LR LR
comp=Z,230nm,15.4s
GYA Guiyang 31.09 261 ⇓P **P 02 51 06.8 -0.6**
GYA pmax pmax
comp=Z,30nm,1.0s
CD2 Chengdu 31.58 270 P **P 02 51 10.6 -1.0**
CD2 pmax pmax
comp=Z,10.0nm,0.8s
GTA Gaotai 32.54 287 *eP* **P 02 51 23.0 +2.9**
GTA pP pP 02 51 28.8 -2.5
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,45nm,4.3s
GTA LR LR
comp=Z,100nm,15.6s
GTA LR LR
comp=Z,90nm,14.2s
GTA LR LR
comp=Z,120nm,13.8s
KMI Kunming 34.84 262 ⇑P **P 02 51 40.7 +0.4**
KMI pmax pmax
comp=Z,15nm,0.8s
TIXI Tiksi 35.51 353 P **P 02 51 44.6 -0.6**
comp=Z,3.4nm,0.5s,baz=154,slow=7.0,SNR=4.0
TIXI Tiksi 35.51 353 *ceP* **P 02 51 45.2 0.0**
TIXI Tiksi 35.51 353 P **P 02 51 44.2 -1.0**
TIXI IAmb IAmb 02 51 45.9
comp=Z,11nm,1.2s
SLVN Son La 35.88 255 P **P 02 51 48.9 -0.1**
SLVN IAmb IAmb 02 51 50.9
comp=Z,7.9nm,0.9s
NONG Nongkai 38.35 251 P **P 02 52 10.9 +1.0**
comp=Z,57nm,0.8s
DGZ Jazzator, Alta 40.45 306 ⇑*eP* **P 02 52 28.4 +1.0**
DGZ pmax pmax
comp=Z,31nm,0.6s
CHAI Chaiyaphum 40.54 250 P **P 02 52 28.9 +0.7**
comp=Z,37nm,0.9s
WMQ Urumqi 40.86 297 *eP* **P 02 52 30.7 0.0**
WMQ pmax pmax
comp=Z,17nm,1.3s
WMQ pmax pmax
comp=Z,110nm,3.8s
CM31 Chiang Mai Arr 41.35 255 P **P 02 52 35.6 +0.7**
CMAR Chiang Mai Arr 41.35 255 P **P 02 52 35.3 +0.4**
comp=Z,2.2nm,0.3s,baz=46,slow=5.6,SNR=9.9
CMAR Chiang Mai Arr 41.35 255 *ceP* **P 02 52 36.7 +1.8**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CM04 Chiang Mai Arr 41.35 255 P **P 02 52 38.1 +3.1**
comp=Z,6.4nm,0.8s
CM02 Chiang Mai Arr 41.36 255 P **P 02 52 38.0 +3.0**
comp=Z,7.3nm,0.8s
CM15 Chiang Mai Arr 41.37 255 P **P 02 52 31.8 -3.3**
CM05 Chiang Mai Arr 41.38 255 P **P 02 52 37.8 +2.6**
comp=Z,61nmcomp=Z,6.5nm,0.8s
ZAA0 Zalesovo Array 42.00 313 IAmb IAmb 02 52 42.5
comp=Z,8.6nm,0.8s
ZALV Zalesovo Beam 42.00 313 P **P 02 52 39.9 +0.1**
comp=Z,8.4nm,0.7s,baz=92,slow=7.0,SNR=21
ZALV PcP **PcP 02 54 33.9 -0.4**
comp=Z,2.5nm,0.6s,baz=75,slow=3.2,SNR=4.7
ZALV LR LR 03 10 27.4
comp=Z,59nm,19.5s,baz=84,slow=37
ZALV Zalesovo Beam 42.00 313 P **P 02 52 39.6 -0.2**
LSA Lhasa 42.14 275 P **P 02 52 43.3 +1.5**
SHL Shillong 43.31 269 P **P 02 52 53.0 +2.0**
SHL pmax pmax
comp=Z,8.0nm,0.6s
SHL Shillong 43.31 269 P **P 02 52 53.0 +2.0**
SHL IAmb IAmb 02 52 55.6
comp=Z,8.0nm,0.6s
MK31 Makanchi Array 44.16 302 P **P 02 52 56.9 -0.6**
MK31 pmax pmax
comp=Z,5.0nm,1.1s
MK31 Makanchi Array 44.16 302 P **P 02 52 56.9 -0.6**
MKAR Makanchi Array 44.16 302 P **P 02 52 57.3 -0.1**
comp=Z,2.3nm,0.6s,baz=92,slow=9.5,SNR=14
MKAR PcP **PcP 02 54 41.7 -0.1**
comp=Z,1.1nm,0.8s,baz=86,slow=4.8,SNR=2.3
MKAR LR LR 03 11 45.5
comp=Z,60nm,19.4s,baz=96,slow=37
MKAR Makanchi Array 44.16 302 *ceP* **P 02 52 57.2 -0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
PHET Kaeng Krachan 44.19 248 P **P 02 53 00.7 +2.8**
comp=Z,38nm,0.8s
KURBB Kurchatov Arra 46.07 308 PcP **PcP 02 54 47.5 -0.7**
comp=Z,0.7nm,0.3s,baz=84,slow=4.1,SNR=1.8
KAPI Kappang 46.22 210 LR LR 03 12 31.9
comp=Z,24nm,18.9s,baz=68,slow=36
P19K Oil Pt 46.92 39 P **P 02 53 19.2 +0.2**
RAMN Ramite 46.93 274 *eP* **P 02 53 20.2 +0.4**
comp=Z,49nm,0.6s
JIRN Jiri 46.95 275 *eP* **P 02 53 20.9 +0.8**
comp=Z,61nm,0.9s
PKI Pulchoki 47.61 276 *eP* **P 02 53 25.2 0.0**
comp=Z,23nm,0.7s
KKN Kakani 47.62 276 *eP* **P 02 53 25.5 +0.4**
comp=Z,40nm,0.7s
PKIN Phulchoki 47.62 276 *eP* **P 02 53 25.4 +0.2**
comp=Z,25nm,0.7s
DMN Daman 47.83 276 *eP* **P 02 53 27.1 +0.2**
GKN Gorkha 48.04 277 *eP* **P 02 53 28.8 +0.5**
comp=Z,126nm,0.8s
MLY Manley 48.09 32 P **P 02 53 30.0 +1.8**
MLY IAmb IAmb 02 53 45.3
comp=Z,8.0nm,1.2s
TARG Taragay, Kyrgy 48.42 296 IAmb IAmb 02 53 33.3
comp=Z,7.4nm,0.8s
DANN Dangsing 48.59 277 *eP* **P 02 53 33.5 +0.8**
comp=Z,239nm,0.8s
H23K Yukon River 48.61 31 IAmb IAmb 02 53 36.5
comp=Z,9.0nm,1.1s
BWN Browne 48.63 33 P **P 02 53 33.6 +1.4**
KDJ Kajisay 48.76 297 IAmb IAmb 02 53 54.9
comp=Z,3.5nm,0.8s
KOLN Koldanda 48.97 277 *eP* **P 02 53 35.9 +0.4**
comp=Z,63nm,1.1s
MDM Murphy Dome 49.16 32 IAmb IAmb 02 53 39.6
comp=Z,11nm,1.0s
WRH Wood River Hil 49.23 33 P **P 02 53 37.3 +0.5**
WRH IAmb IAmb 02 53 42.2
comp=Z,6.6nm,1.1s
PYUN Piuthan 49.31 278 *eP* **P 02 53 38.7 +0.5**
comp=Z,73nm,0.6s
BOOM Boomskoye usch 49.54 298 P **P 02 53 39.4 -0.3**
BOOM pmax pmax
comp=Z,15nm,1.5s
BOOM Boomskoye usch 49.54 298 P **P 02 53 39.4 -0.3**
BOOM IAmb IAmb 02 53 41.2
comp=Z,15nm,1.5s
HDA Harding Lake 49.73 33 P **P 02 53 41.2 +0.6**
HDA IAmb IAmb 02 53 42.8
comp=Z,10nm,1.1s
IL31 49.74 32 P **P 02 53 40.7 +0.1**
IL31 IAmb IAmb 02 53 42.9
comp=Z,7.4nm,1.0s
ILAR Eielson Array 49.74 32 P **P 02 53 41.0 +0.3**
comp=Z,3.9nm,0.9s,baz=269,slow=6.3,SNR=32
KSH Kashi 50.41 294 P P 02 53 50.9 +4.6
KSH pmax pmax
comp=Z,7.0nm,0.5s
AAK Ala-Archa 50.52 299 P **P 02 53 46.2 -0.9**
comp=Z,2.1nm,0.5s,baz=122,slow=4.5,SNR=4.3
AAK Ala-Archa 50.52 299 *ceP* **P 02 53 46.9 -0.2**
AAK pmax pmax
comp=Z,9.0nm,1.0s
AAK Ala-Archa 50.52 299 IAmb IAmb 02 53 47.7
comp=Z,2.5nm,0.6s
BRVK Borovoye 50.71 312 *ceP* **P 02 53 47.2 -1.0**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 50.71 312 P **P 02 53 48.5 +0.3**
BRVK IAmb IAmb 02 53 49.1
comp=Z,6.0nm,0.9s
SCRK Sand Creek 51.05 33 IAmb IAmb 02 53 53.3
comp=Z,5.9nm,1.0s
L26K Log Cabin Wild 51.44 34 IAmb IAmb 02 53 57.0
comp=Z,6.1nm,0.9s
K27K Chicken 51.88 33 IAmb IAmb 02 53 59.7
comp=Z,6.0nm,1.1s
L27K Beaver Creek, 52.12 34 IAmb IAmb 02 54 02.2
comp=Z,6.2nm,1.0s
BCAR Beaver Creek A 52.14 34 P **P 02 54 00.6 +1.8**
KK31 Karatay Array 53.16 300 P **P 02 54 06.8 +0.2**
KK31 pmax pmax
comp=Z,5.0nm,0.9s
KK31 Karatay Array 53.16 300 P **P 02 54 06.8 +0.2**
KK31 IAmb IAmb 02 54 08.0
comp=Z,4.6nm,0.9s
KKAR Karatay Array 53.16 300 P **P 02 54 06.4 -0.2**
KKAR Karatay Array 53.16 300 P **P 02 54 06.4 -0.2**
NIL Nilore 54.60 288 P **P 02 54 18.2 +0.9**
NIL pmax pmax
comp=Z,18nm,0.8s
NIL Nilore 54.60 288 P **P 02 54 18.2 +0.9**
INK Inuvik 54.63 27 LR LR 03 19 12.8
comp=Z,35nm,19.2s,baz=8.5,slow=38
SVE Sverdlovsk 55.26 319 *eP* **P 02 54 21.6 0.0**
SVE pmax pmax
comp=Z,13nm,0.9s
ARU Arti 56.47 319 *c i* P **P 02 54 30.0 -0.3**
ARU *PP **pP** 02 54 41.9 -0.3
ARU S **S** 03 02 18.2 -0.1
ARU SS **SS** 03 05 59.5 -5.8
ARU pmax pmax
comp=Z,18nm,0.8s
ARU Arti 56.47 319 P **P 02 54 30.2 -0.1**
WRA Warramunga Arr 56.82 188 P **P 02 54 33.4 +0.3**
comp=Z,1.9nm,0.7s,baz=7.8,slow=7.7,SNR=17
KBL Kabul 57.41 291 P **P 02 54 37.6 0.0**
KBL pmax pmax
comp=Z,8.0nm,0.8s
KBL Kabul 57.41 291 P **P 02 54 37.6 0.0**
KBL IAmb IAmb 02 54 38.2
comp=Z,8.2nm,0.8s
ABKAR Akbulak array 58.02 310 P **P 02 54 41.0 -0.4**
KIRV Kirov 60.38 323 *ceP* **P 02 54 57.5 +0.1**
AS31 Alice Springs 60.55 188 P **P 02 55 01.1 +2.1**
ASAR Alice Springs 60.55 188 P **P 02 54 59.6 +0.6**
comp=Z,0.7nm,0.7s,baz=17,slow=5.9,SNR=7.0
RES Resolute Bay 62.85 14 LR LR 03 23 52.1
comp=Z,20nm,20.0s,baz=70,slow=37
DZM Mont Dzumac 63.19 154 *e* LR LR 03 14 09.0
comp=Z,94nm,23.6s
GEYT Alibeck 63.87 299 P **P 02 55 21.3 0.0**
comp=Z,3.6nm,0.8s,baz=57,slow=11,SNR=5.7
YKA Yellowknife Ar 64.05 30 LR LR 03 25 15.6
comp=Z,18nm,19.7s,baz=0.0,slow=38
ARCES ARCESS Array B 64.18 339 P **P 02 55 22.7 -0.1**
comp=Z,2.9nm,0.8s,baz=56,slow=7.0,SNR=7.4
ARCES LR LR 03 25 22.8
comp=Z,42nm,21.7s,baz=320,slow=38
DAG Danmarks Havn 66.00 355 ⇑*iP* **P 02 55 34.5 +0.1**
DAG IAmb IAmb 02 55 35.3
comp=Z,5.5nm,0.8s
FINES FINESS Array B 68.97 332 P **P 02 55 53.4 -0.1**
comp=Z,6.0nm,0.8s,baz=64,slow=8.7,SNR=16
FINES LR LR 03 28 08.8
comp=Z,49nm,21.4s,baz=47,slow=38
FINES FINESS Array B 68.97 332 P **P 02 55 52.9 -0.5**
EDM Edmonton 69.58 38 P **P 02 55 58.5 +1.0**
EDM pmax pmax
comp=Z,9.0nm,1.1s
EDM Edmonton 69.58 38 P **P 02 55 58.5 +1.0**
EDM IAmb IAmb 02 55 59.8
comp=Z,8.9nm,1.1s
E09A Wood Farm, Sta 70.74 46 IAmb IAmb 02 56 07.7
comp=Z,4.7nm,1.0s
SUMG Summit 70.92 360 *i* P **P 02 56 06.0 +0.3**
SUMG IAmb IAmb 02 56 08.7
comp=Z,9.2nm,1.0s
SUMG Summit 70.92 360 P **P 02 56 06.5 +0.8**
SUMG pmax pmax
comp=Z,11nm,1.1s
SUMG Summit 70.92 360 P **P 02 56 06.5 +0.8**
SUMG IAmb IAmb 02 56 08.4
comp=Z,11nm,1.1s
KBZ Khabaz 70.98 311 P **P 02 56 06.5 +0.5**
comp=Z,5.5nm,0.9s,baz=39,slow=3.3,SNR=12
KBZ Khabaz 70.98 311 *ceP* **P 02 56 05.6 -0.5**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KIV Kislovodsk 70.99 311 *eP* **P 02 56 07.2 +0.9**
KIV pmax pmax
comp=Z,16nm,1.1s
KIV MLR MLR
comp=Z,28nm,18.0s
KIV Kislovodsk 70.99 311 P **P 02 56 06.1 -0.2**
JTMT Jette 72.22 43 P **P 02 56 15.1 +1.4**
JTMT IAmb IAmb 02 56 16.8
comp=Z,4.5nm,1.0s
MNK Minsk 72.63 326 *i* P **P 02 56 15.0 -0.8**
MNK *i* 02 56 32.4
MNK *i* 02 58 56.2
MNK *i* PPP PPP 03 00 40.4
MNK *i* S **S** **03 05 34.3 -3.2**
MNK *i* 03 06 17.2
MNK *i* SS **SS** **03 10 15.5 -0.8**
MNK *i* SSS SSS 03 13 35.9
MNK pmax pmax
comp=E,3.0nm,1.1s
MNK pmax pmax
comp=Z,14nm,1.0s
MNK pmax pmax
comp=N,12nm,1.0s
MNK MLR MLR
comp=N,38nm,18.0s
MNK MLR MLR
comp=E,7.0nm,16.0s
MNK MLR MLR
comp=Z,330nm,25.0s
MNK Minsk 72.63 326 *i* P **P 02 56 15.0 -0.8**
comp=E,3.0nm,1.1s
MNK *i* P **P 02 56 15.0 -0.8**
comp=N,12nm,1.0s
MNK *i* P **P 02 56 15.0 -0.8**
comp=Z,14nm,1.0s,baz=230
MNK *i* PcP **sP** **02 56 32.4 -0.3**
MNK *i* PP **PP** **02 58 56.2 -0.9**
MNK *i* PPP PPP 03 00 40.5
MNK *i* S **S** **03 05 34.3 -3.2**
MNK *i* SS **SS** **03 10 15.6 -0.7**
MNK *i* SSS SSS 03 13 36.0
MNK *i* LQ LQ 03 24 27.3
MNK *i* LR LR 03 27 59.7
MNK *i* LRM MLR 03 30 30.3
comp=N,38nm,18.3s
MNK *i* LRM MLR 03 30 49.3
comp=E,7.0nm,15.6s
MNK *i* LRM MLR 03 31 09.6
comp=Z,330nm,25.1s
NACGM Naroch 72.86 327 *i* P **P 02 56 17.8 +0.6**
BEKR Beckworth 73.07 53 P **P 02 56 20.4 +1.5**
BEKR IAmb IAmb 02 56 21.9
comp=Z,3.9nm,0.9s
FFC Flin Flon 73.95 33 P **P 02 56 24.4 +0.8**
FFC pmax pmax
comp=Z,5.0nm,0.9s
FFC Flin Flon 73.95 33 P **P 02 56 24.4 +0.8**
FFC IAmb IAmb 02 56 25.8
comp=Z,5.1nm,0.9s
YERR Yerington 74.28 53 P **P 02 56 26.7 +0.6**
YERR IAmb IAmb 02 56 29.3
comp=Z,5.1nm,1.0s
NB2 NORSAR Subarra 74.36 337 P **P 02 56 25.7 -0.2**
comp=Z,5.2nm,0.8s,baz=41,slow=6.2
NB2 NORSAR Subarra 74.36 337 P **P 02 56 25.7 -0.2**
comp=Z,5.6nm,0.8s,baz=40,slow=6.2
NOA NORSAR Array B 74.36 337 P **P 02 56 25.9 0.0**
comp=Z,3.4nm,0.8s,baz=39,slow=5.8,SNR=15
NOA LR LR 03 32 17.5
comp=Z,77nm,20.0s,baz=25,slow=38
NOA NORSAR Array B 74.36 337 P **P 02 56 26.0 0.0**
GURO Guroymak-BITLI 74.40 307 P **P 02 56 27.4 +0.7**
GURO IAmb IAmb 02 56 28.0
comp=Z,3.4nm,0.5s
ICESG Greenland Ices 74.42 0 *i* P **P 02 56 27.2 +0.7**
ICESG IAmb IAmb 02 56 28.8
comp=Z,10.0nm,1.0s
AKASG Malin Array Be 74.42 322 P **P 02 56 26.2 -0.2**
comp=Z,5.0nm,0.4s,baz=46,slow=6.1,SNR=29
AKASG LR LR 03 32 08.9
comp=Z,65nm,18.5s,baz=20,slow=38
AKASG Malin Array Be 74.42 322 *ceP* **P 02 56 26.2 -0.2**
AKASG pmax pmax
comp=Z,6.0nm,0.4s
AKBB Malin Array Si 74.42 322 *ceP* **P 02 56 26.5 +0.1**
AKBB Malin Array Si 74.42 322 P **P 02 56 25.7 -0.7**
EGMT Eagleton 74.50 41 IAmb IAmb 02 56 29.8
comp=Z,9.9nm,1.1s
DLMT Dillon 74.57 45 IAmb IAmb 02 56 30.5
comp=Z,6.0nm,0.7s
BOZ Bozeman (W) 74.97 44 IAmb IAmb 02 56 32.8
comp=Z,5.1nm,0.8s
KVN Kaiserville 74.97 52 IAmb IAmb 02 56 33.3
comp=Z,4.5nm,0.9s
LHV Little Huntoon 75.17 53 IAmb IAmb 02 56 34.9
comp=Z,6.3nm,1.0s
NVAR Mina Array Bea 75.20 53 P **P 02 56 34.0 +2.5**
comp=Z,2.1nm,0.7s,baz=291,slow=6.0,SNR=23
YHB Horse Butte 75.73 45 IAmb IAmb 02 56 37.5
comp=Z,5.9nm,0.8s
MARD Mardin 75.92 306 P **P 02 56 35.6 +0.1**
MARD IAmb IAmb 02 56 36.5
comp=Z,5.2nm,0.7s
IMW Indian Meadow 76.40 45 IAmb IAmb 02 56 42.0
comp=Z,4.8nm,0.8s
SORM Soroca 76.51 321 ⇓P **P 02 56 38.0 -0.4**
FXWY Fox Creek 76.51 45 IAmb IAmb 02 56 42.0
comp=Z,5.5nm,1.2s
RLMT Red Lodge 76.57 43 P **P 02 56 40.7 +1.5**
TPAW Teton Pass 76.64 45 IAmb IAmb 02 56 42.2
comp=Z,3.4nm,0.8s
LAO LASA Array 77.21 41 IAmb IAmb 02 56 46.5
comp=Z,7.2nm,1.0s
TPNV Topopah Spring 77.39 53 P **P 02 56 44.7 +0.9**
TPNV pmax pmax
comp=Z,3.0nm,0.8s
TPNV Topopah Spring 77.39 53 P **P 02 56 44.7 +0.9**
TPNV IAmb IAmb 02 56 48.6
comp=Z,3.3nm,0.8s
DUG Dugway, Tooele 77.58 49 IAmb IAmb 02 56 48.1
comp=Z,3nm,1.1s
PDAR Pinedale Array 77.89 45 P **P 02 56 48.1 +1.5**
comp=Z,1.3nm,0.6s,baz=279,slow=1.8,SNR=17
KWP Kalwaria Pacla 78.26 324 *eP* **P 02 56 49.1 +0.8**
SHPR Sheep Range 78.35 53 P **P 02 56 51.0 +1.9**
MPU Maple Canyon 78.40 49 IAmb IAmb 02 56 52.5
comp=Z,3.3nm,0.7s
BUR08 Bucovina Ar. S 78.42 322 IAmb IAmb 02 56 52.6
comp=Z,4.4nm,0.8s
BUR01 Bucovina Ar. S 78.43 322 ⇑P **P 02 56 49.9 +0.5**
BURAR Bucovina Array 78.43 322 ⇑P **P 02 56 49.4 0.0**
BURAR Bucovina Array 78.43 322 P **P 02 56 49.7 +0.4**
BURAR IAmb IAmb 02 56 50.6
comp=Z,3.9nm,0.7s
BIZ Bicaz 78.44 321 ⇓P **P 02 56 49.9 +0.6**
TESR Tescani 78.45 320 ⇓P **P 02 56 49.7 +0.4**
TPGR Topolog 78.62 318 ⇑P **P 02 56 49.9 -0.3**
VRI Vrincioaia 78.84 320 ⇓P **P 02 56 52.6 +1.1**
BRTR Keskin Array B 78.93 312 P **P 02 56 53.4 +1.1**
comp=Z,1.1nm,0.6s,baz=126,slow=3.8,SNR=5.3
BRTR LR LR 03 37 43.9
comp=Z,34nm,18.4s,baz=62,slow=40
BRTR Keskin Array B 78.93 312 *ceP* **P 02 56 53.4 +1.1**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
MVU Marysvale 78.98 50 IAmb IAmb 02 56 56.2
comp=Z,12nm,1.0s
LNIZ Loecknitz 79.10 331 *e*L L 03 35 52.6
comp=Z,61nm,19.8s
OZUR 79.17 320 ⇑P **P 02 56 53.5 +0.1**
OJC Ojcow 79.18 326 *eP* **P 02 56 54.0 +0.7**
OJC Ojcow 79.18 326 IAmb IAmb 02 56 54.8
comp=Z,9.3nm,0.9s
ARCR ARCAA 79.22 322 ⇑P **P 02 56 53.5 -0.1**
LCMT Little Creek M 79.26 52 IAmb IAmb 02 56 57.5
comp=Z,5.1nm,1.0s
P17A Butcher Ranch, 79.28 49 IAmb IAmb 02 56 57.4
comp=Z,5.4nm,0.8s
RDMU Red Mountain 79.28 47 P **P 02 56 55.8 +1.5**
RDMU IAmb IAmb 02 56 57.3
comp=Z,16nm,1.3s
DOPR Dopca 79.46 320 ⇑P **P 02 56 56.1 +1.2**
KNB Kanab 79.53 52 IAmb IAmb 02 56 59.3
comp=Z,6.0nm,1.1s
NIE Niedzica 79.53 325 *eP* **P 02 56 56.8 +1.6**
SRU San Rafael Swe 79.63 49 IAmb IAmb 02 56 59.0
comp=Z,6.5nm,0.7s
ULM Lac du Bonnet 79.75 33 P **P 02 56 56.5 +0.2**
comp=Z,2.9nm,0.9s,baz=316,slow=12,SNR=3.6
CBBR Cluj-Babes-Bol 79.84 322 ⇑P **P 02 56 58.1 +1.2**
CJR Cluj-Napoca 79.86 322 ⇑P **P 02 56 58.4 +1.3**
BSEG Bad Segeberg 80.22 333 *e*L L 03 33 19.6
comp=Z,52nm,18.4s
DRGR 80.24 322 ⇑P **P 02 56 59.4 +0.3**
KSP Ksiaz 80.25 328 *eP* **P 02 56 59.8 +0.8**
ARR Arges 80.26 320 ⇓P **P 02 57 00.3 +1.0**
MORC Moravsky Berou 80.50 327 ⇑P **P 02 56 59.8 -0.7**
MORC Moravsky Berou 80.50 327 IAmb IAmb 02 57 02.0
comp=Z,5.5nm,1.1s
MORC Moravsky Berou 80.50 327 *eP* **P 02 57 01.0 +0.5**
CHVC Chvalec 80.54 328 *eP* **P 02 57 01.4 +0.8**
DPC Dobruska-Polom 80.60 328 *eP* **P 02 57 02.2 +1.2**
DPC Dobruska-Polom 80.60 328 *eP* **P 02 57 02.2 +1.2**
KRLC Kraliky 80.61 327 ⇑*iP* **P 02 57 01.7 +0.6**
KRLC Kraliky 80.61 327 ⇑*iP* **P 02 57 01.7 +0.6**
PSZ Piszkesteto 80.79 324 ⇓P **P 02 57 03.0 +0.9**
VYHS Vyhne 80.86 325 *eP* **P 02 57 03.2 +0.8**
VYHS Vyhne 80.86 325 *eP* **P 02 57 03.2 +0.8**
PV21 Cone Mtn., Par 80.92 48 IAmb IAmb 02 57 06.2
comp=Z,7.6nm,0.7s
KOLL Kolacno 81.00 326 *eP* **P 02 57 03.9 +0.8**
JAVC Velka Javorina 81.12 326 *eP* **P 02 57 05.6 +1.8**
GZR Gura Zlata 81.19 321 ⇑P **P 02 57 03.9 -0.3**
BRG Berggiesshubel 81.20 329 *eP* **P 02 57 04.9 +0.7**
BRG Amp 02 57 06.1
comp=Z,3.2nm,0.7s
PVCC Panska Ves 81.21 329 *eP* **P 02 57 05.3 +1.1**
PVCC Panska Ves 81.21 329 ⇑*eP* **P 02 57 05.3 +1.1**
CLL Collm 81.25 330 ⇑*iP* **P 02 57 04.4 +0.1**
comp=Z,8.0nm,0.9s
CLL Collm 81.25 330 ⇑*iP* **P 02 57 04.4 +0.1**
CLL pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 81.25 330 P **P 02 57 04.0 -0.4**
CLL IAmb IAmb 02 57 05.4
comp=Z,8.2nm,0.9s
CLL Collm 81.25 330 *eP* **P 02 57 04.5 +0.1**
comp=Z,8.0nm,0.9s,baz=41,slow=4.5
VRAC Vranov 81.26 327 ⇑P **P 02 57 05.4 +0.8**
VRAC Vranov 81.26 327 *eP* **P 02 57 05.3 +0.8**
WUAZ Wupatki 81.38 52 IAmb IAmb 02 57 09.3
comp=Z,5.3nm,0.9s
PV01 Paradox Valley 81.43 48 IAmb IAmb 02 57 09.0
comp=Z,5.1nm,1.0s
SMOL Smolenice 81.48 326 *eP* **P 02 57 06.4 +0.7**
SMOL pmax pmax
comp=Z,3.0nm,0.8s
SMOL Smolenice 81.48 326 *eP* **P 02 57 06.4 +0.7**
KRUC Moravsky 81.53 327 *eP* **P 02 57 06.6 +0.7**
113A Mohawk Valley, 81.55 55 P **P 02 57 06.6 +0.4**
SRO2 Moca 81.60 325 *eP* **P 02 57 06.5 +0.3**
SRO2 Moca 81.60 325 *eP* **P 02 57 06.5 +0.3**
PRU Pruhonice 81.63 328 *eP* **P 02 57 07.2 +0.8**
PRU Pruhonice 81.63 328 ⇑*eP* **P 02 57 07.2 +0.8**
MDVR Moldovita 82.15 321 ⇓P **P 02 57 08.4 -0.9**
MOX Moxa 82.32 330 *e*L L 03 36 32.4
comp=Z,51nm,20.8s
CKRC Cesky Krumlov 82.62 328 *eP* **P 02 57 11.9 +0.3**
CONA Conrad Observa 82.62 326 *eP* **P 02 57 12.8 +1.1**
comp=Z,2.8nm,0.7s
KHC Kasperske Hory 82.69 328 ⇑*iP* **P 02 57 12.5 +0.5**
KHC Kasperske Hory 82.69 328 ⇑*iP* **P 02 57 12.5 +0.5**
F33A 5 Mile Ranch, 82.77 37 IAmb IAmb 02 57 14.1
comp=Z,4.1nm,0.7s
FRGS Fruska Gora 82.82 323 ⇑P **P 02 57 11.9 -0.9**
GEC2 GERESS Array S 82.86 328 IAmb IAmb 02 57 13.5
comp=Z,2.8nm,0.6s
GEC2 GERESS Array S 82.86 328 *eP* **P 02 57 13.3 +0.3**
comp=Z,3.1nm,0.6s,baz=41,slow=4.5
GERES GERESS Array B 82.86 328 P **P 02 57 13.1 +0.1**
comp=Z,2.6nm,0.6s,baz=40,slow=6.0,SNR=24
GERES LR LR 03 37 29.8
comp=Z,26nm,18.5s,baz=34,slow=38
GERES GERESS Array B 82.86 328 P **P 02 57 12.6 -0.4**
VTS Vitosha 82.89 319 ⇑P **P 02 57 12.7 -0.6**
WET Wettzell 82.97 329 *e*L L 03 37 14.8
comp=Z,76nm,18.5s

GRA1	**Grafenberg Arr**	**83.22**	**330**	P		**P**	**02 57 14.8**	**+0.1**
GRF	**Grafenberg Arr**	**83.22**	**330**	P		**P**	**02 57 14.8**	**+0.1**
GRF				pmax		pmax		
	comp=Z,12nm,0.9s							
GRF	**Grafenberg Arr**	**83.22**	**330**	*e*P		**P**	**02 57 15.4**	**+0.6**
	comp=Z,14nm,1.0s,baz=41,slow=4.5							
GRF				*e*L		L	03 37 11.9	
	comp=Z,65nm,18.2s							
ARSA	**Arzberg**	**83.28**	**326**	*i* P		**P**	**02 57 15.5**	**+0.4**
	comp=Z,2.8nm,0.9s							
MOA	**Mollη**	**83.38**	**327**	*i* P		**P**	**02 57 15.2**	**-0.4**
	comp=Z,2.8nm,0.7s							
DIVS	**Divíbare**	**83.50**	**322**	P		**P**	**02 57 15.5**	**-0.9**
DIVS				IAmb		IAmb	02 57 17.0	
	comp=Z,3.8nm,1.0s							
SOKA	**Soboth**	**83.93**	**326**	*i* P		**P**	**02 57 19.0**	**+0.4**
	comp=Z,7.3nm,1.1s							
ECSD	**EROS Data Cent**	**84.15**	**38**	P		**P**	**02 57 19.9**	**+0.2**
ECSD				IAmb		IAmb	02 57 21.4	
	comp=Z,4.2nm,0.8s							
PMOR	**Pomariorio Ree**	**84.17**	**113**	*e*T		T	04 30 04.6	
	comp=Z,4.0nm,0.2s							
KBA	**Koelnbreinsper**	**84.37**	**327**	*i* P		**P**	**02 57 21.5**	**+0.6**
	comp=Z,2.2nm,0.5s							
FUR	**Furstenfeldbru**	**84.40**	**329**	*e*L		L	03 36 55.0	
	comp=Z,45nm,21.1s							
MEM	**Membach**	**84.47**	**333**	*d*P		**P**	**02 57 21.5**	**+0.4**
T25A	**Trinidad**	**84.56**	**47**	IAmb		IAmb	02 57 25.4	
	comp=Z,5.9nm,0.9s							
MYKA	**Terra Mystica**	**84.59**	**327**	*i* P		**P**	**02 57 21.5**	**-0.4**
	comp=Z,1.6nm,0.5s							
PPT	**Papeete**	**84.61**	**116**	LR		LR	03 28 39.1	
	comp=Z,51nm,21.8s,baz=308,slow=31							
PPT2	**Papeete2**	**84.63**	**116**	*e*LR		LR	03 23 34.0	
	comp=Z,50nm,22.0s							
ANMO	**Albuquerque**	**84.81**	**50**	P		**P**	**02 57 24.8**	**+1.5**
ANMO				pmax		pmax		
	comp=Z,4.0nm,1.1s							
ANMO	**Albuquerque**	**84.81**	**50**	P		**P**	**02 57 24.8**	**+1.5**
ANMO				IAmb		IAmb	02 57 27.1	
	comp=Z,3.9nm,1.1s							
ABTA	**Abfaltersbach**	**84.99**	**327**	*e*P		**P**	**02 57 24.8**	**+1.0**
	comp=Z,4.5nm,1.5s							
PDG	**Podgorica**	**85.08**	**321**	⇑P		**P**	**02 57 23.9**	**-0.4**
PDG	**Podgorica**	**85.08**	**321**	P		**P**	**02 57 24.3**	**+0.1**
RETA	**Reutte**	**85.15**	**329**	*e*P		**P**	**02 57 24.9**	**+0.2**
	comp=Z,5.8nm,0.8s							
BNM	**Barren Site**	**85.23**	**50**	P		**P**	**02 57 26.1**	**+0.6**
STAL	**STALIGIAL**	**85.28**	**327**	P		**P**	**02 57 24.5**	**-0.8**
STAL				IAmb		IAmb	02 57 24.9	
	comp=Z,3.1nm,0.6s							
BFO	**Black Forest**	**85.46**	**331**	P		**P**	**02 57 25.9**	**-0.2**
BFO				pmax		pmax		
	comp=Z,7.0nm,0.8s							
BFO	**Black Forest**	**85.46**	**331**	P		**P**	**02 57 25.9**	**-0.2**
BFO	**Black Forest**	**85.46**	**331**	*e*P		**P**	**02 57 26.2**	**+0.1**
	comp=Z,9.9nm,1.1s,baz=41,slow=4.5							
BFO				*e*L		L	03 34 55.0	
	comp=Z,30nm,21.8s							
FETA	**Feichten**	**85.53**	**329**	*i* P		**P**	**02 57 26.0**	**-0.7**
	comp=Z,3.4nm,0.9s							
KBN	**Korca**	**85.60**	**319**	P		**P**	**02 57 26.6**	**-0.4**
KBN				pmax		pmax		
	comp=Z,10.0nm,0.8s							
KBN	**Korca**	**85.60**	**319**	P		**P**	**02 57 26.6**	**-0.4**
DAVA	**Damuels**	**85.67**	**329**	*i* P		**P**	**02 57 26.5**	**-0.9**
	comp=Z,8.1nm,0.9s							
TBI	**Tubuai**	**88.49**	**121**	*e*T		T	04 35 27.7	
	comp=Z,8.0nm,0.3s							
T35A	**Sooner Cattle**	**89.19**	**43**	P		**P**	**02 57 43.7**	**-0.7**
T35A				IAmb		IAmb	02 57 46.6	
	comp=Z,8.9nm,1.2s							
HDIL	**Hopedale**	**90.11**	**36**	P		**P**	**02 57 47.7**	**-0.8**
TX32	**Lajitas Array**	**90.33**	**52**	IAmb		IAmb	02 57 53.3	
	comp=Z,4.2nm,1.2s							
TXAR	**Lajitas Array**	**90.33**	**52**	P		**P**	**02 57 51.7**	**+1.8**
	comp=Z,1.5nm,0.8s,baz=298,slow=3.3,SNR=18							
TXAR	**Lajitas Array**	**90.33**	**52**	P		**P**	**02 57 51.2**	**+1.2**
MIAR	**Mount Ida**	**92.55**	**43**	P		**P**	**02 58 00.1**	**+0.1**
MIAR				pmax		pmax		
	comp=Z,5.0nm,1.1s							
MIAR	**Mount Ida**	**92.55**	**43**	P		**P**	**02 58 00.1**	**+0.1**
MIAR				IAmb		IAmb	02 58 02.7	
	comp=Z,5.3nm,1.1s							
ESDC	**Sonseca Array**	**97.45**	**334**	P		**P**	**02 58 22.1**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=26,slow=3.8,SNR=4.4							
ESDC				LR		LR	03 46 10.3	
	comp=Z,57nm,20.3s,baz=0.0,slow=38							
DBIC	**Dimbokro**	**126.39**	**317**	PKP		**PKPdf**	**03 03 51.6**	**-0.2**
	comp=Z,8.5nm,1.2s,baz=181,slow=23,SNR=2.2							
VNA2	**Neumayer--Watz**	**142.07**	**196**	PKPdf		**PKPdf**	**03 04 16.8**	**-2.5**
LPAZ	**La Paz**	**146.89**	**60**	PKPbc		**PKPab**	**03 04 33.0**	**-0.4**
	comp=Z,4.1nm,0.6s,baz=358,slow=2.2,SNR=22							
LPAZ	**La Paz**	**146.89**	**60**	PKP2		**PKPab**	**03 04 33.0**	**-0.4**
LPAZ	**La Paz**	**146.89**	**60**			**PKPab**	**03 04 33.3**	**0.0**
H03N2	**Juan Fernandez**	**147.09**	**96**	T		T	05 49 26.8	
	baz=291,slow=76,SNR=44							
H03N3	**Juan Fernandez**	**147.10**	**96**	T		T	05 49 22.0	
	baz=291,slow=38							
H03N1	**Juan Fernandez**	**147.11**	**96**	T		T	05 49 26.3	
	baz=291,slow=76,SNR=40							

INET ***12*** *02:48:47.0, 13°.55N×88°.51W, h15km, MW3.7*
SNET 12 02:48:50.6±1.8, 13°.52N×88°.49W, h5km±2km, ML2.8,2C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECA	**Tecapa**	**0.03**	**214**	⇑*i*P	Pg	02 48 51.8	-0.1
COEB	**Comit de Eme**	**0.04**	**248**	⇑*i*P	Pg	02 48 52.1	+0.2
COEB				*e*S	Sg	02 48 54.2	+1.3
COEB				IAML		02 48 55.6	
	comp=Z,22μm,0.3s						
PQSS	**Presa 15 de Se**	**0.13**	**327**	*e*P	Pg	02 48 53.6	+0.3
PQSS				*e*S	Sg	02 48 57.4	+2.4
ALJI	**Alcalda de J**	**0.20**	**203**	*e*P	Pg	02 48 55.7	+1.0
ALJI				*e*S	Sg	02 49 00.4	+3.1
ALJI				IAML		02 49 18.6	
	comp=Z,2μm,0.5s						
LCY	**Lacayo**	**0.21**	**116**	*e*P	Pg	02 48 55.5	+0.8
TECO	**Alcaldia de Te**	**0.29**	**274**	*e*P	Pg	02 48 56.7	+0.5
TECO				*e*S	Sb	02 49 01.7	-1.7
TECO				IAML		02 49 07.4	
	comp=Z,876nm,0.6s						
JUCU	**Jucuarįn**	**0.35**	**138**	*e*P	Pg	02 48 58.0	+0.6
JUCU				*e*S	Sb	02 49 03.8	-1.4
JUCU				IAML		02 49 07.0	
	comp=Z,3μm,0.4s						
COEG	**Centro de Oper**	**0.40**	**285**	*e*P	Pg	02 48 59.0	+0.7
COEG				*e*S	Sb	02 49 05.7	-0.8
COEG				IAML		02 49 13.4	
	comp=Z,2μm,0.5s						
PAVA	**Las Pavas**	**0.48**	**294**	*e*P	Pg	02 49 00.6	+0.7
PAVA				*e*S	Sb	02 49 09.1	+0.1
SJTE	**Alcalda de S**	**0.51**	**281**	*e*P	Pg	02 49 01.1	+0.5
SJTE				*e*S	Sb	02 49 09.5	-0.4
SJTE				IAML		02 49 10.6	
	comp=Z,336nm,0.2s						
LFRS	**El Faro**	**0.57**	**281**	*e*P	Pg	02 49 02.3	+0.8
LBRS	**Las Brisas**	**0.58**	**292**	*e*P	Pb	02 49 03.0	-0.4
LCND	**La Caada**	**0.62**	**109**	*e*P	Pg	02 49 03.0	+0.6
BOQS	**Boqueron**	**0.80**	**286**	*e*P	Pb	02 49 07.8	+0.6
TACO	**Tacachico**	**0.95**	**298**	*e*P	Pg	02 49 08.6	-0.4
TACO				*e*S	Sb	02 49 22.6	-0.1
TACO				IAML		02 49 31.1	
	comp=Z,124nm,0.4s						
ESQI	**Esquipulas**	**1.33**	**322**	*e*P	Pn	02 49 15.8	-0.1
ESQI				*e*S	Sb	02 49 33.7	+0.2
ESQI				IAML		02 49 45.0	
	comp=Z,288nm,0.8s						

IDC ***12*** *02:54:53.6±1.2, 27°.63N×100°.30E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.5/58, mbtmp4.0/5, MS3.4/3, Ms1 3.4/3, ms1mx2.8/40, Error ellipse: s-maj=60.8km s-min=20.8km az=63.0*
ISC 12 02:54:54.3±1.0, 27°.54N±0°.08×100°.3E±0°.3, h10km, n15, σ2s19/11, mb3.8/4, MS3.3/3, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM34	**Chiang Mai Arr**	**8.71**	**187**	P	**Pg**	**02 57 42.0**	**+0.9**
CHTO	**Chiang Mai**	**8.78**	**188**	P	**Pg**	**02 57 43.5**	**+1.2**
	13nm,1.2s						
CMMT	**Chiang Mai**	**8.78**	**188**	P	**Pg**	**02 57 43.4**	**+1.1**
	7.3nm,0.8s						
CMMT	**Chiang Mai**	**8.78**	**188**	P	**Pg**	**02 57 43.5**	**+1.1**
	7.3nm,0.8s						
CM35	**Chiang Mai Arr**	**8.88**	**187**	P	Pg	02 57 50.0	+5.6
CMAR	**Chiang Mai Arr**	**9.13**	**188**	Pg	Pn	02 57 47.0	+41
	0.6nm,0.3s,baz=359,slow=17,SNR=9.3						
KRAB	**Krabi**	**19.24**	**183**	P	**P**	**02 59 15.1**	**-3.8**
KRAB	**Krabi**	**19.24**	**183**	P	**P**	**02 59 15.1**	**-3.8**
SONM	**Songino Array**	**20.81**	**12**	P	**P**	**02 59 35.1**	**-0.8**
	5.7nm,1.0s,baz=197,slow=11,SNR=20						
KSRS	**Korea Array**	**25.23**	**60**	LR	LR	03 11 05.1	
	comp=Z,52nm,18.8s,baz=224,slow=39						
AAK	**Ala-Archa**	**25.80**	**312**	P	**P**	**03 00 26.7**	**+1.0**
	0.5nm,0.3s,baz=126,slow=8.7,SNR=1.4						
AAK				LR	LR	03 12 02.8	
	comp=Z,94nm,20.3s,baz=80,slow=40						
ZALV	**Zalesovo Beam**	**28.74**	**341**	P	**P**	**03 00 51.8**	**+0.1**
	0.4nm,0.3s,baz=146,slow=10,SNR=0.9						
WRA	**Warramunga Arr**	**57.57**	**141**	P	**P**	**03 04 45.7**	**+1.3**
	1.5nm,0.6s,baz=324,slow=6.7,SNR=20						
ASAR	**Alice Springs**	**60.37**	**144**	P	**P**	**03 05 05.3**	**+1.5**
	0.7nm,0.6s,baz=325,slow=7.1,SNR=12						
KEST	**Kesra**	**75.20**	**303**	LR	LR	03 43 29.8	
	comp=Z,35nm,21.6s,baz=297,slow=39						

IDC ***12*** *03:00:42.4±12.0, 23°.08S×177°.75W, h218km±80km, mb3.4/4, mb1 3.5/5, mb1mx3.1/45, mbtmp3.9/5, Error ellipse: s-maj=136.5km s-min=37.2km az=133.0*
ISC 12 03:00:41.5±3.5, 23°.1S±0°.2×177°.6W±0°.4, h219km, n6, σ0s83/6, mb3.6/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.69**	**322**	P	**Pn**	**03 02 17.8**	**-0.2**
	0.4nm,0.3s,baz=52,slow=14,SNR=2.0						
CTA	**Charters Tower**	**33.66**	**268**	P	**P**	**03 07 03.1**	**+1.1**
	2.4nm,0.3s,baz=94,slow=11,SNR=13						
STKA	**Stephens Creek**	**37.05**	**247**	P	**P**	**03 07 30.2**	**-0.3**
	0.6nm,0.3s,baz=55,slow=12,SNR=2.9						
ASAR	**Alice Springs**	**44.32**	**259**	P	**P**	**03 08 29.6**	**-0.6**
	0.3nm,0.5s,baz=93,slow=6.6,SNR=6.7						
WRA	**Warramunga Arr**	**44.64**	**265**	P	**P**	**03 08 32.2**	**-0.5**
	1.0nm,0.4s,baz=99,slow=8.3,SNR=34						
AKASG	**Malin Array Be**	**145.42**	**330**	PKPbc	**PKPbc**	**03 19 53.7**	**+0.2**
	0.3nm,0.3s,baz=40,slow=4.8,SNR=4.2						

IDC ***12*** *03:30:34.8±0.9, 32°.85S×178°.24W, h0km, mb4.1/6, mb1 4.3/7, mb1mx4.0/28, mbtmp4.1/7, ML4.5/1, MS3.6/7, Ms1 3.6/7, ms1mx3.2/26, Error ellipse: s-maj=30.3km s-min=26.1km az=31.0*
NEIC ***12*** *03:30:37.4±1.6, 32°.93S±0°.08×178°.2W±0°.1, h10km±1km, mb4.4/12, Error ellipse: s-maj=20.3km s-min=6.1km az=128.0*
WEL ***12*** *03:30:39.3±0.7, 33°S±13°×17°9W±3°3, h33km, M4.5/12, mB5.0/7, ML5.0/13, MLv4.7/12, Mw(mB)4.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=111.1*
ISC 12 03:30:39.9±0.7, 32°.89S±0°.06×178°.3W±0°.1, h35km, n64, σ1s47/69, mb4.3/9, MS3.6/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.63**	**5**	P	**Pn**	**03 01 31.3**	**-2.2**
GLKZ				S	**Sn**	**03 32 10.0**	**-5.1**
RAO	**Raoul Island**	**3.64**	**5**	Pn	**Pn**	**03 31 33.9**	**+0.2**
MXZ	**Matakaoa Point**	**5.45**	**210**	P	**Pn**	**03 31 57.9**	**-0.6**
MXZ				S	**Sn**	**03 32 57.8**	**-2.2**
WMGZ	**Waiomatatini S**	**5.62**	**208**	P	**Pn**	**03 32 01.3**	**+0.3**
WMGZ				S	**Sn**	**03 33 02.9**	**-1.4**
PKGZ	**Pakihiroa**	**5.82**	**210**	P	**Pn**	**03 32 02.1**	**-1.7**
PKGZ				S	**Sn**	**03 33 07.9**	**-1.3**
HAZ	**Te Kaha**	**5.84**	**213**	P	**Pn**	**03 32 04.1**	**+0.2**
HAZ				S	**Sn**	**03 33 10.5**	**+0.8**
PUZ	**Puketiti**	**5.90**	**208**	P	**Pn**	**03 32 04.9**	**0.0**
PUZ				S	**Sn**	**03 33 09.6**	**-1.7**
RUGZ	**Raukumara Rang**	**6.06**	**212**	P	**Pn**	**03 32 06.5**	**-0.6**
RUGZ				S	**Sn**	**03 33 15.5**	**+0.3**
TWGZ	**Tauwhareparae**	**6.11**	**209**	P	**Pn**	**03 32 07.4**	**-0.2**
TWGZ				S	**Sn**	**03 33 15.5**	**-0.8**
CNGZ	**Carnagh Statio**	**6.28**	**206**	P	**Pn**	**03 32 09.8**	**-0.2**
CNGZ				S	**Sn**	**03 33 18.0**	**-2.5**
TKGZ	**Te Karaka**	**6.38**	**209**	S	**Sn**	**03 33 22.4**	**-0.7**
MWZ	**Matawai**	**6.43**	**211**	P	**Pn**	**03 32 10.7**	**-1.4**
MWZ				S	**Sn**	**03 33 22.2**	**-2.0**
URZ	**Urewera**	**6.56**	**214**	Pn	**Pn**	**03 32 12.0**	**-1.8**
	9.5nm,0.3s,baz=261,slow=3.0,SNR=33						
URZ				Sn	**Sn**	**03 33 24.5**	**-2.8**
	6.5nm,0.3s,baz=148,slow=18,SNR=6.6						
URZ	**Urewera**	**6.56**	**214**		**Pn**	**03 32 13.4**	**-0.4**
URZ	**Urewera**	**6.56**	**214**	P	**Pn**	**03 32 12.7**	**-1.1**
URZ				S	**Sn**	**03 33 23.9**	**-3.4**
RIGZ	**Rimuhau**	**6.65**	**208**	P	**Pn**	**03 32 14.0**	**-1.1**
RIGZ				S	**Sn**	**03 33 29.0**	**-0.6**
SNGZ	**Shannon Statio**	**6.88**	**210**	P	**Pn**	**03 32 17.7**	**-0.6**
SNGZ				S	**Sn**	**03 33 34.9**	**-0.6**
RTZ	**Ruatahuna**	**6.90**	**213**	P	**Pn**	**03 32 16.4**	**-2.2**
RTZ				S	**Sn**	**03 33 34.0**	**-2.0**
RAHZ	**Arahi**	**7.11**	**211**	P	**Pn**	**03 32 21.0**	**-0.3**
RAHZ				S	**Sn**	**03 33 39.1**	**-1.8**
MTHZ	**Maungataniwha**	**7.16**	**212**	P	**Pn**	**03 32 21.7**	**-0.5**
MTHZ				S	**Sn**	**03 33 40.7**	**-1.5**
BKZ	**Black Stump Fm**	**7.57**	**213**	Pn	**Pn**	**03 32 27.4**	**-0.4**
MCHZ	**McNeill Hill**	**7.71**	**211**	P	**Pn**	**03 32 28.7**	**-0.9**
MCHZ				S	**Sn**	**03 33 52.5**	**-3.2**
DZM	**Mont Dzumac**	**17.31**	**305**	*e*Pn	**P**	**03 34 43.8**	**+3.7**
	20nm,0.8s						
DZM				*e*LR	LR	03 38 42.0	
	comp=Z,235nm,22.6s						
DZM	**Mont Dzumac**	**17.31**	**305**	LR	LR	03 40 24.7	
	comp=Z,318nm,18.6s,baz=172,slow=34						
DZM	**Mont Dzumac**	**17.31**	**305**	IAmb	IAmb	03 34 46.5	
	comp=Z,19nm,0.9s						
LIFNC	**LIFOU**	**17.67**	**309**		**P**	**03 34 44.7**	**+0.8**
PPT2	**Papeete2**	**29.95**	**66**	*e*LR	LR	03 44 14.0	
	comp=Z,67nm,21.8s						
PPT	**Papeete**	**29.97**	**66**	LR	LR	03 48 13.5	
	comp=Z,30nm,18.7s,baz=197,slow=35						
STKA	**Stephens Creek**	**33.78**	**261**	P	**P**	**03 37 19.8**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=38,slow=9.2,SNR=3.2						
STKA				LR	LR	03 51 15.7	
	comp=Z,146nm,18.7s,baz=30,slow=37						
CTAO	**Charters Tower**	**34.07**	**283**	P	**P**	**03 37 21.8**	**+0.7**
AS31	**Alice Springs**	**42.82**	**270**	P	**P**	**03 38 34.5**	**-0.2**
ASAR	**Alice Springs**	**42.82**	**270**	P	**P**	**03 38 34.3**	**-0.3**
	comp=Z,4.9nm,0.9s,baz=108,slow=7.7,SNR=40						
WR0	**Warramunga Arr**	**43.86**	**275**	P	**P**	**03 38 42.9**	**-0.1**
WR0				IAmb	IAmb	03 38 44.5	
	comp=Z,7.3nm,1.2s						
WB2	**Warramunga Arr**	**44.02**	**275**	P	**P**	**03 38 44.0**	**-0.4**
WB2				IAmb	IAmb	03 38 44.3	
	comp=Z,5.1nm,0.7s						
WRA	**Warramunga Arr**	**44.03**	**275**	P	**P**	**03 38 43.8**	**-0.6**
	comp=Z,4.4nm,0.6s,baz=118,slow=7.8,SNR=81						
FORT	**Forrest**	**45.25**	**258**	P	**P**	**03 38 53.3**	**-0.7**
FITZ	**Fitzroy Crossi**	**52.19**	**272**	P	**P**	**03 39 46.9**	**-0.5**
FITZ				IAmb	IAmb	03 39 48.7	
	comp=Z,4.7nm,1.1s						
QSPA	**South Pole Qui**	**57.23**	**180**	P	**P**	**03 40 24.8**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=58,slow=13,SNR=1.5						
QSPA	**South Pole Qui**	**57.23**	**180**	P	**P**	**03 40 25.0**	**+1.5**
QSPA				IAmb	IAmb	03 40 36.6	
	comp=Z,7.9nm,0.8s						
MAW	**Mawson**	**69.91**	**201**	P	**P**	**03 41 47.3**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=135,slow=11,SNR=2.5						
SNAA	**Sanae**	**75.68**	**179**	P	P	03 42 31.0	+10
VNA3	**Neumayer Olymp**	**75.84**	**176**	P	P	03 42 33.1	+11
VNA2	**Neumayer--Watz**	**76.27**	**177**	P	P	03 42 35.8	+11
	baz=169,slow=4.4						
VNA1	**Neumayer--Stat**	**76.51**	**177**	P	P	03 42 37.3	+11
PLCA	**Paso Flores**	**80.97**	**133**	P	**P**	**03 42 50.5**	**-0.6**
	comp=Z,1.9nm,0.9s,baz=235,slow=9.4,SNR=3.6						
PLCA				LR	LR	04 11 20.6	
	comp=Z,27nm,18.6s,baz=181,slow=30						
PLCA	**Paso Flores**	**80.97**	**133**	IAmb	IAmb	03 42 53.0	
	comp=Z,3.9nm,1.1s						
KSAR	**Wonju Array Be**	**86.12**	**320**	P	**P**	**03 43 19.1**	**+2.1**
PETK	**Petropavlovsk-**	**88.16**	**346**	LR	LR	04 19 45.6	
	comp=Z,22nm,19.3s,baz=236,slow=34						
NEW	**Newport**	**97.51**	**36**	LR	LR	04 21 40.0	
	comp=Z,46nm,19.5s,baz=224,slow=31						
CPUP	**Villa Florida**	**98.60**	**129**	LR	LR	04 24 01.6	
	comp=Z,21nm,18.4s,baz=206,slow=32						
ARCES	**ARCESS Array B**	**140.96**	**347**	PKhKP	PKPpre	03 50 01.8	
	comp=Z,1.7nm,0.8s,baz=45,slow=1.9,SNR=3.6						
KBZ	**Khabaz**	**146.26**	**301**	PKPbc	**PKPbc**	**03 50 15.9**	**-0.6**
	comp=Z,1.4nm,0.9s,baz=128,slow=8.7,SNR=2.1						
SIRT	**Sirnak**	**146.62**	**290**	PKPbc	**PKPdf**	**03 50 16.1**	**-0.2**
GURO	**Guroymak-BITLI**	**147.00**	**291**	PKPbc	**PKPbc**	**03 50 18.6**	**-0.4**
FIA1	**FINESS Array S**	**147.39**	**338**	PKPbc	**PKPab**	**03 50 20.3**	**-0.8**
FINES	**FINESS Array B**	**147.39**	**338**	PKPbc	**PKPbc**	**03 50 19.2**	**+0.1**
	comp=Z,5.8nm,0.7s,baz=45,slow=3.4,SNR=26						
FINES	**FINESS Array B**	**147.39**	**338**		**PKPbc**	**03 50 19.4**	**+0.3**
MARD	**Mardin**	**147.92**	**289**	PKPbc	**PKPbc**	**03 50 20.9**	**-0.6**
NB2	**NORSAR Subarra**	**151.17**	**350**	PKP	**PKiKP**	**03 50 29.4**	**+0.2**
	comp=Z,2.8nm,1.0s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**151.17**	**350**	PKPbc	**PKiKP**	**03 50 29.3**	**0.0**
	comp=Z,0.8nm,0.7s,baz=13,slow=4.1,SNR=4.4						
AKASG	**Malin Array Be**	**153.10**	**320**	PKPbc	**PKiKP**	**03 50 33.4**	**-0.1**
	comp=Z,2.1nm,0.6s,baz=64,slow=2.3,SNR=5.0						
BRTR	**Keskin Array B**	**153.50**	**294**	PKPbc	**PKiKP**	**03 50 35.9**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=90,slow=1.8,SNR=2.5						
TORD	**Torodi Ar. Bea**	**160.35**	**180**	PKPab	**PKPab**	**03 51 17.6**	**+0.7**
	comp=Z,0.7nm,1.0s,baz=180,slow=2.1,SNR=3.1						
TORD	**Torodi Ar. Bea**	**160.35**	**180**	PKPdf	**PKPdf**	**03 50 36.5**	**+0.1**

IDC 12 03:30:45.1±2.3, 2°.62N×127°.78E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.4/34, mbtmp3.4/3, Error ellipse: s-maj=152.1km s-min=28.5km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.33**	**164**	P	P	03 35 55.7	+0.6
	0.4nm,0.3s,baz=344,slow=10,SNR=9.9						
ASAR	**Alice Springs**	**26.80**	**167**	P	P	03 36 25.9	-1.3
	0.2nm,0.7s,baz=1.3,slow=8.4,SNR=1.7						
MKAR	**Makanchi Array**	**59.05**	**325**	P	P	03 40 47.6	+0.5
	0.2nm,0.4s,baz=119,slow=7.6,SNR=2.1						

IDC ***12*** *03:31:41.4±4.7, 21°.26S×178°.54W, h450km±40km, mb3.0/6, mb1 3.4/8, mb1mx3.2/30, mbtmp3.9/8, Error ellipse: s-maj=91.1km s-min=19.5km az=146.0*
ISC 12 03:31:41.3±1.2, 21°.3S±0°.3×178°.6W±0°.2, h450km, n10, σ0s27/10, mb3.5/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.76**	**317**	P	**P**	**03 33 03.6**	**0.0**
	2.6nm,0.3s,baz=309,slow=20,SNR=9.6						
DZM	**Mont Dzumac**	**13.98**	**264**	P	P	03 34 41.5	-0.1
	0.4nm,0.3s,baz=110,slow=6.6,SNR=5.5						
DZM	**Mont Dzumac**	**13.98**	**264**	P	**P**	**03 34 41.5**	**-0.1**
STKA	**Stephens Creek**	**36.99**	**245**	P	**P**	**03 38 11.2**	**+0.1**
	1.4nm,0.5s,baz=76,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**43.85**	**258**	P	**P**	**03 39 06.6**	**+0.2**
	2.5nm,1.0s,baz=114,slow=7.3,SNR=4.8						
WRA	**Warramunga Arr**	**43.99**	**263**	P	**P**	**03 39 07.7**	**+0.1**
	2.0nm,0.7s,baz=94,slow=8.2,SNR=5.9						
NVAR	**Mina Array Bea**	**81.94**	**44**	P	**P**	**03 43 13.4**	**+0.3**
	0.5nm,0.7s,baz=223,slow=8.6,SNR=6.2						
TXAR	**Lajitas Array**	**87.90**	**58**	P	**P**	**03 43 42.1**	**-0.3**
	0.2nm,0.7s,baz=229,slow=8.0,SNR=2.4						
ILAR	**Eielson Array**	**89.18**	**13**	P	**P**	**03 43 47.5**	**+0.1**
	0.3nm,0.5s,baz=236,slow=7.5,SNR=4.1						
GERES	**GERESS Array B**	**150.80**	**343**	PKPbc	**PKPbc**	**03 50 41.4**	**-0.5**
	0.3nm,0.4s,baz=57,slow=3.7,SNR=3.5						

ANF ***12*** *04:05:11.0±0.4, 36°.19N×97°.49W, h5km, ML3.1/9, Error ellipse: s-maj=4.1km s-min=2.8km az=119.0*
TUL ***12*** *04:05:11±0.9, 36°.18N±0°.02×97°.49W±0°.06, h5km±8km, ML2.7, mb_Lg2.7/49(NEIC), Error ellipse: s-maj=7.3km s-min=2.3km az=74.0*
NEIC ***12*** *04:05:11.0±0.7, 36°.19N±0°.02×97°.49W±0°.06, h4km±8km, Error ellipse: s-maj=7.7km s-min=1.1km az=71.0*
**ISC 12 04:05:11.3±0.8, 36°.

	comp=Z,20nm,1.0s							
R40A	**Maddies Statio**	**4.67**	**62**	Pn	**Pn**	**04 06 22.2**	**+0.3**
R40A				IAmb_Lg		04 07 36.7	
	comp=Z,24nm,0.7s							
R40A	**Maddies Statio**	**4.67**	**62**	P	**Pn**	**04 06 23.0**	**+1.1**
	baz=245,SNR=9.4							
N35A	**Tabor**	**4.89**	**17**	Pn	**Pn**	**04 06 24.5**	**-0.3**
N35A				IAmb_Lg		04 07 48.7	
	comp=Z,20nm,0.8s							
KSCO	**Kaye Shedlock'**	**4.95**	**306**	IAmb_Lg		04 08 02.5	
	comp=Z,9.2nm,0.7s							
LCAR	**Lake Charles**	**5.14**	**89**	Pn	**Pn**	**04 06 28.2**	**0.0**
LCAR				IAmb_Lg		04 07 54.7	
	comp=Z,7.9nm,1.0s							
BGNE	**Belgrade**	**5.24**	**355**	IAmb_Lg		04 08 01.0	
	comp=Z,17nm,0.9s							
CCM	**Cathedral Cave**	**5.34**	**68**	Pn	**Pn**	**04 06 32.2**	**+1.3**
CCM				IAmb_Lg		04 08 00.2	
	comp=Z,12nm,0.8s							
435B	**Jarrell**	**5.39**	**181**	IAmb_Lg		04 08 03.3	
	comp=Z,8.5nm,0.9s							
P40A	**Paris**	**5.45**	**51**	Pn	**Pn**	**04 06 33.1**	**+0.5**
P40A				IAmb_Lg		04 08 10.3	
	comp=Z,22nm,1.0s							
PBMO	**Poplar Bluff**	**5.73**	**82**	IAmb_Lg		04 08 17.9	
	comp=Z,13nm,0.7s							
L34A	**Svendsen Farm,**	**5.84**	**8**	Pn	**Pn**	**04 06 38.2**	**+0.3**
L34A				IAmb_Lg		04 08 24.8	
	comp=Z,17nm,0.8s							
OGNE	**Ogallala**	**5.93**	**325**	IAmb_Lg		04 08 24.9	
	comp=Z,10.0nm,0.7s							
JCT	**Junction City**	**6.01**	**199**	IAmb_Lg		04 08 35.9	
	comp=Z,12nm,1.0s							
SCIA	**State Center**	**6.61**	**29**	IAmb_Lg		04 08 54.2	
	comp=Z,14nm,0.8s							
S44A	**Carbondale**	**6.77**	**75**	IAmb_Lg		04 08 55.5	
	comp=Z,14nm,0.8s							
ISCO	**Idaho Springs**	**7.35**	**302**	IAmb_Lg		04 09 12.8	
	comp=Z,5.6nm,1.1s							
PHWY	**Pilot Hill**	**8.04**	**312**	IAmb_Lg		04 09 34.3	
	comp=Z,7.3nm,1.1s							
K22A	**Casper**	**9.50**	**316**	IAmb_Lg		04 10 39.1	
	comp=Z,5.7nm,1.0s							

IDC 12 04:06:34.4±16.0, **6°48S**×**130°03E**, **h104**km±172km, **mb3.6**/1, **mb1 3.6**/4, **mb1mx3.3**/41, **mbtmp3.9**/4, **ML3.5**/3, **MS3.9**/1, **Ms1 3.9**/1, **ms1mx2.6**/34, **Error ellipse: s-maj=124.9km s-min=62.6km az=38.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.32**	**200**	P	Pn	04 09 26.6	+0.3
	0.1nm,0.3s,baz=338,slow=15,SNR=1.2						
FITZ				S	Sn	04 11 26.6	-15
	0.5nm,0.3s,baz=342,slow=21,SNR=2.8						
WRA	**Warramunga Arr**	**14.03**	**163**	P	Pn	04 09 47.4	-1.2
	0.2nm,0.3s,baz=346,slow=12,SNR=9.7						
WRA				S	Sn	04 12 13.2	-10
	0.5nm,0.3s,baz=332,slow=20,SNR=6.8						
ASAR	**Alice Springs**	**17.49**	**168**	P	Pn	04 10 32.0	+0.1
	0.8nm,0.3s,baz=346,slow=10.0,SNR=42						
ASAR				S	Sn	04 13 36.8	-10
	0.1nm,0.3s,baz=354,slow=26,SNR=2.6						
ASAJ	**Asahikawa**	**51.62**	**12**	LR	LR	04 36 30.1	
	comp=Z,116nm,21.1s,baz=116,slow=35						
MKAR	**Makanchi Array**	**67.81**	**327**	P	P	04 17 21.3	0.0
	0.7nm,0.5s,baz=127,slow=8.1,SNR=5.1						

*IDC **12** 04:06:52.3±3.6, 51°44S×139°61E, h0km, mb3.9/2, mb1 4.0/3, mb1mx3.7/30, mbtmp3.8/3, ML3.6/1, MS3.4/5, Ms1 3.4/5, ms1mx3.1/23, Error ellipse: s-maj=203.0km s-min=38.7km az=99.0*

ISC 12 04:06:54.2±3.0, **51°4S**±0°3×**13°9E**±°, **h10**km, **n17**, σ1§**29**/7, **MS3.5**/4, **Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**19.56**	**6**	P	**Pn**	**04 11 23.7**	**+0.4**
	0.1nm,0.3s,baz=190,slow=12,SNR=1.8						
STKA				LR	LR	04 18 09.9	
	comp=Z,41nm,20.0s,baz=203,slow=35						
H01W1	**Cape Leeuwin H**	**24.44**	**303**	T	T	04 38 07.3	
	baz=141,slow=75,SNR=58						
H01W2	**Cape Leeuwin H**	**24.44**	**303**	T	T	04 37 59.6	
	baz=141,slow=75,SNR=74						
H01W3	**Cape Leeuwin H**	**24.45**	**303**	T	T	04 38 10.8	
	baz=141,slow=75,SNR=62						
ASAR	**Alice Springs**	**27.97**	**350**	P	**P**	**04 12 46.2**	**+1.4**
	0.4nm,0.6s,baz=165,slow=11,SNR=4.2						
WRA	**Warramunga Arr**	**31.60**	**351**	P	**P**	**04 13 16.2**	**-0.9**
	2.3nm,0.7s,baz=164,slow=7.4,SNR=4.7						
FITZ	**Fitzroy Crossi**	**34.91**	**337**	LR	LR	04 26 42.6	
	comp=Z,52nm,21.1s,baz=160,slow=34						
DZM	**Mont Dzumac**	**36.09**	**46**	LR	LR	04 26 02.7	
	comp=Z,80nm,18.0s,baz=225,slow=32						
MAW	**Mawson**	**39.07**	**216**	LR	LR	04 27 49.3	
	comp=Z,65nm,21.5s,baz=55,slow=32						
CMAR	**Chiang Mai Arr**	**77.95**	**321**	LR	LR	04 55 34.1	
	comp=Z,38nm,18.0s,baz=186,slow=37						
H03S2	**Juan Fernandez**	**88.76**	**149**	T	T	05 57 58.9	
	baz=201,slow=74,SNR=5.4						
H03S1	**Juan Fernandez**	**88.76**	**149**	T	T	05 57 59.8	
	baz=201,slow=74,SNR=5.5						
H03S3	**Juan Fernandez**	**88.78**	**149**	T	T	05 58 06.0	
	baz=201,slow=74,SNR=5.4						
ARCES	**ARCESS Array B**	**144.89**	**326**	PKPbc	**PKPab**	**04 26 27.3**	**-1.7**
	6.8nm,1.0s,baz=126,slow=2.8,SNR=2.7						
GERES	**GERESS Array B**	**145.64**	**288**	PKPbc	**PKPab**	**04 26 33.2**	**+0.7**
	0.4nm,0.5s,baz=123,slow=4.9,SNR=4.0						
SPITS	**Spitsbergen Ar**	**146.36**	**342**	PKPbc	**PKPdf**	**04 26 32.6**	**+0.4**
	11nm,0.9s,baz=23,slow=4.7,SNR=6.6						
ESDC	**Sonseca Array**	**151.97**	**260**	PKPbc	**PKPbc**	**04 26 49.3**	**+0.4**
	0.2nm,0.3s,baz=48,slow=1.9,SNR=2.2						

*IDC **12** 04:13:01.8±1.7, 5°90S×146°84E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/32, mbtmp3.6/4, ML3.4/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/32, Error ellipse: s-maj=123.7km s-min=27.9km az=128.0*

ISC 12 04:13:09.3±1.5, **5°9S**±0°4×**146°5E**±0°6, **h50**km, **n7**, σ1§**93**/9, **mb3.7**/3, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.27**	**219**	P	**P**	**04 17 19.1**	**+0.1**
	0.1nm,0.3s,baz=41,slow=11,SNR=1.6						
WRA				S	**Sn**	**04 20 39.1**	**-3.5**
	0.1nm,0.3s,baz=42,slow=23,SNR=1.2						
WRA				PcP	**PcP**	**04 21 49.5**	**-0.3**
	0.0nm,0.3s,baz=18,slow=3.5,SNR=1.4						
GUMO	**Guam**	**19.45**	**355**	LR	LR	04 24 22.3	
	comp=Z,31nm,19.7s,baz=90,slow=35						
ASAR	**Alice Springs**	**21.40**	**213**	P	**P**	**04 17 53.8**	**+0.7**
	0.4nm,0.5s,baz=54,slow=9.4,SNR=2.3						
ASAR				S	**S**	**04 21 50.3**	**+2.3**
	0.1nm,0.3s,baz=16,slow=23,SNR=1.5						
FITZ	**Fitzroy Crossi**	**23.68**	**237**	P	**P**	**04 18 17.9**	**+1.3**
	3.6nm,0.8s,baz=81,slow=10,SNR=11						
ILAR	**Eielson Array**	**85.61**	**23**	P	**P**	**04 25 41.1**	**-1.1**
	0.4nm,0.7s,baz=256,slow=5.2,SNR=5.3						
TORD	**Torodi Ar. Bea**	**144.58**	**284**	PKP	**PKPdf**	**04 32 41.1**	**-0.3**
	1.4nm,0.8s,baz=70,slow=3.1,SNR=8.4						
DBIC	**Dimbokro**	**151.51**	**273**	PKPbc	**PKiKP**	**04 33 00.7**	**+1.2**
	1.4nm,0.5s,baz=104,slow=4.2,SNR=4.2						

*IDC **12** 04:25:23.9±0.6, 31°25N×142°17E, h0km, mb4.1/19, mb1 4.3/24, mb1mx4.2/40, mbtmp4.1/24, ML3.6/5, MS3.3/2, Ms1 3.3/2, ms1mx2.5/43, Error ellipse: s-maj=18.3km s-min=14.3km az=82.0*

*JMA **12** 04:25:25.9±0.3, 31°26N×142°34E, h40km, M4.3*

*NIED **12** 04:25:26.0, 31°26N×142°34E, h40km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=5.14; Mθθ 0.07; Mϕϕ 5.06; Mrθ 3.69; Mθϕ -1.04; Mϕr -7.48; Fault plane solution: Mo 9.83000×10¹⁴ NP1: ϕs=336.00000°, δ 74.00000°, λ -97.00000°. NP2: ϕs=181.00000°, δ 17.00000°, λ -66.00000°.*

*NEIC **12** 04:25:28.2±1.6, 31°24N±0°07×142°35E±0°09, h27km±4km, mb4.3/20 Error ellipse: s-maj=11.6km s-min=9.1km az=51.0*

ISC 12 04:25:29.0±0.5, **31°23N**±0°05×**142°17E**±0°09, **h35**km, **n71**, σ1§**47**/73, **mb4.2**/28, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.74**	**314**	Pn	**Pn**	**04 26 13.3**	**+2.8**
JHJ	**Hachijo jima 2**	**2.77**	**314**	Pn	**Pn**	**04 26 07.0**	**-3.9**
	20nm,0.3s,baz=91,slow=20,SNR=2.3						
JHJ				Sn	**Sn**	**04 26 39.8**	**-3.2**
	47nm,0.3s,baz=90,slow=20,SNR=5.9						
BSO1	**Boso 1**	**3.56**	**344**	P	**Pn**	**04 26 20.3**	**-1.0**
BSO3	**Boso 3**	**3.83**	**339**	P	**Pn**	**04 26 24.6**	**-0.6**
BSO3				eS	**Sn**	**04 27 09.0**	**+0.2**
BSO4	**Boso 4**	**4.06**	**338**	P	**Pn**	**04 26 28.5**	**0.0**
CBIJ	**Chichi jima**	**4.11**	**180**	P	**Pn**	**04 26 28.8**	**-0.6**
CBIJ				eS	**Sn**	**04 27 14.7**	**-1.6**
JCJ	**Chichijima**	**4.11**	**180**	Pn	**Pn**	**04 26 27.0**	**-2.4**
	12nm,0.3s,baz=0.4,slow=20,SNR=11						
JCJ				Sn	**Sn**	**04 27 13.1**	**-3.2**
	16nm,0.3s,baz=44,slow=18,SNR=4.7						
JCJ	**Chichijima**	**4.11**	**180**	Pn	**Pn**	**04 26 28.2**	**-1.2**
JOD2	**Odawara 2**	**4.78**	**328**	P	**Pn**	**04 26 39.9**	**+1.3**
JHU	**Hanno**	**5.21**	**333**	P	**Pn**	**04 26 44.5**	**+0.1**
JRY	**Ryogami san**	**5.50**	**331**	P	**Pn**	**04 26 48.7**	**+0.3**
JAG	**Ashikaga**	**5.66**	**337**	P	**Pn**	**04 26 50.3**	**-0.3**
JGF	**Kuroka**	**5.93**	**319**	P	**Pn**	**04 26 56.5**	**+2.1**
MJAR	**Matsushiro Arr**	**6.24**	**329**	Pn	**Pn**	**04 26 58.1**	**-0.5**
	1.4nm,0.3s,baz=151,slow=11,SNR=67						
MJAR	**Matsushiro Arr**	**6.24**	**329**		**Pn**	**04 26 59.0**	**+0.4**
MAJO	**Matsushiro**	**6.24**	**329**	Pn	**Pn**	**04 26 58.8**	**+0.2**
MAT	**Matsushiro**	**6.24**	**329**	P	**Pn**	**04 26 59.4**	**+0.8**
MAT				S	**Sn**	**04 28 05.8**	**-2.9**
JMM	**Marumori**	**6.72**	**351**		Pn	04 27 00.7	-4.4
JSD	**Sado**	**7.52**	**336**	Pn	**Pn**	**04 27 14.7**	**-1.4**
KSRS	**Korea Array**	**13.30**	**302**	Pn	**Pn**	**04 28 37.4**	**+2.1**
	0.3nm,0.3s,baz=114,slow=13,SNR=5.4						
KSRS				LR	LR	04 34 06.3	
	comp=Z,44nm,18.3s,baz=132,slow=39						
KSAR	**Wonju Array Be**	**13.33**	**302**	Pn	**Pn**	**04 28 39.1**	**+3.5**
USRK	**Ussuriysk Ar.**	**15.23**	**331**	Pn	**Pn**	**04 28 58.8**	**-2.6**
	baz=136,slow=11,SNR=4.6						
USRK	**Ussuriysk Ar.**	**15.23**	**331**	Pn	**Pn**	**04 28 59.5**	**-1.8**
MDJ	**Mudanjiang**	**16.62**	**327**	Pn	**Pn**	**04 29 18.7**	**-0.5**
KLR	**Kul'dur**	**19.63**	**339**	P	**P**	**04 29 53.4**	**-1.0**
	0.6nm,0.3s,baz=164,slow=7.4,SNR=13						
YULB	**Yu-li**	**20.10**	**252**	P	Pn	04 30 02.3	+0.6
YULB				IAmb	IAmb	04 30 14.5	
	comp=Z,11nm,0.8s						
BJT	**Baijiatuan**	**22.82**	**300**	P	**P**	**04 30 29.1**	**+0.3**
PETK	**Petropavlovsk-**	**24.61**	**23**	P	**P**	**04 30 45.2**	**-0.6**
	comp=Z,8.2nm,1.1s,baz=218,slow=16,SNR=1.8						
HIA	**Hailar**	**24.70**	**323**	P	**P**	**04 30 47.2**	**+0.4**
HIA				IAmb	IAmb	04 30 48.2	
	comp=Z,6.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**26.43**	**300**	eP	**P**	**04 31 05.1**	**+2.5**
HHC				pmax	pmax		
	comp=Z,18nm,1.2s						
HHC				pmax	pmax		
	comp=Z,100nm,5.7s						
ENH	**Enshi**	**28.05**	**277**	P	**P**	**04 31 16.1**	**-1.0**
ENH				IAmb	IAmb	04 31 16.8	
	comp=Z,4.2nm,0.8s						
XAN	**Xi'an**	**28.07**	**285**	P	**P**	**04 31 16.4**	**-0.9**
XAN				pP	pP	04 31 23.2	-2.1
XAN				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ULN	**Ulaanbaatar**	**31.43**	**312**	P	**P**	**04 31 47.4**	**+0.3**
ULN				IAmb	IAmb	04 31 55.4	
	comp=Z,7.7nm,1.4s						
SONM	**Songino Array**	**31.84**	**312**	P	**P**	**04 31 51.3**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=119,slow=8.6,SNR=9.4						
SONM	**Songino Array**	**31.84**	**312**	P	**P**	**04 31 51.7**	**+1.1**
CMAR	**Chiang Mai Ar**	**40.99**	**262**	P	**P**	**04 33 08.2**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=86,slow=24,SNR=1.8						
WMQ	**Urumqi**	**44.25**	**302**	eP	**P**	**04 33 37.6**	**+2.5**
ZAA0	**Zalesovo Array**	**46.43**	**317**	P	**P**	**04 33 51.7**	**-0.3**
ZAA0				IAmb	IAmb	04 33 52.9	
	comp=Z,3.1nm,1.0s						
ZALV	**Zalesovo Beam**	**46.43**	**317**	P	**P**	**04 33 52.4**	**+0.3**
	comp=Z,2.3nm,0.6s,baz=94,slow=7.6,SNR=5.6						
ZALV				PcP	**PcP**	**04 35 26.9**	**+0.5**
	comp=Z,1.6nm,0.3s,baz=99,slow=8.9,SNR=2.2						
ZALV	**Zalesovo Beam**	**46.43**	**317**	P	**P**	**04 33 52.2**	**+0.2**
MK31	**Makanchi Array**	**47.92**	**307**	P	**P**	**04 34 04.8**	**+1.0**
MK31				IAmb	IAmb	04 34 05.4	
	comp=Z,1.8nm,0.7s						
MKAR	**Makanchi Array**	**47.92**	**307**	P	**P**	**04 34 04.6**	**+0.7**
	comp=Z,2.1nm,0.5s,baz=86,slow=9.3,SNR=26						
MKAR	**Makanchi Array**	**47.92**	**307**	P	**P**	**04 34 04.2**	**+0.3**
NRIK	**Noril'sk**	**48.83**	**337**	P	**P**	**04 34 10.6**	**+0.2**
	comp=Z,3.3nm,0.6s,baz=146,slow=6.0,SNR=2.5						
KDAK	**Kodiak Island**	**51.12**	**39**	P	**P**	**04 34 28.2**	**+0.3**
	comp=Z,2.5nm,0.5s,baz=302,slow=3.9,SNR=14						
KDAK	**Kodiak Island**	**51.12**	**39**	IAmb	IAmb	04 34 48.7	
	comp=Z,9.1nm,1.1s						
WRA	**Warramunga Arr**	**51.43**	**189**	P	**P**	**04 34 30.9**	**+0.2**
	comp=Z,5.3nm,0.8s,baz=5.9,slow=7.3,SNR=68						
WRA				PcP	**PcP**	**04 35 47.5**	**+2.7**
	comp=Z,0.5nm,0.5s,baz=0.3,slow=2.7,SNR=1.6						
BOOM	**Boomskoye usch**	**52.95**	**302**	P	**P**	**04 34 42.9**	**+0.8**
KSH	**Kashi**	**53.53**	**298**	P	**P**	**04 34 50.6**	**+4.2**
AAK	**Ala-Archa**	**53.96**	**302**	P	**P**	**04 34 49.7**	**+0.2**
AAK				IAmb	IAmb	04 34 51.3	
	comp=Z,2.0nm,0.6s						
ILAR	**Eielson Array**	**54.13**	**30**	P	**P**	**04 34 50.2**	**0.0**
	comp=Z,1.1nm,0.8s,baz=254,slow=5.8,SNR=7.4						
AS31	**Alice Springs**	**55.15**	**189**	P	**P**	**04 34 58.4**	**+0.3**
AS31				IAmb	IAmb	04 35 00.2	
	comp=Z,1.6nm,0.5s						
ASAR	**Alice Springs**	**55.15**	**189**	P	**P**	**04 34 58.2**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=359,slow=5.5,SNR=42						
KK31	**Karatay Array**	**56.72**	**304**	P	**P**	**04 35 09.9**	**+0.7**
KKAR	**Karatay Array**	**56.72**	**304**	P	**P**	**04 35 10.2**	**+1.0**
NIL	**Nilore**	**57.21**	**292**	P	**P**	**04 35 13.2**	**+0.4**
GAR	**Garm**	**57.91**	**299**	P	**P**	**04 35 18.6**	**+0.8**
ABKAR	**Akbulak array**	**62.25**	**313**	P	**P**	**04 35 46.7**	**-0.5**
NWAO	**Narrogin (SRO)**	**68.02**	**202**	LR	LR	05 05 12.6	
	comp=Z,48nm,18.4s,baz=290,slow=35						
ARCES	**ARCESS Array B**	**69.65**	**340**	P	**P**	**04 36 35.0**	**+0.5**
	comp=Z,5.1nm,1.0s,baz=41,slow=8.1,SNR=4.4						
ARCES	**ARCESS Array B**	**69.65**	**340**	IAmb	IAmb	04 36 38.9	
	comp=Z,11nm,1.1s						
FINES	**FINESS Array B**	**74.25**	**333**	P	**P**	**04 37 02.5**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=54,slow=6.5,SNR=20						
NVAR	**Mina Array Bea**	**78.00**	**52**	P	**P**	**04 37 24.4**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=276,slow=5.8,SNR=4.1						
AKASG	**Malin Array Be**	**79.30**	**323**	P	**P**	**04 37 30.1**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=52,slow=5.7,SNR=4.3						
NB2	**NORSAR Subarra**	**79.78**	**338**	P	**P**	**04 37 33.6**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=41,slow=5.3						
NOA	**NORSAR Array B**	**79.78**	**338**	P	**P**	**04 37 33.3**	**0.0**
	comp=Z,1.2nm,0.6s,baz=41,slow=5.4,SNR=5.9						
PDAR	**Pinedale Array**	**81.31**	**45**	P	**P**	**04 37 42.8**	**+0.7**
	comp=Z,0.1nm,0.4s,baz=323,slow=5.7,SNR=2.8						
PFO	**Pinyon Flats O**	**81.76**	**56**	P	**P**	**04 37 44.3**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=233,slow=7.7,SNR=2.9						
BRTR	**Keskin Array B**	**83.20**	**313**	P	**P**	**04 37 51.4**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=14,slow=5.1,SNR=4.0						
TXAR	**Lajitas Array**	**93.14**	**53**	P	**P**	**04 38 40.2**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=284,slow=2.6,SNR=10						
TORD	**Torodi Ar. Bea**	**121.81**	**313**	PKP	**PKiKP**	**04 44 20.4**	**+0.2**
	comp=Z,0.4nm,1.0s,baz=50,slow=2.2,SNR=1.7						

*MEX **12** 04:27:28.7±1.8, 14°41N×94°21W, h5km, MD4.4*

*IDC **12** 04:27:29.3±0.9, 14°82N×93°55W, h0km, mb4.2/21, mb1 4.4/23, mb1mx4.2/47, mbtmp4.2/23, ML3.8/2, MS3.4/7, Ms1 3.5/7, ms1mx3.1/38, Error ellipse: s-maj=34.6km s-min=11.9km az=48.0*

*NEIC **12** 04:27:31.3±2.4, 14°59N±0°05×93°94W±0°05, h10km±1km, mb4.3/129, Md4.4/22(MEX), Error ellipse: s-maj=9.9km s-min=6.1km az=141.0*

ISC 12 04:27:33.3±0.6, **14°52N**±0°06×**94°04W**±0°05, **h37**km±1km, **n218**, σ1§**74**/189, **mb4.3**/74, **MS3.6**/6, **Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.42**	**34**	*i* P	**Pn**	**04 27 54.5**	**-2.1**
PCIG				*i* S	**Sn**	**04 28 08.7**	**-5.4**
PCIG		**1.42**	**34**		**Pn**	**04 27 54.5**	**-2.1**
PCIG					**Sn**	**04 28 14.3**	**+0.2**
THIG		**1.76**	**77**	*i* P	**Pn**	**04 27 58.7**	**-2.6**
THIG				*i* S	**Sn**	**04 28 22.7**	**+0.2**
THIG		**1.76**	**77**		**Pn**	**04 27 58.7**	**-2.6**
THIG					**Sn**	**04 28 22.7**	**+0.2**
RTAL	**Retalhuleu**	**2.27**	**89**	Pn	**Pn**	**04 28 05.7**	**-2.7**
TGIG		**2.42**	**21**	eP	**Pn**	**04 28 10.0**	**-0.3**
TGIG				*i* S	**Sn**	**04 28 41.9**	**+3.2**
TGIG		**2.42**	**21**		**Pn**	**04 28 10.0**	**-0.3**
TGIG					**Sn**	**04 28 41.9**	**+3.2**
CCIG	**Comitan**	**2.54**	**46**	eP	**Pn**	**04 28 12.6**	**+0.4**
CCIG				eS	**Sn**	**04 28 44.1**	**+2.1**
CCIG	**Comitan**	**2.54**	**46**		**Sn**	**04 28 44.1**	**+2.1**
CCIG	**Comitan**	**2.54**	**46**	Pn	**Pn**	**04 28 11.4**	**-0.7**
HUEH	**Huehuetenango**	**2.58**	**72**	Pn	**Pn**	**04 28 11.4**	**-1.4**
CMIG	**Matias Romero**	**2.69**	**343**	Pn	**Pn**	**04 28 12.8**	**-1.2**
	28nm,0.3s,baz=173,slow=12,SNR=271						
CMIG				Sn	**Sn**	**04 28 38.8**	**-6.5**
	43nm,0.3s,baz=131,slow=14,SNR=6.6						
CMIG				Lg	Lg	04 28 43.8	
	127nm,0.3s,baz=108,slow=20,SNR=14						
CMIG	**Matias Romero**	**2.69**	**343**	*i* P	**Pn**	**04 28 13.2**	**-0.9**
CMIG				*i* S	**Sn**	**04 28 44.2**	**-1.1**
CMIG	**Matias Romero**	**2.69**	**343**		**Pn**	**04 28 13.2**	**-0.9**
CMIG					**Sn**	**04 28 44.2**	**-1.1**
PEIG	**Puerto Escondi**	**3.34**	**297**	*i* P	**Pn**	**04 28 22.0**	**-1.0**
PEIG				*i* S	**Sn**	**04 28 56.4**	**-5.1**
VHO	**Vista Hermosa**	**3.63**	**315**	eP	**Pn**	**04 28 28.6**	**+1.4**
VHO				*i* S	**Sn**	**04 29 07.4**	**-1.4**
MTO3	**Montecristo**	**4.54**	**91**	Pn	**Pn**	**04 28 38.8**	**-0.9**
ESQI	**Esquipulas**	**4.55**	**89**	Pn	**Pn**	**04 28 40.1**	**+0.3**
PETF	**Flores**	**4.67**	**59**	Pn	**Pn**	**04 28 40.1**	**-1.2**
SNET	**Serv Nac Est T**	**4.74**	**99**	Pn	**Pn**	**04 28 42.4**	**+0.1**
TGUH	**Tegucigalpa,Un**	**6.58**	**93**	Pn	**Pn**	**04 29 06.8**	**-0.9**
CRIN	**San Cristobal**	**7.03**	**104**	Pn	**Pn**	**04 29 15.8**	**+2.0**
CNGN	**Cerro Negro**	**7.42**	**105**	Pn	**Pn**	**04 29 17.3**	**-1.8**
MATN	**Matagalpa**	**8.04**	**100**		**Pn**	**04 29 25.0**	**-2.7**
ORTG	**Ortega, Santa**	**9.34**	**115**		**Pn**	**04 29 46.0**	**+0.4**
JTS	**Las Juntas de**	**9.82**	**114**	Pn	**Pn**	**04 29 53.2**	**+1.1**
	0.6nm,0.3s,baz=286,slow=18,SNR=3.7						
JTS				Lg	Lg	04 32 23.2	
	0.2nm,0.3s,baz=294,slow=19,SNR=3.2						
JTS	**Las Juntas de**	**9.82**	**114**	Pn	**Pn**	**04 29 51.9**	**-0.2**
RIMA	**Rio Macho**	**11.01**	**114**		**Pn**	**04 30 08.7**	**+0.1**
ZAIG	**Zacatecas**	**11.51**	**317**	Pn	**Pn**	**04 30 19.9**	**+4.4**
SRBA	**San Rafael, Bu**	**11.70**	**115**	Pn	**Pn**	**04 30 17.1**	**-0.8**
BRU2	**Volcan**	**12.48**	**116**	Pn	**Pn**	**04 30 27.6**	**-1.0**
SOR	**Soroa**	**13.30**	**50**	Pn	**Pn**	**04 30 38.1**	**-1.6**
833A	**Chaparral WMA,**	**14.61**	**341**	P	**Pn**	**04 30 58.9**	**+1.4**
	baz=158						
HPIG		**16.44**	**321**		**P**	**04 31 24.1**	**+0.2**
435B	**Jarrell**	**16.52**	**349**	Pn	**Pn**	**04 31 21.4**	**-0.8**
435B				IAmb	IAmb	04 31 42.3	
	comp=Z,19nm,0.7s						
JCT	**Junction City**	**16.75**	**343**	Pn	**Pn**	**04 31 24.7**	**-0.5**
344A	**Westbrook Farm**	**17.13**	**10**	Pn	**Pn**	**04 31 28.1**	**-1.7**
TX31	**Lajitas Ar. Si**	**17.22**	**330**		**P**	**04 31 34.1**	**+1.6**
TX32	**Lajitas Array**	**17.22**	**330**		**P**	**04 31 32.5**	**0.0**
TXAR	**Lajitas Array**	**17.22**	**330**	P	**P**	**04 31 32.9**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=150,slow=10,SNR=13						
TXAR				LR	LR	04 38 33.6	
	comp=Z,73nm,18.3s,baz=0.0,slow=39						
TXAR	**Lajitas Array**	**17.22**	**330**	Pn	**Pn**	**04 31 30.9**	**-0.3**
Z38A	**Mt. Pleasant**	**18.68**	**358**	P	**P**	**04 31 47.1**	**-1.3**
Z38A				IAmb	IAmb	04 32 00.5	
	comp=Z,32nm,1.3s						
ABTX	**Abilene, Hawle**	**18.73**	**345**	P	**P**	**04 31 49.3**	**+0.3**
ABTX	**Abilene, Hawle**	**18.73**	**345**	P	**Pn**	**04 31 50.5**	**+0.8**
	baz=162,SNR=6.5						
DBBC	**Dabeiba**	**19.03**	**111**	eP	**Pn**	**04 31 53.0**	**-0.3

RUSC IAmb IAmb 04 32 30.6
comp=Z,16nm,1.0s
RUSC La Rusia 22.32 110 *e*P P **04 32 27.4 -1.1**
BLOK Blackwell 22.33 353 IAmb IAmb 04 32 33.9
comp=Z,12nm,0.9s
T35A Sooner Cattle 22.42 355 IAmb IAmb 04 32 50.5
comp=Z,9.4nm,0.8s
CLTN Cedars of Leba 22.57 16 IAmb IAmb 04 32 47.6
comp=Z,15nm,1.3s
MGMO Mountain Grove 22.60 4 P P **04 32 30.3 -0.5**
MGMO IAmb IAmb 04 32 31.8
comp=Z,10nm,0.8s
KAN05 Bluff City Nor 22.76 352 IAmb IAmb 04 32 34.1
comp=Z,13nm,0.7s
U49A Red Boiling Sp 23.12 17 IAmb IAmb 04 33 01.8
comp=Z,8.8nm,0.8s
ANMO Albuquerque 23.22 333 P P **04 32 38.2 +0.9**
comp=Z,0.9nm,0.6s,baz=178,slow=13,SNR=7.0
ANMO Albuquerque 23.22 333 P P **04 32 38.8 +1.5**
ANMO Albuquerque 23.22 333 P P **04 32 39.4 +2.0**
baz=147
T47A Sharon Grove 23.22 14 IAmb IAmb 04 32 37.2
comp=Z,14nm,0.7s
TUC Tucson 23.39 322 P P **04 32 41.8 +2.8**
TUC Tucson 23.39 322 P P **04 32 41.8 +2.8**
baz=134
SIUC Southern Illin 23.50 10 P P **04 32 39.9 +0.1**
CCM Cathedral Cave 23.58 6 P P **04 32 39.2 -1.3**
CCM IAmb IAmb 04 32 40.6
comp=Z,8.0nm,1.1s
CCM Cathedral Cave 23.58 6 P P **04 32 38.9 -1.6**
baz=186
SDV Santo Domingo 23.59 101 P P **04 32 38.8 -2.3**
comp=Z,7.5nm,0.3s,baz=321,slow=2.5,SNR=3.2
R40A Maddies Statio 23.73 3 IAmb IAmb 04 32 43.7
comp=Z,8.6nm,1.0s
T25A Trinidad 24.35 340 P P **04 32 51.0 +2.9**
baz=154,SNR=7.0
214A Organ Pipe Nat 24.40 319 P P **04 32 50.7 +2.3**
214A Organ Pipe Nat 24.40 319 P P **04 32 51.4 +3.0**
baz=130
X18A Snowflake 24.56 327 IAmb IAmb 04 33 06.5
comp=Z,5.1nm,0.9s
WCI Wyandotte Cave 24.60 15 P P **04 32 48.5 -1.5**
WCI Wyandotte Cave 24.60 15 P P **04 32 48.9 -1.1**
baz=198
Q44A Meyer Farm, Va 24.69 9 IAmb IAmb 04 32 51.4
comp=Z,7.7nm,0.7s
SDCO Great Sand Dun 25.27 338 P P **04 32 58.8 +2.2**
SDCO Great Sand Dun 25.27 338 P P **04 32 59.1 +2.6**
baz=152,SNR=5.0
S22A 4UR Ranch, Cre 25.77 336 P P **04 33 03.6 +2.6**
baz=150
MVCO Mesa Verde 26.01 333 P P **04 33 04.8 +1.6**
MVCO IAmb IAmb 04 33 15.9
comp=Z,6.9nm,1.0s
MVCO Mesa Verde 26.01 333 P P **04 33 05.5 +2.3**
baz=146
WUAZ Wupatki 26.07 326 IAmb IAmb 04 33 10.3
comp=Z,7.7nm,0.9s
WUAZ Wupatki 26.07 326 P P **04 33 06.7 +3.0**
baz=138
PV01 Paradox Valley 26.82 334 P P **04 33 12.6 +2.2**
PV01 IAmb IAmb 04 33 16.2
comp=Z,6.0nm,0.9s
ISCO Idaho Springs 27.16 340 P P **04 33 15.6 +2.1**
baz=154,SNR=6.7
BC3 Big Chuckawall 27.20 318 P P **04 33 17.0 +3.2**
baz=129,SNR=6.7
OGNE Ogallala 27.24 347 IAmb IAmb 04 33 28.7
comp=Z,12nm,0.9s
KNB Kanab 27.97 327 P P **04 33 23.2 +2.5**
KNB IAmb IAmb 04 33 24.7
comp=Z,4.0nm,0.9s
CCUT Cedar City 28.65 327 IAmb IAmb 04 33 32.2
comp=Z,3.6nm,0.9s
ECSD EROS Data Cent 29.20 356 P P **04 33 30.5 -0.9**
baz=174,SNR=14
PSUT Pine Spring 29.64 327 IAmb IAmb 04 33 39.8
comp=Z,4.5nm,1.0s
TPNV Topopah Spring 29.84 323 P P **04 33 41.1 +3.8**
baz=132
FURC Furnace Creek, 29.89 321 P P **04 33 40.7 +3.2**
baz=130
MPMC Manual Prospec 30.01 320 P P **04 33 41.8 +3.0**
baz=129
SPR3 Spring Creek 3 30.24 328 IAmb IAmb 04 33 44.5
comp=Z,3.1nm,0.8s
SPMN Marine on St. 30.63 2 P P **04 33 43.0 -0.9**
baz=182,SNR=6.1
PDAR Pinedale Array 31.16 338 P P **04 33 48.9 -0.2**
comp=Z,0.2nm,0.4s,baz=134,slow=6.4,SNR=4.2
PDAR PcP PcP **04 36 42.9 -0.6**
comp=Z,0.4nm,0.8s,baz=126,slow=6.0,SNR=2.0
PDAR LR LR 04 47 55.7
comp=Z,40nm,18.4s,baz=148,slow=40
NNA Nana 31.37 146 LR LR 04 44 19.0
comp=Z,30nm,18.4s,baz=336,slow=32
HVU Hansel Valley 31.64 333 P P **04 33 54.7 +1.6**
HVU IAmb IAmb 04 33 56.9
comp=Z,3.6nm,1.0s
NV11 Mina Array Sit 31.96 323 IAmb IAmb 04 34 00.6
comp=Z,6.5nm,1.1s
NVAR Mina Array Bea 32.04 323 P P **04 33 59.2 +2.4**
comp=Z,4.7nm,0.9s,baz=142,slow=8.9,SNR=27
NVAR PcP PcP **04 36 48.8 +2.9**
comp=Z,0.5nm,0.7s,baz=126,slow=4.6,SNR=4.0
REDW Red Top Meadow 32.16 337 IAmb IAmb 04 34 13.2
comp=Z,3.9nm,0.9s
LOHW Long Hollow 32.28 337 IAmb IAmb 04 34 14.7
comp=Z,10nm,1.4s
MOOW Moose Ponds 32.45 337 P P **04 34 01.9 +1.6**
BMN Battle Mountai 32.81 326 IAmb IAmb 04 34 07.5
comp=Z,3.6nm,1.0s
RLMT Red Lodge 33.12 340 IAmb IAmb 04 34 08.5
comp=Z,3.1nm,0.9s
RLMT Red Lodge 33.12 340 P P **04 34 07.5 +1.4**
baz=152
YNE Yellowstone No 33.27 339 IAmb IAmb 04 34 25.1
comp=Z,5.6nm,1.0s
MDND Maddock 33.55 353 P P **04 34 09.8 +0.2**
baz=170
AGMN Agassiz Nation 33.72 358 P P **04 34 09.7 -1.3**
AGMN Agassiz Nation 33.72 358 P P **04 34 10.1 -0.9**
baz=176,SNR=5.8
B35A Bob, Littlefor 33.75 0 IAmb IAmb 04 34 21.1
comp=Z,6.1nm,0.9s
HLID Hailey 33.80 333 P P **04 34 14.6 +2.6**
baz=142
BOZ Bozeman (W) 34.36 338 P P **04 34 18.2 +1.4**
BOZ IAmb IAmb 04 34 23.4
comp=Z,3.5nm,1.1s
BOZ Bozeman (W) 34.36 338 P P **04 34 18.9 +2.1**
baz=148
DLMT Dillon 34.52 337 IAmb IAmb 04 34 22.0
comp=Z,9.8nm,1.4s
WVOR Wild Horse Val 34.98 327 IAmb IAmb 04 34 25.9
comp=Z,3.7nm,0.9s
J08A Circle Bar Ran 35.56 329 IAmb IAmb 04 34 30.8
comp=Z,6.6nm,1.0s
ULM Lac du Bonnet 35.67 358 P P **04 34 26.1 -1.7**
comp=Z,3.3nm,0.7s,baz=192,slow=8.9,SNR=5.8
ULM Lac du Bonnet 35.67 358 IAmb IAmb 04 34 37.5
comp=Z,7.0nm,1.2s
EGMT Eagleton 35.86 342 P P **04 34 31.3 +1.7**
baz=153
F10A Beach Ranch, E 36.93 333 IAmb IAmb 04 34 41.4
comp=Z,5.7nm,0.8s
PTGA Pitinga 36.97 111 P P **04 34 39.0 -0.4**
comp=Z,5.2nm,0.7s,baz=305,slow=9.2,SNR=16
PTGA Pitinga 36.97 111 P P **04 34 40.1 +0.7**
PTGA IAmb IAmb 04 34 41.4
comp=Z,5.7nm,0.8s
LPAZ La Paz 39.90 139 P P **04 35 04.8 +0.1**
comp=Z,0.9nm,0.7s,baz=299,slow=9.5,SNR=4.3
EDM Edmonton 41.53 343 P P **04 35 17.4 +0.3**
EDM IAmb IAmb 04 35 18.6
comp=Z,5.1nm,0.7s
SIV San Ignacio 44.50 132 P P **04 35 41.3 -0.2**
comp=Z,1.4nm,0.8s,baz=313,slow=9.5,SNR=5.4
SCHQ Schefferville 45.45 22 P P **04 35 44.3 -4.3**
comp=Z,3.4nm,1.0s,baz=279,slow=13,SNR=1.8
SCHQ LR LR 04 58 05.1
comp=Z,117nm,18.2s,baz=185,slow=41
YKA Yellowknife Ar 50.09 348 P P **04 36 24.2 -0.1**
comp=Z,5.3nm,0.8s,baz=147,slow=8.3,SNR=7.5
BDFB Brasilia 54.47 122 P P **04 36 57.6 -0.1**
comp=Z,3.3nm,0.7s,baz=259,slow=9.4,SNR=6.3
BCAR Beaver Creek A 58.78 337 P P **04 37 29.0 +1.4**
INK Inuvik 59.39 344 P P **04 37 31.9 +0.3**
comp=Z,4.6nm,0.7s,baz=92,slow=4.4,SNR=5.8
J26L Joseph Creek 60.22 338 P P **04 37 39.8 +2.2**
baz=122
RIDG Independent Ri 60.31 337 P P **04 37 40.1 +2.0**
baz=120
HDA Harding Lake 61.44 337 P P **04 37 47.2 +1.4**
baz=118
PRP Porcupine Dome 61.46 338 P P **04 37 46.8 +0.7**
ILAR Eielson Array 61.59 337 P P **04 37 48.1 +1.3**
comp=Z,3.7nm,1.0s,baz=147,slow=4.1,SNR=22
ILAR Eielson Array 61.59 337 P P **04 37 47.4 +0.7**
BWN Browne 62.31 336 P P **04 37 52.9 +1.3**
TRF Thorofare Moun 62.33 335 P P **04 37 53.3 +1.3**
baz=114
H24K Noodor Dome 62.47 338 P P **04 37 54.3 +1.6**
H24K Noodor Dome 62.47 338 P P **04 37 54.1 +1.4**
baz=118
I23K Minto, Yukon-K 62.70 337 P P **04 37 56.0 +1.8**
baz=116
BPAW Bear Paw Mtn. 62.89 336 P P **04 37 56.6 +1.1**
baz=114
CAST Castle Rocks 63.06 335 P P **04 37 57.3 +0.7**
baz=112
MLY Manley 63.18 337 P P **04 37 58.1 +0.6**
MLY Manley 63.18 337 P P **04 37 58.8 +1.3**
baz=114
L20K Farewell, AK 63.47 333 P P **04 38 00.5 +1.1**
baz=110
SUMG Summit 66.27 16 *i* P P **04 38 18.2 +0.4**
SUMG IAmb IAmb 04 38 19.5
comp=Z,5.6nm,0.8s
NEEM North Greenlan 66.54 9 *i* P P **04 38 20.0 +0.6**
NEEM IAmb IAmb 04 38 22.1
comp=Z,16nm,1.0s
BORG Borgarnes 69.61 26 LR LR 05 07 33.9
comp=Z,52nm,21.4s,baz=257,slow=35
DAG Danmarks Havn 72.62 14 *i* P P **04 38 56.4 -0.2**
DAG IAmb IAmb 04 38 56.8
comp=Z,6.6nm,0.8s
NOR Nord 73.89 9 *i* P P **04 39 04.5 +0.6**
NOR IAmb IAmb 04 39 05.3
comp=Z,2.7nm,0.8s
ESDC Sonseca Array 80.95 51 P P **04 39 41.4 -2.9**
comp=Z,1.4nm,1.0s,baz=281,slow=5.9,SNR=5.2
ESDC LR LR 05 13 14.6
comp=Z,32nm,18.3s,baz=280,slow=34
NB2 NORSAR Subarra 84.63 28 P P **04 40 04.3 +1.3**
comp=Z,2.1nm,0.7s,baz=291,slow=5.1
NOA NORSAR Array B 84.63 28 P P **04 40 02.4 -0.6**
comp=Z,3.5nm,0.8s,baz=293,slow=4.9,SNR=14
NOA LR LR 05 16 36.9
comp=Z,23nm,19.9s,baz=280,slow=35
ARCES ARCESS Array B 86.26 18 P P **04 40 11.5 +0.6**
comp=Z,2.2nm,0.6s,baz=296,slow=5.2,SNR=7.2
KOWA Kowa 86.47 76 P P **04 40 12.2 -0.7**
comp=Z,1.3nm,0.8s,baz=260,slow=3.0,SNR=7.3
KOWA Kowa 86.47 76 IAmb IAmb 04 40 14.6
comp=Z,4.1nm,0.9s
GERES GERESS Array B 90.46 39 P P **04 40 31.4 0.0**
comp=Z,0.8nm,0.8s,baz=316,slow=3.7,SNR=7.3
GERES GERESS Array B 90.46 39 P P **04 40 30.6 -0.8**
FINES FINESS Array B 90.86 25 P P **04 40 33.2 +0.4**
comp=Z,1.5nm,0.8s,baz=304,slow=2.5,SNR=3.9
TORD Torodi Ar. Bea 92.18 76 P P **04 40 38.1 -1.7**
comp=Z,0.5nm,0.7s,baz=289,slow=3.9,SNR=3.4
MKAR Makanchi Array 118.89 3 PKP **PKPdf 04 46 18.1 0.0**
comp=Z,0.3nm,0.4s,baz=358,slow=8.7,SNR=2.5
WRA Warramunga Arr 133.60 256 PKP **PKPdf 04 46 48.0 +1.2**
comp=Z,0.5nm,0.7s,baz=71,slow=2.5,SNR=5.2
ASAR Alice Springs 133.97 251 PKP **PKiKP 04 46 49.7 +1.0**
comp=Z,0.2nm,0.7s,baz=116,slow=2.2,SNR=1.5
CMAR Chiang Mai Arr 144.82 338 PKP **PKPdf 04 47 07.3 0.0**
comp=Z,2.5nm,0.8s,baz=346,slow=3.8,SNR=9.8

IDC ***12*** *04:40:31.9±7.0, 45.°84N×149.°11E, h144km±63km, mb3.5/16, mb1 3.7/17, mb1mx3.5/51, mbtmp3.9/17, MS3.6/1, Ms1 3.7/1, ms1mx2.4/35, Error ellipse: s-maj=17.1km s-min=14.9km az=132.0*

ISC 12 04:40:32.7±0.7, 45.°9N±0.°1×149.°3E±0.°1, h150km, n25, σ1°11/23, mb3.7/16, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SEY	**Seymchan**	**17.19**	**5**	P		**Pn**	**04 44 24.0**	**+0.6**
	0.2nm,0.3s,baz=191,slow=12,SNR=4.0							
KSRS	**Korea Array**	**17.98**	**250**	P		**Pn**	**04 44 36.1**	**+3.0**
	0.3nm,0.3s,baz=128,slow=43,SNR=1.9							
H11N2	**WAKE ISLAND Hy**	**29.86**	**145**	T		T	05 17 39.2	
	baz=335,slow=75,SNR=100							
H11N1	**WAKE ISLAND Hy**	**29.87**	**145**	T		T	05 17 41.1	
	baz=335,slow=75,SNR=91							
H11N3	**WAKE ISLAND Hy**	**29.87**	**145**	T		T	05 17 43.0	
	baz=335,slow=75,SNR=91							
H11S1	**WAKE ISLAND Hy**	**30.88**	**146**	T		T	05 19 04.4	
	baz=336,slow=76,SNR=106							
H11S3	**WAKE ISLAND Hy**	**30.89**	**146**	T		T	05 18 59.4	
	baz=336,slow=76,SNR=85							
H11S2	**WAKE ISLAND Hy**	**30.90**	**146**	T		T	05 18 58.6	
	baz=336,slow=76,SNR=115							
ILAR	**Eielson Array**	**38.89**	**38**	P		**P**	**04 47 43.6**	**+0.5**
	1.0nm,0.8s,baz=248,slow=5.3,SNR=8.3							
ILAR				PcP		**PcP**	**04 49 49.0**	**-1.6**
	0.6nm,1.0s,baz=225,slow=3.7,SNR=3.0							
ZALV	**Zalesovo Beam**	**40.95**	**306**	P		**P**	**04 47 59.1**	**-1.1**
	0.5nm,0.3s,baz=48,slow=9.7,SNR=2.0							
ZALV				PcP		**PcP**	**04 49 58.6**	**+1.2**
	0.7nm,0.4s,baz=72,slow=4.7,SNR=2.2							
INK	**Inuvik**	**43.81**	**32**	P		**P**	**04 48 24.1**	**+1.1**
	0.9nm,0.3s,baz=312,slow=2.3,SNR=8.9							
MKAR	**Makanchi Array**	**44.95**	**297**	P		**P**	**04 48 32.4**	**-0.1**
	0.9nm,0.9s,baz=108,slow=4.7,SNR=2.1							
MKAR				PcP		**PcP**	**04 50 11.4**	**+0.3**
	0.8nm,0.6s,baz=64,slow=5.5,SNR=5.2							
KURBB	**Kurchatov Array**	**45.70**	**295**	P		**P**	**04 48 37.8**	**-0.4**
	0.5nm,0.3s,baz=73,slow=8.6,SNR=4.3							
KURBB				PcP		**PcP**	**04 50 14.2**	**+0.7**
	0.3nm,0.3s,baz=56,slow=4.6,SNR=2.2							
ARCES	**ARCESS Array B**	**57.77**	**340**	P		**P**	**04 50 06.8**	**-0.6**
	3.4nm,0.8s,baz=355,slow=10,SNR=3.0							
ARCES				LR		LR	05 18 53.1	
	comp=Z,52nm,18.5s,baz=330,slow=40							
FINES	**FINESS Array B**	**63.66**	**333**	P		**P**	**04 50 46.1**	**-1.1**
	1.8nm,0.9s,baz=42,slow=3.1,SNR=4.7							
NVAR	**Mina Array Bea**	**65.20**	**60**	P		**P**	**04 50 58.8**	**+0.8**
	0.5nm,0.5s,baz=305,slow=6.6,SNR=5.8							
WRA	**Warramunga Arr**	**66.89**	**195**	P		**P**	**04 51 07.5**	**-1.1**
	0.5nm,0.5s,baz=13,slow=5.8,SNR=8.5							
PDAR	**Pinedale Array**	**67.41**	**51**	P		**P**	**04 51 12.4**	**+0.4**
	0.4nm,0.6s,baz=312,slow=1.4,SNR=6.9							
NOA	**NORSAR Array B**	**68.15**	**339**	P		**P**	**04 51 15.2**	**-0.9**
	1.0nm,1.0s,baz=29,slow=6.6,SNR=4.5							
ASAR	**Alice Springs**	**70.60**	**195**	P		**P**	**04 51 31.9**	**+0.5**
	0.8nm,0.5s,baz=11,slow=6.1,SNR=11							
AKASG	**Malin Array Be**	**70.74**	**324**	P		**P**	**04 51 31.4**	**-0.7**
	0.7nm,0.4s,baz=39,slow=6.1,SNR=5.5							
STKA	**Stephens Creek**	**77.70**	**187**	P		**P**	**04 52 11.0**	**-1.4**
	1.6nm,0.8s,baz=0.0,slow=13,SNR=3.4							
GERES	**GERESS Array B**	**78.02**	**332**	P		**P**	**04 52 14.0**	**-0.3**
	0.5nm,0.5s,baz=45,slow=5.8,SNR=4.9							
TXAR	**Lajitas Array**	**80.24**	**58**	P		**P**	**04 52 27.4**	**+0.6**
	0.8nm,0.5s,baz=294,slow=4.5,SNR=17							
TXAR	**Lajitas Array**	**80.24**	**58**	Pn		**P**	**04 52 27.6**	**+0.8**

IDC 12 04:46:42.4±9.4, 32.°92S×178.°51W, h75km±89km, mb3.6/2, mb1 3.9/3, mb1mx3.5/28, mbtmp4.0/3, ML3.8/1, MS3.8/2, Ms1 3.8/2, ms1mx2.9/22, Error ellipse: s-maj=79.6km s-min=54.4km az=166.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
URZ	**Urewera**	**6.42**	**213**	P		Pn	04 48 13.7	-0.5
	2.0nm,0.3s,baz=312,slow=3.0,SNR=12							
URZ				S		Sn	04 49 27.2	+1.2
	2.1nm,0.3s,baz=324,slow=19,SNR=1.9							
ASAR	**Alice Springs**	**42.61**	**270**	P		P	04 54 31.7	+0.3
	1.1nm,0.6s,baz=110,slow=7.8,SNR=22							
WRA	**Warramunga Arr**	**43.82**	**275**	P		P	04 54 40.8	-0.4
	1.5nm,0.7s,baz=121,slow=7.9,SNR=15							
JAY	**Jayapura**	**48.72**	**300**	LR		LR	05 14 39.5	
	comp=Z,70nm,19.1s,slow=34							
SIJI	**Sorong**	**56.90**	**293**	LR		LR	05 20 43.3	
	comp=Z,104nm,18.6s,baz=107,slow=36							

FINES FINESS Array B 147.34 338 PKPbc PKPbc 05 06 15.8 -0.9
1.9nm,0.6s,baz=40,slow=2.7,SNR=8.9

IDC ***12*** *04:48:23.3±0.8, 14.°58N×93.°61W, h0km, mb4.0/17, mb1 4.2/20, mb1mx4.1/40, mbtmp4.1/20, ML1.7/1, MS3.3/7, Ms1 3.3/7, ms1mx3.1/23, Error ellipse: s-maj=32.2km s-min=13.7km az=52.0*

MEX ***12*** *04:48:25.8±1.2, 14.°41N×93.°99W, h5km, MD4.4*

NEIC ***12*** *04:48:26.8±1.7, 14.°53N±0.°04×93.°82W±0.°06, h10km±1km, mb4.3/118, Md4.4/21(MEX), Error ellipse: s-maj=11.0km s-min=5.7km az=298.0*

ISC 12 04:48:27.5±3.0, 14.°40N±0.°06×93.°98W±0.°04, h31km±22km, n190, σ1°62/168, mb4.3/62, MS3.6/5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PCIG		**1.49**	**29**	*i* P		**Pn**	**04 48 49.5**	**-2.7**
PCIG				*i* S		**Sn**	**04 49 07.8**	**-2.8**
PCIG		**1.49**	**29**			**Pn**	**04 48 49.5**	**-2.7**
PCIG						**Sn**	**04 49 07.8**	**-2.8**
THIG		**1.73**	**73**	*e*P		**Pn**	**04 48 53.3**	**-2.1**
THIG				*i* S		**Sn**	**04 49 14.3**	**-2.2**
THIG		**1.73**	**73**			**Pn**	**04 48 53.3**	**-2.1**
THIG						**Sn**	**04 49 14.3**	**-2.2**
RTAL	**Retalhuleu**	**2.21**	**87**	Pn		**Pn**	**04 48 59.7**	**-2.4**
TGIG		**2.50**	**19**	*e*P		**Pn**	**04 49 04.9**	**-1.3**
TGIG				*i* S		**Sn**	**04 49 36.7**	**+1.0**
TGIG		**2.50**	**19**			**Pn**	**04 49 04.9**	**-1.3**
TGIG						**Sn**	**04 49 36.7**	**+1.0**
TGBT	**Tuxtla Gutierr**	**2.51**	**20**	*i* P		**Pn**	**04 49 06.7**	**+0.5**
TGBT				*i* S		**Sn**	**04 49 35.5**	**-0.3**
HUEH	**Huehuetenango**	**2.56**	**69**	Pn		**Pn**	**04 49 06.3**	**-0.8**
CCIG	**Comitan**	**2.58**	**43**	*e*P		**Pn**	**04 49 06.8**	**-0.5**
CCIG				*i* S		**Sn**	**04 49 39.9**	**+2.2**
CCIG	**Comitan**	**2.58**	**43**			**Sn**	**04 49 39.9**	**+2.2**
CCIG	**Comitan**	**2.58**	**43**	Pn		**Pn**	**04 49 06.5**	**-0.8**
CMIG	**Matias Romero**	**2.81**	**342**	Pn		**Pn**	**04 49 07.9**	**-2.5**
	13nm,0.3s,baz=155,slow=11,SNR=149							
CMIG						**Sn**	**04 49 39.8**	**-3.5**
	56nm,0.3s,baz=140,slow=8.6,SNR=7.8							
CMIG				LR		LR	04 49 54.9	
	comp=Z,220nm,18.2s,baz=162,slow=33							
CMIG	**Matias Romero**	**2.81**	**342**	*i* P		**Pn**	**04 49 08.3**	**-2.1**
CMIG				*i* S		**Sn**	**04 49 39.7**	**-3.5**
CMIG	**Matias Romero**	**2.81**	**342**			**Pn**	**04 49 08.3**	**-2.1**
PEIG	**Puerto Escondi**	**3.45**	**298**	*i* P		**Pn**	**04 49 17.7**	**-1.4**
PEIG				*i* S		**Sn**	**04 49 57.1**	**-1.9**
VHO	**Vista Hermosa**	**3.75**	**315**	*i* P		**Pn**	**04 49 24.6**	**+1.1**
VHO				*i* S		**Sn**	**04 50 01.4**	**-5.4**
MTO3	**Montecristo**	**4.47**	**89**	Pn		**Pn**	**04 49 32.5**	**-0.9**
ESQI	**Esquipulas**	**4.49**	**87**			**Pn**	**04 49 32.4**	**-1.2**
PETF	**Flores**	**4.68**	**57**			**Pn**	**04 49 34.5**	**-1.6**
MATN	**Matagalpa**	**7.96**	**100**			**Pn**	**04 50 20.7**	**-0.5**
ORTG	**Ortega, Santa**	**9.24**	**115**	Pn		**Pn**	**04 50 39.9**	**+1.1**
JTS	**Las Juntas de**	**9.72**	**114**	Pn		**Pn**	**04 50 41.7**	**-3.5**
	0.0nm,0.3s,baz=204,slow=20,SNR=1.2							
JTS				Lg		Lg	04 53 11.8	
	0.2nm,0.3s,baz=258,slow=10,SNR=3.6							
JTS	**Las Juntas de**	**9.72**	**114**			**Pn**	**04 50 45.6**	**+0.3**
RIMA	**Rio Macho**	**10.91**	**114**			**Pn**	**04 51 01.0**	**-0.8**
SRBA	**San Rafael, Bu**	**11.59**	**115**			**Pn**	**04 51 11.9**	**+0.9**
ZAIG	**Zacatecas**	**11.64**	**317**	Pn		**Pn**	**04 51 15.1**	**+3.2**
SOR	**Soroa**	**13.33**	**50**	Pn		**Pn**	**04 51 34.3**	**-0.3**
833A	**Chaparral WMA,**	**14.74**	**341**	P		**P**	**04 51 58.6**	**-1.0**
	baz=158							
HPIG		**16.57**	**321**	Pn		**Pn**	**04 52 18.3**	**+0.5**
435B	**Jarrell**	**16.64**	**349**	Pn		**Pn**	**04 52 18.0**	**-0.5**
435B				IAmb	IAmb	04 52 31.3		
	comp=Z,22nm,0.7s							
JCT	**Junction City**	**16.88**	**342**	Pn		**Pn**	**04 52 20.4**	**-1.1**
JCT	**Junction City**	**16.88**	**342**	P		**Pn**	**04 52 23.2**	**+1.6**
	baz=160							
NATX	**Nacogdoches**	**17.29**	**358**			**Pn**	**04 52 26.9**	**+0.3**
TXAR	**Lajitas Array**	**17.36**	**330**	LR		LR	04 59 12.9	
	comp=Z,40nm,18.9s,baz=0.0,slow=37							
TX31	**Lajitas Ar. Si**	**17.36**	**330**	Pn		**Pn**	**04 52 27.7**	**+0.1**
TX31				IAmb	IAmb	04 52 40.0		
	comp=Z,31nm,1.1s							
TX32	**Lajitas Array**	**17.36**	**330**	Pn		**Pn**	**04 52 27.7**	**+0.2**
WHTX	**Lake Whitney,**	**17.80**	**350**	P		**Pn**	**04 52 33.6**	**+0.7**
	baz=168							
LPIG	**La Paz**	**18.17**	**305**	P		**P**	**04 52 40.7**	**+3.1**
	baz=90,slow=15,SNR=0.9							
ABTX	**Abilene, Hawle**	**18.86**	**345**	P		**P**	**04 52 45.2**	**0.0**
ABTX				IAmb	IAmb	04 52 54.6		
	comp=Z,22nm,0.8s							
ABTX	**Abilene, Hawle**	**18.86**	**345**	P		**P**	**04 52 45.0**	**-0.2**
	baz=162							
DBBC	**Dabeiba**	**18.93**	**111**	*e*P		**P**	**04 52 46.4**	**+0.3**
UREC	**San Jos de Ur**	**19.26**	**108**	*e*P		**P**	**04 52 50.2**	**+0.5**
Z47A	**Carrollton**	**19.47**	**15**	P		**P**	**04 52 51.4**	**-0.4**
Z47A				IAmb	IAmb	04 53 19.9		
	comp=Z,22nm,1.1s							
CCAR	**Cane Creek**	**19.54**	**5**	P		**P**	**04 52 50.6**	**-1.8**
CCAR				IAmb	IAmb	04 53 12.6		
	comp=Z,25nm,1.1s							
LRAL	**Lakeview Retre**	**19.61**	**18**	P		**P**	**04 52 53.5**	**+0.2**
	baz=200							
LOOK	**Love County**	**19.72**	**352**	P		**P**	**04 52 55.4**	**+0.8**
LOOK				IAmb	IAmb	04 53 13.7		
	comp=Z,33nm,1.2s							
ZARC	**Zaragoza, Cauc**	**19.98**	**108**	*e*P		**P**	**04 52 57.8**	**+0.3**
MIAR	**Mount Ida**	**20.06**	**1**	P		**Pn**	**04 53 00.0**	**-0.1**
MIAR				IAmb	IAmb	04 53 09.4		
	comp=Z,24nm,1.4s							
MIAR	**Mount Ida**	**20.06**	**1**	P		**Pn**	**04 53 01.5**	**+1.4**
	baz=181,SNR=7.7							
MNTX	**Cornudas Mount**	**20.14**	**331**	P		**P**	**04 53 00.1**	**+1.0**
MNTX	**Cornudas Mount**	**20.14**	**331**	P		**P**	**04 53 00.1**	**+1.0**
	baz=146,SNR=5.6							
X37A	**Clayton**	**20.14**	**357**	P		**P**	**04 53 00.5**	**+1.4**
X34A	**Smith Ranch, M**	**20.41**	**351**	P		**P**	**04 53 03.7**	**+1.6**
OXF	**Oxford**	**20.45**	**11**	P		**P**	**04 53 03.3**	**+0.9**
GUY2C	**Guyana, Caldas**	**20.46**	**115**	*e*P		**P**	**04 53 04.5**	**+1.2**
W39A	**Magazine**	**20.71**	**0**	P		**P**	**04 53 05.5**	**+0.2**
W39A				IAmb	IAmb	04 53 09.3		
	comp=Z,16nm,1.2s							
W39A	**Magazine**	**20.71**	**0**	P		Pn	04 53 08.1	+0.4
	baz=180							
PTBC	**PUERTO BERRIO,**	**20.71**	**110**	*e*P		**P**	**04 53 04.5**	**-1.0**
WMOK	**Wichita Mounta**	**20.71**	**349**	P		**P**	**04 53 05.1**	**-0.2**
NORC	**Norcasia**	**20.75**	**113**	*e*P		Pn	04 53 08.3	-0.1
POPC	**Popayan, Colom**	**20.75**	**123**	*e*P		**P**	**04 53 08.3**	**+2.2**
TOLC	**Tolima**	**20.81**	**116**	*e*P		Pn	04 53 12.1	+2.7
OTAV	**Otavalo**	**20.83**	**131**	P		**P**	**04 53 05.9**	**-1.3**
WHAR	**Wooly Hollow**	**20.86**	**4**			**P**	**04 53 06.9**	**+0.1**
WHAR				IAmb	IAmb	04 53 31.0		
	comp=Z,15nm,1.2s							
X48A	**Hartselle**	**20.93**	**16**	P		**P**	**04 53 08.0**	**+0.4**
X48A				IAmb	IAmb	04 53 18.5		
	comp=Z,26nm,1.2s							
FNO	**Franklin**	**21.00**	**352**	P		**P**	**04 53 08.9**	**+0.6**
MSTX	**Muleshoe**	**21.05**	**339**	P		**P**	**04 53 09.2**	**+0.2**
	baz=155,SNR=8.2							
PLAL	**Pickwick Lake**	**21.17**	**14**	P		**P**	**04 53 10.2**	**0.0**
GOGA	**Godfrey**	**21.20**	**25**	P		**P**

121A	Cookes Peak, D	22.01	327	P	P	04 53 22.2	+2.8
	baz=141,SNR=15						
FLOC	Florencia	22.14	123	P	P	04 53 21.4	+0.5
FLOC				IAmb	IAmb	04 53 38.9	
	comp=Z,21nm,1.3s						
RUSC	La Rusia	22.22	110	P	P	04 53 21.3	-0.9
RUSC	La Rusia	22.22	110	eP	P	04 53 22.6	+0.4
PBMO	Poplar Bluff	22.51	7	IAmb	IAmb	04 53 31.3	
	comp=Z,9.6nm,0.9s						
T35A	Sooner Cattle	22.54	355	IAmb	IAmb	04 53 48.7	
	comp=Z,6.3nm,0.7s						
MGMO	Mountain Grove	22.71	4	IAmb	IAmb	04 53 38.0	
	comp=Z,16nm,1.4s						
BNM	Barren Site	22.75	332	P	P	04 53 29.3	+1.8
TKL	Tuckaleechee C	23.07	22	P	P	04 53 27.7	-2.7
	comp=Z,1.7nm,0.9s,baz=229,slow=11,SNR=1.8						
TKL	Tuckaleechee C	23.07	22	IAmb	IAmb	04 53 43.4	
	comp=Z,13nm,1.3s						
S39A	Bolivar	23.20	1	IAmb	IAmb	04 53 31.1	
	comp=Z,11nm,0.7s						
U49A	Red Boiling Sp	23.21	17	IAmb	IAmb	04 53 46.0	
	comp=Z,13nm,1.3s						
T47A	Sharon Grove	23.32	14	IAmb	IAmb	04 53 31.6	
	comp=Z,8.4nm,0.9s						
ANMO	Albuquerque	23.35	333	P	P	04 53 34.3	+0.8
	comp=Z,0.8nm,0.5s,baz=151,slow=10,SNR=2.8						
ANMO	Albuquerque	23.35	333	P	P	04 53 34.5	+1.0
ANMO	Albuquerque	23.35	333	P	P	04 53 34.5	+1.0
	baz=148						
TUC	Tucson	23.52	322	P	P	04 53 36.9	+1.8
TUC				IAmb	IAmb	04 53 38.5	
	comp=Z,8.5nm,1.1s						
TUC	Tucson	23.52	322	P	P	04 53 36.7	+1.6
	baz=135						
CCM	Cathedral Cave	23.69	5	P	P	04 53 34.3	-2.2
	baz=186						
T25A	Trinidad	24.48	340	P	P	04 53 45.2	+1.1
T25A	Trinidad	24.48	340	P	P	04 53 46.2	+2.0
	baz=154,SNR=6.5						
214A	Organ Pipe Nat	24.53	319	P	P	04 53 45.9	+1.5
214A				IAmb	IAmb	04 53 56.1	
	comp=Z,9.3nm,1.0s						
214A	Organ Pipe Nat	24.53	319	P	P	04 53 46.8	+2.3
	baz=131,SNR=5.1						
X18A	Snowflake	24.69	327	IAmb	IAmb	04 53 57.8	
	comp=Z,5.8nm,0.8s						
W18A	Petrified Fore	25.04	328	IAmb	IAmb	04 54 03.2	
	comp=Z,5.3nm,0.9s						
W18A	Petrified Fore	25.04	328	P	P	04 53 52.8	+3.6
	baz=141						
113A	Mohawk Valley,	25.67	319	P	P	04 53 56.3	+1.6
113A				IAmb	IAmb	04 54 07.2	
	comp=Z,8.1nm,1.1s						
S22A	4UR Ranch, Cre	25.90	336	P	P	04 53 57.4	+0.3
	baz=150						
Y14A	Wickenburg	25.99	322	IAmb	IAmb	04 54 10.6	
	comp=Z,5.6nm,1.0s						
MVCO	Mesa Verde	26.14	333	P	P	04 54 00.8	+1.6
	baz=146						
WUAZ	Wupatki	26.20	326	P	P	04 54 00.4	+0.7
WUAZ				IAmb	IAmb	04 54 12.5	
	comp=Z,12nm,1.1s						
WUAZ	Wupatki	26.20	326	P	P	04 54 01.8	+2.1
	baz=139						
GLA	Glamis	26.54	318	P	P	04 54 04.1	+1.5
GLA				IAmb	IAmb	04 54 05.5	
	comp=Z,5.4nm,0.8s						
SMCO	Snowmass	27.21	338	P	P	04 54 11.1	+2.1
ISCO	Idaho Springs	27.29	340	P	P	04 54 10.5	+0.9
ISCO				IAmb	IAmb	04 54 19.6	
	comp=Z,7.0nm,1.1s						
ISCO	Idaho Springs	27.29	340	P	P	04 54 10.4	+0.9
	baz=154,SNR=5.8						
PV04	Paradox Valley	27.31	334	IAmb	IAmb	04 54 23.3	
	comp=Z,9.3nm,0.9s						
BC3	Big Chuckawall	27.32	318	P	P	04 54 12.3	+2.5
	baz=129,SNR=5.8						
OGNE	Ogallala	27.36	347	P	P	04 54 10.5	+0.5
	baz=162						
KNB	Kanab	28.10	327	IAmb	IAmb	04 54 34.7	
	comp=Z,5.8nm,1.2s						
MTPU	Mount Pierson	28.55	329	P	P	04 54 22.7	+1.7
MTPU				IAmb	IAmb	04 54 43.6	
	comp=Z,6.1nm,1.1s						
CCUT	Cedar City	28.78	327	P	P	04 54 24.6	+1.7
CCUT				IAmb	IAmb	04 54 33.1	
	comp=Z,6.9nm,1.3s						
ECSD	EROS Data Cent	29.32	356	IAmb	IAmb	04 54 26.3	
	comp=Z,5.3nm,0.7s						
ECSD	EROS Data Cent	29.32	356	P	P	04 54 25.9	-1.4
	baz=174						
MPMC	Manual Prospec	30.14	320	P	P	04 54 36.8	+1.9
	baz=129						
SPR3	Spring Creek 3	30.37	328	P	P	04 54 38.2	+1.2
TCUT	Toone Canyon	30.64	334	P	P	04 54 41.3	+2.0
GRAC	Grapevine Rang	30.67	321	P	P	04 54 42.2	+2.8
	baz=131,SNR=5.3						
SPMN	Marine on St.	30.74	2	P	P	04 54 40.6	+0.7
VES	Vestal, Richgr	31.02	318	P	P	04 54 45.4	+3.0
	baz=127						
PDAR	Pinedale Array	31.29	338	P	P	04 54 44.9	-0.1
	comp=Z,0.1nm,0.3s,baz=125,slow=11,SNR=2.9						
PDAR				PcP	PcP	04 57 39.1	+0.2
	comp=Z,0.1nm,0.4s,baz=91,slow=5.4,SNR=2.2						
HVU	Hansel Valley	31.78	333	IAmb	IAmb	04 55 03.6	
	comp=Z,3.9nm,1.0s						
MDPB	Devils Postpil	32.12	321	IAmb	IAmb	04 55 03.2	
	comp=Z,4.7nm,0.9s						
ELK	Elko	32.14	329	IAmb	IAmb	04 54 55.6	
	comp=Z,4.5nm,1.1s						
NVAR	Mina Array Bea	32.17	323	P	P	04 54 55.0	+2.2
	comp=Z,4.8nm,0.9s,baz=141,slow=9.1,SNR=32						
NVAR				PcP	PcP	04 57 43.6	+2.3
	comp=Z,0.1nm,0.3s,baz=121,slow=6.4,SNR=4.5						
NVAR	Mina Array Bea	32.17	323	P	P	04 54 55.3	+2.5
LOHW	Long Hollow	32.41	337	IAmb	IAmb	04 55 06.0	
	comp=Z,7.0nm,1.2s						
TPAW	Teton Pass	32.44	337	IAmb	IAmb	04 55 03.7	
	comp=Z,6.2nm,1.1s						
KVN	Kaiserville	32.47	324	IAmb	IAmb	04 55 05.8	
	comp=Z,3.1nm,0.9s						
MOOW	Moose Ponds	32.58	337	P	P	04 54 57.9	+1.6
MOOW				IAmb	IAmb	04 54 58.5	
	comp=Z,7.2nm,1.5s						
FXWY	Fox Creek	32.59	337	IAmb	IAmb	04 55 06.9	
	comp=Z,4.2nm,1.3s						
BMN	Battle Mountai	32.94	326	IAmb	IAmb	04 55 09.8	
	comp=Z,4.4nm,1.0s						
YERR	Yerington	33.09	322	IAmb	IAmb	04 55 11.5	
	comp=Z,4.2nm,0.8s						
RLMT	Red Lodge	33.25	340	P	P	04 55 03.2	+1.0
RLMT	Red Lodge	33.25	340	P	P	04 55 03.1	+1.0
	baz=152						
MDND	Maddock	33.68	353	P	P	04 55 05.0	-0.6
	baz=170						
QLMT	Earthquake Lak	33.76	337	P	P	04 55 09.2	+2.6
AGMN	Agassiz Nation	33.84	358	IAmb	IAmb	04 55 06.3	
	comp=Z,7.0nm,1.1s						
AGMN	Agassiz Nation	33.84	358	P	P	04 55 04.8	-2.2
	baz=176						
HLID	Hailey	33.93	333	P	P	04 55 09.7	+1.6
	baz=142						
BOZ	Bozeman (W)	34.49	338	P	P	04 55 14.9	+2.0
BOZ				IAmb	IAmb	04 55 23.4	
	comp=Z,8.4nm,1.5s						
BOZ	Bozeman (W)	34.49	338	P	P	04 55 14.7	+1.9
	baz=148						
DLMT	Dillon	34.65	337	IAmb	IAmb	04 55 24.2	
	comp=Z,7.8nm,1.1s						
WVOR	Wild Horse Val	35.11	328	IAmb	IAmb	04 55 20.8	
	comp=Z,8.7nm,1.2s						
J08A	Circle Bar Ran	35.69	329	IAmb	IAmb	04 55 25.8	
	comp=Z,8.4nm,1.1s						
ULM	Lac du Bonnet	35.79	358	P	P	04 55 20.6	-3.1
	comp=Z,1.7nm,0.7s,baz=171,slow=7.4,SNR=2.5						
EGMT	Eagleton	35.99	342	IAmb	IAmb	04 55 35.1	
	comp=Z,6.3nm,0.9s						
EGMT	Eagleton	35.99	342	P	P	04 55 26.6	+0.9
	baz=153						
PTGA	Pitinga	36.87	111	P	P	04 55 33.7	+0.3
PTGA				IAmb	IAmb	04 55 35.7	
	comp=Z,3.8nm,0.8s						
F10A	Beach Ranch, E	37.06	333	IAmb	IAmb	04 55 36.5	
	comp=Z,7.2nm,1.1s						
C09A	Chrisman Ranch	38.93	334	P	P	04 55 51.5	+1.1
LPAZ	La Paz	39.77	139	P	P	04 55 56.5	-2.0
	comp=Z,0.8nm,0.7s,baz=330,slow=11,SNR=4.2						

EDM	Edmonton	41.66	343	P	P	04 56 13.5	+0.5
EDM				IAmb	IAmb	04 56 21.8	
	comp=Z,9.0nm,1.1s						
SCHQ	Schefferville	45.54	22	LR	LR	05 16 34.4	
	comp=Z,82nm,18.7s,baz=187,slow=37						
YKA	Yellowknife Ar	50.21	348	P	P	04 57 19.5	-0.7
	comp=Z,6.0nm,0.9s,baz=215,slow=5.0,SNR=6.9						
YKA				LR	LR	05 20 20.9	
	comp=Z,27nm,20.1s,baz=0.0,slow=38						
BDFB	Brasilia	54.36	122	P	P	04 57 50.7	-1.1
	comp=Z,3.1nm,0.8s,baz=343,slow=7.9,SNR=4.3						
BDFB	Brasilia	54.36	122	P	P	04 57 52.6	+0.8
PLCA	Paso Flores	59.00	159	P	P	04 58 24.9	+0.6
	comp=Z,1.5nm,0.9s,baz=265,slow=11,SNR=1.9						
J26L	Joseph Creek	60.35	338	P	P	04 58 34.9	+1.6
	baz=122						
ILAR	Eielson Array	61.72	337	P	P	04 58 42.5	-0.1
	comp=Z,3.1nm,1.0s,baz=134,slow=4.6,SNR=16						
TRF	Thorofare Moun	62.47	335	P	P	04 58 48.5	+0.7
	baz=114						
H24K	Noodor Dome	62.60	338	P	P	04 58 48.7	+0.2
	baz=118						
I23K	Minto, Yukon-K	62.83	337	P	P	04 58 50.9	+1.0
	baz=116						
BPAW	Bear Paw Mtn.	63.02	336	P	P	04 58 51.3	0.0
	baz=114						
MLY	Manley	63.31	337	P	P	04 58 54.0	+0.8
	baz=115,SNR=5.8						
ESDC	Sonseca Array	80.97	51	P	P	05 00 38.3	-1.1
	comp=Z,0.9nm,1.1s,baz=311,slow=11,SNR=3.1						
NB2	NORSAR Subarra	84.70	28	P	P	05 00 59.3	+1.0
	comp=Z,1.2nm,0.8s,baz=291,slow=5.1						
NOA	NORSAR Array B	84.70	28	P	P	05 00 57.1	-1.2
	comp=Z,2.3nm,0.9s,baz=296,slow=5.2,SNR=6.7						
NOA				LR	LR	05 37 31.6	
	comp=Z,16nm,21.0s,baz=20,slow=35						
ARCES	ARCESS Array B	86.35	18	P	P	05 01 05.7	-0.6
	comp=Z,1.9nm,0.9s,baz=302,slow=5.2,SNR=5.9						
ARCES				LR	LR	05 39 25.3	
	comp=Z,27nm,20.8s,baz=340,slow=36						
CLL	Collm	89.16	37	eP	P	05 01 21.0	+0.9
GERES	GERESS Array B	90.51	39	P	P	05 01 26.4	-0.2
	comp=Z,0.4nm,0.6s,baz=279,slow=3.5,SNR=4.2						
GERES				LR	LR	05 38 31.9	
	comp=Z,23nm,20.4s,baz=306,slow=33						
FINES	FINESS Array B	90.94	25	P	P	05 01 28.8	+0.6
	comp=Z,4.4nm,1.0s,baz=282,slow=3.7,SNR=2.8						
TORD	Torodi Ar. Bea	92.14	76	P	P	05 01 33.2	-1.5
	comp=Z,0.5nm,1.0s,baz=230,slow=3.6,SNR=2.1						
WRA	Warramunga Arr	133.63	256	PKP	PKPdf	05 07 42.2	+0.3
	comp=Z,0.4nm,0.7s,baz=70,slow=2.7,SNR=1.6						
CM31	Chiang Mai Arr	144.96	338	PKPdf	PKPab	05 08 02.7	+1.0
CMAR	Chiang Mai Arr	144.96	338	PKP	PKPab	05 08 02.2	+0.5
	comp=Z,1.8nm,0.7s,baz=342,slow=4.2,SNR=12						

IDC ***12*** *04:58:16.7±2.1,21.˚40S×148.˚10E,h0km,mb3.5/2, mb1 3.6/5,mb1mx3.5/32,mbtmp3.4/5,ML3.2/3,MS3.2/1, Ms1 3.2/1,ms1mx2.5/22,Error ellipse: s-maj=39.8km s-min=17.3km az=40.0*

ISC 12 04:58:19.4±1.9,21.˚5S±0.˚2×147.˚9E±0.˚2,h10km,n8, σ0s87/6,Queensland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	2.12	312	Pn	Pn	04 58 54.9	-0.1
	17nm,0.3s,baz=122,slow=17,SNR=119						
CTA				Lg	Lg	04 59 26.1	
	30nm,0.3s,baz=41,slow=19,SNR=13						
STKA	Stephens Creek	11.75	207	Lg	Lg	05 04 37.1	
	0.1nm,0.3s,baz=3.5,slow=19,SNR=1.2						
WRA	Warramunga Arr	12.80	275	Pn	Pn	05 01 22.0	+0.3
	0.1nm,0.3s,baz=94,slow=12,SNR=1.4						
WRA				Lg	Lg	05 05 06.2	
	0.1nm,0.3s,baz=99,slow=25,SNR=1.7						
WRA				LR	LR	05 06 49.1	
	comp=Z,97nm,19.9s,baz=225,slow=40						
ASAR	Alice Springs	13.12	258	Pn	Pn	05 01 25.3	-0.6
	0.1nm,0.3s,baz=81,slow=13,SNR=1.9						
ASAR				Lg	Lg	05 05 19.1	
	0.0nm,0.3s,baz=85,slow=25,SNR=2.0						
I05AU	HOBART INFRASO	20.90	180	*i*		07 07 30.0	
	baz=358,slow=328,SNR=1.2						
FITZ	Fitzroy Crossi	21.23	275	P	P	05 03 06.4	+0.7
	1.2nm,0.8s,baz=95,slow=12,SNR=1.7						
VNDA	Vanda	56.45	176	P	P	05 08 01.4	+0.5
	0.3nm,0.3s,baz=358,slow=5.2,SNR=3.3						
TORD	Torodi Ar. Bea	146.76	261	PKPbc	PKPdf	05 17 59.9	-1.0
	0.8nm,1.1s,baz=119,slow=3.7,SNR=2.0						

IDC 12 04:59:46.6±2.2,16.˚49S×178.˚51W,h649km±26km, mb2.7/3,mb1 3.1/4,mb1mx2.7/36,mbtmp3.8/4,Error ellipse: s-maj=249.4km s-min=28.9km az=160.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	3.51	249	P	P	05 01 12.7	-0.1
	6.0nm,0.3s,baz=140,slow=5.5,SNR=24						
WRA	Warramunga Arr	44.81	258	P	P	05 07 06.2	+0.4
	0.9nm,0.4s,baz=92,slow=7.4,SNR=24						
ASAR	Alice Springs	45.10	253	P	P	05 07 07.5	-0.5
	0.9nm,0.5s,baz=87,slow=8.3,SNR=9.3						
TXAR	Lajitas Array	85.32	58	P	P	05 11 17.6	0.0
	0.2nm,0.7s,baz=226,slow=5.6,SNR=3.8						

CNRM ***12*** *05:10:19.6,33.˚60N×3.˚99W,h5km,ml2.5*
SFS ***12*** *05:10:19.0,33.˚59N×4.˚21W,ML3.5,TAHALA (MARRUECOS)*
INMG ***12*** *05:10:19.8±0.9,33.˚61N×4.˚27W,h0km±11km,ML1.9,Error ellipse: s-maj=6.6km s-min=4.4km az=143.0*
MDD ***12*** *05:10:20.4±2.5,33.˚42N×4.˚13W,h104km±42km,mb2.3/4, Error ellipse: s-maj=31.2km s-min=19.3km az=20.0, PRXIMO*

ISC 12 05:10:22.4±1.2,33.˚61N±0.˚03×4.˚06W±0.˚03,h46km±23km, n44,σ2s27/78,Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCRM	LCR	0.67	277	P	Pn	05 10 33.6	-2.2
LCRM				S	Sn	05 10 47.7	+2.2
IFR	Ifrane	0.90	264	P	Pn	05 10 36.4	-2.5
IFR				S	Sn	05 10 50.4	-0.5
MDT	Midelt	0.92	210	P	Pn	05 10 36.1	-2.9
MDT				S	Sn	05 10 51.6	+0.3
MD31	MD31	0.95	219	P	Pn	05 10 35.8	-3.6
MD31				S	Sn	05 10 52.5	+0.6
CZD	Col de Zad	1.01	235	P	Pn	05 10 38.7	-1.7
CZD				S	Sn	05 10 56.1	+2.4
JBK	JBK	1.43	59	P	Pn	05 10 43.9	-2.3
JBK				S	Sn	05 11 02.5	-1.4
PVLZ	Peæn de	1.57	353	P	Pn	05 10 49.5	+1.7
PVLZ				S	Sn	05 11 11.3	+4.3
PVLZ	Peæn de	1.57	353	P	Pn	05 10 49.5	+1.7
PVLZ				S	Sn	05 11 11.3	+4.3
PALE	Palemas	1.60	3	P	Pn	05 10 49.3	+1.0
PALE				S	Sn	05 11 09.2	+1.4
TDRA	Tendrara	1.79	108	P	Pn	05 10 49.0	-2.0
TDRA				S	Sn	05 11 12.8	+0.1
TAF	Taforalt	1.81	48	P	Pn	05 10 49.6	-1.6
TAF				S	Sn	05 11 15.3	+2.3
GOG	Mont Gurugu	1.83	28	P	Pn	05 10 52.8	+1.4
GOG				S	Sn	05 11 17.3	+3.8
CHEFC	Chefchaouen	1.83	325	P	Pn	05 10 55.4	+3.9
CHEFC				S	Sn	05 11 19.8	+6.3
RSA	Sarsar	1.94	311	P	Pn	05 10 54.5	+1.6
RSA				S	Sn	05 11 21.8	+5.7
FIGM	Figuig	2.77	121	P	Pn	05 11 03.4	-1.0
FIGM				S	Sn	05 11 37.8	+1.0
EMIJ	Mijas	3.00	349	P	Pn	05 11 05.6	-1.9
	0.2nm,0.1s,SNR=7.9						
EMIJ				S	Sn	05 11 41.3	-1.0
	4.3nm,1.0s,SNR=7.9						
TZRR	Tazzarine	3.10	205	P	Pn	05 11 09.9	+1.0
TZRR				S	Sn	05 11 51.0	+6.3
OUK	Oukaimeden	4.02	234	P	Pn	05 11 22.4	+0.7
OUK				S	Sn	05 12 11.9	+4.2
EQES	Quesada	4.26	11	P	Pn	05 11 25.6	+0.8
	0.5nm,0.2s,SNR=7.9						
EADA	Adamuz	4.57	355	P	Pn	05 11 28.5	-0.4
	0.2nm,0.2s,SNR=7.9						
EADA				S	Sn	05 12 20.7	-0.1
	3.9nm,1.0s,SNR=7.9						
ECAB	El Cabril	4.59	346	P	Pn	05 11 30.0	+0.7
	0.1nm,0.1s,SNR=7.9						
ECAB				S	Sn	05 12 20.3	-1.0
	1.5nm,0.6s,SNR=7.9						
EMIN	Mina Concepcio	4.66	334	P	Pn	05 11 30.4	+0.2
	0.5nm,0.1s,SNR=10						
EMIN				S	Sn	05 12 21.2	-1.9
	4.4nm,0.8s,SNR=7.9						
SESP	Santiago Espad	4.66	15	P	Pn	05 11 31.0	+0.6
	0.9nm,0.4s,SNR=7.9						
EGRO	El Granado	4.81	325	P	Pn	05 11 30.5	-1.7
	1.1nm,0.3s,SNR=7.9						
EGRO				S	Sn	05 12 24.0	-2.7
	5.1nm,0.8s,SNR=7.9						
PBDV	Barranco-do-Ve	4.81	320	P	Pn	05 11 32.0	-0.3
PBDV				S	Sn	05 12 24.0	-2.8
PBDV	Barranco-do-Ve	4.81	320	eP	Pn	05 11 32.0	-0.3
PBDV				eS	Sn	05 12 24.0	-2.8
TTIG	Tnine Tigouga,	4.81	232	P	Pn	05 11 34.6	+2.1
TTIG				S	Sn	05 12 27.3	+0.2
PVAQ	Vaqueiros	4.82	323	P	Pn	05 11 30.9	-1.5
PVAQ				S	Sn	05 12 23.6	-3.3
	2.3nm,0.8s						
PVAQ	Vaqueiros	4.82	323	eP	Pn	05 11 30.9	-1.5
PVAQ				eS	Sn	05 12 23.6	-3.3
PVAQ				A	A	05 12 31.7	
	2.3nm,0.8s						
PVAQ	Vaqueiros	4.82	323	P	Pn	05 11 32.4	0.0
PVAQ				S	Sn	05 12 26.3	-0.6
PBAR	Barrancos	5.16	333	P	Pn	05 11 36.2	-0.8
PBAR				S	Sn	05 12 33.5	-1.7
	1.0nm,0.9s						
PBAR	Barrancos	5.16	333	eP	Pn	05 11 36.2	-0.8
PBAR				eS	Sn	05 12 33.5	-1.7
PBAR				A	A	05 12 42.9	
	1.0nm,0.9s						
PCVE	Castro Verde	5.16	322	P	Pn	05 11 36.0	-1.1
PCVE				S	Sn	05 12 33.1	-2.2
PCVE	Castro Verde	5.16	322	eP	Pn	05 11 36.0	-1.1
PCVE				eS	Sn	05 12 33.1	-2.2
MESJ	Messejana	5.41	322	P	Pn	05 11 39.5	-1.0
MESJ	Messejana	5.41	322	eP	Pn	05 11 39.5	-1.0
PNCL	Nicolau / Gran	5.78	322	P	Pn	05 11 45.2	-0.3
PNCL				S	Sn	05 12 47.9	-2.5
PNCL	Nicolau / Gran	5.78	322	eP	Pn	05 11 45.2	-0.3
PNCL				eS	Sn	05 12 47.9	-2.5
PESTR	Estremoz	5.97	332	eP	Pn	05 11 47.5	-0.7
PESTR				eS	Sn	05 12 51.9	-3.4
PMRV	Marv??o	6.40	336	P	Pn	05 11 53.9	-0.1
PMRV	Marv??o	6.40	336	eP	Pn	05 11 53.9	-0.1
PMTG	Montargil	6.40	329	P	Pn	05 11 53.1	-1.0
PMTG	Montargil	6.40	329	eP	Pn	05 11 53.1	-1.0
PSBE	So Bento	7.02	328	eP	Pn	05 12 01.9	-0.7

SLM ***12*** *05:18:45.8±1.3,35.˚34N±0.˚02×92.˚49W±0.˚04,h6km±7km, Md2.5/7,mb_Lg2.6/30(NEIC),Error ellipse: s-maj=4.2km s-min=2.4km az=85.0*

NEIC 12 05:18:45.4±0.9,35.˚34N±0.˚02×92.˚50W±0.˚03,h3km±7km, Error ellipse: s-maj=3.7km s-min=2.3km az=81.0, Arkansas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WHAR	Wooly Hollow	0.18	105		Pg	05 18 49.0	+0.1
WHAR					Sg	05 18 51.7	+0.5
FCAR	Ozark Folk Cen	0.63	29		Pg	05 18 57.4	-0.1
X40A	Basin Creek Fa	0.89	198		Pg	05 19 02.5	-0.1
U40A	Yellville	1.06	344		Pg	05 19 05.2	-0.5
W39A	Magazine	1.06	263		Pb	05 19 06.1	-0.3
MIAR	Mount Ida	1.19	229		Pg	05 19 07.4	-0.8
LCAR	Lake Charles	1.32	56		Pg	05 19 09.3	-1.3
HHAR	Hobbs	1.50	309		Pn	05 19 13.0	-0.3
HBAR	Harrisburg	1.52	81	Pn	Pn	05 19 13.6	+0.1
CCAR	Cane Creek	1.54	157		Pb	05 19 14.3	-0.3
MGMO	Mountain Grove	1.82	6		Pn	05 19 17.5	-0.2
MGMO				IAmb_Lg		05 19 47.0	
	comp=Z,22nm,0.8s						
U38A	Gravette	1.89	306		Pn	05 19 18.5	-0.1
PBMO	Poplar Bluff	2.21	49		Pn	05 19 23.0	0.0
X37A	Clayton	2.47	253		Pn	05 19 28.5	+1.8
X37A				IAmb_Lg		05 20 06.7	
	comp=Z,18nm,0.9s						
HALT	Halls	2.64	77		Pn	05 19 27.7	-1.2
W45A	Hickory Valley	2.72	93	IAmb_Lg		05 20 18.5	
	comp=Z,22nm,0.7s						
143A	Socs Landing,	2.78	161	IAmb_Lg		05 20 18.4	
	comp=Z,15nm,1.1s						
CCM	Cathedral Cave	2.89	20	IAmb_Lg		05 20 19.1	
	comp=Z,18nm,0.8s						
OK031	S. Brethren Rd	3.59	281	IAmb_Lg		05 20 40.7	
	comp=Z,9.7nm,1.2s						
T35A	Sooner Cattle	3.61	297	IAmb_Lg		05 20 41.3	
	comp=Z,15nm,1.2s						
PLAL	Pickwick Lake	3.64	94	IAmb_Lg		05 20 45.0	
	comp=Z,9.6nm,0.7s						
PWLA	Pickwick Lake	3.65	94		Pn	05 19 43.0	+0.1
P40A	Paris	4.20	5	IAmb_Lg		05 20 57.2	
	comp=Z,10.0nm,0.7s						
KAN17	Caldwell West	4.59	293	IAmb_Lg		05 21 10.2	
	comp=Z,8.2nm,0.8s						
KSU1	Kansas State U	4.99	320	IAmb_Lg		05 21 31.8	
	comp=Z,12nm,1.0s						
U32A	Winter Ranch,	5.38	283	IAmb_Lg		05 21 39.8	
	comp=Z,12nm,0.9s						
N38A	Joes South For	5.48	354	IAmb_Lg		05 21 42.2	
	comp=Z,14nm,0.8s						
V53A	Saluda	7.91	85	IAmb_Lg		05 23 02.5	
	comp=Z,4.1nm,0.9s						
K31A	O'Neill	8.75	328	IAmb_Lg		05 23 41.6	
	comp=Z,6.9nm,0.9s						

**IDC 12 06:05:18.3±2.4,5.˚44S×147.˚50E,h0km

Ms1 2.9/6,ms1mx2.6/39,Error ellipse: s-maj=35.6km s-min=17.2km az=11.0

ISC 12 06:16:47.4±0.8, 53°1'N×0°2'×35°3'W±0°1, h10km, n18, σ1§00/14, mb3.6/11, MS2.8/5, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**18.54**	**288**	P	**P**	**06 21 02.3**	**-1.7**
	0.2nm,0.3s,baz=77,slow=16,SNR=2.3						
SCHQ				LR	LR	06 27 38.9	
	comp=Z,27nm,19.4s,baz=48,slow=35						
FRB	**Frobisher Bay**	**20.15**	**315**	LR	LR	06 26 58.4	
	comp=Z,39nm,18.1s,baz=335,slow=30						
ESDC	**Sonseca Array**	**25.22**	**109**	P	**P**	**06 22 13.1**	**-0.1**
	0.9nm,0.7s,baz=312,slow=11,SNR=5.7						
NOA	**NORSAR Array B**	**26.02**	**54**	LR	LR	06 30 28.9	
	comp=Z,17nm,19.1s,baz=275,slow=32						
HFS	**Hagfors**	**27.33**	**55**	LR	LR	06 31 27.8	
	comp=Z,41nm,18.1s,baz=316,slow=32						
GERES	**GERESS Array B**	**30.68**	**78**	P	**P**	**06 23 02.7**	**+0.6**
	0.3nm,0.6s,baz=305,slow=12,SNR=1.8						
GERES				LR	LR	06 33 43.6	
	comp=Z,16nm,19.3s,baz=315,slow=33						
FINES	**FINESS Array B**	**33.06**	**51**	LR	LR	06 34 52.3	
	comp=Z,39nm,19.0s,baz=326,slow=33						
BRTR	**Keskin Array B**	**47.58**	**77**	P	**P**	**06 25 22.8**	**-0.4**
	1.7nm,0.8s,baz=335,slow=8.5,SNR=4.1						
PDAR	**Pinedale Array**	**48.67**	**289**	P	**P**	**06 25 30.9**	**-0.8**
	0.4nm,0.6s,baz=58,slow=8.6,SNR=5.0						
TORD	**Torodi Ar. Bea**	**49.50**	**130**	P	**P**	**06 25 38.0**	**0.0**
	0.5nm,0.7s,baz=334,slow=8.0,SNR=3.0						
ILAR	**Eielson Array**	**51.27**	**329**	P	**P**	**06 25 52.2**	**+1.3**
	0.2nm,0.5s,baz=46,slow=5.2,SNR=3.6						
TXAR	**Lajitas Array**	**54.32**	**273**	P	**P**	**06 26 15.8**	**+1.8**
	0.3nm,0.8s,baz=46,slow=5.4,SNR=3.1						
NVAR	**Mina Array Bea**	**56.52**	**291**	P	**P**	**06 26 29.2**	**-0.7**
	0.2nm,0.5s,baz=31,slow=3.7,SNR=1.5						
ZALV	**Zalesovo Beam**	**62.35**	**35**	P	**P**	**06 27 09.3**	**-0.3**
	1.1nm,0.6s,baz=332,slow=4.9,SNR=4.2						
MKAR	**Makanchi Array**	**67.22**	**41**	P	**P**	**06 27 40.7**	**-0.8**
	3.7nm,1.3s,baz=312,slow=5.7,SNR=3.8						
SONM	**Songino Array**	**74.33**	**26**	P	**P**	**06 28 25.3**	**+0.4**
	0.4nm,0.4s,baz=337,slow=6.3,SNR=2.6						
WRA	**Warramunga Arr**	**145.97**	**18**	PKPbc	**PKPbc**	**06 36 26.4**	**-0.8**
	0.9nm,1.0s,baz=327,slow=1.4,SNR=6.3						
ASAR	**Alice Springs**	**149.52**	**20**	PKPbc	**PKPbc**	**06 36 36.4**	**-0.4**
	0.5nm,0.7s,baz=359,slow=2.3,SNR=6.8						

MEX 12 06:33:43.0±0.8, 15°22N×92°67W, h116km±7km, MD3.7, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.71**	**312**	*e*P	Pn	06 34 00.8	-1.2
PCIG				*i* S	Sn	06 34 14.8	-1.6
CCIG	**Comitan**	**1.17**	**26**	*i* P	Pn	06 34 07.1	+0.4
CCIG				*i* S	Sn	06 34 25.5	+0.9
TGIG		**1.61**	**344**	*i* P	Pn	06 34 10.4	-1.1
TGIG				*i* S	Sn	06 34 31.4	-1.9
CMIG	**Matias Romero**	**2.82**	**311**	*e*P	Pn	06 34 26.5	-0.4

MAN 12 06:56:14.2, 16°23N×119°83E, h48km, mb4.2, ML3.0, MS2.6, Luzon

*IDC **12** 07:05:33.5±7.7, 31°74S×179°63E, h423km±87km, mb2.6/1, mb1 3.2/2, mb1mx2.8/39, mbtmp3.9/2, Error ellipse: s-maj=96.9km s-min=46.0km az=15.0*

*WEL **12** 07:05:42.7±0.8, 32°S×6°×18°0E±1°3, h33km, M4.7/9, mB4.7/2, ML4.9/12, MLv4.7/9, Mw(mB)3.9/2, Error ellipse: s-maj=0.0km s-min=0.0km az=107.4*

ISC 12 07:05:36.3±1.7, 32°0S±0°1×179°8E±0°2, h450km, n20, σ2§47/29, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.37**	**37**	P	P	07 06 33.4	-13
WMGZ	**Waiomatatini S**	**5.92**	**191**	P	**P**	**07 07 11.1**	**+1.5**
WMGZ				S	**S**	**07 08 26.9**	**+1.0**
HAZ	**Te Kaha**	**5.97**	**195**	P	**P**	**07 07 12.6**	**+2.4**
HAZ				S	**S**	**07 08 25.0**	**-2.0**
WCZ	**Waipu Caves**	**5.99**	**227**	P	**P**	**07 07 14.0**	**+3.6**
OUZ	**Omahuta**	**6.08**	**236**	P	**P**	**07 07 14.7**	**+3.4**
PUZ	**Puketiti**	**6.19**	**191**	P	**P**	**07 07 15.4**	**+3.0**
PUZ				S	**S**	**07 08 30.3**	**-0.8**
RUGZ	**Raukumara Rang**	**6.20**	**196**	P	**P**	**07 07 15.4**	**+2.7**
RUGZ				S	**S**	**07 08 26.6**	**-4.9**
TWGZ	**Tauwhareparae**	**6.34**	**193**	P	**P**	**07 07 16.5**	**+2.5**
TWGZ				P	**S**	**07 08 34.7**	**+0.7**
CNGZ	**Carnagh Statio**	**6.60**	**191**	P	**P**	**07 07 20.2**	**+3.6**
TKGZ	**Te Karaka**	**6.62**	**193**	P	**P**	**07 07 20.1**	**+3.2**
TKGZ				S	**S**	**07 08 37.1**	**-2.1**
URZ	**Urewera**	**6.62**	**199**	P	**P**	**07 07 17.5**	**+0.6**
	6.1nm,0.3s,baz=282,slow=4.0,SNR=39						
URZ				S	**S**	**07 08 36.3**	**-2.9**
	2.2nm,0.3s,baz=113,slow=16,SNR=2.2						
URZ	**Urewera**	**6.62**	**199**	P	**P**	**07 07 18.5**	**+1.6**
URZ				S	**S**	**07 08 38.8**	**-0.4**
RAGZ	**Rawiri**	**6.76**	**196**	P	**P**	**07 07 20.7**	**+2.2**
RAGZ				S	**S**	**07 08 40.6**	**-1.7**
RIGZ	**Rimuhau**	**6.89**	**193**	P	**P**	**07 07 22.9**	**+3.1**
RTZ	**Ruatahuna**	**6.99**	**198**	P	**P**	**07 07 22.4**	**+1.6**
SNGZ	**Shannon Statio**	**7.06**	**196**	P	**P**	**07 07 24.4**	**+2.9**
BKZ	**Black Stump Fm**	**7.64**	**200**	P	**P**	**07 07 28.8**	**+1.1**
BKZ				P	**S**	**07 08 59.0**	**-0.1**
WRA	**Warramunga Arr**	**42.30**	**275**	P	**P**	**07 12 47.3**	**-2.0**
	0.5nm,0.8s,baz=109,slow=7.9,SNR=7.7						
MKAR	**Makanchi Array**	**117.34**	**310**	PKP	**PKPdf**	**07 23 28.2**	**-1.2**
	0.1nm,0.4s,baz=107,slow=2.9,SNR=1.6						
FINES	**FINESS Array B**	**145.94**	**338**	PKPbc	**PKPdf**	**07 24 22.2**	**0.0**
	1.6nm,0.7s,baz=58,slow=3.4,SNR=8.4						

*SKO **12** 07:08:20.0, 41°91N×23°16E, h23km*
*SOF **12** 07:08:19.7, 41°90N×23°26E, h13km, MD2.8*
*ATH **12** 07:08:21.5, 41°84N×23°25E, h6km±3km, ML2.4/5, Error ellipse: s-maj=3.5km s-min=1.7km az=167.0*
*BEO **12** 07:08:21.5±0.3, 41°90N×23°24E, h0km, ML2.2/9*
*THE **12** 07:08:22.2, 41°78N×23°26E, h6km±1km, ML2.2/3, Error ellipse: s-maj=2.3km s-min=0.9km az=172.0*

ISC 12 07:08:19.9±0.9, 41°87N±0°02×23°13E±0°02, h9km±6km, n60, σ1§19/87, 10C-6D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKB	**Krupnik**	**0.03**	**273**	P	**Pg**	**07 08 23.0**	**+1.3**
MMB	**Musomiste**	**0.53**	**121**	P	**Pg**	**07 08 30.1**	**0.0**
VAY	**Valandovo**	**0.69**	**218**	*e*Pg	**Pn**	**07 08 35.3**	**-0.4**
VAY				*e*Sg	**Sn**	**07 08 46.1**	**-0.4**
VAY	**Valandovo**	**0.69**	**218**	*i* Pg	**Pn**	**07 08 35.3**	**-0.4**
VAY				*i* Sg	**Sn**	**07 08 46.0**	**-0.4**
VAY				*e*Lg	Lg	07 08 46.1	
	comp=E,77nm,0.2s						
KNT	**Kendrikon**	**0.72**	**194**	P	**Pb**	**07 08 34.6**	**0.0**
KNT	**Kendrikon**	**0.72**	**194**	P	**Pb**	**07 08 34.9**	**+0.2**
KNT				S	**Sb**	**07 08 45.0**	**+0.4**
KNT				AML	AML	07 08 46.0	
	comp=E,415μm,0.1s						
KNT				AML	AML	07 08 46.2	
	comp=N,556μm,0.1s						
KNT	**Kendrikon**	**0.72**	**194**	*i* Pg	**Pb**	**07 08 35.6**	**+1.0**
KNT				*i* Sg	**Sb**	**07 08 44.8**	**+0.2**
STIP	**Stip**	**0.72**	**257**	*i* Pg	**Pg**	**07 08 31.6**	**-2.2**
STIP				*i* Sg	**Sg**	**07 08 40.0**	**-3.3**
STIP				*e*Lg	Lg	07 08 40.3	
	comp=N,76nm,0.2s						
NVR	**Nevrokopi**	**0.76**	**133**	P	**Pg**	**07 08 33.9**	**-0.5**
NVR				S	**Sg**	**07 08 43.0**	**-1.3**
	comp=N,168nm,0.2s						
NVR	**Nevrokopi**	**0.76**	**133**	P	**Pg**	**07 08 33.9**	**-0.5**
NVR				S	**Sg**	**07 08 43.3**	**-0.9**
NVR				AML	AML	07 08 44.1	
	comp=E,284μm,0.1s						
NVR				AML	AML	07 08 44.1	
	comp=N,340μm,0.2s						
VTS	**Vitosha**	**0.76**	**6**	⇑P	**Pg**	**07 08 33.8**	**-0.7**
VTS				⇑S	**Sg**	**07 08 42.7**	**-1.7**
VTS	**Vitosha**	**0.76**	**6**	*e*Pg	**Pg**	**07 08 33.9**	**-0.6**
VTS				*e*Sg	**Sg**	**07 08 43.2**	**-1.2**
VTS	**Vitosha**	**0.76**	**6**	P	**Pg**	**07 08 33.9**	**-0.6**
VTS	**Vitosha**	**0.76**	**6**	*i* Pg	**Pg**	**07 08 33.8**	**-0.7**
VTS				*i* Sg	**Sg**	**07 08 43.2**	**-1.2**
BOSS	**Bosilegrad**	**0.79**	**323**	*e*Pg	**Pg**	**07 08 35.6**	**+0.4**
BOSS				*e*Sg	**Sb**	**07 08 47.4**	**+0.7**
SOH	**Sokhos**	**1.06**	**171**	P	**Pb**	**07 08 40.5**	**+0.2**
SOH	**Sokhos**	**1.06**	**171**	P	**Pb**	**07 08 40.6**	**+0.2**
SOH				S	**Sb**	**07 08 55.0**	**+0.7**
SOH				AML	AML	07 08 58.0	
	comp=N,1214μm,0.4s						
SOH				AML	AML	07 08 59.6	
	comp=E,569μm,0.3s						
SOH	**Sokhos**	**1.06**	**171**	*i* Pg	**Pb**	**07 08 40.5**	**+0.2**
SOH				*i* Sg	**Sb**	**07 08 55.4**	**+1.1**
GRG	**Griva**	**1.06**	**211**	P	**Sn**	**07 08 41.8**	**+0.9**
GRG				S	**Sn**	**07 08 56.7**	**+1.0**
	comp=E,222nm,0.2s						
GRG	**Griva**	**1.06**	**211**	*i* Pg	**Pn**	**07 08 41.6**	**+0.7**
GRG				*i* Sg	**Sn**	**07 08 56.7**	**+1.0**
PLD	**Plovdiv**	**1.20**	**78**	*e*Pg	**Pg**	**07 08 42.2**	**-0.7**
PLD				*e*Sg	**Sg**	**07 08 56.8**	**-1.7**
PLD	**Plovdiv**	**1.20**	**78**	*i* Pg	**Pg**	**07 08 42.7**	**-0.2**
PLD				*i* Sg	**Sg**	**07 08 58.0**	**-0.5**
RZN	**Rozhen**	**1.20**	**98**	P	**Pg**	**07 08 41.3**	**-1.7**
THE	**Thessaloniki**	**1.24**	**186**	P	**Pn**	**07 08 44.5**	**+1.2**
THE	**Thessaloniki**	**1.24**	**186**	*i* Pg	**Pn**	**07 08 44.5**	**+1.2**
THE				*i* Sg	**Sn**	**07 09 01.2**	**+1.2**
HORT	**Hortiatis**	**1.27**	**181**	P	**Pn**	**07 08 44.9**	**+1.1**
HORT				S	**Sn**	**07 09 01.9**	**+1.0**
	comp=E,102nm,0.2s						
HORT	**Hortiatis**	**1.27**	**181**	P	**Pn**	**07 08 44.9**	**+1.1**
HORT				S	**Sn**	**07 09 01.6**	**+0.7**
HORT				AML	AML	07 09 05.1	
	comp=E,248μm,0.3s						
HORT				AML	AML	07 09 05.2	
	comp=N,190μm,0.4s						
KVLA	**Kavala**	**1.33**	**134**	P	**Pg**	**07 08 44.8**	**-0.5**
KVLA				S	**Sg**	**07 09 00.8**	**-1.7**
KAVA	**Kavala**	**1.36**	**129**	P	**Pn**	**07 08 44.9**	**0.0**
KAVA	**Kavala**	**1.36**	**129**	P	**Pn**	**07 08 45.0**	**0.0**
KAVA				S	**Sg**	**07 09 02.1**	**-1.4**
KAVA				AML	AML	07 09 04.4	
	comp=N,466μm,0.4s						
KAVA				AML	AML	07 09 04.7	
	comp=E,429μm,0.5s						
BARS	**Barje**	**1.36**	**315**	*e*Pn	**Sb**	**07 09 01.5**	**-1.5**
BARS				*e*Sn	Sn	07 09 31.7	+29
BARS	**Barje**	**1.36**	**315**	*i* Pg	**Pn**	**07 08 42.5**	**-2.5**
BARS				*i* Sg	**Sg**	**07 09 01.2**	**-2.4**
ZAPS	**Zavoj**	**1.45**	**346**	*e*Pn	**Pb**	**07 08 47.6**	**+0.5**
ZAPS				*e*Sn	**Sn**	**07 09 09.7**	**+4.2**
PLG	**Polygyros**	**1.51**	**171**	P	**Pg**	**07 08 48.4**	**-0.4**
OUR	**Ouranopolis**	**1.66**	**157**	P	**Pn**	**07 08 49.9**	**+0.8**
FNA	**Florina**	**1.70**	**231**	*e*Pn	**Pg**	**07 08 53.2**	**+0.6**
KDZ	**Kurdzhali**	**1.73**	**96**	P	**Pn**	**07 08 49.1**	**-1.0**
THAS	**Thassos island**	**1.74**	**136**	P	**Pb**	**07 08 52.0**	**+0.1**
BLKB	**Belogradchik**	**1.79**	**349**	⇓S	**Sn**	**07 09 14.5**	**+0.8**
RDO	**Rodhopi**	**1.95**	**111**	P	**Pb**	**07 08 55.2**	**-0.3**
SELS	**Selova**	**2.01**	**313**	*e*Pn	**Pb**	**07 08 57.5**	**+1.0**
SELS				*e*Sn	**Sb**	**07 09 23.1**	**+1.5**
ZAGS	**Zajecar**	**2.05**	**342**	*e*Pn	**Pb**	**07 08 57.3**	**0.0**
BOVS	**Bovan**	**2.06**	**330**	⇑S	**Sn**	**07 09 21.9**	**+1.6**
BOVS	**Bovan**	**2.06**	**330**	*e*Pn	**Pb**	**07 08 57.3**	**0.0**
PVL	**Pavlikeni**	**2.12**	**50**	P	**Pn**	**07 08 55.7**	**+0.3**
GRUS	**Gruza**	**2.69**	**320**	*e*Pn	**Pn**	**07 09 05.5**	**+2.2**
GRUS				*e*Sn	**Sb**	**07 09 40.5**	**-0.7**
IVAS	**Ivanjica**	**2.78**	**309**	*e*Pn	**Pb**	**07 09 08.6**	**-1.1**
IVAS				*e*Sn	**Sb**	**07 09 43.9**	**0.0**
HUMR	**Humele**	**2.99**	**26**	⇓S	**Sn**	**07 09 43.8**	**+0.6**
HERR	**Herculane**	**3.06**	**350**	⇑P	**Pn**	**07 09 09.2**	**+0.9**
MDVR	**Moldovita**	**3.09**	**341**	⇓P	**Pn**	**07 09 09.9**	**+1.0**
MDVR	**Moldovita**	**3.09**	**341**	⇑S	**Sn**	**07 09 46.7**	**+0.8**
DIVS	**Divibare**	**3.21**	**315**	*e*Pn	**Pn**	**07 09 11.5**	**+1.1**
GZR	**Gura Zlata**	**3.54**	**356**	⇑P	**Pn**	**07 09 15.5**	**+0.6**
GZR	**Gura Zlata**	**3.54**	**356**	⇓S	**Sn**	**07 09 58.1**	**+1.2**
ARR	**Arges**	**3.67**	**17**	⇑P	**Pn**	**07 09 18.4**	**+1.6**
ARR	**Arges**	**3.67**	**17**	⇑S	**Sn**	**07 09 59.3**	**-0.9**
BZS	**Buzias**	**3.91**	**344**	⇑P	**Pn**	**07 09 20.5**	**+0.5**
BZS	**Buzias**	**3.91**	**344**	⇑S	**Sn**	**07 10 07.7**	**+1.8**
MLR	**Muntele Rosu**	**4.16**	**28**	⇓P	**Pn**	**07 09 25.0**	**+1.4**
MLR	**Muntele Rosu**	**4.16**	**28**	⇓S	**Sn**	**07 10 12.5**	**+0.1**

MEX 12 07:13:04.3±0.9, 15°15N×92°56W, h120km±8km, MD3.6, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.37**	**130**	*i* P	Pn	07 13 20.4	-1.1
THIG				*i* S	Sn	07 13 33.2	-1.3
PCIG		**0.85**	**311**	*e*P	Pn	07 13 23.5	-1.4
PCIG				*i* S	Sn	07 13 38.5	-1.9
CCIG	**Comitan**	**1.20**	**20**	*e*P	Pn	07 13 27.9	-0.7
CCIG				*i* S	Sn	07 13 45.5	-1.5

MEX 12 07:15:52.0±1.2, 16°82N×94°03W, h140km±11km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.86**	**288**	*i* P	Pn	07 16 13.1	-1.5
CMIG				*i* S	Sn	07 16 30.3	-1.7
TGIG		**0.87**	**93**	*i* P	Pn	07 16 13.5	-1.3
TGIG				*i* S	Sn	07 16 30.1	-2.1
PCIG		**1.36**	**145**	*e*P	Pn	07 16 17.6	-1.8
PCIG				*i* S	Sn	07 16 38.2	-2.0
VHO	**Vista Hermosa**	**2.60**	**276**	*i* P	Pn	07 16 34.1	0.0
VHO				*i* S	Sn	07 17 04.3	-2.1
PEIG	**Puerto Escondi**	**3.10**	**255**	*i* S	Sn	07 17 14.2	-3.5
TOIG	**Toxpalan**	**3.16**	**294**	*i* P	Pn	07 16 39.1	-2.1
TOIG				*i* S	Sn	07 17 17.0	-2.2

MEX 12 07:25:53.6±1.1, 15°74N×94°30W, h62km±31km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.04**	**92**	*e*P	Pn	07 26 10.1	-2.1
PCIG				*i* S	Sn	07 26 24.3	-1.7
CMIG	**Matias Romero**	**1.46**	**337**	*i* P	Pn	07 26 15.8	-2.0
CMIG				*i* S	Sn	07 26 34.1	-1.8
TGIG		**1.53**	**47**	*i* P	Pn	07 26 15.6	-3.2
TGIG				*i* S	Sn	07 26 33.7	-4.1
VHO	**Vista Hermosa**	**2.69**	**300**	*i* P	Pn	07 26 36.2	+1.5
VHO				*i* S	Sn	07 27 06.5	+0.3
PEIG	**Puerto Escondi**	**2.75**	**276**	*i* P	Pn	07 26 33.5	-1.9
PEIG				*i* S	Sn	07 27 06.5	-1.0
TOIG	**Toxpalan**	**3.54**	**312**	*i* P	Pn	07 26 47.0	+0.8
TOIG				*i* S	Sn	07 27 27.3	+0.4

*NNC **12** 07:27:12.2±0.5, 50°06N×78°71E, h0km, mb4.1, mpv3.5, Error ellipse: s-maj=9.0km s-min=2.7km az=80.0, Suspected Mining explosion.*

*IDC **12** 07:27:12.2±0.8, 50°09N×78°77E, h0km, mb1 3.1/3, mb1mx3.0/52, mbtmp3.1/3, ML2.8/3, Error ellipse: s-maj=13.9km s-min=5.9km az=59.0*

ISC 12 07:27:11.9±0.7, 49°99N±0°03×78°60E±0°04, h0km, n37, σ1§37/54, 14C-12D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.60**	**355**	⇓P	**Pg**	**07 27 22.5**	**-0.9**
KUR07				⇓S	**Sg**	**07 27 31.1**	**-0.1**
KUR06	**Kurchatov Arra**	**0.62**	**355**	⇑P	**Pg**	**07 27 22.8**	**-1.0**
KUR06				⇓S	**Sg**	**07 27 31.6**	**-0.2**
KUR14	**Kurchatov Arra**	**0.63**	**360**	⇑P	**Pg**	**07 27 22.7**	**-1.3**
KUR14				⇓S	**Sg**	**07 27 31.3**	**-0.8**
KUR15	**Kurchatov Arra**	**0.63**	**358**	⇓P	**Pg**	**07 27 23.0**	**-1.1**
KUR15				⇑S	**Sg**	**07 27 31.8**	**-0.5**
KURBB	**Kurchatov Arra**	**0.64**	**356**	Pg	**Pg**	**07 27 23.0**	**-1.1**
	4.6nm,0.3s,baz=164,slow=17,SNR=456						
KURBB				Lg	Lg	07 27 30.8	
	4.4nm,0.3s,baz=176,slow=32,SNR=8.9						
KURBB	**Kurchatov Arra**	**0.64**	**356**	⇑P	**Pg**	**07 27 23.0**	**-1.1**
	54nm,0.4s						
KURBB				⇓S	**Sg**	**07 27 31.9**	**-0.5**
	67nm,0.5s						
KUR16	**Kurchatov Arra**	**0.64**	**354**	⇑P	**Pg**	**07 27 23.3**	**-0.9**
KUR16				⇑S	**Sg**	**07 27 32.1**	**-0.5**
KUR17	**Kurchatov Arra**	**0.65**	**353**	⇓P	**Pg**	**07 27 23.5**	**-0.9**
KUR17				⇓S	**Sg**	**07 27 32.7**	**-0.2**
KUR05	**Kurchatov Arra**	**0.66**	**356**	⇑P	**Pg**	**07 27 23.2**	**-1.3**
KUR05				⇑S	**Sg**	**07 27 32.4**	**-0.7**
KUR04	**Kurchatov Arra**	**0.68**	**357**	⇑P	**Pg**	**07 27 23.7**	**-1.3**
KUR04				⇓S	**Sg**	**07 27 33.1**	**-0.6**
BRZS	**Berezniki**	**3.82**	**272**	Pg	**Pg**	**07 28 25.4**	**+0.3**
	5.2nm,0.2s						
BRZS				Lg	Lg	07 29 14.4	
	7.2nm,0.1s						
MAKZ	**Makanchi**	**3.90**	**143**	P	**Pn**	**07 28 13.3**	**+0.2**
MAKZ				S	**Sb**	**07 29 09.2**	**0.0**
MAKZ	**Makanchi**	**3.90**	**143**	⇑Pg	**Pb**	**07 28 23.1**	**+1.6**
	4.2nm,0.6s						
MAKZ				⇑Lg	Lg	07 29 10.7	
	17nm,0.9s						
MK31	**Makanchi Array**	**4.03**	**141**	⇓Pn	**Pn**	**07 28 15.3**	**+0.3**
	0.3nm,0.1s,baz=322,slow=10.0,SNR=107						
MK31				Pg	**Pg**	**07 28 27.9**	**-1.3**
	0.2nm,0.1s,baz=332,slow=16,SNR=8.2						
MK31				Lg	Lg	07 29 18.2	
	15nm,0.6s,baz=325,slow=28,SNR=15						
MKAR	**Makanchi Array**	**4.03**	**141**	Pn	**Pn**	**07 28 15.2**	**+0.3**
	0.7nm,0.3s,baz=321,slow=10,SNR=174						
MKAR				Pg	**Pb**	**07 28 22.7**	**-1.1**
	1.9nm,0.3s,baz=324,slow=14,SNR=20						
MKAR				Sn	**Sn**	**07 29 03.6**	**+0.7**
	1.1nm,0.3s,baz=344,slow=25,SNR=5.1						
MKAR				Lg	Lg	07 29 16.9	
	3.2nm,0.3s,baz=335,slow=28,SNR=11						
MKAR	**Makanchi Array**	**4.03**	**141**	P	**Pn**	**07 28 15.1**	**+0.2**
MKAR				S	**Sb**	**07 29 14.5**	**+1.4**
UKR	**Ust'-Kan**	**4.06**	**74**	P	**Pn**	**07 28 15.0**	**-0.3**
UKR				S	**Sn**	**07 29 01.4**	**-2.1**
OTUK	**Ortayu**	**4.47**	**249**	⇑Pn	**Pn**	**07 28 22.2**	**+1.3**
	1.4nm,0.1s						
OTUK				⇓Pg	**Pg**	**07 28 34.9**	**-2.6**
	1.0nm,0.3s						
OTUK				⇓Lg	Lg	07 29 37.2	
	4.4nm,0.5s						
KAPS	**Kapalarasan**	**4.73**	**174**	Pg	**Pg**	**07 28 41.5**	**-1.1**
	2.3nm,0.2s						
KAPS				Lg	Lg	07 29 41.3	
	6.8nm,0.1s						
ZSN	**Zaisan**	**4.86**	**119**	Pg	**Pb**	**07 28 40.5**	**+2.5**
	5.8nm,0.3s						
ZSN				Lg	Lg	07 29 39.4	
	12nm,0.5s						
I46RU	**ZALESOVO INFRA**	**5.52**	**42**	*i*		07 55 47.2	
	baz=224,slow=316,SNR=2.1						
ZALV	**Zalesovo Beam**	**5.52**	**42**	Pn	**Pn**	**07 28 35.1**	**-0.2**
	1.3nm,0.3s,baz=232,slow=14,SNR=17						
ZALV				Sn	**Sn**	**07 29 37.7**	**-1.8**
	0.1nm,0.3s,baz=218,slow=23,SNR=1.2						
ZALV				Lg	Lg	07 29 59.1	
	0.2nm,0.3s,baz=217,slow=15,SNR=2.0						
DJR	**Jarkent**	**5.72**	**171**	Pg	**Pg**	**07 28 59.4**	**-2.1**
	1.8nm,0.3s						
DJR				Lg	Lg	07 30 12.0	
	3.2nm,0.4s						
DGZ	**Jazzator, Alta**	**5.72**	**90**	P	**Pn**	**07 28 39.2**	**+1.0**
DGZ				S	**Sn**	**07 29 45.5**	**+0.8**
CHBI	**Chibit, Altay**	**5.73**	**83**	P	**Pn**	**07 28 39.6**	**+1.2**
CHBI				S	**Sn**	**07 29 44.1**	**-0.8**
ARXS	**Arharly**	**5.80**	**186**	Pg	**Pg**	**07 29 00.3**	**-2.8**
	5.6nm,0.5s						
ARXS				Lg	Lg	07 30 14.3	
	9.4nm,0.6s						
AKAR	**Aktash**	**5.81**	**83**	P	**Pn**	**07 28 39.6**	**+0.2**
AKAR				S	**Sn**	**07 29 46.2**	**-0.5**
BVAR	**Borovoye Array**	**5.96**	**304**	Pn	**Pn**	**07 28 42.2**	**+0.8**
	0.3nm,0.3s,baz=124,slow=13,SNR=2.9						
BVAR				Sn	**Sn**	**07 29 48.9**	**-1.4**
	1.3nm,0.3s,baz=121,slow=25,SNR=7.5						
BVAR				Lg	Lg	07 30 23.0	
	0.7nm,0.3s,baz=131,slow=32,SNR=2.0						
CHKK	**Chushkaly**	**6.24**	**191**	Pg	**Pg**	**07 29 07.7**	**-3.7**
	1.0nm,0.1s						
CHKK				Lg	Lg	07 30 27.1	
	7.7nm,0.4s						
KRBS	**Karabastau**	**6.61**	**199**	Pg	**Pg**	**07 29 16.6**	**-1.9**
	1.5nm,0.4s						
KRBS				Lg	Lg	07 30 41.7	
	3.2nm,0.4s						
PDGK	**Podgornoye**	**6.69**	**174**	⇑Lg	Lg	07 30 46.6	
	7.4nm,0.7s						
UZB	**Uzynbulak**	**6.85**	**177**	Pg	**Pg**	**07 29 21.4**	**-1.7**
	1.6nm,0.2s						
UZB				Lg	Lg	07 30 49.5	
	6.1nm,0.9s						
SHLS	**Shalkode**	**6.86**	**175**	Pg	**Pg**	**07 29 22.9**	**-0.4**
	5.9nm,0.3s			

0.2nm,0.3s,baz=233,slow=11,SNR=3.2
YAK Yakutsk 23.37 344 LR LR 07 45 32.4
comp=Z,42nm,19.5s,baz=90,slow=38
GUMO Guam 26.53 176 LR LR 07 44 51.8
comp=Z,25nm,21.3s,baz=354,slow=32
SONM Songino Array 27.34 299 P **P** **07 36 37.5 +0.2**
0.5nm,0.5s,baz=77,slow=9.5,SNR=2.4
H11N2 WAKE ISLAND Hy 28.78 128 T T 08 06 55.1
baz=318,slow=74
H11N1 WAKE ISLAND Hy 28.79 128 T T 08 06 57.5
baz=318
H11N3 WAKE ISLAND Hy 28.80 128 T T 08 06 58.5
baz=318,slow=74
H11S1 WAKE ISLAND Hy 29.61 130 T T 08 08 00.5
baz=322,slow=76,SNR=2.1
H11S3 WAKE ISLAND Hy 29.61 130 T T 08 08 02.1
baz=322,slow=76,SNR=3.1
H11S2 WAKE ISLAND Hy 29.63 130 T T 08 08 00.3
baz=322,slow=76,SNR=4.2
ZALV Zalesovo Beam 40.89 310 LR LR 07 55 35.1
comp=Z,12nm,18.1s,baz=19,slow=36
MKAR Makanchi Array 43.69 300 P **P** **07 38 57.6 +0.4**
0.7nm,0.8s,baz=83,slow=9.9,SNR=3.9
ILAR Eielson Array 46.11 34 P **P** **07 39 15.7 -0.4**
0.9nm,0.9s,baz=250,slow=5.6,SNR=6.1
INK Inuvik 50.96 28 P **P** **07 39 53.4 +0.1**
1.5nm,0.7s,baz=307,slow=5.9,SNR=4.1
WRA Warramunga Arr 60.37 190 P **P** **07 41 01.2 -0.2**
0.6nm,0.6s,baz=7.2,slow=6.5,SNR=9.6
ASAR Alice Springs 64.10 189 P **P** **07 41 25.0 -1.4**
0.1nm,0.5s,baz=10,slow=5.7,SNR=2.4
MSVF Nonsavu 66.14 143 LR LR 08 04 13.1
comp=Z,27nm,19.9s,baz=146,slow=30
FINES FINESS Array B 66.68 332 P **P** **07 41 42.6 -0.1**
0.3nm,0.3s,baz=39,slow=7.7,SNR=2.1
NOA NORSAR Array B 71.82 338 LR LR 08 17 50.1
comp=Z,13nm,18.5s,baz=355,slow=39
TXAR Lajitas Array 87.12 54 P **P** **07 43 39.4 +0.8**
0.2nm,0.8s,baz=305,slow=4.4,SNR=2.8

KRNET ***12*** *07:56:36.7±0.1,40.89N×69.52E,mb2.7*
ISC 12 07:56:39.1±2.3, 40.88N±0.05×69.5E±0.1, h10km, n6, σ1§47/12, 11C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.28**	**130**	**⇑***iP*			**Pn**	**07 57 01.6**	**-1.6**
BTK	baz=30			⇑*iS*			**Sb**	**07 57 19.5**	**-0.4**
TRKS	**Terek-Say**	**1.37**	**61**	**⇑***iP*			**Pn**	**07 57 02.6**	**-1.9**
TRKS	baz=65			⇑*iS*			**Sb**	**07 57 21.8**	**-0.9**
DRK	**Karamyk**	**2.23**	**128**	**⇑***iP*			**Pn**	**07 57 17.2**	**+0.8**
DRK	baz=28			⇑*iS*			**Sb**	**07 57 47.0**	**-0.5**
KK31	**Karatay Array**	**2.34**	**18**	Pn			**Pb**	**07 57 21.6**	**+0.2**
KK31	1.0nm,0.4s,baz=202,slow=16,SNR=25			⇑Sn			**Sg**	**07 57 53.8**	**-0.4**
MNAS	2.0nm,0.3s,baz=197,slow=28,SNR=13 **Manas**	**2.74**	**53**	**⇑***iP*			**Pn**	**07 57 24.4**	**+1.1**
MNAS	baz=54			⇑*iS*			**Sb**	**07 58 00.2**	**-1.9**
AML	baz=54 **Almayashu**	**3.36**	**67**	**⇑***iP*			**Pn**	**07 57 33.0**	**+0.9**
AML	baz=67			⇑*iS*			**Sn**	**07 58 14.7**	**+2.4**
	baz=67								

MEX 12 07:58:51.8±1.1, 16.51N×98.47W, h4km±15km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.35**	**110**	*iP*			Pg	07 58 58.3	-0.4
PNIG				*iS*			Sg	07 59 03.5	+0.2
MGIG	**Malinaltepec**	**0.73**	**348**	*eP*			Pg	07 59 04.1	-1.9
MGIG				*iS*			Sg	07 59 14.9	-0.6
TXIG	**Tlaxiaco**	**1.00**	**42**	*iP*			Pg	07 59 08.5	-2.5
TXIG				*iS*			Sg	07 59 21.6	-2.4
DAIG	**Los Arroyos**	**1.24**	**294**	*eP*			Pg	07 59 12.9	-2.7
DAIG				*iS*			Sg	07 59 27.5	-4.2
FTIG	**Fresnillo de T**	**1.43**	**13**	*iP*			Pn	07 59 15.1	-3.5
FTIG				*iS*			Sb	07 59 33.6	-4.0
HLIG	**Huajuapan de L**	**1.46**	**26**	*eP*			Pn	07 59 15.4	-3.7
HLIG				*iS*			Sb	07 59 34.1	-4.5

IDC ***12*** *08:01:36.8±0.9,38.53N×70.13E,h0km,mb3.8/12,*
mb1 4.0/20,mb1mx3.8/54,mbtmp3.9/20,ML3.4/8,MS3.0/8,
Ms1 3.0/8,ms1mx2.7/63,Error ellipse: s-maj=17.7km
s-min=11.3km az=152.0
NNC ***12*** *08:01:38.3±2.2,38.66N×69.69E,h0km,mb4.6,mpv4.3,*
Error ellipse: s-maj=18.1km s-min=15.1km az=5.0
SOME ***12*** *08:01:49.6,39.48N×70.85E,h5km*
ISC 12 08:01:38.5±0.8, 39.00N±0.05×70.71E±0.04, h10km, n53, σ2§89/58, mb3.7/11, MS3.1/7, 3C-9D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IUG	**luzhnay**	**3.18**	**351**	*eP*			**Pg**	**08 02 40.6**	**+1.0**
IUG	2μm,0.4s			*eS*			**Sg**	**08 03 17.7**	**-3.1**
CHM	1μm,0.5s **Chimkent**	**3.42**	**346**	*eP*			**Pg**	**08 02 44.8**	**+0.8**
CHM	197nm,0.3s			*eS*			**Sg**	**08 03 24.7**	**-3.7**
AML	979nm,0.4s **Almayashu**	**3.87**	**35**	P			**Pg**	**08 02 52.1**	**-0.5**
DZA	SNR=6.3 **Taraz**	**3.92**	**7**	*eP*			**Pg**	**08 02 53.6**	**+0.1**
DZA	203nm,0.1s			*eS*			**Sg**	**08 03 39.7**	**-4.5**
KK31	572nm,0.7s **Karatay Array**	**4.10**	**358**	Pn			**Pb**	**08 02 48.9**	**-2.0**
KK31	10.0nm,0.5s,baz=191,slow=16,SNR=176			⇓Pg			**Pg**	**08 02 59.0**	**+1.9**
KK31	27nm,0.6s,baz=191,slow=17,SNR=11			⇓Sn			**Sb**	**08 03 42.3**	**+1.8**
KK31	63nm,0.8s,baz=191,slow=18,SNR=3.8			⇓Lg			Lg	08 03 55.7	
MRKS	166nm,0.9s,baz=192,slow=31,SNR=6.3 **Merke**	**4.20**	**26**	*eP*			**Pg**	**08 03 01.4**	**+2.5**
MRKS	107nm,0.8s			*eS*			**Sg**	**08 03 53.0**	**-0.4**
UCH	57nm,0.5s **Uchtor**	**4.33**	**41**	P			**Pg**	**08 02 58.1**	**-3.4**
EKS2	SNR=17 **Erkin-Say**	**4.33**	**31**	P			**Pb**	**08 02 56.3**	**+1.4**
KZA	SNR=28 **Kyzart**	**4.63**	**47**	P			**Pg**	**08 03 03.4**	**-3.8**
AAK	SNR=17 **Ala-Archa**	**4.63**	**37**	Pn			**Pb**	**08 02 59.5**	**-0.5**
AAK	6.5nm,0.3s,baz=222,slow=7.6,SNR=46			Sn			**Sg**	**08 04 01.8**	**-5.4**
AAK	1.5nm,0.3s,baz=324,slow=19,SNR=1.3			Lg			Lg	08 04 27.9	
AAK	2.2nm,0.3s,baz=115,slow=22,SNR=1.3 **Ala-Archa**	**4.63**	**37**	P			**Pb**	**08 03 02.7**	**+2.8**
AAK	SNR=51 **Ala-Archa**	**4.63**	**37**	⇓Pn			**Pb**	**08 02 59.3**	**-0.6**
AAK	32nm,0.6s			⇑Sn			**Sg**	**08 04 05.3**	**-1.9**
KBK	116nm,0.9s **Karagaybulak**	**4.86**	**40**	P			**Pb**	**08 03 07.1**	**+3.2**
CHMS	SNR=23 **Chumysh**	**5.03**	**36**	P			**Pb**	**08 03 06.6**	**-0.1**
USP	SNR=22 **Ospenovka**	**5.13**	**33**	P			**Pn**	**08 02 55.3**	**-0.2**
ULHL	SNR=5.8 **Ulahol**	**5.31**	**51**	P			**Pb**	**08 03 08.6**	**-3.0**
TKM2	SNR=20 **Tokmak 2**	**5.39**	**42**	P			**Pb**	**08 03 14.2**	**+1.3**
TKM2	SNR=7.1 **Tokmak 2**	**5.39**	**42**	⇓Pn			**Pb**	**08 03 09.8**	**-3.1**
TKM2	31nm,0.6s			⇓Sn			**Sg**	**08 04 23.8**	**-7.7**
KST	78nm,0.9s **Kastek**	**5.66**	**43**	*eP*			**Pg**	**08 03 27.6**	**+0.6**
KST	29nm,0.8s			*eS*			**Sg**	**08 04 37.7**	**-2.7**
DGS	29nm,1.4s **Degeres**	**5.71**	**40**	*eP*			**Pg**	**08 03 26.9**	**-0.9**
DGS	26nm,0.5s			*eS*			**Sg**	**08 04 37.8**	**-3.9**
CHCP	20nm,0.7s **Chirah Chowk**	**5.72**	**158**	P			Pb	08 03 12.4	-6.0
MDOK	**Medeo**	**6.34**	**47**	*eP*			**Pg**	**08 03 39.6**	**-0.3**
MDOK	17nm,0.7s			*eS*			**Sg**	**08 04 59.2**	**-2.9**
MDOK	12nm,1.1s **Medeo**	**6.34**	**47**	⇓Pn			**Pb**	**08 03 25.1**	**-3.9**
BTLS	22nm,0.8s **Baital**	**6.53**	**21**	*eP*			**Pg**	**08 03 43.8**	**+0.4**
BTLS	2.7nm,1.1s			*eS*			**Sg**	**08 05 05.9**	**-2.1**
PDGK	30nm,1.5s **Podgornoye**	**7.91**	**54**	⇑Pn			Pb	08 03 46.3	-9.5
OTUK	10nm,0.9s **Ortayu**	**9.31**	**7**	⇓Pn			Pn	08 03 58.6	+5.8
GEYT	4.5nm,0.7s **Alibeck**	**9.94**	**268**	Pn			Pn	08 03 54.4	-7.0
GEYT	1.3nm,0.3s,baz=105,slow=9.7,SNR=6.0			Sn			Sn	08 05 37.6	-15
GEYT	0.9nm,0.3s,baz=157,slow=16,SNR=1.9			Lg			Lg	08 06 45.9	
MKAR	baz=156,slow=7.6,SNR=1.0 **Makanchi Array**	**11.51**	**44**	Pn			Pn	08 04 31.6	+8.6
MKAR	0.1nm,0.3s,baz=229,slow=13,SNR=7.3			Lg			Lg	08 07 55.4	
AB31	0.1nm,0.3s,baz=243,slow=26,SNR=2.3 **Akbulak array**	**12.83**	**327**	⇓Pn			**Pn**	**08 04 40.5**	**-0.3**
KURBB	2.1nm,0.3s,baz=133,slow=15,SNR=140 **Kurchatov Arra**	**12.87**	**23**	Pn			Pn	08 04 46.9	+5.5
KURBB	0.1nm,0.3s,baz=214,slow=12,SNR=11			Sn			**Sn**	**08 07 09.8**	**+5.2**
KURBB	0.0nm,0.3s,baz=90,slow=33,SNR=4.2			Lg			Lg	08 08 41.0	
BVAR	0.1nm,0.3s,baz=229,slow=33,SNR=4.9 **Borovoye Array**	**14.03**	**359**	Pn			**Pn**	**08 04 59.9**	**+2.7**
AKTO	0.6nm,0.3s,baz=184,slow=18,SNR=18 **Aktyubinsk**	**14.54**	**326**	Pn			**Pn**	**08 05 02.9**	**-1.4**
AKTO	0.5nm,0.3s,baz=145,slow=11,SNR=7.9			Sn			**Sn**	**08 07 38.7**	**-6.7**
AKTO	0.6nm,0.3s,baz=248,slow=13,SNR=7.1 **Aktyubinsk**	**14.54**	**326**	⇑Pn			**Pn**	**08 05 03.7**	**-0.5**
ZALV	7.8nm,0.5s **Zalvo Beam**	**17.78**	**28**	P			**P**	**08 05 52.4**	**+5.7**
ZALV	1.0nm,0.3s,baz=230,slow=12,SNR=8.0			LR			LR	08 12 46.1	
ARU	comp=Z,38nm,19.0s,baz=283,slow=36 **Arti**	**19.20**	**339**	P			**Pn**	**08 06 04.9**	**+1.6**
ARU	0.0nm,0.3s,baz=188,slow=9.8,SNR=6.5			S			**Sn**	**08 09 35.0**	**-3.4**
GNI	0.0nm,0.3s,baz=148,slow=24,SNR=6.0 **Garni**	**20.03**	**282**	LR			LR	08 15 11.4	
BELG	comp=Z,24nm,19.7s,baz=126,slow=41 **Belogornoye**	**20.84**	**318**	P			**P**	**08 06 19.8**	**-0.4**
BELG	21nm,0.8s,baz=12,slow=5.2,SNR=5.1			LR			LR	08 15 28.9	
KBZ	comp=Z,27nm,21.3s,baz=131,slow=40 **Khabaz**	**21.35**	**292**	P			**P**	**08 06 23.7**	**-2.1**
KBZ	1.5nm,0.6s,baz=98,slow=11,SNR=2.0			LR			LR	08 16 27.1	
SONM	comp=Z,70nm,18.9s,baz=43,slow=42 **Songino Array**	**27.18**	**59**	P			**P**	**08 07 27.6**	**+5.3**
AKASG	1.4nm,1.1s,baz=268,slow=9.6,SNR=3.8 **Malin Array Be**	**31.25**	**306**	P			**P**	**08 07 58.1**	**-0.1**
FINES	0.4nm,0.4s,baz=110,slow=8.2,SNR=2.9 **FINESS Array B**	**35.30**	**324**	P			**P**	**08 08 34.3**	**+1.0**
ARCES	1.3nm,0.6s,baz=119,slow=11,SNR=6.9 **ARCESS Array B**	**38.76**	**337**	P			**P**	**08 09 03.6**	**+1.0**
VRAC	1.9nm,0.9s,baz=58,slow=7.4,SNR=5.3 **Vranov**	**39.39**	**303**	LR			LR	08 26 51.1	
GERES	comp=Z,27nm,19.5s,baz=90,slow=39 **GERESS Array BA**	**41.34**	**303**	LR			LR	08 30 49.8	
NB2	comp=Z,21nm,18.4s,baz=86,slow=42 **NORSAR Subarra**	**42.27**	**321**	P			**P**	**08 09 32.0**	**+0.2**
NOA	comp=Z,0.7nm,0.6s,baz=96,slow=8.6 **NORSAR Array B**	**42.27**	**321**	P			**P**	**08 09 31.8**	**0.0**
DAVOX	comp=Z,0.7nm,0.6s,baz=96,slow=8.3,SNR=6.2 **Davos/Dischmat**	**44.25**	**301**	LR			LR	08 29 56.6	
KSRS	comp=Z,28nm,19.9s,baz=86,slow=38 **Korea Array**	**44.33**	**73**	LR			LR	08 31 28.3	
ESDC	comp=Z,21nm,18.5s,baz=110,slow=40 **Sonseca Array**	**56.12**	**296**	P			**P**	**08 11 16.8**	**-1.3**
TORD	comp=Z,0.3nm,0.4s,baz=53,slow=6.6,SNR=2.3 **Torodi Ar. Bea**	**65.58**	**267**	P			**P**	**08 12 19.3**	**-3.5**
ILAR	comp=Z,1.0nm,0.5s,baz=48,slow=5.6,SNR=13 **Eielson Array**	**72.44**	**16**	P			**P**	**08 13 07.4**	**+2.7**
WRA	comp=Z,0.7nm,1.0s,baz=307,slow=3.3,SNR=3.8 **Warramunga Arr**	**83.51**	**122**	P			**P**	**08 14 06.9**	**+0.2**
ASAR	comp=Z,0.4nm,0.8s,baz=323,slow=4.6,SNR=1.6 **Alice Springs**	**85.87**	**125**	P			**P**	**08 14 20.2**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=320,slow=5.1,SNR=5.5								

VAO ***12*** *08:13:48.5±0.6,31.87S×69.37W,h10km,mb4.5*
NEIC ***12*** *08:13:49.1±1.7,31.66S±0.05×68.36W±0.05,h10km±1km,*
mb5.0/62,Ms_20 4.6/27,Md4.7(SJA),Error ellipse:
s-maj=9.4km s-min=6.6km az=212.0
SJA ***12*** *08:13:49±1.9,31.63S±0.05×68.50W±0.06,h10km±3km,*
Error ellipse: s-maj=7.9km s-min=5.8km az=222.0
IDC ***12*** *08:13:52.3±2.3,31.56S×68.57W,h44km±20km,mb4.2/13,*
mb1 4.3/18,mb1mx4.2/30,mbtmp4.4/18,ML4.1/5,MS3.8/12,
Ms1 3.8/12,ms1mx3.6/24,Error ellipse: s-maj=21.0km
s-min=13.4km az=87.0
ISC 12 08:13:48.5±0.6, 31.78S±0.02×68.83W±0.02, h6km±4km, n276, σ2§16/260, mb4.8/38, MS4.5/23, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RTCV	**Cerro Valdivia**	**0.26**	**108**	*eS*			**Sg**	**08 13 56.0**	**-1.1**
RTCV				*eP*			**Sg**	**08 13 56.0**	**-1.1**
RTCV				*eS*			**Sg**	**08 13 56.0**	**-1.1**
ZON	**Zonda**	**0.27**	**29**				**Pg**	**08 13 55.7**	**+1.8**
ZON					Sg		**Sg**	**08 13 59.4**	**+2.0**
ZON	**Zonda**	**0.27**	**29**	*eP*			**Pg**	**08 13 55.0**	**+1.2**
ZON				*eS*			**Pg**	**08 13 55.6**	**+1.8**
ZON				*eP*			**Pg**	**08 13 55.6**	**+1.8**
ZON				IAML				08 14 00.1	
RTLS	comp=Z,94μm,0.2s **Leoncito**	**0.40**	**267**	*eP*			**Pn**	**08 14 03.0**	**+1.9**
RTLS				*eS*			Sb	08 14 13.2	+8.6
RTLL	**Cerro Villicun**	**0.54**	**34**	*eP*			**Pg**	**08 13 58.2**	**-0.8**
RTLL				*eS*			**Sg**	**08 14 05.0**	**-1.1**
AUSP	**Uspallata**	**0.65**	**227**	*eP*			Pg	08 13 56.9	-4.1
AUSP				*eS*			**Sg**	**08 14 07.3**	**-2.2**
ASAL	**Salagasta**	**0.81**	**180**	*eP*			**Pn**	**08 14 08.4**	**+1.9**
ARCO	**CERRO ARCO**	**1.06**	**185**	*eP*			**Pn**	**08 14 13.6**	**+3.5**
ARCO				IAML				08 14 35.7	
ACCO	comp=Z,16μm,0.6s **Cerro Coronel**	**1.21**	**350**	*eP*			**Pb**	**08 14 11.8**	**-0.2**
AAGR	**Agrelo**	**1.30**	**180**	*eP*			**Pg**	**08 14 17.4**	**+3.9**
ACAN	**Cantantal**	**1.48**	**110**	*eP*			Pn	08 13 56.4	-19
AVFE	**Valle Fertil**	**1.62**	**47**	*eP*			**Pn**	**08 14 15.2**	**-2.5**
AVFE				*eS*			**Sn**	**08 14 34.1**	**-4.9**
AVFE				IAML				08 14 34.4	
ACDV	comp=Z,7μm,0.3s **Cuesta del Vie**	**1.62**	**351**	*eP*			**Pb**	**08 14 19.0**	**0.0**
ACDV				*eS*			**Sg**	**08 14 41.1**	**+0.3**
AROD	**Rodeo**	**1.70**	**341**	*eP*			**Pg**	**08 14 21.6**	**+0.4**
AROD				*eS*			**Sn**	**08 14 38.5**	**-2.7**
AVIZ	**Vizcacheras**	**1.71**	**171**	*eP*			**Pg**	**08 14 23.4**	**+2.1**
VA03	**San Esteban**	**1.76**	**236**				Pg	08 14 26.8	+4.6
VA03	**San Esteban**	**1.76**	**236**	*eP*			Pg	08 14 26.9	+4.7
VA03				*eS*			**Sg**	**08 14 49.0**	**+4.0**
VA03				IAML				08 14 57.5	
CO03	comp=Z,6μm,0.8s **El Pedregal**	**1.85**	**300**				**Pg**	**08 14 26.3**	**+2.3**
CO03	**El Pedregal**	**1.85**	**300**	*eP*			**Pg**	**08 14 26.4**	**+2.4**
CO03				*eS*			**Sg**	**08 14 53.4**	**+5.4**
CO03				IAML				08 14 57.4	
CO02	comp=Z,8μm,1.0s **Combarbal**	**1.94**	**287**				**Pg**	**08 14 28.7**	**+3.0**
CO02	**Combarbal**	**1.94**	**287**	*eP*			**Pg**	**08 14 28.8**	**+3.1**
CO02				*eS*			**Sg**	**08 14 53.0**	**+2.1**
CO02				*eS*			Sb	08 14 54.5	+5.6
CO02				IAML				08 15 01.6	
ACHE	comp=Z,11μm,1.1s **Chepes**	**1.95**	**72**	*eP*			**Pn**	**08 14 20.8**	**-1.5**
ROC1	**El Roble**	**2.20**	**237**	*eP*			**Pg**	**08 14 33.2**	**+2.4**
ROC1				*eS*			Sg	08 15 08.4	+9.1
MT05	**Renca**	**2.27**	**225**				**Pg**	**08 14 34.4**	**+2.2**
MT05	**Renca**	**2.27**	**225**	*eP*			**Pg**	**08 14 34.0**	**+1.9**
GO04	**Tololo Observa**	**2.33**	**313**				**Pg**	**08 14 33.9**	**+0.6**
GO04	**Tololo Observa**	**2.33**	**313**	*eP*			**Pg**	**08 14 33.4**	**+0.2**
GO04				*eS*			**Sg**	**08 15 06.8**	**+3.4**
CO06	**Fray Jorge**	**2.64**	**294**				**Pg**	**08 14 36.8**	**-2.4**
VA01	**Torpederas**	**2.69**	**242**				**Pg**	**08 14 38.7**	**-1.3**
VA01	**Torpederas**	**2.69**	**242**	*eS*			**Sg**	**08 15 11.5**	**-3.3**
VA01				IAML				08 15 29.0	
MT09	comp=Z,2μm,2.0s **Talagante**	**2.69**	**222**	Pn			**Pg**	**08 14 39.3**	**-0.9**
MRA	**San Martin**	**2.72**	**104**	*eP*			**Pn**	**08 14 32.4**	**-0.4**
MRA				*eS*			**Sn**	**08 15 09.5**	**+3.5**
MRA				IAML				08 15 14.1	
MT01	comp=Z,3μm,0.5s **Popeta**	**2.91**	**224**				**Pb**	**08 14 41.4**	**+0.6**
MT01	**Popeta**	**2.91**	**224**	*eP*			**Pb**	**08 14 41.5**	**+0.7**
MT01				*eS*			**Sg**	**08 15 22.5**	**+0.5**
MT01				IAML				08 15 29.3	
VA05	comp=Z,1μm,1.1s **Santo Domingo**	**3.00**	**231**				**Pb**	**08 14 42.9**	**+0.6**
VCA	**Vinchina**	**3.08**	**10**	*eP*			**Pn**	**08 14 39.0**	**+1.1**
VCA				*eS*			**Sn**	**08 15 15.0**	**-0.1**
VCA				IAML				08 15 25.6	
LAMA	comp=Z,3μm,0.3s **Las Malvinas**	**3.16**	**186**	*eS*			**Sg**	**08 15 30.5**	**+0.4**
LCO	**Las Campanas**	**3.20**	**329**				**Pb**	**08 14 43.4**	**-2.5**
BO01	**Tunca**	**3.22**	**215**				**Pb**	**08 14 45.7**	**-0.4**
BO01	**Tunca**	**3.22**	**215**	*eP*			**Pb**	**08 14 45.8**	**-0.3**
BO01				*eS*			**Sg**	**08 15 32.5**	**+0.6**
BO01				IAML				08 15 44.9	
COIS	comp=Z,931nm,0.8s **El Sosneado**	**3.38**	**191**	*eP*			**Pn**	**08 14 39.5**	**-2.3**
COIS				*eP*			**Pb**	**08 14 45.0**	**-3.8**
COIS				*eS*			**Sg**	**08 15 37.5**	**+0.4**
BO02	**Sierra Bellavi**	**3.42**	**208**	Pn			**Pb**	**08 14 49.2**	**-0.4**
BO02	**Sierra Bellavi**	**3.42**	**208**	*eS*			**Sg**	**08 15 39.5**	**+1.1**
BO02				IAML				08 15 50.0	
TINO	comp=Z,790nm,0.7s **Tinogasta**	**3.86**	**17**	*eP*			**Pn**	**08 14 45.0**	**-3.6**
TINO				*eS*			**Sb**	**08 15 45.0**	**+0.8**
AC04	**Llanos de Chal**	**4.06**	**331**	Pn			**Pn**	**08 14 54.0**	**+2.8**
AC04	**Llanos de Chal**	**4.06**	**331**	*eS*			**Sb**	**08 15 46.5**	**-3.3**
GO05	**Huala**	**4.13**	**218**				**Pb**	**08 14 58.0**	**-3.7**
GO05	**Huala**	**4.13**	**218**	*eP*			**Pb**	**08 14 57.5**	**-4.2**
CYA	**Choya**	**4.24**	**39**	*eP*			**Pn**	**08 14 52.5**	**-1.1**
CYA				IAML				08 16 11.6	
GO03	comp=Z,1μm,0.4s **Copiap**	**4.35**	**343**				**Pn**	**08 14 57.5**	**+2.3**
ML02	**Panimavida**	**4.52**	**208**				Pb	08 15 03.2	-5.0
AC06	**Mina Casimiro**	**4.60**	**343**				**Pn**	**08 15 00.7**	**+2.0**
PB14	**IPOC Station P**	**7.26**	**349**	Pn			**Pn**	**08 15 35.8**	**+0.3**
LC01	**Cunco**	**7.52**	**198**	Pn			**Pn**	**08 15 43.0**	**+4.2**
TRQA	**Tornquist**	**8.41**	**140**				**Pn**	**08 15 51.1**	**+0.1**
TRQA	**Tornquist**	**8.41**	**140**	*eP*			**Pn**	**08 15 50.9**	**-0.1**
PB15	**IPOC Station P**	**8.56**	**356**				**Pn**	**08 15 53.1**	**-0.1**
ASTB	**Santa Barbara**	**8.71**	**27**	*eP*			**Pn**	**08 15 56.2**	**+1.0**
AF01	**San Pedro de A**	**8.81**	**4**	Pn			**Pn**	**08 15 56.0**	**-0.7**
PLCA	**Paso Flores**	**9.04**	**188**	*eP*			**Pn**	**08 16 03.9**	**+4.3**
PLCA	comp=Z,0.4nm,0.3s,baz=5.6,slow=11,SNR=17			Lg			Lg	08 18 40.1	
PLCA	comp=Z,1.3nm,0.3s,baz=114,slow=20,SNR=4.6			LR			LR	08 20 01.5	
PLCA	comp=Z,882nm,18.1s,baz=1.0,slow=40 **Paso Flores**	**9.04**	**188**				Pn	08 16 04.7	+5.1
PB06	**IPOC Station P**	**9.06**	**356**				**Pn**	**08 15 59.8**	**-0.3**
LVC	**Limon Verde**	**9.14**	**360**	P			**Pn**	**08 15 59.3**	**-1.9**
LVC	comp=Z,4.2nm,0.3s,baz=176,slow=8.0,SNR=40			S			Sn	08 17 33.7	-11
LVC	comp=Z,0.4nm,0.3s,baz=251,slow=4.1,SNR=4.3			Lg			Lg	08 18 33.8	
LVC	comp=Z,1.3nm,0.3s,baz=288,slow=18,SNR=1.0 **Limon Verde**	**9.14**	**360**				**Pn**	**08 16 01.0**	**-0.2**
LVC	**Limon Verde**	**9.14**	**360**	*eP*			**Pn**	**08 16 00.7**	**-0.5**
LL04	**Puerto Octay**	**9.55**	**197**				**Pn**	**08 16 09.5**	**+2.9**
PB09	**IPOC Station P**	**9.95**	**358**				**Pn**	**08 16 11.5**	**-0.8**
PB07	**IPOC Station P**	**10.06**	**354**	Pn			**Pn**	**08 16 12.3**	**-1.4**
ITQB	**Itaqui**	**10.71**	**82**	*eP*			Pn	08 16 27.6	+5.1
CPUP	**Villa Florida**	**11.43**	**65**	P			Pn	08 16 28.1	-4.2
CPUP	comp=Z,1.3nm,0.3s,baz=251,slow=13,SNR=8.2			S			Sn	08 18 26.6	-14
CPUP	comp=Z,1.4nm,0.3s,baz=234,slow=11,SNR=3.2			Lg			Lg	08 19 43.0	
CPUP	comp=Z,3.0nm,0.3s,baz=356,slow=20,SNR=1.8			LR			LR	08 21 08.8	
CPUP	comp=Z,593nm,18.5s,baz=245,slow=39 **Villa Florida**	**11.43**	**65**				Pn	08 16 28.0	-4.4
CPUP	**Villa Florida**	**11.43**	**65**	*eP*			**Pn**	**08 16 36.9**	**+4.6**
PLTB	**Pedras Altas**	**12.96**	**94**				Pn	08 16 48.3	-4.9
PLTB	**Pedras Altas**	**12.96**	**94**	*eP*			Pn	08 16 58.4	+5.2
CPSB	**Cacapava Do Su**	**13.26**	**88**	*eP*			Pn	08 17 02.8	+5.4
LPAZ	**La Paz**	**15.44**	**3**	P			**Pn**	**08 17 25.0**	**-2.5**
LPAZ	comp=Z,0.2nm,0.3s,baz=185,slow=7.5,SNR=2.9			LR			LR	08 23 46.5	
LPAZ	comp=Z,258nm,19.9s,baz=233,slow=39 **La Paz**	**15.44**	**3**				**Pn**	**08 17 25.5**	**-2.0**
AQDB	**Aquidauana**	**16.29**	**49**				**Pn**	**08 17 33.1**	**-4.7**
AQDB	**Aquidauana**	**16.29**	**49**	*eP*			**P**	**08 17 41.3**	**+0.4**
PTGB	**Pitanga**	**16.35**	**69**	*eP*			**P**	**08 17 44.4**	**+2.7**
SIV	**San Ignacio**	**17.23**	**26**	P			**Pn**	**08 17 45.5**	**-4.5**
SIV	comp=Z,0.2nm,0.3s,baz=223,slow=12,SNR=9.4			LR			LR	08 25 19.2	
TER01	comp=Z,189nm,18.5s,baz=205,slow=40 **Tubaro-SC**	**17.34**	**84**	*eP*			**P**	**08 17 56.6**	**+4.0**
PTLB	**Pontes e Lacer**	**18.51**	**31**	*eP*			**Pn**	**08 18 08.3**	**+2.7**
PCMB	**Pacaembu**	**18.66**	**61**	*eP*			**Pn**	**08 18 10.7**	**+3.2**
PP1B	**Ponte de Pedra**	**

NBPA	Parau_RN	39.38	56	*e*P		P	08 21 21.7	+2.7
RCBR	Riachuelo	40.18	57	*e*P		P	08 21 28.9	+3.1
NBPV	Pedro Velho	40.21	58	*e*P		P	08 21 29.2	+3.2
SJCC	San Jacinto, C	41.88	351	P		P	08 21 38.5	-1.3
SJCC				IAmb	IAmb		08 21 47.7	
	comp=Z,45nm,1.0s							
TGUH	Tegucigalpa,Un	48.89	336	P		P	08 22 35.1	-0.3
VNA3	Neumayer Olymp	50.42	159	P		P	08 22 45.9	-0.5
VNA3	Neumayer Olymp	50.42	159	PcP		PcP	08 24 06.2	+1.6
VNA1	Neumayer--Stat	50.68	158	P		P	08 22 48.3	+0.1
VNA2	Neumayer--Watz	51.03	158	P		P	08 22 50.5	-0.5
	baz=286,slow=8.7							
SNAA	Sanae	52.64	159	P		P	08 23 02.3	-0.7
SNAA	Sanae	52.64	159	PcP		PcP	08 24 15.7	+2.8
SNAA	Sanae	52.64	159	P		P	08 23 02.2	-0.8
	comp=Z,10.0nm,0.9s,baz=282,slow=7.0,SNR=31							
SNAA	Sanae	52.64	159	P		P	08 23 02.4	-0.7
SNAA				IAmb	IAmb		08 23 03.5	
	comp=Z,11nm,0.9s							
QSPA	South Pole Qui	58.45	180	P		P	08 23 45.6	+0.6
QSPA				IAmb	IAmb		08 23 46.7	
	comp=Z,21nm,1.2s							
ZAIG	Zacatecas	63.13	325	P		P	08 24 18.4	+0.9
ZAIG				IAmb	IAmb		08 24 18.9	
	comp=Z,19nm,1.9s							
344A	Westbrook Farm	66.22	340	P		P	08 24 36.8	-0.4
833A	Chaparral WMA,	66.48	331	P		P	08 24 39.6	+0.7
	baz=152							
342A	Flagon Creek P	66.64	338	P		P	08 24 40.2	+0.4
VNDA	Vanda	66.78	191	P		P	08 24 40.5	+0.2
	comp=Z,2.6nm,0.8s,baz=139,slow=5.5,SNR=13							
VNDA	Vanda	66.78	191	IAmb	IAmb		08 24 42.9	
	comp=Z,3.7nm,0.9s							
VBMS	Vicksburg	66.88	340	P		P	08 24 40.7	-0.6
VBMS	Vicksburg	66.88	340	P		P	08 24 41.3	0.0
	baz=160							
Z47A	Carrollton	67.14	343	P		P	08 24 42.3	-0.6
Z47A				IAmb	IAmb		08 24 42.6	
	comp=Z,13nm,0.9s							
143A	Socs Landing,	67.59	340	P		P	08 24 45.5	-0.3
HPIG		68.14	325	P		P	08 24 49.6	-0.1
HPIG				IAmb	IAmb		08 24 51.2	
	comp=Z,6.1nm,0.8s							
JCT	Junction City	68.54	331	P		P	08 24 51.8	-0.1
JCT				IAmb	IAmb		08 25 01.7	
	comp=Z,13nm,0.8s							
JCT	Junction City	68.54	331	P		P	08 24 52.4	+0.5
	baz=152							
TX31	Lajitas Ar. Si	69.21	328	P		P	08 24 56.4	+0.2
TX32	Lajitas Array	69.21	328	P		P	08 24 56.4	+0.2
TX32				IAmb	IAmb		08 26 20.2	
	comp=Z,4.1nm,0.8s							
TXAR	Lajitas Array	69.21	328	P		P	08 24 55.3	-0.9
	comp=Z,2.2nm,0.7s,baz=152,slow=8.0,SNR=27							
TXAR	Lajitas Array	69.21	328	P		P	08 24 56.1	-0.1
WVT	Waverly	69.87	344	P		P	08 24 58.4	-1.6
WVT	Waverly	69.87	344	P		P	08 24 58.7	-1.3
	baz=162							
Z35A	Perchaven, San	70.10	335	P		P	08 25 01.1	-0.4
GNAR	Gosnell	70.26	342	P		P	08 25 01.8	-0.6
UTMT	University of	70.32	343	P		P	08 25 01.9	-0.8
ABTX	Abilene, Hawle	70.37	333	P		P	08 25 03.2	+0.1
	baz=152							
W39A	Magazine	70.63	339	P		P	08 25 04.8	+0.1
	baz=157							
PARMO	Parma	70.85	342	P		P	08 25 05.1	-0.9
PBMO	Poplar Bluff	71.14	342	P		P	08 25 06.6	-1.1
PBMO				IAmb	IAmb		08 25 07.5	
	comp=Z,15nm,0.8s							
U40A	Yellville	71.42	340	P		P	08 25 08.9	-0.5
	baz=158							
DBIC	Dimbokro	71.90	70	LR		LR	08 52 49.7	
	comp=Z,44nm,21.6s,baz=200,slow=33							
TUL1	Leonard	71.93	337	P		P	08 25 12.2	-0.3
	baz=156							
MNTX	Cornudas Mount	72.00	328	P		P	08 25 12.4	-0.6
	baz=148							
OK029	Liberty Lake	72.39	336	P		P	08 25 14.4	-0.9
OK029				IAmb	IAmb		08 25 15.3	
	comp=Z,20nm,1.1s							
N59A	State Game Lan	72.62	354	P		P	08 25 16.4	-0.1
	baz=173							
MSTX	Muleshoe	72.80	331	P		P	08 25 17.3	-0.6
MSTX				IAmb	IAmb		08 25 18.4	
	comp=Z,16nm,0.8s							
MSTX	Muleshoe	72.80	331	P		P	08 25 17.8	-0.1
	baz=150							
KAN13	South Haven SW	73.50	336	P		P	08 25 21.4	-0.4
319A	Douglas	73.58	325	P		P	08 25 22.8	+0.2
319A				IAmb	IAmb		08 25 24.4	
	comp=Z,11nm,0.8s							
KS20	Mayfield South	73.72	336	P		P	08 25 22.9	-0.2
KS20				IAmb	IAmb		08 25 23.6	
	comp=Z,26nm,1.2s							
121A	Cookes Peak, D	73.81	326	P		P	08 25 25.2	+1.2
	baz=146							
MAW	Mawson	74.51	163	P		P	08 25 26.1	-1.3
	comp=Z,4.2nm,0.8s,baz=215,slow=7.1,SNR=8.8							
MAW	Mawson	74.51	163	P		P	08 25 26.9	-0.5
ANMO	Albuquerque	75.21	329	P		P	08 25 33.0	+0.9
	baz=147							
LBNH	Lisbon	75.71	358	P		P	08 25 34.6	+0.1
	baz=177							
214A	Organ Pipe Nat	75.83	322	P		P	08 25 35.9	+0.4
214A	Organ Pipe Nat	75.83	322	P		P	08 25 36.9	+1.4
	baz=142							
CBKS	Cedar Bluff	75.90	336	P		P	08 25 35.9	+0.1
	baz=153							
T25A	Trinidad	76.21	331	P		P	08 25 38.7	+0.9
	baz=149							
X16A	Lo Mia Camp, P	77.10	325	P		P	08 25 43.5	+0.6
X16A				IAmb	IAmb		08 25 44.7	
	comp=Z,6.3nm,1.0s							
SDCO	Great Sand Dun	77.17	331	P		P	08 25 44.0	+0.7
	baz=148							
KOWA	Kowa	77.25	64	P		P	08 25 40.9	-3.0
	comp=Z,1.5nm,0.5s,baz=289,slow=9.3,SNR=4.2							
KOWA	Kowa	77.25	64	IAmb	IAmb		08 27 41.6	
	comp=Z,40nm,1.9s							
Y14A	Wickenburg	77.49	324	P		P	08 25 45.1	+0.1
GLA	Glamis	77.74	322	P		P	08 25 47.4	+1.1
	baz=141							
WUAZ	Wupatki	77.95	326	P		P	08 25 48.2	+0.6
WUAZ	Wupatki	77.95	326	P		P	08 25 49.0	+1.4
	baz=144							
MVCO	Mesa Verde	78.01	329	P		P	08 25 48.6	+0.7
	baz=146							
Q24A	Divide	78.07	332	P		P	08 25 49.0	+0.7
	baz=149							
BOSA	Boshof	78.68	117	P		P	08 25 50.3	-1.6
	comp=Z,4.5nm,0.8s,baz=228,slow=5.6,SNR=3.6							
PV01	Paradox Valley	78.81	329	P		P	08 25 51.9	-0.5
SMCO	Snowmass	79.00	331	P		P	08 25 53.6	0.0
PFO	Pinyon Flats O	79.04	321	P		P	08 25 54.9	+1.3
	baz=140							
BELC	Belle Mtn. Jos	79.09	322	P		P	08 25 55.1	+1.2
	baz=140							
KNB	Kanab	79.85	326			P	08 25 58.4	+0.4
KNB				IAmb	IAmb		08 25 59.8	
	comp=Z,9.8nm,1.0s							
TUQ	Turquoise Moun	80.16	323	P		P	08 26 00.8	+1.1
	baz=140							
O20A	White River Ci	80.33	330	P		P	08 26 01.4	+0.8
	baz=146							
SRU	San Rafael Swe	80.48	328	P		P	08 26 01.0	-0.4
GSC	Goldstone, Bar	80.51	322	P		P	08 26 02.2	+0.6
	baz=140							
CCUT	Cedar City	80.54	326			P	08 26 02.8	+1.0
MVU	Marysvale	80.75	327	P		P	08 26 03.0	+0.1
MVU				IAmb	IAmb		08 26 04.4	
	comp=Z,12nm,0.8s							
EDW2	Edwards Air Fo	80.83	321	P		P	08 26 04.1	+0.9
	baz=139							
TORD	Torodi Ar. Bea	80.90	68	P		P	08 26 01.0	-3.0
	comp=Z,3.7nm,1.1s,baz=262,slow=4.3,SNR=9.5							
TORD				LR	LR		08 58 26.9	
	comp=Z,61nm,21.6s,baz=240,slow=33							
LRMC	Laurel Mtn Rad	81.11	322	P		P	08 26 05.7	+1.0
	baz=139							
RWWY	Rawlins	81.21	332	P		P	08 26 05.5	+0.2
RWWY				IAmb	IAmb		08 26 06.3	
	comp=Z,10nm,0.8s							
PRN	Pahroc Range	81.25	324	P		P	08 26 05.7	+0.3
RDMU	Red Mountain	81.26	330	P		P	08 26 05.1	-0.4
RDMU				IAmb	IAmb		08 26 06.3	
	comp=Z,6.6nm,0.8s							
FURC	Furnace Creek,	81.44	323	P		P	08 26 07.5	+1.3
	baz=140							
TPNV	Topopah Spring	81.49	323	P		P	08 26 07.8	+1.0
	baz=140							
ISA	Isabella, Lake	81.67	321	P		P	08 26 08.7	+1.0
	baz=139							
PKM	Mcpherson Peak	81.82	320	P		P	08 26 09.9	+1.3
	baz=138							
RSSD	Black Hills	82.09	335	P		P	08 26 09.9	+0.1
	baz=150							
GRAC	Grapevine Rang	82.10	323	P		P	08 26 11.1	+1.2
	baz=140							
VES	Vestal, Richgr	82.13	321	P		P	08 26 10.9	+1.0
	baz=138							
R11A	Troy Canyon, C	82.25	325	P		P	08 26 11.6	+0.9
	baz=141							
DUG	Dugway, Tooele	82.39	328	P		P	08 26 11.8	+0.4
	baz=143							
BW06	Boulder Array	83.07	331	P		P	08 26 15.4	+0.4
	baz=146							
PDAR	Pinedale Array	83.07	331	P		P	08 26 13.7	-1.3
	comp=Z,1.1nm,0.7s,baz=142,slow=5.8,SNR=14							
AGMN	Agassiz Nation	83.32	342	P		P	08 26 14.8	-1.0
	baz=157							
NVAR	Mina Array Bea	83.67	323	P		P	08 26 14.7	-3.5
	comp=Z,1.7nm,0.8s,baz=160,slow=5.6,SNR=14							
IMW	Indian Meadow	84.57	331	P		P	08 26 22.0	-0.7
IMW				IAmb	IAmb		08 26 23.5	
	comp=Z,8.4nm,1.6s							
PNTR	Pine Nut	84.83	323	P		P	08 26 24.3	+0.2
PNTR				IAmb	IAmb		08 26 26.1	
	comp=Z,6.1nm,0.8s							
RLMT	Red Lodge	84.91	333	P		P	08 26 24.3	0.0
	baz=146							
LAO	LASA Array	85.09	335	P		P	08 26 25.0	0.0
	baz=148							
ULM	Lac du Bonnet	85.12	343	P		P	08 26 21.9	-3.1
	comp=Z,3.4nm,0.7s,baz=75,slow=7.1,SNR=5.6							
YMR	Madison River	85.22	331	P		P	08 26 25.4	-0.4
YMR				IAmb	IAmb		08 26 27.1	
	comp=Z,6.0nm,0.9s							
GCMT	Greycliff	85.62	333	P		P	08 26 27.2	-0.6
HLID	Hailey	85.79	329	P		P	08 26 29.1	+0.4
	baz=142							
DGMT	Dagmar	85.93	337	P		P	08 26 29.1	0.0
	baz=150							
MCMT	McKenzie Canyo	86.13	330	P		P	08 26 30.0	-0.4
BOZ	Bozeman (W)	86.24	331	P		P	08 26 30.4	-0.4
	baz=144							
SCHQ	Schefferville	86.28	1	P		P	08 26 26.7	-3.9
	comp=Z,5.7nm,1.0s,baz=218,slow=4.1,SNR=4.1							
SCHQ				LR	LR		09 08 50.1	
	comp=Z,23nm,18.0s,baz=84,slow=38							
SCHQ	Schefferville	86.28	1	IAmb	IAmb		08 26 54.8	
	comp=Z,28nm,1.6s							
LRM	Limekiln Ridge	86.76	331	P		P	08 26 33.1	-0.4
URZ	Uruguay	87.14	226	LR	LR		08 59 15.6	
	comp=Z,38nm,18.0s,baz=31,slow=31							
HRY	Holter Researc	87.23	332	P		P	08 26 35.6	0.0
JCC	Jacoby Creek,	88.42	321	IAMs_20		IAMs_20	09 10 52.9	
	comp=Z,265nm,22.0s							
J05D	Fort Rock, OR	88.78	325	P		P	08 26 43.6	+0.5
	baz=137							
PINE	Pine Mountain	89.01	325	P		P	08 26 45.2	+0.9
PINE				IAmb	IAmb		08 26 45.8	
	comp=Z,9.0nm,0.9s							
I05D	Terrebonne, OR	89.61	325	P		P	08 26 47.6	+0.7
	baz=137							
SFS	San Fernando	89.68	46	IAMs_20		IAMs_20	09 00 59.4	
	comp=Z,343nm,21.0s							
FFC	Flin Flon	90.76	342	IAMs_20		IAMs_20	09 04 54.7	
	comp=Z,127nm,18.0s							
CART	Cartagena	93.61	47	IAMs_20		IAMs_20	09 07 09.3	
	comp=Z,171nm,18.0s							
KEST	Kesra	99.37	54	LR		LR	09 14 44.4	
	comp=Z,85nm,18.8s,baz=211,slow=37							
L26K	Log Cabin Wild	111.27	332	IAMs_20		IAMs_20	09 06 47.0	
	comp=Z,143nm,22.0s							
RIDG	Independent Ri	112.20	332	IAMs_20		IAMs_20	09 15 52.5	
	comp=Z,194nm,21.0s							
COLA	College	113.87	333	IAMs_20		IAMs_20	09 20 40.7	
	comp=Z,114nm,20.0s							
KTH	Kantishna Hill	114.59	331	IAMs_20		IAMs_20	09 17 49.1	
	comp=Z,168nm,22.0s							
BPAW	Bear Paw Mtn.	114.82	331	IAMs_20		IAMs_20	09 10 55.1	
	comp=Z,91nm,18.0s							
MLR	Muntele Rosu	114.99	51	IAMs_20		IAMs_20	09 11 22.8	
	comp=Z,96nm,18.0s							
CAST	Castle Rocks	115.03	330	IAMs_20		IAMs_20	09 12 29.7	
	comp=Z,158nm,18.0s							
J20K	Nowinta River	116.15	331	IAMs_20		IAMs_20	09 13 27.2	
	comp=Z,137nm,21.0s							
ANTO	Ankara	117.82	58	IAMs_20		IAMs_20	09 22 54.6	
	comp=Z,147nm,22.0s							
RDOG	Red Dog Mine	120.56	334	IAMs_20		IAMs_20	09 36 02.0	
	comp=Z,173nm,19.0s							
ASAR	Alice Springs	120.73	204	PKP		PKPdf	08 32 39.9	-2.1
	comp=Z,0.7nm,0.7s,baz=147,slow=2.4,SNR=9.8							
WRA	Warramunga Arr	123.98	207	PKP		PKPdf	08 32 46.7	-1.6
	comp=Z,2.1nm,0.7s,baz=173,slow=2.8,SNR=16							
FITZ	Fitzroy Crossi	128.50	198	PKP		PKPdf	08 32 55.6	-1.3
	comp=Z,6.6nm,1.2s,baz=171,slow=5.3,SNR=4.1							
TIXI	Tiksi	138.95	352	IAMs_20		IAMs_20	09 15 48.1	
	comp=Z,86nm,19.0s							
KSH	Kashi	150.52	65	PKPbc		PKPbc	08 33 40.1	-1.2
ZALV	Zalesovo Beam	150.91	33	PKPbc		PKPdf	08 33 38.4	+2.5
	comp=Z,8.9nm,0.7s,baz=296,slow=3.4,SNR=25							
ZALV	Zalesovo Beam	150.91	33			PKPbc	08 33 39.4	-2.1
MKAR	Makanchi Array	153.28	48	PKPbc		PKPbc	08 33 45.5	-1.7
	comp=Z,2.7nm,0.8s,baz=302,slow=2.7,SNR=18							
MKAR				PKPab		sPKPbc	08 33 54.4	+3.6
	comp=Z,2.4nm,0.7s,baz=310,slow=2.4,SNR=8.6							
MKAR	Makanchi Array	153.28	48			PKPbc	08 33 45.0	-2.2
MJAR	Matsushiro Arr	157.16	289	PKPab		PKPab	08 34 14.0	-2.1
	comp=Z,2.4nm,0.8s,baz=141,slow=2.9,SNR=6.9							
LZH	Lanzhou	172.55	53	*e*PKP		PKPdf	08 33 52.5	-6.2
LZH				sPKP			08 33 56.8	
LZH				LR	LR			
	comp=N,340nm,18.0s							
LZH				LR	LR			
	comp=E,360nm,18.2s							
LZH				LR	LR			
	comp=Z,280nm,20.3s							

IDC **12** *08:16:52.9±0.7, 51˚.47N×16˚.03E, h0km, mb3.6/2, mb1 3.5/11, mb1mx3.4/54, mbtmp3.5/11, ML3.3/9, Error ellipse: s-maj=13.8km s-min=6.9km az=102.0*

IPEC **12** *08:16:52.8±0.3, 51˚.45N×16˚.33E, h1km, ML3.0/3, Error ellipse: s-maj=2.9km s-min=1.6km az=70.0*

LDG **12** *08:16:53.5±0.2, 51˚.43N×16˚.29E, h1km, Ml3.2/6, Error ellipse: s-maj=4.6km s-min=2.3km az=28.0, Suspected Mining induced.*

PRU **12** *08:16:53.3±0.0, 51˚.45N×16˚.21E, h0km*

BGR **12** *08:16:53.4±0.3, 51˚.44N×16˚.23E, h1km, ML3.2/9, Error ellipse: s-maj=4.4km s-min=2.2km az=40.0*

VIE **12** *08:16:54.7±1.0, 51˚.32N×16˚.08E, h0km, mb3.0/14, ml3.2/12, ms3.4/2, Error ellipse: s-maj=13.0km s-min=4.8km az=49.0 69 km WNW of Wroclaw Suspected Mining induced.*

ISC 12 08:16:50.5±0.6, 51˚.51N±0˚.03×16˚.21E±0˚.02, h0km, n108, σ1s95/187, 5C-5D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.67	176	*i* Pg	Pg	08 17 04.8	+1.6
KSP				*e*Sg	Sg	08 17 12.8	+0.8
KSP	Ksiaz	0.67	176	*e*Pg	Pg	08 17 04.9	+1.6
KSP				*e*Sg	Sg	08 17 12.2	+0.2
	SNR=2.0						
CHVC	Chvalec	0.93	186	*e*PG	Pg	08 17 09.8	+1.5
CHVC				*e*SG	Sg	08 17 21.1	+0.8
OSTC	Ostas	0.95	180	*e*PG	Pg	08 17 10.4	+1.6
OSTC				*e*SG	Sg	08 17 22.2	+1.1
UPC	Upice	1.01	187	*e*PG	Pg	08 17 11.1	+1.2
UPC				*e*SG	Sg	08 17 23.4	+0.4
	comp=Z,468nm,0.4s						
DPC	Dobruska-Polom	1.16	176	*e*PG	Pg	08 17 13.6	+0.8
DPC				*e*SG	Sg	08 17 27.7	-0.1
	comp=Z,197nm,0.5s						
DPC	Dobruska-Polom	1.16	176	*e*Pg	Pg	08 17 13.8	+1.0
DPC				*e*Sg	Sg	08 17 28.2	+0.3
	SNR=2.3						
PVCC	Panska Ves	1.43	227	*e*PG	Pb	08 17 19.3	+1.4
PVCC				*e*SG	Sn	08 17 38.5	+1.3
	comp=Z,593nm,0.4s						
PVCC	Panska Ves	1.43	227	*e*Pg	Pb	08 17 19.4	+1.4
PVCC				*e*Sg	Sn	08 17 39.0	+1.9
	SNR=3.5						
KRLC	Kraliky	1.48	166	*e*PG	Pn	08 17 19.3	+0.9
KRLC				*e*SG	Sg	08 17 39.0	+0.9
BRG	Berggiesshubel	1.56	247	Pn	Pn	08 17 20.6	+1.1
BRG				Pg	Pg	08 17 22.5	+2.1
BRG				Sg	Sg	08 17 42.5	+1.9
BRG				Amp		08 17 45.8	
	comp=Z,139nm,0.4s						
RUE	Ruedersdorf	1.79	304	*e*Pn	Pn	08 17 24.4	+1.9
	SNR=3.6						
RUE				*e*Sg	Sg	08 17 52.2	+4.2
	SNR=3.7						
PRA	Prague	1.83	219	*e*PN	Pn	08 17 24.3	+1.1
PRU	Pruhonice	1.86	215	*e*PN	Pn	08 17 24.4	+0.8
PRU				*e*PG	Pb	08 17 26.5	+1.2
PRU				*e*SG	Sb	08 17 50.5	+1.5
	comp=Z,140nm,0.5s						
PRU	Pruhonice	1.86	215	*e*Pn	Pn	08 17 24.4	+0.8
	SNR=2.4						
PRU				*e*Pg	Pb	08 17 26.5	+1.2
FBE	Freiberg	1.89	253	*e*Sg	Sg	08 17 52.8	+1.6
	SNR=4.2						
MORC	Moravsky Berou	1.93	153	⇓P	Pn	08 17 25.3	+0.7
MORC	Moravsky Berou	1.93	153	⇓S	Sn	08 17 49.1	-0.5
MORC	Moravsky Berou	1.93	153	*e*Pn	Pn	08 17 25.5	+0.9
	baz=336						
MORC				*e*Sg	Sn	08 17 50.9	+1.3
	comp=Z,107nm,0.8s,baz=336						
MORC	Moravsky Berou	1.93	153	*e*PN	Pn	08 17 25.5	+0.9
MORC				*e*SG	Sn	08 17 50.9	+1.3
MORC	Moravsky Berou	1.93	153	*e*Pn	Pn	08 17 25.5	+0.9
	SNR=24						
CLL	Collm	2.02	265	*e*Pn	Pn	08 17 27.0	+1.2
CLL				*e*Pg	Pg	08 17 30.0	+0.8
CLL				*i* Sg	Sg	08 17 57.7	+2.4
	comp=Z,91nm,0.6s						
CLL	Collm	2.02	265	*e*Pn	Pn	08 17 27.0	+1.2
	SNR=5.5						
CLL				*e*Pg	Pg	08 17 30.3	+1.1
CLL				*e*Sg	Sg	08 17 57.7	+2.4
	SNR=1.8						
OKC	Ostrava-Krasne	2.08	143	*e*PG	Pb	08 17 30.8	+1.7
OKC	Ostrava-Krasne	2.08	143	*e*Pg	Pg	08 17 31.1	+0.8
OKC				*e*Sg	Sb	08 17 56.6	+1.1
	SNR=3.0						
VRAC	Vranov	2.22	174	⇑P	Pn	08 17 30.2	+1.6
VRAC	Vranov	2.22	174	⇑S	Sb	08 18 00.6	+1.1
VRAC	Vranov	2.22	174	Pn	Pn	08 17 29.9	+1.4
	comp=Z,7.3nm,0.3s,baz=347,slow=13,SNR=22						
VRAC				Sn	Sn	08 17 58.6	+1.9
	comp=Z,9.6nm,0.3s,baz=264,slow=18,SNR=11						
VRAC	Vranov	2.22	174	*e*Pn	Pn	08 17 29.7	+1.2
	baz=356						
VRAC				*e*Sg	Sb	08 18 00.2	+0.8
	comp=Z,79nm,0.7s,baz=356						
VRAC	Vranov	2.22	174	*e*PN	Pn	08 17 29.7	+1.2
VRAC				*e*SG	Sb	08 18 00.3	+0.8
VRAC	Vranov	2.22	174	*e*Pn	Pn	08 17 30.1	+1.6
	SNR=4.0						
VRAC				*e*Sg	Sb	08 18 01.0	+1.6
	SNR=2.7						
TREC	Trest	2.27	192	*e*Pn	Pn	08 17 30.6	+1.4
	SNR=2.2						
TREC				*e*Sg	Sb	08 18 02.7	+1.9
	SNR=1.6						
LNIZ	Loecknitz	2.33	329	*e*Pn	Pn	08 17 31.8	+1.7
	SNR=4.6						
KRUC	Moravsky	2.46	177	*e*Pn	Pn	08 17 32.9	+1.2
	baz=359						
KRUC				*e*Sg	Sb	08 18 07.8	+1.6
	comp=Z,65nm,0.8s,baz=359						
KRUC	Moravsky	2.46	177	*e*PN	Pn	08 17 33.0	+1.2
KRUC				*e*SG	Sb	08 18 07.9	+1.7
KRUC	Moravsky	2.46	177	*e*Pn	Pn	08 17 33.3	+1.6
	SNR=3.2						
KRUC				*e*Pg	Pb	08 17 37.1	+1.6
TANN	Tannenbergstha	2.61	247	*e*Pn	Pn	08 17 35.8	+1.8
	SNR=6.3						
OJC	Ojcow	2.62	118	*e*Pn	Pn	08 17 33.5	-0.5
OJC				*e*Pg	Pg	08 17 42.4	+1.8
OJC				*e*Sg	Sg	08 18 16.0	+1.6
WERD	Werda	2.69	248	*e*Pn	Pn	08 17 36.6	+1.6
	SNR=2.4						
WERD				*e*Pg	Pg	08 17 43.4	+1.5
NKC	Novy Kostel	2.71	243	*e*PN	Pn	08 17 37.1	+1.9
NKC				*e*PG	Pg	08 17 43.6	+1.3
NKC				*e*SG	Sg	08 18 19.5	+2.1
	comp=Z,83nm,0.3s						
NKC	Novy Kostel	2.71	243	*e*Pn	Pn	08 17 37.1	+1.9
	SNR=17						
NKC				*e*Pg	Pg	08 17 44.5	+2.2
GUNZ	Gunzen	2.71	246	*e*Pn	Pn	08 17 37.7	+2.4
	SNR=6.6						
GUNZ				*e*Sg	Sg	08 18 19.8	+2.3
	SNR=4.0						
WERN	Wernitzgruen	2.72	245	*e*Pn	Pn	08 17 37.3	+1.9
	SNR=9.7						
PLN	Plauen	2.76	250	*e*Pg	Pg	08 17 44.8	+1.4
NEUB	Neuenburg	2.80	266	*e*Pg	Pg	08 17 45.7	+1.7
JAVC	Velka Javorina	2.82	160	*e*PN	Pn	08 17 37.7	+0.9
JAVC	Velka Javorina	2.82	160	*e*Pn	Pn	08 17 40.0	+3.2
	SNR=9.1						
KHC	Kasperske Hory	2.92	216	*e*PN	Pn	08 17 39.6	+1.4
KHC				*e*PG	Pb	08 17 45.7	+2.3
KHC				*e*SG	Sg	08 18 24.1	-0.1
	comp=Z,45nm,0.4s						
KHC	Kasperske Hory	2.92

	comp=Z,2.7nm,0.3s							
ARSA					Sg		Sg	08 19 08.8 +0.7
	comp=Z,32nm,0.6s							
PSZ	**Piszkesteto**	**4.32**	**145**	⇑P			**Pn**	**08 17 59.3 +1.8**
KOLS	**Kolonicke sedl**	**4.67**	**121**	*e*PN			**Pn**	**08 18 03.9 +1.7**
KOLS				*e*PG			**Pg**	**08 18 23.7 +3.8**
KOLS				*e*SG			**Sg**	**08 19 24.4 +4.0**
BLEU	**Blekinge**	**4.81**	**357**	*i* P			**Pn**	**08 18 06.5 +2.5**
BLEU				*e*S			**Sn**	**08 18 58.6 -1.8**
KBA	**Koelnbreinsper**	**4.82**	**204**	*e*Pn			**Pn**	**08 18 06.3 +1.9**
	comp=Z,5.3nm,0.3s,SNR=7.7							
KBA					Sg		**Sg**	**08 19 25.5 +0.3**
	comp=Z,42nm,0.8s							
BJUU	**Bjuv**	**4.95**	**339**	*i* P			**Pn**	**08 18 07.0 +1.0**
BJUU				*e*S			**Sn**	**08 19 03.2 -0.7**
DEL	**Delary**	**5.16**	**345**	*i* P			**Pn**	**08 18 10.6 +1.8**
DEL				*i* S			**Sn**	**08 19 08.6 -0.4**
WATA	**Walderalm**	**5.16**	**218**	*e*Pn			**Pn**	**08 18 11.2 +2.2**
	comp=Z,7.8nm,0.5s,SNR=5.5							
WATA					Sg		**Sg**	**08 19 35.7 -0.4**
	comp=Z,12nm,0.4s							
WTTA	**Wattenberg**	**5.20**	**217**	*e*Pn			**Pn**	**08 18 11.7 +2.2**
	comp=Z,2.1nm,0.3s,SNR=5.1							
WTTA					Sg		**Sg**	**08 19 36.9 -0.4**
	comp=Z,39nm,0.8s							
MOTA	**Moosalm**	**5.34**	**221**	*i* Pn			**Pn**	**08 18 13.6 +2.1**
	comp=Z,1.9nm,0.3s							
MOTA					Sg		**Sg**	**08 19 40.9 -1.0**
	comp=Z,31nm,0.9s							
ABTA	**Abfaltersbach**	**5.35**	**208**	*i* Pn			**Pn**	**08 18 14.3 +2.7**
	comp=Z,3.0nm,0.4s							
ABTA					Sg		**Sg**	**08 19 41.2 -1.1**
	comp=Z,17nm,0.5s							
RETA	**Reutte**	**5.37**	**224**	*e*Pn			**Pn**	**08 18 13.3 +1.5**
	comp=Z,4.6nm,0.4s,SNR=8.3							
RETA					Sg		**Sg**	**08 19 42.8 0.0**
	comp=Z,28nm,0.8s							
SQTA	**Sankt Quirin**	**5.39**	**219**	*i* Pn			**Pn**	**08 18 15.3 +3.0**
	comp=Z,3.9nm,0.3s							
SQTA				*e*Sg			**Sg**	**08 19 43.1 -0.6**
	comp=Z,27nm,0.8s							
FETA	**Feichten**	**5.75**	**221**	*e*Pn			**Pn**	**08 18 19.5 +2.3**
	comp=Z,2.2nm,0.5s							
FETA					Sg		**Sg**	**08 19 55.1 +0.1**
	comp=Z,11nm,0.7s							
DAVOX	**Davos/Dischmat**	**6.30**	**224**	Pn			**Pn**	**08 18 25.5 +0.8**
	comp=Z,0.8nm,0.3s,baz=106,slow=15,SNR=3.9							
DAVOX					Sn		**Sn**	**08 19 30.2 -7.2**
	comp=Z,0.3nm,0.3s,baz=258,slow=9.0,SNR=1.6							
DAVOX					Lg		Lg	08 20 10.2
	comp=Z,0.8nm,0.3s,baz=326,slow=6.1,SNR=5.2							
DRGR		**6.36**	**135**	⇑P			**Pn**	**08 18 26.7 +1.2**
DRGR		**6.36**	**135**	⇓S			**Sn**	**08 19 34.8 -4.0**
CDF	**Champ du Feu**	**6.54**	**245**	*e*Pn			**Pn**	**08 18 29.9 +1.9**
CDF	**Champ du Feu**	**6.54**	**245**	*e*Pg			**Pg**	**08 18 56.1 +0.3**
CDF				*e*Sg			**Sg**	**08 20 19.5 -1.1**
	comp=Z,15nm,0.7s							
BURAR	**Bucovina Array**	**7.04**	**120**	⇓P			**Pn**	**08 18 35.9 +1.1**
HINF	**Hinteralfeld**	**7.11**	**242**	*e*Pn			**Pn**	**08 18 35.8 +0.1**
HINF	**Hinteralfeld**	**7.11**	**242**	*e*Pg			**Pg**	**08 19 05.8 -0.8**
HINF				*e*Sg			**Sg**	**08 20 36.1 -2.6**
	comp=Z,1.8nm,0.3s							
HAU	**Haudompre**	**7.29**	**245**	*e*Pn			**Pn**	**08 18 38.6 +0.4**
HAU	**Haudompre**	**7.29**	**245**	*e*Pg			**Pg**	**08 19 08.8 -1.2**
HAU				*e*Sg			**Sg**	**08 20 41.9 -2.5**
	comp=Z,9.6nm,0.6s							
GIVF	**Givet**	**7.35**	**263**	*e*Sn			**Sn**	**08 19 59.3 -3.8**
GIVF				*e*Sg			**Sg**	**08 20 45.5 -1.0**
	comp=Z,1.8nm,0.2s							
GZR	**Gura Zlata**	**7.52**	**142**	⇓P			Pn	08 18 37.2 -4.1
BAIF	**Baives**	**7.75**	**264**	*e*Pn			**Pn**	**08 18 46.2 +1.8**
BAIF				*e*Sn			**Sn**	**08 20 08.2 -4.6**
	comp=Z,0.9nm,0.3s							
AKASG	**Malin Array Be**	**8.23**	**91**	Pn			**Pn**	**08 18 51.4 +0.3**
	comp=Z,1.6nm,0.3s,baz=281,slow=12,SNR=5.9							
AKASG					Sn		**Sn**	**08 20 18.4 -6.3**
	comp=Z,0.5nm,0.3s,baz=338,slow=11,SNR=1.5							
AKASG					Lg		Lg	08 21 25.0
	baz=47,slow=25,SNR=2.4							
VOIR		**8.45**	**133**	⇑P			Pn	08 18 49.0 -5.1
LPG	**La Plagne**	**8.69**	**230**	*e*Pn			**Pn**	**08 18 59.0 +1.3**
HFS	**Hagfors**	**8.76**	**352**	Pn			**Pn**	**08 18 58.2 -0.1**
	comp=Z,0.3nm,0.3s,baz=166,slow=14,SNR=6.7							
HFS					Sn		**Sn**	**08 20 31.5 -6.1**
	comp=Z,0.1nm,0.3s,baz=172,slow=21,SNR=2.3							
LOR	**Lormes**	**9.10**	**247**	*e*Pn			**Pn**	**08 19 03.6 +0.5**
	baz=60							
LOR				*e*Sn			**Sn**	**08 20 39.6 -6.6**
	comp=Z,1.1nm,0.2s							
MBDF	**Montbardon**	**9.26**	**227**	*e*Pn			**Pn**	**08 19 06.1 +0.7**
SBF	**Sospel**	**9.67**	**221**	*e*Pn			**Pn**	**08 19 11.1 +0.3**
NOA	**NORSAR Array B**	**9.94**	**346**	Pn			**Pn**	**08 19 14.2 -0.4**
	comp=Z,0.0nm,0.3s,baz=181,slow=10,SNR=5.7							
FRF	**La Foret Royal**	**10.24**	**223**	*e*Pn			**Pn**	**08 19 19.2 +0.6**
FINES	**FINESS Array B**	**11.34**	**25**	Pn			**Pn**	**08 19 32.8 -0.7**
	comp=Z,0.5nm,0.3s,baz=209,slow=11,SNR=15							
FINES					Sn		**Sn**	**08 21 35.9 -4.8**
	comp=Z,0.4nm,0.3s,baz=216,slow=18,SNR=5.4							
EKA	**Eskdalemuir Ar**	**12.16**	**296**	Pn			**Pn**	**08 19 44.4 -0.4**
	baz=98,slow=13,SNR=2.0							
ARCES	**ARCESS Array B**	**18.61**	**10**	Pn			**P**	**08 21 07.6 -1.5**
	baz=194,slow=12,SNR=17							
BVAR	**Borovoye Array**	**32.53**	**66**	P			**P**	**08 23 24.8 +2.0**
	comp=Z,0.6nm,0.7s,baz=229,slow=47,SNR=2.0							
TORD	**Torodi Ar. Bea**	**40.02**	**202**	P			**P**	**08 24 28.7 +1.6**
	comp=Z,0.7nm,0.7s,baz=2.3,slow=7.8,SNR=4.5							

SOME ***12*** *08:18:06.0,42.°02N×80.°68E,h15km*
KRNET ***12*** *08:18:06.1±0.1,42.°05N×80.°76E,h19km,mb3.6*
NNC ***12*** *08:18:07.0±1.3,42.°02N×80.°59E,h0km,mb3.7,mpv3.5, Error ellipse: s-maj=8.3km s-min=6.0km az=144.0*

ISC 12 08:18:05.0±2.1,42.°21N±0.°06×81.°06E±0.°06,h8km±11km, n61,σ1s73/100,17C-5D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.34**	**337**	*e*P	**Pg**	**08 18 33.1**	**+2.3**
	baz=48						
KTMS				*e*S	**Sn**	**08 18 52.6**	**+4.3**
	baz=48						
KTMS	**Ketmen**	**1.34**	**337**	*e*P	**Pg**	**08 18 33.1**	**+2.3**
	7.3nm,0.1s						
KTMS				*e*S	**Sn**	**08 18 52.6**	**+4.3**
	55nm,0.3s						
KTMS	**Ketmen**	**1.34**	**337**	P	**Pg**	**08 18 33.1**	**+2.3**
	7.3nm,0.1s						
KTMS				S	**Sn**	**08 18 52.6**	**+4.3**
	55nm,0.3s						
SHLS	**Shalkode**	**1.51**	**309**	*e*P	**Pn**	**08 18 30.7**	**-1.8**
	baz=30						
SHLS				*e*S	**Sn**	**08 18 49.0**	**-3.4**
	baz=30						
SHLS	**Shalkode**	**1.51**	**309**	*e*P	**Pn**	**08 18 30.7**	**-1.8**
	36nm,0.1s						
SHLS				*e*S	**Sn**	**08 18 49.0**	**-3.4**
	297nm,0.2s						
SHLS	**Shalkode**	**1.51**	**309**	P	**Pn**	**08 18 30.7**	**-1.8**
	36nm,0.1s						
SHLS				S	**Sn**	**08 18 49.0**	**-3.4**
	297nm,0.2s						
PDGK	**Podgornoye**	**1.61**	**315**	P	**Pb**	**08 18 35.5**	**+0.5**
	6.5nm,0.3s						
PDGK				S	**Sg**	**08 18 57.0**	**+0.1**
	23nm,0.3s						
PDGK	**Podgornoye**	**1.61**	**315**	⇑P	**Pb**	**08 18 35.3**	**+0.3**
	6.5nm,0.3s						
PDGK				⇑S	**Sg**	**08 18 56.9**	**+0.1**
	83nm,0.4s						
UZB	**Uzynbulak**	**1.77**	**303**	*e*P	**Pb**	**08 18 37.2**	**-0.6**
	baz=11						
UZB				*e*S	**Sb**	**08 18 59.8**	**-0.4**
	baz=11						
UZB	**Uzynbulak**	**1.77**	**303**	*e*P	**Pb**	**08 18 37.2**	**-0.6**
	12nm,0.2s						
UZB				*e*S	**Sb**	**08 18 59.8**	**-0.4**
	23nm,0.2s						
UZB	**Uzynbulak**	**1.77**	**303**	P	**Pb**	**08 18 37.2**	**-0.6**
	12nm,0.2s						
UZB				S	**Sb**	**08 18 59.8**	**-0.4**
	23nm,0.2s						
PRZ	**Przheval'sk**	**1.99**	**279**	⇑*i*P	**Pn**	**08 18 40.3**	**+1.2**
	baz=85						
PRZ				⇑*i*S	**Sn**	**08 19 04.6**	**+0.3**
	baz=85						
SATY	**Saty**	**2.14**	**294**	*e*P	**Pb**	**08 18 44.3**	**+0.3**
	baz=1.0						
SATY				*e*S	**Sg**	**08 19 11.7**	**-1.9**
	baz=1.0						
SATY	**Saty**	**2.14**	**294**	*e*P	**Pb**	**08 18 44.3**	**+0.3**
	19nm,0.4s						
SATY				*e*S	**Sg**	**08 19 11.7**	**-1.9**
	130nm,0.2s						
SATY	**Saty**	**2.14**	**294**	Pg	**Pb**	**08 18 44.3**	**+0.3**
	19nm,0.4s						
SATY				Lg	Lg	08 19 11.7	
	130nm,0.2s						
KPKS	**Kokpek**	**2.15**	**307**	*e*P	**Pb**	**08 18 44.9**	**+0.6**
	baz=14						
KPKS				*e*S	**Sg**	**08 19 12.9**	**-1.3**
	baz=14						
KPKS	**Kokpek**	**2.15**	**307**	*e*P	**Pb**	**08 18 44.9**	**+0.6**
	56nm,0.3s						
KPKS				*e*S	**Sg**	**08 19 12.9**	**-1.3**
	102nm,0.3s						
DJR	**Jarkent**	**2.32**	**337**	*e*P	**Pg**	**08 18 50.2**	**+0.7**
	5.8nm,0.2s						
DJR				*e*S	**Sg**	**08 19 21.8**	**+2.3**
	132nm,0.5s						
DJR	**Jarkent**	**2.32**	**337**	Pg	**Pg**	**08 18 50.2**	**+0.7**
	5.8nm,0.2s						
DJR				Lg	Lg	08 19 21.8	
	132nm,0.5s						
TARG	**Taragay, Kyrgy**	**2.47**	**260**	⇑*e*P	**Pn**	**08 18 46.6**	**+0.6**
	baz=63						
TARG				⇑*i*S	**Sn**	**08 19 15.8**	**-0.7**
	baz=63						
KURS	**Kuram**	**2.48**	**302**	*e*P	**Pb**	**08 18 49.7**	**-0.2**
	19nm,0.7s						
KURS				*e*S	**Sb**	**08 19 21.1**	**+0.5**
	22nm,0.4s						
KURS	**Kuram**	**2.48**	**302**	Pg	**Pb**	**08 18 49.7**	**-0.2**
	19nm,0.7s						
KURS				Lg	Lg	08 19 21.1	
	22nm,0.4s						
KDJ	**Kajisay**	**2.88**	**270**	⇑*e*P	**Pn**	**08 18 52.2**	**+0.8**
	baz=73						
KDJ				⇑*i*S	**Sn**	**08 19 25.6**	**-0.8**
	baz=73						
KOTS	**Kotyrbulak**	**3.08**	**291**	*e*P	**Pb**	**08 19 00.2**	**0.0**
	10nm,0.3s						
KOTS				*e*S	**Sb**	**08 19 39.0**	**+1.0**
	48nm,0.4s						
KOTS	**Kotyrbulak**	**3.08**	**291**	Pg	**Pb**	**08 19 00.2**	**0.0**
	10nm,0.3s						
KOTS				Lg	Lg	08 19 39.0	
	48nm,0.4s						
ARXS	**Arharly**	**3.10**	**311**	*e*P	**Pb**	**08 19 01.3**	**+0.9**
	17nm,0.4s						
ARXS				*e*S	**Sb**	**08 19 40.9**	**+2.5**
	32nm,0.5s						
ARXS	**Arharly**	**3.10**	**311**	Pg	**Pb**	**08 19 01.3**	**+0.9**
	17nm,0.4s						
ARXS				Lg	Lg	08 19 40.9	
	32nm,0.5s						
MDOK	**Medeo**	**3.11**	**289**	*e*P	**Pb**	**08 18 59.7**	**-0.9**
	7.8nm,0.5s						
MDOK				*e*S	**Sb**	**08 19 38.2**	**-0.5**
	35nm,0.4s						
MDOK	**Medeo**	**3.11**	**289**	⇑Pg	**Pb**	**08 18 59.0**	**-1.6**
	6.1nm,0.6s						
MDOK				⇑Lg	Lg	08 19 38.3	
	23nm,0.5s						
MDOK	**Medeo**	**3.11**	**289**	Pg	**Pb**	**08 18 59.7**	**-0.9**
	7.8nm,0.5s						
MDOK				Lg	Lg	08 19 38.2	
	35nm,0.4s						
TNSS	**Tian-Shan**	**3.15**	**287**	*e*P	**Pb**	**08 18 59.7**	**-1.7**
	5.9nm,0.2s						
TNSS				*e*S	**Sb**	**08 19 38.4**	**-1.7**
	18nm,0.5s						
TNSS	**Tian-Shan**	**3.15**	**287**	Pg	**Pb**	**08 18 59.7**	**-1.7**
	5.9nm,0.2s						
TNSS				Lg	Lg	08 19 38.4	
	18nm,0.5s						
KAPS	**Kapalarasan**	**3.31**	**339**	*e*P	**Pb**	**08 19 05.8**	**+1.8**
	3.7nm,0.4s						
KAPS				*e*S	**Sg**	**08 19 49.3**	**-2.2**
	16nm,0.4s						
KAPS	**Kapalarasan**	**3.31**	**339**	Pg	**Pb**	**08 19 04.8**	**+0.8**
	4.4nm,0.4s						
KAPS				Lg	Lg	08 19 48.9	
	16nm,0.4s						
IZV	**Izvestkoviy**	**3.38**	**286**	*e*P	**Pb**	**08 19 04.2**	**-1.1**
	6.0nm,0.2s						
IZV				*e*S	**Sb**	**08 19 45.8**	**-0.8**
	41nm,0.5s						
IZV	**Izvestkoviy**	**3.38**	**286**	Pg	**Pb**	**08 19 04.2**	**-1.1**
	6.0nm,0.2s						
IZV				Lg	Lg	08 19 45.8	
	41nm,0.5s						
TDK	**Taldyqorghan**	**3.39**	**326**	*e*P	**Pg**	**08 19 08.2**	**-1.8**
	76nm,0.2s						
TDK				*e*S	**Sg**	**08 19 52.9**	**-1.1**
	70nm,0.2s						
TDK	**Taldyqorghan**	**3.39**	**326**	Pg	**Pg**	**08 19 08.2**	**-1.8**
	76nm,0.2s						
TDK				Lg	Lg	08 19 52.9	
	70nm,0.2s						
CHKK	**Chushkaly**	**3.41**	**300**	*e*P	**Pb**	**08 19 04.6**	**-1.0**
	2.2nm,0.2s						
CHKK				*e*S	**Sb**	**08 19 46.6**	**-0.6**
	30nm,0.3s						
CHKK	**Chushkaly**	**3.41**	**300**	Pg	**Pb**	**08 19 04.6**	**-1.0**
	2.2nm,0.2s						
CHKK				Lg	Lg	08 19 46.6	
	30nm,0.3s						
MTBS	**Maitube**	**3.54**	**287**	*e*P	**Pb**	**08 19 05.7**	**-2.2**
	5.5nm,0.3s						
MTBS				*e*S	**Sb**	**08 19 49.6**	**-1.3**
	20nm,0.4s						
MTBS	**Maitube**	**3.54**	**287**	Pg	**Pb**	**08 19 05.7**	**-2.2**
	5.5nm,0.3s						
MTBS				Lg	Lg	08 19 49.6	
	20nm,0.4s						
KTBS	**Karatobe**	**3.55**	**297**	*e*P	**Pb**	**08 19 07.2**	**-0.8**
	4.3nm,0.5s						
KTBS				*e*S	**Sb**	**08 19 51.1**	**-0.1**
	72nm,0.4s						
KTBS	**Karatobe**	**3.55**	**297**	Pg	**Pb**	**08 19 07.2**	**-0.8**
	4.3nm,0.5s						
KTBS				Lg	Lg	08 19 51.1	
	72nm,0.4s						
ULHL	**Ulahol**	**3.58**	**272**	⇑*i*P	**Pn**	**08 19 02.1**	**+1.1**
	baz=75						
ULHL				⇑*i*S	**Sn**	**08 19 42.8**	**-0.7**
	baz=75						
BOOM	**Boomskoye usch**	**3.81**	**276**	⇑*e*P	**Pn**	**08 19 05.4**	**+1.4**
	baz=79						
BOOM				⇑*i*S	**Sn**	**08 19 48.4**	**-0.6**
	baz=79						
KUU	**Kurty**	**3.85**	**298**	*e*P	**Pb**	**08 19 12.6**	**-0.6**
	3.1nm,0.8s						
KUU				*e*S	**Sb**	**08 20 00.3**	**+0.4**
	15nm,0.4s						
KUU	**Kurty**	**3.85**	**298**	Pg	**Pb**	**08 19 12.6**	**-0.6**
	3.1nm,0.8s						
KUU				Lg	Lg	08 20 00.3	
	15nm,0.4s						
KST	**Kastek**	**3.85**	**284**	*e*P	**Pb**	**08 19 12.1**	**-1.1**
	8.6nm,0.4s						
KST				*e*S	**Sb**	**08 19 59.5**	**-0.6**
	33nm,0.8s						
KST	**Kastek**	**3.85**	**284**	Pg	**Pb**	**08 19 12.1**	**-1.1**
	8.6nm,0.4s						
KST				Lg	Lg	08 19 59.5	
	33nm,0.8s						
DGS	**Degeres**	**4.03**	**287**	*e*P	**Pb**	**08 19 14.4**	**-1.9**
	4.0nm,0.5s						
DGS				*e*S	**Sb**	**08 20 03.4**	**-1.8**
	15nm,0.5s						
DGS	**Degeres**	**4.03**	**287**	Pg	**Pb**	**08 19 14.4**	**-1.9**
	4.0nm,0.5s						
DGS				Lg	Lg	08 20 03.3	
	15nm,0.5s						
TKM2	**Tokmak 2**	**4.10**	**282**	⇓Pg	**Pn**	**08 19 11.3**	**+3.3**
	3.2nm,0.8s						
TKM2				⇓Lg	Lg	08 20 03.7	
	8.1nm,0.3s						
KRBS	**Karabastau**	**4.22**	**292**	*e*P	**Pb**	**08 19 18.8**	**-0.8**
	1.4nm,0.1s						
KRBS				*e*S	**Sb**	**08 20 11.0**	**+0.3**
	16nm,0.4s						
KRBS	**Karabastau**	**4.22**	**292**	Pg	**Pb**	**08 19 18.8**	**-0.8**
	1.4nm,0.1s						
KRBS				Lg	Lg	08 20 11.0	
	16nm,0.4s						
MAKZ	**Makanchi**	**4.65**	**8**	⇑Pn	**Pb**	**08 19 23.9**	**-2.8**
	4.5nm,0.5s						
MAKZ				⇓Sn	**Sb**	**08 20 21.4**	**-1.4**
	2.0nm,0.7s						
MAKZ				⇓Lg	Lg	08 20 36.7	
	7.0nm,0.8s						
MK31	**Makanchi Array**	**4.67**	**10**	Pn	**Pb**	**08 19 23.8**	**-3.3**
	1.0nm,0.5s,baz=200,slow=12,SNR=58						
MK31				Sn	**Sb**	**08 20 23.4**	**-0.1**
	2.2nm,0.6s,baz=188,slow=23,SNR=4.5						
MK31				⇓Lg	Lg	08 20 38.5	
	14nm,0.7s,baz=190,slow=28,SNR=10						
AAK	**Ala-Archa**	**4.88**	**277**	⇑Pg	**Pb**	**08 19 32.9**	**+2.1**
	4.8nm,0.8s						
AAK				⇑Lg	Lg	08 20 33.7	
	11nm,0.8s						
SGDS	**Sogindy**	**4.89**	**287**	Pg	**Pb**	**08 19 30.2**	**-0.7**
	1.1nm,0.2s						
SGDS				Lg	Lg	08 20 30.8	
	4.4nm,0.5s						
MRKS	**Merke**	**5.82**	**278**	*e*P	**Pb**	**08 19 48.6**	**+1.8**
	2.1nm,0.6s						
MRKS				*e*S	**Sb**	**08 21 02.0**	**+5.4**
	5.3nm,0.4s						
MRKS	**Merke**	**5.82**	**278**	Pg	**Pb**	**08 19 48.6**	**+1.8**
	2.1nm,0.6s						
MRKS				Lg	Lg	08 21 02.0	
	5.3nm,0.4s						

MEX 12 08:21:45.2±0.8,16.°52N×98.°49W,h5km,MD3.6,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.37**	**110**	*i* P	Pg	08 21 52.0	-0.4
PNIG				*i* S	Sg	08 21 57.3	0.0
MGIG	**Malinaltepec**	**0.72**	**349**	*e*P	Pg	08 21 57.3	-1.8
MGIG				*i* S	Sg	08 22 07.7	-0.9
TXIG	**Tlaxiaco**	**1.01**	**44**	*e*P	Pg	08 22 02.5	-2.1
TXIG				*i* S	Sg	08 22 16.0	-1.7
DAIG	**Los Arroyos**	**1.22**	**294**	*i* S	Sg	08 22 20.9	-3.4
HLIG	**Huajuapan de L**	**1.46**	**27**	*e*P	Pn	08 22 09.2	-3.2
HLIG				*i* S	Sb	08 22 27.9	-4.1

TUL ***12*** *08:21:47.5±1.4,36.°35N±0.°01×98.°57W±0.°02,h7km±7km, ML2.9,mb_Lg2.6/34(NEIC),Error ellipse: s-maj=2.8km s-min=1.9km az=90.0*

NEIC 12 08:21:48±1.2,36.°35N±0.°02×98.°55W±0.°03,h5km±2km, Error ellipse: s-maj=4.3km s-min=3.0km az=325.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.37**	**275**	Pg	Pg	08 21 54.8	-0.4
U32A				Sg	Sg	08 22 00.2	+0.2
CROK	**Carrier**	**0.48**	**71**	Pg	Pg	08 21 57.5	+0.2
CROK				Sg	Sg	08 22 04.5	+0.9
OK032	**Salt Plains WL**	**0.53**	**31**	Pg	Pg	08 21 57.9	-0.3
OK032				Sg	Sg	08 22 05.5	+0.4
GC02	**Grant County #**	**0.75**	**47**	Pg	Pg	08 22 02.1	-0.3
GC02				Sg	Sg	08 22 12.6	+0.4
KAN14	**Manchester OK**	**0.77**	**37**	Pg	Pg	08 22 02.5	-0.3
KAN05	**Bluff City Nor**	**0.94**	**35**	Pg	Pg	08 22 05.8	-0.1
KAN17	**Caldwell West**	**0.94**	**42**	Pg	Pg	08 22 05.7	-0.4
OK029	**Liberty Lake**	**1.04**	**121**	Pg	Pg	08 22 07.6	-0.4
KAN12	**Harper NE Stat**	**1.05**	**25**	Pg	Pg	08 22 07.5	-0.6
KAN13	**South Haven SW**	**1.09**	**52**		Pg	08 22 08.1	-0.8
BLOK	**Blackwell**	**1.15**	**69**		Pg	08 22 09.2	-0.8
KS20	**Mayfield South**	**1.19**	**42**	Pg	Pg	08 22 09.8	-1.0
OK025	**Westminster Rd**	**1.24**	**128**		Pg	08 22 11.0	-0.9
FNO	**Franklin**	**1.43**	**139**		Pn	08 22 14.3	-0.4
OK031	**S. Brethren Rd**	**1.44**	**105**	Pn	Pn	08 22 14.2	-0.5
QUOK	**Quay**	**1.50**	**96**	Pn	Pn	08 22 15.5	-0.1
WMOK	**Wichita Mounta**	**1.62**	**187**	Pn	Pn	08 22 16.3	-0.9
X34A	**Smith Ranch, M**	**1.84**	**161**	Pn	Pb	08 22 21.2	-0.9
LOOK	**Love County**	**2.60**	**154**	Pn	Pn	08 22 32.8	+2.1
LOOK				IAmb_Lg		08 23 17.2	
	comp=Z,21nm,1.1s						
X37A	**Clayton**	**3.13**	**123**	Pn	Pn	08 22 38.4	+0.4
X37A				IAmb_Lg		08 23 32.9	
	comp=Z,16nm,0.8s						
KSU1	**Kansas State U**	**3.15**	**29**	IAmb_Lg		08 23 34.6	
	comp=Z,15nm,0.7s						
U38A	**Gravette**	**3.36**	**87**	Pn	Pn	08 22 40.7	-0.5
HHAR	**Hobbs**	**3.72**	**90**	Pn	Pn	08 22 46.1	-0.1
W39A	**Magazine**	**4.04**	**105**	IAmb_Lg		08 24 03.8	
	comp=Z,14nm,1.0s						
KSCO	**Kaye Shedlock'**	**4.19**	**311**	IAmb_Lg		08 24 06.8	
	comp=Z,14nm,0.8s						
MSTX	**Muleshoe**	**4.20**	**237**	IAmb_Lg		08 24 08.4	
	comp=Z,8.6nm,0.7s						
S39A	**Bolivar**	**4.39**	**71**	Pn	Pn	08 22 55.3	0.0
S39A				IAmb_Lg		08 24 18.2	
	comp=Z,12nm,0.9s						
MIAR	**Mount Ida**	**4.44**	**112**	Pn	Pn	08 22 56.1	+0.2
MIAR				IAmb_Lg		08 24 18.8	
	comp=Z,13nm,1.0s						
U40A	**Yellville**	**4.60**	**88**	Pn	Pn	08 22 58.4	+0.3
U40A				IAmb_Lg		08 24 22.6	
	comp=Z,11nm,0.7s						
T25A	**Trinidad**	**4.78**	**281**	Pn	Pn	08 23 00.8	-0.1
T25A				IAmb_Lg		08 24 24.4	
	comp=Z,14nm,0.9s						
X40A	**Basin Creek Fa**	**5.02**	**110**	Pn	Pn	08 23 03.8	-0.2
X40A				IAmb_Lg		08 24 34.4	
	comp=Z,11nm,0.7s						
BGNE	**Belgrade**	**5.07**	**3**	IAmb_Lg		08 24 31.6	
	comp=Z,11nm,0.8s						
P38A	**Dawn**	**5.14**	**49**	Pn	Pn	08 23 06.2	+0.6
P38A				IAmb

CMIG	**Matias Romero**	**3.35**	**302**	*i* P	Pn	08 39 58.0	-1.2
CMIG				*i* S	Sn	08 40 37.0	-4.4
VHO	**Vista Hermosa**	**4.95**	**291**	*i* P	Pn	08 40 20.0	+0.6
VHO				*e*S	Sn	08 41 12.3	-5.3
TXIG	**Tlaxiaco**	**5.94**	**289**	*e*P	Pn	08 40 33.2	+0.9
TXIG				*e*S	Sn	08 41 37.9	-3.0

IDC **12** *08:40:04.3±1.5, 40˚.09N×78˚.43E, h0km, mb3.8/4, mb1 3.9/9, mb1mx3.6/63, mbtmp3.9/9, ML3.5/5, MS2.1/1, Ms1 2.1/1, ms1mx1.9/54, Error ellipse: s-maj=24.3km s-min=20.1km az=40.0*
SOME **12** *08:40:05.8, 40˚.33N×78˚.32E, h10km*
KRNET **12** *08:40:06.2±0.1, 40˚.27N×78˚.54E, h9km, mb4.2*
NNC **12** *08:40:11.1±1.1, 40˚.52N×78˚.50E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=7.7km s-min=6.2km az=163.0*

ISC 12 08:40:06.1±1.7, 40˚.33N±0˚.05×78˚.27E±0˚.03, h9km±11km, n93, σ1ˢ68/133, mb3.6/3, 33C-10D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.94**	**246**	Pn	Pg	08 40 50.5	+7.1
KSH				Sn	Sg	08 41 22.1	+14
KSH	comp=Z,150nm,0.7s			pmax	pmax		
KSH	comp=N,690nm,0.4s			smax	smax		
KSH	comp=E,480nm,0.7s			smax	smax		
KDJ	**Kajisay**	**1.98**	**336**	⇑*e*P	**Pg**	**08 40 45.0**	**+1.0**
KDJ	baz=32			⇑*i*S	**Sg**	**08 41 13.4**	**+3.8**
PRZ	**Przheval'sk**	**2.15**	**3**	⇑*i*P	**Pg**	**08 40 46.5**	**-0.9**
PRZ	baz=57			⇑*i*S	**Sg**	**08 41 15.2**	**-0.1**
ULHL	**Ulahol**	**2.45**	**322**	⇑*e*P	**Pg**	**08 40 52.5**	**-0.5**
ULHL	baz=19			⇑*i*S	**Sg**	**08 41 25.1**	**+0.3**
ULHL	**Ulahol**	**2.45**	**322**	P	**Pg**	**08 40 52.7**	**-0.3**
ANVS	**Anan'yevo**	**2.49**	**350**	⇑*i*P	**Pb**	**08 40 51.7**	**+0.5**
ANVS	baz=46			⇑*i*S	**Sb**	**08 41 23.8**	**+1.7**
SATY	**Saty**	**2.73**	**2**	*e*P	**Pg**	**08 40 57.1**	**-1.3**
SATY	comp=E,61nm,0.5s			*e*S	**Sg**	**08 41 34.2**	**+0.5**
SATY	**Saty**	**2.73**	**2**	Pg	**Pg**	**08 40 58.4**	**0.0**
SATY	comp=E,93nm,0.4s			Lg	Lg	08 41 34.2	
BOOM	**Boomskoye usch**	**2.78**	**322**	⇑*i*P	**Pb**	**08 40 57.1**	**+1.0**
BOOM	baz=20			⇑*i*S	**Sg**	**08 41 33.3**	**-2.1**
KZA	**Kyzart**	**2.87**	**308**	⇑*e*P	**Pb**	**08 40 58.4**	**+0.6**
KZA	baz=7.0			⇑*i*S	**Sb**	**08 41 35.9**	**+2.7**
KZA	**Kyzart**	**2.87**	**308**	P	**Pb**	**08 40 58.2**	**+0.4**
UZB	**Uzynbulak**	**2.87**	**11**	*e*P	**Pb**	**08 40 56.8**	**-0.8**
UZB	comp=E,184nm,0.5s			*e*S	**Sb**	**08 41 34.0**	**+1.1**
UZB	**Uzynbulak**	**2.87**	**11**	Pg	**Pb**	**08 40 56.8**	**-0.8**
UZB	comp=E,184nm,0.5s			Lg	Lg	08 41 32.4	
TNSS	**Tian-Shan**	**2.88**	**340**	*e*P	**Pg**	**08 40 59.9**	**-1.4**
TNSS	comp=E,122nm,0.6s			*e*S	**Sg**	**08 41 39.0**	**+0.4**
TNSS	**Tian-Shan**	**2.88**	**340**	Pg	**Pg**	**08 41 02.1**	**+0.8**
TNSS	comp=E,122nm,0.6s			Lg	Lg	08 41 40.7	
SHLS	**Shalkode**	**2.96**	**17**	*e*P	**Pb**	**08 41 00.1**	**+1.0**
SHLS	comp=E,538nm,0.7s			*e*S	**Sg**	**08 41 39.5**	**-1.8**
SHLS	**Shalkode**	**2.96**	**17**	Pg	**Pg**	**08 41 02.8**	**-0.1**
SHLS	comp=E,538nm,0.7s			Lg	Lg	08 41 41.7	
IZV	**Izvestkoviy**	**2.97**	**336**	*e*P	**Pg**	**08 41 02.9**	**-0.2**
IZV	comp=E,424nm,0.6s			*e*S	**Sg**	**08 41 43.9**	**+2.2**
IZV	**Izvestkoviy**	**2.97**	**336**	Pg	**Pg**	**08 41 03.5**	**+0.4**
IZV	comp=E,424nm,0.6s			Lg	Lg	08 41 43.9	
MDOK	**Medeo**	**2.97**	**343**	*e*P	**Pg**	**08 41 02.2**	**-0.9**
MDOK	comp=E,176nm,0.8s			*e*S	**Sg**	**08 41 43.3**	**+1.7**
MDOK	**Medeo**	**2.97**	**343**	⇑Pn	**Pb**	**08 40 59.3**	**-0.1**
MDOK	comp=E,444nm,0.6s			⇓Lg	Lg	08 41 42.8	
MDOK	**Medeo**	**2.97**	**343**	Pg	**Pg**	**08 41 03.3**	**+0.2**
MDOK	comp=E,176nm,0.8s			Lg	Lg	08 41 43.3	
KOTS	**Kotyrbulak**	**3.03**	**344**	*e*P	**Pg**	**08 41 03.0**	**-1.1**
KOTS	comp=E,406nm,0.5s			*e*S	**Sg**	**08 41 44.8**	**+1.5**
KOTS	**Kotyrbulak**	**3.03**	**344**	Pg	**Pg**	**08 41 04.3**	**+0.2**
KOTS	comp=E,406nm,0.5s			Lg	Lg	08 41 44.5	
KNDC	**Almaty**	**3.04**	**342**	⇑Pn	**Pb**	**08 41 01.2**	**+0.6**
KNDC	comp=E,630nm,0.6s			⇑Lg	Lg	08 41 46.6	
AAA	**Alma-Ata**	**3.05**	**341**	*e*P	**Pg**	**08 41 04.0**	**-0.5**
AAA	comp=E,599nm,0.5s			*e*S	**Sg**	**08 41 46.4**	**+2.3**
AAA	**Alma-Ata**	**3.05**	**341**	Pg	**Pg**	**08 41 05.5**	**+1.0**
AAA	comp=E,599nm,0.5s			Lg	Lg	08 41 46.4	
MTBS	**Maitube**	**3.12**	**334**	*e*P	**Pg**	**08 41 04.7**	**-1.1**
MTBS	comp=E,220nm,0.5s			*e*S	**Sg**	**08 41 47.9**	**+1.7**
MTBS	**Maitube**	**3.12**	**334**	Pg	**Pg**	**08 41 05.9**	**+0.1**
MTBS	comp=E,220nm,0.5s			Lg	Lg	08 41 47.1	
PDGK	**Podgornoye**	**3.13**	**17**	Pg	**Pb**	**08 41 01.3**	**-0.7**
PDGK	comp=E,57nm,0.5s			Lg	Lg	08 41 39.5	
PDGK	**Podgornoye**	**3.13**	**17**	⇓Pn	**Pb**	**08 40 59.5**	**-2.6**
PDGK	comp=E,164nm,0.6s			⇑Lg	Lg	08 41 44.4	
KPKS	**Kokpek**	**3.15**	**6**	*e*P	**Pb**	**08 41 02.0**	**-0.3**
KPKS	comp=E,489nm,0.4s			*e*S	**Sb**	**08 41 43.1**	**+2.3**
KURS	**Kuram**	**3.15**	**359**	*e*P	**Pg**	**08 41 04.8**	**-1.8**
KURS	comp=E,111nm,0.5s			*e*S	**Sg**	**08 41 47.9**	**+0.4**
KURS	**Kuram**	**3.15**	**359**	Pg	**Pg**	**08 41 06.3**	**-0.2**
KURS	comp=E,111nm,0.5s			Lg	Lg	08 41 47.9	
KST	**Kastek**	**3.21**	**328**	*e*P	**Pg**	**08 41 06.8**	**-0.9**
KST	comp=E,170nm,0.4s			*e*S	**Sg**	**08 41 51.1**	**+1.8**
KST	**Kastek**	**3.21**	**328**	Pg	**Pg**	**08 41 07.9**	**+0.2**
KST	comp=E,170nm,0.4s			Lg	Lg	08 41 50.6	
TKM2	**Tokmak 2**	**3.27**	**323**	⇑*e*P	**Pb**	**08 41 03.9**	**-0.6**
TKM2	baz=21			⇑*i*S	**Sb**	**08 41 44.8**	**+0.2**
TKM2	**Tokmak 2**	**3.27**	**323**	P	**Pb**	**08 41 04.2**	**-0.3**
TKM2	SNR=24			⇑Pn	**Pb**	**08 41 04.0**	**-0.5**
TKM2	comp=E,186nm,0.5s			⇑Lg	Lg	08 41 53.3	
ARLS	**Aral**	**3.35**	**298**	⇑*e*P	**Pb**	**08 41 04.9**	**-0.9**
ARLS	baz=98			⇑*i*S	**Sb**	**08 41 46.9**	**+0.1**
UCH	**Uchtor**	**3.41**	**305**	⇑*e*P	**Pb**	**08 41 06.1**	**-0.8**
UCH	baz=4.0			⇑*i*S	**Sb**	**08 41 48.8**	**+0.2**
UCH	**Uchtor**	**3.41**	**305**	P	**Pb**	**08 41 05.5**	**-1.4**
KBK	**Karagaybulak**	**3.41**	**314**	P	**Pg**	**08 41 12.1**	**+0.7**
DGS	**Degeres**	**3.46**	**328**	*e*P	**Pg**	**08 41 11.1**	**-1.3**
DGS	comp=E,135nm,0.7s			*e*S	**Sg**	**08 41 58.5**	**+1.4**
DGS	**Degeres**	**3.46**	**328**	Pg	**Pg**	**08 41 12.5**	**+0.2**
DGS	comp=E,135nm,0.7s			Lg	Lg	08 41 59.7	
KTMS	**Ketmen**	**3.48**	**26**	*e*P	**Pb**	**08 41 07.5**	**-0.6**
KTMS	comp=E,164nm,0.5s			*e*S	**Sb**	**08 41 52.5**	**+2.0**
KTMS	**Ketmen**	**3.48**	**26**	Pg	**Pb**	**08 41 09.0**	**+1.0**
KTMS	comp=E,164nm,0.5s			Lg	Lg	08 41 52.5	
KTBS	**Karatobe**	**3.58**	**341**	*e*P	**Pg**	**08 41 12.8**	**-1.9**
KTBS	comp=E,121nm,0.6s			*e*S	**Sg**	**08 42 01.7**	**+0.7**
KTBS	**Karatobe**	**3.58**	**341**	Pg	**Pg**	**08 41 13.3**	**-1.4**
KTBS	comp=E,121nm,0.6s			Lg	Lg	08 42 00.8	
CHKK	**Chushkaly**	**3.65**	**345**	*e*P	**Pg**	**08 41 14.3**	**-1.6**
CHKK	comp=E,232nm,0.5s			*e*S	**Sg**	**08 42 03.9**	**+0.7**
CHKK	**Chushkaly**	**3.65**	**345**	Pg	**Pg**	**08 41 15.8**	**-0.2**
CHKK	comp=E,232nm,0.5s			Lg	Lg	08 42 03.9	
AAK	**Ala-Archa**	**3.65**	**310**	Pn	**Pb**	**08 41 08.5**	**-2.5**
AAK	comp=E,1.6nm,0.3s,baz=131,slow=6.7,SNR=7.5			Pg	**Pg**	**08 41 15.9**	**-0.2**
AAK	comp=E,6.6nm,0.3s,baz=122,slow=11,SNR=19			LR	LR	08 42 00.6	
AAK	comp=E,23nm,19.5s,baz=274,slow=30			Lg	Lg	08 42 04.7	
AAK	**Ala-Archa**	**3.65**	**310**	⇑*e*P	**Pb**	**08 41 09.0**	**-2.0**
AAK	baz=9.0			⇑*i*S	**Sb**	**08 41 54.2**	**-1.3**
AAK	**Ala-Archa**	**3.65**	**310**	P	**Pb**	**08 41 09.2**	**-1.8**
AAK	**Ala-Archa**	**3.65**	**310**	⇑Pn	**Pb**	**08 41 09.2**	**-1.8**
AAK	comp=E,2.3nm,0.5s			⇑Pg	**Pg**	**08 41 19.0**	**+2.9**
AAK	comp=E,25nm,0.6s			⇑Lg	Lg	08 42 04.7	
CHMS	**Chumysh**	**3.75**	**316**	⇓*e*P	**Pb**	**08 41 10.2**	**-2.3**
CHMS	baz=15			⇓*i*S	**Sb**	**08 41 56.2**	**-1.9**
CHMS	**Chumysh**	**3.75**	**316**	P	**Pg**	**08 41 18.1**	**+0.2**
KUU	**Kurty**	**3.84**	**339**	*e*P	**Pg**	**08 41 17.5**	**-2.2**
KUU	comp=E,76nm,0.6s			*e*S	**Sg**	**08 42 09.6**	**+0.2**
KUU	**Kurty**	**3.84**	**339**	Pg	**Pg**	**08 41 19.0**	**-0.6**
KUU	comp=E,76nm,0.6s			Lg	Lg	08 42 09.6	
KRBS	**Karabastau**	**3.88**	**331**	*e*P	**Pg**	**08 41 18.4**	**-2.0**
KRBS	comp=E,52nm,0.3s			*e*S	**Sg**	**08 42 10.3**	**-0.3**
KRBS	**Karabastau**	**3.88**	**331**	Pg	**Pg**	**08 41 19.4**	**-1.0**
KRBS	comp=E,52nm,0.3s			Lg	Lg	08 42 10.3	
AML	**Almayashu**	**3.89**	**299**	⇓*e*P	**Pb**	**08 41 13.1**	**-2.1**
AML	baz=99			⇓*i*S	**Sb**	**08 42 00.5**	**-2.0**
ARXS	**Arharly**	**3.89**	**355**	*e*P	**Pg**	**08 41 18.1**	**-2.6**
ARXS	comp=E,156nm,0.4s			*e*S	**Sg**	**08 42 10.3**	**-0.8**
ARXS	**Arharly**	**3.89**	**355**	Pg	**Pg**	**08 41 19.5**	**-1.2**
ARXS	comp=E,156nm,0.4s			Lg	Lg	08 42 10.3	
USP	**Ospenovka**	**4.07**	**317**	⇓*e*P	**Pb**	**08 41 14.8**	**-3.2**
USP	baz=16			⇓*i*S	**Sb**	**08 42 04.2**	**-3.1**
USP	**Ospenovka**	**4.07**	**317**	P	**Pg**	**08 41 22.4**	**-1.6**
EKS2	**Erkin-Say**	**4.10**	**306**	⇑*e*P	**Pb**	**08 41 15.5**	**-3.0**
EKS2	baz=5.0			⇑*i*S	**Sb**	**08 42 05.0**	**-3.2**
EKS2	**Erkin-Say**	**4.10**	**306**	P	**Pb**	**08 41 15.9**	**-2.6**
SGDS	**Sogindy**	**4.13**	**320**	Pg	**Pg**	**08 41 24.8**	**-0.6**
SGDS	comp=E,14nm,0.6s			Lg	Lg	08 42 19.5	
DJR	**Jarkent**	**4.15**	**15**	*e*P	**Pb**	**08 41 21.5**	**+2.0**
DJR	comp=E,76nm,0.4s			*e*S	**Sg**	**08 42 15.8**	**-3.7**
DJR	**Jarkent**	**4.15**	**15**	Pg	**Pg**	**08 41 22.4**	**-3.3**
DJR	comp=E,76nm,0.4s			Lg	Lg	08 42 15.3	
MRKS	**Merke**	**4.49**	**304**	*e*P	**Pg**	**08 41 30.3**	**-1.8**
MRKS	comp=E,40nm,0.5s			*e*S	**Sg**	**08 42 30.9**	**+0.7**
MRKS	**Merke**	**4.49**	**304**	Pg	**Pg**	**08 41 31.4**	**-0.6**
MRKS	comp=E,40nm,0.5s			Lg	Lg	08 42 30.9	
TDK	**Taldyqorghan**	**4.67**	**1**	*e*P	**Pg**	**08 41 33.6**	**-2.0**
TDK	comp=E,88nm,0.8s			*e*S	**Sg**	**08 42 37.4**	**+1.3**
TDK	**Taldyqorghan**	**4.67**	**1**	Pg	**Pg**	**08 41 35.2**	**-0.3**
TDK	comp=E,88nm,0.8s			Lg	Lg	08 42 37.4	
KAPS	**Kapalarasan**	**5.02**	**9**	*e*P	**Pb**	**08 41 37.0**	**+2.8**
KAPS	comp=E,54nm,0.7s			*e*S	**Sg**	**08 42 42.7**	**-4.4**
KAPS	**Kapalarasan**	**5.02**	**9**	Pg	**Pg**	**08 41 39.2**	**-3.0**
KAPS	comp=E,54nm,0.7s			Lg	Lg	08 42 44.2	
BTLS	**Baital**	**5.64**	**328**	*e*P	**Pg**	**08 41 50.3**	**-3.9**
BTLS	comp=E,14nm,0.5s			*e*S	**Sg**	**08 43 06.3**	**-0.9**
BTLS	**Baital**	**5.64**	**328**	Pg	**Pg**	**08 41 50.9**	**-3.2**
BTLS	comp=E,14nm,0.5s			Lg	Lg	08 43 06.3	
KK31	**Karatay Array**	**6.43**	**298**	⇓Pg	**Pg**	**08 42 07.1**	**-2.1**
KK31	comp=E,6.3nm,0.8s,baz=121,slow=16,SNR=23			⇑Lg	Lg	08 43 30.4	
IUG	**Iuzhnay**	**6.47**	**289**	Pg	**Pg**	**08 42 10.8**	**+0.8**
IUG	comp=E,7.1nm,0.6s,baz=112,slow=29,SNR=5.8			Lg	Lg	08 43 38.2	
MAKZ	**Makanchi**	**7.01**	**21**	⇑Pn	**Pn**	**08 41 52.0**	**+3.0**
MK31	**Makanchi Array**	**7.09**	**23**	⇓Pn	**Pn**	**08 41 52.4**	**+2.3**
MKAR	**Makanchi Array**	**7.09**	**23**	Pn	**Pn**	**08 41 52.4**	**+2.3**
MKAR	comp=E,2.5nm,0.3s,baz=199,slow=13,SNR=99			Sn	**Sn**	**08 43 10.5**	**-0.3**
MKAR	comp=E,1.2nm,0.3s,baz=207,slow=29,SNR=5.3			Lg	Lg	08 43 49.2	
CHCP	**Chirah Chowk**	**7.77**	**213**	P	**Pn**	**08 42 02.5**	**+3.0**
WMQ	**Urumqi**	**7.83**	**60**	*e*Pn	**Pn**	**08 41 59.6**	**-0.7**
WMQ				Sn	**Sn**	**08 43 27.5**	**-1.6**
WMQ	comp=N,30nm,0.5s			smax	smax		
WMQ	comp=E,23nm,0.5s			smax	smax		
KURBB	**Kurchatov Arra**	**10.29**	**1**	Pn	**Pn**	**08 42 35.2**	**+1.3**
KURBB	comp=E,0.3nm,0.3s,baz=186,slow=12,SNR=13			Lg	Lg	08 45 32.9	
BVAR	**Borovoye Array**	**13.79**	**340**	Pn	**Pn**	**08 43 22.3**	**+0.6**
BVAR	comp=E,0.5nm,0.3s,baz=169,slow=17,SNR=24			Lg	Lg	08 47 24.4	
ZALV	**Zalesovo Beam**	**14.32**	**16**	Pn	**Pn**	**08 43 29.7**	**+0.7**
ARU	**Arti**	**20.63**	**328**	P	Pn	08 44 48.6	+0.6
SONM	**Songino Array**	**21.47**	**60**	P	**P**	**08 44 55.3**	**+0.4**
TORD	**Torodi Ar. Bea**	**71.42**	**272**	P	**P**	**08 51 26.7**	**-0.4**
ASAR	**Alice Springs**	**82.05**	**130**	P	**P**	**08 52 25.5**	**-1.4**

DJA 12 08:50:36.0±0.8, 11˚S±5˚×117˚E±˚, h10km, M3.8/7, mb4.3/1, MLv3.6/7, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**2.26**	**12**	P	Pn	08 51 15.0	+1.5
PLAI				S	Sn	08 51 41.7	+0.2
TWSI	**Taliwang, Sumb**	**2.35**	**349**	P	Pn	08 51 16.4	+1.7
TWSI				S	Sn	08 51 43.5	-0.1
WBSI	**Waikabubak, Su**	**2.48**	**56**	P	Pn	08 51 15.2	-1.3
KLNI	**Mataram**	**2.89**	**335**	P	Pn	08 51 23.3	+1.2
KLNI				S	Sn	08 51 57.6	+0.7
JAGI	**Jajag, Banyuwa**	**4.05**	**309**	P	Pn	08 51 36.6	-1.5
GMJI	**Gumukmas**	**4.72**	**306**	P	Pn	08 51 46.9	-0.4
PWJI	**Pagerwojo**	**6.22**	**299**	P	Pn	08 52 07.8	-0.2

NEIC **12** *08:52:16.9±2.4, 10˚.1S±0˚.1×162˚.00E±0˚.10, h59km±4km, mb4.7/29, Error ellipse: s-maj=14.7km s-min=13.8km az=192.0*
IDC **12** *08:52:17.3±2.7, 10˚.10S×161˚.83E, h66km±23km, mb4.0/19, mb1 4.2/21, mb1mx4.1/45, mbtmp4.4/21, MS3.7/20, Ms1 3.7/20, ms1mx3.5/39, Error ellipse: s-maj=20.7km s-min=13.9km az=105.0*

ISC 12 08:52:13.6±0.4, 10˚.14S±0˚.06×162˚.13E±0˚.07, h35km, n102, σ1ˢ72/87, mb4.7/34, MS3.7/21, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.27**	**288**	P	**Pn**	**08 52 50.4**	**+1.8**
HNR	161nm,0.3s,baz=135,slow=5.3,SNR=25			S	**Sn**	**08 53 17.0**	**+1.7**
HNR	1μm,0.3s,baz=192,slow=22,SNR=29			LR	LR	08 53 24.5	
HNR	**Honiara**	**2.27**	**288**		**Pn**	**08 52 50.6**	**+2.0**
HNR	**Honiara**	**2.27**	**288**	P	**Pn**	**08 52 50.5**	**+2.0**
KOUNC	**Koumac, New Ca**	**10.56**	**169**	P	Pn	08 54 48.3	+5.8
LIFNC	**LIFOU**	**11.67**	**156**	Pn	**Pn**	**08 54 59.4**	**+1.7**
LIFNC	**LIFOU**	**11.67**	**156**	P	**Pn**	**08 54 59.6**	**+2.0**
DZM	**Mont Dzumac**	**12.57**	**161**	*e*Pn	**Pn**	**08 55 13.2**	**+3.2**
DZM	15nm,0.3s			*e*Sn	**Sn**	**08 57 26.0**	**-2.9**
DZM	11nm,0.5s			*e*LR	LR	08 58 11.3	
DZM	**Mont Dzumac**	**12.57**	**161**	P	**Pn**	**08 55 13.2**	**+3.2**
DZM	1.2nm,0.3s,baz=9.8,slow=10,SNR=21			S	**Sn**	**08 57 25.3**	**-3.6**
DZM	0.3nm,0.3s,baz=90,slow=18,SNR=1.8			LR	LR	08 59 23.4	
DZM	**Mont Dzumac**	**12.57**	**161**	Pn	**Pn**	**08 55 13.4**	**+3.4**
DZM	**Mont Dzumac**	**12.57**	**161**	P	**Pn**	**08 55 13.5**	**+3.5**
MARNC	**Mare, Loyalty**	**12.62**	**154**	P	**Pn**	**08 55 10.1**	**-0.6**
YATNC	**Mamie plateau,**	**12.70**	**160**	P	**Pn**	**08 55 14.9**	**+3.1**
ONTNC	**Ouen Toro**	**12.79**	**162**	Pn	**Pn**	**08 55 17.0**	**+4.0**
OUENC	**Ouen Island, N**	**13.02**	**160**	Pn	**Pn**	**08 55 20.2**	**+4.1**
OUENC	**Ouen Island, N**	**13.02**	**160**	P	**Pn**	**08 55 19.2**	**+3.1**
TARA	**Tarawa**	**15.67**	**44**	Pn	**Pn**	**08 55 54.3**	**+2.4**
PATS	**Pohnpei**	**17.29**	**347**	P	**Pn**	**08 56 12.2**	**-0.2**
CTA	**Charters Tower**	**18.23**	**235**	P	**P**	**08 56 24.0**	**+0.1**
CTAO	1.0nm,0.3s,baz=68,slow=13,SNR=14			IAmb	IAmb	08 56 51.5	
CTAO	**Charters Tower**	**18.23**	**235**	P	**P**	**08 56 25.7**	**+1.7**
EIDS	comp=Z,60nm,1.6s			IAmb	IAmb	08 56 51.5	
EIDS	**Eidsvold**	**18.43**	**213**	P	**Pn**	**08 56 28.1**	**+1.8**
COEN	**Coen**	**18.92**	**257**	P	**Pn**	**08 56 33.2**	**+0.8**
COEN	comp=Z,68nm,1.7s			IAmb	IAmb	08 57 05.0	
ARMA	**Armidale**	**22.43**	**204**	P	**P**	**08 57 09.8**	**+0.2**
JAY	**Jayapura**	**22.59**	**288**	P	**P**	**08 57 08.7**	**-2.7**
AFI	**Afiamalu**	**25.78**	**101**	LR	LR	09 05 58.8	
WR0	**Warramunga Arr**	**28.34**	**247**	P	**P**	**08 58 02.8**	**-1.7**
WR0	comp=Z,34nm,1.9s			IAmb	IAmb	08 58 51.9	
WB2	**Warramunga Arr**	**28.50**	**247**	P	**P**	**08 58 04.2**	**-1.7**
WRA	**Warramunga Arr**	**28.52**	**247**	P	**P**	**08 58 04.2**	**-1.9**
WRA	comp=Z,5.0nm,0.6s,baz=75,slow=9.2,SNR=49			PcP	**PcP**	**09 01 16.5**	**-0.9**
WRA	comp=Z,0.8nm,0.7s,baz=57,slow=3.1,SNR=2.7			LR	LR	09 09 14.6	
WRA	**Warramunga Arr**	**28.52**	**247**	P	**P**	**08 58 04.4**	**-1.6**
STKA	**Stephens Creek**	**28.80**	**218**	P	**P**	**08 58 07.8**	**-0.6**
STKA	comp=Z,2.7nm,0.6s,baz=60,slow=14,SNR=15			LR	LR	09 09 37.2	
STKA	**Stephens Creek**	**28.80**	**218**	P	**P**	**08 58 08.9**	**+0.5**
H11S2	**WAKE ISLAND Hy**	**28.80**	**9**	T	T	09 29 24.1	
H11S3	**WAKE ISLAND Hy**	**28.80**	**9**	T	T	09 29 29.6	
H11S1	**WAKE ISLAND Hy**	**28.82**	**9**	T	T	09 29 24.6	
H11N1	**WAKE ISLAND Hy**	**30.03**	**9**	T	T	09 30 56.3	
H11N3	**WAKE ISLAND Hy**	**30.04**	**9**	T	T	09 30 47.4	
H11N2	**WAKE ISLAND Hy**	**30.05**	**9**	T	T	09 30 59.4	
AS31	**Alice Springs**	**30.09**	**240**	P	**P**	**08 58 18.8**	**-1.3**
ASAR	**Alice Springs**	**30.10**	**240**	P	**P**	**08 58 18.0**	**-2.1**
ASAR	comp=Z,3.0nm,0.8s,baz=62,slow=9.7,SNR=32			LR	LR	09 10 26.8	
MTN	**Manton Dam**	**30.49**	**262**	P	**P**	**08 58 23.4**	**-0.1**
MTN	comp=Z,467nm,18.2s,baz=82,slow=36			IAmb	IAmb	08 58 48.7	
TOO	**Toolangi**	**31.16**	**206**	P	**P**	**08 58 30.3**	**+1.0**
BBOO	**Buckleboo**	**32.96**	**223**	P	**P**	**08 58 44.3**	**-0.8**
BBOO	comp=Z,52nm,1.6s			IAmb	IAmb	08 59 09.2	
KNRA	**Kununurra**	**32.96**	**257**	P	**P**	**08 58 44.0**	**-1.3**
KNRA	comp=Z,35nm,1.6s			IAmb	IAmb	08 58 58.2	
FITZ	**Fitzroy Crossi**	**36.21**	**253**	P	**P**	**08 59 11.2**	**-2.2**
FITZ	**Fitzroy Crossi**	**36.21**	**253**	P	**P**	**08 59 11.4**	**-2.0**
FITZ	comp=Z,2.4nm,0.8s,baz=67,slow=7.9,SNR=15			IAmb	IAmb	08 59 25.8	
BATI	**Baumata**	**37.85**	**266**	P	**P**	**08 59 25.5**	**-1.9**
	comp=Z,6.3nm,0.8s						
	comp=Z,119nm,0.6s,baz=149,slow=1.8,SNR=19						

NWAO	**Narrogin (SRO)**	**47.07**	**234**	LR	LR	09 20 08.5		
	comp=Z,123nm,18.1s,baz=285,slow=36							
PPT	**Papeete**	**47.36**	**105**	LR	LR	09 15 34.3		
	comp=Z,60nm,21.6s,baz=308,slow=29							
PPT2	**Papeete2**	**47.36**	**105**	*e*LR	LR	09 14 20.5		
	comp=Z,147nm,23.2s							
JMN	**Monobe**	**51.23**	**330**	P	**P**	**09 01 14.2**	**+0.3**	
JSU	**Suzuyama**	**51.34**	**325**	P	**P**	**09 01 14.9**	**+0.2**	
MJAR	**Matsushiro Arr**	**51.60**	**335**	P	**P**	**09 01 14.6**	**-2.0**	
	comp=Z,0.9nm,0.6s,baz=147,slow=9.4,SNR=5.5							
MJAR				LR	LR	09 20 54.3		
	comp=Z,34nm,22.0s,baz=115,slow=33							
MJAR	**Matsushiro Arr**	**51.60**	**335**	IAmb	IAmb	09 01 35.7		
	comp=Z,11nm,1.9s							
MAT	**Matsushiro**	**51.60**	**335**	P	**P**	**09 01 15.5**	**-1.1**	
JNU	**Nakatsue**	**52.32**	**327**	P	**P**	**09 01 20.3**	**-1.7**	
	comp=Z,3.4nm,0.6s,baz=140,slow=7.9,SNR=1.4							
TPUB	**Ta-pu**	**52.47**	**310**	P	**P**	**09 01 22.1**	**-1.2**	
SSLB	**Suanglung**	**52.50**	**311**	P	**P**	**09 01 22.9**	**-0.7**	
ASAJ	**Asahikawa**	**56.84**	**343**	P	**P**	**09 01 53.8**	**-0.7**	
	comp=Z,14nm,1.0s,baz=94,slow=14,SNR=6.3							
KSRS	**Korea Array**	**57.17**	**328**	P	**P**	**09 01 56.0**	**-1.1**	
	comp=Z,1.2nm,0.6s,baz=138,slow=7.3,SNR=3.8							
KSRS				LR	LR	09 24 36.6		
	comp=Z,40nm,18.9s,baz=133,slow=34							
NJ2	**Nanjing**	**58.91**	**317**	*e*P	**P**	**09 02 11.5**	**+2.1**	
NJ2				pmax	pmax			
	comp=Z,7.0nm,0.5s							
USRK	**Ussuriysk Ar.**	**60.60**	**336**	P	**P**	**09 02 20.3**	**-0.5**	
	comp=Z,7.6nm,0.8s,baz=125,slow=6.5,SNR=11							
USRK	**Ussuriysk Ar.**	**60.60**	**336**	P	**P**	**09 02 21.7**	**+1.0**	
PETK	**Petropavlovsk-**	**63.11**	**357**	P	**P**	**09 02 36.0**	**-1.4**	
	comp=Z,7.3nm,1.0s,baz=180,slow=8.6,SNR=2.2							
KLR	**Kul'dur**	**64.86**	**339**	P	**P**	**09 02 49.4**	**+0.3**	
	comp=Z,2.2nm,0.8s,baz=109,slow=7.6,SNR=4.2							
XAN	**Xi'an**	**66.91**	**314**	P	**P**	**09 03 02.0**	**-0.6**	
XAN				pP	pP	09 03 05.8	-7.2	
XAN				pmax	pmax			
	comp=Z,16nm,0.8s							
VNDA	**Vanda**	**67.37**	**180**	P	**P**	**09 03 06.2**	**+1.5**	
	comp=Z,0.3nm,0.5s,baz=326,slow=7.3,SNR=2.3							
VNDA				LR	LR	09 28 48.2		
	comp=Z,50nm,18.6s,baz=354,slow=32							
CMAR	**Chiang Mai Arr**	**68.50**	**294**	P	**P**	**09 03 11.5**	**-1.5**	
	comp=Z,1.2nm,0.6s,baz=129,slow=4.9,SNR=6.2							
CMAR				LR	LR	09 32 53.3		
	comp=Z,28nm,19.9s,baz=191,slow=36							
HHC	**Hu-ho-hao-te**	**68.87**	**321**	*e*P	**P**	**09 03 18.1**	**+3.2**	
HHC				pmax	pmax			
	comp=Z,14nm,1.2s							
HHC				pmax	pmax			
	comp=Z,56nm,5.5s							
CD2	**Chengdu**	**69.25**	**308**	*e*P	**P**	**09 03 17.6**	**+0.2**	
SEY	**Seymchan**	**73.24**	**355**	P	**P**	**09 03 39.9**	**-0.9**	
	comp=Z,1.8nm,0.7s,baz=171,slow=2.4,SNR=3.8							
SEY				LR	LR	09 33 32.6		
	comp=Z,24nm,20.1s,baz=152,slow=34							
ULN	**Ulaanbaatar**	**75.51**	**325**	P	**P**	**09 03 54.2**	**-0.4**	
ULN				IAmb	IAmb	09 03 56.4		
	comp=Z,6.6nm,0.8s							
SONM	**Songino Array**	**75.86**	**325**	P	**P**	**09 03 56.2**	**-0.3**	
	comp=Z,6.0nm,0.7s,baz=142,slow=5.8,SNR=29							
SONM				LR	LR	09 38 16.6		
	comp=Z,31nm,19.2s,baz=114,slow=36							
SONM	**Songino Array**	**75.86**	**325**	P	**P**	**09 03 56.9**	**+0.3**	
SONM				IAmb	IAmb	09 03 58.2		
	comp=Z,6.6nm,0.8s							
GTA	**Gaotai**	**75.89**	**315**	*e*P	**P**	**09 03 57.1**	**+0.2**	
GTA				pP	PcP	09 04 08.3	-1.0	
GTA				sP	pwP	09 04 13.2	+5.7	
GTA				pmax	pmax			
	comp=Z,4.0nm,1.2s							
SVW2	**Sparrevohn**	**78.40**	**19**	P	**P**	**09 04 11.9**	**+1.6**	
SVW2				IAmb	IAmb	09 04 37.6		
	comp=Z,15nm,1.3s							
L19K	**White Mountain**	**79.44**	**19**	P	**P**	**09 04 17.5**	**+1.5**	
L19K				IAmb	IAmb	09 06 16.5		
	comp=Z,29nm,1.8s							
K20K	**Telida**	**80.54**	**18**	P	**P**	**09 04 23.6**	**+1.6**	
K20K				IAmb	IAmb	09 06 19.9		
	comp=Z,15nm,1.6s							
IMAR	**Indian Mountai**	**82.54**	**17**	P	**P**	**09 04 33.5**	**+1.1**	
ILAR	**Eielson Array**	**83.82**	**20**	P	**P**	**09 04 39.2**	**+0.1**	
	comp=Z,1.2nm,0.6s,baz=252,slow=5.2,SNR=20							
ILAR				pP	**sP**	**09 04 52.6**	**-0.2**	
	comp=Z,0.7nm,0.7s,baz=238,slow=5.1,SNR=7.4							
YBH	**Yreka Blue Hor**	**85.82**	**47**	LR	LR	09 34 51.3		
	comp=Z,28nm,20.9s,baz=300,slow=30							
BBB	**Bella Bella**	**85.87**	**35**	LR	LR	09 34 57.6		
	comp=Z,29nm,21.4s,baz=281,slow=30							
WMQ	**Urumqi**	**85.95**	**316**	*e*P	**P**	**09 04 51.5**	**+1.1**	
WMQ				pmax	pmax			
	comp=Z,190nm,3.9s							
WMQ				LR	LR			
	comp=N,1μm,22.1s							
WMQ				LR	LR			
	comp=E,530nm,19.9s							
WMQ				LR	LR			
	comp=Z,100nm,29.1s							
NVAR	**Mina Array Bea**	**88.17**	**51**	P	**P**	**09 05 03.1**	**+1.6**	
	comp=Z,0.6nm,0.7s,baz=236,slow=9.3,SNR=6.5							
H06E1	**SOCORRO T-PHAS**	**90.35**	**71**	T	T	10 45 27.9		
MKAR	**Makanchi Array**	**90.44**	**317**	P	**P**	**09 05 10.8**	**-0.9**	
	comp=Z,1.0nm,0.6s,baz=96,slow=6.6,SNR=9.1							
ELK	**Elko**	**91.01**	**49**	LR	LR	09 39 43.5		
	comp=Z,35nm,19.0s,baz=244,slow=31							
NRIK	**Noril'sk**	**94.05**	**340**	LR	LR	09 47 36.9		
	comp=Z,28nm,20.1s,baz=60,slow=35							
AAK	**Ala-Archa**	**95.05**	**312**	LR	LR	09 46 05.9		
	comp=Z,19nm,20.1s,baz=182,slow=34							
BW06	**Boulder Array**	**95.56**	**48**	P	**P**	**09 05 35.1**	**-0.6**	
BW06				IAmb	IAmb	09 08 10.2		
	comp=Z,4.9nm,1.6s							
PD31	**Pinedale Array**	**95.56**	**48**	P	**P**	**09 05 34.1**	**-1.5**	
PD31				IAmb	IAmb	09 06 22.4		
	comp=Z,8.9nm,2.0s							
YKA	**Yellowknife Ar**	**95.81**	**28**	LR	LR	09 40 32.4		
	comp=Z,21nm,21.0s,baz=0.0,slow=30							
TXAR	**Lajitas Array**	**98.52**	**62**	LR	LR	09 41 42.1		
	comp=Z,34nm,21.9s,baz=0.0,slow=30							
ARCES	**ARCESS Array B**	**114.54**	**345**	PKP	**PKiKP**	**09 10 48.5**	**-1.0**	
	comp=Z,1.5nm,0.7s,baz=57,slow=4.5,SNR=4.6							
NB2	**NORSAR Subarra**	**124.86**	**343**	PKPdf	**PKPdf**	**09 11 09.5**	**-0.1**	
	comp=Z,0.6nm,0.7s,baz=39,slow=1.7							
NOA	**NORSAR Array B**	**124.86**	**343**	PKP	**PKPdf**	**09 11 08.8**	**-0.8**	
	comp=Z,0.8nm,0.7s,baz=34,slow=1.9,SNR=4.4							
GERES	**GERESS Array B**	**133.27**	**332**	PKP	**PKPdf**	**09 11 26.2**	**+0.2**	
	comp=Z,0.3nm,0.2s,baz=90,slow=2.7,SNR=4.2							
POLO	**Lamas de Olo**	**147.64**	**346**	*e*PKP	**PKiKP**	**09 11 56.1**	**-0.8**	
ESDC	**Sonseca Array**	**148.08**	**339**	PKPbc	**PKPbc**	**09 11 56.0**	**0.0**	
	comp=Z,1.7nm,0.9s,baz=21,slow=3.3,SNR=7.8							
MTE	**Manteigas**	**148.50**	**345**	*e*PKP	**PKiKP**	**09 11 58.5**	**-0.2**	
PCBR	**Castelo Branco**	**149.01**	**344**	*e*PKP	**PKiKP**	**09 11 59.4**	**-0.2**	
PMRV	**Marv??o**	**149.37**	**344**	*e*PKP	**PKiKP**	**09 12 00.1**	**-0.3**	
PCVE	**Castro Verde**	**151.23**	**344**	*e*PKP	**PKiKP**	**09 12 04.8**	**+0.5**	
TORD	**Torodi Ar. Bea**	**160.61**	**281**	PKP	**PKPdf**	**09 12 10.6**	**-0.2**	
	comp=Z,0.5nm,0.7s,baz=46,slow=1.0,SNR=2.6							

MEX 12 09:24:03.7±0.7, 16°60N×99°52W, h2km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAIG	**Los Arroyos**	**0.44**	**344**	*e*P	Pg	09 24 11.4	-0.8
DAIG				*i* S	Sg	09 24 18.2	+0.3
MGIG	**Malinaltepec**	**1.06**	**53**	*i* P	Pg	09 24 21.7	-2.4
MGIG				*i* S	Sg	09 24 35.9	-2.0
MEIG	**Mezcala**	**1.32**	**356**	*e*P	Pg	09 24 26.1	-3.0
MEIG				*i* S	Sg	09 24 45.1	-1.2

ROM **12** *09:26:59.7±0.1, 44°.434N±0°.004×7°.273E±0°.009, h11km, ML2.3/15, Error ellipse: s-maj=0.6km s-min=0.4km az=237.0*

LDG **12** *09:26:59.6±0.0, 44°.45N×7°.29E, h16km, Md2.5/2, Ml2.5/31, Error ellipse: s-maj=1.2km s-min=0.8km az=51.0*

STR **12** *09:27:00.0±0.4, 44°N±2″×±°, h6km±4km, MLv2.3/10, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*

GEN **12** *09:27:00.1, 44°.44N×7°.28E, h11km±3km, Ml2.2*

ISC 12 09:26:59.5±0.9, 44°46N±0°.01×7°28E±0°.02, h18km±4km, n85, σ1.9s63/138, 2C-1D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZZ	**Stroppo**	**0.13**	**292**	P	**Pg**	**09 27 03.7**	**0.0**
PZZ				S	Sg	09 27 06.0	-0.5
PZZ	**Stroppo**	**0.13**	**292**	P	**Pg**	**09 27 03.7**	**0.0**
PZZ				S	Sg	09 27 06.0	-0.5
PZZ				AML	AML		
	comp=E,6620μm,0.5s						
PZZ				AML	AML		
	comp=N,7690μm,0.1s						
ENR	**Entracque**	**0.25**	**157**	P	**Pg**	**09 27 05.0**	**-0.3**
ENR				S	Sg	09 27 08.1	-1.2
ENR	**Entracque**	**0.25**	**157**	P	**Pg**	**09 27 05.1**	**-0.3**
ENR				S	Sg	09 27 08.1	-1.2
ENR				AML	AML		
	comp=E,6390μm,0.2s						
ENR				AML	AML		
	comp=N,4955μm,0.1s						
ISO	**Isola**	**0.32**	**211**	Pg	**Pg**	**09 27 06.1**	**-0.4**
ISO				Sg	Sg	09 27 09.9	-1.3
BHB	**Bricherasio**	**0.38**	**358**	P	**Pg**	**09 27 07.5**	**-0.1**
BHB				S	Sg	09 27 12.9	0.0
BHB	**Bricherasio**	**0.38**	**358**	P	**Pg**	**09 27 07.8**	**+0.2**
BHB				S	Sg	09 27 13.0	0.0
BHB				AML	AML		
	comp=E,344μm,0.2s						
BHB				AML	AML		
	comp=N,396μm,0.3s						
MBDF	**Montbardon**	**0.45**	**307**	*e*Pg	**Pg**	**09 27 09.3**	**+0.5**
MBDF				*e*Sg	**Sg**	**09 27 15.6**	**+0.5**
	comp=N,190nm,0.3s						
GBOS	**Grotte di Boss**	**0.46**	**118**	P	**Pg**	**09 27 09.0**	**+0.1**
GBOS				S	Sg	09 27 14.7	-0.3
GBOS	**Grotte di Boss**	**0.46**	**118**	P	**Pg**	**09 27 09.0**	**+0.1**
GBOS				S	Sg	09 27 14.9	-0.2
GBOS				AML	AML		
	comp=E,1565μm,0.3s						
GBOS				AML	AML		
	comp=N,768μm,0.6s						
TURF	**col de Turini**	**0.49**	**171**	Pg	**Pg**	**09 27 09.3**	**-0.2**
SAOF	**Saorge**	**0.51**	**157**	Pg	**Pg**	**09 27 09.6**	**-0.3**
SAOF				Sg	Sg	09 27 16.0	-0.8
SAOF	**Saorge**	**0.51**	**157**	⇑P	**Pg**	**09 27 09.6**	**-0.3**
SAOF				S	Sg	09 27 16.1	-0.6
SAOF	**Saorge**	**0.51**	**157**	AML	AML		
	comp=E,402μm,0.9s						
SAOF				AML	AML		
	comp=N,382μm,0.2s						
OGAG	**Argentiere**	**0.53**	**270**	Pg	**Pb**	**09 27 12.3**	**+1.9**
OGAG				Sg	**Sb**	**09 27 20.7**	**+2.9**
MGRO	**Montegrosso**	**0.56**	**138**	P	**Pg**	**09 27 10.7**	**-0.2**
MGRO				S	Sg	09 27 18.0	-0.5
MGRO	**Montegrosso**	**0.56**	**138**	P	**Pg**	**09 27 10.6**	**-0.2**
MGRO				S	Sg	09 27 18.1	-0.3
MGRO				AML	AML		
	comp=E,471μm,0.4s						
MGRO				AML	AML		
	comp=N,478μm,1.4s						
RRL	**Rocca Remolon**	**0.58**	**323**	P	**Pg**	**09 27 11.6**	**+0.4**
RRL				S	Sg	09 27 19.6	+0.6
RRL	**Rocca Remolon**	**0.58**	**323**	P	**Pg**	**09 27 11.6**	**+0.4**
RRL				S	Sg	09 27 19.6	+0.6
SBF	**Sospel**	**0.60**	**169**	*e*Pg	**Pg**	**09 27 11.4**	**-0.2**
SBF				*e*Sg	**Sg**	**09 27 19.1**	**-0.6**
	comp=N,79nm,0.2s						
ESCA	**l'Escarene**	**0.63**	**174**	Pg	**Pg**	**09 27 11.8**	**-0.2**
ESCA				Sg	Sg	09 27 20.2	-0.3
RORO	**Rocca Rossa**	**0.66**	**121**	P	**Pg**	**09 27 12.6**	**0.0**
RORO				S	Sg	09 27 21.2	-0.2
RORO	**Rocca Rossa**	**0.66**	**121**	P	**Pg**	**09 27 12.6**	**0.0**
RORO				S	Sg	09 27 21.2	-0.2
RORO				AML	AML		
	comp=E,603μm,1.0s						
RORO				AML	AML		
	comp=N,736μm,0.7s						
RSP	**Reno Superiore**	**0.69**	**359**	P	**Pg**	**09 27 12.7**	**-0.5**
RSP	**Reno Superiore**	**0.69**	**359**	P	**Pg**	**09 27 12.6**	**-0.5**
RSP				AML	AML		
	comp=E,104μm,1.1s						
RSP				AML	AML		
	comp=N,118μm,1.3s						
IMI	**Imperia**	**0.70**	**141**	P	**Pg**	**09 27 13.1**	**-0.3**
IMI				S	Sg	09 27 22.0	-0.7
IMI	**Imperia**	**0.70**	**141**	P	**Pg**	**09 27 13.1**	**-0.3**
IMI				S	Sg	09 27 22.2	-0.5
IMI				AML	AML		
	comp=E,380μm,0.3s						
IMI				AML	AML		
	comp=N,392μm,0.9s						
BURY	**Giardini Botan**	**0.70**	**164**	P	**Pg**	**09 27 13.0**	**-0.4**
BURY	**Giardini Botan**	**0.70**	**164**	P	**Pg**	**09 27 13.0**	**-0.4**
BURY				S	Sg	09 27 22.3	-0.5
BURY				AML	AML		
	comp=E,178μm,0.3s						
BURY				AML	AML		
	comp=N,130μm,0.4s						
CANO	**Canova, Maglio**	**0.73**	**110**	P	**Pg**	**09 27 13.9**	**+0.1**
CANO				S	Sg	09 27 23.3	-0.3
BNI	**Bardonecchia**	**0.73**	**324**	P	**Pg**	**09 27 14.3**	**+0.3**
BNI				AML	AML		
	comp=E,66μm,0.7s						
BNI				AML	AML		
	comp=N,39μm,0.2s						
MON	**Monaco**	**0.73**	**172**	Pg	**Pg**	**09 27 14.2**	**+0.2**
MON				Sg	Sg	09 27 23.4	-0.2
MONC	**Moncucco Torin**	**0.77**	**37**	P	**Pb**	**09 27 15.7**	**+1.2**
MONC				AML	AML		
	comp=E,316μm,0.3s						
MONC				AML	AML		
	comp=N,286μm,0.4s						
QLNO	**Quiliano**	**0.78**	**100**	⇓P	**Pg**	**09 27 15.0**	**+0.2**
QLNO				S	Sg	09 27 25.0	0.0
QLNO				AML	AML		
	comp=N,260μm,1.4s						
QLNO				AML	AML		
	comp=N,260μm,1.4s						
QLNO				AML	AML		
	comp=E,382μm,0.4s						
OGDI	**Digne**	**0.79**	**244**	Pg	**Pn**	**09 27 17.0**	**+1.2**
OGDI				Sg	**Sn**	**09 27 28.4**	**+1.3**
OGMO	**Fort Saint-Gob**	**0.86**	**331**	Pg	**Pg**	**09 27 17.0**	**+0.6**
PCP	**Piancastagn**	**0.91**	**84**	P	**Pb**	**09 27 17.5**	**+0.7**
PCP				S	**Sb**	**09 27 29.6**	**+1.0**
PCP				AML	AML		
	comp=N,324μm,1.1s						
PCP				AML	AML		
	comp=E,262μm,0.5s						
PCP				AML	AML		
	comp=N,324μm,1.1s						
EILF	**Villa Eilenroc**	**0.92**	**187**	Pg	**Pg**	**09 27 17.4**	**0.0**
FRF	**La Foret Royal**	**1.01**	**207**	*e*Pg	**Pg**	**09 27 18.4**	**-0.7**
FRF				*e*Sg	**Sg**	**09 27 31.4**	**-0.9**
	comp=N,80nm,0.2s						
LSD	**Lago del Serru**	**1.01**	**354**	P	**Pg**	**09 27 18.1**	**-1.1**
LSD				AML	AML		
	comp=E,158μm,0.2s						
LSD				AML	AML		
	comp=N,85μm,0.3s						
LSD				AML	AML		
	comp=N,85μm,0.3s						
ORIF	**Oris-en-Rattie**	**1.10**	**295**	*e*Pg	**Pb**	**09 27 20.8**	**+0.7**
ORIF				*e*Sg	**Sb**	**09 27 34.9**	**+0.7**
	comp=N,37nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.10**	**295**	Pg	**Pb**	**09 27 21.0**	**+0.9**
ORIF	**Oris-en-Rattie**	**1.10**	**295**	P	**Pb**	**09 27 21.0**	**+0.9**
ORIF				AML	AML		
	comp=E,101μm,0.4s						
ORIF				AML	AML		
	comp=N,77μm,0.3s						
TRAV	**Traversella**	**1.10**	**17**	AML	AML		
	comp=E,47μm,0.2s						
TRAV				AML	AML		
	comp=N,42μm,0.9s						
LPG	**La Plagne**	**1.11**	**340**	*e*Pg	**Pb**	**09 27 21.0**	**+0.7**
LPG				*e*Sg	**Sg**	**09 27 35.6**	**0.0**
	comp=N,13nm,0.2s						
GDM	**Grand'Maison**	**1.11**	**312**	Pg	**Pb**	**09 27 21.6**	**+1.2**
LPL	**La Plagne**	**1.13**	**340**	*e*Pg	**Pb**	**09 27 21.4**	**+0.7**
LPL				*e*Sg	**Sb**	**09 27 36.2**	**+1.1**
	comp=N,17nm,0.3s						
CIRO	**Champorcher**	**1.16**	**10**	P	**Pb**	**09 27 19.8**	**-1.4**
CIRO				AML	AML		
	comp=E,27μm,1.0s						
CIRO				AML	AML		
	comp=E,27μm,1.0s						
CIRO				AML	AML		
	comp=N,26μm,0.7s						
MLYF	**Mely**	**1.19**	**247**	Pn	**Pg**	**09 27 23.3**	**+0.8**
LMR	**La Mourre**	**1.25**	**207**	*e*Pg	**Pn**	**09 27 22.8**	**+0.6**
LMR				*e*Sg	**Sb**	**09 27 38.4**	**-0.1**
	comp=N,56nm,0.2s						
SMRF	**Simiane la Rot**	**1.32**	**249**	*e*Pg	**Pn**	**09 27 24.5**	**+1.4**
SMRF				*e*Sg	**Sb**	**09 27 41.4**	**+1.0**
	comp=N,56nm,0.4s						
MRGE	**Morge**	**1.32**	**353**	P	**Pn**	**09 27 24.2**	**+0.9**
GRN	**Grenoble**	**1.34**	**306**	Pn	**Pg**	**09 27 26.2**	**+0.7**
ARTF	**Artigues**	**1.38**	**231**	Pn	**Pn**	**09 27 25.4**	**+1.5**
REMY	**Saint-Rhmy-en**	**1.38**	**356**	P	**Pn**	**09 27 24.8**	**+0.6**
RUSF	**Rustrel**	**1.39**	**249**	Pn	**Pg**	**09 27 26.5**	**+0.1**
GORR	**Gorreto**	**1.45**	**83**	P	**Pn**	**09 27 26.1**	**+1.2**
BOB	**Bobbio (Coli)**	**1.58**	**78**	P	**Pb**	**09 27 29.1**	**+0.9**
DIX	**Grande Dixence**	**1.62**	**3**	P	**Pn**	**09 27 28.1**	**+0.5**
VIVF	**Saint-Julien-l**	**1.90**	**283**	*e*P	**Pn**	**09 27 33.1**	**+1.9**
VIVF				*e*Sg	**Sb**	**09 27 59.4**	**+2.2**
	comp=N,9.8nm,0.3s						
EQUI	**Equi**	**2.08**	**97**	P	**Pn**	**09 27 33.9**	**+0.3**
PGIF	**Pioggiola**	**2.28**	**146**	*e*Pn	**Pn**	**09 27 35.4**	**-1.0**
PGF				*e*Sn	**Sn**	**09 28 01.5**	**-2.6**
	comp=N,4.4nm,0.2s						
PGF	**Pioggiola**	**2.28**	**146**	Pn	**Pn**	**09 27 35.8**	**-0.7**
PGF	**Pioggiola**	**2.28**	**146**	P	**Pn**	**09 27 35.6**	**-0.8**
CABF	**La Chapelle**	**2.31**	**339**	*e*P	**Pn**	**09 27 38.3**	**+1.5**
CABF				*e*Sn	**Sn**	**09 28 02.3**	**-2.5**
	comp=N,1.0nm,0.2s						
CABF				*e*Sg	**Sg**	**09 28 13.0**	**-0.9**
	comp=N,2.0nm,0.2s						
LASF	**Ste Croix**	**2.49**	**262**	*e*P	**Pn**	**09 27 40.5**	**+1.3**
LASF				*e*Sn	**Sn**	**09 28 06.0**	**-3.1**
	comp=N,1.6nm,0.3s						
SMF	**Signal de Mont**	**3.26**	**313**	*e*P	**Pn**	**09 27 52.0**	**+2.2**
SMF				*e*Sn	**Sn**	**09 28 24.6**	**-3.5**
	comp=N,1.5nm,0.2s						
SMF				*e*Sg	**Sg**	**09 28 42.0**	**-2.2**
	comp=N,3.1nm,0.3s						
HINF	**Hinteralfeld**	**3.37**	**355**	*e*P	**Pn**	**09 27 53.0**	**+1.6**
HINF				*e*Sn	**Sn**	**09 28 27.8**	**-3.1**
	comp=N,2.1nm,0.3s						
HINF				*e*Sg	**Sg**	**09 28 46.4**	**-1.4**
	comp=N,1.4nm,0.3s						
CTI	**Castel Tesino**	**3.47**	**61**	P	**Pg**	**09 28 06.1**	**+0.1**
CTI				S	**Sn**	**09 28 39.0**	**+5.6**
CAFI	**Castiglion Fio**	**3.57**	**107**	P	**Pn**	**09 27 56.2**	**+2.2**
HAU	**Haudompre**	**3.61**	**350**	*e*P	**Pn**	**09 27 56.3**	**+1.7**
HAU				*e*Sn	**Sn**	**09 28 33.5**	**-3.2**
	comp=N,2.4nm,0.3s						
AVF	**Avril sur Loir**	**3.61**	**312**	*e*P	**Pn**	**09 27 56.5**	**+1.9**
AVF				*e*Sn	**Sn**	**09 28 33.1**	**-3.6**
	comp=N,1.1nm,0.3s						
AVF				*e*Sg	**Sg**	**09 28 53.2**	**-2.3**
	comp=N,0.9nm,0.3s						
LOR	**Lormes** baz=140	**3.69**	**321**	*e*P	**Pn**	**09 27 57.7**	**+2.0**
LOR				*e*Sn	**Sn**	**09 28 35.0**	**-3.7**
	comp=N,1.3nm,0.2s,baz=138						
SSF	**Saint Saulge**	**3.71**	**316**	*e*P	**Pn**	**09 27 58.0**	**+2.1**
SSF				*e*Sn	**Sn**	**09 28 35.3**	**-3.9**
	comp=N,1.5nm,0.3s						
SSF				*e*Sg	**Sg**	**09 28 56.3**	**-2.3**
	comp=N,1.0nm,0.3s						
BGF	**Bois d'Agland**	**3.76**	**306**	*e*P	**Pn**	**09 27 59.3**	**+2.7**
BGF				*e*Sn	**Sn**	**09 28 36.9**	**-3.5**
	comp=N,38nm,0.3s						
MTLF	**Montolieu**	**3.83**	**255**	*e*P	**Pn**	**09 27 59.3**	**+1.7**
MTLF				*e*Sn	**Sn**	**09 28 37.9**	**-4.2**
	comp=N,0.7nm,0.2s						
PE3	**Peglio**	**3.83**	**100**	P	**Pn**	**09 27 59.7**	**+2.0**
PIEI	**Pieia**	**3.90**	**102**	S	**Sb**	**09 28 54.0**	**-0.7**
CDF	**Champ du Feu**	**3.96**	**360**	*e*P	**Pn**	**09 28 01.0**	**+1.6**
CDF				*e*Sn	**Sn**	**09 28 41.5**	**-3.9**
	comp=N,1.6nm,0.3s						
TCF	**Toulx Ste Croi**	**4.01**	**299**	*e*P	**Pn**	**09 28 02.3**	**+2.1**
TCF				*e*Sn	**Sn**	**09 28 42.8**	**-4.0**
	comp=N,0.5nm,0.2s						
TCF				*e*Sg	**Sg**	**09 29 05.8**	**-2.6**
	comp=N,0.5nm,0.2s						
FRON	**Frontone**	**4.04**	**102**	S	**Sb**	**09 28 57.0**	**-1.7**
ARVD	**Arcevia**	**4.20**	**101**	P	**Pb**	**09 28 15.3**	**+2.5**
PTCC	**Patocco-Chiusa**	**4.70**	**63**	⇑P	Pn	09 28 15.2	+5.7
LDF	**La Druitiere**	**6.57**	**312**	*e*P	**Pn**	**09 28 38.1**	**+2.9**
GRR	**Gorron**	**6.86**	**308**	*e*P	**Pn**	**09 28 42.2**	**+3.0**

NEIC 12 09:34:20.7±1.1, 32°.84N±0°.02×96°.92W±0°.04, h5km±1km, mb_Lg2.5/40, Error ellipse: s-maj=5.4km s-min=3.0km az=79.0, Central Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Z35A	**Perchaven, San**	**0.56**	**330**		Pg	09 34 31.0	-0.5
Z35A				Sg	Sg	09 34 38.3	-0.5
WHTX	**Lake Whitney,**	**0.96**	**208**		Pg	09 34 39.4	+0.2
WHTX				Sg	Sg	09 34 52.1	+0.5
LOOK	**Love County**	**1.17**	**349**	Pg	Pg	09 34 41.7	-1.4
LOOK				Sg	Sg	09 34 57.2	-1.0
237A	**Washetta, Mont**	**1.26**	**131**		Pg	09 34 44.5	-0.3
237A				IAmb_Lg		09 35 02.3	
	comp=Z,32nm,0.9s						
Z38A	**Mt. Pleasant**	**1.68**	**75**

IDC ***12*** *09:40:26.4±1.0,31˚.43N×87˚.90E,h0km,mb3.5/6, mb1 3.7/8,mb1mx3.5/55,mbtmp3.5/8,ML4.4/1,MS3.1/2, Ms1 3.1/2,ms1mx2.6/48,Error ellipse: s-maj=39.2km s-min=21.1km az=55.0*

NEIC ***12*** *09:40:28.8±2.4,31˚.64N±0˚.07×87˚.79E±0˚.05,h15km±5km, mb4.2/20,Error ellipse: s-maj=10.9km s-min=6.1km az=162.0*

ISC 12 09:40:31.0±0.5,31˚.56N±0˚.08×87˚.78E±0˚.08,h35km,n38, σ1§45/37,mb3.8/10,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.45**	**122**			**Pn**		**09 41 22.8**	**+0.2**
SHL	**Shillong**	**6.98**	**148**			**Pn**		**09 42 09.4**	**-1.4**
SHL	**Shillong**	**6.98**	**148**	*eP*		**Pn**		**09 42 10.0**	**-0.9**
NIL	**Nilore**	**12.43**	**284**	Pn		Pn		**09 43 24.0**	**-1.4**
KDJ	**Kajisay**	**13.53**	**324**	Pn		**Pn**		**09 43 38.3**	**-2.2**
DRK	**Karamyk**	**15.21**	**306**	Pn		**Pn**		**09 43 59.3**	**-4.1**
DRK				IAmb		IAmb		09 44 00.5	
	comp=Z,9.8nm,0.6s								
MK31	**Makanchi Array**	**15.79**	**346**	Pn		**Pn**		**09 44 08.2**	**-2.4**
MKAR	**Makanchi Array**	**15.79**	**346**	Pn		**Pn**		**09 44 09.7**	**-0.9**
	baz=162,slow=12,SNR=1.5								
MKAR				LR		LR		09 51 32.0	
	comp=Z,62nm,18.5s,baz=126,slow=42								
MKAR	**Makanchi Array**	**15.79**	**346**			**Pn**		**09 44 08.8**	**-1.7**
KBL	**Kabul**	**15.99**	**286**	Pn		**Pn**		**09 44 12.2**	**-1.3**
KBL				IAmb		IAmb		09 44 26.0	
	comp=Z,5.5nm,0.5s								
GAR	**Garm**	**16.06**	**302**			**Pn**		**09 44 13.4**	**-0.8**
CMAR	**Chiang Mai Arr**	**16.49**	**140**	Pn		**Pn**		**09 44 17.6**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=321,slow=12,SNR=5.3								
CMAR	**Chiang Mai Arr**	**16.49**	**140**			**P**		**09 44 22.2**	**+0.1**
CHGR	**Chuyangaron**	**16.79**	**300**	Pn		**Pn**		**09 44 23.2**	**-0.2**
CHGR				IAmb		IAmb		09 44 37.0	
	comp=Z,13nm,1.2s								
KKAR	**Karatay Array**	**17.89**	**315**	P		**P**		**09 44 37.5**	**+0.1**
ENH	**Enshi**	**18.67**	**88**	P		**P**		**09 44 44.8**	**-1.3**
ENH				IAmb		IAmb		09 44 45.1	
	comp=Z,15nm,1.5s								
KURBB	**Kurchatov Arra**	**20.25**	**343**	P		**P**		**09 45 03.3**	**+0.3**
	comp=Z,0.8nm,0.2s,baz=294,slow=24,SNR=7.9								
KURK	**Kurchatov**	**20.31**	**343**	P		**P**		**09 45 03.3**	**-0.4**
SONM	**Songino Array**	**21.57**	**36**	P		**P**		**09 45 18.7**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=219,slow=11,SNR=4.7								
ZAA0	**Zalesovo Array**	**22.48**	**355**	P		**P**		**09 45 25.4**	**-1.6**
ZALV	**Zalesovo Beam**	**22.48**	**355**	P		**P**		**09 45 25.1**	**-1.9**
QIZ	**Qiongzhong**	**23.47**	**117**	P		**P**		**09 45 37.6**	**+0.1**
QIZ				IAmb		IAmb		09 45 49.9	
	comp=Z,18nm,1.2s								
BJT	**Baijiatuan**	**24.45**	**62**	P		**P**		**09 45 46.7**	**+0.2**
BJT				IAmb		IAmb		09 46 11.8	
	comp=Z,5.3nm,0.8s								
BRVK	**Borovoye**	**24.95**	**335**	P		**P**		**09 45 49.2**	**-1.6**
BRVK				IAmb		IAmb		09 45 53.6	
	comp=Z,2.0nm,0.7s								
GEYT	**Alibeck**	**25.12**	**293**	LR		LR		09 57 39.6	
	comp=Z,43nm,19.2s,baz=60,slow=41								
SRIT	**Nakonsritamara**	**25.36**	**152**	P		**P**		**09 45 55.5**	**+0.6**
HIA	**Hailar**	**29.78**	**44**	P		**P**		**09 46 35.0**	**+0.8**
GSI	**Gunungsitoli**	**31.49**	**161**	P		**P**		**09 46 50.7**	**+1.2**
ARU	**Arti**	**32.12**	**329**	P		**P**		**09 46 55.3**	**+0.6**
ARU				IAmb		IAmb		09 47 16.3	
	comp=Z,3.8nm,1.1s								
INCN	**Inchon**	**32.39**	**69**			**P**		**09 46 57.5**	**+0.1**
KSAR	**Wonju Array Be**	**33.38**	**69**	P		**P**		**09 47 07.8**	**+1.8**
MLR	**Muntele Rosu**	**49.18**	**305**	P		**P**		**09 49 16.4**	**+0.7**
MLR				IAmb		IAmb		09 49 30.6	
	comp=Z,6.3nm,1.1s								
SANT	**Santorini**	**51.13**	**293**	P		**P**		**09 49 31.2**	**+0.8**
GERES	**GERESS Array B**	**56.93**	**311**	P		**P**		**09 50 15.4**	**+2.7**
	comp=Z,0.5nm,0.6s,baz=103,slow=5.9,SNR=4.2								
WRA	**Warramunga Arr**	**67.94**	**133**	P		**P**		**09 51 26.1**	**-0.3**
	comp=Z,0.8nm,0.9s,baz=320,slow=6.0,SNR=11								
WB2	**Warramunga Arr**	**67.95**	**133**	P		**P**		**09 51 26.4**	**-0.1**
ASAR	**Alice Springs**	**70.45**	**135**	P		**P**		**09 51 41.9**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=317,slow=5.7,SNR=2.7								
TORD	**Torodi Ar. Bea**	**79.95**	**279**	P		**P**		**09 52 38.3**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=51,slow=4.9,SNR=2.9								

MOS ***12*** *09:49:23.8±1.1,0˚.07N×124˚.22E,h55km,mb5.2/44,Error ellipse: s-maj=8.4km s-min=5.0km az=111.3*

IDC ***12*** *09:49:26.9±1.2,0˚.05N×124˚.26E,h69km±10km,mb4.6/41, mb1 4.6/47,mb1mx4.6/56,mbtmp4.9/47,MS3.6/32, Ms1 3.6/32,ms1mx3.5/42,Error ellipse: s-maj=10.2km s-min=7.4km az=88.0*

GCMT ***12*** *09:49:27.0±0.2,0˚.04S±0˚.02×124˚.46E±0˚.02,h64km±2km, MW5.0/85,Moment Tensor Solution. s46,c56; s85,c121; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr 1.85±.14; Mθθ -3.19±.09; Mφφ 1.34±.12; Mrθ 1.06±.07; Mrφ -0.08±.10; Mθφ -1.46±.08; Best double couple: Mw3.30500×10^16^ NP1:φs236.00000°,δ46.00000°,λ34.00000°. NP2: φs121.00000°,δ66.00000°,λ130.00000°. Principal axes: T 3.1960, Plg51.0000°, Azm78.0000°; N 0.2180, Plg37.0000°, Azm282.0000°; P -3.4140, Plg12.0000°, Azm183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***12*** *09:49:27.0±2.3,0˚.02N±0˚.07×124˚.37E±0˚.06,h59km±4km, mb5.0/118 Error ellipse: s-maj=10.2km s-min=8.8km az=182.0*

DJA ***12*** *09:49:28.8±0.2,0˚S±2˚×12˚4E±˚,h83km±3km,M5.0/30, mb5.2/30,mB5.4/19,MLv5.6/19,Mw(mB)4.9/19, MwMwp4.5/3,Mwp4.9/3*

ISC 12 09:49:27.6±0.4,0˚.00N±0˚.04×124˚.29E±0˚.04,h76km±3km, h76km:pP-P,n544,σ1§37/583,mb4.9/136,17C-12D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**1.53**	**21**	P		**Pn**		**09 49 54.3**	**+1.1**
SANI	**Sanana**	**2.66**	**140**	P		**Pn**		**09 50 04.5**	**-3.7**
APSI	**Ampana**	**2.79**	**251**	P		**Pn**		**09 50 13.5**	**+3.5**
TNTI	**Ternate**	**3.17**	**76**	Pn		**Pn**		**09 50 14.2**	**-1.0**
TNTI	**Ternate**	**3.17**	**76**	P		**Pn**		**09 50 14.1**	**-1.1**
TNTI				S		**Sn**		**09 50 53.8**	**+1.8**
TOLI2	**Tolitoli**	**3.67**	**287**	Pn		**Pn**		**09 50 23.4**	**+1.4**
SGSI	**Sangihe**	**3.86**	**19**	P		**Pn**		**09 50 29.0**	**+4.4**
MPSI	**Mapaga**	**4.40**	**274**	P		Pn		09 50 37.0	+5.0
KKSI	**Kolaka, Sulawe**	**4.91**	**212**	P		**Pn**		**09 50 39.7**	**+0.7**
KRAI	**Karang Ratu**	**5.27**	**129**	P		**Pn**		**09 50 43.2**	**-0.6**
	5.2nm15μm506nm,0.6s								
TTSI	**Tana Toraja**	**5.40**	**236**	P		**Pn**		**09 50 47.5**	**+2.0**
	8.7nm3μm26μm2μm,0.5s								
MSAI	**Masohi**	**5.71**	**126**	P		**Pn**		**09 50 49.9**	**+0.1**
	1.7nm163nm3μm139nm,0.8s								
BNSI	**Bone**	**6.05**	**224**	P		**Pn**		**09 50 56.1**	**+1.6**
	4.4nm10μm1μm,0.7s								
PMSI	**Majene**	**6.40**	**237**	P		**Pn**		**09 51 03.0**	**+3.7**
	3.0nm5μm683nm,0.8s								
BKSI	**Bulukumba**	**6.73**	**218**	P		**Pn**		**09 51 05.8**	**+2.0**
	2.3nm6μm735nm,0.7s								
KAPI	**Kappang**	**6.74**	**222**	P		**Pn**		**09 51 05.3**	**+1.4**
	143nm,0.3s,baz=68,slow=4.9,SNR=120								
KAPI				S		**Sn**		**09 52 18.9**	**-0.3**
	61nm,0.3s,baz=183,slow=21,SNR=6.7								
KAPI				LR		LR		09 54 08.6	
	comp=Z,772nm,21.5s,baz=63,slow=42								
KAPI	**Kappang**	**6.74**	**222**	P		**Pn**		**09 51 05.3**	**+1.4**
KAPI				S		**Sn**		**09 52 18.9**	**-0.3**
KAPI	**Kappang**	**6.74**	**222**	P		**Pn**		**09 51 05.9**	**+2.0**
	2.6nm7μm676nm,0.6s								
KCP	**Kidapawan**	**7.00**	**7**	↑*i*	P	**Pn**		**09 51 11.1**	**+3.5**
SWI	**Sorong**	**7.03**	**97**	P		**Pn**		**09 51 07.6**	**-0.2**
	0.7nm2μm204nm,0.7s								
SIJI	**Sorong**	**7.03**	**97**	P		**Pn**		**09 51 07.2**	**-0.7**
	11nm,0.3s,baz=237,slow=23,SNR=23								
SIJI				S		**Sn**		**09 52 25.8**	**-0.7**
	5.3nm,0.3s,baz=128,slow=20,SNR=6.3								
SIJI				LR		LR		09 55 03.2	
	comp=Z,397nm,19.2s,baz=85,slow=48								
SIJI	**Sorong**	**7.03**	**97**	P		**Pn**		**09 51 06.7**	**-1.2**
	0.3nm1μm96nm,0.9s								
MKS	**Makassar**	**7.07**	**223**	P		**Pn**		**09 51 10.5**	**+2.0**
	2.9nm8μm987nm,0.7s								
DAV	**Davao City (W)**	**7.14**	**10**	P		**Pn**		**09 51 08.5**	**-0.9**
	88nm,0.3s,baz=144,slow=7.5,SNR=2.1								
DAV				LR		LR		09 54 20.8	
	comp=Z,1μm,19.2s,baz=165,slow=41								
BSSI	**Bau Bau, Buton**	**7.19**	**212**	P		**Pn**		**09 51 10.7**	**+0.7**
	3.4nm10μm872nm,0.8s								
BNDI	**Bandanaira**	**7.19**	**129**	P		**Pn**		**09 51 09.3**	**-0.8**
	3.5nm7μm347nm,0.9s								
BKB	**Balikpapan**	**7.50**	**260**	Pn		**Pn**		**09 51 16.1**	**+1.9**
PAGZ	**Pagadian**	**7.84**	**353**	↓*i*	P	**Pn**		**09 51 19.3**	**+0.3**
BUKP	**Musuan**	**7.86**	**6**	↓*e*	P	**Pn**		**09 51 22.3**	**+3.0**
FAKI	**Fak Fak**	**8.47**	**110**	Pn		**Pn**		**09 51 25.3**	**-2.3**
FAKI	**Fak Fak**	**8.47**	**110**	P		**Pn**		**09 51 24.9**	**-2.7**
	2μm96nm,0.7s								
MMRI	**Maumere**	**8.82**	**193**	Pn		**Pn**		**09 51 33.2**	**+0.8**
MMRI	**Maumere**	**8.82**	**193**	P		**Pn**		**09 51 32.7**	**+0.3**
	11μm4μm273nm,0.8s								
EDFI	**Ende, Flores**	**9.07**	**196**	P		**Pn**		**09 51 35.4**	**-0.5**
	1μm120nm,0.7s								
MTKI	**Muara Teweh, K**	**9.44**	**264**	P		Pn		09 51 46.0	+5.2
	69nm,0.8s								
SOEI	**Soe**	**9.70**	**180**	Pn		**Pn**		**09 51 45.0**	**+0.6**
SOEI	**Soe**	**9.70**	**180**	P		**Pn**		**09 51 46.2**	**+1.8**
	3μm374nm,0.9s								
CNOP	**Candoni, Negro**	**9.90**	**351**	↑*i*	P	Pn		09 51 52.4	+5.3
BBKI	**Banjar Baru**	**10.05**	**250**	P		**Pn**		**09 51 52.7**	**+3.6**
	77nm,0.7s								
MSLP	**Maasin**	**10.08**	**3**	↑*e*	P	**Pn**		**09 51 49.9**	**+0.3**
BATI	**Baumata**	**10.16**	**183**	P		**Pn**		**09 51 50.6**	**-0.1**
	6.5nm,0.3s,baz=352,slow=1.5,SNR=16								
BATI				LR		LR		09 56 00.4	
	comp=Z,2μm,20.5s,baz=2.0,slow=39								
BATI	**Baumata**	**10.16**	**183**	P		**Pn**		**09 51 52.4**	**+1.7**
	1μm106nm,0.9s								
WBSI	**Waikabubak, Su**	**10.75**	**207**	P		**Pn**		**09 51 59.3**	**+0.6**
	1μm138nm,0.9s								
PLAI	**Plampang**	**10.91**	**216**	P		**Pn**		**09 52 02.1**	**+1.2**
	984nm95nm,0.7s								
TWSI	**Taliwang, Sumb**	**11.39**	**220**	P		**Pn**		**09 52 09.9**	**+2.4**
	46nm,1.0s								
RCP	**Roxas**	**11.58**	**352**	↓*e*	P	**Pn**		**09 52 13.6**	**+3.5**
MTN	**Manton Dam**	**14.46**	**152**	P		**Pn**		**09 52 46.6**	**-1.8**
	baz=14,SNR=17								
MTN	**Manton Dam**	**14.46**	**152**	Pn		**Pn**		**09 52 47.1**	**-1.4**
PWJI	**Pagewojo**	**14.78**	**237**	P		**P**		**09 52 55.1**	**-1.6**
	68nm,1.4s								
KDU	**Kakadu**	**15.00**	**148**	P		**Pn**		**09 52 53.4**	**-2.0**
	baz=15,SNR=27								
GENI	**Genyem**	**16.08**	**99**	P		**Pn**		**09 53 08.4**	**-0.8**
	111nm,1.0s								
KNRA	**Kununurra**	**16.20**	**164**	P		**Pn**		**09 53 09.4**	**-1.2**
	baz=16,SNR=57								
KNRA	**Kununurra**	**16.20**	**164**	Pn		**Pn**		**09 53 09.6**	**-1.0**
JAY	**Jayapura**	**16.60**	**99**	P		**Pn**		**09 53 14.7**	**-1.1**
	baz=240,slow=7.0								
JAY				LR		LR		10 01 03.0	
	comp=Z,305nm,21.3s,baz=177,slow=42								
JAY	**Jayapura**	**16.60**	**99**	P		**Pn**		**09 53 14.7**	**-1.1**
JAY	**Jayapura**	**16.60**	**99**	P		**Pn**		**09 53 13.9**	**-1.9**
	32nm,1.1s								
KPJI	**Karang Pucung**	**16.96**	**244**	P		**P**		**09 53 23.0**	**+2.1**
	79nm,0.9s								
LEM	**Lembang**	**17.96**	**247**	P		**P**		**09 53 31.6**	**-0.5**
	5.4nm,0.3s,baz=80,slow=19,SNR=1.8								
LEM				LR		LR		10 01 15.4	
	comp=Z,256nm,18.9s,baz=197,slow=40								
LEM	**Lembang**	**17.96**	**247**	P		**P**		**09 53 31.6**	**-0.5**
APYP	**Conner**	**18.00**	**351**	↓*i*	P	**Pn**		**09 53 35.4**	**+2.7**
FITZ	**Fitzroy Crossi**	**18.04**	**176**	P		**P**		**09 53 31.7**	**-1.0**
	baz=18,SNR=59								
FITZ	**Fitzroy Crossi**	**18.04**	**176**	P		**P**		**09 53 31.8**	**-1.0**
	2.1nm,0.3s,baz=4.4,slow=7.7,SNR=62								
FITZ	**Fitzroy Crossi**	**18.04**	**176**	P		**P**		**09 53 32.3**	**-0.4**
CISI	**Cisompet, Garu**	**18.06**	**245**	P		**Pn**		**09 53 34.4**	**+0.7**
CISI				IAmb		IAmb		09 53 56.4	
	comp=Z,137nm,1.1s								
DSRI	**Dabo**	**19.71**	**269**	P		**Pn**		**09 53 52.8**	**-0.5**
	comp=Z,88nm,0.8s								
MDSI	**Maura Dua**	**20.58**	**257**	P		**P**		**09 53 59.6**	**-0.9**
	comp=Z,863nmcomp=Z,33nm,0.9s								
PSA00	**Pilbara Seismi**	**21.88**	**191**	P		**P**		**09 54 14.3**	**-0.1**
PSA00				IAmb		IAmb		09 54 16.2	
	comp=Z,46nm,0.8s								
PSA00	**Pilbara Seismi**	**21.88**	**191**	P		**P**		**09 54 13.9**	**-0.5**
PSA00				IAmb		IAmb		09 54 15.7	
	comp=Z,24nm,1.0s								
WRAB	**Tennant Creek**	**22.13**	**154**	↑*e*	P	**P**		**09 54 15.6**	**-1.5**
WRAB				pmax		pmax			
	comp=Z,52nm,1.0s								
WRAB	**Tennant Creek**	**22.13**	**154**	P		**P**		**09 54 15.6**	**-1.5**
WRAB				IAmb		IAmb		09 54 21.8	
	comp=Z,48nm,0.8s								
WRA	**Warramunga Arr**	**22.13**	**154**	P		**P**		**09 54 15.7**	**-1.5**
	comp=Z,19nm,0.6s,baz=334,slow=11,SNR=144								
WRA				PcP		**PcP**		**09 58 12.2**	**+0.3**
	comp=Z,24nm,1.1s,baz=331,slow=1.1,SNR=10								
WRA	**Warramunga Arr**	**22.13**	**154**	P		**P**		**09 54 16.3**	**-0.9**
WRA				pmax		pmax			
	comp=Z,1.0nm,0.8s								
WRA	**Warramunga Arr**	**22.13**	**154**	P		**P**		**09 54 16.3**	**-0.9**
WB2	**Warramunga Arr**	**22.14**	**154**	P		**P**		**09 54 15.6**	**-1.6**
WB2				IAmb		IAmb		09 54 21.8	
	comp=Z,51nm,0.8s								
WR0	**Warramunga Arr**	**22.24**	**154**	P		**P**		**09 54 17.0**	**-1.3**
WR0				IAmb		IAmb		09 54 23.7	
	comp=Z,102nm,1.4s								
MANU	**Manus Island**	**23.16**	**95**	P		**P**		**09 54 26.9**	**-1.0**
MANU				IAmb		IAmb		09 54 30.7	
	comp=Z,39nm,0.8s								
COEN	**Coen**	**23.28**	**127**	P		**P**		**09 54 27.8**	**-1.2**
TPUB	**Ta-pu**	**23.43**	**352**	P		**P**		**09 54 30.1**	**-0.1**
TPUB				IAmb		IAmb		09 54 35.4	
	comp=Z,47nm,0.7s								
QIZ	**Qiongzhong**	**23.63**	**324**	P		**P**		**09 54 33.6**	**+1.5**
QIZ				sP		**sP**		**09 54 54.8**	**-3.5**
QIZ				LR		LR			
	comp=Z,250nm,12.2s								
QIZ				LR		LR			
	comp=Z,290nm,12.2s								
QIZ				LR		LR			
	comp=Z,250nm,16.7s								
SSLB	**Suanglung**	**23.86**	**352**	P		**P**		**09 54 33.8**	**-0.4**
UBPT	**Khong Chiam**	**24.00**	**310**	P		**P**		**09 54 36.4**	**+0.9**
UBPT	**Khong Chiam**	**24.00**	**310**	P		**P**		**09 54 39.1**	**+3.6**
	comp=Z,28nm,1.8s								
GUMO	**Guam**	**24.45**	**56**	P		**P**		**09 54 38.6**	**-1.0**
	comp=Z,25nm,0.3s,baz=236,slow=3.6,SNR=2.8								
GUMO				LR		LR		10 03 11.7	
	comp=Z,33nm,21.5s,baz=224,slow=34								
GUMO	**Guam**	**24.45**	**56**	P		**P**		**09 54 39.1**	**-0.4**
GUMO				pmax		pmax			
	comp=Z,113nm,1.1s								
GUMO	**Guam**	**24.45**	**56**	P		**P**		**09 54 39.1**	**-0.4**
GUMO				IAmb		IAmb		09 55 05.9	
	comp=Z,112nm,1.1s								
GIRL	**Giralia**	**24.55**	**203**	P		**P**		**09 54 41.0**	**+0.7**
	baz=25,SNR=5.1								
GIRL	**Giralia**	**24.55**	**203**	P		**P**		**09 54 41.8**	**+1.4**
YHNB	**Yeheng**	**24.68**	**354**	P		**P**		**09 54 42.7**	**+1.0**
WRKA	**Warakurna**	**25.19**	**171**	P		**P**		**09 54 46.2**	**0.0**
	baz=25,SNR=71								
AS31	**Alice Springs**	**25.31**	**159**	P		**P**		**09 54 47.7**	**+0.3**
ASAR	**Alice Springs**	**25.31**	**159**	P		**P**		**09 54 47.4**	**0.0**
	comp=Z,15nm,0.5s,baz=339,slow=8.7,SNR=128								
ASAR				PcP		**PcP**		**09 58 19.0**	**+0.3**
	comp=Z,5.2nm,0.5s,baz=351,slow=2.2,SNR=12								
ASAR				ScP		**ScP**		**10 01 51.2**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=341,slow=2.9,SNR=4.3								
ASAR				LR		LR		10 04 45.3	
	comp=Z,182nm,21.9s,baz=352,slow=36								
ASAR	**Alice Springs**	**25.31**	**159**	P		**P**		**09 54 47.6**	**+0.2**
ASAR	**Alice Springs**	**25.31**	**159**	P		**P**		**09 54 47.6**	**+0.2**
QIS	**Mount Isa**	**25.34**	**145**	P		**P**		**09 54 48.1**	**+0.5**
	baz=25,SNR=89								
RPSI	**Rantau Prapat**	**25.49**	**276**	P		**P**		**09 54 49.4**	**+0.3**
RPSI	**Rantau Prapat**	**25.49**	**276**	P		**P**		**09 54 49.2**	**+0.2**
PSI	**Prapat**	**25.50**	**276**	P		**P**		**09 54 49.2**	**-0.1**
	comp=Z,12nm,1.0s,baz=164,slow=5.6,SNR=4.9								
PSI				LR		LR		10 05 51.8	
	comp=Z,72nm,21.6s,baz=90,slow=39								
PSI	**Prapat**	**25.50**	**276**	P		**P**		**09 54 49.3**	**-0.1**
PSI	**Prapat**	**25.50**	**276**	P		**P**		**09 54 49.1**	**-0.2**
	comp=Z,9.3nm,1.0s,comp=Z,20nm,1.0s								
PSI				P		**P**		**09 54 49.1**	**-0.2**
	comp=Z,9.3nm,1.0s,comp=Z,20nm,1.0s								
JMZ	**Minamidaito 2**	**26.52**	**14**	P		**P**		**09 54 58.4**	**+0.1**
JMZ				IAmb		IAmb		09 55 00.7	
	comp=Z,42nm,1.1s								
MTSU	**Mount Surprise**	**26.70**	**134**	P		**P**		**09 55 00.6**	**+0.7**
	baz=27,SNR=7.6								
JOW	**Kunigami**	**26.95**	**8**	P		**P**		**09 55 02.6**	**+0.6**
	comp=Z,26nm,0.8s,baz=205,slow=6.0,SNR=6.2								
JOW	**Kunigami**	**26.95**	**8**	P		**P**		**09 55 01.9**	**-0.2**
JOW				IAmb		IAmb		09 55 07.5	
	comp=Z,25nm,0.8s								
MEEK	**Meekatharra**	**27.05**	**191**	P		**P**		**09 55 02.6**	**-0.3**
	baz=27,SNR=8.3								
RABL	**Rabaul**	**28.16**	**99**	P		**P**		**09 55 12.6**	**-0.5**
CTA	**Charters Tower**	**29.35**	**134**	P		**P**		**09 55 23.7**	**+0.1**
	comp=Z,11nm,1.0s,baz=330,slow=14,SNR=4.1								
CTA	**Charters Tower**	**29.35**	**134**	P		**P**		**09 55 23.7**	**+0.1**
CTAO	**Charters Tower**	**29.35**	**134**	P		**P**		**09 55 24.0**	**+0.5**
CTAO				pmax		pmax			
	comp=Z,35nm,1.5s								
CTAO	**Charters Tower**	**29.35**	**134**	P		**P**		**09 55 24.0**	**+0.5**
MORW	**Morawa**	**29.96**	**195**	P		**P**		**09 55 28.9**	**0.0**
MORW				IAmb		IAmb		09 55 40.8	
	comp=Z,44nm,1.4s								
FORT	**Forrest**	**30.82**	**174**	P		**P**		**09 55 36.5**	**+0.1**
	baz=31,SNR=20								
FORT	**Forrest**	**30.82**	**174**	P		**P**		**09 55 36.2**	**-0.2**
FORT				IAmb		IAmb		09 55 49.4	
	comp=Z,30nm,0.7s								
CMAR	**Chiang Mai Arr**	**30.92**	**308**	P		**P**		**09 55 38.9**	**+1.4**
	comp=Z,2.7nm,0.4s,baz=139,slow=7.4,SNR=21								
CMAR				PcP		**PcP**		**09 58 32.8**	**+0.2**
	comp=Z,7.0nm,0.9s,baz=173,slow=1.9,SNR=13								
CMAR				ScP		**ScP**		**10 02 08.9**	**0.0**
	comp=Z,0.6nm,0.3s,baz=161,slow=3.8,SNR=1.1								
CMAR				LR		LR		10 08 10.5	
	comp=Z,179nm,21.8s,baz=159,slow=36								
CMAR	**Chiang Mai Arr**	**30.92**	**308**	P		**P**		**09 55 38.9**	**+1.4**
CMAR								09 58 32.8	
CMAR	**Chiang Mai Arr**	**30.92**	**308**	P		**P**		**09 55 39.4**	**+1.9**
CHTO	**Chiang Mai**	**31.12**	**308**	P		**P**		**09 55 39.7**	**+0.5**
CHTO				pmax		pmax			
	comp=Z,18nm,0.9s								
CHTO	**Chiang Mai**	**31.12**	**308**	P		**P**		**09 55 39.7**	**+0.5**
CHTO				IAmb		IAmb		09 55 42.4	
	comp=Z,18nm,0.8s								
JCJ	**Chichijima**	**31.96**	**31**	P		**P**		**09 55 46.2**	**-0.3**
	comp=Z,50nm,0.4s,baz=128,slow=20,SNR=16								
JCJ				LR		LR		10 07 22.1	
	comp=Z,65nm,21.1s,baz=222,slow=34								
JCJ	**Chichijima**	**31.96**	**31**	IAmb		IAmb		09 55 50.7	
	comp=Z,105nm,1.1s								
NJ2	**Nanjing**	**32.29**	**351**	*eP*		**P**		**09 55 52.2**	**+3.0**
NJ2				pmax		pmax			
	comp=Z,6.0nm,0.5s								
KMI	**Kunming**	**32.52**	**322**	↓P		**P**		**09 55 54.8**	**+3.1**
KMI				pmax		pmax			
	comp=Z,11nm,0.7s								
QLP	**Quilpie**	**32.68**	**146**	P		**P**		**09 55 53.4**	**+0.6**
	baz=33,SNR=4.1								
ENH	**Enshi**	**33.23**	**336**	P		**P**		**09 55 58.1**	**+0.5**
ENH				IAmb		IAmb		09 56 00.7	
	comp=Z,19nm,0.7s								
JNU	**Nakatsue**	**33.52**	**10**	P		**P**		**09 56 00.2**	**+0.1**
	comp=Z,34nm,0.9s,baz=106,slow=4.3,SNR=12								
JNU				LR		LR		10 10 36.7	
	comp=Z,78nm,20.1s,baz=186,slow=38								
JNU	**Nakatsue**	**33.52**	**10**	P		**P**		**09 55 59.9**	**-0.2**
JNU				IAmb		IAmb		09 56 01.2	
	comp=Z,38nm,0.9s								
BBOO	**Buckleboo**	**34.

LZH pP pP 09 57 22.3 +3.9
LZH sP sP 09 57 29.2 +2.2
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,100nm,5.6s
LZH LR LR
comp=Z,330nm,13.9s
LZH LR LR
comp=Z,350nm,14.2s
LZH LR LR
comp=Z,210nm,16.8s
JMM Marumori 40.64 20 P P 09 57 00.9 +0.7
YNG Young 40.92 149 P P 09 57 04.7 +2.0
baz=41,SNR=6.4
CAN Canberra 42.03 149 P P 09 57 12.6 +0.8
CAN pmax pmax
comp=Z,24nm,0.7s
CAN Canberra 42.03 149 P P 09 57 12.6 +0.8
CAN IAmb IAmb 09 57 15.0
comp=Z,24nm,0.7s
TOO Toolangi 42.21 155 P P 09 57 15.1 +1.9
baz=42,SNR=8.8
TOO Toolangi 42.21 155 P P 09 57 14.6 +1.4
TOO pmax pmax
comp=Z,24nm,1.3s
TOO Toolangi 42.21 155 P P 09 57 14.6 +1.4
CNB Canberra Magne 42.21 149 P P 09 57 15.6 +2.3
baz=42,SNR=11
HHC Hu-ho-hao-te 42.27 346 *e*P **P 09 57 17.2 +3.5**
HHC pmax pmax
comp=Z,17nm,1.2s
HHC pmax pmax
comp=Z,64nm,5.4s
HHC LR LR
comp=Z,160nm,16.9s
HHC LR LR
comp=Z,140nm,17.6s
HHC LR LR
comp=Z,230nm,19.6s
MSHR Mys Shultsa 42.83 7*c i*P **P 09 57 19.1 +1.0**
MSHR pmax pmax
comp=Z,16nm,1.0s
LSA Lhasa 43.23 316 P P 09 57 22.4 +0.3
LSA pmax pmax
comp=Z,24nm,1.3s
LSA Lhasa 43.23 316 P P 09 57 22.4 +0.3
VLA Vladivostok 43.46 8*c i*P **P 09 57 23.7 +0.6**
VLA pmax pmax
comp=Z,37nm,0.7s
ODAN Odare 44.40 310 *e*P **P 09 57 32.2 +0.9**
comp=Z,23nm,0.7s
TAPN Taplejung 44.41 311 *e*P **P 09 57 32.6 +1.2**
comp=Z,15nm,0.5s
USA0B Ussuriysk Arra 44.54 8 P P 09 57 32.5 +0.7
USA0B pmax pmax
comp=Z,29nm,0.9s
USA0B Ussuriysk Arra 44.54 8 P P 09 57 32.5 +0.7
USA0B IAmb IAmb 09 57 33.5
comp=Z,29nm,0.8s
USRK Ussuriysk Ar. 44.54 8 P P 09 57 32.0 +0.3
comp=Z,22nm,0.6s,baz=193,slow=7.3,SNR=56
USRK Ussuriysk Ar. 44.54 8 P P 09 57 32.4 +0.6
USRK Ussuriysk Ar. 44.54 8 P P 09 57 32.4 +0.6
MDJ Mudanjiang 44.67 5 P P 09 57 33.5 +0.7
RAMN Ramite 45.06 310 *e*P **P 09 57 37.7 +1.2**
comp=Z,17nm,0.5s
GTA Gaotai 45.16 333 *e*P **P 09 57 38.3 +1.3**
GTA pP pP 09 57 53.3 -2.1
GTA sP sP 09 58 00.9 -3.1
GTA pmax pmax
comp=Z,19nm,1.1s
GTA pmax pmax
comp=Z,69nm,5.8s
GTA LR LR
comp=Z,98nm,17.1s
GTA LR LR
comp=Z,150nm,18.9s
GTA LR LR
comp=Z,190nm,18.5s
JIRN Jiri 45.73 310 *e*P **P 09 57 42.7 +0.8**
comp=Z,20nm,0.6s
GUN Gumba 46.09 310 *e*P **P 09 57 45.5 +0.7**
comp=Z,31nm,0.6s
PKI Pulchoki 46.28 310 *e*P **P 09 57 46.6 +0.3**
PKIN Phulchoki 46.30 310 *e*P **P 09 57 46.6 +0.3**
KKN Kakani 46.49 310 *e*P **P 09 57 48.6 +0.8**
DMN Daman 46.54 309 *e*P **P 09 57 48.8 +0.6**
DZM Mont Dzumac 46.56 121 LR LR 10 17 17.4
comp=Z,63nm,19.1s,baz=254,slow=36
KOLN Koldanda 47.78 309 *e*P **P 09 57 58.6 +0.8**
comp=Z,50nm,0.8s
DANN Dangsing 47.94 310 *e*P **P 09 57 59.6 +0.5**
comp=Z,52nm,0.7s
HYB Hyderabad 48.21 294 *i* P **P 09 58 01.0 0.0**
HYB *e*PcP **sP 09 58 28.0 +1.1**
PYUN Piuthan 48.41 309 *e*P **P 09 58 03.5 +0.8**
comp=Z,46nm,0.7s
HIA Hailar 49.23 356 P P 09 58 08.6 +0.3
HIA pmax pmax
comp=Z,13nm,0.7s
HIA Hailar 49.23 356 P P 09 58 08.6 +0.3
HIA IAmb IAmb 09 58 11.8
comp=Z,13nm,0.7s
KLR Kul'dur 49.46 6*c i*P **P 09 58 10.0 0.0**
KLR pmax pmax
comp=Z,15nm,0.6s
YSS Yuzh-Sakhalins 49.47 17⇓ *e*P **P 09 58 12.0 +1.9**
YSS pmax pmax
comp=Z,35nm,1.2s
ULN Ulaanbaatar 49.97 345*d i*P **P 09 58 14.2 +0.1**
ULN pmax pmax
comp=Z,13nm,1.0s
ULN Ulaanbaatar 49.97 345 P P 09 58 14.0 -0.1
ULN IAmb IAmb 09 58 16.5
comp=Z,9.8nm,0.8s
SONM Songino Array 50.12 344 P P 09 58 14.6 -0.6
comp=Z,9.4nm,0.9s,baz=157,slow=8.8,SNR=26
SONM ScP **ScP 10 03 21.8 -1.2**
comp=Z,1.3nm,1.0s,baz=187,slow=2.3,SNR=3.2
SONM LR LR 10 20 21.6
comp=Z,147nm,21.7s,baz=160,slow=37
SONM Songino Array 50.12 344 P **P 09 58 15.1 -0.1**
SONM pmax pmax
comp=Z,8.0nm,0.9s
SONM Songino Array 50.12 344 P P 09 58 15.1 -0.1
GRNR Gornyy 51.62 10⇓ *i*P **P 09 58 27.6 +1.3**
GRNR pmax pmax
comp=Z,10.0nm,0.8s
GRNR MLR MLR
comp=E,90nm,16.0s
GRNR MLR MLR
comp=N,60nm,12.0s
GRNR MLR MLR
comp=Z,70nm,15.0s
ZAK Zakamensk 53.29 343 *e*P **P 09 58 38.0 -0.8**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
ZEA Zeya 53.61 2 *e*P **P 09 58 41.3 +0.4**
ZEA pmax pmax
comp=Z,20nm,1.0s
WMQ Urumqi 54.47 328 *e*P **P 09 58 50.7 +3.3**
WMQ pmax pmax
comp=Z,20nm,0.7s
WMQ pmax pmax
comp=Z,110nm,3.7s
WMQ LR LR
comp=Z,510nm,29.1s
WMQ LR LR
comp=Z,140nm,24.5s
MOY Mondy 55.10 343 *e*P **P 09 58 52.3 +0.3**
MOY pmax pmax
comp=Z,14nm,1.7s
MSVF Nonsavu 55.71 111 P **P 09 58 54.5 -2.3**
MSVF pmax pmax
comp=Z,59nm,1.5s
MSVF Nonsavu 55.71 111 P P 09 58 54.5 -2.3
NIL Nilore 58.36 310 P P 09 59 15.2 -0.1
NIL pmax pmax
comp=Z,20nm,1.4s
NIL Nilore 58.36 310 P P 09 59 15.2 -0.1
NIL IAmb IAmb 09 59 39.0
comp=Z,20nm,1.4s
ZSN Zaisan 58.38 330 *e*P **P 09 59 14.1 -1.1**
baz=330
ZSN Zaisan 58.38 330 *e*P **P 09 59 14.0 -1.1**

DGZ Jazzator, Alta 58.70 333*de*P **P 09 59 17.4 0.0**
DGZ pmax pmax
comp=Z,5.0nm,0.9s
SHLS Shalkode 58.73 323 *e*P **P 09 59 15.3 -2.6**
baz=323
SHLS Shalkode 58.73 323 *e*P **P 09 59 15.2 -2.6**
UZB Uzynbulak 58.99 323 *e*P **P 09 59 18.6 -1.1**
baz=323
UZB Uzynbulak 58.99 323 *e*P **P 09 59 18.5 -1.1**
PRZ Przheval'sk 59.01 322 P **P 09 59 21.1 +1.3**
PRZ pmax pmax
comp=Z,29nm,0.3s
PRZ Przheval'sk 59.01 322 P P 09 59 21.1 +1.3
KSH Kashi 59.04 318 P **P 09 59 21.3 +1.3**
KSH pP pP 09 59 35.5 -3.6
KSH PcP **PcP 10 00 09.0 +0.8**
KSH pmax pmax
comp=Z,8.0nm,0.8s
MK31 Makanchi Array 59.29 328*ce*P **P 09 59 21.3 -0.2**
MK31 Makanchi Array 59.29 328 P **P 09 59 21.1 -0.4**
MK31 IAmb IAmb 09 59 21.8
comp=Z,6.2nm,0.5s
MKAR Makanchi Array 59.29 328 P **P 09 59 20.8 -0.7**
comp=Z,8.4nm,0.4s,baz=120,slow=8.7,SNR=66
MKAR PcP **PcP 10 00 08.4 -0.5**
comp=Z,4.7nm,0.7s,baz=124,slow=6.4,SNR=4.8
MKAR ScP **ScP 10 04 02.7 -0.4**
comp=Z,0.3nm,0.7s,baz=116,slow=6.6,SNR=1.9
MKAR LR LR 10 25 55.8
comp=Z,141nm,20.4s,baz=114,slow=37
MKAR Makanchi Array 59.29 328 *i* P **P 09 59 21.2 -0.3**
MKAR pmax pmax
comp=Z,9.0nm,0.4s
MKAR Makanchi Array 59.29 328 P **P 09 59 21.1 -0.4**
SATY Saty 59.32 322 *e*P **P 09 59 21.4 -0.5**
baz=322
SATY Saty 59.32 322 *e*P **P 09 59 21.3 -0.5**
KPKS Kokpek 59.37 323 *e*P **P 09 59 21.2 -1.0**
baz=323
KPKS Kokpek 59.37 323 *e*P **P 09 59 21.2 -1.0**
MAKZ Makanchi 59.47 328 P **P 09 59 22.0 -0.7**
MAKZ pmax pmax
comp=Z,8.0nm,0.5s
MAKZ Makanchi 59.47 328 P **P 09 59 22.0 -0.7**
MAKZ IAmb IAmb 09 59 22.9
comp=Z,7.6nm,0.5s
KDJ Kajisay 59.58 321 P **P 09 59 24.3 +0.5**
KDJ pmax pmax
comp=Z,5.0nm,0.7s
KDJ Kajisay 59.58 321 P P 09 59 24.3 +0.5
WKZ Wanaka 59.64 145 P P 09 59 24.3 +0.4
PEA0B Petropavlovsk- 59.78 23 P P 09 59 24.6 -0.1
PEA0B pmax pmax
comp=Z,102nm,1.4s
PEA0B Petropavlovsk- 59.78 23 P P 09 59 24.6 -0.1
PETK Petropavlovsk- 59.78 23 P P 09 59 25.3 +0.6
comp=Z,20nm,0.8s,baz=204,slow=2.8,SNR=18
PETK PcP **PcP 10 00 10.4 -0.3**
comp=Z,12nm,0.9s,baz=216,slow=7.3,SNR=3.5
PETK LR LR 10 25 52.9
comp=Z,18nm,20.2s,baz=216,slow=37
PETK Petropavlovsk- 59.78 23 P **P 09 59 25.3 +0.6**
PETK 10 00 10.4
TNSS Tian-Shan 60.21 322 *e*P **P 09 59 28.2 -0.1**
baz=322
MDOK Medeo 60.21 322 *e*P **P 09 59 26.8 -1.2**
baz=322
MDOK Medeo 60.21 322 *e*P **P 09 59 26.8 -1.2**
RPZ Rata Peaks 60.22 143 P **P 09 59 28.9 +1.0**
THZ Tophouse 60.36 140 P **P 09 59 29.9 +1.0**
MTBS Maitube 60.58 321 *e*P **P 09 59 29.2 -1.3**
baz=322
CHKK Chushkaly 60.62 322 *e*P **P 09 59 29.3 -1.3**
baz=322
KUU Kurty 61.03 322 *e*P **P 09 59 32.2 -1.2**
baz=322
KUU Kurty 61.03 322 *e*P **P 09 59 32.2 -1.2**
SNZO South Karori 61.32 139 P **P 09 59 35.7 +0.4**
AAK Ala-Archa 61.55 320⇑ *e*P **P 09 59 37.1 0.0**
AAK pmax pmax
comp=Z,18nm,1.0s
AAK Ala-Archa 61.55 320 P **P 09 59 37.2 0.0**
SGDS Sogindy 61.87 321 *e*P **P 09 59 37.8 -1.4**
baz=321
KBL Kabul 61.92 310 P **P 09 59 39.1 -0.8**
KBL pmax pmax
comp=Z,12nm,0.8s
KBL Kabul 61.92 310 P **P 09 59 39.0 -0.8**
KBL IAmb IAmb 09 59 42.5
comp=Z,12nm,0.8s
YAK Yakutsk 62.00 3 P **P 09 59 38.8 -0.8**
comp=Z,33nm,0.5s,baz=15,slow=0.7,SNR=18
YAK Yakutsk 62.00 3 *e*P **P 09 59 39.8 +0.3**
YAK *e**PP **pP 09 59 59.1 0.0**
YAK *e* 10 00 19.9
YAK *e* 10 01 56.1
YAK *e*S **S 10 07 58.6 +0.6**
YAK *e**SS **sS 10 08 33.4 +2.1**
YAK *e* 10 09 22.9
YAK *e*SS **SS 10 12 03.9 +2.1**
YAK pmax pmax
comp=Z,40nm,0.7s
YAK pmax pmax
comp=N,7.0nm,0.6s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK pmax pmax
comp=Z,82nm,2.0s
YAK pmax pmax
comp=N,56nm,2.0s
YAK pmax pmax
comp=E,35nm,2.0s
YAK smax smax
comp=N,47nm,2.3s
YAK smax smax
comp=E,50nm,2.3s
YAK Yakutsk 62.00 3 P **P 09 59 39.7 +0.2**
GAR Garm 62.72 315 P **P 09 59 44.2 -0.8**
GAR IAmb IAmb 10 00 09.8
comp=Z,21nm,1.1s
ZAA0 Zalesovo Array 62.85 335 P **P 09 59 43.8 -1.5**
ZALV Zalesovo Beam 62.85 335 P **P 09 59 43.2 -2.1**
comp=Z,2.4nm,0.3s,baz=190,slow=7.2,SNR=4.3
ZALV LR LR 10 29 52.4
comp=Z,79nm,18.2s,baz=44,slow=39
ZALV Zalesovo Beam 62.85 335 P **P 09 59 44.1 -1.3**
ZALV Zalesovo Beam 62.85 335 P **P 09 59 44.1 -1.3**
MA2 Magadan 62.90 15 P **P 09 59 46.8 +1.2**
comp=Z,31nm,0.6s,baz=192,slow=7.0,SNR=27
MA2 Magadan 62.90 15*d i*P **P 09 59 47.0 +1.4**
MA2 pmax pmax
comp=Z,45nm,1.3s
MA2 Magadan 62.90 15 P **P 09 59 46.0 +0.5**
BTLS Baital 63.03 322 *e*P **P 09 59 45.0 -1.8**
baz=322
BTLS Baital 63.03 322 *e*P **P 09 59 45.0 -1.8**
CHGR Chuyangaron 63.41 314 P **P 09 59 49.0 -0.5**
CHGR IAmb IAmb 10 00 13.7
comp=Z,13nm,1.0s
KURBB Kurchatov Arra 63.61 329 P **P 09 59 49.9 -0.5**
comp=Z,5.6nm,0.5s,baz=133,slow=6.0,SNR=44
KURK Kurchatov 63.62 329 P **P 09 59 49.9 -0.6**
KURK Kurchatov 63.62 329 P **P 09 59 49.9 -0.6**
KK31 Karatay Array 64.35 319 P **P 09 59 55.3 -0.2**
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KK31 Karatay Array 64.35 319 P **P 09 59 55.3 -0.2**
KKAR Karatay Array 64.35 319 P **P 09 59 55.3 -0.2**
KKAR pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 64.35 319 P **P 09 59 55.4 -0.2**
KKAR Karatay Array 64.35 319 P **P 09 59 55.3 -0.2**
KKAR IAmb IAmb 09 59 58.4
comp=Z,2.8nm,0.8s
SEY Seymchan 66.20 14 P **P 10 00 07.2 +0.3**
comp=Z,8.0nm,0.9s,baz=214,slow=6.2,SNR=14
SEY Seymchan 66.20 14 P **P 10 00 07.3 +0.3**
BRZS Berezniki 66.36 326 *e*P **P 10 00 07.1 -1.3**
baz=327
BRZS Berezniki 66.36 326 *e*P **P 10 00 07.0 -1.3**
BVAR Borovoye Array 69.15 329 P **P 10 00 25.1 -0.7**
comp=Z,3.3nm,0.5s,baz=167,slow=7.0,SNR=12
BVAR Borovoye Array 69.15 329 P **P 10 00 25.1 -0.7**
BRVK Borovoye 69.22 329*c i*P **P 10 00 25.0 -1.2**
BRVK pmax pmax
comp=Z,9.0nm,1.3s
BRVK Borovoye 69.22 329 P **P 10 00 25.8 -0.4**
GEYT Alibeck 71.37 310 P **P 10 00 39.4 -0.3**
comp=Z,36nm,0.7s,baz=149,slow=3.4,SNR=2.4
GEYT LR LR 10 36 19.0
comp=Z,32nm,21.0s,baz=60,slow=39
TIXI Tiksi 71.59 2 P **P 10 00 39.9 -0.4**
comp=Z,11nm,0.4s,baz=155,slow=5.1,SNR=8.1
TIXI Tiksi 71.59 2*d i*P **P 10 00 40.1 -0.2**
TIXI Tiksi 71.59 2 P **P 10 00 40.5 +0.2**
TIXI IAmb IAmb 10 00 41.8
comp=Z,38nm,1.2s
ATKA Atka Island 72.93 34 P **P 10 00 49.4 +0.8**
NRIK Noril'sk 73.47 347 P **P 10 00 51.5 0.0**
comp=Z,18nm,0.7s,baz=132,slow=5.7,SNR=16
NRIK LR LR 10 35 02.6
comp=Z,58nm,21.6s,baz=154,slow=37
NRIK Noril'sk 73.47 347*c i*P **P 10 00 51.4 -0.1**
NRIK pmax pmax
comp=Z,14nm,0.6s
NRIK Noril'sk 73.47 347 P **P 10 00 51.7 +0.2**
NRIK IAmb IAmb 10 00 52.3
comp=Z,16nm,0.7s
ABKAR Akbulak array 73.52 322 P **P 10 00 51.8 -0.5**
ABKAR Akbulak array 73.52 322 P **P 10 00 51.2 -1.1**
ABKAR IAmb IAmb 10 00 54.9
comp=Z,6.1nm,0.9s
AKTO Aktyubinsk 75.08 323 P **P 10 01 00.4 -0.9**
comp=Z,6.3nm,0.6s,baz=112,slow=7.5,SNR=29
AKTO Aktyubinsk 75.08 323 P **P 10 01 00.4 -0.9**
ARU Arti 76.80 329 P **P 10 01 09.5 -1.4**
comp=Z,2.6nm,0.5s,baz=105,slow=4.3,SNR=8.7
ARU Arti 76.80 329*c i*P **P 10 01 09.1 -1.8**
ARU *PP **PcP 10 01 25.2 +3.3**
ARU S **S 10 10 51.7 -0.5**
ARU pmax pmax
comp=Z,8.0nm,0.7s
ARU Arti 76.80 329 P **P 10 01 09.7 -1.2**
ARU IAmb IAmb 10 01 10.3
comp=Z,8.3nm,0.6s
ABPO Ambohimpanom 77.77 251 P **P 10 01 18.3 +1.0**
ABPO pmax pmax
comp=Z,9.0nm,0.7s
ABPO Ambohimpanom 77.77 251 P **P 10 01 18.3 +1.0**
ABPO IAmb IAmb 10 01 18.9
comp=Z,8.9nm,0.7s
OPO Ambohidratompo 77.77 251 P **P 10 01 18.1 +0.8**
comp=Z,17nm,0.8s,baz=87,slow=3.7,SNR=20
VOI Vohitsoka 78.40 248 P **P 10 01 21.0 +0.3**
VOI IAmb IAmb 10 01 43.6
comp=Z,15nm,0.8s
MAW Mawson 79.44 200 P **P 10 01 26.0 +0.8**
comp=Z,5.0nm,0.8s,baz=50,slow=8.5,SNR=8.9
MAW LR LR 10 36 53.1
comp=Z,39nm,18.6s,baz=57,slow=36
MAW Mawson 79.44 200 P **P 10 01 26.0 +0.8**
MAW Mawson 79.44 200 P **P 10 01 25.7 +0.5**
VNDA Vanda 80.07 172 P **P 10 01 28.2 -0.4**
comp=Z,2.9nm,0.6s,baz=324,slow=5.6,SNR=15
VNDA LR LR 10 37 27.8
comp=Z,36nm,18.9s,baz=338,slow=36
VNDA Vanda 80.07 172 P **P 10 01 29.0 +0.4**
VNDA pmax pmax
comp=Z,8.0nm,1.1s
VNDA Vanda 80.07 172 P **P 10 01 29.0 +0.4**
SDPT Sand Point 81.63 34 P **P 10 01 36.8 -0.4**
baz=258
BELG Belogornoye 81.87 323 P **P 10 01 37.4 -1.2**
comp=Z,14nm,0.8s,baz=74,slow=4.4,SNR=5.0
BELG Belogornoye 81.87 323 P **P 10 01 37.4 -1.2**
KIRV Kirov 82.14 329*de*P **P 10 01 39.0 -0.8**
NCK Nalchik 83.24 314⇑ *e*P **P 10 01 47.2 +1.2**
NCK pmax pmax
comp=Z,34nm,0.6s
KBZ Khabaz 83.77 314 P **P 10 01 48.2 -0.5**
comp=Z,2.7nm,0.7s,baz=196,slow=3.5,SNR=5.5
KBZ LR LR 10 44 50.6
comp=Z,23nm,19.2s,baz=81,slow=40
KBZ Khabaz 83.77 314*de*P **P 10 01 48.1 -0.5**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
GURO Guroymak-BITLI 83.93 309 P **P 10 01 49.9 +0.1**
GURO IAmb IAmb 10 01 50.9
comp=Z,9.8nm,0.9s
KIV Kislovodsk 83.94 314 *e*P **P 10 01 48.8 -0.9**
KIV pmax pmax
comp=Z,15nm,1.1s
KIV MLR MLR
comp=Z,26nm,19.0s
PRGR Permogore 84.61 332 *e*P **P 10 01 51.2 -1.3**
PRGR pmax pmax
comp=Z,22nm,0.7s
N18K Kilae Creek 85.01 29 P **P 10 01 55.2 +0.6**
N18K IAmb IAmb 10 01 57.2
comp=Z,18nm,1.2s
N18K Kilae Creek 85.01 29 P **P 10 01 56.4 +1.8**
baz=261
KOPT Kop Dagi 85.23 310 P **P 10 01 57.5 +1.0**
KOPT IAmb IAmb 10 02 02.2
comp=Z,9.6nm,0.9s
N19K Bonanza Creek 85.71 29 P **P 10 01 59.1 +0.9**
N19K IAmb IAmb 10 02 00.8
comp=Z,12nm,0.8s
N19K Bonanza Creek 85.71 29 P **P 10 01 59.7 +1.6**
baz=262
L19K White Mountain 85.72 28 P **P 10 01 59.0 +0.9**
L19K IAmb IAmb 10 02 01.8
comp=Z,14nm,1.2s
L19K White Mountain 85.72 28 P **P 10 01 59.5 +1.3**
baz=262
OHAK Old Harbor 85.89 33 P **P 10 01 60.0 +1.0**
OHAK Old Harbor 85.89 33 P **P 10 02 00.3 +1.4**
baz=264
SOC Sochi 86.06 314 *e*P **P 10 01 57.6 -2.5**
SOC *e* 10 05 16.4
SOC *ePPP PPP 10 07 12.1
SOC *eS **SKSac 10 12 17.6 -2.0**
SOC *eSS **SS 10 18 04.7 -3.4**
SOC *eSSS SSS 10 21 37.7
SOC pmax pmax
comp=Z,9.0nm,0.5s
L20K Farewell, AK 86.21 27 P **P 10 02 02.0 +1.4**
baz=263
K20K Telida 86.24 27 P **P 10 02 01.9 +1.2**
baz=262
J20K Nowinta River 86.31 26 P **P 10 02 02.2 +1.3**
baz=262
M20K Styx River 86.49 28 P **P 10 02 02.1 +0.1**
M20K IAmb IAmb 10 02 03.8
comp=Z,10.0nm,0.9s
M20K Styx River 86.49 28 P **P 10 02 03.2 +1.2**
baz=263
RSO Redoubt South 86.52 30 P **P 10 02 03.3 +1.0**
IMAR Indian Mountai 86.72 24 P **P 10 02 03.0 +0.1**
SPCR Spurr Chakacha 86.86 29 P **P 10 02 04.3 +0.5**
baz=264
KMBO Kilima Mbogo 87.03 269 P **P 10 02 05.5 -0.4**
comp=Z,1.6nm,0.5s,baz=68,slow=9.3,SNR=5.5
KMBO Kilima Mbogo 87.03 269 P **P 10 02 05.5 -0.4**
SKT Skwentna 87.25 28 P **P 10 02 05.6 0.0**
SKT Skwentna 87.25 28 P **P 10 02 05.9 +0.3**
baz=265
KLMR Klimovskoe 87.44 331 *e*P **P 10 02 03.9 -2.5**
KLMR pmax pmax
comp=Z,7.0nm,0.7s
KLMR Klimovskoe 87.44 331 *e*P **P 10 02 04.0 -2.5**
KLMR AMP 10 02 05.5
comp=Z,7.0nm,0.7s
GAZ Gaziantep 87.66 307 P **P 10 02 07.2 -1.0**
GAZ IAmb IAmb 10 02 08.5
comp=Z,13nm,1.0s
BPAW Bear Paw Mtn. 87.68 26 P **P 10 02 08.4 +0.8**
baz=265
MLY Manley 87.87 25 P **P 10 02 08.7 +0.2**
MLY IAmb IAmb 10 02 10.3
comp=Z,9.9nm,1.0s
MLY Manley 87.87 25 P **P 10 02 09.1 +0.6**
baz=265
RC01 Rabbit Creek A 88.04 29 P **P 10 02 09.5 +0.2**
baz=266
SEW Seward 88.12 30 P **P 10 02 10.4 +0.7**
baz=267
COLD Coldfoot 88.25 23 P **P 10 02 10.9 +0.6**
COLD IAmb IAmb 10 02 12.1
comp=Z,13nm,1.1s
COLD Coldfoot 88.25 23 P **P 10 02 11.6 +1.4**

	baz=266						
PMR	**Palmer**	**88.36**	**29**	P	**P**	**10 02 11.2**	**+0.4**
	baz=267						
H23K	**Yukon River**	**88.42**	**24**	P	**P**	**10 02 12.7**	**+1.7**
	baz=266						
I23K	**Minto, Yukon-K**	**88.46**	**25**	P	**P**	**10 02 12.1**	**+0.9**
I23K				IAmb	IAmb	10 02 12.8	
	comp=Z,14nm,1.1s						
I23K	**Minto, Yukon-K**	**88.46**	**25**	P	**P**	**10 02 12.1**	**+0.9**
	baz=267						
NEA2	**Nenana**	**88.55**	**26**	P	**P**	**10 02 12.1**	**+0.4**
NEA2	**Nenana**	**88.55**	**26**	P	**P**	**10 02 12.0**	**+0.4**
	baz=267						
MCK	**McKinley**	**88.56**	**26**	P	**P**	**10 02 11.5**	**-0.3**
MCK				pmax	pmax		
	comp=Z,13nm,1.1s						
MCK	**McKinley**	**88.56**	**26**	P	**P**	**10 02 11.5**	**-0.3**
MCK				IAmb	IAmb	10 02 12.9	
	comp=Z,13nm,1.1s						
MCK	**McKinley**	**88.56**	**26**	P	**P**	**10 02 11.6**	**-0.3**
	baz=267						
RND	**Reindeer**	**88.58**	**27**	P	**P**	**10 02 11.6**	**-0.4**
RND				pmax	pmax		
	comp=Z,12nm,1.0s						
RND	**Reindeer**	**88.58**	**27**	P	**P**	**10 02 11.6**	**-0.4**
RND				IAmb	IAmb	10 02 12.3	
	comp=Z,12nm,1.0s						
OBN	**Obninsk**	**88.69**	**325**	*ce*P	**P**	**10 02 10.7**	**-1.8**
OBN				*e*		10 05 40.5	
OBN				*eS*	**S**	**10 12 54.7**	**+1.6**
OBN				pmax	pmax		
	comp=Z,8.0nm,0.4s						
OBN				MLR	MLR		
	comp=Z,56nm,19.0s						
WAT1	**Susitna Watana**	**88.69**	**27**	P	**P**	**10 02 13.3**	**+0.9**
	baz=267						
SML	**Sawmill**	**88.75**	**28**	P	**P**	**10 02 13.5**	**+0.7**
	baz=268						
WAT6	**Susitna Watana**	**89.06**	**28**	P	**P**	**10 02 15.0**	**+0.7**
	baz=268						
CCB	**Clear Creek Bu**	**89.10**	**25**	P	**P**	**10 02 14.0**	**-0.2**
CCB				IAmb	IAmb	10 02 15.0	
	comp=Z,9.0nm,1.0s						
DHY	**Denali Highway**	**89.24**	**27**	P	**P**	**10 02 15.8**	**+0.6**
	baz=268						
HDA	**Harding Lake**	**89.46**	**26**	P	**P**	**10 02 15.1**	**-0.8**
HDA				IAmb	IAmb	10 02 16.2	
	comp=Z,7.2nm,0.9s						
HDA	**Harding Lake**	**89.46**	**26**	P	**P**	**10 02 15.3**	**-0.7**
	baz=269						
ILAR	**Eielson Array**	**89.49**	**25**	P	**P**	**10 02 14.8**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=248,slow=4.8,SNR=9.3						
ILAR				PP	**PP**	**10 05 47.8**	**-0.5**
	comp=Z,0.7nm,1.1s,baz=283,slow=7.0,SNR=4.1						
ILAR				LR	LR	10 39 14.9	
	comp=Z,9.9nm,21.9s,baz=312,slow=33						
ILAR	**Eielson Array**	**89.49**	**25**	P	**P**	**10 02 14.8**	**-1.3**
M24K	**Tolsona, Glenn**	**89.78**	**28**	P	**P**	**10 02 17.7**	**+0.2**
KLU	**Klutina**	**89.90**	**29**	P	**P**	**10 02 19.2**	**+1.1**
KLU				IAmb	IAmb	10 02 19.5	
	comp=Z,10nm,1.0s						
QSPA	**South Pole Qui**	**89.94**	**180**	P	**P**	**10 02 18.8**	**+0.6**
	comp=Z,3.8nm,0.6s,baz=301,slow=1.4,SNR=34						
QSPA	**South Pole Qui**	**89.94**	**180**	P	**P**	**10 02 19.4**	**+1.1**
QSPA				IAmb	IAmb	10 02 40.1	
	comp=Z,15nm,1.3s						
PAX	**Paxson**	**90.11**	**27**	P	**P**	**10 02 19.7**	**+0.6**
PAX				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PAX	**Paxson**	**90.11**	**27**	P	**P**	**10 02 19.7**	**+0.6**
PAX				IAmb	IAmb	10 02 20.5	
	comp=Z,7.6nm,1.0s						
PAX	**Paxson**	**90.11**	**27**	P	**P**	**10 02 19.9**	**+0.7**
	baz=270						
HARP	**HAARP**	**90.26**	**28**	P	**P**	**10 02 20.7**	**+0.9**
	baz=270						
RIDG	**Independent Ri**	**90.38**	**26**	P	**P**	**10 02 20.7**	**+0.3**
	baz=271						
BMAR	**Burnt Mountain**	**90.43**	**23**	P	**P**	**10 02 21.9**	**+1.4**
BRTR	**Keskin Array B**	**90.50**	**310**	P	**P**	**10 02 20.4**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=307,slow=37,SNR=2.9						
BRTR				LR	LR	10 51 00.5	
	comp=Z,16nm,18.2s,baz=100,slow=41						
BRTR	**Keskin Array B**	**90.50**	**310**	P	**P**	**10 02 20.4**	**-1.1**
DOT	**Dot Lake**	**90.73**	**26**	P	**P**	**10 02 22.4**	**+0.5**
DOT				IAmb	IAmb	10 02 23.0	
	comp=Z,5.2nm,1.0s						
SCRK	**Sand Creek**	**90.76**	**26**	P	**P**	**10 02 22.1**	**-0.1**
	baz=272						
J26L	**Joseph Creek**	**90.93**	**26**	P	**P**	**10 02 23.4**	**+0.5**
	baz=272						
L26K	**Log Cabin Wild**	**91.08**	**27**	P	**P**	**10 02 24.3**	**+0.8**
	baz=272						
K27K	**Chicken**	**91.60**	**26**	P	**P**	**10 02 27.6**	**+1.7**
K27K	**Chicken**	**91.60**	**26**	P	**P**	**10 02 27.8**	**+1.9**
	baz=273						
L27K	**Beaver Creek,**	**91.77**	**27**	P	**P**	**10 02 28.1**	**+1.3**
L27K				IAmb	IAmb	10 02 28.9	
	comp=Z,6.7nm,0.9s						
L27K	**Beaver Creek,**	**91.77**	**27**	P	**P**	**10 02 28.2**	**+1.5**
	baz=273						
BCAR	**Beaver Creek A**	**91.78**	**27**	P	**P**	**10 02 28.2**	**+1.3**
BARN	**Barnard Glacie**	**91.97**	**29**	P	**P**	**10 02 29.5**	**+1.5**
CTG	**Chitna Glacier**	**92.13**	**29**	P	**P**	**10 02 30.2**	**+1.6**
	baz=274						
CTGM	**Chitina Glacie**	**92.13**	**29**	P	**P**	**10 02 30.1**	**+1.5**
PINM	**Pinnacle**	**92.73**	**30**	P	**P**	**10 02 32.6**	**+1.2**
	baz=275						
DAWY	**Dawson**	**92.77**	**26**	P	**P**	**10 02 32.3**	**+0.9**
DAWY				IAmb	IAmb	10 02 33.9	
	comp=Z,5.9nm,1.1s						
ARCES	**ARCESS Array B**	**93.07**	**340**	P	**P**	**10 02 30.5**	**-2.1**
	comp=Z,2.7nm,0.8s,baz=70,slow=7.0,SNR=8.8						
ARCES				PKiKP	**PKiKP**	**10 07 20.3**	**+1.0**
	comp=Z,4.4nm,1.0s,baz=135,slow=0.5,SNR=3.8						
ARCES				LR	LR	10 47 07.0	
	comp=Z,36nm,21.0s,baz=95,slow=37						
ARCES	**ARCESS Array B**	**93.07**	**340**	P	**P**	**10 02 30.5**	**-2.1**
ARCES	**ARCESS Array B**	**93.07**	**340**	IAmb	IAmb	10 02 34.9	
	comp=Z,13nm,1.2s						
AKASG	**Malin Array Be**	**93.21**	**321**	P	**P**	**10 02 31.7**	**-1.9**
	comp=Z,1.0nm,0.5s,baz=69,slow=5.1,SNR=2.0						
AKASG				LR	LR	10 49 08.2	
	comp=Z,22nm,18.1s,baz=90,slow=38						
AKASG	**Malin Array Be**	**93.21**	**321**	P	**P**	**10 02 31.7**	**-1.9**
EPYK	**Eagle Plains**	**93.61**	**24**	P	**P**	**10 02 35.7**	**+0.5**
EPYK	**Eagle Plains**	**93.61**	**24**	P	**P**	**10 02 36.1**	**+0.9**
	baz=278						
SPITS	**Spitsbergen Ar**	**93.63**	**349**	P	**P**	**10 02 34.4**	**-0.7**
	comp=Z,2.7nm,0.5s,baz=83,slow=6.8,SNR=7.5						
SPITS	**Spitsbergen Ar**	**93.63**	**349**	P	**P**	**10 02 34.4**	**-0.7**
MNK	**Minsk**	**93.73**	**324**	*i* P	**P**	**10 02 33.2**	**-2.7**
MNK				*i* *PP	**pP**	**10 02 50.2**	**-5.5**
MNK				*i*		10 06 18.0	
MNK				*i* S	**SKSac**	**10 13 01.8**	**-2.0**
MNK				*i* *SS	**S**	**10 13 32.2**	**-6.7**
MNK				*i* PS	**PS**	**10 14 57.8**	**-4.7**
MNK				*i* SS	**SS**	**10 19 55.1**	**-3.3**
MNK				pmax	pmax		
	comp=E,3.0nm,0.9s						
MNK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MNK				pmax	pmax		
	comp=N,13nm,0.7s						
MNK				MLR	MLR		
	comp=Z,99nm,12.0s						
MNK				MLR	MLR		
	comp=N,428nm,28.0s						
MNK				MLR	MLR		
	comp=E,48nm,25.0s						
MNK	**Minsk**	**93.73**	**324**	*i* P	**P**	**10 02 33.2**	**-2.7**
	comp=E,3.0nm,0.9s						
MNK				*i* P	**P**	**10 02 33.2**	**-2.7**
	comp=N,13nm,0.7s						
MNK				*i* P	**P**	**10 02 33.2**	**-2.7**
	comp=Z,9.0nm,0.8s,baz=266						
MNK				*i* pP	**pP**	**10 02 50.3**	**-5.5**
MNK				*i* PP	**PP**	**10 06 18.1**	**-3.8**
MNK				*i* PPP	PPP	10 08 18.2	
MNK				*i* S	**SKSac**	**10 13 01.8**	**-2.0**
MNK				*i* sS	**S**	**10 13 32.3**	**-6.6**
MNK				*i* PS	**PS**	**10 14 57.9**	**-4.7**
MNK				*i* SS	**SS**	**10 19 55.2**	**-3.3**
MNK				*i* SSS	SSS	10 23 56.4	
MNK				*i* LR	LR	10 41 20.6	
MNK				*i* LRM	MLR	10 44 49.0	
	comp=Z,99nm,12.3s						
MNK				*i* LRM	MLR	10 45 57.0	
	comp=N,428nm,27.5s						
MNK				*i* LRM	MLR	10 45 60.0	
	comp=E,48nm,24.6s						
FINES	**FINESS Array B**	**93.93**	**332**	P	**P**	**10 02 35.0**	**-1.7**
	comp=E,0.7nm,0.5s,baz=70,slow=2.2,SNR=7.9						
FINES	**FINESS Array B**	**93.93**	**332**	P	**P**	**10 02 35.0**	**-1.7**
HYT	**Haines Junctio**	**94.01**	**29**	P	**P**	**10 02 38.7**	**+1.5**
HYT				IAmb	IAmb	10 02 39.3	
	comp=Z,9.5nm,0.8s						
HYT	**Haines Junctio**	**94.01**	**29**	P	**P**	**10 02 38.8**	**+1.5**
	baz=277						
MAYO	**Mayo, Yukon**	**94.37**	**26**	P	**P**	**10 02 40.5**	**+1.8**
	baz=279						
INK	**Inuvik**	**94.50**	**21**	P	**P**	**10 02 38.5**	**-0.7**
	comp=Z,6.4nm,1.1s,baz=282,slow=3.0,SNR=6.2						
INK	**Inuvik**	**94.50**	**21**	P	**P**	**10 02 39.6**	**+0.5**
INK				pmax	pmax		
	comp=Z,14nm,1.3s						
INK	**Inuvik**	**94.50**	**21**	P	**P**	**10 02 39.6**	**+0.5**
INK				IAmb	IAmb	10 02 42.0	
	comp=Z,14nm,1.3s						
WHY	**Whitehorse**	**95.31**	**29**	P	**P**	**10 02 44.4**	**+1.1**
MATP	**Matopo**	**95.43**	**250**	P	**P**	**10 02 44.1**	**-0.5**
	comp=Z,2.4nm,0.8s,baz=96,slow=11,SNR=4.6						
FARO	**Faro, Yukon**	**95.75**	**27**	P	**P**	**10 02 46.4**	**+1.3**
	baz=281						
LSZ	**Lusaka**	**95.89**	**255**	P	**P**	**10 02 46.9**	**+0.1**
LSZ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
LSZ	**Lusaka**	**95.89**	**255**	P	**P**	**10 02 46.9**	**+0.1**
LSZ				IAmb	IAmb	10 02 59.2	
	comp=Z,6.5nm,0.7s						
MMPY	**Sheldon Lake,**	**96.62**	**27**	P	**P**	**10 02 50.5**	**+1.4**
	baz=283						
BOSA	**Boshof**	**97.93**	**241**	LR	LR	10 41 09.8	
	comp=Z,30nm,19.1s,baz=95,slow=32						
TGTN	**Hyndl Airport**	**98.25**	**28**	P	Pdif	10 02 58.1	+1.6
	baz=285						
HFS	**Hagfors**	**100.14**	**332**	P	**Pdif**	**10 03 02.9**	**-1.9**
	comp=Z,3.1nm,0.9s,baz=116,slow=6.8,SNR=4.6						
HFS	**Hagfors**	**100.14**	**332**	P	**Pdif**	**10 03 02.9**	**-1.9**
SNAA	**Sanae**	**101.01**	**195**	Pdiff	**Pdif**	**10 03 09.5**	**+1.0**
SNAA	**Sanae**	**101.01**	**195**	P	**Pdif**	**10 03 08.9**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=180,slow=15,SNR=6.9						
SNAA	**Sanae**	**101.01**	**195**	P	**Pdif**	**10 03 08.9**	**+0.3**
VNA2	**Neumayer--Watz**	**102.63**	**195**	Pdiff	**Pdif**	**10 03 15.8**	**+0.1**
GERES	**GERESS Array B**	**103.43**	**321**	PKiKP	**PKiKP**	**10 07 39.2**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=90,slow=1.4,SNR=3.5						
J05D	**Fort Rock, OR**	**107.61**	**44**	P	**PKiKP**	**10 07 47.9**	**+1.6**
	baz=287						
NVAR	**Mina Array Bea**	**111.19**	**48**	PKiKP	**PKiKP**	**10 07 54.9**	**+1.5**
	comp=Z,0.6nm,0.7s,baz=241,slow=1.9,SNR=6.6						
HLID	**Hailey**	**112.19**	**42**	P	**PKiKP**	**10 07 57.1**	**+2.0**
	baz=293						
EDW2	**Edwards Air Fo**	**112.48**	**52**	P	**PKiKP**	**10 07 57.8**	**+2.0**
	baz=287						
FURC	**Furnace Creek,**	**112.89**	**50**	P	**PKiKP**	**10 07 58.3**	**+2.0**
	baz=288						
BOZ	**Bozeman (W)**	**113.17**	**39**	P	**PKiKP**	**10 07 58.1**	**+1.3**
	baz=296						
DUG	**Dugway, Tooele**	**114.58**	**45**	P	PKPdf	10 08 01.3	+1.6
	baz=293						
PDAR	**Pinedale Array**	**115.75**	**41**	PKP	**PKPdf**	**10 08 02.5**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=182,slow=4.1,SNR=8.2						
PDAR				PKKPab	**PKKPab**	**10 18 38.6**	**-1.3**
	comp=Z,0.8nm,0.8s,baz=122,slow=5.1,SNR=7.9						
LAO	**LASA Array**	**115.96**	**36**		**PKPdf**	**10 08 03.3**	**+1.3**
LAO	**LASA Array**	**115.96**	**36**	P	**PKPdf**	**10 08 03.8**	**+1.7**
	baz=301						
P17A	**Butcher Ranch,**	**116.33**	**45**		**PKiKP**	**10 08 04.3**	**+1.2**
SRU	**San Rafael Swe**	**116.64**	**45**	PKIKP	**PKiKP**	**10 08 04.8**	**+1.0**
SRU	**San Rafael Swe**	**116.64**	**45**	PKPdf	**PKiKP**	**10 08 04.8**	**+1.0**
K22A	**Casper**	**117.78**	**40**	P	**PKPdf**	**10 08 05.5**	**-0.3**
	baz=299						
O20A	**White River Ci**	**117.80**	**43**	P	**PKiKP**	**10 08 07.3**	**+1.3**
	baz=296						
PV18	**Skein Mesa, Pa**	**118.14**	**46**	PKPdf	**PKiKP**	**10 08 08.5**	**+1.8**
ESDC	**Sonseca Array**	**118.54**	**316**	PKP	**PKPdf**	**10 08 05.4**	**-1.8**
	comp=Z,0.8nm,0.8s,baz=19,slow=4.3,SNR=4.5						
RSSD	**Black Hills**	**118.61**	**38**	PKIKP	**PKPdf**	**10 08 07.5**	**+0.1**
RSSD	**Black Hills**	**118.61**	**38**	PKPdf	**PKPdf**	**10 08 07.5**	**+0.1**
RSSD	**Black Hills**	**118.61**	**38**	P	**PKiKP**	**10 08 07.8**	**+0.3**
	baz=302						
MVCO	**Mesa Verde**	**118.87**	**47**	P	**PKiKP**	**10 08 09.8**	**+1.7**
	baz=295						
TUC	**Tucson**	**119.00**	**53**	P	**PKiKP**	**10 08 10.1**	**+1.7**
	baz=290						
ULM	**Lac du Bonnet**	**119.38**	**28**	PKP	**PKPdf**	**10 08 07.8**	**-0.5**
	comp=Z,4.9nm,0.8s,baz=261,slow=3.9,SNR=5.6						
ULM	**Lac du Bonnet**	**119.38**	**28**	PKIKP	**PKPdf**	**10 08 07.9**	**-0.5**
ISCO	**Idaho Springs**	**119.75**	**43**	PKIKP	**PKiKP**	**10 08 11.0**	**+1.1**
ISCO	**Idaho Springs**	**119.75**	**43**	PKPdf	**PKiKP**	**10 08 11.0**	**+1.1**
ISCO	**Idaho Springs**	**119.75**	**43**	P	**PKiKP**	**10 08 11.2**	**+1.3**
	baz=298						
S22A	**4UR Ranch, Cre**	**119.84**	**45**	P	**PKiKP**	**10 08 12.1**	**+1.9**
	baz=296						
POLO	**Lamas de Olo**	**120.29**	**320**	*e*PKP	**PKiKP**	**10 08 11.8**	**+1.1**
MTE	**Manteigas**	**120.62**	**319**	*e*PKP	**PKiKP**	**10 08 12.6**	**+1.3**
SDCO	**Great Sand Dun**	**120.78**	**45**	P	**PKiKP**	**10 08 13.3**	**+1.3**
	baz=297						
PCBR	**Castelo Branco**	**120.85**	**318**	*e*PKP	**PKiKP**	**10 08 12.7**	**+1.0**
ANMO	**Albuquerque**	**121.32**	**48**	P	**PKiKP**	**10 08 14.7**	**+1.7**
	baz=295						
PBAR	**Barrancos**	**121.36**	**316**	*e*PKP	**PKiKP**	**10 08 13.8**	**+1.1**
TORD	**Torodi Ar. Bea**	**121.65**	**285**	PKP	**PKPdf**	**10 08 13.3**	**-0.5**
	comp=Z,4.0nm,0.8s,baz=56,slow=2.1,SNR=22						
TORD				PKKPab	**PKKPab**	**10 18 14.7**	**+0.6**
	comp=Z,3.3nm,0.9s,baz=283,slow=4.5,SNR=17						
TORD	**Torodi Ar. Bea**	**121.65**	**285**		**PKPdf**	**10 08 14.0**	**+0.3**
T25A	**Trinidad**	**121.83**	**45**	P	**PKiKP**	**10 08 15.4**	**+1.4**
	baz=298						
F33A	**5 Mile Ranch,**	**122.07**	**32**		**PKiKP**	**10 08 14.5**	**+0.7**
KSCO	**Kaye Shedlock'**	**122.15**	**42**	P	**PKiKP**	**10 08 15.6**	**+1.1**
	baz=300						
PCVE	**Castro Verde**	**122.31**	**316**	*e*PKP	**PKiKP**	**10 08 15.7**	**+1.1**
MESJ	**Messejana**	**122.34**	**316**	*e*PKPdf	**PKiKP**	**10 08 15.7**	**+1.1**
MESJ	**Messejana**	**122.34**	**316**	*e*PKP	**PKiKP**	**10 08 16.1**	**+1.5**
PBDV	**Barranco-do-Ve**	**122.42**	**316**	*e*PKP	**PKiKP**	**10 08 17.4**	**+2.5**
MORF	**Marmelete**	**122.90**	**316**	*e*PKPdf	**PKiKP**	**10 08 16.6**	**+0.8**
MORF	**Marmelete**	**122.90**	**316**	*e*PKP	**PKiKP**	**10 08 17.1**	**+1.3**
ECSD	**EROS Data Cent**	**123.22**	**35**	PKPdf	**PKiKP**	**10 08 16.8**	**+0.5**
ECSD	**EROS Data Cent**	**123.22**	**35**	P	**PKiKP**	**10 08 16.6**	**+0.3**
	baz=308						
MNTX	**Cormudas Mount**	**123.48**	**51**	P	**PKiKP**	**10 08 18.7**	**+1.5**
	baz=294						
F36A	**Milaca**	**123.51**	**31**	PKPdf	**PKiKP**	**10 08 17.2**	**+0.4**
BGNE	**Belgrade**	**123.72**	**38**		**PKiKP**	**10 08 17.4**	**+0.1**
BGNE	**Belgrade**	**123.72**	**38**	P	**PKiKP**	**10 08 17.4**	**+0.1**
	baz=306						
SPMN	**Marine on St.**	**124.31**	**31**	P	**PKiKP**	**10 08 18.6**	**+0.3**
	baz=313						
L34A	**Svendsen Farm,**	**124.45**	**36**		**PKPdf**	**10 08 18.7**	**+0.3**
MSTX	**Muleshoe**	**124.48**	**48**	PKPdf	**PKiKP**	**10 08 19.6**	**+0.4**
MSTX	**Muleshoe**	**124.48**	**48**	P	**PKiKP**	**10 08 19.9**	**+0.7**
	baz=297						
SCHQ	**Schefferville**	**124.59**	**8**	PKP	**PKiKP**	**10 08 18.9**	**+0.3**
	comp=Z,9.5nm,0.7s,baz=335,slow=2.3,SNR=20						
SCHQ	**Schefferville**	**124.59**	**8**	PKPdf	**PKiKP**	**10 08 18.7**	**+0.1**
I37A	**Lemond, Waseca**	**124.81**	**32**		**PKiKP**	**10 08 19.4**	**0.0**
TXAR	**Lajitas Array**	**125.79**	**53**	PKP	**PKPdf**	**10 08 21.8**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=208,slow=1.6,SNR=16						
TXAR	**Lajitas Array**	**125.79**	**53**	PKIKP	**PKPdf**	**10 08 21.8**	**+0.3**
KSU1	**Kansas State U**	**126.02**	**39**	PKPdf	**PKiKP**	**10 08 22.1**	**+0.2**
KSU1	**Kansas State U**	**126.02**	**39**	P	**PKiKP**	**10 08 22.8**	**+0.9**
	baz=306						
JCT	**Junction City**	**128.32**	**50**	P	**PKiKP**	**10 08 27.3**	**+0.5**
	baz=298						
S39A	**Bolivar**	**128.93**	**38**		**PKPdf**	**10 08 27.1**	**0.0**
U38A	**Gravette**	**129.02**	**40**		**PKiKP**	**10 08 28.4**	**+0.3**
R40A	**Maddies Statio**	**129.20**	**37**	PKPdf	**PKiKP**	**10 08 28.4**	**+0.1**
CCM	**Cathedral Cave**	**129.97**	**37**	P	**PKiKP**	**10 08 29.9**	**+0.1**
	baz=311						
U40A	**Yellville**	**130.05**	**40**	P	**PKiKP**	**10 08 30.0**	**-0.1**
	baz=308						
W39A	**Magazine**	**130.15**	**41**	P	**PKiKP**	**10 08 30.4**	**+0.1**
	baz=306						
MIAR	**Mount Ida**	**130.66**	**42**	P	**PKiKP**	**10 08 32.7**	**+1.4**
	baz=306						
WVT	**Waverly**	**133.29**	**36**	P	**PKiKP**	**10 08 37.0**	**+0.4**
	baz=313						
N59A	**State Game Lan**	**135.38**	**22**	P	**PKiKP**	**10 08 41.5**	**+0.8**
	baz=331						
PLCA	**Paso Flores**	**137.28**	**163**	PKP	**PKiKP**	**10 08 45.0**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=116,slow=3.2,SNR=5.4						
PLCA	**Paso Flores**	**137.28**	**163**	PKIKP	**PKiKP**	**10 08 45.0**	**+0.3**
KMSC	**Kings Mountain**	**137.64**	**32**	P	**PKiKP**	**10 08 45.9**	**+0.4**
	baz=320						
LCO	**Las Campanas**	**147.79**	**155**	PKP2	**PKiKP**	**10 09 06.3**	**-0.5**
LCO	**Las Campanas**	**147.79**	**155**		**PKiKP**	**10 09 06.3**	**-0.5**
PLTB	**Pedras Altas**	**148.35**	**183**	PKPbc	**PKiKP**	**10 09 07.5**	**-0.1**
ACON	**Acoyapa**	**148.43**	**67**	PKPbc	**PKiKP**	**10 09 07.7**	**-0.4**
ACON				PKPab	**PKPab**	**10 09 11.7**	**+1.7**
JTS	**Las Juntas de**	**149.17**	**70**	PKP2	**PKiKP**	**10 09 09.5**	**-0.3**
JTS	**Las Juntas de**	**149.17**	**70**	PKPbc	**PKiKP**	**10 09 09.5**	**-0.3**
JTS	**Las Juntas de**	**149.17**	**70**	*eP*	**PKiKP**	**10 09 09.4**	**-0.3**
CBCY	**The Bluff, Cay**	**149.34**	**49**	PKPbc	**PKiKP**	**10 09 09.8**	**-0.1**
CPUP	**Villa Florida**	**153.78**	**177**	PKPbc	**PKiKP**	**10 09 19.2**	**+0.3**
	comp=Z,3.0nm,0.7s,baz=229,slow=0.8,SNR=4.1						
CPUP	**Villa Florida**	**153.78**	**177**	PKIKP	**PKiKP**	**10 09 19.2**	**+0.3**
LVC	**Limon Verde**	**154.12**	**151**	PKPbc	**PKPbc**	**10 09 20.0**	**-0.1**
	comp=Z,4.4nm,0.8s,baz=241,slow=4.0,SNR=3.1						
LVC	**Limon Verde**	**154.12**	**151**	PKIKP	**PKPbc**	**10 09 20.0**	**-0.1**
SJCC	**San Jacinto, C**	**158.28**	**63**	*eP*	**PKPdf**	**10 09 18.7**	**+1.5**
CBOC	**Ciudad Bolivar**	**158.91**	**74**	*eP*	**PKPdf**	**10 09 19.9**	**+1.7**
SOTA	**Rioblanco**	**159.00**	**84**	*eP*	**PKPdf**	**10 09 19.9**	**+1.2**
ZARC	**Zaragoza, Cauc**	**159.51**	**68**	*eP*	**PKPdf**	**10 09 17.7**	**-0.9**
GUY2C	**Guyana, Caldas**	**159.70**	**75**	*eP*	**PKPdf**	**10 09 19.8**	**+0.3**
LPAZ	**La Paz**	**159.71**	**143**	PKP	**PKPdf**	**10 09 21.0**	**+1.5**
	comp=Z,1.5nm,0.8s,baz=349,slow=5.3,SNR=5.1						
LPAZ				PKPab	**PKPab**	**10 09 59.9**	**+1.6**
	comp=Z,6.3nm,0.6s,baz=212,slow=2.4,SNR=18						
LPAZ	**La Paz**	**159.71**	**143**	PKIKP	**PKPdf**	**10 09 21.0**	**+1.5**
SMLC	**San Martn de**	**159.73**	**64**	*eP*	**PKPdf**	**10 09 19.2**	**+0.4**
TOLC	**Tolima**	**159.89**	**77**	*eP*	**PKPdf**	**10 09 20.6**	**+1.0**
ORTC	**Ortega, Tolima**	**160.10**	**79**	*eP*	**PKPdf**	**10 09 19.2**	**-0.1**
PTBC	**PUERTO BERRIO**	**160.20**	**70**	*eP*	**PKPdf**	**10 09 19.5**	**+0.1**
PRAC	**Prado**	**160.49**	**79**	*eP*	**PKPdf**	**10 09 18.2**	**-1.6**
OCAC	**Ocana**	**160.64**	**65**	*eP*	**PKPdf**	**10 09 20.5**	**+0.4**
SPBC	**San Pablo de B**	**160.83**	**73**	*eP*	**PKPdf**	**10 09 20.5**	**+0.3**
BARC	**Barichara**	**161.38**	**69**	*eP*	**PKPdf**	**10 09 19.5**	**-1.5**
CHIC	**Chingaza**	**161.42**	**75**	*eP*	**PKPdf**	**10 09 21.5**	**+0.3**
RUSC	**La Rusia**	**161.70**	**71**	*eP*	**PKPdf**	**10 09 21.6**	**-0.1**
MACC	**Macarena, Meta**	**161.75**	**83**	*eP*	**PKPdf**	**10 09 20.6**	**-0.6**
SIV	**San Ignacio**	**163.26**	**162**	PKP	**PKPdf**	**10 09 23.9**	**+1.4**
	comp=Z,1.9nm,0.9s,baz=254,slow=0.7,SNR=7.0						
SIV				PKPab	**PKPab**	**10 10 14.1**	**+1.1**
	comp=Z,2.3nm,0.7s,baz=227,slow=3.7,SNR=8.4						

DDA **12** *10:11:42.2,39˚.20N×40˚.27E,h7km±3km,ML1.8*
ISK **12** *10:11:43.5,39˚.25N×40˚.26E,h6km,ML2.5/6*
ISC 12 10:11:42.7±1.2,**39˚.25N**±0˚.03×**40˚.31E**±0˚.03,**h7**km±13km,
n16,σ0**878**/23,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YEDI	**Yedisu-Bingol**	**0.27**	**44**	PG	**Pb**	**10 11 50.1**	**+0.2**
YEDI				SG	**Sb**	**10 11 54.2**	**-0.6**
BNGB	**Bingl**	**0.39**	**131**	PG	**Pb**	**10 11 51.9**	**0.0**
BNGB				SG	**Sb**	**10 11 58.5**	**+0.4**
ERZN	**Erzincan**	**0.57**	**307**	PG	**Pg**	**10 11 54.1**	**+0.4**
ERZN				SG	**Sg**	**10 12 02.0**	**+0.9**
EUZM	**Uzumlu**	**0.66**	**315**	*i* P	**Pg**	**10 11 55.4**	**0.0**
EUZM				*i* S	**Sb**	**10 12 05.2**	**-0.9**
KOVA	**Elazig,

baz=219,slow=76,SNR=9.9
MORW Morawa 36.87 228 P **P** **10 58 44.2 -0.1**
INU Inuyama 42.17 348 P **P** **10 59 28.1 -0.2**
INU IAmb IAmb 10 59 28.1
comp=Z,12nm,1.2s
KSRS Korea Array 46.67 339 LR LR 11 18 22.8
comp=Z,29nm,18.2s,baz=150,slow=34
KLR Kul'dur 56.57 348 LR LR 11 24 36.9
comp=Z,26nm,18.4s,baz=328,slow=35
SONM Songino Array 64.28 331 P **P** **11 02 11.5 +0.6**
comp=Z,0.3nm,0.3s,baz=130,slow=5.8,SNR=2.3
VNDA Vanda 71.88 177 P **P** **11 02 58.0 +0.1**
comp=Z,0.8nm,0.7s,baz=317,slow=4.4,SNR=4.4
KDAK Kodiak Island 80.11 28 LR LR 11 31 51.6
comp=Z,28nm,20.2s,baz=293,slow=30
QSPA South Pole Qui 83.92 180 P **P** **11 04 05.3 +0.1**
QSPA IAmb IAmb 11 04 30.2
comp=Z,3.6nm,1.1s
ILAR Eielson Array 85.67 23 P **P** **11 04 11.7 -2.1**
comp=Z,0.9nm,0.7s,baz=250,slow=5.0,SNR=12
BCAR Beaver Creek A 87.14 26 P **P** **11 04 21.7 +0.6**
LPAZ La Paz 139.05 123 PKP **PKPdf** **11 11 03.4 -0.4**
comp=Z,1.3nm,0.8s,baz=272,slow=6.6,SNR=4.3
TORD Torodi Ar. Bea 144.76 284 PKP **PKPab** **11 11 12.0 -0.2**
comp=Z,2.2nm,0.9s,baz=72,slow=3.4,SNR=12
TORD Torodi Ar. Bea 144.76 284 **PKPab** **11 11 12.1 0.0**
DBIC Dimbokro 151.67 273 PKPbc **PKPbc** **11 11 30.9 +0.1**
comp=Z,4.0nm,0.8s,baz=95,slow=0.5,SNR=4.3
DBIC Dimbokro 151.67 273 **PKiKP** **11 11 32.0 +0.7**

NEIC ***12*** *10:55:44.4±1.4, 36°.02N±0°.02×97°.53W±0°.06, h5km±7km, Error ellipse: s-maj=6.8km s-min=1.8km az=73.0*
TUL ***12*** *10:55:44.3±1.4, 35°.99N±0°.02×97°.56W±0°.06, h6km±7km, ML3.2, mb_Lg3.1/118(NEIC), Error ellipse: s-maj=6.6km s-min=1.8km az=71.0*
ANF ***12*** *10:55:45.4±1.5, 35°.96N×97°.57W, h12km±11km, ML4.0/8, Error ellipse: s-maj=5.6km s-min=4.3km az=0.0*

ISC 12 10:55:44.1±1.1, 36°.00N±0°.02×97°.55W±0°.03, h6km±11km, n98, σ1s32/72, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.21**	**159**	Pg	**Pg**	**10 55 48.7**	**+0.4**
OK009	**Oakdale Elemen**	**0.43**	**166**		**Pg**	**10 55 52.7**	**+0.3**
OK025	**Westminster Rd**	**0.45**	**158**		**Pg**	**10 55 53.1**	**+0.4**
OK025				Sg	**Sg**	**10 55 59.6**	**+1.0**
OK031	**S. Brethren Rd**	**0.58**	**94**	Pg	**Pg**	**10 55 55.7**	**+0.5**
OKCFA	**Oklahoma City**	**0.59**	**172**		**Pg**	**10 55 55.5**	**+0.1**
OKCFA				Sg	**Sg**	**10 56 03.6**	**+0.6**
OKCSW	**OKLAHOMA CITY**	**0.60**	**171**		**Pg**	**10 55 55.7**	**+0.1**
OKCSW				Sg	**Sg**	**10 56 04.1**	**+0.7**
CROK	**Carrier**	**0.62**	**325**		**Pg**	**10 55 56.3**	**+0.3**
QUOK	**Quay**	**0.70**	**75**		**Pg**	**10 55 58.1**	**+0.4**
FNO	**Franklin**	**0.75**	**171**		**Pg**	**10 55 58.5**	**0.0**
FNO				IAmb_Lg		10 56 08.5	
	comp=Z,226nm,1.0s						
FNO				Sg	**Sg**	**10 56 08.7**	**+0.5**
BLOK	**Blackwell**	**0.81**	**19**		**Pg**	**10 55 59.8**	**+0.2**
GC02	**Grant County #**	**0.89**	**344**	Pg	**Pg**	**10 56 01.3**	**+0.1**
OK032	**Salt Plains WL**	**0.97**	**327**		**Pg**	**10 56 02.4**	**-0.2**
KAN14	**Manchester OK**	**1.01**	**341**		**Pg**	**10 56 03.4**	**-0.1**
KAN14				Sg	**Sg**	**10 56 17.7**	**+1.0**
KAN13	**South Haven SW**	**1.01**	**3**	Pg	**Pg**	**10 56 03.7**	**+0.1**
KAN13				Sg	**Sg**	**10 56 17.5**	**+0.7**
KAN17	**Caldwell West**	**1.06**	**351**	Pg	**Pg**	**10 56 04.5**	**0.0**
KAN05	**Bluff City Nor**	**1.14**	**347**		**Pg**	**10 56 05.8**	**-0.1**
KS20	**Mayfield South**	**1.23**	**360**		**Pg**	**10 56 07.4**	**-0.3**
T35A	**Sooner Cattle**	**1.24**	**42**		**Pn**	**10 56 07.7**	**-0.4**
KAN12	**Harper NE Stat**	**1.35**	**345**	Pn	**Pn**	**10 56 09.3**	**-0.2**
X34A	**Smith Ranch, M**	**1.41**	**190**	Pn	**Pn**	**10 56 10.6**	**+0.2**
TUL1	**Leonard**	**1.43**	**93**	P	**Pn**	**10 56 11.3**	**+0.6**
	baz=274						
TUL1				S	**Sb**	**10 56 29.9**	**+0.3**
	baz=274						
WMOK	**Wichita Mounta**	**1.61**	**219**	Pn	**Pn**	**10 56 13.2**	**0.0**
WMOK	**Wichita Mounta**	**1.61**	**219**	P	**Pn**	**10 56 13.3**	**+0.2**
	baz=38						
WMOK				S	**Sb**	**10 56 34.4**	**-0.5**
	baz=38						
LOOK	**Love County**	**2.02**	**171**		**Pn**	**10 56 19.8**	**+1.0**
LOOK				IAmb_Lg		10 56 51.1	
	comp=Z,63nm,0.8s						
X37A	**Clayton**	**2.27**	**128**	IAmb_Lg		10 57 01.4	
	comp=Z,115nm,1.1s						
R32A	**Long Quarter,**	**2.59**	**339**		**Pn**	**10 56 26.6**	**-0.1**
U38A	**Gravette**	**2.59**	**79**		**Pn**	**10 56 26.4**	**-0.3**
Z35A	**Perchaven, San**	**2.67**	**175**		**Pn**	**10 56 27.7**	**0.0**
HHAR	**Hobbs**	**2.94**	**83**		**Pn**	**10 56 31.9**	**+0.5**
W39A	**Magazine**	**3.17**	**104**		**Pn**	**10 56 34.7**	**+0.1**
W39A				IAmb_Lg		10 57 32.8	
	comp=Z,54nm,0.7s						
KSU1	**Kansas State U**	**3.19**	**13**	IAmb_Lg		10 57 29.2	
	comp=Z,53nm,0.7s						
CBKS	**Cedar Bluff**	**3.31**	**329**		**Pn**	**10 56 38.2**	**+1.6**
CBKS				IAmb_Lg		10 57 37.0	
	comp=Z,52nm,1.1s						
CBKS	**Cedar Bluff**	**3.31**	**329**	Pb	**Pb**	**10 56 45.1**	**+1.9**
	baz=148						
CBKS				Sb	**Sg**	**10 57 28.9**	**-1.5**
	baz=148						
Z38A	**Mt. Pleasant**	**3.45**	**142**		**Pn**	**10 56 39.0**	**+0.5**
Z38A				IAmb_Lg		10 57 37.5	
	comp=Z,48nm,0.7s						
AMTX	**Amarillo**	**3.55**	**253**		**Pn**	**10 56 41.1**	**+1.2**
AMTX				IAmb_Lg		10 57 46.3	
	comp=Z,37nm,1.0s						
AMTX	**Amarillo**	**3.55**	**253**	Sb	**Sg**	**10 57 34.4**	**-3.8**
	baz=71						
MIAR	**Mount Ida**	**3.56**	**113**		**Pn**	**10 56 41.6**	**+1.7**
MIAR				IAmb_Lg		10 57 45.5	
	comp=Z,45nm,0.7s						
MIAR	**Mount Ida**	**3.56**	**113**	P	**Pn**	**10 56 41.5**	**+1.6**
	baz=295						
MIAR				S	**Sn**	**10 57 23.5**	**+1.2**
	baz=295						
ABTX	**Abilene, Hawle**	**3.79**	**208**	IAmb_Lg		10 57 43.6	
	comp=Z,40nm,0.8s						
S39A	**Bolivar**	**3.79**	**62**		**Pn**	**10 56 43.9**	**+0.9**
S39A				IAmb_Lg		10 57 44.2	
	comp=Z,47nm,0.8s						
U40A	**Yellville**	**3.81**	**83**		**Pn**	**10 56 43.9**	**+0.4**
U40A				IAmb_Lg		10 57 44.3	
	comp=Z,56nm,0.9s						
WHTX	**Lake Whitney,**	**4.00**	**179**	Pn	**Pn**	**10 56 48.5**	**+2.5**
WHTX	**Lake Whitney,**	**4.00**	**179**	Pb	**Pb**	**10 56 54.1**	**-0.9**
	baz=359						
X40A	**Basin Creek Fa**	**4.14**	**110**	Pn	**Pn**	**10 56 51.1**	**+3.2**
X40A				IAmb_Lg		10 58 04.0	
	comp=Z,61nm,0.8s						
X40A	**Basin Creek Fa**	**4.14**	**110**	Sb	**Sg**	**10 57 54.4**	**-2.8**
	baz=293						
237A	**Washetta, Mont**	**4.24**	**160**	Pn	**Pn**	**10 56 48.2**	**-1.1**
237A				IAmb_Lg		10 57 58.5	
	comp=Z,26nm,0.8s						
WLAR	**White Oak Lake**	**4.32**	**121**	Pn	**Pn**	**10 56 50.9**	**+0.6**
WHAR	**Wooly Hollow**	**4.34**	**98**		**Pn**	**10 56 51.7**	**+1.1**
WHAR				IAmb_Lg		10 58 10.4	
	comp=Z,42nm,0.9s						
W41B	**Gary Mavity, V**	**4.40**	**99**	Pb	**Pb**	**10 57 01.6**	**-0.1**
	baz=282						
W41B				Sb	**Sg**	**10 58 00.9**	**-4.4**
	baz=282						
FCAR	**Ozark Folk Cen**	**4.40**	**90**		**Pn**	**10 56 56.2**	**+4.6**
FCAR				IAmb_Lg		10 58 10.5	
	comp=Z,30nm,0.8s						
MGMO	**Mountain Grove**	**4.40**	**73**		**Pn**	**10 56 53.6**	**+2.0**
MGMO				IAmb_Lg		10 58 02.3	
	comp=Z,47nm,0.9s						
MSTX	**Muleshoe**	**4.74**	**246**		**Pn**	**10 56 57.6**	**+1.3**
MSTX				IAmb_Lg		10 58 16.0	
	comp=Z,36nm,1.2s						
R40A	**Maddies Statio**	**4.80**	**60**		**Pn**	**10 56 57.3**	**+0.3**
KSCO	**Kaye Shedlock'**	**5.04**	**308**	IAmb_Lg		10 58 33.2	
	comp=Z,24nm,0.8s						
CCAR	**Cane Creek**	**5.18**	**112**	IAmb_Lg		10 58 37.3	
	comp=Z,54nm,0.9s						
LCAR	**Lake Charles**	**5.18**	**87**	Pn	**Pn**	**10 57 02.0**	**-0.2**
LCAR				IAmb_Lg		10 58 33.7	
	comp=Z,25nm,0.8s						
435B	**Jarrell**	**5.20**	**180**	IAmb_Lg		10 58 38.4	
	comp=Z,31nm,0.8s						
BGNE	**Belgrade**	**5.42**	**355**	Pn	**Pn**	**10 57 05.5**	**0.0**
BGNE				IAmb_Lg		10 58 51.4	
	comp=Z,49nm,0.9s						
BGNE	**Belgrade**	**5.42**	**355**	P	**Pn**	**10 57 05.4**	**-0.2**
	baz=175						
CCM	**Cathedral Cave**	**5.45**	**66**	IAmb_Lg		10 58 51.5	
	comp=Z,20nm,0.7s						
T25A	**Trinidad**	**5.64**	**284**	IAmb_Lg		10 58 45.8	
	comp=Z,36nm,0.8s						
143A	**Socs Landing,**	**6.05**	**121**	IAmb_Lg		10 59 11.8	
	comp=Z,37nm,1.0s						
OGNE	**Ogallala**	**6.06**	**326**	IAmb_Lg		10 59 11.3	
	comp=Z,29nm,0.8s						
SLM	**Saint Louis**	**6.39**	**64**	IAmb_Lg		10 59 10.0	
	comp=Z,25nm,0.9s						
SDCO	**Great Sand Dun**	**6.61**	**288**	IAmb_Lg		10 59 21.3	
	comp=Z,16nm,0.9s						
OXF	**Oxford**	**6.82**	**100**	Pn	**Pn**	**10 57 23.5**	**-1.3**
OXF				IAmb_Lg		10 59 22.3	
	comp=Z,32nm,1.0s						
S44A	**Carbondale**	**6.86**	**73**	IAmb_Lg		10 59 21.7	
	comp=Z,28nm,0.9s						
W45A	**Hickory Valley**	**6.87**	**95**	Pn	**Pn**	**10 57 25.9**	**+0.5**
W45A				IAmb_Lg		10 59 22.5	
	comp=Z,29nm,0.8s						
SIUC	**Southern Illin**	**6.90**	**73**	Pn	**Pn**	**10 57 24.9**	**-0.9**
SIUC				IAmb_Lg		10 59 23.7	
	comp=Z,31nm,0.7s						
Y45A	**Yeager Farm, C**	**6.91**	**106**	IAmb_Lg		10 59 34.8	
	comp=Z,16nm,0.8s						
N41A	**Harden Midland**	**7.05**	**46**	Pn	**Pn**	**10 57 28.1**	**+0.2**
735A	**Kenedy**	**7.12**	**182**	IAmb_Lg		10 59 46.9	
	comp=Z,28nm,1.1s						
Q44A	**Meyer Farm, Va**	**7.38**	**64**	IAmb_Lg		10 59 41.9	
	comp=Z,24nm,0.8s						
ISCO	**Idaho Springs**	**7.42**	**303**	Pn	**Pn**	**10 57 32.4**	**-0.9**
ISCO				IAmb_Lg		10 59 47.6	
	comp=Z,16nm,0.9s						
ECSD	**EROS Data Cent**	**7.76**	**5**		**Pn**	**10 57 36.7**	**-0.9**
ECSD				IAmb_Lg		10 59 55.0	
	comp=Z,18nm,1.1s						
PLAL	**Pickwick Lake**	**7.79**	**95**	IAmb_Lg		10 59 57.4	
	comp=Z,14nm,0.9s						
MNTX	**Cornudas Mount**	**7.80**	**239**	Pn	**Pn**	**10 57 38.4**	**+0.1**
WVT	**Waverly**	**7.87**	**86**	IAmb_Lg		11 00 08.3	
	comp=Z,16nm,1.2s						
Y22D	**IRIS PASSCAL I**	**7.92**	**259**	IAmb_Lg		11 00 05.7	
	comp=Z,16nm,0.8s						
HDIL	**Hopedale**	**7.93**	**52**		**Pn**	**10 57 39.3**	**-0.6**
OLIL	**Olney**	**8.00**	**67**	IAmb_Lg		11 00 07.2	
	comp=Z,24nm,1.0s						
PHWY	**Pilot Hill**	**8.14**	**313**	IAmb_Lg		11 00 06.7	
	comp=Z,12nm,0.9s						
O44A	**Mansfield**	**8.28**	**57**	IAmb_Lg		11 00 10.4	
	comp=Z,24nm,0.8s						
T47A	**Sharon Grove**	**8.47**	**80**	IAmb_Lg		11 00 21.6	
	comp=Z,14nm,0.8s						
SUSD	**Miller**	**8.50**	**353**	IAmb_Lg		11 00 38.3	
	comp=Z,22nm,1.1s						
I37A	**Lemond, Waseca**	**8.62**	**20**	IAmb_Lg		11 00 40.3	
	comp=Z,27nm,1.0s						
V48A	**Smith Brothers**	**8.71**	**89**	IAmb_Lg		11 00 21.7	
	comp=Z,11nm,0.9s						
BLO	**Bloomington**	**9.31**	**67**	IAmb_Lg		11 00 49.3	
	comp=Z,20nm,0.7s						
SFIN	**Lafayette**	**9.32**	**59**	IAmb_Lg		11 00 52.3	
	comp=Z,23nm,1.0s						
PV11	**David Mesa, Pa**	**9.33**	**288**	IAmb_Lg		11 00 52.3	
	comp=Z,11nm,1.0s						
Y49A	**Blount Mountai**	**9.39**	**100**	IAmb_Lg		11 00 46.9	
	comp=Z,11nm,0.9s						
RWWY	**Rawlins**	**9.44**	**310**	IAmb_Lg		11 00 53.1	
	comp=Z,11nm,1.1s						
SWET	**Sewanee**	**9.49**	**91**	IAmb_Lg		11 00 48.7	
	comp=Z,11nm,0.7s						
I40A	**Norwalk**	**9.51**	**32**	IAmb_Lg		11 00 59.3	
	comp=Z,13nm,0.8s						
U49A	**Red Boiling Sp**	**9.52**	**83**	IAmb_Lg		11 01 01.4	
	comp=Z,11nm,1.1s						
K22A	**Casper**	**9.61**	**316**	IAmb_Lg		11 01 06.7	
	comp=Z,11nm,0.8s						
F33A	**5 Mile Ranch,**	**9.88**	**5**	IAmb_Lg		11 01 03.9	
	comp=Z,11nm,0.9s						
SPMN	**Marine on St.**	**9.89**	**20**	IAmb_Lg		11 00 57.9	
	comp=Z,10nm,0.8s						

INET ***12*** *11:21:58.5, 12°.98N×86°.61W, h15km, MW4.6*
UCR ***12*** *11:22:02.6±2.5, 12°.98N×86°.66W, h2km±7km, ML4.0, mb4.5(NEIC)*
IDC ***12*** *11:22:02.3±0.8, 13°.06N×86°.37W, h0km, mb4.3/18, mb1 4.5/22, mb1mx4.3/50, mbtmp4.3/22, ML3.5/4, MS3.6/18, Ms1 3.6/18, ms1mx3.4/36, Error ellipse: s-maj=23.6km s-min=10.7km az=47.0*
NEIC ***12*** *11:22:02.1±1.3, 12°.96N±0°.03×86°.58W±0°.06, h7km±5km, mb4.5/192, Error ellipse: s-maj=9.1km s-min=2.6km az=66.0*
SNET ***12*** *11:22:03.1±1.1, 12°.88N×86°.69W, h6km±9km, ML4.2*

ISC 12 11:22:01.7±1.2, 12°.99N±0°.03×86°.57W±0°.03, h2km±8km, n434, σ1s45/439, mb4.5/102, MS3.6/15, 1C, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNGN	**Cerro Negro**	**0.50**	**195**		**Pg**	**11 22 12.4**	**+1.2**
CNGN				Sg	**Sg**	**11 22 17.7**	**0.0**
CRIN	**San Cristobal**	**0.55**	**239**		**Pg**	**11 22 12.5**	**+0.3**
CRIN				Sg	**Sg**	**11 22 19.3**	**0.0**
MATN	**Matagalpa**	**0.63**	**95**		**Pg**	**11 22 14.8**	**+1.1**
MATN				Sg	**Sg**	**11 22 22.6**	**+0.7**
MASN	**Masaya**	**1.07**	**158**		**Pb**	**11 22 21.9**	**-1.1**
MASN				Sg	**Sg**	**11 22 34.4**	**-1.8**
CNCH	**Conchagua**	**1.27**	**283**	*eP*	**Pn**	**11 22 25.2**	**-1.3**
CNCH				*eS*	**Sb**	**11 22 41.6**	**-1.5**
CNCH	**Conchagua**	**1.27**	**283**	*eP*	**Pn**	**11 22 25.2**	**-1.3**
CNCH				*eS*	**Sb**	**11 22 41.6**	**-1.5**
TGUH	**Tegucigalpa,Un**	**1.27**	**327**	*eP*	**Pg**	**11 22 26.5**	**+0.6**
TGUH	**Tegucigalpa,Un**	**1.27**	**327**	*eP*	**Pg**	**11 22 26.5**	**+0.6**
TGUH	**Tegucigalpa,Un**	**1.27**	**327**	Pn	**Pg**	**11 22 26.9**	**+0.9**
TGUH	**Tegucigalpa,Un**	**1.27**	**327**	*iP*	**Pg**	**11 22 26.4**	**+0.4**
TGUH				*i*		11 22 29.9	
	comp=Z,7μm,0.5s						
TGUH				*eS*	**Sn**	**11 22 44.2**	**0.0**
LCND	**La Caada**	**1.33**	**284**	*i* P	**Pn**	**11 22 26.1**	**-1.1**
LCND				*eS*	**Sb**	**11 22 43.4**	**-1.4**
LCND				IAML		11 22 49.8	
	comp=Z,7μm,0.4s						
LCND	**La Caada**	**1.33**	**284**	*i* P	**Pn**	**11 22 26.1**	**-1.1**
LCND				*eS*	**Sb**	**11 22 43.4**	**-1.4**
LCND				IAML		11 22 49.8	
	comp=Z,7μm,0.4s						
BLLM	**Bellamira**	**1.69**	**286**	*eP*	**Pn**	**11 22 31.8**	**-0.5**
BLLM	**Bellamira**	**1.69**	**286**	*eP*	**Pn**	**11 22 31.8**	**-0.5**
ACON	**Acoyapa**	**1.70**	**126**	*eP*	**Pn**	**11 22 31.3**	**-1.0**
ACON	**Acoyapa**	**1.70**	**126**	Pn	**Pn**	**11 22 32.0**	**-0.3**
PACA	**Pacayal**	**1.77**	**286**	*eP*	**Pn**	**11 22 33.5**	**0.0**
PACA	**Pacayal**	**1.77**	**286**	*eP*	**Pn**	**11 22 33.5**	**0.0**
COEB	**Comit de Eme**	**1.98**	**285**	*eP*	**Pn**	**11 22 36.1**	**-0.2**
COEB				*eS*	**Sn**	**11 23 01.6**	**-0.2**
COEB	**Comit de Eme**	**1.98**	**285**	*eP*	**Pn**	**11 22 36.1**	**-0.2**
COEB				*eS*	**Sn**	**11 23 01.6**	**-0.2**
PQSS	**Presa 15 de Se**	**2.04**	**288**	*eP*	**Pn**	**11 22 36.6**	**-0.5**
PQSS				*eS*	**Sn**	**11 23 03.1**	**0.0**
TECO	**Alcaldia de Te**	**2.22**	**285**	*eP*	**Pn**	**11 22 38.8**	**-0.8**
TECO				*eS*	**Sn**	**11 23 07.0**	**-0.7**
SNVI	**San Vicente**	**2.30**	**286**	*eP*	**Pn**	**11 22 40.8**	**0.0**
SNVI	**San Vicente**	**2.30**	**286**	*eP*	**Pn**	**11 22 40.8**	**0.0**
COEG	**Centro de Oper**	**2.34**	**286**	*eP*	**Pn**	**11 22 41.4**	**+0.2**
COEG				*eS*	**Sn**	**11 23 10.5**	**-0.1**
COEG				IAML		11 23 23.0	
	comp=Z,866nm,0.5s						
COEG	**Centro de Oper**	**2.34**	**286**	*eP*	**Pn**	**11 22 41.4**	**+0.2**
COEG				*eS*	**Sn**	**11 23 10.5**	**-0.1**
COEG				IAML		11 23 23.0	
	comp=Z,866nm,0.5s						
PAVA	**Las Pavas**	**2.42**	**288**	*eP*	**Pn**	**11 22 42.2**	**-0.2**
PAVA				*eS*	**Sn**	**11 23 12.7**	**+0.1**
PAVA	**Las Pavas**	**2.42**	**288**	*eP*	**Pn**	**11 22 42.2**	**-0.2**
PAVA				*eS*	**Sn**	**11 23 12.7**	**+0.1**
BUAI	**Buenos Aires**	**2.42**	**150**	*eP*	**Pn**	**11 22 44.4**	**+2.0**
GB1A	**Borinquen Arri**	**2.44**	**152**	*eP*	**Pn**	**11 22 43.7**	**+1.0**
GBS3	**Finca Las Img**	**2.45**	**153**	*eP*	**Pn**	**11 22 43.4**	**+0.7**
HZTE	**Horizontes, Gu**	**2.45**	**157**	*eP*	**Pn**	**11 22 43.9**	**+1.1**
HZTE	**Horizontes, Gu**	**2.45**	**157**	Pn	**Pn**	**11 22 42.5**	**-0.2**
BUEV	**Buena Vista**	**2.45**	**152**	*eP*	**Pn**	**11 22 42.7**	**-0.2**
SJTE	**Alcalda de S**	**2.46**	**285**	*eP*	**Pn**	**11 22 42.8**	**-0.1**

SJTE	**Alcalda de S**	**2.46**	**285**	*eP*	**Pn**	**11 22 42.8**	**-0.1**
LFRS	**El Faro**	**2.51**	**285**	*eP*	**Pn**	**11 22 43.9**	**+0.2**
LFRS	**El Faro**	**2.51**	**285**	*eP*	**Pn**	**11 22 43.9**	**+0.2**
GPS2	**Hotel Rincn d**	**2.52**	**152**	*eP*	**Pn**	**11 22 45.5**	**+1.8**
LFU	**La Fuente**	**2.59**	**287**	*eP*	**Pn**	**11 22 43.7**	**-1.0**
LFU	**La Fuente**	**2.59**	**287**	*eP*	**Pn**	**11 22 43.7**	**-1.0**
LIM1	**Limonal**	**2.61**	**150**	*eP*	**Pn**	**11 22 47.1**	**+2.1**
GUAB	**Guayabo de Bag**	**2.62**	**150**	*eP*	**Pn**	**11 22 45.9**	**+0.8**
HORNC	**Hornillas**	**2.64**	**149**	*eP*	**Pn**	**11 22 48.2**	**+2.8**
OPAM	**Oficina de Pla**	**2.66**	**286**	*eP*	**Pn**	**11 22 44.4**	**-1.2**
OPAM	**Oficina de Pla**	**2.66**	**286**	*eP*	**Pn**	**11 22 44.4**	**-1.2**
COLC	**Colonia**	**2.67**	**150**	*eP*	**Pn**	**11 22 48.2**	**+2.5**
SNET	**Serv Nac Est T**	**2.68**	**285**	Pn	**Pn**	**11 22 45.6**	**-0.4**
CUI	**Cuipilapa**	**2.69**	**149**	*eP*	**Pn**	**11 22 47.7**	**+1.6**
ORTG	**Ortega, Santa**	**2.83**	**157**	Pn	**Pn**	**11 22 47.7**	**-0.3**
GUAI	**GUAI**	**2.89**	**159**	*eP*	**Pn**	**11 22 49.2**	**+0.5**
MTO3	**Montecristo**	**3.06**	**298**	*eP*	**Pn**	**11 22 51.3**	**0.0**
MTO3	**Montecristo**	**3.06**	**298**	*eP*	**Pn**	**11 22 51.3**	**0.0**
MTO3	**Montecristo**	**3.06**	**298**	Pn	**Pn**	**11 22 51.0**	**-0.2**
DUNO	**Dulce Nombre,**	**3.08**	**160**	Pn	**Pn**	**11 22 50.5**	**-0.9**
CEDE	**Laguna Cedeo**	**3.08**	**143**	*eP*	**Pn**	**11 22 53.6**	**+2.1**
CEVE	**Cerro Verde**	**3.09**	**286**	*eP*	**Pn**	**11 22 52.4**	**+0.7**
CEVE				IAML		11 23 46.9	
	comp=Z,589nm,0.4s						
CEVE	**Cerro Verde**	**3.09**	**286**	*eP*	**Pn**	**11 22 52.4**	**+0.7**
CEVE				IAML		11 23 46.9	
	comp=Z,589nm,0.4s						
SBLS	**San Blas**	**3.09**	**286**	*eP*	**Pn**	**11 22 51.1**	**-0.6**
SBLS	**San Blas**	**3.09**	**286**	*eP*	**Pn**	**11 22 51.1**	**-0.6**
COVE	**Coope Vega, Sa**	**3.09**	**136**	*eP*	**Pn**	**11 22 52.5**	**+1.0**
COVE	**Coope Vega, Sa**	**3.09**	**136**	Pn	**Pn**	**11 22 51.6**	**0.0**
ARE1	**Arenal 1**	**3.10**	**144**	*eP*	**Pn**	**11 22 53.6**	**+2.0**
JTS	**Las Juntas de**	**3.11**	**149**	Pn	**Pn**	**11 22 51.3**	**-0.5**
	comp=Z,7.1nm,0.3s,baz=26,slow=16,SNR=33						
JTS				Lg	Lg	11 23 41.5	
	comp=Z,30nm,0.3s,baz=340,slow=16,SNR=4.8						
JTS				LR	LR	11 24 13.1	
	comp=Z,637nm,18.9s,baz=33,slow=42						
JTS	**Las Juntas de**	**3.11**	**149**	*eP*	**Pn**	**11 22 53.4**	**+1.5**
JTS	**Las Juntas de**	**3.11**	**149**		**Pn**	**11 22 52.0**	**+0.2**
JTS	**Las Juntas de**	**3.11**	**149**	*eP*	**Pn**	**11 22 51.2**	**-0.7**
JTS				*eS*	**Sb**	**11 23 34.0**	**-2.2**
JTS				*i*		11 23 47.2	
	comp=Z,152nm,0.6s						
ESQI	**Esquipulas**	**3.12**	**300**	*eP*	**Pn**	**11 22 52.5**	**+0.5**
ESQI	**Esquipulas**	**3.12**	**300**	Pn	**Pn**	**11 22 52.4**	**+0.4**
INDI	**Punta indio, G**	**3.27**	**161**	*eP*	**Pn**	**11 22 54.4**	**+0.4**
SLOZ	**Alcaldia de Sa**	**3.29**	**289**	*eP*	**Pn**	**11 22 54.6**	**+0.3**
LAFE	**Finca La Fe, P**	**3.55**	**153**	*eP*	**Pn**	**11 22 58.9**	**+1.0**
CAO2	**Cobano, Puntar**	**3.58**	**156**	Pn	**Pn**	**11 22 57.6**	**-0.7**
HDC	**Heredia**	**3.82**	**141**		**Pn**	**11 23 01.9**	**+0.2**
CVTR	**Volcan Turrial**	**4.03**	**137**	*eP*	**Pn**	**11 23 05.9**	**+1.1**
CVTR	**Volcan Turrial**	**4.03**	**137**	Pn	**Pn**	**11 23 04.7**	**-0.2**
LCR2	**La Lucha 2**	**4.09**	**142**	*eP*	**Pn**	**11 23 04.9**	**-0.6**
RIMA	**Rio Macho**	**4.16**	**140**	Pn	**Pn**	**11 23 05.8**	**-0.5**
BATAN	**Batan**	**4.25**	**132**	Pn	**Pn**	**11 23 07.0**	**-0.5**
PEZE	**Perez Zeledon,**	**4.57**	**141**	*eP*	**Pn**	**11 23 12.5**	**+0.6**
PEZE	**Perez Zeledon,**	**4.57**	**141**		**Pn**	**11 23 11.3**	**-0.6**
SRBA	**San Rafael, Bu**	**4.88**	**140**	Pn	**Pn**	**11 23 16.3**	**0.0**
EDPN	**Palmar Norte**	**5.03**	**142**	*eP*	**Pn**	**11 23 21.3**	**+3.0**
PETF	**Flores**	**5.04**	**321**	Pn	**Pn**	**11 23 16.5**	**-1.9**
PRVC	**Isla de Provid**	**5.08**	**85**	Pn	**Pn**	**11 23 18.8**	**-0.2**
PRVC	**Isla de Provid**	**5.08**	**85**	*eP*	**Pn**	**11 23 19.5**	**+0.5**
PRVC				*i*		11 23 42.8	
	comp=Z,172nm,0.6s						
PRVC				*eS*	**Sg**	**11 24 40.6**	**-4.5**
RGM0	**Gandoca**	**5.15**	**131**	Pn	**Pn**	**11 23 18.9**	**-0.9**
RIOS	**Rincon, Osa**	**5.21**	**145**	Pn	**Pn**	**11 23 20.3**	**-0.4**

Y52A IAmb IAmb 11 26 53.2
comp=Z,33nm,1.2s
JCT Junction City 21.28 327 P P 11 26 47.9 -1.7
X48A Hartselle 21.38 359 P P 11 26 49.8 -0.8
X48A IAmb IAmb 11 27 00.9
comp=Z,23nm,1.0s
WHTX Lake Whitney, 21.40 334 P P 11 26 50.6 -0.2
WHTX Lake Whitney, 21.40 334 P P 11 26 56.4 +5.6
baz=150
WLAR White Oak Lake 21.45 345 P P 11 26 49.4 -2.0
WLAR IAmb IAmb 11 27 03.4
comp=Z,49nm,1.3s
FPAL Fort Paine 21.48 2 P P 11 26 50.6 -1.0
FPAL IAmb IAmb 11 27 01.6
comp=Z,19nm,0.9s
HODGE Hodges 21.51 10 P P 11 26 50.6 -1.4
X51A Calhoun 21.54 4 P P 11 26 51.5 -0.8
X51A IAmb IAmb 11 27 00.2
comp=Z,32nm,1.0s
ATAH Atahualpa 21.58 157 P P 11 26 55.2 +1.9
comp=Z,2.5nm,0.6s,baz=305,slow=9.2,SNR=3.5
OXF Oxford 21.59 354 P P 11 26 50.9 -1.9
OXF Oxford 21.59 354 P P 11 26 56.2 +3.4
baz=172,SNR=8.5
PCRV Puerto La Cruz 21.66 95 P P 11 26 54.3 +0.4
comp=Z,9.4nm,0.8s,baz=252,slow=1.7,SNR=5.2
JSC Jenkinsville 21.74 12 P P 11 26 54.0 -0.5
JSC IAmb IAmb 11 27 04.0
comp=Z,17nm,1.0s
PLAL Pickwick Lake 21.94 357 P P 11 26 56.5 -0.2
SWET Sewanee 22.14 1 P P 11 26 57.5 -1.3
SWET IAmb IAmb 11 27 06.9
comp=Z,16nm,1.0s
W50A Signal Mountai 22.15 3 P P 11 26 58.3 -0.6
BG3 Lake Jocassee 22.16 8 P P 11 26 58.8 -0.2
BG3 IAmb IAmb 11 27 07.0
comp=Z,12nm,0.9s
PAULI Pauline 22.16 10 P P 11 26 58.8 -0.2
PAULI IAmb IAmb 11 27 02.8
comp=Z,16nm,1.1s
W45A Hickory Valley 22.20 354 P P 11 26 58.2 -1.2
W45A IAmb IAmb 11 27 03.9
comp=Z,29nm,1.0s
BIRD Birdtown, Kers 22.26 13 P P 11 26 59.3 -0.8
BIRD IAmb IAmb 11 27 05.1
comp=Z,28nm,1.2s
CPCT Cooper Cave 22.44 4 P P 11 27 00.9 -1.1
CPCT IAmb IAmb 11 27 13.8
comp=Z,15nm,1.0s
HPIG 22.64 311 P P 11 27 03.8 -0.7
V48A Smith Brothers 22.66 359 P P 11 27 03.0 -1.3
V48A IAmb IAmb 11 27 13.1
comp=Z,10nm,0.8s
TKL Tuckaleechee C 22.71 6 P P 11 27 06.5 +1.6
comp=Z,19nm,1.1s,baz=179,slow=9.8,SNR=8.4
TKL Tuckaleechee C 22.71 6 P P 11 27 03.2 -1.7
TKL IAmb IAmb 11 27 09.9
comp=Z,25nm,1.1s
TXAR Lajitas Array 22.73 318 P P 11 27 06.2 +1.0
comp=Z,6.4nm,0.8s,baz=140,slow=8.3,SNR=54
TXAR LR LR 11 38 55.2
comp=Z,59nm,18.2s,baz=0.0,slow=44
TXAR Lajitas Array 22.73 318 P P 11 27 05.1 -0.1
TX31 Lajitas Ar. Si 22.73 318 P P 11 27 04.9 -0.3
TX31 IAmb IAmb 11 27 08.9
comp=Z,18nm,0.8s
TX32 Lajitas Array 22.73 318 P P 11 27 04.7 -0.5
V51A Loudon 22.81 5 P P 11 27 05.4 -0.5
V51A IAmb IAmb 11 27 11.5
comp=Z,26nm,1.1s
V53A Saluda 22.84 8 P P 11 27 06.0 -0.3
V53A IAmb IAmb 11 27 16.9
comp=Z,22nm,1.2s
V52A Sevierville 22.91 6 P P 11 27 06.4 -0.6
V52A IAmb IAmb 11 27 11.7
comp=Z,14nm,1.1s
ABTX Abilene, Hawle 22.92 331 P P 11 27 08.9 +1.7
baz=146,SNR=9.6
CLTN Cedars of Leba 23.01 0 P P 11 27 07.5 -0.5
CLTN IAmb IAmb 11 27 19.3
comp=Z,10nm,0.9s
LOOK Love County 23.03 337 P P 11 27 07.2 -1.1
LOOK IAmb IAmb 11 27 15.3
comp=Z,23nm,0.9s
WVT Waverly 23.07 357 P P 11 27 08.5 -0.1
WVT Waverly 23.07 357 P P 11 27 11.1 +2.5
baz=177
V55A Taylorsville 23.27 11 P P 11 27 09.2 -1.6
V55A IAmb IAmb 11 27 15.8
comp=Z,35nm,1.5s
FCAR Ozark Folk Cen 23.35 349 P P 11 27 11.4 -0.1
LCAR Lake Charles 23.35 351 P P 11 27 10.8 -0.7
LCAR IAmb IAmb 11 27 35.5
comp=Z,8.3nm,0.8s
U49A Red Boiling Sp 23.44 2 P P 11 27 13.0 +0.6
U49A IAmb IAmb 11 27 16.1
comp=Z,40nm,1.5s
TZTN Tazewell 23.61 6 P P 11 27 14.6 +0.4
TZTN IAmb IAmb 11 27 19.0
comp=Z,26nm,1.2s
TZTN Tazewell 23.61 6 P P 11 27 16.7 +2.5
baz=187,SNR=6.8
V58A Windy Hill, Pi 23.68 15 P P 11 27 14.3 -0.5
V58A IAmb IAmb 11 27 18.3
comp=Z,24nm,1.4s
HENM Henderson Moun 23.77 354 P P 11 27 15.9 +0.3
U54A Nelsons Funny 23.82 10 P P 11 27 15.2 -1.1
U54A IAmb IAmb 11 27 28.1
comp=Z,14nm,0.9s
T47A Sharon Grove 23.91 359 P P 11 27 16.7 -0.2
T47A IAmb IAmb 11 27 19.8
comp=Z,11nm,0.8s
U56A King 23.92 12 P P 11 27 16.6 -0.5
U56A IAmb IAmb 11 27 22.3
comp=Z,12nm,1.0s
U40A Yellville 23.95 347 P P 11 27 18.7 +1.4
baz=165
T45A Paducah 24.01 356 P P 11 27 18.0 +0.1
TUL1 Leonard 24.29 342 P P 11 27 22.2 +1.6
baz=158,SNR=17
WMOK Wichita Mounta 24.32 335 P P 11 27 22.7 +1.8
baz=150,SNR=11
S51A Beattyville 24.70 6 P P 11 27 24.6 +0.4
SIUC Southern Illin 24.74 355 P P 11 27 24.5 -0.1
T57A Hurt 24.79 14 P P 11 27 24.3 -0.9
T57A IAmb IAmb 11 27 28.6
comp=Z,17nm,1.0s
LPIG La Paz 25.03 300 LR LR 11 37 27.2
comp=Z,222nm,20.5s,baz=122,slow=37
WCI Wyandotte Cave 25.14 1 P P 11 27 27.3 -0.9
WCI Wyandotte Cave 25.14 1 P P 11 27 30.2 +2.0
baz=181
S54A Dingess, Beckl 25.15 10 P P 11 27 28.3 -0.1
T59A Double "B" Far 25.21 17 P P 11 27 27.8 -1.1
T59A IAmb IAmb 11 27 33.6
comp=Z,21nm,1.2s
R49A Shelbyville 25.23 3 P P 11 27 28.6 -0.4
R50A Paris 25.27 4 P P 11 27 29.4 0.0
R50A IAmb IAmb 11 27 35.2
comp=Z,16nm,1.1s
CCM Cathedral Cave 25.31 351 P P 11 27 31.2 +1.4
baz=169
MNTX Cornudas Mount 25.41 320 P P 11 27 31.2 +0.4
MNTX IAmb IAmb 11 27 34.6
comp=Z,11nm,1.1s
MNTX Cornudas Mount 25.41 320 P P 11 27 33.0 +2.2
baz=133,SNR=12
MSTX Muleshoe 25.57 327 P P 11 27 32.0 -0.3
MSTX Muleshoe 25.57 327 P P 11 27 33.5 +1.3
baz=141
AMTX Amarillo 25.74 330 P P 11 27 35.9 +2.1
baz=144
Q44A Meyer Farm, Va 25.91 356 P P 11 27 34.8 -0.3
Q44A IAmb IAmb 11 27 40.4
comp=Z,12nm,0.9s
Q51A Peebles 26.09 6 P P 11 27 36.8 -0.1
P48A Milroy 26.39 2 P P 11 27 39.3 -0.2
P49A Miami Univ. Ec 26.50 3 P P 11 27 39.0 -1.5
P49A Miami Univ. Ec 26.50 3 P P 11 27 42.5 +2.0
baz=184
Q56A Snyder Ridge, 26.76 13 P P 11 27 41.8 -1.1
Q56A IAmb IAmb 11 27 50.4
comp=Z,24nm,1.2s
P53A Whipple 26.79 9 P P 11 27 41.6 -1.5
P53A IAmb IAmb 11 27 47.5
comp=Z,23nm,1.2s
P52A Corning 26.83 8 P P 11 27 41.4 -2.2
P52A IAmb IAmb 11 27 46.7
comp=Z,13nm,0.9s
P52A Corning 26.83 8 P P 11 27 46.3 +2.8
baz=190
P57A Homestead Farm 27.46 14 P P 11 27 47.9 -1.3
P57A IAmb IAmb 11 27 53.4
comp=Z,21nm,1.2s
121A Cookes Peak, D 27.49 319 P P 11 27 48.7 -1.1
121A IAmb IAmb 11 27 57.6
comp=Z,9.2nm,1.0s
319A Douglas 27.78 315 P P 11 27 51.0 -1.3
319A IAmb IAmb 11 27 56.7
comp=Z,9.3nm,1.0s
CBKS Cedar Bluff 28.25 338 P P 11 27 54.0 -2.4
ANMO Albuquerque 28.32 324 P P 11 27 58.8 +1.6
comp=Z,1.7nm,0.9s,baz=129,slow=6.7,SNR=7.5
ANMO Albuquerque 28.32 324 P P 11 27 55.7 -1.5
ANMO Albuquerque 28.32 324 P P 11 28 01.8 +4.6
baz=136
SSPA Standing Stone 28.58 14 P P 11 27 58.0 -1.2
SSPA IAmb IAmb 11 28 02.8
comp=Z,11nm,0.9s
SSPA Standing Stone 28.58 14 P P 11 28 01.8 +2.6
baz=198
T25A Trinidad 28.87 330 P P 11 28 07.7 +5.6
baz=142,SNR=7.1
TUC Tucson 29.36 315 P P 11 28 04.0 -2.4
TUC Tucson 29.36 315 P P 11 28 10.5 +4.1
baz=126
PTGA Pitinga 29.70 115 P P 11 28 09.1 -0.3
comp=Z,2.7nm,0.8s,baz=302,slow=11,SNR=8.8
PTGA Pitinga 29.70 115 P P 11 28 07.1 -2.3
PTGA IAmb IAmb 11 28 13.0
comp=Z,5.9nm,1.1s
SDCO Great Sand Dun 29.89 329 P P 11 28 10.3 -0.9
SDCO Great Sand Dun 29.89 329 P P 11 28 14.0 +2.8
baz=141
BINY Binghamton 30.53 16 P P 11 28 19.2 +2.8
baz=201
S22A 4UR Ranch, Cre 30.57 327 P P 11 28 20.3 +3.0
baz=139
X16A Lo Mia Camp, P 31.05 318 P P 11 28 20.9 -0.5
X16A IAmb IAmb 11 28 25.9
comp=Z,4.8nm,0.9s
WUAZ Wupatki 31.68 319 P P 11 28 26.2 -0.8
WUAZ IAmb IAmb 11 28 31.7
comp=Z,8.6nm,1.0s
WUAZ Wupatki 31.68 319 P P 11 28 30.0 +3.0
baz=129,SNR=8.6
Y14A Wickenburg 31.82 315 P P 11 28 26.8 -1.2
ECSD EROS Data Cent 31.84 346 P P 11 28 26.4 -1.6
ECSD IAmb IAmb 11 28 52.3
comp=Z,8.8nm,1.4s
ECSD EROS Data Cent 31.84 346 P P 11 28 28.1 +0.1
baz=161
PV03 Paradox Valley 32.03 326 P P 11 28 28.6 -1.4
PV03 IAmb IAmb 11 28 44.7
comp=Z,6.3nm,1.3s
PDMCI Parker Dam,Lak 32.80 315 P P 11 28 39.0 +2.5
baz=124
W13A Hualapai Mount 33.08 316 P P 11 28 38.5 -0.8
O20A White River Ci 33.09 329 P P 11 28 44.4 +5.1
baz=139
LONY Lake Ozonia 33.15 16 P P 11 28 39.2 -0.3
LONY Lake Ozonia 33.15 16 P P 11 28 41.9 +2.4
baz=202
PKCU Pink Cliffs 33.49 321 P P 11 28 41.0 -1.9
KNB Kanab 33.53 320 P P 11 28 42.1 -1.1
KNB IAmb IAmb 11 28 48.9
comp=Z,10nm,1.4s
SRU San Rafael Swe 33.56 325 P P 11 28 42.7 -0.6
SRU IAmb IAmb 11 28 48.8
comp=Z,6.2nm,1.1s
F33A 5 Mile Ranch, 33.77 348 P P 11 28 43.9 -1.0
F33A IAmb IAmb 11 28 45.6
comp=Z,5.0nm,0.8s
E38A The Farm, Brul 33.77 354 P P 11 28 44.3 -0.6
LCMT Little Creek M 33.80 320 P P 11 28 44.6 -0.8
MTPU Mount Pierson 33.80 322 P P 11 28 44.8 -0.8
P17A Butcher Ranch, 33.93 325 P P 11 28 46.2 -0.4
P17A IAmb IAmb 11 28 52.0
comp=Z,5.6nm,1.1s
SZCU Shurtz Canyon 34.06 321 P P 11 28 46.2 -1.6
SZCU IAmb IAmb 11 28 52.6
comp=Z,6.2nm,0.9s
PFO Pinyon Flats O 34.08 312 LR LR 11 43 15.8
comp=Z,113nm,21.7s,baz=112,slow=37
MVU Marysvale 34.12 323 P P 11 28 47.1 -1.1
CCUT Cedar City 34.20 320 P P 11 28 48.3 -0.7
CCUT IAmb IAmb 11 28 54.2
comp=Z,4.3nm,1.0s
K22A Casper 34.24 333 P P 11 28 51.6 +2.4
baz=144
LPAZ La Paz 34.33 147 LR LR 11 43 19.4
comp=Z,70nm,18.9s,baz=338,slow=37
MPU Maple Canyon 34.80 325 P P 11 28 53.1 -1.1
MPU IAmb IAmb 11 28 58.9
comp=Z,5.0nm,1.0s
JLU Jordanelle 35.11 326 P P 11 28 55.1 -1.7
PSUT Pine Spring 35.12 321 P P 11 28 55.0 -2.0
PSUT IAmb IAmb 11 29 03.4
comp=Z,7.2nm,0.8s
PRN Pahroc Range 35.18 319 P P 11 28 55.9 -1.5
DUG Dugway, Tooele 35.59 324 P P 11 28 59.8 -1.0
DUG Dugway, Tooele 35.59 324 P P 11 29 04.2 +3.3
baz=132,SNR=5.5
TPNV Topopah Spring 35.70 317 P P 11 29 01.0 -0.9
TPNV IAmb IAmb 11 29 06.9
comp=Z,5.5nm,0.9s
TPNV Topopah Spring 35.70 317 P P 11 29 04.7 +2.8
baz=124,SNR=7.7
SPR3 Spring Creek 3 35.70 322 P P 11 29 00.8 -1.2
SPR3 IAmb IAmb 11 29 06.3
comp=Z,6.5nm,0.9s
BW06 Boulder Array 35.72 330 P P 11 29 04.4 +2.3
baz=139
PD31 Pinedale Array 35.72 330 P P 11 29 01.8 -0.3
PDAR Pinedale Array 35.72 330 LR LR 11 45 52.4
comp=Z,51nm,20.3s,baz=138,slow=40
FURC Furnace Creek, 35.85 316 P P 11 29 05.7 +2.8
baz=123
HWUT Hardware Ranch 35.88 327 P P 11 29 02.8 -0.6
HWUT IAmb IAmb 11 29 08.0
comp=Z,11nm,0.9s
MPMC Manual Prospec 36.06 315 P P 11 29 06.7 +1.7
baz=122
R11A Troy Canyon, C 36.08 320 P P 11 29 03.8 -1.4
R11A Troy Canyon, C 36.08 320 P P 11 29 07.8 +2.6
baz=127
SPUT South Promonto 36.15 326 P P 11 29 03.8 -1.9
SPUT IAmb IAmb 11 29 10.4
comp=Z,5.3nm,0.9s
BGU Big Grassy Mou 36.20 325 P P 11 29 05.1 -1.0
AHID Auburn Hatcher 36.48 329 P P 11 29 07.7 -0.8
AHID IAmb IAmb 11 29 13.1
comp=Z,8.9nm,1.1s
HVU Hansel Valley 36.65 326 P P 11 29 08.5 -1.4
HVU IAmb IAmb 11 29 15.5
comp=Z,6.2nm,1.0s
REDW Red Top Meadow 36.80 330 P P 11 29 10.0 -1.2
SNOW Snow King Moun 36.82 330 P P 11 29 10.7 -0.9
SNOW IAmb IAmb 11 29 17.2
comp=Z,17nm,0.9s
LOHW Long Hollow 36.86 330 P P 11 29 11.2 -0.6
LOHW IAmb IAmb 11 29 17.4
comp=Z,6.5nm,1.1s
TPAW Teton Pass 36.94 330 P P 11 29 11.4 -1.1
TPH Tonopah 36.97 318 P P 11 29 11.1 -1.7
MOOW Moose Ponds 37.03 330 P P 11 29 12.2 -1.0
FXWY Fox Creek 37.09 330 P P 11 29 13.8 +0.1
IMW Indian Meadow 37.24 330 P P 11 29 14.6 -0.5
FLWY Flagg Ranch 37.26 331 P P 11 29 14.6 -0.6
FLWY IAmb IAmb 11 29 20.4
comp=Z,5.8nm,0.8s
ELK Elko 37.35 323 P P 11 29 14.9 -1.1
ELK IAmb IAmb 11 29 20.7
comp=Z,6.4nm,1.0s
RLMT Red Lodge 37.41 333 P P 11 29 14.4 -2.0
RLMT IAmb IAmb 11 29 21.8
comp=Z,7.5nm,1.1s
RLMT Red Lodge 37.41 333 P P 11 29 18.1 +1.6
baz=142
LAO LASA Array 37.45 338 P P 11 29 15.2 -1.4
LAO IAmb IAmb 11 29 20.7
comp=Z,9.6nm,1.1s
LAO LASA Array 37.45 338 P P 11 29 18.4 +1.9
baz=148
NV11 Mina Array Sit 37.78 318 P P 11 29 17.3 -2.3
YMR Madison River 37.83 331 P P 11 29 19.0 -1.0
YMR IAmb IAmb 11 29 26.1
comp=Z,6.4nm,1.0s
YHH Holmes Hill 37.87 332 P P 11 29 19.3 -1.1
NVAR Mina Array Bea 37.88 318 P P 11 29 22.7 +2.2
comp=Z,2.7nm,0.8s,baz=132,slow=6.6,SNR=21
NVAR LR LR 11 48 12.7
comp=Z,139nm,18.4s,baz=137,slow=42
NVAR Mina Array Bea 37.88 318 P P 11 29 20.2 -0.3
LHV Little Huntoon 37.91 317 P P 11 29 19.3 -1.2
ULM Lac du Bonnet 37.93 350 P P 11 29 20.2 -0.3
comp=Z,2.1nm,0.6s,baz=221,slow=5.6,SNR=3.7
ULM Lac du Bonnet 37.93 350 P P 11 29 19.5 -1.0
KVN Kaiserville 38.09 319 P P 11 29 20.7 -1.6
RYN Ryan 38.13 318 P P 11 29 21.5 -1.1
BMN Battle Mountai 38.34 321 P P 11 29 23.8 -0.5
BMN IAmb IAmb 11 29 28.9
comp=Z,10nm,1.1s
HLID Hailey 38.75 327 P P 11 29 26.1 -1.6
HLID Hailey 38.75 327 P P 11 29 30.3 +2.6
baz=134,SNR=6.1
YERR Yerington 38.80 318 P P 11 29 26.4 -1.8
BOZ Bozeman (W) 38.84 332 P P 11 29 27.9 -0.5
BOZ Bozeman (W) 38.84 332 P P 11 29 30.7 +2.3
baz=139
MCMT McKenzie Canyo 38.85 330 P P 11 29 27.6 -1.1
DLMT Dillon 39.12 331 P P 11 29 29.8 -1.0
PAHR Pah Rah Range 39.28 319 P P 11 29 31.2 -1.0
LRM Limekiln Ridge 39.39 331 P P 11 29 32.3 -0.8
EGMT Eagleton 39.92 336 P P 11 29 36.0 -1.3
EGMT IAmb IAmb 11 29 42.9
comp=Z,24nm,1.5s
EGMT Eagleton 39.92 336 P P 11 29 39.4 +2.1
baz=143
BEKR Beckworth 40.00 318 P P 11 29 37.8 -0.5
BEKR IAmb IAmb 11 29 42.4
comp=Z,7.2nm,0.9s
WVOR Wild Horse Val 40.39 323 P P 11 29 40.8 -0.6
WVOR IAmb IAmb 11 29 45.3
comp=Z,12nm,0.9s
ORV Oroville 40.59 317 P P 11 29 41.4 -1.5
PLID Pearl Lake 40.62 328 P P 11 29 42.1 -1.3
PLID IAmb IAmb 11 29 47.7
comp=Z,7.9nm,1.1s
MSO Missoula 40.83 331 P P 11 29 42.7 -2.2
MSO Missoula 40.83 331 P P 11 29 46.7 +1.8
baz=137
MOD Modoc Plateau 41.09 321 P P 11 29 45.8 -1.4
BMO Blue Mountains 41.16 326 P P 11 29 47.0 -0.7
F10A Beach Ranch, E 41.86 328 P P 11 29 52.1 -1.3
I07A Izee 41.90 324 P P 11 29 51.9 -1.8
M04C Macdoel 41.98 320 P P 11 29 55.8 +1.4
baz=123
YBH Yreka Blue Hor 42.50 319 LR LR 11 51 09.1
comp=Z,124nm,18.9s,baz=146,slow=41
PINE Pine Mountain 42.56 323 P P 11 29 59.1 -0.2
PINE IAmb IAmb 11 30 02.9
comp=Z,6.3nm,0.9s
E09A Wood Farm, Sta 42.69 328 P P 11 29 58.9 -1.2
E09A IAmb IAmb 11 30 04.4
comp=Z,8.8nm,1.1s
J04D Umpqua Nationa 42.94 321 P P 11 30 04.5 +2.1
baz=124
HAWA Hanford 43.35 327 P P 11 30 03.8 -1.6
I04A Tendick Farm, 43.43 322 P P 11 30 07.1 +1.0
baz=124
D08A Wollman Farm, 43.45 328 P P 11 30 05.0 -1.2
D08A IAmb IAmb 11 30 09.9
comp=Z,7.8nm,1.0s
C09A Chrisman Ranch 43.62 329 P P 11 30 05.8 -1.8
E07A Sunnyside 43.62 327 P P 11 30 06.0 -1.7
E07A IAmb IAmb 11 30 11.3
comp=Z,13nm,1.0s
G05D Wamic, OR 43.63 324 P P 11 30 10.0 +2.3
baz=126
H04A Detroit Lake 43.80 323 P P 11 30 08.2 -0.9
H04A IAmb IAmb 11 30 11.9
comp=Z,13nm,1.2s
I03D Drain, OR 43.95 321 P P 11 30 11.8 +1.6
baz=123
LTY Liberty 44.50 327 P P 11 30 14.0 -0.7
LTY IAmb IAmb 11 30 18.3
comp=Z,5.0nm,0.9s
B08A Colville Reser 44.52 329 P P 11 30 13.1 -1.7
B08A IAmb IAmb 11 30 18.7
comp=Z,9.1nm,1.3s
SCHQ Schefferville 44.52 16 P P 11 30 15.2 +0.6
comp=Z,2.6nm,0.6s,baz=214,slow=4.3,SNR=6.0
SCHQ LR LR 11 48 45.1
comp=Z,55nm,18.6s,baz=121,slow=36
D05A Enumclaw 45.16 326 P P 11 30 17.9 -2.0
EDM Edmonton 45.44 338 P P 11 30 20.5 -1.6
B06A Marblemount 45.72 328 P P 11 30 22.8 -1.4
LLLB Lillooet 47.24 330 P P 11 30 35.8 -0.5
BDFB Brasilia 47.58 126 LR LR 11 51 33.9
comp=Z,110nm,19.4s,baz=331,slow=37
CPUP Villa Florida 48.33 144 LR LR 11 51 34.4
comp=Z,42nm,18.7s,baz=337,slow=37
YKA Yellowknife Ar 53.33 344 P P 11 31 23.1 +0.9
comp=Z,6.6nm,0.8s,baz=133,slow=8.7,SNR=12
YKA Yellowknife Ar 53.33 344 P P 11 31 21.3 -0.8
DLBC Dease Lake 55.80 334 P P 11 31 39.5 -0.7
MMPY Sheldon Lake, 58.78 338 P P 11 32 02.7 +1.5
baz=127,SNR=6.3
DAWY Dawson 62.64 337 P P 11 32 28.1 +0.6
baz=119
CRQE Cirque 62.71 333 P P 11 32 29.2 +1.1
baz=114
MCARA McCarthy VSAT 62.93 333 P P 11 32 27.9 -1.5
MCARA McCarthy VSAT 62.93 333 P P 11 32 32.0 +2.5
baz=114
INK Inuvik 62.96 342 P P 11 32 31.3 +1.8
baz=127
BCAR Beaver Creek A 63.13 335 P P 11 32 30.9 +0.1
L27K Beaver Creek, 63.14 335 P P 11 32 30.4 -0.4
L27K Beaver Creek, 63.14 335 P P 11 32 32.1 +1.2
baz=116,SNR=7.0
EGAK Eagle 63.66 337 P P 11 32 34.6 +0.4
EGAK IAmb IAmb 11 32 37.0
comp=Z,7.0nm,1.1s
EGAK Eagle 63.66 337 P P 11 32 35.5 +1.3
baz=118
K27K Chicken 63.67 336 P P 11 32 33.7 -0.6
K27K IAmb IAmb 11 32 37.9
comp=Z,4.1nm,0.9s
K27K Chicken 63.67 336 P P 11 32 35.9 +1.6
baz=116
DOT Dot Lake 64.31 335 P P 11 32 38.3 -0.2
SCRK Sand Creek 64.41 336 P P 11 32 38.6 -0.7
SCRK IAmb IAmb 11 32 42.8
comp=Z,6.9nm,1.3s
SCRK Sand Creek 64.41 336 P P 11 32 39.7 +0.4
baz=114
J26L Joseph Creek 64.46 336 P P 11 32 41.5 +1.9
baz=115
RIDG Independent Ri 64.66 335 P P 11 32 42.3 +1.4
baz=114
J25K Salcha River, 65.22 336 P P 11 32 46.0 +1.5
baz=113,SNR=6.6
PRP Porcupine Dome 65.64 337 P P 11 32 47.1 -0.2
PRP Porcupine Dome 65.64 337 P P 11 32 48.2 +0.9
baz=114,SNR=6.4
HDA Harding Lake 65.77 336 P P 11 32 48.0 0.0
HDA Harding Lake 65.77 336 P P 11 32 48.7 +0.7
baz=112,SNR=6.6
SUMG Summit 65.86 14 eP P 11 32 49.3 +0.4
SUMG IAmb IAmb 11 32 52.7
comp=Z,10nm,1.1s
SUMG Summit 65.86 14 P P 11 32 49.1 +0.1
IL31 65.88 336 P P 11 32 49.2 +0.5
ILAR Eielson Array 65.88 336 P P 11 32 49.3 +0.6
comp=Z,7.9nm,1.0s,baz=114,slow=4.7,SNR=35
ILAR Eielson Array 65.88 336 P P 11 32 47.6 -1.2
BMAR Burnt Mountain 66.09 339 P P 11 32 49.7 -0.3
CCB Clear Creek Bu 66.20 336 P P 11 32 50.9 +0.1
CCB IAmb IAmb 11 32 52.7
comp=Z,4.2nm,1.0s
RND Reindeer 66.21 334 P P 11 32 50.9 0.0
COLA College 66.31 336 P P 11 32 51.5 +0.1
TCOL CIGO, UAF Yank 66.31 336 P P 11 32 51.3 -0.1

MCK	**McKinley**	**66.35**	**335**	P		**P**	**11 32 53.0**	**+1.2**
	baz=110								
MDM	**Murphy Dome**	**66.49**	**336**	P		**P**	**11 32 52.2**	**-0.5**
MDM				IAmb		IAmb	11 32 54.4		
	comp=Z,7.5nm,1.3s								
H24K	**Noodor Dome**	**66.67**	**337**	P		**P**	**11 32 53.2**	**-0.6**
H24K	**Noodor Dome**	**66.67**	**337**	P		**P**	**11 32 54.8**	**+1.0**
	baz=111								
NEA2	**Nenana**	**66.70**	**335**	P		**P**	**11 32 54.2**	**+0.3**
NEA2	**Nenana**	**66.70**	**335**	P		**P**	**11 32 54.6**	**+0.7**
	baz=110,SNR=5.6								
BWN	**Browne**	**66.72**	**335**	P		**P**	**11 32 53.7**	**-0.3**
I23K	**Minto, Yukon-K**	**67.00**	**336**	P		**P**	**11 32 55.7**	**-0.2**
I23K	**Minto, Yukon-K**	**67.00**	**336**	P		**P**	**11 32 56.5**	**+0.6**
	baz=110,SNR=7.4								
H23K	**Yukon River**	**67.30**	**337**	P		**P**	**11 32 57.7**	**-0.1**
H23K	**Yukon River**	**67.30**	**337**	P		**P**	**11 32 59.0**	**+1.2**
	baz=110								
BPAW	**Bear Paw Mtn.**	**67.33**	**335**	P		**P**	**11 32 58.0**	**0.0**
BPAW	**Bear Paw Mtn.**	**67.33**	**335**	P		**P**	**11 32 58.6**	**+0.6**
	baz=108								
MLY	**Manley**	**67.52**	**336**	P		**P**	**11 32 58.8**	**-0.4**
MLY	**Manley**	**67.52**	**336**	P		**P**	**11 32 59.9**	**+0.7**
	baz=108,SNR=7.5								
COLD	**Coldfoot**	**68.03**	**338**	P		**P**	**11 33 02.2**	**-0.1**
COLD	**Coldfoot**	**68.03**	**338**	P		**P**	**11 33 04.5**	**+2.2**
	baz=110,SNR=6.3								
PPT	**Papeete**	**69.20**	**245**	LR		LR	11 56 03.2		
	comp=Z,80nm,18.6s,baz=112,slow=29								
EKA	**Eskdalemuir Ar**	**75.69**	**36**	P		**P**	**11 33 48.2**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=261,slow=4.1,SNR=3.5								
ESDC	**Sonseca Array**	**76.18**	**52**	P		**P**	**11 33 51.7**	**-0.1**
	comp=Z,4.0nm,0.9s,baz=285,slow=4.9,SNR=19								
ESDC				LR		LR	12 02 53.0		
	comp=Z,24nm,20.4s,baz=265,slow=32								
ESDC	**Sonseca Array**	**76.18**	**52**	P		**P**	**11 33 51.0**	**-0.9**
ESDC				IAmb		IAmb	11 33 55.4		
	comp=Z,4.7nm,1.0s								
ESBB	**Sonseca Array**	**76.19**	**52**	P		**P**	**11 33 51.0**	**-0.8**
ESBB				IAmb		IAmb	11 33 55.5		
	comp=Z,5.1nm,0.9s								
KOWA	**Kowa**	**79.75**	**77**	P		**P**	**11 34 10.7**	**-1.3**
KOWA				IAmb		IAmb	11 34 14.9		
	comp=Z,4.9nm,0.8s								
DBIC	**Dimbokro**	**80.48**	**85**	P		**P**	**11 34 15.7**	**-0.3**
	comp=Z,6.4nm,1.1s,baz=314,slow=6.3,SNR=3.6								
DBIC				LR		LR	12 05 40.6		
	comp=Z,41nm,20.0s,baz=322,slow=33								
NOA	**NORSAR Array B**	**82.48**	**29**	P		**P**	**11 34 25.7**	**-0.1**
	comp=Z,1.6nm,0.9s,baz=284,slow=5.1,SNR=4.4								
TORD	**Torodi Ar. Bea**	**85.45**	**78**	P		**P**	**11 34 40.2**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=286,slow=6.2,SNR=9.6								
TORD				LR		LR	12 10 24.2		
	comp=Z,33nm,20.0s,baz=250,slow=34								
NKC	**Novy Kostel**	**85.81**	**39**	*e*P		**P**	**11 34 43.4**	**+0.5**
CLL	**Collm**	**85.87**	**38**	*i* P		**P**	**11 34 42.8**	**-0.3**
	comp=Z,8.0nm,1.3s								
KHC	**Kasperske Hory**	**86.81**	**40**	*e*P		**P**	**11 34 47.7**	**-0.2**
GERES	**GERESS Array B**	**86.97**	**41**	P		**P**	**11 34 48.6**	**-0.1**
	comp=Z,1.8nm,1.1s,baz=275,slow=5.0,SNR=6.8								
KEST	**Kesra**	**87.24**	**54**	P		**P**	**11 34 50.5**	**+0.2**
	comp=Z,2.1nm,0.5s,baz=219,slow=12,SNR=3.1								
KEST	**Kesra**	**87.24**	**54**	P		**P**	**11 34 50.1**	**-0.2**
DPC	**Dobruska-Polom**	**88.16**	**39**	*e*P		**P**	**11 34 56.8**	**+2.4**
AKASG	**Malin Array Be**	**95.59**	**35**	LR		LR	12 17 11.3		
	comp=Z,16nm,20.2s,baz=325,slow=35								
WRA	**Warramunga Arr**	**140.24**	**254**	PKhKP		PKPpre	11 41 26.6		
	comp=Z,0.9nm,0.9s,baz=120,slow=2.9,SNR=5.1								
WRA				PKP		**PKPdf**	**11 41 33.8**	**+0.7**
	comp=Z,2.8nm,1.1s,baz=106,slow=2.5,SNR=5.7								
WRA	**Warramunga Arr**	**140.24**	**254**			**PKPdf**	**11 41 30.4**	**-2.8**
ASAR	**Alice Springs**	**140.26**	**249**	PKhKP		PKPpre	11 41 26.1		
	comp=Z,0.5nm,0.8s,baz=108,slow=2.8,SNR=4.4								
ASAR				PKP		**PKiKP**	**11 41 34.5**	**-1.2**
	comp=Z,1.3nm,0.9s,baz=88,slow=1.9,SNR=7.7								
ASAR	**Alice Springs**	**140.26**	**249**	PKPdf		**PKPdf**	**11 41 30.5**	**-2.7**

IDC ***12*** *11:23:24.9±1.1,54.81N×165.88E,h0km,mb3.5/6, mb1 3.8/6,mb1mx3.4/51,mbtmp3.5/6, Error ellipse: s-maj=38.2km s-min=27.4km az=137.0*

KRSC ***12*** *11:23:27.0±1.9,54.62N×165.82E,h21km±17km, ML4.2*

ISC 12 11:23:29.8±0.9, 54.69N±0.06×166.14E±0.08, h35km, n34, σ1s56/46, mb3.6/6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.53**	**350**	*i* P	Pn	11 23 36.8	-4.0
BKI				*e*S	**Sn**	**11 23 43.0**	**-5.5**
MKZ	**Mys Kozlova**	**2.57**	**269**	*e*P	**Pn**	**11 24 08.5**	**-0.3**
MKZ				*e*S	**Sn**	**11 24 37.4**	**-1.3**
SMKR	**Semkarok**	**3.26**	**308**	*e*P	**Pn**	**11 24 19.4**	**+1.0**
SMKR				*e*S	**Sn**	**11 24 56.2**	**+0.3**
TUMD	**Tumrok D**	**3.35**	**281**	*e*P	**Pn**	**11 24 20.5**	**+0.9**
SRKR	**Sorokina**	**3.44**	**307**	*e*P	**Pn**	**11 24 22.4**	**+1.6**
SRKR				*e*S	**Sn**	**11 25 01.5**	**+1.2**
TUMR	**Tumrok**	**3.50**	**282**	*e*P	**Pn**	**11 24 22.2**	**+0.4**
KMNR	**Kamenistaya**	**3.55**	**290**	*e*P	**Pn**	**11 24 23.2**	**+0.8**
KOZ	**Kozyrevsk**	**3.83**	**294**	*e*P	**Pn**	**11 24 28.4**	**+2.2**
SPN	**Mys Shipunski**	**3.95**	**249**	*e*P	**Pn**	**11 24 27.4**	**-0.5**
SPN				*e*S	**Sn**	**11 25 10.4**	**-2.5**
NLC	**Nalytchevo**	**4.29**	**252**	*e*S	**Sn**	**11 25 19.9**	**-1.4**
SDLR	**Sedlovina**	**4.51**	**255**	*e*P	**Pn**	**11 24 36.7**	**+1.1**
SDLR				*e*S	**Sn**	**11 25 26.3**	**-0.5**
SMAR	**Somma**	**4.56**	**255**	*e*S	**Sn**	**11 25 28.4**	**+0.2**
UGLR	**Uglovaya**	**4.57**	**254**	*e*P	**Pn**	**11 24 37.1**	**+0.7**
KRER	**Koryakskii**	**4.58**	**255**	*e*P	**Pn**	**11 24 37.5**	**+0.9**
AVH	**Avacha**	**4.59**	**255**	*e*P	**Pn**	**11 24 38.0**	**+1.2**
AVH				*e*S	**Sn**	**11 25 27.8**	**-1.1**
KRX	**Arik**	**4.61**	**256**	*e*P	**Pn**	**11 24 38.1**	**+1.0**
KRX				*e*S	**Sn**	**11 25 27.8**	**-1.6**
KOK	**Koryaka**	**4.64**	**256**	*e*P	**Pn**	**11 24 38.8**	**+1.4**
KOK				*e*S	**Sn**	**11 25 29.5**	**-0.6**
DALK	**Dalny**	**4.67**	**252**	*e*P	**Pn**	**11 24 38.5**	**+0.7**
DALK				*e*S	**Sn**	**11 25 29.2**	**-1.5**
PET	**Petropavlovsk**	**4.73**	**252**	*e*P	**Pn**	**11 24 39.4**	**+0.8**
PET				*e*S	**Sn**	**11 25 30.6**	**-1.6**
GNL	**Ganaly**	**4.92**	**262**	*e*P	**Pn**	**11 24 42.4**	**+1.2**
GNL				*e*S	**Sn**	**11 25 36.0**	**-0.8**
RUS	**Russkaya**	**5.08**	**247**	*e*P	**Pn**	**11 24 44.3**	**+1.0**
RUS				*e*S	**Sn**	**11 25 39.8**	**-0.8**
KRMR	**Karymshinskiy**	**5.10**	**252**	*e*P	**Pn**	**11 24 45.3**	**+1.7**
KRMR				*e*S	**Sn**	**11 25 40.8**	**-0.5**
MTVR	**Mutnovka**	**5.23**	**248**	*e*P	**Pn**	**11 24 46.3**	**+0.8**
MTVR				*e*S	**Sn**	**11 25 42.5**	**-2.1**
GRL	**Gorelyy**	**5.25**	**249**	*e*P	**Pn**	**11 24 46.6**	**+0.7**
GRL				*e*S	**Sn**	**11 25 43.7**	**-1.5**
KDTR	**Khodutka, Kamc**	**5.63**	**243**	*e*S	**Sn**	**11 25 50.6**	**-3.7**
ILAR	**Eielson Array**	**25.12**	**48**	P	**P**	**11 28 51.5**	**+0.5**
	0.4nm,0.6s,baz=256,slow=9.1,SNR=5.3						
H11N2	**WAKE ISLAND Hy**	**34.90**	**179**	T	T	12 07 43.9	
	baz=360,slow=76,SNR=55						
H11N3	**WAKE ISLAND Hy**	**34.91**	**179**	T	T	12 07 43.0	
	baz=360,slow=76,SNR=32						
H11N1	**WAKE ISLAND Hy**	**34.92**	**179**	T	T	12 07 43.3	
	baz=360,slow=76,SNR=38						
KURBB	**Kurchatov Arra**	**49.98**	**304**	P	**P**	**11 32 19.8**	**-0.2**
	0.3nm,0.4s,baz=55,slow=8.0,SNR=3.2						
NVAR	**Mina Array Bea**	**51.85**	**75**	P	**P**	**11 32 36.0**	**+1.5**
	0.2nm,0.5s,baz=307,slow=6.2,SNR=1.7						
NOA	**NORSAR Array B**	**62.92**	**347**	P	**P**	**11 33 50.3**	**-1.7**
	0.8nm,0.9s,baz=6.1,slow=5.1,SNR=1.4						
WRA	**Warramunga Arr**	**79.15**	**210**	P	**P**	**11 35 30.6**	**-0.1**
	0.8nm,1.1s,baz=17,slow=4.9,SNR=1.9						
ASAR	**Alice Springs**	**82.80**	**210**	P	**P**	**11 35 51.2**	**+1.2**
	0.5nm,0.8s,baz=13,slow=5.4,SNR=5.3						

TUL ***12*** *11:27:00.6±1.4,35.99N±0.01×97.56W±0.02,h6km±7km, ML2.7,mb_Lg2.8/57(NEIC), Error ellipse: s-maj=2.5km s-min=1.7km az=66.0*

NEIC 12 11:27:00.6±1.4, 36.02N±0.01×97.53W±0.02, h5km±6km, Error ellipse: s-maj=2.6km s-min=1.8km az=70.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.23**	**164**		Pg	11 27 05.0	-0.1
OK029				Sg	Sg	11 27 08.2	+0.2
OK025	**Westminster Rd**	**0.46**	**160**		Pg	11 27 09.5	-0.1
OK025				Sg	Sg	11 27 14.8	-0.8
OK031	**S. Brethren Rd**	**0.56**	**96**		Pg	11 27 12.1	+0.6
OK031				Sg	Sg	11 27 19.1	+0.3
OKCFA	**Oklahoma City**	**0.60**	**174**		Pg	11 27 11.8	-0.5
OKCFA					Sg	11 27 18.8	-1.3
CROK	**Carrier**	**0.61**	**323**		Pg	11 27 12.4	+0.1
CROK					Sg	11 27 20.2	0.0
OKCSW	**OKLAHOMA CITY**	**0.61**	**173**		Pg	11 27 12.1	-0.4
OKCSW					Sg	11 27 20.3	-0.1
QUOK	**Quay**	**0.69**	**77**		Pg	11 27 14.4	+0.6
QUOK					Sg	11 27 19.8	-2.9
FNO	**Franklin**	**0.77**	**172**		Pg	11 27 14.6	-0.7
FNO					Sg	11 27 24.9	-0.3
BLOK	**Blackwell**	**0.79**	**19**		Pb	11 27 16.8	-0.1
BLOK					Sb	11 27 27.3	-0.6
GC02	**Grant County #**	**0.87**	**342**		Pg	11 27 17.5	+0.1
GC02					Sg	11 27 30.3	-0.1
OK032	**Salt Plains WL**	**0.96**	**325**		Pg	11 27 18.8	-0.2
OK032					Sg	11 27 31.6	+0.2
KAN13	**South Haven SW**	**0.99**	**2**		Pg	11 27 19.9	+0.2
KAN13					Sg	11 27 33.4	-0.5
KAN14	**Manchester OK**	**1.00**	**340**		Pg	11 27 19.6	-0.2
KAN14					Sg	11 27 33.7	-0.3
KAN17	**Caldwell West**	**1.04**	**350**		Pg	11 27 20.5	-0.1
KAN17					Sg	11 27 36.5	-0.5
KAN05	**Bluff City Nor**	**1.12**	**346**		Pg	11 27 22.0	-0.2
KAN05					Sg	11 27 36.8	0.0
KS20	**Mayfield South**	**1.21**	**359**		Pg	11 27 23.5	-0.4
KS20					Sg	11 27 39.7	+0.1
T35A	**Sooner Cattle**	**1.22**	**42**		Pg	11 27 23.9	-0.1
T35A					Sg	11 27 40.5	+0.3
U32A	**Winter Ranch,**	**1.24**	**287**		Pg	11 27 23.6	-0.9
U32A					Sg	11 27 39.8	-0.8
KAN12	**Harper NE Stat**	**1.33**	**344**		Pn	11 27 25.5	-0.5
X34A	**Smith Ranch, M**	**1.43**	**190**	Pn	Pn	11 27 26.9	-0.4
WMOK	**Wichita Mounta**	**1.63**	**219**	Pn	Pn	11 27 29.4	-0.7
LOOK	**Love County**	**2.04**	**172**		Pn	11 27 35.8	+0.1
X37A	**Clayton**	**2.27**	**128**	Pn	Pn	11 27 38.9	0.0
U38A	**Gravette**	**2.58**	**80**	Pn	Pn	11 27 42.6	-0.5
U38A				IAmb_Lg		11 28 27.0	
	comp=Z,35nm,0.9s						
R32A	**Long Quarter,**	**2.58**	**339**		Pn	11 27 42.8	-0.4
Z35A	**Perchaven, San**	**2.69**	**175**	Pn	Pn	11 27 44.0	-0.6
HHAR	**Hobbs**	**2.92**	**84**		Pn	11 27 47.9	+0.1
W39A	**Magazine**	**3.16**	**104**		Pn	11 27 51.1	0.0
W39A				IAmb_Lg		11 28 48.3	
	comp=Z,32nm,0.8s						
KSU1	**Kansas State U**	**3.17**	**13**		Pn	11 27 50.6	-0.6
KSU1				IAmb_Lg		11 28 44.6	
	comp=Z,17nm,0.8s						
CBKS	**Cedar Bluff**	**3.30**	**328**		Pn	11 27 52.8	-0.3
CBKS				IAmb_Lg		11 28 49.8	
	comp=Z,13nm,0.7s						
Z38A	**Mt. Pleasant**	**3.46**	**142**		Pn	11 27 55.3	+0.1
Z38A				IAmb_Lg		11 28 54.2	
	comp=Z,15nm,1.0s						
MIAR	**Mount Ida**	**3.55**	**113**	Pn	Pn	11 27 57.9	+1.4
AMTX	**Amarillo**	**3.57**	**253**	Pn	Pn	11 27 56.4	-0.5
S39A	**Bolivar**	**3.77**	**62**	Pn	Pn	11 27 58.8	-0.6
U40A	**Yellville**	**3.80**	**84**		Pn	11 28 00.5	+0.6
U40A				IAmb_Lg		11 29 03.4	
	comp=Z,18nm,0.8s						
ABTX	**Abilene, Hawle**	**3.81**	**208**	Pn	Pn	11 27 59.3	-0.7
ABTX				IAmb_Lg		11 29 06.0	
	comp=Z,24nm,1.0s						
WHTX	**Lake Whitney,**	**4.02**	**179**	Pn	Pn	11 28 04.0	+1.1
X40A	**Basin Creek Fa**	**4.14**	**110**	Pn	Pn	11 28 05.7	+1.2
X40A				IAmb_Lg		11 29 17.5	
	comp=Z,33nm,0.9s						
237A	**Washetta, Mont**	**4.25**	**160**	Pn	Pn	11 28 07.4	+1.2
WLAR	**White Oak Lake**	**4.31**	**121**	IAmb_Lg		11 29 25.9	
	comp=Z,16nm,1.0s						
WHAR	**Wooly Hollow**	**4.33**	**98**	Pn	Pn	11 28 07.9	+0.7
WHAR				IAmb_Lg		11 29 24.3	
	comp=Z,19nm,0.7s						
MGMO	**Mountain Grove**	**4.38**	**73**	Pn	Pn	11 28 08.4	+0.4
MGMO				IAmb_Lg		11 29 26.3	
	comp=Z,15nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.39**	**90**	Pn	Pn	11 28 08.3	+0.3
FCAR				IAmb_Lg		11 29 18.0	
	comp=Z,15nm,0.7s						
MSTX	**Muleshoe**	**4.76**	**246**	Pn	Pn	11 28 11.4	-1.8
MSTX				IAmb_Lg		11 29 39.8	
	comp=Z,13nm,1.0s						
R40A	**Maddies Statio**	**4.78**	**60**	Pn	Pn	11 28 13.4	+0.1
R40A				IAmb_Lg		11 29 40.6	
	comp=Z,13nm,0.9s						
P38A	**Dawn**	**4.80**	**40**		Pn	11 28 14.8	+1.2
P38A				IAmb_Lg		11 29 46.2	
	comp=Z,20nm,0.9s						
KSCO	**Kaye Shedlock'**	**5.03**	**308**		Pn	11 28 16.3	-0.7
KSCO				IAmb_Lg		11 29 53.3	
	comp=Z,9.9nm,0.9s						
N35A	**Tabor**	**5.06**	**16**	Pn	Pn	11 28 15.8	-1.4
LCAR	**Lake Charles**	**5.17**	**88**	Pn	Pn	11 28 19.9	+1.2
LCAR				IAmb_Lg		11 29 54.0	
	comp=Z,10nm,0.8s						
CCAR	**Cane Creek**	**5.17**	**112**	IAmb_Lg		11 29 54.0	
	comp=Z,25nm,0.7s						
435B	**Jarrell**	**5.22**	**181**	Pn	Pn	11 28 17.8	-1.7
435B				IAmb_Lg		11 29 50.7	
	comp=Z,12nm,0.7s						
CCM	**Cathedral Cave**	**5.43**	**66**	Pn	Pn	11 28 22.1	-0.2
P40A	**Paris**	**5.58**	**49**	Pn	Pn	11 28 23.0	-1.4
P40A				IAmb_Lg		11 30 07.1	
	comp=Z,22nm,0.9s						
T25A	**Trinidad**	**5.65**	**283**	IAmb_Lg		11 30 13.0	
	comp=Z,14nm,0.8s						
PBMO	**Poplar Bluff**	**5.78**	**80**	Pn	Pn	11 28 27.7	+0.6
JCT	**Junction City**	**5.84**	**200**	Pn	Pn	11 28 26.8	-1.2
JCT				IAmb_Lg		11 30 17.7	
	comp=Z,18nm,0.8s						
N38A	**Joes South For**	**5.84**	**34**	Pn	Pn	11 28 28.7	+0.7
L34A	**Svendsen Farm,**	**6.01**	**8**	Pn	Pn	11 28 30.1	-0.2
OGNE	**Ogallala**	**6.06**	**326**	Pn	Pn	11 28 32.6	+1.6
SLM	**Saint Louis**	**6.37**	**64**	IAmb_Lg		11 30 22.8	
	comp=Z,12nm,0.8s						
SDCO	**Great Sand Dun**	**6.62**	**287**	IAmb_Lg		11 30 37.4	
	comp=Z,7.4nm,1.0s						
GLAT	**Glass**	**6.68**	**85**	Pn	Pn	11 28 40.2	+0.8
OXF	**Oxford**	**6.81**	**100**	Pn	Pn	11 28 42.4	+1.1
OXF				IAmb_Lg		11 30 45.2	
	comp=Z,17nm,0.9s						
S44A	**Carbondale**	**6.84**	**73**	IAmb_Lg		11 30 58.3	
	comp=Z,16nm,0.8s						
SIUC	**Southern Illin**	**6.88**	**73**	Pn	Pn	11 28 43.2	+1.0
SIUC				IAmb_Lg		11 30 40.0	
	comp=Z,14nm,0.8s						
ANMO	**Albuquerque**	**7.36**	**264**	Pn	Pn	11 28 48.7	-0.3
L40A	**Anamosa**	**7.78**	**37**	Pn	Pn	11 28 54.0	-0.5
L40A				IAmb_Lg		11 31 23.0	
	comp=Z,13nm,0.7s						
PLAL	**Pickwick Lake**	**7.78**	**95**	Pn	Pn	11 28 55.3	+0.7
PLAL				IAmb_Lg		11 31 14.8	
	comp=Z,5.9nm,0.7s						
MNTX	**Cornudas Mount**	**7.82**	**239**	Pn	Pn	11 28 53.8	-1.3
HDIL	**Hopedale**	**7.90**	**53**	Pn	Pn	11 28 57.4	+1.2
F33A	**5 Mile Ranch,**	**9.86**	**5**	IAmb_Lg		11 32 21.5	
	comp=Z,8.8nm,1.2s						

IDC 12 12:00:02.9±55.0, 17.06S×175.40W, h0km, mb3.8/3, mb1 4.0/3,mb1mx3.6/39,mbtmp3.8/3,MS2.7/1,Ms1 2.7/1, ms1mx2.4/34, Error ellipse: s-maj=1032.0km s-min=175.4km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.29**	**263**	LR	LR	12 03 58.9	
	comp=Z,65nm,20.1s,baz=64,slow=38						
STKA	**Stephens Creek**	**41.55**	**241**	P	P	12 07 52.6	+0.2
	0.3nm,0.3s,baz=82,slow=7.1,SNR=3.7						
WRA	**Warramunga Arr**	**47.61**	**258**	P	P	12 08 40.5	-0.6
	0.5nm,0.8s,baz=95,slow=8.1,SNR=17						
ASAR	**Alice Springs**	**47.78**	**253**	P	P	12 08 42.5	+0.1
	1.6nm,0.6s,baz=89,slow=8.2,SNR=31						

INET ***12*** *12:00:24.1,12.95N×86.57W,h14km,MW2.3*

SNET 12 12:00:22.2±1.3, 11.90N×88.33W, h15km±10km, ML3.1, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.45**	**19**	*e*P	Pn	12 00 47.6	-0.5
CNCH				*e*S	Sn	12 01 07.2	+0.2
LCND	**La Caada**	**1.47**	**17**	*e*P	Pn	12 00 47.9	-0.3
LCND				*e*S	Sb	12 01 08.0	+0.3
LCND				*e*S	Sg	12 01 08.6	-1.0
LCND				IAML		12 01 12.3	
	comp=Z,267nm,0.4s						
PACA	**Pacayal**	**1.56**	**0**	*e*P	Pn	12 00 49.9	+0.3
COEB	**Comit de Eme**	**1.60**	**353**	*e*S	Sb	12 01 11.5	-0.2

INET ***12*** *12:06:23.3,12.97N×86.58W,h15km,MW3.9*

SNET 12 12:06:28.1±0.7, 12.60N×86.76W, h20km±23km, ML2.7, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.25**	**303**	*e*S	Sn	12 07 07.5	+0.6
LCND	**La Caada**	**1.31**	**303**	*e*P	Pn	12 06 51.1	-0.2
LCND				*e*S	Sb	12 07 09.4	+0.8
LCND				IAML		12 07 11.5	
	comp=Z,446nm,0.3s						
PACA	**Pacayal**	**1.75**	**300**	*e*P	Pn	12 06 57.6	0.0
PACA				IAML		12 07 27.1	
	comp=Z,22nm,0.3s						
COEB	**Comit de Eme**	**1.94**	**297**	*e*P	Pn	12 07 00.3	+0.1

MAN ***12*** *12:06:57.9,5.33N×125.92E,h80km,mb5.3,ML4.3,MS4.5*

MOS ***12*** *12:06:57.1±1.1,5.44N×125.62E,h112km,mb5.0/18, Error ellipse: s-maj=11.5km s-min=5.8km az=111.4*

IDC ***12*** *12:06:58.8±1.1,5.41N×125.65E,h108km±9km,mb4.5/34, mb1 4.5/37,mb1mx4.4/56,mbtmp4.8/37,MS3.3/16, Ms1 3.4/16,ms1mx3.1/46,Error ellipse: s-maj=13.5km s-min=6.9km az=81.0*

GCMT ***12*** *12:06:58.2±0.4,5.44N±0.03×125.89E±0.03,h122km±5km, MW4.9/64,Moment Tensor Solution. s19,c21; s64,c85; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.92±.12; Mθθ=0.28±.11; Mϕϕ=-2.20±.14; Mrθ=-0.63±.08; Mθϕ=0.37±.15; Mϕr=1.43±.12; Best double couple: M0=2.61400×10^16 NP1:ϕs=184.00000°,δ=28.00000°,λ=110.00000°. NP2: ϕs=341.00000°,δ=64.00000°,λ=80.00000°. Principal axes: T 2.4810, Plg70.0000°, Azm230.0000°; N 0.2700, Plg9.0000°, Azm346.0000°; P -2.7460, Plg18.0000°, Azm79.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***12*** *12:06:59.2±1.4,5.43N±0.06×125.88E±0.05,h105km±4km, mb4.9/92 Error ellipse: s-maj=8.9km s-min=7.0km az=206.0*

DJA ***12*** *12:06:59.0±0.3,6.3N±3.3×12.6E±.7,h101km±3km,M5.0/66, mB5.4/24,mb5.2/66,MLv5.4/12,Mw(mB)4.8/24*

KLM ***12*** *12:07:00.5,37.3N×126.08E,h119km,mb5.0*

ISC 12 12:06:59.4±0.4, 5.44N±0.03×125.92E±0.05, h115km±3km, h117km:pP-P,n407,σ1s89/451,mb4.8/133,69C-29D,Fault plane solution: NP1:ϕs314.21628°,δ66.53983°, λ81.45493°. NP2:ϕs154.89381°,δ24.88504°,λ108.90009°. Principal axes: T Plg67.3630°, Azm208.3746°; N Plg7.8341°, Azm317.6396°; P Plg21.0970°, Azm50.6824°; Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.66**	**348**	P	**Pn**	**12 07 27.0**	**-1.5**
	422nm,0.3s,baz=260,slow=3.3,SNR=16						
DAV				S	**Sn**	**12 07 55.2**	**+4.5**
	854nm,0.3s,baz=132,slow=21,SNR=13						
DAV				LR	LR	12 08 23.0	
	comp=Z,1μm,21.6s,baz=134,slow=51						
DAV	**Davao City (W)**	**1.66**	**348**		**Pn**	**12 07 27.5**	**-1.0**
DAV	**Davao City (W)**	**1.66**	**348**	P	**Pn**	**12 07 29.0**	**+0.5**
KCP	**Kidapawan**	**1.77**	**332**	*i* P	**Pn**	**12 07 30.0**	**+0.1**
KCP				*i* S	**Sn**	**12 07 54.0**	**+0.9**
SGSI	**Sangihe**	**1.78**	**193**	P	**Pn**	**12 07 29.5**	**-0.5**
SGSI				S	**Sn**	**12 07 53.3**	**0.0**
BUKP	**Musuan**	**2.57**	**341**	*e*P	**Pn**	**12 07 40.0**	**-0.1**
BUKP				*e*S	**Sn**	**12 08 13.1**	**+1.7**
BIPH	**Bislig**	**2.77**	**9**	*e*P	**Pn**	**12 07 43.5**	**+1.0**
BIPH				*e*S	**Sn**	**12 08 17.0**	**+1.3**
PAGZ	**Pagadian**	**3.48**	**314**	*i* P	**Pn**	**12 07 51.7**	**-0.3**
DCPH	**Dipolog City**	**4.04**	**321**	*e*P	**Pn**	**12 08 02.5**	**+3.2**
MNI	**Manado**	**4.11**	**195**	P	**Pn**	**12 07 59.9**	**-0.5**
SCPH	**Surigao**	**4.34**	**354**	*i* P	**Pn**	**12 08 05.7**	**+2.2**
SNPH	**Sibulan**	**4.71**	**326**	*e*P	**Pn**	**12 08 06.0**	**-2.5**
MSLP	**Maasin**	**4.79**	**347**	*e*P	**P

TWSI Taliwang, Sumb 16.72 213 P **P** **12 10 49.6 +2.4**
912nm128nm,0.8s
JAY Jayapura 16.75 118 P **P** **12 10 48.2 +0.7**
0.6nm,0.3s,baz=16,slow=4.3,SNR=6.4
JAY LR LR 12 16 54.0
comp=Z,95nm,19.4s,baz=2.0,slow=35
SRBI Singaraja 17.16 219 P Pn 12 11 00.4 +8.1
KMMI Kalianget 17.21 224 P **Pn** **12 10 53.7 +0.8**
156nm,0.8s
JAGI Jajag, Banyuwa 18.13 220 **P** **12 11 02.3 -0.5**
JAGI IAmb IAmb 12 11 08.0
comp=Z,87nm,1.0s
JAGI Jajag, Banyuwa 18.13 220 P **Pn** **12 11 04.2 +0.3**
comp=Z,100nm,1.1s
GRJI Gresik 18.18 228 P **Pn** **12 11 05.8 +1.3**
comp=Z,1µmcomp=Z,107nm,1.2s
GMJI Gumukmas 18.45 223 P **Pn** **12 11 08.9 +1.2**
comp=Z,81nm,1.0s
TPUB Ta-pu 18.48 344 P **P** **12 11 07.0 +0.5**
MTN Manton Dam 18.88 164 P **P** **12 11 10.6 -0.4**
baz=19,SNR=29
MTN Manton Dam 18.88 164 P **P** **12 11 10.6 -0.4**
MTN IAmb IAmb 12 11 12.3
comp=Z,54nm,0.8s
KDU Kakadu 19.14 160 P **P** **12 11 13.9 +0.1**
baz=19,SNR=38
SJI Sawahan 19.25 227 P **Pn** **12 11 19.3 +2.0**
comp=Z,98nm,0.9s
PWJI Pagerwojo 19.42 227 P **Pn** **12 11 22.9 +3.8**
comp=Z,36nm,1.1s
YHNB Yeheng 19.62 348 P **P** **12 11 19.2 +0.2**
GUMO Guam 20.35 65 LR LR 12 19 40.0
comp=Z,56nm,19.4s,baz=226,slow=37
QIZ Qiongzhong 20.70 312 P **P** **12 11 31.2 +0.6**
QIZ S **S** **12 15 18.8 +3.3**
QIZ sS **sS** **12 15 50.4 +0.6**
CTJI Waduk Cacaban 20.78 234 P Pn 12 11 35.1 +0.1
comp=Z,106nm,1.0s
PPBI Pangkal Pinang 21.16 250 P **P** **12 11 39.1 +3.5**
comp=Z,14µmcomp=Z,70nm,1.0s
KNRA Kununurra 21.16 172 P **P** **12 11 35.4 -0.1**
baz=21,SNR=131
KNRA Kununurra 21.16 172 P **P** **12 11 35.5 -0.1**
KPJI Karang Pucung 21.17 233 P **P** **12 11 39.7 +4.0**
comp=Z,74nm,1.0s
JOW Kunigami 21.40 6 P **P** **12 11 38.5 +0.5**
comp=Z,16nm,0.5s,baz=185,slow=14,SNR=7.4
JOW LR LR 12 21 50.3
comp=Z,53nm,18.6s,baz=146,slow=42
JOW Kunigami 21.40 6 P **P** **12 11 37.9 -0.1**
LEM Lembang 21.96 237 LR LR 12 21 46.8
comp=Z,124nm,18.4s,baz=346,slow=41
UBPT Khong Chiam 22.35 298 P **P** **12 11 49.4 +1.3**
comp=Z,46nm,1.2s
UBPT Khong Chiam 22.35 298 P **P** **12 11 49.4 +1.3**
comp=Z,46nm,1.2s
UBPT Khong Chiam 22.35 298 P **P** **12 11 48.0 0.0**
UBPT IAmb IAmb 12 11 52.6
comp=Z,31nm,0.9s
UBPT Khong Chiam 22.35 298 P **P** **12 11 47.5 -0.6**
comp=Z,44nm,1.2s
BTDF Bukit Timah Da 22.47 260 P **P** **12 11 52.6 +3.2**
comp=Z,802nmcomp=Z,89nm,0.9s
SBJI Serang 22.85 240 P **P** **12 11 57.6 +4.5**
comp=Z,178nm,0.9s
BLSI Bandar Lampung 23.27 243 P **P** **12 12 03.5 +6.4**
comp=Z,115nm,0.4s
FITZ Fitzroy Crossi 23.39 181 P **P** **12 11 57.2 -0.8**
baz=24,SNR=182
FITZ Fitzroy Crossi 23.39 181 P **P** **12 11 57.0 -1.0**
comp=Z,49nm,0.6s,baz=5.1,slow=9.1,SNR=220
FITZ ScP **ScP** **12 19 09.5 +0.3**
comp=Z,2.5nm,0.7s,baz=309,slow=15,SNR=2.9
FITZ Fitzroy Crossi 23.39 181 P **P** **12 11 58.3 +0.3**
FITZ IAmb IAmb 12 11 59.6
comp=Z,41nm,0.7s
KLI Kotabumi 23.39 244 P **P** **12 12 00.8 +2.6**
comp=Z,296nm,0.9s
JRMM Jerantut 23.42 267 P **P** **12 12 01.0 +2.6**
MDSI Maura Dua 23.85 246 P **P** **12 12 04.1 +1.8**
comp=Z,99nm,1.0s
KASI Kota Agung 24.00 243 P **P** **12 12 07.2 +3.5**
comp=Z,158nm,0.9s
LWLI Liwa 24.18 245 P **P** **12 12 08.1 +2.7**
comp=Z,3µmcomp=Z,271nm,1.0s
LHSI Lahat 24.19 248 P **P** **12 12 08.6 +3.2**
comp=Z,125nm,0.9s
IPM Ipoh 24.82 269 P **P** **12 12 10.2 +0.8**
KSI Kapahiang 24.99 249 P **P** **12 12 17.3 +4.5**
comp=Z,143nm,1.1s
MASI Maura Aman, Be 25.14 251 P **P** **12 12 17.9 +3.8**
comp=Z,328nm,0.9s
KULM Kulim 25.16 271 P **P** **12 12 16.0 +1.7**
NONG Nongkai 25.55 301 P **P** **12 12 21.7 +4.0**
comp=Z,15nm,1.5s
NONG Nongkai 25.55 301 P **P** **12 12 21.0 +3.3**
comp=Z,15nm,1.5s
CHAI Chaiyaphum 25.69 296 P **P** **12 12 20.4 +1.4**
comp=Z,468nmcomp=Z,48nm,0.8s
CHAI Chaiyaphum 25.69 296 P **P** **12 12 20.4 +1.4**
comp=Z,117nmcomp=Z,12nm,0.8s
COEN Coen 25.77 139 P **P** **12 12 20.4 +0.7**
COEN IAmb IAmb 12 12 24.9
comp=Z,29nm,0.9s
PATY Pattaya 25.81 288 P **P** **12 12 22.7 +2.6**
comp=Z,37nm,0.9s
PATY Pattaya 25.81 288 P **P** **12 12 22.8 +2.6**
comp=Z,9.6nm,0.9s
PDSI Padang 26.20 257 P **P** **12 12 27.1 +3.4**
comp=Z,591nmcomp=Z,55nm,1.3s
JSU Suzuyama 26.28 9 P **P** **12 12 24.3 +0.1**
JSU IAmb IAmb 12 12 41.7
comp=Z,65nm,1.5s
JCJ Chichijima 26.54 34 P **P** **12 12 24.9 -1.6**
comp=Z,56nm,0.5s,baz=70,slow=24,SNR=11
JCJ LR LR 12 20 49.1
comp=Z,53nm,21.2s,baz=174,slow=31
WRAB Tennant Creek 26.54 162⇑ *eP* **P** **12 12 25.7 -0.9**
WRAB pmax pmax
comp=Z,29nm,1.3s
WRAB Tennant Creek 26.54 162 P **P** **12 12 26.3 -0.3**
WRAB IAmb IAmb 12 12 53.6
comp=Z,34nm,1.0s
WRA Warramunga Arr 26.54 162 P **P** **12 12 25.9 -0.7**
comp=Z,11nm,0.7s,baz=335,slow=11,SNR=62
WRA S **S** **12 16 49.6 -3.1**
comp=Z,2.6nm,1.2s,baz=353,slow=14,SNR=3.1
WRA ScP **ScP** **12 19 18.8 +0.7**
comp=Z,0.8nm,0.5s,baz=331,slow=2.0,SNR=8.8
WRA LR LR 12 24 24.0
comp=Z,62nm,21.5s,baz=155,slow=39
WRA Warramunga Arr 26.54 162 P **P** **12 12 26.0 -0.7**
WRA Warramunga Arr 26.54 162 P **P** **12 12 26.5 -0.2**
WB2 Warramunga Arr 26.55 162 P **P** **12 12 26.4 -0.3**
WB2 IAmb IAmb 12 12 53.7
comp=Z,33nm,0.9s
WR0 Warramunga Arr 26.62 162 P **P** **12 12 26.9 -0.4**
WR0 IAmb IAmb 12 12 54.9
comp=Z,18nm,0.7s
MNSI Mandailing Nat 26.70 261 P **P** **12 12 29.1 +1.0**
comp=Z,28nm,1.0s
PHET Kaeng Krachan 26.98 288 P **P** **12 12 34.7 +4.1**
comp=Z,590nmcomp=Z,46nm,0.8s
PHET Kaeng Krachan 26.98 288 P **P** **12 12 34.0 +3.4**
comp=Z,152nmcomp=Z,12nm,0.8s
PSI Prapat 27.05 266 P **P** **12 12 31.0 -0.4**
comp=Z,27nm,0.9s,baz=178,slow=1.3,SNR=12
PSI Prapat 27.05 266 P **P** **12 12 32.4 +1.0**
comp=Z,16nm,0.9s,comp=Z,34nm,0.9s
PSI P **P** **12 12 32.5 +1.0**
comp=Z,16nm,0.9s,comp=Z,34nm,0.9s
NJ2 Nanjing 27.29 347 *eP* **P** **12 12 34.7 +1.5**
NJ2 pmax pmax
comp=Z,14nm,0.5s
PSA00 Pilbara Seismi 27.49 192 P **P** **12 12 34.7 -0.4**
PSA00 Pilbara Seismi 27.49 192 P **P** **12 12 34.0 -1.1**
PSA00 IAmb IAmb 12 12 35.6
comp=Z,36nm,1.0s
SRDT SRDT 27.82 291 P **P** **12 12 43.4 +5.3**
comp=Z,3µmcomp=Z,35nm,1.2s
SRDT SRDT 27.82 291 P **P** **12 12 43.4 +5.3**
comp=Z,3µmcomp=Z,35nm,1.2s
SRDT SRDT 27.82 291 P **P** **12 12 43.4 +5.3**
comp=Z,3µmcomp=Z,33nm,1.2s
UTHA Uthaitani 27.87 293 P **P** **12 12 41.2 +2.6**
comp=Z,326nmcomp=Z,37nm,0.9s
UTHA Uthaitani 27.87 293 P **P** **12 12 41.2 +2.6**
comp=Z,81nmcomp=Z,9.2nm,0.9s
JNU Nakatsue 27.93 9 P **P** **12 12 39.7 +0.8**
comp=Z,8.7nm,0.7s,baz=13,slow=22,SNR=2.7
JNU Nakatsue 27.93 9 P **P** **12 12 39.0 +0.1**
JNU IAmb IAmb 12 12 50.2
comp=Z,16nm,0.9s
GSI Gunungsitoli 28.59 263 P **P** **12 12 45.0 +0.1**
GSI Gunungsitoli 28.59 263 P **P** **12 12 45.1 +0.1**
comp=Z,112nm,0.9s
UMPA Umpang Tak 28.61 294 P **P** **12 12 48.3 +3.1**
comp=Z,4µmcomp=Z,37nm,1.0s
UMPA Umpang Tak 28.61 294 P **P** **12 12 48.0 +2.8**
comp=Z,964nmcomp=Z,9.3nm,1.0s
JMN Monobe 29.11 14 P **P** **12 12 50.3 +0.9**
JMN IAmb IAmb 12 12 53.9
comp=Z,26nm,1.1s
QIS Mount Isa 29.12 153 P **P** **12 12 49.8 +0.2**
baz=29,SNR=18
CM04 Chiang Mai Arr 29.28 298 P **P** **12 12 53.9 +2.8**
comp=Z,66nmcomp=Z,6.7nm,0.9s
CM04 Chiang Mai Arr 29.28 298 P **P** **12 12 53.0 +1.9**
comp=Z,66nmcomp=Z,6.7nm,0.9s
CM09 Chiang Mai Arr 29.29 299 P **P** **12 12 54.7 +3.6**
CM09 Chiang Mai Arr 29.29 299 P **P** **12 12 54.8 +3.6**
CM05 Chiang Mai Arr 29.31 298 P **P** **12 12 55.1 +3.7**
comp=Z,4.4nm,0.9s
CM05 Chiang Mai Arr 29.31 298 P **P** **12 12 55.1 +3.7**
comp=Z,4.4nm,0.9s
CM02 Chiang Mai Arr 29.32 298 P **P** **12 12 54.7 +3.3**
comp=Z,5.8nm,0.8s
CM02 Chiang Mai Arr 29.32 298 P **P** **12 12 54.8 +3.3**
comp=Z,5.8nm,0.8s
CM31 Chiang Mai Arr 29.34 298 P **P** **12 12 54.8 +3.2**
comp=Z,209nm,0.7s
CM31 Chiang Mai Arr 29.34 298 P **P** **12 12 51.2 -0.4**
CMAR Chiang Mai Arr 29.34 298 P **P** **12 12 50.2 -1.4**
comp=Z,2.8nm,0.6s,baz=118,slow=7.6,SNR=15
CMAR PcP **PcP** **12 15 55.8 +0.3**
comp=Z,1.7nm,0.8s,baz=108,slow=0.7,SNR=7.3
CMAR ScP **ScP** **12 19 26.9 +0.1**
comp=Z,0.7nm,0.3s,baz=104,slow=0.1,SNR=7.9
CMAR LR LR 12 25 15.5
comp=Z,90nm,18.2s,baz=134,slow=38
CMAR Chiang Mai Arr 29.34 298 P **P** **12 12 50.8 -0.8**
CMAR PcP **PcP** **12 15 55.6 +0.2**
CM15 Chiang Mai Arr 29.35 298 P **P** **12 12 54.0 +2.3**
comp=Z,8.6nm,0.7s
CM15 Chiang Mai Arr 29.35 298 P **P** **12 12 54.0 +2.3**
comp=Z,8.6nm,0.7s
CM13 Chiang Mai Arr 29.36 298 P **P** **12 12 54.9 +3.2**
comp=Z,4.5nm,0.9s
CM13 Chiang Mai Arr 29.36 298 P **P** **12 12 55.0 +3.2**
comp=Z,4.5nm,0.9s
CMMT Chiang Mai 29.47 299 P **P** **12 12 54.5 +1.7**
comp=Z,393nmcomp=Z,9.3nm,0.9s
CMMT Chiang Mai 29.47 299 P **P** **12 12 54.0 +1.2**
comp=Z,393nmcomp=Z,9.3nm,0.9s
CMMT Chiang Mai 29.47 299 P **P** **12 12 54.5 +1.7**
comp=Z,376nmcomp=Z,8.9nm,0.9s
CHTO Chiang Mai 29.48 299 P **P** **12 12 54.6 +1.8**
comp=Z,9.3nm,0.9s
CHTO Chiang Mai 29.48 299 P **P** **12 12 52.3 -0.5**
CHTO Chiang Mai 29.48 299 P **P** **12 12 54.6 +1.8**
comp=Z,5.2nm,0.9s
KMI Kunming 29.62 314⇑ P **P** **12 12 55.5 +1.2**
KMI pmax pmax
comp=Z,17nm,0.7s
MTSU Mount Surprise 29.63 143 P **P** **12 12 54.7 +0.6**
baz=30,SNR=10
AS31 Alice Springs 29.95 165 P **P** **12 12 56.9 -0.1**
ASAR Alice Springs 29.95 165 P **P** **12 12 56.8 -0.2**
comp=Z,8.2nm,0.6s,baz=345,slow=7.3,SNR=149
ASAR PcP **PcP** **12 15 56.0 -0.9**
comp=Z,3.2nm,0.6s,baz=334,slow=2.9,SNR=7.6
ASAR S **S** **12 17 46.1 -0.2**
comp=Z,2.7nm,1.1s,baz=344,slow=21,SNR=5.9
ASAR ScP **ScP** **12 19 29.2 +0.5**
comp=Z,3.2nm,0.5s,baz=341,slow=2.9,SNR=19
ASAR Alice Springs 29.95 165 P **P** **12 12 57.2 +0.2**
ASAR PcP **PcP** **12 15 57.0 +0.1**
MHMT Maesarieng 30.12 297 P **P** **12 13 01.5 +3.0**
comp=Z,602nmcomp=Z,15nm,0.5s
MHMT Maesarieng 30.12 297 P **P** **12 13 01.5 +3.0**
GIRL Giralia 30.16 202 P **P** **12 12 59.0 +0.3**
baz=30,SNR=3.3
GIRL Giralia 30.16 202 P **P** **12 12 58.6 0.0**
WRKA Warakurna 30.38 176 P **P** **12 13 00.7 0.0**
baz=31,SNR=120
JHJ Hachijo jima 2 30.42 23 LR LR 12 23 04.9
comp=Z,38nm,21.8s,baz=294,slow=32
JWT Wachi 30.96 15 P **P** **12 13 06.3 +0.6**
JWT IAmb IAmb 12 13 07.4
comp=Z,13nm,0.7s
INU Inuyama 31.48 18 P **P** **12 13 10.4 +0.2**
INU IAmb IAmb 12 13 12.1
comp=Z,19nm,0.7s
KSAR Wonju Array Be 31.91 3 P **P** **12 13 14.0 +0.1**
KSRS Korea Array 31.92 3 P **P** **12 13 15.2 +1.1**
comp=Z,7.6nm,0.7s,baz=186,slow=9.6,SNR=32
KSRS PcP **PcP** **12 16 02.6 +0.8**
comp=Z,2.3nm,0.8s,baz=197,slow=3.3,SNR=7.0
KSRS LR LR 12 25 38.3
comp=Z,15nm,21.7s,baz=200,slow=35
KS19 Wonju Array Si 31.97 3 P **P** **12 13 14.7 +0.2**
KS19 IAmb IAmb 12 13 28.7
comp=Z,32nm,1.4s
CTA Charters Tower 32.30 142 P **P** **12 13 19.3 +1.7**
comp=Z,14nm,0.8s,baz=328,slow=12,SNR=9.4
CTAO Charters Tower 32.30 142 P **P** **12 13 17.7 +0.2**
CTAO IAmb IAmb 12 13 20.2
comp=Z,15nm,0.8s
XAN Xi'an 32.54 333 P **P** **12 13 18.0 -1.6**
XAN pmax pmax
comp=Z,17nm,0.6s
MEEK Meekatharra 32.66 192 P **P** **12 13 20.1 -0.6**
baz=33,SNR=22
CD2 Chengdu 32.80 323 P **P** **12 13 22.3 +0.3**
CD2 pmax pmax
comp=Z,40nm,0.8s
MAJO Matsushiro 32.95 18⇑ *eP* **P** **12 13 20.5 -2.6**
MAJO pmax pmax
comp=Z,10.0nm,1.0s
MAJO Matsushiro 32.95 18 P **P** **12 13 22.7 -0.4**
MAT Matsushiro 32.95 18 P **P** **12 13 22.1 -1.0**
MJAR Matsushiro Arr 32.95 18 P **P** **12 13 22.2 -0.9**
comp=Z,7.4nm,0.9s,baz=191,slow=9.2,SNR=23
MJAR Matsushiro Arr 32.95 18 P **P** **12 13 22.7 -0.4**
BJI Beijing 35.55 347 P **P** **12 13 45.1 -0.4**
BJI pmax pmax
comp=Z,19nm,0.8s
MORW Morawa 35.60 195 P **P** **12 13 45.6 -0.4**
baz=36,SNR=5.7
MORW Morawa 35.60 195 P **P** **12 13 45.5 -0.4**
FORT Forrest 36.07 177 P **P** **12 13 50.2 +0.3**
baz=36,SNR=46
FORT Forrest 36.07 177 P **P** **12 13 50.4 +0.4**
QLP Quilpie 36.44 152 P **P** **12 13 53.0 -0.3**
baz=37,SNR=3.5
LZH Lanzhou 36.63 329⇑ P **P** **12 13 55.9 +0.9**
LZH pP pP 12 14 21.0 -0.1
LZH sP sP 12 14 33.6 -0.9
LZH pmax pmax
comp=Z,28nm,1.3s
BLDU Ballidu 36.91 193 P **P** **12 13 56.7 -0.5**
baz=37,SNR=16
HNR Honiara 36.98 113 LR LR 12 29 23.1
comp=Z,45nm,18.3s,baz=291,slow=36
HHC Hu-ho-hao-te 37.54 342 *eP* **P** **12 14 04.5 +2.0**
HHC pmax pmax
comp=Z,30nm,1.0s
HHC pmax pmax
comp=Z,74nm,5.4s
VLA Vladivostok 37.90 7⇓ *eP* **P** **12 14 03.8 -1.5**
VLA pmax pmax
comp=Z,15nm,0.9s
CN2 Changchun 38.21 359 *eP* **P** **12 14 07.9 -0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
SHL Shillong 38.23 305 P **P** **12 14 08.4 -0.3**
MUN Mundaring 38.34 193 P **P** **12 14 09.1 0.0**
baz=38,SNR=6.8
RMQ Roma 38.69 146 P **P** **12 14 12.7 +0.5**
baz=39,SNR=6.5
USA0B Ussuriysk Arra 38.98 7 P **P** **12 14 15.4 +1.0**
USA0B IAmb IAmb 12 14 43.4
comp=Z,8.7nm,0.7s
USRK Ussuriysk Ar. 38.98 7 P **P** **12 14 15.2 +0.9**
comp=Z,5.0nm,0.6s,baz=208,slow=9.1,SNR=11
NWAO Narrogin (SRO) 39.03 192 P **P** **12 14 15.2 +0.2**
baz=39,SNR=18
NWAO Narrogin (SRO) 39.03 192 P **P** **12 14 13.9 -1.1**
comp=Z,21nm,0.6s,baz=26,slow=7.3,SNR=21
NWAO Narrogin (SRO) 39.03 192 P **P** **12 14 15.2 +0.2**
EIDS Eidsvold 39.18 143 P **P** **12 14 16.6 +0.3**
baz=39,SNR=9.4
EIDS Eidsvold 39.18 143 P **P** **12 14 16.8 +0.4**
EIDS IAmb IAmb 12 14 17.9
comp=Z,29nm,0.8s
BBOO Buckleboo 39.23 166 P **P** **12 14 17.2 +0.5**
baz=39,SNR=58
BBOO Buckleboo 39.23 166 P **P** **12 14 17.3 +0.7**
STKA Stephens Creek 40.00 159 P **P** **12 14 23.7 +0.7**
baz=40,SNR=22
STKA Stephens Creek 40.00 159 P **P** **12 14 23.6 +0.7**
comp=Z,44nm,0.8s,baz=335,slow=8.1,SNR=95
STKA PcP **PcP** **12 16 26.3 +0.3**
comp=Z,4.8nm,0.6s,baz=323,slow=5.1,SNR=1.8
STKA ScP **ScP** **12 20 05.8 +1.2**
comp=Z,1.0nm,0.5s,baz=3.5,slow=7.0,SNR=3.0
STKA Stephens Creek 40.00 159 P **P** **12 14 23.5 +0.5**
STKA IAmb IAmb 12 14 25.1
comp=Z,11nm,0.9s
HTT Hallett 40.57 163 P **P** **12 14 28.6 +0.9**
baz=41,SNR=9.1
ASAJ Asahikawa 41.22 18 P **P** **12 14 34.8 +1.9**
comp=Z,7.6nm,0.4s,baz=236,slow=11,SNR=16
ASAJ LR LR 12 30 08.2
comp=Z,39nm,21.9s,baz=149,slow=34
GTA Gaotai 41.23 329⇑ P **P** **12 14 32.6 -0.6**
GTA pP pP 12 14 54.8 -5.0
GTA sP sP 12 15 10.8 -2.2
GTA PcP **PcP** **12 16 30.3 +0.2**
GTA ScP **ScP** **12 20 10.1 +0.6**
GTA ScS **ScS** **12 24 25.2 -0.5**
GTA pmax pmax
comp=Z,7.0nm,1.2s
CMSA Cobar Meteorol 41.32 154 P **P** **12 14 34.5 +0.7**
baz=42,SNR=12
TAPN Taplejung 42.37 305 *eP* **P** **12 14 43.1 +0.2**
comp=Z,20nm,0.5s
ODAN Odare 42.44 304 *eP* **P** **12 14 44.1 +0.7**
RAMN Ramite 43.12 304 *eP* **P** **12 14 49.8 +0.9**
comp=Z,14nm,0.4s
ARMA Armidale 43.33 147 P **P** **12 14 50.9 +0.7**
baz=44,SNR=21
ARMA Armidale 43.33 147 P **P** **12 14 51.0 +0.7**
ARMA IAmb IAmb 12 14 52.5
comp=Z,26nm,0.9s
JIRN Jiri 43.73 305 *eP* **P** **12 14 54.5 +0.5**
comp=Z,50nm,0.7s
YSS Yuzh-Sakhalins 43.84 17⇓ *eP* **P** **12 14 55.2 +1.2**
YSS pmax pmax
comp=Z,87nm,2.0s
YSS Yuzh-Sakhalins 43.84 17 P **P** **12 14 55.0 +1.0**
YSS IAmb IAmb 12 15 20.3
comp=Z,50nm,1.4s
KLR Kul'dur 43.92 6 P **P** **12 14 55.0 +0.3**
comp=Z,5.5nm,0.5s,baz=206,slow=6.1,SNR=12
KLR Kul'dur 43.92 6⇑ *eP* **P** **12 14 55.0 +0.3**
KLR pmax pmax
comp=Z,4.0nm,0.6s
GUN Gumba 44.09 305 *eP* **P** **12 14 57.2 +0.5**
comp=Z,65nm,0.7s
PKI Pulchoki 44.34 304 *eP* **P** **12 14 59.0 +0.2**
PKIN Phulchoki 44.35 304 *eP* **P** **12 14 59.2 +0.4**
KKN Kakani 44.53 305 *eP* **P** **12 15 00.2 +0.1**
comp=Z,17nm,0.5s
ARPS Mount Arapiles 44.55 162 P **P** **12 15 01.0 +1.3**
baz=45,SNR=17
YNG Young 44.86 153 P **P** **12 15 03.2 +0.8**
baz=45,SNR=9.9
ULN Ulaanbaatar 45.26 342⇓ *eP* **P** **12 15 05.2 -0.3**
ULN pmax pmax
comp=Z,17nm,2.5s
ULN Ulaanbaatar 45.26 342 P **P** **12 15 05.2 -0.3**
ULN Ulaanbaatar 45.26 342 P **P** **12 15 05.9 +0.4**
comp=Z,27nm,1.2s
SONM Songino Array 45.44 342 P **P** **12 15 06.1 -0.7**
comp=Z,1.9nm,0.6s,baz=158,slow=8.6,SNR=10.0
SONM PcP **PcP** **12 16 44.3 +0.2**
comp=Z,4.8nm,0.8s,baz=163,slow=2.8,SNR=8.7
SONM ScP **ScP** **12 20 26.0 -0.4**
comp=Z,0.8nm,0.8s,baz=156,slow=4.1,SNR=3.8
SONM LR LR 12 35 10.2
comp=Z,42nm,18.5s,baz=146,slow=37
SONM Songino Array 45.44 342 P **P** **12 15 06.9 0.0**
KOLN Koldanda 45.90 304 *eP* **P** **12 15 11.5 +0.5**
comp=Z,66nm,0.5s
DANN Dangsing 45.98 305 *eP* **P** **12 15 11.9 +0.2**
comp=Z,62nm,0.6s
CAN Canberra 45.99 154 P **P** **12 15 12.7 +1.4**
CNB Canberra Magne 46.14 153 P **P** **12 15 13.4 +0.9**
baz=46,SNR=23
TOO Toolangi 46.51 158 P **P** **12 15 16.4 +1.1**
baz=47,SNR=10.0
TOO Toolangi 46.51 158 P **P** **12 15 16.3 +1.1**
TOO IAmb IAmb 12 15 18.3
comp=Z,22nm,0.9s
PYUN Piuthan 46.52 304 *eP* **P** **12 15 16.7 +0.8**
comp=Z,44nm,0.4s
ZEA Zeya 48.17 1 *eP* **P** **12 15 29.4 +1.5**
DZM Mont Dzumac 48.18 126 P **P** **12 15 30.4 +1.8**
comp=Z,9.7nm,0.6s,baz=278,slow=12,SNR=9.0
DZM Mont Dzumac 48.18 126 P **P** **12 15 28.6 0.0**
DZM IAmb IAmb 12 15 35.1
comp=Z,22nm,1.0s
WMQ Urumqi 50.88 325 *eP* **P** **12 15 51.1 +2.4**
WMQ LR LR
comp=Z,740nm,23.1s
WMQ LR LR
comp=Z,530nm,20.3s
WMQ LR LR
comp=Z,110nm,28.8s
PEA0B Petropavlovsk- 54.17 23 P **P** **12 16 12.9 +0.1**
PETK Petropavlovsk- 54.17 23 P **P** **12 16 13.8 +1.0**
comp=Z,7.6nm,0.7s,baz=196,slow=1.8,SNR=14
PETK Petropavlovsk- 54.17 23 P **P** **12 16 13.2 +0.4**
ZSN Zaisan 54.65 327 *eP* **P** **12 16 14.8 -1.6**
baz=327
ZSN Zaisan 54.65 327 *eP* **P** **12 16 14.7 -1.6**
DGZ Jazzator, Alta 54.72 330 *deP* **P** **12 16 16.6 -0.4**
DGZ pmax pmax
comp=Z,13nm,1.3s
SHLS Shalkode 55.53 320 *eP* **P** **12 16 20.2 -2.8**
baz=320
SHLS Shalkode 55.53 320 *eP* **P** **12 16 20.1 -2.8**
PDGK Podgornoye 55.59 320 P **P** **12 16 22.5 -0.9**
MK31 Makanchi Array 55.70 325 *cP* **P** **12 16 22.8 -1.1**
MK31 Makanchi Array 55.70 325 P **P** **12 16 23.3 -0.7**
MK31 IAmb IAmb 12 16 23.9
comp=Z,12nm,0.7s
MKAR Makanchi Array 55.70 325 P **P** **12 16 23.2 -0.8**
comp=Z,15nm,0.5s,baz=123,slow=8.2,SNR=184
MKAR ScP **ScP** **12 21 09.1 -1.4**
comp=Z,1.2nm,0.7s,baz=121,slow=4.7,SNR=5.4
MKAR Makanchi Array 55.70 325 P **P** **12 16 23.7 -0.2**
UZB Uzynbulak 55.81 320 *eP* **P** **12 16 23.2 -1.7**
baz=320
UZB Uzynbulak 55.81 320 *eP* **P** **12 16 23.2 -1.7**
MAKZ Makanchi 55.89 325 P **P** **12 16 23.6 -1.6**
MAKZ Makanchi 55.89 325 P **P** **12 16 24.6 -0.7**
MAKZ IAmb IAmb 12 16 25.2
comp=Z,16nm,0.8s
SATY Saty 56.16 319 *eP* **P** **12 16 25.7 -1.8**
baz=320
SATY Saty 56.16 319 *eP* **P** **12 16 25.6 -1.8**
KPKS Kokpek 56.18 320 *eP* **P** **12 16 25.0 -2.4**
baz=320
KPKS Kokpek 56.18 320 *eP* **P** **12 16 25.0 -2.4**
NIL Nilore 56.26 307 P **P** **12 16 28.1 0.0**
NIL IAmb IAmb 12 16 44.3
comp=Z,11nm,0.8s
KSH Kashi 56.28 315 P **P** **12 16 29.4 +1.1**
KSH pP pP 12 16 55.3 -0.9
KSH sP sP 12 17 08.3 -0.7
KSH PcP **PcP** **12 17 25.1 +0.6**
KSH pmax pmax
comp=Z,9.0nm,0.6s
KSH pmax pmax
comp=Z,200nm,6.0s
MSVF Nonsavu 56.36 115 P **P** **12 16 32.3 +3.2**
comp=Z,10nm,0.9s,baz=259,slow=6.2,SNR=4.4

YAK	**Yakutsk**	**56.54**	**2**	P		**P**	**12 16 30.3**	**+0.7**	
	comp=Z,11nm,0.3s,baz=322,slow=0.7,SNR=6.0								
YAK	**Yakutsk**	**56.54**	**2**	*e*P		**P**	**12 16 30.0**	**+0.5**	
YAK				*e**PP		**pP**	**12 16 53.3**	**-3.0**	
YAK				*e*			12 17 21.7		
YAK				*e*			12 18 37.5		
YAK				*e*PPP	PPP		12 19 54.3		
YAK				*e*S	**S**		**12 24 14.5**	**+2.5**	
YAK				*e*			12 26 09.5		
YAK				*e*SS	**SS**		**12 28 06.6**	**+5.5**	
YAK				pmax	pmax				
	comp=N,3.0nm,0.6s								
YAK				pmax	pmax				
	comp=Z,20nm,0.6s								
YAK				pmax	pmax				
	comp=E,1.0nm,0.5s								
YAK				pmax	pmax				
	comp=Z,39nm,1.8s								
YAK				pmax	pmax				
	comp=N,18nm,1.9s								
YAK				pmax	pmax				
	comp=E,25nm,1.9s								
YAK				smax	smax				
	comp=N,83nm,2.8s								
YAK				smax	smax				
	comp=E,37nm,2.4s								
KDJ	**Kajisay**	**56.55**	**318**	P		**P**	**12 16 30.3**	**+0.1**	
MDOK	**Medeo**	**57.09**	**319**	*e*P		**P**	**12 16 32.9**	**-1.1**	
	baz=319								
MDOK	**Medeo**	**57.09**	**319**	*e*P		**P**	**12 16 32.9**	**-1.1**	
MA2	**Magadan**	**57.26**	**15**	P		**P**	**12 16 35.9**	**+1.2**	
	comp=E,5.2nm,0.6s,baz=222,slow=5.5,SNR=4.8								
MA2	**Magadan**	**57.26**	**15**	P		**P**	**12 16 35.2**	**+0.5**	
CHKK	**Chushkaly**	**57.45**	**320**	*e*P		**P**	**12 16 34.5**	**-1.9**	
	baz=320								
MTBS	**Maitube**	**57.49**	**319**	*e*P		**P**	**12 16 34.0**	**-2.7**	
	baz=319								
BOOM	**Boomskoye usch**	**57.53**	**318**	P		**P**	**12 16 36.9**	**-0.3**	
KUU	**Kurty**	**57.88**	**319**	*e*P		**P**	**12 16 37.7**	**-1.7**	
	baz=320								
KUU	**Kurty**	**57.88**	**319**	*e*P		**P**	**12 16 37.6**	**-1.7**	
TKM2	**Tokmak 2**	**57.95**	**318**	P		**P**	**12 16 39.5**	**-0.6**	
AAK	**Ala-Archa**	**58.56**	**317**	P		**P**	**12 16 43.9**	**-0.5**	
	comp=E,1.2nm,0.3s,baz=185,slow=9.9,SNR=7.5								
AAK	**Ala-Archa**	**58.56**	**317**	P		**P**	**12 16 44.2**	**-0.1**	
ZAA0	**Zalesovo Array**	**58.71**	**333**	P		**P**	**12 16 43.1**	**-1.8**	
ZAA0				IAmb	IAmb		12 16 43.4		
	comp=Z,5.9nm,0.5s								
ZALV	**Zalesovo Beam**	**58.71**	**333**	P		**P**	**12 16 43.1**	**-1.8**	
	comp=Z,7.6nm,0.4s,baz=118,slow=6.5,SNR=23								
ZALV				PcP		**PcP**	**12 17 32.8**	**-0.7**	
	comp=Z,1.4nm,0.4s,baz=129,slow=7.1,SNR=1.7								
ZALV	**Zalesovo Beam**	**58.71**	**333**	P		**P**	**12 16 43.3**	**-1.6**	
SGDS	**Sogindy**	**58.81**	**318**	*e*P		**P**	**12 16 43.4**	**-2.5**	
	baz=318								
BTLS	**Baital**	**59.86**	**320**	*e*P		**P**	**12 16 51.3**	**-1.7**	
	baz=320								
BTLS	**Baital**	**59.86**	**320**	*e*P		**P**	**12 16 51.3**	**-1.7**	
GAR	**Garm**	**60.19**	**312**	P		**P**	**12 16 54.5**	**-1.0**	
SEY	**Seymchan**	**60.57**	**14**	P		**P**	**12 16 58.9**	**+1.5**	
	comp=Z,1.9nm,0.3s,baz=16,slow=1.6,SNR=12								
CHGR	**Chuyangaron**	**60.94**	**311**	P		**P**	**12 17 00.7**	**+0.1**	
CHGR				IAmb	IAmb		12 17 01.8		
	comp=Z,7.9nm,0.6s								
IUG	**Iuzhnay**	**61.44**	**315**	*e*P		**P**	**12 17 03.2**	**-0.8**	
	baz=316								
IUG	**Iuzhnay**	**61.44**	**315**	*e*P		**P**	**12 17 03.1**	**-0.8**	
KK31	**Karatay Array**	**61.45**	**317**	*i* P		**P**	**12 17 02.8**	**-1.0**	
KK31	**Karatay Array**	**61.45**	**317**	P		**P**	**12 17 03.1**	**-0.7**	
KKAR	**Karatay Array**	**61.45**	**317**	P		**P**	**12 17 03.3**	**-0.5**	
BRZS	**Berezniki**	**62.84**	**324**	*e*P		**P**	**12 17 10.2**	**-2.8**	
	baz=324								
BRZS	**Berezniki**	**62.84**	**324**	*e*P		**P**	**12 17 10.2**	**-2.8**	
THZ	**Tophouse**	**63.53**	**142**	P		**P**	**12 17 18.7**	**+0.9**	
LBZ	**Lake Benmore**	**63.54**	**146**	P		**P**	**12 17 18.5**	**+0.8**	
LTZ	**Lake Taylor**	**63.75**	**144**	P		**P**	**12 17 19.7**	**+0.5**	
LTZ				IAmb	IAmb		12 17 20.7		
	comp=Z,32nm,1.4s								
BKZ	**Black Stump Fm**	**64.38**	**138**	P		**P**	**12 17 23.4**	**+0.1**	
BRVK	**Borovoye**	**65.53**	**327**	*i* P		**P**	**12 17 29.2**	**-1.3**	
BRVK				pmax	pmax				
	comp=Z,20nm,1.3s								
BRVK	**Borovoye**	**65.53**	**327**	P		**P**	**12 17 29.6**	**-0.9**	
BRVK				IAmb	IAmb		12 17 30.7		
	comp=Z,22nm,1.2s								
TIXI	**Tiksi**	**66.16**	**1**	P		**P**	**12 17 34.3**	**+0.1**	
	comp=Z,7.8nm,0.4s,baz=158,slow=5.4,SNR=12								
TIXI	**Tiksi**	**66.16**	**1**	*e*P		**P**	**12 17 34.8**	**+0.7**	
TIXI	**Tiksi**	**66.16**	**1**	P		**P**	**12 17 34.1**	**-0.1**	
TIXI				IAmb	IAmb		12 17 35.6		
	comp=Z,22nm,1.1s								
ATKA	**Atka Island**	**67.57**	**35**	P		**P**	**12 17 43.9**	**+0.4**	
NRIK	**Noril'sk**	**68.59**	**346**	P		**P**	**12 17 49.1**	**-0.4**	
	comp=Z,21nm,0.6s,baz=124,slow=6.6,SNR=23								
NRIK	**Noril'sk**	**68.59**	**346**	*ce*P		**P**	**12 17 48.9**	**-0.6**	
NRIK				pmax	pmax				
	comp=Z,21nm,0.6s								
NRIK	**Noril'sk**	**68.59**	**346**	P		**P**	**12 17 49.5**	**0.0**	
AB31	**Akbulak array**	**70.33**	**321**	P		**P**	**12 17 59.0**	**-1.6**	
ABKAR	**Akbulak array**	**70.33**	**321**	P		**P**	**12 17 59.2**	**-1.4**	
ABKAR	**Akbulak array**	**70.33**	**321**	P		**P**	**12 17 59.7**	**-0.9**	
ABKAR				IAmb	IAmb		12 18 00.8		
	comp=Z,5.1nm,0.7s								
CASY	**Casey**	**72.41**	**186**	P		**P**	**12 18 13.5**	**+0.9**	
CASY				IAmb	IAmb		12 18 14.4		
	comp=Z,27nm,0.9s								
ARU	**Arti**	**73.07**	**328**	*c i*P		**P**	**12 18 15.0**	**-1.9**	
ARU				S	**S**		**12 27 35.4**	**+0.5**	
ARU				pmax	pmax				
	comp=Z,10.0nm,0.5s								
ARU	**Arti**	**73.07**	**328**	P		**P**	**12 18 15.9**	**-0.9**	
KIRV	**Kirov**	**78.36**	**329**	||*e*P		**P**	**12 18 45.6**	**-1.3**	
M20K	**Styx River**	**80.96**	**28**	P		**P**	**12 19 02.8**	**+1.7**	
M20K				IAmb	IAmb		12 19 29.7		
	comp=Z,18nm,0.8s								
IMAR	**Indian Mountai**	**81.12**	**24**	P		**P**	**12 19 02.5**	**+0.8**	
KIV	**Kislovodsk**	**81.39**	**314**	*e*P		**P**	**12 19 00.8**	**-2.9**	
KIV				pmax	pmax				
	comp=Z,12nm,1.0s								
SKT	**Skwentna**	**81.72**	**28**	P		**P**	**12 19 05.9**	**+0.9**	
I21K	**Tanana**	**81.77**	**25**	P		**P**	**12 19 05.0**	**-0.2**	
I21K				IAmb	IAmb		12 19 34.4		
	comp=Z,9.2nm,0.8s								
VOI	**Vohitsoka**	**81.98**	**247**	P		**P**	**12 19 06.4**	**-0.9**	
VOI				IAmb	IAmb		12 19 07.5		
	comp=Z,37nm,1.1s								
KTH	**Kantishna Hill**	**82.11**	**27**	P		**P**	**12 19 06.9**	**-0.2**	
MLY	**Manley**	**82.29**	**25**	P		**P**	**12 19 09.6**	**+1.6**	
MLY				IAmb	IAmb		12 19 10.9		
	comp=Z,13nm,1.3s								
PMR	**Palmer**	**82.84**	**29**	P		**P**	**12 19 11.1**	**+0.3**	
PMR				IAmb	IAmb		12 19 37.3		
	comp=Z,12nm,1.0s								
I23K	**Minto, Yukon-K**	**82.88**	**25**	P		**P**	**12 19 12.4**	**+1.6**	
I23K				IAmb	IAmb		12 19 13.5		
	comp=Z,10nm,0.7s								
NEA2	**Nenana**	**82.98**	**26**	P		**P**	**12 19 12.3**	**+0.8**	
NEA2				IAmb	IAmb		12 19 39.9		
	comp=Z,10nm,1.0s								
MCK	**McKinley**	**83.01**	**27**	P		**P**	**12 19 12.0**	**+0.4**	
MCK				IAmb	IAmb		12 19 37.8		
	comp=Z,10nm,0.9s								
PWL	**Port Wells**	**83.21**	**29**	P		**P**	**12 19 12.6**	**-0.2**	
MDM	**Murphy Dome**	**83.35**	**25**	P		**P**	**12 19 15.0**	**+1.6**	
MDM				IAmb	IAmb		12 19 44.1		
	comp=Z,14nm,1.0s								
WRH	**Wood River Hil**	**83.40**	**26**	P		**P**	**12 19 13.8**	**+0.1**	
WRH				IAmb	IAmb		12 19 41.0		
	comp=Z,9.7nm,1.1s								
TCOL	**CIGO, UAF Yank**	**83.50**	**25**	P		**P**	**12 19 13.9**	**-0.2**	
KLMR	**Klimovskoe**	**83.53**	**331**	*e*P		**P**	**12 19 12.2**	**-2.1**	
KLMR				pmax	pmax				
	comp=Z,20nm,1.3s								
KLMR	**Klimovskoe**	**83.53**	**331**	*e*P		**P**	**12 19 12.2**	**-2.1**	
KLMR				AMP			12 19 13.8		
	comp=Z,20nm,1.3s								
SOC	**Sochi**	**83.54**	**313**	*e*P		**P**	**12 19 10.7**	**-4.1**	
SOC				*e**PP		**pP**	**12 19 39.3**	**-4.5**	
SOC				*e*			12 22 23.1		
SOC				*e*PPP	PPP		12 24 16.6		
SOC				*e*S	**S**		**12 29 21.8**	**-5.5**	
SOC				*e**SS		**pS**	**12 30 09.7**	**+5.3**	
SOC				*e*SS		**SS**	**12 34 51.9**	**-3.9**	
SOC				*e*SSS	SSS		12 38 24.4		
SOC					pmax	pmax			
	comp=Z,9.0nm,0.7s								
POKR	**Poker Plat Res**	**83.69**	**25**	P		**P**	**12 19 15.8**	**+0.7**	
POKR				IAmb	IAmb		12 19 17.8		
	comp=Z,7.5nm,0.8s								
DHY	**Denali Highway**	**83.69**	**27**	P		**P**	**12 19 15.3**	**-0.1**	
HDA	**Harding Lake**	**83.89**	**26**	P		**P**	**12 19 16.1**	**-0.1**	
HDA				IAmb	IAmb		12 19 17.1		
	comp=Z,7.6nm,0.7s								
IL31		**83.92**	**25**	P		**P**	**12 19 16.9**	**+0.7**	
ILAR	**Eielson Array**	**83.92**	**25**	P		**P**	**12 19 15.7**	**-0.6**	
	comp=Z,2.3nm,0.6s,baz=246,slow=5.0,SNR=9.8								
ILAR	**Eielson Array**	**83.92**	**25**	P		**P**	**12 19 17.1**	**+0.8**	
PAX	**Paxson**	**84.56**	**27**	P		**P**	**12 19 19.3**	**-0.4**	
FYU	**Fort Yukon**	**84.59**	**24**	P		**P**	**12 19 20.7**	**+1.1**	
BMAR	**Burnt Mountain**	**84.83**	**23**	P		**P**	**12 19 23.1**	**+2.3**	
MAW	**Mawson**	**85.07**	**200**	P		**P**	**12 19 22.5**	**+0.7**	
	baz=85,SNR=6.8								
MAW	**Mawson**	**85.07**	**200**	P		**P**	**12 19 21.4**	**-0.4**	
	comp=Z,9.0nm,0.9s,baz=51,slow=5.9,SNR=12								
MAW	**Mawson**	**85.07**	**200**	P		**P**	**12 19 21.8**	**0.0**	
VNDA	**Vanda**	**85.21**	**173**	P		**P**	**12 19 22.9**	**+0.5**	
	comp=Z,4.7nm,0.6s,baz=319,slow=6.0,SNR=24								
VNDA	**Vanda**	**85.21**	**173**	P		**P**	**12 19 23.0**	**+0.5**	
VNDA				IAmb	IAmb		12 19 23.4		
	comp=Z,5.8nm,0.7s								
OBN	**Obninsk**	**85.21**	**325**	||*eP*		**P**	**12 19 22.1**	**-0.8**
OBN				*e*			12 22 45.3		
OBN				pmax	pmax				
	comp=Z,8.0nm,0.6s								
LVZ	**Lovozero**	**85.48**	**338**	||*eP*		**P**	**12 19 23.4**	**-0.7**
LVZ				pmax	pmax				
	comp=Z,21nm,1.3s								
APA	**Apatity**	**85.98**	**337**	||*iP*		**P**	**12 19 25.3**	**-1.2**
APA				pmax	pmax				
	comp=Z,4.0nm,0.8s								
APA				MLR	MLR				
	comp=Z,300nm,22.0s								
PPT	**Papeete**	**86.40**	**108**	LR	LR		12 51 33.1		
	comp=Z,49nm,19.8s,baz=352,slow=31								
BRTR	**Keskin Array B**	**88.32**	**310**	P		**P**	**12 19 37.7**	**-0.9**	
	comp=Z,0.8nm,0.4s,baz=143,slow=40,SNR=2.5								
BRTR				LR	LR		13 04 59.1		
	comp=Z,32nm,18.9s,baz=18,slow=40								
ARA0	**ARCESS Array S**	**88.58**	**340**	*e*P		**P**	**12 19 37.6**	**-1.4**	
ARCES	**ARCESS Array B**	**88.58**	**340**	P		**P**	**12 19 38.0**	**-1.0**	
	comp=Z,2.9nm,0.5s,baz=83,slow=6.1,SNR=33								
ARCES	**ARCESS Array B**	**88.58**	**340**	P		**P**	**12 19 38.0**	**-1.0**	
SPA0	**Spitsbergen Ar**	**88.66**	**349**	*e*P		**P**	**12 19 38.8**	**-0.5**	
SPITS	**Spitsbergen Ar**	**88.66**	**349**	P		**P**	**12 19 39.0**	**-0.3**	
	baz=94,slow=9.1								
SPITS	**Spitsbergen Ar**	**88.66**	**349**	P		**P**	**12 19 39.0**	**-0.3**	
HAMF	**Hammerfest**	**88.95**	**341**	*e*P		**P**	**12 19 39.3**	**-1.4**	
KTK1	**Kautokeino**	**89.48**	**339**	*e*P		**P**	**12 19 41.8**	**-1.4**	
FINES	**FINESS Array B**	**89.96**	**332**	P		**P**	**12 19 44.1**	**-1.5**	
	comp=Z,2.8nm,0.6s,baz=61,slow=5.2,SNR=16								
FINES	**FINESS Array B**	**89.96**	**332**	P		**P**	**12 19 43.6**	**-1.9**	
MNK	**Minsk**	**90.27**	**325**	*i* P		**P**	**12 19 43.2**	**-4.0**	
MNK				*i* *PP		**pP**	**12 20 11.8**	**-4.6**	
MNK				*i*			12 23 17.7		
MNK				*i* PPP	PPP		12 25 15.3		
MNK				*i* S		**SKSac**	**12 30 03.2**	**-4.5**	
MNK				*i* SS		**SS**	**12 36 29.6**	**-3.8**	
MNK				*i* SSS	SSS		12 40 06.6		
MNK				pmax	pmax				
	comp=N,21nm,0.9s								
MNK				pmax	pmax				
	comp=Z,8.0nm,0.9s								
MNK				pmax	pmax				
	comp=E,3.0nm,0.9s								
MNK				MLR	MLR				
	comp=Z,428nm,27.0s								
MNK				MLR	MLR				
	comp=N,346nm,25.0s								
MNK				MLR	MLR				
	comp=E,47nm,28.0s								
MNK	**Minsk**	**90.27**	**325**	*i* P		**P**	**12 19 43.2**	**-4.0**	
	comp=E,3.0nm,0.9s								
MNK				*i* P		**P**	**12 19 43.2**	**-4.0**	
	comp=N,21nm,0.9s								
MNK				*i* P		**P**	**12 19 43.2**	**-4.0**	
	comp=Z,8.0nm,0.9s,baz=259								
MNK				*i* pP		**pP**	**12 20 11.9**	**-4.5**	
MNK				*i* PP		**PP**	**12 23 17.7**	**-4.7**	
MNK				*i* PPP	PPP		12 25 15.3		
MNK				*i* S		**SKSac**	**12 30 03.3**	**-4.4**	
MNK				*i* sS	pS		12 30 55.3	-15	
MNK				*i* SS		**SS**	**12 36 29.6**	**-3.8**	
MNK				*i* SSS	SSS		12 40 06.6		
MNK				*i* LRM	MLR		13 00 35.1		
	comp=Z,428nm,26.8s								
MNK				*i* LRM	MLR		13 00 44.5		
	comp=N,346nm,24.6s								
MNK				*i* LRM	MLR		13 01 02.6		
	comp=E,47nm,27.5s								
JETT	**Jettan, Norway**	**90.31**	**340**	*e*P		**P**	**12 19 46.8**	**-0.3**	
TRO	**Tromso**	**90.79**	**340**	*e*P		**P**	**12 19 48.2**	**-1.1**	
STEI	**Steigen**	**92.62**	**339**	*e*P		**P**	**12 19 56.2**	**-1.6**	
FAUS	**Fauske**	**92.81**	**339**	*e*			12 30 31.0		
LOF	**Lofoten**	**93.14**	**340**	*e*P		**P**	**12 19 58.9**	**-1.3**	
MOR8	**Moi Rana**	**93.56**	**338**	*e*P		**P**	**12 20 00.1**	**-2.1**	
NSS	**Namsos**	**95.16**	**337**	*e*P		**P**	**12 20 07.4**	**-2.1**	
GZR	**Gura Zlata**	**95.32**	**316**	||P		**PKKPdf**	**12 37 01.5**	**-2.9**
BZS	**Buzias**	**96.06**	**317**	||P		**PKKPdf**	**12 37 02.5**	**-0.5**
TIM	**Timisoara**	**96.30**	**317**	||P		**PKKPdf**	**12 37 06.4**	**+3.9**
NB2	**NORSAR Subarra**	**96.91**	**334**	P		**P**	**12 20 15.4**	**-2.2**	
	comp=Z,3.0nm,0.8s,baz=66,slow=4.6								
NOA	**NORSAR Array B**	**96.91**	**334**	P		**P**	**12 20 15.3**	**-2.3**	
	comp=Z,1.6nm,0.6s,baz=66,slow=4.5,SNR=9.4								
NOA				LR	LR		13 06 43.7		
	comp=Z,29nm,19.7s,baz=30,slow=37								
ODD1	**Odda**	**99.45**	**334**	*e*Pdif		**Pdif**	**12 20 29.5**	**+0.5**	
BLS5	**Blasjo**	**99.76**	**333**	*e*Pdif		**Pdif**	**12 20 28.7**	**-1.7**	
SNART	**Snartemo**	**99.92**	**332**	*e*Pdif		**Pdif**	**12 20 27.5**	**-3.6**	
NVAR	**Mina Array Bea**	**106.37**	**47**	PKKPbc	PKKPbc		12 36 32.2	-0.9	
	comp=Z,0.5nm,0.8s,baz=170,slow=4.4,SNR=4.1								
VNA2	**Neumayer--Watz**	**108.26**	**195**	PKiKP		**PKiKP**	**12 25 13.6**	**0.0**	
PDAR	**Pinedale Array**	**110.60**	**40**	PKKPbc	PKKPbc		12 36 16.5	-3.4	
	comp=Z,0.3nm,0.5s,baz=133,slow=6.5,SNR=2.4								
PDAR				PKKPab		**PKKPab**	**12 36 28.1**	**-2.4**	
	comp=Z,0.3nm,0.4s,baz=114,slow=7.3,SNR=4.9								
TXAR	**Lajitas Array**	**121.18**	**51**	PKP		**PKiKP**	**12 25 40.5**	**+0.8**	
	comp=Z,0.5nm,0.6s,baz=298,slow=1.9,SNR=6.1								
TXAR				PKKPbc		**PKKPbc**	**12 35 41.2**	**-1.2**	
	comp=Z,0.3nm,0.7s,baz=120,slow=4.8,SNR=5.7								
TXAR	**Lajitas Array**	**121.18**	**51**			**PKiKP**	**12 25 41.0**	**+1.3**	
TORD	**Torodi Ar. Bea**	**121.62**	**289**	PKP		**PKPdf**	**12 25 39.8**	**-0.9**	
	comp=Z,2.1nm,0.5s,baz=42,slow=2.1,SNR=15								
TORD	**Torodi Ar. Bea**	**121.62**	**289**			**PKPdf**	**12 25 39.1**	**-1.5**	
KIC	**Kosan Boka**	**129.38**	**283**	*e*PKIKP		**PKiKP**	**12 25 56.6**	**+0.3**	
	comp=Z,6.5nm,0.5s								
DBIC	**Dimbokro**	**129.42**	**283**	PKP		**PKPdf**	**12 25 55.4**	**-0.2**	
	comp=Z,1.6nm,0.5s,baz=52,slow=5.0,SNR=6.0								
DBIC	**Dimbokro**	**129.42**	**283**			**PKPdf**	**12 25 54.7**	**-1.0**	
TIC	**Toumodi**	**129.59**	**283**	*e*PKIKP		**PKiKP**	**12 25 56.9**	**+0.2**	
LIC	**Lamto**	**129.68**	**283**	*e*PKIKP		**PKPdf**	**12 25 56.1**	**0.0**	
	comp=Z,9.1nm,0.4s								
CPUP	**Villa Florida**	**158.99**	**172**	PKP		**PKPdf**	**12 26 44.9**	**+0.3**	
	comp=Z,2.7nm,0.7s,baz=127,slow=3.3,SNR=4.3								
CPUP				PKPab		**PKPab**	**12 27 22.4**	**+1.2**	
	comp=Z,6.2nm,0.9s,baz=147,slow=4.0,SNR=8.4								
CPUP	**Villa Florida**	**158.99**	**172**			**PKPdf**	**12 26 42.5**	**-2.1**	
CPUP				PKPab		**PKPab**	**12 27 21.7**	**+0.5**	
LPAZ	**La Paz**	**162.50**	**129**	PKP		**PKPdf**	**12 26 50.6**	**+1.2**	
	comp=Z,1.7nm,0.8s,baz=315,slow=3.2,SNR=5.9								
LPAZ				PKPab		**PKPab**	**12 27 40.6**	**+2.8**	
	comp=Z,2.4nm,0.8s,baz=233,slow=2.7,SNR=7.1								
LPAZ	**La Paz**	**162.50**	**129**			**PKPdf**	**12 26 46.2**	**-3.2**	
LPAZ				PKPab		**PKPab**	**12 27 39.5**	**+1.8**	

NEIC 12 12:09:08.1±0.7, 35.643N×0.010×97.46W±0.02, h5km±1km, ML2.0/21 Error ellipse: s-maj=3.0km s-min=2.4km az=113.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
OK009	**Oakdale Elemen**	**0.07**	**152**	Pg	Pg		12 09 09.8	0.0
OK009				Sg	Sg		12 09 11.1	+0.3
OK025	**Westminster Rd**	**0.12**	**121**	Pg	Pg		12 09 10.5	-0.1
OK025				Sg	Sg		12 09 12.3	+0.1
OK029	**Liberty Lake**	**0.15**	**3**	Pg	Pg		12 09 11.8	+0.5
OK029				Sg	Sg		12 09 14.6	+1.2
OK029				IAML			12 09 14.7	
	272nm,0.3s							
OK029				IAML			12 09 14.7	
	356nm,0.2s							
OK001	**Jones High Sch**	**0.16**	**120**	Pg	Pg		12 09 11.2	-0.2
OK001				Sg	Sg		12 09 13.8	+0.2
OK005	**Luther M Schoo**	**0.22**	**87**	Pg	Pg		12 09 12.4	-0.1
OK005				Sg	Sg		12 09 15.3	-0.1
OKCFA	**Oklahoma City**	**0.23**	**177**	Pg	Pg		12 09 12.6	0.0
OKCFA				Sg	Sg		12 09 16.2	+0.7
OKCSW	**OKLAHOMA CITY**	**0.24**	**175**	Pg	Pg		12 09 12.8	0.0
OKCSW				Sg	Sg		12 09 16.3	+0.4
FNO	**Franklin**	**0.39**	**172**	Pg	Pg		12 09 15.6	0.0
FNO				Sg	Sg		12 09 21.2	+0.5
FNO				IAML			12 09 21.6	
	comp=E,166nm,0.5s							
OK031	**S. Brethren Rd**	**0.59**	**58**			Pg	12 09 19.3	-0.3
OK031						Sg	12 09 27.4	+0.1
QUOK	**Quay**	**0.81**	**49**	Pg	Pg		12 09 23.2	-0.4
QUOK				Sg	Sg		12 09 34.1	-0.1
QUOK				IAML			12 09 34.5	
	comp=N,104nm,0.4s							
QUOK				IAML			12 09 35.2	
	comp=E,93nm,0.2s							
CROK	**Carrier**	**0.96**	**334**	Pg	Pg		12 09 26.5	-0.1
CROK				Sg	Sb		12 09 39.6	-0.6
CROK				IAML			12 09 47.4	
	comp=N,47nm,0.2s							
X34A	**Smith Ranch, M**	**1.08**	**196**	Pg	Pg		12 09 28.7	-0.2
X34A				Sg	Sg		12 09 41.9	-1.1
X34A				IAML			12 09 45.0	
	comp=E,22nm,0.5s							
BLOK	**Blackwell**	**1.13**	**10**	Pg	Pg		12 09 29.8	-0.1
BLOK				Sg	Sb		12 09 45.2	-0.1
BLOK				IAML			12 09 48.5	
	comp=E,56nm,0.2s							
BLOK				IAML			12 09 57.2	
	comp=N,48nm,0.2s							
GC02	**Grant County #**	**1.25**	**345**	Pn	Pg		12 09 31.6	-0.5
KAN13	**South Haven SW**	**1.37**	**360**	Pn	Pn		12 09 33.5	-0.4
KAN14	**Manchester OK**	**1.37**	**343**	Pn	Pn		12 09 33.8	-0.2
WMOK	**Wichita Mounta**	**1.41**	**230**	Pn	Pn		12 09 33.8	-0.7
KAN17	**Caldwell West**	**1.42**	**350**	Pn	Pn		12 09 34.6	0.0
U32A	**Winter Ranch,**	**1.45**	**301**	Pn	Pn		12 09 35.1	0.0
T35A	**Sooner Cattle**	**1.48**	**31**	Pn	Pn		12 09 34.5	-1.0
KS20	**Mayfield South**	**1.58**	**357**	Pn	Pn		12 09 36.2	-0.7
LOOK	**Love County**	**1.66**	**172**	Pn	Pn		12 09 37.1	-0.9
X37A	**Clayton**	**2.01**	**121**	Pn	Pn		12 09 43.3	+0.6
U38A	**Gravette**	**2.62**	**71**	Pn	Pn		12 09 51.2	+0.1
U40A	**Yellville**	**3.81**	**78**	Pn	Pn		12 10 08.2	+0.7

IDC 12 12:12:45.0±2.7, 33.78S×178.55W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/40, mbtmp3.9/3, ML3.6/1, Error ellipse: s-maj=68.1km s-min=35.8km az=123.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
URZ	**Urewera**	**5.69**	**217**	Pn	Pn		12 14 12.0	+1.3
	1.6nm,0.3s,baz=123,slow=22,SNR=14							
URZ				Sn	Sn		12 15 16.7	+0.1
	3.6nm,0.3s,baz=288,slow=22,SNR=9.0							
ASAR	**Alice Springs**	**42.58**	**271**	P		P	12 20 42.8	-0.1
	1.1nm,0.6s,baz=112,slow=7.8,SNR=9.9							
ASAR				PcP	PcP		12 22 34.8	-0.6
	0.2nm,0.5s,baz=104,slow=3.9,SNR=1.5							
WRA	**Warramunga Arr**	**43.87**	**276**	P		P	12 20 53.2	-0.1
	1.2nm,0.7s,baz=124,slow=7.7,SNR=11							
FINES	**FINESS Array B**	**148.12**	**338**	PKPbc	PKPbc		12

SPIA	**Saint Paul Isl**	**4.84**	**316**	P	**Pn**	**12 15 38.8**	**+2.0**
	baz=132						
CHIR	**Chirikof Islan**	**5.31**	**64**	Pn	**Pn**	**12 15 44.9**	**+1.6**
ATKA	**Atka Island**	**6.29**	**259**	Pn	**Pn**	**12 15 57.2**	**+0.5**
SII	**Sitkinak Islan**	**6.32**	**60**	Pn	**Pn**	**12 15 58.4**	**+1.3**
OHAK	**Old Harbor**	**7.03**	**57**	Pn	**Pn**	**12 16 08.5**	**+1.7**
KDAK	**Kodiak Island**	**7.62**	**54**	Pn	**Pn**	**12 16 12.9**	**-2.0**
	comp=N,2.5nm,0.3s,baz=222,slow=3.4,SNR=75						
KDAK				Sn	**Sn**	**12 17 34.6**	**-5.5**
	comp=N,1.6nm,0.3s,baz=152,slow=2.3,SNR=6.6						
KDAK	**Kodiak Island**	**7.62**	**54**	Pn	**Pn**	**12 16 16.2**	**+1.4**
Q19K	**Cape Douglas,**	**7.74**	**44**	Pn	**Pn**	**12 16 18.7**	**+2.1**
O18K	**Koktuh Hills**	**7.77**	**35**	Pn	**Pn**	**12 16 17.6**	**+0.6**
ADK	**Adak**	**7.85**	**261**	Pn	**Pn**	**12 16 18.6**	**+0.5**
KIWB	**Kanaga Island**	**8.13**	**261**	Pn	**Pn**	**12 16 23.3**	**+1.3**
N18K	**Kilae Creek**	**8.19**	**30**	Pn	**Pn**	**12 16 24.1**	**+1.4**
O19K	**Port Alsworth**	**8.32**	**36**		**Pn**	**12 16 25.0**	**+0.5**
P19K	**Oil Pt**	**8.36**	**41**	Pn	**Pn**	**12 16 25.5**	**+0.4**
SVW2	**Sparrevohn**	**8.62**	**29**		**Pn**	**12 16 29.1**	**+0.5**
N19K	**Bonanza Creek**	**8.73**	**33**	Pn	**Pn**	**12 16 31.8**	**+1.6**
RSO	**Redoubt South**	**9.07**	**38**		**Pn**	**12 16 35.5**	**+0.5**
CNPM	**China Poot**	**9.10**	**46**		**Pn**	**12 16 36.5**	**+1.2**
BRLK	**Bradley Lake**	**9.38**	**45**	Pn	**Pn**	**12 16 40.5**	**+1.5**
M19K	**Big River Lodg**	**9.61**	**29**		**Pn**	**12 16 44.1**	**+1.4**
L19K	**White Mountain**	**9.71**	**27**	Pn	**Pn**	**12 16 44.7**	**+1.2**
M2K	**Styx River**	**9.96**	**31**		**Pn**	**12 16 48.5**	**+1.4**
SEW	**Seward**	**10.17**	**46**		**Pn**	**12 16 49.9**	**0.0**
O22K	**Cooper Landing**	**10.27**	**44**		**Pn**	**12 16 52.0**	**+0.8**
AMKA	**Amchitka**	**10.38**	**263**	Pn	**Pn**	**12 16 54.2**	**+1.5**
SUA	**Susitna One**	**10.47**	**38**	Pn	**Pn**	**12 16 54.6**	**+0.6**
SKT	**Skwentna**	**10.55**	**34**		**Pn**	**12 16 56.0**	**+0.9**
RC01	**Rabbit Creek A**	**10.62**	**41**	Pn	**Pn**	**12 16 56.3**	**+0.3**
GAMB	**Gambell**	**10.72**	**342**	Pn	**Pn**	**12 16 58.4**	**+1.1**
ANM	**Nome**	**10.79**	**357**	Pn	**Pn**	**12 17 00.1**	**+1.8**
K20K	**Telida**	**10.89**	**25**	Pn	**Pn**	**12 17 01.2**	**+1.5**
PPLA	**Purkeypile**	**11.03**	**30**		**Pn**	**12 17 03.1**	**+1.4**
PWL	**Port Wells**	**11.04**	**44**		**Pn**	**12 17 02.2**	**+0.4**
PMR	**Palmer**	**11.15**	**40**	Pn	**Pn**	**12 17 04.8**	**+1.6**
CUT	**Chulitna**	**11.27**	**35**		**Pn**	**12 17 05.1**	**+0.2**
KNK	**Knik Glacier**	**11.30**	**41**	Pn	**Pn**	**12 17 07.3**	**+1.9**
GHO	**Glory Hole Cre**	**11.34**	**39**	Pn	**Pn**	**12 17 06.6**	**+0.7**
J20K	**Nowinta River**	**11.57**	**22**	Pn	**Pn**	**12 17 09.3**	**+0.4**
GLI	**Glacier Island**	**11.57**	**46**	Pn	**Pn**	**12 17 10.6**	**+1.6**
SML	**Sawmill**	**11.59**	**40**		**Pn**	**12 17 10.5**	**+1.2**
HIN	**Hinchinbrook I**	**11.60**	**48**	Pn	**Pn**	**12 17 09.2**	**-0.2**
FID	**Port Fidalgo**	**11.77**	**47**	Pn	**Pn**	**12 17 12.8**	**+1.0**
KTH	**Kantishna Hill**	**11.90**	**30**		**Pn**	**12 17 14.6**	**+1.0**
TNA	**Tin City**	**11.93**	**352**	Pn	**Pn**	**12 17 16.9**	**+3.1**
SCM	**Sheep Creek Mo**	**11.99**	**41**		**Pn**	**12 17 15.3**	**+0.5**
EYAK	**Cordova Ski Ar**	**12.00**	**49**	Pn	**Pn**	**12 17 13.9**	**-1.0**
DIV	**Divide**	**12.26**	**46**		**Pn**	**12 17 19.2**	**+0.7**
BPAW	**Bear Paw Mtn.**	**12.30**	**28**	Pn	**Pn**	**12 17 19.6**	**+0.6**
KAIM	**Kayak Island**	**12.36**	**52**	Pn	**Pn**	**12 17 20.6**	**+0.8**
KLU	**Klutina**	**12.37**	**44**	Pn	**Pn**	**12 17 19.7**	**-0.3**
RND	**Reindeer**	**12.44**	**33**		**Pn**	**12 17 22.2**	**+1.4**
M24K	**Tolsona, Glenn**	**12.60**	**42**		**Pn**	**12 17 22.9**	**-0.2**
MCK	**McKinley**	**12.64**	**32**	Pn	**Pn**	**12 17 25.3**	**+1.7**
BMRM	**Bremner River**	**12.69**	**48**	Pn	**Pn**	**12 17 25.3**	**+1.0**
DHY	**Denali Highway**	**12.72**	**37**		**Pn**	**12 17 25.1**	**+0.3**
BERG	**Berg Lake**	**12.87**	**51**	Pn	**Pn**	**12 17 26.2**	**-0.5**
I21K	**Tanana**	**12.92**	**23**		**Pn**	**12 17 29.0**	**+1.6**
N25K	**Chitina, Valde**	**12.98**	**45**	Pn	**Pn**	**12 17 28.5**	**+0.1**
MLY	**Manley**	**13.10**	**26**	Pn	**Pn**	**12 17 31.1**	**+1.2**
IMAR	**Indian Mountai**	**13.23**	**19**	Pn	**Pn**	**12 17 32.3**	**+0.6**
GLB	**Gilahina Butte**	**13.24**	**47**		**Pn**	**12 17 32.6**	**+0.7**
VRDI	**Verde Repeater**	**13.31**	**48**		**Pn**	**12 17 33.5**	**+0.6**
PAX	**Paxson**	**13.35**	**39**		**Pn**	**12 17 32.2**	**-1.1**
I23K	**Minto, Yukon-K**	**13.56**	**27**	Pn	**Pn**	**12 17 36.6**	**+0.6**
MCARA	**McCarthy VSAT**	**13.56**	**48**	Pn	**Pn**	**12 17 35.0**	**-1.2**
ISLE	**Juniper Island**	**13.57**	**51**	Pn	**Pn**	**12 17 35.4**	**-1.1**
CCB	**Clear Creek Bu**	**13.64**	**31**		**Pn**	**12 17 35.9**	**-1.2**
MDM	**Murphy Dome**	**13.73**	**29**		**Pn**	**12 17 38.3**	**-0.2**
HDA	**Harding Lake**	**13.74**	**33**	Pn	**Pn**	**12 17 38.4**	**-0.1**
YAH	**Yahtse**	**13.77**	**53**	Pn	**Pn**	**12 17 40.1**	**+0.9**
GRNC	**Granite Creek**	**13.89**	**51**		**Pn**	**12 17 40.7**	**-0.1**
MENT	**Mentasta**	**14.00**	**41**		**Pn**	**12 17 41.9**	**-0.3**
IL31		**14.01**	**32**	Pn	**Pn**	**12 17 41.5**	**-0.7**
ILAR	**Eielson Array**	**14.01**	**32**	Pn	**Pn**	**12 17 39.4**	**-2.8**
	comp=N,0.2nm,0.3s,baz=228,slow=12,SNR=14						
ILAR				LR	LR	12 23 35.4	
	comp=N,242nm,18.5s,baz=226,slow=40						
ILAR	**Eielson Array**	**14.01**	**32**		**Pn**	**12 17 42.0**	**-0.2**
M26K	**Nabesna, AK**	**14.03**	**44**	Pn	**Pn**	**12 17 42.5**	**0.0**
RIDG	**Independent Ri**	**14.03**	**37**		**Pn**	**12 17 43.9**	**+1.3**
H23K	**Yukon River**	**14.04**	**25**	Pn	**Pn**	**12 17 43.6**	**+0.9**
BARN	**Barnard Glacie**	**14.04**	**50**		**Pn**	**12 17 43.5**	**+0.5**
TABL	**Table Mountain**	**14.08**	**53**		**Pn**	**12 17 44.4**	**+1.0**
CTGM	**Chitina Glacie**	**14.16**	**51**		**Pn**	**12 17 45.8**	**+1.4**
L26K	**Log Cabin Wild**	**14.19**	**41**		**Pn**	**12 17 44.5**	**-0.3**
DOT	**Dot Lake**	**14.26**	**38**		**Pn**	**12 17 44.2**	**-1.5**
LOGN	**Logan Glacier**	**14.27**	**51**	Pn	**Pn**	**12 17 46.4**	**+0.5**
M27K	**Edge Creek, AK**	**14.47**	**45**		**Pn**	**12 17 47.9**	**-0.8**
SCRK	**Sand Creek**	**14.48**	**37**		**Pn**	**12 17 48.2**	**-0.6**
H24K	**Noodor Dome**	**14.49**	**27**		**Pn**	**12 17 47.9**	**-0.9**
L27K	**Beaver Creek,**	**14.81**	**43**	Pn	**Pn**	**12 17 52.7**	**-0.5**
BCAR	**Beaver Creek A**	**14.83**	**43**	Pn	**Pn**	**12 17 54.2**	**+0.7**
PRP	**Porcupine Dome**	**14.94**	**31**		**Pn**	**12 17 56.2**	**+1.2**
COLD	**Coldfoot**	**15.03**	**21**		**Pn**	**12 17 56.3**	**+0.3**
K27K	**Chicken**	**15.21**	**39**		**Pn**	**12 17 59.9**	**+1.5**
FYU	**Fort Yukon**	**15.76**	**28**	Pn	**Pn**	**12 18 06.7**	**+1.2**
HYT	**Haines Junctio**	**15.91**	**53**		**Pn**	**12 18 08.0**	**+0.3**
HYT				IAmb	IAmb	12 18 18.6	
	comp=Z,14nm,0.7s						
EGAK	**Eagle**	**15.95**	**37**		**Pn**	**12 18 09.1**	**+1.1**
EGAK				IAmb	IAmb	12 18 28.6	
	comp=Z,12nm,0.8s						
DAWY	**Dawson**	**16.25**	**41**		**Pn**	**12 18 12.9**	**+0.9**
DAWY				IAmb	IAmb	12 18 16.3	
	comp=Z,16nm,0.6s						
TOLK	**Toolik Lake Re**	**16.35**	**19**		**Pn**	**12 18 13.2**	**0.0**
BMAR	**Burnt Mountain**	**16.55**	**27**		**P**	**12 18 17.1**	**-1.0**
JIS	**Juneau Island**	**17.12**	**63**		**P**	**12 18 24.2**	**-0.1**
JIS				IAmb	IAmb	12 18 37.5	
	comp=Z,26nm,1.4s						
WHY	**Whitehorse**	**17.13**	**55**		**Pn**	**12 18 23.7**	**+0.6**
EPYK	**Eagle Plains**	**18.35**	**36**	P	**Pn**	**12 18 38.5**	**+0.5**
EPYK				IAmb	IAmb	12 18 41.1	
	comp=Z,21nm,0.9s						
DLBC	**Dease Lake**	**19.41**	**63**	P	**Pn**	**12 18 51.0**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=246,slow=20,SNR=10.0						
DLBC				LR	LR	12 26 36.8	
	comp=Z,60nm,18.9s,baz=262,slow=38						
DLBC	**Dease Lake**	**19.41**	**63**	P	**Pn**	**12 18 50.8**	**-0.2**
DLBC				IAmb	IAmb	12 19 12.2	
	comp=Z,12nm,1.1s						
INK	**Inuvik**	**20.40**	**33**	P	**P**	**12 18 58.0**	**-2.1**
	comp=Z,3.8nm,0.5s,baz=255,slow=11,SNR=15						
INK				LR	LR	12 27 37.1	
	comp=Z,208nm,18.6s,baz=236,slow=39						
BBB	**Bella Bella**	**21.59**	**80**	LR	LR	12 26 21.9	
	comp=Z,84nm,19.1s,baz=262,slow=33						
PEA0B	**Petropavlovsk-**	**22.56**	**284**	P	**P**	**12 19 23.1**	**-0.5**
PETK	**Petropavlovsk-**	**22.56**	**284**	P	**P**	**12 19 21.9**	**-1.7**
	comp=Z,3.4nm,0.6s,baz=92,slow=10,SNR=6.1						
SEY	**Seymchan**	**24.10**	**310**	LR	LR	12 30 54.2	
	comp=Z,84nm,18.1s,baz=116,slow=41						
YKA	**Yellowknife Ar**	**26.88**	**51**	P	**P**	**12 20 04.6**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=295,slow=6.8,SNR=5.8						
YKA				LR	LR	12 31 47.2	
	comp=Z,73nm,18.4s,baz=0.0,slow=39						
H04A	**Detroit Lake**	**28.48**	**91**	P	**P**	**12 20 20.6**	**+2.1**
H04A				IAmb	IAmb	12 20 33.3	
	comp=Z,12nm,1.2s						
NEW	**Newport**	**29.62**	**81**	LR	LR	12 30 09.4	
	comp=Z,67nm,18.1s,baz=300,slow=32						
I07A	**Izee**	**30.41**	**90**	P	**P**	**12 20 36.1**	**+0.5**
I07A				IAmb	IAmb	12 20 49.0	
	comp=Z,6.6nm,1.2s						
WVOR	**Wild Horse Val**	**31.89**	**92**	P	**P**	**12 20 50.0**	**+1.4**
WVOR				IAmb	IAmb	12 21 01.7	
	comp=Z,4.2nm,1.0s						
NVAR	**Mina Array Bea**	**34.62**	**97**	P	**P**	**12 21 14.5**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=299,slow=7.9,SNR=1.5						
NVAR				PcP	**PcP**	**12 23 46.0**	**-0.5**
	comp=Z,1.3nm,1.1s,baz=300,slow=2.9,SNR=3.8						
NVAR				LR	LR	12 32 37.2	
	comp=Z,74nm,18.1s,baz=292,slow=32						
R11A	**Troy Canyon, C**	**36.27**	**95**	P	**P**	**12 21 28.4**	**+1.6**
R11A				IAmb	IAmb	12 21 39.9	
	comp=Z,2.6nm,0.8s						
TPNV	**Topopah Spring**	**36.82**	**97**	P	**P**	**12 21 32.4**	**+1.0**
TPNV				IAmb	IAmb	12 21 47.2	

	comp=Z,5.4nm,0.9s						
PDAR	**Pinedale Array**	**37.07**	**85**	LR	LR	12 34 29.4	
	comp=Z,40nm,18.2s,baz=324,slow=32						
H11N2	**WAKE ISLAND Hy**	**40.64**	**224**	T	T	13 05 40.2	
	baz=26,slow=76						
H11N3	**WAKE ISLAND Hy**	**40.65**	**224**	T	T	13 05 29.9	
	baz=26,slow=76						
H11N1	**WAKE ISLAND Hy**	**40.66**	**224**	T	T	13 05 43.8	
	baz=26,slow=76						
ULM	**Lac du Bonnet**	**40.67**	**66**	LR	LR	12 37 14.0	
	comp=Z,42nm,20.8s,baz=302,slow=34						
H11S1	**WAKE ISLAND Hy**	**41.81**	**224**	T	T	13 06 58.8	
	baz=27,slow=76						
H11S2	**WAKE ISLAND Hy**	**41.83**	**224**	T	T	13 07 02.1	
	baz=27,slow=76						
H11S3	**WAKE ISLAND Hy**	**41.83**	**224**	T	T	13 06 58.2	
	baz=27,slow=76						
NEEM	**North Greenlan**	**42.69**	**17**	*i* P	**P**	**12 22 18.5**	**-1.5**
NEEM				IAmb	IAmb	12 22 20.3	
	comp=Z,21nm,0.9s						
MJAR	**Matsushiro Arr**	**42.88**	**270**	P	**P**	**12 22 20.7**	**-1.0**
	comp=Z,2.2nm,0.9s,baz=41,slow=7.3,SNR=6.0						
MJAR				LR	LR	12 45 20.1	
	comp=Z,8.3nm,18.9s,baz=90,slow=43						
NRIK	**Noril'sk**	**46.63**	**332**	P	**P**	**12 22 50.6**	**-0.4**
	comp=Z,3.6nm,0.6s,baz=138,slow=2.5,SNR=3.9						
NRIK				LR	LR	12 43 53.1	
	comp=Z,58nm,19.3s,baz=94,slow=38						
DAG	**Danmarks Havn**	**47.84**	**10**	*i* P	**P**	**12 22 59.3**	**-1.1**
DAG				IAmb	IAmb	12 23 00.3	
	comp=Z,7.1nm,0.7s						
KSRS	**Korea Array**	**48.34**	**279**	P	**P**	**12 23 04.8**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=49,slow=7.6,SNR=7.6						
KSRS				LR	LR	12 44 32.7	
	comp=Z,30nm,18.0s,baz=43,slow=38						
SUMG	**Summit**	**48.41**	**19**	⇑*i* P	**P**	**12 23 05.1**	**-0.2**
SUMG				IAmb	IAmb	12 23 06.2	
	comp=Z,12nm,0.7s						
SUMG	**Summit**	**48.41**	**19**	P	**P**	**12 23 04.7**	**-0.7**
P40A	**Paris**	**49.34**	**76**	P	**P**	**12 23 12.0**	**-0.4**
TXAR	**Lajitas Array**	**49.63**	**94**	P	**P**	**12 23 15.1**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=296,slow=4.8,SNR=5.0						
TXAR				PcP	**PcP**	**12 24 35.8**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=225,slow=1.1,SNR=5.9						
TXAR				LR	LR	12 41 06.8	
	comp=Z,24nm,20.1s,baz=0.0,slow=32						
TXAR	**Lajitas Array**	**49.63**	**94**	P	**P**	**12 23 14.4**	**-0.4**
SFJD	**Kangerlussuaq**	**49.64**	**28**	*i* P	**P**	**12 23 13.9**	**-0.3**
ICESG	**Greenland Ices**	**50.87**	**22**	*i* P	**P**	**12 23 23.3**	**-0.6**
ICESG				IAmb	IAmb	12 23 23.8	
	comp=Z,7.4nm,0.6s						
SCHQ	**Schefferville**	**52.17**	**47**	P	**P**	**12 23 33.1**	**-0.5**
	comp=Z,8.9nm,1.0s,baz=360,slow=7.0,SNR=5.2						
SONM	**Songino Array**	**53.22**	**303**	P	**P**	**12 23 41.1**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=56,slow=6.7,SNR=8.3						
SONM				PcP	**PcP**	**12 24 49.3**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=33,slow=2.1,SNR=6.5						
WVT	**Waverly**	**54.09**	**76**	P	**P**	**12 23 48.3**	**+0.4**
HHC	**Hu-ho-hao-te**	**55.30**	**293**	*eP*	**P**	**12 23 57.1**	**+0.4**
HHC				pmax	pmax		
	comp=Z,11nm,1.1s						
HHC				pmax	pmax		
	comp=Z,71nm,5.5s						
JOW	**Kunigami**	**55.71**	**269**	P	**P**	**12 24 00.5**	**+0.8**
	comp=Z,16nm,0.9s,baz=20,slow=7.8,SNR=4.2						
ARCES	**ARCESS Array B**	**56.75**	**356**	LR	LR	12 48 52.3	
	comp=Z,29nm,20.1s,baz=55,slow=37						
ZALV	**Zalesovo Beam**	**58.42**	**320**	PcP	**PcP**	**12 25 08.8**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=61,slow=6.9,SNR=3.5						
ZALV				LR	LR	12 52 02.0	
	comp=Z,71nm,18.0s,baz=61,slow=39						
XAN	**Xi'an**	**61.65**	**290**	P	**P**	**12 24 40.3**	**-0.7**
XAN				pP	pP	12 24 49.1	-0.6
XAN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GTA	**Gaotai**	**62.57**	**300**	*eP*	**P**	**12 24 46.2**	**-1.0**
GTA				pP	pP	12 24 56.1	+0.3
GTA				sP	sP	12 24 59.8	+0.7
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
FINES	**FINESS Array B**	**64.79**	**355**	P	**P**	**12 24 59.3**	**-2.0**
	comp=Z,2.3nm,0.6s,baz=18,slow=6.7,SNR=12						
FINES				LR	LR	12 55 27.9	
	comp=Z,26nm,18.3s,baz=23,slow=38						
MKAR	**Makanchi Array**	**65.03**	**316**	P	**P**	**12 25 02.0**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=39,slow=6.3,SNR=6.4						
WMQ	**Urumqi**	**65.06**	**311**	*eP*	**P**	**12 25 07.2**	**+3.8**
NB2	**NORSAR Subarra**	**65.42**	**2**	P	**P**	**12 25 04.6**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=358,slow=6.9						
NOA	**NORSAR Array B**	**65.42**	**2**	P	**P**	**12 25 04.6**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=358,slow=6.6,SNR=7.5						
TAOE	**Nuku Hiva Isla**	**65.66**	**154**	*eT*	T	13 36 36.7	
	comp=Z,28nm,0.3s						
PMOR	**Pomariorio Ree**	**69.94**	**163**	*eT*	T	13 41 59.2	
	comp=Z,21nm,0.2s						
PPT2	**Papeete2**	**72.21**	**165**	*e*LR	LR	12 47 53.4	
	comp=Z,98nm,25.5s						
MEH	**Mehetia**	**72.73**	**164**	*eT*	T	13 45 27.5	
	comp=Z,30nm,0.3s						
MSVF	**Nonsavu**	**72.89**	**198**	LR	LR	12 50 24.7	
	comp=Z,59nm,20.6s,baz=189,slow=30						
KSH	**Kashi**	**73.64**	**316**	P	**P**	**12 25 59.6**	**+2.9**
KSH				pP	PcP	12 26 11.6	-0.8
KSH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
AKASG	**Malin Array Be**	**75.25**	**351**	P	**P**	**12 26 04.3**	**-1.3**
	comp=Z,2.7nm,0.6s,baz=13,slow=5.7,SNR=12						
KHC	**Kasperske Hory**	**77.40**	**2**	*eP*	**P**	**12 26 18.0**	**0.0**
GERES	**GERESS Array B**	**77.69**	**1**	P	**P**	**12 26 19.3**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=341,slow=2.8,SNR=3.7						
MOTA	**Moosalm**	**79.13**	**3**	*i* P	**P**	**12 26 27.6**	**0.0**
	comp=Z,3.2nm,0.8s						
WTTA	**Wattenberg**	**79.22**	**3**	*i* P	**P**	**12 26 28.7**	**+0.5**
	comp=Z,6.0nm,0.9s						
SQTA	**Sankt Quirin**	**79.25**	**3**	*i* P	**P**	**12 26 28.6**	**+0.3**
	comp=Z,6.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**79.31**	**286**	P	**P**	**12 26 28.6**	**-0.3**
	comp=Z,3.0nm,0.7s,baz=12,slow=5.9,SNR=12						
CM02	**Chiang Mai Arr**	**79.33**	**286**	P	**P**	**12 26 30.8**	**+1.8**
	comp=Z,5.7nm,1.2s						
CM04	**Chiang Mai Arr**	**79.33**	**286**	P	**P**	**12 26 29.9**	**+0.8**
	comp=Z,7.4nm,1.1s						
CM05	**Chiang Mai Arr**	**79.35**	**286**	P	**P**	**12 26 29.9**	**+0.7**
	comp=Z,5.5nm,1.0s						
CM13	**Chiang Mai Arr**	**79.36**	**286**	P	**P**	**12 26 30.3**	**+1.1**
FETA	**Feichten**	**79.44**	**4**	*eP*	**P**	**12 26 29.5**	**+0.1**
	comp=Z,5.1nm,0.9s						
KBA	**Kohbreinsper**	**79.45**	**2**	*i* P	**P**	**12 26 30.0**	**+0.5**
	comp=Z,8.9nm,1.1s						
ABTA	**Abfaltersbach**	**79.76**	**2**	*i* P	**P**	**12 26 32.3**	**+1.2**
	comp=Z,4.8nm,1.3s						
SOKA	**Soboth**	**79.87**	**1**	*eP*	**P**	**12 26 32.1**	**+0.5**
	comp=Z,4.9nm,0.9s						
OBKA	**Obir**	**80.04**	**1**	*eP*	**P**	**12 26 32.9**	**+0.3**
	comp=Z,6.0nm,0.8s						
KBZ	**Khabaz**	**80.11**	**340**	P	**P**	**12 26 33.9**	**+1.1**
	comp=Z,6.5nm,0.9s,baz=319,slow=2.3,SNR=11						
KBZ				LR	LR	13 05 03.0	
	comp=Z,30nm,21.9s,baz=10.0,slow=38						
BLKB	**Belogradchik**	**82.75**	**355**	⇑S	S	12 37 12.6	+10
ESDC	**Sonseca Array**	**85.31**	**15**	P	**P**	**12 26 59.8**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=346,slow=5.5,SNR=15						
BRTR	**Keskin Array B**	**85.57**	**346**	P	**P**	**12 27 01.4**	**0.0**
	comp=Z,4.5nm,0.8s,baz=343,slow=1.3,SNR=9.8						
ASAR	**Alice Springs**	**93.78**	**234**	P	**P**	**12 27 39.5**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=23,slow=6.6,SNR=4.1						
H03N2	**Juan Fernandez**	**113.59**	**115**	T	T	14 36 42.8	
	baz=322,slow=77,SNR=52						
H03N1	**Juan Fernandez**	**113.60**	**115**	T	T	14 36 44.1	
	baz=322,slow=77,SNR=75						
H03N3	**Juan Fernandez**	**113.60**	**115**	T	T	14 36 43.2	
	baz=322,slow=77,SNR=55						
MATP	**Matopo**	**145.28**	**339**	PKPbc	**PKPbc**	**12 34 00.1**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=29,slow=10,SNR=4.5						
LBTB	**Lobatse**	**150.32**	**342**	PKPbc	**PKPbc**	**12 34 14.4**	**+0.1**
	comp=Z,3.2nm,0.8s,baz=142,slow=3.2,SNR=4.1						
LBTB				PKPab	**sPKPdf**	**12 34 21.1**	**-0.5**
	comp=Z,2.7nm,0.7s,baz=138,slow=1.5,SNR=4.3						
LBTB	**Lobatse**	**150.32**	**342**		**PKPdf**	**12 34 09.1**	**-0.1**
BOSA	**Boshof**	**153.89**	**341**	PKPab	**PKPab**	**12 34 35.0**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=28,slow=2.8,SNR=3.5						
MAW	**Mawson**	**154.00**	**220**	PKPab	**PKPab**	**12 34 36.3**	**+1.5**
	comp=Z,2.2nm,0.9s,baz=247,slow=8.8,SNR=2.3						

NEIC 12 12:16:16.8±1.9, 32°.83N±0°.01×96°.93W±0°.03, h5km±1km, mb_Lg2.2/15, Error ellipse: s-maj=4.0km s-min=2.6km

az=85.0, Central Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Z35A	**Perchaven, San**	**0.57**	**332**	Pg	Pg	12 16 27.8	0.0
Z35A				Sg	Sg	12 16 34.6	-0.6
WHTX	**Lake Whitney,**	**0.94**	**208**	Pg	Pb	12 16 35.8	+0.1
WHTX				Sg	Sb	12 16 48.4	-0.1
LOOK	**Love County**	**1.18**	**350**	Pn	Pg	12 16 39.3	-0.1
237A	**Washetta, Mont**	**1.26**	**131**		Pg	12 16 40.3	-0.7
Z38A	**Mt. Pleasant**	**1.69**	**75**	Pn	Pn	12 16 46.3	-0.8
X34A	**Smith Ranch, M**	**1.92**	**337**	Pn	Pn	12 16 50.1	-0.1
435B	**Jarrell**	**2.11**	**195**	Pn	Pn	12 16 52.9	0.0
435B				IAmb_Lg		12 17 26.0	
	comp=Z,8.7nm,0.9s						
X37A	**Clayton**	**2.19**	**36**	Pn	Pn	12 16 53.4	-0.5
X37A				IAmb_Lg		12 17 30.7	
	comp=Z,8.4nm,0.7s						
NATX	**Nacogdoches**	**2.20**	**118**	Pn	Pn	12 16 52.9	-1.1
ABTX	**Abilene, Hawle**	**2.29**	**266**	Pn	Pn	12 16 54.7	-0.7
ABTX				IAmb_Lg		12 17 33.4	
	comp=Z,19nm,0.7s						
WMOK	**Wichita Mounta**	**2.45**	**322**	Pn	Pn	12 16 56.4	-1.1
WMOK				IAmb_Lg		12 17 34.7	
	comp=Z,12nm,0.8s						
FNO	**Franklin**	**2.45**	**351**	Pn	Pn	12 16 56.1	-1.5
FNO				IAmb_Lg		12 17 37.9	
	comp=Z,14nm,0.7s						
OKCFA	**Oklahoma City**	**2.62**	**351**	Pn	Pn	12 16 59.0	-0.8
OK025	**Westminster Rd**	**2.77**	**353**	Pn	Pn	12 17 00.8	-1.0
OK025				IAmb_Lg		12 17 44.8	
	comp=Z,7.3nm,0.7s						
OK029	**Liberty Lake**	**2.99**	**352**	Pn	Pn	12 17 03.7	-1.3
MIAR	**Mount Ida**	**3.28**	**58**	Pn	Pn	12 17 08.8	-0.1
JCT	**Junction City**	**3.39**	**227**		Pn	12 17 10.9	+0.4
JCT				IAmb_Lg		12 18 11.1	
	comp=Z,5.5nm,0.8s						
AMTX	**Amarillo**	**4.45**	**299**	IAmb_Lg		12 18 47.6	
	comp=Z,6.8nm,0.8s						
U40A	**Yellville**	**4.87**	**43**	Pn	Pn	12 17 29.8	-1.0
TX31	**Lajitas Ar. Si**	**6.74**	**241**	Pn	Pn	12 17 56.3	-0.

PACA	**Pacayal**	**2.64**	**307**	*eP*	Pn	12 24 38.7	+0.8
COEB	**Comit de Eme**	**2.82**	**305**	*eP*	Pn	12 24 40.1	-0.3
COEB				IAML		12 24 54.2	
	comp=Z,107nm,0.2s						
COEB				*eS*	Sn	12 25 14.8	+1.4

IDC **12** *12:32:00.8±1.0, 0.°41N×29.°57E, h0km, mb3.9/11, mb1 4.0/12, mb1mx3.9/42, mbtmp4.0/12, ML4.1/1, MS3.5/8, Ms1 3.5/8, ms1mx3.1/43, Error ellipse: s-maj=29.2km s-min=11.3km az=42.0*

NEIC **12** *12:32:04.3±0.8, 0.°40N±0.°08×29.°7E±0.°1, h18km±3km, mb4.5/11, Error ellipse: s-maj=16.3km s-min=9.3km az=64.0*

EAF **12** *12:32:07.1±5.8, 0.°57N×29.°73E, h4km±102km, MD3.4*

ISC 12 12:32:03.2±3.0, **0.°37N**±0.°05×**29.°65E**±0.°04, **h16**km±20km, **n62**, σ1s**21**/62, **mb4.3**/16, **MS3.4**/7, **Zaire**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIL	**Kilembe**	**0.40**	**115**	*eP*	**Pb**	**12 32 12.6**	**+0.6**
KIL				*eS*	**Sb**	**12 32 18.7**	**+0.7**
MBAR	**Mbarara**	**1.46**	**131**	Pg	**Pb**	**12 32 30.0**	**0.0**
	4μm,0.3s,baz=125,slow=23,SNR=3005						
MBAR				Lg	Lg	12 32 48.6	
	12μm,0.3s,baz=192,slow=15,SNR=19						
MBAR	**Mbarara**	**1.46**	**131**	*eP*	**Pb**	**12 32 30.1**	**0.0**
MBAR				*eS*	**Sn**	**12 32 47.6**	**-0.3**
MBAR	**Mbarara**	**1.46**	**131**	*i* P	**Pb**	**12 32 30.1**	**0.0**
MBAR				*i* S	**Sb**	**12 32 48.1**	**-0.3**
MBAR				IAML		12 32 50.1	
	comp=Z,29μm,0.2s						
KTSH	**Kitshanga**	**1.71**	**200**	*i* P	**Pn**	**12 32 32.7**	**+0.2**
KTSH				*i* S	**Sn**	**12 32 52.2**	**-1.8**
KTSH				IAML		12 32 56.1	
	comp=Z,9μm,0.2s						
RGB	**Rumangabo**	**1.73**	**189**	*i* P	**Pn**	**12 32 32.9**	**+0.2**
RGB				*i* S	**Sn**	**12 32 54.2**	**-0.3**
GOM	**Goma**	**2.08**	**192**	*i* P	**Pn**	**12 32 38.3**	**+0.7**
GOM				*i* S	**Sn**	**12 33 03.2**	**0.0**
GOM				IAML		12 33 16.8	
	comp=Z,2μm,0.7s						
LWI	**Lwiro**	**2.73**	**198**	*i* P	**Pb**	**12 32 50.9**	**-0.7**
LWI				*i* S	**Sb**	**12 33 24.5**	**-0.4**
LWI				IAML		12 33 26.7	
	comp=Z,4μm,0.7s						
TEBE	**Entebbe**	**2.84**	**96**	*eP*	**Pb**	**12 32 51.7**	**-1.9**
TEBE				*eS*	**Sn**	**12 33 22.8**	**+0.8**
BUJA	**Bujumbura/Buru**	**3.75**	**184**	*i* P	**Pn**	**12 33 02.2**	**+1.7**
BUJA				*i* S	**Sb**	**12 33 52.3**	**-2.0**
BUJA				IAML		12 34 01.6	
	comp=Z,512nm,1.1s						
GETA	**Geita**	**4.82**	**132**	*i* P	Pn	12 33 08.7	-6.5
GETA				IAML		12 34 15.6	
	comp=Z,911nm,0.5s						
LODK	**Lodwar**	**6.47**	**62**	Pn	**Pn**	**12 33 37.7**	**-0.1**
KMBO	**Kilima Mbogo**	**7.75**	**101**	Pn	**Pn**	**12 33 57.0**	**+1.4**
	comp=Z,2.9nm,0.3s,baz=288,slow=18,SNR=2.8						
KMBO				Sn	**Sn**	**12 35 19.0**	**-4.2**
	comp=Z,3.4nm,0.3s,baz=50,slow=24,SNR=2.2						
KMBO				Lg	Lg	12 36 02.8	
	comp=Z,8.9nm,0.3s,baz=210,slow=24,SNR=7.6						
KIBK	**Kibwezi**	**8.82**	**108**	Pn	**Pn**	**12 34 10.3**	**+0.2**
DODT	**Dodoma, Tanzan**	**8.92**	**137**	*i* P	**Pn**	**12 34 11.6**	**-0.1**
DODT	**Dodoma, Tanzan**	**8.92**	**137**	*i* P	**Pn**	**12 34 11.5**	**-0.1**
LOSI	**Makongolosi**	**9.38**	**158**	*i* P	**Pn**	**12 34 17.3**	**-0.6**
JILO	**Lwanjilo**	**9.84**	**157**	*i* P	**Pn**	**12 34 23.9**	**-0.5**
PDHT	**Panda Hill**	**9.96**	**159**	*i* P	**Pn**	**12 34 26.9**	**+1.1**
GAWA	**Igawa**	**10.23**	**153**	*i* P	**Pn**	**12 34 28.5**	**-1.0**
ILOM	**Ilombo**	**10.27**	**159**	*i* P	Pn	12 34 35.8	+5.6
ITUM	**Tunduma**	**10.33**	**160**	*i* P	**Pn**	**12 34 31.0**	**+0.1**
BAKO	**Makambako**	**10.50**	**151**	*i* P	**Pn**	**12 34 32.9**	**-0.4**
LM103	**Lake Malawi, 1**	**10.96**	**156**	*i* P	**Pn**	**12 34 44.0**	**+4.6**
KARM1	**KARONGA**	**11.09**	**158**	*i* P	**Pn**	**12 34 42.4**	**+1.1**
LM206	**Lake Malawi, 2**	**11.22**	**156**	*i* P	**Pn**	**12 34 45.9**	**+2.9**
LM203	**Lake Malawi, 2**	**11.27**	**157**	*i* P	Pn	12 34 50.1	+6.6
LM110	**Lake Malawi, 1**	**11.63**	**156**	*i* P	Pn	12 34 56.4	+7.9
LM302	**Lake Malawi, 3**	**12.07**	**158**	*i* P	Pn	12 35 00.5	+5.9
ENUK	**Enukweni**	**12.22**	**160**	*i* P	**Pn**	**12 34 57.2**	**+0.1**
FURI	**Furi**	**12.36**	**46**	Pn	**Pn**	**12 34 58.9**	**+0.1**
ATD	**Arta Tunnel**	**17.17**	**49**	LR	LR	12 42 50.1	
	comp=Z,216nm,21.7s,baz=226,slow=38						
TSUM	**Tsumeb**	**22.77**	**211**	LR	LR	12 46 45.2	
	comp=Z,66nm,19.6s,baz=336,slow=39						
LBTB	**Lobatse**	**25.54**	**189**	LR	LR	12 47 54.6	
	comp=Z,134nm,19.3s,baz=4.0,slow=37						
BOSA	**Boshof**	**29.12**	**188**	LR	LR	12 50 03.5	
	comp=Z,91nm,20.5s,baz=6.0,slow=37						
TORD	**Torodi Ar. Bea**	**30.47**	**296**	P	**P**	**12 38 13.5**	**-2.0**
	comp=Z,1.0nm,0.7s,baz=105,slow=7.5,SNR=6.7						
TORD				LR	LR	12 50 55.6	
	comp=Z,56nm,18.3s,baz=90,slow=37						
TORD	**Torodi Ar. Bea**	**30.47**	**296**	P	**P**	**12 38 14.6**	**-0.9**
DBIC	**Dimbokro**	**34.98**	**281**	P	**P**	**12 38 55.3**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=124,slow=7.4,SNR=5.0						
DBIC				LR	LR	12 53 52.9	
	comp=Z,66nm,18.3s,baz=154,slow=38						
DBIC	**Dimbokro**	**34.98**	**281**	P	**P**	**12 38 54.7**	**-0.4**
DBIC				IAmb	IAmb	12 39 14.4	
	comp=Z,12nm,1.4s						
BRTR	**Keskin Array B**	**39.34**	**5**	P	**P**	**12 39 31.6**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=180,slow=9.9,SNR=4.1						
KEST	**Kesra**	**39.93**	**334**	LR	LR	12 57 30.7	
	comp=Z,75nm,19.5s,baz=228,slow=38						
BURAR	**Bucovina Array**	**47.21**	**356**	P	**P**	**12 40 35.6**	**+0.3**
BURAR				IAmb	IAmb	12 40 37.4	
	comp=Z,1.8nm,0.8s						
ESDC	**Sonseca Array**	**49.70**	**326**	P	**P**	**12 40 54.9**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=116,slow=6.0,SNR=2.9						
ESDC	**Sonseca Array**	**49.70**	**326**	P	**P**	**12 40 55.1**	**+0.6**
GERES	**GERESS Array B**	**50.21**	**346**	P	**P**	**12 40 57.4**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=183,slow=2.3,SNR=3.8						
ABKAR	**Akbulak array**	**55.21**	**24**	P	**P**	**12 41 35.4**	**+0.1**
KK31	**Karatay Array**	**56.07**	**35**	P	**P**	**12 41 42.1**	**+0.6**
KK31				IAmb	IAmb	12 41 43.4	
	comp=Z,4.4nm,0.9s						
KKAR	**Karatay Array**	**56.07**	**35**	P	**P**	**12 41 41.6**	**0.0**
KKAR	**Karatay Array**	**56.07**	**35**	P	**P**	**12 41 41.4**	**-0.2**
KKAR				IAmb	IAmb	12 41 43.5	
	comp=Z,4.4nm,0.9s						
ARU	**Arti**	**60.55**	**18**	P	**P**	**12 42 12.7**	**+0.1**
FINES	**FINESS Array B**	**60.98**	**358**	P	**P**	**12 42 15.1**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=197,slow=4.4,SNR=4.1						
NOA	**NORSAR Array B**	**62.14**	**350**	P	**P**	**12 42 24.7**	**+1.4**
	comp=Z,0.9nm,0.9s,baz=161,slow=6.6,SNR=2.9						
MK31	**Makanchi Array**	**65.07**	**37**	P	**P**	**12 42 43.4**	**+0.4**
MK31				IAmb	IAmb	12 42 44.3	
	comp=Z,3.4nm,1.1s						
MKAR	**Makanchi Array**	**65.07**	**37**	P	**P**	**12 42 43.1**	**+0.2**
	comp=Z,2.3nm,0.9s,baz=237,slow=5.6,SNR=13						
MKAR	**Makanchi Array**	**65.07**	**37**	P	**P**	**12 42 42.7**	**-0.2**
ARCES	**ARCESS Array B**	**69.10**	**358**	P	**P**	**12 43 07.8**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=168,slow=6.2,SNR=9.9						
ARCES	**ARCESS Array B**	**69.10**	**358**	P	**P**	**12 43 08.2**	**+0.1**
ARCES				IAmb	IAmb	12 43 15.2	
	comp=Z,6.1nm,1.2s						
KEV	**Kevo**	**69.28**	**359**	P	**P**	**12 43 09.1**	**0.0**
ZALV	**Zalesovo Beam**	**69.96**	**31**	P	**P**	**12 43 13.4**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=251,slow=4.5,SNR=5.8						
ZALV				LR	LR	13 18 21.7	
	comp=Z,40nm,18.1s,baz=66,slow=40						
CMAR	**Chiang Mai Arr**	**70.27**	**71**	P	**P**	**12 43 18.0**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=251,slow=7.8,SNR=4.4						
CMAR	**Chiang Mai Arr**	**70.27**	**71**	P	**P**	**12 43 16.1**	**-0.2**
QSPA	**South Pole Qui**	**90.40**	**180**	P	**P**	**12 45 04.8**	**+1.2**
QSPA				IAmb	IAmb	12 45 24.6	
	comp=Z,2.9nm,1.2s						

IDC **12** *13:01:50.5±1.6, 6.°18S×128.°77E, h306km±16km, mb3.3/4, mb1 3.7/8, mb1mx3.2/55, mbtmp4.3/8, Error ellipse: s-maj=21.7km s-min=10.3km az=76.0*

ISC 12 13:01:48.0±0.8, **6.°18S**±0.°06×**128.°9E**±0.°1, **h264**km, **n9**, σ2s**62**/14, **mb3.6**/4, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.77**	**24**	P	**Pn**	**13 03 16.9**	**+3.3**
	4.1nm,0.3s,baz=115,slow=23,SNR=42						
SIJI				S	**S**	**13 04 23.1**	**+0.8**
	8.6nm,0.3s,baz=175,slow=23,SNR=14						
BATI	**Baumata**	**6.57**	**232**	P	**Pn**	**13 03 26.2**	**+2.7**
	85nm,0.3s,baz=72,slow=3.3,SNR=40						
BATI				S	**S**	**13 04 41.1**	**+0.8**
	11nm,0.3s,baz=91,slow=22,SNR=3.6						
FITZ	**Fitzroy Crossi**	**12.27**	**195**	P	**Pn**	**13 04 35.5**	**+0.9**
	1.1nm,0.3s,baz=24,slow=9.2,SNR=74						
FITZ				S	**S**	**13 06 54.7**	**+3.4**
	0.4nm,0.3s,baz=78,slow=22,SNR=2.0						
WRA	**Warramunga Arr**	**14.65**	**159**	P	**Pn**	**13 05 05.2**	**+1.6**
	2.9nm,0.3s,baz=333,slow=13,SNR=181						
WRA				S	**S**	**13 07 42.1**	**-3.0**
	0.2nm,0.3s,baz=333,slow=21,SNR=5.0						
ASAR	**Alice Springs**	**18.03**	**165**	P	**Pn**	**13 05 42.1**	**-1.2**
	3.2nm,0.3s,baz=345,slow=11,SNR=256						
ASAR				S	**S**	**13 08 50.2**	**-2.9**
	0.2nm,0.3s,baz=344,slow=21,SNR=18						
CMAR	**Chiang Mai Arr**	**38.40**	**310**	P	**P**	**13 08 41.9**	**-2.7**
	1.0nm,0.5s,baz=136,slow=7.3,SNR=6.8						
MKAR	**Makanchi Array**	**66.97**	**327**	P	**P**	**13 12 09.6**	**-2.9**
	0.6nm,0.4s,baz=122,slow=7.5,SNR=4.6						
KURBB	**Kurchatov Arra**	**71.26**	**329**	P	**P**	**13 12 36.0**	**-2.6**
	0.3nm,0.3s,baz=140,slow=5.6,SNR=5.2						
VNDA	**Vanda**	**73.38**	**173**	P	**P**	**13 12 51.0**	**+0.2**
	1.2nm,0.5s,baz=327,slow=5.8,SNR=6.5						

IDC **12** *13:07:46.1±1.0, 26.°91S×178.°68W, h336km±14km, mb3.3/6, mb1 3.5/10, mb1mx3.3/40, mbtmp4.1/10, Error ellipse: s-maj=26.7km s-min=19.8km az=134.0*

ISC 12 13:07:46.0±0.8, **27.°08S**±0.°08×**178.°6W**±0.°1, **h350**km, **n13**, σ1s**57**/14, **mb3.3**/6, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.25**	**164**	P	**Pn**	**13 08 39.0**	**-0.1**
	146nm,0.3s,baz=50,slow=23,SNR=2.2						
RAO				S	**S**	**13 09 22.7**	**+0.9**
	144nm,0.3s,baz=106,slow=23,SNR=1.9						
MSVF	**Nonsavu**	**9.79**	**341**	P	**Pn**	**13 09 59.8**	**-1.9**
	1.1nm,0.3s,baz=232,slow=21,SNR=5.9						
URZ	**Urewera**	**11.72**	**197**	P	**P**	**13 10 25.4**	**+1.0**
	2.0nm,0.3s,baz=268,slow=4.8,SNR=17						
URZ				S	**S**	**13 12 30.8**	**-4.0**
	1.7nm,0.3s,baz=291,slow=21,SNR=2.2						
AFI	**Afiamalu**	**14.57**	**27**	P	**P**	**13 10 55.0**	**-1.2**
	2.7nm,0.3s,baz=225,slow=5.7,SNR=4.1						
CTA	**Charters Tower**	**32.87**	**275**	P	**P**	**13 13 49.2**	**+0.6**
	3.1nm,0.5s,baz=95,slow=12,SNR=1.9						
ASAR	**Alice Springs**	**42.84**	**264**	P	**P**	**13 15 12.1**	**+0.8**
	0.5nm,0.4s,baz=97,slow=7.3,SNR=10						
WRA	**Warramunga Arr**	**43.53**	**269**	P	**P**	**13 15 17.2**	**+0.6**
	0.6nm,0.4s,baz=104,slow=8.6,SNR=14						
FITZ	**Fitzroy Crossi**	**51.89**	**268**	P	**P**	**13 16 21.0**	**+0.8**
	0.8nm,0.7s,baz=101,slow=7.7,SNR=1.3						
MJAR	**Matsushiro Arr**	**75.21**	**325**	P	**P**	**13 18 51.0**	**0.0**
	0.7nm,0.5s,baz=158,slow=5.6,SNR=5.5						
PDAR	**Pinedale Array**	**94.10**	**44**	P	**P**	**13 20 26.8**	**+1.2**
	0.2nm,0.6s,baz=232,slow=1.0,SNR=1.7						
FINES	**FINESS Array B**	**141.84**	**341**	PKhKP	PKPpre	13 26 31.9	
	1.0nm,0.9s,baz=16,slow=2.8,SNR=5.8						
NOA	**NORSAR Array B**	**145.40**	**352**	PKPbc	**PKPab**	**13 26 43.8**	**+0.3**
	0.6nm,0.8s,baz=11,slow=2.4,SNR=2.1						
AKASG	**Malin Array Be**	**148.30**	**326**	PKPbc	**PKPbc**	**13 26 51.3**	**+0.3**
	0.5nm,0.4s,baz=49,slow=3.9,SNR=4.7						

NEIC 12 13:12:31.3±0.3, **37.°27N**±0.°01×**97.°59W**±0.°01, **h6**km±3km, **Error ellipse: s-maj=2.0km s-min=1.1km az=178.0, Kansas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KS20	**Mayfield South**	**0.05**	**141**	Pg	Pg	13 12 32.7	0.0
KS20				Sg	Sg	13 12 33.6	-0.1
KS21	**Milan North St**	**0.06**	**289**	Pg	Pg	13 12 32.9	0.0
KS21				Sg	Sg	13 12 34.0	-0.1
KAN06	**Argonia West S**	**0.21**	**265**		Pg	13 12 35.6	+0.1
KAN17	**Caldwell West**	**0.26**	**212**	Pg	Pg	13 12 36.4	0.0
KAN17				Sg	Sg	13 12 39.9	0.0
KAN13	**South Haven SW**	**0.27**	**160**	Pg	Pg	13 12 36.6	0.0
KAN13				Sg	Sg	13 12 40.4	+0.2
KAN05	**Bluff City Nor**	**0.27**	**235**	Pg	Pg	13 12 36.5	-0.1
KAN12	**Harper NE Stat**	**0.33**	**276**	Pg	Pg	13 12 37.6	0.0
KAN14	**Manchester OK**	**0.43**	**224**	Pg	Pg	13 12 39.5	0.0
GC02	**Grant County #**	**0.47**	**207**	Pg	Pg	13 12 40.0	-0.3
BLOK	**Blackwell**	**0.59**	**149**		Pg	13 12 42.5	-0.1
OK032	**Salt Plains WL**	**0.68**	**227**	Pg	Pg	13 12 44.1	-0.2
OK032	**Salt Plains WL**	**0.68**	**227**		Sg	13 12 52.7	-0.4
CROK	**Carrier**	**0.82**	**203**		Pg	13 12 46.6	-0.5
T35A	**Sooner Cattle**	**0.93**	**112**		Pg	13 12 48.9	-0.2
QUOK	**Quay**	**1.30**	**147**		Pn	13 12 55.5	-0.5
U32A	**Winter Ranch,**	**1.44**	**232**	IAmb_Lg		13 13 18.4	
	comp=Z,24nm,0.8s						
OK031	**S. Brethren Rd**	**1.44**	**155**	Pn	Pn	13 12 57.8	-0.1
OK029	**Liberty Lake**	**1.47**	**176**	Pn	Pn	13 12 58.2	-0.1
OK025	**Westminster Rd**	**1.69**	**173**	Pn	Pn	13 13 01.6	+0.3
X34A	**Smith Ranch, M**	**2.67**	**184**	IAmb_Lg		13 13 58.6	
	comp=Z,12nm,0.7s						
X37A	**Clayton**	**3.22**	**145**	IAmb_Lg		13 14 16.6	
	comp=Z,8.7nm,0.9s						
W39A	**Magazine**	**3.71**	**123**	IAmb_Lg		13 14 36.2	
	comp=Z,10nm,0.7s						
U40A	**Yellville**	**3.91**	**102**	Pn	Pn	13 13 32.6	+0.7
KSCO	**Kaye Shedlock'**	**4.33**	**295**	IAmb_Lg		13 14 55.2	
	comp=Z,6.5nm,0.7s						
R40A	**Maddies Statio**	**4.34**	**75**	IAmb_Lg		13 14 51.2	
	comp=Z,5.0nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.61**	**106**	IAmb_Lg		13 14 55.7	
	comp=Z,6.0nm,1.0s						
WHAR	**Wooly Hollow**	**4.72**	**113**	IAmb_Lg		13 15 05.8	
	comp=Z,5.9nm,0.7s						
X40A	**Basin Creek Fa**	**4.75**	**124**	IAmb_Lg		13 15 12.0	
	comp=Z,5.9nm,0.8s						
P40A	**Paris**	**4.91**	**61**	IAmb_Lg		13 15 04.9	
	comp=Z,8.7nm,0.8s						
ECSD	**EROS Data Cent**	**6.50**	**6**	IAmb_Lg		13 16 10.0	
	comp=Z,3.1nm,1.2s						

IDC 12 13:13:40.3±6.6, **3.°62N×124.°20E, h375**km±70km, **mb3.2**/5, **mb1 3.3**/5, **mb1mx2.9**/52, **mbtmp3.9**/5, **Error ellipse: s-maj=90.0km s-min=20.0km az=63.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.63**	**176**	P	P	13 18 01.6	+0.3
	1.3nm,0.3s,baz=359,slow=8.7,SNR=53						
WRA	**Warramunga Arr**	**25.44**	**157**	P	P	13 18 35.0	-0.8
	0.8nm,0.3s,baz=334,slow=11,SNR=33						
WRA				PcP	PcP	13 21 55.8	-0.7
	0.4nm,0.8s,baz=325,slow=1.9,SNR=4.8						
ASAR	**Alice Springs**	**28.72**	**161**	P	P	13 19 04.8	0.0
	0.3nm,0.4s,baz=337,slow=7.3,SNR=6.9						
ASAR				PcP	PcP	13 22 04.1	-0.3
	0.2nm,0.5s,baz=348,slow=2.8,SNR=1.9						
STKA	**Stephens Creek**	**38.98**	**156**	P	P	13 20 32.6	+0.6
	2.0nm,0.4s,baz=339,slow=8.1,SNR=6.3						
MKAR	**Makanchi Array**	**56.23**	**326**	P	P	13 22 42.8	-0.1
	0.5nm,0.5s,baz=128,slow=8.2,SNR=7.0						

GRAL **12** *13:27:56.9±0.5, 33.°08N×35.°13E, h16km±250km, MD2.6*
GII **12** *13:27:58.3±0.4, 33.°15N×35.°21E, h13km±1km, Mm1.9/5*

ISC 12 13:27:57.1±1.1, **33.°19N**±0.°04×**35.°22E**±0.°07, **h23**km±7km, **n15**, σ0s**72**/26, **Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNTI	**Hanita**	**0.12**	**201**	Pg	**Pb**	**13 28 01.7**	**+0.1**
HNTI				Sg	**Sb**	**13 28 03.8**	**-0.8**
MMC7	**Mount Meron ar**	**0.22**	**140**	Pg	**Pb**	**13 28 03.4**	**+0.6**
GEM	**Giv'at Ha'Em**	**0.37**	**87**	Pg	**Pn**	**13 28 06.3**	**-0.7**
GEM				Sg	**Sn**	**13 28 12.6**	**-0.9**
NATI	**Neve Ativ**	**0.43**	**80**	Pg	**Pn**	**13 28 07.4**	**-0.5**
NATI				Sg	**Sn**	**13 28 14.5**	**-0.6**
BLGI	**Bet Lehem HaGe**	**0.46**	**183**	Pg	**Pb**	**13 28 06.9**	**+0.4**
BLGI				Sg	**Sb**	**13 28 13.3**	**+0.5**
DQRL	**Deir Qamar**	**0.59**	**29**	*eP*	**Pn**	**13 28 09.9**	**-0.3**
DQRL				*eS*	**Sn**	**13 28 19.3**	**+0.2**
RCY	**Rachaya**	**0.60**	**59**	*eP*	**Pn**	**13 28 09.8**	**-0.5**
RCY				*eS*	**Sn**	**13 28 19.2**	**-0.1**
OFRI	**`Ofer**	**0.60**	**200**	Pg	**Pb**	**13 28 08.6**	**-0.4**
OFRI				Sg	**Sb**	**13 28 17.5**	**+0.4**
MMLI	**Mount Malkishu**	**0.77**	**167**	Pg	**Pb**	**13 28 12.0**	**+0.2**
MMLI				Sg	**Sn**	**13 28 23.3**	**-0.1**
BHL	**Bhannes**	**0.80**	**27**	*eP*	**Pn**	**13 28 12.9**	**-0.2**
SLTI	**Sal'it**	**0.96**	**189**	Pg	**Pb**	**13 28 16.2**	**+1.2**
SLTI				Sg	**Sb**	**13 28 28.4**	**+1.1**
HMDT	**Nahal Hemdat**	**0.97**	**165**	Pg	**Pb**	**13 28 15.6**	**+0.4**
HMDT				Sg	**Sb**	**13 28 29.2**	**+1.7**
HWQ	**Hawqa**	**1.24**	**29**	*eP*	**Pb**	**13 28 20.4**	**+0.5**
DSI	**Dead Sea**	**1.62**	**175**	Pn	**Pb**	**13 28 25.5**	**-0.8**
AMAZ	**Amatzia**	**1.67**	**189**	Pn	**Pb**	**13 28 26.6**	**-0.6**
AMAZ				Sn	**Sb**	**13 28 48.5**	**+0.7**

NOU **12** *13:33:24.5, 19.°53S×172.°88W, h111km, mb4.5/20, Tonga Islands Region*

IDC **12** *13:33:44.3±2.5, 20.°72S×174.°96W, h132km±27km, mb3.9/6, mb1 4.0/11, mb1mx3.7/55, mbtmp4.5/11, Error ellipse: s-maj=30.0km s-min=25.0km az=173.0*

NEIC **12** *13:33:45.0±2.7, 20.°7S±0.°1×174.°8W±0.°1, h146km±13km, mb4.4/15, Error ellipse: s-maj=15.4km s-min=14.0km az=139.0*

ISC 12 13:33:44.3±0.5, **20.°61S**±0.°07×**174.°74W**±0.°06, **h150**km, **n58**, σ1s**67**/55, **mb4.3**/11, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.78**	**72**		**Pn**	**13 34 57.8**	**+2.9**
AFI	**Afiamalu**	**7.24**	**23**	P	**Pn**	**13 35 28.8**	**+1.1**
	2.6nm,0.3s,baz=195,slow=20,SNR=4.4						
AFI				S	**Sn**	**13 36 46.4**	**-2.5**
	2.3nm,0.3s,baz=237,slow=20,SNR=1.5						
AFI	**Afiamalu**	**7.24**	**23**		**Pn**	**13 35 28.6**	**+0.8**
MSVF	**Nonsavu**	**7.39**	**292**	P	**Pn**	**13 35 29.2**	**-0.5**
	3.1nm,0.3s,baz=125,slow=12,SNR=17						
MSVF	**Nonsavu**	**7.39**	**292**		**Pn**	**13 35 29.4**	**-0.4**
RAO	**Raoul Island**	**9.07**	**198**	Pn	**Pn**	**13 35 52.9**	**+1.0**
GLKZ	**Green Lake**	**9.08**	**198**	P	Pn	13 35 46.4	-5.7
GLKZ				S	Sn	13 37 19.6	-13
RAR	**Rarotonga**	**14.00**	**95**	P	**P**	**13 37 00.3**	**+0.8**
	1.0nm,0.3s,baz=292,slow=11,SNR=2.1						
RAR				S	**Sn**	**13 39 30.4**	**-1.0**
	2.4nm,0.3s,baz=81,slow=5.3,SNR=2.4						
RAR	**Rarotonga**	**14.00**	**95**		**Pn**	**13 36 54.9**	**-1.4**
MARNC	**Mare, Loyalty**	**16.11**	**264**	P	**P**	**13 37 28.2**	**+5.3**
	1.4nm,1.7s						
PINNC	**Pines Island,**	**16.69**	**260**		**Pn**	**13 37 30.8**	**+1.4**
ONTNC	**Ouen Toro**	**17.59**	**261**	P	**P**	**13 37 36.6**	**-2.6**
DZM	**Mont Dzumac**	**17.59**	**262**	P	**Pn**	**13 37 40.1**	**-0.4**
	0.8nm,0.3s,baz=135,slow=16,SNR=6.0						
DZM	**Mont Dzumac**	**17.59**	**262**		**P**	**13 37 36.3**	**-3.0**
DZM				IAmb	IAmb	13 37 44.2	
	comp=Z,13nm,0.8s						
DZM	**Mont Dzumac**	**17.59**	**262**		**Pn**	**13 37 44.0**	**+3.5**
OUZ	**Omahuta**	**17.81**	**213**	P	**Pn**	**13 37 41.6**	**-1.2**
MXZ	**Matakaoa Point**	**17.94**	**198**	P	**Pn**	**13 37 43.6**	**-0.7**
WCZ	**Waipu Caves**	**18.02**	**210**	P	**P**	**13 37 43.5**	**-0.3**
HAZ	**Te Kaha**	**18.27**	**199**	P	**P**	**13 37 44.6**	**-1.9**
HAZ				S	S	13 40 48.0	-20
PUZ	**Puketiti**	**18.43**	**198**	P	**P**	**13 37 47.3**	**-0.8**
PUZ				S	S	13 40 48.7	-22
RUGZ	**Raukumara Rang**	**18.50**	**199**	P	**P**	**13 37 47.2**	**-1.9**
RUGZ				S	S	13 40 53.1	-19
TWGZ	**Tauwhareparae**	**18.60**	**198**	P	**Pn**	**13 37 52.2**	**0.0**
TWGZ				S	S	13 40 55.2	-19
MKAZ	**Moumakai**	**18.64**	**206**	P	**P**	**13 37 50.1**	**-0.4**
MWZ	**Matawai**	**18.88**	**199**	P	**P**	**13 37 52.3**	**-0.9**
MWZ				S	S	13 41 00.2	-20
URZ	**Urewera**	**18.95**	**200**	P	**P**	**13 37 52.7**	**-1.1**
	comp=Z,5.7nm,0.3s,baz=331,slow=4.9,

Nm; M_{rr}1.66±.03; $M_{\theta\theta}$-0.45±.02; $M_{\phi\phi}$-1.21±.02; $M_{r\theta}$0.54±.02; $M_{r\phi}$-0.69±.02; $M_{\theta\phi}$1.04±.02; Best double couple: M_o2.01400×10^{17} NP1:ϕ_s212.00000°,δ27.00000°, λ93.00000°. NP2:ϕ_s29.00000°,δ63.00000°,λ88.00000°. Principal axes: T 2.0350, Plg72.0000°, Azm295.0000°; N -0.0440, Plg2.0000°, Azm29.0000°; P -1.9920, Plg18.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

IDC ***12*** *13:38:03.2±0.3,41°.87N×142°.56E,h64km±2km,mb4.5/43, mb1 4.7/50,mb1mx4.6/61,mbtmp4.8/50,MS4.7/40, Ms1 4.7/40,ms1mx4.7/41 Error ellipse: s-maj=8.7km s-min=5.5km az=104.0*

NEIC ***12*** *13:38:03.6,41°.92N×142°.53E,h48km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.63; $M_{\theta\theta}$-0.54; $M_{\phi\phi}$-1.09; $M_{r\theta}$0.68; $M_{\theta\phi}$-0.38; $M_{r\phi}$1.23; Fault plane solution: M_o2.05000×10^{17} NP1:ϕ_s206.22000°, δ23.04000°,λ88.31000°. NP2:ϕ_s28.05000°,δ66.97000°, λ90.72000°. Principal axes: T 2.2005, Plg68.0000°, Azm299.0000°; N -0.3489, Plg1.0000°, Azm208.0000°; P -1.8517, Plg22.0000°, Azm118.0000°;*

NEIC ***12*** *13:38:04,41°.83N×142°.81E,h59km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.60; $M_{\theta\theta}$-0.37; $M_{\phi\phi}$-1.23; $M_{r\theta}$0.41; $M_{\theta\phi}$-0.83; $M_{r\phi}$0.93; Fault plane solution: M_o1.96000×10^{17} NP1:ϕ_s216.00000°, δ30.00000°,λ98.00000°. NP2:ϕ_s27.00000°,δ61.00000°, λ86.00000°. Principal axes: T 1.8896, Plg74.0000°, Azm286.0000°; N 0.1267, Plg4.0000°, Azm29.0000°; P -2.0164, Plg16.0000°, Azm120.0000°;*

BGR ***12*** *13:38:04.8±0.0,42°.66N×142°.74E,h33km,mb5.4,Ms5.2*

NEIC ***12*** *13:38:06,41°.87N×142°.67E,h50km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.67; $M_{\theta\theta}$-0.54; $M_{\phi\phi}$-1.12; $M_{r\theta}$0.52; $M_{\theta\phi}$-0.42; $M_{r\phi}$0.95; Fault plane solution: M_o1.87000×10^{17} NP1:ϕ_s207.00000°, δ27.00000°,λ89.00000°. NP2:ϕ_s28.00000°,δ63.00000°, λ90.00000°. Principal axes: T 2.0151, Plg72.0000°, Azm299.0000°; N -0.3244, Plg0.0000°, Azm208.0000°; P -1.6907, Plg18.0000°, Azm118.0000°;*

ISC 12 13:38:02.8±0.3,41°.88N±0°.03×142°.60E±0°.03,h62km±1km, h62km:pP-P,n1062,σ1ᵍ65/1175,mb5.2/258,380C-95D, Fault plane solution: NP1:ϕ_s166.21108°,δ40.90564°, λ74.68577°. **NP2:**ϕ_s6.12744°,δ50.83440°,λ102.88892°. **Principal axes:** T Plg78.8152°, Azm330.5315°; N Plg9.9591°, Azm177.9041°; P Plg5.0394°, Azm87.0169°;

Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.42**	**16**	⇑P		**Pn**	**13 38 12.7**	**-1.4**
JNBK				*e*S		**Sn**	**13 38 21.1**	**-1.2**
JEM	**Erimo**	**0.44**	**72**	⇑P		**Pn**	**13 38 12.2**	**-2.1**
JSHD	**Hidakashinhida**	**0.54**	**349**	⇓P		**Pn**	**13 38 14.8**	**-0.5**
JSHD				*e*S		**Sn**	**13 38 24.6**	**+0.1**
JTHR	**Tokachihiroo**	**0.66**	**51**	P		**Pn**	**13 38 15.3**	**-1.4**
JTHR				*e*S		**Sn**	**13 38 25.4**	**-1.5**
JIAM	**Iburiatsuma**	**0.90**	**326**	⇓P		**Pn**	**13 38 20.0**	**+0.4**
JBT2	**Biratori 2**	**0.92**	**349**	⇓P		**Pn**	**13 38 19.2**	**-0.6**
JCH	**Churui**	**0.93**	**37**	⇑P		**Pn**	**13 38 18.9**	**-1.1**
JCH				*e*S		**Sn**	**13 38 31.5**	**-1.2**
JAHD	**Aomorihigashid**	**1.13**	**237**	⇓P		**Pn**	**13 38 21.9**	**-0.7**
JKB	**Kayabe**	**1.17**	**271**	⇓P		**Pn**	**13 38 22.2**	**-0.9**
JKB				*e*S		**Sn**	**13 38 37.5**	**-0.7**
JOT	**Ohata**	**1.27**	**247**	⇓P		**Pn**	**13 38 23.4**	**-0.9**
JOT				*e*S		**Sn**	**13 38 39.8**	**-0.7**
JARK	**Aomorirokkasho**	**1.27**	**227**	⇓P		**Pn**	**13 38 23.7**	**-0.8**
JFR	**Furan**	**1.28**	**360**	⇓P		**Pn**	**13 38 24.1**	**-0.5**
JEW	**Eniwo**	**1.28**	**319**	⇓P		**Pn**	**13 38 24.5**	**-0.1**
JEW	**Eniwo**	**1.28**	**319**	Pn		**Pn**	**13 38 24.6**	**-0.1**
JNB	**Noboribetsu**	**1.30**	**297**	⇓P		**Pn**	**13 38 23.8**	**-1.0**
JNB				*e*S		**Sn**	**13 38 41.0**	**-0.4**
JOB	**Onbets**	**1.37**	**41**	⇓P		**Pn**	**13 38 25.8**	**0.0**
JTM	**Tenmabayashi**	**1.59**	**227**	⇓P		**Pn**	**13 38 28.4**	**-0.3**
JTM	**Tenmabayashi**	**1.59**	**227**	Pn		**Pn**	**13 38 28.6**	**-0.1**
JISS	**Ishikarishitsu**	**1.65**	**328**	⇓P		**Pn**	**13 38 29.6**	**+0.2**
JAB	**Ashibetsu**	**1.65**	**350**	⇓P		**Pn**	**13 38 29.6**	**+0.1**
JAR	**Ashorobuto**	**1.66**	**31**	⇓P		**Pn**	**13 38 29.0**	**-0.6**
JSR	**Shiriuchi**	**1.67**	**259**	⇓P		**Pn**	**13 38 29.1**	**-0.7**
JYM2	**Yakumo 2**	**1.68**	**279**	⇓P		**Pn**	**13 38 29.3**	**-0.6**
JANG	**Nango**	**1.71**	**209**	⇓P		**Pn**	**13 38 29.6**	**-0.8**
JSI2	**Shiura 2**	**1.84**	**244**	⇓P		**Pn**	**13 38 32.1**	**+0.1**
JAK	**Akkeshi**	**1.91**	**54**	⇓P		**Pn**	**13 38 31.5**	**-1.5**
JHR	**Hokuryu**	**1.97**	**341**	⇓P		**Pn**	**13 38 34.7**	**+0.8**
JOMM	**Oshimamatsumae**	**1.97**	**261**	⇓P		**Pn**	**13 38 33.2**	**-0.7**
JKK2	**Kamakawa 2**	**2.00**	**3**	⇓P		**Pn**	**13 38 34.5**	**+0.3**
JSH	**Shimam**	**2.04**	**293**	⇓P		**Pn**	**13 38 34.6**	**-0.2**
JHHS	**Hirosakihyakuz**	**2.09**	**235**	⇓P		**Pn**	**13 38 35.9**	**+0.5**
JHST	**Hiyamasetana**	**2.10**	**286**	⇓P		**Pn**	**13 38 34.8**	**-0.7**
JKZ	**Kuzumaki**	**2.12**	**207**	⇑P		**Pn**	**13 38 28.0**	**-0.2**
JMP	**Maruseppu**	**2.20**	**14**	⇑P		**Pn**	**13 38 37.2**	**+0.2**
JKA	**Kamikawa-asahi**	**2.23**	**0**	Pn		**Pn**	**13 38 38.1**	**+0.6**
ASAJ	**Asahikawa**	**2.24**	**360**	P		**Pn**	**13 38 38.0**	**+0.6**
	365nm,0.3s,baz=213,slow=10,SNR=803							
ASAJ				S		**Sn**	**13 39 07.0**	**+3.0**
	272nm,0.3s,baz=230,slow=21,SNR=7.6							
ASAJ	**Asahikawa**	**2.24**	**360**	⇓P		**Pn**	**13 38 37.9**	**+0.4**
JNK	**Nakash**	**2.31**	**42**	⇓P		**Pn**	**13 38 36.9**	**-1.6**
JOSM	**Okushiri--Mats**	**2.34**	**276**	⇓P		**Pn**	**13 38 38.2**	**-0.6**
JSZI	**Iwateshizukuis**	**2.48**	**211**	⇑P		**Pn**	**13 38 41.0**	**+0.3**
JYG	**Yagishiri**	**2.69**	**342**	⇓P		**Pn**	**13 38 44.1**	**+0.5**
NMR	**Nemuro--Hokkai**	**2.75**	**56**	*e*P		**Pn**	**13 38 42.6**	**-1.8**
NMR				*i* S		**Sn**	**13 39 12.8**	**-3.6**
GLVR	**Golovnino**	**2.84**	**48**	*c i*P		**Pn**	**13 38 44.3**	**-1.4**
GLVR				*i* S		**Sn**	**13 39 16.4**	**-2.3**
GLVR	comp=Z,3μm,0.4s			pmax	pmax			
GLVR	comp=N,1μm,0.5s			pmax	pmax			
GLVR	comp=N,23μm,0.3s			smax	smax			
GLVR	comp=E,44μm,0.4s			smax	smax			
JRG	**Rokugo**	**2.90**	**212**	⇑P		**Pn**	**13 38 46.8**	**+0.3**
RUSJ	**Misakicho**	**2.95**	**40**	⇑*i*P		**Pn**	**13 38 47.5**	**+0.3**
RUSJ				*e*S		**Sn**	**13 39 20.1**	**-1.3**
JMK	**Ichinoseki**	**3.11**	**200**	P		**Pn**	**13 38 48.7**	**-0.7**
GRPR	**Tuman**	**3.14**	**47**	*c i*P		**Pn**	**13 38 48.6**	**-1.2**
GRPR				*i* S		**Sn**	**13 39 23.3**	**-2.8**
GRPR	comp=E,886nm,0.2s			pmax	pmax			
GRPR	comp=Z,2μm,0.2s			pmax	pmax			
GRPR	comp=N,1μm,0.3s			pmax	pmax			
GRPR	comp=E,21μm,0.4s			smax	smax			
GRPR	comp=N,12μm,0.3s			smax	smax			
YUK	**Yuzh-Kuril'sk**	**3.22**	**47**	*d i*P		**Pn**	**13 38 50.0**	**-0.8**
YUK				*i* S		**Sn**	**13 39 25.4**	**-2.6**
YUK	comp=Z,4μm,0.4s			pmax	pmax			
YUK	comp=N,2μm,0.5s			pmax	pmax			
YUK	comp=E,2μm,0.5s			smax	smax			
YUK	comp=E,36μm,0.7s			smax	smax			
YUK	comp=N,15μm,0.2s			MLR	MLR			
YUK	comp=E,6μm,7.0s			MLR	MLR			
YUK	comp=N,9μm,8.0s							
JYK	**Kaneyama**	**3.42**	**211**	⇑P		**Pn**	**13 38 53.6**	**0.0**
JYA	**Atsumi**	**3.96**	**215**	⇑P		**Pn**	**13 39 01.6**	**+0.6**
JYS	**Shirataka**	**4.14**	**209**	⇑P		**Pn**	**13 39 03.9**	**+0.4**
JMM	**Marumori**	**4.24**	**200**			**Pn**	**13 39 03.9**	**-1.0**
YSS	**Yuzh-Sakhalins**	**5.08**	**1**	*α i*P		**Pn**	**13 39 17.4**	**+1.2**
YSS				*i* S		**Sn**	**13 40 15.3**	**+1.9**
YSS	comp=Z,190nm,1.2s			pmax	pmax			
YSS	comp=Z,2μm,2.4s			pmax	pmax			
YSS	comp=N,410nm,1.1s			smax	smax			
YSS	comp=N,4μm,4.1s			smax	smax			
YSS	**Yuzh-Sakhalins**	**5.08**	**1**	Pn		**Pn**	**13 39 17.1**	**+0.9**
JSD	**Sado**	**5.08**	**222**	⇑P		**Pn**	**13 39 17.3**	**+0.9**
JSD	**Sado**	**5.08**	**222**	Pn		**Pn**	**13 39 17.3**	**+0.9**
KUR	**Kuril'sk**	**5.09**	**47**	*d i*P		**Pn**	**13 39 16.2**	**-0.2**
KUR				*i* S		**Sn**	**13 40 12.3**	**-1.4**
KUR	comp=Z,5μm,2.6s			pmax	pmax			
KUR	comp=Z,2μm,0.7s			pmax	pmax			
KUR	comp=E,946nm,0.4s			pmax	pmax			
KUR	comp=N,439nm,1.0s			pmax	pmax			
KUR	comp=E,14μm,3.7s			smax	smax			
KUR	comp=N,9μm,3.4s			smax	smax			
KUR	comp=E,4μm,0.6s			smax	smax			
KUR	comp=N,2μm,0.4s			smax	smax			
TEY	**Ternei**	**5.38**	**308**	⇓*e*P		**Pn**	**13 39 19.8**	**-0.7**
TEY	comp=Z,100nm,3.3s			pmax	pmax			
TEY	comp=E,70nm,1.0s			pmax	pmax			
TEY	comp=Z,50nm,1.0s			pmax	pmax			
TEY	comp=N,100nm,3.3s			pmax	pmax			
TEY	comp=E,200nm,3.3s			pmax	pmax			
JYT	**Yasato**	**5.95**	**199**	Pn		**Pn**	**13 39 25.8**	**-2.4**
JAG	**Ashikaga**	**5.97**	**205**	⇑P		**Pn**	**13 39 27.9**	**-0.6**
MJB9	**Matsu-Tunnel**	**6.33**	**214**			**Pn**	**13 39 34.0**	**+0.6**
MAJO	**Matsushiro**	**6.33**	**214**	*c i*P		**Pn**	**13 39 33.9**	**+0.5**
MAJO	comp=Z,105nm,0.6s			pmax	pmax			
MAJO	**Matsushiro**	**6.33**	**214**	Pn		**Pn**	**13 39 33.6**	**+0.2**
MAT	**Matsushiro**	**6.33**	**214**	P		**Pn**	**13 39 33.9**	**+0.5**
MAT				S		**Sn**	**13 40 45.0**	**+0.7**
MJAR	**Matsushiro Arr**	**6.33**	**214**	P		**Pn**	**13 39 34.1**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=23,slow=14,SNR=86							
MJAR	**Matsushiro Arr**	**6.33**	**214**	Pn		**Pn**	**13 39 33.4**	**0.0**
UGL	**Uglegorsk**	**7.21**	**357**	*e*P		**Pn**	**13 39 44.6**	**-0.8**
UGL				*e*S		**Sn**	**13 41 05.9**	**+0.2**
UGL	comp=Z,150nm,1.5s			pmax	pmax			
UGL	comp=N,350nm,1.6s			smax	smax			
UGL	comp=N,3μm,4.3s			smax	smax			
UGL	comp=E,4μm,16.0s			MLR	MLR			
UGL	comp=N,6μm,17.0s			MLR	MLR			
UGL	comp=Z,3μm,14.0s			MLR	MLR			
JGF	**Kuroka**	**7.49**	**215**			**Pn**	**13 39 50.5**	**+1.2**
INU	**Inuyama**	**7.85**	**216**	Pn		**Pn**	**13 39 56.0**	**+1.8**
JSG	**Sagara**	**7.99**	**207**			**Pn**	**13 39 55.7**	**-0.4**
VLA	**Vladivostok**	**8.01**	**282**	*c i*P		**Pn**	**13 39 58.6**	**+2.2**
VLA	comp=Z,181nm,0.9s			pmax	pmax			
USA0B	**Ussuriysk Arra**	**8.11**	**290**	P		**Pn**	**13 39 59.7**	**+1.9**
USA0B	**Ussuriysk Arra**	**8.11**	**290**	Pn		**Pn**	**13 39 59.7**	**+1.9**
USRK	**Ussuriysk Ar.**	**8.11**	**290**	P		**Pn**	**13 39 57.9**	**+0.1**
	baz=90,slow=14,SNR=82							
USRK				LR	LR		13 43 10.8	
	comp=Z,7μm,20.3s,baz=113,slow=38							
MSHR	**Mys Shultsa**	**8.52**	**279**	*ce*P		**Pn**	**13 40 05.1**	**+1.7**
MSHR	comp=Z,42nm,0.8s			pmax	pmax			
JWT	**Wachi**	**8.67**	**223**	Pn		**Pn**	**13 40 07.1**	**+1.7**
TYV	**Tymovskoe**	**8.99**	**0**	*e*P		**Pn**	**13 40 10.9**	**+1.2**
TYV				*e*S		**Sn**	**13 41 56.8**	**+7.5**
TYV	comp=Z,1μm,4.1s			pmax	pmax			
TYV	comp=Z,59nm,1.0s			pmax	pmax			
TYV	comp=N,33nm,1.7s			smax	smax			
TYV	comp=E,27nm,1.7s			smax	smax			
TYV	comp=N,800nm,5.4s			smax	smax			
TYV	comp=E,3μm,5.4s			MLR	MLR			
TYV	comp=Z,4μm,19.0s			MLR	MLR			
JHJ	**Hachijo jima 2**	**9.03**	**195**	P		**Pn**	**13 40 06.3**	**-4.1**
	comp=Z,51nm,0.3s,baz=115,slow=21,SNR=12							
JHJ				S		**Sn**	**13 41 42.9**	**-7.5**
	comp=Z,50nm,0.3s,baz=272,slow=22,SNR=2.3							
JHJ2	**Mitsune**	**9.03**	**195**	Pn		**Pn**	**13 40 08.1**	**-2.3**
GRNR	**Gornyy**	**9.86**	**336**	⇓*i*P		**Pn**	**13 40 23.8**	**+2.1**
GRNR				*e*S		**Sn**	**13 42 16.5**	**+5.8**
GRNR	comp=E,20nm,1.0s			pmax	pmax			
GRNR	comp=N,30nm,0.9s			pmax	pmax			
GRNR	comp=Z,30nm,0.9s			pmax	pmax			
GRNR	comp=N,10.0nm,0.9s			smax	smax			
GRNR	comp=Z,3μm,16.0s			MLR	MLR			
MDJ	**Mudanjiang**	**9.88**	**290**	P		**Pn**	**13 40 23.4**	**+1.5**
MDJ				sP			13 40 41.3	
MDJ				S		**Sn**	**13 42 12.8**	**+1.6**
MDJ	comp=Z,10.0nm,1.2s			pmax	pmax			
MDJ	comp=Z,910nm,6.3s			pmax	pmax			
MDJ	comp=Z,3μm,14.2s			LR	LR			
MDJ	comp=Z,6μm,21.4s			LR	LR			
MDJ	comp=Z,11μm,20.8s			LR	LR			
JHS	**Saijyo**	**10.12**	**230**			**Pn**	**13 40 27.2**	**+1.9**
KLR	**Kul'dur**	**10.57**	**318**	P		**Pn**	**13 40 33.5**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=122,slow=13,SNR=28							
KLR				LR	LR		13 44 54.1	
	comp=Z,8μm,21.7s,baz=146,slow=39							
KLR	**Kul'dur**	**10.57**	**318**	*ce*P		**Pn**	**13 40 31.9**	**+0.6**
KLR	comp=Z,41nm,1.0s			pmax	pmax			
JMN	**Monobe**	**10.66**	**223**			**Pn**	**13 40 32.8**	**0.0**
IMWB	**Imwonan-gil**	**11.23**	**250**	P		Pn	13 40 46.0	+5.6
	SNR=6.7							
IMWB	**Imwonan-gil**	**11.23**	**250**	P		Pn	13 40 46.0	+5.6
	SNR=6.7							
UJN	**ULJIN**	**11.30**	**249**	P		**Pn**	**13 40 46.1**	**+4.7**
	SNR=13							
UJN	**ULJIN**	**11.30**	**249**	P		**Pn**	**13 40 46.1**	**+4.7**
	SNR=13							
NKL	**Nikolayevsk**	**11.35**	**354**	*e*P		**Pn**	**13 40 41.5**	**-0.4**
NKL	comp=N,732nm,0.8s			pmax	pmax			
NKL	comp=E,4.0nm,0.8s			pmax	pmax			
NKL	comp=Z,322nm,1.2s			pmax	pmax			
NKL	comp=N,24μm,24.0s			MLR	MLR			
NKL	comp=Z,4μm,22.0s			MLR	MLR			
KSJMJ	**Jumunjin**	**11.36**	**254**	P		**Pn**	**13 40 46.9**	**+4.7**
	SNR=7.3							
KSJMJ	**Jumunjin**	**11.36**	**254**	P		**Pn**	**13 40 46.9**	**+4.7**
	SNR=7.3							
KSULJ	**Uljin**	**11.45**	**247**	P		Pn	13 40 49.0	+5.5
	SNR=10							
KSULJ	**Uljin**	**11.45**	**247**	P		Pn	13 40 49.0	+5.5
	SNR=10							
KSDGY	**Daegwallycong**	**11.50**	**253**	P		**Pn**	**13 40 49.0**	**+4.8**
	SNR=10							
KSDGY	**Daegwallycong**	**11.50**	**253**	P		**Pn**	**13 40 49.0**	**+4.8**
	SNR=10							
KSTBA	**Taebaek**	**11.56**	**250**	P		Pn	13 40 50.1	+5.1
	SNR=14							
KSTBA	**Taebaek**	**11.56**	**250**	P		Pn	13 40 50.1	+5.1
	SNR=14							
OKH	**Okha**	**11.68**	**1**	*c i*P		**Pn**	**13 40 47.6**	**+1.2**
OKH				*i* S		**Sn**	**13 42 52.5**	**-2.5**
OKH	comp=Z,400nm,5.9s			pmax	pmax			
OKH	comp=N,700nm,13.5s			smax	smax			
OKH	comp=Z,2μm,20.0s			MLR	MLR			
OKH	comp=N,3μm,19.0s			MLR	MLR			
KSIJA	**INJE**	**11.78**	**256**	P		Pn	13 40 53.8	+5.8
	SNR=9.6							
KSIJA	**INJE**	**11.78**	**256**	P		Pn	13 40 53.8	+5.8
	SNR=9.6							
KSYOW	**Yeongwol**	**11.89**	**251**	P		Pn	13 40 54.3	+4.9
	SNR=22							
KSYOW	**Yeongwol**	**11.89**	**251**	P		Pn	13 40 54.3	+4.9
	SNR=22							
HWCB	**Hwacheon**	**12.01**	**257**	P		P	13 40 57.0	-4.9
	SNR=13							
HWCB	**Hwacheon**	**12.01**	**257**	P		P	13 40 57.0	-4.9
	SNR=13							
KSWJU	**Wonju**	**12.07**	**253**	P		Pn	13 40 57.2	+5.3
	SNR=13							
KSWJU	**Wonju**	**12.07**	**253**	P		Pn	13 40 57.2	+5.3
	SNR=13							
KSRS	**Korea Array**	**12.14**	**253**	P		**Pn**	**13 40 54.5**	**+1.7**
	comp=N,0.9nm,0.3s,baz=69,slow=13,SNR=19							
KSRS				S		**Sn**	**13 43 14.5**	**+8.1**
	comp=N,1.8nm,0.3s,baz=68,slow=24,SNR=5.4							
KSRS				LR	LR		13 45 07.8	
	comp=N,6μm,20.5s,baz=76,slow=35							
KS19	**Wonju Array Si**	**12.16**	**254**			**Pn**	**13 40 54.8**	**+1.7**
KSAR	**Wonju Array Be**	**12.17**	**253**	P		**Pn**	**13 40 54.7**	**+1.4**
KSAR	**Wonju Array Be**	**12.17**	**253**			**Pn**	**13 40 54.7**	**+1.4**
KSUSN	**Ulsan**	**12.18**	**244**	P		**Pn**	**13 40 57.8**	**+4.3**
	SNR=9.2							
KSUSN	**Ulsan**	**12.18**	**244**	P		**Pn**	**13 40 57.8**	**+4.3**
	SNR=9.2							
KSMGY	**Mungyeong**	**12.41**	**250**	P		**P**	**13 41 01.8**	**-4.6**
	SNR=10							
KSMGY	**Mungyeong**	**12.41**	**250**	P		**P**	**13 41 01.8**	**-4.6**
	SNR=10							
KSCPR	**CHUPUNGNYEONG**	**12.69**	**248**	P		**Pn**	**13 41 04.5**	**+4.1**
	SNR=19							
KSCPR	**CHUPUNGNYEONG**	**12.69**	**248**	P		**Pn**	**13 41 04.5**	**+4.1**
	SNR=19							
CN2	**Changchun**	**12.74**	**284**	*e*P		**Pn**	**13 41 01.6**	**+0.7**
CN2				*e*S		**Sn**	**13 43 19.6**	**-1.3**
CN2	comp=N,10.0nm,1.1s			pmax	pmax			
CN2	comp=N,500nm,3.0s			pmax	pmax			
CN2	comp=N,6μm,18.0s			LR	LR			
CN2	comp=N,5μm,18.0s			LR	LR			
CN2	comp=N,5μm,20.0s			LR	LR			
OKCB	**Cheongsan-myeo**	**12.75**	**249**	P		**P**	**13 41 06.0**	**-4.2**
	SNR=7.6							
OKCB	**Cheongsan-myeo**	**12.75**	**249**	P		**P**	**13 41 06.0**	**-4.2**
	SNR=7.6							
JNU	**Nakatsue**	**12.76**	**231**	P		**Pn**	**13 41 01.0**	**-0.3**
	comp=N,0.6nm,0.3s,baz=47,slow=6.5,SNR=10							
SKR	**Severo-Kuril's**	**12.82**	**42**	*e*P		Pn	13 40 55.7	-6.3
SKR	comp=Z,700nm,6.6s			pmax	pmax			
SKR	comp=Z,227nm,0.7s			pmax	pmax			
SKR	comp=Z,3μm,12.0s			MLR	MLR			
SKR	comp=Z,4μm,12.0s			MLR	MLR			
KSCEA	**Cheonan**	**12.90**	**252**	P		**P**	**13 41 08.0**	**-3.7**
	SNR=10							
TJN	**Taejon**	**13.04**	**250**	*c i*P		**Pn**	**13 41 06.0**	**+1.0**
KOJ2	**Gongju-si**	**13.15**	**251**	P		**Pn**	**13 41 10.0**	**+3.5**
	SNR=7.7							
SNY	**Shenyang**	**14.18**	**276**	⇑P		**Pn**	**13 41 20.5**	**+0.2**
SNY				sP		P	13 41 39.6	+14
SNY				S		**Sn**	**13 43 58.2**	**+2.1**
SNY	comp=Z,8.0nm,0.5s			pmax	pmax			
SNY	comp=Z,2μm,20.4s			LR	LR			
SNY	comp=Z,2μm,24.6s			LR	LR			
SNY	comp=Z,5μm,20.1s			LR	LR			
JSU	**Suzuyama**	**14.20**	**227**			**Pn**	**13 41 19.5**	**-1.2**
JCJ	**Chichijima**	**14.75**	**181**	P		**Pn**	**13 41 24.4**	**-3.5**
	comp=Z,33nm,0.3s,baz=295,slow=18,SNR=17							
JCJ				S		Sn	13 43 57.8	-12
	comp=Z,30nm,0.3s,baz=302,slow=23,SNR=6.2							
JCJ				LR	LR		13 46 42.4	
	comp=Z,677nm,21.2s,baz=352,slow=35							
JCJ	**Chichijima**	**14.75**	**181**			**Pn**	**13 41 23.5**	**-4.3**
PEA0B	**Petropavlovsk-**	**15.14**	**37**	⇓*e*P		**Pn**	**13 41 32.4**	**-0.3**
PEA0B	**Petropavlovsk-**	**15.14**	**37**			**Pn**	**13 41 30.9**	**-1.8**
PETK	**Petropavlovsk-**	**15.14**	**37**	P		**Pn**	**13 41 29.9**	**-2.8**
	comp=Z,1.0nm,0.3s,baz=216,slow=9.0,SNR=16							
PETK	**Petropavlovsk-**	**15.14**	**37**	P		**Pn**	**13 41 31.2**	**-1.5**
PETK	**Petropavlovsk-**	**15.14**	**37**			**Pn**	**13 41 31.2**	**-1.5**
PET	**Petropavlovsk**	**15.52**	**39**	*e*P		**Pn**	**13 41 37.5**	**-0.1**
PET				*e*S		**Sn**	**13 44 27.9**	**-0.5**
PET	comp=Z,4μm,20.0s			MLR	MLR			
PET	comp=Z,3μm,19.0s			MLR	MLR			
PET	**Petropavlovsk**	**15.52**	**39**	Pn		**Pn**	**13 41 36.7**	**-0.8**
ZEA	**Zeya**	**15.68**	**324**	⇑*e*P		**Pn**	**13 41 37.8**	**-1.8**
ZEA				*e*S		Sn	13 44 20.9	-11
ZEA	comp=E,300nm,2.6s			pmax	pmax			
ZEA	comp=N,300nm,3.8s			pmax	pmax			
ZEA	comp=Z,400nm,4.4s			pmax	pmax			
ZEA	comp=Z,60nm,1.2s			smax	smax			
ZEA	comp=E,800nm,10.3s			MLR	MLR			
ZEA	comp=E,3μm,19.0s			MLR	MLR			
ZEA	comp=Z,2μm,18.0s			MLR	MLR			
DL2	**Dalian**	**16.25**	**266**	P		**Pn**	**13 41 46.1**	**-0.8**
DL2				sP		**sP**	**13 42 06.5**	**-3.1**
DL2				S		**Sn**	**13 44 49.9**	**+3.7**
DL2	comp=Z,86nm,1.3s			pmax	pmax			
DL2	comp=Z,1μm,4.6s			pmax	pmax			
DL2	comp=E,830nm,20.8s			LR	LR			
DL2	comp=Z,2μm,19.8s			LR	LR			
DL2	comp=Z,3μm,21.8s			LR	LR			
MA2	**Magadan**	**18.43**	**13**	P		**P**	**13 42 09.9**	**-2.9**
	comp=Z,2.6nm,0.3s,baz=190,slow=10,SNR=17							
MA2				LR	LR		13 50 06.4	
	comp=Z,578nm,19.8s,baz=198,slow=39							
MA2	**Magadan**	**18.43**	**13**	*c i*P		**P**	**13 42 11.4**	**-1.5**
MA2	comp=Z,155nm,1.3s			pmax	pmax			
MA2	**Magadan**	**18.43**	**13**	P		**P**	**13 42 10.3**	**-2.6**
MA2				IAmb	IAmb		13 42 13.1	
	comp=Z,246nm,1.4s							
JOW	**Kunigami**	**19.07**	**223**	P		**P**	**13 42 18.6**	**-1.5**
	comp=Z,3.0nm,0.3s,baz=48,slow=10,SNR=19							
JOW				LR	LR		13 50 03.9	
	comp=Z,3μm,21.9s,baz=40,slow=38							
JOW	**Kunigami**	**19.07**	**223**	P		**P**	**13 42 19.7**	**-0.4**
JOW				IAmb	IAmb		13 42 37.8	
	comp=Z,213nm,1.1s							
BJI	**Beijing**	**20.02**	**274**	P		**P**	**13 42 28.5**	**-1.8**
BJI				pP		**pP**	**13 42 40.7**	**-2.7**
BJI				sP		**sP**

comp=Z,6µm,18.4s
SSE Sheshan 20.25 245 P **P** **13 42 32.8 -0.1**
SSE S **S** **13 46 18.6 +2.0**
SSE pmax pmax
comp=Z,25nm,0.7s
SSE pmax pmax
comp=Z,170nm,3.3s
SSE LR LR
comp=Z,820nm,17.0s
SSE LR LR
comp=Z,1µm,16.3s
NJ2 Nanjing 21.30 250 *e*P **P** **13 42 41.4 -2.8**
NJ2 pP **pP** **13 42 55.5 -1.9**
NJ2 sP **sP** **13 43 01.1 -4.0**
NJ2 S **S** **13 46 30.7 -6.6**
NJ2 pmax pmax
comp=Z,20nm,0.9s
NJ2 pmax pmax
comp=Z,540nm,7.1s
NJ2 LR LR
comp=Z,4µm,17.1s
NJ2 LR LR
comp=Z,4µm,19.4s
NJ2 LR LR
comp=Z,3µm,19.9s
YAK Yakutsk 21.61 343 P **P** **13 42 43.4 -3.8**
comp=Z,19nm,0.4s,baz=151,slow=15,SNR=16
YAK LR LR 13 51 42.7
comp=Z,2µm,19.1s,baz=155,slow=38
YAK Yakutsk 21.61 343 *e*P **P** **13 42 42.9 -4.4**
YAK *e**PP **sP** **13 43 04.9 -3.7**
YAK *e*S **S** **13 46 33.4 -10**
YAK *e* 13 46 43.3
YAK *e**SS sS 13 47 21.6 +17
YAK *e* 13 53 58.8
YAK pmax pmax
comp=Z,52nm,1.8s
YAK pmax pmax
comp=N,25nm,1.4s
YAK pmax pmax
comp=E,11nm,1.4s
YAK smax smax
comp=N,1µm,3.1s
YAK smax smax
comp=E,669nm,3.0s
SEY Seymchan 21.87 12 P **P** **13 42 47.6 -2.3**
comp=E,308nm,1.4s,baz=189,slow=8.9,SNR=101
SEY LR LR 13 53 11.9
comp=E,922nm,18.4s,baz=196,slow=42
CIT Chita 22.13 307 *e*P **P** **13 42 49.4 -3.6**
CIT *e* 13 43 14.7
CIT *e* 13 43 19.8
CIT *e* 13 43 36.8
CIT *e*S **S** **13 46 52.3 -0.8**
CIT *e* 13 47 17.1
CIT pmax pmax
comp=Z,158nm,3.2s
HHC Hu-ho-hao-te 23.26 278 *e*P **P** **13 43 04.2 -0.7**
HHC pP pP 13 43 18.5 -0.1
HHC sP sP 13 43 25.9 -0.2
HHC S **S** **13 47 07.8 -4.4**
HHC sS Sn 13 47 31.3 -3.4
HHC SS **SnSn** **13 47 57.2 +5.5**
HHC pmax pmax
comp=Z,21nm,1.2s
HHC pmax pmax
comp=Z,300nm,5.9s
HHC LR LR
comp=Z,1µm,15.5s
HHC LR LR
comp=Z,3µm,19.8s
HHC LR LR
comp=Z,4µm,19.7s
TIY Taiyuan 23.49 270 *e*P **P** **13 43 06.0 -1.0**
TIY S **S** **13 47 14.0 -1.9**
TIY pmax pmax
comp=Z,18nm,0.7s
TIY pmax pmax
comp=Z,250nm,7.2s
TIY LR LR
comp=Z,1µm,18.4s
TIY LR LR
comp=Z,2µm,18.7s
TIY LR LR
comp=Z,3µm,19.1s
TATO Taipei 24.28 233 P **P** **13 43 14.1 -0.1**
BTO Baotou 24.45 278 *e*P **P** **13 43 13.8 -2.0**
BTO LR LR
comp=Z,2µm,10.6s
BTO LR LR
comp=Z,11µm,18.2s
YHNB Yeheng 24.58 232 P **P** **13 43 15.1 -1.9**
YHNB lAmb lAmb 13 43 26.7
comp=Z,49nm,0.9s
WHN Wuhan 25.33 253 ⇓P **P** **13 43 22.9 -0.8**
WHN sP **pP** **13 43 40.2 +1.8**
WHN S **S** **13 47 46.8 +1.4**
WHN pmax pmax
comp=Z,40nm,0.6s
WHN pmax pmax
comp=Z,920nm,3.2s
WHN LR LR
comp=Z,850nm,11.8s
WHN LR LR
comp=Z,6µm,19.5s
WHN LR LR
comp=Z,8µm,19.7s
YULB Yu-li 25.60 231 P **P** **13 43 23.4 -2.8**
ULN Ulaanbaatar 25.73 296*c i*P **P** **13 43 26.5 -0.9**
ULN pmax pmax
comp=Z,101nm,2.5s
ULN Ulaanbaatar 25.73 296 P **P** **13 43 26.3 -1.1**
ULN Ulaanbaatar 25.73 296 P **P** **13 43 26.2 -1.1**
comp=Z,14µmcomp=Z,5µmcomp=Z,147nm,1.0s
TPUB Ta-pu 26.06 232 P **P** **13 43 28.1 -2.3**
QZH Quanzhou 26.08 237⇑*i*P **P** **13 43 31.5 +1.0**
QZH S **S** **13 48 00.3 +3.1**
QZH pmax pmax
comp=Z,900nm,3.7s
QZH LR LR
comp=Z,840nm,18.0s
QZH LR LR
comp=Z,500nm,15.6s
QZH LR LR
comp=Z,880nm,27.5s
SONM Songino Array 26.17 296 P **P** **13 43 31.5 +0.1**
comp=Z,8.0nm,0.7s,baz=85,slow=8.8,SNR=58
SONM LR LR 13 54 27.3
comp=Z,4µm,21.1s,baz=92,slow=38
SONM Songino Array 26.17 296 P **P** **13 43 31.1 -0.2**
XAN Xi'an 27.55 265 P **P** **13 43 42.5 -1.2**
XAN pP pP 13 43 56.4 -2.2
XAN PcP **PcP** **13 47 02.0 +1.8**
XAN S **S** **13 48 14.5 -6.0**
XAN SS **SnSn** **13 49 37.3 +0.8**
XAN pmax pmax
comp=Z,44nm,1.6s
XAN pmax pmax
comp=Z,610nm,4.4s
XAN LR LR
comp=Z,1µm,21.5s
XAN LR LR
comp=Z,2µm,21.5s
XAN LR LR
comp=Z,3µm,22.3s
IRK Irkutsk 27.79 305 *e*P **P** **13 43 44.4 -1.2**
IRK pmax pmax
comp=Z,159nm,3.2s
GUMO Guam 28.26 175 LR LR 13 53 53.0
comp=Z,2µm,21.8s,baz=12,slow=34
ZAK Zakamensk 28.26 301 *e*P **P** **13 43 49.1 -0.9**
ZAK pmax pmax
comp=Z,37nm,1.4s
BILL Bilibino 29.13 18⇓*e*P **P** **13 43 59.5 +2.1**
BILL *e* 13 44 53.7
BILL *e*S **S** **13 48 36.1 -8.6**
BILL pmax pmax
comp=Z,23nm,1.6s
MOY Mondy 29.76 304 *e*P **P** **13 44 03.3 0.0**
MOY pmax pmax
comp=Z,170nm,2.3s
H11N2 WAKE ISLAND Hy 30.19 130 T T 14 15 25.8
baz=327,slow=75
H11N1 WAKE ISLAND Hy 30.20 130 T T 14 15 26.7
baz=327,slow=75
H11N3 WAKE ISLAND Hy 30.21 130 T T 14 15 27.3
baz=327,slow=75
LZH Lanzhou 30.49 272 ⇑P **P** **13 44 09.5 -0.4**
LZH pP pP 13 44 24.0 -0.9
LZH sP sP 13 44 31.6 -0.5
LZH PP **PnPn** **13 45 09.4 -1.5**
LZH S **S** **13 49 04.0 -2.9**
LZH sS sS 13 49 28.9 -3.6
LZH SS **SnSn** **13 50 51.8 +3.7**
LZH pmax pmax
comp=Z,33nm,1.3s
LZH pmax pmax
comp=Z,360nm,5.2s
LZH LR LR
comp=Z,1µm,13.7s
LZH LR LR
comp=Z,2µm,14.0s
LZH LR LR
comp=Z,2µm,16.0s
TIXI Tiksi 30.61 352 P **P** **13 44 08.7 -1.7**
comp=Z,2.9nm,0.5s,baz=121,slow=8.8,SNR=4.3
TIXI Tiksi 30.61 352⇓*e*P **P** **13 44 10.4 0.0**
TIXI Tiksi 30.61 352 P **P** **13 44 08.8 -1.7**
H11S1 WAKE ISLAND Hy 31.05 131 T T 14 16 30.4
baz=325,slow=76
H11S3 WAKE ISLAND Hy 31.05 131 T T 14 16 31.2
baz=325,slow=76
H11S2 WAKE ISLAND Hy 31.07 131 T T 14 16 36.0
baz=325,slow=76
GTA Gaotai 32.31 280 *e*P **P** **13 44 25.4 -0.5**
GTA pP pP 13 44 39.9 -1.0
GTA sP sP 13 44 45.4 -2.7
GTA PcP **PcP** **13 47 13.6 +1.0**
GTA S **S** **13 49 34.3 -1.0**
GTA PcS **PcS** **13 50 59.6 +1.9**
GTA ScS **ScS** **13 54 50.8 +0.8**
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA pmax pmax
comp=Z,240nm,5.7s
GTA LR LR
comp=Z,1µm,18.9s
GTA LR LR
comp=Z,2µm,20.0s
GTA LR LR
comp=Z,3µm,17.8s
CD2 Chengdu 32.87 263 P **P** **13 44 30.0 -0.8**
CD2 S **S** **13 49 42.5 -1.4**
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 pmax pmax
comp=Z,380nm,7.3s
CD2 LR LR
comp=Z,2µm,20.1s
CD2 LR LR
comp=Z,1µm,22.1s
CD2 LR LR
comp=Z,2µm,22.1s
GYA Guiyang 33.20 254 ⇓P **P** **13 44 33.6 -0.2**
GYA PP **PP** **13 45 50.1 +0.4**
GYA S **S** **13 49 48.2 -1.0**
GYA pmax pmax
comp=Z,24nm,1.6s
GYA LR LR
comp=Z,1µm,16.9s
GYA LR LR
comp=Z,1µm,18.4s
GYA LR LR
comp=Z,2µm,19.7s
QIZ Qiongzhong 35.94 241 P **P** **13 44 57.0 -0.3**
QIZ S **S** **13 50 31.9 +0.7**
QIZ LR LR
comp=Z,1µm,18.6s
QIZ LR LR
comp=Z,940nm,16.5s
QIZ LR LR
comp=Z,760nm,28.9s
KMI Kunming 36.83 256 ⇓P **P** **13 45 05.2 +0.1**
KMI pP pP 13 45 22.4 +2.1
KMI sP sP 13 45 29.8 +2.4
KMI PP **PnPn** **13 46 31.5 +0.9**
KMI S **S** **13 50 42.2 -3.0**
KMI sS sS 13 51 13.4 +2.3
KMI pmax pmax
comp=Z,44nm,2.0s
KMI pmax pmax
comp=Z,700nm,3.8s
KMI LR LR
comp=Z,890nm,21.6s
KMI LR LR
comp=Z,1µm,21.0s
KMI LR LR
comp=Z,2µm,22.0s
DAV Davao City (W) 37.81 208 LR LR 14 01 08.4
comp=Z,278nm,20.8s,baz=358,slow=37
SLVN Son La 38.38 250 P **P** **13 45 18.2 +0.2**
SLVN lAmb lAmb 13 45 21.0
comp=Z,64nm,1.2s
DGZ Jazzator, Alta 38.49 301*d i*P **P** **13 45 18.6 -0.2**
DGZ pmax pmax
comp=Z,56nm,1.1s
NRIK Noril'sk 39.32 333 P **P** **13 45 23.6 -1.7**
comp=Z,4.0nm,0.4s,baz=138,slow=5.7,SNR=8.0
NRIK LR LR 14 02 37.1
comp=Z,5µm,21.7s,baz=103,slow=38
NRIK Noril'sk 39.32 333*ce*P **P** **13 45 23.3 -2.0**
NRIK pmax pmax
comp=Z,30nm,1.5s
NRIK Noril'sk 39.32 333 P **P** **13 45 24.0 -1.2**
ZAA0 Zalesovo Array 39.48 308 P **P** **13 45 26.8 -0.1**
ZAA0 lAmb lAmb 13 45 45.5
comp=Z,60nm,0.9s
ZALV Zalesovo Beam 39.48 308 P **P** **13 45 26.8 -0.1**
comp=Z,17nm,0.5s,baz=87,slow=8.0,SNR=79
ZALV LR LR 14 03 08.4
comp=Z,2µm,18.3s,baz=79,slow=38
ZALV Zalesovo Beam 39.48 308 P **P** **13 45 27.0 +0.2**
WMQ Urumqi 39.68 292 *e*P **P** **13 45 29.1 +0.4**
WMQ pP pP 13 45 44.7 +0.7
WMQ sP sP 13 45 54.3 +3.1
WMQ PcP **PcP** **13 47 34.6 +0.3**
WMQ pmax pmax
comp=Z,38nm,1.1s
WMQ pmax pmax
comp=Z,950nm,3.9s
WMQ LR LR
comp=Z,2µm,15.3s
WMQ LR LR
comp=Z,2µm,15.9s
WMQ LR LR
comp=Z,2µm,16.9s
ZSN Zaisan 40.62 298⇑*i*P **P** **13 45 36.7 +0.2**
comp=Z,105nm,2.6s,baz=298
ZSN *e*S S 13 52 12.6 +31
baz=298
ZSN Zaisan 40.62 298*c i*P **P** **13 45 36.6 +0.2**
ZSN pmax pmax
comp=Z,105nm,2.6s
N18K Kilae Creek 41.04 41 P **P** **13 45 41.0 +1.3**
baz=271
NONG Nongkai 41.10 247 P **P** **13 45 41.5 +0.9**
comp=Z,134nm,1.1s
NONG Nongkai 41.10 247 P **P** **13 45 41.6 +0.9**
comp=Z,136nm,1.1s
L19K White Mountain 41.51 39 P **P** **13 45 44.2 +0.7**
baz=271,SNR=5.1
UBPT Khng Chiam 41.52 242 P **P** **13 45 45.3 +1.3**
comp=Z,51nm,1.4s
UBPT Khong Chiam 41.52 242 P **P** **13 45 45.4 +1.3**
comp=Z,51nm,1.4s
UBPT Khong Chiam 41.52 242 P **P** **13 45 45.3 +1.3**
comp=Z,48nm,1.4s
UBPT pP **pP** **13 46 01.9 +2.5**
comp=Z,48nm,1.4s
J20K Nowinta River 41.83 36 P **P** **13 45 46.8 +0.8**
J20K lAmb lAmb 13 46 04.4
comp=Z,29nm,0.7s
J20K Nowinta River 41.83 36 P **P** **13 45 46.7 +0.6**
baz=269,SNR=15
J20K S **S** **13 52 00.8 +1.8**
baz=269
K20K Telida 41.86 37 P **P** **13 45 47.1 +0.7**
K20K Telida 41.86 37 P **P** **13 45 47.0 +0.7**
baz=270,SNR=6.5
K20K S **S** **13 52 01.2 +1.7**
baz=270
L20K Farewell, AK 41.96 38 P **P** **13 45 48.1 +0.9**
baz=271
L20K S **S** **13 52 04.4 +3.5**
baz=271
GAMI Galela, Maluku 42.03 202 P P 13 46 14.4 +26
IMAR Indian Mountai 42.06 33 P **P** **13 45 48.0 +0.2**
M20K Styx River 42.33 39 P **P** **13 45 51.5 +1.2**
baz=272
M20K S **S** **13 52 10.6 +4.0**
baz=272
MK31 Makanchi Array 42.49 298*c i*P **P** **13 45 51.6 -0.1**
MK31 Makanchi Array 42.49 298 P **P** **13 45 51.6 -0.1**
MK31 lAmb lAmb 13 46 10.6
comp=Z,50nm,0.9s
MKAR Makanchi Array 42.49 298 P **P** **13 45 51.6 -0.1**
comp=Z,26nm,0.8s,baz=83,slow=9.6,SNR=197
MKAR LR LR 14 05 03.2
comp=Z,2µm,18.9s,baz=92,slow=38
CHUM Lake Minchumin 42.64 36 P **P** **13 45 53.4 +0.7**
baz=271
CHUM S **S** **13 52 13.7 +2.9**
baz=271
OHAK Old Harbor 42.66 46 P **P** **13 45 52.9 +0.1**
baz=277
MAKZ Makanchi 42.69 298 P **P** **13 45 53.5 +0.1**
MAKZ pmax pmax
comp=Z,95nm,1.1s
MAKZ Makanchi 42.69 298 P **P** **13 45 53.5 +0.1**
PPLA Purkeypile 42.73 38 P **P** **13 45 55.0 +1.5**
PPLA lAmb lAmb 13 46 12.4
comp=Z,62nm,1.2s
PPLA Purkeypile 42.73 38 P **P** **13 45 54.3 +0.8**
baz=272
PPLA S **S** **13 52 15.6 +3.1**
baz=272
CAST Castle Rocks 42.75 37 lAmb lAmb 13 46 11.2
comp=Z,30nm,0.8s
CAST Castle Rocks 42.75 37 P **P** **13 45 54.3 +0.7**
baz=272,SNR=12
SPCR Spurr Chakacha 42.81 40 P **P** **13 45 55.8 +1.7**
baz=274
LSA Lhasa 42.88 271 P **P** **13 45 57.2 +1.6**
LSA S **S** **13 52 17.4 +1.3**
LSA LR LR
comp=Z,2µm,19.4s
LSA LR LR
comp=Z,4µm,19.4s
LSA Lhasa 42.88 271 P **P** **13 45 56.8 +1.2**
KDAK Kodiak Island 42.96 45 P **P** **13 45 54.9 -0.4**
baz=277
SKT Skwentna 43.08 39 S **S** **13 52 19.5 +2.1**
baz=274
UTTA Uttaradit 43.12 249 P **P** **13 45 57.9 +0.9**
comp=Z,610nmcomp=Z,79nm,0.9s
UTTA Uttaradit 43.12 249 P **P** **13 45 57.0 0.0**
comp=Z,152nmcomp=Z,20nm,0.9s
TNTI Ternate 43.17 203 P **P** **13 45 58.1 +0.7**
comp=Z,2µmcomp=Z,106nm,1.2s
BPAW Bear Paw Mtn. 43.22 36 P **P** **13 45 57.5 +0.2**
baz=272,SNR=8.4
BPAW S **S** **13 52 21.1 +1.7**
baz=272
LAMP Lampang 43.24 251 P **P** **13 45 59.6 +1.6**
comp=Z,549nmcomp=Z,79nm,0.8s
LAMP Lampang 43.24 251 P **P** **13 45 59.6 +1.6**
comp=Z,137nmcomp=Z,20nm,0.8s
MLY Manley 43.30 35 P **P** **13 45 58.8 +0.8**
baz=271,SNR=8.4
MLY S **S** **13 52 21.7 +1.1**
baz=271
MNI Manado 43.31 206 P P 13 45 39.8 -19
CM34 Chiang Mai Arr 43.36 252 P **P** **13 45 59.0 0.0**
CHAI Chaiyaphum 43.40 246 P **P** **13 45 59.6 +0.3**
comp=Z,895nmcomp=Z,118nm,0.9s
CHAI Chaiyaphum 43.40 246 P **P** **13 45 59.7 +0.3**
comp=Z,223nmcomp=Z,29nm,0.9s
CM35 Chiang Mai Arr 43.47 251 P **P** **13 46 00.0 +0.1**
COLD Coldfoot 43.51 31 P **P** **13 45 58.9 -0.7**
COLD Coldfoot 43.51 31 P **P** **13 45 59.2 -0.4**
baz=269
CM33 Chiang Mai Arr 43.53 252 P **P** **13 46 00.0 -0.4**
CMMT Chiang Mai 43.53 252 P **P** **13 46 00.9 +0.5**
comp=Z,872nmcomp=Z,58nm,0.9s
CMMT Chiang Mai 43.53 252 P **P** **13 46 00.9 +0.5**
comp=Z,872nmcomp=Z,58nm,0.9s
CMMT Chiang Mai 43.53 252 P **P** **13 46 00.9 +0.5**
comp=Z,832nmcomp=Z,56nm,0.9s
CMMT pP **pP** **13 46 18.1 +2.2**
comp=Z,832nmcomp=Z,56nm,0.9s
CHTO Chiang Mai 43.53 252 P **P** **13 46 00.9 +0.5**
CHTO pmax pmax
comp=Z,34nm,1.0s
CHTO Chiang Mai 43.53 252 P **P** **13 46 01.0 +0.5**
comp=Z,851nmcomp=Z,58nm,0.9s
CHTO Chiang Mai 43.53 252 P **P** **13 46 00.8 +0.5**
CHTO lAmb lAmb 13 46 19.4
comp=Z,34nm,0.9s
CHTO Chiang Mai 43.53 252 P **P** **13 46 01.0 +0.5**
comp=Z,478nmcomp=Z,32nm,0.9s
TRF Thorofare Moun 43.56 37 P **P** **13 46 00.6 +0.3**
baz=273
PHIT Phitsanulok 43.59 249 P **P** **13 46 01.9 +1.1**
comp=Z,130nm,1.0s
PHIT Phitsanulok 43.59 249 P **P** **13 46 02.0 +1.1**
comp=Z,32nm,1.0s
CM36 Chiang Mai Arr 43.62 251 P **P** **13 46 01.0 -0.1**
CUT Chulitna 43.64 38 P **P** **13 46 00.9 +0.2**
baz=274
BRSE Bradley Lake S 43.67 42 P **P** **13 46 03.4 +2.4**
baz=277
CM32 Chiang Mai Arr 43.71 252 P **P** **13 46 03.0 +1.2**
CM09 Chiang Mai Arr 43.74 251 P **P** **13 46 03.4 +1.3**
comp=Z,238nmcomp=Z,24nm,1.0s
CM09 Chiang Mai Arr 43.74 251 P **P** **13 46 03.4 +1.3**
comp=Z,238nmcomp=Z,24nm,1.0s
SPMM Sapulut 43.74 219 P **P** **13 46 03.0 +0.9**
CM31 Chiang Mai Arr 43.77 251 P **P** **13 46 03.5 +1.2**
comp=Z,5µmcomp=Z,489nm,0.8s
CM31 Chiang Mai Arr 43.77 251 P **P** **13 46 03.3 +1.0**
SNR=7.0
CMAR Chiang Mai Arr 43.77 251 P **P** **13 46 03.1 +0.8**
comp=Z,7.7nm,0.9s,baz=48,slow=6.4,SNR=25
CMAR LR LR 14 05 45.7
comp=Z,1µm,18.7s,baz=90,slow=38
CMAR Chiang Mai Arr 43.77 251 P **P** **13 46 03.3 +1.0**
SIJI Sorong 43.77 197 P **P** **13 46 02.0 -0.3**
comp=Z,23nm,0.8s,baz=5.8,slow=8.6,SNR=5.0
SIJI pP **pP** **13 46 17.7 0.0**
comp=Z,53nm,0.7s,baz=13,slow=9.8,SNR=8.2
SIJI Sorong 43.77 197 P **P** **13 46 01.2 -1.1**
comp=Z,830nmcomp=Z,55nm,1.2s
TOLK Toolik Lake Re 43.77 29 P **P** **13 46 01.6 -0.2**
TOLK Toolik Lake Re 43.77 29 P **P** **13 46 01.3 -0.4**
baz=268
CM02 Chiang Mai Arr 43.78 251 P **P** **13 46 03.6 +1.2**
comp=Z,202nmcomp=Z,25nm,0.8s
CM02 Chiang Mai Arr 43.78 251 P **P** **13 46 03.0 +0.6**
comp=Z,202nmcomp=Z,25nm,0.8s
CM04 Chiang Mai Arr 43.78 251 P **P** **13 46 03.6 +1.2**
comp=Z,209nmcomp=Z,19nm,0.9s
CM04 Chiang Mai Arr 43.78 251 P **P** **13 46 03.6 +1.2**
comp=Z,209nmcomp=Z,19nm,0.9s
H23K Yukon River 43.78 33 P **P** **13 46 02.5 +0.7**
baz=271,SNR=8.4
CM01 Chiang Mai Arr 43.78 251 P **P** **13 46 03.9 +1.5**
comp=Z,204nmcomp=Z,21nm,0.8s
CM01 Chiang Mai Arr 43.78 251 P **P** **13 46 04.0 +1.5**
comp=Z,204nmcomp=Z,21nm,0.8s
CM15 Chiang Mai Arr 43.79 251 P **P** **13 46 03.5 +1.1**
comp=Z,216nmcomp=Z,26nm,1.0s
CM15 Chiang Mai Arr 43.79 251 P **P** **13 46 03.0 +0.6**
comp=Z,216nmcomp=Z,26nm,1.0s
CM05 Chiang Mai Arr 43.80 251 P **P** **13 46 03.7 +1.2**
comp=Z,175nmcomp=Z,19nm,0.9s
CM05 Chiang Mai Arr 43.80 251 P **P** **13 46 03.8 +1.2**
comp=Z,175nmcomp=Z,19nm,0.9s
KURK Kurchatov 43.81 304 P **P** **13 46 02.8 +0.6**
KURK Kurchatov 43.81 304 P **P** **13 46 02.8 +0.6**
CM13 Chiang Mai Arr 43.82 251 P **P** **13 46 03.7 +1.1**
comp=Z,166nmcomp=Z,19nm,0.7s
CM13 Chiang Mai Arr 43.82 251 P **P** **13 46 03.8 +1.1**
comp=Z,166nmcomp=Z,19nm,0.7s
I23K Minto, Yukon-K 43.88 34 P **P** **13 46 02.8 +0.2**
I23K Minto, Yukon-K 43.88 34 P **P** **13 46 03.2 +0.6**
baz=272,SNR=7.2
I23K S **S** **13 52 29.8 +0.9**
baz=272
KURBB Kurchatov Arra 43.89 304 P **P** **13 46 02.8 -0.1**

comp=Z,46nm,0.7s,baz=78,slow=8.7,SNR=204
KURBB **Kurchatov Arra** 43.89 304 P P 13 46 02.2 -0.6
NEA2 **Nenana** 44.03 35 P P 13 46 04.4 +0.6
baz=273,SNR=19
NEA2 S S 13 52 31.8 +0.6
baz=273
MCK **McKinley** 44.15 36 IAmb IAmb 13 46 22.1
comp=Z,50nm,1.2s
MCK **McKinley** 44.15 36 P P 13 46 05.0 +0.2
baz=274,SNR=9.9
JAY **Jayapura** 44.22 183 P P 13 46 05.4 -0.4
comp=Z,13nm,1.0s,baz=354,slow=9.9,SNR=6.4
JAY LR LR 14 08 19.2
comp=Z,122nm,18.7s,baz=5.0,slow=41
JAY **Jayapura** 44.22 183 P P 13 46 08.1 +2.2
comp=Z,293nmcomp=Z,14nm,1.0s
PMR **Palmer** 44.25 40 P P 13 46 05.5 -0.1
baz=276
GENI **Genyem** 44.32 183 P P 13 46 07.7 +1.1
comp=Z,4µmcomp=Z,56nm,1.0s
WAT1 **Susitna Watana** 44.39 38 P P 13 46 06.8 0.0
baz=275
H24K **Noodor Dome** 44.47 33 IAmb IAmb 13 46 27.7
comp=Z,35nm,0.9s
H24K **Noodor Dome** 44.47 33 P P 13 46 08.0 +0.6
baz=273,SNR=19
H24K S S 13 52 38.3 +0.7
baz=273
TCOL **CIGO, UAF Yank** 44.53 35 P P 13 46 08.3 +0.5
baz=274,SNR=6.0
TCOL S S 13 52 39.2 +0.8
baz=274
SHL **Shillong** 44.56 265 eP P 13 46 10.0 +1.2
SHL eS S 13 52 40.0 -0.1
SHL **Shillong** 44.56 265 P P 13 46 08.7 -0.1
SNR=11
KNK **Knik Glacier** 44.59 40 P P 13 46 08.8 +0.4
baz=277
KNK S S 13 52 38.5 -0.9
baz=277
SML **Sawmill** 44.60 39 P P 13 46 09.0 +0.5
baz=277,SNR=8.7
SML S S 13 52 41.1 +1.5
baz=277
MHMT **Maesarieng** 44.67 252 P P 13 46 10.9 +1.4
comp=Z,1µmcomp=Z,86nm,0.8s
MHMT **Maesarieng** 44.67 252 P P 13 46 10.9 +1.4
comp=Z,1µmcomp=Z,86nm,0.8s
POKR **Poker Plat Res** 44.70 34 IAmb IAmb 13 46 29.4
comp=Z,58nm,1.1s
POKR **Poker Plat Res** 44.70 34 P P 13 46 10.4 +1.2
baz=274,SNR=12
POKR S S 13 52 41.4 +0.6
baz=274
GTOI **Gorontalo** 44.70 208 S P 13 46 00.1 -10
WAT6 **Susitna Watana** 44.79 38 P P 13 46 09.8 -0.3
baz=276,SNR=6.2
WAT6 S S 13 52 42.0 -0.6
baz=276
DHY **Denali Highway** 44.90 37 IAmb IAmb 13 46 29.7
comp=Z,31nm,1.0s
DHY **Denali Highway** 44.90 37 P P 13 46 11.2 +0.2
baz=276,SNR=13
DHY S S 13 52 43.2 -0.9
baz=276
ILAR **Eielson Array** 44.95 35 P P 13 46 10.9 -0.3
comp=Z,32nm,1.1s,baz=270,slow=6.6,SNR=97
ILAR pP pP 13 46 27.5 +0.5
comp=Z,26nm,0.8s,baz=252,slow=5.1,SNR=7.1
ILAR LR LR 14 04 44.2
comp=Z,321nm,21.4s,baz=276,slow=36
HDA **Harding Lake** 44.96 35 IAmb IAmb 13 46 27.4
comp=Z,43nm,1.4s
HDA **Harding Lake** 44.96 35 P P 13 46 10.9 -0.4
baz=275,SNR=13
SCM **Sheep Creek Mo** 45.07 39 IAmb IAmb 13 46 28.1
comp=Z,37nm,0.8s
TOLI2 **Tolitoli** 45.09 212 P P 13 46 08.9 -3.9
MRSI **Marisa** 45.23 210 S P 13 46 17.0 +3.1
MRSI **Marisa** 45.23 210 P P 13 46 15.0 +1.1
comp=Z,4µmcomp=Z,380nm,1.3s
MRSI **Marisa** 45.23 210 P P 13 45 49.5 -24
UMPA **Umpang Tak** 45.34 249 P P 13 46 17.9 +3.0
comp=Z,4µmcomp=Z,80nm,0.9s
UMPA **Umpang Tak** 45.34 249 P P 13 46 17.9 +3.0
comp=Z,1µmcomp=Z,20nm,0.9s
UTHA **Uthaitani** 45.38 248 P P 13 46 17.0 +1.9
comp=Z,326nmcomp=Z,39nm,0.9s
UTHA **Uthaitani** 45.38 248 P P 13 46 17.0 +1.9
comp=Z,81nmcomp=Z,9.6nm,0.9s
PRP **Porcupine Dome** 45.46 34 P P 13 46 15.9 +0.6
baz=275,SNR=6.1
PDGK **Podgornoye** 45.48 294 P P 13 46 15.1 -0.7
FYU **Fort Yukon** 45.49 32 IAmb IAmb 13 46 35.8
comp=Z,48nm,1.2s
SHLS **Shalkode** 45.56 294⇑ iP P 13 46 13.8 -2.6
comp=Z,92nm,2.3s,baz=294
SHLS eS S 13 53 09.4 +15
baz=294
SHLS **Shalkode** 45.56 294 c iP P 13 46 13.8 -2.6
SHLS eS S 13 53 09.4 +15
SHLS pmax pmax
comp=Z,92nm,2.3s
FAKI **Fak Fak** 45.57 195 P P 13 46 16.0 -0.5
M24K **Tolsona, Glenn** 45.58 39 P P 13 46 17.4 +1.1
baz=278
J25K **Salcha River,** 45.62 35 P P 13 46 15.4 -1.2
baz=276,SNR=6.3
TDK **Taldyqorghan** 45.62 297 eP P 13 46 17.1 +0.2
comp=Z,61nm,0.6s,baz=297
TDK **Taldyqorghan** 45.62 297 eP P 13 46 17.0 +0.2
TDK pmax pmax
comp=Z,61nm,0.6s
BMAR **Burnt Mountain** 45.68 31 P P 13 46 17.7 +0.7
PAX **Paxson** 45.78 37 P P 13 46 18.6 +0.8
baz=278
PAX S S 13 52 56.6 -0.1
baz=278
KLU **Klutina** 45.78 39 IAmb IAmb 13 46 35.9
comp=Z,33nm,0.9s
KLU **Klutina** 45.78 39 P P 13 46 18.6 +0.7
baz=279,SNR=8.5
KLU S S 13 52 58.6 +1.8
baz=279
UZB **Uzynbulak** 45.86 294⇑ iP P 13 46 18.3 -0.5
comp=Z,67nm,2.6s,baz=294
UZB eS S 13 53 07.0 +8.5
baz=294
UZB **Uzynbulak** 45.86 294 c iP P 13 46 18.3 -0.5
UZB eS S 13 53 07.0 +8.5
UZB pmax pmax
comp=Z,67nm,2.6s
RIDG **Independent Ri** 45.95 36 P P 13 46 18.6 -0.5
baz=278,SNR=7.6
KPKS **Kokpek** 45.98 295 eP P 13 46 17.7 -2.0
baz=295
KPKS **Kokpek** 45.98 295 eP P 13 46 17.7 -2.0
HARP **HAARP** 46.00 38 P P 13 46 20.7 +1.1
baz=279,SNR=6.8
EYAK **Cordova Ski Ar** 46.02 41 P P 13 46 20.3 +0.7
baz=280
MPSI **Mapaga** 46.15 212 P P 13 46 21.4 +0.3
MPSI **Mapaga** 46.15 212 P P 13 46 22.3 +1.2
comp=Z,1µmcomp=Z,65nm,1.3s
SANI **Sanana** 46.25 203 P P 13 46 23.0 +1.1
comp=Z,3µmcomp=Z,170nm,0.9s
PATY **Pattaya** 46.28 244 P P 13 46 24.1 +1.9
baz=275,Z,47nm,0.8s
PATY **Pattaya** 46.28 244 P P 13 46 24.2 +1.9
comp=Z,12nm,0.8s
ARXS **Arharly** 46.29 296 eP P 13 46 22.0 -0.1
SCRK **Sand Creek** 46.30 36 IAmb IAmb 13 46 38.3
comp=Z,28nm,0.8s
SCRK **Sand Creek** 46.30 36 P P 13 46 21.7 -0.2
baz=278,SNR=25
SCRK S S 13 53 03.0 -1.2
baz=278
DOT **Dot Lake** 46.31 36 IAmb IAmb 13 46 39.3
comp=Z,17nm,0.6s
SATY **Saty** 46.31 294⇑ iP P 13 46 22.6 +0.2
comp=Z,51nm,2.1s,baz=294
SATY eS S 13 53 26.3 +21
baz=294
SATY **Saty** 46.31 294 c iP P 13 46 22.5 +0.2
SATY pmax pmax
comp=Z,51nm,2.1s
N25K **Chitina, Valde** 46.39 39 S S 13 53 07.5 +2.0
baz=280
J26L **Joseph Creek** 46.41 35 P P 13 46 22.1 -0.7
baz=278
BMRM **Bremner River** 46.50 40 IAmb IAmb 13 46 39.3
comp=Z,38nm,1.0s
BMRM **Bremner River** 46.50 40 P P 13 46 24.4 +0.8
baz=280
PRZ **Przheval'sk** 46.53 293 IAmb IAmb 13 46 25.7
comp=Z,41nm,1.1s
MENT **Mentasta** 46.58 37 IAmb IAmb 13 46 35.4
comp=Z,45nm,1.3s
APSI **Ampana** 46.62 209 S P 13 46 31.3 +6.5
TAPN **Taplejung** 46.69 270 eP P 13 46 26.6 +0.9
comp=Z,177nm,1.0s
L26K **Log Cabin Wild** 46.73 37 P P 13 46 26.5 +1.3
baz=280,SNR=12
L26K S S 13 53 13.3 +3.1
baz=280
CHKK **Chushkaly** 46.98 296⇑ iP P 13 46 27.1 -0.4
baz=296
M26K **Nabesna, AK** 47.00 38 IAmb IAmb 13 46 46.2
comp=Z,29nm,0.8s
M26K **Nabesna, AK** 47.00 38 P P 13 46 28.7 +1.4
baz=280,SNR=15
M26K S S 13 53 17.5 +3.5
baz=280
VRDI **Verde Repeater** 47.00 39 IAmb IAmb 13 46 43.5
comp=Z,22nm,0.8s
K27K **Chicken** 47.12 36 P P 13 46 28.9 +0.7
baz=280
K27K S S 13 53 17.0 +1.3
baz=280
PHET **Kaeng Krachan** 47.12 245 P P 13 46 30.5 +1.7
comp=Z,733nmcomp=Z,82nm,1.1s
PHET **Kaeng Krachan** 47.12 245 P P 13 46 30.0 +1.2
comp=Z,188nmcomp=Z,21nm,1.1s
MCARA **McCarthy VSAT** 47.17 39 P P 13 46 29.9 +1.2
baz=281,SNR=6.7
ODAN **Odare** 47.19 270 eP P 13 46 30.3 +0.7
comp=Z,75nm,0.7s
MDOK **Medeo** 47.20 295 i P P 13 46 29.6 +0.2
baz=295
MDOK eS S 13 53 16.3 -1.3
baz=295
MDOK **Medeo** 47.20 295 i P P 13 46 29.5 +0.2
MDOK eS S 13 53 16.2 -1.3
AAA **Alma-Ata** 47.27 295 eP P 13 46 29.2 -0.6
baz=295
AAA eS S 13 53 36.2 +18
baz=295
AAA **Alma-Ata** 47.27 295 eP P 13 46 29.2 -0.6
AAA eS S 13 53 36.1 +18
CRQE **Cirque** 47.27 40 P P 13 46 30.5 +0.9
baz=282,SNR=5.9
EGAK **Eagle** 47.39 34 IAmb IAmb 13 46 46.9
comp=Z,28nm,0.9s
EGAK **Eagle** 47.39 34 P P 13 46 30.2 -0.1
baz=280,SNR=15
KUU **Kurty** 47.40 296⇑ iP P 13 46 30.2 -0.6
comp=Z,35nm,0.7s,baz=296
KUU **Kurty** 47.40 296 c iP P 13 46 30.1 -0.6
KUU pmax pmax
comp=Z,35nm,0.7s
L27K **Beaver Creek,** 47.40 37 IAmb IAmb 13 46 50.2
comp=Z,45nm,1.1s
L27K **Beaver Creek,** 47.40 37 P P 13 46 31.8 +1.3
baz=281,SNR=20
L27K S S 13 53 23.7 +4.0
baz=281
M27K **Edge Creek, AK** 47.52 38 P P 13 46 32.7 +1.2
baz=281,SNR=12
MTBS **Maitube** 47.63 295⇑ iP P 13 46 32.4 -0.2
baz=295
MTBS eS S 13 53 24.0 +0.5
baz=295
JIRN **Jiri** 47.66 271 eP P 13 46 33.9 +0.6
BRZS **Berezniki** 47.67 305⇑ iP P 13 46 32.4 -0.3
comp=Z,78nm,2.2s,baz=305
BRZS eS S 13 53 22.1 -1.8
baz=305
BRZS **Berezniki** 47.67 305 c iP P 13 46 32.3 -0.3
BRZS eS S 13 53 22.0 -1.8
BRZS pmax pmax
comp=Z,78nm,2.2s
RAMN **Ramite** 47.73 270 eP P 13 46 34.3 +0.5
comp=Z,48nm,0.4s
GUN **Gumba** 47.75 272 eP P 13 46 34.6 +0.6
comp=Z,146nm,0.3s
SBUM **Sibu** 47.79 223 P P 13 46 35.0 +1.1
BVCY **Beaver Creek** 47.97 38 P P 13 46 35.9 +1.0
baz=282,SNR=7.3
BVCY S S 13 53 31.2 +3.4
baz=282
CTG **Chitna Glacier** 48.06 40 P P 13 46 36.8 +1.0
baz=283,SNR=7.1
CTGM **Chitina Glacie** 48.06 40 IAmb IAmb 13 46 53.1
comp=Z,37nm,1.0s
ULHL **Ulahol** 48.10 294 P P 13 46 36.4 +0.1
SNR=10.0
BRVK **Borovoye** 48.15 309 c iP P 13 46 36.5 +0.2
BRVK pmax pmax
comp=Z,117nm,2.5s
BRVK **Borovoye** 48.15 309 P P 13 46 36.6 +0.3
BRVK **Borovoye** 48.15 309 P P 13 46 36.6 +0.3
KKN **Kakani** 48.27 272 eP P 13 46 38.4 +0.6
comp=Z,128nm,0.8s
TKM2 **Tokmak 2** 48.27 295 P P 13 46 38.5 +0.8
SNR=105
TKM2 **Tokmak 2** 48.27 295 P P 13 46 37.9 +0.2
DAWY **Dawson** 48.28 35 P P 13 46 37.2 0.0
baz=282
PKI **Pulchoki** 48.29 272 eP P 13 46 38.4 +0.3
comp=Z,72nm,0.8s
YUK3 **Moose Creek** 48.29 38 P P 13 46 38.2 +0.6
baz=283,SNR=7.9
PKIN **Phulchoki** 48.29 272 eP P 13 46 38.2 +0.1
comp=Z,81nm,0.9s
OTUK **Ortayu** 48.45 303 P P 13 46 38.3 -0.5
DMN **Daman** 48.49 272 eP P 13 46 40.1 +0.5
comp=Z,111nm,0.8s
BTLS **Baital** 48.50 298⇑ iP P 13 46 38.3 -0.9
comp=Z,63nm,2.9s,baz=298
BTLS eS S 13 53 40.4 +4.8
baz=298
BTLS **Baital** 48.50 298 c iP P 13 46 38.2 -0.9
BTLS eS S 13 53 40.4 +4.8
BTLS pmax pmax
comp=Z,63nm,2.9s
GKN **Gorkha** 48.63 273 eP P 13 46 40.9 +0.3
SGDS **Sogindy** 48.72 296⇑ iP P 13 46 40.6 -0.4
comp=Z,64nm,2.4s,baz=296
SGDS **Sogindy** 48.72 296 eP P 13 46 41.0 +0.1
KBK **Karagaybulak** 48.82 295 P P 13 46 42.4 +0.6
SNR=25
KZA **Kyzart** 48.84 294 P P 13 46 43.5 +1.2
SNR=9.6
USP **Ospenovka** 48.88 296 P P 13 46 42.4 +0.3
SNR=16
EPYK **Eagle Plains** 48.90 32 P P 13 46 42.8 +0.9
baz=282,SNR=17
DANN **Dangsing** 49.10 274 eP P 13 46 45.2 +0.9
comp=Z,336nm,0.7s
AAK **Ala-Archa** 49.13 295 P P 13 46 44.4 +0.1
SNR=10
AAK **Ala-Archa** 49.13 295 i P P 13 46 44.3 +0.1
SNR=13
AAK **Ala-Archa** 49.13 295 c iP P 13 46 44.3 +0.1
AAK pmax pmax
comp=Z,112nm,1.7s
AAK **Ala-Archa** 49.13 295 P P 13 46 43.5 -0.8
AAK IAmb IAmb 13 46 44.9
comp=Z,16nm,0.8s
AAK **Ala-Archa** 49.13 295 P P 13 46 43.8 -0.5
YUK4 **Talbot Arm** 49.24 39 P P 13 46 45.8 +0.9
baz=285,SNR=6.7
TTSI **Tana Toraja** 49.27 211 P P 13 46 33.4 -12
UCH **Uchtor** 49.28 295 P P 13 46 46.1 +0.4
SNR=11
KSH **Kashi** 49.41 291 P P 13 46 50.5 +4.2
KSH pP pP 13 47 04.5 +2.4
KSH S S 13 53 56.8 +8.0
KSH pmax pmax
comp=Z,26nm,1.0s
KSH pmax pmax
comp=Z,320nm,8.9s
KSH LR LR
comp=Z,2µm,17.5s
KSH LR LR
comp=Z,2µm,18.2s
KSH LR LR
comp=Z,2µm,19.7s
MTKI **Muara Teweh, K** 49.44 218 P P 13 46 47.6 +1.0
comp=Z,3µmcomp=Z,145nm,1.3s
YUK6 **Outpost Mounta** 49.48 39 P P 13 46 47.0 +0.3
baz=285
KOLN **Koldanda** 49.53 273 eP P 13 46 48.1 +0.6
EKS2 **Erkin-Say** 49.60 295 P P 13 46 47.9 +0.1
SNR=31
KSM **Kuching** 49.60 225 P P 13 46 49.0 +1.1
INK **Inuvik** 49.68 29 P P 13 46 47.9 +0.1
comp=Z,9.5nm,0.6s,baz=298,slow=9.0,SNR=34
INK **Inuvik** 49.68 29 P P 13 46 47.8 +0.1
baz=283,SNR=6.6
PYUN **Piuthan** 49.81 274 eP P 13 46 50.3 +0.7
AML **Almayashu** 49.88 295 P P 13 46 50.9 +0.7
SNR=11
AML **Almayashu** 49.88 295 i P P 13 46 50.2 0.0
SNR=12
MAYO **Mayo, Yukon** 49.89 35 P P 13 46 50.4 +0.9
baz=285
MAYO S S 13 53 59.6 +4.9
baz=285
HYT **Haines Junctio** 49.91 39 P P 13 46 51.7 +1.9
baz=286,SNR=52
HYT S S 13 54 00.3 +5.0
baz=286
STKI **Sintang** 50.20 222 P P 13 46 53.5 +1.1
comp=Z,58nm,1.1s
BNSI **Bone** 50.41 210 P P 13 46 42.0 -12
comp=Z,0.5nmcomp=Z,2µmcomp=Z,62nm,1.7s
BNSI **Bone** 50.41 210 P P 13 46 55.7 +1.8
comp=Z,2µmcomp=Z,139nm,1.2s
SURT **Suratani** 50.55 242 P P 13 46 58.6 +3.5
comp=Z,45nmcomp=Z,4.6nm,1.1s
SURT **Suratani** 50.55 242 P P 13 46 58.6 +3.5
comp=Z,45nmcomp=Z,4.6nm,1.1s
TRTT **Trang** 50.80 241 P P 13 46 58.7 +1.8
comp=Z,57nm,1.1s
TRTT **Trang** 50.80 241 P P 13 46 58.8 +1.8
comp=Z,57nm,1.1s
KBKI **Kotabaru** 50.98 215 P P 13 47 17.3 +19
KAPI **Kappang** 51.11 210 P P 13 46 58.8 -0.3
comp=Z,5.0nm,0.4s,baz=52,slow=10.0,SNR=4.6
KAPI pP pP 13 47 17.1 +2.1
comp=Z,42nm,1.0s,baz=60,slow=7.2,SNR=6.5
KAPI **Kappang** 51.11 210 P P 13 47 06.6 +7.4
DZA **Taraz** 51.15 297 i P P 13 46 58.2 -1.2
baz=297
DZA **Taraz** 51.15 297 i P P 13 46 58.1 -1.2
WHY **Whitehorse** 51.19 39 P P 13 47 01.0 +1.5
baz=288
SKAG **Skagway** 51.36 40 P P 13 47 02.3 +1.8
baz=289
FARO **Faro, Yukon** 51.40 37 P P 13 47 02.2 +1.2
baz=288,SNR=8.6
FARO S S 13 54 20.4 +4.7
baz=288
KK31 **Karatay Array** 51.61 297 i P P 13 47 02.5 -0.2
KK31 **Karatay Array** 51.61 297 IAmb IAmb 13 47 03.1
comp=Z,26nm,0.8s
PKDT **Phuket** 51.65 242 P P 13 47 05.2 +2.0
comp=Z,2µmcomp=Z,131nm,1.2s
PKDT **Phuket** 51.65 242 P P 13 47 05.3 +2.0
BBKI **Banjar Baru** 51.70 216 P P 13 47 04.7 +1.1
comp=Z,5µmcomp=Z,118nm,1.5s
KULM **Kulim** 52.12 237 P P 13 47 09.0 +2.2
MMPY **Sheldon Lake,** 52.20 36 P P 13 47 08.3 +1.4
baz=289,SNR=7.5
MMPY S S 13 54 31.9 +5.3
baz=289
SVE **Sverdlovsk** 52.20 316 d iP P 13 47 07.4 +0.5
SVE eS S 13 54 27.2 +0.6
SVE pmax pmax
comp=Z,85nm,1.2s
SVE MLR MLR
comp=Z,3µm,18.0s
IUG **Iuzhnay** 52.34 296⇑ iP P 13 47 08.1 -0.2
baz=296
IUG **Iuzhnay** 52.34 296 c iP P 13 47 08.0 -0.2
IPM **Ipoh** 52.51 236 P P 13 47 10.0 +0.3
BHK **Bhakra** 52.93 281 ex P 13 47 07.0 -5.7
ARU **Arti** 53.41 317 c iP P 13 47 15.7 -0.1
ARU *PP pP 13 47 32.3 +0.4
ARU 13 48 20.4
ARU S S 13 54 44.7 +1.6
ARU *SS sS 13 55 11.0 +0.3
ARU 13 57 02.1
ARU SS SKiKP 13 58 25.4 -0.2
ARU pmax pmax
comp=Z,127nm,2.0s
ARU MLR MLR
comp=Z,3µm,16.0s
ARU **Arti** 53.41 317 P P 13 47 15.8 -0.1
HNR **Honiara** 53.49 159 LR LR 14 06 42.6
comp=Z,549nm,21.1s,baz=322,slow=32
TGTN **Hyland Airport** 53.90 36 P P 13 47 21.1 +1.6
baz=292
EDFI **Ende, Flores** 53.91 206 P P 13 47 19.8 -0.2
EDFI **Ende, Flores** 53.91 206 P P 13 47 36.4 +16
WRAK **Wrangell Islan** 53.93 43 P P 13 47 21.5 +1.9
baz=293
SOEI **Soe** 54.07 203 P P 13 47 20.7 -0.5
SOEI **Soe** 54.07 203 P P 13 47 22.1 +0.9
comp=Z,2µmcomp=Z,165nm,1.7s
DLBC **Dease Lake** 54.29 40 P P 13 47 23.3 +1.0
comp=Z,5.9nm,0.6s,baz=273,slow=3.4,SNR=15
DLBC pP pP 13 47 40.5 +1.8
comp=Z,15nm,0.9s,baz=270,slow=7.2,SNR=7.7
DLBC **Dease Lake** 54.29 40 P P 13 47 22.9 +0.6
DLBC IAmb IAmb 13 47 25.8
comp=Z,48nm,1.4s
BATI **Baumata** 54.67 203 P P 13 47 26.1 +0.6
comp=Z,24nm,0.6s,baz=351,slow=5.1,SNR=4.9
BATI pP pP 13 47 42.2 +0.8
comp=Z,42nm,0.7s,baz=280,slow=2.6,SNR=4.2
BATI **Baumata** 54.67 203 P pP 13 47 43.9 +2.5
PSI **Prapat** 55.13 237 P P 13 47 29.8 +0.9
comp=Z,22nm,1.1s,baz=46,slow=5.0,SNR=5.2
PSI pP pP 13 47 46.4 +1.5
comp=Z,26nm,0.9s,baz=359,slow=2.4,SNR=7.7
PSI **Prapat** 55.13 237 P P 13 47 30.4 +1.5
comp=Z,21nm,1.3s,comp=Z,45nm,1.3s
PSI P P 13 47 30.4 +1.5
comp=Z,21nm,1.3s,comp=Z,45nm,1.3s
COEN **Coen** 55.56 179 P P 13 47 31.8 0.0
TWSI **Taliwang, Sumb** 55.62 211 P P 13 47 50.6 +18
RUBB **Prince Rupert** 55.89 45 P P 13 47 33.5 -0.2
RUBB IAmb IAmb 13 47 35.8
comp=Z,24nm,1.2s
SPA0 **Spitsbergen Ar** 55.96 348 eP P 13 47 34.0 0.0
KBS **Kingsbay** 56.05 350 eP P 13 47 35.2 +0.6
NOR **Nord** 56.28 356 i P P 13 47 35.4 -0.8
NOR IAMs_20 IAMs_20 14 11 19.5
comp=Z,444nm,24.3s
KBL **Kabul** 56.64 289 P P 13 47 39.0 -0.7
KBL pmax pmax
comp=Z,31nm,1.1s
KBL **Kabul** 56.64 289 P P 13 47 39.0 -0.7
KBL IAmb IAmb 13 47 44.9
comp=Z,31nm,1.1s
KBL **Kabul** 56.64 289 P P 13 47 38.8 -0.9
SNR=12
KIRV **Kirov** 56.99 321 c iP P 13 47 41.4 -0.1
GSI **Gunungsitoli** 57.13 237 P P 13 47 42.8 -0.3
GSI **Gunungsitoli** 57.13 237 P P 13 47 43.5 +0.4
comp=Z,138nm,2.3s
PRGR **Permogore** 57.24 326 eP P 13 47 41.1 -2.2
PRGR e 13 48 35.0
PRGR pmax pmax
comp=Z,5.0nm,0.5s
RES **Resolute Bay** 57.69 15 P P 13 47 45.7 -0.5
comp=Z,15nm,0.5s,baz=324,slow=3.6,SNR=9.5
RES **Resolute Bay** 57.69 15 P P 13 47 45.8 -0.4
RES pmax pmax
comp=Z,39nm,1.1s
RES **Resolute Bay** 57.69 15 P P 13 47 45.8 -0.4
RES IAmb IAmb 13 48 01.2
comp=Z,39nm,1.1s
BJO1 **Bjornoya** 58.03 345 eP P 13 47 49.4 +0.8
LEM **Lembang** 58.06 222 P P 13 47 49.4 -0.3
comp=Z,15nm,0.6s,baz=60,slow=6.0,SNR=3.9
LEM pP pP 13 48 07.6 +1.8
comp=Z,53nm,0.7s,baz=94,slow=3.1,SNR=6.3

LVZ **Lovozero** 58.09 335⇑ *e*P P 13 47 48.0 -1.2
LVZ pmax pmax
comp=Z,30nm,1.5s
APA **Apatity** 58.67 335 ⇓ *i*P P 13 47 50.1 -3.1
APA pmax pmax
comp=Z,4.0nm,0.8s
APA MLR MLR
comp=Z,1μm,23.0s
KNRA **Kununurra** 58.68 196 P P 13 47 53.9 +0.2
YKA **Yellowknife Ar** 59.19 32 P P 13 47 57.1 +0.3
comp=Z,13nm,1.0s,baz=303,slow=6.1,SNR=12
YKA LR LR 14 17 18.5
comp=Z,246nm,19.5s,baz=0.0,slow=40
KEV **Kevo** 59.26 339 P P 13 47 56.8 -0.4
KEV pmax pmax
comp=Z,17nm,0.9s
KEV **Kevo** 59.26 339 P P 13 47 56.8 -0.4
KEV IAmb IAmb 13 48 02.6
comp=Z,17nm,0.9s
HYB **Hyderabad** 59.34 266 *i* P P 13 47 58.0 -0.6
HYB *e*PcP **PcP** 13 48 46.0 -0.1
HYB *e* 13 49 05.0
HAMF **Hammerfest** 59.56 340 *e*P P 13 47 58.3 -1.0
ARA0 **ARCESS Array S** 59.80 339 *e*P P 13 48 00.2 -0.8
ARCES **ARCESS Array B** 59.80 339 P P 13 48 00.5 -0.6
comp=Z,2.0nm,0.4s,baz=45,slow=8.4,SNR=30
ARCES LR LR 14 19 01.5
comp=Z,1μm,19.7s,baz=45,slow=41
ARCES **ARCESS Array B** 59.80 339 P P 13 48 00.4 -0.6
ARCES pmax pmax
comp=Z,22nm,1.4s
ARCES **ARCESS Array B** 59.80 339 P P 13 48 00.4 -0.6
ARCES IAmb IAmb 13 48 06.2
comp=Z,22nm,1.4s
TULEG **Thule** 60.18 8 *i* P P 13 48 02.6 -0.9
KLMR **Klimovskoe** 60.19 327 *c i*P P 13 48 03.2 -0.5
KLMR S S 13 56 13.6 +1.3
KLMR pmax pmax
comp=Z,122nm,1.8s
KLMR MLR MLR
comp=Z,2μm,18.0s
KLMR **Klimovskoe** 60.19 327 ⇑ *i*P P 13 48 03.2 -0.5
KLMR ⇑ *i*P P 13 48 03.2 -0.5
KLMR ⇑ *i*P P 13 48 03.2 -0.5
KLMR AMP 13 48 04.9
comp=Z,122nm,1.8s
KLMR S S 13 56 13.6 +1.3
KLMR S S 13 56 13.6 +1.3
KLMR LR LR 14 09 07.8
KLMR AMP 14 16 44.6
comp=Z,2μm,17.8s
NEEM **North Greenlan** 60.65 3 ⇑ *i*P P 13 48 06.6 -0.4
NEEM IAMs_20 IAMs_20 14 13 33.1
comp=Z,982nm,24.7s
KTK1 **Kautokeino** 60.76 339 *e*P P 13 48 07.2 -0.3
DAG **Danmarks Havn** 61.03 355 ⇑ *i*P P 13 48 08.5 -0.8
DAG IAmb IAmb 13 48 13.2
comp=Z,10nm,0.8s
JETT **Jettan, Norway** 61.13 340 *e*P P 13 48 10.9 +0.9
TRO **Tromso** 61.44 341 *e*P P 13 48 11.7 -0.4
FITZ **Fitzroy Crossi** 61.70 198 P P 13 48 14.8 +0.4
comp=Z,10.0nm,1.1s,baz=13,slow=9.2,SNR=8.0
FITZ pP **pP** 13 48 31.9 +1.3
comp=Z,36nm,1.1s,baz=8.9,slow=11,SNR=12
FITZ **Fitzroy Crossi** 61.70 198 P P 13 48 14.9 +0.5
CTA **Charters Tower** 61.75 176 P P 13 48 14.9 +0.2
comp=Z,7.8nm,0.8s,baz=351,slow=8.7,SNR=8.9
WRAB **Tennant Creek** 61.97 189 *de*P P 13 48 15.0 -1.2
WRAB pmax pmax
comp=Z,36nm,1.3s
WRAB **Tennant Creek** 61.97 189 P P 13 48 15.8 -0.5
WR0 **Warramunga Arr** 61.98 189 P P 13 48 16.0 -0.2
WRA **Warramunga Arr** 61.98 189 P P 13 48 15.8 -0.5
comp=Z,23nm,0.9s,baz=5.2,slow=6.1,SNR=43
WRA pP **pP** 13 48 32.9 +0.3
comp=Z,53nm,0.9s,baz=6.5,slow=5.8,SNR=18
WRA LR LR 14 14 50.1
comp=Z,422nm,21.7s,baz=335,slow=36
POO **Poona** 62.17 270 ⇑ *i*P P 13 48 17.0 -0.8
comp=Z,40nm,1.5s
GEYT **Alibeck** 62.36 297 P P 13 48 18.9 0.0
comp=Z,7.8nm,0.8s,baz=40,slow=2.5,SNR=13
GEYT pP **pP** 13 48 36.7 +1.5
comp=Z,43nm,1.0s,baz=29,slow=3.4,SNR=14
GEYT LR LR 14 17 57.5
comp=Z,2μm,18.3s,baz=40,slow=38
KAD **Karad** 62.67 269 ⇑ *i*P P 13 48 21.0 -0.2
B05A **Bryant** 63.34 48 P P 13 48 26.4 +1.3
baz=304
N2IH **Innhavet** 63.41 340 *e*P P 13 48 24.9 -0.3
D04E **Lakebay** 63.56 49 P P 13 48 28.7 +2.1
baz=304
STEI **Steigen** 63.61 340 *e*P P 13 48 25.9 -0.6
N2NF **Nordfold** 63.74 340 *e*P P 13 48 26.7 -0.7
LOF **Lofoten** 63.87 341 *e*P P 13 48 28.1 -0.2
MOS **Moscow** 63.94 323 *e*P P 13 48 25.8 -3.1
MOS *e**PP **pP** 13 48 48.3 +2.9
MOS *e* 13 49 00.7
MOS *e*S **S** 13 56 56.7 -3.0
MOS pmax pmax
comp=Z,116nm,1.6s
MOS pmax pmax
comp=Z,500nm,2.8s
MOS MLR MLR
comp=Z,2μm,16.0s
N2ST **Straumen** 63.95 340 *e*P P 13 48 29.1 +0.3
FAUS **Fauske** 64.01 340 *e*P P 13 48 29.1 -0.1
E04D **Cinebar** 64.03 50 P P 13 48 31.5 +1.8
baz=304,SNR=11
NBB08 **Skaug oppvekst** 64.17 340 *e*P P 13 48 30.8 +0.5
C06D **Leavenworth** 64.20 48 P P 13 48 32.3 +1.5
baz=304
C06D S S 13 57 05.2 +1.9
baz=304
NBB28 **Valnes** 64.36 340 *e*P P 13 48 31.0 -0.5
NBB05 **Inndyr** 64.59 340 *e*P P 13 48 32.6 -0.3
VRH **Novokhopyorsk** 64.64 317 *e*P P 13 48 32.7 -0.9
VRH pmax pmax
comp=Z,30nm,0.7s
N2RO **R_st** 64.69 341 *e*P P 13 48 33.8 +0.2
NBB17 **Glomfjord B¥r** 64.78 340 *e*P P 13 48 33.9 -0.3
OBN **Obninsk** 64.79 322 *c i*P P 13 48 34.2 -0.3
OBN *e* 13 49 09.8
OBN *e* 13 50 57.1
OBN *i* S **S** 13 57 08.9 -1.3
OBN pmax pmax
comp=Z,154nm,2.5s
OBN MLR MLR
comp=Z,2μm,17.0s
NBB15 **Halsa Church** 64.93 340 *e*P P 13 48 34.0 -1.2
FINES **FINESS Array B** 64.97 332 P P 13 48 35.1 -0.4
comp=Z,25nm,0.7s,baz=52,slow=7.0,SNR=119
FINES pP **pP** 13 48 52.1 -0.1
comp=Z,32nm,0.7s,baz=47,slow=8.4,SNR=9.2
FINES LR LR 14 19 26.9
comp=Z,3μm,20.4s,baz=40,slow=38
F05D **White Salmon** 65.04 50 S S 13 57 16.9 +3.2
baz=305
NBB13 **Alf Garage** 65.09 340 *e*P P 13 48 35.8 -0.4
MOR8 **Moi Rana** 65.15 339 *e*P P 13 48 35.0 -1.7
I03D **Drain, OR** 65.19 53 P P 13 48 38.9 +1.6
baz=305
KONS **Konsvik** 65.24 340 *e*P P 13 48 36.8 -0.4
H04A **Detroit Lake** 65.31 51 IAmb IAmb 13 48 55.7
comp=Z,33nm,1.1s
G05D **Wamic, OR** 65.50 51 P P 13 48 41.4 +2.1
baz=305
JMIC **Jan Mayen** 65.54 350 *e*P P 13 48 39.5 +0.5
K02D **Willamette Mer** 65.58 54 P P 13 48 41.6 +1.7
baz=305
I04A **Tendick Farm,** 65.69 52 P P 13 48 42.0 +1.4
baz=305
ASAR **Alice Springs** 65.71 189 P P 13 48 41.0 +0.2
comp=Z,7.9nm,0.8s,baz=8.1,slow=5.9,SNR=33
ASAR pP **pP** 13 48 58.6 +1.4
comp=Z,18nm,0.7s,baz=14,slow=13,SNR=18
ASAR LR LR 14 17 04.3
comp=Z,482nm,21.8s,baz=356,slow=36
SUMG **Summit** 65.84 0 ⇑ *i*P P 13 48 42.0 +0.5
SUMG IAmb IAmb 13 48 42.8
comp=Z,32nm,0.7s
SUMG IAMs_20 IAMs_20 14 18 14.0
comp=Z,851nm,22.3s
SUMG **Summit** 65.84 0 P P 13 48 41.8 +0.3
SUMG pmax pmax
comp=Z,49nm,0.8s
SUMG **Summit** 65.84 0 P P 13 48 41.8 +0.3
I05D **Terrebonne, OR** 66.01 51 P P 13 48 44.1 +1.5
baz=306,SNR=5.3
VORD **Divnogorie** 66.01 318 *e*P P 13 48 42.0 -0.4
VORD pmax pmax
comp=Z,70nm,1.4s
NEW **Newport** 66.06 46 P P 13 48 43.8 +0.9
comp=Z,8.8nm,0.9s,baz=294,slow=5.4,SNR=14
NEW **Newport** 66.06 46 P P 13 48 43.6 +0.7
baz=306,SNR=9.9
NEW S S 13 57 28.4 +2.3
baz=306
J04D **Umpqua Nationa** 66.19 53 P P 13 48 45.5 +1.5
baz=306,SNR=5.1
MAK **Makhachkala** 66.24 307 *e*P P 13 48 43.0 -1.0
MAK *e**PP **pP** 13 49 00.0 -0.5
MAK *e**SP **sP** 13 49 07.6 +0.2
MAK *e*PPP PPP 13 52 43.3
MAK *e*S **S** 13 57 28.0 -0.3
MAK *e**SS **sS** 13 57 58.1 +1.5
MAK *e*SS **SS** 14 01 42.1 -2.4
MAK pmax pmax
comp=Z,717nm,2.1s
MAK MLR MLR
comp=Z,982nm,18.0s
MEF **Metsahovi** 66.42 331 *e*P P 13 48 44.0 -0.8
L04D **Klamath Falls** 66.67 54 P P 13 48 48.6 +1.5
baz=306,SNR=8.5
J05D **Fort Rock, OR** 66.68 52 P P 13 48 48.7 +1.6
baz=306,SNR=9.2
YBH **Yreka Blue Hor** 66.71 54 P P 13 48 48.5 +1.2
comp=Z,6.6nm,0.8s,baz=334,slow=5.9,SNR=15
YBH **Yreka Blue Hor** 66.71 54 P P 13 48 48.5 +1.2
YBH IAmb IAmb 13 49 04.8
comp=Z,26nm,1.1s
VSU **Vasula** 66.76 329 *e*P P 13 48 47.3 +0.2
VSU **Vasula** 66.76 329 *c i*P P 13 48 46.9 -0.2
VSU pmax pmax
comp=Z,102nm,0.8s
RAF **Rauma** 66.77 333 *e*P P 13 48 47.8 +0.8
M02C **Callahan** 66.82 55 P P 13 48 49.3 +1.3
baz=306
NSS **Namsos** 67.08 339 *e*P P 13 48 48.5 -0.5
GROC **Groznyy** 67.11 308 *e*P P 13 48 47.3 -2.3
GROC *e**PP **pP** 13 49 04.0 -2.1
GROC *e**SP **sP** 13 49 13.4 +0.4
GROC *e* 13 49 15.9
GROC *e* 13 51 14.0
GROC pmax pmax
comp=Z,23nm,0.5s
N02D **Trinity Center** 67.16 55 P P 13 48 51.8 +1.7
baz=306,SNR=8.3
M04C **Macdoel** 67.21 54 P P 13 48 51.9 +1.5
baz=306,SNR=9.0
K05A **Summer Lake** 67.22 53 IAmb IAmb 13 49 11.2
comp=Z,41nm,1.1s
WALA **Waterton Lakes** 67.27 44 P P 13 48 50.5 -0.2
WALA IAmb IAmb 13 49 07.3
comp=Z,21nm,1.1s
DZM **Mont Dzumac** 67.35 156 *e*S S 13 57 39.2 -2.9
comp=Z,279nm,28.1s
DZM **Mont Dzumac** 67.35 156 *e*LR LR 14 09 13.7
comp=Z,2μm,23.2s
DZM **Mont Dzumac** 67.35 156 LR LR 14 14 13.9
comp=Z,693nm,21.7s,baz=12,slow=32
EIDS **Eidsvold** 67.37 172 IAmb IAmb 13 49 08.9
comp=Z,24nm,1.1s
GOF **Gofitskoye** 67.59 311 ⇑ *e*P P 13 48 53.7 +1.1
GOF pmax pmax
comp=Z,111nm,1.1s
MTSE **Matsula** 67.69 330 *e*P P 13 48 53.2 +0.3
JTMT **Jette** 67.89 45 IAmb IAmb 13 49 11.6
comp=Z,28nm,1.1s
AAL **Aland** 67.98 333 *e*P P 13 48 54.1 -0.7
O03E **Paynes Creek** 68.12 55 P P 13 48 56.8 +0.7
baz=307,SNR=10
KIV **Kislovodsk** 68.46 310 ⇑ P P 13 48 59.7 +1.5
KIV **Kislovodsk** 68.46 310 *i* P P 13 48 59.0 +0.8
SNR=14
KIV **Kislovodsk** 68.46 310 *e*P P 13 48 59.1 +0.8
KIV *e* 13 51 28.6
KIV *e*S **S** 13 57 55.8 +0.6
KIV *e*SS **SS** 14 02 21.0 +1.9
KIV pmax pmax
comp=Z,80nm,1.1s
KIV pmax pmax
comp=Z,85nm,3.0s
KIV MLR MLR
comp=Z,1μm,17.0s
KIV **Kislovodsk** 68.46 310 P P 13 48 58.5 +0.3
ZEI **Tsey** 68.47 309 *e*P P 13 48 57.5 -0.9
ZEI pmax pmax
comp=Z,6.0nm,0.6s
KBZ **Khabaz** 68.48 310 P P 13 48 59.0 +0.9
comp=Z,18nm,0.9s,baz=47,slow=5.4,SNR=37
KBZ pP **pP** 13 49 17.4 +2.6
comp=Z,33nm,0.8s,baz=17,slow=10,SNR=9.8
KBZ LR LR 14 24 51.9
comp=Z,922nm,18.2s,baz=36,slow=41
KBZ **Khabaz** 68.48 310 *c i*P P 13 48 58.4 +0.2
KBZ pmax pmax
comp=Z,107nm,2.2s
MSO **Missoula** 68.64 46 P P 13 49 00.2 +0.8
baz=309,SNR=6.9
MSO S S 13 57 57.0 -0.3
baz=309
ILULI **Ilulissat** 68.76 5 ⇑ *i*P P 13 48 59.2 -0.3
ILULI IAmb IAmb 13 49 00.1
comp=Z,24nm,0.9s
ILULI IAMs_20 IAMs_20 14 18 16.7
comp=Z,941nm,23.5s
NEY **Neytrino** 68.87 309 *d i*P P 13 49 02.6 +1.7
NEY pmax pmax
comp=Z,6.0nm,0.9s
ISAL **Salakas** 69.00 327 *e*P P 13 49 01.9 +0.7
UPP **Uppsala** 69.01 334 *e*P P 13 49 00.8 -0.4
MNK **Minsk** 69.02 325 *i* P P 13 49 02.0 +0.7
MNK *i* *PP **pP** 13 49 20.6 +2.7
MNK *i* 13 49 25.7
MNK *i* 13 51 34.7
MNK *i* PPP PPP 13 53 15.4
MNK *i* S **S** 13 58 00.1 -1.1
MNK *i* *SS **sS** 13 58 33.6 +3.9
MNK *i* 13 58 59.1
MNK *i* SS **SS** 14 02 29.0 +2.1
MNK pmax pmax
comp=Z,43nm,0.8s
MNK pmax pmax
comp=N,22nm,1.2s
MNK pmax pmax
comp=E,6.0nm,1.1s
MNK MLR MLR
comp=Z,3μm,20.0s
MNK MLR MLR
comp=N,1μm,21.0s
MNK MLR MLR
comp=E,240nm,21.0s
MNK **Minsk** 69.02 325 *i* P P 13 49 02.0 +0.7
comp=E,6.0nm,1.1s
MNK *i* P P 13 49 02.0 +0.7
comp=N,22nm,1.2s
MNK *i* P P 13 49 02.0 +0.7
comp=Z,43nm,0.8s,baz=227
MNK *i* pP **pP** 13 49 20.6 +2.7
MNK *i* PP **PP** 13 51 34.8 +1.0
MNK *i* PPP PPP 13 53 15.4
MNK *i* S **S** 13 58 00.2 -1.0
MNK *i* sS **sS** 13 58 33.7 +4.0
MNK *i* SS **SS** 14 02 29.1 +2.2
MNK *i* SSS SSS 14 05 46.5
MNK *i* LQ LQ 14 14 52.2
MNK *i* LR LR 14 19 49.1
MNK *i* LRM MLR 14 21 57.9
comp=E,240nm,21.0s
MNK *i* LRM MLR 14 21 57.9
comp=N,1μm,21.0s
MNK *i* LRM MLR 14 21 57.9
comp=Z,3μm,20.3s
SLIT **Slitere, Latvi** 69.03 330 *e*P P 13 49 00.8 -0.5
IIGN **Ignalina** 69.12 327 *e*P P 13 49 02.7 +0.8
FFC **Flin Flon** 69.16 34 P P 13 49 02.9 +0.7
FFC pmax pmax
comp=Z,89nm,1.3s
FFC **Flin Flon** 69.16 34 P P 13 49 02.9 +0.7
NACGM **Naroch** 69.20 326 *i* P P 13 48 59.9 -2.6
BEKR **Beckworth** 69.26 55 P P 13 49 04.3 +0.9
BEKR IAmb IAmb 13 49 22.0
comp=Z,23nm,0.8s
ICESG **Greenland Ices** 69.34 1 ⇑ *i*P P 13 49 04.0 +0.4
ICESG IAmb IAmb 13 49 04.8
comp=Z,40nm,0.8s
AKH **Akhalkalaki** 69.55 308 ⇑ P P 13 49 06.8 +1.7
CHVG **Ch'k'valeri** 69.57 309 ⇓ P P 13 49 05.1 +0.1
GNI **Garni** 69.58 306 P P 13 49 06.5 +1.2
GNI **Garni** 69.58 306 *c i*P P 13 49 06.6 +1.2
GNI pmax pmax
comp=Z,72nm,1.2s
AFI **Afiamalu** 69.62 132 LR LR 14 13 17.1
comp=Z,449nm,21.8s,baz=350,slow=30
MOL **Molde** 69.84 340 *e*P P 13 49 06.0 -0.3
NC405 **NORSAR Array S** 69.88 337 P P 13 49 05.5 -1.1
PABE **Paberze** 69.92 328 *e*P P 13 49 07.3 +0.5
PAHR **Pah Rah Range** 69.95 54 IAmb IAmb 13 49 24.6
comp=Z,41nm,1.2s
EGMT **Eagleton** 70.06 43 P P 13 49 08.8 +0.7
baz=311,SNR=8.7
NB2 **NORSAR Subarra** 70.08 337 P P 13 49 06.6 -1.3
comp=Z,231nm,2.0s,baz=36,slow=6.5
NB2 **NORSAR Subarra** 70.08 337 P P 13 49 06.6 -1.3
baz=36,slow=6.5
NOA **NORSAR Array B** 70.08 337 P P 13 49 07.5 -0.4
comp=Z,13nm,0.7s,baz=36,slow=6.1,SNR=74
NOA pP **pP** 13 49 25.0 +0.4
comp=Z,6.2nm,0.9s,baz=34,slow=4.8,SNR=3.5
NOA LR LR 14 23 28.4
comp=Z,1μm,21.1s,baz=45,slow=39
NC602 **NORSAR Array S** 70.23 337 *e*P P 13 49 08.6 -0.1
PBUR **Paburge** 70.34 329 *e*P P 13 49 08.1 -1.3
CMB **Columbia Colle** 70.36 56 IAmb IAmb 13 49 27.1
comp=Z,44nm,1.2s
SOC **Sochi** 70.37 311 *c i*P P 13 49 09.7 -0.2
SOC *e**PP **pP** 13 49 26.3 -0.2
SOC *e**SP **sP** 13 49 34.3 +0.9
SOC *e* 13 51 41.3
SOC *e*PPP PPP 13 53 27.2
SOC *e*S **S** 13 58 18.9 +1.4
SOC *e**SS **sS** 13 58 43.8 -1.9
SOC *e*SS **SS** 14 02 48.7 +0.4
SOC pmax pmax
comp=Z,20nm,0.8s
SOC MLR MLR
comp=Z,1μm,19.0s
HLID **Hailey** 70.44 49 P P 13 49 11.8 +1.2
baz=310,SNR=9.5
HLID S S 13 58 20.0 +1.3
baz=310
BATM **Batumi** 70.49 309 ⇑ P P 13 49 11.4 +0.8
WSAR **Wadi Sarin** 70.54 284 LR LR 14 26 36.5
comp=Z,299nm,18.1s,baz=58,slow=41
BANOM **Banah** 70.58 288 P P 13 49 11.6 +0.2
BANOM **Banah** 70.58 288 P P 13 49 10.5 -0.9
SHME **Shamm** 70.61 288 P P 13 49 11.3 -0.3
SHME **Shamm** 70.61 288 P P 13 49 11.2 -0.3
BCA **Borcka** 70.63 309 ⇑ P P 13 49 12.2 +0.6
JLN **Jalan Bani Buh** 70.64 283 P P 13 49 11.6 -0.2
SNR=5.5
BOZ **Bozeman (W)** 70.67 46 P P 13 49 12.8 +1.0
baz=310,SNR=23
BOZ S S 13 58 22.4 +1.2
baz=310
BMN **Battle Mountai** 70.80 53 P P 13 49 13.1 +0.3
BMN pmax pmax
comp=Z,43nm,1.5s
BMN **Battle Mountai** 70.80 53 P P 13 49 13.1 +0.3
BMN IAmb IAmb 13 49 30.1
comp=Z,43nm,1.5s
ANN **Anapa** 70.86 313 *e*P P 13 49 12.3 -0.5
ANN *e**PP **pP** 13 49 29.8 +0.4
ANN pmax pmax
comp=Z,22nm,0.7s
MDH **Madha** 70.96 287 P P 13 49 12.7 -1.1
SFJD **Kangerlussuaq** 70.98 5 P P 13 49 12.9 -0.2
comp=Z,11nm,0.8s,baz=18,slow=3.2,SNR=4.1
SFJD pP **pP** 13 49 29.2 -0.9
comp=Z,27nm,0.9s,baz=356,slow=5.8,SNR=6.6
SFJD **Kangerlussuaq** 70.98 5 ⇑ *i*P P 13 49 13.0 -0.2
SFJD IAMs_20 IAMs_20 14 19 56.0
comp=Z,727nm,24.7s
MSFE **Esma-Masafi** 71.02 287 P P 13 49 14.0 -0.2
AKASG **Malin Array Be** 71.04 322 P P 13 49 13.6 -0.3
comp=Z,38nm,0.7s,baz=45,slow=6.0,SNR=106
AKASG LR LR 14 23 27.9
comp=Z,2μm,19.2s,baz=40,slow=38
AKASG **Malin Array Be** 71.04 322 IAmb IAmb 13 49 14.1
comp=Z,30nm,0.7s
AKBB **Malin Array Si** 71.04 322 *c i*P P 13 49 13.6 -0.2
AKBB pmax pmax
comp=Z,40nm,0.8s
SMDO **Samad** 71.07 284 P P 13 49 15.7 +1.1
SNR=7.8
OSL **Oslo** 71.12 337 *e*P P 13 49 14.4 +0.3
KVN **Kaiserville** 71.14 54 IAmb IAmb 13 49 32.8
comp=Z,42nm,1.1s
SKAR **Skarslia** 71.20 338 *e*P P 13 49 15.1 +0.4
UOSS **Minazif** 71.24 287 *i* P P 13 49 15.1 -0.4
SNR=5.7
UOSS **Minazif** 71.24 287 P P 13 49 15.6 +0.1
HOQ **Hoqain** 71.29 285 P P 13 49 16.1 +0.3
SNR=8.5
HATD **Hatta, Dubai** 71.37 287 *i* P P 13 49 16.2 0.0
SNR=6.9
HATD **Hatta, Dubai** 71.37 287 P P 13 49 16.7 +0.5
SNR=5.8
HYA **Hoyanger** 71.37 339 *e*P P 13 49 15.7 +0.1
NVAR **Mina Array Bea** 71.40 55 P P 13 49 17.9 +1.4
comp=Z,7.8nm,0.7s,baz=292,slow=6.2,SNR=49
MDPB **Devils Postpil** 71.42 56 P P 13 49 16.9 +0.1
JMDO **Jabal Madar** 71.46 284 P P 13 49 17.1 +0.3
SNR=6.2
SOHO **SOHO** 71.50 286 *i* P P 13 49 16.5 -0.5
SNR=6.1
SOHO **SOHO** 71.50 286 P P 13 49 17.4 +0.3
ASHO **Ashiyiah** 71.51 287 *i* P P 13 49 16.9 -0.2
SNR=6.8
ASHO **Ashiyiah** 71.51 287 P P 13 49 17.3 +0.2
SNR=6.5
NAZ **Nazwa, Dubai** 71.60 287 *i* P P 13 49 17.3 -0.3
SNR=5.6
KONO **Kongsberg** 71.68 337 *e*P P 13 49 17.0 -0.5
STRU **Stroemstad** 71.71 336 *i* P P 13 49 17.7 0.0
DY2G **Dye2** 71.76 4 ⇑ *i*P P 13 49 18.4 +0.2
DY2G IAmb IAmb 13 49 19.6
comp=Z,77nm,1.0s
ELK **Elko** 71.77 51 P P 13 49 19.3 +0.6
comp=Z,1.9nm,0.7s,baz=310,slow=6.5,SNR=11
ELK pP **pP** 13 49 34.5 -1.1
comp=Z,3.6nm,0.9s,baz=302,slow=4.8,SNR=8.3
FAQ **Al Faqa, Dubai** 71.80 287 *i* P P 13 49 19.2 +0.4
SNR=7.2
BSY **Bisya** 71.88 284 P P 13 49 20.0 +0.6
SNR=9.7
ARQ **Araqi** 72.01 285 P P 13 49 20.3 +0.2
SNR=8.0
H17A **Grant Village** 72.02 46 P P 13 49 23.1 +3.0
baz=311,SNR=13
H17A S **SKiKP** 13 58 45.5 -5.7
baz=311
ASUD **Al Ashush, Dub** 72.06 287 P P 13 49 20.6 +0.2
ASUD **Al Ashush, Dub** 72.06 287 P P 13 49 20.6 +0.2
ALNE **Al Ain** 72.11 286 *i* P P 13 49 20.6 -0.2
SNR=6.2
ALNE **Al Ain** 72.11 286 P P 13 49 20.5 -0.2
SNR=13
ASK **Askoy** 72.21 339 *e*P P 13 49 21.0 +0.4
RLMT **Red Lodge** 72.23 45 P P 13 49 22.6 +1.2
baz=312,SNR=6.1
ODD1 **Odda** 72.31 338 *e*P P 13 49 21.6 +0.3
BORU **Boraas** 72.34 334 *i* P P 13 49 21.3 -0.2
BLEU **Blekinge** 72.36 332 *i* P P 13 49 20.3 -1.3
MHTO **MHTO** 72.42 283 P P 13 49 23.2 +0.6
SNR=13
DGMT **Dagmar** 72.51 40 P P 13 49 23.1 +0.4
baz=314
SIM **Simferopol'** 72.53 315 *e*P P 13 49 22.1 -0.8
SIM *e* 13 49 40.0
SIM pmax pmax
comp=Z,26nm,0.8s
PKM **Mcpherson Peak** 72.68 59 P P 13 49 26.1 +1.9
baz=309

LAO	**LASA Array**	72.74	42	P		P	13 49 25.6	+1.5		
	baz=313,SNR=5.0									
LAO	**LASA Array**	72.74	42	P		P	13 49 25.5	+1.3		
	baz=313,SNR=5.0									
CWC	**Cottonwood Cre**	72.79	56	P		P	13 49 25.7	+0.9		
	baz=310									
ONAU	**Onsala**	72.80	335	*i* P		P	13 49 23.2	-1.0		
ONAU				*i* P		pP	13 49 23.7	-17		
FABU	**Falkenberg**	72.86	334	*i* P		P	13 49 24.4	-0.2		
GRAC	**Grapevine Rang**	72.88	56	P		P	13 49 27.0	+1.8		
	baz=310									
DEL	**Delary**	72.90	333	*i* P		P	13 49 24.4	-0.4		
ISA	**Isabella, Lake**	73.04	57	P		P	13 49 26.7	+0.5		
	baz=310									
R11A	**Troy Canyon, C**	73.10	54	P		P	13 49 27.8	+1.2		
	baz=310,SNR=19									
HWUT	**Hardware Ranch**	73.31	49	P		P	13 49 28.0	+0.2		
STKA	**Stephens Creek**	73.40	181	P		P	13 49 28.6	+0.7		
	comp=Z,5.6nm,1.0s,baz=354,slow=7.6,SNR=9.8									
STKA				pP		PcP	13 49 43.8	0.0		
	comp=Z,25nm,1.0s,baz=341,slow=10.0,SNR=17									
STKA				LR		LR	14 21 06.7			
	comp=Z,311nm,21.9s,baz=11,slow=35									
MPMC	**Manual Prospec**	73.41	56	P		P	13 49 29.4	+1.0		
	baz=310,SNR=9.1									
BJUU	**Bjuv**	73.50	333	*i* P		P	13 49 29.0	+0.6		
DUG	**Dugway, Tooele**	73.53	51	P		P	13 49 30.4	+1.3		
	baz=311,SNR=15									
FURC	**Furnace Creek,**	73.53	56	P		P	13 49 30.3	+1.4		
	baz=310,SNR=19									
FORT	**Forrest**	73.53	193	P		P	13 49 29.6	+0.9		
TPNV	**Topopah Spring**	73.60	55	P		P	13 49 30.7	+1.1		
	baz=310,SNR=24									
BW06	**Boulder Array**	73.65	47	P		P	13 49 30.3	+0.5		
	baz=312,SNR=17									
BW06				S		S	13 58 56.3	+0.6		
	baz=312									
PDAR	**Pinedale Array**	73.65	47	P		P	13 49 30.4	+0.5		
	comp=Z,7.3nm,0.9s,baz=299,slow=1.5,SNR=50									
PDAR				LR		LR	14 22 55.4			
	comp=Z,195nm,21.1s,baz=334,slow=36									
LRMC	**Laurel Mtn Rad**	73.66	57	P		P	13 49 30.7	+0.9		
	baz=310,SNR=8.1									
NUUK	**Nuuk**	73.68	6⇑	*i* P		P	13 49 29.6	+0.3		
NUUK				IAmb		IAmb	13 49 30.5			
	comp=Z,27nm,0.7s									
KIS	**Kishinev**	73.81	319	*e* P		P	13 49 30.0	-0.4		
KIS	**Kishinev**	73.81	319	*e* P		P	13 49 30.0	-0.4		
KIS				MLR		MLR				
	comp=Z,400nm,23.0s									
EDW2	**Edwards Air Fo**	73.84	58	P		P	13 49 32.1	+1.3		
	baz=310,SNR=8.3									
EDW2				S		S	13 58 59.3	+1.7		
	baz=310									
BEL	**Belsk**	73.90	327	*e* P		P	13 49 31.6	+0.8		
LVV	**L'vov**	74.02	324	*e* P		P	13 49 31.7	+0.2		
LVV				*e*			13 49 50.0			
LVV				*e*			13 52 20.2			
LVV				*e*S		S	13 58 58.3	-0.7		
LVV				MLR		MLR				
	comp=Z,2μm,17.0s									
DIKM	**Dikmen**	74.13	312	⇑P		P	13 49 33.4	+1.1		
GKP	**Gorka Klasztor**	74.21	329	*e* P		P	13 49 32.8	+0.3		
GSC	**Goldstone, Bar**	74.32	57	P		P	13 49 34.7	+1.0		
	baz=310									
CIS	**Catalina Islan**	74.52	59	P		P	13 49 35.6	+0.8		
	baz=310									
VASR	**Vaslui**	74.56	320	⇓P		P	13 49 35.5	+0.7		
BBOO	**Buckleboo**	74.57	186	P		P	13 49 34.1	-0.6		
KWP	**Kalwaria Pacla**	74.73	324	*e* P		P	13 49 36.4	+0.7		
MORW	**Morawa**	74.73	204	P		P	13 49 35.2	-0.5		
MORW				IAmb		IAmb	13 49 54.1			
	comp=Z,66nm,1.2s									
TUQ	**Turquoise Moun**	74.78	56	P		P	13 49 38.0	+1.6		
	baz=311									
HEC	**Hector,Ludlow**	74.92	57	P		P	13 49 38.9	+1.8		
	baz=311									
HEC				S		S	13 59 10.3	+0.6		
	baz=311									
ULM	**Lac du Bonnet**	74.97	35	P		P	13 49 37.0	-0.1		
	comp=Z,12nm,1.0s,baz=324,slow=6.7,SNR=11									
ULM				LR		LR	14 24 37.6			
	comp=Z,310nm,21.0s,baz=320,slow=37									
ULM	**Lac du Bonnet**	74.97	35	P		P	13 49 37.0	-0.1		
BURAR	**Bucovina Array**	75.09	322	⇑P		P	13 49 38.5	+0.6		
BURAR	**Bucovina Array**	75.09	322	IAmb		IAmb	13 49 39.3			
	comp=Z,20nm,0.8s									
TLCR		75.09	318	⇓P		P	13 49 38.2	+0.4		
LNIZ	**Loecknitz**	75.15	331	*e*L		L	14 25 09.5			
	comp=Z,2μm,21.6s									
BIZ	**Bicaz**	75.16	321	⇑P		P	13 49 39.1	+0.9		
TESR	**Tescani**	75.21	320	⇑P		P	13 49 38.9	+0.4		
K22A	**Casper**	75.37	45	P		P	13 49 40.3	+0.6		
	baz=314,SNR=8.8									
K22A				S		S	13 59 14.2	-0.5		
	baz=314									
CFR	**Carcaliu**	75.44	318	⇑P		P	13 49 40.0	+0.2		
KOLS	**Kolonicke sedl**	75.44	324	*e* P		P	13 49 40.2	+0.4		
KOLS				pmax		pmax				
	comp=Z,26nm,1.2s									
KOLS	**Kolonicke sedl**	75.44	324	*e* P		P	13 49 40.2	+0.4		
TPGR	**Topolog**	75.53	318	⇓P		P	13 49 40.5	+0.1		
STHS	**Stebnicka Huta**	75.53	325	*e* P		P	13 49 40.7	+0.4		
STHS	**Stebnicka Huta**	75.53	325	*e* P		P	13 49 40.7	+0.4		
OJC	**Ojcow**	75.53	326	*e* P		P	13 49 40.7	+0.4		
PFO	**Pinyon Flats O**	75.63	58	P		P	13 49 42.3	+1.0		
	comp=Z,4.7nm,1.1s,baz=292,slow=8.1,SNR=5.9									
PFO	**Pinyon Flats O**	75.63	58	P		P	13 49 42.6	+1.3		
	baz=311									
RSSD	**Black Hills**	75.63	43	P		P	13 49 41.7	+0.4		
	baz=315,SNR=6.9									
RSSD	**Black Hills**	75.63	43	P		P	13 49 41.6	+0.3		
	baz=315									
RSSD				S		S	13 59 16.1	-1.6		
	baz=315									
VRI	**Vrincioaia**	75.64	320	⇑P		P	13 49 40.9	-0.1		
TPFO	**Pinon Flats**	75.64	58	P		P	13 49 42.6	+1.3		
	baz=311									
UZH	**Uzhgorod**	75.66	324	*e* P		P	13 49 41.0	0.0		
UZH				*e*			13 49 53.3			
UZH				*e*			13 50 04.7			
UZH				*e*PPP		PPP	13 54 15.3			
UZH				*e*S		S	13 59 16.3	-1.0		
UZH				*e*PS		PnS	13 59 53.1	-7.4		
UZH				*e*SSS		SSS	14 07 21.1			
UZH				MLR		MLR				
	comp=N,200nm,17.0s									
UZH				MLR		MLR				
	comp=E,400nm,17.0s									
UZH				MLR		MLR				
	comp=Z,200nm,17.0s									
BELC	**Belle Mtn. Jos**	75.67	57	P		P	13 49 42.3	+0.8		
	baz=311									
CRVS	**Cervenica-Dubn**	75.82	324	*e* P		P	13 49 42.5	+0.5		
CRVS				pmax		pmax				
	comp=Z,44nm,1.2s									
CRVS	**Cervenica-Dubn**	75.82	324	*e* P		P	13 49 42.5	+0.5		
ARCR	**ARCALIA**	75.87	322	⇓P		P	13 49 43.4	+1.1		
COVR	**Voineasa-Covas**	75.90	320	⇑P		P	13 49 42.7	+0.1		
OZUR		75.92	320	⇑P		P	13 49 43.9	+1.2		
TRPA	**Tarpa**	75.93	323	⇑P		P	13 49 43.5	+0.9		
TRPA	**Tarpa**	75.93	323	*e* P		P	13 49 41.5	-1.1		
NIE	**Niedzica**	75.93	325	*e* P		P	13 49 44.2	+1.6		
IRM	**Iron Mountain**	76.10	57	P		P	13 49 45.5	+1.6		
	baz=311									
RUE	**Ruedersdorf**	76.12	331	*e* P		P	13 49 44.2	+0.6		
RUE	**Ruedersdorf**	76.12	331	*e* P		P	13 49 44.0	+0.5		
	comp=Z,139nm,1.8s,baz=34,slow=5.5									
MONP2	**Monument Peak**	76.12	58	P		P	13 49 45.8	+1.5		
	baz=311									
BSEG	**Bad Segeberg**	76.16	333	*e* P		P	13 49 44.4	+0.7		
	comp=Z,31nm,0.9s,baz=34,slow=5.5									
BSEG				*e*L		L	14 25 52.9			
	comp=Z,2μm,21.4s									
O20A	**White River Ci**	76.17	48	P		P	13 49 45.1	+0.8		
	baz=314,SNR=7.8									
DOPR	**Dopca**	76.21	320	⇓P		P	13 49 45.6	+1.4		
BC3	**Big Chuckawall**	76.24	57	P		P	13 49 45.9	+1.2		
	baz=311									
ISR	**Istrita**	76.27	319	⇑P		P	13 49 45.9	+1.3		
MLR	**Muntele Rosu**	76.29	320	⇓P		P	13 49 44.5	-0.4		
BR131	**Keskin Array S**	76.33	311	P		P	13 49 45.8	+0.6		
	SNR=5.3									
BRTR	**Keskin Array B**	76.34	311	P		P	13 49 45.6	+0.4		
	comp=Z,5.7nm,0.7s,baz=71,slow=3.6,SNR=17									
BRTR				LR		LR	14 28 25.1			
	comp=Z,661nm,19.6s,baz=63,slow=40									
ICOR	**Ion Corvin**	76.36	318	⇓P		P	13 49 45.5	+0.4		
AGMN	**Agassiz Nation**	76.45	36	P		P	13 49 45.2	-0.4		
	baz=319,SNR=5.4									
KSP	**Ksiaz**	76.47	328	*e* P		P	13 49 46.1	+0.5		
IKP	**In-Ko-Pah, Jac**	76.48	58	P		P	13 49 47.3	+1.2		
	baz=311									
LANS	**Liptovska Anna**	76.49	326	*e* P		P	13 49 47.1	+1.3		
LANS				pmax		pmax				
	comp=Z,52nm,2.0s									
LANS	**Liptovska Anna**	76.49	326	*e* P		P	13 49 47.1	+1.3		
OKC	**Ostrava-Krasne**	76.51	327	⇑AMS		AMS	14 26 20.0			
	comp=Z,1μm,17.9s									
PDMCI	**Parker Dam,Lak**	76.62	56	P		P	13 49 47.7	+1.0		
	baz=312									
DOK	**Doka**	76.71	283	P		P	13 49 47.1	-0.3		
ANTO	**Ankara**	76.71	312	P		P	13 49 47.6	+0.4		
ANTO				pmax		pmax				
	comp=Z,36nm,0.9s									
ANTO	**Ankara**	76.71	312	P		P	13 49 47.6	+0.4		
ANTO				IAmb		IAmb	13 49 48.7			
	comp=Z,36nm,0.9s									
OSTC	**Ostas**	76.72	328⇑	*i* P		P	13 49 47.7	+0.6		
OSTC				AMS		AMS	14 26 40.0			
	comp=Z,700nm,18.2s									
VOIR		76.76	320	⇑P		P	13 49 48.1	+0.7		
CHVC	**Chvalec**	76.76	328⇑	*i* P		P	13 49 48.0	+0.7		
CHVC				AMS		AMS	14 26 50.0			
	comp=Z,800nm,17.6s									
MORC	**Moravsky Berou**	76.80	327	⇑P		P	13 49 48.2	+0.6		
MORC	**Moravsky Berou**	76.80	327⇑	*i* P		P	13 49 48.1	+0.5		
UPC	**Upice**	76.84	328⇑	*i* P		P	13 49 48.4	+0.7		
UPC				MLR		MLR				
	comp=Z,900nm,17.9s									
UPC	**Upice**	76.84	328⇑	*i* P		P	13 49 48.4	+0.7		
UPC				AMS		AMS	14 26 40.0			
	comp=Z,900nm,17.9s									
DPC	**Dobruska-Polom**	76.84	328⇑	*i* P		P	13 49 48.6	+0.8		
DPC				*e*S		S	13 59 30.5	+0.2		
DPC				MLR		MLR				
	comp=Z,800nm,17.7s									
DPC	**Dobruska-Polom**	76.84	328⇑	*i* P		P	13 49 48.6	+0.8		
DPC				*e*S		S	13 59 30.5	+0.2		
DPC				AMS		AMS	14 27 20.0			
	comp=Z,800nm,17.7s									
DRGR		76.85	322	⇑P		P	13 49 47.4	-0.5		
KRLC	**Kraliky**	76.88	328⇑	*i* P		P	13 49 48.6	+0.6		
KRLC				MLR		MLR				
	comp=Z,600nm,19.0s									
KRLC	**Kraliky**	76.88	328⇑	*i* P		P	13 49 48.6	+0.6		
KRLC				AMS		AMS	14 26 30.0			
	comp=Z,600nm,19.0s									
N23A	**Red Feather La**	76.90	46	P		P	13 49 50.2	+1.6		
	baz=314,SNR=6.1									
N23A				S		S	13 59 33.2	+1.5		
	baz=314									
ARR	**Arges**	77.01	320	⇓P		P	13 49 49.2	+0.4		
FLTG	**Flechtingen**	77.16	332	*e* P		P	13 49 49.4	0.0		
	comp=Z,42nm,0.9s,baz=34,slow=5.5									
PSZ	**Piszkesteto**	77.25	325	⇓P		P	13 49 50.9	+0.7		
PSZ	**Piszkesteto**	77.25	325	*e* P		P	13 49 49.9	-0.3		
VYHS	**Vyhne**	77.26	325	*e* P		P	13 49 50.8	+0.7		
VYHS				pmax		pmax				
	comp=Z,64nm,1.7s									
VYHS	**Vyhne**	77.26	325	*e* P		P	13 49 50.8	+0.7		
BRG	**Berggiesshubel**	77.35	330	*e* P		P	13 49 50.6	+0.1		
	comp=Z,72nm,2.0s,baz=34,slow=5.5									
BRG	**Berggiesshubel**	77.35	330	*e* P		P	13 49 50.6	+0.1		
BRG				Amp			13 49 52.4			
	comp=Z,56nm,1.8s									
BRG	**Berggiesshubel**	77.35	330	P		P	13 50 03.8	+13		
BRG				Amp			13 50 09.1			
	comp=Z,12nm,1.4s									
BRG	**Berggiesshubel**	77.35	330	SKS		S	13 59 38.0	+2.3		
CLL	**Collm**	77.35	330⇑	*i* P		P	13 49 50.5	0.0		
	comp=Z,34nm,1.0s									
CLL				*i*			13 49 56.7			
CLL				*i* pP		pP	13 50 06.9	-0.5		
CLL				*i* sP		sP	13 50 12.5	-1.7		
CLL				*i* pPcP			13 50 14.9			
CLL				*e*PP		PP	13 52 42.0	-2.7		
CLL				*e*S		S	13 59 31.0	-4.7		
CLL				*e*sS		sS	14 00 04.0	-0.7		
CLL				*e*PPS		PPS	14 00 39.0			
CLL				*e*			14 05 42.0			
CLL				*e*			14 09 06.0			
CLL				Lm		MLR	14 26 00.0			
	comp=N,1μm,21.0s									
CLL				Lm		MLR	14 26 00.0			
	comp=E,600nm,22.0s									
CLL				Lm		MLR	14 26 00.0			
	comp=Z,2μm,21.5s									
CLL	**Collm**	77.35	330⇑	*i* P		P	13 49 50.5	0.0		
CLL				*i* *PP		pP	13 50 06.9	-0.5		
CLL				*i* *SP		sP	13 50 14.9	+0.7		
CLL				*e*S		S	13 59 31.0	-4.7		
CLL				pmax		pmax				
	comp=Z,34nm,1.0s									
CLL				MLR		MLR				
	comp=Z,2μm,21.5s									
CLL	**Collm**	77.35	330	*e* P		P	13 49 50.5	0.0		
	comp=Z,34nm,1.0s,baz=34,slow=5.5									
CLL				*e*L		L	14 26 38.9			
	comp=Z,2μm,21.5s									
PVCC	**Panska Ves**	77.39	329	⇑AMS		AMS	14 26 40.0			
	comp=Z,1μm,21.9s									
WHFO	**Wadi Hawf**	77.41	283	P		P	13 49 50.6	-0.8		
NRDL	**Niedersach Rie**	77.42	332	*e* P		P	13 49 51.2	+0.5		
	comp=Z,89nm,2.0s,baz=34,slow=5.5									
JAVC	**Velka Javorina**	77.47	326⇑	*i* P		P	13 49 53.0	+1.7		
WUAZ	**Wupatki**	77.50	53	P		P	13 49 53.4	+1.5		
	baz=313,SNR=8.1									
FBE	**Freiberg**	77.53	330	*e* P		P	13 49 52.0	+0.5		
	comp=Z,108nm,1.9s,baz=34,slow=5.5									
VRAC	**Vranov**	77.56	327	⇓P		P	13 49 52.6	+0.9		
VRAC	**Vranov**	77.56	327⇑	*i* P		P	13 49 52.6	+0.9		
SIRR	**Siria**	77.72	322	⇓P		P	13 49 53.4	+0.6		
PRA	**Prague**	77.81	329	⇑AMS		AMS	14 26 40.0			
	comp=Z,800nm,17.7s									
KRUC	**Moravsky**	77.83	327⇑	*i* P		P	13 49 53.9	+0.7		
PRU	**Pruhonice**	77.83	329⇑	*i* P		P	13 49 53.8	+0.6		
PRU				MLR		MLR				
	comp=Z,900nm,19.2s									
PRU	**Pruhonice**	77.83	329⇑	*i* P		P	13 49 53.8	+0.6		
PRU				AMS		AMS	14 25 00.0			
	comp=Z,900nm,19.2s									
SMOL	**Smolenice**	77.83	326	*e* P		P	13 49 54.3	+1.0		
SMOL				pmax		pmax				
	comp=Z,11nm,0.9s									
SMOL	**Smolenice**	77.83	326	*e* P		P	13 49 54.3	+1.0		
ISCO	**Idaho Springs**	77.85	47	P		P	13 49 55.4	+1.5		
	baz=315									
ISCO				S		S	13 59 43.5	+1.3		
	baz=315									
CLZ	**Clausthal**	77.86	332	*e* P		P	13 49 53.9	+0.5		
	comp=Z,41nm,1.0s,baz=34,slow=5.5									
NEUB	**Neuenburg**	77.88	331	*e* P		P	13 49 53.6	+0.2		
	comp=Z,39nm,1.0s,baz=34,slow=5.5									
SUSD	**Miller**	77.92	40	S		S	13 59 40.8	-1.3		
	baz=318									
MODS	**Modra-Piesok**	78.01	326	*e* P		P	13 49 54.4	+0.1		
MODS				pmax		pmax				
	comp=Z,35nm,1.3s									
MODS	**Modra-Piesok**	78.01	326	*e* P		P	13 49 54.4	+0.1		
SRO	**Srobarova**	78.01	325	*e* P		P	13 49 55.2	+1.0		
SRO				pmax		pmax				
	comp=Z,118nm,1.9s									
SRO	**Srobarova**	78.01	325	*e* P		P	13 49 55.2	+1.0		
TREC	**Trest**	78.01	328⇑	*i* P		P	13 49 54.8	+0.5		
TREC				MLR		MLR				
	comp=Z,700nm,16.0s									
TREC	**Trest**	78.01	328⇑	*i* P		P	13 49 54.8	+0.5		
TREC				AMS		AMS	14 27 50.0			
	comp=Z,700nm,16.0s									
NWAO	**Narrogin (SRO)**	78.01	202	P		P	13 49 54.9	+0.7		
NWAO				pmax		pmax				
	comp=Z,90nm,1.1s									
NWAO	**Narrogin (SRO)**	78.01	202	P		P	13 49 54.9	+0.7		
SRO2	**Moca**	78.01	325	*e* P		P	13 49 54.3	0.0		
SRO2				pmax		pmax				
	comp=Z,28nm,1.3s									
SRO2	**Moca**	78.01	325	*e* P		P	13 49 54.3	0.0		
MVCO	**Mesa Verde**	78.03	51	P		P	13 49 55.8	+0.9		
	baz=314,SNR=8.7									
ZST	**Bratislava**	78.22	326	*e* P		P	13 49 56.9	+1.5		
ZST				pmax		pmax				
	comp=Z,343nm,2.3s									
ZST	**Bratislava**	78.22	326	*e* P		P	13 49 56.9	+1.5		
BZS	**Buzias**	78.23	322	⇓P		P	13 49 55.7	+0.2		
GTTG	**Gottingen**	78.25	332	*e* P		P	13 49 55.9	+0.4		
	comp=Z,35nm,1.1s,baz=34,slow=5.5									
TANN	**Tannenbergstha**	78.28	330	*e* P		P	13 49 55.9	+0.1		
	comp=Z,50nm,1.9s,baz=34,slow=5.5									
PBCC	**Pribram**	78.28	329⇑	*i* P		P	13 49 56.0	+0.2		
WERD	**Werda**	78.31	330	*e* P		P	13 49 56.3	+0.4		
	comp=Z,35nm,1.5s,baz=34,slow=5.5									
PLN	**Plauen**	78.33	330	*e* P		P	13 49 56.4	+0.4		
	comp=Z,49nm,1.7s,baz=34,slow=5.5									
GUNZ	**Gunzen**	78.37	330	*e* P		P	13 49 56.7	+0.5		
	comp=Z,43nm,1.7s,baz=34,slow=5.5									
IBBN	**Ibbenburen**	78.37	334	*e* P		P	13 49 56.4	+0.3		
	comp=Z,35nm,1.0s,baz=34,slow=5.5									
MOX	**Moxa**	78.40	331	*e* P		P	13 49 56.7	+0.3		
	comp=Z,43nm,1.6s,baz=34,slow=5.5									
MOX				*e*L		L	14 27 20.1			
	comp=Z,1μm,21.2s									
WERN	**Wernitzgruen**	78.41	330	*e* P		P	13 49 57.0	+0.5		
	comp=Z,48nm,1.9s,baz=34,slow=5.5									
HERR	**Herculane**	78.42	321	⇑P		P	13 49 56.5	-0.1		
NKC	**Novy Kostel**	78.43	330⇑	*i* P		P	13 49 56.8	+0.2		
NKC				MLR		MLR				
	comp=Z,2μm,20.2s									
NKC	**Novy Kostel**	78.43	330⇑	*i* P		P	13 49 56.8	+0.2		
NKC				AMS		AMS	14 27 10.0			
	comp=Z,2μm,20.2s									
EYMN	**Ely**	78.58	34	IAmb		IAmb	13 50 13.5			
	comp=Z,29nm,0.9s									
EYMN	**Ely**	78.58	34	P		P	13 49 57.4	-0.1		
	baz=322,SNR=13									
EYMN				S		S	13 59 44.7	-4.4		
	baz=322									
S22A	**4UR Ranch, Cre**	78.61	49	P		P	13 49 59.3	+1.1		
	baz=315									
W18A	**Petrified Fore**	78.75	53	S		S	13 59 55.5	+3.8		
	baz=314									
MDVR	**Moldovita**	78.82	321	⇑P		P	13 49 58.9	0.0		
UBBA	**Unterbreizbach**	78.84	332	*e* P		P	13 49 58.8	+0.2		
	comp=Z,107nm,2.1s,baz=34,slow=5.5									
SOP	**Sopron**	78.85	326	*e* P		P	13 49 59.3	+0.4		
CKRC	**Cesky Krumlov**	78.86	328⇑	*i* P		P	13 49 59.3	+0.3		
CKRC				AMS		AMS	14 24 40.0			
	comp=Z,1μm,29.3s									
KHC	**Kasperske Hory**	78.89	329⇑	*i* P		P	13 49 59.7	+0.5		
KHC				*e*			13 50 18.7			
KHC				*e*S		S	13 59 48.6	-3.8		
KHC				*e*S		S	13 59 51.7	-0.7		
KHC				MLR		MLR				
	comp=Z,1μm,23.9s									
KHC	**Kasperske Hory**	78.89	329⇑	*i* P		P	13 49 59.7	+0.5		
KHC				*ex*		x	13 50 18.7			
KHC				*e*S		S	13 59 48.6	-3.8		
KHC				*e*S		S	13 59 51.7	-0.7		
KHC				AMS		AMS	14 26 10.0			
	comp=Z,1μm,23.9s									
ROTZ	**Rotzenmuhle**	78.90	330	*e* P		P	13 49 59.7	+0.6		
	comp=Z,93nm,2.0s,baz=34,slow=5.5									
CONA	**Conrad Observa**	78.94	327	*i* P		P	13 50 00.6	+1.1		
	comp=Z,33nm,1.6s,SNR=17									
214A	**Organ Pipe Nat**	79.02	57	P		P	13 50 01.4	+1.2		
	baz=313									
214A				S		S	13 59 56.7	+2.4		
	baz=313									
GEC2	**GERESS Array S**	79.08	328	*e* P		P	13 50 00.4	+0.1		
	comp=Z,64nm,1.9s,baz=34,slow=5.5									
GEC2				*e*L		L	14 28 18.6			
	comp=Z,674nm,19.6s									
GERES	**GERESS Array B**	79.08	328	P		P	13 50 00.3	+0.1		
	comp=Z,3.3nm,0.7s,baz=31,slow=6.2,SNR=31									
GERES				LR		LR	14 28 38.6			
	comp=Z,692nm,19.1s,baz=46,slow=38									
KASTN	**Kahler Asten**	79.08	333	*e* P		P	13 50 00.4	+0.3		
	comp=Z,60nm,1.7s,baz=34,slow=5.5									
MORH	**Mrgy, Hungar**	79.11	324	⇑P		P	13 50 00.0	-0.3		
MORH	**Mrgy, Hungar**	79.11	324	*e* P		P	13 49 59.7	-0.6		
MORH	**Mrgy, Hungar**	79.11	324	*i* P		P	13 50 00.0	-0.3

ANMO	**Albuquerque**	**80.80**	**51**	P		**P**	**13 50 11.2**	**+1.2**
	comp=Z,3.2nm,0.9s,baz=310,slow=6.7,SNR=12							
ANMO	**Albuquerque**	**80.80**	**51**	*c iP*		**P**	**13 50 11.1**	**+1.2**
ANMO				pmax		pmax		
	comp=Z,17nm,1.7s							
ANMO	**Albuquerque**	**80.80**	**51**	P		**P**	**13 50 11.6**	**+1.7**
	baz=315							
ANMO				S		**S**	**14 00 16.0**	**+2.8**
	baz=315							
MRAK	**Mrakovica**	**80.81**	**324**	⇑*iP*		**P**	**13 50 09.2**	**-0.4**
STU	**Stuttgart**	**80.84**	**331**	*eP*		**P**	**13 50 10.0**	**+0.4**
	comp=Z,97nm,1.1s,baz=34,slow=5.5							
BGES	**Gesves**	**80.89**	**334**	*dP*		**P**	**13 50 09.2**	**-0.7**
	comp=Z,23nm,2.0s							
MYKA	**Terra Mystica**	**80.89**	**327**	*i* P		**P**	**13 50 09.8**	**-0.2**
	comp=Z,32nm,1.7s,SNR=10							
BLY	**Banja Luka**	**80.89**	**324**	⇑*iP*		**P**	**13 50 09.5**	**-0.5**
STIP	**Stip**	**80.93**	**319**	*i* P		**P**	**13 50 09.6**	**-0.7**
LJU	**Ljubljana**	**81.00**	**326**	⇑*iP*		**P**	**13 50 10.3**	**-0.3**
VAY	**Valandovo**	**81.03**	**319**	*i* P		**P**	**13 50 11.9**	**+1.2**
SNF	**Seneffe**	**81.04**	**335**	*dP*		**P**	**13 50 10.5**	**-0.1**
BMRD	**Maredsous**	**81.06**	**334**	*dP*		**P**	**13 50 10.5**	**-0.2**
	comp=Z,27nm,1.9s							
VISS	**Visnje**	**81.06**	**326**	*i* P		**P**	**13 50 10.7**	**-0.2**
VISS				*eS*		S	14 00 41.5	+26
SKO	**Skopje**	**81.08**	**320**	*i* P		**P**	**13 50 12.1**	**+1.0**
BOJS	**Bojanci**	**81.13**	**326**	*i* P		**P**	**13 50 11.2**	**0.0**
BOJS				*eS*		S	14 00 47.0	+31
WATA	**Walderalm**	**81.13**	**329**	*i* P		**P**	**13 50 11.8**	**+0.4**
	comp=Z,29nm,1.1s,SNR=12							
WLF	**Walferdange**	**81.15**	**333**	*dP*		**P**	**13 50 11.3**	**+0.1**
WTTA	**Wattenberg**	**81.17**	**329**	*i* P		**P**	**13 50 12.1**	**+0.5**
	comp=Z,44nm,1.8s,SNR=11							
MGRS	**Mrkonjic Grad**	**81.20**	**324**	⇑*iP*		**P**	**13 50 12.6**	**+0.9**
ABTA	**Abfaltersbach**	**81.25**	**328**	*i* P		**P**	**13 50 11.3**	**-0.7**
	comp=Z,15nm,1.4s,SNR=6.8							
CEY	**Cerknica**	**81.28**	**326**	⇑*iP*		**P**	**13 50 11.7**	**-0.4**
DOU	**Dourbes**	**81.30**	**334**	*dP*		**P**	**13 50 11.0**	**-1.0**
	comp=Z,21nm,1.9s							
MOTA	**Moosalm**	**81.31**	**329**	*i* P		**P**	**13 50 12.9**	**+0.5**
	comp=Z,36nm,1.0s,SNR=18							
JAVS	**Javornik**	**81.31**	**326**	*eP*		**P**	**13 50 11.6**	**-0.8**
RETA	**Reutte**	**81.32**	**329**	*i* P		**P**	**13 50 12.8**	**+0.5**
	comp=Z,35nm,1.4s,SNR=15							
UPM	**Unac-Piva**	**81.33**	**322**	*eP*		**P**	**13 50 12.2**	**-0.4**
SQTA	**Sankt Quirin**	**81.37**	**329**	*i* P		**P**	**13 50 13.1**	**+0.5**
	comp=Z,43nm,1.8s,SNR=9.1							
BFO	**Black Forest**	**81.52**	**331**	*eP*		**P**	**13 50 13.4**	**+0.1**
BFO				*eL*		L	14 29 32.5	
	comp=Z,707nm,19.1s							
121A	**Cookes Peak, D**	**81.71**	**54**	P		**P**	**13 50 16.6**	**+1.8**
	baz=315							
121A				S		**S**	**14 00 25.4**	**+2.6**
	baz=315							
FETA	**Feichten**	**81.72**	**329**	*i* P		**P**	**13 50 15.0**	**+0.4**
	comp=Z,19nm,1.1s,SNR=11							
BRY	**Bratogost**	**81.73**	**322**	⇑*iP*		**P**	**13 50 14.1**	**-0.6**
PDG	**Podgorica**	**81.77**	**321**	⇓*iP*		**P**	**13 50 14.7**	**+0.1**
PDG	**Podgorica**	**81.77**	**321**	⇑*iP*		**P**	**13 50 14.9**	**+0.3**
PDG	**Podgorica**	**81.77**	**321**		IAmb	IAmb	13 50 15.4	
	comp=Z,38nm,0.9s							
DAVA	**Damuels**	**81.82**	**330**	*i* P		**P**	**13 50 15.4**	**+0.3**
	comp=Z,31nm,1.1s,SNR=9.0							
DRME	**Dracevica, Mon**	**81.99**	**321**	⇑*iP*		**P**	**13 50 16.0**	**+0.1**
OHR	**Ohrid**	**82.05**	**320**	*i* P		**P**	**13 50 16.3**	**0.0**
HCY	**Herceg Novi**	**82.11**	**322**	*eP*		**P**	**13 50 15.0**	**-1.5**
STON	**Ston**	**82.14**	**323**	*eP*		**P**	**13 50 14.9**	**-1.7**
SENIN	**Lac Senin/Sane**	**83.56**	**331**	P		**P**	**13 50 23.2**	**-1.0**
SENIN					IAmb	IAmb	13 50 25.8	
	comp=Z,29nm,1.2s							
MNTX	**Cornudas Mount**	**83.73**	**53**	P		**P**	**13 50 26.5**	**+1.4**
	baz=316							
AQU	**L'Aquila**	**84.46**	**325**	⇑*iP*		**P**	**13 50 28.9**	**+0.3**
BNI	**Bardonecchia**	**84.90**	**330**	P		**P**	**13 50 30.5**	**-0.4**
BNI				pmax		pmax		
	comp=Z,21nm,1.1s							
BNI	**Bardonecchia**	**84.90**	**330**	P		**P**	**13 50 30.5**	**-0.4**
BNI					IAmb	IAmb	13 50 49.3	
	comp=Z,21nm,1.1s							
PMOR	**Pomariorio Ree**	**85.32**	**115**	*eT*		T	15 24 12.7	
	comp=Z,124nm,0.2s							
TIP	**Timpagrande**	**85.49**	**321**	⇑P		**P**	**13 50 33.9**	**0.0**
TIP	**Timpagrande**	**85.49**	**321**	P		**P**	**13 50 34.1**	**+0.2**
TUL1	**Leonard**	**85.95**	**44**	S		**S**	**14 01 02.4**	**-2.5**
	baz=320							
PPT	**Papeete**	**86.02**	**118**	LR		LR	14 22 33.0	
	comp=Z,665nm,20.0s,baz=314,slow=31							
PPT2	**Papeete2**	**86.04**	**118**	*e*S		**S**	**14 01 01.8**	**-4.3**
	comp=Z,494nm,27.0s							
PPT2	**Papeete2**	**86.04**	**118**	*e*LR		LR	14 17 42.2	
	comp=Z,2µm,24.2s,baz=310							
PPT2	**Papeete2**	**86.04**	**118**	*e*T		T	15 25 07.0	
	comp=Z,22nm,0.3s							
TIAR	**Tiarei**	**86.17**	**118**	*e*T		T	15 25 14.9	
	comp=Z,4.0nm,0.3s							
ABTX	**Abilene, Hawle**	**86.37**	**48**	S		**S**	**14 01 08.3**	**-0.8**
	baz=319							
TXAR	**Lajitas Array**	**86.46**	**53**	P		**P**	**13 50 40.1**	**+1.2**
	comp=Z,4.5nm,0.9s,baz=306,slow=4.3,SNR=21							
TXAR				pP		**pP**	**13 50 55.6**	**-0.7**
	comp=Z,11nm,0.8s,baz=293,slow=3.1,SNR=12							
TXAR				LR		LR	14 25 42.8	
	comp=Z,207nm,21.4s,baz=0.0,slow=33							
TAOE	**Nuku Hiva Isla**	**86.50**	**105**	*e*LR		LR	14 18 01.4	
	comp=Z,2µm,23.6s							
TAOE	**Nuku Hiva Isla**	**86.50**	**105**	*e*T		T	15 25 42.6	
	comp=Z,64nm,0.2s							
CCM	**Cathedral Cave**	**86.53**	**40**	S		**S**	**14 01 09.0**	**-1.5**
	baz=323							
SFIN	**Lafayette**	**86.55**	**36**	P		**P**	**13 50 39.3**	**+0.3**
	baz=325							
U40A	**Yellville**	**87.09**	**42**	S		**S**	**14 01 14.4**	**-1.6**
	baz=322							
MEH	**Mehetia**	**87.24**	**117**	*e*T		T	15 26 37.2	
	comp=Z,42nm,0.3s							
W39A	**Magazine**	**87.53**	**43**	S		**S**	**14 01 19.7**	**-0.5**
	baz=322							
LONY	**Lake Ozonia**	**87.67**	**26**	P		**P**	**13 50 44.3**	**0.0**
	baz=333							
JCT	**Junction City**	**87.88**	**50**	S		**S**	**14 01 24.2**	**+0.4**
	baz=319							
F62A	**Pittston Farm,**	**87.91**	**22**	P		**P**	**13 50 45.3**	**-0.1**
	baz=336							
WHTX	**Lake Whitney,**	**88.06**	**47**	S		**S**	**14 01 25.0**	**-0.4**
	baz=320							
MIAR	**Mount Ida**	**88.15**	**43**	S		**S**	**14 01 25.5**	**-0.6**
	baz=322							
P49A	**Miami Univ. Ec**	**88.27**	**35**	P		**P**	**13 50 47.6**	**+0.3**
	baz=327							
P49A				S		**S**	**14 01 25.9**	**-1.2**
	baz=327							
M53A	**WI Miller and**	**88.30**	**31**	S		**S**	**14 01 26.1**	**-1.2**
	baz=329							
W41B	**Gary Mavity, V**	**88.33**	**42**	S		**S**	**14 01 27.3**	**-0.5**
	baz=322							
G62A	**West of Eustis**	**88.37**	**23**	P		**P**	**13 50 48.2**	**+0.6**
	baz=336							
ACSO	**Alum Creek Sta**	**88.41**	**33**	P		**P**	**13 50 48.0**	**0.0**
	baz=328							
ACSO				S		**S**	**14 01 26.8**	**-1.6**
	baz=328							
X40A	**Basin Creek Fa**	**88.57**	**43**	S		**S**	**14 01 29.8**	**-0.3**
	baz=322							
M54A	**Oil Creek Stat**	**88.62**	**30**	P		**P**	**13 50 49.3**	**+0.4**
	baz=330							
M54A				S		**S**	**14 01 29.2**	**-1.3**
	baz=330							
WCI	**Wyandotte Cave**	**88.67**	**36**	S		**S**	**14 01 30.1**	**-0.8**
	baz=326							
H62A	**Milan**	**88.77**	**23**	P		**P**	**13 50 50.5**	**+0.9**
	baz=336,SNR=5.9							
N54A	**Moraine State**	**88.97**	**31**	P		**P**	**13 50 51.4**	**+0.8**
	baz=330							
N54A				S		**S**	**14 01 32.8**	**-0.9**
	baz=330							
O53A	**New Philadelph**	**89.11**	**32**	P		**P**	**13 50 51.7**	**+0.5**
	baz=329							
O53A				S		**S**	**14 01 34.1**	**-0.8**
	baz=329							
P52A	**Corning**	**89.26**	**33**	S		**S**	**14 01 34.9**	**-1.6**
	baz=328							
Q51A	**Peebles**	**89.28**	**34**	P		**P**	**13 50 52.8**	**+0.7**
	baz=328,SNR=5.4							
BINY	**Binghamton**	**89.35**	**28**	P		**P**	**13 50 52.4**	**+0.1**
	baz=332							
I63A	**Otisfield**	**89.42**	**23**	P		**P**	**13 50 55.5**	**+3.0**
	baz=336,SNR=5.1							
I63A	**Otisfield**	**89.42**	**23**	P		**P**	**13 50 53.9**	**+1.3**
	baz=336,SNR=5.1							
X43A	**Marvell**	**89.53**	**42**	P		P	13 51 07.4	+14
	baz=323,SNR=16							
L59A	**Walton**	**89.68**	**27**	P		**P**	**13 50 54.4**	**+0.5**
	baz=333,SNR=5.8							
WVT	**Waverly**	**89.70**	**39**	S		**S**	**14 01 39.9**	**-0.7**
	baz=325							
M57A	**Sunshine Farm,**	**89.71**	**29**	P		**P**	**13 50 55.5**	**+1.5**
	baz=332,SNR=8.5							
K61A	**Williamstown**	**89.84**	**26**	P		**P**	**13 50 55.3**	**+0.7**
	baz=334							
SSPA	**Standing Stone**	**90.04**	**30**	P		**P**	**13 50 56.4**	**+0.8**
SSPA	**Standing Stone**	**90.04**	**30**	P		**P**	**13 50 56.6**	**+1.1**
	baz=331,SNR=5.6							
SSPA	**Standing Stone**	**90.04**	**30**	P		**P**	**13 50 56.4**	**+0.8**
	baz=331							
O56A	**Blue Knob Stat**	**90.11**	**30**	P		**P**	**13 50 56.7**	**+0.7**
	baz=331							
O56A				S		**S**	**14 01 43.3**	**-1.1**
	baz=331							
N58A	**Sunbury**	**90.29**	**29**	P		**P**	**13 50 57.2**	**+0.5**
	baz=332,SNR=5.4							
Q54A	**Coxs Mills**	**90.34**	**32**	P		**P**	**13 50 58.2**	**+1.2**
	baz=329,SNR=5.1							
N59A	**State Game Lan**	**90.56**	**28**	P		**P**	**13 50 58.8**	**+0.7**
	baz=332,SNR=9.3							
N59A	**State Game Lan**	**90.56**	**28**	P		**P**	**13 50 58.6**	**+0.7**
	baz=332,SNR=9.3							
KEST	**Kesra**	**91.70**	**324**	LR		LR	14 37 04.1	
	comp=Z,1µm,20.0s,baz=329,slow=39							
TKL	**Tuckaleechee C**	**91.93**	**36**	P		**P**	**13 51 04.7**	**+0.3**
	comp=Z,3.4nm,0.9s,baz=350,slow=2.0,SNR=2.6							
BLA	**Blacksburg**	**92.03**	**33**	S		**S**	**14 02 02.5**	**+0.6**
	baz=329							
ESDC	**Sonseca Array**	**93.33**	**335**	P		**P**	**13 51 11.0**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=22,slow=4.4,SNR=11							
ESDC				pP		**pP**	**13 51 28.4**	**+0.1**
	comp=Z,3.1nm,1.0s,baz=17,slow=3.0,SNR=5.8							
ESDC				LR		LR	14 39 18.3	
	comp=Z,556nm,19.6s,baz=350,slow=39							
KMBO	**Kilima Mbogo**	**102.16**	**280**	P		**Pdif**	**13 51 51.8**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=60,slow=8.1,SNR=3.8							
KMBO	**Kilima Mbogo**	**102.16**	**280**	*i* P		**Pdif**	**13 51 52.5**	**+1.2**
KMBO				pmax		pmax		
	comp=Z,1.0nm,0.3s							
TORD	**Torodi Ar. Bea**	**114.47**	**318**	PKiKP		**PKiKP**	**13 56 35.1**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=354,slow=7.4,SNR=4.3							
TORD				PKKPab		**PKKPab**	**14 07 24.7**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=216,slow=4.5,SNR=1.5							
SDV	**Santo Domingo**	**121.01**	**39**	*eP*		**PKiKP**	**13 56 53.5**	**+4.5**
LBTB	**Lobatse**	**125.97**	**267**	PKP		**PKPdf**	**13 56 58.1**	**+0.2**
	comp=Z,4.5nm,0.9s,baz=0.0,slow=1.0,SNR=3.5							
BOSA	**Boshof**	**128.20**	**264**	PKP		**PKPdf**	**13 57 01.6**	**-0.5**
	comp=Z,2.5nm,0.9s,baz=95,slow=5.8,SNR=2.0							
ATAH	**Atahualpa**	**129.90**	**58**	PKP		**PKiKP**	**13 57 06.8**	**-0.1**
	comp=Z,2.1nm,0.3s,baz=5.5,slow=12,SNR=3.8							
BOAV	**Boa Vista**	**131.19**	**31**	*eP*		**PKiKP**	**13 57 12.7**	**+3.6**
TBTG	**Tabatinga, AM**	**132.56**	**47**	*eP*		**PKiKP**	**13 57 14.9**	**+3.1**
SYO	**Syowa Base**	**132.92**	**209**	‖*e*Pdiff		**Pdif**	**13 54 09.4**	**+3.1**
SYO	**Syowa Base**	**132.92**	**209**	‖*ep*Pdiff		pPdif	13 54 20.8	-2.8
PTGA	**Pitinga**	**134.26**	**32**	PKP		**PKPdf**	**13 57 13.9**	**0.0**
	comp=Z,0.9nm,0.2s,baz=326,slow=3.6,SNR=0.9							
MCPB	**Macapa, AP**	**136.60**	**22**	*eP*		**PKiKP**	**13 57 21.7**	**+1.7**
MALB	**Monte Alegre**	**137.36**	**25**	*eP*		**PKiKP**	**13 57 23.4**	**+1.9**
ITTB	**Itaituba**	**139.21**	**29**	*eP*		**PKiKP**	**13 57 27.0**	**+1.7**
ETMB	**Extrema**	**139.25**	**47**	*eP*		**PKiKP**	**13 57 27.0**	**+1.7**
SAML	**Samuel**	**140.10**	**42**	*eP*		**PKiKP**	**13 57 28.6**	**+1.5**
ROSB	**Rosrio**	**140.72**	**11**	*eP*		**PKiKP**	**13 57 30.0**	**+1.6**
NBMO	**Morrinhos-CE**	**141.53**	**4**	*eP*		**PKiKP**	**13 57 30.6**	**+0.5**
NPGB	**Novo Progresso**	**141.83**	**30**	*eP*		**PKiKP**	**13 57 31.9**	**+1.2**
LPAZ	**La Paz**	**143.31**	**55**	PKhKP		PKPpre	13 57 28.0	
	comp=Z,0.8nm,0.6s,baz=355,slow=3.5,SNR=3.7							
LPAZ	**La Paz**	**143.31**	**55**	*eP*		**PKiKP**	**13 57 35.6**	**+1.2**
NBPB	**Pedra_Branca-C**	**143.77**	**4**	*eP*		**PKiKP**	**13 57 35.1**	**+0.4**
CLDB	**Colider**	**145.16**	**33**	*eP*		**PKiKP**	**13 57 39.1**	**+1.6**
SNAA	**Sanae**	**145.64**	**199**	PKPdf		**PKPdf**	**13 57 32.9**	**+0.2**
SNAA	**Sanae**	**145.64**	**199**	pPKPdf		pPKPdf	13 57 52.6	+2.0
SNAA	**Sanae**	**145.64**	**199**	PKP2		**PKPbc**	**13 57 33.1**	**-0.1**
SNAA	**Sanae**	**145.64**	**199**	PKPdf		**PKPbc**	**13 57 33.1**	**-0.1**
SMTB	**Santa Maria do**	**145.91**	**18**	*eP*		**PKiKP**	**13 57 37.6**	**-1.5**
H03N2	**Juan Fernandez**	**146.33**	**89**	T		T	16 40 51.8	
	baz=301,slow=77,SNR=165							
H03N3	**Juan Fernandez**	**146.34**	**89**	T		T	16 40 49.3	
	baz=301,slow=77,SNR=172							
H03N1	**Juan Fernandez**	**146.34**	**89**	T		T	16 40 53.2	
	baz=301,slow=77,SNR=148							
NBRF	**Rio Formoso -**	**146.87**	**356**	*eP*		**PKPab**	**13 57 39.7**	**-0.1**
VNA2	**Neumayer--Watz**	**147.22**	**198**	PKPdf		**PKPbc**	**13 57 37.5**	**-0.2**
VNA2	**Neumayer--Watz**	**147.22**	**198**	SKPdf		**SKPdf**	**14 01 03.6**	**-0.1**
VNA3	**Neumayer Olymp**	**147.47**	**196**	PKPdf		**PKPdf**	**13 57 36.4**	**+0.6**
VNA3	**Neumayer Olymp**	**147.47**	**196**	SKPdf		**SKPdf**	**14 01 06.2**	**+2.0**
VNA3	**Neumayer Olymp**	**147.47**	**196**	pPKPdf		pPKPdf	13 57 59.7	+2.3
VNA1	**Neumayer--Stat**	**147.61**	**198**	PKPdf		**PKPbc**	**13 57 39.5**	**+0.8**
VNA1	**Neumayer--Stat**	**147.61**	**198**	SKPdf		**SKPbc**	**14 01 08.6**	**-2.6**
VNA1	**Neumayer--Stat**	**147.61**	**198**	pPKPdf		pPKPdf	13 57 55.1	+1.2
NBLA	**Lagarto - SE**	**149.23**	**1**	*eP*		**PKPbc**	**13 57 44.8**	**+0.2**
SALV	**Santo Antonio**	**149.69**	**37**	*eP*		**PKPbc**	**13 57 45.6**	**-0.1**
SDBA	**SAO DESIDERIO**	**149.92**	**15**	*eP*		**PKPbc**	**13 57 45.9**	**-0.5**
BDFB	**Brasilia**	**152.30**	**22**	PKPbc		**PKPbc**	**13 57 52.1**	**+0.1**
	comp=Z,4.2nm,0.7s,baz=263,slow=3.5,SNR=4.4							
BO02	**Sierra Bellavi**	**153.00**	**86**			**PKiKP**	**13 57 54.0**	**+0.9**
PLCA	**Paso Flores**	**155.15**	**99**	PKPab		**PKPab**	**13 58 15.6**	**+1.9**
	comp=Z,3.2nm,0.7s,baz=50,slow=2.4,SNR=6.0							
CPUP	**Villa Florida**	**157.44**	**53**	PKPab		**PKPbc**	**13 58 21.4**	**-2.2**
	comp=Z,1.2nm,0.3s,baz=251,slow=3.7,SNR=3.3							
PTGB	**Pitanga**	**159.00**	**40**	*eP*		**PKPdf**	**13 57 58.8**	**+4.9**
TER01	**Tubaro-SC**	**163.62**	**39**	*eP*		**PKPdf**	**13 58 04.1**	**+5.6**

IDC ***12*** *13:40:16.4±1.1,4.°78S×152.°63E,h0km,mb4.2/11, mb1 4.3/11,mb1mx4.0/48,mbtmp4.2/11,MS3.8/1, Ms1 3.8/1,ms1mx3.0/30 Error ellipse: s-maj=40.6km s-min=18.7km az=118.0*

NEIC ***12*** *13:40:22.6±1.5,4.°9S±0.°1×152.°8E±0.°1,h45km±9km, mb4.5/20,Error ellipse: s-maj=18.4km s-min=10.1km az=223.0*

ISC 12 13:40:23.0±0.6,4.°94S±0.°08×152.°70E±0.°10,h55km,n43,
σ1s26/41,mb4.3/20,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.91**	**324**	Pn	**Pn**	**13 40 38.8**	**-1.0**
HNR	**Honiara**	**8.46**	**122**	Pn	**Pn**	**13 42 22.2**	**-0.8**
PATS	**Pohnpei**	**12.97**	**26**	Pn	**Pn**	**13 43 22.9**	**-1.6**
EIDS	**Eidsvold**	**20.38**	**184**	P	**P**	**13 44 53.2**	**-2.0**
MTN	**Manton Dam**	**22.70**	**248**	P	**P**	**13 45 21.7**	**+1.4**
MTN				IAmb	IAmb	13 45 28.3	
	comp=Z,30nm,1.3s						
WR0	**Warramunga Arr**	**23.14**	**228**	P	**P**	**13 45 26.4**	**+1.6**
WRAB	**Tennant Creek**	**23.27**	**229**	P	**P**	**13 45 27.0**	**+1.0**
WRAB				IAmb	IAmb	13 45 28.9	
	comp=Z,10nm,0.9s						
WB2	**Warramunga Arr**	**23.27**	**229**	P	**P**	**13 45 27.1**	**+1.1**
WB2				IAmb	IAmb	13 45 29.1	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**23.28**	**229**	P	**P**	**13 45 27.1**	**+0.9**
	comp=Z,4.0nm,0.4s,baz=49,slow=10,SNR=50						
WRA	**Warramunga Arr**	**23.28**	**229**	P	**P**	**13 45 26.5**	**+0.4**
KNRA	**Kununurra**	**25.82**	**244**	P	**P**	**13 45 49.6**	**+0.2**
KNRA				IAmb	IAmb	13 45 55.1	
	comp=Z,13nm,1.0s						
AS31	**Alice Springs**	**25.98**	**222**	P	**P**	**13 45 50.6**	**-0.2**
ASAR	**Alice Springs**	**25.98**	**222**	P	**P**	**13 45 52.8**	**+2.0**
	comp=Z,2.1nm,0.7s,baz=58,slow=8.8,SNR=21						
ASAR	**Alice Springs**	**25.98**	**222**	P	**P**	**13 45 51.8**	**+1.0**
STKA	**Stephens Creek**	**28.75**	**200**	P	**P**	**13 46 16.9**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=55,slow=6.0,SNR=3.0						
STKA	**Stephens Creek**	**28.75**	**200**	P	**P**	**13 46 15.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**29.51**	**241**	P	**P**	**13 46 21.8**	**-0.6**
	comp=Z,2.9nm,0.3s,baz=91,slow=4.8,SNR=43						
FITZ	**Fitzroy Crossi**	**29.51**	**241**	P	**P**	**13 46 21.7**	**-0.6**
FITZ				IAmb	IAmb	13 46 30.3	
	comp=Z,4.4nm,1.0s						
APSI	**Ampana**	**31.26**	**276**	P	P	13 46 43.1	+5.2
FORT	**Forrest**	**34.62**	**219**	P	**P**	**13 47 06.5**	**-0.5**
PSA00	**Pilbara Seismi**	**35.88**	**240**	P	**P**	**13 47 16.8**	**-1.1**
URZ	**Urewera**	**39.92**	**150**	LR	LR	14 02 48.2	
	comp=Z,119nm,20.9s,baz=29,slow=34						
PWJI	**Pagerwojo**	**40.74**	**263**	P	**P**	**13 48 00.5**	**+1.6**
SJI	**Sawahan**	**40.77**	**264**	P	**P**	**13 47 58.7**	**-0.6**
UGM	**Wanagama**	**42.00**	**264**	P	**P**	**13 48 05.3**	**-4.1**
MORW	**Morawa**	**42.18**	**231**	P	**P**	**13 48 10.4**	**-0.1**
MORW				IAmb	IAmb	13 48 18.2	
	comp=Z,19nm,1.1s						
CMAR	**Chiang Mai Arr**	**57.85**	**295**	P	**P**	**13 50 09.2**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=113,slow=5.2,SNR=4.1						
PETK	**Petropavlovsk-**	**57.98**	**4**	P	**P**	**13 50 09.1**	**-0.7**
	comp=Z,5.6nm,0.9s,baz=168,slow=7.4,SNR=2.2						
SONM	**Songino Array**	**66.39**	**328**	P	**P**	**13 51 08.2**	**+1.8**
	comp=Z,1.2nm,0.8s,baz=131,slow=6.1,SNR=3.9						
J20K	**Nowinta River**	**79.35**	**21**	P	**P**	**13 52 24.1**	**+1.5**
J20K				IAmb	IAmb	13 52 24.9	
	comp=Z,5.3nm,0.7s						
MKAR	**Makanchi Array**	**80.36**	**319**	P	**P**	**13 52 28.8**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=90,slow=6.9,SNR=2.2						
MKAR	**Makanchi Array**	**80.36**	**319**	P	**P**	**13 52 29.1**	**+0.5**
MLY	**Manley**	**81.05**	**21**	P	**P**	**13 52 32.5**	**+0.7**
ZALV	**Zalesovo Beam**	**81.21**	**326**	P	**P**	**13 52 33.3**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=119,slow=6.0,SNR=2.6						
IL31		**82.32**	**22**	P	**P**	**13 52 37.9**	**-0.5**
IL31				IAmb	IAmb	13 52 38.9	
	comp=Z,3.5nm,0.8s						
DOT	**Dot Lake**	**82.89**	**24**	P	**P**	**13 52 42.3**	**+0.8**
DOT				IAmb	IAmb	13 52 42.9	
	comp=Z,5.6nm,0.7s						
M27K	**Edge Creek, AK**	**83.24**	**25**	P	**P**	**13 52 44.8**	**+1.3**
EGAK	**Eagle**	**84.52**	**23**	P	**P**	**13 52 50.4**	**+0.6**
EGAK				IAmb	IAmb	13 52 55.5	
	comp=Z,5.7nm,1.0s						
EPYK	**Eagle Plains**	**86.83**	**22**	P	**P**	**13 53 01.4**	**+0.1**
DLBC	**Dease Lake**	**87.55**	**31**	P	**P**	**13 53 05.7**	**+0.8**
	comp=Z,2.8nm,0.9s,baz=246,slow=10.0,SNR=4.0						
NVAR	**Mina Array Bea**	**92.25**	**52**	P	**P**	**13 53 29.7**	**+2.1**
	comp=Z,0.5nm,0.6s,baz=269,slow=5.0,SNR=2.4						
GERES	**GERESS Array B**	**124.12**	**328**	PKP	**PKPdf**	**13 59 16.1**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=90,slow=4.0,SNR=5.0						
TORD	**Torodi Ar. Bea**	**150.25**	**288**	PKPbc	**PKPbc**	**14 00 08.7**	**-0.3**
	comp=Z,3.9nm,0.6s,baz=85,slow=2.4,SNR=14						

ANF ***12*** *13:41:31.8±1.4,39.°78N×122.°74W,h17km±4km, ML3.2/7, Error ellipse: s-maj=11.3km s-min=6.4km az=34.0*

NEIC ***12*** *13:41:32.7±1.9,39.°80N±0.°01×122.°69W±0.°02,h6km±1km, Error ellipse: s-maj=2.7km s-min=2.0km az=108.0*

NCEDC ***12*** *13:41:32.6±2.4,39.°81N±0.°02×122.°74W±0.°02,h4km±5km, ML3.1/24,ML3.0/64(NEIC), Error ellipse: s-maj=2.6km s-min=2.3km az=155.0*

ISC 12 13:41:32.7±0.9,39.°80N±0.°02×122.°72W±0.°02,h9km±9km,
n64,σ0s91/65,Northern California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GASB	**Alder Springs**	**0.15**	**180**		**Pg**	**13 41 35.7**	**-0.3**
GASB					**Sg**	**13 41 38.5**	**+0.2**
O02D	**Mt. Diablo Mer**	**0.38**	**352**

LHV	**Little Huntoon**	**3.63**	**114**		**Pn**	**13 42 30.5**	**+1.6**
LHV				IAML		13 43 45.7	
	comp=N,44nm,1.3s						
KVN	**Kaiserville**	**3.65**	**100**	Pn	**Pn**	**13 42 30.1**	**+0.6**
KVN				IAML		13 43 36.3	
	comp=E,20nm,1.4s						
KVN				IAML		13 43 45.4	
	comp=N,21nm,1.5s						
NVAR	**Mina Array Bea**	**3.70**	**110**		**Pn**	**13 42 30.5**	**+0.4**
NV11	**Mina Array Sit**	**3.80**	**110**		**Pn**	**13 42 32.2**	**+0.7**
NV11				IAML		13 43 43.1	
	comp=E,25nm,1.6s						
PINE	**Pine Mountain**	**4.20**	**18**		**Pn**	**13 42 38.5**	**+1.5**
PINE				IAML		13 44 09.0	
	comp=N,13nm,3.0s						
PINE				IAML		13 44 22.1	
	comp=E,11nm,3.0s						
BMN	**Battle Mountai**	**4.26**	**80**		**Pn**	**13 42 37.8**	**0.0**
BMN				IAML		13 43 59.0	
	comp=N,10nm,1.4s						
COR	**Corvallis**	**4.80**	**355**	Pn	**Pn**	**13 42 44.5**	**-0.6**
H04A	**Detroit Lake**	**4.89**	**4**	Pn	**Pn**	**13 42 45.4**	**-1.0**
H04A				IAML		13 44 40.6	
	comp=N,9.2nm,3.1s						
H04A				IAML		13 45 21.6	
	comp=E,12nm,3.2s						
TPNV	**Topopah Spring**	**5.82**	**117**	Pn	**Pn**	**13 42 59.7**	**+0.4**

IDC 12 13:43:60.0±14.0, 38.48N×142.81E, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.6/55, mbtmp4.1/4, Error ellipse: s-maj=365.7km s-min=34.2km az=172.0, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**41.78**	**311**	P	P	13 51 52.1	+1.3
	3.1nm,0.9s,baz=103,slow=4.6,SNR=4.1						
MKAR	**Makanchi Array**	**44.31**	**301**	P	P	13 52 10.1	-1.4
	0.8nm,0.8s,baz=81,slow=8.9,SNR=1.9						
ILAR	**Eielson Array**	**47.68**	**33**	P	P	13 52 37.9	+0.1
	3.1nm,0.8s,baz=284,slow=8.1,SNR=26						
YKA	**Yellowknife Ar**	**62.00**	**31**	P	P	13 54 21.0	-0.5
	2.8nm,0.9s,baz=309,slow=7.0,SNR=4.1						

*TAP **12** 13:46:25.3,24.83N×122.45E,h22km±1km, ML2.5, D*
*JMA **12** 13:46:26.4,24.76N×122.42E,h4km, M2.4*
ISC 12 13:46:25.9±1.0, 24.80N±0.04×122.43E±0.02, h15km±8km, n48, σ0.944/82, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.45**	**297**	P	**Pg**	**13 46 34.9**	**0.0**
	baz=292						
TWB1				eS	**Sg**	13 46 41.4	+0.4
	baz=292						
NTC	**Toucheng**	**0.55**	**275**	eP	**Pb**	**13 46 37.4**	**+0.1**
	baz=272						
TWC	**Suao**	**0.56**	**250**	P	**Pg**	**13 46 37.0**	**0.0**
	baz=247						
TWC				S	**Sb**	**13 46 47.0**	**+1.6**
	baz=247						
TIPB	**Shuangxi**	**0.58**	**287**	eP	**Pb**	**13 46 37.8**	**0.0**
	baz=283						
TIPB				S	**Sb**	**13 46 45.8**	**+0.1**
	baz=283						
JYNG	**Yonagunijimaku**	**0.58**	**127**	P	**Pb**	**13 46 37.6**	**-0.2**
JYNG				S	**Sg**	13 46 45.2	0.0
ILA	**Ilan**	**0.62**	**267**	eS	**Sb**	**13 46 48.3**	**+1.3**
	baz=263						
YOJ	**Yonaguni jima**	**0.63**	**123**	P	**Pb**	**13 46 38.3**	**-0.2**
YOJ				S	**Sg**	**13 46 46.4**	**-0.1**
YOJ	**Yonaguni jima**	**0.63**	**123**	P	**Pg**	**13 46 38.2**	**0.0**
	baz=125						
YOJ				S	**Sg**	**13 46 46.6**	**+0.1**
	baz=125						
NWF	**Wu-fen Shan**	**0.65**	**294**	P	**Pb**	**13 46 39.2**	**+0.2**
	baz=291						
NWF				S	**Sb**	**13 46 48.1**	**+0.2**
	baz=291						
NDS	**Dongshan**	**0.67**	**256**	eP	**Pg**	**13 46 38.9**	**-0.1**
	baz=253						
NDS				eS	**Sb**	**13 46 48.9**	**+0.4**
	baz=253						
TWE	**Neicheng**	**0.70**	**263**	P	**Pb**	**13 46 39.7**	**-0.1**
	baz=260						
TWE				eS	**Sb**	**13 46 49.7**	**+0.4**
	baz=260						
ENA	**Nanau**	**0.73**	**239**	eP	**Pg**	**13 46 40.2**	**0.0**
	baz=237						
ENA				S	**Sb**	**13 46 50.9**	**+0.7**
	baz=237						
TWA	**Mucha**	**0.79**	**283**	eP	**Pb**	**13 46 41.6**	**+0.2**
	baz=280						
TWA				eS	**Sb**	**13 46 52.7**	**+0.8**
	baz=280						
ENTT	**Nioudou**	**0.80**	**259**	P	**Pb**	**13 46 41.8**	**+0.2**
	baz=256						
ENTT				eS	**Sb**	**13 46 52.2**	**0.0**
	baz=256						
NHDH	**Xindian Distri**	**0.84**	**281**	eS	**Sb**	**13 46 53.8**	**+0.6**
	baz=278						
NWLT	**Wulai**	**0.84**	**268**	eP	**Pb**	**13 46 42.7**	**+0.4**
	baz=266						
NWLT				eS	**Sg**	**13 46 53.5**	**0.0**
	baz=266						
YM01	**YM01**	**0.85**	**294**	eP	**Pg**	**13 46 42.4**	**-0.1**
	baz=291						
YM01				eS	**Sg**	**13 46 53.6**	**-0.2**
	baz=291						
NDT	**Datong Townshi**	**0.86**	**257**	eP	**Pb**	**13 46 42.8**	**+0.2**
	baz=254						
NDT				eS	**Sn**	**13 46 55.2**	**-0.6**
	baz=254						
TWY	**Chenhua**	**0.89**	**302**	eP	**Pg**	**13 46 42.5**	**-0.7**
	baz=299						
TWY				eS	**Sg**	**13 46 54.7**	**-0.1**
	baz=299						
YHNB	**Yeheng**	**0.97**	**262**	eP	**Pb**	**13 46 44.3**	**-0.1**
	baz=260						
YHNB				eS	**Sg**	**13 46 57.0**	**-0.4**
	baz=260						
NSK	**Sanguang**	**0.98**	**263**	eP	**Pg**	**13 46 44.9**	**-0.1**
	baz=260						
NSK				eS	**Sb**	**13 46 56.8**	**-0.7**
	baz=260						
NACB	**Ninganchiao**	**0.99**	**231**	eP	**Pb**	**13 46 44.5**	**-0.2**
	baz=229						
NACB				S	**Sg**	**13 46 58.3**	**+0.3**
	baz=229						
NNS	**Nan Shan**	**1.03**	**250**	eP	**Pb**	**13 46 45.6**	**+0.1**
	baz=247						
NNS				eS	**Sb**	**13 46 59.0**	**+0.1**
	baz=247						
ETLH	**Xiulin Townshi**	**1.05**	**236**	eP	**Pb**	**13 46 45.9**	**+0.1**
	baz=234						
ETLH				eS	**Sg**	**13 47 00.2**	**+0.3**
	baz=234						
FUSS	**Fushou**	**1.22**	**243**	eP	**Pn**	**13 46 48.2**	**-0.3**
	baz=241						
FUSS				eS	**Sb**	**13 47 04.7**	**+0.3**
	baz=241						
WHF	**Hehuan Shan**	**1.25**	**239**	eP	**Pn**	**13 46 49.0**	**-0.3**
	baz=237						
IRIF	**Iriomote-Funau**	**1.27**	**111**	P	**Pg**	**13 46 50.2**	**-0.2**
IRIF				S	**Sn**	**13 47 06.2**	**+0.3**
LIOB	**Emei**	**1.30**	**263**	eP	**Pn**	**13 46 49.2**	**-0.3**
	baz=261						
LIOB				eS	**Sb**	**13 47 06.2**	**-0.3**
	baz=261						
NSTT	**Nanjuang**	**1.31**	**263**	eP	**Pn**	**13 46 49.2**	**-0.5**
	baz=261						
NSTT				eS	**Sb**	**13 47 06.4**	**-0.5**
	baz=261						
ESL	**Shilin**	**1.34**	**223**	eP	**Pn**	**13 46 50.1**	**0.0**
	baz=222						
CHGB	**Renai**	**1.36**	**237**	eP	**Pn**	**13 46 50.1**	**-0.5**
	baz=236						
CHGB				eS	**Sb**	**13 47 08.5**	**-0.2**
	baz=236						
OWD	**Renai**	**1.42**	**234**	eP	**Pn**	**13 46 51.4**	**0.0**
	baz=232						
OWD				eS	**Sn**	**13 47 09.6**	**-0.3**
	baz=232						
WHP	**Taichung City**	**1.45**	**249**	eP	**Pn**	**13 46 51.9**	**+0.2**
	baz=247						
WHP				eS	**Sn**	**13 47 10.4**	**-0.1**
	baz=247						
HATJ	**Hateruma jima**	**1.46**	**120**	P	**Pb**	**13 46 53.2**	**+0.5**
HATJ				eS	**Sg**	**13 47 12.2**	**-0.7**
JKRS	**Kuro-shima**	**1.54**	**111**	P	**Pg**	**13 46 55.1**	**-0.5**
WCS	**Beigang Elemen**	**1.57**	**242**	eP	**Pn**	**13 46 53.9**	**+0.7**
	baz=241						
HGSD	**Ruisui**	**1.60**	**215**	eP	**Pn**	**13 46 53.8**	**+0.1**
	baz=214						
JIJ	**Ishigaki jima**	**1.62**	**105**	P	**Pb**	**13 46 56.1**	**+0.6**
JIJ				eS	**Sb**	**13 47 16.4**	**+0.7**
SMLT	**Sun Moon Lake**	**1.67**	**237**	eP	**Pn**	**13 46 55.0**	**+0.2**
	baz=235						
SSLB	**Suanglung**	**1.69**	**233**	eP	**Pn**	**13 46 55.5**	**+0.6**
	baz=232						
TYC	**Yuchr**	**1.69**	**238**	eP	**Pn**	**13 46 54.9**	**0.0**
	baz=237						
YULB	**Yu-li**	**1.75**	**217**	eP	**Pn**	**13 46 55.3**	**-0.4**
	baz=216						
YULB				eS	**Sn**	**13 47 17.1**	**-0.6**
	baz=216						
EYUL	**Yuli**	**1.77**	**215**	eP	**Pn**	**13 46 56.0**	**-0.1**
	baz=214						
WHYT	**Xinyi Township**	**1.81**	**233**	eP	**Pn**	**13 46 57.0**	**+0.4**
	baz=232						
WHYT				eS	**Sn**	**13 47 19.2**	**-0.2**
	baz=232						
FULB	**Fuli**	**1.91**	**213**	eP	**Pn**	**13 46 57.2**	**-0.7**
	baz=212						
ALS	**Alishan**	**1.97**	**229**	eP	**Pn**	**13 46 58.8**	**-0.2**
	baz=228						
ALS				eS	**Sn**	**13 47 23.2**	**-0.3**
	baz=228						
CHN5	**Tsauling**	**2.00**	**233**	eP	**Pn**	**13 46 59.8**	**+0.5**
	baz=232						
CHN5				eS	**Sn**	**13 47 24.6**	**+0.5**
	baz=232						
ELDTW	**Lidau**	**2.06**	**219**	eP	**Pn**	**13 46 59.6**	**-0.5**
	baz=218						

*ANF **12** 13:47:08.0±0.4, 35.78N×97.37W, h2km±3km, ML3.4/7, Error ellipse: s-maj=3.0km s-min=2.4km az=135.0*
*NEIC **12** 13:47:08.8±0.8, 35.77N±0.02×97.40W±0.03, h5km±2km, Error ellipse: s-maj=4.6km s-min=3.0km az=77.0*
*TUL **12** 13:47:08.8±1.3, 35.74N±0.01×97.36W±0.03, h6km±6km, ML3.1, mb_Lg3.0/101(NEIC), Error ellipse: s-maj=3.5km s-min=0.9km az=119.0*
ISC 12 13:47:09.1±0.9, 35.77N±0.02×97.36W±0.02, h9km±7km, n91, σ1.902/62, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.08**	**288**	Pg	**Pg**	**13 47 11.3**	**0.0**
OK005	**Luther M Schoo**	**0.18**	**130**		**Pg**	**13 47 15.2**	**+2.4**
OK025	**Westminster Rd**	**0.19**	**175**	Pg	**Pg**	**13 47 12.6**	**-0.4**
OK009	**Oakdale Elemen**	**0.20**	**195**	Pg	**Pg**	**13 47 12.6**	**-0.5**
OK009				Sg	**Sg**	**13 47 15.4**	**-0.4**
OK001	**Jones High Sch**	**0.22**	**165**		**Pg**	**13 47 12.9**	**-0.6**
OKCFA	**Oklahoma City**	**0.36**	**192**		**Pg**	**13 47 15.7**	**-0.5**
OKCFA				Sg	**Sg**	**13 47 20.8**	**-0.3**
OKCFA	**Oklahoma City**	**0.36**	**192**	P	**Pg**	**13 47 15.7**	**-0.5**
	baz=10						
OKCFA				S	**Sg**	**13 47 20.7**	**-0.3**
	baz=10						
OKCSW	**OKLAHOMA CITY**	**0.37**	**190**		**Pg**	**13 47 15.8**	**-0.5**
OK031	**S. Brethren Rd**	**0.46**	**67**	Pg	**Pg**	**13 47 18.1**	**+0.1**
FNO	**Franklin**	**0.51**	**184**		**Pg**	**13 47 18.4**	**-0.7**
QUOK	**Quay**	**0.66**	**53**	Pg	**Pg**	**13 47 21.8**	**0.0**
CROK	**Carrier**	**0.89**	**326**		**Pg**	**13 47 26.1**	**-0.1**
BLOK	**Blackwell**	**0.99**	**7**		**Pg**	**13 47 28.1**	**-0.1**
GC02	**Grant County #**	**1.15**	**340**		**Pg**	**13 47 30.8**	**-0.4**
X34A	**Smith Ranch, M**	**1.23**	**198**		**Pg**	**13 47 31.8**	**-0.9**
OK032	**Salt Plains WL**	**1.24**	**327**		**Pg**	**13 47 32.2**	**-0.6**
KAN13	**South Haven SW**	**1.24**	**356**		**Pg**	**13 47 32.5**	**-0.4**
KAN14	**Manchester OK**	**1.28**	**338**		**Pg**	**13 47 33.0**	**-0.7**
TUL1	**Leonard**	**1.28**	**83**	P	**Pn**	**13 47 31.8**	**-1.4**
	baz=264						
TUL1				S	**Sg**	**13 47 49.5**	**-0.8**
	baz=264						
TUL1	**Leonard**	**1.28**	**83**	P	**Pn**	**13 47 31.9**	**-1.4**
	baz=264						
TUL1				S	**Sg**	**13 47 49.5**	**-0.8**
	baz=264						
T35A	**Sooner Cattle**	**1.33**	**31**		**Pn**	**13 47 33.5**	**-0.4**
T35B	**Sooner Cattle**	**1.33**	**31**	P	**Pn**	**13 47 33.6**	**-0.4**
	baz=212						
T35B				S	**Sb**	**13 47 52.0**	**+0.5**
	baz=212						
KAN05	**Bluff City Nor**	**1.40**	**343**		**Pn**	**13 47 35.1**	**+0.3**
U32A	**Winter Ranch,**	**1.46**	**295**		**Pn**	**13 47 36.1**	**+0.4**
U32A				IAmb_Lg		13 47 56.3	
	comp=Z,71nm,0.7s						
U32A	**Winter Ranch,**	**1.46**	**295**	P	**Pn**	**13 47 35.7**	**0.0**
	baz=114						
U32A				S	**Sg**	**13 47 55.8**	**-0.3**
	baz=114						
KS20	**Mayfield South**	**1.46**	**354**		**Pn**	**13 47 36.0**	**+0.3**
KS20				IAmb_Lg		13 47 59.8	
	comp=Z,92nm,0.7s						
WMOK	**Wichita Mounta**	**1.55**	**229**		**Pn**	**13 47 36.6**	**-0.5**
WMOK	**Wichita Mounta**	**1.55**	**229**	P	**Pn**	**13 47 36.5**	**-0.5**
	baz=48						
WMOK				S	**Sn**	**13 47 57.3**	**0.0**
	baz=48						
WMOK	**Wichita Mounta**	**1.55**	**229**	P	**Pn**	**13 47 36.5**	**-0.5**
	baz=48						
WMOK				S	**Sn**	**13 47 57.3**	**0.0**
	baz=48						
KAN12	**Harper NE Stat**	**1.61**	**342**		**Pb**	**13 47 38.6**	**-0.4**
LOOK	**Love County**	**1.78**	**175**		**Pn**	**13 47 40.4**	**+0.3**
LOOK				IAmb_Lg		13 48 07.5	
	comp=Z,67nm,0.8s						
X37A	**Clayton**	**2.01**	**125**	Pn	**Pn**	**13 47 43.5**	**+0.3**
X37A	**Clayton**	**2.01**	**125**	P	**Pn**	**13 47 43.5**	**+0.3**
	baz=306						
X37A				S	**Sb**	**13 48 10.1**	**-0.9**
	baz=306						
Z35A	**Perchaven, San**	**2.44**	**178**		**Pn**	**13 47 48.8**	**-0.3**
W39A	**Magazine**	**2.97**	**100**		**Pn**	**13 47 57.1**	**+0.6**
W39A				IAmb_Lg		13 48 48.7	
	comp=Z,53nm,0.8s						
Z38A	**Mt. Pleasant**	**3.18**	**141**	Pn	**Pn**	**13 47 58.3**	**-1.0**
MIAR	**Mount Ida**	**3.33**	**110**		**Pn**	**13 48 02.4**	**+1.0**
MIAR				IAmb_Lg		13 49 00.2	
	comp=Z,44nm,0.8s						
MIAR	**Mount Ida**	**3.33**	**110**	P	**Pn**	**13 48 02.4**	**+1.0**
	baz=293						
MIAR	**Mount Ida**	**3.33**	**110**	P	**Pn**	**13 48 02.6**	**+1.1**
	baz=293						
MIAR				S	**Sn**	**13 48 43.2**	**+2.0**
	baz=293						
KSU1	**Kansas State U**	**3.38**	**10**	IAmb_Lg		13 49 01.9	
	comp=Z,71nm,0.8s						
KSU1	**Kansas State U**	**3.38**	**10**	Sb	**Sg**	**13 48 56.7**	**-0.9**
	baz=190						
CBKS	**Cedar Bluff**	**3.58**	**329**	IAmb_Lg		13 49 05.5	
	comp=Z,64nm,0.8s						
CBKS	**Cedar Bluff**	**3.58**	**329**	Pb	**Pb**	**13 48 14.3**	**+1.7**
	baz=148						
CBKS				Sb	**Sg**	**13 49 02.0**	**-2.0**
	baz=148						
AMTX	**Amarillo**	**3.64**	**257**	Pn	**Pn**	**13 48 06.7**	**+0.9**
AMTX	**Amarillo**	**3.64**	**257**	P	**Pn**	**13 48 06.7**	**+0.9**
	baz=74						
ABTX	**Abilene, Hawle**	**3.67**	**212**		**Pn**	**13 48 05.2**	**-0.8**
ABTX				IAmb_Lg		13 49 09.1	
	comp=Z,29nm,0.8s						
U40A	**Yellville**	**3.70**	**80**		**Pn**	**13 48 05.4**	**-1.0**
U40A				IAmb_Lg		13 49 08.4	
	comp=Z,37nm,0.8s						
S39A	**Bolivar**	**3.77**	**58**		**Pn**	**13 48 08.1**	**+0.7**
S39A				IAmb_Lg		13 49 13.2	
	comp=Z,34nm,0.9s						
WHTX	**Lake Whitney,**	**3.77**	**181**	Sb	**Sb**	**13 49 03.7**	**+2.0**
	baz=1.0						
WLAR	**White Oak Lake**	**4.07**	**120**	IAmb_Lg		13 49 18.6	
	comp=Z,22nm,0.8s						
WHAR	**Wooly Hollow**	**4.16**	**95**	IAmb_Lg		13 49 21.4	
	comp=Z,31nm,0.8s						
W41B	**Gary Mavity, V**	**4.21**	**97**	P	**Pn**	**13 48 13.7**	**+0.2**
	baz=280						
W41B	**Gary Mavity, V**	**4.21**	**97**	Sb	**Sg**	**13 49 20.2**	**-4.2**
	baz=280						
FCAR	**Ozark Folk Cen**	**4.26**	**87**	IAmb_Lg		13 49 23.3	
	comp=Z,29nm,0.7s						
MGMO	**Mountain Grove**	**4.33**	**70**	IAmb_Lg		13 49 27.4	
	comp=Z,51nm,1.1s						
435B	**Jarrell**	**4.98**	**182**	IAmb_Lg		13 49 51.4	
	comp=Z,42nm,0.8s						
LCAR	**Lake Charles**	**5.04**	**85**	IAmb_Lg		13 49 54.5	
	comp=Z,23nm,1.1s						
KSCO	**Kaye Shedlock'**	**5.29**	**309**	IAmb_Lg		13 50 04.0	
	comp=Z,29nm,0.7s						
CCM	**Cathedral Cave**	**5.40**	**63**	IAmb_Lg		13 50 09.4	
	comp=Z,27nm,1.1s						
JCT	**Junction City**	**5.66**	**202**	IAmb_Lg		13 50 21.4	
	comp=Z,38nm,0.7s						
PBMO	**Poplar Bluff**	**5.69**	**78**	IAmb_Lg		13 50 14.2	
	comp=Z,36nm,0.7s						
LPAR	**Lepanto**	**5.75**	**90**	IAmb_Lg		13 50 22.2	
	comp=Z,37nm,0.9s						
T25A	**Trinidad**	**5.84**	**286**	P	**Pn**	**13 48 36.7**	**+0.5**
	baz=101						
SLM	**Saint Louis**	**6.36**	**61**	IAmb_Lg		13 50 27.6	
	comp=Z,17nm,0.8s						
OXF	**Oxford**	**6.63**	**99**	IAmb_Lg		13 50 57.5	
	comp=Z,26nm,1.0s						
W45A	**Hickory Valley**	**6.70**	**93**	IAmb_Lg		13 50 56.2	
	comp=Z,25nm,0.7s						
SDCO	**Great Sand Dun**	**6.83**	**289**	IAmb_Lg		13 50 46.0	
	comp=Z,14nm,1.0s						
T45A	**Paducah**	**7.14**	**77**	IAmb_Lg		13 51 15.4	
	comp=Z,25nm,0.7s						
P43A	**Skaggs, Pawnee**	**7.32**	**56**	IAmb_Lg		13 50 59.7	
	comp=Z,27nm,0.9s						
Q44A	**Meyer Farm, Va**	**7.34**	**62**	IAmb_Lg		13 51 13.6	
	comp=Z,28nm,0.7s						
ANMO	**Albuquerque**	**7.48**	**266**	IAmb_Lg		13 51 18.5	
	comp=Z,10nm,1.1s						
PLAL	**Pickwick Lake**	**7.62**	**93**	IAmb_Lg		13 51 13.9	
	comp=Z,10nm,0.8s						
ISCO	**Idaho Springs**	**7.67**	**304**	IAmb_Lg		13 51 22.6	
	comp=Z,11nm,0.8s						
WVT	**Waverly**	**7.74**	**85**	IAmb_Lg		13 51 24.4	
	comp=Z,12nm,0.9s						
L40A	**Anamosa**	**7.89**	**35**	IAmb_Lg		13 51 25.3	
	comp=Z,21nm,0.9s						
ECSD	**EROS Data Cent**	**7.97**	**4**	IAmb_Lg		13 51 25.9	
	comp=Z,17nm,1.1s						
Z47A	**Carrollton**	**8.09**	**106**	IAmb_Lg		13 51 40.9	
	comp=Z,11nm,0.9s						
O44A	**Mansfield**	**8.27**	**55**	IAmb_Lg		13 51 52.6	
	comp=Z,24nm,0.8s						
T47A	**Sharon Grove**	**8.36**	**79**	IAmb_Lg		13 51 41.2	
	comp=Z,22nm,0.9s						
PHWY	**Pilot Hill**	**8.41**	**313**	IAmb_Lg		13 51 53.8	
	comp=Z,12nm,1.0s						
I37A	**Lemond, Waseca**	**8.78**	**19**	IAmb_Lg		13 51 55.5	
	comp=Z,22nm,1.0s						
CLTN	**Cedars of Leba**	**8.95**	**85**	IAmb_Lg		13 51 54.3	
	comp=Z,9.8nm,0.8s						
WCI	**Wyandotte Cave**	**9.19**	**71**	IAmb_Lg		13 52 15.4	
	comp=Z,14nm,0.8s						
BLO	**Bloomington**	**9.26**	**65**	IAmb_Lg		13 52 09.0	
	comp=Z,18nm,0.8s						
U49A	**Red Boiling Sp**	**9.40**	**82**	IAmb_Lg		13 52 09.9	
	comp=Z,11nm,1.1s						
PV11	**David Mesa, Pa**	**9.54**	**289**	IAmb_Lg		13 52 28.1	
	comp=Z,14nm,1.2s						
I40A	**Norwalk**	**9.62**	**31**	IAmb_Lg		13 52 27.2	
	comp=Z,13nm,0.8s						
PV23	**Carpenter Ridg**	**9.68**	**289**	IAmb_Lg		13 52 21.2	
	comp=Z,7.6nm,0.9s						
RWWY	**Rawlins**	**9.70**	**310**	IAmb_Lg		13 52 28.0	
	comp=Z,11nm,1.1s						
W50A	**Signal Mountai**	**9.84**	**90**	IAmb_Lg		13 52 24.1	
	comp=Z,16nm,1.0s						
K22A	**Casper**	**9.88**	**317**	IAmb_Lg		13 52 42.1	
	comp=Z,10nm,0.9s						

*IDC **12** 13:55:10.2±1.0, 27.86S×63.74E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.8/46, mbtmp4.0/6, Error ellipse: s-maj=30.9km s-min=27.8km az=79.0*
ISC 12 13:55:13.0±1.1, 27.85S±0.2×63.75E±0.2, h17km, n9, σ0.982/6, mb4.2/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**43.24**	**112**	T	T	14 49 11.2	
	baz=264,slow=75,SNR=12						
H01W3	**Cape Leeuwin H**	**43.24**	**112**	T	T	14 49 05.1	
	baz=264,slow=75,SNR=13						
H01W1	**Cape Leeuwin H**	**43.26**	**112**	T	T	14 49 07.3	
	baz=264,slow=75,SNR=13						
CMAR	**Chiang Mai Arr**	**57.27**	**41**	P	**P**	**14 05 00.7**	**+0.8**
	1.8nm,0.8s,baz=227,slow=7.1,SNR=14						
QSPA	**South Pole Qui**	**62.32**	**180**	P	**P**	**14 05 34.6**	**+0.4**
	3.2nm,0.9s,baz=323,slow=5.6,SNR=10						
ASAR	**Alice Springs**	**62.56**	**104**	P	**P**	**14 05 36.4**	**0.0**
	1.9nm,0.8s,baz=250,slow=5.8,SNR=20						
WRA	**Warramunga Arr**	**64.27**	**100**	P	**P**	**14 05 46.7**	**-1.0**
	2.3nm,0.9s,baz=239,slow=6.4,SNR=9.0						
TORD	**Torodi Ar. Bea**	**72.57**	**296**	P	**P**	**14 06 39.4**	**-0.2**
	0.6nm,0.8s,baz=112,slow=6.6,SNR=3.7						
MKAR	**Makanchi Array**	**76.15**	**13**	P	**P**	**14 06 59.5**	**-0.3**
	0.6nm,0.8s,baz=193,slow=5.0,SNR=5.5						

*NNC **12** 14:15:31.4±6.0, 38.71N×69.73E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=61.4km s-min=30.0km az=166.0*
ISC 12 14:15:31.1±3.3, 38.66N±0.2×69.66E±0.1, h10km, n13, σ1.944/16, 2C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.53**	**9**	⇑Pn	**Pn**	**14 16 39.8**	**+0.1**
	1.8nm,0.3s,baz=192,slow=14,SNR=35						
KK31				Pg	**Pb**	**14 16 50.2**	**-0.4**
	3.9nm,0.4s,baz=190,slow=17,SNR=9.4						
KK31				⇑Lg	Lg	14 17 48.6	
	15nm,0.6s,baz=189,slow=30,SNR=6.2						
AML	**Almayashu**	**4.70**	**40**	P	**Pn**	**14 16 40.8**	**-1.5**
	SNR=11						
UCH	**Uchtor**	**5.20**	**45**	P	**Pn**	**14 16 48.9**	**-0.4**
	SNR=9.3						
AAK	**Ala-Archa**	**5.47**	**41**	P	**Pn**	**14 16 52.0**	**-0.9**
	SNR=15						
AAK	**Ala-Archa**	**5.47**	**41**	Pn	**Pn**	**14 16 51.9**	**-0.9**
	7.6nm,0.5s						
AAK				Sn	**Sn**	**14 17 58.9**	**+3.0**
	16nm,0.8s						
KZA	**Kyzart**	**5.53**	**50**	P	**Pn**	**14 16 54.5**	**+0.7**
	SNR=8.7						
KBK	**Karagaybulak**	**5.73**	**44**	P	**Pn**	**14 16 58.2**	**+2.0**
	SNR=8.0						
CHMS	**Chumysh**	**5.86**	**40**	P	**Pn**	**14 16 57.5**	**-0.6**
	SNR=7.9						
USP	**Ospenovka**	**5.94**	**37**	P	**Pn**	**14 16 57.0**	**-2.1**
	SNR=6.3						
TKM2	**Tokmak 2**	**6.26**	**45**	P	**Pn**	**14 17 03.5**	**-0.1**

EWUT	**Wuta**	**0.23**	**8**	*e*P	Pn	14 24 19.1	+0.5
	baz=8.0							
EWUT				*e*S	Sn	14 24 25.4	+1.4
	baz=8.0							
ETLH	**Xiulin Townshi**	**0.24**	**267**	*e*P	Pn	14 24 18.8	+0.1
	baz=267							
ETLH				S	Sn	14 24 25.0	+0.6
	baz=267							
ETM	**Tongmen**	**0.34**	**222**	*e*P	Pn	14 24 19.6	-0.1
	baz=222							
ETM				*e*S	Sn	14 24 26.3	+0.3
	baz=222							
NNSB	**Datong**	**0.39**	**303**	*e*P	Pn	14 24 20.6	+0.3
	baz=302							
NNSB				*e*S	Sn	14 24 27.9	+0.7
	baz=302							
TWC	**Suao**	**0.40**	**14**	*e*S	Sn	14 24 29.0	+1.9
	baz=15							
NNS	**Nan Shan**	**0.40**	**303**	*e*P	Pn	14 24 21.2	+0.6
	baz=303							
NNS				S	Sn	14 24 28.1	+0.7
	baz=303							
NDS	**Dongshan**	**0.41**	**357**	*e*P	Pn	14 24 20.6	+0.1
	baz=356							
NDS				*e*S	Sn	14 24 28.7	+1.2
	baz=356							
NDT	**Datong Townshi**	**0.44**	**331**	*e*P	Pn	14 24 21.0	+0.2
	baz=331							
NDT				*e*S	Sn	14 24 29.0	+1.1
	baz=331							
WHF	**Hehuan Shan**	**0.44**	**261**	*e*P	Pn	14 24 21.3	0.0
	baz=260							
WHF				*e*S	Sn	14 24 29.1	+0.3
	baz=260							
ENTT	**Nioudou**	**0.45**	**339**	*e*P	Pn	14 24 21.4	+0.4
	baz=339							
ENTT				S	Sn	14 24 28.8	+0.5
	baz=339							
FUSS	**Fushou**	**0.46**	**274**	*e*P	Pn	14 24 21.5	+0.2
	baz=273							
FUSS				*e*S	Sn	14 24 29.7	+1.0
	baz=273							
ESL	**Shilin**	**0.49**	**215**	*e*P	Pn	14 24 21.5	0.0
	baz=214							
ESL				*e*S	Sn	14 24 30.6	+1.5
	baz=214							
TWE	**Neicheng**	**0.51**	**352**	*e*P	Pn	14 24 22.4	+0.7
	baz=353							
TWE				*e*S	Sn	14 24 30.2	+0.8
	baz=353							
TDCB	**Techi**	**0.53**	**274**	*e*P	Pn	14 24 22.8	+0.6
	baz=273							
CHGB	**Renai**	**0.54**	**253**	*e*P	Pn	14 24 22.7	+0.3
	baz=253							
CHGB				*e*S	Sn	14 24 31.0	+0.4
	baz=253							
YHNB	**Yeheng**	**0.56**	**323**	*e*P	Pn	14 24 23.1	+0.7
	baz=323							
YHNB				*e*S	Sn	14 24 30.9	+0.1
	baz=323							
NSK	**Sanguang**	**0.57**	**323**	*e*P	Pn	14 24 23.4	+0.8
	baz=322							
NSK				*e*S	Sn	14 24 31.8	+0.7
	baz=322							
OWD	**Renai**	**0.58**	**243**	*e*P	Pn	14 24 22.7	-0.1
	baz=243							
OWD				*e*S	Sn	14 24 31.8	+0.4
	baz=243							
NWLT	**Wulai**	**0.60**	**339**	*e*P	Pn	14 24 23.5	+0.6
	baz=338							
NWLT				*e*S	Sn	14 24 32.5	+0.9
	baz=338							
EGFH	**Guangfu**	**0.62**	**208**	*e*P	Pn	14 24 23.6	+0.5
	baz=207							
EGFH				*e*S	Sn	14 24 32.8	+0.8
	baz=207							
WHP	**Taichung City**	**0.73**	**275**	*e*P	Pn	14 24 25.9	+1.3
	baz=274							
WHP				*e*S	Sn	14 24 36.4	+1.6
	baz=274							
TIPB	**Shuangxi**	**0.75**	**6**	*e*P	Pn	14 24 26.1	+1.1
	baz=5.0							
TIPB				*e*S	Sn	14 24 37.3	+1.9
	baz=5.0							
WCS	**Beigang Elemen**	**0.78**	**258**	*e*S	Sn	14 24 37.4	+1.7
	baz=258							
HGSD	**Ruisui**	**0.78**	**202**	*e*P	Pn	14 24 26.1	+0.8
	baz=201							
HGSD				*e*S	Sn	14 24 37.7	+1.9
	baz=201							
LIOB	**Emei**	**0.79**	**303**	*e*P	Pn	14 24 26.5	+1.0
	baz=302							
LIOB				*e*S	Sn	14 24 38.0	+1.9
	baz=302							
EHY	**Hungye**	**0.81**	**209**	*e*S	Sn	14 24 36.7	+0.2
	baz=207							
SSLB	**Suanglung**	**0.84**	**239**	*e*P	Pn	14 24 27.1	+1.0
	baz=239							
SSLB				*e*S	Sn	14 24 38.2	+0.9
	baz=239							
NWF	**Wu-fen Shan**	**0.85**	**2**	*e*P	Pn	14 24 27.6	+1.2
	baz=2.0							
NWF				*e*S	Sn	14 24 39.4	+1.7
	baz=2.0							
TYC	**Yuchr**	**0.87**	**249**	*e*S	Sn	14 24 39.4	+1.4
	baz=248							
YULB	**Yu-li**	**0.92**	**206**	*e*P	Pn	14 24 27.7	+0.5
	baz=206							
YULB				*e*S	Sn	14 24 37.4	-1.9
	baz=206							
WHYT	**Xinyi Township**	**0.96**	**238**	*e*P	Pn	14 24 29.2	+1.3
	baz=237							
WHYT				*e*S	Sn	14 24 42.5	+2.0
	baz=237							
FULB	**Fuli**	**1.09**	**202**	*e*S	Sn	14 24 46.5	+2.9
	baz=202							
ALS	**Alishan**	**1.11**	**231**	*e*P	Pn	14 24 31.2	+1.1
	baz=230							
ALS				*e*S	Sn	14 24 46.0	+1.6
	baz=230							
CHN5	**Tsauling**	**1.15**	**238**	*e*P	Pn	14 24 32.2	+1.7
	baz=237							
CHN5				*e*S	Sn	14 24 47.1	+2.0
	baz=237							
YOJ	**Yonaguni jima**	**1.18**	**78**	*e*P	Pn	14 24 32.2	+1.4
	baz=77							
YOJ				*e*S	Sn	14 24 47.7	+2.0
	baz=77							
TPUB	**Ta-pu**	**1.37**	**228**	*e*S	Sn	14 24 52.1	+1.7
	baz=228							
TWK	**Hsinying**	**1.49**	**231**	*e*S	Sn	14 24 55.0	+1.6
	baz=230							

JMA 12 14:24:29.5±0.6, 24°.96N×123°.59E, h11km, M0.9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.64**	**168**	P	Pg	14 24 41.9	+0.1
IRIF				S	Sg	14 24 49.1	-1.1
JISG	**Ishigakijimahi**	**0.75**	**119**	P	Pg	14 24 43.9	-0.2
JISG				*e*S	Sg	14 24 53.6	-0.3
JIJ	**Ishigaki jima**	**0.78**	**140**	P	Pg	14 24 43.9	-0.6
JIJ				*e*S	Sg	14 24 54.5	-0.2
JKRS	**Kuro-shima**	**0.81**	**152**	P	Pb	14 24 45.9	+0.2

RSNC 12 14:25:34.7±1.0, 6°.81N×73°.14W, h147km±3km, ML3.5, Mw3.8, 12C-11D, Fault plane solution: NP1: ϕ_s63.00000°, δ57.00000°, λ-162.00000°, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**192**	↓*i* P	Pn	14 25 54.7	-0.3
BARC				*e*S	Sn	14 26 09.7	-0.7
BARC				*i*		14 26 11.1	
	comp=Z,1μm,0.2s						
BRRC	**Barranca, Sant**	**0.64**	**298**	↓*i* P	Pn	14 25 56.5	0.0
BRRC				*e*S	Sn	14 26 13.4	+0.3
BRRC				*i*		14 26 16.1	
	comp=Z,415nm,0.2s						
PAMC	**Pamplona, Colo**	**0.68**	**40**	↓*i* P	Pn	14 25 57.5	+0.1
PAMC				*i*		14 25 57.8	
	comp=Z,1μm,0.2s						
PAMC				*e*S	Sn	14 26 14.3	-0.3
RUSC	**La Rusia**	**0.91**	**177**	↑*e*P	Pn	14 25 58.6	-0.5
RUSC				*e*S	Sn	14 26 17.1	-0.5
RUSC				*i*		14 26 18.4	
	comp=Z,476nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.34**	**259**	↑*e*P	Pn	14 26 01.2	-1.2
PTBC				*e*S	Sn	14 26 22.4	-1.1
PTBC				*i*		14 26 29.8	
	comp=Z,331nm,0.5s						
TAMC	**Tame, Arauca**	**1.39**	**105**	↓*i* P	Pn	14 26 03.0	0.0
TAMC				*i*		14 26 03.1	
	comp=Z,520nm,0.2s						
TAMC				*e*S	Sn	14 26 24.0	-0.5
OCAC	**Ocana**	**1.43**	**353**	*e*P	Pn	14 26 03.0	-0.5
OCAC				*e*S	Sn	14 26 24.8	-0.8
OCAC				*i*		14 26 27.9	
	comp=Z,787nm,0.2s						
SPBC	**San Pablo de B**	**1.48**	**219**	↑*e*P	Pn	14 26 03.5	-0.5
SPBC				*e*S	Sn	14 26 25.7	-0.6
SPBC				*i*		14 26 28.3	
	comp=Z,674nm,0.1s						
ZARC	**Zaragoza, Cauc**	**1.84**	**292**	↓*e*P	Pn	14 26 07.0	-0.8
ZARC				*e*S	Sn	14 26 32.9	-0.3
ZARC				*i*		14 26 42.0	
	comp=Z,307nm,0.3s						
NORC	**Norcasia**	**2.12**	**234**	*e*P	Pn	14 26 10.5	-0.7
NORC				*e*S	Sn	14 26 38.3	-0.9
NORC				*i*		14 26 44.0	
	comp=Z,298nm,0.2s						
SMLC	**San Martn de**	**2.19**	**335**	↑*e*P	Pn	14 26 11.2	-0.7
SMLC				*e*S	Sn	14 26 39.2	-1.2
SMLC				*i*		14 26 41.9	
	comp=Z,264nm,0.1s						
CHIC	**Chingaza**	**2.24**	**195**	↑*e*P	Pn	14 26 12.6	-0.5
CHIC				*e*S	Sn	14 26 42.0	-0.4
CHIC				*i*		14 26 49.1	
	comp=Z,143nm,0.4s						
ROSC	**El Rosal**	**2.28**	**211**	↑*i* P	Pn	14 26 14.1	+0.7
ROSC				*e*S	Sn	14 26 43.0	-0.2
ROSC				*i*		14 26 50.5	
	comp=Z,312nm,0.5s						
HELC	**Santa Helena**	**2.45**	**256**	*e*P	Pn	14 26 15.4	-0.1
HELC				*e*S	Sn	14 26 46.5	-0.3
HELC				*i*		14 26 54.3	
	comp=Z,158nm,0.5s						
UREC	**San Jos de Ur**	**2.55**	**292**	*e*P	Pn	14 26 14.6	-1.8
UREC				*e*S	Sn	14 26 46.0	-2.5
UREC				*i*		14 26 55.2	
	comp=Z,186nm,0.2s						
SOCV	**Socops**	**2.70**	**57**	↓*e*P	Pn	14 26 16.4	-1.8
SOCV				*e*S	Sn	14 26 48.0	-3.7
GUY2C	**Guyana, Caldas**	**2.72**	**235**	*e*P	Pn	14 26 18.9	0.0
GUY2C				*e*S	Sn	14 26 52.7	-0.1
GUY2C				*i*		14 27 01.1	
	comp=Z,270nm,0.3s						
VILC	**Villavicencio,**	**2.74**	**192**	↓*e*P	Pn	14 26 18.1	-0.7
VILC				*e*S	Sn	14 26 52.6	-0.2
VILC				*i*		14 26 57.1	
	comp=Z,136nm,0.3s						
LL2C	**La Loma 2 Cana**	**2.75**	**354**	*e*P	Pn	14 26 19.1	+0.4
LL2C				*e*S	Sn	14 26 52.1	-0.7
LL2C				*i*		14 26 58.1	
	comp=Z,202nm,0.4s						
LL1C	**La Loma 1 Cana**	**2.75**	**351**	*e*P	Pn	14 26 18.7	-0.1
LL1C				*i*		14 26 21.4	
	comp=Z,439nm,0.2s						
LL1C				*e*S	Sn	14 26 52.5	-0.3
PTGC	**Puerto Gaitan,**	**2.78**	**159**	↑*i* P	Pn	14 26 17.8	-1.4
PTGC				*i*		14 26 18.3	
	comp=Z,264nm,0.2s						
PTGC				*e*S	Sn	14 26 50.5	-3.1
CBOC	**Ciudad Bolivar**	**3.01**	**252**	*e*P	Pn	14 26 22.4	+0.1
CBOC				*e*S	Sn	14 26 58.3	-0.6
CBOC				*i*		14 27 08.3	
	comp=Z,58nm,0.4s						
DBBC	**Dabeiba**	**3.06**	**274**	↓*e*P	Pn	14 26 22.3	-0.5
DBBC				*e*S	Sn	14 26 58.2	-1.7
DBBC				*i*		14 27 02.6	
	comp=Z,294nm,0.5s						
TOLC	**Tolima**	**3.10**	**225**	↑*e*P	Pn	14 26 24.0	+0.4
TOLC				*e*S	Sn	14 27 00.7	-0.6
ARGC	**Ariguani, Magd**	**3.22**	**340**	*e*P	Pn	14 26 25.0	+0.1
ARGC				*i*		14 26 26.9	
	comp=Z,50nm,0.4s						
ARGC				*e*S	Sn	14 27 02.8	-0.8
SDV	**Santo Domingo**	**3.23**	**50**	↑*e*P	Pn	14 26 24.3	-0.8
SDV				*i*		14 26 24.8	
	comp=Z,59nm,0.2s						
SDV				*e*S	Sn	14 27 01.2	-2.8
PRAC	**Prado**	**3.53**	**210**	↑*e*P	Pn	14 26 27.8	-1.1
PRAC				*e*S	Sn	14 27 10.1	-0.8
PRAC				*i*		14 27 17.0	
	comp=Z,184nm,0.5s						
ORTC	**Ortega, Tolima**	**3.56**	**216**	*e*P	Pn	14 26 28.9	-0.4
ORTC				*e*S	Sn	14 27 11.5	-0.1
ORTC				*i*		14 27 18.1	
	comp=Z,117nm,0.5s						
ELOV	**Elorza**	**3.63**	**87**	↓*i* P	Pn	14 26 28.8	-1.3
SJCC	**San Jacinto, C**	**3.67**	**327**	↓*e*P	Pn	14 26 28.6	-2.1
SJCC				*e*S	Sn	14 27 09.3	-4.9
SJCC				*i*		14 27 13.5	
	comp=Z,54nm,0.4s						
CVALL	**Valledupar, Ce**	**3.68**	**358**	*e*P	Pn	14 26 28.4	-2.3
LCBC	**Los crdobas,**	**3.79**	**303**	*e*P	Pn	14 26 31.9	-0.3
LCBC				*e*S	Sn	14 27 13.0	-3.8
LCBC				*i*		14 27 18.9	
	comp=Z,49nm,0.4s						
CRJC	**Cerrejon, Guaj**	**4.19**	**3**	*e*P	Pn	14 26 35.0	-2.6
CRJC				*e*S	Sn	14 27 21.0	-5.4
CRJC				*i*		14 27 27.3	
	comp=Z,45nm,0.2s						
YOTC	**Yotoco, Valle**	**4.25**	**229**	*e*P	Pn	14 26 37.5	-0.8
YOTC				*i*		14 26 40.3	
	comp=Z,17nm,0.5s						
YOTC				*e*S	Sn	14 27 25.9	-1.9
GUVC	**San Jose del G**	**4.27**	**173**	*e*P	Pn	14 26 37.4	-1.0
GUVC				*i*		14 27 33.6	
	comp=Z,101nm,0.3s						
SMRC	**Santa Marta, M**	**4.46**	**346**	*e*P	Pn	14 26 39.9	-1.0
SMRC				*i*		14 26 41.5	
	comp=Z,53nm,0.2s						
SMRC				*e*S	Sn	14 27 27.4	-5.1
CAPC	**Capurgana**	**4.55**	**294**	*e*P	Pn	14 26 39.6	-2.6
CAPC				*i*		14 27 34.7	
	comp=Z,18nm,0.1s						
MACC	**Macarena, Meta**	**4.69**	**189**	↑*e*P	Pn	14 26 41.6	-2.4
MACC				*i*		14 26 42.3	
	comp=Z,69nm,0.4s						
MACC				*e*S	Sn	14 27 33.3	-4.7
MALC	**Bahia Malaga**	**5.02**	**237**	↑*e*P	Pn	14 26 49.5	+1.1
MALC				*i*		14 26 52.1	
	comp=Z,21nm,0.5s						
GARC	**Garzon, Huila**	**5.16**	**207**	*e*P	Pn	14 26 48.9	-1.6
GARC				*i*		14 26 50.4	
	comp=Z,59nm,0.3s						
POPC	**Popayan, Colom**	**5.51**	**220**	*e*P	Pn	14 26 53.0	-2.2
POPC				*e*S	Sn	14 27 53.9	-4.1
FLOC	**Florencia**	**5.76**	**206**	↓*e*P	Pn	14 26 57.6	-0.7
FLOC				*i*		14 26 58.5	
	comp=Z,10nm,0.2s						
BBAC	**Balboa, Cauca**	**6.28**	**221**	*e*P	Pn	14 27 05.8	+0.5
BBAC				*i*		14 27 08.6	
	comp=Z,17nm,0.2s						

MEX 12 14:46:37.2±0.5, 14°.81N×94°.90W, h17km±999km, MD4.1, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.85**	**61**	*i* P	Pn	14 47 05.0	-3.2
PCIG				*i* S	Sn	14 47 26.6	-4.6
CMIG	**Matias Romero**	**2.27**	**0**	*i* P	Pn	14 47 11.1	-2.9
CMIG				*i* S	Sn	14 47 37.1	-4.4
PEIG	**Puerto Escondi**	**2.47**	**299**	*i* P	Pn	14 47 13.5	-3.2
PEIG				*e*S	Sn	14 47 37.8	-8.8
TGIG		**2.60**	**41**	*i* P	Pn	14 47 17.4	-1.2
TGIG				*i* S	Sn	14 47 48.1	-1.7
CCIG	**Comitan**	**3.04**	**61**	*i* P	Pn	14 47 21.2	-3.5
CCIG				*i* S	Sn	14 48 00.8	-0.1

*ISK **12** 14:54:07.2, 40°.24N×38°.23E, h5km, ML2.7/6*
*DDA **12** 14:54:08.3, 40°.16N×38°.23E, h14km, ML2.2*
ISC 12 14:54:08.3±0.9, 40°.22N±0°.03×38°.24E±0°.03, h15km±6km, n15, σ0.66/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUSE	**Susehri**	**0.03**	**255**	*i* P	**Pg**	**14 54 11.2**	**0.0**
SUSE				*i* S	**Sg**	**14 54 13.2**	**+0.1**
ALUC	**Giresun/Alucra**	**0.43**	**72**	*i* P	**Pb**	**14 54 17.5**	**-0.2**
ALUC				IAML		14 54 24.0	
	comp=N,212nm,0.6s						
ALUC				IAML		14 54 24.0	
	comp=E,226nm,0.4s						
ALUC				*i* S	**Sb**	**14 54 24.0**	**0.0**
CUZAR	**Zara_SIVAS**	**0.49**	**228**	*i* P	**Pg**	**14 54 17.5**	**-0.5**
CUZAR				IAML		14 54 24.0	
	comp=N,222nm,0.4s						
CUZAR				*i* S	**Sg**	**14 54 24.4**	**-0.1**
CUZAR				IAML		14 54 25.0	
	comp=E,206nm,0.2s						
KELT	**Kelkit**	**0.78**	**95**	*i* P	**Pg**	**14 54 22.6**	**-0.9**
KELT				*i* S	**Sg**	**14 54 33.3**	**-0.7**
KELT				IAML		14 54 37.0	
	comp=N,58nm,0.3s						
ORDU	**Ordu-Boztepe**	**0.83**	**340**	*i* P	**Pn**	**14 54 25.4**	**-0.1**
ORDU				IAML		14 54 37.0	
	comp=E,115nm,0.2s						
ORDU				IAML		14 54 37.0	
	comp=N,63nm,0.2s						
ORDU				*i* S	**Sn**	**14 54 37.6**	**+0.2**
KEMA	**Kemaliye**	**0.97**	**168**	*i* P	**Pg**	**14 54 25.7**	**-1.3**
KEMA				IAML		14 54 39.0	
	comp=E,50nm,0.6s						
KEMA				*i* S	**Sg**	**14 54 39.2**	**-0.5**
KEMA				IAML		14 54 44.0	
	comp=N,52nm,0.4s						
GUMT	**Gumushane**	**0.98**	**75**	PG	**Pg**	**14 54 26.8**	**-0.5**
GUMT				SG	**Sb**	**14 54 40.0**	**+0.1**
SVSK	**Karacayir**	**1.00**	**253**	PG	**Pb**	**14 54 26.8**	**-0.5**
SVSK				SG	**Sg**	**14 54 41.2**	**+0.6**
ARPR	**Arapgir-MALATY**	**1.12**	**176**	PN	**Pb**	**14 54 29.5**	**0.0**
ARPR				SN	**Sn**	**14 54 46.1**	**+1.2**
ERZN	**Erzincan**	**1.30**	**118**	PN	**Pb**	**14 54 32.9**	**+0.3**
ERZN				SN	**Sg**	**14 54 51.7**	**+1.3**
HEKM	**Malatya_Hekimh**	**1.35**	**189**	*i* P	**Pn**	**14 54 33.0**	**+0.2**
HEKM				*i* S	**Sg**	**14 54 52.6**	**+0.7**
HEKM				IAML		14 54 54.0	
	comp=N,63nm,0.3s						
HEKM				IAML		14 54 56.0	
	comp=E,48nm,0.4s						
KTUT	**Trabzon**	**1.40**	**56**	PN	**Pb**	**14 54 34.1**	**0.0**
KTUT				SN	**Sg**	**14 54 53.8**	**+0.5**
BAYT	**Aydıntepe-Bayb**	**1.47**	**82**	PN	**Pb**	**14 54 35.2**	**-0.2**
ELZG	**Elazig**	**1.81**	**161**	*i* P	**Pb**	**14 54 41.0**	**-0.3**
ELZG				*i* S	**Sb**	**14 55 05.1**	**+1.3**
ELZG				IAML		14 55 06.0	
	comp=E,41nm,0.5s						
ELZG				IAML		14 55 08.0	
	comp=N,28nm,0.4s						
AKCD	**Akcadag**	**1.93**	**187**	*i* P	**Pb**	**14 54 43.1**	**-0.2**
AKCD				*i* S	**Sg**	**14 55 09.6**	**-0.9**
AKCD				IAML		14 55 10.0	
	comp=E,49nm,0.8s						
AKCD				IAML		14 55 14.0	
	comp=N,40nm,0.4s						

IDC 12 15:00:56.7±60.0, 19°.84S×179°.59E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/30, mbtmp3.9/3, Error ellipse: s-maj=1075.0km s-min=156.5km az=81.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.05**	**243**	P	P	15 07 59.5	-0.5
	0.6nm,0.4s,baz=71,slow=13,SNR=3.2						
WRA	**Warramunga Arr**	**42.45**	**262**	P	P	15 08 53.8	+0.1
	1.8nm,1.0s,baz=94,slow=8.3,SNR=16						
ASAR	**Alice Springs**	**42.47**	**256**	P	P	15 08 53.8	-0.1
	1.9nm,0.8s,baz=93,slow=8.0,SNR=38						

JMA 12 15:37:38.6, 36°.34N×138°.01E, h5km±1km, M0.5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNG	**Nsakai**	**0.10**	**47**	P	Pg	15 37 40.9	+0.1
JNG				S	Sg	15 37 42.6	+0.4
MAT	**Matsushiro**	**0.26**	**38**	P	Pg	15 37 43.6	0.0
MAT				S	Sg	15 37 47.3	+0.3
MAT	**Matsushiro**	**0.26**	**38**	P	Pg	15 37 43.6	0.0
MAT				S	Sg	15 37 47.4	+0.4

*MOS **12** 15:37:49.6±0.8, 37°.75N×135°.62E, h355km, mb4.2/24, Error ellipse: s-maj=7.6km s-min=5.7km az=108.4*
*JMA **12** 15:37:50.6±0.2, 37°.64N×135°.76E, h359km±2km, M3.8*
*NIED **12** 15:37:50.6, 37°.64N×135°.76E, h359km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.92; $M_{\theta\theta}$1.36; $M_{\phi\phi}$-2.28; $M_{r\theta}$-2.27; $M_{\theta\phi}$-0.70; $M_{\phi r}$-1.24; Fault plane solution: $M_0$3.33000×10^{15} NP1: ϕ_s230.00000°, δ80.00000°, λ126.00000°. NP2: ϕ_s334.00000°, δ38.00000°, λ17.00000°.*
*IDC **12** 15:37:50.5±0.8, 37°.71N×135°.55E, h345km±8km, mb3.7/25, mb1 3.7/34, mb1mx3.6/63, mbtmp4.4/34 Error ellipse: s-maj=11.3km s-min=6.9km az=75.0*
*NEIC **12** 15:37:50.8±1.6, 37°.71N±0°.07×135°.68E±0°.10, h355km±7km, mb4.2/49, Error ellipse: s-maj=11.6km s-min=10.0km az=111.0*
*KMA **12** 15:38:39.2±42.0, 36°.62N×131°.46E, h18km±583km, Error ellipse: s-maj=510.7km s-min=11.5km az=247.0*

ISC 12 15:37:50.0±0.5, 37.74N±0°.04×135.67E±0°.05, h346km±5km, n283, σ1.24/305, mb4.1/66, 8C-11D, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHG	**Hegura jima**	**1.00**	**84**	P	**Pn**	**15 38 37.0**	**+1.7**
JHG				S	**S**	**15 39 13.2**	**+1.5**
JJH	**Hakui**	**1.21**	**132**	P	**Pn**	**15 38 37.9**	**+1.6**
JJH				*e*S	**S**	**15 39 15.1**	**+1.7**
JSZ	**Suzu**	**1.38**	**102**	P	**Pn**	**15 38 38.8**	**+1.7**
JSZ				*e*S	**S**	**15 39 16.9**	**+2.0**
JKG	**Kaga**	**1.56**	**160**	P	**Pn**	**15 38 39.2**	**+1.0**
JKG				*e*S	**S**	**15 39 17.8**	**+1.0**
JSD	**Sado**	**2.07**	**81**	P	**Pn**	**15 38 42.8**	**+1.3**
JSD				S	**S**	**15 39 23.4**	**+0.6**
JSD	**Sado**	**2.07**	**81**		**Pn**	**15 38 42.6**	**+1.1**
JYTA	**Yamagatataniai**	**2.31**	**158**	P	**Pn**	**15 38 43.8**	**+0.4**
JYTA				S	**S**	**15 39 25.8**	**-0.4**
MJB9	**Matsu-Tunnel**	**2.35**	**120**		**Pn**	**15 38 44.9**	**+1.1**
MAJO	**Matsushiro**	**2.36**	**120**	*d* P	**Pn**	**15 38 44.7**	**+1.0**
MAJO	**Matsushiro**	**2.36**	**120**		**Pn**	**15 38 44.5**	**+0.7**
MAT	**Matsushiro**	**2.36**	**120**	P	**Pn**	**15 38 44.7**	**+1.0**
MAT				S	**S**	**15 39 27.8**	**+1.0**
MAT	**Matsushiro**	**2.36**	**120**	P	**Pn**	**15 38 44.7**	**+1.0**
MJAR	**Matsushiro Arr**	**2.36**	**120**	P	**Pn**	**15 38 44.8**	**+1.0**
	5.3nm,0.3s,baz=297,slow=7.5,SNR=394						
MJAR	**Matsushiro Arr**	**2.36**	**120**		**Pn**	**15 38 43.8**	**0.0**
JWT	**Wachi**	**2.46**	**185**	P	**Pn**	**15 38 45.5**	**+0.9**
JWT				S	**S**	**15 39 27.6**	**-0.8**
JWT	**Wachi**	**2.46**	**185**		**Pn**	**15 38 45.5**	**+0.9**
JGF	**Kuroka**	**2.53**	**147**		**Pn**	**15 38 46.2**	**+0.9**
INU	**Inuyama**	**2.62**	**155**		**Pn**	**15 38 45.9**	**-0.1**
JAW	**Awa shima**	**2.92**	**75**	P	**Pn**	**15 38 49.8**	**+1.5**
JAW				S	**S**	**15 39 35.7**	**+0.5**
JRY	**Ryogami san**	**3.11**	**123**	P	**Pn**	**15 38 50.5**	**+0.3**

SNR=13
KSPHA **Pohang** 5.27 255 P Pn 15 39 13.1 +0.6
SNR=10
KSPHA **Pohang** 5.27 255 P Pn 15 39 13.1 +0.6
SNR=10
KSTBA **Taebaek** 5.38 265 P Pn 15 39 14.5 +0.8
SNR=16
KSTBA **Taebaek** 5.38 265 P Pn 15 39 14.5 +0.8
SNR=16
KSJMJ **Jumunjin** 5.47 274 P Pn 15 39 15.4 +0.7
SNR=20
KSJMJ **Jumunjin** 5.47 274 P Pn 15 39 15.4 +0.7
SNR=20
KSJMJ **Jumunjin** 5.47 274 P Pn 15 39 15.4 +0.7
SNR=20
KSADO **Andong** 5.53 258 P Pn 15 39 16.0 +0.7
SNR=13
KSADO **Andong** 5.53 258 P Pn 15 39 16.0 +0.7
SNR=13
KSDGY **Daegwallycong** 5.54 272 P Pn 15 39 17.0 +1.4
SNR=20
KSUSN **Ulsan** 5.63 251 P Pn 15 39 17.3 +0.7
SNR=11
KSUSN **Ulsan** 5.63 251 P Pn 15 39 17.3 +0.7
SNR=11
KSYOC **YEONGCHEON** 5.67 254 P Pn 15 39 17.7 +0.8
SNR=10
KSYOC **YEONGCHEON** 5.67 254 P Pn 15 39 17.7 +0.8
SNR=10
JHJ **Hachijo jima 2** 5.71 143 P Pn 15 39 17.9 +0.4
42nm,0.3s,baz=58,slow=6.6,SNR=11
JHJ S S 15 40 27.2 -1.0
13nm,0.3s,baz=77,slow=23,SNR=1.7
JHJ2 **Mitsune** 5.73 143 Pn Pn 15 39 17.0 -0.7
KSEUS **ULSEONG** 5.75 258 P Pn 15 39 18.6 +0.7
SNR=8.1
KSEUS **ULSEONG** 5.75 258 P Pn 15 39 18.6 +0.7
SNR=8.1
KSYOW **Yeongwol** 5.76 267 P Pn 15 39 19.0 +1.0
SNR=14
KSYOW **Yeongwol** 5.76 267 P Pn 15 39 19.0 +1.0
SNR=14
KSDAG **Daegu** 5.78 252 P Pn 15 39 19.0 +0.7
SNR=8.6
KSDAG **Daegu** 5.78 252 P Pn 15 39 19.0 +0.7
SNR=8.6
SEHB **SEOHWA** 5.88 277 P Pn 15 39 20.0 +0.7
SNR=17
SEHB **SEOHWA** 5.88 277 P Pn 15 39 20.0 +0.7
SNR=17
SEHB **SEOHWA** 5.88 277 P Pn 15 39 20.0 +0.7
SNR=17
MSHR **Mys Shultsa** 5.94 326⇑ *eP* Pn 15 39 20.6 +0.7
MSHR pmax pmax
comp=Z,14nm,0.8s
KSBSA **Busan_acc** 5.96 246 P Pn 15 39 21.1 +0.9
SNR=7.6
KSBSA **Busan_acc** 5.96 246 P Pn 15 39 21.1 +0.9
SNR=7.6
KSIJA **INJE** 5.98 275 P Pn 15 39 21.7 +1.2
SNR=12
KSIJA **INJE** 5.98 275 P Pn 15 39 21.7 +1.2
SNR=12
KSIJA **INJE** 5.98 275 P Pn 15 39 21.7 +1.2
SNR=12
JTU **Tsushima** 6.00 240 Pn Pn 15 39 21.3 +0.5
JNU **Nakatsue** 6.04 222 P Pn 15 39 21.8 +0.4
comp=Z,3.0nm,0.3s,baz=76,slow=0.5,SNR=22
JNU **Nakatsue** 6.04 222 Pn Pn 15 39 21.4 +0.1
KSWJU **Wonju** 6.06 269 P Pn 15 39 23.0 +1.6
SNR=24
KSWJU **Wonju** 6.06 269 P Pn 15 39 23.0 +1.6
SNR=24
VLA **Vladivostok** 6.10 333⇑ *eP* Pn 15 39 22.0 +0.3
VLA pmax pmax
comp=Z,16nm,0.7s
KSSAJ **Sangju** 6.15 260 P Pn 15 39 23.6 +1.1
SNR=16
KSSAJ **Sangju** 6.15 260 P Pn 15 39 23.6 +1.1
SNR=16
KSRS **Korea Array** 6.15 270 P Pn 15 39 23.8 +1.4
comp=Z,6.2nm,0.3s,baz=84,slow=12,SNR=279
KSMGY **Mungyeong** 6.17 262 P Pn 15 39 23.4 +0.8
SNR=37
KSMGY **Mungyeong** 6.17 262 P Pn 15 39 23.4 +0.8
SNR=37
KSAR **Wonju Array Be** 6.19 270 P Pn 15 39 23.9 +1.1
KSAR **Wonju Array Be** 6.19 270 Pn Pn 15 39 23.9 +1.1
KSCHJ **Chungju** 6.19 264 P Pn 15 39 24.0 +1.1
SNR=8.5
KSCHJ **Chungju** 6.19 264 P Pn 15 39 24.0 +1.1
SNR=8.5
KS19 **Wonju Array Si** 6.20 270 Pn 15 39 23.8 +0.8
KSCHC **Chuncheon** 6.22 273 P Pn 15 39 24.6 +1.4
SNR=32
KSCHC **Chuncheon** 6.22 273 P Pn 15 39 24.6 +1.4
SNR=32
KSCHC **Chuncheon** 6.22 273 P Pn 15 39 24.6 +1.4
SNR=32
KSMAS **Masan** 6.26 248 P Pn 15 39 24.7 +0.9
SNR=15
KSMAS **Masan** 6.26 248 P Pn 15 39 24.7 +0.9
SNR=15
KSGIC **Gimchen** 6.28 257 P Pn 15 39 24.6 +0.7
SNR=7.2
KSGIC **Gimchen** 6.28 257 P Pn 15 39 24.6 +0.7
SNR=7.2
HWCB **Hwacheon** 6.33 277 P Pn 15 39 25.6 +1.1
SNR=13
HWCB **Hwacheon** 6.33 277 P Pn 15 39 25.6 +1.1
SNR=13
HWCB **Hwacheon** 6.33 277 P Pn 15 39 25.6 +1.1
SNR=13
KSCPR **CHUPUNGNYEONG** 6.34 258 P Pn 15 39 25.6 +0.9
SNR=30
KSCPR **CHUPUNGNYEONG** 6.34 258 P Pn 15 39 25.6 +0.9
SNR=30
KSBON **Boeun** 6.41 261 P Pn 15 39 26.1 +0.7
SNR=13
EURB **Uiryeong-eup** 6.41 250 P Pn 15 39 27.0 +1.5
SNR=14
EURB **Uiryeong-eup** 6.41 250 P Pn 15 39 27.0 +1.5
SNR=14
OKCB **Cheongsan-myeo** 6.45 260 P Pn 15 39 27.0 +1.1
SNR=7.7
OKCB **Cheongsan-myeo** 6.45 260 P Pn 15 39 27.0 +1.1
SNR=7.7
KSCWO **Cheorwon** 6.45 276 P Pn 15 39 27.0 +1.1
SNR=18
KSCWO **Cheorwon** 6.45 276 P Pn 15 39 27.0 +1.1
SNR=18
KSCWO **Cheorwon** 6.45 276 P Pn 15 39 27.0 +1.1
SNR=18
KSICN **Icheon** 6.57 269 P Pn 15 39 28.5 +1.2
SNR=16
JEW **Eniwo** 6.74 39 Pn Pn 15 39 30.7 +1.5
KSCEA **Cheonan** 6.77 265 P Pn 15 39 30.5 +0.9
SNR=13
TJN **Taejon** 6.78 261 ⇓ *iP* Pn 15 39 28.9 -0.8
KSDDC **Dongducheon** 6.82 274 P Pn 15 39 31.3 +1.2
SNR=8.0
KSNAH **Namhae** 6.90 247 P Pn 15 39 32.3 +1.2
SNR=14
KSSOD **Songwoldong** 6.90 271 P Pn 15 39 32.4 +1.3
SNR=6.4
YNCB **YEONCHEON** 6.92 275 P Pn 15 39 32.4 +1.1
SNR=7.5
KOJ2 **Gongju-si** 6.93 262 P Pn 15 39 33.0 +1.5
SNR=6.5
KOJ2 **Gongju-si** 6.93 262 P Pn 15 39 33.0 +1.5
SNR=6.5
KSSWO **Suwon** 6.93 269 P Pn 15 39 32.5 +1.1
SNR=39
KSSEO **Seoul** 6.95 271 P Pn 15 39 32.9 +1.3
SNR=9.1
KSSEO **Seoul** 6.95 271 P Pn 15 39 33.0 +1.3
SNR=9.2
USA0B **Ussuriysk Arra** 7.03 338 P Pn 15 39 33.4 +1.0
USA0B **Ussuriysk Arra** 7.03 338 Pn Pn 15 39 33.4 +1.0
USRK **Ussuriysk Ar.** 7.03 338 P Pn 15 39 34.2 +1.7
baz=146,slow=11,SNR=29
USRK **Ussuriysk Ar.** 7.03 338 Pn Pn 15 39 31.3 -1.1
KSMUS **Musan** 7.05 274 P Pn 15 39 34.1 +1.2
SNR=22
HAWB **Hwaseong-si** 7.11 267 P Pn 15 39 35.0 +1.5
SNR=8.5
SHHB **Siheung-si** 7.13 270 P Pn 15 39 35.0 +1.2
SNR=7.6

ERM **Erimo** 7.17 51 P Pn 15 39 34.9 +0.7
ERM **Erimo** 7.17 51 Pn 15 39 34.9 +0.7
INCN **Inchon** 7.17 271 P Pn 15 39 34.4 0.0
INCN **Inchon** 7.17 271 Pn 15 39 34.4 0.0
KSGAH **Ganghwa** 7.31 273 P Pn 15 39 37.0 +1.2
SNR=11
KSGUS **GUNSAN** 7.32 259 P Pn 15 39 37.1 +1.0
SNR=7.2
KSJEU **Jeongeup** 7.37 255 P Pn 15 39 37.6 +0.8
SNR=6.0
BOSB **Boseong-gun** 7.45 249 P Pn 15 39 38.6 +1.0
SNR=14
BOSB **Boseong-gun** 7.45 249 P Pn 15 39 38.6 +1.0
SNR=14
KSKWJ **Gwangju** 7.45 252 P Pn 15 39 38.7 +1.0
SNR=8.5
KSKWJ **Gwangju** 7.45 252 P Pn 15 39 38.7 +1.0
SNR=8.5
KOHB **KOHEUNG** 7.46 248 P Pn 15 39 38.8 +1.0
SNR=12
KOHB **KOHEUNG** 7.46 248 P Pn 15 39 38.8 +1.0
SNR=12
JSU **Suzuyama** 7.56 216 Pn Pn 15 39 39.1 +0.1
GOCB **Gochang-gun** 7.68 255 P Pn 15 39 41.2 +0.9
SNR=5.6
GOCB **Gochang-gun** 7.68 255 P Pn 15 39 41.2 +0.9
SNR=5.6
KSJDO **Jindo** 8.24 249 P P 15 39 48.7 -1.4
SNR=10
ASAJ **Asahikawa** 8.25 37 P Pn 15 39 47.2 +0.3
comp=Z,35nm,0.3s,baz=242,slow=10,SNR=410
ASAJ S S 15 41 17.3 -5.0
comp=Z,8.8nm,0.3s,baz=14,slow=24,SNR=9.4
JKA **Kamikawa-asahi** 8.25 37 Pn Pn 15 39 47.2 +0.3
MDJ **Mudanjiang** 8.25 328 P P 15 39 48.6 -1.4
MDJ pmax pmax
comp=Z,26nm,0.8s
MDJ pmax pmax
comp=Z,110nm,5.1s
MDJ **Mudanjiang** 8.25 328 Pn Pn 15 39 46.8 -0.2
NMR **Nemuro--Hokkai** 9.50 51 *eP* Pn 15 40 00.6 -1.2
NMR *eS* S 15 41 40.1 -10
GLVR **Golovnino** 9.58 48 *eP* Pn 15 40 02.7 -0.1
GLVR *eS* S 15 41 45.6 -5.9
GLVR pmax pmax
comp=Z,1μm,1.4s
GLVR pmax pmax
comp=Z,283nm,0.8s
RUSJ **Misakicho** 9.64 46 *eP* P 15 40 04.9 -0.5
RUSJ *eS* S 15 41 49.0 -3.8
GRPR **Tuman** 9.87 48 *eP* P 15 40 07.5 -0.5
GRPR *eS* S 15 41 50.6 -7.4
GRPR pmax pmax
comp=Z,105nm,0.3s
YUK **Yuzh-Kuril'sk** 9.95 48 *eP* P 15 40 08.4 -0.5
YUK *eS* S 15 41 53.7 -6.0
YUK pmax pmax
comp=N,78nm,0.2s
YUK pmax pmax
comp=Z,169nm,0.2s
YUK pmax pmax
comp=Z,641nm,1.7s
YSS **Yuzh-Sakhalins** 10.59 27⇑ *iP* P 15 40 15.6 -0.3
YSS *eS* S 15 42 10.7 -3.1
YSS pmax pmax
comp=Z,60nm,0.6s
YSS smax smax
comp=N,40nm,1.0s
YSS smax smax
comp=E,30nm,1.2s
YSS **Yuzh-Sakhalins** 10.59 27 Pn 15 40 15.3 +0.5
KUR **Kuril'sk** 11.81 47 P P 15 40 30.7 +1.2
KUR S S 15 42 40.2 -0.7
KUR pmax pmax
comp=Z,42nm,1.2s
KUR pmax pmax
comp=N,25nm,0.6s
KUR smax smax
comp=E,70nm,0.5s
KUR smax smax
comp=N,36nm,0.2s
KLR **Kul'dur** 11.83 347 P P 15 40 29.8 +0.2
comp=N,2.1nm,0.3s,baz=167,slow=13,SNR=30
KLR S S 15 42 40.0 -1.2
baz=330,slow=20,SNR=12
KLR **Kul'dur** 11.83 347 *de* P Pn 15 40 29.5 -0.1
KLR pmax pmax
comp=Z,2.0nm,0.4s
JCJ **Chichijima** 11.95 151 P Pn 15 40 30.0 -1.4
comp=Z,15nm,0.3s,baz=285,slow=19,SNR=12
JCJ S S 15 42 32.7 -12
comp=Z,21nm,0.3s,baz=281,slow=23,SNR=8.2
JOW **Kunigami** 12.54 212 P P 15 40 36.2 -1.6
comp=Z,2.3nm,0.3s,baz=295,slow=5.5,SNR=6.9
JOW **Kunigami** 12.54 212 P P 15 40 36.5 -1.4
TIA **Tai'an** 14.90 270 *eP* P 15 41 04.0 +0.3
TIA pmax pmax
comp=Z,17nm,1.0s
HIA **Hailar** 16.27 320 P P 15 41 18.7 +0.2
HIA pmax pmax
comp=Z,41nm,0.7s
HIA **Hailar** 16.27 320 P 15 41 18.7 +0.2
ZEA **Zeya** 17.02 343 *eP* P 15 41 26.3 -0.1
ZEA pmax pmax
comp=N,10.0nm,1.0s
ZEA pmax pmax
comp=Z,20nm,0.8s
YHNB **Yeheng** 17.84 227 P P 15 41 34.7 -0.9
YHNB IAmb IAmb 15 41 43.7
comp=Z,17nm,1.0s
YULB **Yu-li** 18.88 225 P P 15 41 42.9 -3.6
YULB IAmb IAmb 15 41 56.3
comp=Z,17nm,1.1s
TPUB **Ta-pu** 19.33 226 P P 15 41 47.1 -4.3
TPUB IAmb IAmb 15 41 55.1
comp=Z,22nm,1.0s
PETK **Petropavlovsk-** 21.67 38 P P 15 42 15.2 +2.0
comp=Z,4.0nm,1.0s,baz=238,slow=8.2,SNR=1.2
ENH **Enshi** 22.90 259 P P 15 42 24.0 -0.7
ULN **Ulaanbaatar** 23.18 305 *di* P P 15 42 26.9 -0.3
ULN pmax pmax
comp=Z,17nm,1.3s
ULN **Ulaanbaatar** 23.18 305 P P 15 42 25.9 -1.3
ULN IAmb IAmb 15 42 29.4
comp=Z,8.8nm,0.6s
SONM **Songino Array** 23.60 305 P P 15 42 30.7 -0.3
comp=Z,8.3nm,0.7s,baz=112,slow=9.2,SNR=29
SONM **Songino Array** 23.60 305 P P 15 42 30.7 -0.3
SONM IAmb IAmb 15 42 32.3
comp=Z,6.4nm,1.0s
YAK **Yakutsk** 24.60 353 P P 15 42 39.4 -0.2
comp=Z,2.7nm,0.4s,baz=73,slow=1.9,SNR=4.1
YAK **Yakutsk** 24.60 353 *di* P P 15 42 39.7 +0.1
YAK pmax pmax
comp=Z,15nm,1.0s
YAK **Yakutsk** 24.60 353 P P 15 42 40.2 +0.7
YAK IAmb IAmb 15 42 47.0
comp=Z,10nm,0.5s
ZAK **Zakamensk** 26.25 309 *eP* P 15 42 53.2 -1.5
ZAK pmax pmax
comp=Z,3.0nm,0.9s
GTA **Gaotai** 27.97 285 *eP* P 15 43 09.4 -0.6
GTA pmax pmax
comp=Z,5.0nm,0.8s
TIXI **Tiksi** 34.16 356 P P 15 44 03.6 +0.4
comp=Z,4.3nm,0.5s,baz=151,slow=6.6,SNR=8.6
TIXI **Tiksi** 34.16 356 P P 15 44 03.4 +0.3
TIXI IAmb IAmb 15 44 04.2
comp=Z,4.3nm,0.6s
UBPT **Khong Chiam** 34.82 238 P P 15 44 07.3 -2.2
DGZ **Jazzator, Alta** 36.25 305 *di* P P 15 44 21.4 0.0
DGZ pmax pmax
comp=Z,14nm,0.8s
CMAR **Chiang Mai Arr** 37.35 249 P P 15 44 31.1 +0.4
comp=Z,0.7nm,0.5s,baz=44,slow=7.8,SNR=6.1
CMAR **Chiang Mai Arr** 37.35 249 P P 15 44 30.4 -0.3
ATKA **Atka Island** 37.52 51 P P 15 44 31.5 -0.1
ATKA IAmb IAmb 15 44 45.5
comp=Z,17nm,1.1s
ZAA0 **Zalesovo Array** 38.05 312 P P 15 44 35.5 -0.5
ZALV **Zalesovo Beam** 38.05 312 P P 15 44 35.8 -0.2
comp=Z,3.3nm,0.3s,baz=104,slow=7.3,SNR=22
ZALV ScP ScP 15 49 56.8 -0.2
comp=Z,1.1nm,0.8s,baz=132,slow=4.2,SNR=3.8
TOLI2 **Tolitoli** 38.94 204 P P 15 44 43.5 -0.4
TOLI2 IAmb IAmb 15 44 44.6

comp=Z,9.3nm,0.7s
MK31 **Makanchi Array** 39.84 301 *di* P P 15 44 50.5 -0.5
MK31 **Makanchi Array** 39.84 301 P P 15 44 50.4 -0.5
MK31 IAmb IAmb 15 44 51.3
comp=Z,4.7nm,0.7s
MKAR **Makanchi Array** 39.84 301 P P 15 44 50.6 -0.3
comp=Z,4.9nm,0.5s,baz=84,slow=11,SNR=68
MKAR ScP ScP 15 50 04.4 +0.2
comp=Z,0.5nm,0.9s,baz=96,slow=3.4,SNR=2.2
MAKZ **Makanchi** 40.05 301 P P 15 44 52.0 -0.7
MAKZ pmax pmax
comp=Z,7.0nm,1.0s
MAKZ **Makanchi** 40.05 301 P P 15 44 52.0 -0.7
MAKZ IAmb IAmb 15 44 53.1
comp=Z,7.1nm,0.9s
FAKI **Fak Fak** 40.58 185 P P 15 44 57.8 +0.6
NRIK **Noril'sk** 40.74 336 P P 15 44 58.5 +0.7
comp=Z,8.3nm,0.5s,baz=101,slow=7.6,SNR=12
NRIK **Noril'sk** 40.74 336 *ceP* P 15 44 58.0 +0.2
NRIK pmax pmax
comp=Z,5.0nm,0.3s
NRIK **Noril'sk** 40.74 336 P P 15 44 58.6 +0.7
NRIK IAmb IAmb 15 44 59.7
comp=Z,8.4nm,0.7s
TAPN **Taplejung** 41.34 270 *eP* P 15 45 03.6 -0.1
comp=Z,1.1nm,0.4s
ODAN **Odare** 41.82 269 *eP* P 15 45 08.2 +0.8
comp=Z,18nm,0.4s
KURK **Kurchatov** 41.87 307 P P 15 45 07.2 0.0
KURK **Kurchatov** 41.87 307 P P 15 45 07.2 0.0
KURBB **Kurchatov Arra** 41.93 307 P P 15 45 07.2 -0.5
comp=Z,4.5nm,0.3s,baz=85,slow=8.6,SNR=39
RAMN **Ramite** 42.40 270 *eP* P 15 45 12.5 +0.4
comp=Z,16nm,0.4s
JIRN **Jiri** 42.41 271 *eP* P 15 45 12.9 +0.6
comp=Z,12nm,0.4s
GUN **Gumba** 42.54 272 *eP* P 15 45 13.4 +0.1
comp=Z,19nm,0.3s
PKI **Pulchoki** 43.06 272 *eP* P 15 45 17.1 -0.4
comp=Z,8.0nm,0.5s
KKN **Kakani** 43.07 272 *eP* P 15 45 17.3 -0.1
PKIN **Phulchoki** 43.07 272 *eP* P 15 45 17.0 -0.5
comp=Z,5.2nm,0.3s
DMN **Daman** 43.29 272 *eP* P 15 45 19.6 +0.5
GKN **Gorkha** 43.48 273 *eP* P 15 45 20.3 -0.3
comp=Z,25nm,0.5s
DANN **Dangsing** 44.02 274 *eP* P 15 45 25.3 +0.3
comp=Z,48nm,0.6s
KDJ **Kajisay** 44.31 295 P P 15 45 27.4 +0.5
KDJ pmax pmax
comp=Z,6.0nm,0.5s
KDJ **Kajisay** 44.31 295 P P 15 45 27.4 +0.5
KDJ IAmb IAmb 15 45 27.7
comp=Z,5.7nm,0.5s
KOLN **Koldanda** 44.41 273 *eP* P 15 45 28.0 +0.1
comp=Z,7.3nm,0.3s
PYUN **Piuthan** 44.74 274 *eP* P 15 45 30.7 +0.2
comp=Z,34nm,0.4s
BOOM **Boomskoye usch** 45.10 296 P P 15 45 33.1 0.0
BOOM pmax pmax
comp=Z,8.0nm,1.2s
BOOM **Boomskoye usch** 45.10 296 P P 15 45 33.1 0.0
KSH **Kashi** 45.91 292 P P 15 45 43.7 +4.3
KSH pmax pmax
comp=Z,7.0nm,0.9s
AAK **Ala-Archa** 46.10 296 P P 15 45 40.4 -0.3
comp=Z,2.6nm,0.4s,baz=110,slow=3.8,SNR=7.3
AAK **Ala-Archa** 46.10 296 *di* P P 15 45 40.9 +0.1
AAK pmax pmax
comp=Z,16nm,0.8s
BVAR **Borovoye Array** 46.68 311 P P 15 45 44.7 -0.2
comp=Z,3.4nm,0.4s,baz=126,slow=5.2,SNR=36
BRVK **Borovoye** 46.74 311⇑ *eP* P 15 45 45.3 -0.1
BRVK pmax pmax
comp=Z,10.0nm,2.5s
BRVK **Borovoye** 46.74 311 P P 15 45 45.1 -0.3
O18K **Koktuh Hills** 48.03 39 P P 15 45 56.2 +1.1
O18K IAmb IAmb 15 46 00.1
comp=Z,28nm,1.1s
K20K **Telida** 48.34 35 P P 15 45 57.0 -0.4
SOEI **Soe** 48.44 195 P P 15 45 58.0 -0.8
SOEI IAmb IAmb 15 46 14.3
comp=Z,16nm,0.8s
KK31 **Karatay Array** 48.78 298 P P 15 46 01.4 +0.4
KK31 pmax pmax
comp=Z,10.0nm,0.9s
KK31 **Karatay Array** 48.78 298 P P 15 46 01.4 +0.4
KK31 IAmb IAmb 15 46 02.2
comp=Z,9.6nm,0.9s
KKAR **Karatay Array** 48.78 298 P P 15 46 01.2 +0.2
KKAR **Karatay Array** 48.78 298 P P 15 46 01.2 +0.2
BATI **Baumata** 49.00 196 P P 15 46 02.2 -0.8
comp=Z,26nm,0.5s,baz=328,slow=1.7,SNR=8.3
NIL **Nilore** 50.03 285 P P 15 46 10.7 +0.1
NIL pmax pmax
comp=Z,21nm,0.8s
NIL **Nilore** 50.03 285 P P 15 46 10.7 +0.1
NIL IAmb IAmb 15 46 12.0
comp=Z,21nm,0.8s
GAR **Garm** 50.23 293 P P 15 46 12.4 +0.3
GAR IAmb IAmb 15 46 13.2
comp=Z,28nm,1.2s
MTN **Manton Dam** 50.50 186 P P 15 46 13.9 -0.2
MTN IAmb IAmb 15 46 14.7
comp=Z,16nm,0.7s
CHGR **Chuyangaron** 51.20 293 P P 15 46 19.5 +0.3
SVE **Sverdlovsk** 51.56 317 *eP* P 15 46 21.9 +0.5
SVE pmax pmax
comp=Z,18nm,0.8s
COEN **Coen** 51.91 171 P P 15 46 25.6 +1.2
COEN IAmb IAmb 15 46 26.3
comp=Z,9.2nm,0.7s
ARU **Arti** 52.76 317 *di* P P 15 46 30.3 +0.1
ARU *PP pP 15 47 43.1 +1.0
ARU 15 48 30.6
ARU pmax pmax
comp=Z,24nm,0.6s
ARU **Arti** 52.76 317 P P 15 46 30.3 +0.1
KNRA **Kununurra** 53.53 188 P P 15 46 36.8 +0.6
ABKAR **Akbulak array** 53.94 308 P P 15 46 38.0 -0.8
ABKAR **Akbulak array** 53.94 308 P P 15 46 38.2 -0.6
ABKAR IAmb IAmb 15 46 39.6
comp=Z,20nm,0.6s
EPYK **Eagle Plains** 55.17 29 P P 15 46 49.7 +2.3
FITZ **Fitzroy Crossi** 56.34 191 P P 15 46 56.4 +0.3
comp=Z,2.7nm,0.6s,baz=5.0,slow=7.8,SNR=18
FITZ **Fitzroy Crossi** 56.34 191 P P 15 46 56.3 +0.3
KIRV **Kirov** 56.88 321 *ceP* P 15 47 00.0 +0.7
WRAB **Tennant Creek** 57.38 181 *ciP* P 15 47 03.4 +0.1
WRAB pmax pmax
comp=Z,13nm,1.7s
WRAB **Tennant Creek** 57.38 181 P P 15 47 03.4 +0.1
WB2 **Warramunga Arr** 57.39 181 P P 15 47 03.5 +0.2
WRA **Warramunga Arr** 57.39 181 P P 15 47 03.4 0.0
comp=Z,16nm,0.4s,baz=355,slow=7.0,SNR=377
WRA **Warramunga Arr** 57.39 181 P P 15 47 03.2 -0.1
WR0 **Warramunga Arr** 57.40 181 P P 15 47 03.6 +0.1
CTAO **Charters Tower** 58.38 168 P P 15 47 10.8 +0.6
CTAO pmax pmax
comp=Z,12nm,1.2s
CTAO **Charters Tower** 58.38 168 P P 15 47 10.8 +0.6
CTAO IAmb IAmb 15 47 17.3
comp=Z,12nm,1.1s
GEYT **Alibeck** 59.45 296 P P 15 47 17.9 +0.5
comp=Z,91nm,0.8s,baz=49,slow=4.7,SNR=4.7
PSA00 **Pilbara Seismi** 60.85 197 P P 15 47 25.7 -1.1
PSA00 IAmb IAmb 15 47 28.5
comp=Z,10nm,1.1s
AS31 **Alice Springs** 61.10 182 P P 15 47 27.6 -0.9
ASAR **Alice Springs** 61.10 182 P P 15 47 28.8 +0.3
comp=Z,2.4nm,0.4s,baz=16,slow=13,SNR=71
ASAR **Alice Springs** 61.10 182 P P 15 47 27.9 -0.6
KEV **Kevo** 61.11 338 P P 15 47 28.7 +0.8
KEV pmax pmax
comp=Z,8.0nm,1.1s
KEV **Kevo** 61.11 338 P P 15 47 28.7 +0.8
KEV IAmb IAmb 15 47 40.8
comp=Z,7.6nm,1.1s
ARCES **ARCESS Array B** 61.67 338 P P 15 47 32.3 +0.5
comp=Z,1.1nm,0.5s,baz=59,slow=8.3,SNR=12
ARCES **ARCESS Array B** 61.67 338 P P 15 47 32.7 +0.9
ARCES pmax pmax
comp=Z,3.0nm,1.1s
ARCES **ARCESS Array B** 61.67 338 P P 15 47 32.7 +0.9
FINES **FINESS Array B** 65.99 330 P P 15 48 00.1 +0.4

comp=Z,2.1nm,0.4s,baz=73,slow=5.5,SNR=28
FINES FINESS Array B 65.99 330 P **P** **15 47 59.9 +0.2**
NCK Nalchik 66.59 308⇑ *e*P **P** **15 48 01.8 -2.1**
NCK pmax pmax
comp=Z,11nm,0.4s
KBZ Khabaz 66.91 308 P **P** **15 48 06.4 +0.6**
comp=Z,3.2nm,1.0s,baz=39,slow=5.6,SNR=4.3
KBZ Khabaz 66.91 308⇓ *e*P **P** **15 48 06.0 +0.2**
KBZ pmax pmax
comp=Z,6.0nm,1.2s
KIV Kislovodsk 66.93 308 *e*P **P** **15 48 07.4 +1.3**
KIV pmax pmax
comp=Z,9.0nm,1.1s
STKA Stephens Creek 69.48 175 P **P** **15 48 22.7 +1.1**
comp=Z,1.7nm,0.5s,baz=341,slow=7.7,SNR=8.5
STKA Stephens Creek 69.48 175 P **P** **15 48 22.2 +0.6**
AKASG Malin Array Be 70.87 320 P **P** **15 48 29.9 +0.1**
comp=Z,1.5nm,0.3s,baz=49,slow=6.7,SNR=14
AKASG Malin Array Be 70.87 320 *i* P **P** **15 48 29.8 -0.1**
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKBB Malin Array Si 70.87 320⇓ *e*P **P** **15 48 29.9 0.0**
AKBB pmax pmax
comp=Z,7.0nm,1.3s
AKBB Malin Array Si 70.87 320 P **P** **15 48 29.5 -0.3**
AKBB IAmb IAmb 15 48 32.7
comp=Z,3.6nm,0.9s
NB2 NORSAR Subarra 71.69 335 P **P** **15 48 34.8 +0.2**
comp=Z,0.5nm,0.4s,baz=43,slow=5.9
NOA NORSAR Array B 71.69 335 P **P** **15 48 35.1 +0.5**
comp=Z,0.2nm,0.4s,baz=58,slow=6.9,SNR=15
NWAO Narrogin (SRO) 72.38 196 P **P** **15 48 39.0 +0.1**
baz=37,slow=5.1
NWAO Narrogin (SRO) 72.38 196 P **P** **15 48 37.9 -1.0**
BRTR Keskin Array B 74.89 309 P **P** **15 48 54.4 +0.7**
comp=Z,0.9nm,0.6s,baz=81,slow=7.6,SNR=3.6
NVAR Mina Array Bea 78.15 50 P **P** **15 49 13.4 +1.4**
comp=Z,0.5nm,0.5s,baz=290,slow=5.2,SNR=6.2
GERES GERESS Array B 79.61 325 P **P** **15 49 19.9 +0.4**
comp=Z,0.2nm,0.2s,baz=12,slow=6.8,SNR=4.1
PDAR Pinedale Array 80.34 43 P **P** **15 49 24.9 +1.3**
comp=Z,0.6nm,0.3s,baz=294,slow=4.5,SNR=4.9
TXAR Lajitas Array 93.21 49 P **P** **15 50 28.1 +2.1**
comp=Z,0.5nm,0.5s,baz=276,slow=3.4,SNR=7.3
LPAZ La Paz 150.06 51 PKPbc **PKiKP** **15 57 02.2 +0.3**
comp=Z,0.5nm,0.5s,baz=14,slow=7.8,SNR=3.9

IDC ***12*** *15:49:30.8±13.0, 18.˚61S×178.˚63W, h513km±31km, mb3.2/5, mb1 3.3/6, mb1mx3.0/31, mbtmp4.0/6, Error ellipse: s-maj=248.1km s-min=97.3km az=80.0*
ISC 12 15:49:34.3±10.0**, 18.˚8S**±0.˚5×**17.˚9W**±.˚, **h500**km**, n6,** σ**0**§**73**/6**, mb3.8**/5**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.86**	**292**	P	**P**	**15 50 44.7**	**+0.3**
	1.4nm,0.3s,baz=116,slow=3.9,SNR=10.0						
CTA	**Charters Tower**	**32.59**	**262**	P	**P**	**15 55 24.6**	**+0.6**
	3.0nm,0.7s,baz=106,slow=7.4,SNR=6.2						
STKA	**Stephens Creek**	**37.56**	**242**	P	**P**	**15 56 05.7**	**+0.3**
	1.9nm,0.6s,baz=83,slow=13,SNR=6.3						
WRA	**Warramunga Arr**	**43.76**	**261**	P	**P**	**15 56 54.2**	**-1.0**
	0.4nm,0.3s,baz=97,slow=7.1,SNR=18						
ASAR	**Alice Springs**	**43.85**	**255**	P	**P**	**15 56 55.8**	**-0.1**
	5.8nm,0.6s,baz=91,slow=8.6,SNR=162						
FITZ	**Fitzroy Crossi**	**52.17**	**261**	P	**P**	**15 57 57.8**	**-0.4**
	1.3nm,0.8s,baz=100,slow=11,SNR=1.8						

IDC ***12*** *15:52:01.1±2.5, 18.˚04S×178.˚48W, h543km±21km, mb3.2/7, mb1 3.4/8, mb1mx3.1/30, mbtmp4.1/8, Error ellipse: s-maj=96.7km s-min=18.8km az=154.0*
ISC 12 15:52:01.7±1.4**, 17.˚9S**±0.˚6×**178.˚6W**±0.˚3**, h550**km**, n9,** σ**0**§**41**/11**, mb3.7**/7**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.24**	**272**	P	**P**	**15 53 17.7**	**-0.6**
	8.5nm,0.3s,baz=68,slow=4.1,SNR=33						
CTA	**Charters Tower**	**33.31**	**261**	P	**P**	**15 57 55.0**	**+0.5**
	4.0nm,1.0s,baz=87,slow=6.5,SNR=1.7						
STKA	**Stephens Creek**	**38.51**	**241**	P	**P**	**15 58 37.0**	**-0.3**
	1.0nm,0.5s,baz=90,slow=13,SNR=4.0						
WRA	**Warramunga Arr**	**44.49**	**260**	P	**P**	**15 59 24.4**	**-0.4**
	0.7nm,0.3s,baz=97,slow=7.6,SNR=39						
WRA				PcP	**PcP**	**16 00 56.3**	**0.0**
	0.4nm,0.8s,baz=91,slow=3.4,SNR=1.5						
ASAR	**Alice Springs**	**44.66**	**254**	P	**P**	**15 59 26.2**	**+0.2**
	4.9nm,0.4s,baz=90,slow=8.2,SNR=114						
ASAR				PcP	**PcP**	**16 00 56.6**	**-0.2**
	0.4nm,0.4s,baz=105,slow=3.8,SNR=5.8						
FITZ	**Fitzroy Crossi**	**52.89**	**261**	P	**P**	**16 00 27.5**	**+0.5**
	0.4nm,0.3s,baz=90,slow=5.6,SNR=1.7						
TXAR	**Lajitas Array**	**86.11**	**58**	P	**P**	**16 03 45.3**	**+0.2**
	1.6nm,0.7s,baz=220,slow=5.7,SNR=22						
PDAR	**Pinedale Array**	**87.44**	**43**	P	**P**	**16 03 51.0**	**-0.2**
	0.2nm,0.4s,baz=223,slow=3.7,SNR=2.2						
GERES	**GERESS Array B**	**147.57**	**345**	PKPbc	**PKPbc**	**16 10 44.7**	**+0.3**
	0.3nm,0.2s,baz=2.4,slow=2.4,SNR=1.3						

TAP ***12*** *15:57:02.6,24.˚84N×122.˚01E, h6km, ML3.0, C*
JMA ***12*** *15:57:03.7±0.1, 24.˚84N×121.˚99E, h32km, M2.3*
ISC 12 15:57:03.2±0.9**, 24.˚84N**±0.˚02×**122.˚03E**±0.˚02**, h11**km±6km**, n98,** σ**0**§**52**/174**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.17**	**346**	*i* P	**Pg**	**15 57 06.5**	**-0.5**
	baz=356						
TWB1				S	**Sg**	**15 57 09.2**	**-0.4**
	baz=356						
NTC	**Toucheng**	**0.19**	**275**	P	**Pg**	**15 57 07.2**	**0.0**
	baz=276						
NTC				*e*S	**Sg**	**15 57 09.8**	**-0.1**
	baz=276						
TIPB	**Shuangxi**	**0.23**	**305**	*i* P	**Pg**	**15 57 08.0**	**0.0**
	baz=309						
TIPB				S	**Sg**	**15 57 11.7**	**+0.5**
	baz=309						
ILA	**Ilan**	**0.27**	**254**	*e*P	**Pg**	**15 57 08.5**	**-0.2**
	baz=252						
ILA				*e*S	**Sg**	**15 57 13.3**	**+0.9**
	baz=252						
TWC	**Suao**	**0.28**	**216**	P	**Pg**	**15 57 08.8**	**-0.2**
	baz=210						
TWC				*e*S	**Sg**	**15 57 13.2**	**+0.3**
	baz=210						
NWF	**Wu-fen Shan**	**0.33**	**315**	P	**Pg**	**15 57 10.1**	**+0.3**
	baz=318						
NWF				S	**Sb**	**15 57 15.3**	**-1.2**
	baz=318						
WFSB	**Wu-fen Shan**	**0.33**	**315**	*i* P	**Pg**	**15 57 09.9**	**+0.2**
	baz=318						
TWE	**Neicheng**	**0.35**	**251**	P	**Pg**	**15 57 10.2**	**-0.1**
	baz=248						
TWE				*e*S	**Sg**	**15 57 15.3**	**+0.4**
	baz=248						
NDS	**Dongshan**	**0.35**	**235**	P	**Pg**	**15 57 10.1**	**-0.2**
	baz=232						
NDS				*e*S	**Sb**	**15 57 15.8**	**-1.4**
	baz=232						
TNOU	**National Taiwa**	**0.39**	**323**	*e*P	**Pb**	**15 57 11.6**	**-0.6**
	baz=324						
TNOU				*e*S	**Sb**	**15 57 18.1**	**-0.1**
	baz=324						
TWA	**Mucha**	**0.43**	**289**	P	**Pb**	**15 57 12.2**	**-0.7**
	baz=290						
TWA				*e*S	**Sb**	**15 57 18.7**	**-0.8**
	baz=290						
EWUT	**Wuta**	**0.46**	**211**	P	**Pg**	**15 57 12.3**	**+0.1**
	baz=208						
EWUT				*e*S	**Sb**	**15 57 19.5**	**-0.6**
	baz=208						
ENTT	**Nioudou**	**0.47**	**245**	P	**Pg**	**15 57 12.5**	**+0.1**
	baz=243						
ENTT				*e*S	**Sb**	**15 57 19.7**	**-0.8**
	baz=243						
NHDH	**Xindian Distri**	**0.48**	**285**	P	**Pb**	**15 57 13.6**	**-0.1**
	baz=286						
NHDH				S	**Sb**	**15 57 19.8**	**-1.0**
	baz=286						
NWLT	**Wulai**	**0.49**	**263**	*i* P	**Pg**	**15 57 12.5**	**-0.2**
	baz=262						
NWLT				S	**Sg**	**15 57 19.4**	**+0.2**
	baz=262						
ENA	**Nanau**	**0.49**	**213**	*e*P	**Pb**	**15 57 13.6**	**-0.3**
	baz=210						
ENA				S	**Sb**	**15 57 20.9**	**-0.1**
	baz=210						
NWRT	**Kuosheng**	**0.50**	**317**	*e*P	**Pb**	**15 57 15.0**	**+1.0**
	baz=319						
TATO	**Taipei**	**0.51**	**285**	P	**Pb**	**15 57 13.7**	**-0.6**
	baz=286						
TATO				*e*S	**Sb**	**15 57 21.3**	**-0.4**
	baz=286						
TAP	**Taipei**	**0.52**	**293**	S	**Sb**	**15 57 21.3**	**-0.6**
	baz=294						
YM01	**YM01**	**0.52**	**306**	P	**Pb**	**15 57 13.9**	**-0.5**
	baz=307						
YM01				*e*S	**Sg**	**15 57 20.3**	**+0.1**
	baz=307						
NDT	**Datong Townshi**	**0.53**	**244**	P	**Pg**	**15 57 13.5**	**0.0**
	baz=242						
NDT				*e*S	**Sb**	**15 57 21.7**	**-0.5**
	baz=242						
YM08	**YM08**	**0.53**	**311**	*i* P	**Pg**	**15 57 13.9**	**+0.3**
	baz=312						
ANP	**Anpu**	**0.58**	**307**	*e*S	**Sb**	**15 57 23.4**	**-0.4**
	baz=308						
TWY	**Chenhua**	**0.59**	**318**	*e*P	**Pb**	**15 57 15.0**	**-0.5**
	baz=320						
TWY				*e*S	**Sg**	**15 57 22.6**	**+0.2**
	baz=320						
TWS1	**Kuangyinshan**	**0.62**	**295**	P	**Pb**	**15 57 15.3**	**-0.7**
	baz=296						
TWS1				*e*S	**Sg**	**15 57 23.4**	**+0.1**
	baz=296						
NTST	**Danshui**	**0.62**	**302**	P	**Pb**	**15 57 16.0**	**-0.1**
	baz=302						
NTST				*e*S	**Sb**	**15 57 25.3**	**+0.5**
	baz=302						
YHNB	**Yeheng**	**0.62**	**254**	*i* P	**Pg**	**15 57 14.9**	**-0.3**
	baz=253						
YHNB				*e*S	**Sb**	**15 57 24.6**	**-0.4**
	baz=253						
NSK	**Sanguang**	**0.64**	**255**	P	**Pg**	**15 57 15.1**	**-0.5**
	baz=254						
NSK				*e*S	**Sb**	**15 57 25.1**	**-0.2**
	baz=254						
NNSB	**Datong**	**0.72**	**235**	P	**Pb**	**15 57 17.4**	**-0.5**
	baz=234						
NNSB				*e*S	**Sb**	**15 57 27.6**	**-0.2**
	baz=234						
NNS	**Nan Shan**	**0.72**	**237**	P	**Pb**	**15 57 17.4**	**-0.5**
	baz=235						
NNS				*e*S	**Sb**	**15 57 27.8**	**-0.1**
	baz=235						
ETL	**Fush Village**	**0.77**	**209**	P	**Pb**	**15 57 18.5**	**-0.2**
	baz=207						
ETL				*e*S	**Sb**	**15 57 29.7**	**+0.5**
	baz=207						
NACB	**Ninganchiao**	**0.77**	**211**	P	**Pg**	**15 57 18.2**	**0.0**
	baz=209						
NACB				*e*S	**Sg**	**15 57 28.4**	**+0.1**
	baz=209						
NCU	**National Centr**	**0.78**	**280**	*e*P	**Pb**	**15 57 18.8**	**-0.1**
	baz=280						
NCU				S	**Sb**	**15 57 29.2**	**-0.2**
	baz=280						
NCUH	**Zhongli**	**0.78**	**280**	*e*P	**Pb**	**15 57 18.6**	**-0.3**
	baz=279						
NCUH				*e*S	**Sb**	**15 57 29.6**	**+0.1**
	baz=279						
PCYT	**Pengchaiyu**	**0.79**	**2**	P	**Pb**	**15 57 19.1**	**+0.1**
	baz=4.0						
PCYT				S	**Sb**	**15 57 30.6**	**+0.9**
	baz=4.0						
ETLH	**Xiulin Townshi**	**0.81**	**219**	P	**Pg**	**15 57 18.6**	**-0.2**
	baz=217						
ETLH				S	**Sb**	**15 57 30.3**	**+0.1**
	baz=217						
TWD	**Chiawan**	**0.85**	**208**	P	**Pb**	**15 57 20.0**	**-0.1**
	baz=206						
TWD				S	**Sb**	**15 57 31.4**	**-0.2**
	baz=206						
JYNG	**Yonagunijimaku**	**0.92**	**115**	P	**Pg**	**15 57 21.1**	**+0.3**
JYNG				*e*S	**Sg**	**15 57 32.9**	**+0.1**
FUSS	**Fushou**	**0.93**	**231**	*e*P	**Pg**	**15 57 21.0**	**-0.2**
	baz=229						
FUSS				*e*S	**Sb**	**15 57 34.5**	**+0.5**
	baz=229						
HWA	**Hwalien**	**0.94**	**205**	*e*S	**Sb**	**15 57 35.0**	**+0.9**
	baz=202						
LIOB	**Emei**	**0.94**	**258**	*e*P	**Pb**	**15 57 21.9**	**+0.2**
	baz=258						
LIOB				*e*S	**Sn**	**15 57 35.0**	**-1.0**
	baz=258						
SBCB	**Hsinchu**	**0.95**	**267**	*e*P	**Pg**	**15 57 21.2**	**-0.4**
	baz=267						
SBCB				*e*S	**Sn**	**15 57 35.2**	**-1.0**
	baz=267						
NSTT	**Nanjuang**	**0.96**	**258**	P	**Pb**	**15 57 21.9**	**-0.1**
	baz=257						
NSTT				S	**Sb**	**15 57 34.6**	**0.0**
	baz=257						
YOJ	**Yonaguni jima**	**0.97**	**113**	P	**Pg**	**15 57 21.3**	**-0.5**
YOJ				S	**Sg**	**15 57 34.6**	**+0.2**
YOJ	**Yonaguni jima**	**0.97**	**113**	P	**Pg**	**15 57 21.3**	**-0.5**
	baz=111						
YOJ				*e*S	**Sg**	**15 57 35.0**	**+0.6**
	baz=111						
TWT	**Tachien**	**0.97**	**233**	*e*P	**Pb**	**15 57 21.9**	**-0.4**
	baz=232						
TWT				*e*S	**Sn**	**15 57 36.2**	**-0.8**
	baz=232						
WHF	**Hehuan Shan**	**0.98**	**226**	*e*P	**Pg**	**15 57 21.9**	**-0.4**
	baz=224						
WHF				*e*S	**Sb**	**15 57 36.0**	**+0.3**
	baz=224						
TDCB	**Techi**	**0.99**	**234**	*e*P	**Pb**	**15 57 22.2**	**-0.2**
	baz=233						
TDCB				*e*S	**Sn**	**15 57 36.6**	**-0.7**
	baz=233						
ETM	**Tongmen**	**1.00**	**210**	*e*P	**Pg**	**15 57 22.2**	**-0.2**
	baz=208						
ETM				S	**Sb**	**15 57 36.5**	**+0.7**
	baz=208						
CHGB	**Renai**	**1.10**	**225**	*e*P	**Pg**	**15 57 24.0**	**-0.5**
	baz=224						
CHGB				S	**Sb**	**15 57 39.1**	**+0.1**
	baz=224						
WHP	**Taichung City**	**1.14**	**241**	*e*P	**Pg**	**15 57 24.4**	**-0.7**
	baz=240						
WHP				*e*S	**Sn**	**15 57 40.2**	**-0.6**
	baz=240						
ESL	**Shilin**	**1.16**	**208**	*e*P	**Pg**	**15 57 25.2**	**-0.3**
	baz=206						
ESL				*e*S	**Sn**	**15 57 41.2**	**-0.1**
	baz=206						
NMLH	**Miaoli**	**1.17**	**255**	*e*P	**Pg**	**15 57 25.2**	**-0.5**
	baz=254						
NMLH				*e*S	**Sn**	**15 57 41.4**	**-0.1**
	baz=254						
OWD	**Renai**	**1.18**	**222**	*e*P	**Pg**	**15 57 25.4**	**-0.5**
	baz=220						
OWD				*e*S	**Sn**	**15 57 41.6**	**-0.3**
	baz=220						
NSY	**Sanyi**	**1.23**	**250**	*e*S	**Sn**	**15 57 43.0**	**-0.2**
	baz=249						
TWQ1	**Liyutan**	**1.25**	**247**	*e*P	**Pb**	**15 57 26.3**	**-0.5**
	baz=246						
TWQ1				*e*S	**Sn**	**15 57 43.9**	**+0.4**
	baz=246						
WCS	**Beigang Elemen**	**1.28**	**233**	*e*P	**Pg**	**15 57 27.7**	**-0.2**
	baz=232						
WCS				*e*S	**Sn**	**15 57 44.5**	**+0.1**
	baz=232						
EGFH	**Guangfu**	**1.29**	**206**	*e*P	**Pn**	**15 57 27.1**	**-0.1**
	baz=204						
EGFH				*e*S	**Sn**	**15 57 45.1**	**+0.6**
	baz=204						
WDJ	**Dajia District**	**1.36**	**249**	*e*S	**Sn**	**15 57 46.3**	**0.0**
	baz=248						
SMLT	**Sun Moon Lake**	**1.41**	**228**	*e*P	**Pn**	**15 57 29.0**	**+0.1**
	baz=226						
SMLT				*e*S	**Sn**	**15 57 47.6**	**+0.1**
	baz=226						
TYC	**Yuchr**	**1.42**	**229**	*e*P	**Pn**	**15 57 29.2**	**+0.2**
	baz=228						
TYC				*e*S	**Sb**	**15 57 47.6**	**-0.3**
	baz=228						
SSLB	**Suanglung**	**1.44**	**223**	*e*P	**Pn**	**15 57 29.4**	**+0.1**
	baz=222						
SSLB				*e*S	**Sb**	**15 57 48.2**	**-0.2**
	baz=222						
HGSD	**Ruisui**	**1.45**	**203**	*e*P	**Pn**	**15 57 29.6**	**+0.2**
	baz=201						
HGSD				*e*S	**Sg**	**15 57 49.5**	**-0.4**
	baz=201						
EHY	**Hungye**	**1.48**	**206**	*e*P	**Pn**	**15 57 30.2**	**+0.4**
	baz=205						
EHY				*e*S	**Sb**	**15 57 49.5**	**0.0**
	baz=205						
WNT	**Mingjian**	**1.56**	**232**	*e*P	**Pn**	**15 57 31.2**	**+0.2**
	baz=231						
WNT				*e*S	**Sn**	**15 57 51.3**	**+0.1**
	baz=231						
WJS	**Zhushan**	**1.56**	**230**	*e*S	**Sb**	**15 57 51.9**	**-0.1**
	baz=229						
WHYT	**Xinyi Township**	**1.57**	**224**	*e*P	**Pn**	**15 57 31.4**	**+0.3**
	baz=222						
WHYT				*e*S	**Sb**	**15 57 52.1**	**-0.1**
	baz=222						
YULB	**Yu-li**	**1.59**	**205**	*e*P	**Pn**	**15 57 31.9**	**+0.6**
	baz=204						
YULB				*e*S	**Sb**	**15 57 52.6**	**-0.1**
	baz=204						
IRIF	**Iriomote-Funau**	**1.62**	**108**	P	**Pn**	**15 57 30.8**	**-1.0**
IRIF				*e*S	**Sn**	**15 57 51.7**	**-1.0**
ALS	**Alishan**	**1.73**	**221**	*e*P	**Pn**	**15 57 33.5**	**-0.1**
	baz=219						
ALS				*e*S	**Sn**	**15 57 55.7**	**-0.2**
	baz=219						
CHN5	**Tsauling**	**1.75**	**225**	*e*S	**Sn**	**15 57 56.3**	**+0.3**
	baz=224						
FULB	**Fuli**	**1.77**	**203**	*e*S	**Sn**	**15 57 57.1**	**+0.7**
	baz=201						
WDLH	**Douliu**	**1.78**	**230**	*e*S	**Sn**	**15 57 56.9**	**+0.3**
	baz=229						
HATJ	**Hateruma jima**	**1.79**	**115**	S	**Sn**	**15 57 55.7**	**-1.2**
ELDTW	**Lidau**	**1.89**	**210**	*e*P	**Pn**	**15 57 35.8**	**+0.2**
	baz=208						
ELDTW				*e*S	**Sn**	**15 57 59.8**	**+0.4**
	baz=208						
JKRS	**Kuro-shima**	**1.90**	**108**	P	**Pn**	**15 57 35.0**	**-0.6**
JKRS				*e*S	**Sn**	**15 57 58.7**	**-0.8**
JIJ	**Ishigaki jima**	**1.98**	**103**	P	**Pn**	**15 57 36.9**	**+0.2**
JIJ				S	**Sn**	**15 58 00.8**	**-0.7**
TPUB	**Ta-pu**	**2.00**	**220**	*e*P	**Pn**	**15 57 37.7**	**+0.7**
	baz=219						
TPUB				*e*S	**Sn**	**15 58 02.5**	**+0.5**
	baz=219						
STYH	**Taoyuan**	**2.02**	**215**	*e*P	**Pn**	**15 57 37.5**	**+0.3**
	baz=214						
STYH				*e*S	**Sn**	**15 58 02.9**	**+0.4**
	baz=214						
WTP	**Ta-pu**	**2.05**	**220**	*e*P	**Pn**	**15 57 37.7**	**0.0**
	baz=218						
WTP				*e*S	**Sn**	**15 58 04.1**	**+0.7**
	baz=218						
JISG	**Ishigakijimahi**	**2.09**	**96**	P	**Pn**	**15 57 39.9**	**+1.7**
JISG				*e*S	**Sb**	**15 58 07.5**	**+0.5**
LONT	**Longtian**	**2.10**	**203**	*e*S	**Sn**	**15 58 05.0**	**+0.6**
	baz=202						
TWK	**Hsinying**	**2.11**	**222**	*e*S	**Sn**	**15 58 05.4**	**+0.6**
	baz=221						
CHN1	**Nanshi**	**2.15**	**220**	*e*S	**Sn**	**15 58 06.0**	**+0.3**
	baz=219						
SGST	**Jiashian**	**2.20**	**217**	*e*S	**Sn**	**15 58 07.2**	**+0.2**
	baz=216						
SLGT	**Liugui**	**2.23**	**215**	*e*P	**Pn**	**15 57 40.6**	**+0.4**
	baz=214						
SLGT				*e*S	**Sn**	**15 58 08.7**	**+0.9**
	baz=214						
MATB	**Ma-tsu**	**2.29**	**305**	*e*P	**Pn**	**15 57 41.6**	**+0.6**
	baz=304						
MATB				*e*S	**Sn**	**15 58 09.7**	**+0.3**
	baz=304						
ECL	**Taimali**	**2.44**	**204**	*e*P	**Pn**	**15 57 43.9**	**+0.9**
	baz=203						
ECL				*e*S	**Sn**	**15 58 13.3**	**+0.4**
	baz=203						
SSD	**Sandimen**	**2.45**	**212**	*e*S	**Sn**	**15 58 13.5**	**+0.4**
	baz=211						
TSMG	**Majia**	**2.48**	**211**	*e*P	**Pn**	**15 57 44.5**	**+1.0**
	baz=210						
TSMG				*e*S	**Sn**	**15 58 14.5**	**+0.7**
	baz=210						
MASBT	**Mashibuluo**	**2.56**	**210**	*e*P	**Pn**	**15 57 45.5**	**+0.8**
	baz=209						
MASBT				*e*S	**Sn**	**15 58 16.6**	**+0.7**
	baz=209						
PTMZ	**Houxiangcun**	**2.65**	**275**	*e*S	**Sn**	**15 58 17.8**	**-0.3**
	baz=274						
XPSS	**Dashiqiu**	**2.66**	**322**	*e*P	**Pn**	**15 57 46.8**	**+0.7**
	baz=321						
XPSS				*e*S	**Sn**	**15 58 19.0**	**+0.6**
	baz=321						
LYJJ	**Jianjiangzhen**	**2.67**	**310**	*e*P	**Pn**	**15 57 47.4**	**+1.3**
	baz=310						
LYJJ				*e*S	**Sn**	**15 58 17.8**	**-0.7**
	baz=310						
SCZT	**Fangliau**	**2.78**	**208**	*e*S	**Sn**	**15 58 21.3**	**+0.1**
	baz=207						
SLIU	**Shizi**	**2.85**	**204**	*e*P	**Pn**	**15 57 49.0**	**+0.3**
	baz=203						
MHZQ	**Yeshan**	**2.99**	**295**	*e*S	**Sn**	**15 58 26.5**	**0.0**
	baz=295						
AXDP	**Jialang**	**3.69**	**272**	*e*P	**Pn**	**15 58 00.6**	**+0.3**
	baz=270						
AXDP				*e*S	**Sn**	**15 58 43.1**	**-0.6**
	baz=270						

RSNC ***12*** *16:12:28.5±1.4, 8.˚19N×77.˚43W, h11km±6km, ML2.4, Mw3.1*
UPA ***12*** *16:12:32.0±3.1, 8.˚00N×77.˚74W, h10km±38km, MW3.3*
ISC 12 16:12:27.7±2.0**, 8.˚21N**±0.˚03×**77.˚42W**±0.˚03**, h18**km±15km**, n23,** σ**1**§**45**/35**, 4C-1D, Panama-Colombia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPC	**Capurgana**	**0.43**	**8**⇓	*i* P	**Pb**	**16 12 37.0**	**+0.2**
CAPC				*e*S	**Sb**	**16 12 43.0**	**0.0**
CAPC				*i*		16 12 44.3	
	comp=Z,914nm,0.2s						
UPD2	**Meteti**	**0.69**	**300**⇑	*i* P	**Pn**	**16 12 43.0**	**+0.5**
UPD2				*e*S	**Sn**	**16 12 54.0**	**+1.2**
PTAC	**Punta Ardita,**	**1.12**	**200**	*e*P	**Pb**	**16 12 48.2**	**-0.4**
PTAC				*e*S	**Sb**	**16 13 03.0**	**+0.1**
PTAC	**Punta Ardita,**	**1.12**	**200**	*e*P	**Pb**	**16 12 48.1**	**-0.4**
PTAC				*e*S	**Sb**	**16 13 02.0**	**-0.9**
LCBC	**Los crdobas,**	**1.22**	**58**	*e*P	**Pb**	**16 12 50.5**	**+0.1**
LCBC				*e*S	**Sb**	**16 13 05.2**	**-0.6**
LCBC	**Los crdobas,**	**1.22**	**58**⇑	*e*P	**Pb**	**16 12 50.4**	**+0.1**
LCBC				*e*S	**Sg**	**16 13 07.4**	**+0.1**
LCBC				*i*		16 13 12.3	
	comp=Z,191nm,0.2s						
DBBC	**Dabeiba**	**1.68**	**135**	*e*P	**Pn**	**16 12 56.4**	**+0.1**
DBBC				*e*S	**Sn**	**16 13 17.9**	**+0.5**
CNTA3	**Canitas, Panam**	**1.77**	**305**	*e*S	**Sb**	**16 13 22.6**	**+1.0**
UREC	**San Jos de Ur**	**1.92**	**103**⇑	*e*P	**Pn**	**16 12 59.0**	**-0.5**
UREC				*i*		16 13 28.1	
	comp=Z,25nm,0.1s						
CHPO	**Chepo, Panama**	**1.94**	**300**	*e*P	**Pb**	**16 13 02.7**	**+0.2**
CHPO				*e*S	**Sb**	**16 13 26.8**	**+0.5**
UPA	**Univ. de Panam**	**2.23**	**290**	*e*S	**Sb**	**16 13 34.6**	**-0.3**
CHOR3	**La Chorrera**	**2.42**	**287**	*e*S	**Sb**	**16 13 38.1**	**-2.3**
ZANG	**Zanguenga, Cho**	**2.54**	**287**	*e*S	**Sb**	**16 13 42.5**	**-1.1**
BCIP	**Isla Barro Col**	**2.58**	**292**	*e*P	**Pb**	**16 13 11.5**	**-1.9**
BCIP				*e*S	**Sn**	**16 13 41.6**	**+2.1**
BCIP	**Isla Barro Col**	**2

AZU	**Azuero**	**2.86**	**262**	*e*S		**Sn**	**16 13 48.2**	**+1.7**
GUY2C	**Guyana, Caldas**	**3.59**	**145**	*e*P		**Pn**	**16 13 24.6**	**+1.6**
GUY2C				*i*			16 14 19.4	
	comp=Z,4.3nm,0.6s							
NORC	**Norcasia**	**3.64**	**136**	*e*P		**Pn**	**16 13 25.8**	**+2.5**
NORC				*i*			16 13 28.5	
	comp=Z,4.3nm,0.3s							

IDC **12** *16:17:02.9±1.2, 0.°80S×122.°17E, h0km, mb3.4/5, mb1 3.7/6, mb1mx3.5/43, mbtmp3.6/6, ML4.1/1, Error ellipse: s-maj=49.2km s-min=19.1km az=64.0*

DJA **12** *16:17:05.8±0.2, 1.°5S×2.°12×12.°2E±.°, h10km, M4.1/12, mb4.3/2, MLv4.0/12*

ISC 12 16:17:07.5±0.8, 0.°90S±0.°05×121.°99E±0.°06, h31km, n18, σ1s45/23, mb3.5/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
APSI	**Ampana**	**0.34**	**269**	P		**Pb**	**16 17 13.3**	**-2.3**
APSI				S		**Sb**	**16 17 19.2**	**-1.9**
MRSI	**Marisa**	**1.37**	**358**	P		**Pn**	**16 17 29.5**	**-1.1**
GTOI	**Gorontalo**	**1.84**	**34**	P		**Pn**	**16 17 35.3**	**-1.7**
GTOI				S		**Sn**	**16 18 00.9**	**+1.7**
MPSI	**Mapaga**	**2.43**	**301**	P		**Pn**	**16 17 45.5**	**+0.4**
MPSI				S		**Sn**	**16 18 16.2**	**+2.5**
TTSI	**Tana Toraja**	**3.04**	**226**	P		**Pn**	**16 17 55.2**	**+1.7**
TTSI				S		**Sn**	**16 18 30.5**	**+1.7**
KKSI	**Kolaka, Sulawe**	**3.26**	**186**	P		**Pn**	**16 17 55.4**	**-1.2**
MNI	**Manado**	**3.68**	**51**	P		**Pn**	**16 18 04.4**	**+2.0**
BNSI	**Bone**	**3.95**	**208**	P		**Pn**	**16 18 06.8**	**+0.8**
KAPI	**Kappang**	**4.65**	**209**	Pn		**Pn**	**16 18 16.7**	**+1.0**
	8.6nm,0.3s,baz=50,slow=7.4,SNR=20							
KAPI						Sn	**16 19 09.5**	**+0.8**
	1.9nm,0.3s,baz=264,slow=20,SNR=6.5							
KAPI	**Kappang**	**4.65**	**209**	P		**Pn**	**16 18 16.5**	**+0.8**
BKSI	**Bulukumba**	**4.77**	**203**	P		**Pn**	**16 18 18.3**	**+1.0**
BSSI	**Bau Bau, Buton**	**5.41**	**196**	P		**Pn**	**16 18 27.0**	**+0.8**
	0.3nm57nm,1.8s							
EDFI	**Ende, Flores**	**7.80**	**182**	P		**Pn**	**16 18 58.6**	**-0.5**
WRA	**Warramunga Arr**	**22.45**	**148**	P		**P**	**16 22 04.8**	**+0.6**
	1.6nm,0.8s,baz=324,slow=11,SNR=20							
ASAR	**Alice Springs**	**25.41**	**154**	P		**P**	**16 22 31.7**	**-0.8**
	0.4nm,0.6s,baz=331,slow=7.4,SNR=11							
CMAR	**Chiang Mai Arr**	**29.73**	**311**	P		**P**	**16 23 12.8**	**+1.5**
	0.6nm,0.7s,baz=134,slow=7.6,SNR=4.6							
SONM	**Songino Array**	**50.41**	**346**	P		**P**	**16 26 01.6**	**-0.5**
	0.2nm,0.5s,baz=153,slow=8.1,SNR=1.8							
MKAR	**Makanchi Array**	**58.86**	**329**	P		**P**	**16 27 03.1**	**-0.3**
	0.3nm,0.5s,baz=120,slow=8.9,SNR=5.2							

MEX 12 16:29:59.1±0.7, 14.°43N×92.°67W, h16km±999km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PCIG		**1.38**	**337**	*e*P		Pn	16 30 20.2	-3.4
PCIG				*i* S		Sn	16 30 36.1	-5.3
CCIG	**Comitan**	**1.91**	**15**	*e*S		Sn	16 30 51.4	-3.6

IDC 12 16:33:18.1±18.0, 35.°36N×72.°15E, h441km±196km, mb2.9/2, mb1 2.8/3, mb1mx2.4/35, mbtmp3.6/3, Error ellipse: s-maj=868.0km s-min=60.7km az=136.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**13.73**	**31**	P		P	16 36 15.6	0.0
	0.2nm,0.3s,baz=214,slow=10,SNR=7.2							
ZALV	**Zalesovo Beam**	**20.59**	**22**	P		P	16 37 25.1	0.0
	0.6nm,0.3s,baz=218,slow=11,SNR=5.4							
TORD	**Torodi Ar. Bea**	**66.63**	**270**	P		P	16 43 23.9	0.0
	0.5nm,0.4s,baz=52,slow=7.0,SNR=3.3							

BJI **12** *16:42:31.4±0.0, 24.°82S×176.°45W, h82km, mB5.5/27, mb5.3/53, Ms4.9/13, Ms7 4.6/15*

MOS **12** *16:42:33.0±0.9, 25.°07S×177.°12W, h82km, mb5.3/14, MS4.3/4, Error ellipse: s-maj=11.6km s-min=9.2km az=77.2*

NEIC **12** *16:42:33.8±2.4, 25.°02S±0.°07×177.°0W±0.°1, h77km±6km, mb5.2/101, Error ellipse: s-maj=13.6km s-min=10.4km az=111.0*

IDC **12** *16:42:35.8±0.5, 25.°11S×177.°14W, h94km±4km, mb4.6/16, mb1 4.8/17, mb1mx4.8/20, mbtmp4.9/17, MS3.9/22, Ms1 3.9/22, ms1mx3.9/22, Error ellipse: s-maj=14.8km s-min=10.2km az=108.0*

GCMT **12** *16:42:36.7±0.1, 25.°22S±0.°01×176.°83W±0.°01, h105km±1km, MW5.2/128, Moment Tensor Solution. s104,c164; s128,c197; Duration: 1s0 Moment tensor: Scale 10^16^Nm; Mrr=-4.36±.14; Mθθ 1.43±.18; Mφφ 2.93±.18; Mrθ=4.04±.10; Mrφ 2.17±.17; Mθφ=-6.17±.10; Best double couple: Mo 8.59700×10^16^ NP1:φ218.00000°, δ15.00000°, λ-86.00000°. NP2:φ34.00000°, δ75.00000°, λ-91.00000°. Principal axes: T 8.6520, Plg30.0000°, Azm124.0000°; N -0.1110, Plg1.0000°, Azm34.0000°; P -8.5420, Plg60.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NOU **12** *16:42:37.4, 24.°99S×176.°36W, h155km, ML4.8/57, South of Fiji Islands*

ISC 12 16:42:32.0±0.3, 25.°08S±0.°04×176.°90W±0.°05, h68km±2km, h68km:pP-P, n737, σ1s74/744, mb5.3/138, 44C-63D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**4.25**	**192**	P		**Pn**	**16 43 36.0**	**+1.8**
RIZ				S		**Sn**	**16 44 25.6**	**+3.0**
RAO	**Raoul Island**	**4.25**	**192**	P		**Pn**	**16 43 36.8**	**+2.5**
	160nm,0.3s,baz=103,slow=23,SNR=3.2							
RAO				S		**Sn**	**16 44 24.9**	**+2.2**
	449nm,0.3s,baz=251,slow=22,SNR=4.7							
RAO				LR		LR	16 44 46.6	
	comp=Z,1μm,20.1s,baz=310,slow=31							
RAO	**Raoul Island**	**4.25**	**192**	Pn		**Pn**	**16 43 37.2**	**+2.9**
RAO	**Raoul Island**	**4.25**	**192**	P		Pn	16 43 44.4	+10
GLKZ	**Green Lake**	**4.26**	**192**	P		**Pn**	**16 43 35.8**	**+1.4**
GLKZ				S		**Sn**	**16 44 27.0**	**+4.1**
MSVF	**Nonsavu**	**8.69**	**326**	P		Pn	16 44 42.1	+7.0
	11nm,0.3s,baz=146,slow=11,SNR=95							
MSVF				LR		LR	16 46 52.8	
	comp=Z,833nm,19.4s,baz=121,slow=30							
MSVF	**Nonsavu**	**8.69**	**326**	*d*	*i*	Pn	16 44 42.0	+6.9
MSVF	**Nonsavu**	**8.69**	**326**	Pn		Pn	16 44 42.3	+7.2
MSVF	**Nonsavu**	**8.69**	**326**	P		Pn	16 44 42.7	+7.6
NIUE	**Niue**	**8.80**	**49**	P		**Pn**	**16 44 35.0**	**-1.5**
	baz=8.6,SNR=35							
NIUE	**Niue**	**8.80**	**49**	Pn		**Pn**	**16 44 34.7**	**-1.8**
NIUE	**Niue**	**8.80**	**49**	P		**Pn**	**16 44 35.0**	**-1.5**
AFI	**Afiamalu**	**12.11**	**24**	P		**Pn**	**16 45 17.7**	**-4.1**
	11nm,0.3s,baz=213,slow=7.5,SNR=14							
AFI				S		Sn	16 47 20.8	-14
	8.8nm,0.3s,baz=54,slow=23,SNR=2.2							
AFI	**Afiamalu**	**12.11**	**24**	P		**Pn**	**16 45 18.3**	**-3.6**
AFI	**Afiamalu**	**12.11**	**24**			**Pn**	**16 45 18.3**	**-3.6**
AFI	**Afiamalu**	**12.11**	**24**	P		**Pn**	**16 45 20.6**	**-1.3**
OUZ	**Omahuta**	**13.02**	**217**	P		**P**	**16 45 44.5**	**+2.5**
WCZ	**Waipu Caves**	**13.19**	**213**	P		**P**	**16 45 43.3**	**-0.4**
PKGZ	**Pakihiroa**	**13.46**	**197**	P		Pn	16 45 33.7	-6.3
RUGZ	**Raukumara Rang**	**13.65**	**198**	P		Pn	16 45 35.9	-6.9
TWGZ	**Tauwhareparae**	**13.76**	**197**	P		Pn	16 45 37.0	-6.9
CNGZ	**Carnagh Statio**	**13.99**	**196**	P		Pn	16 45 40.9	-6.1
URZ	**Urewera**	**14.09**	**200**	P		Pn	16 45 40.9	-7.3
	0.3nm,0.3s,baz=288,slow=22,SNR=1.7							
URZ				S		Sn	16 48 09.8	-13
	4.9nm,0.3s,baz=266,slow=18,SNR=6.9							
URZ				LR		LR	16 49 49.7	
	comp=Z,301nm,19.2s,baz=31,slow=31							
URZ	**Urewera**	**14.09**	**200**	Pn		**Pn**	**16 45 46.1**	**-2.1**
URZ	**Urewera**	**14.09**	**200**	P		**Pn**	**16 45 43.7**	**-4.5**
TOZ	**Tahuroa Road**	**14.17**	**205**	P		**Pn**	**16 45 51.2**	**+1.8**
MARNC	**Mare, Loyalty**	**14.30**	**281**	Pn		**Pn**	**16 45 49.2**	**-1.9**
MARNC	**Mare, Loyalty**	**14.30**	**281**	P		**P**	**16 46 00.4**	**+4.1**
MUGZ	**Murupara**	**14.39**	**200**	P		**Pn**	**16 45 48.1**	**-4.2**
SNGZ	**Shannon Statio**	**14.50**	**198**	P		**Pn**	**16 45 50.8**	**-2.9**
PINNC	**Pines Island,**	**14.53**	**276**			**Pn**	**16 45 55.6**	**+1.6**
PINNC	**Pines Island,**	**14.53**	**276**	P		**P**	**16 46 01.5**	**+2.7**
RAHZ	**Arahi**	**14.70**	**199**	P		**Pn**	**16 45 51.6**	**-4.6**
HIZ	**Hauiti**	**15.11**	**206**	P		**Pn**	**16 46 01.8**	**+0.4**
BKZ	**Black Stump Fm**	**15.11**	**200**	Pn		**Pn**	**16 46 02.4**	**+0.9**
BKZ	**Black Stump Fm**	**15.11**	**200**	P		**Pn**	**16 46 01.0**	**-0.5**
OUENC	**Ouen Island, N**	**15.12**	**277**			**Pn**	**16 46 03.5**	**+1.8**
OUENC					IAmb	IAmb	16 46 15.2	
	comp=Z,127nm,0.8s							
OUENC	**Ouen Island, N**	**15.12**	**277**	P		**P**	**16 46 08.1**	**+2.7**
YATNC	**Mamie plateau,**	**15.16**	**278**	P		**P**	**16 46 09.4**	**+3.5**
LIFNC	**LIFOU**	**15.22**	**283**	Pn		**Pn**	**16 46 02.6**	**-0.3**
LIFNC	**LIFOU**	**15.22**	**283**	P		**Pn**	**16 46 10.2**	**+3.7**
ONTNC	**Ouen Toro**	**15.49**	**277**	Pn		**Pn**	**16 46 04.0**	**-2.5**
ONTNC					IAmb	IAmb	16 46 21.3	
	comp=Z,280nm,1.0s							
ONTNC	**Ouen Toro**	**15.49**	**277**	P		**P**	**16 46 12.7**	**+3.2**
BHHZ	**Black Hill Sta**	**15.54**	**201**	P		**Pn**	**16 46 01.8**	**-5.2**
DZM	**Mont Dzumac**	**15.56**	**278**	*e*	Pn	**P**	**16 46 12.9**	**+2.5**
	comp=Z,726nm,1.4s							
DZM				*e*	LR	LR	16 49 52.2	
	comp=Z,3μm,30.1s							
DZM	**Mont Dzumac**	**15.56**	**278**	P		**P**	**16 46 11.6**	**+1.2**
	comp=Z,1.8nm,0.3s,baz=94,slow=16,SNR=42							
DZM					LR	LR	16 51 22.4	
	comp=Z,593nm,18.6s,baz=82,slow=34							
DZM	**Mont Dzumac**	**15.56**	**278**	Pn		**Pn**	**16 46 05.9**	**-1.5**
DZM					IAmb	IAmb	16 46 19.8	
	comp=Z,201nm,0.9s							
DZM	**Mont Dzumac**	**15.56**	**278**	P		**P**	**16 46 13.2**	**+2.8**
PXZ	**Pawanui**	**15.80**	**198**	P		**Pn**	**16 46 08.5**	**-1.8**
TSZ	**Takapari Road**	**16.09**	**200**	P		**Pn**	**16 46 07.0**	**-6.9**
RAR	**Rarotonga**	**16.22**	**80**	P		**Pn**	**16 46 16.4**	**+0.8**
	comp=Z,5.1nm,0.3s,baz=238,slow=6.7,SNR=17							
RAR					S	Sn	16 48 58.5	-16
	comp=Z,3.4nm,0.3s,baz=65,slow=22,SNR=2.5							
RAR					LR	LR	16 51 33.2	
	comp=Z,489nm,21.0s,baz=267,slow=33							
RAR	**Rarotonga**	**16.22**	**80**	P		**Pn**	**16 46 16.1**	**+0.5**
RAR					pmax	pmax		
	comp=Z,164nm,1.0s							
RAR	**Rarotonga**	**16.22**	**80**	P		**Pn**	**16 46 16.1**	**+0.5**
RAR					IAmb	IAmb	16 46 21.1	
	comp=Z,164nm,0.9s							
RAR	**Rarotonga**	**16.22**	**80**	P		**Pn**	**16 46 11.4**	**-4.2**
BFZ	**Birch Farm**	**16.58**	**199**	Pn		**Pn**	**16 46 18.9**	**-1.1**
BFZ	**Birch Farm**	**16.58**	**199**	P		**Pn**	**16 46 14.8**	**-5.2**
KIW	**Kapiti Island**	**17.16**	**201**	P		**Pn**	**16 46 22.3**	**-4.8**
MSWZ	**Moikau Station**	**17.55**	**200**	P		**Pn**	**16 46 27.6**	**-4.4**
KOUNC	**Koumac, New Ca**	**17.91**	**281**	P		**Pn**	**16 46 41.4**	**+4.8**
THZ	**Tophouse**	**18.66**	**204**	P		**P**	**16 46 38.6**	**-5.9**
THZ				S		S	16 49 52.0	-21
KHZ	**Kahutara**	**19.01**	**202**	P		**P**	**16 46 43.2**	**-4.9**
KHZ				S		S	16 49 57.3	-23
DSZ	**Denniston Nort**	**19.08**	**207**	P		**P**	**16 46 43.8**	**-5.2**
DSZ				S		S	16 50 00.8	-21
GVZ	**Greta Valley S**	**19.67**	**202**	P		**P**	**16 46 50.8**	**-4.6**
LTZ	**Lake Taylor**	**19.78**	**204**	P		**P**	**16 46 52.2**	**-4.4**
LTZ				S		S	16 50 15.4	-20
AMCZ	**Amberley**	**19.99**	**203**	P		P	16 46 49.7	-9.1
INZ	**Inchbonnie**	**20.05**	**206**	P		**P**	**16 46 56.4**	**-3.1**
INZ				S		S	16 50 18.3	-23
OKCZ	**Okains Bay**	**20.33**	**201**	P		**P**	**16 47 02.0**	**-0.5**
OKCZ				S		S	16 50 25.7	-21
OXZ	**Oxford**	**20.34**	**204**	P		**P**	**16 46 58.5**	**-4.1**
OXZ				S		S	16 50 24.6	-22
MQZ	**McQueen's Vall**	**20.45**	**202**	P		**P**	**16 47 00.8**	**-3.0**
MQZ				S		S	16 50 26.4	-22
RPZ	**Rata Peaks**	**21.04**	**205**	P		**P**	**16 47 06.0**	**-4.2**
RPZ				S		S	16 50 40.0	-21
LHI	**Lord Howe Isla**	**22.09**	**248**	P		**P**	**16 47 23.7**	**+2.2**
	baz=22,SNR=9.9							
LHI	**Lord Howe Isla**	**22.09**	**248**	P		**P**	**16 47 25.3**	**+3.8**
LHI					IAmb	IAmb	16 47 27.9	
	comp=Z,163nm,0.9s							
LHI	**Lord Howe Isla**	**22.09**	**248**	P		**P**	**16 47 25.6**	**+4.1**
KNTN	**Kanton**	**22.73**	**14**	P		**P**	**16 47 27.8**	**-0.6**
KNTN					IAmb	IAmb	16 47 31.7	
	comp=Z,90nm,0.9s							
PAE	**Paea**	**26.46**	**79**	*e*	T	T	17 15 03.5	
	comp=Z,23nm,0.3s							
PPT2	**Papeete2**	**26.49**	**79**	*e*	S	**S**	**16 52 27.5**	**-5.0**
	comp=Z,111nm,24.2s							
PPT2				*e*	LQ	LQ	16 53 38.0	
	comp=Z,479nm,28.3s							
PPT2				*e*	LR	LR	16 54 31.0	
	comp=Z,2μm,31.5s							
PPT2	**Papeete2**	**26.49**	**79**	*e*	T	T	17 15 07.2	
	comp=Z,20nm,0.3s							
PPT	**Papeete**	**26.50**	**79**	LR		LR	16 56 46.3	
	comp=Z,385nm,18.7s,baz=255,slow=32							
HNR	**Honiara**	**26.96**	**301**	LR		LR	16 57 35.5	
	comp=Z,252nm,18.8s,baz=140,slow=34							
MEH	**Mehetia**	**27.74**	**81**	*e*	T	T	17 16 41.6	
	comp=Z,75nm,0.3s							
TARA	**Tarawa**	**28.07**	**338**	P		**P**	**16 48 16.7**	**-0.5**
ARMA	**Armidale**	**28.30**	**252**	P		**P**	**16 48 20.9**	**+1.6**
	baz=28,SNR=6.5							
ARMA	**Armidale**	**28.30**	**252**	P		**P**	**16 48 21.1**	**+1.8**
EIDS	**Eidsvold**	**28.93**	**263**	P		**P**	**16 48 26.2**	**+1.4**
	baz=29,SNR=8.6							
EIDS	**Eidsvold**	**28.93**	**263**	P		**P**	**16 48 26.0**	**+1.2**
VAH	**Vaihoa**	**29.12**	**76**	*e*	T	T	17 18 24.3	
	comp=Z,16nm,0.2s							
CNB	**Canberra Magne**	**30.76**	**243**	P		**P**	**16 48 42.2**	**+1.2**
	baz=31,SNR=19							
RMQ	**Roma**	**30.90**	**260**	P		**P**	**16 48 43.5**	**+1.2**
	baz=31,SNR=35							
CAN	**Canberra**	**31.05**	**243**	P		**P**	**16 48 44.4**	**+0.8**
CAN					pmax	pmax		
	comp=Z,19nm,1.0s							
CAN	**Canberra**	**31.05**	**243**	P		**P**	**16 48 44.4**	**+0.8**
MILA	**Mila**	**31.27**	**239**	P		**P**	**16 48 45.6**	**+0.2**
	baz=31,SNR=13							
YNG	**Young**	**31.39**	**245**	P		**P**	**16 48 47.7**	**+1.2**
	baz=32,SNR=21							
CMSA	**Cobar Meteorol**	**33.44**	**250**	P		**P**	**16 49 05.6**	**+1.1**
	baz=34,SNR=11							
TOO	**Toolangi**	**34.23**	**240**	P		**P**	**16 49 11.5**	**+0.2**
	baz=34,SNR=14							
TOO	**Toolangi**	**34.23**	**240**	P		**P**	**16 49 11.7**	**+0.4**
TOO					pmax	pmax		
	comp=Z,13nm,0.8s							
TOO	**Toolangi**	**34.23**	**240**	P		**P**	**16 49 11.7**	**+0.4**
TAU	**Tasmania Unive**	**34.26**	**230**	P		**P**	**16 49 10.8**	**-0.6**
TAU					pmax	pmax		
	comp=Z,7.0nm,0.9s							
TAU	**Tasmania Unive**	**34.26**	**230**	P		**P**	**16 49 10.8**	**-0.6**
CTAO	**Charters Tower**	**34.31**	**271**	P		**P**	**16 49 12.7**	**+0.6**
CTAO					pmax	pmax		
	comp=Z,48nm,0.8s							
CTAO	**Charters Tower**	**34.31**	**271**	P		**P**	**16 49 12.7**	**+0.6**
QLP	**Quilpie**	**34.92**	**259**	P		**P**	**16 49 18.6**	**+1.3**
	baz=35,SNR=9.4							
MTSU	**Mount Surprise**	**36.62**	**273**	P		**P**	**16 49 32.7**	**+0.8**
	baz=37,SNR=71							
STKA	**Stephens Creek**	**36.93**	**250**	P		**P**	**16 49 34.7**	**+0.2**
	baz=37,SNR=8.7							
STKA	**Stephens Creek**	**36.93**	**250**	P		**P**	**16 49 33.7**	**-0.8**
	comp=Z,6.0nm,0.6s,baz=98,slow=9.1,SNR=11							
STKA					PcP	**PcP**	**16 51 54.6**	**-0.1**
	comp=Z,14nm,0.9s,baz=63,slow=2.9,SNR=7.0							
STKA					LR	LR	17 03 15.6	
	comp=Z,267nm,19.5s,baz=65,slow=34							
ARPS	**Mount Arapiles**	**37.00**	**242**	P		**P**	**16 49 34.7**	**-0.3**
	baz=37,SNR=9.0							
RKT	**Rikitea**	**38.22**	**96**	*e*	T	T	17 29 53.8	
	comp=Z,8.6nm,0.3s							
TAOE	**Nuku Hiva Isla**	**38.51**	**72**	*e*	LR	LR	17 00 04.2	
	comp=Z,906nm,31.4s							
TAOE	**Nuku Hiva Isla**	**38.51**	**72**	*e*	T	T	17 30 12.7	
	comp=Z,26nm,0.3s							
COEN	**Coen**	**39.09**	**279**	P		**P**	**16 49 53.8**	**+1.0**
HTT	**Hallett**	**39.19**	**247**	P		**P**	**16 49 52.4**	**-1.2**
	baz=39,SNR=38							
QIS	**Mount Isa**	**40.22**	**267**	P		**P**	**16 50 02.2**	**0.0**
	baz=40,SNR=6.3							
BBOO	**Buckleboo**	**41.60**	**248**	P		**P**	**16 50 11.7**	**-1.7**
	baz=42,SNR=26							
BBOO	**Buckleboo**	**41.60**	**248**	P		**P**	**16 50 11.8**	**-1.6**
BBOO					IAmb	IAmb	16 50 14.6	
	comp=Z,22nm,0.7s							
BBOO					PcP	**PcP**	**16 52 09.9**	**+0.5**
AS31	**Alice Springs**	**44.63**	**261**	P		**P**	**16 50 36.6**	**-1.4**
ASAR	**Alice Springs**	**44.63**	**261**	P		**P**	**16 50 36.9**	**-1.1**
	comp=Z,5.3nm,0.3s,baz=96,slow=7.2,SNR=148							
ASAR					pP	**sP**	**16 51 00.2**	**-2.3**
	comp=Z,31nm,1.1s,baz=101,slow=7.4,SNR=9.1							
ASAR					PcP	**PcP**	**16 52 19.8**	**0.0**
	comp=Z,8.5nm,0.8s,baz=112,slow=3.5,SNR=8.8							
ASAR					ScP	**ScP**	**16 56 02.3**	**-3.8**
	comp=Z,0.9nm,0.9s,baz=115,slow=4.4,SNR=1.9							
ASAR					S	**S**	**16 57 03.0**	**-6.5**
	comp=Z,0.4nm,0.8s,baz=106,slow=3.6,SNR=2.8							
ASAR					LR	LR	17 08 23.1	
	comp=Z,403nm,18.4s,baz=107,slow=35							
ASAR	**Alice Springs**	**44.63**	**261**	P		**P**	**16 50 36.1**	**-1.9**
ASAR					PcP	**PcP**	**16 52 19.9**	**0.0**
WR0	**Warramunga Arr**	**44.96**	**266**	P		**P**	**16 50 39.1**	**-1.5**
WB2	**Warramunga Arr**	**45.13**	**266**	P		**P**	**16 50 40.8**	**-1.2**
WB2					IAmb	IAmb	16 50 43.4	
	comp=Z,23nm,0.6s							
WRAB	**Tennant Creek**	**45.14**	**266**	*e*	P	**P**	**16 50 41.1**	**-0.9**
WRAB					pmax	pmax		
	comp=Z,32nm,1.3s							
WRAB	**Tennant Creek**	**45.14**	**266**	P		**P**	**16 50 40.6**	**-1.4**
WRA	**Warramunga Arr**	**45.15**	**266**	P		**P**	**16 50 40.8**	**-1.3**
	comp=Z,14nm,0.4s,baz=102,slow=8.4,SNR=220							
WRA					pP	**sP**	**16 51 05.2**	**-1.3**
	comp=Z,14nm,0.9s,baz=111,slow=8.5,SNR=5.0							
WRA					PcP	**PcP**	**16 52 21.8**	**+0.2**
	comp=Z,18nm,0.9s,baz=103,slow=3.5,SNR=13							
WRA					ScP	**ScP**	**16 56 05.6**	**-2.7**
	comp=Z,2.7nm,1.0s,baz=95,slow=4.2,SNR=4.7							
WRA					LR	LR	17 09 05.1	
	comp=Z,276nm,18.1s,baz=120,slow=35							
WRA	**Warramunga Arr**	**45.15**	**266**	P		**P**	**16 50 40.5**	**-1.6**
WRA					P	**PcP**	**16 52 21.5**	**-0.1**
JAY	**Jayapura**	**46.57**	**292**	P		**P**	**16 50 52.1**	**-1.3**
	comp=Z,287nmcomp=Z,16nm,1.2s							
GENI	**Genyem**	**46.98**	**291**	P		**P**	**16 50 55.9**	**-0.6**
	comp=Z,65nm,1.6s							
FORT	**Forrest**	**48.56**	**250**	P		**P**	**16 51 06.6**	**-2.0**
	baz=49,SNR=33							
FORT	**Forrest**	**48.56**	**250**	P		**P**	**16 51 06.6**	**-2.0**
KDU	**Kakadu**	**49.20**	**275**	P		**P**	**16 51 12.7**	**-1.0**
	baz=49,SNR=40							
WRKA	**Warakurna**	**49.34**	**258**	P		**P**	**16 51 13.6**	**-1.1**
	baz=49,SNR=30							
KIP	**Kipapa**	**49.73**	**23**	*i*	P	**P**	**16 51 20.2**	**+2.7**
KIP					pmax	pmax		
	comp=Z,203nm,1.7s							
MTN	**Manton Dam**	**50.35**	**274**	P		**P**	**16 51 21.6**	**-0.9**
	baz=50,SNR=18							
MTN	**Manton Dam**	**50.35**	**274**	P		**P**	**16 51 21.5**	**-0.9**
MTN					IAmb	IAmb	16 51 30.0	
	comp=Z,17nm,0.6s							
SRPI	**Serui, Papua**	**50.70**	**290**	P		**P**	**16 51 24.3**	**-0.7**
KNRA	**Kununurra**	**51.50**	**270**	P		**P**	**16 51 29.8**	**-1.2**
	baz=52,SNR=93							
KNRA	**Kununurra**	**51.50**	**270**	P		**P**	**16 51 30.0**	**-1.1**
VNDA	**Vanda**	**53.47**	**186**	P		**P**	**16 51 46.5**	**+1.8**
	comp=Z,5.1nm,0.8s,baz=342,slow=7.0,SNR=14							
VNDA					LR	LR	17 12 47.2	
	comp=Z,51nm,19.6s,baz=14,slow=34							
FITZ	**Fitzroy Crossi**	**53.55**	**265**	P		**P**	**16 51 45.7**	**-0.5**
	baz=54,SNR=31							
FITZ	**Fitzroy Crossi**	**53.55**	**265**	P		**P**	**16 51 45.6**	**-0.5**
FITZ					IAmb	IAmb	16 51 46.6	
	comp=Z,21nm,1.1s							
FAKI	**Fak Fak**	**53.62**	**286**	P		**P**	**16 51 45.5**	**-1.2**
FAKI					IAmb	IAmb	16 52 00.7	
	comp=Z,44nm,1.1s							
SIJI	**Sorong**	**55.48**	**287**	P		**P**	**16 51 58.5**	**-1.7**
	comp=Z,462nmcomp=Z,36nm,0.8s							
SWI	**Sorong**	**55.49**	**287**	P		**P**	**16 51 59.6**	**-0.7**
	comp=Z,458nmcomp=Z,97nm,0.7s							
MEEK	**Meekatharra**	**57.48**	**253**	P		**P**	**16 52 13.4**	**-0.9**
	baz=58,SNR=5.9							
PSA00	**Pilbara Seismi**	**57.73**	**259**	P		**P**	**16 52 14.5**	**-1.6**
SOEI	**Soe**	**57.75**	**274**	P		**P**	**16 52 15.0**	**-1.5**
SOEI	**Soe**	**57.75**	**274**	P		**P**	**16 52 15.5**	**-1.0**
	comp=Z,2μmcomp=Z,158nm,1.0s							
BATI	**Baumata**	**58.12**	**273**	P		**P**	**16 52 21.8**	**+2.8**
	comp=Z,45nm,0.6s							
BLDU	**Balliuu**	**58.22**	**248**	P	

AKUT IAmb IAmb 16 54 33.0
comp=Z,30nm,0.7s
SCI2 San Clemente I 80.12 47 P P 16 54 37.3 +2.6
baz=231
YSS Yuzh-Sakhalins 80.42 333 *e*P **P 16 54 37.5 +1.6**
YSS *e* 16 55 00.4
YSS pmax pmax
comp=Z,20nm,1.2s
CIS Catalina Islan 80.47 46 P P 16 54 38.7 +2.1
baz=231
PKM Mcpherson Peak 80.50 44 P P 16 54 40.1 +3.1
baz=230,SNR=15
PET Petropavlovsk 80.63 345⇑*e*P **P 16 54 38.5 +1.6**
PET pmax pmax
comp=Z,101nm,1.9s
SMMC Simmler 80.66 44 P P 16 54 40.9 +3.3
baz=230,SNR=5.8
PEA0B Petropavlovsk- 80.94 345*de*P **P 16 54 39.3 +0.8**
PETK Petropavlovsk- 80.94 345 P P 16 54 39.1 +0.5
comp=Z,48nm,0.9s,baz=235,slow=5.2,SNR=28
PETK LR LR 17 24 55.7
comp=Z,93nm,20.8s,baz=153,slow=31
KSRS Korea Array 80.97 319 P P 16 54 39.5 +0.3
comp=Z,3.2nm,0.9s,baz=125,slow=6.1,SNR=11
OSI Osito Audit: C 81.03 45 P P 16 54 42.9 +3.3
baz=231
DECC Green Verdugo 81.05 46 P P 16 54 41.9 +2.2
baz=231
HOPS Hopland Field 81.20 40 P P 16 54 42.3 +2.0
HOPS IAmb IAmb 16 54 44.0
comp=Z,30nm,0.9s
ARVC Arvin 81.28 45 P P 16 54 43.4 +2.6
baz=231
SDPT Sand Point 81.33 9 P P 16 54 41.5 +1.0
baz=195
MURC Murrieta 81.40 47 P P 16 54 43.9 +2.4
baz=232,SNR=12
MONP2 Monument Peak 81.48 48 P P 16 54 44.8 +2.5
baz=233,SNR=17
RMX La Rumorosa 81.54 48 P P 16 54 43.0 +0.6
RMX IAmb IAmb 16 54 46.3
comp=Z,27nm,1.1s
IKP In-Ko-Pah, Jac 81.55 48 P P 16 54 45.0 +2.5
baz=233,SNR=13
VES Vestal, Richgr 81.56 44 P P 16 54 44.8 +2.5
baz=231,SNR=12
EDW2 Edwards Air Fo 81.66 45 P P 16 54 45.5 +2.5
baz=231,SNR=33
KMRM Mail Ridge 81.67 38 P P 16 54 46.0 +3.1
ISA Isabella, Lake 81.84 44 P P 16 54 44.9 +1.0
ISA pmax pmax
comp=Z,59nm,1.1s
ISA Isabella, Lake 81.84 44 P P 16 54 44.9 +1.0
ISA IAmb IAmb 16 54 47.7
comp=Z,59nm,1.1s
ISA Isabella, Lake 81.84 44 P P 16 54 46.6 +2.7
baz=231,SNR=33
PFO Pinyon Flats O 81.89 47 P P 16 54 44.9 +0.6
PFO pmax pmax
comp=Z,29nm,1.1s
PFO Pinyon Flats O 81.89 47 P P 16 54 44.9 +0.6
PFO IAmb IAmb 16 54 47.9
comp=Z,29nm,1.1s
PFO Pinyon Flats O 81.89 47 P P 16 54 46.7 +2.4
baz=232,SNR=15
SWSC Sam W. Stewart 81.93 48 P P 16 54 46.8 +2.5
baz=233,SNR=6.7
KHMM Horse Mountain 82.10 38 P P 16 54 48.1 +2.9
KHMM IAmb IAmb 16 54 48.6
comp=Z,17nm,0.8s
O02D Mt. Diablo Mer 82.16 39 P P 16 54 48.5 +3.0
baz=228,SNR=22
LRMC Laurel Mtn Rad 82.23 45 P P 16 54 48.4 +2.4
baz=232,SNR=27
BELC Belle Mtn. Jos 82.43 47 P P 16 54 49.7 +2.6
baz=233,SNR=42
ORV Oroville 82.49 40 IAmb IAmb 16 54 50.5
comp=Z,28nm,1.1s
SYO Syowa Base 82.50 192⇓*e*P **P 16 54 45.5 -1.2**
CHGN Chignik 82.56 10 P P 16 54 48.2 +1.2
baz=197
WDC Whiskeytown Da 82.57 39 IAmb IAmb 16 54 50.6
comp=Z,27nm,1.0s
CWC Cottonwood Cre 82.57 44 P P 16 54 50.2 +2.4
baz=231
BC3 Big Chuckawall 82.59 48 P P 16 54 50.7 +2.8
baz=233,SNR=27
H03S2 Juan Fernandez 82.59 124 T T 18 25 43.3
baz=243,slow=74,SNR=90
MSHR Mys Shultsa 82.60 324⇑*e*P **P 16 54 48.3 +0.7**
MSHR pmax pmax
comp=Z,13nm,0.9s
H03S1 Juan Fernandez 82.61 124 T T 18 25 44.3
baz=243,slow=74,SNR=123
H03S3 Juan Fernandez 82.61 124 T T 18 25 43.1
baz=243,slow=74,SNR=109
GLA Glamis 82.66 48 P P 16 54 51.1 +2.9
baz=234,SNR=17
GSC Goldstone, Bar 82.69 46 P P 16 54 50.7 +2.4
baz=232,SNR=26
MDPB Devils Postpil 82.70 43 P P 16 54 51.4 +2.9
MDPB IAmb IAmb 16 54 52.1
comp=Z,38nm,1.2s
HEC Hector,Ludlow 82.71 46 P P 16 54 50.8 +2.4
baz=232,SNR=36
MPMC Manual Prospec 82.71 45 P P 16 54 51.0 +2.4
baz=232,SNR=35
N02D Trinity Center 82.74 38 P P 16 54 51.2 +2.7
baz=228,SNR=16
H03N2 Juan Fernandez 82.76 123 T T 18 25 52.3
baz=252
H03N3 Juan Fernandez 82.76 123 T T 18 25 48.9
baz=252
H03N1 Juan Fernandez 82.77 123 T T 18 25 51.4
baz=252
O03E Paynes Creek 82.80 39 P P 16 54 50.7 +1.9
baz=228,SNR=29
M02C Callahan 82.94 38 P P 16 54 52.4 +2.9
baz=227,SNR=20
L02E Cave Junction 83.05 37 P P 16 54 52.7 +2.8
baz=227
IRM Iron Mountain 83.09 47 P P 16 54 53.2 +2.8
baz=233,SNR=47
JRMM Jerantut 83.16 278 P P 16 54 52.0 +0.8
USRK Ussuriysk Ar. 83.30 326 P P 16 54 52.3 +1.2
comp=Z,9.9nm,0.9s,baz=122,slow=3.0,SNR=26
USRK LR LR 17 25 51.5
comp=Z,111nm,21.9s,baz=146,slow=31
PNTR Pine Nut 83.31 41 P P 16 54 54.2 +2.6
TUQ Turquoise Moun 83.34 46 P P 16 54 54.2 +2.5
baz=233,SNR=23
BEKR Beckworth 83.36 40 IAmb IAmb 16 54 54.5
comp=Z,20nm,0.9s
FURC Furnace Creek, 83.36 45 P P 16 54 54.0 +2.4
baz=232,SNR=14
GRAC Grapevine Rang 83.37 44 P P 16 54 54.3 +2.6
baz=232,SNR=18
K02D Willamette Mer 83.38 36 P P 16 54 53.5 +1.8
baz=227,SNR=6.8
SHOC Shoshone, Teco 83.39 45 P P 16 54 54.2 +2.3
baz=232,SNR=31
214A Organ Pipe Nat 83.41 50 P P 16 54 53.5 +1.4
214A Organ Pipe Nat 83.41 50 P P 16 54 54.6 +2.6
baz=235,SNR=8.8
SNAA Sanae 83.42 178 P P 16 54 51.4 -0.2
SNAA Sanae 83.42 178⇓*i*P **P 16 54 51.3 -0.4**
SNAA pmax pmax
comp=Z,15nm,1.0s
SNAA Sanae 83.42 178 P P 16 54 51.2 -0.4
LHV Little Huntoon 83.44 42 IAmb IAmb 16 54 55.9
comp=Z,47nm,1.2s
YERR Yerington 83.46 42 IAmb IAmb 16 54 55.1
comp=Z,26nm,0.8s
VNA3 Neumayer Olymp 83.53 176 P P 16 54 51.8 -0.3
J01E Myrtle Point 83.55 36 P P 16 54 55.1 +2.7
baz=226
NJ2 Nanjing 83.57 310 *e*P **P 16 54 52.9 +0.1**
NJ2 pmax pmax
comp=Z,12nm,0.5s
TYV Tymovskoe 83.61 336 *e*P **P 16 54 53.4 +0.9**
TYV pmax pmax
comp=Z,600nm,6.4s
TYV pmax pmax
comp=Z,65nm,1.5s
NVAR Mina Array Bea 83.68 42 P P 16 54 56.0 +2.5
comp=Z,18nm,0.8s,baz=223,slow=8.2,SNR=111
NVAR pP **sP 16 55 20.2 +0.8**
comp=Z,6.8nm,0.7s,baz=220,slow=7.9,SNR=6.0
NVAR LR LR 17 26 02.5
comp=Z,58nm,19.8s,baz=255,slow=31
HUMO Hull Mountain 83.70 37 P P 16 54 56.3 +3.0
HUMO IAmb IAmb 16 54 56.7
comp=Z,17nm,0.8s
M04C Macdoel 83.77 38 P P 16 54 56.1 +2.3
baz=228,SNR=12
NV11 Mina Array Sit 83.77 42 P P 16 54 53.8 -0.1
NV11 IAmb IAmb 16 54 57.3
comp=Z,46nm,1.1s
L04D Klamath Falls 83.80 38 P P 16 54 56.2 +2.2
baz=228,SNR=13
NEE2 Needles Airpor 83.80 47 P P 16 54 56.9 +2.9
baz=234
PDMCI Parker Dam,Lak 83.85 48 P P 16 54 57.2 +3.0
baz=234,SNR=13
VNA2 Neumayer--Watz 83.98 177 P P 16 54 54.3 0.0
TPNV Topopah Spring 84.05 45 IAmb IAmb 16 54 59.1
comp=Z,42nm,1.1s
TPNV Topopah Spring 84.05 45 P P 16 54 57.9 +2.5
baz=232,SNR=28
KVN Kaiserville 84.19 42 IAmb IAmb 16 54 59.2
comp=Z,33nm,1.0s
VNA1 Neumayer--Stat 84.20 176 P P 16 54 55.1 -0.3
I03D Drain, OR 84.23 36 P P 16 54 58.3 +2.4
baz=227
W13A Hualapai Mount 84.49 47 P P 16 54 59.7 +2.0
W13A IAmb IAmb 16 55 01.6
comp=Z,31nm,1.0s
J04D Umpqua Nationa 84.59 37 P P 16 55 00.6 +2.6
baz=228,SNR=12
MOD Modoc Plateau 84.71 39 IAmb IAmb 16 55 01.8
comp=Z,39nm,0.9s
IPM Ipoh 84.72 277 P P 16 54 58.0 -1.1
I04A Tendick Farm, 84.80 36 P P 16 55 00.6 +1.8
baz=228
TUC Tucson 85.03 51 P P 16 55 03.4 +3.1
baz=226
R11A Troy Canyon, C 85.31 44 P P 16 55 03.9 +2.1
baz=233,SNR=14
KULM Kulim 85.41 278 P P 16 55 01.0 -1.5
PLCA Paso Flores 85.41 133 P P 16 55 03.0 +0.7
comp=Z,1.2nm,0.6s,baz=240,slow=7.1,SNR=6.0
PLCA LR LR 17 25 28.0
comp=Z,89nm,18.8s,baz=208,slow=30
PLCA Paso Flores 85.41 133 IAmb IAmb 16 55 04.8
comp=Z,1.5nm,0.7s
BMN Battle Mountai 85.58 41 IAmb IAmb 16 55 08.3
comp=Z,21nm,1.1s
UBPT Khong Chiam 85.58 289 P P 16 55 08.0 +4.7
comp=Z,23nm,1.9s
UBPT Khong Chiam 85.58 289 P P 16 55 08.0 +4.7
PINE Pine Mountain 85.59 37 IAmb IAmb 16 55 08.7
comp=Z,28nm,1.0s
I05D Terrebonne, OR 85.73 36 P P 16 55 05.7 +2.2
baz=228
PSI Prapat 85.90 275 P P 16 55 07.5 +2.3
comp=Z,23nm,1.2s,comp=Z,11nm,1.2s
PSI P **P 16 55 07.5 +2.3**
comp=Z,23nm,1.2s,comp=Z,11nm,1.2s
WVOR Wild Horse Val 86.00 39 IAmb IAmb 16 55 08.2
comp=Z,26nm,1.1s
GRNR Gornyy 86.02 332⇓*i*P **P 16 55 06.2 +1.5**
GRNR pmax pmax
comp=N,6.0nm,1.2s
GRNR pmax pmax
comp=Z,20nm,1.1s
GRNR MLR MLR
comp=E,330nm,19.0s
GRNR MLR MLR
comp=N,210nm,16.0s
GRNR MLR MLR
comp=Z,60nm,12.0s
LCMT Little Creek M 86.02 46 P P 16 55 06.5 +1.2
LCMT IAmb IAmb 16 55 09.0
comp=Z,30nm,1.1s
WUAZ Wupatki 86.41 48 P P 16 55 10.1 +2.9
baz=236,SNR=14
O18K Koktuh Hills 86.48 11 P P 16 55 08.0 +1.3
baz=199,SNR=5.1
CN2 Changchun 86.53 322 *e*P **P 16 55 07.5 +0.2**
CN2 *e*S **S 17 05 35.3 -3.0**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,100nm,6.2s
CN2 LR LR
comp=Z,100nm,15.0s
CN2 LR LR
comp=Z,100nm,15.0s
CN2 LR LR
comp=Z,200nm,18.0s
E04D Cinebar 86.57 34 P P 16 55 10.1 +2.6
baz=227
ELK Elko 86.96 42 P P 16 55 09.1 -0.8
ELK pmax pmax
comp=Z,8.0nm,0.9s
ELK Elko 86.96 42 P P 16 55 09.1 -0.8
KLR Kul'dur 86.96 329*d i*P **P 16 55 10.2 +0.9**
KLR pmax pmax
comp=Z,49nm,1.9s
LON Longmire 87.09 34 P P 16 55 09.2 -0.9
LON pmax pmax
comp=Z,6.0nm,0.8s
LON Longmire 87.09 34 P P 16 55 09.2 -0.9
TIA Tai'an 87.10 312 P P 16 55 09.9 -0.4
TIA pmax pmax
comp=Z,18nm,1.6s
BRSE Bradley Lake S 87.21 13 P P 16 55 12.3 +2.0
baz=203
121A Cookes Peak, D 87.28 52 P P 16 55 14.5 +3.0
baz=238
W18A Petrified Fore 87.30 49 P P 16 55 14.0 +2.4
baz=236,SNR=5.8
TRTT Trang 87.36 280 P P 16 55 15.6 +3.5
comp=Z,34nm,1.4s
N19K Bonanza Creek 87.51 11 P P 16 55 13.1 +1.3
baz=200
MVU Marysvale 87.55 45 P P 16 55 14.7 +1.9
B05A Bryant 87.96 33 P P 16 55 16.0 +1.9
baz=228
LTY Liberty 88.01 35 P P 16 55 15.2 +0.6
LTY IAmb IAmb 16 55 16.7
comp=Z,13nm,0.8s
DUG Dugway, Tooele 88.14 44 P P 16 55 17.2 +1.9
baz=234,SNR=5.9
BMO Blue Mountains 88.27 38 P P 16 55 16.7 +0.8
BMO pmax pmax
comp=Z,11nm,1.1s
BMO Blue Mountains 88.27 38 P P 16 55 16.7 +0.8
MA2 Magadan 88.45 344*d i*P **P 16 55 16.6 +0.4**
MA2 pmax pmax
comp=Z,106nm,2.5s
MA2 Magadan 88.45 344 P P 16 55 15.3 -0.8
Q16A Castle Valley 88.45 45 P P 16 55 17.1 +0.1
Q16A IAmb IAmb 16 55 30.1
comp=Z,17nm,1.0s
CRAG Craig 88.49 23 P P 16 55 19.2 +2.8
baz=219
MNTX Cornudas Mount 88.59 54 IAmb IAmb 16 55 21.8
comp=Z,13nm,1.1s
MNTX Cornudas Mount 88.59 54 P P 16 55 19.7 +2.1
baz=239
TXAR Lajitas Array 88.69 57 P P 16 55 20.7 +2.5
comp=Z,14nm,1.2s,baz=220,slow=4.9,SNR=35
TXAR pP **sP 16 55 44.8 +0.7**
comp=Z,6.7nm,1.1s,baz=212,slow=4.4,SNR=6.8
TXAR LR LR 17 26 57.9
comp=Z,46nm,21.8s,baz=0.0,slow=30
L19K White Mountain 88.74 10 P P 16 55 19.7 +2.1
baz=200,SNR=9.3
NONG Nongkai 88.82 290 P P 16 55 20.2 +1.3
comp=Z,88nm,1.0s
CHAI Chaiyaphum 88.85 288 P P 16 55 20.1 +1.0
comp=Z,549nmcomp=Z,56nm,0.7s
SRU San Rafael Swe 88.98 45 P P 16 55 19.2 -0.3
SRU pmax pmax
comp=Z,33nm,1.1s
SRU San Rafael Swe 88.98 45 P P 16 55 19.2 -0.3
SRU IAmb IAmb 16 55 22.5
comp=Z,33nm,1.1s
EYAK Cordova Ski Ar 89.02 15 P P 16 55 20.1 +1.3
baz=208
HLID Hailey 89.14 40 P P 16 55 22.3 +2.2
baz=233,SNR=21
L20K Farewell, AK 89.17 10 P P 16 55 20.3 +0.7
baz=200,SNR=5.2
MVCO Mesa Verde 89.28 48 P P 16 55 22.6 +1.6
baz=237
B08A Colville Reser 89.41 34 IAmb IAmb 16 55 23.4
comp=Z,18nm,0.8s
ANMO Albuquerque 89.49 51*d i*P **P 16 55 24.0 +2.1**
ANMO pmax pmax
comp=Z,50nm,1.7s
ANMO Albuquerque 89.49 51 P P 16 55 24.2 +2.2
baz=238
WRAK Wrangell Islan 89.51 23 P P 16 55 23.3 +2.1
baz=219
PHET Kaeng Krachan 89.60 284 P P 16 55 24.9 +2.3
comp=Z,855nmcomp=Z,98nm,0.8s
C09A Chrisman Ranch 89.60 35 P P 16 55 22.7 +0.8
C09A IAmb IAmb 16 55 24.8
comp=Z,26nm,0.9s
MESA MESA 89.63 17 P P 16 55 23.8 +1.8
baz=211
BMRM Bremner River 89.66 15 P P 16 55 23.4 +1.4
baz=209,SNR=6.5
HWUT Hardware Ranch 89.72 43 P P 16 55 24.0 +1.2
CUT Chulitna 89.75 12 P P 16 55 23.0 +0.8
baz=204
GYA Guiyang 89.78 299⇑P **P 16 55 24.3 +0.9**
GYA pP pP 16 55 42.3 +0.4
GYA pmax pmax
comp=Z,10.0nm,1.8s
GYA pmax pmax
comp=Z,170nm,6.0s
KLU Klutina 89.82 14 P P 16 55 23.9 +1.2
baz=208
CRQE Cirque 89.84 16 P P 16 55 24.5 +1.6
baz=210
BJI Beijing 89.84 315 P P 16 55 23.5 +0.3
BJI pmax pmax
comp=Z,25nm,1.7s
K20K Telida 89.97 10 P P 16 55 24.7 +1.4
baz=200
VRDI Verde Repeater 90.16 15 P P 16 55 25.0 +0.6
VRDI IAmb IAmb 16 55 26.5
comp=Z,33nm,1.2s
N25K Chitina, Valde 90.22 15 P P 16 55 26.1 +1.6
baz=209,SNR=8.6
M24K Tolsona, Glenn 90.31 14 P P 16 55 25.8 +0.9
baz=207
CAST Castle Rocks 90.36 11 P P 16 55 25.5 +0.4
baz=202,SNR=5.0
MCARA McCarthy VSAT 90.40 16 P P 16 55 27.3 +2.0
baz=210,SNR=6.5
WAT6 Susitna Watana 90.40 13 P P 16 55 27.2 +1.7
baz=206,SNR=7.8
LOGN Logan Glacier 90.43 17 P P 16 55 26.8 +1.1
LOGN IAmb IAmb 16 55 27.8
comp=Z,10nm,0.7s
CTG Chitna Glacier 90.46 16 P P 16 55 27.2 +1.4
baz=212,SNR=5.7
WAT1 Susitna Watana 90.47 13 P P 16 55 26.7 +1.1
baz=205
NEW Newport 90.50 35 P P 16 55 27.2 +1.1
baz=231
SRDT SRDT 90.66 285 P P 16 55 31.3 +3.7
comp=Z,34nm,0.8s
SRDT SRDT 90.66 285 P P 16 55 31.3 +3.7
S22A 4UR Ranch, Cre 90.69 48 P P 16 55 29.9 +2.3
baz=238,SNR=27
J20K Nowinta River 90.73 10 P P 16 55 28.0 +1.3
baz=200
PHIT Phitsanulok 90.77 289 P P 16 55 30.1 +2.1
comp=Z,144nm,0.9s
UTTA Uttaradit 90.89 289 P P 16 55 30.7 +2.1
comp=Z,244nmcomp=Z,26nm,1.1s
UTHA Uthaitani 90.90 287 P P 16 55 30.7 +2.0
comp=Z,305nmcomp=Z,35nm,0.9s
DHY Denali Highway 90.92 13 P P 16 55 29.1 +1.3
baz=206
TIY Taiyuan 91.07 312 *e*P **P 16 55 30.5 +1.4**
TIY SKS **SKSac 17 05 52.5 -2.7**
TIY S **S 17 06 18.1 -3.3**
TIY pmax pmax
comp=Z,51nm,0.9s
TIY LR LR
comp=Z,80nm,5.5s
TIY LR LR
comp=Z,100nm,5.3s
TIY LR LR
comp=Z,97nm,9.5s
TPAW Teton Pass 91.15 42 P P 16 55 30.2 +0.6
TPAW IAmb IAmb 16 55 31.2
comp=Z,13nm,0.9s
PAX Paxson 91.23 14 P P 16 55 30.1 +0.8
baz=208,SNR=5.6
DLMT Dillon 91.25 39 IAmb IAmb 16 55 32.4
comp=Z,16nm,0.9s
M26K Nabesna, AK 91.29 15 P P 16 55 31.0 +1.5
baz=210,SNR=7.5
MSO Missoula 91.34 38 P P 16 55 31.2 +1.1
baz=234,SNR=8.9
YUK3 Moose Creek 91.38 16 P P 16 55 31.7 +1.6
baz=212,SNR=9.3
HYT Haines Junctio 91.38 18 P P 16 55 31.8 +1.7
baz=215
MOOW Moose Ponds 91.42 42 P P 16 55 31.6 +0.9
MOOW IAmb IAmb 16 55 33.2
comp=Z,8.3nm,1.1s
M27K Edge Creek, AK 91.52 16 P P 16 55 31.9 +1.2
M27K Edge Creek, AK 91.52 16 P P 16 55 32.6 +1.9
baz=211
SDCO Great Sand Dun 91.59 49 P P 16 55 33.6 +1.8
baz=239,SNR=13
BW06 Boulder Array 91.60 43 P P 16 55 33.0 +1.4
baz=237,SNR=25
PD31 Pinedale Array 91.60 43 P P 16 55 32.2 +0.6
PD31 IAmb IAmb 16 55 34.0
comp=Z,14nm,0.9s
PDAR Pinedale Array 91.60 43 P P 16 55 33.2 +1.5
comp=Z,11nm,0.8s,baz=210,slow=3.2,SNR=78
PDAR pP **sP 16 55 57.6 +0.1**
comp=Z,7.5nm,0.9s,baz=196,slow=2.6,SNR=7.3
PDAR LR LR 17 30 45.2
comp=Z,23nm,20.5s,baz=262,slow=32
MSTX Muleshoe 91.62 53 P P 16 55 33.6 +1.8
baz=240
FLWY Flagg Ranch 91.64 41 P P 16 55 33.5 +1.7
UMPA Umpang Tak 91.69 287 P P 16 55 35.2 +2.8
comp=Z,33nm,1.0s
XAN Xi'an 91.69 307 P P 16 55 32.5 +0.5
XAN pmax pmax
comp=Z,31nm,1.0s
XAN pmax pmax
comp=Z,300nm,5.4s
XAN LR LR
comp=Z,140nm,19.1s
XAN LR LR
comp=Z,180nm,20.7s
XAN LR LR
comp=Z,250nm,21.5s
L26K Log Cabin Wild 91.75 15 P P 16 55 33.2 +1.6
baz=210
BVCY Beaver Creek 91.82 16 P P 16 55 33.8 +1.9
baz=212
H17A Grant Village 91.88 41 P P 16 55 36.3 +3.3
baz=236,SNR=9.1
BOZ Bozeman (W) 91.94 40 P P 16 55 34.7 +1.6
BOZ pmax pmax
comp=Z,26nm,1.0s
BOZ Bozeman (W) 91.94 40 P P 16 55 34.6 +1.6
BOZ Bozeman (W) 91.94 40 P P 16 55 35.1 +2.0
baz=235,SNR=31
I21K Tanana 92.01 10 P P 16 55 33.7 +1.1
baz=202
LAMP Lampang 92.02 289 P P 16 55 35.9 +2.1
comp=Z,875nmcomp=Z,101nm,0.8s
T25A Trinidad 92.03 50 P P 16 55 35.1 +1.4
baz=240
RIDG Independent Ri 92.04 14 P P 16 55 34.1 +1.1
baz=208
MLY Manley 92.08 11 P P 16 55 33.3 +0.3
baz=203
ZEA Zeya 92.10 331 *e*P **P 16 55 34.7 +1.4**
ZEA *e* 17 08 27.3
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=Z,10.0nm,0.9s
L27K Beaver Creek, 92.14 15 P P 16 55 34.4 +1.0
baz=211

KMI	**Kunming**		**92.31**	**297**	⇓P		**P**		**16 55 36.5**	**+1.2**
KMI					pmax	pmax				
	comp=Z,38nm,0.9s									
KMI					pmax	pmax				
	comp=Z,240nm,3.5s									
KMI					LR	LR				
	comp=Z,140nm,38.4s									
SCRK	**Sand Creek**		**92.44**	**14**	P		**P**		**16 55 36.3**	**+1.5**
	baz=209									
Q24A	**Divide**		**92.44**	**48**	P		**P**		**16 55 37.7**	**+2.0**
	baz=239									
CM04	**Chiang Mai Arr**		**92.52**	**289**	P		**P**		**16 55 38.3**	**+2.1**
	comp=Z,262nmcomp=Z,34nm,1.0s									
CM09	**Chiang Mai Arr**		**92.53**	**289**	P		**P**		**16 55 38.6**	**+2.4**
	comp=Z,240nmcomp=Z,32nm,0.9s									
ILAR	**Eielson Array**		**92.54**	**12**	P		**P**		**16 55 35.9**	**+0.7**
	comp=Z,3.3nm,0.9s,baz=220,slow=4.9,SNR=20									
ILAR					PP		**PP**		**16 59 18.9**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=169,slow=26,SNR=5.4									
ILAR					LR	LR			17 33 28.5	
	comp=Z,28nm,18.4s,baz=260,slow=33									
CM01	**Chiang Mai Arr**		**92.55**	**289**	P		**P**		**16 55 38.5**	**+2.2**
	comp=Z,241nmcomp=Z,34nm,1.0s									
CM05	**Chiang Mai Arr**		**92.55**	**289**	P		**P**		**16 55 38.4**	**+2.1**
	comp=Z,194nmcomp=Z,24nm,1.0s									
ISCO	**Idaho Springs**		**92.56**	**47**	P		**P**		**16 55 37.7**	**+1.4**
	baz=239									
CM02	**Chiang Mai Arr**		**92.56**	**289**	P		**P**		**16 55 38.7**	**+2.3**
	comp=Z,230nmcomp=Z,32nm,0.9s									
CMAR	**Chiang Mai Arr**		**92.58**	**289**	P		**P**		**16 55 37.8**	**+1.3**
	comp=Z,16nm,0.8s,baz=136,slow=3.5,SNR=81									
CMAR					PP		**PP**		**16 59 18.9**	**0.0**
	comp=Z,0.5nm,0.8s,baz=35,slow=19,SNR=2.5									
CM15	**Chiang Mai Arr**		**92.59**	**289**	P		**P**		**16 55 38.4**	**+1.9**
	comp=Z,294nmcomp=Z,35nm,1.0s									
CM13	**Chiang Mai Arr**		**92.59**	**289**	P		**P**		**16 55 38.5**	**+2.0**
	comp=Z,241nmcomp=Z,30nm,0.9s									
J25K	**Salcha River,**		**92.70**	**13**	P		**P**		**16 55 36.9**	**+0.9**
	baz=208									
CMMT	**Chiang Mai**		**92.73**	**289**	P		**P**		**16 55 38.2**	**+1.1**
	comp=Z,537nmcomp=Z,51nm,1.0s									
CMMT	**Chiang Mai**		**92.73**	**289**	P		**P**		**16 55 38.2**	**+1.1**
	comp=Z,513nmcomp=Z,48nm,1.0s									
CHTO	**Chiang Mai**		**92.73**	**289**	P		**P**		**16 55 38.3**	**+1.2**
	comp=Z,511nm,1.0s									
CHTO	**Chiang Mai**		**92.73**	**289**	P		**P**		**16 55 38.3**	**+1.2**
N23A	**Red Feather La**		**92.90**	**46**	P		**P**		**16 55 39.5**	**+1.7**
	baz=239									
K27K	**Chicken**		**92.91**	**15**	P		**P**		**16 55 38.2**	**+1.4**
	baz=211									
J26L	**Joseph Creek**		**92.98**	**14**	P		**P**		**16 55 39.4**	**+2.0**
	baz=210									
RLMT	**Red Lodge**		**93.06**	**41**	P		**P**		**16 55 40.3**	**+2.0**
	baz=237,SNR=5.4									
HHC	**Hu-ho-hao-te**		**93.25**	**314**	*e*P		**P**		**16 55 40.0**	**+0.8**
HHC					pmax	pmax				
	comp=Z,36nm,1.0s									
HHC					pmax	pmax				
	comp=Z,120nm,5.4s									
ABTX	**Abilene, Hawle**		**93.29**	**56**	P		**P**		**16 55 40.8**	**+1.4**
	baz=242									
DAWY	**Dawson**		**93.57**	**16**	P		**P**		**16 55 41.6**	**+1.6**
	baz=213									
BILL	**Bilibino**		**93.67**	**354**	*c* *i*P		**P**		**16 55 41.1**	**+0.8**
BILL					*e*				16 59 28.4	
BILL					pmax	pmax				
	comp=Z,41nm,1.3s									
EGAK	**Eagle**		**93.76**	**15**	P		**P**		**16 55 42.6**	**+1.8**
	baz=212									
CD2	**Chengdu**		**94.09**	**302**	P		**P**		**16 55 42.5**	**-0.7**
CD2					pmax	pmax				
	comp=Z,30nm,0.6s									
CD2					LR	LR				
	comp=Z,230nm,15.3s									
CD2					LR	LR				
	comp=Z,190nm,18.6s									
CD2					LR	LR				
	comp=Z,270nm,20.1s									
MMPY	**Sheldon Lake,**		**94.62**	**19**	P		**P**		**16 55 46.2**	**+1.3**
	baz=220									
HKT	**Hockley**		**95.00**	**59**	⇓*e*P		**P**		**16 55 49.8**	**+2.6**
HKT					pmax	pmax				
	comp=Z,8.0nm,1.4s									
BMAR	**Burnt Mountain**		**95.34**	**12**	P		**P**		**16 55 49.6**	**+1.5**
TA01	**Diego Aracena**		**95.58**	**116**	P		**P**		**16 55 49.2**	**-1.1**
RSSD	**Black Hills**		**95.74**	**44**	P		**P**		**16 55 50.8**	**+0.1**
RSSD					pmax	pmax				
	comp=Z,21nm,1.1s									
RSSD	**Black Hills**		**95.74**	**44**	P		**P**		**16 55 50.8**	**+0.1**
RSSD	**Black Hills**		**95.74**	**44**	P		**P**		**16 55 52.0**	**+1.3**
	baz=240									
LZH	**Lanzhou**		**96.33**	**307**	*e*P		**P**		**16 55 54.9**	**+1.5**
LZH					pmax	pmax				
	comp=Z,28nm,1.5s									
YAK	**Yakutsk**		**96.72**	**338**	*e*P		**P**		**16 55 53.3**	**-1.0**
YAK					pmax	pmax				
	comp=Z,38nm,0.9s									
YAK					pmax	pmax				
	comp=E,4.0nm,0.9s									
YAK	**Yakutsk**		**96.72**	**338**	P		**P**		**16 55 54.5**	**+0.2**
LPAZ	**La Paz**		**99.37**	**113**	PP		**PP**		**17 00 12.7**	**+0.9**
	comp=E,2.3nm,1.1s,baz=236,slow=5.7,SNR=4.0									
LPAZ					LR	LR			17 35 26.2	
	comp=E,46nm,18.2s,baz=300,slow=32									
ULN	**Ulaanbaatar**		**99.46**	**319**	⇑*i*P		**Pdif**		**16 56 07.3**	**+0.1**
ULN					pmax	pmax				
	comp=Z,3.0nm,1.3s									
SONM	**Songino Array**		**99.84**	**318**	P		**Pdif**		**16 56 08.5**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=106,slow=3.2,SNR=5.6									
SONM					LR	LR			17 36 20.9	
	comp=Z,54nm,21.9s,baz=118,slow=32									
GTA	**Gaotai**		**100.62**	**308**	⇓P		**Pdif**		**16 56 12.8**	**+0.2**
GTA					pP		pwP		16 56 34.4	+1.1
GTA					sP		sP		16 56 42.4	+4.0
GTA					pmax	pmax				
	comp=Z,4.0nm,1.7s									
GTA					pmax	pmax				
	comp=Z,110nm,5.5s									
GTA					LR	LR				
	comp=Z,85nm,16.0s									
GTA					LR	LR				
	comp=Z,87nm,18.9s									
GTA					LR	LR				
	comp=Z,97nm,21.1s									
WMQ	**Urumqi**		**110.65**	**310**	*e*PKP		**PKiKP**		**17 00 55.0**	**-1.9**
DGZ	**Jazzator, Alta**		**112.25**	**316**	⇓*i*PKIKP		**PKiKP**		**17 00 59.8**	**-0.1**
ZALV	**Zalesovo Beam**		**114.66**	**320**	PKP		PKPdf		17 01 02.8	-1.2
	comp=Z,1.9nm,0.7s,baz=174,slow=3.0,SNR=9.2									
MK31	**Makanchi Array**		**115.03**	**312**	*d* *i*PKIKP		**PKPdf**		**17 01 04.2**	**-0.9**
MKAR	**Makanchi Array**		**115.03**	**312**	PKP		**PKPdf**		**17 01 04.2**	**-0.9**
	comp=Z,3.7nm,0.8s,baz=190,slow=0.9,SNR=20									
NRIK	**Noril'sk**		**115.16**	**337**	PKP		**PKiKP**		**17 01 04.3**	**-0.3**
	comp=Z,2.8nm,0.7s,baz=148,slow=0.7,SNR=2.0									
NRIK	**Noril'sk**		**115.16**	**337**	⇑*i*PKIKP		**PKPdf**		**17 01 05.3**	**+0.7**
SHLS	**Shalkode**		**116.34**	**307**	*e*PKiKP		**PKPdf**		**17 01 07.2**	**-0.7**
	baz=308									
SHLS	**Shalkode**		**116.34**	**307**	*i* PKIKP		**PKPdf**		**17 01 07.2**	**-0.7**
UZB	**Uzynbulak**		**116.66**	**307**	*e*PKiKP		**PKPdf**		**17 01 07.1**	**-1.4**
	baz=307									
UZB	**Uzynbulak**		**116.66**	**307**	*i* PKIKP		**PKPdf**		**17 01 07.1**	**-1.4**
SATY	**Saty**		**117.09**	**307**	*e*PKiKP		**PKPdf**		**17 01 07.8**	**-1.5**
	baz=307									
SATY	**Saty**		**117.09**	**307**	*i* PKIKP		**PKPdf**		**17 01 07.8**	**-1.5**
MDOK	**Medeo**		**118.08**	**307**	*e*PKP		**PKPdf**		**17 01 09.9**	**-1.3**
	baz=307									
MDOK	**Medeo**		**118.08**	**307**	*e*PKIKP		**PKPdf**		**17 01 09.9**	**-1.3**
TNSS	**Tian-Shan**		**118.14**	**307**	*e*PKP		**PKPdf**		**17 01 10.9**	**-0.8**
	baz=307									
MTBS	**Maitube**		**118.53**	**307**	*e*PKP		**PKPdf**		**17 01 10.6**	**-1.4**
	baz=307									
KUU	**Kurty**		**118.70**	**308**	*e*PKP		**PKPdf**		**17 01 10.3**	**-2.0**
	baz=308									
KUU	**Kurty**		**118.70**	**308**	*e*PKIKP		**PKPdf**		**17 01 10.3**	**-2.0**
OPO	**Ambohidratompo**		**118.97**	**229**	PKP		**PKPdf**		**17 01 13.4**	**-0.4**
	comp=Z,5.6nm,0.8s,baz=129,slow=2.7,SNR=6.5									
AAK	**Ala-Archa**		**119.86**	**306**	⇑*i*PKIKP		**PKPdf**		**17 01 14.5**	**-0.2**
SGDS	**Sogindy**		**119.87**	**307**	*e*PKP		**PKPdf**		**17 01 13.0**	**-1.5**
	baz=307									
SUR	**Sutherland**		**120.41**	**197**	PKP		**PKiKP**		**17 01 16.6**	**+0.2**
	comp=Z,9.3nm,0.9s,baz=8.7,slow=2.4,SNR=6.2									
BTLS	**Baital**		**120.47**	**309**	*e*PKP		**PKPdf**		**17 01 14.3**	**-1.3**
	baz=309									
BTLS	**Baital**		**120.47**	**309**	*e*PKIKP		**PKPdf**		**17 01 14.3**	**-1.3**
BRZS	**Berezniki**		**121.75**	**315**	*e*PKP		**PKPdf**		**17 01 16.0**	**-1.9**
	baz=315									
BRZS	**Berezniki**		**121.75**	**315**	*e*PKIKP		**PKPdf**		**17 01 16.0**	**-1.9**
BOSA	**Boshof**		**122.52**	**203**	PKP		**PKiKP**		**17 01 20.6**	**+0.1**
	comp=Z,4.4nm,0.8s,baz=192,slow=0.8,SNR=10									
IUG	**Iuzhnay**		**123.09**	**305**	*e*PKP		**PKPdf**		**17 01 19.9**	**-1.0**
	baz=305									
IUG	**Iuzhnay**		**123.09**	**305**	*e*PKIKP		**PKPdf**		**17 01 19.8**	**-1.0**
BRVK	**Borovoye**		**123.25**	**318**	*d* *i*PKIKP		**PKPdf**		**17 01 20.0**	**-0.7**
LBTB	**Lobatse**		**125.65**	**205**	PKP		**PKiKP**		**17 01 26.8**	**0.0**
	comp=Z,1.4nm,0.6s,baz=144,slow=3.9,SNR=2.0									
MATP	**Matopo**		**128.46**	**211**	PKP		**PKPdf**		**17 01 31.5**	**-0.4**
	comp=Z,2.8nm,0.5s,baz=153,slow=4.1,SNR=4.1									
ARU	**Arti**		**129.50**	**324**	*i* PKIKP		**PKPdf**		**17 01 32.6**	**+0.1**
ARU									17 03 42.0	
ARU					SS		SS		17 20 51.8	-8.3
GEYT	**Alibeck**		**132.00**	**299**	PKP		**PKPdf**		**17 01 38.3**	**+0.4**
	comp=Z,5.1nm,0.8s,baz=220,slow=9.1,SNR=8.8									
GEYT					SKPbc		**SKPbc**		**17 04 56.6**	**-1.5**
	comp=Z,2.9nm,0.7s,baz=61,slow=6.8,SNR=7.5									
HAMF	**Hammerfest**		**132.88**	**351**	*e*PKPdf		**PKPdf**		**17 01 37.8**	**-0.7**
LVZ	**Lovozero**		**133.05**	**344**	⇑*i*PKIKP		**PKiKP**		**17 01 41.3**	**+1.2**
ARA0	**ARCESS Array S**		**133.59**	**349**	*e*PKPdf		**PKPdf**		**17 01 39.4**	**-0.5**
ARCES	**ARCESS Array B**		**133.59**	**349**	PKiKP		PKPpre		17 01 32.1	
	comp=Z,1.2nm,0.8s,baz=48,slow=1.8,SNR=4.8									
ARCES					PKP		**PKPdf**		**17 01 39.3**	**-0.6**
	comp=Z,12nm,1.0s,baz=8.1,slow=1.4,SNR=23									
TSUM	**Tsumeb**		**133.78**	**199**	PKhKP		PKPpre		17 01 34.3	
	comp=Z,1.3nm,0.6s,baz=270,slow=20,SNR=1.5									
JETT	**Jettan, Norway**		**134.33**	**352**	*e*PKPdf		**PKPdf**		**17 01 40.8**	**-0.5**
KTK1	**Kautokeino**		**134.42**	**350**	*e*PKPdf		**PKPdf**		**17 01 37.9**	**-3.6**
TRO	**Tromso**		**134.45**	**352**	*e*PKPdf		**PKPdf**		**17 01 39.3**	**-2.1**
KLMR	**Klimovskoe**		**136.45**	**335**	*e*PKIKP		**PKPdf**		**17 01 40.3**	**-5.1**
KLMR					pmax	pmax				
	comp=Z,17nm,1.1s									
KLMR	**Klimovskoe**		**136.45**	**335**	*e*PKPdf		**PKPdf**		**17 01 40.3**	**-5.1**
KLMR					AMP				17 01 47.3	
	comp=Z,17nm,1.1s									
LOF	**Lofoten**		**136.46**	**354**	*e*PKPdf		**PKPdf**		**17 01 44.7**	**-0.5**
STEI	**Steigen**		**136.49**	**353**	*e*PKPdf		**PKPdf**		**17 01 45.2**	**-0.1**
KMBO	**Kilima Mbogo**		**137.91**	**237**	PKP		**PKPdf**		**17 01 48.9**	**-1.0**
	comp=Z,2.7nm,0.8s,baz=61,slow=19,SNR=3.6									
MOR8	**Moi Rana**		**138.28**	**353**	*e*PKPdf		**PKPdf**		**17 01 46.8**	**-1.9**
NSS	**Namsos**		**140.13**	**354**	*e*PKPdf		**PKPdf**		**17 01 49.9**	**-2.2**
MOS	**Moscow**		**140.37**	**330**	*e*PKIKP		**PKPdf**		**17 01 51.5**	**-1.3**
FINES	**FINESS Array B**		**140.43**	**343**	PKhKP		PKPpre		17 01 44.7	
	comp=Z,2.7nm,0.7s,baz=56,slow=3.3,SNR=18									
VRH	**Novokhopyorsk**		**140.66**	**322**	*e*PKIKP		**PKPdf**		**17 01 48.4**	**-5.0**
VRH					pmax	pmax				
	comp=Z,10.0nm,0.8s									
OBN	**Obninsk**		**141.22**	**330**	⇑*e*PKIKP		**PKPdf**		**17 01 54.1**	**-0.2**
OBN					*e*				17 05 04.6	
OBN					pmax	pmax				
	comp=Z,42nm,1.8s									
OBN					MLR	MLR				
	comp=Z,55nm,20.0s									
GNI	**Garni**		**142.20**	**304**	⇑*e*PKIKP		**PKPdf**		**17 01 54.3**	**-2.5**
ZEI	**Tsey**		**142.24**	**308**	*i* PKHKP		PKPpre		17 01 42.2	
ZEI					pmax	pmax				
	comp=Z,2.0nm,0.9s									
NCK	**Nalchik**		**142.27**	**309**	⇑*e*PKIKP		**PKPdf**		**17 01 57.1**	**+0.5**
VSU	**Vasula**		**142.68**	**340**	*e*P		**PKPdf**		**17 01 52.5**	**-4.3**
VSU	**Vasula**		**142.68**	**340**	*c* *i*PKIKP		**PKPdf**		**17 01 57.2**	**+0.4**
KBZ	**Khabaz**		**142.69**	**310**	PKhKP		PKPpre		17 01 54.4	
	comp=Z,3.5nm,0.9s,baz=121,slow=2.8,SNR=5.9									
KBZ	**Khabaz**		**142.69**	**310**	⇓*e*PKIKP		**PKPdf**		**17 01 55.8**	**-1.5**
KIV	**Kislovodsk**		**142.77**	**310**	*i* PKIKP		**PKiKP**		**17 02 00.8**	**0.0**
KIV					pmax	pmax				
	comp=Z,6.0nm,1.0s									
KIV					MLR	MLR				
	comp=Z,42nm,24.0s									
AKH	**Akhalkalaki**		**142.87**	**306**	⇓P		**PKPdf**		**17 01 53.8**	**-4.2**
NEY	**Neytrino**		**142.95**	**309**	⇓*i*PKIKP		**PKPdf**		**17 01 55.3**	**-2.8**
MBAR	**Mbarara**		**143.02**	**230**	PKhKP		PKPpre		17 01 55.9	
	comp=Z,6.8nm,0.7s,baz=108,slow=0.4,SNR=10									
NB2	**NORSAR Subarra1**		**143.62**	**353**	PKP		PKPab		17 01 55.1	-0.1
	comp=Z,45nm,1.2s,baz=14,slow=3.5									
NB2	**NORSAR Subarra1**		**143.62**	**353**	PKPab		PKPab		17 01 55.1	-0.1
	baz=14,slow=3.5									
NOA	**NORSAR Array B**		**143.62**	**353**	PKhKP		PKPpre		17 01 55.8	
	comp=Z,14nm,0.9s,baz=13,slow=2.4,SNR=29									
UPP	**Uppsala**		**143.80**	**348**	*e*P		PKPab		17 01 55.7	-0.1
NC602	**NORSAR Array S**		**143.89**	**353**	*e*PKPdf		PKPbc		17 01 56.6	-0.3
BATM	**Batumi**		**144.13**	**307**	⇓P		PKPbc		17 01 58.5	+0.3
BCA	**Borcka**		**144.22**	**307**	⇓P		PKPbc		17 01 58.8	+0.3
SKAR	**Skarslia**		**144.23**	**356**	*e*PKPdf		PKPbc		17 01 58.4	+0.4
ASK	**Askoy**		**144.58**	**358**	*e*PKPdf		PKPbc		17 01 59.4	+0.4
BER	**Bergen**		**144.68**	**358**	*e*PKPdf		**PKPdf**		**17 02 00.1**	**-0.2**
OSL	**Oslo**		**144.76**	**353**	*e*PKPdf		PKPbc		17 01 59.9	+0.3
SOC	**Sochi**		**144.93**	**311**	*d* *i*PKIKP		PKPbc		17 01 59.5	-1.1
SOC					*e*				17 05 18.2	
SOC					*e*PPP		PPP		17 08 35.6	
SOC					*e*SS		SS		17 23 55.6	-8.4
SOC					*e*SSS		SSS		17 29 30.1	
SOC					pmax	pmax				
	comp=Z,32nm,0.8s									
SOC					pmax	pmax				
	comp=Z,16nm,0.9s									
ODD1	**Odda**		**145.10**	**357**	*e*PKPdf		**PKPab**		**17 02 00.8**	**0.0**
KONO	**Kongsberg**		**145.15**	**354**	*e*PKPdf		**PKPbc**		**17 02 00.5**	**-0.3**
ISAL	**Salakas**		**145.18**	**337**	*e*P		**PKPdf**		**17 02 01.6**	**+0.4**
IIGN	**Ignalina**		**145.32**	**337**	*e*P		**PKPab**		**17 02 01.6**	**0.0**
MNK	**Minsk**		**145.34**	**335**	*i* PKIKP		**PKPab**		**17 02 02.3**	**+0.5**
MNK					*i*				17 02 27.3	
MNK					*i*				17 05 23.8	
MNK					*i* PPP		PPP		17 08 41.2	
MNK					*i*				17 09 03.0	
MNK					*i* SS		SS		17 24 09.8	+2.5
MNK					*i* SSS		SSS		17 29 38.2	
MNK					pmax	pmax				
	comp=Z,331nm,1.1s									
MNK					pmax	pmax				
	comp=N,119nm,1.2s									
MNK					pmax	pmax				
	comp=E,20nm,1.4s									
MNK					MLR	MLR				
	comp=Z,144nm,16.0s									
MNK					MLR	MLR				
	comp=E,24nm,14.0s									
MNK					MLR	MLR				
	comp=N,72nm,20.0s									
MNK	**Minsk**		**145.34**	**335**	*i* PKP		**PKPab**		**17 02 02.3**	**+0.5**
	comp=E,20nm,1.4s									
MNK					*i* PKP		**PKPab**		**17 02 02.3**	**+0.5**
	comp=N,119nm,1.2s									
MNK					*i* PKP		**PKPab**		**17 02 02.3**	**+0.5**
	comp=Z,331nm,1.1s,baz=224									
MNK					*i* pPKP		sPKPab		17 02 27.3	-0.3
MNK					*i* PP		**PP**		**17 05 23.9**	**+2.3**
MNK					*i* SKP				17 05 28.1	
MNK					*i* PKS		**PKSdf**		**17 05 37.8**	**+0.9**
MNK					*i* PPP		PPP		17 08 41.2	
MNK					*i* SKS		**SKSdf**		**17 09 03.1**	**-1.5**
MNK					*i* SKKS		**SKKSdf**		**17 18 11.0**	**-3.8**
MNK					*i* SPP		SPP		17 21 54.7	
MNK					*i* PPS		PPS		17 21 54.7	
MNK					*i* SS		**SS**		**17 24 09.8**	**+2.6**
MNK					*i* SSS		SSS		17 29 38.2	
MNK					*i* LQ		LQ		17 59 36.3	
MNK					*i* LR		LR		18 04 36.2	
MNK					*i* LRM		MLR		18 06 59.5	
	comp=Z,144nm,15.9s									
MNK					*i* LRM		MLR		18 07 48.7	
	comp=E,24nm,14.5s									
MNK					*i* LRM		MLR		18 07 49.4	
	comp=N,72nm,20.2s									
NACGM	**Naroch**		**145.46**	**336**	*i* PKP		**PKPab**		**17 02 02.7**	**+0.5**
STRU	**Stroemstad**		**145.59**	**353**	*i* P		**PKPdf**		**17 02 01.8**	**-0.1**
KTUT	**Trabzon**		**145.69**	**307**	⇑P		**PKPbc**		**17 02 03.3**	**+0.1**
KMY	**Karmoy**		**145.85**	**358**	*e*PKPab		**PKPab**		**17 02 03.5**	**0.0**
PABE	**Paberze**		**145.97**	**339**	*e*P		**PKPdf**		**17 02 02.7**	**+0.1**
ANN	**Anapa**		**146.01**	**314**	*i* PKP2		**PKPbc**		**17 02 03.7**	**-0.2**
HOMB	**Homborsund**		**146.61**	**355**	*i* P		**PKPbc**		**17 02 05.0**	**-0.2**
BORU	**Boraas**		**146.74**	**351**	*i* P		**PKPbc**		**17 02 04.8**	**-0.9**
KAC	**Achnashellach**		**147.05**	**8**	*e*P		**PKPbc**		**17 02 06.9**	**+0.3**
ONAU	**Onsala**		**147.09**	**351**	*i* P		**PKPbc**		**17 02 05.9**	**-0.7**
MDO	**Dochfour**		**147.22**	**7**	*e*P		**PKPbc**		**17 02 07.5**	**+0.5**
FABU	**Falkenberg**		**147.36**	**350**	*i* P		**PKPbc**		**17 02 06.8**	**-0.6**
SUW	**Suwalki**		**147.45**	**338**	*e*PKP		**PKPbc**		**17 02 07.7**	**-0.1**
SUW	**Suwalki**		**147.45**	**338**	*e*P		**PKPdf**		**17 02 06.0**	**+0.8**
AKASG	**Malin Array Be**		**147.46**	**329**	PKPbc		**PKPbc**		**17 02 07.5**	**-0.4**
	comp=N,21nm,0.5s,baz=42,slow=4.2,SNR=64									
AKASG					pPKPbc		**sPKPbc**		**17 02 33.9**	**-0.2**
	comp=N,10nm,0.7s,baz=43,slow=4.5,SNR=2.2									
AKBB	**Malin Array Si**		**147.46**	**329**	*d* *i*PKP2		**PKPbc**		**17 02 07.5**	**-0.4**
DEL	**Delary**		**147.68**	**349**	*i* P		**PKPbc**		**17 02 07.9**	**-0.4**
KLNR	**Kaliningrad**		**147.90**	**341**	*de*PKIKP		**PKPdf**		**17 02 05.2**	**-0.7**
SIM	**Simferopol'**		**148.06**	**316**	*c* *i*PKP2		**PKPbc**		**17 02 09.5**	**-0.3**
SIM					pmax	pmax				
	comp=Z,52nm,1.1s									
SIM					pmax	pmax				
	comp=Z,217nm,0.9s									
BJUU	**Bjuv**		**148.20**	**349**	*i* P		**PKPbc**		**17 02 09.2**	**-0.5**
MUD	**Monsted U'grnd**		**148.34**	**354**	*i* P		**PKPdf**		**17 02 07.7**	**+1.2**
BSD	**Bornholm Skovb**		**148.76**	**347**	*i* P		**PKPbc**		**17 02 11.7**	**+0.5**
ESY	**Stoneypath**		**148.91**	**6**	*e*P		**PKPbc**		**17 02 11.7**	**+0.1**
EBL	**Broad Law**		**149.01**	**7**	*e*P		**PKPbc**		**17 02 12.1**	**+0.3**
ESK	**Eskdalemuir**		**149.44**	**7**	*e*P		**PKPbc**		**17 02 12.8**	**-0.2**
NEWG	**New Galloway**		**149.51**	**8**	*e*P		**PKPbc**		**17 02 12.9**	**-0.1**
SORM	**Soroca**		**149.58**	**326**	⇓P		**PKPbc**		**17 02 13.4**	**-0.1**
SORM	**Soroca**		**149.58**	**326**	⇓PKP2		**PKPbc**		**17 02 13.4**	**-0.1**
GAL1	**Galloway**		**149.69**	**9**	*e*P		**PKPbc**		**17 02 13.7**	**+0.2**
GKP	**Gorka Klasztor**		**149.90**	**343**	*e*P		**PKPdf**		**17 02 10.7**	**+1.5**
EDMD	**Edmundbyers**		**150.05**	**6**	*e*P		**PKPbc**		**17 02 14.3**	**-0.1**
BEL	**Belsk**		**150.07**	**338**	*e*PKP		**PKiKP**		**17 02 15.3**	**0.0**
LNIZ	**Loecknitz**		**150.42**	**347**	*e*PKPdf		**PKiKP**		**17 02 16.5**	**+0.5**
	baz=18,slow=0.0									
LVV	**L'vov**		**150.43**	**332**	*e*PKIKP		**PKPbc**		**17 02 15.6**	**+0.1**
BRTR	**Keskin Array B**		**150.53**	**307**	PKPbc		**PKPbc**		**17 02 16.1**	**-0.2**
	comp=Z,18nm,0.9s,baz=116,slow=2.9,SNR=32									
BRTR					PKPab		**PKPab**		**17 02 23.8**	**+0.6**
	comp=Z,12nm,0.6s,baz=60,slow=4.4,SNR=17									
BSEG	**Bad Segeberg**		**150.68**	**351**	*e*PKPdf		**PKiKP**		**17 02 16.7**	**+0.1**
	baz=18,slow=0.0									
BSEG					*e*L		L		18 03 01.4	
	comp=Z,54nm,21.6s									
VASR	**Vaslui**		**150.83**	**324**	⇓P		**PKiKP**		**17 02 17.2**	**+0.1**
KWP	**Kalwaria Pacla**		**151.13**	**333**	*e*PKP		**PKiKP**		**17 02 17.7**	**0.0**
TLCR			**151.14**	**321**	⇑P		**PKiKP**		**17 02 17.8**	**0.0**
TLCR			**151.14**	**321

PRU	Pruhonice	153.59 343	ePKIKP	PKiKP	17 02 23.1	+0.4
PRU	Pruhonice	153.59 343⇑	ePKP	PKiKP	17 02 23.1	+0.4
KASTN	Kahler Asten	153.60 352	ePKPab	PKPab	17 02 35.9	+0.6
	baz=18,slow=0.0					
VRAC	Vranov	153.62 340	ePKP	PKPdf	17 02 14.9	-0.1
VRAC			e		17 02 36.9	
MOX	Moxa	153.64 348	ePKPdf	PKiKP	17 02 22.9	+0.1
	baz=18,slow=0.0					
MOX			ePKPab	PKPab	17 02 36.1	+0.6
	baz=18,slow=0.0					
MOX			eL	L	18 01 39.4	
	comp=Z,32nm,21.3s					
JAVC	Velka Javorina	153.65 338	ePKP	PKPdf	17 02 16.3	+1.2
JAVC			e		17 02 24.7	
JAVC			e		17 02 37.7	
PLN	Plauen	153.69 347	ePKPdf	PKiKP	17 02 23.2	+0.3
	baz=18,slow=0.0					
PLN			ePKPab	PKPab	17 02 36.4	+0.7
	baz=18,slow=0.0					
TANN	Tannenbergstha	153.69 346	ePKPdf	PKiKP	17 02 23.2	+0.2
	baz=18,slow=0.0					
TANN			ePKPab	PKPab	17 02 36.3	+0.5
	baz=18,slow=0.0					
WERD	Werda	153.69 347	ePKPab	PKPab	17 02 36.6	+0.8
	baz=18,slow=0.0					
GUNZ	Gunzen	153.76 347	ePKPab	PKPab	17 02 36.6	+0.5
	baz=18,slow=0.0					
WERN	Wernitzgruen	153.83 346	ePKPab	PKPab	17 02 37.4	+1.1
	baz=18,slow=0.0					
NKC	Novy Kostel	153.86 346	ePKIKP	PKiKP	17 02 23.6	+0.3
NKC	Novy Kostel	153.86 346⇑	ePKP	PKiKP	17 02 23.6	+0.3
NKC			ePKPAB	PKPab	17 02 37.5	+1.0
KRUC	Moravsky	153.89 340	ePKP	PKPdf	17 02 15.3	0.0
KRUC			e		17 02 23.8	
KRUC			e		17 02 37.8	
SMOL	Smolenice	154.03 338	ePKP2	PKPab	17 02 39.1	+1.8
SIRR	Siria	154.15 330	⇓P	PKiKP	17 02 24.3	+0.2
MODS	Modra-Piesok	154.21 338	ePKP2	PKPab	17 02 38.7	+0.7
GZR	Gura Zlata	154.26 327	⇓P	PKPdf	17 02 14.3	-1.7
GZR	Gura Zlata	154.26 327	⇓PKIKP	PKPdf	17 02 14.3	-1.7
ROTZ	Rotzenmuhle	154.35 346	ePKPab	PKPab	17 02 39.3	+0.7
	baz=18,slow=0.0					
AHRW	Bad Neuenahr-A	154.39 354	ePKPab	PKPab	17 02 39.6	+0.9
	baz=18,slow=0.0					
MEM	Membach	154.41 356	dPKPbc	PKPbc	17 02 24.2	-0.2
MEM			dPKPab	PKPab	17 02 39.1	+0.4
ZST	Bratislava	154.42 338	ePKP2	PKPab	17 02 40.6	+1.7
BTNL	Ternell	154.43 356	dPKPbc	PKPbc	17 02 23.9	-0.5
BTNL			dPKPab	PKPab	17 02 39.3	+0.4
BSTI	Sart Tilman	154.47 356	dPKPab	PKPab	17 02 38.9	-0.1
TNS	Taunus Mts	154.56 352	ePKPab	PKPab	17 02 40.2	+0.7
	baz=18,slow=0.0					
TNS			eL	L	18 02 38.2	
	comp=Z,76nm,21.9s					
SNF	Seneffe	154.59 358	dPKPab	PKPab	17 02 39.9	+0.4
GRF	Grafenberg Arr	154.63 348	ePKPab	PKPab	17 02 41.0	+1.3
	baz=18,slow=0.0					
GRF			eL	L	18 05 37.1	
	comp=Z,44nm,20.4s					
KHC	Kasperske Hory	154.63 344	ePKIKP	PKPdf	17 02 16.1	-0.3
KHC			e		17 02 40.8	
KHC			e		17 06 14.0	
KHC	Kasperske Hory	154.63 344	ePKPDF	PKPdf	17 02 16.1	-0.3
KHC			⇑ePKP	PKiKP	17 02 25.1	+0.1
KHC			ePKPAB	PKPab	17 02 40.8	+1.0
KHC			ePP	PP	17 06 14.0	-0.9
BCLA	Clavier	154.64 357	dPKPab	PKPab	17 02 37.9	-1.8
BHOU	Houvegnez	154.67 356	dPKPab	PKPab	17 02 40.7	+0.8
BGES	Gesves	154.69 357	dPKPab	PKPab	17 02 40.1	+0.1
CKRC	Cesky Krumlov	154.72 342	ePKPDF	PKPdf	17 02 16.4	-0.1
BMRD	Maredsous	154.78 357	dPKPab	PKPab	17 02 40.7	+0.3
WET	Wettzell	154.79 345	ePKPab	PKPab	17 02 41.6	+1.1
	baz=18,slow=0.0					
WET			eL	L	18 02 54.0	
	comp=Z,71nm,21.8s					
HERR	Herculane	154.80 326	⇓P	PKPbc	17 02 25.3	-0.1
MILB	Miltenberg	154.83 351	ePKPdf	PKiKP	17 02 25.5	+0.2
	baz=18,slow=0.0					
GEC2	GERESS Array S	154.86 343	ePKPab	PKPab	17 02 41.5	+0.6
	baz=18,slow=0.0					
GEC2			eL	L	18 05 44.3	
	comp=Z,43nm,20.5s					
GERES	GERESS Array B	154.86 343	PKP	PKPdf	17 02 16.2	-0.7
	comp=Z,0.8nm,0.6s,baz=45,slow=2.3,SNR=9.5					
GERES			PKPbc	PKiKP	17 02 25.7	+0.2
	comp=Z,3.0nm,1.0s,baz=48,slow=2.0,SNR=10					
GERES			PKPab	PKPab	17 02 41.4	+0.5
	comp=Z,5.6nm,0.9s,baz=35,slow=3.3,SNR=12					
DOU	Dourbes	155.00 358	dPKPab	PKPab	17 02 42.0	+0.7
EGYH	Egyhazaskeszo	155.00 337	eP	PKPab	17 02 40.1	-1.3
CONA	Conrad Observa	155.06 339	eP	PKPab	17 02 43.3	+1.6
	comp=Z,36nm,1.5s					
WLF	Walferdange	155.34 355	dPKPbc	PKPdf	17 02 27.3	+10
WLF			dPKPab	PKPab	17 02 43.2	+0.4
MORH	Mrgy, Hungar	155.50 333	⇑P	PKPdf	17 02 17.0	-0.6
MORH	Mrgy, Hungar	155.50 333	eP	PKPab	17 02 43.6	0.0
MOA	Molln	155.62 342	eP	PKPab	17 02 45.4	+1.4
	comp=Z,23nm,1.5s,SNR=7.7					
ARSA	Arzberg	155.77 339	eP	PKPab	17 02 45.6	+0.8
	comp=Z,20nm,1.6s					
KOVH	Kovagotottos	155.82 334	eP	PKPab	17 02 45.5	+0.6
FRGS	Fruska Gora	155.84 330	⇓P	PKPdf	17 02 27.8	+10
FRGS	Fruska Gora	155.84 330	eP	PKPab	17 02 43.8	-1.3
FUR	Furstenfeldbru	156.07 346	ePKPab	PKPab	17 02 47.1	+1.1
	baz=18,slow=0.0					
FUR			eL	L	18 02 45.8	
	comp=Z,60nm,21.5s					
RJOB	Jochberg	156.12 344	ePKPab	PKPab	17 02 47.6	+1.4
	baz=18,slow=0.0					
BFO	Black Forest	156.43 351	ePKPab	PKPab	17 02 48.0	+0.5
	baz=18,slow=0.0					
BFO			eL	L	17 57 24.5	
	comp=Z,58nm,19.8s					
SOKA	Soboth	156.43 339	eP	PKPab	17 02 48.3	+0.6
	comp=Z,27nm,1.2s,SNR=9.0					
PERS	Pernice	156.44 339	i PKPdf	PKPdf	17 02 18.3	-0.7
PERS			i PKPab	PKPab	17 02 48.1	+0.4
GROS	Grobnik	156.47 338	ePKPdf	PKPdf	17 02 18.2	-0.8
GROS			i PKPab	PKPab	17 02 48.1	+0.3
DIVS	Divibare	156.56 328	eP	PKPab	17 02 48.7	+0.4
OBKA	Obir	156.73 340	eP	PKPab	17 02 48.8	-0.2
	comp=Z,11nm,1.1s					
WATA	Walderalm	156.79 345	eP	PKPab	17 02 50.1	+0.8
	comp=Z,21nm,1.1s,SNR=5.5					
RETA	Reutte	156.82 347	eP	PKPab	17 02 50.3	+0.9
	comp=Z,19nm,1.2s,SNR=5.9					
WTTA	Wattenberg	156.84 345	eP	PKPab	17 02 50.7	+1.2
	comp=Z,15nm,0.7s					
MOTA	Moosalm	156.88 346	eP	PKPab	17 02 50.6	+0.9
	comp=Z,29nm,1.2s,SNR=8.1					
MYKA	Terra Mystica	156.90 341	i P	PKPab	17 02 50.0	+0.3
	comp=Z,23nm,1.0s,SNR=7.5					
SQTA	Sankt Quirin	156.98 346	eP	PKPab	17 02 51.0	+0.9
	comp=Z,7.1nm,0.9s					
BBLS	Lazići	157.01 329	eP	PKPab	17 02 48.2	-2.1
CRES	Cresnjev	157.03 337	eP	PKPab	17 02 49.9	-0.3
STIP	Stip	157.09 321	i P	PKPab	17 02 50.5	-0.1
ABTA	Abfaltersbach	157.10 343	eP	PKPab	17 02 50.9	+0.3
	comp=Z,12nm,0.7s,SNR=5.6					
VAY	Valandovo	157.11 320	i P	PKPab	17 02 51.9	+1.2
LJU	Ljubljana	157.15 339	eP	PKPab	17 02 50.4	-0.3
MRAK	Mrakovica	157.19 334	eP	PKPab	17 02 49.9	-1.1
DAVA	Damuels	157.19 348	i P	PKPab	17 02 51.7	+0.7
	comp=Z,7.3nm,0.7s					
RUDO	Rudo	157.22 328	eP	PKPab	17 02 51.2	+0.1
FETA	Feichten	157.27 346	eP	PKPab	17 02 52.3	+0.9
	comp=Z,17nm,1.2s,SNR=5.4					
BLY	Banja Luka	157.29 333	eP	PKPab	17 02 48.1	-3.2
SKO	Skopje	157.33 322	i P	PKPab	17 02 53.3	+1.7
BOJS	Bojanci	157.38 337	i PKPdf	PKPdf	17 02 20.1	0.0
BOJS			ePKPab	PKPab	17 02 52.2	+0.5
CEY	Cerknica	157.46 339	eP	PKPab	17 02 51.8	-0.3
MGRS	Mrkonjic Grad	157.60 333	eP	PKPab	17 02 54.0	+1.2
UPM	Unac-Piva	157.75 328	eP	PKPab	17 02 53.5	-0.1
BRY	Bratogost	158.15 328	eP	PKPab	17 02 55.3	0.0
PDG	Podgorica	158.16 326	⇑P	PKPab	17 02 55.3	+0.2
PDG	Podgorica	158.16 326	eP	PKPab	17 02 55.4	+0.2
OHR	Ohrid	158.26 322	i P	PKPab	17 02 56.1	+0.4
DRME	Dracevica, Mon	158.37 326	eP	PKPab	17 02 56.2	+0.1
HCY	Herceg Novi	158.52 328	eP	PKPab	17 02 56.4	-0.4
LIC	Lamto	159.70 156	eP	PKPab	17 03 02.6	+0.1
	comp=Z,61nm,2.0s					
KIC	Kosan Boka	159.93 157	eP	PKPab	17 03 05.1	+1.6
	comp=Z,10nm,0.7s					
TIC	Toumodi	160.09 156	eP	PKPab	17 03 06.3	+2.1
AQU	L'Aquila	160.78 336	eP	PKPab	17 03 07.6	+1.0
TIP	Timpagrande	161.82 324	⇑P	PKPab	17 03 12.2	+0.9
ESDC	Sonseca Array	164.28 20	PKP	PKPdf	17 02 28.4	+0.5
	comp=Z,2.6nm,1.2s,baz=322,slow=1.8,SNR=6.8					
ESDC			pPKP	sPKPdf	17 02 54.7	+0.3
	comp=Z,0.2nm,0.3s,baz=276,slow=38,SNR=1.7					
ESDC			PKPab	PKPab	17 03 22.6	+0.5
	comp=Z,2.9nm,1.1s,baz=327,slow=4.0,SNR=8.1					
ESDC			pPKPab	sPKPab	17 03 47.5	-0.6
	comp=Z,1.5nm,1.0s,baz=331,slow=3.6,SNR=3.3					
ESDC			PP	PP	17 07 07.7	+0.4
	comp=Z,3.9nm,1.3s,baz=344,slow=4.8,SNR=6.0					
TORD	Torodi Ar. Bea	168.06 173	PKP	PKPdf	17 02 30.7	-0.7
	comp=Z,6.8nm,1.1s,baz=238,slow=0.4,SNR=20					
TORD			pPKP	sPKPdf	17 02 56.0	-2.1
	comp=Z,3.5nm,1.2s,baz=311,slow=2.4,SNR=3.4					
TORD			PKPab	PKPab	17 03 39.5	+0.4
	comp=Z,3.5nm,0.7s,baz=207,slow=2.3,SNR=7.7					
TORD			pPKPab	sPKPab	17 04 03.0	-2.2
	comp=Z,3.2nm,0.8s,baz=197,slow=2.7,SNR=3.3					
TORD			PP	PP	17 07 28.8	+2.3
	comp=Z,1.5nm,1.1s,baz=169,slow=3.5,SNR=2.8					
TORD	Torodi Ar. Bea	168.06 173		PKPdf	17 02 31.1	-0.4
KEST	Kesra	168.10 335	PKPab	PKPab	17 03 39.2	+0.3
	comp=Z,14nm,0.9s,baz=280,slow=2.5,SNR=14					

MEX 12 16:45:52.9±0.4, 13°.74N×92°.22W, h70km±146km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		2.18	334	*i* P	Pn	16 46 25.8	-1.3
CCIG	Comitan	2.53	2	*e*P	Pn	16 46 33.9	+2.0

MEX 12 16:59:21.2±1.2, 16°.97N×94°.96W, h5km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	Matias Romero	0.14	30	*i* P	Pg	16 59 23.1	-0.9
CMIG				*i* S	Sg	16 59 26.2	+0.4
VHO	Vista Hermosa	1.70	274	*i* P	Pn	16 59 49.0	-2.8
VHO				*i* S	Sn	17 00 09.8	-4.3
PCIG		2.09	127	*i* P	Pn	16 59 58.0	+1.1
PCIG				*i* S	Sb	17 00 24.7	-1.2
PEIG	Puerto Escondi	2.32	246	*e*P	Pn	16 59 59.9	-0.2
PEIG				*i* S	Sn	17 00 28.9	-0.1

*NEIC **12** 17:12:15.3±2.0, 10°.89S±0°.06×74°.53W±0°.04, h93km±8km, mb4.0/9, Error ellipse: s-maj=8.6km s-min=5.7km az=204.0*
*IDC **12** 17:12:16.2±1.6, 10°.87S×74°.66W, h114km±18km, mb3.5/4, mb1 3.7/9, mb1mx3.5/33, mbtmp3.9/9, Error ellipse: s-maj=18.0km s-min=14.8km az=67.0*
*VAO **12** 17:12:18.5±0.4, 10°.66S×73°.85W, h10km, mb4.1*
ISC 12 17:12:15.7±0.6, 10°.87S±0°.06×74°.54W±0°.06, h100km, n41, σ1°71/40, mb3.9/5, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	Nana	2.52	244	P	Pn	17 12 55.4	+0.3
	18nm,0.3s,baz=46,slow=10,SNR=21						
NNA				S	Sn	17 13 24.6	-0.7
	53nm,0.3s,baz=319,slow=18,SNR=15						
NNA	Nana	2.52	244		Pn	17 12 55.0	0.0
CZSB	Cruzeiro do Su	3.61	30	*e*P	Pn	17 13 08.0	-1.6
ATAH	Atahualpa	5.32	314	P	Pn	17 13 32.6	-0.5
	6.3nm,0.3s,baz=157,slow=9.5,SNR=36						
ATAH				S	Sn	17 14 33.2	-0.3
	3.9nm,0.3s,baz=261,slow=20,SNR=1.8						
TBTG	Tabatinga, AM	8.07	35	*e*P	Pn	17 14 08.6	-1.6
LPAZ	La Paz	8.23	132	P	Pn	17 14 15.6	+2.8
	0.4nm,0.3s,baz=317,slow=12,SNR=13						
LPAZ	La Paz	8.23	132		Pn	17 14 15.4	+2.6
LPAZ	La Paz	8.23	132	*e*P	Pn	17 14 12.9	0.0
ETMB	Extrema	8.26	83	*e*P	Pn	17 14 09.8	-2.9
PSGCX	Pisagua	9.66	154	Pn	Pn	17 14 30.9	-1.0
PB11	IPOC Station P	10.01	153	Pn	Pn	17 14 35.8	-0.9
TA01	Diego Aracena	10.51	157	Pn	Pn	17 14 41.4	-1.9
PB08	IPOC Station P	10.57	151	Pn	Pn	17 14 45.5	+1.0
SAML	Samuel	11.35	81		Pn	17 14 53.6	-1.1
SAML	Samuel	11.35	81	*e*P	Pn	17 14 51.8	-2.9
OTAV	Otavalo	11.70	340	*e*P	Pn	17 15 05.3	+5.4
LVC	Limon Verde	12.85	156	*e*P	P	17 15 20.4	-1.6
SIV	San Ignacio	14.05	113	P	Pn	17 15 31.4	+1.1
	0.5nm,0.3s,baz=321,slow=14,SNR=6.3						
VILB	Vilhena	14.18	100	*e*P	Pn	17 15 31.2	-0.8
PTLB	Pontes e Lacer	15.67	109	*e*P	P	17 15 52.0	-0.9
MACA	Manacapuru-AM	15.73	62	*e*P	Pn	17 15 51.1	-0.6
PTGA	Pitinga	17.64	56	P	Pn	17 16 14.6	-0.5
	0.5nm,0.3s,baz=227,slow=14,SNR=8.5						
PTGA	Pitinga	17.64	56	P	Pn	17 16 15.3	+0.2
CLDB	Colider	18.40	92	*e*P	Pn	17 16 26.6	+2.3
SALV	Santo Antonio	18.99	107	*e*P	Pn	17 16 34.2	+2.9
BOAV	Boa Vista	19.19	47	*e*P	Pn	17 16 35.4	+1.7
NPGB	Novo Progresso	19.32	80	*e*P	Pn	17 16 34.5	-0.7
ITTB	Itaituba	19.71	72	*e*P	Pn	17 16 40.2	+0.4
SJCC	San Jacinto, C	20.64	358	P	P	17 16 47.8	+0.4
SJCC				lAmb	lAmb	17 17 15.6	
	comp=Z,10.0nm,1.2s						
MALB	Monte Alegre	22.03	67	*e*P	P	17 17 04.9	+2.7
ITQB	Itaqui	25.07	141	*e*P	P	17 17 39.9	+9.0
PLCA	Paso Flores	29.95	174	P	P	17 18 14.3	-0.1
	comp=Z,1.8nm,0.7s,baz=14,slow=7.0,SNR=5.0						
PLCA	Paso Flores	29.95	174	lAmb	lAmb	17 18 21.8	
	comp=Z,22nm,1.6s						
TXAR	Lajitas Array	48.86	326	P	P	17 20 50.3	-1.2
	comp=Z,0.3nm,0.5s,baz=151,slow=9.0,SNR=3.6						
TXAR				pP	pP	17 21 17.9	+2.5
	comp=Z,1.3nm,0.6s,baz=147,slow=8.9,SNR=13						
QSPA	South Pole Qui	79.25	180	P	P	17 24 10.0	+0.1
QSPA				lAmb	lAmb	17 24 11.9	
	comp=Z,8.6nm,1.6s						
TORD	Torodi Ar. Bea	79.31	74	P	P	17 24 09.8	-1.2
	comp=Z,0.6nm,0.6s,baz=268,slow=5.1,SNR=3.9						
TORD				pP	pP	17 24 41.7	+4.5
	comp=Z,0.7nm,0.8s,baz=243,slow=4.0,SNR=2.6						
TORD	Torodi Ar. Bea	79.31	74	lAmb	lAmb	17 24 38.1	
	comp=Z,1.6nm,1.2s						
ESDC	Sonseca Array	82.36	47	P	P	17 24 26.3	-0.5
	comp=Z,0.6nm,0.7s,baz=274,slow=5.5,SNR=4.4						
ESDC	Sonseca Array	82.36	47	lAmb	lAmb	17 24 28.6	
	comp=Z,2.5nm,1.4s						
ASAR	Alice Springs	135.82	219	PKP	PKPdf	17 31 24.1	-1.5
	comp=Z,0.3nm,0.7s,baz=122,slow=1.7,SNR=4.9						
WRA	Warramunga Arr	138.22	223	PKP	PKPdf	17 31 28.8	-1.3
	comp=Z,0.5nm,0.7s,baz=135,slow=2.7,SNR=7.2						

SOME 12 17:23:25.4, 42°.38N×80°.90E, h0km, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UZB	Uzunbulak	1.58	300	*e*P	Pg	17 23 57.0	+1.3
	0.9nm,0.1s						
UZB				*e*S	Sb	17 24 19.4	+3.3
	4.2nm,0.3s						
SATY	Saty	1.96	291	*e*P	Pb	17 24 02.1	+0.1
	1.1nm,0.1s						
SATY				*e*S	Sg	17 24 28.4	+0.1
	4.5nm,0.2s						

*SOME **12** 17:23:25.7, 43°.15N×78°.18E, h5km*
NNC 12 17:23:26.0±1.4, 43°.22N×78°.35E, h0km, mb2.3, mpv2.7, Error ellipse: s-maj=12.0km s-min=7.2km az=60.0, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	Saty	0.16	166	*e*P	Pg	17 23 29.3	+0.2
	7.7nm,0.1s						
SATY				*e*S	Sg	17 23 32.2	+1.0
	131nm,0.1s						
SATY	Saty	0.16	166	P	Pg	17 23 29.4	+0.3
	7.7nm,0.1s						
SATY				S	Sg	17 23 32.2	+1.0
	131nm,0.1s						
KPKS	Kokpek	0.35	44	*e*P	Pb	17 23 35.2	+0.1
	4.6nm,0.1s						
KPKS				*e*S	Sb	17 23 42.1	+0.8
	9.8nm,0.3s						
UZB	Uzunbulak	0.49	98	*e*P	Pb	17 23 36.9	-0.8
	0.8nm,0.1s						
UZB				*e*S	Sb	17 23 45.0	-0.6
	6.6nm,0.1s						
UZB	Uzunbulak	0.49	98	P	Pb	17 23 36.9	-0.8
	0.8nm,0.1s						
UZB				S	Sb	17 23 45.0	-0.5
	6.6nm,0.1s						
SHLS	Shalkode	0.81	94	*e*P	Pn	17 23 46.4	+1.5
	2.4nm,0.2s						
SHLS				*e*S	Sn	17 24 01.3	+3.6
	7.8nm,0.3s						
SHLS	Shalkode	0.81	94	P	Pn	17 23 46.4	+1.5
	2.4nm,0.2s						
SHLS				P	Pb	17 23 46.4	+3.3
	2.7nm,0.2s						
SHLS				S	Sn	17 24 01.3	+3.6
	7.8nm,0.3s						
SHLS				S	Sb	17 24 01.3	+6.6
	7.8nm,0.3s						
ARXS	Arharly	1.07	339	*e*P	Pg	17 23 46.2	-0.3
	1.6nm,0.2s						
ARXS				*e*S	Sg	17 24 00.7	+0.4
	3.2nm,0.2s						
ARXS	Arharly	1.07	339	P	Pg	17 23 46.2	-0.3
	1.6nm,0.2s						
ARXS				S	Sg	17 24 00.7	+0.4
	3.2nm,0.2s						

*IDC **12** 17:26:28.3±2.8, 32°.24S×178°.19W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/21, mbtmp3.8/3, ML3.5/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/21, Error ellipse: s-maj=67.0km s-min=35.8km az=119.0*
*NEIC **12** 17:26:30.3±1.8, 32°.35S±0°.1×178°.2W±0°.2, h10km±2km, mb4.3/7, Error ellipse: s-maj=35.9km s-min=13.1km az=117.0*
ISC 12 17:26:29.3±1.3, 32°.2S±0°.1×178°.3W±0°.2, h10km, n18, σ1°33/18, mb4.3/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	7.16	211	Pn	Pn	17 28 13.5	-0.5
	0.7nm,0.3s,baz=133,slow=22,SNR=1.3						
URZ				Sn	Sn	17 29 35.9	+0.6
	2.1nm,0.3s,baz=82,slow=23,SNR=6.1						
BKZ	Black Stump Fm	8.18	210	Pn	Pn	17 28 27.2	-0.9
BFZ	Birch Farm	9.57	206	Pn	Pn	17 28 45.2	-1.9
PLWZ	Palliser	10.72	207	Pn	Pn	17 29 01.1	-1.7
KHZ	Kahutara	12.12	210	Pn	Pn	17 29 19.3	-2.7
LTZ	Lake Taylor	12.98	213	Pn	Pn	17 29 34.1	+0.4
DZM	Mont Dzumac	16.91	303	LR	LR	17 35 37.2	
	comp=Z,75nm,18.7s,baz=192,slow=32						
AS31	Alice Springs	42.82	269	P	P	17 34 27.6	0.0
AS31				lAmb	lAmb	17 34 47.8	
	comp=Z,1.6nm,1.3s						
ASAR	Alice Springs	42.82	269	P	P	17 34 28.8	+1.2
	comp=Z,0.6nm,0.5s,baz=110,slow=7.6,SNR=32						
WR0	Warramunga Arr	43.79	274	P	P	17 34 35.6	+0.2
WR0				lAmb	lAmb	17 35 04.0	
	comp=Z,11nm,1.6s						
WB2	Warramunga Arr	43.96	274	P	P	17 34 37.7	+0.9
WB2				lAmb	lAmb	17 34 41.6	
	comp=Z,7.4nm,1.2s						
WRAB	Tennant Creek	43.96	274	P	P	17 34 37.1	+0.3
WRA	Warramunga Arr	43.97	274	P	P	17 34 37.7	+0.8
	comp=Z,0.9nm,0.3s,baz=114,slow=7.7,SNR=32						
WRA	Warramunga Arr	43.97	274	P	P	17 34 36.9	+0.1
QSPA	South Pole Qui	57.94	180	P	P	17 36 24.1	+2.5
QSPA				lAmb	lAmb	17 36 45.0	
	comp=Z,4.8nm,1.3s						
SNAA	Sanae	76.40	179	P	P	17 38 17.9	-0.5
SNAA				lAmb	lAmb	17 38 26.7	
	comp=Z,3.9nm,1.3s						
FINES	FINESS Array B	146.72	339	PKPbc	PKPab	17 46 10.7	-1.1
	comp=Z,0.9nm,0.4s,baz=58,slow=3.3,SNR=16						
FINES	FINESS Array B	146.72	339		PKPbc	17 46 09.8	-0.8

NEIC 12 17:45:05.1±0.7, 37°.06N±0°.01×97°.52W±0°.02, h7km±5km, Error ellipse: s-maj=2.3km s-min=1.3km az=221.0, Kansas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAN13	South Haven SW	0.06	143		Pg	17 45 06.8	0.0
KAN13					Sg	17 45 08.0	0.0
KS20	Mayfield South	0.17	351		Pg	17 45 08.7	0.0
KS20				Sg	Sg	17 45 11.3	+0.2
KAN17	Caldwell West	0.20	266		Pg	17 45 09.1	0.0
KAN17				Sg	Sg	17 45 12.0	+0.2
KS21	Milan North St	0.26	334		Pg	17 45 10.2	0.0
KS21					Sg	17 45 13.9	+0.2
KAN06	Argonia West S	0.33	305		Pg	17 45 11.6	0.0
KAN06					Sg	17 45 16.2	+0.2
GC02	Grant County #	0.34	233		Pg	17 45 11.8	0.0
GC02				Sg	Sg	17 45 16.6	+0.2
KAN14	Manchester OK	0.37	254		Pg	17 45 12.3	0.0
KAN14	Manchester OK	0.37	254		Sg	17 45 17.4	+0.2
BLOK	Blackwell	0.38	140		Pg	17 45 12.7	+0.1
BLOK				Sg	Sg	17 45 18.1	+0.5
KAN12	Harper NE Stat	0.45	302		Pg	17 45 13.8	-0.1
KAN12				Sg	Sg	17 45 20.0	+0.2
OK032	Salt Plains WL	0.61	246		Pg	17 45 16.7	-0.1
OK032	Salt Plains WL	0.61	246	Sg	Sg	17 45 25.0	+0.2
CROK	Carrier	0.67	214		Pg	17 45 17.8	-0.1
CROK				Sg	Sg	17 45 27.0	+0.4
T35A	Sooner Cattle	0.82	100

comp=Z,4.7nm,0.9s
PBMO Poplar Bluff 5.69 91 IAmb_Lg 17 48 11.1
comp=Z,6.0nm,0.7s
N41A Harden Midland 6.35 53 IAmb_Lg 17 48 38.8
comp=Z,5.0nm,0.8s
S44A Carbondale 6.61 82 IAmb_Lg 17 48 47.1
comp=Z,8.5nm,0.8s
PLAL Pickwick Lake 7.93 102 IAmb_Lg 17 49 37.4
comp=Z,5.9nm,0.8s
RSSD Black Hills 8.62 327 IAmb_Lg 17 49 34.9
comp=Z,7.6nm,0.7s

*NEIC **12** 17:54:32.4±2.0,56°.2S±0°.1×27°.1W±0°.2, h69km±4km, mb4.7/32, Error ellipse: s-maj=17.4km s-min=14.3km az=218.0*
*IDC **12** 17:54:33.7±5.2,56°.20S×26°.83W, h83km±45km, mb4.1/8, mb1 4.1/10,mb1mx3.9/27, mbtmp4.4/10, ML4.2/2, MS3.2/6, Ms1 3.2/6, ms1mx3.0/24, Error ellipse: s-maj=25.6km s-min=15.4km az=73.0*
ISC 12 17:54:32.5±2.3, 56°.20S±0°.09×27°.1W±0°.1, h74km±20km, n62, σ0°.79/59, mb4.7/19, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.72**	**286**				**Pn**	**17 55 54.1**	**-0.6**
VNA1	**Neumayer--Stat**	**16.63**	**158**	P		P	**P**	**17 58 23.6**	**+1.8**
VNA3	**Neumayer Olymp**	**16.82**	**160**	P		P	**P**	**17 58 24.8**	**+0.8**
VNA3				S		S	S	18 02 12.3	+37
VNA2	**Neumayer--Watz**	**17.02**	**158**	P		P	**P**	**17 58 26.5**	**+0.3**
	baz=318,slow=14								
VNA2				S		S	S	18 02 12.5	+33
SNAA	**Sanae**	**18.57**	**156**	P		P	**P**	**17 58 42.9**	**-0.3**
SNAA	**Sanae**	**18.57**	**156**	P		P	**P**	**17 58 41.7**	**-1.5**
	0.4nm,0.3s,baz=291,slow=12,SNR=32								
SNAA				PcP		PcP	**PcP**	**18 03 09.0**	**-0.1**
	0.2nm,0.3s,baz=246,slow=4.5,SNR=7.1								
SNAA				LR		LR	LR	18 04 40.7	
	comp=Z,69nm,21.1s,baz=358,slow=33								
SNAA	**Sanae**	**18.57**	**156**	P		P	**P**	**17 58 42.3**	**-0.9**
EFI	**East Falkland**	**18.70**	**271**	P		P	**P**	**17 58 45.5**	**+0.8**
PMSA	**Palmer Station**	**19.85**	**229**	P		P	**Pn**	**17 59 00.1**	**+0.8**
	1.3nm,0.3s,baz=101,slow=6.3,SNR=15								
PMSA				LR		LR	LR	18 05 26.1	
	comp=Z,134nm,18.1s,baz=76,slow=33								
PMSA	**Palmer Station**	**19.85**	**229**	P		P	**Pn**	**17 58 60.0**	**+0.8**
BELA	**Belgrano 2**	**21.93**	**184**	P		P	**P**	**17 59 17.8**	**-1.5**
TRQA	**Tornquist**	**29.44**	**293**	P		P	**P**	**18 00 28.9**	**-0.2**
TRQA				IAmb		IAmb	IAmb	18 00 29.5	
	comp=Z,31nm,1.6s								
PLTB	**Pedras Altas**	**30.65**	**312**	P		P	**P**	**18 00 38.6**	**-1.1**
PLTB				IAmb		IAmb	IAmb	18 01 12.8	
	comp=Z,32nm,1.4s								
PLCA	**Paso Flores**	**32.09**	**280**	LR		LR	LR	18 13 49.6	
	comp=Z,37nm,19.5s,baz=168,slow=36								
QSPA	**South Pole Qui**	**34.05**	**180**	P		P	**P**	**18 01 09.5**	**+0.2**
	comp=Z,4.8nm,0.5s,baz=210,slow=1.8,SNR=64								
QSPA				PcP		PcP	**PcP**	**18 03 44.8**	**-0.3**
	comp=Z,2.8nm,0.9s,baz=258,slow=2.3,SNR=4.0								
QSPA	**South Pole Qui**	**34.05**	**180**	P		P	**P**	**18 01 09.3**	**0.0**
QSPA				IAmb		IAmb	IAmb	18 01 10.3	
	comp=Z,30nm,1.6s								
CPUP	**Villa Florida**	**36.96**	**311**	P		P	**P**	**18 01 34.2**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=167,slow=8.8,SNR=4.2								
CPUP				PcP		PcP	**PcP**	**18 03 53.4**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=179,slow=4.7,SNR=3.2								
CPUP				LR		LR	LR	18 15 43.6	
	comp=Z,11nm,21.5s,baz=174,slow=34								
CPUP	**Villa Florida**	**36.96**	**311**	IAmb		IAmb	IAmb	18 01 37.7	
	comp=Z,17nm,1.5s								
CO02	**Combarbal**	**39.43**	**291**	P		P	**P**	**18 01 55.0**	**-0.3**
BDFB	**Brasilia**	**43.53**	**330**	P		P	**P**	**18 02 30.2**	**+1.3**
	comp=Z,1.8nm,0.4s,baz=156,slow=13,SNR=3.5								
BDFB	**Brasilia**	**43.53**	**330**	IAmb		IAmb	IAmb	18 02 31.0	
	comp=Z,19nm,1.5s								
PB14	**IPOC Station P**	**44.47**	**297**	P		P	**P**	**18 02 35.0**	**-1.7**
LVC	**Limon Verde**	**45.43**	**300**	P		P	**P**	**18 02 45.2**	**+0.9**
SBA	**Scott Base**	**45.93**	**184**	P		P	**P**	**18 02 48.7**	**+1.6**
SBA				IAmb		IAmb	IAmb	18 02 49.9	
	comp=Z,15nm,1.8s								
BOSA	**Boshof**	**45.95**	**76**	LR		LR	LR	18 18 12.4	
	comp=Z,71nm,18.5s,baz=184,slow=31								
BOSA	**Boshof**	**45.95**	**76**	P		P	**P**	**18 02 48.7**	**+0.7**
BOSA				IAmb		IAmb	IAmb	18 02 59.7	
	comp=Z,19nm,1.4s								
PB09	**IPOC Station P**	**46.28**	**300**	P		P	**P**	**18 02 52.1**	**+1.3**
VNDA	**Vanda**	**46.42**	**183**	P		P	**P**	**18 02 51.5**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=200,slow=6.6,SNR=11								
VNDA	**Vanda**	**46.42**	**183**	P		P	**P**	**18 02 51.5**	**+0.5**
PB07	**IPOC Station P**	**46.66**	**300**	P		P	**P**	**18 02 54.0**	**+0.3**
PB07				IAmb		IAmb	IAmb	18 03 00.8	
	comp=Z,21nm,1.2s								
PB07				PcP		PcP	**PcP**	**18 04 26.8**	**+0.5**
PB01	**IPOC Station P**	**47.05**	**301**	P		P	**P**	**18 02 57.3**	**+0.6**
PB01				IAmb		IAmb	IAmb	18 03 12.0	
	comp=Z,31nm,1.6s								
PB08	**IPOC Station P**	**47.66**	**302**	P		P	**P**	**18 03 02.8**	**+1.1**
PB08				IAmb		IAmb	IAmb	18 03 06.0	
	comp=Z,9.4nm,1.2s								
H10S2	**ASCENSION HYDR**	**48.13**	**17**	T		T	T	18 55 50.3	
	baz=189,slow=74,SNR=27								
H10S3	**ASCENSION HYDR**	**48.13**	**17**	T		T	T	18 55 49.8	
	baz=31,slow=74,SNR=69								
PB11	**IPOC Station P**	**48.22**	**301**	P		P	**P**	**18 03 06.3**	**+0.5**
PB11				IAmb		IAmb	IAmb	18 03 08.4	
	comp=Z,14nm,1.1s								
PSGCX	**Pisagua**	**48.59**	**301**	P		P	**P**	**18 03 08.4**	**-0.2**
PSGCX				PcP		PcP	**PcP**	**18 04 33.7**	**+0.5**
LBTB	**Lobatse**	**48.99**	**73**	LR		LR	LR	18 20 20.3	
	comp=Z,23nm,19.5s,baz=205,slow=32								
H10N1	**ASCENSION HYDR**	**49.25**	**17**	T		T	T	18 57 12.7	
	baz=189,slow=76,SNR=38								
H10N3	**ASCENSION HYDR**	**49.25**	**17**	T		T	T	18 57 14.2	
	baz=189,slow=76,SNR=72								
H10N2	**ASCENSION HYDR**	**49.26**	**17**	T		T	T	18 57 15.0	
	baz=189,slow=76,SNR=50								
LPAZ	**La Paz**	**50.52**	**305**	P		P	**P**	**18 03 24.6**	**+0.8**
	comp=Z,3.2nm,0.4s,baz=165,slow=6.2,SNR=20								
LPAZ				PcP		PcP	**PcP**	**18 04 41.6**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=178,slow=3.2,SNR=3.5								
LPAZ	**La Paz**	**50.52**	**305**	P		P	**P**	**18 03 24.3**	**+0.4**
LPAZ				IAmb		IAmb	IAmb	18 03 25.5	
	comp=Z,5.7nm,0.9s								
LPAZ				PcP		PcP	**PcP**	**18 04 41.8**	**+0.9**
SAML	**Samuel**	**54.96**	**315**	P		P	**P**	**18 03 56.0**	**+0.1**
SAML				IAmb		IAmb	IAmb	18 03 56.4	
	comp=Z,2.9nm,0.7s								
LIC	**Lamto**	**64.81**	**24**	*eP*		P	**P**	**18 05 02.7**	**-0.6**
	comp=Z,17nm,0.7s								
KIC	**Kosan Boka**	**65.01**	**25**	*eP*		P	**P**	**18 05 04.8**	**+0.2**
	comp=Z,9.0nm,0.8s								
TIC	**Toumodi**	**65.22**	**24**	*eP*		P	**P**	**18 05 05.3**	**-0.7**
DBIC	**Dimbokro**	**65.28**	**24**	P		P	**P**	**18 05 06.0**	**-0.3**
	comp=Z,1.9nm,0.5s,baz=194,slow=8.4,SNR=5.3								
DBIC	**Dimbokro**	**65.28**	**24**	P		P	**P**	**18 05 06.3**	**0.0**
OTAV	**Otavalo**	**69.79**	**304**	P		P	**P**	**18 05 35.3**	**-0.2**
KOWA	**Kowa**	**73.04**	**23**	P		P	**P**	**18 05 54.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**73.16**	**29**	P		P	**P**	**18 05 55.2**	**+0.2**
	comp=Z,6.7nm,0.4s,baz=201,slow=6.3,SNR=76								
TORD	**Torodi Ar. Bea**	**73.16**	**29**	P		P	**P**	**18 05 55.3**	**+0.3**
TORD				IAmb		IAmb	IAmb	18 05 56.0	
	comp=Z,6.8nm,1.0s								
TAU	**Tasmania Unive**	**81.14**	**176**	P		P	**P**	**18 06 39.3**	**-0.2**
ASAR	**Alice Springs**	**98.82**	**162**	P		P	**P**	**18 08 03.5**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=182,slow=3.4,SNR=7.8								
PDAR	**Pinedale Array**	**120.48**	**302**	PKP			**PKPdf**	**18 13 13.0**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=194,slow=35,SNR=1.6								
NVAR	**Mina Array Bea**	**121.52**	**293**	PKP			**PKPdf**	**18 13 17.1**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=141,slow=4.3,SNR=4.6								
FINES	**FINESS Array B**	**124.49**	**28**	PKP			**PKPdf**	**18 13 21.2**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=179,slow=3.3,SNR=13								
ARCES	**ARCESS Array B**	**131.06**	**22**	PKP			**PKPdf**	**18 13 33.8**	**-0.1**
	comp=Z,1.9nm,1.0s,baz=270,slow=1.0,SNR=4.7								
MKAR	**Makanchi Array**	**136.87**	**71**	PKP			**PKPdf**	**18 13 45.8**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=234,slow=3.2,SNR=2.3								
ILAR	**Eielson Array**	**150.27**	**311**	PKPbc			**PKPbc**	**18 14 13.5**	**0.0**
	comp=Z,6.0nm,0.8s,baz=136,slow=2.1,SNR=46								
ILAR	**Eielson Array**	**150.27**	**311**				**PKPbc**	**18 14 13.4**	**-0.2**
SONM	**Songino Array**	**150.67**	**87**	PKPbc			**PKPbc**	**18 14 14.7**	**-0.5**
	comp=Z,2.9nm,0.6s,baz=216,slow=3.6,SNR=15								

*KRNET **12** 18:09:14.4±0.1, 43°.47N×70°.23E, mb2.5*
*NNC **12** 18:09:15.8±0.8, 42°.97N×70°.07E, h0km, mb3.2, mpv2.6, Error ellipse: s-maj=17.4km s-min=4.3km az=155.0, Suspected Mining explosion.*
*SOME **12** 18:09:16.4, 43°.33N×70°.17E, h5km*
ISC 12 18:09:18.3±1.1, 43°.37N±0°.04×70°.34E±0°.05, h0km, n22, σ1§24/42, 22C-12D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK09	**Karatay Array**	**0.27**	**154**			⇑P	**Pg**	**18 09 22.4**	**-1.1**
KK09						⇓S	**Sg**	**18 09 27.3**	**+0.4**
KK08	**Karatay Array**	**0.28**	**157**			⇑P	**Pg**	**18 09 22.6**	**-1.1**
KK08						⇓S	**Sg**	**18 09 27.8**	**+0.4**
KK04	**Karatay Array**	**0.28**	**155**			⇑P	**Pg**	**18 09 22.7**	**-1.0**
KK04						⇑S	**Sg**	**18 09 27.5**	**+0.1**
KK05	**Karatay Array**	**0.28**	**152**			⇓P	**Pg**	**18 09 22.7**	**-1.1**
KK05						⇑S	**Sg**	**18 09 27.6**	**+0.2**
KK01	**Karatay Array**	**0.29**	**155**			⇑P	**Pg**	**18 09 22.8**	**-1.0**
KK01						⇑S	**Sg**	**18 09 27.9**	**+0.4**
KK03	**Karatay Array**	**0.29**	**156**			⇑P	**Pg**	**18 09 22.7**	**-1.1**
KK03						⇑S	**Sg**	**18 09 27.7**	**+0.2**
KK02	**Karatay Array**	**0.29**	**154**			⇓P	**Pg**	**18 09 22.8**	**-1.0**
KK02						⇑S	**Sg**	**18 09 28.0**	**+0.3**
KK31	**Karatay Array**	**0.29**	**154**			⇓P	**Pg**	**18 09 22.9**	**-1.0**
	1.7nm,0.1s,baz=296,slow=17,SNR=929								
KK31						⇓S	**Sg**	**18 09 27.8**	**+0.2**
	5.9nm,0.2s,baz=318,slow=39,SNR=4.1								
KK07	**Karatay Array**	**0.30**	**157**			⇓P	**Pg**	**18 09 23.0**	**-1.1**
KK07						⇑S	**Sg**	**18 09 28.1**	**+0.1**
KK06	**Karatay Array**	**0.30**	**153**			⇑P	**Pg**	**18 09 23.1**	**-1.0**
KK06						⇑S	**Sg**	**18 09 28.2**	**+0.1**
BRLS	**Boroldoy**	**0.50**	**228**	*eP*			**Pb**	**18 09 29.1**	**-0.9**
	baz=6.0								
BRLS				*eS*			**Sb**	**18 09 38.8**	**+1.0**
	baz=6.0								
BRLS	**Boroldoy**	**0.50**	**228**	*eP*			**Pb**	**18 09 29.1**	**-0.9**
	7.1nm,0.1s								
BRLS				*eS*			**Sb**	**18 09 38.8**	**+1.0**
	13nm,0.1s								
MNAS	**Manas**	**1.82**	**118**	⇑	*iP*		**Pn**	**18 09 50.8**	**-0.2**
	baz=19								
MNAS				⇑	*iS*		**Sg**	**18 10 16.7**	**+0.1**
	baz=19								
TRKS	**Terek-Say**	**1.93**	**162**	⇑	*iP*		**Pb**	**18 09 54.2**	**-0.2**
	baz=60								
TRKS				⇑	*iS*		**Sg**	**18 10 23.0**	**+2.8**
	baz=60								
MRKS	**Merke**	**2.21**	**105**	*eP*			**Pb**	**18 09 58.5**	**-0.7**
	2.6nm,0.2s								
MRKS				*eS*			**Sg**	**18 10 29.8**	**+0.7**
	10nm,0.4s								
EKS2	**Erkin-Say**	**2.62**	**104**	⇑	*eP*		**Pn**	**18 10 01.6**	**-0.4**
	baz=6.0								
EKS2				⇑	*iS*		**Sn**	**18 10 35.6**	**+1.1**
	baz=6.0								
AML	**Almayashu**	**2.76**	**115**	⇓	*iP*		**Pn**	**18 10 04.1**	**-0.1**
	baz=16								
AML				⇓	*iS*		**Sn**	**18 10 40.1**	**+1.6**
	baz=16								
AAK	**Ala-Archa**	**3.13**	**102**	⇑	Pg		**Pg**	**18 10 17.2**	**-1.1**
	1.2nm,0.3s								
AAK				⇑	Lg		Lg	18 10 57.0	
	1.7nm,0.4s								
BTLS	**Baital**	**3.15**	**57**	*eP*			**Pg**	**18 10 17.4**	**-1.3**
	3.4nm,0.3s								
BTLS				*eS*			**Sg**	**18 11 02.5**	**+3.0**
	2.3nm,0.5s								
ARLS	**Aral**	**3.30**	**116**	⇓	*iP*		**Pn**	**18 10 11.7**	**+0.3**
	baz=17								
ARLS				⇓	*iS*		**Sn**	**18 10 53.3**	**+1.8**
	baz=17								
TKM2	**Tokmak 2**	**3.87**	**95**	⇑	Pg		**Pg**	**18 10 29.7**	**-2.8**
	0.9nm,0.3s								
TKM2				⇓	Lg		Lg	18 11 21.1	
	2.1nm,0.3s								
KST	**Kastek**	**4.12**	**93**	*eP*			**Pg**	**18 10 34.8**	**-2.5**
	1.2nm,0.3s								
KST				*eS*			**Sg**	**18 11 32.0**	**+1.2**
	2.5nm,0.3s								

*IDC **12** 18:09:37.2±1.9, 32°.62S×178°.21W, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.8/30, mbtmp4.0/5, ML3.4/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/26, Error ellipse: s-maj=44.5km s-min=35.0km az=57.0*
*NEIC **12** 18:09:41.3±1.7, 32°.9S±0°.2×178°.6W±0°.2, h10km±1km, mb4.6/8, Error ellipse: s-maj=28.3km s-min=23.8km az=127.0*
ISC 12 18:09:43.0±1.6, 32°.8S±0°.1×178°.4W±0°.2, h32km, n20, σ1§47/20, mb4.4/8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.44**	**209**	Pn	**Pn**	**18 11 00.7**	**-1.1**
URZ	**Urewera**	**6.54**	**213**	Pn	**Pn**	**18 11 16.6**	**-0.4**
	0.8nm,0.3s,baz=162,slow=17,SNR=1.9						
URZ				Sn	**Sn**	**18 12 32.6**	**+2.1**
	5.1nm,0.3s,baz=266,slow=15,SNR=9.5						
BKZ	**Black Stump Fm**	**7.56**	**212**	Pn	**Pn**	**18 11 28.8**	**-2.2**
HIZ	**Hauiti**	**7.90**	**222**	Pn	**Pn**	**18 11 34.3**	**-1.3**
BFZ	**Birch Farm**	**8.94**	**207**	Pn	**Pn**	**18 11 47.2**	**-2.7**
DZM	**Mont Dzumac**	**17.21**	**305**	LR	LR	18 18 46.8	
	comp=Z,152nm,18.1s,baz=184,slow=32						
CTA	**Charters Tower**	**33.97**	**283**	P	**P**	**18 16 25.0**	**+1.3**
	4.0nm,0.8s,baz=90,slow=10,SNR=1.7						
CTAO	**Charters Tower**	**33.97**	**283**	P	**P**	**18 16 25.1**	**+1.3**
ASAR	**Alice Springs**	**42.73**	**270**	P	**P**	**18 17 37.3**	**-0.1**
	1.4nm,0.6s,baz=109,slow=7.7,SNR=26						
ASAR	**Alice Springs**	**42.73**	**270**	P	**P**	**18 17 37.0**	**-0.5**
WR0	**Warramunga Arr**	**43.76**	**275**	P	**P**	**18 17 45.2**	**-0.6**
WR0				IAmb	IAmb	18 18 07.0	
	comp=Z,9.8nm,1.5s						
WB2	**Warramunga Arr**	**43.93**	**275**	P	**P**	**18 17 46.4**	**-0.7**
WB2				IAmb	IAmb	18 18 06.2	
	comp=Z,6.4nm,1.1s						
WRAB	**Tennant Creek**	**43.93**	**275**	P	**P**	**18 17 46.0**	**-1.2**
WRAB				IAmb	IAmb	18 18 00.7	
	comp=Z,15nm,1.6s						
WRA	**Warramunga Arr**	**43.94**	**275**	P	**P**	**18 17 46.1**	**-1.1**
	comp=Z,1.0nm,0.4s,baz=114,slow=8.1,SNR=31						
WRA	**Warramunga Arr**	**43.94**	**275**	P	**P**	**18 17 45.2**	**-2.0**
MTN	**Manton Dam**	**50.10**	**281**	P	**P**	**18 18 34.0**	**-1.3**
KNRA	**Kununurra**	**50.63**	**277**	P	**P**	**18 18 38.0**	**-1.3**
KNRA				IAmb	IAmb	18 18 58.9	
	comp=Z,33nm,1.6s						
QSPA	**South Pole Qui**	**57.27**	**180**	P	**P**	**18 19 28.4**	**+1.1**
	comp=Z,1.3nm,1.1s,baz=230,slow=7.9,SNR=2.0						
QSPA	**South Pole Qui**	**57.27**	**180**	P	**P**	**18 19 28.4**	**+1.1**
FINES	**FINESS Array B**	**147.31**	**338**	PKPbc	**PKPdf**	**18 29 20.5**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=44,slow=3.8,SNR=19						

*PRU **12** 18:16:10.1±0.0, 51°.72N×6°.14E, h0km*
*STR **12** 18:16:24.8±1.3, 52°.N±8°×±°, h5km, MLv2.7/3, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/haslach_taup-2.11 preliminary*
*BUG **12** 18:16:24.3±0.0, 51°.58N×6°.85E, h1km±1km, MD2.8/10, ML2.9/7*
*BNS **12** 18:16:25.3±0.5, 51°.55N×6°.86E, h1km, ML2.2*
*BGR **12** 18:16:25.6±0.3, 51°.56N×6°.84E, h1km, ML2.5/7, Error ellipse: s-maj=4.4km s-min=3.3km az=108.0*
*LDG **12** 18:16:25.5±0.1, 51°.56N×6°.82E, h1km, Md2.7/2, Ml2.6/22, Error ellipse: s-maj=1.4km s-min=1.0km az=146.0, Suspected Mining induced.*
ISC 12 18:16:23.1±0.7, 51°.55N±0°.02×6°.75E±0°.02, h0km, n81, σ1§25/132, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BZER	**Hlnxe**	**0.10**	**46**			Pg	**Pg**	**18 16 25.5**	**+0.4**
BZER						Sg	**Sg**	**18 16 26.0**	**-0.4**
LAUG	**Laupendahl**	**0.23**	**149**			*e*Pg	**Pg**	**18 16 29.5**	**+1.9**
BAVN	**Auguste-Victor**	**0.30**	**51**			Pg	**Pg**	**18 16 29.8**	**+1.0**
BAVN						Sg	**Sg**	**18 16 33.9**	**+1.2**
BULI	**Ruhr-Universit**	**0.33**	**107**			Pg	**Pg**	**18 16 30.5**	**+1.0**
BULI						Sg	**Sg**	**18 16 35.6**	**+1.9**
BKLB	**Ruhr-Universit**	**0.34**	**109**			Pg	**Pg**	**18 16 30.7**	**+1.0**
BUG	**Bochum--Univer**	**0.34**	**109**			Pg	**Pg**	**18 16 30.8**	**+1.1**
BUG						*e*Sg	**Sg**	**18 16 35.3**	**+1.2**
	SNR=3.5								
BTEZ	**Ruhr-Universit**	**0.34**	**107**			Pg	**Pg**	**18 16 30.8**	**+1.1**
WTSB	**Winterswijk**	**0.42**	**4**			*e*Pg	**Pb**	**18 16 32.9**	**-0.5**
	SNR=7.7								
WTSB						*e*Sg	**Sg**	**18 16 38.5**	**+2.0**
	SNR=6.1								
ENTS	**Ennepetalsperr**	**0.52**	**127**			*e*Pg	**Pg**	**18 16 34.2**	**+1.2**
ENTS						*e*Sg	**Sg**	**18 16 41.0**	**+1.4**
RODG	**Roetgen-Dahlhe**	**0.54**	**222**			*e*Pg	**Pb**	**18 16 36.7**	**+1.2**
PLH	**Pulheim**	**0.55**	**176**			*e*Pg	**Pb**	**18 16 36.1**	**+0.5**
PLH						*e*Sg	**Sb**	**18 16 44.2**	**+0.2**
HMES	**Hamm, Michael-**	**0.62**	**80**			Pg	**Pg**	**18 16 35.6**	**+0.7**
HMES						Sg	**Sg**	**18 16 43.7**	**+0.8**
BNS	**Bensberg**	**0.65**	**156**			*e*Pg	**Pb**	**18 16 37.7**	**+0.5**
HOBG	**Hohbusch**	**0.68**	**147**			*e*Pg	**Pb**	**18 16 37.9**	**+0.2**
SORT	**Sorpetalsperre**	**0.79**	**104**			*e*Pg	**Pg**	**18 16 38.8**	**+0.5**
SORT						*e*Sg	**Sg**	**18 16 48.8**	**+0.3**
	123nm,0.3s								
GSH	**Grosshau**	**0.85**	**196**			*e*Pg	**Pn**	**18 16 42.3**	**-0.1**
GSH						*e*Sg	**Sn**	**18 16 54.5**	**-1.0**
	63nm,0.4s								
DREG	**Dreilaegerbach**	**0.95**	**200**			*e*Pg	**Pn**	**18 16 43.8**	**+0.1**
DREG						*e*Sg	**Sn**	**18 16 57.2**	**-0.7**
	80nm,0.5s								
STB	**Steinbach**	**0.96**	**177**			*e*Pg	**Pn**	**18 16 44.0**	**+0.2**
IBBN	**Ibbenburen**	**0.98**	**39**			Pg	**Pg**	**18 16 42.3**	**+0.4**
IBBN						Sg	**Sb**	**18 16 57.2**	**+0.8**
TDN	**Todenfeld**	**0.98**	**173**			*e*Pg	**Pn**	**18 16 44.2**	**0.0**
TDN						*e*Sg	**Sn**	**18 16 57.9**	**-1.0**
	116nm,0.4s								
IBBE	**Ibbenbueren Ea**	**0.99**	**40**			Pg	**Pg**	**18 16 42.5**	**+0.4**
IBBE						Sg	**Sb**	**18 16 57.6**	**+0.9**
AHRW	**Bad Neuenahr-A**	**1.03**	**168**			*e*Pg	**Pn**	**18 16 45.1**	**+0.2**
	SNR=7.9								
AHRW						*e*Sg	**Sn**	**18 16 59.9**	**0.0**
	SNR=9.5								
MEM	**Membach**	**1.05**	**207**			*e*Pg	**Pn**	**18 16 46.1**	**+1.0**
	SNR=14								
MEM						*e*Sg	**Sn**	**18 17 01.0**	**+0.5**
	SNR=2.4								
OLFT	**Oleftalsperre**	**1.08**	**191**			*e*Pg	**Pn**	**18 16 46.3**	**+0.7**
OLFT						*e*Sg	**Sn**	**18 17 01.6**	**+0.4**
KASTN	**Kahler Asten**	**1.10**	**108**			Pg	**Pg**	**18 16 44.8**	**+0.6**
KASTN						Sg	**Sg**	**18 16 58.7**	**+0.3**
BHE	**Schloss Buerre**	**1.23**	**167**			*e*Pg	**Pn**	**18 16 48.4**	**+0.9**
BHE						*e*Sg	**Sn**	**18 17 05.1**	**+0.3**
	55nm,0.5s								
LOH	**Wallersheim-Lo**	**1.38**	**186**			*e*Pg	**Pb**	**18 16 51.1**	**+1.4**
LOH						*e*Sg	**Sn**	**18 17 09.8**	**+1.2**
	67nm,0.3s								
BGG	**Burgeitz**	**1.40**	**164**			*e*Pg	**Pb**	**18 16 50.5**	**+0.4**
TNS	**Taunus Mts**	**1.71**	**140**			*e*Pn	**Pn**	**18 16 54.7**	**+0.5**
	SNR=2.2								
ABH	**Alteburg**	**1.75**	**163**			Pn	**Pn**	**18 16 55.5**	**+0.8**
ABH						Sn	**Sg**	**18 17 19.3**	**+0.1**
GIVF	**Givet**	**1.90**	**221**			*e*Pn	**Pn**	**18 16 57.6**	**+0.8**
GIVF	**Givet**	**1.90**	**221**			*e*Pg	**Pg**	**18 17 01.6**	**+2.1**
GIVF						*e*Sg	**Sg**	**18 17 26.2**	**+2.1**
	30nm,0.3s								
WLF	**Walferdange**	**1.93**	**192**			*e*Sg	**Sg**	**18 17 26.3**	**+1.3**
	SNR=2.5								
DOU	**Dourbes**	**2.00**	**224**			Pn	**Pb**	**18 16 59.3**	**-1.0**
DOU						Sn	**Sg**	**18 17 26.5**	**-0.8**
GTTG	**Gottingen**	**2.00**	**89**			*e*Pn	**Pn**	**18 16 58.1**	**-0.2**
	SNR=1.2								
GTTG						*e*Sg	**Sb**	**18 17 27.0**	**+1.0**
	SNR=4.4								
BAIF	**Baives**	**2.20**	**228**			*e*Pn	**Pn**	**18 17 01.7**	**+0.8**
BAIF	**Baives**	**2.20**	**228**			*e*P	**Pb**	**18 17 04.1**	**+0.3**
BAIF	**Baives**	**2.20**	**228**			*e*Pg	**Pg**	**18 17 06.9**	**+1.6**
BAIF						*e*Sn	**Sn**	**18 17 28.5**	**-0.3**
BAI

BGF	**Bois d'Agland**	**5.62 209**	*e*Pn	**Pn**	**18 17 48.3**	**+0.4**
BGF	**Bois d'Agland**	**5.62 209**	*e*Pg	**Pg**	**18 18 10.1**	**-0.6**
GRR	**Gorron**	**5.84 240**	*e*Pn	**Pn**	**18 17 51.0**	**+0.1**
GRR			*e*Sn	**Sn**	**18 18 55.0**	**-3.6**
	comp=Z,6.3nm,0.4s						
TCF	**Toulx Ste Croi**	**6.06 211**	*e*Pn	**Pn**	**18 17 54.3**	**+0.4**
TCF	**Toulx Ste Croi**	**6.06 211**	*e*Pg	**Pg**	**18 18 17.5**	**-1.7**
MFF	**Saint Martin d**	**6.71 225**	*e*Pn	**Pn**	**18 18 03.2**	**+0.3**
MFF			*e*Sn	**Sn**	**18 19 16.6**	**-3.4**
	comp=Z,0.6nm,0.3s						

IDC ***12*** *18:20:08.2±5.2,7°.65S×117°.28E,h282^{km}±50^{km},mb2.9/5, mb1 3.0/7,mb1mx2.8/46,mbtmp3.6/7,Error ellipse: s-maj=75.2km s-min=18.8km az=64.0*

ISC 12 18:20:10.4±1.1,7°.3S±0°.2×117°.7E±0°.2,h300^{km},n7, σ1º91/10,mb3.3/4,Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.54 116**		P	**Pn**	**18 21 47.0**	**+0.7**
	4.4nm,0.3s,baz=267,slow=3.6,SNR=7.6						
BATI				S	**S**	**18 23 02.1**	**-1.6**
	2.1nm,0.3s,baz=38,slow=17,SNR=2.1						
FITZ	**Fitzroy Crossi**	**13.21 145**		P	**P**	**18 23 06.8**	**-0.9**
	0.1nm,0.3s,baz=328,slow=14,SNR=1.4						
FITZ				S	**S**	**18 25 37.2**	**+3.5**
	0.1nm,0.3s,baz=104,slow=5.6,SNR=2.3						
WRA	**Warramunga Arr**	**20.43 130**		P	**P**	**18 24 25.4**	**-0.5**
	0.5nm,0.5s,baz=306,slow=11,SNR=16						
WRA				S	**S**	**18 27 56.8**	**+0.7**
	0.3nm,0.8s,baz=221,slow=32,SNR=2.6						
ASAR	**Alice Springs**	**22.49 138**		P	**P**	**18 24 45.5**	**+0.5**
	0.7nm,0.4s,baz=312,slow=8.8,SNR=20						
SONM	**Songino Array**	**55.82 351**		P	**P**	**18 29 18.7**	**+1.6**
	0.8nm,0.7s,baz=168,slow=10,SNR=4.4						
MKAR	**Makanchi Array**	**62.39 333**		P	**P**	**18 30 01.9**	**0.0**
	0.1nm,0.3s,baz=147,slow=5.8,SNR=1.5						
QSPA	**South Pole Qui**	**82.66 180**		P	**P**	**18 31 58.1**	**-2.4**
	0.6nm,0.7s,baz=8.2,slow=5.5,SNR=1.4						

IDC ***12*** *18:21:53.9±1.1,44°.03N×84°.42E,h0^{km},mb3.6/5, mb1 3.7/10,mb1mx3.5/61,mbtmp3.6/10,ML3.2/5,MS2.9/2, Ms1 2.9/2,ms1mx2.4/47,Error ellipse: s-maj=22.5km s-min=11.7km az=64.0*

SOME ***12*** *18:21:56.7,44°.12N×84°.28E,h5^{km}*

NNC ***12*** *18:21:58.9±1.5,44°.18N×84°.23E,h0^{km},mb4.2,mpv4.0, Error ellipse: s-maj=13.1km s-min=6.0km az=129.0*

ISC 12 18:21:53.2±1.4,44°.06N±0°.06×84°.99E±0°.08,h10^{km},n63, σ2º01/79,mb3.7/4,7C-10D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**3.33 326**		Pn	**Pn**	**18 22 46.4**	**+1.0**
	0.9nm,0.2s,baz=142,slow=14,SNR=1218						
MK31				⇑Pg	**Pb**	**18 22 53.1**	**+0.8**
	28nm,0.5s,baz=140,slow=17,SNR=67						
MK31				⇓Lg	Lg	18 23 31.8	
	121nm,0.6s,baz=140,slow=29,SNR=8.5						
MKAR	**Makanchi Array**	**3.33 326**		Pn	**Pn**	**18 22 46.6**	**+1.2**
	2.4nm,0.3s,baz=155,slow=15,SNR=130						
MKAR				Pg	**Pb**	**18 22 53.2**	**+0.8**
	18nm,0.3s,baz=149,slow=17,SNR=104						
MKAR				Lg	Lg	18 23 32.0	
	47nm,0.3s,baz=144,slow=42,SNR=13						
ZSN	**Zaisan**	**3.39 359**	*e*P		**Pg**	**18 22 58.8**	**+0.6**
	66nm,0.3s						
ZSN				*e*S	**Sg**	**18 23 43.4**	**+1.2**
	148nm,0.6s						
ZSN	**Zaisan**	**3.39 359**		Pg	**Pg**	**18 22 58.8**	**+0.6**
	66nm,0.3s						
ZSN				Lg	Lg	18 23 43.4	
	148nm,0.6s						
KTMS	**Ketmen**	**3.42 261**	*e*P		**Pb**	**18 22 50.9**	**-3.0**
	3.7nm,0.1s						
KTMS				*e*S	**Sn**	**18 23 29.4**	**+2.2**
	378nm,0.5s						
KTMS	**Ketmen**	**3.42 261**		Pg	**Pb**	**18 22 50.9**	**-3.0**
	3.7nm,0.1s						
KTMS				Lg	Lg	18 23 30.1	
	378nm,0.5s						
MAKZ	**Makanchi**	**3.47 323**		⇓Pn	**Pn**	**18 22 48.3**	**+1.0**
	2.0nm,0.4s						
MAKZ				⇓Pg	**Pb**	**18 22 55.5**	**+0.7**
	18nm,0.5s						
MAKZ				⇑Lg	Lg	18 23 36.6	
	47nm,0.4s						
DJR	**Jarkent**	**3.75 276**	*e*P		**Pb**	**18 22 56.2**	**-3.3**
	1.8nm,0.3s						
DJR				*e*S	**Sn**	**18 23 38.6**	**+3.2**
	21nm,0.3s						
DJR	**Jarkent**	**3.75 276**		Pg	**Pb**	**18 22 56.2**	**-3.3**
	1.8nm,0.3s						
DJR				Lg	Lg	18 23 38.6	
	21nm,0.3s						
PDGK	**Podgornoye**	**4.05 262**		Pg	**Pb**	**18 23 05.5**	**+0.8**
	15nm,0.6s						
PDGK				Lg	Lg	18 23 55.0	
	61nm,0.5s						
PDGK	**Podgornoye**	**4.05 262**		⇑Pn	**Pn**	**18 22 54.6**	**-0.8**
	20nm,0.5s						
PDGK				⇓Lg	Lg	18 23 47.6	
	136nm,0.7s						
SHLS	**Shalkode**	**4.11 259**	*e*P		**Pn**	**18 22 56.9**	**+0.6**
	44nm,0.5s						
SHLS				*e*S	**Sn**	**18 23 40.1**	**-4.3**
	219nm,0.4s						
SHLS	**Shalkode**	**4.11 259**		Pg	**Pn**	**18 22 56.9**	**+0.6**
	44nm,0.5s						
SHLS				Lg	Lg	18 23 40.1	
	219nm,0.4s						
KAPS	**Kapalarasan**	**4.20 289**	*e*P		**Pb**	**18 23 06.0**	**-1.2**
	0.8nm,0.2s						
KAPS				*e*S	**Sb**	**18 23 56.1**	**-1.9**
	15nm,0.3s						
KAPS	**Kapalarasan**	**4.20 289**		Pg	**Pb**	**18 23 06.0**	**-1.2**
	0.8nm,0.2s						
KAPS				Lg	Lg	18 23 56.1	
	15nm,0.3s						
UZB	**Uzynbulak**	**4.43 260**	*e*P		**Pb**	**18 23 12.7**	**+1.6**
	38nm,0.5s						
UZB				*e*S	**Sb**	**18 24 07.2**	**+2.6**
	122nm,0.3s						
UZB	**Uzynbulak**	**4.43 260**		Pg	**Pb**	**18 23 12.7**	**+1.6**
	38nm,0.5s						
UZB				Lg	Lg	18 24 07.2	
	122nm,0.3s						
KPKS	**Kokpek**	**4.61 265**	*e*P		**Pb**	**18 23 14.4**	**+0.3**
	19nm,0.2s						
KPKS				*e*S	**Sb**	**18 24 10.4**	**+0.7**
	236nm,0.4s						
TDK	**Taldyqorghan**	**4.80 284**	*e*P		**Pb**	**18 23 19.3**	**+1.9**
	84nm,0.8s						
TDK				*e*S	**Sb**	**18 24 18.2**	**+3.0**
	123nm,0.4s						
TDK	**Taldyqorghan**	**4.80 284**		Pg	**Pb**	**18 23 19.3**	**+1.9**
	84nm,0.8s						
TDK				Lg	Lg	18 24 18.3	
	123nm,0.4s						
SATY	**Saty**	**4.89 260**	*e*P		**Pb**	**18 23 18.1**	**-0.8**
	13nm,0.2s						
SATY				*e*S	**Sb**	**18 24 16.6**	**-1.2**
	112nm,0.5s						
SATY	**Saty**	**4.89 260**		Pg	**Pb**	**18 23 18.1**	**-0.8**
	13nm,0.2s						
SATY				Lg	Lg	18 24 16.6	
	112nm,0.5s						
KURS	**Kuram**	**4.97 266**	*e*P		**Pb**	**18 23 17.4**	**-3.0**
	8.2nm,0.7s						
KURS				*e*S	**Sb**	**18 24 15.5**	**-4.7**
	49nm,0.5s						
KURS	**Kuram**	**4.97 266**		Pg	**Pb**	**18 23 17.4**	**-3.0**
	8.2nm,0.7s						
KURS				Lg	Lg	18 24 15.5	
	49nm,0.5s						
ARXS	**Arharly**	**5.16 274**	*e*P		**Pb**	**18 23 23.3**	**-0.3**
	36nm,0.4s						
ARXS				*e*S	**Sb**	**18 24 26.1**	**+0.6**
	117nm,0.6s						
ARXS	**Arharly**	**5.16 274**		Pg	**Pb**	**18 23 23.3**	**-0.3**
	36nm,0.4s						
ARXS				Lg	Lg	18 24 26.1	
	117nm,0.6s						
KOTS	**Kotyrbulak**	**5.77 265**	*e*P		**Pb**	**18 23 34.7**	**+0.6**
	14nm,0.7s						
KOTS				*e*S	**Sb**	**18 24 45.1**	**+1.7**
	141nm,0.6s						
KOTS	**Kotyrbulak**	**5.77 265**		Pg	**Pb**	**18 23 34.7**	**+0.6**
	14nm,0.7s						
KOTS				Lg	Lg	18 24 45.1	
	141nm,0.6s						
CHKK	**Chushkaly**	**5.78 271**	*e*P		**Pb**	**18 23 33.2**	**-0.9**
	6.0nm,0.3s						
CHKK				*e*S	**Sb**	**18 24 43.3**	**0.0**
	62nm,0.5s						
CHKK	**Chushkaly**	**5.78 271**		Pg	**Pb**	**18 23 33.2**	**-0.9**
	6.0nm,0.3s						
CHKK				Lg	Lg	18 24 43.3	
	62nm,0.5s						
MDOK	**Medeo**	**5.83 264**	*e*P		**Pb**	**18 23 35.7**	**+0.6**
	6.9nm,0.4s						
MDOK				*e*S	**Sb**	**18 24 47.1**	**+2.0**
	30nm,0.6s						
MDOK	**Medeo**	**5.83 264**		⇓Pn	**Pn**	**18 23 18.8**	**-1.1**
	7.7nm,0.5s						
MDOK				⇓Lg	Lg	18 24 45.5	
	52nm,0.6s						
MDOK	**Medeo**	**5.83 264**		Pg	**Pb**	**18 23 35.7**	**+0.6**
	6.9nm,0.4s						
MDOK				Lg	Lg	18 24 47.1	
	30nm,0.6s						
AAA	**Alma-Ata**	**5.92 265**	*e*P		**Pb**	**18 23 38.3**	**+1.8**
	13nm,0.1s						
AAA				*e*S	**Sb**	**18 24 52.0**	**+4.6**
	102nm,0.4s						
AAA	**Alma-Ata**	**5.92 265**		Pg	**Pb**	**18 23 38.3**	**+1.8**
	13nm,0.1s						
AAA				Lg	Lg	18 24 52.0	
	102nm,0.4s						
KTBS	**Karatobe**	**6.01 270**	*e*P		**Pb**	**18 23 39.0**	**+0.9**
	6.7nm,0.5s						
KTBS				*e*S	**Sb**	**18 24 52.5**	**+2.4**
	138nm,0.6s						
KTBS	**Karatobe**	**6.01 270**		Pg	**Pb**	**18 23 39.0**	**+0.9**
	6.7nm,0.5s						
KTBS				Lg	Lg	18 24 52.5	
	138nm,0.6s						
KUU	**Kurty**	**6.24 271**	*e*P		**Pb**	**18 23 44.1**	**+2.1**
	6.6nm,0.4s						
KUU				*e*S	**Sb**	**18 25 01.0**	**+4.3**
	52nm,0.4s						
KUU	**Kurty**	**6.24 271**		Pg	**Pb**	**18 23 44.1**	**+2.1**
	6.6nm,0.4s						
KUU				Lg	Lg	18 25 01.0	
	52nm,0.4s						
MTBS	**Maitube**	**6.29 264**	*e*P		**Pb**	**18 23 42.8**	**+0.1**
	13nm,0.4s						
MTBS				*e*S	**Sb**	**18 25 00.1**	**+2.1**
	48nm,0.5s						
MTBS	**Maitube**	**6.29 264**		Pg	**Pb**	**18 23 42.8**	**+0.1**
	13nm,0.4s						
MTBS				Lg	Lg	18 25 00.1	
	48nm,0.5s						
KST	**Kastek**	**6.64 264**	*e*P		**Pb**	**18 23 48.6**	**-0.2**
	4.2nm,0.9s						
KST				*e*S	**Sb**	**18 25 09.3**	**+1.2**
	14nm,0.9s						
KST	**Kastek**	**6.64 264**		Pg	**Pb**	**18 23 48.6**	**-0.2**
	4.2nm,0.9s						
KST				Lg	Lg	18 25 09.3	
	14nm,0.9s						
TKM2	**Tokmak 2**	**6.92 264**		⇑Pn	**Pn**	**18 23 36.1**	**+1.2**
	9.3nm,0.7s						
TKM2				⇓Sn	**Sn**	**18 24 52.2**	**-1.7**
	20nm,0.8s						
TKM2				⇓Lg	Lg	18 25 25.1	
	31nm,0.7s						
SGDS	**Sogindy**	**7.53 269**		Pg	**Pb**	**18 24 04.6**	**+0.8**
	2.1nm,0.3s						
SGDS				Lg	Lg	18 25 36.2	
	27nm,0.6s						
AAK	**Ala-Archa**	**7.78 263**		Pn	**Pn**	**18 23 46.3**	**-0.3**
	0.3nm,0.3s,baz=137,slow=5.0,SNR=4.6						
AAK				Lg	Lg	18 25 48.3	
	0.8nm,0.3s,baz=184,slow=23,SNR=1.5						
AAK	**Ala-Archa**	**7.78 263**		Pg	Pg	18 24 16.8	-5.3
	5.2nm,0.6s						
AAK				Lg	Lg	18 25 50.8	
	16nm,0.7s						
BTLS	**Baital**	**7.88 281**	*e*P		Pb	18 24 14.9	+5.1
	4.0nm,0.3s						
BTLS				*e*S	Sb	18 25 54.6	+11
	8.1nm,0.5s						
BTLS	**Baital**	**7.88 281**		Pg	Pb	18 24 14.9	+5.1
	4.0nm,0.3s						
BTLS				Lg	Lg	18 25 54.6	
	8.1nm,0.5s						
KURBB	**Kurchatov Arra**	**7.89 329**		Pn	**Pn**	**18 23 48.4**	**+0.4**
	0.2nm,0.3s,baz=143,slow=13,SNR=5.1						
KURBB				Sn	**Sn**	**18 25 11.7**	**-5.6**
	0.4nm,0.3s,baz=152,slow=20,SNR=5.5						
KURBB				Lg	Lg	18 25 59.2	
	0.8nm,0.3s,baz=336,slow=40,SNR=6.4						
KURBB	**Kurchatov Arra**	**7.89 329**		⇓Lg	Lg	18 25 58.0	
	169nm,0.8s						
OTUK	**Ortayu**	**9.72 300**		⇑Pn	**Pn**	**18 24 10.3**	**-2.8**
	1.7nm,0.8s						
OTUK				⇑Sn	Sn	18 25 50.4	-12
	3.5nm,0.6s						
OTUK				⇑Lg	Lg	18 26 50.8	
	20nm,0.8s						
ZALV	**Zalesovo Beam**	**9.90 359**		Pn	**Pn**	**18 24 16.6**	**+1.2**
	1.1nm,0.3s,baz=179,slow=13,SNR=15						
ZALV				Sn	**Sn**	**18 26 02.5**	**-4.0**
	1.4nm,0.3s,baz=169,slow=27,SNR=7.7						
ZALV				Lg	Lg	18 27 09.7	
	0.3nm,0.3s,baz=176,slow=26,SNR=5.5						
KK31	**Karatay Array**	**10.55 270**		⇓Lg	Lg	18 27 15.5	
	2.9nm,0.5s,baz=75,slow=30,SNR=3.5						
BVAR	**Borovoye Array**	**13.17 318**		Pn	**Pn**	**18 24 58.2**	**-2.0**
	0.3nm,0.3s,baz=134,slow=12,SNR=5.6						
BVAR				Sn	Sn	18 27 15.7	-11
	0.3nm,0.3s,baz=124,slow=22,SNR=4.3						
BVAR				Lg	Lg	18 28 46.0	
	0.2nm,0.3s,baz=134,slow=46,SNR=2.6						
SONM	**Songino Array**	**15.35 68**		Pn	P	18 25 42.4	+7.7
	baz=33,slow=46,SNR=3.5						
SONM				Lg	Lg	18 30 16.0	
	baz=274,slow=31,SNR=5.1						
ARU	**Arti**	**20.79 316**		P	**P**	**18 26 35.1**	**+0.8**
	0.7nm,0.6s,baz=111,slow=22,SNR=2.9						
KIRV	**Kirov**	**26.17 316**		LR	LR	18 38 34.3	
	comp=Z,41nm,20.6s,baz=270,slow=39						
KSRS	**Korea Array**	**32.89 87**		LR	LR	18 44 03.9	
	comp=Z,13nm,18.6s,baz=15,slow=40						
NOA	**NORSAR Array B**	**45.30 319**		P	**P**	**18 30 10.9**	**+0.1**
	0.3nm,0.4s,baz=77,slow=7.9,SNR=3.6						
ESDC	**Sonseca Array**	**63.20 300**		P	**P**	**18 32 21.1**	**-0.5**
	0.3nm,0.6s,baz=47,slow=7.4,SNR=1.8						
TORD	**Torodi Ar. Bea**	**76.19 275**		P	**P**	**18 33 41.6**	**-0.2**
	0.3nm,0.5s,baz=43,slow=4.6,SNR=6.3						
WRA	**Warramunga Arr**	**78.06 133**		P	P	18 33 56.2	+4.1
	0.5nm,0.5s,baz=325,slow=3.9,SNR=18						

IDC ***12*** *18:25:24.6±0.6,38°.69S×75°.22W,h0^{km},mb4.4/15, mb1 4.5/17,mb1mx4.4/31,mbtmp4.3/17,ML4.5/2,MS3.5/8, Ms1 3.5/8,ms1mx3.2/30,Error ellipse: s-maj=21.4km s-min=16.3km az=64.0*

NEIC ***12*** *18:25:27.1±2.1,38°.56S±0°.05×75°.18W±0°.08,h14^{km}±3^{km}, mb4.8/105,ML4.8(GUC),Error ellipse: s-maj=9.6km s-min=7.0km az=75.0*

GUC ***12*** *18:25:28.3±0.3,38°.68S×75°.13W,h26^{km}±3^{km},ML4.8*

VAO ***12*** *18:25:40.0±1.7,37°.42S×74°.57W,h10^{km},mb4.7*

ISC 12 18:25:27.3±4.1,38°.62S±0°.04×75°.29W±0°.06,h16^{km}±25^{km}, n195,σ2º03/156,mb4.8/61,MS3.7/6,1C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LR02	**Universidad Au**	**1.98 127**		*e*P	**Pn**	**18 25 58.7**	**-1.5**
LR02				*i* S	**Sn**	**18 26 21.5**	**-3.2**
LR02				IAML		18 26 23.6	
	comp=N,12μm,0.5s						
LR02	**Universidad Au**	**1.98 127**		Pn	**Pn**	**18 25 58.5**	**-1.7**
LR02				Sn	**Sn**	**18 26 22.4**	**-2.3**
LR03	**Panguipulli**	**2.51 115**	*e*P		**Pn**	**18 26 06.9**	**-0.5**
LR03				*i* S	**Sn**	**18 26 35.7**	**-2.0**
LR03				IAML		18 26 39.2	
	comp=E,7μm,0.5s						
LR03	**Panguipulli**	**2.51 115**		Pn	**Pn**	**18 26 07.1**	**-0.3**
LR03				Sn	**Sn**	**18 26 36.6**	**-1.2**
LC01	**Cunco**	**2.69 97**	⇑*i*P		**Pn**	**18 26 08.8**	**-1.1**
LC01			*i* S		**Sn**	**18 26 39.5**	**-2.6**
LC01	**Cunco**	**2.69 97**		Pn	**Pn**	**18 26 08.8**	**-1.1**
LC01				Sn	**Sn**	**18 26 36.4**	**-5.8**
LL05	**Los Muermos**	**3.12 154**	*i* P		**Pn**	**18 26 14.8**	**-1.0**
LL05			*i* S		**Sn**	**18 26 48.9**	**-3.8**
LL05	**Los Muermos**	**3.12 154**		Pn	**Pn**	**18 26 14.9**	**-1.0**
LL05				Sn	**Sn**	**18 26 48.6**	**-4.1**
LL04	**Puerto Octay**	**3.19 137**	*e*P		**Pn**	**18 26 15.7**	**-1.2**
LL04			*i* S		**Sn**	**18 26 49.7**	**-4.9**
LL04			IAML			18 26 51.2	
	comp=N,2μm,0.2s						
LL04	**Puerto Octay**	**3.19 137**		Pn	**Pn**	**18 26 15.8**	**-1.1**
LL04				Sn	**Sn**	**18 26 50.3**	**-4.3**
LL03	**Petrohue**	**3.36 139**	*e*P		**Pn**	**18 26 18.4**	**-0.8**
LL03			*i* S		**Sn**	**18 26 54.3**	**-4.5**
LL03			IAML			18 26 59.7	
	comp=N,2μm,2.4s						
LL03	**Petrohue**	**3.36 139**			**Pn**	**18 26 18.2**	**-0.9**
LL03				Sn	**Sn**	**18 26 57.8**	**-0.9**
ML02	**Panimavida**	**4.21 49**			**Pn**	**18 26 28.9**	**-1.9**
ML02				Sn	**Sn**	**18 27 15.8**	**-3.8**
PLCA	**Paso Flores**	**4.23 121**		Pn	**Pn**	**18 26 30.4**	**-0.8**
	comp=N,7.1nm,0.3s,baz=286,slow=10,SNR=44						
PLCA				Sn	**Sn**	**18 27 17.8**	**-2.4**
	baz=302,slow=14,SNR=1.3						
PLCA				LR	LR	18 27 39.5	
	comp=N,246nm,21.1s,baz=344,slow=33						
PLCA	**Paso Flores**	**4.23 121**			**Sn**	**18 27 24.1**	**+3.9**
PLCA	**Paso Flores**	**4.23 121**		Pn	**Pn**	**18 26 31.1**	**-0.1**
LL01	**San Ignacio de**	**4.35 151**			**Pn**	**18 26 32.4**	**-0.4**
LL01				Sn	**Sn**	**18 27 18.3**	**-4.9**
LL07	**Hotel Espejo d**	**4.43 162**		Pn	**Pn**	**18 26 33.6**	**-0.3**
GO05	**Huala**	**4.50 38**		Pn	**Pn**	**18 26 31.9**	**-3.0**
GO07	**Milladeo Hill,**	**4.66 165**			**Pn**	**18 26 37.0**	**0.0**
BO02	**Sierra Bellavi**	**5.26 45**			**Pn**	**18 26 42.7**	**-2.7**
BO01	**Tunca**	**5.41 40**			**Pn**	**18 26 44.9**	**-2.5**
H03S1	**Juan Fernandez**	**5.59 327**		T	T	18 32 24.6	
	baz=149,slow=72,SNR=75						
H03S2	**Juan Fernandez**	**5.60 327**		T	T	18 32 30.5	
	baz=149,slow=72,SNR=59						
H03S3	**Juan Fernandez**	**5.60 327**		T	T	18 32 28.1	
	baz=149,slow=72,SNR=66						
VA04	**Juan Fernndez**	**5.73 329**		Pn	**Pn**	**18 26 48.8**	**-2.9**
MT01	**Popeta**	**5.76 36**			**Pn**	**18 26 48.9**	**-3.3**
VA05	**Santo Domingo**	**5.78 32**			**Pn**	**18 26 49.2**	**-3.2**
MT09	**Talagante**	**5.95 37**			**Pn**	**18 26 52.3**	**-2.7**
VA01	**Torpederas**	**6.32 29**		Pn	**Pn**	**18 26 57.5**	**-2.3**
MT05	**Renca**	**6.39 37**			**Pn**	**18 26 58.9**	**-2.0**
VA03	**San Esteban**	**7.00 35**			**Pn**	**18 27 06.4**	**-2.9**
CO02	**Combarbal**	**8.19 27**			**Pn**	**18 27 22.5**	**-3.2**
CO06	**Fray Jorge**	**8.48 22**		Pn	**Pn**	**18 27 25.1**	**-4.3**
CO03	**El Pedregal**	**8.63 27**		Pn	**Pn**	**18 27 28.8**	**-3.0**
ZON	**Zonda**	**8.89 40**			**Pn**	**18 27 32.3**	**-3.0**
GO04	**Tololo Observa**	**9.20 25**			**Pn**	**18 27 37.1**	**-2.5**
TRQA	**Tornquist**	**10.48 91**		Pn	**Pn**	**18 27 56.5**	**-0.4**
GO03	**Copiap**	**11.78 23**		Pn	**Pn**	**18 28 10.4**	**-4.4**
AC06	**Mina Casimiro**	**11.97 22**		Pn	Pn	18 28 11.8	-5.5
PB14	**IPOC Station P**	**14.55 18**		Pn	**Pn**	**18 28 51.8**	**-1.2**
PLTB	**Pedras Altas**	**18.98 75**		P	**P**	**18 29 44.7**	**-3.4**
CPUP	**Villa Florida**	**19.45 56**		P	**Pn**	**18 29 53.6**	**-0.8**
	comp=N,0.4nm,0.3s,baz=236,slow=9.2,SNR=7.8						
CPUP				LR	LR	18 37 53.9	
	comp=N,136nm,20.2s,baz=230,slow=39						
CPUP	**Villa Florida**	**19.45 56**		P	**P**	**18 29 52.5**	**-0.7**
CPUP	**Villa Florida**	**19.45 56**	*e*P		**Pn**	**18 29 54.8**	**+0.4**
CPSB	**Cacapava Do Su**	**19.75 72**	*e*P		**Pn**	**18 29 59.9**	**+1.9**
LPAZ	**La Paz**	**23.12 18**	P		**P**	**18 30 34.1**	**+0.7**
	comp=N,2.6nm,0.8s,baz=188,slow=6.4,SNR=9.0						
LPAZ	**La Paz**	**23.12 18**	*e*P		**P**	**18 30 33.0**	**-0.4**
LPAZ	**La Paz**	**23.12 18**	*e*P		**P**	**18 30 33.1**	**-0.2**
TER01	**Tubaro-SC**	**23.94 73**	*e*P		**P**	**18 30 46.0**	**+5.2**
AQDB	**Aquidauana**	**24.76 49**	P		**P**	**18 30 46.4**	**-1.8**
AQDB	**Aquidauana**	**24.76 49**	*e*P		**P**	**18 30 48.3**	**0.0**
TRCB	**Terra Rica**	**24.97 57**	P		**P**	**18 30 49.0**	**-1.3**
PMSA	**Palmer Station**	**27.02 169**	LR		LR	18 41 53.7	
	comp=N,41nm,18.6s,baz=4.5,slow=37						
SALV	**Santo Antonio**	**28.44 43**	*e*P		**P**	**18 31 23.0**	**+1.5**
ITRB	**Iturama**	**28.65 56**	*e*P		**P**	**18 31 26.7**	**+3.3**
RCLB	**Rio Claro- Sao**	**28.70 64**	*e*P		P	18 31 28.2	+4.3
VAO	**Valinhos**	**28.73 65**	*e*P		P	18 31 28.5	+4.4
ETMB	**Extrema**	**29.81 18**	*e*P		**P**	**18 31 36.0**	**+2.4**
SAML	**Samuel**	**31.48 23**	*e*P		**P**	**18 31 50.4**	**+2.0**
BSCB	**Bom Sucesso**	**31.57 65**	*e*P		P	18 31 54.7	+5.4
CLDB	**Colider**	**32.66 37**	*e*P		**P**	**18 32 00.9**	**+2.1**
BDFB	**Brasilia**	**33.14 54**	P		**P**	**18 32 02.1**	**-1.0**
	comp=N,1.2nm,0.4s,baz=45,slow=12,SNR=2.2						
SNDB	**Serra Nova Dou**	**34.06 45**	*e*P		**P**	**18 32 13.2**	**+2.2**
DIAM	**Diamantina, MG**	**34.14 63**	*e*P		P	18 32 17.6	+5.8
MC01	**Montes Claros**	**35.05 60**	*e*P		**P**	**18 32 23.5**	**+3.9**
SJMB	**Sao Joao De Ma**	**35.62 66**	*e*P		P	18 32 28.7	+4.2
BSFB	**Barra de Sao F**	**35.78 66**	*e*P		P	18 32 30.1	+4.3
RIB01	**Linhares ES**	**35.79 67**	*e*P		**P**	**18 32 29.6**	**+3.7**
JANB	**Januaria**	**35.97 58**	*e*P		**P**	**18 32 31.2**	**+3.6**
NAN01	**Guarapari, ES**	**36.94 66**	*e*P		P	18 32 41.2	+5.5
SSBA	**SAO DESIDERIO**	**37.55 54**	*e*P		P	18 32 45.3	+4.5
GUA01	**Guaratinga, BA**	**38.01 65**	*e*P		P	18 32 50.2	+5.4
ITTB	**Itaituba**	**38.46 32**	*e*P		**P**	**18 32 51.4**

ABTX Abilene, Hawle 74.41 339 lAmb lAmb 18 37 05.4
comp=Z,12nm,1.1s
WHAR Wooly Hollow 75.20 346 P **P** **18 37 08.7 -0.2**
WHAR lAmb lAmb 18 37 09.6
comp=Z,11nm,1.0s
CASY Casey 75.34 182 P **P** **18 37 10.2 +0.8**
CASY lAmb lAmb 18 37 11.0
comp=Z,9.5nm,0.9s
MNTX Cornudas Mount 75.36 334 P **P** **18 37 09.7 -0.2**
LCAR Lake Charles 75.75 347 lAmb lAmb 18 37 12.2
comp=Z,8.2nm,0.8s
U40A Yellville 76.35 345 lAmb lAmb 18 37 15.8
comp=Z,5.8nm,0.8s
319A Douglas 76.49 331 P **P** **18 37 16.2 -0.3**
319A lAmb lAmb 18 37 19.0
comp=Z,8.5nm,0.9s
AMTX Amarillo 77.11 338 P **P** **18 37 20.4 +0.5**
AMTX lAmb lAmb 18 37 21.1
comp=Z,11nm,0.9s
T35A Sooner Cattle 77.67 343 lAmb lAmb 18 37 23.9
comp=Z,10.0nm,0.8s
CCM Cathedral Cave 77.70 347 P **P** **18 37 22.8 -0.1**
S39A Bolivar 77.73 345 lAmb lAmb 18 37 23.7
comp=Z,5.9nm,0.8s
TUC Tucson 77.91 330 P **P** **18 37 25.4 +1.0**
TUC lAmb lAmb 18 37 26.7
comp=Z,6.4nm,1.1s
LENM Lemitar 78.15 334 P **P** **18 37 25.5 -0.4**
214A Organ Pipe Nat 78.42 328 lAmb lAmb 18 37 29.7
comp=Z,6.6nm,1.1s
ANMO Albuquerque 78.68 334 P **P** **18 37 29.5 +0.8**
comp=Z,5.8nm,0.9s,baz=155,slow=7.8,SNR=16
ANMO LR LR 19 06 26.9
comp=Z,38nm,20.7s,baz=140,slow=31
ANMO Albuquerque 78.68 334 P **P** **18 37 29.6 +0.8**
ANMO lAmb lAmb 18 37 30.9
comp=Z,7.2nm,0.9s
W18A Petrified Fore 80.00 332 lAmb lAmb 18 37 38.3
comp=Z,13nm,1.2s
T25A Trinidad 80.02 337 lAmb lAmb 18 37 38.3
comp=Z,11nm,0.9s
X16A Lo Mia Camp, P 80.02 330 P **P** **18 37 35.7 -0.3**
BOSA Boshof 80.21 119 P **P** **18 37 37.2 -0.2**
comp=Z,4.1nm,0.7s,baz=240,slow=5.2,SNR=7.5
BOSA Boshof 80.21 119 lAmb lAmb 18 37 46.6
comp=Z,8.4nm,0.8s
PFO Pinyon Flats O 81.39 326 P **P** **18 37 44.6 +1.2**
comp=Z,3.9nm,0.9s,baz=153,slow=2.1,SNR=4.7
PFO LR LR 19 06 50.4
comp=Z,37nm,18.2s,baz=167,slow=30
PFO Pinyon Flats O 81.39 326 P **P** **18 37 44.7 +1.4**
PFO lAmb lAmb 18 37 52.1
comp=Z,12nm,1.5s
PV13 Radium Mtn., P 82.39 334 lAmb lAmb 18 37 50.5
comp=Z,5.6nm,1.0s
PV02 Paradox Valley 82.41 334 P **P** **18 37 49.5 +0.7**
PV02 lAmb lAmb 18 37 50.7
comp=Z,7.0nm,1.0s
SMCO Snowmass 82.70 336 lAmb lAmb 18 37 55.3
comp=Z,7.4nm,1.0s
ISCO Idaho Springs 82.84 337 P **P** **18 37 51.4 +0.4**
KNB Kanab 82.84 331 lAmb lAmb 18 37 53.5
comp=Z,6.9nm,0.9s
GSC Goldstone, Bar 82.98 327 lAmb lAmb 18 37 54.3
comp=Z,7.8nm,1.3s
SADO Sadowa 83.08 357 P **P** **18 37 51.7 0.0**
comp=Z,4.4nm,0.8s,baz=136,slow=6.0,SNR=3.2
SRU San Rafael Swe 83.84 333 P **P** **18 37 56.3 +0.3**
SRU lAmb lAmb 18 37 57.6
comp=Z,4.5nm,0.9s
Q16A Castle Valley 83.90 333 lAmb lAmb 18 37 58.6
comp=Z,5.2nm,0.9s
ISA Isabella, Lake 84.01 326 lAmb lAmb 18 37 59.6
comp=Z,6.4nm,0.9s
PRN Pahroc Range 84.05 329 lAmb lAmb 18 38 00.1
comp=Z,7.3nm,1.0s
ECSD EROS Data Cent 84.21 345 P **P** **18 37 57.3 -0.3**
P17A Butcher Ranch, 84.24 333 lAmb lAmb 18 38 00.3
comp=Z,6.0nm,1.0s
TMUT Trail Mountain 84.25 333 lAmb lAmb 18 38 00.3
comp=Z,5.4nm,0.9s
PSUT Pine Spring 84.56 331 lAmb lAmb 18 38 02.1
comp=Z,4.3nm,0.9s
RDMU Red Mountain 84.81 334 lAmb lAmb 18 38 02.6
comp=Z,7.7nm,0.9s
R11A Troy Canyon, C 85.08 329 P **P** **18 38 03.7 +1.4**
R11A lAmb lAmb 18 38 04.9
comp=Z,5.6nm,1.1s
NLU North Lily Min 85.14 332 lAmb lAmb 18 38 05.1
comp=Z,9.4nm,1.6s
SPR3 Spring Creek 3 85.15 330 lAmb lAmb 18 38 04.8
comp=Z,7.1nm,1.0s
DUG Dugway, Tooele 85.62 332 lAmb lAmb 18 38 07.2
comp=Z,9.3nm,1.0s
K22A Casper 85.72 337 P **P** **18 38 05.8 +0.4**
LHV Little Huntoon 86.20 327 lAmb lAmb 18 38 15.2
comp=Z,11nm,1.4s
NVAR Mina Array Bea 86.26 328 P **P** **18 38 09.8 +1.5**
comp=Z,1.4nm,0.8s,baz=157,slow=6.0,SNR=11
NVAR LR LR 19 09 17.3
comp=Z,26nm,19.8s,baz=92,slow=30
RYN Ryan 86.52 327 P **P** **18 38 10.5 +1.0**
RYN lAmb lAmb 18 38 12.0
comp=Z,8.2nm,1.5s
KVN Kaiserville 86.70 328 lAmb lAmb 18 38 13.0
comp=Z,8.3nm,1.4s
BW06 Boulder Array 86.78 335 lAmb lAmb 18 38 11.8
comp=Z,5.6nm,1.1s
PDAR Pinedale Array 86.78 335 P **P** **18 38 10.8 +0.2**
comp=Z,1.7nm,0.8s,baz=138,slow=6.9,SNR=11
PDAR LR LR 19 10 50.4
comp=Z,30nm,20.2s,baz=104,slow=31
HVU Hansel Valley 87.00 333 P **P** **18 38 11.8 +0.1**
HVU lAmb lAmb 18 38 13.1
comp=Z,6.3nm,0.8s
ELK Elko 87.01 331 P **P** **18 38 12.6 +0.7**
comp=Z,2.3nm,0.8s,baz=97,slow=3.5,SNR=9.3
PNTR Pine Nut 87.36 327 lAmb lAmb 18 38 18.3
comp=Z,6.0nm,1.0s
TPAW Teton Pass 87.88 335 lAmb lAmb 18 38 16.5
comp=Z,5.1nm,0.9s
TORD Torodi Ar. Bea 88.20 72 P **P** **18 38 18.3 +0.4**
comp=Z,0.4nm,0.8s,baz=234,slow=6.8,SNR=2.3
IMW Indian Meadow 88.24 335 P **P** **18 38 17.7 0.0**
IMW lAmb lAmb 18 38 19.4
comp=Z,7.7nm,1.1s
YHH Holmes Hill 89.00 336 lAmb lAmb 18 38 23.3
comp=Z,5.3nm,0.9s
HLID Hailey 89.14 333 lAmb lAmb 18 38 24.2
comp=Z,4.7nm,1.0s
MCMT McKenzie Canyo 89.70 334 P **P** **18 38 24.9 +0.3**
ULM Lac du Bonnet 90.33 347 P **P** **18 38 26.0 -1.0**
comp=Z,2.4nm,0.6s,baz=158,slow=4.5,SNR=2.0
ULM Lac du Bonnet 90.33 347 lAmb lAmb 18 38 30.2
comp=Z,23nm,1.6s
J08A Circle Bar Ran 90.49 330 lAmb lAmb 18 38 32.5
comp=Z,7.4nm,1.2s
PLID Pearl Lake 91.03 332 lAmb lAmb 18 38 32.8
comp=Z,5.0nm,1.1s
I07A Izee 91.50 330 P **P** **18 38 31.9 -0.9**
I07A lAmb lAmb 18 38 34.0
comp=Z,11nm,1.7s
WRA Warramunga Arr 115.46 211 PKP **PKiKP** **18 44 07.8 -1.1**
comp=Z,0.6nm,0.7s,baz=48,slow=1.4,SNR=6.4
GERES GERESS Array B 117.23 48 PKP **PKPdf** **18 44 10.7 -0.7**
comp=Z,0.7nm,0.7s,baz=163,slow=1.4,SNR=8.0
AKASG Malin Array Be 127.20 51 PKP **PKPdf** **18 44 29.0 -1.3**
comp=Z,1.1nm,0.7s,baz=265,slow=4.2,SNR=2.3
SEY Seymchan 142.56 326 PKhKP PKPpre 18 44 54.0
comp=Z,2.0nm,0.8s,baz=349,slow=20,SNR=2.7
GEYT Alibeck 143.72 76 PKhKP PKPpre 18 44 58.1
comp=Z,2.0nm,0.5s,baz=321,slow=2.1,SNR=4.4
MJAR Matsushiro Arr 153.45 276 PKPbc **PKPbc** **18 45 23.3 -1.6**
comp=Z,1.1nm,0.9s,baz=146,slow=2.0,SNR=2.8
MJAR PKPab **PKPab** **18 45 36.8 -0.4**
comp=Z,0.8nm,0.8s,baz=113,slow=3.6,SNR=4.6
CMAR Chiang Mai Arr 159.29 164 PKPab **PKPab** **18 46 01.8 -0.7**
comp=Z,0.8nm,0.9s,baz=207,slow=2.6,SNR=4.4
ZALV Zalesovo Beam 159.52 35 PKPab **PKPab** **18 46 02.4 -0.2**
comp=Z,1.8nm,0.8s,baz=298,slow=6.4,SNR=5.4
MKAR Makanchi Array 161.66 56 PKPab **PKPab** **18 46 11.6 -0.7**
comp=Z,0.6nm,0.7s,baz=286,slow=4.9,SNR=4.0
SONM Songino Array 170.70 353 PKP **PKPdf** **18 45 33.3 -1.1**
comp=Z,0.5nm,0.8s,baz=281,slow=1.0,SNR=3.9
SONM PKPab **PKPab** **18 46 52.9 +0.8**
comp=Z,0.9nm,0.9s,baz=353,slow=3.8,SNR=5.9

IDC ***12*** *18:47:58.7±1.0, 1°.62N×66°.99E, h0km, mb3.9/10, mb1 4.1/11, mb1mx3.8/43, mbtmp3.9/11, ML3.6/1, MS3.7/31, Ms1 3.7/31, ms1mx3.6/48, Error ellipse: s-maj=29.4km s-min=21.3km az=38.0*

GCMT ***12*** *18:48:00.2±0.3, 1°.70N±0°.03×66°.74E±0°.03, h14km±1km, MW4.8/79, Moment Tensor Solution. s14,c19; s79,c98; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=1.72±.14; Mθθ0.93±.09; Mϕϕ 0.79±.09; Mrθ 1.20±.24; Mrϕ=0.77±.07; Mθϕ=0.19±.22; Best double couple: Mo2.05900×10¹⁶ NP1:ϕs146.00000°, δ31.00000°, λ=63.00000°. NP2: ϕs295.00000°, δ63.00000°, λ=105.00000°. Principal axes: T 1.9330, Plg16.0000°, Azm36.0000°; N 0.2580, Plg14.0000°, Azm302.0000°; P -2.1860, Plg68.0000°, Azm175.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***12*** *18:48:03.2±2.3, 1°.9N±0°.1×67°.02E±0°.08, h16km±4km, mb4.6/24 Error ellipse: s-maj=22.8km s-min=6.9km az=156.0*

ISC 12 18:48:01.3±0.9, 1°.8N±0°.2×67°.02E±0°.10, h10km, n67, σ1s07/39, mb4.4/19, MS3.8/30, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**14.67**	**68**	Pn	**Pn**	**18 51 29.6**	**+0.4**
	0.2nm,0.3s,baz=271,slow=18,SNR=1.5						
PALK				LR	LR	18 56 14.4	
	comp=Z,762nm,18.5s,baz=337,slow=34						
WSAR	**Wadi Sarin**	**22.79**	**340**	LR	LR	19 00 43.3	
	comp=Z,129nm,19.1s,baz=174,slow=33						
ATD	**Arta Tunnel**	**25.84**	**293**	LR	LR	19 01 32.0	
	comp=Z,911nm,19.1s,baz=90,slow=31						
OPO	**Ambohidratompo**	**28.13**	**223**	LR	LR	19 02 22.2	
	comp=Z,253nm,19.1s,baz=194,slow=31						
KMBO	**Kilima Mbogo**	**29.91**	**265**	LR	LR	19 05 36.2	
	comp=Z,240nm,18.3s,baz=92,slow=35						
SHL	**Shillong**	**33.63**	**43**	P	**P**	**18 54 43.6**	**+1.1**
SHL				lAmb	lAmb	18 54 45.8	
	comp=Z,5.7nm,0.9s						
CM31	**Chiang Mai Arr**	**35.40**	**60**	P	**P**	**18 54 58.2**	**+0.5**
CM31				lAmb	lAmb	18 55 08.1	
	comp=Z,29nm,1.9s						
CMAR	**Chiang Mai Arr**	**35.40**	**60**	P	**P**	**18 54 57.7**	**0.0**
	comp=Z,1.1nm,0.9s,baz=243,slow=11,SNR=6.1						
CMAR				LR	LR	19 08 06.8	
	comp=Z,107nm,21.6s,baz=304,slow=34						
CHTO	**Chiang Mai**	**35.54**	**60**	P	**P**	**18 55 00.3**	**+1.3**
CHTO				lAmb	lAmb	18 55 02.5	
	comp=Z,6.6nm,1.0s						
LSA	**Lhasa**	**35.98**	**37**	P	**P**	**18 55 03.6**	**+0.5**
LSA				lAmb	lAmb	18 55 08.2	
	comp=Z,8.6nm,1.0s						
MBAR	**Mbarara**	**36.35**	**267**	P	**P**	**18 55 07.5**	**+1.3**
PBKT	**Sadao Pong**	**36.48**	**64**	P	**P**	**18 55 06.7**	**-0.3**
PBKT				lAmb	lAmb	18 55 51.4	
	comp=Z,9.5nm,0.7s						
GEYT	**Alibeck**	**36.85**	**348**	LR	LR	19 10 13.2	
	comp=Z,69nm,19.6s,baz=220,slow=36						
GAR	**Garm**	**37.12**	**4**	P	**P**	**18 55 11.5**	**-0.8**
GAR				lAmb	lAmb	18 55 16.0	
	comp=Z,35nm,1.8s						
AAK	**Ala-Archa**	**41.18**	**8**	P	**P**	**18 55 47.2**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=191,slow=9.0,SNR=3.7						
AAK				LR	LR	19 12 38.1	
	comp=Z,135nm,21.2s,baz=200,slow=36						
AAK	**Ala-Archa**	**41.18**	**8**	P	**P**	**18 55 46.3**	**0.0**
KKAR	**Karatay Array**	**41.22**	**4**	P	**P**	**18 55 46.4**	**0.0**
KKAR	**Karatay Array**	**41.22**	**4**	P	**P**	**18 55 46.9**	**+0.5**
KKAR				lAmb	lAmb	18 56 44.1	
	comp=Z,4.7nm,1.6s						
MMAI	**Mount Meron Ar**	**42.92**	**320**	LR	LR	19 11 55.0	
	comp=Z,40nm,19.1s,baz=95,slow=33						
GNI	**Garni**	**43.18**	**335**	LR	LR	19 14 08.0	
	comp=Z,34nm,18.8s,baz=130,slow=36						
GNI	**Garni**	**43.18**	**335**	P	**P**	**18 56 01.4**	**-1.2**
GNI				lAmb	lAmb	18 56 06.8	
	comp=Z,7.9nm,1.0s						
MK31	**Makanchi Array**	**46.73**	**14**	P	**P**	**18 56 29.6**	**-1.0**
MKAR	**Makanchi Array**	**46.73**	**14**	P	**P**	**18 56 30.3**	**-0.3**
	comp=Z,0.7nm,0.9s,baz=200,slow=7.5,SNR=2.3						
MKAR				LR	LR	19 16 41.2	
	comp=Z,97nm,18.3s,baz=210,slow=37						
MKAR	**Makanchi Array**	**46.73**	**14**	P	**P**	**18 56 29.9**	**-0.7**
KBZ	**Khabaz**	**46.91**	**336**	LR	LR	19 17 03.3	
	comp=Z,40nm,20.2s,baz=149,slow=37						
ABKAR	**Akbulak array**	**47.64**	**354**	P	**P**	**18 56 38.1**	**+0.4**
BRTR	**Keskin Array B**	**48.41**	**325**	LR	LR	19 17 32.7	
	comp=Z,78nm,19.6s,baz=142,slow=36						
AKTO	**Aktyubinsk**	**49.03**	**352**	LR	LR	19 19 13.8	
	comp=Z,34nm,19.2s,baz=168,slow=38						
BOSA	**Boshof**	**50.18**	**230**	LR	LR	19 15 34.3	
	comp=Z,293nm,19.7s,baz=17,slow=33						
IDI	**Anoyia**	**51.34**	**315**	LR	LR	19 19 40.0	
	comp=Z,19nm,18.8s,baz=102,slow=37						
ZAA0	**Zalesovo Array**	**53.98**	**13**	P	**P**	**18 57 22.5**	**-2.9**
ZAA0				lAmb	lAmb	18 57 31.4	
	comp=Z,9.6nm,1.6s						
ZALV	**Zalesovo Beam**	**53.98**	**13**	P	**P**	**18 57 24.6**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=198,slow=8.0,SNR=6.0						
ZALV				LR	LR	19 21 38.4	
	comp=Z,107nm,19.0s,baz=170,slow=37						
ZALV	**Zalesovo Beam**	**53.98**	**13**	P	**P**	**18 57 22.6**	**-2.8**
ARU	**Arti**	**54.86**	**354**	LR	LR	19 22 53.5	
	comp=Z,63nm,18.8s,baz=165,slow=38						
SONM	**Songino Array**	**57.05**	**31**	P	**P**	**18 57 48.8**	**+1.1**
	comp=Z,1.5nm,0.6s,baz=229,slow=9.3,SNR=13						
SONM				LR	LR	19 22 42.6	
	comp=Z,235nm,20.1s,baz=233,slow=36						
SONM	**Songino Array**	**57.05**	**31**	P	**P**	**18 57 46.8**	**-1.0**
H01W3	**Cape Leeuwin H**	**57.24**	**134**	T	T	19 59 34.8	
	baz=300,slow=75,SNR=103						
H01W2	**Cape Leeuwin H**	**57.24**	**134**	T	T	19 59 35.4	
	baz=300,slow=75,SNR=82						
H01W1	**Cape Leeuwin H**	**57.26**	**134**	T	T	19 59 40.5	
	baz=300,slow=75,SNR=10						
ULN	**Ulaanbaatar**	**57.41**	**31**	P	**P**	**18 57 49.7**	**-0.6**
ULN				lAmb	lAmb	18 57 53.3	
	comp=Z,16nm,2.0s						
KEST	**Kesra**	**63.05**	**310**	LR	LR	19 26 30.7	
	comp=Z,51nm,19.9s,baz=260,slow=37						
TORD	**Torodi Ar. Bea**	**65.57**	**284**	P	**P**	**18 58 45.3**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=97,slow=5.8,SNR=2.6						
TORD				LR	LR	19 26 48.3	
	comp=Z,98nm,19.6s,baz=85,slow=36						
TORD	**Torodi Ar. Bea**	**65.57**	**284**	lAmb	lAmb	19 00 45.3	
	comp=Z,9.6nm,1.9s						
KSRS	**Korea Array**	**66.05**	**50**	LR	LR	19 31 07.9	
	comp=Z,55nm,18.3s,baz=239,slow=39						
FIA1	**FINESS Array S**	**67.01**	**340**	P	**P**	**18 58 55.5**	**+1.3**
FINES	**FINESS Array B**	**67.01**	**340**	P	**P**	**18 58 55.6**	**+1.3**
	comp=Z,2.0nm,0.9s,baz=151,slow=8.9,SNR=2.3						
FINES	**FINESS Array B**	**67.01**	**340**	P	**P**	**18 58 54.5**	**+0.2**
JNU	**Nakatsue**	**67.25**	**55**	P	**P**	**18 58 56.9**	**+0.5**
NRIK	**Noril'sk**	**68.79**	**8**	LR	LR	19 29 52.2	
	comp=Z,87nm,21.4s,baz=188,slow=36						
WRA	**Warramunga Arr**	**69.40**	**112**	P	**P**	**18 59 08.8**	**-1.3**
	comp=Z,2.9nm,0.9s,baz=312,slow=6.3,SNR=18						
WRA	**Warramunga Arr**	**69.40**	**112**	P	**P**	**18 59 08.8**	**-1.3**
WB2	**Warramunga Arr**	**69.41**	**112**	P	**P**	**18 59 09.8**	**-0.4**
LVZ	**Lovozero**	**69.59**	**348**	P	**P**	**18 59 11.6**	**+1.3**
WR0	**Warramunga Arr**	**69.59**	**112**	P	**P**	**18 59 10.9**	**-0.4**
ASAR	**Alice Springs**	**69.69**	**116**	P	**P**	**18 59 10.7**	**-1.2**
	comp=Z,1.7nm,0.8s,baz=289,slow=5.9,SNR=23						
USRK	**Ussuriysk Ar.**	**70.97**	**44**	LR	LR	19 32 17.1	
	comp=Z,48nm,18.8s,baz=167,slow=37						
JWT	**Wachi**	**71.37**	**53**	P	**P**	**18 59 22.5**	**+0.6**
DBIC	**Dimbokro**	**71.79**	**276**	LR	LR	19 29 09.9	
	comp=Z,43nm,20.6s,baz=144,slow=34						
ARCES	**ARCESS Array B**	**72.97**	**346**	LR	LR	19 32 38.7	
	comp=Z,27nm,20.6s,baz=145,slow=37						
MJAR	**Matsushiro Arr**	**73.84**	**53**	LR	LR	19 35 01.7	
	comp=Z,45nm,19.2s,baz=75,slow=38						
ESDC	**Sonseca Array**	**74.25**	**311**	P	**P**	**18 59 38.9**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=90,slow=6.4,SNR=2.6						
STKA	**Stephens Creek**	**77.91**	**123**	LR	LR	19 32 47.1	
	comp=Z,44nm,18.7s,baz=207,slow=34						
SEY	**Seymchan**	**86.27**	**27**	LR	LR	19 40 47.0	
	comp=Z,171nm,19.1s,baz=222,slow=37						
PETK	**Petropavlovsk-**	**88.97**	**37**	LR	LR	19 42 18.5	
	comp=Z,59nm,18.8s,baz=257,slow=37						
VNDA	**Vanda**	**92.82**	**167**	LR	LR	19 37 02.5	
	comp=Z,68nm,18.7s,baz=262,slow=32						
TXAR	**Lajitas Array**	**147.76**	**345**	PKPbc	**PKPdf**	**19 07 45.2**	**+0.7**
	comp=Z,2.0nm,0.9s,baz=39,slow=3.7,SNR=14						
TXAR	**Lajitas Array**	**147.76**	**345**		**PKPdf**	**19 07 44.4**	**-0.1**

MEX 12 18:49:19.4±0.7, 18°.69N×105°.64W, h5km, MD3.8, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.98**	**35**	*i* P	Pg	18 49 35.8	-2.5
CJM				*i* S	Sg	18 49 48.7	-2.2
R15V		**1.64**	**73**	*i* P	Pn	18 49 45.0	-3.9
R15V				*i* S	Sn	18 50 05.1	-5.3
COIG	**Colima**	**1.90**	**75**	*i* P	Pn	18 49 49.6	-3.1
COIG				*i* S	Sn	18 50 12.7	-4.4

TUL ***12*** *19:10:25.9±0.8, 36°.82N±0°.04×98°.02W±0°.06, h6km±7km, ML2.8, mb_Lg2.7/40(NEIC), Error ellipse: s-maj=6.8km s-min=6.2km az=87.0*

NEIC 12 19:10:26.6±1.4, 36°.80N±0°.04×97°.98W±0°.05, h6km±7km, Error ellipse: s-maj=6.9km s-min=4.7km az=151.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.11**	**61**		Pg	19 10 29.1	+0.1
GC02				Sg	Sg	19 10 31.4	+0.6
KAN14	**Manchester OK**	**0.16**	**6**		Pg	19 10 29.4	-0.5
KAN14				Sg	Sg	19 10 31.8	-0.3
OK032	**Salt Plains WL**	**0.18**	**272**		Pg	19 10 29.5	-0.8
OK032				Sg	Sg	19 10 31.9	-0.8
CROK	**Carrier**	**0.29**	**180**		Pg	19 10 32.4	+0.1
CROK				Sg	Sg	19 10 36.9	+0.7
KAN17	**Caldwell West**	**0.30**	**35**		Pg	19 10 32.2	-0.3
KAN05	**Bluff City Nor**	**0.32**	**16**		Pg	19 10 32.5	-0.5
KAN13	**South Haven SW**	**0.46**	**62**		Pg	19 10 35.4	-0.1
KAN12	**Harper NE Stat**	**0.50**	**359**	Pg	Pg	19 10 35.6	-0.7
KAN12				Sg	Sg	19 10 42.3	-0.6
KS20	**Mayfield South**	**0.55**	**38**		Pg	19 10 36.8	-0.5
BLOK	**Blackwell**	**0.62**	**93**		Pg	19 10 38.4	-0.1
BLOK				Sg	Sg	19 10 47.3	+0.7
U32A	**Winter Ranch,**	**0.92**	**243**		Pg	19 10 43.2	-1.1
OK029	**Liberty Lake**	**1.09**	**157**		Pg	19 10 46.9	-0.6
T35A	**Sooner Cattle**	**1.19**	**84**		Pg	19 10 48.6	-0.8
QUOK	**Quay**	**1.20**	**121**		Pg	19 10 49.1	-0.7
OK031	**S. Brethren Rd**	**1.25**	**132**		Pg	19 10 49.9	-0.8
OK025	**Westminster Rd**	**1.32**	**156**		Pn	19 10 51.0	-0.6
OKCFA	**Oklahoma City**	**1.45**	**162**	Pn	Pn	19 10 52.9	-0.4
OKCSW	**OKLAHOMA CITY**	**1.46**	**162**	Pn	Pn	19 10 53.5	-0.1
FNO	**Franklin**	**1.61**	**163**		Pn	19 10 55.9	+0.3
R32A	**Long Quarter,**	**1.72**	**341**		Pn	19 10 56.9	-0.4
WMOK	**Wichita Mounta**	**2.15**	**198**		Pn	19 11 03.2	+0.1
WMOK				lAmb_Lg		19 11 35.6	
	comp=Z,24nm,0.8s						
X34A	**Smith Ranch, M**	**2.19**	**177**		Pn	19 11 04.4	+0.8
KSU1	**Kansas State U**	**2.54**	**25**		Pn	19 11 08.2	-0.3
KSU1				lAmb_Lg		19 11 52.4	
	comp=Z,30nm,0.7s						
LOOK	**Love County**	**2.88**	**167**		Pn	19 11 13.8	+0.7
U38A	**Gravette**	**2.92**	**96**		Pn	19 11 14.3	+0.7
X37A	**Clayton**	**3.06**	**135**		Pn	19 11 15.9	+0.3
Z35A	**Perchaven, San**	**3.51**	**170**	Pn	Pn	19 11 21.9	+0.1
Z35A				lAmb_Lg		19 12 26.9	
	comp=Z,16nm,1.1s						
AMTX	**Amarillo**	**3.56**	**239**		Pn	19 11 22.1	-0.4
W39A	**Magazine**	**3.76**	**114**		Pn	19 11 26.4	+1.2
W39A				lAmb_Lg		19 12 29.7	
	comp=Z,19nm,0.7s						
S39A	**Bolivar**	**3.83**	**75**		Pn	19 11 26.9	+0.8
U40A	**Yellville**	**4.15**	**95**		Pn	19 11 31.4	+0.8
MIAR	**Mount Ida**	**4.23**	**121**	Pn	Pn	19 11 32.9	+1.2
MIAR				lAmb_Lg		19 12 43.5	
	comp=Z,19nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.29**	**302**	Pn	Pn	19 11 32.2	-0.3
KSCO				lAmb_Lg		19 12 52.7	
	comp=Z,15nm,0.7s						
Z38A	**Mt. Pleasant**	**4.30**	**144**	Pn	Pn	19 11 33.8	+1.2
Z38A				lAmb_Lg		19 12 49.3	
	comp=Z,19nm,0.8s						
ABTX	**Abilene, Hawle**	**4.38**	**199**	lAmb_Lg		19 12 44.7	
	comp=Z,17nm,1.1s						
P38A	**Dawn**	**4.50**	**50**		Pn	19 11 35.4	0.0
P38A				lAmb_Lg		19 12 48.9	
	comp=Z,13nm,0.7s						
MGMO	**Mountain Grove**	**4.59**	**84**	Pn	Pn	19 11 36.9	+0.3
BGNE	**Belgrade**	**4.61**	**358**	Pn	Pn	19 11 36.1	-0.8
R40A	**Maddies Statio**	**4.78**	**70**	Pn	Pn	19 11 39.3	+0.1
X40A	**Basin Creek Fa**	**4.79**	**117**	Pn	Pn	19 11 40.3	+1.0
X40A				lAmb_Lg		19 13 05.2	
	comp=Z,15nm,1.0s						
WHTX	**Lake Whitney,**	**4.81**	**175**	Pn	Pn	19 11 39.5	-0.1
FCAR	**Ozark Folk Cen**	**4.82**	**99**	Pn	Pn	19 11 39.8	+0.1
FCAR				lAmb_Lg		19 13 05.1	
	comp=Z,11nm,0.8s						
WHAR	**Wooly Hollow**	**4.85**	**106**	Pn	Pn	19 11 40.5	+0.3
T25A	**Trinidad**	**5.16**	**276**	Pn	Pn	19 11 44.0	-0.6
T25A				lAmb_Lg		19 13 09.4	
	comp=Z,12nm,0.7s						
P40A	**Paris**	**5.42**	**58**	Pn	Pn	19 11 48.7	+0.8
P40A				lAmb_Lg		19 13 22.8	
	comp=Z,12nm,0.8s						
N38A	**Joes South For**	**5.45**	**41**	Pn	Pn	19 11 48.1	-0.2
N38A				lAmb_Lg		19 13 18.7	
	comp=Z,10nm,0.7s						
CCM	**Cathedral Cave**	**5.51**	**75**	Pn	Pn	19 11 49.9	+0.6
CCM				lAmb_Lg		19 13 26.0	
	comp=Z,8.7nm,0.8s						
LCAR	**Lake Charles**	**5.55**	**95**	Pn	Pn	19 11 50.4	+0.6
PBMO	**Poplar Bluff**	**6.06**	**88**	lAmb_Lg		19 13 46.7	
	comp=Z,8.7nm,0.8s						
JCT	**Junction City**	**6.48**	**194**	lAmb_Lg		19 13 57.5	
	comp=Z,7.9nm,0.9s						
S44A	**Carbondale**	**7.02**	**80**	lAmb_Lg		19 14 18.7	
	comp=Z,8.9nm,0.8s						
PHWY	**Pilot Hill**	**7.35**	**310**	lAmb_Lg		19 14 19.3	
	comp=Z,8.7nm,0.9s						
RSSD	**Black Hills**	**8.65**	**330**	lAmb_Lg		19 15 21.4	
	comp=Z,4.7nm,0.8s						

IDC 12 19:10:40.1±2.3, 7°.17S×128°.51E, h0km, mb3.2/1, mb1 3.5/3, mb1mx3.3/41, mbtmp3.3/3, ML3.6/2, Error ellipse: s-maj=145.9km s-min=33.1km az=66.0, Banda Sea

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

*IDC **12** 19:37:10.3±2.8,2°.35N×128°.29E,h220km±30km,mb3.1/6, mb1 3.2/7,mb1mx3.0/43,mbtmp3.6/7,Error ellipse: s-maj=51.9km s-min=15.0km az=78.0*

ISC 12 19:37:12.7±1.0,2°.4N±0°.1×128°.6E±0°.3,h250km,n7,
σ0§97/8,**mb3.4**/5,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.15**	**141**	P	**Pn**	**19 38 17.4**	**-0.9**
	3.2nm,0.3s,baz=329,slow=18,SNR=8.9						
FITZ	**Fitzroy Crossi**	**20.55**	**188**	P	**P**	**19 41 31.8**	**-1.0**
	1.0nm,0.7s,baz=355,slow=9.3,SNR=1.8						
WRA	**Warramunga Arr**	**22.87**	**166**	P	**P**	**19 41 55.2**	**+0.4**
	0.7nm,0.4s,baz=344,slow=10,SNR=15						
ASAR	**Alice Springs**	**26.38**	**169**	P	**P**	**19 42 27.1**	**+0.6**
	0.4nm,0.5s,baz=355,slow=8.0,SNR=13						
ASAR				PcP	**PcP**	**19 45 46.4**	**+1.0**
	0.3nm,0.4s,baz=350,slow=2.4,SNR=6.1						
KSRS	**Korea Array**	**34.92**	**359**	P	**P**	**19 43 41.0**	**+0.1**
	0.7nm,0.6s,baz=174,slow=9.6,SNR=4.1						
STKA	**Stephens Creek**	**36.21**	**161**	P	**P**	**19 43 53.0**	**+1.0**
	1.2nm,0.5s,baz=329,slow=12,SNR=5.7						
MKAR	**Makanchi Array**	**59.76**	**325**	P	**P**	**19 46 51.0**	**-0.5**
	0.2nm,0.4s,baz=119,slow=8.0,SNR=6.1						

*IDC **12** 19:39:44.8±1.3,52°.07N×169°.41W,h0km,mb3.7/6, mb1 3.9/9,mb1mx3.5/66,mbtmp3.8/9,ML3.4/3,Error ellipse: s-maj=37.3km s-min=22.0km az=165.0*
*AEIC **12** 19:39:49±1.4,52°.03N±0°.10×169°.5W±0°.1,h36km±10km, ML3.0,Error ellipse: s-maj=15.6km s-min=8.5km az=150.0*
*NEIC **12** 19:39:51.7±0.7,52°.2N±0°.1×169°.62W±0°.09,h35km±58km, Error ellipse: s-maj=19.4km s-min=1.1km az=155.0*

ISC 12 19:39:49.3±1.0,52°.0N±0°.1×169°.45W±0°.08,h30km,n35,
σ0§91/32,**mb3.8**/6,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.08**	**20**		**Pn**	**19 40 07.5**	**-0.8**
OKSP	**Okmok Steeple**	**1.48**	**28**		**Pn**	**19 40 13.7**	**-0.1**
OKSO	**Okmok South**	**1.60**	**29**		**Pn**	**19 40 15.8**	**+0.2**
OKTU	**Okmok Mt. Tuli**	**1.66**	**31**		**Pn**	**19 40 16.8**	**+0.3**
OKCE	**Okmok Cone E**	**1.67**	**28**		**Pn**	**19 40 17.4**	**+0.9**
OKNC	**Okmok New Cone**	**1.70**	**28**		**Pn**	**19 40 17.8**	**+0.8**
OKFG	**Magazine Ridge**	**1.73**	**32**		**Pn**	**19 40 17.6**	**+0.4**
MAPS	**Pakushin South**	**2.40**	**38**		**Pn**	**19 40 26.8**	**+0.3**
MSW	**Makushin Switc**	**2.54**	**39**		**Pn**	**19 40 29.0**	**+0.5**
MNAT	**Makushin Natee**	**2.55**	**40**		**Pn**	**19 40 29.7**	**+1.0**
UNV	**Unalaska Valle**	**2.60**	**42**		**Pn**	**19 40 30.2**	**+1.0**
KOFP	**Korovin Flat P**	**2.88**	**278**		**Pn**	**19 40 33.5**	**+0.4**
ATKA	**Atka Island**	**2.94**	**277**		**Pn**	**19 40 33.4**	**-0.4**
KOKL	**Mount Kliuchef**	**2.95**	**279**		**Pn**	**19 40 34.9**	**+0.9**
AKUT	**Akutan**	**3.11**	**44**	Pn	**Pn**	**19 40 38.2**	**+2.0**
GSTD	**Great Sitkin T**	**4.13**	**274**		**Pn**	**19 40 50.8**	**+0.4**
ADK	**Adak**	**4.48**	**272**		**Pn**	**19 40 55.4**	**+0.4**
KIWB	**Kanaga Island**	**4.77**	**272**		**Pn**	**19 40 59.7**	**+0.7**
KIMD	**Kanaga Island**	**4.83**	**271**		**Pn**	**19 41 00.0**	**+0.2**
SPIA	**Saint Paul Isl**	**5.25**	**355**		**Pn**	**19 41 07.6**	**+2.1**
TASE	**Tanaga Southea**	**5.32**	**272**		**Pn**	**19 41 07.7**	**+1.1**
AMKA	**Amchitka**	**7.02**	**270**	Pn	**Pn**	**19 41 30.5**	**+0.6**
KDAK	**Kodiak Island**	**11.32**	**52**	Pn	**Pn**	**19 42 29.6**	**+0.9**
	0.2nm,0.3s,baz=240,slow=8.1,SNR=1.1						
KDAK	**Kodiak Island**	**11.32**	**52**	Pn	**Pn**	**19 42 30.0**	**+1.3**
ILAR	**Eielson Array**	**17.32**	**34**	P	**Pn**	**19 43 46.7**	**-1.8**
	0.1nm,0.3s,baz=235,slow=8.8,SNR=1.3						
PETK	**Petropavlovsk-**	**19.92**	**286**	P	**P**	**19 44 17.7**	**-0.6**
	1.4nm,0.3s,baz=95,slow=14,SNR=44						
H11S1	**WAKE ISLAND Hy**	**38.29**	**218**	T	T	20 28 14.2	
	baz=22,slow=76,SNR=5.0						
H11S2	**WAKE ISLAND Hy**	**38.30**	**218**	T	T	20 28 23.0	
	baz=22,slow=76,SNR=3.4						
H11S3	**WAKE ISLAND Hy**	**38.31**	**218**	T	T	20 28 15.3	
	baz=22,slow=76,SNR=3.8						
KSRS	**Korea Array**	**45.40**	**277**	P	**P**	**19 48 05.3**	**+0.4**
	0.8nm,0.7s,baz=48,slow=7.0,SNR=3.3						
TXAR	**Lajitas Array**	**52.81**	**89**	P	**P**	**19 49 01.8**	**-0.1**
	0.2nm,0.5s,baz=11,slow=1.3,SNR=3.7						
ARCES	**ARCESS Array B**	**58.32**	**354**	P	**P**	**19 49 40.7**	**0.0**
	2.4nm,0.9s,baz=11,slow=6.4,SNR=1.7						
MKAR	**Makanchi Array**	**64.05**	**313**	P	**P**	**19 50 18.9**	**-1.0**
	0.1nm,0.3s,baz=42,slow=6.5,SNR=5.0						
FINES	**FINESS Array B**	**66.27**	**352**	P	**P**	**19 50 33.7**	**-0.3**
	1.2nm,0.6s,baz=1.6,slow=7.6,SNR=9.0						
ASAR	**Alice Springs**	**90.09**	**230**	P	**P**	**19 52 46.7**	**+0.6**
	0.4nm,0.7s,baz=25,slow=4.7,SNR=5.3						

*IDC **12** 19:46:09.2±1.8,43°.63N×105°.56W,h0km,mb4.1/2, mb1 4.0/4,mb1mx3.5/44,mbtmp3.9/4,ML3.4/2,MS2.9/6, Ms1 2.9/6,ms1mx2.5/60,Error ellipse: s-maj=47.5km s-min=7.1km az=150.0*
*NEIC **12** 19:46:10.7±1.7,43°.65N±0°.05×105°.31W±0°.04,h0km±1km, ML3.4/60,Error ellipse: s-maj=9.3km s-min=4.9km az=165.0*

ISC 12 19:46:09.4±1.0,43°.67N±0°.06×105°.29W±0°.06,h0km,n51,
σ1§20/48,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.01**	**63**		**Pn**	**19 46 30.0**	**-1.1**
K22A	**Casper**	**1.36**	**222**	Pn	**Pn**	**19 46 33.7**	**-2.2**
K22A				IAML		19 47 03.3	
	comp=N,512nm,0.4s						
PHWY	**Pilot Hill**	**2.37**	**183**		**Pn**	**19 46 50.0**	**+0.1**
RWWY	**Rawlins**	**2.44**	**216**		**Pn**	**19 46 51.8**	**+1.1**
RWWY				IAML		19 47 30.9	
	comp=N,243nm,0.9s						
LAO	**LASA Array**	**3.09**	**348**		**Pn**	**19 46 59.9**	**+0.4**
RLMT	**Red Lodge**	**3.20**	**298**		**Pn**	**19 47 02.0**	**+0.9**
RLMT				IAML		19 48 02.4	
	comp=N,88nm,1.4s						
RLMT				IAML		19 48 59.0	
	comp=N,66nm,4.1s						
BW06	**Boulder Array**	**3.25**	**255**		**Pn**	**19 47 02.8**	**+0.9**
PD31	**Pinedale Array**	**3.25**	**255**		**Pn**	**19 47 02.5**	**+0.7**
PDAR	**Pinedale Array**	**3.25**	**255**	Pn	**Pn**	**19 47 02.1**	**+0.3**
	comp=N,3.2nm,0.3s,baz=68,slow=15,SNR=32						
PDAR				Pg	**Pb**	**19 47 07.3**	**-0.7**
	comp=N,6.9nm,0.3s,baz=76,slow=18,SNR=41						
PDAR				Lg	Lg	19 47 45.0	
	comp=N,7.4nm,0.3s,baz=75,slow=35,SNR=5.8						
PDAR				LR	LR	19 48 02.9	
	comp=N,24nm,19.9s,baz=124,slow=37						
PDAR	**Pinedale Array**	**3.25**	**255**	Pn	**Pn**	**19 47 02.5**	**+0.7**
YNE	**Yellowstone No**	**3.64**	**293**		**Pn**	**19 47 08.2**	**+1.0**
YNE				IAML		19 48 11.1	
	comp=N,94nm,0.7s						
YNE				IAML		19 48 16.7	
	comp=E,71nm,0.7s						
OGNE	**Ogallala**	**3.64**	**137**	Pn	**Pn**	**19 47 08.0**	**+0.9**
YMP	**Mirror Lake Pl**	**3.66**	**289**		**Pn**	**19 47 09.1**	**+1.6**
GCMT	**Greycliff**	**3.77**	**306**	Pn	**Pn**	**19 47 11.1**	**+2.2**
LOHW	**Long Hollow**	**3.86**	**271**		**Pn**	**19 47 10.1**	**-0.1**
LOHW				IAML		19 48 18.2	
	comp=E,38nm,0.9s						
H17A	**Grant Village**	**3.88**	**283**		**Pn**	**19 47 12.3**	**+1.7**
H17A				IAML		19 48 35.4	
	comp=N,66nm,0.1s						
H17A				IAML		19 48 36.4	
	comp=E,52nm,0.1s						
ISCO	**Idaho Springs**	**3.88**	**184**	Pn	**Pn**	**19 47 11.6**	**+1.0**
FLWY	**Flagg Ranch**	**3.93**	**278**		**Pn**	**19 47 13.2**	**+2.0**
FLWY				IAML		19 48 23.9	
	comp=E,77nm,2.5s						
MOOW	**Moose Ponds**	**3.96**	**273**	Pn	**Pn**	**19 47 11.9**	**+0.3**
SNOW	**Snow King Moun**	**3.98**	**269**		**Pn**	**19 47 11.7**	**-0.2**
SNOW				IAML		19 48 28.3	
	comp=E,66nm,1.1s						
YPP	**Pitchstone Pla**	**4.02**	**280**		**Pn**	**19 47 12.6**	**0.0**
YPP				IAML		19 48 24.2	
	comp=E,37nm,2.1s						
YPP				IAML		19 48 24.9	
	comp=N,39nm,1.4s						
REDW	**Red Top Meadow**	**4.06**	**268**		**Pn**	**19 47 13.7**	**+0.7**
REDW				IAML		19 48 30.5	
	comp=N,73nm,0.9s						
IMW	**Indian Meadow**	**4.10**	**275**		**Pn**	**19 47 14.7**	**+1.1**
IMW				IAML		19 48 26.3	
	comp=N,36nm,1.6s						
IMW				IAML		19 48 29.0	
	comp=N,58nm,0.7s						
TPAW	**Teton Pass**	**4.12**	**269**		**Pn**	**19 47 13.9**	**+0.1**
TPAW				IAML		19 48 37.1	
	comp=N,79nm,1.2s						
TPAW				IAML		19 48 40.8	
	comp=N,41nm,1.5s						
YHH	**Holmes Hill**	**4.15**	**288**		**Pn**	**19 47 15.5**	**+1.2**
YHH				IAML		19 48 43.4	
	comp=N,30nm,1.5s						
O20A	**White River Ci**	**4.17**	**213**		**Pn**	**19 47 15.7**	**+1.3**
O20A				IAML		19 48 24.2	
	comp=E,78nm,1.4s						
AHID	**Auburn Hatcher**	**4.34**	**260**		**Pn**	**19 47 18.1**	**+1.2**
AHID				IAML		19 48 31.8	
	comp=E,54nm,1.4s						
AHID				IAML		19 48 49.3	
	comp=E,64nm,1.0s						
E28A	**Huff**	**4.36**	**47**		**Pn**	**19 47 18.9**	**+1.9**
YHB	**Horse Butte**	**4.38**	**286**		**Pn**	**19 47 18.3**	**+0.9**
YHB				IAML		19 48 36.7	
	comp=N,36nm,1.4s						
DGMT	**Dagmar**	**4.86**	**9**		**Pn**	**19 47 25.9**	**+2.1**
BOZ	**Bozeman (W)**	**4.92**	**295**	Pn	**Pn**	**19 47 25.0**	**+0.3**
BOZ				IAML		19 49 02.5	
	comp=N,20nm,1.4s						
BOZ				IAML		19 49 06.3	
	comp=N,19nm,1.2s						
HWUT	**Hardware Ranch**	**5.07**	**248**	Pn	**Pn**	**19 47 27.0**	**+0.2**
HWUT				IAML		19 49 15.5	
	comp=N,42nm,1.0s						
KSCO	**Kaye Shedlock'**	**5.07**	**156**		**Pn**	**19 47 26.9**	**+0.1**
EGMT	**Eagleton**	**5.35**	**326**	Pn	**Pn**	**19 47 33.0**	**+2.4**
DLMT	**Dillon**	**5.49**	**290**		**Pn**	**19 47 33.2**	**+0.7**
PV22	**Blue Mesa, Par**	**5.77**	**208**		**Pn**	**19 47 37.2**	**+0.7**
HVU	**Hansel Valley**	**5.83**	**254**	Pn	**Pn**	**19 47 38.0**	**+0.8**
SDCO	**Great Sand Dun**	**5.92**	**182**	Pn	**Pn**	**19 47 38.8**	**+0.1**
ECSD	**EROS Data Cent**	**6.29**	**86**	Pn	**Pn**	**19 47 44.6**	**+1.2**
T25A	**Trinidad**	**6.56**	**174**	Pn	**Pn**	**19 47 48.2**	**+0.8**
DUG	**Dugway, Tooele**	**6.60**	**241**	Pn	**Pn**	**19 47 47.7**	**0.0**
HLID	**Hailey**	**6.62**	**272**	Pn	**Pn**	**19 47 49.7**	**+1.6**
MVCO	**Mesa Verde**	**6.90**	**202**	Pn	**Pn**	**19 47 53.4**	**+1.3**
ULM	**Lac du Bonnet**	**9.20**	**41**	Pn	**Pn**	**19 48 22.9**	**-0.3**
	comp=N,1.4nm,0.3s,baz=229,slow=12,SNR=9.9						
ULM				Sn	**Sn**	**19 50 04.9**	**-2.6**
	comp=N,0.4nm,0.3s,baz=354,slow=11,SNR=2.5						
ULM				Lg	Lg	19 50 58.8	
	comp=N,0.4nm,0.3s,baz=144,slow=18,SNR=6.1						
TXAR	**Lajitas Array**	**14.37**	**174**	LR	LR	19 55 17.0	
	comp=N,47nm,18.9s,baz=0.0,slow=38						
BBB	**Bella Bella**	**17.45**	**307**	LR	LR	19 57 31.4	
	comp=N,92nm,19.9s,baz=80,slow=39						
TKL	**Tuckaleechee C**	**18.36**	**109**	LR	LR	19 56 34.3	
	comp=N,18nm,18.1s,baz=293,slow=34						
FRB	**Frobisher Bay**	**28.97**	**33**	LR	LR	20 03 49.1	
	comp=N,80nm,18.8s,baz=140,slow=36						
JMIC	**Jan Mayen**	**51.54**	**25**	LR	LR	20 17 12.4	
	comp=N,31nm,20.1s,baz=6.0,slow=36						
ARCES	**ARCESS Array B**	**61.48**	**18**	P	**P**	**19 56 27.7**	**+0.4**
	comp=N,1.8nm,0.9s,baz=329,slow=6.4,SNR=4.8						
FINES	**FINESS Array B**	**68.10**	**23**	P	**P**	**19 57 11.2**	**+0.7**
	comp=N,2.5nm,1.0s,baz=343,slow=6.0,SNR=5.5						

*IDC **12** 19:55:44.6±1.0,32°.88S×110°.79W,h0km,mb3.9/4, mb1 4.3/4,mb1mx3.8/30,mbtmp3.9/4,MS3.2/2,Ms1 3.3/2, ms1mx2.9/22,Error ellipse: s-maj=47.2km s-min=29.8km az=81.0*

ISC 12 19:55:46.1±1.1,32°.9S±0°.2×110°.8W±0°.3,h10km,n11,
σ0§86/6,**mb4.0**/4,**Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**26.59**	**101**	T	T	20 27 46.0	
	baz=262,slow=75,SNR=108						
H03S3	**Juan Fernandez**	**26.60**	**101**	T	T	20 27 55.5	
	baz=262,slow=75,SNR=48						
H03S1	**Juan Fernandez**	**26.61**	**101**	T	T	20 27 52.4	
	baz=262,slow=75,SNR=69						
PLCA	**Paso Flores**	**32.94**	**115**	P	**P**	**20 02 20.9**	**+0.1**
	2.1nm,1.0s,baz=276,slow=9.2,SNR=3.0						
PPT	**Papeete**	**38.01**	**284**	LR	LR	20 14 58.2	
	comp=Z,76nm,21.7s,baz=19,slow=30						
LPAZ	**La Paz**	**41.86**	**77**	LR	LR	20 17 18.6	
	comp=Z,18nm,21.9s,baz=322,slow=31						
VNDA	**Vanda**	**57.59**	**195**	P	**P**	**20 05 35.7**	**+0.1**
	1.4nm,0.7s,baz=76,slow=4.2,SNR=3.8						
NVAR	**Mina Array Bea**	**71.29**	**354**	P	**P**	**20 07 06.9**	**+1.1**
	0.8nm,0.7s,baz=176,slow=7.9,SNR=6.7						
PDAR	**Pinedale Array**	**75.29**	**1**	P	**P**	**20 07 28.6**	**-0.7**
	0.6nm,0.8s,baz=160,slow=4.7,SNR=4.4						
SONM	**Songino Array**	**148.31**	**309**	PKPbc	**PKPbc**	**20 15 31.7**	**-0.7**
	0.7nm,0.9s,baz=128,slow=1.0,SNR=8.6						
CMAR	**Chiang Mai Arr**	**149.71**	**249**	PKPbc	**PKPbc**	**20 15 36.6**	**-0.1**
	0.7nm,0.7s,baz=174,slow=2.2,SNR=6.3						

*SOME **12** 19:55:59.9,40°.23N×77°.35E,h5km*
*KRNET **12** 19:56:01.6±0.1,40°.33N×77°.74E,mb3.0*
*NNC **12** 19:56:02.5±1.4,40°.31N×77°.44E,h0km,mb3.7,mpv3.4, Error ellipse: s-maj=9.5km s-min=7.4km az=172.0*

ISC 12 19:56:03.0±2.1,40°.23N±0°.09×77°.67E±0°.05,h10km,n66,
σ1§70/98,**26C-9D**,**Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**1.94**	**349**	⇑*eP*	**Pn**	**19 56 35.5**	**-0.6**
	baz=47						
KDJ				⇑*iS*	**Sn**	**19 57 00.3**	**-0.3**
	baz=47						
ULHL	**Ulahol**	**2.29**	**332**	⇑*iP*	**Pn**	**19 56 41.2**	**+0.2**
	baz=30						
ULHL				⇑*iS*	**Sn**	**19 57 10.0**	**+0.7**
	baz=30						
ULHL	**Ulahol**	**2.29**	**332**	P	**Pn**	**19 56 41.3**	**+0.4**
	SNR=42						
PRZ	**Przheval'sk**	**2.32**	**13**	⇑*iP*	**Pn**	**19 56 41.1**	**-0.3**
	baz=13						
PRZ				⇑*iS*	**Sn**	**19 57 10.1**	**0.0**
	baz=13						
ANVS	**Anan'yevo**	**2.55**	**360**	⇑*iP*	**Pn**	**19 56 44.9**	**+0.3**
	baz=59						
ANVS				⇑*iS*	**Sn**	**19 57 15.8**	**-0.1**
	baz=59						
KZA	**Kyzart**	**2.60**	**316**	⇑*iP*	**Pn**	**19 56 45.8**	**+0.3**
	baz=14						
KZA				⇑*iS*	**Sn**	**19 57 18.3**	**+1.0**
	baz=14						
KZA	**Kyzart**	**2.60**	**316**	P	**Pn**	**19 56 46.3**	**+0.8**
	SNR=6.1						
BOOM	**Boomskoye usch**	**2.61**	**331**	⇑*eP*	**Pn**	**19 56 45.6**	**+0.2**
	baz=29						
BOOM				⇑*iS*	**Sn**	**19 57 18.1**	**+0.9**
	baz=29						
TNSS	**Tian-Shan**	**2.86**	**349**	*eP*	**Pb**	**19 56 52.7**	**-1.6**
	9.3nm,0.2s						
TNSS				*eS*	**Sb**	**19 57 30.5**	**+1.0**
	16nm,0.3s						
TNSS	**Tian-Shan**	**2.86**	**349**	Pg	**Pb**	**19 56 52.7**	**-1.6**
	9.3nm,0.2s						
TNSS				Lg	Lg	19 57 31.1	
	16nm,0.3s						
SATY	**Saty**	**2.88**	**11**	*eP*	**Pb**	**19 56 54.9**	**+0.4**
	8.9nm,0.4s						
SATY				*eS*	**Sg**	**19 57 34.8**	**-0.8**
	30nm,0.3s						
SATY	**Saty**	**2.88**	**11**	Pg	**Pb**	**19 56 54.9**	**+0.4**
	8.9nm,0.4s						
SATY				Lg	Lg	19 57 34.8	
	30nm,0.3s						
IZV	**Izvestkoviy**	**2.92**	**345**	*eP*	**Pb**	**19 56 53.8**	**-1.4**
	6.6nm,0.3s						
IZV				*eS*	**Sb**	**19 57 32.6**	**+1.7**
	18nm,0.2s						
IZV	**Izvestkoviy**	**2.92**	**345**	Pg	**Pb**	**19 56 53.8**	**-1.4**
	6.6nm,0.3s						
IZV				Lg	Lg	19 57 32.6	
	18nm,0.2s						
MDOK	**Medeo**	**2.97**	**351**	*eP*	**Pb**	**19 56 54.4**	**-1.7**
	3.4nm,0.3s						
MDOK				*eS*	**Sb**	**19 57 33.6**	**+1.1**
	26nm,0.5s						
MDOK	**Medeo**	**2.97**	**351**	⇑Pg	**Pg**	**19 56 59.1**	**-0.8**
	6.1nm,0.8s						
MDOK				⇓Lg	Lg	19 57 33.4	
	24nm,0.6s						
MDOK	**Medeo**	**2.97**	**351**	Pg	**Pb**	**19 56 54.4**	**-1.7**
	3.4nm,0.3s						
MDOK				Lg	Lg	19 57 33.6	
	26nm,0.5s						
AAA	**Alma-Ata**	**3.03**	**349**	*eP*	**Pb**	**19 56 56.4**	**-0.7**
	28nm,0.3s						
AAA				*eS*	**Sb**	**19 57 36.7**	**+2.5**
	61nm,0.5s						
AAA	**Alma-Ata**	**3.03**	**349**	Pg	**Pb**	**19 56 56.3**	**-0.7**
	28nm,0.3s						
AAA				Lg	Lg	19 57 36.7	
	61nm,0.5s						
KNDC	**Almaty**	**3.03**	**350**	⇑Pg	**Pg**	**19 56 59.8**	**-1.3**
	9.8nm,0.5s						
KNDC				⇑Lg	Lg	19 57 36.3	
	64nm,0.6s						
KOTS	**Kotyrbulak**	**3.03**	**352**	*eP*	**Pb**	**19 56 56.4**	**-0.8**
	6.3nm,0.4s						
KOTS				*eS*	**Sb**	**19 57 36.8**	**+2.5**
	46nm,0.6s						
KOTS	**Kotyrbulak**	**3.03**	**352**	Pg	**Pb**	**19 56 56.4**	**-0.8**
	6.3nm,0.4s						
KOTS				Lg	Lg	19 57 36.8	
	46nm,0.6s						
MTBS	**Maitube**	**3.04**	**343**	*eP*	**Pb**	**19 56 55.6**	**-1.7**
	4.6nm,0.2s						
MTBS				*eS*	**Sb**	**19 57 36.0**	**+1.4**
	24nm,0.2s						
MTBS	**Maitube**	**3.04**	**343**	Pg	**Pb**	**19 56 55.6**	**-1.7**
	4.6nm,0.2s						
MTBS				Lg	Lg	19 57 36.0	
	24nm,0.2s						
UZB	**Uzunbulak**	**3.09**	**19**	*eP*	**Pb**	**19 56 58.0**	**-0.1**
	5.0nm,0.4s						
UZB				*eS*	**Sg**	**19 57 40.1**	**-2.0**
	14nm,0.4s						
UZB	**Uzunbulak**	**3.09**	**19**	Pg	**Pb**	**19 56 58.0**	**-0.1**
	5.0nm,0.4s						
UZB				Lg	Lg	19 57 40.1	
	14nm,0.4s						
KST	**Kastek**	**3.09**	**336**	*eP*	**Pb**	**19 56 56.0**	**-2.2**
	2.1nm,0.3s						
KST				*eS*	**Sb**	**19 57 36.2**	**+0.2**
	7.5nm,0.5s						
KST	**Kastek**	**3.09**	**336**	Pg	**Pb**	**19 56 56.0**	**-2.2**
	2.1nm,0.3s						
KST				Lg	Lg	19 57 36.2	
	7.5nm,0.5s						
TKM2	**Tokmak 2**	**3.11**	**331**	⇑*iP*	**Pn**	**19 56 52.5**	**+0.2**
	baz=29						
TKM2				⇑*iS*	**Sn**	**19 57 29.8**	**+0.2**
	baz=29						
TKM2	**Tokmak 2**	**3.11**	**331**	P	**Pb**	**19 56 56.1**	**-2.4**
	SNR=11						
TKM2	**Tokmak 2**	**3.11**	**331**	⇓Pg	**Pb**	**19 56 55.1**	**-3.4**
	5.2nm,0.6s						
TKM2				⇓Lg	Lg	19 57 36.6	
	13nm,0.8s						
UCH	**Uchtor**	**3.11**	**311**	⇑*iP*	**Pn**	**19 56 53.1**	**+0.6**
	baz=9.0						
UCH				⇑*iS*	**Sn**	**19 57 31.1**	**+1.2**
	baz=9.0						
KBK	**Karagaybulak**	**3.17**	**321**	P	**Pb**	**19 56 56.7**	**-2.9**
	SNR=6.7						
SHLS	**Shalkode**	**3.22**	**24**	*eP*	**Pg**	**19 57 03.8**	**-0.8**
	12nm,0.4s						
SHLS				*eS*	**Sg**	**19 57 50.3**	**+3.9**
	24nm,0.5s						
SHLS	**Shalkode**	**3.22**	**24**	Pg	**Pg**	**19 57 03.8**	**-0.8**
	12nm,0.4s						
SHLS				Lg	Lg	19 57 50.3	
	24nm,0.5s						
KPKS	**Kokpek**	**3.32**	**13**	*eP*	**Pb**	**19 57 02.4**	**+0.3**
	8.5nm,0.2s						
KPKS				*eS*	**Sg**	**19 57 47.4**	**-2.3**
	23nm,0.5s						
DGS	**Degeres**	**3.33**	**335**	*eP*	**Pb**	**19 57 00.8**	**-1.4**
	6.0nm,0.4s						
DGS				*eS*	**Sb**	**19 57 44.3**	**+1.5**
	16nm,0.6s						
DGS	**Degeres**	**3.33**	**335**	Pg	**Pb**	**19 57 00.8**	**-1.4**
	6.0nm,0.4s						
DGS				Lg	Lg	19 57 44.3	
	16nm,0.6s						
PDGK	**Podgornoye**	**3.38**	**23**	Pg	**Pb**	**19 57 03.0**	**-0.2**
	5.3nm,0.4s						
PDGK				Lg	Lg	19 57 48.8	
	7.9nm,0.9s						
PDGK	**Podgornoye**	**3.38**	**23**	⇓Pg	**Pb**	**19 57 02.9**	**-0.2**
	7.7nm,0.6s						
PDGK				⇑Lg	Lg	19 57 48.5	
	10nm,0.6s						
AAK	**Ala-Archa**	**3.39**	**316**	⇓*iP*	**Pn**	**19 56 57.1**	**+1.0**
	baz=14						
AAK				⇓*iS*	**Sn**	**19 57 37.4**	**+0.9**
	baz=14						
AAK	**Ala-Archa**	**3.39**	**316**	P	**Pb**	**19 57 00.4**	**-2.9**
	SNR=6.2						
AAK	**Ala-Archa**	**3.39**	**316**	⇓Pg	**Pb**	**19 56 60.0**	**-3.3**
	2.9nm,0.5s						
AAK				⇓Lg	Lg	19 57 44.7	
	14nm,0.8s						
CHMS	**Chumysh**	**3.53**	**323**	⇑*eP*	**Pn**	**19 56 58.5**	**+0.6**
	baz=21						
CHMS				⇑*iS*	**Sn**	**19 57 40.3**	**+0.6**
	baz=21						
AML	**Almayashu**	**3.55**	**304**	⇑*iP*	**Pn**	**19 56 59.1**	**+0.6**
	baz=2.0						
AML				⇑*iS*	**Sn**	**19 57 41.7**	**+0.9**
	baz=2.0						
AML	**Almayashu**	**3.55**	**304**	P	**Pn**	**19 56 59.3**	**+0.8**
	SNR=5.8						
KTBS	**Karatobe**	**3.56**	**348**	*eP*	**Pb**	**19 57 04.9**	**-1.1**
	2.9nm,0.3s						
KTBS				*eS*	**Sb**	**19 57 51.5**	**+2.2**
	14nm,0.8s		

DJR					*e*S		**Sg**	**19 58 22.9**	**-1.1**
	0.5nm,0.4s								
DJR	**Jarkent**	**4.39**	**20**		Pg		**Pg**	**19 57 23.1**	**-4.0**
	0.2nm,0.3s								
DJR					Lg		Lg	19 58 22.9	
	0.5nm,0.4s								
BTLS	**Baital**	**5.50**	**332**		*e*P		**Pb**	**19 57 38.9**	**-0.2**
	1.9nm,0.4s								
BTLS					*e*S		**Sb**	**19 58 50.0**	**+4.8**
	3.3nm,0.5s								
BTLS	**Baital**	**5.50**	**332**		Pg		**Pb**	**19 57 38.9**	**-0.2**
	1.9nm,0.4s								
BTLS					Lg		Lg	19 58 50.2	
	3.3nm,0.5s								
KK31	**Karatay Array**	**6.08**	**301**		Pg		**Pb**	**19 57 50.4**	**+1.4**
	0.3nm,0.4s,baz=126,slow=17,SNR=4.8								
KK31					||Lg		Lg	19 59 06.8	
	1.0nm,0.7s,baz=110,slow=26								

IDC ***12*** *19:56:52.0±0.6,58°.29S×25°.30W,h0km,mb4.3/9, mb1 4.4/11,mb1mx4.2/27,mbtmp4.3/11,ML4.1/2,MS3.3/5, Ms1 3.3/5,ms1mx3.1/21,Error ellipse: s-maj=24.2km s-min=17.2km az=80.0*

NEIC ***12*** *19:56:59.5±1.6,58°.37S±0°.09×25°.5W±0°.2,h52km±5km, mb4.4/24, Error ellipse: s-maj=16.9km s-min=13.2km az=81.0*

ISC 12 19:56:57.5±0.5,58°.44S±0°.07×25°.3W±0°.1,h38km,n58, σ1ˢ76/54,mb4.5/17,MS3.4/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.47**	**299**	Pn	Pn	19 58 48.2	+4.5
VNA1	**Neumayer--Stat**	**14.19**	**157**	P	**Pn**	**20 00 17.6**	**+2.1**
VNA3	**Neumayer Olymp**	**14.39**	**159**	P	**Pn**	**20 00 19.8**	**+1.6**
VNA3				S	**Sn**	**20 02 50.4**	**-5.8**
VNA2	**Neumayer--Watz**	**14.59**	**156**	P	**Pn**	**20 00 22.1**	**+1.2**
	baz=320,slow=13						
VNA2				S	Sn	20 02 51.4	-10
SNAA	**Sanae**	**16.14**	**154**	P	**Pn**	**20 00 43.0**	**+1.9**
SNAA				S	**Sn**	**20 03 30.7**	**-8.0**
SNAA	**Sanae**	**16.14**	**154**	Pn	**Pn**	**20 00 42.9**	**+1.7**
	1.1nm,0.3s,baz=320,slow=14,SNR=40						
SNAA				Sn	Sn	20 03 28.4	-10
	0.2nm,0.3s,baz=352,slow=15,SNR=3.2						
SNAA				LR	LR	20 06 04.3	
	comp=Z,55nm,21.0s,baz=70,slow=34						
SNAA	**Sanae**	**16.14**	**154**		**Pn**	**20 00 43.0**	**+1.9**
PMSA	**Palmer Station**	**19.22**	**235**	P	**Pn**	**20 01 19.2**	**+0.1**
	0.3nm,0.3s,baz=150,slow=8.1,SNR=5.5						
PMSA				LR	LR	20 07 12.0	
	comp=Z,161nm,19.0s,baz=48,slow=32						
PMSA	**Palmer Station**	**19.22**	**235**	P	**P**	**20 01 17.9**	**0.0**
BELA	**Belgrano 2**	**19.78**	**186**	P	**P**	**20 01 25.1**	**+1.2**
EFI	**East Falkland**	**19.79**	**276**	P	**P**	**20 01 23.8**	**-0.4**
QSPA	**South Pole Qui**	**31.81**	**180**	P	**P**	**20 03 19.9**	**+1.8**
	3.7nm,0.5s,baz=218,slow=1.4,SNR=47						
QSPA				PcP	**PcP**	**20 06 08.6**	**+0.5**
	3.2nm,1.0s,baz=275,slow=3.8,SNR=4.8						
QSPA	**South Pole Qui**	**31.81**	**180**	P	**P**	**20 03 19.7**	**+1.6**
QSPA				IAmb	IAmb	20 03 20.4	
	comp=Z,5.1nm,0.7s						
PLTB	**Pedras Altas**	**32.86**	**312**	P	**P**	**20 03 26.0**	**-1.4**
PLTB				IAmb	IAmb	20 03 28.4	
	comp=Z,10nm,1.0s						
PLCA	**Paso Flores**	**33.46**	**282**	P	**P**	**20 03 32.6**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=153,slow=6.7,SNR=8.2						
PLCA				LR	LR	20 14 52.5	
	comp=Z,39nm,20.2s,baz=183,slow=32						
PLCA	**Paso Flores**	**33.46**	**282**	P	**P**	**20 03 32.6**	**-0.1**
PLCA				IAmb	IAmb	20 03 52.4	
	comp=Z,8.3nm,1.3s						
BO02	**Sierra Bellavi**	**38.13**	**288**	P	**P**	**20 04 12.6**	**-0.1**
BO02				IAmb	IAmb	20 04 34.2	
	comp=Z,13nm,1.2s						
GO05	**Huala**	**38.53**	**287**	P	**P**	**20 04 14.8**	**-1.3**
MT09	**Talagante**	**39.04**	**289**	P	**P**	**20 04 19.8**	**-0.6**
VNDA	**Vanda**	**44.23**	**182**	P	**P**	**20 05 04.5**	**+2.3**
	comp=Z,2.2nm,0.7s,baz=181,slow=7.4,SNR=10.0						
VNDA				LR	LR	20 23 43.3	
	comp=Z,40nm,18.4s,baz=210,slow=36						
VNDA	**Vanda**	**44.23**	**182**	P	**P**	**20 05 04.0**	**+1.8**
BOSA	**Boshof**	**45.65**	**72**	LR	LR	20 19 55.3	
	comp=Z,45nm,20.5s,baz=192,slow=30						
BDFB	**Brasilia**	**45.95**	**329**	P	**P**	**20 05 16.5**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=167,slow=4.4,SNR=3.8						
BDFB	**Brasilia**	**45.95**	**329**	P	**P**	**20 05 16.3**	**-0.3**
BDFB				IAmb	IAmb	20 05 17.5	
	comp=Z,7.0nm,1.2s						
H10S2	**ASCENSION HYDR**	**50.04**	**14**	T	T	21 00 11.3	
	baz=187,slow=74,SNR=8.1						
H10S3	**ASCENSION HYDR**	**50.04**	**14**	T	T	21 00 16.7	
	baz=33,slow=74,SNR=22						
H10N1	**ASCENSION HYDR**	**51.16**	**14**	T	T	21 01 39.5	
	baz=187,slow=75,SNR=20						
H10N3	**ASCENSION HYDR**	**51.16**	**14**	T	T	21 01 41.8	
	baz=187,slow=75,SNR=29						
H10N2	**ASCENSION HYDR**	**51.17**	**14**	T	T	21 01 42.7	
	baz=187,slow=75,SNR=31						
CASY	**Casey**	**51.31**	**159**	P	**P**	**20 05 58.9**	**+1.8**
CASY				IAmb	IAmb	20 05 59.4	
	comp=Z,2.8nm,0.7s						
LPAZ	**La Paz**	**52.59**	**305**	P	**P**	**20 06 06.9**	**-1.1**
	comp=Z,1.9nm,0.6s,baz=177,slow=8.0,SNR=10						
LPAZ	**La Paz**	**52.59**	**305**	P	**P**	**20 06 06.5**	**-1.5**
LPAZ				IAmb	IAmb	20 06 08.9	
	comp=Z,3.3nm,1.1s						
SAML	**Samuel**	**57.21**	**314**	P	**P**	**20 06 39.1**	**-1.5**
SAML				IAmb	IAmb	20 06 39.6	
	comp=Z,2.2nm,0.8s						
LIC	**Lamto**	**66.49**	**22**	*e*P	**P**	**20 07 42.9**	**-0.1**
	comp=Z,30nm,0.9s						
KIC	**Kosan Boka**	**66.68**	**22**	*e*P	**P**	**20 07 44.5**	**+0.3**
	comp=Z,7.7nm,0.7s						
TIC	**Toumodi**	**66.90**	**22**	*e*P	**P**	**20 07 45.8**	**+0.2**
DBIC	**Dimbokro**	**66.96**	**22**	P	**P**	**20 07 46.1**	**+0.1**
	comp=Z,1.7nm,0.4s,baz=190,slow=8.2,SNR=4.2						
DBIC	**Dimbokro**	**66.96**	**22**	P	**P**	**20 07 46.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**74.67**	**27**	P	**P**	**20 08 33.3**	**+0.5**
	comp=Z,2.2nm,0.5s,baz=201,slow=6.1,SNR=41						
KOWA	**Kowa**	**74.74**	**21**	P	**P**	**20 08 34.0**	**+0.8**
KOWA				IAmb	IAmb	20 08 41.8	
	comp=Z,9.9nm,1.5s						
TOO	**Toolangi**	**84.04**	**173**	P	**P**	**20 09 24.7**	**+1.0**
TOO				IAmb	IAmb	20 09 41.6	
	comp=Z,8.8nm,1.4s						
DR12	**Loma Pena Alta**	**85.08**	**319**	P	**P**	**20 09 29.9**	**+0.8**
CAN	**Canberra**	**86.47**	**175**	P	**P**	**20 09 36.6**	**+0.6**
BBOO	**Buckleboo**	**87.77**	**164**	P	**P**	**20 09 41.9**	**-0.4**
STKA	**Stephens Creek**	**89.36**	**169**	P	**P**	**20 09 50.1**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=212,slow=12,SNR=5.6						
STKA	**Stephens Creek**	**89.36**	**169**	P	**P**	**20 09 50.5**	**+0.8**
ASAR	**Alice Springs**	**96.39**	**161**	P	**P**	**20 10 22.2**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=181,slow=4.1,SNR=18						
PDAR	**Pinedale Array**	**122.45**	**300**	PKP	**PKPdf**	**20 15 46.8**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=122,slow=5.1,SNR=5.2						
PDAR	**Pinedale Array**	**122.45**	**300**		**PKPdf**	**20 15 46.6**	**-1.3**
NVAR	**Mina Array Bea**	**123.23**	**290**	PKP	**PKiKP**	**20 15 50.1**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=150,slow=3.1,SNR=6.8						
CMAR	**Chiang Mai Arr**	**123.27**	**110**	PKP	**PKiKP**	**20 15 50.3**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=238,slow=4.5,SNR=5.8						
FINES	**FINESS Array B**	**126.03**	**28**	PKP	**PKPdf**	**20 15 53.4**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=132,slow=2.8,SNR=11						
FINES	**FINESS Array B**	**126.03**	**28**		**PKPdf**	**20 15 53.2**	**-0.6**
ARCES	**ARCESS Array B**	**132.79**	**22**	PKP	**PKPdf**	**20 16 06.1**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=276,slow=2.3,SNR=5.3						
YKA	**Yellowknife Ar**	**138.62**	**315**	PKP	**PKiKP**	**20 16 17.9**	**-1.8**
	comp=Z,1.6nm,0.7s,baz=131,slow=2.4,SNR=2.1						
SONM	**Songino Array**	**149.79**	**89**	PKPbc	**PKPbc**	**20 16 42.4**	**+0.1**
	comp=Z,2.3nm,0.5s,baz=220,slow=4.0,SNR=18						
ILAR	**Eielson Array**	**152.44**	**308**	PKPbc	**PKiKP**	**20 16 47.5**	**-0.6**
	comp=Z,8.2nm,0.9s,baz=143,slow=5.2,SNR=48						
KSRS	**Korea Array**	**152.71**	**129**	PKPbc	**PKiKP**	**20 16 49.4**	**0.0**
	comp=Z,0.8nm,0.7s,baz=182,slow=2.4,SNR=2.8						

OMAN 12 20:04:44.3±0.5,15°.63N×59°.05E,h35km±41km,ml3.9/3, Error ellipse: s-maj=10.2km s-min=3.5km az=337.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHAO	**Shalim**	**4.05**	**306**	P	Pn	20 05 44.5	+0.6
	SNR=94						
SHAO				S	Sn	20 06 30.7	+0.6
DMTO	**DMTO**	**4.45**	**298**	P	Pn	20 05 49.3	0.0
	SNR=139						
DMTO				S	Sn	20 06 40.6	+0.8
RBK	**Rabkut**	**5.01**	**293**	P	Pn	20 05 56.4	-0.6
	SNR=5.6						
RBK				S	Sn	20 06 53.2	-0.6
MHTO	**MHTO**	**5.43**	**349**	P	Pn	20 06 02.6	-0.1
	SNR=8.5						
MHTO				S	Sn	20 07 05.1	+1.1
WHFO	**Wadi Hawf**	**5.55**	**295**	P	Pn	20 06 04.0	-0.4
	SNR=7.1						
WHFO				S	Sn	20 07 07.7	+0.7
DOK	**Doka**	**5.56**	**303**	P	Pn	20 06 04.9	+0.3
	SNR=8.7						
DOK				S	Sn	20 07 09.4	+2.0
JLN	**Jalan Bani Buh**	**6.50**	**3**	P	Pn	20 06 17.0	-0.5
	SNR=30						
JLN				S	Sn	20 07 29.1	-1.3
JMDO	**Jabal Madar**	**6.77**	**353**	P	Pn	20 06 22.2	+1.1
	SNR=21						
JMDO				S	Sn	20 07 39.1	+2.1
WBK	**Wadi Bani Khal**	**6.95**	**359**	P	Pn	20 06 23.8	+0.1
	SNR=30						
WBK				S	Sn	20 07 43.6	+2.1
SMDO	**Samad**	**7.45**	**353**	P	Pn	20 06 31.0	+0.3
	SNR=12						
SMDO				S	Sn	20 07 54.2	+0.2
WSAR	**Wadi Sarin**	**7.58**	**357**	P	Pn	20 06 33.1	+0.7
	SNR=29						
WSAR				S	Sn	20 07 58.6	+1.5

TAP 12 20:31:40.4,22°.94N×120°.50E,h9km,ML1.2,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCST	**Cishan**	**0.05**	**190**	*e*P	Pg	20 31 43.1	+0.9
	baz=189						
SCST				S	Sg	20 31 45.0	+1.4
	baz=189						
SGST	**Jiashian**	**0.16**	**27**	*e*P	Pg	20 31 45.0	+1.1
	baz=31						
SGST				*e*S	Sg	20 31 48.8	+2.6
	baz=31						
SSD	**Sandimen**	**0.23**	**148**	P	Pg	20 31 46.2	+1.3
	baz=136						
SSD				S	Sg	20 31 50.6	+2.5
	baz=136						
CHN1	**Nanshi**	**0.25**	**5**	*e*P	Pg	20 31 47.4	+2.0
	baz=18						
CHN1				*e*S	Sg	20 31 52.6	+3.9
	baz=18						
TSMG	**Majia**	**0.27**	**151**	P	Pb	20 31 46.9	-0.5
	baz=141						
TSMG				S	Sb	20 31 51.3	-0.7
	baz=141						
SNST	**Tainan City**	**0.28**	**359**	*e*P	Pb	20 31 47.2	-0.4
	baz=14						
SNST	**Tainan City**	**0.28**	**359**	*e*S	Pb	20 31 47.2	-0.4
	baz=206						
WTP	**Ta-pu**	**0.32**	**18**	P	Pb	20 31 48.5	+0.2
	baz=22						
WTP				*e*S	Sb	20 31 54.4	+0.7
	baz=22						
STYT	**Tauyuan**	**0.32**	**46**	P	Pb	20 31 48.4	0.0
	baz=59						
STYT				S	Sb	20 31 54.3	+0.6
	baz=59						
STYH	**Taoyuan**	**0.34**	**47**	P	Pb	20 31 48.7	+0.1
	baz=59						
STYH				S	Sb	20 31 54.4	+0.3
	baz=59						
MASBT	**Mashibuluo**	**0.35**	**160**	*e*P	Pb	20 31 48.3	-0.4
	baz=152						
MASBT				S	Sb	20 31 54.0	-0.3
	baz=152						
TPUB	**Ta-pu**	**0.38**	**18**	*e*P	Pb	20 31 49.2	-0.1
	baz=21						
TPUB				*e*S	Sb	20 31 55.9	+0.6
	baz=21						
ELDTW	**Lidau**	**0.53**	**62**	*i* P	Pb	20 31 52.5	+0.5
	baz=62						
ELDTW				*e*S	Sb	20 32 01.0	+1.1
	baz=62						
ECL	**Taimali**	**0.54**	**129**	*e*S	Sb	20 31 59.2	-0.6
	baz=128						
SCZT	**Fangliau**	**0.57**	**169**	*e*P	Pb	20 31 53.6	+1.1
	baz=155						
CHN5	**Tsauling**	**0.67**	**14**	*e*P	Pb	20 31 55.0	+0.7
	baz=16						
CHN5				*e*S	Sb	20 32 05.1	+1.2
	baz=16						
FULB	**Fuli**	**0.77**	**70**	*e*P	Pb	20 31 56.5	+0.5
	baz=69						
FULB				*e*S	Sn	20 32 08.6	-0.6
	baz=69						
WHYT	**Xinyi Township**	**0.82**	**23**	*e*P	Pb	20 31 56.9	+0.1
	baz=26						
WHYT				*e*S	Sb	20 32 08.7	+0.7
	baz=26						
TWF1	**Yuli**	**0.84**	**60**	*e*P	Pn	20 31 58.0	-0.4
	baz=60						
TWF1				*e*S	Sn	20 32 10.3	-0.5
	baz=60						
YULB	**Yu-li**	**0.86**	**58**	*e*P	Pn	20 31 58.2	-0.5
	baz=57						
YULB				*e*S	Sn	20 32 10.4	-0.9
	baz=57						
LDUT	**Ludao**	**0.93**	**106**	*e*P	Pb	20 31 58.9	+0.3
	baz=91						
SSLB	**Suanglung**	**0.94**	**26**	*e*S	Sn	20 32 12.7	-0.8
	baz=29						

TAP 12 20:31:41.9,23°.31N×120°.55E,h9km±1km,ML0.3,D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWK	**Hsinying**	**0.07**	**231**	P	Pg	20 31 44.4	+0.3
	baz=223						
TWK				S	Sg	20 31 46.3	+0.7
	baz=223						
TPUB	**Ta-pu**	**0.08**	**96**	P	Pg	20 31 44.7	+0.5
	baz=96						
TPUB				S	Sg	20 31 46.7	+0.9
	baz=96						
WTP	**Ta-pu**	**0.09**	**135**	*e*P	Pg	20 31 45.2	+0.9
	baz=132						
WTP				S	Sg	20 31 47.3	+1.3
	baz=132						
SNST	**Tainan City**	**0.10**	**206**	*e*P	Pg	20 31 45.1	+0.7
	baz=206						

NOU ***12*** *20:32:23.6,32°.97S×177°.21W,h21km,ML5.8/71,South of Kermadec Islands*

BJI ***12*** *20:32:23.9±0.0,32°.54S×177°.63W,h18km,mB6.1/59, mb5.3/41,Ms5.8/71,Ms7 5.6/67*

IDC ***12*** *20:32:25.5±0.3,32°.52S×178°.19W,h0km,mb5.0/26, mb1 5.0/31,mb1mx5.0/42,mbtmp5.0/31,ML5.4/4,MS5.5/29, Ms1 5.5/29,ms1mx5.4/38,Error ellipse: s-maj=14.4km s-min=11.3km az=88.0*

NEIC ***12*** *20:32:26.3,32°.61S×178°.10W,h8km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr3.85; Mθθ-1.85; Mϕϕ-1.99; Mrθ-0.24; Mrϕ-1.30; Mθϕ3.20; Fault plane solution: M₀4.80000×10¹⁷ NP1:ϕ₁234,34000°, δ29.87000°,λ124.15000°. NP2:ϕ₂16.30000°,δ65.66000°, λ72.13000°. Principal axes: T 5.3368, Plg65.0000°, Azm256.0000°; N -1.3559, Plg16.0000°, Azm24.0000°; P -3.9809, Plg19.0000°, Azm120.0000°;*

NEIC ***12*** *20:32:27.0±2.1,32°.61S±0°.06×178°.03W±0°.10,h8km±1km, mb5.6/139,Ms_20 6.0/887,Mwb5.7/20,Mww5.9, Mwc5.8(GCMT) Error ellipse: s-maj=14.3km s-min=10.2km az=105.0*

MOS ***12*** *20:32:28.3±1.0,32°.54S×178°.27W,h26km,mb5.7/14, MS5.8/69,Error ellipse: s-maj=9.8km s-min=7.6km az=102.5*

NEIC ***12*** *20:32:29,32°.52S×177°.80W,h12km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr3.87; Mθθ-0.08; Mϕϕ-3.78; Mrθ2.70; Mrϕ-1.21; Mθϕ7.57; Fault plane solution: M₀8.98000×10¹⁷ NP1:ϕ₁193.00000°, δ13.00000°,λ84.00000°. NP2:ϕ₂19.00000°,δ77.00000°, λ91.00000°. Principal axes: T 8.8439, Plg58.0000°, Azm291.0000°; N 0.2680, Plg1.0000°, Azm199.0000°; P -9.1119, Plg32.0000°, Azm108.0000°;*

GCMT ***12*** *20:32:30.0±0.1,32°.65S±0°.01×177°.80W,h14km, MW5.8/155,Moment Tensor Solution. s138,c270; s155,c447; Duration: 1ˢ9 Moment tensor: Scale 10¹⁷ Nm; Mrr3.89±.04; Mθθ-0.42±.03; Mϕϕ-3.47±.03; Mrθ0.91±.07; Mθϕ-1.44±.02; Mrϕ3.98±.11; Best double couple: M₀5.69300×10¹⁷ NP1:ϕ₁208.00000°,δ23.00000°, λ102.00000°. NP2:ϕ₂15.00000°,δ68.00000°,λ85.00000°. Principal axes: T 5.6420, Plg67.0000°, Azm276.0000°; N 0.1000, Plg5.0000°, Azm17.0000°; P -5.7440, Plg23.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***12*** *20:32:30,32°.65S×177°.76W,h14km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr3.89; Mθθ-0.35; Mϕϕ-3.53; Mrθ1.02; Mθϕ-1.45; Mrϕ4.32; Fault plane solution: M₀5.97000×10¹⁷ NP1:ϕ₁208.00000°, δ21.00000°,λ102.00000°. NP2:ϕ₂15.00000°,δ69.00000°, λ85.00000°. Principal axes: T 5.8894, Plg66.0000°, Azm277.0000°; N 0.1618, Plg4.0000°, Azm17.0000°; P -6.0512, Plg24.0000°, Azm109.0000°;*

ISC 12 20:32:27.3±0.5,32°.69S±0°.03×178°.13W±0°.04,h16km±2km, h16km:pP-P,n1481,σ2ˢ37/1176,mb5.5/150,MS6.0/540, 52C-39D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.42**	**3**	P	**Pn**	**20 33 15.8**	**-4.2**
GLKZ				S	**Sn**	**20 33 56.9**	**-3.4**
RAO	**Raoul Island**	**3.43**	**3**	Pn	**Pn**	**20 33 17.7**	**-2.5**
	194nm,0.3s,baz=271,slow=21,SNR=9.2						
RAO				Sn	**Sn**	**20 33 57.4**	**-3.1**
	636nm,0.3s,baz=232,slow=19,SNR=6.0						
RAO	**Raoul Island**	**3.43**	**3**	Pn	**Pn**	**20 33 16.5**	**-3.7**
RAO	**Raoul Island**	**3.43**	**3**	P	**Pn**	**20 33 18.1**	**-2.1**
RAO	**Raoul Island**	**3.44**	**3**	P	**Pn**	**20 33 16.0**	**-4.2**
RIZ				S	**Sn**	**20 33 56.6**	**-4.1**
MXZ	**Matakaoa Point**	**5.67**	**210**	Pn	**Pn**	**20 33 49.3**	**-1.6**
MXZ	**Matakaoa Point**	**5.67**	**210**	P	**Pn**	**20 33 48.9**	**-2.0**
MXZ				S	**Sn**	**20 34 55.8**	**0.0**
WMGZ	**Waiomatatini S**	**5.85**	**208**	P	**Pn**	**20 33 52.0**	**-0.9**
WMGZ				S	**Sn**	**20 35 01.8**	**+1.8**
PKGZ	**Pakihiroa**	**6.04**	**210**	P	**Pn**	**20 33 54.5**	**-1.6**
PKGZ				S	**Sn**	**20 35 06.3**	**+1.3**
HAZ	**Te Kaha**	**6.06**	**212**	P	**Pn**	**20 33 55.0**	**-1.3**
HAZ				S	**Sn**	**20 35 08.0**	**+2.7**
PUZ	**Puketiti**	**6.13**	**208**	P	**Pn**	**20 33 54.9**	**-2.3**
PUZ				S	**Sn**	**20 35 07.2**	**+0.2**
RUGZ	**Raukumara Rang**	**6.28**	**212**	P	**Pn**	**20 33 58.2**	**-1.3**
RUGZ				S	**Sn**	**20 35 11.7**	**+0.8**
TWGZ	**Tauwhareparae**	**6.33**	**209**	P	**Pn**	**20 33 58.6**	**-1.4**
TWGZ				S	**Sn**	**20 35 13.7**	**+1.6**
KUZ	**Kuaotunu**	**6.48**	**230**	P	**Pn**	**20 34 05.0**	**+2.9**
CNGZ	**Carnagh Statio**	**6.51**	**206**	P	**Pn**	**20 34 00.4**	**-2.0**
CNGZ				S	**Sn**	**20 35 18.0**	**+1.7**
WHRZ	**Whale Island**	**6.53**	**216**	P	**Pn**	**20 34 04.1**	**+1.4**
WHRZ				S	**Sn**	**20 35 18.7**	**+1.9**
TKGZ	**Te Karaka**	**6.61**	**209**	P	**Pn**	**20 34 02.4**	**-1.4**
TKGZ				S	**Sn**	**20 35 17.0**	**-1.8**
MWZ	**Matawai**	**6.65**	**211**	P	**Pn**	**20 34 02.4**	**-2.0**
MWZ				S	**Sn**	**20 35 21.0**	**+1.0**
OPRZ	**Ohinepanea**	**6.73**	**219**	P	**Pn**	**20 34 06.6**	**+1.1**
MARZ	**Manawahe**	**6.78**	**217**	P	**Pn**	**20 34 07.7**	**+1.5**
URZ	**Urewera**	**6.78**	**214**	Pn	**Pn**	**20 34 06.8**	**+0.6**
	53nm,0.3s,baz=44,slow=2.2,SNR=121						
URZ				Sn	**Sn**	**20 35 22.3**	**-0.6**
	127nm,0.3s,baz=169,slow=19,SNR=12						
URZ	**Urewera**	**6.78**	**214**	P	**Pn**	**20 34 04.4**	**-1.8**
URZ				S	**Sn**	**20 35 23.6**	**+0.6**
RAGZ	**Rawiri**	**6.84**	**211**	P	**Pn**	**20 34 05.1**	**-2.0**
RAGZ				S	**Sn**	**20 35 25.8**	**+1.2**
EDRZ	**Edgecumbe**	**6.84**	**216**	P	**Pn**	**20 34 08.6**	**+1.6**
RIGZ	**Rimuhau**	**6.87**	**208**	P	**Pn**	**20 34 05.6**	**-1.9**
RIGZ				S	**Sn**	**20 35 25.8**	**+0.5**
PRGZ	**Paritu Road**	**7.01**	**206**	P	**Pn**	**20 34 06.5**	**-2.9**
WCZ	**Waipu Caves**	**7.02**	**240**	P	**Pn**	**20 34 11.9**	**+2.5**
OMRZ	**Omania**	**7.03**	**218**	P	**Pn**	**20 34 11.9**	**+2.3**
KARZ	**Kaharoa**	**7.03**	**219**	P	**Pn**	**20 34 11.4**	**+1.8**
TARZ	**Mount Tarawera**	**7.05**	**217**	P	**Pn**	**20 34 13.7**	**+3.7**
MKAZ	**Moumakai**	**7.06**	**230**	P	**Pn**	**20 34 13.3**	**+3.4**
KMRZ	**Kaimai**	**7.07**	**222**	P	**Pn**	**20 34 13.6**	**+3.4**
SNGZ	**Shannon Statio**	**7.11**	**210**	P	**Pn**	**20 34 08.5**	**-2.2**
MUGZ	**Murupara**	**7.11**	**214**	P	**Pn**	**20 34 09.6**	**-1.1**
RTZ	**Ruatahuna**	**7.13**	**213**	P	**Pn**	**20 34 09.1**	**-1.9**
RRRZ	**Republican Roa**	**7.13**	**216**	P	**Pn**	**20 34 13.0**	**+2.0**
HLRZ	**Highlands Stat**	**7.15**	**218**	P	**Pn**	**20 34 13.1**	**+1.8**
KNZ	**Kokohu**	**7.18**	**207**	P	**Pn**	**20 34 09.3**	**-2.3**
MHGZ	**Mahia Peninsul**	**7.21**	**205**	P	**Pn**	**20 34 09.7**	**-2.3**
TOZ	**Tahuroa Road**	**7.24**	**224**	P	**Pn**	**20 34 13.8**	**+1.3**
HSRZ	**Hossack Road**	**7.25**	**218**	P	**Pn**	**20 34 16.6**	**+4.0**
OUZ	**Omahuta**	**7.33**	**248**	Pn	**Pn**	**20 34 15.7**	**+2.0**
OUZ	**Omahuta**	**7.33**	**248**	P	**Pn**	**20 34 17.1**	**+3.4**
RAHZ	**Arahi**	**7.33**	**211**	P	**Pn**	**20 34 13.7**	**0.0**
MTHZ	**Maungataniwha**	**7.38**	**212**	P	**Pn**	**20 34 12.8**	**-1.6**
ALRZ	**Allen Road**	**7.39**	**216**	P	**Pn**	**20 34 15.0**	**+0.4**
WHHZ	**Waihua**	**7.40**	**209**	P	**Pn**	**20 34 14.7**	**0.0**
WPRZ	**Whakapapatarin**	**7.45**	**217**	P	**Pn**	**20 34 19.6**	**+4.3**
NMHZ	**Naumai**	**7.60**	**211**	P	**Pn**	**20 34 16.2**	**-1.3**
TLZ	**Tolley Road**	**7.64**	**221**	P	**Pn**	**20 34 14.0**	**-4.0**
ARHZ	**Aropaoanui**	**7.66**	**210**	P	**Pn**	**20 34 16.8**	**-1.4**
BKZ	**Black Stump Fm**	**7.80**	**213**	P	**Pn**	**20 34 17.3**	**-2.9**
RATZ	**Rangitukua**	**7.91**	**217**	P	**Pn**	**20 34 23.1**	**+1.4**
**M

DUWZ **D'Urville Isla** 10.30 216 P Pn 20 34 52.8 -1.7
PLWZ **Palliser** 10.31 209 P Pn 20 34 50.6 -4.1
TUWZ **Tuamarina** 10.78 214 P Pn 20 34 58.6 -2.3
NNZ **Nelson** 10.88 216 P Pn 20 34 59.7 -2.7
CMWZ **Cape Campbell** 10.90 212 Pn Pn 20 35 01.4 -1.3
CMWZ **Cape Campbell** 10.90 212 P Pn 20 35 05.0 +2.3
BSWZ **Blackbirch Sta** 11.03 213 P Pn 20 35 01.2 -3.2
KHZ **Kahutara** 11.74 212 P Pn 20 35 10.7 -3.3
DSZ **Denniston Nort** 12.08 219 P Pn 20 35 18.7 -0.1
LTZ **Lake Taylor** 12.61 214 P Pn 20 35 22.2 -3.9
AMCZ **Amberley** 12.74 212 P Pn 20 35 25.8 -1.9
INZ **Inchbonnie** 12.97 216 P Pn 20 35 28.9 -2.0
MHCZ **Mount Hutt** 13.51 214 P Pn 20 35 35.3 -3.1
WVZ **Waitaha Valley** 13.58 217 P Pn 20 35 37.7 -1.5
GCSZ **Gaunt Creek Bo** 13.96 217 P Pn 20 35 42.3 -2.2
ARCZ **Arundel** 14.01 214 P Pn 20 35 42.2 -3.0
MSVF **Nonsavu** 15.29 346 Pn Pn 20 36 00.6 -2.0
0.9nm,0.3s,baz=163,slow=12,SNR=12
MSVF **Nonsavu** 15.29 346 *c i* P Pn 20 36 00.8 -1.8
MSVF **Nonsavu** 15.29 346 Pn Pn 20 35 59.6 -3.0
MSVF IAmb IAmb 20 36 57.0
comp=Z,598nm,1.6s
MSVF **Nonsavu** 15.29 346 P Pn 20 36 02.1 -0.5
NIUE **Niue** 15.42 30 P Pn 20 36 00.6 -3.7
baz=15,SNR=4.3
NIUE S Sn 20 38 31.4 -24
baz=15
EAZ **Earnscleugh** 15.86 214 P Pn 20 36 06.7 -3.1
PINNC **Pines Island,** 16.24 305 Pn Pn 20 36 16.0 +1.2
PINNC IAmb IAmb 20 36 51.3
comp=Z,421nm,1.1s
PINNC **Pines Island,** 16.24 305 P P 20 36 22.7 +4.9
TUZ **Tuapeka** 16.26 212 P P 20 36 20.5 +2.6
MARNC **Mare, Loyalty** 16.61 309 P P 20 36 21.0 -1.0
MARNC **Mare, Loyalty** 16.61 309 P P 20 36 26.4 +4.4
OUENC **Ouen Island, N** 16.79 304 P 20 36 23.0 -0.9
OUENC **Ouen Island, N** 16.79 304 P P 20 36 28.6 +4.7
SYZ **Scrubby Hill** 16.92 212 P Pn 20 36 22.7 -0.7
YATNC **Mamie plateau,** 16.99 305 P P 20 36 30.0 +3.8
ONTNC **Ouen Toro** 17.13 303 P P 20 36 27.9 +0.1
ONTNC IAmb IAmb 20 37 14.6
comp=Z,2µm,1.9s
ONTNC **Ouen Toro** 17.13 303 P P 20 36 32.8 +5.1
DZM **Mont Dzumac** 17.29 304 *e* Pn P 20 36 32.1 +2.5
comp=Z,909nm,1.3s
DZM *e* LQ LQ 20 39 47.0
comp=Z,16µm,30.0s
DZM *e* LR LR 20 40 30.3
comp=Z,46µm,24.4s,baz=141
DZM **Mont Dzumac** 17.29 304 P P 20 36 32.2 +2.6
comp=Z,1.4nm,0.3s,baz=98,slow=14,SNR=14
DZM LR LR 20 42 05.4
comp=Z,56µm,18.5s,baz=124,slow=34
DZM **Mont Dzumac** 17.29 304 Pn Pn 20 36 27.8 -0.4
DZM IAmb IAmb 20 37 03.9
comp=Z,575nm,1.3s
DZM **Mont Dzumac** 17.29 304 P P 20 36 32.4 +2.8
LIFNC **LIFOU** 17.63 309 Pn Pn 20 36 31.8 -0.6
LIFNC IAmb IAmb 20 37 05.8
comp=Z,852nm,1.3s
LIFNC **LIFOU** 17.63 309 P P 20 36 38.4 +5.1
APZ **The Paps** 17.66 213 P Pn 20 36 31.0 -1.6
LHI **Lord Howe Isla** 19.36 267 P Pn 20 36 53.1 -0.3
baz=19,SNR=5.4
LHI **Lord Howe Isla** 19.36 267 P P 20 36 51.5 -0.8
LHI **Lord Howe Isla** 19.36 267 P Pn 20 36 56.3 +2.9
AFI **Afiamalu** 19.57 19 P P 20 36 51.8 -3.0
comp=Z,10nm,0.3s,baz=5.4,slow=8.4,SNR=9.2
AFI S S 20 40 15.2 -20
comp=Z,2.4nm,0.3s,baz=131,slow=20,SNR=3.4
AFI **Afiamalu** 19.57 19 P 20 36 51.3 -3.4
AFI IAmb IAmb 20 37 12.6
comp=Z,336nm,1.2s
AFI **Afiamalu** 19.57 19 P P 20 36 51.4 -3.4
KOUNC **Koumac, New Ca** 19.80 303 P Pn 20 37 01.1 +2.4
RAR **Rarotonga** 19.93 60 P P 20 36 57.2 -1.3
comp=Z,4.8nm,0.3s,baz=221,slow=11,SNR=9.2
RAR LR LR 20 45 04.3
comp=Z,14µm,18.3s,baz=224,slow=38
RAR **Rarotonga** 19.93 60 P P 20 36 55.8 -2.7
RAR IAmb IAmb 20 37 16.7
comp=Z,698nm,1.9s
FUNA **Funafuti** 24.17 354 IAMs_20 IAMs_20 20 46 04.6
comp=Z,47µm,19.0s
RIV **Riverview** 25.67 259 P P 20 37 57.4 +0.9
baz=26,SNR=3.6
ARMA **Armidale** 25.83 267 P P 20 37 58.7 +0.5
baz=26,SNR=18
ARMA **Armidale** 25.83 267 P P 20 37 59.8 +1.6
ARMA IAmb IAmb 20 38 24.3
comp=Z,154nm,1.2s
TBI **Tubuai** 26.89 77 *e* S S 20 42 38.0 -5.9
comp=Z,2µm,27.2s
TBI *e* LQ LQ 20 43 29.6
comp=Z,12µm,24.0s
TBI *e* LR LR 20 44 43.0
comp=Z,11µm,22.5s,baz=242
TBI **Tubuai** 26.89 77 *e* T T 21 05 22.4
comp=Z,12nm,0.3s
CNB **Canberra Magne** 27.02 255 P P 20 38 09.5 +0.7
baz=27,SNR=17
MILA **Mila** 27.12 252 P P 20 38 10.0 +0.4
baz=27,SNR=5.9
CAN **Canberra** 27.31 255 P P 20 38 12.1 +0.7
CAN pmax pmax
comp=Z,122nm,1.4s
CAN MLR MLR
comp=Z,42µm,18.0s
CAN **Canberra** 27.31 255 P P 20 38 12.1 +0.7
CAN IAmb IAmb 20 38 29.2
comp=Z,122nm,1.4s
CAN IAMs_20 IAMs_20 20 48 31.5
comp=Z,42µm,18.0s
EIDS **Eidsvold** 27.83 277 P P 20 38 16.3 +0.3
baz=28,SNR=27
EIDS **Eidsvold** 27.83 277 P P 20 38 16.6 +0.5
EIDS IAmb IAmb 20 38 36.1
comp=Z,67nm,0.9s
YNG **Young** 27.90 257 P P 20 38 17.3 +0.7
baz=28,SNR=8.5
TAU **Tasmania Unive** 28.97 239 P P 20 38 26.5 +0.5
TAU pmax pmax
comp=Z,60nm,1.0s
TAU MLR MLR
comp=Z,28µm,18.0s
TAU **Tasmania Unive** 28.97 239 P P 20 38 26.5 +0.5
TAU IAmb IAmb 20 38 41.1
comp=Z,60nm,1.0s
TAU **Tasmania Unive** 28.97 239 IAMs_20 IAMs_20 20 50 33.8
comp=Z,28µm,18.0s
MOO **Moorlands** 28.99 240 P P 20 38 27.9 +1.6
baz=29,SNR=7.1
RMQ **Roma** 29.38 273 P P 20 38 32.7 +2.8
baz=29,SNR=87
PAE **Paea** 29.73 67 *e* T T 21 08 52.8
comp=Z,4.3nm,0.3s
PPT2 **Papeete2** 29.78 67 *e* S S 20 43 24.5 -5.0
comp=Z,2µm,24.5s
PPT2 *e* LQ LQ 20 44 34.5
comp=Z,12µm,22.8s
PPT2 *e* LR LR 20 46 01.7
comp=Z,9µm,21.0s,baz=228
PPT **Papeete** 29.79 67 LR LR 20 49 58.4
comp=Z,12µm,18.0s,baz=242,slow=35
TOO **Toolangi** 30.03 250 P P 20 38 36.7 +1.1
baz=30,SNR=5.6
TOO **Toolangi** 30.03 250 P P 20 38 35.8 +0.2
TOO pmax pmax
comp=Z,34nm,1.1s
TOO MLR MLR
comp=Z,26µm,18.0s
TOO **Toolangi** 30.03 250 P P 20 38 35.8 +0.2
TOO IAMs_20 IAMs_20 20 50 26.8
comp=Z,26µm,18.0s
CMSA **Cobar Meteorol** 30.58 262 P P 20 38 41.9 +1.5
baz=31,SNR=70
HNR **Honiara** 30.76 314 LR LR 20 49 49.8
comp=Z,8µm,19.1s,baz=166,slow=34
HNR **Honiara** 30.76 314 P P 20 38 42.2 +0.1
HNR pmax pmax
comp=Z,459nm,1.2s
HNR MLR MLR
comp=Z,13µm,19.0s
HNR **Honiara** 30.76 314 P P 20 38 42.2 +0.1
ARPS **Mount Arapiles** 32.99 252 P P 20 39 02.9 +1.4
baz=33,SNR=18
QLP **Quilpie** 33.16 271 P P 20 39 04.5 +1.4
baz=33,SNR=30
STKA **Stephens Creek** 33.92 260 P P 20 39 10.7 +0.9
baz=34,SNR=34
STKA **Stephens Creek** 33.92 260 P P 20 39 10.4 +0.6
comp=Z,30nm,1.0s,baz=95,slow=10,SNR=26
STKA LR LR 20 52 43.5
comp=Z,26µm,18.0s,baz=96,slow=36
STKA **Stephens Creek** 33.92 260 P P 20 39 10.0 +0.3
CTA **Charters Tower** 34.13 283 LR LR 20 52 15.1
comp=Z,14µm,18.1s,baz=134,slow=35
CTAO **Charters Tower** 34.13 283 P P 20 39 11.6 0.0
CTAO pmax pmax
comp=Z,877nm,1.8s
CTAO MLR MLR
comp=Z,17µm,18.0s
CTAO **Charters Tower** 34.13 283 P P 20 39 11.6 0.0
CTAO **Charters Tower** 34.13 283 IAMs_20 IAMs_20 20 52 12.4
comp=Z,17µm,18.0s
TARA **Tarawa** 34.90 344 P P 20 39 17.0 -1.3
HTT **Hallett** 35.82 257 P P 20 39 26.9 +0.8
baz=36,SNR=19
MTSU **Mount Surprise** 36.68 284 P P 20 39 33.9 +0.2
baz=37,SNR=39
BBOO **Buckleboo** 38.30 257 P P 20 39 47.0 -0.2
baz=38,SNR=21
BBOO **Buckleboo** 38.30 257 P P 20 39 46.5 -0.7
BBOO IAMs_20 IAMs_20 20 55 22.6
comp=Z,21µm,18.0s
QIS **Mount Isa** 39.43 277 P P 20 39 56.9 +0.1
baz=39,SNR=37
RABL **Rabaul** 39.69 309 P P 20 39 58.5 -0.5
RABL IAMs_20 IAMs_20 20 57 25.8
comp=Z,13µm,18.0s
XMAS **Kiritimati** 39.70 34 IAMs_20 IAMs_20 20 55 17.2
comp=Z,14µm,18.0s
COEN **Coen** 39.85 289 P P 20 40 01.1 +0.8
COEN IAmb IAmb 20 40 16.9
comp=Z,90nm,0.8s
TAOE **Nuku Hiva Isla** 42.35 65 *e* S S 20 46 36.0 -5.8
comp=Z,2µm,24.3s
TAOE *e* LQ LQ 20 50 02.9
comp=Z,8µm,26.9s
TAOE *e* LR LR 20 51 50.0
comp=Z,5µm,21.8s
PTCN **Pitcairn Islan** 42.45 92 IAMs_20 IAMs_20 20 56 54.7
comp=Z,14µm,19.0s
AS31 **Alice Springs** 42.93 269 P P 20 40 25.3 -0.3
ASAR **Alice Springs** 42.93 269 P P 20 40 25.5 -0.1
comp=Z,87nm,0.7s,baz=108,slow=7.7,SNR=428
ASAR S S 20 46 43.9 -6.2
comp=Z,3.4nm,0.9s,baz=117,slow=15,SNR=5.0
ASAR LR LR 20 57 26.2
comp=Z,4µm,18.2s,baz=117,slow=35
ASAR **Alice Springs** 42.93 269 P P 20 40 25.1 -0.5
WR0 **Warramunga Arr** 43.95 275 P P 20 40 33.2 -0.6
WR0 IAmb IAmb 20 40 35.3
comp=Z,89nm,0.8s
WR0 IAMs_20 IAMs_20 20 58 53.9
comp=Z,16µm,18.0s
WR9 **Warramunga Arr** 43.97 275 IAMs_20 IAMs_20 20 58 54.5
comp=Z,16µm,18.0s
WR8 **Warramunga Arr** 43.98 275 IAMs_20 IAMs_20 20 58 55.8
comp=Z,16µm,18.0s
WR7 **Warramunga Arr** 44.00 275 IAMs_20 IAMs_20 20 58 55.4
comp=Z,17µm,18.0s
WR6 **Warramunga Arr** 44.02 275 IAMs_20 IAMs_20 20 58 47.9
comp=Z,15µm,18.0s
WR4 **Warramunga Arr** 44.06 275 IAMs_20 IAMs_20 20 58 49.0
comp=Z,15µm,19.0s
WR3 **Warramunga Arr** 44.08 275 IAMs_20 IAMs_20 20 58 49.5
comp=Z,15µm,18.0s
WC3 **Warramunga Arr** 44.09 275 IAMs_20 IAMs_20 20 58 49.7
comp=Z,15µm,19.0s
WR2 **Warramunga Arr** 44.10 275 IAMs_20 IAMs_20 20 58 51.0
comp=Z,12µm,18.0s
WC2 **Warramunga Arr** 44.11 275 IAMs_20 IAMs_20 20 58 41.2
comp=Z,14µm,18.0s
WB1 **Warramunga Ar.** 44.11 275 IAMs_20 IAMs_20 20 58 50.2
comp=Z,13µm,18.0s
WB2 **Warramunga Arr** 44.11 275 P P 20 40 34.5 -0.6
WB2 IAMs_20 IAMs_20 20 58 50.3
comp=Z,14µm,18.0s
WC4 **Warramunga Arr** 44.12 275 IAMs_20 IAMs_20 20 58 59.4
comp=Z,16µm,18.0s
WB3 **Warramunga Arr** 44.12 275 IAMs_20 IAMs_20 20 58 50.5
comp=Z,15µm,18.0s
WRAB **Tennant Creek** 44.12 275 *c i* P P 20 40 34.9 -0.3
WRAB MLR MLR
comp=Z,20µm,16.0s
WRAB **Tennant Creek** 44.12 275 IAMs_20 IAMs_20 20 58 51.2
comp=Z,14µm,18.0s
WR1 **Warramunga Arr** 44.12 275 IAMs_20 IAMs_20 21 00 19.6
comp=Z,18µm,18.0s
WRA **Warramunga Arr** 44.12 275 P P 20 40 34.8 -0.5
comp=Z,183nm,1.0s,baz=116,slow=7.5,SNR=383
WRA S S 20 47 04.3 -3.4
comp=Z,3.3nm,0.8s,baz=121,slow=13,SNR=5.7
WRA LR LR 20 58 53.1
comp=Z,13µm,18.0s,baz=125,slow=36
WRA **Warramunga Arr** 44.12 275 P P 20 40 34.4 -0.8
WB4 **Warramunga Arr** 44.12 275 IAMs_20 IAMs_20 20 58 50.6
comp=Z,14µm,18.0s
WB5 **Warramunga Arr** 44.13 275 IAMs_20 IAMs_20 20 58 50.8
comp=Z,12µm,18.0s
WC1 **Warramunga Arr** 44.13 275 IAMs_20 IAMs_20 20 59 00.8
comp=Z,15µm,18.0s
MANU **Manus Island** 44.48 306 P P 20 40 37.7 -0.4
MANU IAmb IAmb 20 40 53.4
comp=Z,77nm,1.3s
PATS **Pohnpei** 45.26 326 IAMs_20 IAMs_20 20 57 06.1
comp=Z,15µm,19.0s
FORT **Forrest** 45.40 257 P P 20 40 44.8 -0.5
baz=45,SNR=20
FORT **Forrest** 45.40 257 P P 20 40 44.3 -0.9
SBA **Scott Base** 45.75 184 P P 20 40 49.0 +1.6
SBA pmax pmax
comp=Z,103nm,1.4s
SBA MLR MLR
comp=Z,7µm,19.0s
SBA **Scott Base** 45.75 184 P P 20 40 49.0 +1.6
SBA IAmb IAmb 20 41 16.0
comp=Z,103nm,1.4s
VNDA **Vanda** 45.81 186 P P 20 40 50.8 +2.9
comp=Z,1.5nm,0.7s,baz=13,slow=6.7,SNR=8.2
VNDA LR LR 20 56 41.9
comp=Z,6µm,19.9s,baz=12,slow=32
VNDA **Vanda** 45.81 186 P P 20 40 48.3 +0.3
VNDA IAmb IAmb 20 41 13.3
comp=Z,112nm,1.9s
WRKA **Warakurna** 47.13 265 P P 20 40 57.4 -1.6
baz=47,SNR=192
JAY **Jayapura** 48.88 299 LR LR 21 01 50.2
comp=Z,3µm,18.0s,baz=124,slow=36
JAY **Jayapura** 48.88 299 P P 20 41 13.4 +0.7
comp=Z,1µmcomp=Z,75nm,1.0s
GENI **Genyem** 49.23 299 P P 20 41 16.1 +0.8
comp=Z,6µmcomp=Z,4µmcomp=Z,257nm,0.9s
KDU **Kakadu** 49.24 282 P P 20 41 14.5 -0.9
baz=49,SNR=48
JOHN **Johnston Islan** 49.83 11 P P 20 41 19.0 -0.6
MTN **Manton Dam** 50.27 281 P P 20 41 22.5 -0.7
baz=50,SNR=44
MTN **Manton Dam** 50.27 281 P P 20 41 21.9 -1.3
MTN IAmb IAmb 20 41 24.6
comp=Z,83nm,0.8s
MTN IAMs_20 IAMs_20 21 02 06.3
comp=Z,11µm,18.0s
KNRA **Kununurra** 50.81 276 P P 20 41 27.1 -0.2
baz=51,SNR=47
KNRA **Kununurra** 50.81 276 P P 20 41 26.2 -1.0
KNRA IAmb IAmb 20 41 28.2
comp=Z,175nm,1.3s
FITZ **Fitzroy Crossi** 52.28 272 P P 20 41 37.8 -0.5
baz=52,SNR=39
FITZ **Fitzroy Crossi** 52.28 272 LR LR 21 01 18.6
comp=Z,706nm,21.9s,baz=120,slow=33
FITZ **Fitzroy Crossi** 52.28 272 P P 20 41 37.1 -1.1
CASY **Casey** 53.08 209 P P 20 41 44.3 +0.8
CASY IAmb IAmb 20 42 00.2
comp=Z,72nm,0.8s
CASY **Casey** 53.08 209 IAMs_20 IAMs_20 21 04 12.9
comp=Z,11µm,18.0s
BAKI **Biak** 53.19 297 P P 20 41 47.9 +2.9
comp=Z,3µmcomp=Z,132nm,1.1s
NWAO **Narrogin (SRO)** 53.52 251 LR LR 21 01 14.2
comp=Z,2µm,19.8s,baz=108,slow=32
NWAO **Narrogin (SRO)** 53.52 251 P P 20 41 46.8 -0.5
NWAO pmax pmax
comp=Z,71nm,1.6s
NWAO MLR MLR
comp=Z,8µm,18.0s
NWAO **Narrogin (SRO)** 53.52 251 P P 20 41 46.8 -0.5
NWAO IAmb IAmb 20 42 02.2
comp=Z,71nm,1.6s
NWAO IAMs_20 IAMs_20 21 04 55.7
comp=Z,8µm,18.0s
MEEK **Meekatharra** 54.60 259 P P 20 41 53.8 -1.5
baz=55,SNR=8.4
FAKI **Fak Fak** 55.06 292 P P 20 41 57.9 -0.8
FAKI IAmb IAmb 20 42 15.0
comp=Z,96nm,1.0s
FAKI **Fak Fak** 55.06 292 P P 20 41 55.4 -3.3
comp=Z,4µmcomp=Z,2µmcomp=Z,112nm,1.1s
PSAD2 **Pilbara Seismi** 55.51 265 IAMs_20 IAMs_20 21 07 19.3
comp=Z,11µm,19.0s
PSAC2 **Pilbara Seismi** 55.58 265 IAMs_20 IAMs_20 21 07 12.3
comp=Z,10µm,18.0s
PSAB3 **Pilbara Seismi** 55.61 265 IAMs_20 IAMs_20 21 06 27.0
comp=Z,9µm,18.0s
PSAA3 **Pilbara Seismi** 55.61 265 IAMs_20 IAMs_20 21 08 38.2
comp=Z,12µm,19.0s
PSAC3 **Pilbara Seismi** 55.62 265 IAMs_20 IAMs_20 21 07 04.3
comp=Z,11µm,18.0s
PSAB2 **Pilbara Seismi** 55.62 265 IAMs_20 IAMs_20 21 08 38.3
comp=Z,11µm,18.0s
PSA00 **Pilbara Seismi** 55.62 265 P P 20 42 01.3 -1.4
PSA00 IAmb IAmb 20 42 18.6
comp=Z,53nm,0.9s
PSA00 IAMs_20 IAMs_20 21 08 38.4
comp=Z,11µm,18.0s
PSA00 **Pilbara Seismi** 55.62 265 P P 20 42 01.0 -1.7
PSA00 IAmb IAmb 20 42 18.6
comp=Z,35nm,1.0s
PSAA2 **Pilbara Seismi** 55.63 265 IAMs_20 IAMs_20 21 07 13.5
comp=Z,12µm,19.0s
PSAB1 **Pilbara Seismi** 55.65 265 IAMs_20 IAMs_20 21 07 23.0
comp=Z,11µm,18.0s
PSAD3 **Pilbara Seismi** 55.65 265 IAMs_20 IAMs_20 21 07 13.1
comp=Z,13µm,18.0s
PSAC1 **Pilbara Seismi** 55.67 265 IAMs_20 IAMs_20 21 08 40.7
comp=Z,10µm,18.0s
MORW **Morawa** 55.80 255 P P 20 42 03.4 -0.6
baz=56,SNR=6.8
MORW **Morawa** 55.80 255 P P 20 42 03.0 -1.0
MORW IAmb IAmb 20 42 19.1
comp=Z,42nm,1.1s
MORW IAMs_20 IAMs_20 21 05 55.2
comp=Z,12µm,19.0s
SIJI **Sorong** 57.10 293 P P 20 42 13.2 -0.1
comp=Z,1µmcomp=Z,34nm,1.3s
SWI **Sorong** 57.11 293 P P 20 42 15.4 +2.1
comp=Z,6µmcomp=Z,2µmcomp=Z,58nm,1.3s
MSAI **Masohi** 57.42 289 P P 20 42 15.6 0.0
comp=Z,653nmcomp=Z,16nm,0.8s
QSPA **South Pole Qui** 57.43 180 P P 20 42 17.3 +2.3
comp=Z,13nm,0.8s,baz=46,slow=0.7,SNR=36
QSPA **South Pole Qui** 57.43 180 P P 20 42 16.6 +1.5
QSPA **South Pole Qui** 57.43 180 IAMs_20 IAMs_20 21 05 12.5
comp=Z,10µm,18.0s
SOEI **Soe** 57.60 280 P P 20 42 16.8 -0.2
SOEI **Soe** 57.60 280 P P 20 42 18.0 +1.0
comp=Z,5µmcomp=Z,4µmcomp=Z,327nm,0.9s
BATI **Baumata** 57.87 279 P P 20 42 19.8 +1.1
comp=Z,3µmcomp=Z,1µmcomp=Z,110nm,0.7s
KRAI **Karang Ratu** 57.87 289 P P 20 42 17.6 -1.1
comp=Z,63nm,1.1s
GUMO **Guam** 58.04 316 LR LR 21 03 04.0
comp=Z,1µm,21.4s,baz=124,slow=32
RPN **Rapa Nui** 58.96 104 IAMs_20 IAMs_20 21 06 16.2
comp=Z,9µm,18.0s
GIRL **Giralia** 59.86 261 P P 20 42 33.0 +0.6
baz=60,SNR=3.4
GIRL **Giralia** 59.86 261 P P 20 42 32.3 -0.2
MMRI **Maumere** 59.89 280 P P 20 42 32.0 -0.8
MMRI **Maumere** 59.89 280 P P 20 42 32.5 -0.3
comp=Z,4µmcomp=Z,3µmcomp=Z,279nm,1.1s
EDFI **Ende, Flores** 60.28 279 P P 20 42 35.0 -0.6
comp=Z,3µmcomp=Z,961nmcomp=Z,55nm,0.8s
SANI **Sanana** 60.55 288 P P 20 42 37.5 +0.3
comp=Z,6µmcomp=Z,2µmcomp=Z,99nm,1.4s
MIDW **Midway** 60.58 1 IAMs_20 IAMs_20 21 06 46.7
comp=Z,9µm,20.0s
WBSI **Waikabubak, Su** 61.73 277 P P 20 42 45.9 +0.5
comp=Z,2µmcomp=Z,88nm,1.0s
KKSI **Kolaka, Sulawe** 62.84 283 P P 20 42 55.3 +2.6
comp=Z,29nm,0.8s
BKSI **Bulukumba** 63.45 281 P P 20 42 57.1 +0.3
comp=Z,5µmcomp=Z,1µmcomp=Z,54nm,0.9s
PLAI **Plampang** 63.51 277 P P 20 42 57.1 -0.1
comp=Z,4µmcomp=Z,2µmcomp=Z,102nm,0.9s
MNI **Manado** 63.56 290 P P 20 43 02.7 +5.2
comp=Z,62nm,1.1s
KAPI **Kappang** 63.93 281 P P 20 42 58.8 -1.1
KAPI pmax pmax
comp=Z,64nm,1.0s
KAPI MLR MLR
comp=Z,10µm,18.0s
KAPI **Kappang** 63.93 281 P P 20 42 58.8 -1.1
KAPI IAmb IAmb 20 43 16.0
comp=Z,64nm,0.9s
KAPI **Kappang** 63.93 281 IAMs_20 IAMs_20 21 11 15.3
comp=Z,10µm,18.0s
KAPI **Kappang** 63.93 281 P P 20 43 00.6 +0.7
comp=Z,1µmcomp=Z,73nm,1.0s
BNSI **Bone** 63.98 282 P P 20 42 59.9 -0.4
comp=Z,1µmcomp=Z,48nm,1.5s
TWSI **Taliwang, Sumb** 64.31 276 P P 20 43 02.2 -0.2
comp=Z,3µmcomp=Z,72nm,0.8s
TTSI **Tana Toraja** 64.98 283 P P 20 43 06.3 -0.5
comp=Z,3µmcomp=Z,1µmcomp=Z,58nm,1.2s
MRSI **Marisa** 65.29 288 P P 20 43 12.7 +3.9
comp=Z,42nm,0.9s
SRBI **Singaraja** 66.05 276 P P 20 43 27.8 +14
TOLI2 **Tolitoli** 66.60 288 P P 20 43 14.4 -2.9
JAGI **Jajag, Banyuwa** 66.74 275 P P 20 43 17.1 -1.1
JAGI IAmb IAmb 20 43 33.6
comp=Z,57nm,1.0s
MPSI **Mapaga** 66.86 286 P P 20 43 17.7 -1.2
comp=Z,3µmcomp=Z,942nmcomp=Z,41nm,1.0s
GMJI **Gumukmas** 67.44 275 P P 20 43 21.0 -1.6
comp=Z,2µmcomp=Z,85nm,0.9s
BELA **Belgrano 2** 67.54 172 P P 20 43 22.8 +0.5
BELA IAmb IAmb 20 43 49.7
comp=Z,64nm,1.0s
KBKI **Kotabaru** 67.85 281 P P 20 43 26.1 +0.9
comp=Z,720nmcomp=Z,66nm,0.7s
BBKI **Banjar Baru** 68.86 280 P P 20 43 32.5 +1.0
comp=Z,2µmcomp=Z,60nm,0.8s
SJI **Sawahan** 69.13 274 P P 20 43 38.1 +4.8
comp=Z,44nm,0.8s
MAW **Mawson** 70.13 201 P P 20 43 40.3 +1.7
baz=70,SNR=6.2
MAW **Mawson** 70.13 201 P P 20 43 40.3 +1.7
comp=Z,11nm,0.9s,baz=109,slow=7.8,SNR=11
MAW LR LR 21 12 47.9
comp=Z,10µm,20.3s,baz=118,slow=34
MAW **Mawson** 70.13 201 P P 20 43 39.6 +1.1
MTKI **Muara Teweh, K** 70.21 282 P P 20 43 40.2 +0.3
PMSA **Palmer Station** 70.23 155 P P 20 43 40.1 +1.0
comp=Z,5.8nm,0.7s,baz=228,slow=3.7,SNR=12
PMSA **Palmer Station** 70.23 155 P P 20 43 39.5 +0.4
PMSA IAmb IAmb 20 43 43.2
comp=Z,107nm,1.9s
PKKI **Palangkaraya** 70.25 280 P P 20 43 40.1 0.0
comp=Z,2µmcomp=Z,127nm,0.9s
JCJ **Chichijima** 70.43 323 P P 20 43 40.0 -0.8
comp=Z,52nm,0.8s,baz=312,slow=6.3,SNR=4.3
JCJ LR LR 21 11 45.5
comp=Z,2µm,18.7s,baz=204,slow=34
JCJ **Chichijima** 70.43 323 P P 20 43 40.3 -0.6
SPMM **Sapulut** 72.19 288 P P 20 43 52.0 +0.1
CISI **Cisompet, Garu** 72.55 272 P P 20 43 54.0 -0.1
XMIS **Christmas Isla** 72.86 268 IAMs_20 IAMs_20 21 16 42.2
comp=Z,7µm,20.0s
LEM **Lembang** 73.10 273 P P 20 43 58.0 +0.5
comp=Z,25nm,0.8s,baz=122,slow=14,SNR=6.8
LEM **Lembang** 73.10 273 P P 20 43 58.0 +0.5
STKI **Sintang** 73.60 281 P P 20 44 00.7 +0.4
comp=Z,10µmcomp=Z,27nm,0.5s
SBUM **Sibu** 74.33 283 P P 20 44 05.0 +0.5
SYO **Syowa Base** 74.87 193 ⇑ *i* P P 20 44 07.0 +0.3
SYO **Syowa Base** 74.87 193 ⇑ *i* pP pP 20 44 10.8 +0.7

KSM Kuching 75.36 281 P **P** **20 44 10.0 -0.4**
BLSI Bandar Lampung 75.87 273 P **P** **20 44 09.3 -4.1**
comp=Z,3μmcomp=Z,140nm,0.4s
SNAA Sanae 75.88 178 P **P** **20 44 13.5 +0.8**
SNAA Sanae 75.88 178 PcP **PcP** **20 44 24.3 -0.7**
SNAA Sanae 75.88 178 P **P** **20 44 13.6 +1.0**
comp=Z,7.4nm,0.8s,baz=204,slow=10,SNR=23
SNAA Sanae 75.88 178‖ *e*P **P** **20 44 13.4 +0.8**
SNAA pmax pmax
comp=Z,101nm,1.2s
SNAA MLR MLR
comp=Z,6μm,17.0s
SNAA Sanae 75.88 178 P **P** **20 44 13.2 +0.7**
SNAA IAmb IAmb 20 44 25.6
comp=Z,122nm,1.3s
SNAA IAMs_20 IAMs_20 21 17 08.8
comp=Z,6μm,19.0s
VNA3 Neumayer Olymp 76.03 176 P **P** **20 44 14.6 +1.1**
VNA3 Neumayer Olymp 76.03 176 PcP **PcP** **20 44 25.7 0.0**
VNA2 Neumayer--Watz 76.47 177 P **P** **20 44 16.9 +1.0**
baz=174,slow=5.1
VNA2 Neumayer--Watz 76.47 177 PcP **PcP** **20 44 28.3 +0.8**
JHJ Hachijo jima 2 76.54 325 LR LR 21 15 03.5
comp=Z,2μm,18.5s,baz=124,slow=34
VNA1 Neumayer--Stat 76.70 177 P **P** **20 44 18.8 +1.6**
VNA1 Neumayer--Stat 76.70 177 PcP **PcP** **20 44 29.8 +1.3**
MDSI Maura Dua 77.24 273 P **P** **20 44 18.1 -3.0**
comp=Z,2μmcomp=Z,582nmcomp=Z,26nm,0.9s
GO07 Milladeo Hill, 77.77 133 P **P** **20 44 22.2 -1.5**
GO07 IAmb IAmb 20 44 27.9
comp=Z,83nm,1.1s
JOW Kunigami 78.12 313 P **P** **20 44 25.2 -0.5**
comp=Z,17nm,0.9s,baz=153,slow=5.2,SNR=5.8
JOW Kunigami 78.12 313 P **P** **20 44 25.2 -0.5**
JOW IAmb IAmb 20 44 39.4
comp=Z,91nm,1.7s
JYT Yasato 78.88 327 P **P** **20 44 28.9 -0.7**
JYT IAmb IAmb 20 44 32.2
comp=Z,53nm,1.0s
H03S2 Juan Fernandez 79.30 123 T T 22 11 42.7
baz=236,slow=74,SNR=5.0
H03S1 Juan Fernandez 79.31 123 T T 22 11 47.6
baz=236,slow=74,SNR=3.6
H03S3 Juan Fernandez 79.31 123 T T 22 11 44.0
baz=236,slow=74,SNR=5.0
MASI Maura Aman, Be 79.59 273 P P 20 44 49.5 +15
LL03 Petrohue 79.65 132 P **P** **20 44 34.0 -0.1**
LL03 IAmb IAmb 20 45 15.8
comp=Z,58nm,0.8s
INU Inuyama 79.69 324 P **P** **20 44 33.8 -0.3**
JGF Kuroka 79.72 325 P **P** **20 44 34.1 -0.2**
LL04 Puerto Octay 79.77 132 P **P** **20 44 35.5 +0.7**
LL04 IAmb IAmb 20 44 44.7
comp=Z,70nm,1.4s
JMM Marumori 79.95 328 IAMs_20 IAMs_20 21 18 56.7
comp=Z,4μm,20.0s
JMN Monobe 80.03 321 P **P** **20 44 36.5 +0.4**
JMN IAmb IAmb 20 45 02.7
comp=Z,141nm,1.9s
MJAR Matsushiro Arr 80.06 326 P **P** **20 44 35.3 -0.8**
comp=Z,9.9nm,0.9s,baz=164,slow=4.9,SNR=23
MJAR Matsushiro Arr 80.06 326 P **P** **20 44 35.6 -0.6**
MJAR pmax pmax
comp=Z,9.0nm,1.0s
MJAR Matsushiro Arr 80.06 326 P **P** **20 44 35.6 -0.6**
MAJO Matsushiro 80.06 326*c i*P **P** **20 44 34.5 -1.7**
MAJO pmax pmax
comp=Z,27nm,1.2s
MAJO Matsushiro 80.06 326 P **P** **20 44 36.0 -0.2**
JSU Suzuyama 80.23 317 P **P** **20 44 37.0 -0.2**
JWT Wachi 80.44 323 P **P** **20 44 38.4 +0.2**
LR03 Panguipulli 80.54 131 P **P** **20 44 39.6 +0.7**
LR03 IAmb IAmb 20 44 43.1
comp=Z,69nm,1.2s
TPUB Ta-pu 80.70 305 P **P** **20 44 39.5 -0.5**
TPUB IAmb IAmb 20 45 37.7
comp=Z,210nm,2.0s
SSLB Suanglung 80.80 306 P **P** **20 44 40.2 -0.3**
EFI East Falkland 80.93 147 P **P** **20 44 41.5 +0.7**
EFI pmax pmax
comp=Z,544nm,1.9s
EFI East Falkland 80.93 147 P **P** **20 44 41.5 +0.7**
RGRI Rengat 81.01 275 P P 20 44 51.2 +9.4
PLCA Paso Flores 81.03 133 P **P** **20 44 42.5 +0.9**
comp=Z,24nm,1.1s,baz=222,slow=6.6,SNR=14
PLCA LR LR 21 15 16.3
comp=Z,5μm,18.2s,baz=238,slow=32
PLCA Paso Flores 81.03 133 P **P** **20 44 42.6 +0.9**
PLCA pmax pmax
comp=Z,33nm,1.2s
PLCA Paso Flores 81.03 133 P **P** **20 44 42.6 +0.9**
JNU Nakatsue 81.20 319 P **P** **20 44 41.7 -0.6**
comp=Z,29nm,1.1s,baz=24,slow=4.4,SNR=6.0
JNU LR LR 21 17 16.4
comp=Z,873nm,18.9s,baz=126,slow=33
JNU Nakatsue 81.20 319 P **P** **20 44 42.1 -0.2**
JNU IAmb IAmb 20 44 47.1
comp=Z,58nm,1.2s
JSD Sado 81.24 327 P **P** **20 44 41.9 -0.5**
LC01 Cunco 81.25 131 P **P** **20 44 43.2 +0.4**
LC01 IAmb IAmb 20 44 46.4
comp=Z,34nm,1.0s
JHS Saijyo 81.40 321 P **P** **20 44 43.5 +0.1**
JHS IAmb IAmb 20 44 58.3
comp=Z,41nm,1.0s
JTM Tenmabayashi 82.25 330 P **P** **20 44 48.0 +0.3**
JTM IAmb IAmb 20 45 20.6
comp=Z,75nm,1.1s
ERM Erimo 82.42 332 IAMs_20 IAMs_20 21 20 34.7
comp=Z,7μm,19.0s
JEM Erimo 82.42 332 IAMs_20 IAMs_20 21 20 27.2
comp=Z,6μm,19.0s
YUK Yuzh-Kuril'sk 83.13 335 *e*P P 20 44 46.9 -5.2
YUK *e*S **S** **20 55 06.8 -4.3**
QZH Quanzhou 83.18 305‖ *i*P **P** **20 44 52.5 -0.4**
QZH PP **PP** **20 48 03.6 -1.0**
QZH S **S** **20 55 11.0 -1.5**
QZH pmax pmax
comp=Z,1μm,9.5s
QZH LR LR
comp=Z,470nm,15.6s
QZH LR LR
comp=Z,1μm,19.4s
QZH LR LR
comp=Z,1μm,20.8s
ML02 Panimavida 83.36 128 P **P** **20 44 53.5 -0.4**
GO05 Huala 83.46 127 P **P** **20 44 53.9 -0.5**
KUR Kuril'sk 83.48 337 *e*P **P** **20 44 55.5 +1.6**
KUR *i* S **S** **20 55 20.4 +5.8**
KUR MLR MLR
comp=Z,3μm,14.0s
KUR MLR MLR
comp=E,2μm,13.0s
KUR MLR MLR
comp=N,4μm,17.0s
AMKA Amchitka 83.74 358 P **P** **20 44 55.0 -0.1**
JEW Eniwo 83.80 331 IAMs_20 IAMs_20 21 19 07.0
comp=Z,6μm,20.0s
KIWB Kanaga Island 84.19 1 P **P** **20 44 57.4 +0.1**
ADK Adak 84.22 1 P **P** **20 44 58.0 +0.5**
ADK pmax pmax
comp=Z,86nm,1.0s
ADK MLR MLR
comp=Z,4μm,22.0s
ADK Adak 84.22 1 P **P** **20 44 58.0 +0.5**
BO02 Sierra Bellavi 84.35 128 P **P** **20 44 59.0 0.0**
JKA Kamikawa-asahi 84.42 333 P **P** **20 44 58.5 -0.3**
JKA IAMs_20 IAMs_20 21 20 31.3
comp=Z,6μm,20.0s
ASAJ Asahikawa 84.42 333 P **P** **20 44 58.5 -0.3**
comp=Z,17nm,0.8s,baz=212,slow=12,SNR=14
MT01 Popeta 84.58 127 P **P** **20 44 59.9 -0.2**
MT01 IAmb IAmb 20 45 03.4
comp=Z,48nm,1.1s
ATKA Atka Island 84.60 2 P **P** **20 44 59.3 -0.1**
IPM Ipoh 84.72 279 P **P** **20 45 01.0 -0.1**
MT09 Talagante 84.81 127 P **P** **20 45 00.3 -1.1**
MT05 Renca 85.20 127 P **P** **20 45 02.5 -0.9**
RPSI Rantau Prapat 85.51 276 IAMs_20 IAMs_20 21 28 27.4
comp=Z,7μm,18.0s
SSE Sheshan 85.53 311 P **P** **20 45 04.4 -0.2**
SSE S **S** **20 55 35.4 -0.3**
SSE pmax pmax
comp=Z,30nm,0.7s
SSE pmax pmax
comp=Z,560nm,8.5s
SSE LR LR
comp=Z,540nm,19.6s
SSE LR LR
comp=Z,590nm,18.4s
TJN Taejon 85.55 319*c i*P **P** **20 45 04.6 0.0**
PSI Prapat 85.57 276 P **P** **20 45 05.1 -0.4**
comp=Z,9.3nm,0.8s,baz=181,slow=16,SNR=4.8
PSI LR LR 21 25 02.0
comp=Z,4μm,19.0s,baz=90,slow=37
PSI Prapat 85.57 276 P **P** **20 45 05.6 +0.1**
comp=Z,739nmcomp=Z,13nm,1.1s,comp=Z,388nm,1.1s,
comp=Z,6.3nm,1.1s
PSI P **P** **20 45 05.6 +0.1**
comp=Z,739nmcomp=Z,13nm,1.1s,comp=Z,388nm,1.1s,
comp=Z,6.3nm,1.1s
NIKH Nikolski High 85.69 6 P **P** **20 45 05.8 +0.9**
NIKH Nikolski High 85.69 6 P **P** **20 45 05.9 +1.0**
baz=188
QIZ Qiongzhong 85.88 296 P **P** **20 45 06.3 -0.4**
QIZ PP **PP** **20 48 27.5 +0.8**
QIZ S **S** **20 55 36.6 -3.1**
QIZ pmax pmax
comp=Z,1μm,8.5s
QIZ LR LR
comp=Z,760nm,26.3s
QIZ LR LR
comp=Z,1μm,17.3s
QIZ LR LR
comp=Z,820nm,16.7s
GSI Gunungsitoli 85.89 274 P **P** **20 45 06.6 -0.4**
GSI IAMs_20 IAMs_20 21 29 00.3
comp=Z,5μm,19.0s
KSRS Korea Array 86.02 320 P **P** **20 45 07.3 +0.4**
comp=Z,5.9nm,0.7s,baz=139,slow=5.9,SNR=21
KSRS LR LR 21 21 37.8
comp=Z,2μm,19.1s,baz=118,slow=34
KSAR Wonju Array Be 86.03 320 P **P** **20 45 06.9 -0.1**
KSAR Wonju Array Be 86.03 320 P **P** **20 45 06.9 -0.1**
SKR Severo-Kuril's 86.08 344 *e*P P 20 44 55.7 -11
SKR *e* 20 48 24.8
SKR *e*S S 20 55 29.5 -11
SKR *e*SS **SS** **21 01 19.1 -0.4**
SKR pmax pmax
comp=Z,600nm,12.3s
SKR pmax pmax
comp=Z,59nm,1.2s
SKR pmax pmax
comp=Z,900nm,11.7s
SKR MLR MLR
comp=Z,1μm,16.0s
SKR MLR MLR
comp=Z,1μm,17.0s
KS19 Wonju Array Si 86.09 320 P **P** **20 45 06.8 -0.5**
KS19 IAmb IAmb 20 45 09.1
comp=Z,92nm,1.7s
CO02 Combarbal 86.31 125 P **P** **20 45 09.4 +0.5**
CO02 IAmb IAmb 20 45 19.4
comp=Z,44nm,0.9s
SRIG Santa Rosalia 86.50 54 IAMs_20 IAMs_20 21 19 46.2
comp=Z,6μm,18.0s
CCX Cicese 86.54 48 IAMs_20 IAMs_20 21 25 45.2
comp=Z,4μm,18.0s
PKM Mcpherson Peak 86.67 44 P **P** **20 45 12.7 +2.2**
baz=226
TJX Tijuana 86.72 48 IAMs_20 IAMs_20 21 26 20.1
comp=Z,6μm,18.0s
CO03 El Pedregal 86.74 125 P **P** **20 45 11.1 +0.1**
CO03 IAmb IAmb 20 45 46.5
comp=Z,92nm,1.6s
YSS Yuzh-Sakhalins 86.76 334*oe*P **P** **20 45 10.9 +0.6**
YSS *e**SP **sP** **20 45 16.6 +1.7**
YSS *e* 20 45 22.9
YSS *e* 20 48 27.6
YSS *e* 20 55 36.3
YSS *e*S **S** **20 55 45.8 -1.2**
YSS *e*PS **PnS** **20 56 47.8 +0.5**
YSS *e*SS **SS** **21 01 25.6 -4.1**
YSS pmax pmax
comp=Z,40nm,1.0s
YSS pmax pmax
comp=Z,1μm,6.0s
YSS MLR MLR
comp=Z,3μm,19.0s
YSS MLR MLR
comp=N,3μm,17.0s
YSS Yuzh-Sakhalins 86.76 334 P **P** **20 45 11.1 +0.8**
YSS IAmb IAmb 20 45 32.2
comp=Z,51nm,0.8s
YSS IAMs_20 IAMs_20 21 24 41.2
comp=Z,4μm,19.0s
UNV Unalaska Valle 86.77 7 P **P** **20 45 10.2 +0.1**
UNV IAmb IAmb 20 45 30.5
comp=Z,61nm,1.2s
CBX Cerro Bola 86.84 48 P **P** **20 45 11.2 0.0**
109C Camp Elliot, M 86.95 47 IAMs_20 IAMs_20 21 26 24.0
comp=Z,7μm,18.0s
BAR Barrett 87.08 48 P **P** **20 45 12.3 0.0**
BAR IAMs_20 IAMs_20 21 26 27.4
comp=Z,6μm,18.0s
UBPT Khong Chiam 87.10 290 P **P** **20 45 13.1 +0.3**
UBPT IAmb IAmb 20 45 35.7
comp=Z,53nm,1.7s
AKUT Akutan 87.13 7 P **P** **20 45 13.2 +1.3**
OSI Osito Audit: C 87.13 45 P **P** **20 45 12.9 +0.4**
SFX San Felipe 87.15 50 P **P** **20 45 12.8 +0.2**
SFX IAMs_20 IAMs_20 21 26 03.4
comp=Z,5μm,18.0s
HOPE Hope Point 87.26 159 P **P** **20 45 13.9 +1.0**
HOPE pmax pmax
comp=Z,225nm,1.5s
HOPE MLR MLR
comp=Z,8μm,19.0s
HOPE Hope Point 87.26 159 P **P** **20 45 13.9 +1.0**
MWC Mount Wilson 87.27 46 P **P** **20 45 14.0 +0.6**
MWC pmax pmax
comp=Z,53nm,1.6s
MWC Mount Wilson 87.27 46 P **P** **20 45 14.0 +0.6**
MWC IAmb IAmb 20 46 38.8
comp=Z,53nm,1.6s
MURC Murrieta 87.37 47 P **P** **20 45 17.0 +3.3**
baz=227
MONP2 Monument Peak 87.38 48 P **P** **20 45 15.8 +1.8**
baz=228
IKP In-Ko-Pah, Jac 87.41 48 P **P** **20 45 16.0 +2.0**
baz=228
TEY Ternei 87.61 330‖ *e*P **P** **20 45 13.7 -0.8**
TEY *e* 20 55 36.4
TEY pmax pmax
comp=Z,900nm,12.0s
TEY pmax pmax
comp=E,200nm,12.9s
TEY pmax pmax
comp=N,200nm,5.8s
TEY pmax pmax
comp=E,600nm,14.1s
TEY pmax pmax
comp=N,800nm,11.2s
TEY MLR MLR
comp=E,1μm,18.0s
TEY MLR MLR
comp=N,700nm,20.0s
TEY MLR MLR
comp=Z,2μm,18.0s
NJ2 Nanjing 87.65 311 *e*P **P** **20 45 11.3 -3.7**
NJ2 pP **sP** **20 45 20.8 +1.0**
NJ2 PP **PP** **20 48 38.0 -2.8**
NJ2 SKS **SKSac** **20 55 40.6 -1.8**
NJ2 S **SKKSac** **20 55 47.2 -4.8**
NJ2 sS **ScS** **20 56 04.6 +1.6**
NJ2 pmax pmax
comp=Z,13nm,0.5s
NJ2 pmax pmax
comp=Z,1μm,9.0s
NJ2 LR LR
comp=Z,1μm,19.9s
NJ2 LR LR
comp=Z,2μm,19.0s
NJ2 LR LR
comp=Z,2μm,18.9s
TRTT Trang 87.66 281 P **P** **20 45 17.0 +1.5**
comp=Z,1μmcomp=Z,35nm,0.9s
ZON Zonda 87.70 126 P **P** **20 45 15.2 -0.4**
ZON pmax pmax
comp=Z,60nm,1.5s
ZON MLR MLR
comp=Z,5μm,18.0s
ZON Zonda 87.70 126 P **P** **20 45 15.2 -0.4**
ZON IAmb IAmb 20 46 02.5
comp=Z,60nm,1.5s
ZON IAMs_20 IAMs_20 21 19 28.8
comp=Z,5μm,18.0s
PET Petropavlovsk 87.72 346 *e*P **P** **20 45 14.5 -0.3**
PET *e* 20 55 41.0
PET *e*S **S** **20 55 53.7 -2.3**
PET *e*PS **PnS** **20 56 59.9 +1.2**
PET pmax pmax
comp=Z,69nm,1.7s
PET pmax pmax
comp=Z,1μm,8.4s
PET pmax pmax
comp=Z,2μm,11.8s
PET smax smax
comp=N,2μm,9.5s
PET smax smax
comp=E,2μm,11.2s
PET smax smax
comp=N,2μm,17.2s
PET smax smax
comp=E,2μm,12.8s
PET MLR MLR
comp=Z,6μm,18.0s
PET MLR MLR
comp=Z,6μm,17.0s
PET Petropavlovsk 87.72 346 P **P** **20 45 15.3 +0.5**
PET IAMs_20 IAMs_20 21 23 06.9
comp=Z,5μm,19.0s
EDW2 Edwards Air Fo 87.75 46 P **P** **20 45 17.3 +1.7**
baz=227,SNR=7.6
VES Vestal, Richgr 87.76 44 P **P** **20 45 16.9 +1.5**
baz=226
SWSC Sam W. Stewart 87.80 48 P **P** **20 45 18.6 +2.9**
baz=228
LCO Las Campanas 87.81 123 IAMs_20 IAMs_20 21 18 27.0
comp=Z,5μm,18.0s
PAYG Puerto Ayora 87.82 89 P **P** **20 45 16.0 -0.3**
PAYG IAmb IAmb 20 45 42.3
comp=Z,48nm,1.1s
PAYG Puerto Ayora 87.82 89 IAMs_20 IAMs_20 21 19 37.0
comp=Z,6μm,18.0s
UABX UABC, Campus M 87.82 49 IAMs_20 IAMs_20 21 27 07.1
comp=Z,5μm,19.0s
PFO Pinyon Flats O 87.83 47 P **P** **20 45 16.3 +0.3**
PFO pmax pmax
comp=Z,28nm,1.4s
PFO MLR MLR
comp=Z,6μm,19.0s
PFO Pinyon Flats O 87.83 47 P **P** **20 45 16.3 +0.3**
PFO IAmb IAmb 20 45 51.9
comp=Z,28nm,1.4s
PFO IAMs_20 IAMs_20 21 19 23.9
comp=Z,6μm,19.0s
PFO Pinyon Flats O 87.83 47 P **P** **20 45 18.1 +2.1**
baz=228
GUVIX Guadalupe Vict 87.84 49 IAMs_20 IAMs_20 21 26 18.5
comp=Z,5μm,18.0s
TRQA Tornquist 87.90 135 P **P** **20 45 16.0 -0.4**
TRQA pmax pmax
comp=Z,67nm,1.7s
TRQA MLR MLR
comp=Z,6μm,18.0s
TRQA Tornquist 87.90 135 P **P** **20 45 16.0 -0.4**
TRQA IAmb IAmb 20 45 46.7
comp=Z,67nm,1.7s
TRQA Tornquist 87.90 135 IAMs_20 IAMs_20 21 21 20.9
comp=Z,6μm,18.0s
ISA Isabella, Lake 88.00 45 P **P** **20 45 17.3 +0.6**
ISA pmax pmax
comp=Z,60nm,1.5s
ISA MLR MLR
comp=Z,7μm,18.0s
ISA Isabella, Lake 88.00 45 P **P** **20 45 17.3 +0.6**
ISA IAmb IAmb 20 45 45.1
comp=Z,60nm,1.4s
ISA Isabella, Lake 88.00 45 P **P** **20 45 18.8 +2.0**
baz=227,SNR=14
PEA0B Petropavlovsk- 88.00 346*c i*P **P** **20 45 16.4 +0.2**
PEA0B Petropavlovsk- 88.00 346 P **P** **20 45 16.9 +0.7**
PETK Petropavlovsk- 88.00 346 P **P** **20 45 16.2 +0.1**
comp=Z,39nm,0.9s,baz=91,slow=8.9,SNR=20
PETK LR LR 21 22 06.7
comp=Z,2μm,18.9s,baz=152,slow=34
PETK Petropavlovsk- 88.00 346 P **P** **20 45 16.7 +0.5**
FALS False Pass 88.11 8 S **S** **20 56 05.9 +6.3**
baz=192
MSHR Mys Shultsa 88.17 325*c i*P **P** **20 45 17.5 +0.3**
MSHR pmax pmax
comp=Z,24nm,1.3s
MSHR MLR MLR
comp=Z,1μm,19.0s
VLA Vladivostok 88.23 326*c i*P **P** **20 45 17.2 -0.3**
VLA pmax pmax
comp=Z,41nm,1.7s
VLA MLR MLR
comp=Z,3μm,19.0s
LRMC Laurel Mtn Rad 88.34 45 P **P** **20 45 20.3 +1.8**
baz=227,SNR=12
BELC Belle Mtn. Jos 88.38 47 P **P** **20 45 20.9 +2.3**
baz=228,SNR=7.9
HSIG 88.45 54 P **P** **20 45 19.1 +0.1**
HSIG IAMs_20 IAMs_20 21 20 53.0
comp=Z,4μm,18.0s
GLA Glamis 88.48 49 P **P** **20 45 18.5 -0.5**
GLA pmax pmax
comp=Z,18nm,0.9s
GLA MLR MLR
comp=Z,5μm,18.0s
GLA Glamis 88.48 49 P **P** **20 45 18.5 -0.5**
GLA IAmb IAmb 20 45 35.5
comp=Z,18nm,0.8s
GLA IAMs_20 IAMs_20 21 20 11.7
comp=Z,5μm,18.0s
BC3 Big Chuckawall 88.49 48 P **P** **20 45 21.7 +2.6**
baz=228,SNR=11
JCC Jacoby Creek, 88.55 38 IAMs_20 IAMs_20 21 19 42.0
comp=Z,6μm,19.0s
HEC Hector,Ludlow 88.72 46 P **P** **20 45 22.2 +2.0**
baz=228,SNR=9.6
O02D Mt. Diablo Mer 88.74 39 P **P** **20 45 22.5 +2.4**
baz=224,SNR=9.1
O02D S **S** **20 56 12.3 +5.8**
baz=224
KHMM Horse Mountain 88.75 38 IAMs_20 IAMs_20 21 24 51.2
comp=Z,6μm,18.0s
GSC Goldstone, Bar 88.75 46 P **P** **20 45 20.6 +0.3**
GSC pmax pmax
comp=Z,41nm,1.5s
GSC MLR MLR
comp=Z,9μm,18.0s
GSC Goldstone, Bar 88.75 46 P **P** **20 45 20.6 +0.3**
GSC IAmb IAmb 20 46 42.5
comp=Z,41nm,1.4s
GSC Goldstone, Bar 88.75 46 P **P** **20 45 22.3 +2.0**
baz=228,SNR=8.3
GSC S **S** **20 56 14.6 +7.8**
baz=228
UGL Uglegorsk 88.80 335 *e*P **P** **20 45 21.2 +1.2**
UGL *e*S S 20 55 49.8 -17
UGL pmax pmax
comp=Z,110nm,1.3s
UGL smax smax
comp=E,5μm,12.0s
UGL smax smax
comp=N,3μm,10.0s
UGL MLR MLR
comp=E,2μm,14.0s
UGL MLR MLR
comp=N,3μm,20.0s
UGL MLR MLR
comp=Z,3μm,18.0s
MPMC Manual Prospec 88.85 45 P **P** **20 45 22.7 +1.8**
baz=227,SNR=9.8
MPMC S **S** **20 56 15.1 +7.1**
baz=227
SDPT Sand Point 88.98 10 P **P** **20 45 21.9 +1.1**
SDPT Sand Point 88.98 10 S **S** **20 56 11.2 +3.3**
baz=195
ORV Oroville 88.99 40 IAMs_20 IAMs_20 21 23 38.7
comp=Z,6μm,18.0s
MDPB Devils Postpil 89.00 43 IAMs_20 IAMs_20 21 27 14.0
comp=Z,6μm,18.0s
USA0B Ussuriysk Arra 89.01 327 P **P** **20 45 21.4 +0.3**
USA0B pmax pmax

comp=Z,37nm,1.2s
USA0B Ussuriysk Arra 89.01 327 P P 20 45 21.4 +0.3
USA0B IAmb IAmb 20 45 36.9
comp=Z,37nm,1.1s
USA0B IAMs_20 IAMs_20 21 24 55.9
comp=Z,4μm,19.0s
USRK Ussuriysk Ar. 89.01 327 P P 20 45 21.7 +0.6
comp=Z,8.1nm,0.8s,baz=150,slow=4.2,SNR=17
USRK LR LR 21 20 37.8
comp=Z,2μm,20.8s,baz=129,slow=33
IRM Iron Mountain 89.01 48 P P 20 45 24.3 +2.8
baz=229,SNR=9.7
IRM S S **20 56 16.2 +7.0**
baz=229
214A Organ Pipe Nat 89.07 51 P P 20 45 21.4 -0.4
214A IAmb IAmb 20 45 50.9
comp=Z,53nm,1.6s
214A IAMs_20 IAMs_20 21 20 02.3
comp=Z,5μm,18.0s
214A Organ Pipe Nat 89.07 51 P P 20 45 24.0 +2.2
baz=230
214A S S **20 56 16.0 +6.2**
baz=230
TIN Tinemaha, Big 89.09 44 S S 20 56 17.9 +7.9
baz=227
MLAC Mammoth, Mammo 89.14 43 S S 20 56 16.5 +5.8
baz=226
WDC Whiskeytown Da 89.16 39 P P 20 45 22.3 +0.3
WDC pmax pmax
comp=Z,32nm,1.5s
WDC MLR MLR
comp=Z,5μm,19.0s
WDC Whiskeytown Da 89.16 39 P P 20 45 22.2 +0.3
WDC IAmb IAmb 20 45 50.0
comp=Z,32nm,1.4s
WDC IAMs_20 IAMs_20 21 20 16.2
comp=Z,5μm,19.0s
O03E Paynes Creek 89.35 40 P P 20 45 24.2 +1.2
baz=224,SNR=5.6
O03E S S **20 56 18.0 +5.8**
baz=224
N02D Trinity Center 89.36 39 P P 20 45 25.0 +2.0
baz=224
N02D S S **20 56 16.8 +4.6**
baz=224
TUQ Turquoise Moun 89.38 46 P P 20 45 25.5 +2.2
baz=228,SNR=5.2
TUQ S S **20 56 18.0 +5.1**
baz=228
SHOC Shoshone, Teco 89.47 46 P P 20 45 26.2 +2.6
baz=228
SHOC S S **20 56 19.2 +5.8**
baz=228
FURC Furnace Creek, 89.50 45 P P 20 45 25.6 +2.0
baz=228
FURC S S **20 56 21.4 +7.9**
baz=228
GRAC Grapevine Rang 89.56 44 P P 20 45 26.4 +2.4
baz=227
M02C Callahan 89.58 38 P P 20 45 26.4 +2.4
baz=224
M02C S S **20 56 19.5 +5.2**
baz=224
WHN Wuhan 89.64 307 ⇓P **P 20 45 24.9 +0.5**
PNTR Pine Nut 89.71 42 P **P 20 45 25.7 +0.8**
PNTR IAmb IAmb 20 45 52.6
comp=Z,27nm,1.1s
PDMCI Parker Dam,Lak 89.73 48 P P 20 45 27.0 +2.2
baz=229
PDMCI S S **20 56 21.6 +5.7**
baz=229
NEE2 Needles Airpor 89.74 47 P P 20 45 27.9 +3.1
baz=229
NEE2 S S **20 56 20.0 +4.1**
baz=229
L02E Cave Junction 89.75 37 S S 20 56 23.5 +7.8
baz=223
SPIA Saint Paul Isl 89.77 4 S S 20 56 23.4 +8.3
baz=186
BEKR Beckworth 89.83 41 IAMs_20 IAMs_20 21 23 11.0
comp=Z,5μm,18.0s
YBH Yreka Blue Hor 89.90 38 P P 20 45 26.6 +1.1
comp=Z,9.1nm,1.2s,baz=241,slow=4.0,SNR=4.3
YBH Yreka Blue Hor 89.90 38 P P 20 45 26.0 +0.5
YBH pmax pmax
comp=Z,16nm,1.2s
YBH MLR MLR
comp=Z,4μm,19.0s
YBH Yreka Blue Hor 89.90 38 P P 20 45 26.0 +0.5
YBH IAMs_20 IAMs_20 21 20 36.7
comp=Z,4μm,19.0s
NVAR Mina Array Bea 89.99 43 P P 20 45 27.2 +1.0
comp=Z,6.0nm,1.1s,baz=219,slow=6.9,SNR=17
NVAR PKKPbc **PKKPbc 21 02 57.0 -1.2**
comp=Z,0.4nm,0.7s,baz=77,slow=1.2,SNR=2.1
NVAR LR LR 21 22 28.0
comp=Z,4μm,18.3s,baz=229,slow=33
NVAR Mina Array Bea 89.99 43 P P 20 45 26.9 +0.7
RYN Ryan 90.00 42 IAMs_20 IAMs_20 21 23 09.6
comp=Z,6μm,19.0s
NV11 Mina Array Sit 90.08 43 P P 20 45 26.9 +0.4
NV11 IAMs_20 IAMs_20 21 27 59.6
comp=Z,6μm,18.0s
TYV Tymovskoe 90.10 336 *e*P **P 20 45 26.8 +0.7**
TYV *e*S **S 20 56 22.4 +3.9**
TYV pmax pmax
comp=Z,68nm,1.4s
TYV pmax pmax
comp=Z,1μm,4.2s
TYV smax smax
comp=N,22nm,1.5s
TYV smax smax
comp=E,28nm,1.5s
TYV smax smax
comp=N,7μm,9.7s
TYV smax smax
comp=E,4μm,9.7s
TYV MLR MLR
comp=Z,2μm,20.0s
K02D Willamette Mer 90.10 37 P P 20 45 28.7 +2.2
baz=223
K02D S S 20 56 28.4 +9.3
baz=223
TPNV Topopah Spring 90.19 45 P P 20 45 27.1 0.0
TPNV pmax pmax
comp=Z,30nm,1.4s
TPNV MLR MLR
comp=Z,8μm,18.0s
TPNV Topopah Spring 90.19 45 P P 20 45 27.1 0.0
TPNV IAmb IAmb 20 45 54.6
comp=Z,30nm,1.4s
TPNV Topopah Spring 90.19 45 P P 20 45 29.2 +2.1
baz=228,SNR=8.3
TPNV S S **20 56 27.9 +7.5**
baz=228
Y14A Wickenburg 90.22 49 IAMs_20 IAMs_20 21 20 55.6
comp=Z,6μm,18.0s
CHGN Chignik 90.22 11 P P 20 45 27.2 +0.8
baz=196
CHAI Chaiyaphum 90.22 289 P P 20 45 30.3 +2.8
comp=Z,26nm,0.9s
CHIR Chirikof Islan 90.23 12 IAMs_20 IAMs_20 21 22 36.0
comp=Z,5μm,20.0s
J01E Myrtle Point 90.31 36 P P 20 45 29.1 +1.9
baz=223
TPH Tonopah 90.37 44 P P 20 45 27.9 -0.1
TPH pmax pmax
comp=Z,146nm,1.3s
TPH Tonopah 90.37 44 P P 20 45 27.9 -0.1
M04C Macdoel 90.39 38 S S 20 56 30.5 +8.6
baz=224
HUMO Hull Mountain 90.40 37 P P 20 45 27.6 -0.2
HUMO IAmb IAmb 20 45 56.7
comp=Z,67nm,1.6s
HUMO IAMs_20 IAMs_20 21 21 11.0
comp=Z,4μm,19.0s
W13A Hualapai Mount 90.41 48 IAMs_20 IAMs_20 21 28 39.7
comp=Z,5μm,18.0s
MDJ Mudanjiang 90.45 326 P P 20 45 27.7 -0.1
MDJ pP pP 20 45 31.2 -0.1
MDJ pmax pmax
comp=Z,19nm,1.4s
MDJ pmax pmax
comp=Z,1μm,9.9s
MDJ LR LR
comp=Z,2μm,18.9s
MDJ LR LR
comp=Z,3μm,18.8s
MDJ LR LR
comp=Z,6μm,19.3s
MDJ Mudanjiang 90.45 326 P P 20 45 27.8 -0.1
MDJ IAMs_20 IAMs_20 21 26 14.4
comp=Z,5μm,19.0s
L04D Klamath Falls 90.46 38 P P 20 45 29.2 +1.0
baz=224
L04D S S **20 56 29.6 +7.1**
baz=224
PHET Kaeng Krachan 90.48 285 P P 20 45 35.6 +6.9
NONG Nongkai 90.51 291 P P 20 45 30.3 +1.5
comp=Z,84nm,0.9s
DL2 Dalian 90.56 317 P P 20 45 27.3 -1.2
DL2 SKS **SKSac 20 55 58.8 -0.4**
DL2 S **S 20 56 21.3 -1.9**
DL2 pmax pmax
comp=Z,33nm,0.9s
DL2 pmax pmax
comp=Z,840nm,4.9s
DL2 LR LR
comp=Z,950nm,19.5s
DL2 LR LR
comp=Z,2μm,19.2s
DL2 LR LR
comp=Z,2μm,18.9s
TUC Tucson 90.62 51 P P 20 45 29.2 +0.1
TUC pmax pmax
comp=Z,53nm,1.8s
TUC MLR MLR
comp=Z,3μm,18.0s
TUC Tucson 90.62 51 P P 20 45 29.2 +0.1
TUC IAmb IAmb 20 45 58.5
comp=Z,53nm,1.8s
TUC Tucson 90.62 51 P P 20 45 31.9 +2.8
baz=231
TUC S S **20 56 31.4 +7.0**
baz=231
ZAIG Zacatecas 90.73 63 IAMs_20 IAMs_20 21 19 45.7
comp=Z,4μm,19.0s
I03D Drain, OR 90.99 36 P P 20 45 32.5 +2.1
baz=223
I03D S S **20 56 35.0 +8.0**
baz=223
K04D Chiloquin, OR 91.03 38 S S 20 56 34.7 +7.0
baz=224
319A Douglas 91.04 53 IAMs_20 IAMs_20 21 24 12.6
comp=Z,4μm,19.0s
SII Sitkinak Islan 91.20 13 IAMs_20 IAMs_20 21 23 37.5
comp=Z,4μm,20.0s
PRN Pahroc Range 91.21 45 P P 20 45 33.1 +1.3
PRN IAmb IAmb 20 46 00.5
comp=Z,29nm,1.3s
MOD Modoc Plateau 91.28 39 P P 20 45 33.0 +0.9
MOD IAmb IAmb 20 45 59.5
comp=Z,23nm,1.2s
J04D Umpqua Nationa 91.29 37 S S 20 56 38.0 +7.7
baz=224
UNM Universidad Na 91.39 68 IAMs_20 IAMs_20 21 19 10.6
comp=Z,4μm,19.0s
TIA Tai'an 91.45 313 P P 20 45 33.6 +0.8
TIA pmax pmax
comp=Z,24nm,1.2s
TIA pmax pmax
comp=Z,920nm,10.3s
TIA LR LR
comp=Z,1μm,23.0s
TIA LR LR
comp=Z,2μm,21.1s
TIA LR LR
comp=Z,2μm,20.6s
SNY Shenyang 91.49 321 ⇑P **P 20 45 31.9 -0.8**
SNY PP **PP 20 49 07.9 -3.3**
SNY pmax pmax
comp=Z,690nm,11.4s
SNY LR LR
comp=Z,820nm,18.7s
SNY LR LR
comp=Z,600nm,23.0s
SNY LR LR
comp=Z,1μm,20.1s
R11A Troy Canyon, C 91.51 44 P P 20 45 34.5 +1.3
baz=228
R11A S S **20 56 39.3 +6.8**
baz=228
X16A Lo Mia Camp, P 91.52 49 P P 20 45 34.0 +0.6
X16A IAMs_20 IAMs_20 21 28 49.2
comp=Z,6μm,18.0s
I04A Tendick Farm, 91.53 37 P P 20 45 30.9 -2.1
baz=224
I04A S S **20 56 36.3 +4.2**
baz=224
BUCK Buck Mountain 91.53 36 IAMs_20 IAMs_20 21 22 23.0
comp=Z,7μm,19.0s
K05A Summer Lake 91.55 38 IAMs_20 IAMs_20 21 21 53.5
comp=Z,5μm,19.0s
J05D Fort Rock, OR 91.77 38 P P 20 45 35.9 +1.6
baz=225
J05D S S **20 56 41.8 +7.3**
baz=225
H04D Lebanon 91.89 36 S S 20 56 43.2 +8.0
baz=224
CN2 Changchun 91.90 323 *e*P **P 20 45 33.5 -1.1**
CN2 pmax pmax
comp=Z,20nm,1.7s
CN2 pmax pmax
comp=Z,700nm,9.0s
CN2 LR LR
comp=Z,2μm,17.0s
CN2 LR LR
comp=Z,1μm,17.0s
CN2 LR LR
comp=Z,1μm,20.0s
BMN Battle Mountai 91.96 42 P P 20 45 35.7 +0.5
BMN pmax pmax
comp=Z,18nm,1.2s
BMN Battle Mountai 91.96 42 P P 20 45 35.7 +0.5
OHAK Old Harbor 91.99 13 S S 20 56 40.0 +4.6
baz=201
UTHA Uthaitani 92.08 287 P P 20 45 41.4 +5.3
WUAZ Wupatki 92.26 49 P P 20 45 38.2 +1.4
WUAZ IAmb IAmb 20 46 04.5
comp=Z,26nm,1.6s
WUAZ IAMs_20 IAMs_20 21 29 14.6
comp=Z,6μm,18.0s
WUAZ Wupatki 92.26 49 P P 20 45 38.7 +1.9
baz=231
WUAZ S S 20 56 48.3 +9.0
baz=231
GRNR Gornyy 92.27 333 ⇑*i*P **P 20 45 36.8 +0.6**
GRNR pmax pmax
comp=Z,20nm,1.1s
GRNR MLR MLR
comp=E,1μm,20.0s
GRNR MLR MLR
comp=N,1μm,20.0s
GRNR MLR MLR
comp=Z,2μm,19.0s
PINE Pine Mountain 92.28 38 P P 20 45 38.0 +1.4
PINE IAmb IAmb 20 46 13.5
comp=Z,23nm,0.9s
PINE IAMs_20 IAMs_20 21 22 33.7
comp=Z,6μm,19.0s
H04A Detroit Lake 92.28 36 IAMs_20 IAMs_20 21 23 14.8
comp=Z,6μm,19.0s
PB06 IPOC Station P 92.38 119 IAMs_20 IAMs_20 21 20 47.1
comp=Z,4μm,18.0s
I05D Terrebonne, OR 92.46 37 P P 20 45 39.0 +1.7
baz=225
WVOR Wild Horse Val 92.55 40 P P 20 45 39.0 +1.1
WVOR pmax pmax
comp=Z,13nm,1.2s
WVOR MLR MLR
comp=Z,8μm,20.0s
WVOR Wild Horse Val 92.55 40 P P 20 45 39.0 +1.1
X18A Snowflake 92.55 50 IAMs_20 IAMs_20 21 29 13.4
comp=Z,6μm,18.0s
GYA Guiyang 92.59 300 ⇓P **P 20 45 38.5 0.0**
GYA PP **PP 20 49 19.1 -1.3**
GYA SKS **SKSac 20 56 05.6 -6.1**
GYA S **ScS 20 56 45.3 +0.7**
GYA pmax pmax
comp=Z,14nm,1.6s
GYA pmax pmax
comp=Z,700nm,9.0s
GYA LR LR
comp=Z,550nm,22.4s
GYA LR LR
comp=Z,800nm,18.1s
GYA LR LR
comp=Z,1μm,18.0s
KDAK Kodiak Island 92.66 13 IAMs_20 IAMs_20 21 24 23.0
comp=Z,5μm,20.0s
SPR3 Spring Creek 3 92.68 44 P P 20 45 39.6 +0.8
NKL Nikolayevsk 92.69 337 *e*P **P 20 45 36.2 -1.8**
NKL *e*S **SKSac 20 56 08.9 -1.7**
NKL pmax pmax
comp=N,619nm,0.8s
NKL pmax pmax
comp=E,5.0nm,0.8s
NKL pmax pmax
comp=Z,62nm,1.3s
NKL smax smax
comp=E,14nm,1.7s
NKL smax smax
comp=N,3μm,2.1s
NKL MLR MLR
comp=N,8μm,13.0s
NKL MLR MLR
comp=E,240nm,18.0s
NKL MLR MLR
comp=Z,2μm,18.0s
121A Cookes Peak, D 92.75 53 IAMs_20 IAMs_20 21 24 49.9
comp=Z,5μm,18.0s
121A Cookes Peak, D 92.75 53 S S 20 56 50.5 +6.6
baz=233
ENH Enshi 92.80 304 P P 20 45 39.0 -0.2
E03A Lebam 92.95 34 IAMs_20 IAMs_20 21 21 27.5
comp=Z,4μm,19.0s
KLR Kul'dur 92.95 330 P **P 20 45 39.8 +0.5**
comp=Z,11nm,1.1s,baz=137,slow=6.1,SNR=11
KLR LR LR 21 27 10.9
comp=Z,3μm,18.1s,baz=140,slow=35
KLR Kul'dur 92.95 330*c i*P **P 20 45 38.6 -0.8**
KLR pmax pmax
comp=Z,33nm,1.5s
KLR MLR MLR
comp=Z,4μm,18.0s
W18A Petrified Fore 93.05 50 IAMs_20 IAMs_20 21 22 43.7
comp=Z,5μm,18.0s
W18A Petrified Fore 93.05 50 S S 20 56 55.1 +8.7
baz=232
F04A Amboy 93.06 35 IAMs_20 IAMs_20 21 22 52.4
comp=Z,5μm,19.0s
I07A Izee 93.22 38 IAMs_20 IAMs_20 21 23 06.7
comp=Z,5μm,19.0s
ELK Elko 93.30 43 P P 20 45 42.8 +1.3
comp=Z,1.8nm,1.0s,baz=237,slow=5.4,SNR=4.7
ELK Elko 93.30 43 P P 20 45 42.3 +0.8
ELK pmax pmax
comp=Z,7.0nm,1.2s
ELK MLR MLR
comp=Z,7μm,18.0s
ELK Elko 93.30 43 P P 20 45 42.3 +0.8
NLWA Neilton Lookou 93.42 34 IAMs_20 IAMs_20 21 20 23.0
comp=Z,5μm,20.0s
E04D Cinebar 93.44 35 S S 20 56 56.0 +7.2
baz=224
F05D White Salmon 93.50 36 S S 20 56 57.0 +7.6
baz=225
Q19K Cape Douglas, 93.53 12 IAMs_20 IAMs_20 21 32 35.4
comp=Z,4μm,19.0s
TXAR Lajitas Array 93.71 57 P P 20 45 44.5 +1.0
comp=Z,1.3nm,1.1s,baz=203,slow=5.0,SNR=6.3
TXAR PKKPbc **PKKPdf 21 02 46.4 -1.1**
comp=Z,0.6nm,0.8s,baz=52,slow=5.8,SNR=5.5
TXAR LR LR 21 23 24.7
comp=Z,5μm,18.0s,baz=0.0,slow=33
TXAR Lajitas Array 93.71 57 P P 20 45 44.2 +0.7
TXAR Lajitas Array 93.71 57 P P 20 45 44.2 +0.7
MNTX Cornudas Mount 93.89 55 IAMs_20 IAMs_20 21 25 28.1
comp=Z,3μm,18.0s
MNTX Cornudas Mount 93.89 55 P P 20 45 45.5 +1.3
baz=234
MNTX S S **20 56 58.9 +5.3**
baz=234
LON Longmire 93.94 35 IAMs_20 IAMs_20 21 22 52.6
comp=Z,4μm,19.0s
CMAR Chiang Mai Arr 94.05 289 P P 20 45 45.6 +0.4
comp=Z,1.3nm,0.8s,baz=126,slow=4.2,SNR=7.9
CMAR PP **PP 20 49 30.2 -1.5**
comp=Z,1.3nm,0.5s,baz=135,slow=5.6,SNR=5.6
CMAR LR LR 21 33 08.2
comp=Z,878nm,18.1s,baz=120,slow=39
CMAR Chiang Mai Arr 94.05 289 P P 20 45 44.3 -0.9
D05A Enumclaw 94.17 35 IAMs_20 IAMs_20 21 35 46.6
comp=Z,3μm,18.0s
CMMT Chiang Mai 94.24 290 P P 20 45 51.5 +5.4
CMMT Chiang Mai 94.24 290 P P 20 45 51.5 +5.4
comp=Z,513nmcomp=Z,4.4nm,2.1s
CHTO Chiang Mai 94.24 290 P P 20 45 51.6 +5.5
CHTO Chiang Mai 94.24 290 P P 20 45 51.6 +5.5
Y22D IRIS PASSCAL I 94.26 52 IAMs_20 IAMs_20 21 25 55.7
comp=Z,5μm,18.0s
F07A Phinny Hill Vi 94.27 37 IAMs_20 IAMs_20 21 24 56.3
comp=Z,6μm,19.0s
G08A Pilot Rock 94.34 37 IAMs_20 IAMs_20 21 23 49.2
comp=Z,5μm,19.0s
DUG Dugway, Tooele 94.35 44 S S 20 57 02.8 +5.3
baz=230
BJI Beijing 94.48 315 P P 20 45 47.0 +0.4
BJI SKS **SKSac 20 56 21.7 +0.7**
BJI sS **sS 20 57 06.1 +2.2**
BJI pmax pmax
comp=Z,12nm,1.5s
BJI pmax pmax
comp=Z,690nm,9.7s
BJI LR LR
comp=Z,1μm,18.9s
BJI LR LR
comp=Z,920nm,19.9s
BJI LR LR
comp=Z,2μm,18.4s
CNPM China Poot 94.54 13 IAMs_20 IAMs_20 21 25 43.8
comp=Z,6μm,20.0s
HOM Homer 94.58 13 IAMs_20 IAMs_20 21 25 46.2
comp=Z,5μm,19.0s
MFID Camas Ranch 94.73 40 IAMs_20 IAMs_20 21 27 21.7
comp=Z,5μm,18.0s
TMUT Trail Mountain 94.73 46 P P 20 45 48.8 +0.6
TMUT IAmb IAmb 20 48 12.7
comp=Z,13nm,0.7s
KMI Kunming 94.75 297 ⇑P **P 20 45 48.6 0.0**
KMI pP pP 20 45 50.7 -1.4
KMI PP **PP 20 49 36.8 -0.7**
KMI SKS **SKSac 20 56 24.3 +0.5**
KMI S **S 20 57 01.3 -0.5**
KMI SS **SS 21 03 22.7 -3.8**
KMI pmax pmax
comp=Z,19nm,0.5s
KMI pmax pmax
comp=Z,450nm,9.2s
KMI LR LR
comp=Z,620nm,19.3s
KMI LR LR
comp=Z,1μm,18.1s
KMI LR LR
comp=Z,2μm,19.3s
HAWA Hanford 94.81 36 P P 20 45 48.1 +0.1
BRLK Bradley Lake 94.83 13 IAMs_20 IAMs_20 21 33 37.3
comp=Z,5μm,19.0s
LTY Liberty 94.85 35 IAMs_20 IAMs_20 21 26 07.7
comp=Z,4μm,18.0s
B05A Bryant 94.88 34 S S 20 57 07.8 +6.5
baz=224
BMO Blue Mountains 94.90 39 P P 20 45 48.3 -0.3
BMO pmax pmax
comp=Z,21nm,1.9s
BMO MLR MLR
comp=Z,8μm,18.0s
BMO Blue Mountains 94.90 39 P P 20 45 48.3 -0.3
A04D Lummi Island 94.92 33 S S 20 57 09.7 +8.0
baz=224
ANMO Albuquerque 95.08 52 P P 20 45 50.5 +0.7
comp=Z,0.4nm,0.3s,baz=188,slow=8.8
ANMO Albuquerque 95.08 52⇑*e*P **P 20 45 49.7 -0.1**
ANMO pmax pmax
comp=Z,4.0nm,1.2s
ANMO MLR MLR
comp=Z,5μm,17.0s
ANMO Albuquerque 95.08 52 P P 20 45 49.1 -0.7
ANMO Albuquerque 95.08 52 S S 20 57 09.3 +5.0
baz=233
E08A Dider Farm, El 95.11 37 IAMs_20 IAMs_20 21 25 23.7

	comp=Z,6µm,19.0s							
N19K	**Bonanza Creek**	**95.16**	**11**	IAMs_20	IAMs_20	21 24 54.8		
	comp=Z,3µm,20.0s							
N19K	**Bonanza Creek**	**95.16**	**11**	S	**S**	**20 57 06.6**	**+3.2**	
	baz=200							
BBB	**Bella Bella**	**95.16**	**28**	IAMs_20	IAMs_20	21 23 57.6		
	comp=Z,3µm,19.0s							
C06D	**Leavenworth**	**95.21**	**35**	S	**S**	**20 57 12.5**	**+8.2**	
	baz=225							
TIY	**Taiyuan**	**95.31**	**312**	*e*P	**P**	**20 45 50.5**	**-0.1**	
TIY				S	**S**	**20 57 10.6**	**+4.8**	
TIY				pmax	pmax			
	comp=Z,360nm,4.9s							
TIY				LR	LR			
	comp=Z,830nm,14.7s							
TIY				LR	LR			
	comp=Z,1µm,15.3s							
TIY				LR	LR			
	comp=Z,1µm,19.8s							
CCIG	**Comitan**	**95.34**	**74**	IAMs_20	IAMs_20	21 24 06.3		
	comp=Z,3µm,18.0s							
B06A	**Marblemount**	**95.35**	**34**	IAMs_20	IAMs_20	21 23 14.9		
	comp=Z,4µm,20.0s							
XAN	**Xi'an**	**95.41**	**307**	P	**P**	**20 45 52.0**	**+0.9**	
XAN				pP	pP	20 45 54.3	-0.4	
XAN				SKS	**SKSac**	**20 56 23.4**	**-3.1**	
XAN				S	**ScS**	**20 57 08.0**	**+0.4**	
XAN				pmax	pmax			
	comp=Z,11nm,1.5s							
XAN				pmax	pmax			
	comp=Z,740nm,8.9s							
XAN				LR	LR			
	comp=Z,1µm,19.9s							
XAN				LR	LR			
	comp=Z,1µm,18.3s							
XAN				LR	LR			
	comp=Z,2µm,19.9s							
SEW	**Seward**	**95.43**	**14**	IAMs_20	IAMs_20	21 34 09.3		
	comp=Z,3µm,19.0s							
SEW	**Seward**	**95.43**	**14**	S	**S**	**20 57 07.8**	**+2.3**	
	baz=204							
MA2	**Magadan**	**95.47**	**345**	IAMs_20	IAMs_20	21 28 44.1		
	comp=Z,4µm,19.0s							
PV17	**East Wray Mesa**	**95.49**	**48**	IAMs_20	IAMs_20	21 24 08.0		
	comp=Z,6µm,19.0s							
Q23K	**Middleton Isla**	**95.49**	**16**	IAMs_20	IAMs_20	21 33 02.1		
	comp=Z,4µm,18.0s							
MID	**Middleton Isla**	**95.49**	**16**	IAMs_20	IAMs_20	21 33 02.8		
	comp=Z,4µm,18.0s							
PV10	**Paradox Valley**	**95.50**	**48**	IAMs_20	IAMs_20	21 23 45.8		
	comp=Z,5µm,19.0s							
PV18	**Skein Mesa, Pa**	**95.50**	**48**	IAMs_20	IAMs_20	21 31 26.3		
	comp=Z,4µm,18.0s							
PV13	**Radium Mtn., P**	**95.50**	**48**	IAMs_20	IAMs_20	21 31 43.4		
	comp=Z,6µm,18.0s							
PV14	**Lion Creek, Pa**	**95.50**	**48**	IAMs_20	IAMs_20	21 24 17.5		
	comp=Z,5µm,18.0s							
PV16	**Nyswonger Mesa**	**95.53**	**48**	IAMs_20	IAMs_20	21 24 08.9		
	comp=Z,4µm,19.0s							
PV03	**Paradox Valley**	**95.54**	**48**	IAMs_20	IAMs_20	21 31 37.5		
	comp=Z,5µm,18.0s							
PV11	**David Mesa, Pa**	**95.55**	**48**	IAMs_20	IAMs_20	21 23 50.8		
	comp=Z,6µm,19.0s							
PV23	**Carpenter Ridg**	**95.56**	**47**	IAMs_20	IAMs_20	21 24 09.9		
	comp=Z,6µm,19.0s							
PV02	**Paradox Valley**	**95.58**	**48**	IAMs_20	IAMs_20	21 31 44.5		
	comp=Z,6µm,18.0s							
PV04	**Paradox Valley**	**95.59**	**48**	IAMs_20	IAMs_20	21 24 09.7		
	comp=Z,6µm,20.0s							
E09A	**Wood Farm, Sta**	**95.59**	**37**	P	**P**	**20 45 51.9**	**+0.3**	
E09A				IAMs_20	IAMs_20	21 25 57.3		
	comp=Z,4µm,19.0s							
HLID	**Hailey**	**95.60**	**41**	P	**P**	**20 45 52.6**	**+0.7**	
HLID				IAMs_20	IAMs_20	21 26 37.8		
	comp=Z,4µm,18.0s							
HLID	**Hailey**	**95.60**	**41**	P	**P**	**20 45 53.7**	**+1.7**	
	baz=229							
HLID				S	**S**	**20 57 15.4**	**+7.1**	
	baz=229							
PV12	**Saucer Basin,**	**95.61**	**48**	IAMs_20	IAMs_20	21 31 22.2		
	comp=Z,6µm,19.0s							
PV01	**Paradox Valley**	**95.64**	**48**	IAMs_20	IAMs_20	21 31 40.8		
	comp=Z,6µm,18.0s							
F10A	**Beach Ranch, E**	**95.69**	**38**	IAMs_20	IAMs_20	21 24 41.1		
	comp=Z,4µm,19.0s							
CAPN	**Captain Cook N**	**95.71**	**13**	IAMs_20	IAMs_20	21 26 32.9		
	comp=Z,6µm,20.0s							
O22K	**Cooper Landing**	**95.72**	**14**	IAMs_20	IAMs_20	21 34 13.3		
	comp=Z,4µm,18.0s							
PLID	**Pearl Lake**	**95.75**	**39**	P	**P**	**20 45 52.9**	**+0.3**	
PLID				IAmb	IAmb	20 46 19.6		
	comp=Z,19nm,1.4s							
PV07	**Paradox Valley**	**95.78**	**48**	IAMs_20	IAMs_20	21 31 45.8		
	comp=Z,5µm,18.0s							
PV15	**Paradox Valley**	**95.82**	**48**	IAMs_20	IAMs_20	21 31 29.9		
	comp=Z,5µm,18.0s							
CRAG	**Craig**	**95.88**	**24**	IAMs_20	IAMs_20	21 29 20.2		
	comp=Z,4µm,18.0s							
CRAG	**Craig**	**95.88**	**24**	S	**S**	**20 57 16.1**	**+6.5**	
	baz=217							
FIS	**Fire Island**	**96.23**	**13**	IAMs_20	IAMs_20	21 26 40.2		
	comp=Z,3µm,20.0s							
B08A	**Colville Reser**	**96.26**	**35**	IAMs_20	IAMs_20	21 25 12.0		
	comp=Z,3µm,18.0s							
RC01	**Rabbit Creek A**	**96.28**	**13**	S	**S**	**20 57 17.3**	**+4.4**	
	baz=204							
HIN	**Hinchinbrook I**	**96.32**	**15**	IAMs_20	IAMs_20	21 26 35.1		
	comp=Z,5µm,20.0s							
PWL	**Port Wells**	**96.35**	**14**	IAMs_20	IAMs_20	21 34 17.8		
	comp=Z,4µm,18.0s							
SNET	**Serv Nac Est T**	**96.35**	**78**	IAMs_20	IAMs_20	21 25 05.0		
	comp=Z,4µm,18.0s							
KAIM	**Kayak Island**	**96.38**	**16**	IAMs_20	IAMs_20	21 26 30.1		
	comp=Z,4µm,20.0s							
L19K	**White Mountain**	**96.39**	**11**	S	**S**	**20 57 18.3**	**+4.3**	
	baz=199							
SUA	**Susitna One**	**96.43**	**13**	IAMs_20	IAMs_20	21 26 48.0		
	comp=Z,5µm,20.0s							
SIT	**Sitka**	**96.44**	**22**	IAMs_20	IAMs_20	21 25 01.1		
	comp=Z,4µm,19.0s							
SIT	**Sitka**	**96.44**	**22**	S	S	20 57 24.1	+10	
	baz=215							
S22A	**4UR Ranch, Cre**	**96.51**	**49**	S	**S**	**20 57 25.0**	**+8.4**	
	baz=233							
EYAK	**Cordova Ski Ar**	**96.62**	**15**	IAMs_20	IAMs_20	21 33 50.1		
	comp=Z,6µm,18.0s							
EYAK	**Cordova Ski Ar**	**96.62**	**15**	S	**S**	**20 57 21.1**	**+5.3**	
	baz=207							
GLI	**Glacier Island**	**96.63**	**15**	IAMs_20	IAMs_20	21 26 48.6		
	comp=Z,4µm,19.0s							
GLI	**Glacier Island**	**96.63**	**15**	S	**S**	**20 57 18.9**	**+3.0**	
	baz=206							
FID	**Port Fidalgo**	**96.64**	**15**	IAMs_20	IAMs_20	21 26 35.4		
	comp=Z,5µm,20.0s							
LLLB	**Lillooet**	**96.65**	**32**	IAMs_20	IAMs_20	21 23 28.4		
	comp=Z,3µm,20.0s							
SUCK	**Suckling Hills**	**96.66**	**17**	IAMs_20	IAMs_20	21 29 04.0		
	comp=Z,5µm,19.0s							
SKT	**Skwentna**	**96.76**	**12**	S	**S**	**20 57 16.2**	**-0.9**	
	baz=202							
HMT	**Hamilton**	**96.78**	**16**	IAMs_20	IAMs_20	21 34 00.1		
	comp=Z,5µm,18.0s							
KNK	**Knik Glacier**	**96.83**	**14**	IAMs_20	IAMs_20	21 34 37.3		
	comp=Z,4µm,18.0s							
KNK	**Knik Glacier**	**96.83**	**14**	S	**S**	**20 57 20.9**	**+3.2**	
	baz=205							
L20K	**Farewell, AK**	**96.83**	**11**	S	**S**	**20 57 24.9**	**+7.2**	
	baz=200							
PMR	**Palmer**	**96.86**	**14**	IAMs_20	IAMs_20	21 34 50.3		
	comp=Z,3µm,18.0s							
WRAK	**Wrangell Islan**	**96.90**	**24**	IAMs_20	IAMs_20	21 32 15.2		
	comp=Z,5µm,18.0s							
WRAK	**Wrangell Islan**	**96.90**	**24**	S	S	20 57 29.5	+11	
	baz=217							
KVTX	**Kingsville**	**96.91**	**62**	IAMs_20	IAMs_20	21 24 04.3		
	comp=Z,3µm,19.0s							
BERG	**Berg Lake**	**96.96**	**16**	IAMs_20	IAMs_20	21 26 20.5		
	comp=Z,4µm,20.0s							
AHID	**Auburn Hatcher**	**96.97**	**43**	IAMs_20	IAMs_20	21 32 31.0		
	comp=Z,5µm,18.0s							
MSTX	**Muleshoe**	**96.99**	**54**	S	**S**	**20 57 23.8**	**+3.2**	
	baz=235							
O20A	**White River Ci**	**97.05**	**46**	IAMs_20	IAMs_20	21 27 33.6		
	comp=Z,4µm,18.0s							
O20A	**White River Ci**	**97.05**	**46**	S	S	20 57 32.6	+12	
	baz=233							
GHO	**Glory Hole Cre**	**97.06**	**14**	IAMs_20	IAMs_20	21 34 56.6		
	comp=Z,4µm,19.0s							
JCT	**Junction City**	**97.12**	**58**	S	**S**	**20 57 23.2**	**+1.5**	
	baz=236							
DIV	**Divide**	**97.14**	**15**	IAMs_20	IAMs_20	21 31 38.7		
	comp=Z,3µm,19.0s							
MESA	**MESA**	**97.20**	**17**	IAMs_20	IAMs_20	21 26 05.9		
	comp=Z,5µm,18.0s							
PLTB	**Pedras Altas**	**97.21**	**135**	IAMs_20	IAMs_20	21 28 24.3		
	comp=Z,5µm,18.0s							
CD2	**Chengdu**	**97.21**	**302**	*e*P	**P**	**20 45 58.8**	**-0.6**	
CD2				PP	**PP**	**20 49 56.1**	**-0.1**	
CD2				SKS	**SKSac**	**20 56 36.0**	**-0.1**	
CD2				S	**ScS**	**20 57 23.3**	**+0.5**	
CD2				SS	**SS**	**21 04 03.2**	**+2.4**	
CD2				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CD2				pmax	pmax			
	comp=Z,550nm,10.3s							
CD2				LR	LR			
	comp=Z,1µm,16.3s							
CD2				LR	LR			
	comp=Z,2µm,19.6s							
CD2				LR	LR			
	comp=Z,2µm,19.1s							
SML	**Sawmill**	**97.21**	**14**	IAMs_20	IAMs_20	21 34 50.1		
	comp=Z,4µm,18.0s							
WAX	**Waxell Ridge**	**97.22**	**17**	IAMs_20	IAMs_20	21 26 07.2		
	comp=Z,5µm,20.0s							
YKU2	**Yakutat**	**97.22**	**19**	IAMs_20	IAMs_20	21 25 54.9		
	comp=Z,5µm,21.0s							
BMRM	**Bremner River**	**97.26**	**16**	IAMs_20	IAMs_20	21 34 09.9		
	comp=Z,5µm,18.0s							
SMCO	**Snowmass**	**97.27**	**48**	IAMs_20	IAMs_20	21 24 58.1		
	comp=Z,4µm,19.0s							
LPAZ	**La Paz**	**97.30**	**115**	P	Pdif	20 46 03.2	+2.2	
	comp=Z,1.6nm,0.8s,baz=234,slow=3.8,SNR=5.6							
LPAZ				LR	LR	21 25 17.6		
	comp=Z,1µm,18.2s,baz=247,slow=33							
LPAZ	**La Paz**	**97.30**	**115**	P	Pdif	20 46 02.0	+1.0	
LPAZ				pmax	pmax			
	comp=Z,26nm,1.9s							
LPAZ	**La Paz**	**97.30**	**115**	P	Pdif	20 46 02.0	+1.0	
LPAZ				IAmb	IAmb	20 46 20.3		
	comp=Z,26nm,1.9s							
SDCO	**Great Sand Dun**	**97.36**	**50**	IAMs_20	IAMs_20	21 32 01.7		
	comp=Z,4µm,18.0s							
SDCO	**Great Sand Dun**	**97.36**	**50**	S	**S**	**20 57 31.7**	**+7.7**	
	baz=234							
CUT	**Chulitna**	**97.38**	**13**	IAMs_20	IAMs_20	21 27 18.8		
	comp=Z,5µm,20.0s							
YAH	**Yahtse**	**97.41**	**17**	IAMs_20	IAMs_20	21 26 03.3		
	comp=Z,5µm,20.0s							
CRQM	**Cirque**	**97.41**	**16**	IAMs_20	IAMs_20	21 26 34.7		
	comp=Z,5µm,20.0s							
KLU	**Klutina**	**97.43**	**15**	IAMs_20	IAMs_20	21 27 21.9		
	comp=Z,4µm,19.0s							
KLU	**Klutina**	**97.43**	**15**	S	**S**	**20 57 28.6**	**+5.6**	
	baz=207							
SCM	**Sheep Creek Mo**	**97.44**	**14**	IAMs_20	IAMs_20	21 35 01.1		
	comp=Z,3µm,18.0s							
ISLE	**Juniper Island**	**97.47**	**17**	IAMs_20	IAMs_20	21 26 25.0		
	comp=Z,5µm,20.0s							
REDW	**Red Top Meadow**	**97.48**	**43**	IAMs_20	IAMs_20	21 32 29.6		
	comp=Z,5µm,18.0s							
TGL	**Tana Glacier**	**97.49**	**17**	IAMs_20	IAMs_20	21 26 35.4		
	comp=Z,4µm,20.0s							
PPLA	**Purkeypile**	**97.50**	**12**	IAMs_20	IAMs_20	21 28 40.3		
	comp=Z,3µm,20.0s							
TPAW	**Teton Pass**	**97.50**	**43**	IAMs_20	IAMs_20	21 32 38.2		
	comp=Z,5µm,18.0s							
FXWY	**Fox Creek**	**97.55**	**42**	IAMs_20	IAMs_20	21 37 39.4		
	comp=Z,5µm,18.0s							
PCA	**Pinnacle**	**97.56**	**18**	IAMs_20	IAMs_20	21 25 48.0		
	comp=Z,5µm,19.0s							
SNOW	**Snow King Moun**	**97.60**	**43**	IAMs_20	IAMs_20	21 32 33.8		
	comp=Z,5µm,18.0s							
BCPM	**Bancas Point**	**97.61**	**18**	IAMs_20	IAMs_20	21 25 48.6		
	comp=Z,4µm,20.0s							
K20K	**Telida**	**97.62**	**11**	S	**S**	**20 57 28.4**	**+4.0**	
	baz=200							
TABL	**Table Mountain**	**97.63**	**18**	IAMs_20	IAMs_20	21 26 20.2		
	comp=Z,5µm,20.0s							
735A	**Kenedy**	**97.68**	**61**	IAMs_20	IAMs_20	21 25 30.7		
	comp=Z,4µm,19.0s							
T25A	**Trinidad**	**97.71**	**51**	IAMs_20	IAMs_20	21 32 33.2		
	comp=Z,4µm,18.0s							
T25A	**Trinidad**	**97.71**	**51**	S	S	20 57 36.0	+9.2	
	baz=235							
JIS	**Juneau Island**	**97.73**	**22**	IAMs_20	IAMs_20	21 27 47.8		
	comp=Z,5µm,18.0s							
GRNC	**Granite Creek**	**97.73**	**17**	IAMs_20	IAMs_20	21 26 32.8		
	comp=Z,4µm,20.0s							
HHC	**Hu-ho-hao-te**	**97.74**	**314**	*e*P	Pdif	20 46 01.9	+0.2	
HHC				SKS	**SKSac**	**20 56 38.1**	**-0.4**	
HHC				S	**S**	**20 57 24.4**	**-2.3**	
HHC				SS	**SS**	**21 04 10.2**	**+2.1**	
HHC				pmax	pmax			
	comp=Z,17nm,1.1s							
HHC				pmax	pmax			
	comp=Z,500nm,6.6s							
HHC				LR	LR			
	comp=Z,1µm,18.4s							
HHC				LR	LR			
	comp=Z,2µm,20.4s							
HHC				LR	LR			
	comp=Z,2µm,19.0s							
VRDI	**Verde Repeater**	**97.75**	**16**	IAMs_20	IAMs_20	21 26 56.4		
	comp=Z,3µm,20.0s							
DLMT	**Dillon**	**97.76**	**40**	IAMs_20	IAMs_20	21 28 01.0		
	comp=Z,3µm,18.0s							
IMW	**Indian Meadow**	**97.76**	**42**	IAMs_20	IAMs_20	21 28 18.2		
	comp=Z,5µm,19.0s							
LOHW	**Long Hollow**	**97.78**	**43**	IAMs_20	IAMs_20	21 32 47.6		
	comp=Z,4µm,18.0s							
MOOW	**Moose Ponds**	**97.78**	**42**	IAMs_20	IAMs_20	21 28 18.5		
	comp=Z,5µm,19.0s							
N25K	**Chitina, Valde**	**97.82**	**15**	IAMs_20	IAMs_20	21 34 39.3		
	comp=Z,4µm,18.0s							
N25K	**Chitina, Valde**	**97.82**	**15**	S	**S**	**20 57 30.9**	**+4.6**	
	baz=208							
BESE	**Bessie Mountai**	**97.83**	**21**	IAMs_20	IAMs_20	21 27 40.5		
	comp=Z,5µm,18.0s							
BW06	**Boulder Array**	**97.86**	**44**	S	**S**	**20 57 32.9**	**+5.0**	
	baz=232							
PDAR	**Pindale Array**	**97.86**	**44**	LR	LR	21 27 23.1		
	comp=Z,3µm,18.1s,baz=246,slow=34							
M24K	**Tolsona, Glenn**	**97.93**	**15**	IAMs_20	IAMs_20	21 27 19.0		
	comp=Z,3µm,20.0s							
MSO	**Missoula**	**97.97**	**39**	S	**S**	**20 57 32.4**	**+4.0**	
	baz=230							
MCARA	**McCarthy VSAT**	**97.99**	**16**	IAMs_20	IAMs_20	21 27 03.7		
	comp=Z,3µm,20.0s							
MCARA	**McCarthy VSAT**	**97.99**	**16**	S	**S**	**20 57 32.8**	**+5.2**	
	baz=209							
LOGN	**Logan Glacier**	**98.00**	**17**	IAMs_20	IAMs_20	21 26 31.9		
	comp=Z,5µm,19.0s							
CAST	**Castle Rocks**	**98.00**	**12**	IAMs_20	IAMs_20	21 35 46.1		
	comp=Z,3µm,20.0s							
FLWY	**Flagg Ranch**	**98.01**	**42**	IAMs_20	IAMs_20	21 28 35.8		
	comp=Z,5µm,18.0s							
WAT6	**Susitna Watana**	**98.03**	**14**	S	**S**	**20 57 31.9**	**+3.6**	
	baz=205							
CTGM	**Chitina Glacie**	**98.04**	**17**	IAMs_20	IAMs_20	21 26 43.9		
	comp=Z,3µm,20.0s							
BARN	**Barnard Glacie**	**98.04**	**17**	IAMs_20	IAMs_20	21 26 51.9		
	comp=Z,3µm,19.0s							
WAT1	**Susitna Watana**	**98.10**	**13**	S	**S**	**20 57 36.4**	**+7.8**	
	baz=205							
SEY	**Seymchan**	**98.18**	**347**	P	Pdif	20 46 03.1	+0.2	
	comp=Z,4.6nm,0.7s,baz=156,slow=4.6,SNR=9.0							
ZEA	**Zeya**	**98.19**	**331**	*e*P	**P**	**20 45 59.5**	**-3.6**	
ZEA				*e*		20 56 43.4		
ZEA				*e*		20 58 56.6		
ZEA				pmax	pmax			
	comp=Z,200nm,8.4s							
ZEA				MLR	MLR			
	comp=E,400nm,14.0s							
ZEA				MLR	MLR			
	comp=N,1µm,19.0s							
ZEA				MLR	MLR			
	comp=Z,1µm,18.0s							
AMTX	**Amarillo**	**98.25**	**54**	IAMs_20	IAMs_20	21 25 59.6		
	comp=Z,3µm,20.0s							
Q24A	**Divide**	**98.29**	**49**	S	S	20 57 43.1	+11	
	baz=234							
KTH	**Kantishna Hill**	**98.33**	**12**	IAMs_20	IAMs_20	21 36 19.6		
	comp=Z,4µm,19.0s							
TRF	**Thorofare Moun**	**98.34**	**12**	IAMs_20	IAMs_20	21 27 50.1		
	comp=Z,5µm,20.0s							
JTMT	**Jette**	**98.38**	**38**	IAMs_20	IAMs_20	21 28 08.5		
	comp=Z,4µm,19.0s							
SKAG	**Skagway**	**98.41**	**21**	IAMs_20	IAMs_20	21 27 12.7		
	comp=Z,4µm,19.0s							
SKAG	**Skagway**	**98.41**	**21**	S	S	20 57 40.7	+10	
	baz=215							
BOZ	**Bozeman (W)**	**98.43**	**41**	IAMs_20	IAMs_20	21 29 48.9		
	comp=Z,4µm,18.0s							
BOZ	**Bozeman (W)**	**98.43**	**41**	S	**S**	**20 57 36.6**	**+4.2**	
	baz=231							
ISCO	**Idaho Springs**	**98.48**	**48**	IAMs_20	IAMs_20	21 25 40.5		
	comp=Z,4µm,19.0s							
ISCO	**Idaho Springs**	**98.48**	**48**	S	**S**	**20 57 40.1**	**+6.6**	
	baz=234							
HIA	**Hailar**	**98.51**	**324**	IAMs_20	IAMs_20	21 31 38.8		
	comp=Z,3µm,19.0s							
DHY	**Denali Highway**	**98.55**	**14**	IAMs_20	IAMs_20	21 35 48.5		
	comp=Z,3µm,18.0s							
RND	**Reindeer**	**98.57**	**13**	IAMs_20	IAMs_20	21 28 03.9		
	comp=Z,5µm,20.0s							
RWWY	**Rawlins**	**98.61**	**46**	IAMs_20	IAMs_20	21 26 17.7		
	comp=Z,5µm,19.0s							
CPUP	**Villa Florida**	**98.64**	**129**	PKKPbc	PKKPbc	21 02 34.0	+0.1	
	comp=Z,2.3nm,0.5s,baz=79,slow=2.8,SNR=6.0							
CPUP				LR	LR	21 24 52.4		
	comp=Z,2µm,18.8s,baz=227,slow=32							
PEZE	**Perez Zeledon,**	**98.72**	**84**	IAMs_20	IAMs_20	21 25 15.9		
	comp=Z,4µm,18.0s							
BPAW	**Bear Paw Mtn.**	**98.82**	**12**	IAMs_20	IAMs_20	21 29 30.7		
	comp=Z,3µm,20.0s							
PAX	**Paxson**	**98.85**	**14**	IAMs_20	IAMs_20	21 28 11.3		
	comp=Z,3µm,20.0s							
PAX	**Paxson**	**98.85**	**14**	S	**S**	**20 57 39.9**	**+5.0**	
	baz=207							
MCK	**McKinley**	**98.85**	**13**	IAMs_20	IAMs_20	21 28 13.4		
	comp=Z,5µm,20.0s							
435B	**Jarrell**	**98.89**	**59**	IAMs_20	IAMs_20	21 26 46.6		
	comp=Z,5µm,19.0s							
M26K	**Nabesna, AK**	**98.89**	**16**	IAMs_20	IAMs_20	21 35 05.4		
	comp=Z,3µm,19.0s							
M26K	**Nabesna, AK**	**98.89**	**16**	S	**S**	**20 57 40.7**	**+5.4**	
	baz=209							
N23A	**Red Feather La**	**98.91**	**47**	S	**S**	**20 57 43.7**	**+6.7**	
	baz=234							
HYT	**Haines Junctio**	**98.92**	**19**	S	**S**	**20 57 44.1**	**+8.4**	
	baz=214							
YUK3	**Moose Creek**	**98.95**	**17**	S	**S**	**20 57 42.6**	**+6.4**	
	baz=211							
M27K	**Edge Creek, AK**	**99.11**	**16**	P	Pdif	**20 46 11.1**	**+3.8**	
	baz=210							
M27K				S	**S**	**20 57 43.9**	**+6.5**	
	baz=210							
BWN	**Browne**	**99.15**	**12**	IAMs_20	IAMs_20	21 28 15.3		
	comp=Z,5µm,20.0s							
DLBC	**Dease Lake**	**99.26**	**23**	IAMs_20	IAMs_20	21 31 43.4		
	comp=Z,3µm,19.0s							
L26K	**Log Cabin Wild**	**99.36**	**15**	IAMs_20	IAMs_20	21 28 33.8		
	comp=Z,4µm,20.0s							
WALA	**Waterton Lakes**	**99.41**	**37**	IAMs_20	IAMs_20	21 28 34.7		
	comp=Z,5µm,19.0s							
PHWY	**Pilot Hill**	**99.45**	**47**	IAMs_20	IAMs_20	21 29 01.0		
	comp=Z,3µm,18.0s							
RLMT	**Red Lodge**	**99.46**	**42**	P	Pdif	**20 46 07.3**	**-2.0**	
RLMT				IAmb	IAmb	20 46 39.6		
	comp=Z,29nm,1.6s							
RLMT				IAMs_20	IAMs_20	21 29 15.0		
	comp=Z,5µm,18.0s							
WHY	**Whitehorse**	**99.52**	**20**	IAMs_20	IAMs_20	21 29 09.0		
	comp=Z,5µm,18.0s							
NEA2	**Nenana**	**99.61**	**12**	IAMs_20	IAMs_20	21 36 28.5		
	comp=Z,5µm,19.0s							
RIDG	**Independent Ri**	**99.66**	**14**	IAMs_20	IAMs_20	21 28 46.4		
	comp=Z,4µm,19.0s							
WRH	**Wood River Hil**	**99.68**	**13**	IAMs_20	IAMs_20	21 28 40.3		
	comp=Z,4µm,20.0s							
HKT	**Hockley**	**99.72**	**61**	IAMs_20	IAMs_20	21 25 25.8		
	comp=Z,3µm,20.0s							
MLY	**Manley**	**99.72**	**11**	IAMs_20	IAMs_20	21 38 34.4		
	comp=Z,3µm,18.0s							
DOT	**Dot Lake**	**99.75**	**15**	IAMs_20	IAMs_20	21 36 03.1		
	comp=Z,4µm,18.0s							
CCB	**Clear Creek Bu**	**99.89**	**13**	IAMs_20	IAMs_20	21 28 55.8		
	comp=Z,4µm,19.0s							
KSCO	**Kaye Shedlock'**	**99.93**	**50**	IAMs_20	IAMs_20	21 29 16.8		
	comp=Z,3µm,18.0s							
LZH	**Lanzhou**	**100.00**	**306**	⇑P	Pdif	**20 46 10.1**	**-1.8**	
LZH				pP	pP	20 46 14.1	-1.4	
LZH				PP	**PP**	**20 50 15.0**	**-2.6**	
LZH				SKS	**SKSac**	**20 56 50.2**	**+0.1**	
LZH				SS	**SS**	**21 04 42.3**	**+2.3**	
LZH				pmax	pmax			
	comp=Z,35nm,1.4s							
LZH				pmax	pmax			
	comp=Z,410nm,8.6s							
LZH				LR	LR			
	comp=Z,2µm,17.4s							
LZH				LR	LR			
	comp=Z,2µm,17.9s							
LZH				LR	LR			
	comp=Z,2µm,19.0s							
SCRK	**Sand Creek**	**100.05**	**15**	IAMs_20	IAMs_20	21 28 38.0		
	comp=Z,3µm,20.0s							
I23K	**Minto, Yukon-K**	**100.07**	**12**	IAMs_20	IAMs_20	21 37 01.5		
	comp=Z,6µm,19.0s							
TCOL	**CIGO, UAF Yank**	**100.08**	**13**	IAMs_20	IAMs_20	21 28 53.0		
	comp=Z,5µm,20.0s							
COLA	**College**	**100.09**	**13**	IAMs_20	IAMs_20	21 28 52.1		
	comp=Z,5µm,20.0s							
MDM	**Murphy Dome**	**100.09**	**12**

U38A	**Gravette**	**104.11**	**56**	IAMs_20	IAMs_20	21 30 37.7		
	comp=Z,4µm,18.0s							
BGNE	**Belgrade**	**104.11**	**50**	IAMs_20	IAMs_20	21 36 49.4		
	comp=Z,3µm,18.0s							
ROSC	**El Rosal**	**104.22**	**93**	IAMs_20	IAMs_20	21 30 49.6		
	comp=Z,4µm,18.0s							
X40A	**Basin Creek Fa**	**104.23**	**58**	IAMs_20	IAMs_20	21 30 02.0		
	comp=Z,4µm,18.0s							
DGMT	**Dagmar**	**104.23**	**41**	IAMs_20	IAMs_20	21 30 17.2		
	comp=Z,5µm,19.0s							
ULN	**Ulaanbaatar**	**104.40**	**318**	P	**Pdif**	**20 46 44.0**	**+13**	
SONM	**Songino Array**	**104.76**	**318**	Pdiff	**Pdif**	**20 46 33.1**	**+0.3**	
	comp=Z,0.4nm,0.5s,baz=120,slow=5.8,SNR=3.0							
SONM				PP	**PP**	**20 50 51.8**	**-1.3**	
	comp=Z,2.0nm,1.1s,baz=141,slow=5.0,SNR=3.8							
SONM				PKKPbc	**PKKPbc**	**21 02 19.2**	**+1.8**	
	comp=Z,1.1nm,1.2s,baz=277,slow=3.1,SNR=2.8							
WHAR	**Wooly Hollow**	**105.02**	**58**	IAMs_20	IAMs_20	21 32 05.8		
	comp=Z,5µm,18.0s							
SUSD	**Miller**	**105.17**	**47**	IAMs_20	IAMs_20	21 32 31.8		
	comp=Z,3µm,19.0s							
N35A	**Tabor**	**105.47**	**51**	IAMs_20	IAMs_20	21 31 34.0		
	comp=Z,5µm,19.0s							
S39A	**Bolivar**	**105.47**	**55**	IAMs_20	IAMs_20	21 31 22.2		
	comp=Z,4µm,18.0s							
L34A	**Svendsen Farm,**	**105.54**	**50**	IAMs_20	IAMs_20	21 37 50.8		
	comp=Z,3µm,18.0s							
SAML	**Samuel**	**105.56**	**112**	IAMs_20	IAMs_20	21 29 56.8		
	comp=Z,5µm,18.0s							
MGMO	**Mountain Grove**	**105.94**	**56**	IAMs_20	IAMs_20	21 34 15.7		
	comp=Z,4µm,18.0s							
INK	**Inuvik**	**106.01**	**16**	PP	**PP**	**20 51 00.4**	**-1.2**	
	comp=Z,1.8nm,0.9s,baz=127,slow=5.1,SNR=2.0							
INK	**Inuvik**	**106.01**	**16**	IAMs_20	IAMs_20	21 31 49.3		
	comp=Z,3µm,19.0s							
SOR	**Soroa**	**106.05**	**73**	IAMs_20	IAMs_20	21 27 47.3		
	comp=Z,3µm,19.0s							
ECSD	**EROS Data Cent**	**106.26**	**48**	IAMs_20	IAMs_20	21 31 10.0		
	comp=Z,4µm,19.0s							
P38A	**Dawn**	**106.27**	**53**	IAMs_20	IAMs_20	21 37 46.2		
	comp=Z,3µm,18.0s							
HBAR	**Harrisburg**	**106.31**	**58**	IAMs_20	IAMs_20	21 32 30.6		
	comp=Z,4µm,18.0s							
Y45A	**Yeager Farm, C**	**106.31**	**60**	IAMs_20	IAMs_20	21 33 14.7		
	comp=Z,3µm,18.0s							
R40A	**Maddies Statio**	**106.48**	**55**	IAMs_20	IAMs_20	21 32 37.1		
	comp=Z,4µm,18.0s							
MDND	**Maddock**	**106.52**	**44**	IAMs_20	IAMs_20	21 33 59.4		
	comp=Z,3µm,18.0s							
LPAR	**Lepanto**	**106.59**	**58**	IAMs_20	IAMs_20	21 33 49.9		
	comp=Z,3µm,18.0s							
OXF	**Oxford**	**106.71**	**60**	IAMs_20	IAMs_20	21 31 53.3		
	comp=Z,4µm,18.0s							
SPB	**Sao Paulo**	**106.89**	**133**	IAMs_20	IAMs_20	21 31 07.9		
	comp=Z,4µm,19.0s							
GNAR	**Gosnell**	**106.96**	**58**	IAMs_20	IAMs_20	21 32 21.8		
	comp=Z,4µm,19.0s							
N38A	**Joes South For**	**107.03**	**52**	IAMs_20	IAMs_20	21 31 23.3		
	comp=Z,4µm,19.0s							
CCM	**Cathedral Cave**	**107.08**	**56**	IAMs_20	IAMs_20	21 32 29.9		
	comp=Z,4µm,18.0s							
PEBM	**Pemiscott Bayo**	**107.14**	**58**	IAMs_20	IAMs_20	21 32 16.6		
	comp=Z,5µm,19.0s							
P40A	**Paris**	**107.23**	**54**	IAMs_20	IAMs_20	21 34 06.7		
	comp=Z,3µm,18.0s							
LNXT	**Lenox**	**107.40**	**58**	IAMs_20	IAMs_20	21 33 02.5		
	comp=Z,4µm,18.0s							
HALT	**Halls**	**107.42**	**58**	IAMs_20	IAMs_20	21 33 58.0		
	comp=Z,4µm,18.0s							
F33A	**5 Mile Ranch,**	**107.50**	**47**	IAMs_20	IAMs_20	21 41 05.4		
	comp=Z,4µm,18.0s							
SCIA	**State Center**	**107.57**	**51**	IAMs_20	IAMs_20	21 31 23.6		
	comp=Z,5µm,19.0s							
SLM	**Saint Louis**	**108.06**	**55**	IAMs_20	IAMs_20	21 33 17.6		
	comp=Z,4µm,18.0s							
K38A	**Parkersburg**	**108.21**	**51**	IAMs_20	IAMs_20	21 36 12.5		
	comp=Z,4µm,18.0s							
MTDJ	**Mount Denham**	**108.33**	**80**	IAMs_20	IAMs_20	21 32 23.7		
	comp=Z,5µm,18.0s							
I37A	**Lemond, Waseca**	**108.44**	**49**	IAMs_20	IAMs_20	21 39 05.5		
	comp=Z,4µm,18.0s							
N41A	**Harden Midland**	**108.58**	**53**	IAMs_20	IAMs_20	21 39 17.6		
	comp=Z,4µm,18.0s							
WVT	**Waverly**	**108.61**	**59**	IAMs_20	IAMs_20	21 32 34.4		
	comp=Z,3µm,19.0s							
FFC	**Flin Flon**	**108.71**	**36**	IAMs_20	IAMs_20	21 30 47.1		
	comp=Z,5µm,20.0s							
L40A	**Anamosa**	**108.96**	**52**	IAMs_20	IAMs_20	21 40 02.3		
	comp=Z,4µm,18.0s							
P43A	**Skaggs, Pawnee**	**109.01**	**55**	IAMs_20	IAMs_20	21 32 18.9		
	comp=Z,4µm,19.0s							
Z51A	**Franklin**	**109.28**	**62**	IAMs_20	IAMs_20	21 36 28.5		
	comp=Z,2µm,18.0s							
SPMN	**Marine on St.**	**109.37**	**48**	IAMs_20	IAMs_20	21 39 42.1		
	comp=Z,4µm,18.0s							
SDV	**Santo Domingo**	**109.45**	**92**	IAMs_20	IAMs_20	21 31 08.6		
	comp=Z,4µm,19.0s							
ULM	**Lac du Bonnet**	**109.83**	**43**	IAMs_20	IAMs_20	21 33 22.8		
	comp=Z,4µm,19.0s							
O44A	**Mansfield**	**109.96**	**55**	IAMs_20	IAMs_20	21 34 18.1		
	comp=Z,4µm,18.0s							
L42A	**Oliver, Polo**	**109.97**	**52**	IAMs_20	IAMs_20	21 34 33.1		
	comp=Z,4µm,18.0s							
I40A	**Norwalk**	**110.17**	**50**	IAMs_20	IAMs_20	21 33 41.4		
	comp=Z,2µm,18.0s							
B35A	**Bob, Littlefor**	**110.22**	**45**	IAMs_20	IAMs_20	21 40 14.4		
	comp=Z,5µm,18.0s							
MNCI	**Minicoy**	**110.25**	**267**	IAMs_20	IAMs_20	21 37 25.1		
	comp=Z,5µm,19.0s							
U49A	**Red Boiling Sp**	**110.26**	**59**	IAMs_20	IAMs_20	21 33 47.1		
	comp=Z,4µm,18.0s							
TIXI	**Tiksi**	**110.44**	**344**	PKiKP	**PKiKP**	**20 50 57.8**	**+0.1**	
	comp=Z,1.1nm,0.4s,baz=91,slow=2.8,SNR=2.2							
TIXI	**Tiksi**	**110.44**	**344**	IAMs_20	IAMs_20	21 37 25.1		
	comp=Z,3µm,19.0s							
GOGA	**Godfrey**	**110.60**	**63**	IAMs_20	IAMs_20	21 37 10.4		
	comp=Z,2µm,18.0s							
M44A	**Midewin, Midew**	**110.79**	**54**	IAMs_20	IAMs_20	21 40 36.9		
	comp=Z,4µm,18.0s							
VOI	**Vohitsoka**	**110.80**	**225**	IAMs_20	IAMs_20	21 45 51.8		
	comp=Z,4µm,18.0s							
W52A	**Murphy**	**110.99**	**61**	IAMs_20	IAMs_20	21 34 52.7		
	comp=Z,3µm,19.0s							
SFIN	**Lafayette**	**111.00**	**55**	IAMs_20	IAMs_20	21 36 18.7		
	comp=Z,4µm,18.0s							
G40A	**Rib Lake**	**111.04**	**49**	IAMs_20	IAMs_20	21 40 54.3		
	comp=Z,4µm,18.0s							
HQIL	**Hanson Quarry C**	**111.10**	**53**	IAMs_20	IAMs_20	21 39 21.0		
	comp=Z,2µm,19.0s							
T50A	**Nancy**	**111.16**	**59**	IAMs_20	IAMs_20	21 35 16.0		
	comp=Z,3µm,18.0s							
K43A	**Burlington**	**111.16**	**52**	IAMs_20	IAMs_20	21 33 50.7		
	comp=Z,3µm,18.0s							
L44A	**Lake County Fo**	**111.22**	**53**	IAMs_20	IAMs_20	21 36 40.2		
	comp=Z,4µm,18.0s							
I42A	**Draeger Farm,**	**111.28**	**51**	IAMs_20	IAMs_20	21 41 16.8		
	comp=Z,4µm,18.0s							
BG3	**Lake Jocassee**	**111.69**	**62**	IAMs_20	IAMs_20	21 35 29.1		
	comp=Z,3µm,18.0s							
V53A	**Saluda**	**112.06**	**61**	IAMs_20	IAMs_20	21 36 27.0		
	comp=Z,5µm,19.0s							
N47A	**Urbana**	**112.18**	**55**	IAMs_20	IAMs_20	21 40 06.9		
	comp=Z,4µm,18.0s							
L46A	**Eue Claire**	**112.24**	**54**	IAMs_20	IAMs_20	21 41 30.3		
	comp=Z,3µm,18.0s							
H43A	**Windswept, Lux**	**112.27**	**51**	IAMs_20	IAMs_20	21 37 56.0		
	comp=Z,3µm,18.0s							
S51A	**Beattyville**	**112.32**	**59**	IAMs_20	IAMs_20	21 35 39.7		
	comp=Z,4µm,19.0s							
PAULI	**Pauline**	**112.45**	**62**	IAMs_20	IAMs_20	21 37 36.2		
	comp=Z,3µm,18.0s							
F42A	**Maple Grove Fa**	**112.56**	**49**	IAMs_20	IAMs_20	21 41 50.7		
	comp=Z,4µm,18.0s							
ABPO	**Ambohimpanom**	**112.74**	**227**	IAMs_20	IAMs_20	21 33 36.8		
	comp=Z,4µm,18.0s							
KMSC	**Kings Mountain**	**112.94**	**62**	IAMs_20	IAMs_20	21 36 56.2		
	comp=Z,3µm,19.0s							
NHSC	**New Hope**	**112.96**	**65**	IAMs_20	IAMs_20	21 43 16.9		
	comp=Z,2µm,18.0s							
PTGA	**Pitinga**	**113.02**	**107**	IAMs_20	IAMs_20	21 33 15.0		
	comp=Z,4µm,19.0s							
I45A	**Fountain**	**113.11**	**52**	IAMs_20	IAMs_20	21 41 57.1		
	comp=Z,4µm,18.0s							
Y57A	**Sumter**	**113.18**	**64**	IAMs_20	IAMs_20	21 39 06.6		
	comp=Z,2µm,18.0s							
BIRD	**Birdtown, Kers**	**113.39**	**63**	IAMs_20	IAMs_20	21 43 55.1		
	comp=Z,2µm,18.0s							
E43A	**Lone Tree Farm**	**113.54**	**49**	IAMs_20	IAMs_20	21 42 20.4		
	comp=Z,4µm,18.0s							
Y58A	**Scranton**	**113.68**	**64**	IAMs_20	IAMs_20	21 36 37.0		
	comp=Z,2µm,18.0s							
J47A	**Sunmer**	**113.73**	**53**	IAMs_20	IAMs_20	21 42 25.7		
	comp=Z,4µm,18.0s							
R53A	**Hurricane**	**113.79**	**59**	IAMs_20	IAMs_20	21 36 23.5		
	comp=Z,4µm,19.0s							
W57A	**Gilead**	**113.94**	**63**	IAMs_20	IAMs_20	21 38 12.9		
	comp=Z,3µm,18.0s							
S54A	**Dingess, Beckl**	**114.04**	**59**	IAMs_20	IAMs_20	21 37 14.2		
	comp=Z,4µm,18.0s							
AAM	**Ann Arbor**	**114.15**	**54**	IAMs_20	IAMs_20	21 38 51.0		
	comp=Z,3µm,18.0s							
P52A	**Corning**	**114.17**	**57**	IAMs_20	IAMs_20	21 36 30.7		
	comp=Z,5µm,19.0s							
M50A	**Fremont**	**114.23**	**55**	IAMs_20	IAMs_20	21 36 60.0		
	comp=Z,4µm,18.0s							
GLMI	**Grayling**	**114.48**	**51**	IAMs_20	IAMs_20	21 37 14.4		
	comp=Z,3µm,18.0s							
WMQ	**Urumqi**	**114.54**	**307**	*e*PKP	PKPdf	20 51 05.3	-1.2	
V58A	**Windy Hill, Pi**	**114.86**	**62**	IAMs_20	IAMs_20	21 37 43.0		
	comp=Z,4µm,19.0s							
R55A	**Marlinton**	**115.09**	**59**	IAMs_20	IAMs_20	21 38 38.1		
	comp=Z,2µm,18.0s							
BOSA	**Boshof**	**115.11**	**203**	PKP	**PKPdf**	**20 51 09.3**	**+1.0**	
	comp=Z,3.1nm,0.6s,baz=148,slow=2.5,SNR=3.5							
E46A	**Sault Ste Mari**	**115.26**	**50**	IAMs_20	IAMs_20	21 43 08.0		
	comp=Z,4µm,18.0s							
I49A	**Point Hope**	**115.34**	**53**	IAMs_20	IAMs_20	21 39 25.3		
	comp=Z,4µm,18.0s							
Q56A	**Snyder Ridge,**	**116.06**	**59**	IAMs_20	IAMs_20	21 37 35.6		
	comp=Z,4µm,19.0s							
V61A	**Roper**	**116.76**	**63**	IAMs_20	IAMs_20	21 39 22.4		
	comp=Z,4µm,19.0s							
DGZ	**Jazzator, Alta**	**116.82**	**313**	*d i*PKIKP	**PKPdf**	**20 51 10.5**	**-0.3**	
P57A	**Homestead Farm**	**117.07**	**59**	IAMs_20	IAMs_20	21 42 21.3		
	comp=Z,3µm,18.0s							
ICMP	**Isla Caja de M**	**117.37**	**86**	IAMs_20	IAMs_20	21 34 52.4		
	comp=Z,3µm,19.0s							
SSPA	**Standing Stone**	**117.57**	**58**	IAMs_20	IAMs_20	21 41 17.5		
	comp=Z,4µm,18.0s							
ZSN	**Zaisan**	**117.69**	**310**	*e*PKP	**PKPdf**	**20 51 11.1**	**-1.3**	
	baz=310							
ZSN	**Zaisan**	**117.69**	**310**	*e*PKIKP	**PKPdf**	**20 51 11.1**	**-1.3**	
J54A	**Appleton**	**117.95**	**55**	IAMs_20	IAMs_20	21 40 23.4		
	comp=Z,4µm,18.0s							
SADO	**Sawa**	**118.10**	**53**	IAMs_20	IAMs_20	21 45 08.4		
	comp=Z,4µm,18.0s							
MVL	**Millersville**	**118.45**	**59**	IAMs_20	IAMs_20	21 38 48.9		
	comp=Z,4µm,19.0s							
N58A	**Sunbury**	**118.47**	**58**	IAMs_20	IAMs_20	21 41 36.5		
	comp=Z,4µm,19.0s							
J55A	**Hilton**	**118.51**	**55**	IAMs_20	IAMs_20	21 46 14.3		
	comp=Z,4µm,18.0s							
P60A	**Greenville**	**118.90**	**59**	IAMs_20	IAMs_20	21 39 23.9		
	comp=Z,3µm,19.0s							
DELO	**Deloro Mine**	**119.05**	**54**	IAMs_20	IAMs_20	21 41 23.6		
	comp=Z,3µm,18.0s							
MK31	**Makanchi Array**	**119.14**	**309**	*c i*PKIKP	**PKPdf**	**20 51 13.5**	**-1.7**	
MK31	**Makanchi Array**	**119.14**	**309**		**PKPdf**	**20 51 14.9**	**-0.3**	
MKAR	**Makanchi Array**	**119.14**	**309**	PKP	**PKPdf**	**20 51 14.8**	**-0.5**	
	comp=Z,5.6nm,0.7s,baz=163,slow=0.8,SNR=44							
MKAR				PKKPbc	**PKKPab**	**21 01 29.5**	**+0.3**	
	comp=Z,0.2nm,0.6s,baz=282,slow=5.3,SNR=1.9							
MKAR	**Makanchi Array**	**119.14**	**309**	PKPdf	**PKPdf**	**20 51 14.5**	**-0.8**	
N59A	**Stanislaus Lan**	**119.17**	**58**	IAMs_20	IAMs_20	21 42 44.0		
	comp=Z,4µm,18.0s							
J56A	**Wolcott**	**119.18**	**55**	IAMs_20	IAMs_20	21 38 25.0		
	comp=Z,4µm,18.0s							
TOSP	**Speyside**	**119.19**	**95**	IAMs_20	IAMs_20	21 40 09.8		
	comp=Z,2µm,20.0s							
PECO	**Prince Edward**	**119.29**	**54**	IAMs_20	IAMs_20	21 42 05.0		
	comp=Z,3µm,18.0s							
LUPA	**Lehigh Univers**	**119.35**	**58**	IAMs_20	IAMs_20	21 39 24.8		
	comp=Z,4µm,19.0s							
MAKZ	**Makanchi**	**119.36**	**309**	PKIKP	**PKPdf**	**20 51 15.1**	**-0.5**	
MAKZ				MLR	MLR			
	comp=Z,2µm,20.0s							
MAKZ	**Makanchi**	**119.36**	**309**	PKPdf	**PKPdf**	**20 51 15.1**	**-0.5**	
RES	**Resolute Bay**	**119.46**	**18**	IAMs_20	IAMs_20	21 39 16.6		
	comp=Z,3µm,20.0s							
P61A	**Hammonton**	**119.47**	**60**	IAMs_20	IAMs_20	21 41 09.9		
	comp=Z,3µm,18.0s							
ZAA0	**Zalesovo Array**	**119.66**	**318**		**PKPdf**	**20 51 15.1**	**-0.8**	
ZALV	**Zalesovo Beam**	**119.66**	**318**	PKP	**PKPdf**	**20 51 15.9**	**-0.1**	
	comp=Z,4.2nm,0.7s,baz=158,slow=2.7,SNR=16							
ZALV	**Zalesovo Beam**	**119.66**	**318**	PKIKP	**PKPdf**	**20 51 15.1**	**-0.8**	
ZALV	**Zalesovo Beam**	**119.66**	**318**	PKPdf	**PKPdf**	**20 51 15.1**	**-0.8**	
SHLS	**Shalkode**	**119.93**	**304**	*e*PKP	**PKPdf**	**20 51 14.4**	**-2.6**	
	baz=304							
SHLS	**Shalkode**	**119.93**	**304**	*e*PKIKP	**PKPdf**	**20 51 14.4**	**-2.6**	
ODNJ	**Ogdensburg**	**120.06**	**58**	IAMs_20	IAMs_20	21 42 37.5		
	comp=Z,4µm,19.0s							
SEUS	**St. Eustatius**	**120.17**	**88**	IAMs_20	IAMs_20	21 46 57.6		
	comp=Z,2µm,18.0s							
UZB	**Uzynbulak**	**120.24**	**304**	*e*PKP	**PKPdf**	**20 51 16.1**	**-1.6**	
UZB	baz=304			*e*PP	**PP**	**20 52 41.9**	**-1.9**	
	baz=304							
UZB	**Uzynbulak**	**120.24**	**304**	*e*PKIKP	**PKPdf**	**20 51 16.0**	**-1.6**	
UZB				*e*		20 52 41.9		
SMRT	**St. Maarten**	**120.35**	**87**	IAMs_20	IAMs_20	21 42 56.4		
	comp=Z,2µm,19.0s							
MPOM	**Morne Pois Mar**	**120.50**	**92**	IAMs_20	IAMs_20	21 40 28.5		
	comp=Z,2µm,18.0s							
KPKS	**Kokpek**	**120.57**	**305**	*e*PKP	**PKPdf**	**20 51 17.1**	**-1.1**	
KPKS	baz=304			*e*PP	**PP**	**20 52 42.9**	**-3.1**	
	baz=304							
KPKS	**Kokpek**	**120.57**	**305**	*e*PKIKP	**PKPdf**	**20 51 17.1**	**-1.1**	
KPKS				*e*		20 52 42.9		
DLPL	**La Plaine**	**120.60**	**91**	IAMs_20	IAMs_20	21 46 05.2		
	comp=Z,4µm,19.0s							
SATY	**Saty**	**120.64**	**304**	*e*PKP	**PKPdf**	**20 51 17.5**	**-0.9**	
SATY	baz=304			*e*PP	**PP**	**20 52 44.5**	**-2.1**	
	baz=304							
SATY	**Saty**	**120.64**	**304**	*e*PKIKP	**PKPdf**	**20 51 17.5**	**-0.9**	
SATY				*e*		20 52 44.4		
ILAM	**Ilet Lapin Mar**	**120.65**	**92**	IAMs_20	IAMs_20	21 41 25.3		
	comp=Z,3µm,19.0s							
N62A	**Caumsett State**	**120.83**	**59**	IAMs_20	IAMs_20	21 40 20.9		
	comp=Z,4µm,19.0s							
NCB	**Newcomb**	**121.21**	**55**	IAMs_20	IAMs_20	21 39 54.8		
	comp=Z,4µm,18.0s							
KSH	**Kashi**	**121.29**	**299**	PKP	**PKiKP**	**20 51 21.0**	**+1.1**	
KSH				SKS	**SKSdf**	**20 58 21.6**	**-10**	
KSH				LR	LR			
	comp=Z,1µm,17.1s							
KSH				LR	LR			
	comp=Z,960nm,18.0s							
KSH				LR	LR			
	comp=Z,2µm,17.5s							
NIL	**Nilore**	**121.41**	**292**	PKIKP	**PKPdf**	**20 51 19.1**	**-0.9**	
NIL				MLR	MLR			
	comp=Z,2µm,18.0s							
NIL	**Nilore**	**121.41**	**292**	PKPdf	**PKPdf**	**20 51 19.1**	**-0.9**	
ACCN	**Adirondack Com**	**121.43**	**56**	IAMs_20	IAMs_20	21 40 29.5		
	comp=Z,4µm,19.0s							
MDOK	**Medeo**	**121.62**	**304**	*e*PKP	**PKPdf**	**20 51 18.1**	**-2.2**	
MDOK	baz=304			*e*PP	**PP**	**20 52 50.2**	**-3.1**	
	baz=304							
MDOK	**Medeo**	**121.62**	**304**	*e*PKIKP	**PKPdf**	**20 51 18.1**	**-2.2**	
MDOK				*e*		20 52 50.1		
NRIK	**Noril'sk**	**121.67**	**335**	PKP	**PKiKP**	**20 51 19.6**	**+0.1**	
	comp=Z,5.1nm,0.6s,baz=76,slow=0.5,SNR=3.5							
NRIK	**Noril'sk**	**121.67**	**335**	*d i*PKIKP	**PKiKP**	**20 51 19.6**	**+0.1**	
NRIK				MLR	MLR			
	comp=Z,2µm,19.0s							
NRIK	**Noril'sk**	**121.67**	**335**	PKPdf	**PKiKP**	**20 51 19.9**	**+0.4**	
NRIK				IAMs_20	IAMs_20	21 44 36.1		
	comp=Z,2µm,20.0s							
AAA	**Alma-Ata**	**121.73**	**304**	*e*PKP	**PKPdf**	**20 51 19.1**	**-1.3**	
	baz=304							
AAA	**Alma-Ata**	**121.73**	**304**	*e*PKIKP	**PKPdf**	**20 51 19.0**	**-1.3**	
CHKK	**Chushkaly**	**121.86**	**305**	*e*PKP	**PKPdf**	**20 51 19.1**	**-1.4**	
	baz=305							
FRNY	**Flat Rock**	**121.89**	**54**	IAMs_20	IAMs_20	21 46 02.7		
	comp=Z,4µm,18.0s							
MTBS	**Maitube**	**122.04**	**304**	*e*PKP	**PKPdf**	**20 51 20.1**	**-0.9**	
	baz=304							
MTBS				*e*PP	**PP**	**20 52 55.1**	**-1.0**	
	baz=304							
BOOM	**Boomskoye usch**	**122.21**	**303**	PKIKP	**PKiKP**	**20 51 21.7**	**0.0**	
BOOM				MLR	MLR			
	comp=Z,2µm,18.0s							
BOOM	**Boomskoye usch**	**122.21**	**303**	PKPdf	**PKiKP**	**20 51 21.7**	**0.0**	
KUU	**Kurty**	**122.32**	**304**	*e*PKP	**PKPdf**	**20 51 19.6**	**-1.8**	
	baz=304							
KUU				*e*PP	**PP**	**20 52 55.5**	**-2.4**	
	baz=304							
KUU	**Kurty**	**122.32**	**304**	*e*PKIKP	**PKPdf**	**20 51 19.6**	**-1.8**	
KUU				*e*		20 52 55.5		
L63A	**North Scituate**	**122.44**	**58**	IAMs_20	IAMs_20	21 43 29.6		
	comp=Z,3µm,20.0s							
BRYW	**Bryant College**	**122.51**	**58**	IAMs_20	IAMs_20	21 41 02.3		
	comp=Z,3µm,19.0s							
KURK	**Kurchatov**	**122.54**	**313**	PKIKP	**PKPdf**	**20 51 21.5**	**-0.1**	
KURK	**Kurchatov**	**122.54**	**313**		**PKPdf**	**20 51 21.5**	**-0.1**	
KURBB	**Kurchatov Arra**	**122.57**	**313**	PKP	**PKPdf**	**20 51 21.5**	**-0.1**	
	comp=Z,18nm,0.7s,baz=109,slow=1.8,SNR=96							
TKM2	**Tokmak 2**	**122.57**	**303**	P	**PKPdf**	**20 51 22.0**	**-0.2**	
	SNR=22							
KZA	**Kyzart**	**122.58**	**302**	P	**PKiKP**	**20 51 23.2**	**+0.5**	
	SNR=5.8							
KBK	**Karagaybulak**	**122.96**	**303**	P	**PKPdf**	**20 51 21.4**	**-1.5**	
	SNR=15							
L64A	**Middleborough**	**123.01**	**58**	IAMs_20	IAMs_20	21 41 36.7		
	comp=Z,3µm,19.0s							
M65A	**Busby, Falmout**	**123.05**	**59**	IAMs_20	IAMs_20	21 41 45.6		
	comp=Z,4µm,19.0s							
UCH	**Uchtor**	**123.15**	**302**	P	**PKiKP**	**20 51 23.8**	**-0.1**	
	SNR=22							
CHMS	**Chumysh**	**123.19**	**303**	P	**PKPdf**	**20 51 22.6**	**-0.5**	
	SNR=28							
FRU1	**Bishkek**	**123.22**	**303**	PKIKP	**PKiKP**	**20 51 23.5**	**0.0**	
FRU1				MLR	MLR			
	comp=Z,1µm,19.0s							
FRU1	**Bishkek**	**123.22**	**303**		**PKiKP**	**20 51 23.5**	**0.0**	
AAK	**Ala-Archa**	**123.27**	**303**	PKP	**PKiKP**	**20 51 23.8**	**0.0**	
	comp=Z,9.3nm,0.7s,baz=150,slow=4.0,SNR=27							
AAK	**Ala-Archa**	**123.27**	**303**	P	**PKPdf**	**20 51 23.6**	**+0.1**	
	SNR=11							
AAK	**Ala-Archa**	**123.27**	**303**	PKIKP	**PKPdf**	**20 51 23.1**	**-0.4**	
AAK	**Ala-Archa**	**123.27**	**303**	*c i*PKIKP	**PKPdf**	**20 51 22.9**	**-0.6**	
AAK				MLR	MLR			
	comp=Z,3µm,20.0s							
AAK	**Ala-Archa**	**123.27**	**303**	PKPdf	**PKPdf**	**20 51 23.6**	**+0.1**	
SGDS	**Sogindy**	**123.40**	**304**	*e*PKP	**PKPdf**	**20 51 22.1**	**-1.5**	
	baz=304							
SGDS				*e*PP	**PP**	**20 53 01.6**	**-3.6**	
	baz=304							
USP	**Ospenovka**	**123.44**	**303**	P	**PKPdf**	**20 51 23.7**	**+0.1**	
	SNR=22							
AML	**Almayashu**	**123.71**	**302**	P	**PKiKP**	**20 51 25.3**	**+0.4**	
	SNR=12							
AML	**Almayashu**	**123.71**	**302**	PKiKP	**PKPdf**	**20 51 24.4**	**-0.2**	
EKS2	**Erkin-Say**	**123.79**	**302**	P	**PKiKP**	**20 51 24.9**	**+0.2**	
	SNR=19							
G62A	**West of Eustis**	**124.08**	**54**	IAMs_20	IAMs_20	21 41 22.8		
	comp=Z,4µm,19.0s							
BTLS	**Baital**	**124.20**	**305**	*e*PKP	**PKPdf**	**20 51 23.9**	**-1.1**	
BTLS	baz=305			*e*PP	**PP**	**20 53 08.9**

comp=Z,9,8nm,0.7s,baz=126,slow=2.2,SNR=21
AKTO SKPbc **SKPbc** **20 55 18.9 +2.1**
comp=Z,14nm,1.3s,baz=89,slow=13,SNR=5.9
DY2G Dye2 135.91 25 *e*P **PKPdf** **20 51 47.1 +0.3**
DY2G IAMs_20 IAMs_20 21 54 43.5
comp=Z,2μm,17.6s
ICESG Greenland Ices 136.75 20 *e*P **PKPdf** **20 51 49.3 +0.9**
ICESG IAMs_20 IAMs_20 22 03 08.1
comp=Z,2μm,18.5s
DBG Daneborg 136.88 9 *e*P **PKiKP** **20 51 52.4 +2.5**
DBG IAMs_20 IAMs_20 21 58 46.6
comp=Z,2μm,15.6s
MBAR Mbarara 137.12 225 PKP **PKiKP** **20 51 51.6 -0.9**
comp=Z,2.1nm,0.2s,baz=87,slow=1.0,SNR=6.5
MBAR SKPbc **SKPbc** **20 55 25.5 +2.3**
comp=Z,1.4nm,0.4s,baz=47,slow=2.3,SNR=4.2
MBAR Mbarara 137.12 225 PKIKP **PKPdf** **20 51 50.2 -0.5**
MBAR MLR MLR
comp=Z,3μm,20.0s
MBAR Mbarara 137.12 225 **PKPdf** **20 51 50.1 -0.5**
MBAR Mbarara 137.12 225 IAMs_20 IAMs_20 21 45 39.9
comp=Z,3μm,20.0s
LODK Lodwar 137.22 234 **PKPdf** **20 51 51.0 +0.3**
LODK IAMs_20 IAMs_20 21 50 53.8
comp=Z,2μm,19.0s
NRS Narsarsuaq 138.37 32 *e*P **PKPdf** **20 51 47.8 -3.4**
NRS IAMs_20 IAMs_20 21 51 09.9
comp=Z,5μm,19.8s
FURI Furi 138.57 243 IAMs_20 IAMs_20 21 47 10.8
comp=Z,2μm,20.0s
KIRV Kirov 139.12 324 PKP **PKPdf** **20 51 52.3 -0.3**
comp=Z,13nm,0.6s,baz=276,slow=3.6,SNR=5.8
KIRV SKPbc **SKiKP** **20 55 30.7 +0.4**
comp=Z,21nm,0.9s,baz=0.0,slow=0.0,SNR=7.3
PRGR Permogore 139.74 329 *e*PKHKP PKPpre 20 51 47.2
PRGR *e* 20 54 48.7
PRGR pmax pmax
comp=Z,8.0nm,1.1s
SCO Scoresbysund 139.95 12 IAMs_20 IAMs_20 21 54 42.1
comp=Z,3μm,19.0s
LVZ Lovozero 139.98 341*c i*PKIKP **PKPdf** **20 51 50.9 -3.1**
LVZ MLR MLR
comp=Z,2μm,20.0s
LVZ Lovozero 139.98 341 IAMs_20 IAMs_20 21 55 50.4
comp=Z,2μm,20.0s
HAMF Hammerfest 140.16 349 *e*pPKPdf **PKiKP** **20 51 56.7 0.0**
KEV Kevo 140.32 347 IAMs_20 IAMs_20 21 56 05.8
comp=Z,2μm,20.0s
APA Apatity 140.55 342⇓ *i*PKIKP **PKPdf** **20 51 49.8 -5.2**
APA pmax pmax
comp=Z,5.0nm,0.6s
APA pmax pmax
comp=Z,11nm,1.3s
APA MLR MLR
comp=Z,2μm,19.0s
ARA0 ARCESS Array S 140.79 347 *e*PKPdf **PKPdf** **20 51 53.4 -2.0**
ARCES ARCESS Array B 140.79 347 PKhKP PKPpre 20 51 49.0
comp=Z,2.7nm,0.6s,baz=51,slow=2.1,SNR=13
ARCES SKPbc **SKiKP** **20 55 34.9 +1.4**
comp=Z,8.4nm,0.8s,baz=27,slow=3.0,SNR=7.3
JETT Jettan, Norway 141.64 350 *e*pPKPdf **PKiKP** **20 51 59.0 -0.8**
KTK1 Kautokeino 141.66 348 *e*PKPdf **PKPdf** **20 51 55.1 -1.9**
BELG Belogornoye 141.75 315 PKhKP PKPpre 20 51 52.0
comp=Z,18nm,0.8s,baz=314,slow=4.3,SNR=8.8
TRO Tromso 141.79 350 *e*PKPdf **PKPdf** **20 51 55.9 -1.2**
KLMR Klimovskoe 142.71 330*d i*PKIKP **PKPdf** **20 51 54.8 -4.2**
KLMR SS SS 21 13 40.2 -3.6
KLMR pmax pmax
comp=Z,96nm,1.3s
KLMR MLR MLR
comp=Z,1μm,19.0s
KLMR Klimovskoe 142.71 330⇓ *i*PKPdf **PKPdf** **20 51 54.9 -4.1**
KLMR AMP 20 52 10.2
comp=Z,96nm,1.3s
KLMR *e*PP **PP** **20 55 00.8 -6.9**
KLMR *e*SKP 20 55 31.0
KLMR SS **SS** **21 13 40.2 -3.6**
KLMR SS **SS** **21 13 40.2 -3.6**
KLMR LR LR 21 44 10.4
KLMR AMP 21 57 04.6
comp=Z,1μm,18.9s
MAK Makhachkala 142.93 299 *e*PKHKP PKPpre 20 51 54.4
MAK *e* 20 55 04.8
MAK *e*SSS SSS 21 19 09.1
MAK pmax pmax
comp=Z,230nm,1.0s
STEI Steigen 143.87 351 *e*PKPdf PKPbc 20 51 59.6 +1.0
LOF Lofoten 143.88 353 *e*PKPdf PKPbc 20 51 59.1 +0.4
LOF *e*pPKPdf **PKPdf** **20 52 02.1 +1.2**
GROC Groznyy 144.17 300 *e*PKIKP **PKPab** **20 51 59.2 -0.7**
GROC pmax pmax
comp=Z,100nm,1.5s
FAUS Fauske 144.39 351 *e*PKPdf **PKPab** **20 52 00.1 +0.1**
BORG Borgarnes 144.89 17 IAMs_20 IAMs_20 21 55 38.6
comp=Z,3μm,19.0s
GNI Garni 144.98 295 PKP PKPbc 20 52 03.1 -0.1
comp=Z,12nm,1.1s,baz=181,slow=5.4,SNR=8.6
GNI Garni 144.98 295 PKPdf PKPbc 20 52 02.0 -1.3
GNI Garni 144.98 295*c i*PKIKP PKPbc 20 52 02.2 -1.1
GNI MLR MLR
comp=Z,517nm,19.0s
GNI Garni 144.98 295 PKPbc 20 52 03.0 -0.2
NBB17 Glomfjord Bʏr 145.09 352 *e*pPKPbc **PKPdf** **20 52 02.8 -0.2**
NBB15 Halsa Church 145.21 352 *e*pPKPbc **PKPdf** **20 52 03.5 +0.2**
NBB13 Alf Garage 145.35 352 *e*pPKPbc **PKPbc** **20 52 03.4 0.0**
KONS Konsvik 145.50 352 *e*pPKPbc **PKPab** **20 52 04.4 +0.4**
NBB40 Tonnes 145.50 352 *e*pPKPbc **PKPab** **20 52 04.0 -0.1**
ZEI Tsey 145.58 299 *i* PKP2 **PKPdf** **20 52 03.4 -1.5**
ZEI pmax pmax
comp=Z,41nm,1.3s
VRH Novokhopyorsk 145.60 314 *e*PKIKP **PKPdf** **20 52 03.5 -0.9**
VRH pmax pmax
comp=Z,130nm,0.9s
VRH MLR MLR
comp=Z,1μm,19.0s
MOR8 Moi Rana 145.65 351 *e*pPKPbc **PKPdf** **20 52 04.0 -0.1**
STOK Stokkvaagen 145.67 352 *e*pPKPdf **PKPab** **20 52 05.6 +0.9**
NCK Nalchik 145.76 301*c i*PKP2 **PKPdf** **20 52 05.0 0.0**
ONI Oni 145.92 299 PKP2 **PKPdf** **20 52 05.6 +0.3**
ONI MLR MLR
comp=Z,1μm,20.0s
ONI Oni 145.92 299 **PKPdf** **20 52 05.6 +0.3**
AKH Akhalkalaki 145.93 297⇑ *e*PKP **PKPbc** **20 52 06.1 -0.1**
GOF Gofitskoye 146.01 303⇑ *e*PKP2 **PKPab** **20 52 06.7 0.0**
GOF pmax pmax
comp=Z,151nm,1.0s
MOS Moscow 146.13 324 *e*PKIKP **PKPdf** **20 52 02.4 -2.7**
MOS *e*SS SS 21 14 15.7 -7.7
MOS pmax pmax
comp=Z,691nm,1.4s
MOS MLR MLR
comp=Z,1μm,20.0s
KBZ Khabaz 146.25 301 PKPbc **PKPbc** **20 52 06.7 -0.2**
comp=Z,23nm,0.9s,baz=186,slow=2.7,SNR=26
KBZ Khabaz 146.25 301*c i*PKIKP **PKPdf** **20 52 04.6 -1.1**
KBZ MLR MLR
comp=Z,2μm,17.0s
KARS Kars 146.26 295 PKP2 **PKPdf** **20 52 06.6 +0.5**
KARS Kars 146.26 295 **PKPdf** **20 52 06.6 +0.5**
KVAR Kislovodsk Arr 146.37 302 PKPbc **PKPbc** **20 52 07.7 +0.3**
comp=Z,9.2nm,1.0s,baz=91,slow=21,SNR=3.1
KIV Kislovodsk 146.38 302⇑ P **PKPdf** **20 52 05.5 -0.6**
KIV Kislovodsk 146.38 302 *i* PKPab **PKPdf** **20 52 06.6 +0.5**
SNR=7.9
KIV Kislovodsk 146.38 302 *i* PKP2 **PKPbc** **20 52 06.9 -0.5**
KIV pmax pmax
comp=Z,37nm,0.9s
KIV MLR MLR
comp=Z,1μm,25.0s
KIV Kislovodsk 146.38 302 **PKPdf** **20 52 06.7 +0.6**
NEY Neytrino 146.41 300*d i*PKP2 **PKPab** **20 52 08.4 -0.2**
NEY MLR MLR
comp=Z,452nm,18.0s
SIRT Sirnak 146.65 290 **PKPdf** **20 52 06.5 -0.3**
CHVG Ch'k'valeri 146.92 299⇑ P **PKPbc** **20 52 08.9 0.0**
VORR Voronezh 146.94 316⇑ *i*PKHKP PKPpre 20 52 04.0
VORR pmax pmax
comp=Z,700nm,1.4s
OBN Obninsk 146.96 323⇓ P **PKPbc** **20 52 08.0 -0.5**
OBN Obninsk 146.96 323 PKPbc **PKPbc** **20 52 08.3 -0.2**
comp=Z,20nm,0.7s,baz=56,slow=2.4,SNR=51
OBN Obninsk 146.96 323*d i*PKP2 **PKPdf** **20 52 07.0 +0.5**
OBN *e* 20 59 06.3
OBN *i* SS SS 21 14 25.5 -7.2
OBN pmax pmax
comp=Z,293nm,1.2s
OBN MLR MLR
comp=Z,1μm,19.0s
OBN Obninsk 146.96 323 **PKPdf** **20 52 06.7 +0.2**
PUL Pulkovo 147.01 334 *e*P **PKPdf** **20 52 00.9 -5.6**
PUL Pulkovo 147.01 334*c i*PKP2 **PKPbc** **20 52 08.6 +0.1**
GURO Guroymak-BITLI 147.03 292 **PKPdf** **20 52 06.8 -0.6**
GURO IAMs_20 IAMs_20 22 11 38.1
comp=Z,1μm,18.0s
VORD Divnogorie 147.13 315 *e*PKP2 **PKPbc** **20 52 08.7 -0.5**
VORD pmax pmax
comp=Z,140nm,1.0s
FIA1 FINESS Array S 147.24 339 **PKPdf** **20 52 06.8 0.0**
FINES FINESS Array B 147.24 339 PKPbc **PKPbc** **20 52 08.6 -0.6**
comp=Z,79nm,0.7s,baz=42,slow=3.5,SNR=185
FINES FINESS Array B 147.24 339 **PKPdf** **20 52 06.9 0.0**
BCA Borcka 147.34 297⇓ P **PKPdf** **20 52 06.9 -0.8**
NSS Namsos 147.53 352 *e*PKPdf **PKPdf** **20 52 05.6 -1.6**
MARD Mardin 147.96 289 **PKPdf** **20 52 09.3 +0.3**
KOPT Kop Dagi 148.24 294 **PKPdf** **20 52 09.3 -0.3**
KOPT IAMs_20 IAMs_20 22 04 45.8
comp=Z,3μm,19.0s
SOC Sochi 148.56 301 *e*PKHKP PKPpre 20 52 06.5
SOC *i* 20 52 12.1
SOC *e* 20 55 40.3
SOC *e*PPP PPP 20 58 59.3
SOC *e*SS SS 21 14 52.7 +0.7
SOC *e*SSS SSS 21 20 27.0
SOC pmax pmax
comp=Z,6.0nm,0.7s
SOC pmax pmax
comp=Z,55nm,1.0s
MEF Metsahovi 148.72 338 *e*P **PKPbc** **20 52 11.4 -1.6**
KTUT Trabzon 148.76 296⇑ P **PKPbc** **20 52 13.7 -0.2**
RAF Rauma 148.83 341 *e*P **PKPbc** **20 52 10.4 +1.0**
VSU Vasula 149.25 334 *e*P **PKPbc** **20 52 12.8 -1.7**
VSU Vasula 149.25 334*d i*PKIKP **PKPdf** **20 52 10.1 -0.1**
VSU MLR MLR
comp=Z,3μm,19.0s
MOL Molde 149.88 355 *e*pPKPbc **PKiKP** **20 52 16.9 0.0**
ANN Anapa 149.98 304 *i* PKHKP PKPpre 20 52 15.6
ANN *e* 20 52 19.5
ANN *e* 20 55 50.6
ANN pmax pmax
comp=Z,306nm,1.4s
AAL Aland 150.01 342 *e*P **PKiKP** **20 52 17.2 +0.1**
MTSE Matsula 150.08 337 *e*P **PKPbc** **20 52 15.9 -0.6**
AKN Aaknes 150.31 355 *e*pPKPbc **PKiKP** **20 52 18.3 +0.4**
ASF Jabal al Asfar 150.51 279 PKPbc **PKiKP** **20 52 19.4 0.0**
comp=Z,36nm,0.9s,baz=276,slow=0.7,SNR=51
GAZ Gaziantep 150.79 289 **PKPbc** **20 52 18.6 -0.5**
GAZ IAMs_20 IAMs_20 22 02 51.1
comp=Z,2μm,19.0s
NC204 NORSAR Array S 150.82 351 **PKiKP** **20 52 18.7 -0.3**
UPP Uppsala 150.88 344 *e*P **PKiKP** **20 52 21.5 +2.5**
SACV Santiago Islan 150.89 121 IAMs_20 IAMs_20 21 56 22.3
comp=Z,3μm,18.0s
NB201 NORSAR Array S 150.97 351 **PKiKP** **20 52 19.2 0.0**
NB2 NORSAR Subarra150.99 351 PKP **PKiKP** **20 52 19.1 -0.2**
comp=Z,151nm,1.4s,baz=17,slow=2.6
NB2 NORSAR Subarra150.99 351 PKPab **PKiKP** **20 52 19.1 -0.2**
baz=17,slow=2.6
NOA NORSAR Array B 150.99 351 PKPbc **PKPbc** **20 52 18.7 0.0**
comp=Z,7.8nm,0.7s,baz=14,slow=4.1,SNR=26
FOO Floro 151.01 357 *e*pPKPbc **PKiKP** **20 52 19.5 +0.3**
NAO01 NORSAR Array S 151.22 351 PKPbc **PKPbc** **20 52 19.2 0.0**
NAO01 PKPab **PKPab** **20 52 27.2 +0.1**
NC602 NORSAR Array S 151.24 350 *e*PKPbc **PKPbc** **20 52 18.9 -0.4**
NC602 NORSAR Array S 151.24 350 PKPdf **PKPdf** **20 52 13.5 +0.2**
NC602 **PKPbc** **20 52 19.1 -0.1**
HYA Hoyanger 151.37 356 *e*PKPdf **PKPdf** **20 52 10.6 -2.9**
GHAJ Ghor Haditha 151.46 276 PKPdf **PKPdf** **20 52 14.5 0.0**
GHAJ **PKPbc** **20 52 20.8 +0.1**
GHAJ IAMs_20 IAMs_20 22 02 59.4
comp=Z,2μm,19.0s
MNK Minsk 151.48 328 *i* PKIKP **PKPbc** **20 52 19.3 -0.7**
MNK *i* 20 56 06.2
MNK *i* 20 59 27.0
MNK pmax pmax
comp=Z,174nm,1.1s
MNK pmax pmax
comp=E,16nm,1.4s
MNK pmax pmax
comp=N,46nm,1.1s
MNK Minsk 151.48 328 *i* PKP **PKPbc** **20 52 19.4 -0.6**
comp=E,16nm,1.4s
MNK *i* PKP **PKPbc** **20 52 19.4 -0.6**
comp=N,46nm,1.1s
MNK *i* PKP **PKPbc** **20 52 19.4 -0.6**
comp=Z,174nm,1.1s,baz=231
MNK *i* PP **PP** **20 56 06.2 +6.9**
MNK *i* SKS **SKSdf** **20 59 27.1 +6.6**
MNK *i* PPP PPP 20 59 30.2
MNK *i* SKKS SKKSdf 21 08 28.8 +19
MNK *i* SS **SS** **21 15 32.7 +10**
MNK *i* SS **SS** **21 15 32.7 +10**
MNK *i* SSS SSS 21 21 17.2
MNK *i* LQ LQ 21 53 33.2
MNK *i* LR LR 22 00 09.1
MNK *i* LRM MLR 22 02 57.0
comp=E,186nm,20.3s
MNK *i* LRM MLR 22 02 57.0
comp=N,1μm,21.0s
MNK *i* LRM MLR 22 02 57.0
comp=Z,2μm,19.6s
ISAL Salakas 151.53 331 *e*P **PKPbc** **20 52 19.9 -0.2**
SUE Sulen 151.56 357 *e*pPKPbc **PKiKP** **20 52 21.9 +1.5**
EIL Elat 151.60 273 PKPbc **PKiKP** **20 52 22.4 +0.9**
comp=Z,84nm,1.1s,baz=145,slow=4.4,SNR=10
IIGN Ignalina 151.64 330 *e*P **PKPbc** **20 52 19.6 -0.7**
SKAR Skarslia 151.68 353 *e*pPKPbc **PKiKP** **20 52 21.7 +0.9**
NACGM Naroch 151.71 329 *i* PKP **PKiKP** **20 52 20.9 0.0**
BHL Bhannes 151.81 282 *e*P **PKPdf** **20 52 14.2 -0.9**
BNN Bunyan 151.87 292 **PKPdf** **20 52 14.8 -0.3**
BNN PKPbc **PKPbc** **20 52 21.5 -0.1**
MMAI Mount Meron Ar 151.90 280 PKPbc **PKiKP** **20 52 23.4 +1.3**
comp=Z,117nm,1.1s,baz=80,slow=3.5,SNR=60
DIKM Dikmen 152.08 298⇓ P **PKPbc** **20 52 21.7 -0.1**
ASK Askoy 152.11 356 *e*PKPbc **PKPbc** **20 52 19.7 -1.5**
OSL Oslo 152.12 350 *e*pPKPbc **PKiKP** **20 52 23.0 +1.4**
BER Bergen 152.20 356 *e*pPKPbc **PKiKP** **20 52 22.8 +1.1**
SIM Simferopol' 152.24 306*c i*PKIKP **PKPbc** **20 52 21.0 -1.0**
PABE Paberze 152.45 332 *e*P **PKiKP** **20 52 22.3 -0.1**
PABE Paberze 152.45 332 **PKiKP** **20 52 22.6 +0.2**
KONO Kongsberg 152.55 351 PKIKP **PKPbc** **20 52 20.5 -1.7**
KONO MLR MLR
comp=Z,1μm,22.0s
KONO Kongsberg 152.55 351 *e*pPKPbc **PKiKP** **20 52 23.8 +1.4**
KONO Kongsberg 152.55 351 **PKPbc** **20 52 20.5 -1.7**
ODD1 Odda 152.59 355 *e*pPKPbc **PKiKP** **20 52 23.4 +0.8**
PBUR Paburge 152.81 335 *e*P **PKPbc** **20 52 21.2 -1.7**
LIC Lamto 152.89 165 *e*P **PKiKP** **20 52 26.1 +1.5**
comp=Z,145nm,1.0s
STRU Stroemstad 152.92 349 *i* P **PKPdf** **20 52 16.4 +0.6**
AKASG Malin Array Be 153.02 320 PKP **PKPdf** **20 52 15.8 -0.4**
comp=Z,1.0nm,0.6s,baz=58,slow=1.5,SNR=6.0
AKASG PKPbc **PKiKP** **20 52 23.8 0.0**
comp=Z,13nm,0.6s,baz=49,slow=2.5,SNR=57
AKASG Malin Array Be 153.02 320 PKIKP **PKPdf** **20 52 15.4 -0.8**
AKASG 20 52 23.7
AKASG Malin Array Be 153.02 320 PKPdf **PKPdf** **20 52 15.4 -0.8**
AKASG PKPbc **PKiKP** **20 52 23.7 0.0**
AKBB Malin Array Si 153.02 320*c i*PKIKP **PKPdf** **20 52 14.4 -1.8**
AKBB Malin Array Si 153.02 320 **PKPbc** **20 52 22.8 -0.8**
BLS5 Blasjo 153.09 355 *e*PKPbc **PKPbc** **20 52 21.7 -1.8**
KIC Kosan Boka 153.09 165 *e*P **PKiKP** **20 52 27.6 +2.6**
comp=Z,43nm,0.8s
TIC Toumodi 153.30 165 *e*P **PKiKP** **20 52 28.2 +2.7**
ILGA Ilgaz 153.31 297 **PKiKP** **20 52 25.0 +0.1**
ILGA IAMs_20 IAMs_20 22 05 39.7
comp=Z,2μm,18.0s
DBIC Dimbokro 153.36 165 PKPbc **PKiKP** **20 52 26.5 +0.9**
comp=Z,16nm,1.0s,baz=174,slow=1.3,SNR=8.8
DBIC Dimbokro 153.36 165 PKIKP **PKPbc** **20 52 23.7 -1.8**
DBIC Dimbokro 153.36 165 **PKPbc** **20 52 23.6 -1.8**
KMY Karmoy 153.38 356 *e*PKPab **PKPab** **20 52 33.8 -2.3**
BR131 Keskin Array S 153.52 294 PKIKP **PKPbc** **20 52 24.8 -0.5**
BR131 Keskin Array S 153.52 294 **PKPbc** **20 52 24.8 -0.5**
BR131 Keskin Array S 153.52 294 PKPbc **PKPbc** **20 52 24.0 -1.3**
SNR=9.9
BRTR Keskin Array B 153.52 294 PKPbc **PKiKP** **20 52 26.0 +0.6**
comp=Z,39nm,1.2s,baz=146,slow=2.4,SNR=30
BRTR Keskin Array B 153.52 294 PKIKP **PKPdf** **20 52 17.2 -0.4**
BRTR 20 52 25.5
BRTR Keskin Array B 153.52 294 **PKPdf** **20 52 17.2 -0.4**
BRTR **PKiKP** **20 52 25.5 +0.1**
BRTR PKPab **PKPab** **20 52 38.2 +0.5**
CSS Mathiatis 153.82 284 **PKPdf** **20 52 17.3 -0.7**
CSS PKPbc **PKPbc** **20 52 25.9 0.0**
CSS IAMs_20 IAMs_20 22 05 38.5
comp=Z,2μm,19.0s
SUW Suwalki 153.84 331 *e*PKPdf **PKPdf** **20 52 16.4 -0.9**
SUW *e*PKPbc **PKPbc** **20 52 24.9 -0.3**
SUW *e*PKPab **PKPab** **20 52 37.1 -1.2**
SUW Suwalki 153.84 331 *e*P **PKiKP** **20 52 26.5 +1.2**
SUW Suwalki 153.84 331 PKIKP **PKiKP** **20 52 25.6 +0.3**
SUW 20 52 39.1
SUW MLR MLR
comp=Z,2μm,19.0s
SUW Suwalki 153.84 331 **PKPdf** **20 52 16.6 -0.7**
SUW PKPbc **PKiKP** **20 52 25.6 +0.3**
SUW PKPab **PKPab** **20 52 39.1 +0.8**
SUW IAMs_20 IAMs_20 22 06 52.0
comp=Z,2μm,19.0s
BORU Boraas 153.97 347 *e*P **PKPdf** **20 52 18.1 +0.7**
HOMB Homborsund 154.03 352 *e*P **PKPdf** **20 52 18.3 +0.9**
HOMB Homborsund 154.03 352 *e*pPKPbc pPKPbc 20 52 27.4 -1.7
SNART Snartemo 154.09 354 *i* P **PKPdf** **20 52 18.3 +0.8**
SNART Snartemo 154.09 354 *e*PKPbc **PKPbc** **20 52 22.7 -2.9**
ANTO Ankara 154.15 295 PKIKP **PKiKP** **20 52 26.8 +0.2**
ANTO MLR MLR
comp=Z,2μm,19.0s
ANTO Ankara 154.15 295 **PKiKP** **20 52 26.8 +0.2**
ANTO IAMs_20 IAMs_20 22 07 57.4
comp=Z,2μm,19.0s
BR231 Keskin MP Arra 154.17 295 **PKiKP** **20 52 27.1 +0.5**
LEF Lefka 154.19 284⇑ P **PKPbc** **20 52 25.6 -1.1**
ONAU Onsala 154.35 347 *e*P **PKPdf** **20 52 19.6 +1.7**
BLEU Blekinge 154.48 342 *e*P **PKPdf** **20 52 18.1 0.0**
FABU Falkenberg 154.57 346 *e*P **PKPdf** **20 52 19.4 +1.1**
SORM Soroca 154.79 315⇑ P **PKiKP** **20 52 28.0 +0.6**
DEL Delary 154.81 344 *e*P **PKPdf** **20 52 18.3 -0.3**
KIS Kishinev 155.01 313 *e*PKP **PKPdf** **20 52 15.0 -4.2**
comp=Z,280nm,9.9s
KIS *e*LR LR 21 53 52.0
comp=Z,700nm,18.0s
KIS Kishinev 155.01 313 *e*PKIKP **PKPdf** **20 52 15.0 -4.2**
KIS pmax pmax
comp=Z,280nm,9.9s
KIS MLR MLR
comp=Z,700nm,18.0s
GOET G??ttrup 155.13 350 *e*P **PKPdf** **20 52 20.4 +1.4**
GOET IAMs_20 IAMs_20 22 09 53.4
comp=Z,2μm,17.8s
BJUU Bjuv 155.36 345 *e*P **PKPdf** **20 52 20.2 +0.9**
MUD Monsted U'grnd 155.70 350 *e*P **PKPdf** **20 52 20.6 +0.8**
MUD IAMs_20 IAMs_20 22 23 48.7
comp=Z,2μm,15.7s
TLCR 155.74 309⇓ P PKPdf 20 52 30.9 +11
BSD Bornholm Skovb 155.77 342 *e*P **PKPab** **20 52 42.8 -3.6**
BSD Bornholm Skovb 155.77 342 *e*P **PKPdf** **20 52 20.4 +0.5**
VASR Vaslui 155.80 313⇑ P **PKPab** **20 52 45.9 -1.1**
COP Copenhagen 155.85 345 *e*P **PKPdf** **20 52 21.0 +1.0**
COP IAMs_20 IAMs_20 22 08 54.3
comp=Z,14μm,18.5s
ISP Isparta 156.10 290 IAMs_20 IAMs_20 22 07 31.4
comp=Z,2μm,18.0s
TPGR Topolog 156.12 308⇑ P PKPdf 20 52 31.4 +11
LVV L'vov 156.26 323 *e*PKIKP **PKPdf** **20 52 19.3 -1.5**
LVV *e* 20 56 26.2
LVV *e* 20 59 28.4
LVV MLR MLR
comp=Z,2μm,20.0s
BEL Belsk 156.42 330 *e*PKPdf **PKPdf** **20 52 21.2 +0.3**
BEL *e*PKPab **PKPab** **20 52 49.1 -0.3**
TESR Tescani 156.57 313⇓ P PKPdf 20 52 33.1 +12
GKP Gorka Klasztor 156.66 336 *e*PKPdf **PKPdf** **20 52 21.1 0.0**
GKP *e*PKPab **PKPab** **20 52 50.0 -0.4**
GKP Gorka Klasztor 156.66 336 *e*P **PKPab** **20 52 45.5 -4.9**
RGN Rugen 156.69 343 IAMs_20 IAMs_20 22 18 27.9
comp=Z,2μm,18.0s
BIZ Bicaz 156.69 315⇓ P PKPdf 20 52 31.5 +10
VRI Vrincioaia 156.81 312⇑ P **PKPab** **20 52 45.7 -5.6**
PLOR Plostina 156.86 312⇑ P **PKPab** **20 52 52.9 +1.2**
BUR01 Bucovina Ar. S 156.88 317⇑ P PKPdf 20 52 12.7 -9.1
BURAR Bucovina Array 156.88 317⇑ P PKPdf 20 52 33.1 +11
KWP Kalwaria Pacla 157.05 324 *e*PKPab **PKPab** **20 52 52.0 -0.2**
COVR Voineasa-Covas 157.14 312⇑ P PKPdf 20 52 10.1 -12
MLR Muntele Rosu 157.46 312 PKPab **PKPab** **20 52 52.5 -1.9**
comp=Z,11nm,0.9s,baz=175,slow=3.6,SNR=6.8
MLR Muntele Rosu 157.46 312 IAMs_20 IAMs_20 22 12 35.7
comp=Z,2μm,19.0s
DOPR Dopca 157.59 313⇓ P PKPdf 20 52 36.0 +13
SULR 157.61 309⇑ P PKPdf 20 52 36.3 +14
KOLS Kolonicke sedl 157.71 323 *e*PKIKP **PKPdf** **20 52 23.8 +1.1**
KOLS Kolonicke sedl 157.71 323 *e*PKP **PKPdf** **20 52 23.8 +1.1**
UZH Uzhgorod 157.89 322 *i* PKIKP PKPdf 20 52 34.3 +11
UZH *e* 20 52 47.1
UZH *e* 20 56 43.5
UZH MLR MLR
comp=N,350nm,19.0s
UZH MLR MLR
comp=E,300nm,19.0s
UZH MLR MLR
comp=Z,300nm,19.0s
STHS Stebnicka Huta 157.91 325 *e*PKP2 **PKPab** **20 52 55.7 -0.3**
OJC Ojcow 158.03 328 *e*PKPdf **PKPdf** **20 52 22.7 -0.3**
OJC *e*PKPab **PKPab** **20 52 56.0 -0.5**
OJC Ojcow 158.03 328 IAMs_20 IAMs_20 22 12 18.0
comp=Z,2μm,18.0s
VOIR 158.05 312⇑ P **PKPdf** **20 52 28.8 +5.5**
CRVS Cervenica-Dubn 158.14 324 *e*PKIKP **PKPdf** **20 52 23.3 +0.1**
CRVS *e* 20 52 56.8
CRVS Cervenica-Dubn 158.14 324 *e*PKP **PKPdf** **20 52 23.3 +0.1**
CRVS *e* 20 52 56.8
ARR Arges 158.34 312⇓ P **PKPdf** **20 52 24.5 +0.8**
NIE Niedzica 158.36 326 *e*PKPdf **PKPdf** **20 52 24.0 +0.5**
NIE *e*PKPab **PKPab** **20 52 58.5 +0.5**
RUE Ruedersdorf 158.42 340 *e*PKPab **PKPab** **20 52 58.0 0.0**
baz=25,slow=4.4
HUMR Humele 158.50 310⇓ P PKPdf 20 52 37.1 +13
DRGR 158.76 318⇑ P **PKPdf** **20 52 26.8 +2.7**
KARP Karpathos 158.89 285 IAMs_20 IAMs_20 22 16 43.5
comp=Z,2μm,20.0s
LANS Liptovska Anna 158.94 326 *e*PKIKP **PKPdf** **20 52 25.4 +1.2**
LANS Liptovska Anna 158.94 326 *e*PKP **PKPdf** **20 52 25.4 +1.2**
LANS *e* 20 52 43.0
LANS *e* 20 53 01.5
KSP Ksiaz 158.98 334 *e*PKPdf **PKPdf** **20 52 23.8 -0.4**
KSP *e*PKPab **PKPab** **20 53 00.5 0.0**
ALN Alexandroupoli 159.03 300 IAMs_20 IAMs_20 22 19 12.7
comp=Z,2μm,18.0s
OKC Ostrava-Krasne 159.03 330 *e*SKKS 21 03 27.7
OKC AMS AMS 22 23 50.0
comp=Z,2μm,17.9s
FLTG Flechtingen 159.23 344 *e*PKPab **PKPab** **20 53 00.7 -0.8**
baz=25,slow=4.4
OSTC Ostas 159.24 334 *e*PKPAB **PKPab** **20 53 01.2 -0.5**
OSTC *e*SKKS 21 03 35.5
OSTC AMS AMS 22 26 00.0
comp=Z,2μm,17.3s
CHVC Chvalec 159.28 334 *e*PKPAB **PKPab** **20 53 01.7 -0.1**
CHVC AMS AMS 22 23 30.0
comp=Z,2μm,18.1s
NRDL Niedersach Rie 159.33 346 *e*PKPab **PKPab** **20 53 01.4 -0.4**
baz=25,slow=4.4
MORC Moravsky Berou 159.33 330 PKP2 **PKPab** **20 53 01.3 -0.8**
MORC 21 52 24.2
MORC MLR MLR
comp=Z,2μm,20.0s
MORC Moravsky Berou 159.33 330 **PKPdf** **20 52 24.1 -0.5**
MORC **PKPab** **20 53 01.3 -0.8**
MORC IAMs_20 IAMs_20 22 05 50.2
comp=Z,2μm,20.0s
MORC Moravsky Berou 159.33 330 *e*PKP **PKPdf** **20 52 23.8 -0.8**
MORC *e* 20 53 01.3
UPC Upice 159.36 334 *e*SKKS 21 03 34.0
UPC AMS AMS 22 23 40.0
comp=Z,2μm,17.1s
DPC Dobruska-Polom 159.37 333 *e*PKP2 **PKPab** **20 53 02.1 -0.2**
DPC MLR MLR
comp=Z,2μm,18.5s
DPC Dobruska-Polom 159.37 333 *e*PKPAB **PKPab** **20 53 02.1 -0.2**
DPC *e*SKKS 21 03 37.4
DPC AMS AMS 22 17 20.0
comp=Z,2μm,18.5s

KRLC	**Kraliky**	**159.41**	**332**	*e*PKIKP	**PKPdf**	**20 52 28.0**	**+3.3**
KRLC				*e*		20 53 02.4	
KRLC				MLR	MLR		
	comp=Z,2μm,16.9s						
KRLC	**Kraliky**	**159.41**	**332**	*e*PKPDF	**PKPdf**	**20 52 28.0**	**+3.3**
KRLC				*e*PKPAB	**PKPab**	**20 53 02.4**	**-0.1**
KRLC				AMS	AMS	22 21 20.0	
	comp=Z,2μm,16.9s						
ASSE	**Asse, Remlinge**	**159.54**	**344**	*e*PKPab	**PKPab**	**20 53 02.6**	**-0.2**
	baz=25,slow=4.4						
PSZ	**Piszkesteto**	**159.58**	**323**	⇓P	PKPdf	20 52 40.7	+16
SIRR	**Siria**	**159.65**	**318**	⇑P	PKPab	20 52 51.5	-12
CLL	**Collm**	**159.68**	**340**	*e*PKPdf	**PKPdf**	**20 52 25.0**	**+0.1**
CLL				*e*PKPdiff	sPKPdf	20 52 46.0	+16
CLL				⇓*i*PKPab	**PKPab**	**20 53 02.7**	**-0.8**
	comp=Z,120nm,1.6s						
CLL				*i* pPKPab	**sPKPab**	**20 53 15.6**	**+7.3**
	comp=Z,69nm,1.3s						
CLL				*e*PP	PP	20 56 36.0	-8.7
CLL				*e*PPP	PPP	21 00 24.0	
CLL				*e*SKKSac	SKKSac	21 03 33.0	0.0
CLL				*e*		21 04 25.0	
CLL				*e*PSKS		21 07 07.0	
CLL				*e*SKKSdf	**SKKSdf**	**21 07 56.0**	**+2.3**
CLL				*e*		21 08 38.0	
CLL				*e*PPS	PPS	21 10 00.0	
CLL				*e*PSKSrev		21 10 43.0	
CLL				*e*		21 12 57.0	
CLL				*e*		21 14 50.0	
CLL				*e*SS	**SS**	**21 16 44.0**	**-7.1**
CLL				*e*		21 17 39.0	
CLL				*e*PSPS		21 18 12.0	
CLL				*e*SSS	SSS	21 23 04.0	
CLL				*e*SSSS		21 27 00.0	
CLL				LmV		22 03 00.0	
	comp=Z,2μm,21.5s						
CLL				Lm	MLR	22 22 00.0	
	comp=N,1μm,18.0s						
CLL				Lm	MLR	22 22 00.0	
	comp=E,1μm,18.9s						
CLL	**Collm**	**159.68**	**340**	⇓*e*PKIKP	**PKPdf**	**20 52 25.0**	**+0.1**
CLL				*i*		20 53 02.7	
CLL				pmax	pmax		
	comp=Z,120nm,1.6s						
CLL				MLR	MLR		
	comp=Z,2μm,21.5s						
CLL	**Collm**	**159.68**	**340**		**PKPab**	**20 53 03.1**	**-0.4**
CLL				IAMs_20	IAMs_20	22 21 47.4	
	comp=Z,2μm,19.0s						
CLL	**Collm**	**159.68**	**340**	*e*PKPab	**PKPab**	**20 53 03.1**	**-0.4**
	baz=25,slow=4.4						
VYHS	**Vyhne**	**159.70**	**326**	*e*PKP2	**PKPab**	**20 53 03.9**	**+0.2**
BRG	**Berggiesshubel**	**159.77**	**337**	*e*PKPab	**PKPab**	**20 53 03.7**	**-0.3**
	baz=25,slow=4.4						
BRG	**Berggiesshubel**	**159.77**	**337**	⇓*e*PKPf		20 52 32.5	
BRG				Amp		20 52 35.9	
	comp=Z,6.4nm,1.1s						
BRG				*e*PKPab	**PKPab**	**20 53 04.4**	**+0.5**
BRG				Amp		20 53 07.0	
	comp=Z,64nm,1.4s						
BRG	**Berggiesshubel**	**159.77**	**337**	P	PKPab	20 53 17.0	+13
BRG				Amp		20 53 18.7	
	comp=Z,48nm,1.1s						
PVCC	**Panska Ves**	**159.86**	**336**	*e*PKP2	**PKPab**	**20 53 04.7**	**+0.4**
PVCC				MLR	MLR		
	comp=Z,2μm,18.0s						
PVCC	**Panska Ves**	**159.86**	**336**	*e*PKPAB	**PKPab**	**20 53 04.7**	**+0.4**
PVCC				AMS	AMS	22 23 30.0	
	comp=Z,2μm,18.0s						
CLZ	**Clausthal**	**159.88**	**345**	*e*PKPab	**PKPab**	**20 53 04.5**	**+0.1**
	baz=25,slow=4.4						
FBE	**Freiberg**	**159.92**	**338**	*e*PKPab	**PKPab**	**20 53 04.8**	**+0.2**
	baz=25,slow=4.4						
IBBN	**Ibbenburen**	**159.94**	**349**	*e*PKPab	**PKPab**	**20 53 04.1**	**-0.4**
	baz=25,slow=4.4						
JAVC	**Velka Javorina**	**159.97**	**328**	*e*PKP	**PKPdf**	**20 52 26.1**	**+0.7**
JAVC				*e*		20 53 02.0	
BZS	**Buzias**	**160.04**	**316**	⇑P	PKPdf	20 52 15.6	-10
VRAC	**Vranov**	**160.09**	**331**	⇑P	PKPdf	20 52 38.3	+13
VRAC	**Vranov**	**160.09**	**331**	*e*PKP	**PKPdf**	**20 52 24.2**	**-1.3**
VRAC				*e*		20 53 05.4	
NEUB	**Neuenburg**	**160.12**	**341**	*e*PKPab	**PKPab**	**20 53 05.2**	**-0.2**
	baz=25,slow=4.4						
GTTG	**Gottingen**	**160.25**	**345**	*e*PKPab	**PKPab**	**20 53 05.9**	**-0.1**
	baz=25,slow=4.4						
PRA	**Prague**	**160.29**	**335**	*e*SKKS		21 03 41.3	
PRA				AMS	AMS	22 15 10.0	
	comp=Z,2μm,19.4s						
PRU	**Pruhonice**	**160.32**	**335**	*e*PKP2	**PKPab**	**20 53 01.9**	**-4.5**
PRU				MLR	MLR		
	comp=Z,2μm,18.9s						
PRU	**Pruhonice**	**160.32**	**335**	*e*PKPAB	**PKPab**	**20 53 01.9**	**-4.5**
PRU				*e*SKKS		21 03 39.4	
PRU				AMS	AMS	22 17 00.0	
	comp=Z,2μm,18.9s						
SMOL	**Smolenice**	**160.33**	**328**	*e*PKP2	**PKPab**	**20 53 06.7**	**+0.2**
KRUC	**Moravsky**	**160.36**	**331**	*e*PKP	**PKPdf**	**20 52 24.6**	**-1.2**
KRUC				*e*		20 53 05.7	
MDVR	**Moldovita**	**160.43**	**314**	⇑P	**PKPab**	**20 53 06.5**	**-0.7**
MODS	**Modra-Piesok**	**160.50**	**328**	*e*PKIKP	**PKPdf**	**20 52 25.7**	**-0.3**
MODS				*e*		20 53 07.1	
MODS	**Modra-Piesok**	**160.50**	**328**	*e*PKP	**PKPdf**	**20 52 25.7**	**-0.3**
MODS				*e*		20 53 07.1	
TREC	**Trest**	**160.54**	**332**	AMS	AMS	22 20 40.0	
	comp=Z,3μm,17.0s						
TORD	**Torodi Ar. Bea**	**160.55**	**179**	PKP	**PKPdf**	**20 52 27.8**	**+0.7**
	comp=Z,4.4nm,1.1s,baz=308,slow=0.5,SNR=12						
TORD				PKPab	**PKPab**	**20 53 09.3**	**+1.2**
	comp=Z,12nm,0.9s,baz=174,slow=3.5,SNR=18						
TORD	**Torodi Ar. Bea**	**160.55**	**179**		**PKPdf**	**20 52 25.9**	**-1.1**
TORD				PKPab	**PKPab**	**20 53 08.6**	**+0.5**
TANN	**Tannenbergstha**	**160.63**	**339**	*e*PKPab	**PKPab**	**20 53 07.5**	**-0.3**
	baz=25,slow=4.4						
WERD	**Werda**	**160.65**	**340**	*e*PKPab	**PKPab**	**20 53 08.0**	**+0.2**
	baz=25,slow=4.4						
PLN	**Plauen**	**160.66**	**340**	*e*PKPab	**PKPab**	**20 53 07.8**	**0.0**
	baz=25,slow=4.4						
MOX	**Moxa**	**160.67**	**341**	*e*PKPab	**PKPab**	**20 53 07.8**	**0.0**
	baz=25,slow=4.4						
MOX				*e*L	L	22 11 07.5	
	comp=Z,2μm,19.6s						
ZST	**Bratislava**	**160.71**	**328**	*e*PKP2	**PKPab**	**20 53 06.5**	**-1.6**
GUNZ	**Gunzen**	**160.72**	**339**	*e*PKPab	**PKPab**	**20 53 08.4**	**+0.2**
	baz=25,slow=4.4						
IDI	**Anoyia**	**160.75**	**284**	PKPab	**PKPab**	**20 53 09.0**	**0.0**
	comp=Z,16nm,0.8s,baz=52,slow=7.7,SNR=5.1						
PBCC	**Pribram**	**160.77**	**336**	*e*PKPAB	**PKPab**	**20 53 07.8**	**-0.5**
WERN	**Wernitzgruen**	**160.77**	**339**	*e*PKPab	**PKPab**	**20 53 08.7**	**+0.3**
	baz=25,slow=4.4						
NKC	**Novy Kostel**	**160.80**	**339**	*e*PKP2	**PKPab**	**20 53 08.9**	**+0.4**
NKC				MLR	MLR		
	comp=Z,3μm,17.6s						
NKC	**Novy Kostel**	**160.80**	**339**	*e*PKPAB	**PKPab**	**20 53 08.9**	**+0.4**
NKC				*e*SKKS		21 03 46.2	
NKC				AMS	AMS	22 22 50.0	
	comp=Z,3μm,17.6s						
KASTN	**Kahler Asten**	**160.89**	**347**	*e*PKPab	**PKPab**	**20 53 08.4**	**-0.4**
	baz=25,slow=4.4						
UBBA	**Unterbreizbach**	**160.92**	**344**	*e*PKPab	**PKPab**	**20 53 08.3**	**-0.5**
	baz=25,slow=4.4						
KOWA	**Kowa**	**161.11**	**162**		**PKPdf**	**20 52 24.9**	**-2.7**
MANZ	**Manzenberg**	**161.12**	**339**	*e*PKPab	**PKPab**	**20 53 09.6**	**-0.3**
	baz=25,slow=4.4						
ROTZ	**Rotzenmuhle**	**161.28**	**339**	*e*PKPab	**PKPab**	**20 53 10.7**	**+0.2**
	baz=25,slow=4.4						
MORH	**Mrgy, Hungar**	**161.34**	**321**	⇓P	**PKPdf**	**20 52 25.6**	**-1.3**
FRGS	**Fruska Gora**	**161.35**	**317**	⇓P	**PKPdf**	**20 52 27.7**	**+0.7**
CKRC	**Cesky Krumlov**	**161.38**	**334**	*e*PKPDF	**PKPdf**	**20 52 26.2**	**-0.7**
CKRC				*ex*	x	20 52 42.0	
CKRC				*ex*	x	20 52 42.1	
CKRC				*e*PKPAB	PKPab	20 53 01.6	-9.4
CKRC				*e*PP	**PP**	**20 56 51.1**	**-3.0**
CKRC				*e*SKKS		21 03 47.2	
CKRC				AMS	AMS	22 11 20.0	
	comp=Z,2μm,20.0s						
KHC	**Kasperske Hory**	**161.38**	**335**	*e*PKIKP	**PKPdf**	**20 52 26.7**	**-0.2**
KHC				*e*		20 52 34.0	
KHC				MLR	MLR		
	comp=Z,3μm,18.8s						
KHC	**Kasperske Hory**	**161.38**	**335**	*e*PKPDF	**PKPdf**	**20 52 26.7**	**-0.2**
KHC				*e*pPKP	**sPKPdf**	**20 52 34.0**	**+2.2**
KHC				*ex*	x	20 52 51.6	
KHC				*e*PKPAB	PKPab	20 53 03.1	-8.0
KHC				*e*SKKS		21 03 46.2	
KHC				AMS	AMS	22 13 30.0	
	comp=Z,3μm,18.8s						
CONA	**Conrad Observa**	**161.46**	**329**	*e*P	**PKPdf**	**20 52 26.6**	**-0.5**
	comp=Z,7.3nm,1.7s						
CONA				*e*P	**PKPab**	**20 53 12.1**	**+0.5**
	comp=Z,19nm,0.9s,SNR=5.3						
GEC2	**GERESS Array S**	**161.58**	**335**		**PKPab**	**20 53 11.8**	**-0.2**
GEC2	**GERESS Array S**	**161.58**	**335**	*e*PKPab	**PKPab**	**20 53 11.6**	**-0.4**
	baz=25,slow=4.4						
GERES	**GERESS Array B**	**161.58**	**335**	PKP	**PKPdf**	**20 52 33.3**	**+6.1**
	comp=Z,2.3nm,1.1s,baz=162,slow=0.4,SNR=10						
GERES				PKPab	**PKPab**	**20 53 12.0**	**0.0**
	comp=Z,7.6nm,1.0s,baz=41,slow=4.3,SNR=14						
GERES	**GERESS Array B**	**161.58**	**335**	PKP2	**PKPab**	**20 53 11.6**	**-0.4**
GERES	**GERESS Array B**	**161.58**	**335**		**PKPab**	**20 53 11.6**	**-0.4**
WET	**Wettzell**	**161.61**	**337**	*e*PKPab	**PKPab**	**20 53 12.3**	**+0.2**
	baz=25,slow=4.4						
GRA1	**Grafenberg Arr**	**161.64**	**340**		**PKPab**	**20 53 12.8**	**+0.7**
GRF	**Grafenberg Arr**	**161.64**	**340**	PKP2	**PKPab**	**20 53 12.8**	**+0.7**
GRF	**Grafenberg Arr**	**161.64**	**340**	*e*PKPab	**PKPab**	**20 53 12.2**	**+0.1**
	baz=25,slow=4.4						
GRF				*e*L	L	22 11 57.0	
	comp=Z,3μm,18.7s						
GRFO	**Grafenberg**	**161.64**	**340**	PKP2	**PKPab**	**20 53 12.8**	**+0.7**
GRFO	**Grafenberg**	**161.64**	**340**		**PKPab**	**20 53 12.8**	**+0.7**
BEBN	**Eben Emael**	**161.69**	**352**	*d*PKPab	**PKPab**	**20 53 10.5**	**-1.7**
AHRW	**Bad Neuenahr-A**	**161.75**	**349**	*e*PKPab	**PKPab**	**20 53 12.3**	**-0.2**
	baz=25,slow=4.4						
UCC	**Uccle**	**161.81**	**355**	*d*PKPab	**PKPab**	**20 53 12.2**	**-0.6**
TNS	**Taunus Mts**	**161.82**	**346**	*e*PKPab	**PKPab**	**20 53 12.6**	**-0.3**
	baz=25,slow=4.4						
MEM	**Membach**	**161.84**	**352**	*d*PKPab	**PKPab**	**20 53 12.3**	**-0.6**
DIVS	**Divibare**	**161.84**	**314**		**PKPdf**	**20 52 26.8**	**-0.9**
BTNL	**Ternell**	**161.84**	**351**	*d*PKPab	**PKPab**	**20 53 12.6**	**-0.4**
BSTI	**Sart Tilman**	**161.91**	**352**	*d*PKPab	**PKPab**	**20 53 12.4**	**-0.8**
MILB	**Miltenberg**	**162.01**	**344**	*e*PKPab	**PKPab**	**20 53 13.5**	**-0.3**
	baz=25,slow=4.4						
BHOU	**Houvegnez**	**162.09**	**351**	*d*PKPab	**PKPab**	**20 53 13.0**	**-1.0**
BCLA	**Clavier**	**162.10**	**353**	*dx*	x	20 52 57.8	
BCLA				*d*PKPab	**PKPab**	**20 53 13.9**	**-0.1**
SNF	**Seneffe**	**162.11**	**355**	*d*PKPab	**PKPab**	**20 53 14.1**	**0.0**
ARSA	**Arzberg**	**162.13**	**328**	*e*P	**PKPdf**	**20 52 26.6**	**-1.2**
	comp=Z,1.9nm,0.7s						
ARSA				*e*P	**PKPab**	**20 53 13.1**	**-1.3**
	comp=Z,21nm,1.3s						
BGES	**Gesves**	**162.16**	**353**	*d*PKPab	**PKPab**	**20 53 14.8**	**+0.4**
MOA	**Molln**	**162.19**	**332**	*e*P	**PKPdf**	**20 52 29.4**	**+1.7**
	comp=Z,5.7nm,1.7s						
MOA				*e*P	**PKPab**	**20 53 15.2**	**+0.6**
	comp=Z,19nm,1.4s						
BMRD	**Maredsous**	**162.27**	**354**	*d*PKPab	**PKPab**	**20 53 15.4**	**+0.6**
FNA	**Florina**	**162.43**	**303**	PKIKP	**PKPdf**	**20 52 27.3**	**-1.0**
FNA	**Florina**	**162.43**	**303**		**PKPdf**	**20 52 27.3**	**-1.0**
DOU	**Dourbes**	**162.49**	**354**	*d*PKPab	**PKPab**	**20 53 13.6**	**-2.2**
GROS	**Grobnik**	**162.73**	**327**	*e*PKPdf	**PKPdf**	**20 52 26.9**	**-1.5**
WLF	**Walferdange**	**162.74**	**351**	*d*PKPab	**PKPab**	**20 53 16.6**	**-0.3**
WLF	**Walferdange**	**162.74**	**351**	PKP2	**PKPab**	**20 53 17.2**	**+0.3**
WLF	**Walferdange**	**162.74**	**351**		**PKPab**	**20 53 17.2**	**+0.3**
WLF	**Walferdange**	**162.74**	**351**	*e*PKPab	**PKPab**	**20 53 16.9**	**0.0**
	baz=25,slow=4.4						
SOKA	**Soboth**	**162.78**	**328**	*e*P	**PKPdf**	**20 52 26.3**	**-2.2**
	comp=Z,4.3nm,1.3s						
SOKA				*e*P	**PKPab**	**20 53 15.9**	**-1.4**
	comp=Z,20nm,1.1s						
RJOB	**Jochberg**	**162.84**	**334**	*e*PKPab	**PKPab**	**20 53 17.6**	**+0.1**
	baz=25,slow=4.4						
FUR	**Furstenfeldbru**	**162.99**	**338**	*e*PKPab	**PKPab**	**20 53 18.3**	**+0.2**
	baz=25,slow=4.4						
STU	**Stuttgart**	**163.02**	**343**	PKP2	**PKPab**	**20 53 18.1**	**-0.1**
STU	**Stuttgart**	**163.02**	**343**		**PKPab**	**20 53 18.1**	**-0.1**
STU	**Stuttgart**	**163.02**	**343**	*e*PKPab	**PKPab**	**20 53 17.7**	**-0.4**
	baz=25,slow=4.4						
OBKA	**Obir**	**163.12**	**329**	*e*P	**PKPab**	**20 53 17.1**	**-1.8**
	comp=Z,4.7nm,0.9s						
KBA	**Koelnbreinsper**	**163.18**	**332**	*e*P	**PKPdf**	**20 52 33.0**	**+4.0**
	comp=Z,3.7nm,0.9s						
KBA				*e*P	**PKPab**	**20 53 17.6**	**-1.5**
	comp=Z,25nm,1.7s						
MYKA	**Terra Mystica**	**163.42**	**330**	*e*P	**PKPab**	**20 53 19.2**	**-0.9**
	comp=Z,14nm,0.8s						
LJU	**Ljubljana**	**163.49**	**328**	*e*PKPdf	**PKPdf**	**20 52 27.9**	**-1.2**
BOJS	**Bojanci**	**163.55**	**325**	*e*PKPdf	**PKPdf**	**20 52 28.4**	**-0.8**
WATA	**Walderalm**	**163.61**	**336**	*e*P	**PKPdf**	**20 52 32.2**	**+2.8**
	comp=Z,11nm,1.7s						
WATA				*e*P	**PKPab**	**20 53 19.9**	**-1.1**
	comp=Z,18nm,1.1s						
BFO	**Black Forest**	**163.63**	**345**	PKP2	**PKPab**	**20 53 20.2**	**-0.7**
BFO	**Black Forest**	**163.63**	**345**		**PKPab**	**20 53 20.2**	**-0.7**
BFO	**Black Forest**	**163.63**	**345**	*e*PKPab	**PKPab**	**20 53 20.6**	**-0.3**
	baz=25,slow=4.4						
WTTA	**Wattenberg**	**163.66**	**336**	*e*P	**PKPdf**	**20 52 34.2**	**+4.7**
	comp=Z,14nm,1.6s						
WTTA				*i* P	**PKPab**	**20 53 20.5**	**-0.8**
	comp=Z,31nm,1.4s						
CADS	**Cadrg**	**163.70**	**329**	*e*PKPdf	**PKPdf**	**20 52 27.6**	**-1.7**
RETA	**Reutte**	**163.75**	**338**	*e*P	**PKPdf**	**20 52 33.5**	**+4.1**
	comp=Z,5.5nm,1.2s						
RETA				*e*P	**PKPab**	**20 53 20.8**	**-0.8**
	comp=Z,55nm,1.5s,SNR=10						
MOTA	**Moosalm**	**163.76**	**337**	*e*P	**PKPdf**	**20 52 33.8**	**+4.3**
	comp=Z,14nm,1.2s						
MOTA				*e*P	**PKPab**	**20 53 20.8**	**-1.0**
	comp=Z,54nm,1.2s,SNR=11						
ABTA	**Abfaltersbach**	**163.77**	**333**	*e*P	**PKPdf**	**20 52 29.4**	**0.0**
	comp=Z,14nm,1.2s						
ABTA				*e*P	**PKPab**	**20 53 19.7**	**-2.0**
	comp=Z,23nm,1.3s						
UBR	**Ueberruh**	**163.78**	**340**	*e*PKPab	**PKPab**	**20 53 21.5**	**-0.1**
	baz=25,slow=4.4						
SQTA	**Sankt Quirin**	**163.84**	**337**	*e*P	**PKPdf**	**20 52 34.0**	**+4.4**
	comp=Z,9.4nm,1.2s						
SQTA				*e*P	**PKPab**	**20 53 21.1**	**-0.9**
	comp=Z,32nm,1.1s,SNR=5.8						
PMOZ	**Porto Moniz, M**	**163.95**	**84**	A	A	22 19 32.6	
	comp=Z,2μm,18.0s						
STAL	**STALIGIAL**	**164.10**	**332**	PKPdf	**PKPdf**	**20 52 29.9**	**+0.3**
STAL					**PKPab**	**20 53 21.4**	**-1.7**
FETA	**Feichten**	**164.17**	**337**	*e*P	**PKPdf**	**20 52 32.4**	**+2.5**
	comp=Z,7.6nm,1.5s						
FETA				*e*P	**PKPab**	**20 53 22.4**	**-1.1**
	comp=Z,39nm,1.5s						
DAVA	**Damuels**	**164.20**	**340**	*e*P	**PKPdf**	**20 52 33.7**	**+3.8**
	comp=Z,7.6nm,1.2s						
DAVA				*e*P	**PKPab**	**20 53 22.9**	**-0.7**
	comp=Z,52nm,1.1s,SNR=10.0						
DAVOX	**Davos/Dischmat**	**164.65**	**339**	PKPab	**PKPab**	**20 53 25.4**	**-0.3**
	comp=Z,17nm,0.8s,baz=22,slow=3.9,SNR=14						
CTI	**Castel Tesino**	**164.69**	**333**	PKP2	**PKPab**	**20 53 25.4**	**-0.4**
CTI	**Castel Tesino**	**164.69**	**333**		**PKPab**	**20 53 25.4**	**-0.4**
TEOL	**Teolo**	**165.25**	**332**		**PKPab**	**20 53 28.1**	**0.0**
SENIN	**Lac Senin/Sane**	**165.72**	**345**		**PKPab**	**20 53 30.5**	**+0.1**
SGRT	**San Giovanni R**	**165.73**	**313**		**PKPab**	**20 53 30.7**	**+0.1**
TIP	**Timpagrande**	**166.32**	**302**	⇑P	**PKPdf**	**20 52 30.9**	**-0.9**
TIP	**Timpagrande**	**166.32**	**302**		**PKPdf**	**20 52 31.5**	**-0.4**
INTR	**Introdacqua**	**166.67**	**318**		**PKPdf**	**20 52 31.7**	**-0.3**
BNI	**Bardonecchia**	**167.10**	**345**	PKP2	**PKPab**	**20 53 36.9**	**+0.5**
BNI	**Bardonecchia**	**167.10**	**345**		**PKPab**	**20 53 36.9**	**+0.5**
PGAV	**Gavieira, Arco**	**167.73**	**38**	*e*SS	SS	21 18 35.0	+20
PGAV	**Gavieira, Arco**	**167.73**	**38**	*e*LR	LR	21 56 06.0	
	comp=Z,3μm,18.0s						
POLO	**Lamas de Olo**	**168.40**	**39**	*e*SS	SS	21 18 36.0	+14
PCAS	**Casmilo, Conde**	**168.88**	**46**	*e*SS	SS	21 18 31.6	+4.7
MVO	**Moncorvo**	**168.95**	**38**	*e*SS	SS	21 18 30.4	+3.1
MVO	**Moncorvo**	**168.95**	**38**	*e*LR	LR	21 56 28.0	
	comp=Z,3μm,20.0s						
PMAFR	**Mafra**	**169.00**	**52**	*e*SS	SS	21 18 40.8	+12
PSBE	**So Bento**	**169.01**	**49**	*e*SS	SS	21 18 36.3	+7.8
MTE	**Manteigas**	**169.21**	**42**	*e*PKP	**PKPdf**	**20 52 34.5**	**+0.7**
MTE	**Manteigas**	**169.21**	**42**	*e*SS	SS	21 18 39.0	+8.9
MTE	**Manteigas**	**169.21**	**42**	*e*LR	LR	21 57 00.9	
	comp=Z,5μm,18.0s						
LIS	**Lisbon**	**169.21**	**53**	*e*PKPdf	**PKPdf**	**20 52 32.6**	**-1.2**
LIS				*e*PP	**PP**	**20 57 33.4**	**-2.2**
LIS				*e*SS	SS	21 18 28.6	-2.0
LIS				IAMs_20	IAMs_20	22 10 10.5	
	comp=Z,4μm,23.8s						
LIS	**Lisbon**	**169.21**	**53**	*e*PKIKP	**PKPdf**	**20 52 32.5**	**-1.2**
LIS				*e*		20 57 33.4	
LIS				*e*SS	SS	21 18 28.6	-2.0
PMRV	**Marv??o**	**169.93**	**46**	*e*PKP	**PKPdf**	**20 52 29.4**	**-4.8**
PMRV	**Marv??o**	**169.93**	**46**	*e*SS	SS	21 18 41.7	+4.3
PMRV	**Marv??o**	**169.93**	**46**	*e*LR	LR	21 58 11.4	
	comp=Z,3μm,18.0s						
PNCL	**Nicolau / Gran**	**169.94**	**55**	*e*SS	SS	21 18 44.4	+6.5
PESTR	**Estremoz**	**170.15**	**49**	*e*SS	SS	21 18 48.8	+9.0
PESTR	**Estremoz**	**170.15**	**49**	A	A	22 11 46.4	
	comp=Z,3μm,18.0s						
MORF	**Marmelete**	**170.22**	**59**	*e*PKPdf	**PKPdf**	**20 52 33.2**	**-1.3**
MORF				*e*PP	**PP**	**20 57 38.6**	**-2.3**
MORF				*e*SS	SS	21 18 39.3	-1.8
MORF				IAMs_20	IAMs_20	22 19 01.8	
	comp=Z,3μm,18.1s						
MORF	**Marmelete**	**170.22**	**59**	*e*PKIKP	**PKPdf**	**20 52 33.2**	**-1.3**
MORF				*e*		20 57 38.6	
MORF				*e*SS	SS	21 18 39.3	-1.8
MORF	**Marmelete**	**170.22**	**59**	*e*SS	SS	21 18 46.1	+5.0
MESJ	**Messejana**	**170.28**	**55**	*e*PKPdf	**PKPdf**	**20 52 33.4**	**-1.1**
MESJ				*e*PP	**PP**	**20 57 38.8**	**-2.3**
MESJ				*e*SS	SS	21 18 39.8	-1.6
MESJ				IAMs_20	IAMs_20	22 11 04.4	
	comp=Z,3μm,11.9s						
MESJ	**Messejana**	**170.28**	**55**	*e*PKIKP	**PKPdf**	**20 52 33.3**	**-1.1**
MESJ				*e*		20 57 38.7	
MESJ				*e*SS	SS	21 18 39.7	-1.7
PVAQ	**Vaqueiros**	**170.84**	**56**	*e*PKP	**PKPdf**	**20 52 31.6**	**-3.1**
PVAQ	**Vaqueiros**	**170.84**	**56**	*e*SS	SS	21 18 46.9	-0.1
PVAQ	**Vaqueiros**	**170.84**	**56**	*e*LR	LR	21 57 52.8	
	comp=Z,4μm,18.0s						
UCM	**Universidad Co**	**171.35**	**27**	PP	PP	20 57 45.0	-0.6
ESDC	**Sonseca Array**	**171.59**	**32**	PKP	**PKPdf**	**20 52 35.9**	**+0.8**
	comp=Z,0.8nm,1.1s,baz=258,slow=12,SNR=4.4						
ESDC				PKPab	**PKPab**	**20 53 56.0**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=333,slow=3.0,SNR=4.1						
ESDC	**Sonseca Array**	**171.59**	**32**		**PKPdf**	**20 52 34.8**	**-0.3**
ARNO	**Arenosillo**	**171.68**	**56**	PKP	**PKPdf**	**20 52 31.9**	**-3.3**
ARNO	**Arenosillo**	**171.68**	**56**	PP	PP	20 57 51.5	+3.5
AVE	**Averroes**	**172.17**	**83**	PKP	**PKPdf**	**20 52 36.9**	**+1.3**
SFS	**San Fernando**	**172.35**	**58**	PKP	**PKPdf**	**20 52 36.4**	**+0.9**
CEU	**Ceuta**	**173.20**	**60**	PKP	**PKPdf**	**20 52 32.8**	**-3.0**
EMAL	**Malaga-Limoner**	**173.41**	**50**	PKP	**PKPdf**	**20 52 33.9**	**-2.1**
EMAL	**Malaga-Limoner**	**173.41**	**50**	PP	PP	20 58 00.5	+4.1
IFR	**Ifrane**	**174.07**	**80**	PKP	**PKPdf**	**20 52 36.5**	**-0.1**
PVLZ	**Peæn de**	**174.30**	**63**	PKP	**PKPdf**	**20 52 34.9**	**-1.4**
PVLZ	**Peæn de**	**174.30**	**63**	PP	PP	20 58 08.6	+7.5
CART	**Cartagena**	**174.58**	**25**	PKP	**PKPdf**	**20 52 34.4**	**-1.9**
CART	**Cartagena**	**174.58**	**25**	PP	PP	20 58 13.2	+12
MELI	**Melilla**	**175.24**	**56**	PKP	**PKPdf**	**20 52 35.2**	**-1.3**
MELI	**Melilla**	**175.24**	**56**	PP	PP	20 58 09.0	+3.6

IDC ***12*** *20:36:56.4±2.9, 32.°81S×178.°30W, h0km, mb4.5/4, mb1 4.6/5, mb1mx4.0/51, mbtmp4.5/5, ML3.7/1, Error ellipse: s-maj=64.4km s-min=36.9km az=118.0*

ISC 12 20:37:00.3±2.8, 33.°05S±0.°1×178.°1W±0.°4, h34km, n19, σ1s86/19, mb4.5/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.54**	**215**	Pn	**Pn**	**20 38 35.3**	**+1.3**
	1.6nm,0.3s,baz=127,slow=22,SNR=0.8						
URZ				Sn	**Sn**	**20 39 51.6**	**+4.3**
	6.7nm,0.3s,baz=164,slow=19,SNR=2.6						
LREZ	**Lake Rotokare**	**8.84**	**221**	P

mb1 3.9/3, mb1mx3.6/43, mbtmp3.7/3, ML3.4/1, Error ellipse: s-maj=77.8km s-min=38.3km az=113.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.75**	**212**	Pn	Pn	20 47 35.2	+0.6
	0.7nm,0.3s,baz=328,slow=10,SNR=1.3						
URZ				Sn	Sn	20 48 51.0	-1.3
	1.9nm,0.3s,baz=342,slow=22,SNR=6.0						
ASAR	**Alice Springs**	**42.74**	**269**	P	P	20 53 53.5	0.0
	0.6nm,0.6s,baz=108,slow=7.8,SNR=6.9						
WRA	**Warramunga Arr**	**43.93**	**275**	P	P	20 54 03.0	-0.1
	0.8nm,0.5s,baz=114,slow=7.5,SNR=4.9						
FINES	**FINESS Array B**	**147.09**	**339**	PKPbc	PKPbc	21 05 37.5	-0.9
	0.6nm,0.5s,baz=50,slow=2.2,SNR=1.7						

IDC 12 20:57:45.2±3.3, 32.69S×178.27W, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/33, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=77.0km s-min=38.3km az=115.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.71**	**213**	Pn	Pn	20 59 25.9	+0.9
	0.6nm,0.3s,baz=96,slow=22,SNR=1.8						
URZ				Sn	Sn	21 00 42.3	+0.2
	0.5nm,0.3s,baz=142,slow=20,SNR=1.3						
ASAR	**Alice Springs**	**42.80**	**270**	P	P	21 05 44.5	-0.4
	0.1nm,0.4s,baz=115,slow=7.5,SNR=1.7						
WRA	**Warramunga Arr**	**44.00**	**275**	P	P	21 05 54.6	0.0
	0.3nm,0.3s,baz=119,slow=7.9,SNR=12						
FINES	**FINESS Array B**	**147.20**	**339**	PKPbc	PKPbc	21 17 28.6	-0.9
	2.3nm,1.0s,baz=39,slow=5.3,SNR=3.7						

IDC 12 21:02:25.8±3.0, 32.67S×178.24W, h0km, mb4.1/2, mb1 4.2/3, mb1mx3.8/31, mbtmp4.0/3, ML3.4/1, Error ellipse: s-maj=69.7km s-min=36.5km az=118.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.74**	**213**	Pn	Pn	21 04 06.4	+0.5
	0.7nm,0.3s,baz=80,slow=11,SNR=1.7						
URZ				Sn	Sn	21 05 23.4	-0.1
	3.8nm,0.3s,baz=240,slow=18,SNR=10.0						
ASAR	**Alice Springs**	**42.83**	**269**	P	P	21 10 25.8	0.0
	1.5nm,0.7s,baz=109,slow=7.9,SNR=24						
WRA	**Warramunga Arr**	**44.03**	**275**	P	P	21 10 35.1	-0.3
	1.0nm,0.3s,baz=116,slow=7.5,SNR=34						
FINES	**FINESS Array B**	**147.19**	**339**	PKPbc	PKPbc	21 22 09.3	-0.8
	0.9nm,0.6s,baz=62,slow=3.3,SNR=7.7						

*NEIC **12** 21:02:41.9±1.2, 51.00N±0.06×179.28E±0.06, h24km±6km, Error ellipse: s-maj=9.3km s-min=5.3km az=201.0*
*AEIC **12** 21:02:42±1.4, 51.04N±0.06×179.29E±0.08, h21km±5km, ML3.5/20, mb4.3/42(NEIC), Error ellipse: s-maj=9.1km s-min=5.9km az=210.0*
*IDC **12** 21:02:49.1±5.4, 51.56N×179.39E, h75km±51km, mb3.5/11, mb1 3.7/13, mb1mx3.5/48, mbtmp3.9/13, ML3.3/2, Error ellipse: s-maj=38.4km s-min=13.3km az=175.0*

ISC 12 21:02:43.0±1.5, 51.10N±0.07×179.29E±0.04, h28km±10km, n84, σ1°13/90, mb4.3/33, 1D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.28**	**2**		**Pb**	**21 02 50.2**	**+0.2**
AMKA					**Sn**	**21 02 56.6**	**+0.2**
CESW	**Semis' Southwe**	**0.82**	**12**		**Pn**	**21 02 58.9**	**+0.3**
CERAA	**Semis' Rag'd T**	**0.84**	**17**		**Pn**	**21 02 59.2**	**+0.3**
CERAA					**Sn**	**21 03 12.0**	**+1.5**
CEAP	**Semis' Anvil P**	**0.92**	**11**		**Pb**	**21 03 00.4**	**+0.1**
CEAP					**Sn**	**21 03 15.6**	**+3.3**
LSPA	**Little Sitkin**	**0.97**	**333**		**Pb**	**21 03 00.9**	**-0.2**
LSPA					**Sn**	**21 03 15.8**	**+2.3**
LSSA	**Little Sitkin**	**0.98**	**331**		**Pn**	**21 03 00.9**	**0.0**
LSNW	**Little Sitkin**	**0.99**	**331**		**Pn**	**21 03 01.0**	**-0.1**
TASE	**Tanaga Southea**	**1.83**	**65**		**Pn**	**21 03 13.4**	**+0.9**
TAFP	**Tanaga Falls P**	**1.88**	**64**		**Pn**	**21 03 13.8**	**+0.5**
TAFP					**Sn**	**21 03 37.0**	**+0.9**
KIMD	**Kanaga Island**	**2.27**	**72**		**Pn**	**21 03 19.2**	**+0.6**
KIKV	**Kanaga Island**	**2.35**	**69**		**Pn**	**21 03 20.2**	**+0.5**
KIWB	**Kanaga Island**	**2.35**	**70**		**Pn**	**21 03 20.3**	**+0.6**
ADK	**Adak**	**2.64**	**71**		**Pn**	**21 03 24.0**	**+0.4**
ADK				Sn	**Sn**	**21 03 54.9**	**+0.3**
GSMY	**Great Sitkin M**	**3.06**	**70**		**Pn**	**21 03 29.5**	**+0.1**
SMY	**Shemya**	**3.60**	**299**		**Pn**	**21 03 38.8**	**+1.9**
ATKA	**Atka Island**	**4.21**	**72**		**Pn**	**21 03 45.5**	**+0.4**
NIKH	**Nikolski High**	**7.55**	**71**	Pn	**Pn**	**21 04 32.1**	**+1.0**
UNV	**Unalaska Valle**	**9.10**	**67**	Pn	**Pn**	**21 04 52.0**	**-0.2**
SDPT	**Sand Point**	**12.84**	**63**	Pn	**Pn**	**21 05 43.9**	**+0.5**
PETK	**Petropavlovsk-**	**13.41**	**287**	P	**P**	**21 05 55.7**	**-4.6**
	0.2nm,0.3s,baz=112,slow=15,SNR=2.8						
OHAK	**Old Harbor**	**17.11**	**58**	Pn	**Pn**	**21 06 39.2**	**-0.6**
KDAK	**Kodiak Island**	**17.58**	**57**	P	**Pn**	**21 06 43.5**	**-2.2**
	0.5nm,0.3s,baz=284,slow=1.7,SNR=16						
KDAK	**Kodiak Island**	**17.58**	**57**	Pn	**Pn**	**21 06 45.2**	**-0.5**
L19K	**White Mountain**	**17.89**	**42**		**P**	**21 06 50.5**	**+0.6**
K20K	**Telida**	**18.75**	**39**	P	**Pn**	**21 06 59.7**	**-0.3**
J20K	**Nowinta River**	**19.13**	**37**	P	**P**	**21 07 03.1**	**-0.4**
SKT	**Skwentna**	**19.24**	**44**	P	**Pn**	**21 07 05.6**	**-0.2**
PPLA	**Purkeypile**	**19.31**	**41**	P	**Pn**	**21 07 07.7**	**+0.9**
PPLA				IAmb	IAmb	21 07 21.7	
	comp=Z,18nm,1.4s						
SUA	**Susitna One**	**19.41**	**46**		**Pn**	**21 07 08.2**	**+0.2**
SUA				IAmb	IAmb	21 07 19.3	
	comp=Z,36nm,1.2s						
IMAR	**Indian Mountai**	**20.25**	**32**	P	**P**	**21 07 15.8**	**+0.1**
SCM	**Sheep Creek Mo**	**21.08**	**47**	P	**P**	**21 07 24.2**	**-0.6**
SCM				IAmb	IAmb	21 07 29.6	
	comp=Z,15nm,1.1s						
NEA2	**Nenana**	**21.28**	**39**	P	**P**	**21 07 26.1**	**-0.8**
DHY	**Denali Highway**	**21.43**	**43**	P	**P**	**21 07 29.5**	**+1.0**
DHY				IAmb	IAmb	21 07 30.7	
	comp=Z,8.5nm,1.0s						
H23K	**Yukon River**	**21.64**	**35**	P	**P**	**21 07 30.7**	**0.0**
MDM	**Murphy Dome**	**21.76**	**38**	P	**P**	**21 07 32.3**	**+0.4**
CCB	**Clear Creek Bu**	**21.80**	**39**	P	**P**	**21 07 32.5**	**+0.2**
ILAR	**Eielson Array**	**22.21**	**39**	P	**P**	**21 07 35.5**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=246,slow=10,SNR=4.6						
H24K	**Noodor Dome**	**22.26**	**36**	P	**P**	**21 07 37.2**	**-0.2**
TOLK	**Toolik Lake Re**	**23.09**	**29**	P	**P**	**21 07 45.6**	**-0.4**
TOLK				IAmb	IAmb	21 07 57.8	
	comp=Z,18nm,1.4s						
BCAR	**Beaver Creek A**	**23.88**	**45**	P	**P**	**21 07 53.2**	**-0.6**
BMAR	**Burnt Mountain**	**24.13**	**34**	P	**P**	**21 07 55.3**	**-0.9**
EGAK	**Eagle**	**24.55**	**41**	P	**P**	**21 07 59.4**	**-0.5**
EGAK				IAmb	IAmb	21 08 00.9	
	comp=Z,6.7nm,1.0s						
ASAJ	**Asahikawa**	**25.50**	**269**	P	**P**	**21 08 11.6**	**+3.0**
	comp=Z,10nm,0.8s,baz=77,slow=9.3,SNR=6.8						
KLR	**Kul'dur**	**30.10**	**285**	P	**P**	**21 08 50.0**	**+0.3**
	comp=Z,6.7nm,0.6s,baz=71,slow=7.7,SNR=22						
KSRS	**Korea Array**	**38.44**	**270**	P	**P**	**21 10 04.1**	**+2.2**
	comp=Z,1.1nm,0.8s,baz=89,slow=9.1,SNR=4.5						
BOZ	**Bozeman (W)**	**44.70**	**69**	P	**P**	**21 10 53.2**	**-0.2**
BOZ				IAmb	IAmb	21 10 53.7	
	comp=Z,2.8nm,1.0s						
NVAR	**Mina Array Bea**	**44.78**	**81**	P	**P**	**21 10 54.3**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=287,slow=7.7,SNR=4.6						
NVAR	**Mina Array Bea**	**44.78**	**81**	P	**P**	**21 10 53.2**	**-1.0**
QLMT	**Earthquake Lak**	**45.24**	**70**	P	**P**	**21 10 57.6**	**-0.2**
ULN	**Ulaanbaatar**	**45.30**	**296**	P	**P**	**21 10 57.4**	**-0.8**
ULN				IAmb	IAmb	21 10 59.5	
	comp=Z,3.3nm,1.1s						
YHB	**Horse Butte**	**45.43**	**70**	P	**P**	**21 10 58.1**	**-1.2**
YHB				IAmb	IAmb	21 11 00.2	
	comp=Z,5.6nm,0.9s						
YHH	**Holmes Hill**	**45.61**	**69**	P	**P**	**21 10 60.0**	**-0.9**
YHH				IAmb	IAmb	21 11 02.5	
	comp=Z,4.0nm,0.9s						
SONM	**Songino Array**	**45.69**	**296**	P	**P**	**21 11 01.2**	**0.0**
	comp=Z,1.1nm,0.8s,baz=61,slow=6.4,SNR=6.9						
SONM	**Songino Array**	**45.69**	**296**	P	**P**	**21 11 00.9**	**-0.3**
HHC	**Hu-ho-hao-te**	**46.60**	**285**	*eP*	**P**	**21 11 09.1**	**+0.7**
HHC				pmax	pmax		
	comp=Z,20nm,1.1s						
HHC				pmax	pmax		
	comp=Z,210nm,5.4s						
TPNV	**Topopah Spring**	**46.98**	**81**	P	**P**	**21 11 10.8**	**-0.6**
TPNV				IAmb	IAmb	21 11 19.9	
	comp=Z,4.9nm,1.2s						
PD31	**Pinedale Array**	**47.54**	**71**	P	**P**	**21 11 15.2**	**-0.7**
PD31				IAmb	IAmb	21 11 16.7	
	comp=Z,4.4nm,1.1s						
PDAR	**Pinedale Array**	**47.54**	**71**	P	**P**	**21 11 15.4**	**-0.4**
	comp=Z,2.9nm,0.8s,baz=316,slow=4.1,SNR=18						
PDAR	**Pinedale Array**	**47.54**	**71**	P	**P**	**21 11 15.2**	**-0.7**
RDMU	**Red Mountain**	**48.84**	**73**	P	**P**	**21 11 26.0**	**0.0**
RDMU				IAmb	IAmb	21 11 27.0	
	comp=Z,4.9nm,0.9s						
XAN	**Xi'an**	**52.53**	**280**	P	**P**	**21 11 53.7**	**+0.1**
XAN				pP	sP	21 12 02.8	-2.1
XAN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ZALV	**Zalesovo Beam**	**53.34**	**313**	P	**P**	**21 11 58.1**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=60,slow=8.7,SNR=4.5						
ZALV	**Zalesovo Beam**	**53.34**	**313**	P	**P**	**21 11 58.4**	**-0.8**
GTA	**Gaotai**	**54.55**	**291**	⇓P	**P**	**21 12 09.0**	**+0.6**
GTA				pP	pP	21 12 13.4	-3.1
GTA				sP	sP	21 12 16.2	-3.4
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
MK31	**Makanchi Array**	**59.26**	**307**	P	**P**	**21 12 40.5**	**-1.0**
MK31				IAmb	IAmb	21 12 54.5	
	comp=Z,2.0nm,1.1s						
MKAR	**Makanchi Array**	**59.26**	**307**	P	**P**	**21 12 40.8**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=53,slow=7.3,SNR=13						
MAKZ	**Makanchi**	**59.40**	**308**	P	**P**	**21 12 42.1**	**-0.5**
MAKZ				IAmb	IAmb	21 12 42.4	
	comp=Z,2.0nm,0.8s						
TXAR	**Lajitas Array**	**59.88**	**80**	P	**P**	**21 12 45.8**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=308,slow=4.4,SNR=2.2						
BRVK	**Borovoye**	**60.33**	**319**	P	**P**	**21 12 48.6**	**-0.3**
ARU	**Arti**	**62.20**	**327**	P	**P**	**21 13 01.1**	**-0.2**
LSA	**Lhasa**	**66.39**	**288**	P	**P**	**21 13 30.6**	**+0.8**
LSA				IAmb	IAmb	21 13 31.8	
	comp=Z,3.9nm,1.0s						
ABKAR	**Akbulak array**	**67.42**	**322**	P	**P**	**21 13 35.3**	**-0.2**
ABKAR	**Akbulak array**	**67.42**	**322**	P	**P**	**21 13 35.6**	**+0.1**
ABKAR				IAmb	IAmb	21 13 37.3	
	comp=Z,5.1nm,1.1s						
KK31	**Karatay Array**	**67.67**	**311**	P	**P**	**21 13 36.8**	**-0.4**
KK31				IAmb	IAmb	21 13 39.0	
	comp=Z,3.1nm,0.9s						
KKAR	**Karatay Array**	**67.67**	**311**	P	**P**	**21 13 36.7**	**-0.6**
KKAR	**Karatay Array**	**67.67**	**311**	P	**P**	**21 13 36.7**	**-0.6**
KKAR				IAmb	IAmb	21 13 39.0	
	comp=Z,3.1nm,0.9s						
KSH	**Kashi**	**67.69**	**306**	P	**P**	**21 13 41.6**	**+4.1**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SHL	**Shillong**	**68.97**	**285**	P	**P**	**21 13 44.8**	**-1.0**
GAR	**Garm**	**70.93**	**309**	P	**P**	**21 13 57.3**	**-0.3**
CHGR	**Chuyangaron**	**71.76**	**309**	P	**P**	**21 14 02.0**	**-0.6**
KBL	**Kabul**	**75.05**	**307**	P	**P**	**21 14 21.3**	**-0.9**
KBL				IAmb	IAmb	21 14 23.1	
	comp=Z,4.8nm,1.0s						
BUR08	**Bucovina Ar. S**	**79.14**	**342**	P	**P**	**21 14 45.0**	**+0.2**
BUR08				IAmb	IAmb	21 15 00.5	
	comp=Z,4.2nm,1.2s						
BURAR	**Bucovina Array**	**79.17**	**342**	P	**P**	**21 14 44.5**	**-0.4**
BURAR				IAmb	IAmb	21 14 48.0	
	comp=Z,2.3nm,1.0s						
WRA	**Warramunga Arr**	**80.99**	**222**	P	**P**	**21 14 57.2**	**+2.4**
	comp=Z,0.5nm,0.7s,baz=44,slow=4.8,SNR=2.2						

*IDC **12** 21:04:48.5±2.8, 32.75S×178.13W, h0km, mb4.3/2, mb1 4.4/3, mb1mx3.8/28, mbtmp4.2/3, ML3.7/1, Error ellipse: s-maj=68.5km s-min=35.4km az=120.0*
*NEIC **12** 21:04:51.5±1.5, 33.0S±0.1×178.3W±0.1, h10km±2km, mb4.6/9, Error ellipse: s-maj=22.0km s-min=7.5km az=137.0*

ISC 12 21:04:53.5±1.6, 32.8S±0.1×178.1W±0.2, h34km, n18, σ1°28/19, mb4.4/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.56**	**211**	Pn	**Pn**	**21 06 12.0**	**-1.9**
URZ	**Urewera**	**6.67**	**214**	Pn	**Pn**	**21 06 28.7**	**-0.4**
	1.5nm,0.3s,baz=11,slow=16,SNR=7.1						
URZ				Sn	**Sn**	**21 07 45.9**	**+2.0**
	4.4nm,0.3s,baz=127,slow=23,SNR=8.6						
URZ	**Urewera**	**6.67**	**214**	Pn	**Pn**	**21 06 27.7**	**-1.4**
BFZ	**Birch Farm**	**9.06**	**208**	Pn	**Pn**	**21 06 58.7**	**-3.1**
PINNC	**Pines Island,**	**16.29**	**305**	Pn	**Pn**	**21 08 39.1**	**-0.7**
PINNC				IAmb	IAmb	21 08 54.4	
	comp=Z,99nm,1.3s						
CTAO	**Charters Tower**	**34.14**	**283**	P	**P**	**21 11 36.8**	**+1.4**
CTAO				IAmb	IAmb	21 11 37.5	
	comp=Z,19nm,1.1s						
AS31	**Alice Springs**	**42.91**	**270**	P	**P**	**21 12 48.8**	**-0.4**
ASAR	**Alice Springs**	**42.91**	**270**	P	**P**	**21 12 49.2**	**+0.1**
	comp=Z,3nm,0.6s,baz=110,slow=7.5,SNR=29						
ASAR	**Alice Springs**	**42.91**	**270**	P	**P**	**21 12 48.8**	**-0.4**
WR0	**Warramunga Arr**	**43.94**	**275**	P	**P**	**21 12 57.4**	**0.0**
WR0				IAmb	IAmb	21 13 03.6	
	comp=Z,7.6nm,1.2s						
WRA	**Warramunga Arr**	**44.12**	**275**	P	**P**	**21 12 58.8**	**-0.1**
	comp=Z,1.7nm,0.3s,baz=115,slow=7.6,SNR=32						
WRA	**Warramunga Arr**	**44.12**	**275**	P	**P**	**21 12 58.1**	**-0.8**
MTN	**Manton Dam**	**50.28**	**281**	P	**P**	**21 13 46.2**	**-0.7**
KNRA	**Kununurra**	**50.81**	**276**	P	**P**	**21 13 51.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**52.27**	**272**	P	**P**	**21 14 01.1**	**-0.6**
CASY	**Casey**	**52.97**	**209**	P	**P**	**21 14 06.2**	**0.0**
CASY				IAmb	IAmb	21 14 09.4	
	comp=Z,10nm,1.5s						
QSPA	**South Pole Qui**	**57.31**	**180**	P	**P**	**21 14 39.5**	**+1.7**
QSPA				IAmb	IAmb	21 14 54.7	
	comp=Z,2.6nm,0.7s						
FINES	**FINESS Array B**	**147.35**	**339**	PKPbc	**PKPbc**	**21 24 32.4**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=62,slow=3.6,SNR=12						

WEL 12 21:07:07.3, 45.5S±17.7×166.7E±2.0, h30km±19km, M4.0/18, ML4.3/25, MLv4.0/18, Error ellipse: s-maj=0.0km s-min=0.0km az=51.9, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLZ	**Mavora Lakes**	**0.82**	**92**	P	Pn	21 07 22.9	0.0
PYZ	**Puysegur Point**	**0.85**	**193**	P	Pn	21 07 21.7	-1.5
WHZ	**Wether Hill Ro**	**0.89**	**129**	P	Pb	21 07 24.3	+0.1
WHZ				S	Sb	21 07 38.8	+3.0
MSZ	**Milford Sound**	**0.96**	**46**	P	Pn	21 07 22.6	-2.1
MSZ				S	Sb	21 07 38.4	+0.7
WKZ	**Wanaka**	**1.55**	**71**	P	Pb	21 07 34.7	-0.7
WKZ				S	Sb	21 07 59.5	+4.9
APZ	**The Paps**	**1.66**	**155**	P	Pb	21 07 37.1	-0.1
EAZ	**Earnscleugh**	**1.66**	**87**	P	Pb	21 07 36.4	-0.9
EAZ				S	Sb	21 08 02.0	+4.1
JCZ	**Jackson Bay**	**1.82**	**46**	P	Pn	21 07 35.6	-1.1
SYZ	**Scrubby Hill**	**1.94**	**129**	P	Pb	21 07 40.3	-1.6
TUZ	**Tuapeka**	**1.97**	**109**	P	Pb	21 07 41.2	-1.4
LBZ	**Lake Benmore**	**2.49**	**69**	P	Pn	21 07 47.1	+1.3
HHSZ	**Highcliff Hill**	**2.61**	**103**	P	Pn	21 07 49.4	+1.9
ODZ	**Otahua Downs**	**2.62**	**85**	P	Pn	21 07 48.4	+0.7
FOZ	**Fox Glacier**	**2.73**	**50**	P	Pn	21 07 48.1	-1.0
TMZ	**Timaru**	**3.04**	**73**	P	Pn	21 07 54.6	+1.3
GCSZ	**Gaunt Creek Bo**	**3.15**	**51**	P	Pn	21 07 53.6	-1.3
ARCZ	**Arundel**	**3.32**	**67**	P	Pn	21 07 57.8	+0.6
RPZ	**Rata Peaks**	**3.35**	**62**	P	Pn	21 07 58.0	+0.4
WVZ	**Waitaha Valley**	**3.54**	**52**	P	Pn	21 08 00.3	+0.1
WACZ	**Wakanui South**	**3.75**	**70**	P	Pn	21 08 03.9	+0.7
MHCZ	**Mount Hutt**	**3.77**	**63**	P	Pn	21 08 04.0	+0.6
INZ	**Inchbonnie**	**4.16**	**53**	P	Pn	21 08 07.6	-1.1
OXZ	**Oxford**	**4.17**	**63**	P	Pn	21 08 09.7	+0.9
MQZ	**McQueen's Vall**	**4.39**	**70**	P	Pn	21 08 12.6	+0.7
AKCZ	**Akaroa Harbour**	**4.50**	**73**	P	Pn	21 08 14.0	+0.6
LTZ	**Lake Taylor**	**4.61**	**58**	P	Pn	21 08 15.0	0.0
OKCZ	**Okains Bay**	**4.65**	**72**	P	Pn	21 08 17.0	+1.4
GVZ	**Greta Valley S**	**4.98**	**64**	P	Pn	21 08 20.7	+0.8
DSZ	**Denniston Nort**	**5.03**	**46**	P	Pn	21 08 19.0	-1.8
THZ	**Tophouse**	**5.61**	**52**	P	Pn	21 08 28.7	-0.1
NNZ	**Nelson**	**6.24**	**51**	P	Pn	21 08 37.2	-0.1
TUWZ	**Tuamarina**	**6.42**	**55**	P	Pn	21 08 40.9	+1.2
DUWZ	**D'Urville Isla**	**6.83**	**51**	P	Pn	21 08 45.8	+0.4
KIW	**Kapiti Island**	**7.34**	**55**	P	Pn	21 08 55.9	+3.5
MTW	**Mount Morrison**	**7.51**	**59**	P	Pn	21 08 56.3	+1.6
VRZ	**Vera Road**	**8.49**	**46**	P	Pn	21 09 08.7	+0.6

IDC 12 21:16:20.7±6.0, 4.86S×154.29E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/37, mbtmp3.6/4, Error ellipse: s-maj=152.5km s-min=35.3km az=101.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.53**	**231**	P	P	21 21 41.9	-0.3
	1.6nm,1.0s,baz=58,slow=9.0,SNR=5.8						
H11S3	**WAKE ISLAND Hy**	**26.23**	**27**	T	T	21 49 16.4	
	baz=215,slow=76,SNR=5.5						
H11S2	**WAKE ISLAND Hy**	**26.24**	**27**	T	T	21 49 16.4	
	baz=215,slow=76,SNR=2.5						
H11S1	**WAKE ISLAND Hy**	**26.25**	**27**	T	T	21 49 17.8	
	baz=215,slow=76,SNR=5.0						
ASAR	**Alice Springs**	**27.12**	**224**	P	P	21 22 06.3	+0.6
	0.5nm,0.9s,baz=55,slow=8.2,SNR=2.4						
CMAR	**Chiang Mai Arr**	**59.25**	**295**	P	P	21 26 23.9	-0.6
	1.1nm,0.9s,baz=111,slow=5.2,SNR=5.4						
SONM	**Songino Array**	**67.17**	**327**	P	P	21 27 17.1	+0.4
	0.8nm,0.8s,baz=133,slow=4.8,SNR=3.5						

*ISU **12** 21:20:40, 39.40N×74.00E, h5km*
*IDC **12** 21:20:40.4±0.8, 39.33N×73.90E, h0km, mb3.9/15, mb1 4.0/21, mb1mx3.8/50, mbtmp3.9/21, ML3.0/7, Error ellipse: s-maj=13.7km s-min=11.5km az=128.0*
*MOS **12** 21:20:41.5±1.2, 39.44N×73.89E, h11km, mb4.2/8, Error ellipse: s-maj=7.7km s-min=4.2km az=83.3*
MOS Felt (III) at Irkeshtam, (II-III) at Kek-Suu.
*SOME **12** 21:20:41.6, 39.60N×73.97E, h15km*
*KRNET **12** 21:20:42.3±0.1, 39.55N×73.94E, h11km, mb4.2*
*NNC **12** 21:20:46.9±0.7, 39.69N×73.92E, h0km, mb4.6, mpv4.2, Error ellipse: s-maj=5.8km s-min=3.3km az=173.0*
*NEIC **12** 21:20:47.8±1.4, 39.54N±0.06×73.88E±0.08, h47km±6km, mb4.3/26, Error ellipse: s-maj=9.3km s-min=7.9km az=134.0*

ISC 12 21:20:41.7±1.1, 39.38N±0.03×73.89E±0.02, h6km±6km, n222, σ2°32/277, mb4.3/33, 48C-20D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.70**	**335**	⇑*i*P	**Pg**	**21 20 53.6**	**-1.7**
	baz=25						
SFK				⇑*i*S	**Sg**	**21 21 02.2**	**-2.2**
	baz=25						
SFK	**Sufi-Kurgan**	**0.70**	**335**	*e*P	**Pg**	**21 20 53.0**	**-2.3**
SFK				*e*S	**Sg**	**21 21 03.0**	**-1.4**
OHH	**Osh**	**1.42**	**324**	⇑*i*P	**Pn**	**21 21 07.3**	**-0.9**
	baz=18						
OHH				⇑*i*S	**Sb**	**21 21 26.4**	**-0.8**
	baz=18						
OHH	**Osh**	**1.42**	**324**	*e*P	**Pn**	**21 21 07.0**	**-1.2**
OHH				*e*S	**Sb**	**21 21 26.0**	**-1.2**
DRK	**Karamyk**	**1.62**	**274**	⇑*i*P	**Pg**	**21 21 13.3**	**+0.5**
	baz=68						
DRK				⇑*i*S	**Sg**	**21 21 36.6**	**+2.8**
	baz=68						
DRK	**Karamyk**	**1.62**	**274**		**Pg**	**21 21 13.0**	**+0.2**
DRK				Sn	**Sg**	**21 21 34.3**	**+0.5**
KSH	**Kashi**	**1.62**	**84**	Pg	**Pn**	**21 21 07.8**	**-3.2**
KSH				Sg	**Sn**	**21 21 26.9**	**-5.3**
KSH				pmax	pmax		
	comp=Z,810nm,0.5s						
KSH				smax	smax		
	comp=N,2μm,0.7s						
KSH				smax	smax		
	comp=E,2μm,0.8s						
ANR	**Andizhan**	**1.81**	**320**	*e*P	**Pb**	**21 21 15.0**	**-0.2**
ANR				*e*S	**Sg**	**21 21 40.0**	**+0.2**
NAM	**Namangan**	**2.35**	**314**	*e*P	**Pb**	**21 21 25.0**	**+0.6**
NAM				*e*S	**Sg**	**21 21 57.0**	**-0.2**
BTK	**Batken**	**2.46**	**287**	⇓*i*P	**Pb**	**21 21 26.0**	**-0.5**
	baz=83						
BTK				⇓*i*S	**Sb**	**21 21 57.5**	**+0.4**
	baz=83						
ARLS	**Aral**	**2.50**	**7**	⇓*i*P	**Pn**	**21 21 23.9**	**+0.8**
	baz=7.0						
ARLS				⇓*i*S	**Sn**	**21 21 54.2**	**+0.1**
	baz=7.0						
AML	**Almayashu**	**2.75**	**357**	⇑*i*P	**Pn**	**21 21 27.7**	**+0.9**
	baz=56						
AML				⇑*i*S	**Sn**	**21 22 01.3**	**+0.7**
	baz=56						
AML	**Almayashu**	**2.75**	**357**	P	**Pn**	**21 21 28.6**	**+1.8**
	SNR=29						
AML	**Almayashu**	**2.75**	**357**	PN	**Pn**	**21 21 27.7**	**+0.9**
GAR	**Garm**	**2.80**	**263**	⇑*i*P	**Pb**	**21 21 31.1**	**-1.1**
	baz=60						
GAR				⇑*i*S	**Sb

baz=10.0
CHMS ⇑*i*S **Sn** **21 22 22.8 0.0**
baz=10.0
CHMS Chumysh **3.68 10** P **Pn** **21 21 41.7 +2.6**
SNR=40
KDJ Kajisay **3.72 41** ⇓*i*P **Pn** **21 21 40.4 +0.6**
baz=43
KDJ ⇓*i*S **Sn** **21 22 24.3 +0.3**
baz=43
KDJ Kajisay **3.72 41** PN **Pn** **21 21 42.2 +2.3**
KDJ Kajisay **3.72 41** **Pn** **21 21 42.2 +2.3**
CHGR Chuyangaron **3.75 260** **Pn** **21 21 43.6 +3.3**
TKM2 Tokmak 2 **3.77 19** P **Pn** **21 21 42.9 +2.3**
SNR=22
TKM2 Tokmak 2 **3.77 19** ⇑Pn **Pn** **21 21 42.8 +2.2**
comp=E,9.6nm,0.2s
TKM2 ⇑Pg **Pb** **21 21 51.0 +2.2**
comp=E,24nm,0.3s
TKM2 ⇑Lg Lg 21 22 36.8
comp=E,191nm,0.6s
TKM2 Tokmak 2 **3.77 19** *i* PN **Pn** **21 21 42.7 +2.2**
TKM2 pmax pmax
comp=Z,10.0nm,0.2s
YBZ Yangibazar **3.81 302** *e*P **Pn** **21 21 44.0 +3.0**
YBZ *e*S **Sg** **21 22 41.0 -3.0**
USP Ospenovka **3.91 7** P **Pn** **21 21 44.5 +2.1**
SNR=23
KST Kastek **3.98 22** *e*P **Pb** **21 21 52.5 +0.1**
comp=Z,15nm,0.6s
KST *e*S **Sb** **21 22 44.3 +3.4**
comp=Z,131nm,0.7s
KST Kastek **3.98 22** Pg **Pb** **21 21 54.4 +2.0**
comp=Z,18nm,0.5s
KST Lg Lg 21 22 44.3
comp=Z,131nm,0.7s
TAS Tashkent **4.01 300** ⇑*i*P **Pn** **21 21 47.0 +3.3**
baz=98
TAS ⇑*i*S **Sn** **21 22 33.8 +2.8**
baz=98
TAS Tashkent **4.01 300** PN **Pn** **21 21 45.0 +1.3**
TAS Tashkent **4.01 300** **Pn** **21 21 45.0 +1.3**
IUG Iuzhnay **4.03 315** *e*P **Pg** **21 21 56.6 -2.3**
comp=Z,3µm,0.6s
IUG *e*S **Sg** **21 22 50.5 -0.6**
comp=Z,699nm,0.5s
IUG Iuzhnay **4.03 315** Pg **Pg** **21 21 58.3 -0.6**
comp=Z,3µm,0.6s
IUG Lg Lg 21 22 50.5
comp=Z,699nm,0.5s
SGDS Sogindy **4.11 8** Pg **Pb** **21 21 56.6 +2.1**
comp=Z,24nm,0.5s
SGDS Lg Lg 21 22 48.5
comp=Z,61nm,0.6s
DGS Degeres **4.11 20** *e*P **Pb** **21 21 55.1 +0.5**
comp=Z,43nm,0.4s
DGS *e*S **Sb** **21 22 49.1 +4.5**
comp=Z,116nm,0.6s
DGS Degeres **4.11 20** Pg **Pb** **21 21 57.1 +2.5**
comp=Z,43nm,0.4s
DGS Lg Lg 21 22 49.1
comp=Z,116nm,0.6s
IZV Izvestkoviy **4.19 28** *e*P **Pb** **21 21 56.2 +0.2**
comp=Z,32nm,0.6s
IZV *e*S **Sb** **21 22 51.5 +4.6**
comp=Z,187nm,0.8s
IZV Izvestkoviy **4.19 28** Pg **Pb** **21 21 58.4 +2.4**
comp=Z,49nm,0.5s
IZV Lg Lg 21 22 51.5
comp=Z,187nm,0.8s
MTBS Maitube **4.21 26** *e*P **Pb** **21 21 57.3 +1.1**
comp=Z,37nm,0.5s
MTBS *e*S **Sb** **21 22 52.5 +5.2**
comp=Z,80nm,0.6s
MTBS Maitube **4.21 26** Pg **Pb** **21 21 59.3 +3.1**
comp=Z,37nm,0.5s
MTBS Lg Lg 21 22 52.5
comp=Z,80nm,0.6s
TNSS Tian-Shan **4.32 31** *e*P **Pb** **21 21 59.3 +1.0**
comp=Z,27nm,0.7s
TNSS *e*S **Sb** **21 22 55.7 +4.8**
comp=Z,47nm,0.7s
TNSS Tian-Shan **4.32 31** Pg **Pg** **21 22 01.9 -2.7**
comp=Z,48nm,0.5s
TNSS Lg Lg 21 22 56.7
comp=Z,47nm,0.7s
CHM Chimkent **4.38 314** PN Pn 21 21 40.0 -8.8
ANVS Anan'yevo **4.44 39** ⇑*i*P **Pn** **21 21 51.1 +1.3**
baz=40
ANVS ⇑*i*S **Sn** **21 22 41.4 -0.5**
baz=40
AAA Alma-Ata **4.46 30** *e*P **Pb** **21 22 02.5 +2.1**
comp=Z,46nm,0.6s
AAA *e*S **Sg** **21 23 00.4 -4.4**
comp=Z,234nm,0.6s
AAA Alma-Ata **4.46 30** Pg **Pb** **21 22 03.4 +3.0**
comp=Z,87nm,0.4s
AAA Lg Lg 21 23 00.4
comp=Z,234nm,0.6s
MDOK Medeo **4.47 31** *e*P **Pb** **21 22 01.7 +1.0**
comp=Z,15nm,0.5s
MDOK *e*S **Sb** **21 22 59.4 +4.5**
comp=Z,85nm,0.7s
MDOK Medeo **4.47 31** ⇑Pn **Pn** **21 21 51.2 +1.0**
comp=Z,5.0nm,0.5s
MDOK ⇑Pg **Pb** **21 22 02.4 +1.7**
comp=Z,63nm,0.7s
MDOK ⇑Lg Lg 21 22 59.1
comp=Z,207nm,1.2s
MDOK Medeo **4.47 31** Pg **Pb** **21 22 03.2 +2.5**
comp=Z,26nm,0.5s
MDOK Lg Lg 21 22 59.4
comp=Z,85nm,0.7s
MDOK Medeo **4.47 31** PN **Pn** **21 21 51.0 +0.8**
KNDC Almaty **4.48 30** ⇑Pn **Pn** **21 21 53.0 +2.8**
comp=Z,23nm,0.5s
KNDC ⇑Pg **Pb** **21 22 03.1 +2.2**
comp=Z,62nm,0.5s
KNDC ⇓Lg Lg 21 22 59.5
comp=Z,452nm,0.8s
KNDC Almaty **4.48 30** PN **Pn** **21 21 52.0 +1.7**
KK31 Karatay Array **4.51 327** Pn **Pn** **21 21 52.6 +2.1**
comp=Z,14nm,0.3s,baz=131,slow=12,SNR=162
KK31 Pg **Pb** **21 22 03.5 +2.3**
comp=Z,34nm,0.7s,baz=145,slow=16,SNR=15
KK31 ⇑Sn **Sn** **21 22 45.0 +1.7**
comp=Z,30nm,0.2s,baz=144,slow=25,SNR=5.1
KK31 ⇑Lg Lg 21 22 59.0
comp=Z,45nm,0.3s,baz=151,slow=31,SNR=4.7
KK31 Karatay Array **4.51 327** PN **Pn** **21 21 51.4 +0.8**
KK31 Karatay Array **4.51 327** **Pn** **21 21 51.4 +0.8**
KKAR Karatay Array **4.51 327** PN **Pn** **21 21 51.4 +0.8**
KKAR Karatay Array **4.51 327** **Pn** **21 21 51.5 +1.0**
KKAR Karatay Array **4.51 327** **Pn** **21 21 51.4 +0.8**
KRBS Karabastau **4.52 17** *e*P **Pb** **21 22 01.6 +0.1**
comp=Z,9.4nm,0.5s
KRBS *e*S **Sb** **21 23 00.0 +3.8**
comp=Z,194nm,0.9s
KRBS Karabastau **4.52 17** Pg **Pb** **21 22 03.7 +2.2**
comp=Z,14nm,0.5s
KRBS Lg Lg 21 23 00.0
comp=Z,194nm,0.9s
KOTS Kotyrbulak **4.55 31** *e*P **Pb** **21 22 04.1 +1.9**
comp=Z,32nm,0.6s
KOTS *e*S **Sb** **21 23 02.5 +5.2**
comp=Z,238nm,0.6s
KOTS Kotyrbulak **4.55 31** Pg **Pg** **21 22 06.1 -2.8**
comp=Z,32nm,0.6s
KOTS Lg Lg 21 23 04.0
comp=Z,238nm,0.6s
PRZ Przheval'sk **4.62 46** ⇑*i*P **Pn** **21 21 54.0 +1.8**
baz=47
PRZ ⇑*i*S **Sn** **21 22 46.9 +0.7**
baz=47
PRZ Przheval'sk **4.62 46** PN **Pn** **21 21 54.0 +1.8**
PRZ Przheval'sk **4.62 46** **Pn** **21 21 54.0 +1.8**
BRLS Boroldaу **4.76 321** *e*P **Pb** **21 22 06.5 +0.9**
comp=Z,14nm,0.4s
BRLS *e*S **Sb** **21 23 07.7 +4.6**
comp=Z,94nm,0.7s
BRLS Boroldaу **4.76 321** Pg **Pb** **21 22 08.0 +2.5**
comp=Z,11nm,0.2s
BRLS Lg Lg 21 23 07.7
comp=Z,94nm,0.7s
KTBS Karatobe **4.81 25** *e*P **Pb** **21 22 08.8 +2.3**
comp=Z,25nm,0.3s
KTBS *e*S **Sb** **21 23 11.2 +6.6**
comp=Z,229nm,0.8s
KTBS Karatobe **4.81 25** Pg **Pb** **21 22 10.3 +3.8**
comp=Z,25nm,0.3s
KTBS Lg Lg 21 23 11.2
comp=Z,229nm,0.8s
KUU Kurty **4.87 21** *e*P **Pb** **21 22 08.2 +0.8**
comp=Z,4.9nm,0.5s
KUU *e*S **Sb** **21 23 10.8 +4.5**
comp=Z,158nm,0.9s
KUU Kurty **4.87 21** Pg **Pb** **21 22 10.7 +3.2**
comp=Z,9.5nm,0.4s
KUU Lg Lg 21 23 11.7
comp=Z,158nm,0.9s
SATY Saty **5.01 41** *e*P **Pb** **21 22 11.9 +2.0**
comp=Z,40nm,0.5s
SATY *e*S **Sb** **21 23 16.7 +6.2**
comp=Z,80nm,0.5s
SATY Saty **5.01 41** Pg **Pb** **21 22 13.0 +3.0**
comp=Z,40nm,0.5s
SATY Lg Lg 21 23 15.6
comp=Z,80nm,0.5s
CHKK Chushkaly **5.04 26** *e*P **Pb** **21 22 12.9 +2.6**
comp=Z,18nm,0.4s
CHKK *e*S **Sg** **21 23 18.4 -5.1**
comp=Z,78nm,0.4s
CHKK Chushkaly **5.04 26** Pg **Pb** **21 22 14.4 +4.0**
comp=Z,18nm,0.4s
CHKK Lg Lg 21 23 18.4
comp=Z,78nm,0.4s
KURS Kuram **5.22 37** *e*P **Pb** **21 22 15.9 +2.5**
comp=Z,20nm,1.0s
KURS *e*S **Sb** **21 23 23.0 +6.7**
comp=Z,64nm,1.6s
UZB Uzynbulak **5.40 44** *e*P **Pb** **21 22 19.2 +2.7**
comp=Z,13nm,0.5s
UZB *e*S **Sg** **21 23 29.7 -5.4**
comp=Z,42nm,0.8s
UZB Uzynbulak **5.40 44** Pg **Pg** **21 22 22.9 -2.2**
comp=Z,12nm,0.5s
UZB Lg Lg 21 23 32.7
comp=Z,42nm,0.8s
KPKS Kokpek **5.45 40** *e*P **Pb** **21 22 20.1 +2.8**
comp=Z,34nm,0.9s
KPKS *e*S **Sg** **21 23 31.0 -5.7**
comp=Z,62nm,0.6s
SHLS Shalkode **5.65 46** *e*P **Pg** **21 22 29.9 -0.1**
comp=Z,18nm,0.8s
SHLS *e*S **Sg** **21 23 46.6 +3.6**
comp=Z,67nm,0.8s
SHLS Shalkode **5.65 46** Pg **Pg** **21 22 30.8 +0.9**
comp=Z,28nm,0.8s
SHLS Lg Lg 21 23 46.6
comp=Z,67nm,0.8s
ARXS Arharly **5.66 30** *e*P **Pb** **21 22 23.6 +2.7**
comp=Z,26nm,0.3s
ARXS *e*S **Sb** **21 23 35.7 +6.8**
comp=Z,79nm,0.7s
ARXS Arharly **5.66 30** Pg **Pb** **21 22 24.3 +3.4**
comp=Z,26nm,0.3s
ARXS Lg Lg 21 23 35.7
comp=Z,79nm,0.7s
BTLS Baital **5.66 1** *e*P **Pb** **21 22 23.4 +2.6**
comp=Z,11nm,0.5s
BTLS *e*S **Sb** **21 23 36.0 +7.0**
comp=Z,73nm,0.9s
BTLS Baital **5.66 1** Pg **Pb** **21 22 25.1 +4.2**
comp=Z,11nm,0.5s
BTLS Lg Lg 21 23 37.3
comp=Z,73nm,0.9s
CHCP Chirah Chowk **5.73 185** P Pb 21 22 15.8 -6.3
NIL Nilore **5.74 185** PN Pn 21 22 13.2 +5.7
NIL Nilore **5.74 185** Pn 21 22 13.2 +5.7
CEP Cherat **5.77 197** P Pb 21 22 15.7 -7.1
PDGK Podgornoye **5.78 45** Pg **Pb** **21 22 27.2 +4.3**
comp=Z,5.9nm,0.5s
PDGK Lg Lg 21 23 40.2
comp=Z,24nm,1.0s
PDGK Podgornoye **5.78 45** ⇓Pn **Pn** **21 22 08.8 +0.8**
comp=Z,4.8nm,0.6s
PDGK ⇓Pg **Pb** **21 22 26.1 +3.2**
comp=Z,17nm,0.7s
PDGK ⇓Lg Lg 21 23 39.8
comp=Z,86nm,1.1s
PDGK Podgornoye **5.78 45** *i* PN **Pn** **21 22 08.8 +0.8**
PDGK pmax pmax
comp=Z,5.0nm,0.5s
KBL Kabul **6.19 220** PN **Pn** **21 22 18.2 +4.3**
KBL Kabul **6.19 220** **Pn** **21 22 18.2 +4.3**
TDK Taldyqorghan **6.54 29** *e*P **Pb** **21 22 39.4 +3.4**
comp=Z,33nm,0.3s
TDK *e*S **Sb** **21 24 03.0 +8.6**
comp=Z,56nm,0.8s
TDK Taldyqorghan **6.54 29** Pg **Pg** **21 22 43.5 -3.6**
comp=Z,66nm,0.2s
TDK Lg Lg 21 24 08.0
comp=Z,56nm,0.8s
DJR Jarkent **6.63 40** *e*P Pb 21 22 42.1 +4.7
comp=Z,0.9nm,0.3s
DJR *e*S **Sg** **21 24 08.6 -5.8**
comp=Z,4.0nm,0.7s
DJR Jarkent **6.63 40** Pg Pg 21 22 43.7 -4.9
comp=Z,0.9nm,0.3s
DJR Lg Lg 21 24 08.6
comp=Z,4.0nm,0.7s
THW Thamme Wali **6.79 195** P Pn 21 22 28.4 +6.4
KAPS Kapalarasan **7.16 33** *e*P **Pb** **21 22 50.2 +3.8**
comp=Z,0.9nm,0.8s
KAPS *e*S Sg 21 24 22.8 -8.7
comp=Z,3.2nm,1.1s
KAPS Kapalarasan **7.16 33** Pg Pg 21 22 53.5 -5.3
comp=Z,0.9nm,0.8s
KAPS Lg Lg 21 24 25.6
comp=Z,3.2nm,1.1s
OTUK Ortayu **8.93 353** ⇑Pn **Pn** **21 22 52.2 +0.9**
comp=Z,3.5nm,0.7s
OTUK ⇑Lg Lg 21 25 17.0
comp=Z,69nm,0.9s
OTUK Ortayu **8.93 353** *i* P **Pn** **21 22 52.2 +0.9**
OTUK pmax pmax
comp=Z,4.0nm,0.7s
MAKZ Makanchi **9.49 36** P **Pn** **21 23 00.1 +1.2**
MAKZ Makanchi **9.49 36** Pn **Pn** **21 23 00.1 +1.2**
MK31 Makanchi Array **9.62 37** ⇑Pn Pn 21 23 12.2 +11
comp=Z,2.5nm,0.6s,baz=225,slow=15,SNR=4.5
MK31 Lg Lg 21 25 43.8
comp=Z,5.8nm,0.8s,baz=228,slow=26,SNR=4.0
MK31 Makanchi Array **9.62 37** ⇑*e*P **Pn** **21 23 00.6 -0.2**
MK31 Makanchi Array **9.62 37** Pn **Pn** **21 23 01.2 +0.5**
MKAR Makanchi Array **9.62 37** Pn **Pn** **21 23 02.1 +1.3**
comp=Z,0.1nm,0.3s,baz=213,slow=14,SNR=4.3
MKAR Lg Lg 21 25 44.8
comp=Z,0.3nm,0.3s,baz=223,slow=27,SNR=4.7
MKAR Makanchi Array **9.62 37** P **Pn** **21 23 00.8 +0.1**
MKAR Makanchi Array **9.62 37** Pn **Pn** **21 23 00.8 +0.1**
WMQ Urumqi **11.25 62** *e*P **Pn** **21 23 25.4 +2.3**
KURBB Kurchatov Arra **11.71 15** Pn **Pn** **21 23 30.1 +0.8**
comp=Z,0.1nm,0.3s,baz=200,slow=11,SNR=3.2
KURBB Sn **Sn** **21 25 36.5 -3.8**
baz=132,slow=29,SNR=1.9
KURBB Lg Lg 21 26 43.0
comp=Z,0.1nm,0.3s,baz=200,slow=29,SNR=4.7
KURBB Kurchatov Arra **11.71 15** ⇓Lg Lg 21 26 49.0
comp=Z,62nm,0.9s
KURK Kurchatov **11.82 15** P **Pn** **21 23 30.1 -0.6**
KURK 21 25 36.5
GEYT Alibeck **12.42 268** Pn **Pn** **21 23 38.6 -0.4**
comp=Z,0.5nm,0.3s,baz=90,slow=12,SNR=1.9
GEYT Sn **Sn** **21 25 58.2 +0.5**
comp=Z,0.8nm,0.3s,baz=102,slow=16,SNR=3.6
BVAR Borovoye Array **13.86 351** Pn **Pn** **21 23 57.9 -0.7**
comp=Z,0.2nm,0.3s,baz=176,slow=22,SNR=6.1
BVAR Lg Lg 21 27 59.7
comp=Z,0.2nm,0.3s,baz=172,slow=33,SNR=6.1
BRVK Borovoye **13.91 351** ⇓*e*P **Pn** **21 24 00.3 +1.1**
BRVK Borovoye **13.91 351** Pn **Pn** **21 23 57.9 -1.3**
ABKAR Akbulak array **14.02 319** **Pn** **21 23 59.2 -1.6**
DGZ Jazzator, Alta **14.11 39** ⇓*e*P **Pn** **21 24 03.9 +1.7**
AKTO Aktyubinsk **15.73 320** Pn **Pn** **21 24 22.9 -0.9**
comp=Z,0.3nm,0.3s,baz=122,slow=16,SNR=3.1
AKTO Sn **Sn** **21 27 11.2 -7.2**
comp=Z,0.2nm,0.3s,baz=255,slow=20,SNR=1.9
ZAA0 Zalesovo Array **16.36 23** **Pn** **21 24 30.5 -1.4**
ZALV Zalesovo Beam **16.36 23** Pn **Pn** **21 24 31.0 -0.8**
comp=Z,0.5nm,0.3s,baz=207,slow=12,SNR=9.3
ZALV Lg Lg 21 29 18.7
comp=Z,0.2nm,0.3s,baz=186,slow=23,SNR=2.3
ZALV Zalesovo Beam **16.36 23** P **Pn** **21 24 30.3 -1.6**
ZALV Zalesovo Beam **16.36 23** **Pn** **21 24 30.2 -1.6**
ARU Arti **19.84 334** P **P** **21 25 13.0 -0.1**
comp=Z,0.0nm,0.3s,baz=5.7,slow=11,SNR=5.5
ARU Arti **19.84 334** ⇑*e*P **P** **21 25 12.9 -0.1**
ARU pmax pmax
comp=Z,6.0nm,0.9s
ARU Arti **19.84 334** P **P** **21 25 12.5 -0.5**
GTA Gaotai **20.02 82** ⇑P Pn 21 25 16.9 -0.2
GTA pP sP 21 25 22.2 +2.6
GTA sP pP 21 25 26.7 +8.5
GTA pmax pmax
comp=Z,3.0nm,1.1s
GNI Garni **22.38 281** P **P** **21 25 40.4 -0.4**
comp=Z,6.3nm,1.1s,baz=9.0,slow=19,SNR=1.7
GNI Garni **22.38 281** ⇓*e*P **P** **21 25 40.4 -0.4**
GNI pmax pmax
comp=Z,7.0nm,1.2s
GNI Garni **22.38 281** P **P** **21 25 41.3 +0.5**
GNI lAmb lAmb 21 26 02.9
comp=Z,15nm,1.1s
ONI Oni **23.14 288** P **P** **21 25 49.0 +0.4**
ONI pmax pmax
comp=Z,11nm,1.1s
ONI Oni **23.14 288** P **P** **21 25 49.0 +0.4**
ONI lAmb lAmb 21 25 58.2
comp=Z,11nm,1.1s
KBZ Khabaz **23.52 291** P **P** **21 25 52.4 0.0**
comp=Z,1.0nm,0.6s,baz=180,slow=2.0,SNR=1.8
KIV Kislovodsk **23.67 291** *e*P **P** **21 25 53.7 -0.3**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIRV Kirov **24.80 329** P **P** **21 26 04.2 0.0**
comp=Z,3.8nm,0.5s,baz=24,slow=0.5,SNR=4.4
SONM Songino Array **24.86 59** P **P** **21 26 04.9 -0.2**
comp=Z,0.7nm,0.7s,baz=257,slow=10,SNR=5.3
ULN Ulaanbaatar **25.31 60** ⇑*e*P **P** **21 26 07.2 -1.9**
ULN pmax pmax
comp=Z,6.0nm,2.3s
AKASG Malin Array Be **33.05 305** P **P** **21 27 17.3 -0.5**
comp=Z,0.3nm,0.4s,baz=79,slow=7.4,SNR=6.5
AKASG Malin Array Be **33.05 305** *e*P **P** **21 27 17.2 -0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKBB Malin Array Si **33.05 305** P **P** **21 27 17.0 -0.7**
AKBB pmax pmax
comp=Z,9.0nm,1.4s
AKBB Malin Array Si **33.05 305** P **P** **21 27 17.0 -0.7**
AKBB lAmb lAmb 21 27 17.5
comp=Z,8.7nm,1.4s
MNK Minsk **34.18 312** *i* P **P** **21 27 28.6 +1.0**
MNK *i* 21 28 42.2
MNK *i* PPP PPP 21 28 53.7
MNK *i* 21 30 03.1
MNK *i* S **S** **21 32 54.9 +0.8**
MNK *i* SS **SnSn** **21 35 04.2 +2.5**
MNK *i* 21 37 46.8
MNK pmax pmax
comp=Z,6.0nm,0.9s
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK pmax pmax
comp=N,14nm,1.3s
MNK MLR MLR
comp=Z,525nm,25.0s
MNK MLR MLR
comp=N,128nm,18.0s
MNK MLR MLR
comp=E,35nm,17.0s
MNK Minsk **34.18 312** *i* P **P** **21 27 28.7 +1.1**
comp=E,2.0nm,1.0s
MNK *i* P **P** **21 27 28.7 +1.1**
comp=N,14nm,1.3s
MNK *i* P **P** **21 27 28.7 +1.1**
comp=Z,6.0nm,0.8s,baz=278
MNK *i* PP **PnPn** **21 28 42.3 +1.1**
MNK *i* PPP PPP 21 28 53.7
MNK *i* PcP **PcP** **21 30 03.2 -1.1**
MNK *i* S **S** **21 32 54.9 +0.8**
MNK *i* SS **SnSn** **21 35 04.3 +2.6**
MNK *i* SSS SSS 21 35 20.1
MNK *i* LQ LQ 21 38 47.6
MNK *i* LR LR 21 41 23.4
MNK *i* LRM MLR 21 42 40.8
comp=Z,525nm,25.3s
MNK *i* LRM MLR 21 43 01.6
comp=N,128nm,18.1s
MNK *i* LRM MLR 21 43 23.3
comp=E,35nm,17.2s
MLR Muntele Rosu **35.48 296** P **P** **21 27 39.0 -0.1**
MLR pmax pmax
comp=Z,16nm,1.5s
MLR Muntele Rosu **35.48 296** P **P** **21 27 39.0 -0.1**
BURAR Bucovina Array **35.75 300** P **P** **21 27 41.1 -0.2**
BUR08 Bucovina Ar. S **35.76 300** P **P** **21 27 40.9 -0.5**
BUR08 lAmb lAmb 21 27 53.5
comp=Z,7.8nm,1.5s
FIA1 FINESS Array S **36.46 323** P **P** **21 27 46.7 -0.4**
FINES FINESS Array B **36.46 323** P **P** **21 27 46.8 -0.3**
comp=Z,2.4nm,0.4s,baz=110,slow=9.4,SNR=37
KWP Kalwaria Pacla **37.25 303** P **P** **21 27 54.3 +0.3**
KWP pmax pmax
comp=Z,87nm,1.3s
KWP Kalwaria Pacla **37.25 303** P **P** **21 27 54.3 +0.3**
VTS Vitosha **37.91 292** P **P** **21 28 00.5 +0.7**
VTS pmax pmax
comp=Z,8.0nm,1.5s
VTS Vitosha **37.91 292** P **P** **21 28 00.5 +0.7**
VTS lAmb lAmb 21 28 09.6
comp=Z,8.5nm,1.5s
ZEA Zeya **38.46 50** *e*P **P** **21 28 08.1 +4.0**
ARCES ARCESS Array B **39.42 336** P **P** **21 28 11.9 -0.1**
comp=Z,1.9nm,0.5s,baz=109,slow=8.6,SNR=41
ARCES ARCESS Array B **39.42 336** *e*P **P** **21 28 11.6 -0.4**
ARCES pmax pmax
comp=Z,2.0nm,0.5s
ARCES ARCESS Array B **39.42 336** P **P** **21 28 11.5 -0.4**
ARCES lAmb lAmb 21 28 14.9
comp=Z,4.3nm,1.1s
DIVS Divibare **39.89 295** P **P** **21 28 16.5 +0.2**
DIVS lAmb lAmb 21 28 17.9
comp=Z,2.4nm,0.8s
TIXI Tiksi **42.25 23** P **P** **21 28 33.9 -1.4**
TIXI pmax pmax
comp=Z,2.0nm,0.8s
TIXI Tiksi **42.25 23** P **P** **21 28 33.9 -1.4**
OZLJ Ozalj **42.69 298** Sg **S** **21 34 57.9 -5.0**
GEC2 GERESS Array S **43.20 303** P **P** **21 28 43.5 +0.1**
GERES GERESS Array B **43.20 303** P **P** **21 28 43.8 +0.3**
comp=Z,0.7nm,0.5s,baz=68,slow=7.8,SNR=7.8
GERES GERESS Array B **43.20 303** *e*P **P** **21 28 44.2 +0.7**
GERES pmax pmax
comp=Z,1.0nm,0.5s
NC405 NORSAR Array S **43.27 321** P **P** **21 28 42.3 -1.4**
NC405 lAmb lAmb 21 28 49.8
comp=Z,13nm,1.0s
NB2 NORSAR Subarra **43.52 321** P **P** **21 28 45.0 -0.7**
comp=Z,1.3nm,0.5s,baz=91,slow=8.6
NOA NORSAR Array B **43.52 321** P **P** **21 28 45.0 -0.7**
comp=Z,0.5nm,0.5s,baz=101,slow=7.2,SNR=9.9
ESDC Sonseca Array **58.15 297** P **P** **21 30 36.1 -0.3**
comp=Z,0.5nm,0.9s,baz=56,slow=5.9,SNR=2.5
TORD Torodi Ar. Bea **68.06 269** P **P** **21 31 41.8 -0.6**
comp=Z,2.2nm,0.6s,baz=49,slow=5.4,SNR=18
TORD Torodi Ar. Bea **68.06 269** P **P** **21 31 41.5 -0.9**
TORD lAmb lAmb 21 31 42.0
comp=Z,1.7nm,0.8s
MDM Murphy Dome **70.91 18** P **P** **21 31 58.4 -0.9**
MDM lAmb lAmb 21 32 13.0
comp=Z,5.3nm,1.4s
ILAR Eielson Array **71.38 17** P **P** **21 32 00.9 -1.2**
comp=Z,0.5nm,0.7s,baz=330,slow=5.2,SNR=3.5
KOWA Kowa **71.67 274** P **P** **21 32 04.4 -0.2**
KOWA lAmb lAmb 21 32 05.2
comp=Z,2.3nm,0.8s
WAX Waxell Ridge **76.06 18** P **P** **21 32 30.2 +0.4**
GRNC Granite Creek **76.07 17** P **P** **21 32 30.0 0.0**
DBIC Dimbokro **77.10 268** P **P** **21 32 36.1 -0.2**
comp=Z,1.8nm,0.5s,baz=91,slow=2.0,SNR=4.3
DBIC Dimbokro **77.10 268** P **P** **21 32 35.6 -0.7**
DBIC pmax pmax
comp=Z,13nm,1.4s
DBIC Dimbokro **77.10 268** P **P** **21 32 35.5 -0.7**
KIC Kosan Boka **77.21 268** *e*PKP1 **P** **21 32 36.7 -0.2**
comp=Z,6.4nm,0.7s
TIC Toumodi **77.25 268** *e*PKP1 **P** **21 32 37.3 +0.2**
LIC Lamto **77.51 268** *e*PKP1 **P** **21 32 36.0 -2.6**

comp=Z,34nm,1.2s
LBTB Lobatse 78.34 224 P **P** 21 32 44.0 +1.0
LBTB pmax pmax
comp=Z,3.0nm,0.9s
LBTB Lobatse 78.34 224 P **P** 21 32 44.0 +1.0
LBTB IAmb IAmb 21 32 54.1
comp=Z,2.9nm,0.8s
WRA Warramunga Arr 81.64 124 P **P** 21 33 00.7 -0.2
comp=Z,0.9nm,0.5s,baz=318,slow=4.3,SNR=18
WRA Warramunga Arr 81.64 124 *eP* **P** 21 32 58.9 -2.0
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 81.64 124 P **P** 21 33 00.7 -0.2
WB2 Warramunga Arr 81.65 124 P **P** 21 33 00.8 -0.1
WB2 IAmb IAmb 21 33 23.8
comp=Z,3.5nm,1.1s
ASAR Alice Springs 84.09 127 P **P** 21 33 13.0 -0.5
comp=Z,0.4nm,0.6s,baz=314,slow=4.8,SNR=9.3
ASAR Alice Springs 84.09 127 P **P** 21 33 13.2 -0.3

IDC 12 21:31:45.8±3.0, 32°.95S×178°.34W, h0 km, mb3.7/2, mb1 3.9/3, mb1mx3.7/20, mbtmp3.7/3, ML3.6/1, Error ellipse: s-maj=70.6km s-min=35.9km az=118.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.46**	**214**	Pn	Pn	21 33 22.3	+0.2
	1.4nm,0.3s,baz=323,slow=20,SNR=14						
URZ				Sn	Sn	21 34 36.9	+0.3
	3.8nm,0.3s,baz=292,slow=8.1,SNR=9.0						
ASAR	**Alice Springs**	**42.75**	**270**	P	P	21 39 45.1	0.0
	0.6nm,0.8s,baz=106,slow=7.2,SNR=6.3						
WRA	**Warramunga Arr**	**43.97**	**275**	P	P	21 39 54.7	-0.2
	0.8nm,0.5s,baz=116,slow=7.6,SNR=17						
FINES	**FINESS Array B**	**147.42**	**338**	PKPbc	PKPbc	21 51 30.0	-0.8
	1.0nm,0.7s,baz=52,slow=3.4,SNR=7.4						

MEX 12 21:56:44.5±0.7, 14°.20N×93°.11W, h60 km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.50**	**356**	*eP*	Pn	21 57 07.9	-1.3

*NOU **12** 22:03:42.1, 37°.70S×176°.81E, h217 km, MLv4.0/8, North Island, New Zealand*
*IDC **12** 22:03:49.3±1.8, 37°.84S×176°.68E, h147 km±12 km, mb3.1/2, mb1 3.3/2, mb1mx3.1/31, mbtmp3.5/2, Error ellipse: s-maj=97.0km s-min=36.8km az=28.0*
*WEL **12** 22:03:51.5±0.5, 38°.S±3°×17°.7E±°, h140 km±5 km, M3.3/73, ML2.8/7, MLv3.3/73, Error ellipse: s-maj=0.0km s-min=0.0km az=51.8*

ISC 12 22:03:49.8±0.9, 38°.07S±0°.04×176°.53E±0°.05, h163 km±6 km, n151, σ1§15/162, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OMRZ	**Omania**	**0.13**	**252**	P	**Pn**	**22 04 11.2**	**-0.5**
MARZ	**Manawahe**	**0.14**	**55**	P	**Pn**	**22 04 11.1**	**-0.6**
MARZ				S	**Sn**	**22 04 27.5**	**-0.8**
TARZ	**Mount Tarawera**	**0.17**	**186**	P	**Pn**	**22 04 11.6**	**-0.2**
EDRZ	**Edgecumbe**	**0.17**	**104**	P	**Pn**	**22 04 11.1**	**-0.6**
OPRZ	**Ohinepanea**	**0.22**	**6**	P	**Pn**	**22 04 10.8**	**-1.0**
KARZ	**Kaharoa**	**0.23**	**281**	P	**Pn**	**22 04 11.3**	**-0.5**
HLRZ	**Highlands Stat**	**0.23**	**217**	P	**Pn**	**22 04 11.8**	**0.0**
NGRZ	**Ngongotaha**	**0.27**	**262**	P	**Pn**	**22 04 11.8**	**-0.1**
RRRZ	**Republican Roa**	**0.27**	**182**	P	**Pn**	**22 04 11.6**	**-0.3**
UTU	**Utuhina**	**0.29**	**247**	P	**Pn**	**22 04 12.0**	**+0.1**
HSRZ	**Hossack Road**	**0.33**	**222**	P	**Pn**	**22 04 12.0**	**0.0**
HRRZ	**Handcock Road**	**0.38**	**211**	P	**Pn**	**22 04 12.2**	**-0.1**
TGRZ	**Tauranga**	**0.40**	**328**	P	**Pn**	**22 04 11.5**	**-0.8**
WHRZ	**Whale Island**	**0.41**	**59**	P	**Pn**	**22 04 12.0**	**-0.3**
GRRZ	**Galatos Road**	**0.43**	**229**	P	**Pn**	**22 04 12.6**	**+0.1**
PRRZ	**Plateau Road**	**0.45**	**194**	P	**Pn**	**22 04 12.4**	**-0.1**
MUGZ	**Murupara**	**0.45**	**155**	P	**Pn**	**22 04 12.1**	**-0.4**
URZ	**Urewera**	**0.50**	**113**	P	**Pn**	**22 04 11.9**	**-0.7**
	baz=261,slow=5.2						
URZ				S	**Sn**	**22 04 27.3**	**-2.8**
	51nm,0.3s,baz=15,slow=23,SNR=4.7						
URZ	**Urewera**	**0.50**	**113**	P	**Pn**	**22 04 12.0**	**-0.7**
URZ				S	**Sn**	**22 04 27.5**	**-2.7**
KMRZ	**Kaimai**	**0.51**	**295**	P	**Pn**	**22 04 12.4**	**-0.4**
ALRZ	**Allen Road**	**0.52**	**196**	P	**Pn**	**22 04 12.7**	**0.0**
WPRZ	**Whakapapataris**	**0.54**	**212**	P	**Pn**	**22 04 13.1**	**+0.2**
RTZ	**Ruatahuna**	**0.65**	**147**	P	**Pn**	**22 04 13.6**	**0.0**
RTZ				S	**Sn**	**22 04 30.9**	**-1.0**
KUTZ	**Kaahu Road**	**0.70**	**232**	P	**Pn**	**22 04 14.0**	**+0.3**
WHTZ	**Whakaora**	**0.75**	**217**	P	**Pn**	**22 04 14.9**	**+0.7**
WIZ	**White Island**	**0.75**	**44**	P	**Pn**	**22 04 12.9**	**-1.2**
MRHZ	**Matea Rd**	**0.77**	**186**	P	**Pn**	**22 04 14.5**	**+0.3**
MRHZ				S	**Sn**	**22 04 31.9**	**-1.3**
MYRZ	**Mayor Island**	**0.82**	**344**	P	**Pn**	**22 04 13.8**	**-0.7**
RAGZ	**Rawiri**	**0.82**	**122**	P	**Pn**	**22 04 14.8**	**+0.2**
RAGZ				S	**Sn**	**22 04 32.1**	**-1.6**
MTHZ	**Maungataniwha**	**0.82**	**163**	P	**Pn**	**22 04 14.9**	**+0.3**
MTHZ				S	**Sn**	**22 04 32.3**	**-1.5**
TLZ	**Tolley Road**	**0.82**	**251**	P	**Pn**	**22 04 14.9**	**+0.3**
TLZ				S	**Sn**	**22 04 33.6**	**-0.1**
MWZ	**Matawai**	**0.83**	**109**	P	**Pn**	**22 04 14.3**	**-0.4**
MWZ				S	**Sn**	**22 04 33.4**	**-0.3**
TOZ	**Tahuroa Road**	**0.88**	**292**	P	**Pn**	**22 04 14.7**	**-0.2**
TOZ				S	**Sn**	**22 04 33.4**	**-0.7**
HATZ	**Hinemaiaia**	**0.89**	**202**	P	**Pn**	**22 04 15.6**	**+0.5**
WATZ	**Wairara**	**0.90**	**224**	P	**Pn**	**22 04 15.6**	**+0.5**
RUGZ	**Raukumara Rang**	**0.91**	**84**	P	**Pn**	**22 04 13.9**	**-1.5**
RAHZ	**Arahi**	**0.96**	**153**	P	**Pn**	**22 04 16.4**	**+0.9**
RAHZ				S	**Sn**	**22 04 36.0**	**+0.6**
SNGZ	**Shannon Statio**	**0.96**	**139**	P	**Pn**	**22 04 16.2**	**+0.7**
RATZ	**Rangitukua**	**1.00**	**216**	P	**Pn**	**22 04 16.4**	**+0.6**
HAZ	**Te Kaha**	**1.04**	**73**	P	**Pn**	**22 04 14.9**	**-1.3**
RITZ	**Rihia Road**	**1.05**	**210**	P	**Pn**	**22 04 17.2**	**+0.9**
NMHZ	**Naumai**	**1.05**	**168**	P	**Pn**	**22 04 17.6**	**+1.3**
BKZ	**Black Stump Fm**	**1.10**	**181**	P	**Pn**	**22 04 17.1**	**+0.4**
TKGZ	**Te Karaka**	**1.10**	**110**	P	**Pn**	**22 04 17.1**	**+0.5**
KATZ	**Kakaramea**	**1.12**	**215**	P	**Pn**	**22 04 16.7**	**-0.3**
TWGZ	**Tauwhareparae**	**1.15**	**96**	P	**Pn**	**22 04 17.4**	**+0.2**
WHHZ	**Waihua**	**1.15**	**151**	P	**Pn**	**22 04 18.1**	**+1.0**
RIGZ	**Rimuhau**	**1.16**	**124**	P	**Pn**	**22 04 18.0**	**+0.8**
NTVZ	**North Tongarir**	**1.23**	**213**	P	**Pn**	**22 04 18.6**	**+0.6**
TMVZ	**Te Maari**	**1.23**	**211**	P	**Pn**	**22 04 18.6**	**+0.6**
PKGZ	**Pakihiroa**	**1.24**	**82**	P	**Pn**	**22 04 17.5**	**-0.4**
KRVZ	**Karewarewa**	**1.24**	**214**	P	**Pn**	**22 04 18.6**	**+0.6**
ETVZ	**East Tongariro**	**1.25**	**211**	P	**Pn**	**22 04 18.9**	**+0.8**
ARHZ	**Aropaoanui**	**1.25**	**163**	P	**Pn**	**22 04 19.2**	**+1.2**
WTVZ	**West Tongariro**	**1.28**	**215**	P	**Pn**	**22 04 19.0**	**+0.6**
NNVZ	**North Ngauruho**	**1.28**	**214**	P	**Pn**	**22 04 19.2**	**+0.7**
OTVZ	**Oturere**	**1.29**	**211**	P	**Pn**	**22 04 19.4**	**+0.8**
KNZ	**Kokohu**	**1.31**	**137**	P	**Pn**	**22 04 19.2**	**+0.7**
SNVZ	**South Ngauruho**	**1.32**	**212**	P	**Pn**	**22 04 19.8**	**+1.0**
TWVZ	**Taurewa**	**1.32**	**220**	P	**Pn**	**22 04 19.3**	**+0.6**
NGZ	**Ngauruhoe**	**1.32**	**213**	P	**Pn**	**22 04 19.6**	**+0.8**
KWHZ	**Kaweka Forest**	**1.36**	**183**	P	**Pn**	**22 04 20.0**	**+0.9**
PRGZ	**Paritu Road**	**1.36**	**129**	P	**Pn**	**22 04 19.8**	**+0.7**
PUZ	**Puketiti**	**1.36**	**91**	P	**Pn**	**22 04 18.8**	**-0.3**
TUVZ	**Tukino**	**1.38**	**209**	P	**Pn**	**22 04 20.2**	**+0.8**
MCHZ	**McNeill Hill**	**1.38**	**175**	P	**Pn**	**22 04 20.5**	**+1.3**
CNGZ	**Carnagh Statio**	**1.39**	**108**	P	**Pn**	**22 04 20.1**	**+0.9**
HIZ	**Hauiti**	**1.39**	**251**	P	**Pn**	**22 04 20.1**	**+0.8**
FWVZ	**Far West T-bar**	**1.41**	**212**	P	**Pn**	**22 04 20.4**	**+0.6**
WHVZ	**Whangaehu Hut**	**1.42**	**211**	P	**Pn**	**22 04 20.5**	**+0.6**
DRZ	**Dome Shelter**	**1.43**	**212**	P	**Pn**	**22 04 20.8**	**+0.8**
MKAZ	**Moumakai**	**1.45**	**311**	P	**Pn**	**22 04 19.6**	**-0.3**
TRVZ	**Turoa**	**1.45**	**212**	P	**Pn**	**22 04 20.9**	**+0.8**
WNVZ	**Wahianoa**	**1.46**	**210**	P	**Pn**	**22 04 20.8**	**+0.7**
KUZ	**Kuaotunu**	**1.47**	**334**	P	**Pn**	**22 04 19.1**	**-0.9**
BHHZ	**Black Hill Sta**	**1.47**	**194**	P	**Pn**	**22 04 20.7**	**+0.5**
MOVZ	**Moawhango**	**1.47**	**204**	P	**Pn**	**22 04 20.5**	**+0.3**
MXZ	**Matakaoa Point**	**1.50**	**71**	P	**Pn**	**22 04 20.4**	**0.0**
WMGZ	**Waiomatatini S**	**1.51**	**81**	P	**Pn**	**22 04 20.3**	**-0.2**
MHGZ	**Mahia Peninsul**	**1.53**	**136**	P	**Pn**	**22 04 21.9**	**+1.2**
PKVZ	**Pokaka**	**1.53**	**217**	P	**Pn**	**22 04 21.6**	**+0.8**
MTVZ	**Mangateitei**	**1.56**	**212**	P	**Pn**	**22 04 21.9**	**+0.9**
KRHZ	**Kereru**	**1.58**	**184**	P	**Pn**	**22 04 21.9**	**+0.6**
CKHZ	**Cape Kidnapper**	**1.65**	**165**	P	**Pn**	**22 04 23.2**	**+1.3**
WIAZ	**Waiheke Island**	**1.69**	**318**	P	**Pn**	**22 04 22.0**	**-0.3**
ETAZ	**East Tamaki Re**	**1.69**	**311**	P	**Pn**	**22 04 22.2**	**-0.1**
VRZ	**Vera Road**	**1.74**	**232**	P	**Pn**	**22 04 24.1**	**+1.2**
KAHZ	**Kahuranaki**	**1.75**	**171**	P	**Pn**	**22 04 24.1**	**+1.1**
AWAZ	**Awhitu Peninsu**	**1.80**	**303**	P	**Pn**	**22 04 23.4**	**-0.2**
MBAZ	**Motutapu North**	**1.83**	**314**	P	**Pn**	**22 04 23.8**	**-0.1**
EPAZ	**Eden Park BICE**	**1.85**	**309**	P	**Pn**	**22 04 23.8**	**-0.3**
PNHZ	**Pukenui**	**1.86**	**188**	P	**Pn**	**22 04 24.5**	**+0.2**
HBAZ	**Herne Bay Bore**	**1.88**	**310**	P	**Pn**	**22 04 24.2**	**-0.2**
WTAZ	**Waiatarua**	**1.92**	**305**	P	**Pn**	**22 04 24.9**	**0.0**
PXZ	**Pawanui**	**1.98**	**173**	P	**Pn**	**22 04 26.3**	**+0.8**
ABAZ	**Army Bay**	**1.99**	**317**	P	**Pn**	**22 04 25.7**	**0.0**
WPHZ	**Waipukurau**	**2.00**	**182**	P	**Pn**	**22 04 26.2**	**+0.5**
RVAZ	**Riverhead Bore**	**2.02**	**309**	P	**Pn**	**22 04 25.6**	**-0.4**
TSZ	**Takapari Road**	**2.04**	**192**	P	**Pn**	**22 04 26.5**	**+0.3**
WAZ	**Wanganui**	**2.07**	**215**	P	**Pn**	**22 04 27.4**	**+0.8**
DVHZ	**Dannevirke**	**2.25**	**187**	P	**Pn**	**22 04 28.6**	**0.0**
NEZ	**North Egmont**	**2.25**	**237**	P	**Pn**	**22 04 30.5**	**+1.8**
PKE	**Pukeiti**	**2.29**	**240**	P	**Pn**	**22 04 30.7**	**+1.6**
KHEZ	**Kahui Hut**	**2.32**	**237**	P	**Pn**	**22 04 31.2**	**+1.7**
OHWZ	**Ohakea**	**2.34**	**203**	P	**Pn**	**22 04 29.6**	**0.0**
ANWZ	**Angora Road**	**2.39**	**181**	P	**Pn**	**22 04 27.3**	**-2.9**
POWZ	**Post Office Ro**	**2.40**	**194**	P	**Pn**	**22 04 30.3**	**0.0**
PRWZ	**Pori Road**	**2.52**	**190**	P	**Pn**	**22 04 32.3**	**+0.4**
BFZ	**Birch Farm**	**2.62**	**185**	P	**Pn**	**22 04 33.0**	**0.0**
MRZ	**Mangatainoka R**	**2.69**	**196**	P	**Pn**	**22 04 33.5**	**-0.4**
WCZ	**Waipu Caves**	**2.75**	**320**	P	**Pn**	**22 04 34.5**	**-0.1**
TIWZ	**Tintock**	**2.75**	**190**	P	**Pn**	**22 04 34.6**	**0.0**
CPWZ	**Castlepoint**	**2.85**	**185**	P	**Pn**	**22 04 36.4**	**+0.6**
HOWZ	**Holdsworth Sta**	**2.94**	**195**	P	**Pn**	**22 04 36.3**	**-0.6**
OGWZ	**Otaki Gorge**	**2.94**	**201**	P	**Pn**	**22 04 36.5**	**-0.5**
KIW	**Kapiti Island**	**3.06**	**204**	P	**Pn**	**22 04 37.5**	**-0.9**
TMWZ	**Te Maipa**	**3.08**	**189**	P	**Pn**	**22 04 38.2**	**-0.5**
CAW	**Cannon Point**	**3.24**	**200**	P	**Pn**	**22 04 39.8**	**-0.8**
TRWZ	**Traveller**	**3.39**	**191**	P	**Pn**	**22 04 41.8**	**-0.7**
DUWZ	**D'Urville Isla**	**3.40**	**216**	P	**Pn**	**22 04 41.7**	**-1.0**
PAWZ	**Paruwai Farm**	**3.42**	**194**	P	**Pn**	**22 04 41.9**	**-1.1**
MSWZ	**Moikau Station**	**3.49**	**196**	P	**Pn**	**22 04 42.6**	**-1.3**
WEL	**Wellington**	**3.49**	**202**	P	**Pn**	**22 04 43.0**	**-0.8**
BHW	**Baring Head**	**3.58**	**200**	P	**Pn**	**22 04 43.5**	**-1.4**
TCW	**Tory Channel**	**3.59**	**208**	P	**Pn**	**22 04 43.7**	**-1.4**
PLWZ	**Palliser**	**3.63**	**195**	P	**Pn**	**22 04 44.3**	**-1.4**
OUZ	**Omahuta**	**3.69**	**319**	P	**Pn**	**22 04 46.8**	**+0.3**
TUWZ	**Tuamarina**	**3.91**	**210**	P	**Pn**	**22 04 47.6**	**-1.6**
NNZ	**Nelson**	**3.98**	**217**	P	**Pn**	**22 04 48.7**	**-1.4**
CMWZ	**Cape Campbell**	**4.09**	**205**	P	**Pn**	**22 04 50.8**	**-0.6**
QRZ	**Quartz Range**	**4.14**	**227**	P	**Pn**	**22 04 50.7**	**-1.6**
BSWZ	**Blackbirch Sta**	**4.18**	**208**	P	**Pn**	**22 04 51.3**	**-1.4**
THZ	**Tophouse**	**4.62**	**216**	P	**Pn**	**22 04 56.8**	**-1.7**
KHZ	**Kahutara**	**4.91**	**207**	P	**Pn**	**22 05 00.5**	**-1.6**
GVZ	**Greta Valley S**	**5.57**	**207**	P	**Pn**	**22 05 08.9**	**-2.1**
LTZ	**Lake Taylor**	**5.72**	**213**	P	**Pn**	**22 05 10.3**	**-2.6**
INZ	**Inchbonnie**	**6.06**	**218**	P	**Pn**	**22 05 14.5**	**-2.8**
OKCZ	**Okains Bay**	**6.23**	**204**	P	**Pn**	**22 05 17.3**	**-2.4**
OXZ	**Oxford**	**6.26**	**212**	P	**Pn**	**22 05 16.9**	**-3.1**
MQZ	**McQueen's Vall**	**6.35**	**206**	P	**Pn**	**22 05 17.9**	**-3.3**
AKCZ	**Akaroa Harbour**	**6.41**	**204**	P	**Pn**	**22 05 19.6**	**-2.5**
RACZ	**Rakaia**	**6.56**	**209**	P	**Pn**	**22 05 20.8**	**-3.1**
WACZ	**Wakanui South**	**6.86**	**210**	P	**Pn**	**22 05 25.3**	**-2.6**
ARCZ	**Arundel**	**7.13**	**213**	P	**Pn**	**22 05 29.5**	**-2.1**
TMZ	**Timaru**	**7.56**	**212**	P	**Pn**	**22 05 34.6**	**-2.6**
ODZ	**Otahua Downs**	**8.25**	**210**	P	**Pn**	**22 05 43.8**	**-2.5**
JCZ	**Jackson Bay**	**8.38**	**222**	P	**Pn**	**22 05 46.7**	**-1.5**
ASAR	**Alice Springs**	**38.96**	**279**	P	**P**	**22 11 01.8**	**+1.7**
	0.6nm,0.5s,baz=128,slow=8.7,SNR=16						
WRA	**Warramunga Arr**	**40.68**	**284**	P	**P**		
	0.2nm,0.3s,baz=124,slow=7.9,SNR=8.6						
ARCES	**ARCESS Array B**	**144.85**	**341**	PKP	**PKPab**	**22 23 05.8**	**+0.1**
	0.8nm,0.8s,baz=57,slow=3.3,SNR=4.2						
TORD	**Torodi Ar. Bea**	**154.76**	**192**	PKPab	**PKPab**	**22 23 49.6**	**+2.1**
	0.3nm,0.8s,baz=160,slow=4.6,SNR=1.8						

IDC 12 22:03:54.9±8.1, 32°.51S×178°.50W, h0 km, mb3.4/2, mb1 3.7/2, mb1mx3.5/34, mbtmp3.4/2, Error ellipse: s-maj=368.5km s-min=63.8km az=161.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.61**	**269**	P	P	22 11 53.0	-0.1
	0.3nm,0.6s,baz=111,slow=7.6,SNR=2.4						
WRA	**Warramunga Arr**	**43.79**	**275**	P	P	22 12 02.5	-0.1
	0.3nm,0.3s,baz=116,slow=7.8,SNR=8.2						
FINES	**FINESS Array B**	**146.96**	**338**	PKPbc	PKPbc	22 23 37.8	-0.8
	2.4nm,1.1s,baz=44,slow=4.8,SNR=3.6						

*IDC **12** 22:04:58.1±1.2, 43°.87N×105°.62W, h0 km, mb4.1/1, mb1 3.8/5, mb1mx3.4/48, mbtmp3.5/5, ML2.8/3, Error ellipse: s-maj=32.4km s-min=8.2km az=147.0*
*NEIC **12** 22:04:58.8±1.3, 43°.69N±0°.05×105°.25W±0°.07, h0 km±2 km, ML3.6/54, Error ellipse: s-maj=9.7km s-min=8.3km az=318.0*

ISC 12 22:04:57.7±0.9, 43°.67N±0°.06×105°.29W±0°.06, h0 km, n54, σ1§15/51, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.01**	**63**	Pg	**Pg**	**22 05 17.5**	**+0.4**
K22A	**Casper**	**1.36**	**222**		**Pg**	**22 05 23.0**	**-0.8**
K22A				IAML		22 05 45.1	
	comp=E,714nm,0.3s						
K22A				IAML		22 05 48.5	
	comp=N,752nm,0.3s						
PHWY	**Pilot Hill**	**2.37**	**183**		**Pn**	**22 05 39.1**	**+1.0**
RWWY	**Rawlins**	**2.43**	**216**		**Pn**	**22 05 40.9**	**+1.9**
RWWY				IAML		22 06 15.1	
	comp=N,314nm,1.2s						
LAO	**LASA Array**	**3.09**	**348**	Pn	**Pn**	**22 05 47.8**	**0.0**
LAO				IAML		22 06 41.8	
	comp=N,181nm,0.6s						
RLMT	**Red Lodge**	**3.20**	**298**	Pn	**Pn**	**22 05 50.2**	**+0.7**
BW06	**Boulder Array**	**3.25**	**255**		**Pn**	**22 05 51.2**	**+1.0**
BW06				IAML		22 06 41.1	
	comp=N,85nm,0.4s						
BW06				IAML		22 06 41.3	
	comp=N,112nm,0.7s						
PD31	**Pinedale Array**	**3.25**	**255**		**Pn**	**22 05 50.7**	**+0.5**
PDAR	**Pinedale Array**	**3.25**	**255**	Pn	**Pn**	**22 05 51.0**	**+0.9**
	comp=N,4.6nm,0.3s,baz=74,slow=16,SNR=50						
PDAR				Lg	Lg	22 06 34.2	
	comp=N,33nm,0.3s,baz=71,slow=33,SNR=8.0						
PDAR	**Pinedale Array**	**3.25**	**255**	Pn	**Pn**	**22 05 50.6**	**+0.5**
OGNE	**Ogallala**	**3.64**	**137**	Pn	**Pn**	**22 05 56.8**	**+1.5**
YNE	**Yellowstone No**	**3.64**	**293**	Pn	**Pn**	**22 05 56.2**	**+0.6**
YNE				IAML		22 07 04.2	
	comp=E,79nm,0.7s						
YNE				IAML		22 07 05.7	
	comp=N,91nm,0.7s						
YMP	**Mirror Lake PI**	**3.66**	**289**		**Pn**	**22 05 57.1**	**+1.2**
YMP				IAML		22 06 59.2	
	comp=N,142nm,1.0s						
GCMT	**Greycliff**	**3.78**	**306**	Pn	**Pn**	**22 05 58.3**	**+1.0**
LOHW	**Long Hollow**	**3.86**	**271**		**Pn**	**22 05 59.7**	**+1.2**
LOHW				IAML		22 07 24.5	
	comp=N,55nm,1.8s						
LOHW				IAML		22 07 29.3	
	comp=N,68nm,1.7s						
ISCO	**Idaho Springs**	**3.87**	**184**	Pn	**Pn**	**22 06 00.1**	**+1.3**
ISCO				IAML		22 07 05.8	
	comp=N,57nm,2.0s						
H17A	**Grant Village**	**3.88**	**283**		**Pn**	**22 06 00.5**	**+1.6**
H17A				IAML		22 07 05.2	
	comp=E,86nm,2.2s						
H17A				IAML		22 07 08.4	
	comp=N,75nm,1.9s						
FLWY	**Flagg Ranch**	**3.94**	**278**		**Pn**	**22 06 00.7**	**+1.1**
FLWY				IAML		22 07 20.6	
	comp=N,112nm,2.2s						
MOOW	**Moose Ponds**	**3.96**	**273**	Pn	**Pn**	**22 06 01.6**	**+1.7**
SNOW	**Snow King Moun**	**3.98**	**269**		**Pn**	**22 06 01.8**	**+1.6**
SNOW				IAML		22 07 37.0	
	comp=N,115nm,1.9s						
YPP	**Pitchstone Pla**	**4.03**	**281**		**Pn**	**22 06 02.0**	**+1.0**
YHH	**Holmes Hill**	**4.15**	**288**		**Pn**	**22 06 03.4**	**+0.7**
O20A	**White River Ci**	**4.16**	**213**		**Pn**	**22 06 04.0**	**+1.3**
AHID	**Auburn Hatcher**	**4.34**	**260**		**Pn**	**22 06 06.5**	**+1.3**
AHID				IAML		22 06 48.3	
	comp=N,75nm,0.1s						
E28A	**Huff**	**4.36**	**47**		**Pn**	**22 06 05.9**	**+0.7**
RDMU	**Red Mountain**	**4.44**	**227**		**Pn**	**22 06 08.0**	**+1.5**
RDMU				IAML		22 07 23.8	
	comp=E,72nm,0.8s						
RDMU				IAML		22 08 03.8	
	comp=N,61nm,2.0s						
DGMT	**Dagmar**	**4.86**	**9**		**Pn**	**22 06 13.2**	**+1.1**
BOZ	**Bozeman (W)**	**4.92**	**295**		**Pn**	**22 06 14.7**	**+1.6**
BOZ				IAML		22 07 33.0	
	comp=N,28nm,2.5s						
BOZ				IAML		22 08 13.2	
	comp=N,25nm,2.0s						
KSCO	**Kaye Shedlock'**	**5.06**	**156**		**Pn**	**22 06 15.5**	**+0.5**
HWUT	**Hardware Ranch**	**5.07**	**248**	Pn	**Pn**	**22 06 15.7**	**+0.6**
HWUT				IAML		22 07 44.0	
	comp=N,42nm,1.6s						
EGMT	**Eagleton**	**5.36**	**326**		**Pn**	**22 06 19.0**	**0.0**
JLU	**Jordanelle**	**5.51**	**238**		**Pn**	**22 06 21.3**	**0.0**
HRY	**Holter Researc**	**5.54**	**306**		**Pn**	**22 06 22.4**	**+1.0**
PV07	**Paradox Valley**	**5.81**	**207**		**Pn**	**22 06 26.7**	**+1.4**
HVU	**Hansel Valley**	**5.83**	**254**		**Pn**	**22 06 26.4**	**+0.9**
SDCO	**Great Sand Dun**	**5.92**	**182**		**Pn**	**22 06 28.5**	**+1.6**
PV12	**Saucer Basin,**	**5.97**	**208**		**Pn**	**22 06 29.1**	**+1.6**
SRU	**San Rafael Swe**	**6.02**	**223**		**Pn**	**22 06 28.4**	**+0.2**
PV18	**Skein Mesa, Pa**	**6.07**	**208**	Pn	**Pn**	**22 06 30.2**	**+1.3**
ECSD	**EROS Data Cent**	**6.29**	**86**	Pn	**Pn**	**22 06 31.7**	**+0.1**
T25A	**Trinidad**	**6.56**	**174**		**Pn**	**22 06 36.0**	**+0.4**
DUG	**Dugway, Tooele**	**6.60**	**241**	Pn	**Pn**	**22 06 36.1**	**0.0**
HLID	**Hailey**	**6.63**	**272**	Pn	**Pn**	**22 06 38.3**	**+1.8**
MSO	**Missoula**	**6.88**	**300**	Pn	**Pn**	**22 06 40.1**	**+0.3**
JTMT	**Jette**	**7.50**	**306**	Pn	**Pn**	**22 06 49.8**	**+1.4**
ELK	**Elko**	**7.95**	**252**	Pn	**Pn**	**22 06 54.4**	**-0.2**
	comp=N,0.1nm,0.3s,baz=60,slow=16,SNR=1.8						
ELK				Lg	Lg	22 09 07.6	
	comp=N,0.1nm,0.3s,baz=193,slow=23,SNR=2.7						
F36A	**Milaca**	**8.65**	**71**	Pn	**Pn**	**22 07 03.2**	**-0.9**
OK032	**Salt Plains WL**	**8.73**	**139**	Pn	**Pn**	**22 07 05.1**	**-0.1**
ANMO	**Albuquerque**	**8.76**	**186**	Lg	Lg	22 09 39.2	
	comp=N,0.1nm,0.3s,baz=178,slow=20,SNR=1.7						
ULM	**Lac du Bonnet**	**9.20**	**41**	Pn	**Pn**	**22 07 10.2**	**-1.4**
	comp=N,1.8nm,0.3s,baz=236,slow=13,SNR=11						
ULM				Lg	Lg	22 09 42.7	
	baz=162,slow=21,SNR=2.0						
NEW	**Newport**	**9.44**	**303**	Lg	Lg	22 09 45.1	
	comp=N,0.1nm,0.3s,baz=208,slow=21,SNR=0.9						
NVAR	**Mina Array Bea**	**11.13**	**246**	Pn	**Pn**	**22 07 40.8**	**+2.5**
	comp=N,0.1nm,0.3s,baz=70,slow=12,SNR=2.3						
TXAR	**Lajitas Array**	**14.37**	**174**	Pg	P	22 09 22.6	+53
	comp=N,0.0nm,0.3s,baz=358,slow=19,SNR=1.9						
TXAR				Lg	Lg	22 12 30.9	
	comp=N,0.0nm,0.3s,baz=2.2,slow=30,SNR=2.0						
ARCES	**ARCESS Array B**	**61.49**	**18**	P	**P**	**22 15 14.8**	**-0.8**
	comp=N,1.9nm,0.9s,baz=328,slow=6.6,SNR=5.9						

KRSC 12 22:08:41.3±0.6, 55°.09N×165°.49E, h31 km±10 km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.30**	**67**	*i* P	P

COEN	Coen	8.78 208	Pn	Pn	22 18 14.3 +0.9
SRPI	Serui, Papua	11.95 291	P	Pn	22 18 59.4 +2.5
	5µm580nm,1.1s				
MTSU	Mount Surprise	12.25 194	P	Pn	22 19 01.4 +0.4
	baz=12,SNR=102				
BAKI	Biak	12.33 293	P	Pn	22 19 05.2 +3.1
	404nm,0.8s				
HNR	Honiara	12.82 105	Pn	Pn	22 19 12.6 +3.9
	9.5nm,0.3s,baz=50,slow=3.4,SNR=8.4				
HNR	Honiara	12.82 105	P	Pn	22 19 11.0 +2.2
HNR	Honiara	12.82 105	Pn	Pn	22 19 11.0 +2.2
CTA	Charters Tower	13.86 185	Pn	Pn	22 19 23.8 +0.8
	5.3nm,0.3s,baz=4.4,slow=14,SNR=79				
CTA			Sn	Sn	22 21 57.3 +1.7
	1.4nm,0.3s,baz=3.9,slow=22,SNR=1.5				
CTA			LR	LR	22 24 16.4
	comp=Z,8µm,21.8s,baz=6.5,slow=35				
CTAO	Charters Tower	13.86 185	P	Pn	22 19 24.6 +1.6
CTAO	Charters Tower	13.86 185	Pn	Pn	22 19 24.6 +1.6
FAKI	Fak Fak	15.47 281	Pn	Pn	22 19 44.7 +0.3
FAKI			IAmb	IAmb	22 19 51.4
	comp=Z,284nm,0.9s				
FAKI	Fak Fak	15.47 281	P	Pn	22 19 45.4 +1.0
	comp=Z,4µmcomp=Z,4µmcomp=Z,393nm,1.1s				
SAUI	Saumlaki	16.10 263	P	P	22 19 54.4 -0.9
SAUI			IAmb	IAmb	22 20 24.9
	comp=Z,611nm,0.9s				
SAUI	Saumlaki	16.10 263	P	P	22 20 04.2 +9.0
QIS	Mount Isa	16.17 207	P	Pn	22 19 53.4 +0.1
	baz=16,SNR=64				
PATS	Pohnpei	16.90 40	P	Pn	22 20 00.4 -2.1
	baz=17,SNR=10				
PATS	Pohnpei	16.90 40		P	22 20 04.3 +0.2
SIJI	Sorong	16.96 288	Pn	Pn	22 20 03.1 -0.3
	comp=Z,3.8nm,0.3s,baz=100,slow=10,SNR=26				
SIJI			LR	LR	22 28 20.9
	comp=Z,3µm,19.0s,baz=100,slow=43				
SIJI	Sorong	16.96 288	P	Pn	22 20 04.0 +0.6
	comp=Z,2µmcomp=Z,268nm,1.1s				
SWI	Sorong	16.97 288	P	P	22 20 05.2 +0.3
	comp=Z,5µmcomp=Z,468nm,0.8s				
MTN	Manton Dam	17.36 246		Pn	22 20 08.2 -0.1
BNDI	Bandanaira	17.52 275	P	P	22 20 16.0 +5.0
	comp=Z,801nm,1.1s				
WR0	Warramunga Arr	18.55 221	P	P	22 20 21.8 -0.5
MSAI	Masohi	18.64 278	P	Pn	22 20 25.3 +1.3
	comp=Z,1µmcomp=Z,63nm,0.6s				
MSAI			S	S	22 23 57.5 +3.7
	comp=Z,1µmcomp=Z,63nm,0.6s				
WRAB	Tennant Creek	18.65 222 *d*	*i*P	P	22 20 23.7 +0.2
WRAB			pmax	pmax	
	comp=Z,221nm,1.5s				
WRAB	Tennant Creek	18.65 222	P	P	22 20 23.0 -0.4
WB2	Warramunga Arr	18.66 222	P	P	22 20 23.2 -0.3
WRA	Warramunga Arr	18.67 222	P	P	22 20 23.6 0.0
	comp=Z,11nm,0.3s,baz=50,slow=10,SNR=92				
WRA			S	Sn	22 23 48.4 -3.9
	comp=Z,1.1nm,0.3s,baz=40,slow=22,SNR=5.0				
WRA			PcP	PcP	22 24 52.2 +1.1
	comp=Z,0.6nm,0.3s,baz=48,slow=2.8,SNR=6.1				
WRA			ScP	ScP	22 28 25.6 +2.1
	comp=Z,0.1nm,0.3s,baz=40,slow=1.9,SNR=6.7				
WRA			LR	LR	22 28 33.1
	comp=Z,5µm,18.1s,baz=50,slow=40				
WRA	Warramunga Arr	18.67 222	P	P	22 20 23.6 0.0
KRAI	Karang Ratu	19.17 278	P	Pn	22 20 31.2 +0.8
	comp=Z,7µmcomp=Z,414nm,0.8s				
EIDS	Eidsvold	19.39 170	P	Pn	22 20 32.7 -0.2
	baz=19,SNR=20				
EIDS	Eidsvold	19.39 170	P	Pn	22 20 32.6 -0.2
EIDS			IAmb	IAmb	22 20 43.0
	comp=Z,295nm,1.5s				
GUMO	Guam	19.81 353	P	Pn	22 20 38.2 +0.3
	comp=Z,16nm,0.3s,baz=180,slow=9.8,SNR=33				
GUMO			LR	LR	22 28 18.9
	comp=Z,4µm,18.2s,baz=176,slow=37				
GUMO	Guam	19.81 353	P	Pn	22 20 37.7 -0.2
GUMO			pmax	pmax	
	comp=Z,2µm,1.7s				
GUMO	Guam	19.81 353	P	Pn	22 20 37.7 -0.2
RMQ	Roma	20.22 177	P	Pn	22 20 42.3 -0.5
	baz=20,SNR=31				
QLP	Quilpie	20.50 188	P	P	22 20 43.3 -0.2
	baz=21,SNR=19				
KNRA	Kununurra	20.58 241	P	P	22 20 45.2 +0.7
	baz=21,SNR=7.2				
KNRA	Kununurra	20.58 241	P	P	22 20 43.6 -0.9
KNRA			IAmb	IAmb	22 21 07.4
	comp=Z,270nm,1.1s				
GAMI	Galela, Maluku	21.16 292	P	P	22 20 55.9 +5.1
	comp=Z,3µmcomp=Z,238nm,1.0s				
TNTI	Ternate	21.18 288	P	P	22 20 50.7 -0.3
TNTI			IAmb	IAmb	22 21 08.5
	comp=Z,153nm,1.0s				
TNTI	Ternate	21.18 288	P	P	22 20 53.8 +2.8
	comp=Z,3µmcomp=Z,184nm,1.0s				
AS31	Alice Springs	21.70 215	P	P	22 20 56.7 +0.2
ASAR	Alice Springs	21.70 215	P	P	22 20 56.7 +0.1
	comp=Z,62nm,0.8s,baz=54,slow=8.9,SNR=232				
ASAR			S	S	22 24 53.8 -0.9
	comp=Z,45nm,1.0s,baz=32,slow=23,SNR=8.3				
ASAR			ScP	ScP	22 28 34.2 +3.6
	comp=Z,13nm,0.8s,baz=41,slow=3.5,SNR=9.7				
ASAR			PKiKP	PKiKP	22 32 41.9 -1.4
	comp=Z,2.7nm,0.8s,baz=33,slow=0.6,SNR=6.6				
SANI	Sanana	21.77 280	P	P	22 20 57.3 0.0
	comp=Z,4µmcomp=Z,396nm,1.0s				
ANA2	Anatahan	22.45 356	P	P	22 21 03.0 -1.6
ANA2			IAmb	IAmb	22 21 34.2
	comp=Z,176nm,0.8s				
SOEI	Soe	23.20 260	P	P	22 21 11.8 -0.7
SOEI	Soe	23.20 260	P	P	22 21 13.5 +1.0
	comp=Z,5µmcomp=Z,521nm,0.9s				
MNI	Manado	23.79 288	P	P	22 21 19.1 +1.0
	comp=Z,4µmcomp=Z,264nm,0.8s				
BATI	Baumata	23.85 259	P	P	22 21 20.0 +1.4
	comp=Z,285nm,0.8s,baz=134,slow=1.5,SNR=23				
BATI			LR	LR	22 33 06.7
	comp=Z,5µm,21.7s,baz=104,slow=43				
BATI	Baumata	23.85 259	P	P	22 21 20.8 +2.2
	comp=Z,3µmcomp=Z,265nm,1.3s				
LIFNC	LIFOU	24.07 129	P	P	22 21 20.8 +0.2
LIFNC			IAmb	IAmb	22 21 29.0
	comp=Z,306nm,1.0s				
DZM	Mont Dzumac	24.23 133	*e*P	P	22 21 24.0 +1.9
	comp=Z,283nm,1.3s				
DZM			*e*S	S	22 25 37.8 -0.3
	comp=Z,3µm,26.8s				
DZM			*e*LR	LR	22 27 30.6
	comp=Z,13µm,24.8s				
DZM	Mont Dzumac	24.23 133	P	P	22 21 22.1 -0.1
	comp=Z,25nm,0.8s,baz=325,slow=19,SNR=13				
DZM	Mont Dzumac	24.23 133	P	P	22 21 22.3 +0.1
DZM			IAmb	IAmb	22 21 32.6
	comp=Z,228nm,1.4s				
FITZ	Fitzroy Crossi	24.32 239	P	P	22 21 24.3 +1.3
	baz=24,SNR=50				
FITZ	Fitzroy Crossi	24.32 239	P	P	22 21 23.4 +0.4
	comp=Z,169nm,0.7s,baz=48,slow=12,SNR=86				
FITZ			LR	LR	22 31 51.7
	comp=Z,4µm,21.1s,baz=62,slow=39				
FITZ	Fitzroy Crossi	24.32 239	P	P	22 21 22.9 0.0
ONTNC	Ouen Toro	24.38 133	P	P	22 21 22.4 -1.0
ARMA	Armidale	24.42 171	P	P	22 21 24.6 +0.7
	baz=24,SNR=74				
ARMA	Armidale	24.42 171	P	P	22 21 24.3 +0.5
ARMA			IAmb	IAmb	22 21 31.7
	comp=Z,131nm,0.9s				
OUENC	Ouen Island, N	24.73 133	P	P	22 21 26.9 +0.3
OUENC			IAmb	IAmb	22 21 50.9
	comp=Z,309nm,1.9s				
KWAJ	Kwajalein Atol	25.04 54	P	P	22 21 28.8 -0.6
KWAJ			pmax	pmax	
	comp=Z,302nm,1.0s				
KWAJ	Kwajalein Atol	25.04 54	P	P	22 21 28.8 -0.6
MARNC	Mare, Loyalty	25.07 129	P	P	22 21 30.7 +1.0
MMRI	Maumere	25.09 263	P	P	22 21 29.2 -0.8
MMRI	Maumere	25.09 263	P	P	22 21 28.9 -1.0
CMSA	Cobar Meteorol	25.27 183	P	P	22 21 31.7 +0.3
	baz=25,SNR=52				
GTOI	Gorontalo	25.29 285	P	P	22 21 34.1 +2.3
	comp=Z,3µmcomp=Z,178nm,0.7s				
EDFI	Ende, Flores	25.64 263	P	P	22 21 34.1 -0.9
	comp=Z,2µmcomp=Z,208nm,0.9s				
KKSI	Kolaka, Sulawe	25.74 273	P	P	22 21 38.3 +2.4
	comp=Z,673µmcomp=Z,3µmcomp=Z,129nm,1.1s				
STKA	Stephens Creek	26.13 191	P	P	22 21 39.2 0.0
	baz=26,SNR=89				
STKA	Stephens Creek	26.13 191	P	P	22 21 39.0 -0.1
	comp=Z,42nm,0.7s,baz=352,slow=8.9,SNR=52				
STKA			LR	LR	22 32 36.8
	comp=Z,5µm,19.5s,baz=12,slow=38				
STKA	Stephens Creek	26.13 191	P	P	22 21 39.2 0.0
STKA			pmax	pmax	
	comp=Z,17nm,1.1s				
STKA			MLR	MLR	
	comp=Z,1µm,19.0s				
STKA	Stephens Creek	26.13 191	P	P	22 21 39.2 0.0
WRKA	Warakurna	26.21 222	P	P	22 21 39.6 -0.5
	baz=26,SNR=136				
APSI	Ampana	26.24 281	P	P	22 21 41.8 +1.4
	comp=Z,3µmcomp=Z,341nm,1.2s				
MRSI	Marisa	26.28 284	P	P	22 21 41.0 +0.2
	comp=Z,2µmcomp=Z,102nm,0.9s				
TARA	Tarawa	26.54 74	P	P	22 21 42.4 -0.7
TARA			IAmb	IAmb	22 21 46.7
	comp=Z,170nm,0.8s				
BSSI	Bau Bau, Buton	26.77 269	P	P	22 21 45.7 +0.5
	comp=Z,2µmcomp=Z,144nm,1.3s				
BKSI	Bulukumba	27.17 270	P	P	22 21 51.7 +2.9
	comp=Z,1µmcomp=Z,93nm,1.0s				
BNSI	Bone	27.25 272	P	P	22 21 52.9 +3.4
	comp=Z,2µmcomp=Z,115nm,1.1s				
LHI	Lord Howe Isla	27.45 158	P	P	22 21 52.2 +1.1
LHI			IAmb	IAmb	22 22 00.3
	comp=Z,112nm,1.1s				
KAPI	Kappang	27.56 271	P	P	22 21 52.8 +0.5
	comp=Z,15nm,0.8s,baz=81,slow=3.9,SNR=8.1				
KAPI			LR	LR	22 36 06.8
	comp=Z,731nm,19.3s,baz=107,slow=44				
KAPI	Kappang	27.56 271	P	P	22 21 51.7 -0.6
KAPI			IAmb	IAmb	22 22 04.6
	comp=Z,224nm,1.4s				
KAPI	Kappang	27.56 271	P	P	22 21 55.0 +2.7
	comp=Z,1µmcomp=Z,94nm,1.2s				
TOLI2	Tolitoli	27.57 284	P	P	22 21 51.2 -1.1
TOLI2			IAmb	IAmb	22 22 31.5
	comp=Z,105nm,1.0s				
TTSI	Tana Toraja	27.69 275	P	P	22 21 55.3 +1.9
	comp=Z,6µmcomp=Z,2µmcomp=Z,164nm,0.9s				
MKS	Makassar	27.83 271	P	P	22 21 55.8 +1.1
	comp=Z,2µmcomp=Z,115nm,1.4s				
WBSI	Waikabubak, Su	27.97 261	P	P	22 22 00.5 +4.5
	comp=Z,2µmcomp=Z,256nm,0.9s				
YNG	Young	27.98 178	P	P	22 21 56.8 +1.0
	baz=28,SNR=48				
MPSI	Mapaga	28.23 282	P	P	22 21 57.7 -0.5
	comp=Z,1µmcomp=Z,82nm,1.0s				
HTT	Hallett	28.23 195	P	P	22 21 58.0 0.0
	baz=28,SNR=24				
BBOO	Buckleboo	28.52 200	P	P	22 22 00.6 0.0
	baz=29,SNR=28				
BBOO	Buckleboo	28.52 200	P	P	22 22 00.2 -0.4
BBOO			IAmb	IAmb	22 22 07.8
	comp=Z,90nm,1.0s				
CAN	Canberra	29.03 177	P	P	22 22 04.1 -1.0
CAN			pmax	pmax	
	comp=Z,45nm,1.1s				
CAN			MLR	MLR	
	comp=Z,4µm,22.0s				
CAN	Canberra	29.03 177	P	P	22 22 04.1 -1.0
CNB	Canberra Magne	29.04 177	P	P	22 22 05.9 +0.6
	baz=29,SNR=24				
PLAI	Plampang	29.50 263	P	P	22 22 10.7 +1.1
	comp=Z,145nm,0.8s				
TWSI	Taliwang, Sumb	30.38 263	P	P	22 22 31.3 +14
FORT	Forrest	30.48 214	P	P	22 22 18.6 +0.7
	baz=31,SNR=9.8				
FORT	Forrest	30.48 214	P	P	22 22 18.1 +0.1
FORT			IAmb	IAmb	22 23 14.9
	comp=Z,160nm,1.1s				
FORT			IAMs_20	IAMs_20	22 35 12.1
	comp=Z,7µm,19.0s				
PSAC2	Pilbara Seismi	30.69 237	IAMs_20	IAMs_20	22 35 54.6
	comp=Z,5µm,18.0s				
PSAA3	Pilbara Seismi	30.74 237	IAMs_20	IAMs_20	22 35 56.8
	comp=Z,6µm,18.0s				
PSA00	Pilbara Seismi	30.74 237	P	P	22 22 20.7 +0.3
PSA00			IAmb	IAmb	22 22 26.8
	comp=Z,114nm,1.0s				
PSA00	Pilbara Seismi	30.74 237	P	P	22 22 20.6 +0.2
PSA00			IAmb	IAmb	22 22 26.9
	comp=Z,71nm,1.1s				
PSAB3	Pilbara Seismi	30.74 237	IAMs_20	IAMs_20	22 36 47.0
	comp=Z,5µm,19.0s				
PSAC1	Pilbara Seismi	30.76 238	IAMs_20	IAMs_20	22 35 47.3
	comp=Z,5µm,18.0s				
PSAC3	Pilbara Seismi	30.78 237	IAMs_20	IAMs_20	22 36 57.9
	comp=Z,5µm,19.0s				
ARPS	Mount Arapiles	30.86 189	P	P	22 22 21.7 +0.4
	baz=31,SNR=14				
TOO	Toolangi	31.29 183	P	P	22 22 26.1 +1.0
	baz=31,SNR=8.4				
TOO	Toolangi	31.29 183	P	P	22 22 25.8 +0.7
TOO			pmax	pmax	
	comp=Z,45nm,1.3s				
TOO			MLR	MLR	
	comp=Z,2µm,18.0s				
TOO	Toolangi	31.29 183	P	P	22 22 25.8 +0.7
FUNA	Funafuti	31.59 96	P	P	22 22 28.3 +0.3
FUNA			IAmb	IAmb	22 22 52.6
	comp=Z,168nm,1.2s				
MSVF	Nonsavu	32.02 114	P	P	22 22 33.7 +1.9
	comp=Z,27nm,1.1s,baz=245,slow=6.7,SNR=5.9				
MSVF			LR	LR	22 34 13.3
	comp=Z,869nm,20.3s,baz=271,slow=34				
MSVF	Nonsavu	32.02 114⇓	*i*P	P	22 22 33.8 +1.9
MSVF			pmax	pmax	
	comp=Z,65nm,1.5s				
MSVF	Nonsavu	32.02 114	P	P	22 22 32.5 +0.6
MSVF			IAmb	IAmb	22 23 00.1
	comp=Z,62nm,1.1s				
BBKI	Banjar Baru	32.57 273	P	P	22 22 39.1 +2.4
	comp=Z,68nm,1.4s				
SPMM	Sapulut	32.75 289	P	P	22 22 38.0 -0.2
MTKI	Muara Teweh, K	32.87 278	P	P	22 22 39.3 +0.1
JAGI	Jajag, Banyuwa	33.07 264	P	P	22 22 38.9 -2.1
JAGI			IAmb	IAmb	22 22 50.1
	comp=Z,104nm,0.9s				
JAGI	Jajag, Banyuwa	33.07 264	P	P	22 22 38.1 -2.9
	comp=Z,130nm,0.9s				
JCJ	Chichijima	33.48 352	P	P	22 22 43.6 -0.7
	comp=Z,324nm,0.7s,baz=141,slow=3.1,SNR=26				
JCJ			LR	LR	22 34 20.6
	comp=Z,1µm,20.9s,baz=176,slow=33				
JCJ	Chichijima	33.48 352	P	P	22 22 43.7 -0.6
PKKI	Palangkaraya	33.58 275	P	P	22 22 46.0 +0.5
	comp=Z,165nm,1.2s				
MEEK	Meekatharra	34.15 230	P	P	22 22 50.5 +0.2
	baz=34,SNR=61				
BWJI	Bawean	34.57 269	P	P	22 22 53.2 -0.8
	comp=Z,519nm,1.0s				
PWJI	Pagerwojo	35.38 265	P	P	22 23 03.9 +2.9
	comp=Z,61nm,1.0s				
SJI	Sawahan	35.42 265	P	P	22 23 03.6 +2.1
	comp=Z,75nm,0.7s				
JMZ	Minamidaito 2	35.50 334	P	P	22 23 00.9 -0.9
JMZ			IAmb	IAmb	22 23 20.7
	comp=Z,95nm,0.9s				
PBKI	Pangkalan Bun	35.80 274	P	P	22 23 06.6 +1.9
	comp=Z,4µmcomp=Z,422nm,1.1s				
GIRL	Giralia	35.93 240	P	P	22 23 06.2 +0.6
	baz=36,SNR=7.6				
GIRL	Giralia	35.93 240	P	P	22 23 07.0 +1.4
PCJI	Pacitan	36.01 265	P	P	22 23 06.4 0.0
	comp=Z,256nm,1.0s				
SBUM	Sibu	36.18 283	P	P	22 23 09.0 +1.1
STKI	Sintang	36.41 279	P	P	22 23 10.7 +0.9
	comp=Z,5µmcomp=Z,45nm,1.0s				
TAU	Tasmania Unive	36.57 180	P	P	22 23 11.4 +0.6
TAU			pmax	pmax	
	comp=Z,73nm,1.4s				
TAU	Tasmania Unive	36.57 180	P	P	22 23 11.4 +0.6
TAU			IAmb	IAmb	22 23 30.7
	comp=Z,73nm,1.4s				
UGM	Wanagama	36.65 265	P	P	22 23 11.0 -0.9
UGM	Wanagama	36.65 265	P	P	22 23 10.8 -1.2
	comp=Z,311nm,1.2s				
SMRI	Semarang	36.74 267	P	P	22 23 11.9 -0.8
SMRI	Semarang	36.74 267	P	P	22 23 24.2 +12
MORW	Morawa	37.36 229	P	P	22 23 18.2 +0.5
	baz=38,SNR=18				
MORW	Morawa	37.36 229	P	P	22 23 17.7 0.0
MORW			IAmb	IAmb	22 23 24.4
	comp=Z,208nm,1.4s				
OUZ	Omahuta	37.62 144	P	P	22 23 21.2 +1.4
BLDU	Ballidu	37.70 226	P	P	22 23 21.3 +0.7
	baz=38,SNR=17				
JOW	Kunigami	37.71 331	P	P	22 23 20.4 -0.2
	comp=Z,178nm,0.9s,baz=145,slow=8.3,SNR=36				
JOW			LR	LR	22 35 57.6
	comp=Z,2µm,20.9s,baz=150,slow=32				
JOW	Kunigami	37.71 331	P	P	22 23 19.9 -0.8
KSM	Kuching	37.83 280	P	P	22 23 23.0 +1.1
KPJI	Karang Pucung	38.23 266	P	P	22 23 27.3 +2.0
	comp=Z,2µmcomp=Z,157nm,0.9s				
YOJ	Yonaguni jima	38.65 323	P	P	22 23 28.5 -0.1
YOJ			pmax	pmax	
	comp=Z,280nm,0.9s				
YOJ	Yonaguni jima	38.65 323	P	P	22 23 28.5 -0.1
NWAO	Narrogin (SRO)	38.67 223	P	P	22 23 29.4 +0.6
	baz=39,SNR=18				
NWAO	Narrogin (SRO)	38.67 223	P	P	22 23 28.9 +0.1
	comp=Z,27nm,0.8s,baz=48,slow=7.7,SNR=21				
NWAO	Narrogin (SRO)	38.67 223	P	P	22 23 29.1 +0.3
NWAO			pmax	pmax	
	comp=Z,63nm,1.1s				
NWAO	Narrogin (SRO)	38.67 223	P	P	22 23 29.1 +0.3
CMJI	Cimerak	38.71 265	P	P	22 23 27.6 -1.7
	comp=Z,2µmcomp=Z,197nm,0.9s				
MUN	Mundaring	38.82 225	P	P	22 23 30.7 +0.7
	baz=39,SNR=14				
YULB	Yu-li	38.93 320	P	P	22 23 30.5 -0.5
YULB			IAmb	IAmb	22 23 37.4
	comp=Z,66nm,0.8s				
TPUB	Ta-pu	39.30 319	P	P	22 23 33.0 -1.1
TPUB			IAmb	IAmb	22 23 43.2
	comp=Z,86nm,0.8s				
NACB	Ninganchiao	39.31 321	P	P	22 23 33.6 -0.5
NACB			IAmb	IAmb	22 23 37.5
	comp=Z,128nm,1.0s				
CISI	Cisompet, Garu	39.34 266	P	P	22 23 33.9 -0.8
CISI			IAmb	IAmb	22 23 49.1
	comp=Z,166nm,0.8s				
CISI	Cisompet, Garu	39.34 266	P	P	22 23 34.3 -0.3
	comp=Z,2µmcomp=Z,228nm,0.8s				
SSLB	Suanglung	39.44 320	P	P	22 23 34.9 -0.3
LEM	Lembang	39.55 267	P	P	22 23 36.1 -0.4
	comp=Z,38nm,0.5s,baz=59,slow=8.7,SNR=12				
LEM			LR	LR	22 42 18.5
	comp=Z,740nm,22.0s,baz=93,slow=40				
LEM	Lembang	39.55 267	P	P	22 23 36.3 -0.2
	comp=Z,75nm,0.9s				
JHJ2	Mitsune	39.75 350	P	P	22 23 36.6 -1.0
JHJ	Hachijo jima 2	39.76 350	LR	LR	22 39 50.7
	comp=Z,1µm,18.7s,baz=118,slow=36				
TPI	Tanjungpandan	39.78 273	P	P	22 23 40.1 +1.8
	comp=Z,1µmcomp=Z,120nm,1.3s				
YHNB	Yeheng	39.81 321	P	P	22 23 38.5 +0.1
RAO	Raoul Island	39.94 129	LR	LR	22 37 31.9
	comp=Z,2µm,21.5s,baz=304,slow=32				
TATO	Taipei	39.96 322	P	P	22 23 39.3 -0.2
CNJI	Cibinong	40.02 266	P	P	22 23 39.5 -0.7
	comp=Z,5µmcomp=Z,528nm,0.9s				
CBJI	Citeko	40.32 267	P	P	22 23 42.2 -0.5
DBJI	Dramaga	40.41 267	P	P	22 23 46.9 +3.3
	comp=Z,5µmcomp=Z,50nm,0.9s				
SKJI	Sukabumi	40.59 266	P	P	22 23 45.1 +0.1
	comp=Z,2µmcomp=Z,172nm,0.8s				
HIZ	Hauiti	40.65 146	IAMs_20	IAMs_20	22 38 05.6
	comp=Z,3µm,21.0s				
JSU	Suzuyama	40.84 338	P	P	22 23 46.6 -0.2
JSU			IAmb	IAmb	22 23 49.6
	comp=Z,88nm,0.9s				
AFI	Afiamalu	40.85 104	P	P	22 23 48.1 +0.9
	comp=Z,151nm,0.8s,baz=247,slow=13,SNR=16				
AFI			LR	LR	22 39 09.0
	comp=Z,1µm,19.0s,baz=268,slow=34				
AFI	Afiamalu	40.85 104	P	P	22 23 48.1 +0.9
AFI			IAmb	IAmb	22 23 49.5
	comp=Z,166nm,0.8s				
KNTN	Kanton	40.87 87	P	P	22 23 48.3 +1.0
PPBI	Pangkal Pinang	41.36 274	P	P	22 23 52.9 +1.6
	comp=Z,6µmcomp=Z,109nm,1.2s				
JSG	Sagara	41.57 349	P	P	22 23 52.9 +0.3
KNMB	Chin-men Tao	41.58 318	P	P	22 23 52.7 -0.2
KNMB			IAmb	IAmb	22 23 57.1
	comp=Z,169nm,0.9s				
JMN	Monobe	41.73 343	P	P	22 23 53.9 -0.1
URZ	Urewera	41.75 144	P	P	22 23 54.5 +0.3
	comp=Z,9.7nm,0.9s,baz=236,slow=3.6,SNR=2.5				
URZ			LR	LR	22 39 28.4
	comp=Z,3µm,21.3s,baz=30,slow=34				
URZ	Urewera	41.75 144	P	P	22 23 55.2 +1.0
URZ			IAMs_20	IAMs_20	22 38 22.8
	comp=Z,3µm,22.0s				
QZH	Quanzhou	41.77 319	P	P	22 23 54.7 +0.2
QZH			S	S	22 30 12.1 +3.0
THZ	Tophouse	42.05 151	P	P	22 23 57.6 +0.9
JNU	Nakatsue	42.14 339	P	P	22 23 56.8 -0.6
	comp=Z,249nm,0.9s,baz=137,slow=4.9,SNR=44				
JNU			PcP	PcP	22 25 50.2 -1.2
	comp=Z,27nm,0.9s,baz=157,slow=3.8,SNR=3.3				
JNU			LR	LR	22 40 03.8
	comp=Z,1µm,22.0s,baz=164,slow=34				
JNU	Nakatsue	42.14 339	P	P	22 23 57.1 -0.2
KLI	Kotabumi	42.38 270	P	P	22 24 02.3 +2.6
	comp=Z,305nm,0.5s				
INU	Inuyama	42.46 347	P	P	22 23 59.5 -0.4
INU			IAmb	IAmb	22 24 02.7
	comp=Z,72nm,0.9s				
BSWZ	Blackbirch Sta	42.48 150	P	P	22 24 01.0 +0.9
LTZ	Lake Taylor	42.55 153	P	P	22 24 01.4 +0.8
LTZ			IAmb	IAmb	22 24 13.3
	comp=Z,146nm,1.5s				
JGF	Kuroka	42.63 348	P	P	22 24 01.1 -0.3
JGF			IAmb	IAmb	22 24 04.4
	comp=Z,111nm,0.9s				
JYT	Yasato	42.74 351	P	P	22 24 01.8 -0.3
JYT			IAmb	IAmb	22 24 06.3
	comp=Z,147nm,0.8s				
RPZ	Rata Peaks	42.76 155	P	P	22 24 03.4 +1.1
RPZ			IAmb	IAmb	22 24 15.8
	comp=Z,99nm,1.2s				
KHZ	Kahutara	42.85 151	P	P	22 24 02.8 -0.2
KHZ			IAmb	IAmb	22 24 15.7
	comp=Z,112nm,1.3s				
LBZ	Lake Benmore	42.94 156	P	P	22 24 04.4 +0.6
LBZ			IAmb	IAmb	22 24 15.3
	comp=Z,188nm,1.6s				
MSWZ	Moikau Station	42.95 149	P	P	22 24 04.3 +0.3
MDSI	Maura Dua	43.08 270	P	P	22 24 04.2 -1.1
	comp=Z,1µmcomp=Z,76nm,1.3s				
JHS	Saijyo	43.13 343	P	P	22 24 05.3 -0.1
JHS			IAmb	IAmb	22 24 08.4
	comp=Z,98nm,0.9s				
LWLI	Liwa	43.16 269	P	P	22 24 07.7 +1.5
	comp=Z,2µmcomp=Z,135nm,0.9s				
MJAR	Matsushiro Arr	43.38 349	P	P	22 24 06.5 -0.9
	comp=Z,132nm,1.0s,baz=169,slow=6.6,SNR=74				
MJAR			ScP	ScP	22 29 44.8 +1.2
	comp=Z,1.4nm,0.5s,baz=167,slow=4.8,SNR=4.2				
MJAR			LR	LR	22 40 38.5
	comp=Z,810nm,19.8s,baz=195,slow=34				
MAJO	Matsushiro	43.38 349 *c*	*i*P	P	22 24 07.3 -0.1
MAJO			pmax	pmax	
	comp=Z,382nm,1.5s				
MAJO	Matsushiro	43.38 349	P	P	22 24 07.2 -0.2
MAT	Matsushiro	43.38 349	P	P	22 24 07.0 -0.4
MAT			S	S	22 30 35.2 +2.7
MJB9	Matsu-Tunnel	43.38 349	P	P	22 24 07.0 -0.5
NIUE	Niue	43.41 111	P	P	22 24 05.9 -2.0
	baz=43,SNR=4.2				
NIUE	Niue	43.41 111	P	P	22 24 08.6 +0.6
LHSI	Lahat	43.78 271	P	P	22 24 13.0 +2.0
	comp=Z,2µmcomp=Z,87nm,1.1s				
JTU	Tsushima	43.93 338	P	P	22 24 11.5 -0.3
JTU			IAmb	IAmb	22 24 57.7
	comp=Z,244nm,1.6s				
BTDF	Bukit Timah Da	44.22 278	P	P	22 24 15.6 +1.1
	comp=Z,851nmcomp=Z,72nm,1.3s				
JMM	Marumori	44.26 352	P	P	22 24 14.8 +0.3
QIZ	Qiongzhong	44.71 305	P	P	22 24 18.8 +0.5
QIZ			PP	PP	22 26 04.2 +0.9
QIZ			S	S	22 30 54.0 +1.6
QIZ			LR	LR	
	comp=Z,550nm,15.5s				
QIZ			LR	LR	
	comp=Z,540nm,22.6s				

QIZ LR LR
comp=Z,850nm,21.7s
SSE Sheshan 44.77 327 P **P** **22 24 19.8 +1.2**
SSE S **S** **22 30 53.8 +1.0**
SSE pmax pmax
comp=Z,33nm,0.9s
SSE pmax pmax
comp=Z,130nm,4.3s
SSE LR LR
comp=Z,290nm,18.6s
SSE LR LR
comp=Z,360nm,23.7s
JSD Sado 44.82 350 P **P** **22 24 19.5 +0.6**
MASI Maura Aman, Be 45.12 272 P **P** **22 24 23.1 +1.3**
comp=Z,228nm,1.1s
JRMM Jerantut 45.98 281 P **P** **22 24 30.0 +1.5**
TJN Taejon 46.33 338*d iP* **P** **22 24 32.9 +2.0**
NJ2 Nanjing 46.77 326⇑*iP* **P** **22 24 34.9 +0.5**
NJ2 pP **pP** **22 24 46.9 +0.4**
NJ2 sP **sP** **22 24 49.6 -2.0**
NJ2 S **S** **22 31 25.4 +3.7**
NJ2 sS **sS** **22 31 40.9 -1.8**
NJ2 pmax pmax
comp=Z,61nm,1.0s
NJ2 pmax pmax
comp=Z,180nm,3.5s
NJ2 LR LR
comp=Z,940nm,19.4s
NJ2 LR LR
comp=Z,530nm,21.3s
NJ2 LR LR
comp=Z,1μm,22.7s
KSRS Korea Array 47.08 339 P **P** **22 24 37.0 +0.3**
comp=Z,74nm,0.9s,baz=155,slow=8.6,SNR=103
KSRS PcP **PcP** **22 26 08.2 +0.1**
comp=Z,9.9nm,0.8s,baz=168,slow=2.9,SNR=6.5
KSRS LR LR 22 41 44.2
comp=Z,1μm,21.8s,baz=148,slow=33
KSAR Wonju Array Be 47.08 339 P **P** **22 24 36.1 -0.6**
KSAR Wonju Array Be 47.08 339 P **P** **22 24 36.0 -0.6**
KS19 Wonju Array Si 47.14 339 P **P** **22 24 36.4 -0.8**
IPM Ipoh 47.52 282 P **P** **22 24 41.0 +0.4**
INCN Inchon 47.58 338 P **P** **22 24 40.2 -0.5**
INCN pmax pmax
comp=Z,146nm,1.0s
INCN MLR MLR
comp=Z,1μm,22.0s
INCN Inchon 47.58 338 P **P** **22 24 40.2 -0.5**
KULM Kulim 48.06 283 P **P** **22 24 46.0 +1.2**
ERM Erimo 48.13 356 P **P** **22 24 45.8 +1.1**
ERM pmax pmax
comp=Z,147nm,1.3s
ERM Erimo 48.13 356 P **P** **22 24 45.8 +1.1**
MNSI Mandailing Nat 48.26 277 P **P** **22 24 45.9 -0.4**
comp=Z,1μmcomp=Z,165nm,0.9s
JOHN Johnston Islan 48.28 61 P **P** **22 24 46.9 +0.6**
WHN Wuhan 48.35 321⇑*iP* **P** **22 24 47.1 +0.5**
WHN pmax pmax
comp=Z,120nm,1.0s
WHN LR LR
comp=Z,2μm,16.7s
SKLT Songkhla 48.54 285 P P 22 25 05.6 +17
SKNT Sakolnakorn 48.72 299 P **P** **22 24 53.6 +3.9**
comp=Z,35nm,0.7s
TRSI Tarutung 49.07 278 P **P** **22 24 53.8 +1.1**
comp=Z,4μmcomp=Z,356nm,0.9s
RPSI Rantau Prapat 49.22 279 P **P** **22 24 53.6 -0.1**
PSI Prapat 49.24 279 P **P** **22 24 53.3 -0.7**
comp=Z,32nm,0.4s,baz=179,slow=2.3,SNR=24
PSI Prapat 49.24 279 P **P** **22 24 53.6 -0.4**
PSI pmax pmax
comp=Z,194nm,1.4s
PSI Prapat 49.24 279 P **P** **22 24 53.6 -0.4**
comp=Z,707nmcomp=Z,37nm,1.0s,comp=Z,1μm,1.0s,
comp=Z,77nm,1.0s
PSI P **P** **22 24 53.7 -0.3**
comp=Z,707nmcomp=Z,37nm,1.0s,comp=Z,1μm,1.0s,
comp=Z,77nm,1.0s
TSI Tuntungan 49.73 280 P **P** **22 24 58.2 +0.7**
comp=Z,3μmcomp=Z,204nm,1.1s
NONG Nongkai 49.89 300 P **P** **22 24 59.9 +1.2**
comp=Z,42nm,0.9s
YUK Yuzh-Kuril'sk 50.01 359 *eP* **P** **22 24 58.5 -0.6**
YUK 22 26 50.5
YUK *eS* **S** **22 32 07.7 +0.7**
CHAI Chaiyaphum 50.05 297 P **P** **22 25 02.5 +2.6**
comp=Z,25nm,0.8s
JKA Kamikawa-asahi 50.26 355 P **P** **22 25 02.1 +1.0**
JKA IAmb IAmb 22 25 08.0
comp=Z,70nm,0.9s
ASAJ Asahikawa 50.26 355 P **P** **22 25 02.1 +1.1**
comp=Z,55nm,0.9s,baz=224,slow=10,SNR=27
ASAJ LR LR 22 45 17.5
comp=Z,510nm,20.1s,baz=192,slow=35
GSI Gunungsitoli 50.32 277 P **P** **22 25 01.4 -0.6**
GSI Gunungsitoli 50.32 277 P **P** **22 25 01.8 -0.2**
comp=Z,233nm,0.7s
SLVN Son La 50.70 304 P **P** **22 25 04.0 -0.8**
MSHR Mys Shultsa 50.75 345*d iP* **P** **22 25 07.4 +2.7**
MSHR pmax pmax
comp=Z,30nm,0.8s
DL2 Dalian 50.84 334 P **P** **22 25 05.8 +0.3**
DL2 pmax pmax
comp=Z,66nm,0.8s
DL2 pmax pmax
comp=Z,180nm,6.5s
DL2 LR LR
comp=Z,1μm,20.3s
DL2 LR LR
comp=Z,1μm,19.4s
DL2 LR LR
comp=Z,1μm,23.9s
TIA Tai'an 50.86 328 ⇑P **P** **22 25 04.8 -0.9**
TIA pmax pmax
comp=Z,80nm,0.9s
TIA LR LR
comp=Z,680nm,23.3s
TIA LR LR
comp=Z,580nm,24.7s
TIA LR LR
comp=Z,2μm,19.0s
PKDT Phuket 50.92 285 P **P** **22 25 08.2 +1.7**
comp=Z,52nm,0.9s
TPTI 51.04 279 P **P** **22 25 07.2 -0.3**
comp=Z,824nmcomp=Z,101nm,1.0s
VLA Vladivostok 51.06 345*c iP* **P** **22 25 07.3 +0.2**
VLA pmax pmax
comp=Z,143nm,1.2s
GYA Guiyang 51.12 311 ⇓P **P** **22 25 08.4 +0.4**
GYA pP sP 22 25 25.0 -0.2
GYA sP pP 22 25 31.2 +11
GYA pmax pmax
comp=Z,21nm,1.2s
PHET Kaeng Krachan 51.13 292 P P 22 25 21.6 +13
KUR Kuril'sk 51.19 0⇓*eP* **P** **22 25 09.1 +1.1**
ENH Enshi 51.34 317 P **P** **22 25 08.8 -0.7**
TEY Ternei 51.91 350⇑*eP* **P** **22 25 15.4 +2.0**
TEY *e* 22 25 24.4
TEY *e* 22 32 42.8
TEY pmax pmax
comp=Z,40nm,1.0s
TEY pmax pmax
comp=E,10.0nm,0.9s
PHIT Phitsanulok 51.93 297 P **P** **22 25 15.2 +1.2**
comp=E,52nm,0.8s
UTTA Uttaradit 52.02 298 P **P** **22 25 15.3 +0.6**
comp=E,305nmcomp=E,39nm,0.9s
USA0B Ussuriysk Arra 52.06 346 P **P** **22 25 14.9 +0.4**
USA0B pmax pmax
comp=Z,95nm,0.9s
USA0B Ussuriysk Arra 52.06 346 P **P** **22 25 14.9 +0.4**
USA0B IAmb IAmb 22 25 18.0
comp=Z,94nm,0.9s
USRK Ussuriysk Ar. 52.06 346 P **P** **22 25 14.7 +0.2**
comp=Z,77nm,0.8s,baz=175,slow=6.2,SNR=56
USRK LR LR 22 45 34.4
comp=Z,654nm,19.5s,baz=148,slow=34
USRK Ussuriysk Ar. 52.06 346 P **P** **22 25 14.9 +0.4**
USRK Ussuriysk Ar. 52.06 346 P **P** **22 25 14.9 +0.4**
UTHA Uthaitani 52.20 295 P P 22 25 29.6 +14
SNY Shenyang 52.52 338 ⇑P **P** **22 25 17.8 -0.2**
SNY S **S** **22 32 42.7 +1.0**
SNY pmax pmax
comp=Z,30nm,0.7s
SNY LR LR
comp=Z,720nm,23.0s
SNY LR LR
comp=Z,570nm,21.3s
SNY LR LR
comp=Z,2μm,22.5s
KHLT Khaolaem Dam 52.71 294 P P 22 25 34.4 +15
UMPA Umpang Tak 52.95 296 P **P** **22 25 24.8 +3.1**
comp=Z,427nmcomp=Z,37nm,0.9s
MDJ Mudanjiang 53.06 344 P **P** **22 25 21.9 0.0**
MDJ pmax pmax
comp=Z,22nm,1.2s
MDJ pmax pmax
comp=Z,400nm,11.0s
MDJ Mudanjiang 53.06 344 P **P** **22 25 21.7 -0.2**
MDJ IAmb IAmb 22 25 25.7
comp=Z,46nm,0.9s
YSS Yuzh-Sakhalins 53.07 356 *eP* **P** **22 25 22.8 +0.8**
YSS *e* 22 32 55.9
YSS pmax pmax
comp=Z,60nm,0.9s
YSS Yuzh-Sakhalins 53.07 356 P **P** **22 25 21.8 -0.2**
YSS IAmb IAmb 22 25 25.5
comp=Z,56nm,0.9s
LAMP Lampang 53.13 299 P **P** **22 25 27.1 +4.2**
comp=Z,23nm,0.8s
RAR Rarotonga 53.18 112 P **P** **22 25 23.9 +0.6**
comp=Z,39nm,1.0s,baz=241,slow=6.7,SNR=4.4
RAR LR LR 22 44 39.2
comp=Z,427nm,21.9s,baz=298,slow=32
RAR Rarotonga 53.18 112 P **P** **22 25 23.7 +0.4**
RAR IAmb IAmb 22 25 35.2
comp=Z,90nm,1.1s
KMI Kunming 53.45 307 ⇑P **P** **22 25 25.8 +0.4**
KMI sP sP 22 25 49.4 +6.8
KMI pmax pmax
comp=Z,15nm,1.1s
KMI LR LR
comp=Z,370nm,18.4s
KMI LR LR
comp=Z,280nm,29.5s
KMI LR LR
comp=Z,740nm,33.2s
CN2 Changchun 53.58 340 *eP* **P** **22 25 24.6 -1.2**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CM31 Chiang Mai Arr 53.71 298 P **P** **22 25 27.0 -0.2**
CMAR Chiang Mai Arr 53.71 298 P **P** **22 25 27.4 +0.2**
comp=Z,14nm,1.0s,baz=121,slow=5.8,SNR=30
CMAR ScP **ScP** **22 30 29.0 +1.2**
comp=Z,1.2nm,0.8s,baz=84,slow=2.8,SNR=1.9
CMAR LR LR 22 50 45.6
comp=Z,165nm,18.2s,baz=176,slow=39
CMAR PKPPKP **P'P'df** **22 55 43.2 -4.4**
comp=Z,0.6nm,0.6s,baz=297,slow=2.8,SNR=4.7
CMAR Chiang Mai Arr 53.71 298 P **P** **22 25 26.8 -0.4**
CMMT Chiang Mai 53.84 299 P **P** **22 25 28.4 +0.2**
comp=Z,17nm,1.2s
CMMT Chiang Mai 53.84 299 P **P** **22 25 28.4 +0.2**
comp=Z,16nm,1.2s
CHTO Chiang Mai 53.84 299 P **P** **22 25 27.7 -0.5**
CHTO pmax pmax
comp=Z,18nm,0.9s
CHTO MLR MLR
comp=Z,500nm,20.0s
CHTO Chiang Mai 53.84 299 P **P** **22 25 28.5 +0.3**
comp=Z,454nmcomp=Z,18nm,1.2s
CHTO Chiang Mai 53.84 299 P **P** **22 25 27.7 -0.5**
CHTO Chiang Mai 53.84 299 P **P** **22 25 28.5 +0.3**
comp=Z,255nmcomp=Z,9.8nm,1.2s
XAN Xi'an 54.09 320 P **P** **22 25 28.6 -1.2**
XAN pP pP 22 25 40.5 -1.6
XAN pmax pmax
comp=Z,220nm,1.1s
XAN LR LR
comp=Z,310nm,19.9s
XAN LR LR
comp=Z,680nm,19.1s
XAN LR LR
comp=Z,870nm,21.5s
BJT Baijiatuau 54.26 331 P **P** **22 25 30.2 -0.6**
BJT pmax pmax
comp=Z,63nm,1.0s
BJT MLR MLR
comp=Z,1μm,20.0s
BJT Baijiatuau 54.26 331 P **P** **22 25 30.2 -0.6**
BJT IAmb IAmb 22 25 33.6
comp=Z,63nm,1.0s
BJI Beijing 54.27 331 P **P** **22 25 29.8 -1.1**
BJI pmax pmax
comp=Z,78nm,0.9s
BJI LR LR
comp=Z,680nm,20.5s
BJI LR LR
comp=Z,520nm,22.0s
BJI LR LR
comp=Z,1μm,20.7s
TIY Taiyuan 54.50 326 *eP* **P** **22 25 35.3 +2.6**
TIY pmax pmax
comp=Z,39nm,0.5s
TIY pmax pmax
comp=Z,280nm,6.2s
TIY LR LR
comp=Z,680nm,17.7s
TIY LR LR
comp=Z,160nm,8.8s
TIY LR LR
comp=Z,1μm,23.6s
XMAS Kiritimati 55.65 83 P **P** **22 25 41.9 +0.5**
CD2 Chengdu 55.71 314 P **P** **22 25 40.9 -0.6**
CD2 pmax pmax
comp=Z,140nm,0.8s
KLR Kul'dur 56.86 348 P **P** **22 25 49.6 +0.3**
comp=Z,40nm,0.9s,baz=156,slow=6.7,SNR=43
KLR PcP **PcP** **22 26 44.0 -0.6**
comp=Z,14nm,0.9s,baz=220,slow=1.6,SNR=5.0
KLR LR LR 22 47 54.9
comp=Z,594nm,21.7s,baz=156,slow=34
KLR Kul'dur 56.86 348*c iP* **P** **22 25 49.7 +0.4**
KLR pmax pmax
comp=Z,125nm,1.2s
TYV Tymovskoe 56.97 356 *eP* **P** **22 25 51.0 +0.9**
TYV pmax pmax
comp=Z,62nm,1.6s
TYV pmax pmax
comp=Z,400nm,5.3s
SKR Severo-Kuril's 57.14 7 *eP* P 22 25 43.1 -8.1
SKR pmax pmax
comp=Z,52nm,1.3s
SKR pmax pmax
comp=Z,300nm,5.9s
SKR pmax pmax
comp=Z,300nm,4.4s
SKR MLR MLR
comp=Z,400nm,17.0s
SKR MLR MLR
comp=Z,700nm,17.0s
HHC Hu-ho-hao-te 57.22 328 *eP* **P** **22 25 52.2 +0.1**
HHC pP pP 22 26 04.9 +0.3
HHC pmax pmax
comp=Z,44nm,1.1s
HHC pmax pmax
comp=Z,420nm,5.5s
GRNR Gornyy 57.52 352⇑*iP* **P** **22 25 54.9 +0.9**
GRNR *eS* **S** **22 33 51.9 +3.4**
GRNR pmax pmax
comp=Z,10.0nm,1.0s
GRNR smax smax
comp=N,6.0nm,1.0s
LZH Lanzhou 58.63 319 ⇑P **P** **22 26 02.4 +0.2**
LZH pP pP 22 26 05.7 -8.9
LZH pmax pmax
comp=Z,27nm,1.3s
LZH Lanzhou 58.63 319 ⇓P **P** **22 26 05.7 +3.5**
LZH pP sP 22 26 17.4 -2.2
LZH sP pP 22 26 23.9 +9.3
LZH PP **PP** **22 28 12.4 0.0**
LZH SS SS 22 38 03.0 +5.6
LZH pmax pmax
comp=Z,170nm,1.3s
LZH pmax pmax
comp=Z,340nm,7.2s
LZH LR LR
comp=Z,650nm,16.0s
LZH LR LR
comp=Z,610nm,15.8s
LZH LR LR
comp=Z,640nm,17.6s
PEA0B Petropavlovsk- 59.71 7*c iP* **P** **22 26 10.2 +1.0**
PEA0B Petropavlovsk- 59.71 7 P **P** **22 26 10.0 +0.8**
PEA0B IAms_20 IAms_20 22 46 39.6
comp=Z,2μm,21.0s
PETK Petropavlovsk- 59.71 7 P **P** **22 26 09.6 +0.4**
comp=Z,65nm,0.9s,baz=189,slow=8.6,SNR=39
PETK LR LR 22 48 26.6
comp=Z,1μm,21.0s,baz=197,slow=32
PETK Petropavlovsk- 59.71 7 P **P** **22 26 09.7 +0.5**
PET Petropavlovsk 59.76 8 *eP* **P** **22 26 09.9 +0.5**
PET *eS* **S** **22 34 18.9 +1.5**
PET *eSS* **SS** **22 38 13.9 -0.2**
PET *eSSS* SSS 22 40 37.6
PET pmax pmax
comp=Z,96nm,1.0s
PET Petropavlovsk 59.76 8 P **P** **22 26 09.5 +0.1**
PET IAmb IAmb 22 26 11.7
comp=Z,67nm,1.0s
HIA Hailar 60.28 339 P **P** **22 26 13.0 -0.2**
HIA pmax pmax
comp=Z,84nm,0.9s
HIA MLR MLR
comp=Z,1μm,19.0s
HIA Hailar 60.28 339 P **P** **22 26 13.0 -0.2**
HUH Hualalai 61.45 64 IAms_20 IAms_20 22 45 46.9
comp=Z,1μm,20.0s
POHA Pohakuloa 61.75 64 P **P** **22 26 24.2 +0.3**
ZEA Zeya 62.08 347 *eP* **P** **22 26 25.8 +0.6**
ZEA pmax pmax
comp=E,10.0nm,0.5s
ZEA pmax pmax
comp=N,40nm,0.9s
ZEA pmax pmax
comp=Z,80nm,0.9s
PAE Paea 62.44 107 *eP* **P** **22 26 30.3 +2.0**
comp=Z,25nm,1.3s
PPT Papeete 62.44 107 P **P** **22 26 30.4 +2.0**
comp=Z,65nm,0.7s,baz=242,slow=2.4,SNR=7.0
PPT LR LR 22 49 51.4
comp=Z,329nm,20.5s,baz=272,slow=32
PPT2 Papeete2 62.44 107 *eP* **P** **22 26 30.5 +2.0**
comp=Z,49nm,0.8s
PPT2 *eS* **S** **22 34 52.3 -0.7**
comp=Z,425nm,26.5s
PPT2 *eLQ* LQ 22 42 31.0
comp=Z,516nm,27.5s
PPT2 *eLR* LR 22 45 06.0
comp=Z,946nm,26.0s,baz=275
SHL Shillong 62.47 303 P **P** **22 26 27.6 -1.1**
SHL pmax pmax
comp=Z,33nm,1.0s
SHL Shillong 62.47 303 P **P** **22 26 27.6 -1.1**
SHL IAmb IAmb 22 27 17.8
comp=Z,33nm,1.0s
TIAR Tiarei 62.66 106 *eP* **P** **22 26 32.0 +2.1**
comp=Z,111nm,0.8s
TBI Tubuai 62.91 113 *eS* **S** **22 34 59.6 +1.0**
comp=Z,1μm,25.8s
TBI *eLQ* LQ 22 42 43.2
comp=Z,846nm,30.2s
TBI *eLR* LR 22 45 23.2
comp=Z,866nm,35.2s,baz=281
SMY Shemya 62.92 18 P **P** **22 26 31.1 +0.3**
SMY pmax pmax
comp=Z,182nm,1.1s
SMY Shemya 62.92 18 P **P** **22 26 31.1 +0.3**
GTA Gaotai 63.16 320 ⇑P **P** **22 26 32.5 -0.4**
GTA pP sP 22 26 47.9 -2.4
GTA sP pP 22 26 54.0 +8.6
GTA S **S** **22 35 03.0 +1.6**
GTA pmax pmax
comp=Z,10.0nm,1.2s
GTA pmax pmax
comp=Z,160nm,5.3s
GTA LR LR
comp=Z,360nm,18.5s
GTA LR LR
comp=Z,550nm,17.4s
GTA LR LR
comp=Z,470nm,19.3s
AMKA Amchitka 63.53 22 P **P** **22 26 35.4 +0.5**
MEH Mehetia 63.89 107 *eP* **P** **22 26 39.8 +1.8**
comp=Z,38nm,1.0s
PMOR Pomariorio Ree 64.00 104 *eP* **P** **22 26 41.0 +2.3**
comp=Z,312nm,1.1s
ULN Ulaanbaatar 64.48 331*c iP* **P** **22 26 41.6 +0.1**
ULN pmax pmax
comp=Z,59nm,0.8s
ULN Ulaanbaatar 64.48 331 P **P** **22 26 41.5 +0.1**
ULN IAmb IAmb 22 26 45.8
comp=Z,78nm,1.1s
ULN Ulaanbaatar 64.48 331 P **P** **22 26 41.5 +0.1**
comp=Z,3μmcomp=Z,267nm,1.0s
LSA Lhasa 64.69 307 P **P** **22 26 43.0 -0.6**
LSA pmax pmax
comp=Z,19nm,0.8s
LSA Lhasa 64.69 307 P **P** **22 26 43.0 -0.6**
SONM Songino Array 64.77 331 P **P** **22 26 43.3 -0.1**
comp=Z,56nm,1.0s,baz=147,slow=8.9,SNR=128
SONM LR LR 22 54 05.2
comp=Z,1μm,21.2s,baz=118,slow=35
SONM PKP2bc 22 55 36.4
comp=Z,6.0nm,1.1s,baz=266,slow=1.8,SNR=14
SONM Songino Array 64.77 331 P **P** **22 26 43.1 -0.2**
CIT Chita 64.79 338 *eP* **P** **22 26 43.9 +0.6**
CIT *e* 22 26 53.3
CIT *e* 22 27 19.3
CIT *e* 22 29 03.7
CIT *e* 22 35 40.7
CIT pmax pmax
comp=Z,206nm,1.9s
CASY Casey 65.19 196 P **P** **22 26 45.4 -0.1**
CASY IAmb IAmb 22 26 46.6
comp=Z,33nm,0.7s
CASY Casey 65.19 196 IAMs_20 IAMs_20 22 52 31.0
comp=Z,1μm,19.0s
KIWB Kanaga Island 65.26 23 P **P** **22 26 47.1 +0.8**
ADK Adak 65.47 24 P **P** **22 26 48.1 +0.5**
ADK pmax pmax
comp=Z,158nm,1.3s
ADK Adak 65.47 24 P **P** **22 26 48.1 +0.5**
MA2 Magadan 65.61 2 LR LR 22 51 44.9
comp=Z,778nm,21.9s,baz=176,slow=33
MA2 Magadan 65.61 2*c iP* **P** **22 26 48.6 +0.2**
MA2 pmax pmax
comp=Z,57nm,0.8s
MA2 Magadan 65.61 2 P **P** **22 26 48.5 +0.1**
ATKA Atka Island 66.72 25 P **P** **22 26 55.9 +0.4**
ATKA IAmb IAmb 22 26 58.1
comp=Z,53nm,1.1s
PALK Pallekele 67.89 280 P **P** **22 27 03.9 +0.1**
comp=Z,22nm,0.8s,baz=180,slow=5.1,SNR=9.1
PALK Pallekele 67.89 280 P **P** **22 27 04.0 +0.1**
PALK pmax pmax
comp=Z,31nm,0.9s
PALK Pallekele 67.89 280 P **P** **22 27 04.0 +0.1**
PALK IAmb IAmb 22 27 32.4
comp=Z,31nm,0.9s
JIRN Jiri 67.98 303 *eP* **P** **22 27 03.8 -0.8**
comp=Z,40nm,0.8s
ZAK Zakamensk 68.01 331 *eP* **P** **22 27 03.2 -0.8**
ZAK pmax pmax
comp=Z,136nm,1.0s
PKI Pulchoki 68.60 303 *eP* **P** **22 27 07.3 -1.1**
comp=Z,42nm,0.9s
PKIN Phulchoki 68.61 303 *eP* **P** **22 27 07.3 -1.1**
comp=Z,36nm,0.9s
KKN Kakani 68.78 303 *eP* **P** **22 27 08.4 -1.0**
comp=Z,56nm,0.8s
IRK Irkutsk 68.81 333 *eP* **P** **22 27 07.6 -1.2**
IRK pmax pmax
comp=Z,96nm,1.0s
DMN Daman 68.87 303 *eP* **P** **22 27 09.2 -0.8**
comp=Z,106nm,1.0s
SEY Seymchan 69.03 2 LR LR 22 57 13.4
comp=Z,622nm,19.1s,baz=190,slow=36
GKN Gorkha 69.39 303 *eP* **P** **22 27 12.1 -1.0**
comp=Z,67nm,0.8s
YAK Yakutsk 69.39 351 LR LR 22 56 12.3
comp=Z,391nm,20.3s,baz=102,slow=35
YAK Yakutsk 69.39 351*c iP* **P** **22 27 12.2 0.0**
YAK *e**PP **pP** **22 27 23.3 -1.6**
YAK *e* 22 27 35.6
YAK *e* 22 29 46.2
YAK *e*PPP PPP 22 31 25.7
YAK *eS* **S** **22 36 16.2 +0.3**

YAK *e*SS **sS** **22 36 38.9 +2.9**
YAK *e* 22 37 08.3
YAK *e*SS **SS** **22 40 44.6 +0.7**
YAK pmax pmax
comp=Z,78nm,0.8s
YAK pmax pmax
comp=N,27nm,1.1s
YAK pmax pmax
comp=E,3.0nm,0.8s
YAK pmax pmax
comp=Z,49nm,1.5s
YAK pmax pmax
comp=N,49nm,1.6s
YAK pmax pmax
comp=E,35nm,1.9s
YAK smax smax
comp=N,54nm,1.8s
YAK smax smax
comp=E,74nm,1.8s
YAK Yakutsk 69.39 351 P **P** **22 27 11.7 -0.4**
NIKH Nikolski High 69.56 26 P **P** **22 27 13.8 +0.4**
NIKH IAmb IAmb 22 27 15.8
comp=Z,95nm,1.3s
NIKH Nikolski High 69.56 26 P **P** **22 27 14.7 +1.3**
baz=227
MOY Mondy 69.94 331 *e*P **P** **22 27 15.9 -0.1**
MOY pmax pmax
comp=Z,118nm,1.3s
KOLN Koldanda 70.18 302 *e*P **P** **22 27 17.0 -1.1**
comp=Z,70nm,0.8s
DANN Dangsing 70.23 303 *e*P **P** **22 27 17.2 -1.3**
comp=Z,65nm,0.9s
PYUN Piuthan 70.80 302 *e*P **P** **22 27 20.4 -1.4**
comp=Z,61nm,0.6s
UNV Unalaska Valle 71.19 27 P **P** **22 27 24.6 +1.2**
UNV IAmb IAmb 22 27 26.5
comp=Z,149nm,1.8s
UNV Unalaska Valle 71.19 27 P **P** **22 27 25.4 +2.0**
baz=229
VNDA Vanda 71.70 177 P **P** **22 27 26.9 +0.8**
comp=Z,36nm,0.8s,baz=329,slow=6.7,SNR=133
VNDA LR LR 22 54 19.4
comp=Z,408nm,21.4s,baz=340,slow=32
VNDA Vanda 71.70 177 P **P** **22 27 26.9 +0.8**
VNDA IAmb IAmb 22 27 27.9
comp=Z,37nm,0.8s
HYB Hyderabad 71.92 290 *i*P **P** **22 27 27.0 -1.6**
SBA Scott Base 72.34 176 P **P** **22 27 31.7 +1.8**
SBA pmax pmax
comp=Z,31nm,1.2s
SBA Scott Base 72.34 176 P **P** **22 27 31.7 +1.8**
WMQ Urumqi 73.21 319 *e*P **P** **22 27 35.4 -0.4**
DGAR Diego Garcia 74.37 264⇑ *e*P **P** **22 27 45.4 +2.3**
DGAR pmax pmax
comp=Z,347nm,1.7s
DGAR Diego Garcia 74.37 264 P **P** **22 27 43.5 +0.5**
BILL Bilibino 75.25 7 *d i*P **P** **22 27 47.1 +0.1**
BILL *e* 22 28 05.2
BILL *e* 22 30 42.1
BILL *i*S **SKSac** **22 37 49.6 -3.1**
BILL pmax pmax
comp=Z,68nm,1.7s
BILL MLR MLR
comp=Z,410nm,18.0s
BILL Bilibino 75.25 7 P **P** **22 27 47.5 +0.5**
DGZ Jazzator, Alta 76.03 325 *c i*P **P** **22 27 51.3 -0.8**
DGZ pmax pmax
comp=Z,32nm,0.9s
RKT Rikitea 76.21 112 *e*P **P** **22 27 54.7 +1.2**
comp=Z,70nm,0.9s
GAMB Gambell 76.23 17 IAMs_20 IAMs_20 22 56 04.0
comp=Z,1μm,21.0s
ZSN Zaisan 76.57 322 *e*P **P** **22 27 53.7 -1.4**
ZSN *e*S **S** **22 37 34.2 -4.0**
baz=322
ZSN Zaisan 76.57 322 *e*P **P** **22 27 53.6 -1.4**
ZSN *e*S **S** **22 37 34.1 -4.0**
MK31 Makanchi Array 77.91 320 *c i*P **P** **22 28 01.3 -1.3**
MK31 Makanchi Array 77.91 320 P **P** **22 28 01.6 -1.0**
MKAR Makanchi Array 77.91 320 P **P** **22 28 01.6 -1.0**
comp=Z,18nm,0.7s,baz=101,slow=6.9,SNR=73
MKAR PKKPbc **PKKPbc** **22 47 03.6 -2.0**
comp=Z,0.8nm,0.8s,baz=325,slow=1.5,SNR=5.2
MKAR PKPPKP 22 55 07.7
comp=Z,0.8nm,0.8s,baz=241,slow=1.2,SNR=4.5
MKAR Makanchi Array 77.91 320 P **P** **22 28 01.4 -1.2**
MAKZ Makanchi 78.11 320 P **P** **22 28 02.7 -1.0**
MAKZ Makanchi 78.11 320 P **P** **22 28 02.7 -1.0**
MAKZ IAmb IAmb 22 28 07.2
comp=Z,36nm,0.9s
SHLS Shalkode 78.46 316⇑ *i*P **P** **22 28 02.8 -3.0**
comp=Z,14nm,0.8s,baz=316
SHLS Shalkode 78.46 316 *c i*P **P** **22 28 02.8 -3.0**
SHLS pmax pmax
comp=Z,14nm,0.8s
TIXI Tiksi 78.64 354 *ce*P **P** **22 28 04.9 -1.1**
TIXI Tiksi 78.64 354 P **P** **22 28 04.7 -1.3**
UZB Uzynbulak 78.76 316 *e*P **P** **22 28 06.3 -1.2**
comp=Z,21nm,1.1s,baz=316
UZB *e*S **S** **22 37 59.4 -3.0**
baz=316
UZB Uzynbulak 78.76 316 *e*P **P** **22 28 06.3 -1.2**
UZB *e*S **S** **22 37 59.3 -3.0**
UZB pmax pmax
comp=Z,21nm,1.1s
PRZ Przheval'sk 78.98 315 P **P** **22 28 08.8 0.0**
PRZ pmax pmax
comp=Z,68nm,1.0s
PRZ Przheval'sk 78.98 315 P **P** **22 28 08.8 0.0**
PRZ IAmb IAmb 22 28 14.4
comp=Z,68nm,0.9s
KPKS Kokpek 79.10 316 *e*P **P** **22 28 07.1 -2.3**
baz=316
KPKS Kokpek 79.10 316 *e*P **P** **22 28 07.0 -2.3**
SATY Saty 79.16 316⇑ *i*P **P** **22 28 07.9 -1.8**
baz=316
SATY Saty 79.16 316 *c i*P **P** **22 28 07.9 -1.8**
ZAA0 Zalesovo Array 79.40 328 P **P** **22 28 08.8 -1.8**
ZAA0 IAmb IAmb 22 28 12.4
comp=Z,29nm,0.8s
ZALV Zalesovo Beam 79.40 328 P **P** **22 28 08.7 -1.8**
comp=Z,27nm,0.7s,baz=109,slow=5.4,SNR=72
ZALV PP **PP** **22 31 13.4 +2.3**
comp=Z,5.6nm,0.8s,baz=111,slow=8.1,SNR=4.4
ZALV PKKPbc **PKKPbc** **22 47 00.1 -2.6**
comp=Z,1.6nm,0.7s,baz=336,slow=3.3,SNR=4.8
ZALV LR LR 23 04 03.0
comp=Z,362nm,19.9s,baz=129,slow=36
ZALV Zalesovo Beam 79.40 328 P **P** **22 28 08.8 -1.7**
KDJ Kajisay 79.72 315 P **P** **22 28 12.1 -0.8**
KDJ pmax pmax
comp=Z,47nm,0.9s
KDJ Kajisay 79.72 315 P **P** **22 28 12.1 -0.8**
KDJ IAmb IAmb 22 28 17.6
comp=Z,47nm,0.9s
TDK Taldyqorghan 79.80 318 *i*P **P** **22 28 11.1 -1.9**
comp=Z,17nm,0.6s,baz=318
TDK Taldyqorghan 79.80 318 *i*P **P** **22 28 11.0 -1.9**
TDK pmax pmax
comp=Z,17nm,0.6s
KSH Kashi 79.82 312 P **P** **22 28 13.8 +0.5**
KSH pmax pmax
comp=Z,23nm,0.9s
KSH LR LR
comp=Z,510nm,22.7s
KSH LR LR
comp=Z,300nm,13.3s
KSH LR LR
comp=Z,480nm,21.8s
MDOK Medeo 80.14 316 *i*P **P** **22 28 13.5 -1.6**
baz=316
MDOK Medeo 80.14 316 *i*P **P** **22 28 13.4 -1.6**
TNSS Tian-Shan 80.17 315 *e*P **P** **22 28 13.6 -1.9**
baz=316
SVW2 Sparrevohn 80.24 24 P **P** **22 28 16.0 +1.0**
SVW2 IAMs_20 IAMs_20 23 00 45.4
comp=Z,980nm,19.0s
NIL Nilore 80.38 306 P **P** **22 28 15.5 -0.9**
NIL pmax pmax
comp=Z,74nm,0.8s
NIL Nilore 80.38 306 P **P** **22 28 15.5 -0.9**
NIL IAmb IAmb 22 28 22.4
comp=Z,74nm,0.8s
CHKK Chushkaly 80.39 316 *e*P **P** **22 28 14.2 -2.0**
baz=316

ULHL Ulahol 80.42 315 P **P** **22 28 16.3 -0.4**
SNR=6.8
N19K Bonanza Creek 80.55 25 P **P** **22 28 16.4 -0.4**
MTBS Maitube 80.56 315 *e*P **P** **22 28 15.5 -1.7**
baz=316
BOOM Boomskoye usch 80.71 315 P **P** **22 28 17.7 -0.5**
BOOM pmax pmax
comp=Z,32nm,0.9s
BOOM Boomskoye usch 80.71 315 P **P** **22 28 17.6 -0.5**
BOOM IAmb IAmb 22 28 23.4
comp=Z,32nm,0.8s
KUU Kurty 80.85 316⇑ *i*P **P** **22 28 17.1 -1.6**
comp=Z,55nm,1.2s,baz=316
KUU Kurty 80.85 316 *c i*P **P** **22 28 17.0 -1.6**
KUU pmax pmax
comp=Z,55nm,1.2s
TKM2 Tokmak 2 81.08 315 P **P** **22 28 19.3 -0.9**
SNR=26
KZA Kyzart 81.08 314 P **P** **22 28 20.6 +0.2**
SNR=8.7
L19K White Mountain 81.11 24 P **P** **22 28 20.1 +0.4**
L19K IAmb IAmb 22 28 23.7
comp=Z,47nm,1.1s
L19K White Mountain 81.11 24 P **P** **22 28 20.1 +0.4**
baz=238,SNR=13
M19K Big River Lodg 81.16 24 P **P** **22 28 20.6 +0.7**
M19K IAMs_20 IAMs_20 23 00 17.7
comp=Z,1μm,20.0s
M19K Big River Lodg 81.16 24 P **P** **22 28 20.5 +0.7**
baz=239
CNPM China Poot 81.32 27 P **P** **22 28 21.2 +0.4**
KBK Karagaybulak 81.46 315 P **P** **22 28 21.3 -0.8**
SNR=9.6
KURBB Kurchatov Arra 81.63 323 PKKPbc PKKPbc 22 46 56.1 -1.2
comp=Z,0.7nm,0.3s,baz=288,slow=2.7,SNR=7.0
UCH Uchtor 81.64 314 P **P** **22 28 23.2 -0.3**
SNR=29
L20K Farewell, AK 81.66 24 P **P** **22 28 22.9 +0.4**
baz=239,SNR=7.1
CHMS Chumysh 81.69 315 P **P** **22 28 22.2 -0.9**
SNR=25
FRU1 Bishkek 81.72 315 P **P** **22 28 22.5 -0.9**
FRU1 pmax pmax
comp=Z,24nm,1.0s
FRU1 Bishkek 81.72 315 P **P** **22 28 22.5 -0.9**
AAK Ala-Archa 81.77 315 PKKPbc PKKPbc 22 46 57.3 +0.4
comp=Z,3.0nm,1.0s,baz=216,slow=3.6,SNR=4.7
AAK Ala-Archa 81.77 315 P **P** **22 28 23.3 -0.5**
baz=22
AAK Ala-Archa 81.77 315 *ce*P **P** **22 28 23.0 -0.8**
AAK pmax pmax
comp=Z,78nm,0.8s
AAK Ala-Archa 81.77 315 P **P** **22 28 23.0 -0.8**
RDOG Red Dog Mine 81.80 17 P **P** **22 28 25.0 +1.8**
RDOG IAmb IAmb 22 28 29.1
comp=Z,37nm,1.0s
RDOG Red Dog Mine 81.80 17 P **P** **22 28 25.2 +2.1**
baz=230
SGDS Sogindy 81.91 315⇑ *i*P **P** **22 28 22.2 -2.1**
comp=Z,12nm,1.3s,baz=315
USP Ospenovka 81.94 315 P **P** **22 28 23.6 -0.9**
SNR=32
K20K Telida 82.04 23 P **P** **22 28 24.7 +0.2**
K20K IAmb IAmb 22 28 28.6
comp=Z,56nm,1.4s
K20K Telida 82.04 23 P **P** **22 28 24.9 +0.4**
baz=239,SNR=10
AML Almayashu 82.20 314 P **P** **22 28 26.5 +0.1**
SNR=14
MAW Mawson 82.23 203 P **P** **22 28 25.7 +0.2**
baz=82,SNR=12
MAW Mawson 82.23 203 P **P** **22 28 25.3 -0.1**
comp=Z,18nm,0.8s,baz=66,slow=7.0,SNR=19
MAW LR LR 23 03 16.6
comp=Z,857nm,21.5s,baz=64,slow=34
MAW Mawson 82.23 203 P **P** **22 28 25.3 -0.1**
EKS2 Erkin-Say 82.29 314 P **P** **22 28 26.0 -0.4**
SNR=34
SKT Skwentna 82.36 25 IAMs_20 IAMs_20 23 00 23.7
comp=Z,1μm,21.0s
SEW Seward 82.39 27 IAMs_20 IAMs_20 22 57 20.6
comp=Z,1μm,22.0s
J20K Nowinta River 82.44 22 P **P** **22 28 26.9 +0.4**
J20K Nowinta River 82.44 22 P **P** **22 28 27.1 +0.6**
baz=239,SNR=16
O22K Cooper Landing 82.44 26 IAMs_20 IAMs_20 22 57 50.9
comp=Z,1μm,22.0s
PPLA Purkeypile 82.54 24 P **P** **22 28 27.5 +0.1**
PPLA IAmb IAmb 22 28 31.0
comp=Z,92nm,1.6s
PPLA Purkeypile 82.54 24 P **P** **22 28 28.6 +1.3**
baz=241
BTLS Baital 82.75 317⇑ *i*P **P** **22 28 27.4 -1.3**
comp=Z,14nm,0.8s,baz=317
BTLS Baital 82.75 317 *c i*P **P** **22 28 27.3 -1.3**
BTLS pmax pmax
comp=Z,14nm,0.8s
DRK Karamyk 82.92 311 P **P** **22 28 28.7 -1.3**
CUT Chulitna 83.09 25 IAMs_20 IAMs_20 23 07 17.9
comp=Z,912nm,19.0s
PWL Port Wells 83.22 26 P **P** **22 28 30.6 -0.1**
PWL IAmb IAmb 22 28 55.2
comp=Z,44nm,1.0s
PWL IAMs_20 IAMs_20 22 59 09.5
comp=Z,1μm,21.0s
KTH Kantishna Hill 83.36 23 IAMs_20 IAMs_20 22 59 08.0
comp=Z,1μm,21.0s
KNK Knik Glacier 83.41 26 P **P** **22 28 30.2 -1.5**
baz=244
IMAR Indian Mountai 83.52 21 P **P** **22 28 31.9 -0.2**
BPAW Bear Paw Mtn. 83.60 23 P **P** **22 28 32.0 -0.6**
BPAW IAmb IAmb 22 28 58.9
comp=Z,55nm,1.9s
BPAW IAMs_20 IAMs_20 22 59 25.2
comp=Z,1μm,22.0s
BPAW Bear Paw Mtn. 83.60 23 P **P** **22 28 31.9 -0.7**
baz=242
SML Sawmill 83.63 25 P **P** **22 28 32.3 -0.6**
baz=244
I21K Tanana 83.75 22 P **P** **22 28 33.4 +0.2**
I21K IAmb IAmb 22 28 46.2
comp=Z,83nm,1.8s
QSPA South Pole Qui 83.78 180 P **P** **22 28 33.4 -0.3**
comp=Z,87nm,0.8s,baz=340,slow=1.4,SNR=307
QSPA South Pole Qui 83.78 180 P **P** **22 28 33.7 0.0**
GAR Garm 83.93 310 P **P** **22 28 33.6 -1.4**
GAR IAmb IAmb 22 28 38.7
comp=Z,34nm,0.9s
KBL Kabul 83.98 306 P **P** **22 28 33.5 -2.0**
KBL pmax pmax
comp=Z,13nm,0.9s
KBL Kabul 83.98 306 P **P** **22 28 33.5 -2.0**
WAT1 Susitna Watana 83.99 25 P **P** **22 28 33.9 -0.8**
baz=244
RND Reindeer 84.12 24 P **P** **22 28 34.0 -1.4**
RND pmax pmax
comp=Z,22nm,0.8s
RND MLR MLR
comp=Z,1μm,20.0s
RND Reindeer 84.12 24 P **P** **22 28 34.0 -1.4**
RND IAmb IAmb 22 28 39.2
comp=Z,22nm,0.8s
RND IAMs_20 IAMs_20 23 01 52.0
comp=Z,1μm,20.0s
MLY Manley 84.14 22 IAMs_20 IAMs_20 23 00 52.3
comp=Z,868nm,21.0s
MLY Manley 84.14 22 P **P** **22 28 34.8 -0.6**
baz=242,SNR=16
WAT6 Susitna Watana 84.22 25 P **P** **22 28 34.9 -1.1**
baz=245
BWN Browne 84.22 23 P **P** **22 28 35.1 -0.7**
MCK McKinley 84.23 24 P **P** **22 28 34.9 -1.0**
MCK pmax pmax
comp=Z,22nm,0.9s
MCK McKinley 84.23 24 P **P** **22 28 34.9 -1.0**
MCK IAmb IAmb 22 28 39.8
comp=Z,22nm,0.9s
MCK McKinley 84.23 24 P **P** **22 28 35.1 -0.8**
baz=244
DIV Divide 84.47 27 P **P** **22 28 36.4 -0.8**
DIV IAmb IAmb 22 28 42.6
comp=Z,28nm,1.0s
KLU Klutina 84.55 26 P **P** **22 28 37.2 -0.3**
baz=247
NEA2 Nenana 84.57 23 IAMs_20 IAMs_20 23 00 39.8
comp=Z,899nm,22.0s
NEA2 Nenana 84.57 23 P **P** **22 28 36.5 -1.0**
baz=243
DHY Denali Highway 84.58 25 IAMs_20 IAMs_20 22 58 56.3
comp=Z,1μm,22.0s
DHY Denali Highway 84.58 25 P **P** **22 28 37.3 -0.5**
baz=245
I23K Minto, Yukon-K 84.71 22 P **P** **22 28 38.4 +0.3**
I23K IAMs_20 IAMs_20 23 01 09.5
comp=Z,976nm,20.0s
I23K Minto, Yukon-K 84.71 22 P **P** **22 28 38.4 +0.3**
baz=243
KK31 Karatay Array 84.72 314 P **P** **22 28 37.6 -1.2**
KK31 pmax pmax
comp=Z,48nm,1.0s
KK31 Karatay Array 84.72 314 P **P** **22 28 37.6 -1.2**
KK31 IAmb IAmb 22 28 42.8
comp=Z,48nm,1.0s
KKAR Karatay Array 84.72 314 P **P** **22 28 37.6 -1.2**
KKAR pmax pmax
comp=Z,48nm,1.0s
KKAR Karatay Array 84.72 314 P **P** **22 28 37.4 -1.2**
KKAR Karatay Array 84.72 314 P **P** **22 28 37.4 -1.3**
KKAR IAmb IAmb 22 28 42.8
comp=Z,48nm,1.0s
CHGR Chuyangaron 84.74 310 P **P** **22 28 37.8 -1.2**
IUG luzhnay 84.85 313⇑ *i*P **P** **22 28 38.2 -1.3**
baz=313
IUG luzhnay 84.85 313 *c i*P **P** **22 28 38.2 -1.3**
WRH Wood River Hil 84.89 23 P **P** **22 28 37.5 -1.7**
BMRM Bremner River 84.93 27 P **P** **22 28 39.5 +0.1**
BMRM Bremner River 84.93 27 P **P** **22 28 39.7 +0.2**
baz=248
H23K Yukon River 84.95 22 P **P** **22 28 38.7 -0.7**
H23K IAMs_20 IAMs_20 23 01 56.8
comp=Z,1μm,20.0s
H23K Yukon River 84.95 22 P **P** **22 28 39.4 0.0**
baz=243,SNR=6.6
BRZS Berezniki 85.00 321⇑ *i*P **P** **22 28 38.6 -1.5**
comp=Z,15nm,0.9s,baz=321
BRZS Berezniki 85.00 321 *c i*P **P** **22 28 38.5 -1.5**
BRZS pmax pmax
comp=Z,15nm,0.9s
MDM Murphy Dome 85.05 23 P **P** **22 28 38.9 -1.1**
MDM IAmb IAmb 22 28 50.2
comp=Z,39nm,1.7s
N25K Chitina, Valde 85.18 26 P **P** **22 28 41.9 +1.2**
baz=248
TAS Tashkent 85.20 312 P **P** **22 28 40.1 -1.1**
TAS pmax pmax
comp=Z,91nm,1.1s
TAS Tashkent 85.20 312 P **P** **22 28 40.1 -1.1**
HDA Harding Lake 85.32 23 P **P** **22 28 40.1 -1.2**
HDA IAMs_20 IAMs_20 23 00 26.6
comp=Z,871nm,20.0s
HDA Harding Lake 85.32 23 P **P** **22 28 39.8 -1.4**
baz=245
PAX Paxson 85.33 25 P **P** **22 28 40.5 -1.0**
PAX pmax pmax
comp=Z,21nm,1.4s
PAX Paxson 85.33 25 P **P** **22 28 40.5 -1.0**
PAX Paxson 85.33 25 P **P** **22 28 39.6 -1.9**
baz=247
COLD Coldfoot 85.37 20 P **P** **22 28 41.0 -0.4**
COLD IAMs_20 IAMs_20 23 01 43.7
comp=Z,855nm,20.0s
COLD Coldfoot 85.37 20 P **P** **22 28 41.7 +0.3**
baz=242
GLB Gilahina Butte 85.47 27 P **P** **22 28 41.8 -0.4**
GLB IAmb IAmb 22 29 16.4
comp=Z,29nm,1.3s
IL31 85.49 23 P **P** **22 28 40.2 -1.9**
ILAR Eielson Array 85.49 23 P **P** **22 28 40.0 -2.1**
comp=Z,10.0nm,0.6s,baz=252,slow=4.2,SNR=58
ILAR PKKPbc **PKKPbc** **22 46 48.1 -0.8**
comp=Z,0.8nm,0.8s,baz=26,slow=2.1,SNR=6.1
ILAR LR LR 23 05 13.6
comp=Z,270nm,18.8s,baz=279,slow=34
ILAR Eielson Array 85.49 23 P **P** **22 28 40.0 -2.1**
H24K Noodor Dome 85.57 22 P **P** **22 28 42.0 -0.6**
H24K Noodor Dome 85.57 22 P **P** **22 28 42.3 -0.2**
baz=244,SNR=6.7
NRIK Noril'sk 85.58 342 P **P** **22 28 41.2 -1.3**
comp=Z,30nm,0.7s,baz=116,slow=3.3,SNR=23
NRIK LR LR 23 05 08.1
comp=Z,578nm,21.6s,baz=132,slow=34
NRIK Noril'sk 85.58 342 *c i*P **P** **22 28 41.4 -1.1**
NRIK pmax pmax
comp=Z,57nm,0.9s
NRIK Noril'sk 85.58 342 P **P** **22 28 41.6 -0.8**
NRIK IAmb IAmb 22 28 42.9
comp=Z,48nm,0.9s
MCARA McCarthy VSAT 85.80 27 P **P** **22 28 43.6 -0.1**
baz=249
RIDG Independent Ri 85.89 24 P **P** **22 28 41.6 -2.6**
baz=247
J25K Salcha River, 86.02 23 P **P** **22 28 43.8 -1.0**
baz=247,SNR=29
MENT Mentasta 86.06 25 IAMs_20 IAMs_20 23 01 59.4
comp=Z,1μm,20.0s
M26K Nabesna, AK 86.17 26 P **P** **22 28 45.7 +0.1**
baz=249
TOLK Toolik Lake Re 86.24 19 P **P** **22 28 46.1 +0.3**
baz=243
L26K Log Cabin Wild 86.25 25 IAMs_20 IAMs_20 23 00 50.5
comp=Z,1μm,22.0s
BARN Barnard Glacie 86.30 27 P **P** **22 28 46.1 -0.3**
SCRK Sand Creek 86.33 24 IAMs_20 IAMs_20 23 05 34.6
comp=Z,844nm,18.0s
SCRK Sand Creek 86.33 24 P **P** **22 28 45.7 -0.8**
baz=248
TABL Table Mountain 86.34 28 P **P** **22 28 46.9 +0.2**
TABL IAmb IAmb 22 28 51.5
comp=Z,19nm,0.8s
CTG Chitna Glacier 86.42 28 P **P** **22 28 47.2 +0.2**
baz=251,SNR=7.9
LOGN Logan Glacier 86.53 28 P **P** **22 28 47.1 -0.5**
LOGN IAmb IAmb 22 29 04.4
comp=Z,56nm,1.7s
M27K Edge Creek, AK 86.65 26 P **P** **22 28 48.3 +0.2**
baz=250
J26L Joseph Creek 86.70 24 P **P** **22 28 48.0 -0.2**
baz=248
L27K Beaver Creek, 86.91 26 P **P** **22 28 48.9 -0.3**
L27K IAMs_20 IAMs_20 23 01 08.0
comp=Z,1μm,22.0s
L27K Beaver Creek, 86.91 26 P **P** **22 28 49.3 +0.1**
baz=250,SNR=12
BCAR Beaver Creek A 86.93 26 P **P** **22 28 48.8 -0.5**
YUK3 Moose Creek 87.08 27 P **P** **22 28 49.9 -0.4**
baz=251,SNR=13
BVCY Beaver Creek 87.11 26 P **P** **22 28 50.7 +0.5**
baz=251,SNR=11
K27K Chicken 87.14 25 P **P** **22 28 50.2 -0.1**
K27K IAmb IAmb 22 28 52.7
comp=Z,30nm,1.1s
K27K Chicken 87.14 25 P **P** **22 28 50.5 +0.3**
baz=250
BRVK Borovoye 87.24 324 *c i*P **P** **22 28 48.7 -2.2**
BRVK pmax pmax
comp=Z,29nm,1.3s
BRVK Borovoye 87.24 324 P **P** **22 28 48.9 -2.0**
BRVK IAmb IAmb 22 28 50.7
comp=Z,22nm,1.0s
BMAR Burnt Mountain 87.42 21 P **P** **22 28 51.2 -0.4**
EGAK Eagle 87.77 24 P **P** **22 28 52.2 -1.0**
EGAK IAmb IAmb 22 29 20.6
comp=Z,24nm,1.1s
EGAK IAMs_20 IAMs_20 23 00 34.5
comp=Z,1μm,22.0s
EGAK Eagle 87.77 24 P **P** **22 28 53.0 -0.2**
baz=251,SNR=13
YUK4 Talbot Arm 87.78 28 P **P** **22 28 54.4 +0.8**
baz=253,SNR=8.7
YUK6 Outpost Mounta 87.79 28 P **P** **22 28 55.2 +1.5**
baz=253
HYT Haines Junctio 88.16 28 P **P** **22 28 55.4 0.0**
HYT Haines Junctio 88.16 28 P **P** **22 28 55.3 0.0**
baz=254
DAWY Dawson 88.27 25 P **P** **22 28 55.4 -0.3**
DAWY IAmb IAmb 22 28 58.3
comp=Z,25nm,0.9s
DAWY IAMs_20 IAMs_20 23 02 02.8
comp=Z,1μm,22.0s
DAWY Dawson 88.27 25 P **P** **22 28 55.9 +0.2**
baz=252,SNR=17
SKAG Skagway 88.86 30 P **P** **22 28 59.0 +0.5**
SKAG IAmb IAmb 22 29 02.1

comp=Z,20nm,0.9s
SKAG Skagway 88.86 30 P **P** 22 29 00.1 +1.6
baz=256
BESE Bessie Mountai 88.88 31 P **P** 22 28 58.8 +0.1
BESE IAmb IAmb 22 29 02.3
comp=Z,54nm,1.2s
WHY Whitehorse 89.36 29 P **P** 22 29 00.7 -0.3
WHY IAmb IAmb 22 29 27.9
comp=Z,51nm,1.9s
WHY Whitehorse 89.36 29 P **P** 22 29 01.0 0.0
baz=256
HRA Herat 89.49 305 P **P** 22 29 00.4 -1.9
HRA IAmb IAmb 22 29 05.9
comp=Z,23nm,1.0s
WRAK Wrangell Islan 89.73 33 P **P** 22 29 02.4 -0.3
WRAK IAmb IAmb 22 29 06.8
comp=Z,38nm,1.2s
EPYK Eagle Plains 90.01 23 P **P** 22 29 03.1 -0.7
EPYK IAmb IAmb 22 29 05.8
comp=Z,25nm,0.8s
EPYK Eagle Plains 90.01 23 P **P** 22 29 03.4 -0.4
baz=255
FARO Faro, Yukon 90.44 27 P **P** 22 29 04.8 -1.1
baz=258
DLBC Dease Lake 91.34 31 P **P** 22 29 09.8 -0.3
comp=Z,14nm,1.2s,baz=288,slow=12,SNR=5.9
DLBC Dease Lake 91.34 31 P **P** 22 29 10.0 -0.2
DLBC IAmb IAmb 22 29 13.7
comp=Z,20nm,1.3s
INK Inuvik 91.68 21 P **P** 22 29 10.2 -1.2
comp=Z,8.0nm,0.9s,baz=224,slow=9.0,SNR=8.0
INK PP **PP** 22 32 51.0 +0.7
comp=Z,5.4nm,1.1s,baz=324,slow=11,SNR=3.6
INK Inuvik 91.68 21 P **P** 22 29 10.3 -1.1
INK pmax pmax
comp=Z,14nm,1.0s
INK Inuvik 91.68 21 P **P** 22 29 10.3 -1.1
INK IAmb IAmb 22 29 44.9
comp=Z,14nm,1.0s
INK Inuvik 91.68 21 P **P** 22 29 10.4 -1.0
baz=258
ABKAR Akbulak array 93.00 319 P **P** 22 29 15.2 -2.8
KMRM Mail Ridge 93.09 50 IAMs_20 IAMs_20 23 01 42.3
comp=Z,1µm,20.0s
KHMM Horse Mountain 93.13 49 P **P** 22 29 17.7 -1.3
KHMM IAmb IAmb 22 29 21.1
comp=Z,18nm,1.1s
KCPM Cahto Peak 93.14 51 IAMs_20 IAMs_20 23 07 38.6
comp=Z,974nm,20.0s
GEYT Alibeck 93.21 308 P **P** 22 29 17.4 -1.9
comp=Z,13nm,0.8s,baz=155,slow=4.1,SNR=13
GEYT LR LR 23 13 28.5
comp=Z,213nm,21.3s,baz=250,slow=37
GYA0B ALIBECK ARRAY 93.21 308 P **P** 22 29 17.3 -2.0
GYA0B IAmb IAmb 22 29 22.0
comp=Z,16nm,0.8s
SVE Sverdlovsk 93.37 327 *e*P **P** 22 29 17.5 -2.0
SVE pmax pmax
comp=Z,14nm,1.2s
O02D Mt. Diablo Mer 93.79 50 P **P** 22 29 22.7 +0.7
baz=265
M02C Callahan 93.84 49 P **P** 22 29 22.5 +0.3
baz=265
HUMO Hull Mountain 93.87 48 P **P** 22 29 21.9 -0.3
HUMO IAmb IAmb 22 29 26.2
comp=Z,18nm,1.3s
HUMO IAMs_20 IAMs_20 23 02 38.6
comp=Z,1µm,22.0s
N02D Trinity Center 93.92 49 P **P** 22 29 23.2 +0.7
baz=265
BUCK Buck Mountain 93.98 46 IAMs_20 IAMs_20 23 03 09.5
comp=Z,1µm,20.0s
YBH Yreka Blue Hor 93.98 49 P **P** 22 29 23.0 +0.2
comp=Z,8.6nm,1.0s,baz=230,slow=4.5,SNR=12
YBH Yreka Blue Hor 93.98 49 P **P** 22 29 23.0 +0.2
YBH Yreka Blue Hor 93.98 49 P **P** 22 29 22.7 -0.1
YBH IAmb IAmb 22 29 26.7
comp=Z,19nm,1.2s
WDC Whiskeytown Da 94.01 50 P **P** 22 29 21.9 -1.0
WDC pmax pmax
comp=Z,17nm,1.3s
WDC MLR MLR
comp=Z,800nm,21.0s
WDC Whiskeytown Da 94.01 50 P **P** 22 29 21.9 -1.0
WDC IAmb IAmb 22 29 26.8
comp=Z,17nm,1.2s
WDC IAMs_20 IAMs_20 23 02 49.6
comp=Z,826nm,21.0s
L04D Klamath Falls 94.32 48 P **P** 22 29 24.7 +0.3
baz=266
ARU Arti 94.48 326*c i*P **P** 22 29 21.6 -3.0
ARU 22 33 08.3
ARU S **SKSac** 22 39 51.8 -4.6
ARU pmax pmax
comp=Z,16nm,1.0s
F04A Amboy 94.51 44 IAMs_20 IAMs_20 23 02 57.2
comp=Z,958nm,22.0s
O03E Paynes Creek 94.55 50 P **P** 22 29 25.0 -0.4
baz=266
M04C Macdoel 94.63 49 P **P** 22 29 26.4 +0.5
baz=266
ORV Oroville 94.73 51 P **P** 22 29 25.9 -0.3
ORV pmax pmax
comp=Z,15nm,1.2s
ORV Oroville 94.73 51 P **P** 22 29 25.9 -0.3
ORV IAmb IAmb 22 29 29.5
comp=Z,15nm,1.1s
A36M Sachs Harbour 95.02 18 P **P** 22 29 25.9 -0.8
A36M IAmb IAmb 22 29 29.6
comp=Z,38nm,0.9s
J05D Fort Rock, OR 95.18 47 P **P** 22 29 29.4 +1.0
baz=266
LLLB Lillooet 95.18 40 P **P** 22 29 27.7 -0.3
K05A Summer Lake 95.39 48 IAMs_20 IAMs_20 23 03 28.0
comp=Z,1µm,22.0s
CMB Columbia Colle 95.50 52 IAMs_20 IAMs_20 23 01 41.3
comp=Z,743nm,21.0s
BEKR Beckworth 95.63 51 P **P** 22 29 29.2 -1.4
RUBR Rubicon Trail 95.74 51 IAMs_20 IAMs_20 23 08 21.6
comp=Z,702nm,18.0s
PKM Mcpherson Peak 95.76 56 P **P** 22 29 32.1 +0.8
baz=267
MOD Modoc Plateau 95.78 49 IAMs_20 IAMs_20 23 04 25.4
comp=Z,1µm,21.0s
LTY Liberty 95.80 43 P **P** 22 29 29.8 -1.2
LTY IAmb IAmb 22 31 50.9
comp=Z,7.5nm,0.6s
BELA Belgrano 2 96.05 180 P **P** 22 29 31.0 -0.5
BELA IAmb IAmb 22 29 42.6
comp=Z,40nm,1.2s
PAHR Pah Rah Range 96.37 51 P **P** 22 29 33.0 -0.8
MDPB Devils Postpil 96.51 53 IAMs_20 IAMs_20 23 11 55.1
comp=Z,705nm,18.0s
HAWA Hanford 96.54 44 P **P** 22 29 33.7 -0.6
B08A Colville Reser 96.74 42 P **P** 22 29 34.0 -1.2
B08A IAmb IAmb 22 29 37.8
comp=Z,14nm,1.2s
NVAR Mina Array Bea 97.15 52 P **P** 22 29 37.6 0.0
comp=Z,1.7nm,0.8s,baz=254,slow=7.0,SNR=8.6
NVAR PP **PP** 22 33 35.2 +1.1
comp=Z,0.2nm,0.4s,baz=255,slow=9.2,SNR=3.7
NVAR LR LR 23 09 10.2
comp=Z,818nm,19.1s,baz=307,slow=33
NVAR Mina Array Bea 97.15 52 P **P** 22 29 36.7 -0.8
MWC Mount Wilson 97.18 56 P **P** 22 29 37.3 -0.4
MWC pmax pmax
comp=Z,17nm,1.2s
MWC MLR MLR
comp=Z,900nm,19.0s
MWC Mount Wilson 97.18 56 P **P** 22 29 37.3 -0.4
MWC IAmb IAmb 22 29 41.4
comp=Z,17nm,1.1s
MWC IAMs_20 IAMs_20 23 12 23.3
comp=Z,947nm,19.0s
EDW2 Edwards Air Fo 97.26 56 P Pdif 22 29 38.4 +0.4
baz=268
NV11 Mina Array Sit 97.27 52 P **P** 22 29 37.4 -0.6
KVN Kaiserville 97.33 52 P **P** 22 29 37.5 -0.8
KVN pmax pmax
comp=Z,9.0nm,1.5s
KVN Kaiserville 97.33 52 P **P** 22 29 37.5 -0.8
LRMC Laurel Mtn Rad 97.54 55 P Pdif 22 29 40.1 +0.8
baz=268
MPMC Manual Prospec 97.72 55 P Pdif 22 29 40.7 +0.5
baz=268
109C Camp Elliot, M 97.91 58 IAMs_20 IAMs_20 23 04 27.0
comp=Z,1µm,20.0s
BMO Blue Mountains 98.06 46 P **P** 22 29 40.8 -0.6
BMO pmax pmax
comp=Z,5.0nm,0.9s
BMO Blue Mountains 98.06 46 P **P** 22 29 40.8 -0.6
NEW Newport 98.21 42 P **P** 22 29 41.4 -0.5
NEW pmax pmax
comp=Z,11nm,1.0s
NEW Newport 98.21 42 P **P** 22 29 41.4 -0.5
NEW IAmb IAmb 22 29 45.1
comp=Z,11nm,0.9s
NEW Newport 98.21 42 P **P** 22 29 41.4 -0.5
baz=270
FURC Furnace Creek, 98.23 54 Pdiff Pdif 22 29 42.5 +0.3
baz=268
BAR Barrett 98.27 58 IAMs_20 IAMs_20 23 04 28.5
comp=Z,972nm,21.0s
TKX Tecate 98.32 58 IAMs_20 IAMs_20 23 04 15.8
comp=Z,856nm,21.0s
PFO Pinyon Flats O 98.48 57 P **P** 22 29 43.5 0.0
comp=Z,2.8nm,0.9s,baz=276,slow=4.3,SNR=3.9
PFO Pinyon Flats O 98.48 57 Pdiff Pdif 22 29 43.6 +0.1
baz=268
TPFO Pinon Flats 98.48 57 Pdiff Pdif 22 29 43.6 0.0
baz=268
MONP2 Monument Peak 98.49 58 Pdiff Pdif 22 29 44.1 +0.4
baz=268
HEC Hector Ludlow 98.62 56 Pdiff Pdif 22 29 44.5 +0.5
baz=269
TPNV Topopah Spring 98.74 54 Pdiff Pdif 22 29 45.2 +0.5
baz=269
BELC Belle Mtn. Jos 98.88 57 Pdiff Pdif 22 29 46.6 +1.3
baz=269
MFID Camas Ranch 99.12 47 IAMs_20 IAMs_20 23 05 34.6
comp=Z,1µm,20.0s
YKA Yellowknife Ar 99.14 28 P **Pdif** 22 29 45.2 -0.4
comp=Z,7.5nm,1.2s,baz=280,slow=3.7,SNR=4.1
R11A Troy Canyon, C 99.29 52 IAMs_20 IAMs_20 23 05 16.6
comp=Z,858nm,19.0s
R11A Troy Canyon, C 99.29 52 Pdiff **Pdif** 22 29 48.0 +0.9
baz=270
BC3 Big Chuckawall 99.32 57 Pdiff **Pdif** 22 29 49.2 +1.9
baz=269
ELK Elko 99.56 50 P **Pdif** 22 29 48.4 0.0
comp=Z,2.7nm,1.0s,baz=176,slow=0.2,SNR=5.5
ELK Elko 99.56 50 **Pdif** 22 29 47.7 -0.6
IRM Iron Mountain 99.59 57 Pdiff **Pdif** 22 29 51.3 +3.0
baz=269
SFX San Felipe 99.77 60 IAMs_20 IAMs_20 23 06 00.4
comp=Z,714nm,20.0s
SNAA Sanae 99.88 189 Pdiff **Pdif** 22 29 48.0 -0.9
SNAA Sanae 99.88 189⇑ *e*P **Pdif** 22 29 48.0 -0.9
SNAA pmax pmax
comp=Z,10.0nm,1.0s
HLID Hailey 100.15 47 Pdiff **Pdif** 22 29 51.0 +0.2
baz=271
SPR3 Spring Creek 3 100.27 52 Pdif **Pdif** 22 29 51.5 -0.1
WALA Waterton Lakes 100.33 41 IAMs_20 IAMs_20 23 07 27.6
comp=Z,853nm,21.0s
W13A Hualapai Mount 100.64 56 IAMs_20 IAMs_20 23 07 02.0
comp=Z,848nm,20.0s
PRGR Permogore 101.02 332 *e*P **Pdif** 22 29 50.6 -3.3
PRGR *e* 22 33 59.1
PRGR pmax pmax
comp=Z,28nm,1.0s
VNA2 Neumayer--Watz 101.22 188 Pdiff **Pdif** 22 29 55.2 +0.4
VNA3 Neumayer Olymp 101.24 187 Pdiff **Pdif** 22 29 54.7 -0.2
VNA1 Neumayer--Stat 101.59 189 Pdiff **Pdif** 22 29 55.3 -1.1
FLWY Flagg Ranch 102.81 46 IAMs_20 IAMs_20 23 09 49.4
comp=Z,972nm,19.0s
TUC Tucson 103.24 58 IAMs_20 IAMs_20 23 09 43.2
comp=Z,788nm,19.0s
PDAR Pinedale Array 103.74 48 Pdiff **Pdif** 22 30 06.0 -0.8
comp=Z,2.0nm,0.8s,baz=204,slow=3.3,SNR=11
PDAR PP **PKiKP** 22 34 24.8 -0.1
comp=Z,2.6nm,1.0s,baz=268,slow=4.5,SNR=4.5
PDAR PKKPbc **PKKPbc** 22 45 58.5 -1.1
comp=Z,0.6nm,0.6s,baz=103,slow=6.4,SNR=4.4
X18A Snowflake 103.88 56 IAMs_20 IAMs_20 23 14 04.8
comp=Z,689nm,20.0s
W18A Petrified Fore 104.04 55 IAMs_20 IAMs_20 23 11 20.8
comp=Z,739nm,18.0s
KLMR Klimovskoe 104.07 331 *e*P **Pdif** 22 30 04.2 -3.3
KLMR *e* 22 34 19.5
KLMR pmax pmax
comp=Z,18nm,1.1s
KLMR Klimovskoe 104.07 331 *e*Pdif **Pdif** 22 30 04.2 -3.3
KLMR AMP 22 30 06.0
comp=Z,18nm,1.1s
KLMR *e*PP **PKiKP** 22 34 19.6 -4.9
PV14 Lion Creek, Pa 104.44 52 IAMs_20 IAMs_20 23 03 00.1
comp=Z,790nm,18.0s
PV19 Morning Glory 104.48 52 IAMs_20 IAMs_20 23 07 37.3
comp=Z,913nm,22.0s
AKH Akhalkalaki 104.51 311 ⇓P **PKiKP** 22 34 26.9 +0.6
PV04 Paradox Valley 104.53 52 IAMs_20 IAMs_20 23 04 16.5
comp=Z,794nm,21.0s
PV11 David Mesa, Pa 104.56 52 IAMs_20 IAMs_20 23 17 20.3
comp=Z,702nm,20.0s
PV13 Radium Mtn., P 104.61 52 IAMs_20 IAMs_20 23 08 29.7
comp=Z,715nm,20.0s
APA Apatity 104.73 339⇓ *i*P **Pdif** 22 30 19.7 +9.4
APA pmax pmax
comp=Z,4.0nm,0.8s
APA MLR MLR
comp=Z,700nm,21.0s
KBZ Khabaz 104.75 313 PP **PKiKP** 22 34 32.0 +5.7
comp=Z,2.3nm,0.9s,baz=53,slow=12,SNR=4.2
LAO LASA Array 105.69 43 IAMs_20 IAMs_20 23 13 06.8
comp=Z,717nm,18.0s
ARCES ARCESS Array B 106.57 342 Pdiff **Pdif** 22 30 16.3 -2.3
comp=Z,7.9nm,0.9s,baz=60,slow=7.2,SNR=9.7
ARCES PKiKP **PKiKP** 22 34 29.4 +0.4
comp=Z,2.1nm,0.9s,baz=48,slow=1.3,SNR=5.2
ARCES PKKPbc **PKKPbc** 22 45 51.5 0.0
comp=Z,0.6nm,0.5s,baz=254,slow=2.0,SNR=10
ARCES ARCESS Array B 106.57 342 P **Pdif** 22 30 16.7 -1.8
ARCES ARCESS Array B 106.57 342 Pdif **Pdif** 22 30 16.7 -1.8
EPT El Paso 106.89 59 IAMs_20 IAMs_20 23 10 11.2
comp=Z,916nm,21.0s
MNTX Cornudas Mount 107.85 59 PKiKP **PKiKP** 22 34 33.9 +1.4
baz=274
TXAR Lajitas Array 109.49 61 Pdiff **Pdif** 22 30 34.3 +1.8
comp=Z,0.2nm,0.7s,baz=258,slow=3.6,SNR=2.1
TXAR PKiKP **PKiKP** 22 34 37.2 +1.4
comp=Z,0.9nm,1.0s,baz=236,slow=0.3,SNR=4.3
TXAR PP **PP** 22 35 05.7 -0.8
comp=Z,2.0nm,1.0s,baz=264,slow=3.3,SNR=7.9
TXAR PKKPbc **PKKPbc** 22 45 40.3 -0.8
comp=Z,0.3nm,0.5s,baz=101,slow=4.5,SNR=6.8
TXAR PKKP **PKKPdf** 22 45 55.8 -1.4
comp=Z,3.0nm,0.8s,baz=115,slow=7.0,SNR=20
TXAR PKPPKP **P'P'df** 22 54 07.8 -1.0
comp=Z,0.5nm,1.0s,baz=103,slow=5.4,SNR=3.6
KMBO Kilima Mbogo 109.92 267 Pdiff **Pdif** 22 30 35.8 +0.8
comp=Z,2.6nm,0.9s,baz=61,slow=4.9,SNR=8.6
KMBO PKiKP **PKiKP** 22 34 38.4 +1.3
comp=Z,2.3nm,1.0s,baz=83,slow=5.6,SNR=4.9
FINES FINESS Array B 110.03 334 Pdiff **Pdif** 22 30 31.6 -2.4
comp=Z,3.0nm,0.7s,baz=153,slow=0.9,SNR=13
FINES PKiKP **PKiKP** 22 34 34.3 -1.3
comp=Z,1.9nm,0.7s,baz=149,slow=3.2,SNR=5.0
FINES PP **PP** 22 35 09.4 +0.4
comp=Z,4.2nm,0.9s,baz=106,slow=6.2,SNR=4.1
ASF Jabal al Asfar 110.63 302 PKKPbc PKKPbc 22 45 40.4 +2.9
comp=Z,1.7nm,0.7s,baz=270,slow=2.0,SNR=4.1
MNK Minsk 111.90 327 *i* P **Pdif** 22 30 43.9 +1.4
MNK *i* 22 34 38.9
MNK *i* 22 35 23.5
MNK *i* PPP PPP 22 37 44.9
MNK *i* 22 41 48.4
MNK *i* PS **PS** 22 44 56.9 +0.7
MNK *i* SS SS 22 50 57.5 +1.1
MNK *i* SSS SSS 22 55 07.5
MNK pmax pmax
comp=Z,8.0nm,0.9s
MNK pmax pmax
comp=N,9.0nm,1.1s
MNK pmax pmax
comp=E,3.0nm,1.5s
MNK MLR MLR
comp=E,40nm,20.0s
MNK MLR MLR
comp=Z,265nm,20.0s
MNK MLR MLR
comp=N,168nm,25.0s
MNK Minsk 111.90 327 *i* P **Pdif** 22 30 44.0 +1.5
comp=E,3.0nm,1.5s
MNK *i* P **Pdif** 22 30 44.0 +1.5
comp=N,9.0nm,1.1s
MNK *i* P **Pdif** 22 30 44.0 +1.5
comp=Z,8.0nm,0.9s,baz=248
MNK *i* PKP **PKiKP** 22 34 38.9 -0.4
MNK *i* PP **PP** 22 35 23.6 +0.9
MNK *i* PPP PPP 22 37 45.0
MNK *i* SKS **SKSdf** 22 41 48.4 +0.4
MNK *i* PS **PS** 22 44 57.0 +0.8
MNK *i* SS **SS** 22 50 57.5 +1.1
MNK *i* SS **SS** 22 50 57.5 +1.1
MNK *i* SSS SSS 22 55 07.6
MNK *i* LQ LQ 23 12 59.8
MNK *i* LR LR 23 17 48.9
MNK *i* LRM MLR 23 21 50.6
comp=E,40nm,19.6s
MNK *i* LRM MLR 23 22 08.3
comp=N,168nm,24.6s
MNK *i* LRM MLR 23 22 08.3
comp=Z,265nm,20.2s
BRTR Keskin Array B 112.17 310 PKKPab PKKPab 22 45 42.8 +2.3
comp=Z,1.3nm,0.9s,baz=260,slow=4.9,SNR=3.7
AKASG Malin Array Be 112.42 323 PKiKP **PKiKP** 22 34 38.5 -2.0
comp=Z,1.3nm,0.5s,baz=67,slow=2.0,SNR=10
AKASG PP **PP** 22 35 25.6 -0.9
comp=Z,5.4nm,0.9s,baz=61,slow=6.9,SNR=8.4
AKASG PKKPbc **PKKPbc** 22 45 29.8 -2.3
comp=Z,0.3nm,0.2s,baz=267,slow=3.8,SNR=4.4
AKBB Malin Array Si 112.42 323⇓ *i*PKIKP **PKiKP** 22 34 38.8 -1.7
ECSD EROS Data Cent 112.91 45 PKiKP **PKiKP** 22 34 40.6 -1.1
baz=284
KDZE Karadeniz Ereo 113.49 312⇓ P **PKiKP** 22 34 42.8 0.0
BOSA Boshof 114.48 235 PKP PKPdf 22 34 44.7 -0.6
comp=Z,5.2nm,0.8s,baz=117,slow=1.7,SNR=13
IZVR Izvoarele 114.96 318⇓ P PKPdf 22 34 46.1 +0.6
GHRR 115.04 318⇑ P **PKiKP** 22 34 39.8 -5.8
SPMN Marine on St. 115.13 43 IAMs_20 IAMs_20 23 18 01.0
comp=Z,724nm,18.0s
LBTB Lobatse 115.51 239 PKIKP **PKiKP** 22 34 47.0 -0.4
LBTB Lobatse 115.51 239 **PKiKP** 22 34 47.0 -0.4
VRI Vrincioaia 115.55 318⇓ P **PKiKP** 22 34 40.0 -6.7
BIZ Bicaz 115.60 320⇑ P **PKiKP** 22 34 46.5 -0.3
BISRR Bisoca 115.66 318⇑ P **PKiKP** 22 34 46.6 -0.4
COVR Voineasa-Covas 115.90 318⇑ P **PKiKP** 22 34 46.6 -0.8
LEHL Lehliu 115.92 317⇓ P **PKiKP** 22 34 42.4 -5.0
BUR01 Bucovina Ar. S 115.94 320⇓ P **PKiKP** 22 34 46.6 -0.9
BURAR Bucovina Array 115.94 320⇑ P **PKPdf** 22 34 47.7 +0.2
NEHR Nehoiu 115.98 318⇑ P **PKPdf** 22 34 46.6 -0.9
LSZ Lusaka 116.14 250 PKIKP **PKPdf** 22 34 48.1 -0.7
LSZ Lusaka 116.14 250 **PKPdf** 22 34 48.1 -0.7
MLR Muntele Rosu 116.19 318⇑ P **PKPdf** 22 34 45.9 -2.1
U38A Gravette 116.24 52 **PKPdf** 22 34 47.4 -0.9
U38A IAMs_20 IAMs_20 23 13 11.8
comp=Z,634nm,19.0s
NB2 NORSAR Subarra 116.29 338 PKPdf **PKPdf** 22 34 45.5 -2.2
comp=Z,5.9nm,1.7s,baz=44,slow=1.9
NOA NORSAR Array B 116.29 338 PKP **PKPdf** 22 34 45.5 -2.2
comp=Z,1.6nm,0.8s,baz=54,slow=2.1,SNR=4.6
NOA PP **PP** 22 35 57.1 +3.7
comp=Z,2.6nm,1.0s,baz=40,slow=6.9,SNR=4.4
NOA PKKPbc **PKKPbc** 22 45 17.4 -1.8
comp=Z,1.0nm,0.9s,baz=232,slow=3.7,SNR=3.6
DOPR Dopca 116.40 319⇑ P **PKPdf** 22 34 47.3 -1.0
MBAR Mbarara 116.44 266 PKIKP **PKPdf** 22 34 49.4 -0.1
MBAR Mbarara 116.44 266 **PKiKP** 22 34 49.4 -0.1
ARCR ARCALIA 116.67 320⇓ P **PKiKP** 22 34 49.4 +0.6
KWP Kalwaria Pacla 116.72 323 *e*PKPdf **PKiKP** 22 34 48.9 +0.1
S39A Bolivar 116.79 51 IAMs_20 IAMs_20 23 21 57.0
comp=Z,757nm,19.0s
VOIR 116.80 318⇓ P **PKiKP** 22 34 49.5 +0.3
ARR Arges 117.10 318⇑ P **PKPdf** 22 34 49.3 -0.5
HUMR Humele 117.15 317⇑ P **PKPdf** 22 34 48.3 -1.5
KOLS Kolonicke sedl 117.26 323 *e*PKIKP **PKPdf** 22 34 49.8 -0.1
KOLS Kolonicke sedl 117.26 323 *e*PKP **PKPdf** 22 34 49.8 -0.1
MIAR Mount Ida 117.28 54 PKIKP **PKPdf** 22 34 50.2 -0.1
MIAR Mount Ida 117.28 54 PKPdf **PKPdf** 22 34 50.2 -0.1
MIAR Mount Ida 117.28 54 P **PKPdf** 22 34 49.7 -0.7
baz=282
CJR Cluj-Napoca 117.29 320⇓ P **PKPdf** 22 34 49.4 -0.6
R40A Maddies Statio 117.45 50 IAMs_20 IAMs_20 23 18 35.4
comp=Z,678nm,20.0s
U40A Yellville 117.46 52 P **PKPdf** 22 34 49.3 -1.3
baz=284
LOT Lotru 117.64 319⇓ P **PKPdf** 22 34 49.0 -1.9
CRVS Cervenica-Dubn 117.76 323 *e*PKIKP **PKiKP** 22 34 51.2 +0.3
CRVS Cervenica-Dubn 117.76 323 *e*PKP **PKiKP** 22 34 51.2 +0.3
DRGR 117.83 320⇑ P **PKPdf** 22 34 48.6 -2.5
LTVH Ltavrtes, Hu 118.11 321⇓ P PKiKP 22 35 01.4 +10
FCAR Ozark Folk Cen 118.15 53 **PKiKP** 22 34 52.0 0.0
W41B Gary Mavity, V 118.21 53 P **PKPdf** 22 34 50.8 -1.3
baz=283
NIE Niedzica 118.23 324 *e*pPKPdf **PKiKP** 22 34 52.4 +0.6
CCM Cathedral Cave 118.29 50 P **PKPdf** 22 34 51.3 -0.9
baz=286
GZR Gura Zlata 118.31 319⇓ P **PKPdf** 22 34 50.9 -1.2
SIRR Siria 118.70 320⇑ P **PKPdf** 22 34 51.7 -1.1
LANS Liptovska Anna 118.84 324 *e*PKIKP **PKiKP** 22 34 53.0 0.0
LANS Liptovska Anna 118.84 324 *e*PKP **PKiKP** 22 34 53.0 0.0
BZS Buzias 118.98 319⇑ P **PKPdf** 22 34 51.8 -1.4
VTS Vitosha 118.99 316⇑ P **PKPdf** 22 34 52.7 -0.9
MDVR Moldovita 119.24 318⇑ P **PKPdf** 22 34 52.2 -1.7
BANR Banloc 119.39 319⇓ P **PKPdf** 22 34 53.5 -0.5
VYHS Vyhne 119.50 323 *e*PKIKP **PKPdf** 22 34 54.1 -0.1
VYHS Vyhne 119.50 323 *e*PKP **PKPdf** 22 34 54.1 -0.1
LNIZ Loecknitz 119.52 330 *e*L L 23 27 35.1
comp=Z,556nm,21.3s
MORC Moravsky Berou 119.66 325⇓ P **PKPdf** 22 34 54.1 -0.4
MORC Moravsky Berou 119.66 325 *e*PKP **PKPdf** 22 34 53.8 -0.7
BOVS Bovan 119.67 317 P **PKPdf** 22 34 48.9 -5.8
KOLL Kolacno 119.72 324 *e*PKP **PKPdf** 22 34 53.9 -0.7
IDI Anoyia 119.94 307 PKP **PKPdf** 22 34 55.1 -0.4
comp=Z,22nm,0.9s,baz=346,slow=3.3
KRLC Kraliky 119.94 326 *e*PKIKP **PKPdf** 22 34 54.0 -1.1
KRLC *e* 22 35 05.6
KRLC MLR MLR
comp=Z,300nm,21.3s
KRLC Kraliky 119.94 326 *e*PKPDF **PKPdf** 22 34 54.0 -1.1
KRLC *e*pPKP **pPKPdf** 22 35 05.6 -3.1
KRLC AMS AMS 23 24 00.0
comp=Z,300nm,21.3s
OSTC Ostas 120.02 326 *e*PKPDF **PKPdf** 22 34 54.3 -0.9
OSTC AMS AMS 23 25 10.0
comp=Z,600nm,22.8s
JAVC Velka Javorina 120.02 324 *e*PKIKP **PKPdf** 22 34 55.4 +0.1
DPC Dobruska-Polom 120.06 326 *e*PKIKP **PKPdf** 22 34 53.7 -1.6
DPC *e* 22 35 05.6
DPC Dobruska-Polom 120.06 326 *e*PKPDF **PKPdf** 22 34 53.7 -1.6
DPC *ex* x 22 35 05.6
CHVC Chvalec 120.09 326 *e*PKPDF **PKPdf** 22 34 54.6 -0.7
CHVC AMS AMS 23 25 10.0
comp=Z,500nm,22.3s
UPC Upice 120.16 326 AMS AMS 23 25 30.0
comp=Z,500nm,21.0s
FRGS Fruska Gora 120.33 320⇓ P **PKPdf** 22 34 54.9 -1.0
FRGS Fruska Gora 120.33 320 *e*P **PKPdf** 22 34 54.2 -1.7
VRAC Vranov 120.43 325⇑ P **PKPdf** 22 34 55.0 -0.9
VRAC Vranov 120.43 325 *e*PKP **PKPdf** 22 34 54.9 -1.1
MODS Modra-Piesok 120.48 324 *e*PKIKP **PKPdf** 22 34 55.8 -0.3
MODS Modra-Piesok 120.48 324 *e*PKP **PKPdf** 22 34 55.8 -0.3
MORH Mrgy, Hungar 120.63 321 *e*P **PKPdf** 22 34 54.6 -1.8
DIVS Divibare 120.64 318 *e*P **PKPdf** 22 34 55.3 -1.3
L46A Eue Claire 120.66 44 IAMs_20 IAMs_20 23 20 37.5
comp=Z,659nm,20.0s
KRUC Moravsky 120.66 325 *e*PKP **PKPdf** 22 34 55.4 -1.0
PVCC Panska Ves 120.93 327 *e*PKIKP **PKPdf** 22 34 56.0 -0.9
PVCC MLR MLR
comp=Z,500nm,20.7s
PVCC Panska Ves 120.93 327 *e*PKPDF **PKPdf** 22 34 56.0 -0.9
PVCC AMS AMS 23 29 00.0
comp=Z,500nm,20.7s
KOVH Kovagotottos 121.02 321 *e*PKPDF **PKPdf** 22 34 55.4 -1.8
KOVH Kovagotottos 121.02 321 *e*P **PKPdf** 22 34 56.2 -0.9
TREC Trest 121.06 325 AMS AMS 23 24 30.0
comp=Z,500nm,22.8s
BRG Berggiesshubel 121.09 328 *e*PKPdf **PKPdf** 22 34 56.5 -0.7
baz=55,slow=1.9
BRG Berggiesshubel 121.09 328 *e*PKP **PKPdf** 22 34 56.4 -0.7
BRG Amp 22 35 00.4
comp=Z,10nm,1.1s
BRG Berggiesshubel 121.09 328 P PKiKP 22 35 08.2 +11
BRG Amp 22 35 09.1
comp=Z,13nm,1.2s

BSEG Bad Segeberg 121.14 332 *e*L L 23 30 34.3
comp=Z,520nm,19.3s
PRU Pruhonice 121.23 326 *e*PKIKP **PKPdf 22 34 56.4 -1.1**
PRU *e* 22 35 07.4
PRU MLR MLR
comp=Z,500nm,18.1s
PRU Pruhonice 121.23 326 *e*PKPDF **PKPdf 22 34 56.4 -1.1**
PRU *ep*PKP **pPKPdf 22 35 07.4 -3.7**
PRU AMS AMS 23 30 50.0
comp=Z,500nm,18.1s
CLL Collm 121.34 328 ||*i*PKPdf **PKPdf 22 34 56.7 -0.9**
comp=Z,12nm,0.8s
CLL *i* pPKPdf **pPKPdf 22 35 08.7 -2.6**
CLL *e*(SS) 22 53 54.0
CLL *e* 22 59 42.0
CLL Lm MLR 23 30 00.0
comp=Z,400nm,20.1s
CLL Collm 121.34 328 ||*i*PKIKP **PKPdf 22 34 56.7 -0.9**
CLL *i* 22 35 08.7
CLL pmax pmax
comp=Z,12nm,0.8s
CLL MLR MLR
comp=Z,400nm,20.1s
CLL Collm 121.34 328 *e*PKPdf **PKPdf 22 34 56.6 -1.0**
baz=55,slow=1.9
CLL *e*L L 23 29 17.5
comp=Z,423nm,21.5s
WVT Waverly 121.44 51 IAMs_20 IAMs_20 23 25 16.4
comp=Z,653nm,20.0s
WVT Waverly 121.44 51 P **PKPdf 22 34 56.5 -1.8**
baz=287
CONA Conrad Observa 121.53 324 *e*P **PKPdf 22 34 57.3 -1.0**
comp=Z,4.0nm,0.7s
CONA *e*P **PP 22 36 30.0 -0.1**
comp=Z,16nm,1.1s
BEHE Becsehely 121.67 322 *e*P **PKiKP 22 34 59.9 +1.4**
PBCC Pribram 121.69 326 *e*PKPDF **PKPdf 22 34 57.2 -1.2**
PBCC *ex* x 22 35 09.1
PLCA Paso Flores 121.73 147 PKP **PKiKP 22 34 59.2 +0.2**
comp=Z,6.6nm,0.7s,baz=246,slow=1.7,SNR=25
PLCA PKKPbc **PKKPbc 22 44 58.6 -0.4**
comp=Z,2.6nm,0.9s,baz=82,slow=6.2,SNR=4.9
PLCA Paso Flores 121.73 147 PKIKP **PKiKP 22 34 59.6 +0.6**
PLCA Paso Flores 121.73 147 PKPdf **PKiKP 22 34 59.6 +0.6**
PLCA Paso Flores 121.73 147 *e*P **PKiKP 22 34 59.5 +0.4**
PLCA Paso Flores 121.73 147 *e*P **PKiKP 22 34 59.3 +0.2**
WCl Wyandotte Cave 121.97 48 P **PKPdf 22 34 58.2 -1.1**
baz=289
CKRC Cesky Krumlov 121.97 325 *ep*PKP **pPKPdf 22 35 09.2 -3.4**
CKRC AMS AMS 23 26 10.0
comp=Z,400nm,22.0s
ARSA Arzberg 122.06 323 *e*P **PKPdf 22 34 58.3 -0.9**
comp=Z,4.6nm,1.1s
KHC Kasperske Hory 122.22 326 *e*PKIKP **PKPdf 22 34 58.0 -1.5**
KHC *e* 22 35 09.9
KHC MLR MLR
comp=Z,500nm,17.5s
KHC Kasperske Hory 122.22 326 *e*PKPDF **PKPdf 22 34 58.0 -1.5**
KHC *ep*PKP **pPKPdf 22 35 09.9 -3.2**
KHC AMS AMS 23 31 30.0
comp=Z,500nm,17.5s
I49A Point Hope 122.23 41 IAMs_20 IAMs_20 23 22 35.4
comp=Z,648nm,20.0s
LC01 Cunco 122.23 144 PKPdf **PKPdf 22 34 59.8 0.0**
NKC Novy Kostel 122.24 328 *e*PKIKP **PKPdf 22 34 58.5 -0.9**
NKC MLR MLR
comp=Z,600nm,17.4s
NKC Novy Kostel 122.24 328 *e*PKPDF **PKPdf 22 34 58.5 -0.9**
NKC AMS AMS 23 31 10.0
comp=Z,600nm,17.4s
WERN Wernitzgruen 122.24 328 *e*PKPdf **PKPdf 22 34 58.6 -0.9**
baz=55,slow=1.9
GEC2 GERESS Array S 122.30 326 *e*PKPdf **PKPdf 22 34 58.2 -1.5**
baz=55,slow=1.9
GEC2 *e*L L 23 29 40.8
comp=Z,356nm,20.1s
GERES GERESS Array B 122.30 326 PKP **PKPdf 22 34 58.5 -1.1**
comp=Z,3.8nm,0.6s,baz=66,slow=2.0,SNR=37
GERES PKKPbc **PKKPab 22 44 55.5 -0.2**
comp=Z,1.0nm,0.8s,baz=228,slow=3.4,SNR=7.0
CLZ Clausthal 122.38 330 *e*PKPdf **PKPdf 22 34 58.9 -0.8**
baz=55,slow=1.9
MOX Moxa 122.44 328 *e*PKPdf **PKPdf 22 34 58.4 -1.4**
baz=55,slow=1.9
MOX *e*L L 23 28 38.7
comp=Z,299nm,21.8s
MOA Molln 122.50 324 *e*P **PKPdf 22 34 58.6 -1.4**
comp=Z,3.8nm,0.8s
MOA *e*P **PP 22 36 36.7 +0.1**
comp=Z,6.8nm,1.3s
N49A Columbus Grove 122.54 45 IAMs_20 IAMs_20 23 21 21.3
comp=Z,689nm,22.0s
MANZ Manzenberg 122.56 327 *e*PKPdf **PKPdf 22 34 58.9 -1.1**
baz=55,slow=1.9
WET Wettzell 122.60 326 *e*L L 23 30 25.9
comp=Z,513nm,20.4s
SOKA Soboth 122.63 323 *e*P **PKPdf 22 34 59.1 -1.3**
comp=Z,6.9nm,1.1s
SOKA *e*P **PP 22 36 36.2 -1.4**
comp=Z,4.0nm,0.7s
STON Ston 122.67 318 *e*P **PKPdf 22 34 58.0 -2.4**
P49A Miami Univ. Ec 122.67 46 IAMs_20 IAMs_20 23 19 59.9
comp=Z,633nm,20.0s
P49A Miami Univ. Ec 122.67 46 P **PKPdf 22 34 60.0 -0.6**
baz=291
RICI Ricice 122.78 319 *i* P **PKPdf 22 34 59.0 -1.6**
CRES Cresnjev 122.78 322 *e*P **PKPdf 22 34 59.4 -1.2**
LRAL Lakeview Retre 122.96 55 PKPdf **PKPdf 22 35 00.8 -0.5**
LRAL IAMs_20 IAMs_20 23 22 41.9
comp=Z,622nm,20.0s
LRAL Lakeview Retre 122.96 55 P **PKPdf 22 35 01.0 -0.3**
baz=286
OBKA Obir 123.00 323 *e*P **PKPdf 22 34 59.7 -1.4**
comp=Z,3.3nm,0.8s
OBKA *e*P **PP 22 36 40.4 +0.3**
comp=Z,3.9nm,0.9s
OBKA *e*P **PKKPab 22 44 53.3 +0.6**
comp=Z,4.0nm,0.9s
KIJV Kijevo 123.03 320 *i* P **PKPdf 22 34 59.5 -1.6**
GRF Grafenberg Arr 123.19 328 *e*L L 23 32 16.8
comp=Z,433nm,18.9s
GRFO Grafenberg 123.20 328 IAMs_20 IAMs_20 23 32 15.8
comp=Z,475nm,19.0s
UDBI Udbina 123.20 320 *i* P **PKPdf 22 34 59.7 -1.8**
Y49A Blount Mountai 123.21 53 IAMs_20 IAMs_20 23 26 50.5
comp=Z,592nm,20.0s
LJU Ljubljana 123.25 322 *e*P **PKPdf 22 35 00.8 -0.7**
RJOB Jochberg 123.40 325 *e*PKPdf **PKPdf 22 34 59.9 -1.8**
baz=55,slow=1.9
R50A Paris 123.40 48 IAMs_20 IAMs_20 23 24 56.8
comp=Z,724nm,19.0s
KBA Koelnbreinsper 123.43 324 *e*P **PKPdf 22 35 00.2 -1.8**
comp=Z,6.9nm,0.8s
KBA *e*P **PP 22 36 39.8 -3.3**
comp=Z,8.8nm,1.2s
MYKA Terra Mystica 123.48 323 *i* P **PKPdf 22 35 00.3 -1.7**
comp=Z,4.2nm,0.8s
MYKA *e*P **PKKPab 22 44 48.6 -2.0**
comp=Z,4.5nm,1.0s
MORI Morici 123.54 320 *i* P **PKPdf 22 35 00.3 -1.7**
ACSO Alum Creek Sta 123.65 45 P **PKPdf 22 35 01.8 -0.6**
baz=293
MTO3 Montecristo 123.66 77 IAMs_20 IAMs_20 23 18 03.7
comp=Z,560nm,22.0s
DUGI Dugi Otok 123.90 320 *i* P **PKPdf 22 35 01.0 -1.7**
FUR Furstenfeldbru 124.03 326 *e*L L 23 30 50.5
comp=Z,346nm,21.5s
ABTA Abfaltersbach 124.09 324 *e*P **PKPdf 22 35 01.6 -1.6**
comp=Z,16nm,1.1s,SNR=6.9
ABTA *e*P **PKKPab 22 44 48.6 +0.5**
comp=Z,4.0nm,1.0s
S51A Beattyville 124.17 48 IAMs_20 IAMs_20 23 25 24.3
comp=Z,637nm,20.0s
SADO Sadowa 124.20 39 PKP **PKPdf 22 35 02.9 -0.4**
comp=Z,12nm,1.0s,baz=338,slow=2.4,SNR=3.8
SCHQ Schefferville 124.25 23 PKP **PKPdf 22 35 02.1 -1.0**
comp=Z,4.0nm,0.8s,baz=331,slow=8.6,SNR=5.5
SCHQ Schefferville 124.25 23 IAMs_20 IAMs_20 23 20 57.4
comp=Z,738nm,22.0s
BRJN Brijuni 124.28 322 *i* P **PKPdf 22 35 01.4 -2.1**
WATA Walderalm 124.31 325 *e*P **PKPdf 22 35 02.1 -1.6**
comp=Z,12nm,1.2s
WATA *e*P **PP 22 36 47.7 -1.3**
comp=Z,6.0nm,1.2s
WTTA Wattenberg 124.32 325 *e*P **PKPdf 22 35 02.7 -1.1**
comp=Z,11nm,0.7s,SNR=9.6
TNS Taunus Mts 124.33 329 *e*L L 23 29 27.8
comp=Z,563nm,21.6s
P52A Corning 124.48 45 P **PKPdf 22 35 02.8 -1.2**
baz=294
TSUM Tsumeb 124.53 242 PKPdf **PKPdf 22 35 04.8 -0.1**
ML02 Panimavida 124.58 142 **PKiKP 22 35 04.8 +0.1**
MOTA Moosalm 124.58 325 *e*P **PKPdf 22 35 02.9 -1.3**
comp=Z,15nm,0.7s,SNR=11
SQTA Sankt Quirin 124.59 325 *e*P **PKPdf 22 35 03.1 -1.0**
comp=Z,18nm,1.0s,SNR=9.1
TZTN Tazewell 124.59 49 P **PKPdf 22 35 03.8 -0.5**
baz=290
RETA Reutte 124.69 326 *i* P **PKPdf 22 35 03.1 -1.1**
comp=Z,7.8nm,1.0s
RETA *e*P **PKKPab 22 44 43.5 -2.0**
comp=Z,6.4nm,1.4s
STU Stuttgart 124.81 328 *e*PKPdf **PKPdf 22 35 03.4 -1.0**
baz=55,slow=1.9
O53A New Philadelph 124.88 44 P **PKPdf 22 35 04.0 -0.8**
baz=295
FETA Feichten 124.97 325 *e*P **PKPdf 22 35 04.0 -1.0**
comp=Z,19nm,1.0s,SNR=9.2
Y52A Lilburn 125.07 53 **PKPdf 22 35 05.1 -0.3**
BTNL Ternell 125.25 331 *d*PKPdf **PKPdf 22 35 04.2 -1.0**
BTNL *dp*PKPdf **pPKPdf 22 35 15.2 -3.7**
MEM Membach 125.29 331 *d*PKPdf **PKPdf 22 35 04.3 -0.9**
MEM *dp*PKPdf **pPKPdf 22 35 15.6 -3.3**
DAVA Damuels 125.30 326 *i* P **PKPdf 22 35 04.4 -1.2**
comp=Z,11nm,0.8s
M54A Oil Creek Stat 125.39 42 P **PKPdf 22 35 05.7 0.0**
baz=297
N54A Moraine State 125.42 43 P **PKPdf 22 35 05.8 0.0**
baz=296
O54A Avella 125.49 44 **PKPdf 22 35 05.5 -0.5**
BSTI Sart Tilman 125.52 331 *dp*PKPdf pPKPdf 22 35 17.7 -1.6
BFO Black Forest 125.54 328 *e*L L 23 37 39.6
comp=Z,276nm,21.0s
BG3 Lake Jocassee 125.59 51 IAMs_20 IAMs_20 23 22 06.3
comp=Z,700nm,21.0s
BO02 Sierra Bellavi 125.60 141 PKPdf **PKPdf 22 35 06.7 +0.2**
GOGA Godfrey 125.69 53 P **PKPdf 22 35 05.5 -1.0**
baz=286
WLF Walferdange 125.83 330 *d*PKPdf **PKPdf 22 35 04.6 -1.7**
MT01 Popeta 125.91 140 **PKPdf 22 35 06.5 -0.5**
M55A Ridgway 126.01 42 IAMs_20 IAMs_20 23 24 36.0
comp=Z,520nm,21.0s
BMRD Maredsous 126.09 331 *d*PKPdf **PKPdf 22 35 06.1 -0.7**
BMRD *dp*PKPdf **pPKPdf 22 35 18.1 -2.3**
MT09 Talagante 126.13 140 **PKPdf 22 35 07.7 +0.1**
TIGA Tifton 126.18 55 P **PKiKP 22 35 08.0 0.0**
baz=287
SNF Seneffe 126.18 332 *d*PKPdf **PKPdf 22 35 06.4 -0.5**
SNF *dp*PKPdf **pPKPdf 22 35 17.5 -3.1**
ZCCA Zocca 126.27 322 **PKiKP 22 35 07.8 0.0**
HODGE Hodges 126.37 52 **PKPdf 22 35 07.5 -0.3**
PAULI Pauline 126.51 51 **PKPdf 22 35 07.8 -0.3**
BLA Blacksburg 126.67 48 P **PKPdf 22 35 07.7 -0.6**
baz=293
O56A Blue Knob Stat 126.70 43 **PKPdf 22 35 08.4 +0.1**
O56A Blue Knob Stat 126.70 43 P **PKPdf 22 35 08.2 -0.1**
baz=297
KMSC Kings Mountain 126.77 50 **PKiKP 22 35 09.0 0.0**
KMSC Kings Mountain 126.77 50 P **PKPdf 22 35 08.5 -0.1**
baz=291
SSPA Standing Stone 126.99 43 P **PKPdf 22 35 06.9 -1.9**
baz=298
LONY Lake Ozonia 127.06 37 P **PKPdf 22 35 07.8 -1.0**
baz=304
VA03 San Esteban 127.06 139 **PKPdf 22 35 09.1 -0.2**
M57A Sunshine Farm, 127.16 42 IAMs_20 IAMs_20 23 30 32.1
comp=Z,686nm,20.0s
P57A Homestead Farm 127.43 44 IAMs_20 IAMs_20 23 26 21.7
comp=Z,676nm,22.0s
BINY Binghamton 127.47 40 P **PKPdf 22 35 09.4 -0.4**
baz=301
ORTG Ortega, Santa 127.55 82 **PKiKP 22 35 11.9 +0.7**
ORTG IAMs_20 IAMs_20 23 19 06.0
comp=Z,492nm,18.0s
T57A Hurt 127.61 47 **PKPdf 22 35 10.3 +0.2**
BIRD Birdtown, Kers 127.62 51 IAMs_20 IAMs_20 23 25 54.7
comp=Z,540nm,21.0s
CO02 Combarbal 127.75 138 **PKPdf 22 35 10.9 +0.2**
JTS Las Juntas de 128.05 82 PKIKP **PKPdf 22 35 11.0 -0.6**
JTS Las Juntas de 128.05 82 **PKPdf 22 35 11.0 -0.6**
257A Skidaway Islan 128.09 54 IAMs_20 IAMs_20 23 29 12.8
comp=Z,674nm,20.0s
TRQA Tornquist 128.17 150 PKIKP **PKPdf 22 35 11.4 +0.2**
TRQA Tornquist 128.17 150 PKPdf **PKPdf 22 35 11.4 +0.2**
TRQA Tornquist 128.17 150 *e*P **PKiKP 22 35 12.1 +0.3**
CO03 El Pedregal 128.19 138 **PKPdf 22 35 10.9 -0.7**
I60A Shoreham 128.26 37 P **PKPdf 22 35 10.7 -0.4**
baz=305
N59A State Game Lan 128.26 41 P **PKiKP 22 35 13.5 +1.6**
baz=300
MVL Millersville 128.32 43 **PKiKP 22 35 11.8 -0.1**
NHSC New Hope 128.39 52 IAMs_20 IAMs_20 23 25 57.2
comp=Z,688nm,20.0s
X58A Rowlesburg 128.51 50 IAMs_20 IAMs_20 23 27 52.2
comp=Z,606nm,20.0s
LBNH Lisbon 128.84 36 IAMs_20 IAMs_20 23 24 21.4
comp=Z,771nm,22.0s
WUPA West Chester U 128.86 42 IAMs_20 IAMs_20 23 23 06.0
comp=Z,532nm,22.0s
T59A Double "B" Far 128.86 47 **PKPdf 22 35 12.2 -0.3**
K61A Williamstown 128.93 38 P **PKiKP 22 35 13.0 -0.1**
baz=304
G62A West of Eustis 129.04 34 IAMs_20 IAMs_20 23 24 56.5
comp=Z,723nm,21.0s
ZON Zonda 129.06 140 PKIKP **PKPdf 22 35 12.8 -0.3**
ZON Zonda 129.06 140 **PKPdf 22 35 12.8 -0.3**
H62A Milan 129.08 35 IAMs_20 IAMs_20 23 26 20.7
comp=Z,658nm,20.0s
CVTR Volcan Turrial 129.23 82 **PKPdf 22 35 14.4 +0.1**
LCO Las Campanas 129.30 136 PKIKP **PKiKP 22 35 15.1 +0.4**
LCO Las Campanas 129.30 136 **PKiKP 22 35 15.1 +0.4**
PEZE Perez Zeledon, 129.31 83 **PKiKP 22 35 14.8 0.0**
SRBA San Rafael, Bu 129.62 83 **PKiKP 22 35 15.2 -0.3**
QUA2 Belchertown 129.71 38 IAMs_20 IAMs_20 23 24 20.9
comp=Z,675nm,20.0s
RGM0 Gadoca 130.36 83 IAMs_20 IAMs_20 23 20 38.0
comp=Z,488nm,18.0s
EMMW East Machias 131.05 33 IAMs_20 IAMs_20 23 28 56.8
comp=Z,663nm,21.0s
KEST Kesra 131.62 313 PKP **PKPdf 22 35 17.1 -0.8**
comp=Z,8.3nm,0.9s,baz=336,slow=4.2,SNR=7.0
AC02 Maricunga 131.72 135 **PKPdf 22 35 18.9 0.0**
NNA Nana 132.42 112 PKP **PKiKP 22 35 20.8 -0.2**
comp=Z,28nm,1.0s,baz=298,slow=3.6,SNR=8.5
NNA Nana 132.42 112 PKPdf **PKPdf 22 35 20.2 +0.3**
OTAV Otavalo 133.84 96 PKIKP **PKPdf 22 35 23.6 +0.4**
OTAV Otavalo 133.84 96 **PKPdf 22 35 23.6 +0.4**
OTAV Otavalo 133.84 96 *e*P **PKiKP 22 35 23.8 -0.7**
OTAV Otavalo 133.84 96 *e*P **PKiKP 22 35 23.8 -0.7**
PB07 IPOC Station P 134.10 128 **PKPdf 22 35 23.4 +0.4**
LVC Limon Verde 134.36 130 PKP **PKiKP 22 35 25.1 -0.1**
comp=Z,8.3nm,0.7s,baz=269,slow=5.0,SNR=7.0
LVC SKP 22 38 55.3
comp=Z,6.0nm,0.8s,baz=245,slow=3.3,SNR=4.2
LVC Limon Verde 134.36 130 **PKPdf 22 35 23.9 +0.1**
LVC Limon Verde 134.36 130 *e*P **PKiKP 22 35 24.8 -0.4**
LVC Limon Verde 134.36 130 *e*P **PKPdf 22 35 24.4 +0.6**
GR1C Gorgona, Isla 134.46 92 *e*P **PKPdf 22 35 23.8 +0.1**
TA02 Huaiquique 134.68 126 **PKPdf 22 35 23.9 0.0**
PB01 IPOC Station P 134.78 128 **PKPdf 22 35 24.9 +0.7**
BBAC Balboa, Cauca 135.27 93 *e*P **PKPdf 22 35 25.8 +0.2**
PB08 IPOC Station P 135.53 127 **PKiKP 22 35 27.1 -0.5**
POPC Popayan, Colom 135.89 93 *e*P PKPpre 22 35 16.2
SOTA Rioblanco 135.92 93 *e*P **PKPdf 22 35 23.0 -4.1**
YOTC Yotoco, Valle 136.36 91 *e*P PKPpre 22 35 16.6
FLOC Florencia 136.80 94 **PKPdf 22 35 27.9 -0.2**
FLOC Florencia 136.80 94 *e*P **PKPdf 22 35 27.5 -0.6**
CBOC Ciudad Bolivar 136.81 88 *e*P **PKPdf 22 35 24.1 -4.2**
BETC Betania 137.13 93 *e*P **PKPdf 22 35 29.6 +0.8**
PLTB Pedras Altas 137.26 153 *e*P **PKPdf 22 35 29.0 +0.5**
HELC Santa Helena 137.31 88 *e*P PKPpre 22 35 19.6
GUY2C Guyana, Caldas 137.42 89 *e*P PKPpre 22 35 19.5
ORTC Ortega, Tolima 137.45 91 *e*P PKPpre 22 35 18.8
PTLC Puerto Leguiza 137.45 96 *e*P PKPpre 22 35 20.1
ITQB Itaqui 137.51 148 *e*P **PKPdf 22 35 29.9 +0.9**
SJCC San Jacinto, C 137.68 82 PKPdf **PKPdf 22 35 28.7 -1.0**
SJCC San Jacinto, C 137.68 82 *e*P PKPpre 22 35 18.3
PRAC Prado 137.79 91 *e*P PKPpre 22 35 21.1
ESDC Sonseca Array 137.88 327 PKhKP PKPpre 22 35 20.4
comp=Z,0.4nm,0.7s,baz=29,slow=3.7,SNR=4.2
ESDC PKP **PKPdf 22 35 30.3 +0.8**
comp=Z,0.9nm,0.8s,baz=18,slow=1.6,SNR=6.6
ESDC PP **PP 22 38 17.9 +1.4**
comp=Z,2.4nm,0.9s,baz=20,slow=6.1,SNR=6.6
NORC Norcasia 137.94 89 *e*P PKPpre 22 35 19.8
ZARC Zaragoza, Cauc 138.01 86 *e*P PKPpre 22 35 19.0
LPAZ La Paz 138.33 123 PKhKP PKPpre 22 35 21.0
comp=Z,2.8nm,0.6s,baz=195,slow=4.2,SNR=11
LPAZ SKP 22 39 06.0
comp=Z,9.9nm,1.0s,baz=277,slow=1.2,SNR=6.1
LPAZ La Paz 138.33 123 PKIKP **PKPdf 22 35 30.2 -1.4**
LPAZ La Paz 138.33 123 **PKPdf 22 35 30.2 -1.4**
LPAZ La Paz 138.33 123 *e*P PKPpre 22 35 21.5
LPAZ La Paz 138.33 123 *e*P **PKPdf 22 35 29.9 -1.7**
MVO Moncorvo 138.38 331 *e*PKP PKPpre 22 35 22.5
PTBC PUERTO BERRIO 138.39 87 *e*P PKPpre 22 35 20.3
ROSC El Rosal 138.44 90 PKhKP PKPpre 22 35 22.9
comp=Z,12nm,0.6s,baz=251,slow=23,SNR=3.5
ROSC PKP **PKPdf 22 35 31.8 +0.2**
comp=Z,69nm,0.8s,baz=288,slow=6.4,SNR=16
ROSC El Rosal 138.44 90 PKPdf **PKPdf 22 35 31.3 -0.3**
ROSC El Rosal 138.44 90 *e*P PKPpre 22 35 20.3
CPSB Cacapava Do Su 138.48 152 *e*P **PKiKP 22 35 32.7 -0.1**
MACC Macarena, Meta 138.66 94 *e*P PKPpre 22 35 22.8
SPBC San Pablo de B 138.73 88 *e*P PKPpre 22 35 21.8
SMLC San Martn de 138.79 84 *e*P PKPpre 22 35 21.6
VILC Villavicencio, 139.01 91 *e*P PKPpre 22 35 24.9
CHIC Chingaza 139.01 90 *e*P PKPpre 22 35 23.6
MTE Manteigas 139.21 330 *e*PKP PKPpre 22 35 22.9
PCBR Castelo Branco 139.60 330 *e*PKP **PKPdf 22 35 32.7 +0.2**
BARC Barichara 139.65 87 *e*P PKPpre 22 35 26.3
RUSC La Rusia 139.73 88 *e*P PKPpre 22 35 24.4
CPUP Villa Florida 139.73 144 PKhKP PKPpre 22 35 24.4
comp=Z,2.6nm,0.9s,baz=176,slow=11,SNR=3.6
CPUP PKP **PKPdf 22 35 33.9 +0.7**
comp=Z,30nm,1.1s,baz=233,slow=0.6,SNR=16
CPUP Villa Florida 139.73 144 PKPdf **PKPdf 22 35 33.4 +0.3**
CPUP Villa Florida 139.73 144 *e*P **PKPdf 22 35 33.2 +0.1**
PMRV Marv??o 139.87 329 *e*PKP **PKPdf 22 35 26.6 -6.4**
PAMC Pamplona, Colo 140.15 86 *e*P PKPpre 22 35 22.2
CNLB Canela 140.56 154 *e*P **PKPdf 22 35 35.6 +1.0**
TAMC Tame, Arauca 141.03 87 *e*P **PKPdf 22 35 29.2 -6.7**
PMAFR Mafra 141.18 331 *e*PKP **PKPdf 22 35 29.2 -6.2**
TBTG Tabatinga, AM 141.33 105 *e*P **PKiKP 22 35 38.9 -0.2**
MESJ Messejana 141.49 328 *e*PKP **PKPdf 22 35 30.3 -5.7**
PVAQ Vaqueiros 141.55 327 *e*PKP **PKPdf 22 35 31.1 -5.0**
PCVE Castro Verde 141.55 328 *e*PKP **PKPdf 22 35 30.0 -6.1**
PBDV Barranco-do-Ve 141.79 327 *e*PKP **PKPdf 22 35 33.6 -3.0**
TER01 Tubaro-SC 141.97 156 *e*P **PKiKP 22 35 40.6 +0.5**
SOCV Socops 141.98 84 *e*P **PKPdf 22 35 31.5 -6.0**
SDV Santo Domingo 142.19 84 *e*P **PKPdf 22 35 33.0 -5.2**
ETMB Extrema 142.91 115 *e*P **PKPdf 22 35 40.7 +1.5**
PTGB Pitanga 143.89 149 *e*P **PKiKP 22 35 44.4 +0.2**
SIV San Ignacio 144.20 128 PKP PKPbc 22 35 39.5 -0.1
comp=Z,54nm,0.8s,baz=240,slow=2.8,SNR=43
ICMP Isla Caja de M 144.90 68 **PKPab 22 35 41.2 -0.5**
ICMP IAMs_20 IAMs_20 23 30 31.4
comp=Z,584nm,21.0s
AQDB Aquidauana 145.09 140 *e*P **PKPbc 22 35 42.0 -0.3**
TRCB Terra Rica 145.15 146 *e*P **PKPab 22 35 42.7 +0.2**
HUMP Col San Antoni 145.45 67 **PKPdf 22 35 42.6 -0.9**
SHEL Horse Pasture 145.50 230 PKIKP **PKPab 22 35 44.3 +0.3**
SHEL Horse Pasture 145.50 230 **PKPab 22 35 44.3 +0.3**
TORD Torodi Ar. Bea 145.54 284 PKPbc **PKPdf 22 35 43.3 -0.4**
comp=Z,209nm,1.0s,baz=71,slow=3.2,SNR=349
TORD SKPbc **SKPbc 22 39 20.5 +0.2**
comp=Z,4.4nm,0.8s,baz=73,slow=2.3,SNR=5.0
TORD SKKPbc **SKKPab 22 47 15.2 -0.6**
comp=Z,2.1nm,1.1s,baz=269,slow=4.8,SNR=3.9
TORD Torodi Ar. Bea 145.54 284 **PKPdf 22 35 43.0 -0.7**
MTP Monte Pirata 145.73 67 **PKPbc 22 35 44.2 -0.2**
CUPR Culebra, Puert 145.92 66 PKPdf **PKPdf 22 35 44.1 -0.1**
SAML Samuel 145.99 116 PKP2 **PKPdf 22 35 44.8 +0.3**
SAML Samuel 145.99 116 PKPdf **PKPdf 22 35 44.8 +0.3**
SAML Samuel 145.99 116 *e*P **PKPbc 22 35 45.0 -0.3**
SAML Samuel 145.99 116 *e*P **PKPbc 22 35 45.2 0.0**
SAML Samuel 145.99 116 *e*P **PKPdf 22 35 44.3 -0.2**
PTLB Pontes e Lacer 146.02 130 *e*P **PKPbc 22 35 45.4 +0.1**
STVI Saint Thomas 146.21 66 **PKPbc 22 35 44.6 -0.1**
PET01 Itanhaem-SP 146.49 155 *e*P **PKPbc 22 35 46.9 +0.4**
CDVI St. Croix 146.55 67 PKPdf **PKPdf 22 35 46.0 +0.7**
VILB Vilhena 146.61 125 *e*P **PKPbc 22 35 47.1 0.0**
ABVI Anegada Island 146.66 65 **PKPdf 22 35 46.0 +0.6**
PCMB Pacaembu 146.85 147 *e*P **PKPbc 22 35 47.4 -0.3**
SPB Sao Paulo 147.03 154 **PKPbc 22 35 48.3 +0.2**
SPB Sao Paulo 147.03 154 *e*P **PKPbc 22 35 47.5 -0.6**
VAO Valinhos 147.75 155 *e*P **PKPbc 22 35 49.2 -1.0**
SMRT St. Maarten 148.00 66 **PKPbc 22 35 50.6 -0.3**
SMRT IAMs_20 IAMs_20 23 44 52.4
comp=Z,411nm,22.0s
PARB Paraibuna 148.00 157 *e*P **PKPdf 22 35 49.2 +1.5**
RCLB Rio Claro- Sao 148.02 153 *e*P **PKPdf 22 35 49.0 +1.2**
SALV Santo Antonio 148.29 134 *e*P **PKPdf 22 35 49.8 +1.5**
BB19B Bebedouro 148.71 150 *e*P **PKPdf 22 35 50.3 +1.1**
ITRB Iturama 148.88 146 *e*P **PKPdf 22 35 50.2 +1.0**
VAS01 Vassouras-RJ 149.77 160 *e*P **PKPdf 22 35 51.1 +0.5**
MACA Manacapuru-AM 150.44 108 *e*P **PKPdf 22 35 53.3 +1.5**
MACA Manacapuru-AM 150.44 108 *e*P **PKPdf 22 35 52.1 +0.3**
BSCB Bom Sucesso 150.45 156 *e*P **PKPdf 22 35 50.6 -1.1**
FDF Fort de France 150.68 71 PKIKP **PKiKP 22 35 59.5 +1.2**
FDF Fort de France 150.68 71 **PKiKP 22 35 59.5 +1.2**
CAM01 Campos-RJ 150.77 163 *e*P **PKPdf 22 35 54.4 +2.3**
BIM Bigot 150.81 71 **PKiKP 22 35 58.3 -0.3**
ARAG Araguaiana, MT 151.08 139 *e*P **PKPdf 22 35 54.0 +1.3**
ARAG Araguaiana, MT 151.08 139 *e*P **PKPdf 22 35 54.2 +1.5**
CLDB Colider 151.34 126 *e*P **PKPdf 22 35 54.3 +1.1**
IPMB Ipameri, GO 151.45 148 *e*P **PKPdf 22 35 55.0 +1.7**
PTGA Pitinga 151.81 103 **PKPdf 22 35 53.7 -0.2**
PTGA PKPbc **PKiKP 22 36 01.0 +0.3**
PTGA PKPab **PKPab 22 36 10.7 +1.3**
BOAV Boa Vista 151.89 96 *e*P **PKPdf 22 35 55.1 +1.0**
TOSP Speyside 151.92 78 **PKiKP 22 36 01.0 +0.1**
TOSP PKPab **PKPab 22 36 09.4 -0.3**
ALF01 Guarapari-ES 152.18 163 *e*P **PKPdf 22 35 53.9 -0.3**
KIC Kosan Boka 152.33 272 *e*PKP1 **PKiKP 22 36 02.6 +0.8**
comp=Z,201nm,0.9s
DBIC Dimbokro 152.45 273 PKPbc **PKPbc 22 36 01.8 +0.1**
comp=Z,40nm,0.7s,baz=102,slow=1.9,SNR=41
DBIC PKPab **PKPab 22 36 12.1 0.0**
comp=Z,79nm,0.9s,baz=122,slow=2.4,SNR=18
DBIC Dimbokro 152.45 273 PKIKP **PKPbc 22 36 01.7 -0.1**
DBIC 23 35 54.6
DBIC 23 36 12.8
DBIC **Dimbokro 152.45 273** PKPdf **PKPdf 22 35 54.6 -0.2**
DBIC **PKPbc 22 36 01.7 -0.1**
DBIC PKPab **PKPab 22 36 12.8 +0.7**
TIC Toumodi 152.61 272 *e*PKP1 **PKiKP 22 36 03.2 +0.8**
LIC Lamto 152.61 272 *e*PKP1 **PKPbc 22 36 02.2 +0.1**
comp=Z,282nm,0.8s
BDFB Brasilia 153.46 145 PKP **PKPdf 22 35 56.9 +0.5**
comp=Z,18nm,1.0s,baz=132,slow=0.9,SNR=17
BDFB PKPbc **PKiKP 22 36 04.2 +0.1**
comp=Z,56nm,0.8s,baz=187,slow=2.7,SNR=46
BDFB PKPab **PKPab 22 36 16.6 +0.4**
comp=Z,28nm,0.8s,baz=243,slow=3.3,SNR=5.7
BDFB Brasilia 153.46 145 PKIKP **PKPdf 22 35 56.4 0.0**
BDFB 22 36 04.3
BDFB Brasilia 153.46 145 PKPdf **PKPdf 22 35 56.4 0.0**
BDFB PKPbc **PKiKP 22 36 04.3 +0.1**
RIB01 Linhares ES 153.51 163 *e*P **PKPdf 22 35 57.5 +1.3**
RIB01 Linhares ES 153.51 163 *e*P **PKPdf 22 35 57.9 +1.6**
NPGB Novo Progresso 153.74 120 *e*P **PKPdf 22 35 57.5 +0.8**
BSFB Barra de Sao F 153.83 162 *e*P **PKPdf 22 35 58.5 +1.8**
SJMB Sao Joao De Ma 153.85 161 *e*P **PKPdf 22 35 57.9 +1.1**
SJMB Sao Joao De Ma 153.85 161 *e*P **PKPdf 22 35 58.5 +1.7**
SNDB Serra Nova Dou 154.07 134 *e*P **PKPdf 22 35 57.2 0.0**
SNDB Serra Nova Dou 154.07 134 *e*P **PKPdf 22 35 58.8 +1.6**
ITTB Itaituba 154.61 114 *e*P **PKPdf 22 35 59.4 +1.4**
MC01 Montes Claros 154.62 154 *e*P **PKPdf 22 35 58.7 +0.7**
NAN01 Guarapari, ES 154.98 163 *e*P **PKPdf 22 36 00.1 +1.8**
JANB Januaria 155.90 151 *e*P **PKPdf 22 36 01.3 +1.6**
JANB Januaria 155.90 151 *e*P **PKPdf 22 35 58.8 -0.9**
PEXB Peixe 156.02 139 *e*P **PKPdf 22 35 60.0 +0.1**
GUA01 Guaratinga, BA 156.27 163 *e*P **PKPdf 22 36 02.5 +2.4**
MALB Monte Alegre 156.92 110 *e*P **PKPdf 22 36 03.2 +2.1**
MALB Monte Alegre 156.92 110 *e*P **PKPdf 22 36 00.1 -0.9**
CMC01 Camacan, BA 157.51 162 *e*P **PKPdf 22 36 04.0 +2.3**
CMC01 Camacan, BA 157.51 162 *e*P **PKPdf 22 36 00.1 -1.6**
**NBIT Itapeh -

SMTB	**Santa Maria do**	**158.85**	**135**	*eP*		**PKPdf**	**22 36 04.8**	**+1.4**
PRPB	**Parauapebas**	**158.86**	**125**	*eP*		**PKPdf**	**22 36 05.0**	**+1.6**
PRPB	**Parauapebas**	**158.86**	**125**	*eP*		**PKPdf**	**22 36 04.2**	**+0.8**
GDU01	**Guandu, BA**	**159.03**	**161**	*eP*		**PKPdf**	**22 36 04.8**	**+1.2**
MCPB	**Macapa, AP**	**159.50**	**108**	*eP*		**PKPdf**	**22 36 06.4**	**+2.2**
MCPB	**Macapa, AP**	**159.50**	**108**	*eP*		**PKPdf**	**22 36 04.4**	**+0.2**
MDP	**Montagnes des**	**160.00**	**92**	PKP		**PKPdf**	**22 36 04.6**	**-0.1**
	comp=Z,8.8nm,1.0s,baz=352,slow=4.3,SNR=3.8							
MDP				PKPab		**PKPab**	**22 36 44.2**	**-0.3**
	comp=Z,31nm,0.8s,baz=242,slow=5.2,SNR=16							
NBPN	**Ponto Novo - B**	**161.45**	**156**	*eP*		**PKPdf**	**22 36 07.7**	**+1.4**
NBPN	**Ponto Novo - B**	**161.45**	**156**	*eP*		**PKPdf**	**22 36 06.8**	**+0.5**
NBLA	**Lagarto - SE**	**162.16**	**163**	*eP*		**PKPdf**	**22 36 09.0**	**+2.0**
NBLA	**Lagarto - SE**	**162.16**	**163**	*eP*		**PKPdf**	**22 36 07.8**	**+0.8**
TMAB	**Tom-Au,PA,Br**	**162.32**	**118**	*eP*		**PKPdf**	**22 36 09.8**	**+2.6**
TMAB	**Tom-Au,PA,Br**	**162.32**	**118**	*eP*		**PKPdf**	**22 36 08.0**	**+0.8**
NBAN	**Anadia - AL**	**163.82**	**167**	*eP*		**PKPdf**	**22 36 12.4**	**+3.8**
NBAN	**Anadia - AL**	**163.82**	**167**	*eP*		**PKPdf**	**22 36 11.0**	**+2.4**
NBRF	**Rio Formoso -**	**165.01**	**170**	*eP*		**PKPdf**	**22 36 12.5**	**+2.8**
NBMA	**Muriti-CE**	**165.19**	**155**	*eP*		**PKPdf**	**22 36 11.8**	**+1.9**
ROSB	**Rosrio**	**165.36**	**128**	*eP*		**PKPdf**	**22 36 10.4**	**+0.4**
ROSB	**Rosrio**	**165.36**	**128**	*eP*		**PKPdf**	**22 36 10.3**	**+0.2**
NBLV	**Livramento - P**	**165.86**	**162**	*eP*		**PKPdf**	**22 36 12.9**	**+2.4**
NBLV	**Livramento - P**	**165.86**	**162**	*eP*		**PKPdf**	**22 36 11.0**	**+0.5**
NBPS	**Pedro II - PI**	**166.25**	**140**	*eP*		**PKPdf**	**22 36 14.2**	**+3.3**
NBPS	**Pedro II - PI**	**166.25**	**140**	*eP*		**PKPdf**	**22 36 11.0**	**+0.2**
NBPB	**Pedra_Branca-C**	**166.41**	**149**	*eP*		**PKPdf**	**22 36 13.2**	**+2.4**
NBPV	**Pedro Velho**	**167.19**	**168**	*eP*		**PKPdf**	**22 36 13.9**	**+2.5**
NBPV	**Pedro Velho**	**167.19**	**168**	*eP*		**PKPdf**	**22 36 12.4**	**+0.9**
NBPA	**Parau_RN**	**167.30**	**159**	*eP*		**PKPdf**	**22 36 14.1**	**+2.5**
RCBR	**Riachuelo**	**167.61**	**164**	*eP*		**PKPdf**	**22 36 14.2**	**+2.4**
NBMO	**Morrinhos-CE**	**167.97**	**142**	*eP*		**PKPdf**	**22 36 12.9**	**+0.9**
NBMO	**Morrinhos-CE**	**167.97**	**142**	*eP*		**PKPdf**	**22 36 11.9**	**-0.1**
NBCL	**Cascavel-CE**	**168.19**	**151**	*eP*		**PKPdf**	**22 36 13.5**	**+1.3**
NBCL	**Cascavel-CE**	**168.19**	**151**	*eP*		**PKPdf**	**22 36 12.4**	**+0.2**

IDC ***12*** *22:22:10.0±0.8, 47.°55N×121.°70W, h0km, mb3.4/4, mb1 3.7/8, mb1mx3.5/55, mbtmp3.5/8, ML3.3/4 Error ellipse: s-maj=11.9km s-min=8.8km az=153.0*

IASPEI ***12*** *22:22:11.6±0.9, 47.°52N±0.°02×121.°77W±0.°02, h25km±4km, mb3.6/4, Error ellipse: s-maj=3.0km s-min=2.7km az=92.3, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

ANF ***12*** *22:22:11.1±0.4, 47.°55N×121.°83W, h2km±5km, ML3.9/14, Error ellipse: s-maj=4.5km s-min=2.7km az=134.0*

NEIC ***12*** *22:22:12.3±2.0, 47.°50N±0.°02×121.°76W±0.°04, h20km±5km, Error ellipse: s-maj=3.9km s-min=3.2km az=118.0*

SEA ***12*** *22:22:12.4±1.5, 47.°52N±0.°02×121.°75W±0.°04, h19km±2km, ML4.0/212, ML3.8/60(NEIC), Error ellipse: s-maj=3.6km s-min=2.6km az=81.0*

PNSN ***12*** *22:22:12.4, 47.°52N×121.°75W, h19km, MD3.9, Fault plane solution: NP1:ϕs=35.00000°, δ70.00000°, λ40.00000°.*

ISC 12 22:22:12.0±0.7, 47.°52N±0.°01×121.°76W±0.°02, h18km±4km, n152, σ1§01/188, mb3.6/4, Washington

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ELW	**Echo Lake**	**0.08**	**250**			**Pg**	**22 22 15.7**	**+0.2**
ELW						**Sg**	**22 22 18.4**	**+0.7**
CDMR	**Cedar Moraine**	**0.10**	**181**			**Pg**	**22 22 16.0**	**+0.3**
CDMR						**Sg**	**22 22 18.9**	**+0.8**
RATT	**Rattlesnake La**	**0.10**	**198**			**Pg**	**22 22 15.9**	**+0.3**
RATT						**Sg**	**22 22 18.9**	**+0.7**
TTW	**Tolt Reservoir**	**0.18**	**15**			**Pb**	**22 22 16.8**	**+0.2**
TTW						**Sg**	**22 22 20.3**	**+0.6**
C05A	**Tolt Reservoir**	**0.18**	**15**			**Pb**	**22 22 16.8**	**+0.2**
C05A						**Sg**	**22 22 20.4**	**+0.6**
PNLK	**Pine Lake Midd**	**0.19**	**287**			**Pg**	**22 22 17.1**	**+0.2**
PNLK						**Sg**	**22 22 21.2**	**+1.1**
RAW	**Raver**	**0.22**	**213**			**Pb**	**22 22 17.3**	**-0.1**
RAW						**Sg**	**22 22 21.4**	**+0.7**
ALCT	**Alcott Element**	**0.23**	**303**			**Pb**	**22 22 17.6**	**+0.1**
ALCT						**Sg**	**22 22 22.4**	**+1.5**
HTW	**Haystack Looko**	**0.28**	**358**			**Pg**	**22 22 18.1**	**-0.1**
MARYW	**Marymoor Park**	**0.28**	**300**			**Pg**	**22 22 18.6**	**+0.4**
EARN	**East Ridge Ele**	**0.29**	**319**			**Pg**	**22 22 18.6**	**+0.3**
EARN						**Sg**	**22 22 23.8**	**+1.2**
WISC	**Wilburton Inst**	**0.30**	**287**			**Pg**	**22 22 18.9**	**+0.5**
WISC						**Sb**	**22 22 24.8**	**+1.4**
GSM	**Grass Mountain**	**0.32**	**185**			**Pg**	**22 22 18.8**	**-0.1**
SP2	**Seward Park 2**	**0.34**	**276**			**Pg**	**22 22 19.1**	**0.0**
SP2						**Sb**	**22 22 25.1**	**+0.6**
LEOT	**Leota Junior H**	**0.34**	**315**			**Pg**	**22 22 19.4**	**+0.1**
BLH	**Bald Hill**	**0.36**	**329**			**Pg**	**22 22 19.2**	**-0.4**
KNEL	**Kent Elementar**	**0.37**	**247**			**Pg**	**22 22 19.7**	**+0.1**
KNEL						**Sb**	**22 22 26.5**	**+1.1**
TKCO	**King County**	**0.37**	**272**			**Pg**	**22 22 19.7**	**0.0**
TKCO						**Sb**	**22 22 26.1**	**+0.7**
D05A	**Enumclaw**	**0.37**	**205**	Pg		**Pg**	**22 22 19.8**	**+0.1**
D05A				Sg		**Sg**	**22 22 25.8**	**+0.9**
D05A				IAML			22 22 25.9	
	comp=N,6μm,0.5s							
NOWS	**NOAA--Sand Poi**	**0.38**	**296**			**Pg**	**22 22 20.3**	**+0.5**
NOWS						**Sb**	**22 22 27.5**	**+1.8**
FINN	**Finn Hill Juni**	**0.38**	**302**			**Pg**	**22 22 20.2**	**+0.4**
FINN						**Sb**	**22 22 27.2**	**+1.5**
NIHS	**Ingelmoor High**	**0.38**	**305**			**Pg**	**22 22 20.3**	**+0.3**
NIHS						**Sb**	**22 22 27.4**	**+1.5**
MBPA	**Monroe Substat**	**0.39**	**347**			**Pg**	**22 22 19.8**	**-0.2**
MBPA						**Sg**	**22 22 25.5**	**+0.1**
MEAN	**Meany Midle Sc**	**0.39**	**285**			**Pg**	**22 22 20.6**	**+0.6**
MEAN						**Sb**	**22 22 28.0**	**+2.1**
HICC	**Highline Commu**	**0.39**	**250**			**Pg**	**22 22 20.1**	**0.0**
HICC						**Sb**	**22 22 26.8**	**+0.6**
SEA	**Seattle**	**0.40**	**290**			**Pg**	**22 22 20.7**	**+0.6**
BRKS	**Brookside Elem**	**0.43**	**303**			**Pg**	**22 22 20.9**	**+0.2**
BRKS						**Sb**	**22 22 28.3**	**+1.1**
LAWT	**Lawton Element**	**0.45**	**288**			**Pg**	**22 22 21.7**	**+0.6**
ALKI	**Alki Wastewate**	**0.45**	**277**			**Pg**	**22 22 21.6**	**+0.5**
SCCW	**Shoreline CC**	**0.47**	**299**			**Pg**	**22 22 21.6**	**+0.2**
SCCW						**Sb**	**22 22 29.5**	**+1.2**
LYNC	**Lynnwood City**	**0.47**	**310**			**Pg**	**22 22 21.4**	**-0.2**
LYNC						**Sb**	**22 22 28.9**	**+0.4**
VVHS	**Vashon High Sc**	**0.48**	**258**			**Pg**	**22 22 21.2**	**-0.5**
BEVT	**Boeing Everett**	**0.53**	**319**			**Pb**	**22 22 22.5**	**-0.3**
PCEP	**Pierce County**	**0.55**	**222**			**Pb**	**22 22 22.3**	**-0.7**
UPS	**University of**	**0.56**	**243**			**Pb**	**22 22 22.6**	**-0.6**
FMW	**Mount Fremont**	**0.59**	**174**			**Pb**	**22 22 23.0**	**-1.0**
GHW	**Garrison Hill**	**0.60**	**216**			**Pb**	**22 22 22.8**	**-1.1**
RVC	**Mount Rainier-**	**0.60**	**194**			**Pb**	**22 22 23.1**	**-0.9**
B941	**Kapowsin**	**0.62**	**211**			**Pb**	**22 22 23.1**	**-1.2**
OBSR	**Observation Ro**	**0.62**	**184**			**Pb**	**22 22 23.8**	**-0.7**
RCS	**Mount Rainier-**	**0.65**	**178**			**Pb**	**22 22 24.3**	**-0.8**
SR41	**SR410 Landslid**	**0.65**	**167**			**Pb**	**22 22 24.1**	**-0.8**
PANH	**Panhandle Gap,**	**0.67**	**173**			**Pb**	**22 22 24.3**	**-0.9**
WRW	**Wenatchee Ridg**	**0.68**	**60**			**Pb**	**22 22 25.2**	**-0.2**
JCW	**Jim Creek**	**0.68**	**350**			**Pb**	**22 22 24.5**	**-0.8**
RCM	**Mount Rainier-**	**0.69**	**179**			**Pb**	**22 22 24.9**	**-0.8**
GMW	**Gold Mountain**	**0.70**	**272**			**Pb**	**22 22 24.3**	**-1.4**
C06D	**Leavenworth**	**0.71**	**55**			**Pb**	**22 22 25.6**	**-0.2**
C06D	**Leavenworth**	**0.71**	**55**	P		**Pb**	**22 22 25.6**	**-0.2**
	baz=235,SNR=164							
C06D				S		**Sb**	**22 22 35.3**	**+0.1**
	baz=235							
REMR	**Mount Rainier-**	**0.71**	**185**			**Pb**	**22 22 24.9**	**-1.0**
GNW	**Green Mountain**	**0.73**	**274**			**Pb**	**22 22 24.5**	**-1.6**
GPW	**Glacier Peak**	**0.73**	**35**			**Pb**	**22 22 25.9**	**-0.4**
D04E	**Lakebay**	**0.77**	**244**			**Pb**	**22 22 26.3**	**-0.6**
D04E	**Lakebay**	**0.77**	**244**	P		**Pb**	**22 22 26.3**	**-0.6**
	baz=64,SNR=326							
D04E				S		**Sb**	**22 22 36.6**	**-0.4**
	baz=64							
LON	**Longmire**	**0.77**	**183**			**Pb**	**22 22 25.9**	**-1.1**
LON				Sg		**Sb**	**22 22 36.4**	**-0.7**
LON				IAML			22 22 37.0	
	comp=E,3μm,0.3s							
B05A	**Bryant**	**0.78**	**343**			**Pb**	**22 22 25.9**	**-1.0**
B05A						**Sb**	**22 22 36.8**	**-0.4**
B05A	**Bryant**	**0.78**	**343**	P		**Pb**	**22 22 25.9**	**-1.1**
	baz=163,SNR=1000							
LTY	**Liberty**	**0.78**	**109**			**Pb**	**22 22 27.1**	**-0.1**
LTY				Sg		**Sb**	**22 22 37.9**	**+0.4**
LTY				IAML			22 22 38.5	
	comp=E,4μm,0.3s							
LTY				IAML			22 22 38.6	
	comp=N,3μm,0.3s							
B013	**Quilcene**	**0.83**	**291**			**Pb**	**22 22 26.2**	**-1.7**
B013						**Sb**	**22 22 36.9**	**-1.8**
WPW	**White Pass**	**0.84**	**170**			**Pb**	**22 22 27.2**	**-0.9**
C04A	**Brinnon**	**0.84**	**284**			**Pb**	**22 22 26.4**	**-1.7**
C04A						**Sb**	**22 22 37.4**	**-1.7**
SLFW	**Sugar Loaf**	**0.86**	**74**			**Pb**	**22 22 28.6**	**+0.1**
TBM	**Table Mountain**	**0.86**	**114**			**Pb**	**22 22 28.8**	**+0.3**
HDW	**Hoodsport**	**0.89**	**279**			**Pb**	**22 22 27.2**	**-1.8**
CMW	**Cultus Mountai**	**0.93**	**345**			**Pb**	**22 22 29.0**	**-0.8**
B06A	**Marblemount**	**1.01**	**10**			**Pb**	**22 22 30.1**	**-0.9**
B06A						**Sb**	**22 22 43.5**	**-0.5**
NAC	**Naches**	**1.01**	**141**			**Pb**	**22 22 30.9**	**-0.2**
CPW	**Capitol Peak**	**1.09**	**240**			**Pb**	**22 22 30.8**	**-1.6**
NLW	**Nelson Butte**	**1.11**	**59**			**Pb**	**22 22 32.6**	**-0.1**
E04D	**Cinebar**	**1.11**	**210**	P		**Pn**	**22 22 31.6**	**-1.2**
E04D	baz=30,SNR=208							
				S		**Sb**	**22 22 46.4**	**-0.5**
	baz=30							
B04A	**Port Angeles**	**1.29**	**295**			**Pn**	**22 22 33.4**	**-1.8**
SHUK	**Shuksan-Mt. Ba**	**1.33**	**2**			**Pn**	**22 22 35.3**	**-0.5**
A04D	**Lummi Island**	**1.36**	**332**	P		**Pn**	**22 22 35.2**	**-0.8**
A04D	baz=152,SNR=136							
				S		**Sn**	**22 22 53.6**	**0.0**
	baz=152							
DHW2	**Dyer Hill 2**	**1.42**	**70**			**Pn**	**22 22 37.5**	**+0.6**
NLWA	**Neilton Lookou**	**1.44**	**266**			**Pn**	**22 22 36.2**	**-1.1**
SNB	**Saturna Island**	**1.57**	**323**			**Pn**	**22 22 38.6**	**-0.4**
E03A	**Lebam**	**1.58**	**232**	Pn		**Pn**	**22 22 38.7**	**-0.4**
E03A				IAML			22 23 04.0	
	comp=E,2μm,0.5s							
B011	**North Saanich**	**1.60**	**315**			**Pn**	**22 22 38.4**	**-0.9**
PGC	**Sidney**	**1.60**	**315**			**Pn**	**22 22 38.5**	**-0.8**
PGC				IAML			22 22 59.1	
	comp=N,1μm,0.3s							
PGC				IAML			22 23 00.3	
	comp=E,1μm,0.3s							
E07A	**Sunnyside**	**1.62**	**126**			**Pn**	**22 22 40.2**	**+0.5**
F05D	**White Salmon**	**1.65**	**173**	P		**Pn**	**22 22 41.0**	**+0.8**
	baz=353,SNR=200							
F04A	**Amboy**	**1.66**	**196**			**Pn**	**22 22 40.5**	**+0.3**
F04A				IAML			22 23 03.2	
	comp=N,2μm,0.5s							
F04D	**Rainier, OR**	**1.68**	**211**	P		**Pn**	**22 22 40.7**	**+0.2**
F04D	baz=31,SNR=25							
				S		**Sb**	**22 23 03.3**	**+0.1**
	baz=31							
WAH2	**Wahluke Slope**	**1.68**	**116**			**Pn**	**22 22 41.3**	**+0.8**
CRF	**Corfu**	**1.76**	**112**			**Pn**	**22 22 40.2**	**+0.4**
GBL	**Gable Mountain**	**1.82**	**120**			**Pn**	**22 22 43.5**	**+1.0**
B08A	**Colville Reser**	**1.83**	**62**	Pn		**Pn**	**22 22 42.5**	**-0.1**
B08A				IAML			22 23 10.7	
	comp=E,710nm,0.2s							
B08A				IAML			22 23 14.0	
	comp=N,662nm,0.4s							
HAWA	**Hanford**	**1.90**	**126**	Pn		**Pn**	**22 22 43.8**	**+0.3**
HAWA				IAML			22 23 12.2	
	comp=N,980nm,0.5s							
D08A	**Wollman Farm,**	**1.98**	**103**	Pn		**Pn**	**22 22 44.6**	**-0.1**
D08A				IAML			22 23 16.7	
	comp=N,714nm,0.3s							
D08A				IAML			22 23 17.1	
	comp=E,478nm,0.2s							
F07A	**Phinny Hill Vi**	**2.06**	**142**			**Pn**	**22 22 45.9**	**+0.3**
F07A				IAML			22 23 22.1	
	comp=N,1μm,0.5s							
PFB	**Port Renfrew**	**2.08**	**301**			**Pn**	**22 22 45.8**	**-0.3**
E08A	**Dider Farm, El**	**2.11**	**118**			**Pn**	**22 22 46.8**	**+0.3**
E08A				IAML			22 23 19.3	
	comp=N,723nm,0.4s							
E08A				IAML			22 23 20.3	
	comp=E,693nm,0.4s							
B022	**Seaside**	**2.17**	**224**			**Pn**	**22 22 47.6**	**+0.4**
NLLB	**Nanaimo Lost L**	**2.26**	**320**			**Pn**	**22 22 49.0**	**+0.4**
PNT	**Penticton**	**2.29**	**38**			**Pn**	**22 22 49.8**	**+0.9**
PNT						**Pb**	**22 22 53.2**	**+0.3**
G05D	**Wamic, OR**	**2.30**	**172**	P		**Pn**	**22 22 50.3**	**+1.2**
	baz=353,SNR=70							
C09A	**Chrisman Ranch**	**2.37**	**82**			**Pn**	**22 22 49.9**	**-0.1**
MGB	**Mount Grey**	**2.46**	**308**			**Pn**	**22 22 51.4**	**+0.1**
G03D	**McMinnville, O**	**2.54**	**205**			**Pn**	**22 22 54.2**	**+1.9**
G03D	**McMinnville, O**	**2.54**	**205**	P		**Pn**	**22 22 53.9**	**+1.7**
G03D	baz=24,SNR=46							
				S		**Sb**	**22 23 26.7**	**-1.1**
	baz=24							
B927	**Port Alberni**	**2.65**	**311**			**Pn**	**22 22 55.2**	**+1.4**
E09A	**Wood Farm, Sta**	**2.67**	**111**			**Pn**	**22 22 54.3**	**+0.3**
E09A				IAML			22 23 40.3	
	comp=E,426nm,0.3s							
E09A				IAML			22 23 40.4	
	comp=N,457nm,0.6s							
WSLR	**Whistler**	**2.72**	**344**			**Pn**	**22 22 57.3**	**+2.5**
G08A	**Pilot Rock**	**2.95**	**138**	Pn		**Pn**	**22 22 57.3**	**-0.8**
G08A				IAML			22 23 49.4	
	comp=E,245nm,0.8s							
G08A				IAML			22 23 55.3	
	comp=N,262nm,0.7s							
H04D	**Lebanon**	**3.08**	**193**	P		**Pn**	**22 23 01.4**	**+1.6**
	baz=13,SNR=78							
LLLB	**Lillooet**	**3.09**	**359**	Pn		**Pn**	**22 22 59.8**	**-0.1**
LLLB				IAML			22 23 56.4	
	comp=N,175nm,0.7s							
COR	**Corvallis**	**3.13**	**201**	Pn		**Pn**	**22 23 02.0**	**+1.6**
COR				IAML			22 23 57.9	
	comp=N,139nm,0.7s							
I05D	**Terrebonne, OR**	**3.20**	**175**	P		**Pn**	**22 23 04.0**	**+2.6**
	baz=355							
NEW	**Newport**	**3.21**	**75**	Pn		**Pn**	**22 23 01.5**	**0.0**
	comp=N,4.3nm,0.3s,baz=258,slow=12,SNR=68							
NEW				Pg		**Pb**	**22 23 05.8**	**-2.6**
	comp=N,18nm,0.3s,baz=256,slow=12,SNR=59							
NEW				Lg		Lg	22 23 51.0	
	comp=N,50nm,0.3s,baz=116,slow=9.5,SNR=30							
NEW	**Newport**	**3.21**	**75**	Pn		**Pn**	**22 23 01.2**	**-0.2**
NEW				IAML			22 23 56.6	
	comp=N,260nm,0.8s							
NEW				IAML			22 23 58.5	
	comp=N,179nm,0.8s							
NEW	**Newport**	**3.21**	**75**	P		**Pn**	**22 23 01.3**	**-0.2**
	baz=258							
NEW				Sb		**Sg**	**22 23 52.1**	**-2.7**
	baz=258							
MPOR	**Mary's Peak**	**3.27**	**203**			**Pn**	**22 23 03.4**	**+1.0**
BUCK	**Buck Mountain**	**3.44**	**195**			**Pn**	**22 23 05.0**	**+0.3**
BUCK				IAML			22 23 59.8	
	comp=E,165nm,1.1s							
F10A	**Beach Ranch, E**	**3.48**	**115**			**Pn**	**22 23 05.7**	**+0.4**
I02D	**Swisshome**	**3.72**	**204**	P		**Pn**	**22 23 09.8**	**+1.3**
	baz=22,SNR=52							
I04A	**Tendick Farm,**	**3.76**	**187**	P		**Pn**	**22 23 11.0**	**+1.9**
	baz=6.8,SNR=28							
PINE	**Pine Mountain**	**3.77**	**171**	Pn		**Pn**	**22 23 10.2**	**+0.7**
I07A	**Izee**	**3.78**	**155**	Pn		**Pn**	**22 23 10.4**	**+0.8**
BMO	**Blue Mountains**	**4.08**	**129**	Pn		**Pn**	**22 23 14.0**	**+0.4**
PLID	**Pearl Lake**	**4.67**	**119**	Pn		**Pn**	**22 23 22.1**	**+0.3**
PLID				IAML			22 24 49.6	
	comp=E,61nm,0.8s							
PLID				IAML			22 24 59.7	
	comp=E,46nm,1.1s							
J08A	**Circle Bar Ran**	**4.76**	**150**			**Pn**	**22 23 24.4**	**+1.5**
J08A				IAML			22 24 47.6	
	comp=N,52nm,1.1s							
J08A				IAML			22 25 01.3	
	comp=E,50nm,0.8s							
HUMO	**Hull Mountain**	**4.99**	**190**	Pn		**Pn**	**22 23 27.5**	**+1.5**
K02D	**Willamette Mer**	**5.01**	**196**	P		**Pn**	**22 23 28.9**	**+2.5**
	baz=15,SNR=9.8							
JTMT	**Jette**	**5.06**	**85**	Pn		**Pn**	**22 23 26.9**	**-0.2**
L04D	**Klamath Falls**	**5.32**	**184**	P		**Pn**	**22 23 33.4**	**+2.8**
	baz=4.0,SNR=14							
MSO	**Missoula**	**5.37**	**95**	Pn		**Pn**	**22 23 31.3**	**-0.1**
MSO				IAML			22 25 15.6	
	comp=E,75nm,0.8s							
MSO	**Missoula**	**5.37**	**95**	P		**Pn**	**22 23 31.3**	**-0.1**
	baz=280							
WALA	**Waterton Lakes**	**5.46**	**71**	Pn		**Pn**	**22 23 32.7**	**+0.2**
KBO	**Bosley Butte**	**5.59**	**199**	Pn		**Pn**	**22 23 34.5**	**+0.2**
YBH	**Yreka Blue Hor**	**5.83**	**187**	Pn		**Pn**	**22 23 40.2**	**+2.6**
	comp=E,0.8nm,0.3s,baz=10,slow=14,SNR=15							
YBH	**Yreka Blue Hor**	**5.83**	**187**	Pn		**Pn**	**22 23 38.1**	**+0.5**
MFID	**Camas Ranch**	**5.85**	**132**	Pn		**Pn**	**22 23 38.6**	**+0.7**
KRMB	**Red Mountain**	**6.19**	**195**	Pn		**Pn**	**22 23 43.9**	**+1.2**
BBB	**Bella Bella**	**6.22**	**321**	Pn		**Pn**	**22 23 44.9**	**+2.1**
	comp=E,0.3nm,0.3s,baz=159,slow=9.9,SNR=1.8							
BBB				Lg		Lg	22 25 17.0	
	comp=E,0.8nm,0.3s,baz=351,slow=5.4,SNR=3.0							
BBB	**Bella Bella**	**6.22**	**321**	Pn		**Pn**	**22 23 43.9**	**+1.1**
HLID	**Hailey**	**6.50**	**125**	Pn		**Pn**	**22 23 47.4**	**+0.5**
LRM	**Limekiln Ridge**	**6.62**	**101**	Pn		**Pn**	**22 23 49.3**	**+0.7**
DLMT	**Dillon**	**6.69**	**105**	Pn		**Pn**	**22 23 50.8**	**+1.3**
MCMT	**McKenzie Canyo**	**6.75**	**110**	Pn		**Pn**	**22 23 51.1**	**+0.8**
HRY	**Holter Researc**	**6.82**	**93**	Pn		**Pn**	**22 23 52.1**	**+0.8**
BOZ	**Bozeman (W)**	**7.24**	**102**	Pn		**Pn**	**22 23 56.5**	**-0.6**
BOZ	**Bozeman (W)**	**7.24**	**102**	P		**Pn**	**22 23 58.8**	**+1.8**
	baz=289							
YHB	**Horse Butte**	**7.84**	**107**	Pn		**Pn**	**22 24 06.3**	**+0.9**
YHH	**Holmes Hill**	**8.05**	**106**			**Pn**	**22 24 08.4**	**+0.2**
ELK	**Elko**	**8.24**	**143**	Lg		Lg	22 26 30.0	
	comp=E,0.2nm,0.3s,baz=172,slow=14,SNR=2.6							
YPP	**Pitchstone Pla**	**8.30**	**109**	Pn		**Pn**	**22 24 12.1**	**+0.4**
FLWY	**Flagg Ranch**	**8.46**	**110**	Pn		**Pn**	**22 24 15.5**	**+1.7**
NVAR	**Mina Array Bea**	**9.43**	**163**	Pn		Pn	22 24 32.5	+5.4
	comp=E,0.1nm,0.3s,baz=338,slow=12,SNR=4.4							
ILAR	**Eielson Array**	**21.98**	**331**	P		**P**	**22 27 06.4**	**+1.7**
	comp=E,0.9nm,0.6s,baz=132,slow=9.9,SNR=9.2							
TXAR	**Lajitas Array**	**22.94**	**136**	P		**P**	**22 27 16.3**	**+1.1**
	comp=E,0.2nm,0.6s,baz=337,slow=8.8,SNR=3.9							
FINES	**FINESS Array B**	**68.34**	**16**	P		**P**	**22 33 11.5**	**-0.1**
	comp=E,0.7nm,0.4s,baz=332,slow=4.7,SNR=11							
MKAR	**Makanchi Array**	**83.74**	**344**	P		**P**	**22 34 39.5**	**-0.2**
	comp=E,0.4nm,0.7s,baz=25,slow=4.3,SNR=1.7							

IDC 12 22:26:11.9±3.9, 6.°32S×147.°73E, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.6/45, mbtmp3.9/3, ML3.3/1, Error ellipse: s-maj=124.9km s-min=47.1km az=115.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.78**	**223**	P		P	22 30 32.8	-0.1
	0.1nm,0.3s,baz=48,slow=11,SNR=2.3							
ASAR	**Alice Springs**	**21.78**	**216**	P		P	22 31 06.2	+0.7
	1.2nm,0.6s,baz=53,slow=8.8,SNR=8.8							
FITZ	**Fitzroy Crossi**	**24.52**	**240**	P		P	22 31 33.0	-0.4
	5.6nm,0.8s,baz=74,slow=7.4,SNR=1.4							
TORD	**Torodi Ar. Bea**	**145.87**	**284**	PKPbc		PKPdf	22 45 53.2	-0.5
	1.0nm,0.7s,baz=62,slow=4.6,SNR=6.4							

IDC ***12*** *22:38:49.5±2.5, 32.°71S×178.°28W, h0km, mb4.1/3, mb1 4.4/4, mb1mx3.9/41, mbtmp4.2/4, ML4.1/1, Error ellipse: s-maj=63.4km s-min=42.2km az=133.0*

WEL ***12*** *22:38:53.6±0.7, 33.°3S±10.°×177.°9W±2.°4, h33km, M4.4/13, mB4.7/6, ML5.0/16, MLv4.7/13, Mw(mB)3.9/6, Error ellipse: s-maj=0.0km s-min=0.0km az=111.2*

ISC 12 22:38:52.8±1.7, 32.°8S±0.°1×178.°2W±0.°3, h35km, n27, σ1§34/49, mb4.1/3, South of Kermadec Islands

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

ISC 12 22:49:54.8±0.4,2°69N±0.07×31°26W±0.07, h10km, n119, σ1§30/108, mb4.5/38, MS4.0/9, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**9.65**	**209**	Pn	**Pn**	**22 52 11.4**	**-2.4**
RCBR	**Riachuelo**	**9.65**	**209**	*eP*	**Pn**	**22 52 11.7**	**-2.2**
NBCL	**Cascavel-CE**	**9.82**	**226**	*eP*	**Pn**	**22 52 13.5**	**-2.8**
NBPV	**Pedro Velho**	**9.90**	**204**	*eP*	**Pn**	**22 52 14.9**	**-2.4**
NBPA	**Parau_RN**	**10.22**	**215**	*eP*	**Pn**	**22 52 19.8**	**-1.9**
NBMO	**Morrinhos-CE**	**10.61**	**236**	*eP*	**Pn**	**22 52 23.1**	**-4.0**
NBLV	**Livramento - P**	**11.47**	**209**	*eP*	**Pn**	**22 52 36.9**	**-1.9**
NBPB	**Pedra_Branca-C**	**11.66**	**225**	*eP*	**Pn**	**22 52 38.5**	**-3.0**
NBRF	**Rio Formoso -**	**11.93**	**199**	*eP*	**Pn**	**22 52 44.3**	**-0.9**
NBPS	**Pedro II - PI**	**12.37**	**235**	*eP*	**Pn**	**22 52 48.0**	**-3.2**
NBMA	**Muriti-CE**	**12.48**	**217**	*eP*	**Pn**	**22 52 50.3**	**-2.5**
NBAN	**Anadia - AL**	**13.25**	**202**	*eP*	**Pn**	**22 53 02.5**	**-0.8**
ROSB	**Rosrio**	**14.00**	**247**	*eP*	**Pn**	**22 53 11.4**	**-2.1**
SACV	**Santiago Islan**	**14.35**	**31**	Pn	**Pn**	**22 53 18.3**	**0.0**
NBLA	**Lagarto - SE**	**15.06**	**205**	*eP*	**Pn**	**22 53 27.6**	**-0.3**
NBPN	**Ponto Novo - B**	**16.12**	**213**	*eP*	**Pn**	**22 53 41.6**	**-0.2**
GDU01	**Guandu, BA**	**18.27**	**207**	*eP*	**P**	**22 54 09.4**	**+0.6**
CMC01	**Camacan, BA**	**19.71**	**204**	*eP*	**Pn**	**22 54 27.2**	**+1.2**
H10N3	**ASCENSION HYDR** baz=301,slow=75,SNR=1006	**19.72**	**122**	T	T	23 14 50.4	
H10N2	**ASCENSION HYDR** baz=301,slow=75,SNR=1019	**19.73**	**122**	T	T	23 14 50.8	
H10N1	**ASCENSION HYDR** baz=301,slow=75,SNR=1254	**19.74**	**122**	T	T	23 14 52.0	
SMTB	**Santa Maria do**	**19.91**	**235**	*eP*	**P**	**22 54 27.1**	**+0.2**
H10S3	**ASCENSION HYDR** baz=300,slow=74,SNR=585	**20.19**	**125**	T	T	23 15 20.3	
H10S2	**ASCENSION HYDR** baz=280,slow=74,SNR=158	**20.20**	**125**	T	T	23 15 20.5	
SDBA	**SAO DESIDERIO**	**20.22**	**222**	*eP*	Pn	22 54 30.9	-1.3
PRPB	**Paraupebas**	**20.51**	**245**	*eP*	**P**	**22 54 33.9**	**+0.4**
GUA01	**Guaratinga, BA**	**20.93**	**204**	*eP*	Pn	22 54 39.8	-0.6
MCPB	**Macapa, AP**	**21.01**	**262**	*eP*	**P**	**22 54 38.5**	**-0.4**
MDP	**Montagnes des** 7.7nm,0.8s,baz=105,slow=11,SNR=4.1	**21.46**	**277**	P	**P**	**22 54 42.9**	**-0.8**
MDP	comp=Z,324nm,18.5s,baz=81,slow=35			LR	LR	23 02 30.8	
JANB	**Januaria**	**21.86**	**216**	*eP*	**P**	**22 54 47.4**	**-0.5**
NAN01	**Guarapari, ES**	**22.20**	**203**	*eP*	**P**	**22 54 53.3**	**+1.8**
PEXB	**Peixe**	**22.42**	**229**	*eP*	**P**	**22 54 54.9**	**+0.9**
MC01	**Montes Claros**	**22.98**	**213**	*eP*	**P**	**22 55 01.7**	**+1.7**
SJMB	**Sao Joao De Ma**	**23.39**	**204**	*eP*	**P**	**22 55 07.0**	**+3.0**
MALB	**Monte Alegre**	**23.43**	**259**	*eP*	**P**	**22 55 02.9**	**-1.6**
DIAM	**Diamantina, MG**	**24.17**	**210**	*eP*	**P**	**22 55 12.5**	**+0.8**
BDFB	**Brasilia** 4.7nm,0.8s,baz=50,slow=13,SNR=6.6	**24.62**	**222**	P	**P**	**22 55 16.3**	**+0.5**
BDFB	**Brasilia**	**24.62**	**222**	P	**P**	**22 55 14.4**	**-1.4**
BDFB	comp=Z,26nm,1.5s			IAmb	IAmb	22 55 23.2	
SNDB	**Serra Nova Dou**	**24.67**	**233**	*eP*	**P**	**22 55 18.4**	**+2.2**
ITTB	**Itaituba**	**25.44**	**254**	*eP*	**P**	**22 55 22.6**	**-0.5**
IPMB	**Ipameri, GO**	**26.48**	**218**	*eP*	**P**	**22 55 35.8**	**+3.3**
DBIC	**Dimbokro**	**26.61**	**81**	P	**P**	**22 55 33.4**	**-0.3**
DBIC	comp=Z,8.9nm,1.1s,baz=291,slow=8.9,SNR=2.9			LR	LR	23 04 04.3	
DBIC	**Dimbokro**	**26.61**	**81**	P	**P**	**22 55 31.3**	**-2.4**
DBIC	comp=Z,31nm,1.5s			IAmb	IAmb	22 55 36.0	
PTGA	**Pitinga** comp=Z,2.6nm,1.0s,baz=77,slow=15,SNR=5.3	**28.90**	**264**	P	**P**	**22 55 53.5**	**-0.7**
PTGA	comp=Z,292nm,18.6s,baz=64,slow=34			LR	LR	23 06 24.5	
KOWA	**Kowa**	**29.34**	**65**	P	**P**	**22 55 58.0**	**-0.1**
KOWA	comp=Z,6.6nm,0.9s,baz=245,slow=7.9,SNR=11			LR	LR	23 06 09.7	
KOWA	**Kowa**	**29.34**	**65**	P	**P**	**22 55 56.8**	**-1.3**
H05S1	**Guadeloupe/Mar** SNR=28	**31.43**	**294**	T	T	23 29 14.4	
H05N1	**Guadeloupe/Mar** SNR=4.2	**32.28**	**297**	T	T	23 30 20.9	
SAML	**Samuel**	**33.85**	**250**	P	**P**	**22 56 38.0**	**+0.1**
SAML	comp=Z,17nm,1.6s			IAmb	IAmb	22 56 46.3	
SAML	**Samuel**	**33.85**	**250**	*eP*	**P**	**22 56 39.8**	**+1.9**
TORD	**Torodi Ar. Bea** comp=Z,11nm,0.9s,baz=260,slow=7.5,SNR=32	**34.21**	**70**	P	**P**	**22 56 40.5**	**-0.5**
TORD	comp=Z,370nm,19.0s,baz=285,slow=33			LR	LR	23 08 36.5	
TORD	**Torodi Ar. Bea**	**34.21**	**70**	P	**P**	**22 56 39.8**	**-1.2**
TORD	comp=Z,5.7nm,0.9s			IAmb	IAmb	22 56 43.1	
SIV	**San Ignacio** comp=Z,2.0nm,0.8s,baz=87,slow=7.8,SNR=7.6	**34.83**	**237**	P	**P**	**22 56 47.2**	**+0.8**
ETMB	**Extrema**	**36.96**	**250**	*eP*	**P**	**22 57 06.2**	**+1.6**
CPUP	**Villa Florida** comp=Z,4.2nm,0.9s,baz=43,slow=8.2,SNR=7.5	**38.31**	**220**	P	**P**	**22 57 16.4**	**+0.6**
CPUP	**Villa Florida**	**38.31**	**220**	P	**P**	**22 57 14.7**	**-1.2**
CPUP	comp=Z,19nm,1.2s			IAmb	IAmb	22 57 23.3	
MDT	**Midelt** comp=Z,2.1nm,0.8s,baz=249,slow=5.0,SNR=4.8	**39.02**	**37**	P	**P**	**22 57 23.9**	**+1.9**
SDV	**Santo Domingo** comp=Z,6.3nm,0.5s,baz=90,slow=1.7,SNR=5.1	**39.63**	**281**	P	**P**	**22 57 28.2**	**+0.9**
SDV	**Santo Domingo**	**39.63**	**281**	P	**P**	**22 57 27.5**	**+0.1**
SDV	comp=Z,8.6nm,0.8s			IAmb	IAmb	22 57 46.4	
LPAZ	**La Paz** comp=Z,2.2nm,0.8s,baz=76,slow=6.2,SNR=9.5	**41.02**	**241**	P	**P**	**22 57 40.6**	**+1.3**
LPAZ	**La Paz**	**41.02**	**241**	P	**P**	**22 57 39.7**	**+0.3**
LPAZ	**La Paz**	**41.02**	**241**	*eP*	**P**	**22 57 39.6**	**+0.3**
RUSC	**La Rusia**	**41.82**	**276**	P	**P**	**22 57 46.9**	**+1.1**
RUSC	comp=Z,17nm,1.2s			IAmb	IAmb	22 57 54.1	
CZSB	**Cruzeiro do Su**	**42.62**	**256**	*eP*	**P**	**22 57 54.0**	**+2.2**
ROSC	**El Rosal** comp=Z,574nm,18.2s,baz=68,slow=36	**43.01**	**274**	LR	LR	23 15 24.0	
ROSC	**El Rosal**	**43.01**	**274**	P	**P**	**22 57 55.8**	**+0.4**
ROSC	comp=Z,15nm,1.0s			IAmb	IAmb	22 58 03.0	
H09W1	**TRISTAN DA CUN** SNR=7.3	**43.32**	**158**	T	T	23 44 25.3	
FLOC	**Florencia**	**44.37**	**270**	P	**P**	**22 58 05.9**	**-0.1**
FLOC	comp=Z,14nm,1.2s			IAmb	IAmb	22 58 12.4	
ESDC	**Sonseca Array** comp=Z,2.4nm,1.0s,baz=226,slow=9.1,SNR=11	**44.38**	**30**	P	**P**	**22 58 06.8**	**+1.1**
OTAV	**Otavalo**	**47.23**	**268**	*eP*	**P**	**22 58 31.5**	**+2.4**
GERES	**GERESS Array B** comp=Z,0.4nm,0.8s,baz=224,slow=4.1,SNR=3.8	**59.87**	**33**	P	**P**	**23 00 00.9**	**0.0**
LSZ	**Lusaka**	**61.46**	**109**	P	**P**	**23 00 11.2**	**-1.1**
LBTB	**Lobatse**	**61.58**	**120**	P	**P**	**23 00 11.8**	**-1.2**
BOSA	**Boshof** comp=Z,9.5nm,0.9s,baz=276,slow=6.6,SNR=7.6	**62.46**	**124**	P	**P**	**23 00 18.9**	**0.0**
BOSA	**Boshof**	**62.46**	**124**	P	**P**	**23 00 16.9**	**-2.0**
WLAR	**White Oak Lake**	**65.25**	**306**	P	**P**	**23 00 36.4**	**-0.6**
MGMO	**Mountain Grove**	**65.49**	**310**	P	**P**	**23 00 38.4**	**-0.1**
NOA	**NORSAR Array B** comp=Z,95nm,22.0s,baz=55,slow=33	**66.47**	**21**	LR	LR	23 26 42.0	
T35A	**Sooner Cattle**	**68.71**	**309**	P	**P**	**23 00 59.1**	**0.0**
BRTR	**Keskin Array B** comp=Z,2.1nm,0.8s,baz=233,slow=7.4,SNR=4.6	**69.12**	**48**	P	**P**	**23 01 02.7**	**+1.1**
BRTR	**Keskin Array B**	**69.12**	**48**	P	**P**	**23 01 01.6**	**-0.1**
AKASG	**Malin Array Be** comp=Z,0.2nm,0.2s,baz=250,slow=5.8,SNR=4.2	**69.58**	**36**	P	**P**	**23 01 04.0**	**-0.1**
JCT	**Junction City**	**70.18**	**301**	P	**P**	**23 01 07.8**	**-0.5**
JCT	comp=Z,5.5nm,0.9s			IAmb	IAmb	23 01 15.2	
MSTX	**Muleshoe**	**73.19**	**305**	P	**P**	**23 01 26.4**	**0.0**
MSTX	comp=Z,6.4nm,1.1s			IAmb	IAmb	23 01 33.3	
TXAR	**Lajitas Array** comp=Z,1.0nm,0.8s,baz=123,slow=6.4,SNR=12	**73.36**	**300**	P	**P**	**23 01 27.0**	**-0.5**
TXAR	**Lajitas Array**	**73.36**	**300**	P	**P**	**23 01 27.7**	**+0.1**
TX32	**Lajitas Array**	**73.36**	**300**	P	**P**	**23 01 27.7**	**+0.2**
VNA1	**Neumayer--Stat**	**74.78**	**172**	P	**P**	**23 01 36.3**	**+1.6**
MNTX	**Cornudas Mount**	**75.09**	**302**	P	**P**	**23 01 37.0**	**-0.5**
VNA3	**Neumayer Olymp**	**75.14**	**173**	P	**P**	**23 01 37.8**	**+0.8**
VNA2	**Neumayer--Watz**	**75.15**	**172**	P	**P**	**23 01 37.9**	**+1.0**
VNA2	**Neumayer--Watz**	**75.15**	**172**	PcP	**PcP**	**23 01 51.2**	**+0.7**
GURO	**Guroymak-BITLI**	**75.28**	**51**	P	**P**	**23 01 39.0**	**+0.5**
ARCES	**ARCESS Array B** comp=Z,1.2nm,1.0s,baz=263,slow=7.8,SNR=3.6	**76.34**	**18**	P	**P**	**23 01 44.3**	**+0.5**
SNAA	**Sanae**	**76.48**	**171**	P	**P**	**23 01 45.2**	**+0.6**
LAO	**LASA Array**	**77.75**	**317**	P	**P**	**23 01 52.2**	**-0.1**
LAO	comp=Z,8.5nm,1.1s			IAmb	IAmb	23 01 54.8	
PV01	**Paradox Valley**	**78.36**	**308**	P	**P**	**23 01 56.4**	**+0.3**
PDAR	**Pinedale Array** comp=Z,0.3nm,0.3s,baz=93,slow=5.6,SNR=3.7	**79.59**	**313**	P	**P**	**23 02 01.6**	**-1.1**
PDAR	comp=Z,108nm,21.8s,baz=33,slow=32			LR	LR	23 32 14.6	
PDAR	**Pinedale Array**	**79.59**	**313**	P	**P**	**23 02 02.7**	**0.0**
TUC	**Tucson**	**79.71**	**302**	P	**P**	**23 02 03.7**	**+0.2**
X16A	**Lo Mia Camp, P**	**80.38**	**304**	P	**P**	**23 02 07.6**	**+0.4**
WUAZ	**Wupatki**	**80.39**	**305**	P	**P**	**23 02 07.5**	**+0.3**
WUAZ	comp=Z,6.9nm,1.2s			IAmb	IAmb	23 02 14.7	
HWUT	**Hardware Ranch**	**80.97**	**312**	P	**P**	**23 02 09.8**	**-0.4**
HWUT	comp=Z,4.2nm,0.9s			IAmb	IAmb	23 02 11.9	
MTPU	**Mount Pierson**	**81.20**	**308**	P	**P**	**23 02 12.0**	**+0.3**
MTPU	comp=Z,7.7nm,1.2s			IAmb	IAmb	23 02 18.7	
CCUT	**Cedar City**	**82.10**	**307**	P	**P**	**23 02 16.6**	**+0.2**
CCUT	comp=Z,4.9nm,1.1s			IAmb	IAmb	23 02 24.0	
PSUT	**Pine Spring**	**82.54**	**308**	P	**P**	**23 02 19.0**	**+0.4**
PSUT	comp=Z,7.7nm,1.4s			IAmb	IAmb	23 02 19.9	
WALA	**Waterton Lakes**	**83.16**	**319**	P	**P**	**23 02 21.1**	**-0.3**
YKA	**Yellowknife Ar** comp=Z,2.9nm,0.9s,baz=84,slow=5.9,SNR=3.8	**84.55**	**332**	P	**P**	**23 02 27.5**	**-0.5**
TPH	**Tonopah**	**85.17**	**308**	P	**P**	**23 02 31.7**	**-0.3**
BMN	**Battle Mountai**	**85.19**	**310**	P	**P**	**23 02 32.0**	**0.0**
BMN	comp=Z,7.8nm,1.4s			IAmb	IAmb	23 02 36.6	
NVAR	**Mina Array Bea** comp=Z,0.9nm,0.7s,baz=83,slow=4.2,SNR=7.4	**86.02**	**308**	P	**P**	**23 02 36.1**	**-0.1**
NVAR	**Mina Array Bea**	**86.02**	**308**	P	**P**	**23 02 35.8**	**-0.5**
ISA	**Isabella, Lake**	**86.18**	**305**	P	**P**	**23 02 36.7**	**-0.2**
ISA	comp=Z,6.1nm,1.2s			IAmb	IAmb	23 02 38.3	
RYN	**Ryan**	**86.19**	**308**	P	**P**	**23 02 36.4**	**-0.6**
RYN	comp=Z,7.5nm,1.4s			IAmb	IAmb	23 02 40.0	
ABKAR	**Akbulak array**	**88.77**	**41**	P	**P**	**23 02 49.5**	**+0.6**
ABKAR	**Akbulak array**	**88.77**	**41**	P	**P**	**23 02 49.8**	**+0.8**
ABKAR	comp=Z,7.8nm,1.6s			IAmb	IAmb	23 02 50.8	
ILAR	**Eielson Array** comp=Z,0.8nm,0.9s,baz=69,slow=4.0,SNR=6.6	**98.22**	**337**	P	**P**	**23 03 31.1**	**-1.0**
ILAR	comp=Z,63nm,20.1s,baz=89,slow=34			LR	LR	23 45 19.8	
CMAR	**Chiang Mai Arr** comp=Z,0.4nm,0.3s,baz=289,slow=4.9,SNR=4.1	**126.68**	**65**	PKP	**PKiKP**	**23 08 59.9**	**-0.2**
ASAR	**Alice Springs** comp=Z,1.0nm,1.0s,baz=202,slow=1.0,SNR=6.3	**154.68**	**147**	PKPbc	**PKPbc**	**23 09 56.2**	**-1.0**
ASAR	comp=Z,3.0nm,0.9s,baz=214,slow=4.4,SNR=13			PKPab	**PKPab**	**23 10 11.4**	**-0.4**

*NEIC **12** 22:50:33.7±1.6,8°20S±0.08×123°03E±0.09, h177km±5km, mb4.5/52, Error ellipse: s-maj=14.1km s-min=9.0km az=55.0*

*IDC **12** 22:50:34.8±1.1,8°18S×123°11E, h189km±10km, mb4.0/16, mb1 4.0/22, mb1mx3.9/36, mbtmp4.5/22, Error ellipse: s-maj=15.8km s-min=9.7km az=77.0*

*DJA **12** 22:50:35.2±0.2,8°S±2°×12°3E±°, h176km±2km, M4.9/23, mB5.5/11, mb5.1/23, MLv4.7/13, Mw(mB)5.0/11*

*KLM **12** 22:50:38,8°34S×123°18E, h226km, mb4.6*

ISC 12 22:50:35.3±0.3,8°37S±0°04×123°03E±0°05, h200km, n143, σ1§67/155, mb4.4/50, 1C, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.83**	**251**	P	**Pn**	**22 51 01.8**	**-2.2**
EDFI	**Ende, Flores**	**1.38**	**254**	P	**Pn**	**22 51 06.1**	**-2.0**
EDFI				S	**Sn**	**22 51 31.1**	**-2.4**
SOEI	**Soe**	**1.84**	**139**	P	**Pn**	**22 51 11.6**	**-0.8**
SOEI				S	**Sn**	**22 51 39.1**	**-2.1**
BATI	**Baumata** 932nm,0.3s,baz=352,slow=2.1,SNR=791	**1.93**	**161**	P	**Pn**	**22 51 12.6**	**-0.6**
BATI	955nm,0.3s,baz=30,slow=3.9,SNR=8.3			S	**Sn**	**22 51 41.2**	**-1.6**
BATI	**Baumata**	**1.93**	**161**	P	**Pn**	**22 51 12.4**	**-0.8**
BATI				S	**Sn**	**22 51 40.3**	**-2.5**
BSSI	**Bau Bau, Buton**	**3.35**	**311**	P	**Pn**	**22 51 27.6**	**-1.6**
WBSI	**Waikabubak, Su**	**3.81**	**250**	P	**Pn**	**22 51 32.2**	**-2.7**
WBSI				S	**Sn**	**22 52 15.1**	**-6.5**
BKSI	**Bulukumba**	**4.18**	**316**	P	**Pn**	**22 51 37.6**	**-1.8**
KKSI	**Kolaka, Sulawe**	**4.39**	**342**	P	**Pn**	**22 51 39.9**	**-2.1**
KAPI	**Kappang** 3.0nm,0.3s,baz=185,slow=5.8,SNR=13	**4.66**	**315**	P	**Pn**	**22 51 44.6**	**-0.8**
KAPI	**Kappang**	**4.66**	**315**	Pn	Pn	22 51 40.5	-5.0
BNSI	**Bone**	**4.90**	**323**	P	**Pn**	**22 51 49.6**	**+1.1**
PLAI	**Plampang** 3.3nm7µm450nm,0.7s	**5.22**	**265**	P	**Pn**	**22 51 51.3**	**-1.3**
TWSI	**Taliwang, Sumb** 0.8nm3µm117nm,0.7s	**6.10**	**266**	P	**Pn**	**22 52 02.0**	**-1.9**
KRAI	**Karang Ratu** 0.4nm6µm11nm,0.5s	**7.32**	**47**	P	**Pn**	**22 52 21.1**	**+1.3**
DNP	**Denpasar** 4.7nm21µm254nm,0.4s	**7.75**	**267**	P	**Pn**	**22 52 23.8**	**-1.5**
SRBI	**Singaraja** 0.4nm9nm,0.6s	**7.75**	**272**	P	**Pn**	**22 52 22.8**	**-2.5**
SAUI	**Saumlaki** 309nm,0.6s	**8.19**	**88**	P	**Pn**	**22 52 30.9**	**-0.2**
MTN	**Manton Dam**	**9.12**	**120**	Pn	**Pn**	**22 52 41.4**	**-1.8**
KNRA	**Kununurra**	**9.17**	**143**	Pn	**Pn**	**22 52 42.8**	**-1.1**
BKB	**Balikpapan**	**9.34**	**319**	Pn	**Pn**	**22 52 43.5**	**-2.5**
BBKI	**Banjar Baru** 5µm30nm,1.3s	**9.49**	**300**	P	**Pn**	**22 52 50.8**	**+2.7**
FITZ	**Fitzroy Crossi** 3.9nm,0.3s,baz=358,slow=9.4,SNR=100	**10.00**	**166**	P	**Pn**	**22 52 52.7**	**-1.9**
FITZ	7.9nm,0.3s,baz=106,slow=19,SNR=11			S	Sn	22 54 38.9	-7.5
FITZ	**Fitzroy Crossi**	**10.00**	**166**	Pn	**Pn**	**22 52 52.9**	**-1.7**
KRKI	**Karangkates** 12µm310nm,0.5s	**10.47**	**270**	P	**P**	**22 53 04.9**	**-3.1**
SWI	**Sorong** 70nm,0.9s	**11.08**	**48**	P	**Pn**	**22 53 06.7**	**-1.8**
SIJI	**Sorong** 5.1nm,0.3s,baz=292,slow=14,SNR=8.1	**11.08**	**48**	P	**Pn**	**22 53 05.0**	**-3.5**
SIJI	**Sorong** 614nm24nm,0.9s	**11.08**	**48**	P	**Pn**	**22 53 09.8**	**+1.2**
PWJI	**Pagerwoju** 133nm,0.5s	**11.12**	**271**	P	**Pn**	**22 53 08.6**	**-0.5**
SJI	**Sawahan** 4µm118nm,0.4s	**11.18**	**272**	P	**Pn**	**22 53 10.3**	**+0.4**
PCJI	**Pacitan** 4µm308nm,0.6s	**11.74**	**270**	P	**Pn**	**22 53 15.8**	**-1.1**
SMRI	**Semarang** 427nm,0.8s	**12.55**	**275**	P	**Pn**	**22 53 28.0**	**+0.7**
PSA00	**Pilbara Seismi**	**13.48**	**193**	Pn	**Pn**	**22 53 39.6**	**+0.7**
PSA00	**Pilbara Seismi**	**13.48**	**193**	Pn	**Pn**	**22 53 38.4**	**-0.5**
CTJI	**Waduk Cacaban** 125nm,1.1s	**13.79**	**275**	P	**Pn**	**22 53 42.8**	**0.0**
KPJI	**Karang Pucung** 182nm,0.7s	**14.01**	**273**	P	**P**	**22 53 46.7**	**-0.7**
SPMM	**Sapulut**	**14.55**	**333**	P	**P**	**22 53 54.0**	**+0.6**
CISI	**Cisompet, Garu** 2µm82nm,0.6s	**15.10**	**272**	P	**P**	**22 53 59.6**	**+0.1**
SBUM	**Sibu**	**15.22**	**314**	P	**P**	**22 54 03.0**	**+2.2**
LEM	**Lembang** 8.5nm,0.3s,baz=26,slow=11,SNR=18	**15.36**	**275**	P	**P**	**22 54 02.4**	**-0.1**
WRA	**Warramunga Arr** 1.3nm,0.3s,baz=315,slow=14,SNR=82	**15.88**	**138**	P	**P**	**22 54 07.8**	**-0.3**
WRA	1.9nm,0.3s,baz=298,slow=25,SNR=8.4			S	**S**	**22 56 55.7**	**-8.8**
WRA	**Warramunga Arr**	**15.88**	**138**	P	**P**	**22 54 08.1**	**+0.1**
WRAB	**Tennant Creek**	**15.88**	**138**		**P**	**22 54 08.2**	**+0.1**
WRAB	comp=Z,11nm,0.7s			IAmb	IAmb	22 54 14.4	
WB2	**Warramunga Arr**	**15.89**	**138**	P	**P**	**22 54 08.7**	**+0.6**
WB2	comp=Z,14nm,0.7s			IAmb	IAmb	22 54 14.4	
KSM	**Kuching**	**16.02**	**307**	P	**Pn**	**22 54 12.0**	**+2.0**
CBJI	**Citeko** comp=Z,233nm,0.9s	**16.17**	**276**	P	**P**	**22 54 11.0**	**-0.2**
DBJI	**Dramaga** comp=Z,111nm,0.8s	**16.25**	**275**	P	**Pn**	**22 54 12.8**	**0.0**
SKJI	**Sukabumi** comp=Z,2µmcomp=Z,172nm,0.5s	**16.39**	**274**	P	**Pn**	**22 54 16.1**	**+1.6**
GIRL	**Giralia**	**16.52**	**210**	P	**Pn**	**22 54 17.2**	**+1.3**
XMIS	**Christmas Isla**	**17.28**	**262**	P	**P**	**22 54 22.7**	**-0.7**
AS31	**Alice Springs**	**18.44**	**147**	P	**P**	**22 54 37.4**	**+1.4**
ASAR	**Alice Springs** comp=Z,1.1nm,0.3s,baz=328,slow=12,SNR=55	**18.44**	**147**	P	**Pn**	**22 54 38.2**	**-0.4**
ASAR	comp=Z,1.6nm,0.3s,baz=318,slow=20,SNR=10			S	**S**	**22 57 57.5**	**+1.4**
ASAR				ScP	**ScP**	**23 02 13.9**	**-0.4**
ASAR	**Alice Springs** comp=Z,0.2nm,0.3s,baz=320,slow=1.7,SNR=4.7	**18.44**	**147**	P	**P**	**22 54 37.6**	**+1.6**
ASAR					**ScP**	**23 02 14.0**	**-0.3**
JAY	**Jayapura** comp=Z,1.3nm,0.3s,baz=253,slow=9.9,SNR=7.7	**18.52**	**73**	P	**P**	**22 54 37.3**	**+0.3**
JAY	**Jayapura** comp=Z,6.7nm,0.9s	**18.52**	**73**	P	**Pn**	**22 54 39.6**	**0.0**
COEN	**Coen**	**20.52**	**108**	P	**P**	**22 54 57.8**	**-0.6**
COEN	comp=Z,23nm,0.8s			IAmb	IAmb	22 55 13.7	
MORW	**Morawa**	**21.62**	**197**	P	**P**	**22 55 10.2**	**+0.4**
MORW	comp=Z,20nm,0.8s			IAmb	IAmb	22 55 12.8	
FORT	**Forrest**	**22.79**	**169**	P	**P**	**22 55 22.1**	**+1.3**
FORT	comp=Z,27nm,0.9s			IAmb	IAmb	22 55 50.3	
NWAO	**Narrogin (SRO)** comp=Z,9.6nm,0.7s,baz=21,slow=10,SNR=9.3	**25.02**	**192**	P	**P**	**22 55 42.1**	**+1.1**
NWAO	**Narrogin (SRO)**	**25.02**	**192**	P	**P**	**22 55 42.0**	**+1.0**
BBOO	**Buckleboo**	**27.15**	**155**	P	**P**	**22 56 00.9**	**+0.7**
BBOO	comp=Z,17nm,1.2s			IAmb	IAmb	22 56 11.3	
LASI	**Langsa, Aceh** comp=Z,294nm,0.5s	**28.06**	**296**	P	**P**	**22 56 11.3**	**+2.9**
STKA	**Stephens Creek** comp=Z,1.7nm,0.6s,baz=310,slow=9.6,SNR=4.4	**29.07**	**146**	P	**P**	**22 56 19.4**	**+2.2**
STKA	**Stephens Creek**	**29.07**	**146**	P	**P**	**22 56 18.7**	**+1.5**
TPUB	**Ta-pu**	**31.56**	**356**	P	**P**	**22 56 38.0**	**-1.2**
YULB	**Yu-li**	**31.61**	**357**	P	**P**	**22 56 37.9**	**-1.7**
SSLB	**Suanglung**	**32.02**	**356**	P	**P**	**22 56 41.6**	**-1.6**
SSLB	comp=Z,15nm,0.8s			IAmb	IAmb	22 56 49.0	
TOO	**Toolangi**	**35.48**	**148**	P	**P**	**22 57 15.3**	**+2.4**
TOO	comp=Z,15nm,1.4s			IAmb	IAmb	22 57 32.1	
CMAR	**Chiang Mai Arr** comp=Z,1.0nm,0.6s,baz=142,slow=6.5,SNR=7.1	**35.72**	**318**	P	**P**	**22 57 16.1**	**+1.1**
CMAR				PcP	**PcP**	**22 59 39.7**	**+1.0**
KMI	**Kunming** comp=Z,1.9nm,0.6s,baz=164,slow=2.4,SNR=8.6	**38.72**	**330**	P	**P**	**22 57 41.8**	**+1.3**
KMI	comp=Z,4.0nm,0.7s			pmax	pmax		
NJ2	**Nanjing**	**40.39**	**355**	*eP*	**P**	**22 57 55.5**	**+1.6**
NJ2				pP	**pP**	**22 58 28.9**	**-6.6**
NJ2				S	**S**	**23 03 47.5**	**+0.6**
NJ2				SS	**SS**	**23 06 57.8**	**+3.0**
NJ2	comp=Z,12nm,0.5s			pmax	pmax		
NJ2	comp=Z,480nm,12.0s			pmax	pmax		
NJ2	comp=N,670nm,16.6s			LR	LR		
NJ2	comp=E,610nm,18.9s			LR	LR		
NJ2	comp=Z,1µm,18.1s			LR	LR		
ENH	**Enshi**	**40.56**	**342**	P	**P**	**22 57 54.8**	**-0.6**
ENH	comp=Z,13nm,0.6s			IAmb	IAmb	22 57 57.0	
JMN	**Monobe**	**43.11**	**13**	P	**P**	**22 58 15.2**	**-0.8**
CD2	**Chengdu**	**43.21**	**336**	*eP*	**P**	**22 58 16.8**	**0.0**
XAN	**Xi'an**	**44.25**	**343**	P	**P**	**22 58 24.1**	**-1.0**
XAN				pP	pP	22 58 58.2	-8.9
XAN	comp=Z,21nm,0.7s			pmax	pmax		
JWT	**Wachi**	**44.96**	**14**	P	**P**	**22 58 29.4**	**-1.1**
JWT	comp=Z,17nm,1.1s			IAmb	IAmb	22 58 31.6	
INU	**Inuyama**	**45.44**	**16**	P	**P**	**22 58 33.8**	**-0.5**
INU	comp=Z,12nm,1.3s			IAmb	IAmb	22 58 58.4	
KSRS	**Korea Array** comp=Z,1.8nm,0.6s,baz=188,slow=9.0,SNR=9.3	**45.81**	**5**	P	**P**	**22 58 36.2**	**-1.0**
MJAR	**Matsushiro Arr** comp=Z,3.3nm,0.5s,baz=187,slow=8.8,SNR=18	**46.89**	**17**	P	**P**	**22 58 44.3**	**-1.4**
MJAR	**Matsushiro Arr**	**46.89**	**17**	P	**P**	**22 58 44.5**	**-1.2**
MAJO	**Matsushiro**	**46.89**	**17**	P	**P**	**22 58 44.4**	**-1.2**
MAT	**Matsushiro**	**46.89**	**17**	P	**P**	**22 58 43.3**	**-2.4**
LZH	**Lanzhou**	**47.76**	**339**	*eP*	**P**	**22 58 52.6**	**0.0**
LZH				sP	pwP	22 59 45.4	+5.3
LZH	comp=Z,16nm,1.2s			pmax	pmax		
JSD	**Sado**	**48.30**	**16**	P	**P**	**22 58 56.0**	**-0.5**
BJI	**Beijing**	**48.58**	**353**	P	**P**	**22 58 57.8**	**-0.7**
BJI	comp=Z,11nm,0.5s			pmax	pmax		
JMM	**Marumori**	**48.89**	**19**	P	**P**	**22 59 01.0**	**+0.1**
RAMN	**Ramite** comp=Z,20nm,0.5s	**49.80**	**316**	*eP*	**P**	**22 59 08.9**	**+0.5**
**H

KKAR	Karatay Array	69.97 322	P	P	23 01 24.3	-0.8
YAK	Yakutsk	70.37 3	P	P	23 01 26.4	-0.7
VNDA	Vanda	72.01 172	P	P	23 01 39.3	+2.5
	comp=Z,0.6nm,0.5s,baz=330,slow=8.1,SNR=1.2					
VNDA	Vanda	72.01 172	P	P	23 01 38.6	+1.7
SBA	Scott Base	72.98 171	P	P	23 01 44.4	+1.9
ABKAR	Akbulak array	79.39 324	P	P	23 02 18.4	-0.6
ABKAR	Akbulak array	79.39 324	P	P	23 02 18.4	-0.6
ABKAR			IAmb	IAmb	23 02 19.1	
	comp=Z,1.6nm,0.7s					
TIXI	Tiksi	79.94 2	P	P	23 02 20.5	-1.0
TIXI			IAmb	IAmb	23 02 21.2	
	comp=Z,8.1nm,1.3s					
NRIK	Noril'sk	81.33 348	P	P	23 02 29.2	+0.3
	comp=Z,1.4nm,0.4s,baz=135,slow=8.6,SNR=2.5					
QSPA	South Pole Qui	81.62 180	P	P	23 02 32.6	+1.8
QSPA			IAmb	IAmb	23 02 49.5	
	comp=Z,12nm,1.5s					
ARU	Arti	83.30 330	P	P	23 02 39.8	+0.3
GURO	Guroymak-BITLI	88.19 309	P	P	23 03 04.9	+0.8
GURO			IAmb	IAmb	23 03 08.2	
	comp=Z,2.7nm,0.8s					
KBZ	Khabaz	88.66 314	P	P	23 03 06.8	+0.9
	comp=Z,2.2nm,0.8s,baz=90,slow=3.5,SNR=4.7					
BOSA	Boshof	92.80 241	P	P	23 03 28.0	+2.2
	comp=Z,5.2nm,1.2s,baz=157,slow=7.7,SNR=2.2					
ILAR	Eielson Array	97.54 26	P	P	23 03 45.8	-0.5
	comp=Z,0.3nm,0.7s,baz=242,slow=3.9,SNR=4.1					
AKASG	Malin Array Be	98.82 320	P	P	23 03 51.8	-0.5
	comp=Z,0.8nm,0.6s,baz=73,slow=4.5,SNR=6.2					
ARCES	ARCESS Array B	100.42 339	P	Pdif	23 03 59.1	0.0
	comp=Z,2.3nm,0.9s,baz=79,slow=4.7,SNR=3.5					
TORD	Torodi Ar. Bea	122.28 280	PKP	PKPdf	23 09 06.8	-0.7
	comp=Z,1.5nm,0.6s,baz=52,slow=2.2,SNR=17					
TORD	Torodi Ar. Bea	122.28 280		PKPdf	23 09 06.7	-0.8
PDAR	Pinedale Array	122.71 44	PKP	PKiKP	23 09 08.3	+0.2
	comp=Z,0.2nm,0.3s,baz=174,slow=2.7,SNR=2.3					
TXAR	Lajitas Array	131.53 58	PKP	PKiKP	23 09 25.6	-0.3
	comp=Z,0.3nm,0.8s,baz=222,slow=2.3,SNR=3.5					
CPUP	Villa Florida	145.51 179	PKPbc	PKPab	23 09 52.5	+1.3
	comp=Z,3.4nm,0.7s,baz=188,slow=3.7,SNR=9.1					
CPUP	Villa Florida	145.51 179		PKPab	23 09 52.1	+0.9
LPAZ	La Paz	153.13 156	PKPbc	PKiKP	23 10 12.8	+1.7
	comp=Z,1.2nm,0.7s,baz=315,slow=1.4,SNR=6.2					

NOU ***12*** *23:15:14.2,37.78S×176.05E,h306km, mb3.9/10,North Island, New Zealand*

WEL 12 23:15:22.2,38.3S±12.×17.6E±1.6,h229km±20km,M2.8/30, MLv2.8/30,Error ellipse: s-maj=0.0km s-min=0.0km az=106.9,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLZ	Tolley Road	0.65	214	P	Pn	23 15 54.7	+1.4
WPRZ	Whakapapatarin	0.74	170	P	Pn	23 15 54.5	+0.9
MUGZ	Murupara	0.92	139	P	Pn	23 15 54.5	0.0
MUGZ				S	S	23 16 23.5	+3.6
MKAZ	Moumakai	0.96	315	P	Pn	23 15 55.4	+0.6
URZ	Urewera	0.99	119	P	Pn	23 15 54.4	-0.6
URZ				S	S	23 16 24.2	+3.7
RATZ	Rangitukua	1.09	189	P	Pn	23 15 56.1	+0.5
MRHZ	Matea Rd	1.09	163	P	Pn	23 15 55.6	0.0
MRHZ				S	S	23 16 23.5	+1.6
RTZ	Ruatahuna	1.13	137	P	Pn	23 15 55.7	-0.2
RTZ				S	S	23 16 25.8	+3.5
HIZ	Hauiti	1.16	231	P	Pn	23 15 56.9	+0.9
ETAZ	East Tamaki Re	1.20	314	P	Pn	23 15 56.5	+0.2
KATZ	Kakaramea	1.21	191	P	Pn	23 15 56.8	+0.3
WIAZ	Waiheke Island	1.21	325	P	Pn	23 15 56.4	0.0
MTHZ	Maungataniwha	1.25	148	P	Pn	23 15 56.8	+0.1
MTHZ				S	S	23 16 27.2	+3.5
MWZ	Matawai	1.32	115	P	Pn	23 15 57.0	-0.2
MWZ				S	S	23 16 27.5	+3.0
NTVZ	North Tongarir	1.33	191	P	Pn	23 15 57.8	+0.5
RUGZ	Raukumara Rang	1.34	98	P	Pn	23 15 55.9	-1.5
RUGZ				S	S	23 16 25.6	+0.7
TMVZ	Te Maari	1.34	190	P	Pn	23 15 57.7	+0.3
TWVZ	Taurewa	1.35	199	P	Pn	23 15 57.7	+0.2
WTVZ	West Tongariro	1.36	194	P	Pn	23 15 57.7	+0.1
NNVZ	North Ngauruho	1.37	193	P	Pn	23 15 57.8	+0.1
OTVZ	Oturere	1.40	191	P	Pn	23 15 58.0	+0.1
OTVZ				S	S	23 16 29.9	+4.0
HAZ	Te Kaha	1.41	89	P	Pn	23 15 56.3	-1.5
RAHZ	Arahi	1.41	143	P	Pn	23 15 58.1	+0.3
RAHZ				S	S	23 16 29.6	+3.8
NGZ	Ngauruhoe	1.42	193	P	Pn	23 15 58.1	0.0
SNVZ	South Ngauruho	1.42	191	P	Pn	23 15 58.3	+0.2
BKZ	Black Stump Fm	1.43	165	P	Pn	23 15 57.8	-0.2
BKZ				S	S	23 16 29.1	+3.0
SNGZ	Shannon Statio	1.45	134	P	Pn	23 15 58.1	0.0
SNGZ				S	S	23 16 28.9	+2.7
NMHZ	Naumai	1.45	154	P	Pn	23 15 58.9	+0.7
NMHZ				S	S	23 16 30.8	+4.4
FWVZ	Far West T-bar	1.50	193	P	Pn	23 15 58.7	-0.2
WHVZ	Whangaehu Hut	1.53	192	P	Pn	23 15 58.8	-0.1
WNVZ	Wahianoa	1.57	192	P	Pn	23 15 58.9	-0.3
WNVZ				S	S	23 16 31.3	+3.0
PKVZ	Pokaka	1.58	199	P	Pn	23 15 59.0	-0.2
PKVZ				S	S	23 16 31.2	+2.9
TKGZ	Te Karaka	1.59	115	P	Pn	23 15 58.9	-0.4
TWGZ	Tauwhareparae	1.61	104	P	Pn	23 15 59.2	-0.3
MOVZ	Moawhango	1.63	187	P	Pn	23 15 58.9	-0.7
MOVZ				S	S	23 16 32.0	+1.2
PKGZ	Pakihiroa	1.65	94	P	Pn	23 15 58.8	-1.4
MTVZ	Mangateitei	1.65	195	P	Pn	23 15 59.5	-0.3
VRZ	Vera Road	1.65	216	P	Pn	23 16 00.4	+0.6
RIGZ	Rimuhau	1.66	124	P	Pn	23 15 59.7	-0.2
ARHZ	Aropaoanui	1.67	152	P	Pn	23 15 59.9	0.0
ARHZ				S	S	23 16 32.3	+2.9
KWHZ	Kaweka Forest	1.67	169	P	Pn	23 15 59.8	-0.2
KWHZ				S	S	23 16 32.4	+2.8
BHHZ	Black Hill Sta	1.70	178	P	Pn	23 15 59.6	-0.6
BHHZ				S	S	23 16 31.5	+1.4
MCHZ	McNeill Hill	1.74	162	P	Pn	23 16 00.5	0.0
MCHZ				S	S	23 16 32.5	+1.9
PUZ	Puketiti	1.81	100	P	Pn	23 16 00.0	-1.1
CNGZ	Carnagh Statio	1.87	112	P	Pn	23 16 01.2	-0.5
KRHZ	Kereru	1.87	171	P	Pn	23 16 01.1	-0.7
KRHZ				S	S	23 16 33.9	+1.1
WMGZ	Waiomatatini S	1.91	92	P	Pn	23 16 00.9	-1.2
NEZ	North Egmont	2.10	225	P	Pn	23 16 04.4	+0.4
KAHZ	Kahuranaki	2.12	161	P	Pn	23 16 03.3	-0.8
WAZ	Wangarui	2.12	202	P	Pn	23 16 03.2	-0.9
PNHZ	Pukenui	2.13	176	P	Pn	23 16 02.9	-1.3
KHEZ	Kahui Hut	2.17	225	P	Pn	23 16 04.6	0.0
TSZ	Takapari Road	2.27	181	P	Pn	23 16 04.0	-1.6
WCZ	Waipu Caves	2.28	324	P	Pn	23 16 04.2	-1.5
WPHZ	Waipukurau	2.30	172	P	Pn	23 16 04.4	-1.4
OHWZ	Ohakea	2.47	192	P	Pn	23 16 06.5	-1.1
DVHZ	Dannevirke	2.51	177	P	Pn	23 16 06.0	-2.1
POWZ	Post Office Ro	2.60	184	P	Pn	23 16 06.9	-2.2
POWZ	Post Office Ro	2.60	184	P	S	23 16 45.4	-0.4
ANWZ	Angora Road	2.69	172	P	Pn	23 16 08.2	-1.7
PRWZ	Pori Road	2.76	180	P	Pn	23 16 08.8	-1.9
PRWZ	Pori Road	2.76	180	P	S	23 16 46.5	-2.4
MRZ	Mangatainoka R	2.89	186	P	Pn	23 16 09.3	-2.8
BFZ	Birch Farm	2.90	176	P	Pn	23 16 09.7	-2.5
TIWZ	Tintock	2.98	182	P	Pn	23 16 10.5	-2.7
TIWZ	Tintock	2.98	182	P	S	23 16 47.8	-5.6
OGWZ	Otaki Gorge	3.09	192	P	Pn	23 16 11.5	-2.9
CPWZ	Castlepoint	3.12	177	P	S	23 16 53.2	-2.8
HOWZ	Holdsworth Sta	3.13	187	P	Pn	23 16 11.5	-3.3
HOWZ	Holdsworth Sta	3.13	187	P	S	23 16 50.4	-5.8
KIW	Kapiti Island	3.18	195	P	Pn	23 16 12.2	-3.2
TMWZ	Te Maipa	3.31	181	P	Pn	23 16 13.6	-3.3
TMWZ	Te Maipa	3.31	181	P	S	23 16 56.1	-4.0
MTW	Mount Morrison	3.39	186	P	Pn	23 16 14.0	-3.8
CAW	Cannon Point	3.39	192	P	Pn	23 16 14.3	-3.6
DUWZ	D'Urville Isla	3.41	208	P	Pn	23 16 14.6	-3.5
TRWZ	Traveller	3.61	184	P	Pn	23 16 16.0	-4.5
TRWZ	Traveller	3.61	184	P	S	23 17 00.7	-5.6
PAWZ	Paruwai Farm	3.62	187	P	Pn	23 16 16.6	-3.9
PAWZ	Paruwai Farm	3.62	187	P	S	23 17 01.1	-5.4
WEL	Wellington	3.62	195	P	Pn	23 16 16.9	-3.6
MSWZ	Moikau Station	3.67	189	P	Pn	23 16 17.0	-4.0
MSWZ	Moikau Station	3.67	189	P	S	23 16 59.8	-7.8
TCW	Tory Channel	3.67	201	P	Pn	23 16 17.3	-3.8
TCW	Tory Channel	3.67	201	P	S	23 17 04.4	-3.1
BHW	Baring Head	3.72	193	P	Pn	23 16 17.9	-3.7
BHW	Baring Head	3.72	193	P	S	23 17 02.2	-6.3
PLWZ	Palliser	3.82	188	P	Pn	23 16 18.6	-4.3
PLWZ	Palliser	3.82	188	P	S	23 17 04.2	-6.6
TUWZ	Tuamarina	3.97	203	P	Pn	23 16 20.5	-4.1
NNZ	Nelson	3.98	210	P	Pn	23 16 20.1	-4.7
QRZ	Quartz Range	4.06	221	P	Pn	23 16 20.7	-5.0
CMWZ	Cape Campbell	4.19	199	P	Pn	23 16 23.9	-3.4
BSWZ	Blackbirch Sta	4.25	202	P	Pn	23 16 23.9	-4.2
BSWZ	Blackbirch Sta	4.25	202	P	S	23 17 14.3	-5.8
THZ	Tophouse	4.63	210	P	Pn	23 16 27.2	-5.5
KHZ	Kahutara	4.99	201	P	Pn	23 16 32.0	-5.1
DSZ	Denniston Nort	5.11	218	P	Pn	23 16 32.4	-6.2
GVZ	Greta Valley S	5.65	203	P	Pn	23 16 39.3	-6.0
LTZ	Lake Taylor	5.74	209	P	Pn	23 16 40.4	-6.2
AMCZ	Amberley	5.96	204	P	Pn	23 16 42.0	-7.3
INZ	Inchbonnie	6.04	214	P	Pn	23 16 43.2	-7.1
OXZ	Oxford	6.30	207	P	Pn	23 16 46.4	-7.3
OKCZ	Okains Bay	6.33	200	P	Pn	23 16 47.9	-6.2
MQZ	McQueen's Vall	6.43	202	P	Pn	23 16 47.7	-7.6
AKCZ	Akaroa Harbour	6.51	200	P	Pn	23 16 49.9	-6.4
RACZ	Rakaia	6.62	205	P	Pn	23 16 50.2	-7.5
MHCZ	Mount Hutt	6.65	209	P	Pn	23 16 50.7	-7.5
GCSZ	Gaunt Creek Bo	7.01	216	P	Pn	23 16 55.3	-7.4
RPZ	Rata Peaks	7.01	211	P	Pn	23 16 54.8	-7.8
ARCZ	Arundel	7.16	209	P	Pn	23 16 56.9	-7.7
FOZ	Fox Glacier	7.42	217	P	Pn	23 16 59.3	-8.5
TMZ	Timaru	7.59	208	P	Pn	23 17 02.7	-7.4
ODZ	Otahua Downs	8.29	207	P	Pn	23 17 12.0	-7.0
JCZ	Jackson Bay	8.32	219	P	Pn	23 17 10.2	-9.3

IDC 12 23:16:45.1±2.8,32.76S×178.29W,h0km,mb4.1/2, mb1 4.3/3,mb1mx3.8/21,mbtmp4.1/3,ML3.9/1,Error ellipse: s-maj=70.6km s-min=44.0km az=130.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.65	213	Pn	Pn	23 18 23.2	-0.8
	2.2nm,0.3s,baz=320,slow=1.5,SNR=3.8						
URZ				Sn	Sn	23 19 37.8	-2.8
	2.3nm,0.3s,baz=120,slow=20,SNR=6.3						
ASAR	Alice Springs	42.79	270	P	P	23 24 45.0	+0.2
	0.9nm,0.3s,baz=108,slow=7.4,SNR=22						
WRA	Warramunga Arr	43.99	275	P	P	23 24 54.2	-0.3
	2.1nm,0.5s,baz=115,slow=7.8,SNR=58						
FINES	FINESS Array B	147.25	339	PKPbc	PKPbc	23 36 28.9	-0.8
	1.0nm,0.4s,baz=39,slow=4.1,SNR=20						

WEL 12 23:25:25.5±0.9,38.3S±6.×17.9E±.,h33km,M3.2/16, ML3.5/18,MLv3.2/16,Error ellipse: s-maj=0.0km s-min=0.0km az=138.8,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	0.71	250	P	Pn	23 25 39.3	+0.1
MXZ	Matakaoa Point	0.76	271	P	Pn	23 25 39.6	-0.3
MXZ				S	Sb	23 25 50.7	+0.3
PUZ	Puketiti	0.93	238	P	Pn	23 25 42.2	-0.1
PUZ				S	Sb	23 25 55.5	+0.2
PKGZ	Pakihiroa	0.99	252	P	Pn	23 25 42.8	-0.2
PKGZ				S	Sn	23 25 55.7	-0.2
TWGZ	Tauwhareparae	1.18	239	P	Pn	23 25 45.8	+0.2
TWGZ				S	Sb	23 26 01.6	-0.6
HAZ	Te Kaha	1.19	261	P	Pn	23 25 46.1	+0.4
HAZ				S	Sb	23 26 02.1	-0.3
RUGZ	Raukumara Rang	1.31	253	P	Pn	23 25 47.5	-0.1
TKGZ	Te Karaka	1.41	232	P	Pn	23 25 48.9	+0.1
TKGZ				S	Sb	23 26 07.6	-1.2
PRGZ	Paritu Road	1.72	219	P	Pn	23 25 52.9	-0.2
PRGZ				S	Sn	23 26 15.2	+1.1
URZ	Urewera	1.83	248	P	Pn	23 25 55.3	+0.7
URZ				S	Sn	23 26 18.0	+1.4
WHRZ	Whale Island	1.83	261	P	Pn	23 25 55.7	+1.0
WHRZ				S	Sn	23 26 18.6	+1.8
MHGZ	Mahia Peninsul	1.90	214	P	Pn	23 25 55.3	-0.2
SNGZ	Shannon Statio	1.93	231	P	Pn	23 25 55.9	-0.1
SNGZ				S	Sn	23 26 19.5	+0.3
RTZ	Ruatahuna	2.07	239	P	Pn	23 25 58.5	+0.5
RTZ				S	Sn	23 26 23.9	+1.1
MUGZ	Murupara	2.16	245	P	Pn	23 25 59.2	0.0
MUGZ				S	Sn	23 26 24.3	-0.5
OPRZ	Ohinepanea	2.16	262	P	Pn	23 25 59.3	+0.2
OPRZ				S	Sn	23 26 24.0	-0.8
RAHZ	Arahi	2.17	231	P	Pn	23 25 59.3	0.0
RAHZ				S	Sn	23 26 26.0	+0.9
WHHZ	Waihua	2.18	226	P	Pn	23 25 59.4	0.0
WHHZ				S	Sn	23 26 25.9	+0.5
TARZ	Mount Tarawera	2.27	252	P	Pn	23 26 01.3	+0.5
TARZ				S	Sn	23 26 28.4	+0.7
MTHZ	Maungataniwha	2.29	236	P	Pn	23 26 01.2	+0.3
MTHZ				S	Sn	23 26 29.5	+1.4
ARHZ	Aropaoanui	2.45	226	P	Pn	23 26 03.1	0.0
ARHZ				S	Sn	23 26 31.1	-0.7
NMHZ	Naumai	2.45	231	P	Pn	23 26 03.3	+0.1
NMHZ				S	Sn	23 26 31.6	-0.5
MRHZ	Matea Rd	2.56	240	P	Pn	23 26 04.6	-0.1
MRHZ				S	Sn	23 26 34.0	-0.9
BKZ	Black Stump Fm	2.69	233	P	Pn	23 26 06.1	-0.4
BKZ				S	Sn	23 26 37.9	-0.1
MCHZ	McNeill Hill	2.74	226	P	Pn	23 26 06.8	-0.3
MCHZ				S	Sn	23 26 39.1	0.0
KWHZ	Kaweka Forest	2.89	230	P	Pn	23 26 08.5	-0.7
KWHZ				S	Sn	23 26 43.0	+0.2
KAHZ	Kahuranaki	2.89	219	P	Pn	23 26 08.1	-1.2
KUZ	Kuaotunu	2.95	285	P	Pn	23 26 09.8	-0.2
KRHZ	Kereru	3.06	227	P	Pn	23 26 10.4	-1.1
KRHZ				S	Sn	23 26 45.8	-1.2
BHHZ	Black Hill Sta	3.15	232	P	Pn	23 26 12.0	-0.8
TMVZ	Te Maari	3.19	240	P	Pn	23 26 13.4	0.0
NTVZ	North Tongarir	3.20	241	P	Pn	23 26 13.6	0.0
OTVZ	Oturere	3.24	240	P	Pn	23 26 14.0	-0.1
NNVZ	North Ngauruho	3.26	241	P	Pn	23 26 15.1	+0.7
SNVZ	South Ngauruho	3.27	240	P	Pn	23 26 14.5	0.0
MOVZ	Moawhango	3.30	235	P	Pn	23 26 14.9	0.0
MKAZ	Moumakai	3.30	277	P	Pn	23 26 15.3	+0.4
WPHZ	Waipukurau	3.32	221	P	Pn	23 26 13.4	-1.6
PNHZ	Pukenui	3.34	225	P	Pn	23 26 13.8	-1.6
WNVZ	Wahianoa	3.36	238	P	Pn	23 26 16.4	+0.5
DVHZ	Dannevirke	3.63	221	P	Pn	23 26 17.3	-2.1
BFZ	Birch Farm	3.88	216	P	Pn	23 26 20.2	-2.6
TIWZ	Tintock	4.13	218	P	Pn	23 26 23.9	-2.4
WCZ	Waipu Caves	4.28	291	P	Pn	23 26 29.2	+1.0
TMWZ	Te Maipa	4.38	216	P	Pn	23 26 26.4	-3.3
HOWZ	Holdsworth Sta	4.41	220	P	Pn	23 26 27.0	-3.0
OGWZ	Otaki Gorge	4.53	223	P	Pn	23 26 28.7	-3.0
CTZ	Chatham Island	6.90	154	P	Pn	23 27 04.0	-0.2

IDC 12 23:28:58.6±3.3,31.92S×178.25W,h0km,mb3.3/2, mb1 3.7/3,mb1mx3.5/30,mbtmp3.5/3,ML2.9/1,Error ellipse: s-maj=77.1km s-min=48.6km az=117.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.38	210	Pn	Pn	23 30 46.2	-1.4
	0.2nm,0.3s,baz=309,slow=13,SNR=2.3						
URZ				Sn	Sn	23 32 07.1	-4.9
	0.5nm,0.3s,baz=320,slow=16,SNR=2.0						
ASAR	Alice Springs	42.84	269	P	P	23 36 58.4	-0.2
	0.3nm,0.8s,baz=110,slow=8.0,SNR=1.8						
WRA	Warramunga Arr	43.97	274	P	P	23 37 08.0	+0.2
	0.7nm,0.9s,baz=112,slow=7.9,SNR=6.6						
FINES	FINESS Array B	146.49	339	PKPbc	PKPdf	23 48 40.2	+0.6
	1.0nm,0.7s,baz=48,slow=2.1,SNR=3.9						

IDC 12 23:32:09.6±3.2,32.55S×178.41W,h0km,mb3.5/2, mb1 3.8/3,mb1mx3.6/33,mbtmp3.6/3,ML3.5/1,Error ellipse: s-maj=73.9km s-min=47.4km az=118.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.77	211	Pn	Pn	23 33 48.8	-1.3
	1.0nm,0.3s,baz=306,slow=19,SNR=5.7						
URZ				Sn	Sn	23 35 02.9	-5.0
	1.2nm,0.3s,baz=344,slow=23,SNR=8.4						
ASAR	Alice Springs	42.69	269	P	P	23 40 08.6	+0.1
	0.4nm,0.6s,baz=115,slow=7.6,SNR=5.1						
WRA	Warramunga Arr	43.88	275	P	P	23 40 18.0	-0.1
	0.4nm,0.3s,baz=112,slow=8.0,SNR=15						
FINES	FINESS Array B	147.03	339	PKPbc	PKPbc	23 51 52.8	-0.8
	1.2nm,0.9s,baz=30,slow=3.7,SNR=4.1						

MOS ***12*** *23:39:15.3±0.9,0.66S×122.09E,h14km,mb5.0/21,Error ellipse: s-maj=12.5km s-min=5.8km az=113.5*

IDC ***12*** *23:39:15.3±0.5,0.67S×122.22E,h0km,mb4.4/17, mb1 4.5/20,mb1mx4.4/35,mbtmp4.4/20,ML4.2/3,MS4.0/19, Ms1 4.0/19,ms1mx3.8/40,Error ellipse: s-maj=22.2km s-min=11.5km az=77.0*

GCMT ***12*** *23:39:16.6±0.2,0.66S±0.01×122.25E±0.02,h18km±1km, MW5.0/111,Moment Tensor Solution. s32,c35; s111,c167; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-0.95±.15; Mθθ2.24±.11; Mϕϕ-1.29±.12; Mrθ3.02±.41; Mθϕ-2.74±.10; Mϕr-0.75±.29; Best double couple: M06.28100×1016 NP1,θs167.00000°,δ45.00000°, λ-7.00000°. NP2,θs262.00000°,δ85.00000°, λ-135.00000°. Principal axes: T 5.2230, Plg26.0000°, Azm26.0000°; N -1.8830, Plg44.0000°, Azm267.0000°; P -3.3390, Plg34.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***12*** *23:39:17.2±0.0,0.70S×122.10E,h10km,mB5.0/30, mb4.7/55,Ms4.4/22,Ms7 4.1/22*

NEIC ***12*** *23:39:18.6±2.6,0.74S±0.05×122.05E±0.03,h18km±4km, mb5.0/71,Error ellipse: s-maj=7.5km s-min=4.9km az=169.0*

DJA ***12*** *23:39:19.8±0.1,1.S±2.×122.2E±.,h10km,M5.1/36, mb5.1/36,mB5.6/18,MLv5.3/22,Mw(mB)5.0/18, MwMwp4.5/1,Mwp4.9/1*

KLM ***12*** *23:39:20.0,0.87S×122.22E,h35km, mb5.1*

ISC 12 23:39:17.8±0.3,0.74S±0.03×122.10E±0.03,h10km,n281, σ2.906/292,mb4.9/95,MS4.0/22,7C-9D,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	Ampana	0.48	250	P	Pg	23 39 25.2	-2.0
APSI				S	Sg	23 39 32.5	-1.0
MRSI	Marisa	1.22	353	P	Pn	23 39 37.7	-3.2
GTOI	Gorontalo	1.65	34	P	Pn	23 39 45.8	-1.0
TOLI2	Tolitoli	2.26	324		Pn	23 39 53.9	-1.4
TOLI2				Sn	Sn	23 40 23.7	+0.4
MPSI	Mapaga	2.45	296	P	Pn	23 39 56.4	-1.4
TTSI	Tana Toraja	3.23	225	P	Pn	23 40 08.7	+0.1
TTSI				S	Sn	23 40 46.2	-0.9
KKSI	Kolaka, Sulawe	3.44	187	P	Pn	23 40 11.3	-0.1
MNI	Manado	3.50	52	P	Pn	23 40 15.9	+3.6
MNI				S	Sn	23 40 58.2	+4.4
SANI	Sanana	4.10	109	P	Pn	23 40 20.3	-0.2
SANI				S	Sn	23 41 05.3	-3.3
BNSI	Bone	4.14	209	P	Pn	23 40 21.5	+0.4
PMSI	Majene	4.20	229	P	Pn	23 40 23.2	+1.3
KAPI	Kappang	4.85	209	Pn	Pn	23 40 30.1	-0.7
	60nm,0.3s,baz=48,slow=7.9,SNR=202						
KAPI				Sn	Sn	23 41 24.4	-2.7
	30nm,0.3s,baz=218,slow=23,SNR=13						
KAPI	Kappang	4.85	209	P	Pn	23 40 30.0	-0.9
KAPI	Kappang	4.85	209	Pn	Pn	23 40 30.0	-0.9
BKSI	Bulukumba	4.96	203	P	Pn	23 40 31.1	-1.3
MKS	Makassar	5.16	211	P	Pn	23 40 35.1	-0.1
	2.8nm6μm492nm,0.8s						
BKB	Balikpapan	5.23	264		Pn	23 40 36.7	+0.6
BKB	Balikpapan	5.23	264	P	Pn	23 40 37.0	+0.9
	2.7nm9μm572nm,0.7s						
TNTI	Ternate	5.48	74	Pn	Pn	23 40 42.6	+3.1
TNTI	Ternate	5.48	74	P	Pn	23 40 43.9	+4.4
	2.0nm2μm3μm374nm,1.0s						
TNTI				S	Sn	23 41 49.6	+7.0
	2.0nm2μm3μm374nm,1.0s						
SGSI	Sangihe	5.58	38	P	Pn	23 40 43.9	+3.0
	2.6nm19μm936nm,0.7s						
BSSI	Bau Bau, Buton	5.60	197	P	Pn	23 40 40.6	-0.6
	1.0nm3μm298nm,0.7s						
GAMI	Galela, Maluku	6.24	66	P	Pn	23 40 54.1	+4.1
	2.0nm4μm480nm,0.8s						
KBKI	Kotabaru	6.45	247	P	Pn	23 40 56.6	+3.7
	1.2nm3μm311nm,0.8s						
KRAI	Karang Ratu	6.79	112	P	Pn	23 41 00.1	+2.5
	1.0nm354nm,1.1s						
MTKI	Muara Teweh, K	7.21	268	P	Pn	23 41 05.1	+1.8
	1.6nm13μm180nm,0.8s						
MSAI	Masohi	7.30	111	P	Pn	23 41 09.7	+5.2
	0.2nm61nm,0.7s						
BB

comp=Z,19nm,1.2s
IPM Ipoh 21.68 284 P **P** **23 44 10.0 +1.0**
KULM Kulim 22.25 286 P **P** **23 44 15.0 0.0**
WRAB Tennant Creek 22.53 149⇑ *e*P **P** **23 44 16.3 -1.7**
WRAB pmax pmax
comp=Z,47nm,1.1s
WRAB Tennant Creek 22.53 149 P **P** **23 44 16.8 -1.2**
WRAB IAmb IAmb 23 44 34.9
comp=Z,43nm,1.0s
WRA Warramunga Arr 22.53 149 P **P** **23 44 16.0 -2.1**
comp=Z,25nm,0.7s,baz=338,slow=10,SNR=87
WRA LR LR 23 55 08.2
comp=Z,250nm,18.0s,baz=265,slow=42
WRA Warramunga Arr 22.53 149 *i* P **P** **23 44 18.5 +0.4**
WRA pmax pmax
comp=Z,25nm,0.7s
WRA Warramunga Arr 22.53 149 P **P** **23 44 15.8 -2.2**
WB2 Warramunga Arr 22.54 149 P **P** **23 44 15.9 -2.2**
WB2 IAmb IAmb 23 44 29.1
comp=Z,43nm,1.0s
MNSI Mandailing Nat 22.57 274 P **P** **23 44 21.8 +3.3**
comp=Z,1µmcomp=Z,53nm,1.0s
WR0 Warramunga Arr 22.65 148 P **P** **23 44 16.9 -2.4**
WR0 IAmb IAmb 23 44 26.4
comp=Z,58nm,0.8s
UBPT Khong Chiam 22.89 315 P **P** **23 44 20.7 -1.1**
UBPT Khong Chiam 22.89 315 P **P** **23 44 22.0 +0.2**
comp=Z,96nm,1.1s
QIZ Qiongzhong 23.04 329 P **P** **23 44 22.2 -1.2**
QIZ S **S** **23 48 35.7 +1.3**
QIZ LR LR
comp=Z,560nm,17.0s
QIZ LR LR
comp=Z,650nm,19.6s
QIZ LR LR
comp=Z,270nm,21.8s
RPSI Rantau Prapat 23.42 278 P **P** **23 44 24.7 -2.6**
RPSI IAmb IAmb 23 44 42.3
comp=Z,55nm,1.2s
PSI Prapat 23.43 279 P **P** **23 44 27.3 -0.3**
comp=Z,19nm,0.9s,baz=177,slow=5.6
PSI LR LR 23 54 26.9
comp=Z,469nm,19.0s,baz=91,slow=39
PSI Prapat 23.43 279 P **P** **23 44 24.7 -2.9**
PSI pmax pmax
comp=Z,55nm,1.2s
PSI Prapat 23.43 279 P **P** **23 44 27.4 -0.2**
comp=Z,361nmcomp=Z,22nm,1.3s
TWG Pinlang 23.44 358 P **P** **23 44 26.1 -1.3**
TWG IAmb IAmb 23 44 38.1
comp=Z,52nm,1.0s
TSI Tuntungan 23.90 280 P **P** **23 44 38.2 +6.2**
TPUB Ta-pu 23.94 357 P **P** **23 44 30.9 -1.4**
YULB Yu-li 24.00 358 P **P** **23 44 31.8 -1.1**
YULB IAmb IAmb 23 44 52.8
comp=Z,38nm,0.8s
SSLB Suanglung 24.41 357 P **P** **23 44 36.6 0.0**
GSI Gunungsitoli 24.61 275 P **P** **23 44 37.7 -0.8**
GSI Gunungsitoli 24.61 275 P **P** **23 44 38.7 +0.1**
comp=Z,288nm,0.9s
COEN Coen 24.64 123 P **P** **23 44 36.5 -2.4**
COEN IAmb IAmb 23 44 59.7
comp=Z,23nm,0.9s
TPTI 25.22 279 P **P** **23 44 44.8 +0.7**
comp=Z,21nm,0.9s
YHNB Yeheng 25.27 358 P **P** **23 44 44.2 -0.2**
YHNB IAmb IAmb 23 45 08.1
comp=Z,64nm,1.1s
AS31 Alice Springs 25.50 154 P **P** **23 44 44.8 -1.8**
ASAR Alice Springs 25.50 154 P **P** **23 44 45.0 -1.6**
comp=Z,3.2nm,0.8s,baz=329,slow=7.1,SNR=24
ASAR PcP **PcP** **23 48 18.6 +0.2**
comp=Z,1.4nm,0.7s,baz=341,slow=2.6,SNR=3.5
ASAR LR LR 23 55 37.0
comp=Z,335nm,19.1s,baz=322,slow=38
ASAR Alice Springs 25.50 154 P **P** **23 44 45.0 -1.6**
ASAR Alice Springs 25.50 154 P **P** **23 44 45.0 -1.6**
SLVN Son La 28.24 322 P **P** **23 45 10.4 -0.9**
SLVN IAmb IAmb 23 45 49.1
comp=Z,22nm,1.2s
CM31 Chiang Mai Arr 29.70 311 P **P** **23 45 23.3 -1.0**
CM31 IAmb IAmb 23 45 37.1
comp=Z,13nm,0.9s
CMAR Chiang Mai Arr 29.70 311 P **P** **23 45 24.8 +0.5**
comp=Z,3.0nm,0.4s,baz=136,slow=7.1,SNR=23
CMAR Chiang Mai Arr 29.70 311 P **P** **23 45 23.2 -1.1**
CMAR Chiang Mai Arr 29.70 311 P **P** **23 45 23.2 -1.1**
CMMT Chiang Mai 29.92 312 P **P** **23 45 26.7 +0.5**
comp=Z,18nm,1.0s
CHTO Chiang Mai 29.92 312 P **P** **23 45 25.7 -0.5**
CHTO pmax pmax
comp=Z,28nm,1.2s
CHTO Chiang Mai 29.92 312 P **P** **23 45 25.7 -0.5**
CHTO IAmb IAmb 23 45 42.0
comp=Z,28nm,1.2s
CHTO Chiang Mai 29.92 312 P **P** **23 45 26.8 +0.6**
comp=Z,11nm,1.0s
KMI Kunming 31.82 325 ⇓P **P** **23 45 46.1 +3.0**
KMI pP sP 23 45 49.9 +2.7
KMI sP pP 23 45 51.4 +5.4
KMI pmax pmax
comp=Z,7.0nm,1.0s
WHN Wuhan 31.98 347 ⇑P P 23 45 51.3 +7.2
WHN pmax pmax
comp=Z,62nm,1.2s
NWAO Narrogin (SRO) 32.34 188 LR LR 00 00 24.1
comp=Z,387nm,18.6s,baz=60,slow=39
NJ2 Nanjing 32.76 355 *e*P **P** **23 45 51.6 +0.6**
NJ2 pmax pmax
comp=Z,18nm,0.7s
BBOO Buckleboo 34.50 159 P **P** **23 46 06.8 +0.6**
BBOO IAmb IAmb 23 46 15.0
comp=Z,13nm,1.1s
CD2 Chengdu 35.98 333 P **P** **23 46 20.6 +1.5**
CD2 pmax pmax
comp=Z,30nm,0.8s
CD2 LR LR
comp=Z,330nm,14.5s
CD2 LR LR
comp=Z,220nm,15.7s
CD2 LR LR
comp=Z,410nm,18.0s
STKA Stephens Creek 36.03 151 P **P** **23 46 18.6 -0.8**
comp=Z,7.0nm,0.7s,baz=324,slow=10,SNR=8.1
STKA LR LR 00 02 11.8
comp=Z,219nm,18.5s,baz=327,slow=38
STKA Stephens Creek 36.03 151 P **P** **23 46 18.2 -1.2**
STKA pmax pmax
comp=Z,2.0nm,0.8s
STKA Stephens Creek 36.03 151 P **P** **23 46 18.2 -1.2**
JMN Monobe 36.03 17 P **P** **23 46 17.4 -2.0**
JMN IAmb IAmb 23 46 46.5
comp=Z,22nm,1.0s
XAN Xi'an 36.75 342 P **P** **23 46 26.0 +0.5**
XAN pP pP 23 46 28.9 +0.4
XAN S **S** **23 52 12.8 +3.3**
XAN pmax pmax
comp=Z,14nm,1.1s
XAN LR LR
comp=Z,310nm,18.3s
XAN LR LR
comp=Z,220nm,19.9s
XAN LR LR
comp=Z,280nm,17.5s
JHS Saijyo 37.02 15 P **P** **23 46 27.2 -0.6**
JHS IAmb IAmb 23 46 43.2
comp=Z,33nm,1.3s
JWT Wachi 37.93 18 P **P** **23 46 33.4 -2.2**
JWT IAmb IAmb 23 47 04.8
comp=Z,25nm,1.2s
KSRS Korea Array 38.39 7 P **P** **23 46 39.0 -0.3**
comp=Z,1.4nm,0.7s,baz=191,slow=9.7,SNR=2.5
KSRS LR LR 00 04 14.6
comp=Z,178nm,18.9s,baz=200,slow=39
SHL Shillong 39.20 314 P **P** **23 46 44.6 -2.0**
SHL pmax pmax
comp=Z,33nm,1.0s
SHL Shillong 39.20 314 P **P** **23 46 44.6 -2.0**
SHL IAmb IAmb 23 47 00.6
comp=Z,33nm,1.0s
MAJO Matsushiro 40.00 20 *de*P **P** **23 46 49.8 -3.1**
MAJO pmax pmax
comp=Z,18nm,0.9s
MAJO Matsushiro 40.00 20 P **P** **23 46 50.2 -2.7**
MAJO IAmb IAmb 23 46 56.4
comp=Z,14nm,0.8s
MAT Matsushiro 40.00 20 P **P** **23 46 49.3 -3.6**
MJAR Matsushiro Arr 40.00 20 P **P** **23 46 49.7 -3.2**
comp=Z,10nm,0.8s,baz=189,slow=8.8,SNR=17
MJAR LR LR 00 05 39.4
comp=Z,100nm,18.0s,baz=220,slow=40
MJAR Matsushiro Arr 40.00 20 P **P** **23 46 49.7 -3.2**
MJAR pmax pmax
comp=Z,12nm,0.9s
MJAR Matsushiro Arr 40.00 20 P **P** **23 46 49.7 -3.2**
LZH Lanzhou 40.39 337 *e*P **P** **23 46 56.2 -0.1**
LZH pP sP 23 47 00.6 +0.2
LZH sP pP 23 47 04.4 +5.2
LZH pmax pmax
comp=Z,26nm,1.3s
LZH pmax pmax
comp=Z,150nm,5.4s
LZH LR LR
comp=Z,380nm,13.6s
LZH LR LR
comp=Z,280nm,14.2s
LZH LR LR
comp=Z,210nm,16.5s
ARMA Armidale 40.71 139 P **P** **23 47 00.8 +1.8**
BJI Beijing 40.95 353 P **P** **23 47 04.1 +3.5**
BJI pmax pmax
comp=Z,16nm,0.7s
JMM Marumori 42.12 22 P **P** **23 47 08.6 -1.7**
LSA Lhasa 42.29 318 P **P** **23 47 11.9 -0.5**
LSA pmax pmax
comp=Z,22nm,0.7s
LSA Lhasa 42.29 318 P **P** **23 47 11.9 -0.5**
LSA IAmb IAmb 23 47 21.2
comp=Z,22nm,0.7s
TOO Toolangi 42.52 152 P **P** **23 47 13.9 +0.2**
TOO pmax pmax
comp=Z,12nm,1.2s
TOO Toolangi 42.52 152 P **P** **23 47 13.9 +0.2**
CAN Canberra 42.56 147 P **P** **23 47 13.8 -0.2**
CAN pmax pmax
comp=Z,17nm,1.2s
CAN Canberra 42.56 147 P **P** **23 47 13.8 -0.2**
RAMN Ramite 43.88 312 *e*P **P** **23 47 25.9 +0.9**
comp=Z,17nm,0.4s
JIRN Jiri 44.57 312 *e*P **P** **23 47 30.8 +0.1**
comp=Z,59nm,0.7s
JTM Tenmabayashi 44.79 21 P **P** **23 47 29.6 -2.2**
GTA Gaotai 44.88 335 *e*P **P** **23 47 33.1 +0.4**
GTA pP sP 23 47 37.7 +1.0
GTA sP pP 23 47 41.5 +5.9
GTA pmax pmax
comp=Z,7.0nm,1.2s
GTA pmax pmax
comp=Z,40nm,4.4s
GTA LR LR
comp=Z,180nm,19.3s
GTA LR LR
comp=Z,130nm,17.1s
GTA LR LR
comp=Z,130nm,17.8s
PKI Pulchoki 45.10 312 *e*P **P** **23 47 34.5 -0.4**
comp=Z,14nm,0.7s
PKIN Phulchoki 45.11 312 *e*P **P** **23 47 34.5 -0.4**
comp=Z,16nm,0.7s
KKN Kakani 45.32 312 *e*P **P** **23 47 35.9 -0.6**
DMN Daman 45.35 311 *e*P **P** **23 47 36.3 -0.5**
comp=Z,55nm,1.0s
USA0B Ussuriysk Arra 45.61 10 P **P** **23 47 36.1 -2.1**
USA0B pmax pmax
comp=Z,15nm,1.3s
USA0B Ussuriysk Arra 45.61 10 P **P** **23 47 36.1 -2.1**
USA0B IAmb IAmb 23 47 49.0
comp=Z,15nm,1.2s
USRK Ussuriysk Ar. 45.61 10 P **P** **23 47 36.0 -2.2**
comp=Z,4.2nm,0.8s,baz=190,slow=7.2,SNR=10
USRK LR LR 00 04 56.4
comp=Z,97nm,22.0s,baz=179,slow=34
USRK Ussuriysk Ar. 45.61 10 P **P** **23 47 36.3 -1.9**
USRK Ussuriysk Ar. 45.61 10 P **P** **23 47 36.3 -1.9**
GKN Gorkha 45.91 312 *e*P **P** **23 47 40.3 -0.8**
comp=Z,18nm,0.5s
HYB Hyderabad 46.52 295 *i* P **P** **23 47 44.0 -1.9**
HYB *e*pP **sP** **23 47 51.0 +1.0**
KOLN Koldanda 46.57 311 *e*P **P** **23 47 46.2 -0.2**
comp=Z,32nm,0.6s
DANN Dangsing 46.75 311 *e*P **P** **23 47 47.4 -0.5**
comp=Z,110nm,0.8s
PYUN Piuthan 47.20 311 *e*P **P** **23 47 51.4 +0.1**
comp=Z,69nm,0.8s
ASAJ Asahikawa 48.27 20 LR LR 00 08 45.5
comp=Z,122nm,19.6s,baz=204,slow=37
ASAJ Asahikawa 48.27 20 P **P** **23 47 58.6 -0.4**
ASAJ pmax pmax
comp=Z,22nm,0.9s
JKA Kamikawa-asahi 48.27 20 P **P** **23 47 58.6 -0.5**
JKA IAmb IAmb 23 48 09.9
comp=Z,22nm,0.9s
HIA Hailar 49.85 358 P **P** **23 48 08.8 -2.4**
HIA pmax pmax
comp=Z,6.0nm,0.7s
HIA Hailar 49.85 358 P **P** **23 48 08.8 -2.4**
ULN Ulaanbaatar 50.16 347 *de*P **P** **23 48 14.0 +0.4**
ULN pmax pmax
comp=Z,15nm,0.7s
ULN Ulaanbaatar 50.16 347 P **P** **23 48 13.5 -0.2**
ULN IAmb IAmb 23 48 19.3
comp=Z,16nm,0.8s
ULN Ulaanbaatar 50.16 347 P **P** **23 48 14.7 +1.1**
comp=Z,983nmcomp=Z,88nm,0.8s
SONM Songino Array 50.28 346 P **P** **23 48 14.0 -0.6**
comp=Z,12nm,0.7s,baz=164,slow=7.7,SNR=17
SONM LR LR 00 09 39.4
comp=Z,110nm,20.3s,baz=161,slow=36
SONM Songino Array 50.28 346 P **P** **23 48 14.1 -0.4**
SONM pmax pmax
comp=Z,14nm,0.8s
SONM Songino Array 50.28 346 P **P** **23 48 14.1 -0.4**
SONM IAmb IAmb 23 48 19.7
comp=Z,14nm,0.8s
KLR Kul'dur 50.47 8 LR LR 00 09 46.9
comp=Z,71nm,21.2s,baz=192,slow=36
KLR Kul'dur 50.47 8⇓ *e*P **P** **23 48 13.1 -2.7**
KLR pmax pmax
comp=Z,3.0nm,1.0s
ZAK Zakamensk 53.41 345 *e*P **P** **23 48 36.8 -1.0**
ZAK pmax pmax
comp=Z,7.0nm,1.2s
ZEA Zeya 54.46 4 *e*P **P** **23 48 48.9 +3.6**
MOY Mondy 55.19 344 *e*P **P** **23 48 51.2 +0.4**
MOY pmax pmax
comp=Z,17nm,1.6s
NIL Nilore 57.20 312 P **P** **23 49 03.7 -1.7**
NIL pmax pmax
comp=Z,14nm,0.8s
NIL Nilore 57.20 312 P **P** **23 49 03.7 -1.7**
NIL IAmb IAmb 23 49 13.4
comp=Z,14nm,0.8s
ZSN Zaisan 57.94 331 *e*P **P** **23 49 09.2 -1.1**
baz=331
ZSN Zaisan 57.94 331 *e*P **P** **23 49 09.1 -1.2**
SHLS Shalkode 58.03 324 *e*P **P** **23 49 07.9 -3.3**
baz=324
SHLS Shalkode 58.03 324 *e*P **P** **23 49 07.8 -3.3**
KSH Kashi 58.13 319 P **P** **23 49 12.1 +0.1**
KSH pP sP 23 49 17.3 +1.2
KSH pmax pmax
comp=Z,10.0nm,1.3s
UZB Uzunbulak 58.28 324 *e*P **P** **23 49 13.0 0.0**
baz=324
UZB Uzunbulak 58.28 324 *e*P **P** **23 49 13.0 0.0**
DGZ Jazzator, Alta 58.39 334 *i* P **P** **23 49 13.9 +0.3**
DGZ pmax pmax
comp=Z,18nm,1.2s
SATY Saty 58.59 324 *e*P **P** **23 49 13.6 -1.6**
baz=323
SATY Saty 58.59 324 *e*P **P** **23 49 13.5 -1.6**
KPKS Kokpek 58.67 324 *e*P **P** **23 49 13.7 -1.9**
baz=324
KPKS Kokpek 58.67 324 *e*P **P** **23 49 13.7 -1.9**
MK31 Makanchi Array 58.77 329⇓ *e*P **P** **23 49 15.0 -1.2**
MK31 Makanchi Array 58.77 329 P **P** **23 49 14.7 -1.5**
MK31 IAmb IAmb 23 49 27.8
comp=Z,11nm,0.8s
MKAR Makanchi Array 58.77 329 P **P** **23 49 15.1 -1.1**
comp=Z,3.7nm,0.6s,baz=133,slow=8.5,SNR=15
MKAR Makanchi Array 58.77 329 *i* P **P** **23 49 17.7 +1.5**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 58.77 329 P **P** **23 49 14.9 -1.3**
KDJ Kajisay 58.80 322 P **P** **23 49 15.7 -0.9**
KDJ pmax pmax
comp=Z,13nm,1.0s
KDJ Kajisay 58.80 322 P **P** **23 49 15.7 -0.9**
KDJ IAmb IAmb 23 49 24.8
comp=Z,13nm,0.9s
MAKZ Makanchi 58.95 329 P **P** **23 49 16.9 -0.5**
MAKZ pmax pmax
comp=Z,18nm,1.1s
MAKZ Makanchi 58.95 329 P **P** **23 49 16.9 -0.5**
MAKZ IAmb IAmb 23 49 28.9
comp=Z,18nm,1.1s
TNSS Tian-Shan 59.45 323 *e*P **P** **23 49 19.9 -1.5**
baz=323
MDOK Medeo 59.46 323 *e*P **P** **23 49 19.6 -1.7**
baz=323
MDOK Medeo 59.46 323 *e*P **P** **23 49 19.5 -1.7**
BOOM Boomskoye usch 59.76 322 P **P** **23 49 22.5 -0.8**
BOOM pmax pmax
comp=Z,8.0nm,0.9s
BOOM Boomskoye usch 59.76 322 P **P** **23 49 22.5 -0.8**
BOOM IAmb IAmb 23 49 41.9
comp=Z,7.5nm,0.8s
MTBS Maitube 59.82 323 *e*P **P** **23 49 22.1 -1.5**
baz=323
TKM2 Tokmak 2 60.21 322 *i* P **P** **23 49 25.1 -1.3**
TKM2 pmax pmax
comp=Z,9.0nm,0.9s
KUU Kurty 60.30 323 *e*P **P** **23 49 24.1 -2.7**
baz=323
KUU Kurty 60.30 323 *e*P **P** **23 49 24.1 -2.7**
KBL Kabul 60.73 311 P **P** **23 49 28.7 -1.5**
KBL pmax pmax
comp=Z,84nm,1.3s
KBL Kabul 60.73 311 P **P** **23 49 28.7 -1.5**
AAK Ala-Archa 60.74 321 *de*P **P** **23 49 29.4 -0.6**
AAK pmax pmax
comp=Z,27nm,1.7s
AAK Ala-Archa 60.74 321 P **P** **23 49 29.2 -0.7**
AAK IAmb IAmb 23 49 38.4
comp=Z,8.3nm,0.8s
DRK Karamyk 60.91 317 P **P** **23 49 30.1 -1.3**
DRK IAmb IAmb 23 49 40.0
comp=Z,12nm,0.8s
SGDS Sogindy 61.09 322 *e*P **P** **23 49 30.7 -1.6**
baz=322
PEA0B Petropavlovsk- 61.32 24 P **P** **23 49 33.6 +0.1**
PEA0B pmax pmax
comp=Z,199nm,1.8s
PEA0B Petropavlovsk- 61.32 24 P **P** **23 49 33.6 +0.1**
PETK Petropavlovsk- 61.32 24 P **P** **23 49 33.0 -0.5**
comp=Z,2.1nm,0.5s,baz=201,slow=5.1,SNR=11
PETK LR LR 00 18 51.7
comp=Z,46nm,18.6s,baz=213,slow=39
GAR Garm 61.71 316 P **P** **23 49 35.5 -1.1**
BTLS Baital 62.30 323 *e*P **P** **23 49 38.5 -1.9**
baz=323
BTLS Baital 62.30 323 *e*P **P** **23 49 38.4 -1.9**
CHGR Chuyangaron 62.37 315 P **P** **23 49 39.6 -1.4**
BKZ Black Stump Fm 62.57 135 P **P** **23 49 41.8 -0.5**
ZAA0 Zalesovo Array 62.62 336 P **P** **23 49 41.1 -1.1**
ZAA0 IAmb IAmb 23 49 48.2
comp=Z,13nm,0.9s
ZALV Zalesovo Beam 62.62 336 P **P** **23 49 40.1 -2.1**
comp=Z,4.2nm,0.8s,baz=131,slow=6.5,SNR=5.9
ZALV Zalesovo Beam 62.62 336 *i* P **P** **23 49 44.5 +2.3**
ZALV pmax pmax
comp=Z,10.0nm,0.8s
YAK Yakutsk 62.88 4 *e*P **P** **23 49 41.4 -2.3**
YAK *e* 23 50 17.4
YAK *e*PPP PPP 23 53 26.9
YAK *e*S **S** **23 58 08.3 -4.8**
YAK *e**SS sS 23 58 32.1 +14
YAK *e* 23 59 30.6
YAK *e*SS **SS** **00 02 15.4 -3.1**
YAK pmax pmax
comp=Z,25nm,0.9s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.4s
YAK pmax pmax
comp=Z,148nm,4.1s
YAK pmax pmax
comp=N,127nm,5.3s
YAK pmax pmax
comp=E,102nm,5.3s
YAK smax smax
comp=E,116nm,4.3s
YAK smax smax
comp=N,159nm,5.3s
YAK Yakutsk 62.88 4 P **P** **23 49 41.8 -1.9**
IUG Iuzhnay 63.35 319 *e*P **P** **23 49 45.5 -2.1**
baz=319
IUG Iuzhnay 63.35 319 *e*P **P** **23 49 45.4 -2.1**
KK31 Karatay Array 63.50 320 P **P** **23 49 46.8 -1.5**
KK31 pmax pmax
comp=Z,5.0nm,0.9s
KK31 Karatay Array 63.50 320 P **P** **23 49 46.8 -1.5**
KKAR Karatay Array 63.50 320 P **P** **23 49 47.1 -1.2**
KKAR pmax pmax
comp=Z,5.0nm,0.9s
KKAR Karatay Array 63.50 320 P **P** **23 49 46.9 -1.4**
KKAR Karatay Array 63.50 320 P **P** **23 49 47.1 -1.2**
KKAR IAmb IAmb 23 49 56.4
comp=Z,4.9nm,0.9s
MA2 Magadan 64.19 16 *ce*P **P** **23 49 50.5 -2.0**
MA2 pmax pmax
comp=Z,55nm,2.5s
BRZS Berezniki 65.79 327 *e*P **P** **23 50 01.2 -1.9**
baz=327
BRZS Berezniki 65.79 327 *e*P **P** **23 50 01.2 -1.9**
BRVK Borovoye 68.73 329⇓ *e*P **P** **23 50 20.0 -1.7**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 68.73 329 P **P** **23 50 20.3 -1.4**
BRVK IAmb IAmb 23 50 38.7
comp=Z,5.4nm,0.8s
TIXI Tiksi 72.40 2 *ce*P **P** **23 50 41.2 -2.5**
TIXI Tiksi 72.40 2 P **P** **23 50 40.6 -3.1**
TIXI IAmb IAmb 23 50 57.9
comp=Z,7.9nm,0.8s
ABKAR Akbulak array 72.77 323 P **P** **23 50 44.2 -2.2**
ABKAR Akbulak array 72.77 323 P **P** **23 50 43.5 -2.9**
ABKAR IAmb IAmb 23 51 02.3
comp=Z,5.0nm,1.1s
NRIK Noril'sk 73.72 348 P **P** **23 50 50.9 -0.7**
comp=Z,5.2nm,0.7s,baz=84,slow=3.4,SNR=3.5
NRIK Noril'sk 73.72 348⇓ *e*P **P** **23 50 53.6 +2.0**
NRIK pmax pmax
comp=Z,8.0nm,0.9s
SVE Sverdlovsk 75.41 330 *e*P **P** **23 51 06.0 +4.3**
SVE pmax pmax
comp=Z,12nm,1.1s
ARU Arti 76.30 329 *c i*P **P** **23 51 08.3 +1.5**
ARU 23 53 51.4
ARU S **S** **00 00 56.6 +5.2**
ARU SS **SS** **00 05 46.3 +0.8**
ARU pmax pmax
comp=Z,5.0nm,0.8s
ARU Arti 76.30 329 P **P** **23 51 05.6 -1.2**
ARU IAmb IAmb 23 51 13.2
comp=Z,8.7nm,1.1s
MAW Mawson 78.00 200 P **P** **23 51 16.7 +0.6**
comp=Z,4.3nm,1.0s,baz=26,slow=7.7,SNR=5.3
MAW LR LR 00 24 34.7
comp=Z,107nm,18.7s,baz=34,slow=35
MAW Mawson 78.00 200 P **P** **23 51 15.5 -0.6**
MAW Mawson 78.00 200 P **P** **23 51 15.5 -0.6**
VNDA Vanda 79.64 172 P **P** **23 51 25.2 +0.3**
comp=Z,1.5nm,0.6s,baz=328,slow=7.6,SNR=2.9
VNDA LR LR 00 28 00.3
comp=Z,117nm,18.1s,baz=334,slow=37
VNDA Vanda 79.64 172 P **P** **23 51 24.8 -0.2**
VNDA pmax pmax
comp=Z,10.0nm,1.5s
VNDA Vanda 79.64 172 P **P** **23 51 24.8 -0.2**
GURO Guroymak-BITLI 82.69 309 P **P** **23 51 40.6 -1.6**
PRGR Permogore 84.24 332 *e*P **P** **23 51 50.1 +0.7**
PRGR pmax pmax
comp=Z,1.0nm,0.5s
VRH Novokhopyorsk 84.54 321 *e*P **P** **23 51 49.3 -1.9**

VRH				pmax	pmax			
	comp=Z,3.0nm,0.6s							
VORD	**Divnogorie**	**86.03**	**321**	*eP*	**P**	**23 51 59.6**	**+1.0**	
VORD				pmax	pmax			
	comp=Z,10.0nm,0.7s							
KLMR	**Klimovskoe**	**87.02**	**331**	*eP*	**P**	**23 52 00.5**	**-2.8**	
KLMR				pmax	pmax			
	comp=Z,23nm,1.9s							
KLMR	**Klimovskoe**	**87.02**	**331**	*eP*	**P**	**23 52 00.5**	**-2.8**	
KLMR				AMP		23 52 12.3		
	comp=Z,23nm,1.9s							
OHAK	**Old Harbor**	**87.69**	**33**		**P**	**23 52 08.7**	**+2.1**	
K20K	**Telida**	**87.88**	**27**	P	**P**	**23 52 10.2**	**+2.7**	
K20K				IAmb	IAmb	23 52 26.0		
	comp=Z,14nm,1.5s							
J20K	**Nowinta River**	**87.93**	**26**	P	**P**	**23 52 10.2**	**+2.6**	
J20K				IAmb	IAmb	23 52 28.1		
	comp=Z,16nm,1.7s							
IMAR	**Indian Mountai**	**88.28**	**24**	P	**P**	**23 52 06.5**	**-2.7**	
QSPA	**South Pole Qui**	**89.20**	**180**	P	**P**	**23 52 12.6**	**-1.1**	
QSPA				IAmb	IAmb	23 52 28.1		
	comp=Z,9.1nm,1.0s							
ILAR	**Eielson Array**	**91.10**	**25**	P	**P**	**23 52 19.6**	**-2.9**	
	comp=Z,0.3nm,0.6s,baz=241,slow=5.7,SNR=2.2							
AKASG	**Malin Array Be**	**92.40**	**321**	P	**P**	**23 52 26.7**	**-2.1**	
	comp=Z,0.2nm,0.3s,baz=76,slow=3.9,SNR=1.9							
MNK	**Minsk**	**93.06**	**324**	*i* P	**P**	**23 52 30.2**	**-1.5**	
MNK				*i*		23 56 13.2		
MNK				*i* PPP	PPP	23 58 13.1		
MNK				*i* S	**SKSac**	**00 03 04.0**	**-1.9**	
MNK				*i* PS	**PS**	**00 04 51.2**	**-0.3**	
MNK				*i* SS	**SS**	**00 09 53.3**	**+0.8**	
MNK				*i* SSS	SSS	00 13 33.4		
MNK				pmax	pmax			
	comp=Z,4.0nm,0.9s							
MNK				pmax	pmax			
	comp=N,6.0nm,0.9s							
MNK				pmax	pmax			
	comp=E,2.0nm,1.1s							
MNK				MLR	MLR			
	comp=Z,305nm,22.0s							
MNK				MLR	MLR			
	comp=E,12nm,25.0s							
MNK				MLR	MLR			
	comp=N,143nm,25.0s							
MNK	**Minsk**	**93.06**	**324**	*i* P	**P**	**23 52 30.3**	**-1.4**	
	comp=E,2.0nm,1.1s							
MNK				*i* P	**P**	**23 52 30.3**	**-1.4**	
	comp=N,6.0nm,0.9s							
MNK				*i* P	**P**	**23 52 30.3**	**-1.4**	
	comp=Z,4.0nm,0.8s,baz=268							
MNK				*i* PP	**PP**	**23 56 13.2**	**-1.4**	
MNK				*i* PPP	PPP	23 58 13.2		
MNK				*i* S	**SKSac**	**00 03 04.0**	**-1.8**	
MNK				*i* PS	**PS**	**00 04 51.2**	**-0.3**	
MNK				*i* SS	**SS**	**00 09 53.3**	**+0.8**	
MNK				*i* SSS	SSS	00 13 33.4		
MNK				*i* LQ	LQ	00 28 34.9		
MNK				*i* LR	LR	00 33 33.0		
MNK				*i* LRM	MLR	00 35 06.3		
	comp=Z,305nm,21.7s							
MNK				*i* LRM	MLR	00 35 17.9		
	comp=E,12nm,24.6s							
MNK				*i* LRM	MLR	00 36 05.7		
	comp=N,143nm,25.3s							
BOSA	**Boshof**	**95.66**	**241**	LR	LR	00 29 17.0		
	comp=N,164nm,21.6s,baz=106,slow=31							
NVAR	**Mina Array Bea**	**113.32**	**48**	PKiKP	**PKiKP**	**23 57 56.0**	**-0.7**	
	comp=N,0.3nm,0.7s,baz=253,slow=2.7,SNR=2.3							
PDAR	**Pinedale Array**	**117.74**	**41**	PKP	**PKPdf**	**23 58 03.8**	**-1.3**	
	comp=N,0.1nm,0.3s,baz=333,slow=3.4,SNR=1.9							
TORD	**Torodi Ar. Bea**	**119.73**	**285**	PKP	**PKPdf**	**23 58 06.2**	**-3.1**	
	comp=N,1.0nm,0.8s,baz=32,slow=2.2,SNR=5.3							
TORD	**Torodi Ar. Bea**	**119.73**	**285**		**PKPdf**	**23 58 05.9**	**-3.4**	
TXAR	**Lajitas Array**	**127.98**	**53**	PKP	**PKPdf**	**23 58 24.9**	**0.0**	
	comp=N,0.3nm,0.7s,baz=301,slow=2.0,SNR=4.7							
TXAR	**Lajitas Array**	**127.98**	**53**	PKIKP	**PKPdf**	**23 58 24.2**	**-0.7**	
TXAR	**Lajitas Array**	**127.98**	**53**		**PKPdf**	**23 58 24.2**	**-0.7**	
CPUP	**Villa Florida**	**153.08**	**181**	PKPbc	**PKPbc**	**23 59 16.1**	**-0.5**	
	comp=N,2.5nm,0.8s,baz=194,slow=8.3,SNR=1.9							
LPAZ	**La Paz**	**160.29**	**150**	PKPab	**PKPab**	**23 59 59.6**	**-0.1**	
	comp=N,2.2nm,0.9s,baz=159,slow=3.2,SNR=3.6							

IDC ***13*** *00:00:11.2±2.0,5°.37S×129°.76E,h223km±22km, mb3.3/4, mb1 3.7/8, mb1mx3.3/39, mbtmp4.2/8, Error ellipse: s-maj=40.0km s-min=10.1km az=80.0*

NEIC ***13*** *00:00:13.8±2.1,5°.34S±0°.08×129°.66E±0°.08, h243km±9km, mb4.4/13, Error ellipse: s-maj=15.1km s-min=7.9km az=134.0*

ISC 13 00:00:13.0±0.6,5°.34S±0°.06×129°.8E±0°.1, h250km, n29, σ1°.51/32, mb3.9/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**3.45**	**46**	Pn	**Pn**	**00 01 11.8**	**+1.3**
SIJI	**Sorong**	**4.69**	**19**	P	**Pn**	**00 01 24.1**	**-1.0**
	10nm,0.3s,baz=302,slow=24,SNR=12						
SIJI				S	**S**	**00 02 18.1**	**-4.4**
	6.9nm,0.3s,baz=241,slow=23,SNR=8.5						
SOEI	**Soe**	**7.00**	**231**	Pn	**Pn**	**00 01 53.2**	**-0.7**
MTN	**Manton Dam**	**7.57**	**170**		**Pn**	**00 02 00.7**	**-0.4**
KNRA	**Kununurra**	**10.32**	**185**	Pn	**Pn**	**00 02 35.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**13.31**	**197**	P	**P**	**00 03 13.1**	**-1.1**
	0.7nm,0.3s,baz=25,slow=8.4,SNR=21						
FITZ				S	S	00 05 30.2	-10
	0.5nm,0.3s,baz=150,slow=23,SNR=7.6						
FITZ	**Fitzroy Crossi**	**13.31**	**197**		**Pn**	**00 03 12.0**	**-0.8**
WRA	**Warramunga Arr**	**15.18**	**163**	P	**Pn**	**00 03 34.8**	**-0.7**
	1.9nm,0.3s,baz=340,slow=12,SNR=88						
WRA				S	**S**	**00 06 20.4**	**-2.3**
	0.5nm,0.3s,baz=334,slow=23,SNR=7.2						
WRA	**Warramunga Arr**	**15.18**	**163**	P	**P**	**00 03 34.3**	**-0.6**
WB2	**Warramunga Arr**	**15.18**	**163**	P	**Pn**	**00 03 34.7**	**-0.8**
WB2				IAmb	IAmb	00 03 35.8	
	comp=Z,10nm,0.7s						
COEN	**Coen**	**15.73**	**124**		**Pn**	**00 03 43.5**	**+1.4**
COEN				IAmb	IAmb	00 03 44.9	
	comp=Z,20nm,1.3s						
AS31	**Alice Springs**	**18.65**	**168**	P	**Pn**	**00 04 14.3**	**-2.1**
ASAR	**Alice Springs**	**18.65**	**168**	P	**Pn**	**00 04 14.2**	**-2.2**
	comp=Z,3.3nm,0.3s,baz=351,slow=12,SNR=319						
ASAR				S	**S**	**00 07 30.6**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=344,slow=21,SNR=4.7						
ASAR	**Alice Springs**	**18.65**	**168**	P	**Pn**	**00 04 14.4**	**-2.0**
PSA00	**Pilbara Seismi**	**18.79**	**210**	P	**P**	**00 04 14.5**	**+0.3**
PSA00				IAmb	IAmb	00 04 19.7	
	comp=Z,20nm,1.3s						
PSA00	**Pilbara Seismi**	**18.79**	**210**	P	**P**	**00 04 14.5**	**+0.3**
PSA00				IAmb	IAmb	00 04 15.6	
	comp=Z,7.3nm,1.3s						
FORT	**Forrest**	**25.36**	**183**	P	**P**	**00 05 17.9**	**+0.4**
BBOO	**Buckleboo**	**27.95**	**169**	P	**P**	**00 05 41.4**	**+0.8**
BBOO				IAmb	IAmb	00 05 54.9	
	comp=Z,21nm,1.4s						
STKA	**Stephens Creek**	**28.63**	**159**	P	**P**	**00 05 47.6**	**+1.0**
	comp=Z,0.8nm,0.4s,baz=342,slow=6.2,SNR=3.3						
NWAO	**Narrogin (SRO)**	**29.83**	**202**	P	**P**	**00 05 56.8**	**-0.4**
CAN	**Canberra**	**34.71**	**152**	P	**P**	**00 06 41.7**	**+2.1**
CAN				IAmb	IAmb	00 06 55.2	
	comp=Z,14nm,1.5s						
TOO	**Toolangi**	**35.14**	**158**	P	**P**	**00 06 45.6**	**+2.4**
TOO				IAmb	IAmb	00 06 57.5	
	comp=Z,6.9nm,1.2s						
JWT	**Wachi**	**40.75**	**7**	P	**P**	**00 07 31.2**	**+1.3**
JWT				IAmb	IAmb	00 07 55.1	
	comp=Z,29nm,1.5s						
MJAR	**Matsushiro Arr**	**42.41**	**10**	P	**P**	**00 07 43.7**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=199,slow=8.3,SNR=4.8						
MKAR	**Makanchi Array**	**66.72**	**327**	P	**P**	**00 10 38.9**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=111,slow=8.4,SNR=10						
MKAR	**Makanchi Array**	**66.72**	**327**	P	**P**	**00 10 38.7**	**+1.2**
KURBB	**Kurchatov Arra**	**70.99**	**328**	P	**P**	**00 11 04.1**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=134,slow=4.9,SNR=6.6						
KURK	**Kurchatov**	**70.99**	**328**	P	**P**	**00 11 04.1**	**+0.6**
QSPA	**South Pole Qui**	**84.62**	**180**	P	**P**	**00 12 18.9**	**+0.5**

IDC 13 00:10:07.5±2.3,6°.26S×147°.51E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.6/30, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=60.9km s-min=27.0km az=117.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.68**	**222**	P	Pn	00 14 28.5	+0.8
	0.3nm,0.3s,baz=49,slow=10,SNR=9.7						
ASAR	**Alice Springs**	**21.70**	**216**	P	P	00 15 01.7	+1.4
	1.9nm,0.5s,baz=51,slow=8.0,SNR=34						
ASAR				S	S	00 19 00.3	-1.2
	0.5nm,1.0s,baz=35,slow=23,SNR=2.6						
FITZ	**Fitzroy Crossi**	**24.36**	**239**	P	P	00 15 27.6	0.0
	1.7nm,0.6s,baz=54,slow=9.1,SNR=6.9						
STKA	**Stephens Creek**	**26.08**	**191**	P	P	00 15 44.2	+1.2
	1.1nm,0.5s,baz=30,slow=14,SNR=2.9						
TORD	**Torodi Ar. Bea**	**145.64**	**284**	PKPbc	PKPdf	00 29 47.8	-1.2
	0.7nm,0.6s,baz=63,slow=3.2,SNR=7.1						

IDC 13 00:25:22.9±2.1,4°.68S×151°.48E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/38, mbtmp3.3/3, MS3.5/1, Ms1 3.5/1, ms1mx2.7/28, Error ellipse: s-maj=153.4km s-min=30.5km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**9.64**	**120**	LR	LR	00 31 40.5	
	comp=Z,293nm,19.8s,baz=318,slow=39						
WRA	**Warramunga Arr**	**22.55**	**226**	P	P	00 30 25.4	+0.4
	0.3nm,0.5s,baz=51,slow=9.9,SNR=5.7						
ASAR	**Alice Springs**	**25.37**	**220**	P	P	00 30 51.6	-0.5
	0.6nm,1.0s,baz=50,slow=9.0,SNR=2.1						
ILAR	**Eielson Array**	**82.55**	**22**	P	P	00 37 47.5	+0.1
	0.8nm,0.9s,baz=248,slow=5.4,SNR=5.2						

MEX 13 00:26:04.8±1.2,16°.50N×92°.67W, h16km±440km, MD3.5, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.95**	**214**	*i* P	Pb	00 26 19.6	-3.4
PCIG				*i* S	Sb	00 26 31.1	-4.2

IDC 13 00:27:13.7±2.8,32°.67S×178°.29W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/41, mbtmp3.9/3, ML4.5/2, MS3.5/1, Ms1 3.5/1, ms1mx2.6/38, Error ellipse: s-maj=68.5km s-min=26.7km az=118.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.43**	**5**	Pn	Pn	00 28 08.1	-0.3
	323nm,0.3s,baz=339,slow=23,SNR=6.8						
URZ	**Urewera**	**6.71**	**213**	Pn	Pn	00 28 54.0	+0.4
	1.3nm,0.3s,baz=271,slow=3.6,SNR=6.8						
URZ				Sn	Sn	00 30 09.3	-1.5
	4.7nm,0.3s,baz=23,slow=20,SNR=11						
ASAR	**Alice Springs**	**42.79**	**270**	P	P	00 35 13.3	0.0
	0.8nm,0.6s,baz=110,slow=7.5,SNR=8.9						
WRA	**Warramunga Arr**	**43.98**	**275**	P	P	00 35 22.9	-0.1
	0.7nm,0.3s,baz=112,slow=8.1,SNR=18						
JAY	**Jayapura**	**48.75**	**299**	LR	LR	00 55 10.5	
	comp=Z,56nm,21.4s,slow=34						
FINES	**FINESS Array B**	**147.18**	**339**	PKPbc	PKPbc	00 46 57.3	-0.8
	1.5nm,0.8s,baz=28,slow=3.3,SNR=11						

IDC ***13*** *00:31:48.3±2.5,38°.12N×141°.93E,h47km±25km, mb3.3/4, mb1 3.6/8, mb1mx3.3/51, mbtmp3.6/8, ML3.0/4, MS2.7/1, Ms1 2.7/1, ms1mx2.1/35, Error ellipse: s-maj=35.0km s-min=20.1km az=104.0*

JMA ***13*** *00:31:49.4, 38°.18N×141°.77E, h57km±1km, M3.6*

JMA Felt I J1.

ISC 13 00:31:48.9±1.3,38°.16N±0°.05×141°.85E±0°.09, h50km±10km, n29, σ1°.38/39, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.34**	**296**	P	**Pn**	**00 31 59.1**	**+0.8**
JIKH				S	**Sn**	**00 32 05.9**	**+0.8**
JIO	**Ouri**	**0.49**	**307**	P	**Pn**	**00 32 00.5**	**+0.5**
JIO				S	**Sn**	**00 32 08.2**	**+0.2**
JKMT	**Kesennumamotoy**	**0.71**	**336**	P	**Pn**	**00 32 03.1**	**+0.3**
JKMT				S	**Sn**	**00 32 12.8**	**-0.1**
JOFO	**Osakifurukawao**	**0.86**	**301**	P	**Pn**	**00 32 04.9**	**+0.2**
JOFO				S	**Sn**	**00 32 16.8**	**+0.5**
JMM	**Marumori**	**0.89**	**251**	P	**Pn**	**00 32 04.9**	**-0.2**
JMM				S	**Sn**	**00 32 16.3**	**-0.6**
JMK	**Ichinoseki**	**0.93**	**328**	P	**Pn**	**00 32 06.0**	**+0.3**
JMK				S	**Sn**	**00 32 18.0**	**0.0**
JOU	**Okura**	**0.96**	**283**	P	**Pn**	**00 32 06.1**	**+0.1**
JOU				S	**Sn**	**00 32 18.3**	**-0.4**
JFK	**Kawauchi**	**1.11**	**225**	P	**Pn**	**00 32 08.3**	**+0.2**
JFK				S	**Sn**	**00 32 22.3**	**0.0**
JFT	**Otama**	**1.36**	**242**	P	**Pn**	**00 32 12.1**	**+0.6**
JFT				S	**Sn**	**00 32 28.7**	**+0.3**
JOM	**Ohasama**	**1.38**	**342**	P	**Pn**	**00 32 12.2**	**+0.4**
JOM				*eS*	**Sn**	**00 32 29.1**	**+0.2**
JYK	**Kaneyama**	**1.39**	**303**	P	**Pn**	**00 32 12.0**	**+0.1**
JYK				*eS*	**Sn**	**00 32 28.9**	**-0.3**
JYS	**Shirataka**	**1.41**	**273**	P	**Pn**	**00 32 12.4**	**+0.2**
JYS				S	**Sn**	**00 32 29.6**	**0.0**
JRG	**Rokugo**	**1.56**	**323**	P	**Pn**	**00 32 14.7**	**+0.5**
JRG				*eS*	**Sn**	**00 32 34.4**	**+1.2**
JYA	**Atsumi**	**1.73**	**285**	P	**Pn**	**00 32 16.7**	**+0.1**
MJAR	**Matsushiro Arr**	**3.32**	**242**	P	**Pn**	**00 32 39.2**	**+0.8**
	0.3nm,0.3s,baz=329,slow=6.9,SNR=22						
MAT	**Matsushiro**	**3.32**	**242**	P	**Pn**	**00 32 39.1**	**+0.7**
MAT				*eS*	**Sn**	**00 33 22.5**	**+5.9**
JHJ	**Hachijo jima 2**	**5.31**	**199**	P	**Pn**	**00 33 03.9**	**-1.7**
	6.1nm,0.3s,baz=61,slow=19,SNR=1.6						
JHJ				S	**Sn**	**00 34 01.8**	**-3.6**
	5.5nm,0.3s,baz=59,slow=19,SNR=1.6						
ASAJ	**Asahikawa**	**5.98**	**5**	P	**Pn**	**00 33 13.5**	**-1.2**
	0.6nm,0.3s,baz=198,slow=17,SNR=8.0						
ASAJ				S	**Sn**	**00 34 19.2**	**-2.6**
	0.3nm,0.3s,baz=360,slow=19,SNR=1.6						
USRK	**Ussuriysk Ar.**	**9.57**	**312**	P	**Pn**	**00 34 05.0**	**+1.1**
	baz=118,slow=14,SNR=5.3						
USRK				LR	LR	00 37 40.8	
	comp=Z,42nm,19.3s,baz=311,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.45**	**123**	T	T	01 07 52.8	
	baz=318						
H11N1	**WAKE ISLAND Hy**	**28.46**	**123**	T	T	01 07 58.6	
	baz=318,slow=74,SNR=29						
H11N3	**WAKE ISLAND Hy**	**28.47**	**123**	T	T	01 07 59.7	
	baz=318,slow=74,SNR=29						
H11S1	**WAKE ISLAND Hy**	**29.20**	**125**	T	T	01 08 42.6	
	baz=317,slow=76,SNR=22						
H11S3	**WAKE ISLAND Hy**	**29.20**	**125**	T	T	01 08 44.5	
	baz=317,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy**	**29.22**	**125**	T	T	01 08 48.4	
	baz=317,slow=76						
MKAR	**Makanchi Array**	**43.82**	**301**	P	**P**	**00 39 49.6**	**-0.3**
	0.4nm,0.6s,baz=92,slow=9.7,SNR=5.6						
ILAR	**Eielson Array**	**48.36**	**33**	P	**P**	**00 40 25.2**	**-0.1**
	0.3nm,0.6s,baz=273,slow=6.2,SNR=4.1						
WRA	**Warramunga Arr**	**58.22**	**188**	P	**P**	**00 41 37.4**	**-0.8**
	0.4nm,0.3s,baz=6.1,slow=6.4,SNR=8.1						
TXAR	**Lajitas Array**	**89.16**	**53**	P	**P**	**00 44 39.5**	**+0.1**
	0.2nm,0.6s,baz=289,slow=2.8,SNR=4.1						

IDC 13 00:37:14.8±1.7,2°.10N×126°.86E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/46, mbtmp3.8/5, Error ellipse: s-maj=104.4km s-min=22.4km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.10**	**183**	P	P	00 41 50.6	+0.3
	2.1nm,0.7s,baz=10,slow=12,SNR=8.6						
WRA	**Warramunga Arr**	**23.10**	**162**	P	P	00 42 22.6	+0.1
	1.8nm,0.5s,baz=340,slow=12,SNR=35						
ASAR	**Alice Springs**	**26.51**	**165**	P	P	00 42 54.0	-0.2
	0.7nm,0.3s,baz=347,slow=7.9,SNR=8.4						
STKA	**Stephens Creek**	**36.57**	**159**	P	P	00 44 22.6	+0.1
	0.7nm,0.3s,baz=356,slow=8.8,SNR=4.0						
MKAR	**Makanchi Array**	**58.96**	**326**	P	P	00 47 15.9	-0.3
	0.3nm,0.4s,baz=121,slow=7.6,SNR=8.3						

IDC ***13*** *00:39:45.4±1.6, 14°.21N×145°.57E, h87km±12km, mb3.5/9, mb1 3.7/9, mb1mx3.4/50, mbtmp3.8/9, Error ellipse: s-maj=33.9km s-min=19.0km az=100.0*

NEIC ***13*** *00:39:46.8±1.2, 14°.13N±0°.03×145°.62E±0°.07, h90km±7km, mb4.1/9, Error ellipse: s-maj=9.6km s-min=3.6km az=84.0*

ISC 13 00:39:46.8±0.7, 14°.09N±0°.07×145°.5E±0°.1, h100km, n27, σ0°.91/27, mb3.9/14, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.82**	**233**		**Pn**	**00 40 05.0**	**-0.4**
	297nm,0.3s,baz=127,slow=6.9,SNR=92						
GUMO				S	**Sn**	**00 40 18.5**	**-0.8**
	955nm,0.3s,baz=165,slow=20,SNR=22						
GUMO	**Guam**	**0.82**	**233**		**Pn**	**00 40 05.4**	**0.0**
GUMO				Sn	**Sn**	**00 40 18.6**	**-0.8**
ANA2	**Anatahan**	**2.24**	**4**		**Pn**	**00 40 22.7**	**+0.1**
ANA2				Sn	**Sn**	**00 40 49.1**	**-0.8**
PATS	**Pohnpei**	**14.48**	**119**	Pn	**Pn**	**00 43 06.3**	**-0.6**
H11S3	**WAKE ISLAND Hy**	**20.76**	**75**	T	T	01 05 53.5	
	baz=262						
H11S1	**WAKE ISLAND Hy**	**20.77**	**75**	T	T	01 05 52.2	
	baz=262						
H11S2	**WAKE ISLAND Hy**	**20.77**	**75**	T	T	01 05 54.8	
	baz=262						
WR0	**Warramunga Arr**	**35.53**	**198**	P	**P**	**00 46 35.5**	**+1.2**
WRA	**Warramunga Arr**	**35.57**	**198**	P	**P**	**00 46 35.8**	**+1.1**
	1.1nm,0.7s,baz=20,slow=9.7,SNR=5.2						
WRA	**Warramunga Arr**	**35.57**	**198**	P	**P**	**00 46 34.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**37.53**	**212**	P	**P**	**00 46 52.3**	**+1.0**
	1.8nm,1.1s,baz=45,slow=8.9,SNR=1.5						
ASAR	**Alice Springs**	**39.22**	**197**	P	**P**	**00 47 05.9**	**+0.4**
	0.3nm,0.7s,baz=27,slow=10,SNR=2.4						
SONM	**Songino Array**	**46.70**	**324**	P	**P**	**00 48 06.0**	**+0.3**
	0.5nm,0.4s,baz=123,slow=7.3,SNR=3.5						
SONM	**Songino Array**	**46.70**	**324**	P	**P**	**00 48 06.5**	**+0.8**
MK31	**Makanchi Array**	**61.58**	**316**	P	**P**	**00 49 53.7**	**0.0**
MK31				IAmb	IAmb	00 50 00.3	
	comp=Z,1.2nm,1.1s						
MKAR	**Makanchi Array**	**61.58**	**316**	P	**P**	**00 49 53.3**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=95,slow=7.6,SNR=5.9						
MKAR	**Makanchi Array**	**61.58**	**316**	P	**P**	**00 49 54.0**	**+0.2**
ZALV	**Zalesovo Beam**	**61.60**	**324**	P	**P**	**00 49 53.9**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=104,slow=6.1,SNR=2.0						
J20K	**Nowinta River**	**64.66**	**25**	P	**P**	**00 50 14.4**	**+0.8**
J20K				IAmb	IAmb	00 50 34.0	
	comp=Z,3.7nm,1.3s						
PPLA	**Purkeypile**	**65.05**	**27**	P	**P**	**00 50 17.1**	**+0.7**
SKT	**Skwentna**	**65.05**	**28**	P	**P**	**00 50 16.2**	**-0.1**
SKT				IAmb	IAmb	00 50 17.6	
	comp=Z,4.2nm,1.0s						
IL31		**67.83**	**25**	P	**P**	**00 50 32.8**	**-1.1**
IL31				IAmb	IAmb	00 50 45.3	
	comp=Z,5.6nm,1.4s						
ILAR	**Eielson Array**	**67.83**	**25**	P	**P**	**00 50 32.5**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=252,slow=5.7,SNR=16						
ILAR	**Eielson Array**	**67.83**	**25**	P	**P**	**00 50 32.8**	**-1.2**
BRVK	**Borovoye**	**70.00**	**322**	P	**P**	**00 50 48.7**	**+1.1**
BRVK				IAmb	IAmb	00 50 50.7	
	comp=Z,1.8nm,0.9s						
NVAR	**Mina Array Bea**	**86.10**	**52**	P	**P**	**00 52 18.2**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=280,slow=5.0,SNR=4.3						
FINES	**FINESS Array B**	**90.98**	**335**	P	**P**	**00 52 37.2**	**-2.2**
	comp=Z,2.3nm,1.1s,baz=42,slow=3.1,SNR=8.0						

IDC ***13*** *00:40:23.9±0.5,54°.62S×119°.07W, h0km, mb4.4/15, mb1 4.6/15, mb1mx4.4/32, mbtmp4.4/15, MS4.4/20, Ms1 4.4/20, ms1mx4.3/31, Error ellipse: s-maj=22.3km s-min=15.2km az=141.0*

NEIC ***13*** *00:40:26.4±1.6, 54°.7S±0°.1×118°.9W±0°.2, h10km±1km, mb4.9/59, Error ellipse: s-maj=24.1km s-min=18.1km az=323.0*

GCMT ***13*** *00:40:29.4±0.2, 54°.64S±0°.01×118°.80W±0°.02, h13km±1km, MW5.1/117, Moment Tensor Solution. s55,c76; s117,c176; Duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}-0.70±.13; $M_{\theta\theta}$2.75±.15; $M_{\phi\phi}$-2.05±.14; $M_{r\theta}$-1.73±.39; $M_{\theta\phi}$4.64±.12; $M_{\phi r}$-0.53±.30; Best double couple: M_o5.47800×10¹⁶ NP1:ϕs193.00000°, δ75.00000°, λ174.00000°. NP2:ϕs284.00000°, δ84.00000°, λ15.00000°. Principal axes: T 6.0310, Plg15.0000°, Azm149.0000°; N -1.1050, Plg74.0000°, Azm304.0000°; P -4.9260, Plg7.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 00:40:25.9±0.4,54°.65S±0°.10×119°.00W±0°.09, h10km, n154, σ1°.09/124, mb4.8/40, MS4.5/24, 2C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**28.39**	**18**	LR	LR	00 55 02.1	
	comp=Z,447nm,21.0s,baz=197,slow=31						
PMSA	**Palmer Station**	**28.56**	**133**	LR	LR	00 54 53.9	
	comp=Z,1μm,19.6s,baz=280,slow=30						
PMSA	**Palmer Station**	**28.56**	**133**	P	**P**	**00 46 20.9**	**-0.5**
PMSA				IAmb	IAmb	00 46 55.0	
	comp=Z,36nm,1.5s						
RKT	**Rikitea**	**33.68**	**333**	*e*T	T	01 22 24.8	
	comp=Z,5.9nm,0.2s						
SBA	**Scott Base**	**34.03**	**201**	P	**P**	**00 47 10.3**	**+0.9**
SBA				IAmb	IAmb	00 47 16.5	
	comp=Z,28nm,1.7s						
PLCA	**Paso Flores**	**34.72**	**87**	P	**P**	**00 47 16.6**	**+0.7**
	comp=Z,2.1nm,0.9s,baz=248,slow=2.5,SNR=3.2						
PLCA				LR	LR	00 58

VNA2	Neumayer--Watz	45.72	155	sP		sP	00 48 51.7	+2.1
SNAA	Sanae	46.30	157	P		P	00 48 50.0	-1.2
SNAA	Sanae	46.30	157	sP		sP	00 48 54.4	+0.2
SNAA	Sanae	46.30	157	P		P	00 48 49.8	-1.3
	comp=Z,3.6nm,1.1s,baz=188,slow=5.7,SNR=5.0							
SNAA	Sanae	46.30	157	P		P	00 48 50.4	-0.7
PB14	IPOC Station P	46.60	70	P		P	00 48 54.0	-0.3
PB15	IPOC Station P	48.24	70	P		P	00 49 06.4	-0.6
TAOE	Nuku Hiva Isla	48.69	332	eLR		LR	01 03 01.2	
	comp=Z,1µm,26.4s							
LVC	Limon Verde	49.03	70	P		P	00 49 12.8	-0.5
	comp=Z,14nm,1.1s,baz=201,slow=7.6,SNR=6.2							
LVC	Limon Verde	49.03	70	P		P	00 49 13.1	-0.1
PB01	IPOC Station P	49.98	68	P		P	00 49 19.5	-0.7
PB01				IAmb		IAmb	00 49 21.8	
	comp=Z,14nm,1.0s							
PLTB	Pedras Altas	50.77	91	P		P	00 49 25.7	-0.3
PLTB				IAmb		IAmb	00 50 01.5	
	comp=Z,16nm,1.2s							
CPUP	Villa Florida	52.66	83	P		P	00 49 40.2	+0.1
	comp=Z,2.7nm,0.9s,baz=298,slow=7.0,SNR=3.1							
CPUP				LR		LR	01 09 17.8	
	comp=Z,763nm,18.2s,baz=228,slow=33							
LPAZ	La Paz	54.61	66	P		P	00 49 54.6	-0.7
	comp=Z,14nm,1.1s,baz=199,slow=6.1,SNR=23							
LPAZ				LR		LR	01 07 30.1	
	comp=Z,291nm,18.2s,baz=196,slow=30							
LPAZ	La Paz	54.61	66	P		P	00 49 55.3	+0.1
MAW	Mawson	58.06	181	P		P	00 50 17.0	-1.4
	comp=Z,1.7nm,0.7s,baz=184,slow=13,SNR=2.6							
MAW				LR		LR	01 13 25.7	
	comp=Z,104nm,18.2s,baz=186,slow=34							
MAW	Mawson	58.06	181	P		P	00 50 18.6	+0.2
TOO	Toolangi	63.27	242	P		P	00 50 55.1	+0.6
SAML	Samuel	63.36	66	P		P	00 50 53.8	-1.4
SAML				IAmb		IAmb	00 50 55.6	
	comp=Z,9.0nm,1.2s							
DZM	Mont Dzumac	63.41	269	eLR		LR	01 10 16.5	
	comp=Z,507nm,22.4s							
OTAV	Otavalo	64.01	46	P		P	00 50 59.8	-0.2
BDFB	Brasilia	66.39	84	P		P	00 51 14.2	-1.0
	comp=Z,3.5nm,0.8s,baz=209,slow=6.3,SNR=4.8							
BDFB				LR		LR	01 17 23.6	
	comp=Z,388nm,18.9s,baz=233,slow=33							
FLOC	Florencia	66.41	48	P		P	00 51 15.6	+0.5
STKA	Stephens Creek	69.71	243	P		P	00 51 34.8	-0.9
	comp=Z,1.9nm,0.7s,baz=125,slow=12,SNR=4.1							
ROSC	El Rosal	69.90	48	LR		LR	01 17 04.7	
	comp=Z,341nm,18.8s,baz=286,slow=32							
ROSC	El Rosal	69.90	48	P		P	00 51 37.4	-0.1
RUSC	La Rusia	71.38	49	P		P	00 51 46.7	+0.1
RUSC				IAmb		IAmb	00 51 51.5	
	comp=Z,16nm,1.4s							
PTGA	Pitinga	71.98	64	P		P	00 51 49.0	-0.6
H01W1	Cape Leeuwin H	79.81	222	T		T	02 21 23.9	
	baz=151,slow=76							
H01W2	Cape Leeuwin H	79.81	222	T		T	02 21 25.3	
	baz=151,slow=76							
H01W3	Cape Leeuwin H	79.83	222	T		T	02 21 25.0	
	baz=151,slow=76							
AS31	Alice Springs	80.32	243	P		P	00 52 35.8	-1.3
ASAR	Alice Springs	80.32	243	P		P	00 52 35.9	-1.3
	comp=Z,2.4nm,0.9s,baz=144,slow=5.6,SNR=13							
WR0	Warramunga Arr	83.04	245	P		P	00 52 50.7	-0.8
WRA	Warramunga Arr	83.16	245	P		P	00 52 51.0	-1.1
	comp=Z,8.3nm,0.9s,baz=146,slow=4.9,SNR=32							
WRA				LR		LR	01 25 00.1	
	comp=Z,429nm,20.0s,baz=335,slow=32							
WRA	Warramunga Arr	83.16	245	P		P	00 52 50.8	-1.4
WRAB	Tennant Creek	83.16	245	P		P	00 52 51.0	-1.2
TXAR	Lajitas Array	84.68	13	P		P	00 52 59.0	-0.5
	comp=Z,1.0nm,0.9s,baz=187,slow=8.8,SNR=8.3							
TXAR				LR		LR	01 23 56.9	
	comp=Z,86nm,19.1s,baz=0.0,slow=31							
TXAR	Lajitas Array	84.68	13	P		P	00 52 60.0	+0.5
319A	Douglas	86.08	8	P		P	00 53 06.5	0.0
319A				IAmb		IAmb	00 53 13.2	
	comp=Z,9.2nm,1.1s							
JCT	Junction City	86.38	17	P		P	00 53 08.2	+0.3
JCT				IAmb		IAmb	00 53 12.0	
	comp=Z,9.2nm,1.1s							
214A	Organ Pipe Nat	86.42	5	P		P	00 53 09.0	+1.0
214A				IAmb		IAmb	00 53 17.5	
	comp=Z,9.9nm,1.1s							
MNTX	Cornudas Mount	86.79	12	P		P	00 53 09.9	+0.1
TUC	Tucson	86.89	7	P		P	00 53 11.0	+0.6
TUC				IAmb		IAmb	00 53 17.1	
	comp=Z,6.3nm,1.1s							
435B	Jarrell	87.06	18	P		P	00 53 11.5	+0.3
113A	Mohawk Valley,	87.18	4	P		P	00 53 12.5	+0.9
113A				IAmb		IAmb	00 53 20.9	
	comp=Z,5.0nm,1.0s							
WHTX	Lake Whitney,	88.26	18	P		P	00 53 16.5	-0.4
WHTX				IAmb		IAmb	00 53 22.7	
	comp=Z,9.0nm,0.9s							
ABTX	Abilene, Hawle	88.50	16	P		P	00 53 18.5	+0.4
ABTX				IAmb		IAmb	00 53 24.2	
	comp=Z,7.1nm,0.8s							
X16A	Lo Mia Camp, P	88.94	6	P		P	00 53 20.7	+0.4
X16A				IAmb		IAmb	00 53 27.6	
	comp=Z,8.8nm,1.7s							
X18A	Snowflake	89.16	7	P		P	00 53 22.0	+0.7
X18A				IAmb		IAmb	00 53 27.8	
	comp=Z,9.1nm,1.1s							
FITZ	Fitzroy Crossi	89.17	239	P		P	00 53 20.6	-1.1
FITZ				IAmb		IAmb	00 53 23.1	
	comp=Z,12nm,1.2s							
ANMO	Albuquerque	89.88	10	P		P	00 53 25.4	+0.7
SHPR	Sheep Range	90.85	3	P		P	00 53 30.1	+1.0
SHPR				IAmb		IAmb	00 53 32.0	
	comp=Z,6.8nm,1.3s							
TPNV	Topopah Spring	91.26	2	P		P	00 53 32.4	+1.4
TPNV				IAmb		IAmb	00 53 40.3	
	comp=Z,8.1nm,1.2s							
BOSA	Boshof	91.55	149	LR		LR	01 28 36.5	
	comp=Z,292nm,19.9s,baz=168,slow=32							
PRN	Pahroc Range	91.75	3	P		P	00 53 34.8	+1.5
PRN				IAmb		IAmb	00 53 43.6	
	comp=Z,8.6nm,1.1s							
R11A	Troy Canyon, C	92.67	3	P		P	00 53 38.3	+0.7
NVAR	Mina Array Bea	92.71	1	P		P	00 53 37.4	-0.4
	comp=Z,1.5nm,0.9s,baz=184,slow=6.9,SNR=6.7							
NVAR				LR		LR	01 26 58.3	
	comp=Z,243nm,18.9s,baz=194,slow=30							
NVAR	Mina Array Bea	92.71	1	P		P	00 53 37.6	-0.2
PV03	Paradox Valley	92.94	8	P		P	00 53 38.8	0.0
PV03				IAmb		IAmb	00 53 47.3	
	comp=Z,4.4nm,1.1s							
SRU	San Rafael Swe	93.67	7	P		P	00 53 41.9	-0.3
SRU				IAmb		IAmb	00 53 47.5	
	comp=Z,3.9nm,1.0s							
LBTB	Lobatse	95.02	148	LR		LR	01 31 58.1	
	comp=Z,167nm,18.6s,baz=208,slow=32							
H11N3	WAKE ISLAND Hy	97.06	294	T		T	02 42 02.3	
	baz=145,slow=76							
H11N1	WAKE ISLAND Hy	97.06	294	T		T	02 42 09.5	
	baz=145,slow=76							
H11N2	WAKE ISLAND Hy	97.08	294	T		T	02 42 02.9	
	baz=145,slow=76							
PDAR	Pinedale Array	97.38	7	P		P	00 53 58.5	-0.5
	comp=Z,0.2nm,0.4s,baz=133,slow=3.8,SNR=2.0							
PDAR				LR		LR	01 30 05.8	
	comp=Z,134nm,19.8s,baz=222,slow=31							
PDAR	Pinedale Array	97.38	7	P		P	00 53 58.8	-0.2
TSUM	Tsumeb	97.64	139	LR		LR	01 30 45.6	
	comp=Z,138nm,20.8s,baz=146,slow=31							
ILAR	Eielson Array	121.00	346	PKP		PKPdf	00 59 16.6	-0.5
	comp=Z,0.3nm,0.8s,baz=188,slow=1.5,SNR=2.3							
ILAR	Eielson Array	121.00	346			PKPdf	00 59 17.5	+0.5
CMAR	Chiang Mai Arr	133.72	234	PKPdf		PKPdf	00 59 43.0	+0.3
NJ2	Nanjing	133.82	265	eP		PKiKP	00 59 44.3	+0.5
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.6s							
ICESG	Greenland Ices	136.13	31	eP		PKiKP	00 59 48.1	+0.3
HHC	Hu-ho-hao-te	144.12	269	eP		PKPab	00 59 58.7	-0.1
LZH	Lanzhou	145.33	255	ePKPbc		PKPbc	00 59 59.6	-3.7
LZH				pPKP		PKPdf	01 00 03.9	+0.4
LZH				sPKP			01 00 07.4	
NOR	Nord	145.40	15	iP		PKPab	01 00 03.0	+0.6
NOR				IAmb		IAmb	01 00 07.2	
	comp=Z,19nm,1.0s							
PAOL	Paolisi	146.63	95	PKPdf		PKPdf	01 00 06.2	+0.8
INTR	Introdacqua	146.87	93	PKPdf		PKPdf	01 00 06.3	+0.5
NRCA	Norcia	146.92	91	PKPbc		PKPbc	01 00 07.2	-0.6
LSA	Lhasa	146.97	233	PKPdf		PKPdf	01 00 06.6	-0.3
TIXI	Tiksi	147.27	327	PKPbc		PKPbc	01 00 07.3	-0.5
	comp=Z,6.3nm,0.9s,baz=102,slow=4.5,SNR=7.2							
DAVOX	Davos/Dischmat	147.34	82	PKPbc		PKPbc	01 00 08.5	-0.5
	comp=Z,2.0nm,0.9s,baz=158,slow=5.2,SNR=1.3							
TEOL	Teolo	147.58	86	PKPbc		PKPbc	01 00 09.6	+0.1
SGRT	San Giovanni R	147.78	95	PKPbc		PKPbc	01 00 10.3	+0.1
CTI	Castel Tesino	147.95	85	PKPbc		PKPbc	01 00 11.1	+0.5
FETA	Feichten	147.96	83	eP		PKPbc	01 00 11.3	+0.7
	comp=Z,8.0nm,1.0s							
RETA	Reutte	148.22	82	eP		PKPab	01 00 17.0	+2.7
	comp=Z,12nm,1.3s							
SQTA	Sankt Quirin	148.34	83	eP		PKPbc	01 00 12.4	+0.8
	comp=Z,13nm,1.6s							
MOTA	Moosalm	148.34	82	eP		PKPbc	01 00 11.4	-0.2
	comp=Z,12nm,1.3s							
WTTA	Wattenberg	148.61	83	eP		PKiKP	01 00 14.6	+0.8
	comp=Z,7.0nm,1.0s							
WATA	Walderalm	148.61	83	eP		PKiKP	01 00 14.6	+0.9
	comp=Z,5.3nm,1.0s							
STAL	STALIGIAL	148.69	85			PKPbc	01 00 11.7	-0.7
ABTA	Abfaltersbach	148.84	84	eP		PKPbc	01 00 12.4	-0.5
	comp=Z,4.9nm,0.9s							
MYKA	Terra Mystica	149.43	85	eP		PKiKP	01 00 16.6	+1.3
	comp=Z,3.1nm,0.5s							
KBA	Koelnbreinsper	149.50	84	eP		PKPbc	01 00 15.0	+0.4
	comp=Z,6.8nm,1.4s							
GRF	Grafenberg Arr	149.60	79	ePKPbc		PKiKP	01 00 15.8	+0.3
	baz=241,slow=3.0							
GRF				eL		L	02 11 58.2	
	comp=Z,96nm,19.9s							
OBKA	Obir	149.89	86	eP		PKiKP	01 00 18.2	+1.8
	comp=Z,6.6nm,1.1s							
GTA	Gaotai	149.93	256	ePKPbc		PKPbc	01 00 15.6	-0.2
SOKA	Soboth	150.26	86	eP		PKiKP	01 00 18.4	+1.3
	comp=Z,3.7nm,0.6s							
MOX	Moxa	150.27	77	eL		L	02 04 21.2	
	comp=Z,93nm,19.1s							
MOA	Molln	150.43	84	eP		PKPbc	01 00 16.3	-0.4
	comp=Z,10.0nm,1.5s							
GEC2	GERESS Array S	150.61	82	PKPbc		PKPbc	01 00 16.8	-0.3
GERES	GERESS Array B	150.61	82	PKPbc		PKPbc	01 00 16.5	-0.6
	comp=Z,3.3nm,0.8s,baz=212,slow=1.3,SNR=15							
GERES	GERESS Array B	150.61	82	PKPbc		PKPbc	01 00 16.9	-0.2
KHC	Kasperske Hory	150.68	81	ePKP		PKiKP	01 00 20.9	+3.1
KHC				ex		x	01 01 08.5	
ARSA	Arzberg	150.85	86	eP		PKPbc	01 00 17.5	-0.1
	comp=Z,7.5nm,1.3s							
CKRC	Cesky Krumlov	150.95	82	ePKP		PKPbc	01 00 17.8	0.0
SONM	Songino Array	151.20	275	PKPbc		PKiKP	01 00 19.7	+0.6
	comp=Z,1.8nm,0.8s,baz=180,slow=0.6,SNR=4.4							
SONM	Songino Array	151.20	275	PKPdf		PKPdf	01 00 13.3	+0.7
SONM						PKPbc	01 00 19.0	+0.5
SONM				PKPab		PKPab	01 00 27.2	+0.6
CLL	Collm	151.35	77	epPKPdf		pPKPdf	01 00 17.0	+1.8
CLL				epPKPbc		sPKPbc	01 00 24.0	+1.9
CLL				ePKPab		PKPab	01 00 28.0	+1.1
	comp=Z,15nm,1.4s							
CLL				epPKPab		sPKPab	01 00 33.0	+2.6
CONA	Conrad Observa	151.40	85	eP		PKPbc	01 00 19.6	+0.6
	comp=Z,6.8nm,1.5s							
PRU	Pruhonice	151.64	80	ePKPAB		PKPab	01 00 33.4	+5.3
BRG	Berggiesshubel	151.69	78	ePKP		PKPab	01 00 24.5	-3.8
BRG				Amp			01 00 31.1	
	comp=Z,10nm,1.5s							
OSTC	Ostas	152.85	80	ePKP		PKPbc	01 00 20.3	-1.8
BRTR	Keskin Array B	156.36	118	PKPab		PKPab	01 00 48.0	-0.6
	comp=Z,2.8nm,0.9s,baz=183,slow=5.3,SNR=3.6							
BUR08	Bucovina Ar. S	156.67	93	PKPdf		PKPdf	01 00 20.6	+0.2
MKAR	Makanchi Array	164.44	248	PKPab		PKPab	01 01 22.0	-1.5
	comp=Z,1.6nm,1.0s,baz=103,slow=3.1,SNR=5.7							
MKAR	Makanchi Array	164.44	248			PKPab	01 01 22.8	-0.8

IDC ***13*** *00:41:51.1±1.8, 32.°89S×178.°69W, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.8/41, mbtmp4.0/5, ML3.8/1, Error ellipse: s-maj=39.8km s-min=30.5km az=76.0*

NEIC ***13*** *00:41:55.4±0.9, 33.°0S±0.°1×178.°95W±0.°07, h10km±2km, mb4.3/7, Error ellipse: s-maj=23.3km s-min=9.6km az=8.0*

ISC 13 00:41:54.3±1.3, 32.°9S±0.°1×178.°9W±0.°2, h10km, n19, σ0s81/20, mb4.2/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	5.16	206	Pn	Pn	00 43 10.9	-0.5
URZ	Urewera	6.23	210	Pn	Pn	00 43 26.1	-0.1
	2.3nm,0.3s,baz=279,slow=4.7,SNR=9.7						
URZ				Sn	Sn	00 44 38.6	+1.1
	1.9nm,0.3s,baz=223,slow=19,SNR=2.0						
URZ	Urewera	6.23	210		Pn	00 43 25.9	-0.3
BKZ	Black Stump Fm	7.25	210	Pn	Pn	00 43 39.7	-0.7
BFZ	Birch Farm	8.66	205	Pn	Pn	00 43 57.6	-1.9
CTAO	Charters Tower	33.55	284	P	P	00 48 34.9	+0.4
AS31	Alice Springs	42.28	270	P	P	00 49 47.8	-0.4
AS31				IAmb	IAmb	00 49 53.1	
	comp=Z,1.3nm,1.2s						
ASAR	Alice Springs	42.28	270	P	P	00 49 48.0	-0.2
	comp=Z,1.0nm,0.7s,baz=112,slow=7.1,SNR=9.5						
ASAR	Alice Springs	42.28	270	P	P	00 49 47.5	-0.7
WR0	Warramunga Arr	43.32	275	P	P	00 49 56.7	+0.1
WR0				IAmb	IAmb	00 50 12.1	
	comp=Z,7.9nm,1.4s						
WRA	Warramunga Arr	43.50	275	P	P	00 49 57.8	-0.3
	comp=Z,1.7nm,0.5s,baz=117,slow=7.8,SNR=27						
WRA	Warramunga Arr	43.50	275	P	P	00 49 58.1	+0.1
FITZ	Fitzroy Crossi	51.64	272	P	P	00 51 01.1	-0.3
	comp=Z,1.2nm,0.8s,baz=115,slow=6.9,SNR=1.3						
FITZ	Fitzroy Crossi	51.64	272	P	P	00 51 00.9	-0.5
FITZ				IAmb	IAmb	00 51 08.8	
	comp=Z,7.7nm,1.4s						
QSPA	South Pole Qui	57.18	180	P	P	00 51 40.2	-1.1
	comp=Z,1.5nm,0.7s,baz=47,slow=1.5,SNR=6.6						
QSPA	South Pole Qui	57.18	180	P	P	00 51 41.1	-0.1
QSPA				IAmb	IAmb	00 51 42.4	
	comp=Z,1.9nm,0.8s						
SNAA	Sanae	75.65	179	P	P	00 53 40.9	+1.7
SNAA				IAmb	IAmb	00 53 52.7	
	comp=Z,7.6nm,1.5s						
FIA1	FINESS Array S	147.23	338	PKPdf	PKPdf	01 01 34.6	-0.1
FINES	FINESS Array B	147.23	338	PKPbc	PKPdf	01 01 34.5	-0.3
	comp=Z,1.2nm,0.5s,baz=55,slow=5.3,SNR=13						

IDC ***13*** *00:43:37.0±1.1, 54.°63S×119.°13W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/33, mbtmp4.1/4, Error ellipse: s-maj=54.2km s-min=29.8km az=172.0*

ISC 13 00:43:38.1±1.1, 54.°5S±0.°3×119.°2W±0.°2, h10km, n18, σ0s38/6, mb4.2/4, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMSA	Palmer Station	28.77	133	P	P	00 49 35.6	+0.1
	2.7nm,0.8s,baz=133,slow=19,SNR=1.3						
H03S2	Juan Fernandez	34.83	70	T	T	01 27 13.3	
	baz=218,slow=74						
H03S1	Juan Fernandez	34.83	70	T	T	01 27 15.2	
	baz=218,slow=74						
H03S3	Juan Fernandez	34.85	70	T	T	01 27 08.3	
	baz=218,slow=74						
H03N3	Juan Fernandez	35.12	70	T	T	01 27 25.2	
	baz=221,slow=72						
H03N2	Juan Fernandez	35.12	70	T	T	01 27 33.5	
	baz=221,slow=72						
H03N1	Juan Fernandez	35.13	70	T	T	01 27 21.2	
	baz=221,slow=72						
SIV	San Ignacio	58.74	73	P	P	00 53 36.1	0.0
	2.2nm,0.8s,baz=250,slow=11,SNR=6.8						
H01W1	Cape Leeuwin H	79.88	222	T	T	02 24 31.0	
	baz=151,slow=76						
H01W2	Cape Leeuwin H	79.88	222	T	T	02 24 32.1	
	baz=151,slow=76						
H01W3	Cape Leeuwin H	79.89	222	T	T	02 24 31.0	
	baz=151,slow=76						
ASAR	Alice Springs	80.31	243	P	P	00 55 49.4	0.0
	0.8nm,0.9s,baz=153,slow=6.3,SNR=3.5						
WRA	Warramunga Arr	83.14	245	P	P	00 56 04.1	-0.2
	2.7nm,0.9s,baz=146,slow=5.2,SNR=6.9						
H11N3	WAKE ISLAND Hy	96.88	294	T	T	02 45 21.0	
	baz=145						
H11N1	WAKE ISLAND Hy	96.89	294	T	T	02 45 17.1	
	baz=145						
H11N2	WAKE ISLAND Hy	96.90	294	T	T	02 45 18.7	
	baz=145						
TIXI	Tiksi	147.06	327	PKPbc	PKPab	01 03 21.5	+0.4
	1.0nm,0.3s,baz=314,slow=6.9,SNR=3.6						
GERES	GERESS Array B	150.69	81	PKPbc	PKPbc	01 03 29.1	-0.5
	0.7nm,0.8s,baz=259,slow=2.0,SNR=4.3						

IDC 13 00:53:55.5±2.0, 54.°55S×119.°01W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/29, mbtmp3.8/3, MS3.8/5, Ms1 3.9/5, ms1mx3.5/33, Error ellipse: s-maj=60.8km s-min=59.4km az=153.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RKT	Rikitea	33.59	333	eT	T	01 35 56.3	
	1.4nm,0.2s						
PLCA	Paso Flores	34.72	87	LR	LR	01 11 45.1	
	comp=Z,128nm,19.8s,baz=185,slow=31						
H03S2	Juan Fernandez	34.76	70	T	T	01 37 32.7	
	baz=219,slow=74						
H03S1	Juan Fernandez	34.77	70	T	T	01 37 26.3	
	baz=219,slow=74						
H03S3	Juan Fernandez	34.78	70	T	T	01 37 32.7	
	baz=219,slow=74						
H03N3	Juan Fernandez	35.05	70	T	T	01 37 47.6	
	baz=222,slow=72						
H03N2	Juan Fernandez	35.06	70	T	T	01 37 47.6	
	baz=222,slow=72						
H03N1	Juan Fernandez	35.07	70	T	T	01 37 47.6	
	baz=222,slow=72						
QSPA	South Pole Qui	35.64	180	P	P	01 00 54.8	0.0
	0.9nm,0.9s,baz=121,slow=2.5,SNR=2.4						
TBI	Tubuai	38.57	312	eLR	LR	01 11 58.3	
	comp=Z,239nm,30.8s						
TBI	Tubuai	38.57	312	eT	T	01 42 14.7	
	3.8nm,0.2s						
PPT2	Papeete2	43.73	315	eLR	LR	01 14 21.9	
	comp=Z,261nm,26.0s						
PPT	Papeete	43.75	315	LR	LR	01 16 08.9	
	comp=Z,101nm,19.7s,baz=198,slow=30						
LPAZ	La Paz	54.58	66	LR	LR	01 20 53.7	
	comp=Z,58nm,21.1s,baz=90,slow=30						
HNR	Honiara	77.19	272	LR	LR	01 33 44.2	
	comp=Z,206nm,20.1s,baz=268,slow=31						
LPIG	La Paz	78.68	8	LR	LR	01 33 19.0	
	comp=Z,49nm,18.4s,baz=202,slow=30						
H01W1	Cape Leeuwin H	79.88	222	T	T	02 34 52.4	
	baz=151,slow=76						
H01W2	Cape Leeuwin H	79.88	222	T	T	02 34 53.5	
	baz=151,slow=76						
H01W3	Cape Leeuwin H	79.90	222	T	T	02 34 53.5	
	baz=151,slow=76						
ASAR	Alice Springs	80.36	243	P	P	01 06 08.3	-0.3
	0.5nm,0.9s,baz=146,slow=6.7,SNR=2.7						
WRA	Warramunga Arr	83.19	245	P	P	01 06 23.9	+0.3
	1.5nm,0.8s,baz=149,slow=4.9,SNR=5.9						
H11N3	WAKE ISLAND Hy	97.01	294	T	T	02 55 37.5	
	baz=145,slow=75						
H11N1	WAKE ISLAND Hy	97.02	294	T	T	02 55 42.0	
	baz=145,slow=75						
H11N2	WAKE ISLAND Hy	97.03	294	T	T	02 55 40.2	
	baz=145,slow=75						
GERES	GERESS Array B	150.60	81	PKPbc	PKPbc	01 13 48.0	-0.4
	0.6nm,0.8s,baz=241,slow=4.0,SNR=3.2						

IDC ***13*** *00:54:37.6±1.4, 32.°61S×178.°26W, h0km, mb4.3/2, mb1 4.4/4, mb1mx3.9/34, mbtmp4.2/4, ML3.8/2, Error ellipse: s-maj=44.5km s-min=29.1km az=136.0*

NEIC ***13*** *00:54:40.9±1.1, 32.°7S±0.°1×178.°4W±0.°2, h10km±1km, mb4.5/10, Error ellipse: s-maj=26.7km s-min=19.5km az=91.0*

WEL ***13*** *00:54:41.0±0.8, 33.°S±6.°×17.°8W±1.°4, h33km, M4.4/12, mB4.8/7, ML5.0/19, MLv4.7/12, Mw(mB)4.1/7, Error ellipse: s-maj=0.0km s-min=0.0km az=109.1*

ISC 13 00:54:40.1±0.8, 32.°61S±0.°06×178.°1W±0.°1, h20km, n59, σ1s75/74, mb4.6/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	Green Lake	3.34	2	P	Pn	00 55 29.8	-1.3
GLKZ				S	Sn	00 56 06.9	-3.3
MXZ	Matakaoa Point	5.76	210	Pn	Pn	00 56 03.8	-0.6
MXZ	Matakaoa Point	5.76	210	P	Pn	00 56 04.4	0.0
MXZ				S	Sn	00 57 07.6	-2.3
WMGZ	Waiomatatini S	5.94	208	P	Pn	00 56 08.7	+1.9
WMGZ				S	Sn	00 57 15.3	+1.1
PKGZ	Pakihiroa	6.13	210	P	Pn	00 56 09.0	-0.6
PKGZ				S	Sn	00 57 18.9	-0.3
HAZ	Te Kaha	6.15	212	P	Pn	00 56 09.4	-0.3
HAZ				S	Sn	00 57 21.1	+1.6
PUZ	Puketiti	6.22	208	P	Pn	00 56 11.9	+1.2
PUZ				S	Sn	00 57 20.2	-1.0
RUGZ	Raukumara Rang	6.37	212	P	Pn	00 56 12.5	-0.4
RUGZ				S	Sn	00 57 24.1	-1.0
TWGZ	Tauwhareparae	6.42	209	P	Pn	00 56 14.2	+0.7
TWGZ				S	Sn	00 57 25.8	-0.4
CNGZ	Carnagh Stat

comp=Z,0.9nm,0.9s,baz=117,slow=1.7,SNR=6.3
FIA1 **FINESS Array S 147.18 339** PKPdf **PKPdf 01 14 21.5 +2.7**
FINES **FINESS Array B 147.18 339** PKPbc **PKPdf 01 14 20.9 +2.1**
comp=Z,4.9nm,0.7s,baz=38,slow=3.1,SNR=18
FINES **FINESS Array B 147.18 339** **PKPdf 01 14 21.4 +2.6**
NC303 **NORSAR Array S 150.72 351** PKPbc **PKPbc 01 14 31.1 +1.0**
NB2 **NORSAR Subarra 150.92 351** PKP **PKPbc 01 14 31.6 +1.0**
comp=Z,3.3nm,1.2s,baz=30,slow=2.5
NOA **NORSAR Array B 150.92 351** PKPbc **PKPbc 01 14 32.4 +1.8**
comp=Z,1.2nm,0.8s,baz=13,slow=4.1,SNR=3.2
HFS **Hagfors 151.38 348** PKPbc **PKPbc 01 14 31.8 +0.2**
comp=Z,1.9nm,0.7s,baz=56,slow=7.7,SNR=2.4
MMAI **Mount Meron Ar 151.92 280** PKPbc **PKPbc 01 14 35.2 +1.4**
comp=Z,2.5nm,0.7s,baz=96,slow=1.4,SNR=4.5
AKASG **Malin Array Be 152.98 320** PKPbc **PKPbc 01 14 36.1 +0.6**
BRTR **Keskin Array B 153.52 295** PKPbc **PKPbc 01 14 36.7 -0.6**
comp=Z,0.7nm,0.6s,baz=146,slow=2.7,SNR=2.5

*IDC **13** 00:58:27.2±0.8,52.˚42N×169.˚73W,h0km,mb4.1/23, mb1 4.2/25,mb1mx4.0/79,mbtmp4.0/25,ML3.6/2,MS3.2/1, Ms1 3.2/1,ms1mx2.6/53,Error ellipse: s-maj=23.7km s-min=13.4km az=175.0*
*NEIC **13** 00:58:28.9±3.0,52.˚12N±0.˚04×169.˚41W±0.˚09,h10km±1km, mb4.2/51,ML3.9/37(AEIC),Error ellipse: s-maj=9.8km s-min=6.4km az=288.0*
*AEIC **13** 00:58:30.9±2.9,52.˚25N±0.˚04×169.˚46W±0.˚08,h14km±4km, Error ellipse: s-maj=7.3km s-min=5.5km az=96.0*

ISC 13 00:58:31.7±1.6,52.˚30N±0.˚09×169.˚43W±0.˚05,h33km±9km, n148,σ1§55/145,mb4.1/34,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.76**	**27**	**Pg**	**Pn**	**00 58 46.5**	**+0.4**
NIKH					**Sn**	**00 58 57.8**	**+1.4**
OKSP	**Okmok Steeple**	**1.18**	**36**		**Pb**	**00 58 52.7**	**-0.9**
OKSO	**Okmok South**	**1.31**	**36**		**Pb**	**00 58 55.3**	**-0.4**
OKSO					**Sb**	**00 59 13.9**	**+1.7**
OKTU	**Okmok Mt. Tuli**	**1.38**	**37**		**Pb**	**00 58 56.1**	**-0.7**
OKFG	**Magazine Ridge**	**1.45**	**39**		**Pb**	**00 58 56.8**	**-1.2**
OKFG					**Sb**	**00 59 16.7**	**+0.7**
MAPS	**Pakushin South**	**2.13**	**44**		**Pn**	**00 59 06.4**	**+1.4**
MAPS					**Sb**	**00 59 34.8**	**-0.9**
MREP	**Makushin Rep't**	**2.22**	**46**		**Pb**	**00 59 08.3**	**-2.8**
MSW	**Makushin Switc**	**2.27**	**44**		**Pb**	**00 59 09.1**	**-2.9**
MNAT	**Makushin Natee**	**2.29**	**45**		**Pb**	**00 59 09.4**	**-3.0**
UNV	**Unalaska Valle**	**2.35**	**48**		**Pn**	**00 59 09.7**	**+1.8**
UNV				Sn	**Sn**	**00 59 38.2**	**+2.6**
MTBL	**Makushin Table**	**2.36**	**44**		**Pb**	**00 59 10.6**	**-2.9**
AKMO	**Akutan Morgan**	**2.73**	**48**		**Pn**	**00 59 15.7**	**+2.5**
AKLV	**Akutan Long Va**	**2.80**	**47**		**Pb**	**00 59 17.0**	**-4.0**
AKGG	**Akutan Green G**	**2.81**	**46**		**Pn**	**00 59 16.3**	**+2.0**
KOSE	**Korovin Southe**	**2.83**	**273**		**Pn**	**00 59 15.2**	**+0.5**
KOFP	**Korovin Flat P**	**2.87**	**271**		**Pn**	**00 59 15.5**	**+0.4**
AKUT	**Akutan**	**2.87**	**49**	Pn	**Pn**	**00 59 17.4**	**+2.4**
KOKL	**Mount Kliuchef**	**2.93**	**272**		**Pn**	**00 59 16.2**	**+0.3**
ATKA	**Atka Island**	**2.93**	**270**	Pn	**Pn**	**00 59 15.4**	**-0.5**
WESN	**West Dahl Nort**	**3.69**	**50**		**Pn**	**00 59 29.2**	**+2.9**
GSTR	**Great Sitkin T**	**4.08**	**270**		**Pn**	**00 59 31.8**	**0.0**
GSTD	**Great Sitkin T**	**4.14**	**269**		**Pn**	**00 59 33.3**	**+0.7**
GSCK	**Great Sitkin C**	**4.16**	**269**		**Pn**	**00 59 34.0**	**+1.2**
ADAG	**Mount Adagdak**	**4.43**	**269**		**Pn**	**00 59 38.0**	**+1.5**
ADK	**Adak**	**4.49**	**268**	Pn	**Pn**	**00 59 38.0**	**+0.6**
KIWB	**Kanaga Island**	**4.78**	**268**	Pn	**Pn**	**00 59 42.6**	**+1.2**
KIMD	**Kanaga Island**	**4.85**	**267**		**Pn**	**00 59 43.8**	**+1.5**
SPIA	**Saint Paul Isl**	**4.91**	**355**	Pn	**Pn**	**00 59 45.4**	**+2.3**
TASE	**Tanaga Southea**	**5.33**	**268**		**Pn**	**00 59 50.8**	**+1.9**
SDPT	**Sand Point**	**6.12**	**57**	Pn	**Pn**	**01 00 03.0**	**+3.3**
AMKA	**Amchitka**	**7.04**	**267**	Pn	**Pn**	**01 00 13.9**	**+1.5**
CHGN	**Chignik**	**7.59**	**54**	Pn	**Pn**	**01 00 23.1**	**+3.2**
OHAK	**Old Harbor**	**10.54**	**56**	Pn	**Pn**	**01 01 00.7**	**+0.4**
O18K	**Koktuh Hills**	**10.96**	**41**	Pn	**Pn**	**01 01 08.3**	**+2.3**
KDAK	**Kodiak Island**	**11.10**	**54**	Pn	**Pn**	**01 01 07.3**	**-0.6**
	0.6nm,0.3s,baz=148,slow=14,SNR=1.6						
KDAK				Sn	**Sn**	**01 03 04.9**	**-5.9**
	0.1nm,0.3s,baz=316,slow=17,SNR=2.0						
KDAK	**Kodiak Island**	**11.10**	**54**	Pn	**Pn**	**01 01 08.6**	**+0.6**
Q19K	**Cape Douglas,**	**11.11**	**47**	Pn	**Pn**	**01 01 11.3**	**+3.2**
SVW2	**Sparrevohn**	**11.62**	**35**	Pn	**Pn**	**01 01 17.5**	**+2.5**
CNPM	**China Poot**	**12.48**	**47**	Pn	**Pn**	**01 01 28.1**	**+1.3**
M19K	**Big River Lodg**	**12.59**	**34**		**Pn**	**01 01 31.4**	**+3.0**
L19K	**White Mountain**	**12.63**	**33**	Pn	**Pn**	**01 01 30.8**	**+2.0**
SEW	**Seward**	**13.55**	**47**	Pn	**Pn**	**01 01 42.2**	**+0.9**
SUA	**Susitna One**	**13.68**	**41**	Pn	**Pn**	**01 01 45.6**	**+2.3**
K20K	**Telida**	**13.73**	**30**	Pn	**Pn**	**01 01 46.9**	**+3.1**
J20K	**Nowinta River**	**14.32**	**28**	Pn	**Pn**	**01 01 54.7**	**+2.9**
PWL	**Port Wells**	**14.38**	**45**	Pn	**Pn**	**01 01 52.3**	**-0.5**
KNK	**Knik Glacier**	**14.59**	**43**	Pn	**Pn**	**01 01 57.5**	**+1.9**
SML	**Sawmill**	**14.84**	**42**	Pn	**P**	**01 02 02.1**	**-2.4**
BPAW	**Bear Paw Mtn.**	**15.23**	**32**	Pn	**P**	**01 02 07.9**	**-0.7**
BPAW				IAmb	IAmb	01 02 10.0	
	comp=Z,9.2nm,0.6s						
SCM	**Sheep Creek Mo**	**15.27**	**43**	Pn	**Pn**	**01 02 04.7**	**0.0**
SCM				IAmb	IAmb	01 02 10.4	
	comp=Z,19nm,1.0s						
KLU	**Klutina**	**15.71**	**45**		**Pn**	**01 02 09.9**	**-0.5**
KLU				IAmb	IAmb	01 02 17.3	
	comp=Z,7.6nm,0.7s						
IMAR	**Indian Mountai**	**15.83**	**24**	P	**P**	**01 02 16.0**	**+0.7**
RAGM	**Ragged Mountai**	**15.85**	**50**	Pn	**Pn**	**01 02 13.1**	**+1.0**
RAGM				IAmb	IAmb	01 02 27.9	
	comp=Z,23nm,1.0s						
M24K	**Tolsona, Glenn**	**15.88**	**43**	Pn	**Pn**	**01 02 11.5**	**-1.0**
M24K				IAmb	IAmb	01 02 17.6	
	comp=Z,36nm,1.3s						
MLY	**Manley**	**15.95**	**30**	Pn	**P**	**01 02 15.8**	**-0.8**
HMT	**Hamilton**	**16.03**	**50**	Pn	**Pn**	**01 02 14.8**	**+0.4**
HMT				IAmb	IAmb	01 02 37.3	
	comp=Z,38nm,1.3s						
BMRM	**Bremner River**	**16.09**	**48**		**P**	**01 02 18.7**	**+0.4**
BMRM				IAmb	IAmb	01 02 36.4	
	comp=Z,32nm,1.3s						
BERG	**Berg Lake**	**16.31**	**50**	Pn	**Pn**	**01 02 18.4**	**+0.4**
BERG				IAmb	IAmb	01 02 30.8	
	comp=Z,37nm,1.3s						
N25K	**Chitina, Valde**	**16.34**	**46**	Pn	**Pn**	**01 02 18.8**	**+0.4**
I23K	**Minto, Yukon-K**	**16.45**	**31**	P	**P**	**01 02 22.4**	**+0.2**
I23K				IAmb	IAmb	01 02 30.4	
	comp=Z,12nm,1.4s						
PAX	**Paxson**	**16.58**	**41**	Pn	**P**	**01 02 22.7**	**-1.0**
CCB	**Clear Creek Bu**	**16.64**	**34**		**Pn**	**01 02 22.0**	**-0.1**
MDM	**Murphy Dome**	**16.70**	**32**	Pn	**Pn**	**01 02 23.2**	**+0.4**
IL31		**17.03**	**34**	Pn	**P**	**01 02 27.8**	**-0.8**
ILAR	**Eielson Array**	**17.03**	**34**	Pn	**Pn**	**01 02 25.9**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=224,slow=11,SNR=14						
ILAR				PcP	**PcP**	**01 07 11.3**	**+0.4**
	comp=Z,0.0nm,0.3s,baz=282,slow=3.2,SNR=4.1						
ILAR	**Eielson Array**	**17.03**	**34**	Pn	**P**	**01 02 28.5**	**-0.1**
RIDG	**Independent Ri**	**17.21**	**39**		**P**	**01 02 31.1**	**+0.5**
RIDG				IAmb	IAmb	01 02 44.5	
	comp=Z,15nm,1.5s						
M26K	**Nabesna, AK**	**17.35**	**44**	Pn	**P**	**01 02 31.8**	**-0.3**
H24K	**Noodor Dome**	**17.38**	**30**		**P**	**01 02 32.8**	**+0.4**
BARN	**Barnard Glacie**	**17.47**	**49**	P	**P**	**01 02 34.9**	**+1.2**
TABL	**Table Mountain**	**17.54**	**51**		**P**	**01 02 36.1**	**+1.6**
TABL				IAmb	IAmb	01 02 46.5	
	comp=Z,18nm,1.1s						
M27K	**Edge Creek, AK**	**17.81**	**45**	Pn	**Pn**	**01 02 37.0**	**+0.2**
L27K	**Beaver Creek,**	**18.11**	**43**		**P**	**01 02 41.3**	**+0.8**
BCAR	**Beaver Creek A**	**18.13**	**43**		**P**	**01 02 42.5**	**+1.8**
HYT	**Haines Junctio**	**19.38**	**51**	P	**Pn**	**01 02 57.2**	**+1.5**
BMAR	**Burnt Mountain**	**19.41**	**29**	P	**Pn**	**01 02 56.9**	**+0.8**
DAWY	**Dawson**	**19.51**	**41**	P	**P**	**01 02 56.4**	**+0.5**
DAWY				IAmb	IAmb	01 03 21.2	
	comp=Z,8.7nm,1.4s						
PEA0B	**Petropavlovsk-**	**19.84**	**285**	P	**P**	**01 02 59.5**	**-0.1**
PETK	**Petropavlovsk-**	**19.84**	**285**	P	**P**	**01 02 58.6**	**-0.9**
	comp=Z,1.5nm,0.3s,baz=91,slow=13,SNR=26						
SKAG	**Skagway**	**20.24**	**56**	P	Pn	01 03 04.9	-1.0
WHY	**Whitehorse**	**20.61**	**52**	P	Pn	01 03 10.3	0.0
WHY				IAmb	IAmb	01 03 34.4	
	comp=Z,6.7nm,0.7s						
EPYK	**Eagle Plains**	**21.48**	**37**	P	**P**	**01 03 16.4**	**-0.8**
EPYK				IAmb	IAmb	01 03 18.4	
	comp=Z,9.1nm,0.9s						
SEY	**Seymchan**	**22.69**	**313**	LR	LR	01 12 52.8	
	comp=Z,60nm,18.5s,baz=120,slow=38						
DLBC	**Dease Lake**	**22.95**	**59**	P	**P**	**01 03 34.9**	**+1.9**
	comp=Z,3.3nm,0.7s,baz=290,slow=9.6,SNR=5.6						
DLBC	**Dease Lake**	**22.95**	**59**	P	**P**	**01 03 35.2**	**+2.2**
DLBC				IAmb	IAmb	01 03 39.9	
	comp=Z,8.4nm,1.1s						
INK	**Inuvik**	**23.43**	**33**	P	**P**	**01 03 36.9**	**-0.5**
	comp=Z,5.5nm,1.0s,baz=148,slow=2.5,SNR=4.6						
INK	**Inuvik**	**23.43**	**33**	P	**P**	**01 03 37.1**	**-0.3**
INK				IAmb	IAmb	01 03 41.8	
	comp=Z,5.4nm,1.1s						
KLR	**Kul'dur**	**36.45**	**289**	P	**P**	**01 05 31.4**	**-1.8**
	comp=Z,1.6nm,0.6s,baz=50,slow=6.0						
MCMT	**McKenzie Canyo**	**37.33**	**78**	P	**P**	**01 05 42.6**	**+1.6**
H11N2	**WAKE ISLAND Hy**	**37.37**	**219**	T	T	01 45 31.6	
	baz=24,slow=76						
H11N3	**WAKE ISLAND Hy**	**37.38**	**219**	T	T	01 45 29.9	
	baz=24						
H11N1	**WAKE ISLAND Hy**	**37.39**	**219**	T	T	01 45 29.9	
	baz=24,slow=76						
EGMT	**Eagleton**	**37.52**	**72**	P	**P**	**01 05 44.6**	**+2.2**
NVAR	**Mina Array Bea**	**37.70**	**91**	P	**P**	**01 05 46.6**	**+2.5**
	comp=Z,0.2nm,0.5s,baz=303,slow=8.4,SNR=1.7						
YHH	**Holmes Hill**	**38.55**	**77**	P	**P**	**01 05 52.7**	**+1.4**
YHH				IAmb	IAmb	01 05 54.8	
	comp=Z,7.9nm,1.4s						
H11S1	**WAKE ISLAND Hy**	**38.56**	**218**	T	T	01 46 58.5	
	baz=23,slow=76						
H11S2	**WAKE ISLAND Hy**	**38.58**	**218**	T	T	01 46 59.4	
	baz=23,slow=76						
H11S3	**WAKE ISLAND Hy**	**38.58**	**218**	T	T	01 46 58.9	
	baz=23,slow=76,SNR=118						
MJAR	**Matsushiro Arr**	**39.66**	**268**	P	**P**	**01 05 59.7**	**-0.6**
	comp=Z,1.5nm,0.9s,baz=86,slow=9.5,SNR=4.3						
MJAR	**Matsushiro Arr**	**39.66**	**268**	IAmb	IAmb	01 06 03.8	
	comp=Z,2.4nm,1.2s						
MJB9	**Matsu-Tunnel**	**39.66**	**268**	P	**P**	**01 06 00.6**	**+0.3**
BW06	**Boulder Array**	**40.45**	**79**	P	**P**	**01 06 08.9**	**+1.8**
BW06				IAmb	IAmb	01 06 09.7	
	comp=Z,2.0nm,0.7s						
PD31	**Pinedale Array**	**40.45**	**79**	P	**P**	**01 06 09.1**	**+2.0**
PD31				IAmb	IAmb	01 06 09.7	
	comp=Z,1.7nm,0.7s						
PDAR	**Pinedale Array**	**40.45**	**79**	P	**P**	**01 06 08.8**	**+1.6**
	comp=Z,1.6nm,0.6s,baz=309,slow=5.2,SNR=12						
PDAR	**Pinedale Array**	**40.45**	**79**	P	**P**	**01 06 08.9**	**+1.8**
O20A	**White River Ci**	**42.81**	**81**	P	**P**	**01 06 28.1**	**+1.7**
O20A				IAmb	IAmb	01 06 29.1	
	comp=Z,4.6nm,0.8s						
PV03	**Paradox Valley**	**43.61**	**84**	P	**P**	**01 06 34.8**	**+1.9**
PV03				IAmb	IAmb	01 06 52.2	
	comp=Z,2.9nm,1.1s						
SONM	**Songino Array**	**51.30**	**301**	PcP	**PcP**	**01 08 46.4**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=118,slow=2.5,SNR=3.8						
TX31	**Lajitas Ar. Si**	**52.79**	**89**	P	**P**	**01 07 45.0**	**+1.3**
TX31				IAmb	IAmb	01 08 12.2	
	comp=Z,6.5nm,1.2s						
TXAR	**Lajitas Array**	**52.79**	**89**	P	**P**	**01 07 45.0**	**+1.3**
	comp=Z,0.9nm,0.9s,baz=292,slow=5.5,SNR=8.5						
TXAR	**Lajitas Array**	**52.79**	**89**	P	**P**	**01 07 45.0**	**+1.3**
P40A	**Paris**	**52.84**	**71**	P	**P**	**01 07 44.2**	**+0.3**
HHC	**Hu-ho-hao-te**	**52.91**	**291**	*eP*	**P**	**01 07 44.4**	**-0.1**
HHC				pmax	pmax		
	comp=Z,21nm,1.2s						
HHC				pmax	pmax		
	comp=Z,75nm,5.9s						
ZALV	**Zalesovo Beam**	**57.45**	**318**	P	**P**	**01 08 14.1**	**-2.7**
	comp=Z,0.5nm,0.4s,baz=54,slow=7.3,SNR=2.3						
ARCES	**ARCESS Array B**	**57.99**	**354**	P	**P**	**01 08 19.6**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=27,slow=5.6,SNR=8.3						
ARCES				PcP	**PcP**	**01 09 11.7**	**-0.5**
	comp=Z,2.9nm,0.9s,baz=10,slow=5.6,SNR=4.0						
KURK	**Kurchatov**	**62.40**	**318**	P	**P**	**01 08 50.9**	**0.0**
KURBB	**Kurchatov Arra**	**62.51**	**318**	P	**P**	**01 08 50.9**	**-0.7**
	comp=Z,2.4nm,0.8s,baz=44,slow=7.1,SNR=19						
BVAR	**Borovoye Array**	**63.74**	**324**	P	**P**	**01 08 59.0**	**-0.7**
	comp=Z,3.3nm,0.6s,baz=90,slow=3.0,SNR=24						
BRVK	**Borovoye**	**63.75**	**324**	P	**P**	**01 08 59.7**	**-0.1**
BRVK				IAmb	IAmb	01 09 01.3	
	comp=Z,3.2nm,1.1s						
MK31	**Makanchi Array**	**63.83**	**313**	P	**P**	**01 08 59.7**	**-0.7**
MK31				IAmb	IAmb	01 09 26.5	
	comp=Z,2.0nm,1.3s						
MKAR	**Makanchi Array**	**63.83**	**313**	P	**P**	**01 08 59.6**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=46,slow=8.7,SNR=7.1						
MKAR	**Makanchi Array**	**63.83**	**313**	P	**P**	**01 08 59.8**	**-0.6**
NOA	**NORSAR Array B**	**67.01**	**360**	P	**P**	**01 09 20.4**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=0.2,slow=6.7,SNR=3.3						
HFS	**Hagfors**	**67.89**	**358**	P	**P**	**01 09 25.4**	**-0.9**
	comp=Z,1.3nm,0.4s,baz=20,slow=4.9,SNR=11						
AAK	**Ala-Archa**	**70.52**	**315**	P	**P**	**01 09 42.7**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=100,slow=3.6,SNR=6.3						
AAK	**Ala-Archa**	**70.52**	**315**	IAmb	IAmb	01 09 44.7	
	comp=Z,2.3nm,0.8s						
BELG	**Belogornoye**	**71.14**	**337**	P	**P**	**01 09 46.1**	**-0.3**
	comp=Z,8.6nm,0.9s,baz=134,slow=2.1,SNR=4.2						
KKAR	**Karatay Array**	**71.82**	**318**	P	**P**	**01 09 50.6**	**-0.2**
KKAR	**Karatay Array**	**71.82**	**318**	P	**P**	**01 09 50.8**	**0.0**
KKAR				IAmb	IAmb	01 10 15.5	
	comp=Z,4.0nm,1.2s						
EKA	**Eskdalemuir Ar**	**72.13**	**8**	P	**P**	**01 09 52.7**	**+0.3**
	comp=Z,3.7nm,0.9s,baz=347,slow=4.5,SNR=3.6						
GAR	**Garm**	**75.31**	**316**	P	**P**	**01 10 11.7**	**+0.2**
CHGR	**Chuyangaron**	**76.09**	**316**	P	**P**	**01 10 16.4**	**+0.4**
AKASG	**Malin Array Be**	**76.17**	**348**	P	**P**	**01 10 14.9**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=13,slow=5.3,SNR=2.4						
CMAR	**Chiang Mai Arr**	**76.59**	**282**	P	**P**	**01 10 19.4**	**+0.5**
	comp=Z,1.9nm,0.4s,baz=26,slow=7.0,SNR=15						
CMAR	**Chiang Mai Arr**	**76.59**	**283**	P	**P**	**01 10 19.1**	**+0.1**
NIL	**Nilore**	**78.45**	**311**	P	**P**	**01 10 28.7**	**-0.4**
GERES	**GERESS Array B**	**79.20**	**358**	P	**P**	**01 10 34.0**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=14,slow=5.2,SNR=3.5						
KBL	**Kabul**	**79.61**	**314**	P	**P**	**01 10 34.2**	**-1.5**
BURAR	**Bucovina Array**	**79.68**	**350**	P	**P**	**01 10 36.3**	**+0.5**
BURAR				IAmb	IAmb	01 10 36.6	
	comp=Z,1.7nm,1.0s						
DAVOX	**Davos/Dischmat**	**81.30**	**0**	P	**P**	**01 10 45.5**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=333,slow=14,SNR=2.5						
ZOU	**Zoufplan**	**81.50**	**358**	P	**P**	**01 10 46.5**	**+0.9**
ESDC	**Sonseca Array**	**87.53**	**11**	P	**P**	**01 11 15.8**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=340,slow=4.9,SNR=11						
ESDC	**Sonseca Array**	**87.53**	**11**	P	**P**	**01 11 16.7**	**+0.6**
ASAR	**Alice Springs**	**90.32**	**230**	P	**P**	**01 11 29.2**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=29,slow=4.2,SNR=6.9						
ASAR	**Alice Springs**	**90.32**	**230**	P	**P**	**01 11 29.0**	**-0.2**
TSUM	**Tsumeb**	**146.52**	**348**	PKPbc	**PKPdf**	**01 18 08.9**	**+0.7**
	comp=Z,3.8nm,0.8s,baz=343,slow=10,SNR=4.3						
LBTB	**Lobatse**	**150.46**	**332**	PKPbc	**PKPbc**	**01 18 18.8**	**-0.9**
	comp=Z,2.2nm,0.6s,baz=80,slow=1.0,SNR=5.7						
BOSA	**Boshof**	**153.94**	**330**	PKPbc	**PKPbc**	**01 18 27.1**	**-0.4**
	comp=Z,2.2nm,0.9s,baz=21,slow=5.6,SNR=2.0						

IDC 13 01:04:04.2±2.9,32.˚64S×178.˚32W,h0km,mb3.8/2, mb1 4.0/3,mb1mx3.7/37,mbtmp3.8/3,ML3.4/1,Error ellipse: s-maj=68.9km s-min=36.4km az=118.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.73**	**212**	Pn	Pn	01 05 44.1	-0.2
	0.7nm,0.3s,baz=300,slow=16,SNR=2.1						
URZ				Sn	Sn	01 07 00.1	-1.6
	3.2nm,0.3s,baz=60,slow=23,SNR=11						
ASAR	**Alice Springs**	**42.76**	**269**	P	P	01 12 03.7	+0.1
	0.7nm,0.6s,baz=105,slow=7.3,SNR=15						
WRA	**Warramunga Arr**	**43.95**	**275**	P	P	01 12 13.3	0.0
	1.2nm,0.6s,baz=113,slow=7.9,SNR=22						
FINES	**FINESS Array B**	**147.13**	**339**	PKPbc	PKPbc	01 23 47.5	-0.9
	1.9nm,0.8s,baz=57,slow=5.1,SNR=8.4						

*BGR **13** 01:04:32.6±0.6,43.˚22N×11.˚23E,h10km,ML4.2,Error ellipse: s-maj=11.1km s-min=7.8km az=24.0*
*IDC **13** 01:04:34.0±1.1,43.˚63N×11.˚47E,h0km,mb3.7/7, mb1 3.8/12,mb1mx3.6/67,mbtmp3.7/12,ML3.6/5,MS2.9/5, Ms1 2.9/5,ms1mx2.6/54,Error ellipse: s-maj=27.3km s-min=13.2km az=110.0*
*GEN **13** 01:04:34, 43.˚61N×11.˚40E,h9km±10km,Ml3.9*
*ROM **13** 01:04:35.0±0.1,43.˚605N±0.˚004×11.˚230E±0.˚004, h9km,ML3.8/11,Error ellipse: s-maj=0.4km s-min=0.1km az=38.0*
*PRU **13** 01:04:35.3±0.0,43.˚55N×11.˚21E,h19km,M4.0*
*LDG **13** 01:04:35.0±0.2,43.˚52N×11.˚09E,h7km,Md3.6/1,Ml3.6/42, Error ellipse: s-maj=4.3km s-min=3.4km az=15.0*
*NEIC **13** 01:04:35.1±2.8,43.˚56N±0.˚02×11.˚28E±0.˚05,h4km±5km, mb4.2/5,Error ellipse: s-maj=5.6km s-min=2.9km az=83.0*
*MED_RC **13** 01:04:35.0±0.6,43.˚59N×11.˚26E,h10km,MW4.0/10, Moment Tensor Solution.Mantle waves: s10,c14;*

Duration: 1§0 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.42±.11; $M_{\theta\theta}$0.32±.09; $M_{\phi\phi}$0.10±.09; $M_{r\theta}$-0.74±.27; $M_{\theta\phi}$-1.07±.06; $M_{r\phi}$0.16±.31; Best double couple: $M_0$1.32000×10^{15} NP1:φs356.00000°,δ51.00000°, λ-13.00000°. NP2:φs94.00000°,δ80.00000°, λ-140.00000°. Principal axes: T 1.5200, Plg19.0000°, Azm219.0000°; N -0.3800, Plg49.0000°, Azm105.0000°; P -1.1300, Plg35.0000°, Azm323.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.
*STR **13** 01:04:46.9±3.1,43.˚8±1.˚1E±2.˚8,h10km,MLv3.6/10, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/haslach_taup-2.11*

ISC 13 01:04:35.3±0.7,43.˚57N±0.˚02×11.˚20E±0.˚01,h13km±5km, n367,σ2§27/492,mb4.0/9,22C-70D,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSNT	**Castellina Chi**	**0.12**	**148**	⇓P	**Pg**	**01 04 38.3**	**-0.3**
CSNT				S	**Sg**	**01 04 40.6**	**-0.3**
CSNT				AML	AML		
	comp=E,91100μm,0.8s						
CSNT				AML	AML		
FIR	**Firenze**	**0.20**	**11**	⇑P	**Pg**	**01 04 39.2**	**-0.7**
FIR				S	**Sg**	**01 04 42.0**	**-0.9**
CRMI	**Carmignano**	**0.28**	**322**	P	**Pg**	**01 04 41.1**	**0.0**
CRMI				S	**Sg**	**01 04 45.3**	**+0.3**
RUFI	**Rufina**	**0.35**	**40**	⇑P	**Pg**	**01 04 41.4**	**-1.0**
RUFI				S	**Sg**	**01 04 46.1**	**-1.0**
RUFI				AML	AML		
	comp=E,43900μm,0.7s						
RUFI				AML	AML		
	comp=N,30100μm,0.8s						
RUFI				AML	AML		
	comp=E,43950μm,0.7s						
RUFI				AML	AML		
	comp=N,30050μm,0.8s						
FROS	**Frosini**	**0.36**	**185**	⇑P	**Pb**	**01 04 43.3**	**-0.3**
FROS				S	**Sb**	**01 04 49.4**	**+0.2**
FROS				AML	AML		
	comp=E,24450μm,1.1s						
FROS				AML	AML		
	comp=E,24450μm,1.1s						
FROS				AML	AML		
	comp=N,31050μm,0.7s						
FROS				AML	AML		
	comp=N,31050μm,0.8s						
MPPT	**Montemurlo**	**0.39**	**348**	P	**Pg**	**01 04 42.6**	**-0.6**
MPPT				S	**Sg**	**01 04 48.3**	**-0.3**
MPPT				AML	AML		
	comp=N,33900μm,0.3s						
MPPT				AML	AML		
	comp=E,52900μm,0.6s						
MTCR	**Monte La Croce**	**0.48**	**342**	⇓P	**Pg**	**01 04 44.4**	**-0.4**
MTCR				S	**Sg**	**01 04 51.3**	**+0.1**
MTCR				AML	AML		
	comp=N,23050μm,1.3s						
MTCR				AML	AML		
	comp=E,33550μm,0.3s						
ASQU	**Asqua**	**0.48**	**62**	⇑P	**Pg**	**01 04 43.7**	**-1.2**
ASQU				S	**Sg**	**01 04 50.6**	**-0.6**
ASQU				AML	AML		
	comp=E,11500μm,0.4s						
ASQU				AML	AML		
	comp=N,13350μm,0.7s						
SEI	**Scarperia**	**0.49**	**13**	⇑P	**Pg**	**01 04 44.4**	**-0.7**
SEI				S	**Sg**	**01 04 51.3**	**-0.4**
SEI				AML	AML		
	comp=E,73200μm,0.5s						
SEI				AML	AML		
TRIF	**Trifonti**	**0.51**	**206**	⇑P	**Pb**	**01 04 45.8**	**-0.3**
TRIF				S	**Sb**	**01 04 54.1**	**+0.7**
TRIF				AML	AML		
	comp=E,6025μ

CARD Cardoso 0.69 311 ⇓P Pg 01 04 48.5 -0.3
CARD AML AML
comp=E,15000µm,0.6s
CARD AML AML
comp=N,14800µm,1.4s
ARCI Arcidosso 0.75 164 ⇑P Pg 01 04 49.9 0.0
ARCI AML AML
comp=N,2820µm,0.9s
ARCI AML AML
comp=E,2375µm,1.1s
PARC Parchiule 0.76 84 P Pg 01 04 48.8 -1.1
PARC S Sg 01 04 59.6 -0.3
PARC AML AML
comp=E,4555µm,0.7s
PARC AML AML
comp=N,5430µm,0.4s
BADI Badiali 0.76 94 ⇓P Pg 01 04 49.5 -0.5
BADI S Sg 01 05 00.1 +0.1
BADI AML AML
comp=E,8190µm,0.7s
BADI AML AML
comp=N,4780µm,0.7s
BADI AML AML
comp=E,8160µm,0.7s
ZCCA Zocca 0.79 348 Pb 01 04 51.1 +0.1
ZCCA Sg Sn 01 05 03.8 -0.2
ZCCA Zocca 0.79 348 P Pb 01 04 51.2 +0.2
ZCCA AML AML
comp=N,10150µm,0.5s
ZCCA AML AML
comp=E,16050µm,0.5s
ZCCA AML AML
comp=N,10160µm,0.5s
ZCCA AML AML
comp=N,10570µm,0.4s
ZCCA AML AML
comp=E,16000µm,0.5s
ATMI Monte Miggiano 0.81 107 ⇑P Pg 01 04 50.6 -0.4
ATMI AML AML
comp=N,8960µm,0.8s
ATMI AML AML
comp=E,5595µm,1.0s
CASP Castiglione de 0.82 198 Pg Pb 01 04 51.5 +0.1
CASP Sg Sb 01 05 03.2 +0.8
CASP Castiglione de 0.82 198 P Pb 01 04 51.7 +0.3
CASP AML AML
comp=E,3725µm,1.1s
CASP AML AML
comp=N,1800µm,1.5s
MTRZ Monterenzio 0.82 13 ⇑P Pg 01 04 49.7 -1.6
MTRZ AML AML
comp=E,27750µm,0.6s
MTRZ AML AML
comp=N,20400µm,0.8s
MTRZ AML AML
comp=E,26600µm,0.6s
MTRZ AML AML
comp=N,21000µm,0.8s
VLC Villacollemand 0.83 315 P Pg 01 04 51.1 -0.4
VLC AML AML
comp=E,8430µm,0.5s
VLC AML AML
comp=N,7355µm,0.8s
VLC AML AML
comp=E,8105µm,0.4s
VLC AML AML
comp=N,7310µm,0.8s
SARO Sassorosso 0.84 317 P Pg 01 04 51.3 -0.3
SARO S Sb 01 05 04.3 +1.2
SARO Sassorosso 0.84 317 P Pg 01 04 51.4 -0.3
SARO S Sb 01 05 03.8 +0.7
SARO AML AML
comp=N,9025µm,0.6s
SARO AML AML
comp=E,10350µm,0.6s
MCIV Monte Civitell 0.87 156 P Pg 01 04 51.8 -0.2
MCIV AML AML
comp=E,969µm,0.5s
MCIV AML AML
comp=E,970µm,0.5s
MCIV AML AML
comp=N,1505µm,0.9s
IMOL Imola, Italy 0.88 26 P Pg 01 04 52.4 +0.1
IMOL AML AML
comp=N,21000µm,0.8s
IMOL AML AML
comp=E,16950µm,1.1s
APEC Apecchio 0.88 91 P Pg 01 04 51.7 -0.7
APEC S Sg 01 05 03.9 -0.1
APEC AML AML
comp=E,4600µm,1.4s
APEC AML AML
comp=N,5180µm,0.7s
SACS San Casciano d 0.89 144 ⇓P Pg 01 04 51.9 -0.6
SACS AML AML
comp=E,1365µm,1.5s
SACS AML AML
comp=N,1528µm,1.1s
SACS AML AML
comp=E,1320µm,1.5s
SACS AML AML
comp=E,1360µm,1.5s
SACS AML AML
comp=N,1528µm,1.1s
SACS AML AML
comp=N,1555µm,1.0s
ATVO AVT- Monte Val 0.90 102 ⇓P Pg 01 04 52.0 -0.6
ATVO S Sb 01 05 04.7 +0.1
ATVO AML AML
comp=E,4995µm,0.8s
ATVO AML AML
comp=N,4690µm,0.7s
ATTE AVT- Monte Tez 0.92 114 ⇓P Pg 01 04 51.9 -1.2
ATTE AML AML
comp=N,3155µm,0.9s
ATTE AML AML
comp=E,4065µm,1.1s
MGAB Montegabbione 0.94 135 P Pg 01 04 52.5 -0.9
MGAB AML AML
comp=E,1365µm,0.7s
MGAB AML AML
comp=N,2620µm,0.9s
MGAB AML AML
comp=E,1660µm,0.8s
MGAB AML AML
comp=N,2640µm,1.0s
PE3 Peglio 0.95 82 P Pb 01 04 53.0 -0.5
PE3 AML AML
comp=N,10860µm,0.9s
PE3 AML AML
comp=E,9565µm,0.6s
EQUI Equi 0.96 308 P Pb 01 04 53.7 -0.2
EQUI S Sb 01 05 06.2 -0.3
EQUI Equi 0.96 308 ⇓P Pb 01 04 53.9 0.0
EQUI S Sb 01 05 06.0 -0.5
EQUI AML AML
comp=E,7565µm,0.5s
EQUI AML AML
comp=N,8375µm,1.0s
GROG Isola di Gorgo 0.97 262 P Pg 01 04 54.0 +0.1
GROG S Sg 01 05 07.1 +0.6
GROG AML AML
comp=N,2630µm,1.1s
GROG AML AML
comp=E,3230µm,0.5s
PIEI Pieia 0.97 92 P Pb 01 04 53.0 -0.9
PIEI AML AML
comp=E,1745µm,1.6s
PIEI AML AML
comp=N,1735µm,1.1s
RSM Repubblica di 0.97 68 ⇑P Pb 01 04 53.5 -0.5
RSM AML AML
comp=N,6955µm,1.0s
RSM AML AML
comp=E,4860µm,1.2s
NARO Abbazia di Nar 1.00 87 P Pb 01 04 53.5 -1.0
NARO AML AML
comp=N,1420µm,0.6s
NARO AML AML
comp=E,1635µm,0.6s
MURB Monte Urbino 1.01 107 Pb 01 04 53.6 -1.1
ATFO Monte Foce - G 1.02 101 P Pb 01 04 54.0 -0.8
ATFO AML AML
comp=E,2850µm,0.8s
ATFO AML AML
comp=N,2760µm,0.6s

BLLA Bellaria 1.08 58 P Pb 01 04 55.3 -0.5
BLLA AML AML
comp=N,7030µm,0.5s
BLLA AML AML
comp=E,5270µm,1.5s
PLMA Palmaria, Port 1.09 296 ⇓P Pb 01 04 55.8 -0.2
PLMA S Sb 01 05 09.9 -0.2
PLMA AML AML
comp=E,4030µm,0.4s
PLMA AML AML
comp=N,4220µm,0.4s
CELB S.Piero in Cam 1.10 222 P Pb 01 04 55.8 -0.4
CELB AML AML
comp=E,1085µm,0.8s
CELB AML AML
comp=N,1275µm,0.5s
FRON Frontone 1.11 92 P Pb 01 04 55.5 -0.8
FRON AML AML
comp=N,2165µm,0.7s
FRON AML AML
comp=E,1785µm,0.9s
ATCC AVT- Casa Cast 1.12 110 ⇑P Pb 01 04 56.1 -0.4
ATCC AML AML
comp=E,3140µm,1.1s
ATCC AML AML
comp=N,3550µm,0.8s
MPAG Monte Paganucc 1.13 87 P Pb 01 04 55.9 -0.8
MPAG AML AML
comp=N,2540µm,0.7s
MPAG AML AML
comp=E,2055µm,0.7s
MPAG AML AML
comp=E,2095µm,0.7s
MPAG AML AML
comp=N,2740µm,0.7s
MAON Monte Argentar 1.15 183 P Pb 01 04 56.5 -0.4
MAON AML AML
comp=N,1123µm,0.9s
MAON AML AML
comp=E,1082µm,1.1s
FSSB Fossombrone 1.15 84 P Pb 01 04 56.2 -0.8
FSSB AML AML
comp=E,2875µm,0.8s
FSSB AML AML
comp=N,4150µm,0.6s
FOSV Fossato di Vic 1.17 103 P Pb 01 04 56.7 -0.7
FOSV AML AML
comp=E,1230µm,0.8s
FOSV AML AML
comp=N,1275µm,0.9s
GRAM Graiana 1.23 319 ⇓P Pn 01 04 58.3 +0.1
GRAM AML AML
comp=E,8510µm,0.4s
GRAM AML AML
comp=N,6735µm,0.4s
MOMA Monte Martano 1.26 127 P Pn 01 04 58.5 -0.2
MOMA AML AML
comp=E,716µm,0.5s
MOMA AML AML
comp=N,719µm,1.2s
ARVD Arcevia 1.27 93 P Pn 01 04 58.4 -0.3
ARVD AML AML
comp=E,1196µm,0.7s
ARVD AML AML
comp=N,1175µm,0.8s
CAVE Cavezzo 1.30 354 P Pg 01 05 00.7 +0.3
CAVE AML AML
comp=E,6010µm,1.4s
CAVE AML AML
comp=N,6235µm,0.5s
SNTG Esanatoglia 1.30 104 P Pn 01 04 59.2 0.0
SNTG AML AML
comp=E,1190µm,0.7s
SNTG AML AML
comp=E,257µm,0.7s
SNTG AML AML
comp=N,238µm,0.9s
SNTG AML AML
comp=N,1194µm,0.6s
COR1 Corinaldo 1.31 87 P Pb 01 04 59.7 0.0
COR1 AML AML
comp=N,4580µm,1.6s
COR1 AML AML
comp=E,3125µm,1.1s
PRMA PARMA 1.35 332 Pg 01 05 02.4 +1.1
PRMA Sg Sg 01 05 23.0 +4.1
PRMA PARMA 1.35 332 AML AML
comp=E,3865µm,0.9s
PRMA AML AML
comp=N,4235µm,1.1s
CESX Cesi 1.39 133 P Pn 01 05 00.4 0.0
CESX AML AML
comp=E,772µm,0.7s
CESX AML AML
comp=N,820µm,1.3s
EL6 Elcito 1.40 99 P Pn 01 05 00.7 +0.1
EL6 AML AML
comp=E,1903µm,1.5s
EL6 AML AML
comp=N,2470µm,0.7s
MSSA Maissana 1.43 302 Pn 01 05 00.5 -0.5
MSSA Maissana 1.43 302 P Pn 01 05 00.7 -0.3
MSSA AML AML
comp=N,1830µm,1.0s
MSSA AML AML
comp=E,1895µm,1.2s
SERM Sermide 1.44 3 P Pb 01 05 01.6 -0.3
SERM AML AML
comp=N,2070µm,1.0s
SERM AML AML
comp=E,3430µm,0.7s
SERM AML AML
comp=E,2155µm,0.7s
SERM AML AML
comp=N,3785µm,0.8s
CING Cingoli 1.46 97 P Pn 01 05 01.6 +0.2
CING AML AML
comp=N,1105µm,0.6s
CING AML AML
comp=E,738µm,0.6s
FDMO Fiordimonte 1.48 111 P Pn 01 05 01.6 0.0
FDMO AML AML
comp=N,815µm,0.9s
FDMO AML AML
comp=E,598µm,1.2s
SENI Senigallia 1.48 84 P Pg 01 05 03.4 -0.3
SENI AML AML
comp=N,6800µm,0.7s
SENI AML AML
comp=E,5340µm,1.5s
CSP1 Cessapalombo 1.54 108 P Pb 01 05 03.1 -0.6
CSP1 AML AML
comp=N,2390µm,0.7s
CSP1 AML AML
comp=E,1885µm,0.8s
NRCA Norcia 1.58 117 Pn 01 05 02.9 -0.2
NRCA Norcia 1.58 117 P Pn 01 05 03.5 +0.4
NRCA AML AML
comp=E,530µm,0.9s
NRCA AML AML
comp=N,490µm,0.9s
LNSS Leonessa 1.66 125 P Pn 01 05 04.9 +0.7
LNSS AML AML
comp=N,968µm,1.2s
LNSS AML AML
comp=E,808µm,1.3s
GORR Gorreto 1.72 308 P Pn 01 05 05.2 +0.2
GORR AML AML
comp=E,2975µm,0.6s
GORR AML AML
comp=N,2535µm,0.4s
BOB Bobbio (Coli) 1.74 314 P Pb 01 05 06.5 -0.6
BOB AML AML
comp=E,3655µm,0.8s
BOB AML AML
comp=N,3250µm,0.6s
BOB AML AML
comp=E,4420µm,0.8s
BOB AML AML
comp=N,2725µm,0.6s
PP3 Marolino 1.76 96 AML AML
comp=E,2870µm,0.9s
PP3 AML AML
comp=E,2965µm,0.9s
PP3 AML AML
comp=N,2845µm,0.8s
PP3 AML AML

comp=N,2830µm,0.8s
TEOL Teolo 1.82 10 Pn 01 05 06.0 -0.2
TEOL Teolo 1.82 10 ⇓P Pn 01 05 06.2 0.0
TEOL AML AML
comp=N,6015µm,1.2s
TEOL AML AML
comp=E,6380µm,1.3s
RM33 Pellescritta (1.82 125 P Pn 01 05 06.8 +0.5
RM33 AML AML
comp=N,518µm,0.9s
RM33 AML AML
comp=E,664µm,1.0s
PGF Pioggiola 1.91 238 *e*Pn Pn 01 05 07.5 -0.2
PGF *e*Sn Sn 01 05 29.8 -1.8
comp=E,29nm,0.4s
PGF Pioggiola 1.91 238 P Pn 01 05 07.5 -0.2
PGF Pioggiola 1.91 238 P Pn 01 05 07.4 -0.2
PGF AML AML
comp=N,242µm,1.0s
PGF AML AML
comp=E,306µm,0.8s
FIAM Fiamignano 1.92 132 P Pn 01 05 08.5 +0.8
FIAM AML AML
comp=N,400µm,1.2s
FIAM AML AML
comp=E,463µm,1.5s
TERO Teramo 2.00 118 P Pn 01 05 09.7 +0.9
TERO AML AML
comp=E,210µm,1.0s
TERO AML AML
comp=N,244µm,0.8s
ROVR Rover Verones 2.08 357 ⇓P Pn 01 05 09.8 -0.1
ROVR AML AML
comp=N,2210µm,0.3s
ROVR AML AML
comp=N,894µm,0.3s
ROVR AML AML
comp=E,1655µm,0.4s
ROVR AML AML
comp=E,642µm,0.4s
SALO Salr 2.10 347 Pn Pn 01 05 10.3 +0.1
SALO Salr 2.10 347 ⇓P Pn 01 05 11.0 +0.8
SALO AML AML
comp=E,2680µm,1.2s
SALO AML AML
comp=N,3655µm,1.1s
SALO AML AML
comp=N,3645µm,1.1s
SALO AML AML
comp=E,2725µm,1.2s
PCP Piancastagn 2.15 298 P Pn 01 05 10.4 -0.4
PCP AML AML
comp=N,760µm,0.4s
PCP AML AML
comp=E,468µm,0.7s
QLNO Quiliano 2.20 291 P Pn 01 05 11.4 -0.1
QLNO AML AML
comp=E,476µm,0.5s
QLNO AML AML
comp=N,706µm,0.8s
BRJN Brijuni 2.26 53 *e*Pn Pn 01 05 12.7 +0.3
BRJN Sn Sn 01 05 39.1 -1.0
DOSS Dosso del Somm 2.31 360 P Pn 01 05 13.0 -0.2
DOSS AML AML
comp=N,2325µm,0.6s
DOSS AML AML
comp=E,2660µm,0.8s
DOSS AML AML
comp=E,2405µm,0.6s
DOSS AML AML
comp=N,2715µm,0.8s
T0110 Collepietro 2.32 125 AML AML
comp=E,596µm,0.6s
T0110 AML AML
comp=N,433µm,0.6s
RORO Rocca Rossa 2.33 284 AML AML
comp=E,213µm,1.1s
RORO AML AML
comp=N,224µm,0.9s
CGRP Cima Grappa 2.34 10 P Pn 01 05 13.4 -0.3
CGRP AML AML
comp=N,1385µm,0.8s
CGRP AML AML
comp=E,1775µm,1.2s
ROTM Rocchetta Tana 2.41 303 P Pn 01 05 15.9 +1.4
ROTM AML AML
comp=N,4440µm,0.6s
ROTM AML AML
comp=E,2850µm,1.3s
CTI Castel Tesino 2.50 7 Pn Pn 01 05 15.3 -0.4
CTI Castel Tesino 2.50 7 ⇓P Pn 01 05 15.5 -0.2
CTI AML AML
comp=N,1850µm,0.3s
CTI AML AML
comp=E,1840µm,0.8s
MGRO Montegrosso 2.50 282 AML AML
comp=E,340µm,0.5s
MGRO AML AML
comp=N,306µm,1.1s
VARN Col Varnada, M 2.50 15 ⇓P Pn 01 05 15.4 -0.4
VARN AML AML
comp=N,1335µm,1.2s
VARN AML AML
comp=E,1765µm,0.4s
GAGG Gaggia 2.52 356 P Pn 01 05 16.0 0.0
GAGG AML AML
comp=E,1232µm,1.0s
GAGG AML AML
comp=N,1265µm,1.0s
GAGG AML AML
comp=E,1885µm,1.2s
GAGG AML AML
comp=N,1825µm,1.2s
GBOS Grotte di Boss 2.52 287 P Pn 01 05 16.1 +0.1
GBOS AML AML
comp=E,162µm,0.7s
GBOS AML AML
comp=N,197µm,0.5s
INTR Introdacqua 2.53 127 Pn Pn 01 05 16.7 +0.6
MABI Malga Bissina 2.53 349 ⇓P Pn 01 05 16.5 +0.3
MABI AML AML
comp=E,376µm,1.4s
MABI AML AML
comp=N,367µm,0.7s
POLC Polcenigo 2.62 20 P Pn 01 05 17.1 -0.2
POLC AML AML
comp=N,2530µm,0.5s
POLC AML AML
comp=E,2060µm,0.6s
SAOF Saorge 2.67 280 P Pn 01 05 18.3 +0.3
SAOF Saorge 2.67 280 P Pn 01 05 18.4 +0.3
SAOF Saorge 2.67 280 AML AML
comp=N,356µm,0.5s
SAOF AML AML
comp=E,334µm,0.7s
SBF Sospel 2.75 277 *e*P Pn 01 05 19.8 +0.7
SBF *e*Sn Sn 01 05 50.6 -1.6
comp=E,200nm,0.5s
ESCA l'Escarene 2.79 277 P Pn 01 05 21.3 +1.7
MONC Moncucco Torin 2.79 304 AML AML
comp=E,1255µm,0.5s
MONC AML AML
comp=N,1205µm,0.5s
TURF col de Turini 2.79 280 P Pn 01 05 20.0 +0.2
MUGIO Muggio 2.81 327 P Pn 01 05 20.4 +0.5
MUGIO AML AML
comp=E,416µm,1.3s
MUGIO AML AML
comp=N,428µm,0.4s
TRI Trieste 2.81 40 P Pn 01 05 18.9 -1.0
TRI AML AML
comp=E,530µm,0.7s
TRI AML AML
comp=N,437µm,0.7s
SKDS Skadanscina 2.82 45 *i* Pn Pn 01 05 18.9 -1.1
SKDS *i* Sn Sn 01 05 52.2 -1.6
SKDS IAML 01 06 08.8
comp=Z,240nm,0.6s
DUGI Dugi Otok 2.82 80 *e*Pn Pn 01 05 20.1 0.0
DUGI Sn Sn 01 05 51.4 -2.5
NVLJ Novalja 2.82 68 *e*Pn Pn 01 05 20.4 +0.4
NVLJ Sn Sn 01 05 51.6 -2.3
CIMO Cimolais 2.87 17 AML AML
comp=E,404µm,0.6s
CIMO AML AML
comp=N,263µm,0.5s

VARE Varese 2.88 324 P Pn 01 05 21.6 +0.7
VARE AML AML
comp=E,444µm,0.5s
VARE AML AML
comp=N,468µm,0.4s
STAL STALIGIAL 2.89 21 Pn 01 05 20.7 -0.4
STAL STALIGIAL 2.89 21 P Pn 01 05 20.7 -0.4
STAL AML AML
comp=E,1060µm,0.3s
STAL AML AML
comp=E,1325µm,1.0s
STAL AML AML
comp=N,1048µm,0.6s
STAL AML AML
comp=N,900µm,1.3s
APPI Appiano 2.91 0 ⇓P Pn 01 05 21.9 +0.6
APPI AML AML
comp=E,790µm,0.4s
APPI AML AML
comp=N,872µm,0.3s
RIY Rijeka 2.93 52 *e*Pn Pn 01 05 21.6 +0.1
RIY Sn Sn 01 05 54.6 -1.9
SABO M.te Sabotino 2.95 35 P Pn 01 05 21.2 -0.6
SABO AML AML
comp=N,1140µm,0.7s
SABO AML AML
comp=E,882µm,0.8s
MPRI Monte Prat 2.95 25 P Pn 01 05 21.6 -0.4
MPRI AML AML
comp=E,1255µm,0.5s
MPRI AML AML
comp=N,1435µm,1.2s
BRMO Bormio 2.96 349 AML AML
comp=E,347µm,1.2s
BRMO AML AML
comp=N,307µm,0.5s
GEPF Gemona 3.03 26 AML AML
comp=E,573µm,1.2s
GEPF AML AML
comp=N,764µm,0.8s
ISO Isola 3.06 283 P Pn 01 05 25.1 +1.7
PZZ Stroppo 3.09 289 ⇓P Pn 01 05 23.9 0.0
PZZ AML AML
comp=E,334µm,0.5s
PZZ AML AML
comp=N,313µm,0.5s
CALF Calern 3.11 275 ⇑P Pn 01 05 24.7 +0.5
CLUD Cludinico 3.12 22 ⇑P Pn 01 05 24.2 0.0
CLUD AML AML
comp=N,563µm,0.7s
CLUD AML AML
comp=E,942µm,0.7s
TRAV Traversella 3.14 309 AML AML
comp=E,326µm,0.6s
TRAV AML AML
comp=N,286µm,1.0s
BRES Bressanone 3.15 7 P Pn 01 05 25.9 +1.1
ABSI Aberstueckl 3.16 1 P Pn 01 05 25.0 +0.2
ABSI AML AML
comp=N,1085µm,0.6s
ABSI AML AML
comp=E,1075µm,0.8s
CEY Cerknica 3.16 46 *e*Pn Pn 01 05 23.9 -0.8
ZIRJ Zirje 3.23 87 *e*Pn Pn 01 05 26.1 +0.6
ZIRJ Sn Sn 01 06 02.0 -1.8
ZOU Zoufplan 3.24 22 Pn 01 05 25.6 -0.3
ZOU Zoufplan 3.24 22 P Pn 01 05 26.2 +0.2
ZOU AML AML
comp=E,870µm,1.0s
ZOU AML AML
comp=N,562µm,0.9s
MORI Morici 3.28 83 *e*Pn Pn 01 05 27.5 +1.2
MORI Sn Sn 01 06 05.4 +0.3
CIRO Champorcher 3.29 309 AML AML
comp=E,212µm,0.8s
CIRO AML AML
comp=N,198µm,0.7s
ABTA Abfaltersbach 3.31 16 *i* Pn Pn 01 05 27.4 +0.6
comp=N,54nm,0.5s,SNR=54
ABTA *e*Sn Sn 01 06 06.4 +0.4
comp=N,140nm,0.6s
FRF La Foret Royal 3.31 271 *e*P Pn 01 05 26.9 +0.1
FRF *e*Sn Sn 01 06 01.6 -4.4
comp=N,45nm,0.4s
DAVOX Davos/Dischmat 3.34 344 Pn Pn 01 05 29.6 +2.2
comp=N,16nm,0.3s,baz=160,slow=9.0,SNR=334
DAVOX Sn Sn 01 06 08.4 +1.5
comp=N,28nm,0.3s,baz=334,slow=23,SNR=6.9
DAVOX Davos/Dischmat 3.34 344 AML AML
comp=N,426µm,0.7s
DAVOX AML AML
comp=E,252µm,0.4s
ROSI Rosskopf 3.36 2 P Pn 01 05 28.3 +0.6
ROSI AML AML
comp=E,740µm,0.7s
ROSI AML AML
comp=N,852µm,1.4s
MMK Mattmark 3.38 318 P Pn 01 05 28.3 +0.3
MMK AML AML
comp=N,240µm,0.4s
MMK AML AML
comp=E,220µm,1.1s
MBDF Montbardon 3.39 291 *e*P Pn 01 05 28.6 +0.6
MBDF *e*Sn Sn 01 06 03.3 -4.9
comp=E,166nm,0.6s
ACOM Acomizza, Ital 3.40 28 P Pn 01 05 28.1 0.0
ACOM AML AML
comp=N,858µm,0.9s
ACOM AML AML
comp=E,833µm,0.9s
FUSIO Fusio 3.40 329 ⇓P Pn 01 05 28.8 +0.7
FUSIO AML AML
comp=E,496µm,0.3s
FUSIO AML AML
comp=N,286µm,1.6s
LJU Ljubljana 3.42 43 *e*Pn Pn 01 05 28.2 -0.1
LJU Ljubljana 3.42 43 P Pn 01 05 28.4 +0.1
LJU AML AML
comp=E,3420µm,1.0s
LJU AML AML
comp=N,4160µm,0.7s
UDBI Udbina 3.42 72 *e*Pn Pn 01 05 29.8 +1.4
UDBI Udbina 3.42 72 Sn Sn 01 06 08.4 -0.5
LMR La Mourre 3.43 268 *e*P Pn 01 05 28.3 -0.1
LMR *e*Sn Sn 01 06 04.5 -4.3
comp=N,19nm,0.4s
RISI Rein 3.43 10 P Pn 01 05 29.7 +1.1
RISI AML AML
comp=N,1180µm,0.4s
RISI AML AML
comp=E,1180µm,0.4s
FETA Feichten 3.46 355 *i* Pn Pn 01 05 30.6 +1.5
comp=E,26nm,0.5s,SNR=49
FETA *e*Sn Sn 01 06 11.7 +1.7
comp=E,44nm,0.4s
LSD Lago del Serru 3.47 304 AML AML
comp=E,111µm,0.8s
LSD AML AML
comp=N,111µm,0.9s
OGAG Argentiere 3.48 286 P Pb 01 05 34.3 -2.5
BOJS Bojanci 3.48 55 AML AML
comp=E,768µm,0.7s
BOJS AML AML
comp=N,839µm,1.5s
MYKA Terra Mystica 3.51 29 *e*Pn Pn 01 05 29.2 -0.4
comp=N,11nm,0.5s,SNR=17
MYKA *e*Sn Sn 01 06 11.7 +0.7
comp=N,118nm,0.7s
PAOL Paolisi 3.56 134 Pn Pn 01 05 31.5 +1.2
SQTA Sankt Quirin 3.65 0 *i* Pn Pn 01 05 32.9 +1.4
comp=N,110nm,0.4s,SNR=96
SQTA *e*Sn Sn 01 06 16.9 +2.4
comp=N,145nm,0.6s
OZLJ Ozalj 3.67 55 *e*Pn Pn 01 05 32.0 +0.4
REMY Saint-Rhmy-en 3.67 310 P Pn 01 05 32.3 +0.4
REMY AML AML
comp=E,329µm,0.5s
REMY AML AML
comp=N,498µm,0.7s
WTTA Wattenberg 3.70 5 *i* Pn Pn 01 05 33.7 +1.3
comp=N,30nm,0.3s,SNR=38
WTTA *e*Sn Sn 01 06 17.8 +1.9
comp=N,107nm,0.4s
WTTA Wattenberg 3.70 5 *e*Pn Pn 01 05 33.8 +1.5
SNR=56
WTTA *e*Sn Sn 01 06 17.8 +1.9
SNR=2.9
WTTA Wattenberg 3.70 5 AML AML
comp=E,536µm,0.8s
WTTA AML AML
comp=N,554µm,0.8s
PLONS Plons/SG 3.71 340 *e*Pn Pn 01 05 34.8 +2.5
SNR=203
PLONS *e*Sn Sn 01 06 18.0 +2.2
SNR=4.2
PLONS Plons/SG 3.71 340 AML AML
comp=N,397µm,0.5s
PLONS AML AML
comp=E,562µm,0.4s
LPG La Plagne 3.72 303 *e*P Pn 01 05 34.0 +1.3
LPG *e*Sn Sn 01 06 11.3 -5.2
comp=E,115nm,0.7s
LPL La Plagne 3.74 303 *e*P Pn 01 05 34.9 +2.0
LPL *e*Sn Sn 01 06 11.8 -5.1
comp=E,102nm,0.6s
ASEAF Site Antares, 3.77 260 P Pn 01 05 33.8 +1.0
WATA Walderalm 3.77 4 *i* Pn Pn 01 05 34.9 +1.6
comp=E,69nm,0.4s,SNR=58
WATA *e*Sn Sn 01 06 20.1 +2.6
comp=E,126nm,0.7s
MOTA Moosalm 3.77 359 *i* Pn Pn 01 05 35.3 +2.0
comp=E,74nm,0.5s,SNR=60
MOTA *e*Sn Sn 01 06 18.8 +1.2
comp=E,145nm,0.6s
OBKA Obir 3.77 38 *i* Pn Pn 01 05 33.3 +0.1
comp=E,16nm,0.5s,SNR=21
OBKA Obir 3.77 38 *e*Pn Pn 01 05 33.1 -0.2
SNR=22
CRES Cresnjev 3.78 52 *e*Pn Pn 01 05 33.2 0.0
KIJV Kijevo 3.79 82 *e*Pn Pn 01 05 35.4 +2.0
SGRT San Giovanni R 3.81 117 Pn Pn 01 05 34.9 +1.2
SGRT San Giovanni R 3.81 117 P Pn 01 05 34.7 +1.0
SGRT AML AML
comp=E,112µm,1.0s
SGRT AML AML
comp=N,84µm,1.1s
KBA Koelnbreinsper 3.82 23 *e*Pn Pn 01 05 34.1 +0.2
comp=N,14nm,0.3s,SNR=17
KBA Koelnbreinsper 3.82 23 *e*Pn Pn 01 05 34.5 +0.6
SNR=33
DAVA Damuels 3.83 346 *i* Pn Pn 01 05 36.3 +2.3
comp=N,75nm,0.6s,SNR=42
DAVA *e*Sn Sn 01 06 21.2 +2.3
comp=N,355nm,0.4s
DAVA Damuels 3.83 346 *e*Pn Pn 01 05 36.4 +2.3
SNR=60
DAVA *e*Sn Sn 01 06 21.4 +2.4
SNR=3.5
BNALP Bannalp 3.84 330 AML AML
comp=N,398µm,0.7s
BNALP AML AML
comp=E,304µm,0.5s
HVAR Hvar 3.84 94 *e*Pn Pn 01 05 34.4 +0.3
HVAR Sn Sn 01 06 16.0 -3.1
ARTF Artigues 3.92 272 P Pn 01 05 36.3 +1.1
RETA Reutte 3.93 356 *i* Pn Pn 01 05 36.9 +1.6
comp=E,126nm,0.5s,SNR=112
RETA Sg Sn 01 06 23.0 +1.8
comp=E,97nm,0.7s
SENIN Lac Senin/Sane 3.93 317 Pn 01 05 36.0 +0.5
MLYF Mely 3.96 278 P Pn 01 05 37.6 +1.8
ORIF Oris-en-Rattie 4.05 291 *e*P Pn 01 05 39.6 +2.6
ORIF *e*Sn Sn 01 06 19.2 -5.3
comp=E,129nm,0.6s
ORIF Oris-en-Rattie 4.05 291 P Pn 01 05 39.7 +2.6
ORIF Oris-en-Rattie 4.05 291 AML AML
comp=E,178µm,1.5s
ORIF AML AML
comp=N,163µm,0.8s
SMRF Simiane la Rot 4.10 278 *e*P Pn 01 05 39.2 +1.6
SMRF *e*Sn Sn 01 06 20.2 -5.2
comp=N,30nm,0.6s
PTJ Puntijarka 4.12 54 *e*Pn Pn 01 05 38.8 +0.8
SOKA Soboth 4.12 40 *i* Pn Pn 01 05 39.2 +1.2
comp=N,13nm,0.4s,SNR=10
RUSF Rustrel 4.16 277 P Pn 01 05 40.0 +1.5
WILA Wila 4.17 338 *e*Pn Pn 01 05 40.0 +1.4
SNR=54
WILA *e*Sn Sn 01 06 28.3 +1.2
SNR=3.8
UBR Ueberruh 4.18 350 *e*Pn Pn 01 05 40.0 +1.2
SNR=48
PRIJ Prijedor 4.20 69 *e*Pn Pg 01 05 52.4 -3.3
MAKA Makarska 4.25 92 *e*Pn Pn 01 05 41.5 +1.9
MAKA Sn Sn 01 06 29.5 +0.5
GRN Grenoble 4.25 295 P Pn 01 05 43.3 +3.5
VSL Villasalto 4.30 199 P Pn 01 05 42.1 +1.7
RJOB Jochberg 4.31 14 *e*Pn Pn 01 05 41.7 +1.1
SNR=58
RICI Ricice 4.31 89 *e*Pn Pn 01 05 41.3 +0.8
RICI Sn Sn 01 06 30.6 0.0
MGRS Mrkonjic Grad 4.33 77 *e*Pn Pn 01 05 43.8 +3.0
MRAK Mrakovica 4.34 69 *e*Pn Pn 01 05 41.1 +0.2
BLY Banja Luka 4.46 73 *e*Pn Pn 01 05 44.4 +1.8
BALST Balsthal 4.50 328 *e*Pn Pn 01 05 44.1 +0.9
SNR=40
BALST *e*Sn Sn 01 06 32.9 -2.5
SNR=3.4
SULZ Cheisacher 4.51 332 *e*Pn Pn 01 05 44.1 +0.8
SNR=25
SULZ *e*Sn Sn 01 06 36.0 +0.4
SNR=3.5
KALN Kalnik 4.53 54 *e*Pn Pn 01 05 43.7 +0.2
KOGS Kog 4.59 49 P Pn 01 05 44.5 +0.1
KOGS AML AML
comp=E,2165µm,1.1s
KOGS AML AML
comp=N,1885µm,1.5s
SLE Schleitheim 4.60 337 *e*Pn Pn 01 05 44.8 +0.3
SNR=45
CABF La Chapelle 4.73 312 *e*P Pn 01 05 47.1 +0.8
CABF *e*Sn Sn 01 06 35.2 -5.8
comp=N,38nm,0.5s
ARSA Arzberg 4.77 38 *i* Pn Pn 01 05 47.5 +0.6
comp=N,9.3nm,0.3s,SNR=20
ARSA *e*Sn Sn 01 06 41.3 -0.7
comp=N,16nm,0.6s
ARSA Arzberg 4.77 38 *e*Pn Pn 01 05 48.0 +1.1
SNR=29
ARSA Arzberg 4.77 38 P Pn 01 05 47.6 +0.8
MOA Molln 4.78 26 *i* Pn Pn 01 05 47.6 +0.6
comp=N,17nm,0.3s,SNR=18
MOA *e*Sn Sn 01 06 41.4 -0.9
comp=N,31nm,0.5s
MOA Molln 4.78 26 *e*Pn Pn 01 05 48.1 +1.1
SNR=40
MOA *e*Sn Sn 01 06 42.4 +0.1
SNR=1.7
STON Ston 4.80 96 *e*Pn Pn 01 05 47.8 +0.6
STON Ston 4.80 96 *e*Pn Pn 01 05 47.9 +0.6
VIVF Saint-Julien-l 4.87 288 *e*P Pn 01 05 49.7 +1.5
VIVF *e*Sn Sn 01 06 38.6 -5.8
comp=N,17nm,0.5s
BEHE Becsehely 4.90 52 *e*P Pn 01 05 49.1 +0.5
BEHE Becsehely 4.90 52 *e*Pn Pn 01 05 48.3 -0.3
BFO Black Forest 5.16 338 Pn Pn 01 05 52.2 -0.1
BFO Black Forest 5.16 338 *e*Pn Pn 01 05 52.5 +0.2
SNR=43
BFO *e*Sn Sn 01 06 49.3 -2.4
SNR=5.7
HINF Hinteralfeld 5.22 326 *e*P Pn 01 05 53.2 +0.1
HINF *e*Sn Sn 01 06 46.8 -6.4
comp=N,142nm,0.4s
LASF Ste Croix 5.34 278 *e*P Pn 01 05 55.1 +0.4
STU Stuttgart 5.38 346 *e*Pn Pn 01 05 55.6 +0.4
SNR=4.8
BRY Bratogost 5.40 95 *e*Pn Pn 01 05 55.7 +0.1
CONA Conrad Observa 5.44 35 *e*Pn Pn 01 05 55.9 -0.2
comp=N,3.5nm,0.5s,SNR=13
CONA *e*Sn Sn 01 06 55.8 -2.8
comp=N,25nm,0.5s
HCY Herceg Novi 5.46 99 *e*Pn Pn 01 05 56.9 +0.5
KOVH Kovagotottos 5.51 60 *e*P Pn 01 05 56.2 -0.8
GEC2 GERESS Array S 5.55 17 Pn 01 05 57.1 -0.6
GEC2 GERESS Array S 5.55 17 *e*Pn Pn 01 05 57.2 -0.5
SNR=18
GEC2 *e*Sn Sn 01 06 59.2 -2.1
SNR=2.4
GERES GERESS Array B 5.55 17 Pn Pn 01 05 57.0 -0.6
comp=N,5.1nm,0.3s,baz=192,slow=13,SNR=162
GERES Sn Sn 01 06 58.5 -2.8
comp=N,6.8nm,0.3s,baz=192,slow=26,SNR=4.3
CDF Champ du Feu 5.56 332 *e*P Pn 01 05 57.6 -0.1
CDF *e*Sn Sn 01 06 55.1 -6.4
comp=N,59nm,0.4s
SOP Sopron 5.57 41 *e*P Pn 01 05 58.2 +0.4
HAU Haudompre 5.58 324 *e*P Pn 01 05 58.4 +0.4
HAU *e*Sn Sn 01 06 55.4 -6.6
comp=N,308nm,0.4s
UPM Unac-Piva 5.62 91 *e*Pn Pn 01 06 00.7 +1.9
CKRC Cesky Krumlov 5.67 21 *e*PN Pn 01 05 58.8 -0.4
CKRC *e*SN Sn 01 07 00.5 -3.7
WET Wettzell 5.69 11 *e*Pn Pn 01 05 58.8 -0.7
SNR=17
EGYH Egyhazaskeszo 5.77 46 *e*P Pn 01 06 00.1 -0.5
KHC Kasperske Hory 5.80 16 *e*PN Pn 01 06 00.1 -0.9
KHC *e*SN Sn 01 07 04.2 -3.1
KHC *e*SG Sg 01 07 45.0 +3.7
KHC AMS AMS 01 08 30.0
comp=N,300nm,13.0s
MORH Mrgy, Hungar 5.91 61 *e*Pn Pn 01 06 00.7 -1.7
RUDO Rudo 5.93 87 *e*Pn Pn 01 06 03.7 +0.9
BBLS Lazići 5.95 84 *e*Pn Pn 01 06 03.0 -0.1
PDG Podgorica 6.01 98 *e*Pn Pn 01 06 05.0 +1.1
DRME Dracevica, Mon 6.03 101 *e*Pn Pn 01 06 04.8 +0.7
SMF Signal de Mont 6.05 303 *e*P Pn 01 06 05.1 +0.7
SMF *e*Sn Sn 01 07 06.8 -6.6
comp=N,44nm,0.5s
GRFO Grafenberg 6.12 0 Pn Pn 01 06 03.7 -1.7
ZST Bratislava 6.19 40 *e*PN Pn 01 06 07.2 +0.9
ZST *e*SN Sn 01 07 13.0 -3.9
ROTZ Rotzenmuhle 6.23 6 *e*Pn Pn 01 06 05.6 -1.4
SNR=19
PAGF Fort de Pagny 6.27 325 *e*P Pn 01 06 08.1 +0.7
baz=144
PAGF *e*Sn Sn 01 07 12.1 -6.8
comp=N,34nm,0.3s
SFTF Sexfontaines 6.32 319 *e*P Pn 01 06 08.7 +0.6
baz=138
SFTF *e*Sn Sn 01 07 12.9 -7.2
comp=N,26nm,0.4s
LOR Lormes 6.35 308 *e*P Pn 01 06 08.8 +0.2
baz=127
LOR *e*Sn Sn 01 07 14.9 -6.1
comp=N,25nm,0.4s
DIVS Divibare 6.38 82 *e*Pn Pn 01 06 07.7 -1.3
DIVS Divibare 6.38 82 Pn 01 06 08.3 -0.7
MILB Miltenberg 6.39 349 *e*Pn Pn 01 06 08.2 -0.9
SNR=7.8
MODS Modra-Piesok 6.40 39 *e*PN Pn 01 06 09.1 -0.1
MODS *e*SN Sn 01 07 16.9 -5.2
PBCC Pribram 6.41 16 *e*PN Pn 01 06 08.7 -0.6
AVF Avril sur Loir 6.41 303 *e*P Pn 01 06 09.8 +0.4
AVF *e*Sn Sn 01 07 15.6 -6.8
comp=N,4.8nm,0.3s
TREC Trest 6.44 26 AMS AMS 01 09 00.0
comp=N,300nm,12.6s
MANZ Manzenberg 6.45 5 *e*Pn Pn 01 06 08.6 -1.2
SNR=9.8
SSF Saint Saulge 6.45 305 *e*P Pn 01 06 10.4 +0.5
SSF *e*Sn Sn 01 07 16.4 -6.9
comp=N,20nm,0.6s
MEZF Maizieres J'vi 6.53 321 *e*P Pn 01 06 11.5 +0.6
baz=140
MEZF *e*Sn Sn 01 07 18.0 -7.2
comp=N,33nm,0.4s
MTLF Montolieu 6.54 271 *e*P Pn 01 06 12.1 +0.9
MTLF *e*Sn Sn 01 07 18.7 -7.0
comp=N,6.8nm,0.6s
KRUC Moravsky 6.56 31 *e*PN Pn 01 06 10.3 -1.1
KRUC *e*SN Sn 01 07 22.6 -3.4
SMOL Smolenice 6.57 39 *e*PN Pn 01 06 12.8 +1.3
SMOL *e*SN Sn 01 07 23.3 -3.0
SAVF Savonnieres en 6.58 322 *e*P Pn 01 06 11.9 +0.3
baz=142
SAVF *e*Sn Sn 01 07 19.5 -7.0
comp=N,30nm,0.4s
BGF Bois d'Agland 6.63 300 *e*P Pn 01 06 13.0 +0.7
BGF *e*Sn Sn 01 07 20.6 -7.1
comp=N,29nm,0.4s
CAF Calviac 6.70 285 *e*P Pn 01 06 14.7 +1.3
CAF *e*Sn Sn 01 07 22.8 -6.8
comp=N,6.5nm,0.6s
NKC Novy Kostel 6.72 7 *e*PN Pn 01 06 12.6 -1.0
NKC *e*SN Sn 01 07 25.8 -4.1
NKC AMS AMS 01 09 10.0
comp=N,300nm,15.1s
WERN Wernitzgruen 6.76 6 *e*Pn Pn 01 06 13.8 -0.4
SNR=13
PRU Pruhonice 6.81 18 *e*PN Pn 01 06 13.1 -1.8
PRU *e*SN Sn 01 07 27.5 -4.7
PRU AMS AMS 01 09 00.0
comp=N,200nm,12.9s
VRAC Vranov 6.84 31 ⇓P Pn 01 06 13.3 -1.9
VRAC Vranov 6.84 31 Pn Pn 01 06 13.9 -1.4
comp=N,0.7nm,0.3s,baz=224,slow=12,SNR=12
VRAC Sn Sn 01 07 28.9 -3.9
comp=N,1.0nm,0.3s,baz=296,slow=17,SNR=4.6
VRAC Vranov 6.84 31 *e*PN Pn 01 06 14.0 -1.2
VRAC *e*SN Sn 01 07 28.9 -3.9
PRA Prague 6.87 18 *e*PN Pn 01 06 14.4 -1.2
TANN Tannenbergstha 6.90 7 *e*Pn Pn 01 06 14.8 -1.3
SNR=14
TNS Taunus Mts 6.91 345 *e*Pn Pn 01 06 16.3 0.0
SNR=22
TNS *e*Sn Sn 01 07 30.9 -3.9
SNR=2.4
TCF Toulx Ste Croi 6.94 296 *e*P Pn 01 06 17.6 +1.0
TCF *e*Sn Sn 01 07 28.0 -7.3
comp=N,14nm,0.6s
WLF Walferdange 7.01 332 *d*Pn Pn 01 06 18.9 +1.3
WLF *d*PnPn PnPn 01 06 26.1 +1.0
WLF *d*Pb Pb 01 06 37.2 +0.3
WLF *d*Sn Sn 01 07 36.1 -0.7
WLF *d*SnSn SnSn 01 07 49.0 +0.4
WLF *d*Sb Sb 01 07 59.7 -0.8
WLF Walferdange 7.01 332 Pn 01 06 18.9 +1.3
WLF Walferdange 7.01 332 *e*Pn Pn 01 06 18.9 +1.3
SNR=4.2
HYF Humbligny 7.07 304 *e*P Pn 01 06 21.1 +2.7
HYF *e*Sn Sn 01 07 31.0 -7.5
KOLL Kolacno 7.08 42 *e*SN Sn 01 07 34.3 -4.4
MOX Moxa 7.08 2 *e*Pn Pn 01 06 17.4 -1.2
SNR=7.0
RJF Les Rejaudoux 7.15 287 *e*P Pn 01 06 21.1 +1.6
RJF *e*Sn Sn 01 07 33.2 -7.3
comp=N,1.3nm,0.4s
VYHS Vyhne 7.24 45 *e*PN Pn 01 06 23.0 +2.3
VYHS *e*SN Sn 01 07 36.2 -6.6
PVCC Panska Ves 7.33 17 *e*PN Pn 01 06 20.9 -1.0
PVCC AMS AMS 01 09 30.0
comp=N,300nm,8.6s
PSZ Piszkesteto 7.47 51 ⇓P Pn 01 06 24.0 0.0
PSZ Piszkesteto 7.47 51 Pn 01 06 24.0 0.0
BRG Berggiesshubel 7.54 13 *e*P Pn 01 06 24.0 -0.8
BRG Amp 01 06 25.7
comp=Z,11nm,0.6s
BRG x x 01 06 59.4
BRG x x 01 07 40.4
KRLC Kraliky 7.54 28 *e*PN Pn 01 06 23.7 -1.2
KRLC *e*SN Sn 01 07 45.9 -4.4
KRLC AMS AMS 01 09 50.0
comp=Z,300nm,12.7s
MORC Moravsky Berou 7.58 33 ⇑P Pn 01 06 23.3 -2.1
MORC Moravsky Berou 7.58 33 Pn Pn 01 06 26.9 +1.4
LFF La Frestale 7.64 284 *e*P Pn 01 06 29.2 +3.0
LFF *e*Sn Sn 01 07 44.9 -7.6
comp=Z,5.2nm,0.6s
MDVR Moldovita 7.65 77 ⇓P Pn 01 06 29.0 +2.6
BHOU Houvegnez 7.66 334 *d*Pn Pn 01 06 29.0 +2.5
BHOU *d*PnPn PnPn 01 06 34.5 +0.5
BHOU *d*PbPb PbPb 01 06 52.5 +1.5
BHOU *d*Sn Sn 01 07 47.9 -5.2
BHOU *d*SnSn SnSn 01 08 01.2 -3.2
UPC Upice 7.67 24 *e*PN Pn 01 06 26.0 -0.7
UPC AMS AMS 01 09 40.0
comp=Z,200nm,13.5s
BZS Buzias 7.71 71 ⇑P Pn 01 06 28.7 +1.5
CHVC Chvalec 7.76 24 *e*PN Pn 01 06 25.7 -2.2
CHVC *e*SN Sn 01 07 51.0 -4.5
CHVC AMS AMS 01 10 00.0
comp=Z,300nm,11.4s
OSTC Ostas 7.78 24 *e*PN Pn 01 06 26.3 -1.8
OSTC *e*SN Sn 01 07 51.2 -4.8
OSTC AMS AMS 01 10 00.0
comp=Z,300nm,11.8s

BTNL	**Ternell**	**7.82**	**336**	*d*Pn		**Pn**	**01 06 31.5**	**+2.8**
BTNL				*d*PnPn		**PnPn**	**01 06 37.9**	**+1.6**
BTNL				*d*Sn		**Sn**	**01 07 51.4**	**-5.6**
CLL	**Collm**	**7.83**	**8**⇑	*i*Pn		**Pn**	**01 06 28.0**	**-0.9**
	comp=Z,9.0nm,0.6s							
CLL				*i*			01 06 32.0	
CLL				*e*Sn		**Sn**	**01 07 53.0**	**-4.3**
CLL				*e*			01 08 04.0	
CLL				*e*Sb		**Sb**	**01 08 22.0**	**-2.0**
CLL				*e*			01 08 34.0	
CLL				*e*Sg		**Sg**	**01 08 46.0**	**-0.5**
	comp=Z,34nm,1.1s							
CLL				*e*Sglp			01 08 49.0	
	comp=N,100nm,23.3s							
CLL				*e*Sglp			01 08 49.0	
	comp=E,200nm,29.9s							
CLL				Lmax			01 09 00.0	
CLL	**Collm**	**7.83**	**8**	*e*Pn		**Pn**	**01 06 27.9**	**-0.9**
	SNR=12							
GIVF	**Givet**	**7.86**	**328**	*e*P		**Pn**	**01 06 32.4**	**+3.2**
GIVF				*e*Sn		**Sn**	**01 07 49.7**	**-8.2**
	comp=E,10nm,0.5s							
KASTN	**Kahler Asten**	**7.86**	**347**	*e*Pn		**Pn**	**01 06 29.4**	**+0.1**
	SNR=6.9							
MEM	**Membach**	**7.88**	**335**	*d*Pn		**Pn**	**01 06 31.6**	**+2.2**
MEM				*d*PbPb		**PbPb**	**01 06 57.0**	**+2.2**
MEM				*d*Pg		**Pg**	**01 07 05.2**	**-0.8**
MEM				*d*Sn		**Sn**	**01 07 55.3**	**-3.1**
MEM				*d*SnSn		**SnSn**	**01 08 07.6**	**-2.4**
MEM				*d*Sg		**Sg**	**01 08 48.6**	**+0.6**
DOU	**Dourbes**	**7.94**	**328**	*d*Pn		**Pn**	**01 06 32.8**	**+2.5**
DOU				*d*PnPn		**PnPn**	**01 06 38.8**	**+0.9**
DOU				*d*x		x	01 06 44.5	
DOU				*d*Pg		**Pg**	**01 07 07.6**	**+0.4**
EPF	**Esparros**	**7.94**	**270**	*e*P		**Pn**	**01 06 31.4**	**+0.9**
EPF				*e*Sn		**Sn**	**01 07 52.3**	**-7.9**
	comp=E,1.7nm,0.5s							
BCLA	**Clavier**	**7.95**	**332**	*d*Pn		**Pn**	**01 06 31.8**	**+1.4**
BCLA				*d*PnPn		**PnPn**	**01 06 39.3**	**+1.4**
BCLA				*d*Pb		**Pb**	**01 06 53.7**	**+0.9**
BCLA				*d*Sn		**Sn**	**01 07 57.0**	**-3.0**
BCLA				*d*SnSn		**SnSn**	**01 08 13.6**	**+2.0**
BCLA				*d*Sb		**Sb**	**01 08 29.1**	**+1.9**
KEST	**Kesra**	**7.96**	**191**	Pn		Pn	01 06 36.4	+5.6
	comp=E,0.4nm,0.3s,baz=322,slow=5.9,SNR=9.1							
LANS	**Liptovska Anna**	**7.98**	**43**	*e*PN		**Pn**	**01 06 29.9**	**-1.1**
LANS				*e*SN		**Sn**	**01 07 57.6**	**-3.5**
BGES	**Gesves**	**7.99**	**331**	*d*Pn		**Pn**	**01 06 32.3**	**+1.2**
BGES				*d*PnPn		**PnPn**	**01 06 39.7**	**+1.1**
BGES				*d*Sn		**Sn**	**01 07 59.5**	**-1.7**
BSTI	**Sart Tilman**	**8.00**	**333**	*d*Pn		**Pn**	**01 06 32.4**	**+1.3**
BSTI				*d*PnPn		**PnPn**	**01 06 40.7**	**+2.1**
BSTI				*d*PbPb		**PbPb**	**01 06 57.4**	**+0.6**
BSTI				*d*Sn		**Sn**	**01 07 59.3**	**-2.0**
BSTI				*d*SnSn		**SnSn**	**01 08 13.5**	**+0.7**
BSTI				*d*Sb		Sb	01 08 30.0	+1.3
BMRD	**Maredsous**	**8.04**	**329**	*d*Pn		**Pn**	**01 06 33.8**	**+2.1**
BMRD				*d*Sn		**Sn**	**01 08 02.8**	**+0.4**
BAIF	**Baives**	**8.07**	**326**	*e*P		**Pn**	**01 06 34.6**	**+2.6**
BAIF				*e*Sn		**Sn**	**01 07 54.7**	**-8.3**
	comp=E,8.2nm,0.6s							
HERR	**Herculane**	**8.16**	**77**	⇓P		**Pn**	**01 06 35.5**	**+2.2**
SNF	**Seneffe**	**8.39**	**328**	*d*Pn		**Pn**	**01 06 38.2**	**+1.8**
SNF				*d*PnPn		**PnPn**	**01 06 45.6**	**+1.6**
GZR	**Gura Zlata**	**8.47**	**74**	⇑P		**Pn**	**01 06 39.0**	**+1.3**
MFF	**Saint Martin d**	**8.58**	**295**	*e*P		**Pn**	**01 06 40.6**	**+1.5**
MFF				*e*Sn		**Sn**	**01 08 07.2**	**-8.5**
	comp=E,1.0nm,0.4s							
UCC	**Uccle**	**8.60**	**330**	*d*Pn		**Pn**	**01 06 41.1**	**+1.8**
ETSF	**Etsaut**	**8.62**	**270**	*e*P		**Pn**	**01 06 44.1**	**+4.4**
DRGR		**8.74**	**64**	⇑P		**Pn**	**01 06 42.3**	**+0.9**
VTS	**Vitosha**	**8.86**	**92**	⇑P		**Pn**	**01 06 43.9**	**+0.8**
VTS	**Vitosha**	**8.86**	**92**	Pn		**Pn**	**01 06 43.8**	**+0.7**
SJPF	**Ste Jean**	**9.07**	**271**	*e*P		**Pn**	**01 06 49.4**	**+3.5**
LDF	**La Druitiere**	**9.33**	**306**	*e*P		**Pn**	**01 06 49.1**	**-0.3**
LDF				*e*Sn		Sn	01 08 25.0	-9.1
	comp=E,0.9nm,0.3s							
AGG	**Agios Georgios**	**9.53**	**115**	Pn		**Pn**	**01 06 53.1**	**+1.0**
FLN	**La Foliniere**	**9.62**	**307**	*e*P		**Pn**	**01 06 52.0**	**-1.4**
	baz=126							
FLN				*e*Sn		**Sn**	**01 08 32.4**	**-8.9**
	comp=E,5.3nm,0.6s							
GRR	**Gorron**	**9.68**	**304**	*e*P		**Pn**	**01 06 53.4**	**-0.7**
GRR				*e*Sn		Sn	01 08 33.2	-9.4
	comp=E,1.8nm,0.4s							
ARR	**Arges**	**9.77**	**75**	⇓P		**Pn**	**01 06 58.2**	**+2.7**
BUR08	**Bucovina Ar. S**	**10.62**	**63**	Pn		**Pn**	**01 07 08.4**	**+1.3**
BURAR	**Bucovina Array**	**10.62**	**63**	⇑P		**Pn**	**01 07 09.1**	**+2.0**
SGMF	**Saint Gilles**	**10.67**	**301**	*e*P		**Pn**	**01 07 06.6**	**-1.1**
SGMF				*e*Sn		Sn	01 08 57.4	-9.5
	comp=E,0.7nm,0.5s							
QUIF	**Quistinic**	**10.94**	**298**	*e*P		**Pn**	**01 07 10.7**	**-0.7**
QUIF				*e*Sn		Sn	01 09 02.9	-11
	comp=E,1.5nm,0.4s							
ROSF	**Rostrenen**	**11.14**	**300**	*e*P		**Pn**	**01 07 13.5**	**-0.7**
ROSF				*e*Sn		Sn	01 09 08.0	-11
	comp=E,1.2nm,0.4s							
ESDC	**Sonseca Array**	**12.00**	**256**	Pn		**Pn**	**01 07 26.6**	**+0.6**
	comp=E,0.1nm,0.3s,baz=62,slow=13,SNR=2.3							
ESDC				LR		LR	01 11 43.5	
	comp=E,44nm,19.3s,baz=290,slow=35							
EKA	**Eskdalemuir Ar**	**14.99**	**327**	Pn		**Pn**	**01 08 04.1**	**-2.5**
	baz=140,slow=14,SNR=5.6							
HFS	**Hagfors**	**16.66**	**4**	LR		LR	01 14 30.6	
	comp=E,55nm,18.0s,baz=2.0,slow=36							
BRTR	**Keskin Array B**	**17.19**	**95**	LR		LR	01 15 43.1	
	comp=E,47nm,19.0s,baz=334,slow=39							
NB2	**NORSAR Subarra**	**17.50**	**0**	P		**P**	**01 08 40.7**	**+0.8**
	comp=Z,2.4nm,0.8s,baz=181,slow=11							
NOA	**NORSAR Array B**	**17.50**	**0**	P		**Pn**	**01 08 38.4**	**-0.4**
	comp=Z,0.0nm,0.3s,baz=181,slow=11,SNR=4.8							
NOA				LR		LR	01 15 45.6	
	comp=Z,24nm,20.1s,baz=320,slow=38							
NC405	**NORSAR Array S**	**17.57**	**1**	Pn		**Pn**	**01 08 39.8**	**+0.1**
FINES	**FINESS Array B**	**19.97**	**21**	P		**P**	**01 09 07.0**	**+0.1**
FINES				LR		LR	01 17 04.2	
	comp=Z,39nm,18.1s,baz=194,slow=38							
FINES	**FINESS Array B**	**19.97**	**21**	P		**P**	**01 09 07.2**	**+0.2**
FIA1	**FINESS Array S**	**19.97**	**21**	P		**P**	**01 09 07.7**	**+0.8**
FIA1				IAmb		IAmb	01 09 13.4	
	comp=Z,9.9nm,0.8s							
ARCES	**ARCESS Array B**	**27.04**	**11**	P		**P**	**01 10 17.8**	**+0.9**
	comp=Z,1.3nm,0.9s,baz=183,slow=6.1,SNR=5.1							
ARCES	**ARCESS Array B**	**27.04**	**11**	P		**P**	**01 10 17.8**	**+0.9**
ARCES				IAmb		IAmb	01 10 46.1	
	comp=Z,10nm,1.4s							
TORD	**Torodi Ar. Bea**	**31.41**	**198**	P		**P**	**01 10 57.0**	**+1.0**
	comp=Z,1.9nm,1.1s,baz=15,slow=8.0,SNR=5.1							
ABKAR	**Akbulak array**	**33.60**	**63**	P		**P**	**01 11 15.8**	**+0.8**
KURBB	**Kurchatov Arra**	**44.93**	**56**	P		**P**	**01 12 49.6**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=301,slow=8.0,SNR=4.5							
NIL	**Nilore**	**48.47**	**80**	P		**P**	**01 13 17.6**	**0.0**
MK31	**Makanchi Array**	**48.63**	**60**	P		**P**	**01 13 19.2**	**+0.6**
MK31				IAmb		IAmb	01 13 20.3	
	comp=Z,1.4nm,0.8s							
MKAR	**Makanchi Array**	**48.63**	**60**	P		**P**	**01 13 17.7**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=291,slow=4.5,SNR=11							
MKAR	**Makanchi Array**	**48.63**	**60**	P		**P**	**01 13 19.2**	**+0.6**
SONM	**Songino Array**	**62.40**	**49**	P		**P**	**01 14 58.0**	**+0.2**
	comp=Z,1.5nm,1.1s,baz=276,slow=5.7,SNR=4.8							
SONM				LR		LR	01 44 35.8	
	comp=Z,504nm,19.5s,baz=160,slow=39							
HHC	**Hu-ho-hao-te**	**69.61**	**53**	*e*P		**P**	**01 15 44.4**	**+0.2**
HHC				pmax		pmax		
	comp=Z,13nm,1.1s							
HHC				pmax		pmax		
	comp=Z,42nm,5.8s							
ILAR	**Eielson Array**	**70.64**	**350**	P		**P**	**01 15 50.9**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=8.7,slow=6.6,SNR=2.9							
TXAR	**Lajitas Array**	**86.11**	**307**	P		**P**	**01 17 16.1**	**0.0**
	comp=Z,0.3nm,0.8s,baz=55,slow=4.7,SNR=2.8							

TEH ***13*** *01:05:41.6,33.˚06N×58.˚36E,h6km,ML3.7*
THR ***13*** *01:05:43.2±0.9,33.˚04N×58.˚32E,h14km±7km, ML3.8*

ISC 13 01:05:42.8±1.4,33.˚06N±0.˚03×58.˚36E±0.˚03,h2km±15km, n60,σ1°01/66,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ITEG	**Tejag**	**0.37**	**116**	*e*Pg	**Pg**	**01 05 50.1**	**+0.2**
ITEG				*e*Sg	**Sg**	**01 05 55.2**	**+0.5**
AFRZ	**Afriz**	**0.66**	**56**	*e*Pg	**Pg**	**01 05 54.9**	**-0.6**
AFRZ				*e*Sg	**Sg**	**01 06 03.5**	**-0.6**
IKOO	**Kooshah**	**0.84**	**139**	*e*Pg	**Pg**	**01 05 58.3**	**-0.5**
IKOO				*e*Sg	**Sg**	**01 06 10.6**	**+0.9**
IKOO				*e*		01 06 16.4	
	comp=Z,23μm,0.2s						
IMON	**Monand**	**1.11**	**83**	*e*		01 06 10.4	
	comp=Z,31μm,0.2s						
IMON				*e*Pg	**Pg**	**01 06 04.2**	**+0.2**
TKDS	**Koohdasht(Taba**	**1.17**	**298**	*e*		01 06 23.3	
	comp=Z,18μm,0.3s						
TKDS				*e*Pg	**Pb**	**01 06 04.7**	**-1.1**
TABS	**Tabas**	**1.19**	**300**	*e*Pg	**Pb**	**01 06 05.2**	**-1.0**
TABS				*e*Sg	**Sb**	**01 06 20.9**	**-1.2**
TABS				IAML		01 06 22.2	
	comp=E,2μm,0.3s						
TABS	**Tabas**	**1.19**	**300**	*e*Pg	**Pb**	**01 06 05.2**	**-1.0**
BSRN	**Basiran**	**1.27**	**149**	*e*Pg	**Pn**	**01 06 06.3**	**-1.4**
BSRN				*e*Sg	**Sb**	**01 06 23.9**	**-0.5**
BSRN	**Basiran**	**1.27**	**149**	*e*Pg	**Pn**	**01 06 06.3**	**-1.4**
IDAH	**Dahanechah**	**1.31**	**104**	*e*Pg	**Pn**	**01 06 07.8**	**-0.6**
TPRV	**Parvadeh(Tabas**	**1.40**	**269**	*e*		01 06 30.7	
	comp=Z,28μm,0.3s						
TPRV				*e*Pg	**Pn**	**01 06 08.7**	**-0.8**
TNSJ	**Nastanj**	**1.72**	**302**	*e*Pn	**Pn**	**01 06 14.0**	**+0.2**
SHRT	**Shahrakht**	**1.72**	**70**	*e*Pg	**Pb**	**01 06 15.2**	**0.0**
SHRT				*e*Sg	**Sg**	**01 06 39.0**	**+0.9**
SHRT	**Shahrakht**	**1.72**	**70**	*e*Pg	**Pb**	**01 06 15.2**	**0.0**
NHDN	**Nehbandan**	**2.20**	**139**	*e*Pn	**Pn**	**01 06 20.8**	**+0.4**
IBAF	**Bafgh**	**2.78**	**239**	*e*Pn	**Pn**	**01 06 29.1**	**+0.7**
IBAF				*e*		01 06 36.9	
	comp=Z,4μm,0.1s						
KHGB	**Koh Gabri**	**3.12**	**211**	*e*Pn	**Pn**	**01 06 33.9**	**+0.7**
KHGB				*e*		01 07 14.4	
	comp=Z,2μm,0.5s						
IMOG	**Moghan**	**3.15**	**15**	*e*Pn	**Pn**	**01 06 33.8**	**+0.1**
IMOG				*e*		01 06 47.9	
	comp=Z,899nm,0.7s						
CHMN	**Cheshme madani**	**3.26**	**193**	*e*Pn	**Pn**	**01 06 35.0**	**-0.3**
CHMN				*e*		01 07 30.7	
	comp=Z,2μm,0.3s						
JRKH	**Jarkhoshk**	**3.28**	**30**	*e*Pn	**Pn**	**01 06 36.7**	**+1.3**
TVBK	**TV Kerman**	**3.35**	**204**	*e*Pn	**Pn**	**01 06 37.4**	**+0.9**
TVBK				*e*		01 06 50.5	
	comp=Z,3μm,0.3s						
KRBR	**Kerman**	**3.36**	**204**	*e*Pn	**Pn**	**01 06 37.9**	**+1.4**
KRBR				IAML		01 07 41.6	
	comp=N,103nm,0.5s						
KRBR	**Kerman**	**3.36**	**204**	*e*Pn	**Pn**	**01 06 37.9**	**+1.4**
SBZV	**Sabzevar**	**3.38**	**350**	*e*Pn	**Pn**	**01 06 38.0**	**+1.3**
IPAY	**Payeh**	**3.42**	**9**	*e*Pn	**Pn**	**01 06 38.6**	**+1.2**
IPAY				*e*		01 06 41.9	
	comp=Z,824nm,0.2s						
ICHK	**Chekchek**	**3.43**	**257**	*e*Pn	**Pn**	**01 06 37.6**	**+0.1**
ICHK				*e*		01 06 51.1	
	comp=Z,3μm,0.2s						
SHRO	**Shahrood**	**3.51**	**327**	*e*Pn	**Pn**	**01 06 39.5**	**+1.1**
SHRO				IAML		01 07 40.2	
	comp=N,174nm,0.4s						
SHRO				IAML		01 07 40.6	
	comp=E,178nm,0.7s						
SHRO	**Shahrood**	**3.51**	**327**	*e*Pn	**Pn**	**01 06 39.5**	**+1.1**
IAKL	**Akhelmad**	**3.55**	**5**	*e*Pn	**Pn**	**01 06 39.9**	**+0.7**
IAKL				*e*		01 06 44.1	
	comp=Z,814nm,0.4s						
IMYA	**Miami**	**3.58**	**23**	*e*Pn	**Pn**	**01 06 39.9**	**+0.5**
IMYA				*e*		01 06 55.9	
	comp=Z,828nm,0.9s						
IMEH	**Mehriz**	**3.58**	**243**	*e*Pn	**Pn**	**01 06 40.1**	**+0.5**
IMEH				*e*		01 06 54.3	
	comp=Z,1μm,0.4s						
NGRK	**Negar Kerman**	**3.68**	**203**	*e*Pn	**Pn**	**01 06 41.8**	**+0.8**
NGRK				*e*		01 06 53.6	
	comp=Z,2μm,0.6s						
IKRD	**Kardeh**	**3.83**	**14**	*e*Pn	**Pn**	**01 06 44.8**	**+1.8**
ANAR	**Anarak**	**3.88**	**273**	*e*Pn	**Pn**	**01 06 43.9**	**+0.3**
KBAM	**BAM**	**3.91**	**179**	*e*Pn	**Pn**	**01 06 44.5**	**+0.5**
KBAM				*e*		01 06 58.0	
	comp=Z,2μm,0.4s						
ISFR	**Sfrayin**	**4.00**	**356**	*e*Pn	**Pn**	**01 06 46.5**	**+1.2**
ISFR				*e*		01 07 43.7	
	comp=Z,482nm,0.6s						
ISAD	**Sadrabad**	**4.11**	**255**	*e*Pn	**Pn**	**01 06 46.6**	**-0.3**
ISAD				*e*		01 08 02.2	
	comp=Z,1μm,0.6s						
ZHDN	**Zahedan**	**4.21**	**149**	*e*Pn	**Pn**	**01 06 48.4**	**+0.3**
IEMG	**Emamgholi**	**4.35**	**3**	*e*Pn	**Pn**	**01 06 50.1**	**-0.1**
IEMG				*e*		01 06 56.9	
	comp=Z,469nm,0.2s						
IANJ	**Anjilo**	**4.39**	**304**	*e*Pn	**Pn**	**01 06 52.3**	**+1.6**
NASN	**Na'in**	**4.67**	**268**	*e*Pn	**Pn**	**01 06 55.2**	**+0.5**
NASN	**Na'in**	**4.67**	**268**	*e*Pn	**Pn**	**01 06 55.2**	**+0.5**
MINOD	**Minoodasht**	**4.83**	**331**	*e*Pn	**Pn**	**01 06 57.4**	**+0.8**
ISHM	**Shahmirzad**	**5.00**	**305**	*e*Pn	**Pn**	**01 07 00.3**	**+1.2**
ILAS	**Lasjerd**	**5.04**	**299**	*e*Pn	**Pn**	**01 07 01.4**	**+1.8**
IGLO	**Ghaloghah**	**5.07**	**314**	*e*Pn	**Pn**	**01 07 02.0**	**+2.1**
IZEF	**Zefreh**	**5.07**	**270**	*e*Pn	**Pn**	**01 07 01.0**	**+1.0**
IRAM	**Ramesheh**	**5.20**	**258**	*e*Pn	**Pn**	**01 07 02.7**	**+0.9**
ISFB	**Sefidab**	**5.26**	**286**	*e*Pn	**Pn**	**01 07 04.5**	**+2.0**
KRSH	**Karshahi**	**5.28**	**282**	*e*Pn	**Pn**	**01 07 03.9**	**+1.1**
IFIR	**Firoozkooh**	**5.30**	**301**	*e*Pn	**Pn**	**01 07 04.0**	**+0.8**
IKLH	**Kolahrood**	**5.69**	**274**	*e*Pn	**Pn**	**01 07 09.1**	**+0.6**
IDMV	**Damavand**	**5.80**	**297**	*e*Pn	**Pn**	**01 07 10.6**	**+0.4**
IVRN	**Varamin**	**5.83**	**291**	*e*Pn	**Pn**	**01 07 11.7**	**+1.3**
QAMS	**Qamsar**	**5.86**	**279**	*e*Pn	**Pn**	**01 07 11.3**	**+0.4**
IPRN	**Peran**	**5.89**	**304**	*e*Pn	**Pn**	**01 07 11.9**	**+0.7**
GENO	**Geno**	**5.95**	**199**	*e*Pn	**Pn**	**01 07 13.1**	**+1.0**
KLNJ	**Kolanjah**	**6.10**	**252**	*e*Pn	**Pn**	**01 07 16.3**	**+2.1**
SRVN	**Saravan**	**6.63**	**147**	*e*Pn	**Pn**	**01 07 22.5**	**+1.1**
QABG	**Abgarm-Qazvin**	**7.72**	**292**	*e*Pn	**Pn**	**01 07 37.2**	**+0.8**

IDC 13 01:07:04.3±1.4,26.˚90N×102.˚86E,h0km,mb3.5/4, mb1 3.6/4,mb1mx3.3/70,mbtmp3.5/4,MS4.1/1,Ms1 4.1/1, ms1mx2.9/38,Error ellipse: s-maj=584.1km s-min=22.9km az=56.0,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**25.65**	**326**	P	P	01 12 35.6	-0.1
	0.4nm,0.6s,baz=124,slow=9.4,SNR=3.6						
KURBB	**Kurchatov Arra**	**30.09**	**328**	P	P	01 13 15.4	+0.1
	0.5nm,0.8s,baz=133,slow=9.0,SNR=5.8						
GUMO	**Guam**	**41.39**	**100**	LR	LR	01 28 50.9	
	comp=Z,247nm,21.3s,baz=186,slow=32						
WRA	**Warramunga Arr**	**55.67**	**143**	P	P	01 16 41.8	-0.7
	0.9nm,1.1s,baz=327,slow=7.0,SNR=5.6						
ASAR	**Alice Springs**	**58.54**	**146**	P	P	01 17 03.4	+0.6
	0.2nm,0.5s,baz=335,slow=6.3,SNR=4.3						

NEIC ***13*** *01:13:13.8,0.˚11N×123.˚48E,h134km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.94; $M_{\theta\theta}$-0.81; $M_{\phi\phi}$-1.13; $M_{r\theta}$0.22; $M_{r\phi}$-1.11; $M_{\theta r}$-0.43; Fault plane solution: $M_0$2.07000×10^{17} NP1:ϕ_s53.88000°, δ43.97000°,λ109.12000°. NP2:ϕ_s208.15000°,δ49.01000°, λ72.46000°. Principal axes: T 2.0485, Plg77.0000°, Azm51.0000°; N 0.0492, Plg13.0000°, Azm220.0000°; P -2.0977, Plg3.0000°, Azm310.0000°;*

GCMT ***13*** *01:13:13.6±0.1,0.˚12N±0.˚01×123.˚58E±0.˚01,h146km, MW5.5/145,Moment Tensor Solution. s123,c198; s145,c283; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}1.61±.02; $M_{\theta\theta}$-0.03±.02; $M_{\phi\phi}$-1.58±.03; $M_{r\theta}$0.50±.02; $M_{r\phi}$-0.99±.02; $M_{\theta r}$-0.26±.02; Best double couple: $M_0$1.95200×10^{17} NP1:ϕ_s47.00000°,δ49.00000°, λ120.00000°. NP2:ϕ_s185.00000°,δ49.00000°,λ60.00000°. Principal axes: T 1.8380, Plg68.0000°, Azm26.0000°; N 0.2300, Plg22.0000°, Azm206.0000°; P -2.0660, Plg0.0000°, Azm296.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***13*** *01:13:14.4±0.5,0.˚17N×123.˚39E,h150km±3km,mb5.3/48, mb1 5.3/53,mb1mx5.3/55,mbtmp5.7/53,MS4.2/18, Ms1 4.2/18,ms1mx4.0/38 Error ellipse: s-maj=7.6km s-min=5.6km az=78.0*

DJA ***13*** *01:13:14.5±0.1,0.˚N±1.˚×12.˚4E±.˚,h136km±1km,M5.4/93, mB5.9/60,mb5.7/93,MLv6.0/24,Mw(mB)5.5/60, MwMwp5.1/13,Mwp5.3/13*

NEIC ***13*** *01:13:14.6±2.5,0.˚04N±0.˚07×123.˚45E±0.˚06,h143km±1km, mb5.8/293,Mwb5.5/19,Mww5.4,Mwc5.5(GCMT), Error ellipse: s-maj=11.1km s-min=9.9km az=189.0*

MOS ***13*** *01:13:14.2±1.1,0.˚20N×123.˚35E,h163km,mb5.7/66, MS4.2/5,Error ellipse: s-maj=7.0km s-min=4.1km az=110.2*

KLM ***13*** *01:13:15,0.˚11N×123.˚65E,h159km,mb5.7*

NEIC ***13*** *01:13:15,0.˚09N×123.˚61E,h146km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.66; $M_{\theta\theta}$-0.07; $M_{\phi\phi}$-1.59; $M_{r\theta}$0.42; $M_{r\phi}$-0.98; $M_{\theta r}$-0.40; Fault plane solution: $M_0$1.98000×10^{17} NP1:ϕ_s46.00000°, δ46.00000°,λ119.00000°. NP2:ϕ_s183.00000°,δ51.00000°, λ63.00000°. Principal axes: T 1.8736, Plg69.0000°, Azm33.0000°; N 0.2035, Plg20.0000°, Azm205.0000°; P -2.0771, Plg3.0000°, Azm296.0000°;*

NEIC ***13*** *01:13:15,0.˚14N×123.˚65E,h150km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.42; $M_{\theta\theta}$-0.16; $M_{\phi\phi}$-1.27; $M_{r\theta}$0.38; $M_{\theta\phi}$-0.49; $M_{\theta r}$-0.43; Fault plane solution: $M_0$1.54000×10^{17} NP1:ϕ_s37.00000°, δ42.00000°,λ116.00000°. NP2:ϕ_s183.00000°,δ53.00000°, λ68.00000°. Principal axes: T 1.6056, Plg72.0000°, Azm36.0000°; N -0.1306, Plg17.0000°, Azm197.0000°; P -1.4750, Plg6.0000°, Azm289.0000°;*

ISC 13 01:13:14.8±0.2,0.˚10N±0.˚02×123.˚44E±0.˚03,h156km±2km, h156km:pP-P,n1659,σ1°53/1859,mb5.7/298,196C-73D, Fault plane solution: NP1:ϕ_s232.98593°,δ49.77624°, λ100.54607°. NP2:ϕ_s36.90415°,δ41.35495°,λ77.78947°. Principal axes: T Plg80.8978°, Azm197.8798°; N Plg8.0331°, Azm46.1305°; P Plg4.2521°, Azm315.5293°; Fault plane solution: NP1:ϕ_s356.21747°,δ46.95002°, λ89.10812°. NP2:ϕ_s177.52385°,δ43.05742°,λ90.95462°. Principal axes: T Plg87.9473°, Azm248.3223°; N Plg0.6517°, Azm356.8263°; P Plg1.9464°, Azm86.8485°;

Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**1.32**	**211**		**Pn**	**01 13 40.9**	**-2.1**
MRSI	**Marisa**	**1.55**	**284**	P	**Pn**	**01 13 44.5**	**-0.9**
MRSI				S	**Sn**	**01 14 06.7**	**-2.1**
MNI	**Manado**	**1.93**	**46**	P	**Pn**	**01 13 49.4**	**-0.2**
MNI				S	**Sn**	**01 14 14.9**	**-1.5**
APSI	**Ampana**	**2.06**	**241**	P	**Pn**	**01 13 50.6**	**-0.4**
APSI				S	**Sn**	**01 14 17.1**	**-1.7**
TOLI2	**Tolitoli**	**2.84**	**291**		**Pn**	**01 13 59.4**	**-1.2**
SANI	**Sanana**	**3.32**	**130**	P	**Pn**	**01 14 02.0**	**-4.5**
SANI				S	Sn	01 14 37.0	-10
MPSI	**Mapaga**	**3.55**	**274**	P	**Pn**	**01 14 10.6**	**+1.1**
MPSI				S	**Sn**	**01 14 53.2**	**+1.3**
TNTI	**Ternate**	**3.98**	**80**		**Pn**	**01 14 12.3**	**-2.7**
TNTI	**Ternate**	**3.98**	**80**	P	**Pn**	**01 14 12.3**	**-2.7**
TNTI				S	**Sn**	**01 14 55.2**	**-6.6**
SGSI	**Sangihe**	**4.13**	**30**	P	**Pn**	**01 14 17.9**	**+0.9**
SGSI				S	**Sn**	**01 15 05.3**	**-0.1**
KKSI	**Kolaka, Sulawe**	**4.60**	**203**	P	**Pn**	**01 14 21.9**	**-1.3**
KKSI				S	**Sn**	**01 15 16.0**	**-0.5**
GAMI	**Galela, Maluku**	**4.67**	**68**	P	**Pn**	**01 14 21.4**	**-2.7**
GAMI				S	**Sn**	**01 15 12.7**	**-5.5**
TTSI	**Tana Toraja**	**4.78**	**229**	P	**Pn**	**01 14 25.8**	**+0.3**
TTSI				S	**Sn**	**01 15 18.4**	**-2.3**
BNSI	**Bone**	**5.58**	**217**	P	**Pn**	**01 14 35.9**	**-0.1**
	8.7nm15μm1μm,0.6s						
BNSI				S	**Sn**	**01 15 40.1**	**+0.6**
	8.7nm15μm1μm,0.6s						
PMSI	**Majene**	**5.77**	**232**	P	**Pn**	**01 14 40.2**	**+1.6**
	10.0nm7μm12μm879nm,1.1s						
SGKI	**Sangatta, Kali**	**5.87**	**264**	P	**

KMMI Kalianget 11.82 233 P Pn 01 16 02.0 +3.3
5µm762nm,0.8s
STKI Sintang 11.97 270 P Pn 01 16 02.4 +1.8
10µm451nm,0.9s
DNP Denpasar 11.97 223 P P 01 16 11.6 +4.5
ABJI Asem Bagus 12.07 229 P Pn 01 16 03.3 +1.3
167nm,0.8s
PBKI Pangkalan Bun 12.09 257 P Pn 01 16 03.9 +1.6
11µm1µm,1.1s
JAGI Jajag, Banyuwa 12.58 227 Pn Pn 01 16 08.0 -0.5
JAGI Jajag, Banyuwa 12.58 227 P Pn 01 16 11.0 +2.5
408nm,0.8s
BAKI Biak 12.73 96 P Pn 01 16 09.6 -0.9
7µm504nm,0.7s
SRPI Serui, Papua 12.94 99 P Pn 01 16 11.2 -2.0
5µm396nm,0.6s
GMJI Gumukmas 12.98 230 P P 01 16 16.1 -2.2
5µm644nm,0.8s
KSM Kuching 13.20 276 P Pn 01 16 18.0 +1.4
TBJI Tambak Boyo 13.45 239 P P 01 16 22.4 -1.2
242nm,0.9s
PGP Puerto Galera 13.54 350 ||eP P 01 16 26.1 +1.5
KRKI Karangkates 13.69 233 P P 01 16 25.6 -0.5
1µm,0.8s
LUBP Lubang 13.91 347 ⇑eP P 01 16 28.0 -0.7
SJI Sawahan 14.00 236 P P 01 16 29.9 +0.1
296nm,0.6s
JCNP Jose Panganiba 14.12 357 ⇑eP P 01 16 30.1 -0.8
PWJI Pagerwojo 14.13 235 P P 01 16 30.7 -0.4
344nm,0.5s
TGY Tagaytay City 14.13 350 ||eP P 01 16 33.4 +2.2
PCJI Pacitan 14.74 236 P P 01 16 38.8 +0.9
7µm550nm,0.7s
SMRI Semarang 14.79 241 Pn Pn 01 16 34.8 -1.7
SMRI Semarang 14.79 241 P Pn 01 16 36.9 +0.4
5µm333nm,0.9s
MTN Manton Dam 14.95 150 P Pn 01 16 36.8 -1.8
baz=15,SNR=199
MTN Manton Dam 14.95 150 Pn Pn 01 16 36.7 -1.8
UGM Wanagama 15.14 238 P 01 16 42.0 -0.4
UGM Wanagama 15.14 238 P P 01 16 44.7 +2.3
168nm,1.6s
YOGI Yogyakarta 15.29 239 P P 01 16 46.7 +2.8
352nm,0.7s
KDU Kakadu 15.54 145 P Pn 01 16 43.6 -2.2
baz=16,SNR=243
CTJI Waduk Cacaban 15.88 243 P P 01 16 53.1 +2.6
145nm,1.6s
TPI Tanjungpandan 16.04 260 P P 01 16 53.4 +1.1
2µm189nm,0.9s
KPJI Karang Pucung 16.25 243 P P 01 16 56.5 +1.9
JCJI Jatiwangi 16.50 246 P Pn 01 17 00.7 +3.3
10µm569nm,1.7s
KNRA Kununurra 16.53 162 P P 01 16 56.9 -0.7
baz=17,SNR=193
KNRA Kununurra 16.53 162 P 01 16 56.5 -1.2
KNRA IAmb IAmb 01 16 59.5
comp=Z,398nm,0.6s
CMJI Cimerak 16.88 242 P Pn 01 17 04.2 +2.2
comp=Z,3µmcomp=Z,222nm,1.1s
GENI Genyem 16.93 99 P P 01 17 02.4 +0.3
comp=Z,15µmcomp=Z,1µm,1.3s
LEM Lembang 17.22 246 P Pn 01 17 07.1 +0.7
comp=Z,32nm,0.3s,baz=28,slow=9.7,SNR=35
CISI Cisompet, Garu 17.34 244 P P 01 17 06.5 -0.2
CISI Cisompet, Garu 17.34 244 P Pn 01 17 07.8 +0.1
comp=Z,4µmcomp=Z,210nm,0.9s
PPBI Pangkal Pinang 17.45 263 P Pn 01 17 09.6 +0.7
comp=Z,12µmcomp=Z,289nm,0.7s
JAY Jayapura 17.45 99 P P 01 17 08.1 +0.2
comp=Z,7.9nm,0.3s,baz=263,slow=7.0,SNR=63
JAY ScP ScP 01 25 02.2 +0.5
comp=Z,0.3nm,0.3s,baz=217,slow=4.3,SNR=3.8
JAY Jayapura 17.45 99 P P 01 17 08.1 +0.2
JAY Jayapura 17.45 99 P P 01 17 07.7 -0.2
comp=Z,1µmcomp=Z,147nm,0.8s
CVP Callao Caves 17.57 355 ||eP Pn 01 17 11.6 +1.3
CBJI Citeko 17.78 248 P Pn 01 17 13.4 +0.5
comp=Z,23µmcomp=Z,959nm,0.7s
APYP Conner 17.78 353 ||eP Pn 01 17 13.2 +0.4
CNJI Cibinong 17.86 245 P Pn 01 17 17.3 +3.5
comp=Z,5µmcomp=Z,365nm,0.9s
DBJI Dramaga 17.92 248 P Pn 01 17 14.4 -0.1
comp=Z,18µmcomp=Z,144nm,0.8s
FITZ Fitzroy Crossi 18.21 173 P P 01 17 15.9 -0.2
baz=18,SNR=131
FITZ Fitzroy Crossi 18.21 173 P 01 17 15.9 -0.2
comp=Z,8.0nm,0.3s,baz=3.6,slow=8.1,SNR=300
FITZ S S 01 20 33.6 -2.9
comp=Z,0.7nm,0.3s,baz=332,slow=20,SNR=6.4
FITZ Fitzroy Crossi 18.21 173 P P 01 17 15.9 -0.2
SKJI Sukabumi 18.26 247 P Pn 01 17 18.5 -0.1
comp=Z,2µmcomp=Z,152nm,0.5s
SBJI Serang 18.35 250 P Pn 01 17 22.2 +2.6
comp=Z,263nm,1.9s
DSRI Dabo 18.87 268 P Pn 01 17 25.6 -0.1
comp=Z,5µmcomp=Z,387nm,0.5s
MMPI Merauke 18.90 117 P P 01 17 24.1 +0.4
comp=Z,24µmcomp=Z,774nm,0.6s
PMBI Palembang 18.90 261 IAmb IAmb 01 17 30.7
comp=Z,527nm,0.9s
BLSI Bandar Lampung 18.97 253 P Pn 01 17 26.8 0.0
comp=Z,325nm,0.4s
KLI Kotabumi 19.21 255 P Pn 01 17 31.9 +2.3
comp=Z,7µmcomp=Z,485nm,1.0s
MDSI Maura Dua 19.78 256 P P 01 17 33.3 +0.2
comp=Z,1µmcomp=Z,56nm,1.1s
LWLI Liwa 20.02 255 P Pn 01 17 39.9 +0.6
comp=Z,250nm,0.8s
LHSI Lahat 20.28 259 P Pn 01 17 42.1 -0.3
comp=Z,3µmcomp=Z,174nm,1.1s
XMI Christmas Isla 20.53 239 P P 01 17 42.5 +1.3
comp=Z,216nm,0.8s
XMIS Christmas Isla 20.58 239 P P 01 17 40.5 -1.2
XMIS Christmas Isla 20.58 239 P P 01 17 42.2 +0.5
comp=Z,284nm,0.8s
KSI Kapahiang 21.17 260 P P 01 17 49.1 +1.0
comp=Z,135nm,0.9s
JRMM Jerantut 21.29 280 P P 01 17 52.0 +2.7
MASI Maura Aman, Be 21.44 261 P P 01 17 52.2 +1.2
comp=Z,6µmcomp=Z,705nm,0.9s
PSA00 Pilbara Seismi 21.82 189 P P 01 17 54.0 -0.9
PSA00 IAmb IAmb 01 17 55.7
comp=Z,473nm,1.9s
PSA00 Pilbara Seismi 21.82 189 P P 01 17 53.6 -1.3
PSA00 IAmb IAmb 01 17 55.6
comp=Z,154nm,1.8s
KRJI Kerinci 22.08 264 P P 01 18 01.5 +3.7
comp=Z,24µmcomp=Z,2µm,0.9s
WRAB Tennant Creek 22.59 152 deP P 01 18 01.4 -1.1
WRAB pmax pmax
comp=Z,309nm,1.3s
WRA Warramunga Arr 22.60 152 P P 01 18 01.5 -1.0
comp=Z,125nm,0.6s,baz=339,slow=11,SNR=454
WRA pP pP 01 18 29.6 -1.3
comp=Z,143nm,0.8s,baz=330,slow=11,SNR=5.5
WRA PcP PcP 01 21 50.8 +0.5
comp=Z,22nm,0.5s,baz=308,slow=1.3,SNR=9.3
WRA ScP ScP 01 25 13.1 -0.5
comp=Z,7.7nm,0.6s,baz=312,slow=2.2,SNR=5.4
WRA PKiKP PKiKP 01 29 35.0 -0.6
comp=Z,1.8nm,0.6s,baz=335,slow=2.0,SNR=6.4
WRA P3KPbc 01 51 26.4
comp=Z,0.8nm,0.6s,baz=154,slow=3.6,SNR=10
WRA Warramunga Arr 22.60 152 P P 01 18 01.5 -1.0
WRA *PP pP 01 18 29.6 -1.3
WRA 01 21 50.8
WRA Warramunga Arr 22.60 152 P P 01 18 01.0 -1.5
WRA Warramunga Arr 22.60 152 PcP 01 21 50.8 +0.5
WB2 Warramunga Arr 22.60 152 P P 01 18 01.1 -1.5
WB2 IAmb IAmb 01 18 05.1
comp=Z,215nm,0.8s
WC3 Warramunga Arr 22.63 152 P P 01 18 01.2 -1.6
baz=23
TWG Pinlang 22.70 354 P P 01 18 01.7 -1.7
WR0 Warramunga Arr 22.71 152 P P 01 18 02.1 -1.4
WR0 IAmb IAmb 01 18 43.1
comp=Z,251nm,0.9s
IPM Ipoh 22.81 281 P P 01 18 07.0 +2.4
PDSI Padang 23.00 267 P P 01 18 08.6 +2.3
comp=Z,3µmcomp=Z,157nm,0.7s
QIZ Qiongzhong 23.07 325 P P 01 18 07.5 +0.7
QIZ S S 01 22 09.7 +3.7
QIZ pmax pmax
comp=Z,340nm,0.9s
QIZ Qiongzhong 23.07 325 P P 01 18 08.1 +1.3
QIZ IAmb IAmb 01 18 10.1
comp=Z,289nm,0.8s
TPUB Ta-pu 23.23 353 P P 01 18 08.8 +0.6
YULB Yu-li 23.25 355 P P 01 18 07.5 -0.9
UBPT Khong Chiam 23.30 311 P P 01 18 11.6 +2.6
comp=Z,3µmcomp=Z,163nm,0.8s
UBPT Khong Chiam 23.30 311 P P 01 18 11.0 +2.0
comp=Z,3µmcomp=Z,163nm,0.8s
UBPT Khong Chiam 23.30 311 P P 01 18 09.6 +0.6
UBPT Khong Chiam 23.30 311 P P 01 18 11.6 +2.6
comp=Z,3µmcomp=Z,155nm,0.8s
KULM Kulim 23.34 283 P P 01 18 12.0 +2.6
SSLB Suanglung 23.67 354 P P 01 18 12.5 +0.2
SSLB IAmb IAmb 01 18 18.0
comp=Z,335nm,0.7s
SSLB PcP 01 21 52.5 -0.1
SKLT Songkhla 23.82 288 P P 01 18 16.5 +2.8
comp=Z,3µmcomp=Z,263nm,1.0s
SKLT Songkhla 23.82 288 P P 01 18 16.6 +2.8
comp=Z,3µmcomp=Z,263nm,1.0s
MNSI Mandailing Nat 23.87 272 P P 01 18 17.6 +3.4
comp=Z,99nm,0.8s
NACB Ninganchiao 24.00 356 P P 01 18 14.7 -0.6
MANU Manus Island 24.01 95 P P 01 18 16.5 +0.9
MANU IAmb IAmb 01 18 18.9
comp=Z,136nm,0.7s
COEN Coen 24.02 126 P P 01 18 15.0 -0.5
YOJ Yonaguni jima 24.22 359 P P 01 18 17.0 -0.2
YOJ pmax pmax
comp=Z,252nm,0.9s
YOJ Yonaguni jima 24.22 359 P P 01 18 17.0 -0.2
YOJ IAmb IAmb 01 18 21.5
comp=Z,252nm,0.9s
GIRL Giralia 24.32 201 P P 01 18 19.2 +1.0
baz=24,SNR=9.7
YHNB Yeheng 24.51 355 P P 01 18 20.1 +0.1
YHNB IAmb IAmb 01 18 25.5
comp=Z,435nm,1.3s
RPSI Rantau Prapat 24.64 276 P P 01 18 21.9 +0.6
RPSI Rantau Prapat 24.64 276 PcP 01 21 54.9 +0.1
PSI Prapat 24.66 276 P P 01 18 21.6 0.0
comp=Z,117nm,0.9s,baz=173,slow=1.5,SNR=73
PSI PcP PcP 01 21 54.9 -0.1
comp=Z,16nm,0.6s,baz=180,slow=3.7,SNR=4.5
PSI Prapat 24.66 276 P P 01 18 21.9 +0.4
PSI 01 21 54.9
PSI pmax pmax
comp=Z,120nm,0.9s
PSI Prapat 24.66 276 P P 01 18 22.3 +0.8
comp=Z,1µmcomp=Z,771nmcomp=Z,77nm,0.9s
TATO Taipei 24.80 356 P P 01 18 22.2 -0.3
TATO IAmb IAmb 01 18 27.2
comp=Z,338nm,1.3s
TATO Taipei 24.80 356 P P 01 18 21.9 -0.6
GZH Guangzhou 24.87 337 P P 01 18 29.4 +6.2
TRTT Trang 24.89 289 P P 01 18 26.0 +2.5
comp=Z,2µmcomp=Z,105nm,0.9s
TRTT Trang 24.89 289 P P 01 18 26.1 +2.5
comp=Z,2µmcomp=Z,105nm,0.9s
TSI Tuntungan 25.09 278 P P 01 18 27.4 +2.1
comp=Z,189nm,0.8s
GUMO Guam 25.10 57 P P 01 18 24.6 -0.8
comp=Z,208nm,0.5s,baz=171,slow=9.2,SNR=19
GUMO Guam 25.10 57 P P 01 18 24.6 -0.8
GUMO Guam 25.10 57 P P 01 18 26.1 +0.7
QZH Quanzhou 25.14 350 ⇑iP P 01 18 25.6 0.0
QZH sP sP 01 19 12.4 -3.4
QZH pmax pmax
comp=Z,180nm,1.0s
QZH LR LR
comp=Z,650nm,16.6s
QZH LR LR
comp=Z,830nm,17.5s
SURA Surathani 25.36 291 P P 01 18 31.3 +3.6
comp=Z,8µmcomp=Z,60nm,1.1s
SURA Surathani 25.36 291 P P 01 18 31.4 +3.6
comp=Z,8µmcomp=Z,59nm,1.1s
WRKA Warakurna 25.43 170 P P 01 18 28.1 -0.1
baz=26,SNR=176
SKNT Sakolnakorn 25.47 312 P P 01 18 31.6 +2.9
comp=Z,290nm,0.8s
SKNT Sakolnakorn 25.47 312 P P 01 18 31.6 +2.9
comp=Z,290nm,0.8s
AS31 Alice Springs 25.71 157 P P 01 18 30.3 -0.6
ASAR Alice Springs 25.71 157 P P 01 18 31.2 +0.3
comp=Z,27nm,0.6s,baz=332,slow=6.8,SNR=224
ASAR pP pP 01 19 01.9 -0.9
comp=Z,75nm,0.9s,baz=333,slow=8.3,SNR=5.5
ASAR PcP PcP 01 21 57.5 +0.4
comp=Z,72nm,0.5s,baz=349,slow=2.2,SNR=31
ASAR S S 01 22 47.8 -0.5
comp=Z,12nm,0.8s,baz=348,slow=21,SNR=4.3
ASAR ScP ScP 01 25 21.7 -0.4
comp=Z,14nm,0.9s,baz=336,slow=2.2,SNR=6.4
ASAR ScS ScS 01 29 06.5 -5.3
comp=Z,1.2nm,0.6s,baz=6.5,slow=4.7,SNR=4.8
ASAR LR LR 01 30 22.8
comp=Z,526nm,18.1s,baz=354,slow=40
ASAR P3KPbc 01 51 14.3
comp=Z,0.3nm,0.5s,baz=146,slow=4.0,SNR=6.5
ASAR Alice Springs 25.71 157 P P 01 18 31.2 +0.3
ASAR *PP pP 01 19 02.0 -0.9
ASAR 01 21 57.5
ASAR Alice Springs 25.71 157 P P 01 18 31.0 +0.1
ASAR Alice Springs 25.71 157 PcP 01 21 57.5 +0.4
ASPA Alice Springs 25.71 157 P P 01 18 31.0 +0.2
baz=26
PATY Pattaya 25.76 301 P P 01 18 36.8 +5.5
comp=Z,68nm,0.9s
GSI Gunungsitoli 25.89 273 P P 01 18 31.8 -0.7
GSI IAmb IAmb 01 19 13.4
comp=Z,170nm,0.7s
GSI PcP 01 21 58.9 +1.2
GSI Gunungsitoli 25.89 273 P P 01 18 32.5 -0.1
comp=Z,50nm,0.7s
QIS Mount Isa 25.91 143 P P 01 18 32.9 +0.2
baz=26,SNR=180
KHON Khomkaen 25.96 309 P P 01 18 34.8 +1.7
comp=Z,8µmcomp=Z,1µm,0.9s
KHON Khomkaen 25.96 309 P P 01 18 34.8 +1.7
comp=Z,2µmcomp=Z,275nm,0.9s
SURT Suratani 26.08 290 P P 01 18 38.3 +4.1
comp=Z,50nmcomp=Z,1.9nm,1.1s
SURT Suratani 26.08 290 P P 01 18 38.4 +4.1
comp=Z,50nmcomp=Z,1.9nm,1.1s
PKDT Phuket 26.20 288 P P 01 18 38.0 +2.8
comp=Z,68nm,0.9s
PKDT Phuket 26.20 288 P P 01 18 38.1 +2.8
comp=Z,68nm,0.9s
CHAI Chaiyaphum 26.36 308 P P 01 18 38.3 +1.6
comp=Z,3µmcomp=Z,452nm,0.7s
CHAI Chaiyaphum 26.36 308 P P 01 18 38.3 +1.6
comp=Z,847nmcomp=Z,112nm,0.7s
TPTI 26.43 277 P P 01 18 38.1 +0.7
comp=Z,39nm,0.7s
JMZ Minamidaito 2 26.65 16 P P 01 18 38.9 -0.2
JMZ IAmb IAmb 01 18 40.0
comp=Z,318nm,0.9s
NONG Nongkai 26.78 313 P P 01 18 41.6 +1.2
comp=Z,235nm,0.9s
NONG Nongkai 26.78 313 P P 01 18 41.7 +1.2
comp=Z,237nm,0.9s
PHET Kaeng Krachan 26.82 299 P P 01 18 43.6 +2.8
comp=Z,1µmcomp=Z,158nm,0.9s
PHET Kaeng Krachan 26.82 299 P P 01 18 43.7 +2.8
comp=Z,361nmcomp=Z,41nm,0.9s
JOW Kunigami 26.98 10 P P 01 18 42.0 -0.1
comp=Z,60nm,0.6s,baz=204,slow=9.1,SNR=14
JOW PcP PcP 01 22 00.2 +0.3
comp=Z,46nm,0.8s,baz=302,slow=2.5,SNR=5.5
JOW ScP ScP 01 25 26.1 +0.4
comp=Z,15nm,0.9s,baz=116,slow=7.1,SNR=4.1
JOW LR LR 01 28 52.8
comp=Z,520nm,21.3s,baz=126,slow=35
JOW Kunigami 26.98 10 P P 01 18 42.2 0.0
MEEK Meekatharra 26.98 190 P P 01 18 41.2 -1.0
baz=27,SNR=76
ANA2 Anatahan 27.25 53 P P 01 18 44.7 0.0
ANA2 IAmb IAmb 01 18 46.6
comp=Z,162nm,0.8s
ANA2 Anatahan 27.25 53 P P 01 18 46.2 +1.5
comp=Z,239nm,0.7s
MTSU Mount Surprise 27.38 133 P P 01 18 46.3 +0.5
baz=27,SNR=20
PBKT Sadao Pong 27.55 308 P P 01 18 54.9 +7.6
PBKT Sadao Pong 27.55 308 P P 01 18 54.0 +6.7
PBKT Sadao Pong 27.55 308 P P 01 18 54.9 +7.6
PBKT Sadao Pong 27.55 308 P P 01 18 47.4 +0.1
LOEI Loei 27.85 310 P P 01 18 49.0 -1.0
comp=Z,154nm,0.6s
SRDT SRDT 27.92 302 P P 01 18 54.5 +3.9
comp=Z,8µmcomp=Z,232nm,1.1s
SRDT SRDT 27.92 302 P P 01 18 54.6 +3.9
comp=Z,8µmcomp=Z,232nm,1.1s
SRDT SRDT 27.92 302 P P 01 18 54.5 +3.9
comp=Z,7µmcomp=Z,222nm,1.1s
UTHA Uthaitani 28.24 304 P P 01 18 55.6 +2.1
comp=Z,3µmcomp=Z,354nm,0.6s
UTHA Uthaitani 28.24 304 P P 01 18 55.7 +2.1
comp=Z,682nmcomp=Z,88nm,0.6s
PHIT Phitsanulok 28.33 308 P P 01 18 56.5 +2.2
comp=Z,5µmcomp=Z,662nm,0.9s
PHIT Phitsanulok 28.33 308 P P 01 18 56.0 +1.7
comp=Z,1µmcomp=Z,164nm,0.9s
SLVN Son La 28.45 319 P P 01 18 56.2 +0.8
KHLT Khaolaem Dam 28.59 302 P P 01 19 00.9 +4.4
comp=Z,2µmcomp=Z,156nm,1.0s
KHLT Khaolaem Dam 28.59 302 P P 01 19 00.9 +4.4
comp=Z,2µmcomp=Z,156nm,1.0s
RABL Rabaul 29.01 99 P P 01 19 00.6 +0.2
RABL Rabaul 29.01 99 P P 01 19 02.3 +1.9
NANT Nan 29.05 311 P P 01 19 03.9 +3.3
comp=Z,596nm,0.5s
UMPA Umpang Tak 29.05 305 P P 01 19 03.5 +2.8
comp=Z,5µmcomp=Z,179nm,1.0s
UMPA Umpang Tak 29.05 305 P P 01 19 03.6 +2.8
comp=Z,1µmcomp=Z,44nm,1.0s
LAMP Lampang 29.70 309 P P 01 19 08.6 +2.2
comp=Z,1µmcomp=Z,168nm,0.9s
LAMP Lampang 29.70 309 P P 01 19 08.7 +2.3
comp=Z,335nmcomp=Z,42nm,0.9s
MORW Morawa 29.85 193 P P 01 19 07.1 -0.5
baz=30,SNR=22
MORW Morawa 29.85 193 P P 01 19 06.8 -0.8
MORW IAmb IAmb 01 19 08.4
comp=Z,304nm,1.9s
CTAO Charters Tower 30.02 133 P P 01 19 09.9 +0.6
CTAO pmax pmax
comp=Z,30nm,0.9s
CTAO Charters Tower 30.02 133 P P 01 19 09.9 +0.6
CM36 Chiang Mai Arr 30.12 309 P P 01 19 12.0 +1.9
CM04 Chiang Mai Arr 30.14 308 P P 01 19 12.6 +2.3
comp=Z,635nmcomp=Z,85nm,1.1s
CM04 Chiang Mai Arr 30.14 308 P P 01 19 12.7 +2.3
comp=Z,635nmcomp=Z,85nm,1.1s
CM09 Chiang Mai Arr 30.16 309 P P 01 19 12.8 +2.4
comp=Z,741nmcomp=Z,84nm,1.1s
CM09 Chiang Mai Arr 30.16 309 P P 01 19 12.9 +2.5
comp=Z,741nmcomp=Z,84nm,1.1s
CM35 Chiang Mai Arr 30.16 309 P P 01 19 12.0 +1.5
CM01 Chiang Mai Arr 30.17 308 P P 01 19 12.8 +2.3
comp=Z,728nmcomp=Z,89nm,1.1s
CM01 Chiang Mai Arr 30.17 308 P P 01 19 12.8 +2.3
comp=Z,728nmcomp=Z,89nm,1.1s
CM05 Chiang Mai Arr 30.17 308 P P 01 19 12.7 +2.2
comp=Z,551nmcomp=Z,74nm,1.0s
CM05 Chiang Mai Arr 30.17 308 P P 01 19 12.8 +2.2
comp=Z,551nmcomp=Z,74nm,1.0s
CM02 Chiang Mai Arr 30.18 308 P P 01 19 13.0 +2.3
comp=Z,669nmcomp=Z,82nm,1.1s
CM02 Chiang Mai Arr 30.18 308 P P 01 19 13.0 +2.3
comp=Z,669nmcomp=Z,82nm,1.1s
CM31 Chiang Mai Arr 30.20 309 P P 01 19 13.2 +2.3
comp=Z,17µmcomp=Z,2µm,1.2s
CM31 Chiang Mai Arr 30.20 309 P P 01 19 12.4 +1.6
CM31 IAmb IAmb 01 19 15.9
comp=Z,192nm,1.2s
CM31 PcP 01 22 09.0 +0.8
CM31 Chiang Mai Arr 30.20 309 P P 01 19 13.1 +2.3
SNR=37
CMAR Chiang Mai Arr 30.20 309 P P 01 19 11.8 +1.0
comp=Z,67nm,1.0s,baz=138,slow=7.0,SNR=123
CMAR PcP PcP 01 22 09.2 +1.0
comp=Z,21nm,0.9s,baz=162,slow=1.6,SNR=9.7
CMAR ScP ScP 01 25 36.7 +0.6
comp=Z,6.6nm,0.7s,baz=157,slow=2.7,SNR=12
CMAR LR LR 01 32 20.6
comp=Z,428nm,19.8s,baz=180,slow=38
CMAR Chiang Mai Arr 30.20 309 P P 01 19 12.5 +1.7
CM13 Chiang Mai Arr 30.21 308 P P 01 19 12.9 +2.0
comp=Z,749nmcomp=Z,86nm,1.1s
CM13 Chiang Mai Arr 30.21 308 P P 01 19 12.9 +2.0
comp=Z,749nmcomp=Z,86nm,1.1s
CM15 Chiang Mai Arr 30.21 308 P P 01 19 13.1 +2.2
comp=Z,720nmcomp=Z,89nm,1.1s
CM15 Chiang Mai Arr 30.21 308 P P 01 19 13.2 +2.2
comp=Z,720nmcomp=Z,89nm,1.1s
CM34 Chiang Mai Arr 30.26 309 P P 01 19 13.0 +1.6
CM32 Chiang Mai Arr 30.39 309 P P 01 19 14.0 +1.5
CMMT Chiang Mai 30.40 309 P P 01 19 14.3 +1.7
comp=Z,2µmcomp=Z,204nm,1.1s
CMMT Chiang Mai 30.40 309 P P 01 19 14.3 +1.7
comp=Z,2µmcomp=Z,204nm,1.1s
CMMT Chiang Mai 30.40 309 P P 01 19 14.3 +1.7
comp=Z,2µmcomp=Z,195nm,1.1s
CHTO Chiang Mai 30.40 309 P P 01 19 13.2 +0.6
CHTO 01 22 09.5
CHTO pmax pmax
comp=Z,229nm,1.1s
CHTO Chiang Mai 30.40 309 P P 01 19 14.4 +1.8
comp=Z,2µmcomp=Z,206nm,1.1s
CHTO Chiang Mai 30.40 309 P P 01 19 13.2 +0.6
CHTO IAmb IAmb 01 19 17.5
comp=Z,229nm,1.1s
CHTO PcP PcP 01 22 09.4 +0.8
CHTO Chiang Mai 30.40 309 P P 01 19 14.4 +1.8
CHTO Chiang Mai 30.40 309 P P 01 19 14.4 +1.8
comp=Z,1µmcomp=Z,116nm,1.1s
CM33 Chiang Mai Arr 30.40 309 P P 01 19 14.0 +1.4
GYA Guiyang 30.79 330 ||iP P 01 19 19.1 +3.0
GYA pP pP 01 19 47.1 -1.9
GYA PP PP 01 20 29.2 +0.4
GYA S S 01 24 10.5 +2.4
GYA ScP ScP 01 25 38.0 0.0
GYA ScS ScS 01 29 33.4 -1.8
GYA pmax pmax
comp=Z,170nm,1.0s
GYA pmax pmax
comp=Z,490nm,3.5s
GYA LR LR
comp=Z,730nm,8.9s
GYA LR LR
comp=Z,510nm,11.8s
GYA LR LR
comp=Z,650nm,12.9s
MHMT Maesariang 30.85 307 P P 01 19 18.8 +2.3
comp=Z,3µmcomp=Z,318nm,1.0s
MHMT Maesariang 30.85 307 P P 01 19 18.0 +1.5
comp=Z,3µmcomp=Z,318nm,1.0s
SSE Sheshan 30.90 356 P P 01 19 17.3 +0.5
SSE S S 01 24 15.2 +5.8
SSE pmax pmax
comp=Z,54nm,1.1s
SSE pmax pmax
comp=Z,100nm,3.5s
SSE LR LR
comp=Z,250nm,10.1s
SSE LR LR
comp=Z,220nm,8.5s
FORT Forrest 31.02 172 P P 01 19 17.5 -0.3
baz=31,SNR=155
FORT Forrest 31.02 172 P P 01 19 17.5 -0.3
FORT PcP PcP 01 22 10.7 +0.6
BLDU Ballidu 31.21 191 P P 01 19 18.8 -0.7
baz=31,SNR=85
WHN Wuhan 31.49 345 ||P P 01 19 24.3 +2.4
WHN S S 01 24 16.8 -1.8
WHN pmax pmax
comp=Z,910nm,1.7s
WHN LR LR
comp=Z,530nm,10.8s
WHN LR LR
comp=Z,1µm,11.1s
WHN LR LR
comp=Z,2µm,20.7s
KMI Kunming 31.93 323 ||P P 01 19 28.9 +2.7
KMI pP pP 01 19 55.3 -3.9
KMI S S 01 24 28.3 +2.1
KMI pmax pmax
comp=Z,56nm,1.3s
KMI pmax pmax
comp=Z,320nm,4.8s

KMI LR LR
comp=Z,340nm,18.8s
KMI LR LR
comp=Z,340nm,16.1s
KMI LR LR
comp=Z,610nm,20.1s
JSU Suzuyama 31.94 11 P **P** **01 19 25.3 -0.6**
JSU **PcP** **01 22 13.0 +0.5**
NJ2 Nanjing 32.08 353⇓*i*P **P** **01 19 28.5 +1.4**
NJ2 PP **PnPn** **01 20 40.8 +1.5**
NJ2 S **S** **01 24 29.4 +1.7**
NJ2 ScP **ScP** **01 25 42.7 +0.7**
NJ2 PcS **PcS** **01 25 57.2 -0.7**
NJ2 pmax pmax
comp=Z,150nm,1.0s
NJ2 pmax pmax
comp=Z,460nm,4.3s
JCJ Chichijima 32.33 32 P **P** **01 19 28.6 -0.8**
comp=Z,2µm,0.4s,baz=225,slow=3.9,SNR=362
JCJ S **S** **01 24 25.7 -6.1**
comp=Z,143nm,1.1s,baz=78,slow=20,SNR=3.6
MUN Mundaring 32.63 191 P **P** **01 19 31.5 -0.4**
baz=33,SNR=10
ENH Enshi 32.81 337 P **P** **01 19 34.7 +1.1**
NWAO Narrogin (SRO) 33.37 190 P **P** **01 19 38.1 -0.2**
baz=34,SNR=37
NWAO Narrogin (SRO) 33.37 190 LR LR 01 36 24.8
comp=Z,339nm,18.0s,baz=342,slow=42
NWAO Narrogin (SRO) 33.37 190 P **P** **01 19 37.7 -0.6**
NWAO pmax pmax
comp=Z,313nm,1.8s
NWAO Narrogin (SRO) 33.37 190 P **P** **01 19 37.7 -0.6**
NWAO IAmb IAmb 01 19 39.3
comp=Z,313nm,1.8s
JNU Nakatsue 33.59 11 P **P** **01 19 39.0 -1.2**
comp=Z,47nm,0.8s,baz=198,slow=4.3,SNR=19
BBOO Buckleboo 34.83 161 P **P** **01 19 50.7 -0.2**
baz=35,SNR=62
BBOO Buckleboo 34.83 161 P **P** **01 19 50.7 -0.2**
PATS Pohnpei 35.42 78 P **P** **01 19 56.8 +0.5**
baz=35,SNR=6.9
PATS Pohnpei 35.42 78 P **P** **01 19 56.8 +0.5**
JHS Saijyo 35.88 14 P **P** **01 20 00.4 +0.5**
JHS IAmb IAmb 01 20 04.4
comp=Z,153nm,1.0s
CD2 Chengdu 35.89 330 P **P** **01 20 01.0 +0.9**
CD2 S **S** **01 25 27.3 +0.6**
CD2 pmax pmax
comp=Z,470nm,1.2s
CD2 pmax pmax
comp=Z,480nm,3.9s
CD2 LR LR
comp=Z,580nm,17.1s
CD2 LR LR
comp=Z,580nm,15.3s
CD2 LR LR
comp=Z,640nm,17.8s
RMQ Roma 35.96 139 P **P** **01 20 00.7 0.0**
baz=36,SNR=8.3
STKA Stephens Creek 36.15 153 P **P** **01 20 02.4 +0.2**
baz=36,SNR=251
STKA Stephens Creek 36.15 153 P **P** **01 20 02.2 0.0**
comp=Z,178nm,0.9s,baz=330,slow=8.1,SNR=289
STKA PcP **PcP** **01 22 24.8 +0.2**
comp=Z,70nm,0.6s,baz=4.0,slow=4.7,SNR=7.9
STKA S **S** **01 25 27.4 -3.0**
comp=Z,4.4nm,0.6s,baz=72,slow=18,SNR=1.9
STKA ScP **ScP** **01 25 57.5 +1.0**
comp=Z,12nm,0.8s,baz=15,slow=21,SNR=3.7
STKA LR LR 01 35 46.1
comp=Z,467nm,18.5s,baz=310,slow=37
STKA Stephens Creek 36.15 153 P **P** **01 20 02.2 0.0**
STKA 01 22 24.8
STKA Stephens Creek 36.15 153 P **P** **01 20 02.4 +0.2**
STKA Stephens Creek 36.15 153 **PcP** **01 22 24.8 +0.2**
JHJ Hachijo jima 2 36.27 24 P **P** **01 20 01.8 -1.4**
comp=Z,109nm,0.4s,baz=188,slow=15,SNR=6.9
JHJ2 Mitsune 36.28 24 IAmb IAmb 01 20 04.8
comp=Z,215nm,0.8s
TJN Taejon 36.28 5*de*P **P** **01 20 04.5 +1.3**
HTT Hallett 36.39 158 P **P** **01 20 04.9 +0.6**
baz=36,SNR=153
TIA Tai'an 36.41 351⇓P **P** **01 20 04.3 -0.1**
TIA pmax pmax
comp=Z,200nm,1.0s
TIA LR LR
comp=Z,280nm,19.2s
TIA LR LR
comp=Z,230nm,18.2s
TIA LR LR
comp=Z,300nm,13.9s
XAN Xi'an 36.41 339 P **P** **01 20 04.7 +0.2**
XAN S **S** **01 25 32.1 -2.3**
XAN sS sS 01 26 33.6 +1.9
XAN pmax pmax
comp=Z,220nm,1.0s
XAN pmax pmax
comp=Z,490nm,4.2s
XAN LR LR
comp=Z,1µm,15.1s
XAN LR LR
comp=Z,1µm,13.9s
XAN LR LR
comp=Z,1µm,16.9s
JWT Wachi 36.74 16 P **P** **01 20 07.4 +0.2**
EIDS Eidsvold 36.80 136 P **P** **01 20 07.4 -0.4**
baz=37,SNR=6.1
JSG Sagara 37.06 20 P **P** **01 20 09.7 -0.2**
JSG PcP **PcP** **01 22 28.5 +1.2**
KSAR Wonju Array Be 37.38 6 P **P** **01 20 12.9 +0.3**
KSAR 01 22 29.0
KSAR Wonju Array Be 37.38 6 P **P** **01 20 12.9 +0.3**
KSAR PcP **PcP** **01 22 29.0 +0.8**
KSRS Korea Array 37.40 6 P **P** **01 20 12.7 0.0**
comp=Z,35nm,0.8s,baz=182,slow=10.0,SNR=90
KSRS PcP **PcP** **01 22 28.9 +0.7**
comp=Z,20nm,0.8s,baz=184,slow=2.6,SNR=15
KSRS ScP **ScP** **01 26 00.9 -0.1**
comp=Z,6.0nm,0.8s,baz=190,slow=3.4,SNR=8.3
KSRS LR LR 01 35 24.0
comp=Z,218nm,21.5s,baz=185,slow=36
HNR Honiara 37.55 106 P **P** **01 20 14.0 -0.4**
comp=Z,293nm,0.5s,baz=221,slow=2.0,SNR=5.3
HNR Honiara 37.55 106 P **P** **01 20 14.1 -0.2**
HNR pmax pmax
comp=Z,405nm,0.9s
HNR Honiara 37.55 106 P **P** **01 20 14.1 -0.2**
CMSA Cobar Meteorol 37.87 148 P **P** **01 20 17.7 +0.9**
baz=38,SNR=177
BRDH Bariadhala 38.22 308 P **P** **01 20 19.4 -0.4**
comp=Z,275nm,0.6s,baz=78,slow=5.3,SNR=7.3
DL2 Dalian 38.66 358 P **P** **01 20 22.9 -0.3**
DL2 pmax pmax
comp=Z,180nm,0.8s
MAJO Matsushiro 38.76 19*c i*P **P** **01 20 22.8 -1.4**
MAJO pmax pmax
comp=Z,219nm,0.8s
MAJO Matsushiro 38.76 19 P **P** **01 20 22.8 -1.4**
MAJO IAmb IAmb 01 20 24.3
comp=Z,201nm,0.8s
MAJO PcP **PcP** **01 22 33.3 +0.7**
MAT Matsushiro 38.76 19 P **P** **01 20 22.6 -1.6**
MJAR Matsushiro Arr 38.76 19 P **P** **01 20 22.4 -1.7**
comp=Z,131nm,0.7s,baz=186,slow=9.3,SNR=556
MJAR pP **pP** **01 20 56.8 -0.7**
comp=Z,22nm,0.7s,baz=193,slow=8.1,SNR=2.4
MJAR PcP **PcP** **01 22 32.9 +0.3**
comp=Z,40nm,1.0s,baz=173,slow=3.5,SNR=7.5
MJAR ScP **ScP** **01 26 06.0 -0.3**
comp=Z,24nm,1.1s,baz=193,slow=4.3,SNR=16
MJAR LR LR 01 36 06.7
comp=Z,156nm,20.6s,baz=170,slow=35
MJAR Matsushiro Arr 38.76 19 IAmb IAmb 01 20 24.3
comp=Z,174nm,0.8s
TIY Taiyuan 38.78 346⇑P **P** **01 20 25.3 +0.9**
TIY S **S** **01 26 06.6 -3.7**
TIY sS **sS** **01 27 12.6 +4.7**
TIY pmax pmax
comp=Z,230nm,0.8s
TIY LR LR
comp=Z,340nm,8.0s
TIY LR LR
comp=Z,170nm,7.0s
TIY LR LR
comp=Z,350nm,13.6s
SHL Shillong 39.62 312 IAmb IAmb 01 20 34.7
comp=Z,171nm,1.1s
SHL Shillong 39.62 312 *e*P **P** **01 20 31.9 +0.3**
SHL IAmb IAmb 01 20 36.9
comp=Z,34nm,0.8s
SHL Shillong 39.62 312 P **P** **01 20 32.5 +0.8**
SNR=41
JSD Sado 40.15 18 P **P** **01 20 34.8 -0.8**
JSD IAmb IAmb 01 20 35.9
comp=Z,204nm,1.0s
LZH Lanzhou 40.17 335⇓P **P** **01 20 38.5 +2.4**
LZH pP pP 01 21 09.5 -0.6
LZH sP sP 01 21 22.2 -5.6
LZH PP PP 01 22 20.5 +8.7
LZH PcP **PcP** **01 22 38.6 +1.3**
LZH ScP **ScP** **01 26 11.4 -0.6**
LZH PcS **PcS** **01 26 27.7 -0.3**
LZH S **S** **01 26 31.1 -0.2**
LZH sS sS 01 27 33.4 +4.2
LZH SS **SS** **01 29 34.8 -1.1**
LZH ScS **ScS** **01 30 24.1 -2.1**
LZH pmax pmax
comp=Z,220nm,1.1s
LZH pmax pmax
comp=Z,250nm,4.9s
LZH LR LR
comp=Z,640nm,17.9s
LZH LR LR
comp=Z,580nm,17.4s
LZH LR LR
comp=Z,520nm,16.3s
BJI Beijing 40.30 351 P **P** **01 20 35.8 -1.0**
BJI PcP **PcP** **01 22 38.0 +0.7**
BJI S **S** **01 26 37.1 +4.4**
BJI pmax pmax
comp=Z,150nm,1.0s
BJI LR LR
comp=Z,240nm,16.8s
BJI LR LR
comp=Z,260nm,15.8s
BJI LR LR
comp=Z,260nm,15.8s
ARPS Mount Arapiles 40.45 157 P **P** **01 20 38.8 +0.6**
baz=41,SNR=103
ARMA Armidale 40.49 141 P **P** **01 20 40.2 +1.5**
baz=41,SNR=149
ARMA Armidale 40.49 141 P **P** **01 20 39.9 +1.2**
ARMA IAmb IAmb 01 20 41.1
comp=Z,117nm,0.7s
JMM Marumori 40.85 21 P **P** **01 20 41.4 +0.1**
YNG Young 41.44 148 P **P** **01 20 47.7 +1.4**
baz=42,SNR=36
HHC Hu-ho-hao-te 41.97 346⇓*i*P **P** **01 20 51.1 +0.5**
HHC pP pP 01 21 20.6 -4.3
HHC S **S** **01 27 01.4 +3.8**
HHC SS **SS** **01 30 07.2 -3.8**
HHC pmax pmax
comp=Z,40nm,1.2s
HHC pmax pmax
comp=Z,190nm,5.4s
BTO Baotou 42.13 345 *e*P **P** **01 20 52.5 +0.7**
BTO LR LR
comp=Z,2µm,17.2s
BTO LR LR
comp=Z,1µm,16.2s
CAN Canberra 42.54 149 P **P** **01 20 55.8 +0.5**
CAN pmax pmax
comp=Z,204nm,0.7s
CAN Canberra 42.54 149 P **P** **01 20 55.8 +0.5**
CAN IAmb IAmb 01 20 57.9
comp=Z,204nm,0.7s
LSA Lhasa 42.58 317 *i* P **P** **01 20 58.6 +2.5**
SNR=24
LSA Lhasa 42.58 317 P **P** **01 20 57.5 +1.4**
LSA pmax pmax
comp=Z,86nm,0.6s
LSA Lhasa 42.58 317 P **P** **01 20 57.5 +1.4**
LSA IAmb IAmb 01 21 01.3
comp=Z,86nm,0.6s
LSA Lhasa 42.58 317 P **P** **01 20 58.0 +1.9**
RIV Riverview 42.61 145 P **P** **01 20 55.9 +0.1**
baz=43,SNR=4.0
TOO Toolangi 42.66 154 P **P** **01 20 57.6 +1.5**
baz=43,SNR=76
TOO Toolangi 42.66 154 P **P** **01 20 57.6 +1.5**
TOO pmax pmax
comp=Z,175nm,1.2s
TOO Toolangi 42.66 154 P **P** **01 20 57.6 +1.5**
TOO IAmb IAmb 01 20 59.0
comp=Z,175nm,1.2s
CNB Canberra Magne 42.73 148 P **P** **01 20 58.2 +1.4**
baz=43,SNR=82
MSHR Mys Shultsa 42.86 8*c i*P **P** **01 20 57.8 +0.3**
MSHR pmax pmax
comp=Z,111nm,1.7s
BOK Bokaro 43.38 306 *e*P **P** **01 21 03.7 +1.6**
BOK IAmb IAmb 01 21 07.7
comp=Z,68nm,1.4s
BOK *i* x x 01 22 47.5
VLA Vladivostok 43.49 9*c i*P **P** **01 21 02.2 -0.5**
VLA pmax pmax
comp=Z,127nm,0.9s
MILA Mila 43.97 150 P **P** **01 21 07.7 +1.0**
baz=44,SNR=20
RAMN Ramite 44.35 310 *e*P **ScP** **01 26 28.2 -0.9**
comp=Z,16nm,0.4s
USA0B Ussuriysk Arra 44.57 9 IAmb IAmb 01 21 12.4
comp=Z,150nm,0.9s
USRK Ussuriysk Ar. 44.57 9 P **P** **01 21 11.2 +0.1**
comp=Z,54nm,0.5s,baz=190,slow=6.6,SNR=169
USRK PcP **PcP** **01 22 51.7 +0.2**
comp=Z,9.2nm,0.5s,baz=185,slow=2.9,SNR=2.0
USRK Ussuriysk Ar. 44.57 9 P **P** **01 21 11.3 +0.1**
USRK 01 22 51.7
USRK Ussuriysk Ar. 44.57 9 P **P** **01 21 11.3 +0.1**
USRK Ussuriysk Ar. 44.57 9 **PcP** **01 22 51.7 +0.2**
MDJ Mudanjiang 44.66 6 P **P** **01 21 12.1 +0.1**
MDJ S **S** **01 27 43.5 +7.1**
MDJ sS sS 01 28 34.4 -0.8
MDJ pmax pmax
comp=Z,100nm,1.1s
MDJ pmax pmax
comp=Z,470nm,4.2s
MDJ LR LR
comp=Z,250nm,24.6s
MDJ LR LR
comp=Z,280nm,23.3s
MDJ LR LR
comp=Z,540nm,24.0s
MDJ Mudanjiang 44.66 6 P **P** **01 21 11.9 -0.1**
MDJ IAmb IAmb 01 21 15.8
comp=Z,137nm,0.8s
GTA Gaotai 44.70 334⇑P **P** **01 21 13.1 +0.6**
GTA PcP **PcP** **01 22 53.2 +0.9**
GTA PP **PP** **01 23 02.6 +2.5**
GTA ScP **ScP** **01 26 31.4 +1.3**
GTA PcS **PcS** **01 26 44.0 -2.1**
GTA S **S** **01 27 36.2 -1.2**
GTA sS sS 01 28 33.3 -2.9
GTA ScS **ScS** **01 30 50.7 -3.3**
GTA pmax pmax
comp=Z,240nm,1.0s
GTA pmax pmax
comp=Z,460nm,6.0s
GTA LR LR
comp=Z,340nm,16.4s
GTA LR LR
comp=Z,510nm,16.4s
GTA LR LR
comp=Z,410nm,18.9s
JIRN Jiri 45.02 311 *e*P **ScP** **01 26 32.1 +0.1**
comp=Z,24nm,0.6s
JEW Eniwo 45.52 19 IAmb IAmb 01 21 39.8
comp=Z,260nm,0.9s
PKI Pulchoki 45.57 310 *e*P **ScP** **01 26 33.5 -0.7**
comp=Z,51nm,0.5s
PKIN Phulchoki 45.59 310 *e*P **ScP** **01 26 33.4 -0.8**
comp=Z,56nm,0.5s
KKN Kakani 45.78 310 *e*P **ScP** **01 26 34.2 -0.7**
comp=Z,49nm,0.6s
DMN Daman 45.83 310 *e*P **ScP** **01 26 34.7 -0.5**
comp=Z,50nm,0.7s
TEY Ternei 46.24 13⇑*i*P **P** **01 21 24.8 +0.5**
TEY pmax pmax
comp=N,300nm,1.6s
TEY pmax pmax
comp=Z,300nm,1.6s
TEY pmax pmax
comp=N,200nm,0.7s
TEY pmax pmax
comp=E,20nm,0.7s
TEY pmax pmax
comp=Z,390nm,0.7s
GKN Gorkha 46.38 310 *e*P **ScP** **01 26 36.2 -1.2**
comp=Z,48nm,0.6s
WAKE Wake Island 46.45 63 P **P** **01 21 27.1 +0.7**
ASAJ Asahikawa 47.03 19 P **P** **01 21 30.9 +0.4**
comp=Z,228nm,0.8s,baz=234,slow=9.2,SNR=126
JKA Kamikawa-asahi 47.03 19 P **P** **01 21 30.9 +0.3**
JKA IAmb IAmb 01 21 32.2
comp=Z,300nm,0.9s
KOLN Koldanda 47.07 309 *e*P **ScP** **01 26 39.2 -1.1**
KOLN Koldanda 47.07 309 *e*P **ScS** **01 31 05.5 -4.5**
comp=Z,66nm,1.3s
DANN Dangsing 47.23 310 *e*P **ScP** **01 26 39.8 -1.3**
DZM Mont Dzumac 47.33 121 P **P** **01 21 34.3 +0.9**
comp=Z,45nm,0.8s,baz=289,slow=5.3,SNR=20
DZM Mont Dzumac 47.33 121 P **P** **01 21 34.2 +0.9**
HYB Hyderabad 47.40 294 *e*P **P** **01 21 33.5 -0.4**
HYB IAmb IAmb 01 21 37.6
comp=Z,61nm,0.9s
HYB Hyderabad 47.40 294 *i* P **P** **01 21 33.0 -0.9**
HYB *e*pP **pP** **01 22 08.0 -0.8**
HYB *e*PcP **PcP** **01 23 02.5 +0.4**
HYB *e*PP **PP** **01 23 30.0 +3.4**
HYB *e*S **S** **01 28 18.0 +1.5**
ONTNC Ouen Toro 47.43 121 P **P** **01 21 34.3 +0.3**
ONTNC Ouen Toro 47.43 121 P **P** **01 21 34.9 +0.9**
LIFNC LIFOU 47.56 119 P **P** **01 21 35.6 +0.6**
LIFNC IAmb IAmb 01 21 36.8
comp=Z,167nm,0.7s
PYUN Piuthan 47.70 309 *e*P **ScP** **01 26 41.6 -1.4**
PYUN Piuthan 47.70 309 *e*P **ScS** **01 31 09.9 -4.3**
comp=Z,25nm,0.7s
YATNC Mamie plateau, 47.71 120 P **P** **01 21 37.9 +1.7**
OUENC Ouen Island, N 47.80 121 P **P** **01 21 37.1 +0.2**
OUENC Ouen Island, N 47.80 121 P **P** **01 21 38.1 +1.2**
TAU Tasmania Unive 47.88 156 P **P** **01 21 38.0 +0.9**
TAU pmax pmax
comp=Z,33nm,0.8s
TAU Tasmania Unive 47.88 156 P **P** **01 21 38.0 +0.9**
JBP Jabalpur 48.03 302 *e*P **P** **01 21 39.4 +0.8**
JBP *e*S **S** **01 28 24.1 -1.1**
YUK Yuzh-Kuril'sk 48.09 22*de*P **P** **01 21 39.4 +0.7**
PINNC Pines Island, 48.39 121 P **P** **01 21 42.9 +1.5**
PINNC IAmb IAmb 01 21 43.9
comp=Z,86nm,0.8s
PINNC Pines Island, 48.39 121 P **P** **01 21 43.1 +1.7**
MARNC Mare, Loyalty 48.49 119 P **P** **01 21 42.9 +0.7**
MARNC Mare, Loyalty 48.49 119 P **P** **01 21 43.4 +1.2**
HIA Hailar 49.08 357 P **P** **01 21 46.5 +0.3**
HIA 01 23 08.3
HIA pmax pmax
comp=Z,81nm,0.7s
HIA Hailar 49.08 357 P **P** **01 21 46.5 +0.3**
HIA IAmb IAmb 01 21 47.1
comp=Z,81nm,0.7s
HIA **PcP** **01 23 08.2 +0.8**
KLR Kul'dur 49.46 7 P **P** **01 21 48.7 -0.4**
comp=Z,49nm,0.8s,baz=216,slow=4.6,SNR=130
KLR Kul'dur 49.46 7*c i*P **P** **01 21 48.0 -1.1**
KLR pmax pmax
comp=Z,95nm,1.0s
TARA Tarawa 49.49 88 P **P** **01 21 50.5 +0.6**
TARA IAmb IAmb 01 21 52.0
comp=Z,169nm,0.9s
TARA Tarawa 49.49 88 P **P** **01 21 51.7 +1.8**
comp=Z,254nm,1.8s
YSS Yuzh-Sakhalins 49.63 17*de*P **P** **01 21 50.4 0.0**
YSS *e**SP **sP** **01 22 41.6 -1.4**
YSS *e* 01 23 10.4
YSS *e*S **S** **01 28 42.7 -4.0**
YSS *e**SS **sS** **01 29 45.0 -1.5**
YSS *e*SS SS 01 32 10.0 -11
YSS pmax pmax
comp=Z,150nm,0.9s
YSS MLR MLR
comp=Z,300nm,16.0s
YSS Yuzh-Sakhalins 49.63 17 P **P** **01 21 50.2 -0.1**
YSS IAmb IAmb 01 21 51.5
comp=Z,282nm,1.2s
YSS PcP **PcP** **01 23 10.1 +0.6**
ULN Ulaanbaatar 49.66 346*c i*P **P** **01 21 50.6 -0.2**
ULN pmax pmax
comp=Z,71nm,0.8s
ULN Ulaanbaatar 49.66 346 P **P** **01 21 51.4 +0.6**
ULN IAmb IAmb 01 21 53.3
comp=Z,62nm,0.6s
ULN PcP **PcP** **01 23 10.1 +0.3**
ULN Ulaanbaatar 49.66 346 P **P** **01 21 51.4 +0.6**
ULN Ulaanbaatar 49.66 346 P **P** **01 21 50.9 +0.1**
comp=Z,6µmcomp=Z,4µmcomp=Z,424nm,0.7s
SONM Songino Array 49.80 345 P **P** **01 21 52.0 +0.1**
comp=Z,74nm,0.7s,baz=160,slow=8.4,SNR=254
SONM pP **pP** **01 22 26.5 -0.8**
comp=Z,20nm,0.9s,baz=167,slow=7.3,SNR=2.3
SONM PcP **PcP** **01 23 10.2 -0.1**
comp=Z,44nm,0.8s,baz=176,slow=2.7,SNR=9.0
SONM ScP **ScP** **01 26 50.2 -1.2**
comp=Z,6.2nm,0.9s,baz=170,slow=5.2,SNR=5.2
SONM PKiKP **PKiKP** **01 29 57.0 +0.6**
comp=Z,1.0nm,0.6s,baz=180,slow=2.5,SNR=3.8
SONM Songino Array 49.80 345 P **P** **01 21 51.9 +0.1**
SONM PcP **PcP** **01 23 10.1 -0.2**
KUR Kuril'sk 49.87 22*ce*P **P** **01 21 51.9 -0.3**
BHPL Bhopal 50.25 301 *e*P **P** **01 21 56.0 +0.5**
BHPL IAmb IAmb 01 21 59.2
comp=Z,63nm,0.8s
GOA Goa 51.31 290 *e*P **P** **01 22 04.1 +0.6**
GOA *i* x x 01 22 41.6
UGL Uglegorsk 51.36 16⇑*i*P **P** **01 22 03.9 +0.6**
UGL *e*S **S** **01 29 18.2 +7.6**
UGL pmax pmax
comp=Z,2µm,1.3s
UGL pmax pmax
comp=N,200nm,0.8s
UGL pmax pmax
comp=E,400nm,0.8s
UGL pmax pmax
comp=Z,650nm,0.9s
UGL smax smax
comp=E,1µm,11.0s
GRNR Gornyy 51.68 10⇑*i*P **P** **01 22 06.3 +0.6**
GRNR pmax pmax
comp=N,90nm,1.0s
GRNR pmax pmax
comp=Z,170nm,1.0s
GRNR MLR MLR
comp=N,220nm,18.0s
GRNR MLR MLR
comp=E,390nm,18.0s
GRNR MLR MLR
comp=Z,170nm,20.0s
POO Poona 52.01 294 *e*P **P** **01 22 07.0 -1.7**
POO *e*P **P** **01 22 07.5 -1.2**
POO *i* x x 01 22 44.7
DDI Dehra Dun 52.55 309 *e*P **P** **01 22 12.3 -0.2**
DDI IAmb IAmb 01 22 17.9
comp=Z,72nm,0.7s
ZAK Zakamensk 52.97 344 *e*P **P** **01 22 14.8 -0.5**
ZAK *e* 01 22 56.4
ZAK pmax pmax
comp=Z,27nm,1.2s
ZAK pmax pmax
comp=Z,28nm,1.3s
TYV Tymovskoe 53.15 15 *e*P **P** **01 22 17.4 +0.9**
TYV pmax pmax
comp=Z,600nm,3.1s
TYV pmax pmax
comp=Z,115nm,0.9s
ZEA Zeya 53.55 3 *e*P **P** **01 22 19.3 0.0**
ZEA *e* 01 22 58.3
ZEA pmax pmax
comp=Z,100nm,6.8s
ZEA pmax pmax
comp=E,20nm,0.3s
ZEA pmax pmax
comp=N,40nm,0.8s
ZEA pmax pmax
comp=Z,60nm,1.5s
ZEA MLR MLR
comp=Z,100nm,18.0s

SMLA Simla 53.59 310 *e*P **P** **01 22 20.6 +0.5**
SMLA IAmb IAmb 01 22 23.0
comp=Z,402nm,0.8s
BHK Bhakra 54.29 310 *ex* x 01 22 19.0
IRK Irkutsk 54.40 346 *e*P **P** **01 22 23.2 -2.4**
IRK pmax pmax
comp=Z,85nm,3.3s
DHRM DHARAMSHALA 54.74 310 *e*P **P** **01 22 29.0 +0.3**
DHRM IAmb IAmb 01 22 34.0
comp=Z,262nm,0.4s
MOY Mondy 54.77 343 *e*P **P** **01 22 28.2 -0.2**
MOY pmax pmax
comp=Z,79nm,1.3s
THN Thein Dam 55.27 310 *e*P **P** **01 22 32.0 -0.1**
THN *e*S **S** **01 30 04.0 +0.1**
FUNA Funafuti 56.20 100 P **P** **01 22 39.2 +0.1**
MSVF Nonsavu 56.53 111 P **P** **01 22 42.5 +1.0**
comp=Z,47nm,0.8s,baz=263,slow=6.6,SNR=16
MSVF Nonsavu 56.53 111*c i*P **P** **01 22 43.0 +1.5**
MSVF Nonsavu 56.53 111 P **P** **01 22 42.4 +0.9**
MSVF Nonsavu 56.53 111 P **P** **01 22 43.3 +1.8**
AIS Amsterdam Isla 56.60 223 P **P** **01 22 43.4 +1.9**
NIL Nilore 57.66 311 P **P** **01 22 48.1 -1.0**
NIL pmax pmax
comp=Z,297nm,1.6s
NIL Nilore 57.66 311 P **P** **01 22 48.1 -1.0**
NIL IAmb IAmb 01 22 51.2
comp=Z,297nm,1.6s
NIL Nilore 57.66 311 P **P** **01 22 48.9 -0.3**
ZSN Zaisan 57.87 330 *e*P **P** **01 22 50.0 -0.3**
baz=330
ZSN *e*S **S** **01 30 35.1 -2.7**
baz=330
ZSN Zaisan 57.87 330 *e*P **P** **01 22 50.0 -0.3**
ZSN *e*S **S** **01 30 35.0 -2.7**
BOD Bodaibo 58.04 354 *e*P **P** **01 22 50.6 -0.6**
BOD pmax pmax
comp=Z,160nm,1.0s
SHLS Shalkode 58.15 323⇑*i*P **P** **01 22 50.8 -1.7**
comp=Z,74nm,1.0s,baz=323
SHLS *e*S **S** **01 30 39.4 -2.4**
baz=323
SHLS Shalkode 58.15 323*c i*P **P** **01 22 50.8 -1.7**
SHLS *e*S **S** **01 30 39.4 -2.4**
SHLS pmax pmax
comp=Z,73nm,1.0s
DGZ Jazzator, Alta 58.23 333*c i*P **P** **01 22 52.6 -0.3**
DGZ pmax pmax
comp=Z,178nm,0.7s
PDGK Podgornoye 58.23 323 P **P** **01 22 52.8 -0.3**
KSH Kashi 58.40 318 P **P** **01 22 55.9 +1.6**
KSH PcP **PcP** **01 23 45.2 +1.8**
KSH S **S** **01 30 46.8 +1.6**
KSH pmax pmax
comp=Z,78nm,1.0s
KSH LR LR
comp=Z,370nm,21.3s
KSH LR LR
comp=Z,300nm,18.5s
KSH LR LR
comp=Z,350nm,17.1s
UZB Uzynbulak 58.41 323⇑*i*P **P** **01 22 54.3 0.0**
comp=Z,21nm,0.6s,baz=323
UZB *e*S **S** **01 30 45.4 +0.2**
baz=323
UZB Uzynbulak 58.41 323*c i*P **P** **01 22 54.3 0.0**
UZB *e*S **S** **01 30 45.3 +0.2**
UZB pmax pmax
comp=Z,21nm,0.6s
SATY Saty 58.73 323⇑*i*P **P** **01 22 56.7 +0.1**
comp=Z,41nm,0.6s,baz=322
SATY *e*S **S** **01 30 49.4 +0.1**
baz=322
SATY Saty 58.73 323*c i*P **P** **01 22 56.6 +0.1**
SATY *e*S **S** **01 30 49.4 +0.1**
SATY pmax pmax
comp=Z,41nm,0.6s
MK31 Makanchi Array 58.76 328 P **P** **01 22 56.3 -0.2**
MK31 pmax pmax
comp=Z,45nm,0.9s
MK31 Makanchi Array 58.76 328 P **P** **01 22 56.3 -0.2**
MKAR Makanchi Array 58.76 328 P **P** **01 22 56.2 -0.3**
comp=Z,37nm,0.6s,baz=123,slow=8.4,SNR=410
MKAR pP **pP** **01 23 31.7 -1.5**
comp=Z,14nm,0.6s,baz=121,slow=8.8,SNR=2.3
MKAR PcP **PcP** **01 23 43.7 -0.9**
comp=Z,40nm,0.5s,baz=157,slow=5.1,SNR=7.3
MKAR ScP **ScP** **01 27 29.2 -1.3**
comp=Z,11nm,1.0s,baz=118,slow=5.0,SNR=3.6
MKAR PKPPKP **P'P'df** **01 52 29.1 -1.6**
comp=Z,2.3nm,1.0s,baz=299,slow=1.5,SNR=4.2
MKAR PKP2bc 01 52 42.2
comp=Z,2.6nm,0.7s,baz=327,slow=2.0,SNR=8.4
MKAR Makanchi Array 58.76 328 P **P** **01 22 56.6 +0.1**
MKAR 01 23 43.7
MKAR Makanchi Array 58.76 328 P **P** **01 22 56.6 +0.1**
MKAR Makanchi Array 58.76 328 **PcP** **01 23 43.7 -0.9**
KPKS Kokpek 58.79 323⇑*i*P **P** **01 22 56.9 0.0**
comp=Z,52nm,0.5s,baz=323
KPKS Kokpek 58.79 323*c i*P **P** **01 22 56.9 0.0**
KPKS pmax pmax
comp=Z,52nm,0.5s
MAKZ Makanchi 58.94 328 P **P** **01 22 57.4 -0.3**
MAKZ pmax pmax
comp=Z,95nm,1.3s
MAKZ Makanchi 58.94 328 P **P** **01 22 57.4 -0.3**
MAKZ IAmb IAmb 01 23 45.7
comp=Z,94nm,1.2s
KDJ Kajisay 58.98 321 P **P** **01 22 59.0 +0.7**
KDJ pmax pmax
comp=Z,78nm,0.5s
KDJ Kajisay 58.98 321 P **P** **01 22 59.0 +0.7**
KDJ IAmb IAmb 01 23 01.4
comp=Z,78nm,0.5s
TNSS Tian-Shan 59.61 322 *e*P **P** **01 23 03.2 +0.3**
baz=322
MDOK Medeo 59.62 322 *i*P **P** **01 23 02.6 -0.1**
baz=322
MDOK *e*S **S** **01 31 00.1 -0.7**
baz=322
MDOK Medeo 59.62 322 *i*P **P** **01 23 02.5 -0.1**
MDOK *e*S **S** **01 31 00.0 -0.7**
ULHL Ulahol 59.63 321 P **P** **01 23 05.6 +2.8**
SNR=12
AAA Alma-Ata 59.72 322 *e*P **P** **01 23 02.9 -0.4**
baz=322
AAA *e*S **S** **01 30 59.1 -2.9**
baz=322
AAA Alma-Ata 59.72 322 *e*P **P** **01 23 02.9 -0.4**
AAA *e*S **S** **01 30 59.0 -2.9**
ARXS Arharly 59.72 323 *e*P **P** **01 23 03.2 -0.1**
TDK Taldyqorghan 59.83 325 *e*P **P** **01 23 03.7 -0.3**
comp=Z,74nm,0.5s,baz=324
TDK *e*S **S** **01 31 01.3 -1.9**
baz=324
TDK Taldyqorghan 59.83 325 *e*P **P** **01 23 03.6 -0.3**
TDK *e*S **S** **01 31 01.2 -1.9**
TDK pmax pmax
comp=Z,74nm,0.5s
BOOM Boomskoye usch 59.95 321 P **P** **01 23 05.2 +0.3**
BOOM pmax pmax
comp=Z,87nm,1.4s
BOOM Boomskoye usch 59.95 321 P **P** **01 23 05.2 +0.3**
FOZ Fox Glacier 59.96 143 IAmb IAmb 01 23 06.4
comp=Z,101nm,1.1s
MTBS Maitube 59.98 322⇑*i*P **P** **01 23 05.2 +0.1**
baz=322
MTBS *e*S **S** **01 31 04.2 -1.1**
baz=322
PEA0B Petropavlovsk- 60.02 23*c i*P **P** **01 23 06.1 +1.1**
PEA0B Petropavlovsk- 60.02 23 P **P** **01 23 05.9 +0.9**
PETK Petropavlovsk- 60.02 23 P **P** **01 23 05.1 +0.1**
comp=Z,104nm,0.6s,baz=201,slow=4.2,SNR=232
PETK Petropavlovsk- 60.02 23 P **P** **01 23 05.1 +0.1**
CHKK Chushkaly 60.03 323 *e*P **P** **01 23 05.1 -0.2**
baz=322
KZA Kyzart 60.17 320 P **P** **01 23 07.5 +0.7**
SNR=22
WHZ Wether Hill Ro 60.21 146 IAmb IAmb 01 23 07.8
comp=Z,128nm,0.9s
QRZ Quartz Range 60.27 139 P **P** **01 23 07.7 +0.7**
QRZ IAmb IAmb 01 23 09.6
comp=Z,196nm,1.2s
PET Petropavlovsk 60.34 24*c i*P **P** **01 23 07.6 +0.5**
PET *e**SP **PcP** **01 23 50.6 0.0**
PET *e*S **S** **01 31 11.6 +2.4**
PET pmax pmax
comp=Z,1μm,10.3s
PET pmax pmax
comp=Z,511nm,1.4s
PET pmax pmax
comp=Z,500nm,11.6s
PET Petropavlovsk 60.34 24 P **P** **01 23 07.7 +0.5**
TKM2 Tokmak 2 60.39 321 P **P** **01 23 08.4 +0.5**
SNR=11
TKM2 Tokmak 2 60.39 321 P **P** **01 23 07.7 -0.3**
KUU Kurty 60.44 322⇑*i*P **P** **01 23 07.8 -0.4**
comp=Z,149nm,0.5s,baz=322
KUU *e*S **S** **01 31 09.7 -1.4**
baz=322
KUU Kurty 60.44 322*c i*P **P** **01 23 07.7 -0.4**
KUU *e*S **S** **01 31 09.6 -1.4**
KUU pmax pmax
comp=Z,149nm,0.5s
KHEZ Kahui Hut 60.54 136 P **P** **01 23 11.2 +2.3**
UCH Uchtor 60.72 320 P **P** **01 23 11.8 +1.3**
SNR=20
HIZ Hauiti 60.77 135 P **P** **01 23 12.1 +1.7**
LREZ Lake Rotokare 60.89 137 P **P** **01 23 13.4 +2.3**
TOZ Tahuroa Road 60.89 134 P **P** **01 23 13.4 +2.2**
AAK Ala-Archa 60.94 320 P **P** **01 23 11.8 +0.2**
comp=Z,24nm,0.7s,baz=122,slow=5.7,SNR=64
AAK Ala-Archa 60.94 320 P **P** **01 23 12.8 +1.2**
SNR=26
AAK Ala-Archa 60.94 320 *i*P **P** **01 23 11.8 +0.2**
SNR=10
AAK Ala-Archa 60.94 320 *i*P **P** **01 23 12.0 +0.4**
AAK pmax pmax
comp=Z,109nm,0.9s
AAK Ala-Archa 60.94 320 P **P** **01 23 11.9 +0.2**
AAK Ala-Archa 60.94 320 P **P** **01 23 11.8 +0.2**
FRU1 Bishkek 60.94 321 P **P** **01 23 12.1 +0.6**
FRU1 pmax pmax
comp=Z,48nm,0.5s
FRU1 Bishkek 60.94 321 P **P** **01 23 12.1 +0.6**
FRU1 IAmb IAmb 01 24 33.1
comp=Z,48nm,0.5s
CHMS Chumysh 60.96 321 P **P** **01 23 12.1 +0.5**
SNR=16
VRZ Vera Road 60.98 136 P **P** **01 23 13.6 +1.8**
NNZ Nelson 61.02 139 P **P** **01 23 12.1 +0.1**
TLZ Tolley Road 61.18 135 P **P** **01 23 15.0 +1.8**
AML Almayashu 61.20 320 P **P** **01 23 14.3 +0.6**
SNR=13
AML Almayashu 61.20 320 *i*P **P** **01 23 13.8 +0.1**
SNR=13
AML Almayashu 61.20 320 P **P** **01 23 14.3 +0.6**
KBL Kabul 61.22 310 P **P** **01 23 13.2 -0.6**
KBL pmax pmax
comp=Z,93nm,0.8s
KBL Kabul 61.22 310 P **P** **01 23 13.2 -0.6**
KBL IAmb IAmb 01 23 16.0
comp=Z,93nm,0.8s
KBL Kabul 61.22 310 P **P** **01 23 13.3 -0.4**
SNR=47
DRK Karamyk 61.23 316 IAmb IAmb 01 23 52.0
comp=Z,46nm,0.7s
USP Ospenovka 61.25 321 P **P** **01 23 13.3 -0.3**
SNR=56
SGDS Sogindy 61.27 321⇑*i*P **P** **01 23 13.5 -0.2**
comp=Z,18nm,1.1s,baz=321
SGDS *e*S **S** **01 31 21.9 +0.3**
baz=321
SGDS Sogindy 61.27 321 *e*P **P** **01 23 13.7 0.0**
EKS2 Erkin-Say 61.41 320 P **P** **01 23 15.3 +0.5**
SNR=43
WAZ Wanganui 61.42 137 P **P** **01 23 16.3 +1.6**
TWVZ Taurewa 61.43 136 P **P** **01 23 16.8 +1.9**
PKVZ Pokaka 61.46 136 P **P** **01 23 16.8 +1.7**
WATZ Wairara 61.48 135 P **P** **01 23 17.1 +1.9**
WTVZ West Tongariro 61.56 136 P **P** **01 23 17.4 +1.6**
KATZ Kakaramea 61.57 136 P **P** **01 23 18.0 +2.1**
RATZ Rangitukua 61.58 135 P **P** **01 23 18.2 +2.3**
NNVZ North Ngauruho 61.58 136 P **P** **01 23 17.8 +1.7**
NGZ Ngauruhoe 61.59 136 P **P** **01 23 17.8 +1.7**
FWVZ Far West T-bar 61.59 136 P **P** **01 23 18.1 +1.9**
MTVZ Mangateitei 61.59 136 P **P** **01 23 17.3 +1.3**
NTVZ North Tongarir 61.61 136 P **P** **01 23 18.1 +1.9**
SNVZ South Ngauruho 61.62 136 P **P** **01 23 17.9 +1.5**
WHVZ Whangaehu Hut 61.63 136 P **P** **01 23 18.2 +1.8**
OTVZ Oturere 61.63 136 P **P** **01 23 17.9 +1.5**
TMVZ Te Maari 61.64 136 P **P** **01 23 18.1 +1.8**
ETVZ East Tongariro 61.65 136 P **P** **01 23 18.1 +1.7**
WNVZ Wahianoa 61.65 136 P **P** **01 23 17.5 +1.0**
TUVZ Tukino 61.67 136 P **P** **01 23 18.0 +1.5**
OMRZ Omania 61.67 134 P **P** **01 23 18.3 +1.8**
OPRZ Ohinepanea 61.70 134 P **P** **01 23 18.0 +1.4**
HRRZ Handcock Road 61.73 135 P **P** **01 23 18.8 +1.9**
MOVZ Moawhango 61.80 136 P **P** **01 23 17.8 +0.5**
MQZ McQueen's Vall 61.80 141 P **P** **01 23 17.8 +0.6**
MQZ IAmb IAmb 01 23 19.3
comp=Z,197nm,1.6s
TARZ Mount Tarawera 61.82 134 P **P** **01 23 18.1 +0.6**
ALRZ Allen Road 61.85 135 P **P** **01 23 19.2 +1.5**
RRRZ Republican Roa 61.87 135 P **P** **01 23 19.5 +1.6**
KIW Kapiti Island 61.88 138 P **P** **01 23 18.1 +0.3**
YAK Yakutsk 61.95 3 P **P** **01 23 17.8 0.0**
comp=Z,236nm,0.6s,baz=184,slow=2.2,SNR=119
YAK Yakutsk 61.95 3*d i*P **P** **01 23 18.0 +0.2**
YAK *e**PP **pP** **01 23 53.3 -1.4**
YAK *e* 01 25 34.2
YAK ePPP PPP 01 27 04.5
YAK *e*S **S** **01 31 30.6 +1.2**
YAK *e* 01 32 46.6
YAK *e*SS **SS** **01 35 36.4 +1.8**
YAK pmax pmax
comp=Z,485nm,0.8s
YAK pmax pmax
comp=N,225nm,1.3s
YAK pmax pmax
comp=E,89nm,1.8s
YAK pmax pmax
comp=Z,104nm,2.2s
YAK pmax pmax
comp=N,45nm,1.5s
YAK pmax pmax
comp=E,85nm,2.9s
YAK smax smax
comp=E,75nm,3.6s
YAK smax smax
comp=N,228nm,4.3s
YAK Yakutsk 61.95 3 P **P** **01 23 17.9 0.0**
MRHZ Matea Rd 62.02 135 P **P** **01 23 19.4 +0.6**
OGWZ Otaki Gorge 62.03 138 P **P** **01 23 18.9 +0.2**
BHHZ Black Hill Sta 62.05 136 P **P** **01 23 19.1 +0.1**
GAR Garm 62.05 315 P **P** **01 23 18.6 -0.6**
GAR IAmb IAmb 01 23 21.0
comp=Z,116nm,0.7s
CAW Cannon Point 62.09 138 P **P** **01 23 18.8 -0.4**
BHW Baring Head 62.10 138 P **P** **01 23 18.8 -0.4**
MUGZ Murupara 62.11 135 P **P** **01 23 16.6 -2.8**
BKZ Black Stump Fm 62.21 135 P **P** **01 23 20.4 +0.3**
TSZ Takapari Road 62.23 137 P **P** **01 23 20.5 +0.4**
MRZ Mangatainoka R 62.24 137 P **P** **01 23 19.8 -0.4**
POWZ Post Office Ro 62.24 137 P **P** **01 23 20.2 0.0**
URZ Urewera 62.27 134 P **P** **01 23 20.1 -0.3**
comp=Z,75nm,0.4s,baz=252,slow=5.8,SNR=89
URZ Urewera 62.27 134 P **P** **01 23 20.5 +0.1**
KWHZ Kaweka Forest 62.27 136 P **P** **01 23 21.1 +0.6**
HOWZ Holdsworth Sta 62.30 138 P **P** **01 23 20.4 -0.2**
MTHZ Maungataniwha 62.32 135 P **P** **01 23 21.3 +0.5**
RTZ Ruatahuna 62.32 135 P **P** **01 23 21.4 +0.5**
KRHZ Kereru 62.33 136 P **P** **01 23 21.2 +0.4**
PNHZ Pukenui 62.33 136 P **P** **01 23 21.1 +0.2**
MSWZ Moikau Station 62.36 138 P **P** **01 23 20.8 -0.2**
NMHZ Naumai 62.40 135 P **P** **01 23 22.5 +1.1**
ZAA0 Zalesovo Array 62.41 335 P **P** **01 23 19.6 -1.4**
ZAA0 IAmb IAmb 01 23 22.2
comp=Z,124nm,1.0s
ZALV Zalesovo Beam 62.41 335 P **P** **01 23 19.8 -1.2**
comp=Z,68nm,0.5s,baz=121,slow=6.5,SNR=132
ZALV pP **pP** **01 23 56.7 -1.4**
comp=Z,17nm,0.6s,baz=114,slow=5.0,SNR=2.4
ZALV S **S** **01 31 36.6 +1.2**
comp=Z,6.1nm,0.9s,baz=134,slow=12,SNR=7.6
ZALV LR LR 01 51 18.6
comp=Z,190nm,19.1s,baz=122,slow=37
ZALV PKP2bc 01 52 30.6
comp=Z,6.8nm,0.9s,baz=301,slow=3.1,SNR=12
ZALV Zalesovo Beam 62.41 335 P **P** **01 23 19.8 -1.2**
MTW Mount Morrison 62.41 138 P **P** **01 23 21.3 0.0**
PLWZ Palliser 62.43 138 P **P** **01 23 21.4 -0.1**
BTLS Baital 62.44 323⇑*i*P **P** **01 23 20.6 -0.8**
comp=Z,12nm,0.6s,baz=322
BTLS *e*S **S** **01 31 34.2 -2.0**
baz=322
BTLS Baital 62.44 323*c i*P **P** **01 23 20.6 -0.8**
BTLS *e*S **S** **01 31 34.2 -2.0**
BTLS pmax pmax
comp=Z,12nm,0.6s
PRWZ Pori Road 62.46 137 P **P** **01 23 21.8 +0.2**
PAWZ Paruwai Farm 62.46 138 P **P** **01 23 21.8 +0.1**
MCHZ McNeill Hill 62.47 136 P **P** **01 23 22.8 +1.0**
DVHZ Dannevirke 62.48 137 P **P** **01 23 22.2 +0.4**
TIWZ Tintock 62.50 137 P **P** **01 23 21.8 -0.1**
WPHZ Waipukurau 62.56 136 P **P** **01 23 22.9 +0.6**
RAGZ Rawiri 62.58 134 P **P** **01 23 23.3 +0.7**
MWZ Matawai 62.60 134 P **P** **01 23 22.9 +0.3**
ARHZ Aropaoanui 62.60 135 P **P** **01 23 23.7 +1.1**
TRWZ Traveller 62.64 138 P **P** **01 23 23.5 +0.6**
SNGZ Shannon Statio 62.65 135 P **P** **01 23 23.6 +0.6**
TMWZ Te Maipa 62.65 138 P **P** **01 23 23.3 +0.4**
BFZ Birch Farm 62.70 137 P **P** **01 23 23.5 +0.3**
BFZ IAmb IAmb 01 23 24.9
comp=Z,116nm,0.9s
BFZ Birch Farm 62.70 137 P **P** **01 23 23.1 -0.1**
CHGR Chuyangaron 62.73 314 P **P** **01 23 23.2 -0.5**
CHGR IAmb IAmb 01 24 19.0
comp=Z,114nm,1.0s
TKGZ Te Karaka 62.87 134 P **P** **01 23 25.3 +0.9**
RIGZ Rimuhau 62.92 134 P **P** **01 23 25.2 +0.4**
MA2 Magadan 63.02 15 P **P** **01 23 25.6 +0.6**
comp=Z,407nm,0.8s,baz=199,slow=6.6,SNR=110
MA2 pP **PcP** **01 24 01.3 -0.1**
comp=Z,76nm,0.7s,baz=200,slow=6.4,SNR=2.6
MA2 Magadan 63.02 15*c i*P **P** **01 23 26.0 +1.0**
MA2 pmax pmax
comp=Z,449nm,1.0s
MA2 Magadan 63.02 15 P **P** **01 23 25.4 +0.4**
KURBB Kurchatov Arra 63.10 330 P **P** **01 23 25.2 -0.4**
comp=Z,103nm,0.7s,baz=129,slow=6.1,SNR=254
KURBB pP **PcP** **01 24 01.1 -0.8**
comp=Z,32nm,0.6s,baz=130,slow=5.0,SNR=3.9
KURBB Kurchatov Arra 63.10 330 P **P** **01 23 25.1 -0.6**
KURK Kurchatov 63.11 330 P **P** **01 23 25.2 -0.5**
KURK *PP **PcP** **01 24 01.2 -0.8**
IUG Iuzhnay 63.62 318⇑*i*P **P** **01 23 28.6 -0.8**
baz=318
IUG *e*S **S** **01 31 48.8 -2.4**
baz=318
IUG Iuzhnay 63.62 318*c i*P **P** **01 23 28.6 -0.8**
IUG *e*S **S** **01 31 48.7 -2.4**
KK31 Karatay Array 63.73 319 P **P** **01 23 29.5 -0.5**
KK31 pmax pmax
comp=Z,21nm,0.9s
KK31 Karatay Array 63.73 319 P **P** **01 23 29.5 -0.5**
KKAR Karatay Array 63.73 319 P **P** **01 23 29.0 -1.0**
KKAR Karatay Array 63.73 319 P **P** **01 23 29.0 -1.0**
CHM Chimkent 63.98 318 *e*S **S** **01 31 53.9 -1.5**
baz=318
KNTN Kanton 64.87 93 P **P** **01 23 39.4 +1.4**
KNTN IAmb IAmb 01 23 40.3
comp=Z,158nm,1.0s
OTUK Ortayu 65.10 325 P **P** **01 23 38.1 -0.8**
AFI Afiamalu 65.58 105 P **P** **01 23 43.1 +0.5**
comp=Z,54nm,0.9s,baz=101,slow=2.6,SNR=7.9
AFI Afiamalu 65.58 105 P **P** **01 23 43.4 +0.8**
AFI pmax pmax
comp=Z,288nm,1.6s
AFI Afiamalu 65.58 105 P **P** **01 23 43.4 +0.8**
AFI IAmb IAmb 01 23 45.3
comp=Z,288nm,1.6s
AFI Afiamalu 65.58 105 P **P** **01 23 44.2 +1.6**
BRZS Berezniki 65.82 327⇑*i*P **P** **01 23 42.0 -1.5**
comp=Z,36nm,1.2s,baz=327
BRZS *e*S **S** **01 32 14.8 -2.9**
baz=327
BRZS Berezniki 65.82 327*c i*P **P** **01 23 41.9 -1.5**
BRZS *e*S **S** **01 32 14.7 -2.9**
BRZS pmax pmax
comp=Z,36nm,1.2s
JLN Jalan Bani Buh 66.01 294 P **P** **01 23 44.8 -0.3**
SEY Seymchan 66.31 14 P **P** **01 23 46.9 +0.7**
comp=Z,148nm,1.0s,baz=216,slow=5.0,SNR=131
HRA Herat 66.46 308 P **P** **01 23 46.7 -1.3**
WBK Wadi Bani Khal 66.49 295 P **P** **01 23 48.2 0.0**
CASY Casey 66.87 186 P **P** **01 23 50.0 +0.3**
CASY IAmb IAmb 01 23 51.4
comp=Z,102nm,0.9s
WSAR Wadi Sarin 66.91 295 P **P** **01 23 50.1 -0.8**
SNR=7.0
MHTO MHTO 67.14 293 P **P** **01 23 51.1 -1.2**
SNR=11
JMDO Jabal Madar 67.24 294 P **P** **01 23 52.2 -0.7**
SNR=8.7
SMDO Samad 67.41 295 P **P** **01 23 53.2 -1.0**
BIDO Bidbid 67.42 295 P **P** **01 23 53.2 -0.8**
SNR=9.9
NIUE Niue 68.00 111 P **P** **01 23 59.7 +2.0**
baz=68,SNR=4.1
JOHN Johnston Islan 68.01 72 P **P** **01 23 58.7 +0.9**
BSY Bisya 68.13 294 P **P** **01 23 58.7 -0.7**
SNR=7.6
HOQ Hoqain 68.17 295 P **P** **01 23 57.9 -0.9**
SNR=9.6
BRVK Borovoye 68.70 329*c i*P **P** **01 24 00.0 -1.4**
BRVK pmax pmax
comp=Z,55nm,1.0s
BRVK Borovoye 68.70 329 P **P** **01 24 00.4 -1.1**
ARQ Araqi 68.84 295 P **P** **01 24 01.6 -1.3**
SNR=8.9
SHAO Shalim 68.91 289 *i*P **P** **01 24 02.2 -1.2**
SNR=10.0
SHAO Shalim 68.91 289 P **P** **01 24 03.6 +0.2**
SOHO SOHO 68.96 296 *i*P **P** **01 24 03.1 -0.6**
SNR=10.0
SOHO SOHO 68.96 296 P **P** **01 24 02.7 -0.9**
MDH Madha 69.37 297 P **P** **01 24 04.9 -1.2**
UOSS Minazif 69.39 297 P **P** **01 24 04.9 -1.4**
UOSS Minazif 69.39 297 P **P** **01 24 05.8 -0.5**
UOSS Minazif 69.39 297 P **P** **01 24 05.0 -1.4**
HATD Hatta, Dubai 69.44 296 *i*P **P** **01 24 06.1 -0.5**
SNR=10
HATD Hatta, Dubai 69.44 296 P **P** **01 24 05.9 -0.7**
BANOM Banah 69.48 298 P **P** **01 24 06.4 -0.5**
BANOM Banah 69.48 298 P **P** **01 24 06.4 -0.5**
ASHO Ashiyiah 69.48 296 *i*P **P** **01 24 06.6 -0.3**
SNR=8.5
ASHO Ashiyiah 69.48 296 P **P** **01 24 07.2 +0.3**
MSFE Esma-Masafi 69.51 297 P **P** **01 24 07.2 +0.1**
MASF Masafi 69.51 297 P **P** **01 24 07.5 +0.4**
DMTO DMTO 69.52 289 P **P** **01 24 06.6 -0.5**
SHME Shamm 69.64 298 P **P** **01 24 08.5 +0.7**
SHME Shamm 69.64 298 P **P** **01 24 08.3 +0.5**
ALNE Al Ain 69.65 296 *i*P **P** **01 24 08.3 +0.4**
SNR=14
ALNE Al Ain 69.65 296 P **P** **01 24 07.3 -0.6**
SNR=27
NAZ Nazwa, Dubai 69.89 297 P **P** **01 24 09.5 +0.2**
NAZ Nazwa, Dubai 69.89 297 P **P** **01 24 09.1 -0.2**
FAQ Al Faqa, Dubai 69.91 296 *i*P **P** **01 24 09.1 -0.4**
SNR=10
FAQ Al Faqa, Dubai 69.91 296 P **P** **01 24 09.8 +0.3**
SNR=6.6
UMZA Um Al Zommool 69.98 294 P **P** **01 24 09.4 -0.5**
ASUD Al Ashush, Dub 70.12 296 *i*P **P** **01 24 09.8 -1.0**
SNR=16
ASUD Al Ashush, Dub 70.12 296 P **P** **01 24 10.9 +0.1**
SNR=13
RBK Rabkut 70.20 288 P **P** **01 24 10.7 -0.7**
DOK Doka 70.39 290 P **P** **01 24 10.5 -2.1**
WHFO Wadi Hawf 70.65 289 P **P** **01 24 11.6 -2.5**
GEYT Alibeck 70.66 310 P **P** **01 24 13.6 -0.2**
comp=Z,11nm,0.6s,baz=156,slow=7.6,SNR=15
GYA0B ALIBECK ARRAY 70.66 310 P **P** **01 24 14.0 +0.1**
ABTO Aybut 71.04 288 P **P** **01 24 15.5 -1.1**
TIXI Tiksi 71.52 2 P **P** **01 24 16.7 -1.6**
TIXI pmax pmax
comp=Z,387nm,1.2s
TIXI Tiksi 71.52 2 P **P** **01 24 16.7 -1.6**
ADK Adak 71.79 34 P **P** **01 24 20.6 +0.4**
ADK pmax pmax
comp=Z,267nm,1.2s

ADK Adak 71.79 34 P **P** **01 24 20.6 +0.4**
ADK IAmb IAmb 01 24 22.0
comp=Z,267nm,1.1s
GHWR Ruwais 72.24 295 P **P** **01 24 23.2 -0.3**
JRN Qarnain Island 72.40 296 P **P** **01 24 23.8 -0.6**
ABKAR Akbulak array 72.92 322 P **P** **01 24 26.3 -0.7**
NRIK Noril'sk 73.19 347 P **P** **01 24 27.6 -0.6**
comp=Z,71nm,0.7s,baz=134,slow=6.2,SNR=98
NRIK Noril'sk 73.19 347 *c iP* **P** **01 24 27.8 -0.4**
NRIK pmax pmax
comp=Z,127nm,0.9s
NRIK Noril'sk 73.19 347 IAmb IAmb 01 24 28.9
comp=Z,113nm,0.9s
SLWR Sila 73.33 295 P **P** **01 24 29.0 -0.9**
TRNA Turayna 73.85 296 P **P** **01 24 32.9 0.0**
BILL Bilibino 73.89 15 *de*P **P** **01 24 32.1 -0.2**
BILL *e* 01 27 19.4
BILL *e*S **S** **01 33 51.8 +0.7**
BILL pmax pmax
comp=Z,107nm,1.7s
BILL Bilibino 73.89 15 P **P** **01 24 32.7 +0.4**
SHMA Al-Shehemyia 74.22 297 P **P** **01 24 35.1 +0.1**
SAKB Bahrain 74.61 297 P **P** **01 24 36.3 -1.0**
SVE Sverdlovsk 75.36 330 *de*P **P** **01 24 39.9 -1.1**
SVE pmax pmax
comp=Z,139nm,0.9s
ARU Arti 76.28 329 *c iP* **P** **01 24 44.3 -1.9**
ARU 01 24 55.1
ARU **PP* **pP** **01 25 25.5 +1.0**
ARU 01 27 33.3
ARU PPP PPP 01 29 22.0
ARU S **S** **01 34 14.7 -3.1**
ARU SS **SS** **01 39 07.4 -7.8**
ARU pmax pmax
comp=Z,104nm,0.9s
ARU Arti 76.28 329 P **P** **01 24 45.0 -1.2**
NIKH Nikolski High 76.65 35 P **P** **01 24 48.4 0.0**
baz=252,SNR=29
ABPO Ambohimpanom 77.00 251 P **P** **01 24 50.6 -0.7**
ABPO pmax pmax
comp=Z,21nm,0.7s
ABPO Ambohimpanom 77.00 251 P **P** **01 24 50.6 -0.7**
OPO Ambohidratompo 77.01 251 P **P** **01 24 51.0 -0.3**
comp=Z,23nm,0.6s,baz=81,slow=5.4,SNR=73
QRN Al-Qurain 77.27 299 *e*P **P** **01 24 50.5 -1.9**
SPIA Saint Paul Isl 77.28 31 P **P** **01 24 53.0 +1.2**
baz=250
CRZF Crozet Islands 77.45 222 P **P** **01 24 53.2 +0.2**
CRZF IAmb IAmb 01 24 54.9
comp=Z,290nm,1.6s
RAR Rarotonga 77.72 112 P **P** **01 24 55.0 +0.1**
comp=Z,34nm,1.1s,baz=237,slow=6.3,SNR=3.0
MIB Mutribah 77.90 300 *e*P **P** **01 24 54.3 -1.6**
RST Umm Al-Ruwaisa 78.16 300 *e*P **P** **01 24 55.1 -2.2**
UNV Unalaska Valle 78.26 35 IAmb IAmb 01 24 58.9
comp=Z,216nm,0.8s
UNV Unalaska Valle 78.26 35 P **P** **01 24 57.5 +0.2**
baz=254,SNR=28
GAMB Gambell 79.03 24 IAmb IAmb 01 25 03.4
comp=Z,138nm,0.9s
GAMB Gambell 79.03 24 P **P** **01 25 01.9 +0.6**
baz=247
XMAS Kiritimati 79.11 88 P **P** **01 25 03.6 +0.8**
XMAS IAmb IAmb 01 25 07.5
comp=Z,115nm,0.9s
MAW Mawson 79.24 200 P **P** **01 25 03.4 +1.1**
baz=79,SNR=77
MAW Mawson 79.24 200 P **P** **01 25 03.3 +1.0**
comp=Z,68nm,0.8s,baz=72,slow=5.7,SNR=88
MAW LR LR 01 54 13.4
comp=Z,145nm,21.0s,baz=52,slow=31
MAW Mawson 79.24 200 P **P** **01 25 02.9 +0.5**
AKT Akhty 79.25 312 ⇑ *iP* **P** **01 25 02.5 -0.6**
AKT *e* 01 25 10.3
AKT *e*PP* **pP** **01 25 44.5 +3.0**
AKT *e*SP* **sP** **01 26 00.6 +2.6**
AKT *e* 01 28 05.5
AKT pmax pmax
comp=Z,43nm,0.5s
HON Honolulu 79.30 68 P **P** **01 25 04.6 +0.9**
HON pmax pmax
comp=Z,449nm,1.0s
HON Honolulu 79.30 68 P **P** **01 25 04.6 +0.9**
WMR Waimanalo Ridg 79.60 68 P **P** **01 25 06.2 +0.9**
MAK Makhachkala 79.66 314 *e*P **P** **01 25 03.9 -1.2**
MAK *e*PP* **pP** **01 25 41.0 -2.7**
MAK *e*SP* **sP** **01 25 58.3 -2.0**
MAK *e* 01 28 06.5
MAK *e*S **S** **01 34 51.7 -2.9**
MAK *e*SS* **sS** **01 35 57.1 -4.0**
MAK pmax pmax
comp=Z,524nm,1.4s
FALS False Pass 80.27 34 P **P** **01 25 08.2 0.0**
baz=256,SNR=35
VNDA Vanda 80.28 172 P **P** **01 25 08.2 +0.3**
comp=Z,62nm,0.7s,baz=317,slow=6.5,SNR=239
VNDA LR LR 02 00 49.6
comp=Z,228nm,20.0s,baz=326,slow=36
KHLH Kahului Airpor 80.74 69 IAmb IAmb 01 25 14.9
comp=Z,262nm,1.2s
ATD Arta Tunnel 80.77 282 P **P** **01 25 11.5 -0.2**
comp=Z,9.9nm,0.9s,baz=311,slow=1.4,SNR=5.7
GROC Groznyy 80.93 314 *e*P **P** **01 25 10.0 -2.0**
GROC *e*PP* **pP** **01 25 51.8 +1.4**
GROC *e*SP* **sP** **01 26 09.0 +2.1**
GROC *e* 01 28 19.4
GROC *e*S **S** **01 35 05.9 -2.0**
GROC pmax pmax
comp=Z,85nm,1.2s
KHLU Kahalu`u 81.17 70 P **P** **01 25 15.5 +1.7**
KHLU IAmb IAmb 01 25 16.6
comp=Z,367nm,1.3s
TNA Tin City 81.19 23 IAmb IAmb 01 25 15.9
comp=Z,81nm,0.7s
TNA Tin City 81.19 23 P **P** **01 25 13.6 +0.8**
baz=250
HUH Hualalai 81.23 70 P **P** **01 25 15.9 +1.5**
HUH IAmb IAmb 01 25 16.7
comp=Z,129nm,0.8s
SBA Scott Base 81.23 172 P **P** **01 25 14.1 +1.3**
SBA pmax pmax
comp=Z,53nm,1.0s
SBA Scott Base 81.23 172 P **P** **01 25 14.1 +1.3**
GNI Garni 81.30 311 P **P** **01 25 14.4 +0.1**
GNI Garni 81.30 311 *ce*P **P** **01 25 13.9 -0.3**
GNI pmax pmax
comp=Z,27nm,1.3s
GNI Garni 81.30 311 P **P** **01 25 14.7 +0.5**
GNI Garni 81.30 311 P **P** **01 25 14.3 +0.1**
POHA Pohakuloa 81.52 70 P **P** **01 25 15.6 -0.2**
POHA IAmb IAmb 01 25 18.7
comp=Z,171nm,0.8s
KIRV Kirov 81.63 329 *i* P **P** **01 25 13.7 -1.6**
ANM Nome 81.90 24 P **P** **01 25 18.0 +1.4**
ANM pmax pmax
comp=Z,120nm,0.6s
ANM Nome 81.90 24 P **P** **01 25 18.0 +1.4**
ANM IAmb IAmb 01 25 19.0
comp=Z,120nm,0.6s
ANM Nome 81.90 24 P **P** **01 25 17.7 +1.0**
baz=253,SNR=7.0
SDPT Sand Point 82.02 34 P **P** **01 25 17.5 +0.1**
baz=258,SNR=58
ZEI Tsey 82.25 313 *e*P **P** **01 25 18.3 -0.9**
ZEI pmax pmax
comp=Z,25nm,1.3s
KARS Kars 82.62 311 IAmb IAmb 01 25 22.6
comp=Z,303nm,1.3s
KBZ Khabaz 83.09 314 P **P** **01 25 22.3 -0.9**
comp=Z,20nm,0.9s,baz=128,slow=3.7,SNR=25
KBZ LR LR 02 07 06.9
comp=Z,101nm,21.1s,baz=96,slow=39
KBZ Khabaz 83.09 314 *ce*P **P** **01 25 22.6 -0.6**
KBZ pmax pmax
comp=Z,38nm,1.1s
GOF Gofitskoye 83.14 315 ⇑ *eP* **P** **01 25 23.6 +0.1**
GOF pmax pmax
comp=Z,66nm,1.4s
NEY Neytrino 83.17 313 *de*P **P** **01 25 23.1 -0.8**
KIV Kislovodsk 83.27 314 P **P** **01 25 23.8 -0.5**
KIV Kislovodsk 83.27 314 *e*P **P** **01 25 22.6 -1.7**
KIV pmax pmax
comp=Z,15nm,1.0s
KIV MLR MLR
comp=Z,91nm,19.0s

CHGN Chignik 83.34 33 IAmb IAmb 01 25 28.5
comp=Z,118nm,0.7s
CHGN Chignik 83.34 33 P **P** **01 25 24.0 -0.1**
baz=260,SNR=11
BCA Borcka 83.80 312 P **P** **01 25 26.6 -0.3**
RDOG Red Dog Mine 83.83 21 P **P** **01 25 29.4 +2.9**
baz=255
MARD Mardin 84.10 307 P **P** **01 25 28.3 -0.4**
PRGR Permogore 84.13 332 *e*P **P** **01 25 26.6 -1.5**
PRGR *e*PP* **pP** **01 26 10.1 +3.0**
PRGR *e*S **SKSac** **01 35 32.5 -4.1**
PRGR pmax pmax
comp=Z,325nm,0.8s
VRH Novokhopyorsk 84.73 321 *e*P **P** **01 25 29.9 -1.4**
VRH 01 35 31.4
VRH pmax pmax
comp=Z,110nm,0.8s
FURI Furi 84.81 279 P **P** **01 25 33.3 +0.3**
CHIR Chirikof Islan 84.82 34 P **P** **01 25 32.6 +0.9**
baz=262
SOC Sochi 85.38 314 *c iP* **P** **01 25 32.8 -2.0**
SOC *e*PP* **pP** **01 26 13.3 -0.4**
SOC *e*SP* **sP** **01 26 30.8 +0.8**
SOC *e* 01 28 51.5
SOC *e*PPP PPP 01 30 52.1
SOC *e*S **SKSac** **01 35 40.9 -4.4**
SOC pmax pmax
comp=Z,53nm,0.8s
SVW2 Sparrevohn 85.54 29 P **P** **01 25 36.0 +0.8**
SVW2 IAmb IAmb 01 25 37.1
comp=Z,65nm,0.6s
O18K Koktuh Hills 85.56 30 P **P** **01 25 36.1 +0.7**
O18K IAmb IAmb 01 25 37.1
comp=Z,72nm,0.6s
O18K Koktuh Hills 85.56 30 P **P** **01 25 36.0 +0.6**
baz=262,SNR=15
TTA Tatalina 85.60 27 P **P** **01 25 36.2 +0.6**
baz=262
SII Sitkinak Islan 85.70 33 P **P** **01 25 37.1 +0.9**
baz=264,SNR=15
L19K White Mountain 86.03 28 P **P** **01 25 38.2 +0.5**
L19K White Mountain 86.03 28 P **P** **01 25 38.1 +0.5**
baz=263,SNR=38
N19K Bonanza Creek 86.04 29 P **P** **01 25 38.4 +0.6**
N19K IAmb IAmb 01 25 39.7
comp=Z,149nm,0.9s
N19K Bonanza Creek 86.04 29 P **P** **01 25 38.2 +0.4**
baz=263,SNR=48
O19K Port Alsworth 86.05 30 P **P** **01 25 36.8 -0.9**
baz=263,SNR=7.7
KMBO Kilima Mbogo 86.19 269 P **P** **01 25 39.7 0.0**
comp=Z,16nm,0.7s,baz=59,slow=8.6,SNR=30
M19K Big River Lodg 86.21 28 P **P** **01 25 39.3 +0.8**
M19K IAmb IAmb 01 25 40.5
comp=Z,72nm,0.8s
M19K Big River Lodg 86.21 28 P **P** **01 25 38.8 +0.2**
baz=263,SNR=35
VORD Divnogorie 86.23 321 *e*P **P** **01 25 37.4 -1.4**
VORD pmax pmax
comp=Z,140nm,0.6s
Q19K Cape Douglas, 86.25 31 P **P** **01 25 38.0 -0.8**
baz=264,SNR=7.4
OHAK Old Harbor 86.26 33 P **P** **01 25 39.2 +0.4**
baz=264,SNR=24
VORR Voronezh 86.34 322 ⇓ *iP* **P** **01 25 37.0 -2.3**
VORR pmax pmax
comp=Z,400nm,1.0s
L20K Farewell, AK 86.52 27 P **P** **01 25 40.3 +0.2**
baz=264,SNR=51
P19K Oil Pt 86.53 30 P **P** **01 25 39.5 -0.6**
baz=264
K20K Telida 86.53 27 P **P** **01 25 40.7 +0.6**
K20K IAmb IAmb 01 25 41.9
comp=Z,54nm,0.7s
K20K Telida 86.53 27 P **P** **01 25 40.5 +0.4**
baz=263,SNR=44
J20K Nowinta River 86.60 26 IAmb IAmb 01 25 42.2
comp=Z,76nm,0.8s
J20K Nowinta River 86.60 26 P **P** **01 25 40.8 +0.5**
baz=263,SNR=49
A21K Barrow 86.68 19 P **P** **01 25 40.9 +0.4**
baz=260
KDAK Kodiak Island 86.69 32 P **P** **01 25 41.3 +0.4**
KDAK pmax pmax
comp=Z,104nm,0.8s
KDAK Kodiak Island 86.69 32 P **P** **01 25 41.3 +0.4**
KDAK IAmb IAmb 01 25 43.3
comp=Z,104nm,0.8s
KDAK Kodiak Island 86.69 32 P **P** **01 25 41.5 +0.6**
baz=265
GAZ Gaziantep 86.93 307 IAmb IAmb 01 25 44.3
comp=Z,93nm,1.0s
KLMR Klimovskoe 86.94 331 *c iP* **P** **01 25 40.1 -1.9**
KLMR *eS* **SKSac** **01 35 49.4 -4.9**
KLMR pmax pmax
comp=Z,83nm,0.6s
KLMR Klimovskoe 86.94 331 ⇑ *iP* **P** **01 25 40.2 -1.8**
KLMR *eP* **P** **01 25 40.2 -1.8**
KLMR *eP* **P** **01 25 40.2 -1.8**
KLMR AMP 01 25 42.2
comp=Z,83nm,0.6s
KLMR *eS* **SKSac** **01 35 49.4 -4.9**
KLMR *eS* **SKSac** **01 35 49.4 -4.9**
ANN Anapa 87.09 315 *i* P **P** **01 25 41.7 -1.4**
ANN *e* 01 35 59.2
ANN pmax pmax
comp=Z,175nm,1.1s
ANN pmax pmax
comp=N,51nm,1.3s
ANN pmax pmax
comp=E,27nm,1.1s
PPLA Purkeypile 87.34 27 IAmb IAmb 01 25 45.3
comp=Z,254nm,1.8s
PPLA Purkeypile 87.34 27 P **P** **01 25 43.7 -0.4**
baz=265
CHUM Lake Minchumin 87.37 26 P **P** **01 25 44.3 +0.3**
baz=265
CAST Castle Rocks 87.43 27 P **P** **01 25 43.5 -0.8**
baz=265
CNPM China Poot 87.53 31 IAmb IAmb 01 25 47.4
comp=Z,112nm,0.8s
MOS Moscow 87.56 326 *eP* **P** **01 25 42.3 -2.8**
MOS *e*PP* **pP** **01 26 25.2 +0.8**
MOS *e* 01 29 08.7
MOS *e*S **SKSac** **01 35 52.5 -5.7**
MOS *e* 01 36 05.1
MOS pmax pmax
comp=Z,78nm,0.7s
MOS pmax pmax
comp=Z,100nm,0.8s
MOS smax smax
comp=N,100nm,1.4s
MOS smax smax
comp=E,100nm,2.2s
SKT Skwentna 87.57 28 IAmb IAmb 01 25 45.6
comp=Z,62nm,0.5s
SKT Skwentna 87.57 28 P **P** **01 25 44.0 -1.0**
baz=266,SNR=49
I21K Tanana 87.62 25 IAmb IAmb 01 25 46.9
comp=Z,94nm,0.9s
I21K Tanana 87.62 25 P **P** **01 25 45.5 +0.3**
baz=265,SNR=18
BRSE Bradley Lake S 87.80 30 P **P** **01 25 45.3 -0.9**
baz=266,SNR=15
SYO Syowa Base 87.88 201 ⇑ *eP* **P** **01 25 46.5 +0.2**
SUA Susitna One 87.90 29 IAmb IAmb 01 25 47.1
comp=Z,102nm,0.8s
SUA Susitna One 87.90 29 P **P** **01 25 45.6 -1.2**
baz=266,SNR=12
BPAW Bear Paw Mtn. 87.97 26 IAmb IAmb 01 25 48.0
comp=Z,72nm,0.6s
BPAW Bear Paw Mtn. 87.97 26 P **P** **01 25 46.0 -0.9**
baz=266,SNR=57
BNN Bunyan 88.06 309 IAmb IAmb 01 25 48.5
comp=Z,94nm,0.9s
LODK Lodwar 88.08 273 P **P** **01 25 48.1 -0.4**
OBN Obninsk 88.12 325 *c iP* **P** **01 25 46.5 -1.3**
OBN *i* 01 29 16.8
OBN *i* S **SKSac** **01 35 58.1 -3.5**
OBN *e*SS **SS** **01 42 08.5 -2.1**
OBN pmax pmax
comp=Z,159nm,1.7s
OBN Obninsk 88.12 325 P **P** **01 25 47.4 -0.3**
OBN IAmb IAmb 01 25 47.5
comp=Z,62nm,0.7s
MLY Manley 88.14 25 IAmb IAmb 01 25 49.5
comp=Z,160nm,1.2s
MLY Manley 88.14 25 P **P** **01 25 47.5 -0.2**
baz=266,SNR=107
CUT Chulitna 88.19 28 IAmb IAmb 01 25 50.9
comp=Z,120nm,1.2s
CUT Chulitna 88.19 28 P **P** **01 25 46.8 -1.1**
baz=267
TRF Thorofare Moun 88.24 27 IAmb IAmb 01 25 48.8
comp=Z,68nm,1.0s
TRF Thorofare Moun 88.24 27 P **P** **01 25 47.4 -0.9**
baz=267,SNR=16
O22K Cooper Landing 88.35 30 P **P** **01 25 48.1 -0.6**
baz=267
RC01 Rabbit Creek A 88.37 29 IAmb IAmb 01 25 49.3
comp=Z,103nm,1.0s
RC01 Rabbit Creek A 88.37 29 P **P** **01 25 48.0 -0.9**
baz=267,SNR=11
SEW Seward 88.47 30 IAmb IAmb 01 25 50.6
comp=Z,101nm,0.8s
SEW Seward 88.47 30 P **P** **01 25 48.6 -0.7**
baz=268,SNR=22
COLD Coldfoot 88.49 23 P **P** **01 25 49.7 +0.4**
baz=267,SNR=100
BWN Browne 88.64 26 IAmb IAmb 01 25 51.7
comp=Z,146nm,1.0s
EIL Elat 88.64 300 P **P** **01 25 50.5 -0.3**
comp=Z,4.7nm,0.5s,baz=158,slow=4.5,SNR=8.8
H23K Yukon River 88.68 24 P **P** **01 25 50.5 +0.3**
baz=267,SNR=110
PMR Palmer 88.68 29 P **P** **01 25 50.0 -0.2**
PMR pmax pmax
comp=Z,43nm,0.6s
PMR Palmer 88.68 29 P **P** **01 25 50.0 -0.2**
PMR IAmb IAmb 01 25 51.9
comp=Z,43nm,0.6s
PMR Palmer 88.68 29 P **P** **01 25 49.6 -0.7**
baz=268,SNR=22
I23K Minto, Yukon-K 88.73 25 P **P** **01 25 50.4 0.0**
baz=268,SNR=102
TOLK Toolik Lake Re 88.81 21 IAmb IAmb 01 25 52.5
comp=Z,154nm,1.5s
TOLK Toolik Lake Re 88.81 21 P **P** **01 25 51.1 +0.3**
baz=267,SNR=21
NEA2 Nenana 88.83 26 IAmb IAmb 01 25 52.2
comp=Z,46nm,0.6s
NEA2 Nenana 88.83 26 P **P** **01 25 49.9 -1.0**
baz=268,SNR=49
MCK McKinley 88.86 26 P **P** **01 25 50.8 -0.3**
MCK pmax pmax
comp=Z,116nm,0.9s
MCK McKinley 88.86 26 P **P** **01 25 50.8 -0.3**
MCK IAmb IAmb 01 25 51.6
comp=Z,116nm,0.9s
MCK McKinley 88.86 26 P **P** **01 25 50.1 -1.0**
baz=268,SNR=47
WAT1 Susitna Watana 89.00 27 P **P** **01 25 50.8 -1.0**
baz=268
KNK Knik Glacier 89.00 29 P **P** **01 25 51.6 -0.2**
baz=268,SNR=32
PWL Port Wells 89.05 29 IAmb IAmb 01 25 53.5
comp=Z,156nm,1.1s
SML Sawmill 89.07 28 P **P** **01 25 51.5 -0.7**
baz=268,SNR=36
WRH Wood River Hil 89.25 26 IAmb IAmb 01 25 53.2
comp=Z,67nm,0.8s
TCOL CIGO, UAF Yank 89.36 25 IAmb IAmb 01 25 55.3
comp=Z,28nm,0.5s
TCOL CIGO, UAF Yank 89.36 25 P **P** **01 25 51.6 -1.7**
baz=269
COLA College 89.36 25 P **P** **01 25 52.6 -0.8**
COLA pmax pmax
comp=Z,27nm,0.5s
COLA College 89.36 25 P **P** **01 25 52.6 -0.8**
COLA IAmb IAmb 01 25 55.3
comp=Z,27nm,0.5s
COLA College 89.36 25 P **P** **01 25 51.8 -1.6**
baz=269
WAT6 Susitna Watana 89.37 28 P **P** **01 25 53.1 -0.6**
baz=269,SNR=78
H24K Noodor Dome 89.37 24 IAmb IAmb 01 25 56.2
comp=Z,174nm,1.4s
H24K Noodor Dome 89.37 24 P **P** **01 25 53.8 +0.3**
baz=269,SNR=78
CCB Clear Creek Bu 89.37 25 IAmb IAmb 01 25 53.6
comp=Z,75nm,0.6s
LVZ Lovozero 89.45 338 *ce*P **P** **01 25 51.7 -2.1**
LVZ pmax pmax
comp=Z,54nm,0.8s
LVZ Lovozero 89.45 338 P **P** **01 25 52.1 -1.7**
LVZ IAmb IAmb 01 25 53.0
comp=Z,64nm,0.9s
SIM Simferopol' 89.45 315 *c iP* **P** **01 25 52.0 -2.3**
SIM pmax pmax
comp=Z,42nm,0.5s
DHY Denali Highway 89.54 27 IAmb IAmb 01 25 55.4
comp=Z,81nm,0.6s
DHY Denali Highway 89.54 27 P **P** **01 25 53.8 -0.7**
baz=269,SNR=35
SCM Sheep Creek Mo 89.55 28 IAmb IAmb 01 25 55.5
comp=Z,119nm,1.1s
GLI Glacier Island 89.65 29 IAmb IAmb 01 25 55.9
comp=Z,124nm,1.0s
GLI Glacier Island 89.65 29 P **P** **01 25 54.3 -0.5**
baz=270,SNR=6.6
HDA Harding Lake 89.74 26 IAmb IAmb 01 25 54.9
comp=Z,59nm,0.7s
HDA Harding Lake 89.74 26 P **P** **01 25 53.5 -1.7**
baz=270,SNR=62
IL31 89.77 25 IAmb IAmb 01 25 55.1
comp=Z,31nm,0.6s
ILAR Eielson Array 89.77 25 P **P** **01 25 53.9 -1.5**
comp=Z,24nm,0.5s,baz=244,slow=4.9,SNR=433
ILAR PKiKP **PKiKP** **01 30 50.1 -1.1**
comp=Z,0.7nm,0.5s,baz=249,slow=4.0,SNR=5.5
ILAR PKKP **PKKPdf** **01 43 24.4 -0.9**
comp=Z,3.0nm,0.7s,baz=0.2,slow=1.5,SNR=6.2
BRTR Keskin Array B 89.79 310 P **P** **01 25 54.4 -1.8**
comp=Z,16nm,1.0s,baz=114,slow=4.2,SNR=18
BRTR pP **pP** **01 26 34.6 -0.4**
comp=Z,3.3nm,0.7s,baz=117,slow=7.1,SNR=2.6
BRTR PP **PP** **01 29 27.9 -2.8**
comp=Z,3.1nm,0.8s,baz=111,slow=6.8,SNR=4.4
BRTR LR LR 02 13 11.5
comp=Z,110nm,21.2s,baz=106,slow=40
BRTR Keskin Array B 89.79 310 *i* P **P** **01 25 54.5 -1.7**
BRTR pmax pmax
comp=Z,16nm,1.0s
APA Apatity 89.92 337 ⇓ *iP* **P** **01 25 52.2 -3.8**
APA *i *PP* **pP** **01 26 29.0 -6.5**
APA pmax pmax
comp=Z,21nm,0.9s
APA MLR MLR
comp=Z,300nm,19.0s
HIN Hinchinbrook I 89.94 30 IAmb IAmb 01 25 57.4
comp=Z,105nm,1.0s
FID Port Fidalgo 89.95 29 IAmb IAmb 01 25 57.4
comp=Z,78nm,0.8s
QSPA South Pole Qui 90.03 180 P **P** **01 25 56.9 +0.2**
QSPA IAmb IAmb 01 25 58.5
comp=Z,248nm,1.9s
M24K Tolsona, Glenn 90.09 28 P **P** **01 25 57.2 +0.3**
baz=270,SNR=34
KLU Klutina 90.22 29 IAmb IAmb 01 25 58.8
comp=Z,59nm,0.8s
KLU Klutina 90.22 29 P **P** **01 25 57.4 -0.2**
baz=271,SNR=28
DIV Divide 90.30 29 IAmb IAmb 01 25 59.4
comp=Z,120nm,1.0s
EYAK Cordova Ski Ar 90.31 30 IAmb IAmb 01 25 59.5
comp=Z,64nm,1.1s
EYAK Cordova Ski Ar 90.31 30 P **P** **01 25 57.5 -0.4**
baz=271,SNR=5.4
PRP Porcupine Dome 90.34 25 P **P** **01 25 57.6 -0.5**
baz=271
PAX Paxson 90.41 27 IAmb IAmb 01 25 59.7
comp=Z,64nm,0.9s
PAX Paxson 90.41 27 P **P** **01 25 58.1 -0.3**
baz=271,SNR=54
J25K Salcha River, 90.42 26 P **P** **01 25 57.0 -1.5**
baz=271,SNR=47
FYU Fort Yukon 90.44 24 P **P** **01 25 59.3 +0.9**
FYU IAmb IAmb 01 26 00.4
comp=Z,136nm,1.2s
HARP HAARP 90.57 28 P **P** **01 25 59.0 -0.1**
baz=271,SNR=21
RIDG Independent Ri 90.67 26 IAmb IAmb 01 26 00.4
comp=Z,110nm,0.9s
RIDG Independent Ri 90.67 26 P **P** **01 25 59.1 -0.5**

baz=272,SNR=77
N25K Chitina, Valde 90.85 29 lAmb lAmb 01 26 02.1
comp=Z,80nm,0.8s
N25K Chitina, Valde 90.85 29 P **P 01 26 00.7 +0.1**
baz=272,SNR=37
RAGM Ragged Mountai 90.85 30 lAmb lAmb 01 26 02.2
comp=Z,166nm,1.4s
BMRM Bremner River 90.87 29 lAmb lAmb 01 26 01.9
comp=Z,78nm,0.9s
BMRM Bremner River 90.87 29 P **P 01 26 00.5 -0.1**
baz=272,SNR=16
KAIM Kayak Island 90.99 30 P **P 01 26 01.5 +0.4**
baz=272,SNR=6.2
SCRK Sand Creek 91.05 26 lAmb lAmb 01 26 03.4
comp=Z,28nm,0.6s
SCRK Sand Creek 91.05 26 P **P 01 26 01.3 -0.2**
baz=272,SNR=31
HMT Hamilton 91.06 30 P **P 01 26 01.8 +0.4**
HMT lAmb lAmb 01 26 03.0
comp=Z,109nm,1.1s
MENT Mentasta 91.21 27 lAmb lAmb 01 26 03.5
comp=Z,69nm,0.6s
GLB Gilahina Butte 91.23 29 lAmb lAmb 01 26 03.7
comp=Z,80nm,1.0s
L26K Log Cabin Wild 91.38 27 lAmb lAmb 01 26 04.3
comp=Z,40nm,0.8s
L26K Log Cabin Wild 91.38 27 P **P 01 26 03.3 +0.4**
baz=273
VRDI Verde Repeater 91.42 29 lAmb lAmb 01 26 04.5
comp=Z,47nm,0.7s
M26K Nabesna, AK 91.57 28 lAmb lAmb 01 26 05.3
comp=Z,103nm,1.4s
M26K Nabesna, AK 91.57 28 P **P 01 26 03.9 +0.1**
baz=273,SNR=28
CRQM Cirque 91.59 29 lAmb lAmb 01 26 05.6
comp=Z,94nm,1.0s
MCARA McCarthy VSAT 91.61 29 P **P 01 26 04.2 +0.3**
MCARA lAmb lAmb 01 26 08.5
comp=Z,54nm,0.8s
MCARA McCarthy VSAT 91.61 29 P **P 01 26 04.3 +0.3**
baz=273,SNR=18
CRQE Cirque 91.61 29 P **P 01 26 04.0 -0.2**
baz=273,SNR=17
K27K Chicken 91.88 26 P **P 01 26 06.1 +0.9**
baz=274
L27K Beaver Creek, 92.06 27 lAmb lAmb 01 26 08.1
comp=Z,62nm,0.7s
L27K Beaver Creek, 92.06 27 P **P 01 26 06.7 +0.6**
baz=274,SNR=70
M27K Edge Creek, AK 92.09 28 lAmb lAmb 01 26 08.2
comp=Z,59nm,1.2s
M27K Edge Creek, AK 92.09 28 P **P 01 26 06.7 +0.4**
baz=274
KEV Kevo 92.14 340 P **P 01 26 05.4 -0.8**
KEV pmax pmax
comp=Z,23nm,0.6s
KEV Kevo 92.14 340 P **P 01 26 05.4 -0.8**
MESA MESA 92.22 30 lAmb lAmb 01 26 09.0
comp=Z,82nm,0.8s
MESA MESA 92.22 30 P **P 01 26 07.1 0.0**
baz=274,SNR=9.8
EGAK Eagle 92.22 25 lAmb lAmb 01 26 08.0
comp=Z,60nm,1.1s
EGAK Eagle 92.22 25 P **P 01 26 06.6 -0.1**
baz=275,SNR=20
CTG Chitna Glacier 92.46 29 P **P 01 26 08.8 +0.7**
baz=275,SNR=74
BVCY Beaver Creek 92.56 28 P **P 01 26 08.9 +0.5**
baz=275,SNR=25
AKASG Malin Array Be 92.61 321 P **P 01 26 06.6 -2.1**
comp=Z,8.7nm,0.5s,baz=70,slow=5.0,SNR=37
AKASG PP **PP 01 29 52.3 0.0**
comp=Z,0.5nm,0.2s,baz=68,slow=8.0,SNR=5.3
AKASG PKKP **PKKPdf 01 43 19.4 -0.7**
comp=Z,1.8nm,0.5s,baz=271,slow=3.8,SNR=6.0
AKASG LR LR 02 12 12.3
comp=Z,84nm,21.8s,baz=50,slow=38
AKBB Malin Array Si 92.61 321 P **P 01 26 06.7 -2.1**
AKBB pmax pmax
comp=Z,21nm,1.1s
AKBB Malin Array Si 92.61 321 P **P 01 26 06.7 -2.1**
ARA0 ARCESS Array S 92.69 340 *e*P **P 01 26 07.2 -1.6**
ARCES ARCESS Array B 92.69 340 P **P 01 26 06.8 -2.0**
comp=Z,37nm,0.6s,baz=86,slow=6.2,SNR=278
ARCES PKiKP **PKiKP 01 30 56.1 0.0**
comp=Z,1.6nm,0.5s,baz=80,slow=1.3,SNR=9.9
ARCES PKKP **PKKPdf 01 43 20.1 -0.1**
comp=Z,2.9nm,0.5s,baz=252,slow=2.4,SNR=32
ARCES LR LR 02 10 36.0
comp=Z,105nm,21.9s,baz=110,slow=37
ARCES ARCESS Array B 92.69 340 lAmb lAmb 01 26 08.1
comp=Z,49nm,0.8s
YUK3 Moose Creek 92.81 28 P **P 01 26 09.9 +0.2**
baz=275,SNR=22
DAWY Dawson 93.06 26 lAmb lAmb 01 26 12.3
comp=Z,80nm,0.9s
DAWY Dawson 93.06 26 P **P 01 26 10.6 0.0**
baz=276
PINM Pinnacle 93.07 30 P **P 01 26 11.0 +0.2**
baz=276,SNR=12
MILM Milestii Mici 93.10 317 ⇓P **P 01 26 09.0 -2.1**
HAMF Hammerfest 93.15 341 *e*P **P 01 26 08.8 -2.0**
MNK Minsk 93.16 324 *i* P **P 01 26 08.2 -3.0**
MNK *i* *PP **pP 01 26 50.0 -0.5**
MNK *i* 01 29 53.4
MNK *i* PPP PPP 01 31 54.4
MNK *i* S **SKSac 01 36 25.5 -5.1**
MNK *i* PS **PS 01 38 35.6 -2.2**
MNK *i* SS **SS 01 43 19.9 -3.3**
MNK pmax pmax
comp=E,8.0nm,1.2s
MNK pmax pmax
comp=Z,116nm,1.2s
MNK pmax pmax
comp=N,17nm,1.2s
MNK MLR MLR
comp=E,10.0nm,16.0s
MNK MLR MLR
comp=N,95nm,17.0s
MNK MLR MLR
comp=Z,202nm,17.0s
MNK Minsk 93.16 324 *i* P **P 01 26 08.3 -2.9**
comp=E,8.0nm,1.2s,baz=85
MNK *i* P **P 01 26 08.3 -2.9**
comp=N,17nm,1.2s
MNK *i* P **P 01 26 08.3 -2.9**
comp=Z,116nm,1.2s
MNK *i* pP **pP 01 26 50.1 -0.5**
MNK *i* PP **PP 01 29 53.5 -3.1**
MNK *i* PPP PPP 01 31 54.4
MNK *i* S **SKSac 01 36 25.5 -5.0**
MNK *i* sS pS 01 37 43.6 -12
MNK *i* PS **PS 01 38 35.7 -2.1**
MNK *i* SS **SS 01 43 20.0 -3.2**
MNK *i* SSS SSS 01 46 53.0
MNK *i* LQ LQ 02 02 05.6
MNK *i* LR LR 02 04 10.8
MNK *i* LRM MLR 02 08 48.7
comp=E,10.0nm,16.0s
MNK *i* LRM MLR 02 09 03.4
comp=N,95nm,17.2s
MNK *i* LRM MLR 02 09 14.2
comp=Z,202nm,16.9s
SORM Soroca 93.33 318 ⇑P **P 01 26 10.3 -1.8**
SPA0 Spitsbergen Ar 93.38 349 *e*P **P 01 26 11.2 -0.6**
BCPM Bancas Point 93.39 30 P **P 01 26 13.5 +1.3**
BCPM lAmb lAmb 01 26 14.2
comp=Z,104nm,1.2s
VSU Vasula 93.44 328 *e*P **P 01 26 11.2 -1.2**
FINES FINESS Array B 93.45 331 P **P 01 26 10.2 -2.1**
comp=Z,9.3nm,0.6s,baz=61,slow=4.8,SNR=89
FINES PKiKP **PKiKP 01 30 57.9 +0.3**
comp=Z,3.9nm,0.5s,baz=103,slow=4.2,SNR=11
KTK1 Kautokeino 93.57 339 *e*P **P 01 26 10.8 -2.1**
CFR Carcaliu 93.68 315 P **P 01 26 12.2 -1.6**
YUK4 Talbot Arm 93.72 29 P **P 01 26 14.0 +0.1**
baz=277,SNR=26
BJO1 Bjornoya 93.75 345 *e*P **P 01 26 13.2 -0.4**
NACGM Naroch 93.76 325 *i* P **P 01 26 13.2 -0.8**
MANT Manisa 93.77 308 P **P 01 26 13.9 -0.9**
MANT lAmb lAmb 01 26 15.5
comp=Z,58nm,0.8s
VASR Vaslui 93.82 317 ⇑P **P 01 26 12.9 -1.6**
EPYK Eagle Plains 93.86 23 P **P 01 26 13.8 -0.4**
baz=279,SNR=54
HSPB Hornsund (broa 93.90 348 *e*P **P 01 26 13.2 -1.0**
YUK6 Outpost Mounta 93.90 29 P **P 01 26 15.5 +0.6**
baz=277,SNR=17
KBS Kingsbay 93.97 350 *i* P **P 01 26 13.1 -1.4**
KBS lAmb lAmb 01 26 14.1
comp=Z,106nm,0.8s
KBS Kingsbay 93.97 350 *ce*P **P 01 26 14.1 -0.4**
KBS pmax pmax
comp=Z,41nm,1.3s
KBS Kingsbay 93.97 350 *e*P **P 01 26 13.3 -1.2**
KBS Kingsbay 93.97 350 P **P 01 26 13.5 -1.0**
KBS lAmb lAmb 01 26 14.3
comp=Z,44nm,0.8s
IIGN Ignalina 94.04 325 *e*P **P 01 26 15.1 -0.2**
ISAL Salakas 94.07 326 *e*P **P 01 26 15.1 -0.3**
HYT Haines Junctio 94.34 29 P **P 01 26 17.0 +0.3**
baz=278,SNR=85
MEF Metsahovi 94.42 330 *e*P **P 01 26 15.2 -1.6**
JETT Jettan, Norway 94.45 340 *e*P **P 01 26 16.2 -0.8**
TESR Tescani 94.61 317 ⇑P **P 01 26 16.8 -1.3**
VRI Vrincioaia 94.62 316 ⇑P **P 01 26 17.5 -0.7**
BISRR Bisoca 94.66 316 ⇑P **P 01 26 18.1 -0.4**
BISRR Bisoca 94.66 316 ⇑P **PKKPbc 01 43 16.8 -0.5**
MAYO Mayo, Yukon 94.66 26 P **P 01 26 18.4 +0.5**
baz=280,SNR=12
MATP Matopo 94.67 250 P **P 01 26 18.4 -0.7**
comp=Z,28nm,0.7s,baz=104,slow=9.4,SNR=48
PLOR Plostina 94.67 316 ⇑P **P 01 26 17.2 -1.3**
GIRR Girov 94.68 317 P **P 01 26 17.2 -1.2**
INK Inuvik 94.72 21 P **P 01 26 17.4 -0.7**
comp=Z,43nm,0.5s,baz=291,slow=4.0,SNR=165
INK PKiKP **PKiKP 01 30 59.3 -0.3**
comp=Z,4.5nm,0.5s,baz=339,slow=5.8,SNR=8.0
INK Inuvik 94.72 21 P **P 01 26 17.4 -0.7**
baz=282,SNR=41
PRAR RASCA 94.83 317 ⇓P **P 01 26 17.5 -1.5**
TRO Tromso 94.94 340 *e*P **P 01 26 16.9 -2.1**
BIZ Bicaz 94.95 317 ⇑P **P 01 26 18.7 -0.9**
NEHR Nehoiu 94.96 315 ⇑P **P 01 26 19.0 -0.7**
COVR Voineasa-Covas 94.98 316 ⇑P **P 01 26 18.7 -1.2**
MLR Muntele Rosu 95.20 316 ⇓P **P 01 26 19.8 -1.1**
MLR Muntele Rosu 95.20 316 ⇓P **PKKPbc 01 43 14.6 -1.3**
OZUR 95.25 316 ⇑P **P 01 26 19.9 -1.2**
BURAR Bucovina Array 95.48 318 ⇑P **P 01 26 21.3 -0.9**
BURAR Bucovina Array 95.48 318 lAmb lAmb 01 26 22.8
comp=Z,27nm,0.8s
BUR08 Bucovina Ar. S 95.49 318 lAmb lAmb 01 26 22.5
comp=Z,22nm,0.8s
DOPR Dopca 95.54 316 ⇑P **P 01 26 21.2 -1.1**
DOPR Dopca 95.54 316 ⇑P **PKKPbc 01 43 14.2 -0.7**
RAF Rauma 95.57 331 *e*P **P 01 26 20.6 -1.4**
SKAG Skagway 95.62 30 P **P 01 26 23.6 +1.2**
SKAG Skagway 95.62 30 P **P 01 26 23.1 +0.7**
baz=280,SNR=31
SUW Suwalki 95.96 324 *e*P **P 01 26 22.7 -1.3**
SUW Suwalki 95.96 324 *e*P **P 01 26 22.8 -1.2**
LVV L'vov 96.01 320 *e*P **P 01 26 23.1 -1.3**
LVV *e* 01 30 15.1
LVV *e*S **S 01 37 21.4 -8.1**
FARO Faro, Yukon 96.06 27 P **P 01 26 24.8 +0.5**
baz=282,SNR=361
ARCR ARCALIA 96.12 317 ⇑P **P 01 26 24.0 -1.0**
ARR Arges 96.13 316 ⇑P **P 01 26 23.3 -1.8**
ARR Arges 96.13 316 ⇑P **PKKPbc 01 43 12.1 -1.2**
PBUR Paburge 96.35 326 *e*P **P 01 26 25.0 -0.7**
NOR Nord 96.38 355 ⇑*i*P **P 01 26 24.4 -1.0**
NOR lAmb lAmb 01 26 25.1
comp=Z,23nm,0.8s
A36M Sachs Harbour 96.40 17 P **P 01 26 25.2 -0.4**
baz=290,SNR=5.8
N2IH Innhavet 96.43 339 *e*P **P 01 26 23.6 -2.2**
BMR Baia Mare 96.63 318 ⇑P **P 01 26 26.5 -0.7**
CJR Cluj-Napoca 96.69 317 ⇑P **P 01 26 27.3 -0.3**
STEI Steigen 96.69 339 *e*P **P 01 26 25.0 -2.0**
CBBR Cluj-Babes-Bol 96.71 317 ⇑P **P 01 26 27.1 -0.6**
LOT Lotru 96.72 316 ⇓P **P 01 26 26.5 -1.4**
N2ST Straumen 96.73 338 *e*P **P 01 26 25.1 -2.1**
FAUS Fauske 96.83 338 *e*P **P 01 26 25.5 -2.2**
KWP Kalwaria Pacla 96.88 320 *e*P **P 01 26 27.4 -0.9**
MMPY Sheldon Lake, 96.92 27 P **P 01 26 28.7 +0.4**
baz=284,SNR=98
NBB08 Skaug oppvekst 97.07 338 *e*P **P 01 26 26.8 -2.0**
LBTB Lobatse 97.16 245 P **P 01 26 29.6 -0.7**
comp=Z,4.9nm,0.6s,baz=123,slow=4.1,SNR=10
LBTB Lobatse 97.16 245 lAmb lAmb 01 27 56.9
comp=Z,43nm,1.9s
TRPA Tarpa 97.21 318 P **P 01 26 29.1 -0.8**
TRPA Tarpa 97.21 318 *e*P **P 01 26 28.5 -1.3**
TRPA Tarpa 97.21 318 *e*P **P 01 26 28.3 -1.5**
LOF Lofoten 97.23 339 *e*P **P 01 26 27.3 -2.2**
BOSA Boshof 97.24 241 P **P 01 26 29.9 -0.6**
comp=Z,12nm,0.8s,baz=108,slow=3.7,SNR=23
BOSA PKiKP **PKiKP 01 31 04.6 -0.7**
comp=Z,2.4nm,0.6s,baz=231,slow=0.7,SNR=7.0
BOSA PKKP **PKKPbc 01 43 09.4 -0.2**
comp=Z,3.6nm,0.7s,baz=261,slow=2.1,SNR=11
BOSA LR LR 02 05 43.8
comp=Z,84nm,21.3s,baz=98,slow=32
BOSA Boshof 97.24 241 P **P 01 26 30.0 -0.6**
BOSA Boshof 97.24 241 P **P 01 26 29.7 -0.9**
KOLS Kolonicke sedl 97.27 319 *e*P Pdif 01 26 30.9 +0.7
KOLS Kolonicke sedl 97.27 319 *e*PDIFF Pdif 01 26 30.9 +0.7
DEV Deva 97.27 316 ⇓P **P 01 26 29.4 -0.8**
DRGR 97.28 317 ⇑P **P 01 26 29.9 -0.4**
UZH Uzhgorod 97.30 319 ⇓*i*P **P 01 26 28.9 -1.3**
UZH *e* 01 27 07.8
NBB05 Inndyr 97.40 338 *e*P **P 01 26 28.2 -2.0**
GZR Gura Zlata 97.42 316 ⇓P **P 01 26 29.9 -1.1**
VTS Vitosha 97.45 313 ⇑P **P 01 26 29.2 -2.1**
VTS Vitosha 97.45 313 ⇑P **PKKPbc 01 43 08.8 -0.9**
NBB17 Glomfjord B¥r 97.50 338 *e*P **P 01 26 28.6 -2.2**
MOR8 Moi Rana 97.51 337 *e*P **P 01 26 27.5 -3.3**
CRAG Craig 97.52 34 P Pdif 01 26 31.4 +0.3
baz=281
NBB15 Halsa Church 97.66 338 *e*P **P 01 26 30.0 -1.4**
BEL Belsk 97.73 322 *e*P **P 01 26 31.5 -0.6**
HERR Herculane 97.75 315 ⇓P **P 01 26 31.1 -1.3**
WRAK Wrangell Islan 97.76 33 P Pdif 01 26 32.6 +0.5
baz=282
NBB13 Alf Garage 97.80 338 *e*P **P 01 26 30.2 -1.9**
CRVS Cervenica-Dubn 97.80 319 *e*PDIFF **P 01 26 32.2 -0.3**
UPP Uppsala 97.82 331 *e*P **P 01 26 30.2 -2.1**
STHS Stebnicka Huta 97.86 320 *e*PDIFF **P 01 26 32.5 -0.3**
N2RO R_st 97.95 339 *e*P **P 01 26 30.6 -2.0**
STOK Stokkvaagen 98.01 338 *e*Pdif **P 01 26 32.6 -0.3**
SIRR Siria 98.07 317 ⇑P **P 01 26 32.7 -1.1**
BZS Buzias 98.20 316 ⇑P **P 01 26 32.4 -1.9**
BZS Buzias 98.20 316 ⇑P **PKKPbc 01 43 07.0 -0.5**
MDVR Moldovita 98.25 315 ⇓P **P 01 26 32.9 -1.8**
DIB Dawson Inlet, 98.34 36 lAmb lAmb 01 26 35.5
comp=Z,19nm,0.7s
NIE Niedzica 98.47 320 *e*P Pdif 01 26 35.8 +0.3
DLBC Dease Lake 98.52 31 lAmb lAmb 01 26 37.6
comp=Z,23nm,0.8s
TGTN Hyland Airport 98.56 27 P Pdif 01 26 35.9 +0.2
baz=286,SNR=20
OJC Ojcow 98.64 321 *e*P **P 01 26 35.3 -0.9**
WTLY Watson Lake, Y 98.70 29 P Pdif 01 26 37.1 +0.8
baz=286
PSZ Piszkesteto 98.99 319 ⇑P **P 01 26 36.3 -1.7**
PSZ Piszkesteto 98.99 319 *e*P **P 01 26 35.8 -2.2**
PSZ Piszkesteto 98.99 319 *e*P **P 01 26 36.4 -1.6**
NSS Namsos 99.02 336 *e*Pdif **Pdif 01 26 35.1 -2.4**
LANS Liptovska Anna 99.05 320 *e*P **Pdif 01 26 38.2 +0.1**
LANS Liptovska Anna 99.05 320 *e*PDIFF **Pdif 01 26 38.2 +0.1**
DIVS Divibare 99.58 315 Pdif **Pdif 01 26 40.1 -0.5**
BLEU Blekinge 99.64 327 *i* P **Pdif 01 26 39.9 -0.6**
WRGLY Wrigley 100.14 25 P **Pdif 01 26 42.8 +0.2**
baz=291
MORC Moravsky Berou 100.16 321 ⇓P **Pdif 01 26 42.5 -0.5**
MORC Moravsky Berou 100.16 321 *e*P **Pdif 01 26 42.2 -0.8**
JAVC Velka Javorina 100.27 320 *e*P **Pdif 01 26 43.7 +0.1**
JAVC *e* 01 30 54.1
DAG Danmarks Havn 100.37 352 *i* P **Pdif 01 26 42.1 -1.2**
DAG lAmb lAmb 01 26 43.9
comp=Z,36nm,0.8s
NC303 NORSAR Array S 100.39 333 Pdif **Pdif 01 26 41.4 -2.4**
BSD Bornholm Skovb 100.44 326 *e*P **Pdif 01 26 43.3 -0.7**
NC602 NORSAR Array S 100.47 332 *e*Pdif **Pdif 01 26 42.0 -2.1**
NOA NORSAR Array B 100.52 333 P **Pdif 01 26 42.4 -2.0**
comp=Z,4.6nm,0.6s,baz=72,slow=4.4,SNR=26
NOA PP **PP 01 30 54.6 +1.8**
comp=Z,2.8nm,0.8s,baz=72,slow=7.3,SNR=4.9
NOA PKiKP **PKiKP 01 31 09.6 -0.6**
comp=Z,0.9nm,0.6s,baz=80,slow=2.7,SNR=4.9
KOVH Kovagotottos 100.54 317 *e*P **Pdif 01 26 42.7 -2.0**
KOVH Kovagotottos 100.54 317 *e*P **Pdif 01 26 44.0 -0.7**
KRLC Kraliky 100.57 321 *e*P **Pdif 01 26 42.9 -2.0**
KRLC Kraliky 100.57 321 *e*PDIFF **Pdif 01 26 42.9 -2.0**
DEL Delary 100.63 328 *i* P **Pdif 01 26 44.2 -0.7**
KSP Ksiaz 100.70 322 *e*P **Pdif 01 26 45.0 -0.4**
OSTC Ostas 100.81 322 *e*PDIFF **Pdif 01 26 45.6 -0.3**
OSTC *e*PKKP **PKKPbc 01 42 59.5 -0.9**
VRAC Vranov 100.86 320 *e*P **Pdif 01 26 46.0 -0.2**
VRAC *e* 01 30 59.8
BORU Boraas 100.86 329 *i* P **Pdif 01 26 44.5 -1.4**
SNAA Sanae 100.89 195 PKKPbc PKKPbc 01 42 57.1 -3.8
SNAA Sanae 100.89 195 Pdiff **Pdif 01 26 46.3 +0.5**
CHVC Chvalec 100.91 322 *e*PDIFF **Pdif 01 26 45.1 -1.2**
CHVC *e*PKKP **PKKPbc 01 42 59.7 -0.5**
UPC Upice 100.95 322 *e*P **Pdif 01 26 45.9 -0.6**
UPC Upice 100.95 322 *e*PDIFF **Pdif 01 26 45.9 -0.6**
KRUC Moravsky 101.04 320 *e*P **Pdif 01 26 46.4 -0.5**
KRUC *e* 01 31 00.6
FABU Falkenberg 101.08 329 *i* P **Pdif 01 26 45.2 -1.7**
OSL Oslo 101.13 332 *e*Pdif **Pdif 01 26 45.5 -1.6**
BJUU Bjuv 101.20 328 *i* P **Pdif 01 26 46.8 -0.6**
ONAU Onsala 101.37 329 *e*P **Pdif 01 26 46.5 -1.7**
BELA Belgrano 2 101.41 185 Pdif **Pdif 01 26 48.5 +0.5**
MOL Molde 101.58 335 *e*Pdif **Pdif 01 26 48.2 -0.7**
CONA Conrad Observa 101.65 319 *e*P **Pdif 01 26 48.8 -1.0**
comp=Z,3.0nm,1.2s
CONA *e*P **PP 01 31 04.3 +2.4**
comp=Z,7.8nm,1.3s
CONA S **Sdif 01 38 21.4 +4.0**
comp=Z,5.7nm,1.6s
CONA *e*P **PKKPbc 01 42 56.5 -1.5**
comp=Z,2.1nm,0.6s,SNR=4.2
RICI Ricice 101.72 314 *i* P **Pdif 01 26 47.1 -3.1**
KONO Kongsberg 101.76 332 *e*Pdif **Pdif 01 26 48.4 -1.5**
RUE Ruedersdorf 101.80 324 *e*P **Pdif 01 26 50.8 +0.6**
AKN Aaknes 101.97 335 *e*Pdif **Pdif 01 26 49.9 -0.9**
SKAR Skarsla 101.98 333 *e*Pdif **Pdif 01 26 49.5 -1.4**
PRU Pruhonice 101.99 321 *e*P **Pdif 01 26 50.6 -0.5**
PRU Pruhonice 101.99 321 *e*PDIFF **Pdif 01 26 50.6 -0.5**
ARSA Arzberg 102.03 318 *e*P **Pdif 01 26 48.9 -2.5**
comp=Z,1.9nm,0.7s
ARSA *e*P **PP 01 31 07.7 +3.1**
comp=Z,3.8nm,0.9s
ARSA *e*P **PKKPbc 01 42 55.8 -0.9**
comp=Z,2.1nm,0.7s
BRG Berggiesshubel 102.13 322 *e*P **Pdif 01 26 51.5 -0.3**
BRG Amp 01 26 53.1
comp=Z,7.5nm,0.8s
BRG Berggiesshubel 102.13 322 *e*P **PKiKP 01 31 14.3 +1.1**
BRG Amp 01 31 16.5
comp=Z,8.4nm,1.2s
KIJV Kijevo 102.14 315 *i* P **Pdif 01 26 49.9 -2.1**
PBCC Pribram 102.41 321 *e*PDIFF **Pdif 01 26 52.9 -0.1**
CKRC Cesky Krumlov 102.44 320 *e*PDIFF **Pdif 01 26 52.9 -0.3**
CKRC *e*PKKP **PKKPbc 01 42 54.3 -1.3**
UDBI Udbina 102.47 316 *i* P **Pdif 01 26 51.6 -1.9**
NEEM North Greenlan 102.48 359 *i* P **Pdif 01 26 53.1 0.0**
NEEM lAmb lAmb 01 26 54.4
comp=Z,17nm,0.8s
NEEM North Greenlan 102.48 359 *i* P **PKiKP 01 31 13.7 +0.1**
NEEM lAmb lAmb 01 31 16.1
comp=Z,23nm,0.8s
SOKA Soboth 102.49 318 *e*P **PKiKP 01 31 10.1 -4.0**
comp=Z,12nm,1.5s
VNA2 Neumayer--Watz 102.51 195 PKKPbc PKKPbc 01 42 52.2 -3.9
VNA2 Neumayer--Watz 102.51 195 PKiKP **PKiKP 01 31 14.1 +0.7**
VNA2 Neumayer--Watz 102.51 195 Pdiff **Pdif 01 26 54.0 +1.0**
CLL Collm 102.58 323 *e*Pdif **Pdif 01 26 53.0 -0.7**
comp=Z,6.0nm,1.1s
CLL *e*PP **PP 01 31 11.0 +2.4**
comp=Z,8.0nm,1.1s
CLL *es*PP 01 31 56.0
CLL *e*Sdif Sdif 01 38 18.0 -6.9
CLL *e*PPS PPS 01 41 12.0
CLL *e* 01 55 42.0
CLL Collm 102.58 323 *e*P **Pdif 01 26 53.0 -0.7**
CLL *e* 01 31 11.0
CLL pmax pmax
comp=Z,6.0nm,1.1s
CLL pmax pmax
comp=Z,8.0nm,1.1s
PDKS Podkum 102.66 317 *i* Pdiff **Pdif 01 26 53.3 -1.0**
PDKS *e*PP **PP 01 31 10.4 +1.1**
MOA Molln 102.71 319 *e*P **Pdif 01 26 53.7 -0.7**
comp=Z,2.4nm,0.6s
MOA *e*P **PKiKP 01 31 17.5 +3.0**
comp=Z,5.1nm,1.1s
MOA *e*S **Sdif 01 38 24.9 -1.2**
comp=Z,4.1nm,1.8s
MOA *e*P **PKKPbc 01 42 53.8 -1.0**
comp=Z,2.9nm,0.8s,SNR=5.8
GERES GERESS Array B 102.82 320 Pdiff **Pdif 01 26 53.9 -1.1**
comp=Z,1.6nm,0.8s,baz=68,slow=4.7,SNR=14
GERES PKiKP **PKiKP 01 31 14.9 +0.2**
comp=Z,2.5nm,0.8s,baz=78,slow=2.8,SNR=11
GERES PKKPbc **PKKPbc 01 42 53.7 -0.9**
comp=Z,1.6nm,0.7s,baz=253,slow=2.0,SNR=10
GERES GERESS Array B 102.82 320 Pdif **Pdif 01 26 53.8 -1.2**
KHC Kasperske Hory 102.82 321 *e*P **Pdif 01 26 53.9 -1.0**
KHC *e* 01 31 18.5
KHC Kasperske Hory 102.82 321 *e*PDIFF **Pdif 01 26 53.9 -1.0**
KHC *ex* x 01 30 09.5
KHC *ex* x 01 31 18.5
KHC *e*PKKP **PKKPbc 01 42 52.1 -2.4**
VISS Visnje 102.82 317 *i* Pdiff **Pdif 01 26 54.0 -0.9**
OBKA Obir 102.85 318 *e*P **Pdif 01 26 53.9 -1.3**
comp=Z,3.6nm,1.1s
OBKA *e*P **PKiKP 01 31 18.4 +3.6**
comp=Z,5.0nm,0.8s
OBKA *e*S **SKSac 01 37 20.7 +0.4**
comp=Z,4.6nm,1.3s
OBKA *e*P **PKKPbc 01 42 53.9 -0.5**
comp=Z,2.1nm,0.6s,SNR=7.2
VNA3 Neumayer Olymp 102.87 194 PKKPbc PKKPbc 01 42 51.1 -4.0
VNA3 Neumayer Olymp 102.87 194 PKiKP **PKiKP 01 31 14.9 +0.9**
VNA1 Neumayer--Stat 102.91 195 PKKPbc PKKPbc 01 42 51.7 -3.2
VNA1 Neumayer--Stat 102.91 195 PKiKP **PKiKP 01 31 14.8 +0.7**
VNA1 Neumayer--Stat 102.91 195 Pdiff **Pdif 01 26 56.2 +1.5**
ODD1 Odda 103.05 333 *e*Pdif **Pdif 01 26 54.3 -1.1**
FOO Floro 103.06 334 *e*Pdif **Pdif 01 26 54.6 -1.0**
DUGI Dugi Otok 103.09 315 *i* P **Pdif 01 26 53.7 -2.5**
CEY Cerknica 103.12 317 *i* Pdiff **Pdif 01 26 55.2 -1.1**
BLS5 Blasjo 103.33 332 *e*Pdif **Pdif 01 26 55.9 -1.0**
BSEG Bad Segeberg 103.35 326 *e*L L 02 15 39.0
comp=Z,226nm,21.5s
SUE Sulen 103.41 334 *e*Pdif **Pdif 01 26 57.1 -0.1**
MYKA Terra Mystica 103.43 318 *e*P **PKKPbc 01 42 51.9 -0.8**
comp=Z,3.0nm,0.4s,SNR=4.5
BER Bergen 103.45 333 *e*Pdif **Pdif 01 26 56.1 -1.2**
ASK Askoy 103.47 333 *e*Pdif **Pdif 01 26 57.2 -0.2**
KBA Koelnbreinsper 103.51 319 *e*P **Pdif 01 26 56.2 -2.0**
comp=Z,1.1nm,0.5s
KBA *e*P **PKiKP 01 31 16.9 +0.8**
comp=Z,7.5nm,1.2s
KBA *e*P **PKKPbc 01 42 51.2 -1.4**
comp=Z,2.2nm,0.5s,SNR=4.9
MOX Moxa 103.62 323 *e*L L 02 19 02.1
comp=Z,121nm,21.6s
YKA Yellowknife Ar 104.13 24 Pdiff **Pdif 01 27 00.1 -0.3**
comp=Z,2.0nm,0.6s,baz=342,slow=5.0,SNR=3.8
YKA PKiKP **PKiKP 01 31 16.4 -0.2**
comp=Z,2.4nm,0.4s,baz=357,slow=1.0,SNR=23
YKA PKKPbc **PKKPbc 01 42 47.0 -4.0**
comp=Z,0.9nm,0.4s,baz=82,slow=5.7,SNR=10
GRF Grafenberg Arr 104.14 322 *e*Pdiff **Pdif 01 27 00.2 -0.5**
GRF *e*L L 02 16 06.8
comp=Z,203nm,22.0s
ABTA Abfaltersbach 104.15 319 *e*P **PKiKP 01 31 17.3 +0.1**
comp=Z,8.6nm,1.1s
ABTA *e*S **SKSac 01 37 23.6 -2.7**
comp=Z,3.9nm,1.1s
ABTA *e*S SKKSac 01 38 25.4 +15
comp=Z,2.4nm,1.0s
ABTA *e*P **PKKPbc 01 42 50.0 -0.5**
comp=Z,4.0nm,0.7s,SNR=6.0
WTTA Wattenberg 104.58 319 *i* P **Pdif 01 27 02.4 -0.6**
comp=Z,6.4nm,0.9s
WTTA *e*P **PKiKP 01 31 18.1 0.0**
comp=Z,7.6nm,0.8s
WTTA *e*P **PKKPbc 01 42 48.9 -0.5**
comp=Z,3.2nm,0.6s,SNR=4.6
WATA Walderalm 104.60 319 *e*P **Pdif 01 27 02.3 -0.7**

comp=Z,4.3nm,1.0s
WATA *e*P **PKiKP** **01 31 18.5 +0.4**
comp=Z,8.1nm,1.5s
WATA *e*P **PKKPbc** **01 42 48.7 -0.7**
comp=Z,3.1nm,0.6s
SQTA Sankt Quirin 104.87 319 *e*P **Pdif** **01 27 03.0 -1.1**
comp=Z,6.4nm,1.2s
SQTA *e*P **PKiKP** **01 31 19.1 +0.6**
comp=Z,8.1nm,1.3s
SQTA S **SKSac** **01 37 28.5 -1.1**
comp=Z,5.4nm,1.1s
SQTA *i* P **PKKPbc** **01 42 47.8 -0.7**
comp=Z,6.1nm,0.6s,SNR=6.2
MOTA Moosalm 104.91 319 *e*P **Pdif** **01 27 03.0 -1.3**
comp=Z,8.1nm,1.3s
MOTA *e*P **PKiKP** **01 31 19.0 +0.3**
comp=Z,6.6nm,1.1s
MOTA *e*S **SKSac** **01 37 29.2 -0.6**
comp=Z,3.6nm,1.1s
MOTA *e*S SKKSac 01 38 30.2 +15
comp=Z,4.3nm,1.2s
MOTA *e*P **PKKPbc** **01 42 48.0 -0.5**
comp=Z,5.2nm,0.6s,SNR=6.7
PGC Sidney 105.01 39 Pdif **Pdif** **01 27 05.4 +0.9**
RETA Reutte 105.09 320 *e*S **SKSac** **01 37 29.3 -1.2**
comp=Z,5.5nm,1.2s
RETA *e*S SKKSac 01 38 31.3 +15
comp=Z,5.1nm,1.2s
RETA *e*P **PKKPbc** **01 42 47.6 -0.2**
comp=Z,1.9nm,0.6s,SNR=4.7
FETA Feichten 105.24 319 *e*P **Pdif** **01 27 05.3 -0.6**
comp=Z,6.0nm,1.4s
FETA *e*S **SKSac** **01 37 31.9 +0.5**
comp=Z,3.9nm,1.1s
FETA *e*S SKKSac 01 38 30.7 +13
comp=Z,3.6nm,1.0s
FETA *e*P **PKKPbc** **01 42 47.2 -0.2**
comp=Z,2.6nm,0.7s
FETA *e*P **PKKPab** **01 43 05.8 +1.5**
comp=Z,5.4nm,1.0s
LLLB Lillooet 105.35 37 Pdif **Pdif** **01 27 06.9 +0.8**
DAVA Damuels 105.72 320 *e*P **PKiKP** **01 31 20.3 +0.1**
comp=Z,4.1nm,0.6s
B05A Bryant 105.99 39 P **PKiKP** **01 31 20.1 -0.3**
baz=289
E04D Cinebar 106.22 41 P **PKiKP** **01 31 21.8 +0.9**
baz=288
J01E Myrtle Point 106.28 45 P **PKiKP** **01 31 21.2 +0.1**
baz=286
BFO Black Forest 106.38 321 *e*L L 02 17 16.1
comp=Z,154nm,21.8s
SUMG Summit 106.54 354 *e*P **Pdif** **01 27 12.7 +1.2**
SUMG IAmb IAmb 01 27 14.6
comp=Z,4.0nm,0.6s
SUMG Summit 106.54 354 *i* P **PKiKP** **01 31 21.9 +0.6**
SUMG IAmb IAmb 01 31 23.2
comp=Z,7.8nm,0.8s
H04D Lebanon 106.72 43 P **PKiKP** **01 31 22.0 +0.1**
baz=287,SNR=5.3
I04A Tendick Farm, 107.16 44 P **PKiKP** **01 31 23.3 +0.5**
baz=287
J04D Umpqua Nationa 107.53 44 P **PKiKP** **01 31 24.5 +0.8**
baz=287,SNR=8.6
M02C Callahan 107.54 46 P **PKiKP** **01 31 24.9 +1.2**
baz=286,SNR=5.4
B08A Colville Reser 107.69 38 Pdif **Pdif** **01 27 16.2 -0.3**
L04D Klamath Falls 107.70 45 P **PKiKP** **01 31 24.4 +0.4**
baz=287,SNR=11
I05D Terrebonne, OR 107.73 43 P **PKiKP** **01 31 24.7 +0.8**
baz=288
N02D Trinity Center 107.76 47 P **PKiKP** **01 31 25.2 +1.1**
baz=286,SNR=7.7
O02D Mt. Diablo Mer 107.92 47 P **PKiKP** **01 31 25.7 +1.3**
baz=286
J05D Fort Rock, OR 108.13 44 P **PKiKP** **01 31 25.8 +1.0**
baz=288,SNR=14
M04C Macdoel 108.16 46 P **PKiKP** **01 31 25.5 +0.6**
baz=287
O03E Paynes Creek 108.61 47 P **PKiKP** **01 31 26.4 +0.7**
baz=287
NEW Newport 109.09 38 P **Pdif** **01 27 23.6 +0.7**
NEW Newport 109.09 38 Pdif **Pdif** **01 27 23.6 +0.7**
NEW Newport 109.09 38 P **PKiKP** **01 31 27.5 +1.2**
baz=293
KEST Kesra 109.34 308 PKKPbc PKKPbc 01 42 33.4 -0.7
comp=Z,5.3nm,0.6s,baz=199,slow=2.1,SNR=16
ICESG Greenland Ices 109.99 354 *i* P **PKiKP** **01 31 27.5 -0.2**
ICESG IAmb IAmb 01 31 28.2
comp=Z,10nm,0.7s
ILULI Ilulissat 110.72 358 *i* P **PKiKP** **01 31 28.3 -0.3**
ILULI IAmb IAmb 01 31 30.2
comp=Z,9.8nm,0.8s
MSO Missoula 111.64 38 P **PKiKP** **01 31 30.9 -0.3**
baz=295,SNR=14
PKM Mcpherson Peak 111.65 52 P **PKiKP** **01 31 32.8 +1.1**
baz=286
NVAR Mina Array Bea 111.76 48 Pdiff **Pdif** **01 27 34.7 -0.4**
comp=Z,0.8nm,0.8s,baz=280,slow=5.4,SNR=5.5
NVAR PKiKP **PKiKP** **01 31 32.9 +1.0**
comp=Z,5.7nm,0.6s,baz=267,slow=1.8,SNR=34
NVAR PKKPbc **PKKPbc** **01 42 26.1 -0.4**
comp=Z,1.7nm,0.7s,baz=111,slow=3.6,SNR=12
NVAR PKKPab **PKKPab** **01 42 35.4 -0.1**
comp=Z,1.8nm,0.7s,baz=120,slow=4.7,SNR=9.8
NVAR Mina Array Bea 111.76 48 Pdif **Pdif** **01 27 36.0 +0.8**
MFID Camas Ranch 111.79 42 Pdif **Pdif** **01 27 36.6 +1.6**
VES Vestal, Richgr 111.95 51 P **PKiKP** **01 31 32.7 +0.7**
baz=287
ARVC Arvin 112.36 52 P **PKiKP** **01 31 33.9 +1.1**
baz=287
ISA Isabella, Lake 112.48 51 P **PKiKP** **01 31 34.0 +0.9**
baz=287
CWC Cottonwood Cre 112.55 50 P **PKiKP** **01 31 34.4 +1.0**
baz=288
HLID Hailey 112.68 42 P **PKiKP** **01 31 34.5 +1.1**
baz=293
SFJD Kangerlussuaq 112.91 357 *i* P **PKiKP** **01 31 32.2 -0.7**
SFJD IAmb IAmb 01 31 33.1
comp=Z,9.7nm,0.7s
GRAC Grapevine Rang 112.92 49 P **PKiKP** **01 31 35.3 +1.4**
baz=289
ANGG Ammassalik, Gr 113.03 352 *i* P **PKiKP** **01 31 32.2 -0.9**
ANGG IAmb IAmb 01 31 33.0
comp=Z,16nm,0.5s
EDW2 Edwards Air Fo 113.09 52 P **PKiKP** **01 31 35.2 +0.9**
baz=287,SNR=9.2
MPMC Manual Prospec 113.12 50 P **PKiKP** **01 31 35.4 +1.0**
baz=288,SNR=15
LRMC Laurel Mtn Rad 113.15 51 P **PKiKP** **01 31 35.6 +1.1**
baz=288
DY2G Dye2 113.17 356 ⇑ *i* P **PKiKP** **01 31 33.7 0.0**
DY2G IAmb IAmb 01 31 34.3
comp=Z,53nm,0.6s
ISOG Isortoq, Green 113.28 352 *i* P **PKiKP** **01 31 32.8 -0.8**
ISOG IAmb IAmb 01 31 33.9
comp=Z,13nm,0.7s
FURC Furnace Creek, 113.47 50 P **PKiKP** **01 31 36.3 +1.5**
baz=289,SNR=7.1
BOZ Bozeman (W) 113.63 39 P **PKiKP** **01 31 35.7 +0.6**
baz=296,SNR=16
EGMT Eagleton 113.63 36 P **PKiKP** **01 31 35.5 +0.5**
baz=299,SNR=22
TPNV Topopah Spring 113.78 49 P **PKiKP** **01 31 36.9 +1.2**
baz=289,SNR=7.0
R11A Troy Canyon, C 113.80 47 P **PKiKP** **01 31 36.7 +1.0**
baz=290,SNR=18
GSC Goldstone, Bar 113.89 51 P **PKiKP** **01 31 37.2 +1.3**
baz=288,SNR=9.0
MURC Murrieta 114.10 53 P **PKiKP** **01 31 37.1 +0.9**
baz=287
SHOC Shoshone, Teco 114.11 50 P **PKiKP** **01 31 37.6 +1.5**
baz=289,SNR=6.2
109C Camp Elliot, M 114.38 54 P **PKiKP** **01 31 37.6 +0.9**
baz=287
HEC Hector,Ludlow 114.40 51 P **PKiKP** **01 31 37.9 +1.1**
baz=288
TUQ Turquoise Moun 114.53 51 P **PKiKP** **01 31 38.1 +1.0**
baz=289,SNR=8.5
PFO Pinyon Flats O 114.68 53 PKKPbc PKKPbc 01 42 16.2 -0.2
comp=Z,1.5nm,0.9s,baz=40,slow=4.1,SNR=5.1
PFO Pinyon Flats O 114.68 53 PKKPab 01 42 16.2 -6.2
PFO Pinyon Flats O 114.68 53 P **PKiKP** **01 31 38.5 +1.0**
baz=288,SNR=8.3
TPFO Pinon Flats 114.69 53 P **PKiKP** **01 31 38.3 +0.8**
baz=288,SNR=8.4
BELC Belle Mtn. Jos 114.92 52 P PKPdf 01 31 39.0 +1.1
baz=288,SNR=18
MONP2 Monument Peak 114.93 53 P PKPdf 01 31 38.9 +0.8
baz=288,SNR=9.6
DUG Dugway, Tooele 115.11 45 PKIKP **PKPdf** **01 31 38.7 +0.6**
DUG Dugway, Tooele 115.11 45 **PKPdf** **01 31 38.7 +0.6**
DUG Dugway, Tooele 115.11 45 P **PKPdf** **01 31 38.8 +0.7**
baz=293,SNR=35
PMSA Palmer Station 115.24 176 PKP **PKiKP** **01 31 37.3 -0.1**
comp=Z,3.3nm,0.5s,baz=44,slow=1.9,SNR=7.4
PMSA Palmer Station 115.24 176 **PKiKP** **01 31 37.3 -0.1**
IKP In-Ko-Pah, Jac 115.25 54 P **PKPdf** **01 31 39.7 +1.2**
baz=288,SNR=10
RLMT Red Lodge 115.32 39 P **PKPdf** **01 31 39.0 +0.6**
baz=298,SNR=9.5
HWUT Hardware Ranch 115.40 43 **PKiKP** **01 31 38.6 -0.1**
SWSC Sam W. Stewart 115.41 53 P **PKPdf** **01 31 39.7 +1.1**
baz=288,SNR=8.0
BC3 Big Chuckawall 115.46 52 P **PKPdf** **01 31 40.1 +1.1**
baz=288,SNR=11
IRM Iron Mountain 115.55 52 P **PKPdf** **01 31 40.2 +1.2**
baz=289,SNR=12
NEE2 Needles Airpor 115.76 51 P **PKiKP** **01 31 40.4 +1.1**
baz=290
NUUK Nuuk 115.78 358 ⇑ *i* P **PKPdf** **01 31 38.7 +0.3**
NUUK IAmb IAmb 01 31 40.4
comp=Z,18nm,0.8s
MPU Maple Canyon 116.01 44 **PKiKP** **01 31 40.6 +0.7**
GLA Glamis 116.15 53 P **PKiKP** **01 31 41.5 +1.3**
baz=289,SNR=6.2
BW06 Boulder Array 116.23 41 P **PKiKP** **01 31 40.5 +0.1**
baz=297,SNR=16
PD31 Pinedale Array 116.23 41 **PKPdf** **01 31 40.0 -0.4**
PDAR Pinedale Array 116.23 41 PKP **PKiKP** **01 31 40.4 +0.1**
comp=Z,4.6nm,0.5s,baz=100,slow=1.0,SNR=15
PDAR PKKPbc **PKKPbc** **01 42 08.6 -3.0**
comp=Z,1.4nm,0.5s,baz=115,slow=6.7,SNR=9.1
PDAR PKKPab **PKKPab** **01 42 14.9 -0.7**
comp=Z,9.2nm,0.5s,baz=121,slow=6.0,SNR=45
PDAR Pinedale Array 116.23 41 **PKiKP** **01 31 40.4 +0.1**
PDMCI Parker Dam,Lak 116.28 51 P **PKiKP** **01 31 41.3 +1.0**
baz=290
LAO LASA Array 116.38 36 P **PKiKP** **01 31 41.4 +1.2**
baz=302,SNR=28
DGMT Dagmar 116.56 33 P **PKiKP** **01 31 40.8 +0.3**
baz=304,SNR=10
Q16A Castle Valley 116.79 45 **PKiKP** **01 31 42.2 +0.7**
ESDC Sonseca Array 117.89 316 PKP **PKPdf** **01 31 43.2 -0.2**
comp=Z,2.7nm,0.6s,baz=26,slow=2.2,SNR=24
ESDC PKKPbc **PKKPbc** **01 42 05.8 +0.4**
comp=Z,2.7nm,0.8s,baz=264,slow=3.3,SNR=10.0
WUAZ Wupatki 117.97 49 P **PKiKP** **01 31 44.6 +0.8**
baz=292,SNR=25
214A Organ Pipe Nat 118.12 53 P **PKiKP** **01 31 44.9 +0.8**
baz=290,SNR=7.4
PAB San Pablo 118.21 316 PKIKP **PKiKP** **01 31 44.2 +0.1**
PAB San Pablo 118.21 316 **PKiKP** **01 31 44.2 +0.1**
PAB San Pablo 118.21 316 P **PKiKP** **01 31 44.9 +0.8**
K22A Casper 118.25 40 P **PKPdf** **01 31 43.8 -0.3**
baz=300,SNR=15
O20A White River Ci 118.31 43 P **PKiKP** **01 31 44.7 +0.3**
baz=297,SNR=74
NRS Narsarsuaq 118.31 354 *i* P **PKPdf** **01 31 42.8 -0.6**
NRS IAmb IAmb 01 31 43.9
comp=Z,82nm,0.7s
PBRG Braganca 118.77 319 *e*PKP **PKiKP** **01 31 45.6 +0.6**
FIGM Figuig 118.83 307 P **PKiKP** **01 31 47.0 +1.4**
RSSD Black Hills 119.05 37 PKIKP **PKPdf** **01 31 45.6 -0.1**
RSSD Black Hills 119.05 37 PKPdf **PKPdf** **01 31 45.6 -0.1**
RSSD Black Hills 119.05 37 P **PKPdf** **01 31 45.2 -0.5**
baz=303
MVO Moncorvo 119.27 319 *e*PKP **PKiKP** **01 31 46.2 +0.1**
W18A Petrified Fore 119.36 49 P **PKiKP** **01 31 47.5 +1.0**
baz=293
MDND Maddock 119.41 32 P **PKPdf** **01 31 45.4 -0.6**
baz=308,SNR=14
MVCO Mesa Verde 119.42 46 **PKiKP** **01 31 47.3 +0.6**
MVCO Mesa Verde 119.42 46 P **PKiKP** **01 31 47.5 +0.8**
baz=295,SNR=33
N23A Red Feather La 119.50 41 P **PKiKP** **01 31 46.8 0.0**
baz=299,SNR=12
TUC Tucson 119.61 52 PKIKP **PKiKP** **01 31 47.7 +0.7**
TUC Tucson 119.61 52 **PKiKP** **01 31 47.7 +0.7**
TUC Tucson 119.61 52 P **PKiKP** **01 31 47.7 +0.7**
baz=291
PVRL Vila Real 119.67 319 *e*PKP **PKiKP** **01 31 47.5 +0.7**
POLO Lamas de Olo 119.67 319 *e*PKP **PKiKP** **01 31 47.4 +0.5**
PGAV Gavieira, Arco 119.68 320 *e*PKP **PKiKP** **01 31 47.2 +0.3**
ULM Lac du Bonnet 119.69 28 PKP **PKPdf** **01 31 45.8 -0.6**
comp=Z,46nm,0.6s,baz=314,slow=2.0,SNR=72
ULM PKKPbc **PKKPbc** **01 41 57.4 -1.8**
comp=Z,5.3nm,0.5s,baz=138,slow=4.5,SNR=8.6
MTE Manteigas 119.99 318 *e*PKP **PKiKP** **01 31 47.8 +0.3**
PVIS Viseu 120.06 319 *e*PKP **PKiKP** **01 31 47.7 +0.1**
PCBR Castelo Branco 120.21 318 *e*PKP **PKiKP** **01 31 48.5 +0.7**
ISCO Idaho Springs 120.25 42 P **PKiKP** **01 31 48.7 +0.3**
baz=299,SNR=29
PMRV Marv??o 120.36 317 *e*PKP **PKiKP** **01 31 48.5 +0.3**
S22A 4UR Ranch, Cre 120.37 45 P **PKiKP** **01 31 49.4 +0.8**
baz=297,SNR=32
PBAR Barrancos 120.70 316 *e*PKP **PKiKP** **01 31 49.4 +0.6**
PESTR Estremoz 120.76 317 *e*PKP **PKiKP** **01 31 49.2 +0.2**
PCAS Casmilo, Conde 120.79 318 *e*PKP **PKPdf** **01 31 48.9 0.0**
TORD Torodi Ar. Bea 120.81 285 PKP **PKPdf** **01 31 48.9 -0.7**
comp=Z,24nm,0.6s,baz=62,slow=1.7,SNR=123
TORD SKP 01 35 10.2
comp=Z,6.1nm,0.9s,baz=42,slow=1.6,SNR=5.7
TORD PKKPab **PKKPab** **01 41 55.5 -0.1**
comp=Z,18nm,0.7s,baz=296,slow=4.0,SNR=46
TORD Torodi Ar. Bea 120.81 285 **PKPdf** **01 31 48.5 -1.1**
Q24A Divide 120.97 43 P **PKiKP** **01 31 49.8 0.0**
baz=299
AGMN Agassiz Nation 121.03 30 P **PKPdf** **01 31 47.9 -1.2**
baz=312,SNR=6.3
LCRM LCR 121.05 310 P **PKiKP** **01 31 51.1 +1.3**
MDT Midelt 121.20 309 P **PKiKP** **01 31 51.0 +0.8**
PSBE So Bento 121.26 318 *e*PKP **PKiKP** **01 31 50.1 +0.2**
RSA Sarsar 121.29 312 P **PKiKP** **01 31 51.0 +0.8**
SDCO Great Sand Dun 121.31 44 P **PKiKP** **01 31 50.7 +0.2**
baz=298,SNR=22
PBEJ Beja 121.35 316 *e*PKP **PKiKP** **01 31 50.8 +0.7**
CZD Col de Zad 121.45 310 P **PKiKP** **01 31 52.1 +1.2**
PVAQ Vaqueiros 121.54 315 *e*PKP **PKPdf** **01 31 50.4 0.0**
PCVE Castro Verde 121.66 316 *e*PKP **PKiKP** **01 31 51.4 +0.7**
MESJ Messejana 121.69 316 *e*PKP **PKiKP** **01 31 51.6 +0.8**
PBDV Barranco-do-Ve 121.77 315 *e*PKP **PKiKP** **01 31 51.7 +0.7**
PNCL Nicolau / Gran 121.77 316 *e*PKP **PKiKP** **01 31 51.2 +0.3**
SUSD Miller 121.86 35 P **PKPdf** **01 31 50.4 -0.4**
baz=308,SNR=6.1
121A Cookes Peak, D 121.88 51 P **PKiKP** **01 31 52.5 +1.0**
baz=293,SNR=14
ANMO Albuquerque 121.88 48 PKIKP **PKiKP** **01 31 52.3 +0.8**
ANMO Albuquerque 121.88 48 **PKiKP** **01 31 52.3 +0.8**
ANMO Albuquerque 121.88 48 P **PKiKP** **01 31 52.3 +0.8**
baz=296
Y22D IRIS PASSCAL I 121.91 49 P **PKiKP** **01 31 52.8 +1.2**
baz=295
OGNE Ogallala 122.01 40 P **PKPdf** **01 31 51.0 -0.3**
baz=303,SNR=5.1
PTEO Sao Teotonio 122.18 316 *e*PKP **PKiKP** **01 31 52.4 +0.7**
MORF Marmelete 122.24 316 *e*PKP **PKiKP** **01 31 52.6 +0.6**
T25A Trinidad 122.36 45 P **PKiKP** **01 31 52.9 +0.4**
baz=299,SNR=34
PFVI Vila Bisbo 122.45 316 *e*PKP **PKiKP** **01 31 52.9 +0.6**
ZHG ZHG 122.51 311 P **PKiKP** **01 31 53.2 +0.6**
KSCO Kaye Shedlock' 122.65 42 P **PKiKP** **01 31 52.8 -0.1**
baz=301
TZRR Tazzarine 122.74 307 P **PKiKP** **01 31 54.0 +0.8**
EYMN Ely 123.36 27 **PKPdf** **01 31 52.8 -0.8**
EYMN Ely 123.36 27 P **PKPdf** **01 31 53.1 -0.5**
baz=317,SNR=22
ECSD EROS Data Cent 123.62 34 P **PKPdf** **01 31 53.9 -0.3**
baz=309,SNR=41
MNTX Cornudas Mount 124.08 51 P **PKiKP** **01 31 55.9 +0.2**
baz=295,SNR=46
BGNE Belgrade 124.16 37 P **PKPdf** **01 31 54.8 -0.5**
baz=307,SNR=6.9
OUK Oukaimeden 124.38 309 P **PKiKP** **01 31 58.0 +1.2**
SCHQ Schefferville 124.60 7 PKP **PKiKP** **01 31 56.0 0.0**
comp=Z,78nm,0.5s,baz=336,slow=1.8,SNR=155
CBKS Cedar Bluff 124.65 41 P **PKPdf** **01 31 55.8 -0.6**
baz=304,SNR=6.3
SPMN Marine on St. 124.66 31 P **PKPdf** **01 31 55.4 -0.8**
baz=314,SNR=20
MSTX Muleshoe 125.04 47 **PKiKP** **01 31 57.5 -0.1**
MSTX Muleshoe 125.04 47 P **PKPdf** **01 31 57.3 0.0**
baz=298,SNR=21
TTIG Tnine Tigouga, 125.11 308 P **PKiKP** **01 31 59.0 +1.0**
AMTX Amarillo 125.39 46 P **PKPdf** **01 31 58.0 +0.1**
baz=300
KOWA Kowa 126.06 288 **PKPdf** **01 31 59.2 -0.4**
KOWA Kowa 126.06 288 P **PKiKP** **01 32 00.2 +0.1**
TXAR Lajitas Array 126.40 53 PKhKP PKPpre 01 31 46.0
comp=Z,0.3nm,0.5s,baz=233,slow=1.2,SNR=5.8
TXAR PKP **PKPdf** **01 32 00.2 +0.2**
comp=Z,10nm,0.9s,baz=248,slow=1.0,SNR=44
KSU1 Kansas State U 126.48 39 P **PKPdf** **01 31 59.6 -0.2**
baz=307,SNR=23
KAN12 Harper NE Stat 126.64 41 PKPdf **PKPdf** **01 32 00.3 +0.1**
SCIA State Center 126.70 34 P **PKPdf** **01 31 59.8 -0.3**
baz=312
KAN13 South Haven SW 127.14 41 **PKPdf** **01 32 00.8 -0.4**
WMOK Wichita Mounta 127.51 44 P **PKPdf** **01 32 01.9 0.0**
baz=302,SNR=23
JFWS Jewell Farm 127.60 31 P **PKPdf** **01 32 01.1 -0.8**
baz=316,SNR=22
KIC Kosan Boka 127.90 278 *e*PKP2 **PKiKP** **01 32 04.0 +0.2**
comp=Z,38nm,0.8s
KIC Kosan Boka 127.90 278 *e*PKIKP SKPbc 01 35 07.6
comp=Z,22nm,1.2s
ABTX Abilene, Hawle 127.98 47 P **PKiKP** **01 32 03.3 -0.2**
baz=300
DBIC Dimbokro 127.98 278 PKP **PKPdf** **01 32 03.1 -0.2**
comp=Z,16nm,0.6s,baz=95,slow=1.4,SNR=21
DBIC SKPbc SKPbc 01 35 07.1
comp=Z,10nm,0.9s,baz=84,slow=3.5,SNR=4.9
DBIC Dimbokro 127.98 278 **PKPdf** **01 32 02.4 -1.0**
TIC Toumodi 128.15 278 *e*PKP2 **PKPdf** **01 32 02.8 -0.9**
TIC Toumodi 128.15 278 *e*PKIKP SKPbc 01 35 08.0
LIC Lamto 128.19 278 *e*PKP2 **PKPdf** **01 32 03.0 -0.7**
comp=Z,139nm,1.2s
LIC Lamto 128.19 278 *e*PKIKP SKPbc 01 35 07.8
comp=Z,41nm,1.1s
GLMI Grayling 128.81 25 P **PKPdf** **01 32 04.1 0.0**
baz=323,SNR=6.1
TUL1 Leonard 128.89 41 P **PKPdf** **01 32 04.7 +0.2**
baz=306,SNR=12
JCT Junction City 128.90 49 P **PKPdf** **01 32 04.8 +0.1**
baz=298,SNR=23
L44A Lake County Fo 129.32 30 P **PKPdf** **01 32 04.6 -0.5**
baz=318
HDIL Hopedale 129.78 32 P **PKPdf** **01 32 05.4 -0.7**
baz=315,SNR=13
ZAIG Zacatecas 129.82 60 PKPdf **PKiKP** **01 32 08.8 +1.0**
M44A Midewin, Midew 129.83 31 **PKPdf** **01 32 06.0 -0.1**
WHTX Lake Whitney, 129.89 46 P **PKiKP** **01 32 07.0 -0.3**
baz=302
833A Chaparral WMA, 130.22 52 P **PKiKP** **01 32 08.2 +0.1**
baz=297
CCM Cathedral Cave 130.40 36 P **PKPdf** **01 32 07.2 -0.1**
baz=312
435B Jarrell 130.42 48 P **PKPdf** **01 32 07.7 +0.1**
baz=300,SNR=6.8
U40A Yellville 130.51 39 P **PKPdf** **01 32 07.0 -0.6**
baz=309,SNR=26
W39A Magazine 130.63 41 P **PKPdf** **01 32 07.6 -0.2**
baz=307,SNR=15
SFIN Lafayette 131.06 31 P **PKPdf** **01 32 08.4 -0.1**
baz=318
MIAR Mount Ida 131.16 41 PKIKP **PKiKP** **01 32 10.0 +0.2**
MIAR Mount Ida 131.16 41 PKPdf **PKiKP** **01 32 10.0 +0.2**
MIAR Mount Ida 131.16 41 P **PKPdf** **01 32 08.9 0.0**
baz=307,SNR=28
AAM Ann Arbor 131.24 27 P **PKPdf** **01 32 08.4 -0.3**
baz=323,SNR=5.5
FCAR Ozark Folk Cen 131.26 39 PKPdf **PKiKP** **01 32 09.9 0.0**
W41B Gary Mavity, V 131.63 40 P **PKPdf** **01 32 09.3 -0.4**
baz=309
X40A Basin Creek Fa 131.68 41 P **PKPdf** **01 32 09.5 -0.3**
baz=308,SNR=7.3
NATX Nacogdoches 132.02 45 P **PKPdf** **01 32 10.5 -0.1**
baz=304,SNR=8.7
HKT Hockley 132.14 48 PKIKP **PKiKP** **01 32 12.4 +0.6**
HKT Hockley 132.14 48 PKPdf **PKiKP** **01 32 12.4 +0.6**
PQI Presque Isle 132.35 11 PKPdf **PKPdf** **01 32 11.1 +0.4**
Z41A Richland Creek 132.44 42 P **PKPdf** **01 32 11.1 -0.2**
baz=307,SNR=6.0
T45A Paducah 132.62 35 **PKiKP** **01 32 12.2 -0.5**
LONY Lake Ozonia 132.68 17 P **PKPdf** **01 32 10.6 -0.8**
baz=335,SNR=7.6
F62A Pittston Farm, 132.69 13 P **PKPdf** **01 32 10.7 -0.7**
baz=342,SNR=8.8
P49A Miami Univ. Ec 132.90 30 P **PKPdf** **01 32 10.7 -1.3**
baz=320,SNR=6.4
ERPA Erie 132.96 24 P **PKPdf** **01 32 11.2 -0.9**
baz=327
WCI Wyandotte Cave 133.06 32 PKIKP **PKiKP** **01 32 13.0 -0.5**
WCI Wyandotte Cave 133.06 32 PKPdf **PKiKP** **01 32 13.0 -0.5**
WCI Wyandotte Cave 133.06 32 P **PKPdf** **01 32 11.6 -0.7**
baz=317
ACSO Alum Creek Sta 133.19 28 P **PKPdf** **01 32 12.1 -0.4**
baz=322,SNR=9.3
G62A West of Eustis 133.21 14 P **PKPdf** **01 32 11.9 -0.5**
baz=341,SNR=6.7
M53A WI Miller and 133.24 25 P **PKPdf** **01 32 12.4 -0.2**
baz=326,SNR=6.5
NCB Newcomb 133.38 18 PKPdf **PKPdf** **01 32 12.8 0.0**
PKME Peaks-Kenny Pk 133.44 12 P **PKPdf** **01 32 13.0 +0.2**
baz=342,SNR=10.0
M54A Oil Creek Stat 133.60 24 P **PKPdf** **01 32 12.9 -0.4**
baz=327,SNR=16
LMN Caledonia Moun 133.67 8 PKPdf **PKPdf** **01 32 13.1 -0.1**
WVT Waverly 133.70 36 P **PKPdf** **01 32 13.4 -0.2**
baz=314
I60A Shoreham 133.77 17 P **PKPdf** **01 32 13.4 -0.1**
baz=337,SNR=14
LBNH Lisbon 133.78 15 P **PKPdf** **01 32 13.6 +0.1**
baz=338,SNR=8.5
OXF Oxford 133.85 38 P **PKPdf** **01 32 13.6 -0.2**
baz=311
N54A Moraine State 133.93 25 **PKPdf** **01 32 13.7 -0.2**
N54A Moraine State 133.93 25 P **PKPdf** **01 32 13.4 -0.4**
baz=327,SNR=7.9
O53A New Philadelph 133.99 26 P **PKPdf** **01 32 13.8 -0.2**
baz=325,SNR=6.3
P52A Corning 134.07 28 P **PKPdf** **01 32 13.9 -0.3**
baz=323,SNR=9.7
I62A Tamworth 134.27 15 P **PKPdf** **01 32 14.2 -0.3**
baz=339,SNR=7.4
I63A Otisfield 134.30 14 P **PKPdf** **01 32 14.4 -0.1**
baz=340
PLAL Pickwick Lake 134.35 37 PKPdf **PKPdf** **01 32 14.9 +0.1**
BINY Binghamton 134.40 20 P **PKPdf** **01 32 14.6 -0.1**
baz=332,SNR=16
J61A Chester 134.44 16 P **PKPdf** **01 32 15.2 +0.5**
baz=337
VBMS Vicksburg 134.60 42 P **PKPdf** **01 32 15.2 -0.2**
baz=308
J62A Henniker 134.75 16 P **PKPdf** **01 32 15.5 +0.1**
baz=338,SNR=8.2
K61A Williamstown 134.85 17 P **PKPdf** **01 32 15.5 -0.1**
baz=336,SNR=8.6
J63A Strafford 134.90 15 P **PKPdf** **01 32 15.8 +0.2**
baz=339,SNR=5.4
SSPA Standing Stone 135.06 23 PKPdf **PKPdf** **01 32 15.7 -0.3**
SSPA Standing Stone 135.06 23 P **PKPdf** **01 32 15.9 -0.1**
baz=329
MCWV Mont Chateau 135.07 26 P **PKPdf** **01 32 15.9 -0.2**
baz=326
O56A Blue Knob Stat 135.10 24 P **PKPdf** **01 32 15.9 -0.2**
baz=328,SNR=6.5
K62A Royalston 135.15 16 P **PKPdf** **01 32 16.1 0.0**
baz=338,SNR=7.9
L61B Northampton 135.22 17 P **PKPdf** **01 32 16.2 0.0**
baz=337,SNR=9.8
HRV Adam Dziewonsk 135.49 16 PKIKP **PKPdf** **01 32 17.3 +0.6**
HRV Adam Dziewonsk 135.49 16 PKPdf **PKPdf** **01 32 17.3 +0.6**
HRV Adam Dziewonsk 135.49 16 P **PKPdf** **01 32 16.0 -0.7**
baz=338
LL01 San Ignacio de 135.55 163 PKPdf **PKPdf** **01 32 17.0 +0.2**
N59A State Game Lan 135.60 21 P **PKPdf** **01 32 17.1 +0.1**
baz=332
TZTN Tazewell 135.77 32 PKPdf **PKPdf** **01 32 18.1 +0.6**
TZTN Tazewell 135.77 32 P **PKPdf** **01 32 17.6 +0.2**
baz=320
L63A North Scituate 136.07 16 P **PKPdf** **01 32 17.9 +0.1**
baz=338
Y49A Blount Mountai 136.12 37 PKPdf **PKPdf** **01 32 18.2 0.0**
PAL Palisades 136.16 19 P **PKPdf** **01 32 17.6 -0.4**
baz=335,SNR=6.3
L64A Middleborough 136.21 15 P **PKPdf** **01 32 18.3 +0.2**
baz=339
TKL Tuckaleechee C 136.32 33 PKIKP **PKPdf** **01 32 19.1 +0.6**
TKL Tuckaleechee C 136.32 33 PKPdf **PKPdf** **01 32 19.1 +0.6**
LRAL Lakeview Retre 136.33 38 PKPdf **PKPdf** **01 32 19.4 +0.8**

LRAL	Lakeview Retre	136.33	38	P		PKPdf	01 32 18.2	-0.4
	baz=313,SNR=14							
M64A	Tiverton	136.47	16	P		PKPdf	01 32 18.7	+0.2
	baz=338							
P60A	Greenville	136.62	22	P		PKPdf	01 32 19.2	+0.2
	baz=332							
BLA	Blacksburg	136.81	28	P		PKPdf	01 32 19.3	-0.1
	baz=324,SNR=5.5							
LL04	Puerto Octay	136.90	162	PKPdf		PKPdf	01 32 19.9	+0.5
CBN	Corbin Frederi	137.34	24	P		PKPdf	01 32 20.4	+0.1
	baz=328							
BRAL	Brewton	137.54	40	P		PKPdf	01 32 21.0	+0.2
	baz=311							
Q61A	Milford	137.56	22	P		PKPdf	01 32 20.6	-0.1
	baz=332							
PLCA	Paso Flores	137.60	164	PKhKP	PKPpre		01 32 10.4	
	comp=Z,3.6nm,0.7s,baz=265,slow=1.8,SNR=13							
PLCA				PKP		PKPdf	01 32 20.9	0.0
	comp=Z,13nm,0.7s,baz=197,slow=4.2,SNR=21							
PLCA				SKPbc		SKPbc	01 35 40.8	+0.7
	comp=Z,4.9nm,1.0s,baz=230,slow=7.1,SNR=3.5							
PLCA	Paso Flores	137.60	164	PKIKP		PKPdf	01 32 21.2	+0.4
PLCA	Paso Flores	137.60	164	PKPdf		PKPdf	01 32 21.2	+0.4
PLCA	Paso Flores	137.60	164	eP		PKPdf	01 32 21.7	+0.9
PLCA	Paso Flores	137.60	164	eP		PKiKP	01 32 23.1	+0.3
KMSC	Kings Mountain	138.00	31	P		PKPdf	01 32 21.5	-0.1
	baz=321,SNR=21							
GOGA	Godfrey	138.15	35	P		PKPdf	01 32 22.1	+0.1
	baz=317,SNR=7.4							
CMIG	Matias Romero	138.57	64	PKhKP	PKPpre		01 32 13.2	
	comp=Z,5.9nm,0.5s,baz=306,slow=2.8,SNR=2.8							
CMIG				PKP		PKPdf	01 32 23.0	-0.1
	comp=Z,18nm,0.6s,baz=305,slow=2.0,SNR=7.1							
CMIG				SKPbc		SKPbc	01 35 44.0	+0.6
	comp=Z,11nm,0.8s,baz=293,slow=2.8,SNR=9.8							
CMIG	Matias Romero	138.57	64		PKPpre		01 32 13.2	
352A	Blakely	138.67	38			PKPdf	01 32 22.6	-0.3
LC01	Cunco	138.91	162	PKPdf		PKPdf	01 32 23.8	+0.6
TIGA	Tifton	139.51	37	P		PKPdf	01 32 24.7	+0.3
	baz=316							
NHSC	New Hope	140.18	32	P		PKPdf	01 32 25.6	-0.1
	baz=321							
CCIG	Comitan	141.32	63	PKPdf		PKPdf	01 32 28.6	+0.2
TRQA	Tornquist	141.90	173	PKIKP		PKPdf	01 32 28.8	+0.1
TRQA	Tornquist	141.90	173	PKPdf		PKPdf	01 32 28.8	+0.1
TRQA	Tornquist	141.90	173	eP		PKPdf	01 32 29.9	+1.3
TRQA	Tornquist	141.90	173	eP		PKiKP	01 32 30.6	-1.0
ML02	Panimavida	141.91	160			PKPdf	01 32 26.7	-2.0
DWPF	Disney Wildern	143.19	38			PKPbc	01 32 28.8	+0.3
SACV	Santiago Islan	144.16	296			PKPbc	01 32 32.4	+0.7
ESQI	Esquipulas	144.45	64	PKPdf		PKPdf	01 32 33.6	-0.2
SNET	Serv Nac Est T	144.86	66	PKPdf		PKPdf	01 32 35.1	+0.6
CO02	Combarbal	146.17	157			PKPbc	01 32 37.6	0.0
PAYG	Puerto Ayora	146.27	97	PKPbc		PKPbc	01 32 38.9	-0.4
TGUH	Tegucigalpa,Un	146.50	64	PKPbc		PKPbc	01 32 39.2	+0.2
BBSR	BB Station	146.80	13			PKPbc	01 32 38.6	-0.6
LCO	Las Campanas	148.23	156	PKIKP		PKPdf	01 32 41.7	+1.6
LCO	Las Campanas	148.23	156			PKPdf	01 32 41.7	+1.6
PLTB	Pedras Altas	148.38	185	eP		PKPbc	01 32 41.9	-1.7
PLTB	Pedras Altas	148.38	185	eP		PKPbc	01 32 41.9	-1.7
AC04	Llanos de Chal	148.78	155	PKPbc		PKPbc	01 32 45.1	+0.4
ORTG	Ortega, Santa	149.44	69			PKPdf	01 32 43.5	+1.4
ORTG				PKPab		PKiKP	01 32 48.0	+0.2
GO03	Copiap	149.67	155			PKPdf	01 32 44.1	+1.9
GO03				PKPab		PKiKP	01 32 48.4	+0.4
CPSB	Cacapava Do Su	149.71	185	eP		PKPdf	01 32 43.6	+1.5
CPSB	Cacapava Do Su	149.71	185	eP		PKPdf	01 32 44.0	+2.0
JTS	Las Juntas de	149.93	69	PKPbc		PKPbc	01 32 48.2	+0.3
	comp=Z,77nm,0.6s,baz=348,slow=3.0,SNR=11							
CNLB	Canela	150.44	190	eP		PKPdf	01 32 45.0	+1.7
CNLB	Canela	150.44	190	eP		PKPdf	01 32 45.1	+1.7
ITQB	Itaqui	150.59	180	eP		PKPdf	01 32 45.4	+1.9
AC02	Maricunga	150.79	157			PKiKP	01 32 51.4	+0.6
TER01	Tubaro-SC	150.85	194	eP		PKPdf	01 32 45.6	+1.7
TER01	Tubaro-SC	150.85	194	eP		PKPdf	01 32 46.1	+2.2
MTDJ	Mount Denham	152.49	47			PKPbc	01 32 52.3	-1.5
MTDJ				PKPab		PKPab	01 33 04.0	-0.5
BBJ	Bamboo Saint A	152.59	47	*i* P		PKiKP	01 32 54.1	0.0
PCJ	Portland Cotta	153.07	48	*i* P		PKPbc	01 32 54.5	-0.4
STH	Stony Hill	153.12	47	*i* P		PKPbc	01 32 55.1	0.0
TIJ01	Guaruva-PR	153.88	196	eP		PKPdf	01 32 50.0	+1.3
TIJ01	Guaruva-PR	153.88	196	eP		PKPdf	01 32 48.9	+0.3
CPUP	Villa Florida	153.91	178	PKP		PKPdf	01 32 48.7	+0.2
	comp=Z,13nm,0.9s,baz=156,slow=1.0,SNR=20							
CPUP				PKPbc		PKiKP	01 32 57.1	+0.5
	comp=Z,18nm,0.5s,baz=187,slow=1.0,SNR=30							
CPUP				PKPab		PKPab	01 33 11.3	+1.3
	comp=Z,37nm,0.8s,baz=188,slow=4.0,SNR=16							
CPUP				PP		PP	01 36 43.4	-0.1
	comp=Z,9.0nm,0.9s,baz=209,slow=0.8,SNR=3.6							
CPUP	Villa Florida	153.91	178	eP		PKPdf	01 32 50.3	+1.9
CPUP	Villa Florida	153.91	178	eP		PKPdf	01 32 50.4	+2.0
CAM01	Campos-RJ	153.97	213	eP		PKPdf	01 32 50.0	+1.4
CAM01	Campos-RJ	153.97	213	eP		PKPdf	01 32 50.6	+2.0
DUB01	Friburgo-RJ	154.14	211	eP		PKPdf	01 32 50.7	+1.7
DUB01	Friburgo-RJ	154.14	211	eP		PKPdf	01 32 50.4	+1.5
DUB01	Friburgo-RJ	154.14	211	eP		PKPdf	01 32 50.2	+1.3
PET01	Itanhaem-SP	154.32	200	eP		PKPdf	01 32 50.9	+1.8
PET01	Itanhaem-SP	154.32	200	eP		PKPdf	01 32 51.3	+2.2
ALF01	Guarapari-ES	154.40	216	eP		PKPdf	01 32 51.7	+2.4
VAS01	Vassouras-RJ	154.52	209	eP		PKPdf	01 32 50.9	+1.4
PARB	Paraibuna	154.57	204	eP		PKPdf	01 32 51.2	+1.6
LVC	Limon Verde	154.60	153	PKP		PKPdf	01 32 50.2	+0.2
	comp=Z,8.0nm,0.7s,baz=359,slow=1.3,SNR=4.0							
LVC				PKPbc		PKiKP	01 33 00.2	+1.6
	comp=Z,32nm,0.6s,baz=232,slow=0.8,SNR=15							
LVC				PKPab		PKPab	01 33 15.2	+1.6
	comp=Z,32nm,0.7s,baz=223,slow=4.6,SNR=7.3							
LVC	Limon Verde	154.60	153			PKiKP	01 33 00.2	+1.6
LVC	Limon Verde	154.60	153	eP		PKPdf	01 32 51.3	+1.3
LVC	Limon Verde	154.60	153	eP		PKPdf	01 32 50.5	+0.5
SPB	Sao Paulo	155.02	200	eP		PKPdf	01 32 52.6	+2.5
SPB	Sao Paulo	155.02	200	eP		PKPdf	01 32 52.6	+2.5
PTGB	Pitanga	155.14	190	eP		PKPdf	01 32 51.7	+1.3
PTGB	Pitanga	155.14	190	eP		PKPdf	01 32 52.0	+1.7
RIB01	Linhares ES	155.18	219	eP		PKPdf	01 32 52.1	+1.6
RIB01	Linhares ES	155.18	219	eP		PKPdf	01 32 51.7	+1.3
VAO	Valinhos	155.40	202	eP		PKPdf	01 32 52.4	+1.7
BSFB	Barra de Sao F	155.82	219	eP		PKPdf	01 32 53.3	+2.0
BSFB	Barra de Sao F	155.82	219	eP		PKPdf	01 32 52.1	+0.8
FRTB	Fartura	155.91	196	eP		PKPdf	01 32 53.3	+1.9
FRTB	Fartura	155.91	196	eP		PKPdf	01 32 54.3	+2.9
FRTB	Fartura	155.91	196	eP		PKPdf	01 32 52.3	+1.0
NAN01	Guarapari, ES	156.08	222	eP		PKPdf	01 32 53.1	+1.5
NAN01	Guarapari, ES	156.08	222	eP		PKPdf	01 32 53.9	+2.3
NAN01	Guarapari, ES	156.08	222	eP		PKPdf	01 32 52.6	+1.0
SJMB	Sao Joao De Ma	156.13	218	eP		PKPdf	01 32 53.7	+2.0
SJMB	Sao Joao De Ma	156.13	218	eP		PKPdf	01 32 52.3	+0.6
RCLB	Rio Claro- Sao	156.14	201	eP		PKPdf	01 32 53.4	+1.7
RCLB	Rio Claro- Sao	156.14	201	eP		PKPdf	01 32 53.7	+2.0
RCLB	Rio Claro- Sao	156.14	201	eP		PKPdf	01 32 52.6	+1.0
BSCB	Bom Sucesso	156.25	208	eP		PKPdf	01 32 53.5	+1.6
BSCB	Bom Sucesso	156.25	208	eP		PKPdf	01 32 52.8	+0.9
NNA	Nana	156.66	121	PKP		PKPdf	01 32 53.0	+0.5
	comp=Z,14nm,0.8s,baz=305,slow=2.7,SNR=6.7							
NNA				PKPab		PKPab	01 33 24.3	+1.9
	comp=Z,22nm,0.7s,baz=260,slow=5.0,SNR=7.2							
GUA01	Guaratinga, BA	156.74	224	eP		PKPdf	01 32 54.6	+2.1
GUA01	Guaratinga, BA	156.74	224	eP		PKPdf	01 32 54.9	+2.3
GUA01	Guaratinga, BA	156.74	224	eP		PKPdf	01 32 53.8	+1.3
NBRF	Rio Formoso -	157.01	248	eP		PKPdf	01 32 55.2	+2.2
TRCB	Terra Rica	157.12	189	eP		PKPdf	01 32 54.5	+1.6
TRCB	Terra Rica	157.12	189	eP		PKPdf	01 32 55.7	+2.8
TRCB	Terra Rica	157.12	189	eP		PKPdf	01 32 54.1	+1.2
ATAH	Atahualpa	157.13	108	PKP		PKPdf	01 32 54.3	+0.6
	comp=Z,25nm,1.1s,baz=341,slow=1.0,SNR=16							
ATAH				PKPab		PKPab	01 33 27.0	+2.0
	comp=Z,32nm,0.8s,baz=281,slow=5.4,SNR=11							
CMC01	Camacan, BA	157.34	227	eP		PKPdf	01 32 54.5	+1.2
CMC01	Camacan, BA	157.34	227	eP		PKPdf	01 32 54.5	+1.2
CMC01	Camacan, BA	157.34	227	eP		PKPdf	01 32 53.9	+0.6
NBIT	Itapeh - BA	157.56	228	eP		PKPdf	01 32 55.4	+1.9
NBIT	Itapeh - BA	157.56	228	eP		PKPdf	01 32 56.0	+2.4
NBIT	Itapeh - BA	157.56	228	eP		PKPdf	01 32 53.9	+0.4
NBAN	Anadia - AL	157.69	244	eP		PKPdf	01 32 55.3	+1.5
NBAN	Anadia - AL	157.69	244	eP		PKPdf	01 32 55.9	+2.1
NBAN	Anadia - AL	157.69	244	eP		PKPdf	01 32 54.1	+0.3
BB19B	Bebedouro	157.73	200	eP		PKPdf	01 32 55.4	+1.7
BB19B	Bebedouro	157.73	200	eP		PKPdf	01 32 54.8	+1.1
NBPV	Pedro Velho	157.87	253	eP		PKPdf	01 32 55.6	+1.6
NBPV	Pedro Velho	157.87	253	eP		PKPdf	01 32 55.2	+1.1
DIAM	Diamantina, MG	157.92	214	eP		PKPdf	01 32 55.4	+1.2
DIAM	Diamantina, MG	157.92	214	eP		PKPdf	01 32 55.1	+1.0
NBCA	Caruaru-PE	157.99	248	eP		PKPdf	01 32 54.3	0.0
PCMB	Pacaembu	158.01	193	eP		PKPdf	01 32 56.0	+1.9
PCMB	Pacaembu	158.01	193	eP		PKPdf	01 32 55.1	+1.1
OTAV	Otavalo	158.10	89	eP		PKPdf	01 32 55.9	+0.9
OTAV				eS		PKPab	01 33 32.1	+2.8
OTAV				*i*			01 33 32.8	
	comp=Z,16nm,0.6s							
OTAV	Otavalo	158.10	89	eP		PKPdf	01 32 55.9	+0.9
OTAV	Otavalo	158.10	89	eP		PKPdf	01 32 56.7	+1.8
OTAV	Otavalo	158.10	89	eP		PKPdf	01 32 56.3	+1.3
GDU01	Guandu, BA	158.41	230	eP		PKPdf	01 32 55.9	+1.2
GDU01	Guandu, BA	158.41	230	eP		PKPdf	01 32 54.4	-0.3
NBLA	Lagarto - SE	158.44	239	eP		PKPdf	01 32 55.6	+0.9
NBLA	Lagarto - SE	158.44	239	eP		PKPdf	01 32 56.9	+2.2
NBLA	Lagarto - SE	158.44	239	eP		PKPdf	01 32 55.2	+0.5
RCBR	Riachuelo	158.61	254	eP		PKPdf	01 32 56.0	+1.0
SJCC	San Jacinto, C	158.98	61	eP		PKPdf	01 32 56.8	+1.3
SJCC				eS		PKPab	01 33 34.7	+2.2
SJCC				*i*			01 33 35.3	
	comp=Z,47nm,0.5s							
EMPR	Esperanza - Ma	159.10	27	PKPdf		PKPdf	01 32 55.5	+0.2
EMPR						PKPab	01 33 31.6	-1.0
NBLV	Livramento - P	159.13	249	eP		PKPdf	01 32 57.9	+2.3
NBLV	Livramento - P	159.13	249	eP		PKPdf	01 32 58.0	+2.3
NBLV	Livramento - P	159.13	249	eP		PKPdf	01 32 56.2	+0.6
DBBC	Dabeiba	159.16	70	eP		PKPdf	01 32 56.6	+0.9
DBBC				eS		PKPab	01 33 36.8	+3.4
DBBC				*i*			01 33 39.9	
	comp=Z,35nm,0.6s							
BBAC	Balboa, Cauca	159.21	84	eP		PKPdf	01 32 56.0	+0.1
BBAC				eS		PKPab	01 33 33.2	-0.6
BBAC				*i*			01 33 38.8	
	comp=Z,11nm,0.6s							
MC01	Montes Claros	159.34	216	eP		PKPdf	01 32 57.0	+1.2
MC01	Montes Claros	159.34	216	eP		PKPdf	01 32 56.4	+0.6
OBIP	Obispado Ponce	159.44	28	PKPdf		PKPdf	01 32 54.9	-0.9
OBIP						PKPab	01 33 32.6	-1.5
UREC	San Jos de Ur	159.54	67	eP		PKPdf	01 32 56.4	+0.4
UREC				eS		PKPab	01 33 36.0	+1.1
ITRB	Iturama	159.59	197	eP		PKPdf	01 32 58.0	+2.1
ITRB	Iturama	159.59	197	eP		PKPdf	01 32 58.1	+2.1
ITRB	Iturama	159.59	197	eP		PKPdf	01 32 56.9	+0.9
SJG	San Juan	159.59	27	PKPab		PKPab	01 33 34.7	-0.1
	comp=Z,51nm,0.6s,baz=47,slow=4.7,SNR=15							
SJG	San Juan	159.59	27	PKIKP		PKPdf	01 32 55.1	-0.8
SJG							01 33 34.1	
SJG	San Juan	159.59	27	PKPdf		PKPdf	01 32 55.0	-0.8
SJG						PKPab	01 33 34.1	-0.7
SJG	San Juan	159.59	27	eP		PKPdf	01 32 55.5	-0.5
SJG				*i*			01 33 30.7	
	comp=Z,70nm,0.1s							
SJG				eS		PKPab	01 33 34.4	-0.4
CBOC	Ciudad Bolivar	159.69	73	eP		PKPdf	01 32 57.0	+0.6
CBOC				eS		PKPab	01 33 39.0	+3.1
POPC	Popayan, Colom	159.72	82	eP		PKPdf	01 32 56.8	+0.2
POPC				eS		PKPab	01 33 35.4	-0.6
POPC				*i*			01 33 39.6	
	comp=Z,8.0nm,0.7s							
AQDB	Aquidauana	159.73	182	PKPdf		PKPdf	01 32 55.9	-0.2
AQDB				PKPab		PKPab	01 33 35.5	+0.2
AQDB	Aquidauana	159.73	182	eP		PKPdf	01 32 57.1	+1.1
AQDB	Aquidauana	159.73	182	eP		PKPdf	01 32 57.0	+1.0
NBPA	Parau_RN	159.79	254	eP		PKPdf	01 32 58.9	+2.6
YOTC	Yotoco, Valle	159.82	78	eP		PKPdf	01 32 56.5	0.0
YOTC				eS		PKPab	01 33 33.5	-2.9
YOTC				*i*			01 33 40.0	
	comp=Z,4.5nm,0.6s							
MTP	Monte Pirata	159.87	26	PKPdf		PKPdf	01 32 56.6	+0.4
MTP				PKPab		PKPab	01 33 35.0	-1.0
HELC	Santa Helena	160.06	71	eP		PKPdf	01 32 57.5	+0.4
HELC				eS		PKPab	01 33 37.1	-0.6
HELC				*i*			01 33 47.1	
	comp=Z,6.8nm,0.8s							
ZARC	Zaragoza, Cauc	160.25	67	eP		PKPdf	01 32 57.0	+0.2
ZARC				eS		PKPab	01 33 34.8	-3.3
ZARC				*i*			01 33 41.0	
	comp=Z,18nm,0.7s							
LPAZ	La Paz	160.27	145	PKP		PKPdf	01 32 58.7	+1.1
	comp=Z,12nm,0.8s,baz=36,slow=1.0,SNR=45							
LPAZ				PKPab		PKPab	01 33 40.2	+1.7
	comp=Z,40nm,0.9s,baz=195,slow=5.1,SNR=14							
LPAZ	La Paz	160.27	145	eP		PKPdf	01 32 58.9	+1.4
LPAZ	La Paz	160.27	145	eP		PKPdf	01 32 59.2	+1.6
LPAZ	La Paz	160.27	145	eP		PKPdf	01 32 58.8	+1.3
MARP	Paez Belalcaza	160.39	81	eP		PKPdf	01 32 58.5	+1.2
MARP				eS		PKPab	01 33 41.3	+2.2
MARP				*i*			01 33 42.3	
	comp=Z,4.1nm,0.6s							
IPMB	Ipameri, GO	160.42	204	eP		PKPdf	01 32 57.5	+0.6
IPMB	Ipameri, GO	160.42	204	eP		PKPdf	01 32 57.2	+0.2
SMLC	San Martn de	160.44	63	eP		PKPdf	01 32 57.4	+0.4
SMLC				eS		PKPab	01 33 40.8	+2.0
SMLC				*i*			01 33 48.2	
	comp=Z,10nm,0.5s							
GUY2C	Guyana, Caldas	160.49	74	eP		PKPdf	01 32 57.6	-0.1
GUY2C				eS		PKPab	01 33 36.8	-2.9
GUY2C				*i*			01 33 42.6	
	comp=Z,34nm,0.6s							
NBPN	Ponto Novo - B	160.55	236	eP		PKPdf	01 32 58.0	+0.8
NBPN	Ponto Novo - B	160.55	236	eP		PKPdf	01 32 57.9	+0.8
JANB	Januaria	160.83	219	eP		PKPdf	01 32 59.8	+2.4
JANB	Januaria	160.83	219	eP		PKPdf	01 32 58.1	+0.6
FLOC	Florencia	160.83	85	eP		PKPdf	01 32 58.5	+1.0
FLOC				eS		PKPab	01 33 40.3	-0.4
FLOC				*i*			01 33 43.9	
	comp=Z,9.7nm,0.5s							
NBMA	Muriti-CE	160.84	247	eP		PKPdf	01 32 58.6	+1.1
NBMA	Muriti-CE	160.84	247	eP		PKPdf	01 32 58.2	+0.7
NORC	Norcasia	160.87	73	eP		PKPdf	01 32 57.9	+0.3
NORC				eS		PKPab	01 33 41.9	+1.1
NORC				*i*			01 33 44.2	
	comp=Z,12nm,0.6s							
ORTC	Ortega, Tolima	160.91	78	eP		PKPdf	01 32 57.5	-0.1
ORTC				eS		PKPab	01 33 42.0	+0.9
ORTC				*i*			01 33 44.3	
	comp=Z,14nm,0.7s							
NBCL	Cascavel-CE	161.30	257	eP		PKPdf	01 32 59.1	+1.1
NBCL	Cascavel-CE	161.30	257	eP		PKPdf	01 33 00.2	+2.3
NBCL	Cascavel-CE	161.30	257	eP		PKPdf	01 32 58.5	+0.5
PRAC	Prado	161.30	78	eP		PKPdf	01 32 58.6	+0.6
PRAC				eS		PKPab	01 33 41.2	+1.5
OCAC	Ocana	161.35	63	eP		PKPdf	01 32 58.7	+0.5
BRRC	Barranca, Sant	161.45	67	eP		PKPdf	01 32 58.7	+0.5
ROSC	El Rosal	161.59	74	PKP		PKPdf	01 32 59.4	+0.6
	comp=Z,41nm,0.9s,baz=98,slow=2.1,SNR=25							
ROSC				PKPab		PKPab	01 33 46.7	+2.3
	comp=Z,93nm,0.8s,baz=31,slow=3.6,SNR=12							
ROSC	El Rosal	161.59	74			PKPab	01 33 47.3	+2.9
ROSC	El Rosal	161.59	74	eP		PKPdf	01 32 59.8	+1.0
ROSC				eS		PKPab	01 33 46.8	+2.4
ROSC				*i*			01 33 49.2	
	comp=Z,30nm,0.7s							
SPBC	San Pablo de B	161.60	72	eP		PKPdf	01 32 58.8	+0.4
SPBC				eS		PKPab	01 33 40.7	-3.4
SPBC				*i*			01 33 49.7	
	comp=Z,14nm,0.6s							
BARC	Barichara	162.13	68	eP		PKPdf	01 32 59.4	+0.3
BARC				eS		PKPab	01 33 47.7	+1.1
BARC				*i*			01 33 50.7	
	comp=Z,20nm,0.7s							
CZSB	Cruzeiro do Su	162.21	116	eP		PKPdf	01 33 01.0	+2.1
CZSB	Cruzeiro do Su	162.21	116	eP		PKPdf	01 33 01.5	+2.6
CZSB	Cruzeiro do Su	162.21	116	eP		PKPdf	01 32 59.7	+0.8
NBPB	Pedra_Branca-C	162.21	252	eP		PKPdf	01 33 00.9	+2.0
NBPB	Pedra_Branca-C	162.21	252	eP		PKPdf	01 32 59.4	+0.5
CHIC	Chingaza	162.21	74	eP		PKPdf	01 32 59.4	-0.1
CHIC				eS		PKPab	01 33 45.6	-1.6
CHIC				*i*			01 33 49.2	
	comp=Z,22nm,0.5s							
PAMC	Pamplona, Colo	162.29	65	eP		PKPdf	01 33 00.1	+0.6
PAMC				eS		PKPab	01 33 49.5	+2.0
PAMC				*i*			01 33 50.3	
	comp=Z,33nm,0.5s							
VILC	Villavicencio,	162.37	76	eP		PKPdf	01 33 00.0	+0.8
VILC				eS		PKPab	01 33 49.2	+1.7
VILC				*i*			01 33 53.9	
	comp=Z,36nm,0.6s							
BDFB	Brasilia	162.40	208	PKP		PKPdf	01 32 59.3	+0.1
	comp=Z,11nm,0.9s,baz=127,slow=1.5,SNR=11							
BDFB				PKPab		PKPab	01 33 48.3	+1.0
	comp=Z,26nm,0.7s,baz=142,slow=3.6,SNR=18							
RUSC	La Rusia	162.46	70	eP		PKPdf	01 32 59.9	+0.1
RUSC				eS		PKPab	01 33 48.7	+0.4
RUSC				*i*			01 33 50.9	
	comp=Z,8.8nm,0.6s							
PP1B	Ponte de Pedra	162.53	185	eP		PKPdf	01 33 01.5	+2.4
PP1B	Ponte de Pedra	162.53	185	eP		PKPdf	01 33 01.9	+2.8
MACC	Macarena, Meta	162.57	83	eP		PKPdf	01 32 59.5	+0.2
MACC				eS		PKPab	01 33 49.7	+1.4
MACC				*i*			01 33 51.0	
	comp=Z,43nm,0.6s							
SDBA	SAO DESIDERIO	163.17	223	eP		PKPdf	01 33 02.5	+2.7
SDBA	SAO DESIDERIO	163.17	223	eP		PKPdf	01 33 02.1	+2.2
SDBA	SAO DESIDERIO	163.17	223	eP		PKPdf	01 33 00.6	+0.8
NBMO	Morrinhos-CE	163.19	259	eP		PKPdf	01 33 02.7	+2.9
NBMO	Morrinhos-CE	163.19	259	eP		PKPdf	01 33 04.1	+4.2
NBMO	Morrinhos-CE	163.19	259	eP		PKPdf	01 33 00.1	+0.2
SDV	Santo Domingo	163.38	57	PKP		PKPdf	01 33 00.7	+0.4
	comp=Z,39nm,0.8s,baz=325,slow=0.4,SNR=34							
SDV				PKPab		PKPab	01 33 52.8	+0.9
	comp=Z,63nm,0.7s,baz=287,slow=1.4,SNR=16							
SDV	Santo Domingo	163.38	57			PKPdf	01 32 59.3	-1.0
SDV				PKPab		PKPab	01 33 52.6	+0.7
SDV	Santo Domingo	163.38	57	eP		PKPdf	01 33 00.8	+0.4
SDV				eS		PKPab	01 33 52.6	+0.7
SDV				*i*			01 33 54.2	
	comp=Z,27nm,0.5s							
SDV	Santo Domingo	163.38	57	eP		PKPdf	01 33 01.7	+1.4
SDV	Santo Domingo	163.38	57	eP		PKPdf	01 33 02.5	+2.2
SDV	Santo Domingo	163.38	57	eP		PKPdf	01 33 00.1	-0.2
SIV	San Ignacio	163.59	164	PKP		PKPdf	01 33 01.0	+0.8
	comp=Z,20nm,0.9s,baz=183,slow=1.2,SNR=59							
SIV				PKPab		PKPab	01 33 53.2	+0.9
	comp=Z,18nm,0.6s,baz=220,slow=6.0,SNR=17							
SIV				PP		PP	01 37 38.9	+2.5
	comp=Z,4.1nm,0.8s,baz=208,slow=9.6,SNR=5.1							
ARAG	Araguaiana, MT	163.80	197	eP		PKPdf	01 33 02.1	+1.8
ARAG	Araguaiana, MT	163.80	197	eP		PKPdf	01 33 03.3	+3.0
ARAG	Araguaiana, MT	163.80	197	eP		PKPdf	01 33 01.2	+0.9
SALV	Santo Antonio	164.28	183	eP		PKPdf	01 33 03.0	+2.3
SALV	Santo Antonio	164.28	183	eP

WRA	**Warramunga Arr**	**64.17**	**100**	P	**P**	**01 36 11.6**	**-0.8**	
	comp=Z,4.2nm,1.0s,baz=247,slow=6.1,SNR=12							
WRA	**Warramunga Arr**	**64.17**	**100**	P	**P**	**01 36 12.8**	**+0.4**	
WRAB	**Tennant Creek**	**64.18**	**100**	P	**P**	**01 36 12.3**	**-0.1**	
GURO	**Guroymak-BITLI**	**69.18**	**342**	P	**P**	**01 36 44.8**	**+0.8**	
GURO				IAmb	IAmb	01 36 46.2		
	comp=Z,3.4nm,1.1s							
KK31	**Karatay Array**	**70.92**	**5**	P	**P**	**01 36 55.0**	**+0.7**	
KK31				IAmb	IAmb	01 36 57.4		
	comp=Z,3.9nm,1.1s							
KKAR	**Karatay Array**	**70.92**	**5**	P	**P**	**01 36 54.5**	**+0.1**	
MK31	**Makanchi Array**	**76.19**	**13**	P	**P**	**01 37 24.7**	**-0.6**	
MKAR	**Makanchi Array**	**76.19**	**13**	P	**P**	**01 37 24.8**	**-0.6**	
	comp=Z,1.3nm,0.9s,baz=198,slow=7.6,SNR=4.1							
ABKAR	**Akbulak array**	**76.88**	**357**	P	**P**	**01 37 28.4**	**-0.7**	
BRVK	**Borovoye**	**80.81**	**4**	P	**P**	**01 37 51.1**	**+0.5**	
BRVK				IAmb	IAmb	01 37 52.5		
	comp=Z,5.3nm,1.4s							
BURAR	**Bucovina Array**	**82.81**	**335**	P	**P**	**01 38 01.5**	**0.0**	
BURAR				IAmb	IAmb	01 38 05.0		
	comp=Z,2.4nm,1.0s							
ZAA0	**Zalesovo Array**	**83.51**	**12**	P	**P**	**01 38 04.5**	**-0.2**	
ZAA0				IAmb	IAmb	01 38 06.6		
	comp=Z,5.8nm,1.2s							
ZALV	**Zalesovo Beam**	**83.51**	**12**	P	**P**	**01 38 02.7**	**-2.1**	
	comp=Z,1.2nm,0.6s,baz=197,slow=4.4,SNR=4.0							
AKASG	**Malin Array Be**	**84.03**	**339**	P	**P**	**01 38 06.7**	**-0.8**	
	comp=Z,3.0nm,1.0s,baz=153,slow=4.2,SNR=3.7							
AKASG	**Malin Array Be**	**84.03**	**339**	IAmb	IAmb	01 38 10.9		
	comp=Z,2.6nm,1.4s							
SONM	**Songino Array**	**84.53**	**27**	P	**P**	**01 38 10.2**	**-0.1**	
	comp=Z,0.7nm,0.9s,baz=197,slow=4.5,SNR=3.8							
SONM	**Songino Array**	**84.53**	**27**	IAmb	IAmb	01 38 13.3		
	comp=Z,2.4nm,1.3s							
ULN	**Ulaanbaatar**	**84.82**	**28**	P	**P**	**01 38 12.1**	**+0.3**	
ULN				IAmb	IAmb	01 38 19.7		
	comp=Z,2.4nm,0.5s							
GERES	**GERESS Array B**	**88.55**	**330**	P	**P**	**01 38 30.6**	**+0.6**	
	comp=Z,0.4nm,0.8s,baz=126,slow=5.0,SNR=2.6							
ESDC	**Sonseca Array**	**92.17**	**314**	P	**P**	**01 38 46.9**	**-0.2**	
	comp=Z,0.9nm,1.0s,baz=119,slow=4.5,SNR=4.5							
ESDC	**Sonseca Array**	**92.17**	**314**	IAmb	IAmb	01 38 55.6		
	comp=Z,1.4nm,1.0s							
ILAR	**Eielson Array**	**138.30**	**19**	PKP	**PKPdf**	**01 45 01.8**	**-0.2**	
	comp=Z,0.4nm,0.7s,baz=245,slow=1.9,SNR=1.7							
YKA	**Yellowknife Ar**	**145.39**	**359**	PKPbc	**PKPbc**	**01 45 14.1**	**-0.5**	
	comp=Z,8.7nm,1.0s,baz=5.6,slow=3.4,SNR=9.8							

IDC ***13*** *01:41:31.9±2.1, 22.72S×176.79W, h359km±19km, mb3.0/3, mb1 3.4/4, mb1mx3.0/32, mbtmp3.9/4, Error ellipse: s-maj=32.5km s-min=22.2km az=88.0*

ISC 13 01:41:31.1±1.3, 22.7S±0.1×176.7W±0.2, h350km, n7, σ1ş22/9, mb3.0/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**6.62**	**189**	P	**Pn**	**01 43 09.5**	**+0.4**
	483nm,0.3s,baz=258,slow=24,SNR=8.5						
RAO				S	**S**	**01 44 29.1**	**+0.5**
	167nm,0.3s,baz=73,slow=22,SNR=4.1						
MSVF	**Nonsuch**	**6.99**	**314**	P	**Pn**	**01 43 14.8**	**+1.2**
	5.2nm,0.3s,baz=131,slow=13,SNR=26						
ASAR	**Alice Springs**	**45.25**	**259**	P	**P**	**01 49 14.1**	**-1.2**
	0.9nm,0.9s,baz=89,slow=7.8,SNR=5.4						
ASAR				PcP	**PcP**	**01 50 49.9**	**+1.3**
	0.5nm,0.6s,baz=100,slow=3.9,SNR=4.1						
WRA	**Warramunga Arr**	**45.55**	**264**	P	**P**	**01 49 15.9**	**-1.6**
	0.6nm,0.9s,baz=93,slow=7.5,SNR=4.9						
ILAR	**Eielson Array**	**90.18**	**12**	P	**P**	**01 53 51.7**	**-0.1**
	0.3nm,0.4s,baz=215,slow=5.4,SNR=11						
AKASG	**Malin Array Be**	**145.52**	**331**	PKPbc	**PKPdf**	**02 00 26.6**	**-1.1**
	3.2nm,0.5s,baz=46,slow=4.5,SNR=16						
BRTR	**Keskin Array B**	**149.20**	**310**	PKPbc	**PKPbc**	**02 00 39.1**	**+0.1**
	0.6nm,0.6s,baz=152,slow=3.2,SNR=1.7						

IDC 13 01:41:53.2±3.0, 33.25S×178.39W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/33, mbtmp3.8/3, ML3.5/1, Error ellipse: s-maj=69.5km s-min=36.3km az=119.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.20**	**215**	Pn	Pn	01 43 26.5	+0.7
	1.2nm,0.3s,baz=265,slow=5.9,SNR=6.3						
URZ				Sn	Sn	01 44 35.6	-1.8
	2.6nm,0.3s,baz=34,slow=23,SNR=7.1						
ASAR	**Alice Springs**	**42.71**	**270**	P	P	01 49 52.2	+0.1
	1.4nm,0.6s,baz=108,slow=7.5,SNR=17						
WRA	**Warramunga Arr**	**43.95**	**275**	P	P	01 50 02.1	-0.1
	0.6nm,0.5s,baz=116,slow=7.8,SNR=11						
FINES	**FINESS Array B**	**147.68**	**338**	PKPbc	PKPbc	02 01 37.9	-1.0
	1.1nm,0.7s,baz=70,slow=2.1,SNR=7.0						

TAP ***13*** *01:45:02.3, 24.89N×122.08E, h118km, ML4.0, B*
JMA ***13*** *01:45:03.3±0.2, 24.86N×122.04E, h106km±2km, M2.6*

ISC 13 01:45:02.5±1.4, 24.88N±0.04×122.06E±0.03, h118km±6km, n129, σ0.671/210, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.12**	**254**	*eP*	**Pn**	**01 45 18.7**	**+0.1**
	baz=240						
TWB1	**Santiao Chiao**	**0.14**	**332**	⇑P	**Pn**	**01 45 18.8**	**+0.1**
	baz=325						
TWB1				*eS*	**Sn**	**01 45 30.1**	**-0.7**
	baz=325						
NTC	**Toucheng**	**0.21**	**263**	*eP*	**Pn**	**01 45 18.5**	**-0.3**
	baz=266						
NTC				*eS*	**Sn**	**01 45 30.2**	**-0.8**
	baz=266						
TIPB	**Shuangxi**	**0.23**	**293**	P	**Pn**	**01 45 18.9**	**-0.1**
	baz=279						
TIPB				*eS*	**Sn**	**01 45 30.2**	**-1.0**
	baz=279						
ILA	**Ilan**	**0.31**	**248**	*eP*	**Pn**	**01 45 19.3**	**+0.2**
	baz=251						
ILA				*eS*	**Sn**	**01 45 31.4**	**-0.2**
	baz=251						
NWF	**Wu-fen Shan**	**0.32**	**307**	P	**Pn**	**01 45 19.2**	**-0.1**
	baz=298						
NWF				*eS*	**Sn**	**01 45 31.5**	**-0.5**
	baz=298						
WFSB	**Wu-fen Shan**	**0.32**	**307**	*eP*	**Pn**	**01 45 19.3**	**+0.1**
	baz=298						
WFSB				*eS*	**Sn**	**01 45 31.5**	**-0.3**
	baz=298						
TWC	**Suao**	**0.33**	**216**	P	**Pn**	**01 45 19.3**	**+0.1**
	baz=217						
TWC				*eS*	**Sn**	**01 45 31.2**	**-0.7**
	baz=217						
TNOU	**National Taiwa**	**0.38**	**316**	*eP*	**Pn**	**01 45 17.2**	**-2.2**
	baz=304						
TWE	**Neicheng**	**0.39**	**246**	*eP*	**Pn**	**01 45 20.0**	**+0.5**
	baz=245						
NDS	**Dongshan**	**0.40**	**232**	*eP*	**Pn**	**01 45 19.8**	**+0.2**
	baz=234						
NDS				*eS*	**Sn**	**01 45 32.7**	**+0.3**
	baz=234						
TWA	**Mucha**	**0.45**	**283**	*eP*	**Pn**	**01 45 19.5**	**-0.3**
	baz=279						
TWA				*eS*	**Sn**	**01 45 31.8**	**-1.1**
	baz=279						
NHY	**Taipei**	**0.47**	**290**	*eP*	**Pn**	**01 45 21.1**	**+1.1**
	baz=285						
NHDH	**Xindian Distri**	**0.49**	**280**	*eP*	**Pn**	**01 45 20.0**	**0.0**
	baz=276						
NHDH				*eS*	**Sn**	**01 45 33.9**	**+0.6**
	baz=276						
EWUT	**Wuta**	**0.50**	**211**	*eP*	**Pn**	**01 45 20.6**	**+0.4**
	baz=209						
EWUT				*eS*	**Sn**	**01 45 33.7**	**+0.3**
	baz=209						
ENTT	**Nioudou**	**0.51**	**242**	*eP*	**Pn**	**01 45 20.8**	**+0.5**
	baz=242						
ENTT				*eS*	**Sn**	**01 45 34.5**	**+0.9**
	baz=242						
NWLT	**Wulai**	**0.52**	**259**	*eP*	**Pn**	**01 45 20.4**	**+0.1**
	baz=256						
NWLT				*eS*	**Sn**	**01 45 32.9**	**-0.8**
	baz=256						
YM01	**YM01**	**0.52**	**301**	*eP*	**Pn**	**01 45 20.1**	**-0.2**
	baz=306						
YM08	**YM08**	**0.53**	**306**	*eP*	**Pn**	**01 45 20.2**	**-0.2**
	baz=304						
TATO	**Taipei**	**0.53**	**280**	*eP*	**Pn**	**01 45 20.2**	**-0.1**
	baz=277						
TATO				*eS*	**Sn**	**01 45 32.5**	**-1.2**
	baz=277						
ENA	**Nanau**	**0.54**	**213**	*eP*	**Pn**	**01 45 20.9**	**+0.5**
	baz=210						
ENA				*eS*	**Sn**	**01 45 34.4**	**+0.5**
	baz=210						
NDT	**Datong Townshi**	**0.57**	**241**	P	**Pn**	**01 45 21.2**	**+0.6**
	baz=239						
NDT				*eS*	**Sn**	**01 45 35.2**	**+0.9**
	baz=239						
TWY	**Chenhua**	**0.58**	**313**	*eP*	**Pn**	**01 45 20.6**	**0.0**
	baz=310						
TWY				*eS*	**Sn**	**01 45 33.9**	**-0.4**
	baz=310						
ANP	**Anpu**	**0.58**	**302**	*eP*	**Pn**	**01 45 20.4**	**-0.4**
	baz=300						
NTST	**Danshui**	**0.62**	**297**	*eP*	**Pn**	**01 45 21.6**	**+0.7**
	baz=298						
TWS1	**Kuangyinshan**	**0.62**	**291**	*eP*	**Pn**	**01 45 20.5**	**-0.5**
	baz=290						
YHNB	**Yeheng**	**0.66**	**252**	*eP*	**Pn**	**01 45 21.4**	**0.0**
	baz=251						
NSK	**Sanguang**	**0.67**	**253**	*eP*	**Pn**	**01 45 21.4**	**0.0**
	baz=241						
NSK				*eS*	**Sn**	**01 45 35.5**	**-0.2**
	baz=241						
NTY	**Taoyuan**	**0.70**	**280**	*eP*	**Pn**	**01 45 22.2**	**+0.6**
	baz=279						
PCYT	**Pengchaiyu**	**0.75**	**1**	*eP*	**Pn**	**01 45 22.2**	**+0.3**
	baz=360						
PCYT				*eS*	**Sn**	**01 45 37.6**	**+1.0**
	baz=360						
NNSB	**Datong**	**0.76**	**234**	*eP*	**Pn**	**01 45 22.6**	**+0.3**
	baz=233						
NNSB				*eS*	**Sn**	**01 45 37.7**	**+0.6**
	baz=233						
NNS	**Nan Shan**	**0.77**	**235**	*eP*	**Pn**	**01 45 22.7**	**+0.4**
	baz=233						
NNS				*eS*	**Sn**	**01 45 37.9**	**+0.7**
	baz=233						
NCU	**National Centr**	**0.80**	**277**	*eP*	**Pn**	**01 45 22.7**	**+0.3**
	baz=265						
NCU				*eS*	**Sn**	**01 45 38.1**	**+0.7**
	baz=265						
NCUH	**Zhongli**	**0.80**	**276**	*eP*	**Pn**	**01 45 22.6**	**+0.2**
	baz=265						
NCUH				*eS*	**Sn**	**01 45 37.8**	**+0.3**
	baz=265						
ETL	**Fush Village**	**0.82**	**209**	*eP*	**Pn**	**01 45 22.6**	**-0.1**
	baz=219						
NACB	**Ninganchiao**	**0.82**	**211**	*eP*	**Pn**	**01 45 22.2**	**-0.4**
	baz=213						
NACB				*eS*	**Sn**	**01 45 37.3**	**-0.5**
	baz=213						
ETLH	**Xiulin Townshi**	**0.85**	**218**	*eP*	**Pn**	**01 45 22.9**	**-0.1**
	baz=224						
ETLH				*eS*	**Sn**	**01 45 38.1**	**-0.4**
	baz=224						
NJD	**Zhudong**	**0.90**	**261**	*eP*	**Pn**	**01 45 23.7**	**+0.4**
	baz=255						
TWD	**Chiawan**	**0.90**	**208**	*eP*	**Pn**	**01 45 23.1**	**-0.2**
	baz=219						
TWD				*eS*	**Sn**	**01 45 38.5**	**-0.6**
	baz=219						
JYNG	**Yonagunijimaku**	**0.91**	**118**	P	**Pn**	**01 45 23.9**	**+0.5**
JYNG				S	**Sn**	**01 45 39.0**	**-0.2**
HSN1	**Hsinchu**	**0.95**	**264**	*eP*	**Pn**	**01 45 24.2**	**+0.4**
	baz=261						
HSN1				*eS*	**Sn**	**01 45 40.5**	**+0.6**
	baz=261						
YOJ	**Yonaguni jima**	**0.96**	**116**	P	**Pn**	**01 45 23.8**	**0.0**
YOJ				S	**Sn**	**01 45 39.6**	**-0.4**
YOJ	**Yonaguni jima**	**0.96**	**116**	*eP*	**Pn**	**01 45 23.8**	**0.0**
	baz=124						
YOJ				*eS*	**Sn**	**01 45 39.5**	**-0.4**
	baz=124						
FUSS	**Fushou**	**0.98**	**230**	*eP*	**Pn**	**01 45 24.9**	**+0.6**
	baz=224						
FUSS				*eS*	**Sn**	**01 45 41.1**	**+0.3**
	baz=224						
LIOB	**Emei**	**0.98**	**256**	*eP*	**Pn**	**01 45 24.2**	**+0.1**
	baz=248						
LIOB				*eS*	**Sn**	**01 45 40.4**	**-0.1**
	baz=248						
SBCB	**Hsinchu**	**0.98**	**265**	*eP*	**Pn**	**01 45 24.5**	**+0.4**
	baz=264						
HWA	**Hwalien**	**0.99**	**205**	*eP*	**Pn**	**01 45 24.4**	**+0.2**
	baz=202						
HWA				*eS*	**Sn**	**01 45 41.0**	**+0.5**
	baz=202						
HSN	**Hsinchu**	**1.00**	**266**	*eP*	**Pn**	**01 45 24.2**	**0.0**
	baz=266						
NSTT	**Nanjuang**	**1.00**	**256**	*eP*	**Pn**	**01 45 24.3**	**0.0**
	baz=247						
NSTT				*eS*	**Sn**	**01 45 40.5**	**-0.2**
	baz=247						
TWT	**Tachien**	**1.02**	**232**	*eP*	**Pn**	**01 45 25.7**	**+1.0**
	baz=231						
TWT				*eS*	**Sn**	**01 45 42.4**	**+0.9**
	baz=231						
WHF	**Hehuan Shan**	**1.03**	**225**	*eP*	**Pn**	**01 45 25.3**	**+0.3**
	baz=220						
WHF				*eS*	**Sn**	**01 45 42.0**	**0.0**
	baz=220						
TDCB	**Techi**	**1.03**	**233**	*eP*	**Pn**	**01 45 25.5**	**+0.7**
	baz=231						
TDCB				*eS*	**Sn**	**01 45 42.0**	**+0.4**
	baz=231						
ETM	**Tongmen**	**1.05**	**210**	*eP*	**Pn**	**01 45 24.3**	**-0.5**
	baz=212						
TEYL	**Yanliau Villag**	**1.09**	**203**	*eP*	**Pn**	**01 45 24.9**	**-0.3**
	baz=202						
TEYL				*eS*	**Sn**	**01 45 42.1**	**-0.3**
	baz=202						
CHGB	**Renai**	**1.15**	**225**	*eP*	**Pn**	**01 45 26.8**	**+0.7**
	baz=221						
CHGB				*eS*	**Sn**	**01 45 44.1**	**+0.2**
	baz=221						
WHP	**Taichung City**	**1.18**	**240**	*eP*	**Pn**	**01 45 26.8**	**+0.6**
	baz=238						
WHP				*eS*	**Sn**	**01 45 44.1**	**-0.1**
	baz=238						
NMLH	**Miaoli**	**1.21**	**254**	*eP*	**Pn**	**01 45 26.6**	**+0.2**
	baz=253						
ESL	**Shilin**	**1.21**	**209**	*eP*	**Pn**	**01 45 25.6**	**-0.8**
	baz=214						
ESL				*eS*	**Sn**	**01 45 43.1**	**-1.5**
	baz=214						
OWD	**Renai**	**1.23**	**221**	*eP*	**Pn**	**01 45 27.4**	**+0.6**
	baz=219						
NSY	**Sanyi**	**1.27**	**249**	*eP*	**Pn**	**01 45 27.7**	**+0.6**
	baz=245						
NSY				*eS*	**Sn**	**01 45 46.8**	**+0.9**
	baz=245						
TWQ1	**Liyutan**	**1.29**	**246**	*eP*	**Pn**	**01 45 27.5**	**+0.2**
	baz=242						
TWQ1				*eS*	**Sn**	**01 45 46.0**	**-0.2**
	baz=242						
WPL	**Puli Township**	**1.33**	**230**	*eP*	**Pn**	**01 45 28.5**	**+0.8**
	baz=235						
WPL				*eS*	**Sn**	**01 45 47.8**	**+0.8**
	baz=235						
WCS	**Beigang Elemen**	**1.33**	**232**	*eP*	**Pn**	**01 45 28.5**	**+0.7**
	baz=239						
DPDB	**Guoxing**	**1.33**	**231**	*eP*	**Pn**	**01 45 28.6**	**+0.7**
	baz=236						
DPDB				*eS*	**Sn**	**01 45 48.4**	**+1.2**
	baz=236						
WDJ	**Dajia District**	**1.40**	**248**	*eP*	**Pn**	**01 45 28.9**	**+0.4**
	baz=247						
SMLT	**Sun Moon Lake**	**1.45**	**227**	*eP*	**Pn**	**01 45 30.0**	**+0.7**
	baz=232						
SMLT				*eS*	**Sn**	**01 45 50.6**	**+0.9**
	baz=232						
TYC	**Yuchr**	**1.47**	**229**	*eP*	**Pn**	**01 45 29.9**	**+0.6**
	baz=234						
TYC				*eS*	**Sn**	**01 45 50.4**	**+0.7**
	baz=234						
SSLB	**Suanglung**	**1.48**	**223**	*eP*	**Pn**	**01 45 30.3**	**+0.7**
	baz=220						
SSLB				*eS*	**Sn**	**01 45 50.8**	**+0.5**
	baz=220						
WWF	**Wufeng**	**1.50**	**236**	*eP*	**Pn**	**01 45 30.5**	**+0.8**
	baz=239						
WWF				*eS*	**Sn**	**01 45 51.6**	**+1.2**
	baz=239						
HGSD	**Ruisui**	**1.50**	**203**	*eP*	**Pn**	**01 45 29.9**	**+0.2**
	baz=208						
HGSD				*eS*	**Sn**	**01 45 49.9**	**-0.6**
	baz=208						
EHY	**Hungye**	**1.53**	**206**	*eP*	**Pn**	**01 45 30.7**	**+0.6**
	baz=205						
EHY				*eS*	**Sn**	**01 45 49.4**	**-1.6**
	baz=205						
WCHH	**Zhanghua**	**1.58**	**240**	*eP*	**Pn**	**01 45 30.9**	**+0.2**
	baz=243						
WCHH				*eS*	**Sn**	**01 45 52.1**	**-0.1**
	baz=243						
WNT1	**Nantou City**	**1.59**	**233**	*eP*	**Pn**	**01 45 31.6**	**+0.8**
	baz=236						
WNT1				*eS*	**Sn**	**01 45 53.2**	**+0.8**
	baz=236						
WNT	**Mingjian**	**1.60**	**232**	*eP*	**Pn**	**01 45 31.5**	**+0.6**
	baz=236						
WNT				*eS*	**Sn**	**01 45 53.4**	**+0.8**
	baz=236						
WJS	**Zhushan**	**1.61**	**229**	*eP*	**Pn**	**01 45 31.6**	**+0.6**
	baz=234						
WJS				*eS*	**Sn**	**01 45 53.4**	**+0.6**
	baz=234						
IRIF	**Iriomote-Funau**	**1.61**	**109**	P	**Pn**	**01 45 32.7**	**+1.7**
IRIF				S	**Sn**	**01 45 52.2**	**-0.6**
WHYT	**Xinyi Township**	**1.61**	**223**	*eP*	**Pn**	**01 45 32.0**	**+0.9**
	baz=222						
WHYT				*eS*	**Sn**	**01 45 53.6**	**+0.6**
	baz=222						
YULB	**Yu-li**	**1.64**	**205**	*eP*	**Pn**	**01 45 32.3**	**+0.9**
	baz=210						
YULB				*eS*	**Sn**	**01 45 52.2**	**-1.2**
	baz=210						
ECBN	**Changbin**	**1.65**	**200**	*eS*	**Sn**	**01 45 53.3**	**-0.4**
	baz=206						
EYUL	**Yuli**	**1.67**	**204**	*eP*	**Pn**	**01 45 33.5**	**+1.8**
	baz=206						
TWF1	**Yuli**	**1.67**	**205**	*eP*	**Pn**	**01 45 31.5**	**-0.4**
	baz=210						
TWF1				*eS*	**Sn**	**01 45 53.3**	**-0.9**
	baz=210						
YUS	**Yu-Shan**	**1.72**	**216**	*eP*	**Pn**	**01 45 33.6**	**+0.8**
	baz=213						
ALS	**Alishan**	**1.78**	**220**	*eP*	**Pn**	**01 45 34.3**	**+0.9**
	baz=227						
ALS				*eS*	**Sn**	**01 45 57.5**	**+0.6**
	baz=227						
HATJ	**Hateruma jima**	**1.79**	**117**	S	**Sn**	**01 45 57.0**	**+0.5**
CHN5	**Tsauling**	**1.80**	**225**	*eP*	**Pn**	**01 45 34.1**	**+0.8**
	baz=223						
CHN5				*eS*	**Sn**	**01 45 57.4**	**+0.4**
	baz=223						
WGK	**Gukeng**	**1.81**	**229**	*eP*	**Pn**	**01 45 34.4**	**+0.9**
	baz=234						
WGK				*eS*	**Sn**	**01 45 58.3**	**+1.1**
	baz=234						
FULB	**Fuli**	**1.81**	**203**	*eP*	**Pn**	**01 45 34.2**	**+0.7**
	baz=211						
FULB				*eS*	**Sn**	**01 45 57.3**	**+0.1**
	baz=211						
WRL	**Guolierlin Hig**	**1.82**	**238**	*eP*	**Pn**	**01 45 33.4**	**-0.2**
	baz=240						
WRL				*eS*	**Sn**	**01 45 56.2**	**-1.0**
	baz=240						
WDLH	**Douliu**	**1.83**	**230**	*eS*	**Sn**	**01 45 58.0**	**+0.5**
	baz=234						
CHKT	**Chengkung**	**1.88**	**200**	*eP*	**Pn**	**01 45 34.3**	**-0.1**
	baz=206						
CHKT				*eS*	**Sn**	**01 45 57.4**	**-1.3**
	baz=206						
JKRS	**Kuro-shima**	**1.89**	**109**	P	**Pn**	**01 45 35.2**	**+0.9**
JKRS				S	**Sn**	**01 45 58.5**	**-0.2**
WTCT	**Ta-ch'eng**	**1.91**	**238**	*eS*	**Sn**	**01 45 59.0**	**-0.3**
	baz=234						
WTK	**Tuku**	**1.93**	**232**	*eP*	**Pn**	**01 45 35.2**	**+0.2**
	baz=228						
WTK				*eS*	**Sn**	**01 45 59.7**	**-0.1**
	baz=228						
ELDTW	**Lidau**	**1.94**	**210**	*eP*	**Pn**	**01 45 35.2**	**+0.1**
	baz=209						
ELDTW				*eS*	**Sn**	**01 45 59.6**	**-0.5**
	baz=209						
ECS	**Chishang**	**1.94**	**204**	*eS*	**Sn**	**01 45 59.3**	**-0.6**
	baz=209						
JIJ	**Ishigaki jima**	**1.96**	**105**	P	**Pn**	**01 45 35.9**	**+0.6**
JIJ				S	**Sn**	**01 45 59.5**	**-0.9**
CHN2	**Minshiung**	**1.98**	**228**	*eP*	**Pn**	**01 45 36.4**	**+1.0**
	baz=225						
CHN2				*eS*	**Sn**	**01 46 01.4**	**+0.7**
	baz=225						
EDH	**Donghe**	**2.02**	**200**	*eP*	**Pn**	**01 45 36.1**	**+0.1**
	baz=206						
EDH				*eS*	**Sn**	**01 46 00.4**	**-1.4**
	baz=206						
CHY	**Chiayi**	**2.03**	**228**	*eP*	**Pn**	**01 45 36.5**	**+0.3**
	baz=224						
CHY				*eS*	**Sn**	**01 46 02.5**	**+0.5**
	baz=224						
TPUB	**Ta-pu**	**2.05**	**220**	*eP*	**Pn**	**01 45 37.0**	**+0.6**
	baz=218						
TPUB				*eS*	**Sn**	**01 46 02.6**	**+0.2**
	baz=218						
JISG	**Ishigakijimahi**	**2.06**	**98**	P	**Pn**	**01 45 37.1**	**+0.5**
JISG				S	**Sn**	**01 46 02.2**	**-0.5**
STYH	**Taoyuan**	**2.07**	**215**	*eP*	**Pn**	**01 45 37.8**	**+1.1**
	baz=210						
STYH				*eS*	**Sn**	**01 46 03.1**	**+0.3**
	baz=210						
STYT	**Tauyuan**	**2.08**	**215**	*eP*	**Pn**	**01 45 37.5**	**+0.5**
	baz=224						
WSF	**Szhu**	**2.09**	**234**	*eS*	**Sn**	**01 46 03.1**	**0.0**
	baz=229						
WTP	**Ta-pu**	**2.10**	**219**	*eP*	**Pn**	**01 45 37.8**	**+0.8**
	baz=218						
WTP				*eS*	**Sn**	**01 46 03.8**	**+0.2**
	baz=218						
LONT	**Longtian**	**2.14**	**204**	*eS*	**Sn**	**01 46 03.4**	**-1.1**
	baz=205						
TWK	**Hsinying**	**2.16**	**222**	*eP*	**Pn**	**01 45 38.6**	**+0.8**
	baz=220						
TWK				*eS*	**Sn**	**01 46 05.0**	**+0.1**
	baz=220						
SNST	**Tainan City**	**2.19**	**221**	*eS*	**Sn**	**01 46 05.4**	**-0.1**
	baz=219						
CHN1	**Nanshi**	**2.19**	**220**	*eP*	**Pn**	**01 45 39.1**	**+0.8**
	baz=218						
CHN1				*eS*	**Sn**	**01 46 05.7**	**-0.1**
	baz=218						
ICHU	**Yijhu**	**2.22**	**227**	*eS*	**Sn**	**01 46 06.3**	**0.0**
	baz=223						
TWG	**Pinlang**	**2.24**	**204**	*eS*	**Sn**	**01 46 05.2**	**-1.6**
	baz=205						
TWGBT	**Beinan**	**2.24**	**204**	*eS*	**Sn**	**01 46 04.6**	**-2.1**
	baz=205						
SGST	**Jiashian**	**2.24**	**217**	*eS*	**Sn**	**01 46 05.9**	**-0.9**
	baz=223						
LDUT	**Ludao**	**2.26**	**194**	*eS*	**Sn**	**01 46 05.0**	**-2.2**
	baz=196						
CHN8	**Yiju**	**2.28**	**228**	*eS*	**Sn**	**01 46 07.9**	**+0.4**
	baz=233						
MATB	**Ma-tsu**	**2.29

baz=233
SCZT Fangliau 2.83 208 *e*P Pn 01 45 47.1 +0.7
baz=217
SLIU Shizi 2.89 204 *e*P Pn 01 45 47.7 +0.4
baz=207

IDC ***13*** *01:45:42.1±1.2,33°.34S×178°.32W,h0km,mb4.5/4, mb1 4.7/6,mb1mx4.1/32,mbtmp4.6/6,ML3.9/2,MS3.9/7, Ms1 3.9/7,ms1mx3.5/24,Error ellipse: s-maj=33.9km s-min=28.3km az=153.0*
NEIC ***13*** *01:45:46.2±1.4,33°.27S±0°.09×178°.7W±0°.2,h10km±1km, mb4.6/9,Error ellipse: s-maj=23.3km s-min=15.2km az=100.0*

ISC 13 01:45:49.8±0.7,33°30S±0°.08×178°.6W±0°.1,h41km,n48, σ1§42/46,mb4.6/7,MS3.7/7,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.93**	**210**	Pn	**Pn**	**01 46 59.8**	**-1.6**
URZ	**Urewera**	**6.03**	**214**	Pn	**Pn**	**01 47 14.8**	**-1.7**
	5.3nm,0.3s,baz=263,slow=3.7,SNR=26						
URZ				Sn	**Sn**	**01 48 24.9**	**+0.6**
	6.0nm,0.3s,baz=175,slow=22,SNR=14						
URZ	**Urewera**	**6.03**	**214**		**Pn**	**01 47 15.7**	**-0.8**
BKZ	**Black Stump Fm**	**7.05**	**213**		**Pn**	**01 47 29.1**	**-1.5**
MSVF	**Nonsavu**	**15.79**	**348**	LR	LR	01 54 44.8	
	comp=Z,246nm,18.7s,baz=124,slow=34						
MSVF	**Nonsavu**	**15.79**	**348**	Pn	**Pn**	**01 49 29.5**	**+0.2**
MSVF				IAmb	IAmb	01 49 42.3	
	comp=Z,82nm,1.8s						
MARNC	**Mare, Loyalty**	**16.68**	**312**		**Pn**	**01 49 40.7**	**+0.2**
DZM	**Mont Dzumac**	**17.29**	**307**	*e*Pn	**P**	**01 49 51.8**	**+2.4**
	comp=Z,67nm,1.2s						
DZM				*e*LR	LR	01 54 04.5	
	comp=Z,617nm,25.5s						
DZM	**Mont Dzumac**	**17.29**	**307**	P	**P**	**01 49 49.4**	**0.0**
	comp=Z,0.3nm,0.3s,baz=114,slow=13,SNR=6.2						
DZM				LR	LR	01 55 37.9	
	comp=Z,648nm,18.2s,baz=92,slow=34						
DZM	**Mont Dzumac**	**17.29**	**307**	Pn	**Pn**	**01 49 46.5**	**-1.8**
RAR	**Rarotonga**	**20.61**	**59**	LR	LR	01 57 48.3	
	comp=Z,203nm,19.1s,baz=247,slow=36						
TBI	**Tubuai**	**27.45**	**76**	*e*LR	LR	01 57 59.5	
	comp=Z,213nm,23.6s						
PPT2	**Papeete2**	**30.41**	**66**	*e*LR	LR	01 59 23.3	
	comp=Z,218nm,23.0s						
STKA	**Stephens Creek**	**33.40**	**261**	LR	LR	02 06 20.1	
	comp=Z,416nm,18.0s,baz=51,slow=37						
CTA	**Charters Tower**	**33.85**	**284**	P	**P**	**01 52 29.6**	**+1.1**
	comp=Z,5.4nm,0.6s,baz=111,slow=9.0,SNR=11						
AS31	**Alice Springs**	**42.50**	**270**	P	**P**	**01 53 41.3**	**0.0**
ASAR	**Alice Springs**	**42.50**	**270**	P	**P**	**01 53 41.6**	**+0.3**
	comp=Z,11nm,0.8s,baz=109,slow=7.3,SNR=89						
ASAR				PcP	**PcP**	**01 55 33.1**	**-0.5**
	comp=Z,1.6nm,0.9s,baz=108,slow=4.0,SNR=3.4						
ASAR				S	**S**	**02 00 01.9**	**+1.0**
	comp=Z,0.9nm,0.9s,baz=113,slow=16,SNR=5.8						
ASAR				LR	LR	02 12 12.2	
	comp=Z,187nm,18.2s,baz=123,slow=37						
ASAR	**Alice Springs**	**42.50**	**270**	P	**P**	**01 53 41.0**	**-0.3**
WR0	**Warramunga Arr**	**43.57**	**276**	P	**P**	**01 53 50.0**	**0.0**
WR0				IAmb	IAmb	01 53 52.7	
	comp=Z,5.7nm,0.8s						
WB2	**Warramunga Arr**	**43.74**	**276**	P	**P**	**01 53 51.4**	**0.0**
WRA	**Warramunga Arr**	**43.75**	**276**	P	**P**	**01 53 50.7**	**-0.8**
	comp=Z,4.9nm,0.7s,baz=119,slow=7.5,SNR=28						
WRA				PcP	**PcP**	**01 55 37.1**	**-0.8**
	comp=Z,1.2nm,1.0s,baz=137,slow=4.2,SNR=2.2						
WRA				S	**S**	**02 00 19.0**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=121,slow=15,SNR=4.1						
WRA				LR	LR	02 10 55.4	
	comp=Z,72nm,21.8s,baz=155,slow=34						
FITZ	**Fitzroy Crossi**	**51.88**	**272**	P	**P**	**01 54 53.7**	**-0.7**
	comp=Z,3.1nm,0.8s,baz=171,slow=8.3,SNR=8.0						
FITZ	**Fitzroy Crossi**	**51.88**	**272**	IAmb	IAmb	01 54 55.3	
	comp=Z,5.3nm,0.9s						
CASY	**Casey**	**52.34**	**209**	P	**P**	**01 54 57.5**	**+0.3**
QSPA	**South Pole Qui**	**56.82**	**180**	P	**P**	**01 55 31.6**	**+1.8**
QSPA				IAmb	IAmb	01 55 52.1	
	comp=Z,6.7nm,0.9s						
SNAA	**Sanae**	**75.28**	**179**	P	**P**	**01 57 29.9**	**+1.7**
SNAA	**Sanae**	**75.28**	**179**	PcP	**PcP**	**01 57 38.2**	**-3.2**
SNAA	**Sanae**	**75.28**	**179**	P	**P**	**01 57 29.4**	**+1.2**
SNAA				IAmb	IAmb	01 57 39.5	
	comp=Z,6.6nm,1.0s						
VNA3	**Neumayer Olymp**	**75.45**	**176**	P	**P**	**01 57 33.0**	**+3.9**
VNA3	**Neumayer Olymp**	**75.45**	**176**	PcP	**PcP**	**01 57 40.1**	**-1.9**
VNA2	**Neumayer--Watz**	**75.88**	**177**	P	**P**	**01 57 33.8**	**+2.3**
	baz=181,slow=4.4						
VNA2	**Neumayer--Watz**	**75.88**	**177**	PcP	**PcP**	**01 57 42.0**	**-1.9**
VNA1	**Neumayer--Stat**	**76.11**	**177**	P	**P**	**01 57 35.1**	**+2.3**
VNA1	**Neumayer--Stat**	**76.11**	**177**	PcP	**PcP**	**01 57 43.4**	**-1.4**
LPAZ	**La Paz**	**97.44**	**115**	LR	LR	02 34 53.7	
	comp=Z,44nm,21.4s,baz=53,slow=30						
MK31	**Makanchi Array**	**119.20**	**309**	PKPdf	**PKPdf**	**02 04 33.8**	**-0.2**
MKAR	**Makanchi Array**	**119.20**	**309**	PKP	**PKPdf**	**02 04 33.9**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=90,slow=1.4,SNR=3.7						
ZALV	**Zalesovo Beam**	**119.81**	**317**	PKPdf	**PKiKP**	**02 04 35.3**	**+0.3**
GURO	**Guroymak-BITLI**	**146.85**	**291**	PKPbc	**PKPbc**	**02 05 28.1**	**+0.3**
OBN	**Obninsk**	**147.19**	**322**	PKPbc	**PKPbc**	**02 05 28.4**	**+0.5**
FINES	**FINESS Array B**	**147.65**	**338**	PKPbc	**PKPdf**	**02 05 27.0**	**+0.8**
	comp=Z,6.2nm,0.8s,baz=70,slow=1.6,SNR=29						
FINES	**FINESS Array B**	**147.65**	**338**		**PKPbc**	**02 05 28.0**	**-1.1**
MARD	**Mardin**	**147.75**	**288**	PKPbc	**PKPbc**	**02 05 30.2**	**-0.1**
NB2	**NORSAR Subarra**	**151.52**	**350**	PKP	**PKiKP**	**02 05 39.4**	**+0.3**
	comp=Z,4.4nm,1.1s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**151.52**	**350**	PKPbc	**PKPbc**	**02 05 36.3**	**-2.4**
	comp=Z,0.5nm,0.8s,baz=19,slow=3.3,SNR=2.1						
AKASG	**Malin Array Be**	**153.20**	**319**	PKPbc	**PKPbc**	**02 05 41.8**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=73,slow=1.6,SNR=5.0						
BRTR	**Keskin Array B**	**153.37**	**293**	PKPbc	**PiKiKP**	**02 05 43.9**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=182,slow=3.1,SNR=5.5						
TORD	**Torodi Ar. Bea**	**159.94**	**181**	PKPab	**PKPab**	**02 06 22.9**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=179,slow=3.4,SNR=1.2						

IDC 13 01:47:59.3±3.4,32°.46S×178°.08W,h0km,mb3.9/2, mb1 4.2/3,mb1mx3.8/28,mbtmp4.0/3,Error ellipse: s-maj=80.1km s-min=49.3km az=119.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.99**	**213**	Pn	Pn	01 49 42.2	-0.7
	baz=312,slow=16,SNR=0.6						
URZ				Sn	Sn	01 50 53.3	-10
	0.8nm,0.3s,baz=72,slow=20,SNR=0.8						
ASAR	**Alice Springs**	**42.97**	**269**	P	P	01 56 00.2	-0.2
	1.3nm,0.8s,baz=108,slow=7.9,SNR=3.4						
WRA	**Warramunga Arr**	**44.15**	**274**	P	P	01 56 09.9	0.0
	0.8nm,0.3s,baz=115,slow=8.0,SNR=5.7						
FINES	**FINESS Array B**	**147.05**	**339**	PKPbc	PKPbc	02 07 42.6	-0.7
	1.2nm,0.7s,baz=40,slow=2.4,SNR=1.9						

IDC ***13*** *02:15:59.4±1.4,33°.08S×178°.45W,h0km,mb4.4/4, mb1 4.5/5,mb1mx4.0/26,mbtmp4.4/5,ML3.9/1,MS3.3/2, Ms1 3.3/2,ms1mx2.8/34,Error ellipse: s-maj=37.9km s-min=31.6km az=55.0*
NEIC ***13*** *02:16:01.1±1.4,33°.35S±0°.07×178°.4W±0°.2,h10km±1km, mb4.5/11,Error ellipse: s-maj=28.6km s-min=6.0km az=109.0*
WEL ***13*** *02:16:05.2±1.2,34°S±22°×17°.8W±2°.4,h150km±53km, M4.3/13,mB4.7/8,ML4.7/12,MLv4.7/13,Mw(mB)4.0/8, Error ellipse: s-maj=0.0km s-min=0.0km az=132.1*

ISC 13 02:16:05.3±0.8,33°30S±0°.08×178°.5W±0°.2,h41km,n43, σ1§24/55,mb4.5/9,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.07**	**8**	Pn	**Pn**	**02 17 04.0**	**-0.9**
MXZ	**Matakaoa Point**	**4.97**	**210**	Pn	**Pn**	**02 17 16.5**	**-0.9**
MXZ	**Matakaoa Point**	**4.97**	**210**	P	**Pn**	**02 17 15.0**	**-2.4**
MXZ				S	**Sn**	**02 18 13.6**	**0.0**
WMGZ	**Waiomatatini S**	**5.15**	**208**	P	**Pn**	**02 17 19.1**	**-0.7**
WMGZ				S	**Sn**	**02 18 20.3**	**+2.4**
PKGZ	**Pakihiroa**	**5.35**	**210**	P	**Pn**	**02 17 20.2**	**-2.3**
PKGZ				S	**Sn**	**02 18 22.8**	**-0.1**
HAZ	**Te Kaha**	**5.37**	**213**	P	**Pn**	**02 17 21.9**	**-0.9**
HAZ				S	**Sn**	**02 18 26.1**	**+2.8**
PUZ	**Puketiti**	**5.43**	**208**	P	**Pn**	**02 17 21.0**	**-2.7**
PUZ				S	**Sn**	**02 18 25.3**	**+0.3**
RUGZ	**Raukumara Rang**	**5.58**	**212**	P	**Pn**	**02 17 24.5**	**-1.4**
RUGZ				S	**Sn**	**02 18 28.6**	**-0.3**
TWGZ	**Tauwhareparae**	**5.63**	**209**	P	**Pn**	**02 17 27.6**	**+1.1**
TWGZ				S	**Sn**	**02 18 30.2**	**+0.3**
CNGZ	**Carnagh Statio**	**5.81**	**206**	P	**Pn**	**02 17 31.1**	**+2.3**
MWZ	**Matawai**	**5.96**	**211**	P	**Pn**	**02 17 28.9**	**-2.1**
MWZ				S	**Sn**	**02 18 38.5**	**+0.6**
URZ	**Urewera**	**6.08**	**214**	Pn	**Pn**	**02 17 32.3**	**-0.3**
	2.8nm,0.3s,baz=247,slow=1.7,SNR=14						
URZ				Sn	**Sn**	**02 18 40.6**	**-0.3**
	8.3nm,0.3s,baz=227,slow=2.1,SNR=14						
URZ	**Urewera**	**6.08**	**214**		**Pn**	**02 17 31.7**	**-0.9**
URZ	**Urewera**	**6.08**	**214**	P	**Pn**	**02 17 31.7**	**-0.9**
URZ				S	**Sn**	**02 18 40.1**	**-0.8**
RIGZ	**Rimuhau**	**6.17**	**208**	P	**Pn**	**02 17 32.6**	**-1.3**
RIGZ				S	**Sn**	**02 18 40.1**	**-3.1**
KMRZ	**Kaimai**	**6.39**	**223**	P	Pn	02 17 44.4	+7.6
SNGZ	**Shannon Statio**	**6.41**	**210**	P	**Pn**	**02 17 36.7**	**-0.5**
SNGZ				S	**Sn**	**02 18 47.5**	**-1.5**
MUGZ	**Murupara**	**6.42**	**215**	P	**Pn**	**02 17 36.2**	**-1.1**
MUGZ				S	**Sn**	**02 18 49.2**	**0.0**
MTHZ	**Maungataniwha**	**6.69**	**213**	P	**Pn**	**02 17 40.9**	**-0.1**
MTHZ				S	**Sn**	**02 18 54.1**	**-1.7**
NMHZ	**Naumai**	**6.90**	**212**	P	**Pn**	**02 17 44.3**	**+0.3**
NMHZ				S	**Sn**	**02 19 00.7**	**-0.5**
DZM	**Mont Dzumac**	**17.35**	**306**	LR	LR	02 25 55.0	
	comp=Z,130nm,18.3s,baz=34,slow=34						
STKA	**Stephens Creek**	**33.48**	**261**	LR	LR	02 33 35.8	
	comp=Z,47nm,21.5s,baz=208,slow=32						
CTA	**Charters Tower**	**33.92**	**284**	P	**P**	**02 22 45.9**	**+1.3**
	1.8nm,0.5s,baz=110,slow=8.1,SNR=6.3						
CTAO	**Charters Tower**	**33.92**	**284**	P	**P**	**02 22 45.8**	**+1.2**
AS31	**Alice Springs**	**42.58**	**270**	P	**P**	**02 23 57.7**	**+0.3**
ASAR	**Alice Springs**	**42.58**	**270**	P	**P**	**02 23 58.0**	**+0.6**
	5.4nm,0.6s,baz=109,slow=7.5,SNR=79						
ASAR				PcP	**PcP**	**02 25 48.8**	**-0.5**
	0.7nm,0.8s,baz=106,slow=5.2,SNR=2.6						
WR0	**Warramunga Arr**	**43.65**	**276**	P	**P**	**02 24 06.0**	**-0.1**
WR0				IAmb	IAmb	02 24 27.0	
	comp=Z,12nm,1.2s						
WB2	**Warramunga Arr**	**43.82**	**275**	P	**P**	**02 24 07.3**	**-0.1**
WB2				IAmb	IAmb	02 24 33.7	
	comp=Z,15nm,1.4s						
WRA	**Warramunga Arr**	**43.83**	**275**	P	**P**	**02 24 07.0**	**-0.5**
	comp=Z,2.2nm,0.5s,baz=116,slow=7.7,SNR=44						
WRA	**Warramunga Arr**	**43.83**	**275**	IAmb	IAmb	02 24 08.0	
	comp=Z,0.4nm,1.2s						
KNRA	**Kununurra**	**50.53**	**277**	P	**P**	**02 24 59.9**	**+0.2**
FITZ	**Fitzroy Crossi**	**51.95**	**272**	P	**P**	**02 25 10.5**	**+0.1**
CASY	**Casey**	**52.38**	**209**	P	**P**	**02 25 13.4**	**+0.5**
CASY				IAmb	IAmb	02 25 26.6	
	comp=Z,7.9nm,0.9s						
QSPA	**South Pole Qui**	**56.82**	**180**	P	**P**	**02 25 47.3**	**+2.0**
	comp=Z,4.1nm,1.1s,baz=42,slow=3.8,SNR=5.5						
QSPA	**South Pole Qui**	**56.82**	**180**	P	**P**	**02 25 44.8**	**-0.5**
QSPA				IAmb	IAmb	02 25 48.8	
	comp=Z,8.2nm,1.2s						
SNAA	**Sanae**	**75.28**	**179**	P	**P**	**02 27 43.6**	**0.0**
SNAA				IAmb	IAmb	02 28 04.3	
	comp=Z,7.2nm,1.4s						
MJAR	**Matsushiro Arr**	**80.36**	**326**	P	**P**	**02 28 12.2**	**+0.1**
MJAR				IAmb	IAmb	02 28 25.3	
	comp=Z,3.2nm,1.2s						
GURO	**Guroymak-BITLI**	**146.92**	**291**	PKPbc	**PKPbc**	**02 35 43.1**	**-0.3**
FINES	**FINESS Array B**	**147.68**	**338**	PKPbc	**PKPbc**	**02 35 43.7**	**-0.9**
	comp=Z,3.0nm,0.8s,baz=46,slow=2.7,SNR=12						
MARD	**Mardin**	**147.82**	**288**	PKPbc	**PKPbc**	**02 35 45.8**	**-0.2**
NB2	**NORSAR Subarra**	**151.53**	**350**	PKP	**PKiKP**	**02 35 53.8**	**-0.8**
	comp=Z,5.2nm,1.4s,baz=17,slow=2.6						
AKASG	**Malin Array Be**	**153.25**	**319**	PKPbc	**PKiKP**	**02 35 58.6**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=46,slow=4.0,SNR=1.8						
BRTR	**Keskin Array B**	**153.44**	**293**	PKPbc	**PKiKP**	**02 36 00.0**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=103,slow=3.5,SNR=1.8						

IDC 13 02:26:04.2±5.7,5°.12S×133°.30E,h0km,mb3.5/1, mb1 3.6/3,mb1mx3.4/33,mbtmp3.4/3,ML3.1/2,Error ellipse: s-maj=333.1km s-min=34.5km az=77.0,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.77**	**176**	Pn	Pn	02 29 33.4	-1.1
	0.1nm,0.3s,baz=354,slow=14,SNR=2.0						
ASAR	**Alice Springs**	**18.45**	**178**	P	P	02 30 21.9	+0.3
	0.1nm,0.3s,baz=6.9,slow=11,SNR=3.6						
MKAR	**Makanchi Array**	**68.52**	**325**	P	P	02 37 08.6	0.0
	0.3nm,0.5s,baz=120,slow=8.5,SNR=2.6						

UPP ***13*** *02:40:05.6±3.2,51°.53N×15°.25E,h0km,ML2.6,Suspected explosion*
PRU ***13*** *02:40:05.5±0.0,51°.54N×16°.05E,h0km*
LDG ***13*** *02:40:05.7±0.3,51°.46N×16°.05E,h1km,Ml2.9/7,Error ellipse: s-maj=8.7km s-min=3.1km az=11.0,Suspected Mining induced.*
IPEC ***13*** *02:40:05.0±0.5,51°.57N×16°.17E,h2km±2km,ML2.6/3, Error ellipse: s-maj=4.9km s-min=2.0km az=50.0*
DNK ***13*** *02:40:06.1±2.7,51°.69N×16°.05E,h0km±76km,ML2.2*
BGR ***13*** *02:40:06.2±0.3,51°.54N×16°.07E,h1km,ML3.1/14,Error ellipse: s-maj=3.3km s-min=2.2km az=21.0*
IDC ***13*** *02:40:06.1±0.7,51°.52N×15°.95E,h0km,mb1 3.3/8, mb1mx3.2/46,mbtmp3.2/8,ML2.5/7,Error ellipse: s-maj=13.0km s-min=6.6km az=102.0*
VIE ***13*** *02:40:10.2±0.9,51°.23N×15°.74E,h0km,mb2.5/11, ml2.7/13,Error ellipse: s-maj=10.3km s-min=5.0km az=4.0 66 km NE of Liberec Suspected Mining induced.*

ISC 13 02:40:02.5±0.6,51°.57N±0°.03×16°.05E±0°.02,h0km,n109, σ2§18/186,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.75**	**168**	*e*Pg	**Pb**	**02 40 19.3**	**+1.0**
KSP				*e*Sg	**Sb**	**02 40 29.0**	**-0.1**
KSP	**Ksiaz**	**0.75**	**168**	*e*Pg	**Pb**	**02 40 19.4**	**+1.0**
	SNR=86						
KSP				*e*Sg	**Sb**	**02 40 29.3**	**+0.2**
	SNR=4.4						
CHVC	**Chvalec**	**0.99**	**180**	*e*PG	**Pn**	**02 40 23.3**	**-0.3**
CHVC				*e*SG	**Sb**	**02 40 36.8**	**+0.8**
	comp=Z,122nm,0.3s						
OSTC	**Ostas**	**1.02**	**174**	*e*PG	**Pn**	**02 40 24.4**	**+0.3**
OSTC				*e*SG	**Sb**	**02 40 38.0**	**+1.0**
	comp=Z,196nm,0.3s						
UPC	**Upice**	**1.07**	**181**	*e*PG	**Pn**	**02 40 24.9**	**+0.2**
UPC				*e*SG	**Sb**	**02 40 38.8**	**+0.5**
	comp=Z,337nm,0.3s						
PVCC	**Panska Ves**	**1.40**	**222**	*e*PG	**Pb**	**02 40 31.4**	**+1.9**
PVCC				*e*SG	**Sn**	**02 40 50.8**	**+2.3**
	comp=Z,458nm,0.3s						
PVCC	**Panska Ves**	**1.40**	**222**	*e*Pg	**Pb**	**02 40 32.3**	**+2.8**
	SNR=126						
BRG	**Berggiesshubel**	**1.50**	**243**	Pn	**Pg**	**02 40 32.3**	**+1.2**
BRG				Pg	**Pb**	**02 40 34.0**	**+2.8**
BRG				Sg	**Sn**	**02 40 54.0**	**+3.2**
BRG				Amp		02 40 54.4	
	comp=Z,145nm,0.3s						
KRLC	**Kraliky**	**1.57**	**163**	*e*PG	**Pg**	**02 40 33.2**	**+0.7**
KRLC				*e*SG	**Sg**	**02 40 54.2**	**+1.4**
	comp=Z,83nm,0.2s						
RUE	**Ruedersdorf**	**1.67**	**304**	*e*Pn	**Pg**	**02 40 35.0**	**+0.5**
	SNR=3.5						
FBE	**Freiberg**	**1.82**	**250**	*e*Pn	**Pg**	**02 40 38.4**	**+1.1**
	SNR=4.6						
FBE				*e*Sg	**Sg**	**02 41 03.8**	**+3.0**
	SNR=4.5						
PRA	**Prague**	**1.82**	**215**	*e*PG	**Pg**	**02 40 37.3**	**0.0**
PRA				*e*SG	**Sg**	**02 41 02.8**	**+1.9**
	comp=Z,42nm,0.7s						
PRU	**Pruhonice**	**1.85**	**212**	*e*PG	**Pb**	**02 40 37.5**	**+0.3**
PRU				*e*SG	**Sg**	**02 41 03.8**	**+1.8**
	comp=Z,64nm,0.7s						
PRU	**Pruhonice**	**1.85**	**212**	*e*Pn	**Pb**	**02 40 37.2**	**0.0**
	SNR=13						
CLL	**Collm**	**1.93**	**263**	*e*Pn	**Pb**	**02 40 38.0**	**-0.4**
CLL				*i* Pg	**Pg**	**02 40 41.3**	**+1.9**
CLL				*i*		02 40 46.0	
CLL				*e*Sg	**Sg**	**02 41 07.0**	**+2.6**
	comp=Z,56nm,0.3s						
CLL	**Collm**	**1.93**	**263**	*e*Pn	**Pb**	**02 40 38.3**	**-0.2**
	SNR=12						
CLL				*e*Sg	**Sg**	**02 41 06.9**	**+2.6**
	SNR=2.7						
RAC	**Raciborz**	**2.02**	**137**	*e*PG	**Pg**	**02 40 43.7**	**+2.6**
RAC				*e*SG	**Sg**	**02 41 08.9**	**+1.7**
MORC	**Moravsky Berou**	**2.03**	**152**	*e*Pn	**Pb**	**02 40 39.7**	**-0.5**
	baz=335						
MORC				*e*Sg	**Sg**	**02 41 07.7**	**0.0**
	comp=Z,41nm,0.3s,baz=335						
MORC	**Moravsky Berou**	**2.03**	**152**	*e*PN	**Pb**	**02 40 39.8**	**-0.5**
MORC				*e*SG	**Sg**	**02 41 07.7**	**0.0**
MORC	**Moravsky Berou**	**2.03**	**152**	*e*Pn	**Pb**	**02 40 39.8**	**-0.5**
	SNR=9.1						
MORC				*e*Sg	**Sg**	**02 41 08.8**	**+1.1**
	SNR=3.7						
OKC	**Ostrava-Krasne**	**2.19**	**142**	*e*PG	**Pg**	**02 40 44.7**	**+0.3**
OKC				*e*SG	**Sg**	**02 41 13.9**	**+1.1**
	comp=Z,57nm,0.4s						
OKC	**Ostrava-Krasne**	**2.19**	**142**	*e*Pg	**Pg**	**02 40 46.0**	**+1.6**
	SNR=5.8						
OKC				*e*Sg	**Sg**	**02 41 13.2**	**+0.5**
	SNR=5.2						
VRAC	**Vranov**	**2.29**	**171**	Pn	**Pb**	**02 40 43.8**	**-0.9**
	comp=Z,1.5nm,0.3s,baz=348,slow=16,SNR=29						
VRAC				Lg	Lg	02 41 16.6	
	comp=Z,9.3nm,0.3s,baz=267,slow=23,SNR=11						
VRAC	**Vranov**	**2.29**	**171**	*e*Pn	**Pb**	**02 40 43.7**	**-1.0**
	baz=353						
VRAC				*e*Sg	**Sg**	**02 41 16.6**	**+0.5**
	comp=Z,24nm,0.4s,baz=353						
VRAC	**Vranov**	**2.29**	**171**	*e*PN	**Pb**	**02 40 43.8**	**-0.9**
VRAC				*e*SG	**Sg**	**02 41 16.7**	**+0.6**
VRAC	**Vranov**	**2.29**	**171**	*e*Pn	**Pb**	**02 40 43.9**	**-0.9**
	SNR=7.2						
PBCC	**Pribram**	**2.30**	**216**	*e*PN	**Pb**	**02 40 43.8**	**-1.0**
PBCC				*e*SG	**Sg**	**02 41 17.7**	**+1.4**
TREC	**Trest**	**2.31**	**189**	*e*PG	**Pg**	**02 40 47.5**	**+0.8**
TREC				*e*SG	**Sg**	**02 41 17.1**	**+0.5**
	comp=Z,41nm,0.7s						
TREC	**Trest**	**2.31**	**189**	*e*Pn	**Pb**	**02 40 44.9**	**-0.1**
	SNR=17						
KRUC	**Moravsky**	**2.52**	**175**	*e*Pn	**Pb**	**02 40 46.9**	**-1.7**
	baz=357						
KRUC				*e*Sg	**Sg**	**02 41 23.9**	**+0.5**
	comp=Z,25nm,0.3s,baz=357						
KRUC	**Moravsky**	**2.52**	**175**	*e*PN	**Pb**	**02 40 47.0**	**-1.7**
KRUC				*e*SG	**Sg**	**02 41 24.0**	**+0.5**
KRUC	**Moravsky**	**2.52**	**175**	*e*Pn	**Pb**	**02 40 46.9**	**-1.7**
	SNR=10						
KRUC				*e*Pg	**Pg**	**02 40 51.4**	**+0.6**
	SNR=6.4						
TANN	**Tannenbergstha**	**2.55**	**244**	*e*Pn	**Pb**	**02 40 47.5**	**-1.6**
	SNR=8.7						
TANN				*e*Pg	**Pg**	**02 40 54.5**	**+3.2**
	SNR=5.4						
TANN				*e*Sg	**Sg**	**02 41 26.4**	**+2.1**
	SNR=5.1						
WERD	**Werda**	**2.62**	**246**	*e*Pn	**Pb**	**02 40 48.9**	**-1.3**
	SNR=2.1						
WERD				*e*Pg	**Pg**	**02 40 56.0**	**+3.3**
	SNR=4.5						
WERD				*e*Sg	**Sg**	**02 41 29.0**	**+2.4**
	SNR=6.4						
GUNZ	**Gunzen**	**2.65**	**244**	*e*Pn	**Pb**	**02 40 48.9**	**-1.8**
	SNR=3.9						
GUNZ				*e*Pg	**Pg**	**02 40 56.3**	**+3.2**
	SNR=7.7						
GUNZ				*e*Sg	**Sg**	**02 41 30.3**	**+2.9**
	SNR=7.6						
NKC	**Novy Kostel**	**2.65**	**241**	*e*PN	**Pb**	**02 40 49.1**	**-1.7**
NKC				*e*SG	**Sg**	**02 41 28.9**	**+1.5**
	comp=Z,94nm,0.3s						
NKC	**Novy Kostel**	**2.65**	**241**	*e*Pn	**Pb**	**02 40 49.0**	**-1.7**
	SNR=14						
NKC				*e*Sg	**Sg**	**02 41 29.4**	**+1.9**
	SNR=5.4						
WERN	**Wernitzgruen**	**2.66**	**242**	*e*Pn	**Pb**	**02 40 49.0**	**-1.9**
	SNR=10.0						
PLN	**Plauen**	**2.69**	**248**	*e*Pn	**Pb**	**02 40 49.3**	**-2.1**
	SNR=5.4						
PLN				*e*Sg	**Sg**	**02 41 31.1**	**+2.3**
	SNR=5.2						
NEUB	**Neuenburg**	**2.70**	**264**	*e*Pg	**Pg**	**02 40 56.8**	**+2.5**
	SNR=6.1						
NEUB				*e*Sg	**Sg**	**02 41 32.6**	**+3.3**
	SNR=5.5						
OJC	**Ojcow**	**2.73**	**118**	*e*Pn	**Pn**	**02 40 47.6**	**0.0**
OJC				*e*Pg	**Pg**	**02 40 57.3**	**+2.5**
OJC				*e*Sg	**Sg**	**02 41 31.7**	**+1.5**
JAVC	**Velka Javorina**	**2.91**	**158**	*e*PN	**Pn**	**02 40 52.3**	**+2.2**
**JA

BLEU	**Blekinge**	**4.74**	**358**	*e*	**Pn**	**02 41 16.7**	**+1.5**
	baz=182,slow=12						
BLEU				*i* P	**Pn**	**02 41 17.0**	**+1.8**
BLEU				*i* S	**Sn**	**02 42 09.7**	**-1.0**
KASTN	**Kahler Asten**	**4.80**	**269**	*e*Pn	**Pn**	**02 41 18.2**	**+2.2**
	SNR=2.4						
KBA	**Koelnbreinsper**	**4.83**	**203**	*e*Pn	**Pn**	**02 41 19.3**	**+2.7**
	comp=Z,1.5nm,0.5s,SNR=9.0						
BJUU	**Bjuv**	**4.85**	**340**	*i* P	**Pn**	**02 41 17.7**	**+1.0**
BJUU				*i* S	**Sn**	**02 42 12.2**	**-1.3**
DEL	**Delary**	**5.07**	**346**	*i* P	**Pn**	**02 41 20.9**	**+1.3**
DEL				P	**Pn**	**02 41 20.9**	**+1.3**
DEL				S	**Sn**	**02 42 16.2**	**-2.7**
DEL				*i* S	**Sn**	**02 42 17.5**	**-1.4**
DEL				IAML		02 42 19.6	
	comp=Z,1.5nm,0.3s						
DEL	**Delary**	**5.07**	**346**	P	**Pn**	**02 41 20.9**	**+1.3**
DEL				S	**Sn**	**02 42 16.2**	**-2.7**
WATA	**Walderalm**	**5.15**	**216**	*e*Pn	**Pn**	**02 41 24.2**	**+3.3**
	comp=Z,0.7nm,0.2s						
OBKA	**Obir**	**5.16**	**192**	*e*Pn	**Pn**	**02 41 24.0**	**+2.9**
	comp=Z,0.3nm,0.2s						
WTTA	**Wattenberg**	**5.19**	**215**	*i* Pn	**Pn**	**02 41 24.2**	**+2.8**
	comp=Z,0.9nm,0.2s						
MOTA	**Moosalm**	**5.32**	**219**	*i* Pn	**Pn**	**02 41 25.7**	**+2.5**
	comp=Z,0.9nm,0.3s						
RETA	**Reutte**	**5.35**	**222**	*e*Pn	**Pn**	**02 41 25.6**	**+2.1**
	comp=Z,0.4nm,0.2s						
ABTA	**Abfaltersbach**	**5.36**	**207**	*e*Pn	**Pn**	**02 41 26.9**	**+3.1**
	comp=Z,0.9nm,0.4s						
SQTA	**Sankt Quirin**	**5.38**	**218**	*e*Pn	**Pn**	**02 41 27.3**	**+3.2**
	comp=Z,1.3nm,0.2s						
DAVOX	**Davos/Dischmat**	**6.27**	**223**	Pn	**Pn**	**02 41 39.1**	**+2.7**
	comp=Z,0.1nm,0.3s,baz=8.1,slow=14,SNR=2.3						
ONAU	**Onsala**	**6.31**	**339**	*e*P	**Pn**	**02 41 39.4**	**+2.8**
ONAU				*e*S	**Sn**	**02 42 46.5**	**-2.9**
ONAU				S	**Sn**	**02 42 47.5**	**-1.9**
BORU	**Boraas**	**6.37**	**344**	S	**Sn**	**02 42 51.0**	**+0.3**
BORU	**Boraas**	**6.37**	**344**	S	**Sn**	**02 42 51.0**	**+0.3**
CDF	**Champ du Feu**	**6.48**	**244**	*e*Pn	**Pn**	**02 41 41.0**	**+1.9**
CDF	**Champ du Feu**	**6.48**	**244**	*e*Pg	**Pg**	**02 42 07.2**	**+0.6**
CDF				*e*Sn	**Sn**	**02 42 48.0**	**-5.8**
CDF				*e*Sg	**Sg**	**02 43 28.1**	**-2.4**
	comp=Z,4.2nm,0.5s						
LNKU	**Linkoeping**	**6.67**	**358**	P	**Pn**	**02 41 43.6**	**+2.0**
LNKU	**Linkoeping**	**6.67**	**358**	P	**Pn**	**02 41 43.6**	**+2.0**
VIKU	**Vikbolandet**	**6.96**	**3**	P	**Pn**	**02 41 47.4**	**+1.9**
VIKU	**Vikbolandet**	**6.96**	**3**	P	**Pn**	**02 41 47.4**	**+1.9**
HINF	**Hinteralfeld**	**7.05**	**241**	*e*Pn	**Pn**	**02 41 47.8**	**+0.9**
HINF	**Hinteralfeld**	**7.05**	**241**	*e*Pg	**Pg**	**02 42 16.5**	**-1.0**
HINF				*e*Sg	**Sg**	**02 43 45.9**	**-2.9**
	comp=Z,1.9nm,0.3s						
HAU	**Haudompre**	**7.22**	**244**	*e*Pn	**Pn**	**02 41 50.0**	**+0.7**
HAU	**Haudompre**	**7.22**	**244**	*e*Pg	**Pg**	**02 42 20.6**	**-0.2**
HAU				*e*Sg	**Sg**	**02 43 50.4**	**-3.9**
	comp=Z,3.2nm,0.3s						
PAGF	**Fort de Pagny**	**7.30**	**250**	*e*Pn	**Pn**	**02 41 49.8**	**-0.5**
	baz=69						
PAGF				*e*Sn	**Sn**	**02 43 08.0**	**-5.8**
	comp=Z,0.7nm,0.2s						
CABF	**La Chapelle**	**8.21**	**237**	*e*Pg	**Pg**	**02 42 39.0**	**-0.6**
CABF				*e*Sg	**Sg**	**02 44 21.2**	**-4.7**
	comp=Z,0.6nm,0.3s						
AKASG	**Malin Array Be**	**8.33**	**91**	Pn	**Pn**	**02 42 06.9**	**+2.5**
	comp=Z,1.0nm,0.3s,baz=282,slow=12,SNR=5.3						
HFS	**Hagfors**	**8.68**	**352**	Pn	**Pn**	**02 42 10.8**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=155,slow=18,SNR=1.4						
HFS				Sn	**Sn**	**02 43 47.0**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=186,slow=22,SNR=1.8						
LOR	**Lormes**	**9.04**	**246**	*e*Pn	**Pn**	**02 42 14.1**	**0.0**
	baz=66						
LOR				*e*Sn	**Sn**	**02 43 49.7**	**-6.8**
LOR				*e*Sg		02 44 47.2	
	comp=Z,0.8nm,0.4s						
SSF	**Saint Saulge**	**9.35**	**246**	*e*Pn	**Pn**	**02 42 19.1**	**+0.7**
NOA	**NORSAR Array B**	**9.86**	**346**	Pn	**Pn**	**02 42 26.5**	**+1.1**
	comp=Z,0.0nm,0.3s,baz=183,slow=10,SNR=1.7						
BGF	**Bois d'Agland**	**10.01**	**245**	*e*Pn	**Pn**	**02 42 27.3**	**-0.1**
FINES	**FINESS Array B**	**11.32**	**25**	Pn	**Pn**	**02 42 45.0**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=218,slow=11,SNR=1.9						
FINES				Sn	**Sn**	**02 44 45.3**	**-7.1**
	comp=Z,0.2nm,0.3s,baz=202,slow=22,SNR=1.8						
EKA	**Eskdalemuir Ar**	**12.05**	**296**	Pn	**Pn**	**02 42 53.9**	**-1.3**
	baz=84,slow=14,SNR=2.0						
ARCES	**ARCESS Array B**	**18.57**	**10**	Pn	**P**	**02 44 19.7**	**-0.9**
	baz=198,slow=10,SNR=4.1						

NOU **13** *02:40:53.9,22.°08S×173.°43W,h0km,mb4.4/13, Tonga Islands Region*

NEIC **13** *02:41:38.9±2.0,23.°86S±0.°10×177.°02W±0.°04, h132km±7km,mb4.4/21, Error ellipse: s-maj=14.4km s-min=4.7km az=172.0*

IDC **13** *02:41:40.5±2.8,23.°86S×177.°27W,h140km±26km,mb3.9/9, mb1 4.0/12,mb1mx3.7/32,mbtmp4.4/12,MS3.6/2, Ms1 3.6/2,ms1mx2.8/27, Error ellipse: s-maj=19.6km s-min=18.6km az=144.0*

ISC 13 02:41:37.9±0.5, 23.°88S±0.°07×177.°10W±0.°08, h120km, n49,σ1°21/47, mb4.4/16, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.40**	**188**	Pn	**Pn**	**02 42 57.7**	**+1.5**
MSVF	**Nonsavu**	**7.62**	**323**	P	**Pn**	**02 43 29.0**	**+2.6**
	3.2nm,0.3s,baz=115,slow=22,SNR=21						
MSVF	**Nonsavu**	**7.62**	**323**		**Pn**	**02 43 29.1**	**+2.7**
NIUE	**Niue**	**8.21**	**56**	Pn	**Pn**	**02 43 34.0**	**-0.2**
NIUE					**Sn**	**02 45 03.3**	**-2.2**
AFI	**Afiamalu**	**11.12**	**28**	P	**Pn**	**02 44 14.6**	**+0.9**
	4.7nm,0.3s,baz=339,slow=4.1,SNR=6.3						
MARNC	**Mare, Loyalty**	**13.94**	**277**	Pn	**Pn**	**02 44 50.4**	**+0.1**
YATNC	**Mamie plateau,**	**14.86**	**274**	P	P	02 45 10.6	+5.8
DVP	**Devils Point**	**15.06**	**291**	P	**Pn**	**02 45 01.7**	**-2.8**
	231µm,0.9s						
URZ	**Urewera**	**15.16**	**198**	P	**Pn**	**02 45 05.3**	**-0.3**
	2.6nm,0.3s,baz=272,slow=3.6,SNR=12						
URZ	**Urewera**	**15.16**	**198**	IAmb	IAmb	02 45 14.2	
	comp=Z,35nm,1.4s						
THZ	**Tophouse**	**19.68**	**203**	P	**P**	**02 45 57.9**	**+0.2**
THZ				IAmb	IAmb	02 46 06.5	
	comp=Z,26nm,1.3s						
CTA	**Charters Tower**	**34.13**	**269**	P	**P**	**02 48 11.4**	**-0.2**
	comp=Z,8.6nm,0.4s,baz=93,slow=11,SNR=34						
CTAO	**Charters Tower**	**34.13**	**269**	P	**P**	**02 48 11.6**	**0.0**
TOO	**Toolangi**	**34.70**	**238**	P	**P**	**02 48 16.5**	**+0.2**
TOO				IAmb	IAmb	02 48 27.6	
	comp=Z,14nm,1.4s						
STKA	**Stephens Creek**	**37.20**	**248**	P	**P**	**02 48 37.5**	**-0.2**
	comp=Z,2.8nm,0.4s,baz=94,slow=11,SNR=14						
STKA				PcP	**PcP**	**02 50 55.0**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=121,slow=7.4,SNR=3.0						
BBOO	**Buckleboo**	**41.90**	**247**	P	**P**	**02 49 15.4**	**-1.2**
BBOO				IAmb	IAmb	02 49 27.6	
	comp=Z,17nm,1.4s						
AS31	**Alice Springs**	**44.66**	**260**	P	**P**	**02 49 37.8**	**-1.2**
ASAR	**Alice Springs**	**44.66**	**260**	P	**P**	**02 49 37.8**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=92,slow=6.5,SNR=33						
ASAR				PcP	**PcP**	**02 51 19.1**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=112,slow=4.1,SNR=8.8						
WR0	**Warramunga Arr**	**44.87**	**265**	P	**P**	**02 49 39.3**	**-1.4**
WR0				IAmb	IAmb	02 49 39.6	
	comp=Z,4.4nm,1.4s						
WB2	**Warramunga Arr**	**45.05**	**265**	P	**P**	**02 49 40.5**	**-1.5**
WB2				IAmb	IAmb	02 49 51.2	
	comp=Z,9.0nm,1.2s						
WRA	**Warramunga Arr**	**45.06**	**265**	P	**P**	**02 49 40.2**	**-1.9**
	comp=Z,1.7nm,0.5s,baz=100,slow=8.3,SNR=44						
WRA				PcP	**PcP**	**02 51 20.2**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=132,slow=4.1,SNR=6.3						
WRA	**Warramunga Arr**	**45.06**	**265**	P	**P**	**02 49 40.7**	**-1.4**
JAY	**Jayapura**	**45.97**	**291**	LR	LR	03 06 44.2	
	comp=Z,72nm,18.3s,baz=16,slow=33						
FORT	**Forrest**	**48.80**	**249**	P	**P**	**02 50 09.9**	**-1.2**
KNRA	**Kununurra**	**51.34**	**269**	P	**P**	**02 50 29.2**	**-1.3**
FITZ	**Fitzroy Crossi**	**53.48**	**265**	P	**P**	**02 50 45.5**	**-0.7**
FITZ				IAmb	IAmb	02 50 46.3	
	comp=Z,4.5nm,1.1s						
SBA	**Scott Base**	**54.57**	**184**	P	**P**	**02 50 55.0**	**+1.8**
SBA				IAmb	IAmb	02 51 02.2	
	comp=Z,8.3nm,1.5s						
VNDA	**Vanda**	**54.63**	**185**	P	**P**	**02 50 55.3**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=349,slow=6.9,SNR=2.4						
VNDA	**Vanda**	**54.63**	**185**	IAmb	IAmb	02 51 03.2	
	comp=Z,2.0nm,1.2s						
MORW	**Morawa**	**59.37**	**249**	P	**P**	**02 51 26.8**	**-1.1**
CASY	**Casey**	**61.29**	**206**	P	**P**	**02 51 39.7**	**-0.6**
QSPA	**South Pole Qui**	**66.20**	**180**	P	**P**	**02 52 13.5**	**+0.8**
	comp=Z,2.5nm,0.7s,baz=41,slow=1.2,SNR=9.9						
QSPA	**South Pole Qui**	**66.20**	**180**	P	**P**	**02 52 13.3**	**+0.7**
QSPA				IAmb	IAmb	02 52 14.3	
	comp=Z,6.1nm,1.1s						
JOW	**Kunigami**	**72.98**	**310**	LR	LR	03 21 01.9	
	comp=Z,30nm,18.4s,baz=108,slow=32						
BELA	**Belgrano 2**	**76.11**	**172**	P	**P**	**02 53 11.4**	**-0.7**
BELA				IAmb	IAmb	02 53 12.6	
	comp=Z,7.1nm,0.7s						
MAW	**Mawson**	**78.68**	**200**	P	**P**	**02 53 26.9**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=167,slow=14,SNR=4.3						
MAW	**Mawson**	**78.68**	**200**	IAmb	IAmb	02 53 27.3	
	comp=Z,1.1nm,0.9s						
NVAR	**Mina Array Bea**	**82.92**	**43**	P	**P**	**02 53 51.3**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=226,slow=8.6,SNR=2.4						
SNAA	**Sanae**	**84.62**	**178**	P	**P**	**02 53 56.9**	**-0.8**
SNAA	**Sanae**	**84.62**	**178**	P	**P**	**02 53 57.4**	**-0.2**
	comp=Z,17nm,1.4s,baz=209,slow=12,SNR=11						
SNAA	**Sanae**	**84.62**	**178**	P	**P**	**02 53 57.2**	**-0.5**
SNAA				IAmb	IAmb	02 53 58.1	
	comp=Z,3.5nm,1.0s						
VNA3	**Neumayer Olymp**	**84.73**	**176**	P	**P**	**02 53 57.4**	**-0.7**
VNA2	**Neumayer--Watz**	**85.18**	**177**	P	**P**	**02 54 00.2**	**-0.2**
	baz=190,slow=5.2						
VNA1	**Neumayer--Stat**	**85.40**	**176**	P	**P**	**02 54 01.0**	**-0.5**
ARCES	**ARCESS Array B**	**132.38**	**349**	PKP	**PKPdf**	**03 00 36.3**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=298,slow=2.6,SNR=9.5						
HFS	**Hagfors**	**142.99**	**351**	PKhKP	PKPpre	03 00 53.3	
	comp=Z,2.6nm,0.9s,baz=64,slow=3.4,SNR=9.4						
AKASG	**Malin Array Be**	**146.35**	**329**	PKPbc	**PKPdf**	**03 01 03.6**	**+0.6**
	comp=Z,1.9nm,0.3s,baz=41,slow=4.7,SNR=11						
CLL	**Collm**	**151.53**	**347**	*i* PKPbc	**PKPbc**	**03 01 17.8**	**+0.1**
	comp=Z,9.0nm,1.1s						
CLL				*e*PKPab	**PKPab**	**03 01 26.0**	**-0.5**
TORD	**Torodi Ar. Bea**	**169.26**	**174**	PKPab	**PKPab**	**03 02 44.2**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=170,slow=4.1,SNR=6.4						

IDC **13** *02:43:04.9±0.9,21.°61S×68.°19W,h110km±10km,mb3.6/7, mb1 3.7/8,mb1mx3.6/31,mbtmp4.1/8,MS3.6/1,Ms1 3.6/1, ms1mx2.8/22, Error ellipse: s-maj=23.4km s-min=16.0km az=127.0*

VAO **13** *02:43:05.7±0.5,21.°78S×68.°21W,h139km±9km,mb4.7*

NEIC **13** *02:43:05.4±2.5,21.°76S±0.°06×68.°47W±0.°09,h139km±6km, Error ellipse: s-maj=11.6km s-min=8.0km az=81.0*

GUC **13** *02:43:05.9±0.6,21.°73S×68.°41W,h138km±6km,ML3.9*

ISC 13 02:43:04.9±0.7, 21.°76S±0.°04×68.°38W±0.°06, h135km±7km, n68,σ1°32/77, mb4.0/6, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.98**	**210**	P	**Pn**	**02 43 29.1**	**+0.6**
	533nm,0.3s,baz=24,slow=7.8,SNR=2632						
LVC				S	**Sn**	**02 43 46.4**	**0.0**
	119nm,0.3s,baz=209,slow=19,SNR=13						
LVC				LR	LR	02 44 04.4	
	comp=Z,166nm,20.3s,baz=175,slow=50						
LVC	**Limon Verde**	**0.98**	**210**	*e*P	**Pn**	**02 43 29.3**	**+0.8**
AF01	**San Pedro de A**	**1.20**	**171**		**Pn**	**02 43 31.6**	**+1.1**
PB01	**IPOC Station P**	**1.25**	**304**	*e*P	**Pn**	**02 43 30.9**	**0.0**
PB01				*i* S	**Sn**	**02 43 50.3**	**-0.3**
PB01				IAML		02 43 52.3	
	comp=E,2µm,0.3s						
PB01	**IPOC Station P**	**1.25**	**304**		**Pn**	**02 43 31.0**	**+0.1**
PB03	**IPOC Station P**	**1.31**	**257**	*e*P	**Pn**	**02 43 31.8**	**+0.3**
PB03				*i* S	**Sn**	**02 43 51.2**	**-0.4**
PB03				IAML		02 43 52.4	
	comp=N,3µm,0.4s						
PB07	**IPOC Station P**	**1.40**	**271**	*e*P	**Pn**	**02 43 32.6**	**+0.1**
PB07				*i* S	**Sn**	**02 43 53.4**	**-0.1**
PB07	**IPOC Station P**	**1.40**	**271**		**Pn**	**02 43 32.5**	**+0.1**
PB06	**IPOC Station P**	**1.45**	**229**	*e*P	**Pn**	**02 43 33.7**	**+0.7**
PB06				*i* S	**Sn**	**02 43 55.2**	**+0.8**
PB06				IAML		02 43 57.1	
	comp=N,1µm,0.1s						
PB06	**IPOC Station P**	**1.45**	**229**		**Pn**	**02 43 33.7**	**+0.7**
PB02	**IPOC Station P**	**1.48**	**287**	*e*P	**Pn**	**02 43 33.4**	**+0.2**
PB02				*i* S	**Sn**	**02 43 54.4**	**-0.4**
PB04	**IPOC Station P**	**1.74**	**250**	*e*P	**Pn**	**02 43 36.5**	**+0.2**
PB04				*i* S	**Sn**	**02 44 00.5**	**+0.3**
PB04				IAML		02 44 02.0	
	comp=N,1µm,0.1s						
PB04	**IPOC Station P**	**1.74**	**250**		**Pn**	**02 43 36.3**	**+0.1**
PB15	**IPOC Station P**	**1.76**	**215**		**Pn**	**02 43 37.3**	**+0.8**
PB08	**IPOC Station P**	**1.77**	**336**	*e*P	**Pn**	**02 43 37.8**	**+1.0**
PB08				*i* S	**Sn**	**02 44 01.6**	**+0.5**
PB08				IAML		02 44 05.9	
	comp=E,535nm,0.1s						
PB08	**IPOC Station P**	**1.77**	**336**		**Pn**	**02 43 37.7**	**+0.9**
PB05	**IPOC Station P**	**2.01**	**237**	*e*P	**Pn**	**02 43 39.7**	**+0.3**
PB05				*i* S	**Sn**	**02 44 05.9**	**+0.1**
HMBC	**Humberstone**	**2.04**	**316**	*e*P	**Pn**	**02 43 39.5**	**-0.3**
HMBC				*i* S	**Sn**	**02 44 05.4**	**-1.0**
TA01	**Diego Aracena**	**2.06**	**305**	*e*P	**Pn**	**02 43 39.5**	**-0.4**
TA01				*i* S	**Sn**	**02 44 05.4**	**-1.2**
TA01				IAML		02 44 07.4	
	comp=E,2µm,0.2s						
TA01	**Diego Aracena**	**2.06**	**305**	Pn	**Pn**	**02 43 39.3**	**-0.6**
TA02	**Huaiquique**	**2.21**	**312**		**Pn**	**02 43 40.7**	**-1.0**
PB10	**IPOC Station P**	**2.66**	**229**		**Pn**	**02 43 47.2**	**-0.2**
PSGCX	**Pisagua**	**2.70**	**322**	Pn	**Pn**	**02 43 46.9**	**-1.1**
PB14	**IPOC Station P**	**3.41**	**213**		**Pn**	**02 43 57.1**	**-0.2**
AC02	**Maricunga**	**5.10**	**188**	Pn	**Pn**	**02 44 20.3**	**+0.4**
LZA2	**La Paz**	**5.45**	**3**	P	**Pn**	**02 44 25.9**	**+1.2**
	comp=E,5.8nm,0.3s,baz=171,slow=7.0,SNR=79						
LPAZ				S	**Sn**	**02 45 29.5**	**+2.8**
	baz=14,slow=17,SNR=1.6						
LPAZ	**La Paz**	**5.45**	**3**	Pn	**Pn**	**02 44 25.5**	**+0.8**
LPAZ	**La Paz**	**5.45**	**3**	*e*P	**Pn**	**02 44 26.3**	**+1.6**
AC06	**Mina Casimiro**	**5.86**	**197**		**Pn**	**02 44 27.6**	**-1.9**
GO03	**Copiap**	**6.05**	**196**		**Pn**	**02 44 30.4**	**-1.6**
AC04	**Llanos de Chal**	**6.87**	**200**	Pn	**Pn**	**02 44 40.4**	**-2.7**
LCO	**Las Campanas**	**7.52**	**196**		**Pn**	**02 44 50.0**	**-2.2**
SIV	**San Ignacio**	**8.98**	**52**	P	**Pn**	**02 45 08.7**	**-3.0**
	comp=E,14nm,0.3s,baz=242,slow=10,SNR=178						
VILB	**Vilhena**	**11.73**	**43**	*e*P	**Pn**	**02 45 47.0**	**-1.2**
AQDB	**Aquidauana**	**11.90**	**86**		**Pn**	**02 45 51.2**	**+0.8**
SAML	**Samuel**	**13.68**	**22**	Pn	**Pn**	**02 46 12.7**	**-0.8**
TRCB	**Terra Rica**	**14.61**	**97**	Pn	**P**	**02 46 26.1**	**-1.9**
TBTG	**Tabatinga, AM**	**17.53**	**355**	*e*P	**Pn**	**02 47 02.2**	**+1.0**
SNDB	**Serra Nova Dou**	**19.01**	**62**	*e*P	**P**	**02 47 15.6**	**-0.9**
NPGB	**Novo Progresso**	**19.29**	**43**	*e*P	**P**	**02 47 18.2**	**-1.3**
SPB	**Sao Paulo**	**19.42**	**99**	*e*P	**Pn**	**02 47 21.1**	**-2.3**
MACA	**Manacapuru-AM**	**19.94**	**23**	*e*P	**P**	**02 47 25.2**	**-1.3**
BDFB	**Brasilia**	**20.22**	**76**	P	**P**	**02 47 28.9**	**-0.7**
	comp=E,2.5nm,0.7s,baz=245,slow=8.3,SNR=5.9						
BDFB	**Brasilia**	**20.22**	**76**	IAmb	IAmb	02 47 33.2	
	comp=Z,13nm,1.4s						
ITTB	**Itaituba**	**21.20**	**37**	*e*P	**P**	**02 47 39.1**	**-0.9**
PEXB	**Peixe**	**21.45**	**67**	*e*P	**P**	**02 47 42.4**	**-0.4**
PTGA	**Pitinga**	**22.45**	**23**	P	**P**	**02 47 52.2**	**-0.7**
	comp=Z,5.7nm,0.3s,baz=218,slow=19,SNR=17						
PTGA	**Pitinga**	**22.45**	**23**	P	**P**	**02 47 51.9**	**-1.1**
PTGA				IAmb	IAmb	02 47 58.6	
	comp=Z,8.1nm,0.8s						
PRPB	**Parauapebas**	**23.71**	**52**	*e*P	**P**	**02 48 03.0**	**-1.8**
MALB	**Monte Alegre**	**24.09**	**37**	*e*P	**P**	**02 48 08.3**	**+0.2**
TXAR	**Lajitas Array**	**61.12**	**325**	P	**P**	**02 53 07.5**	**+2.3**
	comp=Z,0.2nm,0.7s,baz=158,slow=7.7,SNR=4.2						
SNAA	**Sanae**	**61.88**	**161**	P	**P**	**02 53 12.6**	**+3.0**
	comp=Z,0.6nm,0.6s,baz=271,slow=9.1,SNR=8.7						
SNAA	**Sanae**	**61.88**	**161**	P	**P**	**02 53 09.7**	**+0.1**
SNAA				IAmb	IAmb	02 53 13.3	
	comp=Z,8.9nm,1.5s						
DBIC	**Dimbokro**	**68.34**	**73**	P	**P**	**02 53 54.0**	**+1.9**
	comp=Z,2.9nm,0.6s,baz=216,slow=6.1,SNR=6.2						
DBIC	**Dimbokro**	**68.34**	**73**	P	**P**	**02 53 52.8**	**+0.7**
PFO	**Pinyon Flats O**	**71.63**	**319**	LR	LR	03 23 58.3	
	comp=Z,40nm,18.3s,baz=98,slow=34						
NVAR	**Mina Array Bea**	**76.00**	**322**	P	**P**	**02 54 40.7**	**+3.2**
	comp=Z,0.2nm,0.5s,baz=131,slow=6.1,SNR=2.3						
NVAR	**Mina Array Bea**	**76.00**	**322**	P	**P**	**02 54 35.6**	**-2.0**
TORD	**Torodi Ar. Bea**	**76.98**	**70**	P	**P**	**02 54 44.6**	**+1.4**
	comp=Z,0.9nm,0.4s,baz=252,slow=5.3,SNR=30						
TORD	**Torodi Ar. Bea**	**76.98**	**70**	IAmb	IAmb	02 54 53.0	
	comp=Z,3.0nm,1.4s						
ASAR	**Alice Springs**	**129.91**	**207**	PKP	**PKiKP**	**03 02 01.9**	**+1.8**
	comp=Z,1.0nm,0.9s,baz=149,slow=2.1,SNR=5.7						
WRA	**Warramunga Arr**	**132.98**	**210**	PKP	**PKiKP**	**03 02 08.1**	**+1.7**
	comp=Z,0.3nm,0.4s,baz=156,slow=2.1,SNR=6.8						
KK31	**Karatay Array**	**139.81**	**48**	PKPdf	**PKPdf**	**03 02 14.8**	**-2.3**
KKAR	**Karatay Array**	**139.81**	**48**	PKPdf	**PKPdf**	**03 02 15.1**	**-1.9**
CHGR	**Chuyangaron**	**140.01**	**55**	PKPdf	**PKPdf**	**03 02 17.3**	**-0.4**
MK31	**Makanchi Array**	**145.55**	**37**	PKPbc	**PKPab**	**03 02 27.9**	**0.0**
MKAR	**Makanchi Array**	**145.55**	**37**	PKPbc	**PKiKP**	**03 02 29.9**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=351,slow=5.4,SNR=3.7						
MKAR	**Makanchi Array**	**145.55**	**37**		**PKPdf**	**03 02 26.7**	**-0.4**

IDC **13** *02:55:42.0±3.0,29.°37S×177.°31W,h12km±18km,mb4.9/30, mb1 4.9/32,mb1mx4.8/43,mbtmp4.9/32,ML4.9/2,MS4.2/21, Ms1 4.3/21,ms1mx4.2/23,Error ellipse: s-maj=14.8km s-min=10.2km az=2.0*

MOS **13** *02:55:44.4±0.9,29.°31S×177.°58W,h34km,mb5.5/28, MS4.5/5,Error ellipse: s-maj=10.8km s-min=9.4km az=44.5*

NEIC **13** *02:55:46.7±2.0,29.°37S±0.°08×177.°49W±0.°05,h42km±4km, mb5.2/186,Error ellipse: s-maj=12.9km s-min=4.5km az=200.0*

GCMT **13** *02:55:47.7±0.2,29.°38S±0.°01×177.°17W±0.°01,h41km, MW5.2/102,Moment Tensor Solution. s98,c134; s102,c138; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.66±.18; Mθθ0.34±.14; Mϕϕ-6.00±.13; Mrθ0.84±.13; Mθϕ-1.66±.11; Mrϕ3.34±.12; Best double couple: M≈6.94800×10^16 NP1:ϕs194.00000°,δ30.00000°, λ90.00000°. NP2:ϕs14.00000°,δ60.00000°,λ90.00000°. Principal axes: T 6.5730, Plg75.0000°, Azm284.0000°; N 0.7460, Plg0.0000°, Azm194.0000°; P -7.3220, Plg15.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NOU **13** *02:56:05.9,29.°34S×177.°49W,h231km,mb5.0/43, Kermadec Islands, New Zealand*

ISC 13 02:55:46.3±0.5, 29.°54S±0.°04×177.°43W±0.°05, h45km±4km, h46km:pP-P,n786,σ1°53/740, mb5.2/159, MS4.5/28, 42C-34D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**0.51**	**302**	P	**Pn**	**02 55 57.4**	**0.0**
GLKZ				S	**Sn**	**02 56 06.2**	**+0.9**
RAO	**Raoul Island**	**0.52**	**304**	Pn	**Pn**	**02 55 57.5**	**0.0**
	5µm,0.3s,baz=98,slow=6.4,SNR=150						
RAO				Sn	**Sn**	**02 56 05.8**	**+0.4**
	13µm,0.3s,baz=270,slow=20,SNR=16						
RAO	**Raoul Island**	**0.52**	**304**	Pn	**Pn**	**02 55 56.8**	**-0.7**
RAO				Sn	**Sn**	**02 56 03.2**	**-2.2**
RIZ	**Raoul Island**	**0.53**	**304**	P	**Pn**	**02 55 56.8**	**-0.8**
RIZ				S	**Sn**	**02 56 07.3**	**+1.6**
MXZ	**Matakaoa Point**	**8.76**	**203**	P	**Pn**	**02 57 48.4**	**-1.9**
MXZ				S	**Sn**	**02 59 24.3**	**-3.3**
HAZ	**Te Kaha**	**9.12**	**205**	P	**Pn**	**02 57 52.6**	**-2.5**
HAZ				S	**Sn**	**02 59 39.7**	**+3.3**
PKGZ	**Pakihiroa**	**9.13**	**203**	P	**Pn**	**02 57 51.5**	**-3.9**
PKGZ				S	**Sn**	**02 59 31.7**	**-5.1**
PUZ	**Puketiti**	**9.24**	**202**	P	**Pn**	**02 57 53.0**	**-3.8**
PUZ				S	**Sn**	**02 59 37.3**	**-2.1**
RUGZ	**Raukumara

RIV	Riverview	27.02	253	P		P		03 01 27.5	+3.5	
	baz=28									
PAE	Paea	28.05	71	*e*T		T		03 30 24.0		
	comp=Z,23nm,0.3s									
PPT2	Papeete2	28.08	71	*e*S		S		03 06 15.9	+0.1	
	comp=Z,307nm,25.3s									
PPT2				*e*LQ		LQ		03 07 17.9		
	comp=Z,965nm,23.0s									
PPT2				*e*LR		LR		03 08 26.3		
	comp=Z,3µm,25.8s,baz=234									
PPT2	Papeete2	28.08	71	*e*T		T		03 30 28.5		
	comp=Z,11nm,0.3s									
PPT	Papeete	28.09	71	LR		LR		03 09 44.7		
	comp=Z,628nm,21.6s,baz=235,slow=30									
EIDS	Eidsvold	28.21	271	P		P		03 01 37.0	+2.2	
	baz=29,SNR=10									
EIDS	Eidsvold	28.21	271	P		P		03 01 35.3	+0.5	
EIDS				IAmb		IAmb		03 01 38.0		
	comp=Z,46nm,0.8s									
TIAR	Tiarei	28.29	71	*e*P		P		03 01 38.1	+2.5	
	comp=Z,14nm,0.9s									
TIAR	Tiarei	28.29	71	*e*T		T		03 30 42.8		
	comp=Z,1.9nm,0.4s									
CNB	Canberra Magne	28.53	250	P		P		03 01 40.6	+2.9	
	baz=29,SNR=14									
MILA	Mila	28.81	246	P		P		03 01 43.3	+3.1	
	baz=30,SNR=6.1									
CAN	Canberra	28.83	250	P		P		03 01 41.2	+0.8	
CAN				pmax		pmax				
	comp=Z,20nm,0.8s									
CAN	Canberra	28.83	250	P		P		03 01 41.2	+0.8	
RMQ	Roma	29.95	268	P		P		03 01 53.6	+3.3	
	baz=31,SNR=55									
PMOR	Pomariorio Ree	30.81	68	*e*T		T		03 33 47.7		
	comp=Z,3.8nm,0.3s									
MOO	Moorlands	31.16	236	P		P		03 02 02.7	+1.8	
	baz=32,SNR=4.6									
CMSA	Cobar Meteorol	31.74	257	P		P		03 02 08.0	+2.0	
	baz=32,SNR=51									
TOO	Toolangi	31.77	246	P		P		03 02 08.7	+2.5	
	baz=32,SNR=8.0									
TOO	Toolangi	31.77	246	P		P		03 02 07.5	+1.2	
TOO				pmax		pmax				
	comp=Z,15nm,1.0s									
TOO	Toolangi	31.77	246	P		P		03 02 07.5	+1.2	
QLP	Quilpie	33.86	266	P		P		03 02 26.2	+1.6	
	baz=34,SNR=7.0									
CTA	Charters Tower	34.17	278	P		P		03 02 28.9	+1.6	
	comp=Z,30nm,0.6s,baz=101,slow=11,SNR=30									
CTAO	Charters Tower	34.17	278	P		P		03 02 28.2	+0.8	
CTAO				pmax		pmax				
	comp=Z,63nm,1.1s									
CTAO	Charters Tower	34.17	278	P		P		03 02 28.2	+0.8	
ARPS	Mount Arapiles	34.66	247	P		P		03 02 33.8	+2.4	
	baz=35,SNR=5.2									
STKA	Stephens Creek	35.16	256	P		P		03 02 37.0	+1.2	
	baz=36,SNR=74									
STKA	Stephens Creek	35.16	256	P		P		03 02 37.1	+1.2	
	comp=Z,68nm,0.8s,baz=93,slow=9.3,SNR=82									
STKA				LR		LR		03 15 38.9		
	comp=Z,932nm,18.6s,baz=87,slow=34									
STKA	Stephens Creek	35.16	256	P		P		03 02 37.0	+1.2	
STKA				pmax		pmax				
	comp=Z,17nm,0.9s									
STKA	Stephens Creek	35.16	256	P		P		03 02 37.0	+1.2	
MTSU	Mount Surprise	36.63	279	P		P		03 02 50.6	+2.0	
	baz=37,SNR=11									
HTT	Hallett	37.23	253	P		P		03 02 54.2	+0.6	
	baz=38,SNR=29									
RKT	Rikitea	38.42	91	*e*T		T		03 43 46.2		
	comp=Z,3.1nm,0.3s									
COEN	Coen	39.53	284	P		P		03 03 13.6	+0.6	
COEN				IAmb		IAmb		03 03 15.2		
	comp=Z,33nm,0.8s									
BBOO	Buckleboo	39.69	253	P		P		03 03 14.2	0.0	
	baz=40,SNR=32									
BBOO	Buckleboo	39.69	253	P		P		03 03 14.2	0.0	
BBOO				IAmb		IAmb		03 03 16.3		
	comp=Z,27nm,0.7s									
QIS	Mount Isa	39.76	273	P		P		03 03 15.5	+0.7	
	baz=40,SNR=14									
TAOE	Nuku Hiva Isla	40.51	67	*e*S		S		03 09 28.8	+1.5	
	comp=Z,270nm,26.7s									
TAOE				*e*LQ		LQ		03 12 36.3		
	comp=Z,717nm,25.6s									
TAOE				*e*LR		LR		03 14 18.6		
	comp=Z,1µm,25.7s,baz=240									
AS31	Alice Springs	43.66	266	P		P		03 03 45.8	-1.0	
ASAR	Alice Springs	43.66	266	P		P		03 03 46.0	-0.7	
	comp=Z,25nm,0.7s,baz=96,slow=7.9,SNR=182									
ASAR				ScP		ScP		03 09 24.3	+2.9	
	comp=Z,0.6nm,0.8s,baz=107,slow=5.9,SNR=2.5									
ASAR				S		S		03 10 29.1	+16	
	comp=Z,1.8nm,1.1s,baz=111,slow=14,SNR=4.8									
ASAR				LR		LR		03 21 34.2		
	comp=Z,1µm,18.3s,baz=107,slow=36									
ASAR	Alice Springs	43.66	266	P		P		03 03 46.3	-0.5	
ASAR	Alice Springs	43.66	266	P		P		03 03 46.3	-0.5	
ASPA	Alice Springs	43.66	266	P		P		03 03 46.7	-0.1	
	baz=44									
WR0	Warramunga Arr	44.39	271	P		P		03 03 52.0	-0.6	
WB2	Warramunga Arr	44.56	271	P		P		03 03 53.7	-0.3	
	baz=45									
WB2	Warramunga Arr	44.56	271	P		P		03 03 53.1	-0.9	
WB2				IAmb		IAmb		03 03 56.3		
	comp=Z,30nm,0.7s									
WRAB	Tennant Creek	44.57	271	*ce*P		P		03 03 53.2	-0.8	
WRAB				pmax		pmax				
	comp=Z,30nm,0.7s									
WRAB	Tennant Creek	44.57	271	P		P		03 03 53.1	-0.9	
WRAB				IAmb		IAmb		03 03 56.3		
	comp=Z,26nm,0.7s									
WRA	Warramunga Arr	44.57	271	P		P		03 03 53.9	-0.2	
	comp=Z,26nm,0.7s,baz=115,slow=8.0,SNR=153									
WRA				ScP		ScP		03 09 27.8	+2.6	
	comp=Z,0.8nm,0.8s,baz=120,slow=4.1,SNR=2.3									
WRA				LR		LR		03 21 11.9		
	comp=Z,488nm,18.4s,baz=90,slow=34									
WRA	Warramunga Arr	44.57	271	P		P		03 03 53.6	-0.5	
WRA				pmax		pmax				
	comp=Z,2.0nm,0.7s									
WRA	Warramunga Arr	44.57	271	P		P		03 03 53.5	-0.5	
FORT	Forrest	46.75	254	P		P		03 04 10.5	-0.7	
	baz=47,SNR=42									
FORT	Forrest	46.75	254	P		P		03 04 10.6	-0.6	
JAY	Jayapura	47.96	296	P		P		03 04 19.8	-1.0	
	comp=Z,16nm,0.8s,baz=183,slow=7.8,SNR=11									
JAY	Jayapura	47.96	296	P		P		03 04 19.6	-1.1	
	comp=Z,12nm,1.0s									
WRKA	Warakurna	48.09	262	P		P		03 04 20.5	-1.2	
	baz=49,SNR=22									
GENI	Genyem	48.33	296	P		P		03 04 22.3	-1.3	
SBA	Scott Base	48.93	184	P		P		03 04 30.5	+3.2	
SBA				pmax		pmax				
	comp=Z,48nm,0.9s									
SBA	Scott Base	48.93	184	P		P		03 04 30.5	+3.2	
VNDA	Vanda	49.00	186	P		P		03 04 31.0	+3.1	
	comp=Z,4.1nm,0.8s,baz=13,slow=6.6,SNR=9.5									
VNDA				LR		LR		03 20 37.8		
	comp=Z,61nm,21.4s,baz=19,slow=30									
VNDA	Vanda	49.00	186	P		P		03 04 31.0	+3.1	
VNDA	Vanda	49.00	186	P		P		03 04 31.0	+3.1	
KDU	Kakadu	49.27	279	P		P		03 04 30.2	-0.6	
	baz=50,SNR=4.8									
MTN	Manton Dam	50.35	278	P		P		03 04 38.4	-0.6	
MTN				IAmb		IAmb		03 04 42.5		
	comp=Z,15nm,0.6s									
KNRA	Kununurra	51.15	273	P		P		03 04 45.2	+0.2	
	baz=52,SNR=8.4									
KNRA	Kununurra	51.15	273	P		P		03 04 43.6	-1.3	
KNRA				IAmb		IAmb		03 04 45.8		
	comp=Z,26nm,0.8s									
FITZ	Fitzroy Crossi	52.87	269	P		P		03 04 57.7	-0.1	
	baz=54,SNR=30									
FITZ	Fitzroy Crossi	52.87	269	P		P		03 04 57.0	-0.7	
FITZ				IAmb		IAmb		03 04 58.6		
	comp=Z,42nm,0.9s									
HMH	Humu'ula Sheep	53.24	26	P		P		03 05 01.1	+0.4	
KIP	Kipapa	54.01	23‖	*e*P		P		03 05 04.6	-1.3	
KIP				pmax		pmax				
	comp=Z,399nm,3.5s									
MEEK	Meekatharra	55.87	256	P		P		03 05 19.2	-0.4	
	baz=56,SNR=5.0									
CASY	Casey	56.13	208	P		P		03 05 21.1	+0.4	
GUMO	Guam	56.23	314	P		P		03 05 20.5	-1.6	
	comp=Z,36nm,0.7s,baz=90,slow=11,SNR=2.4									
BLDU	Ballidu	56.24	251	P		P		03 05 20.9	-1.2	
	baz=57,SNR=5.5									
MUN	Mundaring	56.26	249	P		P		03 05 21.3	-0.9	
	baz=57,SNR=4.5									
SIJI	Sorong	56.49	291	P		P		03 05 22.4	-1.7	
	comp=Z,34nm,1.1s									
SWI	Sorong	56.50	291	P		P		03 05 22.4	-1.7	
	comp=Z,83nm,1.0s									
PSA00	Pilbara Seismi	56.57	262	IAmb		IAmb		03 05 25.0		
	comp=Z,25nm,1.1s									
MORW	Morawa	57.26	253	P		P		03 05 28.2	-1.1	
	baz=58,SNR=4.5									
KRAI	Karang Ratu	57.50	286	P		P		03 05 29.9	-1.3	
	comp=Z,26nm,1.1s									
SOEI	Soe	57.73	277	P		P		03 05 33.5	+0.5	
	comp=Z,1µmcomp=Z,59nm,0.9s									
BATI	Baumata	58.04	276	P		P		03 05 35.8	+0.7	
	comp=Z,25nm,0.7s,baz=281,slow=5.2,SNR=1.9									
MMRI	Maumere	60.02	277	P		P		03 05 47.9	-0.9	
	comp=Z,58nm,1.1s									
SANI	Sanana	60.20	286	P		P		03 05 47.9	-2.1	
	comp=Z,57nm,0.8s									
EDFI	Ende, Flores	60.44	277	P		P		03 05 50.5	-1.3	
	comp=Z,11nm,0.8s									
QSPA	South Pole Qui	60.57	180	P		P		03 05 54.1	+2.2	
BKSI	Bulukumba	63.48	279	P		P		03 06 11.0	-1.0	
	comp=Z,24nm,1.1s									
PLAI	Plampang	63.80	275	P		P		03 06 12.6	-1.6	
	comp=Z,92nm,0.9s									
KAPI	Kappang	63.95	279	P		P		03 06 14.2	-0.9	
	comp=Z,6.1nm,0.7s,baz=30,slow=11,SNR=3.7									
KAPI	Kappang	63.95	279	P		P		03 06 14.8	-0.4	
	comp=Z,19nm,1.2s									
BNSI	Bone	63.96	280	P		P		03 06 14.3	-0.9	
	comp=Z,42nm,1.4s									
TWSI	Taliwang, Sumb	64.62	274	P		P		03 06 18.7	-0.8	
	comp=Z,38nm,1.2s									
KLNI	Mataram	65.45	274	P		P		03 06 23.8	-1.2	
	comp=Z,34nm,1.6s									
MPSI	Mapaga	66.60	285	P		P		03 06 30.7	-1.6	
	comp=Z,465nmcomp=Z,20nm,1.1s									
JAGI	Jajag, Banyuwa	67.12	273	P		P		03 06 34.0	-1.6	
	comp=Z,72nm,1.4s									
GMJI	Gumukmas	67.83	273	P		P		03 06 39.0	-1.1	
	comp=Z,34nm,0.9s									
PWJI	Pagerwojo	69.38	272	P		P		03 06 49.1	-0.7	
	comp=Z,33nm,1.2s									
PCJI	Pacitan	69.84	272	P		P		03 06 52.2	-0.4	
	comp=Z,118nm,1.0s									
BELA	Belgrano 2	70.57	172	P		P		03 06 56.9	+0.8	
BELA				IAmb		IAmb		03 07 12.7		
	comp=Z,22nm,1.1s									
SPMM	Sapulut	71.83	286	P		P		03 07 05.0	+0.2	
CTJI	Waduk Cacaban	72.14	272	P		P		03 07 06.1	-0.5	
	comp=Z,20nm,1.5s									
KPJI	Karang Pucung	72.20	272	P		P		03 07 05.9	-1.1	
	comp=Z,61nm,1.4s									
MAW	Mawson	73.29	200	P		P		03 07 14.2	+1.7	
	baz=73,SNR=17									
MAW	Mawson	73.29	200	P		P		03 07 14.4	+1.9	
	comp=Z,14nm,0.7s,baz=126,slow=7.4,SNR=24									
MAW				LR		LR		03 38 19.9		
	comp=Z,198nm,21.0s,baz=79,slow=35									
MAW	Mawson	73.29	200	P		P		03 07 14.1	+1.7	
MAW				pmax		pmax				
	comp=Z,7.0nm,1.0s									
MAW	Mawson	73.29	200	P		P		03 07 14.1	+1.7	
LEM	Lembang	73.59	271	P		P		03 07 14.9	-0.4	
	comp=Z,25nm,0.5s,baz=125,slow=20,SNR=4.1									
LEM	Lembang	73.59	271	P		P		03 07 15.0	-0.4	
LEM	Lembang	73.59	271	P		P		03 07 15.2	-0.2	
	comp=Z,25nm,0.8s									
STKI	Sintang	73.64	280	P		P		03 07 15.6	+0.2	
SBUM	Sibu	74.22	282	P		P		03 07 19.0	+0.1	
KSM	Kuching	75.36	280	P		P		03 07 25.0	-0.4	
JOW	Kunigami	76.46	312	P		P		03 07 31.6	+0.2	
	comp=Z,8.2nm,0.6s,baz=106,slow=7.4,SNR=4.1									
INU	Inuyama	77.51	323	IAmb		IAmb		03 07 38.0		
	comp=Z,21nm,1.0s									
MDSI	Maura Dua	77.71	272	P		P		03 07 36.6	-2.1	
	comp=Z,775nmcomp=Z,22nm,1.1s									
MJAR	Matsushiro Arr	77.82	325	P		P		03 07 38.2	-0.6	
	comp=Z,13nm,1.0s,baz=159,slow=5.6,SNR=20									
MJAR				LR		LR		03 38 33.4		
	comp=Z,89nm,20.8s,baz=125,slow=33									
MJAR	Matsushiro Arr	77.82	325	P		P		03 07 37.4	-1.5	
MAJO	Matsushiro	77.83	325	*ce*P		P		03 07 38.4	-0.4	
MAJO				pmax		pmax				
	comp=Z,30nm,1.2s									
MAJO	Matsushiro	77.83	325	P		P		03 07 37.7	-1.2	
MAJO				IAmb		IAmb		03 07 39.7		
	comp=Z,27nm,1.1s									
MAT	Matsushiro	77.83	325	P		P		03 07 38.3	-0.5	
SYO	Syowa Base	78.06	193‖	*e*P		P		03 07 39.8	+0.1	
JWT	Wachi	78.31	322	IAmb		IAmb		03 08 06.2		
	comp=Z,22nm,1.1s									
JSD	Sado	78.97	326	P		P		03 07 44.8	-0.3	
SNAA	Sanae	79.00	178	P		P		03 07 45.9	+0.9	
SNAA	Sanae	79.00	178	PcP		PcP		03 07 54.1	+0.7	
SNAA	Sanae	79.00	178	IAmb		IAmb		03 08 02.1		
	comp=Z,25nm,1.2s									
VNA3	Neumayer Olymp	79.13	176	P		P		03 07 46.5	+0.8	
VNA3	Neumayer Olymp	79.13	176	PcP		PcP		03 07 54.4	+0.5	
JNU	Nakatsue	79.25	318	P		P		03 07 46.3	-0.5	
	comp=Z,15nm,0.8s,baz=351,slow=2.4,SNR=4.9									
JHS	Saijyo	79.34	321	P		P		03 07 47.8	+0.5	
JHS				IAmb		IAmb		03 08 03.1		
	comp=Z,52nm,1.2s									
VNA2	Neumayer--Watz	79.57	177	P		P		03 07 49.2	+1.1	
	baz=179,slow=4.8									
VNA2	Neumayer--Watz	79.57	177	PcP		PcP		03 07 56.6	+0.8	
VNA1	Neumayer--Stat	79.80	176	P		P		03 07 50.4	+1.2	
VNA1	Neumayer--Stat	79.80	176	PcP		PcP		03 07 57.5	+0.8	
JTM	Tenmabayashi	79.84	329	IAmb		IAmb		03 07 51.7		
	comp=Z,51nm,1.1s									
MASI	Maura Aman, Be	80.05	272	P		P		03 07 50.2	-1.5	
	comp=Z,116nm,0.8s									
H03S2	Juan Fernandez	80.52	123	T		T		04 37 32.5		
	baz=239,slow=74,SNR=34									
H03S1	Juan Fernandez	80.53	123	T		T		04 37 32.9		
	baz=239,slow=74,SNR=34									
H03S3	Juan Fernandez	80.54	123	T		T		04 37 31.7		
	baz=239,slow=74,SNR=57									
H03N3	Juan Fernandez	80.71	123	T		T		04 37 36.1		
	baz=245,slow=73,SNR=26									
H03N2	Juan Fernandez	80.71	123	T		T		04 37 33.8		
	baz=245,slow=73,SNR=19									
H03N1	Juan Fernandez	80.72	123	T		T		04 37 32.9		
	baz=245,slow=73,SNR=24									
KIWB	Kinaga Island	81.04	0	P		P		03 07 55.7	-0.2	
ADK	Adak	81.07	0	P		P		03 07 55.4	-0.7	
ADK				pmax		pmax				
	comp=Z,34nm,0.9s									
ADK	Adak	81.07	0	P		P		03 07 55.4	-0.7	
ADK				IAmb		IAmb		03 07 55.7		
	comp=Z,34nm,0.8s									
JKA	Kamikawa-asahi	81.91	332	IAmb		IAmb		03 08 04.6		
	comp=Z,33nm,1.1s									
ASAJ	Asahikawa	81.91	332	P		P		03 08 01.4	+0.7	
	comp=Z,220nm,1.0s,baz=220,slow=7.7,SNR=9.3									
NIKH	Nikolski High	82.50	5	P		P		03 08 02.6	-1.0	
NIKH	Nikolski High	82.50	5	P		P		03 08 02.8	-0.8	
	baz=188									
PLCA	Paso Flores	82.73	133	P		P		03 08 07.8	+2.3	
	comp=Z,1.8nm,0.9s,baz=238,slow=8.3,SNR=4.6									
PLCA				LR		LR		03 36 02.4		
	comp=Z,228nm,21.9s,baz=263,slow=29									
PLCA	Paso Flores	82.73	133	P		P		03 08 06.8	+1.3	
PLCA				pmax		pmax				
	comp=Z,14nm,1.1s									
PLCA	Paso Flores	82.73	133	P		P		03 08 06.8	+1.3	
LC01	Cunco	82.85	131	P		P		03 08 06.6	+0.5	
LC01				IAmb		IAmb		03 08 23.2		
	comp=Z,23nm,0.9s									
UNV	Unalaska Valle	83.58	6	P		P		03 08 09.7	+0.6	
	baz=190									
TJN	Taejon	83.59	318‖	*e*P		P		03 08 10.5	+0.9	
SBC	Santa Barbara	83.77	45	P		P		03 08 11.4	+0.8	
	baz=228									
PKM	Mcpherson Peak	84.00	44	P		P		03 08 12.7	+0.6	
	baz=228									
KSRS	Korea Array	84.02	319	P		P		03 08 12.8	+1.0	
	comp=Z,10nm,1.1s,baz=139,slow=5.2,SNR=17									
KSRS				LR		LR		03 42 45.8		
	comp=Z,68nm,18.8s,baz=148,slow=34									
KSAR	Wonju Array Be	84.03	319	P		P		03 08 10.7	-1.2	
KSAR	Wonju Array Be	84.03	319	P		P		03 08 10.7	-1.2	
SMMC	Simmler	84.18	44	P		P		03 08 13.8	+1.0	
	baz=228									
YSS	Yuzh-Sakhalins	84.19	334	*e*P		P		03 08 13.2	+0.8	
YSS				pmax		pmax				
	comp=Z,30nm,1.0s									
YSS				MLR		MLR				
	comp=Z,100nm,16.0s									
YSS	Yuzh-Sakhalins	84.19	334	P		P		03 08 12.0	-0.4	
YSS				IAmb		IAmb		03 08 16.6		
	comp=Z,32nm,0.9s									
MNSI	Mandailing Nat	84.29	274	P		P		03 08 12.1	-1.7	
	comp=Z,17µmcomp=Z,27nm,0.8s									
PAGB	Antelope Grade	84.31	43	P		P		03 08 14.0	+0.6	
109C	Camp Elliot, M	84.38	47	P		P		03 08 14.3	+0.6	
	baz=230									
OSI	Osito Audit: C	84.49	45	P		P		03 08 15.2	+0.9	
	baz=228									
ARVC	Arvin	84.77	45	P		P		03 08 16.4	+0.7	
	baz=228									
MURC	Murrieta	84.78	47	P		P		03 08 16.2	+0.4	
	baz=229									
MONP2	Monument Peak	84.82	48	P		P		03 08 16.6	+0.4	
	baz=230,SNR=7.9									
PET	Petropavlovsk	84.82	346	*e*P		P		03 08 14.8	-0.6	
PET				*e*S		S		03 18 39.7	-0.1	
PET				pmax		pmax				
	comp=Z,36nm,0.7s									
PET				pmax		pmax				
	comp=Z,100nm,19.4s									
PET				MLR		MLR				
	comp=Z,200nm,18.0s									
IKP	In-Ko-Pah, Jac	84.87	48	P		P		03 08 17.1	+0.8	
	baz=230									
VES	Vestal, Richgr	85.08	44	P		P		03 08 17.0	-0.2	
	baz=228,SNR=6.0									
PEA0B	Petropavlovsk-	85.11	345‖	*e*P		P		03 08 15.8	-1.1	
PETK	Petropavlovsk-	85.11	345	P		P		03 08 16.2	-0.7	
	comp=Z,26nm,0.7s,baz=138,slow=6.9,SNR=25									
PETK				LR		LR		03 39 35.0		
	comp=Z,156nm,20.0s,baz=143,slow=31									
PETK	Petropavlovsk-	85.11	345	P		P		03 08 15.3	-1.6	
PETK	Petropavlovsk-	85.11	345	P		P		03 08 15.3	-1.6	
EDW2	Edwards Air Fo	85.12	45	P		P		03 08 17.8	+0.3	
	baz=229,SNR=7.7									
SWSC	Sam W. Stewart	85.25	48	P		P		03 08 18.9	+0.8	
	baz=230									
PFO	Pinyon Flats O	85.26	47	P		P		03 08 19.1	+0.7	
	comp=Z,4.5nm,0.9s,baz=269,slow=4.0,SNR=9.4									
PFO	Pinyon Flats O	85.26	47	P		P		03 08 18.3	-0.1	
PFO				pmax		pmax				
	comp=Z,22nm,1.5s									
PFO	Pinyon Flats O	85.26	47	P		P		03 08 18.3	-0.1	
PFO				IAmb		IAmb		03 08 35.3		
	comp=Z,22nm,1.5s									
PFO	Pinyon Flats O	85.26	47	P		P		03 08 19.1	+0.7	
	baz=230									
TPFO	Pinon Flats	85.26	47	P		P		03 08 19.2	+0.8	
	baz=230									
ISA	Isabella, Lake	85.34	44	P		P		03 08 18.6	0.0	
ISA				pmax		pmax				
	comp=Z,21nm,1.1s									
ISA	Isabella, Lake	85.34	44	P		P		03 08 18.6	0.0	
ISA				IAmb		IAmb		03 08 35.6		
	comp=Z,21nm,1.1s									
ISA	Isabella, Lake	85.34	44	P		P		03 08 18.3	-0.4	
	baz=228,SNR=10									
LRMC	Laurel Mtn Rad	85.70	45	P		P		03 08 21.3	+0.8	
	baz=229									
CMB	Columbia Colle	85.79	42	IAmb		IAmb		03 08 37.1		
	comp=Z,16nm,0.8s									
RPSI	Rantau Prapat	85.79	275	P		P		03 08 19.5	-1.8	
RPSI				IAmb		IAmb		03 08 22.2		
	comp=Z,23nm,1.1s									
BELC	Belle Mtn. Jos	85.80	47	P		P		03 08 22.1	+1.0	
	baz=230,SNR=14									
BO02	Sierra Bellavi	85.80	128	P		P		03 08 22.8	+1.6	
BO02				IAmb		IAmb		03 08 49.5		
	comp=Z,35nm,1.4s									
PSI	Prapat	85.84	276	P		P		03 08 19.1	-2.6	
	comp=Z,15nm,1.0s,baz=187,slow=1.3,SNR=8.6									
PSI	Prapat	85.84	276	P		P		03 08 19.5	-2.3	
PSI				pmax		pmax				
	comp=Z,23nm,1.1s									
PSI	Prapat	85.84	276	P		P		03 08 19.4	-2.3	
	comp=Z,10.0nm,1.3s									
KHMM	Horse Mountain	85.90	38	P		P		03 08 21.9	+0.5	
KHMM				IAmb		IAmb		03 08 39.5		
	comp=Z,25nm,1.1s									
O02D	Mt. Diablo Mer	85.92	39	P		P		03 08 22.9	+1.5	
	baz=226,SNR=10									
BC3

comp=Z,280nm,18.1s,baz=234,slow=33
NV11 Mina Array Sit 87.36 43 IAmb IAmb 03 08 45.0
comp=Z,14nm,0.9s
PAHR Pah Rah Range 87.50 41 IAmb IAmb 03 08 45.4
comp=Z,10nm,0.8s
TPNV Topopah Spring 87.54 45 IAmb IAmb 03 08 46.4
comp=Z,20nm,0.9s
TPNV Topopah Spring 87.54 45 P **P** **03 08 30.3 +0.8**
baz=230,SNR=13
M04C Macdoel 87.55 38 P **P** **03 08 30.3 +0.9**
baz=226
L04D Klamath Falls 87.61 38 P **P** **03 08 30.4 +0.8**
baz=226
TRTT Trang 87.68 280 P **P** **03 08 32.1 +1.6**
comp=Z,1µmcomp=Z,19nm,1.0s
Y14A Wickenburg 87.69 49 IAmb IAmb 03 08 47.3
comp=Z,16nm,0.9s
KVN Kaiserville 87.80 42 IAmb IAmb 03 08 46.9
comp=Z,16nm,0.8s
SHPR Sheep Range 87.92 46 IAmb IAmb 03 08 48.6
comp=Z,15nm,1.2s
TUC Tucson 88.19 51 P **P** **03 08 33.7 +1.1**
TUC pmax pmax
comp=Z,20nm,1.1s
TUC Tucson 88.19 51 P **P** **03 08 33.7 +1.1**
TUC IAmb IAmb 03 08 50.2
comp=Z,20nm,1.1s
TUC Tucson 88.19 51 P **P** **03 08 33.8 +1.1**
baz=233
MDJ Mudanjiang 88.20 325 P **P** **03 08 34.5 +2.3**
MDJ pmax pmax
comp=Z,16nm,1.2s
MDJ LR LR
comp=Z,190nm,23.9s
MDJ LR LR
comp=Z,160nm,23.5s
MDJ LR LR
comp=Z,280nm,22.0s
WHN Wuhan 88.23 307 ⇓P **P** **03 08 34.0 +1.3**
J04D Umpqua Nationa 88.42 37 P **P** **03 08 34.2 +0.6**
baz=226
MOD Modoc Plateau 88.47 39 IAmb IAmb 03 08 50.0
comp=Z,11nm,0.9s
PRN Pahroc Range 88.56 45 IAmb IAmb 03 08 51.7
comp=Z,24nm,1.1s
I04A Tendick Farm, 88.65 36 P **P** **03 08 35.0 +0.6**
baz=226
319A Douglas 88.66 53 IAmb IAmb 03 08 53.4
comp=Z,15nm,1.1s
HPIG 88.71 58 P **P** **03 08 35.0 -0.4**
HPIG IAmb IAmb 03 08 51.8
comp=Z,17nm,1.3s
OHAK Old Harbor 88.80 13 P **P** **03 08 35.8 +1.1**
baz=201
R11A Troy Canyon, C 88.84 44 P **P** **03 08 36.0 +0.3**
baz=230
J05D Fort Rock, OR 88.91 37 P **P** **03 08 36.6 +0.8**
baz=226
BMN Battle Mountai 89.22 41 IAmb IAmb 03 08 53.7
comp=Z,19nm,1.2s
H04A Detroit Lake 89.39 36 P **P** **03 08 38.8 +0.9**
H04A IAmb IAmb 03 08 53.4
comp=Z,16nm,1.1s
LCMT Little Creek M 89.44 46 IAmb IAmb 03 08 55.6
comp=Z,12nm,0.9s
I05D Terrebonne, OR 89.58 37 P **P** **03 08 39.7 +0.9**
baz=226
CCUT Cedar City 89.70 46 IAmb IAmb 03 08 57.2
comp=Z,24nm,1.4s
WUAZ Wupatki 89.72 48 P **P** **03 08 40.8 +0.9**
baz=233
WVOR Wild Horse Val 89.74 39 IAmb IAmb 03 08 56.2
comp=Z,19nm,1.2s
GRNR Gornyy 89.75 333 ⇓*iP* **P** **03 08 40.5 +1.1**
GRNR pmax pmax
comp=Z,10.0nm,0.9s
CN2 Changchun 89.76 323 *eP* **P** **03 08 38.7 -0.9**
CN2 pmax pmax
comp=Z,20nm,1.2s
CHAI Chaiyaphum 89.80 288 P **P** **03 08 41.4 +1.0**
comp=Z,31nm,0.8s
NONG Nongkai 89.95 291 P **P** **03 08 44.6 +3.5**
comp=Z,53nm,1.2s
X18A Snowflake 90.07 50 IAmb IAmb 03 08 59.0
comp=Z,14nm,0.9s
F04A Amboy 90.14 35 P **P** **03 08 42.1 +0.8**
G05D Wamic, OR 90.22 36 P **P** **03 08 43.6 +1.9**
baz=226
PKCU Pink Cliffs 90.29 46 IAmb IAmb 03 09 00.5
comp=Z,16nm,1.0s
121A Cookes Peak, D 90.37 52 IAmb IAmb 03 09 01.4
comp=Z,18nm,1.4s
121A Cookes Peak, D 90.37 52 P **P** **03 08 43.3 +0.4**
baz=235
I07A Izee 90.37 38 IAmb IAmb 03 08 59.2
comp=Z,22nm,1.2s
J08A Circle Bar Ran 90.44 39 IAmb IAmb 03 08 59.5
comp=Z,15nm,1.1s
E04D Cinebar 90.51 34 P **P** **03 08 44.3 +1.3**
baz=226
KLR Kul'dur 90.55 329 P **P** **03 08 42.8 -0.3**
comp=Z,10nm,0.9s,baz=132,slow=2.0,SNR=20
KLR Kul'dur 90.55 329 ⇓*eP* **P** **03 08 43.7 +0.6**
KLR pmax pmax
comp=Z,12nm,0.9s
W18A Petrified Fore 90.56 49 P **P** **03 08 44.5 +0.8**
baz=234
ELK Elko 90.57 42 P **P** **03 08 44.1 +0.4**
comp=Z,1.5nm,0.7s,baz=318,slow=3.2,SNR=8.0
MTPU Mount Pierson 90.74 46 IAmb IAmb 03 09 02.5
comp=Z,14nm,0.9s
O18K Koktuh Hills 90.93 11 P **P** **03 08 44.6 -0.1**
baz=199
MVU Marysvale 91.00 45 P **P** **03 08 47.2 +1.3**
MSU Marysvale 91.03 45 P **P** **03 08 46.7 +0.8**
MSU Marysvale 91.03 45 P **P** **03 08 46.7 +0.8**
O19K Port Alsworth 91.40 11 P **P** **03 08 46.4 -0.4**
baz=200
TX32 Lajitas Array 91.50 57 IAmb IAmb 03 09 05.2
comp=Z,23nm,1.5s
TXAR Lajitas Array 91.50 57 P **P** **03 08 49.0 +0.8**
comp=Z,1.5nm,1.0s,baz=219,slow=5.8,SNR=11
TXAR PKKPbc **PKKPbc** **03 26 10.3 +1.7**
comp=Z,0.3nm,0.7s,baz=130,slow=5.4,SNR=3.9
TXAR LR LR 03 44 48.8
comp=Z,89nm,18.1s,baz=0.0,slow=32
TXAR Lajitas Array 91.50 57 P **P** **03 08 49.0 +0.8**
ENH Enshi 91.53 304 P **P** **03 08 49.7 +1.5**
MNTX Cornudas Mount 91.58 54 IAmb IAmb 03 09 05.1
comp=Z,18nm,1.5s
BRSE Bradley Lake S 91.64 13 P **P** **03 08 48.1 +0.1**
baz=203
Q16A Castle Valley 91.90 46 P **P** **03 08 51.5 +1.5**
MFID Camas Ranch 91.94 40 IAmb IAmb 03 09 06.3
comp=Z,17nm,1.0s
NLU North Lily Min 91.97 44 P **P** **03 08 50.2 -0.1**
BMO Blue Mountains 92.06 38 IAmb IAmb 03 09 06.4
comp=Z,6.6nm,0.8s
SEW Seward 92.23 14 P **P** **03 08 51.8 +1.2**
SRU San Rafael Swe 92.42 46 IAmb IAmb 03 09 08.8
comp=Z,11nm,1.0s
P17A Butcher Ranch, 92.50 45 IAmb IAmb 03 09 09.5
comp=Z,12nm,1.3s
MVCO Mesa Verde 92.59 48 P **P** **03 08 53.5 +0.2**
baz=234
ANMO Albuquerque 92.65 51⇓*eP* **P** **03 08 54.6 +1.1**
ANMO pmax pmax
comp=Z,11nm,1.7s
ANMO Albuquerque 92.65 51 P **P** **03 08 54.2 +0.7**
BJI Beijing 92.66 315 P **P** **03 08 55.4 +2.3**
BJI pP **pwP** **03 09 09.3 -0.3**
BJI sP **sP** **03 09 14.2 +3.7**
BJI PP **PP** **03 12 38.8 +3.0**
BJI pmax pmax
comp=Z,13nm,0.8s
PV05 Paradox Valley 92.71 47 P **P** **03 08 54.3 +0.6**
PV05 IAmb IAmb 03 09 10.6
comp=Z,7.8nm,0.9s
HLID Hailey 92.83 40 IAmb IAmb 03 09 10.8
comp=Z,9.1nm,0.8s
HLID Hailey 92.83 40 P **P** **03 08 54.4 +0.3**
baz=231
M19K Big River Lodg 93.00 11 IAmb IAmb 03 08 54.5
comp=Z,9.5nm,0.8s
M19K Big River Lodg 93.00 11 P **P** **03 08 53.8 -0.4**
baz=200
GAMB Gambell 93.11 3 P **P** **03 08 54.9 +0.3**
baz=185
L19K White Mountain 93.19 10 IAmb IAmb 03 08 56.0
comp=Z,16nm,1.1s
L19K White Mountain 93.19 10 P **P** **03 08 55.5 +0.4**
baz=200
SUA Susitna One 93.23 12 P **P** **03 08 55.2 -0.2**
baz=203
HWUT Hardware Ranch 93.28 43 P **P** **03 08 55.3 -0.9**
GLI Glacier Island 93.43 14 P **P** **03 08 56.1 -0.1**
baz=206
EYAK Cordova Ski Ar 93.44 15 P **P** **03 08 56.1 -0.1**
baz=207
SKT Skwentna 93.56 12 P **P** **03 08 56.1 -0.7**
baz=202
CMAR Chiang Mai Arr 93.59 289 P **P** **03 08 58.9 +0.9**
comp=Z,1.3nm,0.5s,baz=140,slow=1.9,SNR=7.4
CMAR LR LR 03 51 05.1
comp=Z,48nm,21.9s,baz=145,slow=36
CMAR Chiang Mai Arr 93.59 289 P **P** **03 08 57.9 -0.1**
CMAR Chiang Mai Arr 93.59 289 P **P** **03 08 57.9 -0.1**
L20K Farewell, AK 93.63 11 P **P** **03 08 56.6 -0.5**
baz=200
KNK Knik Glacier 93.63 13 P **P** **03 08 56.6 -0.5**
baz=205
PMR Palmer 93.66 13 P **P** **03 08 56.7 -0.5**
baz=204
LLLB Lillooet 93.66 32 P **P** **03 08 59.2 +1.6**
LLLB IAmb IAmb 03 09 15.6
comp=Z,10.0nm,1.4s
S22A 4UR Ranch, Cre 93.99 49 P **P** **03 08 59.2 -0.5**
baz=236
XAN Xi'an 93.99 307 P **P** **03 09 01.2 +1.7**
XAN pP pP 03 09 13.0 +0.8
XAN pmax pmax
comp=Z,14nm,1.5s
XAN LR LR
comp=Z,180nm,16.2s
XAN LR LR
comp=Z,160nm,15.2s
XAN LR LR
comp=Z,170nm,23.1s
SML Sawmill 94.02 13 P **P** **03 08 59.5 +0.6**
baz=205
MESA MESA 94.02 17 P **P** **03 08 58.2 -1.0**
baz=210
BMRM Bremner River 94.07 15 IAmb IAmb 03 09 00.1
comp=Z,8.2nm,0.8s
BMRM Bremner River 94.07 15 P **P** **03 08 59.2 0.0**
baz=208
TA02 Huaiquique 94.26 116 P **P** **03 09 01.1 0.0**
PPLA Purkeypile 94.30 11 P **P** **03 09 00.4 0.0**
baz=202
PINM Pinnacle 94.39 18 P **P** **03 09 01.0 +0.3**
baz=212
K20K Telida 94.42 10 P **P** **03 09 01.0 +0.3**
baz=200
N25K Chitina, Valde 94.64 15 P **P** **03 09 01.4 -0.4**
baz=208
MSTX Muleshoe 94.65 54 IAmb IAmb 03 09 18.6
comp=Z,9.1nm,0.8s
REDW Red Top Meadow 94.76 42 IAmb IAmb 03 09 19.4
comp=Z,15nm,0.9s
TPAW Teton Pass 94.77 42 IAmb IAmb 03 09 18.6
comp=Z,7.7nm,0.8s
FXWY Fox Creek 94.82 42 IAmb IAmb 03 09 20.4
comp=Z,7.0nm,0.8s
WAT6 Susitna Watana 94.84 13 P **P** **03 09 03.0 +0.2**
baz=206
CTG Chitna Glacier 94.85 17 P **P** **03 09 02.9 0.0**
baz=211
SDCO Great Sand Dun 94.86 49 P **P** **03 09 03.5 -0.2**
DLMT Dillon 94.97 40 IAmb IAmb 03 09 20.3
comp=Z,9.2nm,1.0s
IMW Indian Meadow 95.02 42 IAmb IAmb 03 09 20.8
comp=Z,11nm,0.9s
LOHW Long Hollow 95.05 42 IAmb IAmb 03 09 20.6
comp=Z,6.8nm,0.8s
KTH Kantishna Hill 95.13 12 IAmb IAmb 03 09 04.0
comp=Z,8.1nm,1.0s
TRF Thorofare Moun 95.15 12 P **P** **03 09 04.0 -0.3**
baz=204
PDAR Pinedale Array 95.17 43 P **P** **03 09 05.2 +0.3**
comp=Z,1.2nm,0.8s,baz=193,slow=2.4,SNR=11
PDAR PKKP **PKKPbc** **03 25 59.0 -0.8**
comp=Z,1.1nm,0.8s,baz=89,slow=5.2,SNR=12
PDAR LR LR 03 48 29.8
comp=Z,152nm,18.2s,baz=234,slow=33
PDAR Pinedale Array 95.17 43 P **P** **03 09 04.4 -0.5**
J20K Nowinta River 95.19 10 P **P** **03 09 04.0 -0.1**
baz=200
SEY Seymchan 95.26 347 P **P** **03 09 03.8 -0.7**
comp=Z,13nm,0.8s,baz=132,slow=5.6,SNR=18
RND Reindeer 95.37 12 IAmb IAmb 03 09 06.1
comp=Z,11nm,0.9s
YMR Mendon River 95.47 41 IAmb IAmb 03 09 23.2
comp=Z,9.4nm,0.9s
YHH Holmes Hill 95.61 41 IAmb IAmb 03 09 24.0
comp=Z,13nm,1.4s
BOZ Bozeman (W) 95.65 40 IAmb IAmb 03 09 23.4
comp=Z,9.5nm,1.1s
BOZ Bozeman (W) 95.65 40 P **P** **03 09 06.4 -0.5**
baz=233
MCK McKinley 95.65 12 P **P** **03 09 05.9 -0.4**
baz=205
PAX Paxson 95.65 14 P **P** **03 09 06.0 -0.4**
baz=208
M26K Nabesna, AK 95.70 15 P **P** **03 09 06.6 0.0**
baz=210
ZEA Zeya 95.74 331 *eP* **P** **03 09 08.9 +2.0**
M27K Edge Creek, AK 95.92 16 IAmb IAmb 03 09 11.9
comp=Z,7.0nm,1.0s
M27K Edge Creek, AK 95.92 16 P **P** **03 09 08.6 +0.9**
baz=211
HHC Hu-ho-hao-te 96.00 314 *eP* **P** **03 09 10.5 +1.9**
HHC pmax pmax
comp=Z,22nm,1.1s
HHC pmax pmax
comp=Z,57nm,5.4s
CD2 Chengdu 96.05 302 *eP* **P** **03 09 10.8 +1.8**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
YNE Yellowstone No 96.22 41 P **P** **03 09 10.4 +0.7**
YNE IAmb IAmb 03 09 26.5
comp=Z,7.2nm,0.9s
NEA2 Nenana 96.41 12 P **P** **03 09 10.0 +0.2**
baz=205
RIDG Independent Ri 96.47 14 P **P** **03 09 10.2 +0.1**
baz=208
WRH Wood River Hil 96.48 12 IAmb IAmb 03 09 10.2
comp=Z,8.0nm,1.0s
HDA Harding Lake 96.64 13 IAmb IAmb 03 09 34.6
comp=Z,8.6nm,1.0s
HDA Harding Lake 96.64 13 P **P** **03 09 10.4 -0.4**
baz=206
SCRK Sand Creek 96.86 14 P **P** **03 09 12.8 +0.8**
I23K Minto, Yukon-K 96.87 12 P **P** **03 09 11.4 -0.4**
baz=204
COLA College 96.89 12 P **P** **03 09 11.2 -0.6**
baz=206
MDM Murphy Dome 96.90 12 IAmb IAmb 03 09 32.5
comp=Z,9.6nm,1.1s
K22A Casper 96.94 45 IAmb IAmb 03 09 28.8
comp=Z,6.9nm,0.8s
IMAR Indian Mountai 96.94 10 P **P** **03 09 11.5 -0.6**
ILAR Eielson Array 96.98 13 P **P** **03 09 11.2 -1.1**
comp=Z,2.2nm,0.7s,baz=218,slow=5.4,SNR=30
ILAR PP **PP** **03 13 04.4 -4.4**
comp=Z,1.0nm,0.9s,baz=221,slow=7.1,SNR=5.3
ILAR LR LR 03 45 31.9
comp=Z,66nm,22.0s,baz=210,slow=31
J25K Salcha River, 97.14 13 P **P** **03 09 12.4 -0.7**
baz=208
DAWY Dawson 97.97 16 P Pdif 03 09 17.0 +0.1
baz=213
LPAZ La Paz 98.04 114 P Pdif 03 09 21.2 +2.1
comp=Z,0.5nm,0.9s,baz=261,slow=13,SNR=1.9
LPAZ LR LR 03 45 35.9
comp=Z,93nm,21.1s,baz=238,slow=30
BILL Bilibino 98.04 354⇓*eP* Pdif 03 09 17.5 +0.4
BILL *e* 03 13 16.6
BILL pmax pmax
comp=Z,8.0nm,0.5s
EGAK Eagle 98.17 15 P Pdif 03 09 18.1 +0.4
baz=211
LZH Lanzhou 98.61 307 *eP* **P** **03 09 15.9 -4.7**
LZH sP Pdif 03 09 23.0 +2.4
LZH pmax pmax
comp=Z,20nm,1.0s
COLD Coldfoot 98.64 10 IAmb IAmb 03 09 21.2
comp=Z,7.4nm,1.0s
RSSD Black Hills 99.26 44 P **Pdif** **03 09 23.8 +0.4**
RSSD pmax pmax
comp=Z,9.0nm,0.8s
RSSD Black Hills 99.26 44 P **Pdif** **03 09 23.8 +0.4**
RSSD IAmb IAmb 03 09 39.3
comp=Z,9.2nm,0.8s
A21K Barrow 101.65 7 P **Pdif** **03 09 33.0 0.0**
baz=198
ULN Ulaanbaatar 102.47 318*deP* **Pdif** **03 09 38.2 +0.7**
ULN pmax pmax
comp=Z,10.0nm,3.1s
DGZ Jazzator, Alta 115.07 314⇓*i*PKIKP **PKPdf** **03 14 21.8 -0.4**
ZSN Zaisan 116.08 312 *e*PKP **PKPdf** **03 14 23.0 -1.0**
baz=312
ZSN Zaisan 116.08 312 *e*PKIKP **PKPdf** **03 14 23.0 -1.0**
MK31 Makanchi Array 117.60 310*c i*PKIKP **PKPdf** **03 14 26.0 -1.0**
MK31 Makanchi Array 117.60 310 PKPdf **PKPdf** **03 14 26.5 -0.5**
MKAR Makanchi Array 117.60 310 PKP **PKPdf** **03 14 26.4 -0.6**
comp=Z,7.0nm,0.5s,baz=170,slow=0.7,SNR=57
MKAR Makanchi Array 117.60 310 PKPdf **PKPdf** **03 14 25.7 -1.3**
ZAA0 Zalesovo Array 117.72 319 PKPdf **PKPdf** **03 14 25.9 -1.1**
ZALV Zalesovo Beam 117.72 319 PKP **PKPdf** **03 14 25.6 -1.4**
comp=Z,5.6nm,0.6s,baz=154,slow=1.1,SNR=20
MAKZ Makanchi 117.81 310 PKIKP **PKPdf** **03 14 26.6 -0.8**
MAKZ Makanchi 117.81 310 PKPdf **PKiKP** **03 14 26.6 -0.8**
BOSA Boshof 118.25 203 PKP **PKiKP** **03 14 30.1 +0.9**
comp=Z,3.2nm,1.0s,baz=146,slow=7.3,SNR=2.2
SHLS Shalkode 118.62 306 *e*PKP **PKPdf** **03 14 27.1 -2.2**
baz=306
SHLS Shalkode 118.62 306 *e*PKIKP **PKPdf** **03 14 27.0 -2.2**
UZB Uzynbulak 118.93 306 *e*PKP **PKPdf** **03 14 28.9 -0.9**
baz=306
UZB Uzynbulak 118.93 306 *e*PKIKP **PKPdf** **03 14 28.9 -0.9**
NRIK Noril'sk 119.05 336 PKP **PKPdf** **03 14 29.1 0.0**
comp=Z,6.6nm,0.7s,baz=115,slow=2.8,SNR=6.6
NRIK Noril'sk 119.05 336*c i*PKIKP **PKPdf** **03 14 28.8 -0.3**
NRIK Noril'sk 119.05 336 PKPdf **PKiKP** **03 14 29.2 +0.1**
KPKS Kokpek 119.25 306 *e*PKP **PKPdf** **03 14 29.0 -1.5**
baz=306
KPKS Kokpek 119.25 306 *e*PKIKP **PKPdf** **03 14 28.9 -1.5**
SATY Saty 119.34 305 *e*PKP **PKPdf** **03 14 29.7 -1.0**
baz=305
SATY Saty 119.34 305 *e*PKIKP **PKPdf** **03 14 29.6 -1.0**
TDK Taldyqorghan 119.80 308 *e*PKP **PKPdf** **03 14 29.7 -1.7**
baz=308
TDK Taldyqorghan 119.80 308 *e*PKIKP **PKPdf** **03 14 29.6 -1.7**
KSH Kashi 120.23 301 PKP **PKiKP** **03 14 33.3 +0.8**
KSH sPKP 03 14 48.6
MDOK Medeo 120.33 305 *e*PKP **PKPdf** **03 14 31.2 -1.4**
baz=305
MDOK Medeo 120.33 305 *e*PKIKP **PKPdf** **03 14 31.2 -1.4**
TNSS Tian-Shan 120.38 305 *i* PKP **PKPdf** **03 14 32.6 -0.4**
baz=305
AAA Alma-Ata 120.44 305 *e*PKP **PKPdf** **03 14 32.0 -0.7**
baz=305
AAA Alma-Ata 120.44 305 *e*PKIKP **PKPdf** **03 14 31.9 -0.7**
CHKK Chushkaly 120.53 306 *e*PKP **PKPdf** **03 14 31.2 -1.5**
baz=306
ULHL Ulahol 120.70 304 P **PKPdf** **03 14 33.4 0.0**
SNR=7.2
NIL Nilore 120.73 294 PKIKP **PKPdf** **03 14 32.3 -1.2**
NIL Nilore 120.73 294 PKPdf **PKPdf** **03 14 32.3 -1.2**
MTBS Maitube 120.77 305 *e*PKP **PKPdf** **03 14 32.0 -1.3**
baz=305
KURK Kurchatov 120.81 314 PKIKP **PKPdf** **03 14 32.7 -0.3**
KURBB Kurchatov Arra 120.85 314 PKP **PKPdf** **03 14 32.6 -0.4**
comp=Z,19nm,0.6s,baz=108,slow=1.9,SNR=125
KURBB Kurchatov Arra 120.85 314 PKIKP **PKPdf** **03 14 31.8 -1.3**
BOOM Boomskoye usch 120.97 304 PKIKP **PKPdf** **03 14 33.3 -0.6**
BOOM Boomskoye usch 120.97 304 PKPdf **PKPdf** **03 14 33.2 -0.6**
KUU Kurty 121.00 306 *e*PKP **PKPdf** **03 14 31.6 -2.0**
baz=306
KUU Kurty 121.00 306 *e*PKIKP **PKPdf** **03 14 31.6 -2.0**
TKM2 Tokmak 2 121.31 305 P **PKPdf** **03 14 33.9 -0.7**
SNR=18
KBK Karagaybulak 121.72 304 P **PKiKP** **03 14 35.4 0.0**
SNR=5.2
CHMS Chumysh 121.94 305 P **PKPdf** **03 14 35.1 -0.4**
SNR=9.6
UCH Uchtor 121.94 304 P **PKiKP** **03 14 36.4 +0.1**
SNR=15
FRU1 Bishkek 121.98 304 PKIKP **PKPdf** **03 14 34.7 -1.0**
FRU1 Bishkek 121.98 304 PKPdf **PKPdf** **03 14 34.7 -1.0**
AAK Ala-Archa 122.05 304 PKP **PKPdf** **03 14 35.7 -0.1**
comp=Z,8.6nm,0.7s,baz=151,slow=1.9,SNR=22
AAK Ala-Archa 122.05 304 P **PKPdf** **03 14 35.8 -0.1**
SNR=9.4
AAK Ala-Archa 122.05 304*d i*PKIKP **PKPdf** **03 14 35.6 -0.3**
AAK Ala-Archa 122.05 304 PKPdf **PKPdf** **03 14 35.3 -0.6**
SGDS Sogindy 122.12 305⇑*i*PKP **PKPdf** **03 14 34.7 -1.2**
baz=305
USP Ospenovka 122.17 305 P **PKPdf** **03 14 35.5 -0.5**
SNR=13
EKS2 Erkin-Say 122.57 304 P **PKPdf** **03 14 36.9 +0.1**
SNR=13
BTLS Baital 122.84 307⇑*i*PKP **PKPdf** **03 14 36.3 -0.9**
baz=307
BTLS Baital 122.84 307*c i*PKIKP **PKPdf** **03 14 36.2 -0.9**
DRK Karamyk 123.36 300 PKPdf **PKPdf** **03 14 38.4 -0.3**
KBL Kabul 124.34 294 PKIKP **PKPdf** **03 14 40.5 -0.1**
KBL Kabul 124.34 294 PKPdf **PKPdf** **03 14 40.5 -0.1**
GAR Garm 124.38 299 PKPdf **PKiKP** **03 14 40.9 +0.1**
BRZS Berezniki 124.48 313⇑*i*PKP **PKPdf** **03 14 38.8 -1.4**
baz=313
BRZS Berezniki 124.48 313*c i*PKIKP **PKPdf** **03 14 38.7 -1.4**
KK31 Karatay Array 125.01 304 PKIKP **PKPdf** **03 14 41.0 -0.4**
KK31 Karatay Array 125.01 304 PKPdf **PKPdf** **03 14 41.0 -0.4**
KKAR Karatay Array 125.01 304 PKIKP **PKiKP** **03 14 41.8 +0.1**
KKAR Karatay Array 125.01 304 PKPdf **PKiKP** **03 14 41.8 +0.1**
CHGR Chuyangaron 125.19 298 PKPdf **PKiKP** **03 14 42.2 -0.2**
IUG Iuzhnay 125.20 303⇑*i*PKP **PKPdf** **03 14 41.8 -0.1**
baz=303
IUG Iuzhnay 125.20 303*c i*PKIKP **PKPdf** **03 14 41.8 -0.1**
BVAR Borovoye Array 126.13 316 PKP **PKiKP** **03 14 43.5 -0.1**
comp=Z,27nm,0.7s,baz=196,slow=4.3,SNR=105
BRVK Borovoye 126.20 316*c i*PKIKP **PKPdf** **03 14 42.4 -0.9**
BRVK pmax pmax
comp=Z,36nm,1.0s
BRVK Borovoye 126.20 316 PKPdf **PKPdf** **03 14 42.5 -0.9**
NEEM North Greenlan 126.27 13 *i* P **PKPdf** **03 14 43.2 0.0**
NEEM IAmb IAmb 03 14 44.3
comp=Z,18nm,1.0s
KBS Kingsbay 130.35 358 *i* P **PKiKP** **03 14 57.8 +6.4**
KBS IAmb IAmb 03 14 59.1
comp=Z,71nm,1.1s
SPA0 Spitsbergen Ar 130.88 356 *e*PKPdf **PKiKP** **03 14 52.2 -0.3**
SPITS Spitsbergen Ar 130.88 356 PKP **PKPdf** **03 14 52.0 +0.4**
comp=Z,5.6nm,0.7s,baz=64,slow=3.4,SNR=1.2
SVE Sverdlovsk 131.54 321 *e*PKIKP **PKPdf** **03 14 52.9 -0.4**
SVE pmax pmax
comp=Z,18nm,0.8s
AB31 Akbulak array 132.72 311 *i* PKIKP **PKPdf** **03 14 55.8 0.0**
ABKAR Akbulak array 132.72 311 PKPdf **PKPdf** **03 14 54.9 -0.9**
ARU Arti 132.74 321 PKP **PKPdf** **03 14 55.8 +0.2**
comp=Z,6.9nm,0.5s,baz=67,slow=0.8,SNR=33
ARU Arti 132.74 321 *i* PKIKP **PKPdf** **03 14 55.3 -0.3**
ARU 03 17 19.1
ARU Arti 132.74 321 PKPdf **PKPdf** **03 14 55.9 +0.3**
DY2G Dye2 132.80 24 *i* P **PKPdf** **03 14 54.0 -1.7**
DY2G IAmb IAmb 03 14 55.1
comp=Z,10nm,0.9s
ICESG Greenland Ices 133.59 19 *eP* **PKPdf** **03 14 57.4 +0.1**
GEYT Alibeck 133.64 296 PKP **PKiKP** **03 14 58.9 -0.4**
comp=Z,604nm,1.2s,baz=182,slow=4.0,SNR=16
GYA0B ALIBECK ARRAY 133.64 296 PKPdf **PKiKP** **03 14 59.0 -0.2**
AKTO Aktyubinsk 133.88 313 PKP **PKPdf** **03 14 58.5 +0.5**
comp=Z,15nm,0.6s,baz=94,slow=2.0,SNR=49
KMBO Kilima Mbogo 134.99 234 PKP **PKPdf** **03 15 01.3 -0.2**
comp=Z,1.6nm,0.8s,baz=63,slow=16,SNR=3.2
KIRV Kirov 136.89 326 PKP **PKPdf** **03 15 03.5 +0.3**
comp=Z,20nm,0.5s,baz=134,slow=1.4,SNR=8.6
KIRV Kirov 136.89 326*e*PKIKP **PKPdf** **03 15 02.8 -0.5**
HAMF Hammerfest 137.18 350 *e*PKPdf **PKPdf** **03 15 04.1 +0.6**
PRGR Permogore 137.31 331 *e*PKIKP **PKPdf** **03 15 02.2 -1.8**
PRGR pmax pmax
comp=Z,12nm,1.3s
ARCES ARCESS Array B 137.85 348 PKhKP PKPpre 03 14 58.5
comp=Z,3.4nm,0.7s,baz=64,slow=2.8,SNR=18
H10S3 ASCENSION HYDR 138.28 154 T T 05 50 30.7
baz=16,slow=74,SNR=40
H10S2 ASCENSION HYDR 138.28 154 T T 05 50 29.8
baz=204,slow=74,SNR=22

JETT	Jettan, Norway	138.65	351	*e*PKPdf	PKPdf	03 15 06.5	+0.2		
KTK1	Kautokeino	138.71	349	*e*PKPdf	PKPdf	03 15 03.4	-3.0		
TRO	Tromso	138.78	351	*e*PKPdf	PKPdf	03 15 07.2	+0.8		
H10N3	ASCENSION HYDR	139.36	153	T	T	05 51 48.2			
	baz=204,slow=75,SNR=62								
H10N1	ASCENSION HYDR	139.37	153	T	T	05 51 54.9			
	baz=204,slow=75,SNR=128								
H10N2	ASCENSION HYDR	139.38	153	T	T	05 51 48.4			
	baz=204,slow=75,SNR=59								
MBAR	Mbarara	139.74	227	⇓*e*PKIKP	PKPdf	03 15 07.3	-2.9		
BELG	Belogornoye	139.90	318	PKP	PKPdf	03 15 09.5	+0.5		
	comp=Z,86nm,1.0s,baz=124,slow=0.6,SNR=12								
KLMR	Klimovskoe	140.23	333	*e*PKHKP	PKPpre	03 14 59.9			
KLMR				pmax	pmax				
	comp=Z,39nm,1.5s								
KLMR	Klimovskoe	140.23	333	*e*PKPdf	PKPpre	03 15 00.0			
KLMR				AMP		03 15 10.7			
	comp=Z,39nm,1.5s								
STEI	Steigen	140.84	352	*e*PKPdf	PKPdf	03 15 10.6	+0.4		
FAUS	Fauske	141.36	352	*e*PKPdf	PKPdf	03 15 10.7	-0.5		
AKT	Akhty	141.76	301	*e*PKIKP	PKPdf	03 15 12.2	-0.7		
AKT				*e*		03 18 18.5			
AKT				pmax	pmax				
	comp=Z,16nm,0.8s								
MOR8	Moi Rana	142.62	352	*e*PKPdf	PKPdf	03 15 13.3	-0.3		
VRH	Novokhopyorsk	143.75	318	*e*PKIKP	PKiKP	03 15 18.9	-0.5		
VRH				pmax	pmax				
	comp=Z,30nm,0.6s								
MOS	Moscow	143.90	327	*e*PKHKP	PKPab	03 15 12.0	-1.3		
MOS				pmax	pmax				
	comp=Z,39nm,1.0s								
GNI	Garni	144.11	299	PKP	PKPbc	03 15 15.9	+0.6		
	comp=Z,8.0nm,0.8s,baz=296,slow=7.6,SNR=3.6								
GNI	Garni	144.11	299	P	PKPdf	03 15 17.4	+0.2		
GNI	Garni	144.11	299	PKPdf	PKPdf	03 15 16.3	-0.9		
ZEI	Tsey	144.46	303	*i* PKHKP	PKPab	03 15 14.0	-2.1		
ZEI				pmax	pmax				
	comp=Z,4.0nm,1.0s								
NSS	Namsos	144.49	353	*e*PKPdf	PKPab	03 15 14.6	-0.6		
FIA1	FINESS Array S	144.50	341	PKPdf	PKPab	03 15 14.8	-0.6		
FINES	FINESS Array B	144.50	341	PKP	PKPab	03 15 15.0	-0.4		
	comp=Z,61nm,0.6s,baz=62,slow=3.1,SNR=317								
FINES	FINESS Array B	144.50	341	PKIKP	PKPab	03 15 14.5	-0.9		
FINES	FINESS Array B	144.50	341	PKPdf	PKPab	03 15 14.5	-0.9		
NCK	Nalchik	144.58	305	*e*PKIKP	PKPdf	03 15 17.3	-0.4		
OBN	Obninsk	144.74	326	PKP	PKPab	03 15 16.0	-0.5		
	comp=Z,13nm,0.8s,baz=73,slow=2.9,SNR=19								
OBN	Obninsk	144.74	326	*ce*PKIKP	PKPab	03 15 15.6	-0.8		
OBN				*i*		03 15 20.8			
OBN				*e*		03 18 43.3			
OBN				pmax	pmax				
	comp=Z,69nm,0.9s								
OBN	Obninsk	144.74	326	PKPdf	PKPab	03 15 15.7	-0.7		
ONI	Oni	144.82	303	PKIKP	PKPdf	03 15 18.5	+0.3		
ONI	Oni	144.82	303	PKPdf	PKPdf	03 15 18.5	+0.3		
AKH	Akhalkalaki	144.94	301	⇓P	PKPbc	03 15 18.0	0.0		
KBZ	Khabaz	145.04	305	PKPbc	PKPdf	03 15 18.2	-0.2		
	comp=Z,7.0nm,0.8s,baz=93,slow=1.9,SNR=12								
KBZ	Khabaz	145.04	305	*c* PKIKP	PKPbc	03 15 17.3	-0.6		
KVAR	Kislovodsk Arr	145.14	305	PKPbc	PKPdf	03 15 20.0	+1.3		
	comp=Z,2.8nm,0.6s,baz=354,slow=10,SNR=1.5								
KIV	Kislovodsk	145.15	305	P	PKPdf	03 15 18.8	0.0		
KIV	Kislovodsk	145.15	305	*i* PKIKP	PKPbc	03 15 16.7	-1.7		
KIV				pmax	pmax				
	comp=Z,29nm,1.1s								
KIV				MLR	MLR				
	comp=Z,108nm,25.0s								
NEY	Neytrino	145.25	304	⇑*i* PKIKP	PKPdf	03 15 20.3	+1.2		
VORD	Divnogorie	145.25	318	*e*PKIKP	PKPbc	03 15 17.3	-1.0		
VORD				pmax	pmax				
	comp=Z,20nm,0.8s								
CHVG	Ch'k'valeri	145.79	303	⇑P	PKPdf	03 15 18.2	-1.6		
CHVG	Ch'k'valeri	145.79	303	⇑PKIKP	PKPdf	03 15 18.2	-1.6		
MEF	Metsahovi	145.98	341	*e*P	PKPdf	03 15 19.8	+0.4		
RAF	Rauma	146.02	343	*e*P	PKPdf	03 15 19.9	+0.4		
SIRT	Sirnak	146.03	294	PKPbc	PKPbc	03 15 21.4	+0.1		
GURO	Guroymak-BITLI	146.30	296	PKPbc	PKPbc	03 15 22.2	0.0		
BCA	Borcka	146.33	301	⇑P	PKPdf	03 15 19.0	-1.7		
VSU	Vasula	146.64	337	*e*P	PKPbc	03 15 21.8	-0.5		
MOL	Molde	146.80	356	*e*PKPbc	PKPbc	03 15 22.6	-0.1		
AAL	Aland	147.19	344	*e*P	PKPdf	03 15 22.6	+1.0		
AKN	Aaknes	147.23	356	*e*PKPbc	PKPbc	03 15 23.9	0.0		
SOC	Sochi	147.33	306	*e*PKHKP	PKPdf	03 15 17.3	-5.0		
SOC				*e*PPP	PPP	03 22 14.7			
SOC				*e*SS	SS	03 37 49.9	-0.3		
SOC				*e*SSS	SSS	03 43 21.2			
SOC				MLR	MLR				
	comp=Z,98nm,19.0s								
MARD	Mardin	147.36	294	PKPbc	PKPbc	03 15 25.0	-0.2		
FOO	Floro	147.90	358	*e*PKPbc	PKPbc	03 15 25.6	-0.1		
NB2	NORSAR Subarra	147.97	352	PKP	PKPbc	03 15 25.3	-0.7		
	comp=Z,47nm,0.8s,baz=11,slow=2.9								
NB2	NORSAR Subarra	147.97	352	PKP	PKPbc	03 15 25.3	-0.7		
	baz=11,slow=2.9								
NOA	NORSAR Array B	147.97	352	PKPbc	PKPbc	03 15 25.4	-0.7		
	comp=Z,34nm,0.8s,baz=15,slow=4.4,SNR=98								
UPP	Uppsala	148.01	346	*e*P	PKPbc	03 15 24.9	-1.1		
NAO01	NORSAR Array S	148.20	352	PKPbc	PKPbc	03 15 25.8	-0.8		
NC602	NORSAR Array S	148.23	352	*e*PKPbc	PKPbc	03 15 26.1	-0.6		
HYA	Hoyanger	148.28	357	*e*PKPbc	PKPbc	03 15 26.8	0.0		
SUE	Sulen	148.45	358	*e*PKPbc	PKPbc	03 15 27.1	0.0		
HFS	Hagfors	148.50	349	PKPbc	PKPbc	03 15 26.4	-0.9		
	comp=Z,65nm,0.7s,baz=90,slow=1.9,SNR=97								
ANN	Anapa	148.60	309	*i* PKP2	PKPbc	03 15 27.2	-0.9		
ANN				pmax	pmax				
	comp=Z,123nm,0.9s								
SKAR	Skarslia	148.62	355	*e*PKPbc	PKPbc	03 15 27.9	+0.1		
SLIT	Slitere, Latvi	148.74	340	*e*P	PKPbc	03 15 27.2	-0.8		
ASK	Askoy	149.01	357	*e*PKPbc	PKPbc	03 15 28.6	+0.1		
ISAL	Salakas	149.03	334	*e*P	PKiKP	03 15 29.8	-0.3		
MNK	Minsk	149.08	331	*i* PKHKP	PKPdf	03 15 22.6	-2.2		
MNK				*i*		03 18 58.7			
MNK				*i* PPP	PPP	03 22 18.3			
MNK				*i*		03 22 25.8			
MNK				*i* SS	SS	03 38 09.2	+0.8		
MNK				*i* SSS	SSS	03 43 48.0			
MNK				pmax	pmax				
	comp=E,5.0nm,1.4s								
MNK				pmax	pmax				
	comp=Z,135nm,0.9s								
MNK				pmax	pmax				
	comp=N,29nm,0.9s								
MNK				MLR	MLR				
	comp=Z,184nm,14.0s								
MNK				MLR	MLR				
	comp=N,59nm,17.0s								
MNK				MLR	MLR				
	comp=E,11nm,19.0s								
MNK	Minsk	149.08	331	*i* PKP	PKPdf	03 15 22.6	-2.2		
	comp=E,5.0nm,1.4s,baz=46								
MNK				*i* PKP	PKPdf	03 15 22.6	-2.2		
	comp=N,29nm,0.9s								
MNK				*i* PKP	PKPdf	03 15 22.6	-2.2		
	comp=Z,135nm,0.9s								
MNK				*i* pPKP	pPKPdf	03 15 37.8	-0.1		
MNK				*i* SKP		03 18 50.8			
MNK				*i* PKS	PKSdf	03 18 54.0	-5.5		
MNK				*i* PP	PP	03 18 58.7	-1.7		
MNK				*i* PPP	PPP	03 22 18.4			
MNK				*i* SKS	SKSdf	03 22 25.8	-3.2		
MNK				*i* SKKS	SKKSdf	03 31 22.0	-4.5		
MNK				*i* SS	SS	03 38 09.3	+0.8		
MNK				*i* SSS	SSS	03 43 48.0			
MNK				*i* LQ	LQ	04 13 01.1			
MNK				*i* LR	LR	04 17 01.3			
MNK				*i* LRM	MLR	04 23 41.2			
	comp=Z,184nm,14.1s								
MNK				*i* LRM	MLR	04 24 08.1			
	comp=N,59nm,16.6s								
MNK				*i* LRM	MLR	04 24 22.1			
	comp=E,11nm,18.5s								
BER	Bergen	149.10	357	*e*PKPbc	PKPbc	03 15 28.6	-0.2		
OSL	Oslo	149.11	352	*e*PKPbc	PKPbc	03 15 28.8	0.0		
IIGN	Ignalina	149.15	333	*e*P	PKPbc	03 15 29.5	+0.3		
NACGM	Naroch	149.26	332	*i* P	PKPbc	03 15 29.5	+0.1		
ODD1	Odda	149.50	356	*e*PKPbc	PKPbc	03 15 30.1	+0.1		
KONO	Kongsberg	149.52	353	PKP2	PKPbc	03 15 30.1	+0.2		
KONO	Kongsberg	149.52	353	*e*PKPbc	PKPbc	03 15 29.7	-0.2		
KONO	Kongsberg	149.52	353	PKPbc	PKPbc	03 15 30.1	+0.2		
STRU	Stroemstad	149.92	351	*i* P	PKPbc	03 15 31.2	+0.3		
BLS5	Blasjo	150.00	356	*e*PKPab	PKPab	03 15 35.6	-1.4		
PBUR	Paburge	150.17	338	*e*P	PKPbc	03 15 30.5	-1.1		
KMY	Karmoy	150.28	357	*e*PKPbc	PKPbc	03 15 31.9	+0.2		
SIM	Simferopol'	150.78	310	*c* PKIKP	PKPbc	03 15 32.6	-0.8		
SIM				pmax	pmax				
	comp=Z,97nm,0.5s								
AKASG	Malin Array Be	150.91	324	PKP	PKPdf	03 15 26.5	-1.3		
	comp=Z,0.2nm,0.3s,baz=58,slow=1.0,SNR=6.2								
AKASG				PKPbc	PKPbc	03 15 33.6	+0.1		
	comp=Z,94nm,0.7s,baz=44,slow=3.3,SNR=181								
AKBB	Malin Array Si	150.91	324	*c* PKIKP	PKPbc	03 15 32.9	-0.6		
HOMB	Homborsund	150.98	354	*i* P	PKiKP	03 15 34.1	+0.1		
HOMB	Homborsund	150.98	354	*e*PKPbc	PKiKP	03 15 33.8	-0.2		
BORU	Boraas	151.03	349	*i* P	PKiKP	03 15 33.3	-0.3		
SNART	Snartemo	151.03	355	*e*PKPbc	PKPbc	03 15 33.5	-0.1		
BNN	Bunyan	151.09	298		PKPbc	03 15 34.1	-0.5		
SUW	Suwalki	151.33	334	*e*PKPbc	PKPbc	03 15 34.2	-0.2		
SUW	Suwalki	151.33	334	*e*P	PKPbc	03 15 34.1	-0.3		
ONAU	Onsala	151.39	349	*i* P	PKPbc	03 15 34.4	-0.1		
FABU	Falkenberg	151.64	348	*i* P	PKPbc	03 15 34.9	-0.1		
BLEU	Blekinge	151.65	344	*i* P	PKPbc	03 15 34.8	-0.3		
BZK	Bozkurt	151.80	305	⇑P	PKiKP	03 15 36.1	-0.1		
KLNR	Kaliningrad	151.90	338	*c* PKIKP	PKPbc	03 15 35.6	-0.1		
DEL	Delary	151.92	347	*i* P	PKPbc	03 15 35.7	+0.1		
BJUU	Bjuv	152.46	347	*i* P	PKiKP	03 15 37.2	+0.1		
BRTR	Keskin Array B	152.61	300	PKPbc	PKPbc	03 15 38.1	+0.1		
	comp=Z,12nm,0.6s,baz=143,slow=5.6,SNR=31								
BRTR	Keskin Array B	152.61	300	*c* PKIKP	PKPbc	03 15 37.7	-0.3		
BRTR				pmax	pmax				
	comp=Z,12nm,0.6s								
SORM	Soroca	152.85	320	⇑P	PKPbc	03 15 37.5	-0.5		
SORM	Soroca	152.85	320	⇑PKIKP	PKPbc	03 15 37.5	-0.5		
COP	Copenhagen	152.94	348	*e*P	PKiKP	03 15 38.2	+0.1		
BSD	Bornholm Skovb	152.94	344	*i* P	PKPbc	03 15 38.1	+0.1		
ANTO	Ankara	153.22	301	PKIKP	PKiKP	03 15 39.7	+0.3		
ANTO	Ankara	153.22	301		PKiKP	03 15 39.7	+0.3		
MILM	Milestii Mici	153.25	318	⇓P	PKPbc	03 15 38.5	-0.4		
EKA	Eskdalemuir Ar	153.90	7	PKPbc	PKiKP	03 15 40.7	+0.5		
	comp=Z,1.5nm,0.7s,baz=306,slow=1.2,SNR=5.3								
EKA				PKPab	pPKPbc	03 15 53.0	-0.2		
	comp=Z,13nm,0.7s,baz=335,slow=3.0,SNR=14								
BEL	Belsk	153.93	334	*e*PKPbc	PKiKP	03 15 40.9	+0.5		
GKP	Gorka Klasztor	153.97	340	*e*PKPbc	PKiKP	03 15 40.5	+0.1		
LVV	L'vov	154.03	327	*e*PKIKP	PKiKP	03 15 41.0	+0.4		
TLCR		154.10	314	⇓P	PKiKP	03 15 41.2	+0.3		
TLCR		154.10	314	⇓PKIKP	PKiKP	03 15 41.2	+0.3		
VLDR	Vladesti	154.23	316	⇑P	PKiKP	03 15 41.8	+0.6		
GHRR		154.52	317	⇓P	PKiKP	03 15 42.2	+0.4		
CFR	Carcaliu	154.53	315	⇑P	PKPbc	03 15 41.5	-0.3		
CFR	Carcaliu	154.53	315	⇑PKIKP	PKPbc	03 15 41.5	-0.3		
BIZ	Bicaz	154.79	320	⇑P	PKiKP	03 15 42.6	+0.3		
BURAR	Bucovina Array	154.87	322	⇑P	PKiKP	03 15 43.3	+0.7		
BURAR	Bucovina Array	154.87	322	⇑PKIKP	PKiKP	03 15 43.3	+0.7		
HARR	Harsova	154.89	314	⇓P	PKiKP	03 15 43.0	+0.5		
HARR	Harsova	154.89	314	⇓PKIKP	PKiKP	03 15 43.0	+0.5		
BSEG	Bad Segeberg	154.98	349	*e*PKPab	PKPab	03 15 57.4	-0.5		
	baz=21,slow=4.4								
BSEG				*e*L	L	04 26 13.2			
	comp=Z,98nm,20.6s								
VRI	Vrincioaia	155.03	317	⇓P	PKPdf	03 15 42.9	+8.9		
VRI	Vrincioaia	155.03	317	⇓PKIKP	PKPdf	03 15 42.9	+8.9		
UZH	Uzhgorod	155.68	327	*e*PKIKP	PKPdf	03 15 44.8	+10		
UZH				*e*		03 16 01.0			
MLR	Muntele Rosu	155.69	317	PKPbc	PKPdf	03 15 44.2	+9.1		
	comp=Z,3.9nm,0.8s,baz=298,slow=1.9,SNR=4.9								
DOPR	Dopca	155.75	319	⇑P	PKPdf	03 15 43.3	+8.2		
CRVS	Cervenica-Dubn	155.87	328	*e*PKP2	PKPab	03 16 02.2	+0.1		
NIE	Niedzica	156.00	331	*e*PKPbc	PKPdf	03 15 46.3	+11		
DBIC	Dimbokro	156.20	161	PKP	PKPdf	03 15 37.2	+0.6		
	comp=Z,7.0nm,1.1s,baz=59,slow=5.9,SNR=2.2								
DBIC				PKPab	PKPab	03 16 05.0	+0.8		
	comp=Z,4.0nm,0.7s,baz=200,slow=6.8,SNR=5.5								
DBIC	Dimbokro	156.20	161	PKIKP	PKPdf	03 15 35.4	-1.1		
DBIC	Dimbokro	156.20	161		PKPdf	03 15 35.4	-1.1		
FLTG	Flechtingen	156.34	347	*e*PKPab	PKPab	03 16 02.8	-1.1		
	baz=21,slow=4.4								
KSP	Ksiaz	156.36	338	*e*PKPbc	PKPdf	03 15 45.9	+10		
NRDL	Niedersach Rie	156.40	348	*e*PKPab	PKPab	03 16 03.3	-0.7		
	baz=21,slow=4.4								
LANS	Liptovska Anna	156.56	331	*e*PKP2	PKPab	03 16 05.3	+0.3		
OSTC	Ostas	156.63	338	*e*PKPDF	PKPdf	03 15 35.5	-0.5		
OSTC	Ostas	156.63	338	*e*P	PKPab	03 16 05.5	+0.3		
ASSE	Asse, Remlinge	156.64	347	*e*PKPab	PKPab	03 16 04.5	-0.6		
	baz=21,slow=4.4								
CHVC	Chvalec	156.65	338	*e*P	PKPab	03 16 05.2	-0.1		
DRGR		156.71	323	⇑P	PKPdf	03 15 46.9	+11		
DRGR		156.71	323	⇑PKIKP	PKPdf	03 15 46.9	+11		
UPC	Upice	156.74	338	*e*PKP2	PKPab	03 16 06.1	+0.4		
UPC	Upice	156.74	338	*e*P	PKPab	03 16 06.1	+0.4		
MORC	Moravsky Berou	156.82	335	*e*PKP	PKPdf	03 15 36.8	+0.5		
MORC				*e*		03 16 05.1			
KRLC	Kraliky	156.84	336	*e*PKIKP	PKPdf	03 15 40.8	+4.5		
KRLC	Kraliky	156.84	336	*e*PKPDF	PKPdf	03 15 40.8	+4.5		
CLL	Collm	156.90	343	*e*PKPdf	PKPdf	03 15 36.0	-0.3		
CLL				*e*		03 15 40.0			
CLL				*i* PKPdiff	pPKPdf	03 15 46.6	-2.7		
	comp=Z,10.0nm,1.0s								
CLL				⇓*i* PKPab	PKPab	03 16 05.6	-0.7		
	comp=Z,24nm,0.9s								
CLL				*e*PSKS		03 30 06.0			
CLL				*e*PPS	PPS	03 32 54.0			
CLL				*e*		03 44 54.0			
CLL	Collm	156.90	343	⇓*e*PKIKP	PKPdf	03 15 36.0	-0.3		
CLL				*i*		03 15 46.6			
CLL				pmax	pmax				
	comp=Z,10.0nm,1.0s								
CLL				pmax	pmax				
	comp=Z,24nm,0.9s								
CLL	Collm	156.90	343	*e*PKPab	PKPab	03 16 05.6	-0.7		
	baz=21,slow=4.4								
CLL				*e*L	L	04 29 17.6			
	comp=Z,132nm,21.6s								
IBBN	Ibbenburen	156.93	352	*e*PKPab	PKPab	03 16 05.7	-0.7		
	baz=21,slow=4.4								
CLZ	Clausthal	156.98	348	*e*PKPab	PKPab	03 16 06.4	-0.3		
	baz=21,slow=4.4								
BRG	Berggiesshubel	157.04	341	*e*PKPab	PKPab	03 16 06.7	-0.2		
	baz=21,slow=4.4								
BRG	Berggiesshubel	157.04	341	P	PKPdf	03 15 41.6	+5.2		
BRG				Amp		03 15 42.6			
	comp=Z,5.9nm,1.1s								
BRG				⇑*e*PKP	pPKPdf	03 15 47.6	-2.0		
BRG				Amp		03 15 48.3			
	comp=Z,6.0nm,0.9s								
BRG				*i* PKPab	PKPab	03 16 07.0	+0.1		
BRG				Amp		03 16 07.8			
	comp=Z,15nm,0.9s								
BRG	Berggiesshubel	157.04	341	⇓*e*PKPf		03 15 36.3			
BRG	Berggiesshubel	157.04	341	Amp		03 15 38.4			
	comp=Z,12nm,1.6s								
FBE	Freiberg	157.16	342	*e*PKPab	PKPab	03 16 07.3	-0.1		
	baz=21,slow=4.4								
PVCC	Panska Ves	157.17	340	*e*PKP2	PKPab	03 16 07.7	+0.2		
PVCC	Panska Ves	157.17	340	*e*PKPDF	PKPdf	03 15 41.1	+4.4		
PVCC	Panska Ves	157.17	340	*e*P	PKPab	03 16 07.7	+0.2		
NEUB	Neuenburg	157.28	345	*e*PKPab	PKPab	03 16 07.3	-0.6		
	baz=21,slow=4.4								
VYHS	Vyhne	157.33	331	*e*PKP2	PKPab	03 16 08.8	+0.5		
GTTG	Gottingen	157.33	348	*e*PKPab	PKPab	03 16 07.7	-0.5		
	baz=21,slow=4.4								
JAVC	Velka Javorina	157.51	333	*e*PKP	PKPdf	03 15 38.5	+1.3		
JAVC				*e*		03 16 10.1			
VRAC	Vranov	157.55	335	⇑P	PKPab	03 16 08.7	-0.6		
VRAC	Vranov	157.55	335	PKPab	PKPab	03 16 08.7	-0.6		
	comp=Z,6.3nm,1.0s,baz=21,slow=2.9,SNR=7.5								
VRAC	Vranov	157.55	335	*e*PKP	PKPdf	03 15 37.4	+0.2		
VRAC				*e*		03 15 50.7			
VRAC				*e*		03 16 08.4			
PRU	Pruhonice	157.65	339	*e*PKP2	PKPab	03 16 09.2	-0.4		
PRU	Pruhonice	157.65	339	*e*pPKP	pPKPdf	03 15 48.8	-1.5		
PRU	Pruhonice	157.65	339	*e*P	PKPab	03 16 09.2	-0.4		
KRUC	Moravsky	157.83	335	*e*	PKPab	03 16 09.5	-0.9		
MOX	Moxa	157.85	345	*e*PKPab	PKPab	03 16 09.9	-0.5		
	baz=21,slow=4.4								
MOX				*e*L	L	04 26 52.6			
	comp=Z,94nm,21.8s								
WERD	Werda	157.86	343	*e*PKPab	PKPab	03 16 10.0	-0.6		
	baz=21,slow=4.4								
PLN	Plauen	157.87	344	*e*PKPab	PKPab	03 16 10.0	-0.5		
	baz=21,slow=4.4								
SMOL	Smolenice	157.89	333	*e*PKP2	PKPab	03 16 10.2	-0.5		
GUNZ	Gunzen	157.93	343	*e*PKPab	PKPab	03 16 10.6	-0.3		
	baz=21,slow=4.4								
WERN	Wernitzgruen	157.99	343	*e*PKPab	PKPab	03 16 11.1	0.0		
	baz=21,slow=4.4								
NKC	Novy Kostel	158.02	343	*e*PKP2	PKPab	03 16 10.7	-0.6		
NKC	Novy Kostel	158.02	343	*e*P	PKPab	03 16 10.7	-0.6		
BZS	Buzias	158.06	322	⇑P	PKPdf	03 15 33.0	-5.0		
BZS	Buzias	158.06	322	⇑PKIKP	PKPdf	03 15 33.0	-5.0		
PBCC	Pribram	158.09	340	*e*P	PKPab	03 16 11.2	-0.3		
ZST	Bratislava	158.27	333	*e*PKP2	PKPab	03 16 13.6	+1.2		
MANZ	Manzenberg	158.34	343	*e*PKPab	PKPab	03 16 12.2	-0.4		
	baz=21,slow=4.4								
ROTZ	Rotzenmuhle	158.51	343	*e*PKPab	PKPab	03 16 13.1	-0.3		
	baz=21,slow=4.4								
KHC	Kasperske Hory	158.71	340	*e*PKIKP	PKPdf	03 15 37.3	-1.4		
KHC	Kasperske Hory	158.71	340	*e*PKPDF	PKPdf	03 15 37.3	-1.4		
KHC	Kasperske Hory	158.71	340	*e*P	PKPab	03 16 14.5	+0.2		
CKRC	Cesky Krumlov	158.75	338	*e*PKPDF	PKPdf	03 15 37.9	-0.8		
CKRC	Cesky Krumlov	158.75	338	*e*P	PKPab	03 16 14.5	0.0		
MEM	Membach	158.79	354	*d*PKPab	PKPab	03 16 13.7	-0.8		
BTNL	Ternell	158.81	354	*d*PKPab	PKPab	03 16 13.9	-0.7		
GRF	Grafenberg Arr	158.83	344	*e*PKPab	PKPab	03 16 14.7	0.0		
	baz=21,slow=4.4								
GRF				*e*L	L	04 27 18.0			
	comp=Z,112nm,21.7s								
GRFO	Grafenberg	158.83	344	PKP2	PKPab	03 16 14.1	-0.6		
GRFO						04 15 38.1			
GRFO	Grafenberg	158.83	344	PKPdf	PKPdf	03 15 38.1	-0.7		
GRFO				PKPab	PKPab	03 16 14.1	-0.6		
TNS	Taunus Mts	158.87	349	*e*PKPab	PKPab	03 16 14.3	-0.7		
	baz=21,slow=4.4								
TNS				*e*L	L	04 26 34.5			
	comp=Z,139nm,21.1s								
VTS	Vitosha	158.88	314	⇓P	PKPab	03 16 12.0	-3.4		
VTS	Vitosha	158.88	314	⇓PKP2	PKPab	03 16 12.0	-3.4		
WET	Wettzell	158.90	341	*e*PKPab	PKPab	03 16 15.1	0.0		
	baz=21,slow=4.4								
WET				*e*L	L	04 23 46.4			
	comp=Z,119nm,21.5s								
GEC2	GERESS Array S	158.92	339	*e*PKPab	PKPab	03 16 14.8	-0.5		
	baz=21,slow=4.4								
GEC2				*e*L	L	04 27 48.0			
	comp=Z,123nm,21.7s								
GERES	GERESS Array B	158.92	339	PKP	PKPdf	03 15 38.6	-0.4		
	comp=Z,1.1nm,0.8s,baz=101,slow=1.4,SNR=7.0								
GERES				PKPab	PKPab	03 16 14.5	-0.8		
	comp=Z,4.1nm,1.0s,baz=35,slow=4.9,SNR=3.5								
CONA	Conrad Observa	158.97	334	*e*P	PKPdf	03 15 38.9	-0.1		
	comp=Z,3.7nm,1.3s								
CONA				*e*P	PKPab	03

ellipse: s-maj=5.4km s-min=3.3km az=91.6
ATH ***13*** *02:57:28.0,37°.13N×28°.85E,h15km≈8km,ML4.6/8,Error*
ellipse: s-maj=8.2km s-min=1.4km az=45.0
BGR ***13*** *02:57:37.6±0.0,37°.71N×28°.56E,h10km,mb4.3,Ms3.1*
ISC 13 02:57:28.4±0.8,**37°.09N**±0'.02×**28°.90E**±0'.01,**h13**km±5km, **n552,σ1♀46/609,mb4.5/55,MS3.3/8,98C-83D,Fault plane solution: NP1:**ϕ≈282.35461°,δ35.31754°,λ-69.45783°. **NP2:**ϕ≈77.68802°,δ57.22455°,λ-103.96127°. **Principal axes:** T Plg11.1969°, Azm177.7033°; N Plg11.7040°, Azm85.3531°; P Plg73.6912°, Azm310.2775°; **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	h	m	s	ISC
CAEL	**Denizli, Camel**	**0.34**	**85**	⇓	*i*P	**Pg**	**02**	**57**	**34.3**	**-1.1**
CAEL					*i*S	**Sb**	**02**	**57**	**40.9**	**-0.9**
CAEL					IAML		02	57	42.0	
	comp=N,29μm,0.6s									
CAEL					IAML		02	57	48.0	
	comp=E,71μm,0.9s									
DALY	**Dalyan (Mula)**	**0.34**	**216**	⇑	*i*P	**Pg**	**02**	**57**	**34.6**	**-0.6**
DALY					*i*S	**Sg**	**02**	**57**	**40.6**	**+0.8**
DALY					IAML		02	57	43.0	
	comp=N,47μm,0.6s									
DALY					IAML		02	57	43.0	
	comp=E,39μm,0.6s									
DALY	**Dalyan (Mula)**	**0.34**	**216**	PG		**Pg**	**02**	**57**	**34.7**	**-0.6**
CAME	**Cameli-Denizli**	**0.35**	**115**	PG		**Pg**	**02**	**57**	**34.6**	**-1.1**
CAME				SG		**Sb**	**02**	**57**	**41.5**	**-0.7**
TAVA	**DENIZLI_Tavas**	**0.37**	**2**	⇑	*i*P	**Pg**	**02**	**57**	**34.2**	**-1.8**
TAVA					*i*S	**Sg**	**02**	**57**	**40.4**	**-0.7**
TAVA					IAML		02	57	44.0	
	comp=E,32μm,0.8s									
TAVA					IAML		02	57	45.0	
	comp=N,22μm,0.5s									
FETY	**Fethiye**	**0.48**	**162**	P		**Pg**	**02**	**57**	**37.4**	**-0.5**
FETY	**Fethiye**	**0.48**	**162**	⇑	*i*P	**Pg**	**02**	**57**	**36.7**	**-1.2**
FETY					*i*S	**Sg**	**02**	**57**	**44.5**	**+0.2**
FETY	**Fethiye**	**0.48**	**162**	PG		**Pg**	**02**	**57**	**37.0**	**-0.9**
FETY				SG		**Sb**	**02**	**57**	**46.2**	**+0.5**
MULA	**Mugla, Merkez-**	**0.49**	**290**	⇑	*i*P	**Pg**	**02**	**57**	**36.6**	**-1.5**
MULA					*i*S	**Sg**	**02**	**57**	**44.2**	**-0.5**
MULA					IAML		02	57	48.0	
	comp=N,24μm,0.8s									
MULA					IAML		02	57	50.0	
	comp=E,27μm,0.8s									
YER	**Yerkesik**	**0.49**	**275**	P		**Pg**	**02**	**57**	**37.7**	**-0.5**
YER	**Yerkesik**	**0.49**	**275**	PG		**Pg**	**02**	**57**	**37.5**	**-0.7**
YER				SG		**Sg**	**02**	**57**	**45.3**	**+0.5**
GOLH	**Golhisar**	**0.55**	**75**	⇓	*i*P	**Pg**	**02**	**57**	**36.8**	**-2.4**
GOLH					*i*S	**Sg**	**02**	**57**	**46.6**	**+0.1**
GOLH					IAML		02	57	58.0	
	comp=N,18μm,0.9s									
GOLH					IAML		02	58	04.0	
	comp=E,52μm,1.0s									
TURN	**Turunc**	**0.61**	**239**	⇑	*i*P	**Pg**	**02**	**57**	**39.1**	**-1.3**
TURN					*i*S	**Sb**	**02**	**57**	**50.4**	**+0.9**
MRSB	**Marmaris-Mugla**	**0.68**	**236**	PG		**Pg**	**02**	**57**	**40.9**	**-0.7**
MRSB				SG		**Sb**	**02**	**57**	**52.5**	**+1.1**
ELL	**Elmali**	**0.88**	**113**	P		**Pg**	**02**	**57**	**43.1**	**-2.4**
ELL	**Elmali**	**0.88**	**113**	PG		**Pg**	**02**	**57**	**44.2**	**-1.2**
ELL				SG		**Sn**	**02**	**57**	**58.3**	**-1.0**
ELL	**Elmali**	**0.88**	**113**			**Pg**	**02**	**57**	**43.0**	**-2.4**
ELL	**Elmali**	**0.88**	**113**	P		**Pg**	**02**	**57**	**43.4**	**-2.0**
ELL				S		**Sb**	**02**	**57**	**58.0**	**+0.7**
MLSB	**Milas**	**0.92**	**283**	PG		**Pg**	**02**	**57**	**44.9**	**-1.3**
MLSB				SG		**Sb**	**02**	**57**	**58.6**	**+0.2**
AYDN	**Tasoluk**	**0.99**	**305**	⇑	*i*P	**Pg**	**02**	**57**	**46.0**	**-1.6**
AYDN					*i*S	**Sn**	**02**	**58**	**01.3**	**-0.7**
AYDN					IAML		02	58	06.0	
	comp=E,6μm,0.4s									
AYDN					IAML		02	58	08.0	
	comp=N,7μm,0.8s									
AKAS	**Kas**	**1.03**	**146**	⇑	*i*P	**Pb**	**02**	**57**	**47.4**	**-0.7**
AKAS					*i*S	**Sn**	**02**	**58**	**07.9**	**+4.9**
AKAS					IAML		02	58	11.0	
	comp=N,17μm,0.6s									
AKAS					IAML		02	58	11.0	
	comp=E,12μm,1.1s									
AKAS	**Kas**	**1.03**	**146**			**Pb**	**02**	**57**	**47.2**	**-1.0**
ARG	**Arkhangelos**	**1.07**	**216**	P		**Pb**	**02**	**57**	**48.0**	**-0.8**
ARG				S		**Sn**	**02**	**58**	**05.6**	**+1.7**
	comp=E,28μm,0.6s									
ARG	**Arkhangelos**	**1.07**	**216**	P		**Pb**	**02**	**57**	**47.6**	**-1.3**
ARG				S		**Sb**	**02**	**58**	**02.1**	**-0.6**
ARG				AML	AML		02	58	09.7	
	comp=N,49086μm,0.6s									
ARG				AML	AML		02	58	09.9	
	comp=E,62564μm,0.6s									
ARG	**Arkhangelos**	**1.07**	**216**	PN		**Pb**	**02**	**57**	**47.8**	**-1.0**
ARG				SN		**Sn**	**02**	**58**	**05.5**	**+1.7**
ARG	**Arkhangelos**	**1.07**	**216**	S		**Sn**	**02**	**58**	**06.8**	**+2.9**
KSL	**Kastellorizon**	**1.09**	**149**	P		**Pb**	**02**	**57**	**48.8**	**-0.3**
KSL				S		**Sn**	**02**	**58**	**04.9**	**+0.6**
	comp=E,35μm,0.9s									
KSL	**Kastellorizon**	**1.09**	**149**	P		**Pb**	**02**	**57**	**48.6**	**-0.5**
KSL				S		**Sn**	**02**	**58**	**04.3**	**0.0**
KSL				AML	AML		02	58	10.9	
	comp=E,52805μm,0.9s									
KSL				AML	AML		02	58	11.3	
	comp=N,84949μm,0.9s									
KSL	**Kastellorizon**	**1.09**	**149**	⇑	P	**Pb**	**02**	**57**	**48.6**	**-0.5**
KSL					AML	AML	02	58	10.5	
	comp=N,55nm,0.9s									
KSL					AML	AML	02	58	11.3	
	comp=N,88nm,0.9s									
BRDR	**BURDUR-Merkez**	**1.10**	**57**	⇑	*i*P	**Pb**	**02**	**57**	**48.1**	**-1.3**
BRDR					*i*S	**Sn**	**02**	**58**	**05.7**	**+0.9**
BRDR					IAML		02	58	09.0	
	comp=E,4μm,0.8s									
BRDR					IAML		02	58	10.0	
	comp=N,5μm,1.5s									
DAT	**Datca**	**1.12**	**251**	P		**Pb**	**02**	**57**	**49.2**	**-0.5**
DAT				S		**Sn**	**02**	**58**	**07.0**	**+1.8**
DAT	**Datca**	**1.12**	**251**	⇓	*i*P	**Pb**	**02**	**57**	**48.7**	**-1.0**
DAT					*i*S	**Sn**	**02**	**58**	**07.2**	**+2.0**
DAT	**Datca**	**1.12**	**251**	PN		**Pb**	**02**	**57**	**49.2**	**-0.5**
DAT				SN		**Sn**	**02**	**58**	**06.6**	**+1.4**
BDRM	**Kayabasi**	**1.16**	**269**	⇑	*i*P	**Pb**	**02**	**57**	**49.5**	**-0.9**
BDRM					*i*S	**Sn**	**02**	**58**	**08.1**	**+1.9**
BDRM					IAML		02	58	09.0	
	comp=E,8μm,0.5s									
BDRM					IAML		02	58	15.0	
	comp=N,12μm,0.6s									
KORT	**Korkueli**	**1.17**	**94**	*i*	P	**Pb**	**02**	**57**	**50.2**	**-0.3**
KORT				*i*	S	**Sn**	**02**	**58**	**09.5**	**+3.1**
KORT					IAML		02	58	13.0	
	comp=N,6μm,0.6s									
KORT					IAML		02	58	19.0	
	comp=E,9μm,0.6s									
AYDB	**Zeytinkoy-Aydi**	**1.17**	**317**	PN		**Pb**	**02**	**57**	**49.1**	**-1.5**
DEMR	**Demre-Antalya**	**1.18**	**136**	PN		**Pg**	**02**	**57**	**51.1**	**0.0**
BASM	**Basmaki-Afyon**	**1.23**	**48**	PN		**Pn**	**02**	**57**	**50.6**	**-0.8**
BODT	**Bodrum**	**1.27**	**269**	P		**Pn**	**02**	**57**	**51.9**	**0.0**
BODT				S		**Sg**	**02**	**58**	**10.3**	**+0.9**
YKAV	**Yalikavak-Bodr**	**1.29**	**272**	PN		**Pg**	**02**	**57**	**52.9**	**-0.4**
KHL	**Karahalli**	**1.32**	**22**	PN		**Pn**	**02**	**57**	**51.4**	**-1.3**
PASA	**Karahalli, USA**	**1.34**	**20**	⇑	*i*P	**Pn**	**02**	**57**	**51.0**	**-1.9**
PASA					*i*S	**Sg**	**02**	**58**	**11.4**	**-0.1**
PASA					IAML		02	58	14.0	
	comp=E,4μm,1.0s									
PASA					IAML		02	58	19.0	
	comp=N,3μm,0.7s									
BUCA	**Burdur, Bucak-**	**1.35**	**79**	*i*	P	**Pn**	**02**	**57**	**52.9**	**-0.1**
BUCA				*i*	S	**Sg**	**02**	**58**	**14.1**	**+2.3**
BUCA					IAML		02	58	18.0	
	comp=N,2μm,1.7s									
BUCA					IAML		02	58	21.0	
	comp=E,3μm,0.7s									
DIDI	**Didim-Aydin**	**1.35**	**283**	PN		**Pn**	**02**	**57**	**53.1**	**+0.1**
DDIM	**Aydin, Didim**	**1.37**	**286**	⇑	*i*P	**Pn**	**02**	**57**	**52.9**	**-0.4**
DDIM					*i*S	**Sg**	**02**	**58**	**14.5**	**+1.9**
DDIM					IAML		02	58	20.0	
	comp=N,13μm,1.3s									
DDIM					IAML		02	58	29.0	
	comp=E,13μm,1.4s									
AKUM	**Antalya-Kumluc**	**1.39**	**123**	⇓	*i*P	**Pb**	**02**	**57**	**54.0**	**-0.3**
AKUM					*i*S	**Sg**	**02**	**58**	**18.0**	**+4.7**
AKUM					IAML		02	58	18.0	
	comp=E,5μm,0.6s									
AKUM					IAML		02	58	19.0	
	comp=N,4μm,0.6s									
KEMT	**Kemer-ANTALYA**	**1.42**	**110**	PN		**Pb**	**02**	**57**	**54.7**	**0.0**
MANT	**Manisa**	**1.42**	**349**	⇑	*i*P	**Pn**	**02**	**57**	**53.1**	**-1.0**
MANT					*i*S	**Sg**	**02**	**58**	**13.7**	**-0.6**
MANT					IAML		02	58	18.0	
	comp=N,2μm,1.4s									
MANT					IAML		02	58	18.0	
	comp=E,4μm,0.6s									
MANT	**Manisa**	**1.42**	**349**			**Pn**	**02**	**57**	**53.2**	**-1.0**
KULA	**Kula-Manisa**	**1.43**	**352**	P		**Pn**	**02**	**57**	**53.3**	**-0.9**
KULA	**Kula-Manisa**	**1.43**	**352**	PN		**Pn**	**02**	**57**	**53.5**	**-0.7**
GCAM	**G?zelcami?**	**1.46**	**295**	⇑	*i*P	**Pn**	**02**	**57**	**54.0**	**-0.5**
GCAM					*i*S	**Sb**	**02**	**58**	**13.9**	**+0.1**
GCAM					IAML		02	58	19.0	
	comp=N,8μm,0.5s									
GCAM					IAML		02	58	21.0	
	comp=E,10μm,0.6s									
NIS1	**Nisyros Isl.**	**1.47**	**251**	P		**Pb**	**02**	**57**	**55.1**	**-0.4**
NIS1				S		**Sb**	**02**	**58**	**14.0**	**-0.1**
	comp=E,53μm,0.6s									
NIS1	**Nisyros Isl.**	**1.47**	**251**	P		**Pn**	**02**	**57**	**54.5**	**-0.1**
NIS1				AML	AML		02	58	25.0	
NIS1				AML	AML		02	58	29.3	
	comp=E,80712μm,0.7s									
NIS1	**Nisyros Isl.**	**1.47**	**251**	PN		**Pb**	**02**	**57**	**55.3**	**-0.2**
ISP	**Isparta**	**1.48**	**60**	P		**Pb**	**02**	**57**	**55.4**	**-0.5**
ISP	**Isparta**	**1.48**	**60**	PN		**Pb**	**02**	**57**	**55.7**	**-0.2**
ISP	**Isparta**	**1.48**	**60**			**Pb**	**02**	**57**	**55.4**	**-0.5**
NISR	**Nisiros**	**1.50**	**252**	P		**Pn**	**02**	**57**	**55.0**	**0.0**
NISR				S		**Sg**	**02**	**58**	**15.9**	**-0.8**
	comp=E,20μm,1.0s									
NISR	**Nisiros**	**1.50**	**252**	P		**Pn**	**02**	**57**	**55.0**	**0.0**
NISR				S		**Sn**	**02**	**58**	**13.7**	**-0.7**
NISR				AML	AML		02	58	26.9	
	comp=E,49645μm,0.8s									
NISR				AML	AML		02	58	32.1	
	comp=N,24242μm,1.0s									
KZIL	**AFYON_Kizioren**	**1.52**	**40**	⇑	*i*P	**Pn**	**02**	**57**	**55.2**	**-0.3**
KZIL					*i*S	**Sg**	**02**	**58**	**23.4**	**+5.9**
KZIL					IAML		02	58	25.0	
	comp=E,3μm,0.8s									
KZIL					IAML		02	58	26.0	
	comp=N,3μm,0.7s									
KOSK	**Kos Island**	**1.58**	**258**	P		**Pb**	**02**	**57**	**56.8**	**-0.6**
KOSK				S		**Sg**	**02**	**58**	**19.1**	**-0.1**
	comp=N,13μm,0.5s									
KOSK	**Kos Island**	**1.58**	**258**	PN		**Pb**	**02**	**57**	**56.9**	**-0.5**
USAK	**Uak-Merkez**	**1.62**	**3**	⇑	*i*P	**Pn**	**02**	**57**	**56.0**	**-0.8**
USAK					*i*S	**Sb**	**02**	**58**	**18.9**	**+0.2**
USAK					IAML		02	58	28.0	
	comp=E,2μm,0.9s									
USAK					IAML		02	58	29.0	
	comp=N,1μm,1.0s									
BAGO	**Egridir - ISPA**	**1.75**	**59**	*i*	P	**Pb**	**02**	**57**	**59.6**	**-0.9**
BAGO				*i*	S	**Sg**	**02**	**58**	**29.1**	**+4.4**
SMG	**Samos**	**1.75**	**291**	P		**Pn**	**02**	**57**	**58.2**	**-0.3**
SMG				S		**Sb**	**02**	**58**	**23.1**	**+0.7**
	comp=N,10μm,0.6s									
SMG	**Samos**	**1.75**	**291**	P		**Pn**	**02**	**57**	**58.0**	**-0.5**
SMG				S		**Sn**	**02**	**58**	**20.4**	**-0.3**
SMG				AML	AML		02	58	32.3	
	comp=E,25226μm,0.5s									
SMG				AML	AML		02	58	37.2	
	comp=N,18512μm,0.6s									
GOMA	**Golmarmara-Man**	**1.79**	**335**	PN		**Pn**	**02**	**57**	**59.4**	**+0.4**
DGB	**zmir**	**1.87**	**301**	⇑	*i*P	**Pn**	**02**	**57**	**59.3**	**-0.7**
DGB					*i*S	**Sg**	**02**	**58**	**28.1**	**-0.3**
DGB					IAML		02	58	33.0	
	comp=E,2μm,0.5s									
SHAP	**Saphane-Kutahy**	**1.94**	**7**	PN		**Pn**	**02**	**58**	**01.6**	**+0.4**
DEMI	**Demirci**	**1.95**	**356**	⇑	*i*P	**Pn**	**02**	**58**	**00.6**	**-0.8**
DEMI					*i*S	**Sg**	**02**	**58**	**34.4**	**+3.2**
DEMI					IAML		02	58	41.0	
	comp=E,2μm,1.0s									
DEMI					IAML		02	58	43.0	
	comp=N,1μm,0.9s									
BLCB	**Balcova**	**1.96**	**312**	P		**Pn**	**02**	**58**	**00.9**	**-0.4**
AKHS	**Akhisar**	**1.98**	**335**	*i*	P	**Pn**	**02**	**58**	**00.5**	**-1.2**
AKHS				*i*	S	**Sg**	**02**	**58**	**35.0**	**+2.9**
AKHS					IAML		02	58	38.0	
	comp=E,884nm,0.9s									
AKHS					IAML		02	58	44.0	
	comp=N,0.4nm,0.4s									
AKS	**Akhisar**	**1.98**	**335**	PN		**Pn**	**02**	**58**	**01.6**	**0.0**
AFYO	**Afyonkarahisar**	**2.02**	**33**	*i*	P	**Pn**	**02**	**58**	**02.5**	**+0.2**
AFYO				*i*	S	**Sg**	**02**	**58**	**36.0**	**+2.6**
AFYO					IAML		02	58	42.0	
	comp=E,5μm,0.9s									
AFYO					IAML		02	58	49.0	
	comp=N,6μm,1.2s									
GDZ	**Gediz**	**2.04**	**13**	*i*	P	**Pn**	**02**	**58**	**01.4**	**-1.2**
GDZ				*i*	S	**Sg**	**02**	**58**	**36.3**	**+2.1**
GDZ					IAML		02	58	38.0	
	comp=N,1μm,0.9s									
GDZ					IAML		02	58	51.0	
	comp=E,825nm,1.1s									
KARP	**Karpathos**	**2.08**	**223**	P		**Pn**	**02**	**58**	**04.6**	**+1.5**
KARP	**Karpathos**	**2.08**	**223**	P		**Pn**	**02**	**58**	**04.5**	**+1.3**
KARP					AML	AML	02	58	40.0	
	comp=E,26728μm,0.6s									
KARP					AML	AML	02	58	40.4	
	comp=N,35556μm,0.8s									
KARP	**Karpathos**	**2.08**	**223**	⇑	P	**Pb**	**02**	**58**	**04.9**	**-1.2**
KARP					S	**Sb**	**02**	**58**	**33.5**	**+1.6**
KARP					AML	AML	02	58	39.6	
	comp=N,27nm,0.6s									
KARP					AML	AML	02	58	39.6	
	comp=N,27nm,0.6s									
KARP					AML	AML	02	58	40.0	
	comp=N,36nm,0.8s									
KARP					AML	AML	02	58	40.0	
	comp=N,36nm,0.8s									
KEPZ	**Antalya-Kepez**	**2.17**	**94**	*i*	P	**Pb**	**02**	**58**	**06.7**	**-0.9**
KEPZ				*i*	S	**Sg**	**02**	**58**	**38.6**	**+0.3**
KEPZ					IAML		02	58	45.0	
	comp=E,567nm,0.9s									
KEPZ					IAML		02	58	46.0	
	comp=N,987nm,1.1s									
YVAC	**Isparta, Yalva**	**2.20**	**57**	*i*	P	**Pn**	**02**	**58**	**06.0**	**+1.2**
YVAC				*i*	S	**Sg**	**02**	**58**	**42.4**	**+3.3**
YVAC					IAML		02	58	50.0	
	comp=N,566nm,2.5s									
YVAC					IAML		02	58	50.0	
	comp=E,537nm,2.2s									
ZEYE	**Izmir, Urla-Ze**	**2.22**	**302**	⇑	*i*P	**Pn**	**02**	**58**	**04.1**	**-0.8**
ZEYE					*i*S	**Sg**	**02**	**58**	**40.9**	**+1.1**
ZEYE					IAML		02	58	51.0	
	comp=N,3μm,0.8s									
ZEYE					IAML		02	58	51.0	
	comp=E,3μm,1.0s									
URLA	**Izmir**	**2.22**	**305**	*i*	P	**Pn**	**02**	**58**	**03.9**	**-1.1**
URLA				*i*	S	**Sg**	**02**	**58**	**43.9**	**+4.1**
URLA					IAML		02	58	50.0	
	comp=N,2μm,0.8s									
URLA					IAML		02	58	50.0	
	comp=E,2μm,1.1s									
SEDI	**Konya, Seydise**	**2.31**	**80**	*i*	P	**Pb**	**02**	**58**	**08.0**	**-1.9**
SEDI				*i*	S	**Sb**	**02**	**58**	**39.7**	**+1.3**
SEDI					IAML		02	58	57.0	
	comp=N,612nm,0.7s									
SEDI					IAML		02	59	07.0	
	comp=E,712nm,1.0s									
FOCM	**Foa**	**2.36**	**314**	PN		**Pn**	**02**	**58**	**07.4**	**+0.6**
ZEDA	**zmir-Bergama**	**2.36**	**323**	*i*	P	**Pn**	**02**	**58**	**06.3**	**-0.6**
ZEDA				*i*	S	**Sg**	**02**	**58**	**46.1**	**+1.9**
ZEDA					IAML		02	58	52.0	
	comp=E,1μm,0.9s									
ZEDA					IAML		02	59	04.0	
	comp=N,998nm,0.8s									
SEYD	**Seydisehir-KON**	**2.37**	**82**	PN		**Pn**	**02**	**58**	**07.9**	**+0.9**
DOGA	**KONYA_Doganhis**	**2.42**	**64**	*i*	P	**Pn**	**02**	**58**	**08.8**	**+0.9**
DOGA				*i*	S	**Sb**	**02**	**58**	**41.7**	**0.0**
STEP	**BALIKESIR_Sava**	**2.46**	**338**	*i*	P	**Pn**	**02**	**58**	**07.6**	**-0.7**
STEP					IAML		02	58	58.0	
	comp=E,2μm,0.9s									
STEP					IAML		02	59	00.0	
	comp=N,2μm,0.7s									
CAND	**Candarli**	**2.49**	**319**	PN		**Pn**	**02**	**58**	**09.1**	**+0.5**
DST	**Dursunbey**	**2.52**	**355**	PN		**Pn**	**02**	**58**	**09.6**	**+0.5**
DURS	**Dursunbey**	**2.53**	**353**	*i*	P	**Pn**	**02**	**58**	**08.6**	**-0.7**
DURS				*i*	S	**Sg**	**02**	**58**	**49.9**	**+0.2**
DURS					IAML		02	58	58.0	
	comp=E,1μm,1.5s									
DURS					IAML		02	58	59.0	
	comp=N,1μm,1.8s									
ANDZ	**Kutahya, Merke**	**2.54**	**18**	*i*	P	**Pn**	**02**	**58**	**08.6**	**-0.8**
ANDZ				*i*	S	**Sg**	**02**	**58**	**50.9**	**+0.9**
ANDZ					IAML		02	58	59.0	
	comp=E,952nm,0.8s									
ANDZ					IAML		02	59	01.0	
	comp=N,423nm,0.8s									
BALB	**Balikesir**	**2.67**	**343**	PN		**Pn**	**02**	**58**	**11.6**	**+0.5**
BALB	**Balikesir**	**2.67**	**343**			**Pn**	**02**	**58**	**10.5**	**-0.5**
APE	**Apeiranthos**	**2.69**	**271**	P		**Pn**	**02**	**58**	**12.3**	**+0.8**
APE	**Apeiranthos**	**2.69**	**271**	P		**Pn**	**02**	**58**	**13.2**	**+1.7**
APE				AML	AML		02	59	07.8	
	comp=N,4018μm,1.3s									
APE				AML	AML		02	59	09.3	
	comp=E,2195μm,1.1s									
APE	**Apeiranthos**	**2.69**	**271**	*e*P		**Pn**	**02**	**58**	**13.6**	**+2.1**
APE	**Apeiranthos**	**2.69**	**271**	PN		**Pn**	**02**	**58**	**12.9**	**+1.4**
APE	**Apeiranthos**	**2.69**	**271**	⇑	P	**Pn**	**02**	**58**	**12.6**	**+1.1**
SANT	**Santorini**	**2.86**	**256**	P		**Pn**	**02**	**58**	**15.0**	**+1.3**
SANT	**Santorini**	**2.86**	**256**	PN		**Pn**	**02**	**58**	**15.2**	**+1.5**
SANT	**Santorini**	**2.86**	**256**			**Pn**	**02**	**58**	**15.1**	**+1.5**
ESKT	**Eskisehir**	**2.87**	**32**	PN		**Pn**	**02**	**58**	**14.9**	**+0.9**
GAZI	**Gazipasa**	**2.88**	**106**	PN		**Pn**	**02**	**58**	**15.7**	**+1.7**
THR3	**Thira Island,**	**2.89**	**257**	P		**Pn**	**02**	**58**	**15.3**	**+1.2**
SNT5	**Nea Kammeni, S**	**2.90**	**257**	P		**Pn**	**02**	**58**	**15.7**	**+1.5**
ZKR	**Zakros**	**2.94**	**229**	P		**Pb**	**02**	**58**	**18.2**	**-2.4**
ZKR				AML	AML		02	58	59.3	
	comp=E,8884μm,0.8s									
ZKR				AML	AML		02	59	06.1	
	comp=N,5002μm,0.5s									
ZKR	**Zakros**	**2.94**	**229**	PN		**Pn**	**02**	**58**	**16.6**	**+1.8**
ZKR	**Zakros**	**2.94**	**229**	P		**Pn**	**02**	**58**	**16.7**	**+2.0**
ZKR				S		**Sb**	**02**	**58**	**54.8**	**-1.5**
ZKR				AML	AML		02	58	57.8	
	comp=N,8.8nm,0.8s									
ZKR				AML	AML		02	58	57.8	
	comp=N,8.8nm,0.8s									
ZKR				AML	AML		02	59	05.0	
	comp=N,4.8nm,0.5s									
ZKR				AML	AML		02	59	05.0	
	comp=N,4.8nm,0.5s									
ORLT	**Orhaneli**	**2.95**	**360**	PN		**Pn**	**02**	**58**	**15.5**	**+0.5**
AUBOZ	**BOZOYUK**	**2.95**	**17**	PN		**Pn**	**02**	**58**	**15.7**	**+0.7**
KIZT	**Kizilcal**	**2.96**	**52**	PN		**Pn**	**02**	**58**	**16.3**	**+1.2**
PRK	**Paraskevi**	**2.98**	**317**	P		**Pn**	**02**	**58**	**16.1**	**+0.7**
BORA	**Eskisehir**	**3.04**	**23**	PN		**Pn**	**02**	**58**	**17.4**	**+1.1**
GONE	**Gonen-Balikesi**	**3.10**	**343**	PN		**Pn**	**02**	**58**	**16.9**	**-0.1**
SVRH	**Sivrihisar-ESK**	**3.13**	**41**	PN		**Pn**	**02**	**58**	**18.6**	**+1.1**
AUSIV	**SIVRIHISAR**	**3.13**	**41**	PN		**Pn**	**02**	**58**	**18.3**	**+0.7**
CAVI	**Cavuskoy**	**3.19**	**13**	PN		**Pn**	**02**	**58**	**18.8**	**+0.5**
KCTX	**Karacabey (Bur**	**3.20**	**353**	PN		**Pn**	**02**	**58**	**19.6**	**+1.2**
SIGR	**SIGRI**	**3.20**	**312**	P		**Pn**	**02**	**58**	**19.3**	**-0.2**
SIGR	**SIGRI**	**3.20**	**312**	PN		**Pn**	**02**	**58**	**19.3**	**+0.9**
GPNR	**Gulpinar-Canak**	**3.21**	**318**	PN		**Pn**	**02**	**58**	**19.6**	**+1.1**
MDNY	**Mudanya-Bursa**	**3.27**	**360**	PN		**Pn**	**02**	**58**	**20.7**	**+1.3**
EZN	**Ezine**	**3.40**	**324**	P		**Pn**	**02**	**58**	**20.6**	**-0.5**
EZN	**Ezine**	**3.40**	**324**	PN		**Pn**	**02**	**58**	**21.3**	**+0.2**
ADVT	**Abdulvahap**	**3.40**	**11**	PN		**Pn**	**02**	**58**	**21.5**	**+0.4**
BOZY	**Bozyazi-Mersin**	**3.42**	**105**	PN		**Pn**	**02**	**58**	**23.2**	**+1.7**
ARMT	**Armutlu**	**3.47**	**360**	PN		**Pn**	**02**	**58**	**23.5**	**+1.4**
AKMS	**Akamas**	**3.47**	**126**	P		**Pn**	**02**

baz=210
HWQ Hawqa 6.38 114 *e*P Pn **02 59 02.7 +0.4**
DQRL Deir Qamar 6.41 120 *e*P Pn **02 59 02.2 -0.4**
VAY Valandovo 6.48 313 *i* Pn Pn **02 59 05.0 +1.5**
QRWL Qaraoun 6.58 121 *e*P Pn **02 59 04.6 -0.3**
GAZ Gaziantep 6.64 87 Pn Pn **02 59 05.8 +0.1**
MMAI Mount Meron Ar 6.71 125 Pn Pn **02 59 06.0 -0.7**
comp=N,44nm,0.3s,baz=308,slow=12,SNR=86
MMAI Sn **Sn 03 00 20.3 -2.7**
comp=N,11nm,0.3s,baz=306,slow=26,SNR=2.9
RCY Rachaya 6.71 120 *e*P Pn **02 59 06.5 -0.3**
RAZG Razgrad 6.72 345 ⇓P Pn **02 59 06.9 +0.1**
FNA Florina 6.92 304 P Pn **02 59 11.5 +1.8**
FNA Florina 6.92 304 Pn Pn **02 59 11.4 +1.8**
STIP Stip 6.94 314 *i* Pn Pn **02 59 09.6 -0.2**
VTS Vitosha 7.03 323 ⇑P Pn **02 59 11.8 +0.6**
VTS Vitosha 7.03 323 P Pn **02 59 11.3 +0.1**
VTS Vitosha 7.03 323 Pn **02 59 11.3 +0.1**
RASA Rasa 7.24 350 ⇑P Pn **02 59 15.0 +1.2**
TIRR Tirgusor 7.37 357 ⇑P Pn **02 59 16.0 +0.4**
TIRR Tirgusor 7.37 357 ⇑P Pn **02 59 16.0 +0.4**
OHR Ohrid 7.47 305 *i* Pn Pn 02 59 23.7 +6.6
TLBR Topalu 7.47 355 ⇓P Pn **02 59 17.4 +0.4**
SKO Skopje 7.55 313 *i* Pn Pn **02 59 20.1 +2.0**
KOT Kottamia 7.55 160 P Pn **02 59 17.7 -0.5**
baz=161
HNAT Natroun 7.58 169 P Pn **02 59 18.2 -0.3**
baz=169
HNAT AMP 03 00 00.0
baz=169
HNAT S Sn **03 00 39.3 -5.0**
baz=169
HHAG Hagoal 7.61 159 P Pn **02 59 18.9 -0.1**
baz=159
HHAG AMP 03 00 00.0
baz=159
HARR Harsova 7.62 355 ⇓P Pn **02 59 19.1 0.0**
HARR Harsova 7.62 355 ⇓P Pn **02 59 19.1 0.0**
TPGR Topolog 7.76 357 ⇓P Pn **02 59 21.7 +0.6**
HSAF As Saff 7.78 163 P Pn **02 59 20.8 -0.6**
baz=163
SUZ Suez 7.94 154 P Pn **02 59 23.2 -0.4**
baz=155
HUMR Humele 8.00 339 ⇓P Pn **02 59 23.6 -0.6**
RYAN Fayoum 8.07 171 P Pn **02 59 24.4 -0.9**
baz=171
TLCR 8.09 360 ⇑P Pn **02 59 25.7 +0.2**
TLCR 8.09 360 ⇑P Pn **02 59 25.7 +0.2**
CFR Carcaliu 8.10 356 ⇑P Pn **02 59 25.7 +0.1**
CFR Carcaliu 8.10 356 ⇑P Pn **02 59 25.7 +0.1**
ASF Jabal al Asfar 8.22 124 Pn Pn **02 59 28.6 +1.2**
comp=N,2.3nm,0.3s,baz=81,slow=13,SNR=23
ASF Sn **Sn 03 00 59.5 -0.7**
baz=217,slow=20,SNR=1.2
SECR 8.22 346 ⇑P Pn **02 59 29.1 +1.8**
SEV Sevastopol' 8.27 24 *e*P Pn **02 59 28.3 +0.3**
SWA2 8.34 201 P Pn **02 59 29.3 +0.3**
baz=202
YAL Yalta 8.39 27 *e*P Pn **02 59 33.4 +3.7**
GRER 8.40 351 ⇓P Pn **02 59 31.4 +1.5**
TATR Tatarca 8.52 356 ⇓P Pn **02 59 31.7 +0.3**
SCTR Scanteiesti 8.60 356 ⇑P Pn **02 59 33.5 +1.0**
BISRR Bisoca 8.61 350 ⇓P Pn **02 59 35.0 +2.3**
ALU Alushta 8.65 27 *e*P Pn **02 59 33.0 -0.2**
MLR Muntele Rosu 8.68 346 ⇑P Pn **02 59 34.6 +0.9**
MLR Muntele Rosu 8.68 346 Pn Pn **02 59 34.6 +0.9**
comp=N,1.6nm,0.3s,baz=186,slow=2.6,SNR=36
MLR LR LR 03 03 15.1
comp=N,264nm,21.0s,baz=162,slow=40
NBNS Bani Suef 8.68 166 S Sn **03 01 05.6 -5.9**
baz=166
NBNS AMP 03 01 00.0
baz=166
VLDR Vladesti 8.77 356 ⇑P Pn **02 59 35.8 +1.1**
SIM Simferopol' 8.78 25*d* *i*P Pn **02 59 35.1 +0.1**
SIM *i* S Sn **03 01 08.4 -5.4**
SIM pmax pmax
comp=Z,76nm,1.1s
SIM smax smax
comp=N,142nm,0.8s
SIM smax smax
comp=E,63nm,1.1s
VOIR 8.82 342 ⇑P Pn **02 59 35.4 -0.3**
VOIR 8.82 342 ⇑P Pn **02 59 35.4 -0.3**
VARL Varlezi 8.84 355 ⇑P Pn **02 59 37.0 +1.3**
ARR Arges 8.87 340 ⇑P Pn **02 59 37.2 +1.0**
PLOR Plostina 8.91 350 ⇓P Pn **02 59 38.2 +1.4**
PLOR Plostina 8.91 350 ⇓P Pn **02 59 38.2 +1.4**
VRI Vrincioaia 8.92 350 ⇓P Pn **02 59 37.3 +0.4**
VRI Vrincioaia 8.92 350 ⇓P Pn **02 59 37.3 +0.4**
EIL Elat 8.96 144 Pn Pn **02 59 37.2 -0.4**
comp=E,11nm,0.3s,baz=27,slow=0.9,SNR=54
EIL Sn **Sn 03 01 14.1 -4.4**
comp=E,9.0nm,0.3s,baz=133,slow=5.0,SNR=4.8
EIL LR LR 03 03 55.0
comp=E,90nm,20.3s,baz=351,slow=43
DJES Djerdap 8.97 329 ⇑P Pn **02 59 36.5 -1.2**
COVR Voineasa-Covas 8.97 348 ⇑P Pn **02 59 38.7 +1.0**
GHRR 9.03 353 ⇓P Pn **02 59 39.9 +1.4**
SUDU Sudak 9.05 29 *e*P Pn **02 59 37.7 -1.0**
SUDU *e*S Sn **03 01 16.7 -3.7**
DRME Dracevica, Mon 9.05 307 *e*P Pn **02 59 42.2 +3.4**
PDG Podgorica 9.14 309 *e*P Pn **02 59 43.5 +3.6**
HERR Herculane 9.19 330 ⇑P Pn **02 59 39.1 -1.6**
LOT Lotru 9.20 337 ⇑P Pn **02 59 40.6 -0.2**
DOPR Dopca 9.25 345 ⇑P Pn **02 59 41.6 +0.1**
OZUR 9.29 346 ⇓P Pn **02 59 42.2 +0.2**
MDVR Moldovita 9.41 327 ⇑P Pn **02 59 43.4 -0.2**
MARD Mardin 9.48 85 Pn Pn **02 59 44.2 -0.6**
GZR Gura Zlata 9.48 333 ⇑P Pn **02 59 43.1 -1.6**
GZR Gura Zlata 9.48 333 ⇑P Pn **02 59 43.1 -1.6**
TAMRE El Minia 9.54 169 P Pn **02 59 44.1 -1.4**
baz=169
TESR Tescani 9.56 351 ⇓P Pn **02 59 45.1 -0.6**
HCY Herceg Novi 9.63 307 *e*P Pn **02 59 47.1 +0.5**
DIVS Divibare 9.73 319 *e*P Pn **02 59 49.2 +1.0**
DIVS Divibare 9.73 319 Pn **02 59 48.7 +0.6**
RUDO Rudo 9.76 315 *e*P Pn **02 59 49.5 +1.0**
UPM Unac-Piva 9.78 312 *e*P Pn **02 59 51.6 +2.7**
MILM Milestii Mici 9.82 360 ⇑P Pn **02 59 49.0 -0.2**
BRY Bratogost 9.84 309 *e*P Pn **02 59 53.1 +3.5**
DEV Deva 9.86 335 ⇑P Pn **02 59 51.0 +1.2**
DEV Deva 9.86 335 ⇑P Pn **02 59 51.0 +1.2**
BBLS Lazići 9.90 316 *e*P Pn **02 59 53.0 +2.6**
HFRF Wahat Farafira 9.93 183 P Pn **02 59 49.4 -1.4**
baz=184
BIZ Bicaz 10.06 349 ⇓P Pn **02 59 53.3 +0.9**
BZS Buzias 10.12 330 ⇓P Pn **02 59 52.1 -1.2**
BZS Buzias 10.12 330 ⇓P Pn **02 59 52.1 -1.2**
STON Ston 10.35 307 *e*P Pn **02 59 58.4 +1.9**
PRAR RASCA 10.45 350 ⇓P Pn **03 00 00.8 +2.9**
GURO Guroymak-BITLI 10.49 78 Pn Pn **02 59 57.8 -0.9**
SOC Sochi 10.49 48 *e*P Pn **02 59 58.6 +0.1**
SOC *e* 03 01 57.6
SOC pmax pmax
comp=Z,12nm,0.6s
SOC MLR MLR
comp=Z,208nm,14.0s
ARCR ARCALIA 10.54 343 ⇓P Pn **03 00 00.5 +1.4**
FRGS Fruska Gora 10.57 322 *e*P Pn **02 59 58.9 -0.7**
SIRR Siria 10.64 332 ⇑P Pn **02 59 59.0 -1.5**
DRGR 10.73 337 ⇑P Pn **03 00 01.6 -0.1**
DRGR 10.73 337 ⇑P Pn **03 00 01.6 -0.1**
BURAR Bucovina Array 10.86 347 ⇑P Pn **03 00 04.1 +0.5**
BURAR Bucovina Array 10.86 347 ⇑P Pn **03 00 04.1 +0.5**
BURAR Bucovina Array 10.86 347 Pn Pn **03 00 02.8 -0.8**
BUR08 Bucovina Ar. S 10.89 347 Pn **03 00 04.0 0.0**
MAKA Makarska 10.99 308 *i* P Pn **03 00 07.5 +2.3**
RICI Ricice 11.02 309 *i* P Pn **03 00 07.8 +2.1**
SORM Soroca 11.04 358 ⇑P Pn **03 00 05.3 -0.7**
SORM Soroca 11.04 358 ⇑P Pn **03 00 05.3 -0.7**
SGRT San Giovanni R 11.19 299 Pn Pn **03 00 09.0 +0.9**
LTVH Ltavrtes, Hu 11.51 335 *e*P Pn 03 00 01.4 -11
VAE Valguarnera 11.55 276 Pn Pn **03 00 16.1 +3.1**
comp=Z,0.4nm,0.3s,baz=148,slow=3.4,SNR=7.1
VAE Sn **Sn 03 02 25.0 +3.1**
comp=Z,0.7nm,0.3s,baz=45,slow=16,SNR=2.4
MGRS Mrkonjic Grad 11.56 313 *e*P Pn **03 00 15.5 +2.4**
RAFF Raffo Rosso 11.60 275 Pn Pn **03 00 14.0 +0.3**
KARS Kars 11.60 68 P Pn **03 00 13.0 -0.8**
KARS Kars 11.60 68 Pn Pn **03 00 13.0 -0.8**
BLY Banja Luka 11.70 314 *e*P Pn **03 00 17.1 +2.2**
KIJV Kijevo 11.74 310 *i* P Pn **03 00 17.2 +1.7**

PAOL Paolisi 11.81 294 Pn Pn **03 00 19.8 +3.1**
MORH Mrgy, Hungar 11.90 323 *e*P Pn **03 00 18.0 +0.3**
MRAK Mrakovica 12.02 315 *e*P Pn **03 00 21.1 +1.7**
ZIRJ Zirje 12.04 307 *i* P Pn **03 00 20.5 +0.9**
UDBI Udbina 12.41 311 *i* P Pn **03 00 26.5 +1.8**
CORL Corleone 12.42 278 Pn **03 00 25.7 +0.8**
ONI Oni 12.46 59 P Pn **03 00 24.0 -1.4**
ONI Oni 12.46 59 Pn **03 00 24.0 -1.4**
KIV Kislovodsk 12.52 53 *e*P Pn **03 00 30.3 +4.0**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,69nm,13.0s
KBZ Khabaz 12.55 54 Pn Pn **03 00 29.4 +2.9**
comp=Z,0.1nm,0.3s,baz=236,slow=7.3,SNR=4.6
KBZ LR LR 03 06 48.1
comp=Z,82nm,18.5s,baz=233,slow=45
KBZ Khabaz 12.55 54 *e*P Pn **03 00 30.1 +3.5**
INTR Introdacqua 12.57 298 Pn **03 00 27.7 +0.8**
DUGI Dugi Otok 12.57 308 *i* P Pn **03 00 27.6 +0.7**
PSZ Piszkesteto 12.68 331 ⇑P Pn **03 00 27.4 -1.1**
PSZ Piszkesteto 12.68 331 *e*P Pn **03 00 30.1 +1.6**
PSZ Piszkesteto 12.68 331 ⇑P Pn **03 00 27.4 -1.1**
GNI Garni 12.76 71 Pn Pn **03 00 32.7 +3.1**
comp=Z,0.2nm,0.3s,baz=188,slow=5.0,SNR=6.3
GNI Garni 12.76 71⇑*e*P Pn **03 00 33.6 +3.9**
GNI Garni 12.76 71 Pn **03 00 29.5 -0.1**
ZEI Tsey 12.84 59 *e*P P **03 00 39.9 -1.8**
ZEI pmax pmax
comp=Z,6.0nm,1.4s
NCK Nalchik 12.91 56⇑*e*P Pn **03 00 35.3 +3.8**
CRVS Cervenica-Dubn 12.99 338 *e*P Pn **03 00 34.4 +1.8**
CRVS Cervenica-Dubn 12.99 338 *e*PN Pn **03 00 34.4 +1.8**
AQU L'Aquila 13.03 299 *e*P Pn **03 00 37.0 +3.8**
BOJS Bojanci 13.25 314 *e*Pn Pn **03 00 37.0 +0.8**
CRES Cresnjev 13.32 315 *e*P Pn **03 00 37.6 +0.5**
NRCA Norcia 13.39 300 Pn **03 00 39.3 +1.1**
VYHS Vyhne 13.56 330 *e*P Pn **03 00 41.7 +1.3**
VYHS Vyhne 13.56 330 *e*PN Pn **03 00 41.7 +1.3**
AKASG Malin Array Be 13.61 1 Pn Pn **03 00 39.5 -1.5**
comp=Z,0.5nm,0.3s,baz=184,slow=12,SNR=11
AKBB Malin Array Si 13.61 1⇑*e*P Pn **03 00 40.1 -0.9**
AKBB pmax pmax
comp=Z,7.0nm,0.9s
AKBB Malin Array Si 13.61 1 Pn **03 00 39.9 -1.1**
KNDS Knezji Dol 13.77 312 *e*Pn Pn **03 00 43.3 -0.1**
CEY Cerknica 13.86 313 *e*P Pn **03 00 45.3 +0.8**
LANS Liptovska Anna 13.87 333 *e*P P **03 00 55.8 +2.9**
LANS Liptovska Anna 13.87 333 *e* P **03 00 55.8 +2.9**
LJU Ljubljana 13.97 314 *e*P Pn **03 00 47.8 +1.8**
SMOL Smolenice 14.16 327 *e*P P **03 01 00.0 +3.8**
SMOL Smolenice 14.16 327 *e* P **03 01 00.0 +3.8**
ARSA Arzberg 14.17 320 *e*P Pn **03 00 49.6 +0.8**
comp=Z,4.8nm,1.3s
OBKA Obir 14.23 316 *e*P P **03 00 57.6 +0.6**
comp=Z,5.1nm,1.1s
JAVC Velka Javorina 14.33 329 *e*PN P **03 00 55.9 -2.1**
CONA Conrad Observa 14.46 323 *e*P Pn **03 00 52.5 -0.3**
comp=Z,4.2nm,1.2s
MYKA Terra Mystica 14.81 315 *e*P P **03 01 05.9 +2.5**
comp=Z,5.2nm,0.8s
OKC Ostrava-Krasne 14.92 332 *e*P P **03 01 06.2 +1.7**
OKC MLR MLR
comp=Z,400nm,9.8s
OKC Ostrava-Krasne 14.92 332 *e*P P **03 01 06.2 +1.7**
OKC *ex* x 03 01 12.7
OKC AMS AMS 03 07 50.0
comp=Z,400nm,9.8s
KRUC Moravsky 15.03 327 *e*PN Pn **03 01 00.8 +0.4**
KRUC *e* 03 01 06.5
MORC Moravsky Berou 15.10 331 *e*PN Pn **03 01 00.1 -1.3**
VRAC Vranov 15.13 328 Pn Pn **03 01 01.8 +0.1**
comp=Z,0.1nm,0.3s,baz=118,slow=13,SNR=3.6
VRAC Vranov 15.13 328 *e*PN Pn **03 01 01.6 -0.1**
VRAC *e* 03 01 08.0
STAL STALIGIAL 15.15 312 Pn Pn **03 01 04.0 +1.9**
ZOU Zoufplan 15.15 314 IAmb IAmb 03 01 09.5
comp=Z,18nm,0.9s
MOA Molln 15.21 320 *e*P Pn **03 01 04.5 +1.6**
comp=Z,8.6nm,1.4s
KBA Koelnbreinsper 15.23 316 *e*P P **03 01 07.1 -1.1**
comp=Z,15nm,1.2s
ZCCA Zocca 15.38 304 IAmb IAmb 03 01 26.0
comp=Z,31nm,0.9s
ABTA Abfaltersbach 15.52 314 *e*P P **03 01 10.5 -0.9**
comp=Z,1.3nm,0.5s
TREC Trest 15.60 326 *e*P P **03 01 12.8 +0.6**
TREC MLR MLR
comp=Z,700nm,10.6s
TREC Trest 15.60 326 *e*P P **03 01 12.8 +0.6**
TREC AMS AMS 03 07 50.0
comp=Z,700nm,10.6s
KRLC Kraliky 15.64 330 *e*P P **03 01 14.0 +1.4**
KRLC MLR MLR
comp=Z,400nm,10.8s
KRLC Kraliky 15.64 330 *e*P P **03 01 14.0 +1.4**
KRLC AMS AMS 03 08 20.0
comp=Z,400nm,10.8s
CTI Castel Tesino 15.68 310 P Pn **03 01 07.8 -1.3**
CTI pmax pmax
comp=Z,24nm,1.1s
CTI Castel Tesino 15.68 310 Pn Pn **03 01 07.8 -1.3**
CTI IAmb IAmb 03 01 29.5
comp=Z,24nm,1.1s
VORD Divnogorie 15.73 25 *e*P P **03 01 12.0 -1.5**
VORD pmax pmax
comp=Z,20nm,0.8s
KEST Kesra 15.80 271 Pn P **03 01 12.7 -1.8**
comp=Z,0.2nm,0.3s,baz=35,slow=4.5,SNR=5.5
KEST Kesra 15.80 271 Pn Pn **03 01 08.8 -2.0**
KEST IAmb IAmb 03 01 17.4
comp=Z,18nm,0.7s
CKRC Cesky Krumlov 15.82 322 *e*P P **03 01 13.0 -1.6**
CKRC *ex* x 03 01 15.9
PRMA PARMA 15.98 304 Pn Pn **03 01 11.7 -1.1**
PRMA IAmb IAmb 03 01 26.0
comp=Z,46nm,0.9s
GEC2 GERESS Array S 16.14 321 *e*L L 03 07 49.0
comp=Z,129nm,21.8s
GERES GERESS Array B 16.14 321 Pn P **03 01 16.9 -1.3**
comp=Z,0.4nm,0.3s,baz=125,slow=12,SNR=35
GERES LR LR 03 07 06.9
comp=Z,97nm,20.5s,baz=141,slow=36
GERES GERESS Array B 16.14 321 P Pn **03 01 14.6 -0.4**
GERES GERESS Array B 16.14 321 Pn **03 01 14.6 -0.4**
SALO Salr 16.19 307 Pn Pn **03 01 16.6 +1.1**
OSTC Ostas 16.24 330 *e*P P **03 01 18.3 -0.9**
OSTC *ex* x 03 01 26.7
OSTC AMS AMS 03 09 00.0
comp=Z,300nm,9.9s
UPC Upice 16.29 329 *e*P P **03 01 20.9 +1.2**
UPC MLR MLR
comp=Z,300nm,11.1s
UPC Upice 16.29 329 *e*P P **03 01 20.9 +1.2**
UPC AMS AMS 03 08 40.0
comp=Z,300nm,11.1s
WTTA Wattenberg 16.31 314 *e*P P **03 01 20.4 +0.2**
comp=Z,14nm,1.1s,SNR=10
CHVC Chvalec 16.33 330 *e*P P **03 01 21.4 +1.2**
CHVC *ex* x 03 01 27.0
CHVC AMS AMS 03 08 40.0
comp=Z,300nm,9.7s
WATA Walderalm 16.38 314 *e*P P **03 01 20.6 -0.3**
comp=Z,9.8nm,1.1s,SNR=9.8
KHC Kasperske Hory 16.39 322 *e*P Pn **03 01 19.1 +1.0**
KHC MLR MLR
comp=Z,800nm,10.1s
KHC Kasperske Hory 16.39 322 *e*P Pn **03 01 19.1 +1.0**
KHC *ex* x 03 01 28.4
KHC AMS AMS 03 08 10.0
comp=Z,800nm,10.1s
PRU Pruhonice 16.53 326 *e*P P **03 01 21.3 -1.1**
PRU MLR MLR
comp=Z,600nm,10.0s
PRU Pruhonice 16.53 326 *e*P P **03 01 21.3 -1.1**
PRU *ex* x 03 01 28.4
PRU AMS AMS 03 08 30.0
comp=Z,600nm,10.0s
SQTA Sankt Quirin 16.53 313 *e*P P **03 01 22.7 +0.1**
comp=Z,14nm,1.0s
PBCC Pribram 16.57 324 *e*P P **03 01 22.7 -0.1**
PBCC *ex* x 03 01 29.8
PRA Prague 16.64 326 *e*P P **03 01 23.4 -0.2**
PRA MLR MLR
comp=Z,600nm,11.1s
PRA Prague 16.64 326 *e*P P **03 01 23.4 -0.2**
PRA AMS AMS 03 08 20.0
comp=Z,600nm,11.1s
MOTA Moosalm 16.66 314 *e*P P **03 01 23.5 -0.5**
comp=Z,8.9nm,1.2s,SNR=5.1
FETA Feichten 16.71 312 *e*P Pn **03 01 22.8 +0.4**
comp=Z,13nm,1.4s
WET Wettzell 16.75 321 *e*L L 03 09 42.8
comp=Z,72nm,19.7s
VRH Novokhopyorsk 16.80 29 *e*P P **03 01 26.3 +0.9**
VRH pmax pmax
comp=Z,20nm,0.8s
PVCC Panska Ves 16.91 327 *e*P P **03 01 26.9 +0.3**
PVCC MLR MLR
comp=Z,500nm,9.2s
PVCC Panska Ves 16.91 327 *e*P P **03 01 26.9 +0.3**
PVCC *ex* x 03 01 34.3
PVCC AMS AMS 03 08 40.0
comp=Z,500nm,9.2s
RETA Reutte 16.93 314 *e*P P **03 01 28.9 +2.0**
comp=Z,8.5nm,1.0s
FUR Furstenfeldbru 17.00 316 *e*L L 03 08 52.7
comp=Z,184nm,19.3s
DAVOX Davos/Dischmat 17.11 310 Pn P **03 01 28.8 -0.2**
comp=Z,0.2nm,0.3s,baz=124,slow=12,SNR=9.7
DAVOX LR LR 03 09 17.0
comp=Z,375nm,18.6s,baz=84,slow=42
DAVA Damuels 17.35 312 *e*P P **03 01 32.1 +0.5**
comp=Z,7.4nm,1.1s
SUW Suwalki 17.38 349 *e*P Pn **03 01 30.8 +0.3**
SUW Suwalki 17.38 349 IAmb IAmb 03 01 33.3
comp=Z,44nm,0.9s
BRG Berggiesshubel 17.43 327 *e*P P **03 01 33.0 +0.6**
BRG Amp 03 01 41.9
comp=Z,18nm,1.4s
BRG Amp 03 09 16.0
comp=N,0.3nm,9.2s
BRG Amp 03 09 18.0
comp=Z,0.5nm,11.6s
BRG Amp 03 09 21.0
comp=E,0.3nm,12.2s
NKC Novy Kostel 17.67 323 AMS AMS 03 09 00.0
comp=E,400nm,8.9s
NACGM Naroch 17.87 356 *i* P Pn **03 01 36.2 -0.4**
GRA1 Grafenberg Arr 17.93 320 IAmb IAmb 03 01 47.5
comp=Z,34nm,1.3s
GRF Grafenberg Arr 17.93 320 *e*P P **03 01 40.4 +2.5**
comp=Z,31nm,1.3s,baz=128,slow=11
GRF *e*L L 03 09 45.0
comp=Z,145nm,18.6s
GRFO Grafenberg 17.93 320 P Pn **03 01 34.2 -3.2**
GRFO pmax pmax
comp=Z,32nm,1.3s
GRFO Grafenberg 17.93 320 Pn Pn **03 01 34.2 -3.2**
GRFO IAmb IAmb 03 01 47.5
comp=Z,32nm,1.3s
CLL Collm 18.16 327 *e*P Pn **03 01 39.0 -1.1**
CLL *e* 03 01 44.0
comp=Z,23nm,1.2s
CLL *e*S S **03 05 06.0 -2.0**
CLL Lmax 03 09 00.0
CLL Collm 18.16 327 *e*P Pn **03 01 39.0 -1.1**
CLL *e*S S **03 05 06.0 -2.0**
CLL Collm 18.16 327 *e*L L 03 09 49.0
comp=Z,134nm,21.7s
MOX Moxa 18.34 323 *e*L L 03 08 14.2
comp=Z,88nm,21.1s
IIGN Ignalina 18.35 355 *e*P Pn **03 01 41.4 -1.0**
IIGN IAmb IAmb 03 01 57.4
comp=Z,8.8nm,1.1s
BNI Bardonecchia 18.51 302 IAmb IAmb 03 02 05.0
comp=Z,39nm,1.3s
SENIN Lac Senin/Sane 18.55 307 P Pn **03 01 45.0 -0.1**
SENIN IAmb IAmb 03 01 50.9
comp=Z,17nm,0.7s
ISAL Salakas 18.58 355 *e*P P **03 01 43.6 -1.3**
BFO Black Forest 18.77 313 P Pn **03 01 47.5 -0.1**
BFO pmax pmax
comp=Z,15nm,0.8s
BFO Black Forest 18.77 313 P Pn **03 01 47.5 -0.1**
BFO Black Forest 18.77 313 *e*L L 03 08 57.7
comp=Z,76nm,18.1s
OBN Obninsk 18.77 14 LR LR 03 10 36.2
comp=Z,23nm,20.2s,baz=186,slow=42
OBN Obninsk 18.77 14⇑*e*P Pn **03 01 49.7 +2.2**
OBN *i* S Sn **03 05 14.4 -2.8**
OBN pmax pmax
comp=Z,24nm,1.4s
OBN MLR MLR
comp=Z,80nm,15.0s
OBN Obninsk 18.77 14 P P **03 01 43.9 -3.1**
OBN IAmb IAmb 03 01 59.1
comp=Z,32nm,1.3s
MOS Moscow 19.57 15 *e*P P **03 01 55.7 -0.1**
MOS *e*S Sn **03 05 37.5 +1.1**
MOS pmax pmax
comp=Z,35nm,1.0s
TNS Taunus Mts 19.70 318 *e*L L 03 10 25.8
comp=Z,160nm,21.2s
BELG Belogornoye 20.18 35 P P **03 02 02.5 +0.1**
comp=Z,24nm,0.7s,baz=117,slow=6.8,SNR=4.5
BHOU Houvegnez 21.09 316 *d*P P **03 02 14.0 +1.6**
BHOU *d*PnPn **PnPn 03 02 30.3 -1.1**
BTNL Ternell 21.14 317 *d*P P **03 02 13.9 +1.0**
comp=Z,14nm,1.2s
BTNL *dx* x 03 02 26.5
BSEG Bad Segeberg 21.18 329 *e*L L 03 12 11.6
comp=Z,101nm,18.4s
MEM Membach 21.22 317 *d*P P **03 02 14.7 +0.9**
comp=Z,17nm,1.0s
VSU Vasula 21.43 357 *e*P P **03 02 15.1 -0.8**
BCLA Clavier 21.52 316 *d*P P **03 02 18.7 +1.8**
BGES Gesves 21.62 315 *d*P P **03 02 18.8 +0.7**
comp=Z,12nm,1.0s
BGES *dx* x 03 02 29.2
BMRD Maredsous 21.76 315 *d*P P **03 02 20.5 +1.0**
comp=Z,8.3nm,1.1s
DOU Dourbes 21.76 314 *d*P P **03 02 19.8 +0.2**
DOU *d*PnPn **PnPn 03 02 41.6 +1.0**
SNF Seneffe 22.13 315 *d*P P **03 02 24.3 +0.7**
SNF *dx* x 03 02 30.3
CLF Chambon-Foret 22.35 308 IAmb IAmb 03 02 34.4
comp=Z,24nm,1.1s
PUL Pulkovo 22.72 2 IAmb IAmb 03 02 05.1
comp=Z,123nm,0.4s
GEYT Alibeck 23.16 79 P P **03 02 33.2 -1.3**
comp=Z,2.7nm,0.6s,baz=51,slow=22,SNR=4.4
GYA0B ALIBECK ARRAY 23.16 79 P P **03 02 32.1 -2.4**
GYA0B IAmb IAmb 03 02 53.6
comp=Z,12nm,1.1s
MEF Metsahovi 23.32 354 *e*P P **03 02 35.2 -0.7**
FIA1 FINESS Array S 24.44 357 P P **03 02 46.4 -0.2**
FINES FINESS Array B 24.44 357 P P **03 02 46.1 -0.4**
comp=Z,8.7nm,0.8s,baz=158,slow=10,SNR=27
FINES LR LR 03 13 06.9
comp=Z,106nm,18.8s,baz=268,slow=39
FINES FINESS Array B 24.44 357 P P **03 02 46.4 -0.2**
AKTO Aktyubinsk 24.71 48 P P **03 02 48.5 -0.7**
comp=Z,4.5nm,0.9s,baz=253,slow=15,SNR=12
KLMR Klimovskoe 24.72 12 *e*P P **03 02 48.9 -0.1**
KLMR pmax pmax
comp=Z,21nm,1.2s
KLMR Klimovskoe 24.72 12 *e*P P **03 02 49.0 -0.1**
KLMR AMP 03 02 53.2
comp=Z,21nm,1.2s
HFS Hagfors 25.03 342 P P **03 02 51.3 -0.6**
comp=Z,12nm,0.9s,baz=166,slow=8.8,SNR=8.3
HFS LR LR 03 13 49.3
comp=Z,130nm,20.7s,baz=164,slow=39
KIRV Kirov 25.34 25 P P **03 02 54.0 -0.7**
comp=Z,5.3nm,0.6s,baz=90,slow=1.0,SNR=3.3
KIRV Kirov 25.34 25 P P **03 02 54.0 -0.7**
ABKAR Akbulak array 25.51 52 P P **03 02 55.8 -0.5**
ABKAR **PcP 03 06 27.2 -0.4**
ESBB Sonseca Array 25.81 286 P P **03 03 00.9 +1.6**
ESBB IAmb IAmb 03 03 13.9
comp=Z,15nm,1.2s
ESDC Sonseca Array 25.81 286 P P **03 02 59.2 -0.1**
comp=Z,8.8nm,1.0s,baz=82,slow=9.6,SNR=40
ESDC Sonseca Array 25.81 286 P P **03 02 59.7 +0.4**
PAB San Pablo 26.12 286 P P **03 03 03.2 +1.1**
PAB pmax pmax
comp=Z,12nm,1.0s
PAB San Pablo 26.12 286 P P **03 03 03.2 +1.1**
PAB IAmb IAmb 03 03 05.4

comp=Z,12nm,0.9s
NB2 NORSAR Subarra 26.44 341 P **P** **03 03 04.5 -0.3**
comp=Z,1.3nm,0.7s,baz=143,slow=9.3
NOA NORSAR Array B 26.44 341 P **P** **03 03 03.7 -1.1**
comp=Z,2.7nm,0.9s,baz=145,slow=8.7,SNR=6.1
NOA LR LR 03 14 02.6
comp=Z,77nm,21.9s,baz=140,slow=38
PRGR Permogore 26.71 18 *eP* **P** **03 03 10.0 +2.9**
PRGR pmax pmax
comp=Z,62nm,1.4s
HRA Herat 27.12 86 P **P** **03 03 10.7 -0.7**
ARU Arti 27.71 36 P **P** **03 03 16.4 +0.2**
comp=Z,1.0nm,0.5s,baz=213,slow=7.2,SNR=7.1
ARU LR LR 03 14 53.0
comp=Z,45nm,19.8s,baz=15,slow=38
ARU Arti 27.71 36*d* *i*P **P** **03 03 15.3 -0.8**
ARU 03 03 59.4
ARU S **S** **03 07 59.2 +1.3**
ARU pmax pmax
comp=Z,15nm,1.9s
ARU Arti 27.71 36 P **P** **03 03 15.3 -0.8**
ARU IAmb IAmb 03 03 25.9
comp=Z,6.4nm,0.8s
MDT Midelt 27.71 271 P **P** **03 03 16.8 +0.3**
comp=Z,5.3nm,0.9s,baz=91,slow=11,SNR=14
PBRG Braganca 27.79 291 *eP* **P** **03 03 18.8 +1.7**
comp=Z,34nm,1.5s
MVO Moncorvo 28.04 290 *eP* **P** **03 03 22.3 +2.9**
comp=Z,35nm,1.7s
EKA Eskdalemuir Ar 28.35 320 P **P** **03 03 21.9 0.0**
comp=Z,0.8nm,0.5s,baz=122,slow=9.2,SNR=6.3
PBAR Barrancos 28.37 283 *eP* **P** **03 03 24.4 +2.1**
comp=Z,18nm,1.7s
ATD Arta Tunnel 28.38 150 LR LR 03 15 29.4
comp=Z,36nm,18.8s,baz=356,slow=38
PESTR Estremoz 28.70 285 *eP* **P** **03 03 24.4 -0.8**
comp=Z,18nm,1.5s
SVE Sverdlovsk 28.90 37 *eP* **P** **03 03 27.2 +0.5**
PVAQ Vaqueiros 29.04 282 *eP* **P** **03 03 27.3 -0.9**
WSAR Wadi Sarin 29.04 110 P **P** **03 03 29.4 +1.0**
comp=Z,2.8nm,0.7s,baz=304,slow=11,SNR=2.2
PBDV Barranco-do-Ve 29.23 282 *eP* **P** **03 03 29.1 -0.9**
comp=Z,29nm,1.4s
MESJ Messejana 29.35 283 *eP* **P** **03 03 30.6 -0.4**
comp=Z,24nm,1.9s
KKAR Karatay Array 32.14 66 P **P** **03 03 54.3 -1.3**
KKAR Karatay Array 32.14 66 P **P** **03 03 54.3 -1.3**
GAR Garm 32.48 74 P **P** **03 03 58.5 -0.1**
GAR IAmb IAmb 03 04 03.8
comp=Z,6.7nm,0.9s
KBL Kabul 32.49 82 P **P** **03 03 59.0 +0.1**
KBL pmax pmax
comp=Z,5.0nm,1.1s
KBL Kabul 32.49 82 P **P** **03 03 59.0 +0.1**
KBL IAmb IAmb 03 04 02.5
comp=Z,4.7nm,1.1s
ARCES ARCESS Array B 32.55 358 P **P** **03 03 59.6 +0.8**
comp=Z,4.8nm,0.9s,baz=176,slow=5.7,SNR=8.3
ARCES LR LR 03 18 05.6
comp=Z,96nm,18.7s,baz=185,slow=38
ARCES ARCESS Array B 32.55 358 P **P** **03 03 59.2 +0.3**
ARCES pmax pmax
comp=Z,15nm,1.3s
ARCES ARCESS Array B 32.55 358 P **P** **03 03 59.1 +0.3**
ARCES IAmb IAmb 03 04 02.2
comp=Z,15nm,1.3s
TORD Torodi Ar. Bea 34.06 233 P **P** **03 04 12.1 -0.5**
comp=Z,11nm,0.6s,baz=34,slow=8.7,SNR=138
TORD PcP **PcP** **03 06 49.0 -1.1**
comp=Z,0.9nm,0.6s,baz=26,slow=2.8,SNR=4.1
TORD Torodi Ar. Bea 34.06 233 P **P** **03 04 11.7 -0.8**
AAK Ala-Archa 35.10 66 ↑*eP* **P** **03 04 21.2 -0.3**
comp=Z,2.4nm,0.7s,baz=240,slow=8.1,SNR=2.2
AAK Ala-Archa 35.10 66 ↑*eP* **P** **03 04 21.4 -0.1**
AAK pmax pmax
comp=Z,11nm,0.8s
AAK Ala-Archa 35.10 66 P **P** **03 04 20.6 -0.9**
NIL Nilore 36.09 82 P **P** **03 04 29.0 -0.9**
NIL pmax pmax
comp=Z,9.0nm,1.0s
NIL Nilore 36.09 82 P **P** **03 04 29.0 -0.9**
NIL IAmb IAmb 03 04 54.1
comp=Z,9.1nm,0.9s
KOWA Kowa 36.91 241 P **P** **03 04 36.9 -0.2**
comp=Z,5.8nm,0.5s,baz=48,slow=10,SNR=29
KOWA Kowa 36.91 241 P **P** **03 04 37.3 +0.2**
KOWA IAmb IAmb 03 04 38.4
comp=Z,6.2nm,0.6s
MBAR Mbarara 37.54 177 P **P** **03 04 44.1 +1.6**
comp=Z,4.3nm,0.2s,baz=322,slow=8.9,SNR=4.1
MBAR Mbarara 37.54 177 P **P** **03 04 42.5 -0.1**
MBAR IAmb IAmb 03 04 48.8
comp=Z,11nm,1.1s
KURBB Kurchatov Arra 37.55 53 P **P** **03 04 41.5 -0.6**
comp=Z,3.3nm,0.8s,baz=276,slow=8.9,SNR=11
KURBB PcP **PcP** **03 06 59.5 -0.4**
comp=Z,1.9nm,0.6s,baz=268,slow=3.9,SNR=6.3
KURK Kurchatov 37.61 53 P **P** **03 04 41.5 -1.1**
KURK 03 06 59.5
KURK Kurchatov 37.61 53 P **P** **03 04 41.5 -1.1**
KURK **PcP** **03 06 59.5 -0.6**
MACI Morro de la Ar 38.92 270 P **P** **03 04 54.7 +0.5**
JMIC Jan Mayen 39.15 342 LR LR 03 22 27.5
comp=Z,43nm,18.1s,baz=72,slow=38
MK31 Makanchi Array 40.19 59*ce*P **P** **03 05 04.8 +0.5**
MK31 Makanchi Array 40.19 59 P **P** **03 05 03.6 -0.7**
MKAR Makanchi Array 40.19 59 P **P** **03 05 03.9 -0.5**
comp=Z,2.2nm,0.8s,baz=280,slow=5.3,SNR=12
MKAR Makanchi Array 40.19 59 P **P** **03 05 03.7 -0.6**
MKAR Makanchi Array 40.19 59 P **P** **03 05 03.7 -0.6**
ZAA0 Zalesovo Array 41.48 48 P **P** **03 05 15.6 +0.8**
ZALV Zalesovo Beam 41.48 48 LR LR 03 24 29.4
comp=Z,33nm,18.6s,baz=173,slow=39
ZALV Zalesovo Beam 41.48 48 P **P** **03 05 15.3 +0.5**
ZALV Zalesovo Beam 41.48 48 P **P** **03 05 15.3 +0.5**
DBIC Dimbokro 43.14 234 P **P** **03 05 27.7 -1.1**
comp=Z,5.5nm,0.7s,baz=27,slow=9.8,SNR=7.8
DBIC Dimbokro 43.14 234 IAmb IAmb 03 05 40.6
comp=Z,27nm,1.4s
TIC Toumodi 43.27 234 *e*PKIKP **P** **03 05 29.8 0.0**
DGZ Jazzator, Alta 43.30 54↓*eP* **P** **03 05 31.0 +1.1**
DGZ pmax pmax
comp=Z,3.0nm,1.0s
KIC Kosan Boka 43.30 233 *e*PKIKP **P** **03 05 29.5 -0.6**
comp=Z,19nm,1.0s
LIC Lamto 43.59 234 *e*PKIKP **P** **03 05 29.5 -2.9**
comp=Z,35nm,0.9s
DAG Danmarks Havn 44.87 346 *i* P **P** **03 05 42.2 +0.3**
SUMG Summit 48.29 338 *eP* **P** **03 06 12.6 +3.3**
NEEM North Greenlan 51.94 344 *eP* **P** **03 06 36.3 -0.5**
SONM Songino Array 55.92 53 P **P** **03 07 05.1 -1.0**
comp=Z,0.3nm,0.4s,baz=298,slow=6.2,SNR=2.3
MATP Matopo 57.21 180 P **P** **03 07 16.6 +1.2**
comp=Z,3.5nm,0.7s,baz=1.6,slow=16,SNR=5.8
TIXI Tiksi 58.28 22 P **P** **03 07 22.7 +0.5**
comp=Z,1.0nm,0.3s,baz=315,slow=4.3,SNR=3.8
TIXI Tiksi 58.28 22 IAmb IAmb 03 07 31.9
comp=Z,2.4nm,0.7s
LBTB Lobatse 61.85 183 P **P** **03 07 49.2 +1.8**
comp=Z,10nm,0.9s,baz=3.0,slow=6.5,SNR=12
LBTB Lobatse 61.85 183 P **P** **03 07 48.1 +0.7**
HHC Hu-ho-hao-te 62.05 58 *eP* **P** **03 07 47.5 -1.2**
HHC pmax pmax
comp=Z,13nm,1.2s
HHC pmax pmax
comp=Z,87nm,5.9s
CMAR Chiang Mai Arr 63.38 86 P **P** **03 07 56.9 -0.9**
comp=Z,1.6nm,0.7s,baz=299,slow=8.2,SNR=7.4
CMAR Chiang Mai Arr 63.38 86 *i* P **P** **03 08 00.4 +2.6**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
BOSA Boshof 65.45 184 P **P** **03 08 12.2 +1.1**
comp=Z,7.9nm,1.0s,baz=11,slow=6.1,SNR=9.1
NJ2 Nanjing 71.48 64 *eP* **P** **03 08 48.5 -0.3**
NJ2 pmax pmax
comp=Z,14nm,0.6s
YKA Yellowknife Ar 76.50 344 P **P** **03 09 14.5 -3.2**
comp=Z,1.2nm,0.8s,baz=36,slow=6.5,SNR=2.4
YKA Yellowknife Ar 76.50 344 *i* P **P** **03 09 21.1 +3.4**
YKA pmax pmax
comp=Z,3.0nm,0.9s
BCAR Beaver Creek A 79.90 356 P **P** **03 09 36.7 +0.1**
CCM Cathedral Cave 87.04 317 P **P** **03 10 12.3 -1.4**
CCM pmax pmax
comp=Z,7.0nm,0.6s
CCM Cathedral Cave 87.04 317 P **P** **03 10 12.3 -1.4**
R40A Maddies Statio 87.42 318 P **P** **03 10 15.2 -0.4**
LCAR Lake Charles 88.42 315 P **P** **03 10 21.5 +1.2**
BDFB Brasilia 89.22 250 P **P** **03 10 25.1 +0.7**
comp=Z,5.4nm,0.7s,baz=73,slow=6.3,SNR=9.5
JTMT Jette 89.36 336 P **P** **03 10 25.1 +0.3**
NEW Newport 89.79 338 P **P** **03 10 25.8 -0.8**
comp=Z,3.7nm,0.8s,baz=41,slow=3.7,SNR=6.5
NEW Newport 89.79 338 P **P** **03 10 26.8 +0.2**
NEW IAmb IAmb 03 10 31.4
comp=Z,3.6nm,0.8s
PDAR Pinedale Array 91.97 331 P **P** **03 10 35.6 -1.5**
comp=Z,1.3nm,0.7s,baz=59,slow=4.4,SNR=5.8
MOD Modoc Plateau 96.50 337 P **P** **03 10 58.0 +0.2**
NVAR Mina Array Bea 98.98 334 P Pdif 03 11 09.4 +0.3
comp=Z,0.4nm,0.7s,baz=38,slow=4.6,SNR=2.8

*SOME **13** 03:06:44.5, 37.58N×78.30E, h0km*
NNC 13 03:06:46.8±2.3, 37.68N×78.32E, h9km±14km, mb3.9, mpv3.5, 7C-1D, Error ellipse: s-maj=28.5km s-min=15.2km az=77.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNSS	**Tian-Shan**	**5.46**	**349**	*eP*	Pg	03 08 27.4	-4.0
	5.5nm,0.5s						
TNSS				*eS*	Sg	03 09 41.7	-0.3
	5.7nm,0.8s						
TNSS	**Tian-Shan**	**5.46**	**349**	Pg	Pb	03 08 25.3	+2.7
	5.5nm,0.5s						
TNSS				Lg	Lg	03 09 41.7	
	5.7nm,0.8s						
TNSS	**Tian-Shan**	**5.46**	**349**	Pg	Pb	03 08 26.6	+4.1
	8.1nm,0.5s						
TNSS				Lg	Lg	03 09 43.8	
	22nm,1.0s						
IZV	**Izvestkoviy**	**5.51**	**347**	*eP*	Pb	03 08 27.9	+4.5
	2.4nm,0.4s						
IZV				*eS*	Sg	03 09 42.5	-1.2
	11nm,0.6s						
IZV	**Izvestkoviy**	**5.51**	**347**	Pg	Pb	03 08 26.0	+2.7
	2.4nm,0.4s						
IZV				Lg	Lg	03 09 42.5	
	11nm,0.6s						
MDOK	**Medeo**	**5.57**	**350**	*eP*	Pg	03 08 31.1	-2.4
	4.4nm,0.6s						
MDOK				*eS*	Sg	03 09 47.9	+2.4
	14nm,0.9s						
MDOK	**Medeo**	**5.57**	**350**	Pg	Pg	03 08 29.4	-4.0
	8.7nm,1.1s						
MDOK				Lg	Lg	03 09 44.0	
	14nm,0.8s						
MDOK	**Medeo**	**5.57**	**350**	Pg	Pg	03 08 29.3	-4.2
	4.4nm,0.6s						
MDOK				Lg	Lg	03 09 47.9	
	14nm,0.9s						
TKM2	**Tokmak 2**	**5.64**	**339**	⇑Pg	Pb	03 08 28.9	+3.4
	1.6nm,0.5s						
TKM2				⇑Lg	Lg	03 09 44.5	
	6.3nm,0.7s						
KST	**Kastek**	**5.66**	**342**	*eP*	Pg	03 08 30.7	-4.5
	1.2nm,0.5s						
KST				*eS*	Sg	03 09 47.1	-1.2
	3.0nm,0.6s						
KST	**Kastek**	**5.66**	**342**	Pg	Pb	03 08 28.8	+3.0
	1.2nm,0.5s						
KST				Lg	Lg	03 09 47.1	
	3.0nm,0.6s						
PDGK	**Podgornoye**	**5.72**	**9**	⇓Pg	Pb	03 08 29.7	+2.9
	3.0nm,0.5s						
PDGK				⇑Lg	Lg	03 09 45.9	
	20nm,0.8s						
AAK	**Ala-Archa**	**5.76**	**331**	Pg	Pb	03 08 31.5	+4.0
	4.3nm,0.8s						
AAK				Lg	Lg	03 09 47.0	
	20nm,1.1s						
DGS	**Degeres**	**5.89**	**342**	*eP*	Pg	03 08 36.8	-2.9
	3.7nm,0.5s						
DGS				*eS*	Sg	03 09 57.7	+1.8
	6.0nm,0.7s						
DGS	**Degeres**	**5.89**	**342**	Pg	Pg	03 08 35.2	-4.4
	4.5nm,0.4s						
DGS				Lg	Lg	03 09 57.7	
	6.0nm,0.7s						
KTBS	**Karatobe**	**6.16**	**349**	*eP*	Pb	03 08 39.4	+5.1
	1.5nm,0.4s						
KTBS				*eS*	Sg	03 10 02.1	-2.4
	11nm,0.6s						
KTBS	**Karatobe**	**6.16**	**349**	Pg	Pb	03 08 37.5	+3.2
	1.5nm,0.4s						
KTBS				Lg	Lg	03 10 02.1	
	11nm,0.6s						
KRBS	**Karabastau**	**6.34**	**342**	*eP*	Pb	03 08 42.6	+5.2
	2.8nm,0.7s						
KRBS				*eS*	Sg	03 10 07.9	-2.4
	5.9nm,0.8s						
KRBS	**Karabastau**	**6.34**	**342**	Pg	Pb	03 08 41.0	+3.6
	2.8nm,0.7s						
KRBS				Lg	Lg	03 10 07.4	
	5.9nm,0.8s						
KUU	**Kurty**	**6.39**	**347**	*eP*	Pg	03 08 47.0	-2.2
	1.9nm,0.5s						
KUU				*eS*	Sg	03 10 15.0	+3.1
	3.5nm,0.2s						
KUU	**Kurty**	**6.39**	**347**	Pg	Pg	03 08 45.2	-3.9
	1.9nm,0.5s						
KUU				Lg	Lg	03 10 15.0	
	3.5nm,0.2s						
SGDS	**Sogindy**	**6.42**	**335**	Pg	Pb	03 08 42.7	+4.0
	1.8nm,0.8s						
SGDS				Lg	Lg	03 10 10.8	
	2.6nm,0.8s						
ARXS	**Arharly**	**6.54**	**357**	*eP*	Pg	03 08 48.6	-3.5
	4.3nm,0.5s						
ARXS				*eS*	Sg	03 10 17.6	+0.8
	8.9nm,0.6s						
ARXS	**Arharly**	**6.54**	**357**	Pg	Pb	03 08 46.4	+5.6
	4.3nm,0.5s						
ARXS				Lg	Lg	03 10 17.6	
	8.9nm,0.6s						
MAKZ	**Makanchi**	**9.52**	**15**	⇑Pn	Pn	03 09 06.7	+2.6
	1.2nm,0.7s						
MAKZ				⇑Sn	Sn	03 10 51.3	0.0
	0.7nm,0.6s						
MK31	**Makanchi Array**	**9.57**	**17**	⇑Pn	Pn	03 09 06.4	+1.6
	0.2nm,0.3s,baz=197,slow=12,SNR=8.5						
MK31				⇑Sn	Sn	03 10 51.3	-1.2
	0.7nm,0.5s,baz=190,slow=23,SNR=3.0						

IDC 13 03:07:25.9±2.1, 6.70S×129.32E, h0km, mb3.8/1, mb1 4.3/3, mb1mx3.6/48, mbtmp4.1/3, ML4.3/2, Error ellipse: s-maj=119.9km s-min=31.2km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.04**	**160**	Pn	Pn	03 10 45.6	-0.6
	1.4nm,0.3s,baz=339,slow=13,SNR=38						
WRA				Sn	Sn	03 13 06.7	-16
	0.5nm,0.3s,baz=333,slow=22,SNR=5.4						
ASAR	**Alice Springs**	**17.43**	**166**	P	Pn	03 11 31.1	+0.4
	1.0nm,0.3s,baz=334,slow=9.1,SNR=66						
ASAR				S	Sn	03 14 32.9	-13
	0.4nm,0.3s,baz=317,slow=21,SNR=5.3						
MKAR	**Makanchi Array**	**67.61**	**327**	P	P	03 18 24.5	0.0
	0.3nm,0.3s,baz=120,slow=7.4,SNR=6.9						

ISK 13 03:14:37.5, 37.07N×28.96E, h5km, ML2.9/16, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAME	**Cameli-Denizli**	**0.30**	**114**	PG	Pb	03 14 44.5	-1.0
DALY	**Dalyan (Mula)**	**0.35**	**224**	PG	Pb	03 14 45.4	-0.7
DALY				SG	Sb	03 14 52.2	+0.3
FETY	**Fethiye**	**0.44**	**167**	PG	Pb	03 14 47.2	-0.6
YER	**Yerkesik**	**0.54**	**278**	PG	Pg	03 14 48.4	+0.4
YER				SG	Sb	03 14 58.1	+0.4
TURN	**Turunc**	**0.64**	**243**	PG	Pb	03 14 50.8	-0.3
ELL	**Elmali**	**0.83**	**112**	PG	Pb	03 14 54.7	+0.3
MLSB	**Milas**	**0.97**	**284**	PG	Pb	03 14 57.1	+0.3
MLSB				SG	Sn	03 15 11.7	-0.3
AKAS	**Kas**	**0.98**	**148**	PG	Pb	03 14 57.4	+0.3
ARG	**Arkhangelos**	**1.08**	**218**	PN	Pb	03 14 58.9	+0.3
KORT	**Korkueli**	**1.12**	**93**	PN	Pn	03 15 00.3	+0.4
DAT	**Datca**	**1.16**	**254**	PN	Pb	03 15 00.2	+0.2
BASM	**Basmaki-Afyon**	**1.22**	**45**	PN	Pn	03 15 02.4	+1.1
BODT	**Bodrum**	**1.32**	**270**	PN	Pg	03 15 03.4	+0.7
BODT				SN	Sn	03 15 23.3	+2.8
BCK	**Bucak**	**1.36**	**73**	PN	Pg	03 15 04.7	+1.1
ANTB	**Antalya**	**1.37**	**96**	PN	Pg	03 15 04.7	+1.0
ISP	**Isparta**	**1.46**	**58**	PN	Pg	03 15 06.3	+0.8
KULA	**Kula-Manisa**	**1.47**	**351**	PN	Pg	03 15 06.4	+0.8
NIS1	**Nisyros Isl.**	**1.50**	**253**	PN	Pg	03 15 06.4	+0.2
GCAM	**G?zelcaml?**	**1.51**	**295**	PN	Pg	03 15 06.6	+0.1
URLA	**Izmir**	**2.27**	**305**	PN	Pb	03 15 17.5	-1.6

IDC 13 03:16:14.7±3.2, 32.58S×178.38W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/20, mbtmp3.8/3, ML3.6/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/22, Error ellipse: s-maj=71.9km s-min=46.2km az=119.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.34**	**7**	LR	LR	03 18 11.5	
	comp=Z,452nm,19.9s,baz=145,slow=35						
URZ	**Urewera**	**6.76**	**212**	Pn	Pn	03 17 54.2	-0.9
	1.2nm,0.3s,baz=233,slow=1.4,SNR=12						
URZ				Sn	Sn	03 19 08.4	-4.4
	0.3nm,0.3s,baz=144,slow=19,SNR=1.0						
ASAR	**Alice Springs**	**42.72**	**269**	P	P	03 24 13.6	-0.2
	0.6nm,0.6s,baz=107,slow=7.6,SNR=13						
WRA	**Warramunga Arr**	**43.90**	**275**	P	P	03 24 23.5	+0.2
	0.8nm,0.5s,baz=113,slow=7.9,SNR=13						
FINES	**FINESS Array B**	**147.06**	**339**	PKPbc	PKPbc	03 35 58.0	-0.8
	0.7nm,0.7s,baz=48,slow=2.8,SNR=4.7						

IDC 13 03:18:02.6±3.3, 32.48S×178.63W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.6/20, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=77.1km s-min=38.2km az=111.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.74**	**210**	Pn	Pn	03 19 43.7	+1.0
	0.9nm,0.3s,baz=355,slow=11,SNR=2.0						
URZ				Sn	Sn	03 20 59.1	-1.1
	0.2nm,0.3s,baz=127,slow=20,SNR=1.0						
ASAR	**Alice Springs**	**42.50**	**269**	P	P	03 25 59.9	-0.1
	0.4nm,0.5s,baz=118,slow=7.8,SNR=2.7						
WRA	**Warramunga Arr**	**43.68**	**275**	P	P	03 26 09.4	-0.1
	0.2nm,0.4s,baz=115,slow=7.7,SNR=4.6						
FINES	**FINESS Array B**	**146.89**	**338**	PKPbc	PKPdf	03 37 45.2	+0.9
	1.3nm,0.8s,baz=62,slow=3.3,SNR=3.5						

MEX 13 03:23:30.9±0.3, 16.22N×98.00W, h34km±5km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.21**	**324**	*i* P	Pn	03 23 36.3	-0.5
PNIG				*e*S	Sn	03 23 40.6	+1.6
PEIG	**Puerto Escondi**	**0.85**	**105**	*i* P	Pn	03 23 44.4	-2.0
PEIG				*i* S	Sn	03 23 55.2	-2.4
TXIG	**Tlaxiaco**	**1.05**	**12**	*i* P	Pn	03 23 47.8	-1.7
TXIG				*i* S	Sn	03 24 00.6	-2.6
HLIG	**Huajuapan de L**	**1.61**	**7**	*i* P	Pb	03 24 04.5	+4.2
FTIG	**Fresnillo de T**	**1.69**	**356**	*i* P	Pb	03 24 06.1	+4.6

*TUL **13** 03:34:23.7±1.4, 35.59N±0.02×97.42W±0.03, h5km±6km, ML2.8, mb_Lg2.3/20(NEIC), Error ellipse: s-maj=3.7km s-min=1.9km az=126.0*
NEIC 13 03:34:23.7±1.0, 35.61N±0.02×97.46W±0.05, h8km±6km, Error ellipse: s-maj=6.3km s-min=2.2km az=116.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK009	**Oakdale Elemen**	**0.04**	**130**	Pg	Pg	03 34 24.6	-0.7
OK009				Sg	Sg	03 34 25.5	-0.9
OK025	**Westminster Rd**	**0.11**	**105**	Pg	Pg	03 34 25.7	-0.4
OK025				Sg	Sg	03 34 27.3	-0.6
OK029	**Liberty Lake**	**0.19**	**2**	Pg	Pg	03 34 28.0	+0.5
OK029				Sg	Sg	03 34 31.4	+1.3
OKCFA	**Oklahoma City**	**0.19**	**177**	Pg	Pg	03 34 27.6	-0.1
OKCFA				Sg	Sg	03 34 30.6	+0.3
OKCSW	**OKLAHOMA CITY**	**0.20**	**174**	Pg	Pg	03 34 27.7	-0.1
OKCSW				Sg	Sg	03 34 31.0	+0.4
FNO	**Franklin**	**0.35**	**172**		Pg	03 34 30.5	-0.2
FNO				Sg	Sg	03 34 35.8	+0.4
OK031	**S. Brethren Rd**	**0.61**	**56**	Pg	Pg	03 34 35.0	-0.5
OK031				Sg	Sg	03 34 43.5	-0.1
QUOK	**Quay**	**0.83**	**47**		Pg	03 34 39.2	-0.5
QUOK				Sg	Sg	03 34 50.5	-0.1
CROK	**Carrier**	**0.99**	**335**		Pg	03 34 42.9	+0.2
X34A	**Smith Ranch, M**	**1.05**	**197**	Pg	Pg	03 34 43.8	-0.1
GC02	**Grant County #**	**1.28**	**346**		Pn	03 34 47.9	-0.1
OK032	**Salt Plains WL**	**1.34**	**333**		Pn	03 34 48.8	0.0
WMOK	**Wichita Mounta**	**1.39**	**232**		Pn	03 34 49.1	-0.4
KAN13	**South Haven SW**	**1.40**	**360**	Pn	Pn	03 34 49.5	-0.2
KAN14	**Manchester OK**	**1.40**	**343**	Pn	Pn	03 34 49.9	+0.2
KAN17	**Caldwell West**	**1.45**	**350**	Pn	Pb	03 34 50.9	-0.2
U32A	**Winter Ranch,**	**1.47**	**302**	Pn	Pn	03 34 50.9	+0.3
T35A	**Sooner Cattle**	**1.51**	**30**	Pn	Pn	03 34 51.2	-0.1
KS20	**Mayfield South**	**1.62**	**357**	IAmb_Lg		03 35 15.2	
	comp=Z,13nm,0.8s						
LOOK	**Love County**	**1.63**	**172**	Pn	Pn	03 34 53.0	+0.2
X37A	**Clayton**	**2.00**	**120**		Pn	03 34 58.7	+0.9
X37A				IAmb_Lg		03 35 28.2	
	comp=Z,17nm,0.8s						
U38A	**Gravette**	**2.63**	**71**	Pn	Pn	03 35 07.3	+0.8
R32A	**Long Quarter,**	**2.98**	**341**	Pn	Pn	03 35 12.2	+0.8
W39A	**Magazine**	**3.03**	**97**	Pn	Pn	03 35 12.0	-0.1
W39A				IAmb_Lg		03 36 05.5	
	comp=Z,9.3nm,0.8s						
MIAR	**Mount Ida**	**3.36**	**107**	Pn	Pn	03 35 15.9	-0.7
MIAR				IAmb_Lg		03 36 18.1	
	comp=Z,6.8nm,1.0s						
KSU1	**Kansas State U**	**3.55**	**11**	Pn	Pn	03 35 19.3	+0.1
CBKS	**Cedar Bluff**	**3.68**	**331**	IAmb_Lg		03 36 24.6	
	comp=Z,7.2nm,0.9s						
U40A	**Yellville**	**3.81**	**77**	Pn	Pn	03 35 22.8	0.0
U40A				IAmb_Lg		03 36 26.9	
	comp=Z,5.5nm,0.7s						
S39A	**Bolivar**	**3.92**	**57**	Pn	Pn	03 35 24.3	-0.1
X40A	**Basin Creek Fa**	**3.96**	**105**	Pn	Pn	03 35 25.7	+0.8
X40A				IAmb_Lg		03 36 34.2	
	comp=Z,9.6nm,0.8s						
WHAR	**Wooly Hollow**	**4.24**	**93**	Pn	Pn	03 35 28.0	-0.7
WHAR				IAmb_Lg		03 36 38.6	
	comp=Z,5.1nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.35**	**85**	Pn	Pn	03 35 30.5	+0.3
R40A	**Maddies Statio**	**4.95**	**56**	Pn	Pn	03 35 39.0	+0.6
PBMO	**Poplar Bluff**	**5.81**	**76**	IAmb_Lg		03 37 33.1	
	comp=Z,5.2nm,0.8s						
T25A	**Trinidad**	**5.81**	**287**	IAmb_Lg		03 37 33.4	
	comp=Z,6.6nm,0.9s						

IDC 13 03:40:22.4±2.7, 29.44S×177.59W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/17, mbtmp3.6/2, Error ellipse: s-maj=73.0km s-min=21.0km az=45.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.34**	**303**	Pn	Pn	03 40 33.9	-0.7
	148nm,0.3s,baz=43,slow=19,SNR=3.2						
RAO				Sn	Sb	03 40 43.9	+6.7
	561nm,0.3s,baz=129,slow=18,SNR=8.6						
ASAR	**Alice Springs**	**43.52**	**266**	P	P	03 48 27.4	-0.6
	0.2nm,0.4s,baz=106,slow=7.3,SNR=5.6						
WRA	**Warramunga Arr**	**44.42**	**271**	P	P	03 48 35.6	+0.4
	0.6nm,0.5s,baz=111,slow=7.9,SNR=12						
FINES	**FINESS Array B**	**144.36**	**341**	PKP	PKPdf	04 00 00.9	+1.1
	0.8nm,0.3s,baz=57,slow=7.0,SNR=18						

*MAN **13** 04:13:58.7

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.89**	**74**	*iP*	**Pg**	**04 14 17.1**	**-0.6**
APYP				*eS*	**Sb**	**04 14 30.2**	**+0.2**
CVP	**Callao Caves**	**1.41**	**86**	*eP*	**Pn**	**04 14 27.2**	**+0.8**
CVP				*eS*	**Sn**	**04 14 45.0**	**0.0**
WRA	**Warramunga Arr**	**39.78**	**159**	P	**P**	**04 21 32.7**	**-1.2**
	0.3nm,0.5s,baz=341,slow=9.4,SNR=8.3						
ASAR	**Alice Springs**	**43.12**	**162**	P	**P**	**04 22 02.2**	**+0.8**
	0.1nm,0.3s,baz=345,slow=6.9,SNR=4.0						

IASPEI ***13*** *04:15:55.6±1.4, 37.°05N±0.°03×97.°52W±0.°03, h8km±9km, Error ellipse: s-maj=4.8km s-min=3.5km az=32.4, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

NEIC ***13*** *04:15:55.9±0.6, 37.°05N±0.°02×97.°52W±0.°02, h4km±7km, Error ellipse: s-maj=2.8km s-min=1.6km az=143.0*

ANF ***13*** *04:15:56.1±0.4, 37.°04N×97.°51W, h6km, ML2.8/8, Error ellipse: s-maj=4.8km s-min=3.9km az=26.0*

ISC 13 04:15:55.9±0.9, 37.°05N±0.°02×97.°52W±0.°02, h6km±6km, n54, σ0°36/59, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.05**	**136**	Pg	**Pg**	**04 15 57.4**	**+0.1**
KAN13				Sg	**Sg**	**04 15 58.4**	**+0.1**
KS20	**Mayfield South**	**0.18**	**352**		**Pg**	**04 15 59.2**	**-0.4**
KS20				Sg	**Sg**	**04 16 01.9**	**-0.2**
KAN17	**Caldwell West**	**0.20**	**269**		**Pg**	**04 15 59.5**	**-0.3**
KAN17				Sg	**Sg**	**04 16 02.4**	**0.0**
KS21	**Milan North St**	**0.26**	**335**		**Pg**	**04 16 00.8**	**-0.2**
KS21					**Sg**	**04 16 04.5**	**-0.1**
KAN05	**Bluff City Nor**	**0.29**	**282**		**Pg**	**04 16 01.4**	**-0.2**
GC02	**Grant County #**	**0.34**	**234**		**Pg**	**04 16 02.1**	**-0.3**
KAN06	**Argonia West S**	**0.34**	**307**		**Pg**	**04 16 02.2**	**-0.2**
KAN06					**Sg**	**04 16 06.8**	**0.0**
KAN14	**Manchester OK**	**0.36**	**256**		**Pg**	**04 16 03.1**	**0.0**
BLOK	**Blackwell**	**0.38**	**139**		**Pg**	**04 16 03.1**	**-0.2**
KAN12	**Harper NE Stat**	**0.45**	**303**		**Pg**	**04 16 04.5**	**-0.2**
KAN12	**Harper NE Stat**	**0.45**	**303**		**Sg**	**04 16 10.6**	**-0.1**
OK032	**Salt Plains WL**	**0.60**	**246**		**Sg**	**04 16 15.6**	**+0.2**
OK032	**Salt Plains WL**	**0.60**	**246**	Pg	**Pg**	**04 16 07.2**	**-0.4**
CROK	**Carrier**	**0.66**	**214**		**Pg**	**04 16 08.2**	**-0.4**
T35A	**Sooner Cattle**	**0.82**	**99**		**Pg**	**04 16 11.3**	**-0.4**
T35B	**Sooner Cattle**	**0.82**	**99**	P	**Pg**	**04 16 11.3**	**-0.4**
	baz=280,SNR=87						
T35B				S	**Sg**	**04 16 22.1**	**-0.2**
	baz=280						
QUOK	**Quay**	**1.09**	**143**		**Pg**	**04 16 16.8**	**-0.1**
OK031	**S. Brethren Rd**	**1.22**	**153**		**Pg**	**04 16 19.0**	**-0.4**
OK029	**Liberty Lake**	**1.25**	**178**		**Pg**	**04 16 19.4**	**-0.5**
U32A	**Winter Ranch,**	**1.36**	**241**	Pn	**Pn**	**04 16 20.8**	**-0.8**
U32A	**Winter Ranch,**	**1.36**	**241**	P	**Pn**	**04 16 21.0**	**-0.6**
	baz=60						
U32A				S	**Sb**	**04 16 39.7**	**+0.1**
	baz=60						
OK025	**Westminster Rd**	**1.47**	**174**		**Pn**	**04 16 23.2**	**+0.2**
OKCFA	**Oklahoma City**	**1.63**	**178**		**Pn**	**04 16 25.6**	**+0.3**
OKCFA	**Oklahoma City**	**1.63**	**178**	S	**Sg**	**04 16 48.2**	**-0.1**
	baz=358						
OKCSW	**OKLAHOMA CITY**	**1.64**	**178**		**Pn**	**04 16 25.7**	**+0.4**
R32A	**Long Quarter,**	**1.66**	**326**		**Pn**	**04 16 26.0**	**+0.3**
R32A	**Long Quarter,**	**1.66**	**326**	P	**Pn**	**04 16 26.0**	**+0.3**
	baz=145,SNR=17						
R32A				S	**Sn**	**04 16 47.7**	**+0.3**
	baz=145						
FNO	**Franklin**	**1.79**	**177**		**Pn**	**04 16 27.8**	**+0.3**
TUL1	**Leonard**	**1.80**	**129**	P	**Pn**	**04 16 28.0**	**+0.5**
	baz=310,SNR=34						
TUL1				S	**Sb**	**04 16 52.3**	**+0.2**
	baz=310						
KSU1	**Kansas State U**	**2.17**	**19**		**Pn**	**04 16 32.7**	**+0.1**
KSU1	**Kansas State U**	**2.17**	**19**	P	**Pn**	**04 16 32.9**	**+0.3**
	baz=200,SNR=13						
KSU1				S	**Sn**	**04 17 00.3**	**+0.4**
	baz=200						
X34A	**Smith Ranch, M**	**2.46**	**186**	Pn	**Pn**	**04 16 36.6**	**0.0**
X34A					LR	04 17 13.9	
X34A				IAmb_Lg		04 17 17.4	
	comp=Z,10nm,0.8s						
CBKS	**Cedar Bluff**	**2.48**	**316**	S	**Sb**	**04 17 12.7**	**+0.8**
	baz=134						
WMOK	**Wichita Mounta**	**2.52**	**204**		**Pn**	**04 16 37.5**	**0.0**
WMOK	**Wichita Mounta**	**2.52**	**204**	P	**Pn**	**04 16 37.9**	**+0.4**
	baz=23,SNR=10						
U38A	**Gravette**	**2.59**	**103**		**Pn**	**04 16 38.5**	**+0.1**
X37A	**Clayton**	**3.01**	**144**	Pn	**Pn**	**04 16 43.9**	**-0.3**
X37A				IAmb_Lg		04 17 37.3	
	comp=Z,8.3nm,0.8s						
LOOK	**Love County**	**3.06**	**175**	Pn	**Pn**	**04 16 45.1**	**+0.2**
S39A	**Bolivar**	**3.41**	**78**	Pn	**Pn**	**04 16 48.7**	**-0.9**
W39A	**Magazine**	**3.55**	**120**	Pn	**Pn**	**04 16 51.9**	**+0.3**
Z35A	**Perchaven, San**	**3.72**	**177**	Pn	**Pn**	**04 16 53.5**	**-0.4**
U40A	**Yellville**	**3.81**	**99**		**Pn**	**04 16 55.0**	**-0.2**
U40A	**Yellville**	**3.81**	**99**	P	**Pn**	**04 16 55.7**	**+0.4**
	baz=282,SNR=8.1						
AMTX	**Amarillo**	**4.01**	**239**	IAmb_Lg		04 18 05.9	
	comp=Z,11nm,0.7s						
P38A	**Dawn**	**4.06**	**49**	Pn	**Pn**	**04 16 58.5**	**0.0**
P38A				IAmb_Lg		04 18 07.3	
	comp=Z,8.8nm,0.7s						
MIAR	**Mount Ida**	**4.07**	**127**	Pn	**Pn**	**04 16 58.9**	**+0.2**
MIAR				IAmb_Lg		04 18 08.6	
	comp=Z,6.0nm,0.7s						
N35A	**Tabor**	**4.08**	**20**	Pn	**Pn**	**04 16 58.3**	**-0.6**
N35A				IAmb_Lg		04 18 11.3	
	comp=Z,8.3nm,0.7s						
R40A	**Maddies Statio**	**4.35**	**72**	Pn	**Pn**	**04 17 02.6**	**+0.1**
R40A				IAmb_Lg		04 18 19.3	
	comp=Z,4.3nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.50**	**103**	Pn	**Pn**	**04 17 03.9**	**-0.8**
WHAR	**Wooly Hollow**	**4.58**	**111**	Pn	**Pn**	**04 17 06.3**	**+0.5**
X40A	**Basin Creek Fa**	**4.59**	**122**	IAmb_Lg		04 18 19.1	
	comp=Z,4.7nm,0.8s						
P40A	**Paris**	**4.97**	**58**	IAmb_Lg		04 18 36.1	
	comp=Z,8.0nm,0.9s						
CCM	**Cathedral Cave**	**5.09**	**77**	IAmb_Lg		04 18 37.1	
	comp=Z,6.4nm,1.1s						
PBMO	**Poplar Bluff**	**5.69**	**91**	IAmb_Lg		04 18 59.5	
	comp=Z,5.2nm,0.8s						

IDC ***13*** *04:40:41.1±3.2, 0.°04N×29.°57E, h0km, mb3.5/2, mb1 3.5/3, mb1mx3.3/35, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=114.8km s-min=21.8km az=12.0*

EAF ***13*** *04:40:48.0±5.8, 0.°59N×29.°66E, h0km±103km, MD3.1*

ISC 13 04:40:46.1±1.8, 0.°50N±0.°09×29.°7E±0.°1, h14km, n14, σ1s62/18, 1D, Zaire

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIL	**Kilembe**	**0.41**	**135**	*eP*	**Pg**	**04 40 54.8**	**+0.3**
KIL				*eS*	**Sb**	**04 41 00.9**	**-0.6**
MBAR	**Mbarara**	**1.49**	**137**	*eP*	**Pn**	**04 41 12.1**	**-0.6**
MBAR				*eS*	**Sn**	**04 41 30.9**	**-1.2**
MBAR	**Mbarara**	**1.49**	**137**	*i P*	**Pn**	**04 41 12.4**	**-0.3**
TEBE	**Entebbe**	**2.79**	**99**	*eP*	**Pn**	**04 41 33.9**	**+3.4**
TEBE				*eS*	**Sb**	**04 42 07.8**	**-2.1**
SINGT	**Singida**	**7.27**	**136**	*i P*	**Pb**	**04 42 53.7**	**+1.4**
SINGT				*i S*	**Sb**	**04 44 20.4**	**+1.3**
BBAT	**Babati**	**7.63**	**128**	*i P*	Pb	04 43 04.4	+6.0
BBAT				*i P*	Pb	04 43 04.4	+6.0
BBAT				*i S*	Sb	04 44 38.9	+10
KMBO	**Kilima Mbogo**	**7.70**	**102**	Pn	**Pn**	**04 42 37.4**	**-0.8**
	0.5nm,0.3s,baz=268,slow=14,SNR=4.9						
KMBO				Sn	**Sn**	**04 44 05.5**	**0.0**
	1.4nm,0.3s,baz=234,slow=19,SNR=2.9						
KMBO				Lg	Lg	04 44 45.6	
	3.2nm,0.3s,baz=214,slow=22,SNR=10.0						
KOND	**Kondoa**	**8.10**	**132**	*i P*	**Pb**	**04 43 07.1**	**+0.7**
KOND				*i S*	**Sb**	**04 44 43.8**	**+0.9**
LOSI	**Makongolosi**	**9.47**	**159**	*i P*	**Pn**	**04 42 59.8**	**-2.6**
JILO	**Lwanjilo**	**9.93**	**157**	*i P*	**Pn**	**04 43 06.1**	**-2.7**
PDHT	**Panda Hill**	**10.05**	**160**	*i P*	**Pn**	**04 43 10.8**	**+0.5**
ITUM	**Tunduma**	**10.42**	**161**	*i P*	**Pn**	**04 43 14.4**	**-1.0**
TORD	**Torodi Ar. Bea**	**30.48**	**296**	P	P	04 46 56.3	-2.6
	0.3nm,0.5s,baz=106,slow=7.4,SNR=7.0						
MKAR	**Makanchi Array**	**64.92**	**37**	P	**P**	**04 51 25.7**	**+0.4**

0.4nm,0.7s,baz=258,slow=5.7,SNR=2.8

OSPL ***13*** *04:46:06.6±1.1, 19.°58N×65.°86W, h0km±449km, ML3.4*

NEIC ***13*** *04:46:07.2±1.3, 19.°71N±0.°04×65.°95W±0.°02, h28km±11km, Error ellipse: s-maj=5.8km s-min=3.0km az=171.0*

RSPR ***13*** *04:46:08.4, 19.°61N×65.°93W, h85km±12km, MD3.9/13*

ISC 13 04:46:05.5±1.0, 19.°66N±0.°05×65.°91W±0.°03, h14km, n75, σ0s66/78, 19C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**1.31**	**207**	*eP*	**Pb**	**04 46 30.2**	**+0.3**
EMPR	**Esperanza - Ma**	**1.31**	**207**		**Pb**	**04 46 30.2**	**+0.3**
EMPR	**Esperanza - Ma**	**1.31**	**207**	IAML		04 46 50.2	
	comp=E,805nm,0.5s						
EMPR				IAML		04 47 00.2	
	comp=N,715nm,0.7s						
GCPR	**Guaynabo City**	**1.35**	**187**	*eP*	**Pn**	**04 46 29.9**	**0.0**
GCPR	**Guaynabo City**	**1.35**	**187**	*eS*	**Sn**	**04 46 47.7**	**+0.1**
GCPR	**Guaynabo City**	**1.35**	**187**		**Pn**	**04 46 29.9**	**0.0**
GCPR					**Sn**	**04 46 47.7**	**+0.1**
GCPR	**Guaynabo City**	**1.35**	**187**	IAML		04 46 52.1	
	comp=N,389nm,0.6s						
GCPR				IAML		04 46 53.9	
	comp=E,352nm,0.5s						
CBYP	**Canovanas**	**1.38**	**178**	*eP*	**Pn**	**04 46 30.6**	**+0.3**
CBYP	**Canovanas**	**1.38**	**178**		**Pn**	**04 46 30.6**	**+0.3**
CBYP	**Canovanas**	**1.38**	**178**	IAML		04 46 50.6	
	comp=N,859nm,0.2s						
CUPR	**Culebra, Puert**	**1.46**	**156**	*eP*	**Pb**	**04 46 32.1**	**-0.4**
CUPR	**Culebra, Puert**	**1.46**	**156**	*eS*	**Sb**	**04 46 51.2**	**+0.3**
CUPR	**Culebra, Puert**	**1.46**	**156**		**Pb**	**04 46 32.1**	**-0.4**
CUPR					**Sb**	**04 46 51.2**	**+0.3**
HUMP	**Col San Antoni**	**1.51**	**178**	*eP*	**Pn**	**04 46 32.3**	**+0.3**
HUMP	**Col San Antoni**	**1.51**	**178**	*eS*	**Sn**	**04 46 52.0**	**+0.5**
HUMP	**Col San Antoni**	**1.51**	**178**		**Pn**	**04 46 32.3**	**+0.3**
HUMP					**Sn**	**04 46 52.0**	**+0.5**
HUMP	**Col San Antoni**	**1.51**	**178**	IAML		04 46 52.7	
	comp=E,390nm,0.2s						
HUMP				IAML		04 47 01.8	
	comp=N,302nm,0.3s						
AOPR	**Arecibo Observ**	**1.53**	**212**	*eP*	**Pn**	**04 46 32.6**	**+0.2**
AOPR	**Arecibo Observ**	**1.53**	**212**	*eS*	**Sg**	**04 46 54.4**	**-0.4**
AOPR	**Arecibo Observ**	**1.53**	**212**		**Pn**	**04 46 32.6**	**+0.2**
AOPR					**Sg**	**04 46 54.4**	**-0.4**
SJG	**San Juan**	**1.55**	**189**		**Pn**	**04 46 33.2**	**+0.6**
SJG				IAML		04 46 54.3	
	comp=N,532nm,0.6s						
SJG				IAML		04 46 55.2	
	comp=N,527nm,0.5s						
STVI	**Saint Thomas**	**1.58**	**145**	*eP*	**Pb**	**04 46 34.5**	**0.0**
STVI	**Saint Thomas**	**1.58**	**145**	*eS*	**Sb**	**04 46 54.3**	**0.0**
STVI	**Saint Thomas**	**1.58**	**145**		**Pb**	**04 46 34.5**	**0.0**
STVI					**Sb**	**04 46 54.3**	**0.0**
STVI	**Saint Thomas**	**1.58**	**145**	IAML		04 46 58.4	
	comp=N,371nm,0.4s						
STVI				IAML		04 47 06.5	
	comp=E,290nm,0.7s						
MTP	**Monte Pirata**	**1.58**	**168**	*eP*	**Pn**	**04 46 33.9**	**+0.7**
MTP	**Monte Pirata**	**1.58**	**168**	*eS*	**Sn**	**04 46 53.9**	**+0.4**
MTP	**Monte Pirata**	**1.58**	**168**		**Pn**	**04 46 33.9**	**+0.7**
MTP					**Sn**	**04 46 53.9**	**+0.4**
MTP	**Monte Pirata**	**1.58**	**168**	IAML		04 46 55.0	
	comp=E,430nm,0.5s						
PDPR	**Patillas Dam,**	**1.63**	**184**		**Pn**	**04 46 34.2**	**+0.5**
PDPR				IAML		04 46 56.3	
	comp=E,250nm,0.6s						
AGPR	**Aguadilla, PR**	**1.64**	**224**	*eP*	**Pn**	**04 46 33.9**	**-0.1**
AGPR	**Aguadilla, PR**	**1.64**	**224**		**Pn**	**04 46 33.9**	**-0.1**
AGPR	**Aguadilla, PR**	**1.64**	**224**	*i P*	**Pn**	**04 46 33.8**	**-0.1**
IGPR	**InterUniversit**	**1.69**	**187**	*eP*	**Pn**	**04 46 35.1**	**+0.5**
IGPR	**InterUniversit**	**1.69**	**187**	*eS*	**Sn**	**04 46 56.9**	**+0.8**
IGPR	**InterUniversit**	**1.69**	**187**		**Sn**	**04 46 56.9**	**+0.8**
IGPR	**InterUniversit**	**1.69**	**187**	Pn	**Pn**	**04 46 34.8**	**+0.2**
IGPR				IAML		04 46 58.9	
	comp=E,569nm,0.3s						
CELP	**Cerrillos**	**1.70**	**202**	*eP*	**Pn**	**04 46 35.3**	**+0.6**
CELP	**Cerrillos**	**1.70**	**202**		**Pn**	**04 46 35.3**	**+0.6**
TBVI	**Tortola**	**1.73**	**135**	*eP*	**Pb**	**04 46 36.3**	**-0.8**
TBVI	**Tortola**	**1.73**	**135**	*eS*	**Sn**	**04 46 56.8**	**-0.3**
OBIP	**Obispado Ponce**	**1.74**	**203**	*eP*	**Pn**	**04 46 34.8**	**-0.4**
OBIP	**Obispado Ponce**	**1.74**	**203**	*eS*	**Sn**	**04 46 57.1**	**0.0**
OBIP	**Obispado Ponce**	**1.74**	**203**		**Pn**	**04 46 34.8**	**-0.4**
OBIP					**Sn**	**04 46 57.1**	**0.0**
OBIP	**Obispado Ponce**	**1.74**	**203**	IAML		04 47 05.2	
	comp=E,248nm,0.8s						
ABVI	**Anegada Island**	**1.75**	**122**		**Pn**	**04 46 36.3**	**+0.9**
ABVI					**Sb**	**04 46 58.9**	**-0.2**
ABVI	**Anegada Island**	**1.75**	**122**	IAML		04 47 30.2	
	comp=N,332nm,0.8s						
ABVI				IAML		04 47 35.4	
	comp=E,271nm,1.0s						
ABV	**Anegada**	**1.75**	**121**	*eP*	**Pn**	**04 46 36.3**	**+0.9**
ABV	**Anegada**	**1.75**	**121**	*eS*	**Sb**	**04 46 58.9**	**-0.2**
VGBI	**Virgin Gorda,**	**1.83**	**129**	*eP*	**Pn**	**04 46 37.6**	**+1.0**
VGBI	**Virgin Gorda,**	**1.83**	**129**	*eS*	**Sb**	**04 47 01.5**	**-0.1**
VGBI	**Virgin Gorda,**	**1.83**	**129**		**Pn**	**04 46 37.6**	**+1.0**
VGBI					**Sb**	**04 47 01.5**	**-0.1**
LSP	**Las Mesas**	**1.85**	**217**	*eP*	**Pn**	**04 46 37.3**	**+0.5**
ICMP	**Isla Caja de M**	**1.85**	**199**		**Pn**	**04 46 38.0**	**+1.1**
ICMP				IAML		04 47 14.2	
	comp=N,210nm,1.0s						
IDE	**Isla Desecheo**	**1.95**	**230**	*eP*	**Pn**	**04 46 39.0**	**+0.8**
MLPR	**Magueyes Islan**	**1.99**	**213**	*eP*	**Pn**	**04 46 39.9**	**+1.1**
MLPR	**Magueyes Islan**	**1.99**	**213**		**Pn**	**04 46 39.9**	**+1.1**
CRPR	**Cabo Rojo, PR**	**2.00**	**215**	*eP*	**Pn**	**04 46 39.3**	**+0.5**
CRPR	**Cabo Rojo, PR**	**2.00**	**215**		**Pn**	**04 46 39.3**	**+0.5**
CRPR	**Cabo Rojo, PR**	**2.00**	**215**	IAML		04 47 12.4	
	comp=N,194nm,0.6s						
CRPR	**Cabo Rojo, PR**	**2.00**	**215**	*i P*	**Pn**	**04 46 39.7**	**+0.9**
CRPR				*eS*	**Sn**	**04 47 03.5**	**-0.1**
CRPR				IAML		04 47 12.3	
	comp=Z,194nm,0.4s						
CDVI	**St. Croix**	**2.18**	**150**	*eP*	**Pb**	**04 46 44.3**	**-0.4**
CDVI	**St. Croix**	**2.18**	**150**	*eS*	**Sb**	**04 47 10.7**	**-0.9**
CDVI	**St. Croix**	**2.18**	**150**		**Pb**	**04 46 44.3**	**-0.4**
CDVI					**Sb**	**04 47 10.7**	**-0.9**
PCDR	**Punta Cana, DR**	**2.60**	**245**	*eP*	**Pn**	**04 46 48.1**	**+0.9**
PCDR	**Punta Cana, DR**	**2.60**	**245**	*eS*	**Sn**	**04 47 18.8**	**+0.2**
PCDR	**Punta Cana, DR**	**2.60**	**245**		**Pn**	**04 46 48.1**	**+0.9**
PCDR					**Sn**	**04 47 18.8**	**+0.2**
PCDR	**Punta Cana, DR**	**2.60**	**245**	IAML		04 47 21.3	
	comp=E,133nm,1.2s						
PCDR				IAML		04 47 46.0	
	comp=N,257nm,0.9s						
PCDR	**Punta Cana, DR**	**2.60**	**245**	*i P*	**Pn**	**04 46 48.5**	**+1.4**
PCDR				IAML		04 47 21.9	
	comp=Z,210nm,0.9s						
DR12	**Loma Pena Alta**	**3.40**	**256**		**Pn**	**04 46 58.4**	**+0.3**
BANI	**BANI**	**4.40**	**254**	Pn	**Pn**	**04 47 13.1**	**+1.1**
BANI					**Sn**	**04 48 01.6**	**-1.4**
SC01	**Santiago de lo**	**4.55**	**268**		**Pn**	**04 47 14.9**	**+0.9**
GRTK	**Grand Turk**	**5.23**	**292**	Pn	**Pn**	**04 47 24.1**	**+0.8**
GTBY	**Guantanamo Bay**	**8.67**	**273**	Pn	**Pn**	**04 48 08.4**	**-2.2**
BBSR	**BB Station**	**12.71**	**5**	Pn	**Pn**	**04 49 05.7**	**-0.2**

IDC ***13*** *04:55:51.1±1.8, 21.°46N×143.°09E, h305km±17km, mb3.2/11, mb1 3.4/13, mb1mx3.2/56, mbtmp3.9/13, Error ellipse: s-maj=24.8km s-min=11.4km az=89.0*

ISC 13 04:55:51.7±0.6, 21.°48N±0.°08×143.°1E±0.°2, h311km, n17, σ0s93/19, mb3.4/10, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.66**	**352**	P	**Pn**	**04 57 18.0**	**+0.8**
	13nm,0.3s,baz=65,slow=23,SNR=17						
JCJ				S	**S**	**04 58 24.7**	**-1.4**
	22nm,0.3s,baz=250,slow=23,SNR=10						
GUMO	**Guam**	**8.02**	**168**	P	**P**	**04 57 48.9**	**-1.8**
	5.2nm,0.3s,baz=117,slow=18,SNR=2.3						
MJAR	**Matsushiro Arr**	**15.61**	**345**	P	**P**	**04 59 14.1**	**-0.6**
	0.1nm,0.3s,baz=154,slow=10,SNR=11						
KSRS	**Korea Array**	**20.65**	**324**	P	**P**	**05 00 08.3**	**-0.1**
	0.9nm,0.6s,baz=148,slow=8.8,SNR=5.2						
SONM	**Songino Array**	**39.47**	**321**	P	**P**	**05 02 54.3**	**+1.6**
	0.3nm,0.3s,baz=134,slow=7.3,SNR=2.5						
WRA	**Warramunga Arr**	**42.05**	**192**	P	**P**	**05 03 13.4**	**-0.4**
	4.9nm,0.4s,baz=17,slow=9.0,SNR=126						
ASAR	**Alice Springs**	**45.76**	**192**	P	**P**	**05 03 42.4**	**-0.7**
	1.0nm,0.5s,baz=17,slow=12,SNR=28						
STKA	**Stephens Creek**	**53.07**	**182**	P	**P**	**05 04 37.0**	**-0.7**
	1.2nm,0.6s,baz=4.9,slow=8.4,SNR=4.0						
MKAR	**Makanchi Array**	**54.80**	**313**	P	**P**	**05 04 50.6**	**+0.5**
	0.3nm,0.5s,baz=90,slow=7.8,SNR=3.4						
MKAR				PcP	**PcP**	**05 05 48.0**	**-0.3**
	0.4nm,0.7s,baz=99,slow=4.5,SNR=2.4						
ILAR	**Eielson Array**	**62.26**	**27**	P	**P**	**05 05 40.5**	**-0.4**
	0.6nm,0.6s,baz=265,slow=6.1,SNR=5.6						
YKA	**Yellowknife Ar**	**76.68**	**28**	P	**P**	**05 07 08.5**	**0.0**
	1.0nm,0.7s,baz=296,slow=8.2,SNR=1.5						
ARCES	**ARCESS Array B**	**79.11**	**341**	P	**P**	**05 07 21.6**	**-0.1**
	0.9nm,0.4s,baz=72,slow=8.4,SNR=16						
NVAR	**Mina Array Bea**	**83.33**	**51**	P	**P**	**05 07 45.5**	**+0.9**
	0.3nm,0.7s,baz=270,slow=6.3,SNR=3.0						
FINES	**FINESS Array B**	**83.35**	**334**	P	**P**	**05 07 42.6**	**-1.4**
	0.6nm,0.3s,baz=59,slow=4.3,SNR=15						
TORD	**Torodi Ar. Bea**	**128.83**	**309**	PKP	**PKPdf**	**05 14 22.4**	**-0.8**
	0.2nm,0.4s,baz=22,slow=1.8,SNR=1.5						
PLCA	**Paso Flores**	**145.66**	**132**	PKPbc	**PKPbc**	**05 14 54.7**	**+0.3**
	1.1nm,0.8s,baz=252,slow=2.7,SNR=7.0						
LPAZ	**La Paz**	**150.02**	**85**	PKPbc	**PKPbc**	**05 15 07.4**	**+0.2**
	1.4nm,0.5s,baz=330,slow=0.6,SNR=14						

NOU ***13*** *05:00:27.0, 39.°82S×177.°24E, h74km, MLv3.7/6, Off E. Coast of N. Island, N.Z.*

WEL 13 05:00:14.4±0.7, 40.°3S±3.°×177.°9E±.°, h33km, M3.2/21, ML3.6/22, MLv3.2/21, Error ellipse: s-maj=0.0km s-min=0.0km az=117.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	**Mahia Peninsul**	**0.83**	**301**	P	Pb	05 00 30.2	-0.2
KNZ	**Kokohu**	**1.05**	**302**	P	Pn	05 00 32.8	-0.1
KNZ				S	Sb	05 00 47.3	-0.3
CNGZ	**Carnagh Statio**	**1.20**	**336**	P	Pn	05 00 35.1	+0.3
RIGZ	**Rimuhau**	**1.20**	**316**	P	Pn	05 00 35.6	+0.7
CKHZ	**Cape Kidnapper**	**1.35**	**266**	P	Pn	05 00 37.1	+0.1
CKHZ				S	Sn	05 00 53.8	+0.1
TKGZ	**Te Karaka**	**1.37**	**326**	P	Pn	05 00 37.8	+0.6
SNGZ	**Shannon Statio**	**1.40**	**304**	P	Pn	05 00 38.5	+0.8
SNGZ				S	Sb	05 00 57.9	+0.3
RAHZ	**Arahi**	**1.50**	**296**	P	Pn	05 00 40.0	+0.9
RAHZ				S	Sn	05 00 59.0	+1.4
KAHZ	**Kahuranaki**	**1.52**	**261**	P	Pn	05 00 39.5	+0.2
RAGZ	**Rawiri**	**1.54**	**314**	P	Pn	05 00 40.3	+0.7
RAGZ				S	Sn	05 00 59.1	+0.5
TWGZ	**Tauwhareparae**	**1.55**	**335**	P	Pn	05 00 40.0	+0.3
TWGZ				S	Sn	05 00 59.4	+0.7
PUZ	**Puketiti**	**1.57**	**343**	P	Pn	05 00 39.3	-0.7
PUZ				S	Sn	05 00 56.9	-2.3
PXZ	**Pawanui**	**1.58**	**253**	P	Pn	05 00 39.6	-0.4
PXZ				S	Sn	05 00 59.7	+0.4
MWZ	**Matawai**	**1.60**	**320**	P	Pn	05 00 40.8	+0.4
MWZ				S	Sn	05 00 59.6	-0.5
NMHZ	**Naumai**	**1.64**	**287**	P	Pn	05 00 42.0	+1.1
MCHZ	**McNeill Hill**	**1.65**	**274**	P	Pn	05 00 41.9	+0.9
MTHZ	**Maungataniwha**	**1.70**	**295**	P	Pn	05 00 42.6	+0.7
MTHZ				S	Sn	05 01 04.2	+1.7
WMGZ	**Waiomatatini S**	**1.79**	**350**	P	Pn	05 00 42.7	-0.2
PKGZ	**Pakihiroa**	**1.79**	**341**	P	Pn	05 00 42.9	-0.1
PKGZ				S	Sn	05 01 03.4	-1.2
RUGZ	**Raukumara Rang**	**1.85**	**331**	P	Pn	05 00 43.8	-0.1
RUGZ				S	Sn	05 01 06.1	0.0
BKZ	**Black Stump Fm**	**1.85**	**282**	P	Pn	05 00 44.6	+0.7
BKZ				S	Sn	05 01 06.7	+0.5
KWHZ	**Kaweka Forest**	**1.86**	**274**	P	Pn	05 00 44.7	+0.7
KWHZ				S	Sn	05 01 07.0	+0.5
URZ	**Urewera**	**1.88**	**314**	P	Pn	05 00 45.1	+0.9
UR

n89,σ1ᵖ58/114, mb4.0/10, 6C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELL	**Elmali**	**0.11**	**301**	PG	**Pg**	**05 10 23.4**	**-0.8**
ELL	**Elmali**	**0.11**	**301**	P	**Pg**	**05 10 23.4**	**-0.8**
ELL				S	**Sg**	**05 10 26.9**	**+0.4**
KORT	**Korkueli**	**0.40**	**40**	*i* P	**Pg**	**05 10 28.0**	**-0.9**
KORT				*i* S	**Sb**	**05 10 35.8**	**-0.1**
KORT				IAML		05 10 41.0	
	comp=N,6μm,0.4s						
KORT				IAML		05 10 41.0	
	comp=E,10μm,0.4s						
KORT	**Korkueli**	**0.40**	**40**	PG	**Pg**	**05 10 28.0**	**-0.9**
KORT				SG	**Sb**	**05 10 35.3**	**-0.6**
KEMT	**Kemer-ANTALYA**	**0.43**	**101**	PG	**Pb**	**05 10 29.7**	**-0.4**
AKUM	**Antalya-Kumluc**	**0.45**	**145**	*i* P	**Pb**	**05 10 29.9**	**-0.5**
AKUM				*i* S	**Sb**	**05 10 38.7**	**+1.8**
AKUM				IAML		05 10 41.0	
	comp=N,4μm,0.3s						
AKUM				IAML		05 10 42.0	
	comp=E,2μm,0.3s						
DEMR	**Demre-Antalya**	**0.46**	**192**	PG	**Pg**	**05 10 30.0**	**+0.1**
ANTB	**Antalya**	**0.54**	**67**	PG	**Pb**	**05 10 31.4**	**-0.6**
ANTB				SG	**Sb**	**05 10 40.5**	**+0.8**
AKAS	**Kas**	**0.57**	**217**	*i* P	**Pg**	**05 10 31.5**	**-0.5**
AKAS				*i* S	**Sn**	**05 10 43.8**	**0.0**
AKAS				IAML		05 10 45.0	
	comp=N,4μm,0.5s						
AKAS				IAML		05 10 50.0	
	comp=E,2μm,0.4s						
AKAS	**Kas**	**0.57**	**217**	PG	**Pg**	**05 10 31.3**	**-0.7**
AKAS				SG	**Sb**	**05 10 40.9**	**+0.3**
CAME	**Cameli-Denizli**	**0.64**	**294**	PG	**Pg**	**05 10 32.1**	**-1.1**
CAME				SG	**Sb**	**05 10 41.9**	**-0.6**
KSL	**Kastellorizon**	**0.65**	**214**	⇑P	**Pg**	**05 10 32.5**	**-0.8**
KSL				AML	AML	05 10 52.7	
	comp=E,5.5nm,0.4s						
KSL				AML	AML	05 10 54.2	
	comp=E,11nm,0.8s						
GOLH	**Golhisar**	**0.66**	**326**	*i* P	**Pg**	**05 10 32.0**	**-1.7**
GOLH				*i* S	**Sb**	**05 10 44.6**	**+1.3**
GOLH				IAML		05 10 46.0	
	comp=N,2μm,0.4s						
CAEL	**Denizli, Camel**	**0.71**	**307**	*i* P	**Pg**	**05 10 33.7**	**-1.0**
CAEL				*i* S	**Sb**	**05 10 46.0**	**+1.2**
CAEL				IAML		05 10 48.0	
	comp=N,4μm,0.5s						
CAEL				IAML		05 10 58.0	
	comp=E,4μm,0.8s						
FETY	**Fethiye**	**0.76**	**266**	PG	**Pg**	**05 10 34.7**	**-0.8**
BUCA	**Burdur, Bucak-**	**0.77**	**34**	*i* P	**Pg**	**05 10 34.5**	**-1.1**
BUCA				*i* S	**Sn**	**05 10 49.0**	**+0.4**
BUCA				IAML		05 10 50.0	
	comp=E,3μm,0.5s						
BUCA				IAML		05 10 52.0	
	comp=N,2μm,0.5s						
BCK	**Bucak**	**0.89**	**30**	PG	**Pb**	**05 10 37.8**	**-0.2**
BRDR	**BURDUR-Merkez**	**1.00**	**1**	*i* P	**Pb**	**05 10 39.5**	**-0.5**
BRDR				*i* S	**Sn**	**05 10 55.3**	**+0.8**
BRDR				IAML		05 10 58.0	
	comp=E,1μm,0.9s						
BRDR				IAML		05 11 00.0	
	comp=N,836nm,0.7s						
DALY	**Dalyan (Mula)**	**1.11**	**277**	*i* P	**Pg**	**05 10 40.7**	**-1.5**
DALY				*i* S	**Sn**	**05 11 00.7**	**+3.7**
DALY				IAML		05 11 01.0	
	comp=N,991nm,0.4s						
DALY				IAML		05 11 03.0	
	comp=E,2μm,1.1s						
DALY	**Dalyan (Mula)**	**1.11**	**277**	PN	**Pb**	**05 10 41.7**	**0.0**
TAVA	**DENIZLI_Tavas**	**1.18**	**311**	*i* P	**Pg**	**05 10 42.3**	**-1.2**
TAVA				*i* S	**Sn**	**05 11 00.6**	**+1.7**
TAVA				IAML		05 11 05.0	
	comp=N,552nm,0.7s						
TAVA				IAML		05 11 05.0	
	comp=E,1μm,0.6s						
ISP	**Isparta**	**1.20**	**19**	PN	**Pn**	**05 10 43.7**	**+0.5**
ISP				SN	**Sn**	**05 11 00.8**	**+1.5**
BASM	**Basmaki-Afyon**	**1.23**	**1**	PN	**Pn**	**05 10 43.8**	**+0.2**
KEPZ	**Antalya-Kepez**	**1.28**	**80**	*i* P	**Pg**	**05 10 43.5**	**-2.0**
KEPZ				IAML		05 11 12.0	
	comp=E,330nm,0.5s						
KEPZ				IAML		05 11 17.0	
	comp=N,310nm,0.6s						
BAGO	**Egridir - ISPA**	**1.43**	**25**	*i* P	**Pn**	**05 10 46.1**	**-0.3**
BAGO				*i* S	**Sn**	**05 11 12.3**	**+7.3**
BAGO				IAML		05 11 13.0	
	comp=E,339nm,0.8s						
BAGO				IAML		05 11 14.0	
	comp=N,205nm,1.6s						
TURN	**Turunc**	**1.44**	**274**	*i* P	**Pg**	**05 10 47.4**	**-1.0**
TURN				*i* S	**Sg**	**05 11 08.5**	**+1.5**
TURN				IAML		05 11 10.0	
	comp=N,535nm,0.4s						
TURN				IAML		05 11 16.0	
	comp=E,420nm,0.7s						
TURN	**Turunc**	**1.44**	**274**	PN	**Pb**	**05 10 47.2**	**0.0**
YER	**Yerkesik**	**1.47**	**288**	PN	**Pg**	**05 10 49.5**	**+0.5**
MRSB	**Marmaris-Mugla**	**1.47**	**272**	PN	**Pg**	**05 10 48.3**	**-0.7**
MULA	**Mugla, Merkez-**	**1.48**	**293**	*i* P	**Pb**	**05 10 47.9**	**-0.2**
MULA				*i* S	**Sg**	**05 11 11.1**	**+2.7**
MULA				IAML		05 11 12.0	
	comp=E,642nm,0.6s						
MULA				IAML		05 11 20.0	
	comp=N,514nm,0.6s						
KZIL	**AFYON_Kizioren**	**1.57**	**3**	*i* P	**Pb**	**05 10 48.8**	**-0.8**
KZIL				IAML		05 11 15.0	
	comp=E,336nm,1.4s						
KZIL				IAML		05 11 22.0	
	comp=N,280nm,0.7s						
SEDI	**Konya, Seydise**	**1.58**	**61**	*i* P	**Pn**	**05 10 48.8**	**+0.4**
SEDI				*i* S	**Sg**	**05 11 13.9**	**+2.4**
SEDI				IAML		05 11 21.0	
	comp=N,432nm,0.7s						
SEDI				IAML		05 11 25.0	
	comp=E,380nm,0.9s						
ARG	**Arkhangelos**	**1.60**	**253**	PN	**Pb**	**05 10 50.0**	**-0.1**
ARG				SN	**Sg**	**05 11 12.7**	**+0.3**
ARG	**Arkhangelos**	**1.60**	**253**	⇑P	**Pn**	**05 10 49.7**	**+1.0**
ARG				S	**Sg**	**05 11 11.9**	**-0.5**
SEYD	**Seydisehir-KON**	**1.61**	**63**	PN	**Pb**	**05 10 50.2**	**-0.2**
KHL	**Karahalli**	**1.68**	**346**	PN	**Pb**	**05 10 50.9**	**-0.6**
PASA	**Karahalli, USA**	**1.71**	**346**	*i* P	**Pn**	**05 10 50.4**	**+0.2**
PASA				*i* S	**Sg**	**05 11 17.1**	**+1.3**
PASA				IAML		05 11 22.0	
	comp=E,228nm,0.6s						
PASA				IAML		05 11 23.0	
	comp=N,224nm,1.0s						
YVAC	**Isparta, Yalva**	**1.85**	**31**	*i* P	**Pb**	**05 10 53.5**	**-0.9**
YVAC				IAML		05 11 26.0	
	comp=E,204nm,1.1s						
YVAC				IAML		05 11 31.0	
	comp=N,145nm,0.9s						
GAZI	**Gazipasa**	**1.90**	**103**	*i* P	**Pb**	**05 10 54.6**	**-0.5**
GAZI				IAML		05 11 33.0	
	comp=E,315nm,0.6s						
GAZI				IAML		05 11 38.0	
	comp=N,317nm,0.8s						
GAZI	**Gazipasa**	**1.90**	**103**	PN	**Pb**	**05 10 55.3**	**+0.1**
MLSB	**Milas**	**1.90**	**289**	PN	**Pb**	**05 10 54.4**	**-0.8**
SHUT	**Suhut-Afyon**	**1.91**	**12**	PN	**Pb**	**05 10 54.7**	**-0.7**
DOGA	**KONYA_Doganhis**	**1.92**	**42**	*i* P	**Pb**	**05 10 55.3**	**-0.4**
DOGA				IAML		05 11 26.0	
	comp=N,440nm,0.9s						
DOGA				IAML		05 11 26.0	
	comp=E,233nm,0.5s						
DAT	**Datca**	**1.97**	**272**	PN	**Pb**	**05 10 55.4**	**-1.0**
AFYO	**Afyonkarahisar**	**2.10**	**6**	*i* P	**Pb**	**05 10 58.4**	**-0.4**
AFYO				IAML		05 11 42.0	
	comp=E,700nm,1.1s						
AFYO				IAML		05 11 43.0	
	comp=N,482nm,1.6s						
AYDB	**Zeytinkoy-Aydi**	**2.12**	**307**	PN	**Pn**	**05 10 56.9**	**+1.1**
KULA	**Kula-Manisa**	**2.12**	**330**	PN	**Pn**	**05 10 57.0**	**+1.2**
KMER	**Konya-Meram**	**2.15**	**59**	*i* P	**Pb**	**05 10 58.4**	**-1.3**
KMER				IAML		05 11 36.0	
	comp=E,147nm,0.8s						
KMER				IAML		05 11 37.0	
	comp=N,103nm,0.8s						
BODT	**Bodrum**	**2.21**	**280**	PN	**Pn**	**05 10 58.4**	**+1.4**
KONT	**Konya--Tatoy**	**2.24**	**55**	PN	**Pn**	**05 10 58.7**	**+1.2**
YKAV	**Yalikavak-Bodr**	**2.25**	**282**	PN	**Pb**	**05 10 59.6**	**-1.5**
NIS1	**Nisyros Isl.**	**2.29**	**269**	PN	**Pn**	**05 10 59.9**	**+1.7**
SHAP	**Saphane-Kutahy**	**2.42**	**345**	PN	**Pn**	**05 11 01.3**	**+1.4**
KOSK	**Kos Island**	**2.45**	**272**	PN	**Pn**	**05 11 01.9**	**+1.6**
AKMS	**Akamas**	**2.51**	**131**	P	**Pb**	**05 11 03.8**	**-1.8**
AKMS				AML	AML	05 11 43.4	
	comp=N,1.0nm,0.9s						
AKMS				AML	AML	05 11 45.1	
	comp=N,1.2nm,1.2s						
KARP	**Karpathos**	**2.59**	**245**	⇑P	**Pn**	**05 11 03.4**	**+1.2**
KARP				AML	AML	05 11 51.9	
	comp=N,0.8nm,0.7s						
KARP				AML	AML	05 12 02.2	
	comp=N,0.9nm,1.2s						
ALFC	**Alefka**	**2.59**	**126**	⇑P	**Pn**	**05 11 03.5**	**+1.3**
ALFC				AML	AML	05 11 23.1	
	comp=N,0.6nm,0.6s						
ALFC				AML	AML	05 11 38.1	
	comp=N,0.8nm,0.5s						
KRMN	**Karaman**	**2.64**	**78**	PN	**Pn**	**05 11 04.9**	**+1.9**
NATA	**Nata**	**2.81**	**132**	P	**Pn**	**05 11 07.3**	**+2.0**
NATA				AML	AML	05 11 54.8	
	comp=N,1.5nm,0.6s						
NATA				AML	AML	05 11 55.1	
	comp=N,1.7nm,1.1s						
AUSIV	**SIVRIHISAR**	**2.99**	**23**	PN	**Pn**	**05 11 09.4**	**+1.5**
SZAC	**Souni**	**3.02**	**129**	⇑P	**Pn**	**05 11 10.5**	**+2.4**
SZAC				AML	AML	05 11 43.2	
	comp=N,0.5nm,0.8s						
SZAC				AML	AML	05 11 49.1	
	comp=N,0.6nm,0.8s						
CSS	**Mathiatis**	**3.19**	**122**	PN	**Pn**	**05 11 13.2**	**+2.7**
CSS	**Mathiatis**	**3.19**	**122**	⇑P	**Pn**	**05 11 12.3**	**+1.8**
BORA	**Eskisehir**	**3.20**	**6**	PN	**Pn**	**05 11 12.9**	**+2.2**
AUBOZ	**BOZOYUK**	**3.21**	**0**	PN	**Pn**	**05 11 11.9**	**+1.0**
ASGA	**Asgata**	**3.24**	**125**	P	**Pn**	**05 11 14.0**	**+2.9**
OSC1	**CSNet OBS 1**	**3.34**	**162**	P	**Pn**	**05 11 13.8**	**+1.2**
ZKR	**Zakros**	**3.47**	**244**	PN	**Pn**	**05 11 16.5**	**+2.2**
ZKR	**Zakros**	**3.47**	**244**	P	**Pn**	**05 11 16.0**	**+1.6**
ZKR				S	**Sn**	**05 11 59.0**	**+3.8**
APE	**Apeiranthos**	**3.63**	**277**	PN	**Pn**	**05 11 18.6**	**+2.1**
APE	**Apeiranthos**	**3.63**	**277**	P	**Pn**	**05 11 18.2**	**+1.7**
BRTR	**Keskin Array B**	**4.16**	**42**	Pn	**Pn**	**05 11 25.1**	**+1.2**
	comp=N,2.5nm,0.3s,baz=215,slow=16,SNR=38						
BRTR				Sn	**Sn**	**05 12 15.9**	**+3.6**
	comp=N,1.5nm,0.3s,baz=218,slow=26,SNR=5.0						
BRTR				LR	LR	05 13 33.9	
	comp=N,103nm,18.5s,baz=240,slow=48						
IDI	**Anoyia**	**4.39**	**253**	Pn	**Pn**	**05 11 27.5**	**+0.4**
	comp=N,2.2nm,0.3s,baz=74,slow=20,SNR=13						
IDI				Sn	**Sn**	**05 12 16.2**	**-2.0**
	comp=N,2.2nm,0.3s,baz=252,slow=20,SNR=1.5						
MMAI	**Mount Meron Ar**	**5.74**	**128**	Pn	**Pn**	**05 11 45.9**	**+0.2**
	comp=N,5.4nm,0.3s,baz=315,slow=11,SNR=7.4						
ASF	**Jabal al Asfar**	**7.25**	**126**	Pn	**Pn**	**05 12 09.5**	**+3.2**
	comp=N,0.8nm,0.3s,baz=0.0,slow=3.0,SNR=2.9						
EIL	**Elat**	**8.12**	**148**	Pn	**Pn**	**05 12 17.6**	**-0.6**
	comp=N,1.5nm,0.3s,baz=70,slow=2.7,SNR=10						
EIL				Sn	**Sn**	**05 13 47.0**	**-2.9**
	comp=N,0.5nm,0.3s,baz=119,slow=19,SNR=3.8						
MLR	**Muntele Rosu**	**9.31**	**342**	Pn	**Pn**	**05 12 37.6**	**+2.9**
	comp=N,0.5nm,0.3s,baz=148,slow=4.3,SNR=8.1						
GNI	**Garni**	**12.05**	**69**	LR	LR	05 18 40.2	
	comp=N,86nm,18.3s,baz=257,slow=42						
GERES	**GERESS Array B**	**17.02**	**321**	Pn	**P**	**05 14 21.2**	**+1.1**
	comp=N,1.0nm,0.3s,baz=124,slow=16,SNR=4.6						
AKTO	**Aktyubinsk**	**24.32**	**47**	P	**P**	**05 15 37.4**	**-0.4**
	comp=N,2.4nm,0.5s,baz=258,slow=7.9,SNR=8.3						
FINES	**FINESS Array B**	**24.90**	**355**	P	**P**	**05 15 42.2**	**-0.7**
	comp=N,1.6nm,0.5s,baz=160,slow=12,SNR=17						
NOA	**NORSAR Array B**	**27.13**	**340**	P	**P**	**05 16 01.2**	**-1.9**
	comp=N,1.0nm,0.9s,baz=142,slow=9.4,SNR=2.6						
NOA				LR	LR	05 28 05.9	
	comp=N,19nm,19.5s,baz=280,slow=39						
ARCES	**ARCESS Array B**	**32.99**	**357**	P	**P**	**05 16 54.2**	**-0.7**
	comp=N,1.8nm,0.8s,baz=166,slow=7.5,SNR=9.3						
TORD	**Torodi Ar. Bea**	**34.55**	**235**	P	**P**	**05 17 08.8**	**-0.1**
	comp=N,0.8nm,0.8s,baz=37,slow=9.8,SNR=3.3						
MKAR	**Makanchi Array**	**39.62**	**58**	P	**P**	**05 17 51.3**	**-0.5**
	comp=N,2.1nm,0.5s,baz=273,slow=8.3,SNR=19						
ZALV	**Zalesovo Beam**	**41.08**	**47**	P	**P**	**05 18 02.7**	**-1.0**
	comp=N,0.8nm,0.3s,baz=253,slow=12,SNR=3.8						
SONM	**Songino Array**	**55.44**	**53**	P	**P**	**05 19 54.3**	**-0.6**
	comp=N,0.9nm,0.5s,baz=288,slow=7.3,SNR=4.8						
CMAR	**Chiang Mai Arr**	**62.50**	**87**	P	**P**	**05 20 43.3**	**-0.8**
	comp=N,0.9nm,0.4s,baz=298,slow=8.0,SNR=6.6						
KSRS	**Korea Array**	**74.19**	**55**	P	**P**	**05 21 55.8**	**-1.2**
	comp=N,1.4nm,0.7s,baz=299,slow=5.8,SNR=5.3						

IDC 13 05:24:15.6±1.5, 0.79N×146.43E, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.8/41, mbtmp3.8/6, MS3.2/6, Ms1 3.2/6, ms1mx2.8/40, Error ellipse: s-maj=50.3km s-min=23.1km az=102.0, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**6.60**	**240**	LR	LR	05 27 59.7	
	comp=Z,220nm,20.1s,baz=264,slow=34						
HNR	**Honiara**	**16.86**	**127**	LR	LR	05 34 37.8	
	comp=Z,80nm,20.5s,baz=300,slow=37						
WRA	**Warramunga Arr**	**23.77**	**209**	P	P	05 29 29.7	-0.3
	2.6nm,0.7s,baz=33,slow=9.9,SNR=13						
WRA				LR	LR	05 38 18.9	
	comp=Z,52nm,21.6s,baz=345,slow=36						
H11S3	**WAKE ISLAND Hy**	**26.55**	**47**	T	T	05 57 55.8	
	baz=228,slow=76,SNR=4.2						
H11S2	**WAKE ISLAND Hy**	**26.56**	**47**	T	T	05 57 53.3	
	baz=228						
H11S1	**WAKE ISLAND Hy**	**26.57**	**47**	T	T	05 57 56.7	
	baz=228,slow=76,SNR=3.9						
ASAR	**Alice Springs**	**27.19**	**206**	P	P	05 30 01.5	+0.3
	1.3nm,1.0s,baz=30,slow=12,SNR=7.8						
FITZ	**Fitzroy Crossi**	**27.76**	**226**	LR	LR	05 40 42.1	
	comp=Z,46nm,18.5s,baz=100,slow=36						
DZM	**Mont Dzumac**	**29.95**	**141**	LR	LR	05 39 19.6	
	comp=Z,149nm,19.6s,baz=136,slow=30						
CMAR	**Chiang Mai Arr**	**49.79**	**294**	P	P	05 33 10.7	0.0
	0.7nm,0.3s,baz=123,slow=6.6,SNR=4.6						
CMAR				LR	LR	05 52 15.5	
	comp=Z,11nm,20.8s,baz=215,slow=34						
SONM	**Songino Array**	**58.27**	**329**	P	P	05 34 12.3	0.0
	0.8nm,0.8s,baz=123,slow=5.5,SNR=4.1						
MKAR	**Makanchi Array**	**71.97**	**319**	P	P	05 35 41.1	-0.1
	0.6nm,0.7s,baz=107,slow=5.0,SNR=4.1						
ILAR	**Eielson Array**	**79.52**	**24**	P	P	05 36 24.1	+0.1
	0.7nm,0.6s,baz=253,slow=5.4,SNR=8.1						

IDC 13 05:29:02.9±2.9, 32.83S×178.48W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/35, mbtmp3.7/3, ML3.4/1, MS3.3/2, Ms1 3.3/2, ms1mx2.7/29, Error ellipse: s-maj=74.7km s-min=46.1km az=126.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.50**	**212**	Pn	Pn	05 30 39.0	-0.7
	0.9nm,0.3s,baz=74,slow=7.4,SNR=2.1						
AFI	**Afiamalu**	**19.81**	**20**	LR	LR	05 39 20.7	
	comp=Z,84nm,21.5s,baz=176,slow=31						
ASAR	**Alice Springs**	**42.63**	**270**	P	P	05 37 01.5	+0.2
	0.7nm,0.8s,baz=108,slow=7.9,SNR=2.8						
WRA	**Warramunga Arr**	**43.84**	**275**	P	P	05 37 10.8	-0.2
	0.9nm,0.6s,baz=114,slow=7.7,SNR=7.0						
JTS	**Las Juntas de**	**98.44**	**83**	LR	LR	06 21 19.5	
	comp=Z,16nm,19.6s,baz=0.0,slow=32						
FINES	**FINESS Array B**	**147.27**	**338**	PKPbc	PKPbc	05 48 46.8	-0.8
	1.7nm,0.8s,baz=40,slow=3.2,SNR=9.7						

IDC 13 05:30:09.9±2.0, 32.90S×178.51W, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.9/36, mbtmp4.1/5, ML3.8/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/28, Error ellipse: s-maj=51.4km s-min=31.7km az=132.0

WEL 13 05:30:11.5±1.0, 33.5S×177.8W±1.8, h105km±54km, M4.4/13, mB4.9/9, ML5.0/13, MLv4.8/13, Mw(mB)4.1/9, Error ellipse: s-maj=0.0km s-min=0.0km az=111.2

ISC 13 05:30:12.0±1.2, 32.92S±0.08×178.0W±0.2, h34km, n31, σ1ᵖ95/43, mb4.2/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.65**	**1**	P	**Pn**	**05 31 06.4**	**+0.4**
GLKZ				S	**Sn**	**05 31 45.9**	**-2.0**
MXZ	**Matakaoa Point**	**5.53**	**212**	S	**Sn**	**05 32 34.9**	**+0.7**
WMGZ	**Waiomatatini S**	**5.69**	**210**	P	**Pn**	**05 31 32.6**	**-1.6**
WMGZ				S	**Sn**	**05 32 39.9**	**+1.6**
PKGZ	**Pakihiroa**	**5.90**	**212**	P	**Pn**	**05 31 36.8**	**-0.3**
PKGZ				S	**Sn**	**05 32 43.2**	**-0.2**
HAZ	**Te Kaha**	**5.92**	**214**	P	**Pn**	**05 31 37.0**	**-0.3**
HAZ				S	**Sn**	**05 32 44.1**	**+0.1**
PUZ	**Puketiti**	**5.97**	**210**	P	**Pn**	**05 31 34.7**	**-3.3**
PUZ				S	**Sn**	**05 32 50.1**	**+4.8**
RUGZ	**Raukumara Rang**	**6.14**	**214**	P	**Pn**	**05 31 39.0**	**-1.4**
RUGZ				S	**Sn**	**05 32 49.5**	**0.0**
TWGZ	**Tauwhareparae**	**6.18**	**211**	P	**Pn**	**05 31 42.3**	**+1.4**
TWGZ				S	**Sn**	**05 32 50.0**	**-0.4**
WHRZ	**Whale Island**	**6.40**	**218**	P	**Pn**	**05 31 46.0**	**+2.0**
MWZ	**Matawai**	**6.51**	**213**	P	**Pn**	**05 31 43.6**	**-1.8**
MWZ				S	**Sn**	**05 32 55.1**	**-3.3**
URZ	**Urewera**	**6.64**	**215**	Pn	**Pn**	**05 31 46.0**	**-1.1**
	2.2nm,0.3s,baz=277,slow=4.2,SNR=6.3						
URZ				Sn	**Sn**	**05 32 58.8**	**-3.0**
	3.3nm,0.3s,baz=60,slow=20,SNR=1.3						
URZ	**Urewera**	**6.64**	**215**	P	**Pn**	**05 31 46.1**	**-1.1**
URZ				S	**Sn**	**05 33 05.5**	**+3.7**
RAGZ	**Rawiri**	**6.69**	**212**	P	**Pn**	**05 31 47.6**	**-0.3**
RAGZ				S	**Sn**	**05 33 01.1**	**-2.0**
RIGZ	**Rimuhau**	**6.72**	**210**	P	**Pn**	**05 31 48.1**	**-0.2**
RIGZ				S	**Sn**	**05 33 08.9**	**+5.3**
SNGZ	**Shannon Statio**	**6.96**	**212**	P	**Pn**	**05 31 50.9**	**-0.7**
SNGZ				S	**Sn**	**05 33 06.9**	**-2.7**
MUGZ	**Murupara**	**6.98**	**216**	P	**Pn**	**05 31 50.3**	**-1.5**
RAHZ	**Arahi**	**7.18**	**212**	P	**Pn**	**05 31 55.4**	**+0.7**
MTMZ	**Maungataniwha**	**7.24**	**214**	P	**Pn**	**05 31 50.4**	**-5.1**
OUZ	**Omahuta**	**7.33**	**249**	P	**Pn**	**05 31 57.6**	**+0.9**
NMHZ	**Naumai**	**7.46**	**213**	P	**Pn**	**05 31 58.8**	**+0.3**
BKZ	**Black Stump Fm**	**7.66**	**214**	P	**Pn**	**05 31 60.0**	**-1.2**
OTVZ	**Oturere**	**8.06**	**218**	P	**Pn**	**05 32 05.6**	**-1.3**
WNVZ	**Wahianoa**	**8.22**	**217**	P	**Pn**	**05 32 08.6**	**-0.5**
CTA	**Charters Tower**	**34.27**	**283**	P	**P**	**05 36 55.4**	**+0.3**
	2.4nm,0.6s,baz=99,slow=13,SNR=1.7						
ASAR	**Alice Springs**	**43.02**	**270**	P	**P**	**05 38 08.2**	**-0.3**
	1.2nm,0.6s,baz=107,slow=7.5,SNR=13						
WRA	**Warramunga Arr**	**44.24**	**275**	P	**P**	**05 38 17.6**	**-0.7**
	2.0nm,0.4s,baz=114,slow=7.8,SNR=22						
WRA				LR	LR	05 54 56.8	
	comp=Z,48nm,18.2s,baz=285,slow=34						
FITZ	**Fitzroy Crossi**	**52.39**	**272**	P	**P**	**05 39 19.5**	**-1.7**
	1.7nm,0.7s,baz=158,slow=5.4,SNR=2.7						
ARCES	**ARCESS Array B**	**141.04**	**347**	PKhKP	PKPpre	05 49 32.5	
	0.9nm,0.8s,baz=44,slow=2.7,SNR=1.4						
ARCES				PKP	**PKiKP**	**05 49 41.6**	**+1.2**
	1.4nm,0.9s,baz=20,slow=2.9,SNR=3.7						
FINES	**FINESS Array B**	**147.49**	**339**	PKPbc	**PKiKP**	**05 49 54.0**	**+0.2**
	2.4nm,0.5s,baz=46,slow=4.3,SNR=24						
NB2	**NORSAR Subarra**	**151.23**	**351**	PKP	**PKiKP**	**05 50 03.7**	**+2.0**
	comp=Z,3.0nm,1.2s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**151.23**	**351**	PKPbc	**PKiKP**	**05 50 03.6**	**+2.0**
	comp=Z,0.8nm,0.7s,baz=14,slow=4.1,SNR=2.4						

NOU 13 05:32:33.1, 38.95S×175.04E, h185km, MLv3.2/7, North Island, New Zealand

WEL 13 05:32:38.3±0.5, 39.5S±3.7×175.5E±5.7, h140km±3km, M2.5/37, ML1.8/7, MLv2.5/37, Error ellipse: s-maj=0.0km s-min=0.0km az=79.7, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWVZ	**Taurewa**	**0.16**	**80**	P	Pn	05 32 58.0	+0.7
TWVZ				S	Sn	05 33 13.5	+1.7
PKVZ	**Pokaka**	**0.21**	**157**	P	Pn	05 32 58.2	+0.8
PKVZ				S	Sn	05 33 13.9	+1.9
WTVZ	**West Tongariro**	**0.27**	**94**	P	Pn	05 32 58.4	+0.8
WTVZ				S	Sn	05 33 14.8	+2.5
FWVZ	**Far West T-bar**	**0.29**	**123**	P	Pn	05 32 58.6	+0.8
FWVZ				S	Sn	05 33 14.1	+1.4
NGZ	**Ngauruhoe**	**0.29**	**105**	P	Pn	05 32 58.6	+0.9
NNVZ	**North Ngauruho**	**0.29**	**97**	P	Pn	05 32 58.7	+0.9
KRVZ	**Karewarewa**	**0.31**	**89**	P	Pn	05 32 58.5	+0.8
KRVZ				S	Sn	05 33 15.1	+2.6
TRVZ	**Turoa**	**0.31**	**130**	P	Pn	05 32 58.8	+0.9
TRVZ				S	Sn	05 33 14.0	+1.2
SNVZ	**South Ngauruho**	**0.32**	**106**	P	Pn	05 32 58.9	+1.0
WHVZ	**Whangaehu Hut**	**0.33**	**124**	P	Pn	05 32 58.8	+0.9
MTVZ	**Mangateitei**	**0.34**	**148**	P	Pn	05 32 58.7	+0.9
MTVZ				S	Sn	05 33 14.4	+1.7
OTVZ	**Oturere**	**0.34**	**101**	P	Pn	05 32 59.1	+1.2
OTVZ				S	Sn	05 33 14.

MHGZ	**Mahia Peninsul**	**2.08**	**92**	P		Pn	05 33 13.5	-0.1
TKGZ	**Te Karaka**	**2.14**	**73**	P		Pn	05 33 13.9	-0.6
WEL	**Wellington**	**2.21**	**189**	P		Pn	05 33 14.2	-1.0
RUGZ	**Raukumara Rang**	**2.22**	**60**	P		Pn	05 33 15.3	-0.3
TCW	**Tory Channel**	**2.23**	**199**	P		Pn	05 33 14.6	-0.9
PAWZ	**Paruwai Farm**	**2.29**	**176**	P		Pn	05 33 15.1	-1.1
MSWZ	**Moikau Station**	**2.31**	**180**	P		Pn	05 33 15.4	-1.2
TRWZ	**Traveller**	**2.32**	**172**	P		Pn	05 33 15.6	-1.1
BHW	**Baring Head**	**2.32**	**187**	P		Pn	05 33 15.4	-1.2
PLWZ	**Palliser**	**2.47**	**180**	P		Pn	05 33 17.1	-1.4
TUWZ	**Tuamarina**	**2.53**	**203**	P		Pn	05 33 17.7	-1.5
PKGZ	**Pakihiroa**	**2.53**	**62**	P		Pn	05 33 17.8	-1.5
NNZ	**Nelson**	**2.55**	**213**	P		Pn	05 33 17.8	-1.6
QRZ	**Quartz Range**	**2.71**	**230**	P		Pn	05 33 19.1	-2.3
WMGZ	**Waiomatatini S**	**2.80**	**64**	P		Pn	05 33 20.9	-1.7
BSWZ	**Blackbirch Sta**	**2.81**	**201**	P		Pn	05 33 21.3	-1.5
MXZ	**Matakaoa Point**	**2.86**	**58**	P		Pn	05 33 22.0	-1.4
THZ	**Tophouse**	**3.20**	**213**	P		Pn	05 33 27.0	-0.9
KHZ	**Kahutara**	**3.56**	**201**	P		Pn	05 33 30.5	-1.9
GVZ	**Greta Valley S**	**4.21**	**203**	P		Pn	05 33 38.2	-2.8
LTZ	**Lake Taylor**	**4.31**	**210**	P		Pn	05 33 39.4	-2.9
OKCZ	**Okains Bay**	**4.90**	**199**	P		Pn	05 33 46.6	-3.5
MQZ	**McQueen's Vall**	**5.00**	**202**	P		Pn	05 33 47.0	-4.3
TMZ	**Timaru**	**6.16**	**210**	P		Pn	05 34 03.3	-3.6
MLZ	**Mavora Lakes**	**8.19**	**218**	P		Pn	05 34 30.2	-4.0

CNRM ***13*** *05:35:56.9, 36.66N×7.46W, h30km, ml2.1*
IGIL ***13*** *05:36:00.9, 36.86N×7.38W, h30km, ML2.1*
INMG ***13*** *05:36:00.4±1.2, 36.86N×7.37W, h26km±4km, ML2.1, Error ellipse: s-maj=3.3km s-min=2.0km az=33.0*
LDG ***13*** *05:36:00.4±0.1, 36.85N×7.34W, h30km, Ml2.5/3, Error ellipse: s-maj=3.2km s-min=1.7km az=16.0*
MDD ***13*** *05:36:00.2±0.5, 36.87N×7.33W, h30km, mbLg2.4/27, Error ellipse: s-maj=6.0km s-min=3.0km az=19.0, PRXIMO*

ISC 13 05:35:58.7±4.7, 36.86N±0.03×7.31W±0.02, h35km±12km, n86, σ1§82/149, 1C-7D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARNO	**Arenosillo**	**0.52**	**62**	P	**Pn**	**05 36 11.3**	**+1.7**
ARNO				S	**Sn**	**05 36 19.2**	**+2.0**
ARNO	**Arenosillo**	**0.52**	**62**	P	**Pn**	**05 36 11.3**	**+1.7**
ARNO				S	**Sn**	**05 36 19.2**	**+2.0**
PBDV	**Barranco-do-Ve**	**0.63**	**308**	P	**Pn**	**05 36 11.8**	**+0.6**
PBDV				S	**Sn**	**05 36 19.9**	**-0.2**
	50nm,0.1s						
PBDV	**Barranco-do-Ve**	**0.63**	**308**	*e*Pg	**Pn**	**05 36 11.8**	**+0.6**
PBDV				*e*Sg	**Sn**	**05 36 19.9**	**-0.2**
PBDV				A	A	05 36 21.1	
	50nm,0.1s						
PVAQ	**Vaqueiros**	**0.64**	**329**	P	**Pn**	**05 36 12.1**	**+0.8**
PVAQ				S	**Sn**	**05 36 20.4**	**+0.2**
	103nm,0.5s						
PVAQ	**Vaqueiros**	**0.64**	**329**	*i*Pg	**Pn**	**05 36 12.1**	**+0.8**
PVAQ				*e*Sg	**Sn**	**05 36 20.4**	**+0.2**
PVAQ				A	A	05 36 21.1	
	103nm,0.5s						
PVAQ	**Vaqueiros**	**0.64**	**329**	P	**Pn**	**05 36 12.0**	**+0.7**
PVAQ				S	**Sn**	**05 36 20.8**	**+0.6**
EGRO	**El Granado**	**0.69**	**348**	P	**Pn**	**05 36 13.1**	**+1.1**
	20nm,0.1s,SNR=18						
EGRO				S	**Sn**	**05 36 22.2**	**+0.7**
	94nm,0.1s,SNR=26						
PCVE	**Castro Verde**	**0.97**	**323**	P	**Pn**	**05 36 16.7**	**+0.9**
PCVE				S	**Sn**	**05 36 28.8**	**+0.5**
	13nm,0.2s						
PCVE	**Castro Verde**	**0.97**	**323**	*e*P	**Pn**	**05 36 16.7**	**+0.9**
PCVE				*e*S	**Sn**	**05 36 28.8**	**+0.5**
PCVE				A	A	05 36 30.8	
	13nm,0.2s						
EMIN	**Mina Concepcio**	**1.04**	**29**	P	**Pn**	**05 36 17.8**	**+1.0**
	1.9nm,0.1s,SNR=22						
EMIN				S	**Sn**	**05 36 30.3**	**+0.2**
	18nm,0.1s						
ESPR	**Espera**	**1.17**	**89**	P	**Pn**	**05 36 20.0**	**+1.6**
	50nm,0.1s,SNR=64						
ESPR				S	**Sn**	**05 36 34.2**	**+1.1**
	27nm,0.2s,SNR=5.7						
MORF	**Marmelete**	**1.17**	**293**	*e*P	**Pn**	**05 36 18.9**	**+0.4**
MORF				*e*S	**Sn**	**05 36 32.4**	**-0.8**
MORF				IAML		05 36 33.5	
	comp=N,54nm,0.2s						
MORF	**Marmelete**	**1.17**	**293**	P	**Pn**	**05 36 18.9**	**+0.4**
MORF				S	**Sn**	**05 36 32.8**	**-0.4**
	comp=N,38nm,0.1s						
MORF	**Marmelete**	**1.17**	**293**	*e*P	**Pn**	**05 36 18.9**	**+0.4**
MORF				*e*S	**Sn**	**05 36 32.8**	**-0.4**
MORF				A	A	05 36 33.5	
	comp=N,38nm,0.1s						
MESJ	**Messejana**	**1.22**	**324**	*e*P	**Pn**	**05 36 20.2**	**+1.0**
MESJ				*e*S	**Sn**	**05 36 34.1**	**-0.4**
MESJ				IAML		05 36 38.4	
	comp=E,17nm,0.1s						
MESJ	**Messejana**	**1.22**	**324**	P	**Pn**	**05 36 20.2**	**+1.0**
MESJ				S	**Sn**	**05 36 34.3**	**-0.2**
	comp=E,12nm,0.1s						
MESJ	**Messejana**	**1.22**	**324**	*i*P	**Pn**	**05 36 20.2**	**+1.0**
MESJ				*e*S	**Sn**	**05 36 34.3**	**-0.2**
MESJ				A	A	05 36 38.0	
	comp=E,12nm,0.1s						
PFVI	**Vila Bisbo**	**1.25**	**283**	P	**Pn**	**05 36 20.0**	**+0.4**
	comp=E,5.6nm,0.2s,SNR=25						
PFVI				S	**Sn**	**05 36 33.7**	**-1.5**
	comp=E,51nm,0.1s,SNR=11						
PFVI	**Vila Bisbo**	**1.25**	**283**	*e*P	**Pn**	**05 36 20.0**	**+0.4**
PFVI				*e*S	**Sn**	**05 36 34.2**	**-0.9**
PFVI				A	A	05 36 35.0	
	comp=E,27nm,0.1s						
PFVI	**Vila Bisbo**	**1.25**	**283**	P	**Pn**	**05 36 18.1**	**-1.5**
PFVI				S	**Sn**	**05 36 32.8**	**-2.3**
PBEJ	**Beja**	**1.25**	**339**	P	**Pn**	**05 36 20.6**	**+1.0**
PBEJ				S	**Sn**	**05 36 37.4**	**+2.1**
	comp=E,4.6nm,0.3s						
PBEJ	**Beja**	**1.25**	**339**	*e*P	**Pn**	**05 36 20.6**	**+1.0**
PBEJ				*e*S	**Sn**	**05 36 37.4**	**+2.1**
PBEJ				A	A	05 36 43.0	
	comp=E,9.1nm,0.3s						
PTEO	**Sao Teotonio**	**1.32**	**302**	P	**Pn**	**05 36 21.7**	**+1.1**
PTEO				S	**Sn**	**05 36 36.8**	**-0.2**
	comp=E,4.5nm,0.2s						
PTEO	**Sao Teotonio**	**1.32**	**302**	*e*P	**Pn**	**05 36 21.7**	**+1.1**
PTEO				*e*S	**Sn**	**05 36 36.8**	**-0.2**
PTEO				A	A	05 36 40.3	
	comp=E,9.0nm,0.2s						
PBAR	**Barrancos**	**1.33**	**9**	P	**Pn**	**05 36 22.0**	**+1.2**
PBAR				S	**Sn**	**05 36 38.1**	**+0.8**
	comp=E,12nm,0.3s						
PBAR	**Barrancos**	**1.33**	**9**	*e*P	**Pn**	**05 36 22.0**	**+1.2**
PBAR				*e*S	**Sn**	**05 36 38.1**	**+0.8**
PBAR				A	A	05 36 44.4	
	comp=E,12nm,0.3s						
EJIF	**Jimena Fronter**	**1.53**	**105**	P	**Pn**	**05 36 25.6**	**+2.1**
	comp=E,8µm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**05 36 41.9**	**-0.3**
	comp=E,5µm,0.1s,SNR=7.9						
PNCL	**Nicolau / Gran**	**1.59**	**323**	P	**Pn**	**05 36 25.2**	**+1.0**
PNCL				S	**Sn**	**05 36 43.3**	**-0.2**
	comp=E,9.4nm,1.4s						
PNCL	**Nicolau / Gran**	**1.59**	**323**	*e*P	**Pn**	**05 36 25.2**	**+1.0**
PNCL				*e*S	**Sn**	**05 36 43.3**	**-0.2**
PNCL				A	A	05 36 54.0	
	comp=E,9.4nm,1.4s						
CEU	**Ceuta**	**1.83**	**121**	S	**Sn**	**05 36 52.6**	**+3.1**
CEU	**Ceuta**	**1.83**	**121**	S	**Sn**	**05 36 52.6**	**+3.1**
EBAD	**Badajoz**	**1.91**	**7**	P	**Pn**	**05 36 29.6**	**+0.9**
	comp=E,0.5nm,0.1s,SNR=17						
EBAD				S	**Sn**	**05 36 50.8**	**-0.8**
	comp=E,5.5nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**1.94**	**50**	P	**Pn**	**05 36 30.1**	**+1.0**
	comp=E,0.4nm,0.1s,SNR=34						
ECAB				S	**Sn**	**05 36 51.2**	**-0.9**
	comp=E,2.7nm,0.1s,SNR=15						
PESTR	**Estremoz**	**2.02**	**354**	*e*Pn	**Pn**	**05 36 31.1**	**+0.8**
PESTR				*e*Sn	**Sn**	**05 36 54.3**	**0.0**
PESTR				A	A	05 37 08.4	
	comp=E,5.9nm,0.5s						
PESTR	**Estremoz**	**2.02**	**354**	P	**Pn**	**05 36 31.0**	**+0.8**
PESTR				S	**Sn**	**05 36 59.0**	**+4.7**
EMIJ	**Mijas**	**2.06**	**97**	P	**Pn**	**05 36 32.3**	**+1.5**
	comp=E,0.6nm,0.1s,SNR=8.7						
EMIJ				S	**Sn**	**05 36 54.1**	**-1.1**
	comp=E,2.3nm,0.2s						

PMTG	**Montargil**	**2.33**	**342**	P		**Pn**	**05 36 35.4**	**+1.0**
PMTG				S		**Sn**	**05 37 02.7**	**+0.9**
PMTG	**Montargil**	**2.33**	**342**	*e*Pn		**Pn**	**05 36 35.4**	**+1.0**
PMTG				*e*Sn		**Sn**	**05 37 02.7**	**+0.9**
EADA	**Adamuz**	**2.54**	**58**	P		**Pn**	**05 36 38.7**	**+1.3**
	comp=E,1.0nm,0.2s,SNR=32							
EADA				S		**Sn**	**05 37 05.6**	**-1.4**
	comp=E,6.0nm,0.1s,SNR=7.9							
PMRV	**Marv??o**	**2.57**	**359**	P		**Pn**	**05 36 38.8**	**+1.0**
PMRV				S		**Sn**	**05 37 07.2**	**-0.6**
	comp=E,4.9nm,0.2s							
PMRV	**Marv??o**	**2.57**	**359**	*e*Pn		**Pn**	**05 36 38.8**	**+1.0**
PMRV				*e*Sn		**Sn**	**05 37 07.2**	**-0.6**
PMRV				A		A	05 37 09.4	
	comp=E,4.9nm,0.2s							
EGOR	**Sierra Gorda,**	**2.57**	**83**	P		**Pn**	**05 36 39.6**	**+1.6**
	comp=E,0.3nm,0.2s,SNR=7.9							
EGOR				S		**Sn**	**05 37 06.9**	**-1.2**
	comp=E,1.9nm,0.2s,SNR=7.9							
PMAFR	**Mafra**	**2.62**	**324**	P		**Pn**	**05 36 39.9**	**+1.5**
	comp=E,2.1nm,0.1s,SNR=14							
PMAFR				S		**Sn**	**05 37 08.2**	**-0.7**
	comp=E,6.8nm,0.2s,SNR=7.3							
PMAFR	**Mafra**	**2.62**	**324**	*e*Pn		**Pn**	**05 36 40.0**	**+1.6**
PMAFR				*e*Sn		**Sn**	**05 37 09.9**	**+1.0**
PMAFR				A		A	05 37 10.6	
	comp=E,10nm,0.3s							
PSBE	**So Bento**	**2.90**	**337**	*e*Pn		**Pn**	**05 36 43.8**	**+1.4**
ELGU	**Los Guajares,**	**2.95**	**89**	P		**Pn**	**05 36 46.7**	**+3.6**
	comp=E,0.6nm,0.1s,SNR=7.9							
ELGU				S		**Sn**	**05 37 13.5**	**-3.8**
	SNR=7.9							
PCBR	**Castelo Branco**	**2.98**	**357**	P		**Pn**	**05 36 44.6**	**+1.1**
PCBR	**Castelo Branco**	**2.98**	**357**	*e*Pn		**Pn**	**05 36 44.6**	**+1.1**
EQUE	**Quentar**	**3.12**	**82**	P		**Pn**	**05 36 46.9**	**+1.6**
	comp=E,0.3nm,0.2s,SNR=7.9							
EQUE				S		**Sn**	**05 37 22.3**	**+0.9**
	comp=E,0.3nm,0.1s,SNR=4.0							
EPLA	**Plasencia**	**3.35**	**16**	P		**Pn**	**05 36 49.9**	**+1.4**
	comp=E,0.7nm,0.1s,SNR=13							
EPLA				S		**Sn**	**05 37 25.4**	**-1.6**
	comp=E,1.6nm,0.1s,SNR=10.0							
ZHG	**ZHG**	**3.44**	**171**	P		**Pn**	**05 36 49.7**	**-0.1**
ZHG				S		**Sn**	**05 37 27.5**	**-2.0**
EQES	**Quesada**	**3.51**	**73**	P		**Pn**	**05 36 51.8**	**+1.0**
	comp=E,0.7nm,0.1s,SNR=8.4							
EQES				S		**Sn**	**05 37 31.3**	**+0.2**
	comp=E,0.9nm,0.1s,SNR=7.9							
EBER	**Berja**	**3.54**	**88**	P		**Pn**	**05 36 54.0**	**+2.7**
	comp=E,0.4nm,0.1s,SNR=7.9							
MTE	**Manteigas**	**3.54**	**357**	P		**Pn**	**05 36 52.3**	**+1.1**
MTE	**Manteigas**	**3.54**	**357**	*e*Pn		**Pn**	**05 36 52.3**	**+1.1**
PAB	**San Pablo**	**3.56**	**40**	P		**Pn**	**05 36 52.6**	**+1.2**
	comp=E,0.6nm,0.1s,SNR=7.9							
PAB				S		**Sn**	**05 37 29.4**	**-2.9**
	comp=E,1.9nm,0.1s,SNR=7.9							
ESDC	**Sonseca Array**	**3.85**	**42**	P		**Pn**	**05 36 56.6**	**+1.1**
	comp=E,1.2nm,0.1s,baz=226,slow=12,SNR=6.9							
ESDC				S		**Sn**	**05 37 36.2**	**-3.4**
	comp=E,2.5nm,0.2s,baz=228,slow=22,SNR=9.3							
GOG	**Mont Gurugu**	**3.86**	**114**	P		**Pn**	**05 36 54.9**	**-0.6**
PVIS	**Viseu**	**3.88**	**353**	P		**Pn**	**05 36 56.5**	**+0.6**
PVIS	**Viseu**	**3.88**	**353**	*e*Pn		**Pn**	**05 36 56.5**	**+0.6**
SESP	**Santiago Espad**	**3.99**	**70**	P		**Pn**	**05 36 58.4**	**+0.9**
	comp=E,1.2nm,0.2s,SNR=7.9							
SESP				S		**Sn**	**05 37 42.9**	**-0.2**
	comp=E,6.9nm,0.1s,SNR=7.9							
CZD	**Col de Zad**	**4.24**	**153**	P		**Pn**	**05 36 59.1**	**-2.0**
CZD				S		**Sn**	**05 37 44.2**	**-5.3**
MVO	**Moncorvo**	**4.31**	**3**	P		**Pn**	**05 37 02.7**	**+0.9**
	comp=E,1.7nm,0.1s,SNR=9.7							
MVO				S		**Sn**	**05 37 48.4**	**-2.4**
	comp=E,5.2nm,0.2s,SNR=7.1							
MVO	**Moncorvo**	**4.31**	**3**	*e*Pn		**Pn**	**05 37 02.9**	**+1.2**
MD31	**MD31**	**4.50**	**151**	S		**Sn**	**05 37 52.0**	**-3.5**
GUD	**Guadarrama**	**4.51**	**32**	P		**Pn**	**05 37 05.3**	**+0.7**
	comp=E,1.3nm,0.1s,SNR=7.9							
POLO	**Lamas de Olo**	**4.53**	**355**	P		**Pn**	**05 37 05.8**	**+1.0**
POLO	**Lamas de Olo**	**4.53**	**355**	*e*Pn		**Pn**	**05 37 05.8**	**+1.0**
MDT	**Midelt**	**4.60**	**150**	P		**Pn**	**05 37 05.7**	**-0.1**
MDT				S		**Sn**	**05 37 54.8**	**-3.2**
ETOB	**Tobarra**	**4.90**	**67**	P		**Pn**	**05 37 10.4**	**+0.5**
	comp=E,1.5nm,0.1s,SNR=30							
ETOB				S		**Sn**	**05 38 03.2**	**-2.2**
	comp=E,2.6nm,0.2s,SNR=8.2							
PBRG	**Braganca**	**4.96**	**5**	P		**Pn**	**05 37 11.5**	**+0.8**
PBRG	**Braganca**	**4.96**	**5**	*e*Pn		**Pn**	**05 37 11.5**	**+0.8**
ELOB	**Lobios**	**5.04**	**354**	P		**Pn**	**05 37 12.6**	**+0.8**
	comp=E,0.2nm,0.1s,SNR=7.9							
ELOB				S		**Sn**	**05 38 07.4**	**-1.4**
	comp=E,0.8nm,0.1s,SNR=7.9							
ECAL	**Calabor**	**5.10**	**5**	S		**Sn**	**05 38 08.4**	**-1.8**
	comp=E,1.4nm,0.2s,SNR=7.9							
OUK	**Oukaimeden**	**5.65**	**185**	P		**Pn**	**05 37 19.1**	**-1.4**
OUK				S		**Sn**	**05 38 17.6**	**-6.7**
AFON	**Font Roja**	**5.66**	**69**	P		**Pn**	**05 37 20.7**	**+0.4**
	comp=E,0.6nm,0.2s,SNR=7.9							
ETOR	**Torete**	**5.70**	**44**	P		**Pn**	**05 37 22.1**	**+1.2**
	comp=E,2.5nm,0.1s,SNR=6.5							
ETOR				S		**Sn**	**05 38 20.5**	**-4.5**
	comp=E,7.1nm,0.0s,SNR=5.0							
TTIG	**Tnine Tigouga,**	**6.36**	**189**	P		Pn	05 37 25.8	-4.2
EMOS	**Mosqueruela**	**6.40**	**55**	P		**Pn**	**05 37 32.8**	**+2.3**
	comp=E,0.2nm,0.1s,SNR=4.0							
SJPF	**Ste Jean**	**7.80**	**35**	*e*Pn		**Pn**	**05 37 50.0**	**+0.4**
SJPF				*e*Sn		**Sn**	**05 39 12.5**	**-4.2**
	comp=E,0.4nm,0.3s							
SJPF	**Ste Jean**	**7.80**	**35**	P		**Pn**	**05 37 50.0**	**+0.4**
SJPF				S		**Sn**	**05 39 12.5**	**-4.2**
	comp=E,0.2nm,0.3s							
ETSF	**Etsaut**	**7.96**	**39**	*e*Pn		**Pn**	**05 37 52.3**	**+0.5**
ETSF				*e*Sn		**Sn**	**05 39 16.3**	**-4.3**
	comp=E,0.1nm,0.2s							
ETSF	**Etsaut**	**7.96**	**39**	P		**Pn**	**05 37 52.3**	**+0.5**
ETSF				S		**Sn**	**05 39 16.3**	**-4.3**
	comp=E,0.1nm,0.2s							
EPF	**Esparros**	**8.52**	**41**	*e*Pn		**Pn**	**05 38 00.3**	**+0.9**
EPF				*e*Sn		**Sn**	**05 39 29.6**	**-4.7**
	comp=E,0.3nm,0.2s							
EPF	**Esparros**	**8.52**	**41**	P		**Pn**	**05 38 00.3**	**+0.9**
EPF				S		**Sn**	**05 39 29.6**	**-4.7**
	comp=E,0.2nm,0.2s							

MEX 13 05:46:25.4±1.2, 18.45N×101.99W, h15km±46km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UON	**La Union**	**0.51**	**160**	*e*P	Pg	05 46 34.3	-1.2
UON				*e*S	Sg	05 46 40.4	-1.9
ZIIG	**Zihuatanejo**	**0.98**	**149**	*i* P	Pb	05 46 41.2	-2.9
ZIIG				*i* S	Sb	05 46 52.4	-4.4
MMIG	**Aquila**	**1.29**	**263**	*i* P	Pn	05 46 44.4	-4.6
MMIG				*i* S	Sb	05 47 01.4	-4.5
MEIG	**Mezcala**	**2.32**	**103**	*e*P	Pb	05 47 08.4	+1.5
MEIG				*i* S	Sg	05 47 44.2	+4.3

IDC ***13*** *06:02:58.5±0.8, 18.90N×146.93E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.8/40, mbtmp3.9/10, ML4.0/1, MS2.7/2, Ms1 2.8/2, ms1mx2.4/47, Error ellipse: s-maj=31.7km s-min=18.5km az=94.0*
NEIC ***13*** *06:03:03.7±1.2, 18.9N±0.1×147.1E±0.2, h36km±9km, mb4.2/12, Error ellipse: s-maj=21.5km s-min=14.9km az=112.0*

ISC 13 06:03:03.4±0.7, 18.89N±0.08×147.1E±0.1, h37km, n35, σ1§47/31, mb4.1/15, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANA2	**Anatahan**	**2.88**	**208**	Pn	**Pn**	**06 03 44.0**	**-2.7**
GUMO	**Guam**	**5.71**	**203**	Pn	**Pn**	**06 04 23.3**	**-2.3**
	4.6nm,0.3s,baz=17,slow=19,SNR=1.8						
GUMO				Sn	**Sn**	**06 05 34.0**	**+4.0**
	5.2nm,0.3s,baz=37,slow=20,SNR=1.9						
GUMO	**Guam**	**5.71**	**203**	Pn		**06 04 25.1**	**-0.6**
JHJ	**Hachijo jima 2**	**15.63**	**336**	LR	LR	06 11 34.0	
	comp=Z,26nm,21.3s,baz=72,slow=33						
H11S3	**WAKE ISLAND Hy**	**18.52**	**88**	T	T	06 26 25.9	
	baz=275,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hy**	**18.53**	**88**	T	T	06 26 24.2	
	baz=275,slow=74,SNR=26						
H11S2	**WAKE ISLAND Hy**	**18.54**	**88**	T	T	06 26 28.3	
	baz=275,slow=74,SNR=10						

JGF	**Kuroka**	**18.76**	**334**	P		**P**	**06 07 17.9**	**-1.3**
JOW	**Kunigami**	**19.08**	**298**	P		**Pn**	**06 07 22.5**	**-1.4**
JOW				IAmb		IAmb	06 07 32.5	
	comp=Z,13nm,0.9s							
JWT	**Wachi**	**19.36**	**330**	P		**P**	**06 07 25.2**	**-0.6**
ERM	**Erimo**	**23.30**	**352**	P		**P**	**06 08 07.2**	**-0.6**
KSRS	**Korea Array**	**24.99**	**322**	P		**P**	**06 08 21.8**	**-1.8**
	comp=Z,1.0nm,0.7s,baz=150,slow=8.4,SNR=2.6							
WR0	**Warramunga Arr**	**40.54**	**198**	P		**P**	**06 10 38.4**	**-0.8**
WR0				IAmb		IAmb	06 10 45.2	
	comp=Z,7.0nm,1.3s							
WB2	**Warramunga Arr**	**40.58**	**199**	P		**P**	**06 10 39.6**	**0.0**
WB2				IAmb		IAmb	06 10 55.7	
	comp=Z,8.3nm,1.4s							
WRA	**Warramunga Arr**	**40.59**	**199**	P		**P**	**06 10 39.2**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=20,slow=8.3,SNR=9.8							
WRA	**Warramunga Arr**	**40.59**	**199**	P		**P**	**06 10 39.0**	**-0.6**
SONM	**Songino Array**	**43.85**	**321**	P		**P**	**06 11 09.4**	**+3.2**
	comp=Z,0.9nm,0.7s,baz=156,slow=8.1,SNR=3.8							
ASAR	**Alice Springs**	**44.23**	**198**	P		**P**	**06 11 08.9**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=19,slow=9.7,SNR=8.0							
CMAR	**Chiang Mai Arr**	**45.55**	**278**	LR		LR	06 30 06.8	
	comp=Z,9.2nm,18.4s,baz=215,slow=36							
KHLH	**Kahului Airpor**	**52.87**	**78**	P		**P**	**06 12 15.4**	**-0.4**
MK31	**Makanchi Array**	**59.32**	**314**	P		**P**	**06 13 01.5**	**-0.1**
MK31				IAmb		IAmb	06 13 12.9	
	comp=Z,2.0nm,1.0s							
MKAR	**Makanchi Array**	**59.32**	**314**	P		**P**	**06 13 01.6**	**0.0**
	comp=Z,1.5nm,0.6s,baz=89,slow=8.4,SNR=13							
MKAR	**Makanchi Array**	**59.32**	**314**	P		**P**	**06 13 01.3**	**-0.3**
MAKZ	**Makanchi**	**59.53**	**314**	P		**P**	**06 13 02.7**	**-0.4**
KURK	**Kurchatov**	**62.04**	**318**	P		**P**	**06 13 20.6**	**+0.5**
KURBB	**Kurchatov Arra**	**62.09**	**318**	P		**P**	**06 13 20.6**	**+0.2**
	comp=Z,2.2nm,0.8s,baz=98,slow=6.7,SNR=17							
ILAR	**Eielson Array**	**62.87**	**26**	P		**P**	**06 13 25.7**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=251,slow=5.3,SNR=12							
KK31	**Karatay Array**	**67.70**	**310**	P		**P**	**06 13 57.0**	**0.0**
KK31				IAmb		IAmb	06 13 58.6	
	comp=Z,1.6nm,0.8s							
KKAR	**Karatay Array**	**67.70**	**310**	P		**P**	**06 13 57.1**	**0.0**
KKAR				IAmb		IAmb	06 13 58.6	
	comp=Z,1.6nm,0.8s							
KKAR	**Karatay Array**	**67.70**	**310**	P		**P**	**06 13 57.5**	**+0.4**
NVAR	**Mina Array Bea**	**81.94**	**52**	P		**P**	**06 15 21.6**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=266,slow=8.0,SNR=3.2							
NVAR	**Mina Array Bea**	**81.94**	**52**	P		**P**	**06 15 18.6**	**-1.2**
ARCES	**ARCESS Array B**	**82.72**	**342**	P		**P**	**06 15 25.1**	**+2.1**
	comp=Z,0.4nm,0.5s,baz=53,slow=6.2,SNR=4.7							
FINES	**FINESS Array B**	**87.28**	**336**	P		**P**	**06 15 44.8**	**-1.1**
	comp=Z,1.7nm,0.9s,baz=58,slow=3.9,SNR=7.2							
LPAZ	**La Paz**	**146.31**	**91**	PKPbc		**PKiKP**	**06 22 44.2**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=346,slow=3.2,SNR=2.5							

INET 13 06:12:16.8, 11.40N×87.18W, h102km, ML3.6, Near coast of Nicaragua

MEX 13 06:17:13.6±1.2, 14.93N×92.92W, h78km±14km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.63**	**92**	*i* P	Pn	06 17 27.4	-0.9
THIG				*i* S	Sn	06 17 37.4	-2.0
PCIG		**0.82**	**339**	*i* P	Pn	06 17 28.8	-1.7
PCIG				*i* S	Sn	06 17 41.3	-1.7
CCIG	**Comitan**	**1.54**	**29**	*e*P	Pn	06 17 39.0	-0.5
TGIG		**1.84**	**354**	*e*P	Pn	06 17 43.9	+0.4
TGIG				*i* S	Sn	06 18 02.7	-3.4

IDC ***13*** *06:22:20.9±1.3, 5.25S×153.51E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/42, mbtmp3.7/5, MS2.9/1, Ms1 2.9/1, ms1mx2

	baz=36							
LOOK	**Love County**	**2.20**	**173**	Pn	**Pn**	**06 27 15.1**	**-0.4**
X37A	**Clayton**	**2.35**	**132**	Pn	**Pn**	**06 27 18.0**	**+0.4**
X37A	comp=Z,15nm,0.9s			lAmb_Lg		06 27 53.7	
X37A	**Clayton**	**2.35**	**132**	P	**Pn**	**06 27 18.0**	**+0.4**
X37A	baz=313			Sb	**Sb**	**06 27 51.5**	**+1.0**
	baz=313						
R32A	**Long Quarter,**	**2.44**	**337**	S	**Sn**	**06 27 49.9**	**+0.7**
U38A	baz=156 **Gravette**	**2.52**	**83**	lAmb_Lg		06 28 04.0	
	comp=Z,15nm,0.9s						
KSU1	**Kansas State U**	**3.00**	**13**	lAmb_Lg		06 28 20.6	
W39A	comp=Z,14nm,0.9s **Magazine**	**3.17**	**107**	lAmb_Lg		06 28 24.7	
	comp=Z,22nm,0.7s						
Z38A	**Mt. Pleasant**	**3.57**	**144**	lAmb_Lg		06 28 40.6	
MIAR	comp=Z,14nm,0.9s **Mount Ida**	**3.59**	**116**	Pn	**Pn**	**06 27 34.7**	**0.0**
MIAR				lAmb_Lg		06 28 38.8	
MIAR	comp=Z,11nm,0.8s **Mount Ida**	**3.59**	**116**	P	**Pn**	**06 27 35.4**	**+0.8**
	baz=298						
AMTX	**Amarillo**	**3.65**	**250**		**Pn**	**06 27 35.7**	**+0.1**
AMTX	comp=Z,10nm,0.8s			lAmb_Lg		06 28 43.8	
S39A	**Bolivar**	**3.67**	**64**		**Pn**	**06 27 35.9**	**+0.2**
U40A	**Yellville**	**3.75**	**86**		**Pn**	**06 27 36.7**	**-0.2**
U40A	comp=Z,14nm,1.2s			lAmb_Lg		06 28 35.0	
ABTX	**Abilene, Hawle**	**3.97**	**207**	lAmb_Lg		06 28 48.8	
	comp=Z,11nm,0.9s						
X40A	**Basin Creek Fa**	**4.17**	**113**	Pn	**Pn**	**06 27 42.5**	**-0.1**
X40A	comp=Z,12nm,0.9s			lAmb_Lg		06 28 53.7	
WHTX	**Lake Whitney,**	**4.18**	**180**	Pn	**Pn**	**06 27 42.5**	**-0.2**
MGMO	**Mountain Grove**	**4.31**	**75**	lAmb_Lg		06 28 53.1	
	comp=Z,12nm,0.8s						
WHAR	**Wooly Hollow**	**4.33**	**100**		**Pn**	**06 27 45.1**	**+0.3**
WHAR	comp=Z,9.4nm,0.8s			lAmb_Lg		06 29 03.1	
P38A	**Dawn**	**4.65**	**41**	lAmb_Lg		06 29 07.0	
	comp=Z,15nm,0.7s						
R40A	**Maddies Statio**	**4.67**	**62**	Pn	**Pn**	**06 27 49.3**	**-0.2**
R40A	comp=Z,8.5nm,0.8s			lAmb_Lg		06 29 07.3	
CCM	**Cathedral Cave**	**5.33**	**68**	lAmb_Lg		06 29 25.6	
	comp=Z,11nm,1.1s						
P40A	**Paris**	**5.45**	**51**	lAmb_Lg		06 29 39.6	
	comp=Z,7.9nm,0.8s						
T25A	**Trinidad**	**5.64**	**282**	Pn	**Pn**	**06 28 02.8**	**-0.3**
T25A	comp=Z,7.9nm,1.0s			lAmb_Lg		06 29 42.4	
PBMO	**Poplar Bluff**	**5.72**	**82**	lAmb_Lg		06 29 39.6	
	comp=Z,11nm,0.9s						
S44A	**Carbondale**	**6.77**	**75**	lAmb_Lg		06 30 14.2	
	comp=Z,8.5nm,0.8s						
ECSD	**EROS Data Cent**	**7.57**	**5**	lAmb_Lg		06 30 53.9	
	comp=Z,4.1nm,1.1s						
PHWY	**Pilot Hill**	**8.05**	**312**	lAmb_Lg		06 31 01.3	
	comp=Z,3.3nm,0.7s						

UCR ***13*** *06:39:32.6±1.9, 9°.32N×82°.78W, h6km±6km, MW3.7*
UPA ***13*** *06:39:32.5±0.8, 9°.27N×82°.68W, h5km±7km, MW3.1*

ISC 13 06:39:31.0±1.1, 9°32N±0°.03×82°69W±0°.03, h16km±9km, n24, σ0s96/39, 2C-5D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNI2	**El Empalme, Bo**	**0.24**	**65**	⇓*iP*	**Pb**	**06 39 37.6**	**+0.6**
CNI2				*eS*	**Sb**	**06 39 41.1**	**+0.1**
RGM0	**Gandoca**	**0.28**	**18**	*eP*	**Pn**	**06 39 39.2**	**-1.3**
RGM0				*eS*	**Sn**	**06 39 46.2**	**-0.2**
POTG	**Potrero Grande**	**0.50**	**238**	*eP*	**Pg**	**06 39 41.0**	**0.0**
POTG				*eS*	**Sg**	**06 39 47.9**	**+0.2**
BC3P	**Paso Ancho**	**0.51**	**171**	⇓*iP*	**Pn**	**06 39 42.3**	**-1.5**
BC3P				*eS*	**Sb**	**06 39 50.1**	**+1.2**
BRU2	**Volcan**	**0.52**	**180**	⇓*iP*	**Pn**	**06 39 42.6**	**-1.4**
BRU2				*eS*	**Sn**	**06 39 50.9**	**-1.7**
BRU2	**Volcan**	**0.52**	**180**	*eP*	**Pn**	**06 39 42.5**	**-1.4**
BRU2				*eS*	**Sn**	**06 39 50.9**	**-1.7**
EDSV	**San Vito**	**0.57**	**209**	*eP*	**Pb**	**06 39 43.5**	**+0.9**
EDSV				*eS*	**Sn**	**06 39 52.7**	**-0.9**
EDBA	**Buenos Aires**	**0.59**	**255**	⇓*iP*	**Pb**	**06 39 43.3**	**+0.3**
EDBA				*eS*	**Sb**	**06 39 52.0**	**+0.8**
BCO2	**Palmira**	**0.62**	**165**	⇓*iP*	**Pn**	**06 39 44.4**	**-0.9**
BCO2				*eS*	**Sb**	**06 39 52.9**	**+0.8**
SRBA	**San Rafael, Bu**	**0.66**	**262**	*eP*	**Pg**	**06 39 43.5**	**-0.6**
SRBA				*eS*	**Sg**	**06 39 51.9**	**-1.0**
CDITO	**Canoas**	**0.76**	**193**	⇑*iP*	**Pn**	**06 39 47.1**	**0.0**
CDITO				*eS*	**Sn**	**06 39 58.6**	**+0.3**
CDITO	**Canoas**	**0.76**	**193**	*eP*	**Pn**	**06 39 46.5**	**-0.6**
EDPN	**Palmar Norte**	**0.83**	**245**	*eP*	**Pn**	**06 39 48.1**	**0.0**
EDPN				*eS*	**Sn**	**06 40 00.3**	**+0.3**
DVD	**David**	**0.91**	**165**	⇑*iP*	**Pn**	**06 39 49.7**	**+0.6**
DVD				*eS*	**Sn**	**06 40 03.2**	**+1.3**
CCOL	**Caracol de Cor**	**0.95**	**197**	*eP*	**Pn**	**06 39 50.1**	**+0.4**
PEZE	**Perez Zeledon,**	**0.97**	**274**	*eP*	**Pb**	**06 39 48.8**	**-0.8**
CHIR3	**Chiriqui UPA,**	**0.99**	**159**	*eS*	**Sn**	**06 40 05.7**	**+1.9**
BATAN	**Batan**	**1.02**	**319**	*eP*	**Pg**	**06 39 52.6**	**+1.8**
BATAN				*eS*	**Sg**	**06 40 04.3**	**0.0**
BATAN	**Batan**	**1.02**	**319**	*eP*	**Pb**	**06 39 49.9**	**-0.5**
BATAN				*eS*	**Sb**	**06 40 03.5**	**0.0**
RIMA	**Rio Macho**	**1.24**	**291**	*eP*	**Pn**	**06 39 53.6**	**-0.2**
LCR2	**La Lucha 2**	**1.36**	**288**	*eP*	**Pn**	**06 39 55.7**	**+0.2**
OCM	**Ochomogo**	**1.37**	**295**	*eP*	**Pn**	**06 39 55.6**	**-0.1**
GMAL	**Guarumal, Vera**	**2.12**	**137**	*eP*	**Pb**	**06 40 08.0**	**-1.0**
ARE1	**Arenal 1**	**2.29**	**300**	*eP*	**Pb**	**06 40 11.6**	**-0.5**

DJA 13 06:55:30.5±1.6, 3°S±2°×12°2E±°, h15km±13km, M4.0/12, mb3.9/1, MLv4.0/12, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKSI	**Kolaka, Sulawe**	**1.51**	**191**	P	Pn	06 55 57.3	+0.3
KKSI				S	Sb	06 56 17.0	-0.2
APSI	**Ampana**	**1.78**	**351**	P	Pn	06 56 00.7	-0.1
APSI				S	Sn	06 56 23.7	+0.5
LUWI	**Luwuk**	**1.83**	**27**	P	Pn	06 56 01.4	0.0
LUWI				S	Sn	06 56 25.3	+1.0
TTSI	**Tana Toraja**	**2.15**	**260**	P	Pn	06 56 05.8	0.0
BNSI	**Bone**	**2.50**	**227**	P	Pn	06 56 10.8	+0.1
PMSI	**Majene**	**3.13**	**255**	P	Pn	06 56 18.3	-1.0
MRSI	**Marisa**	**3.14**	**0**	P	Pn	06 56 19.1	-0.3
KAPI	**Kappang**	**3.19**	**223**	P	Pn	06 56 20.6	+0.5
BKSI	**Bulukumba**	**3.19**	**215**	P	Pn	06 56 19.9	-0.3
GTOI	**Gorontalo**	**3.46**	**18**	P	Pn	06 56 24.5	+0.6
MKS	**Makassar**	**3.52**	**224**	P	Pn	06 56 25.9	+1.1
MPSI	**Mapaga**	**3.63**	**326**	P	Pn	06 56 25.8	-0.4
EDFI	**Ende, Flores**	**6.04**	**182**	P	Pn	06 56 58.0	-1.4

NIED ***13*** *07:03:30.1, 32°.07N×132°.12E, h24km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=0.26; Mθθ-1.64; Mϕϕ 1.90; Mrθ 0.98; Mrϕ -0.88; Mθϕ 1.43; Fault plane solution: Mo2.64000×10¹⁴ NP1: ϕs210.00000°, δ86.00000°, λ-41.00000°. NP2: ϕs304.00000°, δ49.00000°, λ-174.00000°.*

JMA 13 07:03:30.1±0.1, 32°.07N×132°.12E, h24km±2km, M3.6, 4C-3D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTSN	**Tsuno**	**0.55**	**289**	P	Pb	07 03 40.6	-0.5
JTSN				S	Sb	07 03 47.9	-0.7
JHHC	**Hyugahichiya**	**0.55**	**312**	⇓P	Pb	07 03 40.9	-0.3
JHHC				*eS*	Sb	07 03 48.3	-0.4
JSKE	**Saikikamae**	**0.75**	**346**	⇓P	Pb	07 03 44.5	0.0
JSKE				S	Sb	07 03 55.0	+0.7
JNKG	**Nichinankitago**	**0.75**	**237**	P	Pb	07 03 44.4	-0.1
JNKG				*eS*	Sb	07 03 55.0	+0.6
JKIT	**Kitakata**	**0.79**	**315**	⇓P	Pb	07 03 45.0	-0.2
JKIT				S	Sb	07 03 56.1	+0.6
JTZ	**Takazaki**	**0.89**	**259**	⇑P	Pb	07 03 46.0	-0.9
JNAR	**Kushima--Naru**	**0.90**	**233**	⇑P	Pb	07 03 46.7	-0.4
JNAR				S	Sn	07 03 59.3	-0.3
JTO	**Tosashimizu**	**0.98**	**36**	⇑P	Pn	07 03 47.7	-0.6
JTO				*eS*	Sb	07 04 00.2	-0.6
JUS	**Usuki**	**1.04**	**343**	P	Pb	07 03 49.5	0.0
JUS				*eS*	Sn	07 04 04.0	+1.0
JIU3	**Izumi3**	**1.21**	**294**	⇑P	Pn	07 03 51.4	-0.1
UWA2	**Uwa jima 2**	**1.22**	**20**	P	Pn	07 03 51.5	-0.2
UWA2				S	Sn	07 04 06.4	-1.0
JKU	**Kubokawa**	**1.47**	**33**	P	Pn	07 03 55.3	+0.2

IDC ***13*** *07:05:09.9±0.9, 33°.20S×178°.32W, h0km, mb4.4/5, mb1 4.6/6, mb1mx4.2/23, mbtmp4.4/6, ML4.3/1, MS4.2/13, Ms1 4.2/13, ms1mx4.0/39, Error ellipse: s-maj=37.8km s-min=25.2km az=153.0*
NEIC ***13*** *07:05:12.7±1.3, 33°.43S±0°.04×178°.5W±0°.1, h10km±1km, mb4.8/47, Error ellipse: s-maj=19.3km s-min=6.1km az=95.0*
GCMT ***13*** *07:05:14.7±0.4, 33°.14S±0°.03×177°.77W±0°.03, h24km±1km, MW5.0/60, Moment Tensor Solution. s35,c38; s60,c77; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.46±.23; Mθθ-0.69±.14; Mϕϕ -2.76±.14; Mrθ0.16±.21; Mθϕ-0.81±.09; Mϕr2.29±.18; Best double couple: Mo3.97200×10¹⁶ NP1:ϕs205.00000°, δ28.00000°, λ102.00000°. NP2: ϕs11.00000°, δ63.00000°, λ84.00000°. Principal axes: T 4.2140, Plg72.0000°, Azm266.0000°; N -0.4780, Plg6.0000°, Azm14.0000°; P -3.7310, Plg17.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 07:05:12.3±0.4, 33°.38S±0°.06×178°.51W±0°.06, h10km, n109, σ1s43/105, mb4.8/31, MS4.2/15, 2C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.15**	**7**	Pn	**Pn**	**07 06 17.1**	**+1.4**
MXZ	**Matakaoa Point**	**4.91**	**211**	Pn	**Pn**	**07 06 26.1**	**-0.1**
URZ	**Urewera**	**6.03**	**215**	Pn	**Pn**	**07 06 43.1**	**+1.7**
URZ	6.8nm,0.3s,baz=274,slow=2.9,SNR=15			Sn	**Sn**	**07 07 52.8**	**+2.2**
	12nm,0.3s,baz=174,slow=22,SNR=15						
URZ	**Urewera**	**6.03**	**215**	Pn	**Pn**	**07 06 42.4**	**+0.9**
OUZ	**Ornahuta**	**6.78**	**252**	Pn	**Pn**	**07 06 55.7**	**+3.8**
BKZ	**Black Stump Fm**	**7.04**	**214**	Pn	**Pn**	**07 06 55.5**	**+0.1**
BFZ	**Birch Farm**	**8.40**	**208**	Pn	**Pn**	**07 07 13.4**	**-0.7**
OUENC	**Ouen Island, N**	**16.92**	**306**		**P**	**07 09 13.2**	**+2.0**
OUENC	comp=Z,149nm,1.5s			lAmb	lAmb	07 09 16.1	
DZM	**Mont Dzumac**	**17.42**	**306**	*e*Pn	**Pn**	**07 09 14.2**	**-1.5**
DZM	comp=Z,133nm,1.6s			*e*LR	LR	07 13 08.8	
	comp=Z,2μm,25.1s						
DZM	**Mont Dzumac**	**17.42**	**306**	Pn	**P**	**07 09 19.4**	**+2.5**
DZM	comp=Z,0.7nm,0.3s,baz=116,slow=15,SNR=9.4			LR	LR	07 15 05.0	
	comp=Z,2μm,18.2s,baz=150,slow=34						
DZM	**Mont Dzumac**	**17.42**	**306**		**P**	**07 09 18.9**	**+2.0**
ARMA	**Armidale**	**25.48**	**269**	P	**P**	**07 10 40.4**	**-0.5**
ARMA	comp=Z,28nm,1.5s			lAmb	lAmb	07 11 00.1	
MCQ	**Macquarie Isla**	**26.41**	**210**	P	**P**	**07 10 47.6**	**-1.2**
CAN	**Canberra**	**26.83**	**257**	P	**P**	**07 10 56.3**	**+3.3**
CAN	comp=Z,23nm,1.5s			lAmb	lAmb	07 10 58.4	
TBI	**Tubuai**	**27.37**	**76**	*e*S	**S**	**07 15 39.5**	**+1.7**
TBI	comp=Z,570nm,25.0s			*e*LR	LR	07 17 53.1	
	comp=Z,566nm,22.5s,baz=240						
EIDS	**Eidsvold**	**27.60**	**279**	P	**P**	**07 11 00.1**	**+0.2**
TAU	**Tasmania Unive**	**28.34**	**240**	P	**P**	**07 11 04.4**	**-1.9**
TAU	comp=Z,36nm,1.4s			lAmb	lAmb	07 11 17.1	
TOO	**Toolangi**	**29.50**	**252**	P	**P**	**07 11 15.6**	**-1.1**
PPT2	**Papeete2**	**30.35**	**66**	*e*S	**S**	**07 16 24.6**	**-0.4**
PPT2	comp=Z,65nm,22.0s			*e*LR	LR	07 19 14.3	
	comp=Z,551nm,20.8s,baz=229						
PPT	**Papeete**	**30.36**	**66**	LR	LR	07 21 29.8	
	comp=Z,629nm,18.5s,baz=232,slow=32						
HNR	**Honiara**	**31.02**	**315**	LR	LR	07 22 41.5	
	comp=Z,150nm,19.2s,baz=170,slow=34						
KNTN	**Kanton**	**31.11**	**13**	P	**P**	**07 11 30.6**	**-0.5**
STKA	**Stephens Creek**	**33.49**	**261**	P	**P**	**07 11 53.9**	**+2.0**
STKA	comp=Z,1.7nm,0.6s,baz=102,slow=10.0,SNR=4.5			LR	LR	07 24 46.7	
	comp=Z,423nm,18.1s,baz=77,slow=35						
STKA	**Stephens Creek**	**33.49**	**261**	P	**P**	**07 11 51.7**	**-0.2**
CTAO	**Charters Tower**	**33.97**	**284**	P	**P**	**07 11 56.0**	**-0.2**
BBOO	**Buckleboo**	**37.83**	**258**	P	**P**	**07 12 28.5**	**-0.7**
BBOO	comp=Z,23nm,1.4s			lAmb	lAmb	07 12 34.8	
COEN	**Coen**	**39.77**	**290**	P	**P**	**07 12 45.0**	**-0.6**
COEN	comp=Z,32nm,1.4s			lAmb	lAmb	07 13 06.4	
RABL	**Rabaul**	**39.89**	**310**	P	**P**	**07 12 47.6**	**+1.0**
XMAS	**Kiritimati**	**40.46**	**34**	P	**P**	**07 12 51.6**	**+0.4**
AS31	**Alice Springs**	**42.60**	**270**	P	**P**	**07 13 08.6**	**-0.3**
ASAR	**Alice Springs**	**42.60**	**270**	P	**P**	**07 13 09.2**	**+0.3**
ASAR	comp=Z,14nm,0.6s,baz=109,slow=7.5,SNR=235			S	**S**	**07 19 28.1**	**-3.7**
	comp=Z,2.3nm,0.9s,baz=115,slow=15,SNR=11						
ASAR	comp=Z,487nm,18.1s,baz=134,slow=37			LR	LR	07 31 22.3	
ASAR	**Alice Springs**	**42.60**	**270**	P	**P**	**07 13 08.5**	**-0.4**
TAOE	**Nuku Hiva Isla**	**42.94**	**64**	*e*S	**S**	**07 19 37.5**	**+0.5**
TAOE	comp=Z,111nm,22.8s			*e*LQ	LQ	07 22 54.6	
	comp=Z,463nm,28.9s						
TAOE	comp=Z,281nm,20.7s,baz=237			*e*LR	LR	07 25 01.2	
WR0	**Warramunga Arr**	**43.69**	**276**	P	**P**	**07 13 16.9**	**-0.8**
WR0	comp=Z,25nm,1.4s			lAmb	lAmb	07 13 19.5	
WB2	**Warramunga Arr**	**43.85**	**276**	P	**P**	**07 13 18.4**	**-0.6**
WB2	comp=Z,16nm,0.8s			lAmb	lAmb	07 13 19.8	
WRAB	**Tennant Creek**	**43.86**	**276**	P	**P**	**07 13 18.1**	**-1.0**
WRAB	comp=Z,14nm,0.8s			lAmb	lAmb	07 13 19.7	
WRA	**Warramunga Arr**	**43.86**	**276**	P	**P**	**07 13 18.9**	**-0.1**
WRA	comp=Z,11nm,0.7s,baz=117,slow=7.5,SNR=90			S	**S**	**07 19 47.1**	**-3.3**
	comp=Z,1.6nm,1.0s,baz=112,slow=16,SNR=4.9						
WRA	comp=Z,215nm,21.4s,baz=130,slow=34			LR	LR	07 29 48.8	
WRA	**Warramunga Arr**	**43.86**	**276**	P	**P**	**07 13 18.0**	**-1.1**
FORT	**Forrest**	**44.93**	**258**	P	**P**	**07 13 26.8**	**-0.7**
SBA	**Scott Base**	**45.04**	**184**	P	**P**	**07 13 27.5**	**-0.2**
VNDA	**Vanda**	**45.09**	**186**	LR	LR	07 29 58.2	
	comp=Z,326nm,20.7s,baz=14,slow=33						
JAY	**Jayapura**	**48.94**	**300**	LR	LR	07 31 51.4	
	comp=Z,160nm,21.6s,baz=13,slow=33						
MTN	**Manton Dam**	**50.09**	**282**	P	**P**	**07 14 06.9**	**-0.9**
KNRA	**Kununurra**	**50.57**	**277**	P	**P**	**07 14 11.1**	**-0.2**
KNRA	comp=Z,10nm,0.8s			lAmb	lAmb	07 14 32.7	
FITZ	**Fitzroy Crossi**	**51.98**	**272**	P	**P**	**07 14 20.6**	**-1.4**
FITZ	comp=Z,8.5nm,0.9s			lAmb	lAmb	07 14 22.7	
CASY	**Casey**	**52.31**	**209**	P	**P**	**07 14 24.5**	**+0.8**
CASY	comp=Z,22nm,1.3s			lAmb	lAmb	07 14 37.6	
PSA00	**Pilbara Seismi**	**55.24**	**266**	P	**P**	**07 14 44.5**	**-1.4**
PSA00	comp=Z,12nm,1.5s			lAmb	lAmb	07 15 12.0	
QSPA	**South Pole Qui**	**56.73**	**180**	P	**P**	**07 14 58.1**	**+2.0**
QSPA	comp=Z,18nm,1.0s			lAmb	lAmb	07 15 11.2	
SIJI	**Sorong**	**57.08**	**294**	LR	LR	07 39 45.9	
	comp=Z,188nm,18.7s,baz=158,slow=36						
SOEI	**Soe**	**57.40**	**280**	P	**P**	**07 15 01.7**	**+0.1**
BATI	**Baumata**	**57.66**	**280**	LR	LR	07 39 14.3	
	comp=Z,206nm,20.0s,baz=107,slow=35						
GUMO	**Guam**	**58.32**	**317**	LR	LR	07 37 46.0	
	comp=Z,74nm,19.1s,baz=124,slow=34						
BELA	**Belgrano 2**	**66.90**	**172**	P	**P**	**07 16 04.2**	**+0.1**
BELA	comp=Z,10nm,1.2s			lAmb	lAmb	07 16 30.6	
MAW	**Mawson**	**69.37**	**201**	LR	LR	07 45 26.8	
	comp=Z,441nm,20.1s,baz=93,slow=35						
MAW	**Mawson**	**69.37**	**201**	P	**P**	**07 16 21.1**	**+1.3**
PMSA	**Palmer Station**	**69.74**	**155**	P	**P**	**07 16 22.7**	**+0.6**
SYO	**Syowa Base**	**74.12**	**193**	⇑*eX*	**P**	**07 16 44.4**	**-3.9**
SYO	**Syowa Base**	**74.12**	**193**	⇑*e*PcP	**PcP**	**07 17 05.0**	**+1.6**
SNAA	**Sanae**	**75.19**	**179**	P	**P**	**07 16 57.8**	**+3.2**
SNAA	**Sanae**	**75.19**	**179**	PcP	**PcP**	**07 17 06.6**	**-1.5**
SNAA	**Sanae**	**75.19**	**179**	P	**P**	**07 16 54.6**	**-0.1**
SNAA	comp=Z,9.5nm,1.0s			lAmb	lAmb	07 17 18.5	
VNA3	**Neumayer Olymp**	**75.36**	**176**	PcP	**PcP**	**07 17 07.1**	**-1.7**
VNA2	**Neumayer--Watz**	**75.79**	**177**	P	**P**	**07 17 00.3**	**+2.3**
	baz=175,slow=4.8						
VNA2	**Neumayer--Watz**	**75.79**	**177**	PcP	**PcP**	**07 17 10.1**	**-0.5**
VNA1	**Neumayer--Stat**	**76.03**	**177**	PcP	**PcP**	**07 17 11.6**	**+0.1**
LL01	**San Ignacio de**	**78.70**	**133**	P	**P**	**07 17 14.3**	**-0.6**
LL01	comp=Z,15nm,1.4s			lAmb	lAmb	07 17 23.0	
INU	**Inuyama**	**80.06**	**324**	P	**P**	**07 17 23.2**	**+1.1**
INU	comp=Z,10nm,1.2s			lAmb	lAmb	07 17 27.1	
KSRS	**Korea Array**	**86.34**	**320**	P	**P**	**07 17 54.3**	**-0.2**
KSRS	comp=Z,0.4nm,0.4s,baz=116,slow=5.5,SNR=2.3			LR	LR	07 54 38.4	
	comp=Z,67nm,18.9s,baz=120,slow=34						
NJ2	**Nanjing**	**87.86**	**311**	*e*P	**P**	**07 18 03.8**	**+1.8**
NJ2	comp=Z,11nm,0.6s			pmax	pmax		
ISA	**Isabella, Lake**	**88.72**	**45**	P	**P**	**07 18 06.1**	**0.0**
GLA	**Glamis**	**89.19**	**49**	P	**P**	**07 18 09.1**	**+0.8**
GLA	comp=Z,5.7nm,0.9s			lAmb	lAmb	07 18 29.3	
CMB	**Columbia Colle**	**89.26**	**42**	P	**P**	**07 18 08.8**	**+0.2**
CMB	comp=Z,8.0nm,1.5s			lAmb	lAmb	07 18 10.3	
USRK	**Ussuriysk Ar.**	**89.41**	**327**	P	**P**	**07 18 08.4**	**-0.5**
GSC	**Goldstone, Bar**	**89.47**	**46**	P	**P**	**07 18 09.5**	**-0.2**
GSC	comp=Z,12nm,1.4s			lAmb	lAmb	07 18 17.5	
113A	**Mohawk Valley,**	**89.67**	**50**	P	**P**	**07 18 11.9**	**+1.4**
ORV	**Oroville**	**89.72**	**40**	P	**P**	**07 18 10.2**	**-0.4**
ORV	comp=Z,7.9nm,1.4s			lAmb	lAmb	07 18 12.3	
214A	**Organ Pipe Nat**	**89.76**	**51**	P	**P**	**07 18 11.6**	**+0.6**
NVAR	**Mina Array Bea**	**90.72**	**43**	P	**P**	**07 18 14.8**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=210,slow=8.5,SNR=6.0						
NVAR	**Mina Array Bea**	**90.72**	**43**	P	**P**	**07 18 15.8**	**+0.3**
Y14A	**Wickenburg**	**90.92**	**49**	P	**P**	**07 18 16.8**	**+0.4**
Y14A	comp=Z,5.9nm,1.5s			lAmb	lAmb	07 18 18.0	
TPH	**Tonopah**	**91.10**	**44**	P	**P**	**07 18 17.9**	**+0.6**
TUC	**Tucson**	**91.31**	**52**	P	**P**	**07 18 18.1**	**-0.1**
TUC	comp=Z,7.0nm,1.4s			lAmb	lAmb	07 18 45.3	
X16A	**Lo Mia Camp, P**	**92.22**	**50**	P	**P**	**07 18 22.3**	**-0.2**
X16A	comp=Z,7.2nm,1.5s			lAmb	lAmb	07 18 43.5	
HHC	**Hu-ho-hao-te**	**97.99**	**314**	*e*P	Pdif	07 18 50.8	+2.1
HHC	comp=Z,12nm,1.1s			pmax	pmax		
HHC	comp=Z,67nm,5.7s			pmax	pmax		
ACON	**Acoyapa**	**99.24**	**82**	P	**Pdif**	**07 18 54.2**	**-0.6**
MKAR	**Makanchi Array**	**119.33**	**309**	PKP	**PKPdf**	**07 24 00.6**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=141,slow=0.5,SNR=6.7						
MKAR	**Makanchi Array**	**119.33**	**309**		**PKPdf**	**07 24 00.1**	**-1.4**
KSH	**Kashi**	**121.35**	**299**	PKP	**PKiKP**	**07 24 08.3**	**+2.3**
ARCES	**ARCESS Array B**	**141.40**	**347**	PKhKP	PKPpre	07 24 34.5	
	comp=Z,0.3nm,0.4s,baz=67,slow=3.2,SNR=6.5						
ARCES				PKP	**PKPdf**	**07 24 42.4**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=48,slow=1.5,SNR=6.1						
KBZ	**Khabaz**	**146.32**	**300**	PKPbc	**PKPdf**	**07 24 51.5**	**-0.3**
	comp=Z,6.2nm,1.0s,baz=131,slow=2.0,SNR=6.6						
FIA1	**FINESS Array S**	**147.76**	**338**	PKPdf	**PKPdf**	**07 24 53.8**	**+0.1**
FIA1				PKPbc	**PKPbc**	**07 24 57.5**	**+0.9**
FINES	**FINESS Array B**	**147.77**	**338**	PKPbc	**PKPdf**	**07 24 55.0**	**+1.3**
	comp=Z,12nm,0.7s,baz=39,slow=3.6,SNR=61						
FINES	**FINESS Array B**	**147.77**	**338**	PKPdf	**PKPdf**	**07 24 53.4**	**-0.3**
FINES				PKPbc	**PKPbc**	**07 24 57.6**	**+1.0**
MARD	**Mardin**	**147.87**	**288**		**PKPbc**	**07 24 57.3**	**-0.5**
NB2	**NORSAR Subarra**	**151.62**	**350**	PKP	**PKPbc**	**07 25 04.1**	**-2.1**
	comp=Z,6.7nm,1.0s,baz=27,slow=3.4						
NOA	**NORSAR Array B**	**151.62**	**350**	PKPbc	**PKPbc**	**07 25 04.1**	**-2.1**
	comp=Z,1.0nm,0.5s,baz=14,slow=4.1,SNR=8.6						
NACGM	**Naroch**	**152.13**	**328**	*i* PKP	**PKPbc**	**07 25 07.0**	**-0.5**
DBIC	**Dimbokro**	**152.77**	**166**	PKPbc	**PKPbc**	**07 25 07.9**	**-2.3**
	comp=Z,1.8nm,0.7s,baz=180,slow=2.0,SNR=1.1						
AKASG	**Malin Array Be**	**153.33**	**319**	PKPbc	**PKPbc**	**07 25 09.8**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=88,slow=2.3,SNR=5.4						
AKASG	**Malin Array Be**	**153.33**	**319**	PKPdf	**PKPdf**	**07 25 04.0**	**+1.3**
AKASG					**PKPab**	**07 25 21.9**	**-0.3**
BRTR	**Keskin Array B**	**153.50**	**293**	PKPbc	**PKPbc**	**07 25 10.3**	**-0.9**
	comp=Z,3.2nm,0.5s,baz=149,slow=4.1,SNR=9.7						
BRTR	**Keskin Array B**	**153.50**	**293**		**PKPbc**	**07 25 11.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**159.85**	**181**	PKPab	**PKPab**	**07 25 52.2**	**+1.1**
	comp=Z,1.0nm,0.9s,baz=175,slow=3.8,SNR=4.0	

MKAR				Lg		Lg	07 35 12.1		
	2.7nm,0.3s,baz=329,slow=33,SNR=9.7								
BVAR	**Borovoye Array**	**5.47**	**307**	Pn		**Pb**	**07 34 38.5**	**+0.5**	
	0.3nm,0.3s,baz=334,slow=17,SNR=6.3								
BVAR				Sn		**Sb**	**07 35 45.0**	**+1.0**	
	1.0nm,0.3s,baz=334,slow=26,SNR=6.7								
BVAR				Lg		Lg	07 36 16.1		
	0.5nm,0.3s,baz=354,slow=27,SNR=2.9								
BRVK	**Borovoye**	**5.54**	**307**	⇓Pn		**Pb**	**07 34 39.0**	**-0.2**	
	0.8nm,0.4s								
BRVK				⇑Sn		**Sb**	**07 35 44.8**	**-1.4**	
	2.6nm,0.6s								
BRVK				⇑Lg		Lg	07 36 19.2		
	1.3nm,0.5s								
I46RU	**ZALESOVO INFRA**	**5.95**	**45**	*i*			08 04 10.0		
	baz=222,slow=324,SNR=1.8								
ZALV	**Zalesovo Beam**	**5.95**	**45**	Pn		**Pn**	**07 34 31.5**	**+0.5**	
	1.4nm,0.3s,baz=232,slow=13,SNR=19								
ZALV				Lg		Lg	07 36 00.9		
	0.8nm,0.3s,baz=233,slow=24,SNR=4.6								

IDC 13 07:34:14.6±6.2, 27.61N×140.59E, h44km±59km, mb3.1/3, mb1 3.4/3, mb1mx3.1/45, mbtmp3.4/3, MS3.6/1, Ms1 3.6/1, ms1mx2.6/19, Error ellipse: s-maj=42.4km s-min=27.5km az=111.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.51**	**109**	P	Pn	07 34 38.8	-0.3
	7.5nm,0.3s,baz=285,slow=23,SNR=16						
JCJ				S	Sn	07 34 57.6	0.0
	46nm,0.3s,baz=279,slow=23,SNR=14						
PETK	**Petropavlovsk-**	**28.47**	**22**	LR	LR	07 50 41.6	
	comp=Z,126nm,21.9s,baz=143,slow=35						
WRA	**Warramunga Arr**	**47.65**	**188**	P	P	07 42 45.3	-1.4
	0.6nm,0.8s,baz=12,slow=8.1,SNR=5.0						
ASAR	**Alice Springs**	**51.38**	**188**	P	P	07 43 16.7	+1.6
	0.4nm,0.8s,baz=12,slow=14,SNR=2.7						
ILAR	**Eielson Array**	**57.95**	**29**	P	P	07 44 01.7	-0.4
	0.3nm,0.7s,baz=269,slow=7.2,SNR=2.7						

JMA 13 07:36:12.4±0.2, 32.88N×137.04E, h35km±1km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TTO1	**TONANKAI O.B.S**	**0.77**	**344**	P	Pn	07 36 27.0	+0.5
TTO1				X		07 36 37.2	
TTO2	**TONANKAI O.B.S**	**0.85**	**359**	P	Pn	07 36 28.3	+0.6
TTO2				X		07 36 39.9	
TK01	**Tokai 1**	**1.00**	**27**	P	Pn	07 36 29.9	+0.3
TK01				S	Sn	07 36 41.9	-0.4
TTO3	**TONANKAI O.B.S**	**1.02**	**17**	P	Pn	07 36 30.7	+0.5
TTO3				*e*S	Sn	07 36 44.7	+1.5
TTO4	**TONANKAI O.B.S**	**1.20**	**20**	P	Pn	07 36 32.9	+0.4
TTO4				S	Sn	07 36 47.6	+0.2
JWKM	**Wakayamakushim**	**1.22**	**298**	P	Pn	07 36 33.1	+0.2
JWKM				S	Sn	07 36 46.8	-1.4
TK02	**Tokai 2**	**1.22**	**29**	P	Pn	07 36 33.2	+0.4
TK02				S	Sn	07 36 48.1	+0.1
JMMH	**Miemihama**	**1.26**	**318**	P	Pn	07 36 33.8	+0.2
JMMH				S	Sn	07 36 47.7	-1.6
MAT	**Matsushiro**	**3.78**	**14**	P	Pn	07 37 10.1	+1.9
MAT				*e*S	Sn	07 37 50.6	-0.8

*IDC **13** 07:40:35.9±0.7, 25.07N×109.37W, h0km, mb4.4/15, mb1 4.5/22, mb1mx4.4/43, mbtmp4.4/22, ML3.8/7, MS4.6/14, Ms1 4.6/14, ms1mx4.3/52, Error ellipse: s-maj=17.3km s-min=10.9km az=62.0*

*NEIC **13** 07:40:36.6±2.8, 24.91N±0.02×109.70W±0.07, h10km±1km, mb4.9/262, Ms_20 4.9/276, Md4.7/17(MEX), Mwc5.3(GCMT), Error ellipse: s-maj=11.2km s-min=3.9km az=274.0*

*MEX **13** 07:40:37.5±1.5, 24.99N×109.52W, h16km±28km, MD4.7*

*GCMT **13** 07:40:39.2±0.2, 25.04N±0.01×109.51W±0.01, h18km±1km, MW5.3/115, Moment Tensor Solution. s94,c131; s115,c209; Duration: 1ŝ1 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.05±.02; $M_{\theta\theta}$=0.98±.02; $M_{\phi\phi}$1.03±.02; $M_{r\theta}$=0.15±.04; $M_{r\phi}$=-0.09±.02; $M_{\theta\phi}$0.07±.04; Best double couple: $M_0$1.02500×10^{17} NP1:ϕ_s42.00000°, δ81.00000°, λ-3.00000°. NP2:ϕ_s133.00000°, δ87.00000°, λ-171.00000°. Principal axes: T 1.0410, Plg4.0000°, Azm267.0000°; N -0.0310, Plg80.0000°, Azm151.0000°; P -1.0090, Plg9.0000°, Azm358.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **13** 07:40:41, 25.06N×109.43W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.10; $M_{\theta\theta}$-1.11; $M_{\phi\phi}$ 1.20; $M_{r\theta}$0.04; $M_{\theta\phi}$-0.16; $M_{r\phi}$0.27; Fault plane solution: $M_0$1.20000×10^{17} NP1:ϕ_s311.00000°, δ80.00000°, λ174.00000°. NP2:ϕ_s42.00000°, δ85.00000°, λ11.00000°. Principal axes: T 1.2667, Plg11.0000°, Azm266.0000°; N -0.1440, Plg78.0000°, Azm68.0000°; P -1.1227, Plg4.0000°, Azm176.0000°.*

ISC 13 07:40:36.8±0.3, 24.94N±0.04×109.57W±0.04, h10km, n679, σ1ŝ91/439, mb4.9/98, MS4.8/148, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**1.07**	**219**	Pg	**Pg**	**07 40 55.3**	**-2.1**
	213nm,0.3s,baz=32,slow=2.8,SNR=150						
LPIG				Lg	Lg	07 41 08.2	
	1μm,0.3s,baz=204,slow=20,SNR=11						
LPIG				LR	LR	07 41 40.1	
	comp=Z,4μm,19.8s,baz=217,slow=50						
LPIG	**La Paz**	**1.07**	**219**		**Pg**	**07 40 54.9**	**-2.5**
SLBS	**Sierra La Lagu**	**1.29**	**195**	Pn	**Pn**	**07 40 57.8**	**-3.2**
SLBS				Sn	**Sb**	**07 41 13.9**	**-4.0**
MAIG	**Mazatlaan**	**3.36**	**121**		**Pn**	**07 41 33.7**	**+4.4**
MAIG					**Sb**	**07 42 20.7**	**+3.3**
SRIG	**Santa Rosalia**	**3.38**	**315**		**Pn**	**07 41 26.7**	**-2.9**
SRIG	**Santa Rosalia**	**3.38**	**315**		**Sg**	**07 42 21.3**	**-4.0**
HPIG		**4.04**	**60**		**Pn**	**07 41 36.0**	**-2.9**
HSIG		**4.25**	**343**	Pn	**Pn**	**07 41 38.6**	**-3.0**
CGIG		**5.59**	**14**		**Pn**	**07 41 59.9**	**-0.3**
319A	**Douglas**	**6.42**	**2**		**Pn**	**07 42 09.1**	**-2.5**
ZAIG	**Zacatecas**	**6.76**	**107**	Pn	**Pn**	**07 42 16.3**	**-0.2**
TX31	**Lajitas Ar. Si**	**6.84**	**49**		**Pn**	**07 42 14.6**	**-2.8**
TX32	**Lajitas Array**	**6.84**	**49**		**Pn**	**07 42 14.6**	**-2.8**
TXAR	**Lajitas Array**	**6.84**	**49**	Pn	**Pn**	**07 42 13.9**	**-3.5**
	1.6nm,0.3s,baz=224,slow=13,SNR=119						
TXAR				Sn	**Sn**	**07 43 30.1**	**-5.3**
	9.1nm,0.3s,baz=217,slow=24,SNR=12						
TXAR				Lg	Lg	07 44 03.7	
	5.0nm,0.3s,baz=231,slow=29,SNR=2.8						
TXAR	**Lajitas Array**	**6.84**	**49**	Pn	**Pn**	**07 42 14.3**	**-3.0**
TUC	**Tucson**	**7.42**	**352**	Pn	**Pn**	**07 42 23.7**	**-1.7**
TUC	**Tucson**	**7.42**	**352**	P	**Pn**	**07 42 23.6**	**-1.7**
	baz=169						
214A	**Organ Pipe Nat**	**7.55**	**339**	Pn	**Pn**	**07 42 26.1**	**-0.9**
214A	**Organ Pipe Nat**	**7.55**	**339**	P	**Pn**	**07 42 25.9**	**-1.2**
	baz=155,SNR=11						
SFX	**San Felipe**	**7.66**	**324**	Pn	**Pn**	**07 42 31.1**	**+2.6**
MNTX	**Cornudas Mount**	**7.68**	**28**	Pn	**Pn**	**07 42 26.4**	**-2.3**
MNTX	**Cornudas Mount**	**7.68**	**28**	P	**Pn**	**07 42 26.1**	**-2.7**
	baz=208,SNR=30						
121A	**Cookes Peak, D**	**7.73**	**11**	Pn	**Pn**	**07 42 27.7**	**-1.9**
121A	**Cookes Peak, D**	**7.73**	**11**	P	**Pn**	**07 42 27.6**	**-1.9**
	baz=190,SNR=79						
113A	**Mohawk Valley,**	**8.63**	**336**	Pn	**Pn**	**07 42 41.8**	**0.0**
GUVIX	**Guadalupe Vict**	**8.79**	**328**	Pn	**Pn**	**07 42 45.3**	**+1.3**
CPBX	**Cerro Prieto**	**8.99**	**327**	Pn	**Pn**	**07 42 48.2**	**+1.4**
GLA	**Glamis**	**9.30**	**332**		**Pn**	**07 42 52.9**	**+1.9**
GLA	**Glamis**	**9.30**	**332**	P	**Pn**	**07 42 52.7**	**+1.6**
	baz=147						
CCX	**Cicese**	**9.31**	**319**	Pn	**Pn**	**07 42 54.2**	**+3.2**
Y22D	**IRIS PASSCAL I**	**9.39**	**14**		**Pn**	**07 42 51.9**	**-0.5**
Y22D	**IRIS PASSCAL I**	**9.39**	**14**	P	**Pn**	**07 42 52.4**	**0.0**
	baz=194,SNR=25						
Y14A	**Wickenburg**	**9.46**	**342**		**Pn**	**07 42 53.4**	**+0.2**
LENM	**Lemitar**	**9.47**	**13**		**Pn**	**07 42 49.8**	**-3.7**
BNM	**Barren Site**	**9.53**	**15**		**Pn**	**07 42 53.3**	**-1.1**
RMX	**La Rumorosa**	**9.54**	**325**		**Pn**	**07 42 56.3**	**+2.0**
X18A	**Snowflake**	**9.57**	**358**		**Pn**	**07 42 55.0**	**+0.2**
IKP	**In-Ko-Pah, Jac**	**9.59**	**325**	P	**Pn**	**07 42 56.3**	**+1.3**
	baz=140,SNR=16						
X16A	**Lo Mia Camp, P**	**9.59**	**351**		**Pn**	**07 42 54.2**	**-0.9**
CBX	**Cerro Bola**	**9.63**	**321**		**Pn**	**07 42 58.3**	**+2.6**
SWSC	**Sam W. Stewart**	**9.66**	**327**	P	**Pn**	**07 42 58.8**	**+2.8**
	baz=142,SNR=6.3						
833A	**Chaparral WMA,**	**9.71**	**67**	P	**Pn**	**07 42 54.1**	**-2.5**
	baz=252,SNR=13						
TKX	**Tecate**	**9.79**	**323**	Pn	**Pn**	**07 42 58.9**	**+1.1**
BAR	**Barrett**	**9.91**	**323**	Pn	**Pn**	**07 43 03.0**	**+3.6**
MONP2	**Monument Peak**	**9.94**	**324**	P	**Pn**	**07 43 02.9**	**+2.9**
	baz=140,SNR=22						
BC3	**Big Chuckawall**	**10.09**	**331**	P	**Pn**	**07 43 03.8**	**+1.9**
	baz=146,SNR=14						
PDMCI	**Parker Dam,Lak**	**10.14**	**338**	P	**Pn**	**07 43 04.7**	**+2.2**
	baz=154,SNR=11						
W18A	**Petrified Fore**	**10.15**	**359**		**Pn**	**07 43 03.6**	**+0.8**
W18A	**Petrified Fore**	**10.15**	**359**	P	**Pn**	**07 43 04.6**	**+1.8**
	baz=178,SNR=22						
JCT	**Junction City**	**10.26**	**55**		**Pn**	**07 43 04.3**	**+0.1**
JCT	**Junction City**	**10.26**	**55**	P	**Pn**	**07 43 02.0**	**-2.2**
	baz=240,SNR=22						
109C	**Camp Elliot, M**	**10.31**	**322**		**Pn**	**07 43 07.7**	**+2.9**
109C	**Camp Elliot, M**	**10.31**	**322**	P	**Pn**	**07 43 07.7**	**+2.9**
	baz=137						
ANMO	**Albuquerque**	**10.33**	**14**	Pn	**Pn**	**07 43 06.7**	**+1.4**
	0.5nm,0.3s,baz=197,slow=13,SNR=102						
ANMO				Lg	Lg	07 45 57.4	
	0.6nm,0.3s,baz=314,slow=16,SNR=4.6						
ANMO				LR	LR	07 46 38.1	
	comp=Z,4μm,20.4s,baz=189,slow=36						
ANMO	**Albuquerque**	**10.33**	**14**	Pn	**Pn**	**07 43 05.8**	**+0.4**
ANMO	**Albuquerque**	**10.33**	**14**	P	**Pn**	**07 43 06.5**	**+1.2**
	baz=142						
IRM	**Iron Mountain**	**10.39**	**333**	P	**Pn**	**07 43 08.6**	**+2.7**
	baz=149,SNR=26						
TPFO	**Pinon Flats**	**10.52**	**327**	P	**Pn**	**07 43 10.5**	**+2.7**
	baz=142,SNR=15						
PFO	**Pinyon Flats O**	**10.53**	**327**	Pn	**Pn**	**07 43 11.3**	**+3.4**
	0.1nm,0.3s,baz=136,slow=12,SNR=18						
PFO				Sn	**Sn**	**07 45 09.3**	**+3.4**
	0.0nm,0.3s,baz=270,slow=9.1,SNR=1.1						
PFO				LR	LR	07 46 45.5	
	comp=Z,2μm,20.1s,baz=282,slow=35						
PFO	**Pinyon Flats O**	**10.53**	**327**	Pn	**Pn**	**07 43 10.7**	**+2.7**
PFO	**Pinyon Flats O**	**10.53**	**327**	P	**Pn**	**07 43 10.5**	**+2.6**
	baz=142,SNR=15						
BELC	**Belle Mtn. Jos**	**10.62**	**330**	P	**Pn**	**07 43 11.3**	**+2.0**
	baz=145,SNR=8.2						
WUAZ	**Wupatki**	**10.66**	**352**	Pn	**Pn**	**07 43 10.4**	**+0.7**
WUAZ	**Wupatki**	**10.66**	**352**	P	**Pn**	**07 43 11.8**	**+2.0**
	baz=170,SNR=21						
NEE2	**Needles Airpor**	**10.73**	**337**	P	**Pn**	**07 43 12.9**	**+2.3**
	baz=153						
MSTX	**Muleshoe**	**10.77**	**32**	Pn	**Pn**	**07 43 10.9**	**-0.3**
MSTX	**Muleshoe**	**10.77**	**32**	P	**Pn**	**07 43 10.1**	**-1.1**
	baz=214,SNR=8.6						
W13A	**Hualapai Mount**	**10.79**	**341**	Pn	**Pn**	**07 43 12.9**	**+1.2**
KVTX	**Kingsville**	**10.80**	**74**	Pn	**Pn**	07 43 08.1	-3.4
MURC	**Murrieta**	**10.90**	**324**	P	**Pn**	**07 43 15.7**	**+2.8**
	baz=139						
UNM	**Universidad Na**	**11.13**	**118**	Pn	**Pn**	**07 43 16.6**	**+0.3**
SCI2	**San Clemente I**	**11.22**	**318**	P	Pn	07 43 21.1	+3.8
	baz=132						
BBRC	**Big Bear Solar**	**11.28**	**327**	P	**Pn**	**07 43 21.4**	**+3.2**
	baz=142						
CIS	**Catalina Islan**	**11.44**	**320**	P	Pn	07 43 24.5	+4.3
	baz=134						
HEC	**Hector,Ludlow**	**11.47**	**331**	P	**Pn**	**07 43 23.4**	**+2.6**
	baz=146						
FMP	**Fort Macarthur**	**11.59**	**321**	P	Pn	07 43 26.2	+3.9
	baz=135						
ABTX	**Abilene, Hawle**	**11.59**	**46**	Pn	**Pn**	**07 43 20.6**	**-1.8**
ABTX	**Abilene, Hawle**	**11.59**	**46**	P	**Pn**	**07 43 20.9**	**-1.5**
	baz=231						
RRX	**Edison Barstow**	**11.81**	**329**	P	**Pn**	**07 43 28.3**	**+2.9**
	baz=144						
TUQ	**Turquoise Moun**	**11.82**	**334**	P	**Pn**	**07 43 28.2**	**+2.7**
	baz=149,SNR=12						
MWC	**Mount Wilson**	**11.84**	**323**		Pn	07 43 30.3	+4.4
PASC	**Pasadena Art C**	**11.87**	**323**	Pn	**Pn**	**07 43 29.1**	**+3.0**
DECC	**Green Verdugo**	**12.01**	**323**	P	**Pn**	**07 43 30.8**	**+2.8**
	baz=137						
AMTX	**Amarillo**	**12.04**	**33**	Pn	**Pn**	**07 43 27.1**	**-1.4**
AMTX	**Amarillo**	**12.04**	**33**	P	**Pn**	**07 43 26.8**	**-1.8**
	baz=216						
GSC	**Goldstone, Bar**	**12.07**	**330**	Pn	**Pn**	**07 43 31.6**	**+2.5**
GSC	**Goldstone, Bar**	**12.07**	**330**	P	**Pn**	**07 43 31.6**	**+2.5**
	baz=146,SNR=5.3						
435B	**Jarrell**	**12.09**	**59**	Pn	**Pn**	**07 43 27.9**	**-1.3**
435B	**Jarrell**	**12.09**	**59**	P	**Pn**	**07 43 27.9**	**-1.3**
	baz=244,SNR=7.7						
MVCO	**Mesa Verde**	**12.27**	**4**	Pn	**Pn**	**07 43 31.6**	**-0.3**
MVCO	**Mesa Verde**	**12.27**	**4**	P	**Pn**	**07 43 32.7**	**+0.8**
	baz=133,SNR=17						
EDW2	**Edwards Air Fo**	**12.31**	**326**	P	**Pn**	**07 43 35.3**	**+3.1**
	baz=140						
SHOC	**Shoshone, Teco**	**12.36**	**334**	P	**Pn**	**07 43 35.7**	**+2.8**
	baz=149,SNR=19						
LCMT	**Little Creek M**	**12.44**	**346**		**Pn**	**07 43 35.3**	**+1.2**
SHPR	**Sheep Range**	**12.49**	**339**	Pn	**Pn**	**07 43 36.3**	**+1.6**
OSI	**Osito Audit: C**	**12.49**	**323**		**Pn**	**07 43 37.5**	**+2.8**
OSI	**Osito Audit: C**	**12.49**	**323**	P	**Pn**	**07 43 37.6**	**+2.8**
	baz=137						
LRMC	**Laurel Mtn Rad**	**12.63**	**328**	P	**Pn**	**07 43 39.1**	**+2.5**
	baz=133,SNR=23						
PKCU	**Pink Cliffs**	**12.69**	**350**		**Pn**	**07 43 38.3**	**+0.7**
WHTX	**Lake Whitney,**	**12.76**	**54**		**Pn**	**07 43 36.6**	**-1.7**
WHTX	**Lake Whitney,**	**12.76**	**54**	P	**Pn**	**07 43 36.0**	**-2.3**
	baz=239						
SBC	**Santa Barbara**	**12.93**	**319**	P	Pn	07 43 44.7	+4.1
	baz=133						
ARVC	**Arvin**	**12.93**	**324**	P	**Pn**	**07 43 43.2**	**+2.5**
	baz=138,SNR=27						
T25A	**Trinidad**	**12.94**	**19**		**Pn**	**07 43 39.7**	**-1.2**
T25A	**Trinidad**	**12.94**	**19**	P	**Pn**	**07 43 41.3**	**+0.3**
	baz=200,SNR=9.2						
SZCU	**Shurtz Canyon**	**12.97**	**347**		**Pn**	**07 43 43.1**	**+1.7**
S22A	**4UR Ranch, Cre**	**12.98**	**10**	P	**Pn**	**07 43 42.6**	**+1.0**
	baz=190,SNR=15						
CCUT	**Cedar City**	**12.98**	**346**	Pn	**Pn**	**07 43 43.0**	**+1.4**
MPMC	**Manual Prospec**	**13.01**	**330**	P	**Pn**	**07 43 44.7**	**+2.8**
	baz=145,SNR=30						
FURC	**Furnace Creek,**	**13.09**	**333**	P	**Pn**	**07 43 45.3**	**+2.6**
	baz=148,SNR=30						
PV05	**Paradox Valley**	**13.11**	**2**		**Pn**	**07 43 44.2**	**+0.9**
ISA	**Isabella, Lake**	**13.16**	**326**	Pn	**Pn**	**07 43 46.3**	**+2.4**
ISA	**Isabella, Lake**	**13.16**	**326**	P	**Pn**	**07 43 46.4**	**+2.4**
	baz=141,SNR=30						
HKT	**Hockley**	**13.18**	**65**	Pn	**Pn**	**07 43 42.0**	**-2.0**
PV13	**Radium Mtn., P**	**13.20**	**3**		**Pn**	**07 43 44.8**	**+0.3**
SDCO	**Great Sand Dun**	**13.23**	**14**	Pn	**Pn**	**07 43 44.5**	**-0.5**
SDCO	**Great Sand Dun**	**13.23**	**14**	P	**Pn**	**07 43 46.0**	**+1.0**
	baz=195,SNR=20						
PV02	**Paradox Valley**	**13.25**	**3**		**Pn**	**07 43 45.3**	**+0.1**
MTPU	**Mount Pierson**	**13.25**	**351**	Pn	**Pn**	**07 43 47.3**	**+1.9**
TPNV	**Topopah Spring**	**13.27**	**336**	Pn	**Pn**	**07 43 47.8**	**+2.3**
TPNV	**Topopah Spring**	**13.27**	**336**	P	**Pn**	**07 43 48.6**	**+3.2**
	baz=152,SNR=33						
PV18	**Skein Mesa, Pa**	**13.28**	**2**	Pn	**Pn**	**07 43 45.4**	**-0.2**
PRN	**Pahroc Range**	**13.28**	**341**		**Pn**	**07 43 48.4**	**+2.8**
PV03	**Paradox Valley**	**13.29**	**2**		**Pn**	**07 43 45.6**	**-0.1**
PKM	**Mcpherson Peak**	**13.31**	**321**	P	**Pn**	**07 43 49.3**	**+3.3**
	baz=134,SNR=5.2						
PV17	**East Wray Mesa**	**13.31**	**2**		**Pn**	**07 43 46.1**	**0.0**
PV11	**David Mesa, Pa**	**13.34**	**2**		**Pn**	**07 43 46.2**	**-0.1**
PV19	**Morning Glory**	**13.34**	**2**		**Pn**	**07 43 46.4**	**-0.1**
PV16	**Nyswonger Mesa**	**13.35**	**2**		**Pn**	**07 43 46.5**	**0.0**
PV12	**Saucer Basin,**	**13.36**	**3**		**Pn**	**07 43 46.8**	**+0.1**
PV20	**West Nyswonger**	**13.37**	**2**		**Pn**	**07 43 46.7**	**-0.2**
PV15	**Paradox Valley**	**13.40**	**4**		**Pn**	**07 43 47.4**	**+0.2**
PV14	**Lion Creek, Pa**	**13.40**	**2**		**Pn**	**07 43 47.5**	**+0.2**
PV10	**Paradox Valley**	**13.41**	**2**	Pn	**Pn**	**07 43 46.2**	**-1.2**
PV04	**Paradox Valley**	**13.43**	**2**		**Pn**	**07 43 47.4**	**-0.2**
PV23	**Carpenter Ridg**	**13.48**	**2**		**Pn**	**07 43 48.8**	**+0.4**
PV07	**Paradox Valley**	**13.48**	**3**		**Pn**	**07 43 48.3**	**-0.1**
WMOK	**Wichita Mounta**	**13.52**	**41**		**Pn**	**07 43 47.3**	**-1.4**
WMOK	**Wichita Mounta**	**13.52**	**41**	P	**Pn**	**07 43 47.4**	**-1.3**
	baz=226						
PV22	**Blue Mesa, Par**	**13.57**	**3**		**Pn**	**07 43 49.0**	**-0.7**
PV21	**Cone Mtn., Par**	**13.59**	**2**		**Pn**	**07 43 49.5**	**-0.4**
CWC	**Cottonwood Cre**	**13.60**	**329**	P	**Pn**	**07 43 53.1**	**+3.2**
	baz=144						
VES	**Vestal, Richgr**	**13.61**	**325**	P	**Pn**	**07 43 52.6**	**+2.6**
	baz=139,SNR=15						
Z35A	**Perchaven, San**	**13.62**	**49**		**Pn**	**07 43 48.9**	**-1.2**
SMMC	**Simmler**	**13.71**	**321**	P	**Pn**	**07 43 54.9**	**+3.5**
	baz=135,SNR=5.7						
GRAC	**Grapevine Rang**	**13.75**	**333**	P	**Pn**	**07 43 55.1**	**+3.2**
	baz=148,SNR=10.0						
237A	**Washetta, Mont**	**13.99**	**57**		**Pn**	**07 43 52.8**	**-2.3**
VOG	**Valley Oaks Go**	**14.13**	**326**	P	**P**	**07 44 00.2**	**-4.5**
	baz=140						
TIN	**Tinemaha, Big**	**14.17**	**331**	P	**Pn**	**07 44 00.7**	**+3.0**
	baz=145,SNR=11						
R11A	**Troy Canyon, C**	**14.31**	**341**		**Pn**	**07 44 01.1**	**+1.4**
R11A	**Troy Canyon, C**	**14.31**	**341**	P	**Pn**	**07 44 01.7**	**+1.9**
	baz=156,SNR=30						
SMCO	**Snowmass**	**14.37**	**8**		**Pn**	**07 44 00.1**	**-0.5**
TMUT	**Trail Mountain**	**14.38**	**355**		**Pn**	**07 44 01.0**	**+0.2**
Q24A	**Divide**	**14.48**	**14**	P	**Pn**	**07 44 02.4**	**+0.3**
	baz=195,SNR=9.9						
P17A	**Butcher Ranch,**	**14.53**	**356**	Pn	**Pn**	**07 44 03.2**	**+0.5**
U32A	**Winter Ranch,**	**14.57**	**36**	Pn	**Pn**	**07 44 01.6**	**-1.6**
SPR3	**Spring Creek 3**	**14.59**	**345**		**Pn**	**07 44 05.0**	**+1.4**
FNO	**Franklin**	**14.71**	**43**	Pn	**Pn**	**07 44 03.4**	**-1.6**
NATX	**Nacogdoches**	**14.77**	**59**	Pn	**Pn**	**07 44 03.2**	**-2.6**
NATX	**Nacogdoches**	**14.77**	**59**	P	**Pn**	**07 44 04.5**	**-1.4**
	baz=246						
MLAC	**Mammoth, Mammo**	**14.92**	**330**	P	**P**	**07 44 10.8**	**-2.9**
	baz=144,SNR=18						
NLU	**North Lily Min**	**15.12**	**353**	Pn	**Pn**	**07 44 11.5**	**+0.8**
NLU				IAmb	IAmb	07 44 29.4	
	comp=Z,86nm,1.6s						
ISCO	**Idaho Springs**	**15.19**	**12**	Pn	**Pn**	**07 44 12.0**	**+0.3**
ISCO				IAmb	IAmb	07 44 26.9	
	comp=Z,97nm,1.6s						
ISCO	**Idaho Springs**	**15.19**	**12**	P	**Pn**	**07 44 12.0**	**+0.3**
	baz=193,SNR=22						
O20A	**White River Ci**	**15.20**	**4**	P	**Pn**	**07 44 12.1**	**+0.4**
	baz=184,SNR=26						
Z38A	**Mt. Pleasant**	**15.20**	**54**		**Pn**	**07 44 08.6**	**-2.9**
Z38A				IAmb	IAmb	07 44 24.7	
	comp=Z,92nm,1.2s						
KSCO	**Kaye Shedlock'**	**15.21**	**21**	Pn	**Pn**	**07 44 11.5**	**-0.3**
KSCO				IAmb	IAmb	07 44 26.3	
	comp=Z,50nm,1.1s						
KSCO	**Kaye Shedlock'**	**15.21**	**21**	P	**Pn**	**07 44 11.7**	**-0.1**
	baz=204						
NVAR	**Mina Array Bea**	**15.36**	**333**	Pn	**Pn**	**07 44 15.3**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=144,slow=12,SNR=54						
NVAR				Sn	**S**	**07 47 14.7**	**-5.9**
	baz=142,slow=19,SNR=1.1						
NVAR				LR	LR	07 49 44.4	
	comp=Z,983nm,21.8s,baz=149,slow=36						
NVAR	**Mina Array Bea**	**15.36**	**333**		**Pn**	**07 44 15.2**	**+1.3**
DUG	**Dugway, Tooele**	**15.46**	**351**	Pn	**Pn**	**07 44 16.0**	**+0.9**
DUG				IAmb	IAmb	07 44 37.1	
	comp=Z,90nm,1.4s						
DUG	**Dugway, Tooele**	**15.46**	**351**	P	**Pn**	**07 44 16.7**	**+1.6**
	baz=168,SNR=32						
RDMU	**Red Mountain**	**15.59**	**360**		**Pn**	**07 44 16.6**	**-0.3**
JLU	**Jordanelle**	**15.70**	**355**		**Pn**	**07 44 18.8**	**+0.4**
CMIG	**Matias Romero**	**15.77**	**117**	Pn	**Pn**	**07 44 19.7**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=313,slow=11,SNR=10						
CMIG				Lg	Lg	07 48 42.5	
	comp=Z,0.0nm,0.3s,baz=356,slow=11,SNR=1.3						
CMIG				LR	LR	07 50 22.7	
	comp=Z,5μm,19.4s,baz=286,slow=38						
KVN	**Kaiserville**	**15.81**	**335**		**P**	**07 44 21.4**	**-2.1**
KVN				IAmb	IAmb	07 44 31.4	
	comp=Z,145nm,1.7s						
CMB	**Columbia Colle**	**15.97**	**327**		**P**	**07 44 23.3**	**-1.9**
TUL1	**Leonard**	**16.13**	**44**	P	**Pn**	**07 44 22.7**	**-0.9**
	baz=231					

J08A	**Circle Bar Ran**	**19.78**	**341**	IAmb	IAmb	07 45 23.6			
	comp=Z,74nm,1.0s								
M02C	**Callahan**	**19.78**	**329**	P	**Pn**	**07 45 09.5**	**+0.8**		
	baz=141								
R40A	**Maddies Statio**	**19.81**	**44**	IAmb	IAmb	07 45 25.2			
	comp=Z,48nm,1.1s								
OXF	**Oxford**	**19.91**	**57**	IAmb	IAmb	07 45 18.8			
	comp=Z,50nm,1.1s								
OXF	**Oxford**	**19.91**	**57**	P	**P**	**07 45 07.1**	**-1.5**		
	baz=247								
YBH	**Yreka Blue Hor**	**19.99**	**330**	P	**P**	**07 45 09.1**	**-0.4**		
	comp=Z,0.0nm,0.3s,baz=90,slow=8.1,SNR=2.6								
YBH				LR	LR	07 52 24.7			
	comp=Z,762nm,20.7s,baz=220,slow=36								
MCMT	**McKenzie Canyo**	**20.02**	**353**	P	Pn	07 45 12.0	+0.2		
YNE	**Yellowstone No**	**20.03**	**359**	IAmb	IAmb	07 45 29.9			
	comp=Z,157nm,1.5s								
PETF	**Flores**	**20.04**	**110**	P	**P**	**07 45 09.6**	**-0.6**		
PETF				IAmb	IAmb	07 45 23.0			
	comp=Z,62nm,1.0s								
K05A	**Summer Lake**	**20.05**	**335**	P	Pn	07 45 12.1	+0.1		
K05A				IAmb	IAmb	07 45 25.4			
	comp=Z,93nm,1.2s								
RLMT	**Red Lodge**	**20.14**	**1**	P	**P**	**07 45 11.9**	**+0.6**		
RLMT				IAmb	IAmb	07 45 29.0			
	comp=Z,78nm,1.5s								
RLMT	**Red Lodge**	**20.14**	**1**	P	**P**	**07 45 11.5**	**+0.3**		
	baz=180,SNR=11								
PBMO	**Poplar Bluff**	**20.19**	**50**	P	**P**	**07 45 10.3**	**-1.3**		
L34A	**Svendsen Farm,**	**20.20**	**30**	P	**P**	**07 45 11.2**	**-0.5**		
L34A				IAmb	IAmb	07 45 32.8			
	comp=Z,76nm,1.4s								
L04D	**Klamath Falls**	**20.20**	**332**	P	Pn	07 45 12.8	-1.0		
	baz=144,SNR=5.8								
PEBM	**Pemiscott Bayo**	**20.26**	**52**	P	**P**	**07 45 10.9**	**-1.5**		
PEBM				IAmb	IAmb	07 45 34.3			
	comp=Z,75nm,1.1s								
K04D	**Chiloquin, OR**	**20.30**	**333**	P	Pn	07 45 14.2	-0.8		
	baz=146								
CCM	**Cathedral Cave**	**20.33**	**46**	Pn	Pn	07 45 15.4	+0.3		
CCM	**Cathedral Cave**	**20.33**	**46**	IAMs_20	IAMs_20	07 52 14.0			
	comp=Z,3µm,18.0s								
CCM	**Cathedral Cave**	**20.33**	**46**	P	**P**	**07 45 12.2**	**-0.9**		
	baz=235								
W45A	**Hickory Valley**	**20.34**	**55**	P	**P**	**07 45 11.7**	**-1.5**		
Z47A	**Carrollton**	**20.49**	**61**	P	**P**	**07 45 13.9**	**-1.0**		
LNXT	**Lenox**	**20.52**	**52**	P	**P**	**07 45 14.4**	**-0.8**		
DLMT	**Dillon**	**20.53**	**354**	IAmb	IAmb	07 45 36.4			
	comp=Z,112nm,1.5s								
DLMT				IAMs_20	IAMs_20	07 53 21.1			
	comp=Z,4µm,18.0s								
PARMO	**Parma**	**20.60**	**51**	IAmb	IAmb	07 45 38.2			
	comp=Z,42nm,1.0s								
J05D	**Fort Rock, OR**	**20.66**	**335**	P	Pn	07 45 18.1	-1.0		
	baz=148,SNR=20								
BOZ	**Bozeman (W)**	**20.68**	**356**	IAMs_20	IAMs_20	07 53 17.4			
	comp=Z,3µm,20.0s								
BOZ	**Bozeman (W)**	**20.68**	**356**	P	**P**	**07 45 18.1**	**+1.0**		
	baz=174,SNR=28								
P40A	**Paris**	**20.71**	**41**	IAmb	IAmb	07 45 39.8			
	comp=Z,108nm,1.3s								
L02E	**Cave Junction**	**20.73**	**329**	P	Pn	07 45 19.8	0.0		
	baz=141								
I07A	**Izee**	**20.75**	**339**	P	Pn	07 45 19.0	-1.1		
I07A				IAmb	IAmb	07 45 32.9			
	comp=Z,58nm,1.3s								
BRAL	**Brewton**	**20.80**	**68**	P	**P**	**07 45 16.8**	**-1.5**		
	baz=258								
BMO	**Blue Mountains**	**20.84**	**344**	P	**P**	**07 45 19.4**	**+0.6**		
N38A	**Joes South For**	**20.88**	**37**	IAmb	IAmb	07 45 32.4			
	comp=Z,49nm,1.0s								
J04D	**Umpqua Nationa**	**20.96**	**334**	P	Pn	07 45 21.2	-1.6		
	baz=146								
LRM	**Limekiln Ridge**	**20.97**	**354**	P	**P**	**07 45 21.2**	**+0.9**		
PINE	**Pine Mountain**	**20.98**	**336**	IAmb	IAmb	07 45 34.6			
	comp=Z,89nm,1.3s								
PLAL	**Pickwick Lake**	**21.10**	**57**	P	**P**	**07 45 21.1**	**-0.4**		
PLAL				IAMs_20	IAMs_20	07 54 15.0			
	comp=Z,4µm,18.0s								
K02D	**Willamette Mer**	**21.18**	**330**	P	**P**	**07 45 24.3**	**+1.9**		
	baz=142								
SUSD	**Miller**	**21.29**	**21**	IAmb	IAmb	07 45 35.5			
	comp=Z,92nm,1.1s								
SUSD	**Miller**	**21.29**	**21**	P	**P**	**07 45 22.7**	**-0.8**		
	baz=207								
LRAL	**Lakeview Retre**	**21.30**	**63**	P	**P**	**07 45 23.5**	**-0.2**		
LRAL				IAmb	IAmb	07 45 27.3			
	comp=Z,72nm,1.3s								
LRAL	**Lakeview Retre**	**21.30**	**63**	P	**P**	**07 45 22.3**	**-1.4**		
	baz=254,SNR=21								
SIUC	**Southern Illin**	**21.50**	**49**	IAmb	IAmb	07 45 41.4			
	comp=Z,53nm,1.1s								
ECSD	**EROS Data Cent**	**21.54**	**26**	P	**P**	**07 45 25.6**	**-0.6**		
ECSD				IAmb	IAmb	07 45 34.7			
	comp=Z,92nm,1.5s								
ECSD	**EROS Data Cent**	**21.54**	**26**	P	**P**	**07 45 24.7**	**-1.4**		
	baz=213,SNR=19								
I04A	**Tendick Farm,**	**21.54**	**334**	P	**P**	**07 45 27.4**	**+1.2**		
	baz=146								
T45A	**Paducah**	**21.55**	**51**	IAmb	IAmb	07 45 36.9			
	comp=Z,51nm,0.8s								
I05D	**Terrebonne, OR**	**21.60**	**337**	P	**P**	**07 45 27.9**	**+1.0**		
	baz=149								
J01E	**Myrtle Point**	**21.67**	**331**	P	**P**	**07 45 28.7**	**+1.2**		
	baz=142								
SCIA	**State Center**	**21.68**	**35**	IAmb	IAmb	07 45 35.3			
	comp=Z,100nm,1.6s								
SCIA	**State Center**	**21.68**	**35**	P	**P**	**07 45 26.3**	**-1.4**		
	baz=223								
MTO3	**Montecristo**	**21.70**	**115**	IAmb	IAmb	07 45 40.6			
	comp=Z,52nm,1.3s								
X48A	**Hartselle**	**21.70**	**59**	P	**P**	**07 45 26.9**	**-1.1**		
X48A				IAmb	IAmb	07 45 52.7			
	comp=Z,39nm,1.0s								
WVT	**Waverly**	**21.75**	**54**	P	**P**	**07 45 27.5**	**-1.0**		
WVT				IAmb	IAmb	07 45 50.3			
	comp=Z,57nm,1.1s								
WVT	**Waverly**	**21.75**	**54**	P	**P**	**07 45 26.1**	**-2.3**		
	baz=245								
I03D	**Drain, OR**	**21.85**	**332**	P	**P**	**07 45 30.9**	**+1.4**		
	baz=144								
LAO	**LASA Array**	**21.87**	**6**	IAmb	IAmb	07 45 50.3			
	comp=Z,127nm,1.6s								
LAO	**LASA Array**	**21.87**	**6**	P	**P**	**07 45 29.2**	**-0.6**		
	baz=188,SNR=10.0								
F10A	**Beach Ranch, E**	**21.88**	**346**	IAmb	IAmb	07 45 41.0			
	comp=Z,47nm,1.2s								
Y49A	**Blount Mountai**	**22.01**	**61**	IAmb	IAmb	07 45 43.0			
	comp=Z,83nm,1.4s								
MSO	**Missoula**	**22.12**	**352**	IAmb	IAmb	07 45 40.1			
MSO				IAMs_20	IAMs_20	07 54 10.3			
	comp=Z,2µm,19.0s								
MSO	**Missoula**	**22.12**	**352**	P	**P**	**07 45 31.9**	**-0.6**		
	baz=169,SNR=27								
SNET	**Serv Nac Est T**	**22.18**	**117**	IAMs_20	IAMs_20	07 53 11.7			
	comp=Z,3µm,19.0s								
H04A	**Detroit Lake**	**22.21**	**336**	IAmb	IAmb	07 45 56.9			
	comp=Z,40nm,1.2s								
H04D	**Lebanon**	**22.28**	**335**	P	**P**	**07 45 35.3**	**+1.2**		
	baz=146								
P43A	**Skaggs, Pawnee**	**22.34**	**44**	IAmb	IAmb	07 45 43.1			
	comp=Z,36nm,1.1s								
G05D	**Wamic, OR**	**22.38**	**338**	P	**P**	**07 45 35.4**	**+0.2**		
	baz=150								
I02D	**Swisshome**	**22.39**	**332**	P	**P**	**07 45 36.2**	**+1.0**		
	baz=143								
T47A	**Sharon Grove**	**22.64**	**53**	IAmb	IAmb	07 46 05.6			
	comp=Z,33nm,0.9s								
SWET	**Sewanee**	**22.82**	**58**	IAmb	IAmb	07 45 52.7			
	comp=Z,57nm,1.3s								
CLTN	**Cedars of Leba**	**22.84**	**55**	IAmb	IAmb	07 45 48.4			
	comp=Z,41nm,1.1s								
F05D	**White Salmon**	**22.99**	**338**	P	**P**	**07 45 42.8**	**+1.2**		
	baz=151								
HDIL	**Hopedale**	**23.01**	**42**	P	**P**	**07 45 39.6**	**-2.3**		
	baz=233								
EGMT	**Eagleton**	**23.04**	**360**	P	**P**	**07 45 41.3**	**-0.9**		
	baz=179,SNR=10								
G03D	**McMinnville, O**	**23.06**	**335**	P	**P**	**07 45 42.3**	**0.0**		
	baz=146								
JTMT	**Jette**	**23.07**	**352**	IAmb	IAmb	07 45 52.6			
	comp=Z,36nm,1.2s								
E07A	**Sunnyside**	**23.09**	**342**	IAmb	IAmb	07 46 07.2			
	comp=Z,49nm,1.5s								
O44A	**Mansfield**	**23.30**	**44**	IAmb	IAmb	07 46 03.5			
	comp=Z,46nm,1.2s								
W50A	**Signal Mountai**	**23.30**	**58**	IAmb	IAmb	07 46 01.9			
	comp=Z,58nm,1.1s								
D08A	**Wollman Farm,**	**23.30**	**344**	P	**P**	**07 45 45.0**	**+0.2**		
D08A				IAmb	IAmb	07 45 52.6			
	comp=Z,52nm,1.7s								
F04A	**Amboy**	**23.36**	**337**	IAmb	IAmb	07 46 00.8			
	comp=Z,76nm,1.7s								
X51A	**Calhoun**	**23.45**	**60**	IAmb	IAmb	07 45 52.0			
	comp=Z,52nm,1.0s								
TGUH	**Tegucigalpa,Un**	**23.60**	**113**	IAMs_20	IAMs_20	07 54 12.4			
	comp=Z,3µm,21.0s								
F04D	**Rainier, OR**	**23.70**	**336**	P	**P**	**07 45 48.7**	**-0.1**		
	baz=148								
TIGA	**Tifton**	**23.77**	**68**	P	**P**	**07 45 46.1**	**-3.4**		
	baz=261								
WCI	**Wyandotte Cave**	**23.77**	**51**	P	**P**	**07 45 48.0**	**-1.5**		
WCI				IAmb	IAmb	07 46 03.9			
	comp=Z,27nm,1.1s								
WCI	**Wyandotte Cave**	**23.77**	**51**	IAMs_20	IAMs_20	07 55 42.3			
	comp=Z,3µm,18.0s								
WCI	**Wyandotte Cave**	**23.77**	**51**	P	**P**	**07 45 46.4**	**-3.1**		
	baz=243								
P46A	**Rosedale**	**23.82**	**47**	IAmb	IAmb	07 46 01.3			
	comp=Z,36nm,0.8s								
LON	**Longmire**	**23.86**	**339**	IAmb	IAmb	07 46 04.1			
	comp=Z,69nm,1.2s								
DGMT	**Dagmar**	**23.87**	**9**	P	**P**	**07 45 50.3**	**-0.1**		
DGMT				IAmb	IAmb	07 45 59.0			
	comp=Z,40nm,1.2s								
DGMT	**Dagmar**	**23.87**	**9**	IAMs_20	IAMs_20	07 55 33.5			
	comp=Z,3µm,18.0s								
DGMT	**Dagmar**	**23.87**	**9**	P	**P**	**07 45 49.1**	**-1.3**		
	baz=192								
Y52A	**Lilburn**	**23.89**	**62**	IAmb	IAmb	07 46 14.6			
	comp=Z,54nm,1.2s								
E04D	**Cinebar**	**23.95**	**338**	P	**P**	**07 45 51.3**	**+0.1**		
	baz=149								
JFWS	**Jewell Farm**	**23.96**	**37**	IAmb	IAmb	07 46 01.4			
	comp=Z,32nm,0.9s								
JFWS	**Jewell Farm**	**23.96**	**37**	P	**P**	**07 45 48.8**	**-2.4**		
	baz=227								
CPCT	**Cooper Cave**	**23.99**	**58**	IAmb	IAmb	07 45 59.3			
	comp=Z,53nm,1.2s								
NEW	**Newport**	**24.04**	**348**	P	**P**	**07 45 51.7**	**-0.3**		
	comp=Z,21nm,0.8s,baz=159,slow=11,SNR=42								
NEW				S	**S**	**07 50 10.1**	**+1.0**		
	comp=Z,0.5nm,0.3s,baz=294,slow=20,SNR=1.5								
NEW				LR	LR	07 54 26.0			
	comp=Z,1µm,18.1s,baz=171,slow=35								
NEW	**Newport**	**24.04**	**348**	IAmb	IAmb	07 46 04.6			
	comp=Z,56nm,1.3s								
NEW	**Newport**	**24.04**	**348**	P	**P**	**07 45 51.7**	**-0.3**		
	baz=162,SNR=39								
MDND	**Maddock**	**24.19**	**17**	P	**P**	**07 45 51.7**	**-1.7**		
	baz=202								
V51A	**Loudon**	**24.24**	**58**	IAmb	IAmb	07 46 01.6			
	comp=Z,32nm,0.9s								
GOGA	**Godfrey**	**24.26**	**64**	IAmb	IAmb	07 46 02.5			
	comp=Z,24nm,1.0s								
GOGA	**Godfrey**	**24.26**	**64**	IAMs_20	IAMs_20	07 56 27.7			
	comp=Z,3µm,18.0s								
GOGA	**Godfrey**	**24.26**	**64**	P	**P**	**07 45 52.0**	**-2.1**		
	baz=256,SNR=6.2								
SFIN	**Lafayette**	**24.30**	**45**	P	**P**	**07 45 51.3**	**-3.1**		
	baz=237								
T50A	**Nancy**	**24.31**	**54**	IAmb	IAmb	07 46 12.4			
	comp=Z,25nm,0.9s								
W52A	**Murphy**	**24.34**	**59**	IAmb	IAmb	07 46 20.1			
	comp=Z,39nm,1.1s								
SPMN	**Marine on St.**	**24.36**	**30**	P	**P**	**07 45 53.3**	**-1.6**		
	baz=219								
I40A	**Norwalk**	**24.43**	**35**	IAmb	IAmb	07 46 23.0			
	comp=Z,28nm,1.1s								
F36A	**Milaca**	**24.55**	**28**	P	**P**	**07 45 55.9**	**-0.7**		
F36A				IAmb	IAmb	07 46 14.0			
	comp=Z,29nm,1.3s								
D04E	**Lakebay**	**24.56**	**338**	P	**P**	**07 45 57.4**	**+0.6**		
	baz=150								
R49A	**Shelbyville**	**24.59**	**51**	P	**P**	**07 45 56.6**	**-0.5**		
HQIL	**Hanson Quary C**	**24.62**	**42**	IAMs_20	IAMs_20	07 54 56.5			
	comp=Z,2µm,20.0s								
C06D	**Leavenworth**	**24.63**	**342**	P	**P**	**07 45 57.8**	**+0.4**		
	baz=154								
TKL	**Tuckaleechee C**	**24.63**	**58**	P	**P**	**07 45 56.7**	**-0.8**		
	comp=Z,18nm,1.2s,baz=269,slow=6.4,SNR=9.0								
TKL				S	**S**	**07 50 24.4**	**+5.5**		
	comp=Z,2.5nm,0.9s,baz=164,slow=7.4,SNR=1.5								
TKL				Lg	Lg	07 53 31.6			
	comp=Z,1.8nm,0.9s,baz=196,slow=12,SNR=1.3								
TKL				LR	LR	07 55 53.7			
	comp=Z,2µm,20.7s,baz=254,slow=38								
TKL	**Tuckaleechee C**	**24.63**	**58**	IAmb	IAmb	07 46 06.8			
	comp=Z,58nm,1.2s								
L44A	**Lake County Fo**	**24.82**	**41**	P	**P**	**07 45 57.1**	**-2.0**		
	baz=233								
V52A	**Sevierville**	**24.83**	**58**	IAmb	IAmb	07 45 59.9			
	comp=Z,49nm,1.2s								
BG3	**Lake Jocassee**	**25.09**	**60**	IAmb	IAmb	07 46 12.3			
	comp=Z,36nm,0.9s								
TZTN	**Tazewell**	**25.10**	**56**	IAmb	IAmb	07 46 12.0			
TZTN				IAMs_20	IAMs_20	07 55 58.7			
	comp=Z,53nm,1.2s								
TZTN	**Tazewell**	**25.10**	**56**	P	**P**	**07 46 00.5**	**-1.3**		
	comp=Z,3µm,20.0s								
NLWA	**Neilton Lookou**	**25.13**	**337**	IAmb	IAmb	07 46 16.0			
	baz=250,SNR=6.3								
B05A	**Bryant**	**25.30**	**340**	P	**P**	**07 46 04.6**	**+1.3**		
	comp=Z,35nm,1.2s								
DWPF	**Disney Wildern**	**25.35**	**77**	P	**P**	**07 46 02.0**	**-2.1**		
	baz=152								
P49A	**Miami Univ. Ec**	**25.46**	**49**	IAmb	IAmb	07 46 19.4			
	comp=Z,27nm,1.1s								
P49A	**Miami Univ. Ec**	**25.46**	**49**	P	**P**	**07 46 03.6**	**-1.4**		
	baz=242								
S51A	**Beattyville**	**25.46**	**54**	IAmb	IAmb	07 46 23.3			
	comp=Z,44nm,1.1s								
AGMN	**Agassiz Nation**	**25.70**	**21**	IAmb	IAmb	07 46 28.6			
	comp=Z,46nm,1.5s								
AGMN				IAMs_20	IAMs_20	07 55 56.8			
	comp=Z,2µm,19.0s								
AGMN	**Agassiz Nation**	**25.70**	**21**	P	**P**	**07 46 06.5**	**-0.5**		
	baz=209								
PAULI	**Pauline**	**25.93**	**61**	IAmb	IAmb	07 46 33.3			
	comp=Z,24nm,0.9s								
Q51A	**Peebles**	**26.19**	**51**	IAmb	IAmb	07 46 30.1			
	comp=Z,41nm,1.0s								
U54A	**Nelsons Funny**	**26.41**	**57**	IAmb	IAmb	07 46 26.1			
	comp=Z,34nm,1.2s								
P51A	**Williamsport**	**26.59**	**51**	IAmb	IAmb	07 46 33.1			
	comp=Z,24nm,0.9s								
V55A	**Taylorsville**	**26.68**	**59**	IAmb	IAmb	07 46 23.2			
	comp=Z,22nm,1.0s								
COWI	**Conover**	**26.73**	**33**	IAmb	IAmb	07 46 36.1			
	comp=Z,40nm,1.4s								
COWI				IAMs_20	IAMs_20	07 55 24.9			
	comp=Z,3µm,18.0s								
Y57A	**Sumter**	**26.89**	**64**	IAmb	IAmb	07 46 27.4			
	comp=Z,23nm,0.8s								
NHSC	**New Hope**	**26.89**	**66**	IAMs_20	IAMs_20	07 58 09.5			
	comp=Z,4µm,20.0s								
R53A	**Hurricane**	**26.92**	**54**	IAmb	IAmb	07 46 36.7			
	comp=Z,35nm,0.8s								
ACSO	**Alum Creek Sta**	**26.96**	**49**	IAMs_20	IAMs_20	07 57 10.8			
	comp=Z,3µm,21.0s								
EYMN	**Ely**	**27.05**	**27**	P	**P**	**07 46 18.5**	**-0.8**		
	baz=218								
P52A	**Corning**	**27.30**	**51**	IAMs_20	IAMs_20	07 57 42.8			
	comp=Z,2µm,18.0s								
P52A	**Corning**	**27.30**	**51**	P	**P**	**07 46 20.1**	**-1.5**		
	baz=246								
LLLB	**Lillooet**	**27.34**	**343**	IAmb	IAmb	07 46 26.8			
	comp=Z,34nm,1.6s								
ULM	**Lac du Bonnet**	**27.41**	**19**	P	**P**	**07 46 21.5**	**-1.0**		
	comp=Z,4.8nm,0.9s,baz=165,slow=11,SNR=3.7								
ULM				Lg	Lg	07 54 47.8			
	comp=Z,2.1nm,0.9s,baz=137,slow=19,SNR=1.4								
ULM				LR	LR	07 56 57.2			
	comp=Z,1µm,21.8s,baz=204,slow=36								
W57A	**Gilead**	**27.46**	**61**	IAmb	IAmb	07 46 37.4			
	comp=Z,35nm,1.3s								
U56A	**King**	**27.46**	**59**	IAmb	IAmb	07 46 28.8			
	comp=Z,17nm,1.0s								
AAM	**Ann Arbor**	**27.51**	**45**	IAMs_20	IAMs_20	07 56 38.0			
	comp=Z,4µm,18.0s								
AAM	**Ann Arbor**	**27.51**	**45**	P	**P**	**07 46 21.8**	**-1.6**		
	baz=239								
JTS	**Las Juntas de**	**27.54**	**118**	P	**P**	**07 46 24.8**	**+0.7**		
	comp=Z,9.4nm,1.1s,baz=15,slow=7.2,SNR=4.4								
JTS				LR	LR	07 58 49.7			
	comp=Z,921nm,18.3s,baz=12,slow=40								
JTS	**Las Juntas de**	**27.54**	**118**	IAmb	IAmb	07 46 37.6			
	comp=Z,50nm,1.6s								
BLA	**Blacksburg**	**27.69**	**57**	P	**P**	**07 46 23.5**	**-1.7**		
	baz=252								
O53A	**New Philadelph**	**28.20**	**50**	IAMs_20	IAMs_20	07 57 05.5			
	comp=Z,2µm,19.0s								
O53A	**New Philadelph**	**28.20**	**50**	P	**P**	**07 46 28.4**	**-1.3**		
	baz=246								
GLMI	**Grayling**	**28.32**	**39**	IAMs_20	IAMs_20	07 56 46.1			
	comp=Z,2µm,18.0s								
MCWV	**Mont Chateau**	**28.94**	**52**	IAMs_20	IAMs_20	07 57 21.2			
	comp=Z,2µm,20.0s								
M53A	**WI Miller and**	**29.07**	**48**	IAMs_20	IAMs_20	07 58 42.4			
	comp=Z,2µm,21.0s								
PEZE	**Perez Zeledon,**	**29.09**	**118**		pwP	07 46 43.4	+0.3		
CNNC	**Cliffs of the**	**29.16**	**62**	IAMs_20	IAMs_20	07 57 35.4			
	comp=Z,2µm,20.0s								
CNNC	**Cliffs of the**	**29.16**	**62**	P	**P**	**07 46 36.1**	**-2.1**		
	baz=258								
N54A	**Moraine State**	**29.34**	**50**	IAMs_20	IAMs_20	07 57 40.6			
	comp=Z,2µm,18.0s								
N54A	**Moraine State**	**29.34**	**50**	P	**P**	**07 46 38.2**	**-1.6**		
	baz=246								
ERPA	**Erie**	**29.82**	**48**	IAMs_20	IAMs_20	07 59 47.4			
	comp=Z,2µm,18.0s								
ERPA	**Erie**	**29.82**	**48**	P	**P**	**07 46 42.8**	**-1.2**		
	baz=244								
O56A	**Blue Knob Stat**	**30.07**	**52**	IAMs_20	IAMs_20	07 58 15.2			
	comp=Z,2µm,20.0s								
O56A	**Blue Knob Stat**	**30.07**	**52**	P	**P**	**07 46 45.0**	**-1.4**		
	baz=249								
FFC	**Flin Flon**	**30.28**	**9**	IAMs_20	IAMs_20	07 57 36.2			
	comp=Z,1µm,20.0s								
CBN	**Corbin Frederi**	**30.29**	**56**	IAMs_20	IAMs_20	07 58 06.1			
	comp=Z,2µm,21.0s								
CBN	**Corbin Frederi**	**30.29**	**56**	P	**P**	**07 46 47.5**	**-0.7**		
	baz=253								
SSPA	**Standing Stone**	**30.69**	**52**	IAMs_20	IAMs_20	07 58 35.5			
	comp=Z,2µm,18.0s								
SSPA	**Standing Stone**	**30.69**	**52**	P	**P**	**07 46 51.3**	**-0.4**		
	baz=249								
SADO	**Sadowa**	**31.58**	**44**	LR	LR	08 00 09.4			
	comp=Z,2µm,18.0s,baz=300,slow=37								
P60A	**Greenville**	**32.05**	**54**	IAMs_20	IAMs_20	07 59 38.6			
	comp=Z,1µm,21.0s								
GTBY	**Guantanamo Bay**	**32.18**	**92**	IAMs_20	IAMs_20	08 01 18.1			
	comp=Z,1µm,20.0s								
N59A	**State Game Lan**	**32.30**	**52**	IAMs_20	IAMs_20	08 00 28.1			
	comp=Z,2µm,20.0s								
BCIP	**Isla Barro Col**	**32.35**	**114**	IAMs_20	IAMs_20	07 59 10.2			
	comp=Z,1µm,21.0s								
BINY	**Binghamton**	**32.59**	**50**	IAMs_20	IAMs_20	07 59 33.6			
	comp=Z,2µm,20.0s								
PAL	**Palisades**	**33.66**	**53**	IAMs_20	IAMs_20	08 01 35.3			
	comp=Z,2µm,21.0s								
WSPT	**Westport, CT**	**34.13**	**53**	IAMs_20	IAMs_20	08 01 48.7			
	comp=Z,3µm,19.0s								
TRY	**Troy**	**34.38**	**50**	IAMs_20	IAMs_20	08 01 55.1			
	comp=Z,2µm,19.0s								
LONY	**Lake Ozonia**	**34.44**	**46**	IAMs_20	IAMs_20	07 59 14.6			
	comp=Z,2µm,19.0s								
LONY	**Lake Ozonia**	**34.44**	**46**	P	**P**	**07 47 23.7**	**-0.9**		
	baz=247								
L61B	**Northampton**	**34.98**	**51**	P	**P**	**07 47 28.5**	**-0.7**		
	baz=252								
CRAG	**Craig**	**35.06**	**337**	P	**P**	**07 47 32.6**	**+3.0**		
	baz=140								
QUA2	**Belchertown**	**35.16**	**51**	IAMs_20	IAMs_20	08 01 11.7			
	comp=Z,1µm,18.0s								
K62A	**Royalston**	**35.36**	**51**	IAMs_20	IAMs_20	08 02 13.0			
	comp=Z,3µm,18.0s								
GRTK	**Grand Turk**	**35.41**	**88**	IAMs_20	IAMs_20	08 03 47.5			
	comp=Z,2µm,22.0s								
WRAK	**Wrangell Islan**	**35.54**	**338**	IAMs_20	IAMs_20	08 02 36.4			
	comp=Z,1µm,18.0s								
VT1	**Waterbury**	**35.55**	**48**	IAMs_20	IAMs_20	08 00 19.9			
	comp=Z,1µm,20.0s								
L63A	**North Scituate**	**35.57**	**52**	IAMs_20	IAMs_20	08 02 49.6			
	comp=Z,1µm,20.0s								
BRYW	**Bryant College**	**35.63**	**52**	IAMs_20	IAMs_20	08 02 52.4			
	comp=Z,

baz=139
BCPM **Bancas Point** **40.74 337** IAmb IAmb 07 48 27.8
comp=Z,57nm,1.6s
SJG **San Juan** **40.83 91** IAMs_20 IAMs_20 08 06 47.0
comp=Z,918nm,19.0s
YUK6 **Outpost Mounta** **41.03 339** P **P** **07 48 22.7 +2.4**
baz=138
PINM **Pinnacle** **41.06 337** P **P** **07 48 22.7 +2.4**
baz=135
MACC **Macarena, Meta** **41.22 118** *e*P **P** **07 48 25.2 +3.0**
YUK4 **Talbot Arm** **41.43 339** P **P** **07 48 25.7 +2.1**
baz=138
PTGC **Puerto Gaitan,** **41.46 114** *e*P P 07 48 30.0 +5.9
MESA **MESA** **41.72 336** IAMs_20 IAMs_20 08 07 15.6
comp=Z,990nm,20.0s
MESA **MESA** **41.72 336** P **P** **07 48 27.5 +1.5**
baz=133
CTG **Chitna Glacier** **42.05 337** P **P** **07 48 30.8 +2.3**
baz=134
BGLC **Bering Glacier** **42.18 336** P **P** **07 48 31.9 +2.6**
baz=131
WAX **Waxell Ridge** **42.24 336** IAMs_20 IAMs_20 08 04 11.2
comp=Z,788nm,20.0s
YUK3 **Moose Creek** **42.33 339** P **P** **07 48 33.1 +2.1**
baz=136
MAYO **Mayo, Yukon** **42.37 343** P **P** **07 48 33.2 +2.2**
baz=143
CRQE **Cirque** **42.53 336** P **P** **07 48 33.7 +1.2**
baz=132
POHA **Pohakuloa** **42.67 273** IAMs_20 IAMs_20 08 02 25.2
comp=Z,1µm,22.0s
HMT **Hamilton** **42.69 335** IAMs_20 IAMs_20 08 08 08.1
comp=Z,855nm,20.0s
MCARA **McCarthy VSAT** **42.93 337** P **P** **07 48 37.4 +1.9**
baz=132
M27K **Edge Creek, AK** **43.22 339** P **P** **07 48 40.0 +1.9**
baz=134
BMRM **Bremner River** **43.23 336** IAMs_20 IAMs_20 08 05 59.4
comp=Z,872nm,18.0s
BMRM **Bremner River** **43.23 336** P **P** **07 48 39.9 +1.8**
baz=130
SCHQ **Schefferville** **43.30 35** P **P** **07 48 37.7 -1.0**
comp=Z,6.0nm,1.0s,baz=226,slow=14,SNR=2.8
EYAK **Cordova Ski Ar** **43.39 335** P **P** **07 48 42.4 +3.1**
baz=128
M26K **Nabesna, AK** **43.62 338** IAMs_20 IAMs_20 08 05 49.1
comp=Z,1µm,20.0s
M26K **Nabesna, AK** **43.62 338** P **P** **07 48 43.8 +2.6**
baz=133
N25K **Chitina, Valde** **43.65 337** P **P** **07 48 44.3 +2.9**
baz=131
L27K **Beaver Creek,** **43.70 339** IAMs_20 IAMs_20 08 05 49.3
comp=Z,1µm,18.0s
L27K **Beaver Creek,** **43.70 339** P **P** **07 48 43.5 +1.7**
baz=135
DAWY **Dawson** **43.70 342** P **P** **07 48 44.0 +2.2**
baz=139
SEUS **St. Eustatius** **43.89 90** IAMs_20 IAMs_20 08 05 54.2
comp=Z,845nm,21.0s
ATAH **Atahualpa** **44.02 132** P **P** **07 48 45.4 +0.1**
comp=Z,6.3nm,0.9s,baz=33,slow=3.7,SNR=4.6
KLU **Klutina** **44.06 336** IAMs_20 IAMs_20 08 06 18.3
comp=Z,727nm,19.0s
KLU **Klutina** **44.06 336** P **P** **07 48 47.3 +2.6**
baz=129
GLI **Glacier Island** **44.12 335** P **P** **07 48 47.1 +1.9**
baz=127
L26K **Log Cabin Wild** **44.17 339** IAMs_20 IAMs_20 08 06 17.6
comp=Z,893nm,20.0s
L26K **Log Cabin Wild** **44.17 339** P **P** **07 48 48.4 +2.9**
baz=133
HARP **HAARP** **44.37 337** P **P** **07 48 49.2 +2.1**
baz=131
K27K **Chicken** **44.48 340** IAMs_20 IAMs_20 08 05 52.7
comp=Z,1µm,21.0s
K27K **Chicken** **44.48 340** P **P** **07 48 49.7 +1.7**
baz=136
M24K **Tolsona, Glenn** **44.54 336** P **P** **07 48 49.8 +1.2**
baz=129
SEW **Seward** **44.61 333** P **P** **07 48 51.4 +2.3**
baz=124
EGAK **Eagle** **44.75 341** IAMs_20 IAMs_20 08 07 12.9
comp=Z,963nm,18.0s
EGAK **Eagle** **44.75 341** P **P** **07 48 52.6 +2.6**
baz=137
EPYK **Eagle Plains** **44.82 345** IAMs_20 IAMs_20 08 07 53.9
comp=Z,1µm,21.0s
EPYK **Eagle Plains** **44.82 345** P **P** **07 48 52.5 +1.8**
baz=144
DOT **Dot Lake** **44.84 339** IAmb IAmb 07 49 13.0
comp=Z,15nm,1.3s
PAX **Paxson** **44.85 338** P **P** **07 48 52.2 +1.1**
baz=131
OHAK **Old Harbor** **44.87 328** P **P** **07 48 52.2 +1.1**
baz=117
O22K **Cooper Landing** **44.94 333** P **P** **07 48 52.5 +0.9**
baz=124
BRSE **Bradley Lake S** **44.96 332** P **P** **07 48 53.8 +2.0**
baz=122
KNK **Knik Glacier** **44.97 335** IAmb IAmb 07 49 27.2
comp=Z,19nm,1.1s
KNK **Knik Glacier** **44.97 335** P **P** **07 48 55.8 +3.9**
baz=126
SII **Sitkinak Islan** **45.01 327** P **P** **07 48 53.9 +1.6**
baz=115
SCRK **Sand Creek** **45.04 339** IAmb IAmb 07 49 12.5
comp=Z,20nm,1.4s
SCRK IAMs_20 IAMs_20 08 06 13.6
comp=Z,646nm,18.0s
SCRK **Sand Creek** **45.04 339** P **P** **07 48 53.9 +1.3**
baz=133
RIDG **Independent Ri** **45.15 339** IAmb IAmb 07 49 15.7
comp=Z,20nm,1.3s
RIDG **Independent Ri** **45.15 339** P **P** **07 48 54.6 +1.1**
baz=132
SML **Sawmill** **45.16 335** IAmb IAmb 07 49 01.0
comp=Z,13nm,1.0s
SML **Sawmill** **45.16 335** P **P** **07 48 56.1 +2.7**
baz=126
RC01 **Rabbit Creek A** **45.29 334** P **P** **07 48 56.6 +2.2**
baz=124
PMR **Palmer** **45.34 335** P **P** **07 48 55.3 +0.6**
baz=125
GHO **Glory Hole Cre** **45.36 335** IAmb IAmb 07 49 19.5
comp=Z,22nm,1.2s
WAT6 **Susitna Watana** **45.41 336** P **P** **07 48 57.8 +2.2**
baz=128
DHY **Denali Highway** **45.59 337** IAmb IAmb 07 49 04.4
comp=Z,16nm,1.3s
DHY IAMs_20 IAMs_20 08 06 03.7
comp=Z,696nm,19.0s
DHY **Denali Highway** **45.59 337** P **P** **07 48 58.9 +1.9**
baz=128
INK **Inuvik** **45.76 348** P **P** **07 48 59.6 +1.5**
baz=149
SUA **Susitna One** **45.90 334** P **P** **07 49 01.5 +2.1**
baz=123
J25K **Salcha River,** **45.91 339** P **P** **07 49 01.7 +2.2**
baz=132
RND **Reindeer** **46.32 337** IAmb IAmb 07 49 34.1
comp=Z,11nm,1.0s
RND IAMs_20 IAMs_20 08 08 15.1
comp=Z,750nm,19.0s
SKT **Skwentna** **46.50 334** IAmb IAmb 07 49 16.3
comp=Z,12nm,1.0s
SKT **Skwentna** **46.50 334** P **P** **07 49 05.6 +1.6**
baz=123
ILAR **Eielson Array** **46.51 339** P **P** **07 49 04.8 +0.8**
comp=Z,10nm,1.0s,baz=143,slow=6.7,SNR=19
MCK **McKinley** **46.54 337** IAmb IAmb 07 49 32.1
comp=Z,13nm,1.0s
MCK **McKinley** **46.54 337** P **P** **07 49 05.0 +0.7**
baz=127
PRP **Porcupine Dome** **46.58 340** IAMs_20 IAMs_20 08 07 40.2
comp=Z,703nm,18.0s
WRH **Wood River Hil** **46.71 338** IAmb IAmb 07 49 20.3
comp=Z,11nm,1.0s
CCB **Clear Creek Bu** **46.73 339** IAMs_20 IAMs_20 08 07 37.2
comp=Z,867nm,22.0s
O19K **Port Alsworth** **46.74 331** P **P** **07 49 07.6 +1.8**
baz=118
TRF **Thorofare Moun** **46.86 336** P **P** **07 49 06.2 -0.8**
TRF IAMs_20 IAMs_20 08 08 13.4
comp=Z,754nm,20.0s
TRF **Thorofare Moun** **46.86 336** P **P** **07 49 07.5 +0.5**
baz=125
COLA **College** **46.89 339** P **P** **07 49 08.8 +1.8**
baz=129
TCOL **CIGO, UAF Yank** **46.89 339** IAMs_20 IAMs_20 08 08 46.6
comp=Z,672nm,20.0s
TCOL **CIGO, UAF Yank** **46.89 339** P **P** **07 49 08.8 +1.8**
baz=129
O18K **Koktuh Hills** **46.97 330** IAMs_20 IAMs_20 08 07 51.1
comp=Z,589nm,18.0s
O18K **Koktuh Hills** **46.97 330** P **P** **07 49 07.5 -0.3**
baz=117
MDM **Murphy Dome** **47.07 339** IAmb IAmb 07 49 22.4
comp=Z,10nm,1.0s
MDM IAMs_20 IAMs_20 08 08 52.3
comp=Z,833nm,19.0s
N19K **Bonanza Creek** **47.11 332** P **P** **07 49 09.9 +1.0**
N19K **Bonanza Creek** **47.11 332** P **P** **07 49 09.1 +0.2**
baz=119
NEA2 **Nenana** **47.12 338** IAmb IAmb 07 49 16.8
comp=Z,22nm,1.2s
NEA2 IAMs_20 IAMs_20 08 07 33.6
comp=Z,728nm,19.0s
NEA2 **Nenana** **47.12 338** P **P** **07 49 09.2 +0.4**
baz=128
KTH **Kantishna Hill** **47.15 336** IAMs_20 IAMs_20 08 08 10.1
comp=Z,740nm,19.0s
FYU **Fort Yukon** **47.21 341** IAMs_20 IAMs_20 08 10 30.1
comp=Z,751nm,21.0s
PPLA **Purkeypile** **47.26 335** P **P** **07 49 09.8 -0.3**
baz=125
BPAW **Bear Paw Mtn.** **47.49 337** P **P** **07 49 12.4 +0.6**
baz=125
H24K **Noodor Dome** **47.52 340** IAmb IAmb 07 49 26.6
comp=Z,15nm,1.2s
H24K IAMs_20 IAMs_20 08 08 20.1
comp=Z,946nm,20.0s
H24K **Noodor Dome** **47.52 340** P **P** **07 49 11.4 -0.6**
baz=130
I23K **Minto, Yukon-K** **47.56 339** IAmb IAmb 07 49 42.7
comp=Z,20nm,1.2s
I23K IAMs_20 IAMs_20 08 09 08.2
comp=Z,918nm,19.0s
I23K **Minto, Yukon-K** **47.56 339** P **P** **07 49 11.8 -0.4**
baz=128
M19K **Big River Lodg** **47.61 333** P **P** **07 49 12.4 -0.3**
baz=120
N18K **Kilae Creek** **47.66 331** P **P** **07 49 12.5 -0.6**
baz=121
L20K **Farewell, AK** **47.70 334** P **P** **07 49 14.1 +0.7**
baz=121
CHUM **Lake Minchumin** **47.85 336** P **P** **07 49 14.9 +0.4**
baz=123
A36M **Sachs Harbour** **47.90 353** IAMs_20 IAMs_20 08 10 39.9
comp=Z,2µm,19.0s
A36M **Sachs Harbour** **47.90 353** P **P** **07 49 14.9 +0.2**
baz=160
L19K **White Mountain** **47.94 333** P **P** **07 49 16.3 +1.1**
L19K **White Mountain** **47.94 333** P **P** **07 49 15.7 +0.5**
baz=119
MLY **Manley** **47.95 338** IAmb IAmb 07 49 23.5
comp=Z,22nm,1.2s
MLY IAMs_20 IAMs_20 08 11 49.7
comp=Z,748nm,18.0s
MLY **Manley** **47.95 338** P **P** **07 49 16.2 +0.9**
baz=126
H23K **Yukon River** **48.04 339** P **P** **07 49 18.0 +2.0**
H23K IAMs_20 IAMs_20 08 08 17.0
comp=Z,881nm,18.0s
H23K **Yukon River** **48.04 339** P **P** **07 49 17.1 +1.1**
baz=128
K20K **Telida** **48.23 335** P **P** **07 49 19.3 +1.9**
K20K IAmb IAmb 07 49 25.2
comp=Z,18nm,1.1s
K20K **Telida** **48.23 335** P **P** **07 49 18.2 +0.7**
baz=121
CZSB **Cruzeiro do Su** **48.41 127** *e*P **P** **07 49 20.5 +1.0**
I21K **Tanana** **48.47 338** IAMs_20 IAMs_20 08 08 19.0
comp=Z,740nm,20.0s
I21K **Tanana** **48.47 338** P **P** **07 49 19.6 +0.3**
baz=125,SNR=6.1
J20K **Nowinta River** **48.69 336** P **P** **07 49 21.3 +0.3**
J20K **Nowinta River** **48.69 336** P **P** **07 49 21.1 +0.1**
baz=122
COLD **Coldfoot** **49.12 340** P **P** **07 49 25.4 +1.1**
baz=128
TOLK **Toolik Lake Re** **49.84 342** P **P** **07 49 30.5 +0.7**
baz=130
NIKH **Nikolski High** **52.10 319** P **P** **07 49 49.7 +2.8**
baz=98
BOAV **Boa Vista** **52.27 107** *e*P **P** **07 49 45.4 -3.3**
ANM **Nome** **53.24 334** IAMs_20 IAMs_20 08 12 13.8
comp=Z,585nm,21.0s
RDOG **Red Dog Mine** **53.68 338** P **P** **07 50 00.6 +2.2**
baz=115
PTGA **Pitinga** **54.34 110** P **P** **07 50 02.9 -1.1**
PTGA IAmb IAmb 07 50 31.5
comp=Z,10nm,0.9s
PTGA IAMs_20 IAMs_20 08 17 47.5
comp=Z,543nm,20.0s
SFJD **Kangerlussuaq** **55.28 24** IAMs_20 IAMs_20 08 12 06.0
comp=Z,1µm,20.0s
TULEG **Thule** **55.34 11** IAMs_20 IAMs_20 08 14 22.5
comp=Z,2µm,21.0s
ILULI **Ilulissat** **55.86 22** IAMs_20 IAMs_20 08 15 12.3
comp=Z,835nm,18.0s
NRS **Narsarsuaq** **56.04 32** IAMs_20 IAMs_20 08 12 45.7
comp=Z,1µm,19.0s
DY2G **Dye2** **56.79 25** *i* P **P** **07 50 22.8 +1.7**
DY2G IAmb IAmb 07 50 24.1
comp=Z,44nm,1.3s
PPT2 **Papeete2** **57.50 227** *e*S **S** **07 58 27.4 +3.1**
comp=Z,98nm,24.0s
PPT2 *e*LQ LQ 08 04 56.0
comp=Z,584nm,24.0s
PPT2 *e*LR LR 08 07 10.5
comp=Z,826nm,27.8s,baz=27
LPAZ **La Paz** **57.54 131** P **P** **07 50 26.5 -1.0**
comp=Z,0.6nm,0.6s,baz=0.0,slow=14,SNR=2.8
LPAZ **La Paz** **57.54 131** P **P** **07 50 27.0 -0.5**
LPAZ **La Paz** **57.54 131** *e*P **P** **07 50 30.7 +3.2**
NEEM **North Greenlan** **59.14 13** *i* P **P** **07 50 36.7 -0.8**
ICESG **Greenland Ices** **59.78 23** *i* P **P** **07 50 42.3 +0.1**
ITTB **Itaituba** **59.84 111** *e*P **P** **07 50 41.3 -1.6**
PB01 **IPOC Station P** **60.05 136** P **P** **07 50 45.4 +1.0**
ANGG **Ammassalik, Gr** **60.11 27** IAMs_20 IAMs_20 08 16 40.0
comp=Z,884nm,18.0s
ALE **Alert** **60.22 6** IAMs_20 IAMs_20 08 17 42.3
comp=Z,2µm,20.0s
SUMG **Summit** **60.77 19** *i* P **P** **07 50 50.0 +1.1**
SUMG **Summit** **60.77 19** P **P** **07 50 48.6 -0.3**
SUMG IAMs_20 IAMs_20 08 17 21.6
comp=Z,899nm,21.0s
LVC **Limon Verde** **61.57 137** *e*P **P** **07 50 58.2 +3.3**
NPGB **Novo Progresso** **61.58 114** *e*P **P** **07 50 53.3 -1.5**
TBI **Tubuai** **61.65 222** *e*S **S** **07 59 19.3 +1.8**
comp=Z,258nm,30.5s
TBI *e*LQ LQ 08 06 39.6
comp=Z,672nm,34.8s
TBI *e*LR LR 08 08 58.2
comp=Z,279nm,30.8s
CLDB **Colider** **63.36 118** *e*P **P** **07 51 05.0 -1.6**
H03N2 **Juan Fernandez** **64.96 152** T T 09 01 56.6
baz=331,slow=77,SNR=50
H03N1 **Juan Fernandez** **64.97 152** T T 09 01 56.0
baz=331,slow=77,SNR=88
H03N3 **Juan Fernandez** **64.98 152** T T 09 01 54.7
baz=331,slow=77,SNR=48
SCO **Scoresbysund** **65.95 22** IAMs_20 IAMs_20 08 16 58.8
comp=Z,1µm,19.0s
DAG **Danmarks Havn** **66.13 15** *i* P **P** **07 51 26.7 +2.9**
DAG IAmb IAmb 07 51 30.7
comp=Z,5.6nm,0.8s
SNDB **Serra Nova Dou** **67.62 116** *e*P **P** **07 51 33.6 -0.7**
SMTB **Santa Maria do** **69.06 111** *e*P **P** **07 51 43.4 0.0**
KBS **Kingsbay** **71.36 10** IAMs_20 IAMs_20 08 28 18.9
comp=Z,2µm,18.0s
CPUP **Villa Florida** **71.70 132** P **P** **07 51 58.8 -0.4**
comp=Z,2.8nm,0.9s,baz=261,slow=9.6,SNR=3.7
CPUP **Villa Florida** **71.70 132** P **P** **07 51 60.0 +0.8**
CPUP IAmb IAmb 07 52 08.6
comp=Z,17nm,1.1s
LC01 **Cunco** **72.64 150** P **P** **07 52 05.1 +0.6**
LC01 IAmb IAmb 07 52 17.7
comp=Z,20nm,1.1s
LL04 **Puerto Octay** **74.05 152** P **P** **07 52 14.0 +1.2**
LL04 IAmb IAmb 07 52 14.5
comp=Z,10nm,0.8s
PLCA **Paso Flores** **74.72 150** P **P** **07 52 17.6 +0.8**
comp=Z,8.0nm,0.9s,baz=321,slow=5.0,SNR=12
PLCA **Paso Flores** **74.72 150** P **P** **07 52 17.8 +0.9**
PLCA IAmb IAmb 07 52 26.4
comp=Z,17nm,1.1s
TIXI **Tiksi** **75.69 344** IAMs_20 IAMs_20 08 30 26.8
comp=Z,712nm,21.0s
RCBR **Riachuelo** **77.78 102** IAMs_20 IAMs_20 08 26 26.4
comp=Z,3µm,22.0s
ESK **Eskdalemuir** **78.59 34** IAMs_20 IAMs_20 08 26 17.2
comp=Z,1µm,21.0s
ARCES **ARCESS Array B** **80.42 15** P **P** **07 52 47.2 -1.1**
comp=Z,2.2nm,1.0s,baz=338,slow=6.8,SNR=2.0
ARCES **ARCESS Array B** **80.42 15** P **P** **07 52 50.4 +2.1**
KEV **Kevo** **80.59 14** IAMs_20 IAMs_20 08 31 29.9
comp=Z,2µm,20.0s
YAK **Yakutsk** **81.32 336** IAMs_20 IAMs_20 08 29 46.2
comp=Z,2µm,21.0s
NB2 **NORSAR Subarra** **81.94 25** P **P** **07 52 59.1 +2.5**
comp=Z,76nm,3.3s,baz=306,slow=4.6
NB2 **NORSAR Subarra** **81.94 25** P **P** **07 52 59.1 +2.5**
baz=306,slow=4.6
NOA **NORSAR Array B** **81.94 25** P **P** **07 52 58.1 +1.5**
comp=Z,0.9nm,0.6s,baz=310,slow=5.0,SNR=3.2
KONO **Kongsberg** **82.15 27** IAMs_20 IAMs_20 08 36 48.5
comp=Z,2µm,18.0s
COI **Coimbra** **82.24 49** IAMs_20 IAMs_20 08 36 55.4
comp=Z,1µm,18.0s
MTE **Manteigas** **82.75 49** IAMs_20 IAMs_20 08 37 14.7
comp=Z,2µm,20.0s
YSS **Yuzh-Sakhalins** **83.30 319** IAMs_20 IAMs_20 08 37 24.5
comp=Z,2µm,21.0s
ASAJ **Asahikawa** **84.80 316** P **P** **07 53 14.8 +3.2**
comp=Z,7.6nm,1.2s,baz=4.4,slow=13,SNR=1.6
NRIK **Noril'sk** **85.18 354** P **P** **07 53 13.1 +0.1**
comp=Z,5.2nm,1.0s,baz=307,slow=6.3,SNR=3.7
PAB **San Pablo** **85.32 48** P **P** **07 53 15.0 +0.6**
ERM **Erimo** **85.49 314** IAMs_20 IAMs_20 08 37 21.5
comp=Z,1µm,18.0s
WLF **Walferdange** **86.41 36** IAMs_20 IAMs_20 08 31 33.1
comp=Z,1µm,19.0s
RGN **Rugen** **86.93 29** IAMs_20 IAMs_20 08 39 10.2
comp=Z,2µm,20.0s
STU **Stuttgart** **88.54 35** IAMs_20 IAMs_20 08 39 29.6
comp=Z,2µm,20.0s
CLL **Collm** **88.88 32** IAMs_20 IAMs_20 08 38 19.0
comp=Z,2µm,22.0s
GRA1 **Grafenberg Arr** **89.02 34** IAMs_20 IAMs_20 08 39 34.1
comp=Z,2µm,21.0s
GRFO **Grafenberg** **89.02 34** IAMs_20 IAMs_20 08 39 35.1
comp=Z,2µm,22.0s
PABE **Paberze** **90.63 24** IAMs_20 IAMs_20 08 41 38.4
comp=Z,2µm,20.0s
KLMR **Klimovskoe** **90.90 15** *e*P **P** **07 53 40.8 +0.3**
KLMR AMP 07 53 49.0
comp=Z,14nm,1.4s
MAJO **Matsushiro** **91.60 312** IAMs_20 IAMs_20 08 42 10.5
comp=Z,1µm,19.0s
VLC **Villacollemand** **92.02 39** IAMs_20 IAMs_20 08 43 33.9
comp=Z,2µm,20.0s
DZM **Mont Dzumac** **93.92 248** *e*LR LR 08 24 13.5
comp=Z,740nm,23.6s
VSL **Villasalto** **94.27 43** IAMs_20 IAMs_20 08 45 12.1
comp=Z,2µm,18.0s
PSZ **Piszkesteto** **94.47 31** IAMs_20 IAMs_20 08 40 35.8
comp=Z,2µm,18.0s
AQU **L'Aquila** **94.86 39** IAMs_20 IAMs_20 08 41 45.3
comp=Z,2µm,22.0s
OBN **Obninsk** **95.16 19** IAMs_20 IAMs_20 08 42 41.6
comp=Z,1µm,21.0s
DIVS **Divibare** **97.23 34** IAMs_20 IAMs_20 08 47 14.2
comp=Z,2µm,18.0s
QRZ **Quartz Range** **97.39 228** IAMs_20 IAMs_20 08 43 35.7
comp=Z,2µm,18.0s
PDG **Podgorica** **98.02 36** IAMs_20 IAMs_20 08 41 41.5
comp=Z,1µm,21.0s
INCN **Inchon** **98.49 318** IAMs_20 IAMs_20 08 42 51.8
comp=Z,1µm,18.0s
TIP **Timpagrande** **98.87 39** IAMs_20 IAMs_20 08 42 51.4
comp=Z,1µm,18.0s
ANTO **Ankara** **106.59 29** IAMs_20 IAMs_20 08 43 55.5
comp=Z,2µm,20.0s
YHNB **Yeheng** **110.27 311** IAMs_20 IAMs_20 08 54 19.7
comp=Z,2µm,22.0s
GNI **Garni** **110.96 21** IAMs_20 IAMs_20 08 48 37.0
comp=Z,2µm,22.0s
VNA3 **Neumayer Olymp** **116.57 159** P **PKPdf** **07 59 12.8 -7.5**
VNA1 **Neumayer--Stat** **117.04 158** P PKPdf 07 59 10.3 -11
VNA2 **Neumayer--Watz** **117.32 159** P **PKPdf** **07 59 14.5 -7.2**
baz=322,slow=14
SNAA **Sanae** **118.71 160** P PKiKP 07 59 36.0 +12
TNTI **Ternate** **119.32 286** IAMs_20 IAMs_20 08 45 04.0
comp=Z,1µm,20.0s
WRA **Warramunga Arr** **121.19 261** PKP **PKPdf** **07 59 29.9 -0.8**
comp=Z,0.8nm,1.0s,baz=64,slow=1.9,SNR=2.6
ASAR **Alice Springs** **122.62 257** PKP **PKiKP** **07 59 34.9 +1.3**
comp=Z,2.0nm,1.0s,baz=77,slow=2.5,SNR=9.7
ASAR **Alice Springs** **122.62 257** **PKiKP** **07 59 35.3 +1.7**

MOS ***13*** *07:51:09.6±1.5, 45°.05N×91°.40E, h7km, mb4.8/16, MS4.0/6, Error ellipse: s-maj=7.0km s-min=5.6km az=16.0*
BJI ***13*** *07:51:10.8±0.0, 45°.08N×91°.52E, h7km, mB4.7/27, mb4.6/47, ML5.0/10, Ms4.7/48, Ms7 4.3/42*
IDC ***13*** *07:51:10.5±0.7, 45°.16N×91°.58E, h0km, mb3.9/16, mb1 4.1/22, mb1mx4.0/59, mbtmp4.0/22, ML4.0/5, MS3.9/12, Ms1 3.9/12, ms1mx3.7/64, Error ellipse: s-maj=18.3km s-min=10.7km az=24.0*
NEIC ***13*** *07:51:12.1±1.6, 45°.08N±0°.07×91°.43E±0°.05, h10km±1km, mb4.8/39, Error ellipse: s-maj=13.2km s-min=5.3km az=160.0*
NNC ***13*** *07:51:16.1±4.4, 45°.88N×91°.40E, h0km, mb4.9, mpv4.8, Error ellipse: s-maj=47.3km s-min=30.0km az=120.0*
ISC 13 07:51:12.1±0.3, 45°.04N±0°.04×91°.43E±0°.03, h10km, n186, σ1s99/179, mb4.4/54, MS3.9/19, 25C-11D, Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**2.94**	**247**	*e*Pn	**Pn**	**07 52 01.6**	**+2.6**
WMQ				Sg	**Sg**	**07 52 45.9**	**-0.7**
WMQ				smax	smax		
	comp=N,5µm,1.1s						
WMQ				smax	smax		
	comp=E,6µm,0.9s						
WMQ	**Urumqi**	**2.94**	**247**	P	**Pn**	**07 52 02.1**	**+3.1**
WMQ	**Urumqi**	**2.94**	**247**		**Pn**	**07 52 02.1**	**+3.1**
DGZ	**Jazzator, Alta**	**5.40**	**331**	*c* *i*P	**Pn**	**07 52 35.6**	**+2.8**
MK31	**Makanchi Array**	**6.62**	**289**	⇑Pn	**Pn**	**07 52 49.2**	**-0.2**
	5.6nm,0.2s,baz=99,slow=15,SNR=315						
MK31				⇑Pg	Pg	07 53 14.8	-3.9
	25nm,0.4s,baz=91,slow=16,SNR=5.6						
MK31				⇓Lg	Lg	07 54 40.4	
	325nm,0.7s,baz=88,slow=29,SNR=4.1						
MK31	**Makanchi Array**	**6.62**	**289**	P	**Pn**	**07 52 49.6**	**+0.2**
MK31	**Makanchi Array**	**6.62**	**289**		**Pn**	**07 52 49.6**	**+0.2**
MKAR	**Makanchi Array**	**6.62**	**289**	Pn	**Pn**	**07 52 49.5**	**+0.1**
	11nm,0.3s,baz=111,slow=13,SNR=128						
MKAR				Sn	**Sn**	**07 54 05.7**	**+0.9**
	34nm,0.3s,baz=98,slow=29,SNR=4.8						
MKAR				Lg	Lg	07 54 40.7	
	50nm,0.3s,baz=84,slow=32,SNR=5.0						
MKAR				LR	LR	07 55 22.5	
	comp=Z,701nm,18.0s,baz=132,slow=38						
MAKZ	**Makanchi**	**6.83**	**288**	⇓Pn	**Pn**	**07 52 52.1**	**-0.2**
	40nm,0.8s						
MAKZ				⇓Pg	Pb	07 53 17.7	+6.9
	159nm,0.9s						
MAKZ				⇑Lg	Lg	07 54 47.7	
	582nm,0.9s						
MAKZ	**Makanchi**	**6.83**	**288**	P	**Pn**	**07 52 52.3**	**0.0**
MAKZ	**Makanchi**	**6.83**	**288**	Pn	**Pn**	**07 52 52.3**	**0.0**
GTA	**Gaotai**	**8.38**	**129**	⇑P	**Pn**	**07 53 12.8**	**-1.0**
GTA				S	**Sn**	**07 54 51.1**	**+2.6**
GTA				pmax	pmax		
	comp=Z,25nm,1.3s						
GTA				pmax	pmax		
	comp=Z,55nm,4.1s						
GTA				smax	smax		
	comp=N,390nm,1.2s						
GTA				smax	smax		
	comp=E,330nm,1.2s						
GTA				LR	LR		
	comp=N,2µm,6.9s						
GTA				LR	LR		
	comp=E,2µm,6.9s						
GTA				LR	LR		
	comp=Z,830nm,9.1s						
PDGK	**Podgornoye**	**8.75**	**263**	⇑Pn	Pn	07 53 24.3	+5.4

41nm,0.6s
PDGK ⇓Lg Lg 07 55 59.7
527nm,0.9s
PDGK Podgornoye 8.75 263 P **Pn** **07 53 18.4 -0.4**
ARXS Arharly 9.74 270 *eP* **Pn** **07 53 33.1 +0.8**
PRZ Przheval'sk 9.77 259 P **Pn** **07 53 33.2 +0.4**
PRZ Przheval'sk 9.77 259 **Pn** **07 53 33.2 +0.4**
ZAA0 Zalesovo Array 9.89 337 ⇓Pn **Pn** **07 53 30.9 -3.4**
4.0nm,0.8s
ZAA0 ⇓Pg 07 54 04.0
14nm,1.1s
ZAA0 ⇓Lg Lg 07 56 08.5
180nm,1.4s
ZAA0 Zalesovo Array 9.89 337 **Pn** **07 53 34.0 -0.3**
ZALV Zalesovo Beam 9.89 337 Pn **Pn** **07 53 33.7 -0.6**
2.0nm,0.3s,baz=157,slow=14,SNR=24
ZALV Lg Lg 07 56 24.7
4.6nm,0.3s,baz=157,slow=31,SNR=5.2
ZALV Zalesovo Beam 9.89 337 P **Pn** **07 53 33.9 -0.4**
ZALV Zalesovo Beam 9.89 337 Pn **Pn** **07 53 33.9 -0.4**
KURK Kurchatov 10.30 308 P **Pn** **07 53 38.2 -1.7**
KURK Kurchatov 10.30 308 **Pn** **07 53 38.2 -1.7**
KURBB Kurchatov Arra 10.31 307 Pn **Pn** **07 53 38.2 -1.8**
1.1nm,0.3s,baz=119,slow=9.5,SNR=37
KURBB Lg Lg 07 56 36.9
2.3nm,0.3s,baz=118,slow=31,SNR=8.4
KURBB Kurchatov Arra 10.31 307 ⇑Pn **Pn** **07 53 37.9 -2.1**
11nm,0.3s
KURBB ⇑Lg Lg 07 56 30.1
1µm,0.7s
KURBB Kurchatov Arra 10.31 307 P **Pn** **07 53 37.9 -2.1**
MDOK Medeo 10.52 265 ⇓Pn Pn 07 53 47.9 +4.8
27nm,0.5s
MDOK ⇑Lg Lg 07 56 52.9
195nm,1.0s
MDOK Medeo 10.52 265 P **Pn** **07 53 42.7 -0.3**
KNDC Almaty 10.56 265 ⇓Pn Pn 07 53 48.5 +5.0
42nm,0.5s
KNDC ⇑Lg Lg 07 56 53.6
720nm,1.3s
SONM Songino Array 10.70 70 Pn **Pn** **07 53 44.3 -1.1**
baz=254,slow=15,SNR=13
SONM Pg 07 54 25.9
2.2nm,0.3s,baz=265,slow=18,SNR=8.8
SONM Lg Lg 07 56 44.3
6.6nm,0.3s,baz=256,slow=30,SNR=9.2
SONM LR LR 07 57 57.6
comp=Z,1µm,21.6s,baz=264,slow=38
SONM Songino Array 10.70 70 **Pn** **07 53 46.6 +1.1**
KDJ Kajisay 10.74 259 P **Pn** **07 53 45.5 -0.6**
KDJ Kajisay 10.74 259 **Pn** **07 53 45.5 -0.6**
IRK Irkutsk 11.13 45 *eP* Pn 07 53 59.3 +8.1
IRK pmax pmax
comp=Z,270nm,0.1s
ULN Ulaanbaatar 11.14 70 *ceP* **Pn** **07 53 54.4 +2.9**
ULN pmax pmax
comp=Z,11nm,1.7s
ULN Ulaanbaatar 11.14 70 **Pn** **07 53 51.2 -0.3**
BOOM Boomskoye usch 11.49 263 P **Pn** **07 53 55.1 -1.3**
BOOM Boomskoye usch 11.49 263 **Pn** **07 53 55.1 -1.3**
TKM2 Tokmak 2 11.61 265 ⇓Pn **Pn** **07 54 01.5 +3.5**
comp=Z,16nm,0.6s
TKM2 ⇑Lg Lg 07 57 26.7
comp=Z,201nm,1.2s
TKM2 Tokmak 2 11.61 265 P Pn 07 54 05.5 +7.5
FRU1 Bishkek 12.32 265 P **Pn** **07 54 07.6 0.0**
FRU1 Bishkek 12.32 265 Pn **Pn** **07 54 07.6 0.0**
AAK Ala-Archa 12.47 265 Pn **Pn** **07 54 09.4 -0.3**
comp=Z,0.4nm,0.3s,baz=89,slow=10,SNR=5.2
AAK LR LR 07 59 50.0
comp=Z,1µm,18.2s,baz=80,slow=41
AAK Ala-Archa 12.47 265 Pn Pn 07 54 15.9 +6.3
comp=Z,30nm,1.2s
AAK Lg Lg 07 57 57.3
comp=Z,147nm,1.4s
AAK Ala-Archa 12.47 265 *ce*P **Pn** **07 54 10.2 +0.5**
AAK pmax pmax
comp=Z,17nm,1.3s
KSH Kashi 12.71 250 P Pn 07 54 19.3 +6.4
KSH pP 07 54 22.8
KSH S Sn 07 56 43.8 +9.4
KSH pmax pmax
comp=Z,12nm,1.3s
KSH LR LR
comp=Z,2µm,11.8s
KSH LR LR
comp=Z,2µm,7.6s
KSH LR LR
comp=Z,1µm,9.0s
LZH Lanzhou 12.99 129 *eP* **Pn** **07 54 17.4 +0.6**
LZH sP 07 54 26.8
LZH S **Sn** **07 56 41.3 -0.1**
LZH SS **SnSn** **07 56 53.6 +0.2**
LZH pmax pmax
comp=Z,15nm,1.0s
LZH pmax pmax
comp=Z,97nm,5.4s
LZH LR LR
comp=Z,2µm,7.1s
LZH LR LR
comp=Z,2µm,7.6s
LZH LR LR
comp=Z,970nm,8.1s
BTO Baotou 14.34 101 *eP* Pn 07 54 30.6 -4.6
BTO S **Sn** **07 57 13.8 -0.4**
BTO LR LR
comp=N,7µm,3.7s
BTO LR LR
comp=E,5µm,3.2s
KK31 Karatay Array 15.16 270 P **Pn** **07 54 48.4 +2.1**
comp=E,10nm,0.8s,baz=71,slow=13,SNR=35
KK31 Karatay Array 15.16 270 P **Pn** **07 54 46.1 -0.1**
KK31 pmax pmax
comp=Z,35nm,1.3s
KK31 Karatay Array 15.16 270 Pn **Pn** **07 54 46.1 -0.1**
KKAR Karatay Array 15.16 270 P **Pn** **07 54 46.0 -0.2**
KKAR pmax pmax
comp=Z,35nm,1.3s
KKAR Karatay Array 15.16 270 **Pn** **07 54 46.0 -0.2**
KKAR IAmb IAmb 07 55 16.0
comp=Z,35nm,1.2s
KKAR Karatay Array 15.16 270 Pn **Pn** **07 54 45.7 -0.5**
LSA Lhasa 15.32 181 P **P** **07 54 57.3 +3.7**
LSA S **S** **07 57 53.0 -2.3**
LSA LR LR
comp=N,570nm,7.0s
LSA LR LR
comp=E,2µm,7.5s
LSA Lhasa 15.32 181 P **Pn** **07 54 48.5 -0.2**
LSA pmax pmax
comp=Z,22nm,1.0s
LSA Lhasa 15.32 181 **Pn** **07 54 48.5 -0.2**
HHC Hu-ho-hao-te 15.32 99 *eP* **Pn** **07 54 43.8 -4.6**
HHC Hu-ho-hao-te 15.32 99 *eP* **Pn** **07 54 43.9 -4.5**
HHC pmax pmax
comp=Z,17nm,1.1s
HHC pmax pmax
comp=Z,110nm,5.3s
HHC LR LR
comp=Z,5µm,8.7s
HHC LR LR
comp=Z,2µm,8.8s
HHC LR LR
comp=Z,690nm,8.1s
DRK Karamyk 15.55 256 **Pn** **07 54 50.6 -1.1**
DRK IAmb IAmb 07 54 59.1
comp=Z,105nm,0.8s
BVAR Borovoye Array 15.90 308 Pn **Pn** **07 54 53.8 -2.1**
comp=Z,1.0nm,0.3s,baz=116,slow=10,SNR=13
BVAR Sn **Sn** **07 57 47.3 -4.8**
comp=Z,1.6nm,0.3s,baz=127,slow=24,SNR=3.4
BVAR Lg Lg 07 59 33.7
baz=128,slow=19,SNR=4.9
BRVK Borovoye 15.97 308 ⇑P **Pn** **07 54 54.6 -2.2**
comp=Z,54nm,1.3s
BRVK Borovoye 15.97 308 *ce*P **Pn** **07 54 55.7 -1.1**
BRVK pmax pmax
comp=Z,15nm,0.8s
BRVK Borovoye 15.97 308 Pn **Pn** **07 54 54.6 -2.2**
BTK Batken 15.97 259 P **Pn** **07 54 56.3 -0.6**
BTK pmax pmax
comp=Z,50nm,1.0s
BTK Batken 15.97 259 **Pn** **07 54 56.3 -0.6**
BTK IAmb IAmb 07 55 02.3
comp=Z,50nm,0.9s
GAR Garm 16.79 256 Pn **Pn** **07 55 06.5 -0.9**

CD2 Chengdu 17.10 141 P **P** **07 55 14.8 +1.8**
CD2 S **Sn** **07 58 25.3 +3.9**
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 pmax pmax
comp=Z,170nm,5.7s
CD2 LR LR
comp=Z,1µm,9.0s
CD2 LR LR
comp=Z,1µm,13.7s
TIY Taiyuan 17.35 108 *eP* **P** **07 55 16.3 +0.6**
TIY pmax pmax
comp=Z,28nm,0.5s
TIY pmax pmax
comp=Z,130nm,4.1s
TIY LR LR
comp=Z,2µm,4.4s
TIY LR LR
comp=Z,530nm,4.7s
TIY LR LR
comp=Z,630nm,5.7s
XAN Xi'an 17.36 123 P **Pn** **07 55 11.5 -3.0**
XAN S **Sn** **07 58 21.8 -5.8**
XAN pmax pmax
comp=Z,11nm,1.5s
XAN LR LR
comp=Z,2µm,9.4s
XAN LR LR
comp=Z,1µm,11.2s
XAN LR LR
comp=Z,880nm,10.2s
CHGR Chuyangaron 17.75 257 P **Pn** **07 55 18.1 -1.2**
CHGR IAmb IAmb 07 55 23.1
comp=Z,168nm,1.0s
NIL Nilore 18.04 237 P **Pn** **07 55 17.2 -5.7**
NIL pmax pmax
comp=Z,108nm,1.3s
NIL Nilore 18.04 237 P **Pn** **07 55 17.2 -5.7**
NIL IAmb IAmb 07 55 23.2
comp=Z,108nm,1.2s
BJI Beijing 18.87 97 P **P** **07 55 31.9 -0.5**
BJI pP **pP** **07 55 35.3 -0.3**
BJI sP **sP** **07 55 39.0 +1.9**
BJI PP **PnPn** **07 55 49.8 +4.7**
BJI pmax pmax
comp=Z,29nm,1.0s
BJT Baijiatuau 18.88 97 P **P** **07 55 31.6 -0.9**
BJT pmax pmax
comp=Z,21nm,0.9s
BJT Baijiatuau 18.88 97 P **P** **07 55 31.6 -0.9**
BOD Bodaibo 18.90 39 *eP* **P** **07 55 32.1 -0.4**
BOD pmax pmax
comp=Z,12nm,1.5s
SHL Shillong 19.43 179 P **P** **07 55 39.6 +0.8**
SHL pmax pmax
comp=Z,31nm,1.0s
SHL Shillong 19.43 179 P **P** **07 55 39.6 +0.8**
HIA Hailar 19.66 67 P **P** **07 55 41.6 +0.7**
HIA pmax pmax
comp=Z,35nm,1.6s
HIA Hailar 19.66 67 P **P** **07 55 41.6 +0.7**
KBL Kabul 20.09 246 P **P** **07 55 45.9 -0.1**
KBL pmax pmax
comp=Z,33nm,1.1s
KBL Kabul 20.09 246 P **P** **07 55 45.9 -0.1**
ENH Enshi 20.47 130 P **P** **07 55 49.8 -0.1**
ENH IAmb IAmb 07 56 37.0
comp=Z,53nm,1.5s
TIA Tai'an 21.33 105 ⇑P **P** **07 55 59.3 +0.1**
TIA pmax pmax
comp=Z,24nm,0.9s
TIA LR LR
comp=Z,970nm,7.3s
TIA LR LR
comp=Z,680nm,18.6s
TIA LR LR
comp=Z,320nm,6.1s
AB31 Akbulak array 21.74 292 P **P** **07 56 03.0 -0.5**
comp=Z,8.4nm,0.6s,baz=87,slow=11,SNR=72
AB31 Akbulak array 21.74 292 P **P** **07 56 02.9 -0.5**
ABKAR Akbulak array 21.74 292 P **P** **07 56 03.3 -0.1**
ABKAR Akbulak array 21.74 292 P **P** **07 56 03.3 -0.1**
ABKAR IAmb IAmb 07 56 16.2
comp=Z,78nm,1.8s
KMI Kunming 21.88 152 ⇑P **P** **07 56 06.4 +1.0**
KMI pmax pmax
comp=Z,15nm,1.6s
KMI LR LR
comp=Z,430nm,14.3s
KMI LR LR
comp=Z,420nm,8.7s
KMI LR LR
comp=Z,370nm,13.7s
GYA Guiyang 22.22 141 ⇓P **P** **07 56 09.0 +0.1**
GYA pP sP 07 56 14.1 +0.6
GYA S **S** **08 00 13.6 +0.1**
GYA sS Sn 08 00 22.6 -2.3
GYA pmax pmax
comp=Z,58nm,1.1s
GYA LR LR
comp=Z,360nm,8.0s
GYA LR LR
comp=Z,320nm,10.8s
GYA LR LR
comp=Z,380nm,12.2s
SVE Sverdlovsk 22.50 313 *eP* P 07 56 19.0 +7.5
SVE pmax pmax
comp=Z,57nm,1.2s
AKTO Aktyubinsk 22.98 296 P **P** **07 56 17.8 +1.1**
comp=Z,1.2nm,0.3s,baz=88,slow=9.0,SNR=4.9
AKTO Lg Lg 08 03 20.6
comp=Z,9.2nm,0.9s,baz=9.9,slow=16,SNR=5.3
AKTO LR LR 08 05 18.5
comp=Z,271nm,18.9s,baz=99,slow=37
AKTO Aktyubinsk 22.98 296 ⇑P **P** **07 56 21.8 +5.1**
comp=Z,26nm,0.8s
ARU Arti 23.48 311 P **P** **07 56 22.0 +0.4**
comp=Z,1.6nm,0.6s,baz=104,slow=4.6,SNR=5.8
ARU Arti 23.48 311 *c iP* **P** **07 56 21.7 0.0**
ARU 07 56 48.0
ARU S **S** **08 00 34.7 -0.4**
ARU SS **SnSn** **08 01 13.9 +3.4**
ARU pmax pmax
comp=Z,27nm,2.7s
ARU MLR MLR
comp=Z,256nm,16.0s
ARU Arti 23.48 311 P **P** **07 56 21.6 0.0**
ARU IAmb IAmb 07 56 36.2
comp=Z,29nm,0.7s
NRIK Noril'sk 24.44 357 P **P** **07 56 29.8 -0.8**
comp=Z,1.9nm,0.5s,baz=166,slow=8.9,SNR=3.9
NRIK Lg Lg 08 04 05.0
comp=Z,5.2nm,1.1s,baz=297,slow=9.4,SNR=4.3
NRIK LR LR 08 06 03.0
comp=Z,361nm,19.6s,baz=180,slow=37
NRIK Noril'sk 24.44 357 *ce*P **P** **07 56 29.1 -1.6**
NRIK pmax pmax
comp=Z,10.0nm,0.9s
NRIK Noril'sk 24.44 357 P **P** **07 56 28.9 -1.7**
NRIK IAmb IAmb 07 57 27.9
comp=Z,19nm,1.1s
ZEA Zeya 24.66 56 *eP* **P** **07 56 33.8 +1.1**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
NJ2 Nanjing 24.93 112 *eP* **P** **07 56 34.9 -0.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 LR LR
comp=Z,710nm,14.7s
NJ2 LR LR
comp=Z,650nm,12.2s
NJ2 LR LR
comp=Z,860nm,14.2s
SLVN Son La 25.78 152 P **P** **07 56 42.9 -0.4**
SLVN IAmb IAmb 07 56 53.2
comp=Z,18nm,1.2s
GEYT Alibeck 25.82 266 P **P** **07 56 46.8 +3.4**
comp=Z,258nm,0.9s,baz=31,slow=6.9,SNR=6.2
GEYT LR LR 08 08 39.0
comp=Z,359nm,18.9s,baz=70,slow=40
GEYT Alibeck 25.82 266 P **P** **07 56 44.1 +0.6**
GYA0B ALIBECK ARRAY 25.82 266 P **P** **07 56 43.8 +0.3**
GYA0B IAmb IAmb 07 57 18.5
comp=Z,21nm,1.1s
MDJ Mudanjiang 26.90 77 P **P** **07 56 53.4 +0.3**
MDJ pmax pmax
comp=Z,7.0nm,0.7s
MDJ pmax pmax
comp=Z,120nm,7.6s
CM31 Chiang Mai Arr 27.24 164 P **P** **07 56 54.4 -1.9**
CM31 IAmb IAmb 07 56 57.7
comp=Z,23nm,0.7s
INCN Inchon 27.35 94 P **P** **07 56 54.8 -2.5**
INCN pmax pmax
comp=Z,47nm,1.3s
INCN Inchon 27.35 94 P **P** **07 56 54.8 -2.5**
INCN IAmb IAmb 07 57 07.2
comp=Z,47nm,1.3s
KLR Kul'dur 27.51 67 Lg Lg 08 05 39.1
comp=Z,1.5nm,0.7s,baz=244,slow=9.1,SNR=5.8
KLR LR LR 08 08 33.0
comp=Z,372nm,18.9s,baz=264,slow=38
KLR Kul'dur 27.51 67 *ce*P **P** **07 56 58.2 -0.3**
KLR pmax pmax
comp=Z,3.0nm,1.2s
YAK Yakutsk 27.82 39 LR LR 08 08 12.3
comp=Z,212nm,18.8s,baz=267,slow=37
YAK Yakutsk 27.82 39 *i* P **P** **07 57 03.0 +1.9**
YAK pmax pmax
comp=Z,15nm,0.9s
YAK Yakutsk 27.82 39 P **P** **07 56 59.8 -1.3**
YAK IAmb IAmb 07 57 06.4
comp=Z,23nm,0.7s
KSRS Korea Array 28.28 93 P **P** **07 57 05.1 -0.4**
comp=Z,1.0nm,0.9s,baz=303,slow=12,SNR=2.6
KSRS LR LR 08 08 34.1
comp=Z,101nm,18.8s,baz=300,slow=37
USRK Ussuriysk Ar. 28.67 77 LR LR 08 08 48.0
comp=Z,255nm,19.0s,baz=275,slow=37
KIRV Kirov 28.76 313 LR LR 08 09 25.0
comp=Z,86nm,19.0s,baz=139,slow=38
QIZ Qiongzhong 30.12 143 P **P** **07 57 22.3 +0.3**
QIZ S **S** **08 02 22.3 +1.5**
QIZ LR LR
comp=Z,330nm,9.4s
QIZ LR LR
comp=Z,610nm,9.6s
QIZ LR LR
comp=Z,250nm,7.3s
MAK Makhachkala 31.38 282 *eP* **P** **07 57 30.4 -2.5**
MAK *eS* **S** **08 02 36.4 -3.7**
MAK pmax pmax
comp=Z,530nm,1.3s
MAK MLR MLR
comp=Z,361nm,15.0s
KLMR Klimovskoe 34.00 316 *eP* P 07 58 00.8 +5.2
KLMR *e* 07 59 16.4
KLMR pmax pmax
comp=Z,41nm,1.1s
KLMR MLR MLR
comp=Z,353nm,15.0s
KLMR Klimovskoe 34.00 316 *eP* P 07 58 00.8 +5.2
KLMR AMP 07 58 06.2
comp=Z,41nm,1.1s
KLMR *eP* **PP** **07 59 16.5 +4.1**
KLMR LR LR 08 09 43.7
KLMR AMP 08 12 04.6
comp=Z,353nm,14.9s
KBZ Khabaz 34.30 285 P P 07 58 04.3 +5.9
comp=Z,3.4nm,0.8s,baz=67,slow=13,SNR=5.5
GNI Garni 34.34 279 P **P** **07 57 59.3 +0.2**
GNI pmax pmax
comp=Z,22nm,1.3s
GNI Garni 34.34 279 P **P** **07 57 59.3 +0.2**
GNI IAmb IAmb 07 58 25.8
comp=Z,22nm,1.2s
KIV Kislovodsk 34.37 286 *eP* **P** **07 57 55.7 -3.5**
KIV pmax pmax
comp=Z,4.0nm,0.9s
KIV MLR MLR
comp=Z,225nm,16.0s
MOS Moscow 35.08 307 *eP* P 07 58 11.8 +6.8
MOS pmax pmax
comp=Z,33nm,1.0s
YSS Yuzh-Sakhalins 35.19 68 P **P** **07 58 06.3 +0.3**
OBN Obninsk 35.74 306 *eP* **P** **07 58 10.5 -0.2**
OBN *i* 07 58 17.9
OBN *e* 07 59 36.0
OBN *e*SS SS 08 06 10.6 -12
OBN pmax pmax
comp=Z,26nm,1.1s
OBN MLR MLR
comp=Z,124nm,14.0s
SOC Sochi 36.52 287 *eP* **P** **07 58 14.8 -2.7**
SOC *e* 07 59 36.7
SOC *e*S **S** **08 03 55.5 -4.1**
SOC *e*SS **SnSn** **08 06 24.0 -4.1**
SOC *e*SSS SSS 08 06 45.9
SOC MLR MLR
comp=Z,307nm,21.0s
MA2 Magadan 37.71 46 *ce*P **P** **07 58 29.4 +1.9**
MA2 pmax pmax
comp=Z,40nm,1.7s
ARCES ARCESS Array B 40.37 330 P **P** **07 58 49.2 -0.4**
comp=Z,1.3nm,0.9s,baz=95,slow=10.0,SNR=3.5
ARCES PcP **PcP** **08 00 51.9 -0.6**
comp=Z,3.8nm,1.1s,baz=76,slow=3.8,SNR=3.7
FINES FINESS Array B 40.49 318 P **P** **07 58 50.4 -0.2**
comp=Z,1.2nm,0.5s,baz=80,slow=7.3,SNR=11
FINES FINESS Array B 40.49 318 *ce*P **P** **07 58 51.7 +1.1**
FINES pmax pmax
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 41.02 301 P **P** **07 58 55.6 +0.4**
comp=Z,1.4nm,0.4s,baz=60,slow=8.5,SNR=4.2
AKASG Malin Array Be 41.02 301 *i* P **P** **07 58 57.7 +2.5**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
NACGM Naroch 41.32 308 *i* P P 07 59 05.2 +7.6
BRTR Keskin Array B 42.24 284 P **P** **07 59 07.7 +2.1**
comp=Z,0.3nm,0.4s,baz=93,slow=5.8,SNR=1.5
BILL Bilibino 43.68 32 *eP* **P** **07 59 18.2 +1.6**
BILL pmax pmax
comp=Z,8.0nm,1.0s
BURAR Bucovina Array 44.54 298 P **P** **07 59 22.5 -1.4**
OJC Ojcow 46.84 303 *eP* P 07 59 48.4 +6.4
NIE Niedzica 46.86 302 *eP* P 07 59 50.0 +7.9
NC405 NORSAR Array S 47.31 319 P **P** **07 59 45.3 -0.2**
NB2 NORSAR Subarra 47.57 319 P **P** **07 59 46.5 -1.0**
comp=Z,4.9nm,0.7s,baz=67,slow=7.9
NOA NORSAR Array B 47.57 319 P **P** **07 59 47.0 -0.5**
comp=Z,1.0nm,0.7s,baz=66,slow=7.4,SNR=3.7
NOA NORSAR Array B 47.57 319 P **P** **07 59 47.0 -0.5**
DAV Davao City (W) 48.04 131 LR LR 08 20 15.7
comp=Z,78nm,18.7s,baz=188,slow=36
KRLC Kraliky 48.68 304 *eP* P 08 00 02.2 +5.9
KRLC Kraliky 48.68 304 *eP* P 08 00 02.2 +5.9
UPC Upice 48.95 305 *eP* P 08 00 04.7 +6.4
UPC Upice 48.95 305 *eP* P 08 00 04.7 +6.4
BRG Berggiesshubel 49.99 306 *eP* P 08 00 12.4 +6.2
BRG Amp 08 00 23.7
comp=Z,7.8nm,1.4s
CONA Conrad Observa 50.15 302 P **P** **08 00 10.5 +2.9**
comp=Z,6.6nm,1.0s
CLL Collm 50.34 307 *eP* **P** **08 00 10.0 +1.2**
CLL *e* 08 00 16.0
comp=Z,9.0nm,1.2s
CLL *e* 08 01 35.0
CLL *e*PP **PP** **08 02 08.0 +4.0**
CLL Collm 50.34 307 *eP* **P** **08 00 10.0 +1.2**
CLL *e* 08 00 16.0
CKRC Cesky Krumlov 50.68 304 *eP* P 08 00 18.2 +6.7
KHC Kasperske Hory 50.97 304 *eP* **P** **08 00 15.2 +1.5**
KHC Kasperske Hory 50.97 304 *eP* **P** **08 00 15.2 +1.5**
GERES GERESS Array B 51.03 304 P **P** **08 00 16.4 +2.3**
comp=Z,0.4nm,0.6s,baz=60,slow=10,SNR=4.5
SOKA Soboth 51.23 301 *eP* P 08 00 20.8 +5.1
comp=Z,5.3nm,1.1s
KBA Koelnbreinsper 52.06 302 *eP* **P** **08 00 26.4 +4.4**
comp=Z,3.8nm,1.2s
ABTA Abfaltersbach 52.72 302 *eP* **P** **08 00 31.4 +4.6**
comp=Z,2.5nm,0.7s
WTTA Wattenberg 52.99 303 *eP* **P** **08 00 32.0 +3.0**
comp=Z,2.9nm,0.6s
WATA Walderalm 52.99 303 *eP* **P** **08 00 30.9 +2.0**
comp=Z,6.3nm,1.3s
MOTA Moosalm 53.27 303 *eP* **P** **08 00 35.2 +4.2**
comp=Z,6.7nm,1.2s
RETA Reutte 53.40 304 *eP* P 08 00 36.7 +4.9
comp=Z,4.9nm,1.1s
FETA Feichten 53.65 303 *eP* P 08 00 39.8 +6.0
comp=Z,9.2nm,1.1s

ILAR	**Eielson Array**	**61.47**	**25**	P		**P**	**08 01 26.6**	**-1.8**
	comp=Z,1.4nm,1.0s,baz=306,slow=4.4,SNR=9.1							
INK	**Inuvik**	**62.09**	**17**	P		**P**	**08 01 30.7**	**-1.7**
	comp=Z,1.9nm,0.8s,baz=291,slow=8.6,SNR=5.9							
M27K	**Edge Creek, AK**	**64.77**	**24**	P		**P**	**08 01 50.1**	**-0.4**
KMBO	**Kilima Mbogo**	**66.36**	**242**	P		**P**	**08 02 01.5**	**0.0**
	comp=Z,1.6nm,0.8s,baz=50,slow=5.9,SNR=4.2							
KMBO	**Kilima Mbogo**	**66.36**	**242**	*ce*P		**P**	**08 02 00.9**	**-0.6**
KMBO				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ESDC	**Sonseca Array**	**66.61**	**303**	P		**P**	**08 02 04.2**	**+1.5**
	comp=Z,0.5nm,0.7s,baz=40,slow=5.2,SNR=4.6							
WRAB	**Tennant Creek**	**75.55**	**139**	*ce*P		**P**	**08 02 56.9**	**0.0**
WRAB				pmax	pmax			
	comp=Z,11nm,1.3s							
WRAB	**Tennant Creek**	**75.55**	**139**	P		**P**	**08 02 56.4**	**-0.5**
WRAB				IAmb	IAmb		08 03 07.9	
	comp=Z,8.6nm,0.8s							
WRA	**Warramunga Arr**	**75.56**	**139**	P		**P**	**08 02 56.4**	**-0.5**
	comp=Z,3.4nm,1.0s,baz=327,slow=3.9,SNR=12							
WRA	**Warramunga Arr**	**75.56**	**139**	P		**P**	**08 02 55.9**	**-0.9**
WB2	**Warramunga Arr**	**75.56**	**139**	P		**P**	**08 02 56.1**	**-0.8**
WB2				IAmb	IAmb		08 03 07.9	
	comp=Z,12nm,0.9s							
WR0	**Warramunga Arr**	**75.67**	**138**	P		**P**	**08 02 56.7**	**-0.8**
WR0				IAmb	IAmb		08 03 08.4	
	comp=Z,8.4nm,0.9s							
ASAR	**Alice Springs**	**78.58**	**141**	P		**P**	**08 03 14.1**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=336,slow=4.7,SNR=13							
ASAR	**Alice Springs**	**78.58**	**141**	P		**P**	**08 03 13.5**	**-0.3**
LLLB	**Lillooet**	**80.44**	**21**	P		**P**	**08 03 22.3**	**-1.5**
TORD	**Torodi Ar. Bea**	**80.64**	**279**	P		**P**	**08 03 27.4**	**+2.1**
	comp=Z,0.3nm,0.6s,baz=75,slow=6.1,SNR=2.5							
PLVO	**Plevna**	**89.73**	**352**	P		**P**	**08 04 10.2**	**-0.2**
NVL	**N'lazarevskaya**	**128.53**	**205**	*e*P		**Pdif**	**08 07 06.2**	**+3.0**
NVL				pmax	pmax			
	comp=Z,17nm,1.1s							

MEX 13 07:55:35.9±1.3, 25°01N×109°55W, h16km±15km, MD3.6, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.75**	**38**	*i* P	Pg	07 55 47.4	-3.1
TSIG				*i* S	Sg	07 55 57.0	-3.4
LPIG	**La Paz**	**1.14**	**218**	*i* P	Pn	07 55 53.2	-3.9
LPIG				*i* S	Sb	07 56 06.9	-4.8
CSIG	**Choix**	**2.10**	**30**	*e*P	Pn	07 56 10.4	0.0
CSIG				*i* S	Sn	07 56 37.3	+1.0
SSIG	**Sanalona**	**2.19**	**94**	*e*P	Pn	07 56 09.6	-2.1
SSIG				*i* S	Sn	07 56 33.1	-5.4
MAIG	**Mazatlaan**	**3.38**	**122**	*e*P	Pg	07 56 42.0	+1.4
HPIG		**3.99**	**60**	*e*P	Pn	07 56 33.4	-3.1

NEIC ***13*** *07:57:33.5±2.5, 24.81N±0.07×109.51W±0.08, h10km±2km, mb5.3/462, Ms_20 5.7/371, Mwb5.5/9, Mww5.6, Md5.0/15(MEX), Mwc5.6(GCMT), Error ellipse: s-maj=13.0km s-min=11.6km az=79.0*

IDC ***13*** *07:57:34.8±0.6, 25.00N×109.32W, h0km, mb4.6/23, mb1 4.8/30, mb1mx4.7/48, mbtmp4.6/30, ML4.1/7, MS5.1/9, Ms1 5.1/9, ms1mx4.8/59, Error ellipse: s-maj=15.3km s-min=10.4km az=62.0*

BGR ***13*** *07:57:34.0±0.0, 25.75N×110.07W, h10km, mb5.3, Ms5.7*

MOS ***13*** *07:57:36.6±1.1, 25.11N×109.20W, h13km, mb5.5/36, MS5.3/13, Error ellipse: s-maj=7.7km s-min=5.9km az=92.8*

GCMT ***13*** *07:57:37.6±0.2, 25.01N±0.01×109.45W±0.01, h20km±1km, MW5.6/98, Moment Tensor Solution. s98,c150; s98,c180; Duration: 1s6 Moment tensor: Scale 10¹⁷Nm; Mrr-0.28±.06; Mθθ-3.08±.06; Mϕϕ3.36±.07; Mrθ-0.70±.13; Mθϕ-0.80±.05; Mϕr-0.29±.12; Best double couple: M₀3.40900×10¹⁷ NP1:ϕ₁129.00000°, δ78.00000°, λ-173.00000°. NP2:ϕ₂37.00000°, δ83.00000°, λ-12.00000°. Principal axes: T 3.4680, Plg3.0000°, Azm83.0000°; N -0.1150, Plg76.0000°, Azm187.0000°; P -3.3490, Plg13.0000°, Azm353.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***13*** *07:57:38, 24.98N×109.41W, h22km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-0.29; Mθθ-3.44; Mϕϕ 3.74; Mrθ-0.09; Mθϕ-0.97; Mϕr 0.15; Fault plane solution: M₀3.73000×10¹⁷ NP1:ϕ₁37.00000°, δ88.00000°, λ1.00000°. NP2:ϕ₂307.00000°, δ89.00000°, λ178.00000°. Principal axes: T 3.8733, Plg2.0000°, Azm262.0000°; N -0.2992, Plg88.0000°, Azm111.0000°; P -3.5742, Plg1.0000°, Azm352.0000°;*

NEIC ***13*** *07:57:38.2, 25.07N×109.20W, h8km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-0.63; Mθθ-1.87; Mϕϕ 2.50; Mrθ-0.26; Mθϕ-1.28; Mϕr-0.37; Fault plane solution: M₀2.63000×10¹⁷ NP1:ϕ₁120.22000°, δ78.08000°, λ-174.82000°. NP2:ϕ₂29.14000°, δ84.93000°, λ-11.97000°. Principal axes: T 2.8711, Plg5.0000°, Azm75.0000°; N -0.5768, Plg77.0000°, Azm187.0000°; P -2.2942, Plg12.0000°, Azm344.0000°;*

NEIC ***13*** *07:57:42, 24.90N×109.51W, h22km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.24; Mθθ-3.06; Mϕϕ2.86; Mrθ-0.32; Mθϕ-0.73; Mϕr0.83; Fault plane solution: M₀3.18000×10¹⁷ NP1:ϕ₁39.00000°, δ76.00000°, λ9.00000°. NP2:ϕ₂307.00000°, δ81.00000°, λ166.00000°. Principal axes: T 3.2022, Plg16.0000°, Azm262.0000°; N -0.0391, Plg73.0000°, Azm97.0000°; P -3.1632, Plg4.0000°, Azm354.0000°;*

ISC 13 07:57:35.5±0.3, 24.91N±0.04×109.45W±0.04, h10km, n1038, σ1971/746, mb5.3/206, MS5.6/199, 8C-3D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.12**	**224**	Pg	**Pb**	**07 57 53.2**	**-3.7**
	859nm,0.3s,baz=34,slow=7.3,SNR=32						
LPIG				Lg	Lg	07 58 06.2	
	2μm,0.3s,baz=299,slow=17,SNR=20						
SLBS	**Sierra La Lagu**	**1.29**	**200**	Pn	**Pb**	**07 57 56.1**	**-3.9**
SLBS				Sn	**Sn**	**07 58 12.4**	**-4.8**
MAIG	**Mazatlaan**	**3.25**	**121**		**Pb**	**07 58 31.1**	**-2.3**
SRIG	**Santa Rosalia**	**3.47**	**314**		**Pn**	**07 58 28.0**	**-1.7**
HPIG		**3.96**	**59**	Pn	**Pn**	**07 58 35.3**	**-1.3**
HSIG		**4.31**	**342**	Pn	**Pn**	**07 58 38.3**	**-2.9**
CGIG		**5.59**	**13**		**Pn**	**07 58 58.4**	**-0.6**
319A	**Douglas**	**6.45**	**1**		**Pn**	**07 59 08.0**	**-2.7**
ZAIG	**Zacatecas**	**6.65**	**107**	Pn	**Pn**	**07 59 12.2**	**-1.5**
TX31	**Lajitas Ar. Si**	**6.78**	**48**		**Pn**	**07 59 13.0**	**-2.2**
TX32	**Lajitas Array**	**6.78**	**48**		**Pn**	**07 59 12.8**	**-2.5**
TXAR	**Lajitas Array**	**6.78**	**48**	Pn	**Pn**	**07 59 12.5**	**-2.8**
	4.9nm,0.3s,baz=224,slow=13,SNR=63						
TXAR				Sn	**Sn**	**08 00 28.1**	**-4.6**
	24nm,0.3s,baz=214,slow=21,SNR=10						
TXAR				Lg	Lg	08 01 05.4	
	30nm,0.3s,baz=243,slow=26,SNR=5.5						
TXAR				LR	LR	08 01 38.3	
	comp=Z,9μm,18.1s,baz=0.0,slow=37						
TXAR	**Lajitas Array**	**6.78**	**48**	P	**Pn**	**07 59 12.8**	**-2.5**
TXAR	**Lajitas Array**	**6.78**	**48**	Pn	**Pn**	**07 59 12.8**	**-2.5**
TUC	**Tucson**	**7.47**	**351**	P	**Pn**	**07 59 21.6**	**-3.1**
TUC	**Tucson**	**7.47**	**351**	Pn	**Pn**	**07 59 21.6**	**-3.1**
TUC	**Tucson**	**7.47**	**351**	P	**Pn**	**07 59 22.5**	**-2.2**
	baz=169						
214A	**Organ Pipe Nat**	**7.62**	**338**		**Pn**	**07 59 23.9**	**-2.8**
214A	**Organ Pipe Nat**	**7.62**	**338**	P	**Pn**	**07 59 25.4**	**-1.3**
	baz=154,SNR=16						
MNTX	**Cornudas Mount**	**7.66**	**27**	Pn	**Pn**	**07 59 25.2**	**-2.0**
MNTX	**Cornudas Mount**	**7.66**	**27**	P	**Pn**	**07 59 24.1**	**-3.1**
	baz=208,SNR=9.3						
121A	**Cookes Peak, D**	**7.74**	**11**	Pn	**Pn**	**07 59 26.0**	**-2.5**
121A	**Cookes Peak, D**	**7.74**	**11**	P	**Pn**	**07 59 26.1**	**-2.3**
	baz=190,SNR=48						
113A	**Mohawk Valley,**	**8.70**	**335**		**Pn**	**07 59 41.6**	**+0.1**
GUVIX	**Guadalupe Vict**	**8.87**	**327**	Pn	**Pn**	**07 59 39.9**	**-3.9**
CPBX	**Cerro Prieto**	**9.08**	**327**		**Pn**	**07 59 43.2**	**-3.5**
GLA	**Glamis**	**9.38**	**331**	P	**Pn**	**07 59 48.8**	**-2.1**
GLA	**Glamis**	**9.38**	**331**		**Pn**	**07 59 48.8**	**-2.1**
GLA	**Glamis**	**9.38**	**331**	P	**Pn**	**07 59 49.2**	**-1.6**
	baz=147,SNR=13						
Y22D	**IRIS PASSCAL I**	**9.40**	**13**		**Pn**	**07 59 50.5**	**-0.7**
Y22D	**IRIS PASSCAL I**	**9.40**	**13**	P	**Pn**	**07 59 51.5**	**+0.3**
	baz=193,SNR=30						
CCX	**Cicese**	**9.40**	**319**		**Pn**	**07 59 49.1**	**-2.0**
LENM	**Lemitar**	**9.48**	**13**		**Pn**	**07 59 48.5**	**-3.8**
Y14A	**Wickenburg**	**9.52**	**342**		**Pn**	**07 59 50.8**	**-1.9**
BNM	**Barren Site**	**9.54**	**14**		**Pn**	**07 59 52.4**	**-0.7**
X18A	**Snowflake**	**9.60**	**358**		**Pn**	**07 59 54.1**	**+0.1**
RMX	**La Rumorosa**	**9.62**	**324**		**Pn**	**07 59 51.9**	**-2.4**
833A	**Chaparral WMA,**	**9.62**	**67**	P	**Pn**	**07 59 51.6**	**-2.5**
	baz=252,SNR=63						
X16A	**Lo Mia Camp, P**	**9.63**	**350**		**Pn**	**07 59 53.3**	**-1.2**
IKP	**In-Ko-Pah, Jac**	**9.67**	**324**	P	**Pn**	**07 59 55.0**	**+0.1**
	baz=139,SNR=24						
CBX	**Cerro Bola**	**9.72**	**321**		**Pn**	**07 59 57.5**	**+1.9**
SWSC	**Sam W. Stewart**	**9.75**	**327**	P	**Pn**	**07 59 54.5**	**-1.3**
	baz=142,SNR=8.3						
TJIG	**Tijuana**	**9.82**	**321**		**Pn**	**07 59 58.2**	**+1.4**
TKX	**Tecate**	**9.88**	**322**		**Pn**	**08 00 00.5**	**+2.8**
BAR	**Barrett**	**10.00**	**322**	Pn	**Pn**	**08 00 02.0**	**+2.7**
MONP2	**Monument Peak**	**10.03**	**324**	P	**Pn**	**08 00 01.5**	**+1.6**
	baz=139,SNR=35						
BC3	**Big Chuckawall**	**10.17**	**330**	P	**Pn**	**08 00 01.4**	**-0.3**
	baz=146,SNR=27						
W18A	**Petrified Fore**	**10.18**	**359**		**Pn**	**08 00 03.6**	**+1.7**
W18A	**Petrified Fore**	**10.18**	**359**	P	**Pn**	**08 00 02.7**	**+0.8**
	baz=177,SNR=34						
JCT	**Junction City**	**10.19**	**55**	P	**Pn**	**08 00 02.0**	**0.0**
JCT	**Junction City**	**10.19**	**55**		**Pn**	**08 00 02.0**	**0.0**
JCT	**Junction City**	**10.19**	**55**	P	**Pn**	**07 59 60.0**	**-2.0**
	baz=240,SNR=67						
PDMCI	**Parker Dam,Lak**	**10.21**	**338**	P	**Pn**	**08 00 00.9**	**-1.3**
	baz=154,SNR=23						
ANMO	**Albuquerque**	**10.34**	**14**	Pn	**Pn**	**08 00 04.1**	**0.0**
	0.5nm,0.3s,baz=196,slow=13,SNR=75						
ANMO				Lg	Lg	08 03 00.5	
	1.0nm,0.3s,baz=78,slow=19,SNR=3.3						
ANMO				LR	LR	08 04 35.0	
	comp=Z,10μm,19.2s,baz=190,slow=41						
ANMO	**Albuquerque**	**10.34**	**14**	*de*P	**Pn**	**08 00 05.3**	**+1.2**
ANMO				pmax	pmax		
	comp=Z,336nm,2.5s						
ANMO	**Albuquerque**	**10.34**	**14**	Pn	**Pn**	**08 00 05.1**	**+1.0**
109C	**Camp Elliot, M**	**10.40**	**322**		**Pn**	**08 00 07.1**	**+2.3**
109C	**Camp Elliot, M**	**10.40**	**322**	P	**Pn**	**08 00 04.3**	**-0.4**
	baz=136						
IRM	**Iron Mountain**	**10.46**	**333**	P	**Pn**	**08 00 04.9**	**-0.8**
	baz=149,SNR=38						
TPFO	**Pinon Flats**	**10.60**	**326**	P	**Pn**	**08 00 09.6**	**+1.9**
	baz=141,SNR=38						
PFO	**Pinyon Flats O**	**10.61**	**326**	Pn	**Pn**	**08 00 09.9**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=143,slow=13,SNR=32						
PFO				Sn	Sn	08 02 22.4	+16
	comp=Z,0.1nm,0.3s,baz=215,slow=17,SNR=1.5						
PFO	**Pinyon Flats O**	**10.61**	**326**	P	**Pn**	**08 00 10.6**	**+2.8**
PFO	**Pinyon Flats O**	**10.61**	**326**		**Pn**	**08 00 10.6**	**+2.8**
PFO	**Pinyon Flats O**	**10.61**	**326**	P	**Pn**	**08 00 08.7**	**+0.9**
	baz=141,SNR=38						
BELC	**Belle Mtn. Jos**	**10.71**	**329**	P	**Pn**	**08 00 08.8**	**-0.3**
	baz=144,SNR=16						
WUAZ	**Wupatki**	**10.71**	**352**	Pn	**Pn**	**08 00 09.4**	**+0.3**
WUAZ	**Wupatki**	**10.71**	**352**	P	**Pn**	**08 00 10.7**	**+1.6**
	baz=169,SNR=24						
KVTX	**Kingsville**	**10.71**	**73**		**Pn**	**08 00 07.6**	**-1.4**
MSTX	**Muleshoe**	**10.74**	**31**		**Pn**	**08 00 10.3**	**+0.8**
MSTX	**Muleshoe**	**10.74**	**31**	P	**Pn**	**08 00 10.4**	**+0.8**
	baz=214,SNR=11						
NEE2	**Needles Airpor**	**10.80**	**337**	P	**Pn**	**08 00 10.7**	**+0.5**
	baz=153						
W13A	**Hualapai Mount**	**10.86**	**340**		**Pn**	**08 00 11.8**	**+0.6**
MURC	**Murrieta**	**10.98**	**324**	P	**Pn**	**08 00 14.0**	**+1.2**
	baz=138,SNR=8.9						
UNM	**Universidad Na**	**11.02**	**118**	P	**Pn**	**08 00 14.5**	**+0.9**
UNM	**Universidad Na**	**11.02**	**118**	Pn	**Pn**	**08 00 14.5**	**+0.9**
735A	**Kenedy**	**11.11**	**67**		**Pn**	**08 00 13.8**	**-0.7**
SCI2	**San Clemente I**	**11.31**	**317**	P	Pn	08 00 21.8	+4.5
	baz=131						
BBRC	**Big Bear Solar**	**11.36**	**327**	P	**Pn**	**08 00 20.9**	**+2.8**
	baz=142,SNR=13						
CIS	**Catalina Islan**	**11.53**	**319**	P	**Pn**	**08 00 20.5**	**+0.3**
	baz=133						
ABTX	**Abilene, Hawle**	**11.54**	**46**		**Pn**	**08 00 19.2**	**-1.1**
ABTX	**Abilene, Hawle**	**11.54**	**46**	P	**Pn**	**08 00 18.1**	**-2.2**
	baz=231,SNR=23						
HEC	**Hector,Ludlow**	**11.55**	**331**	P	**Pn**	**08 00 21.9**	**+1.4**
	baz=146,SNR=5.7						
FMP	**Fort Macarthur**	**11.68**	**321**	P	Pn	08 00 26.9	+4.6
	baz=135						
TUQ	**Turquoise Moun**	**11.89**	**333**	P	**Pn**	**08 00 26.1**	**+0.8**
	baz=149,SNR=23						
RRX	**Edison Barstow**	**11.89**	**328**	P	**Pn**	**08 00 26.5**	**+1.3**
	baz=143						
MWC	**Mount Wilson**	**11.92**	**323**	P	**Pn**	**08 00 27.5**	**+1.7**
MWC	**Mount Wilson**	**11.92**	**323**		**Pn**	**08 00 27.5**	**+1.7**
PASC	**Pasadena Art C**	**11.95**	**323**		**Pn**	**08 00 27.7**	**+1.7**
AMTX	**Amarillo**	**12.01**	**32**	Pn	**Pn**	**08 00 26.5**	**-0.4**
AMTX	**Amarillo**	**12.01**	**32**	P	**Pn**	**08 00 25.4**	**-1.5**
	baz=216						
435B	**Jarrell**	**12.02**	**58**	Pn	**Pn**	**08 00 25.7**	**-1.3**
435B	**Jarrell**	**12.02**	**58**	P	**Pn**	**08 00 24.9**	**-2.0**
	baz=244,SNR=32						
DECC	**Green Verdugo**	**12.10**	**322**	P	**Pn**	**08 00 29.4**	**+1.3**
	baz=137						
GSC	**Goldstone, Bar**	**12.15**	**330**	P	**Pn**	**08 00 31.2**	**+2.4**
GSC	**Goldstone, Bar**	**12.15**	**330**		**Pn**	**08 00 31.2**	**+2.4**
GSC	**Goldstone, Bar**	**12.15**	**330**	P	**Pn**	**08 00 29.2**	**+0.4**
	baz=145,SNR=32						
MVCO	**Mesa Verde**	**12.29**	**4**	Pn	**Pn**	**08 00 31.4**	**+0.5**
MVCO	**Mesa Verde**	**12.29**	**4**	P	**Pn**	**08 00 32.0**	**+1.1**
	baz=183,SNR=25						
EDW2	**Edwards Air Fo**	**12.39**	**325**	P	**Pn**	**08 00 33.5**	**+1.4**
	baz=140,SNR=24						
SHOC	**Shoshone, Teco**	**12.43**	**333**	P	**Pn**	**08 00 34.2**	**+1.6**
	baz=149,SNR=27						
LCMT	**Little Creek M**	**12.50**	**346**		**Pn**	**08 00 34.9**	**+1.3**
SHPR	**Sheep Range**	**12.56**	**338**		**Pn**	**08 00 36.1**	**+1.7**
OSI	**Osito Audit: C**	**12.58**	**322**		**Pn**	**08 00 36.6**	**+1.9**
OSI	**Osito Audit: C**	**12.58**	**322**	P	**Pn**	**08 00 36.0**	**+1.3**
	baz=136						
WHTX	**Lake Whitney,**	**12.69**	**54**		**Pn**	**08 00 34.1**	**-2.0**
WHTX	**Lake Whitney,**	**12.69**	**54**	P	**Pn**	**08 00 33.5**	**-2.6**
	baz=239,SNR=14						
LRMC	**Laurel Mtn Rad**	**12.71**	**328**	P	**Pn**	**08 00 38.6**	**+2.1**
	baz=142,SNR=34						
PKCU	**Pink Cliffs**	**12.73**	**350**		**Pn**	**08 00 33.8**	**-3.2**
T25A	**Trinidad**	**12.93**	**18**		**Pn**	**08 00 39.2**	**-0.4**
T25A	**Trinidad**	**12.93**	**18**	P	**Pn**	**08 00 40.3**	**+0.7**
	baz=200,SNR=5.7						
S22A	**4UR Ranch, Cre**	**12.99**	**9**	P	**Pn**	**08 00 42.0**	**+1.4**
	baz=190,SNR=14						
ARVC	**Arvin**	**13.02**	**324**	P	**Pn**	**08 00 42.2**	**+1.5**
	baz=138,SNR=32						
SBC	**Santa Barbara**	**13.02**	**319**	P	**Pn**	**08 00 42.3**	**+1.6**
	baz=133						
SZCU	**Shurtz Canyon**	**13.02**	**347**		**Pn**	**08 00 43.2**	**+2.3**
CCUT	**Cedar City**	**13.04**	**346**		**Pn**	**08 00 43.3**	**+2.2**
MPMC	**Manual Prospec**	**13.09**	**330**	P	**Pn**	**08 00 43.0**	**+1.3**
	baz=145,SNR=92						
HKT	**Hockley**	**13.10**	**64**	*ic*P	**Pn**	**08 00 40.1**	**-1.5**
HKT				pmax	pmax		
	comp=Z,193nm,1.5s						
HKT	**Hockley**	**13.10**	**64**	Pn	**Pn**	**08 00 40.1**	**-1.5**
FURC	**Furnace Creek,**	**13.16**	**333**	P	**Pn**	**08 00 44.9**	**+2.3**
	baz=148,SNR=29						
PV01	**Paradox Valley**	**13.21**	**3**		**Pn**	**08 00 40.7**	**-2.7**
SDCO	**Great Sand Dun**	**13.24**	**14**		**Pn**	**08 00 43.4**	**-0.4**
SDCO	**Great Sand Dun**	**13.24**	**14**	P	**Pn**	**08 00 44.7**	**+0.9**
	baz=195,SNR=28						
ISA	**Isabella, Lake**	**13.25**	**326**	P	**Pn**	**08 00 45.5**	**+1.7**
ISA	**Isabella, Lake**	**13.25**	**326**	Pn	**Pn**	**08 00 45.5**	**+1.7**
ISA	**Isabella, Lake**	**13.25**	**326**	P	**Pn**	**08 00 45.4**	**+1.7**
	baz=140,SNR=68						
MTPU	**Mount Pierson**	**13.30**	**351**		**Pn**	**08 00 47.1**	**+2.4**
TPNV	**Topopah Spring**	**13.34**	**336**	P	**Pn**	**08 00 48.0**	**+2.9**
TPNV	**Topopah Spring**	**13.34**	**336**	Pn	**Pn**	**08 00 48.0**	**+2.9**
TPNV	**Topopah Spring**	**13.34**	**336**	P	**Pn**	**08 00 47.8**	**+2.6**
	baz=151,SNR=60						
PRN	**Pahroc Range**	**13.35**	**340**		**Pn**	**08 00 46.5**	**+1.3**
PV11	**David Mesa, Pa**	**13.36**	**2**		**Pn**	**08 00 45.4**	**-0.1**
PKM	**Mcpherson Peak**	**13.40**	**320**	P	**Pn**	**08 00 46.8**	**+0.9**
	baz=134,SNR=7.6						
PV14	**Lion Creek, Pa**	**13.43**	**1**		**Pn**	**08 00 47.0**	**+0.5**
PV04	**Paradox Valley**	**13.46**	**2**		**Pn**	**08 00 46.4**	**-0.4**
WMOK	**Wichita Mounta**	**13.47**	**41**	P	**Pn**	**08 00 45.2**	**-1.6**
WMOK	**Wichita Mounta**	**13.47**	**41**		**Pn**	**08 00 45.2**	**-1.6**
WMOK	**Wichita Mounta**	**13.47**	**41**	P	**Pn**	**08 00 44.4**	**-2.4**
	baz=226,SNR=21						
Z35A	**Perchaven, San**	**13.56**	**49**		**Pn**	**08 00 45.8**	**-2.2**
CWC	**Cottonwood Cre**	**13.68**	**329**	P	**Pn**	**08 00 52.4**	**+2.7**
	baz=144						
VES	**Vestal, Richgr**	**13.70**	**325**	P	**Pn**	**08 00 49.7**	**-0.2**
	baz=139,SNR=28						
SMMC	**Simmler**	**13.80**	**321**	P	**Pn**	**08 00 52.5**	**+1.1**
	baz=135						
GRAC	**Grapevine Rang**	**13.82**	**333**	P	**Pn**	**08 00 54.2**	**+2.6**
	baz=147,SNR=12						
TCRU	**Three Creeks R**	**13.90**	**350**		**Pn**	**08 00 54.6**	**+1.8**
237A	**Washetta, Mont**	**13.92**	**56**		**Pn**	**08 00 50.9**	**-2.0**
X34A	**Smith Ranch, M**	**13.96**	**44**		**Pn**	**08 00 52.5**	**-0.9**
LOOK	**Love County**	**14.00**	**47**		**Pn**	**08 00 52.9**	**-1.2**
Q16A	**Castle Valley**	**14.05**	**354**		**Pn**	**08 00 55.8**	**+1.0**
VOG	**Valley Oaks Go**	**14.22**	**325**	P	**Pn**	**08 00 57.6**	**+0.6**
	baz=139						
TIN	**Tinemaha, Big**	**14.25**	**330**	P	P	08 00 59.8	-5.1
	baz=145,SNR=12						
R11A	**Troy Canyon, C**	**14.38**	**340**	P	**Pn**	**08 01 00.3**	**+1.0**
	baz=156,SNR=52						
Q24A	**Divide**	**14.48**	**14**	P	**Pn**	**08 01 00.7**	**-0.1**
	baz=195,SNR=7.0						
SPR3	**Spring Creek 3**	**14.64**	**345**	Pn	**Pn**	**08 01 03.8**	**+0.7**
NATX	**Nacogdoches**	**14.70**	**59**		**Pn**	**08 01 02.3**	**-1.3**
NATX	**Nacogdoches**	**14.70**	**59**	P	**Pn**	**08 01 00.8**	**-2.7**
	baz=246,SNR=8.4						
OKCFA	**Oklahoma City**	**14.73**	**42**		**Pn**	**08 01 02.5**	**-1.6**
OK025	**Westminster Rd**	**14.91**	**42**		**Pn**	**08 01 05.5**	**-0.9**
OK025				IAmb	IAmb	08 01 30.2	
	comp=Z,181nm,1.4s						
OK029	**Liberty Lake**	**14.99**	**41**	IAmb	IAmb	08 01 33.4	
	comp=Z,107nm,1.1s						
MLAC	**Mammoth, Mammo**	**15.00**	**330**	P	**P**	**08 01 10.0**	**-3.3**
	baz=144,SNR=29						
MDPB	**Devils Postpil**	**15.11**	**329**	IAmb	IAmb	08 01 24.7	
	comp=Z,113nm,1.5s						
ISCO	**Idaho Springs**	**15.20**	**11**	IAmb	IAmb	08 01 39.8	
	comp=Z,133nm,1.4s						
ISCO	**Idaho Springs**	**15.20**	**11**	P	**Pn**	**08 01 11.6**	**+1.1**
	baz=193,SNR=38						
KSCO	**Kaye Shedlock'**	**15.20**	**21**	IAmb	IAmb	08 01 27.3	
	comp=Z,125nm,1.1s						
KSCO	**Kaye Shedlock'**	**15.20**	**21**	P	**Pn**	**08 01 10.1**	**-0.3**
	baz=204						
O20A	**White River Ci**	**15.22**	**4**	IAmb	IAmb	08 01 19.0	
	comp=Z,200nm,1.4s						
O20A	**White River Ci**	**15.22**	**4**	P	**Pn**	**08 01 11.0**	**+0.3**
	baz=183,SNR=30						
OK032	**Salt Plains WL**	**15.28**	**36**	IAmb	IAmb	08 01 37.1	
	comp=Z,163nm,1.4s						
LHV	**Little Huntoon**	**15.37**	**332**	IAmb	IAmb	08 01 25.3	
	comp=Z,207nm,1.5s						
NV11	**Mina Array Sit**	**15.37**	**333**	IAmb	IAmb	08 01 21.3	
	comp=Z,118nm,1.2s						
NVAR	**Mina Array Bea**	**15.43**	**333**	Pn	**P**	**08 01 14.9**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=145,slow=12,SNR=60						
NVAR				Sn	**S**	**08 04 12.8**	**-8.0**
	comp=Z,0.0nm,0.3s,baz=149,slow=18,SNR=1.2						
NVAR				LR	LR	08 06 54.3	
	comp=Z,5μm,19.6s,baz=150,slow=36						
OK031	**S. Brethren Rd**	**15.46**	**42**	IAmb	IAmb	08 01 23.6	
	comp=Z,149nm,1.0s						
DUG	**Dugway, Tooele**	**15.51**	**350**	P	**Pn**	**08 01 14.9**	**+0.4**
	baz=168,SNR=46						
441A	**DeRidder**	**15.52**	**64**	IAmb	IAmb	08 01 21.6	
	comp=Z,205nm,1.1s						
KAN14	**Manchester OK**	**15.52**	**37**	IAmb	IAmb	08 01 27.3	
	comp=Z,124nm,0.9s						
X37A	**Clayton**	**15.56**	**48**	IAmb	IAmb	08 01 21.1	
	comp=Z,191nm,1.2s						
CMIG	**Matias Romero**	**15.66**	**117**	Pn	**P**	**08 01 16.7**	**-

LCAR	Lake Charles	19.27	50	IAmb	IAmb	08 02 04.0	
	comp=Z,231nm,1.4s						
HUEH	Huehuetenango	19.35	116	P	Pn	08 02 03.6	+0.9
HUEH				IAmb	IAmb	08 02 22.8	
	comp=Z,105nm,0.9s						
KMRM	Mail Ridge	19.39	325	P	Pn	08 02 05.2	+2.4
KMRM				IAmb	IAmb	08 02 12.4	
	comp=Z,274nm,1.5s						
146A	Union	19.45	62	IAmb	IAmb	08 02 14.4	
	comp=Z,315nm,1.2s						
H17A	Grant Village	19.46	358	P	Pn	08 02 04.5	+0.6
H17A	Grant Village	19.46	358	P	Pn	08 02 02.7	-1.1
	baz=176,SNR=14						
N02D	Trinity Center	19.47	329	P	Pn	08 02 04.8	+1.1
	baz=140						
RTAL	Retalhuleu	19.63	118	P	Pn	08 02 07.2	+1.5
LKWY	Lake	19.63	358	P	Pn	08 02 05.8	0.0
LKWY				pmax	pmax		
	comp=Z,63nm,1.1s						
LKWY	Lake	19.63	358	P	Pn	08 02 05.8	0.0
LPAR	Lepanto	19.65	53	P	Pn	08 02 04.9	-0.9
N35A	Tabor	19.65	33	IAmb	IAmb	08 02 22.8	
	comp=Z,289nm,1.4s						
RSSD	Black Hills	19.67	12	P	Pn	08 02 05.4	-0.9
RSSD				pmax	pmax		
	comp=Z,44nm,1.2s						
RSSD	Black Hills	19.67	12	P	Pn	08 02 05.4	-0.9
RSSD	Black Hills	19.67	12	P	P	08 02 03.8	-1.2
	baz=194						
M04C	Macdoel	19.72	332	P	Pn	08 02 05.5	-1.4
	baz=144,SNR=35						
K31A	O'Neill	19.75	24	P	Pn	08 02 07.5	+0.4
K31A				IAmb	IAmb	08 02 24.4	
	comp=Z,153nm,1.1s						
YMR	Madison River	19.75	357	IAmb	IAmb	08 02 36.4	
	comp=Z,131nm,1.2s						
R40A	Maddies Statio	19.76	43	P	Pn	08 02 06.0	-1.2
R40A				IAmb	IAmb	08 02 14.5	
	comp=Z,104nm,1.0s						
YMP	Mirror Lake Pl	19.80	359	IAmb	IAmb	08 02 35.8	
	comp=Z,136nm,1.4s						
OXF	Oxford	19.84	57	IAmb	IAmb	08 02 20.9	
	comp=Z,160nm,1.1s						
OXF	Oxford	19.84	57	P	P	08 02 05.7	-0.8
	baz=247,SNR=14						
J08A	Circle Bar Ran	19.84	340	IAmb	IAmb	08 02 25.1	
	comp=Z,208nm,1.4s						
M02C	Callahan	19.86	329	P	Pn	08 02 08.5	0.0
	baz=141						
GNAR	Gosnell	20.02	52	IAmb	IAmb	08 02 17.9	
	comp=Z,301nm,1.1s						
YBH	Yreka Blue Hor	20.07	330	P	Pn	08 02 09.9	-1.0
	comp=Z,2.8nm,0.7s,baz=108,slow=6.4,SNR=4.4						
YBH				LR	LR	08 09 51.4	
	comp=Z,2µm,19.9s,baz=169,slow=37						
YBH	Yreka Blue Hor	20.07	330	P	Pn	08 02 11.0	+0.1
YBH				pmax	pmax		
	comp=Z,33nm,1.4s						
YBH				MLR	MLR		
	comp=Z,3µm,18.0s						
YBH	Yreka Blue Hor	20.07	330	P	Pn	08 02 11.0	+0.1
K05A	Summer Lake	20.12	335	P	Pn	08 02 11.1	-0.5
K05A				IAmb	IAmb	08 02 37.4	
	comp=Z,369nm,1.5s						
RLMT	Red Lodge	20.17	0	P	Pn	08 02 11.6	-0.6
RLMT	Red Lodge	20.17	0	P	Pn	08 02 10.3	-1.9
	baz=180,SNR=16						
L34A	Svendsen Farm,	20.17	29	IAmb	IAmb	08 02 43.5	
	comp=Z,118nm,1.3s						
CCM	Cathedral Cave	20.27	45	P	P	08 02 11.1	-0.2
CCM				pmax	pmax		
	comp=Z,87nm,1.1s						
CCM				MLR	MLR		
	comp=Z,16µm,18.0s						
CCM	Cathedral Cave	20.27	45	P	P	08 02 11.1	-0.2
CCM	Cathedral Cave	20.27	45	IAMs_20	IAMs_20	08 09 21.6	
	comp=Z,16µm,18.0s						
CCM	Cathedral Cave	20.27	45	P	P	08 02 11.0	-0.3
	baz=235						
L04D	Klamath Falls	20.28	332	P	Pn	08 02 11.6	-1.8
	baz=144						
K04D	Chiloquin, OR	20.38	333	P	Pn	08 02 12.9	-1.7
	baz=145,SNR=11						
PENMO	Penman	20.53	51	IAmb	IAmb	08 02 29.2	
	comp=Z,198nm,0.8s						
PARMO	Parma	20.54	51	IAmb	IAmb	08 02 24.6	
	comp=Z,103nm,0.8s						
P40A	Paris	20.67	41	IAmb	IAmb	08 02 19.9	
	comp=Z,305nm,1.3s						
GLAT	Glass	20.68	52	IAmb	IAmb	08 02 19.0	
	comp=Z,318nm,1.3s						
BRAL	Brewton	20.72	67	P	Pn	08 02 16.6	-1.9
	baz=258,SNR=13						
BOZ	Bozeman (W)	20.72	356	P	P	08 02 14.8	-1.4
	baz=174,SNR=27						
J05D	Fort Rock, OR	20.73	335	P	P	08 02 15.9	-0.4
	baz=148,SNR=46						
I07A	Izee	20.82	339	IAmb	IAmb	08 02 34.3	
	comp=Z,132nm,1.4s						
N38A	Joes South For	20.84	37	IAmb	IAmb	08 02 30.0	
	comp=Z,370nm,1.5s						
PLAL	Pickwick Lake	21.03	57	IAmb	IAmb	08 02 28.3	
	comp=Z,192nm,1.4s						
PLAL				IAMs_20	IAMs_20	08 11 03.1	
	comp=Z,12µm,18.0s						
J04D	Umpqua Nationa	21.04	334	P	P	08 02 19.6	-0.1
	baz=146,SNR=9.0						
LRAL	Lakeview Retre	21.22	62	P	P	08 02 20.4	-1.2
	baz=254,SNR=113						
SLM	Saint Louis	21.26	45	IAmb	IAmb	08 02 33.5	
	comp=Z,294nm,1.4s						
K02D	Willamette Mer	21.26	330	P	P	08 02 22.0	0.0
	baz=141						
SUSD	Miller	21.28	21	P	P	08 02 21.4	-0.7
	baz=207						
S44A	Carbondale	21.40	49	IAmb	IAmb	08 02 24.9	
	comp=Z,137nm,1.2s						
SIUC	Southern Illin	21.44	49	IAmb	IAmb	08 02 35.9	
	comp=Z,84nm,0.8s						
ECSD	EROS Data Cent	21.52	26	IAmb	IAmb	08 02 46.1	
	comp=Z,105nm,1.2s						
ECSD	EROS Data Cent	21.52	26	P	P	08 02 25.4	+0.7
	baz=213,SNR=23						
ESQI	Esquipulas	21.52	115	P	P	08 02 27.3	+2.3
MTO3	Montecristo	21.59	115	P	P	08 02 27.4	+1.6
MTO3				IAmb	IAmb	08 02 30.8	
	comp=Z,72nm,0.9s						
I04A	Tendick Farm,	21.62	334	P	P	08 02 25.7	-0.1
	baz=146						
X48A	Hartselle	21.63	59	IAmb	IAmb	08 02 30.3	
	comp=Z,126nm,1.0s						
SCIA	State Center	21.64	34	IAmb	IAmb	08 02 34.7	
	comp=Z,144nm,1.0s						
SCIA	State Center	21.64	34	P	P	08 02 28.5	+2.4
	baz=223,SNR=6.8						
I05D	Terrebonne, OR	21.67	336	P	P	08 02 26.0	-0.4
	baz=149,SNR=18						
WVT	Waverly	21.68	54	P	P	08 02 26.0	-0.5
WVT				pmax	pmax		
	comp=Z,208nm,1.2s						
WVT				MLR	MLR		
	comp=Z,7µm,19.0s						
WVT	Waverly	21.68	54	P	P	08 02 26.0	-0.5
WVT				IAmb	IAmb	08 02 28.0	
	comp=Z,208nm,1.2s						
WVT	Waverly	21.68	54	P	P	08 02 25.7	-0.8
	baz=245						
J01E	Myrtle Point	21.75	330	P	P	08 02 29.4	+2.3
	baz=142						
LAO	LASA Array	21.89	6	IAmb	IAmb	08 02 45.0	
	comp=Z,202nm,1.4s						
LAO	LASA Array	21.89	6	P	P	08 02 27.6	-1.1
	baz=187,SNR=17						
F10A	Beach Ranch, E	21.93	345	IAmb	IAmb	08 02 31.6	
	comp=Z,159nm,1.5s						
Y49A	Blount Mountai	21.93	61	P	P	08 02 28.4	-0.8
Y49A				IAmb	IAmb	08 02 34.3	
	comp=Z,224nm,1.1s						
MSO	Missoula	22.17	352	IAmb	IAmb	08 02 47.2	
	comp=Z,152nm,1.4s						
MSO	Missoula	22.17	352	P	P	08 02 31.0	-0.8
	baz=168,SNR=28						
BUCK	Buck Mountain	22.18	334	IAmb	IAmb	08 02 46.3	
	comp=Z,181nm,1.5s						
V48A	Smith Brothers	22.27	56	IAmb	IAmb	08 02 40.4	
	comp=Z,142nm,1.1s						
H04A	Detroit Lake	22.28	335	P	P	08 02 33.1	+0.3
P43A	Skaggs, Pawnee	22.29	44	IAmb	IAmb	08 02 40.8	
	comp=Z,108nm,1.1s						
H04D	Lebanon	22.36	334	P	P	08 02 33.5	-0.1
	baz=146						
K38A	Parkersburg	22.41	34	IAmb	IAmb	08 02 48.6	
	comp=Z,214nm,1.2s						
G05D	Wamic, OR	22.45	338	P	P	08 02 34.2	-0.4
	baz=150,SNR=7.1						
I02D	Swisshome	22.47	332	P	P	08 02 36.1	+1.2
	baz=143						
352A	Blakely	22.56	68	P	P	08 02 35.9	-0.1
T47A	Sharon Grove	22.57	52	P	P	08 02 35.3	-0.8
T47A				IAmb	IAmb	08 02 54.7	
	comp=Z,79nm,0.9s						
COR	Corvallis	22.63	334	P	P	08 02 38.4	+1.8
COR				pmax	pmax		
	comp=Z,79nm,1.2s						
COR				MLR	MLR		
	comp=Z,2µm,20.0s						
COR	Corvallis	22.63	334	P	P	08 02 38.4	+1.8
COR				IAmb	IAmb	08 02 50.3	
	comp=Z,79nm,1.1s						
E09A	Wood Farm, Sta	22.66	344	IAmb	IAmb	08 02 50.1	
	comp=Z,102nm,1.3s						
OLIL	Olney	22.72	48	P	P	08 02 37.6	+0.1
E28A	Huff	22.73	16	IAmb	IAmb	08 02 47.6	
	comp=Z,147nm,1.1s						
SWET	Sewanee	22.75	58	P	P	08 02 37.6	-0.4
SWET				IAmb	IAmb	08 02 47.0	
	comp=Z,90nm,0.9s						
CLTN	Cedars of Leba	22.77	55	IAmb	IAmb	08 02 48.6	
	comp=Z,123nm,0.9s						
E08A	Dider Farm, El	22.87	343	P	P	08 02 39.2	+0.1
HAWA	Hanford	22.91	342	P	P	08 02 39.4	-0.1
HAWA				IAmb	IAmb	08 02 42.4	
	comp=Z,78nm,1.3s						
HDIL	Hopedale	22.96	42	P	P	08 02 39.7	-0.5
HDIL	Hopedale	22.96	42	P	P	08 02 39.3	-0.8
	baz=233,SNR=16						
F05D	White Salmon	23.06	338	P	P	08 02 39.7	-1.4
	baz=150,SNR=7.6						
EGMT	Eagleton	23.07	359	IAmb	IAmb	08 03 06.4	
	comp=Z,100nm,1.2s						
EGMT	Eagleton	23.07	359	P	P	08 02 40.2	-1.1
	baz=179,SNR=22						
G03D	McMinnville, O	23.14	335	P	P	08 02 41.2	-0.7
	baz=146						
O44A	Mansfield	23.24	44	IAmb	IAmb	08 03 02.3	
	comp=Z,116nm,1.3s						
U49A	Red Boiling Sp	23.35	55	IAmb	IAmb	08 03 02.3	
	comp=Z,76nm,1.1s						
F33A	5 Mile Ranch,	23.42	24	IAmb	IAmb	08 03 06.1	
	comp=Z,86nm,1.4s						
TGUH	Tegucigalpa,Un	23.49	113	eP	P	08 02 43.1	-2.7
TIGA	Tifton	23.68	68	P	P	08 02 45.3	-2.1
	baz=261,SNR=11						
WCI	Wyandotte Cave	23.71	50	P	P	08 02 48.0	+0.4
WCI				pmax	pmax		
	comp=Z,190nm,1.4s						
WCI				MLR	MLR		
	comp=Z,10µm,19.0s						
WCI	Wyandotte Cave	23.71	50	P	P	08 02 48.0	+0.4
WCI				IAmb	IAmb	08 02 55.1	
	comp=Z,190nm,1.4s						
WCI	Wyandotte Cave	23.71	50	IAMs_20	IAMs_20	08 12 18.0	
	comp=Z,10µm,19.0s						
WCI	Wyandotte Cave	23.71	50	P	P	08 02 46.0	-1.6
	baz=243						
P46A	Rosedale	23.77	47	P	P	08 02 48.2	0.0
F04D	Rainier, OR	23.77	336	P	P	08 02 47.5	-0.7
	baz=147						
Y52A	Lilburn	23.81	62	P	P	08 02 47.4	-1.3
DGMT	Dagmar	23.88	9	IAmb	IAmb	08 03 13.4	
	comp=Z,94nm,1.2s						
DGMT	Dagmar	23.88	9	IAMs_20	IAMs_20	08 12 36.8	
	comp=Z,11µm,18.0s						
DGMT	Dagmar	23.88	9	P	P	08 02 47.0	-2.3
	baz=191,SNR=7.6						
CPCT	Cooper Cave	23.92	58	P	P	08 02 49.4	-0.6
JFWS	Jewell Farm	23.92	37	P	P	08 02 49.2	-0.4
JFWS				pmax	pmax		
	comp=Z,181nm,1.2s						
JFWS	Jewell Farm	23.92	37	P	P	08 02 49.2	-0.4
JFWS	Jewell Farm	23.92	37	P	P	08 02 48.3	-1.3
	baz=227,SNR=38						
LON	Longmire	23.93	339	IAmb	IAmb	08 03 11.8	
	comp=Z,62nm,1.1s						
BLO	Bloomington	24.00	48	IAmb	IAmb	08 03 09.0	
	comp=Z,105nm,1.1s						
E04D	Cinebar	24.02	337	P	P	08 02 51.1	+0.6
	baz=149,SNR=8.2						
NEW	Newport	24.09	347	P	P	08 02 50.8	-0.4
	comp=Z,35nm,0.7s,baz=160,slow=10,SNR=50						
NEW				S	S	08 07 09.7	+1.0
	comp=Z,1.1nm,0.6s,baz=279,slow=19,SNR=0.8						
NEW				Lg	Lg	08 10 13.5	
	comp=Z,0.4nm,0.3s,baz=26,slow=8.4,SNR=1.2						
NEW	Newport	24.09	347	IAmb	IAmb	08 02 52.8	
	comp=Z,166nm,1.3s						
NEW	Newport	24.09	347	P	P	08 02 50.4	-0.8
	baz=162,SNR=57						
GOGA	Godfrey	24.18	63	IAmb	IAmb	08 02 52.8	
	comp=Z,175nm,1.4s						
GOGA	Godfrey	24.18	63	IAMs_20	IAMs_20	08 13 26.2	
	comp=Z,11µm,18.0s						
GOGA	Godfrey	24.18	63	P	P	08 02 50.0	-2.1
	baz=256,SNR=22						
MDND	Maddock	24.19	16	IAmb	IAmb	08 03 23.1	
	comp=Z,106nm,1.2s						
MDND	Maddock	24.19	16	P	P	08 02 50.0	-2.1
	baz=202						
T50A	Nancy	24.24	54	IAmb	IAmb	08 03 02.7	
	comp=Z,98nm,0.8s						
SFIN	Lafayette	24.24	45	P	P	08 02 51.1	-1.6
	baz=237,SNR=22						
SOR	Soroa	24.27	89	IAmb	IAmb	08 02 57.7	
	comp=Z,90nm,1.2s						
SPMN	Marine on St.	24.34	29	IAmb	IAmb	08 03 13.9	
	comp=Z,46nm,1.1s						
SPMN	Marine on St.	24.34	29	P	P	08 02 53.6	+0.2
	baz=219						
WALA	Waterton Lakes	24.36	353	P	P	08 02 54.0	+0.2
WALA				IAmb	IAmb	08 03 15.1	
	comp=Z,92nm,1.1s						
E03A	Lebam	24.37	336	IAmb	IAmb	08 03 13.4	
	comp=Z,154nm,1.3s						
D05A	Enumclaw	24.38	339	IAmb	IAmb	08 03 09.0	
	comp=Z,114nm,1.3s						
CRIN	San Cristobal	24.39	116	IAmb	IAmb	08 03 15.8	
	comp=Z,80nm,0.9s						
I40A	Norwalk	24.40	34	P	P	08 02 53.7	-0.4
I40A				IAmb	IAmb	08 03 03.1	
	comp=Z,76nm,0.9s						
R49A	Shelbyville	24.52	51	P	P	08 02 55.0	-0.2
F36A	Milaca	24.53	28	P	P	08 02 55.9	+0.7
TKL	Tuckaleechee C	24.56	58	P	P	08 02 55.7	0.0
	comp=Z,55nm,0.9s,baz=219,slow=8.6,SNR=48						
TKL				S	S	08 07 20.3	+3.8
	comp=Z,5.6nm,1.0s,baz=256,slow=8.3,SNR=1.3						
TKL				Lg	Lg	08 10 33.7	
	comp=Z,4.5nm,1.0s,baz=156,slow=10.0,SNR=3.6						
TKL				LR	LR	08 13 24.3	
	comp=Z,11µm,18.2s,baz=252,slow=39						
TKL	Tuckaleechee C	24.56	58	P	P	08 02 55.4	-0.2
TKL				pmax	pmax		
	comp=Z,165nm,1.1s						
TKL	Tuckaleechee C	24.56	58	P	P	08 02 55.4	-0.2
D04E	Lakebay	24.63	338	P	P	08 02 56.1	+0.1
	baz=149						
B08A	Colville Reser	24.67	344	IAmb	IAmb	08 03 06.8	
	comp=Z,66nm,1.4s						
C06D	Leavenworth	24.69	341	P	P	08 02 55.3	-1.4
	baz=154						
L44A	Lake County Fo	24.77	41	P	P	08 02 57.9	+0.5
	baz=233						
P48A	Milroy	24.88	49	IAmb	IAmb	08 03 15.8	
	comp=Z,112nm,1.2s						
TZTN	Tazewell	25.03	56	IAMs_20	IAMs_20	08 13 17.9	
	comp=Z,13µm,20.0s						
TZTN	Tazewell	25.03	56	P	P	08 02 59.1	-0.8
	baz=250,SNR=22						
R50A	Paris	25.12	52	IAmb	IAmb	08 03 09.5	
	comp=Z,109nm,1.1s						
MATN	Matagalpa	25.20	114	P	P	08 03 01.9	+0.3
NLWA	Neilton Lookou	25.20	337	IAmb	IAmb	08 03 10.1	
	comp=Z,89nm,1.5s						
DWPF	Disney Wildern	25.25	77	P	P	08 03 01.9	-0.1
DWPF	Disney Wildern	25.25	77	P	P	08 03 00.9	-1.0
	baz=270						
I42A	Draeger Farm,	25.29	36	P	P	08 03 02.0	-0.1
V53A	Saluda	25.31	59	P	P	08 03 02.6	+0.1
HODGE	Hodges	25.35	62	P	P	08 03 02.7	0.0
B05A	Bryant	25.36	340	P	P	08 03 03.9	+1.3
	baz=152						
S51A	Beattyville	25.39	54	IAmb	IAmb	08 03 05.2	
	comp=Z,93nm,0.9s						
P49A	Miami Univ. Ec	25.40	49	IAmb	IAmb	08 03 11.8	
	comp=Z,98nm,1.0s						
P49A	Miami Univ. Ec	25.40	49	P	P	08 03 03.2	0.0
	baz=242,SNR=8.3						
G40A	Rib Lake	25.59	33	IAmb	IAmb	08 03 15.1	
	comp=Z,58nm,1.2s						
AGMN	Agassiz Nation	25.69	21	P	P	08 03 06.9	+1.2
	baz=209,SNR=6.2						
A04D	Lummi Island	25.95	340	P	P	08 03 10.2	+2.2
	baz=151						
E38A	The Farm, Brul	25.96	29	IAmb	IAmb	08 03 18.7	
	comp=Z,65nm,1.4s						
O49A	Covington	25.97	48	IAmb	IAmb	08 03 36.9	
	comp=Z,41nm,0.9s						
PGC	Sidney	26.13	339	IAmb	IAmb	08 03 14.8	
	comp=Z,118nm,1.5s						
JSC	Jenkinsville	26.16	63	IAmb	IAmb	08 03 17.1	
	comp=Z,44nm,0.9s						
H43A	Windswept, Lux	26.29	37	IAmb	IAmb	08 03 19.9	
	comp=Z,90nm,1.1s						
KMSC	Kings Mountain	26.32	61	IAmb	IAmb	08 03 18.6	
	comp=Z,104nm,0.9s						
KMSC	Kings Mountain	26.32	61	P	P	08 03 09.8	-1.8
	baz=255,SNR=28						
ACON	Acoyapa	26.33	115	IAmb	IAmb	08 03 21.6	
	comp=Z,72nm,1.3s						
N49A	Columbus Grove	26.42	47	IAmb	IAmb	08 03 31.2	
	comp=Z,63nm,1.1s						
V55A	Taylorsville	26.60	59	IAmb	IAmb	08 03 23.5	
	comp=Z,88nm,0.9s						
COWI	Conover	26.70	33	IAmb	IAmb	08 03 25.1	
	comp=Z,96nm,1.1s						
L48A	N Adams	26.78	44	IAmb	IAmb	08 03 25.1	
	comp=Z,57nm,1.1s						
Y57A	Sumter	26.81	63	IAmb	IAmb	08 03 25.3	
	comp=Z,102nm,0.9s						
NHSC	New Hope	26.81	66	IAMs_20	IAMs_20	08 15 08.9	
	comp=Z,13µm,19.0s						
NHSC	New Hope	26.81	66	P	P	08 03 14.9	-1.1
	baz=260						
R53A	Hurricane	26.86	54	IAmb	IAmb	08 03 26.1	
	comp=Z,102nm,0.8s						
Q52A	Bidwell	26.87	52	IAmb	IAmb	08 03 44.2	
	comp=Z,122nm,1.2s						
BIRD	Birdtown, Kers	26.89	62	IAmb	IAmb	08 03 23.7	
	comp=Z,107nm,1.1s						
ACSO	Alum Creek Sta	26.91	49	IAmb	IAmb	08 03 37.1	
	comp=Z,86nm,1.1s						
ACSO				IAMs_20	IAMs_20	08 14 08.7	
	comp=Z,10µm,21.0s						
ACSO	Alum Creek Sta	26.91	49	P	P	08 03 14.9	-1.9
	baz=243						
ORTG	Ortega, Santa	26.99	118	P	P	08 03 19.4	+1.5
ORTG				IAmb	IAmb	08 03 21.9	
	comp=Z,53nm,1.2s						
EYMN	Ely	27.03	27	P	P	08 03 18.0	+0.2
EYMN				IAmb	IAmb	08 03 39.4	
	comp=Z,71nm,1.1s						
EYMN	Ely	27.03	27	IAMs_20	IAMs_20	08 13 39.8	
	comp=Z,10µm,18.0s						
EYMN	Ely	27.03	27	P	P	08 03 17.8	0.0
	baz=218						
S54A	Dingess, Beckl	27.14	55	P	P	08 03 18.8	-0.2
S54A				IAmb	IAmb	08 03 29.0	
	comp=Z,48nm,0.8s						
J47A	Sunmer	27.24	42	P	P	08 03 19.7	-0.1
J47A				IAmb	IAmb	08 03 28.9	
	comp=Z,61nm,1.0s						
P52A	Corning	27.24	51	P	P	08 03 19.0	-0.8
P52A				IAmb	IAmb	08 03 32.1	
	comp=Z,62nm,0.9s						
P52A	Corning	27.24	51	P	P	08 03 17.6	-2.2
	baz=246						
W57A	Gilead	27.38	61	IAmb	IAmb	08 03 41.0	
	comp=Z,85nm,1.1s						
U56A	King	27.39	59	IAmb	IAmb	08 03 28.5	
	comp=Z,91nm,1.3s						
ULM	Lac du Bonnet	27.40	19	P	P	08 03 21.1	-0.1
	comp=Z,18nm,1.2s,baz=222,slow=9.2,SNR=5.7						
ULM				S	S	08 08 00.2	-1.0
	comp=Z,2.9nm,0.9s,baz=156,slow=20,SNR=1.3						
ULM				Lg	Lg	08 11 43.0	
	comp=Z,5.8nm,1.1s,baz=338,slow=6.4,SNR=4.2						
ULM	Lac du Bonnet	27.40	19	P	P	08 03 21.7	+0.6
ULM				pmax	pmax		
	comp=Z,33nm,1.1s						
ULM	Lac du Bonnet	27.40	19	P	P	08 03 21.7	+0.6
JTS	Las Juntas de	27.44	118	P	P	08 03 22.6	+0.8
	comp=Z,13nm,0.7s,baz=19,slow=5.1,SNR=14						
JTS	Las Juntas de	27.44	118	*c* iP	P	08 03 22.3	+0.5
JTS				pmax	pmax		
	comp=Z,30nm,1.1s						
JTS	Las Juntas de	27.44	118	P	P	08 03 22.9	+1.1
JTS				IAmb	IAmb	08 03 24.2	
	comp=Z,54nm,1.1s						
AAM	Ann Arbor	27.46	44	P	P	08 03 21.7	0.0
AAM				pmax	pmax		
	comp=Z,54nm,1.2s						
AAM				MLR	MLR		
	comp=Z,12µm,18.0s						
AAM	Ann Arbor	27.46	44	P	P	08 03 21.6	0.0
AAM				IAmb	IAmb	08 03 31.8	
	comp=Z,54nm,1.1s						
AAM				IAMs_20	IAMs_20	08 13 35.7	
	comp=Z,12µm,18.0s						
AAM	Ann Arbor	27.46	44	P	P	08 03 20.9	-0.8
	baz=239						
BLA	Blacksburg	27.62	57	P	P	08 03 24.2	+0.9
BLA				pmax	pmax		
	comp=Z,52nm,0.9s						
BLA				MLR	MLR		
	comp=Z,6µm,22.0s						
BLA	Blacksburg	27.62	57	P	P	08 03 24.2	+0.9
BLA				IAmb	IAmb	08 03 37.1	
	comp=Z,52nm,0.9s						
BLA	Blacksburg	27.62	57	P	P	08 03 21.5	-1.8
	baz=252						
COVE	Coope Vega, Sa	27.64	116	IAmb	IAmb	08 03 33.5	
	comp=Z,85nm,1.2s						
O52A	Adamsville	27.65	50	IAmb	IAmb	08 03 31.7	
	comp=Z,36nm,0.9s						
CAO2	Cobano, Puntar	27.66	119	IAmb	IAmb	08 03 35.1	
	comp=Z,54nm,1.1s						
D41A	Chassel	27.67	32	IAmb	IAmb	08 03 32.6	
	comp=Z,107nm,1.1s						
P53A	Whipple	27.70	52	IAmb	IAmb	08 03 43.0	
	comp=Z,64nm,0.9s						
X58A	Rowland	27.77	63	IAmb	IAmb	08 03 32.5	
	comp=Z,100nm,1.1s						
Q54A	Coxs Mills	27.91	53	IAmb	IAmb	08 03 47.0	
	comp=Z,66nm,1.1s						
E43A	Lone Tree Farm	27.97	34	IAmb	IAmb	08 03 34.9	
	comp=Z,78nm,1.1s						
O53A	New Philadelph	28.14	50	IAmb	IAmb	08 03 37.0	
	comp=Z,58nm,0.9s						
O53A	New Philadelph	28.14	50	P	P	08 03 26.8	-1.0
	baz=246						
R55A	Marlinton	28.19	55	IAmb	IAmb	08 03 38.0	
	comp=Z,55nm,0.8s						
V58A	Windy Hill, Pi	28.23	60	IAmb	IAmb	08 03 35.9	
	comp=Z,94nm,1.2s						
GLMI	Grayling	28.27	39	IAmb	IAmb	08 03 37.9	
	comp=Z,77nm,0.9s						
GLMI	Grayling	28.27	39	P	P	08 03 28.0	-1.0
	baz=233						
HDC	Heredia	28.28	117	IAmb	IAmb	08 03 50.6	
	comp=Z,83nm,1.0s						
T57A	Hurt	28.44	58	IAmb	IAmb	08 03 37.7	
	comp=Z,34nm,1.1s						
CVTR	Volcan Turrial	28.55	117	IAmb	IAmb	08 03 41.7	
	comp=Z,104nm,1.3s						
RIMA	Rio Macho	28.61	117	IAmb	IAmb	08 03 43.6	
	comp=Z,67nm,1.1s						
O54A	Avella	28.70	51	IAmb	IAmb	08 03 54.2	
	comp=Z,71nm,1.2s						
MCWV	Mont Chateau	28.87	52	IAmb	IAmb	08 03 53.0	
	comp=Z,76nm,1.4s						
MCWV	Mont Chateau	28.87	52	P	P	08 03 33.1	-1.3
	baz=248						

PEZE Perez Zeledon, 28.98 118 P P 08 03 37.0 +1.3
PEZE IAmb IAmb 08 03 38.4
comp=Z,86nm,1.4s
M53A WI Miller and 29.01 48 P P 08 03 34.0 -1.6
baz=244
CNNC Cliffs of the 29.08 62 IAmb IAmb 08 03 43.6
comp=Z,82nm,0.9s
CNNC Cliffs of the 29.08 62 P P 08 03 36.2 -0.1
baz=258,SNR=9.4
N54A Moraine State 29.28 50 P P 08 03 37.8 -0.2
N54A IAmb IAmb 08 04 01.8
comp=Z,54nm,1.2s
N54A Moraine State 29.28 50 P P 08 03 37.9 -0.1
baz=246
SRBA San Rafael, Bu 29.32 118 P P 08 03 39.9 +1.1
E46A Sault Ste Mari 29.38 37 P P 08 03 38.8 0.0
U59A Littleton 29.41 60 IAmb IAmb 08 03 47.0
comp=Z,59nm,1.1s
M54A Oil Creek Stat 29.73 49 P P 08 03 41.3 -0.7
baz=245
T59A Double "B" Far 29.75 59 P P 08 03 41.8 -0.4
ERPA Erie 29.77 47 P P 08 03 41.7 -0.6
baz=244
R58B Mineral 29.77 56 P P 08 03 40.1 -2.2
O56A Blue Knob Stat 30.01 52 IAMs_20 IAMs_20 08 16 05.8
comp=Z,8µm,18.0s
O56A Blue Knob Stat 30.01 52 P P 08 03 43.5 -1.1
baz=249
CDITO Canoas 30.10 118 P P 08 03 47.4 +2.0
CDITO IAmb IAmb 08 03 49.3
comp=Z,78nm,1.0s
BRU2 Volcan 30.12 118 P P 08 03 47.5 +1.6
CBN Corbin Frederi 30.22 56 P P 08 03 45.1 -1.3
CBN IAmb IAmb 08 04 05.7
comp=Z,92nm,1.4s
V61A Roper 30.24 61 P P 08 03 45.8 -0.7
T60A Surry 30.42 59 P P 08 03 46.5 -1.6
SSPA Standing Stone 30.63 51 P P 08 03 48.8 -1.1
SSPA IAmb IAmb 08 03 58.5
comp=Z,40nm,1.0s
SSPA Standing Stone 30.63 51 P P 08 03 48.6 -1.3
baz=249
BBB Bella Bella 30.71 337 LR LR 08 16 27.5
comp=Z,4µm,19.6s,baz=164,slow=37
M57A Sunshine Farm, 31.42 51 P P 08 03 56.1 -0.8
M57A IAmb IAmb 08 04 18.2
comp=Z,25nm,0.9s
N58A Sunbury 31.53 52 P P 08 03 56.8 -1.1
N58A IAmb IAmb 08 04 06.1
comp=Z,40nm,1.1s
SADO Sadowa 31.53 43 P P 08 03 56.3 -1.6
comp=Z,4.3nm,0.8s,baz=312,slow=14,SNR=1.6
SADO Sadowa 31.53 43 P P 08 03 56.7 -1.2
SADO IAmb IAmb 08 04 17.6
comp=Z,30nm,1.1s
P60A Greenville 31.98 54 P P 08 04 01.4 -0.4
baz=253
GTBY Guantanamo Bay 32.08 92 P P 08 04 03.3 +0.4
N59A State Game Lan 32.23 52 IAMs_20 IAMs_20 08 17 38.6
comp=Z,10µm,18.0s
N59A State Game Lan 32.23 52 P P 08 04 03.3 -0.8
baz=251
BCIP Isla Barro Col 32.24 114 P P 08 04 05.1 +0.7
BCIP pmax pmax
comp=Z,45nm,1.2s
BCIP MLR MLR
comp=Z,4µm,18.0s
BCIP Isla Barro Col 32.24 114 P P 08 04 05.1 +0.7
BCIP IAmb IAmb 08 04 12.6
comp=Z,45nm,1.2s
BINY Binghamton 32.52 50 P P 08 04 06.2 -0.5
BINY IAmb IAmb 08 04 13.4
comp=Z,60nm,1.3s
BINY IAMs_20 IAMs_20 08 17 34.4
comp=Z,10µm,21.0s
BINY Binghamton 32.52 50 P P 08 04 05.6 -1.1
baz=249
PECO Prince Edward 32.53 46 P P 08 04 06.6 0.0
PECO IAmb IAmb 08 04 15.0
comp=Z,45nm,1.1s
L59A Walton 33.18 50 IAmb IAmb 08 04 36.8
comp=Z,37nm,0.9s
CPNY Central Park 33.50 53 P P 08 04 14.9 -0.2
CPNY IAmb IAmb 08 04 27.3
comp=Z,34nm,1.1s
PAL Palisades 33.60 53 IAMs_20 IAMs_20 08 18 33.8
comp=Z,9µm,18.0s
WSPT Westport, CT 34.06 53 IAMs_20 IAMs_20 08 18 46.2
comp=Z,12µm,18.0s
TRY Troy 34.32 50 IAMs_20 IAMs_20 08 16 36.8
comp=Z,5µm,18.0s
NCB Newcomb 34.38 48 P P 08 04 22.2 -0.6
NCB IAmb IAmb 08 04 46.3
comp=Z,31nm,0.9s
LONY Lake Ozonia 34.39 46 P P 08 04 22.1 -0.7
LONY IAmb IAmb 08 04 32.4
comp=Z,34nm,1.2s
LONY Lake Ozonia 34.39 46 P P 08 04 21.8 -1.0
baz=247
L61B Northampton 34.92 51 P P 08 04 29.4 +2.0
baz=252
FRNY Flat Rock 35.13 46 P P 08 04 26.3 -2.9
J61A Chester 35.29 49 P P 08 04 31.1 +0.5
baz=251
K62A Royalston 35.30 51 IAMs_20 IAMs_20 08 17 19.7
comp=Z,7µm,18.0s
GRTK Grand Turk 35.30 88 IAMs_20 IAMs_20 08 21 08.3
comp=Z,6µm,20.0s
VT1 Waterbury 35.49 48 P P 08 04 32.1 -0.3
L63A North Scituate 35.50 52 IAMs_20 IAMs_20 08 19 48.1
comp=Z,5µm,20.0s
BRYW Bryant College 35.57 52 IAMs_20 IAMs_20 08 21 16.9
comp=Z,6µm,18.0s
HNH Hanover 35.60 49 IAMs_20 IAMs_20 08 19 33.6
comp=Z,10µm,18.0s
M64A Tiverton 35.70 53 IAMs_20 IAMs_20 08 19 46.5
comp=Z,8µm,18.0s
HRV Adam Dziewonsk 35.72 51 P P 08 04 32.9 -1.4
baz=253
SJCC San Jacinto, C 35.82 109 P P 08 04 36.7 +1.2
SJCC San Jacinto, C 35.82 109 eP P 08 04 31.9 -3.6
WES Weston 35.86 51 IAMs_20 IAMs_20 08 19 53.5
comp=Z,7µm,18.0s
SOLC Bahia Solano 35.87 116 eP P 08 04 33.8 -2.1
FFD Franklin Falls 35.95 49 IAMs_20 IAMs_20 08 19 52.1
comp=Z,9µm,18.0s
LBNH Lisbon 36.02 48 IAMs_20 IAMs_20 08 19 34.9
comp=Z,10µm,18.0s
SMRC Santa Marta, M 36.05 106 eP P 08 04 33.8 -3.6
L64A Middleborough 36.08 52 IAMs_20 IAMs_20 08 20 05.3
comp=Z,7µm,19.0s
M65A Busby, Falmout 36.11 53 IAMs_20 IAMs_20 08 19 51.3
comp=Z,7µm,20.0s
MOQ Mont Orford 36.18 46 P P 08 04 37.5 -0.9
SC01 Santiago de lo 36.19 91 P P 08 04 39.0 +0.4
I62A Tamworth 36.30 49 P P 08 04 38.2 -1.0
I62A IAmb IAmb 08 05 05.1
comp=Z,48nm,1.3s
I62A IAMs_20 IAMs_20 08 19 00.3
comp=Z,7µm,20.0s
I62A Tamworth 36.30 49 P P 08 04 39.1 -0.2
baz=251
DBBC Dabeiba 36.42 114 eP P 08 04 42.4 +1.7
DLBC Dease Lake 36.55 342 P P 08 04 42.0 +0.7
comp=Z,8.7nm,0.7s,baz=148,slow=8.2,SNR=18
DLBC Dease Lake 36.55 342 P P 08 04 41.6 +0.3
UREC San Jos de Ur 36.60 112 eP P 08 04 40.5 -1.6
H62A Milan 36.65 48 P P 08 04 42.2 -0.1
H62A IAmb IAmb 08 04 49.7
comp=Z,42nm,1.4s
BANI BANI 36.82 92 P P 08 04 44.8 +0.7
I63A Otisfield 36.87 49 IAMs_20 IAMs_20 08 19 04.5
comp=Z,7µm,21.0s
CBOC Ciudad Bolivar 37.22 115 eP P 08 04 49.1 +1.5
G62A West of Eustis 37.29 47 P P 08 04 46.9 -0.8
baz=250
ZARC Zaragoza, Cauc 37.30 112 eP P 08 04 45.3 -2.9
HELC Santa Helena 37.44 114 eP P 08 04 51.0 +1.3
WVL Waterville 37.66 48 IAMs_20 IAMs_20 08 19 39.3
comp=Z,6µm,21.0s
YKA Yellowknife Ar 37.74 356 P P 08 04 50.7 -0.5
comp=Z,24nm,1.1s,baz=166,slow=8.3,SNR=14
URIC Uribia, Colomb 37.78 103 eP P 08 04 49.1 -3.0
F62A Pittston Farm, 37.89 46 IAMs_20 IAMs_20 08 20 27.8
comp=Z,8µm,18.0s
YOTC Yotoco, Valle 38.03 118 eP P 08 04 54.8 +0.4

GUY2C Guyana, Caldas 38.11 115 eP P 08 04 56.7 +1.2
PTBC PUERTO BERRIO, 38.14 113 eP P 08 04 55.0 -0.2
OCAC Ocana 38.23 109 eP P 08 04 55.8 -0.4
LMQ La Malbaie 38.25 44 P P 08 04 55.3 -0.5
NORC Norcasia 38.33 114 eP P 08 04 58.6 +1.8
BRRC Barranca, Sant 38.47 111 eP P 08 04 56.7 -1.3
POPC Popayan, Colom 38.63 120 eP P 08 04 59.6 0.0
OTAV Otavalo 38.73 125 P P 08 05 02.8 +2.1
OTAV pmax pmax
comp=Z,46nm,0.9s
OTAV MLR MLR
comp=Z,3µm,18.0s
OTAV Otavalo 38.73 125 P P 08 05 02.8 +2.1
OTAV IAmb IAmb 08 05 04.3
comp=Z,46nm,0.9s
OTAV Otavalo 38.73 125 eP P 08 05 02.5 +1.7
OTAV Otavalo 38.73 125 eP P 08 04 58.8 -1.9
TGTN Hyland Airport 38.79 346 P P 08 05 01.5 +1.3
baz=152
TULM Tulcn-Chalpat 38.92 123 eP P 08 05 02.5 +0.1
SPBC San Pablo de B 38.94 114 eP P 08 04 58.6 -3.4
ORTC Ortega, Tolima 38.96 117 eP P 08 05 03.4 +1.3
PCON Cinco Dias 38.98 120 eP P 08 05 04.4 +1.4
SKAG Skagway 38.98 339 P P 08 05 02.7 +1.0
baz=146
ROSC El Rosal 39.18 115 P P 08 05 07.0 +2.6
comp=Z,46nm,1.0s,baz=121,slow=4.4,SNR=25
ROSC El Rosal 39.18 115 P P 08 05 07.1 +2.6
ROSC pmax pmax
comp=Z,165nm,1.3s
ROSC El Rosal 39.18 115 P P 08 05 07.1 +2.6
ROSC IAmb IAmb 08 05 25.7
comp=Z,165nm,1.3s
ROSC El Rosal 39.18 115 eP P 08 05 06.3 +1.8
BARC Barichara 39.19 112 eP P 08 05 05.3 +1.0
EMMW East Machias 39.21 49 P P 08 05 03.5 -0.3
EMMW IAMs_20 IAMs_20 08 18 57.2
comp=Z,7µm,19.0s
PRAC Prado 39.36 117 eP P 08 05 00.5 -5.1
PQI Presque Isle 39.42 46 IAMs_20 IAMs_20 08 21 24.3
comp=Z,9µm,18.0s
WRGLY Wrigley 39.43 350 P P 08 05 04.8 -0.6
baz=159
RUSC La Rusia 39.64 112 eP P 08 05 08.2 -0.2
BBSR BB Station 39.75 69 IAMs_20 IAMs_20 08 23 26.5
comp=Z,20µm,20.0s
CHIC Chingaza 39.79 115 eP P 08 05 10.1 +0.6
WHY Whitehorse 39.79 341 P P 08 05 08.2 -0.4
WHY Whitehorse 39.79 341 P P 08 05 07.8 -0.8
baz=142
MLPR Magueyes Islan 39.95 91 P P 08 05 10.0 -0.4
MLPR IAmb IAmb 08 05 11.0
comp=Z,96nm,0.9s
FLOC Florencia 40.02 120 P P 08 05 12.8 +1.8
FLOC IAmb IAmb 08 05 22.9
comp=Z,161nm,1.4s
FLOC Florencia 40.02 120 eP P 08 05 12.0 +1.0
AOPR Arecibo Observ 40.10 91 P P 08 05 11.4 -0.3
AOPR IAmb IAmb 08 05 18.5
comp=Z,68nm,1.2s
SDV Santo Domingo 40.24 106 P P 08 05 13.5 +0.5
SDV IAmb IAmb 08 05 21.9
comp=Z,112nm,1.1s
SDV Santo Domingo 40.24 106 IAMs_20 IAMs_20 08 23 54.3
comp=Z,11µm,18.0s
SDV Santo Domingo 40.24 106 eP P 08 05 09.1 -3.9
SDV Santo Domingo 40.24 106 eP P 08 05 10.0 -3.0
EMPR Esperanza - Ma 40.27 90 P P 08 05 13.2 +0.3
HATO Hato, Curacao 40.27 101 IAMs_20 IAMs_20 08 21 49.4
comp=Z,5µm,20.0s
OBIP Obispado Ponce 40.33 91 P P 08 05 12.4 -1.0
OBIP IAmb IAmb 08 05 13.3
comp=Z,94nm,0.8s
MMPY Sheldon Lake, 40.43 345 P P 08 05 14.5 +0.6
baz=148,SNR=15
MMPY S S 08 11 28.7 +6.5
baz=148
TAMC Tame, Arauca 40.45 111 eP P 08 05 13.9 -0.6
FARO Faro, Yukon 40.63 343 P P 08 05 17.8 +2.3
baz=145
SJG San Juan 40.72 91 P P 08 05 16.3 -0.4
SJG pmax pmax
comp=Z,124nm,0.9s
SJG MLR MLR
comp=Z,9µm,20.0s
SJG San Juan 40.72 91 P P 08 05 16.3 -0.4
SJG San Juan 40.72 91 IAMs_20 IAMs_20 08 23 44.6
comp=Z,9µm,20.0s
SJG San Juan 40.72 91 eP P 08 05 13.9 -2.8
GCPR Guaynabo City 40.72 90 P P 08 05 16.3 -0.4
GCPR IAmb IAmb 08 05 17.3
comp=Z,108nm,1.0s
HYT Haines Junctio 40.73 339 P P 08 05 13.8 -2.7
baz=139
BCPM Bancas Point 40.81 337 P P 08 05 16.4 -0.5
BCPM IAmb IAmb 08 05 33.5
comp=Z,91nm,0.9s
BCPM IAMs_20 IAMs_20 08 22 02.5
comp=Z,7µm,20.0s
PDPR Patillas Dam, 40.86 91 P P 08 05 17.9 0.0
PDPR IAmb IAmb 08 05 18.6
comp=Z,84nm,0.9s
BATG Bathurst New B 40.88 46 P P 08 05 17.7 -0.1
BATG IAmb IAmb 08 05 26.9
comp=Z,55nm,1.2s
HUMP Col San Antoni 40.98 91 IAmb IAmb 08 05 26.1
comp=Z,57nm,1.0s
YUK6 Outpost Mounta 41.10 339 P P 08 05 18.4 -1.2
baz=138
MACC Macarena, Meta 41.12 118 eP P 08 05 20.6 +0.5
PINM Pinnacle 41.12 337 P P 08 05 19.6 -0.1
baz=135
MTP Monte Pirata 41.27 91 P P 08 05 20.9 -0.3
CUPR Culebra, Puert 41.45 90 P P 08 05 22.9 +0.2
CUPR IAmb IAmb 08 05 23.5
comp=Z,46nm,0.8s
YUK4 Talbot Arm 41.49 339 P P 08 05 22.2 -0.6
baz=138
YUK4 S S 08 11 44.9 +6.7
baz=138
PTLC Puerto Leguiza 41.56 121 eP P 08 05 26.8 +3.0
TABL Table Mountain 41.68 337 IAMs_20 IAMs_20 08 22 09.7
comp=Z,7µm,18.0s
YAH Yahtse 41.85 337 IAMs_20 IAMs_20 08 23 54.0
comp=Z,7µm,19.0s
GUVC San Jose del G 41.87 116 eP P 08 05 24.4 -1.8
LOGN Logan Glacier 41.90 337 IAMs_20 IAMs_20 08 23 54.6
comp=Z,6µm,20.0s
CDVI St. Croix 42.08 91 P P 08 05 27.3 -0.7
GRNC Granite Creek 42.10 337 IAMs_20 IAMs_20 08 22 12.8
comp=Z,7µm,18.0s
CTG Chitna Glacier 42.12 337 P P 08 05 28.0 +0.1
baz=134
BARN Barnard Glacie 42.30 337 IAMs_20 IAMs_20 08 23 59.0
comp=Z,5µm,20.0s
WAX Waxell Ridge 42.31 336 IAMs_20 IAMs_20 08 23 49.2
comp=Z,4µm,18.0s
YUK3 Moose Creek 42.40 339 P P 08 05 32.5 +2.2
baz=136,SNR=5.7
YUK3 S S 08 11 55.8 +4.1
baz=136
MAYO Mayo, Yukon 42.43 343 P P 08 05 30.6 +0.4
baz=143
BAUV El Baul 42.48 105 P P 08 05 30.6 -0.5
TGL Tana Glacier 42.51 336 IAMs_20 IAMs_20 08 22 16.4
comp=Z,6µm,20.0s
KAIM Kayak Island 42.56 335 IAMs_20 IAMs_20 08 22 16.7
comp=Z,9µm,19.0s
KAIM Kayak Island 42.56 335 P P 08 05 32.6 +1.3
baz=129
CRQE Ciue 42.60 336 P P 08 05 31.0 -0.8
baz=132
CRQM Cirque 42.62 336 IAMs_20 IAMs_20 08 24 01.9
comp=Z,6µm,20.0s
HMT Hamilton 42.76 335 IAMs_20 IAMs_20 08 24 41.1
comp=Z,4µm,18.0s
BVCY Beaver Creek 42.99 339 P P 08 05 33.4 -1.4
baz=136
MCARA McCarthy VSAT 43.00 337 IAMs_20 IAMs_20 08 22 20.6
baz=132,SNR=5.3
MCARA McCarthy VSAT 43.00 337 P P 08 05 35.1 +0.2
baz=132,SNR=5.3
Q23K Middleton Isla 43.02 333 IAMs_20 IAMs_20 08 23 54.7
comp=Z,6µm,18.0s
SCHQ Schefferville 43.26 35 P P 08 05 37.0 -0.1
comp=Z,18nm,1.0s,baz=235,slow=5.9,SNR=6.7

SCHQ Schefferville 43.26 35 IAmb IAmb 08 05 45.0
comp=Z,98nm,1.4s
M27K Edge Creek, AK 43.28 339 IAMs_20 IAMs_20 08 23 58.1
comp=Z,4µm,19.0s
M27K Edge Creek, AK 43.28 339 P P 08 05 35.8 -1.5
baz=134
BMRM Bremner River 43.30 336 IAMs_20 IAMs_20 08 23 58.4
comp=Z,5µm,20.0s
BMRM Bremner River 43.30 336 P P 08 05 37.3 -0.1
baz=130
BMRM S S 08 12 09.5 +4.9
baz=130
GLB Gilahina Butte 43.32 337 P P 08 05 38.0 +0.5
GLB IAmb IAmb 08 05 50.6
comp=Z,62nm,1.4s
GLB IAMs_20 IAMs_20 08 24 25.0
comp=Z,6µm,22.0s
GBN Guysborough 43.47 49 IAmb IAmb 08 05 46.4
comp=Z,60nm,1.0s
EYAK Cordova Ski Ar 43.47 335 P P 08 05 38.4 -0.2
baz=128
SMRT St. Maarten 43.53 90 IAMs_20 IAMs_20 08 24 46.1
comp=Z,6µm,19.0s
M26K Nabesna, AK 43.69 338 P P 08 05 38.5 -2.0
M26K IAMs_20 IAMs_20 08 22 25.8
comp=Z,7µm,18.0s
M26K Nabesna, AK 43.69 338 P P 08 05 40.2 -0.2
baz=133,SNR=6.2
N25K Chitina, Valde 43.71 337 P P 08 05 40.9 +0.2
N25K IAmb IAmb 08 05 54.1
comp=Z,63nm,1.4s
N25K IAMs_20 IAMs_20 08 24 13.4
comp=Z,7µm,19.0s
N25K Chitina, Valde 43.71 337 P P 08 05 39.7 -1.1
baz=130
N25K S S 08 12 16.6 +5.9
baz=130
BCAR Beaver Creek A 43.76 339 P P 08 05 42.6 +1.6
DAWY Dawson 43.77 342 P P 08 05 41.0 0.0
DAWY Dawson 43.77 342 P P 08 05 39.0 -2.1
baz=139
DAWY S S 08 12 15.7 +4.3
baz=139
L27K Beaver Creek, 43.77 339 P P 08 05 41.7 +0.6
L27K IAMs_20 IAMs_20 08 22 17.9
comp=Z,4µm,20.0s
L27K Beaver Creek, 43.77 339 P P 08 05 36.6 -4.5
baz=135
L27K S S 08 12 16.1 +4.8
baz=135
SEUS St. Eustatius 43.78 90 IAMs_20 IAMs_20 08 24 19.8
comp=Z,10µm,18.0s
DIV Divide 43.84 335 P P 08 05 42.2 +0.5
FID Port Fidalgo 43.87 335 P P 08 05 42.5 +0.6
FID IAmb IAmb 08 05 55.9
comp=Z,71nm,1.4s
KLU Klutina 44.13 336 IAMs_20 IAMs_20 08 22 21.2
comp=Z,4µm,19.0s
KLU Klutina 44.13 336 P P 08 05 43.9 -0.1
baz=129
KLU S S 08 12 22.5 +5.8
baz=129
GLI Glacier Island 44.19 335 IAmb IAmb 08 06 10.4
comp=Z,75nm,1.4s
GLI IAMs_20 IAMs_20 08 22 28.9
comp=Z,7µm,21.0s
GLI Glacier Island 44.19 335 P P 08 05 43.9 -0.6
baz=72
L26K Log Cabin Wild 44.24 339 IAMs_20 IAMs_20 08 24 18.3
comp=Z,7µm,19.0s
L26K Log Cabin Wild 44.24 339 P P 08 05 45.0 +0.2
baz=133
MENT Mentasta 44.30 338 P P 08 05 45.4 +0.1
HARP HAARP 44.43 337 P P 08 05 46.6 +0.2
baz=130
K27K Chicken 44.54 340 P P 08 05 48.2 +1.1
K27K IAmb IAmb 08 05 59.2
comp=Z,28nm,0.9s
K27K IAMs_20 IAMs_20 08 24 21.4
comp=Z,6µm,19.0s
K27K Chicken 44.54 340 P P 08 05 47.0 -0.1
baz=135
K27K S S 08 12 28.6 +6.1
baz=135
M24K Tolsona, Glenn 44.61 336 P P 08 05 47.4 -0.4
baz=129
SEW Seward 44.69 333 P P 08 05 47.3 -1.1
baz=124
SEW S S 08 12 31.2 +6.5
baz=124
EGAK Eagle 44.81 341 P P 08 05 51.9 +2.6
EGAK Eagle 44.81 341 P P 08 05 49.2 -0.2
baz=137
EGAK S S 08 12 31.1 +4.7
baz=137
ANWB Willy Bob 44.82 90 IAMs_20 IAMs_20 08 24 12.2
comp=Z,5µm,21.0s
SCM Sheep Creek Mo 44.87 336 IAMs_20 IAMs_20 08 22 34.7
comp=Z,7µm,20.0s
KDAK Kodiak Island 44.87 329 P P 08 05 54.7 +4.8
comp=Z,10nm,0.9s,baz=63,slow=11,SNR=1.7
EPYK Eagle Plains 44.88 345 P P 08 05 52.9 +3.0
EPYK IAmb IAmb 08 06 05.3
comp=Z,64nm,1.3s
EPYK IAMs_20 IAMs_20 08 24 59.5
comp=Z,5µm,19.0s
EPYK Eagle Plains 44.88 345 P P 08 05 48.3 -1.6
baz=144
PAX Paxson 44.92 338 P P 08 05 49.2 -1.1
baz=130
PAX S S 08 12 28.0 -0.2
baz=130
PCRV Puerto La Cruz 44.95 101 P P 08 05 51.7 +0.5
comp=Z,8.2nm,0.9s,baz=306,slow=8.7,SNR=3.4
TAOE Nuku Hiva Isla 44.96 226 eS S 08 12 28.0 -1.8
comp=Z,216nm,24.5s
TAOE eLQ LQ 08 16 33.9
comp=Z,7µm,26.0s
TAOE eLR LR 08 18 22.6
comp=Z,3µm,26.8s,baz=54
KNK Knik Glacier 45.04 335 IAMs_20 IAMs_20 08 22 36.4
comp=Z,7µm,20.0s
KNK Knik Glacier 45.04 335 P P 08 05 50.6 -0.6
baz=126
KNK S S 08 12 33.2 +3.3
baz=126
SCRK Sand Creek 45.10 339 P P 08 05 51.8 0.0
SCRK IAmb IAmb 08 06 04.5
comp=Z,32nm,1.2s
SCRK Sand Creek 45.10 339 P P 08 05 51.6 -0.3
baz=133
RIDG Independent Ri 45.22 339 P P 08 05 52.4 -0.3
baz=132,SNR=5.6
RIDG S S 08 12 36.7 +4.2
baz=132
SML Sawmill 45.23 335 P P 08 05 53.0 +0.2
baz=126
RC01 Rabbit Creek A 45.36 334 IAMs_20 IAMs_20 08 22 37.8
comp=Z,6µm,19.0s
RC01 Rabbit Creek A 45.36 334 S S 08 12 37.6 +3.2
baz=124
HOM Homer 45.38 331 IAMs_20 IAMs_20 08 22 39.2
comp=Z,8µm,21.0s
WAT6 Susitna Watana 45.48 336 P P 08 05 54.0 -0.9
baz=128
CHIR Chirikof Islan 45.52 325 IAMs_20 IAMs_20 08 22 39.4
comp=Z,6µm,20.0s
DHY Denali Highway 45.65 337 P P 08 05 56.9 +0.7
DHY IAMs_20 IAMs_20 08 24 51.7
comp=Z,3µm,18.0s
DHY Denali Highway 45.65 337 P P 08 05 56.3 +0.1
baz=128
INK Inuvik 45.81 348 P P 08 05 58.4 +1.2
comp=Z,14nm,1.1s,baz=148,slow=8.1,SNR=7.0
INK Inuvik 45.81 348 P P 08 05 57.5 +0.3
INK pmax pmax
comp=Z,37nm,1.4s
INK Inuvik 45.81 348 P P 08 05 57.5 +0.3
INK IAmb IAmb 08 06 02.4
comp=Z,37nm,1.4s
INK Inuvik 45.81 348 P P 08 05 56.8 -0.3
baz=148
INK S S 08 12 44.4 +3.7
baz=148
Q19K Cape Douglas, 45.91 330 IAMs_20 IAMs_20 08 22 42.1
comp=Z,6µm,21.0s
WAT1 Susitna Watana 45.93 336 P P 08 05 58.2 -0.1
baz=127

J25K	**Salcha River,**	**45.98**	**339**	P	**P**	**08 05 58.5**	**-0.2**
	baz=132							
J25K				S	**S**	**08 12 46.4**	**+3.0**
	baz=132							
SVN	**Savane Anatole**	**46.29**	**93**	IAMs_20	IAMs_20	08 25 00.3		
	comp=Z,5µm,20.0s							
CUT	**Chulitna**	**46.32**	**335**	P	**P**	**08 06 00.9**	**-0.3**
	baz=124							
FDF	**Fort de France**	**46.35**	**93**	IAMs_20	IAMs_20	08 24 27.8		
	comp=Z,5µm,18.0s							
HDA	**Harding Lake**	**46.36**	**339**	IAMs_20	IAMs_20	08 25 33.4		
	comp=Z,4µm,20.0s							
HDA	**Harding Lake**	**46.36**	**339**	P	**P**	**08 06 00.8**	**-0.8**
	baz=130							
HDA				S	**S**	**08 12 52.4**	**+3.6**
	baz=130							
HDA				S	**S**	**08 12 52.4**	**+3.6**
	baz=130							
RND	**Reindeer**	**46.38**	**337**	P	**P**	**08 06 02.6**	**+0.7**
RND				pmax	pmax			
	comp=Z,29nm,1.2s							
RND	**Reindeer**	**46.38**	**337**	P	**P**	**08 06 02.6**	**+0.7**
RND				IAmb	IAmb	08 06 32.8		
	comp=Z,29nm,1.2s							
RND				IAMs_20	IAMs_20	08 22 46.1		
	comp=Z,7µm,18.0s							
SKT	**Skwentna**	**46.57**	**334**	P	**P**	**08 06 04.2**	**+0.9**
SKT				IAmb	IAmb	08 06 15.5		
	comp=Z,36nm,1.1s							
SKT				IAMs_20	IAMs_20	08 22 47.8		
	comp=Z,7µm,19.0s							
SKT	**Skwentna**	**46.57**	**334**	P	**P**	**08 06 01.4**	**-1.9**
	baz=123							
SKT				S	**S**	**08 12 54.2**	**+2.3**
	baz=123							
IL31		**46.57**	**339**	P	**P**	**08 06 02.6**	**-0.6**
IL31				IAmb	IAmb	08 06 15.3		
	comp=Z,31nm,1.0s							
ILAR	**Eielson Array**	**46.57**	**339**	P	**P**	**08 06 03.5**	**+0.2**
	comp=Z,5.7nm,1.0s,baz=151,slow=7.0,SNR=16							
MCK	**McKinley**	**46.61**	**337**	P	**P**	**08 06 04.4**	**+0.7**
MCK				pmax	pmax			
	comp=Z,45nm,1.2s							
MCK	**McKinley**	**46.61**	**337**	P	**P**	**08 06 04.3**	**+0.7**
MCK				IAmb	IAmb	08 06 28.4		
	comp=Z,45nm,1.2s							
MCK				IAMs_20	IAMs_20	08 22 41.0		
	comp=Z,4µm,19.0s							
MCK	**McKinley**	**46.61**	**337**	P	**P**	**08 06 02.9**	**-0.7**
	baz=127							
MCK				S	**S**	**08 12 55.2**	**+2.7**
	baz=127							
PRP	**Porcupine Dome**	**46.64**	**340**	IAMs_20	IAMs_20	08 24 10.9		
	comp=Z,5µm,18.0s							
PRP	**Porcupine Dome**	**46.64**	**340**	P	**P**	**08 06 03.6**	**-0.4**
	baz=132							
WRH	**Wood River Hil**	**46.78**	**338**	P	**P**	**08 06 05.4**	**+0.5**
WRH				IAmb	IAmb	08 06 22.1		
	comp=Z,22nm,1.0s							
CCB	**Clear Creek Bu**	**46.80**	**338**	P	**P**	**08 06 05.6**	**+0.6**
CCB				IAmb	IAmb	08 06 23.6		
	comp=Z,25nm,1.3s							
CCB				IAMs_20	IAMs_20	08 26 52.9		
	comp=Z,3µm,18.0s							
O19K	**Port Alsworth**	**46.82**	**331**	P	**P**	**08 06 03.1**	**-2.1**
	baz=118							
GRGR	**Grenville**	**46.84**	**97**	IAMs_20	IAMs_20	08 24 40.7		
	comp=Z,6µm,18.0s							
DRLN	**Deer Lake**	**46.91**	**45**	P	**P**	**08 06 06.4**	**+0.2**
TRF	**Thorofare Moun**	**46.93**	**336**	IAMs_20	IAMs_20	08 22 50.4		
	comp=Z,6µm,20.0s							
TRF	**Thorofare Moun**	**46.93**	**336**	P	**P**	**08 06 05.9**	**-0.4**
	baz=125,SNR=13							
COLA	**College**	**46.96**	**339**	P	**P**	**08 06 06.9**	**+0.7**
COLA				pmax	pmax			
	comp=Z,19nm,1.0s							
COLA	**College**	**46.96**	**339**	P	**P**	**08 06 06.9**	**+0.7**
COLA				IAmb	IAmb	08 06 18.9		
	comp=Z,19nm,0.9s							
COLA	**College**	**46.96**	**339**	P	**P**	**08 06 05.8**	**-0.4**
	baz=129							
COLA				S	**S**	**08 12 59.3**	**+2.1**
	baz=129							
TCOL	**CIGO, UAF Yank**	**46.96**	**339**	P	**P**	**08 06 06.6**	**+0.3**
TCOL				IAmb	IAmb	08 06 18.9		
	comp=Z,21nm,1.0s							
TCOL	**CIGO, UAF Yank**	**46.96**	**339**	P	**P**	**08 06 04.9**	**-1.4**
	baz=129							
TCOL				S	**S**	**08 12 59.3**	**+2.1**
	baz=129							
O18K	**Koktuh Hills**	**47.05**	**330**	P	**P**	**08 06 07.5**	**+0.4**
	baz=117							
MDM	**Murphy Dome**	**47.13**	**339**	IAMs_20	IAMs_20	08 29 36.9		
	comp=Z,5µm,19.0s							
N19K	**Bonanza Creek**	**47.19**	**332**	P	**P**	**08 06 09.0**	**+0.7**
N19K	**Bonanza Creek**	**47.19**	**332**	P	**P**	**08 06 07.5**	**-0.7**
	baz=118							
N19K				S	**S**	**08 13 02.1**	**+1.2**
	baz=118							
NEA2	**Nenana**	**47.19**	**338**	P	**P**	**08 06 08.6**	**+0.4**
NEA2				IAmb	IAmb	08 06 20.1		
	comp=Z,46nm,1.2s							
NEA2				IAMs_20	IAMs_20	08 29 35.3		
	comp=Z,7µm,22.0s							
NEA2	**Nenana**	**47.19**	**338**	P	**P**	**08 06 08.5**	**+0.4**
	baz=128,SNR=9.9							
NEA2				S	**S**	**08 13 02.2**	**+1.6**
	baz=128							
KTH	**Kantishna Hill**	**47.22**	**336**	IAMs_20	IAMs_20	08 25 53.1		
	comp=Z,4µm,18.0s							
FYU	**Fort Yukon**	**47.27**	**341**	IAMs_20	IAMs_20	08 29 37.7		
	comp=Z,4µm,22.0s							
PPLA	**Purkeypile**	**47.33**	**335**	P	**P**	**08 06 09.4**	**0.0**
	baz=123,SNR=12							
PPLA				S	**S**	**08 13 06.1**	**+3.1**
	baz=123							
BPAW	**Bear Paw Mtn.**	**47.56**	**337**	IAMs_20	IAMs_20	08 30 05.1		
	comp=Z,13µm,18.0s							
BPAW	**Bear Paw Mtn.**	**47.56**	**337**	P	**P**	**08 06 09.3**	**-1.7**
	baz=125							
CAST	**Castle Rocks**	**47.58**	**336**	IAMs_20	IAMs_20	08 29 56.5		
	comp=Z,12µm,18.0s							
CAST	**Castle Rocks**	**47.58**	**336**	P	**P**	**08 06 08.9**	**-2.3**
	baz=123							
H24K	**Noodor Dome**	**47.58**	**340**	P	**P**	**08 06 11.3**	**+0.1**
H24K				IAmb	IAmb	08 06 35.9		
	comp=Z,19nm,1.1s							
H24K				IAMs_20	IAMs_20	08 22 55.8		
	comp=Z,7µm,18.0s							
H24K	**Noodor Dome**	**47.58**	**340**	P	**P**	**08 06 09.7**	**-1.5**
	baz=130							
H24K				S	**S**	**08 13 09.7**	**+3.4**
	baz=130							
I23K	**Minto, Yukon-K**	**47.63**	**338**	P	**P**	**08 06 11.4**	**0.0**
I23K				IAmb	IAmb	08 06 32.9		
	comp=Z,34nm,1.4s							
I23K				IAMs_20	IAMs_20	08 30 06.7		
	comp=Z,13µm,19.0s							
I23K	**Minto, Yukon-K**	**47.63**	**338**	P	**P**	**08 06 10.1**	**-1.4**
	baz=128							
M19K	**Big River Lodg**	**47.69**	**333**	P	**P**	**08 06 12.8**	**+0.8**
M19K				IAmb	IAmb	08 06 24.5		
	comp=Z,56nm,1.5s							
M19K				IAMs_20	IAMs_20	08 30 07.8		
	comp=Z,10µm,18.0s							
M19K	**Big River Lodg**	**47.69**	**333**	P	**P**	**08 06 11.4**	**-0.7**
	baz=120							
M19K				S	**S**	**08 13 07.8**	**0.0**
	baz=120							
BMAR	**Burnt Mountain**	**47.70**	**343**	P	**P**	**08 06 12.6**	**+0.5**
L20K	**Farewell, AK**	**47.77**	**334**	P	**P**	**08 06 13.2**	**+0.5**
	baz=120,SNR=7.1							
L20K				S	**S**	**08 13 12.1**	**+3.1**
	baz=120							
CHUM	**Lake Minchumin**	**47.92**	**336**	P	**P**	**08 06 12.8**	**-1.0**
	baz=123							
CHUM				S	**S**	**08 13 13.6**	**+2.6**
	baz=123							
SDPT	**Sand Point**	**47.93**	**323**	P	**P**	**08 06 11.4**	**-2.5**
	baz=108							
A36M	**Sachs Harbour**	**47.94**	**353**	IAMs_20	IAMs_20	08 30 01.0		
	comp=Z,11µm,22.0s							
A36M	**Sachs Harbour**	**47.94**	**353**	P	**P**	**08 06 13.3**	**-0.5**
	baz=160							
L19K	**White Mountain**	**48.01**	**333**	IAMs_20	IAMs_20	08 30 11.8		
	comp=Z,9µm,18.0s							
L19K	**White Mountain**	**48.01**	**333**	P	**P**	**08 06 12.1**	**-2.5**
	baz=119,SNR=14							
L19K				S	**S**	**08 13 15.9**	**+3.5**
	baz=119							
MLY	**Manley**	**48.02**	**338**	IAMs_20	IAMs_20	08 30 12.4		
	comp=Z,13µm,19.0s							
MLY	**Manley**	**48.02**	**338**	P	**P**	**08 06 13.3**	**-1.3**
	baz=126,SNR=7.8							
MLY				S	**S**	**08 13 15.8**	**+3.3**
	baz=126							
TBTG	**Tabatinga, AM**	**48.09**	**121**	*e*P	**P**	**08 06 15.0**	**-0.6**
H23K	**Yukon River**	**48.11**	**339**	IAMs_20	IAMs_20	08 24 12.6		
	comp=Z,3µm,18.0s							
H23K	**Yukon River**	**48.11**	**339**	P	**P**	**08 06 14.1**	**-1.1**
	baz=128							
H23K				S	**S**	**08 13 18.3**	**+4.6**
	baz=128							
K20K	**Telida**	**48.30**	**335**	IAMs_20	IAMs_20	08 30 15.5		
	comp=Z,11µm,20.0s							
K20K	**Telida**	**48.30**	**335**	P	**P**	**08 06 13.9**	**-2.8**
	baz=121,SNR=8.8							
K20K				S	**S**	**08 13 18.1**	**+1.6**
	baz=121							
CZSB	**Cruzeiro do Su**	**48.31**	**127**	*e*P	**P**	**08 06 18.2**	**+0.8**
BBGH	**Gun Hill**	**48.36**	**94**	IAMs_20	IAMs_20	08 27 01.9		
	comp=Z,7µm,18.0s							
I21K	**Tanana**	**48.54**	**338**	IAMs_20	IAMs_20	08 30 18.9		
	comp=Z,15µm,19.0s							
I21K	**Tanana**	**48.54**	**338**	P	**P**	**08 06 17.3**	**-1.2**
	baz=125,SNR=7.6							
I21K				S	**S**	**08 13 21.7**	**+2.0**
	baz=125							
NNA	**Nana**	**48.55**	**135**	P	**P**	**08 06 21.1**	**+1.8**
NNA				pmax	pmax			
	comp=Z,88nm,1.3s							
NNA				MLR	MLR			
	comp=Z,2µm,21.0s							
NNA	**Nana**	**48.55**	**135**	P	**P**	**08 06 21.1**	**+1.8**
J20K	**Nowinta River**	**48.76**	**336**	P	**P**	**08 06 21.3**	**+1.0**
J20K				IAmb	IAmb	08 06 44.5		
	comp=Z,41nm,1.1s							
J20K				IAMs_20	IAMs_20	08 30 22.7		
	comp=Z,12µm,20.0s							
J20K	**Nowinta River**	**48.76**	**336**	P	**P**	**08 06 18.1**	**-2.2**
	baz=122,SNR=8.1							
J20K				S	**S**	**08 13 26.4**	**+3.6**
	baz=122							
COLD	**Coldfoot**	**49.19**	**340**	P	P	08 06 27.2	+3.7
COLD	**Coldfoot**	**49.19**	**340**	P	**P**	**08 06 23.6**	**+0.1**
	baz=128							
COLD				S	**S**	**08 13 29.9**	**+1.1**
	baz=128							
FALS	**False Pass**	**49.41**	**322**	P	**P**	**08 06 25.3**	**0.0**
	baz=104							
IMAR	**Indian Mountai**	**49.60**	**338**	P	**P**	**08 06 27.1**	**+0.4**
TOLK	**Toolik Lake Re**	**49.90**	**342**	IAMs_20	IAMs_20	08 30 31.2		
	comp=Z,11µm,22.0s							
TOLK	**Toolik Lake Re**	**49.90**	**342**	P	**P**	**08 06 30.5**	**+1.5**
	baz=130							
TOLK				S	**S**	**08 13 41.3**	**+2.4**
	baz=130							
RPN	**Rapa Nui**	**51.73**	**180**	IAMs_20	IAMs_20	08 31 16.8		
	comp=Z,13µm,20.0s							
BOAV	**Boa Vista**	**52.16**	**107**	*e*P	**P**	**08 06 45.2**	**-1.5**
NIKH	**Nikolski High**	**52.19**	**319**	P	P	08 06 50.2	+3.9
NIKH				IAmb	IAmb	08 06 53.7		
	comp=Z,86nm,1.2s							
ANM	**Nome**	**53.31**	**334**	IAMs_20	IAMs_20	08 23 38.9		
	comp=Z,5µm,20.0s							
ANM	**Nome**	**53.31**	**334**	P	**P**	**08 06 53.7**	**-0.8**
	baz=110							
A21K	**Barrow**	**53.46**	**343**	IAMs_20	IAMs_20	08 31 27.3		
	comp=Z,5µm,19.0s							
RDOG	**Red Dog Mine**	**53.75**	**338**	P	**P**	**08 06 58.5**	**+0.9**
RDOG				IAmb	IAmb	08 07 13.1		
	comp=Z,39nm,1.3s							
RDOG				IAMs_20	IAMs_20	08 31 33.6		
	comp=Z,8µm,18.0s							
PTGA	**Pitinga**	**54.23**	**110**	P	**P**	**08 07 01.7**	**-0.2**
PTGA				IAmb	IAmb	08 07 17.0		
	comp=Z,46nm,1.1s							
ETMB	**Extrema**	**54.48**	**124**	*e*P	**P**	**08 07 01.9**	**-1.8**
MACA	**Manacapuru-AM**	**54.92**	**113**	*e*P	**P**	**08 07 06.1**	**-0.9**
SFJD	**Kangerlussuaq**	**55.26**	**24**	P	**P**	**08 07 09.1**	**+0.5**
SFJD				pmax	pmax			
	comp=Z,86nm,1.5s							
SFJD				MLR	MLR			
	comp=Z,4µm,22.0s							
SFJD	**Kangerlussuaq**	**55.26**	**24**	P	**P**	**08 07 09.1**	**+0.5**
SFJD	**Kangerlussuaq**	**55.26**	**24**	IAMs_20	IAMs_20	08 31 42.2		
	comp=Z,4µm,22.0s							
TULEG	**Thule**	**55.35**	**11**	IAMs_20	IAMs_20	08 31 20.6		
	comp=Z,9µm,18.0s							
GAMB	**Gambell**	**55.73**	**332**	IAMs_20	IAMs_20	08 32 00.9		
	comp=Z,5µm,22.0s							
ILULI	**Ilulissat**	**55.85**	**22**	IAMs_20	IAMs_20	08 31 48.6		
	comp=Z,6µm,20.0s							
NRS	**Narsarsuaq**	**56.01**	**32**	IAMs_20	IAMs_20	08 35 28.4		
	comp=Z,5µm,21.0s							
SAML	**Samuel**	**56.26**	**121**	P	**P**	**08 07 14.5**	**-2.0**
SAML				pmax	pmax			
	comp=Z,33nm,1.0s							
SAML				MLR	MLR			
	comp=Z,4µm,20.0s							
SAML	**Samuel**	**56.26**	**121**	P	**P**	**08 07 14.5**	**-2.0**
SAML				IAmb	IAmb	08 07 24.3		
	comp=Z,33nm,1.0s							
SAML				IAMs_20	IAMs_20	08 31 57.3		
	comp=Z,4µm,20.0s							
SAML	**Samuel**	**56.26**	**121**	*e*P	**P**	**08 07 15.2**	**-1.3**
DY2G	**Dye2**	**56.77**	**25**	*i* P	**P**	**08 07 19.2**	**-0.5**
DY2G				IAmb	IAmb	08 07 28.3		
	comp=Z,120nm,1.3s							
ADK	**Adak**	**56.87**	**317**	IAMs_20	IAMs_20	08 32 47.4		
	comp=Z,5µm,19.0s							
LPAZ	**La Paz**	**57.44**	**131**	P	**P**	**08 07 25.6**	**0.0**
	comp=Z,3.4nm,1.0s,baz=353,slow=9.7,SNR=8.8							
LPAZ	**La Paz**	**57.44**	**131**	P	**P**	**08 07 24.8**	**-0.7**
LPAZ				pmax	pmax			
	comp=Z,28nm,1.3s							
LPAZ	**La Paz**	**57.44**	**131**	P	**P**	**08 07 24.8**	**-0.7**
LPAZ				IAmb	IAmb	08 07 37.6		
	comp=Z,28nm,1.2s							
LPAZ	**La Paz**	**57.44**	**131**	*e*P	**P**	**08 07 25.5**	**0.0**
PPT2	**Papeete2**	**57.55**	**227**	*e*S	**S**	**08 15 23.6**	**-0.1**
	comp=Z,554nm,25.8s							
PPT2				*e*LQ	LQ	08 21 44.2		
	comp=Z,2µm,24.2s							
PPT2				*e*LR	LR	08 24 09.0		
	comp=Z,4µm,28.2s,baz=30							
PSGCX	**Pisagua**	**58.49**	**136**	IAMs_20	IAMs_20	08 33 14.8		
	comp=Z,4µm,18.0s							
PB11	**IPOC Station P**	**58.91**	**135**	P	**P**	**08 07 36.0**	**+0.8**
PB11				IAMs_20	IAMs_20	08 34 53.9		
	comp=Z,2µm,20.0s							
TA02	**Huaiquique**	**58.98**	**136**	P	**P**	**08 07 37.1**	**+1.6**
NEEM	**North Greenlan**	**59.15**	**13**	*i* P	**P**	**08 07 36.0**	**-0.4**
PB08	**IPOC Station P**	**59.51**	**135**	IAMs_20	IAMs_20	08 32 43.7		
	comp=Z,5µm,18.0s							
MALB	**Monte Alegre**	**59.69**	**108**	*e*P	**P**	**08 07 40.2**	**-0.5**
ITTB	**Itaituba**	**59.73**	**111**	*e*P	**P**	**08 07 40.5**	**-0.4**
ICESG	**Greenland Ices**	**59.77**	**23**	*i* P	**P**	**08 07 41.6**	**+0.8**
PB01	**IPOC Station P**	**59.96**	**136**	IAmb	IAmb	08 07 53.3		
	comp=Z,38nm,0.9s							
PB01				IAMs_20	IAMs_20	08 34 33.6		
	comp=Z,3µm,19.0s							
ANGG	**Ammassalik, Gr**	**60.09**	**27**	IAMs_20	IAMs_20	08 33 41.9		
	comp=Z,5µm,19.0s							
MIDW	**Midway**	**60.12**	**289**	IAMs_20	IAMs_20	08 32 53.0		
	comp=Z,5µm,22.0s							
PB07	**IPOC Station P**	**60.22**	**137**	IAMs_20	IAMs_20	08 35 15.3		
	comp=Z,3µm,18.0s							
ALE	**Alert**	**60.24**	**6**	IAMs_20	IAMs_20	08 34 02.7		
	comp=Z,5µm,21.0s							
PB04	**IPOC Station P**	**60.51**	**138**	IAMs_20	IAMs_20	08 33 08.9		
	comp=Z,3µm,22.0s							
PB09	**IPOC Station P**	**60.67**	**137**	IAMs_20	IAMs_20	08 34 00.3		
	comp=Z,4µm,21.0s							
SUMG	**Summit**	**60.76**	**19**	*i* P	**P**	**08 07 48.0**	**+0.4**
SUMG	**Summit**	**60.76**	**19**	IAmb	IAmb	08 07 50.5		
	comp=Z,47nm,1.4s							
SUMG				IAMs_20	IAMs_20	08 35 15.2		
	comp=Z,3µm,19.0s							
MCPB	**Macapa, AP**	**60.88**	**105**	*e*P	**P**	**08 07 47.1**	**-1.7**
VILB	**Vilhena**	**61.02**	**122**	*e*P	**P**	**08 07 49.3**	**-0.3**
PB06	**IPOC Station P**	**61.14**	**137**	IAMs_20	IAMs_20	08 35 56.7		
	comp=Z,3µm,19.0s							
PB10	**IPOC Station P**	**61.15**	**139**	IAMs_20	IAMs_20	08 36 37.9		
	comp=Z,3µm,19.0s							
LVC	**Limon Verde**	**61.47**	**137**	P	**P**	**08 07 55.0**	**+2.0**
LVC				pmax	pmax			
	comp=Z,49nm,1.3s							
LVC	**Limon Verde**	**61.47**	**137**	P	**P**	**08 07 55.0**	**+2.0**
LVC				IAmb	IAmb	08 08 08.0		
	comp=Z,48nm,1.3s							
LVC	**Limon Verde**	**61.47**	**137**	IAMs_20	IAMs_20	08 33 42.7		
	comp=Z,3µm,19.0s							
LVC	**Limon Verde**	**61.47**	**137**	*e*P	**P**	**08 07 55.1**	**+2.0**
NPGB	**Novo Progresso**	**61.48**	**114**	*e*P	**P**	**08 07 51.0**	**-1.9**
PB15	**IPOC Station P**	**61.57**	**138**	IAMs_20	IAMs_20	08 33 23.2		
	comp=Z,3µm,21.0s							
TBI	**Tubuai**	**61.69**	**222**	*e*S	**S**	**08 16 16.3**	**-0.5**
	comp=Z,626nm,28.2s							
TBI				*e*LQ	LQ	08 23 29.0		
	comp=Z,2µm,31.8s							
TBI				*e*LR	LR	08 26 00.5		
	comp=Z,2µm,29.0s,baz=43							
PB14	**IPOC Station P**	**62.08**	**140**	IAMs_20	IAMs_20	08 37 49.5		
	comp=Z,5µm,19.0s							
AF01	**San Pedro de A**	**62.18**	**137**	P	**P**	**08 07 59.3**	**+1.6**
CLDB	**Colider**	**63.25**	**118**	*e*P	**P**	**08 08 03.6**	**-1.1**
PTLB	**Pontes e Lacer**	**63.37**	**124**	*e*P	**P**	**08 08 05.3**	**-0.1**
AC06	**Mina Casimiro**	**64.19**	**141**	P	**P**	**08 08 12.2**	**+1.6**
AC06				IAmb	IAmb	08 08 21.2		
	comp=Z,36nm,1.2s							
H03N2	**Juan Fernandez**	**64.89**	**152**	T	T	09 18 58.1		
	baz=331,slow=77,SNR=497							
H03N1	**Juan Fernandez**	**64.90**	**152**	T	T	09 18 59.4		
	baz=331,slow=77,SNR=808							
H03N3	**Juan Fernandez**	**64.91**	**152**	T	T	09 18 56.0		
	baz=331,slow=77,SNR=719							
BILL	**Bilibino**	**65.03**	**336**	*ce*P	P	08 08 21.8	+6.2
BILL				*i*		08 08 25.8		
BILL				*e*		08 10 45.9		
BILL				pmax	pmax			
	comp=Z,44nm,1.2s							
BILL				MLR	MLR			
	comp=Z,2µm,16.0s							
TMAB	**Tom-Au,PA,Br**	**65.31**	**105**	*e*P	**P**	**08 08 18.6**	**+0.4**
PRPB	**Paraupebas**	**65.69**	**110**	*e*P	**P**	**08 08 19.8**	**-1.0**
SCO	**Scoresbysund**	**65.94**	**22**	IAMs_20	IAMs_20	08 41 24.1		
	comp=Z,10µm,22.0s							
DAG	**Danmarks Havn**	**66.13**	**15**	*i*P	**P**	**08 08 23.9**	**+1.4**
DAG				IAmb	IAmb	08 08 31.1		
	comp=Z,15nm,0.9s							
SALV	**Santo Antonio**	**66.26**	**122**	*e*P	**P**	**08 08 23.1**	**-1.2**
CO03	**El Pedregal**	**66.71**	**144**	P	**P**	**08 08 28.9**	**+1.9**
BORG	**Borgarnes**	**66.98**	**28**	IAMs_20	IAMs_20	08 41 57.1		
	comp=Z,8µm,22.0s							
SNDB	**Serra Nova Dou**	**67.52**	**116**	*e*P	**P**	**08 08 31.7**	**-0.6**
PP1B	**Ponte de Pedra**	**67.90**	**123**	*e*P	**P**	**08 08 35.2**	**+0.5**
MT01	**Popeta**	**68.81**	**147**	P	**P**	**08 08 42.1**	**+2.0**
MT01				IAmb	IAmb	08 08 50.7		
	comp=Z,30nm,1.0s							
SMTB	**Santa Maria do**	**68.96**	**111**	*e*P	**P**	**08 08 41.0**	**-0.4**
AQDB	**Aquidauana**	**69.04**	**126**	IAmb	IAmb	08 08 54.0		
	comp=Z,26nm,1.1s							
AQDB	**Aquidauana**	**69.04**	**126**	*e*P	**P**	**08 08 41.3**	**-0.5**
ROSB	**Rosrio**	**69.05**	**104**	*e*P	**P**	**08 08 41.5**	**-0.5**
ARAG	**Araguaiana, MT**	**69.18**	**119**	*e*P	**P**	**08 08 42.4**	**-0.4**
PEXB	**Peixe**	**70.05**	**114**	*e*P	**P**	**08 08 48.8**	**+0.7**
KBS	**Kingsbay**	**71.37**	**10**	*e*P	**P**	**08 08 56.5**	**+1.3**
KBS	**Kingsbay**	**71.37**	**10**	IAMs_20	IAMs_20	08 41 13.1		
	comp=Z,6µm,20.0s							
PET	**Petropavlovsk**	**71.60**	**320**	*i* P	P	08 09 03.4	+6.4
PET				pmax	pmax			
	comp=Z,22nm,1.0s							
CPUP	**Villa Florida**	**71.61**	**132**	P	**P**	**08 08 57.9**	**+0.6**
	comp=Z,14nm,0.9s,baz=322,slow=6.7,SNR=20							
CPUP	**Villa Florida**	**71.61**	**132**	IAmb	IAmb	08 09 07.1		
	comp=Z,36nm,1.0s							
CPUP	**Villa Florida**	**71.61**	**132**	*e*P	**P**	**08 08 57.4**	**+0.1**
SEY	**Seymchan**	**71.73**	**332**	P	**P**	**08 08 58.7**	**+1.1**
	comp=Z,5.3nm,0.9s,baz=82,slow=5.6,SNR=6.9							
AFI	**Afiamalu**	**71.97**	**245**	IAMs_20	IAMs_20	08 46 39.5		
	comp=Z,6µm,20.0s							
NBPS	**Pedro II - PI**	**72.11**	**104**	*e*P	**P**	**08 09 00.9**	**+0.1**
PETK	**Petropavlovsk-**	**72.13**	**321**	P	**P**	**08 09 02.4**	**+2.2**
	comp=Z,5.9nm,0.9s,baz=177,slow=8.0,SNR=5.0							
BDFB	**Brasilia**	**72.18**	**117**	P	**P**	**08 09 01.0**	**-0.1**
	comp=Z,12nm,1.1s,baz=328,slow=6.6,SNR=5.9							
BDFB	**Brasilia**	**72.18**	**117**	P	**P**	**08 09 02.8**	**+1.7**
BDFB				pmax	pmax			
	comp=Z,16nm,0.9s							
BDFB	**Brasilia**	**72.18**	**117**	P	**P**	**08 09 02.8**	**+1.7**
BDFB				IAmb	IAmb	08 09 18.5		
	comp=Z,16nm,0.9s							
SPA0	**Spitsbergen Ar**	**72.53**	**10**	*e*P	**P**	**08 09 02.9**	**+0.7**
ITRB	**Iturama**	**72.60**	**122**	*e*P	**P**	**08 09 04.3**	**+0.8**
TRCB	**Terra Rica**	**72.71**	**126**	*e*P	**P**	**08 09 05.7**	**+1.7**
NBMO	**Morrinhos-CE**	**72.86**	**102**	*e*P	**P**	**08 09 05.7**	**+0.5**
PCMB	**Pacaembu**	**73.02**	**124**	*e*P	**P**	**08 09 06.7**	**+0.8**
SDBA	**SAO DESIDERIO**	**73.03**	**113**	*e*P	**P**	**08 09 05.8**	**-0.4**
HSPB	**Hornsund (broa**	**73.14**	**11**	*e*P	**P**	**08 09 04.9**	**-0.9**
IPMB	**Ipameri, GO**	**73.30**	**119**	*e*P	**P**	**08 09 07.4**	**-0.4**
MA2	**Magadan**	**73.62**	**328**	IAMs_20	IAMs_20	08 35 29.3		
	comp=Z,4µm,20.0s							
LL04	**Puerto Octay**	**73.97

AKN	Aaknes	79.63	25	eP		P		08 09 43.8	+0.9
NBRF	Rio Formoso -	79.64	105	eP		P		08 09 43.9	+0.2
BSFB	Barra de Sao F	79.67	116	eP		P		08 09 43.8	+0.1
NAN01	Guarapari, ES	79.76	115	eP		P		08 09 44.2	-0.1
HYA	Hoyanger	79.87	26	eP		P		08 09 44.6	+0.5
NSS	Namsos	80.04	22	eP		P		08 09 44.6	-0.4
SACV	Santiago Islan	80.15	78	IAMs_20	IAMs_20	08 42 19.5			
	comp=Z,8µm,22.0s								
KTK1	Kautokeino	80.28	16	eP		P		08 09 47.1	+0.8
ARA0	ARCESS Array S	80.42	15	eP		P		08 09 47.2	+0.2
ARCES	ARCESS Array B	80.42	15	P		P		08 09 48.9	+1.9
	comp=Z,5.5nm,0.7s,baz=320,slow=4.7,SNR=5.0								
ARCES	ARCESS Array B	80.42	15	P		P		08 09 46.3	-0.7
ARCES				pmax	pmax				
	comp=Z,20nm,1.0s								
ARCES	ARCESS Array B	80.42	15	P		P		08 09 46.3	-0.7
ARCES				IAmb	IAmb	08 09 56.3			
	comp=Z,20nm,0.9s								
KEV	Kevo	80.59	14	IAMs_20	IAMs_20	08 48 06.8			
	comp=Z,7µm,21.0s								
BLS5	Blasjo	80.96	28	eP		P		08 09 50.7	+0.5
SKAR	Skarslia	81.00	26	eP		P		08 09 51.1	+0.7
YAK	Yakutsk	81.39	336	eP		P		08 09 55.9	+3.6
YAK				pmax	pmax				
	comp=Z,54nm,1.3s								
YAK				pmax	pmax				
	comp=N,11nm,1.5s								
YAK				pmax	pmax				
	comp=E,10.0nm,1.5s								
YAK	Yakutsk	81.39	336	IAMs_20	IAMs_20	08 38 02.1			
	comp=Z,6µm,20.0s								
NB2	NORSAR Subarra	81.93	25	P		P		08 09 54.9	-0.3
	comp=Z,47nm,1.7s,baz=308,slow=5.3								
NB2	NORSAR Subarra	81.93	25	P		P		08 09 54.9	-0.3
	baz=308,slow=5.3								
NOA	NORSAR Array B	81.93	25	P		P		08 09 56.8	+1.6
	comp=Z,2.8nm,1.2s,baz=307,slow=5.4,SNR=2.8								
POLO	Lamas de Olo	82.09	48	epP	pP	08 10 04.6	+5.3		
KONO	Kongsberg	82.13	27	*ce*P		P		08 09 57.0	+0.7
KONO				pmax	pmax				
	comp=Z,68nm,1.7s								
KONO	Kongsberg	82.13	27	eP		P		08 09 55.9	-0.4
KONO	Kongsberg	82.13	27	IAMs_20	IAMs_20	08 48 41.6			
	comp=Z,8µm,21.0s								
COI	Coimbra	82.18	49	IAMs_20	IAMs_20	08 43 09.2			
	comp=Z,4µm,21.0s								
PCAS	Casmilo, Conde	82.19	50	epP	pP	08 10 05.3	+5.6		
PSBE	So Bento	82.21	50	epP	pP	08 10 05.4	+5.5		
NC602	NORSAR Array S	82.24	25	eP		P		08 09 57.0	+0.1
PBRG	Braganca	82.60	47	epP	pP	08 10 08.4	+6.5		
MTE	Manteigas	82.69	49	eP		P		08 09 59.4	-0.3
	comp=Z,50nm,2.5s								
MTE	Manteigas	82.69	49	IAmb	IAmb	08 10 08.4			
	comp=Z,24nm,0.9s								
MTE				IAMs_20	IAMs_20	08 50 33.7			
	comp=Z,6µm,21.0s								
MVO	Moncorvo	82.70	48	epP	pP	08 10 09.5	+7.0		
PMTG	Montargil	82.81	50	eP		P		08 09 59.7	-0.5
	comp=Z,38nm,1.3s								
YUK	Yuzh-Kuril'sk	82.87	315	eP		P		08 09 52.8	-7.6
YUK				*e*S		S		08 20 14.3	-4.8
PNCL	Nicolau / Gran	83.01	51	epP	pP	08 10 07.8	+3.7		
PMRV	Marv??o	83.23	50	eP		P		08 10 02.1	-0.3
PMRV				epP		pwP		08 10 08.7	+1.3
PFVI	Vila Bisbo	83.23	52	eP		P		08 10 02.4	0.0
	comp=Z,87nm,1.6s								
MORF	Marmelete	83.28	52	eP		P		08 10 03.2	+0.4
MORF				IAmb	IAmb	08 10 10.7			
	comp=Z,30nm,1.3s								
MORF	Marmelete	83.28	52	eP		P		08 10 03.2	+0.4
MORF	Marmelete	83.28	52	eP		P		08 10 03.1	+0.3
	comp=Z,66nm,1.6s								
PESTR	Estremoz	83.34	50	eP		P		08 10 02.6	-0.4
	comp=Z,41nm,1.4s								
PESTR				epP		pwP		08 10 10.4	+2.4
MESJ	Messejana	83.35	51	eP		P		08 10 03.6	+0.6
MESJ				IAmb	IAmb	08 10 07.8			
	comp=Z,11nm,1.0s								
MESJ	Messejana	83.35	51	eP		P		08 10 03.6	+0.6
MESJ	Messejana	83.35	51	eP		P		08 10 04.1	+1.1
	comp=Z,39nm,1.6s								
MESJ				epP		pwP		08 10 11.0	+3.0
YSS	Yuzh-Sakhalins	83.39	319	eP		P		08 10 12.9	+10
YSS	Yuzh-Sakhalins	83.39	319	IAMs_20	IAMs_20	08 52 48.5			
	comp=Z,6µm,21.0s								
PCVE	Castro Verde	83.57	52	eP		P		08 10 03.9	-0.3
	comp=Z,29nm,1.7s								
PCVE				epP		pwP		08 10 12.1	+2.9
LVZ	Lovozero	83.73	13	*ce*P		P		08 10 07.2	+2.8
LVZ				pmax	pmax				
	comp=Z,32nm,1.0s								
LVZ	Lovozero	83.73	13	IAMs_20	IAMs_20	08 48 47.6			
	comp=Z,6µm,22.0s								
APA	Apatity	83.75	13	||*i* P		P		08 10 05.2	+0.7
APA				*i*				08 13 24.0	
APA				*i* PPP		PPP		08 15 07.0	
APA				*i* S		S		08 20 26.0	-1.1
APA				*i* PS		PnS		08 21 18.0	-0.7
APA				*i* SS		SS		08 25 51.0	-1.8
APA				MLR	MLR				
	comp=Z,6µm,31.0s								
PBAR	Barrancos	84.03	51	eP		P		08 10 05.9	-0.7
PBAR				epP		pwP		08 10 14.1	+2.6
PBAR				eLQ	LQ	08 10 14.4			
NRIK	Noril'sk	85.22	354	P		P		08 10 12.4	+0.5
	comp=Z,5.9nm,0.9s,baz=255,slow=1.6,SNR=5.9								
NRIK	Noril'sk	85.22	354	*i* P		P		08 10 16.2	+4.3
NRIK				pmax	pmax				
	comp=Z,39nm,1.6s								
NRIK	Noril'sk	85.22	354	P		P		08 10 12.2	+0.2
NRIK				IAmb	IAmb	08 10 28.9			
	comp=Z,30nm,1.1s								
PAB	San Pablo	85.26	49	P		P		08 10 12.6	-0.3
PAB				pmax	pmax				
	comp=Z,29nm,1.2s								
PAB				MLR	MLR				
	comp=Z,5µm,20.0s								
PAB	San Pablo	85.26	49	P		P		08 10 12.6	-0.3
PAB				IAmb	IAmb	08 10 24.9			
	comp=Z,29nm,1.2s								
PAB	San Pablo	85.26	49	IAMs_20	IAMs_20	08 49 27.8			
	comp=Z,5µm,20.0s								
ESDC	Sonseca Array	85.46	48	P		P		08 10 13.1	-0.8
	comp=Z,1.8nm,0.8s,baz=309,slow=5.2,SNR=11								
ESDC	Sonseca Array	85.46	48	P		P		08 10 13.3	-0.5
ERM	Erimo	85.58	314	IAMs_20	IAMs_20	08 53 01.0			
	comp=Z,6µm,19.0s								
MBO	M'Bour	86.27	76	IAMs_20	IAMs_20	08 44 11.6			
	comp=Z,7µm,21.0s								
WLF	Walferdange	86.37	36	IAMs_20	IAMs_20	08 49 46.5			
	comp=Z,6µm,22.0s								
FINES	FINESS Array B	86.80	20	P		P		08 10 19.4	-0.5
	comp=Z,1.7nm,0.7s,baz=33,slow=5.3,SNR=2.8								
FINES	FINESS Array B	86.80	20	*i* P		P		08 10 26.2	+6.4
FINES				pmax	pmax				
	comp=Z,7.0nm,0.8s								
RGN	Rugen	86.91	29	IAMs_20	IAMs_20	08 52 09.0			
	comp=Z,6µm,19.0s								
TNS	Taunus Mts	87.25	35	eP		P		08 10 26.3	+4.0
	comp=Z,17nm,1.6s,baz=308,slow=4.3								
ZEA	Zeya	87.67	330	eP		P		08 10 28.5	+4.3
KLR	Kul'dur	88.31	325	*i* P		P		08 10 31.3	+3.9
KLR				pmax	pmax				
	comp=Z,3.0nm,1.3s								
BFO	Black Forest	88.31	36	IAMs_20	IAMs_20	08 56 02.9			
	comp=Z,5µm,19.0s								
STU	Stuttgart	88.51	36	IAMs_20	IAMs_20	08 56 34.0			
	comp=Z,6µm,18.0s								
MOX	Moxa	88.59	33	eL		L		08 48 52.2	
	comp=Z,3µm,21.7s								
CLL	Collm	88.85	32	eP		P		08 10 34.0	+4.1
GRA1	Grafenberg Arr	88.99	34	IAMs_20	IAMs_20	08 57 02.6			
	comp=Z,7µm,19.0s								
GRF	Grafenberg Arr	88.99	34	eP		P		08 10 26.2	-4.4
	comp=Z,126nm,2.9s,baz=308,slow=4.3								
GRF				eL		L		08 52 20.9	
	comp=Z,4µm,18.6s								
GRFO	Grafenberg	88.99	34	IAMs_20	IAMs_20	08 57 01.6			
	comp=Z,7µm,19.0s								
BNI	Bardonecchia	89.32	40	IAMs_20	IAMs_20	08 54 16.8			
	comp=Z,5µm,21.0s								
GERES	GERESS Array B	90.78	34	P		P		08 10 38.7	-0.5
	comp=Z,0.1nm,0.4s,baz=348,slow=6.3,SNR=1.5								
KLMR	Klimovskoe	90.90	15	eP		P		08 10 44.6	+5.3
KLMR				pmax	pmax				
	comp=Z,44nm,1.4s								
KLMR	Klimovskoe	90.90	15	eP		P		08 10 44.6	+5.3
KLMR				AMP		08 10 48.0			
	comp=Z,44nm,1.4s								
USRK	Ussuriysk Ar.	91.22	321	P		P		08 10 42.8	+1.7
USRK	Ussuriysk Ar.	91.22	321	P		P		08 10 42.8	+1.7
SUW	Suwalki	91.43	26	IAMs_20	IAMs_20	08 55 19.3			
	comp=Z,6µm,20.0s								
PRGR	Permogore	91.45	12	eP		P		08 10 44.4	+2.6
PRGR				pmax	pmax				
	comp=Z,88nm,1.3s								
MJAR	Matsushiro Arr	91.70	312	P		P		08 10 47.2	+3.7
	comp=Z,1.6nm,0.9s,baz=26,slow=6.4,SNR=2.8								
MAT	Matsushiro	91.70	312	P		P		08 10 46.7	+3.2
MAT				*e*S		S		08 21 52.4	+8.0
VLC	Villacollemand	91.97	39	IAMs_20	IAMs_20	08 52 47.0			
	comp=Z,4µm,20.0s								
MDJ	Mudanjiang	92.32	322	IAMs_20	IAMs_20	08 59 32.0			
	comp=Z,4µm,21.0s								
INU	Inuyama	93.16	311	IAMs_20	IAMs_20	08 40 27.4			
	comp=Z,3µm,22.0s								
HIA	Hailar	94.14	330	IAMs_20	IAMs_20	08 40 52.3			
	comp=Z,3µm,21.0s								
CN2	Changchun	95.12	324	eP		P		08 11 00.0	+0.9
OBN	Obninsk	95.16	19	eP		P		08 11 03.7	+4.7
OBN				*e*				08 14 43.6	
OBN				pmax	pmax				
	comp=Z,7.0nm,1.1s								
OBN	Obninsk	95.16	19	IAMs_20	IAMs_20	08 49 38.2			
	comp=Z,3µm,18.0s								
DIVS	Divibare	97.19	34	IAMs_20	IAMs_20	09 00 19.7			
	comp=Z,4µm,21.0s								
KOWA	Kowa	97.47	70	IAMs_20	IAMs_20	08 40 40.3			
	comp=Z,5µm,20.0s								
ASCN	Ascension	97.89	95	IAMs_20	IAMs_20	09 01 18.7			
	comp=Z,6µm,22.0s								
PDG	Podgorica	97.98	36	IAMs_20	IAMs_20	09 01 39.8			
	comp=Z,5µm,18.0s								
ARU	Arti	98.35	7	*c i* P		Pdif		08 11 21.0	+7.5
ARU				SS	SS	08 29 32.4	+9.1		
ARU				pmax	pmax				
	comp=Z,17nm,1.8s								
ARU	Arti	98.35	7	IAMs_20	IAMs_20	08 56 17.8			
	comp=Z,4µm,22.0s								
INCN	Inchon	98.58	318	IAMs_20	IAMs_20	09 03 46.0			
	comp=Z,6µm,22.0s								
TIP	Timpagrande	98.83	39	IAMs_20	IAMs_20	08 56 32.5			
	comp=Z,4µm,22.0s								
ULN	Ulaanbaatar	100.48	336	IAMs_20	IAMs_20	08 42 17.9			
	comp=Z,9µm,22.0s								
BRVK	Borovoye	102.37	0	IAMs_20	IAMs_20	09 02 19.5			
	comp=Z,5µm,19.0s								
BJT	Baijiatuan	102.68	326	IAMs_20	IAMs_20	09 07 44.1			
	comp=Z,3µm,21.0s								
KURBB	Kurchatov Arra	104.47	355	PKKP		08 27 47.5			
	comp=Z,1.0nm,0.8s,baz=196,slow=4.1,SNR=7.9								
SANT	Santorini	105.67	36	IAMs_20	IAMs_20	09 06 34.4			
	comp=Z,5µm,18.0s								
KIV	Kislovodsk	106.86	21	IAMs_20	IAMs_20	09 06 15.2			
	comp=Z,5µm,20.0s								
MKAR	Makanchi Array	107.85	352	PKKPab	PKKPab	08 27 34.5	+0.9		
	comp=Z,1.5nm,0.9s,baz=159,slow=3.6,SNR=4.8								
MAKZ	Makanchi	107.88	352	IAMs_20	IAMs_20	09 07 38.9			
	comp=Z,3µm,21.0s								
SHEL	Horse Pasture	108.75	99	IAMs_20	IAMs_20	09 09 34.3			
	comp=Z,3µm,21.0s								
NACB	Ninganchiao	110.54	311	IAMs_20	IAMs_20	09 12 15.9			
	comp=Z,5µm,22.0s								
GNI	Garni	110.96	21	IAMs_20	IAMs_20	09 12 32.5			
	comp=Z,5µm,20.0s								
YULB	Yu-li	111.26	310	IAMs_20	IAMs_20	09 13 09.0			
	comp=Z,5µm,21.0s								
ENH	Enshi	113.64	324	IAMs_20	IAMs_20	09 15 29.4			
	comp=Z,2µm,18.0s								
GHAJ	Ghor Haditha	114.86	33	IAMs_20	IAMs_20	09 08 59.1			
	comp=Z,5µm,20.0s								
VNA3	Neumayer Olymp	116.50	159	PKPdf	**PKiKP**	**08 16 24.4**	**+5.5**		
VNA2	Neumayer--Watz	117.25	159	PKPdf	**PKiKP**	**08 16 25.0**	**+4.6**		
STKA	Stephens Creek	118.10	246	PKP	**PKiKP**	**08 16 26.2**	**+3.1**		
	comp=Z,1.0nm,0.4s,baz=352,slow=6.5,SNR=4.2								
WRA	Warramunga Arr	121.28	261	PKP	**PKiKP**	**08 16 29.4**	**-0.4**		
	comp=Z,1.1nm,0.6s,baz=93,slow=1.9,SNR=12								
WRA				PKKPab	PKKPab	08 26 37.8	+6.4		
	comp=Z,2.1nm,1.1s,baz=306,slow=2.3,SNR=6.4								
NIL	Nilore	121.71	357	IAMs_20	IAMs_20	09 09 01.3			
	comp=Z,4µm,20.0s								
LSA	Lhasa	122.22	339	IAMs_20	IAMs_20	08 52 26.4			
	comp=Z,2µm,21.0s								
ASAR	Alice Springs	122.72	257	PKP	**PKiKP**	**08 16 31.5**	**-1.0**		
	comp=Z,0.8nm,0.6s,baz=84,slow=0.9,SNR=4.2								
ASAR				PKKPbc	**PKKPab**	**08 26 24.2**	**-0.7**		
	comp=Z,0.7nm,0.8s,baz=261,slow=3.0,SNR=5.2								
SLVN	Son La	123.75	322	IAMs_20	IAMs_20	09 16 55.6			
	comp=Z,3µm,22.0s								
MAW	Mawson	137.03	176	PKP	**PKiKP**	**08 16 57.5**	**-2.3**		
	comp=Z,0.6nm,0.3s,baz=225,slow=1.7,SNR=2.1								
SOCY	Socotra	139.75	26	IAMs_20	IAMs_20	09 28 07.5			
	comp=Z,4µm,21.0s								
KMBO	Kilima Mbogo	140.09	59	*c i* PKIKP	PKiKP	08 17 16.3	+8.2		
KMBO				pmax	pmax				
	comp=Z,3.0nm,0.9s								
CISI	Cisompet, Garu	140.46	289	IAMs_20	IAMs_20	09 33 32.9			
	comp=Z,2µm,22.0s								
PALK	Pallekele	146.52	342	IAMs_20	IAMs_20	09 21 06.2			
	comp=Z,2µm,20.0s								

NEIC ***13*** *07:59:16.3±2.0, 52.˚6N±0.˚1×174.˚25W±0.˚09, h193km±6km, mb4.7/142, ML3.9(AEIC), Error ellipse: s-maj=15.7km s-min=7.1km az=166.0*

AEIC ***13*** *07:59:16±3.8, 52.˚2N±0.˚1×174.˚06W±0.˚09, h199km±4km, Error ellipse: s-maj=20.4km s-min=7.2km az=167.0*

IDC ***13*** *07:59:17.3±2.0, 52.˚88N×174.˚44W, h202km±17km, mb3.8/25, mb1 4.0/26, mb1mx3.7/63, mbtmp4.3/26, Error ellipse: s-maj=16.2km s-min=9.7km az=16.0*

ISC 13 07:59:16.4±0.4, 52.˚66N±0.˚09×174.˚23W±0.˚04, h200km, n283, σ1§10/299, mb4.5/74, 1D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op	ISC	h	m s	ISC
KONE	Korovin Northe	0.28	166		Pn	07 59 42.0		-0.9
KOSE	Korovin Southe	0.34	161		Pn	07 59 42.2		-0.9
KOKL	Mount Kliuchef	0.34	177		Pn	07 59 42.3		-0.8
KOFP	Korovin Flat P	0.40	168		Pn	07 59 42.1		-1.2
ATKA	Atka Island	0.46	177		Pn	07 59 41.8		-1.6
ATKA	Atka Island	0.46	177		Sn	08 00 02.1		-2.1
GSTR	Great Sitkin T	1.26	244		Pn	07 59 47.0		-1.2
GSMY	Great Sitkin M	1.28	242		Pn	07 59 47.2		-1.1
GSSP	Great Sitkin S	1.32	245		Pn	07 59 47.6		-1.0
GSTD	Great Sitkin T	1.32	243		Pn	07 59 47.5		-1.2
GSTD					Sn	08 00 12.5		-1.1
GSCK	Great Sitkin C	1.35	242		Pn	07 59 47.8		-1.0
ETKA	Kagalaska Isla	1.56	240		Pn	07 59 49.7		-1.0
ADAG	Mount Adagdak	1.61	246		Pn	07 59 50.4		-0.7
ADK	Adak	1.70	244		Pn	07 59 50.6		-1.3
ADK				Sn	Sn	08 00 16.6		-2.8
KINC	Kanaga Island	1.92	249		Pn	07 59 53.7		-0.5
KICM	Kanaga Island	1.97	249		Pn	07 59 54.4		-0.2
KIKV	Kanaga Island	1.97	248		Pn	07 59 54.1		-0.5
KIWB	Kanaga Island	1.97	247		Pn	07 59 53.6		-1.0
KIMD	Kanaga Island	2.06	245		Pn	07 59 54.9		-0.6
TAFP	Tanaga Falls P	2.43	253		Pn	07 59 59.8		+0.3
TAFP					Sn	08 00 31.8		-1.2
TASE	Tanaga Southea	2.48	252		Pn	07 59 59.8		-0.3
GAEA	Gareloi East	2.91	254		Pn	08 00 05.0		0.0
GALAA	Gareloi Lava P	2.94	254		Pn	08 00 05.0		-0.2
NIKH	Nikolski High	3.28	82	Pn	Pn	08 00 08.2		-0.9
NIKH	Nikolski High	3.28	82		Sn	08 00 47.4		-0.3
NIKH	Nikolski High	3.28	82	P	Pn	08 00 08.5		-0.8
	baz=258							
NIKH				S	Sn	08 00 47.4		-3.3
	baz=258							
OKSP	Okmok Steeple	3.64	78		Pn	08 00 13.4		-0.3
OKSO	Okmok South	3.73	77		Pn	08 00 14.7		-0.2
OKSO					Sn	08 01 00.7		0.0
OKTU	Okmok Mt. Tuli	3.81	77		Pn	08 00 15.6		-0.2
CERAA	Semis' Rag'd T	3.81	261		Pn	08 00 15.5		-0.4
CEPE	Semis' Perret	3.82	262		Pn	08 00 15.8		-0.1
CEAP	Semis' Anvil P	3.85	263		Pn	08 00 16.4		0.0
CESW	Semis' Southwe	3.89	261		Pn	08 00 16.3		-0.5
OKFG	Magazine Ridge	3.89	76		Pn	08 00 17.2		+0.5
OKFG					Sn	08 01 03.7		-0.4
AMKA	Amchitka	4.20	255	Pn	Pn	08 00 19.4		-1.2
LSPA	Little Sitkin	4.47	264		Pn	08 00 24.4		+0.4
LSSA	Little Sitkin	4.51	264		Pn	08 00 25.0		+0.4
MAPS	Pakushin South	4.53	72		Pn	08 00 24.7		-0.1
MREP	Makushin Rep't	4.64	73		Pn	08 00 26.4		+0.2
MSW	Makushin Switc	4.64	71		Pn	08 00 26.3		+0.1
MNAT	Makushin Natee	4.69	72		Pn	08 00 27.2		+0.4
MNAT					Sn	08 01 20.9		-1.4
MTBL	Makushin Table	4.71	71		Pn	08 00 27.6		+0.4
UNV	Unalaska Valle	4.79	73	Pn	Pn	08 00 27.6		-0.4
UNV	Unalaska Valle	4.79	73		Sn	08 01 22.8		-1.6
UNV	Unalaska Valle	4.79	73	P	Pn	08 00 27.8		-0.2
	baz=253							
UNV				S	Sn	08 01 22.8		-1.6
	baz=253							
SPIA	Saint Paul Isl	5.07	25	Pn	Pn	08 00 32.5		+0.9
AKRB	Akutan Reef Bi	5.10	70		Pn	08 00 32.0		0.0
AKMO	Akutan Morgan	5.13	71		Pn	08 00 32.8		+0.4
AKMO					Sn	08 01 31.8		-0.4
AKLV	Akutan Long Va	5.17	70		Pn	08 00 33.0		+0.1
AKLV					Sn	08 01 34.9		+1.5
AKUT	Akutan	5.27	70	Pn	Pn	08 00 34.3		+0.1
WEBT	Westdahl Beart	5.96	67		Pn	08 00 43.7		+0.6
SSLW	Shishaldin Wes	6.36	67		Pn	08 00 48.1		-0.2
FALS	False Pass	6.78	67	Pn	Pn	08 00 53.4		-0.2
FALS	False Pass	6.78	67	P	Pn	08 00 53.4		-0.2
	baz=251							
FALS				S	Sn	08 02 09.9		-0.8
	baz=251							
DT1	Dutton Round H	7.48	66		Pn	08 01 02.1		-0.6
SDPT	Sand Point	8.54	66	Pn	Pn	08 01 14.7		-1.8
CHGN	Chignik	9.90	62	Pn	Pn	08 01 33.1		-0.9
CHIR	Chirikof Islan	11.33	66	Pn	Pn	08 01 51.1		-1.4
SII	Sitkinak Islan	12.25	63		P	08 02 08.2		-0.4
O18K	Koktuh Hills	12.76	48	P	P	08 02 13.0		-1.2
N18K	Kilae Creek	12.85	44	P	P	08 02 14.1		-1.2
OHAK	Old Harbor	12.86	61	Pn	Pn	08 02 11.1		-0.8
Q19K	Cape Douglas,	13.14	53		Pn	08 02 15.3		-0.2
SVW2	Sparrevohn	13.20	43		P	08 02 17.8		-1.3
KDAK	Kodiak Island	13.35	59	P	Pn	08 02 15.0		-3.0
	7.3nm,0.3s,baz=268,slow=2.9,SNR=64							
KDAK				S	S	08 04 43.1		-3.5
	1.7nm,0.3s,baz=351,slow=24,SNR=6.6							
KDAK	Kodiak Island	13.35	59	Pn	Pn	08 02 17.3		-0.7
N19K	Bonanza Creek	13.52	45		P	08 02 22.6		-0.1
M19K	Big River Lodg	14.11	41	P	P	08 02 29.8		+0.6
BRLK	Bradley Lake	14.75	52	P	Pn	08 02 35.3		-0.1
SKT	Skwentna	15.32	44		P	08 02 45.2		+2.6
J20K	Nowinta River	15.52	34		P	08 02 45.9		+1.1
J20K				IAmb	IAmb	08 03 02.3		
	comp=Z,22nm,0.8s							
CAST	Castle Rocks	15.82	38	P	Pn	08 02 51.3		+3.0
CAST				IAmb	IAmb	08 02 55.3		
	comp=Z,25nm,0.8s							
PMR	Palmer	16.20	47	P	Pn	08 02 53.3		+0.6
GHO	Glory Hole Cre	16.36	46	P	P	08 02 53.3		-0.7
GHO				IAmb	IAmb	08 02 57.0		
	comp=Z,18nm,0.4s							
TRF	Thorofare Moun	16.53	40		Pn	08 02 57.6		+0.7
BPAW	Bear Paw Mtn.	16.60	37		Pn	08 02 58.6		+0.9
SML	Sawmill	16.63	46	P	P	08 02 57.0		0.0
IMAR	Indian Mountai	16.83	30	P	Pn	08 03 00.4		+0.1
GLI	Glacier Island	16.89	50	P	P	08 02 59.4		-0.4
GLI				IAmb	IAmb	08 03 04.1		
	comp=Z,17nm,0.7s							
HIN	Hinchinbrook I	17.04	52	P	P	08 03 01.9		+0.5
RND	Reindeer	17.08	41	P	P	08 03 02.1		+0.2
SCM	Sheep Creek Mo	17.09	47	P	P	08 03 01.1		-0.9
SCM				IAmb	IAmb	08 03 05.0		
	comp=Z,24nm,1.0s							
FID	Port Fidalgo	17.14	51	P	P	08 03 01.4		-1.2
FID				IAmb	IAmb	08 03 04.4		
	comp=Z,26nm,0.7s							
MCK	McKinley	17.20	40	P	P	08 03 03.5		+0.4
MLY	Manley	17.21	35	P	Pn	08 03 05.0		+0.1
MLY				IAmb	IAmb	08 03 05.8		
	comp=Z,28nm,0.8s							
EYAK	Cordova

BMAR	**Burnt Mountain**	**20.62**	**33**	P	**P**	**08 03 41.2**	**+1.2**
EGAK	**Eagle**	**20.72**	**41**	P	**P**	**08 03 41.5**	**+0.4**
DAWY	**Dawson**	**21.23**	**44**	P	**P**	**08 03 46.5**	**0.0**
DAWY				IAmb	IAmb	08 03 48.0	
	comp=Z,20nm,0.8s						
HYT	**Haines Junctio**	**21.48**	**53**	P	**P**	**08 03 47.9**	**-1.2**
EPYK	**Eagle Plains**	**22.99**	**39**	P	**P**	**08 04 03.0**	**-0.3**
JIS	**Juneau Island**	**23.01**	**60**	P	**P**	**08 04 03.1**	**-0.4**
INK	**Inuvik**	**24.78**	**35**	P	**P**	**08 04 19.2**	**-0.2**
	comp=Z,5.8nm,0.4s,baz=231,slow=6.5,SNR=36						
INK	**Inuvik**	**24.78**	**35**	P	**P**	**08 04 19.4**	**0.0**
INK				IAmb	IAmb	08 04 20.2	
	comp=Z,13nm,1.0s						
MOBC	**Moresby Island**	**25.23**	**72**	P	**P**	**08 04 22.3**	**-1.4**
DLBC	**Dease Lake**	**25.29**	**59**	P	**P**	**08 04 24.9**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=258,slow=4.8,SNR=6.0						
DLBC	**Dease Lake**	**25.29**	**59**	P	**P**	**08 04 25.5**	**+1.3**
BBB	**Bella Bella**	**27.76**	**72**	P	**P**	**08 04 48.2**	**+2.0**
	comp=Z,11nm,0.8s,baz=265,slow=2.7,SNR=3.5						
A36M	**Sachs Harbour**	**28.59**	**29**	P	**P**	**08 04 54.3**	**+1.0**
YKA	**Yellowknife Ar**	**32.28**	**49**	P	**P**	**08 05 25.4**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=275,slow=7.6,SNR=15						
LON	**Longmire**	**33.77**	**79**	P	**P**	**08 05 41.5**	**+2.4**
F04A	**Amboy**	**33.82**	**80**	P	**P**	**08 05 41.7**	**+2.4**
F04A				IAmb	IAmb	08 05 42.0	
	comp=Z,13nm,0.7s						
LTY	**Liberty**	**34.20**	**77**	P	**P**	**08 05 44.5**	**+1.7**
LTY				IAmb	IAmb	08 05 44.6	
	comp=Z,14nm,1.2s						
BUCK	**Buck Mountain**	**34.39**	**83**	P	**P**	**08 05 47.0**	**+2.5**
BUCK				IAmb	IAmb	08 05 59.3	
	comp=Z,39nm,1.4s						
B08A	**Colville Reser**	**34.46**	**75**	P	**P**	**08 05 46.6**	**+1.6**
B08A				IAmb	IAmb	08 05 47.2	
	comp=Z,23nm,0.8s						
EDM	**Edmonton**	**35.72**	**64**	P	**P**	**08 05 55.4**	**-0.1**
EDM				IAmb	IAmb	08 05 57.2	
	comp=Z,15nm,0.5s						
NEW	**Newport**	**35.80**	**74**	P	**P**	**08 05 57.5**	**+1.2**
	comp=Z,23nm,0.5s,baz=296,slow=9.6,SNR=34						
NEW				PcP	**PcP**	**08 08 19.9**	**+0.7**
	comp=Z,2.5nm,0.7s,baz=31,slow=5.9,SNR=3.3						
NEW	**Newport**	**35.80**	**74**	P	**P**	**08 05 57.4**	**+1.0**
YBH	**Yreka Blue Hor**	**35.94**	**87**	P	**P**	**08 06 00.8**	**+3.1**
	comp=Z,4.5nm,0.6s,baz=295,slow=5.3,SNR=12						
H11N2	**WAKE ISLAND Hy**	**35.99**	**211**	T	T	08 42 48.6	
	baz=18,slow=76,SNR=25						
H11N3	**WAKE ISLAND Hy**	**36.00**	**211**	T	T	08 42 49.7	
	baz=18,slow=76,SNR=32						
H11N1	**WAKE ISLAND Hy**	**36.01**	**211**	T	T	08 42 51.9	
	baz=18,slow=76,SNR=24						
G08A	**Pilot Rock**	**36.23**	**79**	P	**P**	**08 06 01.6**	**+1.5**
K05A	**Summer Lake**	**36.47**	**84**	P	**P**	**08 06 05.1**	**+2.8**
K05A				IAmb	IAmb	08 06 06.0	
	comp=Z,17nm,1.1s						
I07A	**Izee**	**36.55**	**81**	P	**P**	**08 06 05.0**	**+2.1**
MDJ	**Mudanjiang**	**37.13**	**281**	P	**P**	**08 06 08.3**	**+0.7**
MDJ				pP	pP	08 06 46.9	-1.2
MDJ				pmax	pmax		
	comp=Z,20nm,2.3s						
MDJ				pmax	pmax		
	comp=Z,330nm,7.6s						
H11S1	**WAKE ISLAND Hy**	**37.20**	**211**	T	T	08 44 23.4	
	baz=17,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**37.22**	**211**	T	T	08 44 21.4	
	baz=17,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**37.22**	**211**	T	T	08 44 21.5	
	baz=17,slow=76,SNR=16						
WALA	**Waterton Lakes**	**37.27**	**71**	P	**P**	**08 06 09.6**	**+0.7**
MOD	**Modoc Plateau**	**37.30**	**85**	P	**P**	**08 06 11.8**	**+2.5**
MOD				IAmb	IAmb	08 06 12.3	
	comp=Z,7.9nm,0.7s						
BMO	**Blue Mountains**	**37.45**	**79**	P	**P**	**08 06 12.0**	**+1.6**
J08A	**Circle Bar Ran**	**37.58**	**81**	P	**P**	**08 06 13.6**	**+2.1**
J08A				IAmb	IAmb	08 06 16.9	
	comp=Z,16nm,1.5s						
JTMT	**Jette**	**37.71**	**73**	P	**P**	**08 06 13.7**	**+1.1**
JTMT				IAmb	IAmb	08 06 14.2	
	comp=Z,13nm,1.0s						
MSO	**Missoula**	**38.38**	**74**	P	**P**	**08 06 19.0**	**+0.8**
MSO				IAmb	IAmb	08 06 19.5	
	comp=Z,12nm,0.6s						
PAHR	**Pah Rah Range**	**39.18**	**87**	P	**P**	**08 06 27.1**	**+2.2**
PAHR				IAmb	IAmb	08 06 27.8	
	comp=Z,11nm,0.7s						
HRY	**Holter Researc**	**39.68**	**73**	P	**P**	**08 06 28.8**	**-0.1**
LRM	**Limekiln Ridge**	**39.80**	**74**	P	**P**	**08 06 30.5**	**+0.4**
HLID	**Hailey**	**39.89**	**78**	P	**P**	**08 06 32.1**	**+1.3**
DLMT	**Dillon**	**39.96**	**75**	P	**P**	**08 06 32.4**	**+1.0**
BMN	**Battle Mountai**	**40.05**	**84**	P	**P**	**08 06 34.3**	**+2.2**
MCMT	**McKenzie Canyo**	**40.11**	**76**	P	**P**	**08 06 33.5**	**+0.8**
RYN	**Ryan**	**40.37**	**87**	P	**P**	**08 06 37.1**	**+2.3**
RYN				IAmb	IAmb	08 06 37.5	
	comp=Z,21nm,1.1s						
BOZ	**Bozeman (W)**	**40.40**	**74**	P	**P**	**08 06 35.8**	**+0.9**
BOZ				IAmb	IAmb	08 06 36.3	
	comp=Z,16nm,0.8s						
NVAR	**Mina Array Bea**	**40.63**	**88**	P	**P**	**08 06 39.0**	**+2.0**
	comp=Z,6.5nm,0.7s,baz=301,slow=7.3,SNR=32						
NVAR				PcP	**PcP**	**08 08 36.1**	**+1.4**
	comp=Z,1.0nm,0.7s,baz=300,slow=2.7,SNR=4.1						
NVAR				ScP	**ScP**	**08 12 06.2**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=292,slow=4.4,SNR=4.7						
ELK	**Elko**	**41.06**	**83**	P	**P**	**08 06 42.2**	**+1.8**
	comp=Z,4.6nm,0.8s,baz=291,slow=10,SNR=9.5						
YHH	**Holmes Hill**	**41.31**	**75**	P	**P**	**08 06 43.5**	**+0.9**
YHH				IAmb	IAmb	08 06 44.0	
	comp=Z,17nm,0.6s						
YMR	**Madison River**	**41.31**	**75**	P	**P**	**08 06 43.5**	**+1.0**
YMR				IAmb	IAmb	08 06 44.2	
	comp=Z,13nm,0.8s						
YNE	**Yellowstone No**	**41.68**	**74**	P	**P**	**08 06 46.1**	**+0.6**
H17A	**Grant Village**	**41.69**	**75**	P	**P**	**08 06 48.0**	**+2.4**
H17A				IAmb	IAmb	08 06 48.2	
	comp=Z,11nm,0.6s						
IMW	**Indian Meadow**	**41.77**	**76**	P	**P**	**08 06 47.9**	**+1.6**
FLWY	**Flagg Ranch**	**41.80**	**75**	P	**P**	**08 06 48.7**	**+2.3**
FLWY				IAmb	IAmb	08 06 48.7	
	comp=Z,10.0nm,0.6s						
HVU	**Hansel Valley**	**41.92**	**80**	P	**P**	**08 06 48.8**	**+1.5**
TPAW	**Teton Pass**	**41.99**	**76**	P	**P**	**08 06 48.5**	**+0.4**
RLMT	**Red Lodge**	**42.05**	**73**	P	**P**	**08 06 49.5**	**+1.1**
RLMT				IAmb	IAmb	08 06 50.8	
	comp=Z,15nm,0.9s						
LOHW	**Long Hollow**	**42.13**	**76**	P	**P**	**08 06 50.1**	**+1.0**
ISA	**Isabella, Lake**	**42.32**	**91**	P	**P**	**08 06 51.9**	**+1.3**
AHID	**Auburn Hatcher**	**42.33**	**77**	P	**P**	**08 06 52.0**	**+1.3**
AHID				IAmb	IAmb	08 06 52.5	
	comp=Z,18nm,1.4s						
R11A	**Troy Canyon, C**	**42.33**	**86**	P	**P**	**08 06 52.3**	**+1.6**
R11A				IAmb	IAmb	08 06 52.8	
	comp=Z,12nm,0.8s						
TPNV	**Topopah Spring**	**42.83**	**88**	P	**P**	**08 06 56.8**	**+2.1**
TPNV				IAmb	IAmb	08 06 57.2	
	comp=Z,24nm,0.8s						
DUG	**Dugway, Tooele**	**42.86**	**81**	P	**P**	**08 06 56.5**	**+1.6**
DUG				IAmb	IAmb	08 07 04.2	
	comp=Z,47nm,1.4s						
LAO	**LASA Array**	**42.92**	**70**	P	**P**	**08 06 56.0**	**+0.8**
LAO				IAmb	IAmb	08 06 57.9	
	comp=Z,8.3nm,0.5s						
DGMT	**Dagmar**	**43.08**	**66**	P	**P**	**08 06 56.5**	**+0.1**
DGMT				IAmb	IAmb	08 07 14.3	
	comp=Z,24nm,1.5s						
BW06	**Boulder Array**	**43.24**	**76**	P	**P**	**08 06 58.9**	**+0.9**
BW06				IAmb	IAmb	08 06 59.3	
	comp=Z,16nm,0.6s						
PD31	**Pinedale Array**	**43.24**	**76**	P	**P**	**08 06 58.9**	**+0.9**
PD31				IAmb	IAmb	08 06 59.3	
	comp=Z,14nm,0.6s						
PDAR	**Pinedale Array**	**43.24**	**76**	P	**P**	**08 06 58.8**	**+0.7**
	comp=Z,12nm,0.5s,baz=315,slow=3.0,SNR=117						
PDAR				PcP	**PcP**	**08 08 43.6**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=236,slow=0.7,SNR=1.5						
PDAR	**Pinedale Array**	**43.24**	**76**	P	**P**	**08 06 59.1**	**+1.0**
GSC	**Goldstone, Bar**	**43.57**	**90**	P	**P**	**08 07 02.6**	**+2.0**
PFO	**Pinyon Flats O**	**44.92**	**91**	P	**P**	**08 07 12.9**	**+1.5**
	comp=Z,7.7nm,1.1s,baz=262,slow=7.1,SNR=2.3						
PFO	**Pinyon Flats O**	**44.92**	**91**	P	**P**	**08 07 12.4**	**+1.0**
PFO				IAmb	IAmb	08 07 13.6	
	comp=Z,44nm,1.4s						
K22A	**Casper**	**45.10**	**75**	P	**P**	**08 07 12.7**	**0.0**
K22A				IAmb	IAmb	08 07 12.8	
	comp=Z,40nm,1.2s						
O20A	**White River Ci**	**45.63**	**78**	P	**P**	**08 07 17.8**	**+0.9**
O20A				IAmb	IAmb	08 07 32.2	
	comp=Z,56nm,1.2s						
RSSD	**Black Hills**	**45.66**	**71**	P	**P**	**08 07 17.0**	**-0.1**
PV21	**Cone Mtn., Par**	**46.19**	**81**	P	**P**	**08 07 22.2**	**+0.8**
ULM	**Lac du Bonnet**	**46.61**	**60**	P	**P**	**08 07 23.1**	**-1.0**
	comp=Z,1.6nm,0.3s,baz=310,slow=8.3,SNR=1.5						
ULM				PcP	**PcP**	**08 08 54.0**	**-0.6**
	comp=Z,2.9nm,0.6s,baz=329,slow=5.9,SNR=2.1						
SMCO	**Snowmass**	**47.00**	**79**	P	**P**	**08 07 29.4**	**+1.6**
MVCO	**Mesa Verde**	**47.36**	**82**	P	**P**	**08 07 31.7**	**+1.3**
SDCO	**Great Sand Dun**	**48.81**	**79**	P	**P**	**08 07 42.8**	**+1.3**
SDCO				IAmb	IAmb	08 08 01.6	
	comp=Z,28nm,1.5s						
TUC	**Tucson**	**49.27**	**88**	P	**P**	**08 07 46.9**	**+2.0**
HHC	**Hu-ho-hao-te**	**50.02**	**288**	*eP*	**P**	**08 07 51.3**	**+0.9**
HHC				pmax	pmax		
	comp=Z,12nm,1.1s						
HHC				pmax	pmax		
	comp=Z,230nm,5.6s						
CBKS	**Cedar Bluff**	**51.52**	**74**	P	**P**	**08 08 02.2**	**+0.7**
NJ2	**Nanjing**	**51.56**	**274**	⇓P	**P**	**08 08 03.5**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
R32A	**Long Quarter,**	**52.38**	**74**	P	**P**	**08 08 07.9**	**0.0**
E43A	**Lone Tree Farm**	**53.66**	**59**	P	**P**	**08 08 16.2**	**-0.9**
E43A				IAmb	IAmb	08 08 20.5	
	comp=Z,28nm,1.5s						
KAN13	**South Haven SW**	**54.05**	**74**	P	**P**	**08 08 19.8**	**-0.3**
OK031	**S. Brethren Rd**	**55.15**	**75**	P	**P**	**08 08 28.2**	**+0.3**
P40A	**Paris**	**55.47**	**68**	P	**P**	**08 08 29.5**	**-0.7**
TXAR	**Lajitas Array**	**55.70**	**85**	P	**P**	**08 08 33.0**	**+0.9**
	comp=Z,5.1nm,0.8s,baz=308,slow=5.7,SNR=11						
TXAR				PcP	**PcP**	**08 09 30.0**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=260,slow=1.3,SNR=8.1						
TXAR				ScP	**ScP**	**08 13 09.5**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=288,slow=3.7,SNR=7.0						
U40A	**Yellville**	**57.19**	**72**	P	**P**	**08 08 41.4**	**-1.1**
ARCES	**ARCESS Array B**	**57.26**	**352**	P	**P**	**08 08 41.6**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=32,slow=7.1,SNR=8.4						
ARCES				PcP	**PcP**	**08 09 33.8**	**-0.4**
	comp=Z,2.0nm,0.5s,baz=20,slow=4.9,SNR=13						
FCAR	**Ozark Folk Cen**	**57.94**	**72**	P	**P**	**08 08 46.4**	**-1.2**
FCAR				IAmb	IAmb	08 09 04.7	
	comp=Z,25nm,1.3s						
MIAR	**Mount Ida**	**58.04**	**74**	P	**P**	**08 08 48.6**	**+0.3**
WHAR	**Wooly Hollow**	**58.27**	**72**	P	**P**	**08 08 49.0**	**-0.9**
W45A	**Hickory Valley**	**60.15**	**70**	P	**P**	**08 09 02.7**	**-0.1**
OXF	**Oxford**	**60.48**	**71**	P	**P**	**08 09 04.8**	**-0.2**
PLAL	**Pickwick Lake**	**60.91**	**70**	P	**P**	**08 09 07.3**	**-0.6**
WMQ	**Urumqi**	**60.97**	**305**	*eP*	**P**	**08 09 10.6**	**+2.3**
MKAR	**Makanchi Array**	**61.40**	**310**	P	**P**	**08 09 09.8**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=48,slow=6.8,SNR=2.9						
MKAR	**Makanchi Array**	**61.40**	**310**	P	**P**	**08 09 10.3**	**-0.7**
L56A	**Greenwood**	**61.48**	**57**	P	**P**	**08 09 11.6**	**-0.1**
BRVK	**Borovoye**	**61.70**	**322**	P	**P**	**08 09 12.6**	**-0.3**
TZTN	**Tazewell**	**62.33**	**65**	P	**P**	**08 09 17.5**	**+0.1**
TZTN				IAmb	IAmb	08 09 22.6	
	comp=Z,16nm,1.2s						
SSPA	**Standing Stone**	**62.40**	**59**	P	**P**	**08 09 17.5**	**-0.3**
SSPA				IAmb	IAmb	08 09 28.8	
	comp=Z,25nm,1.4s						
TKL	**Tuckaleechee C**	**62.85**	**66**	P	**P**	**08 09 20.1**	**-0.8**
	comp=Z,4.2nm,0.8s,baz=210,slow=5.0,SNR=5.2						
TKL				PcP	**PcP**	**08 09 57.4**	**+0.1**
	comp=Z,2.3nm,0.4s,baz=172,slow=1.9,SNR=5.3						
WUPA	**West Chester U**	**64.10**	**58**	P	**P**	**08 09 29.0**	**+0.1**
WUPA				IAmb	IAmb	08 09 42.4	
	comp=Z,20nm,1.4s						
GOGA	**Godfrey**	**64.67**	**68**	P	**P**	**08 09 32.1**	**-0.6**
GOGA				IAmb	IAmb	08 09 33.0	
	comp=Z,6.6nm,0.8s						
HODGE	**Hodges**	**64.74**	**66**	P	**P**	**08 09 33.0**	**-0.2**
HODGE				IAmb	IAmb	08 09 33.2	
	comp=Z,11nm,0.6s						
FINES	**FINESS Array B**	**65.10**	**349**	P	**P**	**08 09 33.8**	**-1.2**
	comp=Z,1.4nm,0.6s,baz=16,slow=7.9,SNR=7.2						
FINES				PcP	**PcP**	**08 10 05.5**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=17,slow=2.0,SNR=5.1						
NC300	**NORSAR Array S**	**66.33**	**357**	P	**P**	**08 09 43.0**	**+0.1**
NC300				IAmb	IAmb	08 09 43.4	
	comp=Z,14nm,1.3s						
NOA	**NORSAR Array B**	**66.56**	**357**	P	**P**	**08 09 44.6**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=4.0,slow=7.3,SNR=4.3						
NOA	**NORSAR Array B**	**66.56**	**357**	P	**P**	**08 09 44.7**	**+0.2**
456A	**Hilliard**	**67.48**	**69**	P	**P**	**08 09 51.1**	**+0.4**
ABKAR	**Akbulak array**	**68.56**	**325**	P	**P**	**08 09 57.2**	**+0.2**
ABKAR	**Akbulak array**	**68.56**	**325**	P	**P**	**08 09 57.0**	**-0.1**
ABKAR				IAmb	IAmb	08 09 57.9	
	comp=Z,7.7nm,1.4s						
KKAR	**Karatay Array**	**69.53**	**315**	P	**P**	**08 10 03.0**	**-0.2**
CMIG	**Matias Romero**	**70.16**	**88**	P	**P**	**08 10 07.9**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=326,slow=4.0,SNR=5.4						
AKASG	**Malin Array Be**	**75.12**	**345**	P	**P**	**08 10 34.9**	**-1.1**
	comp=Z,2.1nm,0.3s,baz=17,slow=5.9,SNR=4.9						
AKASG	**Malin Array Be**	**75.12**	**345**	P	**P**	**08 10 35.0**	**-1.1**
AKBB	**Malin Array Si**	**75.12**	**345**	P	**P**	**08 10 35.0**	**-1.1**
CLL	**Collm**	**76.22**	**355**	*eP*	**P**	**08 10 42.0**	**-0.3**
	comp=Z,4.0nm,0.8s						
BRG	**Berggiesshubel**	**76.61**	**355**	*eP*	**P**	**08 10 44.3**	**-0.2**
BRG				Amp		08 10 45.0	
	comp=Z,3.8nm,0.7s						
GRFO	**Grafenberg**	**77.92**	**356**	P	**P**	**08 10 52.6**	**+0.8**
GRFO				IAmb	IAmb	08 10 52.6	
	comp=Z,6.9nm,0.7s						
VRAC	**Vranov**	**77.99**	**353**	*eP*	**P**	**08 10 51.9**	**-0.3**
KHC	**Kasperske Hory**	**78.37**	**355**	*eP*	**P**	**08 10 54.1**	**-0.2**
CKRC	**Cesky Krumlov**	**78.63**	**354**	*eP*	**P**	**08 10 55.7**	**0.0**
GERES	**GERESS Array B**	**78.64**	**355**	P	**P**	**08 10 55.8**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=14,slow=5.0,SNR=11						
BUR08	**Bucovina Ar. S**	**78.70**	**347**	P	**P**	**08 10 56.3**	**+0.1**
KBZ	**Khabaz**	**78.80**	**334**	P	**P**	**08 10 56.8**	**+0.1**
	comp=Z,3.9nm,0.9s,baz=208,slow=1.5,SNR=3.9						
BFO	**Black Forest**	**79.36**	**358**	P	**P**	**08 11 00.0**	**+0.3**
CONA	**Conrad Observa**	**79.42**	**353**	*i* P	**P**	**08 11 00.3**	**+0.2**
	comp=Z,1.5nm,0.6s						
ARSA	**Arzberg**	**80.12**	**353**	*eP*	**P**	**08 11 04.2**	**+0.4**
	comp=Z,3.6nm,1.0s						
KBA	**Koelnbreinsper**	**80.43**	**355**	*eP*	**P**	**08 11 06.1**	**+0.5**
	comp=Z,5.4nm,0.5s						
FETA	**Feichten**	**80.60**	**357**	*eP*	**P**	**08 11 06.9**	**+0.4**
	comp=Z,6.4nm,0.9s						
OBKA	**Obir**	**80.92**	**354**	*eP*	**P**	**08 11 08.7**	**+0.6**
	comp=Z,2.4nm,0.6s						
BNI	**Bardonecchia**	**82.66**	**359**	P	**P**	**08 11 18.7**	**+1.4**
BNI				IAmb	IAmb	08 11 24.4	
	comp=Z,17nm,1.5s						
KIJV	**Kijevo**	**83.28**	**352**	*i* P	**P**	**08 11 19.4**	**-0.9**
DUGI	**Dugi Otok**	**83.39**	**353**	*i* P	**P**	**08 11 19.7**	**-1.2**
ZIRJ	**Zirje**	**83.68**	**353**	*i* P	**P**	**08 11 21.3**	**-1.1**
NRCA	**Norcia**	**84.67**	**355**	P	**P**	**08 11 28.1**	**+0.7**
WR0	**Warramunga Arr**	**84.86**	**227**	P	**P**	**08 11 28.5**	**+0.1**
BRTR	**Keskin Array B**	**84.86**	**339**	P	**P**	**08 11 28.8**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=23,slow=1.4,SNR=2.9						
WB2	**Warramunga Arr**	**84.93**	**228**	P	**P**	**08 11 28.9**	**+0.1**
WRA	**Warramunga Arr**	**84.93**	**228**	P	**P**	**08 11 28.7**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=35,slow=5.3,SNR=17						
WRA	**Warramunga Arr**	**84.93**	**228**	P	**P**	**08 11 28.4**	**-0.5**
FNA	**Florina**	**85.95**	**348**	P	**P**	**08 11 33.7**	**-0.1**
FNA	**Florina**	**85.95**	**348**	P	**P**	**08 11 33.6**	**-0.1**
FNA				IAmb	IAmb	08 11 34.0	
	comp=Z,7.5nm,0.7s						
FNA	**Florina**	**85.95**	**348**	pmax	pmax		
	comp=Z,7.0nm,0.7s						
ESDC	**Sonseca Array**	**87.65**	**8**	P	**P**	**08 11 41.1**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=343,slow=4.8,SNR=5.3						
ASAR	**Alice Springs**	**88.38**	**226**	P	**P**	**08 11 46.2**	**+0.8**
	comp=Z,3.2nm,0.7s,baz=25,slow=4.9,SNR=44						
TORD	**Torodi Ar. Bea**	**114.37**	**4**	PKP	**PKiKP**	**08 17 31.2**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=11,slow=2.9,SNR=1.1						
CPUP	**Villa Florida**	**126.67**	**86**	PKP	**PKPdf**	**08 17 55.8**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=292,slow=5.4,SNR=3.2						
PLCA	**Paso Flores**	**128.68**	**109**	PKP	**PKiKP**	**08 18 00.2**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=325,slow=9.4,SNR=4.0						
MAW	**Mawson**	**149.24**	**219**	PKPbc	**PKiKP**	**08 18 40.4**	**-0.3**
	comp=Z,3.6nm,0.8s,baz=320,slow=4.1,SNR=4.3						
BOSA	**Boshof**	**151.97**	**321**	PKPbc	**PKPbc**	**08 18 46.8**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=41,slow=2.3,SNR=3.8						

BGR ***13*** *08:14:08.5±0.0,24.°43N×110.°05W,h10km,mb5.7, mB_BB6.2,Ms7.0*
SVSA ***13*** *08:14:08.5,24.°91N×109.°62W,h10km,MW6.7(NEIC)*
NEIC ***13*** *08:14:08.6±1.3,24.°91N±0.°05×109.°62W±0.°08,h10km±2km, mb5.9/685,Ms_20 6.6/374,Mwb6.5/58,Mww6.7,*
Md6.7/77(MEX),Mwc6.6(GCMT),Error ellipse: s-maj=12.0km s-min=8.4km az=276.0
IDC ***13*** *08:14:09.0±0.3,25.°05N×109.°49W,h0km,mb5.1/47, mb1 5.1/55,mb1mx5.1/65,mbtmp5.1/55,ML4.3/8,MS6.6/42, Ms1 6.6/42,ms1mx6.5/48,Error ellipse: s-maj=11.2km s-min=7.5km az=59.0*
MEX ***13*** *08:14:09.5±2.0,25.°04N×109.°53W,h8km±29km,MD6.7*
BJI ***13*** *08:14:10.0±0.0,25.°14N×109.°38W,h10km,mB6.5/45, mb5.5/13,Ms6.8/59,Ms7 6.7/55*
MOS ***13*** *08:14:10.6±1.4,25.°16N×109.°33W,h12km,mb6.1/51, MS6.9/31,Error ellipse: s-maj=6.9km s-min=4.9km az=87.6*
NEIC ***13*** *08:14:12.8,25.°18N×109.°39W,h10km,Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr=-0.36; Mθθ-6.36; Mφφ 6.72; Mrθ-0.54; Mθφ-1.07; Mφr-0.51; Fault plane solution: Mo 6.68000×10^18 NP1:φs130.40000°, δ83.58000°, λ-178.81000°. NP2:φs40.27000°, δ88.82000°, λ-6.42000°. Principal axes: T 6.8420, Plg4.0000°, Azm86.0000°; N -0.3379, Plg83.0000°, Azm210.0000°; P -6.5041, Plg5.0000°, Azm355.0000°;*
NEIC ***13*** *08:14:15,25.°06N×109.°53W,h14km,Moment Tensor Solution. Moment tensor: Scale 10^19Nm; Mrr-0.04; Mθθ-1.01; Mφφ 1.05; Mrθ 0.06; Mθφ-0.21; Mφr 0.15; Fault plane solution: Mo 1.06000×10^19 NP1:φs309.00000°, δ82.00000°, λ178.00000°. NP2:φs39.00000°, δ88.00000°, λ8.00000°. Principal axes: T 1.0888, Plg7.0000°, Azm264.0000°; N -0.0513, Plg82.0000°, Azm53.0000°; P -1.0375, Plg4.0000°, Azm174.0000°;*
GCMT ***13*** *08:14:16.2±0.0,25.°09N×109.°53W,h15km,MW6.6/158, Moment Tensor Solution. s158,c392; s158,c702; Duration: 49 Moment tensor: Scale 1019Nm; Mrr-0.03±.00; Mθθ-0.96±.00; Mφφ0.99±.00; Mrθ-0.01±.01; Mθφ-0.16±.00; Mφr-0.02±.01; Best double couple: Mo0.99100×1019 NP1:φs130.00000°, δ89.00000°, λ-180.00000°. NP2:φs40.00000°, δ90.00000°, λ-1.00000°. Principal axes: T 1.0080, Plg1.0000°, Azm85.0000°; N -0.0330, Plg89.0000°, Azm216.0000°; P -0.9750, Plg1.0000°, Azm355.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
NEIC ***13*** *08:14:24,25.°05N×109.°27W,h18km, Moment Tensor Solution. Moment tensor: Scale 1019Nm; Mrr0.04; Mθθ-1.16; Mφφ 1.12; Mrθ-0.32; Mθφ-0.24; Mφr0.54; Fault plane solution: Mo1.32000×1019 NP1:φs41.00000°, δ64.00000°, λ8.00000°. NP2:φs308.00000°, δ83.00000°, λ154.00000°. Principal axes: T 1.3933, Plg23.0000°, Azm261.0000°; N -0.1509, Plg63.0000°, Azm114.0000°; P -1.2424, Plg13.0000°, Azm357.0000°;*
ISC 13 08:14:10.1±0.5,24.°97N±0.°02×109.°40W±0.°02,h3km±2km, n1721,σ2s03/1464,mb5.9/411,MS6.7/328,114C-159D, Fault plane solution: NP1:φs36.19005°,δ85.23877°, λ-7.42326°. NP2:φs126.80965°,δ82.60250°, λ-175.19872°. Principal axes: T Plg1.8538°, Azm81.6388°; N Plg81.1882°, Azm183.6902°; P Plg8.6115°, Azm351.3579°; Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC h m s	ISC
TSIG	**Topolobambo**	**0.70**	**28**	*i* P	**Pg**	**08 14 21.9**	**-1.7**
TSIG				*e*S	**Sg**	**08 14 31.3**	**-1.5**
LPIG	**La Paz**	**1.20**	**224**	Pg	**Pn**	**08 14 30.7**	**-3.1**
	619nm,0.3s,baz=20,slow=2.6,SNR=367						
LPIG				Lg	Lg	08 14 44.2	
	5μm,0.3s,baz=143,slow=20,SNR=26						
LPIG	**La Paz**	**1.20**	**224**	⇑*i*P	Pn	08 14 28.1	-5.6
LPIG				*e*S	**Sb**	**08 14 43.3**	**-6.1**
SLBS	**Sierra La Lagu**	**1.37**	**201**	Pn	Pn	08 14 31.7	-4.6
SSIG	**Sanalona**	**2.06**	**94**	*e*P	**Pn**

X18A **Snowflake** 9.54 357 Pn 08 16 26.8 -1.8
833A **Chaparral WMA,** 9.55 67 P Pn 08 16 27.6 -1.0
baz=253,SNR=160
X16A **Lo Mia Camp, P** 9.58 350 Pn 08 16 28.8 -0.3
RMX **La Rumorosa** 9.59 324 Pn 08 16 28.2 -1.1
IKP **In-Ko-Pah, Jac** 9.65 324 P Pn 08 16 29.9 0.0
baz=140,SNR=83
CBX **Cerro Bola** 9.70 321 ⇓*i*P Pn 08 16 32.1 +1.4
CBX **Cerro Bola** 9.70 321 Pn 08 16 31.3 +0.5
SWSC **Sam W. Stewart** 9.72 326 P Pn 08 16 30.2 -0.7
baz=143,SNR=90
TJIG **Tijuana** 9.79 321 ⇓*i*P Pn 08 16 31.9 0.0
TJIG *i* S Sn 08 18 24.1 +1.6
TJIG **Tijuana** 9.79 321 Pn 08 16 31.9 0.0
TKX **Tecate** 9.86 322 Pn 08 16 32.9 +0.1
BAR **Barrett** 9.98 322 Pn Pn 08 16 34.3 -0.2
MONP2 **Monument Peak** 10.00 324 P Pn 08 16 33.9 -1.0
baz=140,SNR=78
TJX **Tijuana** 10.07 320 Pn 08 16 36.0 +0.2
W18A **Petrified Fore** 10.12 358 Pn 08 16 36.1 -0.3
W18A **Petrified Fore** 10.12 358 P Pn 08 16 36.7 +0.2
baz=178,SNR=208
JCT **Junction City** 10.12 55 P Pn 08 16 36.1 -0.3
JCT **Junction City** 10.12 55 Pn 08 16 36.1 -0.3
JCT **Junction City** 10.12 55 ⇓P Pn 08 16 38.2 +1.8
JCT **Junction City** 10.12 55 P Pn 08 16 36.8 +0.4
baz=240,SNR=102
BC3 **Big Chuckawall** 10.13 330 P Pn 08 16 36.5 -0.2
baz=147,SNR=65
PDMCI **Parker Dam,Lak** 10.17 337 P Pn 08 16 36.0 -1.0
baz=155,SNR=138
ANMO **Albuquerque** 10.26 14 Pn Pn 08 16 38.5 +0.1
2.0nm,0.3s,baz=193,slow=12,SNR=161
ANMO Sn Sn 08 18 32.4 -1.8
0.4nm,0.3s,baz=109,slow=4.7,SNR=0.9
ANMO Lg Lg 08 19 26.2
1.3nm,0.3s,baz=192,slow=20,SNR=1.1
ANMO LR LR 08 20 15.2
comp=Z,481μm,20.3s,baz=190,slow=36
ANMO **Albuquerque** 10.26 14 *ce*P Pn 08 16 39.1 +0.6
ANMO pmax pmax
comp=Z,828nm,1.7s
ANMO **Albuquerque** 10.26 14 Pn 08 16 37.4 -1.1
ANMO **Albuquerque** 10.26 14 ⇑P Pn 08 16 38.6 +0.1
ANMO **Albuquerque** 10.26 14 P Pn 08 16 37.6 -0.9
baz=196
109C **Camp Elliot, M** 10.38 321 Pn 08 16 40.0 +0.1
109C **Camp Elliot, M** 10.38 321 P Pn 08 16 39.4 -0.5
baz=137,SNR=17
ZIIG **Zihuatanejo** 10.41 133 ⇓*i*P Pn 08 16 44.5 +4.1
ZIIG *i* S Sn 08 18 53.7 +16
ZIIG **Zihuatanejo** 10.41 133 Pn 08 16 44.5 +4.1
IRM **Iron Mountain** 10.43 333 P Pn 08 16 39.8 -0.8
baz=150,SNR=143
TPFO **Pinon Flats** 10.57 326 P Pn 08 16 43.2 +0.4
baz=142,SNR=98
PFO **Pinyon Flats O** 10.58 326 Pn Pn 08 16 43.7 +0.9
comp=Z,0.5nm,0.3s,baz=150,slow=11,SNR=68
PFO Lg Lg 08 19 43.0
comp=Z,0.1nm,0.3s,baz=99,slow=21,SNR=1.3
PFO LR LR 08 20 30.0
comp=Z,181μm,18.9s,baz=153,slow=36
PFO **Pinyon Flats O** 10.58 326 P Pn 08 16 42.8 0.0
PFO **Pinyon Flats O** 10.58 326 Pn 08 16 42.8 0.0
PFO **Pinyon Flats O** 10.58 326 P Pn 08 16 42.9 0.0
baz=142,SNR=99
DEIG **Demacu** 10.64 114 ⇑*i*P Pn 08 16 46.2 +2.4
DEIG *ce*P 08 19 25.8
TOVM **TOLUCA** 10.64 120 ⇑*i*P Pn 08 16 46.4 +2.5
TOVM ⇓*ce*P 08 16 52.6
KVTX **Kingsville** 10.64 74 Pn 08 16 42.3 -1.3
KVTX **Kingsville** 10.64 74 ⇓P Pn 08 16 47.5 +3.9
WUAZ **Wupatki** 10.64 351 Pn 08 16 44.4 +0.7
WUAZ **Wupatki** 10.64 351 ⇑P Pn 08 16 44.9 +1.2
WUAZ **Wupatki** 10.64 351 P Pn 08 16 43.6 -0.1
baz=170,SNR=101
MSTX **Muleshoe** 10.66 31 Pn 08 16 41.8 -2.1
MSTX **Muleshoe** 10.66 31 P Pn 08 16 42.4 -1.5
baz=215,SNR=54
BELC **Belle Mtn. Jos** 10.67 329 P Pn 08 16 44.6 +0.6
baz=146,SNR=55
NEE2 **Needles Airpor** 10.76 336 P Pn 08 16 44.9 -0.2
baz=154,SNR=35
PTVM **Pico Tres Padr** 10.93 117 ⇓*ce*P Pn 08 16 58.2 +10
MURC **Murrieta** 10.96 323 P Pn 08 16 48.7 +0.8
baz=139,SNR=29
MAVM **Malinalco, Edo** 10.97 121 ⇓*ce*P Pn 08 16 52.4 +4.1
MAVM **Malinalco, Edo** 10.97 121 Pn 08 16 52.4 +4.1
CVM **Colonia del Va** 10.98 118 ⇑*ce*P Pn 08 16 52.8 +4.5
UNM **Universidad Na** 11.01 119 *ce*P Pn 08 16 53.6 +4.6
UNM *es* Sn 08 18 51.3 -1.6
735A **Kenedy** 11.04 67 Pn 08 16 48.7 -0.4
VTVM **Tizayuca** 11.11 116 *ce*P Pn 08 16 54.0 +3.7
VTVM **Tizayuca** 11.11 116 Pn 08 16 54.0 +3.7
PLIG **Platanillo** 11.29 124 ⇑*i*P Pn 08 16 54.6 +2.0
PLIG *i* S Sn 08 19 07.0 +7.6
PLIG **Platanillo** 11.29 124 Pn 08 16 54.6 +2.0
SCI2 **San Clemente I** 11.30 317 P Pn 08 16 51.9 -0.6
baz=132,SNR=25
BBRC **Big Bear Solar** 11.33 327 P Pn 08 16 54.8 +1.6
baz=143,SNR=81
AMVM **AMECAMECA** 11.43 118 ⇑*ce*P Pn 08 16 57.4 +2.8
AMVM **AMECAMECA** 11.43 118 Pn 08 17 01.4 +6.7
ABTX **Abilene, Hawle** 11.46 46 Pn 08 16 53.9 -0.8
ABTX **Abilene, Hawle** 11.46 46 P Pn 08 16 54.9 +0.2
baz=231,SNR=15
MEIG **Mezcala** 11.49 126 ⇑*i*P Pn 08 16 53.8 -1.5
MEIG *i* S Sn 08 19 07.0 +2.7
MEIG **Mezcala** 11.49 126 Pn 08 16 53.8 -1.5
CIS **Catalina Islan** 11.51 319 P Pn 08 16 53.6 -1.9
baz=134,SNR=18
HEC **Hector,Ludlow** 11.51 330 P Pn 08 16 55.8 +0.3
baz=146,SNR=46
FMP **Fort Macarthur** 11.65 320 P Pn 08 16 56.1 -1.3
baz=136
TUQ **Turquoise Moun** 11.85 333 P Pn 08 17 01.0 +0.8
baz=150,SNR=132
RRX **Edison Barstow** 11.86 328 P Pn 08 17 01.3 +1.1
baz=144,SNR=7.9
MWC **Mount Wilson** 11.90 323 P Pn 08 17 01.7 +0.8
MWC **Mount Wilson** 11.90 323 Pn 08 17 01.7 +0.8
AMTX **Amarillo** 11.93 32 Pn 08 17 00.8 -0.4
AMTX **Amarillo** 11.93 32 P Pn 08 17 01.9 +0.7
baz=217
PASC **Pasadena Art C** 11.93 322 Pn 08 17 01.2 0.0
435B **Jarrell** 11.95 58 Pn 08 17 01.5 +0.1
435B **Jarrell** 11.95 58 P Pn 08 17 01.8 +0.4
baz=245,SNR=61
DECC **Green Verdugo** 12.07 322 P Pn 08 17 02.7 -0.5
baz=137,SNR=33
GSC **Goldstone, Bar** 12.12 330 P Pn 08 17 04.9 +1.1
GSC **Goldstone, Bar** 12.12 330 Pn 08 17 04.9 +1.1
GSC **Goldstone, Bar** 12.12 330 P Pn 08 17 04.9 +1.1
baz=146,SNR=75
MVCO **Mesa Verde** 12.22 3 Pn 08 17 03.7 -1.7
MVCO **Mesa Verde** 12.22 3 P Pn 08 17 06.2 +0.8
baz=184,SNR=93
EDW2 **Edwards Air Fo** 12.36 325 P Pn 08 17 08.0 +0.9
baz=140,SNR=75
SHOC **Shoshone, Teco** 12.39 333 P Pn 08 17 08.8 +1.3
baz=150,SNR=188
LCMT **Little Creek M** 12.44 346 Pn 08 17 09.5 +1.2
SHPR **Sheep Range** 12.51 338 Pn 08 17 09.9 +0.6
OSI **Osito Audit: C** 12.55 322 Pn 08 17 10.6 +0.8
OSI **Osito Audit: C** 12.55 322 P Pn 08 17 10.5 +0.8
baz=137,SNR=38
WHTX **Lake Whitney,** 12.62 54 Pn 08 17 10.4 -0.1
WHTX **Lake Whitney,** 12.62 54 P Pn 08 17 11.3 +0.8
baz=240,SNR=26
FTIG **Fresnillo de T** 12.63 122 *ce*P Pn 08 17 14.2 +3.3
FTIG *es* Sn 08 19 41.8 +10
MGIG **Malinaltepec** 12.66 125 ⇑*i*P Pn 08 17 04.2 -7.2
LRMC **Laurel Mtn Rad** 12.68 328 P Pn 08 17 12.9 +1.4
baz=143,SNR=68
PKCU **Pink Cliffs** 12.68 349 Pn 08 17 12.7 +1.0
T25A **Trinidad** 12.86 18 Pn 08 17 12.8 -1.3
T25A **Trinidad** 12.86 18 P Pn 08 17 15.0 +1.0
baz=201,SNR=43
S22A **4UR Ranch, Cre** 12.92 9 P Pn 08 17 15.6 +0.6
baz=191,SNR=45
SZCU **Shurtz Canyon** 12.97 347 Pn 08 17 16.4 +0.9
CCUT **Cedar City** 12.98 346 Pn 08 17 17.1 +1.3
ARVC **Arvin** 12.99 323 P Pn 08 17 16.2 +0.5
baz=138,SNR=100

SBC **Santa Barbara** 13.00 319 P Pn 08 17 14.9 -1.0
baz=134
HKT **Hockley** 13.03 65 P Pn 08 17 15.6 -0.5
HKT **Hockley** 13.03 65 Pn 08 17 15.6 -0.5
HKT **Hockley** 13.03 65 ⇑P Pn 08 17 16.7 +0.6
MPMC **Manual Prospec** 13.05 330 P Pn 08 17 17.7 +1.0
baz=145,SNR=222
FURC **Furnace Creek,** 13.12 333 P Pn 08 17 18.0 +0.5
baz=149,SNR=137
SDCO **Great Sand Dun** 13.16 14 P Pn 08 17 19.4 +1.2
baz=196,SNR=74
ISA **Isabella, Lake** 13.21 326 P Pn 08 17 19.7 +0.9
baz=141,SNR=173
PV18 **Skein Mesa, Pa** 13.24 2 Pn 08 17 18.4 -0.8
TXIG **Tlaxiaco** 13.29 123 *e*P P 08 17 24.4 -5.7
TPNV **Topopah Spring** 13.30 335 ⇑P Pn 08 17 21.7 +1.7
TPNV **Topopah Spring** 13.30 335 P Pn 08 17 21.3 +1.3
baz=152,SNR=134
PRN **Pahroc Range** 13.30 340 ⇓P Pn 08 17 21.7 +1.7
PKM **Mcpherson Peak** 13.37 320 P Pn 08 17 20.4 -0.7
baz=135,SNR=29
WMOK **Wichita Mounta** 13.39 41 P Pn 08 17 20.3 -0.9
WMOK **Wichita Mounta** 13.39 41 Pn 08 17 20.3 -0.9
WMOK **Wichita Mounta** 13.39 41 ⇓P Pn 08 17 20.7 -0.5
WMOK **Wichita Mounta** 13.39 41 P Pn 08 17 24.2 +3.0
baz=227,SNR=59
PNIG **Pinotepa** 13.57 127 *e*P P 08 17 28.9 -4.0
PNIG **Pinotepa** 13.57 127 P 08 17 28.9 -4.0
CWC **Cottonwood Cre** 13.64 329 P Pn 08 17 26.1 +1.4
baz=144
VES **Vestal, Richgr** 13.67 325 P Pn 08 17 25.4 +0.5
baz=141,SNR=30
SMMC **Simmler** 13.78 321 P Pn 08 17 26.8 +0.3
baz=135,SNR=29
GRAC **Grapevine Rang** 13.79 332 P Pn 08 17 28.2 +1.7
baz=148,SNR=82
VOG **Valley Oaks Go** 14.19 325 P Pn 08 17 33.0 +1.0
baz=140,SNR=8.5
TIN **Tinemaha, Big** 14.21 330 P Pn 08 17 33.5 +1.1
baz=145,SNR=62
PAGB **Antelope Grade** 14.22 321 Pn 08 17 32.3 -0.2
SMCO **Snowmass** 14.31 8 Pn 08 17 34.9 +0.9
R11A **Troy Canyon, C** 14.33 340 Pn 08 17 34.0 -0.1
R11A **Troy Canyon, C** 14.33 340 P Pn 08 17 34.8 +0.6
baz=157,SNR=146
TMUT **Trail Mountain** 14.36 354 Pn 08 17 35.1 +0.4
Q24A **Divide** 14.40 13 P Pn 08 17 36.4 +1.1
baz=196,SNR=35
U32A **Winter Ranch,** 14.46 36 Pn 08 17 34.3 -1.4
P17A **Butcher Ranch,** 14.50 356 Pn 08 17 36.2 -0.3
PEIG **Puerto Escondi** 14.54 126 *e*P Pn 08 17 39.2 +2.3
PEIG *e*S Sn 08 20 23.3 +4.6
NATX **Nacogdoches** 14.62 59 Pn 08 17 37.4 -0.6
NATX **Nacogdoches** 14.62 59 P Pn 08 17 37.2 -0.9
baz=247,SNR=17
OK025 **Westminster Rd** 14.83 42 Pn 08 17 38.0 -2.9
OK029 **Liberty Lake** 14.91 41 Pn 08 17 41.0 -0.9
OK029 lAmb lAmb 08 18 05.2
comp=Z,1μm,1.9s
MLAC **Mammoth, Mammo** 14.96 330 P Pn 08 17 44.1 +1.4
baz=145,SNR=127
CROK **Carrier** 15.10 38 lAmb lAmb 08 18 09.1
comp=Z,1μm,1.8s
NLU **North Lily Min** 15.11 352 lAmb lAmb 08 18 12.7
comp=Z,685nm,1.5s
MPU **Maple Canyon** 15.12 353 lAmb lAmb 08 17 59.3
comp=Z,545nm,1.3s
KSCO **Kaye Shedlock'** 15.12 21 Pn 08 17 45.0 +0.2
KSCO lAmb lAmb 08 18 01.6
comp=Z,608nm,1.2s
KSCO **Kaye Shedlock'** 15.12 21 P Pn 08 17 45.5 +0.7
baz=204,SNR=19
ISCO **Idaho Springs** 15.12 11 P Pn 08 17 45.8 +0.8
ISCO pmax pmax
comp=Z,450nm,1.2s
ISCO **Idaho Springs** 15.12 11 Pn Pn 08 17 45.8 +0.8
ISCO **Idaho Springs** 15.12 11 P Pn 08 17 45.7 +0.6
baz=194,SNR=50
O20A **White River Ci** 15.15 3 lAmb lAmb 08 18 21.7
comp=Z,1μm,1.4s
O20A **White River Ci** 15.15 3 P Pn 08 17 44.9 -0.4
baz=184,SNR=55
OK032 **Salt Plains WL** 15.20 36 lAmb lAmb 08 18 07.3
comp=Z,1μm,1.6s
LHV **Little Huntoon** 15.33 332 lAmb lAmb 08 18 01.2
comp=Z,1μm,1.4s
NV11 **Mina Array Sit** 15.33 333 lAmb lAmb 08 18 11.6
comp=Z,2μm,1.7s
NVAR **Mina Array Bea** 15.39 333 Pn Pn 08 17 49.3 +0.7
comp=Z,0.4nm,0.3s,baz=155,slow=11,SNR=201
NVAR Lg Lg 08 22 23.5
comp=Z,0.0nm,0.3s,baz=192,slow=33,SNR=1.9
NVAR LR LR 08 23 31.0
comp=Z,162μm,20.2s,baz=148,slow=37
KAN14 **Manchester OK** 15.44 37 lAmb lAmb 08 18 08.8
comp=Z,759nm,1.2s
441A **DeRidder** 15.45 65 lAmb lAmb 08 18 05.6
comp=Z,715nm,1.2s
DUG **Dugway, Tooele** 15.45 350 P P 08 17 50.3 -3.5
baz=168,SNR=154
KAN17 **Caldwell West** 15.61 37 lAmb lAmb 08 18 11.5
comp=Z,2μm,1.7s
SAO **San Andreas Ge** 15.64 322 lAmb lAmb 08 18 03.8
comp=Z,2μm,1.9s
SAO **San Andreas Ge** 15.64 322 ⇓P Pn 08 17 51.8 +0.3
CMIG **Matias Romero** 15.65 117 Pn Pn 08 17 52.9 +1.1
comp=Z,0.4nm,0.3s,baz=310,slow=11,SNR=52
CMIG Lg Lg 08 22 32.8
comp=Z,0.1nm,0.3s,baz=202,slow=19,SNR=1.1
CMIG LR LR 08 24 00.3
comp=Z,409μm,19.7s,baz=286,slow=38
RYN **Ryan** 15.65 333 lAmb lAmb 08 18 11.7
comp=Z,1μm,1.6s
JLU **Jordanelle** 15.68 354 lAmb lAmb 08 18 20.5
comp=Z,1μm,1.8s
BLOK **Blackwell** 15.71 39 lAmb lAmb 08 18 08.7
comp=Z,2μm,1.5s
KS20 **Mayfield South** 15.86 37 lAmb lAmb 08 18 12.0
comp=Z,879nm,1.0s
TUL1 **Leonard** 16.00 44 P P 08 17 58.7 -1.1
baz=231,SNR=23
CBKS **Cedar Bluff** 16.04 28 lAmb lAmb 08 18 11.5
comp=Z,1μm,1.1s
CBKS **Cedar Bluff** 16.04 28 ⇓P Pn 08 17 56.6 -0.1
CBKS **Cedar Bluff** 16.04 28 P Pn 08 17 56.0 -0.8
baz=214,SNR=66
N23A **Red Feather La** 16.14 9 P P 08 17 58.8 -2.8
baz=192,SNR=26
R32A **Long Quarter,** 16.18 32 lAmb lAmb 08 18 16.6
comp=Z,3μm,1.9s
BGU **Big Grassy Mou** 16.19 350 P P 08 17 59.8 -2.3
T35A **Sooner Cattle** 16.23 40 Pn 08 17 58.3 -0.8
T35A lAmb lAmb 08 18 18.2
comp=Z,1μm,1.4s
YERR **Yerington** 16.26 332 P Pn 08 18 00.1 +0.4
YERR lAmb lAmb 08 18 09.6
comp=Z,1μm,1.4s
342A **Flagon Creek P** 16.34 63 Pn 08 17 59.4 -1.3
342A lAmb lAmb 08 18 09.6
comp=Z,2μm,1.4s
ELK **Elko** 16.47 344 Pn Pn 08 18 02.5 +0.1
comp=Z,0.3nm,0.3s,baz=179,slow=8.8,SNR=65
ELK LR LR 08 24 45.9
comp=Z,288μm,18.2s,baz=170,slow=39
SPUT **South Promonto** 16.49 352 P P 08 18 02.9 -2.5
PNTR **Pine Nut** 16.50 331 lAmb lAmb 08 18 12.9
comp=Z,1μm,1.1s
WLAR **White Oak Lake** 16.63 55 Pn 08 18 01.7 -2.7
WLAR lAmb lAmb 08 18 12.4
comp=Z,1μm,1.4s
Z41A **Richland Creek** 16.68 57 P Pn 08 18 02.5 -2.4
baz=245,SNR=40
HWUT **Hardware Ranch** 16.69 354 P Pn 08 18 04.6 -0.6
HWUT lAmb lAmb 08 18 16.9
comp=Z,1μm,1.3s
VCNR **Virginia City** 16.69 331 P P 08 18 06.4 -1.3
VCNR lAmb lAmb 08 18 14.6
comp=Z,1μm,1.2s
MIAR **Mount Ida** 16.71 52 P Pn 08 18 04.3 -1.0
MIAR pmax pmax
comp=Z,690nm,1.4s
MIAR **Mount Ida** 16.71 52 08 18 04.2 -1.0
MIAR **Mount Ida** 16.71 52 ⇑P P 08 18 06.1 -1.6
MIAR **Mount Ida** 16.71 52 P Pn 08 18 03.7 -1.6
baz=240,SNR=78
RUBR **Rubicon Trail** 16.72 330 lAmb lAmb 08 18 20.1

comp=Z,1μm,1.3s
BMN **Battle Mountai** 16.75 339 lAmb lAmb 08 18 26.6
comp=Z,2μm,1.6s
RWWY **Rawlins** 16.77 6 Pn 08 18 04.6 -1.7
W39A **Magazine** 16.91 49 lAmb lAmb 08 18 22.1
comp=Z,2μm,1.9s
W39A **Magazine** 16.91 49 P Pn 08 18 07.0 -0.8
baz=238,SNR=62
OGNE **Ogallala** 17.07 19 P 08 18 09.9 -1.9
OGNE lAmb lAmb 08 18 30.3
comp=Z,2μm,1.6s
OGNE **Ogallala** 17.07 19 P P 08 18 09.7 -2.1
baz=204,SNR=68
X40A **Basin Creek Fa** 17.21 53 P Pn 08 18 10.5 -1.1
X40A lAmb lAmb 08 18 28.7
comp=Z,3μm,1.6s
X40A **Basin Creek Fa** 17.21 53 P Pn 08 18 10.0 -1.6
baz=241,SNR=69
U38A **Gravette** 17.22 45 P P 08 18 12.1 -1.3
TGIG 17.25 115 *e*P P 08 18 13.7 -0.2
TGIG 17.25 115 P P 08 18 13.7 -0.2
MCCM **Marconi Confer** 17.42 322 P Pn 08 18 13.0 -1.1
MCCM lAmb lAmb 08 18 29.4
comp=Z,2μm,1.4s
MCCM **Marconi Confer** 17.42 322 ⇓P P 08 18 14.3 -1.2
BEKR **Beckworth** 17.47 331 lAmb lAmb 08 18 23.9
comp=Z,2μm,1.9s
CCAR **Cane Creek** 17.73 56 P P 08 18 17.6 -1.4
CCAR lAmb lAmb 08 18 33.6
comp=Z,3μm,1.6s
PCIG 17.74 118 *e*P P 08 18 20.0 +0.8
PCIG 17.74 118 P P 08 18 20.0 +0.8
BW06 **Boulder Array** 17.75 360 P Pn 08 18 17.4 -1.1
baz=180,SNR=150
KSU1 **Kansas State U** 17.75 34 ⇑P P 08 18 18.2 -0.9
KSU1 **Kansas State U** 17.75 34 P P 08 18 19.3 +0.1
baz=222,SNR=51
PD31 **Pinedale Array** 17.75 360 ⇓P Pn 08 18 17.2 -1.3
PDAR **Pinedale Array** 17.75 360 P P 08 18 17.9 -1.6
comp=Z,7nm,0.3s,baz=168,slow=7.6,SNR=234
PDAR LR LR 08 25 20.1
comp=Z,283μm,19.8s,baz=185,slow=38
K22A **Casper** 17.79 7 P P 08 18 19.1 -0.8
baz=189,SNR=101
AHID **Auburn Hatcher** 17.80 356 Pn 08 18 15.7 -3.5
GDXM **Geysers** 17.85 324 P Pn 08 18 18.4 -1.2
W41B **Gary Mavity, V** 17.97 52 P P 08 18 20.2 -1.5
baz=241,SNR=63
WHAR **Wooly Hollow** 18.00 51 lAmb lAmb 08 18 38.9
comp=Z,2μm,1.5s
VBMS **Vicksburg** 18.07 62 P P 08 18 22.4 -0.4
baz=252,SNR=44
HOPS **Hopland Field** 18.13 324 lAmb lAmb 08 18 56.2
comp=Z,2μm,2.0s
U40A **Yellville** 18.18 47 P P 08 18 22.6 -1.3
baz=236,SNR=64
CCIG **Comitan** 18.31 115 *e*P P 08 18 26.5 +0.8
CCIG **Comitan** 18.31 115 P P 08 18 26.5 +0.8
CCIG **Comitan** 18.31 115 lAmb lAmb 08 19 08.3
comp=Z,2μm,2.0s
REDW **Red Top Meadow** 18.38 357 lAmb lAmb 08 18 48.6
comp=Z,1μm,1.6s
FCAR **Ozark Folk Cen** 18.42 50 lAmb lAmb 08 18 51.4
comp=Z,1μm,1.8s
O03E **Paynes Creek** 18.47 329 P Pn 08 18 26.2 -1.1
baz=142,SNR=124
SNOW **Snow King Moun** 18.48 357 lAmb lAmb 08 18 52.0
comp=Z,2μm,1.9s
TPAW **Teton Pass** 18.52 356 lAmb lAmb 08 19 04.4
comp=Z,1μm,1.6s
S39A **Bolivar** 18.66 43 P P 08 18 27.9 -1.3
FXWY **Fox Creek** 18.67 356 P Pn 08 18 28.5 -1.3
346A **Big Creek Wild** 18.69 66 P Pn 08 18 29.0 -0.9
MOOW **Moose Ponds** 18.76 357 P Pn 08 18 29.6 -1.4
O02D **Mt. Diablo Mer** 18.86 327 P Pn 08 18 31.7 -0.3
baz=139,SNR=25
BGNE **Belgrade** 18.87 27 P P 08 18 30.1 -1.5
baz=213,SNR=20
KCPM **Cahto Peak** 18.90 324 lAmb lAmb 08 18 43.8
comp=Z,1μm,1.2s
HLID **Hailey** 18.99 349 P Pn 08 18 33.6 -0.1
baz=166,SNR=102
WVOR **Wild Horse Val** 19.01 339 ⇓P Pn 08 18 33.5 -0.4
WDC **Whiskeytown Da** 19.05 328 ⇓P Pn 08 18 33.4 -0.8
FLWY **Flagg Ranch** 19.09 357 lAmb lAmb 08 18 53.4
comp=Z,2μm,1.9s
MOD **Modoc Plateau** 19.15 335 lAmb lAmb 08 18 45.1
comp=Z,1μm,1.5s
HBAR **Harrisburg** 19.29 52 lAmb lAmb 08 19 14.1
comp=Z,2μm,1.4s
HUEH **Huehuetenango** 19.34 116 P Pn 08 18 39.1 +1.0
HUEH lAmb lAmb 08 18 46.6
comp=Z,2μm,1.9s
H17A **Grant Village** 19.40 357 P Pn 08 18 37.9 -0.7
baz=177,SNR=48
N02D **Trinity Center** 19.43 328 P P 08 18 35.9 -1.9
baz=141,SNR=28
LKWY **Lake** 19.56 358 lAmb lAmb 08 19 06.6
comp=Z,906nm,1.4s
N35A **Tabor** 19.57 33 lAmb lAmb 08 19 06.8
comp=Z,2μm,1.8s
LPAR **Lepanto** 19.57 53 P Pn 08 18 39.5 -1.0
RSSD **Black Hills** 19.60 12 P P 08 18 37.4 -2.3
RSSD pmax pmax
comp=Z,152nm,1.1s
RSSD **Black Hills** 19.60 12 P P 08 18 37.4 -2.3
RSSD **Black Hills** 19.60 12 ⇑P Pn 08 18 39.1 -1.9
RSSD **Black Hills** 19.60 12 P Pn 08 18 39.7 -1.3
baz=195
RTAL **Retalhuleu** 19.62 119 P Pn 08 18 43.4 +2.2
MET **Memphis--Engin** 19.62 54 P Pn 08 18 40.3 -0.8
K31A **O'Neill** 19.67 24 P P 08 18 39.0 -1.3
K31A lAmb lAmb 08 19 24.7
comp=Z,870nm,1.3s
R40A **Maddies Statio** 19.68 43 lAmb lAmb 08 18 53.5
comp=Z,2μm,1.9s
M04C **Macdoel** 19.68 331 P Pn 08 18 40.4 -1.5
baz=144,SNR=171
YMR **Madison River** 19.69 357 lAmb lAmb 08 19 01.7
comp=Z,2μm,2.0s
YUF **Upper Falls** 19.71 358 lAmb lAmb 08 18 54.7
comp=Z,744nm,1.4s
OXF **Oxford** 19.76 57 lAmb lAmb 08 19 29.2
comp=Z,656nm,1.2s
OXF **Oxford** 19.76 57 P Pn 08 18 41.1 -1.7
baz=247,SNR=31
P38A **Dawn** 19.79 39 lAmb lAmb 08 18 54.1
comp=Z,1μm,1.8s
J08A **Circle Bar Ran** 19.79 340 lAmb lAmb 08 18 56.2
comp=Z,1μm,1.6s
M02C **Callahan** 19.83 329 P P 08 18 40.7 -1.4
baz=141,SNR=14
KHMM **Horse Mountain** 19.86 326 P P 08 18 40.7 -1.8
KHMM lAmb lAmb 08 18 54.7
comp=Z,960nm,1.3s
PETF **Flores** 19.91 110 P Pn 08 18 44.7 0.0
PETF lAmb lAmb 08 19 10.0
comp=Z,802nm,1.5s
JCC **Jacoby Creek,** 19.97 326 lAmb lAmb 08 19 02.5
comp=Z,1μm,1.4s
YNE **Yellowstone No** 19.99 359 P P 08 18 42.6 -1.5
YNE lAmb lAmb 08 18 56.9
comp=Z,827nm,1.3s
MCMT **McKenzie Canyo** 20.00 353 P Pn 08 18 44.0 -1.9
YBH **Yreka Blue Hor** 20.03 330 P P 08 18 43.0 -1.4
comp=Z,0.2nm,0.3s,baz=102,slow=10,SNR=12
YBH LR LR 08 26 27.6
comp=Z,43μm,18.3s,baz=160,slow=37
YBH **Yreka Blue Hor** 20.03 330 P P 08 18 42.4 -1.9
YBH pmax pmax
comp=Z,91nm,1.0s
YBH **Yreka Blue Hor** 20.03 330 P P 08 18 42.4 -1.9
PBMO **Poplar Bluff** 20.05 50 P Pn 08 18 44.8 -1.4
PBMO lAmb lAmb 08 19 16.1
comp=Z,896nm,1.8s
K05A **Summer Lake** 20.08 335 P Pn 08 18 45.0 -1.7
RLMT **Red Lodge** 20.10 0 lAmb lAmb 08 19 03.0
comp=Z,806nm,1.6s
RLMT lAMs_20 lAMs_20 08 26 46.1
comp=Z,247μm,18.0s
RLMT **Red Lodge** 20.10 0 P Pn 08 18 44.9 -2.1
baz=180,SNR=56
PEBM **Pemiscott Bayo** 20.12 52 P Pn 08 18 45.9 -1.1
PEBM lAmb lAmb 08 19 06.1
comp=Z,1μm,1.5s
CCM **Cathedral Cave** 20.20 45 P P 08 18 45.2 -0.8

CCM pmax pmax
comp=Z,1μm,1.8s
CCM MLR MLR
comp=Z,462μm,18.0s
CCM Cathedral Cave 20.20 45 P **P** **08 18 45.2 -0.8**
CCM IAmb IAmb 08 19 13.2
comp=Z,1μm,1.8s
CCM Cathedral Cave 20.20 45 ⇓P Pn 08 18 47.4 -0.5
CCM Cathedral Cave 20.20 45 P Pn 08 18 46.5 -1.4
baz=235
L04D Klamath Falls 20.24 331 P **P** **08 18 45.7 -1.0**
baz=144,SNR=29
K04D Chiloquin, OR 20.34 333 P **P** **08 18 46.0 -1.7**
baz=146,SNR=64
PENMO Penman 20.45 51 P **P** **08 18 48.6 -0.2**
PENMO IAmb IAmb 08 19 11.7
comp=Z,1μm,1.3s
PARMO Parma 20.46 51 IAmb IAmb 08 19 02.4
comp=Z,2μm,1.9s
DLMT Dillon 20.51 354 P **P** **08 18 49.2 -0.3**
DLMT IAmb IAmb 08 19 05.7
comp=Z,751nm,1.2s
DLMT IAMs_20 IAMs_20 08 26 49.0
comp=Z,357μm,20.0s
BRAL Brewton 20.65 68 IAMs_20 IAMs_20 08 27 21.9
comp=Z,214μm,19.0s
BRAL Brewton 20.65 68 P Pn 08 18 52.0 -1.2
baz=259,SNR=14
BOZ Bozeman (W) 20.66 356 IAmb IAmb 08 19 10.6
comp=Z,890nm,1.7s
BOZ IAMs_20 IAMs_20 08 27 03.2
comp=Z,320μm,19.0s
BOZ Bozeman (W) 20.66 356 P **P** **08 18 49.9 -1.3**
baz=174,SNR=94
J05D Fort Rock, OR 20.69 335 P **P** **08 18 50.2 -1.3**
baz=148,SNR=365
HENM Henderson Moun 20.69 51 IAmb IAmb 08 19 16.5
comp=Z,881nm,1.1s
N38A Joes South For 20.76 37 IAmb IAmb 08 19 12.2
comp=Z,628nm,1.3s
I07A Izee 20.77 339 P **P** **08 18 52.1 -0.2**
I07A IAmb IAmb 08 18 59.1
comp=Z,1μm,1.6s
PLID Pearl Lake 20.77 347 IAMs_20 IAMs_20 08 27 25.2
comp=Z,207μm,18.0s
L02E Cave Junction 20.78 329 P **P** **08 18 51.4 -0.9**
baz=141
HUMO Hull Mountain 20.84 331 P **P** **08 18 52.0 -1.0**
HUMO Hull Mountain 20.84 331 ⇓P Pn 08 18 55.3 -0.2
BMO Blue Mountains 20.84 344 P **P** **08 18 52.4 -0.7**
BMO pmax pmax
comp=Z,573nm,1.3s
BMO MLR MLR
comp=Z,144μm,21.0s
BMO Blue Mountains 20.84 344 P **P** **08 18 52.4 -0.7**
BMO IAmb IAmb 08 19 02.4
comp=Z,573nm,1.3s
UTMT University of 20.94 52 P Pn 08 18 54.7 -2.0
LRM Limekiln Ridge 20.95 354 P **P** **08 18 51.4 -3.0**
PLAL Pickwick Lake 20.96 57 P Pn 08 18 54.7 -2.2
PLAL IAmb IAmb 08 19 11.9
comp=Z,2μm,1.9s
PLAL IAMs_20 IAMs_20 08 27 41.8
comp=Z,396μm,18.0s
J04D Umpqua Nationa 21.00 333 P **P** **08 18 53.9 -1.0**
baz=146,SNR=98
PINE Pine Mountain 21.01 336 P **P** **08 18 54.7 -0.4**
PINE IAmb IAmb 08 19 27.0
comp=Z,942nm,1.5s
LRAL Lakeview Retre 21.15 63 P **P** **08 18 56.0 -0.5**
LRAL IAMs_20 IAMs_20 08 27 58.1
comp=Z,325μm,22.0s
LRAL Lakeview Retre 21.15 63 P **P** **08 18 57.0 +0.5**
baz=254,SNR=142
SLM Saint Louis 21.18 45 P **P** **08 18 56.7 +0.1**
SLM pmax pmax
comp=Z,631nm,1.3s
SLM Saint Louis 21.18 45 P **P** **08 18 56.7 +0.1**
SLM IAmb IAmb 08 19 09.7
comp=Z,631nm,1.2s
SUSD Miller 21.20 21 P **P** **08 18 55.8 -1.1**
SUSD Miller 21.20 21 P **P** **08 18 55.7 -1.2**
baz=207,SNR=16
K02D Willamette Mer 21.23 330 P **P** **08 18 54.6 -2.7**
baz=142,SNR=48
S44A Carbondale 21.32 49 IAmb IAmb 08 19 15.7
comp=Z,891nm,1.6s
SIUC Southern Illin 21.36 49 IAmb IAmb 08 19 22.4
comp=Z,1μm,1.6s
T45A Paducah 21.41 51 P **P** **08 18 59.4 +0.2**
T45A IAmb IAmb 08 19 21.3
comp=Z,399nm,0.8s
ECSD EROS Data Cent 21.44 26 P **P** **08 18 57.8 -1.6**
ECSD IAmb IAmb 08 19 23.4
comp=Z,1μm,1.6s
ECSD EROS Data Cent 21.44 26 IAMs_20 IAMs_20 08 27 39.8
comp=Z,351μm,18.0s
ECSD EROS Data Cent 21.44 26 P **P** **08 19 00.4 +1.0**
baz=214,SNR=61
250A Grady 21.48 66 P **P** **08 18 59.6 -0.3**
ESQI Esquipulas 21.51 115 P **P** **08 19 02.3 +1.8**
X48A Hartselle 21.55 59 P **P** **08 19 00.2 -0.6**
SCIA State Center 21.56 34 P **P** **08 19 00.0 -0.8**
SCIA IAmb IAmb 08 19 17.0
comp=Z,552nm,1.1s
SCIA IAMs_20 IAMs_20 08 26 29.7
comp=Z,202μm,19.0s
SCIA State Center 21.56 34 P **P** **08 19 02.3 +1.5**
baz=224,SNR=14
MTO3 Montecristo 21.58 115 P **P** **08 19 03.0 +1.7**
MTO3 IAmb IAmb 08 19 09.0
comp=Z,1μm,1.9s
I04A Tendick Farm, 21.58 334 P **P** **08 18 59.8 -1.2**
baz=146,SNR=41
WVT Waverly 21.60 54 P **P** **08 19 00.5 -0.8**
WVT pmax pmax
comp=Z,2μm,1.8s
WVT MLR MLR
comp=Z,182μm,20.0s
WVT Waverly 21.60 54 P **P** **08 19 00.5 -0.8**
WVT Waverly 21.60 54 IAMs_20 IAMs_20 08 27 14.8
comp=Z,182μm,20.0s
WVT Waverly 21.60 54 ⇑P **P** **08 19 01.1 -0.1**
WVT Waverly 21.60 54 P **P** **08 19 00.5 -0.8**
baz=245
I05D Terrebonne, OR 21.63 336 P **P** **08 19 01.3 -0.3**
baz=149,SNR=78
451A Vernon 21.65 70 P **P** **08 19 02.1 +0.3**
G08A Pilot Rock 21.69 342 P **P** **08 19 01.8 -0.5**
G08A IAmb IAmb 08 19 09.8
comp=Z,704nm,1.6s
J01E Myrtle Point 21.71 330 P **P** **08 19 01.5 -0.8**
baz=142,SNR=55
LAO LASA Array 21.82 6 P **P** **08 19 03.0 -0.6**
LAO IAmb IAmb 08 19 17.5
comp=Z,970nm,1.5s
LAO IAMs_20 IAMs_20 08 27 12.0
comp=Z,192μm,19.0s
LAO LASA Array 21.82 6 P **P** **08 19 02.7 -0.8**
baz=188,SNR=44
Y49A Blount Mountai 21.86 61 P **P** **08 19 03.7 -0.4**
F10A Beach Ranch, E 21.88 345 P **P** **08 19 03.4 -0.9**
F10A IAmb IAmb 08 19 15.2
comp=Z,712nm,1.2s
F10A Beach Ranch, E 21.88 345 ⇓P **P** **08 19 03.4 -0.9**
I03D Drain, OR 21.89 332 P **P** **08 19 02.2 -2.0**
baz=144,SNR=21
N41A Harden Midland 22.04 40 IAmb IAmb 08 19 20.9
comp=Z,845nm,1.1s
SNET Serv Nac Est T 22.07 117 IAmb IAmb 08 19 22.6
comp=Z,940nm,1.6s
SNET IAMs_20 IAMs_20 08 26 48.8
comp=Z,217μm,19.0s
MSO Missoula 22.11 352 IAmb IAmb 08 19 14.0
comp=Z,741nm,1.4s
MSO IAMs_20 IAMs_20 08 27 37.3
comp=Z,233μm,19.0s
MSO Missoula 22.11 352 P **P** **08 19 06.2 -0.5**
baz=169,SNR=128
BUCK Buck Mountain 22.14 333 IAmb IAmb 08 19 18.7
comp=Z,559nm,1.4s
V48A Smith Brothers 22.19 56 IAmb IAmb 08 19 19.1
comp=Z,565nm,1.6s
P43A Skaggs, Pawnee 22.21 44 IAmb IAmb 08 19 17.7
comp=Z,536nm,1.3s
H04A Detroit Lake 22.24 335 IAmb IAmb 08 19 15.6
comp=Z,589nm,1.5s

H04D Lebanon 22.32 334 P **P** **08 19 06.9 -2.0**
baz=146,SNR=21
G05D Wamic, OR 22.40 337 P **P** **08 19 08.3 -1.5**
baz=150,SNR=34
I02D Swisshome 22.43 332 P **P** **08 19 09.2 -0.8**
baz=144,SNR=15
T47A Sharon Grove 22.50 53 IAmb IAmb 08 19 36.7
comp=Z,424nm,1.1s
COR Corvallis 22.59 333 P **P** **08 19 09.1 -2.7**
COR pmax pmax
comp=Z,872nm,1.4s
COR MLR MLR
comp=Z,60μm,20.0s
COR Corvallis 22.59 333 P **P** **08 19 09.1 -2.7**
COR IAmb IAmb 08 19 18.5
comp=Z,872nm,1.4s
COR Corvallis 22.59 333 ⇓P **P** **08 19 10.9 -0.9**
E09A Wood Farm, Sta 22.61 344 IAmb IAmb 08 19 28.9
comp=Z,556nm,1.5s
OLIL Olney 22.64 48 IAmb IAmb 08 19 40.5
comp=Z,723nm,1.2s
SWET Sewanee 22.68 58 P **P** **08 19 12.3 -0.5**
CLTN Cedars of Leba 22.70 55 P **P** **08 19 12.5 -0.5**
Z51A Franklin 22.70 63 IAmb IAmb 08 19 23.4
comp=Z,519nm,1.1s
FPAL Fort Paine 22.70 60 P **P** **08 19 12.7 -0.4**
L40A Anamosa 22.73 37 P **P** **08 19 13.0 -0.3**
L40A IAmb IAmb 08 19 25.3
comp=Z,406nm,1.0s
E08A Dider Farm, El 22.82 343 IAmb IAmb 08 20 09.0
comp=Z,536nm,1.7s
HAWA Hanford 22.86 342 IAmb IAmb 08 19 22.8
comp=Z,392nm,1.1s
HAWA IAMs_20 IAMs_20 08 28 30.8
comp=Z,206μm,18.0s
HAWA Hanford 22.86 342 ⇑P **P** **08 19 13.6 -1.1**
HDIL Hopedale 22.88 42 P **P** **08 19 15.2 +0.3**
baz=234,SNR=58
152A Waverly Hall 22.91 65 IAmb IAmb 08 19 20.2
comp=Z,512nm,1.1s
EGMT Eagleton 23.01 359 IAMs_20 IAMs_20 08 28 19.8
comp=Z,186μm,20.0s
EGMT Eagleton 23.01 359 P **P** **08 19 15.2 -1.1**
baz=179,SNR=69
F05D White Salmon 23.01 338 P **P** **08 19 14.4 -1.8**
baz=151,SNR=69
JTMT Jette 23.05 352 IAmb IAmb 08 19 29.1
comp=Z,790nm,1.7s
G03D McMinnville, O 23.09 334 P **P** **08 19 15.6 -1.5**
baz=146,SNR=40
E07A Sunnyside 23.11 341 IAmb IAmb 08 19 32.6
comp=Z,622nm,1.5s
U49A Red Boiling Sp 23.27 55 IAmb IAmb 08 19 43.6
comp=Z,514nm,1.6s
F33A 5 Mile Ranch, 23.34 24 IAmb IAmb 08 19 45.9
comp=Z,605nm,1.6s
F04A Amboy 23.39 337 IAmb IAmb 08 19 33.1
comp=Z,714nm,1.6s
TGUH Tegucigalpa,Un 23.48 113 P **P** **08 19 22.5 +1.2**
TGUH IAMs_20 IAMs_20 08 27 49.5
comp=Z,311μm,22.0s
TGUH Tegucigalpa,Un 23.48 113 e P **P** **08 19 23.2 +1.9**
TGUH Tegucigalpa,Un 23.48 113 ⇑P **P** **08 19 22.1 +0.7**
TIGA Tifton 23.61 68 P **P** **08 19 22.4 0.0**
TIGA Tifton 23.61 68 P **P** **08 19 21.1 -1.3**
baz=261,SNR=18
WCI Wyandotte Cave 23.63 50 P **P** **08 19 23.1 +0.6**
WCI pmax pmax
comp=Z,908nm,1.5s
WCI MLR MLR
comp=Z,375μm,19.0s
WCI Wyandotte Cave 23.63 50 P **P** **08 19 23.1 +0.6**
WCI Wyandotte Cave 23.63 50 ⇑P **P** **08 19 23.5 +0.9**
WCI Wyandotte Cave 23.63 50 P **P** **08 19 22.8 +0.3**
baz=243
P46A Rosedale 23.69 47 P **P** **08 19 22.4 -0.6**
F04D Rainier, OR 23.73 336 P **P** **08 19 22.1 -1.3**
baz=148
Y52A Lilburn 23.74 62 P **P** **08 19 22.8 -0.9**
DGMT Dagmar 23.81 9 P **P** **08 19 22.6 -1.6**
DGMT Dagmar 23.81 9 IAMs_20 IAMs_20 08 29 13.9
comp=Z,338μm,19.0s
DGMT Dagmar 23.81 9 P **P** **08 19 22.2 -2.1**
baz=192,SNR=39
JFWS Jewell Farm 23.84 37 P **P** **08 19 25.0 +0.5**
baz=228,SNR=14
C09A Chrisman Ranch 23.84 345 IAmb IAmb 08 19 30.6
comp=Z,628nm,1.8s
E04D Cinebar 23.98 337 P **P** **08 19 25.2 -0.6**
baz=149,SNR=19
NEW Newport 24.03 347 P **P** **08 19 24.8 -1.5**
comp=Z,144nm,1.0s,baz=160,slow=11,SNR=110
NEW Newport 24.03 347 IAmb IAmb 08 19 31.6
comp=Z,621nm,1.2s
NEW Newport 24.03 347 IAMs_20 IAMs_20 08 30 05.6
comp=Z,158μm,18.0s
NEW Newport 24.03 347 P **P** **08 19 23.2 -3.2**
baz=163,SNR=300
GOGA Godfrey 24.11 64 IAmb IAmb 08 19 37.0
comp=Z,614nm,1.6s
GOGA Godfrey 24.11 64 IAMs_20 IAMs_20 08 29 54.4
comp=Z,241μm,20.0s
GOGA Godfrey 24.11 64 P **P** **08 19 26.0 -1.1**
baz=257,SNR=48
MDND Maddock 24.11 16 IAmb IAmb 08 19 40.6
comp=Z,519nm,1.1s
MDND Maddock 24.11 16 P **P** **08 19 26.8 -0.3**
baz=202,SNR=13
M44A Midewin, Midew 24.14 42 IAmb IAmb 08 19 54.3
comp=Z,692nm,1.4s
SFIN Lafayette 24.16 45 P **P** **08 19 28.5 +0.9**
baz=238,SNR=69
T50A Nancy 24.16 54 IAmb IAmb 08 19 37.6
comp=Z,502nm,1.3s
W52A Murphy 24.19 59 IAmb IAmb 08 19 52.6
comp=Z,417nm,1.1s
SPMN Marine on St. 24.25 29 IAmb IAmb 08 19 46.3
comp=Z,278nm,1.1s
SPMN Marine on St. 24.25 29 P **P** **08 19 31.2 +2.8**
baz=219,SNR=18
WALA Waterton Lakes 24.30 353 IAmb IAmb 08 19 58.2
comp=Z,556nm,1.4s
I40A Norwalk 24.32 34 IAmb IAmb 08 19 46.8
comp=Z,338nm,1.2s
R49A Shelbyville 24.45 51 IAmb IAmb 08 20 07.0
comp=Z,576nm,1.4s
TKL Tuskeechee C 24.49 58 P **P** **08 19 30.3 -0.4**
comp=Z,235nm,1.2s,baz=223,slow=8.2,SNR=29
TKL LR LR 08 29 31.2
comp=Z,292μm,21.9s,baz=253,slow=38
HQIL Hanson Quary C 24.50 41 IAMs_20 IAMs_20 08 28 32.8
comp=Z,188μm,18.0s
D04E Lakebay 24.58 338 P **P** **08 19 30.4 -1.0**
baz=150,SNR=25
C06D Leavenworth 24.64 341 P **P** **08 19 31.0 -0.9**
baz=154,SNR=8.1
L44A Lake County Fo 24.69 41 P **P** **08 19 33.2 +0.8**
baz=233
K43A Burlington 24.77 39 IAmb IAmb 08 19 47.0
comp=Z,761nm,1.8s
P48A Milroy 24.80 49 IAmb IAmb 08 19 57.0
comp=Z,474nm,1.5s
BG3 Lake Jocassee 24.94 60 IAmb IAmb 08 19 41.4
comp=Z,315nm,0.9s
TZTN Tazewell 24.95 56 P **P** **08 19 35.8 +0.9**
baz=250,SNR=47
R50A Paris 25.04 52 IAmb IAmb 08 20 10.7
comp=Z,661nm,1.5s
NLWA Neilton Lookou 25.15 336 IAmb IAmb 08 19 46.7
comp=Z,574nm,1.6s
NLWA Neilton Lookou 25.15 336 ⇓P **P** **08 19 36.7 +0.2**
DWPF Disney Wildern 25.19 77 P **P** **08 19 36.9 -0.2**
DWPF IAmb IAmb 08 19 42.1
comp=Z,436nm,1.1s
DWPF Disney Wildern 25.19 77 ⇑P **P** **08 19 37.6 +0.5**
DWPF Disney Wildern 25.19 77 P **P** **08 19 37.3 +0.2**
baz=270
I42A Draeger Farm, 25.21 36 IAmb IAmb 08 20 06.6
comp=Z,468nm,1.4s
V53A Saluda 25.23 59 IAmb IAmb 08 19 44.0
comp=Z,387nm,1.0s
HODGE Hodges 25.28 62 P **P** **08 19 37.5 -0.3**
HODGE IAmb IAmb 08 19 53.5
comp=Z,542nm,1.4s
B05A Bryant 25.31 340 P **P** **08 19 36.2 -1.7**
baz=152,SNR=46
S51A Beattyville 25.32 54 P **P** **08 19 37.9 -0.3**

S51A IAmb IAmb 08 19 53.8
comp=Z,312nm,1.1s
P49A Miami Univ. Ec 25.32 49 P **P** **08 19 37.3 -0.8**
P49A IAmb IAmb 08 19 49.0
comp=Z,462nm,1.5s
P49A Miami Univ. Ec 25.32 49 P **P** **08 19 37.8 -0.3**
baz=243,SNR=15
N47A Urbana 25.33 45 P **P** **08 19 38.4 +0.2**
N47A IAmb IAmb 08 19 49.7
comp=Z,613nm,1.4s
L46A Eue Claire 25.57 43 IAmb IAmb 08 20 13.7
comp=Z,521nm,1.4s
AGMN Agassiz Nation 25.61 21 IAmb IAmb 08 20 00.0
comp=Z,319nm,1.4s
AGMN IAMs_20 IAMs_20 08 29 34.8
comp=Z,191μm,19.0s
AGMN Agassiz Nation 25.61 21 P **P** **08 19 38.4 -2.3**
baz=210,SNR=31
PAULI Pauline 25.78 61 IAmb IAmb 08 19 53.7
comp=Z,252nm,0.9s
A04D Lummi Island 25.91 340 P **P** **08 19 42.8 -0.4**
baz=151,SNR=13
Q51A Peebles 26.05 51 P **P** **08 19 44.1 -0.7**
Q51A IAmb IAmb 08 20 05.5
comp=Z,503nm,1.2s
PGC Sidney 26.09 339 P **P** **08 19 44.2 -0.7**
PGC IAmb IAmb 08 19 53.4
comp=Z,280nm,1.1s
JSC Jenkinsville 26.09 63 P **P** **08 19 44.8 -0.4**
JSC pmax pmax
comp=Z,856nm,2.0s
JSC Jenkinsville 26.09 63 P **P** **08 19 44.8 -0.4**
JSC IAmb IAmb 08 20 14.7
comp=Z,856nm,2.0s
H43A Windswept, Lux 26.21 37 P **P** **08 19 45.3 -0.9**
H43A IAmb IAmb 08 20 07.7
comp=Z,316nm,1.2s
KMSC Kings Mountain 26.25 61 IAmb IAmb 08 19 52.9
comp=Z,310nm,0.9s
KMSC Kings Mountain 26.25 61 P **P** **08 19 46.2 -0.3**
baz=255,SNR=77
U54A Nelsons Funny 26.26 57 IAmb IAmb 08 19 58.0
comp=Z,352nm,1.1s
N49A Columbus Grove 26.34 47 P **P** **08 19 46.9 -0.5**
P51A Williamsport 26.45 50 IAmb IAmb 08 20 18.4
comp=Z,242nm,1.1s
V55A Taylorsville 26.53 59 IAmb IAmb 08 20 09.2
comp=Z,457nm,1.4s
COWI Conover 26.62 33 IAmb IAmb 08 20 08.6
comp=Z,616nm,1.8s
L48A N Adams 26.70 45 IAmb IAmb 08 19 59.9
comp=Z,290nm,1.1s
Y57A Sumter 26.74 64 IAmb IAmb 08 19 57.0
comp=Z,315nm,1.1s
NHSC New Hope 26.74 66 P **P** **08 19 49.5 -1.6**
baz=260,SNR=14
R53A Hurricane 26.78 54 IAmb IAmb 08 20 23.7
comp=Z,286nm,1.0s
I45A Fountain 26.79 39 IAmb IAmb 08 20 28.3
comp=Z,768nm,1.8s
Q52A Bidwell 26.79 52 IAmb IAmb 08 20 23.5
comp=Z,491nm,1.3s
ACSO Alum Creek Sta 26.83 49 IAmb IAmb 08 20 15.6
comp=Z,321nm,1.4s
ACSO IAMs_20 IAMs_20 08 30 47.9
comp=Z,314μm,21.0s
ACSO Alum Creek Sta 26.83 49 P **P** **08 19 51.4 -0.4**
baz=244
EYMN Ely 26.95 27 IAmb IAmb 08 20 05.0
comp=Z,300nm,1.4s
EYMN Ely 26.95 27 IAMs_20 IAMs_20 08 30 16.6
comp=Z,255μm,22.0s
EYMN Ely 26.95 27 P **P** **08 19 50.1 -2.7**
baz=218,SNR=14
ORTG Ortega, Santa 26.98 118 IAmb IAmb 08 20 12.4
comp=Z,482nm,1.9s
S54A Dingess, Beckl 27.06 55 IAmb IAmb 08 20 03.8
comp=Z,797nm,2.0s
DUNO Dulce Nombre, 27.12 119 P **P** **08 19 55.8 +1.2**
J47A Sunmer 27.16 42 IAmb IAmb 08 20 15.2
comp=Z,520nm,1.5s
P52A Corning 27.16 51 IAMs_20 IAMs_20 08 30 04.8
comp=Z,205μm,20.0s
P52A Corning 27.16 51 P **P** **08 19 56.5 +1.7**
baz=246
Y58A Scranton 27.31 64 P **P** **08 19 56.0 -0.1**
W57A Gilead 27.31 61 P **P** **08 19 55.3 -0.9**
W57A IAmb IAmb 08 20 16.8
comp=Z,300nm,1.2s
U56A King 27.32 59 IAmb IAmb 08 20 08.0
comp=Z,243nm,1.2s
ULM Lac du Bonnet 27.32 19 P **P** **08 19 55.4 -0.7**
comp=Z,58nm,1.0s,baz=204,slow=9.4,SNR=14
ULM LR LR 08 30 34.5
comp=Z,129μm,21.8s,baz=204,slow=36
ULM Lac du Bonnet 27.32 19 P **P** **08 19 54.0 -2.1**
ULM pmax pmax
comp=Z,339nm,1.8s
ULM Lac du Bonnet 27.32 19 P **P** **08 19 54.0 -2.1**
ULM IAmb IAmb 08 20 40.2
comp=Z,339nm,1.8s
ULM Lac du Bonnet 27.32 19 ⇓P **P** **08 19 55.0 -1.2**
M50A Fremont 27.33 47 P **P** **08 19 54.9 -1.4**
LLLB Lillooet 27.35 343 P **P** **08 19 56.1 -0.3**
LLLB IAmb IAmb 08 20 07.2
comp=Z,497nm,1.8s
AAM Ann Arbor 27.38 44 P **P** **08 19 56.7 0.0**
baz=239
JTS Las Juntas de 27.43 118 P **P** **08 19 59.3 +1.9**
comp=Z,26nm,0.8s,baz=15,slow=6.5,SNR=14
JTS LR LR 08 30 59.5
comp=Z,97μm,20.8s,baz=12,slow=37
JTS Las Juntas de 27.43 118 P **P** **08 19 58.0 +0.6**
JTS pmax pmax
comp=Z,542nm,1.8s
JTS MLR MLR
comp=Z,89μm,20.0s
JTS Las Juntas de 27.43 118 P **P** **08 19 58.0 +0.6**
JTS IAmb IAmb 08 20 09.1
comp=Z,542nm,1.8s
JTS Las Juntas de 27.43 118 ⇑P **P** **08 19 58.9 +1.5**
BLA Blacksburg 27.54 57 IAmb IAmb 08 20 14.6
comp=Z,705nm,1.9s
BLA Blacksburg 27.54 57 P **P** **08 19 58.7 +0.4**
baz=252,SNR=12
D41A Chassel 27.59 32 P **P** **08 19 57.6 -0.9**
D41A IAmb IAmb 08 20 40.4
comp=Z,208nm,1.1s
LCCY Blossom Villag 27.60 95 P **P** **08 19 59.7 +0.8**
P53A Whipple 27.63 52 IAmb IAmb 08 20 21.7
comp=Z,487nm,1.6s
COVE Coope Vega, Sa 27.63 116 P **P** **08 19 59.4 +0.2**
COVE IAmb IAmb 08 20 32.4
comp=Z,271nm,1.3s
CAO2 Cobano, Puntar 27.66 119 P **P** **08 20 00.6 +1.2**
G45A Suttons Bay 27.74 38 P **P** **08 19 59.3 -0.6**
G45A IAmb IAmb 08 20 22.3
comp=Z,460nm,1.3s
CBCY The Bluff, Cay 27.88 95 P **P** **08 20 01.4 0.0**
CBCY IAmb IAmb 08 20 17.6
comp=Z,405nm,1.5s
E43A Lone Tree Farm 27.89 34 IAmb IAmb 08 20 19.3
comp=Z,491nm,1.6s
Y59A Loris 27.97 64 IAmb IAmb 08 20 14.8
comp=Z,243nm,0.9s
O53A New Philadelph 28.06 50 IAmb IAmb 08 20 27.3
comp=Z,486nm,1.6s
O53A New Philadelph 28.06 50 P **P** **08 20 02.4 -0.4**
baz=246,SNR=9.3
R55A Marlinton 28.11 55 IAmb IAmb 08 20 24.0
comp=Z,252nm,1.2s
V58A Windy Hill, Pi 28.16 60 P **P** **08 20 04.0 +0.2**
V58A IAmb IAmb 08 20 14.7
comp=Z,534nm,1.8s
GLMI Grayling 28.19 39 IAmb IAmb 08 20 13.5
comp=Z,385nm,1.2s
GLMI Grayling 28.19 39 P **P** **08 20 04.8 +0.8**
baz=234,SNR=14
HDC Heredia 28.27 117 IAmb IAmb 08 20 28.3
comp=Z,555nm,1.6s
HDC IAMs_20 IAMs_20 08 32 05.2
comp=Z,105μm,18.0s
EDM Edmonton 28.37 355 IAmb IAmb 08 20 10.4
comp=Z,524nm,1.5s
T57A Hurt 28.37 58 IAmb IAmb 08 20 31.4
comp=Z,509nm,1.9s
M52A Chesterland 28.51 48 IAmb IAmb 08 20 27.4

comp=Z,579nm,1.6s
CVTR Volcan Turrial 28.54 117 P **P** 08 20 08.3 +0.5
CVTR IAmb IAmb 08 20 27.9
comp=Z,207nm,1.3s
N53A Lisbon 28.55 49 IAmb IAmb 08 20 27.6
comp=Z,408nm,1.8s
RIMA Rio Macho 28.60 117 P **P** 08 20 08.8 +0.6
RIMA IAmb IAmb 08 20 13.9
comp=Z,381nm,1.7s
O54A Avella 28.62 51 IAmb IAmb 08 20 32.6
comp=Z,319nm,1.5s
MCWV Mont Chateau 28.80 52 IAMs_20 IAMs_20 08 31 06.1
comp=Z,233µm,19.0s
MCWV Mont Chateau 28.80 52 P **P** 08 20 09.8 +0.4
baz=249
S57A Dark Hollow, R 28.82 56 P **P** 08 20 08.9 -0.7
M53A Wl Miller and 28.93 48 P **P** 08 20 11.4 +0.8
baz=245
PEZE Perez Zeledon, 28.97 118 P **P** 08 20 12.7 +1.4
PEZE IAmb IAmb 08 20 32.8
comp=Z,458nm,1.9s
CNNC Cliffs of the 29.01 62 P **P** 08 20 11.3 0.0
CNNC IAmb IAmb 08 20 22.5
comp=Z,568nm,1.8s
CNNC Cliffs of the 29.01 62 ⇓P **P** 08 20 12.8 +1.4
CNNC Cliffs of the 29.01 62 P **P** 08 20 06.8 -4.6
baz=258,SNR=12
N54A Moraine State 29.20 50 IAmb IAmb 08 20 24.4
comp=Z,304nm,1.4s
N54A IAMs_20 IAMs_20 08 31 17.7
comp=Z,211µm,19.0s
N54A Moraine State 29.20 50 P **P** 08 20 12.1 -0.9
baz=246,SNR=9.2
E46A Sault Ste Mari 29.30 37 P **P** 08 20 13.5 -0.3
SRBA San Rafael, Bu 29.32 118 P **P** 08 20 14.8 +0.4
U59A Littleton 29.34 60 P **P** 08 20 14.1 -0.1
M54A Oil Creek Stat 29.65 49 IAMs_20 IAMs_20 08 31 33.5
comp=Z,201µm,21.0s
M54A Oil Creek Stat 29.65 49 P **P** 08 20 16.9 -0.1
baz=246
ERPA Erie 29.69 48 IAMs_20 IAMs_20 08 32 50.5
comp=Z,254µm,20.0s
ERPA Erie 29.69 48 P **P** 08 20 18.5 +1.2
baz=244
O56A Blue Knob Stat 29.93 52 IAMs_20 IAMs_20 08 31 53.2
comp=Z,186µm,20.0s
O56A Blue Knob Stat 29.93 52 P **P** 08 20 18.6 -0.9
baz=249
P57A Homestead Farm 30.06 54 IAmb IAmb 08 20 45.3
comp=Z,275nm,1.7s
CDITO Canoas 30.09 118 P **P** 08 20 22.3 +1.2
BRU2 Volcan 30.11 118 IAmb IAmb 08 20 37.9
comp=Z,247nm,1.0s
CBN Corbin Frederi 30.14 56 P **P** 08 20 21.6 +0.2
CBN IAmb IAmb 08 20 42.7
comp=Z,398nm,1.6s
CBN IAMs_20 IAMs_20 08 32 46.0
comp=Z,224µm,20.0s
CBN Corbin Frederi 30.14 56 P **P** 08 20 20.1 -1.3
baz=254
V61A Roper 30.17 61 P **P** 08 20 23.4 +1.8
FFC Flin Flon 30.22 9 P **P** 08 20 20.3 -1.6
FFC pmax pmax
comp=Z,221nm,1.5s
FFC MLR MLR
comp=Z,293µm,22.0s
FFC Flin Flon 30.22 9 P **P** 08 20 20.3 -1.6
FFC IAmb IAmb 08 20 25.7
comp=Z,221nm,1.4s
FFC Flin Flon 30.22 9 ⇓P **P** 08 20 21.0 -0.8
M55A Ridgway 30.25 49 P **P** 08 20 22.5 +0.2
M55A IAmb IAmb 08 20 32.6
comp=Z,432nm,1.9s
MTDJ Mount Denham 30.33 96 IAmb IAmb 08 20 46.9
comp=Z,289nm,1.6s
MTDJ IAMs_20 IAMs_20 08 33 15.6
comp=Z,130µm,20.0s
MTDJ Mount Denham 30.33 96 ⇓P **P** 08 20 24.2 +0.9
SSPA Standing Stone 30.55 52 P **P** 08 20 24.4 -0.5
SSPA IAmb IAmb 08 20 46.6
comp=Z,265nm,1.5s
SSPA Standing Stone 30.55 52 IAMs_20 IAMs_20 08 33 04.5
comp=Z,253µm,21.0s
SSPA Standing Stone 30.55 52 ⇑P **P** 08 20 23.7 -1.2
SSPA Standing Stone 30.55 52 P **P** 08 20 22.8 -2.2
baz=249
BBB Bella Bella 30.67 337 P **P** 08 20 23.7 -2.1
PAGS Pennsylvania G 31.24 53 P **P** 08 20 30.8 -0.3
M57A Sunshine Farm, 31.34 51 P **P** 08 20 31.5 -0.4
M57A IAmb IAmb 08 20 53.7
comp=Z,199nm,1.4s
L56A Greenwood 31.34 49 P **P** 08 20 31.5 -0.5
L56A IAmb IAmb 08 20 42.2
comp=Z,329nm,1.6s
MMNY Mt. Morris Dam 31.34 48 P **P** 08 20 31.7 -0.2
SADO Sadowa 31.45 43 P **P** 08 20 33.0 +0.1
comp=Z,17nm,1.0s,baz=248,slow=9.8,SNR=4.7
SADO PcP **PcP** 08 23 24.6 -1.5
comp=Z,16nm,0.9s,baz=234,slow=1.2,SNR=2.8
SADO LR LR 08 32 41.1
comp=Z,127µm,18.1s,baz=249,slow=35
N58A Sunbury 31.45 52 IAmb IAmb 08 20 57.0
comp=Z,412nm,1.9s
PAYG Puerto Ayora 31.51 141 P **P** 08 20 36.7 +3.1
PAYG Puerto Ayora 31.51 141 eP **P** 08 20 34.3 +0.7
Q61A Milford 31.87 56 P **P** 08 20 35.7 -0.9
baz=255
P60A Greenville 31.91 54 P **P** 08 20 36.4 -0.5
P60A IAmb IAmb 08 20 47.0
comp=Z,220nm,1.7s
P60A IAMs_20 IAMs_20 08 33 15.6
comp=Z,181µm,20.0s
P60A Greenville 31.91 54 P **P** 08 20 37.2 +0.3
baz=253
WUPA West Chester U 31.96 54 P **P** 08 20 37.5 +0.1
GTBY Guantanamo Bay 32.03 92 P **P** 08 20 39.3 +1.1
GTBY IAmb IAmb 08 21 43.8
comp=Z,184nm,1.4s
GTBY IAMs_20 IAMs_20 08 34 55.4
comp=Z,134µm,20.0s
N59A State Game Lan 32.16 52 P **P** 08 20 38.3 -0.8
N59A IAmb IAmb 08 21 03.6
comp=Z,424nm,2.0s
N59A State Game Lan 32.16 52 P **P** 08 20 40.2 +1.1
baz=251
BCIP Isla Barro Col 32.23 114 P **P** 08 20 41.0 +1.0
BCIP pmax pmax
comp=Z,68nm,1.1s
BCIP MLR MLR
comp=Z,109µm,18.0s
BCIP Isla Barro Col 32.23 114 P **P** 08 20 41.0 +1.0
BCIP IAMs_20 IAMs_20 08 35 13.4
comp=Z,109µm,18.0s
BCIP Isla Barro Col 32.23 114 eP **P** 08 20 42.8 +2.9
BCIP Isla Barro Col 32.23 114 ⇑P **P** 08 20 43.7 +3.7
K57A Scipio Center 32.28 49 IAmb IAmb 08 21 01.6
comp=Z,364nm,1.6s
DELO Deloro Mine 32.30 45 IAmb IAmb 08 21 00.7
comp=Z,315nm,1.5s
KSPA Keystone Colle 32.37 51 IAmb IAmb 08 21 07.8
comp=Z,210nm,1.6s
BINY Binghamton 32.45 50 P **P** 08 20 42.7 +1.1
baz=249
P61A Hammonton 32.49 55 P **P** 08 20 41.4 -0.6
MOBC Moresby Island 32.86 335 IAmb IAmb 08 21 05.9
comp=Z,144nm,1.2s
J57A Williamstown 32.90 48 IAmb IAmb 08 20 54.7
comp=Z,273nm,1.4s
L59A Walton 33.10 50 P **P** 08 20 47.5 +0.1
L59A IAmb IAmb 08 21 07.9
comp=Z,290nm,1.5s
DIB Dawson Inlet, 33.10 334 P **P** 08 20 46.6 -0.5
RUBB Prince Rupert 33.16 338 P **P** 08 20 47.8 +0.1
J58A Remsen 33.36 48 IAmb IAmb 08 20 58.8
comp=Z,230nm,1.9s
PAL Palisades 33.52 53 P **P** 08 20 51.7 +0.7
baz=253
J59A Piesco 33.92 48 IAmb IAmb 08 21 04.6
comp=Z,242nm,1.6s
GAC Glen Almond 34.18 44 ⇑P **P** 08 20 57.6 +1.0
TRY Troy 34.24 50 IAmb IAmb 08 21 24.2
comp=Z,326nm,1.7s
NCB Newcomb 34.30 48 IAmb IAmb 08 21 18.0
comp=Z,346nm,1.6s
LONY Lake Ozonia 34.31 46 IAmb IAmb 08 21 18.3
comp=Z,360nm,1.6s
LONY Lake Ozonia 34.31 46 P **P** 08 20 58.0 +0.1
baz=247,SNR=7.2
YLE Yale 34.31 53 IAMs_20 IAMs_20 08 36 42.2
comp=Z,185µm,21.0s
ACCN Adirondack Com 34.46 49 IAmb IAmb 08 21 19.3
comp=Z,401nm,1.9s
K61A Williamstown 34.50 50 P **P** 08 21 02.2 +2.7
baz=251
CAPC Capugana 34.59 112 eP **P** 08 21 01.8 +1.3
L61B Northampton 34.84 51 P **P** 08 21 05.5 +3.1
baz=252
I60A Shoreham 34.88 48 P **P** 08 21 01.3 -1.5
baz=250
PTAC Punta Ardita, 35.01 115 eP **P** 08 21 05.1 +0.9
QUA2 Belchertown 35.02 51 IAmb IAmb 08 21 15.1
comp=Z,218nm,1.5s
QUA2 IAMs_20 IAMs_20 08 34 48.8
comp=Z,148µm,19.0s
FRNY Flat Rock 35.05 46 IAmb IAmb 08 21 24.8
comp=Z,303nm,1.6s
CRAG Craig 35.09 337 IAmb IAmb 08 21 34.5
comp=Z,257nm,1.5s
CRAG Craig 35.09 337 P **P** 08 21 04.9 +0.5
baz=141
J61A Chester 35.21 49 P **P** 08 21 07.9 +2.2
baz=251
K62A Royalston 35.22 51 P **P** 08 21 08.4 +2.6
baz=252
GRTK Grand Turk 35.26 88 IAMs_20 IAMs_20 08 37 35.7
comp=Z,135µm,22.0s
MNTQ Montreal, Queb 35.28 45 ⇑P **P** 08 21 06.6 +0.4
VT1 Waterbury 35.42 48 IAmb IAmb 08 21 16.9
comp=Z,271nm,1.6s
VT1 IAMs_20 IAMs_20 08 36 23.0
comp=Z,142µm,19.0s
L63A North Scituate 35.42 52 IAMs_20 IAMs_20 08 36 26.6
comp=Z,153µm,20.0s
L63A North Scituate 35.42 52 P **P** 08 21 09.3 +1.8
baz=254
FCC Fort Churchill 35.46 14 IAmb IAmb 08 21 16.2
comp=Z,178nm,1.1s
BRYW Bryant College 35.49 52 IAMs_20 IAMs_20 08 35 13.3
comp=Z,169µm,18.0s
WRAK Wrangell Islan 35.56 338 IAMs_20 IAMs_20 08 35 08.3
comp=Z,95µm,22.0s
WRAK Wrangell Islan 35.56 338 P **P** 08 21 06.5 -2.0
baz=142,SNR=9.0
M64A Tiverton 35.63 53 P **P** 08 21 11.9 +2.7
baz=255
HRV Adam Dziewonsk 35.65 51 P **P** 08 21 09.3 -0.1
HRV pmax pmax
comp=Z,447nm,2.0s
HRV MLR MLR
comp=Z,144µm,19.0s
HRV Adam Dziewonsk 35.65 51 P **P** 08 21 09.3 -0.1
HRV IAmb IAmb 08 21 19.0
comp=Z,447nm,1.9s
HRV Adam Dziewonsk 35.65 51 IAMs_20 IAMs_20 08 35 09.4
comp=Z,143µm,19.0s
J62A Henniker 35.69 50 P **P** 08 21 09.9 +0.1
baz=252
WES Weston 35.78 51 IAMs_20 IAMs_20 08 35 10.9
comp=Z,135µm,21.0s
SJCC San Jacinto, C 35.80 109 IAmb IAmb 08 21 32.5
comp=Z,386nm,1.4s
SJCC San Jacinto, C 35.80 109 eP **P** 08 21 11.7 +0.7
SOLC Bahia Solano 35.86 116 eP **P** 08 21 10.9 -0.6
BCX Boston College 35.87 52 IAMs_20 IAMs_20 08 34 21.4
comp=Z,121µm,19.0s
FFD Franklin Falls 35.88 50 P **P** 08 21 12.5 +1.2
FFD IAmb IAmb 08 21 22.2
comp=Z,257nm,1.6s
LBNH Lisbon 35.94 48 P **P** 08 21 12.4 +0.5
LBNH pmax pmax
comp=Z,385nm,1.7s
LBNH MLR MLR
comp=Z,168µm,18.0s
LBNH Lisbon 35.94 48 P **P** 08 21 12.4 +0.5
LBNH IAmb IAmb 08 21 23.8
comp=Z,385nm,1.7s
LBNH IAMs_20 IAMs_20 08 35 07.1
comp=Z,168µm,18.0s
LBNH Lisbon 35.94 48 P **P** 08 21 13.7 +1.8
baz=250
L64A Middleborough 36.00 52 P **P** 08 21 15.1 +2.7
baz=254
SMRC Santa Marta, M 36.03 106 eP **P** 08 21 13.3 +0.4
M65A Busby, Falmout 36.04 53 P **P** 08 21 13.3 +0.6
baz=255
SC01 Santiago de Io 36.15 91 IAmb IAmb 08 21 19.9
comp=Z,318nm,1.0s
J63A Strafford 36.21 50 P **P** 08 21 14.4 +0.1
baz=252
I62A Tamworth 36.22 49 IAmb IAmb 08 21 25.4
comp=Z,362nm,1.5s
I62A Tamworth 36.22 49 P **P** 08 21 14.4 +0.1
baz=252
M66A Nantucket 36.33 54 P **P** 08 21 18.3 +3.1
baz=256
DBBC Dabeiba 36.41 114 eP **P** 08 21 16.6 +0.3
DLBC Dease Lake 36.50 342 LR LR 08 36 53.9
comp=Z,138µm,19.0s,baz=158,slow=38
H62A Milan 36.57 48 IAmb IAmb 08 21 38.5
comp=Z,248nm,1.4s
UREC San Jos de Ur 36.58 112 eP **P** 08 21 15.0 -2.7
L65A Cape Cod Natio 36.59 52 P P 08 21 21.3 +3.9
baz=255
ARGC Ariguani, Magd 36.62 108 eP **P** 08 21 16.6 -1.4
I63A Otisfield 36.80 49 IAmb IAmb 08 21 30.2
comp=Z,264nm,1.6s
I63A Otisfield 36.80 49 P P 08 21 23.1 +3.9
baz=252
SIT Sitka 37.09 337 P **P** 08 21 24.1 +2.6
baz=139
CBOC Ciudad Bolivar 37.20 115 eP **P** 08 21 23.2 0.0
G62A West of Eustis 37.21 47 IAmb IAmb 08 21 33.5
comp=Z,329nm,1.6s
G62A West of Eustis 37.21 47 P **P** 08 21 23.2 +0.5
baz=251
CRJC Cerrejon, Guaj 37.27 105 eP **P** 08 21 22.4 -1.2
ZARC Zaragoza, Cauc 37.28 112 eP **P** 08 21 25.7 +2.0
SMLC San Martn de 37.28 109 eP **P** 08 21 22.4 -1.3
HELC Santa Helena 37.42 114 eP **P** 08 21 26.5 +1.2
WVL Waterville 37.59 49 IAmb IAmb 08 21 37.0
comp=Z,328nm,1.5s
WTLY Watson Lake, Y 37.61 344 P **P** 08 21 26.2 +0.2
baz=150
YKA Yellowknife Ar 37.67 356 P **P** 08 21 24.6 -1.8
comp=Z,27nm,0.9s,baz=168,slow=8.3,SNR=46
YKA LR LR 08 37 33.0
comp=Z,229µm,20.3s,baz=0.0,slow=37
JIS Juneau Island 37.70 339 IAMs_20 IAMs_20 08 36 25.1
comp=Z,120µm,20.0s
F62A Pittston Farm, 37.81 46 P **P** 08 21 29.5 +1.7
baz=250
YOTC Yotoco, Valle 38.02 118 eP **P** 08 21 28.2 -1.9
PKME Peaks-Kenny Pk 38.05 48 IAMs_20 IAMs_20 08 37 54.8
comp=Z,121µm,20.0s
PKME Peaks-Kenny Pk 38.05 48 P **P** 08 21 31.1 +1.3
baz=252
GUY2C Guyana, Caldas 38.10 115 eP **P** 08 21 28.2 -2.9
PTBC PUERTO BERRIO, 38.12 113 eP P 08 21 22.4 -8.4
LMQ La Malbaie 38.17 44 IAmb IAmb 08 21 51.5
comp=Z,566nm,1.7s
OCAC Ocana 38.21 110 eP **P** 08 21 30.6 -1.0
NORC Norcasia 38.31 114 eP **P** 08 21 32.3 -0.2
BRRC Barranca, Sant 38.45 111 eP **P** 08 21 33.1 -0.5
PAC1 Pacto, Paraso 38.46 125 eP **P** 08 21 32.8 -1.0
BBAC Balboa, Cauca 38.50 121 eP **P** 08 21 33.1 -1.1
PCDR Punta Cana, DR 38.53 91 IAmb IAmb 08 21 39.4
comp=Z,259nm,0.8s
TGTN Hyland Airport 38.73 346 P **P** 08 21 32.3 -3.1
baz=152,SNR=21
OTAV Otavalo 38.73 125 P **P** 08 21 38.2 +1.7
OTAV pmax pmax
comp=Z,281nm,1.3s
OTAV MLR MLR
comp=Z,32µm,21.0s
OTAV Otavalo 38.73 125 P **P** 08 21 38.2 +1.7
OTAV IAmb IAmb 08 21 51.6
comp=Z,281nm,1.3s
OTAV Otavalo 38.73 125 eP **P** 08 21 37.2 +0.8
OTAV Otavalo 38.73 125 ⇑P **P** 08 21 37.5 +1.1
OTAV Otavalo 38.73 125 eP **P** 08 21 36.3 -0.1
D62A Allapoint, All 38.81 45 IAmb IAmb 08 21 57.1
comp=Z,470nm,1.8s
TULM Tulcn-Chalpat 38.92 123 eP **P** 08 21 34.4 -3.6
SPBC San Pablo de B 38.93 114 eP **P** 08 21 31.4 -6.2
SOTA Rioblanco 38.93 121 eP **P** 08 21 35.9 -2.2
SKAG Skagway 38.94 339 P **P** 08 21 34.2 -2.8
baz=141
ORTC Ortega, Tolima 38.95 117 eP **P** 08 21 38.0 +0.3
PCON Cinco Dias 38.97 120 eP **P** 08 21 37.9 -0.7
MARP Paez Belalcaza 39.01 119 eP **P** 08 21 39.2 +0.7
EMMW East Machias 39.13 49 P **P** 08 21 38.4 -0.5
EMMW IAmb IAmb 08 21 49.7
comp=Z,398nm,1.5s
BARC Barichara 39.17 112 eP **P** 08 21 38.0 -1.8
ROSC El Rosal 39.17 115 P **P** 08 21 41.5 +1.4
comp=Z,42nm,1.1s,baz=123,slow=7.9,SNR=23
ROSC LR LR 08 40 10.1
comp=Z,65µm,20.4s,baz=340,slow=40
ROSC El Rosal 39.17 115 P **P** 08 21 41.3 +1.3
ROSC pmax pmax
comp=Z,1µm,2.0s
ROSC El Rosal 39.17 115 P **P** 08 21 41.3 +1.3
ROSC El Rosal 39.17 115 eP **P** 08 21 39.8 -0.3
G65A Princeton 39.20 48 P **P** 08 21 39.5 +0.1
PQI Presque Isle 39.34 46 P **P** 08 21 40.3 -0.4
PQI IAmb IAmb 08 22 01.5
comp=Z,426nm,1.7s
WRGLY Wrigley 39.37 350 P **P** 08 21 37.3 -3.3
baz=160,SNR=26
BETC Betania 39.52 119 eP **P** 08 21 43.8 +1.3
RUSC La Rusia 39.62 112 P **P** 08 21 44.0 +0.1
RUSC IAmb IAmb 08 22 05.1
comp=Z,294nm,1.1s
RUSC La Rusia 39.62 112 eP **P** 08 21 38.9 -5.1
BBSR BB Station 39.69 69 P **P** 08 21 44.6 +0.9
BBSR IAmb IAmb 08 22 01.9
comp=Z,465nm,1.7s
BBSR BB Station 39.69 69 IAMs_20 IAMs_20 08 41 05.0
comp=Z,58µm,18.0s
BBSR BB Station 39.69 69 ⇑P **P** 08 21 46.5 +2.8
WHY Whitehorse 39.74 341 P **P** 08 21 42.9 -1.0
WHY Whitehorse 39.74 341 P **P** 08 21 42.2 -1.7
baz=142,SNR=8.2
CHIC Chingaza 39.77 115 eP P 08 21 38.0 -7.0
GARC Garzon, Huila 39.77 119 eP **P** 08 21 44.6 -0.3
CRPR Cabo Rojo, PR 39.84 91 P **P** 08 21 45.2 +0.1
MLPR Magueyes Islan 39.91 92 P **P** 08 21 45.2 -0.5
MLPR IAmb IAmb 08 21 49.8
comp=Z,244nm,1.1s
FLOC Florencia 40.02 120 P **P** 08 21 47.9 +1.2
FLOC IAmb IAmb 08 22 02.2
comp=Z,274nm,1.2s
FLOC Florencia 40.02 120 eP **P** 08 21 44.6 -2.1
AOPR Arecibo Observ 40.06 91 P **P** 08 21 47.2 +0.2
VILC Villavicencio, 40.09 115 eP **P** 08 21 44.6 -2.8
SDV Santo Domingo 40.21 107 P **P** 08 21 49.1 +0.7
comp=Z,31nm,0.7s,baz=314,slow=5.3,SNR=16
SDV Santo Domingo 40.21 107 P **P** 08 21 49.2 +0.7
SDV Santo Domingo 40.21 107 IAMs_20 IAMs_20 08 39 25.0
comp=Z,111µm,21.0s
SDV Santo Domingo 40.21 107 eP **P** 08 21 45.8 -2.7
SDV Santo Domingo 40.21 107 eP **P** 08 21 46.6 -1.9
EMPR Esperanza - Ma 40.22 91 P **P** 08 21 49.3 +0.9
EMPR IAmb IAmb 08 21 52.7
comp=Z,240nm,0.9s
HATO Hato, Curacao 40.24 101 IAMs_20 IAMs_20 08 38 52.4
comp=Z,94µm,22.0s
OBIP Obispado Ponce 40.28 91 IAmb IAmb 08 21 52.6
comp=Z,156nm,0.8s
MMPY Sheldon Lake, 40.38 345 P **P** 08 21 46.8 -2.4
baz=149,SNR=83
MMPY S **S** 08 28 00.8 +2.9
baz=149
ICMP Isla Caja de M 40.40 91 P **P** 08 21 49.7 -0.1
ICMP IAmb IAmb 08 22 07.7
comp=Z,350nm,1.4s
TAMC Tame, Arauca 40.43 111 eP **P** 08 21 49.6 -0.5
TAMC Tame, Arauca 40.43 111 eP P 08 21 45.4 -4.7
FARO Faro, Yukon 40.58 343 P **P** 08 21 48.4 -2.4
baz=146,SNR=14
FARO S **S** 08 28 05.0 +4.2
baz=146
SJG San Juan 40.67 91 P **P** 08 21 51.8 -0.3
comp=Z,193nm,0.8s,baz=293,slow=4.0,SNR=19
SJG San Juan 40.67 91 P **P** 08 21 51.6 -0.5
SJG pmax pmax
comp=Z,198nm,0.8s
SJG MLR MLR
comp=Z,106µm,22.0s
SJG San Juan 40.67 91 P **P** 08 21 51.6 -0.5
SJG IAmb IAmb 08 21 56.8
comp=Z,198nm,0.8s
SJG San Juan 40.67 91 IAMs_20 IAMs_20 08 40 24.3
comp=Z,106µm,22.0s
SJG San Juan 40.67 91 eP P 08 21 43.0 -9.1
SJG San Juan 40.67 91 ⇑P **P** 08 21 51.6 -0.5
GCPR Guaynabo City 40.68 91 IAmb IAmb 08 21 57.9
comp=Z,214nm,0.8s
HYT Haines Junctio 40.69 339 P **P** 08 21 49.1 -2.7
baz=139,SNR=24
HYT S S 08 28 10.5 +8.0
baz=139
BATG Bathurst New B 40.80 46 IAmb IAmb 08 22 13.6
comp=Z,246nm,1.3s
PDPR Patillas Dam, 40.82 91 P **P** 08 21 53.5 +0.3
CBYP Canovanas 40.89 91 IAmb IAmb 08 22 18.3
comp=Z,492nm,2.0s
HUMP Col San Antoni 40.94 91 IAmb IAmb 08 22 13.4
comp=Z,351nm,1.6s
YUK6 Outpost Mounta 41.05 339 P **P** 08 21 51.7 -3.2
baz=138,SNR=17
YUK6 S S 08 28 16.2 +7.9
baz=138
PINM Pinnacle 41.08 337 P **P** 08 21 53.1 -1.9
baz=135
PINM S S 08 28 15.8 +7.5
baz=135
PCA Pinnacle 41.08 337 P **P** 08 21 55.3 +0.3
MACC Macarena, Meta 41.11 118 eP P 08 21 47.9 -7.8
MTP Monte Pirata 41.22 91 IAmb IAmb 08 22 02.8
comp=Z,226nm,0.9s
LMN Caledonia Moun 41.24 48 IAmb IAmb 08 22 07.0
comp=Z,248nm,1.4s
PTGC Puerto Gaitan, 41.33 114 eP P 08 21 51.2 -6.3
YUK4 Talbot Arm 41.45 339 P **P** 08 21 57.7 -0.4
baz=138,SNR=22
YUK4 S **S** 08 28 20.7 +6.7
baz=138
PTLC Puerto Leguiza 41.56 121 eP P 08 21 54.5 -4.9
TABL Table Mountain 41.64 337 IAmb IAmb 08 22 14.2
comp=Z,111nm,1.2s
TABL IAMs_20 IAMs_20 08 41 41.1
comp=Z,57µm,20.0s
STVI Saint Thomas 41.69 90 IAmb IAmb 08 22 19.7
comp=Z,577nm,1.9s
MESA MESA 41.75 336 P **P** 08 22 00.3 -0.4
baz=133,SNR=6.2
MESA S S 08 28 25.5 +6.9
baz=133
YAH Yahtse 41.80 336 IAMs_20 IAMs_20 08 41 56.4
comp=Z,69µm,20.0s
LOGN Logan Glacier 41.86 337 IAMs_20 IAMs_20 08 41 36.7
comp=Z,65µm,18.0s
GRNC Granite Creek 42.06 337 IAMs_20 IAMs_20 08 41 54.1
comp=Z,64µm,18.0s
CTGM Chitina Glacie 42.07 337 IAMs_20 IAMs_20 08 41 43.6
comp=Z,61µm,18.0s
CTG Chitna Glacier 42.08 337 P **P** 08 22 02.5 -0.7
baz=134,SNR=10
CTG S **S** 08 28 28.2 +4.9
baz=134
ISLE Juniper Island 42.18 336 IAMs_20 IAMs_20 08 42 07.4
comp=Z,65µm,18.0s
BGLC Bering Glacier 42.21 335 P **P** 08 22 04.0 -0.1
baz=131
BGLC S S 08 28 32.4 +7.5
baz=131
BARN Barnard Glacie 42.25 337 IAMs_20 IAMs_20 08 41 50.2
comp=Z,63µm,18.0s
YUK3 Moose Creek 42.35 339 P **P** 08 22 05.2 -0.3
baz=136,SNR=30
YUK3 S **S** 08 28 33.6 +6.2
baz=136
MAYO Mayo, Yukon 42.38 343 P **P** 08 22 04.7 -0.8
baz=143,SNR=13
MAYO S **S** 08 28 32.4 +5.0
baz=143
TGL Tana Glacier 42.46 336 IAMs_20 IAMs_20 08 42 15.8
comp=Z,61µm,19.0s

KAIM Kayak Island 42.52 335 P **P** 08 22 05.6 -1.0
baz=130
KAIM S S 08 28 38.5 +9.1
baz=130
BERG Berg Lake 42.54 336 IAMs_20 IAMs_20 08 38 46.0
comp=Z,53µm,18.0s
CRQE Cirque 42.56 336 P **P** 08 22 06.8 -0.3
baz=132,SNR=12
CRQE S S 08 28 38.4 +8.1
baz=132
HMH Humu'ula Sheep 42.82 272 IAmb IAmb 08 22 23.0
comp=Z,543nm,1.5s
POHA Pohakuloa 42.82 273 IAMs_20 IAMs_20 08 35 34.4
comp=Z,80µm,20.0s
HPAH Hawaii Prepara 42.90 273 IAmb IAmb 08 22 11.0
comp=Z,300nm,1.2s
BVCY Beaver Creek 42.95 339 P **P** 08 22 09.2 -0.9
baz=136,SNR=20
BVCY S **S** 08 28 41.6 +5.8
baz=136
MWH Moku'aweowe 42.95 272 IAmb IAmb 08 22 23.4
comp=Z,320nm,1.1s
MCARA McCarthy VSAT 42.96 337 IAmb IAmb 08 22 37.4
comp=Z,467nm,1.8s
MCARA IAMs_20 IAMs_20 08 42 20.7
comp=Z,77µm,20.0s
MCARA McCarthy VSAT 42.96 337 P **P** 08 22 10.1 -0.1
baz=132,SNR=13
MCARA S S 08 28 43.2 +7.3
baz=132
Q23K Middleton Isla 42.98 333 P **P** 08 22 08.0 -2.4
baz=127
Q23K S **S** 08 28 40.1 +3.9
baz=127
VRDI Verde Repeater 43.01 337 IAMs_20 IAMs_20 08 42 25.2
comp=Z,65µm,18.0s
KHU Kahuku 43.03 272 IAmb IAmb 08 22 13.1
comp=Z,590nm,1.6s
SCHQ Schefferville 43.18 35 P **P** 08 22 11.1 -1.0
comp=Z,38nm,1.0s,baz=248,slow=7.1,SNR=14
SCHQ LR LR 08 39 52.0
comp=Z,102µm,18.6s,baz=246,slow=36
SCHQ Schefferville 43.18 35 IAmb IAmb 08 22 23.9
comp=Z,288nm,1.4s
SCHQ Schefferville 43.18 35 ⇓P **P** 08 22 11.5 -0.6
KHLU Kahalu`u 43.19 273 P **P** 08 22 12.8 0.0
KHLU IAmb IAmb 08 22 33.6
comp=Z,259nm,1.1s
M27K Edge Creek, AK 43.24 339 IAMs_20 IAMs_20 08 39 11.3
comp=Z,63µm,20.0s
M27K Edge Creek, AK 43.24 339 P **P** 08 22 12.4 -0.3
baz=135,SNR=18
M27K S S 08 28 47.1 +6.8
baz=135
BMRM Bremner River 43.26 336 P **P** 08 22 12.9 +0.2
baz=130,SNR=10
BMRM S **S** 08 28 43.0 +2.5
baz=130
GLB Gilahina Butte 43.28 337 IAMs_20 IAMs_20 08 42 33.4
comp=Z,63µm,20.0s
KHLH Kahului Airpor 43.33 275 P **P** 08 22 13.9 +0.2
KHLH IAmb IAmb 08 22 15.8
comp=Z,309nm,1.2s
GBN Guysborough 43.39 50 P **P** 08 22 14.0 +0.1
GBN IAmb IAmb 08 22 35.3
comp=Z,314nm,1.4s
EYAK Cordova Ski Ar 43.42 335 P **P** 08 22 14.0 0.0
EYAK Cordova Ski Ar 43.42 335 P **P** 08 22 12.9 -1.0
baz=128,SNR=10
EYAK S S 08 28 49.6 +6.8
baz=128
SMRT St. Maarten 43.48 90 IAMs_20 IAMs_20 08 40 37.7
comp=Z,61µm,22.0s
HIN Hinchinbrook I 43.62 334 IAmb IAmb 08 22 29.9
comp=Z,218nm,1.2s
M26K Nabesna, AK 43.64 338 IAMs_20 IAMs_20 08 39 26.1
comp=Z,59µm,20.0s
M26K Nabesna, AK 43.64 338 P **P** 08 22 14.4 -1.4
baz=133,SNR=28
M26K S **S** 08 28 52.5 +6.4
baz=133
N25K Chitina, Valde 43.67 336 IAMs_20 IAMs_20 08 42 45.7
comp=Z,55µm,19.0s
N25K Chitina, Valde 43.67 336 P **P** 08 22 15.4 -0.7
baz=131,SNR=24
N25K S **S** 08 28 53.2 +6.6
baz=131
DAWY Dawson 43.72 341 IAmb IAmb 08 22 29.7
comp=Z,262nm,1.3s
DAWY Dawson 43.72 341 P **P** 08 22 15.1 -1.3
baz=139,SNR=62
DAWY S **S** 08 28 50.5 +3.4
baz=139
L27K Beaver Creek, 43.72 339 IAMs_20 IAMs_20 08 39 17.2
comp=Z,103µm,18.0s
L27K Beaver Creek, 43.72 339 P **P** 08 22 14.6 -1.8
baz=135,SNR=21
L27K S **S** 08 28 52.6 +5.5
baz=135
FID Port Fidalgo 43.83 335 IAmb IAmb 08 22 31.8
comp=Z,301nm,1.4s
ATAH Atahualpa 43.94 133 P **P** 08 22 20.9 +1.8
comp=Z,65nm,1.0s,baz=321,slow=7.7,SNR=42
SKI Saint Kitts 44.01 91 *eP* **P** 08 22 22.3 +3.0
KLU Klutina 44.08 336 IAmb IAmb 08 22 41.4
comp=Z,298nm,1.9s
KLU Klutina 44.08 336 P **P** 08 22 18.3 -1.1
baz=129,SNR=10.0
KLU S **S** 08 28 57.0 +4.4
baz=129
GLI Glacier Island 44.15 335 IAmb IAmb 08 22 31.9
comp=Z,191nm,1.2s
GLI Glacier Island 44.15 335 P **P** 08 22 18.3 -1.5
baz=127,SNR=9.6
GLI S **S** 08 28 57.0 +3.6
baz=127
NVDO Nevis, Disaste 44.18 91 *eP* **P** 08 22 16.7 -4.0
L26K Log Cabin Wild 44.19 339 IAmb IAmb 08 22 34.6
comp=Z,288nm,1.9s
L26K IAMs_20 IAMs_20 08 40 41.5
comp=Z,61µm,19.0s
L26K Log Cabin Wild 44.19 339 P **P** 08 22 19.2 -1.0
baz=133,SNR=30
L26K S **S** 08 29 00.6 +6.6
baz=133
HARP HAARP 44.39 337 P **P** 08 22 21.6 -0.2
baz=131,SNR=12
HARP S **S** 08 29 01.1 +4.2
baz=131
K27K Chicken 44.49 340 IAmb IAmb 08 22 37.5
comp=Z,408nm,1.8s
K27K IAMs_20 IAMs_20 08 41 19.9
comp=Z,99µm,22.0s
K27K Chicken 44.49 340 P **P** 08 22 21.2 -1.3
baz=136
K27K S **S** 08 29 04.6 +6.3
baz=136
M24K Tolsona, Glenn 44.57 336 P **P** 08 22 22.1 -1.1
baz=129,SNR=20
M24K S **S** 08 29 04.0 +4.5
baz=129
PWL Port Wells 44.63 334 IAmb IAmb 08 22 44.6
comp=Z,232nm,1.4s
KIP Kipapa 44.64 276 *ceP* **P** 08 22 25.0 +0.7
KIP pmax pmax
comp=Z,309nm,1.5s
KIP Kipapa 44.64 276 P **P** 08 22 25.1 +0.9
KIP Kipapa 44.64 276 IAMs_20 IAMs_20 08 36 30.6
comp=Z,70µm,20.0s
HON Honolulu 44.65 276 P **P** 08 22 24.9 +0.5
HON pmax pmax
comp=Z,445nm,1.1s
HON Honolulu 44.65 276 P **P** 08 22 24.9 +0.5
SEW Seward 44.65 333 P **P** 08 22 22.7 -1.1
baz=124
SEW S **S** 08 29 05.1 +4.5
baz=124
EGAK Eagle 44.76 341 IAmb IAmb 08 22 52.9
comp=Z,458nm,1.9s
EGAK Eagle 44.76 341 P **P** 08 22 23.0 -1.7
baz=137,SNR=30
EGAK S **S** 08 29 06.8 +4.6
baz=137
ANWB Willy Bob 44.77 90 *eP* P 08 22 16.8 -8.6
EPYK Eagle Plains 44.82 345 P **P** 08 22 25.0 -0.2
EPYK IAMs_20 IAMs_20 08 42 45.7
comp=Z,114µm,19.0s
EPYK Eagle Plains 44.82 345 P **P** 08 22 23.1 -2.0
baz=144,SNR=60
EPYK S **S** 08 29 07.4 +4.3
baz=144
SCM Sheep Creek Mo 44.82 336 P **P** 08 22 25.2 -0.1
SCM pmax pmax
comp=Z,314nm,1.7s
SCM Sheep Creek Mo 44.82 336 P **P** 08 22 25.2 -0.1
SCM IAmb IAmb 08 22 39.3
comp=Z,314nm,1.7s
SCM IAMs_20 IAMs_20 08 39 57.2
comp=Z,28µm,18.0s
KDAK Kodiak Island 44.84 329 P **P** 08 22 24.7 -0.6
comp=Z,51nm,1.1s,baz=119,slow=3.9,SNR=7.4
KDAK LR LR 08 39 01.6
comp=Z,68µm,18.9s,baz=147,slow=33
KDAK Kodiak Island 44.84 329 P **P** 08 22 25.2 -0.2
KDAK pmax pmax
comp=Z,223nm,1.4s
KDAK Kodiak Island 44.84 329 P **P** 08 22 25.2 -0.2
KDAK IAmb IAmb 08 22 47.4
comp=Z,223nm,1.4s
KDAK Kodiak Island 44.84 329 IAMs_20 IAMs_20 08 38 40.8
comp=Z,65µm,19.0s
KDAK Kodiak Island 44.84 329 ⇓P **P** 08 22 27.6 +2.3
KDAK Kodiak Island 44.84 329 P **P** 08 22 23.7 -1.7
baz=118
KDAK S **S** 08 29 06.5 +3.1
baz=118
DOT Dot Lake 44.85 339 IAmb IAmb 08 22 38.6
comp=Z,210nm,1.5s
PAX Paxson 44.87 338 P **P** 08 22 24.2 -1.5
baz=131,SNR=14
PAX S **S** 08 29 07.0 +3.0
baz=131
ANOC Antigua Open C 44.90 90 *eP* P 08 22 19.7 -6.7
OHAK Old Harbor 44.92 328 P **P** 08 22 25.9 -0.1
baz=117
OHAK S **S** 08 29 09.2 +4.7
baz=117
PCRV Puerto La Cruz 44.92 101 P **P** 08 22 27.4 +0.7
comp=Z,18nm,0.9s,baz=308,slow=9.2,SNR=5.7
O22K Cooper Landing 44.97 333 P **P** 08 22 24.8 -1.5
baz=124
O22K S **S** 08 29 09.3 +4.0
baz=124
BRSE Bradley Lake S 45.00 332 P **P** 08 22 25.4 -1.2
baz=122
BRSE S **S** 08 29 11.5 +5.8
baz=122
KNK Knik Glacier 45.00 335 IAmb IAmb 08 22 39.8
comp=Z,256nm,1.4s
KNK IAMs_20 IAMs_20 08 42 58.1
comp=Z,38µm,18.0s
KNK Knik Glacier 45.00 335 P **P** 08 22 25.9 -0.7
baz=126,SNR=18
KNK S **S** 08 29 09.6 +3.8
baz=126
SCRK Sand Creek 45.05 339 IAmb IAmb 08 22 55.7
comp=Z,307nm,1.6s
SCRK IAMs_20 IAMs_20 08 39 58.5
comp=Z,91µm,19.0s
SCRK Sand Creek 45.05 339 P **P** 08 22 26.5 -0.7
baz=133,SNR=33
SCRK S **S** 08 29 10.7 +4.0
baz=133
SII Sitkinak Islan 45.06 327 P **P** 08 22 25.8 -1.4
baz=115
SII S **S** 08 29 10.4 +3.5
baz=115
BRLK Bradley Lake 45.07 332 IAmb IAmb 08 22 48.9
comp=Z,204nm,1.3s
RIDG Independent Ri 45.17 339 IAMs_20 IAMs_20 08 40 14.5
comp=Z,76µm,18.0s
RIDG Independent Ri 45.17 339 P **P** 08 22 26.6 -1.5
baz=132,SNR=41
RIDG S **S** 08 29 11.0 +2.7
baz=132
SML Sawmill 45.19 335 IAmb IAmb 08 22 37.4
comp=Z,176nm,1.3s
SML Sawmill 45.19 335 P **P** 08 22 25.8 -2.4
baz=126,SNR=23
SML S **S** 08 29 10.0 +1.5
baz=126
RC01 Rabbit Creek A 45.32 334 IAmb IAmb 08 22 42.9
comp=Z,275nm,1.6s
RC01 IAMs_20 IAMs_20 08 38 03.4
comp=Z,31µm,22.0s
RC01 Rabbit Creek A 45.32 334 P **P** 08 22 27.2 -2.0
baz=124,SNR=6.2
RC01 S **S** 08 29 13.1 +2.8
baz=124
HOM Homer 45.34 331 P **P** 08 22 29.0 -0.3
baz=121
HOM S **S** 08 29 13.8 +3.1
baz=121
PMR Palmer 45.37 335 IAmb IAmb 08 22 46.2
comp=Z,197nm,1.4s
PMR Palmer 45.37 335 P **P** 08 22 28.8 -0.7
baz=125,SNR=36
PMR S **S** 08 29 10.9 -0.1
baz=125
GHO Glory Hole Cre 45.39 335 IAmb IAmb 08 22 43.5
comp=Z,237nm,1.3s
ABD La Joyeuse, An 45.41 91 *eP* **P** 08 22 26.9 -3.6
WAT6 Susitna Watana 45.43 336 P **P** 08 22 29.4 -0.8
baz=128,SNR=32
WAT6 S **S** 08 29 15.1 +2.8
baz=128
CBE Ff, Capester 45.44 92 *eP* **P** 08 22 29.1 -1.7
TDBA Terre de Bas, 45.48 92 *eP* **P** 08 22 28.4 -2.7
CHIR Chirikof Islan 45.49 325 P **P** 08 22 30.4 -0.2
baz=113
CHIR S **S** 08 29 16.3 +3.4
baz=113
DHY Denali Highway 45.61 337 IAmb IAmb 08 22 44.4
comp=Z,149nm,1.3s
DHY Denali Highway 45.61 337 P **P** 08 22 30.0 -1.6
baz=129,SNR=27
DHY S **S** 08 29 18.1 +3.3
baz=129
CAPN Captain Cook N 45.72 333 P **P** 08 22 33.2 +1.0
baz=122
CAPN S **S** 08 29 21.0 +4.9
baz=122
INK Inuvik 45.75 348 P **P** 08 22 31.4 -1.0
comp=Z,27nm,1.0s,baz=127,slow=11,SNR=26
INK LR LR 08 43 17.1
comp=Z,123µm,19.0s,baz=148,slow=38
INK Inuvik 45.75 348 IAmb IAmb 08 22 45.1
comp=Z,227nm,1.2s
INK Inuvik 45.75 348 ⇑P **P** 08 22 31.1 -1.3
INK Inuvik 45.75 348 P **P** 08 22 31.4 -1.0
baz=149,SNR=44
INK S **S** 08 29 18.0 +1.6
baz=149
MAGL Barre de l'ile 45.77 92 *eP* **P** 08 22 32.0 -1.4
MDVC Dominica, Viel 45.77 92 *eP* **P** 08 22 35.1 +1.8
DSLB Salisbury 45.82 92 *eP* P 08 22 26.9 -6.8
Q19K Cape Douglas, 45.88 330 IAMs_20 IAMs_20 08 39 36.6
comp=Z,47µm,19.0s
Q19K Cape Douglas, 45.88 330 P **P** 08 22 31.0 -2.6
baz=118
Q19K S **S** 08 29 17.9 -0.6
baz=118
WAT1 Susitna Watana 45.88 336 P **P** 08 22 31.3 -2.4
baz=127
WAT1 S **S** 08 29 20.8 +2.3
baz=127
J25K Salcha River, 45.93 339 P **P** 08 22 32.6 -1.5
baz=132,SNR=64
J25K S **S** 08 29 21.8 +2.6
baz=132
SUA Susitna One 45.93 334 P **P** 08 22 33.7 -0.5
baz=123,SNR=18
SUA S **S** 08 29 21.1 +1.7
baz=123
O20K Slope Mountain 45.98 331 P **P** 08 22 31.9 -2.6
baz=120
O20K S **S** 08 29 24.1 +4.0
baz=120
DLPL La Plaine 46.01 93 *eP* **P** 08 22 38.0 +2.8
P19K Oil Pt 46.04 331 IAmb IAmb 08 22 56.5
comp=Z,111nm,1.0s
P19K Oil Pt 46.04 331 P **P** 08 22 34.0 -0.9
baz=119
P19K S **S** 08 29 18.7 -2.1
baz=119
SVN Savane Anatole 46.25 93 IAMs_20 IAMs_20 08 45 16.2
comp=Z,54µm,21.0s
CUT Chulitna 46.28 335 P **P** 08 22 35.2 -1.5
baz=125,SNR=18
CUT S **S** 08 29 21.7 -2.3
baz=125
FDF Fort de France 46.31 93 IAmb IAmb 08 22 43.4
comp=Z,141nm,1.0s
FDF IAMs_20 IAMs_20 08 45 17.8
comp=Z,51µm,21.0s
HDA Harding Lake 46.31 339 IAmb IAmb 08 22 50.6
comp=Z,158nm,1.5s
HDA IAMs_20 IAMs_20 08 40 57.6
comp=Z,68µm,19.0s
HDA Harding Lake 46.31 339 P **P** 08 22 35.1 -1.8
baz=130,SNR=22
HDA S **S** 08 29 25.3 +0.7
baz=130
HDA S **S** 08 29 25.3 +0.7
baz=130
BIM Bigot 46.45 94 *eP* **P** 08 22 34.3 -4.4
IL31 46.53 339 IAmb IAmb 08 22 51.3
comp=Z,165nm,1.2s
ILAR Eielson Array 46.53 339 P **P** 08 22 37.9 -0.7
comp=Z,36nm,1.1s,baz=150,slow=7.0,SNR=66
ILAR LR LR 08 43 26.9
comp=Z,68µm,18.4s,baz=140,slow=38
SKT Skwentna 46.53 334 P **P** 08 22 36.7 -2.0
baz=123,SNR=34
SKT S **S** 08 29 27.4 -0.4
baz=123
ILAM Ilet Lapin Mar 46.54 93 *eP* P 08 22 34.3 -5.1
MCK McKinley 46.57 337 IAmb IAmb 08 23 15.0
comp=Z,211nm,1.3s
MCK McKinley 46.57 337 P **P** 08 22 38.4 -0.7
baz=127,SNR=29
MCK S **S** 08 29 29.9 +1.6
baz=127
PRP Porcupine Dome 46.59 340 IAmb IAmb 08 22 52.5
comp=Z,181nm,1.2s
PRP IAMs_20 IAMs_20 08 41 18.1
comp=Z,68µm,20.0s
PRP Porcupine Dome 46.59 340 P **P** 08 22 38.2 -1.1
baz=133
PRP S **S** 08 29 30.2 +1.3
baz=133
MPOM Morne Pois Mar 46.67 93 *eP* P 08 22 33.4 -7.0
SLBI Saint Lucia, B 46.72 94 *eP* P 08 22 34.3 -6.4
WRH Wood River Hil 46.73 338 IAmb IAmb 08 22 51.7
comp=Z,94nm,1.0s
WRH IAMs_20 IAMs_20 08 41 11.8
comp=Z,78µm,21.0s
SVB Belmont 46.74 95 *eP* **P** 08 22 38.5 -2.5
CCB Clear Creek Bu 46.75 338 IAmb IAmb 08 22 53.9
comp=Z,148nm,1.5s
CCB IAMs_20 IAMs_20 08 42 10.1
comp=Z,52µm,19.0s
O19K Port Alsworth 46.78 331 IAmb IAmb 08 23 00.9
comp=Z,154nm,1.4s
O19K Port Alsworth 46.78 331 P **P** 08 22 39.4 -1.2
baz=118
O19K S **S** 08 29 31.4 +0.1
baz=118
GRGR Grenville 46.81 97 *eP* **P** 08 22 39.3 -2.2
GRGR Grenville 46.81 97 IAMs_20 IAMs_20 08 43 37.2
comp=Z,54µm,22.0s
DRLN Deer Lake 46.83 45 P **P** 08 22 40.9 -0.3
DRLN Deer Lake 46.83 45 ⇓P **P** 08 22 41.5 +0.2
MCLT Moule a Chique 46.86 94 *eP* **P** 08 22 37.6 -4.3
GCMP Grenada, Carri 46.88 96 *eP* P 08 22 34.3 -7.8
TRF Thorofare Moun 46.89 336 P **P** 08 22 40.5 -1.2
TRF Thorofare Moun 46.89 336 P **P** 08 22 40.0 -1.7
baz=126,SNR=54
TRF S **S** 08 29 33.9 +0.8
baz=126
COLA College 46.91 339 P **P** 08 22 40.8 -0.8
COLA pmax pmax
comp=Z,179nm,1.5s
COLA MLR MLR
comp=Z,64µm,18.0s
COLA College 46.91 339 P **P** 08 22 40.8 -0.8
COLA IAmb IAmb 08 22 52.3
comp=Z,179nm,1.5s
COLA College 46.91 339 IAMs_20 IAMs_20 08 43 28.5
comp=Z,64µm,18.0s
COLA College 46.91 339 ⇓P **P** 08 22 40.6 -1.0
COLA College 46.91 339 P **P** 08 22 39.4 -2.2
baz=129
COLA S **S** 08 29 34.2 +1.2
baz=129
TCOL CIGO, UAF Yank 46.91 339 P **P** 08 22 41.1 -0.6
TCOL IAmb IAmb 08 22 52.3
comp=Z,179nm,1.5s
TCOL IAMs_20 IAMs_20 08 43 28.5
comp=Z,68µm,18.0s
TCOL CIGO, UAF Yank 46.91 339 P **P** 08 22 41.1 -0.6
baz=129,SNR=15
TCOL S **S** 08 29 34.2 +1.1
baz=129
O18K Koktuh Hills 47.02 330 P **P** 08 22 42.1 -0.5
baz=117,SNR=11
O18K S **S** 08 29 33.7 -1.1
baz=117
BWN Browne 47.02 337 IAMs_20 IAMs_20 08 41 05.8
comp=Z,56µm,20.0s
MDM Murphy Dome 47.09 339 IAMs_20 IAMs_20 08 42 20.1
comp=Z,68µm,19.0s
CHGN Chignik 47.12 325 IAmb IAmb 08 23 09.1
comp=Z,205nm,1.6s
CHGN Chignik 47.12 325 P **P** 08 22 41.9 -1.5
baz=111
CHGN S **S** 08 29 36.5 +0.2
baz=111
NEA2 Nenana 47.14 338 IAMs_20 IAMs_20 08 41 34.5
comp=Z,54µm,20.0s
NEA2 Nenana 47.14 338 P **P** 08 22 41.6 -1.9
baz=128,SNR=72
NEA2 S **S** 08 29 39.7 +3.2
baz=128
N19K Bonanza Creek 47.15 332 IAmb IAmb 08 23 04.8
comp=Z,205nm,1.1s
N19K Bonanza Creek 47.15 332 P **P** 08 22 42.3 -1.4
baz=119,SNR=22
N19K S **S** 08 29 35.9 -1.0
baz=119
KTH Kantishna Hill 47.18 336 IAMs_20 IAMs_20 08 41 40.5
comp=Z,45µm,18.0s
FYU Fort Yukon 47.23 341 IAMs_20 IAMs_20 08 41 44.9
comp=Z,54µm,19.0s
PPLA Purkeypile 47.29 335 P **P** 08 22 43.9 -0.9
baz=123,SNR=59
PPLA S **S** 08 29 38.6 -0.2
baz=123
BPAW Bear Paw Mtn. 47.52 337 P **P** 08 22 45.3 -1.1
baz=125,SNR=56
BPAW S **S** 08 29 43.6 +1.8
baz=125
CAST Castle Rocks 47.53 336 P **P** 08 22 44.2 -2.4
baz=124
CAST S **S** 08 29 43.2 +1.1
baz=124
H24K Noodor Dome 47.54 340 IAMs_20 IAMs_20 08 41 25.1
comp=Z,76µm,22.0s
H24K Noodor Dome 47.54 340 P **P** 08 22 45.5 -1.0
baz=130,SNR=42
H24K S **S** 08 29 43.3 +1.2
baz=130
I23K Minto, Yukon-K 47.58 338 IAMs_20 IAMs_20 08 42 45.2
comp=Z,66µm,20.0s
I23K Minto, Yukon-K 47.58 338 P **P** 08 22 45.9 -1.0
baz=128,SNR=52
I23K S **S** 08 29 45.7 +3.1
baz=128
M19K Big River Lodg 47.65 333 P **P** 08 22 46.2 -1.2
baz=120
M19K S **S** 08 29 45.0 +1.3
baz=120
N18K Kilae Creek 47.70 331 IAmb IAmb 08 23 09.1
comp=Z,173nm,1.2s
N18K Kilae Creek 47.70 331 P **P** 08 22 46.5 -1.3
baz=117,SNR=15
N18K S **S** 08 29 45.9 +1.4
baz=117
L20K Farewell, AK 47.73 334 P **P** 08 22 46.9 -1.2
baz=121,SNR=41
L20K S **S** 08 29 45.2 +0.3
baz=121
CHUM Lake Minchumin 47.88 336 P **P** 08 22 47.7 -1.5
baz=124,SNR=7.8

CHUM S S 08 29 45.8 -1.0
baz=124
A36M Sachs Harbour 47.88 353 P P 08 22 48.2 -0.9
baz=160
A36M S S 08 29 47.4 +0.7
baz=160
SDPT Sand Point 47.91 323 P P 08 22 47.5 -2.0
baz=108
SDPT S S 08 29 46.8 -0.7
baz=108
L19K White Mountain 47.97 333 IAmb IAmb 08 23 03.4
comp=Z,193nm,1.1s
L19K White Mountain 47.97 333 P P 08 22 48.3 -1.7
baz=119,SNR=38
L19K S S 08 29 48.6 +0.2
baz=119
MLY Manley 47.98 338 IAMs_20 IAMs_20 08 41 38.5
comp=Z,54µm,19.0s
MLY Manley 47.98 338 P P 08 22 48.5 -1.5
baz=126,SNR=46
MLY S S 08 29 50.4 +2.0
baz=126
H23K Yukon River 48.06 339 IAMs_20 IAMs_20 08 44 12.9
comp=Z,75µm,18.0s
H23K Yukon River 48.06 339 P P 08 22 50.0 -0.6
baz=128,SNR=60
H23K S S 08 29 52.6 +3.1
baz=128
TBTG Tabatinga, AM 48.08 122 *e*P P 08 22 50.3 -1.1
K20K Telida 48.26 335 P P 08 22 50.1 -2.0
baz=121,SNR=44
K20K S S 08 29 53.0 +0.6
baz=121
CZSB Cruzeiro do Su 48.31 128 *e*P P 08 22 53.7 +0.5
BBGH Gun Hill 48.32 95 *e*P P 08 22 53.8 +0.6
I21K Tanana 48.49 338 IAMs_20 IAMs_20 08 42 36.2
comp=Z,65µm,18.0s
I21K Tanana 48.49 338 P P 08 22 52.4 -1.5
baz=125,SNR=55
I21K S S 08 29 59.1 +3.5
baz=125
NNA Nana 48.56 135 P P 08 22 54.9 -0.2
comp=Z,103nm,1.1s,baz=316,slow=9.3,SNR=21
NNA Nana 48.56 135 P P 08 22 55.4 +0.3
NNA pmax pmax
comp=Z,531nm,1.7s
NNA Nana 48.56 135 P P 08 22 55.4 +0.3
NNA Nana 48.56 135 ⇑P P 08 22 55.5 +0.3
J20K Nowinta River 48.72 336 P P 08 22 53.7 -2.0
baz=122,SNR=68
J20K S S 08 29 59.7 +0.9
baz=122
TTA Tatalina 48.81 334 P P 08 22 55.6 -0.9
baz=119
TTA S S 08 30 00.8 +0.6
baz=119
COLD Coldfoot 49.14 340 P P 08 22 59.2 +0.3
COLD IAmb IAmb 08 23 17.9
comp=Z,209nm,1.4s
COLD Coldfoot 49.14 340 P P 08 22 58.3 -0.6
baz=128,SNR=18
COLD S S 08 30 09.4 +4.7
baz=128
FALS False Pass 49.39 322 P P 08 23 00.6 -0.3
baz=105
FALS S S 08 30 08.7 +0.3
baz=105
IMAR Indian Mountai 49.55 338 P P 08 23 00.2 -1.8
TOLK Toolik Lake Re 49.85 342 P P 08 23 04.0 -0.4
TOLK IAmb IAmb 08 23 14.1
comp=Z,168nm,0.9s
TOLK IAMs_20 IAMs_20 08 43 30.4
comp=Z,77µm,19.0s
TOLK Toolik Lake Re 49.85 342 P P 08 23 03.4 -1.0
baz=130,SNR=47
TOLK S S 08 30 15.9 +1.2
baz=130
RES Resolute Bay 50.34 5 P P 08 23 06.1 -1.7
comp=Z,13nm,0.8s,baz=208,slow=10
RES LR LR 08 45 14.1
comp=Z,114µm,18.8s,baz=198,slow=37
AKUT Akutan 50.56 321 IAmb IAmb 08 23 19.1
comp=Z,175nm,1.3s
AKUT Akutan 50.56 321 ⇑P P 08 23 10.7 +0.9
UNV Unalaska Valle 50.93 320 IAmb IAmb 08 23 28.0
comp=Z,334nm,1.5s
UNV Unalaska Valle 50.93 320 P P 08 23 10.5 -2.1
baz=101
UNV S S 08 30 29.8 0.0
baz=101
RPN Rapa Nui 51.80 180 P P 08 23 20.5 +1.1
comp=Z,83nm,0.9s,baz=308,slow=7.0,SNR=3.6
RPN LR LR 08 40 10.2
comp=Z,57µm,20.6s,baz=6.0,slow=30
RPN Rapa Nui 51.80 180 IAMs_20 IAMs_20 08 39 46.5
comp=Z,15µm,22.0s
BOAV Boa Vista 52.14 108 *e*P P 08 23 21.2 -1.1
NIKH Nikolski High 52.17 319 P P 08 23 19.7 -2.2
baz=98,SNR=15
NIKH S S 08 30 47.0 -0.1
baz=98
ANM Nome 53.27 333 IAmb IAmb 08 23 43.1
comp=Z,183nm,1.2s
ANM IAMs_20 IAMs_20 08 45 52.6
comp=Z,39µm,21.0s
ANM Nome 53.27 333 P P 08 23 30.3 +0.4
baz=110
ANM S S 08 31 07.1 +5.3
baz=110
A21K Barrow 53.41 343 IAMs_20 IAMs_20 08 46 10.4
comp=Z,44µm,19.0s
A21K Barrow 53.41 343 P P 08 23 30.7 -0.1
baz=124
A21K S S 08 31 03.6 +0.1
baz=124
PTCN Pitcairn Islan 53.63 203 IAMs_20 IAMs_20 08 40 52.8
comp=Z,50µm,20.0s
SPIA Saint Paul Isl 53.63 324 P P 08 23 31.9 -0.8
baz=100
SPIA S S 08 31 09.0 +2.1
baz=100
RDOG Red Dog Mine 53.70 338 IAmb IAmb 08 23 43.8
comp=Z,152nm,1.0s
RDOG Red Dog Mine 53.70 338 P P 08 23 30.6 -2.4
baz=115,SNR=19
RDOG S S 08 31 10.9 +3.3
baz=115
NUUK Nuuk 53.84 27 *i* P P 08 23 35.7 +1.6
NUUK IAMs_20 IAMs_20 08 46 42.5
comp=Z,180µm,15.8s
PTGA Pitinga 54.21 111 P P 08 23 36.7 -0.8
comp=Z,38nm,1.1s,baz=312,slow=7.6,SNR=44
PTGA Pitinga 54.21 111 P P 08 23 36.8 -0.8
PTGA IAmb IAmb 08 23 54.9
comp=Z,290nm,1.4s
PTGA IAMs_20 IAMs_20 08 51 13.6
comp=Z,39µm,20.0s
ETMB Extrema 54.48 124 *e*P P 08 23 37.4 -2.0
TNA Tin City 54.62 334 IAmb IAmb 08 23 49.7
comp=Z,195nm,1.4s
TNA Tin City 54.62 334 ⇓P P 08 23 42.6 +2.8
TNA Tin City 54.62 334 P P 08 23 35.1 -4.6
baz=108
TNA S S 08 31 23.8 +3.8
baz=108
PMOR Pomariorio Ree 54.66 228 *e*P P 08 23 45.1 +4.5
comp=Z,297nm,1.5s
MACA Manacapuru-AM 54.91 114 *e*P P 08 23 41.1 -1.5
SFJD Kangerlussuaq 55.18 24 P P 08 23 42.0 -1.7
comp=Z,92nm,1.2s,baz=246,slow=8.0,SNR=20
SFJD Kangerlussuaq 55.18 24 *i* P P 08 23 43.6 -0.2
SFJD IAmb IAmb 08 23 53.6
comp=Z,129nm,1.2s
SFJD IAMs_20 IAMs_20 08 45 38.6
comp=Z,75µm,13.0s
SFJD Kangerlussuaq 55.18 24 P P 08 23 43.5 -0.3
SFJD pmax pmax
comp=Z,409nm,1.6s
SFJD Kangerlussuaq 55.18 24 P P 08 23 43.5 -0.3
TULEG Thule 55.27 11 *i* P P 08 23 48.8 +4.4
TULEG IAmb IAmb 08 23 58.2
comp=Z,220nm,1.6s
TULEG IAMs_20 IAMs_20 08 48 10.0
comp=Z,299µm,15.4s
ATKA Atka Island 55.33 317 P P 08 23 44.6 -0.5
ATKA IAmb IAmb 08 23 59.3
comp=Z,387nm,1.9s

GAMB Gambell 55.70 332 IAMs_20 IAMs_20 08 46 15.7
comp=Z,39µm,20.0s
GAMB Gambell 55.70 332 P P 08 23 45.3 -2.2
baz=103
GAMB S S 08 31 33.1 -1.3
baz=103
ILULI Ilulissat 55.77 22 *i* P P 08 23 47.6 -0.4
ILULI IAmb IAmb 08 23 57.2
comp=Z,178nm,1.3s
ILULI IAMs_20 IAMs_20 08 48 12.5
comp=Z,179µm,13.9s
ILULI Ilulissat 55.77 22 IAmb IAmb 08 23 56.9
comp=Z,137nm,1.2s
NRS Narsarsuaq 55.93 32 IAmb IAmb 08 23 58.0
comp=Z,190nm,1.5s
NUUG Nuugaatsiaq 56.02 19 *i* P P 08 23 50.2 +0.4
NUUG IAmb IAmb 08 24 03.5
comp=Z,189nm,1.2s
NUUG IAMs_20 IAMs_20 08 47 28.2
comp=Z,129µm,15.2s
EUNU Eureka 56.03 5 P P 08 23 49.4 -0.4
EUNU IAmb IAmb 08 24 19.7
comp=Z,331nm,1.9s
SAML Samuel 56.25 121 *e*P P 08 23 49.6 -2.6
JOHN Johnston Islan 56.41 274 IAMs_20 IAMs_20 08 41 07.4
comp=Z,65µm,21.0s
DY2G Dye2 56.69 25 *e*P P 08 23 54.0 -1.0
DY2G IAmb IAmb 08 24 03.9
comp=Z,646nm,1.4s
DY2G IAMs_20 IAMs_20 08 45 16.4
comp=Z,95µm,16.7s
MEH Mehetia 56.85 225 *e*P P 08 24 01.0 +4.6
comp=Z,81nm,1.2s
ADK Adak 56.86 317 P P 08 23 55.0 -1.0
ADK pmax pmax
comp=Z,245nm,1.5s
ADK Adak 56.86 317 P P 08 23 55.0 -1.0
ADK IAmb IAmb 08 24 02.4
comp=Z,245nm,1.5s
KIWB Kanaga Island 57.15 317 P P 08 23 57.8 -0.3
LPAZ La Paz 57.45 131 P P 08 24 01.7 +0.4
comp=Z,16nm,1.0s,baz=330,slow=6.5,SNR=28
LPAZ LR LR 08 46 22.2
comp=Z,29µm,19.6s,baz=324,slow=34
LPAZ La Paz 57.45 131 P P 08 24 01.5 +0.1
LPAZ pmax pmax
comp=Z,96nm,1.3s
LPAZ La Paz 57.45 131 P P 08 24 01.5 +0.1
LPAZ La Paz 57.45 131 ⇓P P 08 24 00.4 -1.0
LPAZ La Paz 57.45 131 *e*P P 08 24 00.7 -0.7
TIAR Tiarei 57.46 227 *e*P P 08 24 05.3 +4.6
comp=Z,41nm,1.1s
PPT Papeete 57.62 227 LR LR 08 42 06.4
comp=Z,28µm,19.7s,baz=36,slow=29
PPT2 Papeete2 57.63 227 *e*P P 08 24 06.5 +4.5
comp=Z,90nm,1.5s
PPT2 *e*S S 08 32 06.5 +5.2
comp=Z,15µm,25.8s
PPT2 *e*LQ LQ 08 38 42.0
comp=Z,37µm,22.5s
PPT2 *e*LR LR 08 40 50.4
comp=Z,140µm,27.2s,baz=31
PAE Paea 57.69 227 *e*P P 08 24 07.0 +4.7
comp=Z,17nm,1.0s
MDP Montagnes des 57.82 100 P P 08 24 02.6 -0.8
comp=Z,29nm,1.0s,baz=308,slow=7.2,SNR=9.8
PSGCX Pisagua 58.51 136 IAmb IAmb 08 24 20.4
comp=Z,240nm,1.6s
TA02 Huaiquique 59.00 136 P P 08 24 12.8 +1.4
NEEM North Greenlan 59.07 13 *i* P P 08 24 11.8 +0.2
NEEM IAMs_20 IAMs_20 08 51 34.4
comp=Z,129µm,13.3s
PB08 IPOC Station P 59.53 135 IAmb IAmb 08 24 29.3
comp=Z,186nm,1.3s
MALB Monte Alegre 59.67 108 *e*P P 08 24 14.8 -1.5
ICESG Greenland Ices 59.69 23 *i* P P 08 24 15.4 -0.6
ICESG IAMs_20 IAMs_20 08 50 36.9
comp=Z,114µm,14.2s
ITTB Itaituba 59.71 112 *e*P P 08 24 14.8 -1.7
PB01 IPOC Station P 59.98 136 IAmb IAmb 08 24 31.8
comp=Z,178nm,1.2s
ANGG Ammassalik, Gr 60.01 27 *e*P P 08 24 18.2 +0.4
ANGG IAmb IAmb 08 24 25.4
comp=Z,233nm,1.4s
ANGG IAMs_20 IAMs_20 08 50 52.0
comp=Z,146µm,14.7s
ANGG Ammassalik, Gr 60.01 27 IAmb IAmb 08 24 25.7
comp=Z,243nm,1.5s
MIDW Midway 60.14 289 IAMs_20 IAMs_20 08 44 46.5
comp=Z,40µm,20.0s
SUMG Summit 60.68 19 *i* P P 08 24 22.9 0.0
SUMG IAmb IAmb 08 24 31.4
comp=Z,267nm,1.3s
SUMG IAMs_20 IAMs_20 08 48 47.4
comp=Z,104µm,15.2s
MCPB Macapa, AP 60.85 105 *e*P P 08 24 23.0 -1.4
VILB Vilhena 61.01 122 *e*P P 08 24 24.2 -1.3
NPGB Novo Progresso 61.46 114 *e*P P 08 24 27.1 -1.4
LVC Limon Verde 61.49 137 P P 08 24 29.1 +0.2
comp=Z,37nm,1.0s,baz=325,slow=6.5,SNR=16
LVC Limon Verde 61.49 137 P P 08 24 29.5 +0.6
LVC pmax pmax
comp=Z,199nm,1.5s
LVC Limon Verde 61.49 137 P P 08 24 29.5 +0.6
LVC IAmb IAmb 08 24 42.4
comp=Z,199nm,1.4s
LVC Limon Verde 61.49 137 *e*P P 08 24 29.8 +0.8
PB15 IPOC Station P 61.59 138 IAmb IAmb 08 24 43.9
comp=Z,128nm,1.3s
TBI Tubuai 61.77 222 *e*S S 08 33 00.0 +5.6
comp=Z,17µm,27.0s
TBI *e*LQ LQ 08 40 27.2
comp=Z,61µm,33.2s
TBI *e*LR LR 08 42 40.1
comp=Z,54µm,30.2s,baz=35
SIV San Ignacio 62.27 126 P P 08 24 32.1 -1.7
comp=Z,35nm,0.9s,baz=321,slow=6.7,SNR=43
SMY Shemya 62.47 318 ⇓P P 08 24 36.9 +2.1
CLDB Colider 63.24 118 *e*P P 08 24 38.4 -2.0
PTLB Pontes e Lacer 63.37 124 *e*P P 08 24 40.0 -1.1
H03N2 Juan Fernandez 64.93 152 T T 09 35 33.3
baz=331,slow=77,SNR=1466
H03N1 Juan Fernandez 64.94 152 T T 09 35 34.9
baz=331,slow=77,SNR=2527
H03N3 Juan Fernandez 64.94 152 T T 09 35 33.6
baz=331,slow=77,SNR=2395
BILL Bilibino 64.99 336 *ce*P P 08 24 52.8 +1.7
BILL *e* 08 27 15.7
BILL *e*S S 08 33 45.8 +12
BILL pmax pmax
comp=Z,179nm,1.2s
BILL MLR MLR
comp=Z,18µm,16.0s
BILL Bilibino 64.99 336 P P 08 24 49.3 -1.8
TMAB Tom-Au,PA,Br 65.28 105 *e*P P 08 24 53.6 -0.3
LCO Las Campanas 65.30 143 ⇓P P 08 24 55.1 +1.2
PRPB Parauapebas 65.67 110 *e*P P 08 24 54.6 -1.8
H07N1 FLORES T-PHASE 65.84 56 *e*P P 08 25 09.3 +12
comp=Z,89nm,1.1s
H07S1 FLORES T-PHASE 65.84 56 *e*P P 08 25 10.3 +13
comp=Z,184nm,1.9s
SCO Scoresbysund 65.86 22 *i* P P 08 25 00.7 +4.1
SCO IAMs_20 IAMs_20 08 54 14.4
comp=Z,105µm,16.2s
NOR Nord 65.86 9 *i* P P 08 24 59.2 +2.6
NOR IAMs_20 IAMs_20 08 54 28.0
comp=Z,330nm,15.7s
DBG Daneborg 65.95 17 *i* P P 08 25 01.5 +4.3
DBG IAMs_20 IAMs_20 08 53 47.4
comp=Z,112µm,15.5s
DAG Danmarks Havn 66.06 15 *i* P P 08 24 58.0 +0.2
DAG IAMs_20 IAMs_20 08 55 28.7
comp=Z,88µm,14.4s
CO06 Fray Jorge 66.11 145 P P 08 25 00.5 +1.8
GO04 Tololo Observa 66.16 144 IAmb IAmb 08 25 14.3
comp=Z,104nm,0.8s
SALV Santo Antonio 66.26 122 *e*P P 08 24 57.2 -2.9
KNTN Kanton 66.36 255 IAMs_20 IAMs_20 08 46 53.1
comp=Z,29µm,20.0s
BORG Borgarnes 66.90 28 IAMs_20 IAMs_20 08 52 50.0
comp=Z,56µm,20.0s
RAR Rarotonga 67.10 231 P P 08 25 04.8 -0.5
comp=Z,21nm,1.0s,baz=56,slow=3.6,SNR=2.2
RAR Rarotonga 67.10 231 IAMs_20 IAMs_20 08 46 44.2
comp=Z,36µm,20.0s
SNDB Serra Nova Dou 67.50 116 *e*P P 08 25 06.9 -1.1

PP1B Ponte de Pedra 67.90 123 *e*P P 08 25 09.6 -0.9
PCED Cedros 67.92 57 *e*P P 08 25 15.9 +5.5
comp=Z,154nm,1.6s
CALA Caldeira 67.93 57 *e*P P 08 25 15.9 +5.3
comp=Z,199nm,1.7s
PCAN Candelaria 68.13 57 *e*P P 08 25 15.9 +4.2
comp=Z,255nm,1.4s
PICO Pico 68.16 57 *e*P P 08 25 22.8 +11
comp=Z,198nm,1.5s
ROSA Rosais 68.24 56 *e*P P 08 25 15.0 +2.6
comp=Z,141nm,1.4s
SRBC Serra Branca 68.31 56 *e*P P 08 25 18.1 +5.2
comp=Z,688nm,1.7s
PGRA Graciosa 68.36 56 *e*P P 08 25 16.6 +3.5
comp=Z,201nm,1.7s
PMAN Manadas 68.38 56 *e*P P 08 25 29.6 +16
comp=Z,56nm,0.9s
PID Ribeirinha 68.41 57 *e*P P 08 25 21.9 +8.4
comp=Z,232nm,1.6s
MT01 Popeta 68.84 147 IAmb IAmb 08 25 18.5
comp=Z,66nm,1.1s
MT09 Talagante 68.90 146 IAmb IAmb 08 25 24.4
comp=Z,112nm,1.1s
SMTB Santa Maria do 68.94 111 *e*P P 08 25 16.1 -1.0
ADH Angra Heroismo 69.02 56 *e*P P 08 25 17.6 +0.4
comp=Z,107nm,1.8s
ROSB Rosrio 69.02 104 *e*P P 08 25 17.4 -0.2
PAGU Aguiva, Azore 69.03 56 *e*P P 08 25 19.3 +2.0
comp=Z,173nm,1.2s
AQDB Aquidauana 69.04 126 IAmb IAmb 08 25 38.2
comp=Z,128nm,1.4s
AQDB Aquidauana 69.04 126 *e*P P 08 25 16.8 -0.7
PSCM Serra do Cume 69.10 56 *e*P P 08 25 21.5 +3.7
comp=Z,143nm,1.1s
ARAG Araguaiana, MT 69.17 120 *e*P P 08 25 15.8 -2.7
BO02 Sierra Bellavi 69.81 147 IAmb IAmb 08 25 33.1
comp=Z,200nm,1.3s
PEXB Peixe 70.03 114 *e*P P 08 25 23.1 -0.7
JMIC Jan Mayen 70.10 20 LR LR 08 56 25.4
comp=Z,38µm,18.7s,baz=290,slow=36
JMIC Jan Mayen 70.10 20 *e*P P 08 25 23.2 -0.1
JMIC IVmB_BB 08 25 31.7
comp=Z,4µm,3.3s
JMIC *e*S S 08 34 36.0 +1.2
JMIC IVMs_BB IVMs_BB 08 55 40.4
comp=Z,22µm,12.6s
PSET Sete Cidades 70.40 57 *e*P P 08 25 28.4 +2.6
comp=Z,124nm,1.0s
PDA Ponta Delgada 70.46 57 *e*P P 08 25 26.5 +0.3
comp=Z,182nm,1.4s
GRON Grota Negra 70.56 57 *e*P P 08 25 28.5 +1.7
comp=Z,221nm,1.2s
CMLA Cha da Macela 70.56 57 *e*P P 08 25 27.2 +0.4
comp=Z,225nm,1.3s
CMLA Cha da Macela 70.56 57 IAMs_20 IAMs_20 08 55 09.8
comp=Z,49µm,18.0s
PCALD Caldeiras da R 70.58 57 *e*P P 08 25 31.5 +4.6
comp=Z,317nm,1.3s
BART Pico Bartolome 70.83 57 *e*P P 08 25 28.2 -0.3
comp=Z,169nm,1.5s
PSMA Santa Maria 71.09 57 *e*P P 08 25 34.1 +4.1
comp=Z,156nm,1.3s
PSMN Pico do Norte, 71.14 57 *e*P P 08 25 31.8 +1.5
comp=Z,47nm,1.1s
KBS Kingsbay 71.30 10 *i* P P 08 25 35.5 +5.0
KBS IAMs_20 IAMs_20 08 57 46.4
comp=Z,347µm,16.2s
KBS Kingsbay 71.30 10 *e*P P 08 25 30.9 +0.4
KBS IVmB_BB 08 26 08.9
comp=Z,3µm,3.9s
KBS *e*S S 08 34 46.8 -1.8
KBS *e*SS SS 08 39 22.0 +0.3
KBS IVMs_BB IVMs_BB 08 57 48.6
comp=Z,61µm,15.4s
PET Petropavlovsk 71.58 320 *d* P P 08 25 33.6 +1.0
PET *e* 08 25 55.4
PET *i* S S 08 34 48.7 -3.8
PET *e* 08 35 40.3
PET *e*SS SS 08 39 24.8 -2.2
PET pmax pmax
comp=Z,2µm,7.7s
PET pmax pmax
comp=Z,4µm,6.9s
PET pmax pmax
comp=Z,153nm,1.0s
CPUP Villa Florida 71.61 132 P P 08 25 32.2 -0.9
comp=Z,34nm,1.0s,baz=318,slow=7.8,SNR=19
CPUP LR LR 08 56 39.7
comp=Z,5µm,18.5s,baz=336,slow=36
CPUP Villa Florida 71.61 132 P P 08 25 31.9 -1.3
CPUP pmax pmax
comp=Z,152nm,1.2s
CPUP Villa Florida 71.61 132 P P 08 25 31.9 -1.3
CPUP IAmb IAmb 08 25 50.1
comp=Z,152nm,1.2s
CPUP Villa Florida 71.61 132 *e*P P 08 25 32.8 -0.4
SEY Seymchan 71.70 332 P P 08 25 31.4 -1.8
comp=Z,18nm,1.1s,baz=97,slow=4.8,SNR=11
SEY LR LR 08 56 11.6
comp=Z,22µm,18.1s,baz=80,slow=35
AFI Afiamalu 72.04 245 IAMs_20 IAMs_20 08 49 07.8
comp=Z,41µm,20.0s
NBPS Pedro II - PI 72.08 104 *e*P P 08 25 34.0 -2.4
PEA0B Petropavlovsk- 72.10 321 *ce*P P 08 25 38.1 +2.3
PEA0B Petropavlovsk- 72.10 321 IAmb IAmb 08 25 48.3
comp=Z,200nm,1.1s
PETK Petropavlovsk- 72.10 321 P P 08 25 34.2 -1.6
comp=Z,7.7nm,0.9s,baz=77,slow=14,SNR=7.3
PETK LR LR 08 53 41.9
comp=Z,7µm,21.9s,baz=71,slow=33
BDFB Brasilia 72.17 117 P P 08 25 36.5 -0.3
comp=Z,36nm,1.0s,baz=307,slow=5.4,SNR=22
BDFB LR LR 08 59 41.1
comp=Z,29µm,21.1s,baz=301,slow=38
BDFB Brasilia 72.17 117 P P 08 25 37.2 +0.3
BDFB pmax pmax
comp=Z,222nm,1.6s
BDFB Brasilia 72.17 117 P P 08 25 37.2 +0.3
BDFB IAmb IAmb 08 25 59.2
comp=Z,222nm,1.6s
SPA0 Spitsbergen Ar 72.45 10 *e*P P 08 25 39.2 +1.6
SPA0 IVmB_BB 08 25 44.5
comp=Z,2µm,6.5s
SPA0 *e*S S 08 35 01.4 -0.6
SPA0 *e*SS SS 08 39 40.6 +1.1
SPITS Spitsbergen Ar 72.45 10 P P 08 25 35.9 -1.6
comp=Z,4.4nm,0.7s,baz=290,slow=9.1,SNR=1.6
ITRB Iturama 72.59 122 *e*P P 08 25 39.9 +0.6
LC01 Cunco 72.60 150 P P 08 25 40.9 +2.1
LC01 IAmb IAmb 08 25 49.5
comp=Z,178nm,1.2s
TRCB Terra Rica 72.71 126 *e*P P 08 25 39.5 -0.4
NBMO Morrinhos-CE 72.83 102 *e*P P 08 25 39.7 -1.0
LR03 Panguipulli 72.99 151 P P 08 25 42.3 +1.2
LR03 IAmb IAmb 08 25 52.2
comp=Z,128nm,1.1s
PCMB Pacaembu 73.02 124 *e*P P 08 25 41.9 +0.2
SDBA SAO DESIDERIO 73.02 113 *e*P P 08 25 41.3 -0.6
HSPB Hornsund (broa 73.06 11 *e*P P 08 25 47.2 +6.1
HSPB *e*S SKiKP 08 35 10.9 -3.7
HSPB *e*L L 08 56 49.6
comp=Z,109µm,24.1s
HSPB Hornsund (broa 73.06 11 *e*P P 08 25 41.1 0.0
HSPB IVmB_BB 08 25 48.9
comp=Z,2µm,3.7s
HSPB *e*S S 08 35 09.0 +0.2
HSPB IVMs_BB IVMs_BB 08 58 45.3
comp=Z,41µm,17.0s
IPMB Ipameri, GO 73.30 119 *e*P P 08 25 42.8 -0.7
MA2 Magadan 73.59 328 P P 08 25 42.8 -1.7
comp=Z,11nm,0.8s,baz=167,slow=18,SNR=3.7
MA2 Magadan 73.59 328 *i* P P 08 25 43.2 -1.3
MA2 pmax pmax
comp=Z,107nm,1.5s
MA2 MLR MLR
comp=Z,14µm,16.0s
MA2 Magadan 73.59 328 P P 08 25 44.9 +0.4
MA2 IAmb IAmb 08 25 56.3
comp=Z,120nm,1.3s
MA2 IAMs_20 IAMs_20 09 01 16.7
comp=Z,20µm,18.0s
MA2 Magadan 73.59 328 ⇑p P 08 25 50.4 +5.9
SKR Severo-Kuril's 73.81 319 *e*P P 08 25 46.8 +0.9
SKR *e* 08 26 08.0
SKR *e*S SKiKP 08 35 11.0 -5.3
SKR *e*SS SS 08 40 02.9 +1.8

SKR pmax pmax
comp=Z,1µm,7.8s
SKR pmax pmax
comp=Z,2µm,6.1s
SKR pmax pmax
comp=Z,69nm,1.1s
SKR MLR MLR
comp=Z,4µm,19.0s
LL04 Puerto Octay 74.01 152 P **P** **08 25 48.1 +1.0**
LL03 Petrohue 74.20 152 IAmb IAmb 08 26 05.9
comp=Z,163nm,0.9s
NBPB Pedra_Branca-C 74.25 104 *eP* **P** **08 25 46.3 -2.9**
PTGB Pitanga 74.28 127 *eP* **P** **08 25 49.3 +0.1**
PLCA Paso Flores 74.68 150 P **P** **08 25 50.9 -0.2**
comp=Z,73nm,1.0s,baz=328,slow=7.1,SNR=50
PLCA LR LR 08 52 23.4
comp=Z,25µm,18.4s,baz=334,slow=31
PLCA Paso Flores 74.68 150 P **P** **08 25 51.2 +0.1**
PLCA pmax pmax
comp=Z,204nm,1.2s
PLCA Paso Flores 74.68 150 P **P** **08 25 51.2 +0.1**
PLCA IAmb IAmb 08 26 02.6
comp=Z,204nm,1.2s
PLCA Paso Flores 74.68 150 *eP* **P** **08 25 51.3 +0.2**
BB19B Bebedouro 74.78 122 *eP* **P** **08 25 52.0 0.0**
NBCL Cascavel-CE 74.79 102 *eP* **P** **08 25 51.9 -0.4**
JANB Januaria 74.88 115 *eP* **P** **08 25 51.6 -1.2**
HOPEN Hopen 74.99 10 *eP* **P** **08 25 53.2 +0.9**
HOPEN *eS* **S** **08 35 30.1 -0.4**
HOPEN *eSS* **SS** **08 40 19.1 +1.1**
LL01 San Ignacio de 75.22 153 P **P** **08 25 54.5 +0.4**
FRTB Fartura 75.31 125 *eP* **P** **08 25 56.0 +1.0**
GO07 Milladeo Hill, 75.31 154 P **P** **08 25 55.6 +1.0**
BJO1 Bjornoya 75.36 13 *eP* **P** **08 25 56.5 +2.0**
BJO1 IVmB_BB 08 26 02.0
comp=Z,2µm,6.1s
BJO1 *eS* **S** **08 35 34.8 +0.2**
BJO1 *eSS* **SS** **08 40 24.1 +0.5**
BJO1 IVMs_BB IVMs_BB 08 59 34.5
comp=Z,28µm,18.3s
TIXI Tiksi 75.70 344 P **P** **08 25 54.9 -1.6**
comp=Z,8.3nm,0.7s,baz=55,slow=6.6,SNR=12
TIXI Tiksi 75.70 344 *i* P **P** **08 25 55.5 -1.0**
TIXI Tiksi 75.70 344 P **P** **08 25 54.2 -2.3**
TIXI IAmb IAmb 08 26 03.9
comp=Z,108nm,1.1s
TIXI IAMs_20 IAMs_20 09 02 11.7
comp=Z,44µm,20.0s
NBMA Muriti-CE 75.82 105 *eP* **P** **08 25 57.5 -0.8**
MC01 Montes Claros 76.04 116 *eP* **P** **08 25 58.8 -0.6**
NBPN Ponto Novo - B 76.23 109 *eP* **P** **08 26 00.6 +0.1**
RCLB Rio Claro- Sao 76.31 123 *eP* **P** **08 26 00.6 -0.3**
BIGH Upper Bighouse 76.70 31 IAMs_20 IAMs_20 08 57 24.7
comp=Z,134µm,22.1s
WAKE Wake Island 76.80 285 IAMs_20 IAMs_20 08 52 27.0
comp=Z,35µm,20.0s
TIJ01 Guaruva-PR 76.87 126 *eP* **P** **08 26 03.9 -0.2**
TRQA Tornquist 76.88 143 P **P** **08 26 04.7 +1.0**
TRQA pmax pmax
comp=Z,314nm,1.7s
TRQA Tornquist 76.88 143 P **P** **08 26 04.7 +1.0**
TRQA Tornquist 76.88 143 *eP* **P** **08 26 03.8 +0.1**
SPB Sao Paulo 77.05 124 IAMs_20 IAMs_20 09 04 18.4
comp=Z,37µm,20.0s
SPB Sao Paulo 77.05 124 *eP* **P** **08 26 04.8 -0.1**
VAO Valinhos 77.07 123 *eP* **P** **08 26 05.6 +0.4**
CLGH Cloghs, Cushen 77.08 35 IAMs_20 IAMs_20 08 59 02.4
comp=Z,73µm,15.7s
DIAM Diamantina, MG 77.09 117 *eP* **P** **08 26 05.0 -0.5**
MCD Coleburn Disti 77.42 32 *eP* P 08 26 13.8 +7.3
NBLV Livramento - P 77.44 104 *eP* **P** **08 26 08.4 +0.9**
PET01 Itanhaem-SP 77.56 124 *eP* **P** **08 26 08.4 +0.6**
PGBU Glenifferbraes 77.60 34 *eP* P 08 26 13.7 +6.1
PGBU IAMs_20 IAMs_20 08 58 15.5
comp=Z,39µm,16.5s
PLTB Pedras Altas 77.61 134 IAmb IAmb 08 26 24.8
comp=Z,106nm,1.2s
PLTB Pedras Altas 77.61 134 *eP* **P** **08 26 08.2 +0.3**
RCBR Riachuelo 77.64 102 IAMs_20 IAMs_20 09 00 52.7
comp=Z,42µm,22.0s
RCBR Riachuelo 77.64 102 *eP* **P** **08 26 08.4 -0.2**
BSCB Bom Sucesso 77.66 120 *eP* **P** **08 26 08.8 +0.3**
CNLB Canela 77.93 130 *eP* **P** **08 26 10.6 +0.7**
NEWG New Galloway 78.04 35 IAMs_20 IAMs_20 08 59 41.8
comp=Z,77µm,15.8s
GDU01 Guandu, BA 78.16 111 *eP* **P** **08 26 11.0 -0.3**
EDI Edinburgh 78.21 34 IAMs_20 IAMs_20 08 58 07.4
comp=Z,52µm,16.9s
LOF Lofoten 78.21 19 *eP* **P** **08 26 12.1 +1.4**
LOF IVmB_BB 08 26 32.0
comp=Z,3µm,4.7s
LOF *eS* **S** **08 36 05.7 -0.3**
LOF IVMs_BB IVMs_BB 09 01 49.4
comp=Z,31µm,14.9s
WIM Isle of Man 78.24 36 *eP* P 08 26 18.2 +7.0
PARB Paraibuna 78.28 123 *eP* **P** **08 26 12.6 +0.7**
NBLA Lagarto - SE 78.37 108 *eP* **P** **08 26 11.9 -0.6**
NBPV Pedro Velho 78.45 103 *eP* **P** **08 26 12.8 -0.2**
ESK Eskdalemuir 78.47 34 IAMs_20 IAMs_20 09 00 34.8
comp=Z,70µm,15.2s
ESK Eskdalemuir 78.47 34 P **P** **08 26 11.9 -0.6**
ESK pmax pmax
comp=Z,137nm,1.4s
ESK Eskdalemuir 78.47 34 P **P** **08 26 11.9 -0.6**
ESK IAmb IAmb 08 26 21.9
comp=Z,137nm,1.4s
PMOZ Porto Moniz, M 78.63 59 *e*SKSac **SKSac** **08 36 25.6 -4.8**
PMOZ *e*SS **SS** **08 41 19.3 +4.0**
PMOZ Porto Moniz, M 78.63 59 *e*LR LR 08 51 31.0
comp=Z,33µm,18.0s
WPS Cemaes, Angles 78.67 36 *eP* P 08 26 19.9 +6.4
WPS IAMs_20 IAMs_20 08 59 41.1
comp=Z,87µm,18.4s
TER01 Tubaro-SC 78.67 129 *eP* **P** **08 26 14.5 +0.7**
TRO Tromso 78.68 16 *eP* **P** **08 26 13.2 -0.1**
TRO IVmBBB 08 26 21.5
comp=Z,2µm,2.6s
TRO *eS* **S** **08 36 09.3 -1.7**
TRO IVMs_BB IVMs_BB 09 01 50.9
comp=Z,17µm,17.3s
WLF1 Llynfaes 78.77 36 *eP* **P** **08 26 17.5 +3.4**
WLF1 IAMs_20 IAMs_20 08 59 44.1
comp=Z,189µm,17.2s
STEI Steigen 78.83 18 *eP* **P** **08 26 15.5 +1.4**
STEI IVmB_BB 08 26 22.6
comp=Z,2µm,1.6s
STEI *eS* **S** **08 36 12.5 -0.1**
STEI IVMs_BB IVMs_BB 09 02 17.6
comp=Z,28µm,14.9s
KESW Keswick, Cumbr 78.86 35 *eP* P 08 26 21.7 +7.1
KESW IAMs_20 IAMs_20 09 00 15.3
comp=Z,89µm,15.7s
NBIT Itapeh - BA 78.87 112 *eP* **P** **08 26 15.4 +0.2**
PMAR Madeira 78.89 59 *e*SKSac **SKSac** **08 36 30.5 -1.9**
PMAR *e*SS **SS** **08 41 22.4 +3.0**
PMAR *e*SS SS 08 41 25.8 +6.4
YLL Llanberis 78.96 36 *eP* P 08 26 19.9 +4.8
CMC01 Camacan, BA 79.01 113 *eP* **P** **08 26 15.4 -0.6**
NBAN Anadia - AL 79.07 106 *eP* **P** **08 26 15.7 -0.7**
FOO Floro 79.09 26 *eP* **P** **08 26 16.0 +0.3**
FOO *eS* **S** **08 36 14.9 -0.7**
HAMF Hammerfest 79.10 14 *eP* **P** **08 26 17.1 +1.5**
HAMF IVmB_BB 08 26 23.0
comp=Z,2µm,2.7s
HAMF *eS* **S** **08 36 14.5 -1.0**
HAMF *eSS* **SS** **08 41 18.6 -1.5**
HAMF IVMs_BB IVMs_BB 09 02 47.7
comp=Z,19µm,16.3s
KONS Konsvik 79.11 20 *eP* **P** **08 26 16.0 +0.3**
KONS *eS* **S** **08 36 09.3 -6.3**
JETT Jettan, Norway 79.11 16 *eP* **P** **08 26 17.9 +2.2**
JETT IVmB_BB 08 26 24.2
comp=Z,3µm,3.8s
JETT *eS* **S** **08 36 14.7 -1.0**
JETT *eSS* **SS** **08 41 20.1 -0.3**
JETT IVMs_BB IVMs_BB 09 04 27.5
comp=Z,14µm,15.5s
RSBS Rosebush, Pemb 79.18 38 *eP* **P** **08 26 19.8 +3.4**
RSBS IAMs_20 IAMs_20 09 00 54.6
comp=Z,118µm,16.0s
FAUS Fauske 79.20 19 *eP* **P** **08 26 17.9 +1.8**
FAUS IVmB_BB 08 26 32.5
comp=Z,2µm,6.9s
FAUS *eS* **S** **08 36 16.2 -0.4**
FAUS *eSS* **SS** **08 41 24.1 +2.4**
FAUS IVMs_BB IVMs_BB 09 01 13.2
comp=Z,21µm,15.7s
PMPST Porto Santo, M 79.21 59 *e*SKSac **SKSac** **08 36 34.0 -0.3**
PMPST *e*SS **SS** **08 41 27.0 +3.3**
SUE Sulen 79.27 27 *eP* **P** **08 26 17.2 +0.6**
SUE *eS* **S** **08 36 17.0 -0.5**
SUE IVMs_BB IVMs_BB 08 59 53.7
comp=Z,29µm,15.0s
SJMB Sao Joao De Ma 79.32 116 *eP* **P** **08 26 17.8 +0.2**
GUA01 Guaratinga, BA 79.38 114 *eP* **P** **08 26 18.4 +0.4**
VAS01 Vassouras-RJ 79.39 121 *eP* **P** **08 26 18.4 +0.4**
MOL Molde 79.53 25 *eP* **P** **08 26 19.6 +1.5**
MOL *eS* **S** **08 36 20.0 -0.2**
MOL *eSS* **SS** **08 41 25.9 -1.1**
MOL IVMs_BB IVMs_BB 08 58 38.9
comp=Z,16µm,18.6s
AKN Aaknes 79.55 25 *eP* **P** **08 26 18.2 0.0**
AKN IVmB_BB 08 26 35.4
comp=Z,2µm,5.4s
AKN *eS* **S** **08 36 20.2 -0.4**
AKN IVMs_BB IVMs_BB 08 58 39.5
comp=Z,24µm,17.3s
NBRF Rio Formoso - 79.62 105 *eP* **P** **08 26 18.4 -1.0**
BSFB Barra de Sao F 79.66 116 *eP* **P** **08 26 19.2 -0.2**
CCA1 Carnmenellis 79.70 39 IAMs_20 IAMs_20 08 56 45.7
comp=Z,78µm,19.7s
MOR8 Moi Rana 79.73 20 *eP* **P** **08 26 18.7 -0.4**
MOR8 IVmB_BB 08 26 41.1
comp=Z,3µm,5.2s
MOR8 *eS* **S** **08 36 22.9 +0.5**
MOR8 *eSS* **SS** **08 41 30.2 +0.4**
MOR8 IVMs_BB IVMs_BB 08 57 51.0
comp=Z,23µm,18.6s
NAN01 Guarapari, ES 79.75 115 *eP* **P** **08 26 19.8 -0.1**
HTL Hartland 79.76 38 *eP* P 08 26 26.9 +7.3
HTL IAMs_20 IAMs_20 09 01 05.3
comp=Z,132µm,15.9s
ASK Askoy 79.76 27 *eP* P 08 26 26.3 +6.9
ASK IVmB_BB 08 26 35.8
comp=Z,7µm,5.6s
ASK *eS* **S** **08 36 28.1 +5.3**
HYA Hoyanger 79.79 26 *eP* **P** **08 26 19.4 -0.1**
HYA *eS* **S** **08 36 24.7 +1.7**
BER Bergen 79.88 27 *eP* **P** **08 26 19.2 -0.7**
BER IVmB_BB 08 26 39.7
comp=Z,3µm,4.5s
BER *eS* **S** **08 36 25.2 +1.2**
BER IVMs_BB IVMs_BB 09 01 22.2
comp=Z,28µm,15.1s
HPK Haverah Park 79.92 35 *eP* P 08 26 25.0 +4.6
HPK IAMs_20 IAMs_20 09 02 29.8
comp=Z,85µm,16.5s
HLM1 Long Mynd 79.94 37 *eP* P 08 26 24.4 +3.8
HLM1 IAMs_20 IAMs_20 09 00 27.7
comp=Z,79µm,17.1s
NSS Namsos 79.96 22 *eP* **P** **08 26 20.3 -0.1**
NSS IVmB_BB 08 26 40.0
comp=Z,3µm,3.9s
NSS *eS* **S** **08 36 24.6 -0.2**
NSS *eSS* **SS** **08 41 33.9 +0.6**
NSS IVMs_BB IVMs_BB 09 04 01.2
comp=Z,26µm,15.8s
KWAJ Kwajalein Atol 80.02 275 IAMs_20 IAMs_20 08 52 45.0
comp=Z,32µm,22.0s
SACV Santiago Islan 80.09 78 IAMs_20 IAMs_20 08 59 46.5
comp=Z,29µm,20.0s
DUB01 Friburgo-RJ 80.12 120 *eP* **P** **08 26 22.3 +0.3**
MCH1 Michaelchurch 80.12 37 *eP* P 08 26 26.9 +5.4
MCH1 IAMs_20 IAMs_20 09 01 33.5
comp=Z,107µm,16.8s
LBWR Ladybower, Pea 80.14 35 *eP* P 08 26 25.6 +4.0
LBWR IAMs_20 IAMs_20 09 00 41.7
comp=Z,96µm,16.8s
KTK1 Kautokeino 80.20 16 *eP* **P** **08 26 21.1 -0.5**
KTK1 IVmB_BB 08 26 30.5
comp=Z,2µm,3.1s
KTK1 IVmBBB 08 26 41.5
comp=Z,2µm,2.7s
KTK1 *eS* **S** **08 36 27.0 -0.2**
KTK1 IVMs_BB IVMs_BB 09 05 14.7
comp=Z,18µm,14.9s
RIB01 Linhares ES 80.27 117 *eP* **P** **08 26 22.8 0.0**
DYA Yadsworthy 80.33 39 IAMs_20 IAMs_20 08 56 54.5
comp=Z,72µm,20.1s
ARA0 ARCESS Array S 80.35 15 *eP* **P** **08 26 21.9 -0.5**
ARCES ARCESS Array B 80.35 15 P **P** **08 26 20.4 -2.0**
comp=Z,3.3nm,0.6s,baz=328,slow=3.7,SNR=24
ARCES LR LR 09 03 58.1
comp=Z,43µm,18.3s,baz=320,slow=37
ARCES ARCESS Array B 80.35 15 P **P** **08 26 20.9 -1.5**
ARCES pmax pmax
comp=Z,161nm,1.7s
ARCES ARCESS Array B 80.35 15 P **P** **08 26 20.9 -1.5**
KMY Karmoy 80.48 28 *eP* **P** **08 26 23.4 +0.1**
KMY IVmB_BB 08 26 42.7
comp=Z,4µm,4.1s
KMY *eS* **S** **08 36 29.4 -0.9**
KMY IVMs_BB IVMs_BB 09 05 01.0
comp=Z,17µm,14.1s
KEV Kevo 80.51 14 P **P** **08 26 20.7 -2.6**
KEV pmax pmax
comp=Z,179nm,1.7s
KEV Kevo 80.51 14 P **P** **08 26 20.7 -2.6**
KEV IAmb IAmb 08 26 31.8
comp=Z,179nm,1.7s
KEV IAMs_20 IAMs_20 09 00 49.1
comp=Z,43µm,20.0s
OLDB Oldbury-Upon-S 80.53 37 *eP* P 08 26 29.1 +5.4
OLDB IAMs_20 IAMs_20 09 01 45.8
comp=Z,104µm,16.3s
CAM01 Campos-RJ 80.55 119 *eP* **P** **08 26 24.5 +0.3**
ALF01 Guarapari-ES 80.67 118 *eP* **P** **08 26 25.6 +0.8**
ODD1 Odda 80.68 27 *eP* **P** **08 26 24.5 +0.1**
ODD1 IVmBBB 08 26 33.3
comp=Z,4µm,4.2s
ODD1 *eS* **S** **08 36 33.1 +0.5**
ODD1 IVMs_BB IVMs_BB 09 03 38.2
comp=Z,25µm,15.7s
CWF Charnwood Fore 80.68 36 *eP* P 08 26 28.4 +3.9
CWF IAMs_20 IAMs_20 08 59 55.9
comp=Z,84µm,17.5s
STRD Stroud 80.68 37 *eP* **P** **08 26 25.0 +0.5**
STRD IAMs_20 IAMs_20 09 01 51.1
comp=Z,106µm,17.0s
HEF Hetta 80.75 16 *eP* **P** **08 26 24.3 -0.3**
BLS5 Blasjo 80.88 28 *eP* **P** **08 26 24.9 -0.6**
BLS5 IVmB_BB 08 26 45.5
comp=Z,5µm,4.5s
BLS5 *eS* **S** **08 36 35.4 +0.7**
BLS5 *eSS* **SS** **08 41 46.9 -0.5**
BLS5 IVMs_BB IVMs_BB 08 59 39.9
comp=Z,28µm,17.5s
SKAR Skarslia 80.92 26 *eP* **P** **08 26 25.8 +0.1**
SKAR IVmB_BB 08 26 45.8
comp=Z,4µm,4.3s
SKAR *eS* **S** **08 36 34.0 -1.1**
SKAR *eSS* **SS** **08 41 45.0 -2.9**
SWN1 Swindon 81.01 37 *eP* P 08 26 30.6 +4.3
SWN1 IAMs_20 IAMs_20 09 02 09.9
comp=Z,103µm,16.8s
KUR Kuril'sk 81.04 316 *eP* **P** **08 26 27.7 +1.2**
KUR *i* 08 26 35.0
KUR *i* 08 29 38.8
KUR *i* S **S** **08 36 35.1 -1.6**
KUR *eSS* **SS** **08 41 56.7 +6.4**
KUR SSS SSS 08 45 14.4
KUR pmax pmax
comp=Z,169nm,1.1s
KUR pmax pmax
comp=Z,3µm,6.5s
KUR MLR MLR
comp=E,6µm,16.0s
KUR MLR MLR
comp=Z,8µm,16.0s
YAK Yakutsk 81.35 336 P **P** **08 26 26.7 -1.2**
comp=Z,10.0nm,0.5s,baz=52,slow=3.3,SNR=1.2
YAK Yakutsk 81.35 336 *eP* **P** **08 26 26.4 -1.4**
YAK *e* 08 29 31.9
YAK *e*PPP PPP 08 31 24.3
YAK *eS* **S** **08 36 37.1 -2.2**
YAK *eSS* **SS** **08 41 53.9 -0.1**
YAK *e*SSS SSS 08 45 15.5
YAK pmax pmax
comp=Z,292nm,1.4s
YAK pmax pmax
comp=N,58nm,1.6s
YAK pmax pmax
comp=E,94nm,1.6s
YAK pmax pmax
comp=Z,3µm,10.6s
YAK pmax pmax
comp=N,272nm,4.0s
YAK pmax pmax
comp=E,638nm,7.0s
YAK smax smax
comp=E,4µm,12.3s
YAK smax smax
comp=N,4µm,11.4s
YAK MLR MLR
comp=Z,19µm,25.0s
YAK MLR MLR
comp=N,10µm,25.0s
YAK MLR MLR
comp=E,22µm,23.0s
YAK Yakutsk 81.35 336 P **P** **08 26 26.4 -1.4**
YAK IAMs_20 IAMs_20 09 03 23.6
comp=Z,28µm,20.0s
WOL Wolverton 81.42 37 IAMs_20 IAMs_20 09 02 23.6
comp=Z,91µm,16.4s
PGAV Gavieira, Arco 81.43 48 *e*SKSac **SKSac** **08 36 53.3 +3.7**
PGAV *e*SS **SS** **08 41 59.8 +3.2**
PGAV Gavieira, Arco 81.43 48 *e*LR LR 08 54 15.3
comp=Z,72µm,20.0s
NKL Nikolayevsk 81.43 325 *eP* **P** **08 26 29.6 +1.1**
NKL *e* 08 29 41.5
NKL *eS* **S** **08 36 41.2 +0.7**
NKL pmax pmax
comp=N,374nm,0.6s
NKL pmax pmax
comp=Z,61nm,1.1s
NKL pmax pmax
comp=E,4.0nm,0.4s
NKL smax smax
comp=N,952nm,0.9s
NKL smax smax
comp=E,2.0nm,0.9s
NKL MLR MLR
comp=N,13µm,17.0s
NKL MLR MLR
comp=Z,6µm,14.0s
TYV Tymovskoe 81.51 322 *eP* P 08 26 33.1 +4.2
TYV *eS* S 08 36 49.9 +8.5
TYV pmax pmax
comp=Z,2µm,6.6s
TYV pmax pmax
comp=Z,61nm,1.3s
TYV smax smax
comp=N,5µm,9.2s
TYV smax smax
comp=E,1µm,9.4s
NC204 NORSAR Array S 81.53 25 P **P** **08 26 27.9 -1.0**
NC204 IAmb IAmb 08 27 01.4
comp=Z,203nm,1.6s
WACR West Acre 81.71 35 *eP* P 08 26 36.5 +6.6
WACR IAMs_20 IAMs_20 09 01 47.5
comp=Z,108µm,16.5s
NC303 NORSAR Array S 81.79 25 IAmb IAmb 08 26 39.9
comp=Z,250nm,1.8s
SNART Snartemo 81.82 28 *eP* **P** **08 26 30.8 +0.3**
SNART *eS* **S** **08 36 44.5 +0.1**
NB2 NORSAR Subarra 81.85 25 P **P** **08 26 29.2 -1.4**
comp=Z,1µm,3.3s,baz=308,slow=5.3
NB2 NORSAR Subarra 81.85 25 P **P** **08 26 29.2 -1.4**
baz=308,slow=5.3
NOA NORSAR Array B 81.85 25 P **P** **08 26 29.7 -0.9**
comp=Z,4.2nm,0.8s,baz=305,slow=4.7,SNR=15
NOA LR LR 09 03 19.5
comp=Z,30µm,18.2s,baz=310,slow=36
JSA Saint Aubin 81.92 39 *eP* **P** **08 26 33.6 +2.5**
JSA IAMs_20 IAMs_20 08 58 02.3
comp=Z,84µm,19.9s
POLO Lamas de Olo 82.01 48 *eP* **P** **08 26 32.4 +0.5**
comp=Z,81nm,1.5s
POLO *ep*P **sP** **08 26 34.9 +2.7**
POLO Lamas de Olo 82.01 48 *e*SKSac **SKSac** **08 36 56.8 +3.3**
POLO *e*SS **SS** **08 42 08.0 +2.7**
PMAFR Mafra 82.03 51 *ep*P pP 08 26 36.0 +3.8
PMAFR Mafra 82.03 51 *e*SKSac **SKSac** **08 36 51.3 -2.3**
PMAFR *e*SS **SS** **08 42 07.7 +2.1**
KONO Kongsberg 82.05 27 *ce*P **P** **08 26 31.8 +0.2**
KONO pmax pmax
comp=Z,418nm,1.6s
KONO Kongsberg 82.05 27 *eP* **P** **08 26 31.9 +0.2**
KONO IVmB_BB 08 26 51.1
comp=Z,6µm,5.3s
KONO *eS* **S** **08 36 47.9 +1.2**
KONO *e*SS **SS** **08 42 03.9 -0.7**
KONO IVMs_BB IVMs_BB 09 04 40.0
comp=Z,22µm,14.8s
KONO Kongsberg 82.05 27 IAMs_20 IAMs_20 09 00 13.4
comp=Z,38µm,21.0s
COI Coimbra 82.10 49 *e*SKSac **SKSac** **08 36 54.1 +0.2**
COI *e*SS **SS** **08 42 07.7 +1.3**
PCAS Casmilo, Conde 82.11 50 *eP* **P** **08 26 33.7 +1.4**
comp=Z,193nm,1.6s
PCAS *ep*P **PcP** **08 26 38.5 +0.7**
PCAS Casmilo, Conde 82.11 50 *e*SKSac **SKSac** **08 36 51.7 -2.3**
PCAS *e*SS **SS** **08 42 08.1 +1.5**
PSBE So Bento 82.13 50 *ep*P **pP** **08 26 36.3 +3.5**
PSBE A A 08 26 43.8
comp=Z,166nm,1.6s
PSBE So Bento 82.13 50 *e*SKSac **SKSac** **08 36 54.8 +0.5**
PSBE *e*SS **SS** **08 42 09.7 +2.6**
NC602 NORSAR Array S 82.16 25 *eP* **P** **08 26 32.3 +0.1**
NC602 *eS* **S** **08 36 48.4 +0.5**
NC602 *e*SS **SS** **08 42 06.0 -0.2**
NC602 IVMs_BB IVMs_BB 09 01 35.3
comp=Z,20µm,17.7s
PMST Lisbon--Monsan 82.20 51 *eP* **P** **08 26 32.5 -0.3**
LIS Lisbon 82.23 51 *eP* **P** **08 26 32.9 -0.2**
LIS IAmb IAmb 08 26 46.9
comp=Z,116nm,1.1s
LIS *eS* **S** **08 36 48.4 -0.9**
LIS IAMs_20 IAMs_20 09 00 38.0
comp=Z,93nm,17.3s
LIS Lisbon 82.23 51 *eP* **P** **08 26 32.8 -0.2**
LIS *eS* **S** **08 36 48.4 -0.9**
OSL Oslo 82.33 26 *eP* **P** **08 26 32.7 -0.4**
OSL IVmB_BB 08 26 41.5
comp=Z,4µm,2.8s
OSL *eS* **S** **08 36 49.1 -0.4**
OSL *e*SS **SS** **08 42 09.2 +0.4**
OSL IVMs_BB IVMs_BB 09 04 13.0
comp=Z,33µm,15.8s
MSVF Nonsavu 82.40 247 P **P** **08 26 34.5 +0.3**
comp=Z,6.0nm,0.8s,baz=31,slow=20,SNR=2.0
MSVF LR LR 08 55 56.6
comp=Z,74µm,18.9s,baz=56,slow=30
HOMB Homborsund 82.42 28 *eP* **P** **08 26 33.0 -0.5**
HOMB *e*SKSac **SKSac** **08 36 52.5 -2.8**
HOMB *e*SS **SS** **08 42 10.8 +0.7**
HOMB IVMs_BB IVMs_BB 09 00 44.2
comp=Z,30µm,17.0s
HMNX Herstmonceux 82.50 37 IAMs_20 IAMs_20 09 03 16.6
comp=Z,97µm,15.4s
PBRG Braganca 82.52 47 *e*SKSac **SKSac** **08 36 54.8 -2.1**
PBRG *e*SS **SS** **08 42 15.2 +2.4**
MTE Manteigas 82.61 49 *eP* **P** **08 26 35.2 +0.1**
comp=Z,104nm,1.1s
MTE Manteigas 82.61 49 *e*SKSac **SKSac** **08 36 56.3 -1.2**
MTE *e*SS **SS** **08 42 17.2 +3.0**
MTE Manteigas 82.61 49 *e*LR LR 08 55 01.8
comp=Z,72µm,20.0s
MTE Manteigas 82.61 49 IAmb IAmb 08 26 44.2
comp=Z,72nm,1.0s
MVO Moncorvo 82.62 48 *ep*P pP 08 26 38.8 +3.5
MVO Moncorvo 82.62 48 *e*SKSac **SKSac** **08 36 57.2 -0.4**
MVO *e*SS **SS** **08 42 16.2 +1.9**
MVO Moncorvo 82.62 48 *e*LR LR 08 54 54.5
comp=Z,62µm,20.0s
UGL Uglegorsk 82.72 321 *eP* **P** **08 26 36.8 +1.5**
UGL *e* 08 29 42.7
UGL *eS* **S** **08 36 52.9 -1.0**
UGL *e*SS **SS** **08 42 12.9 -2.2**
UGL pmax pmax
comp=Z,2µm,6.5s
UGL pmax pmax
comp=Z,3µm,7.0s

UGL smax smax
comp=E,4µm,8.0s
UGL smax smax
comp=N,8µm,15.0s
PMTG Montargil 82.73 50 *e*P **P 08 26 36.0 +0.4**
comp=N,126nm,1.7s
PMTG *e*pP **PcP 08 26 39.0 -1.5**
ELSH Elham, Standar 82.79 36 *e*P **P 08 26 37.0 +1.4**
ELSH IAMs_20 IAMs_20 09 01 34.8
comp=Z,94µm,18.7s
YUK Yuzh-Kuril'sk 82.86 315 *d i*P **P 08 26 31.5 -4.6**
YUK *e* 08 29 40.7
YUK *e*PPP PPP 08 31 35.1
YUK *e*S **S 08 36 49.0 -6.5**
YUK *e*SS **SS 08 42 20.7 +3.3**
YUK *e*SSS SSS 08 45 42.7
YUK pmax pmax
comp=N,208nm,1.1s
YUK pmax pmax
comp=Z,415nm,1.1s
YUK pmax pmax
comp=E,237nm,1.0s
YUK pmax pmax
comp=Z,654nm,1.4s
PNCL Nicolau / Gran 82.93 51 *e*P **P 08 26 38.6 +1.9**
comp=Z,119nm,1.6s
PMRV Marv??o 83.15 50 *e*P **P 08 26 38.9 +1.1**
comp=Z,205nm,1.5s
PMRV Marv??o 83.15 50 *e*PpP 08 26 42.6
PMRV Marv??o 83.15 50 *e*SKSac **SKSac 08 37 01.9 +0.9**
PMRV Marv??o 83.15 50 *e*LR LR 08 54 59.4
comp=Z,82µm,18.0s
PFVI Vila Bisbo 83.15 52 *e*P **P 08 26 39.9 +2.1**
comp=Z,188nm,1.8s
MORF Marmelete 83.20 52 *e*P **P 08 26 38.0 -0.2**
MORF IAmb IAmb 08 26 49.3
comp=Z,224nm,1.8s
MORF *e*S **S 08 36 58.3 -1.1**
MORF IAMs_20 IAMs_20 08 57 02.6
comp=N,90µm,18.9s
MORF Marmelete 83.20 52 *e*P **P 08 26 37.9 -0.2**
MORF *e*S **S 08 36 58.3 -1.1**
MORF Marmelete 83.20 52 *e*P **P 08 26 39.8 +1.6**
MORF *e*pP **PcP 08 26 41.5 -1.2**
PESTR Estremoz 83.26 50 *e*P **P 08 26 41.4 +3.0**
MESJ Messejana 83.27 51 *e*P **P 08 26 38.3 -0.2**
MESJ IAmb IAmb 08 26 48.6
comp=Z,33nm,1.4s
MESJ *e*S **S 08 36 59.0 -1.0**
MESJ IAMs_20 IAMs_20 09 03 17.7
comp=Z,125µm,19.7s
MESJ Messejana 83.27 51 *e*P **P 08 26 38.2 -0.2**
MESJ *e*S **S 08 36 59.0 -1.0**
MESJ Messejana 83.27 51 *e*P **P 08 26 39.1 +0.7**
comp=Z,117nm,1.5s
MESJ *e*pP **PcP 08 26 41.8 -1.1**
YSS Yuzh-Sakhalins 83.37 319 *d e*P **P 08 26 40.4 +1.6**
YSS *e* 08 36 56.6
YSS *e*S **S 08 37 03.6 +2.9**
YSS *e*SS **SS 08 42 26.6 +1.7**
YSS pmax pmax
comp=Z,3µm,6.6s
YSS pmax pmax
comp=N,400nm,6.5s
YSS pmax pmax
comp=E,500nm,6.5s
YSS pmax pmax
comp=Z,40nm,0.9s
GOET G??ttrup 83.46 29 *i*P P 08 26 46.4 +7.4
GOET IAMs_20 IAMs_20 09 07 21.8
comp=Z,43µm,18.2s
PCVE Castro Verde 83.49 52 *e*P **P 08 26 40.0 +0.4**
PCVE *e*pP **pwP 08 26 43.4 +1.0**
LVZ Lovozero 83.65 13 *c e*P **P 08 26 36.7 -3.2**
LVZ pmax pmax
comp=Z,103nm,1.1s
LVZ MLR MLR
comp=Z,60µm,19.0s
LVZ Lovozero 83.65 13 IAmb IAmb 08 26 51.3
comp=Z,160nm,1.2s
APA Apatity 83.67 13 ⇑ *i*P **P 08 26 41.3 +1.4**
APA *i* 08 29 56.0
APA *i* PPP PPP 08 31 43.0
APA *i* S S 08 36 53.0 -10
APA *i* PS **PnS 08 37 59.0 +5.6**
APA *i* SS **SS 08 42 22.0 -6.2**
APA pmax pmax
comp=Z,24nm,1.0s
PBDV Barranco-do-Ve 83.74 52 *e*P **P 08 26 42.1 +1.2**
MUD Monsted U'grnd 83.79 29 *i*P P 08 26 46.3 +5.6
MUD IAmb IAmb 08 26 53.6
comp=Z,131nm,1.2s
MUD IAMs_20 IAMs_20 09 01 59.4
comp=Z,68µm,19.4s
PVAQ Vaqueiros 83.82 52 *e*P **P 08 26 42.0 +0.7**
comp=Z,157nm,1.7s
PVAQ *e*pP **pwP 08 26 45.3 +1.2**
PVAQ Vaqueiros 83.82 52 *e*SKSac **S 08 37 07.2 +1.6**
PVAQ Vaqueiros 83.82 52 *e*LR LR 08 56 47.0
comp=Z,84µm,18.0s
PBAR Barrancos 83.96 51 *e*P **P 08 26 42.4 +0.4**
comp=Z,146nm,1.7s
ARNO Arenosillo 84.66 52 P P 08 26 50.3 +4.8
ARNO S **S 08 37 09.7 -4.2**
UCC Uccle 84.70 36 *d*P P 08 26 50.0 +4.5
SNF Seneffe 84.82 36 *d*P **P 08 26 48.1 +2.1**
JKA Kamikawa-asahi 84.88 317 IAmb IAmb 08 26 54.9
comp=Z,112nm,1.2s
ASAJ Asahikawa 84.88 317 P **P 08 26 46.4 -0.1**
comp=Z,7.6nm,1.0s,baz=158,slow=12,SNR=3.9
GRNR Gornyy 84.93 324 ⇓ *i*P P 08 26 52.0 +5.3
GRNR pmax pmax
comp=Z,20nm,0.9s
RAO Raoul Island 85.05 235 IAMs_20 IAMs_20 08 58 50.6
comp=Z,25µm,20.0s
NRIK Noril'sk 85.16 354 P **P 08 26 45.5 -1.9**
comp=Z,16nm,1.0s,baz=31,slow=9.3,SNR=12
NRIK PP **PP 08 30 04.8 +0.9**
comp=Z,4.7nm,0.8s,baz=26,slow=6.8,SNR=3.8
NRIK LR LR 09 08 07.7
comp=Z,32µm,18.4s,baz=31,slow=38
NRIK Noril'sk 85.16 354 *i*P **P 08 26 48.4 +1.0**
NRIK pmax pmax
comp=Z,172nm,1.1s
NRIK MLR MLR
comp=Z,39µm,20.0s
PAB San Pablo 85.18 49 P **P 08 26 48.4 +0.1**
PAB pmax pmax
comp=Z,163nm,1.7s
PAB San Pablo 85.18 49 P **P 08 26 48.4 +0.1**
PAB IAmb IAmb 08 26 58.7
comp=Z,162nm,1.6s
BMRD Maredsous 85.19 36 *d*P **P 08 26 48.1 +0.2**
comp=Z,78nm,1.5s
DOU Dourbes 85.21 36 *d*P **P 08 26 51.5 +3.4**
comp=Z,25nm,1.2s
BGES Gesves 85.31 36 *d*P **P 08 26 48.9 +0.4**
comp=Z,29nm,1.3s
BGES *d*x x 08 26 56.9
SFS San Fernando 85.33 52 P P 08 26 53.4 +4.5
ESDC Sonseca Array 85.38 48 P **P 08 26 49.4 +0.2**
comp=Z,5.4nm,1.0s,baz=308,slow=5.1,SNR=15
ESDC LR LR 09 02 03.8
comp=Z,72µm,21.0s,baz=280,slow=34
ESDC Sonseca Array 85.38 48 P **P 08 26 49.3 +0.1**
BEBN Eben Emael 85.39 35 *d*P **P 08 26 51.6 +2.7**
BCLA Clavier 85.41 36 *d*P **P 08 26 50.4 +1.4**
comp=Z,22nm,1.2s
BCLA *d*x x 08 26 56.4
BSTI Sart Tilman 85.45 35 *d*P **P 08 26 50.5 +1.3**
RCHB Rochefort 85.52 36 *d*P **P 08 26 51.8 +2.3**
UCM Universidad Co 85.56 47 P P 08 26 54.5 +4.5
UCM S **S 08 37 23.5 +0.6**
IBBN Ibbenburen 85.58 33 *e*P **P 08 26 50.5 +0.7**
comp=Z,168nm,1.5s,baz=309,slow=4.7
MEM Membach 85.67 35 *d*P **P 08 26 49.7 -0.6**
comp=Z,49nm,1.5s
COP Copenhagen 85.70 29 *e*P P 08 26 54.4 +4.0
COP IAMs_20 IAMs_20 09 03 31.2
comp=Z,345µm,19.6s
BTNL Ternell 85.75 35 *d*P **P 08 26 51.9 +1.2**
BHOU Houvegnez 85.81 35 *d*P P 08 26 58.0 +7.0
BSEG Bad Segeberg 85.84 31 *e*P **P 08 26 51.5 +0.4**
comp=Z,164nm,1.3s,baz=309,slow=4.7
BSEG *e*L L 09 03 47.6
comp=Z,63µm,19.9s
BUG Bochum--Univer 85.84 34 *e*P **P 08 26 51.2 +0.1**
baz=309,slow=4.7
CEU Ceuta 86.19 52 P P 08 26 58.1 +4.9
CEU S **S 08 37 23.7 -5.4**
AHRW Bad Neuenahr-A 86.27 35 *e*P **P 08 26 53.1 -0.2**
comp=Z,137nm,1.6s,baz=309,slow=4.7
WLF Walferdange 86.29 36 *d*P **P 08 26 53.2 -0.2**
WLF Walferdange 86.29 36 IAmb IAmb 08 27 03.6
comp=Z,239nm,2.0s
WLF Walferdange 86.29 36 *e*P **P 08 26 53.5 0.0**
comp=Z,117nm,1.5s,baz=309,slow=4.7
EMAL Malaga-Limoner 86.45 51 P P 08 26 58.1 +3.6
EMAL S **S 08 37 22.8 -8.9**
KASTN Kahler Asten 86.56 34 *e*P **P 08 26 55.2 +0.4**
comp=Z,119nm,1.7s,baz=309,slow=4.7
NRDL Niedersach Rie 86.62 32 *e*P **P 08 26 54.8 -0.1**
comp=Z,128nm,1.4s,baz=309,slow=4.7
FIA1 FINESS Array S 86.72 20 IAmb IAmb 08 27 21.9
comp=Z,199nm,1.8s
FINES FINESS Array B 86.72 20 P **P 08 26 54.0 -1.2**
comp=Z,4.4nm,0.7s,baz=349,slow=3.9,SNR=14
FINES LR LR 09 05 09.6
comp=Z,77µm,19.5s,baz=326,slow=35
ASSE Asse, Remlinge 87.12 32 *e*P **P 08 26 57.3 0.0**
comp=Z,94nm,1.5s,baz=309,slow=4.7
GTTG Gottingen 87.13 33 *e*P **P 08 26 57.2 -0.3**
comp=Z,102nm,1.6s,baz=309,slow=4.7
BSD Bornholm Skovb 87.15 28 *e*P P 08 27 03.1 +5.6
BSD IAmb IAmb 08 27 13.5
comp=Z,49nm,1.3s
BSD IAMs_20 IAMs_20 09 03 23.1
comp=Z,36µm,17.0s
CLZ Clausthal 87.15 33 *e*P **P 08 26 56.9 -0.7**
comp=Z,174nm,1.7s,baz=309,slow=4.7
TNS Taunus Mts 87.17 35 *e*P **P 08 26 56.5 -1.3**
comp=Z,128nm,1.9s,baz=309,slow=4.7
TNS *e*L L 09 02 42.9
comp=Z,73µm,21.4s
FLTG Flechtingen 87.27 32 *e*P **P 08 26 57.2 -1.0**
comp=Z,119nm,1.5s,baz=309,slow=4.7
PVLZ Peæn de 87.30 52 P P 08 27 02.4 +3.8
PVLZ S **S 08 37 35.0 -4.9**
IFR Ifrane 87.49 54 P **P 08 27 02.8 +2.9**
IFR S **SKSac 08 37 33.0 +3.9**
UBBA Unterbreizbach 87.60 34 *e*P **P 08 26 59.5 -0.1**
comp=Z,103nm,1.7s,baz=309,slow=4.7
ZEA Zeya 87.63 330 *e*P **P 08 27 00.4 +0.5**
ZEA *e*S **SKSac 08 37 33.7 +4.9**
ZEA pmax pmax
comp=E,300nm,10.5s
ZEA pmax pmax
comp=N,200nm,6.6s
ZEA pmax pmax
comp=Z,900nm,6.8s
ZEA pmax pmax
comp=Z,20nm,1.5s
ZEA smax smax
comp=E,2µm,16.1s
ZEA smax smax
comp=N,4µm,16.8s
MILB Miltenberg 87.84 35 *e*P **P 08 27 00.7 -0.2**
comp=N,154nm,1.9s,baz=309,slow=4.7
TEY Ternei 88.03 320 *e*P **P 08 26 57.5 -4.4**
TEY *e* 08 26 59.1
BFO Black Forest 88.23 36 *e*L L 09 04 37.8
comp=N,68µm,20.1s
NEUB Neuenburg 88.23 33 *e*P **P 08 27 02.8 +0.1**
comp=N,159nm,1.7s,baz=309,slow=4.7
KLR Kul'dur 88.28 325 P **P 08 27 02.7 -0.4**
comp=N,0.4nm,0.3s,baz=72,slow=8.1,SNR=2.5
KLR Kul'dur 88.28 325 *i*P **P 08 27 03.9 +0.8**
KLR pmax pmax
comp=Z,13nm,1.1s
KLR MLR MLR
comp=Z,9µm,19.0s
MOX Moxa 88.51 33 *e*P **P 08 27 03.3 -0.8**
comp=Z,46nm,1.5s,baz=309,slow=4.7
MOX *e*L L 09 05 32.3
comp=Z,55µm,20.7s
EFI East Falkland 88.60 151 *c e*P **P 08 27 06.8 +2.6**
EFI pmax pmax
comp=Z,288nm,2.5s
EFI East Falkland 88.60 151 IAMs_20 IAMs_20 09 05 18.8
comp=Z,21µm,18.0s
CLL Collm 88.77 32 *e*P **P 08 27 05.0 -0.3**
comp=Z,29nm,1.2s
CLL *i* 08 27 12.3
comp=Z,29nm,1.2s
CLL *e*PP **PP 08 30 34.0 +0.6**
comp=Z,204nm,2.7s
CLL *e*PPP PPP 08 32 26.0
CLL *e*SKSac **SKSac 08 37 37.0 +1.3**
CLL *e*S **ScS 08 37 55.0 -3.8**
comp=N,7µm,28.7s
CLL *e*S **ScS 08 37 55.0 -3.8**
comp=E,4µm,27.0s
CLL *e*PS **PS 08 38 57.0 +0.3**
CLL *e*PPS PPS 08 39 24.0
CLL *e*SS **SS 08 43 45.0 +1.4**
CLL *e*SSS SSS 08 47 18.0
CLL *e*SSSS 08 50 29.0
CLL Lm MLR 09 04 00.0
comp=Z,54µm,21.9s
CLL Lmax 09 08 00.0
CLL Collm 88.77 32 *e*P **P 08 27 05.0 -0.3**
CLL *e* 08 37 37.0
CLL *e*S **ScS 08 37 55.0 -3.8**
CLL pmax pmax
comp=Z,29nm,1.2s
CLL MLR MLR
comp=Z,54µm,20.3s
CLL Collm 88.77 32 *e*P **P 08 27 05.0 -0.3**
comp=Z,29nm,1.2s,baz=309,slow=4.7
CLL *e*L L 09 03 53.8
comp=Z,54µm,21.9s
PLN Plauen 88.88 33 *e*P **P 08 27 05.5 -0.4**
comp=Z,54nm,1.6s,baz=309,slow=4.7
GRA1 Grafenberg Arr 88.91 34 P **P 08 27 05.4 -0.6**
GRA1 IAmb IAmb 08 27 16.0
comp=Z,151nm,1.7s
GRF Grafenberg Arr 88.91 34 P **P 08 27 05.4 -0.6**
GRF pmax pmax
comp=Z,151nm,1.7s
GRF Grafenberg Arr 88.91 34 *e*P **P 08 27 05.8 -0.2**
comp=Z,148nm,1.7s,baz=309,slow=4.7
GRF *e*L L 09 03 59.5
comp=Z,94µm,21.6s
GRFO Grafenberg 88.91 34 P **P 08 27 05.5 -0.5**
GRFO pmax pmax
comp=Z,157nm,1.7s
GRFO Grafenberg 88.91 34 P **P 08 27 05.5 -0.5**
GRFO IAmb IAmb 08 27 15.9
comp=Z,157nm,1.7s
WERD Werda 88.97 33 *e*P **P 08 27 05.8 -0.5**
comp=Z,39nm,1.4s,baz=309,slow=4.7
GUNZ Gunzen 89.04 33 *e*P **P 08 27 06.3 -0.4**
comp=Z,54nm,1.4s,baz=309,slow=4.7
TANN Tannenbergstha 89.07 33 *e*P **P 08 27 06.0 -0.9**
comp=Z,34nm,1.3s,baz=309,slow=4.7
WERN Wernitzgruen 89.11 33 *e*P **P 08 27 06.7 -0.3**
comp=Z,67nm,1.6s,baz=309,slow=4.7
MANZ Manzenberg 89.17 33 *e*P **P 08 27 06.2 -1.1**
comp=Z,32nm,1.5s,baz=309,slow=4.7
FBE Freiberg 89.18 32 *e*P **P 08 27 06.9 -0.4**
comp=Z,42nm,1.4s,baz=309,slow=4.7
PATS Pohnpei 89.21 277 P **P 08 27 07.8 -0.3**
PATS IAMs_20 IAMs_20 09 00 47.8
comp=Z,38µm,19.0s
ROTZ Rotzenmuhle 89.36 34 *e*P **P 08 27 07.5 -0.6**
comp=Z,34nm,1.6s,baz=309,slow=4.7
GKP Gorka Klasztor 89.41 29 *e*P P 08 27 13.4 +5.2
GKP *e*S **S 08 37 56.1 -3.1**
BRG Berggiesshubel 89.50 32 *e*P **P 08 27 08.0 -0.8**
comp=Z,53nm,1.6s,baz=309,slow=4.7
BRG Berggiesshubel 89.50 32 *e*P **P 08 27 07.9 -0.8**
BRG Amp 08 27 12.7
comp=Z,14nm,1.3s
BRG Berggiesshubel 89.50 32 P P 08 27 16.4 +7.7
BRG Amp 08 27 18.8
comp=Z,53nm,1.6s
BRG PP PP 08 30 21.7 -18
BRG Amp 08 30 23.5
comp=Z,19nm,1.7s
BRG Berggiesshubel 89.50 32 S **SKSac 08 37 45.0 +5.0**
DAVA Damuels 89.69 36 *e*P P 08 27 15.3 +5.3
comp=Z,4.6nm,0.9s
FUR Furstenfeldbru 89.89 35 *e*L L 09 06 01.6
comp=Z,53µm,21.6s
BOD Bodaibo 89.89 338 *e*P **P 08 27 07.8 -2.7**
BOD pmax pmax
comp=Z,79nm,1.6s
PVCC Panska Ves 90.03 32 *e*P P 08 27 16.5 +5.3
PVCC *e*S SKSac 08 37 52.4 +9.3
PVCC MLR MLR
comp=Z,52µm,15.2s
PVCC Panska Ves 90.03 32 *e*P P 08 27 16.5 +5.3
PVCC *ex* x 08 37 52.4
PVCC AMS AMS 09 07 40.0
comp=Z,52µm,15.2s
WET Wettzell 90.09 34 *e*P **P 08 27 11.5 -0.2**
comp=Z,35nm,1.5s,baz=309,slow=4.7
WET *e*L L 09 06 21.8
comp=Z,69µm,21.1s
PRA Prague 90.26 32 *e*P P 08 27 18.3 +6.0
PRA *e*S **SKSac 08 37 52.7 +8.2**
PRA MLR MLR
comp=Z,49µm,19.3s
PRA Prague 90.26 32 *e*P P 08 27 18.3 +6.0
PRA *ex* x 08 37 52.7
PRA AMS AMS 09 06 20.0
comp=Z,49µm,19.3s
PBCC Pribram 90.30 33 *e*P **P 08 27 12.8 +0.2**
MOTA Moosalm 90.31 36 *e*P P 08 27 17.8 +5.0
comp=Z,13nm,1.6s
FETA Feichten 90.31 36 *e*P **P 08 27 14.7 +1.8**
comp=Z,12nm,1.1s
PRU Pruhonice 90.37 32 *e*P **P 08 27 14.5 +1.7**
PRU MLR MLR
comp=Z,59µm,19.1s
PRU Pruhonice 90.37 32 *e*P **P 08 27 14.5 +1.7**
PRU *ex* x 08 37 50.3
PRU AMS AMS 09 06 30.0
comp=Z,59µm,19.1s
SQTA Sankt Quirin 90.45 36 *e*P **P 08 27 16.1 +2.7**
comp=Z,10.0nm,1.3s
KHC Kasperske Hory 90.45 33 *e*P **P 08 27 13.5 +0.2**
KHC *e* 08 27 20.5
KHC MLR MLR
comp=Z,82µm,18.4s
KHC Kasperske Hory 90.45 33 *e*P **P 08 27 13.5 +0.2**
KHC *ex* x 08 27 20.5
KHC *ex* x 08 31 06.5
KHC *ex* x 08 37 53.9
KHC AMS AMS 09 06 00.0
comp=Z,82µm,18.4s
PABE Paberze 90.53 24 P **P 08 27 13.4 -0.1**
PABE IAmb IAmb 08 27 39.2
comp=Z,74nm,1.2s
WATA Walderalm 90.57 36 *e*P **P 08 27 13.4 -0.7**
comp=Z,12nm,1.6s
KSP Ksiaz 90.63 31 *e*P P 08 27 19.2 +5.1
KSP *e*S **S 08 38 09.5 -1.2**
WTTA Wattenberg 90.65 36 *e*P **P 08 27 16.2 +1.8**
comp=Z,6.7nm,1.4s
CHVC Chvalec 90.69 31 *e*P P 08 27 29.0 +15
CHVC AMS AMS 09 07 10.0
comp=Z,66µm,20.1s
GEC2 GERESS Array S 90.70 34 *e*P **P 08 27 14.5 0.0**
comp=Z,37nm,1.8s,baz=309,slow=4.7
GEC2 *e*L L 09 06 39.2
comp=Z,67µm,20.3s
GERES GERESS Array B 90.70 34 P **P 08 27 13.3 -1.3**
comp=Z,0.9nm,0.8s,baz=337,slow=3.0,SNR=7.7
GERES LR LR 09 07 00.3
comp=Z,67µm,19.9s,baz=308,slow=35
GERES GERESS Array B 90.70 34 P **P 08 27 13.1 -1.4**
GERES GERESS Array B 90.70 34 P **P 08 27 13.1 -1.4**
UPC Upice 90.73 31 *e*P P 08 27 19.5 +5.0
UPC MLR MLR
comp=Z,66µm,19.1s
UPC Upice 90.73 31 *e*P P 08 27 19.5 +5.0
UPC *ex* x 08 37 55.1
UPC AMS AMS 09 07 10.0
comp=Z,66µm,19.1s
OSTC Ostas 90.79 31 *e*P **P 08 27 15.9 +1.1**
OSTC *e*S **SKSac 08 37 51.5 +3.9**
OSTC AMS AMS 09 07 00.0
comp=Z,68µm,19.1s
KLMR Klimovskoe 90.83 15 *e*P **P 08 27 14.2 -0.5**
KLMR *e* 08 30 50.3
KLMR S **SKSac 08 37 46.1 -1.2**
KLMR pmax pmax
comp=Z,146nm,1.4s
KLMR Klimovskoe 90.83 15 *e*P **P 08 27 14.2 -0.5**
KLMR *e*P **P 08 27 14.2 -0.5**
KLMR *e*P **P 08 27 14.2 -0.5**
KLMR AMP 08 27 25.0
comp=Z,146nm,1.4s
KLMR *e*PP **PP 08 30 50.4 +0.9**
KLMR S **SKSac 08 37 46.1 -1.2**
KLMR S **SKSac 08 37 46.1 -1.2**
KLMR LQ LQ 08 53 35.0
KLMR LQ LQ 08 53 35.0
KLMR LR LR 08 57 15.8
KLMR AMP 09 05 33.0
comp=Z,38µm,18.8s
CKRC Cesky Krumlov 91.02 33 *e*P **P 08 27 17.0 +1.1**
CKRC *e*S SKSac 08 37 59.3 +10
USRK Ussuriysk Ar. 91.19 321 P **P 08 27 17.1 +0.3**
comp=Z,2.5nm,0.9s,baz=153,slow=41,SNR=2.5
TREC Trest 91.29 32 AMS AMS 09 06 40.0
comp=Z,92µm,19.8s
PRGR Permogore 91.38 12 *e*P **P 08 27 15.1 -2.1**
PRGR pmax pmax
comp=Z,45nm,1.4s
KRLC Kraliky 91.38 31 *e*P P 08 27 24.2 +6.6
KRLC *e*S **S 08 38 12.9 -4.8**
KRLC MLR MLR
comp=Z,62µm,19.6s
KRLC Kraliky 91.38 31 *e*P P 08 27 24.2 +6.6
KRLC *e*S **S 08 38 12.9 -4.8**
KRLC AMS AMS 09 07 20.0
comp=Z,62µm,19.6s
ABTA Abfaltersbach 91.44 36 *e*P **P 08 27 21.1 +3.1**
comp=Z,5.2nm,1.1s
MOA Molln 91.64 34 P **P 08 27 20.6 +1.8**
comp=Z,10nm,1.3s
KBA Koelnbreinsper 91.66 35 *e*P **P 08 27 21.9 +2.8**
comp=Z,4.6nm,1.2s
MJAR Matsushiro Arr 91.69 312 P **P 08 27 18.9 -0.4**
comp=Z,5.8nm,1.1s,baz=98,slow=3.6,SNR=8.8
MJAR LR LR 09 02 36.3
comp=Z,17µm,20.0s,baz=50,slow=32
MAJO Matsushiro 91.69 312 IAMs_20 IAMs_20 09 02 46.4
comp=Z,20µm,20.0s
MAT Matsushiro 91.69 312 P **P 08 27 16.5 -2.8**
MAT S **S 08 38 20.8 -0.1**
VRAC Vranov 91.81 32 *e*P **P 08 27 19.9 +0.3**
VRAC Vranov 91.81 32 *e*S **S 08 38 20.4 -1.2**
VRAC *e*PKKP 08 44 31.7
KRUC Moravsky 91.89 32 *e*P **P 08 27 18.5 -1.4**
KRUC Moravsky 91.89 32 *e*S **S 08 38 18.5 -3.7**
KRUC *e*PKKP 08 44 32.7
MORC Moravsky Berou 91.95 31 *e*P **P 08 27 20.3 +0.1**
MORC Moravsky Berou 91.95 31 *e*S **S 08 38 21.6 -1.2**
MORC *e*PKKP 08 44 33.1
NACGM Naroch 92.03 24 *i*P **P 08 27 20.7 +0.3**
MXZ Matakaoa Point 92.03 229 IAMs_20 IAMs_20 09 01 08.5
comp=Z,25µm,21.0s
OKC Ostrava-Krasne 92.19 31 *e*P P 08 27 26.6 +5.3
OKC *e*S **S 08 38 17.1 -7.7**
OKC MLR MLR
comp=Z,73µm,17.5s
OKC Ostrava-Krasne 92.19 31 *e*P P 08 27 26.6 +5.3
OKC *e*S **S 08 38 17.1 -7.7**
OKC AMS AMS 09 07 40.0
comp=Z,73µm,17.5s
MDJ Mudanjiang 92.29 322 P **P 08 27 22.8 +0.9**
MDJ pP pwP 08 27 25.9 +1.3
MDJ S **S 08 38 23.5 -2.5**
MDJ sS sS 08 38 32.2 +5.8
MDJ pmax pmax
comp=Z,1µm,8.9s
MDJ LR LR
comp=Z,8µm,16.9s
MDJ LR LR
comp=Z,20µm,21.2s
MDJ LR LR
comp=Z,22µm,22.0s

MDJ **Mudanjiang** **92.29 322** IAMs_20 IAMs_20 09 17 06.5
comp=Z,17µm,18.0s
CONA **Conrad Observa** **92.39 33** *e*P **P** **08 27 21.7 -0.6**
comp=Z,10nm,2.0s
CADS **Cadrg** **92.42 36** *e*P **P** **08 27 23.0 +0.5**
JAVC **Velka Javorina** **92.64 32** *e*P **P** **08 27 22.0 -1.5**
JAVC **Velka Javorina** **92.64 32** *e*S **S** **08 38 28.8 -0.3**
OBKA **Obir** **92.66 35** *e*P **P** **08 27 22.1 -1.5**
comp=Z,15nm,1.2s
ARSA **Arzberg** **92.67 34** P **P** **08 27 22.0 -1.6**
comp=Z,5.4nm,1.2s
OJC **Ojcow** **92.68 30** *e*P P 08 27 27.3 +3.7
OJC *e*S **S** **08 38 28.9 -0.4**
OJC *e*L L 09 08 49.4
comp=Z,36µm,21.5s
MNK **Minsk** **92.74 23** *i* P **P** **08 27 21.3 -2.4**
MNK *i* 08 31 02.4
MNK *i* PPP PPP 08 33 01.7
MNK *i* S **SKSac** **08 37 54.5 -3.9**
MNK *i* SSS SSS 08 48 12.2
MNK pmax pmax
comp=N,19nm,0.7s
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK pmax pmax
comp=Z,7.0nm,0.7s
MNK MLR MLR
comp=E,5µm,22.0s
MNK MLR MLR
comp=N,24µm,15.0s
MNK MLR MLR
comp=Z,29µm,14.0s
MNK **Minsk** **92.74 23** *i* P **P** **08 27 21.4 -2.3**
comp=E,2.0nm,0.7s
MNK *i* P **P** **08 27 21.4 -2.3**
comp=N,19nm,0.7s
MNK *i* P **P** **08 27 21.4 -2.3**
comp=Z,7.0nm,0.7s,baz=322
MNK *i* PP **PP** **08 31 02.4 -2.4**
MNK *i* PPP PPP 08 33 01.7
MNK *i* S **SKSac** **08 37 54.6 -3.9**
MNK *i* SS SS 08 44 29.6 -11
MNK *i* SSS SSS 08 48 12.2
MNK *i* LQ LQ 09 02 04.8
MNK *i* LR LR 09 05 47.4
MNK *i* LRM MLR 09 09 44.0
comp=E,5µm,21.6s
MNK *i* LRM MLR 09 10 13.3
comp=N,24µm,14.6s
MNK *i* LRM MLR 09 10 20.9
comp=Z,29µm,14.0s
MODS **Modra-Piesok** **92.78 32** *e*P P 08 27 28.0 +3.9
MODS *e*S **S** **08 38 29.1 -1.2**
MODS MLR MLR
comp=Z,98µm,20.7s
MODS **Modra-Piesok** **92.78 32** *e*P P 08 27 28.0 +3.9
MODS *e*PP PP 08 31 21.4 +16
MODS *e*S **S** **08 38 29.1 -1.2**
MODS *e*L L 09 07 59.0
SOKA **Soboth** **92.80 35** P **P** **08 27 22.5 -1.8**
comp=Z,12nm,1.7s
ZST **Bratislava** **92.82 33** *e*P **P** **08 27 23.7 -0.5**
ZST *e*S **S** **08 38 34.8 +4.2**
ZST **Bratislava** **92.82 33** *e*P **P** **08 27 23.7 -0.5**
LIFNC **LIFOU** **92.86 249** IAMs_20 IAMs_20 09 00 49.3
comp=Z,44µm,20.0s
PERS **Pernice** **92.87 35** *e*P **P** **08 27 23.1 -1.5**
SOP **Sopron** **92.90 33** *e*P **P** **08 27 23.6 -1.0**
SOP **Sopron** **92.90 33** *e*P **P** **08 27 25.8 +1.2**
LJU **Ljubljana** **92.96 35** *i* P **P** **08 27 25.8 +0.8**
LJU *e* 08 38 07.8
LJU *e* 08 38 40.3
URZ **Urewera** **93.20 229** IAMs_20 IAMs_20 09 00 04.4
comp=Z,33µm,21.0s
LANS **Liptovska Anna** **93.28 31** *e*P **P** **08 27 27.6 +1.2**
LANS **Liptovska Anna** **93.28 31** *e*P **P** **08 27 27.6 +1.2**
VYHS **Vyhne** **93.45 32** *e*P **P** **08 27 28.0 +0.8**
VYHS MLR MLR
comp=Z,63µm,19.8s
VYHS **Vyhne** **93.45 32** *e*P **P** **08 27 28.0 +0.8**
NIE **Niedzica** **93.48 30** *e*P **P** **08 27 30.4 +3.1**
NIE *e*L L 09 08 41.2
comp=Z,21µm,23.1s
SRO **Srobarova** **93.67 32** *e*P **P** **08 27 29.8 +1.6**
SRO **Srobarova** **93.67 32** *e*P **P** **08 27 29.8 +1.6**
CSKK **Cskako** **93.96 33** *e*P **P** **08 27 29.5 0.0**
BKZ **Black Stump Fm** **94.06 229** P **P** **08 27 31.3 +1.3**
BKZ IAmb IAmb 08 27 51.4
comp=Z,136nm,1.6s
BKZ IAMs_20 IAMs_20 09 02 41.3
comp=Z,25µm,21.0s
DZM **Mont Dzumac** **94.08 248** *e*P **P** **08 27 32.0 +1.5**
comp=Z,98nm,1.4s
DZM **Mont Dzumac** **94.08 248** *e*SKSac **SKSac** **08 38 06.2 -0.7**
comp=Z,6µm,26.4s
DZM **Mont Dzumac** **94.08 248** *e*PS PS 08 40 03.2 +6.0
comp=Z,7µm,29.9s
DZM *e*SS SS 08 45 05.3 +2.2
comp=Z,16µm,26.9s
DZM *e*LQ LQ 08 53 55.0
comp=Z,18µm,26.8s
DZM *e*LR LR 08 57 58.2
comp=Z,97µm,24.1s,baz=70
DZM **Mont Dzumac** **94.08 248** LR LR 09 01 42.9
comp=Z,46µm,19.8s,baz=112,slow=30
TIH **Tihany** **94.10 33** *e*P **P** **08 27 29.7 -0.4**
VSL **Villasalto** **94.14 43** IAMs_20 IAMs_20 09 11 35.2
comp=Z,32µm,19.0s
OUZ **Omahuta** **94.24 233** IAMs_20 IAMs_20 09 04 55.9
comp=Z,26µm,18.0s
BUD **Budapest** **94.25 32** *e*P **P** **08 27 32.8 +2.0**
PSZ **Piszkesteto** **94.36 31** *e*P P 08 27 26.5 -5.0
PSZ **Piszkesteto** **94.36 31** *e*P **P** **08 27 29.9 -1.5**
CRVS **Cervenica-Dubn** **94.38 30** *e*P P 08 27 36.1 +4.7
CRVS *e* 08 31 20.6
CRVS MLR MLR
comp=Z,40µm,21.1s
CRVS **Cervenica-Dubn** **94.38 30** *e*P P 08 27 36.1 +4.7
CRVS *e*PP **PP** **08 31 20.6 +2.8**
CRVS *e*S **S** **08 38 49.9 +5.6**
CRVS *e*L L 09 09 17.3
HNR **Honiara** **94.50 262** IAMs_20 IAMs_20 09 00 34.1
comp=Z,65µm,21.0s
KOLS **Kolonicke sedl** **94.72 30** *e*P P 08 27 38.8 +5.8
KOLS MLR MLR
comp=Z,53µm,20.0s
KOLS **Kolonicke sedl** **94.72 30** *e*P P 08 27 38.8 +5.8
KOLS *e*PP PP 08 31 32.1 +12
KOLS *e*S **S** **08 38 53.4 +6.1**
KOLS *e*L L 09 10 35.6
KOVH **Kovagotottos** **94.76 34** *e*P **P** **08 27 30.0 -3.3**
LVV **L'vov** **94.83 28** *e*P **P** **08 27 33.4 -0.1**
LVV *e* 08 38 13.6
LVV *e*S **S** **08 38 42.0 -6.2**
LVV *e*SS **SS** **08 45 16.5 +5.7**
LVV MLR MLR
comp=Z,52µm,21.0s
MOS **Moscow** **94.84 18** *e*P P 08 27 26.8 -6.5
MOS *e* 08 38 13.4
MOS MLR MLR
comp=Z,33µm,17.0s
MORH **Mrgy, Hungar** **94.95 33** *e*P **P** **08 27 31.2 -2.8**
UZH **Uzhgorod** **94.95 30** *e*P **P** **08 27 30.6 -3.4**
UZH *e* 08 27 32.4
UZH *i* 08 27 39.3
UZH *i* 08 38 12.4
UZH *i* PS **PS** **08 40 13.7 +8.6**
UZH *e*SS SS 08 45 06.2 -6.3
UZH MLR MLR
comp=N,8µm,17.0s
UZH MLR MLR
comp=E,9µm,17.0s
UZH MLR MLR
comp=Z,6µm,17.0s
BFZ **Birch Farm** **94.96 227** IAMs_20 IAMs_20 09 01 36.0
comp=Z,35µm,20.0s
BSZH **Besenyszg** **94.97 32** *e*P **P** **08 27 35.0 +0.8**
OBN **Obninsk** **95.08 19** *ce*P **P** **08 27 36.2 +1.8**
OBN *i* 08 27 41.8
OBN *e* 08 31 24.2
OBN *e*S **SKSac** **08 38 13.9 +2.9**
OBN *e*PS **PS** **08 40 11.6 +5.5**
OBN *e*SS **SS** **08 45 14.0 +0.2**
OBN pmax pmax
comp=Z,59nm,2.0s
OBN MLR MLR
comp=Z,40µm,17.0s
CN2 **Changchun** **95.09 324** *e*P **P** **08 27 31.5 -3.3**
CN2 *es*P pwP 08 27 38.6 +1.1
CN2 *e*PP **PP** **08 31 22.4 -1.1**
CN2 *e*SS SS 08 45 09.6 -5.3
CN2 pmax pmax
comp=Z,10.0nm,1.6s
CN2 LR LR
comp=Z,11µm,15.0s
CN2 LR LR
comp=Z,15µm,18.0s
TRPA **Tarpa** **95.43 30** *e*P **P** **08 27 35.0 -1.2**
TRPA **Tarpa** **95.43 30** *e*P P 08 27 40.7 +4.5
AMBH **Ambrzfalva** **95.87 32** *e*P P 08 27 41.9 +3.6
PMSA **Palmer Station** **96.09 162** *e*P **P** **08 27 40.3 +1.8**
AKASG **Malin Array Be** **96.26 25** P **P** **08 27 38.0 -2.0**
comp=Z,0.3nm,0.3s,baz=318,slow=4.2,SNR=8.8
AKASG LR LR 09 10 44.9
comp=Z,43µm,20.9s,baz=330,slow=35
AKASG **Malin Array Be** **96.26 25** *i* P **P** **08 27 38.2 -1.7**
AKASG **Malin Array Be** **96.26 25** P **P** **08 27 38.0 -2.0**
SNZO **South Karori** **96.28 227** IAMs_20 IAMs_20 09 02 46.1
comp=Z,26µm,20.0s
KEST **Kesra** **96.38 46** P **P** **08 27 40.1 -0.8**
comp=Z,3.0nm,0.9s,baz=294,slow=17,SNR=2.2
KEST LR LR 09 10 38.5
comp=Z,40µm,18.6s,baz=259,slow=35
KEST **Kesra** **96.38 46** IAmb IAmb 08 27 50.7
comp=Z,57nm,1.6s
NNZ **Nelson** **97.13 228** IAMs_20 IAMs_20 09 01 36.4
comp=Z,30µm,22.0s
SNY **Shenyang** **97.44 323** ||P Pdif 08 27 47.5 +2.0
SNY S **S** **08 39 11.4 +0.5**
SNY sS sS 08 39 20.9 +10
SNY pmax pmax
comp=Z,640nm,8.4s
SNY LR LR
comp=Z,11µm,21.6s
SNY LR LR
comp=Z,28µm,18.2s
QRZ **Quartz Range** **97.53 228** IAMs_20 IAMs_20 09 02 06.0
comp=Z,25µm,21.0s
KHZ **Kahutara** **97.56 227** IAMs_20 IAMs_20 09 05 20.0
comp=Z,27µm,20.0s
THZ **Tophouse** **97.69 228** IAMs_20 IAMs_20 09 01 54.3
comp=Z,38µm,22.0s
KSRS **Korea Array** **97.80 317** P **P** **08 27 45.8 -1.4**
comp=Z,0.3nm,0.3s,baz=61,slow=4.7,SNR=2.7
KSRS LR LR 09 05 27.1
comp=Z,6µm,21.9s,baz=42,slow=32
SVE **Sverdlovsk** **98.09 6** *e*P Pdif 08 27 48.2 +0.1
SVE *e*S **SKSac** **08 38 24.7 -2.0**
SVE *e* 08 40 39.6
SVE *e*SS **SS** **08 46 03.5 +7.4**
SVE pmax pmax
comp=Z,42nm,1.5s
SVE MLR MLR
comp=Z,83µm,22.0s
SVE MLR MLR
comp=N,47µm,22.0s
SVE MLR MLR
comp=E,43µm,18.0s
GUMO **Guam** **98.12 289** LR LR 09 03 49.2
comp=E,18µm,21.8s,baz=79,slow=30
GUMO **Guam** **98.12 289** IAMs_20 IAMs_20 09 03 15.7
comp=Z,21µm,22.0s
ARU **Arti** **98.28 7** *c i*P Pdif 08 27 48.5 -0.5
ARU 08 31 47.9
ARU S **SKSac** **08 38 26.1 -1.6**
ARU SP **SP** **08 40 40.9 +0.7**
ARU pmax pmax
comp=Z,19nm,1.6s
ARU pmax pmax
comp=Z,297nm,7.7s
ARU **Arti** **98.28 7** P Pdif 08 27 47.9 -1.0
ARU IAmb IAmb 08 27 57.6
comp=Z,34nm,1.2s
INCN **Inchon** **98.56 318** IAMs_20 IAMs_20 09 20 44.7
comp=Z,15µm,18.0s
LTZ **Lake Taylor** **98.57 227** IAMs_20 IAMs_20 09 06 17.4
comp=Z,21µm,20.0s
MQZ **McQueen's Vall** **98.72 226** IAMs_20 IAMs_20 09 02 03.5
comp=Z,21µm,22.0s
TIP **Timpagrande** **98.75 39** P Pdif 08 27 51.1 -0.5
OXZ **Oxford** **98.96 226** IAMs_20 IAMs_20 09 02 41.8
comp=Z,22µm,22.0s
KIS **Kishinev** **99.04 28** *e*P **Pdif** **08 27 49.0 -3.5**
comp=Z,200nm,5.3s
KIS **Kishinev** **99.04 28** *e*PP **PP** **08 32 00.0 +6.3**
KIS **Kishinev** **99.04 28** *e*PS PS 08 40 49.0 -0.7
KIS *e*LR LR 09 04 14.0
comp=Z,13µm,18.0s
KIS **Kishinev** **99.04 28** *e*P **Pdif** **08 27 49.0 -3.5**
KIS *e* 08 32 00.0
KIS *e*PS **PS** **08 40 49.0 -0.7**
KIS pmax pmax
comp=Z,200nm,5.3s
KIS MLR MLR
comp=Z,13µm,18.0s
ZAK **Zakamensk** **99.58 339** *e*P **Pdif** **08 27 55.4 +0.3**
ZAK pmax pmax
comp=Z,13nm,1.6s
RPZ **Rata Peaks** **99.77 226** IAMs_20 IAMs_20 09 03 38.3
comp=Z,24µm,21.0s
VRH **Novokhopyorsk** **100.00 18** *e*P **Pdif** **08 27 57.9 +1.2**
VRH *i* 08 31 56.7
VRH *e* 08 38 35.3
VRH *e*PS **PS** **08 40 54.2 -5.5**
VRH pmax pmax
comp=Z,30nm,1.5s
VRH MLR MLR
comp=Z,41µm,17.0s
ULN **Ulaanbaatar** **100.44 336** *i* P **Pdif** **08 27 59.3 +0.3**
ULN pmax pmax
comp=Z,16nm,1.2s
FOZ **Fox Glacier** **100.51 227** IAMs_20 IAMs_20 09 03 25.9
comp=Z,26µm,22.0s
DL2 **Dalian** **100.53 322** P **Pdif** **08 28 03.0 +3.7**
DL2 PP **PP** **08 32 04.8 -0.5**
DL2 SKS **SKSac** **08 38 35.2 -4.4**
DL2 S **Sdif** **08 39 32.4 -4.7**
DL2 SS **SS** **08 46 34.5 +3.0**
DL2 pmax pmax
comp=Z,310nm,6.1s
DL2 LR LR
comp=Z,18µm,20.3s
DL2 LR LR
comp=Z,4µm,23.5s
DL2 LR LR
comp=Z,23µm,19.4s
ODZ **Otahua Downs** **100.60 225** IAMs_20 IAMs_20 09 07 34.1
comp=Z,20µm,20.0s
LBZ **Lake Benmore** **100.62 226** IAMs_20 IAMs_20 09 03 31.8
comp=Z,29µm,22.0s
SONM **Songino Array** **100.70 336** P **Pdif** **08 28 00.1 0.0**
comp=Z,0.4nm,0.4s,baz=25,slow=3.8,SNR=7.6
WKZ **Wanaka** **101.56 226** IAMs_20 IAMs_20 09 04 21.7
comp=Z,23µm,21.0s
MLZ **Mavora Lakes** **102.36 226** IAMs_20 IAMs_20 09 04 57.8
comp=Z,28µm,22.0s
BJI **Beijing** **102.63 326** Pdif **Pdif** **08 28 07.4 -1.2**
BJI pP **sPdif** **08 28 11.1 +2.1**
BJI PP **PP** **08 32 22.3 +1.3**
BJI **Beijing** **102.63 326** SS SS 08 46 59.0 -1.4
BJI AMB AMB
comp=Z,2µm,10.6s
BJI LR LR
comp=N,17µm,16.5s
BJI LR LR
comp=E,9µm,15.5s
BJI LR LR
comp=Z,16µm,17.3s
BJT **Baijiatuan** **102.65 326** IAMs_20 IAMs_20 09 21 25.7
comp=Z,14µm,21.0s
TORD **Torodi Ar. Bea** **102.91 69** Pdiff **Pdif** **08 28 08.4 -1.9**
comp=Z,3.6nm,1.1s,baz=308,slow=2.8,SNR=4.9
TORD PKKP **PKKPdf** **08 44 13.4 -1.3**
comp=Z,2.0nm,0.9s,baz=89,slow=2.1,SNR=5.9
PYZ **Puysegur Point** **103.59 225** IAMs_20 IAMs_20 09 05 25.5
comp=Z,22µm,21.0s
ANN **Anapa** **104.24 24** *e*P **Pdif** **08 28 12.8 -2.9**
ANN *i* 08 32 33.3
ANN *e* 08 38 57.1
ANN *e* 08 39 35.6
ANN *e*S **Sdif** **08 40 03.6 -4.3**
ANN *e*SP **SP** **08 41 45.5 +1.2**
ANN *i* SS **SS** **08 47 21.9 -0.2**
ANN *e*SSS SSS 08 51 15.4
ANN pmax pmax
comp=Z,58nm,1.5s
ANN MLR MLR
comp=N,21µm,18.0s
ANN MLR MLR
comp=E,34µm,18.0s
ANN MLR MLR
comp=Z,71µm,17.0s
HHC **Hu-ho-hao-te** **104.26 329** *e*P **Pdif** **08 28 14.9 -1.2**
HHC PP **PP** **08 32 34.4 +1.1**
HHC SKS 08 38 52.9
HHC S **Sdif** **08 40 00.4 -8.1**
HHC SS **SS** **08 47 17.8 -5.2**
HHC LR LR
comp=Z,21µm,17.7s
HHC LR LR
comp=Z,18µm,16.5s
HHC LR LR
comp=Z,31µm,17.2s
KURBB **Kurchatov Arra** **104.41 355** PKKP 08 44 11.4
comp=Z,0.4nm,0.6s,baz=215,slow=2.5,SNR=4.3
BTO **Baotou** **105.16 330** *e*P **PKiKP** **08 32 40.3 +5.8**
BRZS **Berezniki** **105.36 359** *e*PKiKP **PKiKP** **08 32 36.3 +1.9**
baz=359
SANT **Santorini** **105.59 36** IAMs_20 IAMs_20 09 16 42.5
comp=Z,25µm,21.0s
SSE **Sheshan** **106.17 316** Pdif **Pdif** **08 28 28.1 +3.5**
SSE PP **PP** **08 32 47.2 -0.5**
SSE SKS **SKSac** **08 39 05.8 -0.3**
SSE S **Sdif** **08 40 26.8 +2.3**
SSE SS **SS** **08 47 50.6 +1.0**
SSE AMB AMB
comp=Z,420nm,8.2s
SSE LR LR
comp=Z,4µm,18.1s
SSE LR LR
comp=Z,7µm,18.1s
SSE LR LR
comp=Z,5µm,18.2s
TIY **Taiyuan** **106.29 327** Pdif **Pdif** **08 28 31.3 +6.2**
TIY PP **PP** **08 32 54.8 +6.4**
TIY **Taiyuan** **106.29 327** SS SS 08 47 59.5 +8.6
TIY AMB AMB
comp=Z,1µm,6.4s
TIY LR LR
comp=N,18µm,16.1s
TIY LR LR
comp=E,12µm,15.5s
TIY LR LR
comp=Z,32µm,17.2s
ANTO **Ankara** **106.49 29** IAMs_20 IAMs_20 09 20 13.2
comp=Z,28µm,20.0s
ZSN **Zaisan** **106.77 350** *e*PKiKP **PKiKP** **08 32 43.2 +6.0**
baz=350
KIV **Kislovodsk** **106.79 21** *e*P **Pdif** **08 28 25.7 -1.5**
KIV *e* 08 32 50.4
KIV *e* 08 39 05.5
KIV *e*PS **PS** **08 42 09.5 -2.1**
KIV *e*SS SS 08 47 55.8 -1.2
KIV *e*SSS SSS 08 51 56.2
KIV pmax pmax
comp=Z,13nm,1.1s
KIV MLR MLR
comp=Z,35µm,21.0s
NJ2 **Nanjing** **106.94 319** *e*Pdif **Pdif** **08 28 26.8 -1.2**
NJ2 PP **PP** **08 32 56.8 +3.5**
NJ2 SS SS 08 48 02.1 +2.1
NJ2 AMB AMB
comp=Z,470nm,5.1s
NJ2 LR LR
comp=Z,11µm,17.7s
NJ2 LR LR
comp=Z,22µm,20.6s
BRTR **Keskin Array B** **106.98 29** PKKP 08 44 03.1
comp=Z,1.3nm,0.7s,baz=145,slow=4.5,SNR=4.8
KARP **Karpathos** **107.12 36** IAMs_20 IAMs_20 09 19 48.0
comp=Z,28µm,20.0s
MKAR **Makanchi Array** **107.79 352** PKKP 08 44 05.3
comp=Z,2.9nm,1.0s,baz=180,slow=4.9,SNR=7.4
MAKZ **Makanchi** **107.82 352** IAMs_20 IAMs_20 09 23 42.7
comp=Z,30µm,21.0s
TDK **Taldygorghan** **110.00 354** *e*LR LR 09 23 41.6
comp=Z,37µm,17.0s,baz=354
TATO **Taipei** **110.08 311** IAMs_20 IAMs_20 09 11 59.2
comp=Z,12µm,21.0s
BTLS **Baital** **110.25 357** *e*PKiKP **PKiKP** **08 32 46.1 +2.3**
baz=357
BTLS **Baital** **110.25 357** *i* PKiKP **PKiKP** **08 32 46.0 +2.3**
NACB **Ninganchiao** **110.53 311** IAMs_20 IAMs_20 09 18 20.4
comp=Z,14µm,20.0s
WHN **Wuhan** **110.69 320** PKP **PKiKP** **08 32 43.3 -1.6**
WHN PP **PP** **08 33 19.9 -0.6**
WHN SS SS 08 48 49.0 -1.4
WHN AMB AMB
comp=Z,2µm,9.5s
WHN LR LR
comp=Z,21µm,16.3s
WHN LR LR
comp=Z,22µm,16.7s
WHN LR LR
comp=Z,38µm,18.4s
CSS **Mathiatis** **110.71 32** IAMs_20 IAMs_20 09 24 42.5
comp=Z,18µm,20.0s
CTAO **Charters Tower** **110.77 257** IAMs_20 IAMs_20 09 14 42.1
comp=Z,18µm,19.0s
XAN **Xi'an** **110.94 327** Pdif **Pdif** **08 28 36.8 -9.0**
XAN PP PP 08 33 13.4 -8.8
XAN **Xi'an** **110.94 327** SS SS 08 48 58.3 +4.8
XAN AMB AMB
comp=Z,2µm,7.1s
XAN LR LR
comp=N,25µm,18.2s
XAN LR LR
comp=E,11µm,20.2s
XAN LR LR
comp=Z,32µm,18.2s
KPKS **Kokpek** **111.49 354** *e*PKiKP PKiKP 08 32 53.5 +7.2
baz=354
KPKS **Kokpek** **111.49 354** *i* PKiKP PKiKP 08 32 53.4 +7.2
LZH **Lanzhou** **111.63 331** Pdif **Pdif** **08 28 48.0 -1.0**
LZH PP **PP** **08 33 29.5 +2.3**
LZH SS SS 08 48 55.4 -7.3
LZH LR LR
comp=Z,14µm,20.1s
LZH LR LR
comp=Z,20µm,19.5s
LZH LR LR
comp=Z,18µm,21.1s
UZB **Uzynbulak** **111.78 353** *e*PKiKP **PKiKP** **08 32 50.3 +3.5**
baz=353
UZB **Uzynbulak** **111.78 353** *i* PKiKP **PKiKP** **08 32 50.3 +3.5**
SGDS **Sogindy** **111.81 357** *e*PKiKP PKiKP 08 32 58.7 +12
baz=357
AAA **Alma-Ata** **111.91 355** *e*LR LR 09 25 05.1
comp=Z,42µm,16.7s,baz=355
MDOK **Medeo** **111.94 355** *e*PKiKP PKiKP 08 32 54.0 +6.9
baz=355
MDOK *e*LR LR 09 25 07.6
comp=Z,26µm,16.2s,baz=355
MDOK **Medeo** **111.94 355** *i* PKiKP PKiKP 08 32 54.0 +6.8
MTBS **Maitube** **112.02 355** *e*PKiKP PKiKP 08 32 58.0 +11
baz=355
KNMB **Chin-men Tao** **112.50 313** IAMs_20 IAMs_20 09 25 53.6
comp=Z,11µm,20.0s
SBA **Scott Base** **112.94 193** IAMs_20 IAMs_20 09 09 05.2
comp=Z,20µm,21.0s
CAN **Canberra** **113.01 240** IAMs_20 IAMs_20 09 09 56.0
comp=Z,29µm,21.0s
ENH **Enshi** **113.61 324** IAMs_20 IAMs_20 09 28 31.7
comp=Z,13µm,20.0s
GHAJ **Ghor Haditha** **114.77 33** IAMs_20 IAMs_20 09 20 12.1
comp=Z,11µm,22.0s
QSPA **South Pole Qui** **114.85 180** PKP PKPdf 08 32 53.1 +1.4
comp=Z,2.6nm,1.1s,baz=195,slow=2.0,SNR=3.0
QSPA **South Pole Qui** **114.85 180** IAMs_20 IAMs_20 09 11 47.7
comp=Z,28µm,22.0s
KSH **Kashi** **115.65 355** PKP **PKPdf** **08 32 57.0 +2.7**
KSH PP **PP** **08 33 58.3 +3.1**
KSH pmax pmax
comp=Z,2µm,9.8s
KSH LR LR
comp=N,64µm,18.0s

KSH LR LR
comp=E,58µm,18.0s
KSH LR LR
comp=Z,93µm,17.6s
KSH Kashi 115.65 355 PKP **PKPdf** **08 32 55.1 +0.8**
KSH PP **PP** **08 34 00.5 +5.3**
KSH SKS **SKSdf** **08 40 08.3 +0.6**
KSH SS **SS** **08 50 01.9 +6.9**
KSH AMB AMB
comp=Z,2µm,4.3s
TAU Tasmania Unive 115.97 233 IAMs_20 IAMs_20 09 11 31.2
comp=Z,25µm,22.0s
CD2 Chengdu 116.00 328 Pdif **Pdif** **08 29 07.5 -0.9**
CD2 PP **PP** **08 33 59.2 +1.0**
CD2 SKKS 08 40 58.0
CD2 SS **SS** **08 49 59.2 -1.3**
CD2 AMB AMB
comp=Z,2µm,10.0s
CD2 LR LR
comp=Z,17µm,24.5s
CD2 LR LR
comp=Z,20µm,21.6s
CD2 LR LR
comp=Z,27µm,22.1s
VNA3 Neumayer Olymp 116.55 159 PKPdf **PKiKP** **08 32 56.1 +1.3**
GZH Guangzhou 116.75 316 *e*PKP **PKiKP** **08 32 56.8 +0.1**
GZH PP **PP** **08 34 02.8 -0.9**
GZH SS SS 08 50 03.7 -7.2
GZH LR LR
comp=Z,7µm,18.0s
GZH LR LR
comp=Z,8µm,19.5s
FAKI Fak Fak 116.85 280 IAMs_20 IAMs_20 09 14 25.3
comp=Z,43µm,20.0s
VNA1 Neumayer--Stat 117.02 158 PKPdf **PKiKP** **08 33 00.4 +4.7**
VNA2 Neumayer--Watz 117.30 159 PKPdf **PKiKP** **08 32 57.3 +1.1**
DAV Davao City (W) 117.75 293 IAMs_20 IAMs_20 09 11 34.9
comp=Z,31µm,22.0s
GYA Guiyang 118.14 323 ⇑PKP **PKiKP** **08 32 59.5 0.0**
GYA PP **PP** **08 34 14.5 +1.2**
GYA SKS **SKSdf** **08 40 04.3 -8.6**
GYA SS **SS** **08 50 28.7 -0.1**
GYA LR LR
comp=Z,9µm,21.0s
GYA LR LR
comp=Z,16µm,19.8s
GYA LR LR
comp=Z,16µm,24.5s
STKA Stephens Creek 118.17 246 PKP **PKPdf** **08 32 57.8 -1.3**
comp=Z,2.7nm,1.1s,baz=169,slow=3.5,SNR=3.4
SNAA Sanae 118.70 160 PKPdf **PKiKP** **08 32 59.7 +0.6**
SNAA Sanae 118.70 160 IAMs_20 IAMs_20 09 15 21.1
comp=Z,6µm,20.0s
TNTI Ternate 119.45 286 IAMs_20 IAMs_20 09 12 58.2
comp=Z,20µm,22.0s
SAUI Saumlaki 119.86 275 IAMs_20 IAMs_20 09 18 31.0
comp=Z,23µm,20.0s
KMI Kunming 121.29 326 PKP **PKiKP** **08 33 10.0 +4.2**
KMI PP **PP** **08 34 35.5 +0.4**
KMI PKS **PKSdf** **08 36 41.8 -0.9**
KMI SKS **SKSdf** **08 40 16.4 -2.8**
KMI SKKS **SKKSac** **08 41 34.6 -2.7**
KMI Kunming 121.29 326 SS SS 08 51 06.8 -2.7
KMI AMB AMB
comp=Z,440nm,6.0s
KMI LR LR
comp=N,11µm,18.4s
KMI LR LR
comp=E,12µm,20.2s
KMI LR LR
comp=Z,14µm,19.3s
WRAB Tennant Creek 121.33 261 PKIKP **PKiKP** **08 33 04.4 -1.2**
WRAB MLR MLR
comp=Z,29µm,18.0s
WRAB Tennant Creek 121.33 261 PKPdf **PKiKP** **08 33 04.4 -1.2**
WB2 Warramunga Arr 121.33 261 PKPdf **PKiKP** **08 33 04.5 -1.2**
WRA Warramunga Arr 121.34 261 PKP **PKPdf** **08 33 03.9 -1.7**
comp=Z,1.9nm,0.6s,baz=82,slow=1.7,SNR=18
WRA PP **PP** **08 34 41.8 +5.1**
comp=Z,4.9nm,1.1s,baz=78,slow=6.2,SNR=8.3
WRA PKKPbc **PKKPab** **08 43 06.4 -0.5**
comp=Z,2.8nm,1.1s,baz=268,slow=2.3,SNR=4.9
QIZ Qiongzhong 121.93 315 PKP **PKiKP** **08 33 06.8 -0.1**
QIZ PP **PP** **08 34 40.9 +1.4**
QIZ Qiongzhong 121.93 315 Pdif **Pdif** **08 29 33.2 -1.7**
QIZ PKP **PKiKP** **08 33 05.7 -1.2**
QIZ PP **PP** **08 34 40.8 +1.3**
QIZ SS SS 08 51 15.3 -2.6
QIZ AMB AMB
comp=Z,980nm,4.7s
QIZ LR LR
comp=Z,12µm,19.2s
QIZ LR LR
comp=Z,12µm,20.0s
QIZ LR LR
comp=Z,12µm,17.6s
QIZ Qiongzhong 121.93 315 IAMs_20 IAMs_20 09 37 14.2
comp=Z,14µm,19.0s
LSA Lhasa 122.17 339 PKP **PKiKP** **08 33 08.3 +0.5**
LSA PP PP 08 34 32.8 -8.2
LSA LR LR
comp=N,11µm,16.4s
LSA LR LR
comp=E,7µm,12.8s
LSA LR LR
comp=Z,6µm,17.1s
LSA Lhasa 122.17 339 PKP **PKiKP** **08 33 08.2 +0.5**
LSA LR LR
comp=Z,11µm,16.4s
LSA LR LR
comp=Z,7µm,12.8s
LSA LR LR
comp=Z,6µm,17.1s
LSA Lhasa 122.17 339 IAMs_20 IAMs_20 09 27 56.6
comp=Z,16µm,22.0s
ASAR Alice Springs 122.78 257 PKP **PKPdf** **08 33 06.3 -1.9**
comp=Z,1.3nm,0.7s,baz=82,slow=2.2,SNR=10
ASAR PKKPbc **PKKPbc** **08 42 59.8 -0.8**
comp=Z,2.3nm,0.7s,baz=252,slow=3.4,SNR=14
DHRM DHARAMSHALA 122.84 354 *e*P **PKiKP** **08 33 10.7 +2.0**
SLVN Son La 123.73 322 IAMs_20 IAMs_20 09 32 32.1
comp=Z,13µm,21.0s
SMLA Simla 123.86 353 *e*P **PKiKP** **08 33 09.7 -0.7**
SMLA *i* x x 08 34 56.0
DDI Dehra Dun 124.56 352 *e*P **PKiKP** **08 33 12.9 +1.0**
DDI *i* x x 08 34 53.0
TOLI2 Tolitoli 124.96 290 IAMs_20 IAMs_20 09 16 43.0
comp=Z,13µm,22.0s
SHL Shillong 125.70 336 *e*P **PKiKP** **08 33 13.5 -1.0**
SHL *i* x x 08 35 11.0
SOEI Soe 126.92 277 IAMs_20 IAMs_20 09 23 08.2
comp=Z,22µm,22.0s
SKNT Sakolnakorn 127.11 319 PKP PKiKP 08 33 26.2 +9.0
MMRI Maumere 128.28 279 IAMs_20 IAMs_20 09 19 01.4
comp=Z,10µm,22.0s
UOSS Minazif 128.46 17 IAMs_20 IAMs_20 09 36 46.9
comp=Z,15µm,19.0s
CHTO Chiang Mai 128.46 325 IAMs_20 IAMs_20 09 38 43.3
comp=Z,16µm,19.0s
CMAR Chiang Mai Arr 128.76 325 PKP **PKiKP** **08 33 19.0 -1.5**
comp=Z,0.6nm,0.3s,baz=352,slow=1.9,SNR=1.2
CM13 Chiang Mai Arr 128.81 325 PKP PKiKP 08 33 29.3 +8.7
BOK Bokaro 129.31 342 *e*P **PKPdf** **08 33 19.0 -1.8**
BOK *i* x x 08 35 35.0
BKB Balikpapan 129.50 290 IAMs_20 IAMs_20 09 21 42.1
comp=Z,12µm,21.0s
BHPL Bhopal 131.62 352 *e*P **PKiKP** **08 33 26.9 +0.7**
BHPL *i* x x 08 35 40.6
CASY Casey 131.72 200 IAMs_20 IAMs_20 09 21 59.2
comp=Z,18µm,19.0s
BHUJ Bhuj 132.05 1 *e*P **PKiKP** **08 33 27.7 +0.7**
BHUJ *i* x x 08 35 47.1
SYO Syowa Base 132.22 165⇑*e*Pdiff **Pdif** **08 30 15.4 -4.0**
SYO Syowa Base 132.22 165⇓*e*pPdiff **Pdif** **08 30 17.0 -2.4**
FURI Furi 134.16 47 IAMs_20 IAMs_20 09 39 38.1
comp=Z,16µm,18.0s
MBAR Mbarara 134.51 64 IAMs_20 IAMs_20 09 31 34.7
comp=Z,22µm,22.0s
JAGI Jajag, Banyuwa 135.41 284 IAMs_20 IAMs_20 09 27 51.1
comp=Z,12µm,22.0s
SUR Sutherland 136.02 111 IAMs_20 IAMs_20 09 28 38.5
comp=Z,12µm,22.0s
POO Poona 136.64 356 *e*P **PKiKP** **08 33 35.3 -1.2**
POO IAmb IAmb 08 33 53.2
comp=Z,26nm,1.3s

POO Poona 136.64 356 *ex* x 08 33 45.0
MAW Mawson 137.09 176 PKP **PKPdf** **08 33 30.7 -3.2**
comp=Z,3.7nm,0.8s,baz=194,slow=3.9,SNR=5.0
HYB Hyderabad 137.16 349 *e*P **PKPdf** **08 33 35.2 -0.5**
HYB *i* x x 08 36 17.1
SMRI Semarang 137.97 288 IAMs_20 IAMs_20 09 28 31.1
comp=Z,9µm,21.0s
UGM Wanagama 138.32 287 IAMs_20 IAMs_20 09 29 53.3
comp=Z,6µm,22.0s
NWAO Narrogin (SRO) 138.70 248 IAMs_20 IAMs_20 09 27 53.3
comp=Z,39µm,20.0s
BOSA Boshof 139.54 105 PKhKP PKPpre 08 33 34.8
comp=Z,1.9nm,0.8s,baz=297,slow=2.3,SNR=1.7
GOA Goa 139.66 355 *e*P **PKiKP** **08 33 46.4 +3.8**
GOA IAmb IAmb 08 33 59.1
comp=Z,26nm,1.0s
SOCY Socotra 139.67 26 IAMs_20 IAMs_20 09 47 32.2
comp=Z,12µm,18.0s
KMBO Kilima Mbogo 140.02 59 PKP **PKPdf** **08 33 40.4 -0.9**
comp=Z,3.2nm,0.9s,baz=11,slow=5.6,SNR=6.9
LHMI Lhok Sumawe 140.53 316 IAMs_20 IAMs_20 09 42 52.2
comp=Z,12µm,20.0s
MDRS Chennai 141.03 345 *e*P **PKiKP** **08 33 44.0 -1.5**
MDRS *i* x x 08 36 41.1
RPSI Rantau Prapat 141.12 311 IAMs_20 IAMs_20 09 50 28.9
comp=Z,12µm,19.0s
GSI Gunungsitoli 143.05 311 IAMs_20 IAMs_20 09 51 11.0
comp=Z,15µm,21.0s
TRD Trivandrum 146.15 349 *e*P **PKPab** **08 33 52.0 -1.3**
PALK Pallekele 146.47 342 IAMs_20 IAMs_20 09 47 30.8
comp=Z,18µm,21.0s
MNCY Minicoy 146.88 356 *e*P **PKiKP** **08 34 02.7 +5.3**
CRZF Crozet Islands 153.86 150 IAMs_20 IAMs_20 09 35 23.5
comp=Z,9µm,22.0s

*IDC **13** 08:16:42.5±1.5,24.°65N×109.°23W,h0km,mb4.5/6, mb1 4.7/8,mb1mx4.2/60,mbtmp4.4/8,ML3.9/2 Error ellipse: s-maj=37.6km s-min=12.0km az=141.0*
ISC 13 08:16:44.0±1.3,24.°7N±0.°2×109.°3W±0.°2,h10km,n11, σ0s82/11,mb4.5/6,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.08**	**240**	Pg		**Pb**		**08 17 04.3**	**-0.5**
	403nm,0.3s,baz=83,slow=22,SNR=2.9								
LPIG				Lg		Lg	Lg	08 17 18.7	
	482nm,0.3s,baz=226,slow=6.9,SNR=3.8								
TXAR	**Lajitas Array**	**6.84**	**46**	Pn		**Pn**		**08 18 23.6**	**-1.0**
	baz=215,slow=24,SNR=4.4								
NVAR	**Mina Array Bea**	**15.72**	**333**	Pn		**P**		**08 20 30.6**	**+0.7**
	0.1nm,0.3s,baz=160,slow=13,SNR=3.7								
PDAR	**Pinedale Array**	**18.07**	**359**	P		**P**		**08 20 55.9**	**0.0**
	0.1nm,0.3s,baz=176,slow=13,SNR=0.9								
NEW	**Newport**	**24.37**	**347**	P		**P**		**08 22 02.0**	**-0.3**
	20nm,0.9s,baz=173,slow=10,SNR=3.0								
YKA	**Yellowknife Ar**	**38.00**	**356**	P		**P**		**08 24 01.1**	**-0.8**
	9.3nm,0.9s,baz=171,slow=8.3,SNR=4.5								
ILAR	**Eielson Array**	**46.86**	**339**	P		**P**		**08 25 14.7**	**+0.6**
	11nm,1.0s,baz=145,slow=7.8,SNR=4.1								
ARCES	**ARCESS Array B**	**80.63**	**15**	P		**P**		**08 28 56.3**	**-0.4**
	4.2nm,1.0s,baz=308,slow=4.4,SNR=2.5								
ESDC	**Sonseca Array**	**85.51**	**48**	P		**P**		**08 29 24.1**	**+1.6**
	1.5nm,1.1s,baz=316,slow=5.4,SNR=1.8								
FINES	**FINESS Array B**	**86.98**	**20**	P		**P**		**08 29 29.2**	**-0.1**
	1.5nm,0.7s,baz=318,slow=3.7,SNR=1.6								
WRA	**Warramunga Arr**	**121.39**	**261**	PKP		**PKiKP**		**08 35 38.6**	**+0.1**
	0.5nm,0.7s,baz=97,slow=2.0,SNR=1.1								

*IDC **13** 08:19:08.6±1.1,24.°86N×109.°47W,h0km,mb4.3/5, mb1 4.6/8,mb1mx4.1/61,mbtmp4.3/8,ML4.6/1,Error ellipse: s-maj=26.9km s-min=10.0km az=127.0*
ISC 13 08:19:09.8±0.9,24.°8N±0.°1×109.°4W±0.°1,h10km,n10, σ1s75/11,mb4.3/5,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.11**	**231**	Pg		**Pg**		**08 19 29.2**	**-1.9**
	532nm,0.3s,baz=355,slow=0.7,SNR=8.4								
LPIG				Lg		Lg	Lg	08 19 42.8	
	647nm,0.3s,baz=111,slow=2.9,SNR=7.8								
TXAR	**Lajitas Array**	**6.79**	**47**	Pn		**Pn**		**08 20 49.5**	**-0.2**
	baz=233,slow=14,SNR=0.8								
TXAR				Sn		Sn		**08 22 04.4**	**-2.8**
	4.1nm,0.3s,baz=300,slow=30,SNR=7.2								
TXAR				Lg		Lg		08 22 40.7	
	3.5nm,0.3s,baz=315,slow=18,SNR=3.0								
NVAR	**Mina Array Bea**	**15.55**	**333**	Pn		**Pn**		**08 22 50.9**	**+1.5**
	0.1nm,0.3s,baz=137,slow=12,SNR=3.8								
PDAR	**Pinedale Array**	**17.91**	**360**	P		**P**		**08 23 20.1**	**+0.2**
	0.2nm,0.3s,baz=173,slow=9.6,SNR=4.6								
NEW	**Newport**	**24.20**	**347**	P		**P**		**08 24 26.2**	**-0.3**
	8.2nm,0.7s,baz=147,slow=10,SNR=7.2								
DLBC	**Dease Lake**	**36.66**	**342**	P		**P**		**08 26 17.4**	**+0.8**
	5.4nm,0.9s,baz=150,slow=10.0,SNR=3.5								
ILAR	**Eielson Array**	**46.69**	**339**	P		**P**		**08 27 38.8**	**+0.2**
	1.7nm,0.8s,baz=150,slow=6.5,SNR=5.1								
PLCA	**Paso Flores**	**74.53**	**150**	P		**P**		**08 30 51.6**	**+2.9**
	4.4nm,1.0s,baz=336,slow=6.9,SNR=3.3								
ARCES	**ARCESS Array B**	**80.50**	**15**	P		**P**		**08 31 21.2**	**-0.6**
	1.6nm,0.7s,baz=320,slow=4.0,SNR=2.4								
WRA	**Warramunga Arr**	**121.34**	**261**	PKP		**PKdf**		**08 38 02.8**	**-1.2**
	0.3nm,0.6s,baz=63,slow=3.2,SNR=1.5								

IDC 13 08:27:09.5±13.0,29.°22S×178.°49W,h152km±92km, mb3.4/3,mb1 3.7/4,mb1mx3.3/41,mbtmp3.9/4,Error ellipse: s-maj=123.4km s-min=27.7km az=42.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**9.73**	**201**	P		P	Pn	08 29 26.1	+0.2
	0.7nm,0.3s,baz=18,slow=16,SNR=1.3								
URZ				S		S	Sn	08 31 00.5	-13
	1.9nm,0.3s,baz=38,slow=20,SNR=9.4								
ASAR	**Alice Springs**	**42.76**	**266**	P		P	P	08 34 52.5	+0.3
	1.1nm,0.5s,baz=101,slow=7.9,SNR=7.0								
WRA	**Warramunga Arr**	**43.63**	**271**	P		P	P	08 34 58.8	-0.5
	1.1nm,0.5s,baz=107,slow=8.0,SNR=23								
QSPA	**South Pole Qui**	**60.89**	**180**	P		P	P	08 37 05.7	-0.2
	0.5nm,0.5s,baz=20,slow=12								
FINES	**FINESS Array B**	**143.89**	**340**	PKP		PKPdf	P	08 46 26.5	+0.4
	2.7nm,0.5s,baz=39,slow=2.7,SNR=34								

*IDC **13** 08:27:10.8±0.4,24.°98N×109.°69W,h0km,mb4.7/33, mb1 4.8/40,mb1mx4.8/54,mbtmp4.7/40,ML4.1/6,MS5.7/2, Ms1 5.7/2,ms1mx5.0/48,Error ellipse: s-maj=11.3km s-min=8.1km az=91.0*
*MOS **13** 08:27:11.6±1.3,25.°17N×109.°51W,h5km,mb5.5/19,Error ellipse: s-maj=7.9km s-min=5.3km az=91.9*
*NEIC **13** 08:27:12.4±1.9,24.°95N±0.°04×109.°71W±0.°04,h10km±1km, mb5.2/189,Md5.3/15(MEX),Error ellipse: s-maj=7.2km s-min=6.0km az=131.0*
*MEX **13** 08:27:13.1±1.4,24.°90N×109.°42W,h28km±33km,MD5.3*
*BGR **13** 08:27:22.0±0.0,26.°10N×109.°37W,h10km,mb5.4, mB_BB6.0,Ms6.4*
ISC 13 08:27:13.6±0.3,25.°04N±0.°04×109.°64W±0.°04,h17km, n684,σ1s60/638,mb5.1/116,8C-10D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.78**	**44**	*i* P		**Pb**		**08 27 25.1**	**-3.7**
TSIG				*i* S		**Sb**		**08 27 35.6**	**-3.5**
LPIG	**La Paz**	**1.11**	**213**	Pg		**Pn**		**08 27 30.7**	**-3.7**
	615nm,0.3s,baz=17,slow=3.4,SNR=447								
LPIG				Lg		Lg		08 27 44.8	
	759nm,0.3s,baz=162,slow=20,SNR=6.7								
LPIG	**La Paz**	**1.11**	**213**	*i* P		**Pn**		**08 27 30.8**	**-3.6**
LPIG				*i* S		**Sb**		**08 27 44.7**	**-3.8**
LPIG	**La Paz**	**1.11**	**213**			**Pn**		**08 27 30.8**	**-3.6**
LPIG						**Sb**		**08 27 44.7**	**-3.8**
SLBS	**Sierra La Lagu**	**1.37**	**192**	Pn		**Pn**		**08 27 34.4**	**-3.7**
SLBS				Sn		**Sn**		**08 27 51.2**	**-4.7**
CSIG	**Choix**	**2.12**	**32**	*e*P		**Pn**		**08 27 45.0**	**-3.3**
SSIG	**Sanalona**	**2.28**	**95**	*e*P		Pn		08 27 44.2	-6.3
SSIG				⇑*e*P		Pb		08 27 46.8	-7.6
SSIG				*i* S		Sn		08 28 08.5	-10
GUYB	**Guaymas**	**3.06**	**339**	*e*P		**Pn**		**08 27 57.4**	**-3.8**
SRIG	**Santa Rosalia**	**3.26**	**315**	*e*P		**Pn**		**08 28 01.9**	**-2.0**
SRIG	**Santa Rosalia**	**3.26**	**315**	Pn		**Pn**		**08 28 03.0**	**-1.0**
MAIG	**Mazatlaan**	**3.47**	**121**	*e*P		**Pn**		**08 28 06.7**	**-0.1**

MAIG Mazatlaan 3.47 121 *e*P **Pn** **08 28 06.7 -0.1**
PDIG Papasquiaro 3.85 89 *e*P **Pn** **08 28 11.8 -0.5**
HPIG 4.05 61 *e*P **Pn** **08 28 12.9 -2.1**
HPIG 4.05 61 Pn **Pn** **08 28 13.3 -1.7**
HSIG 4.13 344 Pn **Pn** **08 28 13.6 -2.4**
NZIG Nacozari, Sono 5.32 1 *e*P **Pn** **08 28 32.0 -0.4**
CGIG 5.51 15 *e*P **Pn** **08 28 34.6 -0.5**
CGIG 5.51 15 **Pn** **08 28 34.6 -0.5**
319A Douglas 6.32 3 **Pn** **08 28 45.5 -0.7**
TX31 Lajitas Ar. Si 6.83 50 **Pn** **08 28 50.8 -2.3**
TX32 Lajitas Array 6.83 50 **Pn** **08 28 50.9 -2.2**
TXAR Lajitas Array 6.83 50 Pn **Pn** **08 28 50.4 -2.7**
4.5nm,0.3s,baz=223,slow=14,SNR=124
TXAR Pg **Pb** **08 29 14.9 +3.0**
4.5nm,0.3s,baz=224,slow=13,SNR=22
TXAR Sn **Sn** **08 30 07.5 -3.0**
7.6nm,0.3s,baz=266,slow=40,SNR=1.1
TXAR Lg Lg 08 30 44.8
9.8nm,0.3s,baz=217,slow=25,SNR=3.0
TXAR Lajitas Array 6.83 50 P **Pn** **08 28 50.6 -2.5**
TXAR Lajitas Array 6.83 50 Pn **Pn** **08 28 50.6 -2.5**
ZAIG Zacatecas 6.86 108 *e*P **Pn** **08 28 53.3 -0.4**
ZAIG Zacatecas 6.86 108 **Pn** **08 28 53.9 +0.2**
TUC Tucson 7.32 352 P **Pn** **08 28 58.3 -1.5**
TUC Tucson 7.32 352 **Pn** **08 28 58.3 -1.5**
TUC Tucson 7.32 352 P **Pn** **08 28 58.7 -1.0**
baz=171
214A Organ Pipe Nat 7.43 339 Pn **Pn** **08 29 01.5 +0.1**
214A Organ Pipe Nat 7.43 339 P **Pn** **08 29 01.3 -0.1**
baz=156
SFX San Felipe 7.54 324 Pn **Pn** **08 29 05.4 +2.6**
MNTX Cornudas Mount 7.62 29 **Pn** **08 29 02.3 -1.6**
MNTX Cornudas Mount 7.62 29 P **Pn** **08 29 02.5 -1.5**
baz=210
121A Cookes Peak, D 7.64 12 Pn **Pn** **08 29 02.7 -1.7**
121A Cookes Peak, D 7.64 12 P **Pn** **08 29 03.2 -1.2**
baz=192,SNR=12
R15V 7.85 137‖ *i*P **Pn** **08 29 10.2 +3.1**
EZ5V 7.87 133⇑ *i*P Pn 08 29 12.1 +4.5
COIG Colima 8.03 135⇑ *i*P **Pn** **08 29 13.2 +3.6**
113A Mohawk Valley, 8.51 336 Pn **Pn** **08 29 16.4 +0.4**
GLA Glamis 9.18 332 P **Pn** **08 29 26.0 +0.6**
GLA Glamis 9.18 332 **Pn** **08 29 26.0 +0.6**
GLA Glamis 9.18 332 P **Pn** **08 29 26.5 +1.1**
baz=148
CCX Cicese 9.19 319 **Pn** **08 29 27.1 +1.7**
Y22D IRIS PASSCAL I 9.31 14 Pn **Pn** **08 29 27.9 +0.7**
Y22D IRIS PASSCAL I 9.31 14 P **Pn** **08 29 26.5 -0.8**
baz=195
Y14A Wickenburg 9.34 343 **Pn** **08 29 28.1 +0.6**
LENM Lemitar 9.39 14 **Pn** **08 29 24.8 -3.6**
RMX La Rumorosa 9.41 325 **Pn** **08 29 29.6 +1.0**
BNM Barren Site 9.45 15 Pn **Pn** **08 29 28.9 -0.4**
X18A Snowflake 9.46 358 Pn **Pn** **08 29 29.4 +0.1**
IKP In-Ko-Pah, Jac 9.47 325 P **Pn** **08 29 31.6 +2.3**
baz=141,SNR=15
X16A Lo Mia Camp, P 9.48 351 **Pn** **08 29 29.5 0.0**
CBX Cerro Bola 9.51 321 **Pn** **08 29 30.7 +0.7**
SWSC Sam W. Stewart 9.54 327 P **Pn** **08 29 32.5 +2.2**
baz=143
TKX Tecate 9.67 322 **Pn** **08 29 33.0 +0.9**
833A Chaparral WMA, 9.73 68 P **Pn** **08 29 32.1 -0.7**
baz=253
BAR Barrett 9.79 323 Pn **Pn** **08 29 35.9 +2.2**
MONP2 Monument Peak 9.82 324 P **Pn** **08 29 36.4 +2.1**
baz=140,SNR=8.4
BC3 Big Chuckawall 9.97 331 P **Pn** **08 29 39.2 +3.0**
baz=147,SNR=6.2
PDMCI Parker Dam,Lak 10.03 338 P **Pn** **08 29 37.8 +1.0**
baz=155
W18A Petrified Fore 10.05 360 P **Pn** **08 29 38.1 +0.7**
baz=179,SNR=6.6
109C Camp Elliot, M 10.19 322 **Pn** **08 29 40.9 +1.8**
109C Camp Elliot, M 10.19 322 P **Pn** **08 29 40.7 +1.6**
baz=138
ANMO Albuquerque 10.25 15 Pn **Pn** **08 29 40.9 +0.8**
0.4nm,0.3s,baz=200,slow=12,SNR=15
ANMO Sn **Sn** **08 31 33.4 -1.5**
0.3nm,0.3s,baz=19,slow=21,SNR=1.2
ANMO Lg Lg 08 32 34.2
0.3nm,0.3s,baz=241,slow=19,SNR=2.6
ANMO Albuquerque 10.25 15 *i*P **Pn** **08 29 41.0 +0.8**
ANMO Albuquerque 10.25 15 Pn **Pn** **08 29 40.8 +0.6**
ANMO Albuquerque 10.25 15 P **Pn** **08 29 41.1 +0.9**
baz=196
JCT Junction City 10.26 56 P **Pn** **08 29 40.6 +0.4**
JCT Junction City 10.26 56 Pn **Pn** **08 29 40.6 +0.4**
JCT Junction City 10.26 56 P **Pn** **08 29 39.5 -0.6**
baz=241
IRM Iron Mountain 10.27 334 P **Pn** **08 29 42.2 +1.9**
baz=150
TPFO Pinon Flats 10.40 327 P **Pn** **08 29 44.3 +2.2**
baz=143,SNR=5.6
PFO Pinyon Flats O 10.41 327 Pn **Pn** **08 29 45.4 +3.2**
0.5nm,0.3s,baz=150,slow=11,SNR=21
PFO Pinyon Flats O 10.41 327*ce*P **Pn** **08 29 46.2 +4.0**
PFO Pinyon Flats O 10.41 327 Pn **Pn** **08 29 41.9 -0.3**
PFO Pinyon Flats O 10.41 327 P **Pn** **08 29 44.3 +2.1**
baz=143,SNR=7.2
BELC Belle Mtn. Jos 10.51 330 P **Pn** **08 29 46.1 +2.6**
baz=146
WUAZ Wupatki 10.55 352 Pn **Pn** **08 29 44.0 -0.3**
NEE2 Needles Airpor 10.61 337 P **Pn** **08 29 47.0 +2.1**
baz=154,SNR=8.9
W13A Hualapai Mount 10.68 341 Pn **Pn** **08 29 46.1 +0.1**
MSTX Muleshoe 10.72 32 Pn **Pn** **08 29 46.0 -0.5**
MSTX Muleshoe 10.72 32 P **Pn** **08 29 46.0 -0.5**
baz=216
MURC Murrieta 10.78 324 P **Pn** **08 29 49.7 +2.5**
baz=140
SCI2 San Clemente I 11.10 318 P **Pn** **08 29 54.1 +2.5**
baz=132
BBRC Big Bear Solar 11.16 327 P **Pn** **08 29 56.6 +4.0**
baz=143
UNM Universidad Na 11.23 118 P **Pn** **08 29 56.0 +2.3**
UNM Universidad Na 11.23 118 Pn **Pn** **08 29 56.0 +2.3**
CIS Catalina Islan 11.32 319 P **Pn** **08 29 57.4 +2.9**
baz=134
HEC Hector,Ludlow 11.35 331 P **Pn** **08 29 57.4 +2.3**
baz=147
ABTX Abilene, Hawle 11.57 47 Pn **Pn** **08 29 56.6 -1.5**
ABTX Abilene, Hawle 11.57 47 P **Pn** **08 29 57.3 -0.8**
baz=232
RRX Edison Barstow 11.69 329 P **Pn** **08 30 02.8 +3.1**
baz=144,SNR=7.0
TUQ Turquoise Moun 11.70 334 P **Pn** **08 30 03.5 +3.7**
baz=150,SNR=6.9
MWC Mount Wilson 11.71 323 P **Pn** **08 29 58.0 -2.2**
MWC Mount Wilson 11.71 323 **Pn** **08 29 58.0 -2.2**
PASC Pasadena Art C 11.74 323 **Pn** **08 29 58.3 -2.2**
DECC Green Verdugo 11.89 323 P **Pn** **08 30 04.9 +2.5**
baz=138
GSC Goldstone, Bar 11.96 331 P **Pn** **08 30 06.8 +3.4**
GSC Goldstone, Bar 11.96 331 Pn **Pn** **08 30 06.8 +3.4**
GSC Goldstone, Bar 11.96 331 P **Pn** **08 30 07.2 +3.8**
baz=146,SNR=6.4
AMTX Amarillo 11.99 33 Pn **Pn** **08 30 01.6 -2.3**
AMTX Amarillo 11.99 33 P **Pn** **08 30 03.4 -0.5**
baz=217
435B Jarrell 12.10 59 Pn **Pn** **08 30 04.9 -0.4**
435B Jarrell 12.10 59 P **Pn** **08 30 05.0 -0.4**
baz=245
MVCO Mesa Verde 12.18 4 P **Pn** **08 30 07.5 +1.0**
baz=185
EDW2 Edwards Air Fo 12.19 326 P **Pn** **08 30 09.3 +2.8**
baz=141
SHOC Shoshone, Teco 12.24 334 P **Pn** **08 30 09.4 +2.2**
baz=150,SNR=7.3
OSI Osito Audit: C 12.37 323 **Pn** **08 30 10.2 +1.2**
OSI Osito Audit: C 12.37 323 P **Pn** **08 30 11.6 +2.6**
baz=138,SNR=8.3
LRMC Laurel Mtn Rad 12.51 328 P **Pn** **08 30 14.1 +3.1**
baz=144,SNR=10
WHTX Lake Whitney, 12.76 54 P **Pn** **08 30 13.8 -0.4**
baz=240
ARVC Arvin 12.81 324 P **Pn** **08 30 17.5 +2.5**
baz=139,SNR=17
T25A Trinidad 12.87 19 Pn **Pn** **08 30 16.4 +0.4**
T25A Trinidad 12.87 19 P **Pn** **08 30 17.4 +1.5**
baz=202
MPMC Manual Prospec 12.89 330 P **Pn** **08 30 18.9 +2.6**
baz=146
S22A 4UR Ranch, Cre 12.89 10 P **Pn** **08 30 18.3 +1.9**
baz=191
FURC Furnace Creek, 12.97 333 P **Pn** **08 30 19.8 +2.7**

baz=149
ISA Isabella, Lake 13.04 326 P Pn 08 30 20.1 +1.9
ISA Isabella, Lake 13.04 326 Pn Pn 08 30 20.1 +1.9
ISA Isabella, Lake 13.04 326 P Pn 08 30 20.3 +2.1
baz=141,SNR=8.1
TPNV Topopah Spring 13.15 336 P Pn 08 30 23.9 +4.2
baz=152
SDCO Great Sand Dun 13.15 15 Pn Pn 08 30 20.2 +0.3
SDCO Great Sand Dun 13.15 15 P Pn 08 30 20.3 +0.4
baz=196
PKM Mcpherson Peak 13.19 320 P Pn 08 30 22.7 +2.4
baz=135,SNR=7.8
PV03 Paradox Valley 13.20 3 Pn Pn 08 30 21.9 +1.5
HKT Hockley 13.20 65 *i* P Pn 08 30 19.9 -0.3
PV14 Lion Creek, Pa 13.31 2 Pn Pn 08 30 22.1 +0.2
CWC Cottonwood Cre 13.48 329 P Pn 08 30 27.7 +3.5
baz=145
WMOK Wichita Mounta 13.49 42 P Pn 08 30 23.0 -1.3
WMOK Wichita Mounta 13.49 42 Pn Pn 08 30 23.0 -1.3
WMOK Wichita Mounta 13.49 42 P Pn 08 30 22.5 -1.8
baz=227
VES Vestal, Richgr 13.49 325 P Pn 08 30 26.6 +2.4
baz=140,SNR=10.0
SMMC Simmler 13.59 321 P Pn 08 30 28.4 +2.7
baz=136
GRAC Grapevine Rang 13.63 333 P Pn 08 30 29.7 +3.5
baz=148
VOG Valley Oaks Go 14.02 326 P Pn 08 30 33.6 +2.2
baz=140
LOOK Love County 14.04 48 Pn Pn 08 30 30.5 -1.3
TIN Tinemaha, Big 14.05 331 P Pn 08 30 34.6 +2.6
baz=146,SNR=13
R11A Troy Canyon, C 14.20 341 P Pn 08 30 36.7 +2.6
baz=157
Q24A Divide 14.40 14 P Pn 08 30 36.2 -0.7
baz=196
TPH Tonopah 14.51 335 P Pn 08 30 42.0 +3.7
TPH Tonopah 14.51 335 Pn Pn 08 30 42.0 +3.7
NATX Nacogdoches 14.78 60 P Pn 08 30 40.8 -1.1
baz=247
MLAC Mammoth, Mammo 14.80 330 P Pn 08 30 44.8 +2.4
baz=145,SNR=8.1
MDPB Devils Postpil 14.91 330 P 08 30 47.3 -2.2
O20A White River Ci 15.10 4 P Pn 08 30 47.7 +1.3
baz=185
ISCO Idaho Springs 15.11 12 P Pn 08 30 45.9 -0.6
ISCO pmax pmax
comp=Z,37nm,1.1s
ISCO Idaho Springs 15.11 12 Pn 08 30 45.9 -0.6
ISCO Idaho Springs 15.11 12 P Pn 08 30 45.7 -0.9
baz=194
KSCO Kaye Shedlock' 15.14 21 P Pn 08 30 47.0 +0.2
baz=205
NVAR Mina Array Bea 15.24 333 Pn Pn 08 30 51.0 +2.8
comp=Z,0.4nm,0.3s,baz=158,slow=13,SNR=49
DUG Dugway, Tooele 15.35 351 P P 08 30 53.1 -1.1
baz=169,SNR=6.5
KAN14 Manchester OK 15.52 37 Pn Pn 08 30 51.3 -0.5
KAN14 IAmb IAmb 08 30 58.5
comp=Z,222nm,1.1s
QUOK Quay 15.71 42 Pn Pn 08 30 54.0 -0.1
CMB Columbia Colle 15.85 327 P Pn 08 30 57.3 +1.3
CMB pmax pmax
comp=Z,22nm,1.2s
CMB Columbia Colle 15.85 327 Pn Pn 08 30 57.3 +1.3
CMIG Matias Romero 15.87 117 Pn P 08 30 57.3 -2.7
baz=310,slow=11,SNR=5.5
CBKS Cedar Bluff 16.09 29 P Pn 08 30 58.3 -0.8
CBKS pmax pmax
comp=Z,223nm,1.0s
CBKS Cedar Bluff 16.09 29 Pn Pn 08 30 58.3 -0.8
CBKS IAmb IAmb 08 31 10.5
comp=Z,223nm,0.9s
CBKS Cedar Bluff 16.09 29 P Pn 08 30 58.7 -0.4
baz=214,SNR=9.4
N23A Red Feather La 16.11 10 P Pn 08 30 59.7 +0.1
baz=192
T35A Sooner Cattle 16.32 40 Pn 08 31 01.0 -1.0
T35A IAmb IAmb 08 31 11.7
comp=Z,211nm,1.2s
ELK Elko 16.35 345 Pn P 08 31 05.8 +0.4
comp=Z,0.3nm,0.3s,baz=180,slow=9.0,SNR=11
VCNR Virginia City 16.53 332 Pn 08 31 06.0 +1.1
WLAR White Oak Lake 16.78 55 Pn 08 31 07.0 -0.8
WLAR IAmb IAmb 08 31 11.7
comp=Z,265nm,1.1s
Z41A Richland Creek 16.82 57 P Pn 08 31 07.9 -0.4
baz=245
MIAR Mount Ida 16.84 52 P Pn 08 31 08.9 +0.3
MIAR pmax pmax
comp=Z,78nm,1.0s
MIAR Mount Ida 16.84 52 Pn 08 31 08.9 +0.3
MIAR Mount Ida 16.84 52 P Pn 08 31 08.7 +0.1
baz=240
W39A Magazine 17.03 50 P Pn 08 31 11.2 +0.2
baz=238
OGNE Ogallala 17.09 20 P P 08 31 12.6 -0.9
baz=204
BEKR Beckworth 17.31 331 P 08 31 17.6 +1.5
U38A Gravette 17.33 45 P Pn 08 31 13.9 -0.9
X40A Basin Creek Fa 17.35 53 P P 08 31 15.2 -1.1
baz=242
BW06 Boulder Array 17.69 0 P P 08 31 20.3 0.0
BW06 Boulder Array 17.69 0 P P 08 31 20.2 0.0
baz=180
PDAR Pinedale Array 17.69 0 P P 08 31 20.5 +0.3
comp=Z,0.5nm,0.3s,baz=168,slow=9.3,SNR=46
PDAR Pinedale Array 17.69 0 P P 08 31 20.9 +0.8
143A Socs Landing, 17.69 60 P P 08 31 19.2 -0.9
143A IAmb IAmb 08 31 22.6
comp=Z,171nm,1.1s
K22A Casper 17.76 8 P P 08 31 20.8 -0.1
baz=189
KSU1 Kansas State U 17.82 35 Pn 08 31 20.6 -0.3
KSU1 IAmb IAmb 08 31 22.4
comp=Z,198nm,1.2s
KSU1 Kansas State U 17.82 35 P Pn 08 31 20.5 -0.3
baz=222,SNR=6.0
W41B Gary Mavity, V 18.10 52 P P 08 31 23.8 -0.8
baz=241
WHAR Wooly Hollow 18.13 52 P Pn 08 31 23.2 -1.4
WHAR IAmb IAmb 08 31 28.0
comp=Z,158nm,1.3s
VBMS Vicksburg 18.24 63 P P 08 31 26.0 -0.1
baz=252
U40A Yellville 18.30 48 P Pn 08 31 25.4 -1.3
U40A Yellville 18.30 48 P Pn 08 31 25.1 -1.6
baz=237
O03E Paynes Creek 18.31 329 P Pn 08 31 29.7 +2.8
baz=142,SNR=33
FCAR Ozark Folk Cen 18.55 50 P P 08 31 28.5 -1.0
FCAR IAmb IAmb 08 31 37.0
comp=Z,130nm,1.0s
MOOW Moose Ponds 18.69 358 P Pn 08 31 32.4 +0.8
O02D Mt. Diablo Mer 18.69 327 P Pn 08 31 33.7 +2.2
baz=140
S39A Bolivar 18.76 44 P P 08 31 31.4 -0.4
S39A IAmb IAmb 08 31 33.8
comp=Z,90nm,0.9s
WVOR Wild Horse Val 18.88 339 P Pn 08 31 34.3 +0.5
WVOR pmax pmax
comp=Z,121nm,1.5s
WVOR Wild Horse Val 18.88 339 P Pn 08 31 34.3 +0.5
WDC Whiskeytown Da 18.88 328 P Pn 08 31 34.5 +0.8
WDC pmax pmax
comp=Z,36nm,1.1s
WDC Whiskeytown Da 18.88 328 P Pn 08 31 34.5 +0.8
HLID Hailey 18.89 349 P Pn 08 31 35.3 +1.3
baz=166
BGNE Belgrade 18.92 28 P P 08 31 33.4 -0.1
BGNE IAmb IAmb 08 31 37.7
comp=Z,269nm,1.2s
BGNE Belgrade 18.92 28 P Pn 08 31 34.3 +0.1
baz=214,SNR=7.6
MOD Modoc Plateau 19.00 335 P Pn 08 31 36.6 +1.2
MGMO Mountain Grove 19.13 47 P Pn 08 31 35.8 -0.9
MGMO IAmb IAmb 08 31 43.2
comp=Z,141nm,0.9s
KMRM Mail Ridge 19.19 326 P Pn 08 31 38.0 +0.5
KMRM IAmb IAmb 08 31 47.9
comp=Z,194nm,1.1s
N02D Trinity Center 19.27 329 P P 08 31 38.2 +0.8
baz=141
H17A Grant Village 19.33 358 P Pn 08 31 39.8 +0.4
baz=177
HBAR Harrisburg 19.43 53 P Pn 08 31 39.4 -1.0
HBAR IAmb IAmb 08 32 04.2
comp=Z,166nm,1.1s
M04C Macdoel 19.52 332 P Pn 08 31 42.6 +1.0
baz=145,SNR=11
HUEH Huehuetenango 19.56 116 P Pn 08 31 43.1 +0.8
RSSD Black Hills 19.58 12 P Pn 08 31 42.1 -0.3
baz=195
N35A Tabor 19.63 33 P P 08 31 41.3 0.0
N35A IAmb IAmb 08 31 51.2
comp=Z,138nm,1.1s
J08A Circle Bar Ran 19.66 341 P Pn 08 31 44.1 +0.9
M02C Callahan 19.66 329 P Pn 08 31 44.6 +1.4
baz=142
KHMM Horse Mountain 19.69 327 P P 08 31 42.4 +0.3
KHMM IAmb IAmb 08 31 57.4
comp=Z,121nm,1.1s
YHB Horse Butte 19.71 357 P Pn 08 31 43.6 -0.3
R40A Maddies Statio 19.79 44 P P 08 31 43.1 +0.1
R40A IAmb IAmb 08 31 52.8
comp=Z,81nm,1.0s
JCC Jacoby Creek, 19.79 326 P P 08 31 44.3 +1.2
JCC IAmb IAmb 08 31 54.1
comp=Z,128nm,1.1s
QLMT Earthquake Lak 19.80 356 P Pn 08 31 45.7 +0.8
YBH Yreka Blue Hor 19.87 330 P P 08 31 43.9 -0.1
comp=Z,0.2nm,0.3s,baz=153,slow=5.9,SNR=5.6
YBH Yreka Blue Hor 19.87 330 P P 08 31 44.2 +0.2
YBH Yreka Blue Hor 19.87 330 P P 08 31 44.2 +0.2
P38A Dawn 19.88 39 P 08 31 44.3 +0.3
P38A IAmb IAmb 08 31 45.8
comp=Z,182nm,1.4s
OXF Oxford 19.91 57 P P 08 31 44.5 +0.1
baz=247
RLMT Red Lodge 20.04 1 P P 08 31 46.8 +0.7
baz=181
L04D Klamath Falls 20.08 332 P P 08 31 47.7 +1.4
baz=144
PETF Flores 20.14 110 P Pn 08 31 49.5 +0.6
PETF IAmb IAmb 08 31 59.8
comp=Z,104nm,1.3s
K04D Chiloquin, OR 20.18 333 P Pn 08 31 49.6 +0.2
KRMB Red Mountain 20.27 328 P P 08 31 49.6 +1.2
KRMB IAmb IAmb 08 32 02.7
comp=Z,152nm,1.4s
CCM Cathedral Cave 20.31 46 P P 08 31 48.6 -0.1
CCM pmax pmax
comp=Z,67nm,1.2s
CCM Cathedral Cave 20.31 46 P 08 31 48.6 -0.1
CCM Cathedral Cave 20.31 46 P P 08 31 48.8 0.0
baz=236
J05D Fort Rock, OR 20.54 335 P Pn 08 31 53.2 -0.4
baz=148,SNR=13
BOZ Bozeman (W) 20.58 356 P Pn 08 31 53.2 -0.8
baz=175
L02E Cave Junction 20.61 329 P P 08 31 53.6 +1.6
baz=141
I07A Izee 20.63 339 P Pn 08 31 54.2 -0.4
GCMT Greycliff 20.71 360 P P 08 31 53.8 +0.6
BRAL Brewton 20.83 68 P P 08 31 54.4 0.0
baz=259
J04D Umpqua Nationa 20.84 334 P P 08 31 56.1 +1.5
baz=146,SNR=17
PINE Pine Mountain 20.86 337 IAmb IAmb 08 32 01.8
comp=Z,101nm,1.1s
HICK Hickman 20.91 52 P Pn 08 31 56.5 -1.3
K02D Willamette Mer 21.06 330 P P 08 31 58.4 +1.4
baz=142
PLAL Pickwick Lake 21.11 57 P P 08 31 57.8 +0.4
SUSD Miller 21.22 22 P P 08 31 59.2 +0.6
SUSD Miller 21.22 22 P P 08 31 58.9 +0.3
baz=208
SLM Saint Louis 21.29 46 P P 08 31 59.4 +0.1
SLM pmax pmax
comp=Z,91nm,1.0s
SLM Saint Louis 21.29 46 P P 08 31 59.4 +0.1
SLM IAmb IAmb 08 32 03.2
comp=Z,91nm,1.0s
LRAL Lakeview Retre 21.32 63 P P 08 31 59.9 +0.3
LRAL IAmb IAmb 08 32 04.0
comp=Z,131nm,1.2s
LRAL Lakeview Retre 21.32 63 P P 08 31 59.5 -0.1
baz=254
I04A Tendick Farm, 21.43 334 P P 08 32 01.9 +1.1
baz=146
S44A Carbondale 21.45 49 IAmb IAmb 08 32 08.6
comp=Z,100nm,0.9s
ECSD EROS Data Cent 21.48 27 P P 08 32 01.0 -0.4
ECSD EROS Data Cent 21.48 27 P P 08 32 01.8 +0.5
baz=214
I05D Terrebonne, OR 21.48 337 P P 08 32 02.7 +1.3
baz=150,SNR=6.1
SIUC Southern Illin 21.48 49 P P 08 32 01.4 0.0
SIUC IAmb IAmb 08 32 08.9
comp=Z,120nm,1.0s
T45A Paducah 21.55 51 P P 08 32 02.5 +0.4
J01E Myrtle Point 21.55 331 P P 08 32 03.6 +1.5
baz=142,SNR=22
G08A Pilot Rock 21.57 342 P P 08 32 03.7 +1.3
SCIA State Center 21.64 35 P P 08 32 04.0 +1.0
baz=224
X48A Hartselle 21.71 59 P P 08 32 03.8 -0.1
I03D Drain, OR 21.73 332 P P 08 32 06.6 +2.6
baz=146,SNR=5.6
ESQI Esquipulas 21.73 115 P P 08 32 06.7 +2.3
WVT Waverly 21.74 54 P P 08 32 04.7 +0.5
WVT pmax pmax
comp=Z,167nm,0.9s
WVT Waverly 21.74 54 P P 08 32 04.7 +0.5
WVT Waverly 21.74 54 P P 08 32 04.6 +0.3
baz=246
LAO LASA Array 21.78 6 P P 08 32 05.4 +0.8
baz=188
MTO3 Montecristo 21.80 115 P P 08 32 07.2 +1.9
MTO3 IAmb IAmb 08 32 15.3
comp=Z,85nm,1.4s
BUCK Buck Mountain 21.99 334 P P 08 32 08.1 +1.2
MSO Missoula 22.02 352 P P 08 32 08.9 +1.8
baz=169,SNR=5.7
H04A Detroit Lake 22.09 336 IAmb IAmb 08 32 18.6
comp=Z,91nm,1.4s
H04D Lebanon 22.16 335 P P 08 32 10.3 +1.7
baz=147,SNR=5.4
Q44A Meyer Farm, Va 22.23 47 P P 08 32 09.8 +0.3
G05D Wamic, OR 22.26 338 P P 08 32 10.2 +0.4
baz=151
I02D Swisshome 22.27 332 P P 08 32 10.6 +0.8
baz=144,SNR=7.5
F07A Phinny Hill Vi 22.40 341 P P 08 32 12.3 +1.2
T47A Sharon Grove 22.63 53 IAmb IAmb 08 32 22.5
comp=Z,104nm,1.1s
OLIL Olney 22.76 48 P P 08 32 15.0 -0.1
CLTN Cedars of Leba 22.84 56 P P 08 32 16.1 +0.1
CLTN IAmb IAmb 08 32 23.2
comp=Z,58nm,1.0s
FPAL Fort Paine 22.86 60 IAmb IAmb 08 32 19.9
comp=Z,54nm,1.0s
F05D White Salmon 22.87 338 P P 08 32 16.6 +0.4
baz=151
EGMT Eagleton 22.94 360 P P 08 32 17.8 +0.8
baz=180
G03D McMinnville, O 22.95 335 P P 08 32 17.5 +0.5
baz=146,SNR=7.1
JTMT Jette 22.96 352 P P 08 32 18.3 +1.0
HDIL Hopedale 22.99 43 P P 08 32 16.8 -0.6
HDIL IAmb IAmb 08 32 39.6
comp=Z,112nm,1.4s
HDIL Hopedale 22.99 43 P P 08 32 16.9 -0.5
baz=234
D08A Wollman Farm, 23.19 344 P P 08 32 19.4 0.0
U49A Red Boiling Sp 23.41 55 P P 08 32 21.4 -0.4
F04D Rainier, OR 23.59 336 P P 08 32 24.7 +1.4
baz=148
TGUH Tegucigalpa,Un 23.70 113 P P 08 32 26.8 +1.9
TGUH IAmb IAmb 08 32 35.1
comp=Z,132nm,1.3s
C09A Chrisman Ranch 23.73 345 P P 08 32 25.4 +0.7
WCI Wyandotte Cave 23.76 51 P P 08 32 25.5 +0.4
WCI pmax pmax
comp=Z,23nm,0.9s
WCI Wyandotte Cave 23.76 51 P P 08 32 25.5 +0.4
WCI Wyandotte Cave 23.76 51 P P 08 32 25.1 0.0
baz=243
DGMT Dagmar 23.78 9 P P 08 32 25.9 +0.7
baz=192
TIGA Tifton 23.79 69 P P 08 32 25.5 0.0
baz=261
E04D Cinebar 23.83 338 P P 08 32 27.3 +1.6
baz=150
LTY Liberty 23.85 341 P P 08 32 26.5 +0.5
JFWS Jewell Farm 23.92 37 P P 08 32 26.2 -0.4
baz=228
NEW Newport 23.92 348 P P 08 32 27.3 +0.7
comp=Z,44nm,0.8s,baz=162,slow=10,SNR=38
NEW Newport 23.92 348 IAmb IAmb 08 32 30.3
comp=Z,63nm,1.0s
NEW Newport 23.92 348 P P 08 32 26.9 +0.3
baz=163,SNR=14
CPCT Cooper Cave 24.00 58 P P 08 32 27.6 +0.1
MDND Maddock 24.11 17 P P 08 32 28.4 0.0
baz=203
WALA Waterton Lakes 24.21 353 P P 08 32 30.2 +0.8
V51A Loudon 24.24 58 P P 08 32 29.7 0.0
V51A IAmb IAmb 08 32 36.4
comp=Z,106nm,1.5s
GOGA Godfrey 24.27 64 P P 08 32 29.4 -0.6
baz=257
SFIN Lafayette 24.27 45 P P 08 32 30.4 +0.5
SFIN Lafayette 24.27 45 P P 08 32 28.6 -1.4
baz=238,SNR=6.6
SPMN Marine on St. 24.31 30 P P 08 32 29.4 -0.8
baz=220
D04E Lakebay 24.44 338 P P 08 32 33.1 +1.7
baz=150
656A Willston 24.47 74 P P 08 32 32.7 +0.9
F36A Milaca 24.49 28 P P 08 32 32.0 +0.1
B08A Colville Reser 24.50 344 P P 08 32 33.6 +1.7
B08A IAmb IAmb 08 32 39.7
comp=Z,76nm,1.2s
C06D Leavenworth 24.52 342 P P 08 32 33.4 +1.3
baz=154
TKL Tuckaleechee C 24.64 58 P P 08 32 33.9 +0.6
comp=Z,28nm,0.9s,baz=216,slow=10,SNR=8.5
TKL Tuckaleechee C 24.64 58 IAmb IAmb 08 32 38.7
comp=Z,66nm,1.1s
255A Hazlehurst 24.81 68 P P 08 32 34.9 +0.1
255A IAmb IAmb 08 32 43.1
comp=Z,54nm,1.1s
V52A Sevierville 24.84 58 P P 08 32 35.2 +0.1
P48A Milroy 24.93 49 P P 08 32 36.3 +0.4
NLWA Neilton Lookou 25.01 337 P P 08 32 37.3 +0.7
TZTN Tazewell 25.10 57 P P 08 32 38.8 +1.3
TZTN Tazewell 25.10 57 P P 08 32 37.1 -0.4
baz=250
B05A Bryant 25.18 340 P P 08 32 37.9 -0.1
baz=152
I42A Draeger Farm, 25.29 37 P P 08 32 39.1 -0.1
V53A Saluda 25.39 59 P P 08 32 40.6 +0.4
V53A IAmb IAmb 08 32 48.2
comp=Z,67nm,0.9s
DWPF Disney Wildern 25.39 77 P P 08 32 39.8 -0.4
baz=270
N47A Urbana 25.45 46 P P 08 32 40.1 -0.4
P49A Miami Univ. Ec 25.45 49 P P 08 32 39.5 -1.1
baz=243
S51A Beattyville 25.46 54 P P 08 32 40.7 0.0
S51A IAmb IAmb 08 32 51.3
comp=Z,32nm,0.9s
AGMN Agassiz Nation 25.63 22 P P 08 32 41.6 -0.6
baz=210
A04D Lummi Island 25.77 340 P P 08 32 44.5 +1.1
baz=152
PAULI Pauline 25.94 61 P P 08 32 45.8 +0.6
PAULI IAmb IAmb 08 32 54.3
comp=Z,49nm,1.0s
PGC Sidney 25.95 339 P P 08 32 45.6 +0.6
PGC IAmb IAmb 08 32 55.9
comp=Z,53nm,1.0s
Q51A Peebles 26.18 51 P P 08 32 47.6 +0.3
Q51A IAmb IAmb 08 32 59.7
comp=Z,48nm,1.1s
KMSC Kings Mountain 26.41 61 P P 08 32 48.8 -0.5
baz=256
COWI Conover 26.69 33 P P 08 32 51.5 -0.3
COWI IAmb IAmb 08 33 09.8
comp=Z,37nm,1.1s
ACSO Alum Creek Sta 26.95 49 P P 08 32 54.2 0.0
baz=244
EYMN Ely 26.99 27 P P 08 32 54.2 -0.2
EYMN Ely 26.99 27 P P 08 32 54.1 -0.4
baz=218
ORTG Ortega, Santa 27.20 118 P P 08 32 59.0 +2.2
ORTG IAmb IAmb 08 33 06.4
comp=Z,44nm,1.4s
P52A Corning 27.29 51 P P 08 32 56.9 -0.3
P52A Corning 27.29 51 P P 08 32 56.9 -0.3
baz=246
ULM Lac du Bonnet 27.34 19 P P 08 32 57.2 -0.3
comp=Z,19nm,1.1s,baz=273,slow=21,SNR=3.3
ULM Lac du Bonnet 27.34 19 P P 08 32 57.0 -0.6
ULM Lac du Bonnet 27.34 19 P P 08 32 57.0 -0.6
W57A Gilead 27.47 61 P P 08 32 59.3 +0.4
Y58A Scranton 27.48 64 P P 08 32 59.1 +0.1
AAM Ann Arbor 27.48 45 P P 08 32 58.5 -0.5
baz=240
JTS Las Juntas de 27.65 118 P P 08 33 02.4 +1.7
comp=Z,5.0nm,0.9s,baz=29,slow=9.0,SNR=4.9
JTS Las Juntas de 27.65 118 *i* P P 08 33 03.9 +3.2
JTS pmax pmax
comp=Z,6.0nm,0.8s
BLA Blacksburg 27.69 57 P P 08 33 00.7 -0.2
baz=252
P53A Whipple 27.76 52 P P 08 33 01.0 -0.5
P53A IAmb IAmb 08 33 20.5
comp=Z,32nm,1.0s
O53A New Philadelph 28.19 50 P P 08 33 05.5 +0.2
O53A New Philadelph 28.19 50 P P 08 33 04.5 -0.8
baz=246
R55A Marlinton 28.25 55 P P 08 33 05.7 -0.3
R55A IAmb IAmb 08 33 25.8
comp=Z,69nm,1.2s
GLMI Grayling 28.28 39 P P 08 33 05.3 -0.8
baz=234
EDM Edmonton 28.29 355 P P 08 33 06.0 0.0
EDM pmax pmax
comp=Z,58nm,1.3s
EDM Edmonton 28.29 355 P P 08 33 06.0 0.0
EDM IAmb IAmb 08 33 13.4
comp=Z,58nm,1.3s
MCWV Mont Chateau 28.93 52 P P 08 33 11.4 -0.5
baz=249
CNNC Cliffs of the 29.17 62 P P 08 33 13.8 -0.3
baz=258
N54A Moraine State 29.33 50 P P 08 33 14.9 -0.5
ERPA Erie 29.80 48 P P 08 33 20.5 +0.8
baz=245
O56A Blue Knob Stat 30.07 52 P P 08 33 22.9 +0.9
baz=249
SSPA Standing Stone 30.68 52 P P 08 33 26.8 -0.6
SSPA IAmb IAmb 08 33 36.2
comp=Z,46nm,1.3s
SSPA Standing Stone 30.68 52 P P 08 33 26.8 -0.6
baz=249
L56A Greenwood 31.46 49 P P 08 33 34.2 -0.1
L56A IAmb IAmb 08 33 34.9
comp=Z,44nm,1.2s
M57A Sunshine Farm, 31.47 51 P P 08 33 34.0 -0.3
SADO Sadowa 31.56 44 P P 08 33 34.8 -0.3
comp=Z,8.7nm,0.9s,baz=162,slow=20,SNR=1.8
N58A Sunbury 31.59 52 P P 08 33 34.2 -1.1
N59A State Game Lan 32.29 52 P P 08 33 41.2 -0.3
KSPA Keystone Colle 32.50 51 P P 08 33 42.5 -0.9
BINY Binghamton 32.57 50 P P 08 33 44.0 -0.1
MOBC Moresby Island 32.71 335 P P 08 33 46.8 +1.7
MOBC IAmb IAmb 08 33 50.1
comp=Z,41nm,1.2s
L59A Walton 33.23 50 P P 08 33 49.6 -0.2
PAL Palisades 33.66 53 P P 08 33 53.1 -0.4
PAL pmax pmax
comp=Z,59nm,1.4s
PAL Palisades 33.66 53 P P 08 33 53.1 -0.4
PAL IAmb IAmb 08 34 09.7
comp=Z,59nm,1.4s
NCB Newcomb 34.42 48 P P 08 33 59.8 -0.3
WRAK Wrangell Islan 35.42 338 P P 08 34 09.8 +1.3
baz=143
DLBC Dease Lake 36.37 342 P P 08 34 18.4 +1.6
comp=Z,24nm,0.9s,baz=160,slow=7.0,SNR=47
DLBC Dease Lake 36.37 342 P P 08 34 18.8 +2.1
DLBC IAmb IAmb 08 34 19.5
comp=Z,22nm,0.8s
DBBC Dabeiba 36.63 114 *eP* P 08 34 19.3 -0.2

CBOC Ciudad Bolivar 37.43 115 eP P 08 34 21.8 -4.6
WTLY Watson Lake, Y 37.49 344 P P 08 34 28.0 +1.8
baz=151
YKA Yellowknife Ar 37.59 356 P P 08 34 26.9 -0.1
comp=Z,26nm,0.9s,baz=167,slow=8.4,SNR=36
LMQ La Malbaie 38.28 44 P P 08 34 33.3 +0.3
F63A Nahmakanta, Br 38.43 47 P P 08 34 34.5 +0.2
TGTN Hyland Airport 38.62 346 P P 08 34 37.6 +1.8
baz=152
BBAC Balboa, Cauca 38.72 121 eP P 08 34 39.9 +2.6
SKAG Skagway 38.80 339 P P 08 34 39.0 +1.8
baz=141
D62A Allapoint, All 38.92 45 P P 08 34 38.8 +0.3
OTAV Otavalo 38.95 125 P P 08 34 42.4 +2.9
OTAV pmax pmax
comp=Z,64nm,1.3s
OTAV Otavalo 38.95 125 P P 08 34 42.4 +2.9
OTAV IAmb IAmb 08 34 48.8
comp=Z,64nm,1.2s
EMMW East Machias 39.25 49 P P 08 34 41.5 +0.3
WRGLY Wrigley 39.27 350 P P 08 34 42.0 +0.9
baz=160,SNR=7.8
BARC Barichara 39.39 112 eP P 08 34 40.7 -2.3
ROSC El Rosal 39.40 115 P P 08 34 44.8 +1.6
comp=Z,5.9nm,0.6s,baz=15,slow=22,SNR=1.6
PQI Presque Isle 39.46 46 P P 08 34 42.8 -0.1
WHY Whitehorse 39.61 341 P P 08 34 44.6 +0.5
WHY Whitehorse 39.61 341 P P 08 34 45.1 +1.0
baz=142
CHIC Chingaza 40.00 115 eP P 08 34 43.2 -5.0
MMPY Sheldon Lake, 40.26 345 P P 08 34 50.9 +1.5
baz=149,SNR=15
AOPR Arecibo Observ 40.28 91 P P 08 34 49.8 -0.2
AOPR IAmb IAmb 08 34 55.5
comp=Z,51nm,1.2s
SDV Santo Domingo 40.44 106 eP P 08 34 51.9 +0.3
FARO Faro, Yukon 40.46 343 P P 08 34 52.4 +1.3
baz=146,SNR=5.5
HYT Haines Junctio 40.55 339 P P 08 34 54.1 +2.2
HYT Haines Junctio 40.55 339 P P 08 34 54.0 +2.0
baz=139
YUK6 Outpost Mounta 40.92 339 P P 08 34 56.9 +1.8
baz=138
BATG Bathurst New B 40.92 46 P P 08 34 55.1 +0.1
BATG IAmb IAmb 08 34 55.7
comp=Z,31nm,0.9s
PINM Pinnacle 40.94 337 P P 08 34 56.9 +1.8
baz=135
YUK4 Talbot Arm 41.31 339 P P 08 35 00.6 +2.3
baz=138,SNR=7.3
LMN Caledonia Moun 41.36 48 P P 08 34 58.8 +0.1
LMN IAmb IAmb 08 35 05.2
comp=Z,57nm,1.2s
MESA MESA 41.61 336 P P 08 35 02.6 +1.9
baz=133
CTG Chitna Glacier 41.93 337 P P 08 35 05.2 +1.8
baz=134
YUK3 Moose Creek 42.22 339 P P 08 35 07.3 +1.6
baz=136,SNR=8.0
MAYO Mayo, Yukon 42.25 343 P P 08 35 07.5 +1.8
baz=143
CRQE Cirque 42.41 336 P P 08 35 09.4 +2.2
baz=132
BVCY Beaver Creek 42.81 339 P P 08 35 12.6 +2.4
baz=136,SNR=6.4
MCARA McCarthy VSAT 42.81 337 P P 08 35 12.3 +2.0
baz=133
VRDI Verde Repeater 42.86 337 P P 08 35 13.0 +2.1
M27K Edge Creek, AK 43.10 339 P P 08 35 14.9 +2.1
M27K Edge Creek, AK 43.10 339 P P 08 35 14.7 +1.9
baz=135,SNR=6.6
BMRM Bremner River 43.11 336 P P 08 35 15.7 +2.9
baz=130
GLB Gilahina Butte 43.13 337 P P 08 35 15.4 +2.4
SCHQ Schefferville 43.26 35 P P 08 35 13.4 -0.6
comp=Z,36nm,1.0s,baz=250,slow=5.5,SNR=16
SCHQ Schefferville 43.26 35 P P 08 35 13.8 -0.3
SCHQ IAmb IAmb 08 35 14.4
comp=Z,41nm,0.9s
EYAK Cordova Ski Ar 43.27 335 P P 08 35 16.3 +2.3
EYAK Cordova Ski Ar 43.27 335 P P 08 35 16.7 +2.7
baz=129
M26K Nabesna, AK 43.50 338 P P 08 35 18.1 +2.1
baz=133,SNR=7.0
GBN Guysborough 43.51 50 P P 08 35 16.4 +0.2
N25K Chitina, Valde 43.53 337 P P 08 35 18.8 +2.6
N25K Chitina, Valde 43.53 337 P P 08 35 18.2 +2.0
baz=131,SNR=7.4
BCAR Beaver Creek A 43.58 339 P P 08 35 18.3 +1.8
L27K Beaver Creek, 43.59 339 P P 08 35 18.1 +1.5
baz=135,SNR=7.9
DAWY Dawson 43.59 342 P P 08 35 18.5 +1.9
DAWY IAmb IAmb 08 35 19.6
comp=Z,33nm,0.9s
DAWY Dawson 43.59 342 P P 08 35 18.3 +1.7
baz=139,SNR=31
KLU Klutina 43.94 336 P P 08 35 21.6 +2.2
baz=129
GLI Glacier Island 44.00 335 P P 08 35 21.7 +1.8
baz=127
L26K Log Cabin Wild 44.05 339 P P 08 35 21.9 +1.6
baz=134,SNR=8.5
ATAH Atahualpa 44.14 132 P P 08 35 24.4 +2.4
comp=Z,15nm,0.8s,baz=345,slow=6.6,SNR=9.4
HARP HAARP 44.25 337 P P 08 35 23.7 +1.8
baz=131
K27K Chicken 44.36 340 IAmb IAmb 08 35 26.2
comp=Z,21nm,0.8s
K27K Chicken 44.36 340 P P 08 35 25.1 +2.4
baz=136
M24K Tolsona, Glenn 44.42 336 IAmb IAmb 08 35 32.2
comp=Z,37nm,1.2s
M24K Tolsona, Glenn 44.42 336 P P 08 35 25.5 +2.2
baz=129
EGAK Eagle 44.63 341 IAmb IAmb 08 35 27.5
comp=Z,21nm,0.8s
EGAK Eagle 44.63 341 P P 08 35 26.3 +1.4
baz=137,SNR=22
KDAK Kodiak Island 44.67 329 P P 08 35 27.0 +1.7
comp=Z,6.8nm,0.7s,baz=333,slow=1.1,SNR=4.4
KDAK Kodiak Island 44.67 329 P P 08 35 27.0 +1.7
KDAK pmax pmax
comp=Z,44nm,1.4s
KDAK Kodiak Island 44.67 329 IAmb IAmb 08 35 48.1
comp=Z,44nm,1.4s
EPYK Eagle Plains 44.70 345 IAmb IAmb 08 35 33.8
comp=Z,54nm,1.1s
EPYK Eagle Plains 44.70 345 P P 08 35 26.6 +1.1
baz=144,SNR=9.1
DOT Dot Lake 44.72 339 P P 08 35 26.9 +1.3
PAX Paxson 44.73 338 P P 08 35 27.0 +1.2
baz=131,SNR=6.2
OHAK Old Harbor 44.75 328 P P 08 35 27.3 +1.4
baz=117
BRSE Bradley Lake S 44.84 332 P P 08 35 28.0 +1.3
baz=122
KNK Knik Glacier 44.85 335 P P 08 35 28.4 +1.7
KNK IAmb IAmb 08 35 29.1
comp=Z,24nm,0.9s
KNK Knik Glacier 44.85 335 P P 08 35 28.2 +1.5
baz=126,SNR=6.9
SCRK Sand Creek 44.92 339 IAmb IAmb 08 35 35.5
comp=Z,24nm,1.0s
SCRK Sand Creek 44.92 339 P P 08 35 29.0 +1.7
baz=133,SNR=10
RIDG Independent Ri 45.04 339 P P 08 35 29.8 +1.5
RIDG IAmb IAmb 08 35 36.4
comp=Z,28nm,1.0s
RIDG Independent Ri 45.04 339 P P 08 35 29.7 +1.5
baz=132,SNR=10
SML Sawmill 45.04 335 P P 08 35 29.7 +1.5
baz=127,SNR=5.4
RC01 Rabbit Creek A 45.17 334 P P 08 35 32.9 +3.7
baz=124
PMR Palmer 45.22 335 IAmb IAmb 08 35 37.4
comp=Z,28nm,1.3s
PMR Palmer 45.22 335 P P 08 35 31.2 +1.6
baz=126
WAT6 Susitna Watana 45.29 336 P P 08 35 31.8 +1.5
baz=128,SNR=6.4
CHIR Chirikof Islan 45.32 325 P P 08 35 32.8 +2.4
baz=113
DHY Denali Highway 45.47 337 P P 08 35 33.0 +1.2
baz=129,SNR=6.3
INK Inuvik 45.65 348 P P 08 35 33.7 +0.9
comp=Z,13nm,0.9s,baz=139,slow=8.1,SNR=14
INK Inuvik 45.65 348 IAmb IAmb 08 35 40.8
comp=Z,51nm,1.3s
INK Inuvik 45.65 348 P P 08 35 34.1 +1.3
baz=149,SNR=8.8
WAT1 Susitna Watana 45.74 336 P P 08 35 35.4 +1.6
baz=127
SUA Susitna One 45.78 334 IAmb IAmb 08 35 42.6
comp=Z,27nm,1.1s
SUA Susitna One 45.78 334 P P 08 35 35.7 +1.5
baz=124,SNR=5.8
J25K Salcha River, 45.80 339 P P 08 35 35.9 +1.7
baz=132,SNR=26
P19K Oil Pt 45.88 331 P P 08 35 36.5 +1.7
baz=119
CUT Chulitna 46.13 335 IAmb IAmb 08 35 45.2
comp=Z,36nm,1.0s
CUT Chulitna 46.13 335 P P 08 35 38.3 +1.6
baz=125
HDA Harding Lake 46.17 339 IAmb IAmb 08 35 44.6
comp=Z,22nm,1.3s
HDA Harding Lake 46.17 339 P P 08 35 38.4 +1.2
baz=130
RND Reindeer 46.20 337 IAmb IAmb 08 35 46.9
comp=Z,30nm,1.3s
SKT Skwentna 46.38 334 IAmb IAmb 08 35 40.8
comp=Z,17nm,0.9s
SKT Skwentna 46.38 334 P P 08 35 40.0 +1.2
baz=123,SNR=7.7
ILAR Eielson Array 46.39 339 P P 08 35 39.9 +1.0
comp=Z,24nm,0.9s,baz=151,slow=6.6,SNR=170
ILAR PcP PcP 08 37 13.3 -0.2
comp=Z,0.6nm,0.7s,baz=141,slow=3.0,SNR=0.8
ILAR Eielson Array 46.39 339 eP P 08 35 39.7 +0.9
ILAR pmax pmax
comp=Z,24nm,0.9s
MCK McKinley 46.43 337 IAmb IAmb 08 35 47.5
comp=Z,40nm,1.3s
MCK McKinley 46.43 337 P P 08 35 40.4 +1.3
baz=127,SNR=10
PRP Porcupine Dome 46.46 340 P P 08 35 40.2 +0.7
baz=133
WRH Wood River Hil 46.59 338 IAmb IAmb 08 35 47.6
comp=Z,17nm,1.0s
O19K Port Alsworth 46.62 331 P P 08 35 41.5 +0.8
baz=118
TRF Thorofare Moun 46.74 336 P P 08 35 42.8 +1.0
baz=126,SNR=10
COLA College 46.77 339 ceP P 08 35 43.0 +1.3
COLA pmax pmax
comp=Z,16nm,1.0s
COLA College 46.77 339 P P 08 35 42.8 +1.0
COLA IAmb IAmb 08 35 50.6
comp=Z,44nm,1.2s
COLA College 46.77 339 P P 08 35 42.6 +0.9
baz=130
TCOL CIGO, UAF Yank 46.77 339 P P 08 35 42.7 +0.9
baz=130,SNR=5.9
MDM Murphy Dome 46.95 339 IAmb IAmb 08 35 45.2
comp=Z,13nm,0.9s
N19K Bonanza Creek 46.99 332 P P 08 35 44.4 +0.8
baz=119,SNR=9.1
NEA2 Nenana 47.00 338 P P 08 35 44.7 +1.1
baz=128,SNR=34
KTH Kantishna Hill 47.03 336 IAmb IAmb 08 35 46.2
comp=Z,30nm,0.9s
FYU Fort Yukon 47.10 341 P P 08 35 46.2 +1.9
PPLA Purkeypile 47.14 335 P P 08 35 46.3 +1.5
PPLA Purkeypile 47.14 335 P P 08 35 46.1 +1.3
baz=123,SNR=15
BPAW Bear Paw Mtn. 47.38 337 P P 08 35 47.4 +0.8
baz=125,SNR=19
CAST Castle Rocks 47.39 336 P P 08 35 48.0 +1.3
baz=124
H24K Noodor Dome 47.40 340 P P 08 35 48.3 +1.6
H24K Noodor Dome 47.40 340 P P 08 35 47.9 +1.1
baz=130,SNR=13
I23K Minto, Yukon-K 47.44 338 IAmb IAmb 08 35 54.9
comp=Z,23nm,1.1s
I23K Minto, Yukon-K 47.44 338 P P 08 35 48.3 +1.3
baz=128,SNR=9.9
M19K Big River Lodg 47.49 333 P P 08 35 48.6 +1.2
baz=120
BMAR Burnt Mountain 47.52 343 P P 08 35 49.5 +1.8
N18K Kilae Creek 47.54 331 IAmb IAmb 08 35 55.2
comp=Z,30nm,1.2s
N18K Kilae Creek 47.54 331 P P 08 35 48.7 +0.9
baz=117,SNR=7.2
L20K Farewell, AK 47.58 334 P P 08 35 49.0 +0.9
baz=121,SNR=11
SVW2 Sparrevohn 47.60 332 IAmb IAmb 08 35 49.6
comp=Z,20nm,0.9s
CHUM Lake Minchumin 47.73 336 P P 08 35 50.4 +1.1
baz=124
A36M Sachs Harbour 47.79 354 P P 08 35 50.6 +1.0
baz=161
L19K White Mountain 47.82 333 P P 08 35 51.3 +1.2
L19K IAmb IAmb 08 35 58.1
comp=Z,34nm,1.1s
L19K White Mountain 47.82 333 P P 08 35 50.9 +0.9
baz=120,SNR=15
MLY Manley 47.84 338 P P 08 35 51.1 +1.0
MLY Manley 47.84 338 P P 08 35 51.5 +1.3
baz=126,SNR=33
H23K Yukon River 47.92 339 P P 08 35 52.3 +1.5
baz=130,SNR=15
K20K Telida 48.11 335 IAmb IAmb 08 35 53.8
comp=Z,23nm,0.9s
K20K Telida 48.11 335 P P 08 35 53.0 +0.7
baz=121,SNR=11
TBTG Tabatinga, AM 48.30 121 eP P 08 35 54.9 +0.6
I21K Tanana 48.35 338 P P 08 35 55.1 +1.1
baz=125,SNR=19
CZSB Cruzeiro do Su 48.52 127 eP P 08 35 56.5 +0.4
J20K Nowinta River 48.57 336 P P 08 35 56.6 +0.9
J20K Nowinta River 48.57 336 P P 08 35 56.6 +0.9
baz=122,SNR=27
NNA Nana 48.76 135 P P 08 35 59.0 +1.2
comp=Z,6.7nm,0.8s,baz=300,slow=10,SNR=2.3
COLD Coldfoot 49.01 340 IAmb IAmb 08 36 07.9
comp=Z,39nm,1.2s
COLD Coldfoot 49.01 340 P P 08 36 00.7 +1.6
baz=128,SNR=12
IMAR Indian Mountai 49.41 338 P P 08 36 02.7 +0.5
TOLK Toolik Lake Re 49.73 342 IAmb IAmb 08 36 12.9
comp=Z,37nm,1.0s
TOLK Toolik Lake Re 49.73 342 P P 08 36 05.7 +1.1
baz=130,SNR=6.9
RES Resolute Bay 50.29 5 P P 08 36 10.2 +1.5
comp=Z,21nm,0.9s,baz=217,slow=8.3,SNR=2.5
RPN Rapa Nui 51.86 180 LR LR 08 51 29.7
comp=Z,3µm,19.8s,baz=45,slow=28
NIKH Nikolski High 51.98 319 P P 08 36 21.5 -0.2
baz=98,SNR=5.1
BOAV Boa Vista 52.36 107 eP P 08 36 24.5 -0.6
RDOG Red Dog Mine 53.56 338 P P 08 36 35.9 +2.6
RDOG Red Dog Mine 53.56 338 P P 08 36 35.5 +2.2
baz=115,SNR=10
PTGA Pitinga 54.44 110 P P 08 36 40.0 -0.4
comp=Z,6.2nm,0.8s,baz=310,slow=9.7,SNR=16
PTGA Pitinga 54.44 110 P P 08 36 40.0 -0.4
PTGA IAmb IAmb 08 36 47.1
comp=Z,31nm,1.1s
ETMB Extrema 54.69 124 eP P 08 36 40.6 -1.6
MACA Manacapuru-AM 55.13 113 eP P 08 36 44.3 -1.1
SFJD Kangerlussuaq 55.22 24 iP P 08 36 45.0 -0.2
SFJD Kangerlussuaq 55.22 24 P P 08 36 45.4 +0.2
SFJD pmax pmax
comp=Z,103nm,1.4s
SFJD Kangerlussuaq 55.22 24 P P 08 36 45.4 +0.2
SAML Samuel 56.47 121 eP P 08 36 53.7 -1.3
DY2G Dye2 56.73 25 iP P 08 36 56.1 -0.3
DY2G IAmb IAmb 08 36 57.5
comp=Z,91nm,1.3s
LPAZ La Paz 57.65 131 P P 08 37 04.0 0.0
comp=Z,1.1nm,0.8s,baz=20,slow=11,SNR=3.9
LPAZ La Paz 57.65 131 P P 08 37 06.3 +2.3
LPAZ pmax pmax
comp=Z,11nm,1.3s
LPAZ La Paz 57.65 131 P P 08 37 06.3 +2.3
LPAZ La Paz 57.65 131 eP P 08 37 03.8 -0.3
NEEM North Greenlan 59.06 13 iP P 08 37 12.0 -0.7
NEEM IAmb IAmb 08 37 18.7
comp=Z,64nm,1.1s
ICESG Greenland Ices 59.72 23 iP P 08 37 16.5 -0.9
ICESG IAmb IAmb 08 37 18.0
comp=Z,31nm,1.1s
MALB Monte Alegre 59.89 108 eP P 08 37 18.0 -1.0
ITTB Itaituba 59.94 111 eP P 08 37 18.4 -0.8
PB07 IPOC Station P 60.43 137 P P 08 37 25.2 +2.6
SUMG Summit 60.70 19 iP P 08 37 23.0 -1.1
SUMG IAmb IAmb 08 37 25.1
comp=Z,7.1nm,0.8s
MCPB Macapa, AP 61.08 105 eP P 08 37 25.6 -1.5
VILB Vilhena 61.23 122 eP P 08 37 27.8 -0.3
PB10 IPOC Station P 61.36 139 P P 08 37 32.0 +3.3
NPGB Novo Progresso 61.69 114 eP P 08 37 30.0 -1.2
LVC Limon Verde 61.69 137 eP P 08 37 31.8 +0.4
CLDB Colider 63.46 118 eP P 08 37 42.1 -0.9
PTLB Pontes e Lacer 63.58 124 eP P 08 37 42.8 -0.9
BILL Bilibino 64.84 336 eP P 08 37 54.4 +3.1
BILL pmax pmax
comp=Z,32nm,1.2s
LCO Las Campanas 65.49 143 P P 08 38 03.8 +7.5
LCO pmax pmax
comp=Z,41nm,1.2s
LCO Las Campanas 65.49 143 P P 08 38 03.8 +7.5
TMAB Tom-Au,PA,Br 65.51 105 eP P 08 37 57.3 +0.8
PRPB Parauapebas 65.90 110 eP P 08 37 58.8 -0.2
DAG Danmarks Havn 66.05 15 iP P 08 37 57.0 -2.0
DAG IAmb IAmb 08 37 58.5
comp=Z,8.0nm,0.8s
SALV Santo Antonio 66.48 122 eP P 08 38 02.4 -0.2
CO02 Combarbal 67.04 144 P P 08 38 10.3 +4.3
SNDB Serra Nova Dou 67.73 116 eP P 08 38 10.5 -0.1
PP1B Ponte de Pedra 68.12 123 eP P 08 38 13.3 +0.3
VA03 San Esteban 68.50 145 P P 08 38 16.6 +1.5
ZON Zonda 68.55 143 P P 08 38 17.2 +1.7
ZON pmax pmax
comp=Z,57nm,1.2s
ZON Zonda 68.55 143 P P 08 38 17.2 +1.7
SMTB Santa Maria do 69.17 111 eP P 08 38 19.8 +0.1
ROSB Rosrio 69.25 104 eP P 08 38 19.9 -0.2
AQDB Aquidauana 69.25 126 eP P 08 38 19.4 -0.6
ARAG Araguaiana, MT 69.39 119 eP P 08 38 20.8 -0.2
PEXB Peixe 70.26 114 eP P 08 38 26.4 0.0
SEY Seymchan 71.54 331 P P 08 38 33.4 0.0
comp=Z,6.4nm,0.8s,baz=104,slow=6.2,SNR=12
CPUP Villa Florida 71.82 132 P P 08 38 35.4 -0.2
comp=Z,7.9nm,0.8s,baz=325,slow=6.7,SNR=17
CPUP Villa Florida 71.82 132 P P 08 38 35.4 -0.2
CPUP pmax pmax
comp=Z,33nm,1.1s
CPUP Villa Florida 71.82 132 P P 08 38 35.4 -0.2
CPUP IAmb IAmb 08 38 42.5
comp=Z,33nm,1.1s
CPUP Villa Florida 71.82 132 eP P 08 38 35.8 +0.3
PETK Petropavlovsk- 71.92 321 P P 08 38 35.9 +0.1
comp=Z,22nm,1.0s,baz=152,slow=6.7,SNR=7.7
NBPS Pedro II - PI 72.31 104 eP P 08 38 38.6 -0.3
BDFB Brasilia 72.39 117 P P 08 38 39.3 0.0
comp=Z,5.6nm,0.8s,baz=268,slow=7.6,SNR=8.0
BDFB Brasilia 72.39 117 P P 08 38 40.1 +0.8
BDFB pmax pmax
comp=Z,26nm,1.1s
BDFB Brasilia 72.39 117 P P 08 38 40.1 +0.8
BDFB IAmb IAmb 08 38 46.4
comp=Z,26nm,1.1s
LC01 Cunco 72.76 150 P P 08 38 41.7 +0.7
MA2 Magadan 73.42 328 P P 08 38 45.3 +0.6
comp=Z,13nm,1.0s,baz=49,slow=23,SNR=1.9
LL04 Puerto Octay 74.17 152 P P 08 38 50.3 +1.2
PTGB Pitanga 74.50 127 eP P 08 38 51.6 +0.1
PLCA Paso Flores 74.84 150 P P 08 38 54.4 +1.2
comp=Z,8.9nm,0.8s,baz=324,slow=7.1,SNR=17
PLCA Paso Flores 74.84 150 eP P 08 38 59.0 +5.8
PLCA pmax pmax
comp=Z,29nm,1.0s
PLCA Paso Flores 74.84 150 eP P 08 38 52.7 -0.5
TIXI Tiksi 75.58 344 P P 08 38 56.4 -0.6
comp=Z,7.0nm,0.8s,baz=126,slow=2.3,SNR=5.0
TIXI Tiksi 75.58 344 iP P 08 39 00.5 +3.6
TIXI Tiksi 75.58 344 P P 08 38 55.8 -1.2
TIXI IAmb IAmb 08 39 13.4
comp=Z,17nm,1.2s
NBMA Muriti-CE 76.05 105 eP P 08 39 00.7 0.0
NBPN Ponto Novo - B 76.46 109 eP P 08 39 03.1 +0.1
NBPA Parau_RN 76.76 103 eP P 08 39 04.5 -0.1
TRQA Tornquist 77.06 143 eP P 08 39 06.0 +0.2
LOF Lofoten 78.22 19 eP P 08 39 11.7 -0.1
TRO Tromso 78.68 16 eP P 08 39 14.5 +0.1
STEI Steigen 78.84 18 eP P 08 39 15.4 +0.1
HAMF Hammerfest 79.09 14 eP P 08 39 17.2 +0.5
JETT Jettan, Norway 79.11 16 eP P 08 39 17.8 +0.9
KONS Konsvik 79.12 20 eP P 08 39 18.5 +1.6
FAUS Fauske 79.21 19 eP P 08 39 17.6 +0.2
MOL Molde 79.57 25 eP P 08 39 20.3 +0.9
AKN Aaknes 79.58 25 eP P 08 39 21.2 +1.7
MOR8 Moi Rana 79.75 20 eP P 08 39 20.7 +0.4
NSS Namsos 79.98 22 eP P 08 39 22.4 +0.8
KTK1 Kautokeino 80.20 16 eP P 08 39 22.5 -0.2
ARA0 ARCESS Array S 80.34 15 eP P 08 39 23.1 -0.4
ARCES ARCESS Array B 80.34 15 P P 08 39 22.9 -0.7
comp=Z,6.0nm,0.6s,baz=316,slow=4.5,SNR=24
ARCES ARCESS Array B 80.34 15 P P 08 39 22.8 -0.7
YAK Yakutsk 81.20 336 P P 08 39 28.2 0.0
comp=Z,6.7nm,0.5s,baz=102,slow=0.7,SNR=6.0
YAK Yakutsk 81.20 336 eP P 08 39 28.0 -0.2
YAK pmax pmax
comp=Z,47nm,1.1s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,12nm,1.5s
YAK Yakutsk 81.20 336 P P 08 39 28.0 -0.2
YAK IAmb IAmb 08 39 36.0
comp=Z,33nm,0.9s
NB2 NORSAR Subarra 81.88 25 P P 08 39 31.6 -0.3
comp=Z,43nm,1.7s,baz=308,slow=5.3
NB2 NORSAR Subarra 81.88 25 P P 08 39 31.6 -0.3
baz=308,slow=5.3
NOA NORSAR Array B 81.88 25 P P 08 39 31.9 0.0
comp=Z,1.7nm,0.7s,baz=304,slow=4.7,SNR=8.1
NOA NORSAR Array B 81.88 25 eP P 08 39 32.2 +0.3
NOA pmax pmax
comp=Z,2.0nm,0.6s
KONO Kongsberg 82.09 27 iP P 08 39 35.7 +2.7
KONO pmax pmax
comp=Z,100nm,1.4s
YSS Yuzh-Sakhalins 83.18 319 eP P 08 39 38.5 -0.4
LVZ Lovozero 83.64 13 iP P 08 39 43.9 +3.0
LVZ pmax pmax
comp=Z,45nm,1.2s
ASAJ Asahikawa 84.68 316 P P 08 39 46.8 +0.2
comp=Z,3.3nm,0.8s,baz=270,slow=22,SNR=2.2
NRIK Noril'sk 85.07 354 P P 08 39 47.8 -0.2
comp=Z,14nm,0.8s,baz=14,slow=4.7,SNR=19
NRIK Noril'sk 85.07 354 iP P 08 39 51.0 +2.9
NRIK pmax pmax
comp=Z,33nm,1.0s
NRIK Noril'sk 85.07 354 P P 08 39 47.9 -0.2
BMRD Maredsous 85.27 36 dP P 08 39 53.7 +4.3
DOU Dourbes 85.29 36 dP P 08 39 56.0 +6.5
comp=Z,6.3nm,1.2s
BGES Gesves 85.39 36 dP P 08 39 55.7 +5.6
comp=Z,20nm,1.2s
BCLA Clavier 85.48 36 dP P 08 39 56.6 +6.1
comp=Z,18nm,1.6s
ESDC Sonseca Array 85.50 48 P P 08 39 50.8 -0.1
comp=Z,1.2nm,0.8s,baz=309,slow=4.4,SNR=5.8
BSTI Sart Tilman 85.53 35 dP P 08 39 56.4 +5.7
MEM Membach 85.75 35 dP P 08 39 57.0 +5.2
BTNL Ternell 85.82 35 dP P 08 39 53.0 +0.8
BSEG Bad Segeberg 85.90 31 eP P 08 39 57.7 +5.3
comp=Z,60nm,1.4s,baz=310,slow=4.2
WLF Walferdange 86.36 36 dP P 08 39 56.5 +1.6
KASTN Kahler Asten 86.64 34 eP P 08 40 00.9 +4.7
comp=Z,30nm,1.4s,baz=310,slow=4.2
FINES FINESS Array B 86.73 20 P P 08 39 55.4 -1.0
comp=Z,4.0nm,0.8s,baz=349,slow=1.9,SNR=11
FINES FINESS Array B 86.73 20 eP P 08 39 55.5 -0.9
FINES pmax pmax
comp=Z,4.0nm,0.8s
ZEA Zeya 87.47 330 eP P 08 40 00.5 +0.3
BFO Black Forest 88.31 36 eP P 08 40 06.7 +2.4
comp=Z,47nm,2.1s,baz=310,slow=4.2
MOX Moxa 88.58 33 eL L 09 19 53.7
comp=Z,16µm,18.2s
CLL Collm 88.83 32 e(P) P 08 40 11.0 +4.3
CLL Collm 88.83 32 eP P 08 40 11.0 +4.3
GRF Grafenberg Arr 88.98 34 eP P 08 40 11.2 +3.7
comp=Z,33nm,1.4s,baz=310,slow=4.2
GRF eL L 09 19 22.9

	comp=Z,14μm,20.4s								
BRG	**Berggiesshubel**	**89.56**	**32**	*e*P		P		08 40 16.1	+5.9
BRG				Amp				08 40 17.6	
	comp=Z,4.4nm,1.1s								
BRG				Amp				09 07 44.0	
	comp=Z,54nm,15.0s								
BRG				Amp				09 07 47.0	
	comp=N,30nm,17.7s								
BRG				Amp				09 07 51.0	
	comp=E,32nm,13.5s								
GERES	**GERESS Array B**	**90.77**	**33**	P		**P**		**08 40 14.4**	**-1.6**
	comp=E,0.5nm,0.6s,baz=316,slow=5.4,SNR=4.5								
GERES	**GERESS Array B**	**90.77**	**33**	*e*P		**P**		**08 40 14.9**	**-1.1**
KLMR	**Klimovskoe**	**90.82**	**15**	*e*P		**P**		**08 40 13.0**	**-2.8**
KLMR				pmax		pmax			
	comp=Z,39nm,1.6s								
KLMR	**Klimovskoe**	**90.82**	**15**	*e*P		**P**		**08 40 13.0**	**-2.8**
KLMR				AMP				08 40 22.2	
	comp=Z,39nm,1.6s								
USRK	**Ussuriysk Ar.**	**91.01**	**321**	P		**P**		**08 40 16.1**	**-0.9**
	comp=Z,3.0nm,0.8s,baz=139,slow=44,SNR=2.7								
PRGR	**Permogore**	**91.36**	**12**	*e*P		**P**		**08 40 17.0**	**-1.2**
PRGR				pmax		pmax			
	comp=Z,35nm,0.9s								
MJA0	**Matsu Arr-Jizo**	**91.46**	**312**	*e*P		P		08 40 25.8	+6.5
MJA0				pmax		pmax			
	comp=Z,4.0nm,1.0s								
MJAR	**Matsushiro Arr**	**91.48**	**312**	P		**P**		**08 40 19.2**	**-0.2**
	comp=Z,2.5nm,1.1s,baz=63,slow=5.0,SNR=4.2								
MAT	**Matsushiro**	**91.48**	**312**	P		P		08 40 25.2	+5.8
ZST	**Bratislava**	**92.88**	**32**	*e*P		**P**		**08 40 26.3**	**+0.7**
ZST	**Bratislava**	**92.88**	**32**	*e*P		**P**		**08 40 26.3**	**+0.7**
VYHS	**Vyhne**	**93.51**	**31**	*e*P		**P**		**08 40 29.9**	**+1.4**
VYHS	**Vyhne**	**93.51**	**31**	*e*P		**P**		**08 40 29.9**	**+1.4**
CRVS	**Cervenica-Dubn**	**94.43**	**30**	*e*P		**P**		**08 40 33.4**	**+0.6**
CRVS	**Cervenica-Dubn**	**94.43**	**30**	*e*P		**P**		**08 40 33.4**	**+0.6**
CN2	**Changchun**	**94.91**	**323**	*e*P		**P**		**08 40 32.5**	**-2.5**
AKASG	**Malin Array Be**	**96.30**	**25**	P		**P**		**08 40 38.8**	**-2.3**
	comp=Z,0.2nm,0.2s,baz=299,slow=3.8,SNR=1.5								
ARU	**Arti**	**98.24**		***7c*** *i*P		**P**		**08 40 47.2**	**-2.6**
ARU				S		S		08 51 24.5	-52
ARU				SS		**SS**		**08 58 54.7**	**-3.4**
ARU				pmax		pmax			
	comp=Z,4.0nm,0.8s								
VAE	**Valguarnera**	**98.58**	**42**	LR		LR		09 22 57.9	
	comp=Z,9μm,18.5s,baz=3.0,slow=34								
SONM	**Songino Array**	**100.56**	**336**	P		**Pdif**		**08 41 01.6**	**+1.0**
	comp=Z,0.9nm,0.9s,baz=116,slow=3.4,SNR=3.3								
TORD	**Torodi Ar. Bea**	**103.09**	**69**	Pdiff		**Pdif**		**08 41 10.7**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=297,slow=4.7,SNR=2.1								
WRA	**Warramunga Arr**	**121.13**	**261**	PKP		**PKPdf**		**08 46 05.0**	**-1.2**
	comp=Z,2.0nm,1.0s,baz=81,slow=2.2,SNR=15								
WRA	**Warramunga Arr**	**121.13**	**261**	PKIKP		**PKPdf**		**08 46 05.5**	**-0.6**
WRA	**Warramunga Arr**	**121.13**	**261**			**PKPdf**		**08 46 05.5**	**-0.6**
ASAR	**Alice Springs**	**122.58**	**257**	PKP		**PKPdf**		**08 46 07.8**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=82,slow=2.3,SNR=6.4								
ASAR				PKKPbc		**PKKPab**		**08 56 02.5**	**0.0**
	comp=Z,1.1nm,0.8s,baz=256,slow=3.9,SNR=11								
ASAR	**Alice Springs**	**122.58**	**257**	PKIKP		**PKPdf**		**08 46 08.2**	**-0.7**
ASAR	**Alice Springs**	**122.58**	**257**			**PKPdf**		**08 46 08.2**	**-0.7**
SYO	**Syowa Base**	**132.34**	**166**‖	*e*X		**Pdif**		**08 43 11.6**	**-9.4**
SYO	**Syowa Base**	**132.34**	**166**‖	*e*X		**Pdif**		**08 43 20.6**	**-0.4**

IDC 13 08:32:16.3±2.2, 24°75N×109°26W, h0km, mb1 3.7/3, mb1mx3.5/45, mbtmp3.2/3, ML3.3/3, Error ellipse: s-maj=50.1km s-min=11.3km az=138.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.15**	**236**	Pg	Pg	08 32 38.2	-0.1
	46nm,0.3s,baz=102,slow=5.2,SNR=7.8						
LPIG				Lg	Lg	08 32 54.4	
	44nm,0.3s,baz=342,slow=20,SNR=4.1						
TXAR	**Lajitas Array**	**6.76**	**46**	Pn	Pn	08 33 57.1	+0.1
	0.1nm,0.3s,baz=228,slow=15,SNR=1.0						
TXAR				Sn	Sn	08 35 12.0	-2.8
	1.2nm,0.3s,baz=220,slow=22,SNR=1.6						
TXAR				Lg	Lg	08 35 52.1	
	0.4nm,0.3s,baz=226,slow=26,SNR=2.4						
NVAR	**Mina Array Bea**	**15.65**	**333**	Pn	P	08 36 00.7	-2.1
	0.0nm,0.3s,baz=166,slow=8.0,SNR=2.0						
PDAR	**Pinedale Array**	**17.98**	**359**	P	P	08 36 29.5	+1.0
	0.0nm,0.3s,baz=168,slow=18,SNR=3.0						

*IDC **13** 08:42:54.3±2.3, 24°69N×109°25W, h0km, mb1 3.6/4, mb1mx3.5/49, mbtmp3.3/4, ML3.4/4, Error ellipse: s-maj=46.7km s-min=10.1km az=137.0*
*MEX **13** 08:42:57.9±0.3, 25°24N×109°81W, h16km±8km, MD3.8*
ISC 13 08:42:57.3±1.0, 24°91N±0°07×109°42W±0°07, h17km, n9, σ2.33/11, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.77**	**26**	*i* P	**Pb**	**08 43 10.2**	**-2.1**
TSIG				*i* S	**Sb**	**08 43 19.8**	**-2.7**
LPIG	**La Paz**	**1.14**	**226**	Pg	**Pn**	**08 43 16.6**	**-1.9**
	39nm,0.3s,baz=228,slow=2.3,SNR=17						
LPIG				Lg	Lg	08 43 30.4	
	100nm,0.3s,baz=132,slow=21,SNR=8.3						
LPIG	**La Paz**	**1.14**	**226**	*e*P	**Pb**	**08 43 16.5**	**-2.1**
SSIG	**Sanalona**	**2.07**	**92**	*e*P	**Pb**	**08 43 34.2**	**-0.2**
CSIG	**Choix**	**2.13**	**26**	*e*P	**Pn**	**08 43 31.1**	**-1.2**
TXAR	**Lajitas Array**	**6.76**	**48**	Pn	**Pn**	**08 44 35.8**	**-0.1**
	0.3nm,0.3s,baz=232,slow=13,SNR=12						
TXAR				Sn	**Sn**	**08 45 52.4**	**-0.1**
	0.3nm,0.3s,baz=222,slow=14,SNR=1.0						
TXAR				Lg	Lg	08 46 29.5	
	0.4nm,0.3s,baz=236,slow=30,SNR=7.5						
ANMO	**Albuquerque**	**10.33**	**14**	Pn	**Pn**	**08 45 28.4**	**+3.5**
	0.1nm,0.3s,baz=198,slow=13,SNR=3.5						
ANMO				Lg	Lg	08 48 25.6	
	0.1nm,0.3s,baz=131,slow=20,SNR=1.2						
NVAR	**Mina Array Bea**	**15.45**	**333**	Pn	**P**	**08 46 41.3**	**+2.2**
	0.0nm,0.3s,baz=148,slow=12,SNR=5.2						
PDAR	**Pinedale Array**	**17.82**	**360**	Pn	**P**	**08 47 07.7**	**+2.3**
	0.0nm,0.3s,baz=179,slow=8.3,SNR=3.7						

OMAN 13 08:56:27.6±0.6, 14°41N×51°78E, h10km, ml3.5/4, ms4.2/2, Error ellipse: s-maj=18.5km s-min=7.9km az=295.0, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**3.27**	**26**	P	Pn	08 57 18.5	-0.4
	SNR=6.7						
ABTO				S	Sn	08 57 59.0	+1.0
RBK	**Rabkut**	**3.86**	**37**	P	Pn	08 57 27.5	+0.4
WHFO	**Wadi Hawf**	**3.98**	**29**	P	Pn	08 57 28.4	-0.3
	SNR=35						
WHFO				S	Sn	08 58 15.8	+0.3
DMTO	**DMTO**	**4.48**	**42**	P	Pn	08 57 35.4	-0.1
	SNR=15						
DMTO				S	Sn	08 58 29.2	+1.4
DOK	**Doka**	**4.75**	**28**	P	Pn	08 57 39.1	-0.2
	SNR=14						
DOK				S	Sn	08 58 36.1	+1.6
MHTO	**MHTO**	**8.80**	**41**	P	Pn	08 58 34.6	-0.4
BANOM	**Banah**	**12.21**	**20**	P	Pn	08 59 23.4	+1.7

*MEX **13** 09:02:16.9±0.6, 14°49N×93°69W, h127km±45km, MD4.2*
*IDC **13** 09:02:19.4±3.7, 15°08N×93°21W, h0km, mb3.6/4, mb1 3.9/7, mb1mx3.7/40, mbtmp3.6/7, ML3.0/2, Error ellipse: s-maj=139.7km s-min=25.6km az=39.0*
ISC 13 09:02:20.6±4.0, 14°5N±0°1×93°71W±0°09, h27km±25km, n11, σ1°31/16, mb3.7/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.26**	**22**	*i* P	**Pn**	**09 02 41.2**	**-1.2**
PCIG				*i* S	**Sb**	**09 02 60.0**	**+0.5**
THIG		**1.45**	**75**	*e*P	**Pn**	**09 02 42.4**	**-2.6**
THIG				*i* S	**Sn**	**09 03 02.4**	**-0.7**
TGIG		**2.31**	**14**	*e*P	**Pn**	**09 02 57.6**	**+0.7**
TGIG				*i* S	**Sb**	**09 03 28.8**	**-0.8**
CCIG	**Comitan**	**2.31**	**41**	*e*P	**Pn**	**09 02 57.9**	**+0.9**
CCIG				*i* S	**Sb**	**09 03 31.0**	**+1.2**
CMIG	**Matias Romero**	**2.79**	**336**	Pn	**Pn**	**09 03 02.5**	**-0.9**
	3.9nm,0.3s,baz=183,slow=12,SNR=57						
CMIG				Sn	**Sn**	**09 03 35.0**	**-1.2**
	11nm,0.3s,baz=339,slow=22,SNR=7.9						

JTS	**Las Juntas de**	**9.53**	**115**	Pn		**Pn**		**09 04 36.2**	**0.0**
	0.1nm,0.3s,baz=308,slow=5.1,SNR=3.2								
TXAR	**Lajitas Array**	**17.37**	**330**	Pn		**P**		**09 06 23.7**	**+1.3**
	baz=155,slow=13,SNR=4.4								
PDAR	**Pinedale Array**	**31.27**	**337**	P		**P**		**09 08 39.1**	**+0.6**
	0.5nm,0.9s,baz=135,slow=9.0,SNR=3.9								
NVAR	**Mina Array Bea**	**32.23**	**322**	P		**P**		**09 08 49.0**	**+2.0**
	0.6nm,0.7s,baz=128,slow=8.8,SNR=5.8								
ILAR	**Eielson Array**	**61.70**	**337**	P		**P**		**09 12 35.8**	**-0.3**
	0.5nm,0.8s,baz=138,slow=5.6,SNR=5.9								
NOA	**NORSAR Array B**	**84.47**	**28**	P		**P**		**09 14 50.6**	**-0.2**
	1.1nm,0.9s,baz=292,slow=4.7,SNR=3.0								

TAP 13 09:06:11.8, 24°87N×121°99E, h89km, ML2.7, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.06**	**243**	*e*P	Pn	09 06 24.7	+0.3
	baz=234						
TWB1	**Santiao Chiao**	**0.14**	**360**	*e*P	Pn	09 06 24.6	+0.1
	baz=3.0						
TWB1				*e*S	Sn	09 06 33.6	-0.3
	baz=3.0						
NTC	**Toucheng**	**0.15**	**263**	*e*P	Pn	09 06 24.7	+0.2
	baz=263						
TIPB	**Shuangxi**	**0.18**	**304**	P	Pn	09 06 24.7	+0.1
	baz=303						
TIPB				*e*S	Sn	09 06 33.8	-0.4
	baz=303						
NWF	**Wu-fen Shan**	**0.27**	**316**	P	Pn	09 06 25.2	+0.1
	baz=316						
NWF				S	Sn	09 06 35.1	+0.1
	baz=316						
WFSB	**Wu-fen Shan**	**0.27**	**316**	P	Pn	09 06 25.2	+0.2
	baz=316						
WFSB				*e*S	Sn	09 06 35.3	+0.5
	baz=316						
TWC	**Suao**	**0.29**	**206**	*e*P	Pn	09 06 25.7	+0.6
	baz=204						
TWC				*e*S	Sn	09 06 34.2	-0.7
	baz=204						
TWE	**Neicheng**	**0.33**	**243**	P	Pn	09 06 25.4	+0.1
	baz=241						
NDS	**Dongshan**	**0.34**	**226**	*e*P	Pn	09 06 26.1	+0.7
	baz=226						
NDS				*e*S	Sn	09 06 36.6	+1.1
	baz=226						
ENTT	**Nioudou**	**0.45**	**239**	*e*P	Pn	09 06 26.8	+0.7
	baz=238						
ENTT				*e*S	Sn	09 06 38.0	+1.3
	baz=238						
NWLT	**Wulai**	**0.45**	**258**	P	Pn	09 06 26.5	+0.4
	baz=257						
NWLT				*e*S	Sn	09 06 37.8	+1.0
	baz=257						
EWUT	**Wuta**	**0.47**	**204**	*e*P	Pn	09 06 26.6	+0.4
	baz=204						
EWUT				*e*S	Sn	09 06 37.0	+0.1
	baz=204						
YM01	**YM01**	**0.47**	**306**	P	Pn	09 06 26.4	+0.2
	baz=305						
ENA	**Nanau**	**0.50**	**207**	P	Pn	09 06 26.8	+0.4
	baz=206						
ENA				S	Sn	09 06 38.0	+0.6
	baz=206						
NDT	**Datong Townshi**	**0.51**	**238**	*e*P	Pn	09 06 27.2	+0.6
	baz=238						
NDT				*e*S	Sn	09 06 38.6	+1.1
	baz=238						
YHNB	**Yeheng**	**0.59**	**250**	P	Pn	09 06 27.6	+0.2
	baz=250						
YHNB				*e*S	Sn	09 06 38.9	0.0
	baz=250						
NSK	**Sanguang**	**0.61**	**251**	P	Pn	09 06 27.6	+0.1
	baz=250						
NSK				S	Sn	09 06 39.2	+0.1
	baz=250						
NNS	**Nan Shan**	**0.71**	**233**	*e*P	Pn	09 06 29.0	+0.5
	baz=231						
NNS				S	Sn	09 06 41.0	+0.2
	baz=231						
NNSB	**Datong**	**0.71**	**231**	P	Pn	09 06 28.8	+0.3
	baz=231						
NNSB				S	Sn	09 06 41.0	+0.1
	baz=231						
NCUH	**Zhongli**	**0.74**	**278**	*e*P	Pn	09 06 29.2	+0.6
	baz=277						
NCUH				*e*S	Sn	09 06 42.5	+1.3
	baz=277						
NACB	**Ninganchiao**	**0.78**	**207**	*e*P	Pn	09 06 28.4	-0.7
	baz=207						
NACB				*e*S	Sn	09 06 41.5	-0.5
	baz=207						
ETLH	**Xiulin Townshi**	**0.81**	**215**	*e*P	Pn	09 06 29.0	-0.4
	baz=214						
ETLH				*e*S	Sn	09 06 41.7	-0.9
	baz=214						
LIOB	**Emei**	**0.91**	**256**	P	Pn	09 06 30.9	+0.4
	baz=255						
LIOB				S	Sn	09 06 44.9	+0.4
	baz=255						
FUSS	**Fushou**	**0.92**	**228**	P	Pn	09 06 31.1	+0.3
	baz=227						
FUSS				S	Sn	09 06 45.0	0.0
	baz=227						
NSTT	**Nanjuang**	**0.93**	**255**	P	Pn	09 06 30.9	+0.3
	baz=254						
NSTT				*e*S	Sn	09 06 44.6	-0.2
	baz=254						
TWT	**Tachien**	**0.96**	**230**	*e*P	Pn	09 06 32.2	+1.0
	baz=230						
TWT				*e*S	Sn	09 06 46.4	+0.7
	baz=230						
TDCB	**Techi**	**0.98**	**231**	*e*P	Pn	09 06 32.2	+0.9
	baz=230						
TDCB				S	Sn	09 06 46.2	+0.3
	baz=230						
WHF	**Hehuan Shan**	**0.98**	**222**	P	Pn	09 06 31.7	0.0
	baz=221						
WHF				*e*S	Sn	09 06 46.0	-0.5
	baz=221						
CHGB	**Renai**	**1.10**	**223**	P	Pn	09 06 33.1	+0.3
	baz=222						
CHGB				*e*S	Sn	09 06 48.0	-0.6
	baz=222						
WHP	**Taichung City**	**1.12**	**238**	P	Pn	09 06 33.4	+0.5
	baz=238						
WHP				*e*S	Sn	09 06 48.9	+0.1
	baz=238						
OWD	**Renai**	**1.18**	**219**	*e*P	Pn	09 06 34.2	+0.5
	baz=219						
TYC	**Yuchr**	**1.41**	**227**	*e*P	Pn	09 06 36.9	+0.5
	baz=226						
SSLB	**Suanglung**	**1.43**	**221**	*e*P	Pn	09 06 37.2	+0.5
	baz=221						
SSLB				*e*S	Sn	09 06 56.1	+0.6
	baz=221						
EHY	**Hungye**	**1.49**	**204**	*e*P	Pn	09 06 38.2	+0.8
	baz=203						
EHY				*e*S	Sn	09 06 57.3	+0.6
	baz=203						
ALS	**Alishan**	**1.73**	**219**	*e*P	Pn	09 06 41.6	+0.8
	baz=218						
CHN5	**Tsauling**	**1.75**	**224**	*e*P	Pn	09 06 41.2	+0.4
	baz=223						

JMA 13 09:06:22.3±0.2, 24°94N×124°00E, h14km, M1.3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.45**	**141**	P	Pg	09 06 31.2	-0.1
JISG				S	Sg	09 06 37.7	+0.4
JIJ	**Ishigaki jima**	**0.59**	**167**	P	Pg	09 06 33.5	-0.4
JIJ				*e*S	Sg	09 06 41.0	-0.7
IRIF	**Iriomote-Funau**	**0.65**	**202**	P	Pg	09 06 34.9	-0.1
JKRS	**Kuro-shima**	**0.70**	**179**	*e*S	Sg	09 06 45.1	-0.1
JTJ	**Tarama**	**0.70**	**115**	*e*S	Sg	09 06 45.6	+0.3
HATJ	**Hateruma jima**	**0.90**	**191**	*e*S	Sg	09 06 51.4	0.0

*IDC **13** 09:17:29.8±1.0, 55°75S×27°48W, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.9/20, mbtmp3.9/6, Error ellipse: s-maj=42.1km s-min=21.7km az=65.0*
ISC 13 09:17:42.9±0.9, 55°9S±0°2×27°6W±0°2, h112km, n12, σ0°93/9, mb3.9/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	**Neumayer--Watz**	**17.45**	**158**	P	**P**	**09 21 37.2**	**-1.2**
	baz=311,slow=13						
SNAA	**Sanae**	**19.00**	**156**	P	**P**	**09 21 54.1**	**-1.4**
QSPA	**South Pole Qui**	**34.38**	**180**	P	**P**	**09 24 19.1**	**+0.2**
	1.0nm,0.4s,baz=79,slow=8.2,SNR=4.8						
CPUP	**Villa Florida**	**36.52**	**312**	P	**P**	**09 24 36.7**	**-0.6**
	0.9nm,0.5s,baz=146,slow=11,SNR=2.9						
MAW	**Mawson**	**40.43**	**144**	P	**P**	**09 25 09.9**	**+0.4**
	0.6nm,0.3s,baz=232,slow=9.1,SNR=1.8						
VNDA	**Vanda**	**46.74**	**183**	P	**P**	**09 26 01.0**	**+1.0**
	0.6nm,0.5s,baz=200,slow=4.8,SNR=2.6						
H10N1	**ASCENSION HYDR**	**49.01**	**17**	T	T	10 19 31.5	
	baz=189						
H10N3	**ASCENSION HYDR**	**49.01**	**17**	T	T	10 19 50.6	
	baz=189						
H10N2	**ASCENSION HYDR**	**49.03**	**17**	T	T	10 19 39.7	
	baz=189						
LPAZ	**La Paz**	**50.09**	**306**	P	**P**	**09 26 27.3**	**+0.2**
	1.3nm,0.5s,baz=137,slow=4.3,SNR=16						
TORD	**Torodi Ar. Bea**	**73.01**	**30**	P	**P**	**09 29 00.6**	**+0.4**
	0.2nm,0.4s,baz=197,slow=5.8,SNR=4.6						
ILAR	**Eielson Array**	**149.83**	**312**	PKPbc	**PKiKP**	**09 37 18.8**	**-0.3**
	1.3nm,0.7s,baz=129,slow=1.9,SNR=13						

MEX 13 09:24:13.6±0.7, 25°36N×109°96W, h16km±20km, MD3.8, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.86**	**74**	*e*P	Pb	09 24 27.2	-3.0
TSIG				*i* S	Sb	09 24 37.2	-4.3
LPIG	**La Paz**	**1.29**	**194**	*i* P	Pn	09 24 33.0	-4.0
SSIG	**Sanalona**	**2.61**	**101**	*e*P	Pn	09 24 52.7	-2.4

*TUL **13** 09:30:39.8±1.6, 36°59N±0°02×98°30W±0°03, h4km±7km, ML2.7, mb_Lg2.6/12(NEIC), Error ellipse: s-maj=3.7km s-min=2.6km az=111.0*
NEIC 13 09:30:39.9±1.4, 36°57N±0°01×98°27W±0°02, h5km±2km, Error ellipse: s-maj=3.1km s-min=2.7km az=278.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.24**	**12**	Pg	Pg	09 30 44.8	+0.2
OK032				Sg	Sg	09 30 48.3	+0.5
CROK	**Carrier**	**0.24**	**106**	Pg	Pg	09 30 45.4	+0.8
CROK				Sg	Sg	09 30 49.3	+1.5
GC02	**Grant County #**	**0.43**	**49**		Pg	09 30 48.7	+0.4
GC02				Sg	Sg	09 30 55.0	+1.0
KAN14	**Manchester OK**	**0.46**	**32**		Pg	09 30 49.0	+0.2
KAN14				Sg	Sg	09 30 55.3	+0.5
U32A	**Winter Ranch,**	**0.62**	**252**	Pg	Pg	09 30 51.6	-0.2
U32A				Sg	Sg	09 30 59.9	+0.1
KAN17	**Caldwell West**	**0.62**	**40**		Pg	09 30 51.9	0.0
KAN17				Sg	Sg	09 31 00.4	+0.4
KAN05	**Bluff City Nor**	**0.62**	**31**	Pg	Pg	09 30 51.8	-0.1
KAN05				Sg	Sg	09 31 00.7	+0.6
KAN12	**Harper NE Stat**	**0.76**	**17**	Pg	Pg	09 30 54.2	-0.2
KAN12				Sg	Sg	09 31 04.6	+0.2
KAN13	**South Haven SW**	**0.78**	**55**		Pg	09 30 54.6	-0.2
KAN13				Sg	Sg	09 31 05.6	+0.8
BLOK	**Blackwell**	**0.87**	**77**		Pg	09 30 56.6	0.0
BLOK				Sg	Sg	09 31 08.6	+0.7
KS20	**Mayfield South**	**0.87**	**41**	Pg	Pg	09 30 56.4	-0.3
KS20				Sg	Sg	09 31 08.3	+0.2
OK029	**Liberty Lake**	**1.01**	**139**		Pg	09 30 59.3	-0.1
OK029				Sg	Sb	09 31 13.4	-0.2
OK025	**Westminster Rd**	**1.24**	**142**		Pg	09 31 03.2	-0.5
OK025				Sg	Sb	09 31 20.6	+0.4
OK031	**S. Brethren Rd**	**1.31**	**118**		Pn	09 31 04.6	-0.3
QUOK	**Quay**	**1.32**	**107**		Pn	09 31 04.9	-0.2
OKCFA	**Oklahoma City**	**1.33**	**150**		Pn	09 31 04.5	-0.7
OKCSW	**OKLAHOMA CITY**	**1.34**	**150**		Pn	09 31 04.8	-0.5
T35A	**Sooner Cattle**	**1.45**	**76**		Pn	09 31 07.0	+0.1
FNO	**Franklin**	**1.49**	**151**		Pn	09 31 07.3	-0.1
WMOK	**Wichita Mounta**	**1.88**	**193**		Pn	09 31 13.3	+0.6
R32A	**Long Quarter,**	**1.88**	**349**		Pn	09 31 12.1	-0.7
X34A	**Smith Ranch, M**	**2.00**	**170**		Pb	09 31 15.5	-1.2
CBKS	**Cedar Bluff**	**2.52**	**333**		Pn	09 31 20.7	-0.9
LOOK	**Love County**	**2.72**	**161**	Pn	Pn	09 31 23.9	-0.4
KSU1	**Kansas State U**	**2.85**	**27**		Pn	09 31 25.9	-0.1
X37A	**Clayton**	**3.08**	**129**		Pn	09 31 29.6	+0.3
U38A	**Gravette**	**3.13**	**91**		Pn	09 31 30.2	+0.2
AMTX	**Amarillo**	**3.25**	**240**		Pn	09 31 30.8	-0.7
Z35A	**Perchaven, San**	**3.34**	**165**	Pn	Pn	09 31 32.4	-0.4
W39A	**Magazine**	**3.89**	**109**	Pn	Pn	09 31 41.5	+1.2
W39A				IAmb_Lg		09 32 52.6	
	comp=Z,11nm,0.8s						
ABTX	**Abilene, Hawle**	**4.10**	**196**	Pn	Pn	09 31 43.7	+0.5
S39A	**Bolivar**	**4.11**	**73**		Pn	09 31 43.5	+0.2
S39A				IAmb_Lg		09 32 52.6	
	comp=Z,13nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.22**	**307**		Pn	09 31 43.9	-1.2
MIAR	**Mount Ida**	**4.33**	**116**	Pn	Pn	09 31 46.7	+0.3
MIAR				IAmb_Lg		09 33 04.7	
	comp=Z,14nm,1.2s						
U40A	**Yellville**	**4.37**	**91**	Pn	Pn	09 31 46.8	-0.2
U40A				IAmb_Lg		09 32 59.8	
	comp=Z,15nm,0.8s						
MSTX	**Muleshoe**	**4.50**	**236**	Pn	Pn	09 31 49.7	+0.8
WHTX	**Lake Whitney,**	**4.62**	**171**	Pn	Pn	09 31 49.5	-0.9
N35A	**Tabor**	**4.75**	**25**	Pn	Pn	09 31 50.4	-1.9
MGMO	**Mountain Grove**	**4.85**	**81**	Pn	Pn	09 31 54.4	+0.8
X40A	**Basin Creek Fa**	**4.90**	**114**	Pn	Pn	09 31 52.8	-1.4
T25A	**Trinidad**	**4.96**	**278**	Pn	Pn	09 31 54.2	-1.1
FCAR	**Ozark Folk Cen**	**5.01**	**96**	Pn	Pn	09 31 54.8	-1.0
FCAR				IAmb_Lg		09 33 24.4	
	comp=Z,6.9nm,0.7s						
WHAR	**Wooly Hollow**	**5.02**	**103**	Pn	Pn	09 31 55.5	-0.3
R40A	**Maddies Statio**	**5.08**	**68**	Pn	Pn	09 31 56.4	-0

JMK				S	S	09 36 54.3	+0.7
BSO1	Boso 1	5.04	117	P	Pn	09 35 51.4	+0.1
KSRS	Korea Array	6.06	276	P	Pn	09 36 05.5	+2.3
	0.1nm,0.3s,baz=93,slow=12,SNR=5.7						
SONM	Songino Array	23.90	306	P	P	09 39 12.8	-2.4
	0.2nm,0.3s,baz=105,slow=9.1,SNR=2.0						
MKAR	Makanchi Array	40.09	301	P	P	09 41 34.1	-0.3
	0.4nm,0.5s,baz=81,slow=9.5,SNR=2.9						
WRA	Warramunga Arr	56.69	181	P	P	09 43 39.0	-0.9
	0.6nm,0.3s,baz=359,slow=7.0,SNR=26						
ASAR	Alice Springs	60.40	182	P	P	09 44 04.4	-0.9
	0.2nm,0.5s,baz=16,slow=13,SNR=1.6						
FINES	FINESS Array B	66.54	330	P	P	09 44 44.0	-0.5
	2.9nm,1.1s,baz=91,slow=5.8,SNR=4.1						

PLV ***13*** *09:43:44.1±1.2,23.07N×103.55E,h20km±458km,ML3.9*
ISC 13 09:43:52.5±3.3,22.7N±0.2×103.29E±0.0,h10km,n30, σ0§61/30,Yunnan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
MLAV	Muong La stati	0.66	191	*e*Pg			Pb	09 44 05.7	-0.4
MLAV				*e*Sg			Sn	09 44 19.6	+1.4
MLAV				IAML				09 44 24.3	
	comp=E,2μm,0.4s								
MLAV				IAML				09 44 26.1	
	comp=N,636nm,0.8s								
TGV	Tuan Giao	1.10	174	*i* Pg			Pg	09 44 13.1	-0.5
TGV				IAML				09 44 36.0	
	comp=N,822nm,0.4s								
TGV				IAML				09 44 37.1	
	comp=E,1μm,0.9s								
DBV	Dienbien	1.31	191	*e*Pg			Pb	09 44 16.9	-0.5
DBV				IAML				09 44 45.1	
	comp=E,2μm,0.3s								
DBV				IAML				09 44 45.5	
	comp=N,3μm,0.4s								
HBVN	Hoa-Binh	2.66	134	*e*Pg			Pn	09 44 35.8	+0.3
HBVN				*e*Sg			Sb	09 45 13.1	+0.1
HBVN				IAML				09 45 14.9	
	comp=E,692nm,0.2s								
HBVN				IAML				09 45 22.7	
	comp=N,1μm,0.3s								
NONG	Nongkai	4.60	182	P		Pg		09 45 34.2	+14
	comp=N,17nm,0.6s								
NONG	Nongkai	4.60	182	P		Pg		09 45 34.2	+14
	comp=N,0.4nmcomp=N,18nm,0.6s								
PAYA	Payao	4.60	225	P		Pg		09 45 21.1	+0.4
CM34	Chiang Mai Arr	5.44	226	P		Pg		09 45 36.0	-0.7
CM35	Chiang Mai Arr	5.56	225	P		Pg		09 45 38.0	-1.0
CM33	Chiang Mai Arr	5.60	227	P		Pg		09 45 40.0	+0.2
CMMT	Chiang Mai	5.60	227	P		Pg		09 45 40.1	+0.2
	comp=N,7.2nm,0.7s								
CMMT	Chiang Mai	5.60	227	P		Pg		09 45 40.0	+0.2
	comp=N,0.1nmcomp=N,7.2nm,0.7s								
CHTO	Chiang Mai	5.60	227	P		Pg		09 45 40.2	+0.3
	comp=N,8.1nm,1.2s								
CM36	Chiang Mai Arr	5.71	224	P		Pg		09 45 41.0	-1.0
CM32	Chiang Mai Arr	5.78	227	P		Pg		09 45 43.0	-0.3
CM09	Chiang Mai Arr	5.84	224	P		Pg		09 45 44.2	-0.1
	comp=N,139nmcomp=N,15nm,0.8s								
CM09	Chiang Mai Arr	5.84	224	P		Pg		09 45 44.0	-0.3
	comp=N,0.1nmcomp=N,139nmcomp=N,15nm,0.8s								
CM31	Chiang Mai Arr	5.86	225	P		Pg		09 45 44.7	0.0
	comp=N,1.9nmcomp=N,549nm,0.6s								
CM02	Chiang Mai Arr	5.87	225	P		Pg		09 45 44.2	-0.8
	comp=N,163nmcomp=N,24nm,0.8s								
CM02	Chiang Mai Arr	5.87	225	P		Pg		09 45 44.2	-0.8
	comp=N,0.1nmcomp=N,163nmcomp=N,24nm,0.8s								
CM15	Chiang Mai Arr	5.87	225	P		Pg		09 45 44.6	-0.4
	comp=N,226nmcomp=N,19nm,0.8s								
CM15	Chiang Mai Arr	5.87	225	P		Pg		09 45 44.6	-0.4
	comp=N,0.1nmcomp=N,226nmcomp=N,19nm,0.8s								
CM01	Chiang Mai Arr	5.87	225	P		Pg		09 45 44.6	-0.4
	comp=N,120nmcomp=N,15nm,0.8s								
CM01	Chiang Mai Arr	5.87	225	P		Pg		09 45 44.6	-0.4
	comp=N,0.1nmcomp=N,120nmcomp=N,15nm,0.8s								
CM04	Chiang Mai Arr	5.88	224	P		Pg		09 45 44.5	-0.6
	comp=N,166nmcomp=N,19nm,0.8s								
CM04	Chiang Mai Arr	5.88	224	P		Pg		09 45 44.0	-1.1
	comp=N,0.1nmcomp=N,166nmcomp=N,19nm,0.8s								
CM05	Chiang Mai Arr	5.90	224	P		Pg		09 45 45.0	-0.5
	comp=N,124nmcomp=N,12nm,0.8s								
CM05	Chiang Mai Arr	5.90	224	P		Pg		09 45 45.0	-0.5
	comp=N,0.0nmcomp=N,124nmcomp=N,12nm,0.8s								
CM13	Chiang Mai Arr	5.91	225	P		Pg		09 45 45.1	-0.6
	comp=N,16nm,0.8s								
CM13	Chiang Mai Arr	5.91	225	P		Pg		09 45 45.0	-0.6

IDC ***13*** *09:52:23.5±1.8,24.85N×109.36W,h0km,mb1 3.6/4, mb1mx3.4/49,mbtmp3.2/4,ML3.8/3,Error ellipse: s-maj=41.9km s-min=10.2km az=133.0*
MEX ***13*** *09:52:26.8±0.3,25.09N×109.59W,h11km±8km,MD3.9*
ISC 13 09:52:25.4±1.0,25.0N±0.1×109.47W±0.10,h17km,n8, σ1§45/10,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
TSIG	Topolobambo	0.75	31	*i* P			Pb	09 52 38.8	-1.2
TSIG				*i* S			Sb	09 52 48.1	-1.9
LPIG	La Paz	1.14	222	P	g		Pg	09 52 47.3	-0.2
	38nm,0.3s,baz=90,slow=2.0,SNR=22								
LPIG					Lg		Lg	09 52 58.9	
	43nm,0.3s,baz=202,slow=6.8,SNR=8.8								
LPIG	La Paz	1.14	222	*e*P			Pn	09 52 45.4	-1.1
SSIG	Sanalona	2.12	93	*e*P			Pn	09 53 00.7	+0.6
TXAR	Lajitas Array	6.76	49	Pn			Pn	09 54 04.2	+0.2
	0.1nm,0.3s,baz=227,slow=13,SNR=8.2								
TXAR					Sn		Sn	09 55 20.2	-0.6
	0.7nm,0.3s,baz=223,slow=20,SNR=9.7								
TXAR					Lg		Lg	09 55 56.7	
	0.8nm,0.3s,baz=230,slow=27,SNR=9.5								
ANMO	Albuquerque	10.29	14	Pn			Pn	09 54 54.8	+2.3
	0.0nm,0.3s,baz=208,slow=13,SNR=5.7								
NVAR	Mina Array Bea	15.38	333	Pn			P	09 56 08.0	+1.5
	0.1nm,0.3s,baz=153,slow=12,SNR=5.2								
PDAR	Pinedale Array	17.77	360	P			P	09 56 32.6	-0.3
	0.2nm,0.3s,baz=164,slow=10,SNR=3.7								

NOU ***13*** *09:52:50.4,38.85S×176.51E,h77km,MLv4.0/10,North Island, New Zealand*
IDC ***13*** *09:52:52.2±2.5,37.98S×176.51E,h78km±48km,mb3.5/3, mb1 3.7/3,mb1mx3.3/31,mbtmp3.8/3,Error ellipse: s-maj=198.4km s-min=54.0km az=5.0*
WEL ***13*** *09:52:52.4±0.3,39°S±2°×17°6E±°,h51km±4km,M3.5/71, ML3.8/73,MLv3.5/71,Error ellipse: s-maj=0.0km s-min=0.0km az=125.0*
ISC 13 09:52:50.9±0.9,38.80S±0.03×176.38E±0.03,h74km±5km, n149,σ1§10/155,mb3.9/3,North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
MRHZ	Matea Rd	0.05	139	P			Pn	09 53 01.8	+0.2
MRHZ				S			Sn	09 53 08.9	-0.6
ALRZ	Allen Road	0.24	353	P			Pn	09 53 02.2	0.0
ALRZ				S			Sn	09 53 10.2	-0.3
HATZ	Hinemaiaia	0.24	248	P			Pn	09 53 02.6	+0.4
HATZ				S			Sn	09 53 09.9	-0.6
PRRZ	Plateau Road	0.30	2	P			Pn	09 53 02.5	-0.1
WPRZ	Whakapapaparin	0.33	329	P			Pn	09 53 02.8	+0.1
WHTZ	Whakaora	0.35	292	P			Pn	09 53 03.7	+0.7
MTHZ	Maungataniwha	0.36	99	P			Pn	09 53 03.6	+0.6
MTHZ				S			Sn	09 53 12.0	0.0
BKZ	Black Stump Fm	0.38	166	P			Pn	09 53 03.8	+0.6
BKZ				S			Sn	09 53 12.6	+0.5
HRRZ	Handcock Road	0.41	350	P			Pn	09 53 03.6	+0.1
RITZ	Rihia Road	0.44	246	P			Pn	09 53 04.5	+0.9
MUGZ	Murupara	0.45	44	P			Pn	09 53 03.6	0.0
NMHZ	Naumai	0.45	132	P			Pn	09 53 05.1	+1.4
RRRZ	Republican Roa	0.47	13	P			Pn	09 53 03.9	0.0
RATZ	Rangitukua	0.48	262	P			Pn	09 53 04.5	+0.5
GRRZ	Galatos Road	0.50	335	P			Pn	09 53 04.6	+0.5
HSRZ	Hossack Road	0.50	348	P			Pn	09 53 04.4	+0.3
RTZ	Ruatahuna	0.51	69	P			Pn	09 53 04.6	+0.4
WATZ	Wairara	0.51	280	P			Pn	09 53 04.7	+0.4
KUTZ	Kaahu Road	0.53	305	P			Pn	09 53 04.8	+0.4
HLRZ	Highlands Stat	0.55	358	P			Pn	09 53 05.3	+0.7
KATZ	Kakaramea	0.56	252	P			Pn	09 53 05.5	+0.7
RAHZ	Arahi	0.56	102	P			Pn	09 53 05.9	+1.1
TARZ	Mount Tarawera	0.57	10	P			Pn	09 53 05.2	+0.3
TMVZ	Te Maari	0.61	239	P			Pn	09 53 06.3	+0.9
ETVZ	East Tongariro	0.62	237	P			Pn	09 53 06.3	+0.9
NTVZ	North Tongarir	0.62	241	P			Pn	09 53 06.3	+0.8
KWHZ	Kaweka Forest	0.62	177	P			Pn	09 53 06.7	+1.3
UTU	Utuhina	0.64	347	P			Pn	09 53 06.0	+0.5
KRVZ	Karewarewa	0.65	243	P			Pn	09 53 06.6	+0.9
MKRZ	Makatiti	0.66	6	P			Pn	09 53 06.5	+0.6
OTVZ	Oturere	0.66	237	P			Pn	09 53 06.9	+1.0
ARHZ	Aropaoanui	0.67	134	P			Pn	09 53 07.4	+1.6
NNVZ	North Ngauruho	0.68	241	P			Pn	09 53 07.2	+1.1
MCHZ	McNeill Hill	0.69	159	P			Pn	09 53 08.0	+2.0
WTVZ	West Tongariro	0.69	243	P			Pn	09 53 07.1	+0.9
OMRZ	Omania	0.69	360	P			Pn	09 53 06.2	+0.1
SNVZ	South Ngauruho	0.69	236	P			Pn	09 53 07.2	+1.0
NGNZ	Ngongotaha	0.71	348	P			Pn	09 53 06.8	+0.5
NGZ	Ngauruhoe	0.71	238	P			Pn	09 53 07.6	+1.1
WHHZ	Waihua	0.72	113	P			Pn	09 53 08.4	+2.0
BHHZ	Black Hill Sta	0.73	199	P			Pn	09 53 07.5	+1.0
TUVZ	Tukino	0.73	230	P			Pn	09 53 07.7	+1.0
EDRZ	Edgecumbe	0.75	22	P			Pn	09 53 06.7	0.0
SNGZ	Shannon Statio	0.75	89	P			Pn	09 53 07.9	+1.2
MOVZ	Moawhango	0.78	219	P			Pn	09 53 07.9	+0.8
TWVZ	Taurewa	0.78	249	P			Pn	09 53 07.8	+0.7
WHVZ	Whangaehu Hut	0.78	232	P			Pn	09 53 08.2	+1.0
KARZ	Kaharoa	0.79	352	P			Pn	09 53 07.6	+0.5
FWVZ	Far West T-bar	0.79	234	P			Pn	09 53 08.4	+1.0
URZ	Urewera	0.79	47	P			Pn	09 53 07.1	+0.1
	284nm,0.3s,baz=237,slow=5.5,SNR=2045								
URZ					S		Sn	09 53 18.5	-0.5
	204nm,0.3s,baz=105,slow=17,SNR=36								
URZ	Urewera	0.79	47	P			Pn	09 53 07.2	+0.1
DRZ	Dome Shelter	0.79	233	P			Pn	09 53 08.6	+1.1
WNVZ	Wahianoa	0.80	229	P			Pn	09 53 08.5	+1.0
TLZ	Tolley Road	0.81	305	P			Pn	09 53 08.0	+0.6
TRVZ	Turoa	0.82	232	P			Pn	09 53 08.7	+1.0
KRHZ	Kereru	0.84	180	P			Pn	09 53 09.2	+1.4
MARZ	Manawahe	0.85	16	P			Pn	09 53 07.9	+0.1
RAGZ	Rawiri	0.87	70	P			Pn	09 53 08.7	+0.6
MTVZ	Mangateitei	0.92	230	P			Pn	09 53 09.8	+1.1
PKVZ	Pokaka	0.94	238	P			Pn	09 53 10.0	+1.0
OPRZ	Ohinepanea	0.96	8	P			Pn	09 53 09.1	0.0
KMRZ	Kaimai	1.01	340	P			Pn	09 53 10.3	+0.5
MWZ	Matawai	1.01	63	P			Pn	09 53 10.3	+0.5
CKHZ	Cape Kidnapper	1.01	148	P			Pn	09 53 11.3	+1.5
KNZ	Kokohu	1.03	103	P			Pn	09 53 11.7	+1.7
WHRZ	Whale Island	1.05	27	P			Pn	09 53 10.9	+0.6
KAHZ	Kahuranaki	1.07	159	P			Pn	09 53 11.7	+1.3
TGRZ	Tauranga	1.07	355	P			Pn	09 53 11.0	+0.5
RIGZ	Rimuhau	1.09	86	P			Pn	09 53 12.2	+1.5
PNHZ	Pukenui	1.12	187	P			Pn	09 53 12.1	+0.9
PRGZ	Paritu Road	1.18	96	P			Pn	09 53 13.2	+1.3
TKGZ	Te Karaka	1.21	73	P			Pn	09 53 13.9	+1.7
HIZ	Hauiti	1.23	283	P			Pn	09 53 13.5	+1.0
MHGZ	Mahia Peninsul	1.24	107	P			Pn	09 53 14.0	+1.3
WPHZ	Waipukurau	1.26	178	P			Pn	09 53 13.7	+0.7
TOZ	Tahuroa Road	1.27	327	P			Pn	09 53 13.7	+0.7
PXZ	Pawanui	1.29	163	P			Pn	09 53 14.0	+0.8
TSZ	Takapari Road	1.30	194	P			Pn	09 53 14.4	+0.9
VRZ	Vera Road	1.30	255	P			Pn	09 53 14.7	+1.2
RUGZ	Raukumara Rang	1.32	51	P			Pn	09 53 13.7	-0.1
TWGZ	Tauwhareparae	1.40	64	P			Pn	09 53 16.3	+1.6
WAZ	Wanganui	1.44	228	P			Pn	09 53 17.1	+1.8
CNGZ	Carnagh Statio	1.47	78	P			Pn	09 53 17.1	+1.5
DVHZ	Dannevirke	1.51	186	P			Pn	09 53 16.2	+0.1
HAZ	Te Kahu	1.52	47	P			Pn	09 53 15.9	-0.3
MYRZ	Mayor Island	1.52	356	P			Pn	09 53 17.1	+0.8
PKGZ	Pakihiroa	1.62	56	P			Pn	09 53 18.8	+1.2
OHWZ	Ohakea	1.63	210	P			Pn	09 53 19.6	+2.0
PUZ	Puketiti	1.65	64	P			Pn	09 53 18.6	+0.6
POWZ	Post Office Ro	1.66	196	P			Pn	09 53 18.4	+0.3
ANWZ	Angora Road	1.66	177	P			Pn	09 53 18.4	+0.3
LREZ	Lake Rotokare	1.67	246	P			Pn	09 53 20.2	+2.0
PRWZ	Pori Road	1.78	190	P			Pn	09 53 20.0	+0.3
PREZ	Palmer Road	1.81	252	P			Pn	09 53 22.8	+2.6
NEZ	North Egmont	1.84	254	P			Pn	09 53 22.8	+2.2
WMGZ	Waiomatatini S	1.88	59	P			Pn	09 53 21.7	+0.7
BFZ	Birch Farm	1.88	183	P			Pn	09 53 20.8	-0.3
PKE	Pukeiti	1.91	257	P			Pn	09 53 23.2	+1.8
KHEZ	Kahui Hut	1.91	254	P			Pn	09 53 23.7	+2.3
MKAZ	Moumakai	1.95	330	P			Pn	09 53 22.7	+0.7
MXZ	Matakaoa Point	1.96	52	P			Pn	09 53 23.3	+1.2
MRZ	Mangatainoka R	1.96	198	P			Pn	09 53 21.8	-0.3
NBEZ	Nuttall Road No	2.01	256	P			Pn	09 53 24.6	+1.8
TIWZ	Tintock	2.01	191	P			Pn	09 53 22.6	-0.3
NMEZ	Namu Road	2.04	252	P			Pn	09 53 25.1	+1.9
KUZ	Kuaotunu	2.12	346	P			Pn	09 53 24.7	+0.5
ETAZ	East Tamaki Re	2.17	328	P			Pn	09 53 25.8	+0.9
HOWZ	Holdsworth Sta	2.20	197	P			Pn	09 53 24.5	-0.8
AWAZ	Awhitu Peninsu	2.21	321	P			Pn	09 53 26.4	+0.9
OGWZ	Otaki Gorge	2.22	204	P			Pn	09 53 25.4	-0.2
WIAZ	Waiheke Island	2.23	333	P			Pn	09 53 26.5	+0.8
EPAZ	Eden Park BICE	2.32	326	P			Pn	09 53 27.8	+0.9
TMWZ	Te Maipa	2.33	189	P			Pn	09 53 26.3	-0.9
MBAZ	Motutapu North	2.34	329	P			Pn	09 53 28.2	+0.9
HBAZ	Herne Bay Bore	2.34	326	P			Pn	09 53 28.0	+0.8
WTAZ	Waiatarua	2.35	322	P			Pn	09 53 28.5	+1.2
KIW	Kapiti Island	2.35	208	P			Pn	09 53 27.0	-0.4
MTW	Mount Morrison	2.45	196	P			Pn	09 53 27.4	-1.3
RVAZ	Riverhead Bore	2.48	324	P			Pn	09 53 30.1	+1.1
ABAZ	Army Bay	2.51	205	P			Pn	09 53 30.0	+1.1
CAW	Cannon Point	2.52	203	P			Pn	09 53 28.5	-1.1
TRWZ	Traveller	2.65	191	P			Pn	09 53 30.1	-1.3
PAWZ	Paruwai Farm	2.68	195	P			Pn	09 53 30.4	-1.5
DUWZ	D'Urville Isla	2.75	223	P			Pn	09 53 32.6	-0.2
MSWZ	Moikau Station	2.75	198	P			Pn	09 53 31.9	-1.0
WEL	Wellington	2.77	206	P			Pn	09 53 31.9	-1.1
BHW	Baring Head	2.85	203	P			Pn	09 53 32.6	-1.5
PLWZ	Palliser	2.90	197	P			Pn	09 53 33.0	-1.8
TCW	Tory Channel	2.90	213	P			Pn	09 53 33.8	-1.0
TUWZ	Tuamarina	3.22	215	P			Pn	09 53 38.0	-1.2
WCZ	Waipu Caves	3.28	330	P			Pn	09 53 40.9	+0.9
NNZ	Nelson	3.34	223	P			Pn	09 53 40.1	-0.6
BSWZ	Blackbirch Sta	3.48	213	P			Pn	09 53 41.5	-1.2
QRZ	Quartz Range	3.59	234	P			Pn	09 53 43.8	-0.4
THZ	Tophouse	3.98	221	P			Pn	09 53 48.5	-1.0
OUZ	Omahuta	4.21	327	P			Pn	09 53 53.9	+1.3
KHZ	Kahutara	4.21	210	P			Pn	09 53 51.0	-1.6
DSZ	Dennistoun Nort	4.57	228	P			Pn	09 53 55.5	-2.1
INZ	Inchbonnie	5.42	222	P			Pn	09 54 09.8	+0.7
MHCZ	Mount Hutt	5.96	216	P			Pn	09 54 14.6	-1.9
WVZ	Waitaha Valley	6.04	223	P			Pn	09 54 21.7	+4.2
RPZ	Rata Peaks	6.34	218	P			Pn	09 54 21.0	-0.7
GCSZ	Gaunt Creek Bo	6.42	223	P			Pn	09 54 23.0	+0.2
FOZ	Fox Glacier	6.84	224	P			Pn	09 54 29.7	+1.2
JCZ	Jackson Bay	7.76	225	P			Pn	09 54 42.8	+1.6
ASAR	Alice Springs	38.97	280	P			P	10 00 10.7	+0.7
	1.0nm,0.3s,baz=116,slow=8.4,SNR=51								
WRA	Warramunga Arr	40.75	285	P			P	10 00 25.1	+0.3
	0.3nm,0.3s,baz=126,slow=8.0,SNR=13								
FITZ	Fitzroy Crossi	48.47	280	P			P	10 01 25.5	-0.7
	1.4nm,0.9s,baz=102,slow=7.6,SNR=1.9								
ARCES	ARCESS Array B	145.51	342	PKP			PKPdf	10 12 18.3	-1.0
	0.4nm,0.6s,baz=38,slow=3.5,SNR=4.8								

TAP 13 09:55:36.7,23.57N×121.50E,h36km±1km,ML1.6,D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
HGSD	Ruisui	0.11	222	P			Pn	09 55 43.3	-6.3
	baz=222								
HGSD				S			Sn	09 55 49.0	-13
	baz=222								
EGFH	Guangfu	0.12	324	*i* P			Pn	09 55 43.0	-6.0
	baz=324								
EGFH				*i* S			Sn	09 55 48.0	-13
	baz=324								
EHY	Hungye	0.18	248	P			Pn	09 55 43.3	-3.2
	baz=246								
EHY				S			Sn	09 55 48.9	-7.2
	baz=246								
ESL	Shilin	0.25	345	*i* P			Pn	09 55 45.1	+0.1
	baz=346								
ESL				S			Sn	09 55 49.9	-2.9
	baz=346								
YULB	Yu-li	0.26	227	*i* P			Pn	09 55 44.3	-0.7
	baz=226								
YULB				S			Sn	09 55 50.7	-1.8
	baz=226								
TWF1	Yuli	0.29	221	*i* P			Pn	09 55 44.5	-0.4
	baz=219								
TWF1				*e*S			Sn	09 55 49.4	-2.6
	baz=219								
ETM	Tongmen	0.39	359	P			Pn	09 55 46.3	+0.7
	baz=358								
ETM				S			Sn	09 55 51.9	-0.5
	baz=358								
OWD	Renai	0.48	322	*i* P			Pn	09 55 48.1	+1.0
	baz=321								
OWD				*i* S			Sn	09 55 54.8	+0.3
	baz=321								
YUS	Yu-Shan	0.51	261	P			Pn	09 55 48.2	+0.3
	baz=260								
YUS				*e*S			Sn	09 55 56.5	+0.8
	baz=260								
SSLB	Suanglung	0.55	293	P			Pn	09 55 48.8	+0.7
	baz=293								
SSLB				*e*S			Sn	09 55 56.1	+0.1
	baz=293								
CHGB	Renai	0.57	328	P			Pn	09 55 49.2	+0.5
	baz=328								
CHGB				S			Sn	09 55 57.9	+1.1
	baz=328								
ELDTW	Lidau	0.59	230	P			Pn	09 55 49.3	+0.5
	baz=228								
ELDTW				S			Sn	09 55 57.4	+0.3
	baz=228								
NACB	Ninganchiao	0.60	8	P			Pn	09 55 49.3	+0.4
	baz=7.0								
NACB				S			Sn	09 55 58.8	+1.4
	baz=7.0								
WHYT	Xinyi Township	0.61	282	P			Pn	09 55 50.2	+1.2
	baz=281								
WHYT				S			Sn	09 55 58.6	+1.0
	baz=281								
WHF	Hehuan Shan	0.61	339	P			Pn	09 55 49.7	+0.3
	baz=339								
WHF				S			Sn	09 55 58.7	+0.7
	baz=339								
EDH	Donghe	0.62	197	P			Pn	09 55 49.2	0.0
	baz=197								
EDH				S			Sn	09 55 59.2	+1.4
	baz=197								
ETLH	Xiulin Townshi	0.63	358	P			Pn	09 55 49.2	-0.2
	baz=358								
CHN5	Tsauling	0.76	272	*e*P			Pn	09 55 53.0	+2.1
	baz=271								
CHN5				*e*S			Sn	09 56 04.4	+3.3
	baz=271								

TAP 13 09:55:48.3,24.43N×121.43E,h9km,ML1.7,A,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
NNSB	Datong	0.04	274	P			Pg	09 55 51.1	+0.8
	baz=274								
NNSB				S			Sg	09 55 52.0	+0.2
	baz=274								
NNS	Nan Shan	0.06	286	*i* P			Pg	09 55 51.2	+0.7
	baz=285								
NNS				*i* S			Sg	09 55 52.2	+0.2
	baz=285								
NDT	Datong Townshi	0.19	23	P			Pg	09 55 53.4	+1.0
	baz=22								
NDT				S			Sg	09 55 56.8	+1.6
	baz=22								
ETLH	Xiulin Townshi	0.22	168	*e*P			Pg	09 55 51.5	-1.4
	baz=167								
ETLH				S			Sg	09 55 57.7	+1.7
	baz=167								
ETLH	Xiulin Townshi	0.22	168	*e*S			Sg	09 55 57.5	+1.5
	baz=358								
FUSS	Fushou	0.25	224	*e*S			Sg	09 55 58.6	+1.8
	baz=340								
FUSS	Fushou	0.25	224	*i* P			Pg	09 55 54.6	+1.2
	baz=224								
FUSS				*i* S			Sg	09 55 58.6	+1.7
	baz=224								
ENTT	Nioudou	0.25	30	*i* P			Pg	09 55 54.6	+1.3
	baz=31								
ENTT				S			Sg	09 55 58.0	+1.2
	baz=

0.4nm,0.3s,baz=342,slow=10,SNR=41
ASAR S **Sn** **10 17 24.1 -4.1**
0.1nm,0.3s,baz=351,slow=28,SNR=4.3
MKAR Makanchi Array 67.81 327 P **P** **10 21 01.4 +0.3**
0.5nm,0.4s,baz=115,slow=6.8,SNR=5.5

MEX 13 10:15:26.7±0.3, 25°15.N×109°72.W, h8km±8km, MD3.7, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSIG	**Topolobambo**	**0.76**	**54**	*i* P	Pg	10 15 39.6	-1.7
TSIG				*i* S	Sg	10 15 49.7	-1.5
LPIG	**La Paz**	**1.17**	**207**	*i* P	Pg	10 15 45.6	-3.6
SSIG	**Sanalona**	**2.36**	**97**	*e*P	Pn	10 16 02.6	-3.3

*IDC **13** 10:15:43.7±5.2, 20°.50S×178°.25W, h593km±44km, mb3.3/2, mb1 3.4/4, mb1mx2.9/25, mbtmp4.2/4, Error ellipse: s-maj=166.3km s-min=23.4km az=154.0*
*NEIC **13** 10:15:44.2±0.4, 20°.5S±0°.3×178°.3W±0°.2, h591km±22km, mb4.2/12, Error ellipse: s-maj=37.1km s-min=25.1km az=188.0*
ISC 13 10:15:43.5±0.8, 20°.5S±0°.2×178°.3W±0°.1, h587km, n20, σ0s85/22, mb4.1/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.42**	**308**	P	**P**	**10 17 12.8**	**+1.5**
	1.2nm,0.3s,baz=92,slow=23,SNR=4.9						
MSVF	**Nonsavu**	**4.42**	**308**	P	**P**	**10 17 12.3**	**+1.0**
AFI	**Afiamalu**	**9.01**	**45**	P	**P**	**10 17 53.9**	**+1.4**
	1.7nm,0.3s,baz=172,slow=23,SNR=1.6						
AFI				S	**S**	**10 19 36.3**	**-1.8**
	2.9nm,0.3s,baz=165,slow=23,SNR=1.5						
AFI	**Afiamalu**	**9.01**	**45**	P	**P**	**10 17 52.9**	**+0.4**
OUZ	**Omahuta**	**16.34**	**204**	P	**P**	**10 19 04.7**	**+0.3**
EIDS	**Eidsvold**	**28.61**	**254**	P	**P**	**10 20 53.7**	**-0.3**
CTAO	**Charters Tower**	**33.24**	**264**	P	**P**	**10 21 33.2**	**-0.4**
BBOO	**Buckleboo**	**42.33**	**243**	P	**P**	**10 22 46.6**	**-0.6**
BBOO				IAmb	IAmb	10 23 06.3	
	comp=Z,16nm,1.4s						
WR0	**Warramunga Arr**	**44.16**	**262**	P	**P**	**10 23 00.8**	**-0.8**
WR0				IAmb	IAmb	10 23 27.6	
	comp=Z,8.4nm,1.5s						
AS31	**Alice Springs**	**44.27**	**257**	P	**P**	**10 23 02.1**	**-0.4**
ASAR	**Alice Springs**	**44.27**	**257**	P	**P**	**10 23 02.2**	**-0.3**
	comp=Z,3.0nm,0.6s,baz=95,slow=7.6,SNR=70						
ASAR				PcP	**PcP**	**10 24 34.4**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=101,slow=4.8,SNR=4.1						
ASAR	**Alice Springs**	**44.27**	**257**	P	**P**	**10 23 01.9**	**-0.6**
WB2	**Warramunga Arr**	**44.34**	**262**	P	**P**	**10 23 02.9**	**-0.1**
WB2				IAmb	IAmb	10 23 03.0	
	comp=Z,5.8nm,1.0s						
WRAB	**Tennant Creek**	**44.34**	**262**	P	**P**	**10 23 02.4**	**-0.6**
WRAB				IAmb	IAmb	10 23 21.8	
	comp=Z,13nm,1.5s						
WRA	**Warramunga Arr**	**44.35**	**262**	P	**P**	**10 23 02.5**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=101,slow=7.8,SNR=45						
WRA	**Warramunga Arr**	**44.35**	**262**	P	**P**	**10 23 02.8**	**-0.3**
KNRA	**Kununurra**	**50.41**	**266**	P	**P**	**10 23 48.0**	**-0.3**
KNRA				IAmb	IAmb	10 23 50.0	
	comp=Z,12nm,1.1s						
FITZ	**Fitzroy Crossi**	**52.78**	**262**	P	**P**	**10 24 05.3**	**0.0**
FITZ				IAmb	IAmb	10 24 21.8	
	comp=Z,6.8nm,1.4s						
QSPA	**South Pole Qui**	**69.58**	**180**	P	**P**	**10 25 54.9**	**+0.5**
AKASG	**Malin Array Be**	**142.88**	**331**	PKP	**PKPdf**	**10 34 09.6**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=47,slow=4.3,SNR=9.8						

IDC 13 10:21:04.5±4.1, 28°.48S×177°.70W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.4/20, mbtmp3.6/2, Error ellipse: s-maj=80.8km s-min=22.4km az=81.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.80**	**194**	Pn	Pn	10 21 23.2	+0.2
	244nm,0.3s,baz=35,slow=21,SNR=6.2						
RAO				Sn	Sn	10 21 35.7	+0.1
	334nm,0.3s,baz=146,slow=23,SNR=6.9						
ASAR	**Alice Springs**	**43.51**	**265**	P	P	10 29 09.1	-1.0
	0.1nm,0.3s,baz=105,slow=7.6,SNR=4.7						
WRA	**Warramunga Arr**	**44.32**	**270**	P	P	10 29 17.1	+0.6
	0.6nm,0.3s,baz=107,slow=7.9,SNR=26						
FINES	**FINESS Array B**	**143.43**	**341**	PKP	PKPdf	10 40 39.4	-0.9
	0.7nm,0.5s,baz=29,slow=3.2,SNR=6.8						

MEX 13 10:29:36.8±0.9, 16°.06N×91°.12W, h16km±51km, MD4.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**1.00**	**283**	*i* P	Pb	10 29 51.8	-4.0
CCIG				*i* S	Sb	10 30 04.8	-4.1
THIG		**1.59**	**224**	*i* P	Pn	10 30 01.3	-3.0
THIG				*i* S	Sn	10 30 23.4	-1.1
TGIG		**2.05**	**291**	*i* P	Pn	10 30 07.8	-2.9
TGIG				*i* S	Sn	10 30 33.8	-2.1
PCIG		**2.05**	**260**	*i* P	Pn	10 30 07.3	-3.3
PCIG				*i* S	Sn	10 30 31.5	-4.3
CMIG	**Matias Romero**	**3.75**	**286**	*i* P	Pn	10 30 29.6	-4.4
CMIG				*i* S	Sn	10 31 10.5	-7.4

MEX 13 10:33:11.8±0.5, 25°.36N×109°.94W, h16km±15km, MD3.5, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSIG	**Topolobambo**	**0.85**	**73**	*i* P	Pb	10 33 25.1	-3.0
TSIG				*i* S	Sb	10 33 35.0	-4.2
LPIG	**La Paz**	**1.29**	**195**	*e*P	Pn	10 33 31.4	-3.9
SSIG	**Sanalona**	**2.59**	**101**	*e*P	Pn	10 33 50.4	-2.7

*IDC **13** 10:42:55.9±1.7, 24°.88N×109°.33W, h0km, mb3.9/2, mb1 4.0/7, mb1mx3.8/39, mbtmp3.7/7, ML3.4/5, Error ellipse: s-maj=35.3km s-min=10.0km az=131.0*
*MEX **13** 10:42:58.6±1.4, 25°.31N×110°.13W, h4km±23km, MD4.2*
ISC 13 10:42:58.9±0.9, 25°.11N±0°.05×109°.67W±0°.05, h17km, n18, σ2s32/21, 1C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**1.16**	**210**	Pg	**Pn**	**10 43 19.1**	**-1.1**
	80nm,0.3s,baz=19,slow=3.2,SNR=62						
LPIG				Lg	Lg	10 43 33.8	
	232nm,0.3s,baz=233,slow=11,SNR=12						
LPIG	**La Paz**	**1.16**	**210**	*i* P	**Pn**	**10 43 19.2**	**-1.1**
LPIG				*i* S	**Sb**	**10 43 33.8**	**-1.3**
CSIG	**Choix**	**2.08**	**34**	*e*P	**Pn**	**10 43 31.7**	**-1.2**
CSIG				*i* S	**Sb**	**10 43 59.4**	**-2.3**
SSIG	**Sanalona**	**2.31**	**97**	*e*P	**Pb**	**10 43 40.5**	**+0.4**
SSIG				*i* S	**Sb**	**10 44 08.1**	**-0.3**
GUYB	**Guaymas**	**2.98**	**339**	⇑*i*P	**Pn**	**10 43 42.7**	**-2.7**
GUYB				*i* S	Sn	10 44 00.9	-20
MAIG	**Mazatlaan**	**3.53**	**122**	*i* P	**Pb**	**10 44 00.2**	**-0.6**
PDIG	**Papasquiaro**	**3.88**	**90**	*e*P	**Pn**	**10 43 59.0**	**+1.1**
PDIG				*i* S	**Sb**	**10 44 55.6**	**+1.9**
HPIG		**4.04**	**62**	*i* P	**Pn**	**10 43 59.2**	**-0.9**
HPIG				*i* S	**Sb**	**10 44 53.5**	**-4.8**
TXAR	**Lajitas Array**	**6.80**	**50**	Pn	**Pn**	**10 44 35.6**	**-2.5**
	0.2nm,0.3s,baz=228,slow=14,SNR=9.8						
TXAR				Sn	**Sn**	**10 45 52.0**	**-3.2**
	0.6nm,0.3s,baz=235,slow=17,SNR=1.4						
TXAR				Lg	Lg	10 46 26.7	
	0.6nm,0.3s,baz=231,slow=25,SNR=3.8						
ANMO	**Albuquerque**	**10.19**	**15**	Pn	**Pn**	**10 45 26.7**	**+2.1**
	0.1nm,0.3s,baz=200,slow=12,SNR=8.4						
ANMO				Lg	Lg	10 48 19.8	
	0.1nm,0.3s,baz=256,slow=22,SNR=1.6						
NVAR	**Mina Array Bea**	**15.17**	**333**	Pn	**P**	**10 46 37.8**	**+0.3**
	0.1nm,0.3s,baz=158,slow=12,SNR=19						
ELK	**Elko**	**16.27**	**345**	Pn	**P**	**10 46 52.7**	**+2.9**
	0.1nm,0.3s,baz=176,slow=11,SNR=5.0						
PDAR	**Pinedale Array**	**17.62**	**0**	P	**P**	**10 47 06.2**	**+1.5**
	0.0nm,0.3s,baz=175,slow=11,SNR=10.0						
NEW	**Newport**	**23.85**	**348**	P	**P**	**10 48 14.9**	**+3.7**
	7.5nm,1.1s,baz=172,slow=11,SNR=7.8						
ILAR	**Eielson Array**	**46.32**	**339**	P	**P**	**10 51 25.6**	**+2.1**
	0.8nm,0.9s,baz=149,slow=6.7,SNR=6.6						
H03N2	**Juan Fernandez**	**65.16**	**152**	T	T	12 04 37.5	
	baz=331,slow=77,SNR=3.7						
H03N1	**Juan Fernandez**	**65.17**	**152**	T	T	12 04 38.8	
	baz=331,slow=77,SNR=5.1						
H03N3	**Juan Fernandez**	**65.17**	**152**	T	T	12 04 39.7	
	baz=331,slow=77,SNR=5.1						

MEX 13 10:46:51.5±0.4, 25°.25N×109°.85W, h16km±9km, MD3.8, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSIG	**Topolobambo**	**0.81**	**65**	*e*P	Pb	10 47 04.4	-2.8
TSIG				*i* S	Sb	10 47 14.2	-3.7
LPIG	**La Paz**	**1.22**	**200**	*i* P	Pn	10 47 10.1	-3.7
SSIG	**Sanalona**	**2.50**	**99**	*e*P	Pn	10 47 28.6	-2.9

IDC 13 10:53:39.9±10.0, 26°.79N×143°.15E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.2/35, mbtmp3.3/3, Error ellipse: s-maj=394.7km s-min=35.9km az=71.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**47.23**	**191**	P	P	11 02 14.1	-0.7
	0.2nm,0.4s,baz=13,slow=8.4,SNR=8.9						
ASAR	**Alice Springs**	**50.95**	**191**	P	P	11 02 44.1	+0.8
	0.2nm,0.6s,baz=11,slow=8.7,SNR=1.6						
MKAR	**Makanchi Array**	**51.33**	**310**	P	P	11 02 45.9	-0.2
	0.3nm,0.8s,baz=90,slow=5.8,SNR=1.8						

*MIRAS **13** 10:58:34.0±0.0, 57°.95N×59°.83E, h0km, ML2.9/7*
*NNC **13** 10:58:38.6±4.4, 57°.71N×60°.13E, h18km±24km, mb3.5, mpv3.3, Error ellipse: s-maj=34.0km s-min=16.2km az=153.0*
ISC 13 10:58:33.2±1.5, 58°.01N±0°.07×59°.97E±0°.05, h9km±16km, n10, σ1s39/19, 3C-6D, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PR7R	**Sarany**	**0.83**	**311**	*i* P	**Pg**	**10 58 49.3**	**0.0**
	baz=317						
PR7R				*e*S	**Sg**	**10 58 59.3**	**-0.8**
	405nm,0.8s,baz=317						
SVE	**Sverdlovsk**	**1.24**	**163**	*i* P	**Pn**	**10 58 56.1**	**-0.6**
	baz=159						
SVE				*e*S	**Sb**	**10 59 12.1**	**-0.8**
	240nm,0.7s,baz=159						
PR3R	**Kungur**	**1.69**	**251**	*i* P	**Pn**	**10 59 03.6**	**+0.9**
	baz=253						
PR3R				*e*S	**Sn**	**10 59 24.7**	**+0.2**
	216nm,0.5s,baz=253						
ARU	**Arti**	**1.76**	**206**	*i* P	**Pn**	**10 59 05.1**	**+1.3**
	baz=205						
ARU				*e*S	**Sn**	**10 59 26.2**	**-0.1**
	125nm,0.3s,baz=205						
KAUR	**Kamensk Uralsk**	**1.79**	**152**	*i* P	**Pb**	**10 59 06.7**	**+0.6**
	baz=148						
KAUR				*e*S	**Sb**	**10 59 30.8**	**+2.1**
	240nm,0.3s,baz=148						
PR1R	**Pomanovo**	**2.06**	**306**	*i* P	**Pb**	**10 59 10.9**	**+0.3**
	baz=309						
PR1R				*e*S	**Sg**	**10 59 38.5**	**-0.7**
	81nm,0.3s,baz=309						
SVUR	**Severouralsk**	**2.19**	**0**	*e*S	**Sg**	**10 59 42.4**	**-1.2**
	55nm,1.3s,baz=1.8						
BRVK	**Borovoye**	**7.67**	**126**	⇓Pn	**Pn**	**11 00 26.9**	**+2.0**
	0.9nm,0.5s						
BRVK				⇑Sn	**Sn**	**11 01 49.9**	**-1.9**
	1.5nm,0.7s						
BRVK				⇑Lg	Lg	11 02 35.3	
	2.3nm,0.9s						
AKTO	**Aktyubinsk**	**7.68**	**189**	⇓Pn	**Pn**	**11 00 23.8**	**-1.2**
	1.0nm,0.7s						
AKTO				⇓Sn	**Sn**	**11 01 50.3**	**-1.8**
	1.5nm,0.8s						
AKTO				⇓Lg	Lg	11 02 32.4	
	5.6nm,1.3s						
AB31	**Akbulak array**	**8.78**	**180**	⇑Pn	**Pn**	**11 00 41.5**	**+1.4**
	0.9nm,0.6s,baz=11,slon=12,SNR=20						
AB31				⇓Sn	**Sn**	**11 02 17.1**	**-1.9**
	0.3nm,0.4s						
AB31				⇓Lg	Lg	11 03 08.1	
	2.2nm,0.6s,baz=1.8,slow=28,SNR=4.5						

MEX 13 10:59:33.7±0.7, 25°.11N×109°.53W, h10km, MD3.8, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSIG	**Topolobambo**	**0.66**	**42**	*i* P	Pg	10 59 44.3	-2.1
TSIG				*i* S	Sg	10 59 54.2	-0.8
LPIG	**La Paz**	**1.23**	**215**	*e*P	Pn	10 59 53.4	-3.6
CSIG	**Choix**	**2.00**	**31**	*i* S	Sb	11 00 36.1	+0.8
SSIG	**Sanalona**	**2.19**	**97**	*e*P	Pn	11 00 06.8	-3.3

*INMG **13** 11:01:46.5±0.7, 37°.49N×19°.00W, h10km, ML3.2, Error ellipse: s-maj=14.3km s-min=3.3km az=36.0*
CNRM 13 11:01:52.8, 36°.76N×17°.56W, h30km, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMPST	**Porto Santo, M**	**3.81**	**164**	*e*Pn	Pn	11 02 54.4	+4.9
PMPST				*e*Sn	Sb	11 03 45.0	-0.1
PMOZ	**Porto Moniz, M**	**3.94**	**176**	*e*Pn	Pn	11 02 54.3	+2.9
PMOZ	**Porto Moniz, M**	**3.94**	**176**	P	Pn	11 02 52.3	+0.9
PMOZ				S	Sn	11 03 39.0	+2.3
PMAR	**Madeira**	**4.07**	**172**	*e*Pn	Pn	11 02 56.4	+3.3
PMAR				*e*Sn	Sb	11 03 49.1	-3.5
PMAR				A	A	11 03 55.0	
	37nm,0.4s						
PFVI	**Vila Bisbo**	**7.00**	**84**	*e*Sn	Sn	11 04 54.4	+2.5
PTEO	**Sao Teotonio**	**7.10**	**81**	*e*Sn	Sn	11 04 56.2	+2.0
PTEO				A	A	11 05 01.3	
	14nm,0.5s						
MORF	**Marmelete**	**7.15**	**83**	*e*Sn	Sn	11 04 58.3	+2.8
MORF				A	A	11 05 05.5	
	5.3nm,0.1s						
PNCL	**Nicolau / Gran**	**7.31**	**77**	*e*Pn	Pn	11 03 34.9	-2.6
PNCL				*e*Sn	Sn	11 04 59.4	0.0
PSBE	**So Bento**	**7.43**	**66**	*e*Sn	Sn	11 05 01.1	-1.4
MESJ	**Messejana**	**7.52**	**79**	*e*Sn	Sn	11 05 06.8	+2.2
MESJ				A	A	11 05 13.0	
	6.5nm,0.5s						
PCVE	**Castro Verde**	**7.65**	**81**	*e*Sn	Sn	11 05 10.2	+2.4
PBDV	**Barranco-do-Ve**	**7.72**	**84**	*e*Sn	Sn	11 05 13.6	+4.0
PBDV				A	A	11 05 29.2	
	5.3nm,0.3s						
PMTG	**Montargil**	**7.73**	**70**	*e*Pn	Pn	11 03 39.8	-3.4
PMTG				*e*Sn	Sn	11 05 07.2	-2.5
PBEJ	**Beja**	**7.82**	**78**	*e*Sn	Sn	11 05 12.6	+0.7
PBEJ				A	A	11 05 17.0	
	5.3nm,0.3s						
PCAS	**Casmilo, Conde**	**7.83**	**62**	*e*Sn	Sn	11 05 06.6	-5.7
PVAQ	**Vaqueiros**	**7.89**	**82**	*e*Sn	Sn	11 05 16.1	+2.3
PVAQ				A	A	11 05 23.3	
	7.6nm,0.2s						
PVAQ	**Vaqueiros**	**7.89**	**82**	P	Pn	11 03 44.1	-1.4
PVAQ				S	Sn	11 05 15.0	+1.2
PESTR	**Estremoz**	**8.16**	**72**	*e*Sn	Sn	11 05 18.2	-2.3
PESTR				A	A	11 05 22.8	
	5.4nm,0.3s						
PMRV	**Marv??o**	**8.45**	**69**	*e*Pn	Pn	11 03 48.8	-4.3
PMRV				*e*Sn	Sn	11 05 24.6	-2.8
PBAR	**Barrancos**	**8.48**	**77**	*e*Sn	Sn	11 05 27.3	-1.0
ZHG	**ZHG**	**9.54**	**107**	P	Pn	11 04 07.1	-1.0
ZHG				S	Sn	11 05 55.6	+1.3
OUK	**Oukaimeden**	**9.77**	**122**	P	Pn	11 04 12.1	+0.5
OUK				S	Sn	11 05 58.9	-1.5
MD31	**MD31**	**11.21**	**107**	P	Pn	11 04 30.5	-0.6
MD31				S	Sn	11 06 36.9	+1.4
MDT	**Midelt**	**11.35**	**107**	P	Pn	11 04 33.1	+0.1
MDT				S	Sn	11 06 38.8	-0.1

IDC 13 11:11:11.8±3.3, 6°.24S×148°.13E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.3/26, mbtmp3.2/3, ML3.0/1, Error ellipse: s-maj=92.8km s-min=49.9km az=103.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.10**	**223**	P	P	11 15 35.9	-0.4
	0.1nm,0.3s,baz=48,slow=11,SNR=1.5						
ASAR	**Alice Springs**	**22.07**	**217**	P	P	11 16 09.1	+0.5
	0.2nm,0.7s,baz=52,slow=8.9,SNR=1.4						
STKA	**Stephens Creek**	**26.23**	**193**	P	P	11 16 48.3	-0.2
	1.0nm,0.7s,baz=6.7,slow=17,SNR=1.7						
TORD	**Torodi Ar. Bea**	**146.23**	**284**	PKPbc	PKPdf	11 30 54.5	+0.3
	0.4nm,0.6s,baz=67,slow=2.6,SNR=2.6						

MEX 13 11:11:18.8±0.6, 14°.97N×92°.69W, h86km±7km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.42**	**98**	*i* S	Sn	11 11 40.7	-2.0
PCIG		**0.89**	**325**	*i* P	Pn	11 11 35.7	-1.3
PCIG				*e*S	Sn	11 11 48.9	-1.7

*KRSC **13** 11:15:21.6±1.7, 49°.05N×156°.14E, h62km±26km, ML4.1*
*IDC **13** 11:15:25.1±3.9, 49°.60N×154°.54E, h119km±31km, mb3.2/9, mb1 3.3/10, mb1mx3.2/35, mbtmp3.5/10, Error ellipse: s-maj=32.3km s-min=21.8km az=180.0*
ISC 13 11:15:22.3±1.0, 49°.4N±0°.1×154°.9E±0°.1, h100km, n35, σ1s70/32, mb3.4/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.56**	**31**	*e*P	**Pn**	**11 15 49.3**	**+0.1**
SKR				*e*S	**Sn**	**11 16 10.5**	**+0.8**
PAU	**Pauzhetka**	**2.46**	**30**	*e*P	**Pn**	**11 16 01.5**	**+0.7**
MIPR	**Malaya Ipel'ka**	**3.17**	**22**	*e*P	**Pn**	**11 16 12.0**	**+1.8**
KDTR	**Khodutka, Kamc**	**3.20**	**39**	*e*P	**Pn**	**11 16 09.7**	**-0.9**
KDTR				*e*S	**Sn**	**11 16 46.0**	**-2.0**
ASAK	**Asacha**	**3.60**	**31**	*e*P	**Pn**	**11 16 17.4**	**+1.4**
MTVR	**Mutnovka**	**3.78**	**33**	*e*P	**Pn**	**11 16 19.3**	**+0.8**
MTVR				*e*S	**Sn**	**11 17 02.1**	**+0.1**
GRL	**Gorelyy**	**3.80**	**31**	*e*P	**Pn**	**11 16 20.2**	**+1.5**
RUS	**Russkaya**	**3.86**	**35**	*e*P	**Pn**	**11 16 18.5**	**-0.9**
RUS				*e*S	**Sn**	**11 17 01.2**	**-2.5**
KRMR	**Karymshinskiy**	**4.05**	**29**	*e*P	**Pn**	**11 16 25.4**	**+3.4**
PETK	**Petropavlovsk-**	**4.17**	**24**	P	**Pn**	**11 16 24.7**	**+1.1**
	1.3nm,0.3s,baz=172,slow=12,SNR=6.4						
PETK				S	**Sn**	**11 17 12.0**	**+0.8**
	0.3nm,0.3s,baz=184,slow=21,SNR=1.0						
DALK	**Dalny**	**4.42**	**32**	*e*P	**Pn**	**11 16 27.3**	**+0.2**
DALK				*e*S	**Sn**	**11 17 16.7**	**-0.7**
KOK	**Koryaka**	**4.60**	**30**	*e*P	**Pn**	**11 16 32.1**	**+2.5**
AVH	**Avacha**	**4.61**	**30**	*e*P	**Pn**	**11 16 32.0**	**+2.3**
KRER	**Koryakskii**	**4.65**	**30**	*e*P	**Pn**	**11 16 32.0**	**+1.7**
KRX	**Arik**	**4.66**	**29**	*e*P	**Pn**	**11 16 32.3**	**+1.8**
GNL	**Ganaly**	**4.76**	**23**	*e*P	**Pn**	**11 16 34.4**	**+2.7**
SPN	**Mys Shipunski**	**4.96**	**39**	*e*P	**Pn**	**11 16 33.5**	**-0.8**
H11N2	**WAKE ISLAND Hy**	**31.09**	**158**	T	T	11 54 06.0	
	baz=344,slow=77,SNR=3.3						
H11N1	**WAKE ISLAND Hy**	**31.10**	**158**	T	T	11 54 09.4	
	baz=344,slow=77,SNR=6.3						
H11N3	**WAKE ISLAND Hy**	**31.10**	**158**	T	T	11 54 08.9	
	baz=344,slow=77,SNR=3.1						
H11S1	**WAKE ISLAND Hy**	**32.22**	**159**	T	T	11 55 30.5	
	baz=345,slow=76,SNR=77						
H11S3	**WAKE ISLAND Hy**	**32.23**	**159**	T	T	11 55 29.4	
	baz=345,slow=76,SNR=146						
H11S2	**WAKE ISLAND Hy**	**32.23**	**159**	T	T	11 55 27.7	
	baz=345,slow=76,SNR=86						
ZALV	**Zalesovo Beam**	**42.08**	**304**	P	**P**	**11 23 02.8**	**-1.1**
	1.5nm,0.5s,baz=62,slow=6.7,SNR=1.5						
MKAR	**Makanchi Array**	**46.82**	**296**	P	**P**	**11 23 39.4**	**-2.3**
	0.3nm,0.5s,baz=68,slow=6.0,SNR=4.1						
NVAR	**Mina Array Bea**	**60.22**	**65**	P	**P**	**11 25 21.3**	**+1.4**
	0.1nm,0.3s,baz=283,slow=8.0,SNR=2.3						
FINES	**FINESS Array B**	**62.18**	**335**	P	**P**	**11 25 31.9**	**-0.6**
	0.5nm,0.5s,baz=20,slow=6.1,SNR=3.8						
PDAR	**Pinedale Array**	**62.29**	**56**	P	**P**	**11 25 34.8**	**+1.0**
	0.1nm,0.5s,baz=280,slow=5.4,SNR=2.3						
NOA	**NORSAR Array B**	**66.14**	**342**	P	**P**	**11 25 55.3**	**-3.1**
	0.7nm,0.8s,baz=25,slow=6.5,SNR=2.2						
AKASG	**Malin Array Be**	**70.03**	**327**	P	**P**	**11 26 22.4**	**-0.4**
	0.2nm,0.3s,baz=32,slow=4.7,SNR=2.2						
ASAR	**Alice Springs**	**75.05**	**200**	P	**P**	**11 26 54.6**	**+1.7**
	0.3nm,0.9s,baz=12,slow=6.0,SNR=1.1						
TXAR	**Lajitas Array**	**75.22**	**62**	P	**P**	**11 26 55.0**	**+0.9**
	0.1nm,0.5s,baz=302,slow=5.3,SNR=3.7						
H03N2	**Juan Fernandez**	**137.56**	**89**	T	T	14 07 56.0	
	baz=312,slow=74						
H03N1	**Juan Fernandez**	**137.57**	**89**	T	T	14 07 56.6	
	baz=312,slow=74						
H03N3	**Juan Fernandez**	**137.57**	**89**	T	T	14 07 53.7	
	baz=312						

*RSNC **13** 11:25:34.6±1.2, 6°.96N×78°.05W, h13km±4km, ML3.0, Mw3.7, Fault plane solution: NP1:φs120.00000°, δ28.00000°, λ118.00000°.*
*UPA **13** 11:25:34.0±1.2, 6°.95N×78°.08W, h10km±20km, MW3.7*
ISC 13 11:25:33.1±1.4, 6°.94N±0°.03×78°.09W±0°.03, h13km±10km, n33, σ1s26/61, 10C-7D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTAC	**Punta Ardita,**	**0.34**	**53**	⇓*i*P	**Pb**	**11 25 41.0**	**-0.1**
PTAC				*e*S	**Sg**	**11 25 44.9**	**+0.1**
PTAC	**Punta Ardita,**	**0.34**	**53**	⇓*i*P	**Pb**	**11 25 41.0**	**-0.1**
PTAC				*e*S	**Sg**	**11 25 44.9**	**+0.1**
SOLC	**Bahia Solano**	**0.97**	**136**	*e*P	**Pb**	**11 25 51.1**	**-0.8**
SOLC				*e*S	**Sg**	**11 26 04.5**	**-0.2**
SOLC				*i*		11 26 10.2	
	comp=Z,902nm,0.3s						
UPD2	**Meteti**	**1.60**	**2**	*e*P	**Pb**	**11 26 02.4**	**-0.2**
UPD2				*e*S	**Sb**	**11 26 22.4**	**-0.4**
CAPC	**Capurgana**	**1.84**	**

GMAL	**Guarumal, Vera**	**3.23**	**285**	⇑	*i* P		**Pn**	**11 26 25.9**	**+2.3**
GMAL					*e*S		**Sn**	**11 27 02.5**	**+0.6**
ZARC	**Zaragoza, Cauc**	**3.25**	**80**	⇑	*e*P		**Pn**	**11 26 25.2**	**+1.4**
ZARC					*e*S		**Sn**	**11 27 02.1**	**-0.4**
ZARC					*i*			11 27 09.2	
	comp=Z,62nm,0.7s								
NORC	**Norcasia**	**3.48**	**113**		*e*P		**Pn**	**11 26 27.4**	**+0.4**
NORC					*i*			11 27 31.7	
	comp=Z,18nm,0.5s								
PTBC	**PUERTO BERRIO,**	**3.62**	**96**	⇑	*e*P		**Pn**	**11 26 28.0**	**-1.0**
PTBC					*e*S		**Sn**	**11 27 11.5**	**-0.3**
PTBC					*i*			11 27 29.9	
	comp=Z,36nm,0.6s								
SJCC	**San Jacinto, C**	**4.11**	**44**		*e*P		**Pn**	**11 26 38.9**	**+3.2**
SJCC					*e*S		**Sn**	**11 27 23.5**	**-0.3**
SJCC	**San Jacinto, C**	**4.11**	**44**		*e*P		**Pn**	**11 26 38.2**	**+2.4**
SJCC					*e*S		**Sn**	**11 27 23.7**	**-0.1**
SJCC					*i*			11 27 31.4	
	comp=Z,11nm,0.5s								
ORTC	**Ortega, Tolima**	**4.13**	**137**		*e*P		**Pn**	**11 26 37.8**	**+1.8**
ORTC					*i*			11 27 06.2	
	comp=Z,12nm,0.6s								
SMLC	**San Martn de**	**4.39**	**65**		*e*P		**Pn**	**11 26 40.4**	**+0.9**
SMLC					*e*S		**Sn**	**11 27 28.1**	**-2.5**
SMLC					*i*			11 27 35.7	
	comp=Z,15nm,0.6s								
POPC	**Popayan, Colom**	**4.59**	**162**		*e*P		**Pn**	**11 26 44.4**	**+1.9**
BARC	**Barichara**	**4.88**	**94**		*e*P		**Pn**	**11 26 48.6**	**+2.1**
BARC					*i*			11 28 06.2	
	comp=Z,32nm,0.8s								
OCAC	**Ocana**	**4.90**	**74**		*e*P		**Pn**	**11 26 48.5**	**+1.8**
OCAC					*e*S		**Sn**	**11 27 43.8**	**+0.4**
OCAC					*i*			11 28 05.9	
	comp=Z,32nm,0.5s								

IDC ***13*** *11:37:43.2±16.0, 52°.03N×173°.01W, h0km, mb3.2/3, mb1 3.7/4, mb1mx3.4/41, mbtmp3.3/4, ML3.7/1, Error ellipse: s-maj=297.0km s-min=67.8km az=86.0*
NEIC ***13*** *11:37:59.1±0.5, 52°.1N±0°.4×173°.9W±0°.2, h176km±5km, ML2.8(AEIC), Error ellipse: s-maj=60.1km s-min=8.0km az=168.0*
AEIC ***13*** *11:37:59±0.5, 52°.0N±0°.3×173°.8W±0°.1, h176km±6km, Error ellipse: s-maj=47.1km s-min=8.2km az=168.0*
ISC 13 11:37:58.9±0.9, 52°.3N±0°.3×173°.92W±0°.09, h178km±8km, n23, σ0s62/28, mb3.0/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**0.11**	**254**			**Pn**	**11 38 22.8**	**+0.3**
KOKL	**Mount Kliuchef**	**0.17**	**276**			**Pn**	**11 38 22.9**	**+0.3**
ATKA	**Atka Island**	**0.20**	**238**			**Pn**	**11 38 22.5**	**0.0**
ATKA						**Sn**	**11 38 40.5**	**-0.1**
GSIG	**Igitkin Island**	**1.28**	**256**			**Pn**	**11 38 28.6**	**0.0**
GSIG						**Sn**	**11 38 51.2**	**-0.3**
GSTR	**Great Sitkin T**	**1.33**	**262**			**Pn**	**11 38 29.4**	**+0.3**
GSMY	**Great Sitkin M**	**1.34**	**259**			**Pn**	**11 38 29.2**	**+0.1**
GSTD	**Great Sitkin T**	**1.39**	**260**			**Pn**	**11 38 29.7**	**0.0**
GSTD						**Sn**	**11 38 54.1**	**+0.5**
GSCK	**Great Sitkin C**	**1.41**	**259**			**Pn**	**11 38 29.9**	**+0.1**
ADAG	**Mount Adagdak**	**1.68**	**260**			**Pn**	**11 38 32.9**	**+0.4**
ADK	**Adak**	**1.76**	**257**			**Pn**	**11 38 33.3**	**+0.1**
ADK						**Sn**	**11 38 59.1**	**-0.5**
KIWB	**Kanaga Island**	**2.04**	**258**			**Pn**	**11 38 36.7**	**+0.5**
KIKV	**Kanaga Island**	**2.05**	**259**			**Pn**	**11 38 36.7**	**+0.4**
KIMD	**Kanaga Island**	**2.12**	**256**			**Pn**	**11 38 37.5**	**+0.5**
TAFP	**Tanaga Falls P**	**2.54**	**262**			**Pn**	**11 38 42.3**	**+0.4**
TAFP						**Sn**	**11 39 14.8**	**-0.5**
TASE	**Tanaga Southea**	**2.58**	**261**			**Pn**	**11 38 43.0**	**+0.6**
NIKH	**Nikolski High**	**3.16**	**76**			**Pn**	**11 38 49.0**	**-0.3**
AMKA	**Amchitka**	**4.30**	**260**	Pn		**Pn**	**11 39 04.4**	**+0.8**
UNV	**Unalaska Valle**	**4.73**	**68**	Pn		**Pn**	**11 39 10.2**	**+1.1**
OHAK	**Old Harbor**	**12.87**	**59**	Pn		**Pn**	**11 40 56.4**	**+1.2**
ILAR	**Eielson Array**	**18.64**	**38**	P		**P**	**11 42 01.0**	**-1.7**
	0.2nm,0.3s,baz=231,slow=10,SNR=19							
NVAR	**Mina Array Bea**	**40.46**	**87**	P		**P**	**11 45 20.2**	**+0.2**
	0.2nm,0.6s,baz=305,slow=6.3,SNR=1.9							
PDAR	**Pinedale Array**	**43.14**	**76**	P		**P**	**11 45 41.0**	**-0.7**
	0.3nm,0.6s,baz=292,slow=4.7,SNR=4.8							
TXAR	**Lajitas Array**	**55.54**	**85**	P		**P**	**11 47 15.4**	**-0.2**
	0.2nm,0.7s,baz=308,slow=4.1,SNR=3.8							

MEX 13 11:38:32.0±0.9, 19°.06N×104°.20W, h2km±68km, MD3.8, Near coast of Jalisco

AZER ***13*** *11:39:23.5±0.2, 40°.03N×45°.18E, h5km±1km, ml3.0/27, Error ellipse: s-maj=1.6km s-min=0.7km az=264.0*
TEH ***13*** *11:39:23.7, 40°.04N×45°.22E, h6km, ML3.0*
DDA ***13*** *11:39:24.2, 40°.04N×44°.94E, h7km±4km, ML2.4*
ISC 13 11:39:21.6±1.2, 40°.04N±0°.02×45°.15E±0°.02, h1km±10km, n67, σ1s10/97, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HYR	**Heyderabad**	**0.39**	**216**	P		**Pb**	**11 39 31.2**	**-0.2**
	SNR=100							
HYR				S		**Sb**	**11 39 37.6**	**-0.3**
HYR	**Heyderabad**	**0.39**	**216**	*e*Pg		**Pb**	**11 39 31.1**	**-0.2**
SBZ	**Shahbuz**	**0.71**	**154**	P		**Pb**	**11 39 37.4**	**+0.6**
	SNR=66							
SBZ				S		**Sb**	**11 39 47.5**	**+0.4**
SBZ	**Shahbuz**	**0.71**	**154**	*e*Pg		**Pb**	**11 39 37.4**	**+0.6**
GDB	**GEDABAY**	**0.82**	**34**	P		**Pb**	**11 39 39.3**	**+0.4**
	SNR=30							
GDB				S		**Sb**	**11 39 50.8**	**+0.3**
GDB	**GEDABAY**	**0.82**	**34**	*e*Pg		**Pb**	**11 39 39.2**	**+0.4**
IGDI	**IGDIR**	**0.84**	**259**	*i* P		**Pg**	**11 39 38.0**	**+0.3**
IGDI				*i* S		**Sg**	**11 39 48.0**	**-0.6**
IGDI				IAML			11 39 53.0	
	comp=E,189nm,0.3s							
NAX	**Nakhchivan**	**0.90**	**163**	P		**Pn**	**11 39 41.1**	**-0.4**
	SNR=13							
NAX				S		**Sn**	**11 39 54.2**	**-0.9**
NAX	**Nakhchivan**	**0.90**	**163**	*e*Pg		**Pn**	**11 39 41.0**	**-0.4**
QZX	**Qazax, Azerbai**	**1.03**	**9**	P		**Pn**	**11 39 43.2**	**-0.1**
	SNR=36							
QZX				S		**Sn**	**11 39 57.7**	**-0.8**
QZX	**Qazax, Azerbai**	**1.03**	**9**	*e*Pg		**Pn**	**11 39 43.1**	**-0.1**
GANJ	**Ganja**	**1.08**	**55**	P		**Pn**	**11 39 43.7**	**-0.3**
	SNR=4.8							
GANJ				S		**Sn**	**11 39 58.6**	**-1.0**
GANJ	**Ganja**	**1.08**	**55**	*e*Pg		**Pn**	**11 39 43.6**	**-0.3**
ORD	**Ordubad**	**1.28**	**149**	P		**Pn**	**11 39 47.6**	**+0.8**
	SNR=47							
ORD				S		**Sn**	**11 40 05.1**	**+0.5**
ORD	**Ordubad**	**1.28**	**149**	*e*Pg		**Pn**	**11 39 47.5**	**+0.8**
EAK	**Akyaka**	**1.35**	**299**	*i* P		**Pb**	**11 39 48.7**	**+1.0**
EAK				*i* S		**Sb**	**11 40 05.2**	**-0.3**
EAK				IAML			11 40 12.0	
	comp=N,176nm,0.9s							
EAK				IAML			11 40 18.0	
	comp=E,136nm,0.5s							
IMRD	**Marand**	**1.39**	**162**	*e*Pg		**Pb**	**11 39 49.0**	**+0.6**
IMRD				*e*Sg		**Sn**	**11 40 09.1**	**+1.8**
IMRD				*e*			11 40 10.8	
	comp=Z,8μm,0.2s							
DIGO	**Kars**	**1.41**	**286**	*i* P		**Pg**	**11 39 48.7**	**+0.1**
DIGO				*i* S		**Sg**	**11 40 05.2**	**-1.7**
DIGO				IAML			11 40 15.0	
	comp=E,104nm,0.5s							
DIGO				IAML			11 40 18.0	
	comp=N,90nm,0.6s							
DGRG	**David-gareji**	**1.42**	**7**	*i* P		**Pg**	**11 39 50.7**	**+1.9**
DGRG				*i* S		**Sn**	**11 40 08.3**	**+0.3**
DGRG				IAML			11 40 12.0	
	comp=N,48nm,0.5s							
AGDM	**Agdam**	**1.50**	**87**	P		**Pg**	**11 39 50.3**	**0.0**
	SNR=9.5							
AGDM				S		**Sg**	**11 40 11.7**	**+1.8**
BRDA	**Brd**	**1.57**	**81**	P		**Pb**	**11 39 51.2**	**-0.3**
	SNR=2.8							
BRDA				S		**Sg**	**11 40 13.0**	**+0.9**
BRDA	**Brd**	**1.57**	**81**	*e*Pg		**Pb**	**11 39 51.1**	**-0.3**
VMUR	**Van-Muradiye**	**1.61**	**230**	*i* P		**Pg**	**11 39 52.4**	**+0.1**
VMUR				*i* S		**Sb**	**11 40 12.8**	**-0.2**
VMUR				IAML			11 40 18.0	
	comp=E,51nm,0.6s							
VMUR				IAML			11 40 22.0	
	comp=N,48nm,0.6s							
MNGR	**Mingechevir, A**	**1.65**	**63**	P		**Pg**	**11 39 53.6**	**+0.4**
	SNR=2.9							
MNGR				S		**Sg**	**11 40 15.2**	**+0.6**
MNGR	**Mingechevir, A**	**1.65**	**63**	*e*Pn		**Pg**	**11 39 53.6**	**+0.4**
BTNK	**Botanikuri**	**1.67**	**351**	*i* P		**Pn**	**11 39 50.0**	**-1.9**
QRD	**Qoradiz**	**1.77**	**108**	P		**Pb**	**11 39 54.6**	**-0.2**
	SNR=2.9							
QRD				S		**Sb**	**11 40 17.3**	**-0.2**
QRD	**Qoradiz**	**1.77**	**108**	*e*Pn		**Pb**	**11 39 54.6**	**-0.2**
ISHB	**Shabestar**	**1.79**	**168**	*e*Pn		**Pb**	**11 39 55.2**	**0.0**
ISHB				*e*			11 39 56.8	
	comp=Z,2μm,0.2s							
BLQ	**Beylaqan**	**1.88**	**99**	P		**Pb**	**11 39 56.2**	**-0.5**
	SNR=4.0							
BLQ				S		**Sg**	**11 40 21.5**	**-0.4**
BLQ	**Beylaqan**	**1.88**	**99**	*e*Pn		**Pb**	**11 39 55.9**	**-0.8**
SEKA	**Sheki**	**1.95**	**52**	P		**Pg**	**11 39 58.7**	**-0.2**
	SNR=8.8							
SEKA				S		**Sg**	**11 40 25.8**	**+1.6**
SEKA	**Sheki**	**1.95**	**52**	*e*Pn		**Pg**	**11 39 58.7**	**-0.2**
ZKTA	**Zakatala**	**1.95**	**34**	P		**Pg**	**11 39 59.2**	**+0.2**
	SNR=4.2							
ZKTA				S		**Sg**	**11 40 26.5**	**+2.3**
ZRD	**Zardab**	**1.96**	**82**	P		**Pg**	**11 39 58.7**	**-0.4**
ZRD				S		**Sg**	**11 40 24.8**	**+0.3**
ZRD	**Zardab**	**1.96**	**82**	*e*Pn		**Pg**	**11 39 58.6**	**-0.4**
ITBZ	**Tabriz**	**1.96**	**156**	*e*Pn		**Pb**	**11 39 58.2**	**+0.1**
ITBZ				*e*			11 39 59.3	
	comp=Z,736nm,0.3s							
ZKT	**Zaqatala**	**1.98**	**35**	*e*Pn		**Pg**	**11 39 59.1**	**-0.5**
QBL	**Gabala**	**2.24**	**65**	P		**Pb**	**11 40 03.0**	**+0.1**
QBL				S		**Sb**	**11 40 32.3**	**+1.1**
QBL	**Gabala**	**2.24**	**65**	*e*Pn		**Pb**	**11 40 02.9**	**+0.1**
IHRS	**Heris**	**2.26**	**139**	*e*			11 40 08.9	
	comp=Z,1μm,0.2s							
IHRS				*e*Pn		**Pg**	**11 40 04.3**	**-0.6**
KDMR	**Kurdemir**	**2.35**	**81**	P		**Pb**	**11 40 04.2**	**-0.4**
KDMR				S		**Sb**	**11 40 35.3**	**+1.2**
IML	**Ismayilli**	**2.44**	**71**	P		**Pb**	**11 40 04.9**	**-1.3**
IML				S		**Sg**	**11 40 38.4**	**-1.4**
IML	**Ismayilli**	**2.44**	**71**	*e*Pn		**Pb**	**11 40 04.8**	**-1.3**
IAZR	**Azarshahr**	**2.44**	**164**	*e*			11 40 12.6	
	comp=Z,1μm,0.2s							
IAZR				*e*Pn		**Pb**	**11 40 06.8**	**+0.4**
SAAT	**Saatly**	**2.52**	**93**	P		**Pb**	**11 40 06.0**	**-1.7**
SAAT				S		**Sb**	**11 40 38.9**	**-0.2**
SAAT	**Saatly**	**2.52**	**93**	*e*Pn		**Pb**	**11 40 05.9**	**-1.7**
XNQ	**Khinaliq**	**2.54**	**63**	P		**Pb**	**11 40 07.2**	**-0.9**
	SNR=4.0							
XNQ				S		**Sb**	**11 40 40.9**	**+0.9**
XNQ	**Khinaliq**	**2.54**	**63**	*e*Pn		**Pb**	**11 40 07.2**	**-0.9**
GLBA	**Clilabad**	**2.63**	**107**	P		**Pb**	**11 40 07.6**	**-1.8**
	SNR=4.4							
GLBA				S		**Sb**	**11 40 41.3**	**-0.9**
GLBA	**Clilabad**	**2.63**	**107**	*e*Pn		**Pb**	**11 40 07.6**	**-1.8**
YRD	**Yardimli**	**2.64**	**114**	P		**Pb**	**11 40 07.7**	**-2.1**
	SNR=14							
YRD				S		**Sb**	**11 40 42.6**	**-0.2**
YRD	**Yardimli**	**2.64**	**114**	*e*Pn		**Pb**	**11 40 07.6**	**-2.1**
IBST	**Bostanabad**	**2.70**	**149**	*e*Pn		**Pg**	**11 40 13.4**	**+0.1**
PQL	**Pirkuli**	**2.73**	**73**	P		**Pb**	**11 40 09.9**	**-1.4**
PQL				S		**Sb**	**11 40 44.2**	**-1.2**
PQL	**Pirkuli**	**2.73**	**73**	*e*Pn		**Pb**	**11 40 09.9**	**-1.4**
QUB	**Quba**	**2.79**	**60**	*e*Pn		**Pb**	**11 40 11.7**	**-0.5**
QSAR	**Qusar**	**2.79**	**57**	P		**Pb**	**11 40 09.8**	**-2.5**
QSAR				S		**Sb**	**11 40 45.2**	**-1.7**
QSAR	**Qusar**	**2.79**	**57**	*e*Pn		**Pb**	**11 40 09.7**	**-2.5**
LRK	**Lerik**	**2.84**	**118**	P		**Pb**	**11 40 12.3**	**-0.9**
LRK	**Lerik**	**2.84**	**118**	*e*Pn		**Pb**	**11 40 12.2**	**-0.9**
QUBA	**Quba, Azerbaij**	**2.86**	**62**	P		**Pb**	**11 40 11.8**	**-1.7**
ISRB	**Sarab**	**2.95**	**138**	*e*		**Sg**	**11 40 58.1**	**+1.6**
	comp=Z,686nm,0.3s							
SIZA	**Siyzn**	**3.04**	**69**	S		**Sn**	**11 40 50.0**	**+2.1**
ASTR	**Astara**	**3.19**	**116**	*e*Pn		**Pb**	**11 40 17.1**	**-1.8**
IHSH	**Hashtrud**	**3.19**	**148**	*e*Pn		**Pg**	**11 40 21.1**	**-1.6**
IHSH				*e*			11 40 25.4	
	comp=Z,241nm,0.4s							
GOBA	**Gobu**	**3.53**	**83**	*e*Pn		**Pn**	**11 40 19.7**	**+2.2**

IDC 13 11:47:38.2±51.0, 28°.14S×64°.41E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/33, mbtmp3.5/3, Error ellipse: s-maj=1267.0km s-min=64.4km az=74.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**57.12**	**40**	P		P	11 57 26.8	0.0
	0.5nm,0.6s,baz=219,slow=7.0,SNR=2.5							
ASAR	**Alice Springs**	**61.90**	**103**	P		P	11 58 00.7	+0.7
	0.3nm,0.6s,baz=243,slow=6.1,SNR=4.7							
WRA	**Warramunga Arr**	**63.62**	**100**	P		P	11 58 10.5	-1.0
	0.7nm,0.9s,baz=254,slow=6.1,SNR=2.8							

MEX 13 12:27:47.0±0.3, 25°.08N×109°.64W, h6km±7km, MD3.8, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.75**	**46**	*i* P		Pg	12 27 60.0	-1.4
TSIG				*i* S		Sg	12 28 10.1	-1.0
LPIG	**La Paz**	**1.15**	**212**	*i* P		Pg	12 28 05.8	-3.3
SSIG	**Sanalona**	**2.28**	**96**	*e*P		Pn	12 28 22.0	-3.2

IDC ***13*** *12:37:17.0±1.4, 24°.83N×109°.31W, h0km, mb3.9/4, mb1 4.1/10, mb1mx3.9/57, mbtmp3.8/10, ML3.6/5, MS3.5/7, Ms1 3.5/7, ms1mx3.2/38, Error ellipse: s-maj=25.5km s-min=15.3km az=138.0*
NEIC ***13*** *12:37:20.4±2.1, 24°.84N±0°.07×109°.39W±0°.07, h10km±2km, mb4.2/68, Md4.3/9(MEX), Error ellipse: s-maj=13.3km s-min=8.4km az=136.0*
MEX ***13*** *12:37:21.9±1.1, 25°.16N×109°.83W, h5km, MD4.3*
ISC 13 12:37:20.5±0.6, 24°.87N±0°.05×109°.45W±0°.04, h17km, n134, σ1s20/127, mb4.3/12, MS3.6/4, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.10**	**226**	Pn		**Pb**	**12 37 40.1**	**-0.9**
	60nm,0.3s,baz=25,slow=4.1,SNR=92							
LPIG				Sn		**Sb**	**12 37 54.8**	**-0.2**
	96nm,0.3s,baz=235,slow=12,SNR=8.9							
LPIG	**La Paz**	**1.10**	**226**	*e*P		**Pb**	**12 37 40.1**	**-0.9**
LPIG				*i* S		**Sb**	**12 37 55.7**	**+0.7**
LPIG	**La Paz**	**1.10**	**226**			**Pb**	**12 37 40.1**	**-0.9**
LPIG						**Sb**	**12 37 55.7**	**+0.7**
SLBS	**Sierra La Lagu**	**1.27**	**201**			**Pb**	**12 37 44.2**	**+0.2**
SSIG	**Sanalona**	**2.10**	**91**	*e*P		**Pb**	**12 37 59.3**	**+1.2**
CSIG	**Choix**	**2.18**	**26**	*e*P		**Pn**	**12 37 54.7**	**-1.3**
CSIG				*i* S		**Sn**	**12 38 20.7**	**-1.9**
MAIG	**Mazatlaan**	**3.23**	**121**	*e*P		**Pg**	**12 38 23.6**	**+1.1**
MAIG	**Mazatlaan**	**3.23**	**121**			**Pg**	**12 38 23.6**	**+1.1**
GUYB	**Guaymas**	**3.27**	**337**	*i* P		Pn	12 38 03.9	-7.1
SRIG	**Santa Rosalia**	**3.50**	**315**	*e*P		**Pn**	**12 38 14.8**	**+0.7**
SRIG	**Santa Rosalia**	**3.50**	**315**			**Pn**	**12 38 13.5**	**-0.6**
PDIG	**Papasquiaro**	**3.68**	**87**	*e*P		**Pn**	**12 38 17.9**	**+1.0**
HPIG		**3.98**	**58**	*e*P		**Pn**	**12 38 20.8**	**-0.1**
HPIG				*i* S		**Sn**	**12 39 07.1**	**-0.2**
HPIG		**3.98**	**58**			**Pn**	**12 38 20.2**	**-0.7**
HSIG		**4.34**	**342**	Pn		**Pn**	**12 38 26.5**	**+0.8**
319A	**Douglas**	**6.48**	**1**	Pn		**Pn**	**12 38 51.9**	**-3.3**
TX31	**Lajitas Ar. Si**	**6.80**	**48**	Pn		**Pn**	**12 38 57.9**	**-1.7**
TX32	**Lajitas Array**	**6.80**	**48**	Pn		**Pn**	**12 38 58.3**	**-1.3**
TXAR	**Lajitas Array**	**6.80**	**48**	Pn		**Pn**	**12 38 58.0**	**-1.7**
	0.5nm,0.3s,baz=224,slow=14,SNR=28							
TXAR				Sn		**Sn**	**12 40 12.4**	**-4.4**
	2.9nm,0.3s,baz=221,slow=25,SNR=8.5							
TXAR				Lg		Lg	12 40 48.2	
	2.6nm,0.3s,baz=230,slow=27,SNR=3.1							
TXAR				LR		LR	12 40 58.2	
	comp=Z,78nm,18.8s,baz=0.0,slow=33							
TXAR	**Lajitas Array**	**6.80**	**48**			**Pn**	**12 38 58.4**	**-1.3**
TUC	**Tucson**	**7.50**	**351**	Pn		**Pn**	**12 39 10.8**	**+1.6**
214A	**Organ Pipe Nat**	**7.65**	**338**	Pn		**Pn**	**12 39 12.6**	**+1.4**
MNTX	**Cornudas Mount**	**7.69**	**27**	Pn		**Pn**	**12 39 11.7**	**0.0**
121A	**Cookes Peak, D**	**7.77**	**10**	Pn		**Pn**	**12 39 12.4**	**+0.4**
113A	**Mohawk Valley,**	**8.73**	**335**	Pn		**Pn**	**12 39 25.8**	**-0.1**
Y22D	**IRIS PASSCAL I**	**9.43**	**13**	Pn		**Pn**	**12 39 35.8**	**+0.1**
BNM	**Barren Site**	**9.56**	**14**	Pn		**Pn**	**12 39 36.8**	**-0.9**
X18A	**Snowflake**	**9.63**	**358**			**Pn**	**12 39 39.2**	**+0.7**
X16A	**Lo Mia Camp, P**	**9.67**	**350**	Pn		**Pn**	**12 39 38.8**	**-0.2**
W18A	**Petrified Fore**	**10.21**	**359**			**Pn**	**12 39 46.2**	**-0.3**

ANMO	**Albuquerque**	**10.37**	**14**		Pn	**Pn**	**12 39 48.6**	**0.0**
	baz=201,slow=12,SNR=12							
ANMO					Lg	Lg	12 42 42.5	
	0.1nm,0.3s,baz=242,slow=21,SNR=2.9							
ANMO	**Albuquerque**	**10.37**	**14**		Pn	**Pn**	**12 39 48.4**	**-0.2**
WUAZ	**Wupatki**	**10.74**	**352**		Pn	**Pn**	**12 39 54.9**	**+1.3**
MSTX	**Muleshoe**	**10.77**	**31**		Pn	**Pn**	**12 39 55.1**	**+1.1**
W13A	**Hualapai Mount**	**10.89**	**340**		Pn	**Pn**	**12 39 56.8**	**+1.0**
MVCO	**Mesa Verde**	**12.33**	**4**			**Pn**	**12 40 14.9**	**-0.5**
KNB	**Kanab**	**12.45**	**347**		Pn	**Pn**	**12 40 18.1**	**+1.1**
LCMT	**Little Creek M**	**12.53**	**346**		Pn	**Pn**	**12 40 18.1**	**-0.1**
PV01	**Paradox Valley**	**13.24**	**3**			**Pn**	**12 40 28.9**	**+0.9**
SDCO	**Great Sand Dun**	**13.27**	**14**			**Pn**	**12 40 29.1**	**+0.8**
MTPU	**Mount Pierson**	**13.33**	**351**		Pn	**Pn**	**12 40 29.8**	**+0.5**
TPNV	**Topopah Spring**	**13.37**	**336**		Pn	**Pn**	**12 40 30.5**	**+0.8**
PRN	**Pahroc Range**	**13.38**	**340**			**Pn**	**12 40 31.4**	**+1.7**
PSUT	**Pine Spring**	**14.12**	**346**			**Pn**	**12 40 41.4**	**+1.4**
SMCO	**Snowmass**	**14.41**	**8**		Pn	**Pn**	**12 40 44.1**	**0.0**
TMUT	**Trail Mountain**	**14.46**	**355**			**Pn**	**12 40 46.0**	**+1.3**
NLU	**North Lily Min**	**15.20**	**352**			**Pn**	**12 40 56.8**	**+2.2**
NLU						IAmb	12 41 06.3	
	comp=Z,9.1nm,1.2s							
MPU	**Maple Canyon**	**15.21**	**354**			**Pn**	**12 40 56.5**	**+1.8**
MPU						IAmb	12 41 06.4	
	comp=Z,25nm,1.4s							
ISCO	**Idaho Springs**	**15.23**	**11**		Pn	**Pn**	**12 40 56.8**	**+1.7**
ISCO						IAmb	12 41 06.6	
	comp=Z,9.5nm,0.9s							
O20A	**White River Ci**	**15.25**	**4**			**Pn**	**12 40 55.9**	**+0.6**
NV11	**Mina Array Sit**	**15.40**	**333**			**Pn**	**12 40 58.3**	**+1.1**
NV11						IAmb	12 41 12.3	
	comp=Z,13nm,1.4s							
NVAR	**Mina Array Bea**	**15.46**	**333**		Pn	**Pn**	**12 40 59.8**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=152,slow=13,SNR=6.6							
DUG	**Dugway, Tooele**	**15.54**	**350**		Pn	**P**	**12 41 01.9**	**-1.3**
DUG						IAmb	12 41 10.2	
	comp=Z,26nm,1.3s							
X37A	**Clayton**	**15.58**	**48**			**Pn**	**12 40 57.4**	**-2.0**
X37A						IAmb	12 41 11.2	
	comp=Z,11nm,0.7s							
CMIG	**Matias Romero**	**15.64**	**117**		Pn	**Pn**	**12 40 57.4**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=146,slow=8.1,SNR=1.9							
CMIG					LR	LR	12 47 14.9	
	comp=Z,253nm,21.8s,baz=288,slow=38							
CBKS	**Cedar Bluff**	**16.15**	**28**			**Pn**	**12 41 07.4**	**+0.7**
R32A	**Long Quarter,**	**16.29**	**31**			**Pn**	**12 41 08.5**	**0.0**
R32A						IAmb	12 41 19.3	
	comp=Z,42nm,1.1s							
T35A	**Sooner Cattle**	**16.33**	**40**			**Pn**	**12 41 09.8**	**+0.8**
ELK	**Elko**	**16.55**	**344**		Pn	**P**	**12 41 14.4**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=163,slow=14,SNR=7.8							
ELK					LR	LR	12 47 04.7	
	comp=Z,157nm,21.7s,baz=170,slow=35							
SPUT	**South Promonto**	**16.58**	**352**			**P**	**12 41 14.0**	**-0.8**
PHWY	**Pilot Hill**	**16.72**	**11**			**Pn**	**12 41 13.9**	**-0.3**
PHWY						IAmb	12 41 23.3	
	comp=Z,31nm,1.5s							
HWUT	**Hardware Ranch**	**16.78**	**354**		Pn	**Pn**	**12 41 15.1**	**+0.2**
HWUT						IAmb	12 41 23.8	
	comp=Z,24nm,1.2s							
BMN	**Battle Mountai**	**16.83**	**339**		P	**P**	**12 41 17.4**	**-0.1**
BMN						IAmb	12 41 24.2	
	comp=Z,27nm,1.3s							
PAHR	**Pah Rah Range**	**16.99**	**333**		P	**Pn**	**12 41 18.5**	**+1.0**
U38A	**Gravette**	**17.32**	**45**		P	**P**	**12 41 22.7**	**-0.1**
BW06	**Boulder Array**	**17.85**	**360**		P	**P**	**12 41 29.0**	**+0.1**
BW06				

NEW	**Newport**	**24.12 347**	P	**P**	**12 42 34.4**	**-1.0**
	comp=Z,13nm,1.1s,baz=153,slow=9.5,SNR=7.1					
NEW	**Newport**	**24.12 347**	P	**P**	**12 42 37.1**	**+1.7**
WALA	**Waterton Lakes**	**24.39 353**	P	**P**	**12 42 38.2**	**+0.2**
WALA			IAmb	IAmb	12 42 43.8	
	comp=Z,13nm,1.1s					
TKL	**Tuckaleechee C**	**24.57 58**	P	**P**	**12 42 38.5**	**-1.2**
	comp=Z,2.7nm,0.9s,baz=232,slow=19,SNR=1.6					
TKL	**Tuckaleechee C**	**24.57 58**	P	**P**	**12 42 37.8**	**-1.8**
B08A	**Colville Reser**	**24.70 344**	P	**P**	**12 42 42.4**	**+1.7**
ULM	**Lac du Bonnet**	**27.43 19**	LR	LR	12 53 37.6	
	comp=Z,144nm,19.8s,baz=174,slow=36					
DLBC	**Dease Lake**	**36.58 342**	P	**P**	**12 44 26.9**	**+1.5**
DLBC			IAmb	IAmb	12 44 33.4	
	comp=Z,6.8nm,1.1s					
YKA	**Yellowknife Ar**	**37.77 356**	P	**P**	**12 44 36.0**	**+0.7**
	comp=Z,3.2nm,0.9s,baz=167,slow=8.2,SNR=4.3					
YKA			LR	LR	12 59 21.3	
	comp=Z,110nm,20.0s,baz=0.0,slow=35					
ROSC	**El Rosal**	**39.17 115**	LR	LR	13 03 39.1	
	comp=Z,77nm,22.0s,baz=346,slow=40					
ILAR	**Eielson Array**	**46.61 339**	P	**P**	**12 45 47.3**	**-0.1**
	comp=Z,1.1nm,0.9s,baz=146,slow=7.0,SNR=9.4					
H03N2	**Juan Fernandez**	**64.86 152**	T	T	13 58 55.6	
	baz=331,slow=77,SNR=6.1					
H03N1	**Juan Fernandez**	**64.87 152**	T	T	13 58 56.7	
	baz=331,slow=77,SNR=7.5					
H03N3	**Juan Fernandez**	**64.87 152**	T	T	13 58 55.0	
	baz=331,slow=77,SNR=8.2					
AKASG	**Malin Array Be**	**96.37 25**	LR	LR	13 33 48.7	
	comp=Z,35nm,20.5s,baz=240,slow=35					

IDC 13 12:41:22.3±1.8, 7°29S×149°37E, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.6/35, mbtmp3.9/3, ML3.9/1, Error ellipse: s-maj=78.6km s-min=34.3km az=144.0, New Britain region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.25 228**	P	P	12 45 48.3	-0.2
	0.3nm,0.3s,baz=54,slow=9.9,SNR=40					
ASAR	**Alice Springs**	**22.04 221**	P	P	12 46 18.6	-0.1
	1.2nm,0.6s,baz=57,slow=9.1,SNR=18					
FITZ	**Fitzroy Crossi**	**25.48 243**	P	P	12 46 52.5	+0.1
	4.4nm,0.6s,baz=50,slow=11,SNR=25					
TORD	**Torodi Ar. Bea**	**147.68 283**	PKPbc	PKPdf	13 01 08.3	+1.1
	1.0nm,0.7s,baz=55,slow=2.6,SNR=4.7					
PTGA	**Pitinga**	**149.67 104**	PKPbc	PKPbc	13 01 15.7	+0.5
	0.6nm,0.5s,baz=311,slow=20,SNR=4.1					

IDC 13 12:47:10.3±1.5, 2°70N×127°20E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/40, mbtmp3.7/4, MS3.4/1, Ms1 3.4/1, ms1mx2.6/39, Error ellipse: s-maj=95.7km s-min=23.8km az=70.0, Northern Molucca Sea

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.72 184**	P	P	12 51 52.4	-0.1
	1.0nm,0.7s,baz=7.3,slow=11,SNR=1.8					
WRA	**Warramunga Arr**	**23.57 163**	P	P	12 52 22.7	0.0
	1.3nm,0.4s,baz=343,slow=11,SNR=28					
WRA			PcP	PcP	12 56 07.5	-0.9
	0.8nm,1.1s,baz=328,slow=1.6,SNR=2.2					
ASAR	**Alice Springs**	**27.01 166**	P	P	12 52 54.3	0.0
	0.3nm,0.4s,baz=350,slow=7.5,SNR=6.6					
ASAR			PcP	PcP	12 56 16.9	+0.8
	0.3nm,0.5s,baz=342,slow=1.7,SNR=2.0					
JCJ	**Chichijima**	**28.18 29**	LR	LR	13 02 12.9	
	comp=Z,82nm,20.2s,baz=96,slow=32					
MKAR	**Makanchi Array**	**58.66 325**	P	P	12 57 09.3	-0.3
	0.8nm,0.5s,baz=122,slow=8.9,SNR=6.7					

*IDC **13** 13:20:44.6±1.0, 33°.50S×178°.26W, h0km, mb4.4/5, mb1 4.6/7, mb1mx4.1/24, mbtmp4.5/7, ML4.0/2, MS3.7/12, Ms1 3.7/12, ms1mx3.4/33, Error ellipse: s-maj=33.1km s-min=22.0km az=142.0*

*WEL **13** 13:20:45.6±0.9, 33°.S±8°.×17°.8W±1°.9, h33km, M4.6/10, mB5.0/7, ML5.1/11, MLv4.9/10, Mw(mB)4.3/7, Error ellipse: s-maj=0.0km s-min=0.0km az=110.7*

*NEIC **13** 13:20:46.8±1.5, 33°.4S±0°.1×178°.31W±0°.05, h10km±1km, mb4.7/21, Error ellipse: s-maj=17.4km s-min=6.7km az=189.0*

ISC 13 13:20:46.1±0.7, 33°22S±0°.06×178°.3W±0°.1, h10km, n77, σ1§50/78, mb4.6/13, MS3.5/12, South of Kermadec Islands

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.96 5**	P	**Pn**	**13 21 43.8**	**-3.1**
GLKZ			S	**Sn**	**13 22 28.8**	**-4.6**
RAO	**Raoul Island**	**3.97 5**	Pn	**Pn**	**13 21 46.9**	**-0.1**
MXZ	**Matakaoa Point**	**5.14 212**	Pn	**Pn**	**13 22 00.9**	**-2.2**
MXZ	**Matakaoa Point**	**5.14 212**	P	**Pn**	**13 22 01.3**	**-1.9**
MXZ			S	**Sn**	**13 23 01.2**	**-1.4**
WMGZ	**Waiomatatini S**	**5.31 209**	P	**Pn**	**13 22 04.4**	**-1.0**
WMGZ			S	**Sn**	**13 23 05.7**	**-1.1**
PKGZ	**Pakihiroa**	**5.52 211**	P	**Pn**	**13 22 06.7**	**-1.6**
PKGZ			S	**Sn**	**13 23 10.0**	**-1.8**
HAZ	**Te Kaha**	**5.54 214**	P	**Pn**	**13 22 07.4**	**-1.1**
HAZ			S	**Sn**	**13 23 14.9**	**+2.6**
PUZ	**Puketiti**	**5.59 209**	P	**Pn**	**13 22 07.5**	**-1.8**
PUZ			S	**Sn**	**13 23 14.1**	**+0.4**
RUGZ	**Raukumara Rang**	**5.76 214**	P	**Pn**	**13 22 10.3**	**-1.4**
RUGZ			S	**Sn**	**13 23 18.2**	**+0.3**
TWGZ	**Tauwhareparae**	**5.80 210**	P	**Pn**	**13 22 12.0**	**-0.2**
TWGZ			S	**Sn**	**13 23 18.2**	**-0.6**
CNGZ	**Carnagh Statio**	**5.97 207**	P	**Pn**	**13 22 12.5**	**-1.9**
CNGZ			S	**Sn**	**13 23 23.1**	**+0.2**
TKGZ	**Te Karaka**	**6.08 210**	P	**Pn**	**13 22 14.0**	**-1.9**
TKGZ			S	**Sn**	**13 23 24.8**	**-0.7**
MWZ	**Matawai**	**6.13 212**	P	**Pn**	**13 22 14.2**	**-2.5**
MWZ			S	**Sn**	**13 23 24.8**	**-2.1**
OPRZ	**Ohinepanea**	**6.24 221**	P	**Pn**	**13 22 17.7**	**-0.5**
OPRZ			S	**Sn**	**13 23 29.7**	**+0.2**
URZ	**Urewera**	**6.26 215**	Pn	**Pn**	**13 22 16.2**	**-2.3**
	6.1nm,0.3s,baz=120,slow=22,SNR=43					
URZ			Sn	**Sn**	**13 23 27.0**	**-3.1**
	16nm,0.3s,baz=214,slow=18,SNR=12					
URZ	**Urewera**	**6.26 215**	P	**Pn**	**13 22 16.5**	**-2.0**
URZ			S	**Sn**	**13 23 27.2**	**-2.8**
RIGZ	**Rimuhau**	**6.34 209**	P	**Pn**	**13 22 19.8**	**+0.2**
RIGZ			S	**Sn**	**13 23 29.7**	**-2.3**
BKZ	**Black Stump Fm**	**7.28 214**		**Pn**	**13 22 29.3**	**-3.1**
TUWZ	**Tuamarina**	**10.26 215**	Pn	Pn	13 23 09.0	-4.3
RPZ	**Rata Peaks**	**13.38 215**	Pn	Pn	13 23 51.2	-4.8
PINNC	**Pines Island,**	**16.43 306**		**P**	**13 24 39.0**	**-0.5**
DZM	**Mont Dzumac**	**17.48 306**	*e*P	**P**	**13 24 53.7**	**+2.5**
	60nm,1.4s					
DZM			*e*LR	LR	13 28 37.1	
	comp=Z,454nm,23.9s					
DZM	**Mont Dzumac**	**17.48 306**	P	**P**	**13 24 53.5**	**+2.2**
	0.4nm,0.3s,baz=110,slow=17,SNR=5.2					
DZM			LR	LR	13 30 42.1	
	comp=Z,462nm,18.6s,baz=130,slow=34					
DZM	**Mont Dzumac**	**17.48 306**		**P**	**13 24 52.8**	**+1.6**
LHI	**Lord Howe Isla**	**19.20 269**	P	**P**	**13 25 10.7**	**+0.6**
LHI			IAmb	IAmb	13 25 22.3	
	comp=Z,35nm,1.0s					
AFI	**Afiamalu**	**20.12 19**	P	Pn	13 25 24.3	+2.2
	comp=Z,22nm,0.4s,baz=44,slow=23,SNR=7.7					
AFI	**Afiamalu**	**20.12 19**	Pn	Pn	13 25 24.2	+2.1
AFI			IAmb	IAmb	13 25 45.5	
	comp=Z,68nm,1.1s					
RAR	**Rarotonga**	**20.32 59**	LR	LR	13 32 03.3	
	comp=Z,222nm,20.1s,baz=247,slow=33					
EIDS	**Eidsvold**	**27.76 278**	P	**P**	**13 26 35.3**	**+0.3**
EIDS			IAmb	IAmb	13 26 54.1	
	comp=Z,22nm,1.4s					
PPT2	**Papeete2**	**30.12 66**	*e*LR	LR	13 35 06.4	
	comp=Z,130nm,20.8s					
PPT	**Papeete**	**30.13 66**	LR	LR	13 36 55.2	
	comp=Z,133nm,19.1s,baz=192,slow=32					
HNR	**Honiara**	**31.03 315**	LR	LR	13 36 52.7	
	comp=Z,90nm,19.1s,baz=222,slow=31					
HNR	**Honiara**	**31.03 315**	P	**P**	**13 27 05.0**	**+0.9**
STKA	**Stephens Creek**	**33.70 261**	LR	LR	13 40 04.9	
	comp=Z,104nm,19.6s,baz=83,slow=34					
CTA	**Charters Tower**	**34.11 284**	P	**P**	**13 27 32.7**	**+1.6**
	comp=Z,3.5nm,0.4s,baz=95,slow=7.4,SNR=11					
CTAO	**Charters Tower**	**34.11 284**	P	**P**	**13 27 32.7**	**+1.6**
BBOO	**Buckleboo**	**38.04 258**	P	**P**	**13 28 04.0**	**-0.7**
BBOO			IAmb	IAmb	13 28 27.2	
	comp=Z,40nm,1.5s					
COEN	**Coen**	**39.89 289**	P	**P**	**13 28 22.0**	**+1.8**
COEN			IAmb	IAmb	13 28 38.6	
	comp=Z,17nm,1.1s					
AS31	**Alice Springs**	**42.78 270**	P	**P**	**13 28 43.9**	**-0.2**
ASAR	**Alice Springs**	**42.78 270**	P	**P**	**13 28 44.1**	**0.0**
	comp=Z,5.3nm,0.5s,baz=110,slow=7.9,SNR=143					
ASAR			PcP	**PcP**	**13 30 35.4**	**-0.1**
	comp=Z,1.3nm,1.0s,baz=111,slow=5.1,SNR=1.9					
ASAR	**Alice Springs**	**42.78 270**	P	**P**	**13 28 43.7**	**-0.4**
WR0	**Warramunga Arr**	**43.85 275**	P	**P**	**13 28 52.4**	**-0.3**
WR0			IAmb	IAmb	13 28 53.1	
	comp=Z,16nm,1.4s					
WB2	**Warramunga Arr**	**44.02 275**	P	**P**	**13 28 53.8**	**-0.2**
WB2			IAmb	IAmb	13 29 21.8	
	comp=Z,11nm,1.1s					
WRAB	**Tennant Creek**	**44.02 275**	P	**P**	**13 28 53.8**	**-0.3**
WRAB			IAmb	IAmb	13 28 54.9	
	comp=Z,15nm,1.4s					
WRA	**Warramunga Arr**	**44.03 275**	P	**P**	**13 28 53.7**	**-0.4**
	comp=Z,3.5nm,0.5s,baz=116,slow=7.6,SNR=89					
WRA			PcP	**PcP**	**13 30 40.6**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=136,slow=4.1,SNR=1.1					
WRA	**Warramunga Arr**	**44.03 275**	P	**P**	**13 28 53.5**	**-0.6**
FORT	**Forrest**	**45.15 258**	P	**P**	**13 29 02.1**	**-0.9**
JAY	**Jayapura**	**49.02 300**	LR	LR	13 48 55.2	
	comp=Z,43nm,20.1s,baz=170,slow=34					
MTN	**Manton Dam**	**50.23 281**	P	**P**	**13 29 42.0**	**-0.6**
KNRA	**Kununurra**	**50.73 277**	P	**P**	**13 29 45.7**	**-0.6**
KNRA			IAmb	IAmb	13 30 14.8	
	comp=Z,12nm,1.1s					
FITZ	**Fitzroy Crossi**	**52.16 272**	LR	LR	13 51 43.8	
	comp=Z,108nm,18.4s,baz=126,slow=36					
FITZ	**Fitzroy Crossi**	**52.16 272**	P	**P**	**13 29 56.8**	**-0.2**
NWAO	**Narrogin (SRO)**	**53.21 251**	LR	LR	13 53 08.8	
	comp=Z,42nm,18.2s,baz=32,slow=37					
MORW	**Morawa**	**55.53 255**	P	**P**	**13 30 21.4**	**-0.2**
QSPA	**South Pole Qui**	**56.90 180**	P	**P**	**13 30 32.5**	**+1.5**
QSPA			IAmb	IAmb	13 30 46.2	
	comp=Z,14nm,1.2s					
SIJI	**Sorong**	**57.18 293**	LR	LR	13 55 22.4	
	comp=Z,62nm,18.4s,baz=358,slow=36					
DAV	**Davao City (W)**	**66.61 296**	LR	LR	13 57 45.6	
	comp=Z,21nm,21.9s,baz=136,slow=33					
SNAA	**Sanae**	**75.35 179**	P	**P**	**13 32 30.7**	**+1.5**
SNAA	**Sanae**	**75.35 179**	PcP	**PcP**	**13 32 40.9**	**-1.7**
SNAA	**Sanae**	**75.35 179**	P	**P**	**13 32 29.4**	**+0.1**
SNAA			IAmb	IAmb	13 32 55.3	
	comp=Z,11nm,1.4s					
VNA3	**Neumayer Olymp**	**75.52 176**	P	**P**	**13 32 32.1**	**+1.9**
VNA2	**Neumayer--Watz**	**75.94 177**	P	**P**	**13 32 33.3**	**+0.7**
	baz=180,slow=5.8					
VNA2	**Neumayer--Watz**	**75.94 177**	PcP	**PcP**	**13 32 45.5**	**+0.5**
VNA1	**Neumayer--Stat**	**76.18 177**	P	**P**	**13 32 34.7**	**+0.8**
VNA1	**Neumayer--Stat**	**76.18 177**	PcP	**PcP**	**13 32 45.5**	**-0.5**
NVAR	**Mina Array Bea**	**90.47 43**	P	**P**	**13 33 48.5**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=224,slow=7.6,SNR=3.1					
LPAZ	**La Paz**	**97.21 115**	LR	LR	14 09 01.7	
	comp=Z,19nm,21.1s,baz=132,slow=30					
CPUP	**Villa Florida**	**98.42 129**	LR	LR	14 13 30.4	
	comp=Z,61nm,18.5s,baz=213,slow=32					
MKAR	**Makanchi Array**	**119.37 309**	PKP	**PKiKP**	**13 39 36.3**	**+0.9**
	comp=Z,0.6nm,0.9s,baz=144,slow=1.2,SNR=1.9					
ARCES	**ARCESS Array B**	**141.28 347**	PKP	**PKPdf**	**13 40 16.7**	**+0.6**
	comp=Z,3.5nm,1.3s,baz=11,slow=1.8,SNR=1.5					
FINES	**FINESS Array B**	**147.68 338**	PKPbc	**PKPbc**	**13 40 29.8**	**-0.3**
	comp=Z,2.5nm,0.4s,baz=43,slow=3.8,SNR=42					
FINES	**FINESS Array B**	**147.68 338**	PKPdf	**PKPbc**	**13 40 28.8**	**-1.2**
NB2	**NORSAR Subarra**	**151.49 350**	PKP	**PKPbc**	**13 40 39.1**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=19,slow=4.0					
NOA	**NORSAR Array B**	**151.49 350**	PKPbc	**PKPbc**	**13 40 39.2**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=15,slow=4.1,SNR=2.3					
AKASG	**Malin Array Be**	**153.33 319**	PKPbc	**PKiKP**	**13 40 45.3**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=97,slow=1.5,SNR=2.3					
BRTR	**Keskin Array B**	**153.60 293**	PKPbc	**PKiKP**	**13 40 45.3**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=122,slow=1.9,SNR=3.7					
TORD	**Torodi Ar. Bea**	**160.02 180**	PKPab	**PKPab**	**13 41 25.1**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=177,slow=3.5,SNR=1.8					

*NEIC **13** 13:42:26.1±0.9, 5°.46S±0°.03×146°.8E±0°.1, h35km±2km, mb4.2/9, Error ellipse: s-maj=20.2km s-min=5.7km az=88.0*

*IDC **13** 13:42:37.9±4.6, 5°.37S×146°.26E, h154km±43km, mb3.7/3, mb1 3.8/6, mb1mx3.3/34, mbtmp4.1/6, Error ellipse: s-maj=40.8km s-min=19.6km az=98.0*

ISC 13 13:42:25.8±1.0, 5°47S±0°.09×146°.8E±0°.1, h35km, n19, σ1§18/19, mb4.2/3, Eastern New Guinea region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.45 9**	Pn	**Pn**	**13 43 17.9**	**+0.8**
JAY	**Jayapura**	**6.76 296**	P	Pn	13 44 08.1	+5.5
	2.6nm,0.3s,baz=131,slow=6.3,SNR=11					
JAY			S	**Sn**	**13 45 18.4**	**0.0**
	0.6nm,0.3s,baz=197,slow=17,SNR=1.2					
CTA	**Charters Tower**	**14.54 182**	P	**P**	**13 45 58.1**	**+2.9**
	0.5nm,0.3s,baz=358,slow=12,SNR=1.7					
CTAO	**Charters Tower**	**14.54 182**	P	**P**	**13 45 55.0**	**-0.2**
FAKI	**Fak Fak**	**14.74 279**	Pn	**Pn**	**13 45 53.3**	**+1.5**
MTN	**Manton Dam**	**17.11 244**	Pn	**Pn**	**13 46 21.9**	**-0.5**
MTN			IAmb	IAmb	13 46 25.0	
	comp=Z,35nm,1.4s					
WR0	**Warramunga Arr**	**18.70 219**	P	**P**	**13 46 41.4**	**+0.1**
WR0			IAmb	IAmb	13 47 36.0	
	comp=Z,33nm,2.0s					
WRAB	**Tennant Creek**	**18.80 219**	P	**P**	**13 46 42.7**	**+0.3**
WRAB			IAmb	IAmb	13 46 45.1	
	comp=Z,27nm,1.9s					
WB2	**Warramunga Arr**	**18.81 219**	P	**P**	**13 46 42.9**	**+0.4**
WB2			IAmb	IAmb	13 46 45.8	
	comp=Z,4.7nm,0.7s					
WRA	**Warramunga Arr**	**18.81 219**	P	**P**	**13 46 42.9**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=41,slow=11,SNR=25					
WRA	**Warramunga Arr**	**18.81 219**	P	**P**	**13 46 42.2**	**-0.4**
KNRA	**Kununurra**	**20.41 239**	P	**P**	**13 46 59.6**	**-0.4**
AS31	**Alice Springs**	**21.95 213**	P	**P**	**13 47 16.5**	**-0.1**
ASAR	**Alice Springs**	**21.95 213**	P	**P**	**13 47 16.6**	**0.0**
	comp=Z,1.9nm,0.8s,baz=43,slow=7.8,SNR=13					
FITZ	**Fitzroy Crossi**	**24.18 237**	P	**P**	**13 47 37.0**	**-2.1**
	comp=Z,7.3nm,0.6s,baz=53,slow=11,SNR=56					
FITZ	**Fitzroy Crossi**	**24.18 237**	P	**P**	**13 47 37.5**	**-1.7**
FITZ			IAmb	IAmb	13 47 38.4	
	comp=Z,8.9nm,0.7s					
MORW	**Morawa**	**37.38 228**	P	**P**	**13 49 34.7**	**-0.7**
ILAR	**Eielson Array**	**85.08 23**	P	**P**	**13 54 56.5**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=255,slow=5.1,SNR=15					
ILAR	**Eielson Array**	**85.08 23**	P	**P**	**13 54 56.9**	**-0.8**

IDC 13 14:03:27.8±9.0, 10°.60S×165°.96E, h176km±90km, mb2.9/3, mb1 3.3/4, mb1mx3.0/40, mbtmp3.6/4, Error ellipse: s-maj=68.5km s-min=32.9km az=155.0, Santa Cruz Islands

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.42 178**	P	Pn	14 06 07.6	+1.6
	1.0nm,0.3s,baz=41,slow=19,SNR=27					
DZM			S	Sn	14 08 10.2	-2.7
	0.2nm,0.3s,baz=296,slow=20,SNR=1.1					
WRA	**Warramunga Arr**	**31.83 249**	P	P	14 09 36.6	+0.3
	0.3nm,0.5s,baz=82,slow=9.2,SNR=4.7					
ASAR	**Alice Springs**	**33.18 243**	P	P	14 09 47.0	-1.0
	0.4nm,0.9s,baz=70,slow=11,SNR=4.2					
ASAR			PcP	PcP	14 12 27.5	+0.7
	0.2nm,0.6s,baz=90,slow=2.8,SNR=1.8					
ILAR	**Eielson Array**	**83.03 18**	P	P	14 15 32.5	-0.6
	0.4nm,1.1s,baz=238,slow=5.1,SNR=4.3					

*IDC **13** 14:07:54.7±1.5, 37°.84S×177°.08E, h215km±44km, mb3.1/3, mb1 3.4/3, mb1mx3.1/37, mbtmp3.7/3, Error ellipse: s-maj=287.3km s-min=34.3km az=180.0*

*WEL **13** 14:07:57.0±0.9, 37°.S±5°.×17°.7E±°, h183km±8km, M3.4/69, ML3.2/6, MLv3.4/69, Error ellipse: s-maj=0.0km s-min=0.0km az=44.3*

ISC 13 14:07:54.9±0.9, 37°.45S±0°.07×176°.75E±0°.07, h212km±6km, n165, σ1§17/171, mb3.4/3, North Island

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.42 202**	P	**Pn**	**14 08 22.2**	**-0.9**
WHRZ	**Whale Island**	**0.44 156**	P	**Pn**	**14 08 23.8**	**+0.7**
MYRZ	**Mayor Island**	**0.44 293**	P	**Pn**	**14 08 22.4**	**-0.8**
TGRZ	**Tauranga**	**0.48 235**	P	**Pn**	**14 08 22.5**	**-0.7**
MARZ	**Manawahe**	**0.54 187**	P	**Pn**	**14 08 23.1**	**-0.4**
LIRZ	**Lichensteins R**	**0.62 208**	P	**Pn**	**14 08 24.0**	**+0.2**
EDRZ	**Edgecumbe**	**0.65 181**	P	**Pn**	**14 08 24.4**	**+0.4**
KARZ	**Kaharoa**	**0.69 215**	P	**Pn**	**14 08 23.9**	**-0.2**
OMRZ	**Omania**	**0.72 205**	P	**Pn**	**14 08 24.2**	**-0.1**
MKRZ	**Makatiti**	**0.72 198**	P	**Pn**	**14 08 25.3**	**+1.0**
KMRZ	**Kaimai**	**0.75 238**	P	**Pn**	**14 08 24.1**	**-0.4**
NGRZ	**Ngongotaha**	**0.79 214**	P	**Pn**	**14 08 24.8**	**+0.1**
UTU	**Utuhina**	**0.85 211**	P	**Pn**	**14 08 25.8**	**+0.9**
URZ	**Urewera**	**0.85 161**	P	**Pn**	**14 08 24.5**	**-0.4**
	73nm,0.3s,baz=301,slow=24,SNR=433					
URZ			S	**S**	**14 08 46.5**	**-2.0**
	76nm,0.3s,baz=132,slow=19,SNR=22					
URZ	**Urewera**	**0.85 161**	P	**Pn**	**14 08 24.4**	**-0.6**
URZ			S	**S**	**14 08 46.4**	**-2.1**
HLRZ	**Highlands Stat**	**0.86 202**	P	**Pn**	**14 08 25.6**	**+0.5**
HAZ	**Te Kaha**	**0.87 111**	P	**Pn**	**14 08 24.1**	**-0.9**
RUGZ	**Raukumara Rang**	**0.89 125**	P	**Pn**	**14 08 24.1**	**-1.3**
RRRZ	**Republican Roa**	**0.91 192**	P	**Pn**	**14 08 25.6**	**+0.3**
HSRZ	**Hossack Road**	**0.95 205**	P	**Pn**	**14 08 26.3**	**+0.8**
HRRZ	**Handcock Road**	**1.01 201**	P	**Pn**	**14 08 26.3**	**+0.4**
MUGZ	**Murupara**	**1.02 179**	P	**Pn**	**14 08 26.0**	**0.0**
GRRZ	**Galatos Road**	**1.03 209**	P	**Pn**	**14 08 26.4**	**+0.4**
TOZ	**Tahuroa Road**	**1.03 254**	P	**Pn**	**14 08 25.8**	**-0.2**
MWZ	**Matawai**	**1.07 145**	P	**Pn**	**14 08 26.1**	**-0.3**
PRRZ	**Plateau Road**	**1.08 195**	P	**Pn**	**14 08 26.7**	**+0.3**
KUZ	**Kuaotunu**	**1.09 310**	P	**Pn**	**14 08 24.9**	**-1.6**
PKGZ	**Pakihiroa**	**1.14 113**	P	**Pn**	**14 08 26.8**	**0.0**
ALRZ	**Allen Road**	**1.15 196**	P	**Pn**	**14 08 27.3**	**+0.4**
WPRZ	**Whakapapataran**	**1.16 203**	P	**Pn**	**14 08 27.5**	**+0.5**
RAGZ	**Rawiri**	**1.17 154**	P	**Pn**	**14 08 27.5**	**+0.4**
RAGZ			S	**S**	**14 08 50.5**	**-1.6**
RTZ	**Ruatahuna**	**1.18 171**	P	**Pn**	**14 08 27.2**	**+0.1**
RTZ			S	**S**	**14 08 50.7**	**-1.6**
TWGZ	**Tauwhareparae**	**1.21 127**	P	**Pn**	**14 08 27.7**	**+0.4**
TWGZ			S	**S**	**14 08 52.7**	**+0.1**
MXZ	**Matakaoa Point**	**1.24 96**	P	**Pn**	**14 08 27.2**	**-0.3**
KUTZ	**Kaahu Road**	**1.27 215**	P	**Pn**	**14 08 28.6**	**+0.9**
TLZ	**Tolley Road**	**1.30 227**	P	**Pn**	**14 08 28.5**	**+0.5**
TKGZ	**Te Karaka**	**1.31 139**	P	**Pn**	**14 08 28.1**	**+0.1**
MKAZ	**Moumakai**	**1.32 285**	P	**Pn**	**14 08 27.4**	**-0.7**
PUZ	**Puketiti**	**1.34 118**	P	**Pn**	**14 08 28.2**	**-0.1**
PUZ			S	**S**	**14 08 52.2**	**-2.2**
WHTZ	**Whakaora**	**1.36 207**	P	**Pn**	**14 08 29.7**	**+1.1**
WMGZ	**Waiomatatini S**	**1.37 106**	P	**Pn**	**14 08 28.7**	**+0.2**
MTHZ	**Maungataniwha**	**1.40 177**	P	**Pn**	**14 08 29.1**	**+0.3**
MRHZ	**Matea Rd**	**1.40 191**	P	**Pn**	**14 08 29.2**	**+0.3**
SNGZ	**Shannon Statio**	**1.41 161**	P	**Pn**	**14 08 29.4**	**+0.5**
WIAZ	**Waiheke Island**	**1.45 296**	P	**Pn**	**14 08 28.3**	**-0.9**
RIGZ	**Rimuhau**	**1.48 148**	P	**Pn**	**14 08 30.4**	**+0.9**
RAHZ	**Arahi**	**1.48 170**	P	**Pn**	**14 08 30.3**	**+0.8**
WATZ	**Wairara**	**1.49 212**	P	**Pn**	**14 08 30.6**	**+1.0**
HATZ	**Hinemaiaia**	**1.53 200**	P	**Pn**	**14 08 30.5**	**+0.7**
ETAZ	**East Tamaki Re**	**1.54 288**	P	**Pn**	**14 08 29.4**	**-0.5**
CNGZ	**Carnagh Statio**	**1.54 132**	P	**Pn**	**14 08 31.3**	**+1.3**
RATZ	**Rangitukua**	**1.61 208**	P	**Pn**	**14 08 31.5**	**+0.9**
MBAZ	**Motutapu North**	**1.63 294**	P	**Pn**	**14 08 30.2**	**-0.6**
NMHZ	**Naumai**	**1.64 179**	P	**Pn**	**14 08 32.0**	**+1.1**
WHHZ	**Waihua**	**1.67 167**	P	**Pn**	**14 08 32.1**	**+1.0**
RITZ	**Rihia Road**	**1.68 205**	P	**Pn**	**14 08 32.2**	**+1.0**
EPAZ	**Eden Park BICE**	**1.71 289**	P	**Pn**	**14 08 30.9**	**-0.5**
PRGZ	**Paritu Road**	**1.72 149**	P	**Pn**	**14 08 32.3**	**+0.8**
BKZ	**Black Stump Fm**	**1.72 187**	P	**Pn**	**14 08 31.8**	**+0.1**
HBAZ	**Herne Bay Bore**	**1.72 290**	P	**Pn**	**14 08 31.0**	**-0.6**
KNZ	**Kokohu**	**1.73 155**	P	**Pn**	**14 08 32.3**	**+0.8**
AWAZ	**Awhitu Peninsu**	**1.73 282**	P	**Pn**	**14 08 31.1**	**-0.5**
KATZ	**Kakaramea**	**1.73 208**	P	**Pn**	**14 08 32.5**	**+0.7**
ABAZ	**Army Bay**	**1.76 298**	P	**Pn**	**14

ARCZ	**Arundel**	**7.75**	**211**	P	**Pn**	**14 09 43.2**	**-1.5**
FOZ	**Fox Glacier**	**8.05**	**219**	P	**Pn**	**14 09 47.5**	**-1.0**
TMZ	**Timaru**	**8.18**	**210**	P	**Pn**	**14 09 48.1**	**-2.2**
LBZ	**Lake Benmore**	**8.52**	**214**	P	**Pn**	**14 09 53.1**	**-1.7**
ODZ	**Otahua Downs**	**8.87**	**209**	P	**Pn**	**14 09 57.9**	**-1.3**
JCZ	**Jackson Bay**	**8.96**	**220**	P	**Pn**	**14 09 58.8**	**-1.7**
MLZ	**Mavora Lakes**	**10.22**	**217**	P	**Pn**	**14 10 16.7**	**0.0**
WHZ	**Wether Hill Ro**	**10.69**	**215**	P	**Pn**	**14 10 23.0**	**+0.3**
ASAR	**Alice Springs**	**39.04**	**278**	P	**P**	**14 15 03.6**	**+2.3**
	0.6nm,0.5s,baz=122,slow=8.0,SNR=26						
WRA	**Warramunga Arr**	**40.71**	**283**	P	**P**	**14 15 17.0**	**+2.0**
	0.6nm,0.5s,baz=125,slow=8.0,SNR=17						
FITZ	**Fitzroy Crossi**	**48.53**	**279**	P	**P**	**14 16 18.8**	**+2.0**
	0.8nm,0.7s,baz=119,slow=10,SNR=1.1						
ARCES	**ARCESS Array B**	**144.31**	**343**	PKP	**PKPdf**	**14 27 03.5**	**-0.9**
	0.7nm,0.8s,baz=69,slow=1.5,SNR=5.3						
FINES	**FINESS Array B**	**149.82**	**332**	PKPbc	**PKiKP**	**14 27 18.3**	**-1.3**
	0.8nm,0.7s,baz=85,slow=3.1,SNR=1.2						

BJI ***13*** *14:08:17.0±0.0, 10°.20N×57°.00E, h10km, mB4.9/21, mb4.7/46, Ms4.5/4, Ms7 4.2/3*
IDC ***13*** *14:08:17.3±0.5, 10°.29N×57°.03E, h0km, mb4.3/28, mb1 4.4/29, mb1mx4.3/55, mbtmp4.3/29, ML3.6/1, MS3.5/18, Ms1 3.5/18, ms1mx3.3/41, Error ellipse: s-maj=14.0km s-min=12.2km az=129.0*
NEIC ***13*** *14:08:20.1±1.7, 10°.38N±0°.04×56°.93E±0°.08, h10km±1km, mb4.7/69, Error ellipse: s-maj=15.4km s-min=3.8km az=117.0*
OMAN ***13*** *14:08:28.3±9.7, 10°.58N×56°.36E, h10km, Error ellipse: s-maj=202.8km s-min=23.9km az=9.0*
ISC 13 14:08:20.3±1.0, 10°.35N±0°.07×56°.97E±0°.06, h18km±5km, n221, σ1s16/220, mb4.6/91, MS3.6/18, 11C-6D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOCY	**Socotra**	**3.45**	**302**	Pn	**Pn**	**14 09 13.8**	**+0.6**
SOCY	**Socotra**	**3.45**	**302**	P	**Pn**	**14 09 14.1**	**+0.9**
	SNR=8.9						
SOCY				S	**Sn**	**14 09 53.4**	**-0.3**
DMTO	**DMTO**	**7.58**	**345**	P	Pn	14 10 15.6	+5.6
RBK	**Rabkut**	**7.60**	**340**	P	Pn	14 10 15.2	+4.9
ABTO	**Aybut**	**7.83**	**333**	P	**Pn**	**14 10 16.7**	**+3.3**
WHFO	**Wadi Hawf**	**8.14**	**338**	P	**Pn**	**14 10 21.2**	**+3.4**
	SNR=5.1						
DOK	**Doka**	**8.67**	**342**	P	Pn	14 10 29.7	+4.7
DQM	**DQM**	**9.54**	**3**	P	**Pn**	**14 10 40.7**	**+3.8**
WSAR	**Wadi Sarin**	**12.92**	**7**	Pn	**Pn**	**14 11 24.8**	**+1.6**
	0.3nm,0.3s,baz=187,slow=5.6,SNR=2.0						
WSAR				LR	LR	14 15 31.0	
	comp=Z,240nm,19.5s,baz=208,slow=34						
ATD	**Arta Tunnel**	**13.91**	**276**	LR	LR	14 16 16.3	
	comp=Z,84nm,21.3s,baz=61,slow=34						
UOSS	**Minazif**	**14.54**	**357**		**Pn**	**14 11 45.0**	**-0.3**
QRN	**Al-Qurain**	**20.18**	**336**	*eP*	**P**	**14 12 52.5**	**-1.4**
RST	**Umm Al-Ruwaisa**	**21.21**	**335**	*eP*	**P**	**14 13 04.0**	**-1.2**
MIB	**Mutribah**	**21.34**	**336**	*eP*	**P**	**14 13 04.9**	**-1.7**
LODK	**Lodwar**	**22.51**	**254**	P	**P**	**14 13 20.6**	**+1.2**
LODK				IAmb	IAmb	14 13 33.2	
	comp=Z,21nm,1.1s						
KIBK	**Kibwezi**	**22.66**	**237**	P	**P**	**14 13 19.7**	**-1.2**
KMBO	**Kilima Mbogo**	**22.69**	**241**	P	**P**	**14 13 19.6**	**-1.8**
	comp=Z,1.4nm,0.5s,baz=43,slow=11,SNR=5.8						
KMBO				LR	LR	14 21 55.8	
	comp=Z,61nm,20.7s,baz=99,slow=36						
PALK	**Pallekele**	**23.65**	**95**	LR	LR	14 20 50.5	
	comp=Z,77nm,19.4s,baz=4.2,slow=32						
HRA	**Herat**	**24.41**	**11**	P	**P**	**14 13 39.0**	**+0.9**
HRA				IAmb	IAmb	14 13 39.9	
	comp=Z,9.1nm,0.8s						
KBL	**Kabul**	**26.50**	**23**	P	**P**	**14 13 58.5**	**+1.5**
GEYT	**Alibeck**	**27.49**	**2**	P	**P**	**14 14 05.6**	**0.0**
	comp=Z,23nm,0.6s,baz=170,slow=9.9,SNR=5.7						
GEYT				LR	LR	14 24 38.4	
	comp=Z,79nm,21.1s,baz=50,slow=36						
GYA0B	**ALIBECK ARRAY**	**27.49**	**2**	P	**P**	**14 14 06.1**	**+0.4**
GYA0B				IAmb	IAmb	14 14 29.4	
	comp=Z,14nm,1.2s						
NIL	**Nilore**	**27.60**	**30**	P	**P**	**14 14 07.4**	**+0.7**
NIL				IAmb	IAmb	14 14 21.4	
	comp=Z,14nm,1.1s						
ASF	**Jabal al Asfar**	**28.56**	**323**	P	**P**	**14 14 16.6**	**+1.2**
	comp=Z,4.4nm,0.9s,baz=146,slow=3.6,SNR=3.9						
CHGR	**Chuyangaron**	**30.23**	**19**	P	**P**	**14 14 30.2**	**+0.1**
CHGR				IAmb	IAmb	14 14 31.1	
	comp=Z,7.9nm,0.9s						
KOLN	**Koldanda**	**30.45**	**52**	*eP*	**P**	**14 14 33.5**	**+1.1**
	comp=Z,52nm,1.0s						
MARD	**Mardin**	**30.56**	**334**	P	**P**	**14 14 35.0**	**+1.8**
MARD				IAmb	IAmb	14 14 36.6	
	comp=Z,15nm,0.8s						
DANN	**Dangsing**	**30.86**	**51**	*eP*	**P**	**14 14 37.1**	**+1.0**
GKN	**Gorkha**	**31.37**	**52**	*eP*	**P**	**14 14 41.5**	**+1.1**
PKIN	**Phulchoki**	**31.76**	**53**	*eP*	**P**	**14 14 45.2**	**+1.2**
	comp=Z,24nm,0.7s						
KKN	**Kakani**	**31.77**	**53**	*eP*	**P**	**14 14 45.5**	**+1.5**
PKI	**Pulchoki**	**31.77**	**53**	*eP*	**P**	**14 14 45.3**	**+1.2**
	comp=Z,32nm,0.8s						
JIRN	**Jiri**	**32.43**	**54**	*eP*	**P**	**14 14 51.2**	**+1.2**
	comp=Z,39nm,0.8s						
RAMN	**Ramite**	**32.45**	**55**	*eP*	**P**	**14 14 51.7**	**+1.7**
	comp=Z,10nm,0.5s						
ODAN	**Odare**	**33.06**	**56**	*eP*	**P**	**14 14 57.1**	**+1.8**
TAPN	**Taplejung**	**33.52**	**55**	*eP*	**P**	**14 15 00.8**	**+1.4**
	comp=Z,52nm,1.0s						
KSH	**Kashi**	**33.62**	**27**	P	**P**	**14 14 56.8**	**-3.2**
KSH				pmax	pmax		
	comp=Z,12nm,1.0s						
IUG	**Iuzhnay**	**33.69**	**18**	*eP*	**P**	**14 15 00.6**	**+0.1**
	baz=18						
KK31	**Karatay Array**	**34.71**	**18**	P	**P**	**14 15 09.8**	**+0.6**
KK31				IAmb	IAmb	14 15 11.3	
	comp=Z,7.0nm,0.8s						
KKAR	**Karatay Array**	**34.71**	**18**	P	**P**	**14 15 09.9**	**+0.7**
KKAR				IAmb	IAmb	14 15 11.3	
	comp=Z,7.0nm,0.8s						
KBZ	**Khabaz**	**35.43**	**342**	P	**P**	**14 15 16.8**	**+1.5**
	comp=Z,9.4nm,0.9s,baz=170,slow=6.3,SNR=12						
KBZ				LR	LR	14 32 25.1	
	comp=Z,95nm,18.2s,baz=166,slow=41						
AAK	**Ala-Archa**	**35.63**	**22**	P	**P**	**14 15 19.2**	**+1.9**
	comp=Z,3.1nm,0.7s,baz=200,slow=9.9,SNR=4.4						
AAK	**Ala-Archa**	**35.63**	**22**	IAmb	IAmb	14 15 20.5	
	comp=Z,9.8nm,1.1s						
KIV	**Kislovodsk**	**35.70**	**342**	P	**P**	**14 15 18.8**	**+0.9**
KIV				IAmb	IAmb	14 15 21.8	
	comp=Z,20nm,1.0s						
BR131	**Keskin Array S**	**35.87**	**329**	P	**P**	**14 15 19.7**	**+0.3**
BR131				IAmb	IAmb	14 15 22.6	
	comp=Z,17nm,1.2s						
BRTR	**Keskin Array B**	**35.87**	**329**	P	**P**	**14 15 20.9**	**+1.6**
	comp=Z,2.8nm,0.5s,baz=145,slow=8.9,SNR=12						
BRTR				LR	LR	14 30 58.3	
	comp=Z,76nm,19.6s,baz=157,slow=38						
BRTR	**Keskin Array B**	**35.87**	**329**	P	**P**	**14 15 19.9**	**+0.5**
ELL	**Elmali**	**35.90**	**321**	P	**P**	**14 15 21.0**	**+1.3**
SHL	**Shillong**	**36.36**	**61**	P	**P**	**14 15 23.8**	**-0.1**
SHL				IAmb	IAmb	14 15 25.5	
	comp=Z,13nm,1.1s						
SGDS	**Sogindy**	**36.38**	**22**	*eP*	**P**	**14 15 22.9**	**-0.8**
	baz=22						
ANTO	**Ankara**	**36.41**	**328**	P	**P**	**14 15 23.5**	**-0.5**
MTBS	**Maitube**	**36.80**	**24**	*eP*	**P**	**14 15 27.3**	**0.0**
	baz=24						
MDOK	**Medeo**	**37.08**	**25**	*eP*	**P**	**14 15 28.4**	**-1.3**
	baz=25						
KUU	**Kurty**	**37.41**	**23**	*eP*	**P**	**14 15 32.4**	**+0.1**
	baz=23						
BTLS	**Baital**	**37.57**	**20**	*eP*	**P**	**14 15 33.0**	**-0.6**
	baz=20						
KPKS	**Kokpek**	**38.02**	**26**	*eP*	**P**	**14 15 37.0**	**-0.6**
	baz=26						
ABKAR	**Akbulak array**	**38.87**	**3**	P	**P**	**14 15 44.2**	**-0.3**
MHMT	**Maesarieng**	**40.39**	**74**	P	**P**	**14 15 59.3**	**+1.7**
	comp=Z,28nm,1.0s						
CM13	**Chiang Mai Arr**	**41.33**	**74**	P	**P**	**14 16 07.3**	**+1.9**
	comp=Z,4.6nm,1.2s						
CM15	**Chiang Mai Arr**	**41.35**	**74**	P	**P**	**14 16 07.5**	**+1.9**
	comp=Z,6.4nm,1.1s						
CM05	**Chiang Mai Arr**	**41.37**	**74**	P	**P**	**14 16 07.6**	**+1.9**
	comp=Z,55nmcomp=Z,5.5nm,1.2s						
CM31	**Chiang Mai Arr**	**41.37**	**74**	P	**P**	**14 16 05.9**	**+0.2**
CM31				IAmb	IAmb	14 16 07.7	
	comp=Z,16nm,1.1s						
CMAR	**Chiang Mai Arr**	**41.37**	**74**	P	**P**	**14 16 06.8**	**+1.0**
	comp=Z,5.8nm,1.0s,baz=269,slow=8.6,SNR=34						
CMAR	**Chiang Mai Arr**	**41.37**	**74**	P	**P**	**14 16 06.0**	**+0.2**
CM02	**Chiang Mai Arr**	**41.37**	**74**	P	**P**	**14 16 07.3**	**+1.5**
	comp=Z,71nmcomp=Z,8.1nm,1.1s						
CM01	**Chiang Mai Arr**	**41.38**	**74**	P	**P**	**14 16 07.7**	**+1.9**
	comp=Z,8.4nm,1.1s						
CM04	**Chiang Mai Arr**	**41.40**	**74**	P	**P**	**14 16 07.4**	**+1.4**
	comp=Z,85nmcomp=Z,10.0nm,1.1s						
CHTO	**Chiang Mai**	**41.40**	**73**	P	**P**	**14 16 08.0**	**+2.0**
	comp=Z,4.6nm,2.6s						
CHTO	**Chiang Mai**	**41.40**	**73**	P	**P**	**14 16 05.8**	**-0.2**
CHTO	**Chiang Mai**	**41.40**	**73**	P	**P**	**14 16 07.0**	**+1.0**
	comp=Z,2.6nm,2.6s						
CMMT	**Chiang Mai**	**41.41**	**73**	P	**P**	**14 16 07.9**	**+1.8**
	comp=Z,7.3nm,1.3s						
CMMT	**Chiang Mai**	**41.41**	**73**	P	**P**	**14 16 06.9**	**+0.8**
	comp=Z,6.9nm,1.6s						
CM09	**Chiang Mai Arr**	**41.41**	**74**	P	**P**	**14 16 07.6**	**+1.5**
	comp=Z,99nmcomp=Z,11nm,0.9s						
MATP	**Matopo**	**41.46**	**222**	P	**P**	**14 16 07.2**	**+0.7**
	comp=Z,3.5nm,0.8s,baz=34,slow=17,SNR=5.6						
BRZS	**Berezniki**	**41.61**	**15**	*eP*	**P**	**14 16 06.2**	**-1.0**
	baz=15						
TIRR	**Tirgusor**	**41.97**	**329**	P	**P**	**14 16 10.8**	**+0.6**
AGG	**Agios Georgios**	**42.05**	**319**	P	**P**	**14 16 11.2**	**+0.1**
AGG				IAmb	IAmb	14 16 13.5	
	comp=Z,32nm,1.5s						
SRIT	**Nakonsritamara**	**42.07**	**89**	P	**P**	**14 16 12.3**	**+0.8**
MAKZ	**Makanchi**	**42.09**	**26**	P	**P**	**14 16 11.6**	**+0.3**
MK31	**Makanchi Array**	**42.21**	**26**	P	**P**	**14 16 11.9**	**-0.3**
MKAR	**Makanchi Array**	**42.21**	**26**	P	**P**	**14 16 12.6**	**+0.3**
	comp=Z,2.7nm,0.6s,baz=216,slow=10,SNR=18						
MKAR				PcP	**PcP**	**14 18 05.6**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=197,slow=1.5,SNR=2.8						
MKAR	**Makanchi Array**	**42.21**	**26**	P	**P**	**14 16 12.3**	**+0.1**
PHIT	**Phitsanulok**	**42.67**	**76**	P	P	14 16 28.2	+12
VTS	**Vitosha**	**43.58**	**324**	⇑P	**P**	**14 16 22.1**	**-1.5**
VTS	**Vitosha**	**43.58**	**324**	P	**P**	**14 16 22.7**	**-0.9**
VTS				IAmb	IAmb	14 16 25.2	
	comp=Z,10.0nm,0.7s						
FNA	**Florina**	**43.64**	**320**	P	**P**	**14 16 23.1**	**-0.9**
VRI	**Vrincioaia**	**43.81**	**329**	⇑P	**P**	**14 16 24.8**	**-0.5**
PLOR	**Plostina**	**43.84**	**329**	⇑P	**P**	**14 16 27.4**	**+1.9**
ZSN	**Zaisan**	**43.85**	**27**	*eP*	**P**	**14 16 24.4**	**-1.1**
	baz=27						
KURBB	**Kurchatov Arra**	**43.91**	**20**	P	**P**	**14 16 26.1**	**+0.3**
	comp=Z,2.6nm,0.9s,baz=221,slow=7.9,SNR=24						
KURBB				PcP	**PcP**	**14 18 11.0**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=227,slow=3.3,SNR=4.9						
BRVK	**Borovoye**	**43.93**	**12**	P	**P**	**14 16 25.3**	**-0.7**
MLR	**Muntele Rosu**	**43.95**	**329**	⇑P	**P**	**14 16 26.7**	**+0.2**
MLR	**Muntele Rosu**	**43.95**	**329**	P	**P**	**14 16 27.2**	**+0.8**
MLR				IAmb	IAmb	14 16 38.9	
	comp=Z,7.7nm,0.8s						
KURK	**Kurchatov**	**44.02**	**20**	P	**P**	**14 16 26.1**	**-0.6**
COVR	**Voineasa-Covas**	**44.06**	**329**	⇓P	**P**	**14 16 28.7**	**+1.4**
TESR	**Tescani**	**44.30**	**330**	⇓P	**P**	**14 16 28.7**	**-0.4**
VOIR		**44.38**	**328**	⇑P	**P**	**14 16 30.1**	**+0.3**
DOPR	**Dopca**	**44.56**	**329**	⇓P	**P**	**14 16 31.8**	**+0.6**
SORM	**Soroca**	**44.68**	**333**	⇑P	**P**	**14 16 31.2**	**-0.9**
TIR	**Tirane**	**44.91**	**320**	P	**P**	**14 16 35.2**	**+1.2**
TIR				IAmb	IAmb	14 17 03.9	
	comp=Z,9.4nm,0.7s						
LOT	**Lotru**	**45.06**	**327**	⇑P	**P**	**14 16 35.4**	**+0.1**
GZR	**Gura Zlata**	**45.56**	**326**	⇑P	**P**	**14 16 39.3**	**+0.1**
BURAR	**Bucovina Array**	**45.77**	**330**	⇓P	**P**	**14 16 41.9**	**+0.9**
BURAR	**Bucovina Array**	**45.77**	**330**	P	**P**	**14 16 40.9**	**-0.1**
KMI	**Kunming**	**45.78**	**65**	⇑P	**P**	**14 16 42.8**	**+1.3**
KMI				pmax	pmax		
	comp=Z,11nm,0.5s						
BUR08	**Bucovina Ar. S**	**45.80**	**330**	P	**P**	**14 16 41.6**	**+0.4**
ARU	**Arti**	**45.99**	**1**	P	**P**	**14 16 42.1**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=206,slow=9.1,SNR=3.9						
ARU	**Arti**	**45.99**	**1**	P	**P**	**14 16 42.7**	**+0.3**
ARU				IAmb	IAmb	14 16 43.2	
	comp=Z,6.6nm,1.2s						
AKASG	**Malin Array Be**	**46.25**	**336**	P	**P**	**14 16 44.1**	**-0.4**
	comp=Z,2.4nm,0.6s,baz=139,slow=7.2,SNR=22						
AKASG				PcP	**PcP**	**14 18 19.6**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=121,slow=2.1,SNR=7.4						
AKASG				LR	LR	14 38 23.8	
	comp=Z,36nm,19.3s,baz=210,slow=39						
AKASG	**Malin Array Be**	**46.25**	**336**	IAmb	IAmb	14 16 48.5	
	comp=Z,2.4nm,1.4s						
AKBB	**Malin Array Si**	**46.25**	**336**	P	**P**	**14 16 43.9**	**-0.6**
AKBB				IAmb	IAmb	14 16 45.0	
	comp=Z,10nm,1.1s						
DIVS	**Divibare**	**46.36**	**323**	P	**P**	**14 16 45.1**	**-0.6**
LBTB	**Lobatse**	**46.59**	**221**	P	**P**	**14 16 48.3**	**+0.7**
LBTB				IAmb	IAmb	14 16 49.7	
	comp=Z,12nm,1.2s						
TRPA	**Tarpa**	**47.45**	**329**	⇓P	**P**	**14 16 53.3**	**-0.7**
SGRT	**San Giovanni R**	**47.77**	**318**	P	**P**	**14 16 56.6**	**0.0**
GTA	**Gaotai**	**47.80**	**45**	*eP*	**P**	**14 16 57.6**	**+0.6**
GTA				pP	sP	14 17 01.9	-1.1
GTA				sP	pwP	14 17 05.5	-1.4
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,71nm,4.6s						
GTA				LR	LR		
	comp=Z,140nm,19.3s						
GTA				LR	LR		
	comp=Z,150nm,19.6s						
GTA				LR	LR		
	comp=Z,61nm,20.4s						
KOLS	**Kolonicke sedl**	**48.12**	**330**	*eP*	**P**	**14 17 00.4**	**+1.3**
MORH	**Mrgy, Hungar**	**48.36**	**325**	⇑P	**P**	**14 17 00.2**	**-0.8**
CRVS	**Cervenica-Dubn**	**48.50**	**329**	*eP*	**P**	**14 17 03.1**	**+1.0**
TSUM	**Tsumeb**	**48.67**	**233**	P	**P**	**14 17 04.1**	**+0.1**
	comp=Z,7.8nm,1.0s,baz=67,slow=6.7,SNR=6.4						
TSUM	**Tsumeb**	**48.67**	**233**	P	**P**	**14 17 03.8**	**-0.1**
TSUM				IAmb	IAmb	14 17 07.0	
	comp=Z,21nm,1.3s						
ZAA0	**Zalesovo Array**	**48.84**	**22**	P	**P**	**14 17 03.8**	**-0.8**
ZAA0				IAmb	IAmb	14 17 04.7	
	comp=Z,5.6nm,0.6s						
ZALV	**Zalesovo Beam**	**48.84**	**22**	P	**P**	**14 17 03.8**	**-0.8**
	comp=Z,4.8nm,0.5s,baz=221,slow=8.1,SNR=16						
ZALV	**Zalesovo Beam**	**48.84**	**22**	P	**P**	**14 17 03.3**	**-1.3**
BOSA	**Boshof**	**49.38**	**218**	P	**P**	**14 17 09.7**	**+0.4**
	comp=Z,7.4nm,1.1s,baz=15,slow=11,SNR=3.8						
BOSA				LR	LR	14 35 47.3	
	comp=Z,85nm,19.1s,baz=66,slow=33						
BOSA	**Boshof**	**49.38**	**218**	P	**P**	**14 17 09.4**	**+0.1**
BOSA				IAmb	IAmb	14 17 28.0	
	comp=Z,22nm,1.4s						
GYA	**Guiyang**	**49.49**	**64**	⇑P	**P**	**14 17 10.1**	**-0.1**
GYA				pP	sP	14 17 15.6	-0.5
GYA				pmax	pmax		
	comp=Z,14nm,1.1s						
LZH	**Lanzhou**	**49.50**	**51**	*eP*	**P**	**14 17 10.3**	**+0.1**
LZH				pP	sP	14 17 15.1	-1.0
LZH				sP	pwP	14 17 19.5	-0.6
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
MNK	**Minsk**	**49.73**	**338**	*i* P	**P**	**14 17 09.1**	**-2.2**
	comp=E,3.0nm,0.9s						
MNK				*i* P	**P**	**14 17 09.1**	**-2.2**
	comp=N,18nm,0.8s						
MNK				*i* P	**P**	**14 17 09.1**	**-2.2**
	comp=Z,18nm,1.1s,baz=141						
MNK				*i* PcP	**PcP**	**14 18 29.0**	**-3.2**
MNK				*i* PP	**PP**	**14 19 04.2**	**-1.8**
MNK				*i* PPP	PPP	14 19 58.8	
MNK				*i* S	**S**	**14 24 17.6**	**-1.9**
MNK				*i* ScS	**ScS**	**14 26 57.8**	**-4.3**
MNK				*i* SS	**SS**	**14 27 49.3**	**-2.7**
MNK				*i* SSS	SSS	14 29 14.5	
MNK				*i* LQ	LQ	14 34 21.7	
MNK				*i* LR	LR	14 38 00.2	
MNK				*i* LRM	MLR	14 41 05.9	
	comp=Z,169nm,20.4s						
MNK				*i* LRM	MLR	14 41 06.6	
	comp=E,7.0nm,15.3s						
MNK				*i* LRM	MLR	14 41 11.7	
	comp=N,36nm,15.9s						
KEST	**Kesra**	**49.96**	**308**	LR	LR	14 39 43.1	
	comp=N,59nm,18.6s,baz=239,slow=38						
NACGM	**Naroch**	**50.44**	**338**	*i* P	**P**	**14 17 17.0**	**+0.3**
ARSA	**Arzberg**	**50.72**	**324**	*eP*	**P**	**14 17 19.0**	**0.0**
	comp=N,3.5nm,0.9s						
CONA	**Conrad Observa**	**50.90**	**325**	*eP*	**P**	**14 17 20.5**	**+0.1**
	comp=N,7.5nm,1.3s						
TRI	**Trieste**	**50.96**	**322**	P	**P**	**14 17 20.8**	**0.0**
TRI				IAmb	IAmb	14 17 21.1	
	comp=Z,8.6nm,0.8s						
MORC	**Moravsky Berou**	**51.05**	**328**	⇓P	**P**	**14 17 20.5**	**-1.1**
MORC	**Moravsky Berou**	**51.05**	**328**	P	**P**	**14 17 20.2**	**-1.4**
MORC	**Moravsky Berou**	**51.05**	**328**	*eP*	**P**	**14 17 20.5**	**-1.1**
SUW	**Suwalki**	**51.20**	**335**	P	**P**	**14 17 21.9**	**-0.5**
KRUC	**Moravsky**	**51.24**	**327**	*eP*	**P**	**14 17 22.7**	**-0.2**
VRAC	**Vranov**	**51.28**	**327**	*eP*	**P**	**14 17 23.3**	**+0.1**
MOA	**Molln**	**51.76**	**324**	*eP*	**P**	**14 17 26.7**	**-0.2**
	comp=Z,3.3nm,0.8s						
STAL	**STALIGIAL**	**51.87**	**322**	P	**P**	**14 17 27.3**	**-0.5**
STAL				IAmb	IAmb	14 17 33.6	
	comp=Z,6.9nm,1.0s						
KBA	**Koelnbreinsper**	**51.90**	**323**	*eP*	**P**	**14 17 27.4**	**-0.7**
	comp=Z,4.1nm,1.1s						
PABE	**Paberze**	**51.96**	**337**	P	**P**	**14 17 28.6**	**+0.4**
KLMR	**Klimovskoe**	**52.04**	**349**	*eP*	**P**	**14 17 26.5**	**-2.2**
KLMR				AMP		14 17 28.8	
	comp=Z,26nm,1.4s						
ZCCA	**Zocca**	**52.07**	**319**	P	**P**	**14 17 30.6**	**+1.3**
CHVC	**Chvalec**	**52.30**	**328**	*eP*	**P**	**14 17 30.3**	**-0.6**
CTI	**Castel Tesino**	**52.42**	**321**	P	**P**	**14 17 32.1**	**+0.2**
GERES	**GERESS Array B**	**52.61**	**325**	P	**P**	**14 17 32.2**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=111,slow=5.4,SNR=3.7						
GERES				PcP	**PcP**	**14 18 43.2**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=133,slow=5.5,SNR=5.5						
GERES				LR	LR	14 40 58.2	
	comp=Z,35nm,20.6s,baz=123,slow=37						
GERES	**GERESS Array B**	**52.61**	**325**	P	**P**	**14 17 32.8**	**-0.4**
KHC	**Kasperske Hory**	**52.83**	**326**	*eP*	**P**	**14 17 33.5**	**-1.3**
XAN	**Xi'an**	**52.92**	**55**	P	**P**	**14 17 35.0**	**-0.7**
XAN				pP	pP	14 17 38.8	-1.2
XAN				pmax	pmax		
	comp=Z,20nm,1.2s						
WTTA	**Wattenberg**	**53.00**	**323**	*eP*	**P**	**14 17 35.4**	**-0.8**
	comp=Z,3.9nm,0.6s						
WATA	**Walderalm**	**53.07**	**323**	*eP*	**P**	**14 17 35.7**	**-1.1**
	comp=Z,2.1nm,0.5s						
SQTA	**Sankt Quirin**	**53.24**	**322**	*eP*	**P**	**14 17 37.3**	**-0.7**
	comp=Z,4.7nm,0.4s						
MOTA	**Moosalm**	**53.36**	**323**	*eP*	**P**	**14 17 37.4**	**-1.5**
	comp=Z,4.4nm,0.8s						
FETA	**Feichten**	**53.43**	**322**	*eP*	**P**	**14 17 38.4**	**-1.1**
	comp=Z,4.6nm,0.9s						
DAVA	**Damuels**	**54.07**	**322**	*eP*	**P**	**14 17 43.3**	**-0.8**
	comp=Z,4.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**54.10**	**279**	P	**P**	**14 17 45.3**	**+0.7**
	comp=Z,4.0nm,0.8s,baz=84,slow=7.6,SNR=18						
TORD	**Torodi Ar. Bea**	**54.10**	**279**	P	**P**	**14 17 45.1**	**+0.5**
CLL	**Collm**	**54.31**	**328**	*eP*	**P**	**14 17 46.0**	**+0.5**
BNI	**Bardonecchia**	**55.15**	**318**	P	**P**	**14 17 52.5**	**+0.6**
BNI				IAmb	IAmb	14 17 57.5	
	comp=Z,19nm,1.5s						
SENIN	**Lac Senin/Sane**	**55.27**	**320**	P	**P**	**14 17 52.7**	**-0.2**
SENIN				IAmb	IAmb	14 17 54.3	
	comp=Z,6.1nm,0.8s						
BFO	**Black Forest**	**55.47**	**323**	P	**P**	**14 17 54.2**	**+0.1**
BFO				IAmb	IAmb	14 18 02.3	
	comp=Z,9.2nm,1.3s						
SONM	**Songino Array**	**55.74**	**38**	P	**P**	**14 17 56.1**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=238,slow=8.0,SNR=9.5						
SONM	**Songino Array**	**55.74**	**38**	P	**P**	**14 17 56.5**	**+0.3**
FIA1	**FINESS Array S**	**55.79**	**343**	P	**P**	**14 17 54.2**	**-1.9**
FINES	**FINESS Array B**	**55.79**	**343**	P	**P**	**14 17 55.5**	**-0.6**
	comp=Z,4.9nm,0.6s,baz=133,slow=8.9,SNR=18						
FINES				PcP	**PcP**	**14 18 54.9**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=149,slow=4.0,SNR=5.6						
FINES				LR	LR	14 43 51.1	
	comp=Z,52nm,21.8s,baz=138,sl

PDAR	**Pinedale Array**	**125.73**	**348**	PKP	**PKPdf**	**14 27 21.2**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=38,slow=2.6,SNR=4.6						
NVAR	**Mina Array Bea**	**131.28**	**355**	PKP	**PKPdf**	**14 27 33.4**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=8.5,slow=1.8,SNR=7.1						
TXAR	**Lajitas Array**	**136.35**	**335**	PKP	**PKPdf**	**14 27 41.3**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=219,slow=0.8,SNR=6.1						

NEIC ***13*** *14:14:26.3±1.4,23°.5S±0°.1×179°.8W±0°.1, h525km±8km, mb4.4/22, Error ellipse: s-maj=18.0km s-min=13.8km az=120.0*

IDC ***13*** *14:14:28.0±3.0,23°.75S×179°.63W, h571km±27km, mb3.4/4, mb1 3.4/6, mb1mx3.0/40, mbtmp4.3/6, Error ellipse: s-maj=46.7km s-min=32.3km az=128.0*

ISC 13 14:14:27.2±0.6, 23°.7S±0°.1×179°.67W±0°.09, h550km, n35, σ1°32/36, mb4.2/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.31**	**340**	P	**P**	**14 16 11.6**	**+2.7**
	0.4nm,0.3s,baz=139,slow=19,SNR=1.3						
NIUE	**Niue**	**10.17**	**65**	P	**P**	**14 16 44.8**	**-2.2**
MARNC	**Mare, Loyalty**	**11.58**	**279**	P	**P**	**14 17 00.7**	**-0.7**
AFI	**Afiamalu**	**12.27**	**39**	P	**P**	**14 17 08.6**	**-0.1**
DZM	**Mont Dzumac**	**12.91**	**274**	P	**P**	**14 17 16.4**	**+1.1**
MXZ	**Matakaoa Point**	**13.92**	**187**	P	**P**	**14 17 26.6**	**+1.2**
URZ	**Urewera**	**14.77**	**190**	P	**P**	**14 17 32.4**	**-1.6**
	0.5nm,0.3s,baz=301,slow=19,SNR=1.2						
BKZ	**Black Stump Fm**	**15.76**	**191**	P	**P**	**14 17 41.9**	**-2.4**
BKZ				IAmb	IAmb	14 17 52.4	
	comp=Z,50nm,1.5s						
QRZ	**Quartz Range**	**18.29**	**199**	P	**P**	**14 18 08.9**	**+1.5**
NNZ	**Nelson**	**18.41**	**197**	P	**P**	**14 18 09.4**	**+0.8**
FOZ	**Fox Glacier**	**21.60**	**201**	P	**P**	**14 18 38.6**	**+1.2**
CTA	**Charters Tower**	**31.78**	**270**	P	**P**	**14 20 07.0**	**-0.1**
	comp=Z,6.1nm,0.3s,baz=94,slow=11,SNR=22						
CTAO	**Charters Tower**	**31.78**	**270**	P	**P**	**14 20 06.9**	**-0.2**
CTAO				IAmb	IAmb	14 20 16.3	
	comp=Z,18nm,1.2s						
TOO	**Toolangi**	**32.81**	**237**	P	**P**	**14 20 16.7**	**+1.1**
TOO				IAmb	IAmb	14 20 35.5	
	comp=Z,5.7nm,1.4s						
XMAS	**Kiritimati**	**33.50**	**43**	P	**P**	**14 20 20.8**	**-0.8**
STKA	**Stephens Creek**	**35.08**	**248**	P	**P**	**14 20 34.7**	**0.0**
	comp=Z,1.3nm,0.4s,baz=49,slow=11,SNR=5.6						
BBOO	**Buckleboo**	**39.80**	**247**	P	**P**	**14 21 12.7**	**-0.5**
BBOO				IAmb	IAmb	14 21 18.6	
	comp=Z,24nm,1.2s						
TAOE	**Nuku Hiva Isla**	**40.54**	**75**	P	**P**	**14 21 21.0**	**+1.5**
AS31	**Alice Springs**	**42.37**	**260**	P	**P**	**14 21 33.2**	**-0.6**
ASAR	**Alice Springs**	**42.37**	**260**	P	**P**	**14 21 33.3**	**-0.5**
	comp=Z,2.0nm,0.5s,baz=96,slow=7.3,SNR=50						
ASAR				PcP	**PcP**	**14 23 13.5**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=101,slow=4.8,SNR=1.9						
ASAR	**Alice Springs**	**42.37**	**260**	P	**P**	**14 21 33.1**	**-0.7**
WR0	**Warramunga Arr**	**42.54**	**266**	P	**P**	**14 21 33.7**	**-1.4**
WR0				IAmb	IAmb	14 21 42.0	
	comp=Z,7.2nm,1.4s						
WB2	**Warramunga Arr**	**42.72**	**266**	P	**P**	**14 21 35.2**	**-1.3**
WB2				IAmb	IAmb	14 21 36.0	
	comp=Z,4.6nm,0.7s						
WRAB	**Tennant Creek**	**42.72**	**266**	P	**P**	**14 21 35.1**	**-1.4**
WRAB				IAmb	IAmb	14 21 36.5	
	comp=Z,10nm,1.3s						
WRA	**Warramunga Arr**	**42.73**	**266**	P	**P**	**14 21 35.4**	**-1.1**
	comp=Z,3.7nm,0.5s,baz=97,slow=8.5,SNR=84						
WRA	**Warramunga Arr**	**42.73**	**266**	P		**14 21 34.4**	**-2.2**
FORT	**Forrest**	**46.67**	**249**	P	**P**	**14 22 05.8**	**-0.9**
FORT				IAmb	IAmb	14 22 13.3	
	comp=Z,36nm,1.1s						
MTN	**Manton Dam**	**47.75**	**274**	P	**P**	**14 22 13.3**	**-1.7**
MTN				IAmb	IAmb	14 22 37.3	
	comp=Z,17nm,1.1s						
KNRA	**Kununurra**	**48.99**	**269**	P	**P**	**14 22 23.5**	**-0.8**
KNRA				IAmb	IAmb	14 22 27.2	
	comp=Z,19nm,1.4s						
FITZ	**Fitzroy Crossi**	**51.15**	**265**	P	**P**	**14 22 39.8**	**-0.1**
PSA00	**Pilbara Seismi**	**55.50**	**259**	P	**P**	**14 23 09.9**	**-0.9**
PSA00				IAmb	IAmb	14 23 32.9	
	comp=Z,17nm,1.2s						
MORW	**Morawa**	**57.23**	**250**	P	**P**	**14 23 22.3**	**-0.3**
MORW				IAmb	IAmb	14 23 46.0	
	comp=Z,30nm,1.4s						
QSPA	**South Pole Qui**	**66.38**	**180**	P	**P**	**14 24 24.0**	**+2.4**
JSG	**Sagara**	**70.50**	**324**	P	**P**	**14 24 46.3**	**-0.5**
AKASG	**Malin Array Be**	**144.97**	**328**	PKPbc	**PKPdf**	**14 33 00.5**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=38,slow=3.9,SNR=2.9						

MEX 13 14:48:51.6±0.6, 19°.47N×104°.56W, h76km±3km, MD4.0, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CJM	**Chamela**	**0.45**	**274**	*i* P	Pn	14 49 03.3	-1.3
CJM				*i* S	Sn	14 49 12.5	-1.7
R15V		**0.62**	**118**	*e*P	Pn	14 49 04.6	-1.7
R15V				*e*S	Sn	14 49 15.3	-1.8
COIG	**Colima**	**0.87**	**109**	*i* P	Pn	14 49 07.8	-1.2
COIG				*e*S	Sn	14 49 20.3	-1.7
EZ5V		**0.91**	**89**	*e*P	Pn	14 49 08.2	-1.4
EZ5V				*i* P		14 49 08.3	
EZ5V				*e*S	Sn	14 49 21.7	-1.3
PUVA	**Puert Vallarta**	**1.30**	**332**	*e*P	Pn	14 49 13.1	-1.2
PUVA				*e*S	Sn	14 49 29.3	-2.0
MMIG	**Aquila**	**1.65**	**135**	*i* P	Pn	14 49 17.6	-1.1
MMIG				*i* S	Sn	14 49 37.1	-2.2
ZIIG	**Zihuatanejo**	**3.48**	**122**	*i* P	Pn	14 49 42.7	-0.7
ZIIG				*i* S	Sn	14 50 18.0	-5.4

IDC ***13*** *14:55:27.7±1.5,5°.56S×146°.38E, h0km, mb3.6/4, mb1 3.9/6, mb1mx3.6/43, mbtmp3.7/6, ML3.5/2, MS3.0/2, Ms1 3.0/2, ms1mx2.5/32, Error ellipse: s-maj=59.7km s-min=25.6km az=117.0*

ISC 13 14:55:32.8±2.1, 6°.0S±0°.2×146°.4E±0°.3, h35km, n8, σ4°.8/23/7, mb3.6/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**14.04**	**180**	Pn	**P**	**14 58 54.3**	**-2.4**
	0.1nm,0.3s,baz=0.6,slow=17,SNR=1.8						
WRA	**Warramunga Arr**	**18.16**	**219**	P	**Pn**	**14 59 44.8**	**+2.4**
	0.1nm,0.3s,baz=46,slow=10,SNR=11						
WRA				S	**Sn**	**15 02 59.5**	**-4.6**
	0.0nm,0.3s,baz=38,slow=22,SNR=2.3						
GUMO	**Guam**	**19.49**	**356**	LR	LR	15 06 18.3	
	comp=Z,23nm,19.1s,baz=179,slow=34						
ASAR	**Alice Springs**	**21.30**	**213**	P	**P**	**15 00 19.9**	**+3.2**
	0.7nm,0.6s,baz=32,slow=11,SNR=15						
FITZ	**Fitzroy Crossi**	**22.55**	**237**	P	**P**	**15 00 41.0**	**+0.8**
	1.1nm,0.5s,baz=53,slow=12,SNR=3.8						
FITZ				LR	LR	15 10 23.6	
	comp=Z,75nm,19.9s,baz=52,slow=38						
STKA	**Stephens Creek**	**26.16**	**189**	P	**P**	**15 01 07.3**	**+3.4**
	1.3nm,0.7s,baz=27,slow=6.7,SNR=3.0						
ILAR	**Eielson Array**	**85.70**	**23**	P	P	15 08 07.2	-0.7
	0.4nm,0.9s,baz=250,slow=4.5,SNR=6.3						
TORD	**Torodi Ar. Bea**	**144.47**	**284**	PKP	**PKiKP**	**15 15 06.2**	**-4.1**
	0.3nm,0.6s,baz=88,slow=2.0,SNR=2.1						

INET ***13*** *14:55:47.2, 11°.42N×89°.46W, h15km, MW3.9*

IDC ***13*** *14:56:08.8±1.2, 12°.27N×88°.14W, h0km, mb4.2/10, mb1 4.3/12, mb1mx3.9/43, mbtmp4.1/12, ML3.3/2, Error ellipse: s-maj=32.6km s-min=19.5km az=36.0*

SNET ***13*** *14:56:12.7±1.0, 12°.04N×88°.37W, h36km±999km, ML3.5*

UCR ***13*** *14:56:12.9±1.4, 12°.06N×88°.37W, h33km±20km, ML3.4*

NEIC ***13*** *14:56:13.8±1.9, 12°.16N±0°.07×88°.19W±0°.06, h30km±5km, mb4.5/98, Error ellipse: s-maj=11.8km s-min=7.0km az=217.0*

ISC 13 14:56:13.1±0.5, 12°.10N±0°.05×88°.25W±0°.05, h33km, n165, σ0°84/170, mb4.5/52, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JUCU	**Jucuarįn**	**1.15**	**0**	*e*P	**Pn**	**14 56 33.2**	**+0.1**
JUCU				*e*S	**Sb**	**14 56 49.8**	**+0.5**
JUCU				IAML		14 56 57.8	
	comp=Z,832nm,0.3s						
JUCU	**Jucuarįn**	**1.15**	**0**	*e*P	**Pn**	**14 56 33.2**	**+0.1**
JUCU				*e*S	**Sb**	**14 56 49.8**	**+0.5**
JUCU				IAML		14 56 57.8	
	comp=Z,832nm,0.3s						
CNCH	**Conchagua**	**1.24**	**19**	*e*P	**Pn**	**14 56 34.5**	**+0.1**
CNCH	**Conchagua**	**1.24**	**19**	*e*P	**Pn**	**14 56 34.5**	**+0.1**
LCND	**La Caada**	**1.26**	**16**	*e*P	**Pn**	**14 56 34.9**	**+0.5**
LCND	**La Caada**	**1.26**	**16**	*e*P	**Pn**	**14 56 34.9**	**+0.5**
CRIN	**San Cristobal**	**1.32**	**63**		**Pn**	**14 56 35.7**	**+0.3**
LCY	**Lacayo**	**1.32**	**358**	*e*P	**Pn**	**14 56 35.7**	**+0.3**
LCY	**Lacayo**	**1.32**	**358**	*e*P	**Pn**	**14 56 35.7**	**+0.3**
PACA	**Pacayal**	**1.37**	**357**	*e*P	**Pn**	**14 56 37.0**	**+0.9**
PACA	**Pacayal**	**1.37**	**357**	*e*P	**Pn**	**14 56 37.0**	**+0.9**
TECA	**Tecapa**	**1.41**	**350**	*e*P	**Pn**	**14 56 36.9**	**+0.1**
TECA	**Tecapa**	**1.41**	**350**	*e*P	**Pn**	**14 56 36.9**	**+0.1**
PQSS	**Presa 15 de Se**	**1.55**	**349**	*e*P	**Pn**	**14 56 38.7**	**+0.3**
CNGN	**Cerro Negro**	**1.57**	**75**		**Pn**	**14 56 38.9**	**0.0**
COEG	**Centro de Oper**	**1.63**	**338**	*e*P	**Pn**	**14 56 39.0**	**-0.7**
COEG				IAML		14 57 12.2	
	comp=Z,541nm,0.6s						
COEG	**Centro de Oper**	**1.63**	**338**	*e*P	**Pn**	**14 56 39.0**	**-0.7**
COEG				IAML		14 57 12.2	
	comp=Z,541nm,0.6s						
LFRS	**El Faro**	**1.71**	**333**	*e*P	**Pn**	**14 56 40.2**	**-0.6**
LFRS				*e*S	**Sn**	**14 57 01.6**	**0.0**
LFRS	**El Faro**	**1.71**	**333**	*e*P	**Pn**	**14 56 40.2**	**-0.6**
LFRS				*e*S	**Sn**	**14 57 01.6**	**0.0**
PAVA	**Las Pavas**	**1.74**	**338**	*e*P	**Pn**	**14 56 41.2**	**0.0**
PAVA	**Las Pavas**	**1.74**	**338**	*e*P	**Pn**	**14 56 41.2**	**0.0**
LBRS	**Las Brisas**	**1.81**	**335**	*e*P	**Pn**	**14 56 42.1**	**+0.1**
LBRS	**Las Brisas**	**1.81**	**335**	*e*P	**Pn**	**14 56 42.1**	**+0.1**
SNET	**Serv Nac Est T**	**1.85**	**329**		**Pn**	**14 56 42.2**	**-0.4**
MASN	**Masaya**	**2.06**	**93**	Pn	**Pn**	**14 56 45.9**	**+0.4**
TACO	**Tacachico**	**2.15**	**330**	*e*P	**Pn**	**14 56 46.5**	**-0.3**
TACO	**Tacachico**	**2.15**	**330**	*e*P	**Pn**	**14 56 46.5**	**-0.3**
TGUH	**Tegucigalpa,Un**	**2.17**	**26**		**Pn**	**14 56 47.2**	**+0.1**
SBLS	**San Blas**	**2.19**	**323**	*e*P	**Pn**	**14 56 47.1**	**-0.3**
SBLS	**San Blas**	**2.19**	**323**	*e*P	**Pn**	**14 56 47.1**	**-0.3**
SNJE	**San Jose**	**2.20**	**323**	*e*P	**Pn**	**14 56 47.2**	**-0.4**
SNJE	**San Jose**	**2.20**	**323**	*e*P	**Pn**	**14 56 47.2**	**-0.4**
MATN	**Matagalpa**	**2.42**	**70**		**Pn**	**14 56 50.0**	**-0.5**
MTO3	**Montecristo**	**2.53**	**335**	*e*P	**Pn**	**14 56 52.6**	**+0.5**
MTO3	**Montecristo**	**2.53**	**335**	*e*P	**Pn**	**14 56 52.6**	**+0.5**
MTO3	**Montecristo**	**2.53**	**335**		**Pn**	**14 56 52.2**	**0.0**
ESQI	**Esquipulas**	**2.67**	**337**		**Pn**	**14 56 54.5**	**+0.6**
HZTE	**Horizontes, Gu**	**2.95**	**118**		**Pn**	**14 56 58.4**	**+0.7**
ACON	**Acoyapa**	**3.02**	**92**	Pn	**Pn**	**14 56 57.2**	**-1.4**
ORTG	**Ortega, Santa**	**3.24**	**122**		**Pn**	**14 57 01.0**	**-0.7**
JTS	**Las Juntas de**	**3.70**	**119**	Pn	**Pn**	**14 57 07.6**	**-0.5**
	comp=Z,2.1nm,0.3s,baz=349,slow=24,SNR=10						
JTS				Sn	**Sn**	**14 57 49.0**	**-1.7**
	comp=Z,2.3nm,0.3s,baz=55,slow=14,SNR=4.7						
JTS	**Las Juntas de**	**3.70**	**119**		**Pn**	**14 57 08.4**	**+0.3**
CVTR	**Volcan Turrial**	**4.87**	**115**	Pn	**Pn**	**14 57 25.2**	**+0.7**
RIMA	**Rio Macho**	**4.89**	**118**		**Pn**	**14 57 25.4**	**+0.7**
PEZE	**Perez Zeledon,**	**5.24**	**120**		**Pn**	**14 57 30.4**	**+1.1**
SRBA	**San Rafael, Bu**	**5.59**	**120**	Pn	**Pn**	**14 57 35.0**	**+0.9**
RIOS	**Rincon, Osa**	**5.75**	**125**	Pn	**Pn**	**14 57 37.1**	**+0.8**
PRVC	**Isla de Provid**	**6.84**	**79**	Pn	**Pn**	**14 57 51.1**	**-0.1**
CMIG	**Matias Romero**	**8.11**	**309**	Pn	**Pn**	**14 58 09.6**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=168,slow=9.5,SNR=7.3						
CMIG				Sn	**Sn**	**14 59 40.3**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=296,slow=17,SNR=1.5						
GTBY	**Guantanamo Bay**	**14.83**	**57**	P	**P**	**14 59 46.1**	**+0.1**
RUSC	**La Rusia**	**16.20**	**111**	P	**P**	**15 00 02.4**	**+0.6**
HKT	**Hockley**	**19.11**	**340**	P	**P**	**15 00 33.7**	**+0.5**
344A	**Westbrook Farm**	**19.40**	**354**	Pn	**Pn**	**15 00 39.0**	**+1.2**
344A				IAmb	IAmb	15 00 41.6	
	comp=Z,29nm,1.1s						
435B	**Jarrell**	**20.50**	**337**	P	**P**	**15 00 48.7**	**+0.2**
435B				IAmb	IAmb	15 00 49.5	
	comp=Z,15nm,0.9s						
152A	**Waverly Hall**	**20.73**	**8**	P	**P**	**15 00 51.0**	**0.0**
LRAL	**Lakeview Retre**	**20.87**	**3**		Pn	15 00 55.9	+0.8
237A	**Washetta, Mont**	**21.00**	**342**	Pn	**P**	**15 00 57.7**	**+3.8**
JCT	**Junction City**	**21.19**	**331**	P	**P**	**15 00 56.0**	**0.0**
GOGA	**Godfrey**	**21.66**	**11**	P	**P**	**15 01 01.3**	**+0.4**
GOGA				IAmb	IAmb	15 01 04.3	
	comp=Z,28nm,1.4s						
Y45A	**Yeager Farm, C**	**21.70**	**357**	P	**P**	**15 01 01.8**	**+0.4**
Y45A				IAmb	IAmb	15 01 03.1	
	comp=Z,16nm,0.8s						
Y49A	**Blount Mountai**	**21.73**	**4**	P	**P**	**15 01 01.6**	**-0.1**
TXAR	**Lajitas Array**	**22.36**	**322**	P	**P**	**15 01 09.1**	**+0.5**
	comp=Z,5.0nm,0.8s,baz=140,slow=10.0,SNR=43						
TXAR	**Lajitas Array**	**22.36**	**322**	P	**P**	**15 01 09.0**	**+0.4**
TX31	**Lajitas Ar. Si**	**22.36**	**322**	P	**P**	**15 01 08.8**	**+0.2**
TX31				IAmb	IAmb	15 01 11.5	
	comp=Z,16nm,0.8s						
TX32	**Lajitas Array**	**22.36**	**322**	P	**P**	**15 01 09.6**	**+1.0**
X40A	**Basin Creek Fa**	**22.68**	**350**	P	**P**	**15 01 12.8**	**+1.0**
Z35A	**Perchaven, San**	**22.68**	**340**	P	**P**	**15 01 12.2**	**+0.2**
Z35A				IAmb	IAmb	15 01 14.1	
	comp=Z,23nm,1.1s						
HODGE	**Hodges**	**22.70**	**13**	P	**P**	**15 01 13.0**	**+0.9**
HODGE				IAmb	IAmb	15 01 24.1	
	comp=Z,16nm,0.9s						
MIAR	**Mount Ida**	**22.87**	**349**	P	**P**	**15 01 13.8**	**-0.1**
MIAR				IAmb	IAmb	15 01 16.6	
	comp=Z,25nm,1.0s						
ABTX	**Abilene, Hawle**	**22.95**	**335**	P	**P**	**15 01 13.9**	**-0.8**
ABTX				IAmb	IAmb	15 01 16.2	
	comp=Z,13nm,1.0s						
W45A	**Hickory Valley**	**22.98**	**358**	P	**P**	**15 01 14.1**	**-0.8**
JSC	**Jenkinsville**	**22.99**	**15**	P	**P**	**15 01 14.0**	**-1.0**
SWET	**Sewanee**	**23.11**	**5**	P	**P**	**15 01 15.3**	**-1.1**
W50A	**Signal Mountai**	**23.16**	**6**	P	**P**	**15 01 15.8**	**-1.0**
W50A				IAmb	IAmb	15 01 16.9	
	comp=Z,13nm,1.1s						
PCRV	**Puerto La Cruz**	**23.25**	**92**	P	**P**	**15 01 18.7**	**+0.8**
	comp=Z,4.9nm,0.6s,baz=357,slow=16,SNR=2.4						
LOOK	**Love County**	**23.27**	**341**	P	**P**	**15 01 18.8**	**+0.8**
LOOK				IAmb	IAmb	15 01 20.0	
	comp=Z,23nm,1.1s						
PLCV	**Puerto La Cruz**	**23.30**	**92**	P	**P**	**15 01 18.7**	**+0.3**
X37A	**Clayton**	**23.31**	**345**	P	**P**	**15 01 18.6**	**+0.3**
X37A				IAmb	IAmb	15 01 21.5	
	comp=Z,20nm,1.2s						
STVI	**Saint Thomas**	**23.31**	**72**	P	**P**	**15 01 17.8**	**-0.7**
STVI				IAmb	IAmb	15 01 19.2	
	comp=Z,19nm,0.8s						
PAULI	**Pauline**	**23.37**	**13**	P	**P**	**15 01 18.4**	**-0.4**
PAULI				IAmb	IAmb	15 01 21.4	
	comp=Z,14nm,0.9s						
WHAR	**Wooly Hollow**	**23.38**	**352**	P	**P**	**15 01 18.7**	**-0.3**
WHAR				IAmb	IAmb	15 01 20.1	
	comp=Z,19nm,1.0s						
CPCT	**Cooper Cave**	**23.50**	**8**	P	**P**	**15 01 20.4**	**+0.2**
W39A	**Magazine**	**23.54**	**349**	P	**P**	**15 01 21.2**	**+0.7**
W39A				IAmb	IAmb	15 01 22.9	
	comp=Z,20nm,1.1s						
BIRD	**Birdtown, Kers**	**23.54**	**16**	P	**P**	**15 01 21.1**	**+0.5**
KMSC	**Kings Mountain**	**23.79**	**14**	P	**P**	**15 01 22.1**	**-0.8**
KMSC				IAmb	IAmb	15 01 25.2	
	comp=Z,10.0nm,1.0s						
TKL	**Tuckaleechee C**	**23.81**	**9**	P	**P**	**15 01 23.0**	**-0.1**
	comp=Z,16nm,1.0s,baz=190,slow=12,SNR=9.5						
TKL	**Tuckaleechee C**	**23.81**	**9**	P	**P**	**15 01 22.7**	**-0.4**
TKL				IAmb	IAmb	15 01 25.7	
	comp=Z,29nm,1.2s						
V51A	**Loudon**	**23.87**	**8**	P	**P**	**15 01 22.6**	**-1.1**
V51A				IAmb	IAmb	15 01 24.0	
	comp=Z,18nm,1.4s						
FCAR	**Ozark Folk Cen**	**23.95**	**352**	P	**P**	**15 01 23.8**	**-0.6**
CLTN	**Cedars of Leba**	**23.95**	**4**	P	**P**	**15 01 23.6**	**-0.8**
V53A	**Saluda**	**23.98**	**11**	P	**P**	**15 01 24.6**	**-0.1**
V53A				IAmb	IAmb	15 01 37.0	
	comp=Z,10.0nm,0.8s						
V52A	**Sevierville**	**24.02**	**9**	P	**P**	**15 01 24.9**	**-0.1**
V52A				IAmb	IAmb	15 01 27.6	
	comp=Z,15nm,1.2s						
X34A	**Smith Ranch, M**	**24.04**	**340**	P	**P**	**15 01 25.5**	**+0.2**
U49A	**Red Boiling Sp**	**24.41**	**5**	P	**P**	**15 01 27.8**	**-0.8**
U49A				IAmb	IAmb	15 01 28.8	
	comp=Z,10nm,1.0s						
V55A	**Taylorsville**	**24.49**	**14**	P	**P**	**15 01 29.3**	**-0.1**
V55A				IAmb	IAmb	15 01 30.8	
	comp=Z,11nm,1.2s						
FNO	**Franklin**	**24.50**	**342**	P	**P**	**15 01 28.6**	**-1.0**
U40A	**Yellville**	**24.51**	**351**	P	**P**	**15 01 28.4**	**-1.2**
PBMO	**Poplar Bluff**	**24.66**	**356**	P	**P**	**15 01 30.0**	**-0.8**
T47A	**Sharon Grove**	**24.81**	**2**	P	**P**	**15 01 31.0**	**-1.3**
T47A				IAmb	IAmb	15 01 32.3	
	comp=Z,12nm,0.8s						
U38A	**Gravette**	**24.86**	**348**	P	**P**	**15 01 32.2**	**-0.5**
U38A				IAmb	IAmb	15 01 35.2	
	comp=Z,9.8nm,0.8s						
OK031	**S. Brethren Rd**	**24.99**	**343**	P	**P**	**15 01 33.1**	**-0.8**
V58A	**Windy Hill, Pi**	**25.00**	**18**	P	**P**	**15 01 34.4**	**+0.4**
V58A				IAmb	IAmb	15 01 39.1	
	comp=Z,11nm,0.9s						
U54A	**Nelsons Funny**	**25.00**	**12**	P	**P**	**15 01 34.2**	**+0.1**
U54A				IAmb	IAmb	15 01 57.4	
	comp=Z,18nm,0.9s						
OK029	**Liberty Lake**	**25.02**	**342**	P	**P**	**15 01 33.2**	**-1.0**
OK029				IAmb	IAmb	15 01 34.2	
	comp=Z,14nm,0.7s						
MNTX	**Cornudas Mount**	**25.09**	**324**	P	**P**	**15 01 35.2**	**+0.3**
QUOK	**Quay**	**25.16**	**344**	P	**P**	**15 01 34.1**	**-1.3**
QUOK				IAmb	IAmb	15 01 35.8	
	comp=Z,17nm,0.8s						
MGMO	**Mountain Grove**	**25.21**	**352**	P	**P**	**15 01 34.9**	**-1.0**
MGMO				IAmb	IAmb	15 01 36.6	
	comp=Z,9.7nm,0.9s						
MSTX	**Muleshoe**	**25.49**	**331**	P	**P**	**15 01 38.3**	**-0.3**
MSTX				IAmb	IAmb	15 01 40.2	
	comp=Z,24nm,1.4s						
AMTX	**Amarillo**	**25.76**	**334**	P	**P**	**15 01 40.8**	**-0.2**
T35A	**Sooner Cattle**	**25.81**	**345**	P	**P**	**15 01 42.2**	**+0.9**
S39A	**Bolivar**	**25.89**	**351**	P	**P**	**15 01 41.2**	**-0.9**
BLA	**Blacksburg**	**25.98**	**14**	P	**P**	**15 01 41.9**	**-1.0**
BLA				IAmb	IAmb	15 01 42.8	
	comp=Z,16nm,1.1s						
CCM	**Cathedral Cave**	**25.99**	**355**	P	**P**	**15 01 42.0**	**-1.0**
T57A	**Hurt**	**26.08**	**17**	P	**P**	**15 01 44.1**	**+0.3**
T57A				IAmb	IAmb	15 01 44.8	
	comp=Z,13nm,1.1s						
WCI	**Wyandotte Cave**	**26.08**	**4**	P	**P**	**15 01 43.0**	**-0.8**
WCI				IAmb	IAmb	15 01 54.0	
	comp=Z,7.1nm,0.7s						
R40A	**Maddies Statio**	**26.33**	**353**	P	**P**	**15 01 44.3**	**-1.8**
ILAM	**Ilet Lapin Mar**	**26.76**	**81**	P	**P**	**15 01 49.1**	**-1.0**
R55A	**Marlinton**	**27.07**	**14**	P	**P**	**15 01 52.6**	**-0.1**
R55A				IAmb	IAmb	15 01 55.2	
	comp=Z,15nm,1.2s						
P40A	**Paris**	**27.53**	**354**	P	**P**	**15 01 56.2**	**-0.6**
P40A				IAmb	IAmb	15 01 56.9	
	comp=Z,6.9nm,0.8s						
Q54A	**Coxs Mills**	**27.58**	**13**	P	**P**	**15 01 57.4**	**+0.2**
Q54A				IAmb	IAmb	15 01 58.0	
	comp=Z,8.8nm,0.8s						
P38A	**Dawn**	**27.82**	**351**	P	**P**	**15 01 57.9**	**-1.5**
O54A	**Avella**	**28.83**	**13**	P	**P**	**15 02 08.1**	**-0.3**
O54A				IAmb	IAmb	15 02 14.2	
	comp=Z,26nm,1.5s						
N49A	**Columbus Grove**	**28.94**	**6**	P	**P**	**15 02 09.0**	**-0.3**
N49A				IAmb	IAmb	15 02 37.7	
	comp=Z,19nm,1.3s						
SDCO	**Great Sand Dun**	**29.84**	**332**	P	**P**	**15 02 18.9**	**+1.2**
M57A	**Sunshine Farm,**	**30.72**	**17**	P	**P**	**15 02 25.1**	**-0.1**
N59A	**State Game Lan**	**30.73**	**19**	P	**P**	**15 02 26.0**	**+0.7**
PV02	**Paradox Valley**	**31.78**	**328**	P	**P**	**15 02 35.0**	**+0.1**
PV13	**Radium Mtn., P**	**31.79**	**328**	P	**P**	**15 02 34.7**	**-0.1**
ECSD	**EROS Data Cent**	**32.34**	**349**	P	**P**	**15 02 38.5**	**-0.9**
ECSD				IAmb	IAmb	15 02 39.8	
	comp=Z,9.3nm,1.2s						
SAML	**Samuel**	**32.53**	**129**	P	**P**	**15 02 41.8**	**+0.5**
SAML				IAmb	IAmb	15 02 50.4	
	comp=Z,4.1nm,0.8s						
SPMN	**Marine on St.**	**33.24**	**354**	P	**P**	**15 02 45.4**	**-1.8**
SADO	**Sadowa**	**33.48**	**12**	P	**P**	**15 02 48.0**	**-1.3**
	comp=Z,5.3nm,0.8s,baz=214,slow=9.2,SNR=4.4						
SADO	**Sadowa**	**33.48**	**12**	P	**P**	**15 02 48.1**	**-1.

baz=94
MKAR Makanchi Array 58.95 341 P P 15 11 16.4 +0.3
0.8nm,0.6s,baz=153,slow=7.8,SNR=7.6

IDC ***13*** *15:04:54.9±0.6,25.08N×109.60W,h0km,mb4.2/21, mb1 4.2/29,mb1mx4.2/46,mbtmp4.1/29,ML3.3/6,MS4.5/31, Ms1 4.5/31,ms1mx4.4/41,Error ellipse: s-maj=15.6km s-min=12.6km az=94.0*
NEIC ***13*** *15:04:54.5±1.7,24.90N±0.04×109.32W±0.07,h10km±1km, mb4.9/197,Md4.6/24(MEX),Error ellipse: s-maj=11.1km s-min=6.9km az=107.0*
MEX ***13*** *15:04:57.4±0.8,25.11N×109.58W,h9km±10km,MD4.6*
GCMT ***13*** *15:04:58.5±0.2,25.20N±0.01×109.70W±0.01,h15km, MW5.2/125,Moment Tensor Solution. s70,c93; s125,c208; Duration: 1±0 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.07±.02; Mθθ-0.65±.02; Mφφ0.72±.02; Mrθ0.03±.05; Mθφ0.31±.01; Mφr0.04±.05; Best double couple: M₀0.75100×10¹⁷ NP1:φ₁327.00000°,δ87.00000°, λ179.00000°. NP2:φ₂57.00000°,δ89.00000°,λ3.00000°. Principal axes: T 0.7890, Plg3.0000°, Azm282.0000°; N -0.0750, Plg87.0000°, Azm77.0000°; P -0.7140, Plg1.0000°, Azm192.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR ***13*** *15:05:02.1±0.0,25.41N×109.21W,h10km,mb5.5,Ms4.9*
ISC 13 15:04:55.1±0.3,24.94N±0.03×109.35W±0.03,h10km, n548,σ1§62/511,mb5.0/82,MS4.5/33,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.72**	**23**	*eP*	**Pb**	**15 05 09.1**	**-0.6**
TSIG				*eS*	**Sg**	**15 05 18.3**	**-0.2**
LPIG	**La Paz**	**1.20**	**227**	Pn	**Pn**	**15 05 16.5**	**-1.4**
	293nm,0.3s,baz=12,slow=2.4,SNR=214						
LPIG				Sn	**Sb**	**15 05 30.4**	**-3.2**
	843nm,0.3s,baz=178,slow=8.1,SNR=10						
LPIG	**La Paz**	**1.20**	**227**	*i* P	**Pn**	**15 05 16.6**	**-1.4**
LPIG				*i* S	**Sb**	**15 05 31.6**	**-2.1**
LPIG	**La Paz**	**1.20**	**227**		**Pn**	**15 05 16.6**	**-1.4**
LPIG					**Sb**	**15 05 31.6**	**-2.1**
SLBS	**Sierra La Lagu**	**1.36**	**204**	Pn	**Pg**	**15 05 20.7**	**-0.5**
SLBS				Sn	**Sb**	**15 05 36.2**	**-1.9**
SSIG	**Sanalona**	**2.01**	**93**	*eP*	**Pg**	**15 05 31.6**	**-2.1**
SSIG				*i* S	**Sb**	**15 05 56.3**	**-0.6**
CSIG	**Choix**	**2.08**	**25**	*eP*	**Pn**	**15 05 28.8**	**-1.4**
CSIG				*eS*	**Sn**	**15 05 53.6**	**-2.6**
MAIG	**Mazatlaan**	**3.19**	**122**	*i* P	**Pb**	**15 05 49.8**	**-2.1**
MAIG				*i* S	**Sb**	**15 06 30.2**	**-0.7**
MAIG	**Mazatlaan**	**3.19**	**122**		**Pb**	**15 05 49.8**	**-2.1**
MAIG					**Sb**	**15 06 30.2**	**-0.7**
GUYB	**Guaymas**	**3.25**	**336**	*eP*	Pn	15 05 39.7	-6.5
GUYB				*eS*	**Sn**	**15 06 18.3**	**-6.7**
SRIG	**Santa Rosalia**	**3.52**	**313**	*eP*	Pn	15 05 39.4	-11
SRIG				*eS*	**Sn**	**15 06 32.9**	**+1.2**
SRIG	**Santa Rosalia**	**3.52**	**313**		Pn	15 05 42.1	-7.8
SRIG	**Santa Rosalia**	**3.52**	**313**		**Sn**	**15 06 32.9**	**+1.2**
PDIG	**Papasquiaro**	**3.59**	**87**	*eP*	**Pb**	**15 05 55.9**	**-3.0**
PDIG				*i* S	**Sb**	**15 06 38.5**	**-4.1**
HPIG		**3.87**	**58**	*eP*	**Pn**	**15 05 56.3**	**+1.4**
HPIG				*i* S	**Sn**	**15 06 42.2**	**+1.6**
HPIG		**3.87**	**58**		**Pn**	**15 05 56.7**	**+1.8**
HPIG		**3.87**	**58**		**Sn**	**15 06 42.2**	**+1.6**
HSIG		**4.31**	**341**	Pn	Pn	15 05 55.9	-4.9
NZIG	**Nacozari, Sono**	**5.42**	**358**	*eP*	**Pn**	**15 06 13.7**	**-2.5**
NZIG				*eS*	**Sn**	**15 07 12.1**	**-6.7**
319A	**Douglas**	**6.42**	**1**		**Pn**	**15 06 27.8**	**-2.1**
TX31	**Lajitas Ar. Si**	**6.70**	**48**		**Pn**	**15 06 34.1**	**+0.4**
TX32	**Lajitas Array**	**6.70**	**48**		**Pn**	**15 06 34.1**	**+0.4**
TXAR	**Lajitas Array**	**6.70**	**48**	Pn	**Pn**	**15 06 34.2**	**+0.5**
	2.2nm,0.3s,baz=228,slow=14,SNR=62						
TXAR				Sn	**Sn**	**15 07 50.9**	**+0.8**
	3.8nm,0.3s,baz=228,slow=34,SNR=3.8						
TXAR				Lg	Lg	15 08 27.4	
	6.2nm,0.3s,baz=233,slow=31,SNR=3.7						
TXAR				LR	LR	15 09 15.7	
	comp=Z,875nm,21.6s,baz=0.0,slow=38						
TXAR	**Lajitas Array**	**6.70**	**48**	Pn	**Pn**	**15 06 34.0**	**+0.4**
TUC	**Tucson**	**7.46**	**351**	Pn	**Pn**	**15 06 40.4**	**-3.6**
TUC	**Tucson**	**7.46**	**351**	P	**Pn**	**15 06 41.1**	**-3.0**
	baz=170						
MNTX	**Cornudas Mount**	**7.59**	**27**	Pn	**Pn**	**15 06 45.1**	**-0.8**
MNTX	**Cornudas Mount**	**7.59**	**27**	P	**Pn**	**15 06 44.5**	**-1.4**
	baz=211						
214A	**Organ Pipe Nat**	**7.63**	**337**	Pn	**Pn**	**15 06 43.4**	**-3.0**
214A	**Organ Pipe Nat**	**7.63**	**337**	P	**Pn**	**15 06 43.0**	**-3.4**
	baz=154						
121A	**Cookes Peak, D**	**7.69**	**10**	Pn	**Pn**	**15 06 44.7**	**-2.8**
121A	**Cookes Peak, D**	**7.69**	**10**	P	**Pn**	**15 06 45.5**	**-2.0**
	baz=192,SNR=28						
SFX	**San Felipe**	**7.78**	**323**	Pn	**Pn**	**15 06 48.2**	**-0.3**
113A	**Mohawk Valley,**	**8.71**	**335**		**Pn**	**15 07 00.8**	**-0.4**
GLA	**Glamis**	**9.40**	**331**	P	**Pn**	**15 07 10.4**	**-0.3**
	baz=147						
LENM	**Lemitar**	**9.43**	**12**		**Pn**	**15 07 09.2**	**-2.0**
BNM	**Barren Site**	**9.48**	**14**		**Pn**	**15 07 11.7**	**-0.4**
Y14A	**Wickenburg**	**9.52**	**341**		**Pn**	**15 07 10.2**	**-2.2**
833A	**Chaparral WMA,**	**9.53**	**67**	P	Pn	15 07 17.6	+5.2
	baz=255						
X18A	**Snowflake**	**9.58**	**357**		**Pn**	**15 07 11.8**	**-1.4**
X16A	**Lo Mia Camp, P**	**9.62**	**350**		**Pn**	**15 07 11.8**	**-2.1**
IKP	**In-Ko-Pah, Jac**	**9.71**	**324**	P	**Pn**	**15 07 15.2**	**+0.2**
	baz=139,SNR=7.3						
CBX	**Cerro Bola**	**9.76**	**321**		**Pn**	**15 07 15.2**	**-0.5**
SWSC	**Sam W. Stewart**	**9.78**	**326**	P	**Pn**	**15 07 16.2**	**+0.4**
	baz=142						
BAR	**Barrett**	**10.04**	**322**	Pn	**Pn**	**15 07 19.9**	**+0.5**
MONP2	**Monument Peak**	**10.06**	**324**	P	**Pn**	**15 07 19.6**	**-0.3**
	baz=139,SNR=7.0						
JCT	**Junction City**	**10.10**	**55**	P	**Pn**	**15 07 23.8**	**+3.4**
	baz=242						
W18A	**Petrified Fore**	**10.15**	**358**	P	**Pn**	**15 07 21.0**	**-0.2**
	baz=178,SNR=7.2						
BC3	**Big Chuckawall**	**10.19**	**330**	P	**Pn**	**15 07 21.9**	**+0.3**
	baz=146						
PDMCI	**Parker Dam,Lak**	**10.22**	**337**	P	**Pn**	**15 07 23.3**	**+1.3**
	baz=154						
ANMO	**Albuquerque**	**10.29**	**13**	Pn	**Pn**	**15 07 22.3**	**-0.7**
	0.2nm,0.3s,baz=197,slow=13,SNR=28						
ANMO				Lg	Lg	15 10 12.9	
	0.3nm,0.3s,baz=261,slow=18,SNR=2.1						
ANMO	**Albuquerque**	**10.29**	**13**	Pn	**Pn**	**15 07 21.5**	**-1.5**
ANMO	**Albuquerque**	**10.29**	**13**	P	**Pn**	**15 07 24.9**	**+1.9**
	baz=196						
109C	**Camp Elliot, M**	**10.44**	**321**	P	**Pn**	**15 07 25.1**	**+0.2**
	baz=136						
IRM	**Iron Mountain**	**10.48**	**333**	P	**Pn**	**15 07 25.6**	**+0.1**
	baz=149						
TPFO	**Pinon Flats**	**10.63**	**326**	P	**Pn**	**15 07 26.6**	**-1.1**
	baz=141						
PFO	**Pinyon Flats O**	**10.64**	**326**	Pn	**Pn**	**15 07 26.6**	**-1.2**
	0.1nm,0.3s,baz=150,slow=13,SNR=8.8						
PFO	**Pinyon Flats O**	**10.64**	**326**		**Pn**	**15 07 25.8**	**-2.0**
PFO	**Pinyon Flats O**	**10.64**	**326**	P	**Pn**	**15 07 27.2**	**-0.6**
	baz=141,SNR=6.4						
MSTX	**Muleshoe**	**10.67**	**31**	P	**Pn**	**15 07 27.1**	**-1.1**
	baz=216						
WUAZ	**Wupatki**	**10.69**	**351**	Pn	**Pn**	**15 07 29.3**	**+0.8**
WUAZ	**Wupatki**	**10.69**	**351**	P	**Pn**	**15 07 29.0**	**+0.5**
	baz=170,SNR=25						
BELC	**Belle Mtn. Jos**	**10.73**	**329**	P	**Pn**	**15 07 27.7**	**-1.3**
	baz=144						
NEE2	**Needles Airpor**	**10.81**	**336**	P	**Pn**	**15 07 28.8**	**-1.2**
	baz=153						
W13A	**Hualapai Mount**	**10.86**	**340**		**Pn**	**15 07 29.9**	**-1.1**
MURC	**Murrieta**	**11.02**	**323**	P	**Pn**	**15 07 32.2**	**-0.6**
	baz=138						
SCI2	**San Clemente I**	**11.36**	**317**	P	**Pn**	**15 07 36.4**	**-1.1**
	baz=131						
BBRC	**Big Bear Solar**	**11.39**	**326**	P	**Pn**	**15 07 37.8**	**-0.3**
	baz=142						
ABTX	**Abilene, Hawle**	**11.45**	**46**	P	**Pn**	**15 07 41.0**	**+2.2**
	baz=233						
HEC	**Hector,Ludlow**	**11.57**	**330**	P	**Pn**	**15 07 39.9**	**-0.5**
	baz=146						
FMP	**Fort Macarthur**	**11.71**	**320**	P	**Pn**	**15 07 42.4**	**+0.1**
	baz=134						
TUQ	**Turquoise Moun**	**11.91**	**333**	P	**Pn**	**15 07 43.4**	**-1.7**
	baz=149,SNR=7.7						
RRX	**Edison Barstow**	**11.92**	**328**	P	**Pn**	**15 07 45.9**	**+0.8**
	baz=143						
435B	**Jarrell**	**11.93**	**58**	P	Pn	15 07 49.3	+4.0
	baz=246						
DECC	**Green Verdugo**	**12.13**	**322**	P	**Pn**	**15 07 47.3**	**-0.8**
	baz=136						
GSC	**Goldstone, Bar**	**12.18**	**330**		**Pn**	**15 07 48.0**	**-0.7**
GSC	**Goldstone, Bar**	**12.18**	**330**	P	**Pn**	**15 07 48.5**	**-0.3**
	baz=145						
MVCO	**Mesa Verde**	**12.26**	**3**		**Pn**	**15 07 49.5**	**-0.6**
MVCO	**Mesa Verde**	**12.26**	**3**	P	**Pn**	**15 07 50.3**	**+0.3**
	baz=184,SNR=8.8						
KNB	**Kanab**	**12.40**	**347**	Pn	Pn	**15 07 49.6**	**-2.4**
EDW2	**Edwards Air Fo**	**12.42**	**325**	P	**Pn**	**15 07 51.6**	**-0.5**
	baz=139						
SHOC	**Shoshone, Teco**	**12.45**	**333**	P	**Pn**	**15 07 52.8**	**+0.3**
	baz=149						
LCMT	**Little Creek M**	**12.49**	**345**		**Pn**	**15 07 50.5**	**-2.6**
SHPR	**Sheep Range**	**12.56**	**338**	Pn	**Pn**	**15 07 52.5**	**-1.7**
WHTX	**Lake Whitney,**	**12.60**	**53**	Pn	**Pn**	**15 07 52.0**	**-2.5**
WHTX	**Lake Whitney,**	**12.60**	**53**	P	**Pn**	**15 07 57.3**	**+2.8**
	baz=241						
OSI	**Osito Audit: C**	**12.61**	**322**		**Pn**	**15 07 53.2**	**-1.5**
OSI	**Osito Audit: C**	**12.61**	**322**	P	**Pn**	**15 07 54.4**	**-0.3**
	baz=136						
PKCU	**Pink Cliffs**	**12.72**	**349**		**Pn**	**15 07 54.3**	**-2.2**
LRMC	**Laurel Mtn Rad**	**12.73**	**328**	P	**Pn**	**15 07 56.9**	**+0.5**
	baz=142						
T25A	**Trinidad**	**12.88**	**18**		**Pn**	**15 07 56.8**	**-1.6**
T25A	**Trinidad**	**12.88**	**18**	P	**Pn**	**15 07 56.7**	**-1.8**
	baz=202						
S22A	**4UR Ranch, Cre**	**12.95**	**9**	P	**Pn**	**15 07 59.9**	**+0.3**
	baz=191,SNR=7.9						
SZCU	**Shurtz Canyon**	**13.02**	**347**		**Pn**	**15 07 57.8**	**-2.6**
CCUT	**Cedar City**	**13.03**	**346**	Pn	**Pn**	**15 07 58.6**	**-2.0**
ARVC	**Arvin**	**13.05**	**323**	P	**Pn**	**15 08 00.5**	**-0.2**
	baz=137,SNR=7.0						
SBC	**Santa Barbara**	**13.06**	**319**	P	**Pn**	**15 08 00.5**	**-0.3**
	baz=132						
PV05	**Paradox Valley**	**13.11**	**1**		**Pn**	**15 08 01.0**	**-0.6**
MPMC	**Manual Prospec**	**13.11**	**330**	P	**Pn**	**15 08 02.5**	**+0.8**
	baz=145,SNR=29						
FURC	**Furnace Creek,**	**13.18**	**332**	P	**Pn**	**15 08 02.3**	**0.0**
	baz=148						
SDCO	**Great Sand Dun**	**13.19**	**13**	P	**Pn**	**15 08 03.0**	**+0.2**
	baz=196,SNR=30						
PV13	**Radium Mtn., P**	**13.19**	**2**		**Pn**	**15 08 01.2**	**-1.6**
PV02	**Paradox Valley**	**13.24**	**2**		**Pn**	**15 08 01.7**	**-1.8**
ISA	**Isabella, Lake**	**13.27**	**326**	Pn	**Pn**	**15 08 03.2**	**-0.5**
ISA	**Isabella, Lake**	**13.27**	**326**	P	**Pn**	**15 08 04.0**	**+0.2**
	baz=140,SNR=10						
PV18	**Skein Mesa, Pa**	**13.28**	**2**		**Pn**	**15 08 01.9**	**-2.0**
MTPU	**Mount Pierson**	**13.29**	**350**	Pn	**Pn**	**15 08 02.6**	**-1.6**
PV11	**David Mesa, Pa**	**13.33**	**2**		**Pn**	**15 08 03.5**	**-1.1**
PV19	**Morning Glory**	**13.34**	**1**		**Pn**	**15 08 04.0**	**-0.7**
PV16	**Nyswonger Mesa**	**13.34**	**1**		**Pn**	**15 08 03.4**	**-1.4**
PRN	**Pahroc Range**	**13.35**	**340**		**Pn**	**15 08 03.4**	**-1.4**
PV12	**Saucer Basin,**	**13.35**	**2**		**Pn**	**15 08 03.5**	**-1.4**
TPNV	**Topopah Spring**	**13.35**	**335**	Pn	**Pn**	**15 08 03.2**	**-1.7**
TPNV	**Topopah Spring**	**13.35**	**335**	P	**Pn**	**15 08 05.0**	**+0.1**
	baz=151,SNR=24						
PV20	**West Nyswonger**	**13.37**	**1**	Pn	**Pn**	**15 08 02.9**	**-2.2**
PV15	**Paradox Valley**	**13.39**	**3**		**Pn**	**15 08 03.2**	**-2.2**
WMOK	**Wichita Mounta**	**13.39**	**41**		**Pn**	**15 08 05.3**	**0.0**
WMOK	**Wichita Mounta**	**13.39**	**41**	P	**Pn**	**15 08 07.2**	**+1.9**
	baz=228						
PV04	**Paradox Valley**	**13.42**	**2**		**Pn**	**15 08 04.5**	**-1.4**
Z35A	**Perchaven, San**	**13.47**	**49**	Pn	**Pn**	**15 08 06.2**	**-0.2**
CWC	**Cottonwood Cre**	**13.70**	**329**	P	**Pn**	**15 08 09.3**	**-0.3**
	baz=144						
VES	**Vestal, Richgr**	**13.73**	**325**	P	**Pn**	**15 08 09.9**	**+0.1**
	baz=139						
MSU	**Marysvale**	**13.75**	**351**	Pn	**Pn**	**15 08 07.4**	**-2.9**
GRAC	**Grapevine Rang**	**13.84**	**332**	P	**Pn**	**15 08 11.2**	**-0.3**
	baz=147,SNR=17						
Q16A	**Castle Valley**	**14.03**	**354**	Pn	**Pn**	**15 08 11.9**	**-2.2**
SRU	**San Rafael Swe**	**14.17**	**356**		**Pn**	**15 08 14.2**	**-1.9**
VOG	**Valley Oaks Go**	**14.25**	**325**	P	**Pn**	**15 08 15.9**	**-1.1**
	baz=139						
TIN	**Tinemaha, Big**	**14.27**	**330**	P	**Pn**	**15 08 17.3**	**-0.1**
	baz=144						
SMCO	**Snowmass**	**14.34**	**7**		**Pn**	**15 08 16.1**	**-2.5**
R11A	**Troy Canyon, C**	**14.38**	**340**	P	**Pn**	**15 08 16.5**	**-2.5**
	baz=156,SNR=16						
TMUT	**Trail Mountain**	**14.41**	**354**		**Pn**	**15 08 16.9**	**-2.5**
Q24A	**Divide**	**14.43**	**13**	P	**Pn**	**15 08 21.5**	**+1.7**
	baz=196,SNR=8.3						
FNO	**Franklin**	**14.57**	**42**	Pn	**Pn**	**15 08 19.8**	**-1.7**
NATX	**Nacogdoches**	**14.61**	**59**	P	**P**	**15 08 25.9**	**-2.4**
	baz=248						
SPR3	**Spring Creek 3**	**14.64**	**344**	Pn	**Pn**	**15 08 21.7**	**-1.0**
TPH	**Tonopah**	**14.71**	**335**		**Pn**	**15 08 22.5**	**-1.0**
MLAC	**Mammoth, Mammo**	**15.02**	**330**	P	**Pn**	**15 08 27.3**	**-0.4**
	baz=144						
Z38A	**Mt. Pleasant**	**15.04**	**53**	Pn	**Pn**	**15 08 24.8**	**-3.0**
Z38A				IAmb	IAmb	15 08 45.5	
	comp=Z,97nm,1.2s						
MDPB	**Devils Postpil**	**15.13**	**329**	Pn	**Pn**	**15 08 27.4**	**-1.9**
KSCO	**Kaye Shedlock'**	**15.14**	**20**	P	**P**	**15 08 32.7**	**-1.8**
KSCO	**Kaye Shedlock'**	**15.14**	**20**	P	**Pn**	**15 08 27.1**	**-2.2**
	baz=205						
ISCO	**Idaho Springs**	**15.15**	**11**	Pn	**Pn**	**15 08 27.6**	**-2.0**
ISCO				IAmb	IAmb	15 08 53.0	
	comp=Z,56nm,1.4s						
ISCO	**Idaho Springs**	**15.15**	**11**	P	**Pn**	**15 08 26.8**	**-2.8**
	baz=194,SNR=17						
O20A	**White River Ci**	**15.19**	**3**	P	**Pn**	**15 08 25.5**	**-4.4**
	baz=184,SNR=22						
OK032	**Salt Plains WL**	**15.20**	**36**	Pn	**Pn**	**15 08 28.8**	**-1.0**
OK032				IAmb	IAmb	15 08 43.6	
	comp=Z,89nm,1.5s						
OK031	**S. Brethren Rd**	**15.38**	**42**	Pn	**Pn**	**15 08 30.8**	**-1.5**
LHV	**Little Huntoon**	**15.38**	**332**	Pn	**Pn**	**15 08 30.6**	**-1.6**
KAN14	**Manchester OK**	**15.44**	**36**	Pn	**Pn**	**15 08 30.6**	**-2.6**
NVAR	**Mina Array Bea**	**15.45**	**333**	Pn	**Pn**	**15 08 33.1**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=150,slow=11,SNR=14						
NVAR	**Mina Array Bea**	**15.45**	**333**		**Pn**	**15 08 32.3**	**-1.1**
DUG	**Dugway, Tooele**	**15.49**	**350**	P	**Pn**	**15 08 31.7**	**-2.1**
	baz=168,SNR=53						
CMIG	**Matias Romero**	**15.59**	**117**	Pn	**P**	**15 08 39.3**	**0.0**
	comp=Z,0.2nm,0.3s,baz=45,slow=14,SNR=1.7						
CMIG				LR	LR	15 14 41.1	
	comp=Z,3μm,21.0s,baz=288,slow=37						
RDMU	**Red Mountain**	**15.59**	**359**	Pn	**Pn**	**15 08 33.7**	**-1.5**
RDMU				IAmb	IAmb	15 08 48.1	
	comp=Z,79nm,1.3s						
QUOK	**Quay**	**15.60**	**41**	Pn	**Pn**	**15 08 34.6**	**-0.6**
QUOK				IAmb	IAmb	15 08 51.5	
	comp=Z,75nm,1.2s						
RYN	**Ryan**	**15.71**	**333**	Pn	**Pn**	**15 08 36.0**	**-0.8**
JLU	**Jordanelle**	**15.72**	**354**	Pn	**Pn**	**15 08 35.6**	**-1.4**
JLU				IAmb	IAmb	15 08 49.7	
	comp=Z,118nm,1.4s						
CTU	**Camp Tracy**	**15.84**	**353**	P	**P**	**15 08 41.0**	**-1.3**
KVN	**Kaiserville**	**15.90**	**334**	Pn	**Pn**	**15 08 38.6**	**-0.6**
TUL1	**Leonard**	**15.99**	**44**	P	**Pn**	**15 08 40.1**	**-0.1**
	baz=232,SNR=5.7						
CBKS	**Cedar Bluff**	**16.05**	**28**	P	**Pn**	**15 08 40.8**	**-0.2**
	baz=214,SNR=8.5						
CMB	**Columbia Colle**	**16.08**	**327**	Pn	**Pn**	**15 08 40.6**	**-0.8**
N23A	**Red Feather La**	**16.17**	**9**	P	**Pn**	**15 08 41.4**	**-1.3**
	baz=192,SNR=8.5						
R32A	**Long Quarter,**	**16.19**	**31**		**P**	**15 08 43.9**	**-2.1**
T35A	**Sooner Cattle**	**16.23**	**40**		**P**	**15 08 44.6**	**-1.8**
TCUT	**Toone Canyon**	**16.23**	**354**	Pn	**Pn**	**15 08 42.3**	**-1.2**
TCUT				IAmb	IAmb	15 08 55.4	
	comp=Z,228nm,1.3s						
BGU	**Big Grassy Mou**	**16.24**	**350**	Pn	**Pn**	**15 08 42.6**	**-0.9**
YERR	**Yerington**	**16.31**	**332**		**Pn**	**15 08 44.3**	**-0.2**
YERR				IAmb	IAmb	15 08 53.9	
	comp=Z,112nm,1.4s						
ELK	**Elko**	**16.52**	**344**	Pn	**Pn**	**15 08 46.6**	**-0.6**
	comp=Z,0.0nm,0.3s,baz=168,slow=11,SNR=11						
ELK	**Elko**	**16.52**	**344**	Pn	**Pn**	**15 08 46.2**	**-1.0**
ELK				IAmb	IAmb	15 08 58.2	
	comp=Z,93nm,1.4s						
SPUT	**South Promonto**	**16.53**	**352**	Pn	**Pn**	**15 08 45.3**	**-2.0**
SPUT				IAmb	IAmb	15 08 58.5	
	comp=Z,99nm,1.4s						
PNTR	**Pine Nut**	**16.56**	**331**	Pn	**Pn**	**15 08 46.6**	**-1.1**
PNTR				IAmb	IAmb	15 08 59.5	
	comp=Z,130nm,1.2s						
PHWY	**Pilot Hill**	**16.64**	**10**	P	**P**	**15 08 51.3**	**+0.1**
PHWY				IAmb	IAmb	15 09 01.2	
	comp=Z,126nm,1.4s						
Z41A	**Richland Creek**	**16.66**	**56**	P	**P**	**15 08 50.8**	**-0.3**
	baz=246						
MIAR	**Mount Ida**	**16.70**	**51**	P	**P**	**15 08 51.8**	**+0.2**
	baz=241,SNR=7.1						
HWUT	**Hardware Ranch**	**16.73**	**354**	Pn	**Pn**	**15 08 48.8**	**-1.0**
HWUT				IAmb	IAmb	15 09 00.9	
	comp=Z,177nm,1.4s						
VCNR	**Virginia City**	**16.75**	**331**	Pn	**Pn**	**15 08 49.3**	**-0.8**
VCNR				IAmb	IAmb	15 08 57.9	
	comp=Z,108nm,1.5s						
BMN	**Battle Mountai**	**16.80**	**339**	Pn	**Pn**	**15 08 49.8**	**-0.8**
BMN				IAmb	IAmb	15 09 01.2	
	comp=Z,148nm,1.4s						
RWWY	**Rawlins**	**16.80**	**6**	Pn	**Pn**	**15 08 49.2**	**-1.6**
W39A	**Magazine**	**16.89**	**49**	Pn	**Pn**	**15 08 50.0**	**-1.7**
W39A	**Magazine**	**16.89**	**49**	P	**P**	**15 08 54.1**	**+0.3**
	baz=239						
PAHR	**Pah Rah Range**	**16.98**	**333**	Pn	**Pn**	**15 08 51.0**	**-1.8**
HVU	**Hansel Valley**	**17.04**	**351**		**P**	**15 08 54.4**	**-1.1**
OGNE	**Ogallala**	**17.09**	**19**	P	**P**	**15 08 55.2**	**-0.9**
OGNE				IAmb	IAmb	15 09 06.3	
	comp=Z,151nm,1.1s						
OGNE	**Ogallala**	**17.09**	**19**	P	**Pn**	**15 08 53.8**	**-0.5**
	baz=204						
X40A	**Basin Creek Fa**	**17.20**	**53**		**Pn**	**15 08 55.4**	**-0.1**
X40A	**Basin Creek Fa**	**17.20**	**53**	P	**P**	**15 08 58.0**	**+0.9**
	baz=242						
U38A	**Gravette**	**17.21**	**45**	Pn	**Pn**	**15 08 53.3**	**-2.4**
BEKR	**Beckworth**	**17.53**	**331**	Pn	**Pn**	**15 08 58.9**	**-0.9**
KSU1	**Kansas State U**	**17.75**	**34**	Pn	**Pn**	**15 09 00.6**	**-1.8**
KSU1				IAmb	IAmb	15 09 17.4	
	comp=Z,100nm,1.4s						
KSU1	**Kansas State U**	**17.75**	**34**	P	**P**	**15 09 02.9**	**-0.3**
	baz=222						
BW06	**Boulder Array**	**17.79**	**359**		**Pn**	**15 09 02.1**	**-0.9**
BW06				IAmb	IAmb	15 09 11.1	
	comp=Z,192nm,1.5s						
BW06	**Boulder Array**	**17.79**	**359**	P	**Pn**	**15 09 01.2**	**-1.8**
	baz=180,SNR=51						
PD31	**Pinedale Array**	**17.79**	**360**		**Pn**	**15 09 02.3**	**-0.7**
PD31				IAmb	IAmb	15 09 11.1	
	comp=Z,173nm,1.5s						
PDAR	**Pinedale Array**	**17.79**	**360**	P	**Pn**	**15 09 02.9**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=166,slow=11,SNR=19						
PDAR				LR	LR	15 15 57.9	
	comp=Z,2μm,20.2s,baz=190,slow=38						
PDAR	**Pinedale Array**	**17.79**	**360**		**Pn**	**15 09 02.1**	**-1.0**
ORV	**Oroville**	**17.81**	**328**		**Pn**	**15 09 02.9**	**-0.2**
K22A	**Casper**	**17.82**	**7**	P	**Pn**	**15 09 02.7**	**-0.7**
	baz=189,SNR=14						
AHID	**Auburn Hatcher**	**17.84**	**356**	P	**Pn**	**15 09 03.7**	**0.0**
GDXM	**Geysers**	**17.91**	**324**		**Pn**	**15 09 04.0**	**-0.4**
W41B	**Gary Mavity, V**	**17.96**	**51**	P	**P**	**15 09 07.3**	**+1.9**
	baz=242						
VBMS	**Vicksburg**	**18.05**	**62**	P	**P**	**15 09 07.5**	**+1.0**
	baz=253						
U40A	**Yellville**	**18.17**	**47**		**Pn**	**15 09 05.8**	**-1.8**
U40A	**Yellville**	**18.17**	**47**	P	**P**	**15 09 09.3**	**+1.5**
	baz=237,SNR=5.1						
FCAR	**Ozark Folk Cen**	**18.41**	**50**	P	**P**	**15 09 08.6**	**-1.9**
REDW	**Red Top Meadow**	**18.42**	**357**		**P**	**15 09 08.5**	**-2.3**
REDW				IAmb	IAmb	15 09 21.7	
	comp=Z,101nm,1.4s						
SNOW	**Snow King Moun**	**18.52**	**357**		**P**	**15 09 10.7**	**-1.2**
O03E	**Paynes Creek**	**18.53**	**329**	P	**P**	**15 09 11.1**	**-0.8**
	baz=141,SNR=24						
TPAW	**Teton Pass**	**18.56**	**356**	P	**P**	**15 09 11.8**	**-0.6**
TPAW				IAmb	IAmb	15 09 22.0	
	comp=Z,115nm,1.5s						
S39A	**Bolivar**	**18.65**	**43**	P	**P**	**15 09 12.1**	**-1.1**
LOHW	**Long Hollow**	**18.66**	**357**	P	**P**	**15 09 13.0**	**-0.5**
FXWY	**F

baz=148,SNR=19
N38A Joes South For 20.76 36 P P 15 09 35.2 -1.0
N38A IAmb IAmb 15 09 48.1
comp=Z,72nm,1.4s
HICK Hickman 20.76 51 P P 15 09 35.0 -1.1
GCMT Greycliff 20.81 359 P P 15 09 36.6 -0.3
PLID Pearl Lake 20.82 347 P P 15 09 36.8 -0.2
I07A Izee 20.82 339 P P 15 09 36.9 0.0
I07A IAmb IAmb 15 09 49.4
comp=Z,52nm,1.4s
L02E Cave Junction 20.83 329 P P 15 09 36.4 -0.6
baz=140
BMO Blue Mountains 20.89 344 P P 15 09 37.6 0.0
BMO IAmb IAmb 15 09 48.2
comp=Z,71nm,1.2s
LRM Limekiln Ridge 20.99 354 P P 15 09 38.4 -0.5
J04D Umpqua Nationa 21.05 333 P P 15 09 40.2 +0.7
baz=146
PINE Pine Mountain 21.06 336 P P 15 09 39.5 -0.2
PINE IAmb IAmb 15 09 47.4
comp=Z,132nm,1.4s
LRAL Lakeview Retre 21.13 62 P P 15 09 39.2 -1.0
LRAL IAmb IAmb 15 10 02.3
comp=Z,61nm,1.4s
LRAL Lakeview Retre 21.13 62 P P 15 09 43.9 +3.7
baz=255
SLM Saint Louis 21.17 45 P P 15 09 38.2 -2.4
SLM IAmb IAmb 15 09 53.6
comp=Z,142nm,1.5s
SUSD Miller 21.22 21 P P 15 09 39.5 -1.7
SUSD Miller 21.22 21 P P 15 09 41.6 +0.5
baz=208
K02D Willamette Mer 21.28 330 P P 15 09 43.5 +1.7
baz=141
S44A Carbondale 21.31 49 P P 15 09 41.1 -1.0
S44A IAmb IAmb 15 09 56.3
comp=Z,44nm,1.1s
ECSD EROS Data Cent 21.45 26 P P 15 09 43.3 -0.3
ECSD IAmb IAmb 15 09 56.1
comp=Z,107nm,1.4s
ECSD EROS Data Cent 21.45 26 P P 15 09 46.4 +2.8
baz=214,SNR=18
X48A Hartselle 21.54 59 P P 15 09 43.1 -1.4
X48A IAmb IAmb 15 09 58.1
comp=Z,43nm,1.2s
SCIA State Center 21.57 34 P P 15 09 45.6 +0.7
baz=224
WVT Waverly 21.59 54 P P 15 09 42.9 -2.2
WVT IAmb IAmb 15 09 55.6
comp=Z,48nm,1.1s
WVT Waverly 21.59 54 P P 15 09 49.0 +3.9
baz=246
I04A Tendick Farm, 21.63 334 P P 15 09 45.6 0.0
baz=146
I05D Terrebonne, OR 21.68 336 P P 15 09 46.3 +0.2
baz=149
G08A Pilot Rock 21.75 341 P P 15 09 46.7 -0.1
G08A IAmb IAmb 15 09 55.2
comp=Z,64nm,1.5s
J01E Myrtle Point 21.77 330 P P 15 09 47.6 +0.6
baz=141
HRY Holter Researc 21.82 355 P P 15 09 47.5 -0.1
LAO LASA Array 21.85 6 P P 15 09 47.5 -0.4
LAO IAmb IAmb 15 09 55.8
comp=Z,122nm,1.4s
LAO LASA Array 21.85 6 P P 15 09 49.4 +1.5
baz=188,SNR=8.1
F10A Beach Ranch, E 21.93 345 P P 15 09 48.3 -0.5
F10A IAmb IAmb 15 09 56.3
comp=Z,132nm,1.5s
I03D Drain, OR 21.94 332 P P 15 09 48.9 +0.1
baz=144
Q44A Meyer Farm, Va 22.11 46 P P 15 09 48.9 -1.8
MSO Missoula 22.16 352 P P 15 09 50.5 -0.7
MSO Missoula 22.16 352 P P 15 09 51.0 -0.2
baz=169,SNR=36
BUCK Buck Mountain 22.20 333 P P 15 09 50.5 -1.2
BUCK IAmb IAmb 15 10 03.9
comp=Z,104nm,1.4s
P43A Skaggs, Pawnee 22.20 44 P P 15 09 50.4 -1.3
P43A IAmb IAmb 15 10 08.2
comp=Z,53nm,1.3s
H04A Detroit Lake 22.29 335 P P 15 09 51.1 -1.5
H04A IAmb IAmb 15 10 01.8
comp=Z,71nm,1.3s
K38A Parkersburg 22.33 34 P P 15 09 51.4 -1.7
K38A IAmb IAmb 15 10 04.9
comp=Z,97nm,1.4s
G05D Wamic, OR 22.45 337 P P 15 09 53.6 -0.7
baz=150
OLIL Olney 22.63 47 P P 15 09 55.5 -0.7
OLIL IAmb IAmb 15 10 23.9
comp=Z,70nm,1.2s
E09A Wood Farm, Sta 22.66 344 P P 15 09 55.7 -0.7
E09A IAmb IAmb 15 10 04.0
comp=Z,104nm,1.5s
FPAL Fort Paine 22.68 60 P P 15 09 55.1 -1.7
FPAL IAmb IAmb 15 10 16.2
comp=Z,57nm,1.1s
E08A Dider Farm, El 22.87 343 P P 15 09 58.1 -0.6
HDIL Hopedale 22.88 42 P P 15 10 02.6 +3.8
baz=234,SNR=8.4
HAWA Hanford 22.91 342 P P 15 09 58.9 -0.3
EGMT Eagleton 23.05 359 P P 15 09 59.1 -1.5
EGMT Eagleton 23.05 359 P P 15 09 59.7 -0.9
baz=179,SNR=11
I37A Lemond, Waseca 23.06 30 P P 15 09 59.9 -0.8
F05D White Salmon 23.07 338 P P 15 10 00.3 -0.4
baz=151
JTMT Jette 23.10 351 P P 15 10 00.2 -1.1
JTMT IAmb IAmb 15 10 08.6
comp=Z,81nm,1.5s
W50A Signal Mountai 23.13 58 P P 15 10 00.4 -1.2
W50A IAmb IAmb 15 10 13.1
comp=Z,44nm,1.1s
G03D McMinnville, O 23.15 334 P P 15 10 02.5 +0.9
baz=146
E07A Sunnyside 23.16 341 P P 15 10 00.2 -1.5
E07A IAmb IAmb 15 10 10.2
comp=Z,71nm,1.3s
O44A Mansfield 23.16 44 P P 15 10 00.7 -1.0
X51A Calhoun 23.28 60 P P 15 10 01.6 -1.5
X51A IAmb IAmb 15 10 30.1
comp=Z,69nm,1.4s
D08A Wollman Farm, 23.36 343 P P 15 10 02.4 -1.3
F04A Amboy 23.44 337 P P 15 10 04.7 +0.2
TIGA Tifton 23.58 68 P P 15 10 08.5 +2.4
baz=262
WCI Wyandotte Cave 23.62 50 P P 15 10 05.7 -0.7
WCI IAmb IAmb 15 10 16.6
comp=Z,74nm,1.5s
WCI Wyandotte Cave 23.62 50 P P 15 10 07.5 +1.2
baz=244
Y52A Lilburn 23.71 62 P P 15 10 05.9 -1.5
Y52A IAmb IAmb 15 10 25.9
comp=Z,21nm,0.9s
F04D Rainier, OR 23.79 336 P P 15 10 07.8 -0.1
baz=148
CPCT Cooper Cave 23.82 58 P P 15 10 05.6 -2.8
CPCT IAmb IAmb 15 10 18.7
comp=Z,49nm,1.2s
JFWS Jewell Farm 23.84 37 P P 15 10 09.6 +1.1
baz=228
DGMT Dagmar 23.84 9 P P 15 10 07.0 -1.5
DGMT Dagmar 23.84 9 P P 15 10 08.2 -0.2
baz=192,SNR=7.1
C09A Chrisman Ranch 23.89 345 P P 15 10 07.7 -1.2
C09A IAmb IAmb 15 10 17.2
comp=Z,63nm,1.4s
LON Longmire 23.94 339 P P 15 10 08.6 -0.8
E04D Cinebar 24.03 337 P P 15 10 10.8 +0.6
baz=149
LTY Liberty 24.03 341 P P 15 10 09.3 -1.0
V51A Loudon 24.07 57 P P 15 10 06.9 -3.8
GOGA Godfrey 24.08 63 P P 15 10 14.7 +3.9
baz=258
NEW Newport 24.08 347 P P 15 10 10.6 -0.1
comp=Z,9.6nm,1.0s,baz=165,slow=11,SNR=14
NEW LR LR 15 20 30.6
comp=Z,973nm,18.9s,baz=170,slow=39
NEW Newport 24.08 347 P P 15 10 09.4 -1.3
NEW Newport 24.08 347 P P 15 10 11.1 +0.4
baz=162,SNR=30
MDND Maddock 24.14 16 P P 15 10 10.7 -0.5
MDND Maddock 24.14 16 P P 15 10 10.7 -0.5
baz=203

SFIN Lafayette 24.16 45 P P 15 10 09.8 -1.6
SFIN Lafayette 24.16 45 P P 15 10 12.3 +0.9
baz=238,SNR=6.2
WALA Waterton Lakes 24.34 353 P P 15 10 13.1 -0.2
E03A Lebam 24.38 336 P P 15 10 11.2 -2.3
R49A Shelbyville 24.43 51 P P 15 10 11.1 -3.0
R49A IAmb IAmb 15 10 25.6
comp=Z,53nm,1.2s
F36A Milaca 24.46 27 P P 15 10 11.8 -2.3
F36A IAmb IAmb 15 10 23.1
comp=Z,37nm,1.1s
TKL Tuckaleechee C 24.47 58 P P 15 10 20.0 +5.6
comp=Z,2.2nm,0.8s,baz=231,slow=6.3,SNR=2.2
TKL LR LR 15 20 15.2
comp=Z,828nm,21.1s,baz=252,slow=37
D04E Lakebay 24.64 338 P P 15 10 16.4 +0.6
baz=149
V52A Sevierville 24.66 58 P P 15 10 14.5 -1.7
B08A Colville Reser 24.67 344 P P 15 10 15.1 -1.0
L44A Lake County Fo 24.69 41 P P 15 10 18.9 +2.6
baz=234
P48A Milroy 24.79 48 P P 15 10 14.4 -2.8
P48A IAmb IAmb 15 10 27.9
comp=Z,26nm,1.1s
TZTN Tazewell 24.93 56 P P 15 10 16.5 -2.1
TZTN IAmb IAmb 15 10 33.6
comp=Z,55nm,1.4s
TZTN Tazewell 24.93 56 P P 15 10 22.4 +3.8
baz=251
R50A Paris 25.03 52 P P 15 10 17.1 -2.3
R50A IAmb IAmb 15 10 31.2
comp=Z,37nm,1.2s
HODGE Hodges 25.25 62 P P 15 10 19.1 -2.3
HODGE IAmb IAmb 15 10 41.0
comp=Z,58nm,1.4s
P49A Miami Univ. Ec 25.31 49 P P 15 10 25.3 +3.3
baz=243
B05A Bryant 25.36 340 P P 15 10 22.9 +0.6
baz=152
AGMN Agassiz Nation 25.63 21 P P 15 10 23.8 -1.0
AGMN Agassiz Nation 25.63 21 P P 15 10 24.5 -0.3
baz=20
A04D Lummi Island 25.96 340 P P 15 10 28.1 +0.4
baz=151
Q51A Peebles 26.04 51 P P 15 10 26.5 -2.1
Q51A IAmb IAmb 15 10 41.2
comp=Z,16nm,0.9s
JSC Jenkinsville 26.07 63 P P 15 10 24.9 -4.0
JSC IAmb IAmb 15 10 40.4
comp=Z,38nm,1.4s
ACSO Alum Creek Sta 26.82 49 P P 15 10 38.2 +2.6
baz=244
EYMN Ely 26.96 27 P P 15 10 35.6 -1.2
EYMN IAmb IAmb 15 10 44.7
comp=Z,52nm,1.4s
EYMN Ely 26.96 27 P P 15 10 37.6 +0.8
baz=218
ULM Lac du Bonnet 27.35 19 P P 15 10 40.1 -0.1
comp=Z,1.2nm,0.4s,baz=86,slow=4.1,SNR=2.3
ULM LR LR 15 22 45.3
comp=Z,250nm,20.9s,baz=202,slow=39
JTS Las Juntas de 27.37 118 LR LR 15 21 49.8
comp=Z,1µm,20.8s,baz=14,slow=37
BLA Blacksburg 27.52 57 P P 15 10 45.3 +3.3
baz=253
O53A New Philadelph 28.05 50 P P 15 10 48.9 +2.2
baz=247
EDM Edmonton 28.41 355 P P 15 10 49.0 -0.8
N54A Moraine State 29.19 50 P P 15 11 00.1 +3.3
baz=247
SSPA Standing Stone 30.54 51 P P 15 11 12.4 +3.7
baz=250
BBB Bella Bella 30.73 337 LR LR 15 23 04.6
comp=Z,908nm,18.1s,baz=158,slow=36
SADO Sadowa 31.45 43 LR LR 15 23 57.9
comp=Z,1µm,19.7s,baz=252,slow=36
N59A State Game Lan 32.14 52 P P 15 11 27.2 +4.3
baz=252
LONY Lake Ozonia 34.30 46 P P 15 11 43.8 +2.1
baz=248
L61B Northampton 34.83 51 P P 15 11 49.3 +3.1
baz=252
I60A Shoreham 34.87 48 P P 15 11 48.2 +1.6
baz=250
DBBC Dabeiba 36.35 114 eP P 15 12 09.4 +10
DLBC Dease Lake 36.55 342 P P 15 12 00.5 -0.4
comp=Z,2.0nm,0.7s,baz=126,slow=14,SNR=3.5
DLBC Dease Lake 36.55 342 IAmb IAmb 15 12 10.6
comp=Z,19nm,1.1s
SMLC San Martin de 37.23 109 eP P 15 12 19.2 +12
YKA Yellowknife Ar 37.71 356 P P 15 12 10.4 -0.2
comp=Z,2.7nm,0.8s,baz=167,slow=8.6,SNR=3.9
YKA LR LR 15 27 59.4
comp=Z,1µm,18.3s,baz=0.0,slow=37
GUY2C Guyana, Caldas 38.04 115 eP P 15 12 25.0 +10
PTBC PUERTO BERRIO, 38.07 113 eP P 15 12 25.9 +12
NORC Norcasia 38.26 114 eP P 15 12 29.8 +14
BBAC Balboa, Cauca 38.44 121 eP P 15 12 26.9 +9.3
POPC Popayan, Colom 38.56 120 eP P 15 12 28.8 +10
OTAV Otavalo 38.67 125 P P 15 12 17.5 -2.3
OTAV Otavalo 38.67 125 eP P 15 12 23.1 +3.3
ORTC Ortega, Tolima 38.89 117 eP P 15 12 32.6 +11
MARR Paez Marbalcaza 38.95 119 eP P 15 12 33.6 +12
BARC Barichara 39.11 112 eP P 15 12 33.9 +11
ROSC El Rosal 39.11 115 LR LR 15 30 48.3
comp=Z,688nm,19.6s,baz=270,slow=40
WRGLY Wrigley 39.42 350 P P 15 12 26.6 +1.7
baz=160
RUSC La Rusia 39.56 112 eP P 15 12 39.1 +12
CHIC Chingaza 39.71 115 eP P 15 12 34.0 +5.5
WHY Whitehorse 39.79 341 P P 15 12 27.2 -1.0
MMPY Sheldon Lake, 40.43 345 P P 15 12 35.5 +2.0
baz=148,SNR=8.7
FARO Faro, Yukon 40.63 343 P P 15 12 36.5 +1.3
baz=145
BATG Bathurst New B 40.80 46 P P 15 12 36.0 -0.7
LMN Caledonia Moun 41.23 48 P P 15 12 39.5 -0.8
LMN IAmb IAmb 15 12 49.7
comp=Z,44nm,1.4s
GUVC San Jose del G 41.80 116 eP P 15 12 49.5 +4.3
CRQE Cirque 42.61 336 P P 15 12 52.1 +0.6
baz=132
BVCY Beaver Creek 43.00 339 P P 15 12 55.4 +0.9
baz=136
MCARA McCarthy VSAT 43.01 337 P P 15 12 54.8 +0.3
baz=132
Q23K Middleton Isla 43.03 333 P P 15 12 54.3 -0.3
baz=127
SCHQ Schefferville 43.19 35 P P 15 12 57.4 +1.3
comp=Z,3.9nm,0.9s,baz=189,slow=12,SNR=2.1
SCHQ LR LR 15 30 24.0
comp=Z,806nm,19.9s,baz=246,slow=35
M27K Edge Creek, AK 43.29 339 P P 15 12 58.5 +1.5
baz=134
BMRM Bremner River 43.31 336 P P 15 12 58.9 +1.9
baz=130
GLB Gilahina Butte 43.33 337 P P 15 12 57.1 0.0
GBN Guysborough 43.38 49 P P 15 12 56.8 -0.8
M26K Nabesna, AK 43.70 338 P P 15 13 00.8 +0.7
baz=133
N25K Chitina, Valde 43.73 336 P P 15 13 01.8 +1.4
baz=130
DAWY Dawson 43.77 341 P P 15 12 58.6 -2.1
DAWY IAmb IAmb 15 13 09.5
comp=Z,33nm,1.5s
DAWY Dawson 43.77 341 P P 15 13 02.0 +1.4
baz=139
L27K Beaver Creek, 43.77 339 P P 15 13 01.9 +1.2
baz=135
KLU Klutina 44.14 336 P P 15 13 05.3 +1.6
baz=129
L26K Log Cabin Wild 44.24 339 P P 15 13 04.5 0.0
baz=133
K27K Chicken 44.54 340 P P 15 13 08.0 +1.2
baz=135
M24K Tolsona, Glenn 44.62 336 P P 15 13 07.6 0.0
baz=129
EGAK Eagle 44.81 341 P P 15 13 09.0 +0.1
baz=137
EPYK Eagle Plains 44.87 345 P P 15 13 09.6 +0.1
EPYK Eagle Plains 44.87 345 P P 15 13 10.2 +0.7
baz=144
DOT Dot Lake 44.91 339 P P 15 13 09.4 -0.3
TAOE Nuku Hiva Isla 45.05 226 eS S 15 19 53.1 +2.5
comp=Z,128nm,26.2s
TAOE eLQ LQ 15 23 53.0
comp=Z,3µm,29.0s
TAOE eLR LR 15 25 45.6
comp=Z,590nm,27.0s
KNK Knik Glacier 45.06 335 P P 15 13 11.7 +0.8
baz=126
SCRK Sand Creek 45.11 339 P P 15 13 11.3 -0.2
SCRK Sand Creek 45.11 339 P P 15 13 13.3 +1.8
baz=133
RIDG Independent Ri 45.23 339 P P 15 13 14.0 +1.6
baz=132
WAT6 Susitna Watana 45.49 336 P P 15 13 15.9 +1.3
baz=128
INK Inuvik 45.80 348 P P 15 13 16.7 0.0
comp=Z,2.5nm,0.9s,baz=172,slow=13,SNR=2.0
INK Inuvik 45.80 348 P P 15 13 16.5 -0.2
INK IAmb IAmb 15 13 26.0
comp=Z,32nm,1.4s
INK Inuvik 45.80 348 P P 15 13 18.9 +2.2
baz=149,SNR=5.7
J25K Salcha River, 45.98 339 P P 15 13 19.5 +1.2
baz=132
HDA Harding Lake 46.37 339 P P 15 13 21.1 -0.1
HDA IAmb IAmb 15 13 42.3
comp=Z,13nm,1.2s
HDA Harding Lake 46.37 339 P P 15 13 23.4 +2.2
baz=130
RND Reindeer 46.40 337 P P 15 13 21.4 -0.2
RND IAmb IAmb 15 13 39.0
comp=Z,21nm,1.5s
IL31 46.58 339 P P 15 13 22.8 -0.1
IL31 IAmb IAmb 15 13 31.2
comp=Z,28nm,1.4s
ILAR Eielson Array 46.58 339 P P 15 13 22.9 0.0
comp=Z,5.0nm,1.1s,baz=143,slow=7.3,SNR=22
ILAR LR LR 15 33 01.7
comp=Z,304nm,20.1s,baz=135,slow=36
ILAR Eielson Array 46.58 339 P P 15 13 22.8 -0.1
SKT Skwentna 46.59 334 P P 15 13 23.2 +0.2
SKT IAmb IAmb 15 13 31.3
comp=Z,21nm,1.4s
SKT Skwentna 46.59 334 P P 15 13 23.8 +0.8
baz=123
MCK McKinley 46.62 337 P P 15 13 23.1 -0.2
MCK IAmb IAmb 15 13 32.6
comp=Z,18nm,1.3s
MCK McKinley 46.62 337 P P 15 13 24.3 +1.0
baz=127
WRH Wood River Hil 46.79 338 P P 15 13 24.2 -0.3
WRH IAmb IAmb 15 13 35.9
comp=Z,15nm,1.3s
CCB Clear Creek Bu 46.80 338 P P 15 13 24.7 0.0
TRF Thorofare Moun 46.94 336 P P 15 13 26.1 +0.1
BWN Browne 47.08 337 P P 15 13 25.5 -1.3
CHGN Chignik 47.18 325 P P 15 13 30.4 +2.6
baz=110
NEA2 Nenana 47.20 338 P P 15 13 26.7 -1.0
NEA2 Nenana 47.20 338 P P 15 13 28.5 +0.7
baz=128,SNR=15
N19K Bonanza Creek 47.21 332 P P 15 13 26.4 -1.6
N19K Bonanza Creek 47.21 332 P P 15 13 29.0 +1.0
baz=118
KTH Kantishna Hill 47.23 336 P P 15 13 27.6 -0.6
PPLA Purkeypile 47.34 335 P P 15 13 28.1 -0.9
PPLA Purkeypile 47.34 335 P P 15 13 30.0 +0.9
baz=123
BPAW Bear Paw Mtn. 47.57 337 P P 15 13 30.6 -0.1
BPAW Bear Paw Mtn. 47.57 337 P P 15 13 32.0 +1.3
baz=125
H24K Noodor Dome 47.59 340 P P 15 13 29.1 -1.8
H24K Noodor Dome 47.59 340 P P 15 13 31.6 +0.7
baz=130
I23K Minto, Yukon-K 47.63 338 P P 15 13 31.3 +0.2
I23K Minto, Yukon-K 47.63 338 P P 15 13 33.7 +2.6
baz=128,SNR=5.6
BMAR Burnt Mountain 47.70 342 P P 15 13 31.5 -0.2
L20K Farewell, AK 47.78 334 P P 15 13 34.8 +2.4
baz=120
SVW2 Sparrevohn 47.81 332 P P 15 13 31.5 -1.1
SVW2 IAmb IAmb 15 13 34.1
comp=Z,18nm,1.3s
SDPT Sand Point 47.97 323 P P 15 13 33.6 -0.2
SDPT Sand Point 47.97 323 P P 15 13 34.9 +1.1
baz=108
L19K White Mountain 48.03 333 P P 15 13 34.5 +0.2
L19K IAmb IAmb 15 13 43.1
comp=Z,22nm,1.1s
L19K White Mountain 48.03 333 P P 15 13 34.6 +0.4
baz=119
MLY Manley 48.03 338 P P 15 13 34.5 +0.2
MLY Manley 48.03 338 P P 15 13 35.1 +0.8
baz=126
H23K Yukon River 48.11 339 P P 15 13 34.8 -0.1
baz=128
K20K Telida 48.31 335 P P 15 13 37.0 +0.6
baz=121
I21K Tanana 48.55 338 P P 15 13 37.8 -0.4
I21K Tanana 48.55 338 P P 15 13 39.5 +1.3
baz=125
J20K Nowinta River 48.77 336 P P 15 13 39.1 -0.8
J20K Nowinta River 48.77 336 P P 15 13 40.8 +0.9
baz=122
COLD Coldfoot 49.19 340 P P 15 13 42.3 -0.8
COLD IAmb IAmb 15 13 52.1
comp=Z,21nm,1.3s
COLD Coldfoot 49.19 340 P P 15 13 44.4 +1.3
baz=128
IMAR Indian Mountai 49.61 338 P P 15 13 46.3 0.0
TOLK Toolik Lake Re 49.91 342 P P 15 13 48.5 -0.2
TOLK IAmb IAmb 15 13 56.6
comp=Z,14nm,0.8s
TOLK Toolik Lake Re 49.91 342 P P 15 13 49.6 +1.0
baz=130
RDOG Red Dog Mine 53.76 338 P P 15 14 19.6 +2.3
baz=115
PTGA Pitinga 54.15 111 LR LR 15 43 07.5
comp=Z,237nm,18.4s,baz=291,slow=42
SFJD Kangerlussuaq 55.20 24 P P 15 14 27.7 0.0
comp=Z,4.7nm,0.7s,baz=243,slow=4.6,SNR=2.5
SFJD Kangerlussuaq 55.20 24 i P P 15 14 35.0 +7.3
SFJD IAmb IAmb 15 14 36.5
comp=Z,45nm,1.4s
SFJD Kangerlussuaq 55.20 24 P P 15 14 27.8 0.0
ILULI Ilulissat 55.79 22 i P P 15 14 39.2 +7.2
ILULI IAmb IAmb 15 14 40.1
comp=Z,60nm,1.2s
ILULI Ilulissat 55.79 22 P P 15 14 31.5 -0.5
NRS Narsarsuaq 55.94 32 P P 15 14 31.3 -1.9
NUUG Nuugaatsiaq 56.05 19 i P P 15 14 41.8 +8.0
NUUG IAmb IAmb 15 14 42.3
comp=Z,74nm,1.3s
SAML Samuel 56.19 121 P P 15 14 33.0 -2.6
DY2G Dye2 56.70 25 i P P 15 14 45.7 +6.8
DY2G IAmb IAmb 15 14 47.5
comp=Z,126nm,1.3s
LPAZ La Paz 57.39 131 P P 15 14 47.8 +3.0
comp=Z,0.8nm,0.9s,baz=342,slow=6.4,SNR=3.1
LPAZ La Paz 57.39 131 P P 15 14 43.4 -1.4
PPT Papeete 57.62 227 LR LR 15 33 29.9
comp=Z,181nm,22.0s,baz=13,slow=30
PPT2 Papeete2 57.64 227 eS S 15 22 47.3 +2.8
comp=Z,85nm,28.8s
PPT2 eLQ LQ 15 29 10.6
comp=Z,341nm,23.5s
PPT2 eLR LR 15 31 35.2
comp=Z,295nm,26.0s
NEEM North Greenlan 59.10 13 i P P 15 15 01.9 +6.2
NEEM IAmb IAmb 15 15 03.3
comp=Z,59nm,1.2s
ICESG Greenland Ices 59.71 23 i P P 15 15 05.9 +5.9
ICESG IAmb IAmb 15 15 08.0
comp=Z,40nm,0.9s
SUMG Summit 60.71 19 i P P 15 15 13.5 +6.6
SUMG IAmb IAmb 15 15 15.0
comp=Z,52nm,1.1s
SUMG Summit 60.71 19 P P 15 15 05.3 -1.5
TBI Tubuai 61.78 222 eLQ LQ 15 30 55.5
comp=Z,435nm,37.5s
TBI eLR LR 15 33 31.0
comp=Z,510nm,27.2s
SIV San Ignacio 62.20 126 LR LR 15 41 33.1
comp=Z,293nm,21.9s,baz=332,slow=35
AC06 Mina Casimiro 64.16 142 P P 15 15 29.0 -1.0
AC06 IAmb IAmb 15 15 33.0
comp=Z,14nm,1.1s
GO03 Copiap 64.41 142 P P 15 15 28.4 -3.3
GO03 IAmb IAmb 15 15 31.0

comp=Z,13nm,1.1s
NOR Nord 65.89 9 *i* P P 15 15 46.7 +6.1
NOR IAmb IAmb 15 15 48.3
comp=Z,47nm,1.6s
DAG Danmarks Havn 66.08 15 *i* P P 15 15 47.8 +5.9
DAG IAmb IAmb 15 15 49.1
comp=Z,50nm,1.4s
CPUP Villa Florida 71.55 132 P P **15 16 19.2 +2.6**
comp=Z,1.9nm,0.8s,baz=108,slow=19,SNR=3.3
CPUP Villa Florida 71.55 132 P P **15 16 15.5 -1.1**
CPUP IAmb IAmb 15 16 27.6
comp=Z,8.4nm,0.8s
PET Petropavlovsk 71.64 320 P P **15 16 16.6 -0.2**
SEY Seymchan 71.75 332 P P **15 16 17.1 -0.3**
comp=Z,1.9nm,0.8s,baz=92,slow=18,SNR=2.8
BDFB Brasilia 72.11 117 LR LR 15 51 00.9
comp=Z,260nm,19.0s,baz=307,slow=38
PETK Petropavlovsk- 72.16 321 P P **15 16 20.3 +0.3**
comp=Z,5.1nm,1.0s,baz=81,slow=15,SNR=3.6
PETK LR LR 15 42 10.1
comp=Z,122nm,20.6s,baz=62,slow=31
LC01 Cunco 72.54 150 P P **15 16 21.2 -1.1**
LC01 IAmb IAmb 15 16 39.7
comp=Z,13nm,1.1s
PLCA Paso Flores 74.62 150 P P 15 16 38.7 +4.1
comp=Z,1.1nm,1.0s,baz=36,slow=22,SNR=1.3
PLCA LR LR 15 42 57.5
comp=Z,238nm,20.2s,baz=331,slow=30
PLCA Paso Flores 74.62 150 P P **15 16 33.9 -0.7**
PLCA IAmb IAmb 15 16 52.0
comp=Z,9.9nm,1.2s
ARCES ARCESS Array B 80.37 15 P P **15 17 07.7 +1.3**
comp=Z,0.6nm,0.6s,baz=302,slow=4.1,SNR=7.0
ARCES LR LR 15 54 54.6
comp=Z,313nm,18.7s,baz=345,slow=37
ARCES ARCESS Array B 80.37 15 P P **15 17 07.0 +0.6**
NB2 NORSAR Subarra 81.86 25 P P **15 17 16.3 +1.8**
comp=Z,24nm,1.7s,baz=308,slow=5.3
NOA NORSAR Array B 81.86 25 P P **15 17 16.4 +2.0**
comp=Z,0.5nm,0.6s,baz=318,slow=5.6,SNR=2.4
NOA LR LR 15 53 21.6
comp=Z,281nm,19.7s,baz=290,slow=36
JKA Kamikawa-asahi 84.94 317 P P **15 17 31.1 +0.5**
JKA Kamikawa-asahi 84.94 317 IAmb IAmb 15 17 39.0
comp=Z,11nm,1.0s
ASAJ Asahikawa 84.94 317 P P **15 17 31.1 +0.5**
comp=Z,6.5nm,0.9s,baz=101,slow=4.2,SNR=4.0
NRIK Noril'sk 85.20 354 P P **15 17 31.8 +0.4**
comp=Z,1.6nm,0.4s,baz=86,slow=1.2,SNR=2.4
NRIK LR LR 15 59 22.6
comp=Z,302nm,18.1s,baz=34,slow=38
ESDC Sonseca Array 85.37 48 P P **15 17 35.9 +2.9**
comp=Z,0.6nm,0.8s,baz=305,slow=7.4,SNR=2.9
ESDC LR LR 15 54 37.9
comp=Z,351nm,18.1s,baz=275,slow=35
BSEG Bad Segeberg 85.85 31 *e*L L 15 55 29.3
comp=Z,644nm,20.4s
FINES FINESS Array B 86.74 20 P P **15 17 39.9 +0.7**
comp=Z,2.2nm,1.0s,baz=319,slow=4.0,SNR=2.4
FINES LR LR 15 55 43.6
comp=Z,477nm,20.7s,baz=333,slow=35
TNS Taunus Mts 87.17 35 *e*L L 15 53 25.2
comp=Z,510nm,21.3s
BFO Black Forest 88.23 36 *e*L L 15 55 21.6
comp=Z,403nm,19.1s
MOX Moxa 88.52 33 *e*L L 15 56 16.4
comp=Z,370nm,21.8s
CLL Collm 88.77 32 *e*P P **15 17 48.0 -1.1**
CLL *e*(S) **SKSac 15 28 18.0 -0.7**
CLL *e*PS **PnS 15 29 38.0 -1.5**
CLL *e*SSSS 15 41 12.0
CLL LmV 15 56 00.0
comp=Z,500nm,20.0s
CLL Collm 88.77 32 *e*L L 15 56 39.8
comp=Z,448nm,20.1s
GRF Grafenberg Arr 88.92 34 *e*P P **15 17 53.6 +3.7**
comp=Z,58nm,2.3s,baz=306,slow=4.2
GRF *e*L L 15 54 41.4
comp=Z,551nm,21.6s
FUR Furstenfeldbru 89.90 35 *e*L L 15 57 53.9
comp=Z,378nm,20.8s
WET Wettzell 90.10 34 *e*L L 15 55 27.4
comp=Z,425nm,21.5s
GEC2 GERESS Array S 90.71 34 *e*L L 15 58 38.1
comp=Z,447nm,20.1s
GERES GERESS Array B 90.71 34 LR LR 15 58 57.9
comp=Z,314nm,18.2s,baz=308,slow=36
KLMR Klimovskoe 90.85 15 *e*P P 15 18 03.7 +5.1
KLMR AMP 15 18 07.5
comp=Z,13nm,1.3s
MJAR Matsushiro Arr 91.75 312 P P **15 18 03.6 +0.2**
comp=Z,0.6nm,0.7s,baz=54,slow=5.6,SNR=2.2
MJAR LR LR 15 54 14.1
comp=Z,246nm,19.4s,baz=75,slow=32
MJAR Matsushiro Arr 91.75 312 IAmb IAmb 15 18 12.2
comp=Z,5.4nm,1.4s
MAT Matsushiro 91.75 312 P P **15 18 02.9 -0.5**
MJB9 Matsu-Tunnel 91.75 312 P P **15 18 02.2 -1.1**
MNK Minsk 92.76 23 *i* P P **15 18 11.1 +3.4**
comp=E,2.0nm,1.0s
MNK *i* P P **15 18 11.1 +3.4**
comp=N,13nm,0.8s
MNK *i* P P **15 18 11.1 +3.4**
comp=Z,6.0nm,0.8s,baz=322
MNK *i* PP PP **15 21 51.1 +2.4**
MNK *i* PPP PPP 15 23 50.1
MNK *i* S **SKSac 15 28 43.9 +2.5**
MNK *i* SS SS **15 35 25.5 +1.4**
MNK *i* SSS SSS 15 38 55.8
MNK *i* LQ LQ 15 53 51.5
MNK *i* LR LR 15 56 45.0
MNK *i* LRM MLR 15 59 22.7
comp=Z,578nm,26.7s
MNK *i* LRM MLR 15 59 24.0
comp=N,223nm,15.9s
MNK *i* LRM MLR 15 59 59.6
comp=E,68nm,24.2s
DZM Mont Dzumac 94.11 248 *e*LR LR 15 48 24.5
comp=E,465nm,26.1s
DZM Mont Dzumac 94.11 248 LR LR 15 52 23.5
comp=E,214nm,18.8s,baz=60,slow=30
AKASG Malin Array Be 96.28 25 P P **15 18 26.8 +3.0**
comp=E,0.5nm,0.4s,baz=335,slow=4.1,SNR=4.7
AKASG LR LR 16 02 25.3
comp=E,414nm,18.1s,baz=305,slow=36
KEST Kesra 96.37 46 LR LR 16 01 15.0
comp=E,236nm,18.7s,baz=303,slow=35
KSRS Korea Array 97.86 317 LR LR 15 59 46.7
comp=E,82nm,19.0s,baz=42,slow=34
XAN Xi'an 110.99 327 Pdif **Pdif 15 19 24.3 -5.6**
XAN LR LR
comp=N,230nm,23.1s
XAN LR LR
comp=E,200nm,23.1s
XAN LR LR
comp=Z,200nm,22.3s
WRA Warramunga Arr 121.38 261 PKP **PKiKP 15 23 50.2 +0.7**
comp=Z,0.4nm,0.8s,baz=90,slow=2.0,SNR=1.5
ASAR Alice Springs 122.82 257 PKP **PKiKP 15 23 52.6 +0.4**
comp=Z,0.4nm,1.0s,baz=66,slow=2.3,SNR=1.8
ASAR PKKPab PKKPbc 15 33 52.3 +8.1
comp=Z,0.7nm,0.7s,baz=257,slow=3.9,SNR=11

*IDC **13** 15:12:26.2±1.9,24.°79N×109.°30W,h0km,mb3.0/1, mb1 3.6/4,mb1mx3.4/36,mbtmp3.1/4,ML4.0/3,Error ellipse: s-maj=43.4km s-min=13.9km az=136.0*
*MEX **13** 15:12:31.3±0.4,25.°10N×109.°60W,h11km±6km,MD3.8*
ISC 13 15:12:29.2±0.9,24.°95N±0.°07×109.°47W±0.°07,h17km,n8, σ1§34/13,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.76**	**31**	*i* P		**Pb**	**15 12 43.0**	**-1.0**
TSIG				*i* S		**Sb**	**15 12 52.5**	**-1.6**
LPIG	**La Paz**	**1.13**	**222**	Pn		**Pn**	**15 12 49.9**	**-0.4**
	84nm,0.3s,baz=25,slow=3.0,SNR=34							
LPIG				Sn		**Sb**	**15 13 05.0**	**+0.1**
	96nm,0.3s,baz=225,slow=7.7,SNR=8.0							
LPIG	**La Paz**	**1.13**	**222**	*i* P		**Pn**	**15 12 50.1**	**-0.2**
LPIG				*i* S		**Sb**	**15 13 04.5**	**-0.4**
SSIG	**Sanalona**	**2.12**	**93**	*i* P		**Pn**	**15 13 05.2**	**+1.3**
SSIG				*e*S		**Sn**	**15 13 27.9**	**-2.0**
TXAR	**Lajitas Array**	**6.77**	**49**	Pn		**Pn**	**15 14 08.4**	**+0.5**
	0.2nm,0.3s,baz=222,slow=15,SNR=9.5							
TXAR				Sn		**Sn**	**15 15 24.8**	**0.0**
	1.4nm,0.3s,baz=222,slow=26,SNR=3.6							
TXAR				Lg		Lg	15 15 56.8	
	1.2nm,0.3s,baz=224,slow=23,SNR=5.0							
NVAR	**Mina Array Bea**	**15.39**	**333**	Pn		**P**	**15 16 09.2**	**-1.2**
	0.1nm,0.3s,baz=151,slow=12,SNR=3.0							
PDAR	**Pinedale Array**	**17.78**	**360**	P		**P**	**15 16 38.9**	**+2.0**
	0.4nm,0.3s,baz=178,slow=12,SNR=2.6							
ILAR	**Eielson Array**	**46.53**	**339**	P		**P**	**15 20 57.0**	**+1.5**
	0.2nm,0.8s,baz=139,slow=7.9,SNR=1.7							

*IDC **13** 15:15:07.6±2.1,24.°77N×109.°33W,h0km,mb3.3/1, mb1 3.9/5,mb1mx3.6/41,mbtmp3.5/5,ML3.3/3,Error ellipse: s-maj=45.1km s-min=15.9km az=131.0*
*MEX **13** 15:15:12.8±0.3,25.°15N×109.°66W,h14km±7km,MD4.0*
ISC 13 15:15:10.7±0.9,24.°92N±0.°06×109.°43W±0.°06,h17km,n9, σ1§39/14,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.76**	**27**	*i* P		**Pb**	**15 15 24.5**	**-1.1**
TSIG				*i* S		**Sb**	**15 15 33.5**	**-2.1**
LPIG	**La Paz**	**1.15**	**225**	Pn		**Pn**	**15 15 31.2**	**-0.8**
	82nm,0.3s,baz=22,slow=5.9,SNR=9.1							
LPIG				Sn		**Sb**	**15 15 46.2**	**-0.4**
	116nm,0.3s,baz=291,slow=23,SNR=5.9							
LPIG	**La Paz**	**1.15**	**225**	*i* P		**Pn**	**15 15 31.5**	**-0.5**
LPIG				*e*S		**Sb**	**15 15 45.8**	**-0.8**
SSIG	**Sanalona**	**2.08**	**92**	*i* P		**Pb**	**15 15 47.3**	**-0.7**
SSIG				*e*S		**Sb**	**15 16 13.4**	**-0.2**
TXAR	**Lajitas Array**	**6.75**	**48**	Pn		**Pn**	**15 16 49.6**	**+0.4**
	0.5nm,0.3s,baz=233,slow=13,SNR=1.0							
TXAR				Sn		**Sn**	**15 18 06.3**	**+0.4**
	1.6nm,0.3s,baz=221,slow=31,SNR=9.0							
TXAR				Lg		Lg	15 18 36.9	
	1.2nm,0.3s,baz=228,slow=30,SNR=1.5							
ANMO	**Albuquerque**	**10.32**	**14**	Pn		**Pn**	**15 17 40.8**	**+2.6**
	0.1nm,0.3s,baz=154,slow=6.9,SNR=3.1							
ANMO				Lg		Lg	15 20 30.2	
	0.1nm,0.3s,baz=138,slow=10,SNR=2.6							
NVAR	**Mina Array Bea**	**15.43**	**333**	Pn		**P**	**15 18 50.4**	**-1.9**
	0.1nm,0.3s,baz=155,slow=13,SNR=7.1							
PDAR	**Pinedale Array**	**17.80**	**360**	P		**P**	**15 19 20.2**	**+1.6**
	baz=179,slow=12,SNR=1.1							
ILAR	**Eielson Array**	**46.57**	**339**	P		**P**	**15 23 37.6**	**+0.3**
	0.3nm,0.5s,baz=148,slow=8.6,SNR=3.6							

*KRSC **13** 15:40:12.8±1.1,52.°45N×157.°60E,h159km±9km,ML3.6*
*IDC **13** 15:40:13.7±1.1,52.°35N×157.°67E,h151km±9km,mb3.1/7, mb1 3.5/8,mb1mx3.1/35,mbtmp3.6/8,Error ellipse: s-maj=43.7km s-min=15.3km az=148.0*
ISC 13 15:40:14.3±0.7,52.°42N±0.°05×157.°65E±0.°07,h156km±5km, n36,σ0§90/50,mb3.4/6,Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ASAK	**Asacha**	**0.16**	**104**	*e*P		**Pn**	**15 40 35.6**	**+0.2**
ASAK				*e*S		**Sn**	**15 40 53.2**	**+1.8**
GRL	**Gorelyy**	**0.29**	**63**	*e*P		**Pn**	**15 40 36.0**	**+0.3**
MTVR	**Mutnovka**	**0.33**	**79**	*e*P		**Pn**	**15 40 35.8**	**-0.1**
KRMR	**Karymshinskiy**	**0.50**	**35**	*e*P		**Pn**	**15 40 38.1**	**+1.8**
RUS	**Russkaya**	**0.53**	**88**	*e*P		**Pn**	**15 40 36.2**	**-0.3**
RUS				*e*S		**Sn**	**15 40 53.8**	**+0.4**
MIPR	**Malaya Ipel'ka**	**0.57**	**256**	*e*P		**Pn**	**15 40 36.3**	**-0.4**
MIPR				*e*S		**Sn**	**15 40 53.6**	**-0.2**
APC	**Apacha**	**0.59**	**329**	*e*P		**Pn**	**15 40 36.2**	**-0.6**
APC				*e*S		**Sn**	**15 40 52.9**	**-1.1**
KDTR	**Khodutka, Kamc**	**0.67**	**157**	*e*P		**Pn**	**15 40 36.9**	**-0.4**
KDTR				*e*S		**Sn**	**15 40 54.3**	**-0.4**
PETK	**Petropavlovsk-**	**0.69**	**2**	P		**Pn**	**15 40 36.6**	**-0.8**
	15nm,0.3s,baz=136,slow=6.4,SNR=451							
PETK				S		**Sn**	**15 40 55.2**	**0.0**
	3.5nm,0.3s,baz=240,slow=24,SNR=14							
PET	**Petropavlovsk**	**0.86**	**45**	*e*P		**Pn**	**15 40 38.3**	**-0.2**
DALK	**Dalny**	**0.91**	**47**	*e*P		**Pn**	**15 40 38.7**	**-0.2**
DALK				*e*S		**Sn**	**15 40 58.3**	**+0.6**
KOK	**Koryaka**	**1.06**	**34**	*e*P		**Pn**	**15 40 40.4**	**+0.2**
KOK				*e*S		**Sn**	**15 41 01.3**	**+1.1**
UGLR	**Uglovaya**	**1.06**	**42**	*e*P		**Pn**	**15 40 40.9**	**+0.6**
AVH	**Avacha**	**1.07**	**37**	*e*P		**Pn**	**15 40 40.5**	**+0.2**
PAU	**Pauzhetka**	**1.09**	**209**	*e*P		**Pn**	**15 40 40.7**	**+0.3**
PAU				*e*S		**Sn**	**15 41 01.8**	**+1.5**
SMAR	**Somma**	**1.09**	**39**	*e*P		**Pn**	**15 40 41.2**	**+0.5**
KRER	**Koryakskii**	**1.11**	**36**	*e*P		**Pn**	**15 40 40.8**	**0.0**
KRER				*e*S		**Sn**	**15 41 01.9**	**+0.8**
KRX	**Arik**	**1.12**	**32**	*e*P		**Pn**	**15 40 40.6**	**-0.2**
SDLR	**Sedlovina**	**1.14**	**41**	*e*P		**Pn**	**15 40 41.1**	**+0.1**
GNL	**Ganaly**	**1.29**	**8**	*e*P		**Pn**	**15 40 41.6**	**-0.7**
GNL				*e*S		**Sn**	**15 41 03.1**	**-0.8**
SPN	**Mys Shipunski**	**1.59**	**64**	*e*P		**Pn**	**15 40 44.9**	**-0.3**
SPN				*e*S		**Sn**	**15 41 07.3**	**-1.8**
SKR	**Severo-Kuril's**	**1.99**	**209**	*e*P		**Pn**	**15 40 49.8**	**+0.2**
SKR				*e*S		**Sn**	**15 41 18.1**	**+1.3**
ALID	**Alaid**	**2.03**	**221**	*e*P		**Pn**	**15 40 50.4**	**+0.1**
TUMR	**Tumrok**	**3.23**	**26**	*e*P		**Pn**	**15 41 05.7**	**+0.9**
TUMD	**Tumrok D**	**3.23**	**29**	*e*P		**Pn**	**15 41 06.7**	**+2.0**
TUMD				*e*S		**Sn**	**15 41 45.9**	**+2.0**
MKZ	**Mys Kozlova**	**3.24**	**47**	*e*P		**Pn**	**15 41 04.0**	**-0.8**
KMNR	**Kamenistaya**	**3.67**	**23**	*e*P		**Pn**	**15 41 11.6**	**+1.1**
KBTR	**Krutoberegovo**	**4.85**	**37**	*e*P		**Pn**	**15 41 24.7**	**-1.0**
USRK	**Ussuriysk Ar.**	**18.87**	**254**	P		**P**	**15 44 23.0**	**+0.6**
	baz=44,slow=14,SNR=1.9							
MJAR	**Matsushiro Arr**	**20.98**	**228**	P		**P**	**15 44 44.0**	**-1.1**
	1.0nm,0.7s,baz=30,slow=11,SNR=4.8							
ILAR	**Eielson Array**	**30.34**	**44**	P		**P**	**15 46 09.9**	**-0.8**
	0.6nm,0.7s,baz=268,slow=7.2,SNR=10							
SONM	**Songino Array**	**32.61**	**283**	P		**P**	**15 46 31.1**	**+0.1**
	0.2nm,0.5s,baz=116,slow=3.4,SNR=1.9							
NVAR	**Mina Array Bea**	**57.37**	**68**	P		**P**	**15 49 47.4**	**+1.1**
	0.4nm,0.5s,baz=302,slow=7.3,SNR=4.1							
PDAR	**Pinedale Array**	**59.14**	**59**	P		**P**	**15 49 59.0**	**+0.5**
	0.7nm,0.6s,baz=336,slow=3.3,SNR=4.4							
TXAR	**Lajitas Array**	**72.27**	**65**	P		**P**	**15 51 22.6**	**0.0**
	0.2nm,0.3s,baz=303,slow=5.2,SNR=4.8							
WRA	**Warramunga Arr**	**74.87**	**203**	P		**P**	**15 51 36.8**	**-0.7**
	0.4nm,1.0s,baz=23,slow=6.4,SNR=1.5							

*IDC **13** 15:43:24.5±1.3,23.°07N×96.°23E,h0km,mb3.7/6, mb1 3.9/7,mb1mx3.6/38,mbtmp3.7/7,ML4.1/1,MS3.0/1, Ms1 3.2/1,ms1mx2.7/29,Error ellipse: s-maj=63.4km s-min=14.8km az=63.0*
*NEIC **13** 15:43:29.1±2.2,23.°0N±0.°1×96.°0E±0.°1,h35km±2km, mb4.2/9,Error ellipse: s-maj=25.1km s-min=11.1km az=231.0*
ISC 13 15:43:28.5±0.7,22.°95N±0.°09×96.°0E±0.°1,h32km,n33, σ1§10/33,mb3.8/9,Myanmar

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**4.54**	**306**	Pn		**Pn**	**15 44 34.8**	**-0.4**
CHTO	**Chiang Mai**	**4.97**	**145**			**Pn**	**15 44 39.7**	**-1.4**
CMMT	**Chiang Mai**	**4.98**	**145**	P		**Pn**	**15 44 40.0**	**-1.1**
MHMT	**Maesarieng**	**5.10**	**158**	P		**Pn**	**15 44 40.0**	**-2.8**
MHMT				Pg		**Pb**	**15 44 58.5**	**+1.4**
PAYA	**Payao**	**5.11**	**134**	P		**Pn**	**15 44 42.1**	**-0.8**
CM31	**Chiang Mai Arr**	**5.27**	**147**	Pn		**Pn**	**15 44 44.3**	**-0.9**
CMAR	**Chiang Mai Arr**	**5.27**	**147**	Pn		**Pn**	**15 44 44.5**	**-0.7**
	1.6nm,0.3s,baz=324,slow=13,SNR=43							
CMAR				Pg		**Pb**	**15 45 01.6**	**+1.6**
	4.3nm,0.3s,baz=325,slow=17,SNR=19							
CMAR				Lg		Lg	15 46 10.6	
	6.4nm,0.3s,baz=322,slow=29,SNR=8.9							
CMAR				LR		LR	15 47 01.6	
	comp=Z,140nm,19.8s,baz=80,slow=41							
CMAR	**Chiang Mai Arr**	**5.27**	**147**	Pn		**Pn**	**15 44 44.1**	**-1.0**
CM09	**Chiang Mai Arr**	**5.31**	**147**	P		**Pn**	**15 44 44.9**	**-0.8**
CM05	**Chiang Mai Arr**	**5.32**	**148**	P		**Pn**	**15 44 44.9**	**-0.9**
LAMP	**Lampang**	**5.59**	**141**	P		**Pn**	**15 44 49.8**	**+0.3**
PBKT	**Sadao Pong**	**7.91**	**143**	Pn		**Pn**	**15 45 20.0**	**-1.3**
LSA	**Lhasa**	**7.98**	**328**	Pn		**Pn**	**15 45 23.5**	**+0.7**
BOOM	**Boomskoye usch**	**25.64**	**324**	P		**P**	**15 48 56.7**	**+1.3**
SONM	**Songino Array**	**26.19**	**16**	P		**P**	**15 48 60.0**	**-0.4**
	0.4nm,0.5s,baz=216,slow=7.1,SNR=2.1							
SONM	**Songino Array**	**26.19**	**16**	P		**P**	**15 48 59.0**	**-1.3**
MK31	**Makanchi Array**	**26.22**	**338**	P		**P**	**15 49 00.8**	**+0.4**
MK31					IAmb	IAmb	15 49 01.7	
	comp=Z,3.9nm,1.2s							
MKAR	**Makanchi Array**	**26.22**	**338**	P		**P**	**15 49 01.0**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=149,slow=10,SNR=13							
MKAR	**Makanchi Array**	**26.22**	**338**	P		**P**	**15 49 01.5**	**+1.1**
AAK	**Ala-Archa**	**26.53**	**323**	P		**P**	**15 49 04.6**	**+1.2**
	comp=Z,0.8nm,0.3s,baz=155,slow=15,SNR=4.9							
AAK	**Ala-Archa**	**26.53**	**323**	IAmb		IAmb	15 49 05.7	
	comp=Z,3.8nm,0.9s							
GAR	**Garm**	**27.06**	**312**	P		**P**	**15 49 08.6**	**+0.3**
KKAR	**Karatay Array**	**29.12**	**320**	P		**P**	**15 49 26.3**	**-0.2**
USA0B	**Ussuriysk Arra**	**36.34**	**46**	P		**P**	**15 50 28.4**	**-1.0**
USA0B				IAmb		IAmb	15 50 56.1	
	comp=Z,4.8nm,1.1s							
USRK	**Ussuriysk Ar.**	**36.34**	**46**	P		**P**	**15 50 28.3**	**-1.1**
ABKAR	**Akbulak array**	**38.61**	**322**	P		**P**	**15 50 48.8**	**+0.2**
TIXI	**Tiksi**	**52.20**	**13**	P		**P**	**15 52 34.9**	**-0.9**
TIXI				IAmb		IAmb	15 52 41.8	
	comp=Z,3.9nm,0.8s							
WRA	**Warramunga Arr**	**56.75**	**136**	P		**P**	**15 53 09.6**	**0.0**
	comp=Z,0.7nm,0.8s,baz=306,slow=6.0,SNR=5.7							
WRA	**Warramunga Arr**	**56.75**	**136**	IAmb		IAmb	15 53 17.6	
	comp=Z,0.5nm,1.4s							
ASAR	**Alice Springs**	**59.22**	**139**	P		**P**	**15 53 27.2**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=322,slow=7.2,SNR=9.5							
BMAR	**Burnt Mountain**	**79.47**	**20**	P		**P**	**15 55 33.1**	**+1.5**
RSO	**Redoubt South**	**80.15**	**28**	P		**P**	**15 55 36.7**	**+1.1**
ILAR	**Eielson Array**	**80.21**	**23**	P		**P**	**15 55 35.0**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=286,slow=4.6,SNR=4.3							

MEX 13 15:56:08.2±0.6,18.°13N×103.°39W,h16km±5km,MD3.5,1D, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.16**	**16**	*i* P		Pg	15 56 11.9	-0.5
MMIG				*i* S		Sg	15 56 14.4	-0.7
COIG	**Colima**	**1.08**	**345**	↓*i* P		Pb	15 56 24.8	-3.8
COIG				*i* S		Sb	15 56 38.3	-4.3
R15V		**1.17**	**332**	*i* P		Pn	15 56 26.6	-3.5
R15V				*i* S		Sb	15 56 40.6	-4.6
EZ5V		**1.35**	**352**	*e*P		Pn	15 56 30.2	-2.6
EZ5V				*e*S		Sn	15 56 47.5	-3.1

MEX 13 15:56:44.1±0.4,24.°91N×109.°49W,h12km±5km,MD3.8, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.80**	**31**	*e*P		Pg	15 56 57.3	-2.4
TSIG				*i* S		Sg	15 57 07.4	-2.8
LPIG	**La Paz**	**1.09**	**223**	*i* P		Pb	15 57 01.1	-3.8
LPIG				*i* S		Sb	15 57 15.0	-4.1
SSIG	**Sanalona**	**2.14**	**92**	*i* P		Pn	15 57 16.3	-3.3
SSIG				*i* S		Sb	15 57 48.1	-1.2

*NEIC **13** 16:18:31.7±1.6,16.°26S±0.°08×72.°64W±0.°10,h74km±6km, mb4.7/57,ML4.5(ARE),Error ellipse: s-maj=14.9km s-min=10.0km az=58.0*
*ARE **13** 16:18:33.8±1.7,16.°36S±0.°08×72.°7W±0.°1,h74km±5km, Error ellipse: s-maj=15.1km s-min=9.3km az=57.0*
*IDC **13** 16:18:33.8±1.6,16.°20S×72.°60W,h94km±14km,mb3.7/6, mb1 4.0/10,mb1mx3.7/30,mbtmp4.1/10,MS2.6/1, Ms1 2.6/1,ms1mx2.3/21,Error ellipse: s-maj=20.9km s-min=11.1km az=32.0*
ISC 13 16:18:31.1±0.4,16.°37S±0.°05×72.°68W±0.°07,h76km,n130, σ1§47/136,mb4.6/34,10D,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**3.00**	**132**	*e*P		**Pn**	**16 19 19.1**	**+2.8**
AP01				*i* S		**Sn**	**16 19 52.2**	**+1.1**
AP01				IAML			16 20 13.2	
	comp=E,5μm,0.2s							
AP01	**Chacalluta**	**3.00**	**132**			**Pn**	**16 19 19.0**	**+2.7**
AP01	**Chacalluta**	**3.00**	**132**	*e*P		**Pn**	**16 19 19.1**	**+2.8**
AP01				*i* S		**Sn**	**16 19 52.2**	**+1.1**
AP01				IAML			16 20 13.2	
	comp=E,5μm,0.2s							
PSGC	**Pisagua**	**4.03**	**143**	↓*i* P		**Pn**	**16 19 32.2**	**+1.7**
PSGC				*i* S		**Sn**	**16 20 15.4**	**-1.3**
PSGC				IAML			16 20 19.8	
	comp=E,553nm,0.5s							
PSGC	**Pisagua**	**4.03**	**143**	↓*i* P		**Pn**	**16 19 32.2**	**+1.7**
PSGC				*i* S		**Sn**	**16 20 15.4**	**-1.3**
PSGC				IAML			16 20 19.8	
	comp=E,553nm,0.5s							
PSGCX	**Pisagua**	**4.03**	**143**	Pn		**Pn**	**16 19 32.1**	**+1.6**
LPAZ	**La Paz**	**4.37**	**90**	P		**Pn**	**16 19 39.2**	**+3.5**
	comp=E,4.3nm,0.3s,baz=272,slow=9.6,SNR=82							
LPAZ				S		**Sn**	**16 20 28.2**	**+2.6**
	comp=E,2.1nm,0.3s,baz=240,slow=17,SNR=1.3							
LPAZ	**La Paz**	**4.37**	**90**	Pn		**Pn**	**16 19 39.8**	**+4.2**
LPAZ	**La Paz**	**4.37**	**90**	*e*P		**Pn**	**16 19 39.8**	**+4.2**
PB11	**IPOC Station P**	**4.44**	**140**	↓*i* P		**Pn**	**16 19 37.7**	**+1.5**
PB11				*i* S		**Sn**	**16 20 25.8**	**-0.9**
PB11	**IPOC Station P**	**4.44**	**140**	Pn		**Pn**	**16 19 37.7**	**+1.5**
PB11	**IPOC Station P**	**4.44**	**140**	↓*i* P		**Pn**	**16 19 37.7**	**+1.5**
PB11				*i* S		**Sn**	**16 20 25.8**	**-0.9**
TA02	**Huaiquique**	**4.58**	**148**	*i* S		**Sn**	**16 20 28.2**	**-1.6**
TA02	**Huaiquique**	**4.58**	**148**			**Pn**	**16 19 39.5**	**+1.6**
TA02	**Huaiquique**	**4.58**	**148**	*i* S		**Sn**	**16 20 28.2**	**-1.6**
HMBC	**Humberstone**	**4.71**	**146**	↓*i* P		**Pn**	**16 19 41.6**	**+1.7**
HMBC				*i* S		**Sn**	**16 20 32.0**	**-1.3**
HMBC	**Humberstone**	**4.71**	**146**	↓*i* P		**Pn**	**16 19 41.6**	**+1.7**
HMBC				*i* S		**Sn**	**16 20 32.0**	**-1.3**
TA01	**Diego Aracena**	**4.80**	**151**	↓*i* P		**Pn**	**16 19 42.4**	**+1.4**
TA01				*i* S		**Sn**	**16 20 32.9**	**-2.5**
TA01	**Diego Aracena**	**4.80**	**151**	Pn		**Pn**	**16 19 42.3**	**+1.4**
TA01	**Diego Aracena**	**4.80**	**151**	↓*i* P		**Pn**	**16 19 42.4**	**+1.4**
TA01				*i* S		**Sn**	**16 20 32.9**	**-2.5**
PB08	**IPOC Station P**	**5.04**	**139**	↓*i* P		**Pn**	**16 19 46.5**	**+1.9**
PB08				*i* S		**Sn**	**16 20 41.2**	**-0.3**
PB08	**IPOC Station P**	**5.04**	**139**			**Pn**	**16 19 46.4**	**+1.9**
PB08	**IPOC Station P**	**5.04**	**139**	↓*i* P		**Pn**	**16 19 46.5**	**+1.9**

BDFB	**Brasilia**	**23.72**	**92**	P	**P**	**16 23 36.1**	**-0.5**
PLCA	**Paso Flores**	**24.35**	**176**	P	**P**	**16 23 44.3**	**+2.3**
	comp=E,5.7nm,1.0s,baz=337,slow=10,SNR=8.9						
PLCA	**Paso Flores**	**24.35**	**176**	P	**P**	**16 23 42.8**	**+0.8**
SJCC	**San Jacinto, C**	**26.21**	**354**	P	**P**	**16 23 59.1**	**+0.1**
LRAL	**Lakeview Retre**	**50.99**	**344**	P	**P**	**16 27 24.2**	**-1.0**
LRAL				IAmb	IAmb	16 27 26.5	
	comp=Z,6.7nm,1.1s						
Z47A	**Carrollton**	**51.43**	**343**	P	**P**	**16 27 27.7**	**-0.8**
Z47A				IAmb	IAmb	16 27 28.5	
	comp=Z,9.7nm,0.7s						
V52A	**Sevierville**	**52.94**	**349**	P	**P**	**16 27 38.4**	**-1.3**
V52A				IAmb	IAmb	16 27 40.5	
	comp=Z,9.9nm,1.1s						
T59A	**Double "B" Far**	**53.25**	**355**	P	**P**	**16 27 41.8**	**-0.1**
WLAR	**White Oak Lake**	**53.45**	**339**	P	**P**	**16 27 42.1**	**-1.4**
WHTX	**Lake Whitney,**	**53.63**	**334**	P	**P**	**16 27 45.0**	**+0.2**
T50A	**Nancy**	**54.32**	**348**	P	**P**	**16 27 49.3**	**-0.5**
T50A				IAmb	IAmb	16 27 56.4	
	comp=Z,4.2nm,1.1s						
MIAR	**Mount Ida**	**54.39**	**339**	P	**P**	**16 27 50.2**	**-0.1**
MIAR				IAmb	IAmb	16 27 50.7	
	comp=Z,5.2nm,0.8s						
TX31	**Lajitas Ar. Si**	**54.40**	**326**	P	**P**	**16 27 50.2**	**-0.4**
TX31				IAmb	IAmb	16 28 07.2	
	comp=Z,5.4nm,1.1s						
TX32	**Lajitas Array**	**54.40**	**326**	P	**P**	**16 27 50.0**	**-0.6**
TXAR	**Lajitas Array**	**54.40**	**326**	P	**P**	**16 27 50.3**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=156,slow=10,SNR=7.7						
X37A	**Clayton**	**55.08**	**337**	P	**P**	**16 27 55.1**	**-0.2**
X37A				IAmb	IAmb	16 27 56.6	
	comp=Z,6.0nm,0.8s						
S44A	**Carbondale**	**55.98**	**344**	P	**P**	**16 28 00.2**	**-1.5**
S44A				IAmb	IAmb	16 28 01.6	
	comp=Z,9.8nm,0.8s						
SIUC	**Southern Illin**	**55.99**	**344**	P	**P**	**16 28 00.5**	**-1.2**
MNTX	**Cornudas Mount**	**57.17**	**327**	P	**P**	**16 28 09.7**	**-0.6**
S39A	**Bolivar**	**57.17**	**341**	P	**P**	**16 28 09.4**	**-0.7**
S39A				IAmb	IAmb	16 28 10.2	
	comp=Z,3.8nm,0.8s						
R40A	**Maddies Statio**	**57.39**	**342**	P	**P**	**16 28 10.5**	**-1.2**
R40A				IAmb	IAmb	16 28 11.0	
	comp=Z,4.0nm,0.7s						
M57A	**Sunshine Farm,**	**57.56**	**356**	P	**P**	**16 28 12.9**	**+0.1**
M57A				IAmb	IAmb	16 28 23.6	
	comp=Z,15nm,1.2s						
T35A	**Sooner Cattle**	**57.57**	**337**	P	**P**	**16 28 12.6**	**-0.3**
T35A				IAmb	IAmb	16 28 15.1	
	comp=Z,11nm,1.1s						
KSPA	**Keystone Colle**	**57.70**	**357**	P	**P**	**16 28 13.6**	**-0.1**
BRYW	**Bryant College**	**58.00**	**1**	P	**P**	**16 28 15.4**	**-0.5**
L59A	**Walton**	**58.30**	**358**	P	**P**	**16 28 17.8**	**-0.2**
BINY	**Binghamton**	**58.35**	**357**	P	**P**	**16 28 18.0**	**-0.3**
L56A	**Greenwood**	**58.38**	**356**	P	**P**	**16 28 18.4**	**-0.2**
K57A	**Scipio Center**	**58.91**	**357**	P	**P**	**16 28 22.0**	**-0.2**
J59A	**Piesco**	**59.56**	**358**	P	**P**	**16 28 26.5**	**-0.2**
J59A				IAmb	IAmb	16 28 28.1	
	comp=Z,10nm,1.0s						
NCB	**Newcomb**	**60.06**	**359**	P	**P**	**16 28 28.9**	**-1.2**
NCB				IAmb	IAmb	16 28 40.4	
	comp=Z,15nm,1.2s						
G62A	**West of Eustis**	**61.32**	**2**	P	**P**	**16 28 38.5**	**-0.1**
G62A				IAmb	IAmb	16 28 40.5	
	comp=Z,14nm,1.1s						
G65A	**Princeton**	**61.45**	**4**	P	**P**	**16 28 39.2**	**-0.2**
G65A				IAmb	IAmb	16 28 48.5	
	comp=Z,13nm,1.1s						
SDCO	**Great Sand Dun**	**62.04**	**331**	P	**P**	**16 28 43.4**	**-0.7**
SDCO				IAmb	IAmb	16 28 45.5	
	comp=Z,2.9nm,0.8s						
F64A	**Sherman**	**62.06**	**3**	P	**P**	**16 28 43.8**	**+0.3**
F64A				IAmb	IAmb	16 28 56.1	
	comp=Z,11nm,1.2s						
LMN	**Caledonia Moun**	**62.33**	**6**	P	**P**	**16 28 44.8**	**-0.6**
D62A	**Allapoint, All**	**63.24**	**3**	P	**P**	**16 28 50.9**	**-0.5**
D62A				IAmb	IAmb	16 28 52.6	
	comp=Z,4.7nm,0.8s						
BATG	**Bathurst New B**	**63.62**	**5**	P	**P**	**16 28 53.9**	**-0.1**
BATG				IAmb	IAmb	16 28 55.0	
	comp=Z,15nm,1.3s						
ECSD	**EROS Data Cent**	**63.70**	**341**	P	**P**	**16 28 53.9**	**-0.7**
ECSD				IAmb	IAmb	16 28 54.7	
	comp=Z,4.1nm,0.8s						
D41A	**Chassel**	**64.73**	**348**	P	**P**	**16 29 00.4**	**-0.7**
F36A	**Milaca**	**64.75**	**344**	P	**P**	**16 29 00.5**	**-0.8**
F36A				IAmb	IAmb	16 29 18.4	
	comp=Z,13nm,1.4s						
VNA3	**Neumayer Olymp**	**66.05**	**162**	sP	sP	16 29 37.9	+0.2
EYMN	**Ely**	**66.19**	**346**	P	**P**	**16 29 09.8**	**-0.9**
EYMN				IAmb	IAmb	16 29 37.0	
	comp=Z,9.8nm,1.2s						
VNA2	**Neumayer--Watz**	**66.65**	**161**	P	**P**	**16 29 14.1**	**+0.8**
DRLN	**Deer Lake**	**66.70**	**11**	P	**P**	**16 29 13.1**	**-0.7**
R11A	**Troy Canyon, C**	**67.67**	**325**	P	**P**	**16 29 22.0**	**+1.5**
NVAR	**Mina Array Bea**	**69.27**	**323**	P	**P**	**16 29 30.7**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=160,slow=5.9,SNR=5.8						
PAHR	**Pah Rah Range**	**70.75**	**324**	P	**P**	**16 29 40.9**	**+1.5**
PAHR				IAmb	IAmb	16 29 42.1	
	comp=Z,4.3nm,0.8s						
ORV	**Oroville**	**71.88**	**322**	P	**P**	**16 29 47.2**	**+1.1**
ORV				IAmb	IAmb	16 29 49.3	
	comp=Z,6.4nm,1.1s						
MOD	**Modoc Plateau**	**72.74**	**325**	P	**P**	**16 29 51.4**	**+0.1**
QSPA	**South Pole Qui**	**73.80**	**180**	P	**P**	**16 29 59.3**	**+2.1**
HUMO	**Hull Mountain**	**74.69**	**324**	P	**P**	**16 30 02.9**	**+0.3**
HUMO				IAmb	IAmb	16 30 23.6	
	comp=Z,11nm,1.4s						
WALA	**Waterton Lakes**	**74.69**	**333**	P	**P**	**16 30 03.3**	**+0.7**
WALA				IAmb	IAmb	16 30 30.4	
	comp=Z,5.8nm,1.2s						
EDM	**Edmonton**	**77.64**	**336**	P	**P**	**16 30 18.7**	**-0.4**
EDM				IAmb	IAmb	16 30 19.8	
	comp=Z,12nm,1.1s						
TORD	**Torodi Ar. Bea**	**79.13**	**73**	P	**P**	**16 30 27.4**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=265,slow=6.3,SNR=7.8						
TORD	**Torodi Ar. Bea**	**79.13**	**73**	P	**P**	**16 30 27.5**	**-0.6**
YKA	**Yellowknife Ar**	**85.20**	**342**	P	**P**	**16 30 58.7**	**0.0**
	comp=Z,1.7nm,0.7s,baz=128,slow=5.6,SNR=4.4						
H11N3	**WAKE ISLAND Hyl**	**23.48**	**283**	T	T	18 53 16.5	
	baz=93						
H11N2	**WAKE ISLAND Hyl**	**23.50**	**283**	T	T	18 53 14.2	
	baz=93						
H11N1	**WAKE ISLAND Hyl**	**23.50**	**283**	T	T	18 53 11.1	
	baz=93						
H11S2	**WAKE ISLAND Hyl**	**23.52**	**282**	T	T	18 53 08.0	
	baz=99,slow=75,SNR=7.6						
H11S1	**WAKE ISLAND Hyl**	**23.53**	**282**	T	T	18 53 10.3	
	baz=99,slow=75,SNR=12						
H11S3	**WAKE ISLAND Hyl**	**23.53**	**282**	T	T	18 53 09.8	
	baz=99,slow=75,SNR=7.2						
ASAR	**Alice Springs**	**132.48**	**214**	PKP	**PKPdf**	**16 37 37.9**	**+0.2**
	comp=Z,0.4nm,0.9s,baz=151,slow=1.9,SNR=1.5						
MKAR	**Makanchi Array**	**143.24**	**29**	PKP	PKPbc	16 37 54.4	+0.6
	comp=Z,0.4nm,0.8s,baz=320,slow=3.8,SNR=2.7						
KSH	**Kashi**	**144.26**	**44**	PKP	**PKPab**	**16 37 56.8**	**0.0**
USRK	**Ussuriysk Ar.**	**145.28**	**328**	PKPbc	**PKPab**	**16 38 00.3**	**0.0**
	comp=Z,1.2nm,0.7s,baz=47,slow=8.5,SNR=5.0						
MJAR	**Matsushiro Arr**	**146.04**	**312**	PKPbc	**PKPbc**	**16 38 02.6**	**-0.2**
	comp=Z,2.2nm,1.0s,baz=85,slow=4.6,SNR=6.3						
MJAR	**Matsushiro Arr**	**146.04**	**312**		**PKPbc**	**16 38 02.9**	**+0.1**
MAT	**Matsushiro**	**146.04**	**312**	PKP	**PKPab**	**16 38 03.3**	**-0.1**
SONM	**Songino Array**	**148.61**	**1**	PKPbc	**PKPbc**	**16 38 10.3**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=330,slow=2.1,SNR=13						
KSRS	**Korea Array**	**152.21**	**323**	PKPbc	**PKiKP**	**16 38 19.4**	**+0.7**
	comp=Z,1.4nm,0.9s,baz=352,slow=2.5,SNR=5.4						

*NIC **13** 16:36:38.2±0.0,35°.22N×32°.76E,h50km±2km, MI2.7/6*
*ISK **13** 16:36:38.2,35°.13N×32°.75E,h53km± 1km, ML2.8/14*
*DDA **13** 16:36:39.8,35°.34N×32°.78E,h25km±3km, ML2.0*
*GII **13** 16:36:41.1±0.0,34°.99N×32°.91E, h40km, MD2.4/1, Mm2.5/4*

ISC 13 16:36:38.8±1.2,**35°.08N**±0°.03×**32°.72E**±0°.04,**h55**km±6km, **n51**,σ0**95**/75,**Cyprus region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALFC	**Alefka**	**0.13**	**307**	P	**Pn**	**16 36 46.6**	**-0.8**
ALFC				S	**Sn**	**16 36 52.3**	**-1.3**
ALFC				AML	AML	16 36 52.9	
	3.3nm,0.2s						
ALFC				AML	AML	16 36 52.9	
	3.3nm,0.2s						
ALFC				AML	AML	16 36 53.8	
	2.8nm,0.1s						
ALFC				AML	AML	16 36 53.8	
	2.8nm,0.1s						
LEF	**Lefka**	**0.14**	**74**	*i* P	**Pn**	**16 36 46.5**	**-0.9**
LEF				IAML		16 36 54.0	
	comp=E,146nm,0.5s						
LEF	**Lefka**	**0.14**	**74**	PG	**Pn**	**16 36 46.8**	**-0.6**
AKDN	**Akdeniz- Kıbrı**	**0.30**	**43**	PG	**Pn**	**16 36 48.3**	**-0.1**
AKMS	**Akamas**	**0.32**	**259**	P	**Pn**	**16 36 48.4**	**-0.2**
AKMS				S	**Sn**	**16 36 56.3**	**+0.5**
AKMS				AML	AML	16 36 58.6	
	comp=E,3.0nm,0.2s						
AKMS				AML	AML	16 36 58.6	
	comp=E,3.0nm,0.2s						
AKMS				AML	AML	16 36 59.6	
	comp=E,2.8nm,0.3s						
AKMS				AML	AML	16 36 59.6	
	comp=E,2.8nm,0.3s						
NATA	**Nata**	**0.33**	**203**	P	**Pn**	**16 36 49.0**	**+0.3**
NATA				S	**Sn**	**16 36 57.8**	**+2.1**
SZAC	**Souni**	**0.35**	**158**	P	**Pn**	**16 36 49.0**	**0.0**
SZAC				S	**Sn**	**16 36 57.9**	**+1.7**
SZAC				AML	AML	16 37 00.3	
	comp=E,1.3nm,0.2s						
SZAC				AML	AML	16 37 00.3	
	comp=E,1.3nm,0.2s						
SZAC				AML	AML	16 37 00.4	
	comp=E,1.3nm,0.2s						
SZAC				AML	AML	16 37 00.4	
	comp=E,1.3nm,0.2s						
CSS	**Mathiatis**	**0.51**	**103**	PG	**Pn**	**16 36 49.9**	**-0.7**
CSS				SG	**Sn**	**16 36 59.1**	**0.0**
CSS	**Mathiatis**	**0.51**	**103**	P	**Pn**	**16 36 50.2**	**-0.4**
CSS				S	**Sn**	**16 36 58.7**	**-0.4**
CSS				AML	AML	16 36 59.3	
	comp=E,0.4nm,0.6s						
CSS				AML	AML	16 36 59.3	
	comp=E,0.4nm,0.6s						
CSS				AML	AML	16 36 59.8	
	comp=E,0.4nm,0.4s						
CSS				AML	AML	16 36 59.8	
	comp=E,0.4nm,0.4s						
ASGA	**Asgata**	**0.52**	**124**	P	**Pn**	**16 36 50.4**	**-0.3**
ASGA				S	**Sn**	**16 37 00.0**	**+0.8**
ASGA				AML	AML	16 37 00.7	
	comp=E,0.8nm,0.2s						
ASGA				AML	AML	16 37 00.7	
	comp=E,0.8nm,0.2s						
ATHAL	**Athalassa**	**0.56**	**84**	P	**Pn**	**16 36 51.0**	**0.0**
ATHAL				S	**Sn**	**16 37 00.3**	**+0.5**
ATHAL				AML	AML	16 37 01.3	
	comp=E,2.5nm,0.4s						
ATHAL				AML	AML	16 37 01.3	
	comp=E,2.5nm,0.4s						
ATHAL				AML	AML	16 37 02.6	
	comp=E,1.9nm,0.4s						
ATHAL				AML	AML	16 37 02.6	
	comp=E,1.9nm,0.4s						
AKIN	**Akıncılar- Kıb**	**0.61**	**96**	PG	**Pn**	**16 36 51.8**	**+0.1**
LFK	**Lefkose**	**0.69**	**73**	PG	**Pn**	**16 36 52.2**	**-0.5**
MVOU	**Mavrovouni**	**0.75**	**95**	P	**Pn**	**16 36 53.2**	**-0.2**
MVOU				S	**Sn**	**16 37 04.3**	**+0.3**
TEKE	**Tekeli-Mersin**	**1.11**	**17**	PG	**Pn**	**16 36 57.5**	**-0.6**
TEKE				SG	**Sn**	**16 37 11.3**	**-1.1**
GAZI	**Gazipasa**	**1.20**	**344**	*i* P	**Pn**	**16 36 58.3**	**-1.0**
GAZI				*i* S	**Sn**	**16 37 12.8**	**-1.8**
GAZI				IAML		16 37 17.0	
	comp=E,41nm,0.4s						
GAZI	**Gazipasa**	**1.20**	**344**	PN	**Pn**	**16 36 58.9**	**-0.4**
AKK2	**Akkuyu-Mersin**	**1.25**	**32**	PN	**Pn**	**16 36 59.1**	**-0.9**
AKK1	**Akkuyu-Mersin**	**1.25**	**32**	PN	**Pn**	**16 36 59.3**	**-0.7**
EREN	**Erenkoy**	**1.27**	**69**	*i* P	**Pn**	**16 37 00.5**	**+0.3**
EREN				IAML		16 37 19.0	
	comp=N,28nm,0.3s						
EREN				IAML		16 37 20.0	
	comp=E,40nm,0.6s						
EREN	**Erenkoy**	**1.27**	**69**	PN	**Pn**	**16 37 00.1**	**-0.1**
AKKU	**Akkuyu-Mersin**	**1.27**	**32**	PN	**Pn**	**16 36 59.7**	**-0.6**
GULN	**MERSIN_Gulnar**	**1.29**	**31**	*i* P	**Pn**	**16 36 59.7**	**-0.8**
GULN				*i* S	**Sn**	**16 37 15.3**	**-1.5**
GULN				IAML		16 37 17.0	
	comp=E,32nm,0.4s						
BERE	**Bereket-Mersin**	**1.33**	**18**	PN	**Pn**	**16 37 00.8**	**-0.4**
TISA	**Tisan-Mersin**	**1.33**	**36**	PN	**Pn**	**16 37 00.4**	**-0.7**
YESI	**Yesilovacik-Me**	**1.34**	**34**	PN	**Pn**	**16 37 00.2**	**-1.0**
IKL	**Isikli**	**1.40**	**34**	PN	**Pn**	**16 37 01.6**	**-0.4**
TEVE	**Tevekalti-Mers**	**1.47**	**23**	PN	**Pn**	**16 37 02.7**	**-0.4**
KEBE	**Keben-Mersin**	**1.58**	**30**	PN	**Pn**	**16 37 04.3**	**-0.3**
SILI	**Silifke-Mersin**	**1.61**	**37**	PN	**Pn**	**16 37 04.7**	**-0.2**
SLFK	**Silifke-Mersin**	**1.65**	**37**	PN	**Pn**	**16 37 05.0**	**-0.3**
KIZK	**Mersin**	**1.81**	**39**	*i* P	**Pn**	**16 37 07.5**	**-0.1**
KIZK				*i* S	**Sn**	**16 37 38.9**	**-0.6**
KIZK				IAML		16 37 32.0	
	comp=N,25nm,0.3s						
KIZK				IAML		16 37 33.0	
	comp=E,28nm,0.3s						
KIZK	**Mersin**	**1.81**	**39**	PN	**Pn**	**16 37 07.5**	**-0.1**
KEPZ	**Antalya-Kepez**	**2.03**	**334**	*i* P	**Pn**	**16 37 10.4**	**-0.2**
KEPZ				*i* S	**Sn**	**16 37 34.1**	**-0.8**
KKBE	**Karaman, Kazim**	**2.14**	**5**	*i* P	**Pn**	**16 37 13.4**	**+1.2**
KKBE				*i* S	**Sn**	**16 37 39.5**	**+1.8**
AKUM	**Antalya-Kumluc**	**2.30**	**303**	*i* P	Pn	16 37 18.2	+4.0
AKUM				*i* S	Sn	16 37 47.9	+6.5
AKUM				IAML		16 37 55.0	
	comp=E,16nm,0.9s						
AKUM				IAML		16 37 55.0	
	comp=N,19nm,0.7s						
MERS	**Mersin**	**2.31**	**39**	PN	**Pn**	**16 37 14.5**	**+0.1**
SEYD	**Seydisehir-KON**	**2.43**	**343**	PN	**Pn**	**16 37 16.4**	**+0.3**
SEDI	**Konya, Seydise**	**2.49**	**342**	*i* P	**Pn**	**16 37 16.8**	**-0.2**
KERG	**Konya-Eregli**	**2.59**	**26**	*i* P	**Pn**	**16 37 19.8**	**+1.4**
KERG				*i* S	**Sn**	**16 37 52.1**	**+3.4**
GULE	**Gulek**	**2.76**	**36**	*i* P	**Pn**	**16 37 22.5**	**+1.9**
GULE				*i* S	**Sn**	**16 37 53.8**	**+1.0**
HNTI	**Hanita**	**2.85**	**134**	Pn	**Pn**	**16 37 21.7**	**-0.1**
HNTI				Sn	**Sn**	**16 37 53.6**	**-1.3**
GEM	**Giv'at Ha'Em**	**3.07**	**127**	Pn	**Pn**	**16 37 24.9**	**+0.1**
GEM				Sn	**Sn**	**16 37 58.6**	**-1.7**
NATI	**Neve Ativ**	**3.09**	**125**	Pn	**Pn**	**16 37 25.5**	**+0.5**
NATI				Sn	**Sn**	**16 37 58.8**	**-1.9**
OFRI	**`Ofer**	**3.09**	**142**	Pn	**Pn**	**16 37 24.8**	**-0.4**
OFRI				Sn	**Sn**	**16 37 59.3**	**-1.6**
TAHT	**Tahtakopru-Hat**	**3.10**	**64**	PN	**Pn**	**16 37 25.9**	**+0.7**
MMLI	**Mount Malkishu**	**3.46**	**139**	Pn	**Pn**	**16 37 30.9**	**+0.6**
MMLI				Sn	**Sn**	**16 38 09.6**	**-0.5**
HMDT	**Nahal Hemdat**	**3.66**	**140**	Pn	**Pn**	**16 37 33.6**	**+0.7**
HMDT				Sn	**Sn**	**16 38 13.9**	**-1.0**
DSI	**Dead Sea**	**4.15**	**147**	Pn	**Pn**	**16 37 40.3**	**+0.7**
KZIT	**Kziot**	**4.39**	**161**	Pn	**Pn**	**16 37 43.1**	**+0.1**
KZIT				Sn	**Sn**	**16 38 32.4**	**-0.5**
PRNI	**Paran**	**5.09**	**157**	Pn	**Pn**	**16 37 52.9**	**+0.3**
PRNI				Sn	**Sn**	**16 38 49.6**	**-0.5**

*DJA **13** 16:41:17.6±0.4,9°.S±.7°×11°.8E±°, h134km±.5km, M3.8/10, mb3.9/2, MLv3.8/10*
*IDC **13** 16:41:20.5±4.5,8°.47S×118°.04E, h158km±36km, mb3.0/2, mb1 3.1/6, mb1mx2.9/30, mbtmp3.5/6, MS2.9/1, Ms1 2.9/1, ms1mx2.3/14, Error ellipse: s-maj=56.3km s-min=14.3km az=71.0*

ISC 13 16:41:17.1±0.9,**8°.66S**±0°.07×**117°.78E**±0°.06,**h139**km±9km, **n18**,σ1**973**/23,**Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.17**	**180**	P	**Pn**	**16 41 36.7**	**+0.7**
PLAI				S	**Sn**	**16 41 50.8**	**+0.4**
TWSI	**Taliwang, Sumb**	**0.89**	**265**	P	**Pn**	**16 41 40.2**	**+0.4**
TWSI				S	**Sn**	**16 41 57.4**	**+0.3**
WBSI	**Waikabubak, Su**	**1.87**	**122**	P	**Pn**	**16 41 51.2**	**+1.1**
SRBI	**Singaraja**	**2.60**	**282**	P	**Pn**	**16 42 00.2**	**+1.3**
JAGI	**Jajag, Banyuwa**	**3.59**	**273**	P	**Pn**	**16 42 11.4**	**-0.3**
BSSI	**Bau Bau, Buton**	**3.67**	**47**	P	**Pn**	**16 42 13.7**	**+0.9**
EDFI	**Ende, Flores**	**3.87**	**92**	P	**Pn**	**16 42 16.5**	**+1.0**
BKSI	**Bulukumba**	**4.05**	**35**	P	**Pn**	**16 42 18.9**	**+1.1**
KAPI	**Kappang**	**4.12**	**29**	P	**Pn**	**16 42 19.5**	**+0.8**
	0.8nm,0.3s,baz=242,slow=3.7,SNR=2.0						
KAPI				S	**Sn**	**16 43 04.4**	**-2.0**
	0.4nm,0.3s,baz=179,slow=19,SNR=1.3						
GMJI	**Gumukmas**	**4.30**	**275**	P	**Pn**	**16 42 20.2**	**-0.9**
MMRI	**Maumere**	**4.41**	**90**	P	**Pn**	**16 42 23.7**	**+1.2**
PWJI	**Pagerwojo**	**5.94**	**276**	P	**Pn**	**16 42 42.6**	**-0.4**
	0.2nm29nm,1.8s						
BATI	**Baumata**	**6.01**	**105**	P	**Pn**	**16 42 45.6**	**+1.7**
	2.0nm,0.3s,baz=302,slow=13,SNR=1.4						
BATI				S	**Sn**	**16 43 50.7**	**-1.0**
	1.8nm,0.3s,baz=1.8,slow=16,SNR=1.5						
SOEI	**Soe**	**6.50**	**100**	P	**Pn**	**16 42 51.1**	**+0.5**
FITZ	**Fitzroy Crossi**	**12.10**	**142**	P	**Pn**	**16 44 07.1**	**+2.0**
	0.0nm,0.3s,baz=333,slow=13,SNR=2.3						
FITZ				S	**Sn**	**16 46 13.2**	**-5.5**
	0.1nm,0.3s,baz=354,slow=16,SNR=1.2						
FITZ				LR	LR	16 48 45.4	
	comp=Z,48nm,18.7s,baz=282,slow=37						
WRA	**Warramunga Arr**	**19.56**	**127**	P	**P**	**16 45 35.8**	**+1.5**
	0.1nm,0.3s,baz=299,slow=12,SNR=11						
ASAR	**Alice Springs**	**21.47**	**136**	P	**P**	**16 45 56.3**	**+1.5**
	0.2nm,0.4s,baz=314,slow=8.6,SNR=16						
USRK	**Ussuriysk Ar.**	**54.16**	**13**	P	**P**	**16 50 27.3**	**-0.6**
	0.8nm,0.5s,baz=198,slow=7.9,SNR=4.7						

*MEX **13** 16:42:56.6±0.9,26°.16N×109°.71W, h10km, MD4.1*
*IDC **13** 16:43:05.0±1.4,25°.09N×109°.69W, h0km, mb2.9/1, mb1 3.5/6, mb1mx3.4/30, mbtmp3.1/6, ML3.4/5, MS3.1/10, Ms1 3.1/10, ms1mx3.0/12, Error ellipse: s-maj=26.3km s-min=13.0km az=118.0*

ISC 13 16:43:02.4±0.8,**25°.12N**±0°.06×**109°.04W**±0°.06,**h16**km,**n19**, σ3**64**/14,**MS3.1/4**,**Gulf of California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSIG	**Topolobambo**	**0.48**	**360**	*i* P	**Pg**	**16 43 10.5**	**-1.6**
TSIG				*e*S	**Sb**	**16 43 20.6**	**+1.2**
LPIG	**La Paz**	**1.54**	**229**	Pn	**Pn**	**16 43 28.9**	**-0.3**
	48nm,0.3s,baz=12,slow=3.5,SNR=32						
LPIG				Sn	**Sn**	**16 43 43.5**	**-5.3**
	100nm,0.3s,baz=17,slow=18,SNR=5.2						
LPIG	**La Paz**	**1.54**	**229**	*i* P	**Pn**	**16 43 28.8**	**-0.4**
LPIG				*i* S	**Sg**	**16 43 53.5**	**+1.5**
SSIG	**Sanalona**	**1.75**	**99**	*i* P	**Pb**	**16 43 35.4**	**+1.3**
SSIG				*i* S	**Sn**	**16 43 53.4**	**-0.6**
TXAR	**Lajitas Array**	**6.36**	**48**	Pn	Pb	16 44 47.4	-5.5
	0.1nm,0.3s,baz=228,slow=13,SNR=7.2						
TXAR				Sn	**Sb**	**16 46 02.0**	**-6.8**
	0.7nm,0.3s,baz=230,slow=31,SNR=6.6						
TXAR				Lg	Lg	16 46 39.8	
	0.4nm,0.3s,baz=256,slow=31,SNR=1.5						
TXAR				LR	LR	16 47 36.1	
	comp=Z,123nm,18.3s,baz=0.0,slow=40						
ANMO	**Albuquerque**	**10.05**	**12**	Pn	Pn	16 45 34.2	+7.9
	0.1nm,0.3s,baz=216,slow=8.0,SNR=2.5						
ANMO				Lg	Lg	16 48 30.6	
	0.1nm,0.3s,baz=240,slow=16,SNR=1.6						
ANMO				LR	LR	16 49 10.8	
	comp=Z,153nm,21.3s,baz=187,slow=36						
PFO	**Pinyon Flats O**	**10.65**	**324**	LR	LR	16 49 19.7	
	comp=Z,40nm,18.8s,baz=138,slow=36						
NVAR	**Mina Array Bea**	**15.42**	**332**	Pn	**P**	**16 46 43.7**	**-0.4**
	0.1nm,0.3s,baz=164,slow=14,SNR=2.2						
NVAR				Sn	**Sn**	**16 49 26.8**	**-3.3**
	0.1nm,0.3s,baz=196,slow=28,SNR=1.8						
CMIG	**Matias Romero**	**15.43**	**118**	LR	LR	16 52 53.3	
	comp=Z,99nm,18.2s,baz=300,slow=37						
ELK	**Elko**	**16.42**	**343**	Pn	**P**	**16 46 58.5**	**+3.3**
	0.1nm,0.3s,baz=214,slow=17,SNR=2.1						
ELK				LR	LR	16 52 49.1	
	comp=Z,60nm,19.1s,baz=178,slow=36						
PDAR	**Pinedale Array**	**17.61**	**359**	P	**P**	**16 47 14.2**	**+5.9**
	0.1nm,0.3s,baz=168,slow=10,SNR=4.6						
PDAR				LR	LR	16 54 29.5	
	comp=Z,69nm,18.1s,baz=176,slow=39						
TKL	**Tuckaleechee C**	**24.13**	**58**	LR	LR	16 58 55.2	
	comp=Z,55nm,19.2s,baz=260,slow=39						
ULM	**Lac du Bonnet**	**27.08**	**19**	LR	LR	16 59 28.5	
	comp=Z,49nm,20.0s,baz=259,slow=36						
JTS	**Las Juntas de**	**27.20**	**119**	LR	LR	17 01 13.1	
	comp=Z,14nm,21.4s,baz=12,slow=39						
YKA	**Yellowknife Ar**	**37.55**	**356**	LR	LR	17 08 16.7	
	comp=Z,35nm,18.1s,baz=0.0,slow=40						
ILAR	**Eielson Array**	**46.51**	**339**	P	**P**	**16 51 31.1**	**+2.4**
	0.1nm,0.5s,baz=132,slow=7.7,SNR=2.9						
H03N2	**Juan Fernandez**	**64.90**	**152

	baz=336						
PCYT				*e*S	**Sb**	**17 08 05.3**	**+0.7**
	baz=336						
YM01	**YM01**	**0.97**	**294**	P	**Pn**	**17 07 52.2**	**-0.3**
	baz=295						
YM01				*e*S	**Sb**	**17 08 04.8**	**+0.2**
	baz=295						
TWY	**Chenhua**	**1.01**	**301**	*e*P	**Pn**	**17 07 52.9**	**0.0**
	baz=303						
TWY				*e*S	**Sb**	**17 08 05.9**	**+0.3**
	baz=303						
ANP	**Anpu**	**1.03**	**295**	*e*P	**Pn**	**17 07 53.0**	**-0.3**
	baz=296						
ANP				*e*S	**Sn**	**17 08 07.1**	**-0.8**
	baz=296						
NACB	**Ninganchiao**	**1.05**	**237**	P	**Pn**	**17 07 53.3**	**-0.2**
	baz=236						
NACB				S	**Sb**	**17 08 07.1**	**+0.3**
	baz=236						
YHNB	**Yeheng**	**1.07**	**266**	P	**Pn**	**17 07 53.9**	**0.0**
	baz=266						
YHNB				S	**Sn**	**17 08 08.3**	**-0.6**
	baz=266						
TWS1	**Kuangyinshan**	**1.09**	**289**	*e*P	**Pb**	**17 07 53.7**	**0.0**
	baz=290						
TWS1				*e*S	**Sn**	**17 08 09.2**	**+0.1**
	baz=290						
NSK	**Sanguang**	**1.09**	**266**	P	**Pn**	**17 07 54.3**	**+0.1**
	baz=266						
NSK				S	**Sb**	**17 08 08.0**	**-0.1**
	baz=266						
TWD	**Chiawan**	**1.10**	**232**	*e*P	**Pn**	**17 07 54.3**	**+0.1**
	baz=231						
TWD				*e*S	**Sn**	**17 08 08.9**	**-0.6**
	baz=231						
ETLH	**Xiulin Townshi**	**1.12**	**241**	P	**Pn**	**17 07 55.2**	**+0.6**
	baz=240						
ETLH				S	**Sn**	**17 08 09.5**	**-0.5**
	baz=240						
NNS	**Nan Shan**	**1.12**	**254**	P	**Pn**	**17 07 55.0**	**+0.4**
	baz=254						
NNS				S	**Sb**	**17 08 09.0**	**0.0**
	baz=254						
IRIF	**Iriomote-Funau**	**1.15**	**111**	P	**Pn**	**17 07 54.8**	**-0.1**
IRIF				*e*S	**Sn**	**17 08 10.7**	**+0.1**
ETM	**Tongmen**	**1.25**	**231**	*e*P	**Pb**	**17 07 56.3**	**-0.1**
	baz=230						
ETM				*e*S	**Sg**	**17 08 12.7**	**-0.4**
	baz=230						
FUSS	**Fushou**	**1.30**	**247**	P	**Pg**	**17 07 57.7**	**-0.2**
	baz=247						
FUSS				*e*S	**Sn**	**17 08 14.8**	**+0.1**
	baz=247						
WHF	**Hehuan Shan**	**1.32**	**243**	P	**Pg**	**17 07 58.2**	**-0.2**
	baz=242						
WHF				S	**Sb**	**17 08 14.7**	**-0.4**
	baz=242						
LIOB	**Emei**	**1.40**	**266**	*e*P	**Pb**	**17 07 59.1**	**0.0**
	baz=266						
LIOB				*e*S	**Sg**	**17 08 18.9**	**+0.7**
	baz=266						
NSTT	**Nanjuang**	**1.42**	**265**	*e*P	**Pb**	**17 07 59.1**	**-0.2**
	baz=265						
NSTT				*e*S	**Sn**	**17 08 17.1**	**-0.2**
	baz=265						
JKRS	**Kuro-shima**	**1.42**	**111**	P	**Pb**	**17 07 59.2**	**-0.2**
JKRS				*e*S	**Sn**	**17 08 17.3**	**-0.1**
CHGB	**Renai**	**1.44**	**241**	P	**Pb**	**17 07 59.7**	**-0.2**
	baz=241						
CHGB				S	**Sg**	**17 08 18.5**	**-0.7**
	baz=241						
OWD	**Renai**	**1.49**	**238**	*e*P	**Pn**	**17 07 59.9**	**+0.2**
	baz=237						
OWD				*e*S	**Sn**	**17 08 19.0**	**-0.2**
	baz=237						
EGFH	**Guangfu**	**1.49**	**224**	*e*P	**Pn**	**17 07 59.3**	**-0.4**
	baz=223						
EGFH				*e*S	**Sn**	**17 08 18.2**	**-0.9**
	baz=223						
JIJ	**Ishigaki jima**	**1.50**	**105**	P	**Pb**	**17 08 00.2**	**-0.5**
JIJ				*e*S	**Sn**	**17 08 19.0**	**-0.2**
WHP	**Taichung City**	**1.54**	**252**	P	**Pb**	**17 08 01.3**	**-0.2**
	baz=252						
WHP				S	**Sn**	**17 08 20.5**	**+0.1**
	baz=252						
JISG	**Ishigakijimahi**	**1.61**	**96**	P	**Pb**	**17 08 02.5**	**-0.1**
JISG				*e*S	**Sb**	**17 08 22.6**	**-0.3**
NMLH	**Miaoli**	**1.62**	**263**	*e*P	**Pb**	**17 08 02.3**	**-0.5**
	baz=262						
NMLH				*e*S	**Sb**	**17 08 22.7**	**-0.5**
	baz=262						
HGSD	**Ruisui**	**1.63**	**220**	*e*P	**Pn**	**17 08 00.9**	**-0.6**
	baz=218						
HGSD				*e*S	**Sn**	**17 08 22.0**	**-0.4**
	baz=218						
WCS	**Beigang Elemen**	**1.65**	**245**	*e*P	**Pb**	**17 08 03.4**	**0.0**
	baz=245						
WCS				*e*S	**Sb**	**17 08 24.7**	**+0.5**
	baz=245						
EHY	**Hungye**	**1.68**	**222**	*e*P	**Pn**	**17 08 02.1**	**-0.1**
	baz=221						
EHY				*e*S	**Sn**	**17 08 22.7**	**-1.0**
	baz=221						
SMLT	**Sun Moon Lake**	**1.74**	**240**	*e*P	**Pn**	**17 08 03.6**	**+0.4**
	baz=239						
SMLT				*e*S	**Sn**	**17 08 25.3**	**-0.1**
	baz=239						
SSLB	**Suanglung**	**1.75**	**237**	*e*P	**Pn**	**17 08 03.9**	**+0.6**
	baz=236						
SSLB				*e*S	**Sn**	**17 08 25.6**	**+0.1**
	baz=236						
TYC	**Yuchr**	**1.77**	**242**	*e*P	**Pn**	**17 08 03.5**	**+0.2**
	baz=241						
TYC				*e*S	**Sn**	**17 08 26.0**	**+0.1**
	baz=241						
YULB	**Yu-li**	**1.78**	**220**	*e*P	**Pn**	**17 08 04.2**	**+0.6**
	baz=219						
YULB				*e*S	**Sn**	**17 08 26.1**	**-0.1**
	baz=219						
EYUL	**Yuli**	**1.80**	**219**	*e*P	**Pb**	**17 08 04.8**	**-1.1**
	baz=218						
EYUL				*e*S	**Sn**	**17 08 26.1**	**-0.6**
	baz=218						
WHYT	**Xinyi Township**	**1.88**	**236**	*e*P	**Pn**	**17 08 06.0**	**+1.0**
	baz=235						
WHYT				*e*S	**Sn**	**17 08 28.7**	**0.0**
	baz=235						
FULB	**Fuli**	**1.93**	**217**	P	**Pn**	**17 08 06.3**	**+0.6**
	baz=216						
FULB				*e*S	**Sn**	**17 08 30.1**	**+0.1**
	baz=216						
YUS	**Yu-Shan**	**1.93**	**230**	*e*P	**Pn**	**17 08 06.6**	**+0.5**
	baz=228						
YUS				*e*S	**Sn**	**17 08 29.8**	**-0.8**
	baz=228						
CHKT	**Chengkung**	**1.98**	**214**	*e*P	**Pn**	**17 08 06.9**	**+0.6**
	baz=212						
CHKT				*e*S	**Sn**	**17 08 31.0**	**-0.1**
	baz=212						
ALS	**Alishan**	**2.02**	**232**	*e*P	**Pn**	**17 08 07.7**	**+0.5**
	baz=231						
ALS				*e*S	**Sn**	**17 08 32.2**	**-0.4**
	baz=231						
CHN5	**Tsauling**	**2.07**	**236**	*e*P	**Pn**	**17 08 08.6**	**+0.9**
	baz=236						
CHN5				*e*S	**Sn**	**17 08 33.5**	**+0.1**
	baz=236						
ELDTW	**Lidau**	**2.10**	**222**	*e*P	**Pn**	**17 08 08.7**	**+0.5**
	baz=221						
ELDTW				*e*S	**Sn**	**17 08 33.6**	**-0.7**
	baz=221						
EDH	**Donghe**	**2.11**	**213**	*e*P	**Pn**	**17 08 08.8**	**+0.6**
	baz=212						
EDH				*e*S	**Sn**	**17 08 33.6**	**-0.8**
	baz=212						
LONT	**Longtian**	**2.26**	**216**	*e*P	**Pn**	**17 08 11.0**	**+0.8**
	baz=214						
LONT				*e*S	**Sn**	**17 08 38.4**	**+0.4**
	baz=214						
STYH	**Taoyuan**	**2.27**	**226**	*e*P	**Pn**	**17 08 10.9**	**+0.7**
	baz=225						
STYH				*e*S	**Sn**	**17 08 38.5**	**+0.3**
	baz=225						
TPUB	**Ta-pu**	**2.28**	**231**	*e*P	**Pn**	**17 08 11.5**	**+1.0**
	baz=230						
TPUB				*e*S	**Sn**	**17 08 38.7**	**+0.1**
	baz=230						
LDUT	**Ludao**	**2.30**	**206**	*e*P	**Pn**	**17 08 11.0**	**+0.2**
	baz=204						
LDUT				*e*S	**Sn**	**17 08 38.7**	**-0.3**
	baz=204						
WTP	**Ta-pu**	**2.33**	**230**	*e*P	**Pn**	**17 08 11.9**	**+0.7**
	baz=229						
WTP				*e*S	**Sn**	**17 08 39.0**	**-0.8**
	baz=229						
TWK	**Hsinying**	**2.40**	**232**	*e*P	**Pn**	**17 08 12.7**	**+0.5**
	baz=231						
TWK				*e*S	**Sn**	**17 08 41.5**	**-0.2**
	baz=231						
CHN1	**Nanshi**	**2.43**	**230**	*e*P	**Pn**	**17 08 13.2**	**+0.7**
	baz=229						
CHN1				*e*S	**Sn**	**17 08 41.9**	**-0.3**
	baz=229						
SLGT	**Liugui**	**2.48**	**225**	*e*P	**Pn**	**17 08 14.0**	**+0.8**
	baz=224						
SLGT				*e*S	**Sn**	**17 08 43.5**	**+0.1**
	baz=224						
SCLT	**Jiali**	**2.67**	**234**	*e*P	**Pn**	**17 08 16.0**	**+0.1**
	baz=233						
SCLT				*e*S	**Sn**	**17 08 48.1**	**-0.2**
	baz=233						
TSMG	**Majia**	**2.69**	**221**	*e*P	**Pn**	**17 08 17.4**	**+1.3**
	baz=220						
TSMG				*e*S	**Sn**	**17 08 48.2**	**-0.4**
	baz=220						
MASBT	**Mashibuluo**	**2.77**	**220**	*e*P	**Pn**	**17 08 18.2**	**+1.0**
	baz=219						
MASBT				*e*S	**Sn**	**17 08 50.6**	**0.0**
	baz=219						
EAST	**Anshuo**	**2.83**	**214**	*e*P	**Pn**	**17 08 18.9**	**+0.7**
	baz=212						
EAST				*e*S	**Sn**	**17 08 52.4**	**+0.1**
	baz=212						
SLIU	**Shizi**	**3.00**	**213**	*e*P	**Pn**	**17 08 21.4**	**+1.1**
	baz=212						
SLIU				*e*S	**Sn**	**17 08 56.0**	**-0.4**
	baz=212						

*IDC **13** 17:10:17.6±26.0,20°.53S×172°.30W,h0km,mb4.3/4, mb1 4.5/4,mb1mx3.9/26,mbtmp4.3/4,Error ellipse: s-maj=479.7km s-min=166.2km az=73.0*
*NEIC **13** 17:10:25.2±1.6,21°.9S±0°.1×172°.6W±0°.1,h18km±6km, mb4.4/15,Error ellipse: s-maj=26.1km s-min=8.5km az=133.0*

ISC 13 17:10:26.6±1.0,**21°.8S**±0°.2×**172°.7W**±0°.1,**h35**km,**n20,** σ**0°93**/19,**mb4.5**/10,**Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.75**	**44**	Pn	**Pn**	**17 11 21.9**	**-0.2**
PINNC	**Pines Island,**	**18.42**	**264**	P	**P**	**17 14 37.8**	**-1.2**
PINNC				IAmb	IAmb	17 14 46.6	
	comp=Z,63nm,1.4s						
OUENC	**Ouen Island, N**	**18.98**	**264**	P	**P**	**17 14 44.7**	**-0.5**
OUENC				IAmb	IAmb	17 14 47.8	
	comp=Z,16nm,1.0s						
DZM	**Mont Dzumac**	**19.37**	**265**	P	**P**	**17 14 49.4**	**-0.2**
DZM				IAmb	IAmb	17 14 50.3	
	comp=Z,19nm,1.5s						
KHZ	**Kahutara**	**23.57**	**206**	P	**P**	**17 15 32.2**	**-1.7**
ARMA	**Armidale**	**33.06**	**247**	P	**P**	**17 16 58.9**	**-0.3**
ARMA				IAmb	IAmb	17 17 18.4	
	comp=Z,7.0nm,1.2s						
EIDS	**Eidsvold**	**33.34**	**257**	P	**P**	**17 17 01.0**	**-0.5**
CTA	**Charters Tower**	**38.31**	**265**	P	**P**	**17 17 45.2**	**+0.9**
	comp=Z,6.0nm,0.4s,baz=95,slow=11,SNR=31						
CTAO	**Charters Tower**	**38.31**	**265**	P	**P**	**17 17 45.1**	**+0.8**
PATS	**Pohnpei**	**40.25**	**312**	P	**P**	**17 17 59.8**	**-0.6**
PATS				IAmb	IAmb	17 18 01.1	
	comp=Z,3.9nm,0.4s						
STKA	**Stephens Creek**	**41.75**	**246**	P	**P**	**17 18 13.7**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=69,slow=8.6,SNR=3.1						
STKA	**Stephens Creek**	**41.75**	**246**	P	**P**	**17 18 11.6**	**-1.0**
AS31	**Alice Springs**	**49.06**	**257**	P	**P**	**17 19 11.4**	**+0.7**
AS31				IAmb	IAmb	17 19 12.6	
	comp=Z,1.1nm,0.5s						
ASAR	**Alice Springs**	**49.06**	**257**	P	**P**	**17 19 11.7**	**+0.9**
	comp=Z,1.9nm,0.6s,baz=94,slow=7.2,SNR=70						
WR0	**Warramunga Arr**	**49.15**	**262**	P	**P**	**17 19 12.2**	**+0.8**
WR0				IAmb	IAmb	17 19 19.3	
	comp=Z,5.9nm,1.2s						
WB2	**Warramunga Arr**	**49.33**	**262**	P	**P**	**17 19 13.7**	**+1.0**
WB2				IAmb	IAmb	17 19 21.4	
	comp=Z,9.6nm,1.4s						
WRAB	**Tennant Creek**	**49.33**	**262**	P	**P**	**17 19 13.7**	**+0.9**
WRAB				IAmb	IAmb	17 19 30.4	
	comp=Z,5.5nm,1.2s						
WRA	**Warramunga Arr**	**49.34**	**262**	P	**P**	**17 19 13.7**	**+0.9**
	comp=Z,2.6nm,0.3s,baz=91,slow=8.3,SNR=24						
WRA	**Warramunga Arr**	**49.34**	**262**	IAmb	IAmb	17 19 14.0	
	comp=Z,0.2nm,0.6s						
QSPA	**South Pole Qui**	**68.26**	**180**	P	**P**	**17 21 24.6**	**+0.8**

IDC 13 17:31:20.0±3.4,**15°.36S**×**173°.83W**,**h68**km±33km,**mb3.2**/4, **mb1 3.7**/5,**mb1mx3.4**/29,**mbtmp3.6**/5,**ML4.0**/1,**Error ellipse: s-maj=121.8km s-min=23.3km az=149.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.45**	**54**	P	Pn	17 31 57.9	+0.1
	32nm,0.3s,baz=191,slow=3.5,SNR=37						
AFI				S	Sn	17 32 23.5	-3.3
	70nm,0.3s,baz=32,slow=21,SNR=19						
WRA	**Warramunga Arr**	**49.45**	**257**	P	P	17 40 03.8	+0.1
	0.3nm,0.5s,baz=89,slow=6.0,SNR=15						
ASAR	**Alice Springs**	**49.73**	**252**	P	P	17 40 05.5	-0.3
	1.1nm,0.6s,baz=87,slow=8.0,SNR=26						
TXAR	**Lajitas Array**	**80.93**	**56**	P	P	17 43 27.8	+0.4
	0.1nm,0.5s,baz=243,slow=8.0,SNR=2.0						
ILAR	**Eielson Array**	**82.49**	**11**	P	P	17 43 34.4	-0.3
	0.4nm,0.7s,baz=224,slow=6.3,SNR=5.9						

MEX 13 17:39:36.7±0.7,**18°.59N**×**104°.13W**,**h7**km±3km,**MD3.7, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R15V		**0.59**	**13**	*i* P	Pg	17 39 47.3	-0.8
R15V				*i* S	Sg	17 39 55.5	-0.4
COIG	**Colima**	**0.72**	**35**	*i* P	Pg	17 39 49.3	-1.2
COIG				*i* S	Sg	17 39 59.1	-0.8
MMIG	**Aquila**	**0.80**	**112**	*e*P	Pg	17 39 50.2	-1.9
MMIG				*e*S	Sg	17 40 00.9	-1.7
EZ5V		**1.01**	**29**	*e*P	Pg	17 39 54.9	-1.3
EZ5V				*e*S	Sg	17 40 09.6	+0.2
CJM	**Chamela**	**1.25**	**316**	*i* P	Pn	17 39 59.5	-1.1
CJM				*i* S	Sg	17 40 15.4	-1.6

*IDC **13** 17:47:19.2±1.2,31°.15N×142°.26E,h0km,mb3.6/4, mb1 3.8/5,mb1mx3.4/63,mbtmp3.5/5,ML2.6/1,Error ellipse: s-maj=48.4km s-min=22.9km az=87.0*
*JMA **13** 17:47:24.9±0.2,31°.88N×142°.59E,h0km,M3.7*

ISC 13 17:47:20.6±1.2,**31°.40N**±0°.09×**142°.5E**±0°.1,**h10**km,**n13,** σ**2°41**/13,**mb3.6**/4,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**2.55**	**295**	*e*S	**Sb**	**17 48 38.2**	**+0.3**
BSO1	**Boso 1**	**3.49**	**339**	P	**Pn**	**17 48 16.1**	**+1.7**
JHU	**Hanno**	**5.18**	**330**	P	**Pn**	**17 48 40.7**	**+2.4**
JHO	**Hitachi**	**5.44**	**343**	*e*S	**Sn**	**17 49 41.8**	**-2.6**
JRY	**Ryogami san**	**5.49**	**328**	P	**Pn**	**17 48 45.1**	**+2.6**
JAG	**Ashikaga**	**5.61**	**334**	P	**Pn**	**17 48 46.1**	**+1.9**
JFK	**Kawauchi**	**6.10**	**348**	*e*S	**Sn**	**17 49 58.2**	**-2.6**
MJAR	**Matsushiro Arr**	**6.24**	**326**	Pn	**Pn**	**17 48 53.9**	**+1.1**
	0.1nm,0.3s,baz=151,slow=10,SNR=12						
JMK	**Ichinoseki**	**7.61**	**353**	*e*S	**Sn**	**17 50 34.3**	**-3.5**
MKAR	**Makanchi Array**	**48.03**	**307**	P	**P**	**17 56 00.1**	**+0.1**
	0.1nm,0.4s,baz=86,slow=7.5,SNR=1.4						
WRA	**Warramunga Arr**	**51.64**	**190**	P	**P**	**17 56 25.7**	**-1.9**
	3.0nm,0.9s,baz=2.6,slow=7.4,SNR=65						
ILAR	**Eielson Array**	**53.84**	**30**	P	**P**	**17 56 45.6**	**+2.2**
	0.3nm,0.6s,baz=260,slow=6.6,SNR=4.6						
ASAR	**Alice Springs**	**55.37**	**190**	P	**P**	**17 56 53.0**	**-1.9**
	0.4nm,0.5s,baz=4.5,slow=6.0,SNR=21						

IDC 13 17:49:40.0±2.8,**30°.78N**×**140°.74E**,**h0**km,**mb3.3**/2,
mb1 3.5/4,**mb1mx3.2**/65,**mbtmp3.4**/4,**ML2.7**/2,**Error ellipse: s-maj=138.4km s-min=31.3km az=75.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.88**	**161**	Pn	Pn	17 50 40.5	-0.5
	1.1nm,0.3s,baz=270,slow=20,SNR=1.6						
JCJ				Sn	Sn	17 51 24.4	-2.9
	2.1nm,0.3s,baz=294,slow=19,SNR=1.2						
MJAR	**Matsushiro Arr**	**6.12**	**341**	Pn	Pn	17 51 11.1	-0.7
	0.1nm,0.3s,baz=165,slow=15,SNR=4.8						
WRA	**Warramunga Arr**	**50.81**	**188**	P	P	17 58 42.5	+0.1
	0.2nm,0.3s,baz=7.0,slow=8.6,SNR=4.8						
ASAR	**Alice Springs**	**54.53**	**188**	P	P	17 59 09.8	-0.1
	0.2nm,0.6s,baz=17,slow=10,SNR=5.6						

*JMA **13** 17:53:39.8±0.2,23°.11N×121°.91E,h31km±4km,M2.7*
*TAP **13** 17:53:40.9,23°.09N×121°.90E,h30km,ML3.2,D*

ISC 13 17:53:40.0±1.2,**23°.08N**±0°.02×**121°.91E**±0°.02,**h22**km±12km, **n124,** σ**0°93**/235,**14D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBN	**Changbin**	**0.48**	**299**	P	**Pb**	**17 53 50.1**	**+0.3**
	baz=300						
ECBN				S	**Sb**	**17 53 56.8**	**+0.3**
	baz=300						
CHKT	**Chengkung**	**0.50**	**272**	⇓*i* P	**Pb**	**17 53 50.1**	**0.0**
	baz=272						
CHKT				*i* S	**Sb**	**17 53 56.6**	**-0.3**
	baz=272						
EDH	**Donghe**	**0.57**	**259**	⇓*e*P	**Pb**	**17 53 51.3**	**0.0**
	baz=258						
EDH				*e*S	**Sb**	**17 53 58.4**	**-0.5**
	baz=258						
LDUT	**Ludao**	**0.57**	**225**	*e*P	**Pb**	**17 53 51.7**	**+0.4**
	baz=224						
FULB	**Fuli**	**0.58**	**282**	*i* P	**Pb**	**17 53 51.1**	**-0.3**
	baz=282						
FULB				*i* S	**Sb**	**17 53 58.4**	**-0.9**
	baz=282						
EYUL	**Yuli**	**0.60**	**296**	⇓*e*P	**Pb**	**17 53 51.9**	**0.0**
	baz=296						
EYUL				*e*S	**Sb**	**17 53 59.8**	**-0.1**
	baz=296						
HGSD	**Ruisui**	**0.60**	**313**	⇓P	**Pb**	**17 53 51.3**	**-0.6**
	baz=313						
HGSD				S	**Sb**	**17 53 58.5**	**-1.5**
	baz=313						
TWF1	**Yuli**	**0.62**	**296**	⇓P	**Pb**	**17 53 52.1**	**-0.1**
	baz=296						
TWF1				S	**Sb**	**17 53 59.5**	**-1.1**
	baz=296						
ECS	**Chishang**	**0.63**	**271**	P	**Pb**	**17 53 52.7**	**+0.3**
	baz=271						
ECS				S	**Sn**	**17 54 02.5**	**-0.6**
	baz=271						
YULB	**Yu-li**	**0.64**	**299**	⇓P	**Pb**	**17 53 52.4**	**-0.2**
	baz=299						
YULB				S	**Sb**	**17 54 01.4**	**+0.3**
	baz=299						
EHY	**Hungye**	**0.68**	**308**	P	**Pb**	**17 53 52.9**	**-0.4**
	baz=309						
EHY				S	**Sb**	**17 54 01.8**	**-0.5**
	baz=309						
TEGC	**Jichi Village**	**0.71**	**332**	P	**Pb**	**17 53 53.5**	**-0.2**
	baz=325						
TEGC				S	**Sb**	**17 54 02.8**	**-0.3**
	baz=325						
EGFH	**Guangfu**	**0.73**	**323**	*i* P	**Pb**	**17 53 53.7**	**-0.3**
	baz=330						
EGFH				*i* S	**Sb**	**17 54 03.6**	**0.0**
	baz=330						
LONT	**Longtian**	**0.74**	**257**	⇓*e*P	**Pb**	**17 53 54.1**	**0.0**
	baz=250						
LONT				*e*S	**Sb**	**17 54 04.3**	**+0.5**
	baz=250						
TTN	**Taitung**	**0.77**	**245**	P	**Pn**	**17 53 54.9**	**-0.6**
	baz=238						
TTN				S	**Sb**	**17 54 05.2**	**+0.4**
	baz=238						
TWGBT	**Beinan**	**0.81**	**251**	P	**Pn**	**17 53 55.1**	**-0.9**
	baz=250						
TWGBT				S	**Sb**	**17 54 05.9**	**+0.1**
	baz=250						
TWG	**Pinlang**	**0.81**	**252**	*i* P	**Pn**	**17 53 55.1**	**-1.0**
	baz=250						
TWG				*i* S	**Sb**	**17 54 05.3**	**-0.7**
	baz=250						
ELDTW	**Lidau**	**0.83**	**278**	⇓*i* P	**Pn**	**17 53 54.9**	**-1.5**
	baz=278						
ELDTW				*i* S	**Sb**	**17 54 05.4**	**-1.0**
	baz=278						
TEYL	**Yanliau Villag**	**0.83**	**340**	*e*P	**Pn**	**17 53 56.3**	**-0.1**
	baz=342						
TEYL				*e*S	**Sn**	**17 54 08.5**	**+0.6**
	baz=342						
ESL	**Shilin**	**0.85**	**329**	*i* P	**Pn**	**17 53 55.2**	**-1.4**
	baz=339						
ESL				*i* S	**Sb**	**17 54 06.0**	**-1.1**
	baz=339						
HWA	**Hwalien**	**0.93**	**343**	*e*P	**Pn**	**17 53 56.8**	**-0.9**
	baz=344						
HWA				*e*S	**Sn**	**17 54 09.2**	**-1.2**
	baz=344						
ETM	**Tongmen**	**0.96**	**337**	P	**Pn**	**17 53 56.8**	**-1.4**
	baz=346						
ETM				S	**Sn**	**17 54 08.8**	**-2.3**
	baz=346						
YUS	**Yu-Shan**	**0.97**	**295**	P	**Pn**	**17 53 57.9**	**-0.7**
	baz=296						
YUS				S	**Sn**	**17 54 09.4**	**-2.5**
	baz=296						
ECL	**Taimali**	**1.00**	**241**	*i* P	**Pn**	**17 53 57.6**	**-1.1**
	baz=253						
ECL				S	**Sn**	**17 54 11.2**	**-0.9**
	baz=253						
TWD	**Chiawan**	**1.03**	**344**	P	**Pn**	**17 53 57.8**	**-1.3**
	baz=345						
TWD				*i* S	**Sn**	**17 54 10.6**	**-2.3**
	baz=345						
STYH	**Taoyuan**	**1.04**	**275**	P	**Pn**	**17 53 59.0**	**-0.2**
	baz=281						
STYH				S	**Sn**	**17 54 11.7**	**-1.5**
	baz=281						
STYT	**Tauyuan**	**1.06**	**275**	P	**Pn**	**17 53 59.3**	**-0.2**
	baz=275						
STYT				S	**Sn**	**17 54 12.2**	**-1.5**
	baz=275						
LAY	**Lan-yu**	**1.09**	**198**	*e*P	**Pn**	**17 53 59.1**	**-0.8**
	baz=196						
LAY				S	**Sn**	**17 54 11.7**	**-2.6**
	baz=196						
OWD	**Renai**	**1.10**	**322**	P	**Pn**	**17 53 59.4**	**-0.7**
	baz=323						
ALS	**Alishan**	**1.10**	**293**	⇓*i* P	**Pn**	**17 54 00.3**	**0.0**
	baz=294						
ALS				*i* S	**Sn**	**17 54 14.2**	**-0.7**
	baz=294						
ETL	**Fush Village**	**1.10**	**346**	P	**Pn**	**17 53 59.1**	**-1.0**
	baz=347						
ETL				S	**Sn**	**17 54 13.2**	**-1.5**
	baz=347						
SSLB	**Suanglung**	**1.12**	**309**	⇓P	**Pn**	**17 53 59.9**	**-0.5**
	baz=310						
SSLB				S	**Sn**	**17 54 13.0**	**-2.2**
	baz=310						
NACB	**Ninganchiao**	**1.12**	**345**	P	**Pn**	**17 53 59.0**	**-1.4**
	baz=356						
NACB				S	**Sn**	**17 54 13.1**	**-2.0**
	baz=356						
WHYT	**Xinyi Township**	**1.15**	**303**	P	**Pn**	**17 54 01.1**	**+0.4**
	baz=303						
WHYT				*i* S	**Sn**	**17 54 15.0**	**-0.8**
	baz=303						
SLGT	**Liugui**	**1.17**	**266**	*e*P	**Pn**	**17 54 01.3**	**+0.3**
	baz=264						
SLGT				*e*S	**Sn**	**17 54 15.6**	**-0.6**
	baz=264						
TAW	**Tawu**	**1.18**	**233**	*e*P	**Pn**	**17 53 59.6**	**-1.5**
	baz=

ETLH	**Xiulin Townshi** baz=328	**1.19 341**	P	**Pn**	**17 54 00.5**	**-0.8**
ETLH	baz=328		S	**Sn**	**17 54 14.6**	**-2.2**
TPUB	**Ta-pu** baz=287	**1.20 281**	⇓P	**Pn**	**17 54 02.0**	**+0.7**
TPUB	baz=287		S	**Sb**	**17 54 17.6**	**+0.6**
EAST	**Anshuo** baz=243	**1.20 235**	P	**Pn**	**17 54 00.7**	**-0.8**
EAST	baz=243		S	**Sn**	**17 54 15.4**	**-1.6**
WTP	**Ta-pu** baz=285	**1.20 278**	*i* P	**Pn**	**17 54 02.0**	**+0.5**
WTP	baz=285		*i* S	**Sb**	**17 54 18.6**	**+1.4**
WHF	**Hehuan Shan** baz=332	**1.21 331**	P	**Pn**	**17 54 01.0**	**-0.9**
WHF	baz=332		*i* S	**Sn**	**17 54 16.3**	**-1.6**
SGST	**Jiashian** baz=274	**1.22 270**	P	**Pn**	**17 54 01.4**	**-0.3**
SGST	baz=274		S	**Sn**	**17 54 16.8**	**-0.8**
SMLT	**Sun Moon Lake** baz=312	**1.22 311**	⇓*i*P	**Pn**	**17 54 01.8**	**0.0**
SMLT	baz=312		*i* S	**Sn**	**17 54 16.4**	**-1.3**
SSD	**Sandimen** baz=254	**1.22 254**	*i* P	**Pn**	**17 54 01.3**	**-0.4**
SSD	baz=254		*i* S	**Sn**	**17 54 15.7**	**-1.9**
TSMG	**Majia** baz=256	**1.22 252**	*e*P	**Pn**	**17 54 01.3**	**-0.4**
TSMG	baz=256		*e*S	**Sn**	**17 54 16.3**	**-1.3**
CHN5	**Tsauling** baz=295	**1.24 295**	P	**Pb**	**17 54 02.9**	**+0.1**
CHN5	baz=295		S	**Sb**	**17 54 19.1**	**+0.7**
MASBT	**Mashibuluo** baz=241	**1.27 249**	P	**Pn**	**17 54 02.2**	**-0.1**
MASBT	baz=241		S	**Sn**	**17 54 18.5**	**-0.1**
TYC	**Yuchr** baz=312	**1.27 311**	⇓P	**Pn**	**17 54 02.4**	**+0.1**
TYC	baz=312		S	**Sn**	**17 54 17.3**	**-1.3**
WPL	**Puli Township** baz=324	**1.27 317**	P	**Pn**	**17 54 02.7**	**+0.3**
WPL	baz=324		*e*S	**Sn**	**17 54 18.2**	**-0.6**
CHN1	**Nanshi** baz=281	**1.27 275**	*i* P	**Pb**	**17 54 03.5**	**+0.2**
CHN1	baz=281		*i* S	**Sb**	**17 54 20.7**	**+1.4**
SNST	**Tainan City** baz=277	**1.30 276**	*i* P	**Pb**	**17 54 04.4**	**+0.6**
SNST	baz=277		S	**Sb**	**17 54 20.8**	**+0.6**
WJS	**Zhushan** baz=305	**1.31 304**	*e*P	**Pb**	**17 54 04.0**	**+0.1**
WJS	baz=305		S	**Sb**	**17 54 21.0**	**+0.7**
FUSS	**Fushou** baz=333	**1.31 332**	*e*P	**Pn**	**17 54 03.4**	**+0.2**
FUSS	baz=333		S	**Sn**	**17 54 19.2**	**-0.9**
SCST	**Cishan** baz=262	**1.32 262**	*e*P	**Pb**	**17 54 04.4**	**+0.4**
TWK	**Hsinying** baz=279	**1.32 278**	P	**Pb**	**17 54 04.4**	**+0.3**
TWK	baz=279		S	**Sb**	**17 54 21.7**	**+1.2**
WCS	**Beigang Elemen** baz=324	**1.33 317**	*e*P	**Pn**	**17 54 03.5**	**+0.3**
WCS	baz=324		*e*S	**Sn**	**17 54 20.7**	**+0.4**
SLIU	**Shizi** baz=229	**1.34 230**	*e*P	**Pn**	**17 54 02.7**	**-0.6**
SLIU	baz=229		*e*S	**Sn**	**17 54 20.9**	**+0.5**
TWT	**Tachien** baz=330	**1.35 330**	P	**Pn**	**17 54 03.6**	**0.0**
TWT	baz=330		S	**Sn**	**17 54 18.9**	**-1.9**
ENA	**Nanau** baz=354	**1.35 354**	P	**Pn**	**17 54 02.9**	**-0.6**
ENA	baz=354		S	**Sn**	**17 54 19.6**	**-1.1**
SGLT	**Jiouru** baz=249	**1.35 255**	P	**Pn**	**17 54 04.1**	**+0.6**
TDCB	**Techi** baz=330	**1.35 330**	P	**Pn**	**17 54 03.7**	**+0.1**
TDCB	baz=330		S	**Sn**	**17 54 19.1**	**-1.9**
EWUT	**Wuta** baz=355	**1.36 355**	*e*P	**Pn**	**17 54 03.8**	**+0.1**
EWUT	baz=355		S	**Sn**	**17 54 19.8**	**-1.3**
WNT	**Mingjian** baz=307	**1.38 305**	P	**Pb**	**17 54 05.1**	**+0.1**
WNT	baz=307		S	**Sb**	**17 54 22.9**	**+0.8**
SCZT	**Fangliau** baz=233	**1.38 240**	P	**Pn**	**17 54 04.5**	**+0.6**
SCZT	baz=233		S	**Sn**	**17 54 20.7**	**-0.8**
CHN2	**Minshiung** baz=291	**1.39 289**	*i* P	**Pb**	**17 54 06.2**	**+0.9**
CHN2	baz=291		S	**Sb**	**17 54 22.6**	**+0.1**
WDLH	**Douliu** baz=297	**1.40 296**	P	**Pb**	**17 54 05.4**	**+0.1**
WDLH	baz=297		*e*S	**Sb**	**17 54 23.4**	**+0.7**
CHN3	**Shinhua** baz=285	**1.42 270**	P	**Pb**	**17 54 07.6**	**+1.8**
CHN3	baz=285		S	**Sb**	**17 54 26.2**	**+2.8**
CHY	**Chiayi** baz=289	**1.43 287**	P	**Pb**	**17 54 05.8**	**-0.1**
CHY	baz=289		S	**Sb**	**17 54 23.9**	**+0.3**
NNS	**Nan Shan** baz=340	**1.44 340**	*i* P	**Pn**	**17 54 04.8**	**0.0**
NNS	baz=340		*i* S	**Sn**	**17 54 22.1**	**-1.0**
WHP	**Taichung City** baz=331	**1.48 324**	*i* P	**Pb**	**17 54 07.5**	**+0.6**
WHP	baz=331		*i* S	**Sn**	**17 54 24.3**	**+0.2**
SNJT	**Kaohsiung City** baz=259	**1.49 258**	*e*P	**Pb**	**17 54 06.8**	**0.0**
TSEB	**Hengchuen, Pin** baz=231	**1.50 219**	*e*P	**Pn**	**17 54 06.4**	**+0.9**
TSEB	baz=231		*e*S	**Sb**	**17 54 26.4**	**+0.7**
WTK	**Tuku** baz=296	**1.52 294**	P	**Pb**	**17 54 07.3**	**-0.2**
WTK	baz=296		S	**Sb**	**17 54 27.7**	**+1.4**
HEN	**Hengchun** baz=225	**1.52 225**	*e*P	**Pn**	**17 54 06.2**	**+0.3**
HEN	baz=225		*e*S	**Sb**	**17 54 26.0**	**-0.4**
TWKBT	**Hengchun** baz=221	**1.52 222**	*e*P	**Pn**	**17 54 06.2**	**+0.3**
TWKBT	baz=221		*e*S	**Sn**	**17 54 25.3**	**+0.4**
TWC	**Suao** baz=358	**1.52 358**	*e*P	**Pn**	**17 54 06.8**	**+0.9**
TWC	baz=358		S	**Sn**	**17 54 24.9**	**0.0**
ICHU	**Yijhu** baz=283	**1.52 281**	P	**Pb**	**17 54 07.8**	**+0.3**
ICHU	baz=283		*e*S	**Sb**	**17 54 26.9**	**+0.5**
TWK1	**Hengchun** baz=221	**1.52 222**	*e*P	**Pn**	**17 54 06.6**	**+0.8**
TWK1	baz=221		S	**Sn**	**17 54 25.7**	**+0.8**
TCU	**Taichung** baz=301	**1.55 313**	*e*P	**Pn**	**17 54 06.7**	**+0.5**
TCU	baz=301		S	**Sn**	**17 54 26.5**	**+0.8**
NDS	**Dongshan** baz=354	**1.56 354**	*e*P	**Pn**	**17 54 06.6**	**+0.3**
NDS	baz=354		S	**Sn**	**17 54 25.3**	**-0.5**
NDT	**Datong Townshi** baz=347	**1.56 347**	*e*P	**Pn**	**17 54 07.5**	**+1.2**
NDT	baz=347		S	**Sb**	**17 54 27.1**	**-0.3**
SCLT	**Jiali** baz=291	**1.58 274**	*e*P	**Pb**	**17 54 08.5**	**0.0**
SCLT	baz=291		*e*S	**Sn**	**17 54 27.1**	**+0.8**
CHN8	**Yiju** baz=282	**1.58 280**	P	**Pb**	**17 54 08.5**	**-0.1**
CHN8	baz=282		*e*S	**Sb**	**17 54 28.0**	**-0.1**
ENTT	**Nioudou** baz=349	**1.58 349**	P	**Pn**	**17 54 07.1**	**+0.4**
ENTT	baz=349		S	**Sn**	**17 54 26.0**	**-0.5**
WCHH	**Zhanghua** baz=309	**1.59 309**	P	**Pb**	**17 54 08.9**	**+0.3**
WCHH	baz=309		*e*S	**Sb**	**17 54 29.0**	**+0.7**
WRL	**Guolierlin Hig** baz=302	**1.62 300**	P	**Pb**	**17 54 08.9**	**-0.3**
WRL	baz=302		S	**Sb**	**17 54 30.1**	**+0.8**
WSF	**Szhu** baz=292	**1.65 290**	P	**Pn**	**17 54 08.9**	**+1.4**
WSF	baz=292		S	**Sn**	**17 54 29.0**	**+1.0**
TWE	**Neicheng** baz=353	**1.65 352**	*e*P	**Pn**	**17 54 08.2**	**+0.7**
TWE	baz=353		S	**Sn**	**17 54 28.5**	**+0.4**
YHNB	**Yeheng** baz=343	**1.66 343**	P	**Pn**	**17 54 08.2**	**+0.5**
YHNB	baz=343		S	**Sn**	**17 54 27.4**	**-1.0**
NSK	**Sanguang** baz=343	**1.67 343**	P	**Pn**	**17 54 08.5**	**+0.6**
NSK	baz=343		S	**Sn**	**17 54 27.4**	**-1.3**
NSY	**Sanyi** baz=322	**1.69 322**	P	**Pb**	**17 54 10.1**	**-0.4**
NSY	baz=322		S	**Sb**	**17 54 32.0**	**+0.6**
YOJ	**Yonaguni jima** baz=47	**1.71 36**	*e*P	**Pn**	**17 54 08.2**	**-0.1**
YOJ	baz=47		*e*S	**Sn**	**17 54 29.7**	**+0.2**
WDJ	**Dajia District** baz=318	**1.71 318**	P	**Pb**	**17 54 10.5**	**-0.2**
NWLT	**Wulai** baz=347	**1.73 348**	*e*P	**Pn**	**17 54 09.2**	**+0.4**
NWLT	baz=347		S	**Sn**	**17 54 30.1**	**0.0**
NSTT	**Nanjuang** baz=332	**1.75 332**	P	**Pn**	**17 54 10.3**	**+1.3**
NSTT	baz=332		S	**Sn**	**17 54 30.4**	**-0.3**
EGS	baz=11	**1.76 1**	*e*P	**Pn**	**17 54 10.1**	**+1.0**
LIOB	**Emei** baz=318	**1.76 333**	P	**Pn**	**17 54 10.1**	**+1.0**
LIOB	baz=318		*e*S	**Sn**	**17 54 32.0**	**+1.1**
NTC	**Toucheng** baz=358	**1.77 358**	*e*S	**Sn**	**17 54 31.5**	**+0.5**
NMLH	**Miaoli** baz=324	**1.77 325**	*e*P	**Pn**	**17 54 10.3**	**+1.0**
NMLH	baz=324		*e*S	**Sn**	**17 54 32.2**	**+1.0**
TIPB	**Shuangxi** baz=358	**1.88 358**	P	**Pn**	**17 54 11.7**	**+0.8**
TIPB	baz=358		S	**Sn**	**17 54 34.5**	**+0.5**
NHDH	**Xindian Distri** baz=349	**1.91 350**	*e*P	**Pn**	**17 54 11.7**	**+0.6**
NHDH	baz=349		*e*S	**Sn**	**17 54 34.3**	**-0.2**
TWA	**Mucha** baz=351	**1.91 351**	*e*P	**Pn**	**17 54 12.6**	**+1.4**
TWA	baz=351		*e*S	**Sn**	**17 54 35.2**	**+0.5**
HSN	**Hsinchu** baz=322	**1.92 334**	*e*P	**Pn**	**17 54 12.8**	**+1.6**
HSN	baz=322		*e*S	**Sn**	**17 54 35.4**	**+0.7**
NWF	**Wu-fen Shan** baz=356	**1.98 357**	*e*P	**Pn**	**17 54 13.3**	**+1.0**
NWF	baz=356		*e*S	**Sn**	**17 54 37.3**	**+0.8**
TAP	**Taipei** baz=349	**1.98 349**	*e*S	**Sn**	**17 54 36.6**	**+0.2**
HATJ	**Hateruma jima** HATJ	**1.99 60**	P	**Pn**	**17 54 12.7**	**+0.4**
			*e*S	**Sn**	**17 54 35.5**	**-1.1**
TWS1	**Kuangyinshan** baz=359	**2.06 348**	*e*P	**Pn**	**17 54 14.9**	**+1.7**
TWS1	baz=359		*e*S	**Sn**	**17 54 38.6**	**+0.4**
WDGT	**Dungji** baz=278	**2.08 275**	*e*P	**Pn**	**17 54 14.2**	**+0.8**
WDGT	baz=278		*e*S	**Sn**	**17 54 38.2**	**-0.4**
YM01	**YM01** baz=351	**2.08 352**	*e*P	**Pn**	**17 54 14.4**	**+0.9**
YM01	baz=351		*e*S	**Sn**	**17 54 38.4**	**-0.4**
IRIF	**Iriomote-Funau** IRIF	**2.08 53**	P	**Pn**	**17 54 14.0**	**+0.4**
			S	**Sn**	**17 54 38.7**	**-0.2**
PHUB	**P'eng-hu** baz=285	**2.19 282**	*e*P	**Pn**	**17 54 16.1**	**+1.1**
PHUB	baz=285		*e*S	**Sn**	**17 54 40.9**	**-0.5**
PNG	**Penghu** baz=287	**2.22 283**	*e*P	**Pn**	**17 54 16.5**	**+1.2**
PNG	baz=287		*e*S	**Sn**	**17 54 41.9**	**-0.2**
JKRS	**Kuro-shima** JKRS	**2.25 59**	P	**Pn**	**17 54 16.4**	**+0.6**
			*e*S	**Sn**	**17 54 42.9**	**+0.1**
VCHM	**Qimei** baz=277	**2.28 274**	*e*P	**Pn**	**17 54 17.2**	**+0.9**
VCHM	baz=277		*e*S	**Sn**	**17 54 43.9**	**+0.2**
JIJ	**Ishigaki jima** JIJ	**2.41 58**	P	**Pn**	**17 54 18.4**	**+0.3**
			S	**Sn**	**17 54 46.1**	**-0.9**
JISG	**Ishigakijimahi** JISG	**2.66 55**	P	**Pn**	**17 54 21.7**	**+0.2**
			*e*S	**Sn**	**17 54 51.3**	**-1.8**
JTJ	**Tarama** JTJ	**2.99 58**	P	**Pn**	**17 54 26.6**	**+0.5**
			S	**Sn**	**17 55 01.1**	**-0.2**
PTMZ	**Houxiangcun** baz=309	**3.21 308**	*e*P	**Pn**	**17 54 29.7**	**+0.6**
KNM	**Kinmen** baz=296	**3.45 293**	*e*P	**Pn**	**17 54 35.4**	**+3.1**
KNMB	**Chin-men Tao** baz=297	**3.50 294**	*e*P	**Pn**	**17 54 33.1**	**0.0**
JMJ2	**Miyako jima3** JMJ2	**3.54 61**	P	**Pn**	**17 54 34.1**	**+0.5**
			*e*S	**Sn**	**17 55 14.9**	**+0.1**
MHZQ	**Yeshan** baz=318	**3.99 320**	*e*S	**Sn**	**17 55 25.2**	**-0.6**
AXDP	**Jialang** baz=301	**4.03 297**	*e*P	**Pn**	**17 54 41.9**	**+1.5**
AXDP	baz=301		*e*S	**Sn**	**17 55 26.6**	**-0.3**

*NOU **13** 17:56:08.3, 18°.23S×169°.18E, h0km, MLv4.4/10, Vanuatu Islands*
*IDC **13** 17:56:11.9±4.2, 18°.51S×169°.37E, h49km±56km, mb3.9/7, mb1 4.1/9, mb1mx3.8/32, mbtmp4.1/9, ML5.1/1, MS2.8/4, Ms1 2.8/4, ms1mx2.6/32, Error ellipse: s-maj=99.5km s-min=20.2km az=160.0*
ISC 13 17:56:10.9±0.7, **18°.12S**±0°.07×**169°.26E**±0°.09, **h35**km, **n27,**
σ0**98**/25, **mb4.0/7, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTV	**Rentapao**	**0.86**	**292**	P	**Pn**	**17 56 24.6**	**-1.9**
DVP	**Devils Point**	**1.09**	**291**	P	**Pn**	**17 56 28.4**	**-1.3**
YATNC	**Mamie plateau,**	**4.51**	**209**	P	**Pn**	**17 57 15.1**	**-1.7**
DZM	**Mont Dzumac** 1.0nm,0.3s,baz=13,slow=11,SNR=17	**4.74**	**213**	P	**Pn**	**17 57 18.1**	**-1.9**
DZM	2.0nm,0.3s,baz=108,slow=20,SNR=1.6			S	**Sn**	**17 58 14.0**	**+0.1**
DZM	comp=Z,157nm,21.0s,baz=40,slow=33			LR	LR	17 58 39.8	
DZM	**Mont Dzumac**	**4.74**	**213**	P	**Pn**	**17 57 19.0**	**-1.0**

PINNC	**Pines Island,**	**4.79**	**200**	P	**Pn**	**17 57 20.0**	**-0.6**
NOUC	**Port Laguerre**	**4.84**	**215**	P	**Pn**	**17 57 20.4**	**-0.9**
ONTNC	**Quen Toro**	**4.93**	**212**	P	**Pn**	**17 57 22.0**	**-0.6**
KOUNC	**Koumac, New Ca**	**5.28**	**242**	P	**Pn**	**17 57 27.3**	**-0.1**
MSVF	**Nonsavu** 0.7nm,0.3s,baz=247,slow=11,SNR=14	**8.38**	**89**	P	**Pn**	**17 58 09.1**	**-0.9**
MSVF	comp=Z,21nm,21.1s,baz=242,slow=28			LR	LR	18 00 08.2	
AFI	**Afiamalu** comp=Z,20nm,18.2s,baz=194,slow=33	**18.70**	**80**	LR	LR	18 06 28.2	
CTA	**Charters Tower** 7.7nm,1.1s,baz=66,slow=10.0,SNR=1.6	**21.82**	**261**	P	**P**	**18 01 00.8**	**+0.4**
STKA	**Stephens Creek** comp=Z,55nm,20.0s,baz=117,slow=32	**28.47**	**236**	LR	LR	18 11 15.4	
WRA	**Warramunga Arr** 0.4nm,0.6s,baz=92,slow=9.3,SNR=6.0	**33.03**	**261**	P	**P**	**18 02 42.2**	**-1.0**
ASAR	**Alice Springs** 6.4nm,0.8s,baz=83,slow=8.5,SNR=95	**33.43**	**254**	P	**P**	**18 02 46.0**	**-0.7**
FITZ	**Fitzroy Crossi** 4.8nm,0.7s,baz=139,slow=7.5,SNR=14	**41.38**	**263**	P	**P**	**18 03 54.6**	**+0.5**
CMAR	**Chiang Mai Arr** 0.5nm,0.6s,baz=117,slow=4.4,SNR=5.6	**78.06**	**294**	P	**P**	**18 08 08.0**	**+1.3**
SONM	**Songino Array** 1.7nm,0.9s,baz=130,slow=4.3,SNR=8.6	**86.34**	**323**	P	**P**	**18 08 50.5**	**+1.0**
NVAR	**Mina Array Bea** 0.6nm,0.7s,baz=246,slow=9.2,SNR=4.8	**88.05**	**49**	P	**P**	**18 08 58.9**	**+0.8**
GERES	**GERESS Array B** 0.4nm,0.7s,baz=90,slow=0.5,SNR=4.3	**143.51**	**333**	PKP	PKPbc	18 15 39.3	0.0
SOKA	**Soboth** 2.1nm,0.8s	**144.47**	**329**	*e*P	**PKPab**	**18 15 41.9**	**-0.2**
KBA	**Koelnbreinsper** 3.2nm,0.9s	**144.99**	**331**	*e*P	**PKPbc**	**18 15 43.7**	**-0.3**
ABTA	**Abfaltersbach** 10nm,1.0s	**145.61**	**331**	*e*P	**PKPbc**	**18 15 45.8**	**-0.2**
WTTA	**Wattenberg** 11nm,1.4s	**145.61**	**333**	*i* P	**PKPab**	**18 15 46.5**	**+0.1**
MOTA	**Moosalm** 8.2nm,1.1s	**145.78**	**333**	*e*P	**PKPbc**	**18 15 46.3**	**-0.2**
SQTA	**Sankt Quirin** 4.4nm,0.9s	**145.83**	**333**	*e*P	**PKPab**	**18 15 46.8**	**-0.3**
FETA	**Feichten** 4.7nm,1.1s	**146.19**	**333**	*e*P	**PKPab**	**18 15 48.4**	**-0.1**

*IGQ **13** 18:12:43±4.4, 6°.5S±16°×8°.0W±1°.5, h1km*
*NEIC **13** 18:12:44.9±2.5, 6°.08S±0°.04×80°.4W±0°.1, h35km±2km, mb4.0/10, ML4.6(ARE), Error ellipse: s-maj=18.6km s-min=4.8km az=258.0*
*ARE **13** 18:12:45±3.6, 5°.96S±0°.09×80°.47W±0°.08, h38km±8km, Error ellipse: s-maj=0.0km s-min=0.0km az=121.0*
*VAO **13** 18:12:55.2±0.5, 5°.87S×79°.67W, h80km, mb4.2*
ISC 13 18:12:43.1±1.3, **6°.09S**±0°.07×**80°.7W**±0°.1, **h35**km, **n40,**
σ2**814**/41, **Near coast of northern Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCRA	**Macar, Loja**	**1.84**	**22**	P	**Pn**	**18 13 13.0**	**+0.7**
MCRA				S	**Sn**	**18 13 36.0**	**+1.6**
GONZ	**Gonzanam**	**2.22**	**34**	P	**Pn**	**18 13 19.0**	**+1.2**
GONZ				S	**Sn**	**18 13 44.0**	**-0.3**
ISPG	**Isla Puna-Puer**	**3.13**	**9**	P	**Pn**	**18 13 34.0**	**+3.9**
MORR	**Playas El Morr**	**3.44**	**5**	P	**Pn**	**18 13 36.0**	**+1.8**
MORR				S	**Sn**	**18 14 10.0**	**-3.7**
COHC	**Cochancay**	**3.86**	**21**	P	**Pn**	**18 13 42.0**	**+2.1**
SANGA	**Volcan Sangay**	**4.61**	**30**	P	**Pn**	**18 13 54.0**	**+3.3**
PORT	**Chimborazo Vol**	**4.96**	**22**	P	**Pn**	**18 13 59.0**	**+3.3**
BMAS	**Trigal station**	**5.04**	**26**	P	**Pn**	**18 14 00.0**	**+3.4**
OTAV	**Otavalo**	**6.65**	**19**	Pn	**Pn**	**18 14 21.3**	**+2.4**
OTAV	**Otavalo**	**6.65**	**19**	*e*P	**Pn**	**18 14 23.4**	**+4.5**
NNA	**Nana**	**6.97**	**148**	Pn	**Pn**	**18 14 23.7**	**+0.9**
CZSB	**Cruzeiro do Su**	**8.06**	**102**	*e*P	**Pn**	**18 14 37.3**	**-0.4**
FLOC	**Florencia**	**9.11**	**33**	Pn	**Pn**	**18 14 52.2**	**+0.1**
PAYG	**Puerto Ayora**	**11.02**	**299**	Pn	Pn	18 15 23.6	+5.3
LPAZ	**La Paz**	**15.91**	**131**	Pn	**Pn**	**18 16 24.1**	**-1.1**
LPAZ	**La Paz**	**15.91**	**131**	*e*P	**Pn**	**18 16 27.6**	**+2.5**
RIMA	**Rio Macho**	**16.07**	**348**	Pn	**Pn**	**18 16 24.1**	**-2.6**
RIMA				IAmb	IAmb	18 17 17.0	
PB11	**IPOC Station P** comp=Z,19nm,1.7s	**17.29**	**143**	Pn	**Pn**	**18 16 40.5**	**-1.6**
PB11				IAmb	IAmb	18 17 06.6	
TA02	**Huaiquique** comp=Z,42nm,1.9s	**17.41**	**145**	Pn	**Pn**	**18 16 41.4**	**-1.9**
SAML	**Samuel**	**17.55**	**100**		**Pn**	**18 16 44.0**	**-1.2**
SAML	**Samuel**	**17.55**	**100**	*e*P	**Pn**	**18 16 44.8**	**-0.3**
TA01	**Diego Aracena**	**17.62**	**146**	Pn	**Pn**	**18 16 44.6**	**-1.4**
TA01	comp=Z,28nm,1.2s			IAmb	IAmb	18 16 58.9	
LVC	**Limon Verde**	**19.96**	**147**	*e*P	**Pn**	**18 17 16.0**	**+1.4**
MACA	**Manacapuru-AM**	**20.11**	**83**	*e*P	**P**	**18 17 12.2**	**-1.9**
VILB	**Vilhena**	**21.28**	**110**	*e*P	**P**	**18 17 26.8**	**0.0**
PTGA	**Pitinga**	**21.32**	**76**	P	**P**	**18 17 24.2**	**-2.9**
PTGA	comp=Z,4.8nm,0.8s			IAmb	IAmb	18 17 52.9	
BOAV	**Boa Vista**	**21.79**	**68**	*e*P	**P**	**18 17 31.5**	**-0.8**
PTLB	**Pontes e Lacer**	**23.07**	**116**	*e*P	**P**	**18 17 47.3**	**+1.5**
ITTB	**Itaituba**	**24.87**	**87**	*e*P	**P**	**18 18 00.8**	**-2.0**
CLDB	**Colider**	**25.03**	**103**	*e*P	**P**	**18 18 03.6**	**-0.6**
NPGB	**Novo Progresso**	**25.14**	**94**	*e*P	**P**	**18 18 03.8**	**-1.5**
SALV	**Santo Antonio**	**26.34**	**114**	*e*P	**P**	**18 18 16.4**	**+0.4**
AQDB	**Aquidauana**	**28.12**	**123**	*e*P	**P**	**18 18 34.8**	**+2.8**
SNDB	**Serra Nova Dou**	**29.56**	**104**	*e*P	**P**	**18 18 43.8**	**-1.1**
CPUP	**Villa Florida**	**30.01**	**135**	*e*P	**P**	**18 18 51.8**	**+3.1**
PTGB	**Pitanga**	**33.08**	**127**	*e*P	**P**	**18 19 18.1**	**+2.3**
BSFB	**Barra de Sao F**	**40.77**	**112**	*e*P	**P**	**18 20 20.6**	**-0.6**
GDU01	**Guandu, BA**	**41.12**	**104**	*e*P	**P**	**18 20 23.3**	**-0.8**
NBIT	**Itapeh - BA**	**41.40**	**106**	*e*P	**P**	**18 20 26.6**	**+0.1**
PMSA	**Palmer Station**	**59.77**	**172**	*e*P	P	18 22 52.1	+7.8

*TRN **13** 18:13:26.4, 13°.54N×58°.55W, h126km, MD3.9*
ISC 13 18:13:29.6±2.6, **13°.79N**±0°.05×**58°.7W**±0°.1, **h10**km, **n27,**
σ1**958**/42, **North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBSP	**Saint Philip**	**1.00**	**227**	*e*P	**Pn**	**18 13 50.6**	**+0.9**
BBSP				*e*S	**Sn**	**18 14 07.0**	**+3.2**
BBGH	**Gun Hill**	**1.05**	**232**	*e*P	**Pn**	**18 13 51.3**	**+0.9**
BBGH				*e*S	**Sn**	**18 14 08.2**	**+3.1**
MCLT	**Moule a Chique**	**2.17**	**268**	*e*P	**Pn**	**18 14 04.5**	**-1.3**
MCLT				*e*S	**Sn**	**18 14 32.6**	**-0.2**
MPOM	**Morne Pois Mar**	**2.19**	**288**	*e*P	**Pn**	**18 14 05.5**	**-0.5**
MPOM				*e*S	**Sn**	**18 14 34.6**	**+1.5**
SLBI	**Saint Lucia, B**	**2.21**	**276**	*e*P	**Pn**	**18 14 05.0**	**-1.4**
SLBI				*e*S	**Sn**	**18 14 34.2**	**+0.4**
LPMF	**Morne Lapointe**	**2.32**	**290**	*e*P	**Pn**	**18 14 07.8**	**-0.1**
ZAM	**Aeronautique**	**2.38**	**289**	*e*P	**Pn**	**18 14 08.2**	**-0.2**
TRMF	**Trois Ilets**	**2.39**	**288**	*e*P	**Pn**	**18 14 09.0**	**+0.2**
BIM	**Bigot**	**2.40**	**288**	*e*P	**Pn**	**18 14 08.8**	**-0.3**
BIM				*e*S	**Sn**	**18 14 40.4**	**+1.8**
SVV	**Soufriere Volc**	**2.48**	**259**	*e*P	**Pn**	**18 14 07.2**	**-2.9**
SVV				*e*S	**Sn**	**18 14 40.8**	**+0.3**
SVB	**Belmont**	**2.53**	**259**	*e*P	**Pn**	**18 14 08.1**	**-2.6**
SVB				*e*S	**Sn**	**18 14 40.2**	**-1.5**
FDF	**Fort de France**	**2.55**	**292**	*e*S	**Sn**	**18 14 45.5**	**+3.4**
BAMF	**Morne Balai**	**2.58**	**294**	*e*P	**Pn**	**18 14 12.5**	**+1.0**
PCM	**Pelee Case Pet**	**2.63**	**293**	*e*P	**Pn**	**18 14 12.7**	**+0.5**
GCMP	**Grenada, Carri**	**2.95**	**244**	*e*S	**Sn**	**18 14 49.9**	**-2.1**
DSLB	**Salisbury**	**3.10**	**302**	*e*P	**Pn**	**18 14 18.8**	**+0.2**
DSLB				*e*S	**Sn**	**18 14 57.3**	**+1.7**
MDCT	**Cottage Hill,**	**3.23**	**305**	*e*P	**Pn**	**18 14 21.4**	**+1.0**
MDCT				*e*S	**Sn**	**18 15 01.2**	**+2.3**
MAGL	**Barre de l'ile**	**3.29**	**311**	*e*P	**Pn**	**18 14 21.4**	**+0.2**
MAGL				*e*S	**Sn**	**18 15 01.1**	**+0.7**
GRGR	**Grenville**	**3.31**	**240**	*e*P	**Pn**	**18 14 18.9**	**-2.6**
TDBA	**Terre de Bas,**	**3.49**	**306**	*e*P	**Pn**	**18 14 25.5**	**+1.4**
TDBA				*e*S	**Sn**	**18 15 06.4**	**+0.9**
TBG	**Guadaloupe-3**	**3.50**	**306**	*e*P	**Pn**	**18 14 23.9**	**-0.3**
TBG				*e*S	**Sn**	**18 15 07.1**	**+1.4**
CBE	**Ff, Capester**	**3.60**	**309**	*e*P	**Pn**	**18 14 25.3**	**-0.3**
CBE				*e*S	**Sn**	**18 15 09.0**	**+0.7**
ABD	**La Joyeuse, An**	**3.79**	**315**	*e*P	**Pn**	**18 14 28.1**	**0.0**
ABD				*e*S	**Sn**	**18 15 12.2**	**-0.5**
ANBD	**Bethesda, Anti**	**4.38**	**318**	*e*P	**Pn**	**18 14 35.4**	**-0.9**
ANBD	**Bethesda, Anti**	**4.38**	**318**	*e*S	**Sn**	**18 15 25.7**	**-1.7**
ANWB	**Willy Bob**	**4.86**	**323**	*e*P	**Pn**	**18 14 41.7**	**-1.2**
ANWB	**Willy Bob**	**4.86**	**323**	*e*S	**Sn**	**18 15 37.2**	**-2.0**

*NOU **13** 18:14:52.3, 37°.31S×177°.72E, h188km, mb3.8/10, Off E. Coast of N. Island, N.Z.*

*WEL **13** 18:14:57.8±0.7,37°S±4°×17°7E±°, h135km±6km, M3.5/40, ML3.8/7, MLv3.5/40, Error ellipse: s-maj=0.0km s-min=0.0km az=44.1*
*IDC **13** 18:14:57.7±5.2,37°.13S×176°.56E, h111km±60km, mb3.3/2, mb1 3.6/2, mb1mx3.3/23, mbtmp3.7/2, Error ellipse: s-maj=110.4km s-min=47.3km az=8.0*
ISC 13 18:14:55.6±1.1,**37°.37S**±0°.05×**177°.40E**±0°.05,**h163**km±6km, **n127,** σ1§12/149,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.23**	**226**	P	**Pn**	**18 15 16.7**	**-0.8**
HAZ	**Te Kaha**	**0.50**	**142**	P	**Pn**	**18 15 18.0**	**-0.3**
HAZ				S	**Sn**	**18 15 33.7**	**-2.3**
WHRZ	**Whale Island**	**0.59**	**214**	P	**Pn**	**18 15 18.9**	**-0.1**
RUGZ	**Raukumara Rang**	**0.64**	**160**	P	**Pn**	**18 15 18.7**	**-0.7**
MXZ	**Matakaoa Point**	**0.75**	**105**	P	**Pn**	**18 15 19.9**	**+0.1**
MXZ				S	**Sn**	**18 15 37.7**	**-0.7**
PKGZ	**Pakihiroa**	**0.75**	**134**	P	**Pn**	**18 15 20.4**	**+0.5**
OPRZ	**Ohinepanea**	**0.82**	**234**	P	**Pn**	**18 15 20.0**	**-0.3**
OPRZ				S	**Sn**	**18 15 37.6**	**-1.6**
MARZ	**Manawahe**	**0.84**	**223**	P	**Pn**	**18 15 20.5**	**+0.1**
EDRZ	**Edgecumbe**	**0.91**	**215**	P	**Pn**	**18 15 21.3**	**+0.3**
URZ	**Urewera**	**0.92**	**194**	P	**Pn**	**18 15 21.0**	**0.0**
	157nm,0.3s,baz=302,slow=23,SNR=867						
URZ				S	**Sn**	**18 15 39.0**	**-1.6**
	123nm,0.3s,baz=18,slow=20,SNR=9.2						
URZ	**Urewera**	**0.92**	**194**	P	**Pn**	**18 15 21.1**	**0.0**
URZ				S	**Sn**	**18 15 39.1**	**-1.6**
MYRZ	**Mayor Island**	**0.93**	**275**	P	**Pn**	**18 15 20.7**	**-0.4**
WMGZ	**Waiomatatini S**	**0.93**	**120**	P	**Pn**	**18 15 21.7**	**+0.7**
TWGZ	**Tauwhareparae**	**0.93**	**150**	P	**Pn**	**18 15 22.2**	**+1.1**
TWGZ				S	**Sn**	**18 15 41.2**	**+0.3**
MWZ	**Matawai**	**0.97**	**174**	P	**Pn**	**18 15 21.9**	**+0.4**
MWZ				S	**Sn**	**18 15 41.0**	**-0.5**
TGRZ	**Tauranga**	**0.97**	**248**	P	**Pn**	**18 15 21.4**	**0.0**
PUZ	**Puketiti**	**0.98**	**136**	P	**Pn**	**18 15 22.1**	**+0.6**
PUZ				S	**Sn**	**18 15 40.2**	**-1.2**
MKRZ	**Makatiti**	**1.07**	**223**	P	**Pn**	**18 15 23.8**	**+1.5**
OMRZ	**Omania**	**1.10**	**227**	P	**Pn**	**18 15 22.9**	**+0.4**
TARZ	**Mount Tarawera**	**1.12**	**219**	P	**Pn**	**18 15 23.5**	**+0.8**
KARZ	**Kaharoa**	**1.12**	**234**	P	**Pn**	**18 15 23.0**	**+0.4**
RAGZ	**Rawiri**	**1.13**	**179**	P	**Pn**	**18 15 23.9**	**+1.1**
RAGZ				S	**Sn**	**18 15 41.2**	**-0.4**
TKGZ	**Te Karaka**	**1.13**	**162**	P	**Pn**	**18 15 23.4**	**+0.7**
TKGZ				S	**Sn**	**18 15 43.2**	**-0.5**
RRRZ	**Republican Roa**	**1.20**	**215**	P	**Pn**	**18 15 23.7**	**+0.4**
HLRZ	**Highlands Stat**	**1.21**	**223**	P	**Pn**	**18 15 24.2**	**+0.8**
MUGZ	**Murupara**	**1.22**	**204**	P	**Pn**	**18 15 23.7**	**+0.2**
MUGZ				S	**Sn**	**18 15 43.4**	**-1.6**
KMRZ	**Kaimai**	**1.25**	**247**	P	**Pn**	**18 15 24.1**	**+0.3**
KMRZ				S	**Sn**	**18 15 45.0**	**-0.5**
CNGZ	**Carnagh Statio**	**1.29**	**150**	P	**Pn**	**18 15 25.5**	**+1.4**
RTZ	**Ruatahuna**	**1.29**	**195**	P	**Pn**	**18 15 24.4**	**+0.2**
RTZ				S	**Sn**	**18 15 45.2**	**-1.2**
HSRZ	**Hossack Road**	**1.31**	**224**	P	**Pn**	**18 15 25.7**	**+1.3**
HRRZ	**Handcock Road**	**1.35**	**220**	P	**Pn**	**18 15 25.6**	**+0.8**
RIGZ	**Rimuhau**	**1.37**	**168**	P	**Pn**	**18 15 25.8**	**+0.9**
PRRZ	**Plateau Road**	**1.38**	**215**	P	**Pn**	**18 15 25.6**	**+0.6**
GRRZ	**Galatos Road**	**1.42**	**226**	P	**Pn**	**18 15 26.4**	**+1.1**
SNGZ	**Shannon Statio**	**1.42**	**182**	P	**Pn**	**18 15 26.0**	**+0.6**
SNGZ				S	**Sn**	**18 15 48.4**	**+0.1**
ALRZ	**Allen Road**	**1.46**	**215**	P	**Pn**	**18 15 26.5**	**+0.7**
KUZ	**Kuaotunu**	**1.48**	**294**	P	**Pn**	**18 15 24.9**	**-1.0**
MTHZ	**Maungataniwha**	**1.55**	**196**	P	**Pn**	**18 15 27.1**	**+0.4**
TOZ	**Tahuroa Road**	**1.55**	**256**	P	**Pn**	**18 15 27.1**	**+0.5**
TOZ				S	**Sn**	**18 15 50.0**	**-0.5**
RAHZ	**Arahi**	**1.57**	**189**	P	**Pn**	**18 15 27.8**	**+0.9**
PRGZ	**Paritu Road**	**1.60**	**166**	P	**Pn**	**18 15 28.3**	**+1.1**
MRHZ	**Matea Rd**	**1.66**	**207**	P	**Pn**	**18 15 28.1**	**+0.3**
KNZ	**Kokohu**	**1.67**	**173**	P	**Pn**	**18 15 28.7**	**+0.9**
KNZ				S	**Sn**	**18 15 53.1**	**+0.2**
KUTZ	**Kaahu Road**	**1.68**	**227**	P	**Pn**	**18 15 29.2**	**+1.2**
WHHZ	**Waihua**	**1.71**	**184**	P	**Pn**	**18 15 29.4**	**+1.1**
TLZ	**Tolley Road**	**1.76**	**236**	P	**Pn**	**18 15 29.9**	**+1.0**
NMHZ	**Naumai**	**1.79**	**195**	P	**Pn**	**18 15 30.6**	**+1.3**
NMHZ				S	**Sn**	**18 15 56.6**	**+1.2**
MKAZ	**Moumakai**	**1.80**	**278**	P	**Pn**	**18 15 29.5**	**+0.2**
MHGZ	**Mahia Peninsul**	**1.80**	**167**	P	**Pn**	**18 15 30.8**	**+1.2**
WIAZ	**Waiheke Island**	**1.90**	**287**	P	**Pn**	**18 15 30.4**	**0.0**
GRZ	**Great Barrier**	**1.91**	**305**	P	**Pn**	**18 15 29.7**	**-0.8**
ARHZ	**Aropaoanui**	**1.92**	**189**	P	**Pn**	**18 15 31.5**	**+0.9**
ARHZ				S	**Sn**	**18 15 58.1**	**+0.3**
BKZ	**Black Stump Fm**	**1.93**	**201**	P	**Pn**	**18 15 31.8**	**+1.0**
BKZ				S	**Sn**	**18 15 57.4**	**-0.7**
ETAZ	**East Tamaki Re**	**2.02**	**281**	P	**Pn**	**18 15 32.2**	**+0.5**
MBAZ	**Motutapu North**	**2.08**	**286**	P	**Pn**	**18 15 32.8**	**+0.3**
KATZ	**Kakaramea**	**2.09**	**219**	P	**Pn**	**18 15 35.2**	**+2.5**
MCHZ	**McNeill Hill**	**2.15**	**195**	P	**Pn**	**18 15 34.3**	**+1.1**
MCHZ				S	**Sn**	**18 16 03.1**	**+0.7**
ABAZ	**Army Bay**	**2.19**	**290**	P	**Pn**	**18 15 34.0**	**+0.3**
KWHZ	**Kaweka Forest**	**2.19**	**200**	P	**Pn**	**18 15 34.3**	**+0.5**
KWHZ				S	**Sn**	**18 16 03.8**	**+0.3**
NTVZ	**North Tongarir**	**2.20**	**218**	P	**Pn**	**18 15 34.8**	**+0.9**
TMVZ	**Te Maari**	**2.20**	**217**	P	**Pn**	**18 15 34.7**	**+0.8**
ETVZ	**East Tongariro**	**2.21**	**216**	P	**Pn**	**18 15 34.7**	**+0.7**
KRVZ	**Karewarewa**	**2.21**	**218**	P	**Pn**	**18 15 36.2**	**+2.1**
AWAZ	**Awhitu Peninsu**	**2.22**	**277**	P	**Pn**	**18 15 34.5**	**+0.5**
NNVZ	**North Ngauruho**	**2.25**	**218**	P	**Pn**	**18 15 36.7**	**+2.1**
WTVZ	**West Tongariro**	**2.25**	**219**	P	**Pn**	**18 15 35.8**	**+1.3**
OTVZ	**Oturere**	**2.25**	**217**	P	**Pn**	**18 15 35.2**	**+0.6**
OTVZ				S	**Sn**	**18 16 04.6**	**-0.2**
SNVZ	**South Ngauruho**	**2.28**	**217**	P	**Pn**	**18 15 35.7**	**+0.7**
NGZ	**Ngauruhoe**	**2.29**	**217**	P	**Pn**	**18 15 36.0**	**+0.9**
WTAZ	**Waiatarua**	**2.30**	**280**	P	**Pn**	**18 15 35.7**	**+0.7**
TWVZ	**Taurewa**	**2.30**	**222**	P	**Pn**	**18 15 35.7**	**+0.6**
HIZ	**Hauiti**	**2.31**	**240**	P	**Pn**	**18 15 36.6**	**+1.5**
RVAZ	**Riverhead Bore**	**2.33**	**284**	P	**Pn**	**18 15 35.8**	**+0.4**
TUVZ	**Tukino**	**2.34**	**215**	P	**Pn**	**18 15 37.6**	**+2.0**
BHHZ	**Black Hill Sta**	**2.37**	**206**	P	**Pn**	**18 15 35.9**	**+0.1**
BHHZ				S	**Sn**	**18 16 05.6**	**-1.4**
WHVZ	**Whangaehu Hut**	**2.38**	**216**	P	**Pn**	**18 15 36.8**	**+0.6**
KRHZ	**Kereru**	**2.41**	**199**	P	**Pn**	**18 15 36.2**	**-0.2**
MOVZ	**Moawhango**	**2.41**	**212**	P	**Pn**	**18 15 36.2**	**-0.2**
WNVZ	**Wahianoa**	**2.42**	**215**	P	**Pn**	**18 15 37.1**	**+0.6**
KAHZ	**Kahuranaki**	**2.46**	**189**	P	**Pn**	**18 15 37.5**	**+0.6**
PKVZ	**Pokaka**	**2.51**	**219**	P	**Pn**	**18 15 39.5**	**+2.0**
MTVZ	**Mangateitei**	**2.52**	**216**	P	**Pn**	**18 15 39.5**	**+1.8**
PXZ	**Pawanui**	**2.69**	**189**	P	**Pn**	**18 15 39.9**	**+0.2**
PNHZ	**Pukenui**	**2.71**	**200**	P	**Pn**	**18 15 39.7**	**-0.3**
VRZ	**Vera Road**	**2.72**	**229**	P	**Pn**	**18 15 42.8**	**+2.8**
WPHZ	**Waipukurau**	**2.80**	**195**	P	**Pn**	**18 15 40.8**	**-0.1**
WCZ	**Waipu Caves**	**2.84**	**299**	P	**Pn**	**18 15 41.3**	**-0.2**
TSZ	**Takapari Road**	**2.91**	**202**	P	**Pn**	**18 15 42.0**	**-0.4**
WAZ	**Wanganui**	**3.04**	**218**	P	**Pn**	**18 15 46.2**	**+2.2**
DVHZ	**Dannevirke**	**3.08**	**198**	P	**Pn**	**18 15 43.7**	**-0.8**
ANWZ	**Angora Road**	**3.17**	**193**	P	**Pn**	**18 15 45.6**	**0.0**
POWZ	**Post Office Ro**	**3.28**	**202**	P	**Pn**	**18 15 46.2**	**-0.7**
PRWZ	**Pori Road**	**3.37**	**199**	P	**Pn**	**18 15 47.9**	**-0.2**
BFZ	**Birch Farm**	**3.43**	**195**	P	**Pn**	**18 15 48.0**	**-0.9**
MRZ	**Mangatainoka R**	**3.58**	**203**	P	**Pn**	**18 15 49.6**	**-1.2**
TIWZ	**Tintock**	**3.60**	**199**	P	**Pn**	**18 15 50.2**	**-0.9**
OUZ	**Omahuta**	**3.74**	**304**	P	**Pn**	**18 15 52.8**	**+0.0**
HOWZ	**Holdsworth Sta**	**3.82**	**202**	P	**Pn**	**18 15 52.2**	**-1.7**
TMWZ	**Te Maipa**	**3.92**	**197**	P	**Pn**	**18 15 53.7**	**-1.3**
KIW	**Kapiti Island**	**3.99**	**208**	P	**Pn**	**18 15 54.5**	**-1.6**
MTW	**Mount Morrison**	**4.06**	**201**	P	**Pn**	**18 15 55.1**	**-1.8**
TRWZ	**Traveller**	**4.24**	**198**	P	**Pn**	**18 15 57.7**	**-1.5**
PAWZ	**Paruwai Farm**	**4.29**	**200**	P	**Pn**	**18 15 57.9**	**-2.1**
DUWZ	**D'Urville Isla**	**4.37**	**217**	P	**Pn**	**18 16 00.9**	**0.0**
WEL	**Wellington**	**4.41**	**207**	P	**Pn**	**18 16 00.9**	**-0.6**
PLWZ	**Palliser**	**4.51**	**201**	P	**Pn**	**18 16 00.5**	**-2.4**
TCW	**Tory Channel**	**4.54**	**211**	P	**Pn**	**18 16 00.8**	**-2.3**
NNZ	**Nelson**	**4.95**	**218**	P	**Pn**	**18 16 07.1**	**-1.4**
BSWZ	**Blackbirch Sta**	**5.13**	**211**	P	**Pn**	**18 16 11.0**	**+0.2**
QRZ	**Quartz Range**	**5.13**	**226**	P	**Pn**	**18 16 10.4**	**-0.4**
THZ	**Tophouse**	**5.60**	**217**	P	**Pn**	**18 16 16.8**	**-0.3**
KHZ	**Kahutara**	**5.85**	**209**	P	**Pn**	**18 16 18.6**	**-1.8**
DSZ	**Denniston Nort**	**6.15**	**223**	P	**Pn**	**18 16 23.9**	**-0.5**
GVZ	**Greta Valley S**	**6.52**	**209**	P	**Pn**	**18 16 27.5**	**-1.6**
LTZ	**Lake Taylor**	**6.69**	**214**	P	**Pn**	**18 16 29.2**	**-2.2**
INZ	**Inchbonnie**	**7.03**	**219**	P	**Pn**	**18 16 35.2**	**-0.8**
OKCZ	**Okains Bay**	**7.16**	**206**	P	**Pn**	**18 16 36.3**	**-1.4**
MQZ	**McQueen's Vall**	**7.29**	**208**	P	**Pn**	**18 16 36.8**	**-2.6**
MHCZ	**Mount Hutt**	**7.59**	**214**	P	**Pn**	**18 16 42.0**	**-1.5**
RPZ	**Rata Peaks**	**7.97**	**215**	P	**Pn**	**18 16 47.6**	**-0.9**
ARCZ	**Arundel**	**8.10**	**214**	P	**Pn**	**18 16 48.6**	**-1.6**
TMZ	**Timaru**	**8.52**	**213**	P	**Pn**	**18 16 53.0**	**-2.8**
ODZ	**Otahua Downs**	**9.20**	**211**	P	**Pn**	**18 17 03.3**	**-1.5**
ASAR	**Alice Springs**	**39.54**	**278**	P	**P**	**18 22 12.2**	**+1.5**
	0.8nm,0.8s,baz=121,slow=8.1,SNR=12						
WRA	**Warramunga Arr**	**41.19**	**283**	P	**P**	**18 22 25.3**	**+1.0**
	0.9nm,0.7s,baz=128,slow=8.2,SNR=11						
ARCES	**ARCESS Array B**	**144.38**	**343**	PKhKP	PKPpre	18 34 10.6	
	0.6nm,0.8s,baz=54,slow=4.6,SNR=5.1						
FINES	**FINESS Array B**	**149.98**	**333**	PKPbc	**PKPab**	**18 34 32.4**	**+0.3**
	2.0nm,1.0s,baz=74,slow=4.9,SNR=3.6						

*BJI **13** 18:32:32.3±0.0, 18°.84N×147°.05E, h80km, mB4.9/27, mb4.5/40, Ms4.3/14, Ms7 4.0/14*
*NEIC **13** 18:32:34.0±1.6, 18°.68N±0°.08×147°.0E±0°.1, h77km±7km, mb4.7/33, Error ellipse: s-maj=17.2km s-min=11.9km az=91.0*
*IDC **13** 18:32:33.2±2.8, 18°.93N×146°.97E, h58km±26km, mb3.9/13, mb1 4.1/16, mb1mx3.9/48, mbtmp4.3/16, ML4.2/3, MS3.8/21, Ms1 3.9/21, ms1mx3.6/48, Error ellipse: s-maj=22.3km s-min=15.2km az=84.0*
ISC 13 18:32:31.5±0.6,**18°.92N**±0°.06×**147°.03E**±0°.10,**h50**km,**n87,** σ1§80/77,**mb4.6**/35,**MS4.0**/25,**1C, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANA2	**Anatahan**	**2.86**	**206**		**Pn**	**18 33 14.0**	**-0.6**
GUMO	**Guam**	**5.69**	**202**	P	**Pn**	**18 33 54.8**	**+1.3**
	20nm,0.3s,baz=112,slow=4.1,SNR=25						
GUMO				S	**Sn**	**18 35 00.3**	**+2.7**
	5.6nm,0.3s,baz=0.0,slow=20,SNR=1.2						
GUMO				LR	LR	18 36 03.4	
	comp=Z,2μm,18.7s,baz=33,slow=37						
GUMO	**Guam**	**5.69**	**202**	Pn	**Pn**	**18 33 54.7**	**+1.1**
JCJ	**Chichijima**	**9.27**	**332**	P	**Pn**	**18 34 43.2**	**+0.6**
	5.8nm,0.3s,baz=272,slow=22,SNR=7.4						
JCJ				S	**Sn**	**18 36 19.9**	**-5.6**
	3.5nm,0.3s,baz=294,slow=19,SNR=1.6						
JCJ	**Chichijima**	**9.27**	**332**	Pn	**Pn**	**18 34 44.7**	**+2.1**
JHJ	**Hachijo jima 2**	**15.56**	**337**	LR	LR	18 42 45.4	
	comp=Z,157nm,18.7s,baz=142,slow=40						
PATS	**Pohnpei**	**16.28**	**136**	Pn	**Pn**	**18 36 14.2**	**-2.7**
INU	**Inuyama**	**18.61**	**334**	P	**Pn**	**18 36 46.9**	**+1.5**
H11S3	**WAKE ISLAND Hy**	**18.63**	**88**	T	T	18 55 53.0	
	baz=275,slow=74,SNR=23						
H11S1	**WAKE ISLAND Hy**	**18.64**	**88**	T	T	18 55 53.9	
	baz=275,slow=74,SNR=21						
H11S2	**WAKE ISLAND Hy**	**18.65**	**88**	T	T	18 55 54.4	
	baz=275,slow=74,SNR=16						
JGF	**Kuroka**	**18.68**	**335**	P	**Pn**	**18 36 48.1**	**+1.6**
JOW	**Kunigami**	**18.97**	**298**	LR	LR	18 43 05.7	
	comp=Z,564nm,20.8s,baz=82,slow=33						
MJAR	**Matsushiro Arr**	**19.19**	**338**	P	**Pn**	**18 36 53.5**	**+1.0**
	0.1nm,0.3s,baz=169,slow=4.4,SNR=9.0						
MJAR	**Matsushiro Arr**	**19.19**	**338**	P	**Pn**	**18 36 53.2**	**+0.8**
MAJO	**Matsushiro**	**19.19**	**338**	P	**Pn**	**18 36 55.0**	**+2.5**
MAT	**Matsushiro**	**19.19**	**338**	P	**P**	**18 36 50.5**	**-0.7**
MAT				S	**S**	**18 40 25.0**	**-1.0**
JSU	**Suzuyama**	**19.51**	**313**	P	**P**	**18 36 53.2**	**-1.5**
JSU				IAmb	IAmb	18 37 27.5	
	comp=Z,75nm,1.6s						
JHS	**Saijyo**	**20.21**	**325**	P	**P**	**18 37 01.4**	**-0.9**
DAV	**Davao City (W)**	**23.95**	**243**	LR	LR	18 45 01.3	
	comp=Z,283nm,21.9s,baz=117,slow=31						
NACB	**Ninganchiao**	**24.21**	**287**	P	**P**	**18 37 40.7**	**-2.9**
NACB				IAmb	IAmb	18 38 04.1	
	comp=Z,43nm,1.3s						
KSRS	**Korea Array**	**24.90**	**322**	P	**P**	**18 37 50.0**	**+0.2**
	comp=Z,2.8nm,0.6s,baz=149,slow=8.6,SNR=18						
KSRS				LR	LR	18 47 28.5	
	comp=Z,437nm,20.2s,baz=139,slow=36						
SIJI	**Sorong**	**25.03**	**220**	LR	LR	18 47 05.0	
	comp=Z,208nm,18.2s,baz=172,slow=35						
QZH	**Quanzhou**	**27.02**	**288**	*e*P	**P**	**18 38 11.6**	**+2.6**
USRK	**Usuriysk Ar.**	**28.18**	**337**	P	**P**	**18 38 21.0**	**+1.8**
	comp=Z,1.9nm,0.7s,baz=147,slow=8.1,SNR=2.2						
USRK				LR	LR	18 49 50.7	
	comp=Z,170nm,19.0s,baz=150,slow=37						
NJ2	**Nanjing**	**28.50**	**303**	*e*P	**P**	**18 38 22.9**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MDJ	**Mudanjiang**	**29.47**	**334**	P	**P**	**18 38 32.3**	**+1.6**
MDJ				S	**S**	**18 43 24.4**	**+2.9**
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,90nm,5.0s						
MDJ				LR	LR		
	comp=Z,170nm,18.5s						
MDJ				LR	LR		
	comp=Z,140nm,17.1s						
MDJ				LR	LR		
	comp=Z,360nm,24.3s						
SAUI	**Saumlaki**	**30.91**	**212**	P	P	18 38 38.2	-5.4
KLR	**Kul'dur**	**32.64**	**341**	LR	LR	18 54 37.1	
	comp=Z,80nm,19.8s,baz=153,slow=41						
SOEI	**Soe**	**36.27**	**220**	P	P	18 39 25.1	-5.3
XAN	**Xi'an**	**37.05**	**302**	P	P	18 39 43.3	+6.5
XAN				pP	sP	18 39 59.8	+5.4
XAN				pmax	pmax		
	comp=Z,5.0nm,1.3s						
XAN				LR	LR		
	comp=N,170nm,17.3s						
XAN				LR	LR		
	comp=E,310nm,19.4s						
XAN				LR	LR		
	comp=Z,370nm,19.9s						
WB2	**Warramunga Arr**	**40.58**	**199**	P	**P**	**18 40 02.5**	**-3.9**
CD2	**Chengdu**	**40.78**	**296**	*e*P	**P**	**18 40 07.4**	**-0.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
CD2				LR	LR		
	comp=Z,270nm,14.4s						
CD2				LR	LR		
	comp=Z,400nm,18.9s						
CD2				LR	LR		
	comp=Z,210nm,16.9s						
KMI	**Kunming**	**41.38**	**287**	⇑P	**P**	**18 40 13.3**	**0.0**
LZH	**Lanzhou**	**41.57**	**303**	*e*P	**P**	**18 40 14.8**	**+0.1**
LZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LZH				pmax	pmax		
	comp=Z,73nm,4.3s						
LZH				LR	LR		
	comp=Z,170nm,15.2s						
LZH				LR	LR		
	comp=Z,180nm,15.7s						
LZH				LR	LR		
	comp=Z,170nm,16.3s						
SONM	**Songino Array**	**43.76**	**321**	P	**P**	**18 40 33.2**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=143,slow=7.5,SNR=12						
SONM				PcP	**PcP**	**18 42 19.5**	**+1.2**
	comp=Z,1.0nm,0.6s,baz=142,slow=3.1,SNR=3.3						
SONM				LR	LR	18 59 39.9	
	comp=Z,225nm,18.8s,baz=110,slow=37						
SONM	**Songino Array**	**43.76**	**321**	P	**P**	**18 40 33.6**	**+1.4**
SONM				IAmb	IAmb	18 40 49.1	
	comp=Z,16nm,1.7s						
ASAR	**Alice Springs**	**44.22**	**197**	P	**P**	**18 40 35.9**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=19,slow=8.8,SNR=1.4						
DZM	**Mont Dzumac**	**44.95**	**154**	LR	LR	18 57 53.0	
	comp=Z,162nm,19.3s,baz=344,slow=34						
GTA	**Gaotai**	**45.41**	**307**	*e*P	**P**	**18 40 46.4**	**+0.9**
GTA				pP	pwP	18 41 00.6	-1.8
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,97nm,6.1s						
GTA				LR	LR		
	comp=Z,130nm,20.4s						
GTA				LR	LR		
	comp=Z,190nm,19.6s						
GTA				LR	LR		
	comp=Z,230nm,18.9s						
CMAR	**Chiang Mai Arr**	**45.44**	**278**	P	**P**	**18 40 45.7**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=63,slow=6.4,SNR=9.7						
CMAR				LR	LR	19 00 32.4	
	comp=Z,40nm,18.3s,baz=144,slow=37						
STKA	**Stephens Creek**	**50.78**	**186**	P	P	18 41 21.5	-5.3
WMQ	**Urumqi**	**55.12**	**311**	*e*P	**P**	**18 42 00.1**	**+1.3**
WMQ				pP	pwP	18 42 14.5	-1.2
WMQ				pmax	pmax		
	comp=Z,20nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,120nm,4.9s						
WMQ				LR	LR		
	comp=Z,420nm,21.9s						
WMQ				LR	LR		
	comp=Z,380nm,19.9s						
WMQ				LR	LR		
	comp=Z,130nm,20.9s						
ZAA0	**Zalesovo Array**	**58.61**	**322**	P	**P**	**18 42 23.3**	**+0.1**
ZAA0				IAmb	IAmb	18 42 25.8	
	comp=Z,4.5nm,0.8s						
ZALV	**Zalesovo Beam**	**58.61**	**322**	P	**P**	**18 42 23.6**	**+0.4**
	comp=Z,3.9nm,0.6s,baz=111,slow=9.0,SNR=14						
ZALV				LR	LR	19 07 36.1	
	comp=Z,97nm,20.5s,baz=97,slow=36						
MK31	**Makanchi Array**	**59.22**	**314**	P	**P**	**18 42 27.6**	**-0.1**
MK31				IAmb	IAmb	18 42 34.9	
	comp=Z,5.2nm,0.9s						
MKAR	**Makanchi Array**	**59.22**	**314**	P	**P**	**18 42 27.9**	**+0.3**
	comp=Z,3.1nm,0.6s,baz=90,slow=7.4,SNR=29						
MKAR	**Makanchi Array**	**59.22**	**314**	P	**P**	**18 42 28.1**	**+0.4**
MAKZ	**Makanchi**	**59.43**	**314**	P	**P**	**18 42 29.5**	**+0.4**
MAKZ				IAmb	IAmb	18 42 30.4	
	comp=Z,6.7nm,0.7s						
I21K	**Tanana**	**60.92**	**25**	P	**P**	**18 42 39.5**	**+0.6**
I21K				IAmb	IAmb	18 42 41.9	
	comp=Z,9.9nm,0.9s						
BPAW	**Bear Paw Mtn.**	**61.00**	**26**	P	**P**	**18 42 40.5**	**+1.0**
PWL	**Port Wells**	**61.34**	**30**	P	**P**	**18 42 41.9**	**-0.1**
SML	**Sawmill**	**61.56**	**29**	P	**P**	**18 42 44.4**	**+1.0**
SCM	**Sheep Creek Mo**	**62.03**	**29**	P	**P**	**18 42 47.2**	**+0.6**
DHY	**Denali Highway**	**62.29**	**28**	P	**P**	**18 42 49.4**	**+1.0**
DHY				IAmb	IAmb	18 42 50.4	
	comp=Z,8.5nm,1.2s						
WRH	**Wood River Hil**	**62.31**	**26**	P	**P**	**18 42 49.2**	**+0.9**
WRH				IAmb	IAmb	18 42 49.7	
	comp=Z,7.3nm,1.0s						
MDM	**Murphy Dome**	**62.38**	**26**	P	**P**	**18 42 50.8**	**+1.9**
MDM				IAmb	IAmb	18 42 51.3	
	comp=Z,8.3nm,1.0s						
ILAR	**Eielson Array**	**62.89**	**26**	P	**P**	**18 42 52.0**	**-0.2**
	comp=Z,4.2nm,0.9s,baz=258,slow=5.5,SNR=29						
ILAR				LR	LR	19 08 27.5	
	comp=Z,49nm,20.1s,baz=278,slow=34						
ILAR	**Eielson Array**	**62.89**	**26**	P	**P**	**18 42 52.1**	**-0.1**
GLB	**Gilahina Butte**	**63.61**	**30**	P	**P**	**18 42 57.5**	**+0.4**
GLB				IAmb	IAmb	18 42 59.6	
	comp=Z,13nm,1.1s						
VRDI	**Verde Repeater**	**63.75**	**30**	P	**P**	**18 42 58.5**	**+0.4**
VRDI				IAmb	IAmb	18 43 00.4	
	comp=Z,9.5nm,1.1s						
KSH	**Kashi**	**63.77**	**305**	P	**P**	**18 43 02.3**	**+3.7**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
DOT	**Dot Lake**	**63.87**	**28**	P	**P**	**18 42 59.2**	**+0.5**
DOT				IAmb	IAmb	18 43 00.6	
	comp=Z,7.0nm,0.9s						
SCRK	**Sand Creek**	**63.96**	**27**	P	**P**	**18 42 60.0**	**+0.5**
SCRK				IAmb	IAmb	18 43 01.3	
	comp=Z,9.9nm,1.1s						
BMAR	**Burnt Mountain**	**64.41**	**23**	P	**P**	**18 43 04.2**	**+1.9**
BCAR	**Beaver Creek A**	**64.79**	**28**	P	**P**	**18 43 06.0**	**+1.2**
LOGN	**Logan Glacier**	**64.88**	**31**	P	**P**	**18 43 06.7**	**+1.1**
LOGN				IAmb	IAmb	18 43 12.8	
	comp=Z,12nm,1.2s						
KK31	**Karatay Array**	**67.59**	**310**	P	**P**	**18 43 22.3**	**-0.8**
KKAR	**Karatay Array**	**67.59**	**310**	P	**P**	**18 43 22.6**	**+0.5**
KKAR	**Karatay Array**	**67.59**	**310**

KNRA	**Kununurra**		**13.71 214**	Pn		**Pn**	**18 36 44.9**	**+1.1**
BATI	**Baumata**		**14.12 245**	Pn		**Pn**	**18 36 53.0**	**+3.6**
	1.9nm,0.3s,baz=128,slow=4.4,SNR=5.8							
WRAB	**Tennant Creek**		**15.73 188**			**Pn**	**18 37 09.3**	**-1.5**
WRAB				IAmb		IAmb	18 37 25.0	
	comp=Z,28nm,0.8s							
WR0	**Warramunga Arr**		**15.73 187**			**Pn**	**18 37 10.2**	**-0.6**
WB2	**Warramunga Arr**		**15.74 188**			**Pn**	**18 37 12.1**	**+1.1**
WRA	**Warramunga Arr**		**15.74 188**	Pn		**Pn**	**18 37 10.6**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=9.6,slow=12,SNR=32							
WRA				Sn		**Sn**	**18 40 02.7**	**-1.7**
	comp=Z,1.2nm,0.3s,baz=7.6,slow=24,SNR=8.6							
WRA				Lg		Lg	18 41 50.2	
	comp=Z,0.7nm,0.3s,baz=17,slow=29,SNR=4.5							
WRA	**Warramunga Arr**		**15.74 188**			**Pn**	**18 37 10.1**	**-0.9**
TOLI2	**Tolitoli**		**16.68 288**	Pn		**Pn**	**18 37 23.0**	**+0.1**
TOLI2				IAmb		IAmb	18 37 38.9	
	comp=Z,18nm,1.0s							
FITZ	**Fitzroy Crossi**		**17.44 217**	P		**Pn**	**18 37 33.2**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=34,slow=8.7,SNR=14							
FITZ				S		**Sn**	**18 40 42.3**	**-3.3**
	comp=Z,0.3nm,0.3s,baz=191,slow=5.9,SNR=5.6							
FITZ				LR		LR	18 44 34.8	
	comp=Z,148nm,19.1s,baz=38,slow=38							
FITZ	**Fitzroy Crossi**		**17.44 217**	P		**Pn**	**18 37 32.7**	**+0.4**
FITZ				IAmb		IAmb	18 37 44.9	
	comp=Z,18nm,0.8s							
CTA	**Charters Tower**		**18.33 150**	P		**Pn**	**18 37 45.2**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=319,slow=14,SNR=2.4							
CTA				Lg		Lg	18 43 20.8	
	comp=Z,0.3nm,0.3s,baz=249,slow=23,SNR=3.5							
CTAO	**Charters Tower**		**18.33 150**	P		**P**	**18 37 41.2**	**-1.9**
CTAO				IAmb		IAmb	18 37 44.4	
	comp=Z,26nm,1.2s							
AS31	**Alice Springs**		**19.47 187**			**P**	**18 37 55.9**	**+0.2**
AS31				IAmb		IAmb	18 38 12.6	
	comp=Z,8.5nm,0.7s							
ASAR	**Alice Springs**		**19.47 187**	P		**Pn**	**18 37 57.5**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=11,slow=11,SNR=63							
ASAR				S		**S**	**18 41 33.5**	**-0.4**
	baz=13,slow=30,SNR=4.3							
ASAR	**Alice Springs**		**19.47 187**			**P**	**18 37 56.3**	**+0.6**
PSA00	**Pilbara Seismi**		**23.68 222**	P		**P**	**18 38 42.0**	**+1.7**
PSA00				IAmb		IAmb	18 38 48.4	
	comp=Z,4.8nm,0.8s							
STKA	**Stephens Creek**		**27.87 171**	P		**P**	**18 39 17.3**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=300,slow=20,SNR=1.5							
STKA				LR		LR	18 51 11.2	
	comp=Z,129nm,20.5s,baz=357,slow=38							
STKA	**Stephens Creek**		**27.87 171**	IAmb		IAmb	18 39 24.8	
	comp=Z,2.8nm,1.4s							
MORW	**Morawa**		**31.45 216**	P		**P**	**18 39 46.9**	**-3.1**
MORW				IAmb		IAmb	18 39 47.2	
	comp=Z,5.6nm,0.9s							
JCJ	**Chichijima**		**31.64 10**	LR		LR	18 52 33.3	
	comp=Z,55nm,18.5s,baz=100,slow=36							
TRTT	**Trang**		**38.73 288**	P		**P**	**18 40 57.4**	**+4.5**
	comp=Z,12nm,0.9s							
TRTT	**Trang**		**38.73 288**	P		**P**	**18 40 57.4**	**+4.5**
	comp=Z,12nm,0.9s							
CM09	**Chiang Mai Arr**		**43.38 303**	P		P	18 41 40.2	+9.0
	comp=Z,7.0nm,1.1s							
CM01	**Chiang Mai Arr**		**43.40 302**	P		P	18 41 40.5	+9.2
	comp=Z,6.3nm,0.9s							
CM02	**Chiang Mai Arr**		**43.42 302**	P		P	18 41 44.3	+13
	comp=Z,5.5nm,1.2s							
CMAR	**Chiang Mai Arr**		**43.43 302**	P		**P**	**18 41 30.8**	**-0.8**
	comp=Z,2.1nm,1.1s,baz=110,slow=5.8,SNR=2.6							
CMMT	**Chiang Mai**		**43.59 303**	P		P	18 41 40.6	+7.7
	comp=Z,6.8nm,1.1s							
CHTO	**Chiang Mai**		**43.59 303**	P		P	18 41 40.7	+7.8
MA2	**Magadan**		**64.62 8**	LR		LR	19 15 16.3	
	comp=Z,158nm,18.9s,baz=22,slow=39							
MKAR	**Makanchi Array**		**69.75 324**	P		**P**	**18 44 39.4**	**+1.1**
	comp=Z,1.9nm,0.8s,baz=115,slow=8.0,SNR=5.8							
MKAR	**Makanchi Array**		**69.75 324**	P		**P**	**18 44 38.7**	**+0.4**
VNDA	**Vanda**		**74.44 174**	LR		LR	19 16 20.4	
	comp=Z,61nm,18.6s,baz=352,slow=34							
ILAR	**Eielson Array**		**86.11 25**	P		**P**	**18 46 17.8**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=259,slow=4.9,SNR=9.4							

*IDC **13** 18:45:32.7±3.0,35°.13N×139°.86E,h65km±20km,mb3.3/2, mb1 3.7/4,mb1mx3.1/46,mbtmp3.9/4,Error ellipse: s-maj=69.2km s-min=13.4km az=76.0*

*JMA **13** 18:45:32.2±0.1,35°.19N×139°.84E,h69km±2km,M3.2 Broadband fault plane solution: P waves. NP1: ϕs12.00000°,δ46.00000°,λ17.00000°. NP2:ϕs270.00000°, δ78.00000°,λ134.00000°. Principal axes: T Plg40.0000°, Azm220.0000°; N Plg43.0000°, Azm78.0000°; P Plg20.0000°, Azm328.0000°;*

*NEIC **13** 18:45:32.4±1.4,35°.25N±0°.06×139°.95E±0°.07, h68km±13km,mb4.2/4 Error ellipse: s-maj=11.4km s-min=2.5km az=133.0*

ISC 13 18:45:32.4±1.0,35°.14N±0°.04×139°.88E±0°.03,h67km±7km, n40,σ1ş20/50,mb4.2/4,4C-6D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TATJ	**Tateyama 2**		**0.11 174**	P		**Pn**	**18 45 42.9**	**+0.6**
TATJ				S		**Sn**	**18 45 50.7**	**+1.2**
JKUC	**kamogawauchiur**		**0.27 86**	⇑P		**Pn**	**18 45 43.2**	**+0.2**
JKUC				S		**Sn**	**18 45 51.2**	**+0.5**
KTR	**Katsuura**		**0.36 89**	⇑P		**Pn**	**18 45 43.9**	**+0.2**
KTR				S		**Sn**	**18 45 52.4**	**+0.5**
JCN	**Nagara**		**0.38 44**	⇑P		**Pn**	**18 45 44.4**	**+0.5**
JCN				S		**Sn**	**18 45 53.3**	**+1.0**
JIM2	**Oshima 3**		**0.56 221**	⇓P		**Pn**	**18 45 45.5**	**-0.1**
JIM2				S		**Sn**	**18 45 54.6**	**-0.6**
BSO3	**Boso 3**		**0.62 123**	⇓P		**Pn**	**18 45 46.5**	**+0.6**
BSO3				X			18 45 57.2	
JOD2	**Odawara 2**		**0.66 281**	⇓P		**Pn**	**18 45 46.1**	**-0.5**
JOD2				S		**Sn**	**18 45 56.1**	**-1.0**
JSMT	**Sammumatsuo**		**0.69 43**	⇑P		**Pn**	**18 45 47.5**	**+0.6**
JSMT				S		**Sn**	**18 45 58.9**	**+1.3**
JIZS	**Izushimoda**		**0.92 243**	P		**Pn**	**18 45 49.8**	**0.0**
JIZS				S		**Sn**	**18 46 02.5**	**-0.1**
JFNN	**Fujinakano**		**0.98 273**	P		**Pn**	**18 45 50.7**	**+0.2**
JFNN				S		**Sn**	**18 46 04.3**	**+0.4**
BSO1	**Boso 1**		**1.03 118**	⇓P		**Pn**	**18 45 50.6**	**+0.1**
BSO1				S		**Sn**	**18 46 04.0**	**-0.1**
JYT	**Yasato**		**1.11 13**			**Pn**	**18 45 50.8**	**-1.4**
JYN	**Shimob**		**1.15 289**	P		**Pn**	**18 45 52.5**	**-0.2**
JYN				S		**Pn**	**18 46 07.4**	**-0.4**
JRY	**Ryogami san**		**1.18 318**	⇓P		**Pn**	**18 45 53.0**	**-0.1**
JRY				S		**Sn**	**18 46 08.1**	**-0.5**
JAG	**Ashikaga**		**1.33 345**	⇓P		**Pn**	**18 45 54.3**	**-0.7**
JAG				S		**Sn**	**18 46 10.3**	**-1.6**
MJAR	**Matsushiro Arr**		**1.95 316**	P		**Pn**	**18 46 03.1**	**-0.2**
	3.3nm,0.3s,baz=134,slow=13,SNR=302							
MJAR	**Matsushiro Arr**		**1.95 316**			**Pn**	**18 46 02.4**	**-0.9**
MAJO	**Matsushiro**		**1.95 316**			**Pn**	**18 46 03.7**	**+0.4**
MAT	**Matsushiro**		**1.95 316**	P		**Pn**	**18 46 03.9**	**+0.6**
MAT				S		**Sn**	**18 46 27.8**	**+1.0**
JHJ	**Hachijo jima 2**		**2.02 182**	P		**Pn**	**18 46 05.3**	**+1.1**
	40nm,0.3s,baz=289,slow=16,SNR=38							
JHJ				S		**Sn**	**18 46 29.1**	**+0.7**
	105nm,0.3s,baz=97,slow=22,SNR=15							
JHJ2	**Mitsune**		**2.02 181**			**Pn**	**18 46 05.3**	**+1.0**
JGF	**Kuroka**		**2.11 283**			**Pn**	**18 46 06.9**	**+1.4**
INU	**Inuyama**		**2.35 276**			**Pn**	**18 46 09.5**	**+0.8**
JMM	**Marumori**		**2.82 15**			**Pn**	**18 46 15.0**	**-0.1**
JSD	**Sado**		**3.17 336**	Pn		**Pn**	**18 46 18.6**	**-1.3**
JWT	**Wachi**		**3.67 274**	Pn		**Pn**	**18 46 28.0**	**+1.3**
JCJ	**Chichijima**		**8.26 166**	P		**Pn**	**18 47 28.1**	**-1.4**
	2.2nm,0.3s,baz=282,slow=24,SNR=8.9							
JCJ				S		**Sn**	**18 48 55.4**	**-5.9**
	1.8nm,0.3s,baz=276,slow=19,SNR=2.0							
H11N2	**WAKE ISLAND Hy**		**28.35 116**	T		T	19 21 00.5	
	baz=309,slow=75,SNR=17							
H11N1	**WAKE ISLAND Hy**		**28.36 116**	T		T	19 21 01.1	
	baz=309,slow=75,SNR=21							
H11N3	**WAKE ISLAND Hy**		**28.37 116**	T		T	19 21 00.5	
	baz=309,slow=75,SNR=27							
H11S1	**WAKE ISLAND Hy**		**28.98 118**	T		T	19 21 30.1	
	baz=310,slow=76,SNR=18							
H11S3	**WAKE ISLAND Hy**		**28.98 118**	T		T	19 21 33.5	
	baz=310,slow=76,SNR=23							
H11S2	**WAKE ISLAND Hy**		**28.99 118**	T		T	19 21 33.5	
	baz=310,slow=76,SNR=20							
WRAB	**Tennant Creek**		**55.02 186**	P		**P**	**18 54 57.0**	**-0.2**
WRAB				IAmb		IAmb	18 55 13.6	
	comp=Z,2.4nm,1.0s							
WB2	**Warramunga Arr**		**55.03 186**	P		**P**	**18 54 56.0**	**-1.1**
WR0	**Warramunga Arr**		**55.03 186**	P		**P**	**18 54 57.1**	**-0.1**
WR0				IAmb		IAmb	18 54 57.7	
	comp=Z,2.3nm,0.8s							
WRA	**Warramunga Arr**		**55.03 186**	P		**P**	**18 54 56.9**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=0.9,slow=7.5,SNR=19							
AS31	**Alice Springs**		**58.76 186**	P		**P**	**18 55 25.1**	**+1.6**
ASAR	**Alice Springs**		**58.76 186**	P		**P**	**18 55 24.8**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=21,slow=12,SNR=8.3							
ASAR	**Alice Springs**		**58.76 186**	P		**P**	**18 55 23.1**	**-0.4**

*KRSC **13** 18:58:18.2±0.9,54°.61N×162°.42E,h53km±10km,ML4.3 MOS **13** 18:58:20.0±0.8,54°.66N×162°.39E,h56km,mb4.7/9,Error ellipse: s-maj=7.5km s-min=4.5km az=84.0*

*IDC **13** 18:58:23.6±3.4,54°.80N×161°.80E,h64km±31km,mb3.6/16, mb1 3.8/18,mb1mx3.6/47,mbtmp3.9/18,ML4.4/1,MS2.8/2, Ms1 2.8/2,ms1mx2.5/37,Error ellipse: s-maj=20.5km s-min=17.0km az=123.0*

ISC 13 18:58:20.2±0.9,54°.64N±0°.03×162°.40E±0°.03,h41km±8km, n136,σ1ş52/182,mb4.0/23,12C-4D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKZ	**Mys Kozlova**		**0.40 259**	PN		**Pn**	**18 58 29.3**	**-0.3**
MKZ				S		**Sn**	**18 58 36.2**	**0.0**
MKZ	**Mys Kozlova**		**0.40 259**	*i* P		**Pn**	**18 58 29.3**	**-0.3**
MKZ				*e*S		**Sn**	**18 58 36.2**	**0.0**
TUMD	**Tumrok D**		**1.28 297**	*e*P		**Pn**	**18 58 41.4**	**-0.3**
KZV	**Kizimen**		**1.30 292**	PN		**Pn**	**18 58 41.7**	**-0.4**
KZV				S		**Sn**	**18 58 58.2**	**-0.1**
KZV	**Kizimen**		**1.30 292**	*i* P		**Pn**	**18 58 41.7**	**-0.4**
KZV				*e*S		**Sn**	**18 58 58.2**	**-0.1**
TUMR	**Tumrok**		**1.45 297**	PN		**Pn**	**18 58 44.2**	**+0.2**
TUMR				S		**Sn**	**18 59 02.9**	**+1.0**
TUMR	**Tumrok**		**1.45 297**	*e*P		**Pn**	**18 58 44.2**	**+0.2**
TUMR				*e*S		**Sn**	**18 59 02.9**	**+1.0**
KBTR	**Krutoberegovo**		**1.59 9**	PN		**Pn**	**18 58 46.4**	**+0.5**
KBTR				S		**Sn**	**18 59 05.8**	**+0.6**
KBTR	**Krutoberegovo**		**1.59 9**	*e*P		**Pn**	**18 58 46.4**	**+0.5**
KBTR				*e*S		**Sn**	**18 59 05.8**	**+0.6**
KBG	**Krutoberegovo**		**1.63 6**	PN		**Pn**	**18 58 46.9**	**+0.5**
KBG				S		**Sn**	**18 59 06.8**	**+0.7**
KBG	**Krutoberegovo**		**1.63 6**	*e*P		**Pn**	**18 58 46.9**	**+0.5**
KBG				*e*S		**Sn**	**18 59 06.8**	**+0.7**
ZLN	**Zelenaya**		**1.66 327**	PN		**Pn**	**18 58 47.9**	**+1.1**
ZLN				S		**Sn**	**18 59 08.7**	**+1.8**
ZLN	**Zelenaya**		**1.66 327**	*i* P		**Pn**	**18 58 47.9**	**+1.1**
ZLN				*e*S		**Sn**	**18 59 08.7**	**+1.8**
KMNR	**Kamenistaya**		**1.67 313**	PN		**Pn**	**18 58 47.7**	**+0.7**
KMNR				S		**Sn**	**18 59 08.4**	**+1.1**
KMNR	**Kamenistaya**		**1.67 313**	*e*P		**Pn**	**18 58 47.7**	**+0.7**
KMNR				*e*S		**Sn**	**18 59 08.4**	**+1.1**
BZWR	**Bezymyannyi-We**		**1.72 322**	PN		**Pn**	**18 58 48.3**	**+0.6**
BZWR	**Bezymyannyi-We**		**1.72 322**	*e*P		**Pn**	**18 58 48.3**	**+0.6**
LGNR	**Loginova**		**1.75 327**	PN		**Pn**	**18 58 49.5**	**+1.3**
LGNR	**Loginova**		**1.75 327**	*e*P		**Pn**	**18 58 49.5**	**+1.3**
CIRR	**Tsirk**		**1.75 328**	PN		**Pn**	**18 58 49.4**	**+1.2**
CIRR	**Tsirk**		**1.75 328**	*e*P		**Pn**	**18 58 49.4**	**+1.2**
KIRR	**Kirishev**		**1.77 319**	PN		**Pn**	**18 58 49.3**	**+0.9**
KIRR	**Kirishev**		**1.77 319**	*e*P		**Pn**	**18 58 49.3**	**+0.9**
KPT	**Kopyto**		**1.82 318**	PN		**Pn**	**18 58 50.2**	**+1.1**
KPT	**Kopyto**		**1.82 318**	*e*P		**Pn**	**18 58 50.2**	**+1.1**
KII	**Karymskiy**		**1.83 252**	PN		**Pn**	**18 58 50.0**	**+0.9**
KII				S		**Sn**	**18 59 12.3**	**+1.2**
KII	**Karymskiy**		**1.83 252**	*e*P		**Pn**	**18 58 50.0**	**+0.9**
KII				*e*S		**Sn**	**18 59 12.3**	**+1.2**
KRSR	**Krestovskiy**		**1.90 327**	PN		**Pn**	**18 58 50.7**	**+0.6**
KRSR	**Krestovskiy**		**1.90 327**	*e*P		**Pn**	**18 58 50.7**	**+0.6**
KLY	**Klyuchi**		**1.95 330**	PN		**Pn**	**18 58 50.9**	**+0.1**
KLY				S		**Sn**	**18 59 13.9**	**-0.1**
KLY	**Klyuchi**		**1.95 330**	*e*P		**Pn**	**18 58 50.9**	**+0.1**
KLY				*e*S		**Sn**	**18 59 13.9**	**-0.1**
SMKR	**Semkarok**		**2.02 345**	PN		**Pn**	**18 58 52.9**	**+1.1**
SMKR	**Semkarok**		**2.02 345**	*e*P		**Pn**	**18 58 52.9**	**+1.1**
KOZ	**Kozyrevsk**		**2.03 316**	PN		**Pn**	**18 58 53.0**	**+1.2**
KOZ				S		**Sn**	**18 59 17.4**	**+1.5**
KOZ	**Kozyrevsk**		**2.03 316**	*e*P		**Pn**	**18 58 53.0**	**+1.2**
KOZ				*e*S		**Sn**	**18 59 17.4**	**+1.5**
BDR	**Baidarnaya**		**2.05 341**	PN		**Pn**	**18 58 53.3**	**+1.1**
BDR	**Baidarnaya**		**2.05 341**	*e*P		**Pn**	**18 58 53.3**	**+1.1**
SPN	**Mys Shipunski**		**2.08 223**	PN		**Pn**	**18 58 52.5**	**-0.1**
SPN				S		**Sn**	**18 59 15.9**	**-1.4**
SPN	**Mys Shipunski**		**2.08 223**	*e*P		**Pn**	**18 58 52.5**	**-0.1**
SPN				*e*S		**Sn**	**18 59 15.9**	**-1.4**
SRKR	**Sorokina**		**2.14 342**	PN		**Pn**	**18 58 54.3**	**+0.9**
SRKR	**Sorokina**		**2.14 342**	*e*P		**Pn**	**18 58 54.3**	**+0.9**
BKI	**Bering**		**2.14 73**	PN		**Pn**	**18 58 54.5**	**+1.1**
BKI				S		**Sn**	**18 59 18.2**	**-0.5**
BKI	**Bering**		**2.14 73**	*e*P		**Pn**	**18 58 54.5**	**+1.1**
BKI				*e*S		**Sn**	**18 59 18.2**	**-0.5**
ESO	**Esso**		**2.48 303**	PN		**Pn**	**18 59 00.5**	**+2.5**
ESO				S		**Sn**	**18 59 29.6**	**+2.6**
ESO	**Esso**		**2.48 303**	*e*P		**Pn**	**18 59 00.5**	**+2.5**
ESO				*e*S		**Sn**	**18 59 29.6**	**+2.6**
SMAR	**Somma**		**2.53 239**	PN		**Pn**	**18 59 00.2**	**+1.3**
SMAR				S		**Sn**	**18 59 29.6**	**+1.0**
SMAR	**Somma**		**2.53 239**	*e*P		**Pn**	**18 59 00.2**	**+1.3**
SMAR				*e*S		**Sn**	**18 59 29.6**	**+1.0**
KRER	**Koryakskii**		**2.53 240**	PN		**Pn**	**18 59 00.8**	**+1.8**
KRER				S		**Sn**	**18 59 30.3**	**+1.6**
KRER	**Koryakskii**		**2.53 240**	*e*P		**Pn**	**18 59 00.8**	**+1.8**
KRER				*e*S		**Sn**	**18 59 30.3**	**+1.6**
UGLR	**Uglovaya**		**2.55 237**	PN		**Pn**	**18 59 00.6**	**+1.5**
UGLR				S		**Sn**	**18 59 30.2**	**+1.3**
UGLR	**Uglovaya**		**2.55 237**	*e*P		**Pn**	**18 59 00.6**	**+1.5**
UGLR				*e*S		**Sn**	**18 59 30.2**	**+1.3**
KRX	**Arik**		**2.56 241**	PN		**Pn**	**18 59 00.9**	**+1.7**
KRX				S		**Sn**	**18 59 30.7**	**+1.6**
KRX	**Arik**		**2.56 241**	*e*P		**Pn**	**18 59 00.9**	**+1.7**
KRX				*e*S		**Sn**	**18 59 30.7**	**+1.6**
AVH	**Avacha**		**2.56 239**	PN		**Pn**	**18 59 01.0**	**+1.8**
AVH				S		**Sn**	**18 59 31.2**	**+2.0**
AVH	**Avacha**		**2.56 239**	*e*P		**Pn**	**18 59 01.0**	**+1.8**
AVH				*e*S		**Sn**	**18 59 31.2**	**+2.0**
KOK	**Koryaka**		**2.60 240**	PN		**Pn**	**18 59 01.3**	**+1.6**
KOK	**Koryaka**		**2.60 240**	*e*P		**Pn**	**18 59 01.3**	**+1.6**
DALK	**Dalny**		**2.69 235**	PN		**Pn**	**18 59 01.8**	**+0.9**
DALK				S		**Sn**	**18 59 33.0**	**+0.8**
DALK	**Dalny**		**2.69 235**	*e*P		**Pn**	**18 59 01.8**	**+0.9**
DALK				*e*S		**Sn**	**18 59 33.0**	**+0.8**
PET	**Petropavlovsk**		**2.74 235**	*e*PN		**Pn**	**18 59 02.5**	**+0.9**
PET				*e*S		**Sn**	**18 59 34.2**	**+0.7**
PET				pmax	pmax			
	comp=Z,57nm,0.5s							
PET				smax	smax			
	comp=N,700nm,0.8s							
PET				smax	smax			
	comp=E,432nm,0.8s							
PET				smax	smax			
	comp=N,939nm,0.7s							
PET				MLR	MLR			
	comp=Z,100nm,18.0s							
GNL	**Ganaly**		**2.78 252**	PN		**Pn**	**18 59 03.6**	**+1.3**
GNL	**Ganaly**		**2.78 252**	*e*P		**Pn**	**18 59 03.6**	**+1.3**
KRMR	**Karymshinskiy**		**3.11 236**	PN		**Pn**	**18 59 09.0**	**+2.3**
KRMR				S		**Sn**	**18 59 45.1**	**+2.5**
KRMR	**Karymshinskiy**		**3.11 236**	*e*P		**Pn**	**18 59 09.0**	**+2.3**
KRMR				*e*S		**Sn**	**18 59 45.1**	**+2.5**
PEA0B	**Petropavlovsk-**		**3.17 243**	*ce*PN		**Pn**	**18 59 09.2**	**+1.6**
PETK	**Petropavlovsk-**		**3.17 243**	P		**Pn**	**18 59 08.2**	**+0.6**
	comp=Z,3.5nm,0.3s,baz=68,slow=16,SNR=62							
PETK				S		**Sn**	**18 59 45.5**	**+1.3**
	comp=Z,5.5nm,0.3s,baz=94,slow=20,SNR=3.4							
PETK				LR		LR	19 00 34.4	
	comp=Z,117nm,19.0s,baz=63,slow=44							
MTVR	**Mutnovka**		**3.31 231**	PN		**Pn**	**18 59 10.9**	**+1.3**
MTVR				S		**Sn**	**18 59 48.8**	**+1.1**
MTVR	**Mutnovka**		**3.31 231**	*e*P		**Pn**	**18 59 10.9**	**+1.3**
MTVR				*e*S		**Sn**	**18 59 48.8**	**+1.1**
GRL	**Gorelyy**		**3.31 233**	PN		**Pn**	**18 59 12.3**	**+2.7**
GRL	**Gorelyy**		**3.31 233**	*e*P		**Pn**	**18 59 12.3**	**+2.7**
ASAK	**Asacha**		**3.51 232**	PN		**Pn**	**18 59 14.9**	**+2.7**
ASAK				S		**Sn**	**18 59 54.4**	**+1.9**
ASAK	**Asacha**		**3.51 232**	*e*P		**Pn**	**18 59 14.9**	**+2.7**
ASAK				*e*S		**Sn**	**18 59 54.4**	**+1.9**
APC	**Apacha**		**3.55 243**	PN		**Pn**	**18 59 15.2**	**+2.5**
APC	**Apacha**		**3.55 243**	*e*P		**Pn**	**18 59 15.2**	**+2.5**
KDTR	**Khodutka, Kamc**		**3.84 224**	PN		**Pn**	**18 59 17.1**	**+0.4**
KDTR				S		**Sn**	**19 00 00.4**	**-0.1**
KDTR	**Khodutka, Kamc**		**3.84 224**	*e*P		**Pn**	**18 59 17.1**	**+0.4**
KDTR				*e*S		**Sn**	**19 00 00.4**	**-0.1**
MIPR	**Malaya Ipel'ka**		**4.12 237**	PN		**Pn**	**18 59 21.8**	**+1.3**
MIPR	**Malaya Ipel'ka**		**4.12 237**	*e*P		**Pn**	**18 59 21.8**	**+1.3**
OSSR	**Ossora**		**4.64 4**	PN		**Pn**	**18 59 28.2**	**+0.6**
OSSR	**Ossora**		**4.64 4**	*e*P		**Pn**	**18 59 28.2**	**+0.6**
PALN	**Palana**		**4.66 344**	PN		**Pn**	**18 59 30.3**	**+2.4**
PALN	**Palana**		**4.66 344**	*e*P		**Pn**	**18 59 30.3**	**+2.4**
SKR	**Severo-Kuril's**		**5.50 227**	PN		**Pn**	**18 59 41.4**	**+1.9**
SKR	**Severo-Kuril's**		**5.50 227**	*e*P		**Pn**	**18 59 41.4**	**+1.9**
SKR				*e*S		**Sn**	**19 00 40.7**	**-0.7**
MA2	**Magadan**		**8.03 313**	LR		LR	19 03 18.1	
	comp=Z,76nm,20.2s,baz=226,slow=38							
BILL	**Bilibino**		**13.57 6**	*e*P		Pn	19 01 22.0	-7.8
BILL				pmax	pmax			
	comp=Z,8.0nm,0.5s							
YAK	**Yakutsk**		**18.53 307**	P		**P**	**19 02 31.8**	**-1.1**
	comp=Z,0.0nm,0.3s,baz=228,slow=2.1,SNR=4.5							
MAJO	**Matsushiro**		**24.57 233**	*i* P		**P**	**19 03 36.1**	**0.0**
MAJO				pmax	pmax			
	comp=Z,3.0nm,0.9s							
MJAR	**Matsushiro Arr**		**24.57 233**	P		**P**	**19 03 35.2**	**-0.9**
	comp=Z,1.8nm,0.7s,baz=40,slow=9.3,SNR=8.5							
ILAR	**Eielson Array**		**26.76 47**	P		**P**	**19 03 59.2**	**+3.6**
	comp=Z,0.1nm,0.4s,baz=246,slow=11,SNR=3.0							
SONM	**Songino Array**		**34.89 282**	PcP		**PcP**	**19 07 39.5**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=96,slow=2.3,SNR=5.4							
H11N2	**WAKE ISLAND Hy**		**35.02 173**	T		T	19 42 27.6	
	baz=356,slow=76,SNR=95							
H11N3	**WAKE ISLAND Hy**		**35.03 173**	T		T	19 42 28.7	
	baz=356,slow=76,SNR=102							
H11N1	**WAKE ISLAND Hy**		**35.03 173**	T		T	19 42 28.8	
	baz=356,slow=76,SNR=153							
DGZ	**Jazzator, Alta**		**44.21 296**	*i* P		**P**	**19 06 24.3**	**-0.8**
DGZ				pmax	pmax			
	comp=Z,1.0nm,0.9s							
MKAR	**Makanchi Array**		**48.71 296**	P		**P**	**19 06 57.3**	**-3.0**
	comp=Z,0.8nm,0.7s,baz=62,slow=8.4,SNR=7.3							
ARCES	**ARCESS Array B**		**52.24 342**	P		**P**	**19 07 24.2**	**-2.3**
	comp=Z,1.3nm,0.8s,baz=34,slow=8.8,SNR=5.2							
ARU	**Arti**		**53.18 318**	*c* *i* P		**P**	**19 07 30.6**	**-3.0**
ARU				S		**S**	**19 15 05.4**	**+4.3**
ARU				SS		**SS**	**19 18 33.4**	**-6.7**
ARU				pmax	pmax			
	comp=Z,3.0nm,0.6s							
NVAR	**Mina Array Bea**		**53.96 73**	P		**P**	**19 07 42.9**	**+3.0**
	comp=Z,0.2nm,0.5s,baz=307,slow=8.9,SNR=2.2							
AAK	**Ala-Archa**		**55.61 297**	*i* P		**P**	**19 07 50.1**	**-1.6**
AAK				pmax	pmax			
	comp=Z,4.0nm,0.9s							
KLMR	**Klimovskoe**		**56.29

SONM **Songino Array 29.30 313** P **P** **19 21 01.1 -0.2**
1.0nm,0.6s,baz=119,slow=7.2,SNR=7.0
CMAR **Chiang Mai Arr 37.76 260** P **P** **19 22 13.1 -0.5**
0.4nm,0.4s,baz=60,slow=8.1,SNR=5.3
ZALV **Zalesovo Beam 44.04 317** P **P** **19 23 02.8 -0.9**
0.8nm,0.4s,baz=99,slow=7.6,SNR=4.8
MKAR **Makanchi Array 45.17 307** P **P** **19 23 12.2 -0.4**
1.7nm,0.8s,baz=241,slow=10,SNR=13
NRIK **Noril'sk 47.42 338** P **P** **19 23 29.9 +0.5**
1.5nm,0.3s,baz=111,slow=8.6,SNR=1.9
FITZ **Fitzroy Crossi 50.70 196** P **P** **19 23 55.9 +1.3**
1.7nm,0.9s,baz=20,slow=12,SNR=1.8
WRA **Warramunga Arr 51.19 185** P **P** **19 23 58.9 +0.6**
0.2nm,0.3s,baz=0.3,slow=7.7,SNR=27
WRA PcP **PcP** **19 25 08.7 +1.6**
0.4nm,0.9s,baz=359,slow=5.1,SNR=1.5
KDAK **Kodiak Island 53.04 39** P **P** **19 24 13.1 +1.9**
8.0nm,1.1s,baz=333,slow=4.5,SNR=1.8
ASAR **Alice Springs 54.92 185** P **P** **19 24 26.8 +1.8**
0.1nm,0.4s,baz=22,slow=12,SNR=9.4
ILAR **Eielson Array 55.63 30** P **P** **19 24 29.3 -0.2**
0.3nm,0.7s,baz=240,slow=10,SNR=1.6
ARCES **ARCESS Array B 68.36 340** P **P** **19 25 53.5 +0.4**
0.4nm,0.5s,baz=65,slow=8.6,SNR=5.8
FINES **FINESS Array B 72.59 332** P **P** **19 26 18.6 +0.2**
1.1nm,0.5s,baz=70,slow=5.6,SNR=19
KBZ **Khabaz 72.63 311** P **P** **19 26 17.6 -1.4**
3.1nm,0.7s,baz=64,slow=2.0,SNR=4.9
AKASG **Malin Array Be 77.16 322** P **P** **19 26 44.2 -0.2**
0.6nm,0.3s,baz=51,slow=5.4,SNR=5.9

IDC ***13*** *19:54:42.6±2.8, 39.°41N×142.°93E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.4/59, mbtmp3.6/4, ML2.8/1, Error ellipse: s-maj=69.9km s-min=31.2km az=70.0*
JMA ***13*** *19:54:52.5, 39.°19N×142.°23E, h49km±1km, M3.7*
JMA Felt I J1.
ISC 13 19:54:51.7±1.7, 39.°20N±0.°05×142.°3E±0.°1, h46km±13km, n23, σ1s02/29, mb3.7/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OFUJ	**Ofunato**	**0.52**	**257**	P		**Pn**	**19 55 03.1**	**+0.2**
OFUJ				*e*S		**Sn**	**19 55 10.7**	**-0.2**
MIYJ	**Miyakonagasawa**	**0.54**	**315**	P		**Pn**	**19 55 03.6**	**+0.4**
MIYJ				S		**Sn**	**19 55 11.5**	**+0.1**
JKMT	**Kesennumamotoy**	**0.76**	**240**	P		**Pn**	**19 55 06.1**	**+0.1**
JKMT				S		**Sn**	**19 55 15.8**	**-0.7**
JTH	**Tanohata**	**0.82**	**335**	P		**Pn**	**19 55 07.4**	**+0.5**
JTH				*e*S		**Sn**	**19 55 18.4**	**+0.5**
JOM	**Ohasama**	**0.84**	**290**	P		**Pn**	**19 55 07.4**	**+0.3**
JOM				S		**Sn**	**19 55 18.1**	**-0.3**
JMK	**Ichinoseki**	**0.89**	**254**	P		**Pn**	**19 55 07.8**	**0.0**
JMK				S		**Sn**	**19 55 18.8**	**-0.7**
JIO	**Ouri**	**1.06**	**226**	P		**Pn**	**19 55 10.2**	**+0.1**
JIO				S		**Sn**	**19 55 22.6**	**-1.0**
JKZ	**Kuzumaki**	**1.10**	**316**	P		**Pn**	**19 55 11.5**	**+0.8**
JKZ				S		**Sn**	**19 55 25.2**	**+0.5**
JRG	**Rokugo**	**1.32**	**279**	P		**Pn**	**19 55 13.9**	**+0.2**
JRG				S		**Sn**	**19 55 30.7**	**+0.6**
JANG	**Nango**	**1.33**	**333**	P		**Pn**	**19 55 14.3**	**+0.5**
JANG				*e*S		**Sn**	**19 55 31.0**	**+0.7**
JOU	**Okura**	**1.53**	**238**	P		**Pn**	**19 55 16.8**	**+0.2**
JYK	**Kaneyama**	**1.55**	**260**	P		**Pn**	**19 55 17.2**	**+0.4**
JYK				*e*S		**Sn**	**19 55 35.4**	**-0.3**
MJAR	**Matsushiro Arr**	**4.19**	**232**	Pn		**Pn**	**19 55 54.6**	**+1.5**
	0.4nm,0.3s,baz=33,slow=12,SNR=36							
MAT	**Matsushiro**	**4.19**	**232**	P		**Pn**	**19 55 55.8**	**+2.7**
MAT				*e*S		**Sn**	**19 56 43.9**	**+3.1**
H11N2	**WAKE ISLAND Hy**	**28.73**	**125**	T		T	20 31 09.6	
	baz=318,slow=76,SNR=116							
H11N1	**WAKE ISLAND Hy**	**28.74**	**125**	T		T	20 31 10.3	
	baz=318,slow=76,SNR=153							
H11N3	**WAKE ISLAND Hy**	**28.75**	**125**	T		T	20 31 12.1	
	baz=318,slow=76,SNR=132							
H11S1	**WAKE ISLAND Hy**	**29.52**	**127**	T		T	20 32 10.4	
	baz=319,slow=76,SNR=25							
H11S3	**WAKE ISLAND Hy**	**29.52**	**127**	T		T	20 32 10.7	
	baz=319,slow=76,SNR=35							
H11S2	**WAKE ISLAND Hy**	**29.54**	**127**	T		T	20 32 13.7	
	baz=319,slow=76,SNR=27							
MKAR	**Makanchi Array**	**43.61**	**300**	P		**P**	**20 02 50.9**	**-0.5**
	0.5nm,0.7s,baz=72,slow=9.3,SNR=3.4							
KURBB	**Kurchatov Arra**	**45.26**	**306**	P		**P**	**20 03 03.2**	**-1.2**
	0.5nm,0.4s,baz=78,slow=8.6,SNR=4.1							
WRA	**Warramunga Arr**	**59.30**	**189**	P		**P**	**20 04 48.1**	**-0.6**
	0.9nm,1.0s,baz=7.8,slow=7.7,SNR=7.3							

IDC ***13*** *19:55:02.7±0.7, 21.°97S×68.°38W, h96km±8km, mb3.6/10, mb1 3.7/13, mb1mx3.6/41, mbtmp3.9/13, MS3.2/1, Ms1 3.3/1, ms1mx2.5/21, Error ellipse: s-maj=20.4km s-min=15.3km az=97.0*
VAO ***13*** *19:55:02.4±0.4, 22.°27S×68.°39W, h107km±3km, mb4.3*
NEIC ***13*** *19:55:03.5±2.0, 22.°00S±0.°05×68.°64W±0.°07, h110km±5km, Error ellipse: s-maj=9.9km s-min=7.5km az=71.0*
GUC ***13*** *19:55:04.3±0.7, 22.°00S×68.°60W, h102km±3km, ML4.1*
ISC 13 19:55:02.2±0.6, 21.°99S±0.°03×68.°47W±0.°05, h101km±6km, n107, σ1s39/123, mb3.9/10, 11C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB09	**IPOC Station P**	**0.74**	**285**	*i* P		**Pn**	**19 55 21.5**	**+1.2**
PB09				*i* S		**Sn**	**19 55 34.4**	**+0.6**
PB09	**IPOC Station P**	**0.74**	**285**			**Pn**	**19 55 21.4**	**+1.2**
LVC	**Limon Verde**	**0.74**	**213**	P		**Pn**	**19 55 21.9**	**+1.4**
	313nm,0.3s,baz=19,slow=8.5,SNR=2566							
LVC				S		**Sn**	**19 55 35.8**	**+1.6**
	285nm,0.3s,baz=179,slow=19,SNR=49							
LVC				LR		LR	19 55 37.7	
	comp=Z,118nm,20.2s,baz=12,slow=43							
LVC	**Limon Verde**	**0.74**	**213**	⇓*i* P		**Pn**	**19 55 21.8**	**+1.3**
LVC				*i* S		**Sn**	**19 55 35.9**	**+1.6**
LVC	**Limon Verde**	**0.74**	**213**	*e*P		**Pn**	**19 55 22.0**	**+1.4**
AF01	**San Pedro de A**	**1.00**	**164**			**Pn**	**19 55 26.0**	**+3.0**
PB03	**IPOC Station P**	**1.19**	**267**	⇑*i* P		**Pn**	**19 55 25.2**	**+0.2**
PB03				*i* S		**Sn**	**19 55 41.5**	**-0.7**
PB03				IAML			19 55 43.1	
	comp=N,4μm,0.2s							
PB06	**IPOC Station P**	**1.25**	**235**	⇓*i* P		**Pn**	**19 55 26.6**	**+1.0**
PB06				*i* S		**Sn**	**19 55 43.5**	**+0.2**
PB06				IAML			19 55 45.2	
	comp=N,3μm,0.5s							
PB06	**IPOC Station P**	**1.25**	**235**			**Pn**	**19 55 26.2**	**+0.5**
PB01	**IPOC Station P**	**1.33**	**315**	⇑*i* P		**Pn**	**19 55 27.0**	**+0.4**
PB01				*i* S		**Sn**	**19 55 45.4**	**+0.3**
PB01				IAML			19 55 48.5	
	comp=N,4μm,0.3s							
PB01	**IPOC Station P**	**1.33**	**315**			**Pn**	**19 55 27.1**	**+0.4**
PB07	**IPOC Station P**	**1.34**	**281**	⇑*i* P		**Pn**	**19 55 27.1**	**+0.3**
PB07				*i* S		**Sn**	**19 55 44.7**	**-0.6**
PB07				IAML			19 55 45.6	
	comp=N,7μm,0.3s							
PB07	**IPOC Station P**	**1.34**	**281**			**Pn**	**19 55 26.6**	**-0.1**
PB02	**IPOC Station P**	**1.48**	**296**	⇑*e*P		**Pn**	**19 55 28.5**	**+0.1**
PB02				*i* S		**Sn**	**19 55 48.0**	**-0.3**
PB02				IAML			19 55 54.0	
	comp=E,4μm,0.1s							
PB15	**IPOC Station P**	**1.53**	**217**	⇓*i* P		**Pn**	**19 55 30.4**	**+1.3**
PB15				*i* S		**Sn**	**19 55 50.0**	**+0.6**
PB15	**IPOC Station P**	**1.53**	**217**			**Pn**	**19 55 30.1**	**+1.0**
PB04	**IPOC Station P**	**1.59**	**257**	⇑*i* P		**Pn**	**19 55 29.7**	**-0.1**
PB04				*i* S		**Sn**	**19 55 49.8**	**-1.0**
PB04				IAML			19 55 54.3	
	comp=N,3μm,0.4s							
PB04	**IPOC Station P**	**1.59**	**257**			**Pn**	**19 55 29.8**	**-0.1**
PB05	**IPOC Station P**	**1.82**	**241**	⇑*i* P		**Pn**	**19 55 32.6**	**-0.1**
PB05				*i* S		**Sn**	**19 55 54.7**	**-1.1**
PB05				IAML			19 56 01.3	
	comp=N,3μm,0.4s							
PB08	**IPOC Station P**	**1.94**	**341**	⇑*i* P		**Pn**	**19 55 36.7**	**+2.2**
PB08				*i* S		**Sn**	**19 56 00.9**	**+1.9**
PB08				IAML			19 56 04.9	
	comp=N,1μm,0.3s							
PB08	**IPOC Station P**	**1.94**	**341**			**Pn**	**19 55 36.7**	**+2.2**
TA01	**Diego Aracena**	**2.13**	**311**	⇑*i* P		**Pn**	**19 55 36.1**	**-0.4**
TA01				*i* S		**Sn**	**19 56 01.6**	**-1.2**
TA01				IAML			19 56 11.5	
	comp=N,2μm,0.3s							
TA01	**Diego Aracena**	**2.13**	**311**			**Pn**	**19 55 36.3**	**-0.2**
HMBC	**Humberstone**	**2.15**	**322**	⇑*i* P		**Pn**	**19 55 37.0**	**0.0**
HMBC				*i* S		**Sn**	**19 56 03.2**	**-0.2**
HMBC				IAML			19 56 11.5	
	comp=E,2μm,0.8s							
TA02	**Huaiquique**	**2.31**	**317**	*i* S		**Sn**	**19 56 08.2**	**+1.4**
TA02	**Huaiquique**	**2.31**	**317**			**Pn**	**19 55 38.4**	**-0.4**
PB10	**IPOC Station P**	**2.45**	**231**	*e*P		**Pn**	**19 55 41.5**	**+0.7**
PB10				*i* S		**Sn**	**19 56 09.5**	**-0.8**
PB10	**IPOC Station P**	**2.45**	**231**			**Pn**	**19 55 41.8**	**+1.0**
PB11	**IPOC Station P**	**2.48**	**333**	⇑*i* P		**Pn**	**19 55 41.5**	**+0.3**
PB11				*i* S		**Sn**	**19 56 11.5**	**+0.4**
PB11				IAML			19 56 18.1	
	comp=N,2μm,0.2s							
PSGC	**Pisagua**	**2.83**	**327**	⇑*i* P		**Pn**	**19 55 44.9**	**-1.0**
PSGC				*i* S		**Sn**	**19 56 18.4**	**-1.1**
PSGCX	**Pisagua**	**2.83**	**327**			**Pn**	**19 55 44.9**	**-1.0**
PB14	**IPOC Station P**	**3.17**	**214**			**Pn**	**19 55 52.1**	**+1.5**
AP01	**Chacalluta**	**4.00**	**334**	*e*P		**Pn**	**19 56 02.8**	**+1.3**
AP01				*i* S		**Sn**	**19 56 49.6**	**+2.2**
AC02	**Maricunga**	**4.87**	**187**			**Pn**	**19 56 14.8**	**+1.2**
AC06	**Mina Casimiro**	**5.62**	**197**			**Pn**	**19 56 23.5**	**+0.2**
LPAZ	**La Paz**	**5.68**	**3**	P		**Pn**	**19 56 26.4**	**+1.6**
	comp=N,1.8nm,0.3s,baz=229,slow=9.4,SNR=37							
LPAZ	**La Paz**	**5.68**	**3**			**Pn**	**19 56 27.4**	**+2.7**
LPAZ	**La Paz**	**5.68**	**3**	*e*P		**Pn**	**19 56 26.8**	**+2.1**
SIV	**San Ignacio**	**9.19**	**51**	P		**Pn**	**19 57 11.1**	**-1.0**
	comp=N,2.5nm,0.3s,baz=243,slow=11,SNR=62							
SIV				S		**Sn**	**19 58 48.8**	**-5.0**
	comp=N,0.3nm,0.3s,baz=134,slow=22,SNR=5.9							
PTLB	**Pontes e Lacer**	**10.97**	**55**	*e*P		**Pn**	**19 57 36.0**	**-0.2**
CPUP	**Villa Florida**	**11.05**	**115**	*e*P		**Pn**	**19 57 33.9**	**-3.3**
VILB	**Vilhena**	**11.95**	**43**	*e*P		**Pn**	**19 57 49.0**	**-0.3**
AQDB	**Aquidauana**	**12.01**	**85**	*e*P		**Pn**	**19 57 50.2**	**+0.2**
ETMB	**Extrema**	**12.29**	**11**	*e*P		**P**	**19 57 57.7**	**-4.2**
ITQB	**Itaqui**	**13.12**	**128**	*e*P		**Pn**	**19 58 01.2**	**-3.4**
SALV	**Santo Antonio**	**13.52**	**66**	*e*P		**Pn**	**19 58 11.5**	**+1.6**
SAML	**Samuel**	**13.92**	**22**	*e*P		**P**	**19 58 18.7**	**-1.3**
CZSB	**Cruzeiro do Su**	**14.75**	**343**	*e*P		**P**	**19 58 30.1**	**+0.9**
CLDB	**Colider**	**16.41**	**50**	*e*P		**P**	**19 58 48.9**	**+1.2**
ARAG	**Araguaiana, MT**	**16.95**	**71**	*e*P		**P**	**19 58 53.8**	**+0.2**
TRQA	**Tornquist**	**16.97**	**162**	*e*P		**Pn**	**19 58 48.5**	**-4.8**
PLCA	**Paso Flores**	**18.77**	**185**	P		**P**	**19 59 12.8**	**-0.7**
	comp=N,0.1nm,0.3s,baz=336,slow=9.3,SNR=1.9							
PLCA	**Paso Flores**	**18.77**	**185**	P		**P**	**19 59 11.9**	**-1.6**
SNDB	**Serra Nova Dou**	**19.19**	**62**	*e*P		**P**	**19 59 18.3**	**+0.1**
IPMB	**Ipameri, GO**	**19.45**	**82**	*e*P		**P**	**19 59 20.4**	**-0.6**
SPB	**Sao Paulo**	**19.46**	**99**	*e*P		**P**	**19 59 19.6**	**-1.5**
PET01	**Itanhaem-SP**	**19.63**	**101**	*e*P		**P**	**19 59 21.1**	**-1.8**
VAO	**Valinhos**	**19.90**	**97**	*e*P		**P**	**19 59 24.3**	**-1.6**
MACA	**Manacapuru-AM**	**20.18**	**23**	*e*P		Pn	19 59 31.2	-0.5
ITTB	**Itaituba**	**21.43**	**37**	*e*P		**P**	**19 59 41.8**	**-0.5**
PEXB	**Peixe**	**21.62**	**66**	*e*P		**P**	**19 59 44.4**	**0.0**
BSCB	**Bom Sucesso**	**22.07**	**92**	*e*P		**P**	**19 59 48.4**	**-0.8**
PTGA	**Pitinga**	**22.69**	**23**	P		**P**	**19 59 55.2**	**-0.4**
	comp=N,1.5nm,0.3s,baz=158,slow=22,SNR=5.3							
PTGA	**Pitinga**	**22.69**	**23**	P		**P**	**19 59 55.4**	**-0.1**
PTGA				IAmb		IAmb	19 59 57.8	
	comp=Z,2.5nm,0.5s							
VAS01	**Vassouras-RJ**	**23.18**	**95**	*e*P		**P**	**19 59 59.0**	**-1.3**
DIAM	**Diamantina, MG**	**23.56**	**85**	*e*P		**P**	**20 00 02.9**	**-1.0**
MC01	**Montes Claros**	**23.72**	**82**	*e*P		**P**	**20 00 04.5**	**-0.8**
JANB	**Januaria**	**23.90**	**77**	*e*P		**P**	**20 00 06.4**	**-0.5**
SMTB	**Santa Maria do**	**23.95**	**60**	*e*P		**P**	**20 00 07.7**	**+0.4**
OTAV	**Otavalo**	**24.14**	**335**	*e*P		**P**	**20 00 11.4**	**+1.9**
DUB01	**Friburgo-RJ**	**24.18**	**95**	*e*P		**P**	**20 00 07.8**	**-1.7**
MALB	**Monte Alegre**	**24.32**	**37**	*e*P		**P**	**20 00 12.1**	**+1.5**
SDBA	**SAO DESIDERIO**	**24.41**	**71**	*e*P		**P**	**20 00 11.6**	**+0.1**
CAM01	**Campos-RJ**	**24.87**	**95**	*e*P		**P**	**20 00 14.1**	**-1.5**
BOAV	**Boa Vista**	**25.45**	**19**	*e*P		**P**	**20 00 21.6**	**+0.8**
RIB01	**Linhares ES**	**26.39**	**89**	*e*P		**P**	**20 00 27.9**	**-1.5**
MCPB	**Macapa, AP**	**26.80**	**39**	*e*P		**P**	**20 00 34.4**	**+1.3**
NAN01	**Guarapari, ES**	**26.95**	**86**	*e*P		**P**	**20 00 33.5**	**-0.9**
GUA01	**Guaratinga, BA**	**27.56**	**84**	*e*P		**P**	**20 00 39.0**	**-0.9**
GDU01	**Guandu, BA**	**28.67**	**78**	*e*P		**P**	**20 00 49.2**	**-0.6**
NBPN	**Ponto Novo - B**	**29.24**	**72**	*e*P		**P**	**20 00 54.0**	**-0.8**
ROSB	**Rosrio**	**30.32**	**55**	*e*P		**P**	**20 01 04.9**	**+0.5**
SDV	**Santo Domingo**	**30.75**	**356**	*e*P		**P**	**20 01 10.2**	**+1.8**
NBLA	**Lagarto - SE**	**31.32**	**75**	*e*P		**P**	**20 01 12.4**	**-0.8**
NBMA	**Muriti-CE**	**32.11**	**68**	*e*P		**P**	**20 01 21.1**	**+0.9**
NBPB	**Pedra_Branca-C**	**32.37**	**64**	*e*P		**P**	**20 01 22.4**	**0.0**
NBAN	**Anadia - AL**	**33.23**	**73**	*e*P		**P**	**20 01 29.5**	**-0.4**
NBMO	**Morrinhos-CE**	**33.26**	**60**	*e*P		**P**	**20 01 30.1**	**-0.1**
NBLV	**Livramento - P**	**33.71**	**69**	*e*P		**P**	**20 01 34.1**	**-0.1**
NBCL	**Cascavel-CE**	**34.17**	**63**	*e*P		**P**	**20 01 38.3**	**+0.3**
RCBR	**Riachuelo**	**35.34**	**68**	*e*P		**P**	**20 01 47.9**	**-0.3**
NBPV	**Pedro Velho**	**35.58**	**69**	*e*P		**P**	**20 01 50.1**	**-0.1**
PMSA	**Palmer Station**	**42.87**	**177**	*e*P		P	20 02 46.2	-4.0
TXAR	**Lajitas Array**	**61.26**	**325**	P		**P**	**20 05 07.6**	**+0.6**
	comp=Z,0.1nm,0.6s,baz=156,slow=7.7,SNR=2.4							
SNAA	**Sanae**	**61.69**	**161**	P		**P**	**20 05 10.7**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=268,slow=11,SNR=5.8							
ANMO	**Albuquerque**	**67.13**	**327**	P		**P**	**20 05 46.9**	**+1.6**
	comp=Z,0.7nm,0.5s,baz=138,slow=3.4,SNR=5.4							
DBIC	**Dimbokro**	**68.48**	**73**	P		**P**	**20 05 54.7**	**+0.6**
	comp=Z,4.6nm,0.7s,baz=254,slow=4.0,SNR=6.2							
DBIC	**Dimbokro**	**68.48**	**73**	P		**P**	**20 05 53.7**	**-0.4**
PDAR	**Pinedale Array**	**74.73**	**330**	P		**P**	**20 06 32.3**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=121,slow=6.4,SNR=2.0							
ELK	**Elko**	**76.05**	**325**	P		**P**	**20 06 40.5**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=83,slow=2.6,SNR=3.9							
NVAR	**Mina Array Bea**	**76.12**	**322**	P		**P**	**20 06 40.6**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=137,slow=6.8,SNR=4.1							
TORD	**Torodi Ar. Bea**	**77.14**	**70**	P		**P**	**20 06 45.6**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=255,slow=5.3,SNR=26							
TORD	**Torodi Ar. Bea**	**77.14**	**70**	P		**P**	**20 06 45.4**	**+0.2**
TORD				IAmb		IAmb	20 06 53.9	
	comp=Z,4.8nm,1.5s							
MAW	**Mawson**	**83.75**	**163**	P		**P**	**20 07 21.4**	**+1.7**
	comp=Z,1.0nm,0.4s,baz=231,slow=6.5,SNR=2.1							
ESDC	**Sonseca Array**	**85.89**	**44**	LR		LR	20 44 39.7	
	comp=Z,13nm,18.5s,baz=260,slow=35							
MKAR	**Makanchi Array**	**145.78**	**37**	PKPbc		**PKPbc**	**20 14 30.4**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=332,slow=2.3,SNR=12							
MKAR	**Makanchi Array**	**145.78**	**37**			**PKPbc**	**20 14 30.5**	**+0.8**

MEX 13 20:27:28.0±0.6, 24.°76N×109.°02W, h18km±999km, MD3.6, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TSIG	**Topolobambo**	**0.84**	**358**	*i* P		Pb	20 27 41.5	-2.5
TSIG				*i* S		Sb	20 27 51.4	-3.6
LPIG	**La Paz**	**1.35**	**241**	*i* P		Pn	20 27 48.5	-3.5
LPIG				*e*S		Sn	20 28 04.9	-4.6
SSIG	**Sanalona**	**1.71**	**88**	*e*P		Pn	20 27 53.1	-3.8
SSIG				*e*S		Sn	20 28 18.1	-0.2
CSIG	**Choix**	**2.14**	**16**	*e*P		Pn	20 28 03.5	+0.6
CSIG				*i* S		Sn	20 28 24.5	-4.6

SOME ***13*** *20:30:56.1, 39.°08N×71.°27E, h0km*
KRNET ***13*** *20:31:01.4±0.1, 38.°94N×70.°70E, h9km, mb3.6*
NNC ***13*** *20:31:04.1±2.4, 38.°92N×70.°33E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=18.2km s-min=11.8km az=3.0*
ISC 13 20:31:02.8±1.0, 38.°97N±0.°05×70.°66E±0.°04, h17km, n30, σ3s10/46, 29C-12D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GAR	**Garm**	**0.27**	**277**	⇑*i* P		**Pg**	**20 31 07.7**	**-1.1**
	baz=82							
GAR				⇑*i* S		**Sg**	**20 31 11.8**	**-1.1**
	baz=82							
DRK	**Karamyk**	**1.03**	**60**	⇑*i* P		**Pb**	**20 31 20.8**	**-1.5**
	baz=57							
DRK				⇑*i* S		**Sb**	**20 31 35.2**	**-0.4**
	baz=57							
BTK	**Batken**	**1.09**	**7**	⇓*i* P		**Pb**	**20 31 23.0**	**-0.4**
	baz=5.0							
BTK				⇓*i* S		**Sb**	**20 31 38.5**	**+1.1**
	baz=5.0							
CHGR	**Chuyangaron**	**1.21**	**256**	⇑*i* P		**Pn**	**20 31 25.1**	**0.0**
	baz=58							
CHGR				⇑*i* S		**Sb**	**20 31 41.8**	**+1.1**
	baz=58							
TRKS	**Terek-Say**	**2.58**	**8**	⇑*e*P		**Pn**	**20 31 46.5**	**+2.4**
	baz=8.0							
TRKS				⇑*i* S		**Sb**	**20 32 18.9**	**-1.5**
	baz=8.0							
IUG	**luzhnay**	**3.21**	**352**	*e*P		**Pb**	**20 31 57.2**	**-2.2**
	260nm,0.6s							
IUG				*e*S		**Sb**	**20 32 41.0**	**+2.6**
	251nm,0.4s							
CHM	**Chimkent**	**3.44**	**347**	*e*P		**Pb**	**20 32 00.9**	**-2.4**
	33nm,0.2s							
CHM				*e*S		**Sb**	**20 32 47.0**	**+2.2**
	278nm,0.7s							
MNAS	**Manas**	**3.79**	**21**	⇑*i* P		**Pn**	**20 32 04.1**	**+3.6**
	baz=21							
MNAS				⇑*i* S		**Sn**	**20 32 49.3**	**+4.6**
	baz=21							
AML	**Almayashu**	**3.92**	**35**	⇑*i* P		**Pn**	**20 32 05.8**	**+3.2**
	baz=35							
AML				⇑*i* S		**Sn**	**20 32 52.4**	**+4.1**
	baz=35							
AML	**Almayashu**	**3.92**	**35**	P		**Pb**	**20 32 07.6**	**-4.1**
	SNR=12							
DZA	**Taraz**	**3.95**	**7**	*e*P		Pn	20 32 07.9	+5.2
	22nm,0.2s							
DZA				*e*S		**Sb**	**20 32 59.3**	**-0.3**
	149nm,0.3s							
KK31	**Karatay Array**	**4.13**	**359**	⇓Pn		Pn	20 32 10.3	+5.1
	0.9nm,0.3s,baz=170,slow=11,SNR=28							
KK31				⇓Pg		**Pg**	**20 32 20.3**	**-1.7**
	3.0nm,0.4s,baz=172,slow=14,SNR=5.4							
KK31				⇑Sn		**Sb**	**20 33 00.3**	**-4.4**
	15nm,0.6s							
KK31				⇓Lg		Lg	20 33 13.6	
	13nm,0.6s,baz=176,slow=30,SNR=8.0							
MRKS	**Merke**	**4.25**	**27**	*e*P		**Pn**	**20 32 11.5**	**+4.7**
	8.6nm,0.3s							
MRKS				*e*S		**Sb**	**20 33 06.0**	**-2.1**
	24nm,0.4s							
EKS2	**Erkin-Say**	**4.38**	**32**	⇑*e*P		**Pn**	**20 32 12.3**	**+3.6**
	baz=31							
EKS2				⇑*i* S		**Sn**	**20 33 03.4**	**+3.9**
	baz=31							
UCH	**Uchtor**	**4.38**	**41**	⇑*e*P		**Pn**	**20 32 12.3**	**+3.2**
	baz=40							
UCH				⇑*i* S		**Sn**	**20 33 03.4**	**+3.5**
	baz=40							
UCH	**Uchtor**	**4.38**	**41**	P		Pn	20 32 14.0	+4.9
	SNR=39							
AAK	**Ala-Archa**	**4.68**	**37**	⇑*i* P		**Pn**	**20 32 16.1**	**+3.2**
	baz=37							
AAK				⇑*i* S		**Sn**	**20 33 10.6**	**+3.7**
	baz=37							
AAK	**Ala-Archa**	**4.68**	**37**	P		Pn	20 32 18.6	+5.7
	SNR=15							
AAK	**Ala-Archa**	**4.68**	**37**	⇑Pn		Pn	20 32 18.4	+5.5
	5.6nm,0.4s							
AAK				⇓Sn		**Sb**	**20 33 17.3**	**-3.4**
	9.8nm,0.9s							
AAK				⇑Lg		Lg	20 33 39.8	
	9.7nm,0.8s							
KBK	**Karagaybulak**	**4.92**	**40**	⇑*e*P		**Pn**	**20 32 19.1**	**+3.0**
	baz=40							
KBK				⇑*i* S		**Sn**	**20 33 16.1**	**+3.4**
	baz=40							
KBK	**Karagaybulak**	**4.92**	**40**	P		Pb	20 32 22.9	-5.7
	SNR=8.2							
CHMS	**Chumysh**	**5.08**	**36**	⇑*i* P		**Pn**	**20 32 21.6**	**+3.4**
	baz=36							
CHMS				⇑*i* S		**Sn**	**20 33 19.6**	**+3.1**
	baz=36							
CHMS	**Chumysh**	**5.08**	**36**	P		Pn	20 32 23.1	+4.9
	SNR=9.2							
USP	**Ospenovka**	**5.18**	**33**	⇓*i* P		**Pn**	**20 32 23.0**	**+3.4**
	baz=32							
USP				⇓*i* S		**Sn**	**20 33 22.1**

ellipse: s-maj=50.9km s-min=22.4km az=91.0
*NEIC **13** 21:20:12.2±2.2, 14°.64N±0°.08×147°.05E±0°.05, h39km±7km, mb4.4/5, Error ellipse: s-maj=11.3km s-min=7.4km az=184.0*

ISC 13 21:20:09.8±1.1, 14°.61N±0°.08×147°.2E±0°.1, h33km, n21, σ0s71/24, mb4.0/11, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**2.25**	**320**	Pn		**Pn**	**21 20 45.2**	**+0.5**
ANA2				Sn		**Sn**	**21 21 11.8**	**+0.4**
GUMO	**Guam**	**2.50**	**246**	Pn		**Pn**	**21 20 48.0**	**-0.1**
	45nm,0.3s,baz=76,slow=2.9,SNR=21							
GUMO				Sn		**Sn**	**21 21 17.7**	**+0.3**
	28nm,0.3s,baz=230,slow=23,SNR=8.4							
GUMO	**Guam**	**2.50**	**246**	Pn		**Pn**	**21 20 47.6**	**-0.5**
GUMO				Sn		**Sn**	**21 21 16.9**	**-0.5**
KSRS	**Korea Array**	**28.49**	**327**	P		**P**	**21 26 01.1**	**-0.9**
	0.9nm,0.7s,baz=150,slow=10.0,SNR=4.8							
WB2	**Warramunga Arr**	**36.59**	**201**	P		**P**	**21 27 14.0**	**+1.0**
WRA	**Warramunga Arr**	**36.60**	**201**	P		**P**	**21 27 13.6**	**+0.6**
	0.9nm,1.1s,baz=20,slow=11,SNR=2.4							
WRA	**Warramunga Arr**	**36.60**	**201**	P		**P**	**21 27 13.8**	**+0.7**
FITZ	**Fitzroy Crossi**	**38.84**	**214**	P		**P**	**21 27 32.6**	**+0.6**
ASAR	**Alice Springs**	**40.21**	**199**	P		**P**	**21 27 43.4**	**0.0**
	0.2nm,0.8s,baz=24,slow=9.2,SNR=1.3							
CMAR	**Chiang Mai Arr**	**46.33**	**282**	P		**P**	**21 28 34.0**	**+1.0**
	0.6nm,0.8s,baz=80,slow=5.7,SNR=3.3							
ULN	**Ulaanbaatar**	**46.89**	**323**	P		**P**	**21 28 35.5**	**-1.6**
ULN				IAmb		IAmb	21 28 38.8	
	comp=Z,2.3nm,0.7s							
SONM	**Songino Array**	**47.25**	**323**	P		**P**	**21 28 39.9**	**0.0**
	comp=Z,1.1nm,0.7s,baz=139,slow=8.9,SNR=9.1							
ZALV	**Zalesovo Beam**	**62.14**	**324**	P		**P**	**21 30 27.1**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=110,slow=8.5,SNR=3.5							
ZALV	**Zalesovo Beam**	**62.14**	**324**	P		**P**	**21 30 27.0**	**-0.5**
MK31	**Makanchi Array**	**62.36**	**315**	P		**P**	**21 30 29.6**	**+0.4**
MK31				IAmb		IAmb	21 30 42.7	
	comp=Z,3.9nm,1.4s							
MKAR	**Makanchi Array**	**62.36**	**315**	P		**P**	**21 30 29.9**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=91,slow=8.3,SNR=29							
MKAR	**Makanchi Array**	**62.36**	**315**	P		**P**	**21 30 28.6**	**-0.6**
MAKZ	**Makanchi**	**62.57**	**315**	P		**P**	**21 30 31.4**	**+0.7**
MAKZ				IAmb		IAmb	21 30 33.8	
	comp=Z,3.4nm,0.8s							
FINES	**FINESS Array B**	**91.19**	**336**	P		**P**	**21 33 11.1**	**-0.2**
	comp=Z,2.7nm,1.0s,baz=72,slow=6.2,SNR=3.4							
DBIC	**Dimbokro**	**145.16**	**305**	PKPbc		**PKPab**	**21 39 45.2**	**+0.6**
	comp=Z,4.0nm,0.9s,baz=348,slow=2.8,SNR=3.5							
DBIC	**Dimbokro**	**145.16**	**305**			**PKPbc**	**21 39 43.9**	**-0.6**

*SOME **13** 21:36:10.8, 38°.93N×71°.22E, h0km*
*NNC **13** 21:36:14.4±7.2, 38°.16N×70°.93E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=54.3km s-min=44.7km az=6.0*
*KRNET **13** 21:36:18.9±0.1, 38°.95N×70°.71E, h10km, mb3.2*

ISC 13 21:36:14.8±1.3, 38°.84N±0°.07×70°.94E±0°.05, h10km, n21, σ2s73/37, 15C-11D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GAR	**Garm**	**0.51**	**289**	⇑*i*P		**Pg**	**21 36 25.1**	**+0.3**
	baz=80							
GAR				⇑*i*S		**Sg**	**21 36 29.4**	**-2.2**
	baz=80							
DRK	**Karamyk**	**0.93**	**46**	⇑*i*P		**Pn**	**21 36 37.8**	**+3.6**
	baz=57							
DRK				⇑*i*S		**Sn**	**21 36 51.9**	**+4.2**
	baz=57							
BTK	**Batken**	**1.22**	**356**	⇓*i*P		**Pg**	**21 36 40.1**	**+1.8**
	baz=4.0							
BTK				⇓*i*S		**Sn**	**21 36 55.4**	**+0.7**
	baz=4.0							
CHGR	**Chuyangaron**	**1.40**	**263**	⇑*i*P		**Pg**	**21 36 42.5**	**+0.7**
	baz=57							
CHGR				⇑*i*S		**Sn**	**21 36 59.4**	**+0.2**
	baz=57							
TRKS	**Terek-Say**	**2.69**	**3**	⇓*i*P		**Pb**	**21 37 03.2**	**0.0**
	baz=8.0							
TRKS				⇓*i*S		**Sb**	**21 37 35.5**	**-0.8**
	baz=8.0							
IUG	**Iuzhnay**	**3.38**	**348**	*e*P		**Pb**	**21 37 14.7**	**-0.1**
	256nm,0.4s							
IUG				*e*S		**Sb**	**21 37 58.2**	**+2.3**
	59nm,0.3s							
MNAS	**Manas**	**3.83**	**18**	⇓*i*P		**Pb**	**21 37 20.5**	**-2.1**
	baz=21							
MNAS				⇓*i*S		**Sb**	**21 38 05.2**	**-3.9**
	baz=21							
AML	**Almayashu**	**3.90**	**32**	⇑*i*P		**Pb**	**21 37 22.4**	**-1.5**
	baz=35							
AML				⇑*i*S		**Sb**	**21 38 08.4**	**-3.0**
	baz=35							
AML	**Almayashu**	**3.90**	**32**	P		**Pb**	**21 37 25.1**	**+1.2**
	SNR=7.3							
DZA	**Taraz**	**4.06**	**4**	*e*P		**Pb**	**21 37 24.3**	**-2.1**
	13nm,0.2s							
DZA				*e*S		**Sb**	**21 38 15.0**	**-0.6**
	60nm,0.8s							
MRKS	**Merke**	**4.27**	**23**	*e*P		**Pb**	**21 37 28.7**	**-1.3**
	5.5nm,0.3s							
MRKS				*e*S		**Sb**	**21 38 23.3**	**+1.6**
	11nm,0.6s							
KK31	**Karatay Array**	**4.27**	**356**	⇑P		**Pb**	**21 37 27.3**	**-2.7**
	0.4nm,0.2s,baz=181,slow=12,SNR=17							
KK31				⇓S		**Sg**	**21 38 30.4**	**-1.5**
	4.7nm,0.5s,baz=180,slow=29,SNR=7.1							
UCH	**Uchtor**	**4.34**	**38**	⇓*i*P		**Pb**	**21 37 28.8**	**-2.7**
	baz=40							
UCH				⇓*i*S		**Sb**	**21 38 19.5**	**-4.6**
	baz=40							
UCH	**Uchtor**	**4.34**	**38**	P		**Pb**	**21 37 32.6**	**+1.1**
	SNR=11							
EKS2	**Erkin-Say**	**4.38**	**29**	⇑*i*P		**Pb**	**21 37 28.7**	**-3.3**
	baz=31							
EKS2				⇑*i*S		**Sb**	**21 38 19.8**	**-5.2**
	baz=31							
AAK	**Ala-Archa**	**4.66**	**34**	P		**Pb**	**21 37 35.5**	**-1.1**
	SNR=6.5							
AAK	**Ala-Archa**	**4.66**	**34**	⇓P		**Pb**	**21 37 35.2**	**-1.5**
	2.4nm,0.3s							
AAK				⇑S		**Sb**	**21 38 35.1**	**+2.3**
	6.8nm,1.0s							
KBK	**Karagaybulak**	**4.88**	**37**	⇑*e*P		**Pb**	**21 37 36.0**	**-4.4**
	baz=40							
KBK				⇑*i*S		**Sb**	**21 38 32.5**	**-6.8**
	baz=40							
KBK	**Karagaybulak**	**4.88**	**37**	P		**Pb**	**21 37 40.3**	**-0.2**
	SNR=6.3							
TKM2	**Tokmak 2**	**5.39**	**39**	P		**Pb**	**21 37 47.5**	**-1.8**
	SNR=5.5							
TKM2	**Tokmak 2**	**5.39**	**39**	⇑P		**Pb**	**21 37 45.9**	**-3.3**
	2.0nm,0.3s							
TKM2				⇓S		**Sb**	**21 38 53.5**	**-0.6**
	5.1nm,0.8s							

*IDC **13** 21:39:43.7±0.9, 43°.74N×105°.35W, h0km, mb3.8/4, mb1 3.8/9, mb1mx3.6/43, mbtmp3.6/9, ML3.1/4, MS2.4/1, Ms1 2.4/1, ms1mx2.0/52, Error ellipse: s-maj=25.8km s-min=10.3km az=142.0*
*NEIC **13** 21:39:44.7±0.7, 43°.81N±0°.04×105°.28W±0°.04, h0km±2km, ML3.5/60, Error ellipse: s-maj=7.6km s-min=3.4km az=322.0*
*ANF **13** 21:39:44.1±0.3, 43°.75N×105°.28W, h0km, ML3.8/15, Error ellipse: s-maj=3.7km s-min=2.7km az=141.0*

ISC 13 21:39:44.4±0.6, 43.77N±0°.03×105°.28W±0°.03, h0km, n103, σ0s92/114, mb4.0/4, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.96**	**68**	Pg		**Pg**	**21 40 02.5**	**-0.3**
RSSD				Sg		**Sg**	**21 40 15.8**	**+0.4**
RSSD	**Black Hills**	**0.96**	**68**	P		**Pg**	**21 40 02.8**	**-0.1**
	baz=248							
RSSD				S		**Sb**	**21 40 16.8**	**-0.7**
	baz=248							
K22A	**Casper**	**1.45**	**219**			**Pn**	**21 40 11.1**	**-1.0**
K22A				Sg		**Sn**	**21 40 32.1**	**+0.3**
K22A				IAML			21 40 34.5	
	comp=E,707nm,0.3s							
K22A				IAML			21 40 35.0	
	comp=N,890nm,0.3s							
K22A	**Casper**	**1.45**	**219**	P		**Pn**	**21 40 11.0**	**-1.0**
	baz=39,SNR=787							
K22A				S		**Sg**	**21 40 31.0**	**+0.2**
	baz=39							
PHWY	**Pilot Hill**	**2.48**	**183**			**Pn**	**21 40 26.7**	**+0.4**
RWWY	**Rawlins**	**2.52**	**215**			**Pn**	**21 40 28.7**	**+1.8**
RWWY				Sn		**Sb**	**21 41 01.3**	**-1.2**
RWWY				IAML			21 41 04.8	
	comp=N,331nm,0.9s							
RWWY				IAML			21 41 06.1	
	comp=N,271nm,0.6s							
N23A	**Red Feather La**	**2.92**	**190**	P		**Pn**	**21 40 33.5**	**+1.2**
	baz=9.5,SNR=64							
N23A				Sb		**Sb**	**21 41 14.7**	**+0.9**
	baz=9.5							
LAO	**LASA Array**	**2.99**	**347**			**Pn**	**21 40 32.8**	**-0.3**
LAO				Sn		**Sn**	**21 41 10.1**	**+0.4**
LAO	**LASA Array**	**2.99**	**347**	P		**Pn**	**21 40 32.9**	**-0.2**
	baz=167							
RLMT	**Red Lodge**	**3.16**	**297**			**Pn**	**21 40 35.9**	**+0.3**
RLMT				IAML			21 41 32.6	
	comp=N,122nm,0.7s							
RLMT				IAML			21 41 33.2	
	comp=N,109nm,0.7s							
RLMT	**Red Lodge**	**3.16**	**297**	P		**Pn**	**21 40 35.8**	**+0.3**
	baz=114,SNR=26							
BW06	**Boulder Array**	**3.28**	**254**			**Pn**	**21 40 38.5**	**+1.2**
BW06				IAML			21 41 27.6	
	comp=N,88nm,0.6s							
BW06				IAML			21 41 31.2	
	comp=N,91nm,0.5s							
BW06	**Boulder Array**	**3.28**	**254**	P		**Pn**	**21 40 38.9**	**+1.5**
	baz=71,SNR=33							
BW06				Sb		**Sb**	**21 41 23.9**	**-0.4**
	baz=71							
PD31	**Pinedale Array**	**3.28**	**254**			**Pn**	**21 40 37.6**	**+0.3**
PDAR	**Pinedale Array**	**3.28**	**254**	Pn		**Pn**	**21 40 38.4**	**+1.0**
	comp=N,9.3nm,0.3s,baz=65,slow=17,SNR=59							
PDAR				Lg		Lg	21 41 21.0	
	comp=N,6.5nm,0.3s,baz=84,slow=25,SNR=2.8							
PDAR				LR		LR	21 41 26.6	
	comp=N,71nm,21.4s,baz=98,slow=32							
PDAR	**Pinedale Array**	**3.28**	**254**			**Pn**	**21 40 37.7**	**+0.3**
YMP	**Mirror Lake PI**	**3.63**	**287**			**Pn**	**21 40 42.1**	**-0.1**
YMP				IAML			21 41 49.8	
	comp=E,164nm,0.5s							
OGNE	**Ogallala**	**3.71**	**139**			**Pn**	**21 40 43.8**	**+0.7**
OGNE				IAML			21 41 49.0	
	comp=E,160nm,0.5s							
OGNE	**Ogallala**	**3.71**	**139**	P		**Pn**	**21 40 43.9**	**+0.8**
	baz=320,SNR=11							
GCMT	**Greycliff**	**3.72**	**304**			**Pn**	**21 40 43.2**	**0.0**
LOHW	**Long Hollow**	**3.87**	**269**			**Pn**	**21 40 45.5**	**+0.1**
H17A	**Grant Village**	**3.87**	**281**			**Pn**	**21 40 45.4**	**0.0**
H17A				IAML			21 41 50.5	
	comp=N,47nm,0.7s							
FLWY	**Flagg Ranch**	**3.93**	**276**			**Pn**	**21 40 46.3**	**+0.1**
FLWY				IAML			21 41 57.3	
	comp=N,101nm,1.8s							
FLWY				IAML			21 42 03.0	
	comp=N,54nm,1.2s							
MOOW	**Moose Ponds**	**3.96**	**272**	Pn		**Pn**	**21 40 47.7**	**+1.1**
ISCO	**Idaho Springs**	**3.98**	**184**			**Pn**	**21 40 47.9**	**+0.9**
ISCO	**Idaho Springs**	**3.98**	**184**	P		**Pn**	**21 40 47.8**	**+0.9**
	baz=3.5,SNR=8.4							
ISCO				Sb		**Sb**	**21 41 46.8**	**+2.4**
	baz=3.5							
SNOW	**Snow King Moun**	**3.99**	**267**			**Pn**	**21 40 47.2**	**+0.1**
SNOW				IAML			21 42 03.2	
	comp=N,91nm,0.9s							
SNOW				IAML			21 42 11.8	
	comp=N,59nm,1.4s							
REDW	**Red Top Meadow**	**4.07**	**266**			**Pn**	**21 40 48.7**	**+0.5**
REDW				IAML			21 42 01.3	
	comp=N,89nm,1.4s							
REDW				IAML			21 42 05.6	
	comp=N,77nm,0.8s							
IMW	**Indian Meadow**	**4.10**	**274**			**Pn**	**21 40 48.6**	**0.0**
IMW				IAML			21 41 22.7	
	comp=N,58nm,0.5s							
IMW				IAML			21 42 03.5	
	comp=N,47nm,0.6s							
TPAW	**Teton Pass**	**4.13**	**268**			**Pn**	**21 40 49.0**	**0.0**
TPAW				IAML			21 42 10.8	
	comp=N,99nm,0.8s							
TPAW				IAML			21 42 14.7	
	comp=N,41nm,1.1s							
YHH	**Holmes Hill**	**4.13**	**286**			**Pn**	**21 40 47.9**	**-1.1**
FXWY	**Fox Creek**	**4.17**	**270**			**Pn**	**21 40 49.5**	**0.0**
O20A	**White River Ci**	**4.25**	**212**			**Pn**	**21 40 51.1**	**+0.5**
O20A				IAML			21 42 06.2	
	comp=E,67nm,0.9s							
O20A				IAML			21 42 14.2	
	comp=N,60nm,1.8s							
O20A	**White River Ci**	**4.25**	**212**	P		**Pn**	**21 40 51.1**	**+0.5**
	baz=30,SNR=7.8							
O20A				Sb		**Sb**	**21 41 55.4**	**+3.1**
	baz=30							
YHB	**Horse Butte**	**4.36**	**285**	Pn		**Pn**	**21 40 51.4**	**-0.7**
YHB				IAML			21 42 07.0	
	comp=N,32nm,1.1s							
AHID	**Auburn Hatcher**	**4.37**	**259**	Pn		**Pn**	**21 40 52.6**	**+0.4**
AHID				IAML			21 42 07.0	
	comp=N,64nm,1.6s							
AHID				IAML			21 42 19.2	
	comp=N,58nm,1.0s							
RDMU	**Red Mountain**	**4.52**	**226**			**Pn**	**21 40 54.6**	**+0.3**
RDMU				IAML			21 42 09.1	
	comp=N,46nm,1.0s							
RDMU				IAML			21 42 15.3	
	comp=E,55nm,1.0s							
SUSD	**Miller**	**4.60**	**79**	Pn		**Pn**	**21 40 54.4**	**-0.9**
SUSD	**Miller**	**4.60**	**79**	Sb		**Sb**	**21 42 04.7**	**+2.6**
	baz=264							
DGMT	**Dagmar**	**4.76**	**9**			**Pn**	**21 40 57.4**	**0.0**
DGMT	**Dagmar**	**4.76**	**9**	P		**Pn**	**21 40 58.1**	**+0.7**
	baz=189							
DGMT				Sb		**Sb**	**21 42 10.6**	**+4.2**
	baz=189							
Q24A	**Divide**	**4.81**	**179**	P		**Pn**	**21 40 58.5**	**+0.2**
	baz=359							
BOZ	**Bozeman (W)**	**4.88**	**294**			**Pn**	**21 40 59.2**	**-0.1**
BOZ				IAML			21 42 24.3	
	comp=E,22nm,0.9s							
BOZ	**Bozeman (W)**	**4.88**	**294**	P		**Pn**	**21 40 59.4**	**+0.2**
	baz=110							
BOZ				Sb		**Sb**	**21 42 12.3**	**+2.1**
	baz=110							
HWUT	**Hardware Ranch**	**5.12**	**247**			**Pn**	**21 41 02.6**	**+0.1**
HWUT				IAML			21 42 35.8	
	comp=E,47nm,1.0s							
KSCO	**Kaye Shedlock'**	**5.16**	**156**	Pn		**Pn**	**21 41 03.0**	**0.0**
KSCO	**Kaye Shedlock'**	**5.16**	**156**	P		**Pn**	**21 41 02.7**	**-0.4**
	baz=338,SNR=7.4							
KSCO				S		**Sn**	**21 42 02.5**	**-0.8**
	baz=338							
TCUT	**Toone Canyon**	**5.25**	**242**			**Pn**	**21 41 04.7**	**+0.3**
EGMT	**Eagleton**	**5.27**	**325**			**Pn**	**21 41 04.0**	**-0.6**
EGMT	**Eagleton**	**5.27**	**325**	P		**Pn**	**21 41 04.5**	**-0.1**
	baz=142							
LRM	**Limekiln Ridge**	**5.50**	**294**			**Pn**	**21 41 07.9**	**+0.1**
MCMT	**McKenzie Canyo**	**5.54**	**284**	Pn		**Pn**	**21 41 08.8**	**+0.5**
JLU	**Jordanelle**	**5.57**	**237**			**Pn**	**21 41 08.7**	**-0.1**
CTU	**Camp Tracy**	**5.71**	**240**			**Pn**	**21 41 10.7**	**+0.1**
SPUT	**South Promonto**	**5.84**	**248**			**Pn**	**21 41 12.6**	**+0.1**
PV22	**Blue Mesa, Par**	**5.87**	**208**			**Pn**	**21 41 12.9**	**+0.2**
HVU	**Hansel Valley**	**5.87**	**253**	Pn		**Pn**	**21 41 12.6**	**-0.1**
PV07	**Paradox Valley**	**5.91**	**207**			**Pn**	**21 41 13.9**	**+0.5**
PV21	**Cone Mtn., Par**	**5.91**	**209**			**Pn**	**21 41 13.8**	**+0.4**
P17A	**Butcher Ranch,**	**5.93**	**225**			**Pn**	**21 41 14.0**	**+0.3**
PV15	**Paradox Valley**	**5.94**	**205**			**Pn**	**21 41 14.4**	**+0.5**
PV23	**Carpenter Ridg**	**6.02**	**209**			**Pn**	**21 41 15.2**	**+0.2**
SDCO	**Great Sand Dun**	**6.03**	**182**	Pn		**Pn**	**21 41 15.6**	**+0.5**
SDCO	**Great Sand Dun**	**6.03**	**182**	P		**Pn**	**21 41 15.8**	**+0.8**
	baz=1.5							
PV04	**Paradox Valley**	**6.03**	**208**			**Pn**	**21 41 15.8**	**+0.7**
MPU	**Maple Canyon**	**6.05**	**234**	Pn		**Pn**	**21 41 15.2**	**-0.1**
PV12	**Saucer Basin,**	**6.07**	**207**			**Pn**	**21 41 15.9**	**+0.3**
PV14	**Lion Creek, Pa**	**6.09**	**209**			**Pn**	**21 41 16.2**	**+0.3**
PV20	**West Nyswonger**	**6.10**	**208**			**Pn**	**21 41 17.1**	**+1.1**
SRU	**San Rafael Swe**	**6.10**	**222**			**Pn**	**21 41 15.7**	**-0.4**
PV11	**David Mesa, Pa**	**6.11**	**208**			**Pn**	**21 41 17.1**	**+1.0**
PV16	**Nyswonger Mesa**	**6.11**	**208**			**Pn**	**21 41 16.9**	**+0.7**
PV19	**Morning Glory**	**6.13**	**208**			**Pn**	**21 41 17.6**	**+1.1**
PV03	**Paradox Valley**	**6.14**	**207**			**Pn**	**21 41 16.8**	**+0.3**
PV02	**Paradox Valley**	**6.15**	**206**			**Pn**	**21 41 17.2**	**+0.5**
PV17	**East Wray Mesa**	**6.15**	**208**			**Pn**	**21 41 16.9**	**+0.1**
PV18	**Skein Mesa, Pa**	**6.17**	**208**	Pn		**Pn**	**21 41 17.2**	**+0.2**
PV13	**Radium Mtn., P**	**6.22**	**207**			**Pn**	**21 41 18.1**	**+0.4**
ECSD	**EROS Data Cent**	**6.28**	**87**			**Pn**	**21 41 18.4**	**+0.1**
ECSD	**EROS Data Cent**	**6.28**	**87**	P		**Pn**	**21 41 18.4**	**+0.1**
	baz=273							
TMUT	**Trail Mountain**	**6.31**	**227**			**Pn**	**21 41 19.7**	**+0.7**
NLU	**North Lily Min**	**6.35**	**235**	Pn		**Pn**	**21 41 20.0**	**+0.5**
PV05	**Paradox Valley**	**6.38**	**208**			**Pn**	**21 41 19.4**	**-0.6**
BGU	**Big Grassy Mou**	**6.41**	**246**	Pn		**Pn**	**21 41 20.9**	**+0.7**
Q16A	**Castle Valley**	**6.57**	**224**			**Pn**	**21 41 22.6**	**+0.1**
HLID	**Hailey**	**6.63**	**271**	Pn		**Pn**	**21 41 23.9**	**+0.6**
DUG	**Dugway, Tooele**	**6.66**	**240**	Pn		**Pn**	**21 41 23.2**	**-0.4**
DUG	**Dugway, Tooele**	**6.66**	**240**	P		**Pn**	**21 41 22.8**	**-0.8**
	baz=55							
T25A	**Trinidad**	**6.66**	**174**			**Pn**	**21 41 23.5**	**-0.2**
MSO	**Missoula**	**6.83**	**300**			**Pn**	**21 41 25.3**	**-0.6**
MSO	**Missoula**	**6.83**	**300**	P		**Pn**	**21 41 25.4**	**-0.6**
	baz=114							
MSU	**Marysvale**	**7.40**	**227**	Pn		**Pn**	**21 41 34.6**	**+0.7**
MTPU	**Mount Pierson**	**7.75**	**225**	Pn		**Pn**	**21 41 38.7**	**-0.1**
ELK	**Elko**	**7.98**	**251**	Pn		**Pn**	**21 41 43.3**	**+1.4**
	comp=E,0.5nm,0.3s,baz=55,slow=5.3,SNR=7.8							
I10CA	**LAC DU BONNET**	**9.01**	**41**	*i*			22 39 10.0	
	baz=225,slow=308,SNR=3.3							
ULM	**Lac du Bonnet**	**9.12**	**41**	Pn		**Pn**	**21 41 55.1**	**-2.0**
	comp=E,1.5nm,0.3s,baz=233,slow=12,SNR=8.6							
NVAR	**Mina Array Bea**	**11.18**	**246**	Pn		**Pn**	**21 42 27.5**	**+1.8**
	comp=E,0.2nm,0.3s,baz=49,slow=12,SNR=7.5							
YBH	**Yreka Blue Hor**	**12.98**	**267**	Pn		Pn	21 42 55.2	+5.1
	comp=E,0.1nm,0.3s,baz=101,slow=10,SNR=1.9							
TXAR	**Lajitas Array**	**14.47**	**174**	Pn		**Pn**	**21 43 10.9**	**+0.3**
	comp=E,0.0nm,0.3s,baz=350,slow=16,SNR=1.9							
ILAR	**Eielson Array**	**31.24**	**327**	P		**P**	**21 46 06.5**	**+1.2**
	comp=E,0.2nm,0.6s,baz=124,slow=9.3,SNR=2.5							
ARCES	**ARCESS Array B**	**61.38**	**18**	P		**P**	**21 50 00.3**	**-1.4**
	comp=E,0.6nm,0.5s,baz=338,slow=6.8,SNR=7.9							
ZALV	**Zalesovo Beam**	**82.27**	**354**	P		**P**	**21 52 06.4**	**-0.9**
	comp=E,0.9nm,0.6s,baz=350,slow=5.7,SNR=4.0							
MKAR	**Makanchi Array**	**89.57**	**355**	P		**P**	**21 52 42.7**	**-1.0**
	comp=E,0.6nm,0.7s,baz=18,slow=3.7,SNR=5.4							

IDC 13 21:42:07.2±2.2, 0°.81N×125°.90E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/25, mbtmp3.3/3, Error ellipse: s-maj=192.9km s-min=28.5km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.22**	**159**	P		P	21 47 06.0	+0.3
	0.6nm,0.8s,baz=337,slow=12,SNR=2.7							
ASAR	**Alice Springs**	**25.55**	**163**	P		P	21 47 37.7	-0.3
	0.3nm,0.4s,baz=344,slow=10.0,SNR=2.5							
MKAR	**Makanchi Array**	**59.49**	**327**	P		P	21 52 12.2	0.0
	0.2nm,0.4s,baz=117,slow=6.1,SNR=4.1							

MEX 13 21:53:21.9±1.5, 15°.83N×95°.17W, h19km±101km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.28**	**12**	*i* P		Pn	21 53 41.6	-3.3
CMIG				*i* S		Sn	21 53 56.7	-4.8
PCIG		**1.89**	**94**	*e*P		Pn	21 53 49.9	-3.2
PCIG				*e*S		Sn	21 54 11.6	-4.8
PEIG	**Puerto Escondi**	**1.91**	**275**	*e*P		Pn	21 53 50.9	-2.5
PEIG				*i* S		Sn	21 54 12.2	-4.8
TXIG	**Tlaxiaco**	**2.86**	**300**	*e*P		Pn	21 54 06.5	-0.3
TXIG				*e*S		Sn	21 54 37.0	-4.0
TOIG	**Toxpalan**	**2.89**	**321**	*e*P		Pn	21 54 04.5	-2.6
TOIG				*e*S		Sn	21 54 38.3	-3.1
TOIG				*i* S		Sb	21 54 40.8	-7.2
PNIG	**Pinotepa**	**2.89**	**281**	*e*P		Pn	21 54 05.2	-1.9
PNIG				*i* S		Sn	21 54 35.4	-5.9
HLIG	**Huajuapan de L**	**3.21**	**309**	*e*P		Pb	21 54 19.9	+1.5
HLIG				*e*S		Sn	21 54 45.6	-3.7
FTIG	**Fresnillo de T**	**3.51**	**306**	*e*P		Pb	21 54 25.3	+1.8
FTIG				*e*S		Sn	21 54 52.4	-4.2

*ECGS **13** 21:58:26.5, 1°.811S±0°.009×29°.08E±0°.02, h0km±3km, ML2.6, Error ellipse: s-maj=2.7km s-min=1.4km az=111.0, smi:local/42f0bdf2-3c70-4876-8563-e4555341bc21 Note: Depth/Latitude/Longitude errors are calculated from covariance matrix as 1D marginal (Lon/Lat errors as great circle degrees) while OriginUncertainty min/max horizontal errors are calculated from 2D error ellipsoid and are therefore seemingly higher compared to 1D errors. Error estimates can be reconstructed from the following original NonLinLoc error statistics line:STATISTICS ExpectX 9.14389 Y -34.5941 Z 2.4062 CovXX 2.81701 XY -0.770517 XZ -1.35411 YY 1.10728 YZ 0.246974 ZZ 12.2517 EllAz1 21.8185 Dip1 1.37123 Len1 1.6859 Az2 292.017 Dip2 -8.21739 Len2 3.20925 Len3 6.630200e+00*

**ISC 13 21:58:25.7±1.9, 1°.84S±0°.06×29°.03

TNTI	**Ternate**	**2.30**	**209**		**Pn**	**22 12 15.0**	**+0.5**
TNTI				Sn	**Sn**	**22 12 41.5**	**-0.2**
SIJI	**Sorong**	**4.58**	**143**	P	**Pn**	**22 12 47.3**	**+1.4**
	14nm,0.3s,baz=268,slow=23,SNR=28						
SIJI				S	**Sn**	**22 13 36.6**	**-1.3**
	12nm,0.3s,baz=168,slow=23,SNR=9.1						
FAKI	**Fak Fak**	**6.81**	**146**	Pn	**Pn**	**22 13 18.8**	**+2.2**
FAKI				Sn	**Sn**	**22 14 32.2**	**-0.7**
TOLI2	**Tolitoli**	**7.88**	**258**		**Pn**	**22 13 31.6**	**+0.3**
KAPI	**Kappang**	**11.68**	**228**	LR	LR	22 18 43.9	
	comp=Z,38nm,20.8s,baz=355,slow=36						
GUMO	**Guam**	**19.42**	**56**	LR	LR	22 23 16.2	
	comp=Z,16nm,19.1s,baz=181,slow=36						
FITZ	**Fitzroy Crossi**	**20.95**	**188**	P	Pn	22 16 20.9	-0.9
	0.9nm,0.6s,baz=28,slow=7.9,SNR=1.8						
FITZ	**Fitzroy Crossi**	**20.95**	**188**	P	**P**	**22 16 20.0**	**+0.9**
FITZ				IAmb	IAmb	22 16 31.9	
	comp=Z,3.5nm,1.1s						
WRAB	**Tennant Creek**	**23.31**	**166**	P	**P**	**22 16 43.1**	**-1.0**
WRA	**Warramunga Arr**	**23.32**	**166**	P	**P**	**22 16 43.6**	**-0.6**
	comp=Z,4.0nm,0.5s,baz=346,slow=12,SNR=66						
WRA	**Warramunga Arr**	**23.32**	**166**	P	**P**	**22 16 43.3**	**-0.8**
WB2	**Warramunga Arr**	**23.32**	**166**	P	**P**	**22 16 43.6**	**-0.6**
WB2				IAmb	IAmb	22 16 46.0	
	comp=Z,8.5nm,0.8s						
WR0	**Warramunga Arr**	**23.38**	**166**	P	**P**	**22 16 43.5**	**-1.3**
WR0				IAmb	IAmb	22 16 45.3	
	comp=Z,14nm,1.5s						
ASAR	**Alice Springs**	**26.82**	**169**	P	**P**	**22 17 15.9**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=356,slow=8.2,SNR=10						
ASAR				PcP	**PcP**	**22 20 38.0**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=359,slow=2.4,SNR=6.0						
ASAR	**Alice Springs**	**26.82**	**169**	P	**P**	**22 17 15.7**	**-0.7**
ASAR					**PcP**	**22 20 38.1**	**-0.5**
KSRS	**Korea Array**	**34.50**	**359**	P	**P**	**22 18 24.3**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=176,slow=11,SNR=5.7						
KSRS				LR	LR	22 31 51.7	
	comp=Z,15nm,21.5s,baz=205,slow=35						
MJAR	**Matsushiro Arr**	**34.76**	**14**	P	**P**	**22 18 25.7**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=196,slow=8.1,SNR=1.6						
MJAR				LR	LR	22 30 38.2	
	comp=Z,22nm,21.5s,baz=235,slow=33						
STKA	**Stephens Creek**	**36.66**	**161**	P	**P**	**22 18 42.1**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=335,slow=10,SNR=5.6						
STKA	**Stephens Creek**	**36.66**	**161**	P	**P**	**22 18 42.5**	**-0.1**
STKA				IAmb	IAmb	22 18 50.6	
	comp=Z,1.0nm,1.1s						
NWAO	**Narrogin (SRO)**	**37.09**	**196**	LR	LR	22 35 26.6	
	comp=Z,48nm,18.2s,baz=94,slow=38						
H11S3	**WAKE ISLAND Hy 40.52**	**65**		T	T	23 02 36.0	
	baz=252,slow=75,SNR=17						
H11S2	**WAKE ISLAND Hy 40.54**	**65**		T	T	23 02 36.2	
	baz=252,slow=75,SNR=10.0						
H11S1	**WAKE ISLAND Hy 40.54**	**65**		T	T	23 02 36.0	
	baz=252,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy 41.09**	**63**		T	T	23 03 12.4	
	baz=250,slow=75,SNR=24						
H11N2	**WAKE ISLAND Hy 41.10**	**63**		T	T	23 03 14.1	
	baz=250,slow=75,SNR=8.7						
H11N3	**WAKE ISLAND Hy 41.11**	**63**		T	T	23 03 14.2	
	baz=250,slow=75,SNR=26						
MKAR	**Makanchi Array**	**59.32**	**325**	P	**P**	**22 21 37.5**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=111,slow=7.3,SNR=7.2						
MKAR	**Makanchi Array**	**59.32**	**325**	P	**P**	**22 21 37.3**	**-0.3**
QSPA	**South Pole Qui**	**92.71**	**180**	P	**P**	**22 24 46.9**	**-0.5**
QSPA				IAmb	IAmb	22 24 47.3	
	comp=Z,0.9nm,0.9s						

*NEIC **13** 22:31:35.3±0.7, 19°.69N±0°.09×64°.56W±0°.09, h62km±22km, Error ellipse: s-maj=15.7km s-min=7.1km az=223.0*
*RSPR **13** 22:31:36.3, 19°.63N×64°.59W, h77km±4km, MD3.7/13*

ISC 13 22:31:34.3±1.5, 19°.73N±0°.09×64°.53W±0°.04, h50km, n77, σ1§21/83, 9C-5D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**1.01**	**169**	*ieP*	**Pn**	**22 31 52.5**	**+0.3**
ABV	**Anegada**	**1.01**	**169**	*eS*	**Sn**	**22 32 05.3**	**0.0**
ABVI	**Anegada Island**	**1.01**	**169**		**Pn**	**22 31 52.5**	**+0.3**
ABVI					**Sn**	**22 32 05.3**	**0.0**
ABVI	**Anegada Island**	**1.01**	**169**	IAML		22 32 11.8	
	comp=N,1μm,1.0s						
ABVI				IAML		22 32 12.5	
	comp=E,2μm,1.4s						
VGBI	**Virgin Gorda,**	**1.24**	**174**	*ieP*	**Pn**	**22 31 56.1**	**+0.9**
VGBI	**Virgin Gorda,**	**1.24**	**174**	*eS*	**Sn**	**22 32 12.4**	**+1.5**
VGBI	**Virgin Gorda,**	**1.24**	**174**		**Pn**	**22 31 56.1**	**+0.9**
VGBI					**Sn**	**22 32 12.4**	**+1.5**
TBVI	**Tortola**	**1.31**	**183**	*ieP*	**Pn**	**22 31 57.1**	**+0.9**
TBVI	**Tortola**	**1.31**	**183**	*eS*	**Sn**	**22 32 13.5**	**+0.9**
STVI	**Saint Thomas**	**1.43**	**196**	*ieP*	**Pn**	**22 31 58.4**	**+0.6**
STVI	**Saint Thomas**	**1.43**	**196**	*eS*	**Sn**	**22 32 15.7**	**+0.3**
STVI	**Saint Thomas**	**1.43**	**196**		**Pn**	**22 31 58.4**	**+0.6**
STVI					**Sn**	**22 32 15.7**	**+0.3**
STVI	**Saint Thomas**	**1.43**	**196**	IAML		22 32 19.6	
	comp=E,573nm,0.7s						
STVI				IAML		22 32 24.8	
	comp=N,538nm,1.0s						
CUPR	**Culebra, Puert**	**1.58**	**207**	*ieP*	**Pn**	**22 32 00.2**	**+0.3**
CUPR	**Culebra, Puert**	**1.58**	**207**	*eS*	**Sn**	**22 32 19.4**	**+0.2**
CUPR	**Culebra, Puert**	**1.58**	**207**		**Pn**	**22 32 00.2**	**+0.3**
CUPR					**Sn**	**22 32 19.4**	**+0.2**
CUPR	**Culebra, Puert**	**1.58**	**207**	IAML		22 32 20.2	
	comp=E,527nm,0.3s						
MTP	**Monte Pirata**	**1.89**	**211**	*ieP*	**Pn**	**22 32 04.5**	**+0.3**
MTP	**Monte Pirata**	**1.89**	**211**	*eS*	**Sn**	**22 32 26.5**	**-0.3**
MTP	**Monte Pirata**	**1.89**	**211**		**Pn**	**22 32 04.5**	**+0.3**
MTP					**Sn**	**22 32 26.5**	**-0.3**
MTP	**Monte Pirata**	**1.89**	**211**	IAML		22 32 31.0	
	comp=E,607nm,0.2s						
MTP				IAML		22 32 36.2	
	comp=N,341nm,0.4s						
CBYP	**Canovanas**	**1.91**	**221**		**Pn**	**22 32 04.7**	**+0.1**
CDVI	**St. Croix**	**1.98**	**186**	*ieP*	**Pn**	**22 32 05.9**	**+0.6**
CDVI	**St. Croix**	**1.98**	**186**	*eS*	**Sn**	**22 32 29.2**	**+0.2**
CDVI	**St. Croix**	**1.98**	**186**	*eP*	**Pn**	**22 32 07.2**	**+1.8**
CDVI	**St. Croix**	**1.98**	**186**		**Pn**	**22 32 05.9**	**+0.6**
CDVI					**Sn**	**22 32 29.2**	**+0.2**
HUMP	**Col San Antoni**	**2.01**	**218**	*ieP*	**Pn**	**22 32 06.1**	**+0.3**
HUMP	**Col San Antoni**	**2.01**	**218**	*eS*	**Sn**	**22 32 29.6**	**-0.2**
HUMP	**Col San Antoni**	**2.01**	**218**		**Pn**	**22 32 06.1**	**+0.3**
HUMP					**Sn**	**22 32 29.6**	**-0.2**
HUMP	**Col San Antoni**	**2.01**	**218**	IAML		22 32 35.2	
	comp=N,310nm,0.2s						
GCPR	**Guaynabo City**	**2.04**	**226**	*ieP*	**Pn**	**22 32 06.3**	**+0.2**
GCPR	**Guaynabo City**	**2.04**	**226**	*eS*	**Sn**	**22 32 30.0**	**-0.4**
GCPR	**Guaynabo City**	**2.04**	**226**		**Pn**	**22 32 06.3**	**+0.2**
GCPR					**Sn**	**22 32 30.0**	**-0.4**
PDPR	**Patillas Dam,**	**2.21**	**220**		**Pn**	**22 32 08.7**	**+0.2**
PDPR				IAML		22 32 43.2	
	comp=E,229nm,0.5s						
SJG	**San Juan**	**2.22**	**224**		**Pn**	**22 32 08.9**	**+0.2**
SJG	**San Juan**	**2.22**	**224**	*eP*	**Pn**	**22 32 08.3**	**-0.3**
IGPR	**InterUniversit**	**2.30**	**221**	*ieP*	**Pn**	**22 32 10.3**	**+0.6**
IGPR	**InterUniversit**	**2.30**	**221**	*eS*	**Sn**	**22 32 36.6**	**-0.3**
AOPR	**Arecibo Observ**	**2.51**	**237**	*ieP*	**Pn**	**22 32 13.1**	**+0.4**
AOPR	**Arecibo Observ**	**2.51**	**237**	*eS*	**Sn**	**22 32 42.0**	**-0.1**
AOPR	**Arecibo Observ**	**2.51**	**237**	*eP*	**Pn**	**22 32 13.0**	**+0.3**
AOPR	**Arecibo Observ**	**2.51**	**237**		**Pn**	**22 32 13.1**	**+0.4**
AOPR					**Sn**	**22 32 42.0**	**-0.1**
CELP	**Cerrillos**	**2.54**	**230**	*ieP*	**Pn**	**22 32 13.8**	**+0.8**
CELP	**Cerrillos**	**2.54**	**230**	*eS*	**Sn**	**22 32 42.7**	**-0.1**
CELP	**Cerrillos**	**2.54**	**230**		**Pn**	**22 32 13.8**	**+0.8**
CELP					**Sn**	**22 32 42.7**	**-0.1**
OBIP	**Obispado Ponce**	**2.58**	**230**		**Pn**	**22 32 13.4**	**-0.2**
OBIP				IAML		22 32 52.5	
	comp=E,173nm,0.5s						
OBIP				IAML		22 32 57.9	
	comp=N,161nm,0.8s						
ICMP	**Isla Caja de M**	**2.63**	**226**	Pn	**Pn**	**22 32 15.2**	**+0.9**
ICMP				IAML		22 32 52.4	
	comp=E,252nm,0.8s						
ICMP				IAML		22 32 58.0	
	comp=N,175nm,0.6s						
SKI	**Saint Kitts**	**2.93**	**144**	*eP*	**Pn**	**22 32 18.5**	**+0.1**
SKI				*eS*	**Sn**	**22 32 53.0**	**+0.6**
MLPR	**Magueyes Islan**	**2.95**	**234**		**Pn**	**22 32 19.5**	**+0.8**
MLPR				IAML		22 33 03.3	
	comp=E,126nm,0.8s						
CRPR	**Cabo Rojo, PR**	**2.98**	**235**	*ieP*	**Pn**	**22 32 20.0**	**+0.9**
CRPR	**Cabo Rojo, PR**	**2.98**	**235**	*eS*	**Sn**	**22 32 53.5**	**-0.1**
CRPR	**Cabo Rojo, PR**	**2.98**	**235**		**Pn**	**22 32 20.0**	**+0.9**
CRPR					**Sn**	**22 32 53.5**	**-0.1**
CRPR	**Cabo Rojo, PR**	**2.98**	**235**	IAML		22 33 06.3	
	comp=E,153nm,0.7s						
CRPR				IAML		22 33 10.7	
	comp=N,120nm,0.7s						
IDE	**Isla Desecheo**	**3.08**	**245**	*ieP*	**Pn**	**22 32 21.7**	**+1.2**
IDE	**Isla Desecheo**	**3.08**	**245**	*eS*	**Sn**	**22 32 56.8**	**+0.5**
ANWB	**Willy Bob**	**3.31**	**128**	*eP*	**Pn**	**22 32 25.3**	**+1.6**
ANWB				*eS*	**Sn**	**22 33 04.5**	**+2.6**
ANOC	**Antigua Open C**	**3.65**	**135**	*eP*	**Pn**	**22 32 31.4**	**+3.1**
ANDO	**Antigua, Disas**	**3.66**	**135**	*eP*	**Pn**	**22 32 29.8**	**+1.4**
ANDO				*eS*	**Sn**	**22 33 05.8**	**-4.4**
ANDO				*eS*		22 33 09.2	
ANBD	**Bethesda, Anti**	**3.74**	**135**	*eP*	**Pn**	**22 32 30.2**	**+0.6**
ANBD				*eS*	**Sn**	**22 33 11.4**	**-1.1**
ABD	**La Joyeuse, An**	**4.34**	**138**	*e*	**Pn**	**22 32 34.4**	**-3.4**
CBE	**Ff, Capester**	**4.58**	**142**	*e*	**Pn**	**22 32 44.3**	**+3.1**
DR12	**Loma Pena Alta**	**4.67**	**259**		**Pn**	**22 32 43.5**	**+1.1**
TBG	**Guadaloupe-3**	**4.74**	**144**	*e*	Pn	22 32 49.3	+6.1
TDBA	**Terre de Bas,**	**4.74**	**144**	*e*	Pn	22 32 48.3	+5.0
MAGL	**Barre de l'ile**	**4.87**	**140**	*e*	**Pn**	**22 32 45.4**	**+0.4**
DSLB	**Salisbury**	**5.20**	**145**	*e*	**Pn**	**22 32 52.3**	**+2.7**
BANI	**BANI**	**5.67**	**257**		**Pn**	**22 32 57.1**	**+1.0**
SDDR	**Presa de Saban**	**6.42**	**264**	*eP*	**Pn**	**22 33 08.6**	**+2.2**
SDDR	**Presa de Saban**	**6.42**	**264**		**Pn**	**22 33 07.0**	**+0.7**
SDDR	**Presa de Saban**	**6.42**	**264**	*eP*	**Pn**	**22 33 09.0**	**+2.7**
ZARC	**Zaragoza, Cauc**	**15.76**	**221**	*eP*	**P**	**22 35 14.2**	**-2.0**
RUSC	**La Rusia**	**16.07**	**212**	Pn	**Pn**	**22 35 16.1**	**-1.4**
RUSC	**La Rusia**	**16.07**	**212**	*eP*	**P**	**22 35 19.0**	**-1.2**
CHIC	**Chingaza**	**17.48**	**212**	*eP*	**P**	**22 35 35.6**	**-0.1**
CBOC	**Ciudad Bolivar**	**17.74**	**221**	*eP*	**P**	**22 35 38.1**	**-0.2**
GUY2C	**Guyana, Caldas**	**17.86**	**218**	*eP*	**P**	**22 35 41.2**	**+1.2**
MARP	**Paez Belalcaza**	**20.15**	**215**	*eP*	Pn	22 36 08.1	+1.0

*HLW **13** 22:57:54.8, 34°.66N×23°.81E, h25km±22km, Md4.2, Ml4.2*
*ATH **13** 22:57:55.4, 34°.54N×23°.49E, h47km±6km, ML3.3/5, Error ellipse: s-maj=7.0km s-min=2.6km az=54.0*
*ISK **13** 22:57:56.7, 34°.55N×23°.51E, h29km, ML3.4/4*
*THE **13** 22:57:56.0, 34°.50N×23°.41E, h17km±3km, ML3.2/4, Error ellipse: s-maj=3.7km s-min=1.4km az=208.0*
*IDC **13** 22:57:58.2±2.2, 34°.34N×23°.65E, h66km±20km, mb3.7/4, mb1 3.7/6, mb1mx3.2/55, mbtmp3.9/6, Error ellipse: s-maj=26.6km s-min=19.9km az=135.0*
*DDA **13** 22:57:59.1, 34°.80N×23°.88E, h7km±5km, ML3.3*

ISC 13 22:57:56.5±1.0, 34°.46N±0°.04×23°.58E±0°.05, h53km±9km, n53, σ1§85/80, mb3.8/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.57**	**48**	P	**Pn**	**22 58 08.6**	**-0.1**
GVD				S	**Sn**	**22 58 18.3**	**+0.7**
	10μm,0.3s						
GVD	**Gavdhos**	**0.57**	**48**	P	**Pn**	**22 58 08.4**	**-0.3**
GVD				S	**Sn**	**22 58 16.4**	**-1.2**
GVD				AML	AML	22 58 20.5	
	comp=E,14278μm,0.3s						
GVD				AML	AML	22 58 20.7	
	comp=N,24315μm,0.3s						
GVD	**Gavdhos**	**0.57**	**48**	PG	**Pn**	**22 58 08.7**	**0.0**
GVD				SG	**Sn**	**22 58 17.6**	**0.0**
KNDR	**Palaiochora Ch**	**0.78**	**6**	P	**Pn**	**22 58 10.2**	**-1.2**
KNDR				S	**Sn**	**22 58 21.2**	**-1.1**
	comp=N,1μm,0.4s						
KNDR	**Palaiochora Ch**	**0.78**	**6**	PG	**Pn**	**22 58 10.5**	**-0.9**
KNDR				SG	**Sn**	**22 58 21.5**	**-0.8**
IMMV	**Iera Moni Meta**	**1.05**	**18**	P	**Pn**	**22 58 14.5**	**-0.5**
IMMV				S	**Sn**	**22 58 29.5**	**+0.8**
	comp=N,2μm,0.4s						
IMMV	**Iera Moni Meta**	**1.05**	**18**	P	**Pn**	**22 58 14.3**	**-0.7**
IMMV				S	**Sn**	**22 58 27.4**	**-1.3**
IMMV				AML	AML	22 58 34.4	
	comp=E,3718μm,0.5s						
IMMV				AML	AML	22 58 38.1	
	comp=N,3633μm,0.4s						
IMMV	**Iera Moni Meta**	**1.05**	**18**	PG	**Pn**	**22 58 15.3**	**+0.3**
IMMV				SG	**Sn**	**22 58 27.8**	**-0.9**
VAM	**Vamos**	**1.08**	**28**	P	**Pn**	**22 58 15.4**	**+0.1**
VAM	**Vamos**	**1.08**	**28**	P	**Pn**	**22 58 15.3**	**-0.1**
VAM				S	**Sn**	**22 58 29.4**	**+0.1**
VAM				AML	AML	22 58 36.0	
	comp=N,2870μm,0.8s						
VAM				AML	AML	22 58 36.5	
	comp=E,3013μm,0.5s						
TMBK	**Timbaki Herakl**	**1.15**	**58**	P	**Pn**	**22 58 17.6**	**+1.3**
TMBK				S	**Sn**	**22 58 34.9**	**+3.8**
	comp=E,398nm,0.5s						
PRNS	**Prines Rethymn**	**1.18**	**40**	P	**Pn**	**22 58 16.5**	**-0.2**
IDI	**Anoyia**	**1.36**	**52**	P	**Pn**	**22 58 20.4**	**+1.2**
	comp=E,31nm,0.3s,baz=253,slow=11,SNR=90						
IDI				S	**Sn**	**22 58 39.5**	**+3.3**
	comp=E,19nm,0.3s,baz=0.1,slow=20,SNR=7.7						
IDI	**Anoyia**	**1.36**	**52**	P	**Pn**	**22 58 20.2**	**+1.0**
IDI	**Anoyia**	**1.36**	**52**	P	**Pn**	**22 58 20.1**	**+0.9**
IDI				S	**Sn**	**22 58 39.1**	**+2.9**
IDI				AML	AML	22 58 48.6	
	comp=N,793μm,0.3s						
IDI				AML	AML	22 58 49.1	
	comp=E,814μm,0.5s						
ANKY	**Antikythira Is**	**1.42**	**351**	P	**Pn**	**22 58 19.5**	**-0.5**
ANKY	**Antikythira Is**	**1.42**	**351**	P	**Pn**	**22 58 19.1**	**-0.9**
ANKY				S	**Sn**	**22 58 37.9**	**+0.3**
ANKY				AML	AML	22 58 46.7	
	comp=N,1147μm,0.5s						
ANKY				AML	AML	22 58 51.9	
	comp=E,853μm,0.7s						
HRKL	**Herakleio**	**1.52**	**55**	PN	**Pn**	**22 58 22.5**	**+1.3**
HRKL				SN	**Sn**	**22 58 40.9**	**+1.1**
KTHA	**Kythira Island**	**1.84**	**347**	P	**Pn**	**22 58 25.8**	**0.0**
KTHA	**Kythira Island**	**1.84**	**347**	P	**Pn**	**22 58 26.9**	**+1.2**
KTHA	**Kythira Island**	**1.84**	**347**	PN	**Pn**	**22 58 25.4**	**-0.4**
NPS	**Neapolis**	**1.85**	**64**	P	**Pn**	**22 58 28.0**	**+2.1**
ZKR	**Zakros**	**2.27**	**72**	P	**Pn**	**22 58 34.2**	**+2.6**
ZKR	**Zakros**	**2.27**	**72**	PN	**Pn**	**22 58 33.9**	**+2.4**
ZKR				SN	**Sn**	**22 59 00.2**	**+2.5**
SANT	**Santorini**	**2.45**	**38**	PN	**Pn**	**22 58 34.8**	**+0.7**
THT2	**Imerovigli**	**2.48**	**37**	PN	**Pn**	**22 58 35.6**	**+1.1**
ITM	**Ithomi**	**3.03**	**334**	PN	**Pn**	**22 58 40.7**	**-1.3**
APE	**Apeiranthos**	**3.05**	**31**	PN	**Pn**	**22 58 41.9**	**-0.4**
SLUM	**Salum**	**3.26**	**155**	P	**Pn**	**22 58 46.0**	**+0.9**
	baz=159						
SLUM				AMP		22 59 00.0	
	baz=159						
SLUM				S	**Sn**	**22 59 22.6**	**-0.1**
	baz=159						
DAT	**Datca**	**3.97**	**54**	*i* P	**Pn**	**22 58 54.6**	**-0.3**
DAT				*i* S	**Sn**	**22 59 35.5**	**-4.7**
BDRM	**Kayabasi**	**4.08**	**49**	*i* P	**Pn**	**22 58 56.0**	**-0.4**
BDRM				*i* S	**Sn**	**22 59 38.6**	**-4.3**
AYDN	**Tasoluk**	**4.73**	**46**	*i* P	**Pn**	**22 59 05.3**	**+0.1**
DALY	**Dalyan (Mula)**	**4.76**	**59**	*i* P	**Pn**	**22 59 06.3**	**+0.7**
DALY				*i* S	**Sn**	**22 59 57.4**	**-2.0**
DALY				IAML		23 00 03.0	
	comp=E,23nm,0.8s						
DALY				IAML		23 00 03.0	
	comp=N,27nm,0.6s						
MULA	**Mugla, Merkez-**	**4.76**	**53**	*i* P	**Pn**	**22 59 07.1**	**+1.4**
MULA				*i* S	**Sn**	**22 59 56.1**	**-3.5**
FETY	**Fethiye**	**4.99**	**63**	*i* P	**Pn**	**22 59 08.6**	**-0.2**
FETY				*i* S	**Sn**	**22 59 59.7**	**-5.5**
AKAS	**Kas**	**5.23**	**69**	*i* P	**Pn**	**22 59 12.0**	**-0.3**
AKAS				*i* S	**Sn**	**23 00 08.1**	**-3.3**
AKAS				IAML		23 00 11.0	
	comp=E,33nm,0.5s						
AKAS				IAML		23 00 16.0	
	comp=N,41nm,0.4s						
TAVA	**DENIZLI_Tavas**	**5.27**	**54**	*i* P	Pn	22 59 07.3	-5.4
TAVA				*i* S	**Sn**	**23 00 10.7**	**-1.4**
CAEL	**Denizli, Camel**	**5.37**	**59**	*i* P	**Pn**	**22 59 15.4**	**+1.3**
CAEL				*i* S	**Sn**	**23 00 12.2**	**-2.6**
CAEL				IAML		23 00 19.0	
	comp=E,36nm,0.6s						
CAEL				IAML		23 00 25.0	
	comp=N,32nm,0.7s						
SWA2		**5.44**	**162**	P	**Pn**	**22 59 15.6**	**+0.6**
	baz=165						
SWA2				AMP		23 00 00.0	
	baz=165						
GOLH	**Golhisar**	**5.59**	**59**	*i* P	**Pn**	**22 59 17.4**	**+0.2**
GOLH				*i* S	**Sn**	**23 00 16.7**	**-3.5**
GOLH				IAML		23 00 21.0	
	comp=E,30nm,1.4s						
GOLH				IAML		23 00 22.0	
	comp=N,14nm,0.3s						
AKUM	**Antalya-Kumluc**	**5.83**	**69**	*i* P	**Pn**	**22 59 20.3**	**0.0**
AKUM				*i* S	**Sn**	**23 00 22.4**	**-3.5**
AKUM				IAML		23 00 26.0	
	comp=N,19nm,0.4s						
AKUM				IAML		23 00 27.0	
	comp=E,33nm,0.3s						
KORT	**Korkueli**	**6.06**	**63**	*i* P	**Pn**	**22 59 25.3**	**+1.6**
KORT				*i* S	**Sn**	**23 00 30.0**	**-1.8**
KORT				IAML		23 00 32.0	
	comp=N,12nm,1.4s						
KORT				IAML		23 00 35.0	
	comp=E,17nm,0.4s						
BUCA	**Burdur, Bucak-**	**6.35**	**61**	*i* P	**Pn**	**22 59 28.3**	**+0.8**
RYAN	**Fayoum**	**7.82**	**131**	P	**Pn**	**22 59 47.7**	**0.0**
	baz=133						
RYAN				AMP		23 01 00.0	
	baz=133						
RYAN				S	**Sn**	**23 01 09.7**	**-5.2**
	baz=133						
GLL	**Jalalah**	**8.44**	**123**	P	**Pn**	**22 59 55.9**	**-0.3**
	baz=125						
SUZ	**Suez**	**9.09**	**118**	P	**Pn**	**23 00 04.3**	**-0.8**
	baz=119						
EIL	**Elat**	**10.76**	**113**	P	**Pn**	**23 00 26.2**	**-1.7**
	comp=E,0.4nm,0.3s,baz=224,slow=6.6,SNR=16						
GERES	**GERESS Array B**	**16.14**	**336**	P	**P**	**23 01 41.4**	**-0.8**
	comp=E,0.2nm,0.3s,baz=174,slow=11,SNR=5.8						
KHC	**Kasperske Hory**	**16.43**	**336**	*eP*	**P**	**23 01 45.7**	**+0.4**
BELG	**Belogornoye**	**24.84**	**36**	P	**P**	**23 03 13.2**	**-0.4**
	comp=E,2.7nm,0.3s,baz=151,slow=1.9,SNR=7.1						
EKA	**Eskdalemuir Ar**	**27.89**	**327**	P	**P**	**23 03 43.3**	**+2.2**
	comp=E,0.8nm,0.5s,baz=121,slow=7.9,SNR=7.9						
TORD	**Torodi Ar. Bea**	**29.05**	**228**	P	**P**	**23 03 52.4**	**+0.6**
	comp=E,0.5nm,0.7s,baz=30,slow=9.4,SNR=6.5						
MKAR	**Makanchi Array**	**45.24**	**56**	P	**P**	**23 06 09.4**	**+0.8**
	comp=E,0.8nm,0.3s,baz=268,slow=7.6,SNR=20						

*IDC **13** 23:01:35.9±1.9, 52°.38N×169°.61W, h0km, mb3.9/13, mb1 4.0/15, mb1mx3.7/56, mbtmp3.9/15, ML3.4/2, MS3.0/2, Ms1 3.0/2, ms1mx2.5/39, Error ellipse: s-maj=47.5km s-min=21.2km az=167.0*
*NEIC **13** 23:01:36.3±2.0, 52°.01N±0°.07×169°.34W±0°.10, h18km±7km, mb3.7/39, ML3.5/23(AEIC), Error ellipse: s-maj=11.0km s-min=7.8km az=152.0*
*AEIC **13** 23:01:38±3.0, 52°.14N±0°.06×169°.52W±0°.10, h47km±5km, Error ellipse: s-maj=10.8km s-min=5.5km az=131.0*

ISC 13 23:01:38.1±0.8, 52°.0N±0°.1×169°.35W±0°.07, h30km, n99, σ1§15/97, mb4.0/14, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.99**	**18**		**Pn**	**23 01 54.2**	**-1.7**
NIKH	**Nikolski High**	**0.99**	**18**		**Sn**	**23 02 07.7**	**-1.3**
OKSP	**Okmok Steeple**	**1.39**	**27**		**Pn**	**23 02 00.7**	**-0.7**
OKSO	**Okmok South**	**1.52**	**28**		**Pn**	**23 02 02.7**	**-0.5**
OKSO					**Sn**	**23 02 22.1**	**+0.2**
OKTU	**Okmok Mt. Tuli**	**1.57**	**30**		**Pn**	**23 02 03.5**	**-0.5**
OKFG	**Magazine Ridge**	**1.64**	**32**		**Pn**	**23 02 04.3**	**-0.6**
OKFG					**Sn**	**23 02 25.3**	**+0.4**
MAPS	**Pakushin South**	**2.31**	**38**		**Pn**	**23 02 14.1**	**+0.1**
MAPS					**Sn**	**23 02 41.0**	**-0.3**
MREP	**Makushin Rep't**	**2.38**	**40**		**Pn**	**23 02 15.8**	**+0.6**
MSW	**Makushin Switc**	**2.45**	**38**		**Pn**	**23 02 16.1**	**+0.1**
MNAT	**Makushin Natee**	**2.46**	**40**		**Pn**	**23 02 17.0**	**+0.8**
UNV	**Unalaska Valle**	**2.51**	**42**		**Pn**	**23 02 16.6**	**-0.2**
UNV	**Unalaska Valle**	**2.51**	**42**		**Sn**	**23 02 46.2**	**0.0**
MTBL	**Makushin Table**	**2.53**	**39**		**Pn**	**23 02 17.7**	**+0.5**
AKRB	**Akutan Reef Bi**	**2.89**	**42**		**Pn**	**23 02 22.5**	**+0.4**
AKGG	**Akutan Green G**	**2.97**	**42**		**Pn**	**23 02 23.8**	**+0.6**
ATKA	**Atka Island**	**2.99**	**275**	Pn	**Pn

TOLK IAmb IAmb 23 06 13.2
comp=Z,8.4nm,1.4s
HYT Haines Junctio 19.51 51 P **Pn** **23 06 05.6 +1.5**
BMAR Burnt Mountain 19.62 29 P **P** **23 06 04.5 +0.7**
DAWY Dawson 19.68 41 P **P** **23 06 04.7 +0.2**
DAWY IAmb IAmb 23 06 08.9
comp=Z,6.3nm,1.4s
PEA0B Petropavlovsk- 19.96 286 P **P** **23 06 07.7 +0.2**
PETK Petropavlovsk- 19.96 286 P **P** **23 06 07.1 -0.5**
comp=Z,1.1nm,0.3s,baz=85,slow=13,SNR=18
PETK Petropavlovsk- 19.96 286 P **P** **23 06 07.7 +0.2**
EPYK Eagle Plains 21.67 36 P **P** **23 06 24.9 -1.0**
EPYK IAmb IAmb 23 06 34.7
comp=Z,7.0nm,1.0s
RUBB Prince Rupert 23.34 69 P **P** **23 06 42.0 -1.6**
INK Inuvik 23.63 33 P **P** **23 06 46.4 +0.3**
comp=Z,1.1nm,0.4s,baz=240,slow=7.2,SNR=7.8
INK LR LR 23 16 02.5
comp=Z,33nm,21.1s,baz=250,slow=37
INK Inuvik 23.63 33 IAmb IAmb 23 06 48.4
comp=Z,9.4nm,1.3s
YKA Yellowknife Ar 30.46 48 P **P** **23 07 48.2 +0.5**
KLR Kul'dur 36.58 290 P **P** **23 08 40.4 -0.6**
comp=Z,0.9nm,0.5s,baz=101,slow=10,SNR=3.5
HRY Holter Researc 36.98 75 P **P** **23 08 42.7 -1.9**
H11S1 WAKE ISLAND Hy 38.38 218 T T 23 50 09.1
baz=23,slow=76,SNR=31
H11S2 WAKE ISLAND Hy 38.39 218 T T 23 50 07.3
baz=23,slow=76,SNR=22
H11S3 WAKE ISLAND Hy 38.40 218 T T 23 50 06.4
baz=23,slow=76,SNR=16
PDAR Pinedale Array 40.46 79 P **P** **23 09 16.8 +2.8**
comp=Z,0.5nm,0.7s,baz=270,slow=4.5,SNR=4.3
JTU Tsushima 46.45 273 P **P** **23 10 00.9 -1.1**
NRIK Noril'sk 46.73 332 P **P** **23 10 03.9 +0.1**
comp=Z,0.8nm,0.4s,baz=27,slow=11,SNR=1.5
ARCES ARCESS Array B 58.26 354 P **P** **23 11 29.3 +0.2**
comp=Z,0.4nm,0.4s,baz=19,slow=7.5,SNR=9.5
MKAR Makanchi Array 64.05 314 P **P** **23 12 07.9 -0.8**
comp=Z,0.2nm,0.4s,baz=53,slow=7.0,SNR=6.0
FINES FINESS Array B 66.21 352 P **P** **23 12 22.7 +0.3**
comp=Z,0.5nm,0.4s,baz=8.1,slow=7.1,SNR=8.3
NOA NORSAR Array B 67.28 360 P **P** **23 12 30.2 +0.8**
comp=Z,0.7nm,0.6s,baz=0.3,slow=6.3,SNR=3.8
HFS Hagfors 68.17 358 P **P** **23 12 34.1 -0.7**
comp=Z,1.4nm,0.5s,baz=38,slow=2.6,SNR=11
BELG Belogornoye 71.40 337 P **P** **23 12 55.0 +0.1**
comp=Z,4.3nm,0.8s,baz=352,slow=7.1,SNR=3.7
EKA Eskdalemuir Ar 72.39 8 P **P** **23 13 01.0 +0.2**
comp=Z,0.4nm,0.5s,baz=334,slow=4.7,SNR=1.9
AKASG Malin Array Be 76.44 348 P **P** **23 13 24.7 +0.3**
comp=Z,0.8nm,0.5s,baz=16,slow=5.5,SNR=3.8
CMAR Chiang Mai Arr 76.70 283 P **P** **23 13 28.4 +2.0**
comp=Z,0.6nm,0.3s,baz=31,slow=7.2,SNR=5.6
GEYT Alibeck 81.31 324 LR LR 23 55 08.8
comp=Z,9.5nm,18.4s,baz=45,slow=40

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*IDC **13** 23:09:05.1±1.3,25°.11N×109°.61W,h0km,mb3.4/1, mb1 3.7/4,mb1mx3.5/30,mbtmp3.3/4,ML3.4/3,MS3.1/7, Ms1 3.1/7,ms1mx3.0/18,Error ellipse: s-maj=29.3km s-min=10.4km az=121.0*

ISC 13 23:09:07.3±1.2,25°.0N±0°.1×109°.5W±0°.1,h17km,n11, σ0s70/7,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.10**	**220**	Pg	**Pg**	**23 09 28.8**	**+0.2**
LPIG	68nm,0.3s,baz=18,slow=7.0,SNR=18			Lg	Lg	23 09 42.3	
TXAR	**Lajitas Array**	**6.81**	**49**	Pn	**Pn**	**23 10 46.1**	**-0.4**
TXAR	92nm,0.3s,baz=225,slow=8.6,SNR=15			Sn	**Sn**	**23 12 04.1**	**+0.4**
TXAR	0.3nm,0.3s,baz=228,slow=14,SNR=7.6			Lg	Lg	23 12 36.4	
PFO	**Pinyon Flats O**	**10.54**	**327**	LR	LR	23 15 35.2	
NVAR	comp=Z,35nm,18.2s,baz=170,slow=38 **Mina Array Bea**	**15.36**	**333**	Pn	**Pn**	**23 12 43.1**	**-0.4**
CMIG	0.2nm,0.3s,baz=146,slow=16,SNR=7.0 **Matias Romero**	**15.74**	**117**	LR	LR	23 19 20.9	
ELK	comp=Z,81nm,18.7s,baz=282,slow=39 **Elko**	**16.46**	**345**	Pn	**Pn**	**23 12 58.0**	**+0.3**
ELK	0.1nm,0.3s,baz=174,slow=6.8,SNR=3.9			LR	LR	23 18 02.7	
PDAR	comp=Z,47nm,19.2s,baz=148,slow=33 **Pinedale Array**	**17.77**	**360**	P	**P**	**23 13 15.9**	**+1.0**
PDAR	0.1nm,0.3s,baz=148,slow=9.4,SNR=2.5			LR	LR	23 20 15.6	
YBH	comp=Z,72nm,18.2s,baz=186,slow=38 **Yreka Blue Hor**	**19.99**	**330**	LR	LR	23 19 49.4	
TKL	comp=Z,41nm,21.1s,baz=120,slow=32 **Tuckaleechee C**	**24.60**	**58**	LR	LR	23 24 50.5	
SCHQ	comp=Z,69nm,20.8s,baz=268,slow=38 **Schefferville**	**43.27**	**35**	LR	LR	23 35 55.6	
ILAR	comp=Z,59nm,20.3s,baz=62,slow=37 **Eielson Array**	**46.51**	**339**	P	**P**	**23 17 32.9**	**-0.6**
	0.4nm,0.8s,baz=150,slow=6.6,SNR=7.0						

IDC 13 23:36:27.2±7.4,23°.57S×177°.02W,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.7/20,mbtmp3.8/3,Error ellipse: s-maj=332.3km s-min=55.4km az=152.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.21**	**269**	P	P	23 43 16.0	+1.2
ASAR	4.0nm,0.8s,baz=80,slow=6.1,SNR=1.8 **Alice Springs**	**44.78**	**260**	P	P	23 44 42.1	-0.9
WRA	0.5nm,0.9s,baz=92,slow=6.2,SNR=4.1 **Warramunga Arr**	**45.16**	**265**	P	P	23 44 45.5	-0.4
AKASG	0.6nm,0.4s,baz=96,slow=8.5,SNR=10 **Malin Array Be**	**146.12**	**330**	PKPbc	PKPdf	23 56 08.3	+0.2
	0.7nm,0.5s,baz=48,slow=3.1,SNR=2.8						

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*TUL **13** 23:56:32±1.1,36°.07N±0°.01×97°.44W±0°.01,h5km±6km, ML2.7,mb_Lg2.6/33(NEIC),Error ellipse: s-maj=1.8km s-min=1.6km az=216.0*

NEIC 13 23:56:32.0±1.1,36°.07N±0°.01×97°.43W±0°.02,h2km±5km, Error ellipse: s-maj=1.8km s-min=1.6km az=108.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.28**	**184**		Pg	23 56 37.6	+0.2
OK029				Sg	Sg	23 56 41.3	+0.4
OK031	**S. Brethren Rd**	**0.50**	**104**		Pg	23 56 41.7	+0.2
OK031				Sg	Sg	23 56 48.2	+0.2
OK025	**Westminster Rd**	**0.50**	**171**		Pg	23 56 41.9	+0.3
OK025				Sg	Sg	23 56 48.8	+0.7
QUOK	**Quay**	**0.59**	**80**		Pg	23 56 43.7	+0.3
QUOK				Sg	Sg	23 56 51.4	+0.3
CROK	**Carrier**	**0.62**	**314**	Pg	Pg	23 56 44.0	+0.1
CROK				Sg	Sg	23 56 52.4	+0.5
OKCFA	**Oklahoma City**	**0.66**	**181**		Pg	23 56 44.6	0.0
OKCFA				Sg	Sg	23 56 51.4	-1.7
OKCSW	**OKLAHOMA CITY**	**0.67**	**180**		Pg	23 56 44.8	0.0
OKCSW					Sb	23 56 55.5	-0.6
BLOK	**Blackwell**	**0.71**	**14**		Pg	23 56 45.8	+0.2
FNO	**Franklin**	**0.82**	**178**		Pg	23 56 47.5	-0.2
FNO				IAmb_Lg		23 56 58.5	
GC02	comp=Z,54nm,1.0s **Grant County #**	**0.85**	**336**		Pg	23 56 48.0	-0.3
KAN13	**South Haven SW**	**0.94**	**358**		Pg	23 56 49.2	-0.8
OK032	**Salt Plains WL**	**0.96**	**319**		Pg	23 56 50.0	-0.4
KAN14	**Manchester OK**	**0.98**	**334**	Pg	Pg	23 56 49.1	-1.7
KAN17	**Caldwell West**	**1.00**	**345**		Pg	23 56 50.8	-0.5
T35A	**Sooner Cattle**	**1.12**	**41**		Pg	23 56 53.4	-0.1
KS20	**Mayfield South**	**1.16**	**355**		Pg	23 56 52.8	-1.4
KAN12	**Harper NE Stat**	**1.30**	**340**		Pg	23 56 56.6	-0.4
U32A	**Winter Ranch,**	**1.30**	**284**	Pn	Pg	23 56 57.0	-0.1
X34A	**Smith Ranch, M**	**1.51**	**193**		Pn	23 56 59.3	-0.7
WMOK	**Wichita Mounta**	**1.73**	**220**		Pn	23 57 02.9	-0.2
LOOK	**Love County**	**2.09**	**174**		Pn	23 57 07.6	-0.4
LOOK				IAmb_Lg		23 57 41.1	
X37A	comp=Z,22nm,1.1s **Clayton**	**2.24**	**131**		Pn	23 57 10.6	+0.5
X37A				IAmb_Lg		23 57 48.6	
U38A	comp=Z,27nm,0.8s **Gravette**	**2.49**	**81**	Pn	Pn	23 57 14.6	+1.1
R32A	**Long Quarter,**	**2.56**	**337**		Pb	23 57 16.8	-1.8
Z35A	**Perchaven, San**	**2.74**	**177**	Pn	Pn	23 57 16.1	-0.9
KSU1	**Kansas State U**	**3.09**	**12**		Pn	23 57 21.6	-0.2
W39A	**Magazine**	**3.10**	**105**		Pn	23 57 22.4	+0.5
Z38A	**Mt. Pleasant**	**3.46**	**144**	IAmb_Lg		23 58 28.3	
MIAR	comp=Z,13nm,0.7s **Mount Ida**	**3.50**	**115**		Pn	23 57 28.0	+0.5
S39A	**Bolivar**	**3.67**	**63**		Pn	23 57 30.1	+0.4
S39A				IAmb_Lg		23 58 30.1	
U40A	comp=Z,16nm,0.8s **Yellville**	**3.71**	**84**		Pn	23 57 30.2	-0.2
ABTX	**Abilene, Hawle**	**3.90**	**209**	Pg	Pb	23 57 44.0	+2.5
X40A	**Basin Creek Fa**	**4.08**	**111**		Pn	23 57 35.6	+0.2
X40A				IAmb_Lg		23 58 45.5	
WHAR	comp=Z,12nm,0.7s **Wooly Hollow**	**4.26**	**99**		Pn	23 57 37.0	-0.9
MGMO	**Mountain Grove**	**4.29**	**74**	IAmb_Lg		23 58 53.6	
FCAR	comp=Z,13nm,0.7s **Ozark Folk Cen**	**4.31**	**91**	Pn	Pn	23 57 38.7	+0.2
R40A	**Maddies Statio**	**4.68**	**60**	IAmb_Lg		23 59 01.9	
P38A	comp=Z,14nm,0.8s **Dawn**	**4.70**	**40**	IAmb_Lg		23 59 06.0	
KSCO	comp=Z,11nm,0.7s **Kaye Shedlock'**	**5.06**	**307**	IAmb_Lg		23 59 14.5	
CCM	comp=Z,11nm,0.9s **Cathedral Cave**	**5.33**	**66**	IAmb_Lg		23 59 26.6	
P40A	comp=Z,8.4nm,0.9s **Paris**	**5.48**	**49**	IAmb_Lg		23 59 33.5	
PBMO	comp=Z,13nm,0.8s **Poplar Bluff**	**5.69**	**81**	IAmb_Lg		23 59 45.7	
JCT	comp=Z,7.5nm,0.8s **Junction City**	**5.92**	**200**	IAmb_Lg		23 59 54.0	
L34A	comp=Z,12nm,0.9s **Svendsen Farm,**	**5.94**	**8**	IAmb_Lg		23 59 44.7	
SCIA	comp=Z,14nm,0.7s **State Center**	**6.69**	**28**	IAmb_Lg		00 00 16.8	
121A	comp=Z,11nm,0.8s **Cookes Peak, D**	**9.26**	**251**	IAmb_Lg		00 01 21.6	
	comp=Z,6.7nm,1.0s						

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*ANF **14** 00:04:51.4±0.5,36°.12N×97°.46W,h5km,ML4.1/11,Error ellipse: s-maj=5.8km s-min=4.6km az=108.0*
*NEIC **14** 00:04:52.8±1.3,36°.078N±0°.010×97°.45W±0°.03,h5km±2km, Error ellipse: s-maj=3.9km s-min=3.0km az=101.0*
*TUL **14** 00:04:52.7±1.7,36°.07N±0°.02×97°.44W±0°.06,h5km±7km, ML3.2,mb_Lg3.4/129(NEIC),Error ellipse: s-maj=6.7km s-min=2.2km az=71.0*

ISC 14 00:04:52.5±1.1,36°.08N±0°.02×97°.44W±0°.02,h1km±10km, n134,σ0s92/115,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.28**	**183**	Pg	**Pg**	**00 04 58.0**	**+0.2**
OK029				Sg	**Sg**	**00 05 01.1**	**-0.3**
OK005	**Luther M Schoo**	**0.47**	**154**		**Pg**	**00 05 01.5**	**+0.1**
OK009	**Oakdale Elemen**	**0.49**	**178**		**Pg**	**00 05 02.0**	**0.0**
OK025	**Westminster Rd**	**0.50**	**170**	Pg	**Pg**	**00 05 02.1**	**+0.1**
OK025				Sg	**Sg**	**00 05 08.9**	**+0.4**
OK031	**S. Brethren Rd**	**0.50**	**104**	Pg	**Pg**	**00 05 02.3**	**+0.2**
OK031				Sg	**Sg**	**00 05 09.4**	**+0.8**
OK031	comp=Z,453nm,0.8s			IAmb_Lg		00 05 09.5	
OK001	**Jones High Sch**	**0.53**	**167**		**Pg**	**00 05 01.9**	**-0.7**
QUOK	**Quay**	**0.60**	**81**	Pg	**Pg**	**00 05 04.2**	**+0.2**
QUOK	comp=Z,311nm,0.7s			IAmb_Lg		00 05 11.6	
CROK	**Carrier**	**0.61**	**314**		**Pg**	**00 05 04.4**	**+0.2**
OKCFA	**Oklahoma City**	**0.66**	**181**	Pg	**Pg**	**00 05 05.3**	**+0.2**
OKCFA	**Oklahoma City**	**0.66**	**181**	P	**Pg**	**00 05 02.7**	**-2.4**
OKCFA	baz=0.9,SNR=39			S	**Sg**	**00 05 14.5**	**+0.9**
OKCSW	baz=0.9 **OKLAHOMA CITY**	**0.67**	**180**	Pg	**Pg**	**00 05 05.5**	**+0.2**
BLOK	**Blackwell**	**0.71**	**15**	Pg	**Pg**	**00 05 06.2**	**+0.2**
FNO	**Franklin**	**0.82**	**178**	Pg	**Pg**	**00 05 08.1**	**-0.1**
GC02	**Grant County #**	**0.84**	**337**	Pg	**Pg**	**00 05 08.8**	**+0.1**
KAN13	**South Haven SW**	**0.94**	**358**	Pg	**Pg**	**00 05 10.4**	**0.0**
OK032	**Salt Plains WL**	**0.96**	**320**		**Pg**	**00 05 10.7**	**-0.1**
KAN14	**Manchester OK**	**0.97**	**335**		**Pg**	**00 05 11.1**	**-0.1**
KAN17	**Caldwell West**	**1.00**	**345**	Pg	**Pg**	**00 05 11.6**	**0.0**
KAN05	**Bluff City Nor**	**1.09**	**341**	Pg	**Pg**	**00 05 12.5**	**-0.9**
T35A	**Sooner Cattle**	**1.12**	**41**	Pg	**Pg**	**00 05 13.9**	**-0.1**
T35B	**Sooner Cattle**	**1.12**	**41**	P	**Pg**	**00 05 11.4**	**-2.6**
T35B	baz=222,SNR=40			S	**Sg**	**00 05 29.0**	**+0.4**
KS20	baz=222 **Mayfield South**	**1.16**	**355**	Pg	**Pg**	**00 05 14.4**	**-0.2**
KAN12	**Harper NE Stat**	**1.30**	**340**	Pn	**Pg**	**00 05 17.0**	**-0.4**
U32A	**Winter Ranch,**	**1.30**	**284**		**Pg**	**00 05 16.6**	**-0.8**
U32A	**Winter Ranch,**	**1.30**	**284**	P	**Pg**	**00 05 14.1**	**-3.3**
TUL1	baz=103,SNR=39 **Leonard**	**1.35**	**97**	P	**Pg**	**00 05 17.5**	**-0.7**
TUL1	baz=277			S	**Sg**	**00 05 35.5**	**-0.2**
X34A	**Smith Ranch, M**	**1.51**	**192**		**Pn**	**00 05 20.6**	**0.0**
WMOK	**Wichita Mounta**	**1.73**	**220**	Pn	**Pn**	**00 05 23.7**	**+0.1**
WMOK	**Wichita Mounta**	**1.73**	**220**	P	**Pn**	**00 05 23.7**	**+0.1**
WMOK	baz=39,SNR=100			S	**Sn**	**00 05 46.6**	**+0.3**
WMOK	baz=39 **Wichita Mounta**	**1.73**	**220**	P	**Pn**	**00 05 23.8**	**+0.1**
WMOK	baz=39			S	**Sb**	**00 05 46.9**	**-0.3**
LOOK	**Love County**	**2.09**	**174**	Pn	**Pn**	**00 05 29.6**	**+1.0**
LOOK	comp=Z,144nm,0.7s			IAmb_Lg		00 06 02.7	
X37A	**Clayton**	**2.25**	**131**	Pn	**Pn**	**00 05 32.3**	**+1.6**
X37A	comp=Z,272nm,1.1s			IAmb_Lg		00 06 08.8	
X37A	**Clayton**	**2.25**	**131**	P	**Pn**	**00 05 28.9**	**-1.9**
X37A	baz=312,SNR=58			S	**Sn**	**00 06 00.2**	**+1.0**
U38A	baz=312 **Gravette**	**2.50**	**81**	Pn	**Pn**	**00 05 35.9**	**+1.7**
U38A	comp=Z,93nm,0.7s			IAmb_Lg		00 06 16.6	
R32A	**Long Quarter,**	**2.55**	**337**		**Pn**	**00 05 35.5**	**+0.5**
R32A	**Long Quarter,**	**2.55**	**337**	S	**Sn**	**00 06 07.2**	**+0.5**
Z35A	baz=156 **Perchaven, San**	**2.74**	**177**	Pn	**Pn**	**00 05 38.1**	**+0.5**
Z35A	**Perchaven, San**	**2.74**	**177**	P	**Pn**	**00 05 37.8**	**+0.2**
Z35A	baz=357			S	**Sn**	**00 06 12.9**	**+1.6**
KSU1	baz=357 **Kansas State U**	**3.09**	**12**		**Pn**	**00 05 43.4**	**+1.0**
KSU1	comp=Z,95nm,0.9s			IAmb_Lg		00 06 35.7	
KSU1	**Kansas State U**	**3.09**	**12**	P	**Pn**	**00 05 43.1**	**+0.8**
W39A	baz=192 **Magazine**	**3.10**	**105**		**Pn**	**00 05 41.9**	**-0.6**
W39A	comp=Z,98nm,1.0s			IAmb_Lg		00 06 32.6	
W39A	**Magazine**	**3.10**	**105**	P	**Pn**	**00 05 42.8**	**+0.2**
W39A	baz=287 **Magazine**	**3.10**	**105**	P	**Pn**	**00 05 42.5**	**0.0**
CBKS	baz=287,SNR=9.2 **Cedar Bluff**	**3.29**	**327**	IAmb_Lg		00 06 44.0	
CBKS	comp=Z,82nm,0.8s **Cedar Bluff**	**3.29**	**327**	P	**Pn**	**00 05 45.8**	**+0.7**
Z38A	baz=146 **Mt. Pleasant**	**3.46**	**144**	Pn	**Pn**	**00 05 47.7**	**+0.3**
Z38A	**Mt. Pleasant**	**3.46**	**144**	S	**Sn**	**00 06 29.0**	**-0.1**
MIAR	baz=325 **Mount Ida**	**3.51**	**115**		**Pn**	**00 05 48.8**	**+0.7**
MIAR	comp=Z,106nm,0.8s			IAmb_Lg		00 06 48.4	
MIAR	**Mount Ida**	**3.51**	**115**	P	**Pn**	**00 05 46.4**	**-1.7**
MIAR	baz=297,SNR=35			S	**Sn**	**00 06 30.9**	**+0.7**
MIAR	baz=297 **Mount Ida**	**3.51**	**115**	P	**Pn**	**00 05 48.4**	**+0.3**
MIAR	baz=297,SNR=6.9			S	**Sn**	**00 06 30.7**	**+0.5**
AMTX	baz=297 **Amarillo**	**3.66**	**252**		**Pn**	**00 05 50.6**	**+0.4**
AMTX	comp=Z,54nm,0.8s			IAmb_Lg		00 06 53.0	
AMTX	**Amarillo**	**3.66**	**252**	P	**Pn**	**00 05 51.1**	**+0.8**
S39A	baz=70 **Bolivar**	**3.67**	**63**		**Pn**	**00 05 50.4**	**-0.4**
S39A	comp=Z,127nm,0.7s			IAmb_Lg		00 06 48.5	
S39A	**Bolivar**	**3.67**	**63**	P	**Pn**	**00 05 48.0**	**-2.4**
	baz=245,SNR=9.4						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U40A	**Yellville**	**3.72**	**84**		**Pn**	**00 05 50.8**	**-0.2**
U40A	comp=Z,88nm,0.7s			IAmb_Lg		00 06 50.6	
U40A	**Yellville**	**3.72**	**84**	P	**Pn**	**00 05 50.8**	**-0.2**
ABTX	baz=267,SNR=22 **Abilene, Hawle**	**3.90**	**209**	Pn	**Pn**	**00 05 53.1**	**-0.3**
ABTX				Pg	**Pb**	**00 06 03.2**	**+1.3**
ABTX	comp=Z,70nm,0.8s			IAmb_Lg		00 06 58.8	
ABTX	**Abilene, Hawle**	**3.90**	**209**	P	**Pn**	**00 05 53.0**	**-0.5**
ABTX	baz=27			S	**Sn**	**00 06 40.2**	**+0.4**
WHTX	baz=27 **Lake Whitney,**	**4.07**	**180**	Pn	**Pn**	**00 05 56.0**	**+0.1**
WHTX	**Lake Whitney,**	**4.07**	**180**	P	**Pn**	**00 05 56.4**	**+0.5**
WHTX	baz=0.2,SNR=6.7 **Lake Whitney,**	**4.07**	**180**	P	**Pn**	**00 05 56.2**	**+0.4**
X40A	baz=0.2,SNR=7.2 **Basin Creek Fa**	**4.09**	**111**		**Pn**	**00 05 56.3**	**+0.2**
X40A	comp=Z,90nm,0.9s			IAmb_Lg		00 07 12.5	
X40A	**Basin Creek Fa**	**4.09**	**111**	P	**Pn**	**00 05 55.9**	**-0.1**
X40A	baz=294,SNR=5.3			S	**Sn**	**00 06 44.3**	**-0.2**
WHAR	baz=294 **Wooly Hollow**	**4.27**	**99**		**Pn**	**00 05 58.7**	**+0.2**
WHAR	comp=Z,68nm,0.8s			IAmb_Lg		00 07 06.6	
WLAR	**White Oak Lake**	**4.28**	**123**		**Pn**	**00 05 59.9**	**+1.2**
WLAR	comp=Z,69nm,0.7s			IAmb_Lg		00 07 09.0	
237A	**Washetta, Mont**	**4.28**	**161**		**Pn**	**00 05 58.9**	**+0.1**
237A	comp=Z,46nm,0.8s			IAmb_Lg		00 07 08.8	
MGMO	**Mountain Grove**	**4.30**	**74**		**Pn**	**00 05 59.2**	**+0.2**
MGMO	comp=Z,131nm,0.9s			IAmb_Lg		00 07 09.2	
FCAR	**Ozark Folk Cen**	**4.32**	**91**		**Pn**	**00 05 58.3**	**-0.9**
FCAR	comp=Z,56nm,0.9s			IAmb_Lg		00 07 11.8	
W41B	**Gary Mavity, V**	**4.32**	**100**	P	**Pn**	**00 05 58.5**	**-0.8**
W41B	baz=284,SNR=5.3			S	**Sn**	**00 06 49.3**	**-1.0**
R40A	baz=284 **Maddies Statio**	**4.68**	**60**		**Pn**	**00 06 04.2**	**0.0**
P38A	**Dawn**	**4.70**	**40**	Pn	**Pn**	**00 06 04.6**	**+0.1**
P38A	comp=Z,84nm,0.9s			IAmb_Lg		00 07 27.9	
Z41A	**Richland Creek**	**4.74**	**125**	S	**Sn**	**00 06 59.6**	**-1.1**
MSTX	baz=308 **Muleshoe**	**4.85**	**246**	Pn	**Pn**	**00 06 07.3**	**+0.6**
MSTX	comp=Z,42nm,0.7s			IAmb_Lg		00 07 27.8	
MSTX	**Muleshoe**	**4.85**	**246**	S	**Sn**	**00 07 03.9**	**+0.3**
NATX	baz=63 **Nacogdoches**	**4.88**	**151**	Pn	**Pn**	**00 06 06.9**	**-0.2**
NATX	comp=Z,42nm,0.8s			IAmb_Lg		00 07 35.6	
NATX	**Nacogdoches**	**4.88**	**151**	S	**Sn**	**00 07 02.5**	**-1.7**
KSCO	baz=333 **Kaye Shedlock'**	**5.06**	**307**	Pn	**Pn**	**00 06 11.6**	**+2.1**
KSCO	comp=Z,71nm,0.7s			IAmb_Lg		00 07 37.2	
KSCO	**Kaye Shedlock'**	**5.06**	**307**	S	**Sn**	**00 07 10.7**	**+2.1**
CCAR	baz=124 **Cane Creek**	**5.13**	**113**	Pn	**Pn**	**00 06 11.3**	**+1.0**
CCAR	comp=Z,81nm,0.9s			IAmb_Lg		00 07 49.8	
435B	**Jarrell**	**5.28**	**181**	Pn	**Pn**	**00 06 11.5**	**-1.0**
435B	comp=Z,48nm,0.7s			IAmb_Lg		00 07 46.1	
435B	**Jarrell**	**5.28**	**181**	P	**Pn**	**00 06 12.0**	**-0.4**
CCM	baz=1.3 **Cathedral Cave**	**5.33**	**66**	IAmb_Lg		00 07 49.7	
CCM	comp=Z,46nm,0.7s **Cathedral Cave**	**5.33**	**66**	P	**Pn**	**00 06 13.3**	**+0.1**
BGNE	baz=250 **Belgrade**	**5.35**	**354**	IAmb_Lg		00 07 51.6	
T25A	comp=Z,90nm,0.7s **Trinidad**	**5.71**	**283**	Pn	**Pn**	**00 06 19.2**	**+0.7**
T25A	comp=Z,74nm,1.0s			IAmb_Lg		00 08 02.9	
T25A	**Trinidad**	**5.71**	**283**	P	**Pn**	**00 06 18.3**	**-0.2**
N38A	baz=99 **South For**	**5.75**	**34**	Pn	**Pn**	**00 06 19.3**	**+0.4**
L34A	**Svendsen Farm,**	**5.94**	**8**	IAmb_Lg		00 08 10.3	
GNAR	comp=Z,84nm,0.8s **Gosnell**	**6.02**	**89**	IAmb_Lg		00 08 19.7	
OGNE	comp=Z,88nm,0.7s **Ogallala**	**6.05**	**325**	Pn	**Pn**	**00 06 24.1**	**+1.0**
OGNE	comp=Z,89nm,0.8s			IAmb_Lg		00 08 07.2	
OGNE	**Ogallala**	**6.05**	**325**	P	**Pn**	**00 06 24.6**	**+1.5**
SLM	baz=142 **Saint Louis**	**6.28**	**64**	IAmb_Lg		00 08 17.2	
LNXT	comp=Z,83nm,0.7s **Lenox**	**6.44**	**87**	IAmb_Lg		00 08 22.8	
HENM	comp=Z,64nm,0.7s **Henderson Moun**	**6.46**	**82**	IAmb_Lg		00 08 30.3	
HALT	comp=Z,66nm,0.8s **Halls**	**6.57**	**89**	IAmb_Lg		00 08 36.2	
K31A	comp=Z,78nm,0.8s **O'Neill**	**6.62**	**352**	IAmb_Lg		00 08 36.8	
SDCO	comp=Z,69nm,0.7s **Great Sand Dun**	**6.67**	**287**		**Pn**	**00 06 32.8**	**+0.9**
SDCO	comp=Z,38nm,1.0s			IAmb_Lg		00 08 25.9	
SDCO	**Great Sand Dun**	**6.67**	**287**	P	**Pn**	**00 06 32.4**	**+0.6**
SCIA	baz=102 **State Center**	**6.69**	**28**	P	**Pn**	**00 06 32.2**	**+0.5**
OXF	baz=211 **Oxford**	**6.75**	**101**	IAmb_Lg		00 08 28.5	
OXF	comp=Z,43nm,0.9s **Oxford**	**6.75**	**101**	P	**Pn**	**00 06 31.5**	**-1.1**
Q24A	baz=286 **Divide**	**6.77**	**297**	P	**Pn**	**00 06 33.1**	**-0.1**
W45A	baz=113 **Hickory Valley**	**6.79**	**95**	IAmb_Lg		00 08 33.9	
Y45A	comp=Z,49nm,0.8s **Yeager Farm, C**	**6.85**	**106**	IAmb_Lg		00 08 39.3	
ISCO	comp=Z,30nm,0.9s **Idaho Springs**	**7.45**	**302**	Pn	**Pn**	**00 06 42.7**	**+0.2**
ISCO	comp=Z,24nm,0.7s			IAmb_Lg		00 08 55.7	
ECSD	**EROS Data Cent**	**7.67**	**4**	Pn	**Pn**	**00 06 44.2**	**-1.1**
ECSD	**EROS Data Cent**	**7.67**	**4**	P	**Pn**	**00 06 43.7**	**-1.6**
PLAL	baz=185 **Pickwick Lake**	**7.71**	**95**		**Pn**	**00 06 44.0**	**-1.8**
PLAL	comp=Z,19nm,0.7s			IAmb_Lg		00 08 59.5	
146A	**Union**	**7.73**	**114**	IAmb_Lg		00 09 08.8	
HDIL	comp=Z,19nm,0.8s **Hopedale**	**7.81**	**53**	P	**Pn**	**00 06 46.6**	**-0.5**
MNTX	baz=238 **Cornudas Mount**	**7.92**	**239**	IAmb_Lg		00 09 18.8	
MNTX	comp=Z,21nm,0.8s **Cornudas Mount**	**7.92**	**239**	P	**Pn**	**00 06 48.8**	**+0.2**
Y22D	baz=54 **IRIS PASSCAL I**	**8.03**	**258**	IAmb_Lg		00 09 23.0	
PHWY	comp=Z,42nm,0.8s **Pilot Hill**	**8.15**	**312**	IAmb_Lg		00 09 30.8	
N23A	comp=Z,26nm,0.8s **Red Feather La**	**8.22**	**308**	P	**Pn**	**00 06 53.4**	**+0.3**
Z47A	baz=123 **Carrollton**	**8.24**	**108**	IAmb_Lg		00 09 30.5	
T47A	comp=Z,21nm,1.1

	comp=Z,20nm,0.8s							
SWET	**Sewanee**	**9.41**	**92**	IAmb_Lg		00 09 55.2		
	comp=Z,15nm,1.0s							
O20A	**White River Ci**	**9.43**	**299**	IAmb_Lg		00 10 15.8		
	comp=Z,18nm,1.1s							
RWWY	**Rawlins**	**9.45**	**309**	IAmb_Lg		00 10 07.4		
	comp=Z,22nm,0.8s							
RSSD	**Black Hills**	**9.49**	**330**	IAmb_Lg		00 10 19.4		
	comp=Z,17nm,1.0s							
K22A	**Casper**	**9.62**	**316**	IAmb_Lg		00 10 14.4		
	comp=Z,44nm,1.1s							
FPAL	**Fort Paine**	**9.79**	**96**	IAmb_Lg		00 10 31.9		
	comp=Z,13nm,0.9s							
W50A	**Signal Mountai**	**9.91**	**92**	IAmb_Lg		00 10 22.3		
	comp=Z,18nm,0.8s							

MEX 14 00:07:45.7±0.3, 24°.94N×109°.56W, h20km, MD3.6, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.81**	**35**	*i* P	Pb	00 07 58.6	-2.5
	baz=215,slow=7.9						
TSIG				*i* S	Sb	00 08 08.6	-3.0

MEX 14 00:31:43.0±0.6, 19°.23N×104°.03W, h10km±4km, MD3.7, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R15V		**0.07**	**142**	*i* P	Pg	00 31 44.5	-0.9
R15V				*i* S	Sg	00 31 46.6	-0.4
COIG	**Colima**	**0.32**	**98**	*e*P	Pg	00 31 48.2	-1.3
COIG				*i* S	Sg	00 31 53.7	-0.2
EZ5V		**0.48**	**58**	*i* P	Pg	00 31 51.7	-0.7
EZ5V				*i* S	Sg	00 31 59.2	+0.5
CJM	**Chamela**	**1.00**	**286**	*i* P	Pg	00 31 59.2	-3.0
CJM				*i* S	Sg	00 32 12.3	-2.9
MMIG	**Aquila**	**1.14**	**145**	*i* P	Pb	00 32 01.9	-2.8
MMIG				*i* S	Sb	00 32 17.3	-2.2

*IDC **14** 00:38:38.6±10.0, 6°.14S×154°.78E, h396km±117km, mb3.1/5, mb1 3.4/5, mb1mx3.1/39, mbtmp3.8/5, Error ellipse: s-maj=75.0km s-min=46.1km az=134.0*
*NEIC **14** 00:38:43.4±1.0, 5°.7S±0°.1×154°.5E±0°.2, h454km±12km, mb4.1/11, Error ellipse: s-maj=28.6km s-min=12.1km az=109.0*
ISC 14 00:38:40.2±0.8, 5°.7S±0°.1×154°.4E±0°.2, h400km, n20, σ0°98/18, mb3.7/12, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATS	**Pohnpei**	**13.08**	**17**	P	**P**	**00 41 32.5**	**+0.7**
COEN	**Coen**	**13.77**	**233**	P	**P**	**00 41 41.2**	**+1.8**
WR0	**Warramunga Arr**	**23.95**	**232**	P	**P**	**00 43 20.4**	**-0.2**
WR0				IAmb	IAmb	00 43 30.5	
	comp=Z,3.7nm,1.1s						
WB2	**Warramunga Arr**	**24.09**	**232**	P	**P**	**00 43 21.8**	**-0.1**
WRA	**Warramunga Arr**	**24.10**	**232**	P	**P**	**00 43 21.8**	**-0.2**
	comp=Z,6.0nm,0.4s,baz=64,slow=8.8,SNR=20						
WRA	**Warramunga Arr**	**24.10**	**232**	P	**P**	**00 43 21.9**	**-0.2**
ARMA	**Armidale**	**24.69**	**186**	P	**P**	**00 43 25.8**	**-1.4**
ARMA				IAmb	IAmb	00 43 33.9	
	comp=Z,3.4nm,1.0s						
ASAR	**Alice Springs**	**26.61**	**226**	P	**P**	**00 43 43.2**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=58,slow=9.3,SNR=9.2						
FITZ	**Fitzroy Crossi**	**30.67**	**244**	P	P	00 44 18.5	-1.5
	comp=Z,1.6nm,0.4s,baz=52,slow=8.5,SNR=14						
FITZ	**Fitzroy Crossi**	**30.67**	**244**	P	**P**	**00 44 19.1**	**-0.9**
BBOO	**Buckleboo**	**31.92**	**210**	P	**P**	**00 44 30.0**	**-0.6**
BBOO				IAmb	IAmb	00 44 41.2	
	comp=Z,16nm,1.1s						
TOO	**Toolangi**	**32.72**	**193**	P	**P**	**00 44 38.0**	**+0.5**
TOO				IAmb	IAmb	00 44 48.4	
	comp=Z,3.6nm,0.9s						
JCJ	**Chichijima**	**34.73**	**341**	P	**P**	**00 44 52.9**	**-1.7**
FORT	**Forrest**	**35.13**	**222**	P	**P**	**00 44 57.0**	**-1.0**
FORT				IAmb	IAmb	00 45 11.2	
	comp=Z,24nm,1.1s						
MQZ	**McQueen's Vall**	**41.07**	**160**	P	P	00 45 44.9	-1.8
MQZ				IAmb	IAmb	00 45 47.1	
	comp=Z,7.4nm,0.9s						
MLZ	**Mavora Lakes**	**41.23**	**165**	P	**P**	**00 45 48.3**	**+0.3**
MLZ				IAmb	IAmb	00 46 05.9	
	comp=Z,14nm,1.1s						
GIRL	**Giralia**	**42.26**	**242**	P	**P**	**00 45 55.9**	**-0.7**
MKAR	**Makanchi Array**	**82.10**	**319**	P	**P**	**00 50 18.7**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=97,slow=6.0,SNR=3.9						
ILAR	**Eielson Array**	**82.42**	**22**	P	**P**	**00 50 18.5**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=249,slow=4.7,SNR=5.8						
TORD	**Torodi Ar. Bea**	**152.14**	**287**	PKPbc	**PKPbc**	**00 57 50.2**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=78,slow=1.4,SNR=4.5						

*TUL **14** 00:49:29.5±1.1, 36°.28N±0°.01×97°.51W±0°.02, h6km±7km, ML2.7, mb_Lg2.6/31(NEIC), Error ellipse: s-maj=2.1km s-min=1.6km az=62.0*
NEIC 14 00:49:29.5±0.9, 36°.29N±0°.01×97°.51W±0°.02, h3km±7km, Error ellipse: s-maj=2.1km s-min=1.6km az=62.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.44**	**300**		Pg	00 49 38.2	+0.2
CROK				Sg	Sg	00 49 44.5	+0.8
OK029	**Liberty Lake**	**0.49**	**175**		Pg	00 49 39.0	+0.1
OK029				Sg	Sg	00 49 46.2	+0.9
BLOK	**Blackwell**	**0.53**	**26**		Pg	00 49 40.0	+0.3
BLOK				Sg	Sg	00 49 47.4	+0.9
GC02	**Grant County #**	**0.63**	**333**		Pg	00 49 41.7	+0.1
GC02				Sg	Sg	00 49 50.5	+0.6
OK031	**S. Brethren Rd**	**0.64**	**121**		Pg	00 49 41.7	0.0
OK031				Sg	Sg	00 49 50.4	+0.4
QUOK	**Quay**	**0.66**	**100**		Pg	00 49 42.2	+0.1
QUOK				Sg	Sg	00 49 51.0	+0.3
OK025	**Westminster Rd**	**0.72**	**169**		Pg	00 49 43.2	-0.1
KAN13	**South Haven SW**	**0.72**	**2**		Pg	00 49 43.5	+0.1
KAN14	**Manchester OK**	**0.76**	**331**	Pg	Pg	00 49 44.2	0.0
OK032	**Salt Plains WL**	**0.77**	**313**		Pg	00 49 44.2	-0.1
KAN17	**Caldwell West**	**0.78**	**345**		Pg	00 49 44.6	0.0
KAN05	**Bluff City Nor**	**0.87**	**340**	Pg	Pg	00 49 46.2	-0.1
OKCFA	**Oklahoma City**	**0.87**	**177**		Pg	00 49 45.8	-0.4
OKCSW	**OKLAHOMA CITY**	**0.88**	**176**		Pg	00 49 46.0	-0.4
KS20	**Mayfield South**	**0.94**	**358**	Pg	Pg	00 49 47.3	-0.3
T35A	**Sooner Cattle**	**1.02**	**52**		Pg	00 49 48.9	-0.2
FNO	**Franklin**	**1.03**	**175**		Pg	00 49 48.7	-0.6
KAN12	**Harper NE Stat**	**1.08**	**339**	Pg	Pg	00 49 49.8	-0.5
U32A	**Winter Ranch,**	**1.21**	**275**		Pg	00 49 52.0	-0.7
X34A	**Smith Ranch, M**	**1.70**	**189**		Pn	00 50 00.5	+0.4
WMOK	**Wichita Mounta**	**1.86**	**214**		Pn	00 50 02.2	-0.1
LOOK	**Love County**	**2.31**	**173**		Pn	00 50 08.4	+0.1
LOOK				IAmb_Lg		00 50 46.3	
	comp=Z,16nm,1.1s						
R32A	**Long Quarter,**	**2.34**	**336**		Pn	00 50 09.2	+0.4
X37A	**Clayton**	**2.43**	**134**		Pn	00 50 09.8	-0.4
X37A				IAmb_Lg		00 50 52.6	
	comp=Z,20nm,0.7s						
U38A	**Gravette**	**2.52**	**86**	Pn	Pn	00 50 11.7	+0.3
KSU1	**Kansas State U**	**2.90**	**14**	Pn	Pn	00 50 16.3	-0.2
KSU1				Pg	Pg	00 50 23.9	-1.1
Z35A	**Perchaven, San**	**2.96**	**176**	Pn	Pn	00 50 17.7	+0.4
W39A	**Magazine**	**3.22**	**109**	IAmb_Lg		00 51 19.5	
	comp=Z,16nm,0.8s						
S39A	**Bolivar**	**3.63**	**66**	Pn	Pn	00 50 26.2	-0.4
MIAR	**Mount Ida**	**3.65**	**117**	Pn	Pn	00 50 27.1	+0.2
Z38A	**Mt. Pleasant**	**3.67**	**145**	Pn	Pn	00 50 25.7	-1.4
AMTX	**Amarillo**	**3.68**	**249**	Pn	Pn	00 50 27.1	-0.2
AMTX				IAmb_Lg		00 51 35.7	
	comp=Z,13nm,1.0s						
U40A	**Yellville**	**3.76**	**88**	Pn	Pn	00 50 28.6	+0.2
U40A				IAmb_Lg		00 51 30.7	
	comp=Z,11nm,0.8s						
ABTX	**Abilene, Hawle**	**4.06**	**206**	Pn	Pn	00 50 32.9	+0.4
X40A	**Basin Creek Fa**	**4.22**	**114**	Pn	Pn	00 50 35.2	+0.5
X40A				IAmb_Lg		00 51 48.2	
	comp=Z,9.9nm,0.7s						
WHTX	**Lake Whitney,**	**4.29**	**179**	Pn	Pn	00 50 34.8	-0.8
MGMO	**Mountain Grove**	**4.30**	**77**	Pn	Pn	00 50 35.0	-0.8
MGMO				IAmb_Lg		00 51 57.6	
	comp=Z,8.0nm,0.7s						
WHAR	**Wooly Hollow**	**4.36**	**102**		Pn	00 50 37.8	+1.2
FCAR	**Ozark Folk Cen**	**4.38**	**94**		Pn	00 50 36.7	-0.2
WLAR	**White Oak Lake**	**4.44**	**124**	Pn	Pn	00 50 37.2	-0.6
WLAR				IAmb_Lg		00 51 53.4	
	comp=Z,11nm,0.8s						
P38A	**Dawn**	**4.58**	**42**	IAmb_Lg		00 51 56.2	
	comp=Z,10.0nm,0.8s						
R40A	**Maddies Statio**	**4.63**	**63**		Pn	00 50 39.4	-0.9
R40A				IAmb_Lg		00 51 53.6	
	comp=Z,17nm,0.9s						
CCM	**Cathedral Cave**	**5.30**	**69**	IAmb_Lg		00 52 16.1	
	comp=Z,8.7nm,0.7s						
P40A	**Paris**	**5.40**	**51**	IAmb_Lg		00 52 24.2	
	comp=Z,11nm,0.7s						
N38A	**Joes South For**	**5.61**	**35**	IAmb_Lg		00 52 30.1	
	comp=Z,11nm,0.7s						
T25A	**Trinidad**	**5.61**	**281**	IAmb_Lg		00 52 35.3	
	comp=Z,5.6nm,0.8s						
PBMO	**Poplar Bluff**	**5.72**	**83**	IAmb_Lg		00 52 34.7	
	comp=Z,11nm,0.8s						
L34A	**Svendsen Farm,**	**5.74**	**8**	IAmb_Lg		00 52 43.1	
	comp=Z,15nm,0.8s						
JCT	**Junction City**	**6.10**	**199**	IAmb_Lg		00 52 43.9	
	comp=Z,12nm,1.0s						

*NEIC **14** 00:54:21.1±2.5, 51°.5N±0°.1×177°.28E±0°.06, h32km±6km, mb3.9/12, ML3.1/12(AEIC), Error ellipse: s-maj=14.7km s-min=5.3km az=188.0*
AEIC 14 00:54:18±2.5, 51°.4N±0°.1×177°.21E±0°.06, h14km±7km, Error ellipse: s-maj=15.3km s-min=5.0km az=190.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.99**	**55**		Pb	00 54 36.6	-0.3
LSNW	**Little Sitkin**	**1.00**	**54**		Pb	00 54 36.7	-0.5
LSPA	**Little Sitkin**	**1.03**	**56**		Pb	00 54 36.8	-0.7
LSPA					Sb	00 54 49.9	-1.0
AMKA	**Amchitka**	**1.31**	**90**		Pn	00 54 41.1	-0.8
AMKA					Sb	00 54 57.7	-1.4
CESW	**Semis' Southwe**	**1.56**	**70**		Pn	00 54 45.2	-0.1
CERAA	**Semis' Rag'd T**	**1.63**	**70**		Pn	00 54 46.5	+0.3
SMY	**Shemya**	**2.34**	**306**		Pn	00 54 55.7	-0.3
SMY					Sn	00 55 24.5	-0.1
TASE	**Tanaga Southea**	**3.00**	**80**		Pn	00 55 06.1	+0.9
TAFP	**Tanaga Falls P**	**3.04**	**78**		Pn	00 55 06.2	+0.5
KIWB	**Kanaga Island**	**3.55**	**80**		Pn	00 55 11.2	-1.4
ADK	**Adak**	**3.84**	**80**	Pn	Pn	00 55 15.7	-0.9
GSTR	**Great Sitkin T**	**4.25**	**78**	Pn	Pn	00 55 24.6	+2.3
ATKA	**Atka Island**	**5.40**	**78**	Pn	Pn	00 55 39.6	+1.6
UNV	**Unalaska Valle**	**10.21**	**70**	Pn	Pn	00 56 46.3	+2.4
PEA0B	**Petropavlovsk-**	**12.08**	**286**	Pn	Pn	00 57 09.1	-0.4
PETK	**Petropavlovsk-**	**12.08**	**286**	Pn	Pn	00 57 09.9	+0.4
Q19K	**Cape Douglas,**	**18.17**	**54**	Pn	Pn	00 58 23.4	-6.2
KDAK	**Kodiak Island**	**18.53**	**58**	P	P	00 58 32.7	-1.1
KDAK				IAmb	IAmb	00 58 49.1	
	comp=Z,14nm,1.1s						
K20K	**Telida**	**19.37**	**41**	P	P	00 58 41.3	-1.8
CNPM	**China Poot**	**19.50**	**53**	P	P	00 58 43.9	-0.5
J20K	**Nowata River**	**19.70**	**39**	P	P	00 58 47.3	+0.7
IMAR	**Indian Mountai**	**20.73**	**34**	P	Pn	00 58 59.3	-0.8
TRF	**Thorofare Moun**	**20.98**	**42**	P	P	00 58 59.6	-1.0
TRF				IAmb	IAmb	00 59 18.7	
	comp=Z,3.9nm,1.0s						
GHO	**Glory Hole Cre**	**21.10**	**47**	P	P	00 59 01.7	-0.1
PWL	**Port Wells**	**21.18**	**50**	P	P	00 59 03.2	+0.6
PWL				IAmb	IAmb	00 59 14.1	
	comp=Z,5.8nm,1.0s						
L27K	**Beaver Creek,**	**24.59**	**46**	P	P	00 59 38.7	+1.4
L27K				IAmb	IAmb	00 59 40.9	
	comp=Z,2.6nm,0.7s						
BCAR	**Beaver Creek A**	**24.61**	**46**	P	P	00 59 37.7	+0.2
K27K	**Chicken**	**24.66**	**44**	P	P	00 59 37.6	-0.3
DAWY	**Dawson**	**25.82**	**44**	P	P	00 59 49.1	+0.6
DAWY				IAmb	IAmb	01 00 02.7	
	comp=Z,2.4nm,0.8s						
EPYK	**Eagle Plains**	**27.32**	**39**	P	P	01 00 01.8	-0.2
EPYK				IAmb	IAmb	01 00 17.7	
	comp=Z,2.7nm,1.0s						

MEX 14 01:12:07.2±0.3, 25°.21N×110°.37W, h10km, MD4.5, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSIG	**Choix**	**2.41**	**48**	*i* P	Pn	01 12 43.7	-3.0
CSIG				*i* S	Sn	01 13 12.2	-4.2
SSIG	**Sanalona**	**2.95**	**97**	*i* P	Pn	01 12 51.4	-2.7
PDIG	**Papasquiaro**	**4.51**	**91**	*i* P	Pn	01 13 12.4	-3.3
PDIG				*i* S	Sb	01 14 14.8	-6.3

*IDC **14** 01:12:06.9±2.6, 24°.66N×109°.23W, h0km, mb4.1/2, mb1 4.3/7, mb1mx3.9/39, mbtmp4.0/7, ML3.7/5, MS3.4/17, Ms1 3.5/17, ms1mx3.4/31, Error ellipse: s-maj=48.0km s-min=10.8km az=136.0*
*NEIC **14** 01:12:10.9±2.8, 24°.67N±0°.07×109°.36W±0°.04, h10km±2km, mb4.0/75, Md4.0/6(MEX), Error ellipse: s-maj=12.8km s-min=5.8km az=166.0*
*MEX **14** 01:12:10.0±0.9, 24°.77N×109°.10W, h16km±9km, MD4.0*
ISC 14 01:12:10.7±0.7, 24°.77N±0°.07×109°.32W±0°.07, h10km, n215, σ1°60/202, mb4.2/6, MS3.5/12, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.86**	**17**	*i* P	Pg	01 12 23.3	-4.0
TSIG				*i* S	**Sg**	**01 12 33.1**	**-5.5**
LPIG	**La Paz**	**1.12**	**234**	Pg	**Pb**	**01 12 29.9**	**-2.2**
	97nm,0.3s,baz=203,slow=2.4,SNR=28						
LPIG				Lg	Lg	01 12 42.4	
	153nm,0.3s,baz=207,slow=14,SNR=11						
LPIG	**La Paz**	**1.12**	**234**	*i* P	**Pb**	**01 12 30.1**	**-2.1**
LPIG				*i* S	**Sg**	**01 12 44.3**	**-2.5**
LPIG	**La Paz**	**1.12**	**234**	*i* S	**Sg**	**01 12 44.1**	**-2.7**
LPIG	**La Paz**	**1.12**	**234**		**Pb**	**01 12 30.0**	**-2.1**
LPIG					**Sg**	**01 12 44.1**	**-2.7**
LPIG	**La Paz**	**1.12**	**234**	*i* P	**Pb**	**01 12 30.0**	**-2.1**
SLBS	**Sierra La Lagu**	**1.22**	**208**		**Pb**	**01 12 33.7**	**-0.2**
SSIG	**Sanalona**	**1.98**	**88**	*i* P	Pn	01 12 36.8	-7.5
SSIG				*i* S	Sn	01 12 57.0	-12
HPIG		**3.93**	**56**	Pn	**Pn**	**01 13 10.9**	**-0.4**
HSIG		**4.47**	**341**		**Pn**	**01 13 19.5**	**+1.0**
319A	**Douglas**	**6.58**	**0**	Pn	**Pn**	**01 13 47.3**	**-0.4**
TX31	**Lajitas Ar. Si**	**6.79**	**47**	Pn	**Pn**	**01 13 48.5**	**-1.9**
TX32	**Lajitas Array**	**6.79**	**47**	Pn	**Pn**	**01 13 48.4**	**-2.0**
TXAR	**Lajitas Array**	**6.79**	**47**	Pn	**Pn**	**01 13 48.2**	**-2.2**
	0.6nm,0.3s,baz=230,slow=13,SNR=38						
TXAR				Sn	**Sn**	**01 15 04.1**	**-3.7**
	2.2nm,0.3s,baz=220,slow=14,SNR=8.8						
TXAR				Lg	Lg	01 15 36.0	
	0.8nm,0.3s,baz=227,slow=15,SNR=2.2						
TXAR	**Lajitas Array**	**6.79**	**47**	Pn	**Pn**	**01 13 48.4**	**-2.0**
TUC	**Tucson**	**7.62**	**351**	Pn	**Pn**	**01 14 01.2**	**-0.7**
TUC	**Tucson**	**7.62**	**351**	P	Pn	01 13 56.7	-5.2
	baz=170						
MNTX	**Cornudas Mount**	**7.72**	**26**	Pn	**Pn**	**01 14 04.5**	**+1.3**
MNTX	**Cornudas Mount**	**7.72**	**26**	P	**Pn**	**01 14 00.6**	**-2.6**
	baz=208						
214A	**Organ Pipe Nat**	**7.79**	**338**	P	**Pn**	**01 14 02.9**	**-1.3**
	baz=156						
121A	**Cookes Peak, D**	**7.85**	**10**	Pn	**Pn**	**01 14 04.6**	**-0.5**
121A	**Cookes Peak, D**	**7.85**	**10**	P	**Pn**	**01 14 04.2**	**-0.9**
	baz=190,SNR=27						
LENM	**Lemitar**	**9.58**	**12**	Pn	**Pn**	**01 14 28.8**	**0.0**
BNM	**Barren Site**	**9.64**	**13**	Pn	**Pn**	**01 14 28.5**	**-1.2**
X16A	**Lo Mia Camp, P**	**9.79**	**350**		**Pn**	**01 14 30.4**	**-1.3**
W18A	**Petrified Fore**	**10.32**	**358**	Pn	**Pn**	**01 14 38.4**	**-0.6**
W18A	**Petrified Fore**	**10.32**	**358**	P	**Pn**	**01 14 38.6**	**-0.4**
	baz=178,SNR=5.9						
PDMCI	**Parker Dam,Lak**	**10.38**	**337**	P	**Pn**	**01 14 39.7**	**0.0**
	baz=155						
ANMO	**Albuquerque**	**10.44**	**13**	Pn	**Pn**	**01 14 40.2**	**-0.5**
	0.1nm,0.3s,baz=196,slow=13,SNR=8.5						
ANMO				Lg	Lg	01 17 35.6	
	0.1nm,0.3s,baz=241,slow=19,SNR=2.9						
ANMO	**Albuquerque**	**10.44**	**13**	Pn	**Pn**	**01 14 39.3**	**-1.3**
ANMO	**Albuquerque**	**10.44**	**13**	P	**Pn**	**01 14 39.9**	**-0.7**
	baz=194						
PFO	**Pinyon Flats O**	**10.79**	**326**	LR	LR	01 18 31.0	
	comp=Z,91nm,20.5s,baz=181,slow=35						

WUAZ	**Wupatki**	**10.86**	**351**	Pn	**Pn**	**01 14 49.5**	**+3.2**
WUAZ	**Wupatki**	**10.86**	**351**	P	**Pn**	**01 14 47.1**	**+0.8**
	baz=170						
W13A	**Hualapai Mount**	**11.03**	**340**	Pn	**Pn**	**01 14 50.4**	**+1.7**
TUQ	**Turquoise Moun**	**12.06**	**333**	P	**Pn**	**01 15 04.2**	**+1.4**
	baz=150						
RRX	**Edison Barstow**	**12.07**	**328**	P	**Pn**	**01 15 04.1**	**+1.3**
	baz=145						
MVCO	**Mesa Verde**	**12.42**	**3**	Pn	**Pn**	**01 15 10.4**	**+2.6**
MVCO	**Mesa Verde**	**12.42**	**3**	P	**Pn**	**01 15 08.1**	**+0.4**
	baz=184,SNR=6.1						
KNB	**Kanab**	**12.57**	**347**	Pn	**Pn**	**01 15 12.0**	**+2.2**
LCMT	**Little Creek M**	**12.66**	**346**	Pn	**Pn**	**01 15 12.6**	**+1.7**
PKCU	**Pink Cliffs**	**12.89**	**349**	Pn	**Pn**	**01 15 18.0**	**+3.7**
T25A	**Trinidad**	**13.03**	**18**	P	**Pn**	**01 15 16.5**	**+0.5**
	baz=200						
S22A	**4UR Ranch, Cre**	**13.11**	**9**	P	**Pn**	**01 15 17.9**	**+0.7**
	baz=190						
CCUT	**Cedar City**	**13.20**	**346**	Pn	**Pn**	**01 15 18.0**	**-0.4**
MPMC	**Manual Prospec**	**13.27**	**330**	P	**Pn**	**01 15 19.7**	**+0.4**
	baz=146						
PV05	**Paradox Valley**	**13.27**	**1**	Pn	**Pn**	**01 15 21.4**	**+2.1**
PV01	**Paradox Valley**	**13.34**	**3**	Pn	**Pn**	**01 15 23.7**	**+3.4**
SDCO	**Great Sand Dun**	**13.34**	**13**	Pn	**Pn**	**01 15 24.5**	**+4.1**
SDCO	**Great Sand Dun**	**13.34**	**13**	P	**Pn**	**01 15 21.3**	**+0.9**
	baz=195						
PV13	**Radium Mtn., P**	**13.35**	**2**	Pn	**Pn**	**01 15 22.7**	**+2.2**
ISA	**Isabella, Lake**	**13.43**	**326**		**Pn**	**01 15 19.1**	**-2.2**
ISA	**Isabella, Lake**	**13.43**	**326**	P	**Pn**	**01 15 20.1**	**-1.3**
	baz=142						
PV03	**Paradox Valley**	**13.45**	**2**	Pn	**Pn**	**01 15 23.7**	**+2.0**
MTPU	**Mount Pierson**	**13.45**	**350**	Pn	**Pn**	**01 15 26.4**	**+4.4**
PV12	**Saucer Basin,**	**13.51**	**2**	Pn	**Pn**	**01 15 24.9**	**+2.2**
TPNV	**Topopah Spring**	**13.51**	**336**	Pn	**Pn**	**01 15 25.4**	**+2.7**
TPNV	**Topopah Spring**	**13.51**	**336**	P	**Pn**	**01 15 22.5**	**-0.1**
	baz=152						
PV15	**Paradox Valley**	**13.55**	**3**	Pn	**Pn**	**01 15 25.5**	**+2.3**
PV07	**Paradox Valley**	**13.64**	**2**	Pn	**Pn**	**01 15 26.5**	**+2.2**
PV23	**Carpenter Ridg**	**13.64**	**1**	Pn	**Pn**	**01 15 26.5**	**+2.1**
PV22	**Blue Mesa, Par**	**13.73**	**2**	Pn	**Pn**	**01 15 26.9**	**+1.3**
CWC	**Cottonwood Cre**	**13.85**	**329**	P	**Pn**	**01 15 25.6**	**-1.6**
	baz=145						
MSU	**Marysvale**	**13.91**	**351**	Pn	**Pn**	**01 15 28.8**	**+0.7**
Q16A	**Castle Valley**	**14.19**	**354**	Pn	**Pn**	**01 15 30.9**	**-1.0**
PSUT	**Pine Spring**	**14.25**	**345**	Pn	**Pn**	**01 15 32.1**	**-0.6**
SRU	**San Rafael Swe**	**14.33**	**356**	Pn	**Pn**	**01 15 35.5**	**+1.6**
SMO	**Snowmass**	**14.50**	**7**	P	**Pn**	**01 15 43.4**	**+0.3**
R11A	**Troy Canyon, C**	**14.55**	**340**	Pn	**Pn**	**01 15 38.1**	**+1.3**
R11A	**Troy Canyon, C**	**14.55**	**340**	P	**Pn**	**01 15 36.0**	**-0.7**
	baz=157						
TMUT	**Trail Mountain**	**14.57**	**354**	P	**P**	**01 15 44.0**	**+0.2**
P17A	**Butcher Ranch,**	**14.71**	**356**	Pn	**Pn**	**01 15 40.2**	**+1.2**
SPR3	**Spring Creek 3**	**14.81**	**345**	Pn	**Pn**	**01 15 40.0**	**-0.5**
TPH	**Tonopah**	**14.87**	**335**	Pn	**Pn**	**01 15 41.5**	**+0.4**
MDPB	**Devils Postpil**	**15.29**	**329**	P	**P**	**01 15 52.2**	**+0.5**
MDPB				IAmb	IAmb	01 16 09.4	
	comp=Z,6.3nm,1.2s						
ISCO	**Idaho Springs**	**15.31**	**11**	P	**P**	**01 15 50.9**	**-1.1**
ISCO				IAmb	IAmb	01 16 01.9	
	comp=Z,7.5nm,1.1s						
ISCO	**Idaho Springs**	**15.31**	**11**	P	**Pn**	**01 15 47.1**	**0.0**
	baz=193						
NLU	**North Lily Min**	**15.32**	**352**	P	**P**	**01 15 52.7**	**+0.8**
MPU	**Maple Canyon**	**15.33**	**353**	P	**Pn**	**01 15 49.9**	**+2.7**
MPU				IAmb	IAmb	01 15 56.7	
	comp=Z,16nm,1.5s						
O20A	**White River Ci**	**15.35**	**3**	P	**P**	**01 15 51.4**	**-1.0**
O20A	**White River Ci**	**15.35**	**3**	P	**Pn**	**01 15 48.9**	**+1.3**
	baz=184,SNR=5.6						
CMIG	**Matias Romero**	**15.49**	**117**	LR	LR	01 22 02.6	
	comp=Z,213nm,18.1s,baz=288,slow=39						
LHV	**Little Huntoon**	**15.54**	**332**	P	**P**	**01 15 53.7**	**-0.5**
LHV				IAmb	IAmb	01 15 58.2	
	comp=Z,12nm,1.1s						
NV11	**Mina Array Sit**	**15.55**	**333**	Pn	**Pn**	**01 15 51.4**	**+1.3**
NV11				IAmb	IAmb	01 15 58.2	
	comp=Z,12nm,1.1s						
X37A	**Clayton**	**15.56**	**48**	P	**P**	**01 15 55.0**	**+0.6**
X37A				IAmb	IAmb	01 16 02.2	
	comp=Z,13nm,0.8s						
NVAR	**Mina Array Bea**	**15.61**	**333**	Pn	**Pn**	**01 15 52.4**	**+1.5**
	comp=Z,0.0nm,0.3s,baz=188,slow=17,SNR=7.3						
NVAR				LR	LR	01 20 55.7	
	comp=Z,89nm,19.5s,

U40A	**Yellville**	**18.26**	**47**	P		**Pn**	**01 16 24.3 +0.1**
	baz=235						
FCAR	**Ozark Folk Cen**	**18.49**	**49**	P		**P**	**01 16 28.0 +1.1**
REDW	**Red Top Meadow**	**18.59**	**356**	P		**Pn**	**01 16 30.7 +2.3**
REDW				IAmb		IAmb	01 16 46.1
	comp=Z,8.7nm,1.2s						
O03E	**Paynes Creek**	**18.69**	**329**	P		**P**	**01 16 29.9 +0.8**
	baz=143,SNR=9.4						
TPAW	**Teton Pass**	**18.72**	**356**	P		**Pn**	**01 16 31.5 +1.4**
TPAW				IAmb		IAmb	01 16 34.5
	comp=Z,11nm,1.2s						
S39A	**Bolivar**	**18.75**	**43**	P		**P**	**01 16 30.4 +0.6**
S39A				IAmb		IAmb	01 16 48.7
	comp=Z,17nm,1.4s						
LOHW	**Long Hollow**	**18.82**	**357**	P		**P**	**01 16 31.4 +0.6**
FXWY	**Fox Creek**	**18.87**	**356**	P		**P**	**01 16 31.4 0.0**
MOOW	**Moose Ponds**	**18.97**	**357**	P		**Pn**	**01 16 34.7 +1.7**
MGMO	**Mountain Grove**	**19.10**	**46**	P		**P**	**01 16 33.2 -0.4**
MGMO				IAmb		IAmb	01 16 50.1
	comp=Z,11nm,1.0s						
IMW	**Indian Meadow**	**19.13**	**356**	P		**P**	**01 16 34.5 +0.4**
IMW				IAmb		IAmb	01 16 39.0
	comp=Z,6.7nm,0.8s						
HLID	**Hailey**	**19.21**	**349**	P		**Pn**	**01 16 36.5 +0.7**
HLID	**Hailey**	**19.21**	**349**	P		**P**	**01 16 35.7 +0.8**
	baz=166						
WVOR	**Wild Horse Val**	**19.23**	**339**	P		**P**	**01 16 34.4 -0.7**
WVOR				IAmb		IAmb	01 16 39.9
	comp=Z,8.1nm,1.1s						
FLWY	**Flagg Ranch**	**19.30**	**357**	P		**P**	**01 16 36.1 +0.2**
FLWY				IAmb		IAmb	01 16 40.8
	comp=Z,9.3nm,1.0s						
MFID	**Camas Ranch**	**19.35**	**346**	P		**Pn**	**01 16 38.2 +0.7**
MFID				IAmb		IAmb	01 16 41.9
	comp=Z,8.1nm,1.2s						
N02D	**Trinity Center**	**19.64**	**329**	P		**P**	**01 16 40.7 +1.1**
	baz=142						
RSSD	**Black Hills**	**19.78**	**11**	P		**P**	**01 16 41.7 +0.4**
	baz=194						
M04C	**Macdoel**	**19.90**	**332**	P		**P**	**01 16 42.1 -0.3**
	baz=145,SNR=5.3						
J08A	**Circle Bar Ran**	**20.01**	**340**	P		**Pn**	**01 16 46.0 +0.7**
J08A				IAmb		IAmb	01 16 53.0
	comp=Z,18nm,1.3s						
YHH	**Holmes Hill**	**20.01**	**357**	P		Pn	01 16 46.4 +0.9
YNE	**Yellowstone No**	**20.20**	**359**	P		**P**	**01 16 47.3 +1.5**
YNE				IAmb		IAmb	01 16 53.1
	comp=Z,12nm,1.0s						
MCMT	**McKenzie Canyo**	**20.21**	**353**	P		**P**	**01 16 47.1 +1.1**
YBH	**Yreka Blue Hor**	**20.24**	**330**	LR		LR	01 24 08.7
	comp=Z,42nm,18.2s,baz=166,slow=35						
RLMT	**Red Lodge**	**20.30**	**0**	P		**P**	**01 16 48.8 +1.8**
RLMT				IAmb		IAmb	01 16 50.9
	comp=Z,15nm,1.4s						
RLMT	**Red Lodge**	**20.30**	**0**	P		**P**	**01 16 47.0 +0.1**
	baz=180						
P40A	**Paris**	**20.69**	**41**	P		**P**	**01 16 53.3 +2.4**
DLMT	**Dillon**	**20.72**	**353**	P		Pn	01 16 54.8 +1.1
DLMT				IAmb		IAmb	01 17 00.7
	comp=Z,15nm,1.2s						
BOZ	**Bozeman (W)**	**20.86**	**355**	P		**P**	**01 16 55.0 +2.1**
BOZ				IAmb		IAmb	01 17 00.7
	comp=Z,8.7nm,1.2s						
J05D	**Fort Rock, OR**	**20.90**	**335**	P		**P**	**01 16 53.5 +0.2**
	baz=149,SNR=7.1						
GCMT	**Greycliff**	**20.98**	**359**	P		**P**	**01 16 53.8 -0.3**
I07A	**Izee**	**20.98**	**339**	P		**P**	**01 16 56.0 +1.8**
I07A				IAmb		IAmb	01 16 58.3
	comp=Z,13nm,1.3s						
BMO	**Blue Mountains**	**21.06**	**344**	P		**P**	**01 16 55.4 +0.4**
BMO				IAmb		IAmb	01 17 01.5
	comp=Z,13nm,1.3s						
LRM	**Limekiln Ridge**	**21.16**	**354**	P		**P**	**01 16 57.0 +0.9**
PINE	**Pine Mountain**	**21.23**	**336**	P		**P**	**01 16 58.0 +1.1**
ECSD	**EROS Data Cent**	**21.59**	**26**	P		**P**	**01 17 03.4 +2.8**
ECSD	**EROS Data Cent**	**21.59**	**26**	P		**P**	**01 17 01.3 +0.7**
	baz=213						
WVT	**Waverly**	**21.66**	**53**	P		**P**	**01 17 02.6 +1.2**
WVT	**Waverly**	**21.66**	**53**	P		**P**	**01 17 01.8 +0.4**
	baz=244						
G08A	**Pilot Rock**	**21.91**	**342**	P		**P**	**01 17 05.2 +1.1**
J01E	**Myrtle Point**	**21.93**	**330**	P		**P**	**01 17 05.8 +1.6**
	baz=142						
HRY	**Holter Researc**	**21.99**	**355**	P		**P**	**01 17 05.8 +0.9**
F10A	**Beach Ranch, E**	**22.09**	**345**	P		**P**	**01 17 06.6 +0.5**
F10A				IAmb		IAmb	01 17 09.0
	comp=Z,10nm,1.1s						
N41A	**Harden Midland**	**22.15**	**40**	P		**P**	**01 17 08.1 +1.5**
MSO	**Missoula**	**22.32**	**352**	P		**P**	**01 17 10.4 +1.9**
MSO				IAmb		IAmb	01 17 13.7
	comp=Z,13nm,1.3s						
MSO	**Missoula**	**22.32**	**352**	P		**P**	**01 17 09.8 +1.2**
	baz=169						
H04A	**Detroit Lake**	**22.45**	**335**	P		**P**	**01 17 12.2 +2.4**
F07A	**Phinny Hill Vi**	**22.75**	**341**	P		**P**	**01 17 14.0 +1.1**
E09A	**Wood Farm, Sta**	**22.82**	**344**	P		**P**	**01 17 15.4 +1.7**
E09A				IAmb		IAmb	01 17 17.2
	comp=Z,9.1nm,1.1s						
HAWA	**Hanford**	**23.08**	**342**	P		**P**	**01 17 16.5 +0.1**
EGMT	**Eagleton**	**23.21**	**359**	P		**P**	**01 17 19.0 +1.2**
	baz=179						
LON	**Longmire**	**24.10**	**339**	P		**P**	**01 17 28.9 +2.5**
NEW	**Newport**	**24.25**	**347**	P		**P**	**01 17 27.1 -0.7**
	comp=Z,10nm,1.2s,baz=173,slow=8.4,SNR=6.3						
NEW				LR		LR	01 27 26.6
	comp=Z,104nm,18.1s,baz=176,slow=38						
NEW	**Newport**	**24.25**	**347**	P		**P**	**01 17 28.6 +0.8**
NEW	**Newport**	**24.25**	**347**	P		**P**	**01 17 27.1 -0.7**
	baz=163,SNR=6.1						
TKL	**Tuckaleechee C**	**24.53**	**58**	LR		LR	01 27 03.1
	comp=Z,117nm,20.9s,baz=254,slow=37						
B08A	**Colville Reser**	**24.84**	**344**	P		**P**	**01 17 34.5 +1.4**
B05A	**Bryant**	**25.53**	**340**	P		**P**	**01 17 40.7 +1.4**
	baz=152						
JTS	**Las Juntas de**	**27.27**	**118**	LR		LR	01 27 49.8
	comp=Z,84nm,19.4s,baz=234,slow=35						
ULM	**Lac du Bonnet**	**27.49**	**19**	LR		LR	01 28 15.9
	comp=Z,51nm,21.1s,baz=87,slow=35						
MCWV	**Mont Chateau**	**28.86**	**52**	P		**P**	**01 18 10.2 +0.8**
	baz=246						
YKA	**Yellowknife Ar**	**37.88**	**356**	LR		LR	01 35 23.5
	comp=Z,155nm,19.4s,baz=0.0,slow=37						
ROSC	**El Rosal**	**39.02**	**115**	LR		LR	01 38 11.8
	comp=Z,74nm,20.0s,baz=147,slow=40						
MMPY	**Sheldon Lake,**	**40.60**	**345**	P		**P**	**01 19 51.2 +0.8**
	baz=149						
EYAK	**Cordova Ski Ar**	**43.64**	**335**	P		**P**	**01 20 16.4 +1.3**
	baz=129						
DAWY	**Dawson**	**43.93**	**341**	P		**P**	**01 20 19.2 +1.7**
	baz=139						
EPYK	**Eagle Plains**	**45.04**	**345**	P		**P**	**01 20 28.2 +2.0**
	baz=144						
CHIR	**Chirikof Islan**	**45.70**	**325**	P		**P**	**01 20 33.6 +2.0**
	baz=114						
INK	**Inuvik**	**45.97**	**348**	P		**P**	**01 20 35.0 +1.4**
	baz=149						
J25K	**Salcha River,**	**46.15**	**339**	P		**P**	**01 20 36.6 +1.4**
	baz=132						
IL31		**46.74**	**339**	P		**P**	**01 20 42.5 +2.8**
ILAR	**Eielson Array**	**46.74**	**339**	P		**P**	**01 20 39.2 -0.5**
	comp=Z,1.8nm,0.9s,baz=155,slow=6.9,SNR=14						
ILAR				LR		LR	01 42 10.6
	comp=Z,41nm,18.1s,baz=104,slow=38						
ILAR	**Eielson Array**	**46.74**	**339**	P		**P**	**01 20 40.4 +0.7**
NEA2	**Nenana**	**47.36**	**338**	P		**P**	**01 20 46.4 +1.9**
	baz=128						
H24K	**Noodor Dome**	**47.75**	**340**	P		**P**	**01 20 49.2 +1.5**
	baz=130						
L20K	**Farewell, AK**	**47.94**	**334**	P		**P**	**01 20 50.7 +1.5**
	baz=121						
A36M	**Sachs Harbour**	**48.09**	**353**	P		**P**	**01 20 51.7 +1.6**
	baz=160						
L19K	**White Mountain**	**48.19**	**333**	P		**P**	**01 20 52.3 +1.3**
	baz=120						
MLY	**Manley**	**48.19**	**338**	P		**P**	**01 20 52.7 +1.6**
	baz=126						
H23K	**Yukon River**	**48.28**	**339**	P		**P**	**01 20 53.2 +1.5**
	baz=128						
K20K	**Telida**	**48.47**	**335**	P		**P**	**01 20 53.5 +0.3**
	baz=121						
I21K	**Tanana**	**48.71**	**338**	P		**P**	**01 20 55.3 +0.3**
	baz=125						
COLD	**Coldfoot**	**49.36**	**340**	P		**P**	**01 21 00.7 +0.8**
	baz=128						
IMAR	**Indian Mountai**	**49.77**	**338**	P		**P**	**01 21 05.2 +2.1**
TOLK	**Toolik Lake Re**	**50.07**	**342**	P		**P**	**01 21 06.2 +0.8**
	baz=130						
ARCES	**ARCESS Array B**	**80.52**	**15**	LR		LR	02 01 00.4
	comp=Z,27nm,20.3s,baz=155,slow=36						
NOA	**NORSAR Array B**	**82.00**	**25**	LR		LR	02 00 56.4
	comp=Z,24nm,18.1s,baz=295,slow=36						
ESDC	**Sonseca Array**	**85.46**	**48**	LR		LR	01 59 59.7
	comp=Z,29nm,20.8s,baz=245,slow=34						
FINES	**FINESS Array B**	**86.88**	**20**	LR		LR	02 03 11.4
	comp=Z,36nm,18.6s,baz=309,slow=35						

SOME ***14*** *01:20:27.8, 42.25N×83.03E, h5km*
NNC ***14*** *01:20:28.4±1.2, 42.25N×83.08E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=9.7km s-min=5.6km az=158.0*

ISC 14 01:20:29.4±1.9, 42.26N±0.08×82.99E±0.06, h10km, n39, σ2ˢ29/60, 6C-8D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.27**	**302**	*eP*			**Pb**	**01 21 11.6**	**+0.9**
	10nm,0.2s								
KTMS				*eS*			**Sg**	**01 21 43.5**	**+1.0**
	53nm,0.3s								
KTMS	**Ketmen**	**2.27**	**302**	Pg			**Pb**	**01 21 11.5**	**+0.9**
	12nm,0.4s								
KTMS				Lg			Lg	01 21 42.5	
	79nm,0.5s								
SHLS	**Shalkode**	**2.75**	**290**	*eP*			**Pn**	**01 21 14.5**	**+0.8**
	29nm,0.3s								
SHLS				*eS*			**Sn**	**01 21 48.1**	**+1.1**
	112nm,0.5s								
SHLS	**Shalkode**	**2.75**	**290**	Pg			**Pn**	**01 21 14.4**	**+0.7**
	46nm,0.5s								
SHLS				Lg			Lg	01 21 48.5	
	112nm,0.5s								
PDGK	**Podgornoye**	**2.79**	**294**	Pg			**Pb**	**01 21 20.5**	**+1.1**
	5.6nm,0.5s								
PDGK				Lg			Lg	01 21 58.0	
	37nm,0.6s								
PDGK	**Podgornoye**	**2.79**	**294**	⇑Pn			**Pn**	**01 21 14.6**	**+0.4**
	3.1nm,0.8s								
PDGK				⇓Pg			**Pb**	**01 21 19.6**	**+0.2**
	8.7nm,0.6s								
PDGK				⇑Sn			**Sb**	**01 21 52.7**	**-1.0**
	17nm,0.5s								
PDGK				⇓Lg			Lg	01 21 58.8	
	64nm,0.6s								
UZB	**Uzynbulak**	**3.05**	**288**	*eP*			**Pg**	**01 21 26.1**	**-1.9**
	9.5nm,0.5s								
UZB				*eS*			**Sg**	**01 22 07.9**	**+0.4**
	38nm,0.5s								
UZB	**Uzynbulak**	**3.05**	**288**	Pg			**Pg**	**01 21 26.0**	**-1.9**
	11nm,0.5s								
UZB				Lg			Lg	01 22 07.9	
	38nm,0.5s								
DJR	**Jarkent**	**3.12**	**313**	*eP*			**Pb**	**01 21 25.8**	**+0.7**
	0.7nm,0.7s								
DJR				*eS*			**Sg**	**01 22 07.7**	**-2.0**
	2.3nm,0.5s								
DJR	**Jarkent**	**3.12**	**313**	Pg			**Pb**	**01 21 25.4**	**+0.4**
	1.1nm,0.4s								
DJR				Lg			Lg	01 22 07.1	
	2.3nm,0.5s								
SATY	**Saty**	**3.47**	**285**	*eP*			**Pg**	**01 21 33.4**	**-2.5**
	9.8nm,0.5s								
SATY				*eS*			**Sg**	**01 22 20.6**	**-0.3**
	25nm,0.3s								
SATY	**Saty**	**3.47**	**285**	Pg			**Pb**	**01 21 32.7**	**+1.6**
	12nm,0.6s								
SATY				Lg			Lg	01 22 18.8	
	25nm,0.3s								
KAPS	**Kapalarasan**	**4.01**	**320**	*eP*			**Pg**	**01 21 44.2**	**-2.0**
	1.0nm,0.7s								
KAPS				*eS*			**Sg**	**01 22 39.0**	**+0.9**
	1.9nm,0.4s								
KAPS	**Kapalarasan**	**4.01**	**320**	Pg			**Pg**	**01 21 43.8**	**-2.4**
	1.0nm,0.5s								
KAPS				Lg			Lg	01 22 37.8	
	1.9nm,0.4s								
ARXS	**Arharly**	**4.25**	**299**	*eP*			**Pg**	**01 21 47.7**	**-3.0**
	6.7nm,0.3s								
ARXS				*eS*			**Sg**	**01 22 44.4**	**-1.4**
	19nm,0.7s								
ARXS	**Arharly**	**4.25**	**299**	Pg			**Pg**	**01 21 47.7**	**-3.0**
	6.7nm,0.3s								
ARXS				Lg			Lg	01 22 44.4	
	19nm,0.7s								
TDK	**Taldyqorghan**	**4.31**	**311**	*eP*			**Pg**	**01 21 51.0**	**-1.0**
	25nm,0.3s								
TDK				*eS*			**Sg**	**01 22 50.8**	**+3.0**
	15nm,0.2s								
TDK	**Taldyqorghan**	**4.31**	**311**	Pg			**Pg**	**01 21 50.0**	**-2.0**
	36nm,0.3s								
TDK				Lg			Lg	01 22 48.8	
	15nm,0.2s								
KOTS	**Kotyrbulak**	**4.43**	**285**	*eP*			**Pb**	**01 21 50.2**	**+2.7**
	6.1nm,0.5s								
KOTS				*eS*			**Sg**	**01 22 49.1**	**-2.7**
	31nm,0.7s								
KOTS	**Kotyrbulak**	**4.43**	**285**	Pg			**Pb**	**01 21 48.5**	**+1.0**
	6.1nm,0.5s								
KOTS				Lg			Lg	01 22 45.7	
	31nm,0.7s								
MDOK	**Medeo**	**4.47**	**284**	Lg			Lg	01 22 55.1	
	12nm,0.7s								
TNSS	**Tian-Shan**	**4.52**	**282**	*eP*			**Pb**	**01 21 50.8**	**+1.6**
	3.9nm,0.0s								
TNSS				*eS*			**Sg**	**01 22 50.5**	**-4.2**
	6.0nm,0.6s								
TNSS	**Tian-Shan**	**4.52**	**282**	Pg			**Pg**	**01 21 53.0**	**-3.0**
	5.4nm,0.6s								
TNSS				Lg			Lg	01 22 54.0	
	7.6nm,1.2s								
MK31	**Makanchi Array**	**4.56**	**354**	⇑Pn			**Pn**	**01 21 38.8**	**+0.2**
	0.2nm,0.2s,baz=162,slow=12,SNR=35								
MK31				Pg			**Pb**	**01 21 51.9**	**+2.2**
	2.9nm,0.5s,baz=163,slow=16,SNR=17								
MK31				Lg			Lg	01 22 53.3	
	14nm,0.6s,baz=170,slow=29,SNR=8.3								
MAKZ	**Makanchi**	**4.61**	**351**	⇓Pn			**Pn**	**01 21 39.0**	**-0.1**
	0.9nm,0.6s								
MAKZ				⇑Pg			**Pb**	**01 21 52.5**	**+2.2**
	5.1nm,0.7s								
MAKZ				⇓Lg			Lg	01 22 57.0	
	14nm,0.8s								
IZV	**Izvestkoviy**	**4.76**	**282**	*eP*			**Pg**	**01 21 57.8**	**-2.9**
	5.4nm,0.5s								
IZV				*eS*			**Sg**	**01 23 02.3**	**-0.1**
	17nm,0.5s								
IZV	**Izvestkoviy**	**4.76**	**282**	Pg			**Pg**	**01 21 59.5**	**-1.2**
	8.5nm,0.6s								
IZV				Lg			Lg	01 23 04.6	
	17nm,0.5s								
KTBS	**Karatobe**	**4.85**	**290**	*eP*			**Pg**	**01 22 00.8**	**-1.4**
	3.2nm,0.5s								
KTBS				*eS*			**Sg**	**01 23 07.7**	**+2.7**
	15nm,0.8s								
KTBS	**Karatobe**	**4.85**	**290**	Pg			**Pg**	**01 21 59.9**	**-2.4**
	3.2nm,0.5s								
KTBS				Lg			Lg	01 23 05.5	
	15nm,0.8s								
KST	**Kastek**	**5.24**	**281**	*eP*			**Pg**	**01 22 07.6**	**-2.2**
	2.2nm,0.5s								
KST				*eS*			**Sg**	**01 23 18.8**	**+1.2**
	5.9nm,0.7s								
KST	**Kastek**	**5.24**	**281**	Pg			**Pg**	**01 22 07.3**	**-2.5**
	2.6nm,0.5s								
KST				Lg			Lg	01 23 18.2	
	5.9nm,0.7s								
ZSN	**Zaisan**	**5.36**	**14**	*eP*			**Pb**	**01 22 05.9**	**+2.7**
	4.5nm,0.3s								
ZSN				*eS*			**Sg**	**01 23 16.3**	**-5.2**
	26nm,0.6s								
ZSN	**Zaisan**	**5.36**	**14**	Pg			**Pb**	**01 22 06.1**	**+2.9**
	6.7nm,0.5s								
ZSN				Lg			Lg	01 23 16.9	
	26nm,0.6s								
DGS	**Degeres**	**5.40**	**283**	*eP*			**Pg**	**01 22 08.9**	**-4.0**
	2.4nm,0.4s								
DGS				*eS*			**Sg**	**01 23 21.4**	**-1.5**
	7.9nm,0.4s								
DGS	**Degeres**	**5.40**	**283**	Pg			**Pg**	**01 22 09.7**	**-3.1**
	4.3nm,0.6s								
DGS				Lg			Lg	01 23 22.1	
	7.9nm,0.4s								
TKM2	**Tokmak 2**	**5.50**	**279**	⇓Pn			**Pn**	**01 21 51.7**	**+0.2**
	0.5nm,0.6s								
TKM2				⇓Pg			**Pb**	**01 22 08.7**	**+3.1**
	3.0nm,0.8s								
TKM2				⇓Sn			**Sn**	**01 22 58.6**	**+3.8**
	2.8nm,0.6s								
TKM2				⇑Lg			Lg	01 23 24.4	
	6.3nm,0.7s								
KRBS	**Karabastau**	**5.55**	**287**	*eP*			**Pg**	**01 22 11.8**	**-4.0**
	0.7nm,0.1s								
KRBS				*eS*			**Sg**	**01 23 26.1**	**-1.5**
	2.6nm,0.2s								
KRBS	**Karabastau**	**5.55**	**287**	Pg			**Pg**	**01 22 11.5**	**-4.3**
	2.0nm,0.5s								
KRBS				Lg			Lg	01 23 25.2	
	3.0nm,0.5s								
KURBB	**Kurchatov Arra**	**8.91**	**341**	⇓Sn			**Sn**	**01 24 20.6**	**+2.0**
	2.7nm,0.8s								
KURBB				⇑Lg			Lg	01 25 14.3	
	8.1nm,1.1s								

IDC ***14*** *01:22:46.5±7.3, 7.09S×129.09E, h158km±78km, mb3.6/6, mb1 3.7/9, mb1mx3.5/28, mbtmp4.1/9, Error ellipse: s-maj=61.0km s-min=22.2km az=45.0*
NEIC ***14*** *01:22:48.2±2.2, 7.00S±0.09×129.3E±0.1, h169km±10km, mb4.0/12, Error ellipse: s-maj=15.5km s-min=12.0km az=113.0*
DJA ***14*** *01:22:48.2±0.3, 7.S±4×12.9E±, h157km±12km, M4.4/7, mB4.9/3, mb4.3/7, MLv4.5/6, Mw(mB)4.2/3*

ISC 14 01:22:46.3±0.6, 7.01S±0.07×129.23E±0.07, h150km, n41, σ1ˢ36/42, mb3.9/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRAI	**Karang Ratu**	**3.76**	**347**	P			Pn	01 23 48.8	+5.3
FAKI	**Fak Fak**	**5.05**	**37**	Pn			**Pn**	**01 24 00.8**	**+0.3**
FAKI	**Fak Fak**	**5.05**	**37**	P			**Pn**	**01 24 01.2**	**+0.7**
	0.5nm31nm,0.9s								
SOEI	**Soe**	**5.62**	**241**				**Pn**	**01 24 10.2**	**+2.1**
SOEI	**Soe**	**5.62**	**241**	P			**Pn**	**01 24 10.7**	**+2.6**
	0.7nm2µm121nm,0.7s								
MTN	**Manton Dam**	**6.09**	**162**	Pn			**Pn**	**01 24 15.3**	**+1.0**
BATI	**Baumata**	**6.36**	**240**	P			**Pn**	**01 24 20.1**	**+2.2**
	34nm,0.3s,baz=63,slow=1.8,SNR=14								
BATI				S			**Sn**	**01 25 29.3**	**-0.3**
	19nm,0.3s,baz=20,slow=24,SNR=7.9								
BATI	**Baumata**	**6.36**	**240**	P			**Pn**	**01 24 20.0**	**+2.2**
	0.3nm1µm90nm,0.8s								
BATI				S			**Sn**	**01 25 29.0**	**-0.5**
	0.3nm1µm90nm,0.8s								
EDFI	**Ende, Flores**	**7.67**	**256**	P			**Pn**	**01 24 37.2**	**+1.7**
	0.0nm5.5nm,0.9s								
KNRA	**Kununurra**	**8.63**	**183**	Pn			**Pn**	**01 24 47.6**	**-0.6**
PLAI	**Plampang**	**11.49**	**260**	P			**Pn**	**01 25 28.2**	**+2.1**
	29nm,1.0s								
FITZ	**Fitzroy Crossi**	**11.56**	**197**	P			**Pn**	**01 25 25.2**	**-1.8**
	1.2nm,0.3s,baz=34,slow=10.0,SNR=44								
FITZ				S			Sn	01 27 25.4	-9.5
	1.3nm,0.3s,baz=97,slow=22,SNR=5.9								
FITZ	**Fitzroy Crossi**	**11.56**	**197**	Pn			**Pn**	**01 25 25.8**	**-1.2**
WRAB	**Tennant Creek**	**13.77**	**159**	Pn			**Pn**	**01 25 55.0**	**-0.4**
WRA	**Warramunga Arr**	**13.78**	**159**	P			**Pn**	**01 25 53.4**	**-2.1**
	2.9nm,0.3s,baz=340,slow=12,SNR=33								
WRA				S			Sn	01 28 17.7	-11
	2.6nm,0.3s,baz=318,slow=24,SNR=11								
WRA	**Warramunga Arr**	**13.78**	**159**	Pn			**Pn**	**01 25 53.7**	**-1.9**
WB2	**Warramunga Arr**	**13.78**	**159**	Pn			**Pn**	**01 25 54.9**	**-0.8**
WR0	**Warramunga Arr**	**13.87**	**159**	Pn			**Pn**	**01 25 55.0**	**-1.7**
JAGI	**Jajag, Banyuwa**	**15.01**	**263**	P			**Pn**	**01 26 12.5**	**+1.4**
	20nm,1.0s								
COEN	**Coen**	**15.34**	**118**				**Pn**	**01 26 16.9**	**+1.8**
COEN					IAmb		IAmb	01 26 18.6	
	comp=Z,8.4nm,0.7s								
PSA00	**Pilbara Seismi**	**17.09**	**211**	P			**P**	**01 26 36.6**	**+1.0**
PSA00					IAmb		IAmb	01 26 47.8	
	comp=Z,8.2nm,1.4s								
AS31	**Alice Springs**	**17.16**	**165**	P			**P**	**01 26 37.4**	**+0.9**
ASAR	**Alice Springs**	**17.16**	**165**	P			**P**	**01 26 37.5**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=342,slow=9.8,SNR=69								
ASAR				S			S	01 29 34.8	-13
	comp=Z,0.2nm,0.3s,baz=332,slow=17,SNR=3.1								
ASAR	**Alice Springs**	**17.16**	**165**	P			**P**	**01 26 37.2**	**+0.7**
CTA	**Charters Tower**	**21.01**	**130**	P			**P**	**01 27 18.8**	**+0.5**
	comp=Z,2.3nm,0.5s,baz=321,slow=15,SNR=2.1								
CTAO	**Charters Tower**	**21.01**	**130**	P			**P**	**01 27 19.1**	**+0.8**
BBOO	**Buckleboo**	**26.45**	**167**	P			**P**	**01 28 08.8**	**-0.6**
STKA	**Stephens Creek**	**27.30**	**157**	P			**P**	**01 28 16.3**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=348,slow=14,SNR=3.3								
STKA	**Stephens Creek**	**27.30**	**157**	P			**P**	**01 28 17.3**	**+0.3**
CM31	**Chiang Mai Arr**	**39.16**	**311**	P			**P**	**01 30 00.0**	**+0.3**
CM31					IAmb		IAmb	01 30 00.4	
	comp=Z,6.8nm,1.1s								
CMAR	**Chiang Mai Arr**	**39.16**	**311**	P			**P**	**01 29 59.2**	**-0.5**
	comp=Z,1.2nm,0.3s,baz=133,slow=7.4,SNR=6.1								
CMAR	**Chiang Mai Arr**	**39.16**	**311**	P			**P**	**01 29 59.5**	**-0.3**
SONM	**Songino Array**	**58.21**	**342**	P			**P**	**01 32 25.4**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=152,slow=6.4,SNR=3.1								
SONM	**Songino Array**	**58.21**	**342**	P			**P**	**01 32 25.9**	**+1.0**
MK31	**Makanchi Array**	**67.82**	**327**	P			**P**	**01 33 27.7**	**-0.6**
MK31					IAmb		IAmb	01 33 53.3	
	comp=Z,1.9nm,1.1s								
MKAR	**Makanchi Array

78nm,0.3s,baz=270,slow=20,SNR=2.9
GLKZ Green Lake 8.85 182 P **Pn** **02 00 43.1 +0.4**
GLKZ S **S** **02 02 24.6 +0.4**
FUNA Funafuti 12.20 345 P **Pn** **02 01 24.6 +1.8**
MARNC Mare, Loyalty 13.52 263 **Pn** **02 01 39.0 +0.8**
MARNC Mare, Loyalty 13.52 263 P **Pn** **02 01 39.4 +1.2**
DVP Devils Point 13.74 279 P **Pn** **02 01 44.4 +3.6**
271µm,0.6s
PINNC Pines Island, 14.14 258 P **Pn** **02 01 47.4 +1.9**
PINNC Pines Island, 14.14 258 P **Pn** **02 01 48.2 +2.7**
LIFNC LIFOU 14.25 266 **Pn** **02 01 46.4 -0.4**
LIFNC LIFOU 14.25 266 P **Pn** **02 01 47.1 +0.3**
YATNC Mamie plateau, 14.60 261 P **Pn** **02 01 53.6 +2.7**
OUENC Ouen Island, N 14.68 259 P **Pn** **02 01 52.9 +1.2**
OUENC Ouen Island, N 14.68 259 P **Pn** **02 01 53.4 +1.7**
DZM Mont Dzumac 15.02 261 *eP* **Pn** **02 01 56.3 +0.5**
403nm,0.9s
DZM Mont Dzumac 15.02 261 P **Pn** **02 01 56.7 +0.9**
6.4nm,0.3s,baz=82,slow=17,SNR=66
DZM S **S** **02 04 37.0 +1.8**
baz=202,slow=14,SNR=6.2
DZM Mont Dzumac 15.02 261 P **Pn** **02 01 55.6 -0.2**
DZM Mont Dzumac 15.02 261 P **Pn** **02 01 57.3 +1.5**
ONTNC Ouen Toro 15.02 260 P **Pn** **02 01 55.8 +0.1**
ONTNC Ouen Toro 15.02 260 P **Pn** **02 01 57.8 +2.0**
NOUC Port Laguerre 15.15 261 P **Pn** **02 01 57.6 +0.4**
RAR Rarotonga 16.65 96 P **Pn** **02 02 13.4 -1.2**
1.9nm,0.3s,baz=319,slow=20,SNR=2.6
RAR Rarotonga 16.65 96 P **Pn** **02 02 14.1 -0.6**
RAR IAmb IAmb 02 02 33.1
comp=Z,45nm,1.1s
OUZ Omahuta 16.71 206 **Pn** **02 02 14.8 -0.4**
OUZ IAmb IAmb 02 02 21.6
comp=Z,23nm,0.7s
OUZ Omahuta 16.71 206 P **Pn** **02 02 15.9 +0.7**
GRZ Great Barrier 16.96 200 P **Pn** **02 02 16.3 -1.7**
WCZ Waipu Caves 17.05 203 P **P** **02 02 17.6 +2.3**
KUZ Kuaotunu 17.33 198 P **P** **02 02 20.5 +2.2**
ABAZ Army Bay 17.48 201 P **P** **02 02 25.8 +6.0**
MXZ Matakaoa Point 17.50 191 P **P** **02 02 22.1 +2.1**
MXZ IAmb IAmb 02 02 23.1
comp=Z,46nm,0.7s
MXZ Matakaoa Point 17.50 191 P **P** **02 02 22.2 +2.1**
MXZ S **S** **02 05 19.0 -4.6**
WIAZ Waiheke Island 17.56 200 P **P** **02 02 25.4 +4.7**
MYRZ Mayor Island 17.69 196 P **P** **02 02 28.0 +5.9**
HAZ Te Kaha 17.78 192 P **P** **02 02 23.6 +0.5**
HAZ S **S** **02 05 24.9 -4.2**
MKAZ Moumakai 17.83 199 P **P** **02 02 25.0 +1.4**
PKGZ Pakihiroa 17.86 191 P **P** **02 02 25.8 +1.8**
PKGZ S **S** **02 02 26.6 -8.2**
PUZ Puketiti 18.00 191 P **P** **02 02 25.9 +0.4**
RUGZ Raukumara Rang 18.01 192 P **P** **02 02 27.2 +1.6**
RUGZ S **S** **02 05 25.2 -8.6**
TWGZ Tauwhareparae 18.15 191 P **P** **02 02 28.9 +1.8**
TWGZ S **S** **02 05 32.2 -4.3**
KMRZ Kaimai 18.30 197 P **P** **02 02 33.0 +4.4**
TOZ Tahuroa Road 18.31 198 P **P** **02 02 33.3 +4.6**
MWZ Matawai 18.39 192 P **P** **02 02 30.4 +0.8**
URZ Urewera 18.41 193 P **P** **02 02 30.6 +0.9**
comp=Z,8.9nm,0.3s,baz=348,slow=5.8,SNR=36
URZ S **S** **02 05 34.5 -6.9**
comp=Z,2.1nm,0.3s,baz=255,slow=20,SNR=5.1
URZ Urewera 18.41 193 P **P** **02 02 30.6 +0.9**
URZ Urewera 18.41 193 P **P** **02 02 30.4 +0.7**
OMRZ Ormania 18.43 195 P **P** **02 02 33.9 +3.9**
TARZ Mount Tarawera 18.52 195 P **P** **02 02 34.2 +3.2**
MUGZ Murupara 18.69 194 P **P** **02 02 33.9 +1.2**
MUGZ S **S** **02 05 42.2 -4.8**
HIZ Hauiti 19.23 198 P **P** **02 02 41.4 +3.0**
BKZ Black Stump Fm 19.41 194 P **P** **02 02 40.2 -0.3**
BKZ IAmb IAmb 02 02 41.1
comp=Z,27nm,0.7s
BFZ Birch Farm 20.92 193 P **P** **02 02 54.3 -0.5**
BFZ IAmb IAmb 02 02 57.9
comp=Z,41nm,0.7s
MSWZ Moikau Station 21.84 195 P **P** **02 03 03.7 +0.5**
SNZO South Karori 21.88 196 P **P** **02 03 03.6 +0.1**
SNZO IAmb IAmb 02 03 23.8
comp=Z,62nm,1.0s
BHW Baring Head 21.93 195 P **P** **02 03 05.2 +1.2**
PLWZ Palliser 21.99 195 P **P** **02 03 04.6 0.0**
QRZ Quartz Range 22.06 200 P **P** **02 03 06.5 +1.2**
QRZ IAmb IAmb 02 03 09.2
comp=Z,53nm,0.8s
NNZ Nelson 22.16 198 P **P** **02 03 06.6 +0.5**
NNZ IAmb IAmb 02 03 09.9
comp=Z,25nm,0.6s
TUWZ Tuamarina 22.19 197 P **P** **02 03 06.2 -0.1**
CMWZ Cape Campbell 22.42 196 P **P** **02 03 10.7 +2.0**
BSWZ Blackbirch Sta 22.48 197 P **P** **02 03 13.0 +1.7**
THZ Tophouse 22.80 199 P **P** **02 03 13.0 +1.0**
THZ IAmb IAmb 02 03 15.4
comp=Z,31nm,0.8s
KHZ Kahutara 23.22 197 P **P** **02 03 15.5 -0.1**
KHZ IAmb IAmb 02 03 21.8
comp=Z,34nm,0.9s
TARA Tarawa 23.53 336 P **P** **02 03 17.9 -1.0**
LTZ Lake Taylor 23.92 199 P **P** **02 03 22.8 +0.7**
OXZ Oxford 24.49 199 P **P** **02 03 27.9 +0.7**
MQZ McQueen's Vall 24.66 197 P **P** **02 03 28.4 -0.2**
MQZ IAmb IAmb 02 03 45.4
comp=Z,37nm,1.2s
RPZ Rata Peaks 25.14 200 P **P** **02 03 33.2 +0.2**
RPZ IAmb IAmb 02 03 37.2
comp=Z,23nm,0.7s
FOZ Fox Glacier 25.39 202 P **P** **02 03 34.6 -0.6**
FOZ IAmb IAmb 02 03 56.1
comp=Z,24nm,0.9s
LBZ Lake Benmore 26.02 200 P **P** **02 03 40.1 -0.8**
ODZ Otahua Downs 26.47 199 P **P** **02 03 45.2 +0.5**
PAE Paea 26.57 89 *eP* **P** **02 03 46.9 +0.9**
comp=Z,24nm,1.3s
PPT2 Papeete2 26.59 89 *eP* **P** **02 03 47.4 +1.1**
comp=Z,88nm,1.3s
PPT Papeete 26.59 89 P **P** **02 03 48.8 +2.6**
comp=Z,46nm,0.7s,baz=67,slow=6.4,SNR=8.2
WKZ Wanaka 26.80 202 P **P** **02 03 48.2 +0.4**
MLZ Mavora Lakes 27.58 202 P **P** **02 03 56.1 +1.4**
WHZ Wether Hill Ro 28.10 202 P **P** **02 04 01.1 +1.9**
WHZ IAmb IAmb 02 04 01.9
comp=Z,33nm,0.6s
PMOR Pomariorio Ree 28.73 84 *eP* **P** **02 04 06.0 +0.9**
comp=Z,56nm,1.0s
EIDS Eidsvold 29.28 254 P **P** **02 04 10.5 +0.6**
EIDS IAmb IAmb 02 04 11.2
comp=Z,25nm,0.6s
ARMA Armidale 29.50 244 P **P** **02 04 13.3 +1.5**
KWAJ Kwajalein Atol 32.46 332 P **P** **02 04 37.0 -0.6**
CTA Charters Tower 33.92 264 P **P** **02 04 50.6 +0.5**
comp=Z,25nm,0.5s,baz=91,slow=10,SNR=27
CTAO Charters Tower 33.92 264 P **P** **02 04 50.6 +0.5**
CTAO IAmb IAmb 02 04 51.1
comp=Z,34nm,0.6s
PATS Pohnpei 35.98 316 P **P** **02 05 07.3 -0.2**
PATS IAmb IAmb 02 05 13.4
comp=Z,33nm,0.8s
TOO Toolangi 36.30 234 P **P** **02 05 10.8 +0.6**
TOO IAmb IAmb 02 05 11.5
comp=Z,41nm,0.7s
TAU Tasmania Unive 37.00 225 P **P** **02 05 16.2 +0.4**
COEN Coen 37.99 273 P **P** **02 05 24.6 +0.2**
STKA Stephens Creek 38.22 244 P **P** **02 05 26.6 +0.6**
comp=Z,30nm,0.8s,baz=89,slow=9.7,SNR=37
STKA Stephens Creek 38.22 244 P **P** **02 05 26.7 +0.6**
WAKE Wake Island 42.35 338 P **P** **02 05 59.6 -0.1**
BBOO Buckleboo 42.97 243 P **P** **02 06 04.3 -0.3**
BBOO IAmb IAmb 02 06 05.3
comp=Z,40nm,0.7s
JAY Jayapura 44.40 288 P **P** **02 06 16.3 +0.1**
comp=Z,354nmcomp=Z,16nm,0.9s
WR0 Warramunga Arr 44.84 262 P **P** **02 06 18.6 -0.9**
AS31 Alice Springs 44.95 257 P **P** **02 06 19.9 -0.5**
ASAR Alice Springs 44.95 257 P **P** **02 06 20.1 -0.3**
comp=Z,37nm,0.5s,baz=93,slow=8.3,SNR=607
ASAR PcP **PcP** **02 07 55.2 +0.3**
comp=Z,4.4nm,0.6s,baz=84,slow=6.6,SNR=4.2
ASAR ScP **ScP** **02 11 13.5 +0.1**
comp=Z,1.8nm,0.9s,baz=103,slow=4.0,SNR=5.4
ASAR S **S** **02 12 27.8 -4.1**
comp=Z,3.5nm,0.8s,baz=95,slow=16,SNR=15
ASAR Alice Springs 44.95 257 P **P** **02 06 20.3 -0.1**
ASAR **ScP** **02 11 12.6 -0.8**

WB2 Warramunga Arr 45.02 262 P **P** **02 06 20.1 -0.8**
WB2 PcP **PcP** **02 07 53.0 -2.3**
WRAB Tennant Creek 45.02 262 P **P** **02 06 20.1 -0.8**
WRA Warramunga Arr 45.03 262 P **P** **02 06 19.9 -1.1**
comp=Z,14nm,0.6s,baz=99,slow=8.7,SNR=184
WRA S **S** **02 12 26.9 -6.2**
comp=Z,2.6nm,0.8s,baz=98,slow=13,SNR=7.5
WRA Warramunga Arr 45.03 262 P **P** **02 06 20.6 -0.4**
KHLU Kahalu`u 45.04 29 P **P** **02 06 21.7 +0.7**
KHLU IAmb IAmb 02 06 22.0
comp=Z,59nm,0.7s
MLH Mauna Loa 45.19 30 P **P** **02 06 23.4 +1.0**
MLH IAmb IAmb 02 06 40.3
comp=Z,86nm,1.1s
HMH Humu'ula Sheep 45.24 30 P **P** **02 06 23.6 +0.8**
HPAH Hawaii Prepara 45.51 29 P **P** **02 06 25.6 +1.0**
FORT Forrest 49.73 247 P **P** **02 06 56.1 -0.5**
GUMO Guam 50.05 309 P **P** **02 06 59.2 +0.1**
KNRA Kununurra 51.08 266 P **P** **02 07 06.6 -0.3**
KNRA IAmb IAmb 02 07 07.2
comp=Z,32nm,0.7s
FITZ Fitzroy Crossi 53.46 262 S **S** **02 14 26.9 -2.4**
comp=Z,2.8nm,1.0s,baz=270,slow=18,SNR=3.1
FITZ Fitzroy Crossi 53.46 262 P **P** **02 07 24.3 +0.1**
SOEI Soe 56.91 272 P **P** **02 07 50.3 +1.5**
SOEI IAmb IAmb 02 07 51.3
comp=Z,40nm,1.0s
SBA Scott Base 58.02 184 P **P** **02 07 57.2 +2.0**
PSA00 Pilbara Seismi 58.10 257 P **P** **02 07 56.0 -0.8**
PSA00 IAmb IAmb 02 07 57.1
comp=Z,25nm,0.9s
NWAO Narrogin (SRO) 58.80 243 P **P** **02 08 03.2 +1.8**
comp=Z,9.4nm,0.8s,baz=90,slow=5.1,SNR=2.4
NWAO Narrogin (SRO) 58.80 243 P **P** **02 08 02.2 +0.9**
EDFI Ende, Flores 59.64 272 P **P** **02 08 06.6 -0.9**
comp=Z,7.1nm,1.1s
MORW Morawa 60.26 248 P **P** **02 08 11.4 0.0**
JCJ Chichijima 61.22 319 P **P** **02 08 17.6 -0.1**
GIRL Giralia 62.98 254 P **P** **02 08 30.4 +0.9**
TOLI2 Tolitoli 63.99 282 P **P** **02 08 37.9 +1.7**
CASY Casey 64.25 205 P **P** **02 08 37.8 +0.9**
CASY IAmb IAmb 02 08 38.7
comp=Z,15nm,1.1s
JHJ2 Mitsune 66.98 322 P **P** **02 08 54.3 -0.4**
SPMM Sapulut 69.37 283 P **P** **02 09 11.0 +1.1**
QSPA South Pole Qui 69.69 180 P **P** **02 09 12.8 +1.8**
comp=Z,7.9nm,1.0s,baz=8.6,slow=1.1,SNR=15
QSPA South Pole Qui 69.69 180 P **P** **02 09 13.0 +2.0**
JMM Marumori 69.93 326 P **P** **02 09 12.7 0.0**
JGF Kuroka 70.17 322 P **P** **02 09 14.4 +0.1**
JGF IAmb IAmb 02 09 20.0
comp=Z,14nm,1.1s
MJAR Matsushiro Arr 70.36 323 P **P** **02 09 14.3 -1.0**
comp=Z,22nm,0.6s,baz=157,slow=6.0,SNR=43
MJAR Matsushiro Arr 70.36 323 P **P** **02 09 14.6 -0.7**
MAJO Matsushiro 70.36 323 P **P** **02 09 15.3 0.0**
MAT Matsushiro 70.36 323 P **P** **02 09 14.7 -0.6**
JMN Monobe 70.97 319 P **P** **02 09 19.4 +0.4**
JMN IAmb IAmb 02 09 20.7
comp=Z,27nm,0.9s
JWT Wachi 71.10 321 P **P** **02 09 20.4 +0.7**
JSD Sado 71.41 325 P **P** **02 09 21.4 -0.2**
JSD IAmb IAmb 02 09 23.4
comp=Z,21nm,0.8s
JSU Suzuyama 71.73 315 P **P** **02 09 24.2 +0.6**
KIWB Kanaga Island 71.92 0 P **P** **02 09 24.6 +0.4**
ADK Adak 71.95 1 P **P** **02 09 24.3 -0.1**
JTM Tenmabayashi 71.99 328 P **P** **02 09 25.1 +0.3**
JTM IAmb IAmb 02 09 25.9
comp=Z,23nm,0.8s
JHS Saijyo 72.28 319 P **P** **02 09 27.4 +0.6**
ATKA Atka Island 72.33 2 P **P** **02 09 26.4 -0.2**
JNU Nakatsue 72.48 316 P **P** **02 09 27.9 0.0**
JNU IAmb IAmb 02 09 28.8
comp=Z,29nm,1.0s
JEW Eniwo 73.36 330 P **P** **02 09 33.6 +0.8**
NACB Ninganchiao 73.96 304 P **P** **02 09 35.7 -1.0**
SSLB Suanglung 74.26 303 P **P** **02 09 37.2 -1.2**
TPUB Ta-pu 74.26 303 P **P** **02 09 37.0 -1.5**
UNV Unalaska Valle 74.53 7 P **P** **02 09 37.7 -1.5**
UNV Unalaska Valle 74.53 7 P **P** **02 09 39.0 -0.2**
baz=191
AKUT Akutan 74.90 7 P **P** **02 09 40.6 -0.7**
YSS Yuzh-Sakhalins 75.98 333 P **P** **02 09 48.2 +0.6**
PEA0B Petropavlovsk- 76.26 345 P **P** **02 09 48.4 -0.7**
PETK Petropavlovsk- 76.26 345 P **P** **02 09 48.1 -1.0**
comp=Z,35nm,0.9s,baz=100,slow=6.2,SNR=44
PETK Petropavlovsk- 76.26 345 P **P** **02 09 48.7 -0.4**
KSRS Korea Array 77.08 318 P **P** **02 09 54.8 +0.9**
comp=Z,3.8nm,0.6s,baz=132,slow=6.1,SNR=16
KSAR Wonju Array Be 77.09 318 P **P** **02 09 53.9 -0.2**
PKM Mcpherson Peak 77.61 45 P **P** **02 09 58.7 +1.5**
baz=234
SAO San Andreas Ge 77.66 43 P **P** **02 09 58.3 +1.1**
SAO IAmb IAmb 02 09 59.5
comp=Z,15nm,0.8s
CIS Catalina Islan 77.71 47 P **P** **02 09 59.0 +1.4**
baz=236
SMMC Simmler 77.74 45 P **P** **02 09 59.2 +1.4**
baz=234
PAGB Antelope Grade 77.82 44 P **P** **02 09 58.2 +0.1**
PAGB IAmb IAmb 02 10 00.2
comp=Z,7.8nm,0.7s
CHGN Chignik 78.08 11 P **P** **02 09 59.4 +0.4**
baz=198
PASC Pasadena Art C 78.30 47 P **P** **02 10 01.7 +0.9**
PASC IAmb IAmb 02 10 02.7
comp=Z,18nm,0.8s
KMRM Mail Ridge 78.40 39 P **P** **02 10 00.2 -1.1**
ARVC Arvin 78.41 46 P **P** **02 10 02.3 +1.0**
baz=235
MWC Mount Wilson 78.42 47 P **P** **02 10 01.9 +0.3**
MWC IAmb IAmb 02 10 03.6
comp=Z,20nm,0.8s
VES Vestal, Richgr 78.65 45 P **P** **02 10 03.3 +0.7**
baz=235
MURC Murrieta 78.66 48 P **P** **02 10 03.4 +0.6**
baz=236,SNR=5.1
MONP2 Monument Peak 78.81 49 P **P** **02 10 05.2 +1.4**
baz=237,SNR=11
EDW2 Edwards Air Fo 78.83 46 P **P** **02 10 04.6 +0.9**
baz=236,SNR=23
IKP In-Ko-Pah, Jac 78.91 49 P **P** **02 10 05.3 +1.2**
baz=237,SNR=5.8
O02D Mt. Diablo Mer 78.92 40 P **P** **02 10 05.3 +1.2**
baz=231
ISA Isabella, Lake 78.95 45 P **P** **02 10 05.2 +0.8**
ISA IAmb IAmb 02 10 06.7
comp=Z,16nm,0.9s
ISA Isabella, Lake 78.95 45 P **P** **02 10 05.1 +0.8**
baz=235,SNR=16
LPIG La Paz 78.99 59 P **P** **02 10 08.7 +4.0**
comp=Z,16nm,0.3s,baz=198,slow=9.6,SNR=1.9
CMB Columbia Colle 79.09 43 P **P** **02 10 05.7 +0.6**
CMB IAmb IAmb 02 10 06.9
comp=Z,12nm,0.8s
USA0B Ussuriysk Arra 79.10 326 P **P** **02 10 05.6 +0.8**
USA0B IAmb IAmb 02 10 06.8
comp=Z,16nm,0.9s
USRK Ussuriysk Ar. 79.10 326 P **P** **02 10 05.7 +0.9**
comp=Z,12nm,0.8s,baz=142,slow=3.9,SNR=24
USRK Ussuriysk Ar. 79.10 326 P **P** **02 10 05.5 +0.7**
SII Sitkinak Islan 79.13 13 P **P** **02 10 05.5 +0.8**
PFO Pinyon Flats O 79.18 48 P **P** **02 10 07.2 +1.5**
comp=Z,4.4nm,0.8s,baz=224,slow=5.0,SNR=7.8
PFO Pinyon Flats O 79.18 48 P **P** **02 10 06.0 +0.3**
PFO Pinyon Flats O 79.18 48 P **P** **02 10 06.4 +0.7**
baz=237,SNR=5.2
TPFO Pinon Flats 79.18 48 P **P** **02 10 06.9 +1.2**
baz=237
SWSC Sam W. Stewart 79.28 49 P **P** **02 10 07.0 +0.9**
baz=237
ORV Oroville 79.31 41 P **P** **02 10 06.4 +0.3**
ORV IAmb IAmb 02 10 07.9
comp=Z,8.5nm,0.9s
LRMC Laurel Mtn Rad 79.38 46 P **P** **02 10 07.8 +1.0**
baz=236
N02D Trinity Center 79.47 39 P **P** **02 10 08.0 +1.0**
baz=231
O03E Paynes Creek 79.58 40 P **P** **02 10 08.2 +0.5**
baz=232
M02C Callahan 79.64 39 P **P** **02 10 09.1 +1.2**
baz=231
CWC Cottonwood Cre 79.66 45 P **P** **02 10 09.2 +0.9**
baz=235

MDPB Devils Postpil 79.69 43 P **P** **02 10 08.8 +0.3**
MDPB IAmb IAmb 02 10 10.6
comp=Z,11nm,0.8s
BELC Belle Mtn. Jos 79.72 48 P **P** **02 10 09.2 +0.6**
baz=237,SNR=12
MPMC Manual Prospec 79.84 46 P **P** **02 10 09.6 +0.4**
baz=236,SNR=7.3
MLAC Mammoth, Mammo 79.85 44 P **P** **02 10 10.3 +1.0**
baz=234
GSC Goldstone, Bar 79.87 46 P **P** **02 10 09.8 +0.5**
GSC Goldstone, Bar 79.87 46 P **P** **02 10 10.3 +1.0**
baz=236
BC3 Big Chuckawall 79.91 48 P **P** **02 10 11.1 +1.5**
baz=237
HEC Hector,Ludlow 79.94 47 P **P** **02 10 09.6 0.0**
baz=237,SNR=5.1
YBH Yreka Blue Hor 79.94 38 P **P** **02 10 11.1 +1.6**
comp=Z,7.8nm,0.7s,baz=189,slow=2.3,SNR=20
YBH Yreka Blue Hor 79.94 38 **P** **02 10 10.7 +1.2**
YBH Yreka Blue Hor 79.94 38 P **P** **02 10 09.9 +0.4**
YBH IAmb IAmb 02 10 11.7
comp=Z,7.5nm,0.8s
OHAK Old Harbor 79.94 13 P **P** **02 10 09.3 +0.3**
OHAK Old Harbor 79.94 13 P **P** **02 10 09.8 +0.9**
baz=203
GLA Glamis 80.03 49 P **P** **02 10 11.9 +1.8**
GLA IAmb IAmb 02 10 13.0
comp=Z,13nm,0.8s
GLA Glamis 80.03 49 P **P** **02 10 11.4 +1.2**
baz=238
NJ2 Nanjing 80.13 309 *eP* **P** **02 10 12.8 +2.2**
NJ2 pmax pmax
comp=Z,17nm,0.9s
J01E Myrtle Point 80.14 37 P **P** **02 10 11.4 +1.0**
baz=230
BEKR Beckworth 80.20 41 P **P** **02 10 11.5 +0.4**
BEKR IAmb IAmb 02 10 12.5
comp=Z,7.5nm,0.7s
PNTR Pine Nut 80.21 42 P **P** **02 10 12.0 +0.8**
VCNR Virginia City 80.30 42 P **P** **02 10 12.6 +0.9**
VCNR IAmb IAmb 02 10 13.7
comp=Z,8.2nm,0.8s
YERR Yerington 80.38 42 P **P** **02 10 12.8 +0.8**
YERR IAmb IAmb 02 10 13.9
comp=Z,16nm,0.7s
IRM Iron Mountain 80.40 48 P **P** **02 10 12.5 +0.4**
baz=238,SNR=7.9
LHV Little Huntoon 80.42 43 P **P** **02 10 13.3 +1.3**
LHV IAmb IAmb 02 10 14.5
comp=Z,10nm,0.9s
L04D Klamath Falls 80.47 38 P **P** **02 10 13.0 +0.6**
baz=231
M04C Macdoel 80.48 39 P **P** **02 10 13.0 +0.6**
baz=232
FURC Furnace Creek, 80.48 45 P **P** **02 10 13.2 +0.8**
baz=236
TUQ Turquoise Moun 80.55 47 P **P** **02 10 13.8 +0.8**
baz=237,SNR=9.9
SHOC Shoshone, Teco 80.56 46 P **P** **02 10 13.5 +0.6**
baz=236
KDAK Kodiak Island 80.60 13 P **P** **02 10 14.4 +1.9**
baz=204
RYN Ryan 80.62 43 P **P** **02 10 14.1 +0.8**
113A Mohawk Valley, 80.64 50 P **P** **02 10 14.7 +1.4**
113A IAmb IAmb 02 10 15.9
comp=Z,9.8nm,0.9s
NVAR Mina Array Bea 80.65 43 P **P** **02 10 14.8 +1.3**
comp=Z,5.4nm,0.7s,baz=222,slow=8.5,SNR=45
NVAR Mina Array Bea 80.65 43 P **P** **02 10 14.6 +1.1**
MDJ Mudanjiang 80.66 325 P **P** **02 10 13.8 +0.7**
MDJ pmax pmax
comp=Z,23nm,0.9s
MDJ pmax pmax
comp=Z,120nm,4.3s
PAHR Pah Rah Range 80.71 42 P **P** **02 10 14.4 +0.7**
PAHR IAmb IAmb 02 10 15.6
comp=Z,7.3nm,0.8s
HSIG 80.84 55 P **P** **02 10 15.2 +0.7**
214A Organ Pipe Nat 80.91 51 P **P** **02 10 15.9 +1.1**
214A IAmb IAmb 02 10 18.3
comp=Z,10.0nm,1.1s
214A Organ Pipe Nat 80.91 51 P **P** **02 10 15.9 +1.1**
baz=239
K04D Chiloquin, OR 81.05 38 P **P** **02 10 15.8 +0.4**
baz=232
KVN Kaiserville 81.14 43 IAmb IAmb 02 10 17.9
comp=Z,12nm,1.0s
TPH Tonopah 81.15 44 P **P** **02 10 16.7 +0.6**
TPNV Topopah Spring 81.16 45 P **P** **02 10 16.5 +0.4**
TPNV Topopah Spring 81.16 45 P **P** **02 10 17.0 +0.9**
baz=236
PDMCI Parker Dam,Lak 81.18 49 P **P** **02 10 16.9 +0.8**
baz=238,SNR=8.5
J04D Umpqua Nationa 81.22 38 P **P** **02 10 17.3 +0.9**
baz=231
I04A Tendick Farm, 81.40 37 P **P** **02 10 17.6 +0.6**
baz=231
K05A Summer Lake 81.61 38 P **P** **02 10 19.0 +0.6**
SHPR Sheep Range 81.65 46 P **P** **02 10 19.4 +0.7**
J05D Fort Rock, OR 81.75 38 P **P** **02 10 20.0 +1.0**
baz=232
Y14A Wickenburg 81.79 49 IAmb IAmb 02 10 21.8
comp=Z,11nm,0.8s
MAW Mawson 81.82 200 P **P** **02 10 19.7 +0.8**
comp=Z,1.7nm,0.7s,baz=62,slow=7.5,SNR=3.6
G03D McMinnville, O 81.83 35 P **P** **02 10 20.1 +0.9**
baz=230
JRMM Jerantut 81.97 277 P **P** **02 10 21.0 +0.3**
O18K Koktuh Hills 82.00 11 P **P** **02 10 19.1 -0.7**
baz=201,SNR=7.3
H04A Detroit Lake 82.08 36 P **P** **02 10 20.7 +0.1**
H04A IAmb IAmb 02 10 21.5
comp=Z,8.7nm,0.6s
P19K Oil Pt 82.19 12 P **P** **02 10 20.8 0.0**
baz=203
PINE Pine Mountain 82.23 38 IAmb IAmb 02 10 23.9
comp=Z,25nm,1.0s
R11A Troy Canyon, C 82.37 44 P **P** **02 10 22.8 +0.4**
baz=237,SNR=10
CN2 Changchun 82.46 322 *eP* **P** **02 10 23.0 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
BMN Battle Mountai 82.48 42 P **P** **02 10 23.6 +0.7**
BMN IAmb IAmb 02 10 24.8
comp=Z,14nm,0.9s
O19K Port Alsworth 82.49 11 P **P** **02 10 21.1 -1.1**
baz=202,SNR=12
F04D Rainier, OR 82.52 35 P **P** **02 10 23.9 +1.2**
baz=230
TUC Tucson 82.58 52 P **P** **02 10 24.6 +1.1**
TUC IAmb IAmb 02 10 26.6
comp=Z,18nm,0.9s
TUC Tucson 82.58 52 P **P** **02 10 25.1 +1.6**
baz=240
WVOR Wild Horse Val 82.77 40 IAmb IAmb 02 10 26.2
comp=Z,13nm,1.1s
BRSE Bradley Lake S 82.79 13 P **P** **02 10 23.1 -0.7**
baz=205
N19K Bonanza Creek 83.03 11 IAmb IAmb 02 10 25.8
comp=Z,15nm,0.8s
N19K Bonanza Creek 83.03 11 P **P** **02 10 25.1 0.0**
baz=202
E04D Cinebar 83.06 35 P **P** **02 10 26.2 +0.8**
baz=231
X16A Lo Mia Camp, P 83.15 50 IAmb IAmb 02 10 29.8
comp=Z,17nm,0.9s
LCMT Little Creek M 83.22 47 IAmb IAmb 02 10 28.9
comp=Z,10nm,0.8s
F05D White Salmon 83.23 36 P **P** **02 10 26.4 0.0**
baz=232
I07A Izee 83.24 38 P **P** **02 10 26.5 -0.1**
I07A IAmb IAmb 02 10 28.6
comp=Z,12nm,0.8s
SEW Seward 83.40 14 IAmb IAmb 02 10 28.6
comp=Z,12nm,0.8s
SEW Seward 83.40 14 P **P** **02 10 27.7 +0.9**
baz=206
J08A Circle Bar Ran 83.41 39 IAmb IAmb 02 10 29.3
comp=Z,17nm,1.2s
CCUT Cedar City 83.42 46 IAmb IAmb 02 10 30.3
comp=Z,10nm,0.8s
KNB Kanab 83.51 47 IAmb IAmb 02 10 30.7
comp=Z,9.4nm,0.8s
O22K Cooper Landing 83.68 13 P **P** **02 10 27.5 -0.7**
baz=206
WUAZ Wupatki 83.75 49 P **P** **02 10 30.5 +1.1**
WUAZ IAmb IAmb 02 10 31.9

comp=Z,12nm,1.1s
WUAZ Wupatki 83.75 49 P P 02 10 30.6 +1.1
baz=240
SPCR Spurr Chakacha 83.82 12 P P 02 10 28.4 -0.7
baz=204
GAMB Gambell 84.00 3 P P 02 10 30.1 +0.3
baz=186
M19K Big River Lodg 84.06 11 IAmb IAmb 02 10 32.6
comp=Z,11nm,0.7s
M19K Big River Lodg 84.06 11 P P 02 10 29.7 -0.4
baz=202,SNR=5.1
PKCU Pink Cliffs 84.08 47 P P 02 10 31.7 +0.5
PKCU IAmb IAmb 02 10 34.3
comp=Z,17nm,1.0s
L19K White Mountain 84.24 10 IAmb IAmb 02 10 33.3
comp=Z,12nm,0.9s
L19K White Mountain 84.24 10 P P 02 10 31.5 +0.4
baz=201
G08A Pilot Rock 84.27 37 P P 02 10 32.2 +0.5
G08A IAmb IAmb 02 10 33.5
comp=Z,9.9nm,1.0s
SUA Susitna One 84.35 13 P P 02 10 31.7 -0.1
baz=205
A04D Lummi Island 84.36 33 P P 02 10 33.3 +1.5
baz=230
KAIM Kayak Island 84.46 16 P P 02 10 33.3 +1.1
baz=211
MTPU Mount Pierson 84.48 46 P P 02 10 34.0 +0.7
MTPU IAmb IAmb 02 10 36.1
comp=Z,7.3nm,0.8s
HAWA Hanford 84.61 36 P P 02 10 33.5 +0.2
HAWA IAmb IAmb 02 10 35.1
comp=Z,10nm,1.1s
GLI Glacier Island 84.63 14 P P 02 10 31.8 -1.2
baz=208,SNR=20
EYAK Cordova Ski Ar 84.66 15 IAmb IAmb 02 10 34.4
comp=Z,7.2nm,0.7s
EYAK Cordova Ski Ar 84.66 15 P P 02 10 32.9 -0.2
baz=210
SKT Skwentna 84.67 12 P P 02 10 32.2 -1.0
baz=204
L20K Farewell, AK 84.69 11 P P 02 10 33.1 -0.2
baz=202
MVU Marysvale 84.69 46 P P 02 10 34.5 +0.3
MVU IAmb IAmb 02 10 36.2
comp=Z,12nm,0.8s
MSU Marysvale 84.72 46 P P 02 10 35.3 +1.0
TTA Tatalina 84.76 10 P P 02 10 34.0 +0.4
baz=200
KNK Knik Glacier 84.79 14 P P 02 10 32.7 -1.1
baz=207,SNR=9.1
PMR Palmer 84.81 13 IAmb IAmb 02 10 34.8
comp=Z,20nm,1.2s
PMR Palmer 84.81 13 P P 02 10 32.8 -1.0
baz=207,SNR=8.6
121A Cookes Peak, D 84.91 53 IAmb IAmb 02 10 38.2
comp=Z,11nm,0.9s
121A Cookes Peak, D 84.91 53 P P 02 10 36.5 +1.2
baz=242
BERG Berg Lake 85.04 16 IAmb IAmb 02 10 40.6
comp=Z,9.2nm,0.8s
SML Sawmill 85.17 13 P P 02 10 35.3 -0.4
baz=207
DUG Dugway, Tooele 85.18 44 P P 02 10 36.3 -0.1
baz=238
BMRM Bremner River 85.31 15 P P 02 10 35.1 -1.3
BMRM Bremner River 85.31 15 P P 02 10 35.3 -1.1
baz=211,SNR=5.4
MESA MESA 85.33 17 P P 02 10 35.8 -0.9
baz=213
WRAK Wrangell Islan 85.44 23 P P 02 10 37.2 +0.2
baz=222
KLU Klutina 85.44 15 IAmb IAmb 02 10 38.4
comp=Z,8.1nm,1.0s
KLU Klutina 85.44 15 P P 02 10 36.4 -0.7
baz=210
K20K Telida 85.47 10 IAmb IAmb 02 10 38.5
comp=Z,12nm,0.8s
K20K Telida 85.47 10 P P 02 10 36.9 -0.2
baz=202,SNR=6.3
CRQM Cirque 85.50 16 IAmb IAmb 02 10 39.1
comp=Z,14nm,1.0s
CRQE Cirque 85.51 16 P P 02 10 37.0 -0.6
baz=212
YAH Yahtse 85.54 17 P P 02 10 37.1 -0.7
ISLE Juniper Island 85.58 17 IAmb IAmb 02 10 39.5
comp=Z,12nm,0.9s
F10A Beach Ranch, E 85.65 37 IAmb IAmb 02 10 39.8
comp=Z,13nm,0.8s
TABL Table Mountain 85.77 17 IAmb IAmb 02 10 40.7
comp=Z,13nm,0.8s
TMUT Trail Mountain 85.77 45 P P 02 10 39.8 +0.3
TMUT IAmb IAmb 02 10 42.8
comp=Z,7.9nm,0.7s
VRDI Verde Repeater 85.82 16 IAmb IAmb 02 10 40.6
comp=Z,12nm,0.9s
GRNC Granite Creek 85.85 17 IAmb IAmb 02 10 41.0
comp=Z,10nm,1.0s
N25K Chitina, Valde 85.86 15 IAmb IAmb 02 10 40.7
comp=Z,14nm,0.8s
N25K Chitina, Valde 85.86 15 P P 02 10 38.4 -0.8
baz=211,SNR=16
CAST Castle Rocks 85.88 11 P P 02 10 38.3 -0.8
baz=204
GLB Gilahina Butte 85.91 16 IAmb IAmb 02 10 41.9
comp=Z,12nm,0.6s
M24K Tolsona, Glenn 85.92 14 P P 02 10 40.1 +0.7
baz=209
HLID Hailey 85.96 41 P P 02 10 40.5 +0.2
HLID Hailey 85.96 41 P P 02 10 41.0 +0.8
baz=237,SNR=6.7
TRTT Trang 85.97 280 P P 02 10 43.4 +2.7
comp=Z,2µmcomp=Z,20nm,1.5s
WAT6 Susitna Watana 85.99 13 P P 02 10 38.9 -0.9
baz=208,SNR=14
MCARA McCarthy VSAT 86.06 16 IAmb IAmb 02 10 41.8
comp=Z,15nm,1.2s
MCARA McCarthy VSAT 86.06 16 P P 02 10 40.5 +0.5
baz=212
BJI Beijing 86.10 315 P P 02 10 41.1 +0.4
BJI pmax pmax
comp=Z,13nm,0.6s
LOGN Logan Glacier 86.13 17 IAmb IAmb 02 10 42.8
comp=Z,8.6nm,0.8s
BARN Barnard Glacie 86.15 17 P P 02 10 40.6 -0.1
BARN IAmb IAmb 02 10 42.5
comp=Z,12nm,0.9s
CTG Chitna Glacier 86.16 17 P P 02 10 41.3 +0.6
baz=214
CTGM Chitina Glacie 86.16 17 IAmb IAmb 02 10 42.9
comp=Z,8.6nm,0.8s
KTH Kantishna Hill 86.22 12 IAmb IAmb 02 10 42.2
comp=Z,12nm,0.9s
J20K Nowinta River 86.22 10 IAmb IAmb 02 10 42.2
comp=Z,8.7nm,0.7s
J20K Nowinta River 86.22 10 P P 02 10 39.5 -1.2
baz=202
TRF Thorofare Moun 86.25 12 P P 02 10 38.9 -2.2
baz=206,SNR=14
LENM Lemitar 86.27 52 P P 02 10 42.2 +0.3
HARP HAARP 86.41 14 P P 02 10 41.2 -0.5
baz=210
DHY Denali Highway 86.50 13 IAmb IAmb 02 10 42.9
comp=Z,5.3nm,0.7s
DHY Denali Highway 86.50 13 P P 02 10 42.1 -0.2
baz=208
TCUT Toone Canyon 86.57 44 IAmb IAmb 02 10 44.9
comp=Z,8.7nm,0.7s
MVCO Mesa Verde 86.60 48 P P 02 10 41.9 -1.6
baz=241
PV05 Paradox Valley 86.60 47 P P 02 10 44.1 +0.7
PV05 IAmb IAmb 02 10 45.5
comp=Z,6.5nm,0.8s
TXAR Lajitas Array 86.64 57 P P 02 10 45.7 +2.0
comp=Z,4.8nm,0.8s,baz=216,slow=6.2,SNR=19
TXAR PKKPbc **PKKPbc** 02 28 38.2 +0.5
comp=Z,0.2nm,0.5s,baz=151,slow=2.1,SNR=5.8
MCK McKinley 86.77 12 P P 02 10 41.6 -1.8
baz=207,SNR=12
PV17 East Wray Mesa 86.80 47 P P 02 10 44.9 +0.5
PV14 Lion Creek, Pa 86.80 47 P P 02 10 44.9 +0.5
PV14 IAmb IAmb 02 10 46.4
comp=Z,12nm,0.9s
PV13 Radium Mtn., P 86.83 47 P P 02 10 44.5 -0.1
PAX Paxson 86.83 14 P P 02 10 42.6 -1.2
baz=210
PV23 Carpenter Ridg 86.84 47 P P 02 10 45.0 +0.3
PV23 IAmb IAmb 02 10 46.7
comp=Z,12nm,0.9s
PV03 Paradox Valley 86.86 47 P P 02 10 45.1 +0.4
PV04 Paradox Valley 86.89 47 P P 02 10 45.3 +0.5
PV21 Cone Mtn., Par 86.92 47 P P 02 10 45.2 +0.2
PV21 IAmb IAmb 02 10 46.7
comp=Z,6.3nm,0.8s
M26K Nabesna, AK 86.94 15 P P 02 10 44.2 -0.1
baz=212,SNR=7.0
YUK6 Quist Mounta 86.97 18 P P 02 10 44.3 -0.3
baz=216
PV01 Paradox Valley 87.00 47 P P 02 10 45.4 +0.1
PV22 Blue Mesa, Par 87.04 47 P P 02 10 45.8 +0.2
YUK3 Moose Creek 87.07 17 P P 02 10 44.3 -0.7
baz=214
PV07 Paradox Valley 87.09 47 P P 02 10 46.1 +0.4
HYT Haines Junctio 87.13 18 P P 02 10 45.1 -0.2
baz=217
M27K Edge Creek, AK 87.18 16 IAmb IAmb 02 10 47.7
comp=Z,9.8nm,1.1s
M27K Edge Creek, AK 87.18 16 P P 02 10 45.5 0.0
baz=213,SNR=5.4
YUK4 Talbot Arm 87.22 18 P P 02 10 46.1 +0.3
baz=216
L26K Log Cabin Wild 87.38 15 P P 02 10 46.3 0.0
baz=212
BVCY Beaver Creek 87.49 16 P P 02 10 47.1 +0.3
baz=214,SNR=5.1
NEA2 Nenana 87.51 12 IAmb IAmb 02 10 48.1
comp=Z,9.0nm,1.2s
NEA2 Nenana 87.51 12 P P 02 10 45.8 -1.1
baz=207
I21K Tanana 87.52 11 IAmb IAmb 02 10 47.9
comp=Z,13nm,0.9s
I21K Tanana 87.52 11 P P 02 10 46.3 -0.5
baz=204
MCMT McKenzie Canyo 87.59 40 P P 02 10 48.5 +0.4
MLY Manley 87.60 11 P P 02 10 45.9 -1.4
baz=206
WRH Wood River Hil 87.60 12 IAmb IAmb 02 10 48.0
comp=Z,16nm,0.9s
RIDG Independent Ri 87.64 14 P P 02 10 47.1 -0.5
baz=210
HDA Harding Lake 87.77 13 P P 02 10 47.4 -0.7
baz=209
L27K Beaver Creek, 87.78 15 P P 02 10 48.4 +0.2
baz=213
WHY Whitehorse 87.80 20 P P 02 10 48.1 -0.4
baz=220
I23K Minto, Yukon-K 87.96 12 IAmb IAmb 02 10 49.9
comp=Z,6.1nm,0.7s
I23K Minto, Yukon-K 87.96 12 P P 02 10 48.0 -0.9
baz=206
TCOL CIGO, UAF Yank 88.00 12 P P 02 10 48.1 -1.0
baz=208
COLA College 88.00 12 P P 02 10 47.6 -1.5
COLA College 88.00 12 P P 02 10 48.4 -0.7
baz=208
MDM Murphy Dome 88.00 12 IAmb IAmb 02 10 49.7
comp=Z,15nm,0.9s
MSO Missoula 88.02 38 P P 02 10 48.7 -1.1
baz=237
S22A 4UR Ranch, Cre 88.03 48 P P 02 10 50.0 -0.3
baz=242
DLMT Dillon 88.03 40 P P 02 10 50.6 +0.7
DLMT IAmb IAmb 02 10 51.8
comp=Z,8.3nm,0.9s
SCRK Sand Creek 88.04 14 P P 02 10 49.4 -0.1
baz=211
REDW Red Top Meadow 88.06 42 IAmb IAmb 02 10 52.0
comp=Z,7.6nm,1.1s
TPAW Teton Pass 88.07 42 P P 02 10 50.0 -0.4
IL31 88.11 13 IAmb IAmb 02 10 49.9
comp=Z,9.7nm,1.1s
ILAR Eielson Array 88.11 13 P P 02 10 48.2 -1.4
comp=Z,4.7nm,0.7s,baz=212,slow=5.3,SNR=49
ILAR PP PP 02 14 18.3 -4.3
comp=Z,0.7nm,0.7s,baz=215,slow=6.7,SNR=3.0
SNAA Sanae 88.12 178 P P 02 10 51.0 +1.1
SNAA Sanae 88.12 178 P P 02 10 50.7 +0.8
comp=Z,0.5nm,0.6s,baz=216,slow=10,SNR=5.7
O20A White River Ci 88.18 46 P P 02 10 51.1 +0.2
baz=241
SNOW Snow King Moun 88.18 42 IAmb IAmb 02 10 52.7
comp=Z,6.7nm,0.8s
VNA3 Neumayer Olymp 88.23 176 P P 02 10 51.5 +1.1
VNA3 Neumayer Olymp 88.23 176 pP pP 02 12 17.8 +6.4
IMW Indian Meadow 88.28 42 IAmb IAmb 02 10 53.3
comp=Z,7.0nm,0.8s
J25K Salcha River, 88.29 13 P P 02 10 50.1 -0.5
baz=210
XAN Xi'an 88.39 307 P P 02 10 52.0 +0.2
XAN pmax pmax
comp=Z,31nm,0.9s
FLWY Flagg Ranch 88.53 42 IAmb IAmb 02 10 54.6
comp=Z,10nm,0.9s
H23K Yukon River 88.53 11 P P 02 10 51.7 +0.1
baz=206
K27K Chicken 88.54 15 P P 02 10 52.3 +0.6
baz=213
BW06 Boulder Array 88.59 43 P P 02 10 52.4 -0.4
BW06 Boulder Array 88.59 43 P P 02 10 52.5 -0.3
baz=240
PDAR Pinedale Array 88.59 43 P P 02 10 53.1 +0.4
comp=Z,2.9nm,0.6s,baz=213,slow=3.1,SNR=19
VNA2 Neumayer--Watz 88.68 177 P P 02 10 54.2 +1.8
baz=175,slow=3.5
VNA2 Neumayer--Watz 88.68 177 pP pP 02 12 19.3 +5.8
BOZ Bozeman (W) 88.73 40 IAmb IAmb 02 10 55.1
comp=Z,8.4nm,0.9s
BOZ Bozeman (W) 88.73 40 P P 02 10 54.1 +0.8
baz=239,SNR=12
H24K Noodor Dome 88.85 12 P P 02 10 52.1 -1.1
baz=208
VNA1 Neumayer--Stat 88.90 176 P P 02 10 55.4 +2.0
VNA1 Neumayer--Stat 88.90 176 pP pP 02 12 20.5 +6.0
UTHA Uthaitani 88.97 287 P P 02 10 56.6 +1.8
comp=Z,21nm,0.8s
DAWY Dawson 89.23 16 IAmb IAmb 02 10 56.7
comp=Z,7.2nm,0.8s
DAWY Dawson 89.23 16 P P 02 10 54.5 -0.5
baz=215,SNR=8.4
YNE Yellowstone No 89.42 41 P P 02 10 57.8 +1.2
YNE IAmb IAmb 02 10 58.8
comp=Z,11nm,1.0s
FARO Faro, Yukon 89.48 19 P P 02 10 55.7 -0.5
baz=221
HHC Hu-ho-hao-te 89.57 314 eP P 02 10 58.3 +1.1
HHC pmax pmax
comp=Z,21nm,0.8s
HHC pmax pmax
comp=Z,74nm,6.6s
KMI Kunming 89.67 297 ⇓P P 02 10 59.4 +1.2
KMI pmax pmax
comp=Z,19nm,0.5s
COLD Coldfoot 89.69 10 IAmb IAmb 02 10 58.7
comp=Z,10nm,0.7s
COLD Coldfoot 89.69 10 P P 02 10 57.3 +0.3
baz=206
MAYO Mayo, Yukon 89.79 17 P P 02 10 58.4 +0.8
baz=219
RLMT Red Lodge 89.93 41 IAmb IAmb 02 11 00.9
comp=Z,7.0nm,0.9s
RLMT Red Lodge 89.93 41 P P 02 10 59.1 +0.1
baz=241
FYU Fort Yukon 90.01 12 IAmb IAmb 02 10 59.9
comp=Z,4.3nm,0.6s
MMPY Sheldon Lake, 90.42 20 P P 02 11 00.8 +0.2
baz=223
CMAR Chiang Mai Arr 90.47 289 P P 02 11 03.4 +1.6
comp=Z,7.7nm,0.9s,baz=120,slow=2.8,SNR=27
CMMT Chiang Mai 90.59 290 P P 02 11 03.3 +1.0
comp=Z,23nm,1.0s
CHTO Chiang Mai 90.60 290 P P 02 11 03.4 +1.1
CHTO Chiang Mai 90.60 290 P P 02 11 01.9 -0.4
CHTO IAmb IAmb 02 11 04.1
comp=Z,13nm,0.7s
TGTN Hyland Airport 90.61 21 P P 02 11 01.6 +0.2
baz=225
EGMT Eagleton 91.07 38 P P 02 11 03.0 -1.0
baz=240
ABTX Abilene, Hawle 91.14 56 P P 02 11 04.2 -0.4
baz=247
EPYK Eagle Plains 91.76 15 IAmb IAmb 02 11 08.1
comp=Z,8.7nm,0.8s
EPYK Eagle Plains 91.76 15 P P 02 11 06.5 -0.1
baz=218
RSSD Black Hills 92.78 44 P P 02 11 12.1 0.0
RSSD IAmb IAmb 02 11 13.2
comp=Z,8.5nm,0.8s
LZH Lanzhou 93.03 307 eP P 02 11 14.0 +0.6
LZH pP pP 02 12 42.8 +7.5
LZH sP sP 02 13 21.4 +10
LZH pmax pmax
comp=Z,29nm,1.0s
INK Inuvik 94.05 15 P P 02 11 16.0 -1.0
comp=Z,4.3nm,1.0s,baz=211,slow=8.8,SNR=3.9
INK Inuvik 94.05 15 IAmb IAmb 02 11 17.9
comp=Z,5.0nm,1.1s
DGMT Dagmar 94.56 40 P P 02 11 20.4 +0.4
baz=244
SONM Songino Array 95.94 319 P P 02 11 25.3 -1.0
comp=Z,0.4nm,0.5s,baz=131,slow=5.9,SNR=2.4
MIAR Mount Ida 96.56 56 P P 02 11 29.0 -0.2
baz=250
EYMN Ely 102.29 43 P Pdif 02 11 54.8 +0.2
baz=253
L44A Lake County Fo 103.13 50 P Pdif 02 11 57.5 -0.9
baz=254
MKAR Makanchi Array 111.42 313 PKiKP **PKiKP** 02 16 30.0 -1.4
comp=Z,1.3nm,0.7s,baz=60,slow=2.3,SNR=9.6
KK31 Karatay Array 119.50 309 **PKPdf** 02 16 45.6 -1.5
KKAR Karatay Array 119.50 309 **PKPdf** 02 16 45.6 -1.5
ARU Arti 125.34 326 PKPdf **PKPdf** 02 16 57.1 -0.7
ABKAR Akbulak array 126.29 317 PKPdf **PKPdf** 02 16 59.0 -0.8
ARCES ARCESS Array B 128.88 350 PKhKP PKPpre 02 16 52.2
comp=Z,1.2nm,1.0s,baz=64,slow=2.8,SNR=3.8
ARCES PKP **PKPdf** 02 17 03.2 -1.0
comp=Z,1.0nm,0.5s,baz=8.3,slow=0.8,SNR=17
FINES FINESS Array B 135.77 344 PKhKP PKPpre 02 17 11.2
comp=Z,0.9nm,0.5s,baz=132,slow=2.8,SNR=3.8
FINES PKP **PKiKP** 02 17 19.2 +0.2
comp=Z,1.1nm,0.4s,baz=115,slow=3.4,SNR=13
NB2 NORSAR Subarra 138.91 354 PKP PKPpre 02 17 12.8
comp=Z,2.0nm,0.8s,baz=20,slow=3.8
NOA NORSAR Array B 138.91 354 PKhKP PKPpre 02 17 15.2
comp=Z,0.9nm,0.7s,baz=18,slow=2.6,SNR=5.4
MNK Minsk 140.84 337 i PKP **PKPdf** 02 17 25.6 -1.2
comp=E,2.0nm,1.0s
MNK i PKP **PKPdf** 02 17 25.6 -1.2
comp=N,4.0nm,1.0s
MNK i PKP **PKPdf** 02 17 25.6 -1.2
comp=Z,4.0nm,1.0s,baz=40
MNK i pPKP **pPKPdf** 02 18 56.7 +4.1
MNK i sPKP 02 19 28.4
MNK i SKP 02 20 18.4
MNK i PP **PP** 02 20 27.1 -3.9
MNK i PKS **PKSdf** 02 21 01.5 -1.0
MNK i PPP PPP 02 23 39.3
MNK i SKS **SKSdf** 02 23 53.9 -9.0
MNK i sSKS 02 26 39.9
MNK i SKKS 02 31 02.2
MNK i SPP SPP 02 37 11.8
MNK i PPS PPS 02 37 36.7
MNK i SS **SS** 02 38 21.9 -6.3
MNK i SSS SSS 02 42 59.6
MNK i LRM MLR 03 20 02.7
comp=N,110nm,20.1s
MNK i LRM MLR 03 22 52.7
comp=E,27nm,20.1s
MNK i LRM MLR 03 23 24.8
comp=Z,290nm,20.1s
SNART Snartemo 141.93 356 i P **PKPdf** 02 17 25.4 -3.3
BORU Boraas 142.03 351 i P PKPpre 02 17 23.0
ONAU Onsala 142.38 352 i P **PKPdf** 02 17 25.1 -4.4
KAC Achnashellach 142.49 7 eP **PKPdf** 02 17 25.2 -4.5
BLEU Blekinge 142.76 348 i P **PKPdf** 02 17 25.7 -4.5
DEL Delary 142.97 349 i P **PKPdf** 02 17 26.9 -3.7
AKASG Malin Array Be 143.11 331 PKhKP PKPpre 02 17 26.9
comp=Z,11nm,0.5s,baz=41,slow=4.6,SNR=41
BJUU Bjuv 143.49 350 i P PKPab 02 17 28.3 -0.6
INVG Invergeldie, C 143.68 6 eP PKPab 02 17 29.1 -0.6
LODK Lodwar 143.78 247 PKPbc 02 17 32.2 +0.2
ESY Stoneypath 144.31 5 eP **PKPab** 02 17 31.2 -0.9
EBL Broad Law 144.42 5 eP **PKPab** 02 17 31.7 -0.8
ESK Eskdalemuir 144.86 6 eP PKPbc 02 17 33.1 -0.8
GKP Gorka Klasztor 145.25 344 ePKP **PKPdf** 02 17 34.6 0.0
SORM Soroca 145.32 329 ⇑P **PKPdf** 02 17 34.5 -0.4
MBAR Mbarara 145.33 236 PKPbc **PKPab** 02 17 37.6 +0.1
comp=Z,6.7nm,0.8s,baz=115,slow=4.7,SNR=14
MBAR Mbarara 145.33 236 **PKPab** 02 17 37.7 +0.2
EDMD Edmundbyers 145.44 4 eP **PKPdf** 02 17 34.7 -0.2
BZK Bozkurt 145.78 316 ⇑P **PKPbc** 02 17 37.5 +0.4
MILM Milestii Mici 145.92 327 ⇑P **PKPdf** 02 17 36.4 +0.4
HPK Haverah Park 146.34 4 eP **PKPdf** 02 17 37.4 +0.9
VASR Vaslui 146.62 328 ⇑P **PKPbc** 02 17 39.5 +0.1
KWP Kalwaria Pacla 146.65 336 ePKP **PKPbc** 02 17 38.9 -0.5
PRAR RASCA 146.88 330 ⇓P **PKPbc** 02 17 39.1 -1.0
VLDR Vladesti 147.01 326 ⇓P **PKPbc** 02 17 40.4 0.0
TUCR 147.06 325 ⇑P **PKPbc** 02 17 40.6 0.0
BRTR Keskin Array B 147.07 313 PKPbc **PKPbc** 02 17 40.5 -0.5
comp=Z,10.0nm,0.8s,baz=127,slow=3.4,SNR=27
BRTR Keskin Array B 147.07 313 **PKPbc** 02 17 40.3 -0.7
BURAR Bucovina Array 147.16 331 ⇓P **PKPbc** 02 17 40.6 -0.4
SCTR Scanteiesti 147.17 326 ⇑P **PKPbc** 02 17 40.9 0.0
OJC Ojcow 147.20 339 ePKP **PKPbc** 02 17 40.4 -0.5
GHRR 147.22 327 ⇑P **PKPbc** 02 17 41.1 +0.1
BIZ Bicaz 147.24 329 ⇓P **PKPbc** 02 17 41.4 +0.3
FOEL Foel Wylfa 147.26 6 eP **PKPbc** 02 17 40.2 -0.8
TESR Tescani 147.28 328 ⇓P **PKPbc** 02 17 40.7 -0.5
STHS Stebnicka Huta 147.37 337 ePKP **PKPab** 02 17 44.6 +0.3
KOLS Kolonicke sedl 147.38 335 ePKP **PKPbc** 02 17 41.5 +0.1
FLTG Flechtingen 147.38 350 ePKPbc **PKPbc** 02 17 40.4 -0.8
baz=16,slow=2.6
CFR Carcaliu 147.43 325 ⇑P **PKPdf** 02 17 39.1 +0.6
TPGR Topolog 147.48 325 ⇓P **PKPbc** 02 17 41.6 -0.2
ANTO Ankara 147.58 314 **PKPbc** 02 17 41.2 -1.1
ODBI Odobesti 147.60 327 ⇑P **PKPbc** 02 17 41.8 -0.2
HLM1 Long Mynd 147.66 6 eP **PKPbc** 02 17 41.2 -0.8
VRI Vrincioaia 147.69 327 ⇓P **PKPbc** 02 17 41.6 -0.7
KSP Ksiaz 147.70 344 ePKP **PKPbc** 02 17 42.2 0.0
NIE Niedzica 147.71 338 ePKP **PKPbc** 02 17 43.1 +0.9
CRVS Cervenica-Dubn 147.71 336 ePKP **PKPbc** 02 17 42.4 +0.1
PLOR Plostina 147.74 328 ⇑P **PKPdf** 02 17 39.1 0.0
PLOR Plostina 147.74 328 ⇓P **PKPbc** 02 17 41.9 -0.6
HARR Harsova 147.85 325 ⇓P **PKPbc** 02 17 42.4 -0.4
BMR Baia Mare 147.88 333 ⇑P **PKPbc** 02 17 42.7 0.0
TRPA Tarpa 147.92 334 ⇓P **PKPbc** 02 17 42.4 -0.4
TRPA Tarpa 147.92 334 eP **PKPbc** 02 17 42.6 -0.2
TRPA Tarpa 147.92 334⇑ePKP **PKPbc** 02 17 42.3 -0.5
COVR Voineasa-Covas 147.97 328 ⇓P **PKPbc** 02 17 42.6 -0.5
OSTC Ostas 147.98 343 ePKPDF **PKPbc** 02 17 40.0 +0.6
OSTC ⇑ePKP **PKPbc** 02 17 43.4 +0.5
OSTC ePKPAB **PKPab** 02 17 47.8 +1.1
CHVC Chvalec 147.99 344⇑ePKP **PKPbc** 02 17 43.2 +0.2
OZUR 148.00 329 ⇓P **PKPbc** 02 17 43.1 0.0
CLL Collm 148.04 347 ⇓iPKPbc **PKPbc** 02 17 42.6 -0.4
comp=Z,22nm,1.1s
CLL i PKPab **PKPab** 02 17 46.6 -0.2
comp=Z,15nm,0.9s
CLL ePKPbc **pPKPab** 02 19 09.0 -0.5
CLL Collm 148.04 347 ePKPbc **PKPbc** 02 17 42.6 -0.4
baz=16,slow=2.6
OKC Ostrava-Krasne 148.06 341⇑ePKP **PKPbc** 02 17 43.2 +0.1
OKC ePKPAB **PKPab** 02 17 47.7 +0.7
DPC Dobruska-Polom 148.14 343⇑ePKP **PKPbc** 02 17 43.5 +0.1
DPC ePKPAB **PKPab** 02 17 47.6 +0.2
NEHR Nehoiu 148.22 327 ⇑P **PKPbc** 02 17 42.1 -1.6
LANS Liptovska Anna 148.22 339 ePKP **PKiKP** 02 17 44.5 -0.6
LANS e **PKPab** 02 17 48.4 +0.6
BRG Berggiesshubel 148.25 346 i PKP **PKPbc** 02 17 43.7 +0.1
BRG Amp 02 17 44.7
comp=Z,16nm,1.1s
BRG Berggiesshubel 148.25 346 P **PKPab** 02 17 47.9 +0.2
BRG Amp 02 17 48.6
comp=Z,11nm,0.9s
DOPR Dopca 148.28 329 ⇑P **PKPbc** 02 17 43.8 -0.1
MORC Moravsky Berou 148.30 341 ⇓P **PKPbc** 02 17 44.0 +0.1
MORC Moravsky Berou 148.30 341 ePKP **PKPbc** 02 17 43.6 -0.2
MORC e **PKPab** 02 17 48.2 +0.2
ISR Istrita 148.30 327 ⇑P **PKPbc** 02 17 42.9 -1.1
FBE Freiberg 148.33 347 ePKPbc **PKPbc** 02 17 43.7 0.0
baz=16,slow=2.6
MLR Muntele Rosu 148.35 328 ⇑P **PKPbc** 02 17 43.8 -0.4
PVCC Panska Ves 148.42 345⇑ePKP **PKPbc** 02 17 44.3 +0.3
PVCC ePKPAB **PKPab** 02 17 49.0 +0.6
CBBR Cluj-Babes-Bol 148.55 332 ⇓P **PKPbc** 02 17 43.9 -0.5
CJR Cluj-Napoca 148.57 332 ⇑P **PKPbc** 02 17 44.8 +0.2
SECR 148.60 327 ⇑P **PKPbc** 02 17 44.6 -0.1
LTVH Ltavrtes, Hu 148.77 334 eP **PKiKP** 02 17 46.1 0.0

VOIR		148.83 328	⇓P	PKPbc	PKPbc	02 17 44.7	-0.7
PRA	Prague	148.88 345	⇑ePKP	PKPbc	PKPbc	02 17 45.4	+0.2
DRGR		148.90 333	⇓P	PKPbc	PKPbc	02 17 45.0	-0.5
PRU	Pruhonice	148.93 345	⇑ePKP	PKPbc	PKPbc	02 17 45.2	-0.1
PRU			ePKPAB	PKPab	PKPab	02 17 50.9	+0.4
MOX	Moxa	148.94 349	ePKPbc	PKPbc	PKPbc	02 17 44.7	-0.6
	baz=16,slow=2.6						
TANN	Tannenbergstha	149.00 348	ePKPbc	PKPbc	PKPbc	02 17 45.3	-0.3
	baz=16,slow=2.6						
WERD	Werda	149.00 348	ePKPbc	PKPbc	PKPbc	02 17 45.2	-0.3
	baz=16,slow=2.6						
VRAC	Vranov	149.00 342	⇑P	PKPbc	PKPbc	02 17 44.3	-1.3
VRAC	Vranov	149.00 342	ePKP	PKPbc	PKPbc	02 17 45.2	-0.3
VRAC			e	PKPab	PKPab	02 17 51.3	+0.4
VYHS	Vyhne	149.00 339	ePKP	PKPbc	PKPbc	02 17 45.2	-0.4
VYHS			e	PKPab	PKPab	02 17 50.9	0.0
JAVC	Velka Javorina	149.07 340	ePKP	PKiKP	PKiKP	02 17 46.8	0.0
JAVC			e	PKPab	PKPab	02 17 52.5	+1.3
GUNZ	Gunzen	149.07 348	ePKPbc	PKPbc	PKPbc	02 17 45.6	-0.1
	baz=16,slow=2.6						
ARR	Arges	149.08 329	⇓P	PKPbc	PKPbc	02 17 46.1	+0.2
PSZ	Piszkesteto	149.12 337	⇑P	PKPbc	PKPbc	02 17 45.5	-0.5
PSZ	Piszkesteto	149.12 337		PKPbc	PKPbc	02 17 45.4	-0.5
WERN	Wernitzgruen	149.13 348	ePKPbc	PKPbc	PKPbc	02 17 45.9	+0.1
	baz=16,slow=2.6						
KRUC	Moravsky	149.28 342	ePKP	PKPbc	PKPbc	02 17 45.9	-0.3
KRUC			e	PKPab	PKPab	02 17 52.1	+0.1
TREC	Trest	149.32 343	⇑ePKP	PKPbc	PKPbc	02 17 46.3	0.0
TREC			ePKPAB	PKPab	PKPab	02 17 52.3	+0.1
LOT	Lotru	149.44 330	⇑P	PKPbc	PKPbc	02 17 45.3	-1.5
SMOL	Smolenice	149.45 340	ePKP	PKiKP	PKiKP	02 17 47.4	-0.1
SMOL			e	PKPab	PKPab	02 17 53.4	+0.7
MANZ	Manzenberg	149.47 348	ePKPbc	PKPbc	PKPbc	02 17 46.4	-0.2
	baz=16,slow=2.6						
BEBN	Eben Emael	149.54 356	dPKPab	PKPab	PKPab	02 17 52.5	-0.4
MODS	Modra-Piesok	149.62 340	ePKP	PKPbc	PKPbc	02 17 46.5	-0.6
ROTZ	Rotzenmuhle	149.66 347	ePKPbc	PKPbc	PKPbc	02 17 46.9	-0.2
	baz=16,slow=2.6						
MEM	Membach	149.70 356	dPKPbc	PKPbc	PKPbc	02 17 46.6	-0.6
MEM			dPKPab	PKPab	PKPab	02 17 53.0	-0.7
BTNL	Ternell	149.72 355	dPKPbc	PKPbc	PKPbc	02 17 46.4	-0.8
SIRR	Siria	149.76 333	⇓P	PKPbc	PKPbc	02 17 47.2	-0.3
BSTI	Sart Tilman	149.76 356	dPKPbc	PKPbc	PKPbc	02 17 46.7	-0.5
ZST	Bratislava	149.83 340	ePKP	PKPbc	PKPbc	02 17 47.6	+0.1
SNF	Seneffe	149.90 358	dPKPbc	PKPbc	PKPbc	02 17 47.0	-0.6
SNF			dPKPab	PKPab	PKPab	02 17 54.2	-0.2
BCLA	Clavier	149.94 356	dPKPab	PKPab	PKPab	02 17 53.6	-1.0
GZR	Gura Zlata	149.94 331	⇓P	PKPbc	PKPbc	02 17 47.3	-0.7
KHC	Kasperske Hory	149.96 345	ePKPDF	PKPdf	PKPdf	02 17 43.5	+0.9
KHC			⇑ePKP	PKPbc	PKPbc	02 17 47.8	-0.1
KHC			ePKPAB	PKPab	PKPab	02 17 55.2	+0.3
CKRC	Cesky Krumlov	150.07 344	⇑ePKP	PKPbc	PKPbc	02 17 47.9	-0.2
CKRC			ePKPAB	PKPab	PKPab	02 17 55.4	+0.1
BMRD	Maredsous	150.09 357	dPKPbc	PKPbc	PKPbc	02 17 48.4	+0.3
BMRD			dPKPab	PKPab	PKPab	02 17 54.7	-0.6
MILB	Miltenberg	150.11 351	ePKPbc	PKPbc	PKPbc	02 17 47.8	-0.4
	baz=16,slow=2.6						
GEC2	GERESS Array S	150.20 345	ePKPbc	PKPbc	PKPbc	02 17 48.1	-0.4
	baz=16,slow=2.6						
GERES	GERESS Array B	150.20 345	PKPbc	PKPbc	PKPbc	02 17 48.2	-0.4
	comp=Z,3.7nm,1.0s,baz=31,slow=2.3,SNR=5.4						
BZS	Buzias	150.29 332	⇑P	PKPbc	PKPbc	02 17 47.7	-1.0
CONA	Conrad Observa	150.45 342	*i* P	PKPbc	PKPbc	02 17 49.2	+0.1
	comp=Z,17nm,1.3s,SNR=8.4						
CONA			eP	PKPab	PKPab	02 17 57.6	+0.6
	comp=Z,8.5nm,0.7s						
HERR	Herculane	150.50 330	⇓P	PKPbc	PKPbc	02 17 48.3	-0.9
WLF	Walferdange	150.63 355	dPKPab	PKPab	PKPab	02 17 57.4	-0.2
MOA	Molln	150.97 343	eP	PKPbc	PKPbc	02 17 50.4	+0.1
	comp=Z,6.5nm,1.4s						
MOA			eP	PKPab	PKPab	02 17 59.7	+0.6
	comp=Z,7.0nm,0.8s						
ARSA	Arzberg	151.16 341	eP	PKPbc	PKPbc	02 17 50.3	-0.4
	comp=Z,2.3nm,0.7s						
ARSA			eP	PKPab	PKPab	02 17 60.0	0.0
	comp=Z,4.2nm,1.2s						
FRGS	Fruska Gora	151.42 334	⇓P	PKPbc	PKPbc	02 17 50.6	-0.7
VTS	Vitosha	151.76 326	⇓P	PKPbc	PKPbc	02 17 52.0	-0.4
SOKA	Soboth	151.82 341	eP	PKPbc	PKPbc	02 17 51.6	-0.7
	comp=Z,4.4nm,1.0s						
SOKA			*i* P	PKPab	PKPab	02 18 02.1	-0.6
	comp=Z,5.1nm,0.8s,SNR=5.1						
PERS	Pernice	151.84 341	*i* PKPdf	PKPbc	PKPbc	02 17 51.2	-1.2
KBA	Koelnbreinsper	151.93 344	eP	PKPbc	PKPbc	02 17 52.0	-0.7
	comp=Z,3.1nm,0.6s						
KBA			eP	PKPab	PKPab	02 18 03.9	+0.6
	comp=Z,8.1nm,0.7s						
WATA	Walderalm	152.10 347	eP	PKPbc	PKPbc	02 17 52.2	-0.8
	comp=Z,3.6nm,0.5s						
WATA			eP	PKPab	PKPab	02 18 04.3	+0.2
	comp=Z,6.4nm,0.9s						
OBKA	Obir	152.12 342	*i* P	PKPab	PKPab	02 18 03.6	-0.4
	comp=Z,6.6nm,0.8s,SNR=5.3						
RETA	Reutte	152.13 348	eP	PKPbc	PKPbc	02 17 52.7	-0.2
	comp=Z,4.2nm,1.1s						
RETA			eP	PKPab	PKPab	02 18 03.3	-0.7
	comp=Z,9.5nm,1.1s						
WTTA	Wattenberg	152.16 347	eP	PKPbc	PKPbc	02 17 52.6	-0.6
	comp=Z,5.7nm,0.6s						
WTTA			eP	PKPab	PKPab	02 18 04.6	+0.3
	comp=Z,8.1nm,0.6s						
MOTA	Moosalm	152.19 347	eP	PKiKP	PKiKP	02 17 53.4	0.0
	comp=Z,8.6nm,1.2s						
MOTA			eP	PKPab	PKPab	02 18 04.3	-0.2
	comp=Z,8.7nm,1.0s						
MYKA	Terra Mystica	152.26 343	eP	PKPbc	PKPbc	02 17 52.7	-0.6
	comp=Z,6.6nm,1.0s						
MYKA			eP	PKPab	PKPab	02 18 03.8	-0.9
	comp=Z,8.3nm,0.8s						
SQTA	Sankt Quirin	152.29 347	eP	PKPbc	PKPbc	02 17 53.5	+0.1
	comp=Z,6.6nm,1.0s						
SQTA			eP	PKPab	PKPab	02 18 05.1	+0.3
	comp=Z,12nm,1.4s						
ABTA	Abfaltersbach	152.44 345	eP	PKPbc	PKPbc	02 17 52.4	-1.4
	comp=Z,6.0nm,0.9s						
ABTA			eP	PKPab	PKPab	02 18 04.8	-0.6
	comp=Z,9.3nm,0.8s						
DAVA	Damuels	152.49 349	eP	PKPbc	PKPbc	02 17 53.2	-0.7
	comp=Z,10nm,1.2s						
DAVA			eP	PKPab	PKPab	02 18 05.4	-0.3
	comp=Z,6.1nm,0.8s						
FETA	Feichten	152.58 348	eP	PKPbc	PKPbc	02 17 53.7	-0.4
	comp=Z,7.2nm,1.2s						
FETA			eP	PKPab	PKPab	02 18 06.1	+0.1
	comp=Z,9.1nm,1.0s						
CRNS	Crni Vrh	152.59 342	ePKPdf	PKPbc	PKPbc	02 17 52.9	-1.1
GBAS	Gorenja Brezov	152.67 342	*i* PKPdf	PKPbc	PKPbc	02 17 53.1	-1.1
CTI	Castel Tesino	153.31 346		PKPab	PKPab	02 18 08.4	-0.7
PDG	Podgorica	153.85 331	⇑P	PKPab	PKPab	02 18 09.7	-1.7
FNA	Florina	154.04 326		PKPbc	PKPbc	02 17 56.1	-1.2
ESDC	Sonseca Array	160.00 15	PKPab	PKPab	PKPab	02 18 39.1	+1.0
	comp=Z,0.6nm,0.8s,baz=334,slow=5.2,SNR=4.8						
KEST	Kesra	163.55 340	PKPab	PKPab	PKPab	02 18 53.8	0.0
	comp=Z,4.9nm,0.8s,baz=21,slow=5.0,SNR=7.5						
TORD	Torodi Ar. Bea	172.77 174	PKP	PKPdf	PKPdf	02 18 05.4	-1.5
	comp=Z,1.6nm,0.8s,baz=300,slow=1.2,SNR=8.7						
TORD			PKPab	PKPab	PKPab	02 19 37.0	+2.2
	comp=Z,0.6nm,0.7s,baz=182,slow=3.0,SNR=3.9						
TORD			SKP	SKPdf	SKPdf	02 21 06.7	+2.4
	comp=Z,0.9nm,0.9s,baz=196,slow=3.6,SNR=4.2						

*ANF **14** 02:06:24.5±0.2,36°.09N×97°.45W,h5km,ML3.7/16, Error ellipse: s-maj=2.1km s-min=1.9km az=163.0*
*TUL **14** 02:06:24.5±1.2,36°.07N±0°.01×97°.44W±0°.02,h5km±7km, ML3.1,mb_Lg3.1/89(NEIC),Error ellipse: s-maj=2.3km s-min=1.6km az=72.0*
*NEIC **14** 02:06:24.7±0.9,36°.080N±0°.006×97°.44W±0°.02,h3km±7km, Error ellipse: s-maj=2.1km s-min=0.8km az=73.0*

ISC 14 02:06:24.7±1.1,36.08N±0°.02×97.44W±0°.02,h2km±10km, n106,σ0§60/106,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.28	183		Pg	02 06 30.1	-0.1
OK029				Sg	Sg	02 06 34.2	+0.4
OK005	Luther M Schoo	0.47	155	Pg	Pg	02 06 33.8	0.0
OK005				Sg	Sg	02 06 40.3	+0.5
OK009	Oakdale Elemen	0.50	178		Pg	02 06 34.2	-0.1
OK009				Sg	Sg	02 06 41.2	+0.4
OK031	S. Brethren Rd	0.50	104		Pg	02 06 34.4	0.0
OK031				Sg	Sg	02 06 41.1	+0.2
OK025	Westminster Rd	0.50	171		Pg	02 06 34.4	0.0
OK025				Sg	Sg	02 06 41.4	+0.5
OK001	Jones High Sch	0.53	167	Pg	Pg	02 06 34.8	-0.1
OK001				Sg	Sg	02 06 42.3	+0.5
QUOK	Quay	0.60	81		Pg	02 06 36.3	+0.1
QUOK				Sg	Sg	02 06 44.6	+0.6
CROK	Carrier	0.61	314		Pg	02 06 36.6	+0.1
CROK				Sg	Sg	02 06 45.0	+0.6
OKCFA	Oklahoma City	0.66	181	Pg	Pg	02 06 37.0	-0.4
OKCFA				Sg	Sg	02 06 46.9	+0.8
OKCFA	Oklahoma City	0.66	181	P	Pg	02 06 37.1	-0.4
	baz=0.9						
OKCFA				S	Sg	02 06 46.3	+0.3
	baz=0.9						
OKCSW	OKLAHOMA CITY	0.67	180		Pg	02 06 37.3	-0.3
BLOK	Blackwell	0.70	15		Pg	02 06 38.2	0.0
BLOK				Sg	Sg	02 06 47.8	+0.5
FNO	Franklin	0.82	178		Pg	02 06 39.9	-0.6
FNO				Sg	Sg	02 06 51.3	+0.2
GC02	Grant County #	0.84	336		Pg	02 06 40.6	-0.3
GC02				Sg	Sg	02 06 52.1	+0.3
KAN13	South Haven SW	0.93	358		Pg	02 06 42.4	-0.2
KAN13				Sg	Sg	02 06 54.9	+0.2
OK032	Salt Plains WL	0.95	320		Pg	02 06 42.5	-0.5
OK032				Sg	Sg	02 06 55.5	+0.1
KAN14	Manchester OK	0.97	334		Pg	02 06 43.0	-0.4
KAN14				Sg	Sg	02 06 56.3	+0.3
KAN17	Caldwell West	1.00	345		Pg	02 06 43.6	-0.3
KAN17				Sg	Sg	02 06 57.1	+0.3
KAN05	Bluff City Nor	1.08	341	Pg	Pg	02 06 45.1	-0.5
KAN05				Sg	Sg	02 06 59.7	+0.1
T35A	Sooner Cattle	1.12	42		Pg	02 06 45.7	-0.5
T35A				Sg	Sg	02 07 00.6	-0.1
T35B	Sooner Cattle	1.12	42	P	Pg	02 06 45.7	-0.5
	baz=222,SNR=75						
T35B				S	Sg	02 07 00.7	-0.1
	baz=222						
KS20	Mayfield South	1.15	355	Pg	Pg	02 06 46.3	-0.5
KS20				Sg	Sg	02 07 01.7	-0.1
KAN12	Harper NE Stat	1.30	340		Pg	02 06 48.8	-0.8
U32A	Winter Ranch,	1.30	284		Pg	02 06 48.4	-1.2
U32A				Sg	Sg	02 07 06.4	-0.1
U32A	Winter Ranch,	1.30	284	P	Pg	02 06 48.5	-1.1
	baz=103						
U32A				S	Sg	02 07 06.5	+0.1
	baz=103						
TUL1	Leonard	1.35	97	P	Pn	02 06 48.8	-1.7
	baz=277,SNR=193						
TUL1				S	Sb	02 07 08.3	0.0
	baz=277						
TUL1	Leonard	1.35	97	P	Pn	02 06 48.9	-1.7
	baz=277						
TUL1				S	Sg	02 07 07.7	-0.3
	baz=277						
X34A	Smith Ranch, M	1.51	192		Pn	02 06 52.6	-0.2
WMOK	Wichita Mounta	1.73	220		Pn	02 06 55.5	-0.4
WMOK	Wichita Mounta	1.73	220	P	Pn	02 06 55.5	-0.4
	baz=39						
WMOK				S	Sn	02 07 18.5	0.0
	baz=39						
WMOK	Wichita Mounta	1.73	220	P	Pn	02 06 55.4	-0.4
	baz=39						
WMOK				S	Sn	02 07 18.5	0.0
	baz=39						
LOOK	Love County	2.09	174	Pn	Pn	02 07 01.2	+0.5
LOOK				lAmb_Lg		02 07 34.5	
	comp=Z,51nm,0.7s						
X37A	Clayton	2.25	131	Pn	Pn	02 07 03.0	+0.1
X37A				lAmb_Lg		02 07 36.2	
	comp=Z,52nm,0.8s						
X37A	Clayton	2.25	131	P	Pn	02 07 03.3	+0.3
	baz=312,SNR=55						
U38A	Gravette	2.49	81	Pn	Pn	02 07 06.4	+0.1
R32A	Long Quarter,	2.55	337	Pn	Pn	02 07 07.8	+0.7
R32A	Long Quarter,	2.55	337	P	Pn	02 07 07.7	+0.6
	baz=156						
R32A				S	Sn	02 07 38.9	+0.2
	baz=156						
Z35A	Perchaven, San	2.75	177	S	Sn	02 07 44.7	+1.2
	baz=357						
KSU1	Kansas State U	3.09	12	Pn	Pn	02 07 14.8	+0.3
KSU1				lAmb_Lg		02 08 10.9	
	comp=Z,48nm,0.9s						
KSU1	Kansas State U	3.09	12	P	Pn	02 07 15.0	+0.5
	baz=192						
KSU1	Kansas State U	3.09	12	P	Pn	02 07 15.0	+0.5
	baz=192						
W39A	Magazine	3.10	105		Pn	02 07 14.4	-0.3
W39A	Magazine	3.10	105	P	Pn	02 07 14.6	-0.1
	baz=288,SNR=6.0						
W39A	Magazine	3.10	105	P	Pn	02 07 14.6	-0.1
	baz=288						
CBKS	Cedar Bluff	3.29	327	Pn	Pn	02 07 17.2	0.0
CBKS	Cedar Bluff	3.29	327	S	Sn	02 07 57.6	+0.7
	baz=146						
CBKS	Cedar Bluff	3.29	327	Pb	Pb	02 07 24.9	+1.2
	baz=146						
CBKS				Sb	Sg	02 08 08.6	-1.7
	baz=146						
Z38A	Mt. Pleasant	3.46	144	Pn	Pn	02 07 19.6	0.0
Z38A				lAmb_Lg		02 08 21.2	
	comp=Z,67nm,0.9s						
MIAR	Mount Ida	3.51	115	Pn	Pn	02 07 20.7	+0.4
MIAR				lAmb_Lg		02 08 22.2	
	comp=Z,34nm,0.8s						
MIAR	Mount Ida	3.51	115	P	Pn	02 07 20.4	+0.2
	baz=297,SNR=32						
MIAR				S	Sn	02 08 03.3	+0.9
	baz=297						
MIAR	Mount Ida	3.51	115	P	Pn	02 07 20.6	+0.4
	baz=297						
MIAR				S	Sn	02 08 03.2	+0.9
	baz=297						
AMTX	Amarillo	3.66	252	Pn	Pn	02 07 23.0	+0.6
AMTX	Amarillo	3.66	252	Pb	Pb	02 07 29.7	-0.5
	baz=70						
S39A	Bolivar	3.67	63		Pn	02 07 22.6	+0.1
S39A				lAmb_Lg		02 08 20.6	
	comp=Z,56nm,0.8s						
S39A	Bolivar	3.67	63	P	Pn	02 07 22.5	0.0
	baz=245,SNR=20						
S39A				S	Sn	02 08 06.5	+0.2
	baz=245						
U40A	Yellville	3.72	84		Pn	02 07 22.4	-0.7
U40A				lAmb_Lg		02 08 25.0	
	comp=Z,47nm,0.9s						
U40A	Yellville	3.72	84	P	Pn	02 07 22.3	-0.8
	baz=267,SNR=33						
U40A				S	Sn	02 08 07.7	+0.2
	baz=267						
U40A				S	Sn	02 08 07.7	+0.2
	baz=267						
ABTX	Abilene, Hawle	3.90	209	Pn	Pn	02 07 25.4	-0.3
WHTX	Lake Whitney,	4.08	180	Pn	Pn	02 07 28.1	0.0
X40A	Basin Creek Fa	4.09	112		Pn	02 07 28.6	+0.4
X40A				lAmb_Lg		02 08 44.6	
	comp=Z,34nm,0.7s						
X40A	Basin Creek Fa	4.09	112	P	Pn	02 07 27.7	-0.5
	baz=294,SNR=13						
WHAR	Wooly Hollow	4.27	99		Pn	02 07 30.3	-0.4
WHAR				lAmb_Lg		02 08 49.3	
	comp=Z,31nm,0.9s						
WLAR	White Oak Lake	4.28	123	lAmb_Lg		02 08 49.2	
	comp=Z,25nm,0.8s						
237A	Washetta, Mont	4.29	161	Pn	Pn	02 07 30.3	-0.6
MGMO	Mountain Grove	4.29	74	lAmb_Lg		02 08 39.3	
	comp=Z,46nm,0.8s						
FCAR	Ozark Folk Cen	4.31	91	Pn	Pn	02 07 31.0	-0.4
W41B	Gary Mavity, V	4.32	101	P	Pn	02 07 30.8	-0.6
	baz=284,SNR=23						
W41B	Gary Mavity, V	4.32	101	P	Pn	02 07 30.8	-0.6
	baz=284						
W41B				S	Sn	02 08 21.4	-1.0
	baz=284						
R40A	Maddies Statio	4.68	60		Pn	02 07 35.9	-0.5
R40A				lAmb_Lg		02 08 53.1	
	comp=Z,50nm,0.8s						
R40A	Maddies Statio	4.68	60	P	Pn	02 07 35.9	-0.5
	baz=243,SNR=19						
P38A	Dawn	4.70	40	lAmb_Lg		02 08 59.3	
	comp=Z,32nm,0.8s						
MSTX	Muleshoe	4.86	246	Pn	Pn	02 07 40.0	+1.1
NATX	Nacogdoches	4.89	151	S	Sn	02 08 34.2	-2.2
	baz=333						
N35A	Tabor	4.98	16	Pn	Pn	02 07 40.6	+0.1
CCAR	Cane Creek	5.13	113	lAmb_Lg		02 09 13.5	
	comp=Z,35nm,1.0s						
435B	Jarrell	5.29	181	lAmb_Lg		02 09 17.5	
	comp=Z,27nm,1.1s						
CCM	Cathedral Cave	5.33	66	lAmb_Lg		02 09 25.3	
	comp=Z,24nm,0.8s						
BGNE	Belgrade	5.35	354	lAmb_Lg		02 09 21.6	
	comp=Z,35nm,0.7s						
PBMO	Poplar Bluff	5.69	81	lAmb_Lg		02 09 31.2	
	comp=Z,33nm,0.9s						
T25A	Trinidad	5.71	283	lAmb_Lg		02 09 34.6	
	comp=Z,24nm,1.0s						
JCT	Junction City	5.92	200	lAmb_Lg		02 09 46.8	
	comp=Z,29nm,0.8s						
L34A	Svendsen Farm,	5.94	8	lAmb_Lg		02 09 33.7	
	comp=Z,19nm,0.7s						
GNAR	Gosnell	6.02	89	lAmb_Lg		02 09 43.3	
	comp=Z,39nm,0.9s						
143A	Socs Landing,	6.02	122	lAmb_Lg		02 09 40.6	
	comp=Z,18nm,0.9s						
OGNE	Ogallala	6.05	325	lAmb_Lg		02 09 39.7	
	comp=Z,34nm,0.8s						
HENM	Henderson Moun	6.46	82	lAmb_Lg		02 10 02.1	
	comp=Z,37nm,0.8s						
K31A	O'Neill	6.61	352	lAmb_Lg		02 09 60.0	
	comp=Z,28nm,0.7s						
SCIA	State Center	6.68	28	lAmb_Lg		02 10 05.9	
	comp=Z,32nm,0.7s						
OXF	Oxford	6.75	101	lAmb_Lg		02 10 11.6	
	comp=Z,16nm,0.8s						
W45A	Hickory Valley	6.79	95	lAmb_Lg		02 10 03.0	
	comp=Z,27nm,0.8s						
SIUC	Southern Illin	6.79	74	lAmb_Lg		02 09 58.2	
	comp=Z,34nm,0.8s						
K38A	Parkersburg	7.49	27	lAmb_Lg		02 10 40.6	
	comp=Z,29nm,0.8s						
L40A	Anamosa	7.68	37	lAmb_Lg		02 10 31.6	
	comp=Z,26nm,0.9s						
PLAL	Pickwick Lake	7.71	95	lAmb_Lg		02 10 33.2	
	comp=Z,17nm,1.3s						
PHWY	Pilot Hill	8.15	312	lAmb_Lg		02 10 52.4	
	comp=Z,12nm,0.9s						
T47A	Sharon Grove	8.37	81	lAmb_Lg		02 11 01.8	
	comp=Z,17nm,0.9s						
L42A	Oliver, Polo	8.46	43	lAmb_Lg		02 11 11.4	
	comp=Z,22nm,0.7s						
I37A	Lemond, Waseca	8.51	20	lAmb_Lg		02 11 08.7	
	comp=Z,15nm,0.8s						
X48A	Hartselle	8.65	98	lAmb_Lg		02 10 55.4	
	comp=Z,13nm,1.3s						
JFWS	Jewell Farm	8.80	37	lAmb_Lg		02 11 11.3	
	comp=Z,19nm,0.8s						
M44A	Midewin, Midew	9.05	51	lAmb_Lg		02 11 15.2	
	comp=Z,20nm,0.8s						
WCI	Wyandotte Cave	9.15	73	lAmb_Lg		02 11 15.3	
	comp=Z,15nm,0.9s						
SFIN	Lafayette	9.20	59	lAmb_Lg		02 11 15.2	
	comp=Z,23nm,0.8s						
I40A	Norwalk	9.39	32	lAmb_Lg		02 11 24.6	
	comp=Z,9.0nm,0.8s						
K43A	Burlington	9.66	44	lAmb_Lg		02 11 51.1	
	comp=Z,22nm,0.8s						
FPAL	Fort Paine	9.79	96	lAmb_Lg		02 11 41.5	
	comp=Z,11nm,1.2s						

NNC 14 02:18:19.6±12.0,38.44N×72.31E,h0km,mb4.1,mpv3.7, 1C-1D,Error ellipse: s-maj=84.9km s-min=52.3km az=176.0,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	luzhnay	4.09	335	Pg	Pg	02 19 36.8	-1.1
	72nm,0.3s						
IUG				Lg	Lg	02 20 31.6	
	27nm,0.5s						
MRKS	Merke	4.35	9	Pg	Pg	02 19 41.1	-1.9
	7.5nm,0.3s						
MRKS				Lg	Lg	02 20 39.3	
	6.9nm,0.3s						
KK31	Karatay Array	4.85	344	⇑Pg	Pb	02 19 46.8	+1.4
	0.2nm,0.2s,baz=168,slow=13,SNR=8.1						
KK31				⇓Lg	Lg	02 20 49.1	
	1.4nm,0.3s,baz=169,slow=22,SNR=16						
KST	Kastek	5.37	30	Pg	Pb	02 19 54.2	0.0
	1.8nm,0.3s						
KST				Lg	Lg	02 21 03.2	
	1.9nm,1.7s						

*IDC **14** 02:32:02.8±7.3,51°.18N×173°.77W,h0km,mb4.1/7, mb1 3.9/9,mb1mx3.7/47,mbtmp3.9/9,ML3.3/2,Error ellipse: s-maj=172.5km s-min=27.5km az=154.0*
*AEIC **14** 02:32:08.5±1.1,51°.37N±0°.08×174°.01W±0°.07,h65km±6km, Error ellipse: s-maj=11.6km s-min=5.3km az=165.0*
*NEIC **14** 02:32:10.8±2.4,51°.41N±0°.06×174°.12W±0°.08,h41km±8km, mb3.9/43,ML3.7(AEIC),Error ellipse: s-maj=9.5km s-min=7.2km az=159.0*

ISC 14 02:32:10.0±0.8,51°.33N±0°.09×174°.07W±0°.05,h35km,n90, σ1§36/83,mb4.1/15,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.88	355		Pn	02 32 24.8	-1.0
ATKA				Sn	Sn	02 32 37.8	+0.4
KOFP	Korovin Flat P	0.95	359		Pn	02 32 26.3	-0.5
KOKL	Mount Kliuchef	1.00	355		Pn	02 32 27.0	-0.6
GSMY	Great Sitkin M	1.43	301		Pn	02 32 32.5	-0.9
GSTR	Great Sitkin T	1.46	303		Pn	02 32 33.4	-0.4
GSTD	Great Sitkin T	1.48	300		Pn	02 32 33.4	-0.8
GSTD					Sn	02 32

comp=Z,8.2nm,1.5s
CCB Clear Creek Bu 19.08 36 P P 02 36 27.4 -1.7
N25K Chitina, Valde 19.08 46 P P 02 36 29.1 -0.1
HDA Harding Lake 19.27 37 P P 02 36 31.0 -0.3
HDA IAmb IAmb 02 36 46.9
comp=Z,8.2nm,1.4s
IL31 19.48 36 P P 02 36 32.0 -1.5
ILAR Eielson Array 19.48 36 P P 02 36 32.1 -1.4
comp=Z,0.2nm,0.3s,baz=226,slow=10,SNR=13
ILAR Eielson Array 19.48 36 P P 02 36 33.2 -0.3
RIDG Independent Ri 19.78 40 P P 02 36 35.9 -1.0
RIDG IAmb IAmb 02 36 42.5
comp=Z,12nm,1.4s
DOT Dot Lake 20.06 41 P P 02 36 38.3 -1.6
SCRK Sand Creek 20.23 40 P P 02 36 40.5 -1.3
SCRK IAmb IAmb 02 36 56.5
comp=Z,3.2nm,0.6s
M27K Edge Creek, AK 20.54 45 P Pn 02 36 46.9 -0.6
LOGN Logan Glacier 20.54 50 P Pn 02 36 48.3 +0.7
LOGN IAmb IAmb 02 36 48.3
comp=Z,4.4nm,1.0s
L27K Beaver Creek 20.78 43 P Pn 02 36 50.5 +0.2
BCAR Beaver Creek A 20.80 43 P Pn 02 36 50.7 +0.2
TOLK Toolik Lake Re 20.98 25 P P 02 36 49.4 -0.4
TOLK IAmb IAmb 02 36 50.1
comp=Z,4.6nm,0.8s
FYU Fort Yukon 21.01 33 P P 02 36 54.6 +4.6
FYU IAmb IAmb 02 37 18.6
comp=Z,9.8nm,1.3s
K27K Chicken 21.02 41 P P 02 36 49.9 -0.3
K27K IAmb IAmb 02 37 17.8
comp=Z,6.5nm,1.4s
BCPM Bancas Point 21.04 52 P P 02 36 55.0 +4.5
BCPM IAmb IAmb 02 37 02.4
comp=Z,13nm,1.2s
EGAK Eagle 21.68 39 P P 02 36 56.9 -0.3
EGAK IAmb IAmb 02 37 21.9
comp=Z,6.8nm,0.7s
BMAR Burnt Mountain 21.70 31 P P 02 36 59.1 +1.6
DAWY Dawson 22.14 42 P P 02 37 03.5 +1.2
DAWY IAmb IAmb 02 37 26.1
comp=Z,7.1nm,1.4s
INK Inuvik 25.82 34 P P 02 37 37.1 -0.3
INK IAmb IAmb 02 37 50.0
comp=Z,10nm,1.4s
H11N2 WAKE ISLAND Hy 34.91 212 T T 03 16 45.1
baz=20,slow=76,SNR=3.3
H11N3 WAKE ISLAND Hy 34.92 212 T T 03 16 45.1
baz=20,slow=76,SNR=2.8
H11N1 WAKE ISLAND Hy 34.93 212 T T 03 16 41.2
baz=20,slow=76,SNR=3.5
H11S1 WAKE ISLAND Hy 36.12 212 T T 03 18 22.8
baz=19,slow=76,SNR=14
H11S2 WAKE ISLAND Hy 36.13 212 T T 03 18 21.6
baz=19,slow=76,SNR=15
H11S3 WAKE ISLAND Hy 36.13 212 T T 03 18 19.6
baz=19,slow=76,SNR=9.1
USA0B Ussuriysk Arra 36.23 280 P P 02 39 09.2 -0.2
USRK Ussuriysk Ar. 36.23 280 P P 02 39 09.6 +0.3
comp=Z,3.7nm,0.6s,baz=56,slow=9.5,SNR=11
USRK Ussuriysk Ar. 36.23 280 P P 02 39 09.4 +0.1
PD31 Pinedale Array 43.48 75 P P 02 40 10.4 +0.6
PD31 IAmb IAmb 02 40 36.7
comp=Z,3.1nm,1.4s
109C Camp Elliot, M 44.88 91 P P 02 40 21.4 +0.6
SONM Songino Array 49.29 299 P P 02 40 55.5 +0.3
comp=Z,0.8nm,0.4s,baz=48,slow=8.3,SNR=5.2
SPITS Spitsbergen Ar 50.60 357 P P 02 41 05.3 +0.7
comp=Z,5.0nm,0.7s,baz=0.7,slow=12,SNR=1.9
SPB2 Spitsbergen Ar 50.60 357 P P 02 41 06.7 +2.1
ARCES ARCESS Array B 58.60 352 P P 02 42 01.6 -1.0
comp=Z,0.4nm,0.4s,baz=16,slow=7.3,SNR=6.4
ARCES ARCESS Array B 58.60 352 P P 02 42 01.5 -1.2
LVZ Lovozero 59.16 348 P P 02 42 05.3 -1.3
MK31 Makanchi Array 62.34 311 P P 02 42 27.6 -0.9
MKAR Makanchi Array 62.34 311 P P 02 42 27.8 -0.8
comp=Z,0.6nm,0.4s,baz=48,slow=5.9,SNR=17
MKAR Makanchi Array 62.34 311 P P 02 42 28.0 -0.6
FINES FINESS Array B 66.43 350 P P 02 42 53.6 -1.4
comp=Z,1.5nm,1.0s,baz=100,slow=7.9,SNR=4.5
FINES FINESS Array B 66.43 350 P P 02 42 53.5 -1.5
NB201 NORSAR Array S 67.89 357 P P 02 43 03.7 -0.6
ABKAR Akbulak array 69.71 326 P P 02 43 15.9 +0.1
KK31 Karatay Array 70.55 315 P P 02 43 19.9 -1.2
KK31 IAmb IAmb 02 43 42.2
comp=Z,3.9nm,1.4s
KKAR Karatay Array 70.55 315 P P 02 43 21.6 +0.5
GAR Garm 73.94 313 P P 02 43 41.9 +0.4
AKASG Malin Array Be 76.44 345 P P 02 43 54.2 -1.3
comp=Z,0.7nm,0.3s,baz=18,slow=5.9,SNR=4.6
BURAR Bucovina Array 80.05 347 P P 02 44 15.8 +0.1

*IDC **14** 02:47:43.4±4.3,20.°73S×179.°09W,h607km±34km, mb2.8/5, mb1 3.2/6, mb1mx3.0/2,4, mbtmp3.7/6, Error ellipse: s-maj=119.4km s-min=19.4km az=151.0*

ISC 14 02:47:42.4±1.5,20.°9S±0.°4×179.°0W±0.°2,h600km,n8, σ0.°90/8,mb3.4/5,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	4.19	318	P	P	02 49 09.4	0.0
	2.7nm,0.3s,baz=150,slow=6.0,SNR=15						
ASAR	Alice Springs	43.50	257	P	P	02 54 55.1	+0.6
	1.1nm,0.5s,baz=96,slow=7.7,SNR=16						
WRA	Warramunga Arr	43.60	263	P	P	02 54 55.5	+0.2
	0.5nm,0.4s,baz=98,slow=7.1,SNR=17						
NVAR	Mina Array Bea	81.97	44	P	P	02 59 01.4	+0.5
	0.3nm,0.5s,baz=221,slow=7.8,SNR=4.1						
TXAR	Lajitas Array	79.07	58	P	P	02 59 30.7	+0.3
	0.5nm,0.9s,baz=174,slow=6.0,SNR=4.0						
ILAR	Eielson Array	88.91	13	P	P	02 59 33.5	+0.2
	0.3nm,0.5s,baz=217,slow=5.2,SNR=6.9						
ARCES	ARCESS Array B	129.13	349	PKP	PKPdf	03 05 41.8	-0.7
	1.2nm,0.8s,baz=329,slow=1.4,SNR=4.9						
AKASG	Malin Array Be	142.89	330	PKP	PKPdf	03 06 06.7	-1.7
	1.0nm,0.4s,baz=42,slow=4.1,SNR=8.5						

*NEIC **14** 02:56:06.8±1.4,16.°66S±0.°06×172.°3W±0.°1,h10km±1km, mb4.6/11, Error ellipse: s-maj=18.6km s-min=9.8km az=94.0*
*IDC **14** 02:56:27.7±17.0,17.°62S×175.°47W,h0km,mb4.4/5, mb1 4.5/5,mb1mx4.0/39,mbtmp4.4/5,MS3.7/7,Ms1 3.7/7, ms1mx3.3/26,Error ellipse: s-maj=327.8km s-min=48.5km az=64.0*

ISC 14 02:56:06.4±0.8,16.°65S±0.°09×172.°36W±0.°10,h10km,n26, σ1.°26/21,mb4.6/11,MS3.8/7,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	2.78	12	Pn	Pn	02 56 51.4	+0.4
NIUE	Niue	3.34	137	Pn	Pn	02 56 58.4	-0.4
RAR	Rarotonga	12.74	113	Pn	Pn	02 59 07.1	-0.6
MARNC	Mare, Loyalty	19.15	252	P	P	03 00 28.7	-1.3
OUZ	Omahuta	22.35	212	P	P	03 01 06.3	+1.7
OUZ	IAmb IAmb 03 01 06.5						
	comp=Z,21nm,1.0s						
URZ	Urewera	23.44	201	P	P	03 01 18.4	+2.6
	comp=Z,7.2nm,0.3s,baz=315,slow=2.9,SNR=11						
URZ	Urewera	23.44	201	P	P	03 01 18.2	+2.3
HNR	Honiara	27.90	281	LR	LR	03 11 21.0	
	comp=Z,299nm,21.0s,baz=151,slow=35						
COEN	Coen	42.91	267	P	P	03 04 05.8	+0.2
COEN	IAmb IAmb 03 04 16.9						
	comp=Z,23nm,1.5s						
STKA	Stephens Creek	44.30	241	P	P	03 04 15.0	-1.7
	comp=Z,10nm,1.0s,baz=69,slow=8.1,SNR=9.9						
STKA	LR LR 03 19 10.5						
	comp=Z,85nm,21.0s,baz=29,slow=33						
STKA	Stephens Creek	44.30	241	P	P	03 04 17.1	+0.4
BBOO	Buckleboo	49.07	241	P	P	03 04 53.6	-0.5
WR0	Warramunga Arr	50.36	258	P	P	03 05 04.1	0.0
WR0	IAmb IAmb 03 05 07.2						
	comp=Z,5.8nm,1.2s						
WB2	Warramunga Arr	50.54	258	P	P	03 05 04.4	-1.1
WB2	IAmb IAmb 03 05 11.4						
	comp=Z,13nm,1.5s						
WRA	Warramunga Arr	50.55	258	P	P	03 05 04.1	-1.5
	comp=Z,1.5nm,0.8s,baz=96,slow=7.5,SNR=20						
WRA	LR LR 03 25 47.2						
	comp=Z,91nm,18.4s,baz=325,slow=37						
WRA	Warramunga Arr	50.55	258	P	P	03 05 04.3	-1.2
AS31	Alice Springs	50.69	253	P	P	03 05 05.8	-0.8
AS31	IAmb IAmb 03 05 06.6						
	comp=Z,4.2nm,0.5s						
ASAR	Alice Springs	50.69	253	P	P	03 05 05.5	-1.1
	comp=Z,12nm,0.6s,baz=87,slow=9.1,SNR=165						
ASAR	Alice Springs	50.69	253	P	P	03 05 05.8	-0.8
FITZ	Fitzroy Crossi	58.94	259	P	P	03 06 06.8	+0.3
	comp=Z,0.9nm,0.8s,baz=53,slow=15,SNR=1.4						
FITZ	Fitzroy Crossi	58.94	259	P	P	03 06 05.8	-0.6
FITZ	IAmb IAmb 03 06 31.9						
	comp=Z,9.5nm,1.4s						
QSPA	South Pole Qui	73.41	180	P	P	03 07 39.4	+0.8
QSPA	IAmb IAmb 03 07 59.8						
	comp=Z,3.1nm,1.2s						
YBH	Yreka Blue Hor	73.99	36	LR	LR	03 32 19.7	
	comp=Z,55nm,20.4s,baz=224,slow=28						
NVAR	Mina Array Bea	74.59	41	LR	LR	03 33 04.5	
	comp=Z,37nm,21.8s,baz=271,slow=28						
PDAR	Pinedale Array	82.53	41	LR	LR	03 36 59.8	
	comp=Z,27nm,21.6s,baz=259,slow=28						
ULM	Lac du Bonnet	94.27	39	LR	LR	03 44 47.2	
	comp=Z,63nm,21.5s,baz=158,slow=30						

*NEIC **14** 03:05:21.2±1.5,5.°74S±0.°06×147.°5E±0.°1,h127km±6km, mb4.3/19, Error ellipse: s-maj=14.9km s-min=9.2km az=88.0*
*IDC **14** 03:05:24.2±2.9,5.°80S×147.°54E,h164km±25km, mb3.7/9, mb1 4.0/11,mb1mx3.7/41,mbtmp4.2/11, Error ellipse: s-maj=27.4km s-min=11.6km az=109.0*

ISC 14 03:05:22.5±0.5,5.°80S±0.°07×147.°53E±0.°09,h150km,n53, σ1.°07/54,mb4.2/15,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	Rabaul	4.88	71	Pn	Pn	03 06 32.8	-1.7
COEN	Coen	9.17	208	Pn	Pn	03 07 29.6	-1.9
CTA	Charters Tower	14.26	185	P	P	03 08 40.7	+0.1
	0.5nm,0.3s,baz=339,slow=8.8,SNR=2.6						
CTAO	Charters Tower	14.26	185		Pn	03 08 37.5	-0.2
FAKI	Fak Fak	15.50	280	P	P	03 08 55.2	+0.7
FAKI	IAmb IAmb 03 09 04.9						
	comp=Z,24nm,1.0s						
MTN	Manton Dam	17.62	245	P	Pn	03 09 17.5	-1.4
MTN	IAmb IAmb 03 09 24.5						
	comp=Z,7.3nm,0.7s						
WR0	Warramunga Arr	18.91	221		P	03 09 31.4	-0.4
WRAB	Tennant Creek	19.02	221	P	P	03 09 32.4	-0.6
WB2	Warramunga Arr	19.02	221		P	03 09 32.5	-0.5
WRA	Warramunga Arr	19.03	221	P	P	03 09 32.9	-0.2
	comp=Z,4.2nm,0.3s,baz=46,slow=11,SNR=249						
WRA	Warramunga Arr	19.03	221	P	P	03 09 32.0	-1.1
WRA	PcP PcP 03 13 53.1 +1.1						
KNRA	Kununurra	20.87	240	P	P	03 09 51.8	-1.1
KNRA	IAmb IAmb 03 10 07.5						
	comp=Z,20nm,1.1s						
AS31	Alice Springs	22.08	215	P	P	03 10 05.9	+0.2
AS31	IAmb IAmb 03 10 06.8						
	comp=Z,5.0nm,0.5s						
ASAR	Alice Springs	22.08	215	P	P	03 10 05.8	0.0
	comp=Z,6.9nm,0.4s,baz=50,slow=8.6,SNR=187						
ASAR	S S 03 13 59.2 +0.4						
	comp=Z,4.1nm,0.9s,baz=28,slow=23,SNR=13						
ASAR	Alice Springs	22.08	215	P	P	03 10 05.6	-0.1
FITZ	Fitzroy Crossi	24.62	238	P	P	03 10 29.6	+0.5
	comp=Z,13nm,0.4s,baz=58,slow=10.0,SNR=118						
FITZ	Fitzroy Crossi	24.62	238	P	P	03 10 29.6	+0.5
FITZ	IAmb IAmb 03 10 33.3						
	comp=Z,14nm,0.6s						
MORW	Morawa	37.70	228	P	P	03 12 23.8	+0.2
MORW	IAmb IAmb 03 12 29.9						
	comp=Z,12nm,1.1s						
MORW	PcP PcP 03 14 37.8 0.0						
BKZ	Black Stump Fm	42.28	146	P	P	03 13 03.4	+2.0
BKZ	IAmb IAmb 03 13 10.5						
	comp=Z,13nm,1.1s						
TUWZ	Tuamarina	42.59	150	P	P	03 13 05.2	+1.5
MJAR	Matsushiro Arr	43.02	349	P	P	03 13 07.5	+0.3
	comp=Z,0.8nm,0.5s,baz=155,slow=6.9,SNR=4.2						
MJAR	Matsushiro Arr	43.02	349	P	P	03 13 06.4	-0.8
BFZ	Birch Farm	43.21	148	P	P	03 13 10.0	+1.2
LBZ	Lake Benmore	43.25	156	P	P	03 13 10.3	+1.2
LBZ	IAmb IAmb 03 13 34.4						
	comp=Z,6.4nm,1.0s						
USRK	Ussuriysk Ar.	51.71	346	P	P	03 14 15.4	+1.2
	comp=Z,1.4nm,0.7s,baz=149,slow=5.9,SNR=2.5						
USRK	Ussuriysk Ar.	51.71	346	P	P	03 14 14.3	+0.1
HHC	Hu-ho-hao-te	56.94	328	eP	P	03 14 56.3	+4.0
HHC	pmax pmax						
	comp=Z,14nm,0.8s						
HHC	pmax pmax						
	comp=Z,76nm,6.6s						
SONM	Songino Array	64.49	331	P	P	03 15 43.6	+0.3
	comp=Z,0.9nm,0.6s,baz=127,slow=3.3,SNR=5.7						
SONM	Songino Array	64.49	331	P	P	03 15 43.3	0.0
SONM	IAmb IAmb 03 15 46.4						
	comp=Z,2.1nm,1.1s						
VNDA	Vanda	72.08	177	P	P	03 16 30.8	+0.9
	comp=Z,1.4nm,0.6s,baz=310,slow=8.6,SNR=3.7						
VNDA	Vanda	72.08	177	P	P	03 16 31.0	+1.1
VNDA	IAmb IAmb 03 16 31.8						
	comp=Z,1.7nm,0.7s						
WMQ	Urumqi	72.99	319	eP	P	03 16 38.8	+2.9
CHGN	Chignik	75.98	28	P	P	03 16 52.7	-0.1
CHGN	IAmb IAmb 03 16 59.2						
	comp=Z,20nm,1.1s						
MK31	Makanchi Array	77.68	320	P	P	03 17 02.4	-0.2
MKAR	Makanchi Array	77.68	320	P	P	03 17 02.4	-0.2
	comp=Z,0.4nm,0.4s,baz=98,slow=8.1,SNR=6.4						
MKAR	Makanchi Array	77.68	320	P	P	03 17 03.0	+0.4
MAW	Mawson	82.63	203	P	P	03 17 29.3	+0.6
	comp=Z,0.9nm,0.5s,baz=135,slow=4.1,SNR=2.5						
MAW	Mawson	82.63	203	P	P	03 17 29.1	+0.5
IMAR	Indian Mountai	83.12	21	P	P	03 17 33.0	+1.8
ILAR	Eielson Array	85.09	23	P	P	03 17 40.1	-1.1
	comp=Z,1.2nm,0.8s,baz=253,slow=4.9,SNR=13						
ILAR	Eielson Array	85.09	23	P	P	03 17 41.1	-0.1
PLCA	Paso Flores	122.00	146	PKP	PKiKP	03 24 00.4	+0.6
	comp=Z,0.9nm,0.4s,baz=222,slow=2.5,SNR=7.3						
GERES	GERESS Array B	122.04	326	PKP	PKiKP	03 23 59.3	-0.4
	comp=Z,0.3nm,0.4s,baz=99,slow=2.5,SNR=2.6						
GERES	GERESS Array B	122.04	326		PKiKP	03 23 58.8	-0.9
LPAZ	La Paz	138.45	122	PKP	PKiKP	03 24 32.7	-1.5
	comp=Z,0.5nm,0.7s,baz=210,slow=1.6,SNR=4.5						
LPAZ	La Paz	138.45	122	PKPdf	PKiKP	03 24 33.7	-0.5
TORD	Torodi Ar. Bea	145.55	285	PKPbc	PKPab	03 24 43.5	-1.3
	comp=Z,1.8nm,0.6s,baz=66,slow=3.5,SNR=31						
TORD	Torodi Ar. Bea	145.55	285	PKPdf	PKPab	03 24 43.3	-1.6
KOWA	Kowa	150.72	289	PKPbc	PKiKP	03 24 57.8	-0.9
	comp=Z,1.4nm,0.7s,baz=78,slow=3.2,SNR=5.6						
KOWA	Kowa	150.72	289		PKiKP	03 24 58.3	-0.4
BDFB	Brasilia	153.72	144	PKPbc	PKPbc	03 25 03.0	-1.9
	comp=Z,2.2nm,0.5s,baz=270,slow=5.1,SNR=4.9						
BDFB	Brasilia	153.72	144	IAmb	IAmb	03 25 11.2	
	comp=Z,34nm,1.9s						
BDFB	Brasilia	153.72	144	P	PKPbc	03 25 03.1	-1.9

*MDD **14** 03:15:59.4±0.9,37.°05N×14.°32W,h30km, mb4.5/15, Error ellipse: s-maj=13.5km s-min=7.7km az=140.0, PRXIMO*
*SFS **14** 03:16:00.0,37.°24N×13.°90W, ML4.5, AZORES - CABO DE SAN VICENTE*
*CNRM **14** 03:16:00.6,36.°72N×14.°02W,h30km, ml4.1*
*IGIL **14** 03:16:01.4,37.°19N×13.°97W,h0km, ML2.7*
*INMG **14** 03:16:02.0±1.9,37.°08N×14.°39W,h10km±12km, ML2.8, Error ellipse: s-maj=5.5km s-min=3.3km az=127.0*

ISC 14 03:15:58.3±2.8,37.°14N±0.°06×14.°1W±0.°1,h22km,n109, σ2.°49/177,1C-2D,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMST	Lisbon--Monsan	4.20	66	ePn	Pn	03 17 03.2	+2.3
PMST				eSn	Sn	03 17 49.1	-0.1
PMST				A	A	03 17 59.0	
	12nm,0.4s						
PFVI	Vila Bisbo	4.21	88	⇓P	Pn	03 17 03.6	+2.6
	6.2nm,0.1s,SNR=18						
PFVI	S Sn 03 17 48.8 -0.7						
	10nm,0.1s,SNR=7.9						
PFVI	Vila Bisbo	4.21	88	ePn	Pn	03 17 03.6	+2.6
PFVI				eSn	Sn	03 17 48.3	-1.2
PFVI				A	A	03 17 54.4	
	11nm,0.6s						
PFVI	Vila Bisbo	4.21	88	P	Pn	03 17 03.5	+2.4
PFVI	Vila Bisbo	4.21	88	P	Pn	03 17 03.5	+2.4
PMAFR	Mafra	4.21	63	⇑P	Pn	03 17 03.7	+2.6
	20nm,0.1s,SNR=18						
PMAFR	S Sn 03 17 50.5 +1.0						
	18nm,0.3s,SNR=7.8						
PMAFR	Mafra	4.21	63	ePn	Pn	03 17 03.7	+2.6
PMAFR				eSn	Sn	03 17 49.8	+0.3
PMAFR				A	A	03 17 55.4	
	28nm,0.2s						
LIS	Lisbon	4.21	67	P	Pn	03 17 03.5	+2.4
LIS				S	Sn	03 17 50.4	+0.8
LIS	Lisbon	4.21	67	ePn	Pn	03 17 03.5	+2.4
LIS				eSn	Sn	03 17 50.4	+0.8
PTEO	Sao Teotonio	4.30	83	P	Pn	03 17 04.6	+2.3
PTEO				S	Sn	03 17 51.4	-0.3
	6.3nm,0.3s						
PTEO	Sao Teotonio	4.30	83	ePn	Pn	03 17 04.6	+2.3
PTEO				eSn	Sn	03 17 51.4	-0.3
PTEO				A	A	03 17 55.6	
	13nm,0.3s						
MORF	Marmelete	4.34	86	eP	Pn	03 17 05.2	+2.3
MORF				eS	Sn	03 17 51.9	-1.2
MORF				IAML		03 17 55.7	
	comp=N,21nm,0.2s						
MORF	Marmelete	4.34	86	P	Pn	03 17 05.3	+2.3
MORF				S	Sn	03 17 52.2	-0.8
	comp=N,9.0nm,0.3s						
MORF	Marmelete	4.34	86	ePn	Pn	03 17 05.3	+2.3
MORF				eSn	Sn	03 17 52.2	-0.8
MORF				A	A	03 17 57.4	
	comp=N,9.0nm,0.3s						
PMPST	Porto Santo, M	4.45	205	⇓eP	Pn	03 17 01.8	-2.6
PMPST				eSn	Sn	03 17 45.1	-10
PMPST				A	A	03 17 47.4	
	comp=N,26nm,0.6s						
PMPS	Porto Santo	4.47	205	P	Pn	03 17 01.8	-2.8
PMPS				S	Sn	03 17 45.1	-11
	comp=N,13nm,0.6s						
PMPS	Porto Santo	4.47	205	ePn	Pn	03 17 01.2	-3.4
PMPS				eSn	Sn	03 17 45.6	-10
PMPS				A	A	03 17 48.1	
	comp=N,24nm,1.0s						
PNCL	Nicolau / Gran	4.52	76	P	Pn	03 17 07.4	+2.0
PNCL				S	Sn	03 17 56.5	-0.8
	comp=N,8.0nm,0.2s						
PNCL	Nicolau / Gran	4.52	76	ePn	Pn	03 17 07.4	+2.0
PNCL				eSn	Sn	03 17 56.5	-0.8
PNCL				A	A	03 18 01.4	
	comp=N,8.0nm,0.2s						
MESJ	Messejana	4.72	80	eP	Pn	03 17 10.4	+2.3
MESJ				eS	Sn	03 18 00.9	-1.3
MESJ				IAML		03 18 04.7	
	comp=N,9.5nm,0.3s						
MESJ	Messejana	4.72	80	P	Pn	03 17 10.6	+2.5
MESJ				S	Sn	03 18 01.9	-0.3
	comp=N,8.4nm,0.4s						
MESJ	Messejana	4.72	80	ePn	Pn	03 17 10.6	+2.5
MESJ				eSn	Sn	03 18 01.9	-0.3
MESJ				A	A	03 18 07.3	
	comp=N,8.4nm,0.4s						
PSBE	So Bento	4.79	59	ePn	Pn	03 17 11.3	+2.2
PSBE				eSn	Sn	03 18 03.8	-0.2
PSBE				A	A	03 18 09.1	
	comp=N,7.8nm,0.3s						
PCVE	Castro Verde	4.84	82	P	Pn	03 17 12.1	+2.3
PCVE				S	Sn	03 18 04.7	-0.6
	comp=N,6.7nm,0.4s						
PCVE	Castro Verde	4.84	82	ePn	Pn	03 17 12.1	+2.3
PCVE				eSn	Sn	03 18 04.7	-0.6
PCVE				A	A	03 18 10.9	
	comp=N,6.7nm,0.4s						
PBDV	Barranco-do-Ve	4.92	87	P	Pn	03 17 13.6	+2.7
PBDV				S	Sn	03 18 06.8	-0.3
	comp=N,6.2nm,0.3s						
PBDV	Barranco-do-Ve	4.92	87	ePn	Pn	03 17 13.6	+2.7
PBDV				eSn	Sn	03 18 06.8	-0.3
PBDV				A	A	03 18 17.7	
	comp=N,6.2nm,0.3s						
PMAR	Madeira	4.98	209	P	Pn	03 17 08.1	-3.7
PMAR				S	Sn	03 17 59.2	-10
	comp=N,7.2nm,0.2s						
PMAR	Madeira	4.98	209	ePn	Pn	03 17 08.1	-3.7
PMAR				eSn	Sn	03 17 59.2	-10
PMAR				A	A	03 18 05.3	
	comp=N,14nm,0.2s						
PMOZ	Porto Moniz, M	5.00	212	ePn	Pn	03 17 10.9	-1.2
PMOZ				eSn	Sn	03 17 59.3	-10
PMOZ				A	A	03 18 04.8	
	comp=N,33nm,0.5s						
PMOZ	Porto Moniz, M	5.00	212	P	Pn	03 17 10.7	-1.4
PMOZ				S	Sn	03 17 58.1	-11
PMTG	Montargil	5.01	66	P	Pn	03 17 14.1	+2.0
PMTG				S	Sn	03 18 08.7	-0.7
	comp=N,4.5nm,0.4s						
PMTG	Montargil	5.01	66	ePn	Pn	03 17 14.1	+2.0
PMTG				eSn	Sn	03 18 08.7	-0.7
PMTG				A	A	03 18 19.9	
	comp=N,4.5nm,0.4s						
PBEJ	Beja	5.02	78	P	Pn	03 17 15.4	+3.1
PBEJ				S	Sn	03 18 09.3	-0.3
	comp=N,3.1nm,0.3s						
PBEJ	Beja	5.02	78	ePn	Pn	03 17 15.4	+3.1
PBEJ				eSn	Sn	03 18 09.3	-0.3
PBEJ				A	A	03 18 16.4	
	comp=N,6.2nm,0.3s						
FUL	Funchal	5.04	208	S	Sn	03 17 57.6	-12
	comp=N,4.7nm,0.5s						
FUL	Funchal	5.04	208	eSn	Sn	03 17 57.6	-12
FUL				A	A	03 18 13.9	
	comp=N,9.4nm,0.5s						
PVAQ	Vaqueiros	5.09	85	P	Pn	03 17 15.5	+2.3
PVAQ				S	Sn	03 18 10.6	-0.7
	comp=N,5.5nm,0.3s						
PVAQ	Vaqueiros	5.09	85	ePn	Pn	03 17 15.5	+2.3
PVAQ				eSn	Sn	03 18 10.6	-0.7
PVAQ				A	A	03 18 14.7	
	comp=N,5.5nm,0.3s						
PVAQ	Vaqueiros	5.09	85	P	Pn	03 17 15.4	+2.2
PVAQ	Vaqueiros	5.09	85	P	Pn	03 17 15.4	+2.2
PCAS	Casmilo, Conde	5.26	55	P	Pn	03 17 17.6	+2.1
PCAS				S	Sn	03 18 14.2	-1.3
	comp=N,3.7nm,0.2s						
PCAS	Casmilo, Conde	5.26	55	ePn	Pn	03 17 17.6	+2.1
PCAS				eSn	Sn	03 18 14.2	-1.3
PCAS				A	A	03 18 23.7	
	comp=N,3.7nm,0.2s						
EGRO	El Granado	5.28	84	P	Pn	03 17 18.4	+2.6
	comp=N,5.1nm,0.2s,SNR=18						
EGRO	S Sn 03 18 16.0 +0.1						
	comp=N,6.9nm,0.3s,SNR=7.9						
PESTR	Estremoz	5.42	69	eP	Pn	03 17 19.7	+2.0
PESTR				eSn	Sn	03 18 18.3	-1.1
PESTR				A	A	03 18 23.7	
	comp=N,5.6nm,0.6s						
PESTR	Estremoz	5.42	69	P	Pn	03 17 19.8	+2.0
PESTR	Estremoz	5.42	69	P	Pn	03 17 20.4	+2.7
PESTR				S	Sn	03 18 18.3	-1.1
PESTR	Estremoz	5.

EMIN					S		Sn	03 18 30.7 -1.5
	comp=N,7.0nm,0.9s							
PVIS	**Viseu**	**6.01**	**52**		P		Pn	03 17 29.2 +3.3
PVIS					S		Sn	03 18 32.5 -1.5
	comp=N,3.5nm,0.1s							
PVIS	**Viseu**	**6.01**	**52**		*e*Pn		Pn	03 17 29.2 +3.3
PVIS					*e*Sn		Sn	03 18 32.5 -1.5
PVIS					A		A	03 18 38.0
	comp=N,6.9nm,0.1s							
MTE	**Manteigas**	**6.06**	**56**		P		Pn	03 17 28.7 +2.1
MTE					S		Sn	03 18 34.3 -1.1
MTE	**Manteigas**	**6.06**	**56**		*e*Pn		Pn	03 17 28.7 +2.1
MTE					*e*Sn		Sn	03 18 34.3 -1.1
PVRL	**Vila Real**	**6.45**	**48**		P		Pn	03 17 34.0 +2.1
PVRL					S		Sn	03 18 42.2 -2.6
	comp=N,3.3nm,0.1s							
PVRL	**Vila Real**	**6.45**	**48**		*e*Pn		Pn	03 17 34.0 +2.1
PVRL					*e*Sn		Sn	03 18 42.2 -2.6
PVRL					A		A	03 18 50.6
	comp=N,6.7nm,0.1s							
POLO	**Lamas de Olo**	**6.46**	**47**		P		Pn	03 17 34.3 +2.2
POLO					S		Sn	03 18 41.8 -3.4
	comp=N,1.5nm,0.2s							
POLO	**Lamas de Olo**	**6.46**	**47**		*e*Pn		Pn	03 17 34.3 +2.2
POLO					*e*Sn		Sn	03 18 41.8 -3.4
POLO					A		A	03 18 44.8
	comp=N,1.5nm,0.2s							
EZAM	**Zamans**	**6.51**	**38**		S		Sn	03 18 41.5 -4.8
	comp=N,7.0nm,0.3s,SNR=7.9							
PCAB	**Cabril**	**6.55**	**44**		P		Pn	03 17 36.3 +3.0
PCAB					S		Sn	03 18 44.5 -2.8
	comp=N,2.4nm,0.4s							
PCAB	**Cabril**	**6.55**	**44**		*e*Pn		Pn	03 17 36.3 +3.0
PCAB					*e*Sn		Sn	03 18 44.5 -2.8
PCAB					A		A	03 18 48.0
	comp=N,4.8nm,0.4s							
PGAV	**Gavieira, Arco**	**6.59**	**41**		P		Pn	03 17 36.1 +2.2
PGAV					S		Sn	03 18 44.8 -3.7
	comp=N,6.9nm,0.4s							
PGAV	**Gavieira, Arco**	**6.59**	**41**		*e*Pn		Pn	03 17 36.1 +2.2
PGAV					*e*Sn		Sn	03 18 44.8 -3.7
PGAV					A		A	03 18 52.0
	comp=N,6.9nm,0.4s							
ESPR	**Espera**	**6.59**	**90**		P		Pn	03 17 37.3 +3.4
	comp=N,2.6nm,0.2s,SNR=13							
ESPR					S		Sn	03 18 49.0 +0.7
	comp=N,8.6nm,0.3s,SNR=7.9							
EAH	**EAH**	**6.62**	**144**		P		Pn	03 17 32.1 -2.2
EAH					S		Sn	03 18 45.0 -4.0
ELOB	**Lobios**	**6.64**	**43**		P		Pn	03 17 37.6 +3.1
	comp=N,2.0nm,0.2s,SNR=7.7							
ELOB					S		Sn	03 18 46.4 -3.1
	comp=N,3.4nm,0.3s,SNR=7.9							
AVE	**Averroes**	**6.67**	**123**		P		Pn	03 17 38.7 +3.8
AVE					S		Sn	03 18 47.4 -2.9
AVE	**Averroes**	**6.67**	**123**		P		Pn	03 17 36.1 +1.2
AVE					S		Sn	03 18 44.4 -5.9
MVO	**Moncorvo**	**6.80**	**52**		P		Pn	03 17 38.3 +1.5
	comp=N,3.7nm,0.2s,SNR=6.2							
MVO					S		Sn	03 18 50.7 -2.9
	comp=N,4.5nm,0.3s,SNR=6.2							
MVO	**Moncorvo**	**6.80**	**52**		*e*Pn		Pn	03 17 38.9 +2.1
MVO					*e*Sn		Sn	03 18 51.0 -2.6
MVO					A		A	03 18 55.1
	comp=N,6.5nm,0.2s							
EPLA	**Plasencia**	**6.92**	**63**		P		Pn	03 17 40.7 +2.3
	comp=N,1.6nm,0.1s,SNR=20							
EPLA					S		Sn	03 18 54.4 -2.0
	comp=N,4.3nm,0.6s,SNR=6.5							
ECAB	**El Cabril**	**6.95**	**80**		P		Pn	03 17 41.6 +2.8
	comp=N,3.4nm,0.2s,SNR=48							
ECAB					S		Sn	03 18 54.7 -2.5
	comp=N,1.8nm,0.3s,SNR=6.2							
EJIF	**Jimena Fronter**	**6.95**	**93**		P		Pn	03 17 43.2 +4.4
	SNR=7.9							
EMAZ	**Mazaricos**	**7.00**	**32**		P		Pn	03 17 42.1 +2.6
	comp=N,1.7nm,0.2s,SNR=7.9							
EMAZ					S		Sn	03 18 52.3 -6.1
	comp=N,3.3nm,0.1s,SNR=7.9							
ZHG	**ZHG**	**7.12**	**119**		P		Pn	03 17 40.9 -0.3
ZHG					S		Sn	03 18 57.2 -4.1
PBRG	**Braganca**	**7.35**	**48**		P		Pn	03 17 46.5 +2.2
PBRG					S		Sn	03 19 03.8 -3.2
	comp=N,1.7nm,0.4s							
PBRG	**Braganca**	**7.35**	**48**		*e*Pn		Pn	03 17 46.5 +2.2
PBRG					*e*Sn		Sn	03 19 03.8 -3.2
PBRG					A		A	03 19 10.3
	comp=N,3.3nm,0.4s							
ECAL	**Calabor**	**7.43**	**48**		P		Pn	03 17 47.3 +1.8
	comp=N,2.5nm,0.2s,SNR=7.9							
ECAL					S		Sn	03 19 05.3 -3.9
	comp=N,4.4nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**7.62**	**79**		P		Pn	03 17 49.8 +1.8
	comp=N,3.1nm,0.2s,SNR=40							
EADA					S		Sn	03 19 11.2 -2.4
	comp=N,2.9nm,0.2s,SNR=7.9							
EMAL	**Malaga-Limoner**	**7.75**	**90**		P		Pn	03 17 55.5 +5.9
EMAL	**Malaga-Limoner**	**7.75**	**90**		P		Pn	03 17 55.5 +5.9
OUK	**Oukaimeden**	**7.84**	**137**		P		Pn	03 17 53.8 +2.4
OUK					S		Sn	03 19 17.7 -2.0
EGOR	**Sierra Gorda,**	**7.97**	**87**		P		Pn	03 17 56.1 +3.2
	comp=N,0.6nm,0.3s,SNR=7.9							
EGOR					S		Sn	03 19 21.5 -1.0
	comp=N,1.8nm,0.4s,SNR=7.9							
PAB	**San Pablo**	**8.02**	**70**		P		Pn	03 17 55.7 +2.2
	comp=N,1.0nm,0.1s,SNR=7.9							
PAB					S		Sn	03 19 20.2 -3.5
	comp=N,0.6nm,0.2s,SNR=7.9							
PAB	**San Pablo**	**8.02**	**70**		P		Pn	03 17 55.8 +2.2
PAB	**San Pablo**	**8.02**	**70**		P		Pn	03 17 55.8 +2.2
PAB	**San Pablo**	**8.02**	**70**		P		Pn	03 17 55.8 +2.2
TTIG	**Tnine Tigouga,**	**8.08**	**143**		P		Pn	03 17 52.1 -2.2
TTIG	**Tnine Tigouga,**	**8.08**	**143**		P		Pn	03 17 52.2 -2.2
TTIG					S		Sn	03 19 13.9 -11
TTIG	**Tnine Tigouga,**	**8.08**	**143**		P		Pn	03 17 52.1 -2.2
EPON	**Pontenova**	**8.15**	**38**		P		Pn	03 17 56.7 +1.5
	comp=N,1.1nm,0.2s,SNR=7.9							
EPON					S		Sn	03 19 21.1 -5.5
	comp=N,0.8nm,0.3s,SNR=7.9							
IFR	**Ifrane**	**8.17**	**114**		P		Pb	03 18 11.6 -7.5
IFR					S		Sn	03 19 21.8 -5.6
ESDC	**Sonseca Array**	**8.35**	**69**		P		Pn	03 18 00.2 +2.2
	comp=N,1.3nm,0.3s,baz=253,slow=13,SNR=27							
ESDC					S		Sn	03 19 29.2 -2.3
	comp=N,0.6nm,0.3s,baz=254,slow=23,SNR=113							
CZD	**Col de Zad**	**8.47**	**116**		P		Pn	03 17 59.1 -0.8
CZD					S		Sn	03 19 30.3 -4.7
GUD	**Guadarrama**	**8.50**	**63**		S		Sn	03 19 33.4 -2.1
	comp=N,1.2nm,0.1s,SNR=7.9							
MD31	**MD31**	**8.76**	**116**		P		Pn	03 18 05.7 +2.0
MD31					S		Sn	03 19 38.4 -3.3
EQES	**Quesada**	**8.79**	**82**		P		Pn	03 18 06.5 +2.4
	comp=N,1.0nm,0.2s,SNR=14							
EQES					S		Sn	03 19 40.0 -2.4
	comp=N,0.2nm,0.2s,SNR=7.9							
MDT	**Midelt**	**8.89**	**116**		P		Pn	03 18 06.3 +0.8
MDT					S		Sn	03 19 40.9 -4.2
EARI	**Arriondas**	**9.16**	**45**		P		Pn	03 18 13.0 +3.9
	comp=N,0.5nm,0.2s,SNR=7.9							
EARI					S		Sn	03 19 49.3 -2.3
	comp=N,0.9nm,0.3s,SNR=7.9							
SESP	**Santiago Espad**	**9.21**	**80**		P		Pn	03 18 11.5 +1.5
	comp=N,0.4nm,0.1s,SNR=7.9							
SESP					S		Sn	03 19 46.6 -6.4
	comp=N,1.1nm,0.3s,SNR=7.9							
ETOB	**Tobarra**	**10.03**	**78**		P		Pn	03 18 23.2 +2.2
	comp=N,1.0nm,0.3s,SNR=6.3							
ETOR	**Torete**	**10.06**	**65**		P		Pn	03 18 24.3 +2.7
	comp=N,10nm,0.1s,SNR=21							
ATE	**Arette**	**11.84**	**56**		P		Pn	03 18 50.3 +4.5
	comp=N,0.4nm,0.2s,SNR=7.9							

*NEIC **14** 03:16:57.5±2.3,22°.79N±0°.06×67°.76W±0°.08,h14km±3km, mb4.4/122, Error ellipse: s-maj=11.4km s-min=8.5km az=72.0*

*OSPL **14** 03:17:01.4±0.8,22°.79N×67°.89W,h64km±139km, ML3.9*

ISC 14 03:16:56.1±0.6,**22°.76N**±0°.05×**67°.75W**±0°.07,**h10km**,**n169**, σ**1**!**43**/169,**mb4.4**/17,**North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRTK	**Grand Turk**	**3.37**	**249**	Pn	**Pn**	**03 17 48.9**	**0.0**
GRTK	**Grand Turk**	**3.37**	**249**	*i* P	**Pn**	**03 17 48.6**	**-0.2**
DR12	**Loma Pena Alta**	**4.24**	**201**		**Pn**	**03 18 02.5**	**+1.6**
PCDR	**Punta Cana, DR**	**4.27**	**188**	Pn	**Pn**	**03 18 03.1**	**+1.9**
PCDR	**Punta Cana, DR**	**4.27**	**188**	*i* P	**Pn**	**03 18 03.1**	**+1.9**
PCDR				*e*S	**Sn**	**03 18 48.0**	**-3.1**
PCDR				IAML		03 18 50.5	
	comp=Z,162nm,0.7s						
AGPR	**Aguadilla, PR**	**4.32**	**172**	Pn	**Pn**	**03 18 03.5**	**+1.6**
AGPR	**Aguadilla, PR**	**4.32**	**172**	*i* P	**Pn**	**03 18 03.6**	**+1.7**
AGPR				IAML		03 18 49.1	
	comp=Z,115nm,1.9s						
SC01	**Santiago de Io**	**4.33**	**220**			**03 18 04.9**	**+2.8**
EMPR	**Esperanza - Ma**	**4.42**	**165**	Pn	**Pn**	**03 18 05.2**	**+2.0**
AOPR	**Arecibo Observ**	**4.49**	**168**		**Pn**	**03 18 05.7**	**+1.4**
GCPR	**Guaynabo City**	**4.70**	**160**		**Pn**	**03 18 07.9**	**+0.8**
SDD	**Santo Domingo**	**4.74**	**206**	Pn	**Pn**	**03 18 08.0**	**+0.4**
CRPR	**Cabo Rojo, PR**	**4.77**	**173**		**Pn**	**03 18 10.0**	**+1.9**
CRPR	**Cabo Rojo, PR**	**4.77**	**173**	*i* P	**Pn**	**03 18 09.6**	**+1.5**
CRPR				*e*S	**Sn**	**03 18 59.7**	**-3.8**
CRPR				IAML		03 19 03.2	
	comp=Z,81nm,0.3s						
CBYP	**Canovanas**	**4.81**	**158**		**Pn**	**03 18 09.2**	**+0.5**
MLPR	**Magueyes Islan**	**4.82**	**172**	Pn	**Pn**	**03 18 10.7**	**+2.0**
OBIP	**Obispado Ponce**	**4.82**	**167**		**Pn**	**03 18 09.2**	**+0.4**
SJG	**San Juan**	**4.87**	**162**		**Pn**	**03 18 10.6**	**+1.2**
HUMP	**Col San Antoni**	**4.93**	**158**		**Pn**	**03 18 11.1**	**+0.8**
BANI	**BANI**	**4.99**	**210**		**Pn**	**03 18 12.0**	**+0.8**
PDPR	**Patillas Dam,**	**4.99**	**161**		**Pn**	**03 18 12.4**	**+1.2**
CUPR	**Culebra, Puert**	**5.00**	**152**	Pn	**Pn**	**03 18 11.6**	**+0.3**
SDDR	**Presa de Saban**	**5.01**	**222**		**Pn**	**03 18 13.7**	**+2.2**
IGPR	**InterUniversit**	**5.02**	**162**	Pn	**Pn**	**03 18 14.4**	**+2.9**
MTP	**Monte Pirata**	**5.08**	**156**	Pn	**Pn**	**03 18 12.6**	**+0.2**
STVI	**Saint Thomas**	**5.11**	**149**	Pn	**Pn**	**03 18 14.2**	**+1.3**
ABVI	**Anegada Island**	**5.13**	**141**	Pn	**Pn**	**03 18 13.4**	**+0.3**
CDVI	**St. Croix**	**5.72**	**150**	Pn	**Pn**	**03 18 23.3**	**+2.1**
LGNH	**Logne**	**6.21**	**228**		**Pn**	**03 18 30.7**	**+2.8**
JAKH	**Jacmel**	**6.34**	**226**		**Pn**	**03 18 33.1**	**+3.4**
SMRT	**St. Maarten**	**6.42**	**136**		**Sn**	**03 19 42.7**	**-1.5**
GTBY	**Guantanamo Bay**	**7.42**	**249**		**Pn**	**03 18 45.7**	**+1.2**
ANWB	**Willy Bob**	**7.55**	**131**	Pn	**Pn**	**03 18 45.5**	**-0.8**
DLPL	**La Plaine**	**9.62**	**139**	Pn	**Pn**	**03 19 15.2**	**+0.5**
BBSR	**BB Station**	**9.95**	**15**	Pn	**Pn**	**03 19 19.4**	**+0.3**
MTDJ	**Mount Denham**	**10.22**	**246**	Pn	**Pn**	**03 19 23.0**	**0.0**
CBCY	**The Bluff, Cay**	**11.59**	**257**		**Pn**	**03 19 40.6**	**-1.1**
LCCY	**Blossom Villag**	**11.90**	**257**	Pn	**Pn**	**03 19 44.8**	**-1.2**
060A	**Indiantown**	**12.21**	**293**	Pn	**Pn**	**03 19 52.3**	**+2.2**
061Z	**Ochoppi**	**12.38**	**287**	Pn	**Pn**	**03 19 52.6**	**0.0**
FSCY	**Frank Sound, G**	**13.00**	**257**	Pn	**Pn**	**03 19 59.8**	**-1.2**
DWPF	**Disney Wildern**	**13.45**	**296**	Pn	**Pn**	**03 20 08.4**	**+1.2**
SOR	**Soroa**	**14.07**	**273**	Pn	**Pn**	**03 20 15.6**	**0.0**
Y60A	**Bolivia**	**14.49**	**323**	Pn	**Pn**	**03 20 21.6**	**+0.4**
656A	**Willston**	**14.82**	**299**	Pn	**Pn**	**03 20 24.8**	**-1.0**
RGRS	**Roger Stewart**	**14.93**	**315**		**Pn**	**03 20 29.4**	**+2.2**
257A	**Skidaway Islan**	**14.93**	**311**	Pn	**P**	**03 20 29.9**	**-3.1**
456A	**Hilliard**	**15.00**	**305**	Pn	**Pn**	**03 20 29.0**	**+0.8**
NHSC	**New Hope**	**15.04**	**316**		**P**	**03 20 32.3**	**-1.9**
V61A	**Roper**	**15.08**	**331**	Pn	**Pn**	**03 20 30.5**	**+1.2**
Y58A	**Scranton**	**15.26**	**319**		**P**	**03 20 34.0**	**-2.5**
X58A	**Rowland**	**15.52**	**322**	Pn	**Pn**	**03 20 35.8**	**+0.7**
X58A				IAmb	IAmb	03 21 15.5	
	comp=Z,19nm,1.1s						
Y57A	**Sumter**	**15.77**	**318**	P	**P**	**03 20 42.1**	**-0.2**
Y57A				IAmb	IAmb	03 20 43.3	
	comp=Z,12nm,0.6s						
255A	**Hazlehurst**	**15.94**	**308**	P	**P**	**03 20 42.6**	**-1.5**
255A				IAmb	IAmb	03 21 33.8	
	comp=Z,21nm,1.1s						
U59A	**Littleton**	**16.10**	**330**		**Pn**	**03 20 41.2**	**-1.3**
BIRD	**Birdtown, Kers**	**16.24**	**320**	Pn	**Pn**	**03 20 45.3**	**+0.9**
BIRD				IAmb	IAmb	03 20 48.4	
	comp=Z,40nm,1.7s						
T60A	**Surry**	**16.29**	**334**	P	**P**	**03 20 47.1**	**-0.9**
V58A	**Windy Hill, Pi**	**16.32**	**325**		**P**	**03 20 47.1**	**-1.3**
V58A				IAmb	IAmb	03 21 09.7	
	comp=Z,41nm,1.6s						
W57A	**Gilead**	**16.32**	**322**		**Pn**	**03 20 45.6**	**+0.1**
S61A	**Accomac**	**16.35**	**337**		**P**	**03 20 47.5**	**-1.2**
JSC	**Jenkinsville**	**16.49**	**317**	P	**P**	**03 20 50.8**	**+0.5**
JSC				IAmb	IAmb	03 20 58.4	
	comp=Z,33nm,1.7s						
T59A	**Double "B" Far**	**16.50**	**331**	Pn	**Pn**	**03 20 46.4**	**-1.3**
553A	**Crawfordville**	**16.65**	**300**		**P**	**03 20 51.7**	**-0.4**
154A	**Montrose**	**16.75**	**309**	P	**P**	**03 20 52.9**	**-0.3**
R61A	**Willards**	**16.82**	**339**	P	**P**	**03 20 53.4**	**-0.5**
HODGE	**Hodges**	**17.10**	**315**	P	**P**	**03 20 58.4**	**+1.4**
KMSC	**Kings Mountain**	**17.10**	**319**	P	**P**	**03 20 58.3**	**+1.3**
PAULI	**Pauline**	**17.19**	**317**	P	**P**	**03 20 58.3**	**+0.3**
PAULI				IAmb	IAmb	03 21 03.3	
	comp=Z,9.8nm,0.5s						
T57A	**Hurt**	**17.32**	**328**		**Pn**	**03 20 56.7**	**-1.3**
T57A				IAmb	IAmb	03 21 34.8	
	comp=Z,30nm,1.6s						
U56A	**King**	**17.41**	**324**	P	**P**	**03 21 00.8**	**+0.4**
U56A				IAmb	IAmb	03 21 39.4	
	comp=Z,32nm,1.6s						
GOGA	**Godfrey**	**17.43**	**311**	P	**P**	**03 21 00.9**	**+0.2**
CBN	**Corbin Frederi**	**17.46**	**334**	P	**P**	**03 21 02.2**	**+1.2**
R58B	**Mineral**	**17.47**	**332**	P	**P**	**03 21 01.3**	**+0.2**
R58B				IAmb	IAmb	03 21 05.1	
	comp=Z,10nm,0.5s						
V55A	**Taylorsville**	**17.52**	**321**	P	**P**	**03 21 03.4**	**+1.7**
RUSC	**La Rusia**	**17.55**	**198**	P	**P**	**03 21 05.9**	**+3.3**
352A	**Blakely**	**17.56**	**303**	P	**P**	**03 21 02.4**	**+0.2**
352A				IAmb	IAmb	03 21 52.1	
	comp=Z,24nm,1.4s						
S57A	**Dark Hollow, R**	**17.78**	**330**	P	**P**	**03 21 07.1**	**+2.5**
BCIP	**Isla Barro Col**	**17.81**	**223**	P	**Pn**	**03 21 04.3**	**+0.1**
BCIP				IAmb	IAmb	03 21 42.9	
	comp=Z,33nm,1.4s						
BG3	**Lake Jocassee**	**18.00**	**316**	P	**Pn**	**03 21 06.3**	**-0.2**
BLA	**Blacksburg**	**18.07**	**326**	P	**Pn**	**03 21 06.7**	**-0.8**
V52A	**Lilburn**	**18.10**	**311**	P	**P**	**03 21 11.4**	**+3.3**
P60A	**Greenville**	**18.27**	**340**	P	**P**	**03 21 09.9**	**+0.1**
P60A				IAmb	IAmb	03 21 24.5	
	comp=Z,49nm,1.6s						
SDMD	**Soldier's Deli**	**18.31**	**337**	P	**Pn**	**03 21 09.5**	**-0.8**
U54A	**Nelsons Funny**	**18.34**	**322**	P	**Pn**	**03 21 10.4**	**-0.3**
U54A				IAmb	IAmb	03 21 18.1	
	comp=Z,12nm,0.5s						
V53A	**Saluda**	**18.36**	**318**	P	**Pn**	**03 21 10.3**	**-0.6**
WUPA	**West Chester U**	**18.37**	**341**	P	**Pn**	**03 21 10.8**	**-0.1**
Z51A	**Franklin**	**18.60**	**308**	P	**P**	**03 21 12.0**	**-1.6**
MVL	**Millersville**	**18.67**	**339**	P	**P**	**03 21 14.1**	**-0.2**
MVL				IAmb	IAmb	03 22 13.5	
	comp=Z,37nm,1.6s						
W52A	**Murphy**	**18.71**	**315**	P	**Pn**	**03 21 18.3**	**+3.0**
W52A				IAmb	IAmb	03 21 41.3	
	comp=Z,22nm,1.5s						
R55A	**Marlinton**	**18.75**	**328**	P	**Pn**	**03 21 18.9**	**+3.2**
R55A				IAmb	IAmb	03 21 38.2	
	comp=Z,40nm,1.6s						
P57A	**Homestead Farm**	**18.82**	**335**	P	**Pn**	**03 21 16.0**	**-0.4**
P57A				IAmb	IAmb	03 21 42.7	
	comp=Z,24nm,1.5s						
LUPA	**Lehigh Univers**	**18.91**	**342**	P	**Pn**	**03 21 20.9**	**+3.4**
LUPA				IAmb	IAmb	03 22 06.3	
	comp=Z,30nm,1.5s						
PAL	**Palisades**	**18.91**	**346**	P	**P**	**03 21 15.4**	**-1.6**
PAL				IAmb	IAmb	03 21 55.0	
	comp=Z,34nm,1.3s						
Q56A	**Snyder Ridge,**	**18.93**	**332**	P	**P**	**03 21 16.2**	**-1.0**
M63A	**Gales Ferry**	**18.93**	**350**	P	**Pn**	**03 21 21.6**	**+3.8**
V52A	**Sevierville**	**18.96**	**317**	P	**P**	**03 21 16.6**	**-0.9**
S54A	**Dingess, Beckl**	**18.98**	**325**	P	**Pn**	**03 21 18.4**	**-0.1**
S54A				IAmb	IAmb	03 21 28.6	
	comp=Z,11nm,0.5s						
PAGS	**Pennsylvania G**	**19.00**	**338**	P	**P**	**03 21 16.9**	**-1.0**
PAGS				IAmb	IAmb	03 21 25.5	
	comp=Z,36nm,1.5s						
X51A	**Calhoun**	**19.03**	**312**	P	**Pn**	**03 21 18.8**	**-0.3**
X51A				IAmb	IAmb	03 21 27.5	
	comp=Z,14nm,0.6s						
TRNY	**Table Rock, Ra**	**19.12**	**345**	P	**Pn**	**03 21 20.8**	**+0.7**
TRNY				IAmb	IAmb	03 22 16.2	
	comp=Z,38nm,1.6s						
ODNJ	**Ogdensburg**	**19.16**	**344**	P	**Pn**	**03 21 20.6**	**+0.1**
ODNJ				IAmb	IAmb	03 21 46.0	
	comp=Z,52nm,1.5s						
CPCT	**Cooper Cave**	**19.32**	**315**	P	**P**	**03 21 19.8**	**-1.6**
L63A	**North Scituate**	**19.32**	**351**	P	**Pn**	**03 21 22.1**	**-0.3**
N59A	**State Game Lan**	**19.32**	**341**	P	**Pn**	**03 21 22.9**	**+0.4**
N59A				IAmb	IAmb	03 21 29.0	
	comp=Z,17nm,0.6s						
UCCT	**U. Connecticut**	**19.34**	**350**	P	**P**	**03 21 20.8**	**-0.9**
UCCT				IAmb	IAmb	03 21 29.7	
	comp=Z,33nm,0.9s						
BRYW	**Bryant College**	**19.36**	**351**	P	**P**	**03 21 21.1**	**-0.8**
TZTN	**Tazewell**	**19.38**	**319**	P	**P**	**03 21 21.4**	**-0.8**
TZTN				IAmb	IAmb	03 21 49.3	
	comp=Z,45nm,1.6s						
V51A	**Loudon**	**19.42**	**316**	P	**P**	**03 21 22.2**	**-0.4**
FPAL	**Fort Paine**	**19.54**	**311**	P	**Pn**	**03 21 25.5**	**+0.2**
N58A	**Sunbury**	**19.54**	**339**	P	**P**	**03 21 24.2**	**+0.3**
N58A				IAmb	IAmb	03 21 32.9	
	comp=Z,19nm,1.2s						
W50A	**Signal Mountai**	**19.70**	**313**	P	**P**	**03 21 25.8**	**+0.1**
W50A				IAmb	IAmb	03 21 39.0	
	comp=Z,14nm,1.1s						
R53A	**Hurricane**	**19.72**	**325**	P	**P**	**03 21 25.6**	**-0.2**
R53A				IAmb	IAmb	03 21 37.9	
	comp=Z,38nm,1.6s						
Y49A	**Blount Mountai**	**19.77**	**308**	P	**P**	**03 21 26.3**	**-0.1**
Y49A				IAmb	IAmb	03 21 48.5	
	comp=Z,6.4nm,0.6s						
SSPA	**Standing Stone**	**19.77**	**337**	P	**P**	**03 21 26.1**	**-0.2**
SSPA				IAmb	IAmb	03 21 58.4	
	comp=Z,27nm,1.6s						
ACON	**Acoyapa**	**19.77**	**240**	P	**P**	**03 21 26.9**	**+0.3**
WES	**Weston**	**19.79**	**352**	P	**P**	**03 21 25.2**	**-1.3**
QUA2	**Belchertown**	**19.84**	**350**	P	**P**	**03 21 27.1**	**+0.1**
QUA2				IAmb	IAmb	03 22 08.4	
	comp=Z,45nm,1.5s						
HRV	**Adam Dziewonsk**	**19.94**	**352**	P	**P**	**03 21 28.7**	**+0.5**
M57A	**Sunshine Farm,**	**20.13**	**339**	P	Pn	03 21 31.8	-0.3
M57A				IAmb	IAmb	03 22 24.4	
	comp=Z,20nm,1.4s						
SWET	**Sewanee**	**20.13**	**312**	P	**P**	**03 21 30.5**	**+0.1**
S51A	**Beattyville**	**20.14**	**321**		**P**	**03 21 30.8**	**+0.5**
S51A				IAmb	IAmb	03 21 43.7	
	comp=Z,15nm,1.3s						
K62A	**Royalston**	**20.20**	**350**	P	**P**	**03 21 30.5**	**-0.5**
L59A	**Walton**	**20.31**	**344**	P	**P**	**03 21 32.7**	**+0.4**
L59A				IAmb	IAmb	03 22 21.2	
	comp=Z,38nm,1.4s						
P53A	**Whipple**	**20.31**	**328**	P	**P**	**03 21 31.9**	**-0.3**
P53A				IAmb	IAmb	03 21 36.3	
	comp=Z,29nm,1.6s						
Q52A	**Bidwell**	**20.35**	**326**	P	**P**	**03 21 30.6**	**-2.1**
Q52A				IAmb	IAmb	03 21 55.2	
	comp=Z,22nm,1.4s						
O54A	**Avella**	**20.39**	**331**	P	**P**	**03 21 32.8**	**-0.4**
O54A				IAmb	IAmb	03 22 01.6	
	comp=Z,35nm,1.4s						
T50A	**Nancy**	**20.48**	**318**	P	**P**	**03 21 33.3**	**-0.8**
TRY	**Troy**	**20.51**	**347**	P	**P**	**03 21 35.2**	**+0.8**
BINY	**Binghamton**	**20.57**	**342**	P	**P**	**03 21 33.4**	**-1.6**
BINY				IAmb	IAmb	03 21 49.4	
	comp=Z,47nm,1.6s						
U49A	**Red Boiling Sp**	**20.77**	**315**	P	**P**	**03 21 35.8**	**-1.4**
P52A	**Corning**	**20.79**	**327**	P	**P**	**03 21 34.6**	**-2.8**
P52A				IAmb	IAmb	03 22 08.7	
	comp=Z,40nm,1.6s						
N54A	**Moraine State**	**20.87**	**333**	P	**P**	**03 21 39.2**	**+0.9**
N54A				IAmb	IAmb	03 21 53.2	
	comp=Z,10.0nm,0.8s						
Q51A	**Peebles**	**20.97**	**324**	P	**P**	**03 21 39.4**	**0.0**
Q51A				IAmb	IAmb	03 21 53.9	
	comp=Z,12nm,0.6s						
L56A	**Greenwood**	**20.99**	**339**	P	**P**	**03 21 39.1**	**-0.5**
L56A				IAmb	IAmb	03 22 00.7	
	comp=Z,11nm,0.7s						
R50A	**Paris**	**21.00**	**321**	P	Pn	03 21 42.0	-0.4
ACCN	**Adirondack Com**	**21.14**	**348**	P	**P**	**03 21 41.6**	**+0.4**
ACCN				IAmb	IAmb	03 21 56.1	
	comp=Z,8.7nm,0.8s						

CO03	**El Pedregal**	**1.08**	**154**		**Pn**	**03 20 01.5**	**+0.3**
CO03				Sn	**Sn**	**03 20 16.1**	**0.0**
CO02	**Combarbal**	**1.35**	**172**	*eP*	**Pn**	**03 20 04.8**	**+0.1**
CO02				*eS*	**Sn**	**03 20 22.6**	**+0.4**
CO02				IAML		03 20 24.3	
	comp=N,3µm,0.2s						
CO02	**Combarbal**	**1.35**	**172**		**Pn**	**03 20 04.6**	**-0.1**
AC04	**Llanos de Chal**	**1.66**	**5**	⇑*iP*	**Pn**	**03 20 08.6**	**+0.1**
AC04				*eS*	**Sn**	**03 20 29.0**	**-0.1**
AC04	**Llanos de Chal**	**1.66**	**5**		**Pn**	**03 20 08.6**	**+0.1**
GO03	**Copiap**	**2.42**	**21**		**Pn**	**03 20 18.9**	**+0.1**
AC06	**Mina Casimiro**	**2.61**	**17**	*eP*	**Pn**	**03 20 21.2**	**-0.3**
AC06				*eS*	**Sn**	**03 20 50.7**	**-1.4**
AC06				IAML		03 20 56.4	
	comp=E,117nm,0.2s						
AC06	**Mina Casimiro**	**2.61**	**17**		**Pn**	**03 20 20.7**	**-0.7**
ZON	**Zonda**	**2.77**	**128**	Pn	**Pn**	**03 20 25.0**	**+1.5**
VA03	**San Esteban**	**2.95**	**169**	⇑*eP*	**Pn**	**03 20 26.9**	**+0.8**
VA03				*eS*	**Sn**	**03 21 00.4**	**-0.1**
VA03				IAML		03 21 17.5	
	comp=E,296nm,0.3s						
VA03	**San Esteban**	**2.95**	**169**		**Pn**	**03 20 26.8**	**+0.8**
VA01	**Torpederas**	**3.17**	**186**	*eP*	**Pn**	**03 20 27.2**	**-1.7**
VA01	**Torpederas**	**3.17**	**186**	Pn	**Pn**	**03 20 27.2**	**-1.7**
AC02	**Maricunga**	**3.54**	**32**	Pn	**Pn**	**03 20 34.6**	**+0.2**
MT05	**Renca**	**3.55**	**173**	Pn	**Pn**	**03 20 34.2**	**+0.2**
VA05	**Santo Domingo**	**3.80**	**185**		**Pn**	**03 20 36.4**	**-1.1**
MT09	**Talagante**	**3.91**	**177**	Pn	**Pn**	**03 20 38.9**	**-0.2**
MT01	**Popeta**	**3.99**	**180**		**Pn**	**03 20 39.5**	**-0.6**
BO01	**Tunca**	**4.52**	**178**		**Pn**	**03 20 46.9**	**-0.3**
BO02	**Sierra Bellavi**	**4.93**	**176**	Pn	**Pn**	**03 20 52.9**	**-0.1**
GO05	**Huala**	**5.17**	**186**		**Pn**	**03 20 54.5**	**-1.7**
PB14	**IPOC Station P**	**5.26**	**8**	Pn	**Pn**	**03 20 55.1**	**-2.7**
ML02	**Panimavida**	**5.89**	**181**	Pn	**Pn**	**03 21 05.5**	**-0.4**
VA04	**Juan Fernndez**	**7.49**	**238**	Pn	**Pn**	**03 21 26.9**	**-0.8**
PB04	**IPOC Station P**	**7.56**	**8**	Pn	**Pn**	**03 21 30.1**	**+1.1**
LC01	**Cunco**	**9.03**	**183**	Pn	**Pn**	**03 21 46.8**	**-2.1**
TRQA	**Tornquist**	**11.21**	**139**	Pn	**Pn**	**03 22 17.8**	**-0.8**
LPAZ	**La Paz**	**13.81**	**13**	Pn	**Pn**	**03 22 55.9**	**+1.6**

MEX 14 03:20:41.2±0.5, 18°73N×102°90W, h50km±11km, MD4.2, Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.61**	**224**	*i* P	Pn	03 20 52.2	-1.7
MMIG				*i* S	Sn	03 21 01.2	-1.8
COIG	**Colima**	**0.87**	**301**	*i* P	Pn	03 20 55.0	-2.4
COIG				*i* S	Sn	03 21 05.9	-3.3
EZ5V		**1.00**	**318**	*i* P	Pn	03 20 57.5	-1.7
EZ5V				*i* S	Sn	03 21 11.0	-1.4
R15V		**1.12**	**293**	*i* P	Pn	03 20 59.0	-1.6
R15V				*i* S	Sn	03 21 13.1	-1.9
ZIIG	**Zihuatanejo**	**1.76**	**129**	*i* P	Pn	03 21 11.9	+2.6
ZIIG				*i* S	Sn	03 21 34.6	+4.1
CJM	**Chamela**	**2.17**	**291**	*i* P	Pn	03 21 16.4	+1.5
CJM				*i* S	Sn	03 21 43.0	+2.4

*IDC **14** 03:21:54.8±0.9, 37°.61N×22°.01E, h0km, mb3.8/8, mb1 3.9/11, mb1mx3.7/45, mbtmp3.8/11, ML3.4/3, MS2.6/3, Ms1 2.6/3, ms1mx2.3/35, Error ellipse: s-maj=22.3km s-min=17.5km az=73.0*

*ATH **14** 03:21:56.6, 37°.60N×22°.04E, h11km±1km, ML3.6/17, Error ellipse: s-maj=1.9km s-min=0.6km az=319.0*

*THE **14** 03:21:56.9, 37°.61N×22°.04E, h3km±1km, ML3.7/12, Error ellipse: s-maj=1.2km s-min=0.5km az=2.0*

*NEIC **14** 03:22:00.4±2.8, 37°.63N±0°.06×22°.07E±0°.08, h26km±7km, Error ellipse: s-maj=9.6km s-min=8.1km az=59.0*

ISC 14 03:21:56.8±0.8, 37°.61N±0°.02×22°.04E±0°.02, h11km±5km, n187, σ1§11/215, mb3.9/10, 9C-5D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRO	**Drossia**	**0.43**	**323**	P	**Pg**	**03 22 05.5**	**+0.2**
DRO				S	**Sg**	**03 22 11.2**	**+0.3**
	8µm,0.5s						
DRO	**Drossia**	**0.43**	**323**	P	**Pg**	**03 22 05.1**	**-0.2**
DRO				S	**Sg**	**03 22 11.6**	**+0.6**
DRO				AML	AML	03 22 15.3	
	comp=N,18307µm,0.4s						
DRO				AML	AML	03 22 17.5	
	comp=E,14601µm,0.7s						
ITM	**Ithomi**	**0.44**	**191**	P	**Pg**	**03 22 05.3**	**-0.2**
ITM				S	**Sg**	**03 22 11.9**	**+0.6**
	comp=E,8µm,0.3s						
ITM	**Ithomi**	**0.44**	**191**	P	**Pg**	**03 22 05.1**	**-0.4**
ITM	**Ithomi**	**0.44**	**191**	P	**Pg**	**03 22 04.9**	**-0.6**
ITM				S	**Sg**	**03 22 11.1**	**-0.2**
ITM				AML	AML	03 22 13.0	
	comp=N,16052µm,0.4s						
ITM				AML	AML	03 22 13.1	
	comp=E,13956µm,0.2s						
ITM	**Ithomi**	**0.44**	**191**		**Pg**	**03 22 05.1**	**-0.4**
KLV	**Kalavryta, Ach**	**0.44**	**12**	P	**Pg**	**03 22 05.3**	**-0.2**
KLV				S	**Sg**	**03 22 11.6**	**+0.2**
	comp=E,7µm,0.3s						
KLV	**Kalavryta, Ach**	**0.44**	**12**	P	**Pg**	**03 22 05.1**	**-0.5**
KLV				S	**Sg**	**03 22 12.1**	**+0.7**
KLV				AML	AML	03 22 16.3	
	comp=E,11253µm,0.2s						
KLV				AML	AML	03 22 16.6	
	comp=N,17226µm,0.5s						
LAKA	**Lakka**	**0.63**	**356**	P	**Pg**	**03 22 08.9**	**-0.2**
LAKA				S	**Sb**	**03 22 18.5**	**-0.3**
	comp=N,19µm,0.4s						
LAKA	**Lakka**	**0.63**	**356**	P	**Pg**	**03 22 08.8**	**-0.2**
LAKA				S	**Sg**	**03 22 17.9**	**+0.5**
LAKA				AML	AML	03 22 20.3	
	comp=N,47876µm,0.3s						
LAKA				AML	AML	03 22 21.2	
	comp=E,35437µm,0.4s						
RLS	**Riolos of Patr**	**0.63**	**315**	P	**Pg**	**03 22 08.3**	**-0.8**
RLS				S	**Sg**	**03 22 18.2**	**+0.7**
	comp=E,3µm,0.4s						
RLS	**Riolos of Patr**	**0.63**	**315**	P	**Pg**	**03 22 08.5**	**-0.7**
RLS				S	**Sg**	**03 22 18.0**	**+0.5**
RLS				AML	AML	03 22 22.1	
	comp=E,7266µm,0.4s						
RLS				AML	AML	03 22 22.2	
	comp=N,6136µm,0.5s						
ALIK	**Aliki, Aigiali**	**0.65**	**5**	P	**Pg**	**03 22 09.1**	**-0.4**
ALIK				S	**Sb**	**03 22 19.0**	**-0.3**
THAL	**Thalero**	**0.65**	**49**	P	**Pg**	**03 22 09.0**	**-0.5**
THAL				S	**Sb**	**03 22 18.8**	**-0.6**
	comp=N,24µm,0.3s						
THAL	**Thalero**	**0.65**	**49**	P	**Pg**	**03 22 08.9**	**-0.6**
THAL				S	**Sg**	**03 22 17.7**	**-0.4**
THAL				AML	AML	03 22 25.3	
	comp=E,57102µm,0.4s						
THAL				AML	AML	03 22 25.7	
	comp=N,36034µm,0.3s						
UPR	**University Cam**	**0.70**	**344**	P	**Pg**	**03 22 10.5**	**+0.1**
UPR				S	**Sb**	**03 22 20.9**	**+0.1**
VTN	**Vitineika**	**0.74**	**295**	P	**Pg**	**03 22 11.4**	**+0.3**
TRIZ	**Trizonia**	**0.75**	**2**	P	**Pg**	**03 22 10.8**	**-0.7**
TRIZ				S	**Sb**	**03 22 22.8**	**+0.5**
	comp=N,10µm,0.5s						
TRIZ	**Trizonia**	**0.75**	**2**	P	**Pg**	**03 22 10.7**	**-0.7**
TRIZ				S	**Sb**	**03 22 21.8**	**-0.5**
SERG	**Sergoula**	**0.80**	**1**	P	**Pg**	**03 22 10.5**	**-1.8**
EFP	**Efpalio**	**0.82**	**353**	P	**Pg**	**03 22 12.5**	**-0.2**
EFP	**Efpalio**	**0.82**	**353**	P	**Pg**	**03 22 12.1**	**-0.6**
EFP				AML	AML	03 22 27.4	
	comp=N,19939µm,0.5s						
EFP				AML	AML	03 22 28.0	
	comp=E,9364µm,0.3s						
LOUT	**Loutraki**	**0.83**	**63**	P	**Pg**	**03 22 12.3**	**-0.7**
LOUT	**Loutraki**	**0.83**	**63**	P	**Pg**	**03 22 12.2**	**-0.7**
LOUT				S	**Sg**	**03 22 23.7**	**-0.1**
LTK	**Loutraki**	**0.84**	**61**	P	**Pg**	**03 22 12.6**	**-0.5**
LTK				S	**Sg**	**03 22 24.2**	**+0.1**
	comp=E,5µm,0.4s						
LTK	**Loutraki**	**0.84**	**61**	P	**Pg**	**03 22 12.3**	**-0.8**
LTK				AML	AML	03 22 27.8	
	comp=N,10921µm,0.3s						
LTK				AML	AML	03 22 29.5	
	comp=E,8342µm,0.4s						
EPID	**Epidavros**	**0.86**	**90**	P	**Pg**	**03 22 12.9**	**-0.5**
EPID	**Epidavros**	**0.86**	**90**	P	**Pg**	**03 22 12.8**	**-0.6**
EPID				S	**Sb**	**03 22 25.2**	**-0.2**

KRND	**KRANIDI**	**0.92**	**104**	P	**Pg**	**03 22 14.1**	**-0.4**
KRND				S	**Sb**	**03 22 27.4**	**+0.5**
	comp=E,5µm,0.4s						
KRND	**KRANIDI**	**0.92**	**104**	P	**Pg**	**03 22 13.7**	**-0.8**
KRND				S	**Sg**	**03 22 25.9**	**-0.5**
KRND				AML	AML	03 22 31.3	
	comp=E,8332µm,0.3s						
KRND				AML	AML	03 22 31.4	
	comp=N,13196µm,0.4s						
DLFA	**Delphi**	**0.94**	**23**	P	**Pg**	**03 22 13.6**	**-1.3**
DLFA				S	**Sg**	**03 22 27.0**	**-0.2**
DLFA				AML	AML	03 22 31.9	
	comp=N,6264µm,0.6s						
DLFA				AML	AML	03 22 31.9	
	comp=E,6897µm,0.6s						
LTHK	**Lithakia**	**0.96**	**276**	P	**Pg**	**03 22 14.7**	**-0.5**
LTHK				S	**Sn**	**03 22 30.0**	**+0.1**
	comp=E,3µm,0.7s						
LTHK	**Lithakia**	**0.96**	**276**	P	**Pg**	**03 22 14.8**	**-0.5**
ANX	**Ano Chora**	**0.98**	**355**	P	**Pg**	**03 22 15.1**	**-0.7**
ANX	**Ano Chora**	**0.98**	**355**	P	**Pg**	**03 22 14.9**	**-0.9**
ANX				AML	AML	03 22 33.1	
	comp=E,14050µm,0.4s						
ANX				AML	AML	03 22 34.3	
	comp=N,15431µm,0.6s						
PVO	**Paravola**	**1.08**	**338**	P	**Pb**	**03 22 16.3**	**-1.3**
PVO	**Paravola**	**1.08**	**338**	P	**Pb**	**03 22 17.2**	**-0.4**
VLMS	**Volimes, Zakyn**	**1.12**	**284**	P	**Pb**	**03 22 17.1**	**-1.2**
VLMS	**Volimes, Zakyn**	**1.12**	**284**	P	**Pb**	**03 22 17.1**	**-1.2**
VIL2	**Platees**	**1.14**	**58**	P	**Pb**	**03 22 17.8**	**-0.9**
VIL2				AML	AML	03 22 37.6	
	comp=N,9307µm,0.4s						
VIL2				AML	AML	03 22 38.5	
	comp=E,10589µm,0.6s						
VLI	**Veliai**	**1.15**	**141**	P	**Pb**	**03 22 18.6**	**-0.1**
VLI	**Veliai**	**1.15**	**141**	P	**Pb**	**03 22 18.3**	**-0.4**
VLI				S	**Sb**	**03 22 32.9**	**-0.7**
VLI				AML	AML	03 22 44.3	
	comp=E,3773µm,0.5s						
VLI				AML	AML	03 22 44.7	
	comp=N,4770µm,0.6s						
VILL	**Villia**	**1.15**	**61**	P	**Pb**	**03 22 18.2**	**-0.6**
VILL				S	**Sn**	**03 22 35.5**	**+0.7**
	comp=N,6µm,0.5s						
YDRA	**Hydra**	**1.17**	**103**	P	**Pb**	**03 22 18.9**	**-0.2**
PSDA	**Pessada-Kefalo**	**1.25**	**294**	P	**Pn**	**03 22 20.0**	**-0.4**
VLS	**Valsamata**	**1.28**	**297**	P	**Pn**	**03 22 20.5**	**-0.2**
VLS	**Valsamata**	**1.28**	**297**	P	**Pn**	**03 22 20.1**	**-0.6**
LKR	**Lokris**	**1.28**	**36**	P	**Pn**	**03 22 20.2**	**-0.6**
LKR	**Lokris**	**1.28**	**36**	P	**Pn**	**03 22 19.7**	**-1.1**
EVR	**Evrytania**	**1.31**	**352**	P	**Pn**	**03 22 20.9**	**-0.4**
EVR	**Evrytania**	**1.31**	**352**	P	**Pn**	**03 22 20.8**	**-0.5**
ATH	**Athens Observa**	**1.38**	**74**	P	**Pb**	**03 22 22.6**	**-0.1**
ATH	**Athens Observa**	**1.38**	**74**	P	**Pb**	**03 22 22.4**	**-0.3**
ATH				AML	AML	03 22 43.4	
	comp=E,5121µm,0.4s						
ATH				AML	AML	03 22 45.4	
	comp=N,5465µm,0.4s						
MAKR	**Makrakomi, Fth**	**1.40**	**3**	P	**Pb**	**03 22 23.3**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.40**	**3**	P	**Pb**	**03 22 22.9**	**-0.2**
KEF5	**Kardakata, Kep**	**1.41**	**299**	P	**Pn**	**03 22 22.0**	**-0.5**
VLY	**Voula,Athens**	**1.41**	**80**	P	**Pn**	**03 22 22.5**	**-0.1**
VLY				S	**Sg**	**03 22 42.6**	**+0.2**
	comp=N,3µm,0.6s						
VLY	**Voula,Athens**	**1.41**	**80**	P	**Pn**	**03 22 22.5**	**-0.1**
AGG	**Agios Georgios**	**1.43**	**9**	P	**Pn**	**03 22 22.6**	**-0.2**
AGG	**Agios Georgios**	**1.43**	**9**	P	**Pn**	**03 22 22.7**	**-0.1**
AGG				AML	AML	03 22 49.7	
	comp=N,2173µm,0.5s						
AGG				AML	AML	03 22 50.0	
	comp=E,1917µm,0.4s						
AGG	**Agios Georgios**	**1.43**	**9**		**Pn**	**03 22 22.7**	**-0.1**
ATHU	**Athens Univers**	**1.43**	**75**	P	**Pn**	**03 22 22.9**	**+0.1**
ATHU	**Athens Univers**	**1.43**	**75**	P	**Pn**	**03 22 22.9**	**+0.1**
ATHU				S	**Sb**	**03 22 42.1**	**+0.3**
ATHU				AML	AML	03 22 44.8	
	comp=E,944µm,0.5s						
ATHU				AML	AML	03 22 45.9	
	comp=N,1536µm,0.5s						
FSK	**Fiskardo**	**1.44**	**306**	P	**Pn**	**03 22 22.9**	**0.0**
FSK	**Fiskardo**	**1.44**	**306**	P	**Pn**	**03 22 22.3**	**-0.6**
DMLN	**Damoulianata-K**	**1.46**	**296**	P	**Pn**	**03 22 23.6**	**+0.4**
KEF3	**Kipouria, Keph**	**1.46**	**294**	P	**Pb**	**03 22 23.7**	**-0.4**
EVGI	**Lefkada island**	**1.48**	**313**	P	**Pn**	**03 22 23.4**	**-0.1**
EVGI	**Lefkada island**	**1.48**	**313**	P	**Pn**	**03 22 23.3**	**-0.3**
NYDR	**Nydri-Lefkada**	**1.52**	**317**	P	**Pn**	**03 22 23.6**	**-0.5**
DION	**Dionisos Attik**	**1.57**	**72**	P	**Pn**	**03 22 25.1**	**+0.3**
DION	**Dionisos Attik**	**1.57**	**72**	P	**Pn**	**03 22 25.0**	**+0.3**
DION				AML	AML	03 22 51.4	
	comp=E,6565µm,0.4s						
DION				AML	AML	03 22 53.0	
	comp=N,3484µm,0.3s						
DRAG	**Dragano-Lefkad**	**1.57**	**313**	P	**Pn**	**03 22 24.7**	**-0.1**
KTHA	**Kythira Island**	**1.58**	**148**	P	**Pb**	**03 22 26.6**	**+0.4**
KTHA	**Kythira Island**	**1.58**	**148**	P	**Pg**	**03 22 27.3**	**+0.1**
TSLK	**Tsoukalades, L**	**1.63**	**318**	P	**Pn**	**03 22 24.8**	**-0.7**
KYMI	**Kymi, Euboea I**	**1.92**	**57**	P	**Pn**	**03 22 30.1**	**+0.5**
KYMI	**Kymi, Euboea I**	**1.92**	**57**	P	**Pn**	**03 22 30.1**	**+0.5**
NEO	**Neokhori**	**1.93**	**28**	P	**Pn**	**03 22 29.9**	**+0.2**
KARY	**Karystos**	**1.95**	**77**	P	**Pn**	**03 22 30.5**	**+0.6**
KARY	**Karystos**	**1.95**	**77**	P	**Pn**	**03 22 30.8**	**+0.9**
THL	**Klokotos Trika**	**1.95**	**359**	P	**Pn**	**03 22 30.3**	**+0.4**
IMMV	**Iera Moni Meta**	**2.66**	**143**	*eP*	**Pb**	**03 22 42.2**	**-2.3**
APE	**Apeiranthos**	**2.84**	**100**	⇓P	**Pn**	**03 22 43.4**	**+1.2**
APE	**Apeiranthos**	**2.84**	**100**	⇑S	**Sn**	**03 23 16.9**	**+0.5**
APE	**Apeiranthos**	**2.84**	**100**	P	**Pn**	**03 22 43.8**	**+1.6**
SANT	**Santorini**	**3.01**	**113**	Pn	**Pn**	**03 22 47.0**	**+2.5**
HORT	**Hortiatis**	**3.09**	**15**	*eP*	**Pn**	**03 22 43.5**	**-2.3**
KBN	**Korca**	**3.16**	**342**	Pn	**Pb**	**03 22 50.9**	**-2.2**
FNA	**Florina**	**3.21**	**351**	Pn	**Pn**	**03 22 47.3**	**0.0**
GVD	**Gavdhos**	**3.23**	**148**	*eP*	**Pb**	**03 22 53.0**	**-1.2**
IDI	**Anoyia**	**3.27**	**134**	Pn	**Pn**	**03 22 48.4**	**+0.3**
	comp=N,2.7nm,0.3s,baz=169,slow=5.0,SNR=13						
IDI				Sn	**Sn**	**03 23 26.6**	**-0.5**
	comp=N,3.3nm,0.3s,baz=57,slow=21,SNR=4.5						
URLA	**Izmir**	**3.68**	**77**	*eP*	**Pn**	**03 22 54.4**	**+0.7**
SCTE	**Santa Cesarea**	**3.71**	**313**	Pn	**Pn**	**03 22 57.4**	**+3.2**
VAY	**Valandovo**	**3.73**	**6**	*i* Pn	**Pn**	**03 22 56.3**	**+1.9**
GADA	**Gvkgeada**	**3.96**	**48**	*eP*	**Pn**	**03 22 57.5**	**-0.1**
STIP	**Stip**	**4.08**	**2**	*i* Pn	**Pn**	**03 23 00.8**	**+1.6**
TIR	**Tirane**	**4.09**	**336**	⇓P	**Pn**	**03 23 01.3**	**+2.0**
TIR	**Tirane**	**4.09**	**336**	Pn	**Pn**	**03 23 01.7**	**+2.3**
ZKR	**Zakros**	**4.19**	**125**	*eP*	**Pn**	**03 23 01.3**	**+0.5**
BODT	**Bodrum**	**4.24**	**96**	*eP*	**Pn**	**03 23 02.5**	**+1.1**
SKO	**Skopje**	**4.38**	**354**	*i* Pn	**Pn**	**03 23 07.6**	**+4.3**
TIP	**Timpagrande**	**4.43**	**292**	Pn	**Pn**	**03 23 06.0**	**+1.9**
GELI	**Tayfur-Gelibol**	**4.44**	**50**	*eP*	**Pn**	**03 23 04.4**	**+0.3**
DAT	**Datca**	**4.51**	**100**	*eP*	**Pn**	**03 23 06.4**	**+1.1**
ALN	**Alexandroupoli**	**4.52**	**42**	Pn	**Pn**	**03 23 05.7**	**+0.4**
MLSB	**Milas**	**4.58**	**92**	*eP*	**Pn**	**03 23 07.4**	**+1.3**
KARP	**Karpathos**	**4.61**	**115**	*eP*	**Pn**	**03 23 07.5**	**+0.9**
KARP	**Karpathos**	**4.61**	**115**	Pn	**Pn**	**03 23 09.3**	**+2.7**
ERIK	**Erikli-Kesan**	**4.63**	**47**	*eP*	**Pn**	**03 23 06.2**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**4.65**	**84**	*eP*	**Pn**	**03 23 08.3**	**+1.1**
PUK	**Puka**	**4.72**	**340**	Pn	**Pn**	**03 23 10.6**	**+2.5**
YER	**Yerkesik**	**5.00**	**94**	*eP*	**Pn**	**03 23 13.3**	**+1.4**
BALB	**Balikesir**	**5.00**	**64**	*eP*	**Pn**	**03 23 12.9**	**+1.0**
BALB	**Balikesir**	**5.00**	**64**	Pn	**Pn**	**03 23 13.1**	**+1.2**
VTS	**Vitosha**	**5.08**	**10**	⇑P	**Pn**	**03 23 13.1**	**-0.1**
VTS	**Vitosha**	**5.08**	**10**		**Pn**	**03 23 14.2**	**+1.0**
MATE	**Matera**	**5.14**	**308**	⇑P	Pn	03 23 19.7	+6.0
MAR3	**Marsite Statio**	**5.14**	**51**	*eP*	**Pn**	**03 23 14.4**	**+0.6**
MAR4	**Marsite Statio**	**5.17**	**51**	*eP*	**Pn**	**03 23 14.8**	**+0.5**
PDG	**Podgorica**	**5.26**	**337**	⇑P	**Pn**	**03 23 17.3**	**+1.8**
PDG	**Podgorica**	**5.26**	**337**	⇑S	**Sn**	**03 24 19.4**	**+3.3**
PDG	**Podgorica**	**5.26**	**337**	Pn	**Pn**	**03 23 17.4**	**+1.8**
KCTX	**Karacabey (Bur**	**5.59**	**60**	*eP*	**Pn**	**03 23 20.6**	**+0.6**
RAFF	**Raffo Rosso**	**6.12**	**269**	Pn	**Pn**	**03 23 29.3**	**+2.0**
STON	**Ston**	**6.21**	**329**	*ePn*	**Pn**	**03 23 28.3**	**-0.2**
STON				Sn	**Sn**	**03 24 37.4**	**-2.1**
ELL	**Elmali**	**6.34**	**95**	Pn	**Pn**	**03 23 34.6**	**+4.2**
SGRT	**San Giovanni R**	**6.38**	**312**	Pn	Pn	03 23 35.9	+5.0
DIVS	**Divibare**	**6.66**	**347**	Pn	**Pn**	**03 23 36.2**	**+1.4**
RICI	**Ricice**	**6.96**	**329**	*ePn*	**Pn**	**03 23 38.7**	**-0.1**
HVAR	**Hvar**	**7.00**	**324**	*ePn*	**Pn**	**03 23 40.8**	**+1.5**
HVAR				Sn	**Sn**	**03 24 57.2**	**-1.9**
HERR	**Herculane**	**7.27**	**2**	⇓P	**Pn**	**03 23 42.9**	**-0.1**
KIJV	**Kijevo**	**7.68**	**328**	*ePn*	**Pn**	**03 23 49.0**	**+0.3**
GZR	**Gura Zlata**	**7.79**	**4**	⇑P	**Pn**	**03 23 49.8**	**-0.5**
MORI	**Morici**	**7.88**	**324**	*ePn*	**Pn**	**03 23 53.3**	**+1.9**
VOIR		**8.14**	**15**	⇓P	**Pn**	**03 23 54.3**	**-0.7**
MLR	**Muntele Rosu**	**8.40**	**19**	⇑P	**Pn**	**03 23 58.1**	**-0.6**

MLR	**Muntele Rosu**	**8.40**	**19**	Pn	**Pn**	**03 24 00.9**	**+2.2**
	comp=N,0.1nm,0.3s,baz=200,slow=12,SNR=4.1						
NEHR	**Nehoiu**	**8.44**	**21**	⇓P	**Pn**	**03 23 58.7**	**-0.3**
NRCA	**Norcia**	**8.59**	**310**	Pn	Pn	03 24 06.0	+4.9
NVLJ	**Novalja**	**8.80**	**324**	*ePn*	**Pn**	**03 24 05.4**	**+1.4**
PLOR	**Plostina**	**8.92**	**21**	⇑P	**Pn**	**03 24 05.0**	**-0.8**
VRI	**Vrincioaia**	**8.96**	**22**	⇑P	**Pn**	**03 24 05.9**	**-0.3**
BR131	**Keskin Array S**	**9.32**	**73**	Pn	**Pn**	**03 24 13.8**	**+2.6**
BRTR	**Keskin Array B**	**9.32**	**73**	Pn	**Pn**	**03 24 14.5**	**+3.2**
	comp=N,0.3nm,0.3s,baz=259,slow=15,SNR=6.7						
BRTR				LR	LR	03 28 48.7	
	comp=N,26nm,21.2s,baz=242,slow=44						
BRTR	**Keskin Array B**	**9.32**	**73**	Pn	**Pn**	**03 24 13.8**	**+2.6**
PSZ	**Piszkesteto**	**10.42**	**352**	Pn	**Pn**	**03 24 29.1**	**+2.9**
GERES	**GERESS Array B**	**12.76**	**334**	LR	LR	03 30 48.3	
	comp=N,44nm,18.6s,baz=138,slow=42						
CLL	**Collm**	**15.12**	**338**	*es*P	**P**	**03 25 34.0**	**-1.5**
CLL				*e*PP	**pP**	**03 25 39.0**	**+0.3**
HFS	**Hagfors**	**23.16**	**349**	P	**P**	**03 27 02.0**	**-1.1**
	comp=N,2.3nm,0.5s,baz=150,slow=10,SNR=13						
KONO	**Kongsberg**	**23.46**	**344**	*eP*	**P**	**03 27 06.5**	**+0.4**
OSL	**Oslo**	**23.49**	**346**	*eP*	**P**	**03 27 06.4**	**0.0**
FINES	**FINESS Array B**	**23.99**	**5**	P	**P**	**03 27 10.2**	**-1.0**
	comp=N,2.6nm,0.8s,baz=151,slow=8.3,SNR=6.3						
FINES				PcP	**PcP**	**03 30 52.5**	**-0.3**
	comp=N,0.3nm,0.3s,baz=177,slow=2.4,SNR=5.2						
FINES	**FINESS Array B**	**23.99**	**5**	P	**P**	**03 27 11.7**	**+0.5**
NC602	**NORSAR Array S**	**24.08**	**347**	*eP*	**P**	**03 27 12.6**	**+0.5**
NB201	**NORSAR Array S**	**24.42**	**347**	P	**P**	**03 27 15.0**	**-0.2**
NB2	**NORSAR Subarra**	**24.42**	**347**	P	**P**	**03 27 14.9**	**-0.4**
	comp=Z,4.8nm,0.9s,baz=162,slow=10						
NB2	**NORSAR Subarra** baz=162,slow=10	**24.42**	**347**	P	**P**	**03 27 14.9**	**-0.4**
NOA	**NORSAR Array B**	**24.42**	**347**	P	**P**	**03 27 14.3**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=152,slow=11,SNR=20						
NOA				LR	LR	03 39 48.5	
	comp=Z,9.1nm,18.9s,baz=225,slow=44						
EKA	**Eskdalemuir Ar**	**24.59**	**324**	P	**P**	**03 27 17.7**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=128,slow=9.5,SNR=6.7						
SKAR	**Skarslia**	**24.67**	**344**	*eP*	**P**	**03 27 18.5**	**+1.0**
FOO	**Floro**	**26.25**	**342**	*eP*	**P**	**03 27 31.1**	**-0.6**
NSS	**Namsos**	**27.61**	**351**	*eP*	**P**	**03 27 44.6**	**+0.6**
MOR8	**Moi Rana**	**28.94**	**354**	*eP*	**P**	**03 27 56.8**	**+1.0**
FAUS	**Fauske**	**30.06**	**355**	*eP*	**P**	**03 28 06.6**	**+0.9**
TORD	**Torodi Ar. Bea**	**30.38**	**222**	P	**P**	**03 28 08.9**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=34,slow=9.5,SNR=5.6						
TORD	**Torodi Ar. Bea**	**30.38**	**222**	P	**P**	**03 28 08.9**	**-0.1**
STEI	**Steigen**	**30.61**	**355**	*eP*	**P**	**03 28 11.2**	**+0.7**
LOF	**Lofoten**	**30.94**	**354**	*eP*	**P**	**03 28 14.6**	**+1.1**
KTK1	**Kautokeino**	**31.46**	**1**	*eP*	**P**	**03 28 18.7**	**+0.6**
JETT	**Jettan, Norway**	**32.02**	**359**	*eP*	**P**	**03 28 23.3**	**+0.3**
ARA0	**ARCESS Array S**	**32.04**	**2**	*eP*	**P**	**03 28

	baz=28							
EKS2				⇑*i*S		**Sn**	**03 36 05.8**	**-0.8**
	baz=28							
DZA	**Taraz**	**2.48**	**345**	*e*P		**Pb**	**03 35 40.9**	**-0.1**
	34nm,0.2s							
DZA				*e*S		**Sb**	**03 36 12.5**	**+1.2**
	243nm,0.1s							
DZA	**Taraz**	**2.48**	**345**	Pg		**Pg**	**03 35 45.0**	**+0.7**
	99nm,0.1s							
DZA				Lg		Lg	03 36 11.2	
	243nm,0.1s							
AAK	**Ala-Archa**	**2.76**	**38**	⇓*e*P		**Pn**	**03 35 41.0**	**+0.4**
	baz=38							
AAK				⇓*i*S		**Sn**	**03 36 12.7**	**-0.9**
	baz=38							
AAK	**Ala-Archa**	**2.76**	**38**	⇓Pn		**Pn**	**03 35 41.3**	**+0.7**
	2.0nm,0.7s							
AAK				⇑Pg		**Pg**	**03 35 49.0**	**-0.7**
	2.5nm,0.5s							
AAK				Lg		Lg	03 36 22.3	
	17nm,0.6s							
KZA	**Kyzart**	**2.80**	**55**	⇓*e*P		**Pn**	**03 35 41.7**	**+0.3**
	baz=55							
KZA				⇓*i*S		**Sn**	**03 36 14.0**	**-1.1**
	baz=55							
KK31	**Karatay Array**	**2.89**	**335**	⇓Pn		**Pn**	**03 35 41.9**	**-0.3**
	1.1nm,0.2s,baz=140,slow=13,SNR=99							
KK31				Pg		**Pb**	**03 35 48.7**	**+0.7**
	8.3nm,0.2s,baz=147,slow=17,SNR=28							
KK31				Lg		Lg	03 36 23.2	
	16nm,0.3s,baz=156,slow=30,SNR=8.9							
KBK	**Karagaybulak**	**3.00**	**43**	⇓*e*P		**Pn**	**03 35 44.3**	**+0.4**
	baz=43							
KBK				⇓*i*S		**Sn**	**03 36 17.9**	**-1.7**
	baz=43							
CHMS	**Chumysh**	**3.16**	**37**	⇑*e*P		**Pn**	**03 35 46.0**	**+0.1**
	baz=37							
CHMS				⇑*i*S		**Sn**	**03 36 21.8**	**-1.5**
	baz=37							
USP	**Ospenovka**	**3.27**	**31**	⇑*i*P		**Pn**	**03 35 48.0**	**+0.5**
	baz=31							
USP				⇑*i*S		**Sn**	**03 36 24.5**	**-1.5**
	baz=31							
BOOM	**Boomskoye usch**	**3.46**	**54**	⇑*i*P		**Pn**	**03 35 50.7**	**+0.5**
	baz=54							
BOOM				⇑*i*S		**Sn**	**03 36 29.6**	**-1.4**
	baz=54							
SGDS	**Sogindy**	**3.47**	**31**	Pg		**Pg**	**03 36 03.2**	**-0.1**
	3.1nm,0.1s							
SGDS				Lg		Lg	03 36 42.3	
	16nm,0.5s							
ULHL	**Ulahol**	**3.52**	**59**	⇑*e*P		**Pn**	**03 35 51.2**	**+0.1**
	baz=59							
ULHL				⇑*i*S		**Sn**	**03 36 30.7**	**-1.9**
	baz=59							
TKM2	**Tokmak 2**	**3.52**	**45**	⇑*e*P		**Pn**	**03 35 51.3**	**+0.1**
	baz=46							
TKM2				⇑*i*S		**Sn**	**03 36 30.9**	**-1.7**
	baz=46							
TKM2	**Tokmak 2**	**3.52**	**45**	⇓Pn		**Pn**	**03 35 51.7**	**+0.5**
	1.7nm,0.3s							
TKM2				⇓Lg		Lg	03 36 46.9	
	11nm,0.5s							
KST	**Kastek**	**3.81**	**47**	*e*P		**Pb**	**03 36 05.8**	**+2.1**
	1.3nm,0.2s							
KST				*e*S		**Sg**	**03 36 55.5**	**-3.5**
	6.9nm,0.5s							
KST	**Kastek**	**3.81**	**47**	Pg		**Pg**	**03 36 12.6**	**+2.8**
	2.3nm,0.3s							
KST				Lg		Lg	03 36 58.1	
	6.9nm,0.5s							
DGS	**Degeres**	**3.84**	**43**	*e*P		**Pb**	**03 36 06.4**	**+2.1**
	3.1nm,0.3s							
DGS				*e*S		**Sg**	**03 36 56.8**	**-3.3**
	25nm,0.4s							
DGS	**Degeres**	**3.84**	**43**	Pg		**Pg**	**03 36 11.9**	**+1.5**
	7.5nm,0.4s							
DGS				Lg		Lg	03 36 57.2	
	25nm,0.4s							
KDJ	**Kajisay**	**4.11**	**65**	⇑*i*P		**Pn**	**03 35 59.3**	**+0.2**
	baz=65							
KDJ				⇑*i*S		**Sn**	**03 36 44.9**	**-2.1**
	baz=65							
KRBS	**Karabastau**	**4.12**	**38**	*e*P		**Pb**	**03 36 11.2**	**+2.1**
	1.3nm,0.2s							
KRBS				*e*S		**Sb**	**03 37 04.5**	**+5.8**
	12nm,0.3s							
KRBS	**Karabastau**	**4.12**	**38**	Pg		**Pg**	**03 36 15.5**	**-0.2**
	3.2nm,0.3s							
KRBS				Lg		Lg	03 37 03.2	
	12nm,0.3s							
MTBS	**Maitube**	**4.13**	**49**	*e*P		**Pb**	**03 36 11.8**	**+2.7**
	1.6nm,0.2s							
MTBS				*e*S		**Sg**	**03 37 05.3**	**-4.0**
	13nm,0.3s							
MTBS	**Maitube**	**4.13**	**49**	Pg		**Pg**	**03 36 16.5**	**+0.7**
	3.9nm,0.2s							
MTBS				Lg		Lg	03 37 04.9	
	13nm,0.3s							
IZV	**Izvestkoviy**	**4.18**	**51**	*e*P		**Pb**	**03 36 12.7**	**+2.6**
	2.6nm,0.4s							
IZV				*e*S		**Sg**	**03 37 07.7**	**-3.3**
	16nm,0.6s							
IZV	**Izvestkoviy**	**4.18**	**51**	Pg		**Pg**	**03 36 18.1**	**+1.2**
	8.3nm,0.7s							
IZV				Lg		Lg	03 37 07.9	
	16nm,0.6s							
TNSS	**Tian-Shan**	**4.38**	**53**	*e*P		**Pb**	**03 36 16.3**	**+2.7**
	2.8nm,0.7s							
TNSS				*e*S		**Sg**	**03 37 13.2**	**-4.2**
	3.9nm,0.5s							
TNSS	**Tian-Shan**	**4.38**	**53**	Pg		**Pg**	**03 36 21.0**	**+0.3**
	2.7nm,0.5s							
TNSS				Lg		Lg	03 37 12.6	
	3.9nm,0.5s							
MDOK	**Medeo**	**4.51**	**52**	*e*P		**Pb**	**03 36 19.2**	**+3.5**
	1.8nm,0.1s							
MDOK				*e*S		**Sg**	**03 37 18.4**	**-3.2**
	15nm,0.7s							
MDOK	**Medeo**	**4.51**	**52**	Pg		**Pg**	**03 36 24.0**	**+0.8**
	6.0nm,0.5s							
MDOK				Lg		Lg	03 37 17.7	
	15nm,0.7s							
KOTS	**Kotyrbulak**	**4.59**	**52**	*e*P		**Pb**	**03 36 20.6**	**+3.5**
	3.8nm,0.0s							
KOTS				*e*S		**Sg**	**03 37 20.9**	**-3.3**
	19nm,0.4s							
KOTS	**Kotyrbulak**	**4.59**	**52**	Pg		**Pg**	**03 36 24.5**	**-0.2**
	5.1nm,0.5s							
KOTS				Lg		Lg	03 37 18.9	
	19nm,0.4s							
KUU	**Kurty**	**4.59**	**41**	*e*P		**Pb**	**03 36 18.9**	**+1.9**
	0.8nm,0.4s							
KUU				*e*S		**Sb**	**03 37 17.8**	**+5.7**
	9.3nm,0.4s							
KUU	**Kurty**	**4.59**	**41**	Pg		**Pg**	**03 36 24.2**	**-0.5**
	1.6nm,0.2s							
KUU				Lg		Lg	03 37 18.1	
	9.3nm,0.4s							
KTBS	**Karatobe**	**4.64**	**45**	*e*P		**Pb**	**03 36 20.4**	**+2.5**
	0.7nm,0.3s							
KTBS				*e*S		**Sb**	**03 37 20.1**	**+6.5**
	15nm,0.6s							
KTBS	**Karatobe**	**4.64**	**45**	Pg		**Pg**	**03 36 25.5**	**-0.3**
	2.9nm,0.5s							
KTBS				Lg		Lg	03 37 20.2	
	15nm,0.6s							
BTLS	**Baital**	**4.75**	**16**	*e*P		**Pb**	**03 36 22.6**	**+3.0**
	1.0nm,0.3s							
BTLS				*e*S		**Sg**	**03 37 24.2**	**-4.9**
	7.6nm,0.5s							
BTLS	**Baital**	**4.75**	**16**	Pg		**Pg**	**03 36 27.8**	**+0.1**
	2.0nm,0.4s							
BTLS				Lg		Lg	03 37 24.5	
	1.8nm,0.3s							
CHKK	**Chushkaly**	**4.90**	**45**	*e*P		**Pb**	**03 36 25.9**	**+3.6**
	1.2nm,0.4s							
CHKK				*e*S		**Sg**	**03 37 29.9**	**-4.3**
	12nm,0.5s							
CHKK	**Chushkaly**	**4.90**	**45**	Pg		**Pg**	**03 36 30.5**	**-0.2**
	2.0nm,0.5s							
CHKK				Lg		Lg	03 37 29.2	
	12nm,0.5s							
KURS	**Kuram**	**5.38**	**54**	*e*P		Pb	03 36 34.7	+4.3
	1.8nm,0.3s							
KURS				*e*S		**Sg**	**03 37 44.5**	**-4.8**
	4.0nm,1.1s							
ARXS	**Arharly**	**5.60**	**47**	*e*P		**Pb**	**03 36 38.4**	**+4.2**
	1.7nm,0.4s							
ARXS				*e*S		**Sg**	**03 37 51.1**	**-5.3**
	5.2nm,0.4s							
ARXS	**Arharly**	**5.60**	**47**	Pg		**Pg**	**03 36 42.7**	**-1.3**
	3.5nm,0.6s							
ARXS				Lg		Lg	03 37 50.0	
	4.9nm,0.5s							
KPKS	**Kokpek**	**5.69**	**56**	*e*P		**Pb**	**03 36 39.5**	**+3.8**
	4.3nm,0.3s							
KPKS				*e*S		**Sg**	**03 37 53.1**	**-6.1**
	5.2nm,0.3s							
UZB	**Uzynbulak**	**5.76**	**60**	*e*P		Pb	03 36 41.5	+4.5
	1.4nm,0.4s							
UZB				*e*S		**Sg**	**03 37 56.8**	**-4.8**
	5.8nm,0.3s							
UZB	**Uzynbulak**	**5.76**	**60**	Pg		**Pg**	**03 36 45.6**	**-1.5**
	3.2nm,0.3s							
UZB				Lg		Lg	03 37 54.7	
	5.8nm,0.3s							

KMA 14 03:46:23.2±1.3, 34°.95N×129°.00E, h7km±3km, Error ellipse: s-maj=17.0km s-min=3.0km az=129.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSBUS	**Busan**	**0.31**	**17**	P	Pg	03 46 29.8	+0.4
KUJA	**Jangpyeong**	**0.33**	**260**	P	Pg	03 46 29.8	0.0
KSUSN	**Ulsan**	**0.76**	**7**	P	Pg	03 46 38.1	+0.2
	SNR=11						
KSUSN	**Ulsan**	**0.76**	**7**	P	Pg	03 46 38.1	+0.2
	SNR=11						
KSUSN	**Ulsan**	**0.76**	**7**	P	Pg	03 46 38.1	+0.2
	SNR=11						
KSUSN	**Ulsan**	**0.76**	**7**	P	Pg	03 46 37.7	-0.2
KSDAG	**Daegu**	**0.82**	**354**	P	Pg	03 46 39.1	+0.1
	SNR=12						
KSDAG	**Daegu**	**0.82**	**354**	P	Pg	03 46 39.1	+0.1
	SNR=12						
KSDAG	**Daegu**	**0.82**	**354**	P	Pg	03 46 39.1	+0.1
	SNR=12						
KSDAG	**Daegu**	**0.82**	**354**	P	Pg	03 46 39.1	+0.1
	SNR=12						
KOHB	**KOHEUNG**	**1.46**	**257**	P	Pn	03 46 49.9	-0.1
	SNR=7.2						
KOHB	**KOHEUNG**	**1.46**	**257**	P	Pn	03 46 49.9	-0.1
	SNR=7.2						
KOHB	**KOHEUNG**	**1.46**	**257**	P	Pn	03 46 49.9	-0.1
	SNR=7.2						
KOHB	**KOHEUNG**	**1.46**	**257**	P	Pn	03 46 49.9	-0.1
	SNR=7.2						
BOSB	**Boseong-gun**	**1.48**	**263**	P	Pn	03 46 50.5	+0.2
	SNR=9.7						
BOSB	**Boseong-gun**	**1.48**	**263**	P	Pn	03 46 50.5	+0.2
	SNR=9.7						
BOSB	**Boseong-gun**	**1.48**	**263**	P	Pn	03 46 50.5	+0.2
	SNR=9.7						
KSKWJ	**Gwangju**	**1.67**	**278**	P	Pb	03 46 53.7	-0.5
	SNR=7.1						
KSKWJ	**Gwangju**	**1.67**	**278**	P	Pb	03 46 53.7	-0.5
	SNR=7.1						
KSJEO	**Jeonju**	**1.71**	**306**	P	Pb	03 46 55.0	0.0
	SNR=8.8						
KSJEO	**Jeonju**	**1.71**	**306**	P	Pb	03 46 55.0	0.0
	SNR=8.8						
KSJEO	**Jeonju**	**1.71**	**306**	P	Pb	03 46 55.0	0.0
	SNR=8.8						
KSULJ	**Uljin**	**1.78**	**11**	P	Pb	03 46 56.0	-0.2
	SNR=7.6						
KSULJ	**Uljin**	**1.78**	**11**	P	Pb	03 46 56.0	-0.2
	SNR=7.6						
KSULJ	**Uljin**	**1.78**	**11**	P	Pb	03 46 56.0	-0.2
	SNR=7.6						
KSJEU	**Jeongeup**	**1.78**	**288**	P	Pb	03 46 55.8	-0.4
	SNR=5.5						
KSJEU	**Jeongeup**	**1.78**	**288**	P	Pb	03 46 55.8	-0.4
	SNR=5.5						
KSBON	**Boeun**	**1.83**	**328**	P	Pb	03 46 57.4	+0.3
	SNR=7.7						

*IDC **14** 03:47:42.6±1.1, 26°.78N×141°.17E, h114km±11km, mb3.7/12, mb1 3.7/15, mb1mx3.5/60, mbtmp4.0/15, Error ellipse: s-maj=25.3km s-min=13.0km az=75.0*
*NEIC **14** 03:47:43.4±1.6, 26°.83N±0°.09×141°.1E±0°.1, h113km±6km, mb4.5/15, Error ellipse: s-maj=14.8km s-min=13.5km az=106.0*
*JMA **14** 03:47:45.2±0.1, 26°.93N×141°.37E, h121km, M4.1*
JMA Felt I J1.
ISC 14 03:47:42.0±0.5, 26°.81N±0°.06×140°.95E±0°.07, h100km, n54, σ1°.50/61, mb4.2/19, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.11**	**99**	P	**Pn**	**03 48 05.4**	**+1.8**
JHH2				S	**Sn**	**03 48 20.6**	**+0.7**
CBIJ	**Chichi jima**	**1.14**	**75**	P	**Pn**	**03 48 05.2**	**+1.3**
CBIJ				S	**Sn**	**03 48 20.2**	**-0.3**
JCJ	**Chichijima**	**1.14**	**75**	P	**Pn**	**03 48 05.3**	**+1.3**
	270nm,0.3s,baz=108,slow=4.5,SNR=235						
JCJ				S	**Sn**	**03 48 19.9**	**-0.6**
	400nm,0.3s,baz=253,slow=19,SNR=12						
JCJ	**Chichijima**	**1.14**	**75**		**Pn**	**03 48 05.2**	**+1.3**
JCJ				Sn	**Sn**	**03 48 20.4**	**-0.1**
BSO3	**Boso 3**	**7.98**	**357**	P	**Pn**	**03 49 36.3**	**+1.4**
BSO3				*e*S	**Sn**	**03 51 00.0**	**-3.3**
JHU	**Hanno**	**9.13**	**351**	P	**Pn**	**03 49 51.6**	**+0.8**
JAG	**Ashikaga**	**9.67**	**353**	P	**Pn**	**03 49 58.1**	**-0.1**
JHO	**Hitachi**	**9.78**	**358**	P	**Pn**	**03 49 59.4**	**-0.2**
MJAR	**Matsushiro Arr**	**9.98**	**347**	P	**Pn**	**03 50 04.9**	**+2.5**
	0.2nm,0.3s,baz=116,slow=10,SNR=8.8						
MJAR	**Matsushiro Arr**	**9.98**	**347**		**Pn**	**03 50 04.4**	**+2.0**
MAJO	**Matsushiro**	**9.98**	**347**	Pn	**Pn**	**03 50 05.9**	**+3.5**
JMM	**Marumori**	**11.03**	**359**		**Pn**	**03 50 15.3**	**-1.3**
JSD	**Sado**	**11.42**	**349**	Pn	**Pn**	**03 50 20.8**	**-1.2**
JTM	**Tenmabayashi**	**13.94**	**0**	Pn	**Pn**	**03 50 55.0**	**-0.1**
ERM	**Erimo**	**15.28**	**6**		**P**	**03 51 15.7**	**+1.0**
ERM				IAmb	IAmb	03 51 44.5	
	comp=Z,60nm,1.5s						
KSRS	**Korea Array**	**15.30**	**317**	P	**P**	**03 51 19.6**	**+4.7**
	comp=Z,0.4nm,0.3s,baz=130,slow=11,SNR=14						
JEW	**Eniwo**	**16.00**	**1**	P	**P**	**03 51 24.4**	**+1.7**
ASAJ	**Asahikawa**	**17.32**	**4**	P	**P**	**03 51 38.1**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=233,slow=10,SNR=7.5						
USRK	**Ussuriysk Ar.**	**18.80**	**340**	P	**Pn**	**03 51 56.1**	**+0.9**
	baz=149,slow=10,SNR=6.6						
USRK	**Ussuriysk Ar.**	**18.80**	**340**	P	**Pn**	**03 51 56.3**	**+1.1**
KLR	**Kul'dur**	**23.49**	**345**	P	**P**	**03 52 42.9**	**+0.1**
	comp=Z,7.9nm,0.6s,baz=151,slow=7.9,SNR=31						
SONM	**Songino Array**	**34.17**	**317**	P	**P**	**03 54 17.7**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=123,slow=7.0,SNR=2.5						
MTN	**Manton Dam**	**40.55**	**195**	P	**P**	**03 55 11.3**	**-0.4**
MTN				IAmb	IAmb	03 55 11.9	
	comp=Z,15nm,1.4s						
COEN	**Coen**	**40.58**	**177**	P	**P**	**03 55 11.7**	**-0.2**
COEN				IAmb	IAmb	03 55 33.6	
	comp=Z,13nm,1.1s						
CTAO	**Charters Tower**	**46.90**	**173**	P	**P**	**03 56 01.8**	**-0.7**
WR0	**Warramunga Arr**	**46.91**	**188**	P	**P**	**03 56 01.6**	**-0.9**
WR0				IAmb	IAmb	03 56 09.8	
	comp=Z,8.3nm,1.4s						
WB2	**Warramunga Arr**	**46.91**	**189**	P	**P**	**03 56 01.8**	**-0.8**
WB2				IAmb	IAmb	03 56 02.5	
	comp=Z,9.2nm,1.0s						
WRA	**Warramunga Arr**	**46.91**	**189**	P	**P**	**03 56 02.0**	**-0.7**
	comp=Z,2.9nm,0.4s,baz=13,slow=8.8,SNR=110						
WRA	**Warramunga Arr**	**46.91**	**189**	P	**P**	**03 56 01.4**	**-1.2**
WRA				PcP	**PcP**	**03 57 32.7**	**-1.1**
FITZ	**Fitzroy Crossi**	**47.05**	**200**	P	**P**	**03 56 04.0**	**+0.3**
ZALV	**Zalesovo Beam**	**48.99**	**319**	P	**P**	**03 56 17.8**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=114,slow=3.7,SNR=3.5						
MKAR	**Makanchi Array**	**49.81**	**310**	P	**P**	**03 56 25.0**	**+0.3**
ASAR	**Alice Springs**	**50.64**	**188**	P	**P**	**03 56 29.6**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=2.9,slow=6.1,SNR=6.8						
ASAR	**Alice Springs**	**50.64**	**188**	P	**P**	**03 56 31.2**	**+0.1**
J20K	**Nowinta River**	**55.30**	**29**	P	**P**	**03 57 04.0**	**-0.8**
J20K				IAmb	IAmb	03 57 15.6	
	comp=Z,7.1nm,1.4s						
BVAR	**Borovoye Array**	**57.51**	**318**	P	**P**	**03 57 20.4**	**-0.3**
	comp=Z,1.1nm,0.4s,baz=90,slow=4.4,SNR=5.0						
KK31	**Karatay Array**	**58.36**	**306**	P	**P**	**03 57 26.4**	**-0.4**
KKAR	**Karatay Array**	**58.36**	**306**	P	**P**	**03 57 27.1**	**+0.2**
STKA	**Stephens Creek**	**58.36**	**179**	P	**P**	**03 57 25.9**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=342,slow=16,SNR=1.6						
SCRK	**Sand Creek**	**59.72**	**30**	P	**P**	**03 57 35.1**	**-1.0**
SCRK				IAmb	IAmb	03 57 37.5	
	comp=Z,5.3nm,1.4s						
MORW	**Morawa**	**60.48**	**205**	P	**P**	**03 57 41.2**	**-0.2**
ABKAR	**Akbulak array**	**64.51**	**314**	P	**P**	**03 58 07.0**	**-1.1**
ARCES	**ARCESS Array B**	**73.45**	**341**	P	**P**	**03 59 02.7**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=71,slow=9.1,SNR=9.4						
ARCES	**ARCESS Array B**	**73.45**	**341**	P	**P**	**03 59 02.2**	**-0.9**
ARCES					**PcP**	**03 59 18.7**	**0.0**
ARCES				IAmb	IAmb	03 59 21.2	
	comp=Z,8.0nm,1.4s						
FIA1	**FINESS Array S**	**77.71**	**334**	P	**P**	**03 59 27.3**	**-0.2**
FIA1				IAmb	IAmb	03 59 39.8	
	comp=Z,12nm,1.3s						
FINES	**FINESS Array B**	**77.72**	**334**	P	**P**	**03 59 26.4**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=60,slow=5.2,SNR=9.6						
NVAR	**Mina Array Bea**	**81.56**	**51**	P	**P**	**03 59 48.1**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=328,slow=4.6,SNR=3.6						
HFS	**Hagfors**	**83.25**	**336**	P	**P**	**03 59 55.9**	**-1.3**
	comp=Z,2.4nm,0.8s,baz=56,slow=0.5,SNR=5.3						
PDAR	**Pinedale Array**	**85.19**	**44**	P	**P**	**04 00 06.3**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=298,slow=3.2,SNR=4.5						
PDAR	**Pinedale Array**	**85.19**	**44**	P	**P**	**04 00 05.9**	**-1.8**
PLCA	**Paso Flores**	**150.53**	**126**	PKPbc	**PKPdf**	**04 07 20.4**	**+3.6**
	comp=Z,1.3nm,0.8s,baz=243,slow=5.1,SNR=4.0						
PLCA	**Paso Flores**	**150.53**	**126**		**PKPbc**	**04 07 20.8**	**-1.5**
LPAZ	**La Paz**	**151.06**	**75**	PKPbc	**PKPdf**	**04 07 22.9**	**+3.9**
	comp=Z,1.1nm,0.7s,baz=34,slow=0.8,SNR=6.2						
LPAZ	**La Paz**	**151.06**	**75**	PKPbc	**PKPbc**	**04 07 23.5**	**-1.3**

*IDC **14** 04:23:15.5±2.3, 5°.83S×148°.01E, h0km, mb4.2/4, mb1 4.4/5, mb1mx3.9/31, mbtmp4.2/5, ML4.4/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/41, Error ellipse: s-maj=62.8km s-min=29.8km az=97.0*
*NEIC **14** 04:23:23.2±1.6, 6°.0S±0°.1×147°.8E±0°.1, h35km±2km, mb4.2/13, Error ellipse: s-maj=23.8km s-min=20.1km az=110.0*
ISC 14 04:23:21.8±1.3, 5°.9S±0°.1×147°.8E±0°.2, h35km, n24, σ1°.15/23, mb4.2/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEN	**Coen**	**9.16**	**209**		**Pn**	**04 25 32.9**	**+1.2**
WR0	**Warramunga Arr**	**18.97**	**222**	P	**P**	**04 27 40.3**	**0.0**
WR0				IAmb	IAmb	04 27 41.3	
	comp=Z,4.2nm,0.6s						
WRAB	**Tennant Creek**	**19.07**	**222**	P	**P**	**04 27 41.2**	**-0.3**
WRAB				IAmb	IAmb	04 27 42.8	
	comp=Z,4.9nm,0.6s						
WB2	**Warramunga Arr**	**19.08**	**222**	P	**P**	**04 27 41.4**	**-0.1**
WB2				IAmb	IAmb	04 27 42.4	
	comp=Z,5.9nm,0.5s						
WRA	**Warramunga Arr**	**19.09**	**222**	P	**P**	**04 27 41.6**	**-0.1**
	comp=Z,1.3nm,0.3s,baz=51,slow=10,SNR=12						
WRA	**Warramunga Arr**	**19.09**	**222**	P	**P**	**04 27 41.0**	**-0.6**
EIDS	**Eidsvold**	**19.57**	**171**	P	**Pn**	**04 27 47.6**	**-0.8**
EIDS				IAmb	IAmb	04 27 50.0	
	comp=Z,23nm,1.2s						
GUMO	**Guam**	**19.62**	**352**	LR	LR	04 34 03.5	
	comp=Z,24nm,20.1s,baz=149,slow=33						
KNRA	**Kununurra**	**21.02**	**241**	P	**P**	**04 28 03.1**	**+0.5**
KNRA				IAmb	IAmb	04 28 09.7	
	comp=Z,12nm,1.1s						
AS31	**Alice Springs**	**22.11**	**216**	P	**P**	**04 28 14.8**	**+0.5**
ASAR	**Alice Springs**	**22.11**	**216**	P	**P**	**04 28 14.8**	**+0.4**
	comp=Z,4.1nm,0.4s,baz=48,slow=9.3,SNR=96						
ASAR				S	**S**	**04 32 12.9**	**-3.4**
	comp=Z,0.8nm,0.9s,baz=34,slow=22,SNR=3.9						
ASAR	**Alice Springs**	**22.11**	**216**	P	**P**	**04 28 13.9**	**-0.4**
ARMA	**Armidale**	**24.61**	**172**	P	**P**	**04 28 40.6**	**+1.5**
ARMA				IAmb	IAmb	04 28 43.3	
	comp=Z,9.2nm,1.2s						
FITZ	**Fitzroy Crossi**	**24.76**	**239**	P	**P**	**04 28 41.4**	**+1.0**
	comp=Z,11nm,0.7s,baz=51,slow=7.6,SNR=68						
FITZ	**Fitzroy Crossi**	**24.76**	**239**	P	**P**	**04 28 41.4**	**+1.0**
FITZ				IAmb	IAmb	04 28 42.1	
	comp=Z,10nm,0.6s						
STKA	**Stephens Creek**	**26.44**	**192**	P	**P**	**04 28 56.7**	**+1.2**
	comp=Z,3.7nm,0.5s,baz=356,slow=9.1,SNR=14						
STKA	**Stephens Creek**	**26.44**	**192**	P	**P**	**04 28 56.5**	**+1.0**
FORT	**Forrest**	**30.88**	**214**	P	**P**	**04 29 34.9**	**-0.2**
MORW	**Morawa**	**37.79**	**229**	P	**P**	**04 30 35.3**	**+0.4**
MJAR	**Matsushiro Arr**	**43.20**	**349**	LR	LR	04 48 31.7	
	comp=Z,27nm,18.6s,baz=250,slow=35						
MKAR	**Makanchi Array**	**77.95**	**320**	P	**P**	**04 35 16.6**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=102,slow=3.4,SNR=2.4						
QSPA	**South Pole Qui**	**84.02**	**180**	P	**P**	**04 35 47.8**	**-0.8**
TORD	**Torodi Ar. Bea**	**145.83**	**285**	PKPbc	**PKPdf**	**04 42 56.5**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=69,slow=2.5,SNR=5.2						
TORD	**Torodi Ar. Bea**	**145.83**	**285**		**PKPdf**	**04 42 56.4**	**-1.5**

IDC 14 04:32:30.6±33.0, 17°.09S×173°.91W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/39, mbtmp4.0/4, MS3.3/1, Ms1 3.3/1, ms1mx2.5/41, Error ellipse: s-maj=645.1km s-min=173.6km az=86.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.78**	**241**	P	P	04 40 30.7	+0.5
	1.2nm,0.5s,baz=79,slow=14,SNR=3.0						
JAY	**Jayapura**	**46.86**	**283**	LR	LR	04 59 53.4	
	comp=Z,32nm,18.3s,baz=17,slow=35						
WRA	**Warramunga Arr**	**49.00**	**258**	P	P	04 41 19.5	0.0
	0.8nm,0.4s,baz=97,slow=7.4,SN

mb1 3.7/2, mb1mx3.4/32, mbtmp3.5/2, ML3.6/1, Error ellipse: s-maj=70.4km s-min=9.0km az=114.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.90**	**223**	P	P	04 57 44.0	-0.3
	0.2nm,0.3s,baz=50,slow=10,SNR=13						
ASAR	**Alice Springs**	**21.90**	**216**	P	P	04 58 17.4	+0.4
	0.8nm,0.4s,baz=52,slow=8.9,SNR=11						
TORD	**Torodi Ar. Bea**	**145.90**	**284**	PKPbc	PKPdf	05 13 03.7	-0.2
	1.2nm,0.7s,baz=75,slow=4.1,SNR=12						

*IDC **14** 05:10:47.4±2.4,24.7°72N×109.3°32W,h0km,mb3.7/1, mb1 3.8/6,mb1mx3.6/37,mbtmp3.5/6,ML3.2/5,MS3.0/4, Ms1 3.0/4,ms1mx2.6/48, Error ellipse: s-maj=45.6km s-min=13.8km az=135.0*

*MEX **14** 05:10:48.8±0.3,25.0°09N×109.5°56W,h8km±8km, MD3.7*

ISC 14 05:10:47.3±0.9, 24.7°78N±0.0°07×109.3°18W±0.0°07, h10km, n13, σ2.9°98/15, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSIG	**Topolobambo**	**0.83**	**9**	*i* P	**Pg**	**05 11 00.9**	**-2.4**
TSIG				*i* S	**Sg**	**05 11 10.3**	**-3.8**
LPIG	**La Paz**	**1.23**	**237**	Pg	**Pb**	**05 11 08.3**	**-2.2**
	9.9nm,0.3s,baz=344,slow=2.7,SNR=9.8						
LPIG	**La Paz**	**1.23**	**237**	*i* P	**Pb**	**05 11 08.0**	**-2.6**
LPIG				*i* S	**Sn**	**05 11 28.3**	**+1.1**
SSIG	**Sanalona**	**1.86**	**88**	*e*P	**Pn**	**05 11 19.1**	**0.0**
SSIG				*i* S	**Sn**	**05 11 38.9**	**-3.8**
PDIG	**Papasquiaro**	**3.45**	**85**	*i* P	**Pn**	**05 11 45.0**	**+3.7**
PDIG				*i* S	Sn	05 12 10.2	-12
TXAR	**Lajitas Array**	**6.69**	**46**	Pn	**Pn**	**05 12 30.1**	**+4.4**
	0.1nm,0.3s,baz=230,slow=14,SNR=2.6						
TXAR				Sn	**Sn**	**05 13 43.4**	**+1.3**
	0.1nm,0.3s,baz=226,slow=20,SNR=1.1						
TXAR				Lg	Lg	05 14 21.1	
	0.4nm,0.3s,baz=220,slow=24,SNR=4.6						
ANMO	**Albuquerque**	**10.40**	**12**	Pn	**Pn**	**05 13 20.4**	**+3.6**
	0.1nm,0.3s,baz=197,slow=13,SNR=6.7						
ANMO				LR	LR	05 17 15.7	
	comp=Z,57nm,21.0s,baz=209,slow=37						
CMIG	**Matias Romero**	**15.38**	**117**	LR	LR	05 20 30.7	
	comp=Z,50nm,18.4s,baz=276,slow=38						
NVAR	**Mina Array Bea**	**15.66**	**333**	Pn	**P**	**05 14 32.5**	**+0.1**
	0.1nm,0.3s,baz=159,slow=13,SNR=3.4						
ELK	**Elko**	**16.71**	**344**	Pn	**P**	**05 14 44.1**	**0.0**
	0.1nm,0.3s,baz=162,slow=13,SNR=3.7						
PDAR	**Pinedale Array**	**17.95**	**359**	P	**P**	**05 14 58.8**	**+1.0**
	0.0nm,0.3s,baz=166,slow=8.0,SNR=9.5						
PDAR				LR	LR	05 21 57.7	
	comp=Z,42nm,21.3s,baz=174,slow=37						
NEW	**Newport**	**24.27**	**347**	P	**P**	**05 16 07.9**	**+3.3**
	0.8nm,0.7s,baz=158,slow=11,SNR=3.5						
ULM	**Lac du Bonnet**	**27.44**	**19**	LR	LR	05 26 49.4	
	comp=Z,44nm,18.7s,baz=124,slow=35						

DJA 14 05:20:17.9±0.4, 1°N±5°×12°2E±°, h88km±5km, M4.0/7, mb4.0/2, MLv3.9/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.37**	**249**	P	Pn	05 20 32.0	+0.5
MRSI				S	Sn	05 20 44.5	+2.9
GTOI	**Gorontalo**	**0.72**	**88**	P	Pn	05 20 34.5	+0.1
GTOI				S	Sn	05 20 48.0	+1.2
APSI	**Ampana**	**1.64**	**203**	P	Pn	05 20 45.2	-0.2
KMSI	**Cibinong**	**1.69**	**91**	P	Pn	05 20 46.1	+0.1
KMSI				S	Sn	05 21 08.2	+0.8
MPSI	**Mapaga**	**2.41**	**264**	P	Pn	05 20 55.8	+0.4
MNI	**Manado**	**2.68**	**72**	P	Pn	05 20 58.4	-0.7
BNSI	**Bone**	**5.43**	**204**	P	Pn	05 21 36.3	-0.2
	0.1nm25nm,0.8s						
BKSI	**Bulukumba**	**6.28**	**200**	P	Pn	05 21 48.4	+0.4

MEX 14 05:32:36.6±0.6, 14°31N×92°65W, h9km±31km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**2.02**	**14**	*i* P	Pn	05 33 02.5	-8.6
CCIG				*i* S	Sn	05 33 31.8	-4.8
CMIG	**Matias Romero**	**3.51**	**322**	*i* P	Pn	05 33 28.8	-2.5
CMIG				*i* S	Sn	05 34 09.3	-3.7

*MOS **14** 05:33:12.9±1.0,42.7°75N×143.2°1E,h125km, mb4.4/4, Error ellipse: s-maj=12.6km s-min=8.5km az=72.6*

*SKHL **14** 05:33:13.6±0.5,42.7°70N×143.3°0E,h130km±6km, mb5.0/5, msha5.8/4*

*NIED **14** 05:33:14.4,42.7°76N×143.7°19E,h106km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr0.35; Mθθ4.89; Mφφ -5.24; Mrθ2.63; Mθφ -0.21; Mrφ1.21; Fault plane solution: Mo5.82000×10^14^ NP1:φs45.00000°, δ82.00000°,λ152.00000°. NP2:φs139.00000°,δ62.00000°, λ9.00000°.*

*NEIC **14** 05:33:14.0±1.7,42.7°72N±0.0°06×143.7°09E±0.0°09, h122km±6km, mb4.2/15 Error ellipse: s-maj=10.2km s-min=8.4km az=65.0*

*JMA **14** 05:33:14.3±0.1,42.7°76N×143.7°19E,h106km±1km, M3.5*

*IDC **14** 05:33:14.2±1.7,42.8°2N×143.3°20E,h122km±10km, mb3.5/9, mb1 3.5/11,mb1mx3.4/49,mbtmp3.8/11, MS3.3/1, Ms1 3.3/1,ms1mx2.3/46, Error ellipse: s-maj=22.9km s-min=16.3km az=122.0*

ISC 14 05:33:13.5±0.6, 42.7°3N±0.0°04×143.3°21E±0.0°03, h119km±5km, n85, σ1.9°31/112, mb4.1/17, 2C-5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCH	**Churui**	**0.16**	**134**	P	**Pn**	**05 33 29.2**	**-0.7**
JCH				S	**Sn**	**05 33 40.2**	**-2.0**
JTHR	**Tokachihiroo**	**0.44**	**171**	P	**Pn**	**05 33 30.5**	**-0.5**
JTHR				S	Sn	**05 33 42.6**	**-1.5**
JOB	**Onbets**	**0.49**	**69**	P	**Pn**	**05 33 31.1**	**-0.1**
JOB				*e*S	Sn	**05 33 44.0**	**-0.6**
JNBK	**Urakawa-nobuka**	**0.56**	**217**	P	**Pn**	**05 33 31.9**	**+0.2**
JNBK				*e*S	**Sn**	**05 33 44.8**	**-0.5**
JBT2	**Biratori 2**	**0.62**	**275**	P	**Pn**	**05 33 31.7**	**-0.4**
JBT2				*e*S	**Sn**	**05 33 45.0**	**-1.1**
JFR	**Furan**	**0.63**	**314**	P	**Pn**	**05 33 31.7**	**-0.5**
JFR				*e*S	**Sn**	**05 33 44.6**	**-1.7**
JAR	**Ashorobuto**	**0.70**	**36**	P	**Pn**	**05 33 32.2**	**-0.5**
JAR				*e*S	**Sn**	**05 33 45.9**	**-1.4**
JEM	**Erimo**	**0.71**	**183**	P	**Pn**	**05 33 33.3**	**+0.5**
ERM	**Erimo**	**0.71**	**183**	PN	**Pn**	**05 33 33.6**	**+0.8**
ERM	**Erimo**	**0.71**	**183**		**Pn**	**05 33 33.6**	**+0.8**
JIAM	**Iburiatsuma**	**0.95**	**264**	P	**Pn**	**05 33 36.0**	**+1.1**
JIAM				*e*S	**Sn**	**05 33 53.2**	**+2.1**
JAB	**Ashibetsu**	**1.06**	**318**	P	**Pn**	**05 33 35.6**	**-0.4**
JAK	**Akkeshi**	**1.13**	**76**	P	**Pn**	**05 33 36.1**	**-0.6**
JAK				*e*S	**Sn**	**05 33 53.4**	**-0.8**
JKK2	**Kamakawa 2**	**1.19**	**344**	P	**Pn**	**05 33 37.2**	**-0.2**
JMP	**Maruseppu**	**1.28**	**5**	P	**Pn**	**05 33 38.2**	**-0.2**
JMP				S	**Sn**	**05 33 56.9**	**-0.4**
JEW	**Eniwo**	**1.30**	**276**	P	**Pn**	**05 33 38.4**	**-0.1**
JEW				*e*S	**Sn**	**05 33 57.0**	**-0.5**
JEW	**Eniwo**	**1.30**	**276**		**Pn**	**05 33 38.4**	**-0.1**
JTKR	**Abashiri--Toko**	**1.34**	**22**	P	**Pn**	**05 33 38.6**	**-0.4**
JTKR				*e*S	**Sn**	**05 33 57.2**	**-1.2**
JKA	**Kamikawa-asahi**	**1.46**	**343**		**Pn**	**05 33 40.2**	**-0.1**
JKA	**Kamikawa-asahi**	**1.46**	**343**	*e*P	**Pn**	**05 33 40.7**	**+0.4**
ASAJ	**Asahikawa**	**1.46**	**343**	P	**Pn**	**05 33 40.7**	**+0.4**
	30nm,0.3s,baz=198,slow=9.1,SNR=36						
ASAJ				S	**Sn**	**05 34 00.1**	**-0.6**
	16nm,0.3s,baz=84,slow=32,SNR=16						
JHR	**Hokuryu**	**1.48**	**314**	P	**Pn**	**05 33 40.6**	**0.0**
JHR				S	**Sn**	**05 34 01.2**	**-0.1**
JKB	**Kayabe**	**1.82**	**243**	P	**Pn**	**05 33 43.9**	**-0.7**
JKB				S	**Sn**	**05 34 06.3**	**-2.0**
JRA	**Rausu**	**1.85**	**48**	P	**Pn**	**05 33 45.3**	**+0.3**
NMR	**Nemuro--Hokkai**	**1.96**	**70**	*i* PN	**Pn**	**05 33 45.5**	**-0.8**
NMR				*i* S	**Sn**	**05 34 09.0**	**-2.4**
NMR	**Nemuro--Hokkai**	**1.96**	**70**	*i* P	**Pn**	**05 33 45.0**	**-1.3**
NMR				*i* S	**Sn**	**05 34 09.0**	**-2.4**
GLVR	**Golovnino**	**1.97**	**58**	*e*PN	**Pn**	**05 33 47.1**	**+0.7**
GLVR				*e*S	**Sn**	**05 34 11.5**	**-0.2**
GLVR				pmax	pmax		
	comp=E,28nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,282nm,0.1s						
GLVR				smax	smax		
	comp=N,574nm,0.2s						
GLVR				smax	smax		
	comp=E,1μm,0.3s						
GLVR	**Golovnino**	**1.97**	**58**	*e*P	**Pn**	**05 33 47.1**	**+0.7**
GLVR				AMB	AMB	05 33 47.7	
	comp=E,140nm,0.3s						
GLVR				*e*S	**Sn**	**05 34 11.0**	**-0.7**
GLVR				A	A	05 34 13.0	
	comp=E,574nm,0.3s						
GLVR				A	A	05 34 13.0	
	comp=E,1μm,0.3s						
RUSJ	**Misakicho**	**2.03**	**47**	*e*PN	**Pn**	**05 33 47.7**	**+0.5**
RUSJ				*e*S	**Sn**	**05 34 16.6**	**+3.7**
GRPR	**Tuman**	**2.26**	**55**	*i* PN	**Pn**	**05 33 50.9**	**+0.8**
GRPR				*i* S	**Sn**	**05 34 17.3**	**-0.9**
GRPR				pmax	pmax		
	comp=Z,435nm,0.3s						
GRPR				pmax	pmax		
	comp=E,112nm,0.1s						
GRPR				pmax	pmax		
	comp=N,153nm,0.2s						
GRPR				smax	smax		
	comp=E,272nm,0.2s						
GRPR				smax	smax		
	comp=N,1μm,0.4s						
GRPR	**Tuman**	**2.26**	**55**	*i* P	**Pn**	**05 33 50.0**	**-0.1**
GRPR				AMB	AMB	05 33 51.0	
	comp=N,210nm,0.3s						
GRPR				*i* S	**Sn**	**05 34 17.0**	**-1.2**
GRPR				A	A	05 34 20.0	
	comp=N,1μm,0.3s						
GRPR				A	A	05 34 20.0	
	comp=N,272nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.34**	**55**	*c* iPN	**Pn**	**05 33 51.9**	**+0.8**
YUK				*i* S	**Sn**	**05 34 19.7**	**-0.2**
YUK				pmax	pmax		
	comp=N,141nm,0.2s						
YUK				pmax	pmax		
	comp=Z,641nm,0.2s						
YUK				smax	smax		
	comp=E,982nm,0.4s						
YUK				smax	smax		
	comp=N,482nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.34**	**55**	*i* P	**Pn**	**05 33 51.0**	**-0.1**
YUK				AMB	AMB	05 33 52.0	
	comp=N,280nm,0.2s						
YUK				*i* S	**Sn**	**05 34 19.0**	**-0.9**
YUK				A	A	05 34 24.0	
	comp=N,1μm,0.5s						
YUK				A	A	05 34 24.0	
	comp=N,1μm,0.5s						
JTM	**Tenmabayashi**	**2.51**	**220**		**Pn**	**05 33 52.7**	**-0.7**
KUR	**Kuril'sk**	**4.19**	**52**	*e*PN	**Pn**	**05 34 16.9**	**+1.4**
KUR				*e*S	**Sn**	**05 35 04.9**	**+1.3**
KUR				pmax	pmax		
	comp=N,18nm,0.3s						
KUR				pmax	pmax		
	comp=Z,49nm,0.3s						
KUR				smax	smax		
	comp=E,94nm,0.3s						
KUR				smax	smax		
	comp=N,43nm,0.4s						
KUR	**Kuril'sk**	**4.19**	**52**	*e*P	**Pn**	**05 34 16.0**	**+0.5**
KUR				AMB	AMB	05 34 17.0	
	comp=N,49nm,0.3s						
KUR				*e*S	**Sn**	**05 35 03.0**	**-0.6**
KUR				A	A	05 35 07.0	
	comp=N,43nm,0.3s						
KUR				A	A	05 35 07.0	
	comp=N,80nm,0.3s						
YSS	**Yuzh-Sakhalins**	**4.24**	**356**	*i* PN	**Pn**	**05 34 16.4**	**+0.3**
YSS				*e*S	**Sn**	**05 35 04.0**	**-0.7**
YSS				pmax	pmax		
	comp=Z,40nm,0.7s						
YSS				smax	smax		
	comp=N,20nm,1.0s						
YSS				smax	smax		
	comp=E,50nm,0.9s						
YSS	**Yuzh-Sakhalins**	**4.24**	**356**	*e*P	**Pn**	**05 34 16.4**	**+0.3**
YSS				AMB	AMB	05 34 17.2	
	comp=E,40nm,0.7s						
JMM	**Marumori**	**5.19**	**202**		**Pn**	**05 34 27.7**	**-1.3**
MJAR	**Matsushiro Arr**	**7.28**	**214**	P	**Pn**	**05 34 58.8**	**+1.6**
	comp=E,0.1nm,0.3s,baz=44,slow=12,SNR=1.7						
USRK	**Ussuriysk Ar.**	**8.29**	**284**	P	**Pn**	**05 35 09.9**	**-0.8**
	baz=92,slow=14,SNR=5.0						
USRK	**Ussuriysk Ar.**	**8.29**	**284**	PN	**Pn**	**05 35 10.0**	**-0.8**
SEY	**Seymchan**	**20.94**	**12**	P	**P**	**05 37 44.8**	**-1.7**
	comp=E,4.4nm,0.6s,baz=186,slow=10,SNR=5.6						
SONM	**Songino Array**	**26.23**	**294**	P	**P**	**05 38 38.3**	**+1.0**
	comp=E,1.0nm,0.7s,baz=77,slow=9.1,SNR=4.7						
SONM	**Songino Array**	**26.23**	**294**	*e*P	**P**	**05 38 38.9**	**+1.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONM	**Songino Array**	**26.23**	**294**	P	**P**	**05 38 36.2**	**-1.1**
DGZ	**Jazzator, Alta**	**38.44**	**300**	*de*P	**P**	**05 40 25.8**	**+2.2**
DGZ				*i* *PP	**pP**	**05 40 52.3**	**+1.9**
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZALV	**Zalesovo Beam**	**39.32**	**307**	P	**P**	**05 40 31.6**	**+1.0**
	comp=Z,1.8nm,0.4s,baz=75,slow=7.3,SNR=6.3						
ZALV	**Zalesovo Beam**	**39.32**	**307**	*e*P	**P**	**05 40 31.3**	**+0.6**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZALV	**Zalesovo Beam**	**39.32**	**307**	P	**P**	**05 40 31.2**	**+0.6**
IMAR	**Indian Mountain**	**41.10**	**34**	P	**P**	**05 40 45.1**	**0.0**
MK31	**Makanchi Array**	**42.50**	**297**	*e*P	**P**	**05 40 57.0**	**+0.2**
MK31	**Makanchi Array**	**42.50**	**297**	P	**P**	**05 40 56.6**	**-0.3**
MK31				IAmb	IAmb	05 41 04.1	
	comp=Z,1.9nm,1.0s						
MKAR	**Makanchi Array**	**42.50**	**297**	P	**P**	**05 40 56.8**	**0.0**
	comp=Z,0.6nm,0.5s,baz=87,slow=9.6,SNR=7.4						
MKAR				LR	LR	06 01 16.2	
	comp=Z,36nm,19.3s,baz=120,slow=40						
MKAR	**Makanchi Array**	**42.50**	**297**	*e*P	**P**	**05 40 59.5**	**+2.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**42.50**	**297**	P	**P**	**05 40 56.3**	**-0.5**
MKAR	**Makanchi Array**	**42.50**	**297**	*e*P	**P**	**05 40 59.5**	**+2.7**
ILAR	**Eielson Array**	**44.00**	**35**	P	**P**	**05 41 08.8**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=262,slow=5.4,SNR=7.7						
ILAR	**Eielson Array**	**44.00**	**35**	P	**P**	**05 41 09.5**	**+0.9**
ILAR	**Eielson Array**	**44.00**	**35**	P	**P**	**05 41 09.5**	**+0.9**
SCRK	**Sand Creek**	**45.35**	**36**	P	**P**	**05 41 19.3**	**-0.2**
SCRK				IAmb	IAmb	05 41 19.8	
	comp=Z,1.2nm,0.6s						
DOT	**Dot Lake**	**45.36**	**37**	P	**P**	**05 41 20.1**	**+0.6**
DOT				IAmb	IAmb	05 41 38.9	
	comp=Z,3.0nm,1.3s						
K27K	**Chicken**	**46.17**	**36**	P	**P**	**05 41 26.8**	**+1.1**
K27K				IAmb	IAmb	05 41 46.0	
	comp=Z,8.1nm,1.5s						
L27K	**Beaver Creek,**	**46.46**	**37**	P	**P**	**05 41 29.7**	**+1.6**
BCAR	**Beaver Creek A**	**46.48**	**37**	P	**P**	**05 41 30.1**	**+1.8**
WAX	**Waxell Ridge**	**46.51**	**41**	P	**P**	**05 41 26.0**	**-2.5**
WAX				IAmb	IAmb	05 41 43.4	
	comp=Z,13nm,1.4s						
EPYK	**Eagle Plains**	**47.94**	**32**	P	**P**	**05 41 40.6**	**+1.1**
EPYK				IAmb	IAmb	05 41 45.4	
	comp=Z,9.1nm,1.4s						
INK	**Inuvik**	**48.72**	**29**	P	**P**	**05 41 45.6**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=287,slow=7.9,SNR=8.5						
INK	**Inuvik**	**48.72**	**29**	IAmb	IAmb	05 41 46.4	
	comp=Z,5.7nm,1.2s						
ARU	**Arti**	**53.11**	**316**	*d* iP	**P**	**05 42 19.3**	**+0.9**
ARU				S	**S**	**05 49 38.6**	**-0.6**
ARU				SS	**SS**	**05 53 12.0**	**-7.5**
ARU	**Arti**	**53.11**	**316**	*e*P	**P**	**05 42 19.3**	**+0.9**
SPITS	**Spitsbergen Ar**	**55.22**	**348**	P	**P**	**05 42 32.7**	**-0.7**
SPITS				pmax	pmax		
	comp=Z,45nm,1.5s						
ABKAR	**Akbulak array**	**55.43**	**308**	P	**P**	**05 42 35.8**	**+0.4**
ABKAR				IAmb	IAmb	05 42 39.0	
	comp=Z,1.6nm,0.8s						
KEV	**Kevo**	**58.63**	**339**	P	**P**	**05 42 57.6**	**+0.1**
KEV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KEV	**Kevo**	**58.63**	**339**	P	**P**	**05 42 57.6**	**+0.1**
ARCES	**ARCESS Array B**	**59.18**	**339**	P	**P**	**05 43 01.0**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=38,slow=10.0,SNR=6.3						
ARCES	**ARCESS Array B**	**59.18**	**339**	P	**P**	**05 43 01.0**	**-0.3**
ARCES	**ARCESS Array B**	**59.18**	**339**	IAmb	IAmb	05 43 06.7	
	comp=Z,9.7nm,1.4s						
WRA	**Warramunga Arr**	**62.89**	**189**	P	**P**	**05 43 27.5**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=4.9,slow=7.3,SNR=1.1						
WRA	**Warramunga Arr**	**62.89**	**189**	IAmb	IAmb	05 43 36.7	
	comp=Z,0.4nm,1.4s						
FINES	**FINESS Array B**	**64.44**	**332**	P	**P**	**05 43 35.5**	**-1.2**
	comp=Z,1.3nm,0.5s,baz=49,slow=7.6,SNR=9.7						
FINES	**FINESS Array B**	**64.44**	**332**	*e*P	**P**	**05 43 36.5**	**-0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**64.44**	**332**	P	**P**	**05 43 36.4**	**-0.2**
SUMG	**Summit**	**64.99**	**1**	P	**P**	**05 43 41.4**	**+0.9**
SUMG				pmax	pmax		
	comp=Z,14nm,1.4s						
SUMG	**Summit**	**64.99**	**1**	P	**P**	**05 43 41.4**	**+0.9**

*IDC **14** 05:44:03.5±0.6,23.0°07N×143.2°0E,h0km,mb3.8/4, mb1 3.9/5,mb1mx3.6/48,mbtmp3.9/5,ML4.4/1,MS2.6/1, Ms1 2.6/1,ms1mx2.2/44, Error ellipse: s-maj=32.3km s-min=4.5km az=86.0*

*NEIC **14** 05:44:09.6±0.9,23.2°N±0.1°×143.0°E±0.1°,h36km±8km, mb4.3/6, Error ellipse: s-maj=19.9km s-min=14.6km az=116.0*

ISC 14 05:44:08.4±1.0, 23.1°7N±0.0°09×143.1°E±0.3, h35km, n16, σ1.9°17/15, mb4.1/7, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**3.99**	**349**	Pn	**Pn**	**05 45 07.6**	**+0.5**
	21nm,0.3s,baz=294,slow=23,SNR=48						
JCJ				Sn	**Sn**	**05 45 53.2**	**+0.5**
	18nm,0.3s,baz=308,slow=23,SNR=6.2						
JCJ	**Chichijima**	**3.99**	**349**		**Pn**	**05 45 07.4**	**+0.3**
JHJ	**Hachijo jima 2**	**10.33**	**344**	LR	LR	05 50 28.6	
	comp=Z,34nm,18.8s,baz=131,slow=37						
JMM	**Marumori**	**14.78**	**353**	Pn	**Pn**	**05 47 32.4**	**-2.5**
KLR	**Kul'dur**	**27.51**	**344**	P	**P**	**05 49 51.9**	**+0.5**
	1.1nm,0.6s,baz=203,slow=7.7,SNR=3.8						
WRAB	**Tennant Creek**	**43.68**	**192**	P	**P**	**05 52 08.0**	**-2.0**
WRAB				IAmb	IAmb	05 52 18.4	
	comp=Z,8.2nm,1.4s						
WB2	**Warramunga Arr**	**43.69**	**192**	P	**P**	**05 52 10.2**	**+0.2**
WB2				IAmb	IAmb	05 52 37.9	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**43.69**	**192**	P	**P**	**05 52 10.0**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=13,slow=8.7,SNR=9.7						
FITZ	**Fitzroy Crossi**	**44.41**	**204**	P	**P**	**05 52 15.8**	**0.0**
	comp=Z,1.3nm,1.0s,baz=31,slow=9.7,SNR=1.6						
FITZ	**Fitzroy Crossi**	**44.41**	**204**	IAmb	IAmb	05 52 42.1	
	comp=Z,9.6nm,1.5s						
MK31	**Makanchi Array**	**53.64**	**312**	P	**P**	**05 53 27.5**	**+1.1**
MK31				IAmb	IAmb	05 53 29.4	
	comp=Z,3.9nm,1.5s						
MKAR	**Makanchi Array**	**53.64**	**312**	P	**P**	**05 53 26.5**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=97,slow=7.8,SNR=5.5						
MKAR	**Makanchi Array**	**53.64**	**312**	P	**P**	**05 53 27.0**	**+0.6**
PPLA	**Purkeypile**	**58.16**	**29**	P	**P**	**05 53 59.9**	**+1.3**
PLCA	**Paso Flores**	**146.79**	**130**	PKPbc	**PKPdf**	**06 03 46.2**	**+1.0**
	comp=Z,3.2nm,1.2s,baz=256,slow=4.2,SNR=3.1						
LPAZ	**La Paz**	**149.88**	**83**	PKPbc	**PKPbc**	**06 03 55.4**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=270,slow=3.0,SNR=2.0						

*IDC **14** 05:44:52.1±2.0,4.7°98S×153.0°5E,h0km,mb4.0/6, mb1 4.3/6,mb1mx3.9/41,mbtmp4.0/6,MS3.1/2,Ms1 3.1/2, ms1mx2.6/38,Error ellipse: s-maj=63.2km s-min=25.0km az=121.0*

ISC 14 05:44:59.0±1.5, 5.0°0S±0.0°3×152.9°9E±0.0°3, h43km, n8, σ1.9°06/7, mb3.8/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.42**	**229**	P	**P**	**05 50 03.1**	**-1.4**
	2.2nm,0.6s,baz=53,slow=9.4,SNR=25						
WRA				LR	LR	05 59 05.4	
	comp=Z,73nm,18.0s,baz=205,slow=36						
ASAR	**Alice Springs**	**26.11**	**223**	P	**P**	**05 50 28.7**	**-0.4**
	1.4nm,0.8s,baz=61,slow=7.5,SNR=9.6						
FITZ	**Fitzroy Crossi**	**29.68**	**242**	P	**P**	**05 51 01.6**	**+0.6**
	0.3nm,0.4s,baz=48,slow=12,SNR=1.2						
CMAR	**Chiang Mai Arr**	**58.05**	**295**	P	**P**	**05 54 47.8**	**-0.4**
	3.3nm,0.3s,baz=118,slow=7.3,SNR=5.2						
MA2	**Magadan**	**64.36**	**359**	LR	LR	06 19 37.0	
	comp=Z,8.6nm,20.0s,baz=245,slow=32						
MKAR	**Makanchi Array**	**80.52**	**319**	P	**P**	**05 57 07.5**	**+0.7**
	1.6nm,0.9s,baz=113,slow=6.0,SNR=6.6						
ILAR	**Eielson Array**	**82.27**	**22**	P	**P**	**05 57 14.8**	**-0.8**
	0.7nm,0.9s,baz=251,slow=5.4,SNR=5.5						
SIV	**San Ignacio**	**140.45**	**122**	PKP	**PKiKP**	**06 04 28.1**	**+0.9**
	1.0nm,0.8s,baz=202,slow=3.6,SNR=5.6						

*IDC **14** 05:47:32.8±1.3,18.2°87N×147.1°3E,h0km,mb3.8/7, mb1 3.9/7,mb1mx3.6/46,mbtmp3.8/7,MS3.3/1,Ms1 3.3/1, ms1mx2.3/50,Error ellipse: s-maj=56.3km s-min=23.6km az=93.0*

ISC 14 05:47:38.3±1.3, 18.2°8N±0.2°×147.1°E±0.4, h37km, n8, σ1.9°20/7, mb4.0/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.52**	**199**	P	**P**	**05 55 14.0**	**+0.1**
	0.3nm,0.3s,baz=21,slow=8.3,SNR=5.5						
SONM	**Songino Array**	**43.88**	**321**	LR	LR	06 12 06.0	
	comp=Z,43nm,21.3s,baz=153,slow=34						
ASAR	**Alice Springs**	**44.16**	**197**	P	**P**	**05 55 43.7**	**+0.1**

	7.7nm,0.4s							
KUU	**Kurty**	**2.36**	**133**		Pg	**Pg**	**06 02 53.6**	**-0.4**
	1.2nm,0.1s							
KUU					Lg	Lg	06 03 25.6	
	11nm,0.7s							
DGS	**Degeres**	**2.63**	**149**		Pg	**Pb**	**06 02 56.1**	**-0.6**
	4.0nm,0.8s							
DGS					Lg	Lg	06 03 30.8	
	13nm,0.7s							
CHKK	**Chushkaly**	**2.74**	**126**		Pg	**Pg**	**06 03 01.2**	**0.0**
	1.8nm,0.7s							
CHKK					Lg	Lg	06 03 39.2	
	7.8nm,0.7s							
TKM2	**Tokmak 2**	**2.86**	**155**	⇑	Pg	**Pb**	**06 03 00.8**	**+0.1**
	1.3nm,0.7s							
TKM2				⇑	Lg	Lg	06 03 37.4	
	5.4nm,0.8s							
KST	**Kastek**	**2.87**	**149**		Pg	**Pb**	**06 03 01.2**	**+0.3**
	3.8nm,0.8s							
KST					Lg	Lg	06 03 38.8	
	2.1nm,0.8s							
AAK	**Ala-Archa**	**2.91**	**172**	⇓	Pg	**Pb**	**06 03 00.8**	**-0.7**
	1.4nm,0.5s							
AAK				⇓	Lg	Lg	06 03 38.1	
	7.2nm,0.8s							
KK31	**Karatay Array**	**3.44**	**227**	⇓	Pg	**Pb**	**06 03 10.5**	**-0.1**
	0.4nm,0.5s,baz=49,slow=16							
KK31				⇓	Lg	Lg	06 03 55.0	
	4.5nm,0.7s,baz=42,slow=28,SNR=7.1							
MK31	**Makanchi Array**	**5.94**	**75**		Pg	**Pg**	**06 04 03.0**	**+0.4**
	0.1nm,0.2s,baz=26,slow=14,SNR=19							
MK31				⇑	Lg	Lg	06 05 22.1	
	2.7nm,0.9s,baz=252,slow=27,SNR=4.9							
MKAR	**Makanchi Array**	**5.94**	**75**		Pn	**Pg**	**06 04 02.9**	**+0.3**
	0.4nm,0.3s,baz=25,slow=13,SNR=12							
KURBB	**Kurchatov Arra**	**5.96**	**29**		Pn	**Pn**	**06 03 37.9**	**-0.3**
	0.2nm,0.3s,baz=54,slow=13,SNR=5.9							
KURBB					Lg	Lg	06 05 22.4	
	0.1nm,0.3s,baz=63,slow=33,SNR=4.1							
KURBB	**Kurchatov Arra**	**5.96**	**29**	⇑	Lg	Lg	06 05 23.7	
	6.4nm,0.8s							
I46RU	**ZALESOVO INFRA**	**10.98**	**36**	*i*			06 08 50.0	
	baz=79,slow=337,SNR=2.5							

MEX 14 06:03:18.2±0.5, 14°.63N×92°.82W, h55km±32km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
THIG		**0.60**	**63**	*i*	P	Pn	06 03 29.9	-1.0
THIG				*i*	S	Sn	06 03 38.0	-2.1
PCIG		**1.13**	**340**	*i*	P	Pn	06 03 36.4	-1.5
PCIG				*i*	S	Sn	06 03 50.4	-2.0
CCIG	**Comitan**	**1.76**	**22**	*i*	P	Pn	06 03 47.5	+0.9
CCIG				*i*	S	Sn	06 04 10.5	+2.5

*NEIC **14** 06:04:54.25°.19S×70°.77W, h46km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mw=3.51; Mθθ=0.51; Mϕϕ=3.00; Mrr=1.70; Mθϕ=2.04; Mθr=0.50; Fault plane solution: M0=4.25000×10¹⁵ NP1:ϕs=186.42000°, δ=47.20000°, λ=54.92000°. NP2:ϕs=52.38000°, δ=53.10000°, λ=121.83000°. Principal axes: T 4.3378, Plg65.0000°, Azm24.0000°; N -0.1742, Plg25.0000°, Azm212.0000°; P -4.1636, Plg3.0000°, Azm120.0000°;*

*IDC **14** 06:04:54.6±0.6, 25°.25S×70°.52W, h47km±5km, mb4.4/12, mb1 4.5/14, mb1mx4.4/22, mbtmp4.6/14, MS3.5/8, Ms1 3.6/8, ms1mx3.3/23 Error ellipse: s-maj=17.8km s-min=11.3km az=117.0*

*NEIC **14** 06:04:54.8±2.1, 25°.18S±0°.03×70°.67W±0°.07, h46km±1km, mb5.0/172, Mwr4.4/15, ML4.6(GUC), Error ellipse: s-maj=11.2km s-min=3.4km az=113.0*

*GUC **14** 06:04:56.0±0.7, 25°.04S×70°.49W, h56km±4km, ML4.6*

*VAO **14** 06:05:01.6±1.1, 24°.83S×70°.32W, h92km±6km, mb4.6*

ISC 14 06:04:54.1±0.6, 25°.15S±0°.03×70°.71W±0°.05, h43km±5km, n448, σ1°25/457, mb5.0/91, MS3.8/3, 56C-30D, Fault plane solution: NP1:ϕs177.00606°, δ79.42636°, λ60.47286°. NP2:ϕs69.05500°, δ31.20185°, λ159.25508°. Principal axes: T Plg47.2714°, Azm56.1025°; N Plg28.9776°, Azm182.9397°; P Plg28.3638°, Azm290.3364°; **Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB14	**IPOC Station P**	**0.59**	**28**	⇑	*i*P	**Pn**	**06 05 06.9**	**+0.4**
PB14					*e*S	**Sn**	**06 05 16.0**	**+0.8**
PB14	**IPOC Station P**	**0.59**	**28**	⇑	*i*P	**Pn**	**06 05 06.9**	**+0.4**
PB14					*i* S	**Sn**	**06 05 16.1**	**+0.9**
PB14					IAML		06 05 17.4	
	comp=E,19μm,0.4s							
PB14	**IPOC Station P**	**0.59**	**28**			**Pn**	**06 05 06.7**	**+0.2**
PB14					Sn	**Sn**	**06 05 15.9**	**+0.6**
PB10	**IPOC Station P**	**1.63**	**5**	⇑	*i*P	**Pn**	**06 05 20.4**	**0.0**
PB10					*e*S	**Sn**	**06 05 39.5**	**-0.7**
PB10	**IPOC Station P**	**1.63**	**5**	⇑	*i*P	**Pn**	**06 05 20.4**	**0.0**
PB10					*i* S	**Sn**	**06 05 40.4**	**+0.2**
PB10					IAML		06 05 41.4	
PB10	**IPOC Station P**	**1.63**	**5**		Pn	**Pn**	**06 05 20.4**	**0.0**
PB10					Sn	**Sn**	**06 05 40.6**	**+0.3**
AC02	**Maricunga**	**2.20**	**140**	⇓	*i*P	**Pn**	**06 05 29.9**	**+1.2**
AC02				⇓	*i*P	**Pn**	**06 05 29.9**	**+1.2**
AC02					*i* S	**Sn**	**06 05 55.6**	**+0.6**
AC02					*e*S	**Sn**	**06 05 55.6**	**+0.6**
AC02	**Maricunga**	**2.20**	**140**	⇓	*i*P	**Pn**	**06 05 29.9**	**+1.2**
AC02					*i* S	**Sn**	**06 05 55.8**	**+0.8**
AC02					IAML		06 05 56.6	
	comp=E,12μm,0.5s							
AC02	**Maricunga**	**2.20**	**140**		Pn	**Pn**	**06 05 29.7**	**+1.1**
AC06	**Mina Casimiro**	**2.22**	**172**	⇓	*e*P	**Pn**	**06 05 28.3**	**-0.2**
AC06					*e*S	**Sn**	**06 05 53.7**	**-1.1**
AC06					IAML		06 05 55.7	
	comp=E,4μm,0.3s							
AC06	**Mina Casimiro**	**2.22**	**172**		*e*P	**Sn**	**06 05 28.4**	**-0.2**
AC06					*i* S	**Sn**	**06 05 53.7**	**-1.1**
AC06					IAML		06 05 55.7	
	comp=E,4μm,0.2s							
AC06	**Mina Casimiro**	**2.22**	**172**		Pn	**Pn**	**06 05 28.4**	**-0.1**
AC06					Sn	**Sn**	**06 05 53.7**	**-1.1**
PB15	**IPOC Station P**	**2.24**	**31**		Pn	**Pn**	**06 05 30.0**	**+1.1**
PB05	**IPOC Station P**	**2.33**	**12**	⇑	*i*P	**Pn**	**06 05 30.1**	**0.0**
PB05					*e*S	**Sn**	**06 05 56.4**	**-1.2**
PB05	**IPOC Station P**	**2.33**	**12**	⇑	*i*P	**Pn**	**06 05 30.1**	**0.0**
PB05					*i* S	**Sn**	**06 05 56.4**	**-1.2**
GO03	**Copiap**	**2.47**	**170**		*e*P	**Pn**	**06 05 31.5**	**-0.5**
GO03					*e*S	**Sn**	**06 05 59.2**	**-1.8**
GO03	**Copiap**	**2.47**	**170**			**Pn**	**06 05 31.7**	**-0.3**
PB06	**IPOC Station P**	**2.65**	**23**			**Pn**	**06 05 34.4**	**-0.1**
PB04	**IPOC Station P**	**2.85**	**11**	⇑	*i*P	**Pn**	**06 05 36.8**	**-0.5**
PB04					*e*S	**Sn**	**06 06 08.8**	**-1.7**
PB04					IAML		06 06 31.8	
	comp=N,2μm,0.4s							
PB04	**IPOC Station P**	**2.85**	**11**	⇑	*i*P	**Pn**	**06 05 36.8**	**-0.5**
PB04					*i* S	**Sn**	**06 06 08.7**	**-1.7**
PB04	**IPOC Station P**	**2.85**	**11**			**Pn**	**06 05 36.4**	**-0.8**
LVC	**Limon Verde**	**3.02**	**34**		P	**Pn**	**06 05 41.0**	**+1.3**
	comp=N,55nm,0.3s,baz=207,slow=8.9,SNR=160							
LVC					S	**Sn**	**06 06 16.5**	**+1.7**
	comp=N,194nm,0.3s,baz=184,slow=5.4,SNR=7.5							
LVC					LR	LR	06 07 15.0	
	comp=N,411nm,19.6s,baz=197,slow=47							
LVC	**Limon Verde**	**3.02**	**34**		*e*P	**Pn**	**06 05 40.4**	**+0.7**
LVC	**Limon Verde**	**3.02**	**34**		Pn	**Pn**	**06 05 40.9**	**+1.1**
LVC	**Limon Verde**	**3.02**	**34**		*e*P	**Pn**	**06 05 40.7**	**+1.0**
LVC					*e*S	**Sn**	**06 06 12.7**	**-2.1**
AC04	**Llanos de Chal**	**3.06**	**186**	⇑	*i*P	**Pn**	**06 05 37.6**	**-2.4**
AC04					IAML		06 06 35.7	
	comp=N,1μm,0.5s							
AC04	**Llanos de Chal**	**3.06**	**186**		Pn	**Pn**	**06 05 37.7**	**-2.4**
AF01	**San Pedro de A**	**3.18**	**47**		*e*P	**Pn**	**06 05 43.8**	**+1.9**
AF01					*e*S	**Sn**	**06 06 20.8**	**+1.9**
AF01	**San Pedro de A**	**3.18**	**47**			**Pn**	**06 05 43.9**	**+1.9**
PB03	**IPOC Station P**	**3.21**	**16**	⇑	*i*P	**Pn**	**06 05 41.8**	**-0.4**
PB03					*e*S	**Sn**	**06 06 17.3**	**-1.9**
PB03					IAML		06 06 38.3	
	comp=E,2μm,0.1s							
PB07	**IPOC Station P**	**3.49**	**13**	⇑	*i*P	**Pn**	**06 05 45.6**	**-0.5**
PB07					*e*S	**Sn**	**06 06 24.0**	**-2.2**
PB07	**IPOC Station P**	**3.49**	**13**			**Pn**	**06 05 45.5**	**-0.5**
PB09	**IPOC Station P**	**3.60**	**22**		Pn	**Pn**	**06 05 48.4**	**+0.8**
LCO	**Las Campanas**	**3.85**	**180**		*e*P	**Pn**	**06 05 49.3**	**-1.8**
LCO	**Las Campanas**	**3.85**	**180**		Pn	**Pn**	**06 05 49.6**	**-1.4**
PB02	**IPOC Station P**	**3.88**	**11**	⇑	*i*P	**Pn**	**06 05 50.6**	**-0.8**
PB02					*e*S	**Sn**	**06 06 33.1**	**-2.7**
PB01	**IPOC Station P**	**4.24**	**16**		*e*P	**Pn**	**06 05 55.8**	**-0.5**
PB01					*e*S	**Sn**	**06 06 42.3**	**-2.2**
PB01	**IPOC Station P**	**4.24**	**16**			**Pn**	**06 05 55.7**	**-0.5**
TA01	**Diego Aracena**	**4.59**	**6**		Pn	**Pn**	**06 05 59.1**	**-1.8**
TA02	**Huaiquique**	**4.88**	**6**			**Pn**	**06 06 03.4**	**-1.7**
GO04	**Tololo Observa**	**5.01**	**181**			**Pn**	**06 06 06.1**	**-0.9**
PB08	**IPOC Station P**	**5.19**	**16**	⇑	*i*P	**Pn**	**06 06 09.0**	**-0.6**
PB08	**IPOC Station P**	**5.19**	**16**			**Pn**	**06 06 09.1**	**-0.6**
PB11	**IPOC Station P**	**5.45**	**11**		Pn	**Pn**	**06 06 11.1**	**-1.8**
PSGCX	**Pisagua**	**5.55**	**6**		Pn	**Pn**	**06 06 12.4**	**-1.9**
CO06	**Fray Jorge**	**5.57**	**188**			**Pn**	**06 06 11.3**	**-3.1**
CO03	**El Pedregal**	**5.67**	**180**			**Pn**	**06 06 14.4**	**-1.6**
CO02	**Combarbal**	**6.04**	**182**			**Pn**	**06 06 19.0**	**-2.0**
ZON	**Zonda**	**6.62**	**165**		Pn	**Pn**	**06 06 31.0**	**+2.0**
AP01	**Chacalluta**	**6.75**	**3**		Pn	**Pn**	**06 06 29.8**	**-1.0**
VA03	**San Esteban**	**7.59**	**179**			**Pn**	**06 06 41.0**	**-1.3**
MT05	**Renca**	**8.22**	**180**		Pn	**Pn**	**06 06 50.8**	**0.0**
VA05	**Santo Domingo**	**8.52**	**185**		Pn	**Pn**	**06 06 55.6**	**+0.8**
MT09	**Talagante**	**8.60**	**182**		Pn	**Pn**	**06 06 53.9**	**-2.3**
MT01	**Popeta**	**8.70**	**183**			**Pn**	**06 06 54.4**	**-3.0**
LPAZ	**La Paz**	**9.14**	**16**		P	**Pn**	**06 07 04.8**	**+0.8**
	comp=E,3.2nm,0.3s,baz=215,slow=5.2,SNR=134							
LPAZ					LR	LR	06 11 03.6	
	comp=E,260nm,21.1s,baz=210,slow=40							
LPAZ	**La Paz**	**9.14**	**16**		Pn	**Pn**	**06 07 04.5**	**+0.5**
LPAZ	**La Paz**	**9.14**	**16**		*e*P	**Pn**	**06 07 04.8**	**+0.8**
BO01	**Tunca**	**9.22**	**182**			**Pn**	**06 07 00.8**	**-3.7**
BO02	**Sierra Bellavi**	**9.61**	**180**		Pn	**Pn**	**06 07 07.4**	**-2.6**
ML02	**Panimavida**	**10.60**	**183**		Pn	**Pn**	**06 07 21.1**	**-2.3**
H03N1	**Juan Fernandez**	**10.93**	**219**		T	T	06 18 47.4	
	baz=45,slow=72,SNR=297							
H03N2	**Juan Fernandez**	**10.94**	**219**		T	T	06 18 50.2	
	baz=45,slow=72,SNR=231							
H03N3	**Juan Fernandez**	**10.95**	**219**		T	T	06 18 41.2	
	baz=45,slow=72,SNR=283							
VA04	**Juan Fernndez**	**11.03**	**218**		Pn	**Pn**	**06 07 26.1**	**-3.2**
H03S3	**Juan Fernandez**	**11.21**	**218**		T	T	06 18 59.7	
	baz=47,slow=76,SNR=8.9							
H03S1	**Juan Fernandez**	**11.22**	**218**		T	T	06 18 59.1	
	baz=47,slow=76,SNR=11							
H03S2	**Juan Fernandez**	**11.23**	**218**		T	T	06 19 01.6	
	baz=47,slow=76,SNR=7.8							
CPUP	**Villa Florida**	**12.12**	**98**		P	P	06 07 50.3	-5.7
	comp=E,0.1nm,0.3s,baz=261,slow=19,SNR=2.8							
CPUP					LR	LR	06 12 57.5	
	comp=E,295nm,18.6s,baz=280,slow=40							
CPUP	**Villa Florida**	**12.12**	**98**		Pn	**Pn**	**06 07 43.5**	**-0.8**
SIV	**San Ignacio**	**12.82**	**47**		P	Pn	06 07 49.0	-4.8
	comp=E,1.4nm,0.3s,baz=253,slow=6.4,SNR=49							
SIV					S	Sn	06 10 02.0	-13
	comp=E,0.5nm,0.3s,baz=156,slow=20,SNR=2.9							
ITQB	**Itaqui**	**13.30**	**113**		Pn	**Pn**	**06 07 58.4**	**-1.9**
ITQB	**Itaqui**	**13.30**	**113**		*e*P	**P**	**06 08 05.8**	**-3.2**
NNA	**Nana**	**14.32**	**335**		LR	LR	06 12 58.0	
	comp=E,100nm,20.4s,baz=172,slow=33							
AQDB	**Aquidauana**	**14.60**	**74**		*e*P	**Pn**	**06 08 20.2**	**+2.2**
TRQA	**Tornquist**	**14.85**	**152**		Pn	**Pn**	**06 08 18.4**	**-2.9**
PLCA	**Paso Flores**	**15.54**	**180**		P	P	**06 08 34.4**	**+0.3**
	comp=E,0.2nm,0.3s,baz=315,slow=10.0,SNR=6.5							
PLCA					LR	LR	06 14 33.5	
	comp=E,334nm,21.0s,baz=352,slow=38							
VILB	**Vilhena**	**15.67**	**41**		*e*P	**Pn**	**06 08 30.0**	**-2.0**
LL04	**Puerto Octay**	**15.78**	**185**				**06 08 34.8**	**+1.4**
PP1B	**Ponte de Pedra**	**16.54**	**66**		*e*P	**Pn**	**06 08 42.7**	**-0.4**
TRCB	**Terra Rica**	**16.69**	**86**		*e*P	**Pn**	**06 08 45.8**	**+0.8**
PTGB	**Pitanga**	**16.92**	**92**		*e*P	**Pn**	**06 08 48.6**	**+0.7**
LL01	**San Ignacio de**	**17.25**	**184**		Pn	**P**	**06 08 54.9**	**+2.1**
CZSB	**Cruzeiro do Su**	**17.43**	**353**		*e*P	**Pn**	**06 08 55.0**	**+0.8**
SAML	**Samuel**	**17.63**	**25**			**Pn**	**06 08 53.2**	**-3.4**
SAML	**Samuel**	**17.63**	**25**		*e*P	**Pn**	**06 08 56.0**	**-0.7**
PCMB	**Pacaembu**	**18.20**	**83**		*e*P	**P**	**06 09 03.3**	**-0.2**
FRTB	**Fatura**	**19.37**	**89**		*e*P	**P**	**06 09 15.5**	**-0.8**
TER01	**Turuno-SC**	**19.55**	**105**		*e*P	**P**	**06 09 16.9**	**-1.4**
ITRB	**Iturama**	**19.57**	**78**		*e*P	**P**	**06 09 18.0**	**-0.5**
ARAG	**Araguaiana, MT**	**20.03**	**66**		*e*P	**P**	**06 09 22.0**	**-1.5**
CLDB	**Colider**	**20.04**	**48**		*e*P	**P**	**06 09 21.5**	**-2.1**
BB19B	**Bebedouro**	**20.80**	**83**		*e*P	**P**	**06 09 30.0**	**-1.9**
TBTG	**Tabatinga, AM**	**20.86**	**2**		*e*P	**P**	**06 09 33.0**	**+0.6**
SPB	**Sao Paulo**	**21.26**	**91**		P	**P**	**06 09 35.1**	**-1.7**
SPB	**Sao Paulo**	**21.26**	**91**		*e*P	**P**	**06 09 38.4**	**+1.6**
PET01	**Itanhaem-SP**	**21.30**	**93**		*e*P	**P**	**06 09 35.8**	**-1.5**
RCLB	**Rio Claro- Sao**	**21.38**	**88**		*e*P	**P**	**06 09 39.0**	**+0.8**
IPMB	**Ipameri, GO**	**22.09**	**76**		*e*P	**P**	**06 09 43.7**	**-2.1**
SNDB	**Serra Nova Dou**	**22.55**	**58**		*e*P	**P**	**06 09 48.4**	**-2.3**
PARB	**Paraibuna**	**22.94**	**91**		*e*P	**P**	**06 09 52.5**	**-2.3**
NPGB	**Novo Progresso**	**23.23**	**42**		*e*P	**P**	**06 09 54.9**	**-2.8**
BDFB	**Brasilia**	**23.25**	**70**		P	**P**	**06 09 55.2**	**-2.8**
	comp=E,8.9nm,0.6s,baz=241,slow=11,SNR=16							
BDFB	**Brasilia**	**23.25**	**70**		P	**P**	**06 09 55.4**	**-2.6**
MACA	**Manacapuru-AM**	**23.90**	**25**		*e*P	**P**	**06 10 02.8**	**-1.1**
BSCB	**Bom Sucesso**	**24.20**	**85**		*e*P	**P**	**06 10 05.4**	**-1.5**
PEXB	**Peixe**	**24.83**	**63**		*e*P	**P**	**06 10 11.6**	**-1.0**
VAS01	**Vassouras-RJ**	**25.11**	**89**		*e*P	**P**	**06 10 14.3**	**-0.8**
ITTB	**Itaituba**	**25.18**	**37**		*e*P	**P**	**06 10 14.7**	**-1.0**
DIAM	**Diamantina, MG**	**26.00**	**80**		*e*P	**P**	**06 10 22.1**	**-1.2**
DUB01	**Friburgo-RJ**	**26.12**	**89**		*e*P	**P**	**06 10 23.4**	**-0.9**
MC01	**Montes Claros**	**26.34**	**77**		*e*P	**P**	**06 10 24.3**	**-2.0**
PTGA	**Pitinga**	**26.40**	**25**		P	**P**	**06 10 26.1**	**-0.7**
	comp=E,18nm,0.8s,baz=206,slow=10.0,SNR=28							
PTGA	**Pitinga**	**26.40**	**25**		P	**P**	**06 10 26.3**	**-0.5**
PTGA					IAmb	IAmb	06 10 29.0	
	comp=Z,16nm,0.8s							
JANB	**Januaria**	**26.70**	**73**		*e*P	**P**	**06 10 28.2**	**-1.3**
CAM01	**Campos-RJ**	**26.83**	**89**		*e*P	**P**	**06 10 31.2**	**+0.6**
FLOC	**Florencia**	**27.00**	**349**		P	**P**	**06 10 31.9**	**-0.2**
FLOC					IAmb	IAmb	06 10 35.0	
	comp=Z,22nm,1.0s							
FLOC	**Florencia**	**27.00**	**349**		*e*P	**P**	**06 10 33.8**	**+1.7**
SMTB	**Santa Maria do**	**27.33**	**58**		*e*P	**P**	**06 10 34.4**	**-0.8**
SDBA	**SAO DESIDERIO**	**27.46**	**67**		*e*P	**P**	**06 10 34.8**	**-1.6**
PRPB	**Parauapebas**	**27.50**	**50**		*e*P	**P**	**06 10 35.6**	**-1.1**
ALF01	**Guarapari-ES**	**27.96**	**87**		*e*P	**P**	**06 10 41.7**	**+1.0**
MALB	**Monte Alegre**	**28.07**	**37**		*e*P	**P**	**06 10 40.7**	**-1.0**
SJMB	**Sao Joao De Ma**	**28.09**	**83**		*e*P	**P**	**06 10 41.9**	**-0.1**
POPC	**Popayan, Colom**	**28.12**	**347**		*e*P	**P**	**06 10 44.4**	**+1.9**
BSFB	**Barra de Sao F**	**28.36**	**83**		*e*P	**P**	**06 10 43.9**	**-0.4**
RIB01	**Linhares ES**	**28.62**	**84**		*e*P	**P**	**06 10 46.4**	**-0.2**
PRAC	**Prado**	**28.97**	**351**		*e*P	**P**	**06 10 49.2**	**-0.5**
BOAV	**Boa Vista**	**29.11**	**21**		*e*P	**P**	**06 10 50.5**	**-0.4**
ORTC	**Ortega, Tolima**	**29.22**	**351**		*e*P	**P**	**06 10 54.0**	**+2.1**
NAN01	**Guarapari, ES**	**29.32**	**82**		*e*P	**P**	**06 10 52.0**	**-0.9**
ROSC	**El Rosal**	**30.01**	**353**		LR	LR	06 23 02.1	
	comp=Z,110nm,21.2s,baz=166,slow=36							
ROSC	**El Rosal**	**30.01**	**353**		P	**P**	**06 10 57.7**	**-1.7**
GUA01	**Guaratinga, BA**	**30.05**	**80**		*e*P	**P**	**06 10 58.9**	**-0.5**
GUY2C	**Guyana, Caldas**	**30.53**	**351**		*e*P	**P**	**06 11 05.6**	**+1.6**
MCPB	**Macapa, AP**	**30.54**	**39**		*e*P	**P**	**06 11 03.1**	**-0.5**
CMC01	**Camacan, BA**	**30.77**	**78**		*e*P	**P**	**06 11 05.3**	**-0.4**
SPBC	**San Pablo de B**	**30.79**	**353**		*e*P	**P**	**06 11 06.0**	**+0.1**
RUSC	**La Rusia**	**30.94**	**355**		P	**P**	**06 11 08.1**	**+0.5**
RUSC					IAmb	IAmb	06 11 09.5	
	comp=Z,17nm,0.9s							
RUSC	**La Rusia**	**30.94**	**355**		*e*P	**P**	**06 11 07.6**	**0.0**
NBIT	**Itapeh - BA**	**31.02**	**77**		*e*P	**P**	**06 11 07.8**	**-0.1**
GDU01	**Guandu, BA**	**31.41**	**75**		*e*P	**P**	**06 11 09.8**	**-1.5**
TMAB	**Tom-Au,PA,Br**	**31.43**	**47**		*e*P	**P**	**06 11 11.2**	**-0.3**
HELC	**Santa Helena**	**31.50**	**351**		*e*P	**P**	**06 11 13.2**	**+0.8**
PTBC	**PUERTO BERRIO,**	**31.71**	**353**		*e*P	**P**	**06 11 12.7**	**-1.2**
NBPN	**Ponto Novo - B**	**32.22**	**69**		*e*P	**P**	**06 11 17.2**	**-1.3**
ZARC	**Zaragoza, Cauc**	**32.69**	**352**		*e*P	**P**	**06 11 22.2**	**-0.3**
SDV	**Santo Domingo**	**33.83**	**0**		P	**P**	**06 11 32.5**	**-0.2**
SDV					IAmb	IAmb	06 11 36.8	
	comp=Z,6.5nm,0.6s							
SDV	**Santo Domingo**	**33.83**	**0**		*e*P	**P**	**06 11 33.4**	**+0.8**
ROSB	**Rosrio**	**33.83**	**53**		*e*P	**P**	**06 11 31.2**	**-1.3**
NBLA	**Lagarto - SE**	**34.20**	**72**		*e*P	**P**	**06 11 34.3**	**-1.5**
NBPS	**Pedro II - PI**	**34.81**	**69**		*e*P	**P**	**06 11 40.7**	**-0.8**
SJCC	**San Jacinto, C**	**35.10**	**352**		P	**P**	**06 11 43.5**	**0.0**
NBMA	**Muriti-CE**	**35.26**	**65**		*e*P	**P**	**06 11 44.3**	**-0.6**
NBPB	**Pedra_Branca-C**	**35.63**	**62**		*e*P	**P**	**06 11 47.2**	**-0.9**
NBAN	**Anadia - AL**	**36.15**	**71**		*e*P	**P**	**06 11 51.2**	**-1.3**
SRBA	**San Rafael, Bu**	**36.33**	**339**		P	**P**	**06 11 56.1**	**+2.0**
NBMO	**Morrinhos-CE**	**36.63**	**59**		*e*P	**P**	**06 11 55.4**	**-1.2**
NBLV	**Livramento - P**	**36.79**	**67**		*e*P	**P**	**06 11 56.9**	**-1.1**
NBCL	**Cascavel-CE**	**37.45**	**62**		*e*P	**P**	**06 12 02.5**	**-1.1**
TOSP	**Speyside**	**37.56**	**17**		P	**P**	**06 12 03.7**	**-0.7**
COVE	**Coope Vega, Sa**	**38.07**	**338**		P	**P**	**06 12 10.5**	**+1.8**
COVE					IAmb	IAmb	06 12 12.2	
	comp=Z,18nm,0.7s							
NBPV	**Pedro Velho**	**38.66**	**67**		*e*P	**P**	**06 12 12.7**	**-1.0**
CRPR	**Cabo Rojo, PR**	**43.04**	**5**		P	**P**	**06 12 48.4**	**-1.3**
OBIP	**Obispado Ponce**	**43.12**	**6**		P	**P**	**06 12 49.4**	**-0.9**
OBIP					IAmb	IAmb	06 12 49.9	
	comp=Z,23nm,0.9s							
PDPR	**Patillas Dam,**	**43.15**	**7**		P	**P**	**06 12 48.7**	**-1.8**
PDPR					IAmb	IAmb	06 13 14.5	
	comp=Z,18nm,1.0s							
456A	**Hilliard**	**56.60**	**348**		P	**P**	**06 14 33.6**	**+1.0**
ZAIG	**Zacatecas**	**56.78**	**324**		P	**P**	**06 14 34.3**	**0.0**
ZAIG					IAmb	IAmb	06 14 37.9	
	comp=Z,5.9nm,0.8s							
VNA3	**Neumayer Olymp**	**57.19**	**160**		P	**P**	**06 14 36.1**	**-0.3**
VNA3	**Neumayer Olymp**	**57.19**	**160**		PcP	**PcP**	**06 15 30.3**	**-0.1**
VNA3	**Neumayer Olymp**	**57.19**	**160**		pP	pP	06 14 47.9	-0.7
VNA1	**Neumayer--Stat**	**57.44**	**159**		P	**P**	**06 14 38.2**	**+0.1**
TIGA	**Tifton**	**57.60**	**347**		P	**P**	**06 14 39.6**	**0.0**
	baz=166							
VNA2	**Neumayer--Watz**	**57.80**	**160**		P	**P**	**06 14 40.4**	**-0.3**
	baz=290,slow=8.1							
VNA2	**Neumayer--Watz**	**57.80**	**160**		pP	pP	06 14 52.1	-0.8
352A	**Blakely**	**57.92**	**346**		P	**P**	**06 14 42.0**	**+0.1**
BRAL	**Brewton**	**58.14**	**344**		P	**P**	**06 14 43.6**	**+0.2**
BRAL	**Brewton**	**58.14**	**344**		P	**P**	**06 14 43.3**	**-0.1**
	baz=163							
NHSC	**New Hope**	**58.63**	**351**		P	**P**	**06 14 47.2**	**+0.4**
	baz=170							
154A	**Montrose**	**58.64**	**348**		P	**P**	**06 14 46.7**	**-0.2**
250A	**Grady**	**58.72**	**345**		P	**P**	**06 14 47.1**	**-0.4**
250A					IAmb	IAmb	06 14 48.1	
	comp=Z,15nm,0.8s							
346A	**Big Creek Wild**	**59.01**	**341**		P	**P**	**06 14 49.9**	**+0.4**
152A	**Waverly Hall**	**59.02**	**346**		P	**P**	**06 14 49.2**	**-0.3**
152A					IAmb	IAmb	06 14 50.0	
	comp=Z,18nm,1.0s							
SNAA	**Sanae**	**59.41**	**160**		P	**P**	**06 14 51.2**	**-0.7**
SNAA	**Sanae**	**59.41**	**160**		pP	pP	06 15 03

LCAR	**Lake Charles**	**63.88**	**342**	P	**P**	**06 15 22.2**	**-0.1**
LOOK	**Love County**	**63.97**	**336**	P	**P**	**06 15 22.5**	**-0.5**
LOOK				IAmb	IAmb	06 15 24.6	
	comp=Z,13nm,0.9s						
FCAR	**Ozark Folk Cen**	**63.99**	**341**	P	**P**	**06 15 23.0**	**0.0**
FCAR				IAmb	IAmb	06 15 24.4	
	comp=Z,9.3nm,0.7s						
PARMO	**Parma**	**64.05**	**343**	P	**P**	**06 15 22.4**	**-1.0**
T45A	**Paducah**	**64.10**	**344**	P	**P**	**06 15 23.6**	**-0.1**
PBMO	**Poplar Bluff**	**64.34**	**343**	P	**P**	**06 15 25.2**	**-0.1**
Q56A	**Snyder Ridge,**	**64.34**	**353**	P	**P**	**06 15 24.6**	**-0.7**
Q56A				IAmb	IAmb	06 15 26.4	
	comp=Z,10.0nm,1.0s						
U40A	**Yellville**	**64.64**	**340**	P	**P**	**06 15 27.7**	**+0.4**
U40A	**Yellville**	**64.64**	**340**	P	**P**	**06 15 27.5**	**+0.1**
	baz=158,SNR=17						
P57A	**Homestead Farm**	**64.66**	**354**	P	**P**	**06 15 28.7**	**+1.4**
P57A				IAmb	IAmb	06 15 29.3	
	comp=Z,12nm,0.7s						
WCI	**Wyandotte Cave**	**64.72**	**346**	P	**P**	**06 15 27.1**	**-0.6**
WCI				IAmb	IAmb	06 15 27.8	
	comp=Z,17nm,0.7s						
WCI	**Wyandotte Cave**	**64.72**	**346**	P	**P**	**06 15 26.6**	**-1.1**
	baz=164						
X34A	**Smith Ranch, M**	**64.75**	**335**	P	**P**	**06 15 27.7**	**-0.3**
X34A				IAmb	IAmb	06 15 29.7	
	comp=Z,12nm,0.7s						
S44A	**Carbondale**	**64.89**	**344**	P	**P**	**06 15 28.8**	**0.0**
QSPA	**South Pole Qui**	**65.06**	**180**	P	**P**	**06 15 30.4**	**+0.5**
QSPA				IAmb	IAmb	06 15 31.1	
	comp=Z,11nm,1.1s						
TUL1	**Leonard**	**65.19**	**338**	P	**P**	**06 15 30.9**	**0.0**
	baz=155,SNR=6.9						
U38A	**Gravette**	**65.20**	**339**	P	**P**	**06 15 31.0**	**0.0**
U38A				IAmb	IAmb	06 15 59.8	
	comp=Z,7.8nm,0.6s						
MGMO	**Mountain Grove**	**65.21**	**341**	P	**P**	**06 15 31.0**	**0.0**
MGMO				IAmb	IAmb	06 15 32.0	
	comp=Z,14nm,0.8s						
P51A	**Williamsport**	**65.32**	**350**	P	**P**	**06 15 30.8**	**-0.8**
P51A				IAmb	IAmb	06 15 31.8	
	comp=Z,20nm,1.2s						
P52A	**Corning**	**65.32**	**350**	P	**P**	**06 15 31.1**	**-0.6**
	baz=169						
OK025	**Westminster Rd**	**65.44**	**336**	P	**P**	**06 15 32.5**	**-0.1**
OK025				IAmb	IAmb	06 15 33.3	
	comp=Z,13nm,0.8s						
O56A	**Blue Knob Stat**	**65.49**	**353**	P	**P**	**06 15 33.4**	**+0.6**
O56A				IAmb	IAmb	06 15 33.7	
	comp=Z,8.9nm,1.0s						
O56A	**Blue Knob Stat**	**65.49**	**353**	P	**P**	**06 15 33.0**	**+0.2**
	baz=172						
MNTX	**Cornudas Mount**	**65.52**	**328**	P	**P**	**06 15 33.7**	**+0.6**
MNTX				IAmb	IAmb	06 15 34.6	
	comp=Z,7.7nm,0.9s						
MNTX	**Cornudas Mount**	**65.52**	**328**	P	**P**	**06 15 33.1**	**0.0**
	baz=146						
P49A	**Miami Univ. Ec**	**65.66**	**348**	P	**P**	**06 15 33.0**	**-0.8**
	baz=166						
QUOK	**Quay**	**65.75**	**337**	P	**P**	**06 15 34.7**	**+0.2**
QUOK				IAmb	IAmb	06 15 35.6	
	comp=Z,14nm,0.7s						
CCM	**Cathedral Cave**	**65.76**	**342**	P	**P**	**06 15 34.5**	**+0.1**
CCM	**Cathedral Cave**	**65.76**	**342**	P	**P**	**06 15 34.4**	**-0.1**
	baz=160						
SSPA	**Standing Stone**	**65.78**	**354**	P	**P**	**06 15 34.9**	**+0.3**
	baz=173						
Q44A	**Meyer Farm, Va**	**65.98**	**344**	P	**P**	**06 15 35.3**	**-0.6**
Q44A				IAmb	IAmb	06 15 36.5	
	comp=Z,12nm,0.8s						
S39A	**Bolivar**	**66.02**	**340**	P	**P**	**06 15 36.5**	**+0.3**
ACSO	**Alum Creek Sta**	**66.04**	**350**	P	**P**	**06 15 36.0**	**-0.3**
ACSO				IAmb	IAmb	06 15 36.3	
	comp=Z,14nm,0.7s						
ACSO	**Alum Creek Sta**	**66.04**	**350**	P	**P**	**06 15 35.6**	**-0.7**
	baz=168						
MSTX	**Muleshoe**	**66.22**	**331**	P	**P**	**06 15 38.4**	**+0.7**
MSTX				IAmb	IAmb	06 15 39.5	
	comp=Z,20nm,1.0s						
MSTX	**Muleshoe**	**66.22**	**331**	P	**P**	**06 15 37.8**	**+0.2**
	baz=148						
P46A	**Rosedale**	**66.25**	**346**	P	**P**	**06 15 36.5**	**-1.0**
P46A				IAmb	IAmb	06 15 37.5	
	comp=Z,11nm,0.8s						
HSIG		**66.30**	**322**	P	**P**	**06 15 39.9**	**+1.7**
HSIG				IAmb	IAmb	06 15 41.2	
	comp=Z,8.0nm,1.1s						
N54A	**Moraine State**	**66.33**	**352**	P	**P**	**06 15 38.5**	**+0.4**
	baz=171						
T35A	**Sooner Cattle**	**66.35**	**338**	P	**P**	**06 15 39.2**	**+0.9**
T35A				IAmb	IAmb	06 15 39.8	
	comp=Z,12nm,1.0s						
L63A	**North Scituate**	**66.68**	**359**	P	**P**	**06 15 40.9**	**+0.6**
	baz=179						
P43A	**Skaggs, Pawnee**	**66.80**	**344**	P	**P**	**06 15 40.7**	**-0.4**
P43A				IAmb	IAmb	06 15 41.6	
	comp=Z,21nm,0.8s						
M54A	**Oil Creek Stat**	**66.83**	**353**	P	**P**	**06 15 41.4**	**0.0**
	baz=171						
N49A	**Columbus Grove**	**66.91**	**349**	P	**P**	**06 15 41.3**	**-0.5**
N49A				IAmb	IAmb	06 15 42.3	
	comp=Z,17nm,0.9s						
L61B	**Northampton**	**67.28**	**358**	P	**P**	**06 15 45.2**	**+1.1**
	baz=178						
HRV	**Adam Dziewonsk**	**67.32**	**359**	P	**P**	**06 15 45.2**	**+0.8**
	baz=179						
P40A	**Paris**	**67.36**	**342**	P	**P**	**06 15 45.0**	**+0.3**
121A	**Cookes Peak, D**	**67.38**	**327**	P	**P**	**06 15 47.4**	**+2.2**
	baz=144						
K61A	**Williamstown**	**67.52**	**358**	P	**P**	**06 15 47.2**	**+1.6**
	baz=178						
P38A	**Dawn**	**67.87**	**341**	P	**P**	**06 15 48.2**	**+0.3**
P38A				IAmb	IAmb	06 15 49.9	
	comp=Z,12nm,0.6s						
BNM	**Barren Site**	**68.13**	**328**	P	**P**	**06 15 52.4**	**+2.4**
N41A	**Harden Midland**	**68.14**	**344**	P	**P**	**06 15 49.3**	**-0.3**
J61A	**Chester**	**68.17**	**359**	P	**P**	**06 15 51.1**	**+1.4**
	baz=178						
KSU1	**Kansas State U**	**68.35**	**339**	P	**P**	**06 15 51.1**	**+0.2**
	baz=155						
R32A	**Long Quarter,**	**68.47**	**337**	P	**P**	**06 15 52.9**	**+1.2**
R32A				IAmb	IAmb	06 15 53.6	
	comp=Z,20nm,0.9s						
I60A	**Shoreham**	**68.69**	**358**	P	**P**	**06 15 53.9**	**+1.0**
	baz=178						
ANMO	**Albuquerque**	**68.70**	**329**	P	**P**	**06 15 55.2**	**+1.8**
ANMO	**Albuquerque**	**68.70**	**329**	P	**P**	**06 15 55.5**	**+2.0**
	baz=146						
TUC	**Tucson**	**68.75**	**324**	P	**P**	**06 15 55.2**	**+1.5**
TUC	**Tucson**	**68.75**	**324**	P	**P**	**06 15 55.6**	**+2.0**
	baz=141						
L44A	**Lake County Fo**	**68.85**	**346**	P	**P**	**06 15 54.1**	**+0.2**
L44A	**Lake County Fo**	**68.85**	**346**	P	**P**	**06 15 54.1**	**+0.2**
	baz=163						
N38A	**Joes South For**	**68.86**	**342**	P	**P**	**06 15 54.3**	**+0.2**
N38A				IAmb	IAmb	06 15 55.0	
	comp=Z,16nm,0.7s						
L40A	**Anamosa**	**69.51**	**344**	P	**P**	**06 15 57.8**	**-0.2**
L40A				IAmb	IAmb	06 15 58.8	
	comp=Z,24nm,0.8s						
LONY	**Lake Ozonia**	**69.52**	**357**	P	**P**	**06 15 58.8**	**+0.7**
	baz=176						
214A	**Organ Pipe Nat**	**69.57**	**323**	P	**P**	**06 16 00.5**	**+1.7**
	baz=140						
T25A	**Trinidad**	**69.61**	**332**	P	**P**	**06 16 00.9**	**+1.8**
T25A	**Trinidad**	**69.61**	**332**	P	**P**	**06 16 00.7**	**+1.7**
	baz=148						
N35A	**Tabor**	**69.64**	**340**	P	**P**	**06 15 59.3**	**+0.4**
N35A				IAmb	IAmb	06 15 59.8	
	comp=Z,23nm,0.8s						
G62A	**West of Eustis**	**70.03**	**0**	P	**P**	**06 16 01.8**	**+0.6**
G62A				IAmb	IAmb	06 16 03.3	
	comp=Z,26nm,0.9s						
G62A	**West of Eustis**	**70.03**	**0**	P	**P**	**06 16 02.6**	**+1.4**
	baz=180						
JFWS	**Jewell Farm**	**70.08**	**345**	P	**P**	**06 16 00.8**	**-0.7**
JFWS				IAmb	IAmb	06 16 02.4	
	comp=Z,11nm,0.9s						
JFWS	**Jewell Farm**	**70.08**	**345**	P	**P**	**06 16 01.7**	**+0.1**
	baz=161						
PKME	**Peaks-Kenny Pk**	**70.08**	**1**	P	**P**	**06 16 02.4**	**+0.9**
	baz=181						
KSCO	**Kaye Shedlock'**	**70.46**	**334**	P	**P**	**06 16 05.9**	**+1.8**
	baz=150						
SDCO	**Great Sand Dun**	**70.58**	**331**	P	**P**	**06 16 06.9**	**+1.8**
SDCO	**Great Sand Dun**	**70.58**	**331**	P	**P**	**06 16 06.9**	**+1.8**
	baz=147,SNR=8.8						
F62A	**Pittston Farm,**	**70.71**	**1**	P	**P**	**06 16 06.4**	**+1.1**
	baz=181						
L34A	**Svendsen Farm,**	**70.87**	**340**	P	**P**	**06 16 06.9**	**+0.5**
S22A	**4UR Ranch, Cre**	**71.17**	**330**	P	**P**	**06 16 10.5**	**+1.8**
	baz=146						
DBIC	**Dimbokro**	**71.37**	**73**	P	**P**	**06 16 09.3**	**-0.7**
	comp=Z,5.6nm,0.6s,baz=238,slow=5.2,SNR=13						
DBIC	**Dimbokro**	**71.37**	**73**	IAmb	IAmb	06 16 35.0	
	comp=Z,17nm,1.2s						
Q24A	**Divide**	**71.45**	**332**	P	**P**	**06 16 12.0**	**+1.6**
	baz=147,SNR=7.8						
MVCO	**Mesa Verde**	**71.50**	**329**	P	**P**	**06 16 12.3**	**+1.7**
MVCO	**Mesa Verde**	**71.50**	**329**	P	**P**	**06 16 12.5**	**+1.9**
	baz=144						
WUAZ	**Wupatki**	**71.55**	**326**	P	**P**	**06 16 10.6**	**-0.3**
WUAZ	**Wupatki**	**71.55**	**326**	P	**P**	**06 16 13.0**	**+2.1**
	baz=142,SNR=6.7						
D62A	**Allapoint, All**	**71.91**	**1**	P	**P**	**06 16 13.4**	**+0.9**
D62A				IAmb	IAmb	06 16 13.8	
	comp=Z,14nm,0.7s						
K31A	**O'Neill**	**72.23**	**339**	P	**P**	**06 16 15.0**	**+0.4**
BC3	**Big Chuckawall**	**72.31**	**322**	P	**P**	**06 16 17.6**	**+2.2**
	baz=138						
ISCO	**Idaho Springs**	**72.35**	**332**	P	**P**	**06 16 17.4**	**+1.6**
ISCO	**Idaho Springs**	**72.35**	**332**	P	**P**	**06 16 17.1**	**+1.4**
	baz=147						
PV15	**Paradox Valley**	**72.41**	**330**	P	**P**	**06 16 19.3**	**+3.2**
SMCO	**Snowmass**	**72.42**	**331**	P	**P**	**06 16 18.5**	**+2.2**
ECSD	**EROS Data Cent**	**72.55**	**341**	P	**P**	**06 16 17.3**	**+0.8**
ECSD				IAmb	IAmb	06 16 17.3	
	comp=Z,11nm,0.9s						
ECSD	**EROS Data Cent**	**72.55**	**341**	P	**P**	**06 16 17.0**	**+0.6**
	baz=156						
SPMN	**Marine on St.**	**72.87**	**344**	P	**P**	**06 16 18.0**	**-0.3**
SPMN				IAmb	IAmb	06 16 19.0	
	comp=Z,20nm,1.1s						
SPMN	**Marine on St.**	**72.87**	**344**	P	**P**	**06 16 18.3**	**0.0**
	baz=159						
PPT	**Papeete**	**72.92**	**258**	LR	LR	06 39 50.5	
	comp=Z,57nm,21.4s,baz=146,slow=29						
VNDA	**Vanda**	**72.98**	**190**	P	**P**	**06 16 22.1**	**+3.4**
	comp=Z,0.5nm,0.5s,baz=90,slow=4.0,SNR=1.8						
N23A	**Red Feather La**	**73.41**	**333**	P	**P**	**06 16 23.6**	**+1.7**
	baz=147						
F36A	**Milaca**	**73.65**	**344**	P	**P**	**06 16 22.8**	**-0.1**
F36A				IAmb	IAmb	06 16 23.8	
	comp=Z,12nm,0.9s						
D41A	**Chassel**	**73.66**	**347**	P	**P**	**06 16 23.4**	**+0.5**
O20A	**White River Ci**	**73.76**	**331**	P	**P**	**06 16 25.3**	**+1.4**
O20A				IAmb	IAmb	06 16 26.8	
	comp=Z,11nm,0.8s						
O20A	**White River Ci**	**73.76**	**331**	P	**P**	**06 16 25.6**	**+1.7**
	baz=145,SNR=8.2						
CIS	**Catalina Islan**	**73.82**	**320**	P	**P**	**06 16 25.3**	**+1.0**
	baz=136						
TUQ	**Turquoise Moun**	**73.89**	**323**	P	**P**	**06 16 27.2**	**+2.4**
	baz=138						
MTPU	**Mount Pierson**	**73.93**	**327**	P	**P**	**06 16 27.5**	**+2.3**
SRU	**San Rafael Swe**	**73.97**	**329**	P	**P**	**06 16 26.9**	**+1.7**
SZCU	**Shurtanyon**	**74.03**	**326**	P	**P**	**06 16 25.9**	**+0.3**
Q16A	**Castle Valley**	**74.12**	**328**	P	**P**	**06 16 28.1**	**+2.0**
CCUT	**Cedar City**	**74.14**	**326**	P	**P**	**06 16 28.6**	**+2.3**
CCUT				IAmb	IAmb	06 16 30.0	
	comp=Z,8.9nm,0.8s						
SHPR	**Sheep Range**	**74.28**	**324**	P	**P**	**06 16 29.3**	**+2.3**
GSC	**Goldstone, Bar**	**74.28**	**322**	P	**P**	**06 16 29.1**	**+2.1**
	baz=138						
MSU	**Marysvale**	**74.29**	**327**	P	**P**	**06 16 29.4**	**+2.2**
MVU	**Marysvale**	**74.30**	**327**	P	**P**	**06 16 29.6**	**+2.3**
MVU				IAmb	IAmb	06 16 30.4	
	comp=Z,23nm,0.8s						
P17A	**Butcher Ranch,**	**74.36**	**329**	P	**P**	**06 16 29.3**	**+1.9**
EDW2	**Edwards Air Fo**	**74.64**	**321**	P	**P**	**06 16 30.8**	**+1.8**
	baz=136						
RDMU	**Red Mountain**	**74.70**	**330**	P	**P**	**06 16 31.0**	**+1.5**
PRN	**Pahroc Range**	**74.90**	**325**	P	**P**	**06 16 33.0**	**+2.5**
K22A	**Casper**	**75.11**	**333**	P	**P**	**06 16 33.7**	**+2.0**
	baz=147						
EYMN	**Ely**	**75.12**	**346**	P	**P**	**06 16 32.3**	**+0.9**
	baz=161						
FURC	**Furnace Creek,**	**75.17**	**323**	P	**P**	**06 16 34.1**	**+2.2**
	baz=138						
TPNV	**Topopah Spring**	**75.19**	**324**	P	**P**	**06 16 34.6**	**+2.3**
	baz=138,SNR=5.8						
MPMC	**Manual Prospec**	**75.21**	**322**	P	**P**	**06 16 33.9**	**+1.4**
	baz=137						
RSSD	**Black Hills**	**75.39**	**336**	P	**P**	**06 16 34.2**	**+0.8**
RSSD	**Black Hills**	**75.39**	**336**	P	**P**	**06 16 34.7**	**+1.4**
	baz=149						
ISA	**Isabella, Lake**	**75.47**	**321**	P	**P**	**06 16 35.9**	**+2.1**
	baz=136						
PKM	**Mcpherson Peak**	**75.69**	**320**	P	**P**	**06 16 37.2**	**+2.0**
	baz=135						
SPR3	**Spring Creek 3**	**75.74**	**326**	P	**P**	**06 16 37.1**	**+1.5**
CWC	**Cottonwood Cre**	**75.81**	**322**	P	**P**	**06 16 38.0**	**+2.1**
	baz=137						
R11A	**Troy Canyon, C**	**75.89**	**325**	P	**P**	**06 16 38.5**	**+2.2**
R11A	**Troy Canyon, C**	**75.89**	**325**	P	**P**	**06 16 38.5**	**+2.2**
	baz=139,SNR=8.3						
DUG	**Dugway, Tooele**	**75.91**	**328**	P	**P**	**06 16 38.1**	**+1.8**
DUG	**Dugway, Tooele**	**75.91**	**328**	P	**P**	**06 16 38.2**	**+1.8**
	baz=141,SNR=5.2						
VES	**Vestal, Richgr**	**75.95**	**321**	P	**P**	**06 16 38.3**	**+1.9**
	baz=136						
PD31	**Pinedale Array**	**76.47**	**332**	P	**P**	**06 16 38.9**	**-0.7**
PDAR	**Pinedale Array**	**76.47**	**332**	P	**P**	**06 16 40.4**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=120,slow=8.8,SNR=8.4						
AGMN	**Agassiz Nation**	**76.51**	**343**	P	**P**	**06 16 39.1**	**-0.2**
AGMN				IAmb	IAmb	06 16 40.5	
	comp=Z,16nm,1.1s						
AGMN	**Agassiz Nation**	**76.51**	**343**	P	**P**	**06 16 39.5**	**+0.2**
	baz=157						
BGU	**Big Grassy Mou**	**76.58**	**328**	P	**P**	**06 16 40.6**	**+0.4**
SPUT	**South Promonto**	**76.61**	**329**	P	**P**	**06 16 40.6**	**+0.3**
SPUT				IAmb	IAmb	06 16 42.8	
	comp=Z,7.3nm,0.9s						
MLAC	**Mammoth, Mammo**	**77.09**	**323**	P	**P**	**06 16 43.9**	**+0.7**
	baz=136						
HVU	**Hansel Valley**	**77.13**	**329**	P	**P**	**06 16 43.4**	**+0.2**
MDND	**Maddock**	**77.17**	**341**	P	**P**	**06 16 44.0**	**+1.0**
	baz=153						
NVAR	**Mina Array Bea**	**77.38**	**324**	P	**P**	**06 16 46.8**	**+2.0**
	comp=Z,1.5nm,0.7s,baz=154,slow=6.7,SNR=15						
NVAR				pP	**pP**	**06 16 59.6**	**+2.4**
	comp=Z,0.8nm,0.8s,baz=158,slow=6.2,SNR=4.6						
NVAR	**Mina Array Bea**	**77.38**	**324**	P	**P**	**06 16 46.5**	**+1.7**
TPAW	**Teton Pass**	**77.66**	**331**	P	**P**	**06 16 46.9**	**+0.6**
KVN	**Kaiserville**	**77.72**	**324**	P	**P**	**06 16 47.6**	**+1.0**
MOOW	**Moose Ponds**	**77.78**	**332**	P	**P**	**06 16 47.2**	**+0.3**
RLMT	**Red Lodge**	**78.27**	**333**	P	**P**	**06 16 51.0**	**+1.5**
	baz=145						
ULM	**Lac du Bonnet**	**78.31**	**344**	P	**P**	**06 16 49.3**	**-0.1**
	comp=Z,4.5nm,0.6s,baz=158,slow=8.1,SNR=4.9						
ULM	**Lac du Bonnet**	**78.31**	**344**	IAmb	IAmb	06 17 07.5	
	comp=Z,15nm,1.4s						
LAO	**LASA Array**	**78.39**	**336**	P	**P**	**06 16 51.3**	**+1.3**
	baz=148						
GCMT	**Greycliff**	**78.98**	**333**	P	**P**	**06 16 54.3**	**+1.0**
DGMT	**Dagmar**	**79.19**	**338**	P	**P**	**06 16 55.2**	**+0.9**
DGMT				IAmb	IAmb	06 16 56.7	
	comp=Z,26nm,1.3s						
DGMT	**Dagmar**	**79.19**	**338**	P	**P**	**06 16 55.7**	**+1.4**
	baz=150						
HLID	**Hailey**	**79.28**	**329**	P	**P**	**06 16 56.5**	**+1.5**
HLID				IAmb	IAmb	06 16 58.2	
	comp=Z,9.0nm,1.0s						
HLID	**Hailey**	**79.28**	**329**	P	**P**	**06 16 57.1**	**+2.0**
	baz=141						
BOZ	**Bozeman (W)**	**79.64**	**332**	P	**P**	**06 16 58.2**	**+1.3**
	baz=143						
SCHQ	**Schefferville**	**79.72**	**2**	P	**P**	**06 16 56.8**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=220,slow=8.4,SNR=2.8						
TORD	**Torodi Ar. Bea**	**80.14**	**70**	P	**P**	**06 16 59.5**	**-0.7**
	comp=Z,20nm,0.6s,baz=261,slow=4.9,SNR=148						
TORD				LR	LR	06 54 01.7	
	comp=Z,42nm,18.1s,baz=140,slow=37						
TORD	**Torodi Ar. Bea**	**80.14**	**70**	P	**P**	**06 16 59.4**	**-0.7**
TORD				IAmb	IAmb	06 17 00.3	
	comp=Z,17nm,0.8s						
EGMT	**Eagleton**	**80.83**	**335**	P	**P**	**06 17 03.6**	**+0.4**
	baz=145						
MOD	**Modoc Plateau**	**80.94**	**325**	P	**P**	**06 17 05.1**	**+1.0**
O02D	**Mt. Diablo Mer**	**81.07**	**322**	P	**P**	**06 17 05.9**	**+1.2**
	baz=134						
PLID	**Pearl Lake**	**81.17**	**329**	P	**P**	**06 17 06.6**	**+1.3**
PLID				IAmb	IAmb	06 17 07.6	
	comp=Z,10nm,0.8s						
MAW	**Mawson**	**81.32**	**164**	P	**P**	**06 17 05.7**	**+0.2**
	comp=Z,5.0nm,0.5s,baz=217,slow=7.0,SNR=31						
MAW	**Mawson**	**81.32**	**164**	P	**P**	**06 17 05.7**	**+0.2**
N02D	**Trinity Center**	**81.58**	**323**	P	**P**	**06 17 08.1**	**+0.7**
	baz=134						
MSO	**Missoula**	**81.59**	**332**	P	**P**	**06 17 08.8**	**+1.5**
	baz=141						
M04C	**Macdoel**	**81.67**	**324**	P	**P**	**06 17 09.4**	**+1.5**
	baz=135						
M02C	**Callahan**	**81.94**	**323**	P	**P**	**06 17 10.2**	**+0.9**
	baz=134						
J05D	**Fort Rock, OR**	**82.41**	**325**	P	**P**	**06 17 13.6**	**+1.9**
	baz=135						
J04D	**Umpqua Nationa**	**82.83**	**325**	P	**P**	**06 17 15.5**	**+1.4**
	baz=135						
BOSA	**Boshof**	**83.19**	**118**	P	**P**	**06 17 15.8**	**-0.6**
	comp=Z,6.4nm,0.8s,baz=262,slow=4.2,SNR=9.8						
I05D	**Terrebonne, OR**	**83.21**	**326**	P	**P**	**06 17 17.9**	**+2.1**
	baz=135						
WALA	**Waterton Lakes**	**83.32**	**333**	P	**P**	**06 17 16.7**	**+0.4**
WALA				IAmb	IAmb	06 17 18.3	
	comp=Z,9.1nm,0.8s						
YKA	**Yellowknife Ar**	**94.08**	**341**	P	**P**	**06 18 07.8**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=132,slow=5.1,SNR=5.4						
ASAR	**Alice Springs**	**125.93**	**208**	PKP	**PKPdf**	**06 23 51.5**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=131,slow=1.8,SNR=14						
ASAR				pPKP	**pPKPdf**	**06 24 05.4**	**+0.1**
	comp=Z,2.7nm,0.6s,baz=133,slow=1.7,SNR=14						
H11S2	**WAKE ISLAND Hyl**	**26.61**	**275**	T	T	08 43 31.1	
	baz=108,slow=75,SNR=136						
H11S1	**WAKE ISLAND Hyl**	**26.62**	**275**	T	T	08 43 33.9	
	baz=108,slow=75,SNR=156						
H11S3	**WAKE ISLAND Hyl**	**26.63**	**275**	T	T	08 43 36.9	
	baz=108,slow=75,SNR=126						
H11N3	**WAKE ISLAND Hyl**	**26.80**	**277**	T	T	08 43 47.6	
	baz=108,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hyl**	**26.81**	**276**	T	T	08 43 49.8	
	baz=108,slow=75,SNR=15						
H11N2	**WAKE ISLAND Hyl**	**26.81**	**277**	T	T	08 43 47.1	
	baz=108,slow=75,SNR=13						
WRA	**Warramunga Arr**	**128.99**	**211**	PKP	**PKPdf**	**06 23 57.9**	**0.0**
	comp=Z,2.2nm,0.7s,baz=160,slow=1.8,SNR=23						
WRA				pPKP	**pPKPdf**	**06 24 11.6**	**+0.4**
	comp=Z,3.0nm,0.6s,baz=159,slow=1.9,SNR=16						
WRA	**Warramunga Arr**	**128.99**	**211**		**PKPdf**	**06 23 58.0**	**+0.1**
SEY	**Seymchan**	**132.73**	**335**	PKP	**PKPdf**	**06 24 04.8**	**+1.2**
	comp=Z,2.2nm,0.6s,baz=71,slow=5.7,SNR=5.7						
MANU	**Manus Island**	**134.27**	**239**		**PKPdf**	**06 24 07.4**	**-0.7**
ABKAR	**Akbulak array**	**134.92**	**45**		**PKPdf**	**06 24 08.3**	**+0.1**
GAR	**Garm**	**144.48**	**58**		**PKPab**	**06 24 24.8**	**+0.3**
ZAA0	**Zalesovo Array**	**145.94**	**26**	PKPbc	**PKPdf**	**06 24 28.5**	**+0.6**
ZALV	**Zalesovo Beam**	**145.94**	**26**	PKPbc	**PKPdf**	**06 24 28.3**	**+0.4**
	comp=Z,25nm,0.7s,baz=311,slow=3.9,SNR=67						
ZALV				pPKPbc	**pPKPdf**	**06 24 42.5**	**+1.4**
	comp=Z,5.1nm,0.6s,baz=305,slow=3.4,SNR=4.7						
AAK	**Ala-Archa**	**146.56**	**50**		**PKPbc**	**06 24 31.1**	**0.0**
NIL	**Nilore**	**147.61**	**66**		**PKPbc**	**06 24 33.8**	**-0.3**
KSH	**Kashi**	**148.62**	**55**	PKPbc	**PKPbc**	**06 24 37.3**	**+0.6**
KSH				pPKP	pPKPdf	06 24 48.4	+2.2
MAKZ	**Makanchi**	**149.35**	**38**		**PKPbc**	**06 24 38.3**	**+0.1**
MK31	**Makanchi Array**	**149.53**	**38**	PKPbc	**PKPbc**	**06 24 38.9**	**+0.2**
MKAR	**Makanchi Array**	**149.53**	**38**	PKPbc	**PKPbc**	**06 24 38.8**	**+0.1**
	comp=Z,16nm,0.8s,baz=314,slow=2.6,SNR=78						
MKAR				pPKPbc	**pPKPbc**	**06 24 52.7**	**+0.9**
	comp=Z,3.8nm,0.7s,baz=326,slow=2.2,SNR=9.6						
MKAR	**Makanchi Array**	**149.53**	**38**		**PKPbc**	**06 24 38.9**	**+0.2**
SONM	**Songino Array**	**157.24**	**5**	PKP	**PKPdf**	**06 24 46.2**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=28,slow=1.1,SNR=5.4						
SONM				PKPab	**PKPab**	**06 25 14.9**	**-1.3**
	comp=Z,1.4nm,0.7s,baz=325,slow=4.4,SNR=5.6						

NOU 14 06:14:24.5, 17.73S×169.56E, h387km, MLv4.3/9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**1.08**	**267**	P	Pn	06 15 15.3	+0.8
DVP	**Devils Point**	**1.31**	**270**	P	Pn	06 15 16.2	+0.8
LIFNC	**LIFOU**	**3.74**	**215**	P	Pn	06 15 31.3	-2.0
MARNC	**Mare, Loyalty**	**4.00**	**201**	P	Pn	06 15 35.0	-0.7
YATNC	**Mamie plateau,**	**4.99**	**210**	P	Pn	06 15 46.0	+0.3
DZM	**Mont Dzumac**	**5.22**	**214**	P	P

TRQA	**Tornquist**	**12.41**	**173**	*eP*	Pn	06 37 19.6	+0.1
VILB	**Vilhena**	**13.14**	**16**	*eP*	Pn	06 37 29.2	-0.4
FRTB	**Fartura**	**13.22**	**83**	*eP*	Pn	06 37 30.3	-0.2
FRTB				*eS*	Sn	06 39 59.2	+1.5
TER01	**Tubaro-SC**	**13.41**	**105**	*eP*	Pn	06 37 33.0	-0.2
TIJ01	**Guaruva-PR**	**13.41**	**92**	*eP*	Pn	06 37 33.3	0.0
ITRB	**Iturama**	**13.80**	**67**	*eP*	Pn	06 37 39.0	+0.4
BB19B	**Bebedouro**	**14.80**	**75**	*eP*	Pn	06 37 52.7	+0.4
ARAG	**Araguaiana, MT**	**15.02**	**51**	*eP*	Pn	06 37 56.4	+1.2
SPB	**Sao Paulo**	**15.08**	**85**	*eP*	Pn	06 37 55.9	0.0
PET01	**Itanhaem-SP**	**15.10**	**88**	*eP*	Pn	06 37 55.9	-0.2
VAO	**Valinhos**	**15.62**	**84**	*eP*	Pn	06 38 03.0	-0.1
ETMB	**Extrema**	**15.96**	**352**	*eP*	Pn	06 38 07.9	+0.4
IPMB	**Ipameri, GO**	**16.42**	**65**	*eP*	Pn	06 38 13.3	-0.1
CLDB	**Colider**	**16.61**	**29**	*eP*	Pn	06 38 15.5	-0.3
PARB	**Paraibuna**	**16.76**	**86**	*eP*	Pn	06 38 17.5	-0.2
SNDB	**Serra Nova Dou**	**18.08**	**43**	*eP*	Pn	06 38 34.0	-0.2
BSCB	**Bom Sucesso**	**18.13**	**79**	*eP*	Pn	06 38 34.6	-0.2
SMTB	**Santa Maria do**	**22.80**	**46**	*eP*	P	06 39 25.8	0.0
NAN01	**Guarapari, ES**	**23.35**	**75**	*eP*	P	06 39 31.5	0.0

MAN 14 06:41:48.4, 17°.59N×120°.70E, h33km, mb4.1, ML2.9, MS2.6, Luzon

*ANF **14** 07:04:29.6±0.4, 36°.29N×97°.51W, h1km±3km, ML3.4/7, Error ellipse: s-maj=3.3km s-min=2.1km az=166.0*
*NEIC **14** 07:04:30.3±1.0, 36°.27N±0°.02×97°.53W±0°.05, h2km±7km, Error ellipse: s-maj=6.3km s-min=0.9km az=58.0*
*TUL **14** 07:04:30.2±1.3, 36°.28N±0°.02×97°.51W±0°.04, h7km±7km, ML3.1, mb_Lg3.1/82(NEIC), Error ellipse: s-maj=5.5km s-min=1.7km az=62.0*

ISC 14 07:04:30.0±1.1, 36°.28N±0°.02×97°.51W±0°.02, h3km±11km, n96, σ0°90/77, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.45**	**300**			**Pg**	**07 04 39.0**	**+0.4**
CROK					Sg	**Sg**	**07 04 45.4**	**+0.9**
OK029	**Liberty Lake**	**0.48**	**175**			**Pg**	**07 04 39.8**	**+0.5**
BLOK	**Blackwell**	**0.54**	**26**			**Pg**	**07 04 40.8**	**+0.5**
BLOK					Sg	**Sg**	**07 04 48.3**	**+1.0**
OK031	**S. Brethren Rd**	**0.63**	**121**			**Pg**	**07 04 42.5**	**+0.4**
OK031					Sg	**Sg**	**07 04 51.2**	**+1.0**
GC02	**Grant County #**	**0.64**	**334**			**Pg**	**07 04 42.5**	**+0.2**
GC02					Sg	**Sg**	**07 04 51.2**	**+0.7**
QUOK	**Quay**	**0.65**	**99**			**Pg**	**07 04 42.9**	**+0.4**
OK005	**Luther M Schoo**	**0.67**	**158**	Pg		**Pg**	**07 04 43.4**	**+0.5**
OK009	**Oakdale Elemen**	**0.70**	**174**	Pg		**Pg**	**07 04 43.8**	**+0.4**
OK025	**Westminster Rd**	**0.71**	**169**			**Pg**	**07 04 43.9**	**+0.3**
KAN13	**South Haven SW**	**0.73**	**2**			**Pg**	**07 04 44.3**	**+0.2**
KAN14	**Manchester OK**	**0.77**	**332**			**Pg**	**07 04 45.0**	**+0.2**
OK032	**Salt Plains WL**	**0.77**	**313**			**Pg**	**07 04 44.8**	**0.0**
OK032					Sg	**Sg**	**07 04 55.4**	**+0.5**
KAN17	**Caldwell West**	**0.79**	**345**			**Pg**	**07 04 45.3**	**+0.1**
KAN17					Sg	**Sg**	**07 04 56.0**	**+0.5**
OKCFA	**Oklahoma City**	**0.86**	**177**	Pg		**Pg**	**07 04 46.7**	**+0.1**
OKCFA	**Oklahoma City** baz=356	**0.86**	**177**	P		**Pg**	**07 04 46.5**	**0.0**
OKCSW	**OKLAHOMA CITY**	**0.87**	**176**			**Pg**	**07 04 46.8**	**0.0**
KAN05	**Bluff City Nor**	**0.88**	**341**			**Pg**	**07 04 46.9**	**0.0**
KS20	**Mayfield South**	**0.95**	**358**			**Pg**	**07 04 48.3**	**0.0**
T35A	**Sooner Cattle**	**1.02**	**51**			**Pg**	**07 04 49.9**	**+0.3**
T35B	**Sooner Cattle** baz=232	**1.02**	**51**	P		**Pg**	**07 04 49.6**	**0.0**
T35B					S	**Sg**	**07 05 03.0**	**+0.2**
FNO	**Franklin**	**1.02**	**175**			**Pg**	**07 04 49.4**	**-0.2**
KAN12	**Harper NE Stat**	**1.09**	**339**	Pg		**Pg**	**07 04 50.8**	**-0.1**
U32A	**Winter Ranch,**	**1.21**	**275**	Pg		**Pb**	**07 04 52.8**	**-0.8**
U32A	**Winter Ranch,** baz=94	**1.21**	**275**	P		**Pb**	**07 04 52.6**	**-1.0**
U32A					S	**Sg**	**07 05 09.3**	**+0.3**
TUL1	**Leonard** baz=285	**1.44**	**104**	P		**Pn**	**07 04 56.2**	**-0.7**
TUL1					S	**Sb**	**07 05 16.0**	**-0.1**
TUL1	**Leonard** baz=285	**1.44**	**104**	P		**Pn**	**07 04 56.2**	**-0.7**
TUL1					S	**Sb**	**07 05 16.0**	**-0.1**
X34A	**Smith Ranch, M**	**1.69**	**189**			**Pb**	**07 05 01.3**	**-0.5**
WMOK	**Wichita Mounta**	**1.86**	**214**			**Pn**	**07 05 02.9**	**+0.1**
WMOK	**Wichita Mounta** baz=33	**1.86**	**214**	P		**Pn**	**07 05 02.8**	**+0.1**
WMOK					S	**Sb**	**07 05 27.8**	**-0.4**
WMOK	**Wichita Mounta** baz=33	**1.86**	**214**	P		**Pn**	**07 05 02.9**	**+0.1**
WMOK					S	**Sb**	**07 05 27.8**	**-0.4**
LOOK	**Love County**	**2.30**	**173**	Pn		**Pn**	**07 05 09.1**	**+0.3**
R32A	**Long Quarter,**	**2.35**	**336**	Pn		**Pn**	**07 05 10.7**	**+1.2**
R32A	**Long Quarter,** baz=156	**2.35**	**336**	S		**Sn**	**07 05 39.5**	**+0.6**
X37A	**Clayton**	**2.42**	**133**			**Pn**	**07 05 11.6**	**+1.1**
X37A	comp=Z,51nm,0.7s				IAmb_Lg		07 05 51.8	
X37A	**Clayton** baz=315	**2.42**	**133**	P		**Pn**	**07 05 11.3**	**+0.8**
U38A	**Gravette**	**2.52**	**85**	Pn		**Pb**	**07 05 13.8**	**-2.2**
KSU1	**Kansas State U** baz=195	**2.91**	**14**	Pb		**Pg**	**07 05 24.6**	**-1.1**
CBKS	**Cedar Bluff** comp=Z,34nm,0.9s	**3.09**	**326**	IAmb_Lg			07 06 11.9	
CBKS	**Cedar Bluff** baz=144	**3.09**	**326**	Sb		**Sg**	**07 06 08.9**	**-0.4**
W39A	**Magazine**	**3.21**	**109**	Pn		**Pn**	**07 05 23.3**	**+1.9**
S39A	**Bolivar**	**3.63**	**66**			**Pn**	**07 05 27.6**	**+0.5**
S39A	comp=Z,33nm,0.9s				IAmb_Lg		07 06 27.5	
MIAR	**Mount Ida**	**3.65**	**117**	Pn		**Pn**	**07 05 28.0**	**+0.6**
MIAR	comp=Z,27nm,0.9s				IAmb_Lg		07 06 34.5	
MIAR	**Mount Ida** baz=300	**3.65**	**117**	P		**Pn**	**07 05 28.2**	**+0.9**
MIAR	**Mount Ida** baz=300	**3.65**	**117**	P		**Pn**	**07 05 28.3**	**+0.9**
AMTX	**Amarillo** comp=Z,46nm,1.0s	**3.68**	**249**	IAmb_Lg			07 06 30.4	
AMTX	**Amarillo** baz=66	**3.68**	**249**	Sb		**Sg**	**07 06 25.3**	**-2.8**
U40A	**Yellville** comp=Z,37nm,0.8s	**3.76**	**87**	IAmb_Lg			07 06 28.8	
ABTX	**Abilene, Hawle** comp=Z,27nm,0.7s	**4.05**	**206**	IAmb_Lg			07 06 41.0	
ABTX	**Abilene, Hawle** baz=25	**4.05**	**206**	Sb		**Sb**	**07 06 33.5**	**+2.1**
X40A	**Basin Creek Fa** comp=Z,37nm,0.7s	**4.21**	**114**	IAmb_Lg			07 06 48.7	
WHTX	**Lake Whitney,**	**4.28**	**179**	Pn		**Pn**	**07 05 37.5**	**+1.5**
MGMO	**Mountain Grove** comp=Z,37nm,0.7s	**4.30**	**77**	IAmb_Lg			07 06 49.0	
WHAR	**Wooly Hollow**	**4.35**	**102**	Pn		**Pn**	**07 05 38.0**	**+0.9**
WHAR	comp=Z,23nm,0.9s			IAmb_Lg			07 06 52.1	
FCAR	**Ozark Folk Cen**	**4.38**	**94**	Pn		**Pn**	**07 05 38.0**	**+0.7**
WLAR	**White Oak Lake**	**4.44**	**124**	Pn		**Pn**	**07 05 39.1**	**+0.9**
WLAR	comp=Z,29nm,0.7s			IAmb_Lg			07 06 56.4	
237A	**Washetta, Mont** comp=Z,23nm,0.9s	**4.49**	**161**	IAmb_Lg			07 07 03.3	
P38A	**Dawn** comp=Z,34nm,0.7s	**4.58**	**42**	IAmb_Lg			07 07 00.3	
R40A	**Maddies Statio**	**4.63**	**63**	Pn		**Pn**	**07 05 40.9**	**0.0**
N35A	**Tabor**	**4.80**	**17**	Pn		**Pn**	**07 05 44.1**	**+0.9**
KSCO	**Kaye Shedlock'** comp=Z,25nm,0.7s	**4.89**	**305**	IAmb_Lg			07 07 12.8	
NATX	**Nacogdoches** comp=Z,39nm,1.3s	**5.09**	**152**	IAmb_Lg			07 07 21.7	
BGNE	**Belgrade** comp=Z,34nm,0.7s	**5.15**	**355**	Pn		**Pn**	**07 05 48.0**	**0.0**
BGNE				IAmb_Lg			07 07 22.6	
CCAR	**Cane Creek** comp=Z,34nm,0.9s	**5.26**	**115**	IAmb_Lg			07 07 26.8	
CCM	**Cathedral Cave** comp=Z,31nm,0.8s	**5.30**	**69**	Pn		**Pn**	**07 05 50.7**	**+0.6**
CCM				IAmb_Lg			07 07 17.8	
P40A	**Paris** comp=Z,37nm,0.8s	**5.40**	**51**	Pn		**Pn**	**07 05 50.5**	**-0.9**
P40A				IAmb_Lg			07 07 25.0	
435B	**Jarrell** comp=Z,17nm,0.9s	**5.48**	**181**	IAmb_Lg			07 07 35.2	
T25A	**Trinidad**	**5.61**	**281**	Pn		**Pn**	**07 05 52.0**	**-2.6**
L34A	**Svendsen Farm,** comp=Z,41nm,0.8s	**5.75**	**8**	IAmb_Lg			07 07 37.2	
OGNE	**Ogallala** comp=Z,24nm,0.8s	**5.85**	**324**	IAmb_Lg			07 07 42.7	
LPAR	**Lepanto** comp=Z,29nm,0.9s	**5.88**	**94**	IAmb_Lg			07 07 48.0	
GNAR	**Gosnell** comp=Z,35nm,0.9s	**6.07**	**91**	IAmb_Lg			07 07 55.5	
JCT	**Junction City**	**6.09**	**199**	Pn		**Pn**	**07 06 01.2**	**+0.1**
HDBT	**Hernando Brdge**	**6.16**	**98**	Pn		**Pn**	**07 06 01.3**	**-0.6**
143A	**Socs Landing,** comp=Z,25nm,0.8s	**6.17**	**124**	IAmb_Lg			07 07 49.3	
SLM	**Saint Louis** comp=Z,38nm,0.8s	**6.24**	**66**	IAmb_Lg			07 07 48.1	
PARMO	**Parma** comp=Z,35nm,0.9s	**6.26**	**84**	IAmb_Lg			07 07 50.4	
HENM	**Henderson Moun** comp=Z,32nm,0.8s	**6.49**	**84**	IAmb_Lg			07 07 55.1	
SDCO	**Great Sand Dun**	**6.56**	**285**	Pn		**Pn**	**07 06 08.5**	**+0.8**
S44A	**Carbondale**	**6.75**	**75**	Pn		**Pn**	**07 06 09.8**	**-0.2**
S44A	comp=Z,29nm,0.8s			IAmb_Lg			07 08 04.1	
SIUC	**Southern Illin**	**6.79**	**75**	Pn		**Pn**	**07 06 10.7**	**+0.2**
N41A	**Harden Midland** comp=Z,33nm,0.7s	**6.84**	**48**	IAmb_Lg			07 08 15.6	
OXF	**Oxford**	**6.84**	**103**	Pn		**Pn**	**07 06 11.6**	**+0.4**
OXF	comp=Z,15nm,0.8s			IAmb_Lg			07 08 24.5	
W45A	**Hickory Valley** comp=Z,20nm,0.9s	**6.86**	**97**	IAmb_Lg			07 08 11.9	
P43A	**Skaggs, Pawnee**	**7.14**	**60**	Pn		**Pn**	**07 06 17.9**	**+2.5**
T45A	**Paducah** comp=Z,32nm,0.7s	**7.16**	**81**	IAmb_Lg			07 08 24.7	
ECSD	**EROS Data Cent**	**7.48**	**5**	Pn		**Pn**	**07 06 19.6**	**-0.3**
L40A	**Anamosa**	**7.56**	**38**	Pn		**Pn**	**07 06 22.3**	**+1.2**
L40A	comp=Z,20nm,0.8s			IAmb_Lg			07 08 36.0	
WVT	**Waverly**	**7.82**	**88**	Pn		**Pn**	**07 06 24.9**	**+0.2**
OLIL	**Olney** comp=Z,26nm,0.9s	**7.87**	**69**	IAmb_Lg			07 08 50.2	
PHWY	**Pilot Hill** comp=Z,18nm,0.9s	**7.98**	**311**	IAmb_Lg			07 08 53.2	
L42A	**Oliver, Polo** comp=Z,22nm,0.9s	**8.35**	**44**	IAmb_Lg			07 08 55.5	
JFWS	**Jewell Farm** comp=Z,15nm,0.9s	**8.67**	**38**	IAmb_Lg			07 09 27.1	
V48A	**Smith Brothers** comp=Z,9.9nm,1.3s	**8.67**	**90**	IAmb_Lg			07 09 07.4	
SFIN	**Lafayette** comp=Z,16nm,0.8s	**9.14**	**60**	IAmb_Lg			07 09 35.3	
WCI	**Wyandotte Cave** comp=Z,10nm,0.8s	**9.15**	**74**	IAmb_Lg			07 09 21.1	
RWWY	**Rawlins** comp=Z,13nm,0.9s	**9.29**	**309**	IAmb_Lg			07 09 36.2	

NNC 14 07:05:26.9±1.3, 41°.84N×78°.27E, h0km, mb3.6, mpv3.1, 3C-1D, Error ellipse: s-maj=8.7km s-min=8.1km az=153.0, Suspected Mining explosion., Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan** 3.6nm,0.1s	**1.54**	**321**	P		Pn	07 05 55.4	-0.6
TNSS	1.6nm,0.3s				S	Sg	07 06 16.6	+0.1
KST	**Kastek** 1.3nm,0.2s	**2.09**	**306**	Pg		Pb	07 06 05.5	-0.1
KST	1.9nm,0.5s				Lg	Lg	07 06 33.9	
CHKK	**Chushkaly** 9.4nm,0.3s	**2.22**	**335**	Pg		Pb	07 06 07.0	-0.9
CHKK	6.7nm,0.3s				Lg	Lg	07 06 36.7	
TKM2	**Tokmak 2** 1.0nm,0.3s	**2.25**	**299**	⇑Pg		Pb	07 06 07.5	-1.0
TKM2	0.8nm,0.2s			⇓Lg		Lg	07 06 38.8	
ARXS	**Arharly** 8.5nm,0.2s	**2.39**	**352**	Pg		Pb	07 06 11.1	+0.2
ARXS	4.3nm,0.4s				Lg	Lg	07 06 43.3	
MK31	**Makanchi Array** 0.1nm,0.1s,baz=213,slow=16,SNR=3.1	**5.73**	**29**	⇑Pn		Pb	07 07 01.2	-6.5
MK31	0.5nm,0.3s,baz=162,slow=17,SNR=6.5				Pg	Pg	07 07 14.4	-2.2
MK31	1.7nm,0.6s,baz=156,slow=28,SNR=4.5				⇑Lg	Lg	07 08 15.9	

IDC 14 07:05:38.9±77.0, 15°.68S×172°.60W, h462km±318km, mb3.8/3, mb1 4.0/4, mb1mx3.1/37, mbtmp4.7/4, Error ellipse: s-maj=972.0km s-min=112.3km az=75.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu** 4.6nm,0.3s,baz=135,slow=12,SNR=25	**9.19**	**256**	P		P	07 07 47.7	+0.3
STKA	**Stephens Creek** 3.5nm,0.4s,baz=89,slow=9.9,SNR=21	**44.57**	**240**	P		P	07 13 08.5	-0.2
WRA	**Warramunga Arr** 1.3nm,0.4s,baz=95,slow=6.8,SNR=70	**50.53**	**257**	P		P	07 13 53.4	-0.6
ASAR	**Alice Springs** 15nm,0.6s,baz=90,slow=7.6,SNR=268	**50.76**	**252**	P		P	07 13 55.9	+0.3

*ATH **14** 07:06:05.8, 34°.37N×25°.22E, h82km±9km, ML3.3/4, Error ellipse: s-maj=11.5km s-min=2.1km az=348.0*
*HLW **14** 07:06:07.2, 34°.24N×25°.44E, h25km±15km, Md4.0, Ml4.0*
*THE **14** 07:06:07.6, 34°.24N×25°.24E, h97km±12km, ML3.4/4, Error ellipse: s-maj=13.1km s-min=1.5km az=355.0*
*DDA **14** 07:06:09.1, 34°.61N×25°.71E, h6km±6km, ML3.1*

ISC 14 07:06:06.3±1.5, 34°.24N±0°.05×25°.25E±0°.06, h93km±18km, n32, σ1°30/46, Crete

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**0.87**	**27**	P		**Pn**	**07 06 25.2**	**+0.5**
NPS	**Neapolis**	**1.06**	**16**	P		**Pn**	**07 06 27.1**	**+0.2**
NPS	965nm,0.7s			S		**Sn**	**07 06 42.7**	**+0.3**
NPS	**Neapolis**	**1.06**	**16**	P		**Pn**	**07 06 27.1**	**+0.2**
NPS	comp=N,2060μm,0.6s			AML		AML	07 06 49.3	
NPS	comp=E,1645μm,0.6s			AML		AML	07 06 53.3	
KSTL	**Kastelli Herak**	**1.07**	**352**	P		**Pn**	**07 06 26.3**	**-0.6**
IDI	**Anoyia**	**1.08**	**344**	P		**Pn**	**07 06 26.7**	**-0.5**
IDI	comp=E,985nm,0.5s			S		**Sn**	**07 06 42.8**	**-0.1**
IDI	**Anoyia**	**1.08**	**344**	P		**Pn**	**07 06 26.9**	**-0.3**
IDI				S		**Sn**	**07 06 41.5**	**-1.4**
IDI	comp=E,2457μm,0.5s			AML		AML	07 06 46.9	
IDI	comp=N,1472μm,0.5s			AML		AML	07 06 47.0	
GVD	**Gavdhos**	**1.13**	**302**	P		**Pn**	**07 06 27.9**	**+0.3**
GVD	comp=N,2μm,0.5s			S		**Sn**	**07 06 44.2**	**+0.5**
GVD	**Gavdhos**	**1.13**	**302**	P		**Pn**	**07 06 27.8**	**+0.2**
GVD				S		**Sn**	**07 06 43.8**	**+0.1**
GVD	comp=E,3945μm,0.4s			AML		AML	07 06 51.8	
GVD	comp=N,4844μm,0.5s			AML		AML	07 06 55.6	
ZKR	**Zakros**	**1.18**	**42**	P		**Pn**	**07 06 29.1**	**+0.8**
ZKR	comp=N,658nm,0.5s			S		**Sn**	**07 06 45.7**	**+0.9**
ZKR	**Zakros**	**1.18**	**42**	P		**Pn**	**07 06 29.1**	**+0.8**
ZKR	comp=N,950μm,0.5s			AML		AML	07 06 53.0	
ZKR	comp=E,1737μm,0.6s			AML		AML	07 06 58.0	
VAM	**Vamos**	**1.45**	**324**	P		**Pn**	**07 06 32.4**	**+1.0**
VAM	**Vamos**	**1.45**	**324**	P		**Pn**	**07 06 32.4**	**+1.0**
IMMV	**Iera Moni Meta**	**1.60**	**320**	P		**Pn**	**07 06 34.5**	**+1.1**
IMMV	**Iera Moni Meta**	**1.60**	**320**	P		**Pn**	**07 06 34.5**	**+1.1**
KARP	**Karpathos**	**2.04**	**50**	P		**Pn**	**07 06 41.5**	**+2.3**
SLUM	**Salum** baz=185	**2.74**	**181**	P		**Pn**	**07 06 49.3**	**+0.9**
SLUM				AMP			07 07 00.0	
SLUM	baz=185			S		**Sn**	**07 07 19.5**	**-1.2**
MATC	**Matruh** baz=151	**3.34**	**149**	P		**Pn**	**07 06 56.6**	**+0.2**
DALY	**Dalyan (Mula)**	**3.79**	**46**	*i* P		**Pn**	**07 07 04.3**	**+1.9**
DALY				*i* S		**Sn**	**07 07 45.5**	**-0.3**
AYDN	**Tasoluk**	**4.03**	**31**	*i* P		**Pn**	**07 07 08.0**	**+2.3**
AKAS	**Kas**	**4.08**	**60**	*i* P		**Pn**	**07 07 07.6**	**+1.1**
AKAS				*i* S		**Sn**	**07 07 51.3**	**-2.0**
AKAS	comp=N,38nm,0.4s			IAML			07 07 56.0	
TAVA	**DENIZLI_Tavas**	**4.38**	**42**	*i* P		**Pn**	**07 07 12.6**	**+2.0**
TAVA				*i* S		**Sn**	**07 08 00.2**	**-0.3**
GOLH	**Golhisar**	**4.61**	**48**	*i* P		**Pn**	**07 07 14.5**	**+0.8**
GOLH				*i* S		**Sn**	**07 08 03.4**	**-2.6**
AKUM	**Antalya-Kumluc**	**4.66**	**62**	*i* P		**Pn**	**07 07 15.0**	**+0.8**
AKUM				*i* S		**Sn**	**07 08 05.3**	**-1.7**
AKUM	comp=N,28nm,0.4s			IAML			07 08 10.0	
SWA2	baz=179	**4.99**	**178**	P		**Pn**	**07 07 20.0**	**+1.3**
SWA2				AMP			07 08 00.0	
SWA2	baz=179			S		**Sn**	**07 08 13.7**	**-1.4**
KEPZ	**Antalya-Kepez**	**5.82**	**61**	*i* P		**Pn**	**07 07 31.2**	**+1.1**
KEPZ				*i* S		**Sn**	**07 08 31.5**	**-4.0**
KEPZ	comp=N,29nm,1.3s			IAML			07 08 50.0	
RYAN	**Fayoum** baz=140	**6.70**	**139**	P		**Pn**	**07 07 42.6**	**+0.6**
RYAN				AMP			07 08 00.0	
KOT	**Kottamia** baz=126	**7.05**	**126**	P		**Pn**	**07 07 47.0**	**+0.1**
HSAF	**As Saff** baz=129	**7.07**	**129**	P		**Pn**	**07 07 48.1**	**+1.0**
GLL	**Jalalah** baz=129	**7.20**	**128**	P		**Pn**	**07 07 49.0**	**+0.2**
HHAG	**Hagoal** baz=125	**7.22**	**124**	P		**Pn**	**07 07 49.8**	**+0.7**
NBNS	**Bani Suef** baz=136	**7.62**	**136**	P		**Pn**	**07 07 55.7**	**+1.1**
SUZ	**Suez** baz=123	**7.79**	**122**	P		**Pn**	**07 07 57.1**	**+0.2**

*IDC **14** 07:07:33.0±0.9, 14°.51N×93°.88W, h0km, mb4.0/16, mb1 4.2/18, mb1mx4.0/48, mbtmp4.0/18, ML3.4/2, MS3.3/6, Ms1 3.3/6, ms1mx2.9/40, Error ellipse: s-maj=36.5km s-min=14.9km az=52.0*
*MEX **14** 07:07:34.5±0.6, 14°.36N×94°.11W, h8km±10km, MD4.4*
*NEIC **14** 07:07:39.5±2.6, 14°.66N±0°.04×93°.90W±0°.04, h33km±5km, mb4.4/125, Md4.4/30(MEX), Error ellipse: s-maj=6.2km s-min=5.1km az=100.0*

ISC 14 07:07:36.5±1.4, 14°.58N±0°.07×93°.99W±0°.05, h19km±6km, n207, σ1°20/197, mb4.4/65, MS3.4/6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PCIG		**1.35**	**34**	*i* P		**Pn**	**07 07 59.3**	**-1.1**
PCIG				*i* S		**Sb**	**07 08 18.7**	**+0.7**
PCIG		**1.35**	**34**			**Pn**	**07 07 59.3**	**-1.1**
PCIG						**Sb**	**07 08 18.7**	**+0.7**
THIG		**1.70**	**79**	*i* P		**Pn**	**07 08 03.7**	**-1.6**
THIG				*i* S		**Sn**	**07 08 25.2**	**-1.3**
THIG		**1.70**	**79**			**Pn**	**07 08 03.7**	**-1.6**
THIG						**Sn**	**07 08 25.2**	**-1.3**
RTAL	**Retalhuleu**	**2.22**	**91**			**Pn**	**07 08 11.3**	**-1.1**
TGIG		**2.34**	**21**	*i* P		**Pn**	**07 08 14.7**	**+0.5**
TGIG				*i* S		**Sb**	**07 08 46.2**	**-0.6**
TGIG		**2.34**	**21**			**Pn**	**07 08 14.7**	**+0.5**
TGIG						**Sb**	**07 08 46.2**	**-0.6**
TGBT	**Tuxtla Gutierr**	**2.35**	**22**	*i* P		**Pn**	**07 08 15.3**	**+1.1**
TGBT				*i* S		**Sn**	**07 08 45.2**	**+2.7**
TGBT	**Tuxtla Gutierr**	**2.35**	**22**			**Pn**	**07 08 15.3**	**+1.1**
TGBT						**Sn**	**07 08 45.2**	**+2.7**
CCIG	**Comitan**	**2.46**	**46**	*i* P		**Pn**	**07 08 17.1**	**+1.3**
CCIG				*i* S		**Sb**	**07 08 50.0**	**-0.4**
CCIG	**Comitan**	**2.46**	**46**			**Pn**	**07 08 17.2**	**+1.3**
HUEH	**Huehuetenango**	**2.52**	**73**			**Pn**	**07 08 17.1**	**+0.5**
CMIG	**Matias Romero** 15nm,0.3s,baz=176,slow=13,SNR=346	**2.64**	**341**	Pn		**Pn**	**07 08 17.1**	**-1.1**
CMIG	69nm,0.3s,baz=162,slow=18,SNR=15				Sn	**Sn**	**07 08 47.3**	**-2.5**
CMIG	**Matias Romero**	**2.64**	**341**	*i* P		**Pn**	**07 08 17.1**	**-1.1**
CMIG				*i* S		**Sn**	**07 08 47.1**	**-2.7**
PEIG	**Puerto Escondi**	**3.36**	**295**	*i* P		Pn	07 08 24.2	-3.8
PEIG				*i* S		Sn	07 08 58.4	-9.1
VHO	**Vista Hermosa**	**3.62**	**314**	*i* P		Pn	07 09 31.1	-0.8
VHO				*i* S		Sn	07 09 09.6	-4.6
PNIG	**Pinotepa**	**4.38**	**295**	*i* P		Pn	07 08 39.2	-2.9
PNIG				*i* S		Sn	07 09 22.9	-10
PNIG	**Pinotepa**	**4.38**	**295**			Pn	07 08 39.2	-2.9
MTO3	**Montecristo**	**4.49**	**92**			**Pn**	**07 08 43.2**	**-0.6**
ESQI	**Esquipulas**	**4.50**	**90**			**Pn**	**07 08 43.4**	**-0.5**
TOIG	**Toxpalan**	**4.58**	**320**	*i* P		**Pn**	**07 08 46.4**	**+1.4**
TOIG				*i* S		**Sb**	**07 09 50.3**	**-0.9**
PETF	**Flores**	**4.60**	**59**	Pn		**Pn**	**07 08 46.3**	**+1.1**
SNET	**Serv Nac Est T**	**4.70**	**100**	Pn		Pn	07 08 44.9	-1.7
FTIG	**Fresnillo de T**	**5.18**	**310**	*i* P		**Pn**	**07 08 53.8**	**+0.6**
FTIG				*i* S		**Sg**	**07 10 21.1**	**-1.7**
TGUH	**Tegucigalpa,Un**	**6.53**	**94**	Pn		**Pn**	**07 09 11.0**	**-0.8**
CRIN	**San Cristobal**	**7.00**	**105**	Pn		**Pn**	**07 09 17.7**	**-0.5**
CNGN	**Cerro Negro**	**7.39**	**105**	Pn		**Pn**	**07 09 22.9**	**-0.6**
MATN	**Matagalpa**	**8.01**	**101**			**Pn**	**07 09 30.6**	**-1.5**
HZTE	**Horizontes, Gu**	**9.05**	**114**	Pn		**Pn**	**07 09 46.1**	**-0.1**
ORTG	**Ortega, Santa**	**9.32**	**116**	Pn		**Pn**	**07 09 50.5**	**+0.4**
JTS	**Las Juntas de** 0.8nm,0.3s,baz=15,slow=17,SNR=4.3	**9.80**	**115**	Pn		**Pn**	**07 09 56.1**	**-0.5**
JTS	**Las Juntas de**	**9.80**	**115**			**Pn**	**07 09 55.5**	**-1.1**
CAO2	**Cobano, Puntar**	**9.95**	**118**	Pn		**Pn**	**07 09 59.2**	**+0.6**
COVE	**Coope Vega, Sa**	**10.11**	**111**	Pn		**Pn**	**07 10 01.7**	**+0.9**
CVTR	**Volcan Turrial**	**10.97**	**113**	Pn		**Pn**	**07 10 13.0**	**-0.1**
RIMA	**Rio Macho**	**10.99**	**115**			**Pn**	**07 10 14.2**	**+1.1**
PEZE	**Perez Zeledon,**	**11.33**	**116**			**Pn**	**07 10 18.5**	**+0.9**
SRBA	**San Rafael, Bu**	**11.68**	**116**			**Pn**	**07 10 23.9**	**+1.5**
DRK0	**Durika**	**11

comp=Z,13nm,0.8s
PTBC PUERTO BERRIO, 20.78 111 *e*P **P** **07 12 17.0 +0.2**
FNO Franklin 20.82 352 P **P** **07 12 17.2 +0.2**
NORC Norcasia 20.83 114 *e*P **P** **07 12 18.1 +0.8**
POPC Popayan, Colom 20.86 123 *e*P **P** **07 12 18.0 +0.1**
MSTX Muleshoe 20.88 339 P **P** **07 12 18.3 +0.6**
OKCFA Oklahoma City 20.98 352 P **P** **07 12 18.6 -0.2**
OKCFA IAmb IAmb 07 12 33.3
comp=Z,18nm,0.7s
OK025 Westminster Rd 21.13 352 P **P** **07 12 20.3 0.0**
Y52A Lilburn 21.20 23 P **P** **07 12 20.0 -1.2**
Y52A IAmb IAmb 07 12 44.0
comp=Z,18nm,0.8s
OCAC Ocana 21.21 105 *e*P **P** **07 12 21.3 -0.3**
FPAL Fort Paine 21.27 19 P **P** **07 12 21.8 -0.1**
FPAL IAmb IAmb 07 12 47.6
comp=Z,23nm,1.3s
HSIG 21.28 315 P **P** **07 12 23.2 +1.2**
FCAR Ozark Folk Cen 21.29 4 P **P** **07 12 21.6 -0.4**
FCAR IAmb IAmb 07 12 25.5
comp=Z,14nm,0.8s
ORTC Ortega, Tolima 21.30 118 *e*P **P** **07 12 23.4 +1.0**
OK029 Liberty Lake 21.36 352 P **P** **07 12 22.5 -0.3**
OK029 IAmb IAmb 07 12 33.9
comp=Z,15nm,0.9s
AMTX Amarillo 21.37 342 P **P** **07 12 23.7 +0.6**
SPBC San Pablo de B 21.50 112 *e*P **P** **07 12 25.3 +0.7**
ROSC El Rosal 21.65 115 P **P** **07 12 28.1 +1.6**
comp=Z,10nm,0.5s,baz=28,slow=7.6,SNR=10
PRAC Prado 21.71 118 *e*P **P**
U40A Yellville 21.71 2 P **P** **07 12 27.4 +0.8**
U40A IAmb IAmb 07 12 29.0
comp=Z,11nm,0.8s
U38A Gravette 21.77 359 P **P** **07 12 27.5 +0.3**
SWET Sewanee 21.79 18 P **P** **07 12 26.9 -0.6**
319A Douglas 21.81 323 P **P** **07 12 28.4 +0.6**
319A IAmb IAmb 07 12 56.1
comp=Z,18nm,1.2s
121A Cookes Peak, D 21.85 327 P **P** **07 12 30.0 +1.7**
BARC Barichara 21.92 109 *e*P **P** **07 12 31.1 +1.8**
V48A Smith Brothers 22.03 16 P **P** **07 12 29.1 -0.9**
PAMC Pamplona, Colo 22.09 107 *e*P **P** **07 12 31.9 +0.6**
CROK Carrier 22.13 351 P **P** **07 12 29.9 -1.1**
CROK IAmb IAmb 07 12 44.0
comp=Z,19nm,0.9s
FLOC Florencia 22.25 124 P **P** **07 12 33.2 +0.6**
FLOC IAmb IAmb 07 12 53.3
comp=Z,9.1nm,0.9s
FLOC Florencia 22.25 124 *e*P **P** **07 12 33.7 +1.1**
CHIC Chingaza 22.26 114 *e*P **P** **07 12 33.8 +0.7**
RUSC La Rusia 22.29 111 P **P** **07 12 33.2 -0.4**
RUSC La Rusia 22.29 111 *e*P **P** **07 12 33.1 -0.4**
PBMO Poplar Bluff 22.34 8 P **P** **07 12 33.2 -0.1**
PBMO IAmb IAmb 07 13 01.1
comp=Z,10nm,0.9s
CLTN Cedars of Leba 22.50 16 P **P** **07 12 33.9 -1.1**
CLTN IAmb IAmb 07 12 53.2
comp=Z,14nm,1.1s
MGMO Mountain Grove 22.54 4 P **P** **07 12 35.2 -0.3**
MGMO IAmb IAmb 07 12 36.3
comp=Z,10nm,0.8s
LENM Lemitar 22.76 331 P **P** **07 12 39.8 +1.7**
TKL Tuckaleechee C 22.91 22 P **P** **07 12 38.2 -1.1**
comp=Z,4.6nm,1.1s,baz=308,slow=17,SNR=2.6
TKL LR LR 07 23 37.1
comp=Z,31nm,18.1s,baz=198,slow=42
TKL Tuckaleechee C 22.91 22 P **P** **07 12 38.3 -1.1**
S39A Bolivar 23.03 1 P **P** **07 12 40.1 -0.4**
U49A Red Boiling Sp 23.05 17 P **P** **07 12 38.7 -2.0**
U49A IAmb IAmb 07 12 58.6
comp=Z,6.7nm,0.8s
V52A Sevierville 23.14 22 P **P** **07 12 40.6 -1.1**
T47A Sharon Grove 23.15 14 P **P** **07 12 40.9 -0.9**
ANMO Albuquerque 23.18 333 P **P** **07 12 43.0 +0.6**
comp=Z,1.3nm,0.6s,baz=159,slow=12,SNR=5.3
ANMO Albuquerque 23.18 333 P **P** **07 12 43.2 +0.8**
TUC Tucson 23.37 322 P **P** **07 12 44.5 +0.3**
S44A Carbondale 23.40 9 P **P** **07 12 43.0 -1.3**
S44A IAmb IAmb 07 13 02.9
comp=Z,20nm,1.1s
SIUC Southern Illin 23.43 10 P **P** **07 12 43.7 -0.9**
SIUC IAmb IAmb 07 13 03.7
comp=Z,22nm,1.1s
CCM Cathedral Cave 23.51 5 P **P** **07 12 43.3 -2.1**
CCM IAmb IAmb 07 12 44.7
comp=Z,7.3nm,0.8s
R40A Maddies Statio 23.67 3 P **P** **07 12 45.8 -1.1**
R40A IAmb IAmb 07 12 47.7
comp=Z,13nm,0.9s
R32A Long Quarter, 24.11 351 P **P** **07 12 51.0 -0.2**
R32A IAmb IAmb 07 12 52.0
comp=Z,14nm,0.9s
T25A Trinidad 24.31 339 P **P** **07 12 55.0 +1.8**
T25A IAmb IAmb 07 13 06.4
comp=Z,23nm,1.2s
214A Organ Pipe Nat 24.39 318 P **P** **07 12 55.1 +1.3**
WCI Wyandotte Cave 24.52 15 P **P** **07 12 53.6 -1.3**
KSU1 Kansas State U 24.54 355 P **P** **07 12 53.0 -2.0**
KSU1 IAmb IAmb 07 13 06.4
comp=Z,16nm,0.9s
X18A Snowflake 24.54 327 P **P** **07 12 54.0 -1.3**
X18A IAmb IAmb 07 13 06.7
comp=Z,12nm,1.3s
OLIL Olney 24.62 11 P **P** **07 12 53.9 -1.9**
CBKS Cedar Bluff 24.67 349 P **P** **07 12 56.5 +0.2**
P40A Paris 24.91 4 P **P** **07 12 56.8 -1.6**
P38A Dawn 24.95 1 P **P** **07 12 57.6 -1.2**
P38A IAmb IAmb 07 12 57.9
comp=Z,10nm,0.7s
SDCO Great Sand Dun 25.24 338 P **P** **07 13 02.9 +1.2**
X16A Lo Mia Camp, P 25.27 324 P **P** **07 13 02.8 +0.8**
X16A IAmb IAmb 07 13 14.4
comp=Z,17nm,1.5s
BLO Bloomington 25.37 14 P **P** **07 13 00.4 -2.2**
P46A Rosedale 25.65 12 P **P** **07 13 03.7 -1.3**
MVCO Mesa Verde 25.98 333 P **P** **07 13 09.5 +1.1**
MVCO IAmb IAmb 07 13 19.3
comp=Z,14nm,1.2s
WUAZ Wupatki 26.05 326 P **P** **07 13 10.1 +1.1**
WUAZ IAmb IAmb 07 13 22.9
comp=Z,12nm,1.0s
N38A Joes South For 26.13 1 P **P** **07 13 07.7 -1.8**
N35A Tabor 26.23 357 P **P** **07 13 08.3 -2.0**
PV13 Radium Mtn., P 26.91 334 P **P** **07 13 17.6 +0.8**
PV13 IAmb IAmb 07 13 27.8
comp=Z,12nm,1.0s
SJG San Juan 26.93 79 LR LR 07 23 09.4
comp=Z,34nm,20.7s,baz=220,slow=35
PV18 Skein Mesa, Pa 27.02 334 P **P** **07 13 20.5 +2.7**
PV18 IAmb IAmb 07 13 31.4
comp=Z,9.4nm,1.1s
ISCO Idaho Springs 27.12 340 P **P** **07 13 19.8 +1.0**
SCIA State Center 27.24 1 P **P** **07 13 17.6 -1.9**
L40A Anamosa 27.49 4 P **P** **07 13 20.7 -1.0**
L40A IAmb IAmb 07 13 21.6
comp=Z,9.8nm,0.9s
KNB Kanab 27.94 327 P **P** **07 13 26.8 +0.8**
MTPU Mount Pierson 28.39 329 P **P** **07 13 32.5 +2.3**
SZCU Shurtz Canyon 28.52 327 P **P** **07 13 33.0 +1.8**
SZCU IAmb IAmb 07 13 42.2
comp=Z,5.9nm,1.1s
CCUT Cedar City 28.63 327 P **P** **07 13 34.4 +2.2**
P17A Butcher Ranch, 28.84 332 P **P** **07 13 33.3 -0.7**
P17A IAmb IAmb 07 13 44.8
comp=Z,6.2nm,1.1s
TMUT Trail Mountain 28.91 332 P **P** **07 13 35.9 +1.1**
RWWY Rawlins 29.34 340 P **P** **07 13 37.3 -1.3**
RWWY IAmb IAmb 07 13 50.2
comp=Z,7.9nm,0.8s
PSUT Pine Spring 29.62 327 P **P** **07 13 43.0 +2.1**
PSUT IAmb IAmb 07 14 05.1
comp=Z,4.7nm,1.0s
MPU Maple Canyon 29.68 332 P **P** **07 13 42.7 +1.2**
MPU IAmb IAmb 07 13 51.9
comp=Z,7.0nm,1.3s
SPR3 Spring Creek 3 30.21 327 P **P** **07 13 47.6 +1.3**
SPR3 IAmb IAmb 07 13 57.9
comp=Z,4.5nm,1.0s
R11A Troy Canyon, C 30.41 325 P **P** **07 13 49.4 +1.5**
SPMN Marine on St. 30.56 2 P **P** **07 13 47.1 -1.9**
PDAR Pinedale Array 31.12 338 P **P** **07 13 56.3 +2.1**
comp=Z,0.1nm,0.3s,baz=106,slow=2.9,SNR=1.5
HVU Hansel Valley 31.61 333 P **P** **07 13 58.9 +0.4**
HVU IAmb IAmb 07 14 09.7
comp=Z,8.2nm,1.1s
NV11 Mina Array Sit 31.94 323 P **P** **07 14 03.2 +1.8**
NV11 IAmb IAmb 07 14 12.6
comp=Z,7.0nm,1.0s
ELK Elko 31.98 329 P **P** **07 14 03.3 +1.5**
ELK IAmb IAmb 07 14 13.2
comp=Z,5.3nm,1.1s
MDPB Devils Postpil 31.98 321 P **P** **07 14 03.4 +1.5**
MDPB IAmb IAmb 07 14 12.3
comp=Z,10nm,1.4s
NVAR Mina Array Bea 32.02 322 P **P** **07 14 04.2 +2.0**
comp=Z,2.5nm,0.8s,baz=137,slow=8.4,SNR=22
NVAR PcP **PcP** **07 16 52.3 +0.4**
comp=Z,0.4nm,0.7s,baz=134,slow=5.2,SNR=4.1
LHV Little Huntoon 32.03 322 P **P** **07 14 04.4 +2.4**
LHV IAmb IAmb 07 14 20.2
comp=Z,4.7nm,0.9s
SNOW Snow King Moun 32.17 337 P **P** **07 14 03.2 -0.3**
LOHW Long Hollow 32.24 337 P **P** **07 14 03.0 -1.0**
RYN Ryan 32.29 322 P **P** **07 14 05.5 +1.0**
RYN IAmb IAmb 07 14 30.1
comp=Z,4.6nm,1.2s
KVN Kaiserville 32.32 323 P **P** **07 14 06.3 +1.6**
BMN Battle Mountai 32.78 326 P **P** **07 14 10.4 +1.6**
BMN IAmb IAmb 07 14 19.6
comp=Z,6.4nm,1.3s
AGMN Agassiz Nation 33.66 358 P **P** **07 14 15.2 -0.9**
AGMN IAmb IAmb 07 14 17.1
comp=Z,6.1nm,0.8s
HLID Hailey 33.76 333 P **P** **07 14 18.3 +1.0**
HLID IAmb IAmb 07 14 28.2
comp=Z,4.9nm,1.1s
MCMT McKenzie Canyo 34.13 336 P **P** **07 14 22.0 +1.4**
WVOR Wild Horse Val 34.95 327 P **P** **07 14 28.3 +0.7**
MOD Modoc Plateau 35.48 325 P **P** **07 14 33.1 +0.9**
MOD IAmb IAmb 07 14 42.2
comp=Z,4.9nm,0.9s
J08A Circle Bar Ran 35.53 329 P **P** **07 14 32.9 +0.4**
PLID Pearl Lake 35.67 333 P **P** **07 14 34.3 +0.5**
PLID IAmb IAmb 07 14 43.7
comp=Z,7.0nm,1.0s
MSO Missoula 36.22 337 P **P** **07 14 40.1 +1.7**
MSO IAmb IAmb 07 14 48.0
comp=Z,4.7nm,0.9s
F10A Beach Ranch, E 36.90 333 P **P** **07 14 44.0 -0.1**
PTGA Pitinga 36.94 111 P **P** **07 14 44.6 -0.2**
PTGA IAmb IAmb 07 14 60.0
comp=Z,4.4nm,0.7s
LPAZ La Paz 39.91 139 P **P** 07 15 09.0 -1.4
comp=Z,0.9nm,0.7s,baz=327,slow=10.0,SNR=1.4
SIV San Ignacio 44.50 132 P **P** 07 15 45.5 -1.7
comp=Z,0.6nm,0.6s,baz=303,slow=13,SNR=3.2
SCHQ Schefferville 45.38 22 LR LR 07 37 28.6
comp=Z,38nm,18.3s,baz=121,slow=40
YKA Yellowknife Ar 50.04 348 P **P** **07 16 29.4 -0.2**
comp=Z,2.0nm,0.7s,baz=248,slow=9.4,SNR=6.9
MT09 Talagante 52.85 156 P P 07 16 50.4 -0.9
BDFB Brasilia 54.46 122 P P 07 17 01.6 -1.8
comp=Z,2.6nm,0.7s,baz=232,slow=6.5,SNR=4.5
BDFB Brasilia 54.46 122 IAmb IAmb 07 17 12.9
comp=Z,5.1nm,0.8s
BCAR Beaver Creek A 58.74 337 P **P** **07 17 34.0 +0.9**
INK Inuvik 59.35 344 P P 07 17 35.4 -1.7
comp=Z,2.6nm,0.9s,baz=128,slow=7.1,SNR=3.9
INK Inuvik 59.35 344 IAmb IAmb 07 17 47.6
comp=Z,4.6nm,1.1s
IL31 61.55 337 P **P** **07 17 52.5 +0.3**
ILAR Eielson Array 61.55 337 P **P** **07 17 51.8 -0.5**
comp=Z,1.1nm,0.9s,baz=136,slow=4.7,SNR=9.1
ILAR Eielson Array 61.55 337 P **P** **07 17 52.9 +0.6**
BMAR Burnt Mountain 62.09 340 P **P** **07 17 56.5 +0.5**
I23K Minto, Yukon-K 62.66 337 P **P** **07 17 59.1 -0.6**
MLY Manley 63.14 337 P **P** **07 18 03.1 +0.1**
ICESG Greenland Ices 64.15 19 *i* P **P** **07 18 09.2 -0.7**
ICESG IAmb IAmb 07 18 19.2
comp=Z,16nm,1.1s
J20K Nowinta River 64.16 335 P **P** **07 18 09.3 -0.2**
TOLK Toolik Lake Re 64.33 340 P **P** **07 18 11.3 +0.6**
SUMG Summit 66.20 16 *i* P P 07 18 22.0 -1.2
SUMG IAmb IAmb 07 18 24.1
comp=Z,4.8nm,0.7s
SUMG Summit 66.20 16 P **P** **07 18 22.4 -0.8**
NEEM North Greenlan 66.47 9 *i* P P 07 18 23.2 -1.5
ESDC Sonseca Array 80.87 51 P **P** **07 19 50.1 +0.4**
comp=Z,0.9nm,0.7s,baz=316,slow=6.2,SNR=5.3
ESDC Sonseca Array 80.87 51 IAmb IAmb 07 19 56.3
comp=Z,5.4nm,1.5s
MDT Midelt 81.74 58 P **P** **07 19 54.5 0.0**
comp=Z,2.0nm,0.8s,baz=225,slow=5.7,SNR=3.9
NB2 NORSAR Subarra 84.55 28 P **P** **07 20 08.8 +0.4**
comp=Z,8.4nm,1.2s,baz=296,slow=5.1
NOA NORSAR Array B 84.55 28 P **P** **07 20 08.9 +0.5**
comp=Z,1.8nm,0.9s,baz=292,slow=5.1,SNR=5.0
NOA LR LR 07 58 01.4
comp=Z,12nm,18.1s,baz=185,slow=36
ARCES ARCESS Array B 86.19 18 P P 07 20 15.5 -0.8
comp=Z,0.8nm,0.6s,baz=284,slow=3.6,SNR=6.3
KOWA Kowa 86.41 76 P **P** **07 20 18.0 -0.5**
comp=Z,3.0nm,0.8s,baz=291,slow=3.7,SNR=6.6
DAVOX Davos/Dischmat 88.73 42 LR LR 07 57 33.0
comp=Z,24nm,18.3s,baz=263,slow=34
TORD Torodi Ar. Bea 92.11 76 P P 07 20 43.7 -1.7
comp=Z,0.6nm,0.8s,baz=285,slow=5.3,SNR=3.8
TORD LR LR 08 02 37.8
comp=Z,22nm,19.1s,baz=230,slow=36
TORD Torodi Ar. Bea 92.11 76 IAmb IAmb 07 20 52.4
comp=Z,3.0nm,1.5s
WRA Warramunga Arr 133.66 256 PKP **PKPdf** **07 26 51.6 -1.3**
comp=Z,0.5nm,0.7s,baz=112,slow=1.5,SNR=6.0
ASAR Alice Springs 134.03 251 PKP **PKPdf** **07 26 52.3 -1.2**
comp=Z,0.3nm,0.7s,baz=101,slow=3.2,SNR=2.3
CMAR Chiang Mai Arr 144.78 338 PKP **PKPab** **07 27 11.3 -0.7**
comp=Z,0.8nm,0.2s,baz=344,slow=4.3,SNR=6.7

MEX 14 07:24:53.4±0.6, 24°.86N×109°.30W, h21km, MD3.9, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSIG	**Topolobambo**	**0.78**	**17**	*i* P	Pb	07 25 05.4	-2.8
TSIG				*i* S	Sb	07 25 15.8	-2.5
LPIG	**La Paz**	**1.19**	**231**	*i* P	Pn	07 25 11.8	-3.0
LPIG				*i* S	Sb	07 25 20.8	-4.4
SSIG	**Sanalona**	**1.96**	**91**	*i* P	Pn	07 25 22.8	-2.7

*SOME **14** 07:31:51.4, 43°.42N×82°.20E, h5km*
*NNC **14** 07:31:52.5±1.7, 43°.50N×82°.18E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=15.0km s-min=6.0km az=138.0*
ISC 14 07:31:50.7±3.3, 43°.2N±0°.1×82°.41E±0°.10, h12km±26km, n17, σ2°36/19, 3C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen** 1.7nm,0.0s	**1.53**	**281**	*e*P	**Pn**	**07 32 17.5**	**-0.5**
KTMS				*e*S	**Sn**	**07 32 36.4**	**-1.6**
KTMS	**Ketmen** 0.2nm,0.0s	**1.53**	**281**	P	**Pn**	**07 32 17.4**	**-0.6**
KTMS				S	**Sn**	**07 32 36.4**	**-1.6**
PDGK	**Podgornoye** 1.7nm,0.2s	**2.14**	**275**	Pg	Pn	07 32 27.8	+1.4
PDGK				Lg	Lg	07 32 54.5	
PDGK	**Podgornoye** 1.1nm,0.3s	**2.14**	**275**	⇓Pn	**Pn**	**07 32 27.1**	**+0.7**
PDGK				⇑Sn	**Sn**	**07 32 54.4**	**+1.4**
SHLS	**Shalkode** 13nm,0.3s	**2.16**	**271**	*e*P	**Pn**	**07 32 23.9**	**-2.8**
SHLS				*e*S	Sn	07 32 47.8	-5.7
SHLS	**Shalkode** 13nm,0.3s	**2.16**	**271**	P	**Pn**	**07 32 23.8**	**-2.8**
SHLS				S	Sn	07 32 47.6	-5.9
DJR	**Jarkent** 0.1nm,0.1s	**2.23**	**302**	*e*P	Pn	07 32 27.8	+0.3
DJR				*e*S	**Sn**	**07 32 54.1**	**-0.9**
DJR	**Jarkent** 0.1nm,0.2s	**2.23**	**302**	Pg	Pn	07 32 27.9	+0.3
DJR				Lg	Lg	07 32 54.1	
1.3nm,0.3s
KPKS Kokpek 2.74 277 *e*P Pn 07 32 38.4 +3.8
2.9nm,0.2s
KPKS *e*S **Sn** **07 33 12.4 +4.8**
7.0nm,0.3s
SATY Saty 2.94 269 *e*P **Pb** **07 32 42.4 -0.6**
2.6nm,0.0s
SATY *e*S Sn 07 33 19.3 +6.7
4.6nm,0.2s
SATY Saty 2.94 269 Pg **Pb** **07 32 42.4 -0.6**
2.6nm,0.4s
SATY Lg Lg 07 33 19.3
3.7nm,0.1s
KAPS Kapalarasan 3.05 315 *e*P **Pb** **07 32 43.9 -1.0**
0.2nm,0.0s
KAPS *e*S Sn 07 33 21.7 +6.4
1.6nm,0.1s
KAPS Kapalarasan 3.05 315 Pg **Pb** **07 32 43.9 -1.0**
0.2nm,0.0s
KAPS Lg Lg 07 33 21.6
0.9nm,0.1s
ARXS Arharly 3.48 289 *e*P **Pb** **07 32 53.0 +0.6**
1.6nm,0.5s
ARXS *e*S **Sb** **07 33 37.2 +2.5**
1.8nm,0.4s
ARXS Arharly 3.48 289 Pg Pn 07 32 48.9 +4.0
1.6nm,0.5s
ARXS Lg Lg 07 33 31.1
1.8nm,0.4s
MK31 Makanchi Array 3.62 359 ⇑Pn Pn 07 32 46.5 -0.1
baz=215,slow=7.7,SNR=5.2
MK31 ⇓Pg Pg 07 32 53.5 -6.6
0.2nm,0.3s,baz=182,slow=17,SNR=12
MK31 ⇑Sn **Sn** **07 33 25.4 -4.0**
0.1nm,0.2s,baz=187,slow=30,SNR=4.1
MK31 ⇓Lg Lg 07 33 37.1
0.3nm,0.3s,baz=182,slow=26,SNR=2.8
ZSN Zaisan 4.61 21 *e*P **Pb** **07 33 12.5 +0.9**
4.6nm,0.2s
ZSN *e*S **Sb** **07 34 10.4 +3.3**
3.9nm,0.1s

MEX 14 07:42:28.0±0.5, 15°.47N×94°.55W, h31km±13km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.30**	**80**	*i* P	Pn	07 42 48.0	-2.0
PCIG				*i* S	Sn	07 43 03.7	-2.6
CMIG	**Matias Romero**	**1.64**	**349**	*i* P	Pn	07 42 52.5	-2.2
CMIG				*i* S	Sn	07 43 12.3	-2.6
TGIG		**1.89**	**46**	*i* P	Pn	07 42 58.0	-0.2
TGIG				*i* S	Sn	07 43 21.8	+0.8
CCIG	**Comitan**	**2.45**	**71**	*i* P	Pn	07 43 07.1	+1.0
CCIG				*i* S	Sb	07 43 39.4	-2.1

IDC 14 07:46:54.4±10.0, 15°.92S×175°.56W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.7/32, mbtmpg3.9/3, Error ellipse: s-maj=485.7km s-min=34.7km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.4nm,0.4s,baz=87,slow=6.7,SNR=13	**47.70**	**257**	P	P	07 55 33.1	-0.2
ASAR	**Alice Springs** 1.3nm,0.3s,baz=87,slow=7.9,SNR=23	**47.97**	**252**	P	P	07 55 35.3	-0.1
ILAR	**Eielson Array** 0.3nm,0.5s,baz=217,slow=5.3,SNR=8.1	**83.37**	**12**	P	P	07 59 23.1	0.0

MEX 14 08:01:18.5±0.5, 14°.36N×93°.96W, h9km±18km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.52**	**28**	*i* P	Pn	08 01 42.3	-3.5
PCIG				*i* S	Sn	08 02 00.5	-5.2
TGIG		**2.54**	**18**	*i* P	Pn	08 01 58.4	-1.6
TGIG				*i* S	Sn	08 02 29.7	-1.3
CCIG	**Comitan**	**2.60**	**42**	*i* P	Pn	08 01 59.8	-1.1
CCIG				*i* S	Sn	08 02 31.2	-1.4
CMIG	**Matias Romero**	**2.86**	**342**	*i* P	Pn	08 02 01.6	-2.7
CMIG				*i* S	Sn	08 02 34.1	-4.7

*NEIC **14** 08:02:45.7±1.0, 37°.62N±0°.04×118°.76W±0°.05, h1km±10km, Error ellipse: s-maj=6.0km s-min=5.7km az=130.0*
*NCEDC **14** 08:02:45.3±2.0, 37°.60N±0°.04×118°.79W±0°.05, h7km±7km, ML3.2/23, ML2.8/68(NEIC), Error ellipse: s-maj=5.8km s-min=5.1km az=132.0*
*ANF **14** 08:02:45.4±0.4, 37°.57N×118°.77W, h0km, ML3.6/14, Error ellipse: s-maj=4.0km s-min=2.7km az=62.0*
ISC 14 08:02:45.4±0.9, 37°.60N±0°.02×118°.78W±0°.02, h7km±7km, n71, σ1°12/78, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLAC	**Mammoth, Mammo** baz=130	**0.06**	**301**	P	**Pg**	**08 02 47.0**	**-0.2**
MLAC				S	**Sg**	**08 02 48.5**	**-0.1**
MDRNC	**Doe Ridge** baz=130	**0.06**	**307**		**Pg**	**08 02 47.2**	**-0.1**
MRDM	**Red Cones**	**0.22**	**269**		**Pg**	**08 02 49.8**	**-0.1**
MDCM	**Deadman Creek**	**0.24**	**297**		**Pg**	**08 02 50.1**	**0.0**
MDPB	**Devils Postpil**	**0.24**	**277**		**Pg**	**08 02 50.1**	**-0.2**
MTUM	**Tungsten Hills**	**0.30**	**146**		**Pg**	**08 02 51.4**	**+0.1**
LHV	**Little Huntoon**	**0.68**	**18**		**Pg**	**08 02 58.6**	**+0.1**
TIN	**Tinemaha, Big** baz=321	**0.70**	**141**	P	**Pg**	**08 02 58.9**	**+0.1**
TIN				S	**Sg**	**08 03 08.8**	**+0.9**
NVAR	**Mina Array Bea**	**0.91**	**24**		**Pg**	**08 03 01.7**	**-1.1**
HELL	**Mitchell Peak,**	**0.94**	**192**		**Pg**	**08 03 02.7**	**-0.8**
NV11	**Mina Array Sit**	**0.96**	**30**		**Pg**	**08 03 03.5**	**-0.3**
NV11				IAML		08 03 22.0	
comp=E,238nm,1.3s							
RYN	**Ryan**	**1.04**	**11**		**Pg**	**08 03 05.2**	**-0.2**
RYN				IAML		08 03 19.7	
comp=N,196nm,0.3s							
RYN				IAML		08 03 19.8	
comp=E,217nm,0.5s							
GRAC	**Grapevine Rang** baz=298	**1.28**	**118**	P	**Pg**	**08 03 09.7**	**-0.1**
CWC	**Cottonwood Cre** baz=334	**1.29**	**154**	P	**Pg**	**08 03 09.0**	**-1.1**
CWC				S	**Sg**	**08 03 25.9**	**-0.8**
baz=334							
TPH	**Tonopah**	**1.32**	**69**		**Pg**	**08 03 10.2**	**-0.4**
CMB	**Columbia Colle**	**1.35**	**289**	Pn	**Pg**	**08 03 09.7**	**-1.5**
CMB				IAML		08 03 31.0	
comp=N,234nm,0.8s							
CMB				IAML		08 03 31.3	
comp=E,223nm,0.5s							
VOG	**Valley Oaks Go** baz=20	**1.37**	**201**	S	**Sg**	**08 03 28.6**	**-0.8**
YERR	**Yerington**	**1.43**	**345**	Pn	**Pn**	**08 03 11.8**	**-0.1**
KVN	**Kaiserville**	**1.54**	**20**	Pn	**Pn**	**08 03 13.8**	**+0.3**
KVN				IAML		08 03 36.9	
comp=E,122nm,0.7s							
PNTR	**Pine Nut**	**1.62**	**337**		**Pn**	**08 03 15.6**	**+1.0**
PNTR				IAML		08 03 43.0	
comp=E,100nm,0.7s							
PNTR				IAML		08 03 46.9	
comp=N,86nm,1.1s							
VES	**Vestal, Richgr** baz=7.6	**1.77**	**188**	P	**Pn**	**08 03 17.7**	**+1.2**
VES				S	**Sb**	**08 03 40.9**	**+0.2**
baz=7.6							
VCNR	**Virginia City**	**1.82**	**338**		**Pn**	**08 03 18.3**	**+0.9**
VCNR				IAML		08 03 27.0	
comp=E,68nm,0.5s							
MPMC	**Manual Prospec** baz=326	**1.85**	**146**	Pb	**Pb**	**08 03 19.5**	**-0.2**
MPMC				S	**Sg**	**08 03 44.4**	**-0.5**
baz=326							
ISA	**Isabella, Lake** baz=353	**1.95**	**173**	Pb	**Pb**	**08 03 20.8**	**-0.5**
ISA				S	**Sb**	**08 03 46.0**	**+0.2**
baz=353							
CMPM	**Mikes Peak**	**2.04**	**264**		**Pn**	**08 03 21.3**	**+1.1**
COSM	**Mount Oso**	**2.07**	**268**		**Pn**	**08 03 21.8**	**+1.2**
TPNV	**Topopah Spring**	**2.12**	**107**	Pn	**Pn**	**08 03 21.9**	**+0.5**
TPNV				IAML		08 03 56.9	
comp=E,84nm,0.8s							

TPNV				IAML		08 04 02.3	
	comp=E,86nm,1.4s						
TPNV	**Topopah Spring**	**2.12**	**107**	P	**Pn**	**08 03 21.7**	**+0.3**
	baz=289						
PMPB	**Monarch Peak**	**2.13**	**230**		**Pn**	**08 03 22.9**	**+1.4**
PAHR	**Pah Rah Range**	**2.15**	**347**	Pn	**Pb**	**08 03 24.6**	**-0.2**
PKD	**Bear Valley Ra**	**2.18**	**221**		**Pn**	**08 03 23.1**	**+1.1**
HFEM	**San Felipe**	**2.18**	**254**		**Pn**	**08 03 23.5**	**+1.4**
GHS	**Gilroy Hot Spr**	**2.19**	**257**		**Pn**	**08 03 23.8**	**+1.6**
BLRM	**Lewis Ranch**	**2.20**	**246**		**Pb**	**08 03 24.7**	**-0.8**
THIS	**South End of C**	**2.21**	**212**		**Pn**	**08 03 23.7**	**+1.2**
PAGB	**Antelope Grade**	**2.21**	**213**		**Pn**	**08 03 23.4**	**+0.9**
TRAM	**Private Proper**	**2.27**	**212**		**Pn**	**08 03 24.4**	**+1.1**
SAO	**San Andreas Ge**	**2.29**	**249**	Pn	**Pn**	**08 03 24.8**	**+1.1**
MHC	**Mount Hamilton**	**2.29**	**264**		**Pn**	**08 03 25.3**	**+1.5**
HSFM	**Saint Francis**	**2.31**	**251**		**Pn**	**08 03 25.8**	**+1.9**
TCHL	**Shandon**	**2.31**	**215**		**Pn**	**08 03 25.2**	**+1.2**
SCZ	**Santa Cruz**	**2.33**	**245**		**Pn**	**08 03 25.0**	**+0.9**
BJCM	**Johnson Can.**	**2.34**	**244**		**Pn**	**08 03 25.4**	**+1.1**
WENL	**Wente Vineyard**	**2.37**	**271**		**Pn**	**08 03 26.8**	**+2.1**
TSCN	**Private Proper**	**2.41**	**212**		**Pn**	**08 03 26.8**	**+1.5**
BSMM	**Soledad Missio**	**2.45**	**241**		**Pn**	**08 03 27.4**	**+1.5**
ARVC	**Arvin**	**2.47**	**181**	S	**Sb**	**08 04 01.2**	**+0.4**
	baz=0.8						
SMMC	**Simmler**	**2.49**	**204**	P	**Pn**	**08 03 27.4**	**+1.1**
	baz=23						
HAST	**Hastings Reser**	**2.53**	**242**		**Pn**	**08 03 28.1**	**+1.1**
BEKR	**Beckworth**	**2.58**	**332**	Pn	**Pn**	**08 03 29.2**	**+1.5**
BEKR				IAML		08 04 16.2	
	comp=E,36nm,0.6s						
R11A	**Troy Canyon, C**	**2.63**	**73**		**Pn**	**08 03 29.1**	**+0.7**
R11A	**Troy Canyon, C**	**2.63**	**73**	Pb	**Pb**	**08 03 33.0**	**0.0**
	baz=254						
R11A				Sb	**Sg**	**08 04 09.1**	**-0.7**
	baz=254						
GSC	**Goldstone, Bar**	**2.79**	**145**	Pn	**Pn**	**08 03 30.0**	**-0.6**
GSC				IAML		08 04 22.0	
	comp=N,30nm,0.7s						
GSC				IAML		08 04 26.9	
	comp=E,36nm,0.5s						
ORV	**Oroville**	**2.89**	**313**	Pn	**Pn**	**08 03 31.6**	**-0.3**
ORV				IAML		08 04 16.0	
	comp=E,32nm,1.0s						
ORV				IAML		08 04 16.2	
	comp=N,27nm,0.8s						
PRN	**Pahroc Range**	**2.97**	**93**	Pn	**Pn**	**08 03 34.1**	**+1.0**
PRN				IAML		08 04 35.1	
	comp=N,45nm,0.8s						
OSI	**Osito Audit: C**	**2.98**	**179**	Pn	**Pn**	**08 03 34.4**	**+1.2**
OSI	**Osito Audit: C**	**2.98**	**179**	Sb	**Sb**	**08 04 15.9**	**+0.3**
	baz=359						
SHPR	**Sheep Range**	**3.09**	**110**	Pn	**Pn**	**08 03 37.1**	**+2.3**
DECC	**Green Verdugo**	**3.36**	**174**	Sb	**Sg**	**08 04 31.2**	**-2.2**
	baz=354						
GDXM	**Geysers**	**3.39**	**292**	Pn	**Pn**	**08 03 39.5**	**+0.7**
GDXM				IAML		08 04 14.0	
	comp=E,16nm,4.5s						
GDXM				IAML		08 04 48.7	
	comp=N,20nm,4.0s						
PASC	**Pasadena Art C**	**3.46**	**172**	Pn	**Pn**	**08 03 39.6**	**0.0**
SPR3	**Spring Creek 3**	**3.77**	**67**	Pn	**Pn**	**08 03 46.4**	**+2.2**
SPR3				IAML		08 04 46.9	
	comp=N,15nm,0.8s						
SPR3				IAML		08 05 01.9	
	comp=E,11nm,1.0s						
PSUT	**Pine Spring**	**3.99**	**75**	Pn	**Pn**	**08 03 48.9**	**+1.6**
PSUT				IAML		08 04 54.2	
	comp=E,13nm,0.7s						
PSUT				IAML		08 05 05.7	
	comp=N,14nm,1.2s						
ELK	**Elko**	**4.17**	**40**		**Pn**	**08 03 52.1**	**+2.4**
ELK				IAML		08 04 59.0	
	comp=N,9.7nm,0.5s						
CCUT	**Cedar City**	**4.30**	**89**	Pn	**Pn**	**08 03 53.0**	**+1.5**
CCUT				IAML		08 05 15.1	
	comp=N,8.8nm,1.2s						
PFO	**Pinyon Flats O**	**4.41**	**154**	Pn	**Pn**	**08 03 55.1**	**+2.3**
PFO				IAML		08 05 16.3	
	comp=N,6.5nm,0.9s						
PFO				IAML		08 05 18.9	
	comp=N,8.3nm,2.3s						
LCMT	**Little Creek M**	**4.45**	**96**	Pn	**Pn**	**08 03 53.8**	**+0.3**
SZCU	**Shurtz Canyon**	**4.52**	**88**	Pn	**Pn**	**08 03 53.3**	**-1.1**
SZCU				IAML		08 05 14.6	
	comp=E,6.3nm,0.4s						
SZCU				IAML		08 05 14.7	
	comp=N,7.2nm,0.7s						
W13A	**Hualapai Mount**	**4.67**	**121**	Pn	**Pn**	**08 03 57.8**	**+1.3**
W13A				IAML		08 05 29.0	
	comp=N,5.0nm,3.6s						
DUG	**Dugway, Tooele**	**5.32**	**59**	Pn	**Pn**	**08 04 04.1**	**-1.3**
DUG				IAML		08 05 35.0	
	comp=N,7.5nm,0.8s						
CBX	**Cerro Bola**	**5.55**	**161**	Pn	**Pn**	**08 04 10.0**	**+1.4**

IDC 14 08:10:44.6±2.6, 54.01N×86.41E, h0km, mb1 2.8/2, mb1mx2.8/49, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=20.1km s-min=11.8km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**267**	*i*		08 17 20.0	
	baz=84,slow=337,SNR=1.3						
ZALV	**Zalesovo Beam**	**0.94**	**267**	Pg	Pg	08 11 01.4	-1.1
	0.3nm,0.3s,baz=85,slow=18,SNR=4.7						
ZALV				Lg	Lg	08 11 15.9	
	0.9nm,0.3s,baz=83,slow=25,SNR=11						
KURBB	**Kurchatov Arra**	**5.90**	**238**	Pn	Pn	08 12 14.2	+1.1
	0.1nm,0.3s,baz=55,slow=14,SNR=13						
KURBB				Lg	Lg	08 13 53.2	
	baz=54,slow=36,SNR=5.7						
MKAR	**Makanchi Array**	**7.68**	**202**	Pn	Pn	08 12 39.5	+1.9
	0.1nm,0.3s,baz=22,slow=13,SNR=2.8						
MKAR				Sn	Sn	08 14 02.2	-3.2
	0.1nm,0.3s,baz=21,slow=25,SNR=4.8						
MKAR				Lg	Lg	08 14 47.6	
	0.0nm,0.3s,baz=14,slow=24,SNR=2.1						

*INET **14** 08:13:01.3, 12.97N×86.60W, h15km, MW4.9*

*IDC **14** 08:13:04.6±0.6, 13.01N×86.46W, h0km, mb4.0/15, mb1 4.3/18, mb1mx4.1/40, mbtmp4.1/18, ML3.5/3, MS3.8/20, Ms1 3.8/20, ms1mx3.6/41, Error ellipse: s-maj=24.2km s-min=10.2km az=56.0*

*UCR **14** 08:13:05.3±2.9, 13.04N×86.59W, h5km, ML4.3, MW5.0, mb4.6(NEIC)*

*SNET **14** 08:13:05.3±1.6, 12.86N×86.62W, h6km±16km, ML4.5*

*NEIC **14** 08:13:07.2, 12.81N×86.66W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=7.13; $M_{\theta\theta}$=1.42; $M_{\phi\phi}$=8.56; $M_{r\theta}$=-3.18; $M_{\theta\phi}$=0.30; $M_{r\phi}$=5.16; Fault plane solution: M_0=9.99000×10^{15} NP1:ϕ_s=161.51000°, δ=64.66000°, λ=-110.62000°. NP2:ϕ_s=22.83000°, δ=32.23000°, λ=-53.37000°. Principal axes: T 10.1373, Plg17.0000°, Azm267.0000°; N -0.2933, Plg19.0000°, Azm171.0000°; P -9.8440, Plg64.0000°, Azm37.0000°:*

*NEIC **14** 08:13:07.1±1.7, 12.86N±0.04×86.62W±0.05, h10km±1km, mb4.5/170, Mwr4.6/43 Error ellipse: s-maj=9.2km s-min=6.4km az=254.0*

*GCMT **14** 08:13:09.1±0.3, 12.89N±0.04×86.73W±0.02, h14km±1km, MW4.8/82, Moment Tensor Solution. s9,c12; s82,c105; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.61±.14; $M_{\theta\theta}$=0.04±.07; $M_{\phi\phi}$=1.57±.10; $M_{r\theta}$=-0.44±.26; $M_{\theta\phi}$=-0.03±.05; $M_{r\phi}$=0.84±.19; Best double couple: M_0=1.84600×10^{16} NP1:ϕ_s=10.00000°, δ=32.00000°, λ=-70.00000°. NP2: ϕ_s=166.00000°, δ=60.00000°, λ=-102.00000°. Principal axes: T 1.7870, Plg14.0000°, Azm265.0000°; N 0.1170, Plg11.0000°, Azm173.0000°; P -1.9060, Plg72.0000°, Azm47.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function.*

ISC 14 08:13:06.8±1.4, 12.90N±0.05×86.64W±0.04, h13km±10km, n413, σ1$00/409, mb4.5/93, MS3.9/19, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNGN	**Cerro Negro**	**0.41**	**189**		**Pg**	**08 13 15.2**	**+0.2**
CRIN	**San Cristobal**	**0.45**	**244**		**Pg**	**08 13 15.0**	**-0.8**
MATN	**Matagalpa**	**0.69**	**88**	Pg	Pb	08 13 17.5	-3.3
MASN	**Masaya**	**1.03**	**153**		**Pb**	**08 13 25.0**	**-1.5**
CNCH	**Conchagua**	**1.23**	**288**	*eP*	**Pn**	**08 13 28.2**	**-1.5**
CNCH	**Conchagua**	**1.23**	**288**	*eP*	**Pn**	**08 13 28.2**	**-1.5**
LCND	**La Caada**	**1.29**	**288**	*eP*	**Pn**	**08 13 28.9**	**-1.6**
LCND				*eS*	**Sn**	**08 13 47.1**	**-0.5**
LCND				IAML		08 13 51.8	
	comp=Z,20μm,0.4s						
LCND	**La Caada**	**1.29**	**288**	*eP*	**Pn**	**08 13 28.9**	**-1.6**
LCND				*eS*	**Sn**	**08 13 47.1**	**-0.5**
LCND				IAML		08 13 51.8	
	comp=Z,20μm,0.4s						
TGUH	**Tegucigalpa,Un**	**1.30**	**332**	*eP*	**Pn**	**08 13 29.4**	**-1.4**
TGUH	**Tegucigalpa,Un**	**1.30**	**332**	*eP*	**Pn**	**08 13 29.4**	**-1.4**
TGUH	**Tegucigalpa,Un**	**1.30**	**332**	Pn	**Pn**	**08 13 29.1**	**-1.7**
JUCU	**Jucuarn**	**1.61**	**283**	*eP*	**Pn**	**08 13 34.4**	**-0.6**
JUCU				*eS*	**Sb**	**08 13 57.0**	**+0.3**
JUCU	**Jucuarn**	**1.61**	**283**	*eP*	**Pn**	**08 13 34.4**	**-0.6**
JUCU				*eS*	**Sb**	**08 13 57.0**	**+0.3**
BLLM	**Bellamira**	**1.65**	**289**	*eP*	**Pn**	**08 13 34.3**	**-1.2**
BLLM	**Bellamira**	**1.65**	**289**	*eP*	**Pn**	**08 13 34.3**	**-1.2**
VSM	**San Miguel**	**1.68**	**288**	*eP*	**Pn**	**08 13 35.0**	**-1.1**
VSM	**San Miguel**	**1.68**	**288**	*eP*	**Pn**	**08 13 35.0**	**-1.1**
LCY	**Lacayo**	**1.70**	**288**	*eP*	**Pn**	**08 13 35.2**	**-1.0**
LCY	**Lacayo**	**1.70**	**288**	*eP*	**Pn**	**08 13 35.2**	**-1.0**
ACON	**Acoyapa**	**1.70**	**123**		**Pn**	**08 13 34.0**	**-2.2**
PACA	**Pacayal**	**1.74**	**289**	*eP*	**Pn**	**08 13 36.9**	**+0.1**
PACA				*eS*	**Sb**	**08 14 01.5**	**+1.0**
PACA	**Pacayal**	**1.74**	**289**	*eP*	**Pn**	**08 13 36.9**	**+0.1**
PACA				*eS*	**Sb**	**08 14 01.5**	**+1.0**
TECA	**Tecapa**	**1.91**	**288**	*eP*	**Pn**	**08 13 39.0**	**-0.3**
TECA	**Tecapa**	**1.91**	**288**	*eP*	**Pn**	**08 13 39.0**	**-0.3**
COEB	**Comit de Eme**	**1.94**	**288**	*eP*	**Pn**	**08 13 38.4**	**-1.2**
COEB				*eS*	**Sb**	**08 14 06.1**	**-0.1**
COEB	**Comit de Eme**	**1.94**	**288**	*eP*	**Pn**	**08 13 38.4**	**-1.2**
COEB				*eS*	**Sb**	**08 14 06.1**	**-0.1**
PQSS	**Presa 15 de Se**	**2.01**	**291**	*eP*	**Pn**	**08 13 39.4**	**-0.9**
PQSS				*eS*	**Sn**	**08 14 05.5**	**+0.2**
COEG	**Centro de Oper**	**2.30**	**288**	*eP*	**Pn**	**08 13 43.9**	**-0.6**
COEG	**Centro de Oper**	**2.30**	**288**	*eP*	**Pn**	**08 13 43.9**	**-0.6**
GB1A	**Borinquen Arri**	**2.40**	**150**	*eP*	**Pn**	**08 13 45.2**	**-0.7**
HZTE	**Horizontes, Gu**	**2.40**	**155**		**Pn**	**08 13 45.4**	**-0.4**
GBS3	**Finca Las Img**	**2.40**	**151**	*eP*	**Pn**	**08 13 47.3**	**+1.4**
BUEV	**Buena Vista**	**2.41**	**150**	*eP*	**Pn**	**08 13 45.9**	**-0.1**
LAPC	**Finca la Perla**	**2.43**	**151**	*eP*	**Pn**	**08 13 45.1**	**-1.1**
GPS2	**Hotel Rincn d**	**2.48**	**149**	*eP*	**Pn**	**08 13 46.9**	**0.0**
LFU	**La Fuente**	**2.56**	**289**	*eP*	**Pn**	**08 13 47.8**	**-0.2**
LFU	**La Fuente**	**2.56**	**289**	*eP*	**Pn**	**08 13 47.8**	**-0.2**
LIM1	**Vimoval**	**2.58**	**148**	*eP*	**Pn**	**08 13 50.1**	**+1.8**
GUAB	**Guayabo de Bag**	**2.58**	**148**	*eP*	**Pn**	**08 13 48.9**	**+0.6**
HORNC	**Hornillas**	**2.60**	**147**	*eP*	**Pn**	**08 13 49.9**	**+1.2**
COLC	**Colonia**	**2.63**	**148**	*eP*	**Pn**	**08 13 51.6**	**+2.6**
SNET	**Serv Nac Est T**	**2.65**	**287**	*eP*	**Pn**	**08 13 50.0**	**+0.8**
SNET				*eS*	**Sn**	**08 14 21.2**	**0.0**
SNET				IAML		08 14 33.6	
	comp=Z,902nm,0.3s						
SNET	**Serv Nac Est T**	**2.65**	**287**	*eP*	**Pn**	**08 13 50.0**	**+0.8**
SNET				*eS*	**Sn**	**08 14 21.2**	**0.0**
SNET				IAML		08 14 33.6	
	comp=Z,902nm,0.3s						
SNET	**Serv Nac Est T**	**2.65**	**287**	Pn	**Pn**	**08 13 49.3**	**0.0**
CUI	**Cuipilapa**	**2.66**	**147**	*eP*	**Pn**	**08 13 50.1**	**+0.8**
ORTG	**Ortega, Santa**	**2.78**	**155**	Pn	**Pn**	**08 13 50.8**	**-0.2**
GUAI	**GUAI**	**2.84**	**157**	*eP*	**Pn**	**08 13 51.9**	**0.0**
SAJU	**San Juanillo,**	**2.96**	**162**	*eP*	**Pn**	**08 13 53.3**	**-0.2**
MTO3	**Montecristo**	**3.04**	**300**		**Pn**	**08 13 54.3**	**-0.5**
CEDE	**Laguna Cedeo**	**3.06**	**142**	*eP*	**Pn**	**08 13 55.4**	**+0.5**
ARE1	**Arenal 1**	**3.07**	**142**	*eP*	**Pn**	**08 13 55.4**	**+0.4**
ARE1				*eS*	**Sb**	**08 14 40.2**	**+1.5**
JTS	**Las Juntas de**	**3.08**	**147**	Pn	**Pn**	**08 13 54.9**	**-0.2**
	comp=Z,6.1nm,0.3s,baz=194,slow=22,SNR=24						
JTS				Pg	Pg	08 14 00.7	-5.1
	comp=Z,17nm,0.3s,baz=31,slow=19,SNR=28						
JTS				Lg	Lg	08 14 42.7	
	comp=Z,37nm,0.3s,baz=275,slow=12,SNR=6.4						
JTS				LR	LR	08 15 15.9	
	comp=Z,1μm,19.1s,baz=33,slow=43						
JTS	**Las Juntas de**	**3.08**	**147**	*eP*	**Pn**	**08 13 55.0**	**0.0**
JTS	**Las Juntas de**	**3.08**	**147**	Pn	**Pn**	**08 13 55.1**	**0.0**
CASO	**Castillo**	**3.08**	**143**	*eP*	**Pn**	**08 13 55.2**	**0.0**
COVE	**Coope Vega, Sa**	**3.08**	**135**	*eP*	**Pn**	**08 13 55.3**	**+0.1**
COVE				*eS*	**Sb**	**08 14 38.2**	**-0.8**
COVE	**Coope Vega, Sa**	**3.08**	**135**		**Pn**	**08 13 55.0**	**-0.1**
FORC	**Fortuna**	**3.09**	**141**	*eP*	**Pn**	**08 13 55.1**	**-0.2**
GRZA	**Playa Garza**	**3.13**	**162**	*eP*	**Pn**	**08 13 55.4**	**-0.3**
INDI	**Punta indio, G**	**3.22**	**160**	*eP*	**Pn**	**08 13 55.8**	**-1.2**
LAFE	**Finca La Fe, P**	**3.51**	**151**	*eP*	**Pn**	**08 14 01.9**	**+0.9**
CAO2	**Cobano, Puntar**	**3.53**	**155**		**Pn**	**08 14 01.1**	**-0.2**
RIFO	**Rio Frio, Sara**	**3.70**	**134**	*eP*	**Pn**	**08 14 01.6**	**-2.0**
RIFO				*eS*	**Sb**	**08 14 56.6**	**-0.1**
CVTR	**Volcan Turrial**	**4.02**	**135**	*eP*	**Pn**	**08 14 08.1**	**-0.4**
CVTR	**Volcan Turrial**	**4.02**	**135**		**Pn**	**08 14 08.0**	**-0.4**
LCR2	**La Lucha 2**	**4.07**	**140**	*eP*	**Pn**	**08 14 07.6**	**-1.3**
RIMA	**Rio Macho**	**4.13**	**139**		**Pn**	**08 14 09.8**	**-0.1**
BATAN	**Batan**	**4.24**	**131**		**Pn**	**08 14 10.9**	**-0.2**
PEZE	**Perez Zeledon,**	**4.55**	**140**	Pn	**Pn**	**08 14 16.1**	**+0.6**
SRBA	**San Rafael, Bu**	**4.86**	**138**		**Pn**	**08 14 19.7**	**-0.1**
PRVC	**Isla de Provid**	**5.16**	**84**	Pn	**Pn**	**08 14 22.8**	**-0.9**
BRU2	**Volcan**	**5.63**	**136**	*eP*	**Pn**	**08 14 30.2**	**-0.1**
BRU2	**Volcan**	**5.63**	**136**	Pn	**Pn**	**08 14 30.8**	**+0.4**
CDITO	**Canoas**	**5.67**	**139**		**Pn**	**08 14 31.8**	**+1.0**
CCIG	**Comitan**	**6.30**	**303**	Pn	**Pn**	**08 14 40.8**	**+1.2**
BCIP	**Isla Barro Col**	**7.64**	**118**		**Pn**	**08 14 56.4**	**-1.4**
CMIG	**Matias Romero**	**8.99**	**299**	Pn	**Pn**	**08 15 18.0**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=107,slow=8.6,SNR=7.8						
CMIG				Sn	**Sn**	**08 16 54.3**	**-3.3**
	comp=Z,0.3nm,0.3s,baz=272,slow=21,SNR=1.6						
CMIG				Lg	Lg	08 17 51.2	
	comp=Z,0.5nm,0.3s,baz=188,slow=1.8,SNR=5.5						
CMIG				LR	LR	08 18 51.0	
	comp=Z,1μm,21.6s,baz=126,slow=38						
MTDJ	**Mount Denham**	**10.24**	**58**	Pn	**Pn**	**08 15 34.7**	**+1.1**
SOR	**Soroa**	**10.42**	**19**		**Pn**	**08 15 37.0**	**+1.0**
SJCC	**San Jacinto, C**	**11.62**	**104**	Pn	**Pn**	**08 15 53.0**	**+0.5**
GTBY	**Guantanamo Bay**	**13.07**	**56**	Pn	**Pn**	**08 16 13.6**	**+1.3**
ROSC	**El Rosal**	**14.56**	**122**	Pn	**Pn**	**08 16 33.7**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=261,slow=19,SNR=1.4						
ROSC				LR	LR	08 22 14.1	
	comp=Z,562nm,18.3s,baz=14,slow=38						
ROSC	**El Rosal**	**14.56**	**122**	Pn	**Pn**	**08 16 32.7**	**-0.3**
DWPF	**Disney Wildern**	**15.89**	**17**	P	**Pn**	**08 16 52.1**	**+1.9**
	baz=199						
SDV	**Santo Domingo**	**16.21**	**103**	Pn	**Pn**	**08 16 51.9**	**-2.7**
	comp=Z,1.5nm,0.3s,baz=293,slow=5.9,SNR=1.5						
SDV	**Santo Domingo**	**16.21**	**103**	Pn	**Pn**	**08 16 53.8**	**-0.8**
TIGA	**Tifton**	**18.66**	**8**	P	**Pn**	**08 17 25.1**	**+0.2**
TIGA				IAmb	IAmb	08 17 29.9	
	comp=Z,57nm,1.4s						
TIGA	**Tifton**	**18.66**	**8**	P	**Pn**	**08 17 25.4**	**+0.5**
	baz=189						
344A	**Westbrook Farm**	**18.84**	**349**	P	**P**	**08 17 26.7**	**+0.2**
HKT	**Hockley**	**18.98**	**335**	P	**P**	**08 17 27.9**	**-0.1**
833A	**Chaparral WMA,**	**19.42**	**324**	P	**P**	**08 17 33.1**	**+0.3**
	baz=140,SNR=10.0						
VBMS	**Vicksburg**	**19.55**	**350**	P	**Pn**	**08 17 36.1**	**+0.6**
VBMS				IAmb	IAmb	08 17 40.8	
	comp=Z,33nm,1.1s						
VBMS	**Vicksburg**	**19.55**	**350**	P	**Pn**	**08 17 35.5**	**0.0**
	baz=169						
152A	**Waverly Hall**	**19.75**	**5**	P	**Pn**	**08 17 38.0**	**0.0**
146A	**Union**	**19.77**	**354**	P	**P**	**08 17 36.8**	**+0.2**
146A				IAmb	IAmb	08 17 58.4	
	comp=Z,16nm,1.0s						
LRAL	**Lakeview Retre**	**20.04**	**359**	P	Pn	08 17 43.0	+1.6
LRAL	**Lakeview Retre**	**20.04**	**359**	P	Pn	08 17 41.5	+0.1
	baz=179						
NATX	**Nacogdoches**	**20.17**	**340**	P	**P**	**08 17 41.2**	**+0.2**
NATX				IAmb	IAmb	08 17 45.1	
	comp=Z,23nm,0.8s						
NATX	**Nacogdoches**	**20.17**	**340**	P	Pn	08 17 42.9	0.0
	baz=157						
435B	**Jarrell**	**20.47**	**332**	P	**P**	**08 17 44.8**	**+0.6**
435B				IAmb	IAmb	08 17 51.8	
	comp=Z,15nm,0.8s						
435B	**Jarrell**	**20.47**	**332**	P	**P**	**08 17 45.3**	**+1.1**
	baz=148						
GOGA	**Godfrey**	**20.62**	**8**	P	**P**	**08 17 46.9**	**+1.0**
GOGA	**Godfrey**	**20.62**	**8**	P	**P**	**08 17 46.9**	**+1.0**
	baz=189						
Y49A	**Blount Mountai**	**20.86**	**1**	P	Pn	08 17 50.0	-1.0
NHSC	**New Hope**	**20.96**	**15**	P	**P**	**08 17 50.1**	**+0.5**
	baz=198						
Y52A	**Lilburn**	**21.00**	**6**	P	**P**	**08 17 48.6**	**-1.4**
Y52A				IAmb	IAmb	08 17 53.6	
	comp=Z,17nm,1.1s						
Z41A	**Richland Creek**	**21.03**	**345**	P	**P**	**08 17 51.4**	**+1.1**
	baz=163						
Y45A	**Yeager Farm, C**	**21.04**	**353**	P	**P**	**08 17 51.5**	**+1.2**
Y45A				IAmb	IAmb	08 17 59.1	
	comp=Z,19nm,0.9s						
JCT	**Junction City**	**21.31**	**327**	P	**P**	**08 17 53.3**	**-0.1**
JCT	**Junction City**	**21.31**	**327**	P	**P**	**08 17 53.3**	**-0.1**
	baz=143						
CCAR	**Cane Creek**	**21.44**	**348**	P	**P**	**08 17 55.0**	**+0.4**
CCAR				IAmb	IAmb	08 18 04.1	
	comp=Z,38nm,1.0s						
WHTX	**Lake Whitney,**	**21.44**	**334**	P	**P**	**08 17 54.8**	**+0.1**
WHTX				IAmb	IAmb	08 18 00.5	
	comp=Z,19nm,0.8s						
WHTX	**Lake Whitney,**	**21.44**	**334**	P	**P**	**08 17 55.7**	**+0.9**
	baz=150,SNR=6.9						
X48A	**Hartselle**	**21.46**	**359**	P	**P**	**08 17 57.0**	**+2.1**
X48A				IAmb	IAmb	08 18 03.6	
	comp=Z,13nm,1.0s						
ATAH	**Atahualpa**	**21.53**	**157**	P	**P**	**08 17 55.6**	**-0.6**
	comp=Z,2.4nm,0.7s,baz=5.7,slow=10,SNR=1.5						
FPAL	**Fort Paine**	**21.56**	**2**	P	**P**	**08 17 56.9**	**+0.8**
FPAL				IAmb	IAmb	08 18 05.9	
	comp=Z,36nm,1.5s						
HODGE	**Hodges**	**21.60**	**10**	P	**P**	**08 17 57.0**	**+0.6**
OXF	**Oxford**	**21.66**	**354**	P	**P**	**08 17 58.0**	**+1.0**
OXF				IAmb	IAmb	08 18 21.1	
	comp=Z,18nm,0.9s						
OXF	**Oxford**	**21.66**	**354**	P	**P**	**08 17 58.1**	**+1.0**
	baz=173						
PCRV	**Puerto La Cruz**	**21.72**	**95**	P	**P**	**08 17 56.2**	**-1.8**
	comp=Z,6.7nm,1.0s,baz=307,slow=5.1,SNR=1.5						
JSC	**Jenkinsville**	**21.84**	**12**	P	**P**	**08 18 01.0**	**+2.0**
JSC				IAmb	IAmb	08 18 11.1	
	comp=Z,21nm,1.3s						
PLAL	**Pickwick Lake**	**22.02**	**357**	P	**P**	**08 18 03.0**	**+2.0**
X40A	**Basin Creek Fa**	**22.21**	**346**	P	**P**	**08 18 02.4**	**-0.7**
W52A	**Murphy**	**22.23**	**6**	P	**P**	**08 18 02.5**	**-0.7**
W50A	**Signal Mountai**	**22.23**	**3**	P	**P**	**08 18 04.9**	**+1.6**
MIAR	**Mount Ida**	**22.45**	**345**	P	**P**	**08 18 04.9**	**-0.6**
MIAR	**Mount Ida**	**22.45**	**345**	P	**P**	**08 18 06.2**	**+0.6**
	baz=162						
Z35A	**Perchaven, San**	**22.53**	**336**	P	**P**	**08 18 05.9**	**-0.5**
Z35A				IAmb	IAmb	08 18 17.0	
	comp=Z,17nm,1.1s						
CPCT	**Cooper Cave**	**22.53**	**5**	P	**P**	**08 18 08.8**	**+2.3**
X58A	**Rowland**	**22.55**	**16**	P	**P**	**08 18 08.5**	**+1.9**
X58A				IAmb	IAmb	08 18 15.3	
	comp=Z,34nm,1.5s						
HPIG		**22.65**	**311**	P	**P**	**08 18 07.3**	**-0.7**
W41B	**Gary Mavity, V**	**22.75**	**348**	P	**P**	**08 18 09.3**	**+0.6**
	baz=166						
TX31	**Lajitas Ar. Si**	**22.75**	**319**	P	**P**	**08 18 08.2**	**-0.8**
TX31				IAmb	IAmb	08 18 11.4	
	comp=Z,19nm,0.8s						
TX32	**Lajitas Array**	**22.75**	**319**	P	**P**	**08 18 07.5**	**-1.4**
TXAR	**Lajitas Array**	**22.75**	**319**	P	**P**	**08 18 08.2**	**-0.7**
	comp=Z,5.8nm,0.8s,baz=140,slow=7.9,SNR=64						
TXAR				LR	LR	08 29 39.7	
	comp=Z,125nm,20.2s,baz=0.0,slow=44						
TKL	**Tuckaleechee C**	**22.80**	**6**	P	**P**	**08 18 08.7**	**-0.6**
	comp=Z,3.8nm,0.8s,baz=170,slow=11,SNR=3.3						
LPAR	**Lepanto**	**22.84**	**352**	P	**P**	**08 18 11.5**	**+1.8**
HBAR	**Harrisburg**	**22.84**	**352**	P	**P**	**08 18 09.9**	**+0.2**
HBAR				IAmb	IAmb	08 18 23.2	
	comp=Z,24nm,1.0s						
WHAR	**Wooly Hollow**	**22.87**	**348**	P	**P**	**08 18 10.9**	**+1.0

AMTX	Amarillo	25.78	331	P	P	08 18 38.1	+0.5
AMTX	Amarillo	25.78	331	P	P	08 18 36.7	-0.9
	baz=145						
Q51A	Peebles	26.18	6	P	P	08 18 42.3	+1.2
Q51A				IAmb	IAmb	08 18 44.1	
	comp=Z,23nm,1.2s						
P49A	Miami Univ. Ec	26.58	3	P	P	08 18 44.0	-0.6
	baz=184						
P52A	Corning	26.92	8	P	P	08 18 47.5	-0.2
	baz=190						
P38A	Dawn	27.30	348	P	P	08 18 51.0	-0.2
P38A				IAmb	IAmb	08 18 51.9	
	comp=Z,5.4nm,0.7s						
MCWV	Mont Chateau	27.32	11	P	P	08 18 50.9	-0.3
	baz=194						
ACSO	Alum Creek Sta	27.41	6	P	P	08 18 50.9	-1.2
	baz=188						
121A	Cookes Peak, D	27.51	319	P	P	08 18 54.8	+1.4
121A				IAmb	IAmb	08 19 00.3	
	comp=Z,8.9nm,1.1s						
121A	Cookes Peak, D	27.51	319	P	P	08 18 52.5	-0.9
	baz=131						
319A	Douglas	27.79	315	P	P	08 18 56.8	+1.0
319A				IAmb	IAmb	08 18 59.5	
	comp=Z,8.1nm,1.0s						
N49A	Columbus Grove	28.00	4	P	P	08 18 57.6	+0.3
ANMO	Albuquerque	28.35	324	P	P	08 19 01.2	+0.4
	comp=Z,2.0nm,0.9s,baz=142,slow=12,SNR=8.4						
ANMO	Albuquerque	28.35	324	P	P	08 19 00.7	-0.1
ANMO	Albuquerque	28.35	324	P	P	08 19 00.8	0.0
	baz=136						
SSPA	Standing Stone	28.67	14	P	P	08 19 04.3	+0.9
	baz=198						
T25A	Trinidad	28.91	330	P	P	08 19 06.7	+0.9
T25A				IAmb	IAmb	08 19 14.6	
	comp=Z,8.5nm,0.8s						
T25A	Trinidad	28.91	330	P	P	08 19 05.4	-0.4
	baz=142,SNR=5.5						
KSCO	Kaye Shedlock'	29.61	334	P	P	08 19 13.0	+1.0
KSCO				IAmb	IAmb	08 19 15.3	
	comp=Z,9.3nm,0.8s						
KSCO	Kaye Shedlock'	29.61	334	P	P	08 19 12.6	+0.6
	baz=147						
PTGA	Pitinga	29.72	115	P	P	08 19 12.0	-1.0
	comp=Z,2.4nm,1.0s,baz=304,slow=10,SNR=3.8						
SDCO	Great Sand Dun	29.92	329	P	P	08 19 15.4	+0.5
SDCO	Great Sand Dun	29.92	329	P	P	08 19 14.6	-0.3
	baz=141						
JFWS	Jewell Farm	30.07	355	P	P	08 19 17.1	+1.4
	baz=173						
S22A	4UR Ranch, Cre	30.61	327	P	P	08 19 22.0	+1.1
	baz=139						
BINY	Binghamton	30.62	16	P	P	08 19 22.2	+1.5
	baz=201						
OGNE	Ogallala	31.02	337	P	P	08 19 25.7	+1.4
	baz=150						
X16A	Lo Mia Camp, P	31.07	318	P	P	08 19 25.8	+0.9
X16A				IAmb	IAmb	08 19 28.7	
	comp=Z,5.0nm,1.0s						
MVCO	Mesa Verde	31.12	325	P	P	08 19 26.1	+0.7
	baz=136						
WUAZ	Wupatki	31.70	319	P	P	08 19 31.0	+0.5
WUAZ				IAmb	IAmb	08 19 34.5	
	comp=Z,7.2nm,0.8s						
WUAZ	Wupatki	31.70	319	P	P	08 19 31.1	+0.6
	baz=129						
PV03	Paradox Valley	32.06	326	P	P	08 19 35.3	+1.6
G40A	Rib Lake	32.40	355	P	P	08 19 36.5	+0.3
G40A				IAmb	IAmb	08 19 39.5	
	comp=Z,11nm,1.2s						
SPMN	Marine on St.	32.64	352	P	P	08 19 37.9	-0.4
SPMN				IAmb	IAmb	08 19 57.2	
	comp=Z,6.5nm,1.1s						
O20A	White River Ci	33.12	329	P	P	08 19 42.7	-0.2
O20A				IAmb	IAmb	08 20 09.2	
	comp=Z,8.2nm,1.1s						
LONY	Lake Ozonia	33.25	16	P	P	08 19 45.4	+1.7
	baz=202						
IRM	Iron Mountain	33.43	314	P	P	08 19 46.1	+0.6
	baz=123						
PKCU	Pink Cliffs	33.51	321	P	P	08 19 46.8	+0.3
KNB	Kanab	33.55	320	P	P	08 19 47.6	+0.9
MONP2	Monument Peak	33.70	311	P	P	08 19 48.4	+0.3
	baz=120						
LCMT	Little Creek M	33.82	320	P	P	08 19 50.8	+1.9
F33A	5 Mile Ranch,	33.84	348	P	P	08 19 48.2	-0.6
F33A				IAmb	IAmb	08 19 50.4	
	comp=Z,6.2nm,0.8s						
TPFO	Pinon Flats	34.08	312	P	P	08 19 52.1	+0.9
	baz=120						
SZCU	Shurtz Canyon	34.08	321	P	P	08 19 53.0	+1.7
SZCU				IAmb	IAmb	08 19 55.4	
	comp=Z,8.7nm,1.0s						
PFO	Pinyon Flats O	34.09	312	P	P	08 19 52.4	+1.1
	baz=120						
CCUT	Cedar City	34.23	321	P	P	08 19 53.7	+1.1
CCUT				IAmb	IAmb	08 19 57.0	
	comp=Z,5.6nm,1.1s						
K22A	Casper	34.28	334	P	P	08 19 54.4	+1.5
	baz=144						
LPAZ	La Paz	34.29	147	P	P	08 19 54.0	+0.3
	comp=Z,0.3nm,0.6s,baz=315,slow=10.0,SNR=1.4						
LPAZ				LR	LR	08 34 22.0	
	comp=Z,95nm,18.2s,baz=341,slow=37						
TCRU	Three Creeks R	34.35	323	P	P	08 19 56.2	+2.5
TCRU				IAmb	IAmb	08 20 00.8	
	comp=Z,6.4nm,1.0s						
RSSD	Black Hills	34.51	338	P	P	08 19 56.2	+1.3
	baz=149						
TUQ	Turquoise Moun	34.66	315	P	P	08 19 56.9	+0.6
	baz=123						
MPU	Maple Canyon	34.84	325	P	P	08 19 59.0	+1.2
MPU				IAmb	IAmb	08 20 01.7	
	comp=Z,8.1nm,1.1s						
G62A	West of Eustis	35.01	20	P	P	08 20 00.6	+1.6
	baz=208						
PSUT	Pine Spring	35.15	321	P	P	08 20 01.1	+0.6
PSUT				IAmb	IAmb	08 20 04.6	
	comp=Z,5.6nm,0.9s						
PRN	Pahroc Range	35.20	319	P	P	08 20 02.7	+1.8
PRN				IAmb	IAmb	08 20 05.1	
	comp=Z,5.6nm,1.1s						
DUG	Dugway, Tooele	35.62	325	P	P	08 20 05.1	+0.6
	baz=133						
TPNV	Topopah Spring	35.72	317	P	P	08 20 07.6	+2.2
TPNV				IAmb	IAmb	08 20 09.7	
	comp=Z,5.7nm,0.9s						
TPNV	Topopah Spring	35.72	317	P	P	08 20 05.4	0.0
	baz=125,SNR=6.2						
SPR3	Spring Creek 3	35.73	322	P	P	08 20 06.2	+0.5
SPR3				IAmb	IAmb	08 20 11.6	
	comp=Z,5.6nm,1.0s						
BW06	Boulder Array	35.76	331	P	P	08 20 07.4	+1.6
	baz=140						
PD31	Pinedale Array	35.76	331	P	P	08 20 06.4	+0.6
PDAR	Pinedale Array	35.76	331	P	P	08 20 05.8	0.0
	comp=Z,0.8nm,0.7s,baz=132,slow=10,SNR=7.6						
PDAR				LR	LR	08 37 18.2	
	comp=Z,47nm,20.7s,baz=142,slow=41						
PDAR	Pinedale Array	35.76	331	P	P	08 20 06.1	+0.3
FURC	Furnace Creek,	35.86	316	P	P	08 20 07.7	+1.3
	baz=123						
HWUT	Hardware Ranch	35.92	327	P	P	08 20 06.2	-0.9
HWUT				IAmb	IAmb	08 20 11.3	
	comp=Z,9.4nm,1.0s						
MPMC	Manual Prospec	36.07	315	P	P	08 20 09.3	+0.9
	baz=122,SNR=5.1						
R11A	Troy Canyon, C	36.10	320	P	P	08 20 10.7	+2.0
R11A	Troy Canyon, C	36.10	320	P	P	08 20 09.8	+1.1
	baz=127,SNR=9.8						
BGU	Big Grassy Mou	36.23	325	P	P	08 20 10.2	+0.4
BGU				IAmb	IAmb	08 20 13.7	
	comp=Z,8.6nm,1.3s						
HVU	Hansel Valley	36.68	327	P	P	08 20 14.2	+0.6
HVU				IAmb	IAmb	08 20 18.3	
	comp=Z,8.1nm,1.2s						
REDW	Red Top Meadow	36.84	330	P	P	08 20 15.7	+0.7
REDW				IAmb	IAmb	08 20 19.7	
	comp=Z,19nm,1.4s						
SNOW	Snow King Moun	36.86	330	P	P	08 20 15.7	+0.5
SNOW				IAmb	IAmb	08 20 20.1	
	comp=Z,16nm,1.1s						
LOHW	Long Hollow	36.90	331	P	P	08 20 15.7	+0.2
TPAW	Teton Pass	36.98	330	P	P	08 20 16.1	-0.1
TPAW				IAmb	IAmb	08 20 27.5	
	comp=Z,5.2nm,0.9s						
TPH	Tonopah	36.99	318	P	P	08 20 16.8	+0.4
VES	Vestal, Richgr	37.07	314	P	P	08 20 18.4	+1.6
	baz=120						
MOOW	Moose Ponds	37.07	331	P	P	08 20 16.3	-0.6
FLWY	Flagg Ranch	37.30	331	P	P	08 20 21.0	+2.1
FLWY				IAmb	IAmb	08 20 22.0	
	comp=Z,5.7nm,0.9s						
ELK	Elko	37.37	323	LR	LR	08 39 16.5	
	comp=Z,174nm,19.4s,baz=144,slow=42						
ELK	Elko	37.37	323	P	P	08 20 20.2	+0.6
ELK				IAmb	IAmb	08 20 23.5	
	comp=Z,7.3nm,1.1s						
RLMT	Red Lodge	37.45	333	P	P	08 20 20.4	+0.2
RLMT				IAmb	IAmb	08 20 22.7	
	comp=Z,9.2nm,1.4s						
RLMT	Red Lodge	37.45	333	P	P	08 20 21.9	+1.8
	baz=142						
YNE	Yellowstone No	37.69	333	P	P	08 20 23.2	+1.0
YNE				IAmb	IAmb	08 20 50.4	
	comp=Z,8.2nm,1.5s						
NV11	Mina Array Sit	37.80	318	P	P	08 20 25.0	+1.9
NV11				IAmb	IAmb	08 20 27.2	
	comp=Z,7.6nm,1.2s						
YMR	Madison River	37.87	331	P	P	08 20 26.2	+2.5
NVAR	Mina Array Bea	37.90	318	P	P	08 20 24.7	+0.7
	comp=Z,3.3nm,0.9s,baz=133,slow=7.3,SNR=20						
NVAR				LR	LR	08 39 15.7	
	comp=Z,260nm,18.4s,baz=136,slow=42						
NVAR	Mina Array Bea	37.90	318	P	P	08 20 24.9	+1.0
YHH	Holmes Hill	37.91	332	P	P	08 20 25.2	+1.1
LHV	Little Huntoon	37.93	317	P	P	08 20 25.3	+1.3
KVN	Kaiserville	38.11	319	P	P	08 20 26.5	+0.7
RYN	Ryan	38.15	318	P	P	08 20 25.4	-0.7
GCMT	Greycliff	38.15	334	P	P	08 20 27.4	+1.4
DGMT	Dagmar	38.34	341	P	P	08 20 27.4	0.0
DGMT	Dagmar	38.34	341	P	P	08 20 29.5	+2.1
	baz=152						
BMN	Battle Mountai	38.37	321	P	P	08 20 28.4	+0.6
BMN				IAmb	IAmb	08 20 31.8	
	comp=Z,19nm,1.3s						
HLID	Hailey	38.79	327	P	P	08 20 31.2	-0.2
HLID	Hailey	38.79	327	P	P	08 20 33.2	+1.9
	baz=134						
YERR	Yerington	38.81	318	P	P	08 20 32.3	+0.6
BOZ	Bozeman (W)	38.88	332	P	P	08 20 33.5	+1.4
BOZ	Bozeman (W)	38.88	332	P	P	08 20 33.7	+1.6
	baz=139						
MCMT	McKenzie Canyo	38.89	330	P	P	08 20 33.1	+0.8
DLMT	Dillon	39.16	331	P	P	08 20 35.1	+0.7
DLMT				IAmb	IAmb	08 20 39.6	
	comp=Z,9.8nm,1.2s						
LRM	Limekiln Ridge	39.43	331	P	P	08 20 38.1	+1.3
EGMT	Eagleton	39.96	336	P	P	08 20 42.0	+1.0
EGMT				IAmb	IAmb	08 20 44.3	
	comp=Z,7.4nm,0.8s						
EGMT	Eagleton	39.96	336	P	P	08 20 41.8	+0.7
	baz=144						
BEKR	Beckworth	40.02	318	P	P	08 20 42.4	+0.6
BEKR				IAmb	IAmb	08 20 45.2	
	comp=Z,7.9nm,1.0s						
WVOR	Wild Horse Val	40.42	323	P	P	08 20 45.7	+0.8
WVOR				IAmb	IAmb	08 20 48.1	
	comp=Z,14nm,1.1s						
J08A	Circle Bar Ran	40.89	324	P	P	08 20 48.5	-0.3
J08A				IAmb	IAmb	08 20 54.1	
	comp=Z,11nm,1.4s						
MOD	Modoc Plateau	41.11	321	P	P	08 20 51.4	+0.7
BMO	Blue Mountains	41.19	327	P	P	08 20 51.3	0.0
F10A	Beach Ranch, E	41.89	328	P	P	08 20 58.3	+1.3
M04C	Macdoel	42.00	320	P	P	08 20 58.8	+0.9
	baz=123						
YBH	Yreka Blue Hor	42.52	319	LR	LR	08 42 02.5	
	comp=Z,188nm,19.3s,baz=140,slow=41						
L04D	Klamath Falls	42.53	320	P	P	08 21 02.7	+0.4
	baz=123						
PINE	Pine Mountain	42.58	323	P	P	08 21 03.7	+1.0
PINE				IAmb	IAmb	08 21 04.7	
	comp=Z,10nm,1.1s						
J04D	Umpqua Nationa	42.97	322	P	P	08 21 06.7	+0.8
	baz=124						
L02E	Cave Junction	43.31	319	P	P	08 21 09.9	+1.4
	baz=122						
NEW	Newport	43.40	330	LR	LR	08 43 44.6	
	comp=Z,119nm,18.6s,baz=138,slow=42						
NEW	Newport	43.40	330	P	P	08 21 10.6	+1.5
	baz=134						
I04A	Tendick Farm,	43.46	322	P	P	08 21 10.9	+1.3
	baz=124						
D08A	Wollman Farm,	43.49	328	P	P	08 21 10.8	+1.0
D08A				IAmb	IAmb	08 21 12.8	
	comp=Z,9.4nm,1.2s						
G05D	Wamic, OR	43.65	324	P	P	08 21 12.2	+1.0
	baz=127						
E07A	Sunnyside	43.66	327	P	P	08 21 11.6	+0.4
H04A	Detroit Lake	43.83	323	P	P	08 21 12.9	+0.3
H04D	Lebanon	44.06	323	P	P	08 21 14.9	+0.5
	baz=124						
F05D	White Salmon	44.12	325	P	P	08 21 16.4	+1.5
	baz=127						
B08A	Colville Reser	44.55	329	P	P	08 21 17.3	-1.1
B08A				IAmb	IAmb	08 21 21.0	
	comp=Z,8.6nm,1.2s						
SCHQ	Schefferville	44.62	16	P	P	08 21 17.3	-1.5
	comp=Z,2.4nm,0.6s,baz=212,slow=5.9,SNR=6.9						
SCHQ				LR	LR	08 41 06.9	
	comp=Z,77nm,18.1s,baz=216,slow=38						
LON	Longmire	44.83	326	P	P	08 21 22.2	+1.6
C06D	Leavenworth	45.07	328	P	P	08 21 22.9	+0.5
	baz=129						
F04D	Rainier, OR	45.11	324	P	P	08 21 23.5	+0.7
	baz=126						
E04D	Cinebar	45.14	325	P	P	08 21 24.1	+1.1
	baz=126						
RPN	Rapa Nui	45.49	209	LR	LR	08 36 14.5	
	comp=Z,81nm,19.9s,baz=49,slow=30						
EDM	Edmonton	45.49	338	P	P	08 21 26.0	+0.2
B06A	Marblemount	45.75	328	P	P	08 21 28.3	+0.5
B05A	Brant	45.91	327	P	P	08 21 29.7	+0.6
	baz=128						
LLLB	Lillooet	47.28	330	P	P	08 21 40.7	+0.9
BDFB	Brasilia	47.58	125	LR	LR	08 42 47.2	
	comp=Z,196nm,19.0s,baz=302,slow=38						
CPUP	Villa Florida	48.30	144	LR	LR	08 43 06.9	
	comp=Z,66nm,18.2s,baz=321,slow=37						
YKA	Yellowknife Ar	53.39	344	P	P	08 22 25.2	-0.6
	comp=Z,5.6nm,0.8s,baz=136,slow=7.8,SNR=12						
YKA	Yellowknife Ar	53.39	344	P	P	08 22 26.6	+0.8
PLCA	Paso Flores	55.41	165	P	P	08 22 42.0	+1.1
	comp=Z,0.9nm,0.8s,baz=338,slow=11,SNR=3.7						
PLCA	Paso Flores	55.41	165	IAmb	IAmb	08 22 53.7	
	comp=Z,7.3nm,1.3s						
DLBC	Dease Lake	55.85	334	P	P	08 22 45.0	+1.1
DLBC				IAmb	IAmb	08 22 47.4	
	comp=Z,7.2nm,0.9s						
TAOE	Nuku Hiva Isla	57.38	251	*e*LR	LR	08 39 35.3	
	comp=Z,150nm,26.9s						
MMPY	Sheldon Lake,	58.83	338	P	P	08 23 04.3	-0.6
	baz=127						
FARO	Faro, Yukon	59.39	337	P	P	08 23 09.4	+0.7
	baz=124						
HYT	Haines Junctio	60.33	334	P	P	08 23 17.0	+1.7
	baz=120						
MAYO	Mayo, Yukon	61.12	337	P	P	08 23 20.9	+0.4
	baz=123						
YUK3	Moose Creek	62.04	334	P	P	08 23 28.4	+1.3
	baz=117						
BVCY	Beaver Creek	62.50	335	P	P	08 23 30.2	+0.3
	baz=117						
DAWY	Dawson	62.69	337	P	P	08 23 31.4	+0.2
	baz=119						
CRQE	Cirque	62.75	333	P	P	08 23 31.2	-0.4
	baz=114						
M27K	Edge Creek, AK	62.90	335	P	P	08 23 32.5	-0.2
	baz=116						
EPYK	Eagle Plains	62.92	340	P	P	08 23 32.8	+0.2
EPYK	Eagle Plains	62.92	340	P	P	08 23 32.8	+0.2
	baz=123						
MCARA	McCarthy VSAT	62.98	333	P	P	08 23 33.5	+0.5
MCARA	McCarthy VSAT	62.98	333	P	P	08 23 33.5	+0.5
	baz=114						
INK	Inuvik	63.02	342	P	P	08 23 33.4	+0.3
INK	Inuvik	63.02	342	P	P	08 23 33.9	+0.8
	baz=127						
BCAR	Beaver Creek A	63.17	335	P	P	08 23 34.3	0.0
L27K	Beaver Creek,	63.19	335	P	P	08 23 34.5	+0.1
L27K	Beaver Creek,	63.19	335	P	P	08 23 34.5	+0.1
	baz=116,SNR=10						
ICESG	Greenland Ices	63.52	17	*i* P	P	08 23 35.6	-1.3
K27K	Chicken	63.72	336	P	P	08 23 38.7	+0.8
	baz=116						
N25K	Chitina, Valde	63.76	333	P	P	08 23 39.3	+1.0
N25K				IAmb	IAmb	08 23 41.2	
	comp=Z,5.0nm,0.9s						
N25K	Chitina, Valde	63.76	333	P	P	08 23 39.0	+0.7
	baz=113						
L26K	Log Cabin Wild	63.80	335	P	P	08 23 39.3	+0.9
	baz=115						
EYAK	Cordova Ski Ar	63.88	332	P	P	08 23 39.4	+0.4
	baz=111						
KLU	Klutina	64.30	333	P	P	08 23 42.2	+0.3
KLU	Klutina	64.30	333	P	P	08 23 42.0	+0.2
	baz=112						
HARP	HAARP	64.31	334	P	P	08 23 42.9	+1.1
	baz=113						
DOT	Dot Lake	64.35	335	P	P	08 23 42.5	+0.4
SCRK	Sand Creek	64.46	336	P	P	08 23 42.7	-0.2
SCRK	Sand Creek	64.46	336	P	P	08 23 43.6	+0.8
	baz=115						
PAX	Paxson	64.67	334	P	P	08 23 44.9	+0.7
PAX	Paxson	64.67	334	P	P	08 23 44.5	+0.3
	baz=113						
RIDG	Independent Ri	64.71	335	P	P	08 23 46.2	+1.7
RIDG	Independent Ri	64.71	335	P	P	08 23 45.0	+0.6
	baz=114						
J25K	Salcha River,	65.27	336	P	P	08 23 49.0	+0.9
	baz=114						
KNK	Knik Glacier	65.42	332	P	P	08 23 49.6	+0.5
	baz=109						
SEW	Seward	65.47	331	P	P	08 23 49.0	-0.3
	baz=108						
SML	Sawmill	65.49	333	P	P	08 23 49.7	+0.2
	baz=109						
WAT6	Susitna Watana	65.49	334	P	P	08 23 50.2	+0.5
	baz=110						
HDA	Harding Lake	65.82	336	P	P	08 23 52.5	+0.9
HDA	Harding Lake	65.82	336	P	P	08 23 51.8	+0.2
	baz=112,SNR=5.5						
RC01	Rabbit Creek A	65.90	332	P	P	08 23 52.0	-0.1
	baz=108						
IL31		65.93	336	P	P	08 23 51.6	-0.6
ILAR	Eielson Array	65.93	336	P	P	08 23 51.5	-0.8
	comp=Z,9.3nm,1.1s,baz=112,slow=4.5,SNR=34						
ILAR				LR	LR	08 57 54.0	
	comp=Z,86nm,18.1s,baz=132,slow=41						
ILAR	Eielson Array	65.93	336	P	P	08 23 53.0	+0.7
SUMG	Summit	65.95	14	*i* P	P	08 23 54.5	+1.7
SUMG				IAmb	IAmb	08 23 56.6	
	comp=Z,32nm,1.5s						
SUMG	Summit	65.95	14	P	P	08 23 53.1	+0.4
BMAR	Burnt Mountain	66.14	339	P	P	08 23 54.5	+0.9
CCB	Clear Creek Bu	66.25	336	P	P	08 23 54.7	+0.4
CCB				IAmb	IAmb	08 24 06.0	
	comp=Z,6.9nm,1.4s						
RND	Reindeer	66.25	334	P	P	08 23 54.9	+0.4
WRH	Wood River Hil	66.31	335	P	P	08 23 55.3	+0.7
WRH				IAmb	IAmb	08 23 56.1	
	comp=Z,4.4nm,0.9s						
COLA	College	66.35	336	P	P	08 23 55.8	+0.8
	baz=111						
TCOL	CIGO, UAF Yank	66.36	336	P	P	08 23 55.8	+0.8
	baz=111						
MCK	McKinley	66.40	335	P	P	08 23 55.4	+0.1
	baz=110						
MDM	Murphy Dome	66.53	336	P	P	08 23 57.1	+0.9
H24K	Noodor Dome	66.72	337	P	P	08 23 58.0	+0.6
NEA2	Nenana	66.74	335	P	P	08 23 57.9	+0.4
	baz=110						
BWN	Browne	66.77	335	P	P	08 23 58.1	+0.5
TRF	Thorofare Moun	66.88	334	P	P	08 23 57.8	-0.8
	baz=108						
I23K	Minto, Yukon-K	67.05	336	P	P	08 23 59.1	-0.3
I23K	Minto, Yukon-K	67.05	336	P	P	08 23 59.6	+0.2
	baz=110,SNR=8.8						
H23K	Yukon River	67.35	337	P	P	08 24 01.8	+0.5
	baz=110						
BPAW	Bear Paw Mtn.	67.38	335	P	P	08 24 02.1	+0.5
BPAW	Bear Paw Mtn.	67.38	335	P	P	08 24 01.7	+0.2
	baz=108						
MLY	Manley	67.56	336	P	P	08 24 02.7	-0.1
MLY	Manley	67.56	336	P	P	08 24 02.8	+0.1
	baz=108						
CAST	Castle Rocks	67.64	334	P	P	08 24 03.3	+0.1
	baz=106						
N19K	Bonanza Creek	68.06	331	P	P	08 24 06.7	+0.7
	baz=103						
COLD	Coldfoot	68.08	338	P	P	08 24 08.1	+2.2
COLD	Coldfoot	68.08	338	P	P	08 24 06.5	+0.6
	baz=110,SNR=5.4						
I21K	Tanana	68.11	336	P	P	08 24 06.7	+0.6
	baz=107						
L20K	Farewell, AK	68.18	333	P	P	08 24 07.6	+0.9
	baz=104						
TOLK	Toolik Lake Re	68.35	339	P	P	08 24 08.8	+1.2
	baz=111						
K20K	Telida	68.48	333	P	P	08 24 09.4	+0.8
	baz=105						
H21K	Melozitna Rive	68.58	336	P	P	08 24 09.6	+0.6
	baz=107						
J20K	Nowinta River	68.73	334	P	P	08 24 10.2	+0.2
	baz=105						
PPT2	Papeete2	69.12	245	*e*S	S	08 33 05.6	-13
	comp=Z,36nm,21.8s						
PPT2	Papeete2	69.12	245	*e*LR	LR	08 45 00.8	
	comp=Z,179nm,29.8s						
ESDC	Sonseca Array	76.28	52	P	P	08 24 54.5	-1.1
	comp=Z,1.9nm,0.7s,baz=282,slow=5.9,SNR=9.8						
ESDC				LR	LR	08 53 45.7	
	comp=Z,57nm,20.7s,baz=265,slow=32						
DBIC	Dimbokro	80.56	85	LR	LR	08 56 35.7	
	comp=Z,56nm,21.1s,baz=252,slow=32						
NOA	NORSAR Array B	82.59	29	LR	LR	09 02 34.1	
	comp=Z,25nm,18.1s,baz=110,slow=36						
TORD	Torodi Ar. Bea	85.54	78	P	P	08 25 44.2	-1.2
	comp=Z,0.4nm,0.6s,baz=286,slow=6.6,SNR=5.0						
TORD				LR	LR	09 00 57.6	
	comp=Z,84nm,19.7s,baz=250,slow=34						
TORD	Torodi Ar. Bea	85.54	78	IAmb	IAmb	08 25 49.9	
	comp=Z,2.1nm,1.3s						
VRAC	Vranov	88.75	40	LR	LR	09 04 49.7	
	comp=Z,80nm,18.1s,baz=271,slow=35						
WRA	Warramunga Arr	140.16	254	PKP	PKPdf	08 32 34.4	-1.7
	comp=Z,1.3nm,0.8s,baz=110,slow=2.1,SNR=11						
ASAR	Alice Springs	140.17	249	PKhKP	PKPpre	08 32 28.9	
	comp=Z,0.5nm,0.8s,baz=94,slow=3.1,SNR=5.0						
ASAR	Alice Springs	140.17	249	PKPdf	PKPdf	08 32 34.1	-2.0
FITZ	Fitzroy Crossi	148.50	256	PKP	PKPdf	08 32 50.6	0.0
	comp=Z,2.7nm,0.8s,baz=162,slow=3.5,SNR=4.8						
FITZ				PKPbc	PKPbc	08 32 53.0	-1.2
	comp=Z,4.5nm,0.9s,baz=183,slow=2.1,SNR=6.7					

I46RU	**ZALESOVO INFRA**	**1.30 279**	*i*			08 27 20.0	
	baz=98,slow=335,SNR=1.7						
ZALV	**Zalesovo Beam**	**1.30 279**	Pg	Pg		08 19 21.8	-0.6
	0.2nm,0.3s,baz=99,slow=14,SNR=5.1						
ZALV			Lg	Lg		08 19 39.6	
	0.3nm,0.3s,baz=97,slow=32,SNR=4.5						
KURBB	**Kurchatov Arra**	**6.08 242**	Pn	Pn		08 20 28.7	+0.1
	0.1nm,0.3s,baz=55,slow=16,SNR=5.3						
MKAR	**Makanchi Array**	**7.60 205**	Pn	Pn		08 20 51.1	+1.6
	0.1nm,0.3s,baz=27,slow=14,SNR=5.8						

IDC ***14*** *08:19:23.2±1.8,27.03N×130.37E,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.4/59,mbtmp3.7/3,MS3.3/2,Ms1 3.3/2, ms1mx2.5/72,Error ellipse: s-maj=39.2km s-min=25.5km az=35.0*

JMA ***14*** *08:19:26.0,26.97N×130.43E,h57km,M3.6*

NIED ***14*** *08:19:26.0,26.97N×130.43E,h57km,MW3.7,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; Mrr-3.43; Mθθ0.80; Mϕϕ2.63; Mrθ-0.20; Mθϕ1.39; Mϕr-0.41; Fault plane solution: M₀3.43000×10¹⁴ NP1:ϕs28.00000°, δ49.00000°,λ-91.00000°. NP2:ϕs209.00000°,δ41.00000°, λ-89.00000°.*

ISC 14 08:19:26.0±2.6,27.01N±0.04×130.46E±0.04,h26km±21km, n23,σ1ᵗ15/37,mb3.8/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JKDJ	**Kitadaitoujima**	**1.30**	**144**	P		**Pn**	**08 19 48.2**	**-0.3**
JKDJ				S		**Sn**	**08 20 03.7**	**-1.3**
JZK	**Kikaishima**	**1.37**	**342**	P		**Pn**	**08 19 50.4**	**+1.0**
JZK				*eS*		**Sb**	**08 20 08.4**	**+0.4**
JMZ	**Minamidaito 2**	**1.37**	**150**	P		**Pn**	**08 19 48.7**	**-0.8**
JMZ				S		**Sn**	**08 20 05.6**	**-1.2**
JTK	**Tokunoshima**	**1.54**	**300**	P		**Pn**	**08 19 51.8**	**-0.1**
JTK				*eS*		**Sn**	**08 20 10.1**	**-1.0**
JAM	**Amami Oshima**	**1.58**	**332**	P		**Pn**	**08 19 52.4**	**0.0**
JAM				S		**Sn**	**08 20 11.1**	**-1.0**
JAMN	**Amaminishikomi**	**1.67**	**317**	P		**Pn**	**08 19 53.4**	**-0.2**
JAMN				S		**Sn**	**08 20 13.1**	**-1.1**
JOKE	**Okinoerabujima**	**1.71**	**282**	P		**Pn**	**08 19 54.0**	**-0.2**
JOKE				*eS*		**Sn**	**08 20 14.8**	**-0.5**
JYRO	**Yoronjima**	**1.79**	**271**	P		**Pn**	**08 19 55.1**	**-0.1**
JYRO				S		**Sn**	**08 20 15.4**	**-1.7**
JOW	**Kunigami**	**1.96**	**265**	Pn		**Pn**	**08 19 57.5**	**-0.1**
	27nm,0.3s,baz=87,slow=6.1,SNR=50							
JOW				Sn		**Sn**	**08 20 20.2**	**-1.1**
	52nm,0.3s,baz=139,slow=27,SNR=24							
JOW	**Kunigami**	**1.96**	**265**	P		**Pn**	**08 19 57.4**	**-0.1**
JOW				S		**Sn**	**08 20 20.5**	**-0.8**
JIH	**Iheya**	**2.22**	**271**	P		**Pn**	**08 20 01.3**	**+0.1**
JIH				S		**Sn**	**08 20 27.3**	**-0.5**
JNTH	**Nagotoyohara**	**2.23**	**258**	P		**Pn**	**08 20 00.9**	**-0.4**
JNTH				S		**Sn**	**08 20 25.9**	**-2.2**
JTAJ	**Takarajima**	**2.40**	**333**	P		**Pn**	**08 20 03.2**	**-0.5**
JTAJ				*eS*		**Sn**	**08 20 29.8**	**-2.5**
JJT3	**Tamagusuku3**	**2.54**	**251**	P		**Pn**	**08 20 05.7**	**+0.1**
JJT3				*eS*		**Sn**	**08 20 34.7**	**-1.1**
JAGN	**Aguni-jima**	**2.90**	**262**	*eS*		**Sn**	**08 20 43.0**	**-1.6**
JYAK	**Yakushimahirau**	**3.21**	**1**	P		**Pn**	**08 20 14.6**	**-0.2**
JYAK				*eS*		**Sn**	**08 20 49.9**	**-2.4**
JKE	**Kume jima 2**	**3.35**	**259**	P		**Pn**	**08 20 16.0**	**-0.8**
JKE				*eS*		**Sn**	**08 20 54.4**	**-1.4**
JTN	**Tanegashima 3**	**3.66**	**7**	*eS*		**Sn**	**08 21 01.8**	**-1.5**
PETK	**Petropavlovsk-**	**33.01**	**30**	LR		LR	08 40 10.0	
	comp=Z,344nm,18.5s,baz=116,slow=38							
WRA	**Warramunga Arr**	**46.83**	**175**	P		**P**	**08 27 55.1**	**+1.3**
	1.2nm,0.7s,baz=355,slow=8.7,SNR=12							
ASAR	**Alice Springs**	**50.49**	**176**	P		**P**	**08 28 23.2**	**+1.2**
	0.4nm,0.6s,baz=9.0,slow=11,SNR=10.0							
DZM	**Mont Dzumac**	**59.95**	**141**	LR		LR	08 52 26.3	
	comp=Z,42nm,20.4s,baz=336,slow=33							
FINES	**FINESS Array B**	**73.16**	**331**	P		**P**	**08 30 55.0**	**+0.8**
	0.6nm,0.6s,baz=58,slow=8.6,SNR=1.4							

INET ***14*** *08:19:55.9,12.94N×86.60W,h10km,MW3.8*

SNET 14 08:20:03.5±1.0,12.94N×86.79W,h18km±5km,ML2.9,1C, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.07**	**288**	*eP*		Pb	08 20 23.1	-0.6
CNCH				*eS*		Sb	08 20 37.9	+0.4
LCND	**La Caada**	**1.13**	**289**	*eP*		Pn	08 20 23.9	-0.6
LCND				IAML			08 20 25.0	
	comp=Z,717nm,0.2s							
LCND				*eS*		Sn	08 20 39.5	-0.3
TGUH	**Tegucigalpa,Un**	**1.21**	**337**	*eP*		Pn	08 20 24.3	-1.4
TGUH				*eS*		Sb	08 20 41.4	+0.1
JUCU	**Jucuarn**	**1.46**	**282**	*eP*		Pn	08 20 28.1	-1.0
JUCU				*eS*		Sb	08 20 49.2	+0.8
JUCU				IAML			08 20 54.0	
	comp=Z,276nm,0.4s							
LCY	**Lacayo**	**1.54**	**288**	*eP*		Pn	08 20 30.0	-0.3
PACA	**Pacayal**	**1.58**	**290**	*eP*		Pn	08 20 31.0	+0.1
TECA	**Tecapa**	**1.76**	**288**	*eP*		Pn	08 20 33.8	+0.5
COEB	**Comit de Eme**	**1.79**	**288**	*eP*		Pn	08 20 33.6	0.0
COEB				IAML			08 21 08.1	
	comp=Z,87nm,0.5s							
COEG	**Centro de Oper**	**2.15**	**289**	*eP*		Pn	08 20 38.7	+0.1
COEG				IAML			08 21 19.6	
	comp=Z,77nm,0.4s							
PAVA	**Las Pavas**	**2.23**	**290**	*eP*		Pn	08 20 40.3	+0.6
PAVA				IAML			08 20 47.1	
	comp=Z,73nm,0.3s							
SJTE	**Alcalda de S**	**2.26**	**287**	*eP*		Pn	08 20 40.5	+0.4
SJTE				*eS*		Sn	08 21 08.3	+0.6
SJTE				IAML			08 21 22.0	
	comp=Z,20nm,0.3s							

IDC ***14*** *08:31:11.1±1.8,17.70S×178.68W,h586km±20km, mb3.0/11,mb1 3.2/13,mb1mx3.0/47,mbtmp3.9/13,Error ellipse: s-maj=30.4km s-min=16.5km az=149.0*

ISC 14 08:31:12.1±0.8,17.6S±0.2×178.8W±0.2,h600km,n14, σ0ˢ82/16,mb3.4/11,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.00**	**267**	P		**P**	**08 32 29.9**	**-1.5**
	3.5nm,0.3s,baz=296,slow=23,SNR=5.1							
DZM	**Mont Dzumac**	**14.56**	**250**	P		**P**	**08 34 15.4**	**-1.0**
	0.7nm,0.3s,baz=172,slow=14,SNR=7.2							
CTA	**Charters Tower**	**33.12**	**260**	P		**P**	**08 37 00.7**	**+0.2**
	2.3nm,0.7s,baz=126,slow=8.7,SNR=1.6							
STKA	**Stephens Creek**	**38.44**	**241**	P		**P**	**08 37 44.9**	**+0.8**
	1.8nm,0.5s,baz=81,slow=9.9,SNR=5.7							
WRA	**Warramunga Arr**	**44.31**	**259**	P		**P**	**08 38 30.6**	**+0.1**
	0.9nm,0.6s,baz=97,slow=6.8,SNR=24							
WRA				PcP		**PcP**	**08 40 01.5**	**+0.2**
	1.1nm,1.2s,baz=102,slow=3.6,SNR=2.4							
ASAR	**Alice Springs**	**44.50**	**254**	P		**P**	**08 38 32.9**	**+1.0**
	8.1nm,0.6s,baz=88,slow=8.4,SNR=171							
ASAR				PcP		**PcP**	**08 40 02.2**	**+0.2**
	0.1nm,0.3s,baz=93,slow=3.9,SNR=1.4							
FITZ	**Fitzroy Crossi**	**52.70**	**260**	P		**P**	**08 39 33.6**	**+1.2**
	0.8nm,0.6s,baz=135,slow=5.7,SNR=1.5							
QSPA	**South Pole Qui**	**72.43**	**180**	P		**P**	**08 41 37.8**	**-0.8**
	1.0nm,0.8s,baz=12,slow=1.3,SNR=6.4							
NVAR	**Mina Array Bea**	**79.48**	**44**	P		**P**	**08 42 18.0**	**+0.1**
	0.2nm,0.4s,baz=215,slow=7.6,SNR=1.7							
MAW	**Mawson**	**84.00**	**200**	P		**P**	**08 42 40.0**	**+0.1**
	0.8nm,0.7s,baz=78,slow=17,SNR=1.9							
ILAR	**Eielson Array**	**85.70**	**13**	P		**P**	**08 42 47.3**	**-0.8**
	0.2nm,0.4s,baz=229,slow=5.3,SNR=4.7							
TXAR	**Lajitas Array**	**86.17**	**58**	P		**P**	**08 42 52.3**	**+1.1**
	0.4nm,0.7s,baz=207,slow=5.3,SNR=6.1							
PDAR	**Pinedale Array**	**87.41**	**44**	P		**P**	**08 42 57.0**	**0.0**
	0.3nm,0.5s,baz=222,slow=2.0,SNR=4.0							
GERES	**GERESS Array B**	**147.24**	**345**	PKPbc		**PKPbc**	**08 49 48.8**	**-0.3**
	0.5nm,0.4s,baz=5.4,slow=2.1,SNR=2.6							

KMA 14 08:38:40.1±4.2,34.52N×129.01E,h2km±12km,Error ellipse: s-maj=34.6km s-min=9.1km az=132.0,South Korea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUJA	**Jangpyeong**	**0.50**	**318**	P		Pg	08 38 49.1	-0.6
GWYB	**Gwangyang**	**1.17**	**292**	P		Pb	08 39 03.0	0.0
KSDAG	**Daegu**	**1.25**	**356**	P		Pb	08 39 04.5	+0.1
KOHB	**KOHEUNG**	**1.44**	**274**	P		Pn	08 39 06.4	-0.8
	SNR=21							
KOHB	**KOHEUNG**	**1.44**	**274**	P		Pn	08 39 06.4	-0.8
	SNR=21							
BOSB	**Boseong-gun**	**1.51**	**280**	P		Pn	08 39 07.6	-0.5
	SNR=9.3							
BOSB	**Boseong-gun**	**1.51**	**280**	P		Pn	08 39 07.6	-0.5
	SNR=9.3							
KSKWJ	**Gwangju**	**1.78**	**292**	P		Pn	08 39 12.5	+0.5
	SNR=14							
KSKWJ	**Gwangju**	**1.78**	**292**	P		Pn	08 39 12.5	+0.5
	SNR=14							
KSJEO	**Jeonju**	**2.00**	**316**	P		Pn	08 39 16.0	+1.1
	SNR=7.4							

IDC 14 08:38:42.6±2.3,53.62N×86.92E,h0km,mb1 2.9/2, mb1mx2.8/52,mbtmp2.9/2,ML2.6/2,Error ellipse: s-maj=20.3km s-min=12.6km az=76.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**285**	*i*			08 47 10.0	
	baz=102,slow=334,SNR=3.5							
ZALV	**Zalesovo Beam**	**1.29**	**285**	Pg		Pg	08 39 05.8	-1.5
	1.4nm,0.3s,baz=107,slow=17,SNR=14							
ZALV				Lg		Lg	08 39 23.9	
	2.7nm,0.3s,baz=105,slow=32,SNR=16							
ZALV				Rg		Rg	08 39 34.5	
	8.0nm,0.9s,baz=108,slow=24,SNR=10							
KURBB	**Kurchatov Arra**	**5.98**	**243**	Pn		Pn	08 40 12.9	+0.7
	0.1nm,0.3s,baz=60,slow=14,SNR=4.7							
KURBB				Sn		Sn	08 41 22.8	+1.5
	0.0nm,0.3s,baz=101,slow=8.6,SNR=1.0							
KURBB				Lg		Lg	08 41 50.3	
	0.0nm,0.3s,baz=60,slow=33,SNR=2.0							
MKAR	**Makanchi Array**	**7.45**	**205**	Pn		Pn	08 40 34.4	+1.9
	0.3nm,0.3s,baz=29,slow=14,SNR=11							
MKAR				Sn		Sn	08 41 56.5	-1.3
	0.1nm,0.3s,baz=23,slow=27,SNR=3.1							
MKAR				Lg		Lg	08 42 35.4	
	0.0nm,0.3s,baz=26,slow=27,SNR=1.5							

IDC 14 08:41:42.9±3.2,53.57N×87.72E,h0km,mb1 2.9/2, mb1mx2.9/55,mbtmp2.9/2,ML2.4/2,Error ellipse: s-maj=25.3km s-min=15.4km az=63.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.77**	**284**	*i*			08 54 00.0	
	baz=97,slow=334,SNR=3.8							
ZALV	**Zalesovo Beam**	**1.77**	**284**	Pg		Pb	08 42 15.6	-0.5
	0.9nm,0.3s,baz=102,slow=14,SNR=8.3							
ZALV				Lg		Lg	08 42 38.5	
	1.2nm,0.3s,baz=101,slow=22,SNR=5.3							
KURBB	**Kurchatov Arra**	**6.39**	**246**	Pn		Pn	08 43 19.9	+1.7
	0.1nm,0.3s,baz=64,slow=14,SNR=3.6							
KURBB				Sn		Sn	08 44 29.6	-2.1
	0.1nm,0.3s,baz=56,slow=40,SNR=1.9							
KURBB				Lg		Lg	08 45 05.7	
	0.0nm,0.3s,baz=65,slow=31,SNR=2.3							
MKAR	**Makanchi Array**	**7.62**	**209**	Pn		Pn	08 43 35.4	+0.2
	0.0nm,0.3s,baz=23,slow=14,SNR=2.6							
MKAR				Sn		Sn	08 45 02.8	+0.5
	0.1nm,0.3s,baz=25,slow=18,SNR=4.3							
MKAR				Lg		Lg	08 45 42.9	
	0.1nm,0.3s,baz=25,slow=32,SNR=1.9							

IDC ***14*** *08:51:57.4±1.1,9.62N×126.07E,h0km,mb3.5/6, mb1 3.6/6,mb1mx3.4/51,mbtmp3.5/6,Error ellipse: s-maj=62.7km s-min=22.3km az=73.0*

MAN ***14*** *08:52:04.8,9.41N×126.19E,h21km,mb5.0,ML3.9,MS3.9*

ISC 14 08:52:02.9±0.9,9.51N±0.07×126.4E±0.1,h35km,n18, σ1ᵗ78/14,mb3.5/6,2C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.91**	**287**	*eP*		**Pn**	**08 52 19.6**	**+0.4**
SCPH				*eS*		**Sn**	**08 52 32.2**	**+1.1**
BIPH	**Bislig**	**1.32**	**180**	*eP*		**Pn**	**08 52 27.3**	**+2.4**
BIPH				*eS*		**Sn**	**08 52 41.6**	**+0.4**
BUKP	**Musuan**	**2.07**	**219**	*iP*		**Pn**	**08 52 34.2**	**-1.0**
TBP	**Tagbilaran**	**2.48**	**274**	*i P*		**Pn**	**08 52 41.9**	**+1.0**
KCP	**Kidapawan**	**2.79**	**207**	*eP*		**Pn**	**08 52 45.9**	**+0.8**
RCP	**Roxas**	**4.11**	**300**	*eP*		**Pn**	**08 53 06.8**	**+3.5**
WRA	**Warramunga Arr**	**30.30**	**165**	P		**P**	**08 58 11.6**	**+0.5**
	0.3nm,0.7s,baz=344,slow=8.5,SNR=1.8							
ASAR	**Alice Springs**	**33.79**	**168**	P		**P**	**08 58 43.2**	**+1.5**
	0.1nm,0.3s,baz=344,slow=7.8,SNR=6.4							
H11S3	**WAKE ISLAND Hy 40.05**	**73**		T		T	09 42 45.1	
	baz=262,slow=75,SNR=62							
H11S1	**WAKE ISLAND Hy 40.06**	**73**		T		T	09 42 31.0	
	baz=262,slow=75,SNR=69							
H11S2	**WAKE ISLAND Hy 40.06**	**73**		T		T	09 42 36.3	
	baz=262,slow=75,SNR=66							
H11N1	**WAKE ISLAND Hy 40.40**	**71**		T		T	09 42 59.4	
	baz=264,slow=74,SNR=20							
H11N2	**WAKE ISLAND Hy 40.41**	**71**		T		T	09 42 58.7	
	baz=264,slow=74,SNR=19							
H11N3	**WAKE ISLAND Hy 40.42**	**71**		T		T	09 43 06.2	
	baz=264,slow=74,SNR=18							
PETK	**Petropavlovsk-**	**50.28**	**24**	P		**P**	**09 00 55.6**	**-0.3**
	0.6nm,0.6s,baz=195,slow=4.9,SNR=1.4							
MKAR	**Makanchi Array**	**52.69**	**323**	P		**P**	**09 01 11.8**	**-2.2**
	0.2nm,0.4s,baz=110,slow=8.2,SNR=4.1							
KURBB	**Kurchatov Arra**	**56.75**	**326**	P		**P**	**09 01 41.4**	**-1.8**
	0.2nm,0.4s,baz=122,slow=7.7,SNR=2.7							
ARCES	**ARCESS Array B**	**84.94**	**340**	P		**P**	**09 04 32.9**	**-1.2**
	0.6nm,0.6s,baz=72,slow=7.8,SNR=5.4							

YARS ***14*** *09:06:55.9±0.0,57.49N×120.84E,h3km*

IDC ***14*** *09:06:55.1±0.7,57.32N×120.64E,h0km,mb3.9/13, mb1 4.0/18,mb1mx3.9/61,mbtmp3.9/18,ML4.0/3,MS3.2/10, Ms1 3.2/10,ms1mx2.9/57,Error ellipse: s-maj=16.1km s-min=13.0km az=84.0*

MOS ***14*** *09:06:56.3±1.4,57.38N×120.86E,h11km,mb4.4/4,Error ellipse: s-maj=12.8km s-min=7.6km az=89.1*

BYKL ***14*** *09:06:57.6±0.3,57.39N×120.78E*

ISC 14 09:06:56.4±1.0,57.48N±0.02×120.97E±0.02,h2km±7km, n76,σ2ˢ53/152,mb4.1/15,MS3.0/7,7C-7D,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
YKLR	**Yuktali**	**0.97**	**157**	*iPg*		**Pg**	**09 07 14.9**	**-0.1**
YKLR				*e*		**Pn**	**09 07 18.4**	**+1.4**
YKLR				*eSg*		**Sg**	**09 07 27.7**	**+0.2**
YKLR	**Yuktali**	**0.97**	**157**	*i* Pg		**Pg**	**09 07 14.8**	**-0.1**
	573nm,0.2s							
YKLR				*e*Pg		**Pg**	**09 07 14.8**	**-0.1**
	128nm,0.1s							
YKLR				*i* Pg		**Pg**	**09 07 14.8**	**-0.1**
	511nm,0.4s							
YKLR				*eSg*		**Sg**	**09 07 27.6**	**+0.2**
	2μm,0.2s							
YKLR				*eSg*		**Sg**	**09 07 27.6**	**+0.2**
	867nm,0.1s							
YKLR	**Yuktali**	**0.97**	**157**	*iP*		**Pg**	**09 07 14.9**	**-0.1**
YKLR				*eS*		**Sb**	**09 07 28.0**	**-1.1**
CRS	**Chara**	**1.58**	**249**	*e*Pg		**Pn**	**09 07 24.3**	**-1.2**
CRS				*e*		**Pg**	**09 07 27.4**	**+0.6**
CRS				max			09 07 27.5	
	477nm,0.8s							
CRS				*eSg*		**Sn**	**09 07 42.9**	**-3.6**
CRS				Smax			09 07 43.7	
	2μm,1.1s							
CRS	**Chara**	**1.58**	**249**	*e*Pg		**Pn**	**09 07 24.2**	**-1.2**
	465nm,0.7s							
CRS				*eSg*		**Sn**	**09 07 42.4**	**-4.1**
	2μm,1.0s							
CRS	**Chara**	**1.58**	**249**	*eP*		**Pn**	**09 07 24.6**	**-0.9**
CRS				*e*		**Sn**	**09 07 42.9**	**-3.6**
CRS				pmax	pmax			
	comp=Z,615nm,1.1s							
CRS				smax	smax			
	comp=E,2μm,1.0s							
CLNS	**Chul'man**	**2.23**	**105**	*iPn*		**Pb**	**09 07 36.9**	**-0.6**
CLNS				*ePg*		**Pg**	**09 07 39.1**	**-0.1**
CLNS				*eSn*		**Sb**	**09 08 04.7**	**-0.8**
CLNS				*eSg*		**Sg**	**09 08 08.8**	**+0.8**
CLNS	**Chul'man**	**2.23**	**105**	*i* Pg		**Pb**	**09 07 36.8**	**-0.6**
	comp=E,108nm,0.2s							
CLNS				*eSg*		**Sg**	**09 08 07.6**	**-0.4**
	comp=E,4μm,0.9s							
CLNS				*eSg*		**Sg**	**09 08 07.6**	**-0.4**
	comp=E,5μm,0.8s							
ALDR	**Aldan**	**2.62**	**63**	*i* Pn		**Pn**	**09 07 39.1**	**-0.6**
	comp=E,6.9nm,0.1s							
ALDR				*i* Pg		**Pb**	**09 07 44.2**	**+0.2**
	comp=E,115nm,0.6s							
ALDR				*i* Sn		**Sn**	**09 08 13.4**	**+1.5**
ALDR				*i* Sn		**Sn**	**09 08 13.4**	**+1.5**
ALDR				*i* Sg		**Sg**	**09 08 20.8**	**+0.4**
	comp=E,922nm,0.2s							
ALDR				*i* Sg		**Sg**	**09 08 20.8**	**+0.4**
	comp=E,575nm,0.2s							
OLMR	**Olekminsk**	**2.91**	**355**	*e*Pn		**Pn**	**09 07 44.6**	**+1.0**
	comp=E,38nm,0.5s							
OLMR				*e*Pg		**Pb**	**09 07 49.0**	**0.0**
	comp=E,307nm,0.4s							
OLMR				*i* Sn		**Sn**	**09 08 19.2**	**0.0**
OLMR				*i* Sn		**Sn**	**09 08 19.2**	**0.0**
OLMR				*i* Sg		**Sb**	**09 08 27.9**	**+3.0**
	comp=E,3μm,0.5s							
OLMR				*i* Sg		**Sb**	**09 08 27.9**	**+3.0**
	comp=E,3μm,0.6s							
NLYR	**Nelyaty**	**3.05**	**253**	*e*Pn		**Pn**	**09 07 44.0**	**-1.6**
NLYR				*e*Pg		**Pb**	**09 07 49.7**	**-1.7**
NLYR				Pmax			09 07 52.1	
	comp=E,201nm,0.5s							
NLYR				*e*PgPg		**PgPg**	**09 07 56.1**	**+1.2**
NLYR				*e*Sn		**Sn**	**09 08 18.9**	**-3.7**
NLYR				*e*Sg		**Sb**	**09 08 27.3**	**-1.7**
NLYR				Smax			09 08 32.4	
	comp=E,3μm,1.5s							
NLYR				*e*			09 08 49.8	
TUP	**Tupik**	**3.12**	**191**	*e*Pn		**Pn**	**09 07 45.6**	**-1.0**
TUP				*e*Pg		**Pb**	**09 07 50.8**	**-1.7**
TUP				Pmax			09 07 55.3	
	comp=E,197nm,0.7s							
TUP				*e*Sn		**Sn**	**09 08 21.4**	**-3.0**
TUP				*e*Sg		**Sb**	**09 08 29.9**	**-1.1**
TUP				*e*SgSg		**SgSg**	**09 08 38.7**	**+2.1**
TUP				max			09 08 39.5	
	comp=E,2μm,0.7s							
TUP	**Tupik**	**3.12**	**191**	*e*Pn		**Pn**	**09 07 45.5**	**-1.0**
TUP				*e*Pg		**Pb**	**09 07 50.9**	**-1.6**
	comp=E,197nm,0.6s							
TUP				*e*Sn		**Sn**	**09 08 21.3**	**-3.0**
TUP				*e*Sg		**Sb**	**09 08 29.8**	**-1.2**
	comp=E,2μm,1.0s							
TUP	**Tupik**	**3.12**	**191**	*e*P		**Pn**	**09 07 45.5**	**-1.0**
TUP				*e*S		**Sn**	**09 08 21.3**	**-3.0**
TUP				pmax	pmax			
	comp=Z,197nm,0.6s							
TUP				smax	smax			
	comp=E,2μm,1.0s							
TNDR	**Tynda**	**3.14**	**137**	*i* Pn		**Pn**	**09 07 48.1**	**+1.3**
	comp=E,144nm,0.9s							
TNDR				*i* Sn		**Sn**	**09 08 24.4**	**-0.3**
TNDR				*i* Sg		**Sg**	**09 08 34.6**	**-2.5**
	comp=E,1μm,0.6s							
BOD	**Bodaibo**	**3.76**	**278**	*e*Pn		**Pn**	**09 07 54.6**	**-0.7**
BOD				*e*Pg		**Pb**	**09 08 03.8**	**+0.4**
BOD				Pmax			09 08 18.6	
	comp=E,94nm,1.0s							
BOD				*e*Sg		**Sb**	**09 08 50.7**	**+1.3**
BOD				Smax			09 08 54.3	
	comp=E,2μm,1.4s							
BOD	**Bodaibo**	**3.76**	**278**	*e*P		**Pn**	**09 07 54.1**	**-1.2**
BOD				pmax	pmax			
	comp=Z,70nm,0.7s							
UKT	**Uakit**	**4.54**	**247**	*e*Pn		**Pn**	**09 08 05.2**	**-0.9**
UKT				*e*Pg		**Pb**	**09 08 16.8**	**+0.1**
UKT				*e*		**Pg**	**09 08 23.3**	**0.0**
UKT				max			09 08 29.2	
	comp=Z,48nm,1.5s							
UKT				*e*Sn		**Sn**	**09 08 54.7**	**-4.7**
UKT				*e*Sg		**Sb**	**09 09 13.3**	**+1.5**
UKT				Smax			09 09 20.8	
	comp=Z,367nm,1.6s							
KROS	**Kirovskiy**	**4.55**	**130**	*e*Pn		**Pn**	**09 08 07.3**	**+1.1**
KROS				*e*Pg		**Pb**	**09 08 16.6**	**-0.3**
	comp=Z,14nm,0.3s							
KROS				*e*Sn		**Sn**	**09 09 03.1**	**+3.5**
KROS				*i* Sg		**Sg**	**09 09 19.8**	**-2.6**
	comp=Z,540nm,0.3s							
VTMR	**Vitim**	**4.84**	**297**	*e*Pn		**Pn**	**09 08 10.4**	**+0.3**
VTMR				*e*Pg		**Pb**	**09 08 24.0**	**+2.2**
VTMR				*e*Sn		**Sn**	**09 09 04.1**	**-2.5**
VTMR				*e*Sg		**Sb**	**09 09 24.9**	**+4.6**
VTMR	**Vitim**	**4.84**	**297**	*i* Pn		**Pn**	**09 08 08.9**	**-1.2**
	comp=Z,86nm,0.2s							
VTMR				*i* Pg		**Pb**	**09 08 21.8**	**0.0**
	comp=Z,121nm,0.2s							
VTMR				*i* Sn		**Sn**	**09 09 03.8**	**-2.8**
	comp=Z,900nm,0.5s							
VTMR				*i* Sn		**Sn**	**09 09 03.8**	**-2.8**
	comp=Z,923nm,0.4s							
VTMR				*i* Sg		**Sb**	**09 09 24.9**	**+4.6**
	comp=Z,3μm,0.6s							
VTMR				*i* Sg		**Sb**	**09 09 24.9**	**+4.6**
	comp=Z,3μm,0.5s							
ZEA	**Zeya**	**5.17**	**134**	*e*P		**Pn**	**09 08 16.3**	**+1.6**
ZEA				*e*		**Sn**	**09 09 14.3**	**-0.5**
Z

comp=Z,0.2nm,0.3s,baz=220,slow=10,SNR=2.2
YAK Yakutsk 6.33 40 *i* Pn **Pn 09 08 32.1 +1.5**
comp=Z,23nm,0.5s
YAK *i* Pg Pb 09 08 52.0 +4.8
comp=Z,66nm,0.5s
YAK *e*Sn **Sn 09 09 41.4 -2.0**
comp=Z,211nm,0.8s
YAK *e*Sn **Sn 09 09 41.4 -2.0**
comp=Z,128nm,0.6s
YAK *e*Sg **Sg 09 10 13.8 -5.8**
comp=Z,1μm,0.7s
YAK *e*Sg **Sg 09 10 13.8 -5.8**
comp=Z,450nm,0.7s
YAK Yakutsk 6.33 40 *e*P **Pn 09 08 32.5 +1.9**
YAK *e* **Sn 09 09 41.9 -1.5**
YAK pmax pmax
comp=Z,13nm,0.3s
YAK pmax pmax
comp=N,2.0nm,0.4s
YAK pmax pmax
comp=E,4.0nm,0.4s
YAK pmax pmax
comp=Z,51nm,0.5s
YAK pmax pmax
comp=N,10.0nm,0.4s
YAK pmax pmax
comp=E,12nm,0.4s
YAK smax smax
comp=N,64nm,0.5s
YAK smax smax
comp=E,41nm,0.6s
YAK smax smax
comp=N,758nm,0.6s
YAK smax smax
comp=E,237nm,0.4s
NIZ Nizh Angarsk 6.54 260 *e*Pn **Pn 09 08 33.1 -0.4**
NIZ *e*Pg **Pb 09 08 52.3 +1.6**
NIZ *e* 09 09 16.3
NIZ max 09 09 21.5
comp=E,33nm,1.6s
NIZ *e*Sn **Sn 09 09 52.9 +4.4**
NIZ *e*Sg **Sb 09 10 15.9 +6.7**
NIZ Smax 09 10 36.9
comp=E,464nm,1.4s
CIT Chita 6.96 221 *e*Sg **Sb 09 10 28.1 +6.8**
CIT Smax 09 10 31.4
comp=E,1μm,1.7s
CIT Chita 6.96 221 *e*P **Pn 09 08 39.3 +0.1**
CIT *e*S **Sn 09 09 53.8 -5.0**
CIT pmax pmax
comp=Z,105nm,0.1s
CIT smax smax
comp=N,1μm,1.9s
OGRR Ongureny 8.50 249 *e*Sg Sb 09 11 16.0 +10
OGRR Smax 09 11 37.0
comp=N,615nm,1.5s
KELR Kotokel 8.77 243 *e*Sg Sg 09 11 24.4 -13
KPC Khapcheranga 9.31 217 *e*Sg Sn 09 11 40.8 +44
KPC Smax 09 11 44.0
comp=N,156nm,1.5s
UUDB Ulan-Yde 9.54 240 *e*Sg Sn 09 11 49.7 +47
UUDB Smax 09 12 01.2
comp=N,498nm,1.3s
HRMR Khuramsha 10.03 240 *e*Sg Sn 09 12 03.8 +50
HRMR Smax 09 12 21.5
comp=N,733nm,1.2s
KLR Kul'dur 10.47 138 Pn **Pn 09 09 26.9 -0.5**
comp=N,0.2nm,0.3s,baz=330,slow=12,SNR=6.6
KLR Sn **Sn 09 11 32.3 +7.3**
comp=N,0.5nm,0.3s,baz=74,slow=23,SNR=3.2
KLR Lg Lg 09 12 24.1
comp=N,0.8nm,0.3s,baz=15,slow=8.5,SNR=7.5
KLR LR LR 09 13 46.6
KLR Kul'dur 10.47 138‖ *e*P **Pn 09 09 28.9 +1.6**
KLR pmax pmax
comp=Z,4.0nm,1.0s
IVK Ivanovka 11.14 246 *e*Sg Sn 09 12 37.7 +56
IVK Smax 09 13 12.2
comp=Z,141nm,1.8s
ULN Ulaanbaatar 12.78 227 *e*Sg 09 13 28.6
ULN Ulaanbaatar 12.78 227↑ *e*P **Pn 09 09 58.3 -0.8**
SONM Songino Array 13.07 229 Pn Pn 09 09 58.2 -4.8
baz=34,slow=10,SNR=1.1
SONM Lg Lg 09 13 43.3
comp=Z,0.8nm,0.3s,baz=26,slow=28,SNR=8.5
CN2 Changchun 13.98 166 *e*P **Pn 09 10 16.9 +1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 LR LR
comp=N,500nm,9.0s
CN2 LR LR
comp=E,200nm,9.0s
CN2 LR LR
comp=Z,600nm,10.0s
TIXI Tiksi 14.60 10 Pn Pn 09 10 18.4 -5.2
comp=Z,0.6nm,0.3s,baz=176,slow=13,SNR=2.3
TIXI Sn Sn 09 12 54.8 -11
comp=Z,2.4nm,0.3s,baz=310,slow=18,SNR=6.3
TIXI Lg Lg 09 14 44.6
baz=321,slow=20,SNR=1.4
TIXI Tiksi 14.60 10‖ *e*P **P 09 10 27.4 -2.8**
USRK Ussuriysk Ar. 14.98 148 LR LR 09 16 06.5
comp=Z,80nm,20.9s,baz=299,slow=37
MA2 Magadan 15.64 70↑ *e*P **P 09 10 41.4 -0.4**
MA2 pmax pmax
comp=Z,55nm,2.0s
SEY Seymchan 16.41 58 Pn **Pn 09 10 47.8 +0.3**
comp=Z,0.3nm,0.3s,baz=258,slow=10,SNR=11
NRIK Noril'sk 18.77 323 P **P 09 11 13.3 -3.0**
comp=Z,1.0nm,0.3s,baz=113,slow=12,SNR=6.7
NRIK LR LR 09 19 21.3
comp=Z,97nm,20.0s,baz=9.5,slow=40
ASAJ Asahikawa 19.01 125 LR LR 09 19 10.5
comp=Z,96nm,19.5s,baz=116,slow=39
KSRS Korea Array 20.56 164 P **P 09 11 34.3 -1.8**
comp=Z,1.3nm,0.7s,baz=351,slow=9.8,SNR=3.7
KSRS LR LR 09 19 47.9
comp=Z,34nm,19.1s,baz=24,slow=38
PEA0B Petropavlovsk- 21.18 86‖ *e*P **P 09 11 45.0 +2.3**
PETK Petropavlovsk- 21.18 86 P **P 09 11 44.3 +1.6**
comp=Z,7.8nm,1.0s,baz=0.1,slow=4.7,SNR=12
DGZ Jazzator, Alta 21.20 263‖ *e*P **P 09 11 44.9 +1.8**
DGZ pmax pmax
comp=Z,6.0nm,1.1s
BILL Bilibino 22.68 44↑ *e*P **P 09 12 01.6 +3.0**
BILL 09 12 24.0
BILL 09 15 49.0
BILL S **S 09 16 11.0 +3.8**
BILL SSS SSS 09 17 02.0
BILL pmax pmax
comp=Z,11nm,1.1s
BILL MLR MLR
comp=Z,28nm,14.0s
MJAR Matsushiro Arr 23.89 144 P **P 09 12 09.4 -1.8**
comp=Z,1.5nm,0.7s,baz=336,slow=5.7,SNR=4.6
MJAR LR LR 09 21 29.1
comp=Z,36nm,18.6s,baz=5.0,slow=37
MK31 Makanchi Array 25.69 262 *de*P **P 09 12 28.9 +1.4**
MKAR Makanchi Array 25.69 262 *i* P **P 09 12 30.8 +3.3**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
JHJ Hachijo jima 2 27.54 144 LR LR 09 22 23.5
comp=Z,44nm,20.7s,baz=16,slow=34
SPITS Spitsbergen Ar 37.30 341 P **P 09 14 08.4 -0.8**
comp=Z,11nm,0.9s,baz=61,slow=15,SNR=5.4
FINES FINESS Array B 44.28 317 P **P 09 15 05.8 -1.1**
comp=Z,2.5nm,0.7s,baz=75,slow=11,SNR=2.1
FINES LR LR 09 35 15.0
comp=Z,59nm,18.8s,baz=242,slow=38
VSU Vasula 45.97 313‖ *e*P **P 09 15 22.7 +2.4**
HFS Hagfors 49.59 321 P **P 09 15 47.9 -0.4**
comp=Z,2.3nm,0.6s,baz=67,slow=8.6,SNR=1.6
NOA NORSAR Array B 49.73 323 P **P 09 15 47.1 -2.4**
comp=Z,2.2nm,0.9s,baz=42,slow=7.8,SNR=3.1
NOA LR LR 09 39 00.3
comp=Z,23nm,18.3s,baz=125,slow=39
AKASG Malin Array Be 50.28 304 P **P 09 15 53.5 -0.2**
comp=Z,2.0nm,0.6s,baz=40,slow=8.6,SNR=4.4
AKBB Malin Array Si 50.28 304‖ *e*P **P 09 15 54.4 +0.7**
ANN Anapa 50.63 294 *ce*P **P 09 15 55.3 -1.1**
ANN pmax pmax
comp=Z,43nm,1.1s
GERES GERESS Array B 58.27 312 LR LR 09 45 59.4
comp=Z,28nm,20.0s,baz=309,slow=40
PDAR Pinedale Array 71.55 37 P **P 09 18 18.7 -0.1**
comp=Z,0.4nm,0.5s,baz=0.3,slow=3.3,SNR=4.9
NVAR Mina Array Bea 72.29 45 P **P 09 18 24.8 +1.5**
comp=Z,0.5nm,0.8s,baz=317,slow=4.5,SNR=4.5
WRA Warramunga Arr 77.94 167 P **P 09 18 53.8 -1.8**
comp=Z,1.4nm,0.9s,baz=349,slow=6.2,SNR=5.9
ASAR Alice Springs 81.56 168 P **P 09 19 13.9 -1.3**
comp=Z,0.3nm,0.6s,baz=356,slow=5.0,SNR=7.3
TORD Torodi Ar. Bea 93.85 302 P **P 09 20 13.9 -1.3**
comp=Z,0.4nm,0.9s,baz=18,slow=4.5,SNR=1.5

ISK **14** *09:07:45.7, 43.23N×41.21E, h3km, ML4.5/9*
IDC **14** *09:07:47.6±0.5, 43.09N×41.60E, h0km, mb4.1/20, mb1 4.2/27, mb1mx4.1/53, mbtmp4.1/27, ML3.8/6, MS3.5/25, Ms1 3.5/25, ms1mx3.3/58, Error ellipse: s-maj=9.1km s-min=5.9km az=155.0*
TIF **14** *09:07:47.6, 43.16N×41.55E, h2km±1km*
MOS **14** *09:07:48.4±1.3, 43.11N×41.49E, h3km, mb4.5/10, MS3.5/12, Error ellipse: s-maj=3.9km s-min=2.8km az=40.6*
MOS Felt (III) at Sochi, Karachaevsk, (II-III) at Cherkessk, Kislovodsk, Essentukskaya.
DDA **14** *09:07:49.4, 43.08N×41.39E, h21km±4km, MW4.4*
MOS **14** *09:07:50.2±0.0, 43.16N×41.64E, h7km, MPVA5.2*
NORS **14** *09:07:51.5±0.0, 43.19N×41.72E, h1km, MPVA5.0, FELT I=III MSK at Sochi, Karachaevsk, I=II-III MSK at Cherkessk, Kislovodsk, Essentuki*
NEIC **14** *09:07:53.0±2.5, 43.30N±0.05×41.55E±0.07, h34km±6km, mb4.4/21, Error ellipse: s-maj=7.9km s-min=6.7km az=135.0*
ISC 14 09:07:50.0±0.6, **43.14N**±0.01×**41.60E**±0.01, **h13**km±4km, **n385**, σ1s**82**/511, **mb4.3**/41, **MS3.7**/20, **39C-27D, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DOMR	**Dombai**	**0.15**	**6**	‖	*i* Pg	**Pg**	**09 07 53.7**	**-0.2**
DOMR	**Dombai**	**0.15**	**6**		*i* Pg	**Pg**	**09 07 53.7**	**-0.2**
DOMR					*e*Sg	**Sg**	**09 07 56.5**	**-0.2**
ARXR	**Arkhyz**	**0.48**	**331**	‖	*i*PG	**Pg**	**09 07 59.4**	**-0.2**
ARXR	**Arkhyz**	**0.48**	**331**		*e*Pg	**Pg**	**09 07 59.2**	**-0.4**
ARXR					*e*Pg	**Pn**	**09 08 05.6**	**+2.8**
CHVG	**Ch'k'valeri**	**0.55**	**140**		P	**Pg**	**09 08 00.7**	**-0.2**
CHVG					S	**Sb**	**09 08 09.5**	**+0.1**
CHVG	**Ch'k'valeri**	**0.55**	**140**		PG	**Pg**	**09 08 00.6**	**-0.2**
CHVG					S	**Sb**	**09 08 09.5**	**+0.1**
NEY	**Neytrino**	**0.83**	**82**		*e*PG	**Pg**	**09 08 05.4**	**-0.7**
NEY					*e*S	**Sg**	**09 08 15.6**	**-1.4**
NEY	**Neytrino**	**0.83**	**82**		*i* Pg	**Pg**	**09 08 05.1**	**-1.0**
NEY					*e*Sg	**Sg**	**09 08 15.5**	**-1.4**
SHA1	**Shidzhatmaz**	**0.97**	**52**		*e*PG	**Pg**	**09 08 08.4**	**-0.5**
SHA1					*e*S	**Sg**	**09 08 21.0**	**-0.6**
SHA1	**Shidzhatmaz**	**0.97**	**52**		*i* Pg	**Pg**	**09 08 08.2**	**-0.6**
SHA1					*i* Sg	**Sg**	**09 08 21.0**	**-0.6**
AHMR	**Akhmetovskaya**	**1.09**	**338**	‖	*i*PG	**Pb**	**09 08 10.4**	**-0.4**
AHMR					*i* S	**Sg**	**09 08 25.8**	**+0.4**
AHMR	**Akhmetovskaya**	**1.09**	**338**		*e*Pg	**Pb**	**09 08 10.2**	**-0.6**
AHMR					*i* Sg	**Sn**	**09 08 26.4**	**+0.3**
KBZ	**Khabaz**	**1.11**	**58**		Pg	**Pb**	**09 08 10.2**	**-0.9**
KBZ	540nm,0.3s,baz=228,slow=7.6,SNR=1083				Lg	Lg	09 08 24.9	
KBZ	1μm,0.3s,baz=124,slow=21,SNR=17							
KBZ	**Khabaz**	**1.11**	**58**	↑	*i*PG	**Pb**	**09 08 10.7**	**-0.4**
KBZ					*i* S	**Sb**	**09 08 24.3**	**-1.2**
KBZ	**Khabaz**	**1.11**	**58**			**Pb**	**09 08 10.2**	**-0.9**
KBZ	**Khabaz**	**1.11**	**58**		*i* Pg	**Pb**	**09 08 10.5**	**-0.6**
KBZ					*i* Sg	**Sb**	**09 08 25.0**	**-0.5**
RPOR	**Krasnaya Polya**	**1.12**	**300**		*i* PG	**Pb**	**09 08 10.9**	**-0.4**
RPOR					*e*S	**Sn**	**09 08 27.9**	**+1.1**
RPOR	**Krasnaya Polya**	**1.12**	**300**		*e*Pg	**Pb**	**09 08 10.6**	**-0.7**
RPOR					*e*Sg	**Sn**	**09 08 29.6**	**+2.8**
KIV	**Kislovodsk**	**1.13**	**44**	‖	*e*PG	**Pb**	**09 08 11.4**	**-0.1**
KIV					*e*S	**Sb**	**09 08 25.9**	**-0.3**
KIV	**Kislovodsk**	**1.13**	**44**		PN	**Pb**	**09 08 11.3**	**-0.3**
KIV	**Kislovodsk**	**1.13**	**44**		Pn	**Pb**	**09 08 11.3**	**-0.3**
KIV						**Sb**	**09 08 25.1**	**-1.1**
KIV	**Kislovodsk**	**1.13**	**44**		*i* Pg	**Pb**	**09 08 11.3**	**-0.3**
KIV					*i* Sg	**Sb**	**09 08 25.9**	**-0.3**
KIV0	**Kislovodsk Arr**	**1.14**	**44**		*e*Pg	**Pb**	**09 08 11.4**	**-0.3**
KIV0					*e*Sg	**Sb**	**09 08 25.9**	**-0.5**
KVAR	**Kislovodsk Arr**	**1.14**	**44**		Pg	**Pb**	**09 08 11.5**	**-0.1**
KVAR	baz=258,slow=19				Lg	Lg	09 08 25.4	
KVAR	baz=264,slow=21,SNR=23				LR	LR	09 08 51.2	
	comp=Z,2μm,20.4s,baz=70,slow=54							
BEYR	**Belyy Ugol+**	**1.24**	**45**		*e*PG	**Pn**	**09 08 13.1**	**0.0**
BEYR					*e*S	**Sb**	**09 08 28.9**	**-0.4**
BEYR	**Belyy Ugol+**	**1.24**	**45**		*e*Pg	**Pn**	**09 08 13.1**	**0.0**
BEYR					*e*Sg	**Sb**	**09 08 28.9**	**-0.4**
TKB	**Tkibuli**	**1.29**	**127**		P	**Pb**	**09 08 14.2**	**0.0**
TKB					S	**Sg**	**09 08 33.8**	**+1.9**
TKB	**Tkibuli**	**1.29**	**127**		PG	**Pb**	**09 08 14.2**	**0.0**
TKB					S	**Sg**	**09 08 33.7**	**+1.9**
PYA1	**Pyatigorsk**	**1.42**	**49**		*e*PG	**Pb**	**09 08 16.4**	**-0.1**
PYA1					*e*S	**Sb**	**09 08 34.7**	**+0.2**
PYA1	**Pyatigorsk**	**1.42**	**49**		*e*Pg	**Pb**	**09 08 16.4**	**-0.1**
PYA1					*e*Sg	**Sb**	**09 08 34.7**	**+0.2**
SOC	**Sochi**	**1.44**	**288**	↑	*i*PG	**Pn**	**09 08 16.3**	**+0.4**
SOC					*i* S	**Sb**	**09 08 35.8**	**+0.8**
SOC	**Sochi**	**1.44**	**288**		*i* Pg	**Pn**	**09 08 16.2**	**+0.4**
SOC					*e*Sg	**Sb**	**09 08 35.8**	**+0.8**
ONI	**Oni**	**1.47**	**111**		P	**Pb**	**09 08 17.3**	**+0.1**
ONI					S	**Sg**	**09 08 38.5**	**+1.1**
ONI	**Oni**	**1.47**	**111**	↑	*i*PG	**Pb**	**09 08 17.4**	**+0.1**
ONI					*e*S	**Sg**	**09 08 37.0**	**-0.3**
ONI	**Oni**	**1.47**	**111**			**Pb**	**09 08 17.4**	**+0.2**
ONI	**Oni**	**1.47**	**111**		*i* Pg	**Pb**	**09 08 17.3**	**+0.2**
ONI					*e*Sg	**Sg**	**09 08 38.7**	**+1.4**
DIGR	**Digorskoe uzhe**	**1.47**	**99**	‖	*i*PG	**Pb**	**09 08 17.3**	**-0.1**
DIGR					*e*S	**Sg**	**09 08 37.3**	**-0.2**
DIGR	**Digorskoe uzhe**	**1.47**	**99**		*e*Pg	**Pb**	**09 08 17.0**	**-0.4**
DIGR					*e*Sg	**Sb**	**09 08 36.4**	**+0.3**
NVNR	**Nevinnomyssk**	**1.50**	**10**		*i* PG	**Pb**	**09 08 17.8**	**+0.1**
NVNR					*i* S	**Sg**	**09 08 37.8**	**-0.4**
NVNR	**Nevinnomyssk**	**1.50**	**10**		*e*Pg	**Pb**	**09 08 17.7**	**+0.1**
NVNR					*e*Sg	**Sg**	**09 08 38.0**	**-0.2**
NCK	**Nalchik**	**1.50**	**76**		*i* PG	**Pg**	**09 08 19.4**	**+0.6**
NCK					*e*S	**Sg**	**09 08 37.6**	**-0.7**
NCK	**Nalchik**	**1.50**	**76**		*i* Pg	**Pg**	**09 08 19.4**	**+0.6**
NCK					*e*Sg	**Sg**	**09 08 37.6**	**-0.7**
BATM	**Batumi**	**1.54**	**177**		P	**Pn**	**09 08 16.5**	**-0.7**
BATM					S	**Sg**	**09 08 38.8**	**-0.8**
BATM	**Batumi**	**1.54**	**177**		*i* P	**Pn**	**09 08 16.6**	**-0.7**
BATM					*i* S	**Sg**	**09 08 38.6**	**-0.9**
BATM	**Batumi**	**1.54**	**177**		PG	**Pn**	**09 08 16.4**	**-0.7**
BATM					S	**Sg**	**09 08 38.7**	**-0.8**
BATM	**Batumi**	**1.54**	**177**		PN	**Pn**	**09 08 16.7**	**-0.4**
BATM					SN	**Sg**	**09 08 39.5**	**0.0**
LABN	**Labinsk**	**1.63**	**337**		*e*PN	**Pg**	**09 08 21.3**	**0.0**
LABN					*e*S	**Sg**	**09 08 42.6**	**+0.1**
LABN	**Labinsk**	**1.63**	**337**		*e*Pg	**Pg**	**09 08 21.3**	**0.0**
LABN					*e*Sg	**Sg**	**09 08 42.6**	**+0.1**
LSNR	**Lesken**	**1.63**	**84**		*e*PN	**Pg**	**09 08 21.2**	**-0.2**
LSNR					*e*S	**Sg**	**09 08 42.1**	**-0.5**
LSNR	**Lesken**	**1.63**	**84**		*e*Pg	**Pb**	**09 08 20.4**	**+0.4**
LSNR					*e*Sg	**Sg**	**09 08 41.8**	**-0.8**
ABS	**Abastumani**	**1.65**	**147**		P	**Pn**	**09 08 19.3**	**+0.5**
ABS					S	**Sg**	**09 08 43.2**	**0.0**
BCA	**Borcka**	**1.69**	**179**		PN	**Pn**	**09 08 18.8**	**-0.5**
ZEI	**Tsey**	**1.73**	**101**		*e*PN	**Pg**	**09 08 23.1**	**-0.1**
ZEI					*e*S	**Sg**	**09 08 48.2**	**+2.6**
HOPA	**Hopa-Artvin**	**1.76**	**184**		PN	**Pn**	**09 08 19.4**	**-0.7**
HOPA					SN	**Sb**	**09 08 44.1**	**+0.1**
LZRR	**Lazarevskoye**	**1.80**	**297**		*i* PN	**Pb**	**09 08 22.7**	**-0.1**
LZRR					*e*S	**Sg**	**09 08 47.1**	**-0.8**
LZRR	**Lazarevskoye**	**1.80**	**297**		*e*Pg	**Pb**	**09 08 22.7**	**-0.1**
LZRR					*e*Sg	**Sg**	**09 08 47.1**	**-0.8**
KORR	**Kora**	**1.81**	**91**		*e*PN	**Pg**	**09 08 24.1**	**-0.6**
KORR					*e*S	**Sg**	**09 08 48.6**	**+0.4**
KORR	**Kora**	**1.81**	**91**		*e*Pg	**Pb**	**09 08 23.2**	**+0.2**
KORR					*e*Sg	**Sb**	**09 08 46.6**	**+1.1**
STDR	**Stavd-Durt**	**1.81**	**82**		*e*PN	**Pg**	**09 08 24.2**	**-0.6**
STDR					*e*S	**Sg**	**09 08 49.9**	**+1.6**
STDR	**Stavd-Durt**	**1.81**	**82**		*e*Pg	**Pb**	**09 08 23.8**	**+0.7**
STDR					*e*Sg	**Sb**	**09 08 45.6**	**-0.1**
EPOS	**Posof**	**1.84**	**153**		*i* P	**Pb**	**09 08 23.0**	**-0.5**
EPOS					*i* S	**Sb**	**09 08 47.2**	**+0.7**
ALER	**Alexandrovskoy**	**1.88**	**30**		*e*PN	**Pb**	**09 08 24.5**	**+0.3**
ALER	**Alexandrovskoy**	**1.88**	**30**		*e*Pg	**Pb**	**09 08 24.3**	**+0.1**
ALER					*e*Sg	**Sg**	**09 08 49.8**	**-0.7**
ARNR	**Ardon**	**1.96**	**88**		*e*PN	**Pb**	**09 08 25.9**	**+0.3**
ARNR	**Ardon**	**1.96**	**88**		*e*Pg	**Pb**	**09 08 25.9**	**+0.3**
ARNR					*e*Sg	**Sb**	**09 08 50.4**	**+0.4**
BKRG	**Bakuriani**	**1.98**	**134**		P	**Pn**	**09 08 24.5**	**+1.1**
BKRG					S	**Sg**	**09 08 52.5**	**-1.3**
BKRG	**Bakuriani**	**1.98**	**134**		PN	**Pn**	**09 08 24.5**	**+1.1**
BKRG					S	**Sg**	**09 08 52.5**	**-1.3**
LACR	**Lac**	**2.00**	**98**		*e*PN	**Pb**	**09 08 26.2**	**-0.2**
LACR					*e*S	**Sg**	**09 08 53.2**	**-1.2**
LACR	**Lac**	**2.00**	**98**		*e*Pg	**Pb**	**09 08 25.9**	**-0.5**
LACR					*e*Sg	**Sb**	**09 08 49.9**	**-1.3**
PRTR	**Priterechnaya**	**2.05**	**72**		*e*PN	**Pb**	**09 08 26.8**	**-0.2**
PRTR					*e*S	**Sb**	**09 08 52.6**	**+0.3**
PRTR	**Priterechnaya**	**2.05**	**72**		*e*Pg	**Pb**	**09 08 26.8**	**-0.2**
PRTR					*e*Sg	**Sb**	**09 08 52.6**	**+0.3**
TPSR	**Tuapse**	**2.05**	**298**		*e*PN	**Pb**	**09 08 27.4**	**+0.4**
TPSR					*e*S	**Sb**	**09 08 51.5**	**-0.8**
TPSR	**Tuapse**	**2.05**	**298**		*e*Pg	**Pb**	**09 08 26.9**	**-0.1**
TPSR					*e*Sg	**Sb**	**09 08 53.3**	**+1.0**
DBAD	**Bademkaya**	**2.12**	**178**		*i* P	**Pn**	**09 08 24.5**	**-0.8**
CHOM	**Cayeli-Rize**	**2.14**	**197**		PN	**Pn**	**09 08 23.8**	**-1.6**
CHAY	**Cayeli-Rize**	**2.15**	**198**		PN	**Pn**	**09 08 23.9**	**-1.7**
BTKR	**Batakoyurt**	**2.16**	**83**		*e*PN	**Pb**	**09 08 27.8**	**-1.2**
BTKR					*e*S	**Sb**	**09 08 54.6**	**-1.1**
BTKR	**Batakoyurt**	**2.16**	**83**		*e*Pg	**Pb**	**09 08 27.8**	**-1.2**
BTKR					*e*Sg	**Sb**	**09 08 54.6**	**-1.1**
GOF	**Gofitskoye**	**2.18**	**28**		PN	**Pb**	**09 08 29.0**	**-0.3**
GOF					*e*S	**Sb**	**09 08 56.4**	**+0.2**
GOF	**Gofitskoye**	**2.18**	**28**		*e*Sg	**Pb**	**09 08 29.0**	**-0.3**
GOF					*e*Sg	**Sb**	**09 08 56.4**	**+0.2**
MTEO	**Meteo**	**2.20**	**101**		P	**Pb**	**09 08 28.7**	**-1.3**
MTEO					S	**Sg**	**09 08 59.5**	**-1.4**
GUDG	**Gudauri**	**2.22**	**107**		P	**Pn**	**09 08 24.2**	**-2.5**
GUDG					S	**Sn**	**09 08 55.6**	**+1.4**
GUDG	**Gudauri**	**2.22**	**107**		PN	**Pn**	**09 08 24.2**	**-2.5**
GUDG					S	**Sn**	**09 08 55.6**	**+1.4**
AKH	**Akhalkalaki**	**2.23**	**140**		P	**Pn**	**09 08 28.2**	**+1.4**
AKH					S	**Sg**	**09 08 59.5**	**-2.1**
AKH	**Akhalkalaki**	**2.23**	**140**		PN	**Pn**	**09 08 28.1**	**+1.4**
AKH					S	**Sg**	**09 08 59.5**	**-2.1**
AKH	**Akhalkalaki**	**2.23**	**140**		PN	**Pn**	**09 08 28.2**	**+1.4**
AKH					SN	**Sg**	**09 08 59.7**	**-2.0**
BRNG	**Burnasheti**	**2.24**	**132**		P	**Pb**	**09 08 29.1**	**-1.3**
BRNG					S	**Sg**	**09 09 01.2**	**-0.8**
VLKR	**Vladikavkaz**	**2.25**	**91**		*e*PN	**Pb**	**09 08 30.1**	**-0.5**
VLKR					*e*S	**Sb**	**09 08 59.4**	**+0.9**
VLKR	**Vladikavkaz**	**2.25**	**91**		*e*Pg	**Pb**	**09 08 30.1**	**-0.5**
VLKR					*e*Sg	**Sb**	**09 08 59.4**	**+0.9**
PNSH	**Pansheti**	**2.27**	**102**		P	**Pb**	**09 08 29.2**	**-1.8**
PNSH					S	**Sg**	**09 09 01.7**	**-1.5**
PNSH	**Pansheti**	**2.27**	**102**		PN	**Pb**	**09 08 29.2**	**-1.8**
PNSH					S	**Sg**	**09 09 01.6**	**-1.5**
TRKR	**Terskaya**	**2.35**	**75**		*e*PN	**Pb**	**09 08 30.3**	**-1.9**
TRKR					*e*S	**Sb**	**09 08 59.6**	**-1.6**
TRKR	**Terskaya**	**2.35**	**75**		*e*Pn	**Pb**	**09 08 30.3**	**-1.9**
TRKR					*e*Sn	**Sb**	**09 08 59.6**	**-1.6**
BGD	**Bogdanovka**	**2.39**	**141**		P	**Pb**	**09 08 31.9**	**-1.1**
BGD					S	**Sb**	**09 09 03.1**	**+0.6**
BGD	**Bogdanovka**	**2.39**	**141**		PN	**Pb**	**09 08 31.9**	**-1.1**
BGD					S	**Sb**	**09 09 03.1**	**+0.6**
KMGR	**Komgaron**	**2.39**	**91**		*e*PN	**Pb**	**09 08 32.1**	**-0.9**
KMGR					*e*S	**Sb**	**09 09 01.0**	**-1.4**
KMGR	**Komgaron**	**2.39**	**91**		*e*Pn	**Pb**	**09 08 32.1**	**-0.9**
KMGR					*e*Sn	**Sb**	**09 09 01.0**	**-1.4**
TRLG	**Trialeti**	**2.45**	**130**		P	**Pn**	**09 08 31.6**	**+1.8**
TRLG					S	**Sb**	**09 09 05.0**	**+0.9**
TRLG	**Trialeti**	**2.45**	**130**		PN	**Pn**	**09 08 31.6**	**+1.8**
TRLG					S	**Sb**	**09 09 05.0**	**+0.9**
SENK	**Senkaya-Erzuru**	**2.64**	**167**		PN	**Pn**	**09 08 33.1**	**+0.6**
KGUR	**Krasnodar**	**2.64**	**316**		*e*PN	**Pb**	**09 08 37.2**	**+0.1**
KGUR					*e*S	**Sb**	**09 09 07.3**	**-2.1**
KGUR	**Krasnodar**	**2.64**	**316**		*e*Pn	**Pb**	**09 08 37.2**	**+0.1**
KGUR					*e*Sn	**Sb**	**09 09 07.3**	**-2.1**
DMNI	**Dmanisi**	**2.64**	**132**		P	**Pn**	**09 08 34.1**	**+1.7**
DMNI					S	**Sb**	**09 09 09.3**	**-0.3**
DMNI	**Dmanisi**	**2.64**	**132**		PN	**Pn**	**09 08 34.1**	**+1.7**
DMNI					S	**Sb**	**09 09 09.3**	**-0.3**
ERBR	**Yeremizino-Bor**	**2.69**	**343**	‖	*i*PN	**Pb**	**09 08 36.0**	**-2.1**
ERBR					*e*S	**Sg**	**09 09 15.7**	**-0.9**
ERBR	**Yeremizino-Bor**	**2.69**	**343**		*e*Pn	**Pb**	**09 08 35.9**	**-2.2**
ERBR					*i* Sn	**Sb**	**09 09 09.6**	**-1.5**
KZRT	**Kazreti**	**2.72**	**129**		P	**Pn**	**09 08 35.2**	**+1.8**
KZRT					S	**Sb**	**09 09 13.3**	**+1.6**
KZRT	**Kazreti**	**2.72**	**129**		*i* P	**Pn**	**09 08 34.2**	**+0.8**
KZRT					*i* S	**Sb**	**09 09 11.2**	**-0.6**
KZRT	**Kazreti**	**2.72**	**129**		PN	**Pn**	**09 08 35.2**	**+1.8**
KZRT					S	**Sb**	**09 09 13.3**	**+1.6**
SEAG	**Tbilisi Sea**	**2.74**	**119**		P	**Pn**	**09 08 36.1**	**+2.4**
SEAG					S	**Sb**	**09 09 11.7**	**-0.7**
SEAG	**Tbilisi Sea**	**2.74**	**119**		PN	**Pn**	**09 08 36.1**	**+2.4**
SEAG					S	**Sb**	**09 09 11.7**	**-0.7**
KARS	**Kars**	**2.74**	**156**		PN	**Pn**	**09 08 36.0**	**+2.1**
KARS	**Kars**	**2.74**	**156**		PN	**Pn**	**09 08 35.5**	**+1.6**
KARS	**Kars**	**2.74**	**156**		Pn	**Pn**	**09 08 36.0**	**+2.1**
BTNK	**Botanikuri**	**2.78**	**121**		P	**Pn**	**09 08 32.6**	**-1.7**
BTNK					S	**Sn**	**09 09 08.7**	**+1.0**
BTNK	**Botanikuri**	**2.78**	**121**		PN	**Pn**	**09 08 32.6**	**-1.7**
BTNK					S	**Sn**	**09 09 08.6**	**+1.0**
KRIK	**Erzurum-spir**	**2.85**	**190**		*i* P	**Pn**	**09 08 36.0**	**+0.6**
KRIK					*i* S	**Sn**	**09 09 10.8**	**+1.3**
EAK	**Akyaka**	**2.87**	**148**		*i* P	**Pn**	**09 08 38.3**	**+2.6**
EAK					*i* S	**Sg**	**09 09 20.4**	**-1.9**
GL1R	**Gelendzh

XNZR eS Sb 09 09 38.6 -4.4
GNI Garni 3.80 141 Pn Pn 09 08 51.0 +2.6
comp=Z,0.7nm,0.3s,baz=11,slow=7.5,SNR=3.3
GNI Lg Lg 09 09 48.5
comp=Z,8.8nm,0.3s,baz=275,slow=20,SNR=1.5
GNI LR LR 09 10 45.9
comp=Z,379nm,19.5s,baz=324,slow=47
GNI Garni 3.80 141 *de*PN Pn 09 08 51.7 +3.2
GNI pmax pmax
comp=Z,20nm,1.7s
GNI Garni 3.80 141 PN Pn 09 08 50.9 +2.4
GNI Garni 3.80 141 Pn Pb 09 08 52.8 -4.3
GNI Garni 3.80 141 *e*Pn Pn 09 08 51.3 +2.9
GNI eSn Sn 09 09 32.7 -0.4
DBC Dubki 3.83 90 *e*PN Pn 09 08 49.6 +0.9
DBC eS Sn 09 09 36.5 +2.8
DBC Dubki 3.83 90 *e*Pn Pn 09 08 49.6 +0.9
DBC eSn Sn 09 09 36.5 +2.8
KRNR Karanay 3.91 93 *e*PN Pn 09 08 51.7 +1.9
KRNR eS Sn 09 09 38.5 +2.9
KRNR Karanay 3.91 93 *e*Pn Pn 09 08 51.7 +1.9
KRNR eSn Sn 09 09 38.5 +2.9
ARKR Arakani 4.00 96 *e*PN Pb 09 08 55.7 -4.7
ARKR eS Sn 09 09 38.0 +0.2
ARKR Arakani 4.00 96 *e*Pn Pb 09 08 55.7 -4.7
ARKR eSn Sn 09 09 38.0 +0.2
GNBR Gunib 4.02 99 *e*PN Pb 09 08 56.1 -4.6
BUJR Buynaksk 4.05 93 *e*PN Pn 09 08 55.4 +3.7
BUJR Buynaksk 4.05 93 *e*Pn Pn 09 08 55.4 +3.7
BUJR eSn Sn 09 09 40.9 +1.9
GANJ Ganja 4.32 124 PN Pn 09 08 57.5 +2.1
MAK Makhachkala 4.33 90 *e*PN Pn 09 08 55.6 +0.1
MAK eS Sn 09 09 47.2 +1.4
MAK pmax pmax
comp=Z,311nm,1.3s
MAK MLR MLR
comp=Z,492nm,8.0s
SAMS Samsun-Alacam 4.39 248 *i* P Pn 09 08 56.5 +0.1
SEKA Sheki 4.58 113 PN Pn 09 09 03.3 +4.2
GURO Guroymak-BITLI 4.60 176 Pn Pn 09 09 00.9 +1.6
AKT Akhty 4.84 108 *e*PN Pn 09 09 05.3 +2.7
AKT *e* 09 09 16.0
AKT eS Sn 09 10 01.9 +3.4
AKT *e* 09 10 19.7
AKT *e* 09 10 31.6
AKT pmax pmax
comp=Z,36nm,0.6s
AKT smax smax
comp=E,74nm,0.6s
AKT smax smax
comp=N,77nm,0.4s
AKT smax smax
comp=N,83nm,0.4s
AKT MLR MLR
comp=Z,534nm,11.0s
AKT Akhty 4.84 108 *e*Pn Pn 09 09 05.8 +3.2
AKT eSn Sn 09 10 01.4 +2.8
FEO Feodosiya 4.85 295 *e*PN Pn 09 09 04.7 +2.0
SNOP Sinop 4.85 259 Pn Pn 09 09 02.3 -0.4
DIKM Dikmen 4.93 255 ⇑P Pn 09 09 05.5 +1.8
NAX Nakhchivan 4.93 142 PN Pn 09 09 03.7 -0.2
SUDU Sudak 5.07 292 *e*PN Pn 09 09 06.7 +1.0
SUDU eS Sn 09 10 04.7 +0.6
ALU Alushta 5.42 289 *e*PN Pn 09 09 12.8 +2.3
ALU eS Sn 09 10 12.5 -0.2
YAL Yalta 5.55 287 *e*P Pn 09 09 11.6 -0.7
YAL eS Sn 09 10 12.6 -3.3
SIM Simferopol' 5.69 291 *e*P Pn 09 09 17.8 +3.6
SIM *e* 09 10 19.9
BZK Bozkurt 5.74 261 ⇓P Pn 09 09 14.8 0.0
BZK Bozkurt 5.74 261 Pn Pn 09 09 14.7 -0.1
SEV Sevastopol' 5.91 286 *e*P Pn 09 09 17.3 +0.2
SEV eS Sn 09 10 24.9 +0.3
SEV Sevastopol' 5.91 286 *e*Pn Pn 09 09 17.3 +0.2
SEV eSn Sn 09 10 24.9 +0.3
BNN Bunyan 6.11 227 Pn Pn 09 09 23.9 +3.8
GAZ Gaziantep 6.84 211 Pn Pn 09 09 35.1 +5.0
BR131 Keskin Array S 6.89 243 P Pn 09 09 31.7 +0.9
BR131 Keskin Array S 6.89 243 Pn 09 09 31.7 +0.9
BRTR Keskin Array B 6.89 243 Pn Pn 09 09 31.2 +0.5
comp=Z,1.2nm,0.3s,baz=43,slow=9.3,SNR=24
BRTR Sn Sn 09 10 47.5 -1.5
baz=77,slow=15,SNR=1.4
BRTR LR LR 09 12 28.5
comp=Z,87nm,21.0s,baz=61,slow=41
BRTR Keskin Array B 6.89 243 *ce*P Pn 09 09 31.6 +0.8
BRTR pmax pmax
comp=Z,3.0nm,0.3s
BRTR Keskin Array B 6.89 243 Pn Pn 09 09 31.8 +0.9
VORR Voronezh 8.69 350 *e*P Pn 09 09 58.0 +2.7
VORR pmax pmax
comp=Z,400nm,0.8s
JURR Jurilovca 9.32 284 ⇓P Pn 09 10 02.0 -1.9
TLCR 9.41 287 ⇑P Pn 09 10 04.5 -0.8
TLCR 9.41 287 ⇑P Pn 09 10 04.5 -0.8
MANR Mangalia 9.49 279 ⇓P Pn 09 10 04.2 -2.0
MFTR Murfatlar 9.61 281 ⇓P Pn 09 10 06.0 -2.0
TIRR Tirgusor 9.63 282 ⇓P Pn 09 10 06.2 -2.0
TIRR Tirgusor 9.63 282 ⇓P Pn 09 10 06.2 -2.0
TIRR Tirgusor 9.63 282 Pn Pn 09 10 06.0 -2.2
TPGR Topolog 9.65 285 ⇑P Pn 09 10 07.3 -1.3
CFR Carcaliu 9.89 286 ⇑P Pn 09 10 11.4 -0.4
CFR Carcaliu 9.89 286 ⇑P Pn 09 10 11.4 -0.4
TLBR Topalu 9.89 283 ⇑P Pn 09 10 10.0 -1.9
HARR Harsova 9.99 284 ⇑P Pn 09 10 12.1 -1.0
HARR Harsova 9.99 284 ⇑P Pn 09 10 12.1 -1.0
ICOR Ion Corvin 10.06 280 ⇑P Pn 09 10 12.6 -1.5
BELG Belogornoye 10.10 22 Pn Pn 09 10 13.4 -1.2
comp=Z,7.2nm,0.3s,baz=214,slow=24,SNR=16
BELG Sn Sn 09 12 07.4 -0.3
comp=Z,1.2nm,0.3s,baz=302,slow=19,SNR=1.1
BELG Lg Lg 09 13 14.8
baz=310,slow=22,SNR=1.1
BELG LR LR 09 14 38.1
comp=Z,324nm,19.8s,baz=55,slow=40
BELG Belogornoye 10.10 22 Pn 09 10 13.4 -1.2
SORM Soroca 10.53 303 ⇑P Pn 09 10 21.7 +1.1
SORM Soroca 10.53 303 ⇑P Pn 09 10 21.7 +1.1
BISRR Bisoca 10.94 288 ⇑P Pn 09 10 24.7 -1.5
VRI Vrincioaia 10.97 289 ⇓P Pn 09 10 25.3 -1.3
VRI Vrincioaia 10.97 289 ⇓P Pn 09 10 25.3 -1.3
ISR Istrita 11.01 286 ⇑P Pn 09 10 25.4 -1.7
ISR Istrita 11.01 286 ⇑P Pn 09 10 25.4 -1.7
PLOR Plostina 11.02 289 ⇑P Pn 09 10 26.9 -0.4
PLOR Plostina 11.02 289 ⇑P Pn 09 10 26.9 -0.4
TESR Tescani 11.14 293 ⇓P Pn 09 10 28.1 -0.8
NEHR Nehoiu 11.21 287 ⇓P Pn 09 10 29.6 -0.3
MMAI Mount Meron Ar 11.22 208 LR LR 09 15 25.5
comp=Z,98nm,19.2s,baz=60,slow=41
COVR Voineasa-Covas 11.33 289 ⇑P Pn 09 10 31.0 -0.5
AKASG Malin Array Be 11.34 316 Pn Pn 09 10 28.4 -3.2
comp=Z,0.9nm,0.3s,baz=120,slow=14,SNR=4.1
AKASG Sn Sn 09 12 31.3 -6.7
comp=Z,2.4nm,0.3s,baz=126,slow=25,SNR=2.2
AKASG Lg Lg 09 13 45.9
baz=119,slow=31,SNR=3.0
AKASG Malin Array Be 11.34 316 *i* P Pn 09 10 33.5 +1.9
AKASG pmax pmax
comp=Z,4.0nm,0.4s
AKASG Malin Array Be 11.34 316 Pn 09 10 28.4 -3.2
AKBB Malin Array Si 11.34 316 *de*P Pn 09 10 33.3 +1.7
AKBB Malin Array Si 11.34 316 Pn Pn 09 10 32.4 +0.8
MLR Muntele Rosu 11.46 287 ⇑P Pn 09 10 32.8 -0.7
MLR Muntele Rosu 11.46 287 Pn Pn 09 10 33.2 -0.2
comp=Z,2.9nm,0.3s,baz=62,slow=4.6,SNR=14
MLR Sn Sn 09 12 38.9 -2.5
baz=158,slow=21,SNR=1.4
MLR LR LR 09 17 00.8
comp=Z,196nm,18.3s,baz=90,slow=48
MLR Muntele Rosu 11.46 287 P Pn 09 10 33.9 +0.5
MLR Muntele Rosu 11.46 287 Pn Pn 09 10 33.9 +0.5
BIZ Bicaz 11.60 294 ⇑P Pn 09 10 36.0 +0.7
DOPR Dopca 11.91 289 ⇑P Pn 09 10 39.2 -0.2
VOIR 12.08 287 ⇑P Pn 09 10 41.6 -0.3
VOIR 12.08 287 ⇑P Pn 09 10 41.6 -0.3
BURAR Bucovina Array 12.35 297 ⇑P Pn 09 10 45.9 +0.3
BURAR Bucovina Array 12.35 297 ⇑P Pn 09 10 45.9 +0.3
BURAR Bucovina Array 12.35 297 Pn Pn 09 10 42.8 -2.8
BUR08 Bucovina Ar. S 12.37 297 Pn Pn 09 10 45.3 -0.5
OBN Obninsk 12.42 346 Pn Pn 09 10 42.8 -3.6
comp=Z,0.9nm,0.3s,baz=325,slow=23,SNR=1.3
OBN Sn Sn 09 12 58.0 -6.5
baz=112,slow=22,SNR=0.8
OBN Lg Lg 09 14 26.5
comp=Z,2.8nm,0.3s,baz=335,slow=23,SNR=1.9
OBN Obninsk 12.42 346 ⇑ *e*P Pn 09 10 48.2 +1.8
OBN S Sn 09 13 05.0 +0.5
OBN pmax pmax
comp=E,16nm,0.6s
OBN MLR MLR
comp=Z,306nm,14.0s
MOS Moscow 12.87 350 *e*P Pn 09 10 50.3 -2.1
MOS *e* 09 13 16.4
MOS MLR MLR
comp=Z,400nm,11.0s
LOT Lotru 12.98 286 ⇓P Pn 09 10 53.2 -1.0
AKTO Aktyubinsk 13.39 51 Pn Pn 09 10 55.4 -4.2
comp=Z,0.6nm,0.3s,baz=254,slow=12,SNR=12
AKTO Sn Sn 09 13 15.4 -13
baz=201,slow=23,SNR=0.9
AKTO LR LR 09 17 48.5
comp=Z,236nm,18.8s,baz=236,slow=45
AKTO Aktyubinsk 13.39 51 Pn 09 10 55.4 -4.2
GEYT Alibeck 13.59 107 Pn Pn 09 11 01.4 -1.1
comp=Z,0.5nm,0.3s,baz=284,slow=14,SNR=5.1
GEYT Alibeck 13.59 107 Pn 09 11 01.4 -1.1
GZR Gura Zlata 13.68 286 ⇑P Pn 09 11 01.9 -1.7
DRGR 13.86 292 ⇓P Pn 09 11 06.5 +0.4
DRGR 13.86 292 ⇓P Pn 09 11 06.5 +0.4
ABKAR Akbulak array 14.08 58 Pn Pn 09 11 07.6 -1.5
ABKAR Akbulak array 14.08 58 Pn 09 11 07.6 -1.5
EIL Elat 14.46 204 LR LR 09 17 29.2
comp=Z,103nm,19.4s,baz=62,slow=40
MNK Minsk 14.49 326 *i* P Pn 09 11 14.6 0.0
MNK *i* S Sn 09 13 56.8 +1.9
MNK pmax pmax
comp=E,1.0nm,0.7s
MNK pmax pmax
comp=N,11nm,0.7s
MNK pmax pmax
comp=Z,9.0nm,0.7s
MNK MLR MLR
comp=Z,205nm,16.0s
MNK MLR MLR
comp=N,526nm,16.0s
MNK MLR MLR
comp=E,70nm,16.0s
MNK Minsk 14.49 326 *i* P Pn 09 11 14.7 +0.1
comp=E,1.0nm,0.7s
MNK *i* P Pn 09 11 14.7 +0.1
comp=N,11nm,0.7s
MNK *i* P Pn 09 11 14.7 +0.1
comp=Z,9.0nm,0.7s,baz=136
MNK *i* S Sn 09 13 56.9 +2.0
MNK *i* LQ LQ 09 15 28.5
MNK *i* LR LR 09 16 30.4
MNK *i* LRM MLR 09 17 25.2
comp=E,70nm,16.1s
MNK *i* LRM MLR 09 17 25.2
comp=N,526nm,16.1s
MNK *i* LRM MLR 09 17 25.2
comp=Z,205nm,16.1s
UZH Uzhgorod 14.51 299 *e*P Pn 09 11 17.2 +2.3
UZH eS Sn 09 13 59.5 +4.0
UZH MLR MLR
comp=N,60nm,17.0s
UZH MLR MLR
comp=E,60nm,17.0s
UZH MLR MLR
comp=Z,30nm,17.0s
KWP Kalwaria Pacla 14.55 303 *e*P P 09 11 18.9 -3.1
KOLS Kolonicke sedl 14.61 300 *e*P Pn 09 11 19.0 +2.8
KOLS Kolonicke sedl 14.61 300 *e*PN Pn 09 11 19.0 +2.8
CRVS Cervenica-Dubn 15.11 299 *e*P Pn 09 11 24.7 +1.6
CRVS Cervenica-Dubn 15.11 299 *e*PN Pn 09 11 24.7 +1.6
IDI Anoyia 15.12 244 LR LR 09 18 27.9
comp=Z,101nm,19.7s,baz=168,slow=42
NACGM Naroch 15.22 326 *i* P P 09 11 27.2 -2.2
DIVS Divibare 15.68 281 Pn Pn 09 11 30.2 -0.4
PSZ Piszkesteto 15.93 295 *e*P P 09 11 35.7 -1.7
PSZ Piszkesteto 15.93 295 P P 09 11 35.9 -1.5
PSZ pmax pmax
comp=Z,7.0nm,0.5s
PSZ Piszkesteto 15.93 295 P 09 11 35.9 -1.5
NIE Niedzica 15.98 301 *e*P P 09 11 38.5 +0.6
KIRV Kirov 16.21 15 Pn Pn 09 11 30.6 -6.6
comp=Z,0.9nm,0.3s,baz=208,slow=3.3,SNR=1.5
KIRV LR LR 09 18 04.9
comp=Z,372nm,19.0s,baz=205,slow=38
KIRV Kirov 16.21 15 *de*P Pn 09 11 36.9 -0.3
KIRV Kirov 16.21 15 Pn 09 11 30.6 -6.6
PDG Podgorica 16.42 275 P P 09 11 42.8 0.0
PDG IAmb IAmb 09 11 49.5
comp=Z,23nm,1.0s
LANS Liptovska Anna 16.45 299 *e*P P 09 11 43.4 +0.3
LANS Liptovska Anna 16.45 299 *e*PN P 09 11 43.4 +0.3
OJC Ojcow 16.52 303 P Pn 09 11 39.7 -1.5
OJC pmax pmax
comp=Z,13nm,0.8s
OJC Ojcow 16.52 303 Pn Pn 09 11 39.7 -1.5
PABE Paberze 16.82 323 P Pn 09 11 44.3 -0.7
ARU Arti 17.16 33 P Pn 09 11 46.3 -3.0
comp=Z,0.0nm,0.3s,baz=221,slow=9.8,SNR=17
ARU LR LR 09 19 16.5
comp=Z,268nm,19.0s,baz=200,slow=40
ARU Arti 17.16 33 *c* iP Pn 09 11 45.9 -3.4
ARU S Sn 09 14 53.3 -6.5
ARU pmax pmax
comp=Z,35nm,1.4s
ARU MLR MLR
comp=Z,215nm,15.0s
ARU Arti 17.16 33 Pn Pn 09 11 46.4 -2.9
ARU IAmb IAmb 09 11 47.8
comp=Z,48nm,1.4s
KLMR Klimovskoe 17.79 357 *e*P Pn 09 11 56.5 -0.4
KLMR *e* 09 15 09.7
KLMR pmax pmax
comp=Z,70nm,1.3s
KLMR MLR MLR
comp=Z,292nm,10.0s
KLMR Klimovskoe 17.79 357 *e*Pn Pn 09 11 56.6 -0.4
KLMR *e*Pn Pn 09 11 56.6 -0.4
KLMR *e*Pn Pn 09 11 56.6 -0.4
KLMR AMP 09 12 14.0
comp=Z,70nm,1.3s
KLMR *e*Sn Sn 09 15 09.8 -5.0
KLMR *e*Sn Sn 09 15 09.8 -5.0
KLMR LR LR 09 18 19.4
KLMR AMP 09 19 06.2
comp=Z,292nm,9.6s
VSU Vasula 17.92 334 ⇑ *e*P P 09 11 59.4 +0.2
VSU pmax pmax
comp=Z,22nm,0.8s
PUL Pulkovo 18.03 341 *ce*P P 09 12 01.6 +1.2
PUL pmax pmax
comp=Z,139nm,0.4s
SVE Sverdlovsk 18.28 35 *e*P Pn 09 12 02.1 -1.0
SVE *e*S Sn 09 15 19.9 -7.0
SVE pmax pmax
comp=Z,32nm,1.0s
VRAC Vranov 18.32 298 LR LR 09 21 05.5
comp=Z,50nm,20.2s,baz=81,slow=44
CONA Conrad Observa 18.62 294 *e*P Pn 09 12 17.6 +10
comp=Z,5.4nm,0.9s
PRGR Permogore 18.68 6 *e*P P 09 12 07.5 -0.1
PRGR *e*S Sn 09 15 38.2 +1.7
PRGR pmax pmax
comp=Z,30nm,1.4s
TIP Timpagrande 19.10 266 P 09 12 11.1 -1.3
OBKA Obir 19.45 289 *e*P Pn 09 12 25.3 +7.8
comp=Z,10nm,1.3s
MYKA Terra Mystica 20.07 290 *e*P Pn 09 12 31.1 +6.3
comp=Z,2.3nm,0.5s
GERES GERESS Array B 20.14 296 P Pn 09 12 25.1 -0.5
comp=Z,1.7nm,0.4s,baz=91,slow=11,SNR=7.0
GERES GERESS Array B 20.14 296 P P 09 12 21.9 -1.9
KHC Kasperske Hory 20.25 297 *e*P Pn 09 12 27.0 +0.1
KHC Kasperske Hory 20.25 297 *e*P Pn 09 12 27.0 +0.1
KBA Koelnbreinsper 20.28 291 *e*P Pn 09 12 31.2 +3.8
comp=Z,5.9nm,0.8s
BRG Berggiesshubel 20.30 302 *e*P Pn 09 12 33.0 +5.6
BRG Amp 09 12 34.6
comp=Z,5.3nm,0.7s
FINES FINESS Array B 20.54 338 P P 09 12 28.1 +0.2
comp=Z,3.1nm,0.5s,baz=153,slow=12,SNR=19
FINES LR LR 09 20 39.7
comp=Z,131nm,18.6s,baz=204,slow=38
FINES FINESS Array B 20.54 338 *i* P Pn 09 12 31.5 +1.4
FINES pmax pmax
comp=Z,3.0nm,0.5s
ABTA Abfaltersbach 20.85 290 *e*P Pn 09 12 33.3 -0.6
comp=Z,5.2nm,1.0s
CLL Collm 20.97 303 *e*P P 09 12 32.0 -0.6
CLL *ep*P sP 09 12 40.0 +1.3
comp=Z,16nm,1.2s
CLL Collm 20.97 303 *e*P Pn 09 12 37.0 +1.8
CLL *e* 09 12 40.0
KK31 Karatay Array 21.06 80 P P 09 12 33.2 -0.5
KK31 pmax pmax
comp=Z,12nm,1.2s
KK31 Karatay Array 21.06 80 P P 09 12 33.2 -0.5
KK31 IAmb IAmb 09 12 56.1
comp=Z,12nm,1.2s
KKAR Karatay Array 21.06 80 P P 09 12 34.9 +1.1
KKAR pmax pmax
comp=Z,12nm,1.2s
KKAR Karatay Array 21.06 80 P P 09 12 34.3 +0.6
KKAR Karatay Array 21.06 80 P P 09 12 34.9 +1.1
KKAR IAmb IAmb 09 12 56.1
comp=Z,12nm,1.2s
CHGR Chuyangaron 21.26 93 P P 09 12 36.8 +0.8
CHGR IAmb IAmb 09 12 57.6
comp=Z,22nm,0.9s
BRVK Borovoye 21.44 52 *c* iP P 09 12 38.9 +1.3
BRVK pmax pmax
comp=Z,19nm,0.8s
BRVK Borovoye 21.44 52 P P 09 12 38.0 +0.4
WTTA Wattenberg 21.44 291 *e*P P 09 12 42.2 +4.2
comp=Z,3.6nm,0.6s
CTI Castel Tesino 21.47 288 P P 09 12 37.7 -0.4
CTI pmax pmax
comp=Z,9.0nm,0.7s
CTI Castel Tesino 21.47 288 P P 09 12 37.7 -0.4
CTI IAmb IAmb 09 12 46.5
comp=Z,9.4nm,0.7s
WATA Walderalm 21.48 292 *e*P P 09 12 42.1 +3.7
comp=Z,8.5nm,0.8s
BVAR Borovoye Array 21.49 53 P P 09 12 38.1 -0.1
comp=Z,17nm,0.9s,baz=240,slow=12,SNR=26
RAFF Raffo Rosso 21.58 263 P P 09 12 40.5 +1.1
SQTA Sankt Quirin 21.73 291 *e*P P 09 12 44.7 +3.7
comp=Z,7.7nm,0.5s
UOSS Minazif 21.75 142 P P 09 12 43.5 +2.2
UOSS IAmb IAmb 09 12 58.6
comp=Z,20nm,1.2s
MOTA Moosalm 21.81 292 *e*P P 09 12 43.9 +2.0
comp=Z,16nm,0.7s
GAR Garm 21.99 91 IAmb IAmb 09 12 53.7
comp=Z,30nm,0.9s
RETA Reutte 22.04 292 *e*P P 09 12 45.8 +1.5
comp=Z,5.4nm,0.6s
FETA Feichten 22.07 291 *e*P P 09 12 46.9 +2.2
comp=Z,16nm,1.2s
DAVA Damuels 22.64 292 *e*P P 09 12 54.0 +3.2
comp=Z,4.9nm,0.6s
DAVOX Davos/Dischmat 22.66 290 P P 09 12 52.0 +1.0
comp=Z,3.5nm,0.6s,baz=58,slow=9.1,SNR=6.2
DAVOX LR LR 09 22 21.7
comp=Z,60nm,19.7s,baz=84,slow=39
DAVOX Davos/Dischmat 22.66 290 P P 09 12 52.0 +1.0
HFS Hagfors 23.99 325 P P 09 13 05.1 +1.1
comp=Z,4.4nm,0.7s,baz=118,slow=12,SNR=2.5
HFS LR LR 09 23 28.3
comp=Z,49nm,19.8s,baz=124,slow=39
AAK Ala-Archa 24.02 80 P P 09 13 04.3 -0.4
comp=Z,2.6nm,0.8s,baz=265,slow=12,SNR=7.3
AAK LR LR 09 24 19.6
comp=Z,101nm,18.9s,baz=291,slow=41
AAK Ala-Archa 24.02 80 *de*P P 09 13 06.6 +1.9
AAK pmax pmax
comp=Z,16nm,1.2s
AAK Ala-Archa 24.02 80 P P 09 13 04.9 +0.2
WSAR Wadi Sarin 24.35 139 P P 09 13 07.0 -0.6
comp=Z,12nm,0.9s,baz=356,slow=6.8,SNR=6.2
LVZ Lovozero 25.09 354 *ce*P P 09 13 15.0 +1.0
LVZ pmax pmax
comp=Z,9.0nm,1.0s
LVZ Lovozero 25.09 354 P P 09 13 13.9 -0.1
LVZ IAmb IAmb 09 13 39.6
comp=Z,16nm,0.9s
NC602 NORSAR Array S 25.22 325 *e*P P 09 13 20.2 +5.0
NB2 NORSAR Subarra 25.51 325 P P 09 13 18.4 +0.5
comp=Z,2.5nm,1.0s,baz=121,slow=9.3
NB2 NORSAR Subarra 25.51 325 P P 09 13 18.4 +0.5
baz=121,slow=9.3
NOA NORSAR Array B 25.51 325 P P 09 13 18.5 +0.7
comp=Z,1.0nm,0.6s,baz=130,slow=6.4,SNR=3.4
NOA LR LR 09 24 07.3
comp=Z,98nm,18.2s,baz=130,slow=38
NOA NORSAR Array B 25.51 325 P P 09 13 18.5 +0.7
KONO Kongsberg 25.55 321 ⇓ *e*P P 09 13 18.7 +0.5
KONO pmax pmax
comp=Z,14nm,1.1s
KONO MLR MLR
comp=Z,59nm,15.0s
KEST Kesra 25.87 264 P P 09 13 19.2 -2.3
comp=Z,2.2nm,0.6s,baz=51,slow=6.7,SNR=2.3
KSH Kashi 25.95 86 P P 09 13 24.5 +2.3
KSH pmax pmax
comp=Z,5.0nm,0.5s
KURBB Kurchatov Arra 26.11 60 P P 09 13 23.7 +0.3
comp=Z,12nm,0.8s,baz=275,slow=9.4,SNR=47
KURK Kurchatov 26.17 60 P P 09 13 23.7 -0.2
KURK Kurchatov 26.17 60 P P 09 13 23.7 -0.2
SKAR Skarslia 26.59 323 *e*P P 09 13 32.4 +4.7
NSS Namsos 27.19 332 *e*P P 09 13 34.8 +1.9
MOR8 Moi Rana 27.48 336 *e*P P 09 13 37.6 +2.0
KTK1 Kautokeino 27.64 346 *e*P P 09 13 39.4 +2.4
ARA0 ARCESS Array S 27.73 348 *e*P P 09 13 38.8 +1.1
ARCES ARCESS Array B 27.73 348 P P 09 13 38.4 +0.6
comp=Z,1.9nm,0.8s,baz=152,slow=5.4,SNR=5.0
ARCES LR LR 09 26 08.5
comp=Z,34nm,19.8s,baz=145,slow=40
MOL Molde 27.78 326 *e*P P 09 13 39.9 +1.6
FAUS Fauske 28.10 339 *e*P P 09 13 42.7 +1.6
JETT Jettan, Norway 28.63 345 *e*P P 09 13 47.5 +1.6
MK31 Makanchi Array 28.79 68 ⇑ *e*P P 09 13 48.4 +0.9
MKAR Makanchi Array 28.79 68 P P 09 13 47.6 +0.1
comp=Z,0.6nm,0.4s,baz=319,slow=3.5,SNR=4.7
MKAR LR LR 09 26 58.8
comp=Z,134nm,19.5s,baz=287,slow=40
MKAR Makanchi Array 28.79 68 P P 09 13 47.6 +0.1
TRO Tromso 28.99 344 *e*P P 09 13 51.0 +2.0
HAMF Hammerfest 29.00 348 *e*P P 09 13 50.8 +1.8
LOF Lofoten 29.11 339 *e*P P 09 13 55.4 +5.4
ZALV Zalesovo Beam 30.13 54 P P 09 13 59.0 -0.2
comp=Z,1.0nm,0.4s,baz=260,slow=12,SNR=3.9
ZALV Zalesovo Beam 30.13 54 P P 09 13 59.0 -0.2
EKA Eskdalemuir Ar 31.11 309 P P 09 14 08.3 +0.4
comp=Z,3.4nm,0.4s,baz=98,slow=10,SNR=2.7
EKA Eskdalemuir Ar 31.11 309 P P 09 14 08.3 +0.4
DGZ Jazzator, Alta 31.86 62 ⇓ *e*P P 09 14 16.3 +1.6
DGZ pmax pmax
comp=Z,6.0nm,1.5s
DGZ MLR MLR
comp=Z,131nm,19.0s
WMQ Urumqi 33.12 73 *e*P P 09 14 30.0 +4.3
WMQ LR LR
comp=E,380nm,16.1s
WMQ LR LR
comp=Z,250nm,17.9s
ESDC Sonseca Array 34.03 280 P P 09 14 32.4 -1.2
comp=Z,0.5nm,0.7s,baz=53,slow=9.7,SNR=3.7
ESDC LR LR 09 30 41.2
comp=Z,24nm,18.2s,baz=200,slow=40
HOPEN Hopen 34.21 353 *e*P P 09 14 36.4 +1.7
NRIK Noril'sk 35.16 26 LR LR 09 31 11.1
comp=Z,130nm,19.0s,baz=262,slow=40
SPA0 Spitsbergen Ar 36.56 352 *e*P P 09 14 56.9 +1.9
SPITS Spitsbergen Ar 36.56 352 P P 09 14 55.4 +0.5
comp=Z,9.6nm,0.9s,baz=120,slow=8.5,SNR=1.5
KBS Kingsbay 37.68 351 ⇓ *e*P P 09 15 06.5 +2.1
KBS pmax pmax
comp=Z,34nm,1.3s
KBS MLR MLR
comp=Z,127nm,14.0s
GTA Gaotai 43.15 74 ⇓P P 09 15 52.0 +1.6
GTA pmax pmax
comp=Z,5.0nm,0.8s
GTA pmax pmax
comp=Z,100nm,4.3s
GTA LR LR
comp=N,160nm,16.0s

GTA					LR	LR				
	comp=E,93nm,16.0s									
GTA					LR	LR				
	comp=Z,130nm,16.7s									
SONM	**Songino Array**	**44.48**	**60**		LR	LR	09 36 49.7			
	comp=Z,127nm,18.5s,baz=330,slow=39									
ULN	**Ulaanbaatar**	**44.89**	**60**	*eP*	**P**		**09 16 06.2**	**+2.0**		
ULN					MLR	MLR				
	comp=Z,89nm,17.0s									
TORD	**Torodi Ar. Bea**	**45.50**	**241**		P	**P**	**09 16 08.7**	**-0.5**		
	comp=Z,7.8nm,0.9s,baz=37,slow=8.5,SNR=17									
BTO	**Baotou**	**49.71**	**68**	*eP*	**P**	**P**	**09 16 38.8**	**-3.0**		
CD2	**Chengdu**	**50.05**	**82**	*eP*	**P**	**P**	**09 16 45.4**	**+0.9**		
HHC	**Hu-ho-hao-te**	**50.64**	**67**	*eP*	**P**	**P**	**09 16 50.1**	**+1.2**		
HHC					pmax	pmax				
	comp=Z,16nm,0.8s									
HHC					pmax	pmax				
	comp=Z,170nm,5.7s									
XAN	**Xi'an**	**52.12**	**76**	P		**P**	**09 17 00.9**	**+0.9**		
XAN					pP	pP	09 17 04.8	+0.2		
XAN					pmax	pmax				
	comp=Z,9.0nm,1.1s									
CMAR	**Chiang Mai Arr**	**53.89**	**98**	P		**P**	**09 17 12.5**	**-0.6**		
	comp=Z,1.1nm,0.4s,baz=304,slow=8.6,SNR=4.3									
CMAR	**Chiang Mai Arr**	**53.89**	**98**	*i* P		**P**	**09 17 13.1**	**0.0**		
CMAR					pmax	pmax				
	comp=Z,1.0nm,0.4s									
CMAR	**Chiang Mai Arr**	**53.89**	**98**	P		**P**	**09 17 12.5**	**-0.6**		
DBIC	**Dimbokro**	**54.59**	**242**	P		**P**	**09 17 17.1**	**-1.1**		
	comp=Z,1.7nm,0.4s,baz=30,slow=7.7,SNR=4.4									
DBIC	**Dimbokro**	**54.59**	**242**	P		**P**	**09 17 17.1**	**-1.1**		
DBIC	**Dimbokro**	**54.59**	**242**	IAmb		IAmb	09 17 25.0			
	comp=Z,28nm,1.5s									
KLR	**Kul'dur**	**59.12**	**50**	LR		LR	09 47 24.0			
	comp=Z,146nm,18.3s,baz=0.0,slow=40									
KLR	**Kul'dur**	**59.12**	**50**	*eP*		**P**	**09 17 50.6**	**+0.7**		
KLR					pmax	pmax				
	comp=Z,2.0nm,0.9s									
KLR					MLR	MLR				
	comp=Z,139nm,18.0s									
KSRS	**Korea Array**	**63.26**	**63**	P		**P**	**09 18 17.7**	**-0.5**		
	comp=Z,1.9nm,0.7s,baz=298,slow=7.2,SNR=6.4									
KSRS	**Korea Array**	**63.26**	**63**	P		**P**	**09 18 17.7**	**-0.5**		
PETK	**Petropavlovsk-**	**69.55**	**35**	LR		LR	09 53 48.0			
	comp=Z,59nm,19.1s,baz=280,slow=40									
ULM	**Lac du Bonnet**	**79.86**	**334**	LR		LR	09 55 53.1			
	comp=Z,47nm,18.7s,baz=100,slow=36									
PDAR	**Pinedale Array**	**90.64**	**339**	LR		LR	10 02 49.0			
	comp=Z,48nm,18.2s,baz=56,slow=36									

KMA 14 09:07:58.4±0.1, 37°.17N×127°.88E, h21km±2km, Error ellipse: s-maj=1.2km s-min=0.9km az=281.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSWJU	**Wonju**	**0.27**	**30**	P	Pb	09 08 04.1	-0.6
	SNR=29						
KSWJU	**Wonju**	**0.27**	**30**	P	Pb	09 08 04.1	-0.6
	SNR=29						
KSWJU	**Wonju**	**0.27**	**30**	P	Pb	09 08 04.1	-0.6
	SNR=29						
EMSB	**Eumseong**	**0.29**	**226**	P	Pb	09 08 04.0	-0.9
KSCHJ	**Chungju**	**0.31**	**166**	P	Pb	09 08 03.6	-1.6
	SNR=6.1						
KSCHJ	**Chungju**	**0.31**	**166**	P	Pb	09 08 03.6	-1.6
	SNR=6.1						
KSCHJ	**Chungju**	**0.31**	**166**	P	Pb	09 08 03.6	-1.6
	SNR=6.1						
KSICN	**Icheon**	**0.39**	**288**	P	Pb	09 08 06.7	+0.2
	SNR=7.7						
KSICN	**Icheon**	**0.39**	**288**	P	Pb	09 08 06.7	+0.2
	SNR=7.7						
KSMGY	**Mungyeong**	**0.54**	**165**	P	Pb	09 08 08.5	-0.6
	SNR=7.8						
KSMGY	**Mungyeong**	**0.54**	**165**	P	Pb	09 08 08.5	-0.6
	SNR=7.8						
KSMGY	**Mungyeong**	**0.54**	**165**	P	Pb	09 08 08.5	-0.6
	SNR=7.8						
KSCHC	**Chuncheon**	**0.61**	**355**	P	Pb	09 08 10.7	+0.3
KSBON	**Boeun**	**0.68**	**186**	P	Pb	09 08 10.0	-1.6
	SNR=10						
KSBON	**Boeun**	**0.68**	**186**	P	Pb	09 08 10.0	-1.6
	SNR=10						
KSBON	**Boeun**	**0.68**	**186**	P	Pb	09 08 10.0	-1.6
	SNR=10						
KSDGY	**Daegwallycong**	**0.81**	**50**	P	Pb	09 08 14.2	+0.3
	SNR=12						
KSDGY	**Daegwallycong**	**0.81**	**50**	P	Pb	09 08 14.2	+0.3
	SNR=12						
KSDGY	**Daegwallycong**	**0.81**	**50**	P	Pb	09 08 14.2	+0.3
	SNR=12						
OKCB	**Cheongsan-myeo**	**0.83**	**185**	P	Pb	09 08 13.6	-0.4
KSADO	**Andong**	**1.14**	**131**	P	Pb	09 08 20.1	+0.7
	SNR=11						

IDC 14 09:10:53.0±2.6, 54°.06N×86°.48E, h0km, mb1 3.4/2, mb1mx3.2/56, mbtmp3.4/2, ML3.1/2, Error ellipse: s-maj=21.7km s-min=13.1km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.99**	**264**	*i*		09 17 30.0	
	baz=82,slow=333,SNR=4.2						
ZALV	**Zalesovo Beam**	**0.99**	**264**	Pg	Pg	09 11 10.4	-1.5
	2.3nm,0.3s,baz=84,slow=17,SNR=9.4						
ZALV				Lg	Lg	09 11 26.1	
	3.5nm,0.3s,baz=84,slow=26,SNR=11						
KURBB	**Kurchatov Arra**	**5.97**	**238**	Pn	Pn	09 12 23.8	+1.3
	0.3nm,0.3s,baz=55,slow=13,SNR=11						
MKAR	**Makanchi Array**	**7.75**	**202**	Pn	Pn	09 12 47.9	+0.8
	0.4nm,0.3s,baz=24,slow=14,SNR=8.9						
MKAR				Lg	Lg	09 14 58.3	
	0.1nm,0.3s,baz=12,slow=34,SNR=2.7						

IDC 14 09:28:03.2±3.3, 6°.34S×147°.79E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.4/38, mbtmp3.3/3, ML3.6/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/19, Error ellipse: s-maj=102.3km s-min=43.1km az=116.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**8.02**	**298**	LR	LR	09 33 23.6	
	comp=Z,64nm,18.4s,baz=276,slow=40						
WRA	**Warramunga Arr**	**18.81**	**223**	P	Pn	09 32 25.3	+0.3
	0.2nm,0.3s,baz=49,slow=11,SNR=14						
ASAR	**Alice Springs**	**21.80**	**216**	P	P	09 32 57.6	+0.4
	0.2nm,0.3s,baz=50,slow=8.4,SNR=12						
FITZ	**Fitzroy Crossi**	**24.57**	**240**	P	P	09 33 24.1	-1.0
	0.4nm,0.3s,baz=59,slow=8.6,SNR=1.4						
TORD	**Torodi Ar. Bea**	**145.93**	**284**	PKPbc	PKPdf	09 47 45.1	-0.1
	0.6nm,0.5s,baz=67,slow=3.2,SNR=8.4						

IDC 14 09:34:01.0±1.8, 6°.49S×129°.09E, h0km, mb4.1/2, mb1 3.9/5, mb1mx3.6/41, mbtmp3.8/5, ML3.6/3, Error ellipse: s-maj=82.3km s-min=25.7km az=76.0

ISC 14 09:34:05.8±1.6, 6°.5S±0°.2×129°.2E±0°.4, h35km, n5, σ0°.0≡64/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.02**	**197**	Pn	**Pn**	**09 36 54.8**	**+0.1**
	0.2nm,0.3s,baz=14,slow=12,SNR=11						
FITZ				Sn	Sn	09 38 51.8	-16
	0.8nm,0.3s,baz=299,slow=9.4,SNR=9.6						
WRA	**Warramunga Arr**	**14.23**	**160**	Pn	**Pn**	**09 37 25.2**	**+0.2**
	0.4nm,0.3s,baz=338,slow=13,SNR=21						
WRA				Sn	Sn	09 39 48.2	-13
	0.6nm,0.3s,baz=332,slow=22,SNR=12						
ASAR	**Alice Springs**	**17.62**	**166**	P	**Pn**	**09 38 08.2**	**-0.6**
	0.2nm,0.3s,baz=338,slow=10,SNR=15						
ASAR				S	Sn	09 41 10.2	-14
	0.2nm,0.3s,baz=348,slow=26,SNR=6.1						
MKAR	**Makanchi Array**	**67.41**	**327**	P	**P**	**09 44 58.3**	**+0.4**
	0.2nm,0.5s,baz=126,slow=7.3,SNR=3.0						
KURBB	**Kurchatov Arra**	**71.71**	**329**	P	**P**	**09 45 23.8**	**-0.4**
	2.0nm,0.2s,baz=133,slow=5.2,SNR=6.2						

MEX 14 09:37:48.8±0.4, 25°.39N×109°.93W, h20km, MD3.5, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.83**	**76**	*i* P	Pb	09 38 01.9	-2.6
TSIG				*i* S	Sb	09 38 12.1	-3.2
LPIG	**La Paz**	**1.33**	**195**	*i* P	Pn	09 38 09.1	-3.1
LPIG				*i* S	Sn	09 38 25.4	-4.0
SSIG	**Sanalona**	**2.59**	**102**	*i* P	Pn	09 38 26.6	-3.1
SSIG				*i* S	Sn	09 38 52.4	-8.2

IDC 14 09:45:37.2±0.6, 27°.65N×100°.36E, h0km, mb4.2/21, mb1 4.3/22, mb1mx4.1/59, mbtmp4.2/22, ML4.2/1, MS3.5/15, Ms1 3.5/15, ms1mx3.3/48, Error ellipse: s-maj=18.9km s-min=12.5km az=59.0

MOS 14 09:45:38.5±1.0, 27°.63N×100°.29E, h19km, mb4.7/15, Error ellipse: s-maj=10.1km s-min=6.6km az=103.7

NEIC 14 09:45:39.5±0.9, 27°.67N±0°.08×100°.27E±0°.08, h10km±1km, mb4.6/32, Error ellipse: s-maj=12.9km s-min=11.6km az=164.0

ISC 14 09:45:39.5±0.4, 27°.78N±0°.04×100°.22E±0°.04, h10km, n149, σ1°.83/138, mb4.5/42, MS3.5/17, 7C-5D, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**3.47**	**139**	⇑Pn	**Pn**	**09 46 33.6**	**-0.3**
KMI				Pg	**Pb**	**09 46 40.5**	**-0.8**
KMI				Sg	**Sb**	**09 47 23.3**	**-0.3**
KMI				smax	smax		
	comp=N,720nm,1.2s						
KMI				smax	smax		
	comp=E,580nm,0.9s						
KMI				LR	LR		
	comp=N,2μm,9.4s						
KMI				LR	LR		
	comp=E,3μm,9.2s						
KMI				LR	LR		
	comp=Z,1μm,9.7s						
CD2	**Chengdu**	**4.39**	**44**	Pn	Pn	09 46 51.5	+5.2
CD2				Pg	**Pg**	**09 47 02.5**	**-1.1**
CD2				Sg	**Sg**	**09 48 01.1**	**+0.6**
CD2				smax	smax		
	comp=N,390nm,1.2s						
CD2				smax	smax		
	comp=E,620nm,1.2s						
GYA	**Guiyang**	**5.89**	**101**	⇑Pn	**Pn**	**09 47 09.0**	**+2.0**
GYA				Pg	**Pg**	**09 47 34.5**	**+2.2**
GYA				Sn	**Sn**	**09 48 18.8**	**+4.2**
GYA				smax	smax		
	comp=N,120nm,1.2s						
GYA				smax	smax		
	comp=E,120nm,0.9s						
GYA				LR	LR		
	comp=N,870nm,5.9s						
GYA				LR	LR		
	comp=E,2μm,6.5s						
GYA				LR	LR		
	comp=Z,2μm,9.2s						
SLVN	**Son La**	**7.24**	**152**	Pn	Pn	09 47 29.0	+3.6
SHL	**Shillong**	**7.78**	**255**	P	**Pn**	**09 47 33.7**	**+0.7**
SHL	**Shillong**	**7.78**	**255**	Pn	**Pn**	**09 47 33.6**	**+0.7**
LSA	**Lhasa**	**8.19**	**286**	P	**Pn**	**09 47 41.6**	**+2.7**
LSA	**Lhasa**	**8.19**	**286**	P	**Pn**	**09 47 41.3**	**+2.4**
LSA	**Lhasa**	**8.19**	**286**	Pn	**Pn**	**09 47 41.3**	**+2.4**
ENH	**Enshi**	**8.48**	**71**		**Pn**	**09 47 43.9**	**+1.4**
LZH	**Lanzhou**	**8.84**	**19**	⇓P	Pn	09 47 54.5	+7.0
LZH				pmax	pmax		
	comp=Z,29nm,1.0s						
LZH				pmax	pmax		
	comp=Z,64nm,4.3s						
LZH				LR	LR		
	comp=N,360nm,9.8s						
LZH				LR	LR		
	comp=E,550nm,9.2s						
LZH				LR	LR		
	comp=Z,340nm,9.8s						
CM34	**Chiang Mai Arr**	**8.94**	**187**	P	**Pn**	**09 47 51.0**	**+2.2**
CM33	**Chiang Mai Arr**	**8.99**	**188**	P	**Pn**	**09 47 51.0**	**+1.5**
CHTO	**Chiang Mai**	**9.00**	**188**	P	**Pn**	**09 47 50.5**	**+0.9**
CHTO	**Chiang Mai**	**9.00**	**188**	P	**Pn**	**09 47 52.1**	**+2.5**
	comp=Z,12nm,1.1s						
CHTO	**Chiang Mai**	**9.00**	**188**		**Pn**	**09 47 50.5**	**+0.9**
CHTO	**Chiang Mai**	**9.00**	**188**	P	**Pn**	**09 47 50.5**	**+0.9**
	comp=Z,7.0nm,1.1s						
CMMT	**Chiang Mai**	**9.00**	**188**	P	**Pn**	**09 47 52.0**	**+2.4**
	comp=Z,12nm,1.1s						
CMMT	**Chiang Mai**	**9.00**	**188**	P	**Pn**	**09 47 52.1**	**+2.4**
CMMT	**Chiang Mai**	**9.00**	**188**	P	**Pn**	**09 47 50.5**	**+0.9**
	comp=Z,12nm,1.1s						
CM35	**Chiang Mai Arr**	**9.11**	**186**	P	**Pn**	**09 47 54.0**	**+2.9**
CM32	**Chiang Mai Arr**	**9.17**	**188**	P	**Pn**	**09 47 55.0**	**+3.1**
CM36	**Chiang Mai Arr**	**9.27**	**187**	P	**Pn**	**09 47 56.0**	**+2.6**
CMAR	**Chiang Mai Arr**	**9.35**	**188**	Pn	**Pn**	**09 47 53.3**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=0.4,slow=14,SNR=12						
CMAR				Lg	Lg	09 50 29.3	
	comp=Z,0.6nm,0.3s,baz=1.9,slow=31,SNR=3.1						
CMAR				LR	LR	09 52 01.4	
	comp=Z,143nm,18.8s,baz=79,slow=42						
CM15	**Chiang Mai Arr**	**9.36**	**188**	P	Pn	09 47 58.3	+3.8
	comp=Z,370nmcomp=Z,8.0nm,0.6s						
CM15	**Chiang Mai Arr**	**9.36**	**188**	P	Pn	09 47 58.4	+3.8
CM02	**Chiang Mai Arr**	**9.37**	**187**	P	**Pn**	**09 47 58.1**	**+3.4**
	comp=Z,473nmcomp=Z,8.5nm,0.9s						
CM02	**Chiang Mai Arr**	**9.37**	**187**	P	Pn	09 47 58.2	+3.5
CM13	**Chiang Mai Arr**	**9.39**	**188**	P	Pn	09 48 03.0	+8.0
	comp=Z,8.3nm,1.4s						
CM13	**Chiang Mai Arr**	**9.39**	**188**	P	Pn	09 48 03.0	+8.1
CM05	**Chiang Mai Arr**	**9.40**	**187**	P	Pn	09 48 00.7	+5.5
	comp=Z,5.1nm,1.0s						
XAN	**Xi'an**	**9.73**	**48**	Pn	**Pn**	**09 47 59.4**	**-0.2**
XAN				Sg	Sn	09 50 48.0	+59
XAN				smax	smax		
	comp=N,62nm,1.3s						
XAN				smax	smax		
	comp=E,39nm,1.6s						
XAN				LR	LR		
	comp=N,630nm,13.1s						
XAN				LR	LR		
	comp=E,1μm,12.6s						
XAN				LR	LR		
	comp=Z,2μm,13.7s						
MHMT	**Maesarieng**	**9.79**	**193**	P	Pn	09 48 04.9	+4.5
	comp=Z,18nm,0.8s						
MHMT	**Maesarieng**	**9.79**	**193**	P	Pn	09 48 05.0	+4.6
PHIT	**Phitsanulok**	**10.54**	**179**	P	Pn	09 48 16.8	+6.1
	comp=Z,41nm,1.1s						
TAPN	**Taplejung**	**11.11**	**271**	*eP*	**Pn**	**09 48 18.9**	**+0.1**
	comp=Z,23nm,0.5s						
ODAN	**Odare**	**11.45**	**268**	*eP*	**Pn**	**09 48 24.3**	**+0.9**
RAMN	**Ramite**	**12.14**	**269**	*eP*	**Pn**	**09 48 33.2**	**+0.4**
	comp=Z,28nm,0.4s						
QIZ	**Qiongzhong**	**12.39**	**133**	P	**Pn**	**09 48 31.5**	**-4.6**
QIZ				S	**Sn**	**09 50 50.3**	**-4.1**
QIZ				LR	LR		
	comp=Z,700nm,4.5s						
JIRN	**Jiri**	**12.44**	**273**	*eP*	**Pn**	**09 48 37.1**	**+0.1**
	comp=Z,40nm,0.5s						
WHN	**Wuhan**	**12.65**	**74**	⇓P	**Pn**	**09 48 40.8**	**+1.3**
GUN	**Gumba**	**12.70**	**274**	*eP*	**Pn**	**09 48 40.0**	**-0.5**
	comp=Z,36nm,0.4s						
PKI	**Pulchoki**	**13.13**	**273**	*eP*	**Pn**	**09 48 45.5**	**-1.0**
	comp=Z,36nm,0.7s						
PKIN	**Phulchoki**	**13.14**	**273**	*eP*	**Pn**	**09 48 45.6**	**-0.9**
	comp=Z,31nm,0.5s						
KKN	**Kakani**	**13.23**	**274**	*eP*	**Pn**	**09 48 47.4**	**-0.3**
	comp=Z,29nm,0.5s						
KOLN	**Koldanda**	**14.72**	**274**	*eP*	**Pn**	**09 49 06.5**	**-1.5**
NJ2	**Nanjing**	**16.70**	**71**	*eP*	**P**	**09 49 36.4**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,17nm,0.9s						
NJ2				LR	LR		
	comp=N,580nm,12.8s						
NJ2				LR	LR		
	comp=E,990nm,9.9s						
NJ2				LR	LR		
	comp=Z,1μm,13.2s						
BJT	**Baijiatuan**	**17.97**	**43**	P	**Pn**	**09 49 49.9**	**+0.4**
BJT				pmax	pmax		
	comp=Z,15nm,0.9s						
BJT	**Baijiatuan**	**17.97**	**43**	P	**Pn**	**09 49 49.9**	**+0.4**
BJI	**Beijing**	**17.99**	**43**	P	**P**	**09 49 50.8**	**+0.6**
BJI				pP	**pP**	**09 49 53.6**	**-0.1**
BJI				sP	**sP**	**09 49 57.3**	**+2.0**
BJI				pmax	pmax		
	comp=Z,21nm,1.2s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURA	**Surathani**	**18.52**	**182**	P	**Pn**	**09 49 59.4**	**+3.1**
	comp=Z,33nm,1.1s						
SSE	**Sheshan**	**18.55**	**75**	*eP*	**P**	**09 49 51.8**	**-4.6**
SSE				S	**Sn**	**09 53 19.3**	**-4.8**
SSE				pmax	pmax		
	comp=Z,28nm,0.7s						
SSE				pmax	pmax		
	comp=Z,61nm,7.6s						
SSE				LR	LR		
	comp=N,250nm,11.8s						
SSE				LR	LR		
	comp=E,400nm,11.4s						
SURT	**Suratani**	**18.77**	**184**	P	**Pn**	**09 50 03.8**	**+4.5**
	comp=E,1.6nm,1.1s						
WMQ	**Urumqi**	**18.93**	**331**	*eP*	**P**	**09 50 01.9**	**+1.4**
TRTT	**Trang**	**19.84**	**182**	P	**Pn**	**09 50 12.2**	**0.0**
	comp=E,1μmcomp=E,25nm,1.4s						
SONM	**Songino Array**	**20.60**	**12**	P	**P**	**09 50 20.0**	**+1.2**
	comp=E,21nm,1.0s,baz=197,slow=11,SNR=54						
SONM				LR	LR	09 59 35.3	
	comp=E,119nm,21.5s,baz=192,slow=40						
SONM	**Songino Array**	**20.60**	**12**	*eP*	**P**	**09 50 20.5**	**+1.7**
SONM				pmax	pmax		
	comp=Z,21nm,1.0s						
SONM	**Songino Array**	**20.60**	**12**	P	**P**	**09 50 19.9**	**+1.2**
SONM				IAmb	IAmb	09 50 21.8	
	comp=Z,25nm,1.0s						
ULN	**Ulaanbaatar**	**20.75**	**13**	*d i* P	**P**	**09 50 22.2**	**+1.7**
ULN				pmax	pmax		
	comp=Z,54nm,1.3s						
ULN	**Ulaanbaatar**	**20.75**	**13**	P	**P**	**09 50 21.9**	**+1.4**
ULN				IAmb	IAmb	09 50 23.4	
	comp=Z,33nm,0.9s						
ULN	**Ulaanbaatar**	**20.75**	**13**	P	**P**	**09 50 22.3**	**+1.7**
	comp=Z,1μmcomp=Z,163nm,1.1s						
ZAK	**Zakamensk**	**22.70**	**5**	*eP*	**P**	**09 50 42.6**	**+1.3**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
TARG	**Taragay, Kyrgy**	**23.00**	**313**	P	**P**	**09 50 46.2**	**+1.3**
KSH	**Kashi**	**23.26**	**306**	P	**P**	**09 50 51.5**	**+4.2**
KSH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KSH				LR	LR		
	comp=N,1μm,26.0s						
KSH				LR	LR		
	comp=E,440nm,12.3s						
KSH				LR	LR		
	comp=Z,370nm,14.9s						
MK31	**Makanchi Array**	**23.65**	**328**	*ceP*	**P**	**09 50 52.9**	**+1.9**
MK31	**Makanchi Array**	**23.65**	**328**	P	**P**	**09 50 51.0**	**+0.1**
MKAR	**Makanchi Array**	**23.65**	**328**	P	**P**	**09 50 51.2**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=133,slow=11,SNR=12						
MKAR	**Makanchi Array**	**23.65**	**328**	*eP*	**P**	**09 50 52.4**	**+1.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**23.65**	**328**	P	**P**	**09 50 51.8**	**+0.9**
NIL	**Nilore**	**23.88**	**291**	P	**P**	**09 50 51.9**	**-1.5**
NIL				pmax	pmax		
	comp=Z,23nm,1.1s						
NIL	**Nilore**	**23.88**	**291**	P	**P**	**09 50 51.9**	**-1.5**
NIL				IAmb	IAmb	09 50 56.0	
	comp=Z,23nm,1.1s						
DGZ	**Jazzator, Alta**	**23.99**	**339**	*i* P	**P**	**09 50 56.4**	**+2.0**
DGZ				pmax	pmax		
	comp=Z,14nm,1.7s						
PSI	**Prapat**	**24.87**	**183**	P	**P**	**09 51 01.8**	**-0.8**
PSI				pmax	pmax		
	comp=Z,22nm,1.4s						
PSI	**Prapat**	**24.87**	**183**	P	**P**	**09 51 02.4**	**-0.2**
	comp=Z,4.1nm,0.9s,comp=Z,8.7nm,0.9s						
PSI				P	**P**	**09 51 02.4**	**-0.2**
	comp=Z,4.1nm,0.9s,comp=Z,8.7nm,0.9s						
RPSI	**Rantau Prapat**	**24.97**	**183**	P	**P**	**09 51 01.8**	**-1.5**
RPSI				IAmb	IAmb	09 51 04.1	
	comp=Z,22nm,1.4s						
KSRS	**Korea Array**	**25.17**	**60**	P	**P**	**09 51 02.7**	**-2.3**
	comp=Z,2.3nm,0.8s,baz=254,slow=9.4,SNR=9.2						
KSRS				LR	LR	10 02 00.2	
	comp=Z,156nm,20.2s,baz=258,slow=39						
KSRS	**Korea Array**	**25.17**	**60**	*eP*	**P**	**09 51 05.9**	**+0.9**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AAK	**Ala-Archa**	**25.59**	**312**	P	**P**	**09 51 10.9**	**+1.8**
	comp=Z,5.1nm,0.8s,baz=158,slow=6.5,SNR=10.0						
AAK				LR	LR	10 02 56.7	
	comp=Z,280nm,21.4s,baz=116,slow=40						
AAK	**Ala-Archa**	**25.59**	**312**	*eP*	**P**	**09 51 11.4**	**+2.3**
AAK				pmax	pmax		
	comp=Z,36nm,1.3s						
AAK	**Ala-Archa**	**25.59**	**312**	P	**P**	**09 51 09.4**	**+0.4**
AAK				IAmb	IAmb	09 51 13.7	
	comp=Z,9.4nm,1.1s						
CN2	**Changchun**	**25.82**	**45**	*eP*	**P**	**09 51 15.1**	**+4.2**
CN2				*eS*	**S**	**09 55 43.0**	**+2.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				LR	LR		
	comp=N,200nm,13.0s						
CN2				LR	LR		
	comp=E,200nm,13.0s						
CN2				LR	LR		
	comp=Z,300nm,14.0s						
KBL	**Kabul**	**27.45**	**292**	P	**P**	**09 51 25.9**	**-0.1**
KBL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KBL	**Kabul**	**27.45**	**292**	P	**P**	**09 51 25.9**	**-0.1**
KBL				IAmb	IAmb	09 51 44.2	
	comp=Z,6.8nm,0.8s						
CHGR	**Chuyangaron**	**28.04**	**301**	P	**P**	**09 51 30.7**	**-0.3**
CHGR				IAmb	IAmb	09 51 40.3	
	comp=Z,12nm,0.8s						
KURBB	**Kurchatov Arra**	**28.14**	**330**	P	**P**	**09 51 32.6**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=131,slow=11,SNR=13						
KURK	**Kurchatov**	**28.17**	**330**	P	**P**	**09 51 32.6**	**+0.7**
KURK	**Kurchatov**	**28.17**	**330**	P	**P**	**09 51 32.6**	**+0.7**
ZAA0	**Zalesovo Array**	**28.50**	**341**	P	**P**	**09 51 35.3**	**+0.5**
ZAA0				IAmb	IAmb	09 51 37.4	
	comp=Z,9.9nm,1.2s						
ZALV	**Zalesovo Beam**	**28.50**	**341**	P	**P**	**09 51 35.7**	**+0.9**
	comp=Z,4.7nm,0.9s,baz=146,slow=8.8,SNR=9.0						
ZALV				LR	LR	10 03 44.5	
	comp=Z,39nm,18.5s,baz=40,slow=38						
ZALV	**Zalesovo Beam**	**28.50**	**341**	*eP*	**P**	**09 51 36.2**	**+1.4**
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ZALV	**Zalesovo Beam**	**28.50**	**341**	P	**P**	**09 51 35.8**	**+1.0**
USRK	**Ussuriysk Ar.**	**30.24**	**49**	P	**P**	**09 51 49.9**	**-0.5**
	comp=Z,2.1nm,0.7

KLMR	**Klimovskoe**	**51.94**	**327**	*e*P		**P**		**09 54 47.3**	**-1.0**
KLMR				pmax		pmax				
	comp=Z,13nm,1.0s									
KLMR	**Klimovskoe**	**51.94**	**327**	*e*P		**P**		**09 54 47.3**	**-1.0**
KLMR				AMP				09 54 50.3		
	comp=Z,13nm,1.0s									
BRTR	**Keskin Array B**	**55.48**	**301**	LR		LR		10 21 58.6		
	comp=Z,37nm,19.7s,baz=120,slow=39									
AKASG	**Malin Array Be**	**57.23**	**314**	P		**P**		**09 55 26.6**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=72,slow=6.8,SNR=3.0									
AKASG				LR		LR		10 24 12.8		
	comp=Z,39nm,20.1s,baz=95,slow=40									
WRAB	**Tennant Creek**	**57.79**	**141**⇑	*e*P		**P**		**09 55 30.3**	**-0.9**
WRAB				*i* *PP		**sP**		**09 55 41.4**	**+4.0**
WRAB				pmax		pmax				
	comp=Z,10.0nm,1.3s									
WRAB	**Tennant Creek**	**57.79**	**141**	P		**P**		**09 55 29.1**	**-2.0**
WRA	**Warramunga Arr**	**57.80**	**141**	P		**P**		**09 55 29.4**	**-1.8**
	comp=Z,3.3nm,0.5s,baz=322,slow=6.5,SNR=95									
WRA	**Warramunga Arr**	**57.80**	**141**	*i* P		**P**		**09 55 29.7**	**-1.5**
WRA				pmax		pmax				
	comp=Z,3.0nm,0.5s									
WRA	**Warramunga Arr**	**57.80**	**141**	IAmb		IAmb		09 55 30.4		
	comp=Z,0.9nm,1.3s									
WB2	**Warramunga Arr**	**57.80**	**141**	P		**P**		**09 55 29.4**	**-1.8**
WR0	**Warramunga Arr**	**57.92**	**141**	P		**P**		**09 55 30.3**	**-1.8**
WR0				IAmb		IAmb		09 55 31.7		
	comp=Z,6.6nm,1.1s									
FINES	**FINESS Array B**	**58.48**	**327**	P		**P**		**09 55 34.3**	**-1.1**
	comp=Z,2.7nm,0.9s,baz=98,slow=2.7,SNR=5.6									
FINES	**FINESS Array B**	**58.48**	**327**	*e*P		**P**		**09 55 35.6**	**+0.2**
FINES				pmax		pmax				
	comp=Z,3.0nm,0.9s									
ARCES	**ARCESS Array B**	**58.93**	**337**	P		**P**		**09 55 39.0**	**+0.5**
	comp=Z,2.6nm,1.1s,baz=90,slow=9.9,SNR=4.5									
ARCES	**ARCESS Array B**	**58.93**	**337**	IAmb		IAmb		09 55 46.5		
	comp=Z,8.9nm,1.4s									
MLR	**Muntele Rosu**	**60.11**	**309**	LR		LR		10 26 24.7		
	comp=Z,70nm,20.4s,baz=64,slow=41									
AS31	**Alice Springs**	**60.59**	**144**	P		**P**		**09 55 49.2**	**-1.3**
ASAR	**Alice Springs**	**60.59**	**144**	P		**P**		**09 55 49.0**	**-1.5**
	comp=Z,1.9nm,0.5s,baz=327,slow=6.7,SNR=64									
NB2	**NORSAR Subarra**	**65.64**	**328**	P		**P**		**09 56 22.7**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=76,slow=6.9									
NOA	**NORSAR Array B**	**65.64**	**328**	P		**P**		**09 56 24.0**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=93,slow=6.8,SNR=4.5									
NOA	**NORSAR Array B**	**65.64**	**328**	P		**P**		**09 56 24.0**	**+0.3**
JMIC	**Jan Mayen**	**69.83**	**341**	LR		LR		10 32 02.6		
	comp=Z,24nm,18.0s,baz=90,slow=40									
DAVOX	**Davos/Dischmat**	**70.54**	**313**	LR		LR		10 32 29.1		
	comp=Z,74nm,18.6s,baz=86,slow=40									
STKA	**Stephens Creek**	**71.21**	**144**	P		**P**		**09 56 56.8**	**-2.0**
	comp=Z,7.5nm,1.2s,baz=331,slow=8.1,SNR=4.2									
STKA	**Stephens Creek**	**71.21**	**144**	*e*P		**P**		**09 56 57.6**	**-1.2**
STKA				pmax		pmax				
	comp=Z,8.0nm,1.2s									
STKA	**Stephens Creek**	**71.21**	**144**	IAmb		IAmb		09 56 58.2		
	comp=Z,1.1nm,1.1s									
VOI	**Vohitsoka**	**71.44**	**232**	P		**P**		**09 56 59.8**	**-0.7**
J20K	**Nowinta River**	**71.81**	**26**	P		**P**		**09 57 02.1**	**+0.1**
H23K	**Yukon River**	**72.77**	**24**	P		**P**		**09 57 08.3**	**+0.5**
H23K				IAmb		IAmb		09 57 09.9		
	comp=Z,4.2nm,1.0s									
BPAW	**Bear Paw Mtn.**	**73.07**	**26**	P		**P**		**09 57 09.7**	**+0.1**
BPAW				IAmb		IAmb		09 57 11.0		
	comp=Z,6.6nm,0.9s									
PPLA	**Purkeypile**	**73.17**	**27**	P		**P**		**09 57 10.4**	**+0.1**
NEA2	**Nenana**	**73.56**	**25**	P		**P**		**09 57 12.8**	**+0.4**
NEA2				IAmb		IAmb		09 57 13.8		
	comp=Z,5.6nm,0.9s									
BMAR	**Burnt Mountain**	**73.62**	**21**	P		**P**		**09 57 13.2**	**+0.5**
MDM	**Murphy Dome**	**73.68**	**24**	P		**P**		**09 57 13.2**	**0.0**
MDM				IAmb		IAmb		09 57 14.7		
	comp=Z,10nm,1.0s									
TCOL	**CIGO, UAF Yank**	**73.86**	**24**	IAmb		IAmb		09 57 15.5		
	comp=Z,12nm,1.2s									
COLA	**College**	**73.86**	**24**	P		**P**		**09 57 14.8**	**+0.7**
COLA				pmax		pmax				
	comp=Z,13nm,1.3s									
COLA	**College**	**73.86**	**24**	P		**P**		**09 57 14.8**	**+0.7**
ILAR	**Eielson Array**	**74.27**	**24**	P		**P**		**09 57 15.7**	**-0.9**
	comp=Z,2.2nm,1.0s,baz=287,slow=5.5,SNR=11									
KEST	**Kesra**	**75.02**	**303**	LR		LR		10 36 52.5		
	comp=Z,25nm,18.8s,baz=275,slow=41									
KLU	**Klutina**	**76.42**	**27**	P		**P**		**09 57 27.4**	**-1.7**
TORD	**Torodi Ar. Bea**	**91.33**	**286**	P		**P**		**09 58 45.3**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=55,slow=2.8,SNR=3.8									
TORD	**Torodi Ar. Bea**	**91.33**	**286**	IAmb		IAmb		09 58 48.3		
	comp=Z,1.1nm,1.1s									

IDC ***14*** *10:10:08.5±0.6,39.63N×118.77E,h0km,mb4.3/22, mb1 4.3/29,mb1mx4.2/61,mbtmp4.2/29,ML4.0/6,MS3.6/19, Ms1 3.6/19,ms1mx3.4/44,Error ellipse: s-maj=17.6km s-min=11.8km az=28.0*

MOS ***14*** *10:10:09.4±1.0,39.53N×118.82E,h14km,mb5.0/21,Error ellipse: s-maj=7.9km s-min=5.9km az=130.8*

BJI ***14*** *10:10:10.0±0.0,39.73N×118.81E,h10km,mB4.6/7, mb4.4/17,ML4.5/19,Ms4.2/30,Ms7 3.8/22*

NEIC ***14*** *10:10:11.0±1.8,39.61N±0.09×118.75E±0.06,h10km±1km, mb4.5/47,Error ellipse: s-maj=15.7km s-min=8.2km az=181.0*

ISC 14 10:10:11.2±0.3,39.67N±0.03×118.83E±0.03,h9km,n249, σ1s79/267,mb4.6/60,MS3.8/24,22C-9D,Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
BJI	**Beijing**	**2.07**	**281**	Pn		**Pn**	**10**	**10 44.3**	**-1.8**
BJI				Pg		**Pb**	**10**	**10 47.3**	**-1.6**
BJI				Sg		**Sb**	**10**	**11 15.8**	**+1.0**
BJI				smax		smax			
	comp=N,5μm,1.1s								
BJI				smax		smax			
	comp=E,8μm,0.7s								
BJT	**Baijiatuau**	**2.08**	**280**	P		**Pn**	**10**	**10 44.8**	**-1.3**
BJT	**Baijiatuau**	**2.08**	**280**	Pn		**Pn**	**10**	**10 44.8**	**-1.3**
DL2	**Dalian**	**2.31**	**108**⇑	*i*Pn		**Pn**	**10**	**10 48.6**	**-0.7**
DL2				Pg		**Pb**	**10**	**10 53.5**	**+0.6**
DL2				Sn		**Sn**	**10**	**11 15.7**	**-2.1**
DL2				Sg		**Sg**	**10**	**11 23.1**	**-2.1**
DL2				smax		smax			
	comp=E,4μm,0.8s								
DL2				smax		smax			
	comp=E,3μm,0.5s								
TIA	**Tai'an**	**3.71**	**202**	Pn		**Pn**	**10**	**11 06.9**	**-1.7**
TIA				⇓Pg		**Pg**	**10**	**11 19.6**	**-2.6**
TIA				Sn		**Sn**	**10**	**11 50.8**	**-1.6**
TIA				Sg		**Sb**	**10**	**12 05.2**	**+3.4**
TIA				smax		smax			
	comp=E,490nm,1.0s								
TIA				smax		smax			
	comp=E,820nm,0.8s								
SNY	**Shenyang**	**4.20**	**58**	⇑Pg		**Pb**	**10**	**11 27.6**	**+2.4**
SNY				Sg		**Sg**	**10**	**12 22.8**	**-3.3**
SNY				smax		smax			
	comp=N,1μm,0.7s								
SNY				smax		smax			
	comp=E,680nm,0.4s								
KSBAR	**Backryungdo**	**4.90**	**108**	P		**Pn**	**10**	**11 24.2**	**-0.7**
	SNR=55								
KSBAR	**Backryungdo**	**4.90**	**108**	P		**Pn**	**10**	**11 24.2**	**-0.7**
	SNR=55								
DACB	**Daecheong-do R**	**4.95**	**110**	P		**Pn**	**10**	**11 25.0**	**-0.7**
	SNR=14								
DACB	**Daecheong-do R**	**4.95**	**110**	P		**Pn**	**10**	**11 25.0**	**-0.7**
	SNR=14								
TIY	**Taiyuan**	**5.37**	**251**	Pn		Pn	10	11 38.1	+6.6
TIY				Pg		**Pb**	**10**	**11 47.3**	**+2.1**
TIY				Sg		**Sb**	**10**	**12 52.5**	**+2.8**
TIY				smax		smax			
	comp=N,530nm,0.6s								
TIY				smax		smax			
	comp=E,560nm,0.7s								
KSGAH	**Ganghwa**	**6.28**	**106**	P		**Pn**	**10**	**11 43.1**	**-0.8**
	SNR=9.6								
KSGAH	**Ganghwa**	**6.28**	**106**	P		**Pn**	**10**	**11 43.1**	**-0.8**
	SNR=9.6								
CN2	**Changchun**	**6.45**	**48**	Pn		**Pn**	**10**	**11 44.1**	**-2.1**
CN2				Pg		**Pb**	**10**	**12 06.5**	**+3.1**
CN2				Sg		**Sg**	**10**	**13 32.9**	**-5.1**
CN2				smax		smax			
	comp=E,840nm,0.7s								
CN2				smax		smax			
	comp=E,820nm,0.7s								
INCN	**Inchon**	**6.50**	**107**	P		**Pn**	**10**	**11 47.6**	**+0.7**
INCN	**Inchon**	**6.50**	**107**	Pn		**Pn**	**10**	**11 47.6**	**+0.7**
KSSES	**Seosan**	**6.66**	**113**	P		**Pn**	**10**	**11 49.0**	**-0.2**
	SNR=7.3								
KSSES	**Seosan**	**6.66**	**113**	P		**Pn**	**10**	**11 49.0**	**-0.2**
	SNR=7.3								
BTO	**Baotou**	**6.81**	**281**	*e*Pg		**Pb**	**10**	**12 14.0**	**+4.3**
BTO				Sg		**Sb**	**10**	**13 40.0**	**+8.8**
KSSWO	**Suwon**	**6.82**	**108**	P		**Pn**	**10**	**11 51.3**	**-0.1**
	SNR=8.3								
KSSWO	**Suwon**	**6.82**	**108**	P		**Pn**	**10**	**11 51.3**	**-0.1**
	SNR=8.3								
KSICN	**Icheon**	**7.15**	**107**	P		**Pn**	**10**	**11 55.6**	**-0.2**
	SNR=24								
KSICN	**Icheon**	**7.15**	**107**	P		**Pn**	**10**	**11 55.6**	**-0.2**
	SNR=24								
HUK2	**Heuksan-myeon**	**7.26**	**131**	P		**Pn**	**10**	**11 57.0**	**-0.4**
	SNR=19								
HUK2	**Heuksan-myeon**	**7.26**	**131**	P		**Pn**	**10**	**11 57.0**	**-0.4**
	SNR=19								
KSCHC	**Chuncheon**	**7.28**	**102**	P		**Pn**	**10**	**11 57.4**	**-0.3**
	SNR=11								
KSCHC	**Chuncheon**	**7.28**	**102**	P		**Pn**	**10**	**11 57.4**	**-0.3**
	SNR=11								
KOJ2	**Gongju-si**	**7.30**	**113**	P		**Pn**	**10**	**11 58.0**	**+0.1**
	SNR=7.6								
KOJ2	**Gongju-si**	**7.30**	**113**	P		**Pn**	**10**	**11 58.0**	**+0.1**
	SNR=7.6								
KS19	**Wonju Array Si**	**7.41**	**104**			**Pn**	**10**	**11 59.4**	**0.0**
KSAR	**Wonju Array Be**	**7.44**	**105**	P		**Pn**	**10**	**11 59.1**	**-0.7**
KSAR	**Wonju Array Be**	**7.44**	**105**	Pn		**Pn**	**10**	**11 59.1**	**-0.7**
KSRS	**Korea Array**	**7.46**	**104**	Pn		**Pn**	**10**	**11 58.8**	**-1.4**
	comp=E,8.9nm,0.3s,baz=292,slow=14,SNR=83								
KSRS				Sn		**Sn**	**10**	**13 17.8**	**-7.1**
	comp=E,3.5nm,0.3s,baz=281,slow=23,SNR=5.6								
KSRS				Lg		Lg	10	13 59.2	
	comp=E,13nm,0.3s,baz=290,slow=29,SNR=7.6								
KSRS	**Korea Array**	**7.46**	**104**	*e*P		**Pn**	**10**	**11 59.1**	**-1.1**
KSRS				pmax		pmax			
	comp=Z,9.0nm,0.3s								
SEHB	**SEOHWA**	**7.48**	**98**	P		**Pn**	**10**	**12 00.4**	**0.0**
	SNR=19								
SEHB	**SEOHWA**	**7.48**	**98**	P		**Pn**	**10**	**12 00.4**	**0.0**
	SNR=19								
TJN	**Taejon**	**7.50**	**113**	*c* *i*P		**Pn**	**10**	**11 59.8**	**-0.9**
GOCB	**Gochang-gun**	**7.53**	**123**	P		**Pn**	**10**	**12 01.0**	**-0.1**
	SNR=7.4								
GOCB	**Gochang-gun**	**7.53**	**123**	P		**Pn**	**10**	**12 01.0**	**-0.1**
	SNR=7.4								
KSWJU	**Wonju**	**7.58**	**104**	P		**Pn**	**10**	**12 01.3**	**-0.5**
	SNR=40								
KSWJU	**Wonju**	**7.58**	**104**	P		**Pn**	**10**	**12 01.3**	**-0.5**
	SNR=40								
NJ2	**Nanjing**	**7.60**	**180**	*e*Pn		**Pn**	**10**	**12 01.8**	**-0.3**
NJ2				Sn		**Sn**	**10**	**13 29.7**	**+1.3**
NJ2				smax		smax			
	comp=Z,61nm,1.0s								
NJ2				smax		smax			
	comp=Z,120nm,0.9s								
NJ2				LR		LR			
	comp=Z,400nm,7.1s								
NJ2				LR		LR			
	comp=Z,790nm,11.8s								
NJ2				LR		LR			
	comp=Z,530nm,10.9s								
KSJEU	**Jeongeup**	**7.67**	**120**	P		**Pn**	**10**	**12 02.4**	**-0.6**
	SNR=15								
KSJEU	**Jeongeup**	**7.67**	**120**	P		**Pn**	**10**	**12 02.2**	**-0.8**
	SNR=11								
KSJEO	**Jeonju**	**7.67**	**116**	P		**Pn**	**10**	**12 02.3**	**-0.7**
	SNR=7.0								
KSJEO	**Jeonju**	**7.67**	**116**	P		**Pn**	**10**	**12 02.3**	**-0.7**
	SNR=7.0								
KSBON	**Boeun**	**7.75**	**111**	P		**Pn**	**10**	**12 03.8**	**-0.4**
	SNR=19								
KSBON	**Boeun**	**7.75**	**111**	P		**Pn**	**10**	**12 03.8**	**-0.4**
	SNR=19								
OKCB	**Cheongsan-myeo**	**7.82**	**112**	P		**Pn**	**10**	**12 05.0**	**-0.1**
	SNR=9.4								
OKCB	**Cheongsan-myeo**	**7.82**	**112**	P		**Pn**	**10**	**12 05.0**	**-0.1**
	SNR=9.4								
KSMGY	**Mungyeong**	**7.87**	**110**	P		**Pn**	**10**	**12 05.5**	**-0.3**
	SNR=16								
KSMGY	**Mungyeong**	**7.87**	**110**	P		**Pn**	**10**	**12 05.4**	**-0.4**
	SNR=9.9								
KSKWJ	**Gwangju**	**7.90**	**122**	P		**Pn**	**10**	**12 06.1**	**-0.1**
	SNR=12								
KSKWJ	**Gwangju**	**7.90**	**122**	P		**Pn**	**10**	**12 06.1**	**-0.1**
	SNR=12								
KSJMJ	**Jumunjin**	**7.96**	**100**	P		**Pn**	**10**	**12 06.9**	**-0.1**
	SNR=14								
KSJMJ	**Jumunjin**	**7.96**	**100**	P		**Pn**	**10**	**12 06.9**	**-0.1**
	SNR=14								
KSCPR	**CHUPUNGNYEONG**	**8.00**	**113**	P		**Pn**	**10**	**12 07.2**	**-0.5**
	SNR=8.9								
KSCPR	**CHUPUNGNYEONG**	**8.00**	**113**	P		**Pn**	**10**	**12 07.2**	**-0.5**
	SNR=8.9								
KSSCH	**SUNCHEON**	**8.12**	**122**	P		**Pn**	**10**	**12 09.0**	**-0.2**
	SNR=6.6								
KSSCH	**SUNCHEON**	**8.12**	**122**	P		**Pn**	**10**	**12 09.0**	**-0.2**
	SNR=6.6								
HAMB	**Hamyang**	**8.21**	**118**	P		**Pn**	**10**	**12 10.0**	**-0.4**
	SNR=5.9								
HAMB	**Hamyang**	**8.21**	**118**	P		**Pn**	**10**	**12 10.0**	**-0.4**
	SNR=5.9								
KSKCH	**Geochang**	**8.27**	**116**	P		**Pn**	**10**	**12 10.8**	**-0.5**
	SNR=7.0								
BOSB	**Boseong-gun**	**8.29**	**124**	P		**Pn**	**10**	**12 11.0**	**-0.5**
	SNR=19								
KOHB	**KOHEUNG**	**8.42**	**124**	P		**Pn**	**10**	**12 13.0**	**-0.4**
	SNR=6.8								
KSEUS	**ULSEONG**	**8.46**	**110**	P		**Pn**	**10**	**12 13.4**	**-0.5**
	SNR=8.4								
KSNAH	**Namhae**	**8.72**	**121**	P		**Pn**	**10**	**12 17.1**	**-0.4**
	SNR=13								
KSMAS	**Masan**	**8.96**	**117**	P		**Pn**	**10**	**12 20.7**	**-0.1**
	SNR=5.6								
XAN	**Xi'an**	**9.72**	**238**	Pn		**Pn**	**10**	**12 30.3**	**-1.0**
XAN	**Xi'an**	**9.72**	**238**	P		**Pn**	**10**	**12 30.2**	**-1.0**
XAN				LR		LR			
	comp=Z,470nm,8.9s								
XAN				LR		LR			
	comp=Z,470nm,9.1s								
XAN				LR		LR			
	comp=Z,520nm,10.8s								
MSHR	**Mys Shultsa**	**9.75**	**69**⇑	*e*P		**Pn**	**10**	**12 33.4**	**+1.9**
WHN	**Wuhan**	**9.81**	**203**	P		**Pn**	**10**	**12 33.3**	**+0.9**
WHN				S		**Sn**	**10**	**14 21.6**	**-1.1**
WHN				LR		LR			
	comp=Z,670nm,10.4s								
WHN				LR		LR			
	comp=Z,960nm,7.4s								
JTU	**Tsushima**	**9.88**	**118**	Pn		**Pn**	**10**	**12 32.4**	**-0.9**
USRK	**Ussuriysk Ar.**	**10.80**	**61**	Pn		**Pn**	**10**	**12 46.2**	**+0.3**
	baz=248,slow=13,SNR=14								
USRK				Lg		Lg	10	15 51.1	
	baz=266,slow=25,SNR=9.8								
USRK	**Ussuriysk Ar.**	**10.80**	**61**	P		**Pn**	**10**	**12 47.5**	**+1.7**
USRK	**Ussuriysk Ar.**	**10.80**	**61**	Pn		**Pn**	**10**	**12 47.5**	**+1.7**
JNU	**Nakatsue**	**11.70**	**120**	Pn		**Pn**	**10**	**12 56.6**	**-1.7**
	comp=Z,2.0nm,0.3s,baz=279,slow=5.8,SNR=14								
JNU				Lg		Lg	10	16 22.4	
	comp=Z,0.5nm,0.3s,baz=90,slow=18,SNR=3.9								
JNU	**Nakatsue**	**11.70**	**120**	Pn		**Pn**	**10**	**12 57.7**	**-0.6**
ULN	**Ulaanbaatar**	**11.80**	**318**	*d* *i*P		**Pn**	**10**	**12 57.9**	**-1.8**
ULN				pmax		pmax			
	comp=Z,16nm,1.3s								
ULN	**Ulaanbaatar**	**11.80**	**318**	Pn		**Pn**	**10**	**12 57.8**	**-2.0**
SONM	**Songino Array**	**12.13**	**316**	Pn		**Pn**	**10**	**13 00.8**	**-3.4**
	comp=Z,1.3nm,0.3s,baz=133,slow=14,SNR=24								
SONM				Sn		**Sn**	**10**	**15 11.5**	**-8.0**
	comp=Z,0.4nm,0.3s,baz=143,slow=22,SNR=2.7								
SONM				Lg		Lg	10	16 22.5	
	comp=Z,0.4nm,0.3s,baz=147,slow=23,SNR=3.9								
SONM				LR		LR	10	18 22.4	
	comp=Z,142nm,20.1s,baz=131,slow=41								
SONM	**Songino Array**	**12.13**	**316**	P		**Pn**	**10**	**13 02.7**	**-1.5**
SONM	**Songino Array**	**12.13**	**316**	Pn		**Pn**	**10**	**13 02.7**	**-1.5**
LZH	**Lanzhou**	**12.37**	**258**	*e*P		**Pn**	**10**	**13 03.4**	**-4.1**
LZH				sP			10	13 10.6	
LZH				pmax		pmax			
	comp=Z,12nm,1.0s								
LZH				pmax		pmax			
	comp=Z,130nm,4.9s								
LZH				LR		LR			
	comp=N,750nm,9.4s								
LZH				LR		LR			
	comp=E,610nm,9.8s								
LZH				LR		LR			
	comp=Z,380nm,10.8s								
KLR	**Kul'dur**	**13.27**	**40**	Pn		**Pn**	**10**	**13 18.9**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=235,slow=16,SNR=3.3								
KLR				Lg		Lg	10	17 03.2	
	comp=Z,0.4nm,0.3s,baz=337,slow=22,SNR=1.3								
KLR	**Kul'dur**	**13.27**	**40**⇑	*e*P		**Pn**	**10**	**13 19.7**	**+0.1**
GTA	**Gaotai**	**14.68**	**275**	*e*P		**Pn**	**10**	**13 40.3**	**+1.2**
GTA				pP		P	10	13 45.3	0.0
GTA				sP			10	13 48.3	
GTA				pmax		pmax			
	comp=Z,4.0nm,1.2s								
GTA				pmax		pmax			
	comp=Z,99nm,4.3s								
GTA				LR		LR			
	comp=N,580nm,8.7s								
GTA				LR		LR			
	comp=E,250nm,7.6s								
GTA				LR		LR			
	comp=Z,290nm,9.8s								
GTA	**Gaotai**	**14.68**	**275**	*e*P		**Pn**	**10**	**13 40.2**	**+1.2**
GTA				pP		P	10	13 45.2	-0.1
GTA				sP			10	13 48.2	
GTA				pmax		pmax			
	comp=Z,4.0nm,1.2s								
GTA				LR		LR			
	comp=Z,580nm,8.7s								
GTA				LR		LR			
	comp=Z,250nm,7.6s								
GTA				LR		LR			
	comp=Z,290nm,9.8s								
JOW	**Kunigami**	**15.03**	**146**	LR		LR	10	20 39.9	
	comp=Z,200nm,18.3s,baz=79,slow=42								
CD2	**Chengdu**	**15.08**	**239**	P		**Pn**	**10**	**13 45.6**	**+1.2**
CD2				pmax		pmax			
	comp=Z,30nm,1.1s								
CD2				LR		LR			
	comp=Z,490nm,14.4s								
CD2				LR		LR			
	comp=Z,330nm,11.4s								
CD2				LR		LR			
	comp=Z,450nm,17.1s								
ZEA	**Zeya**	**15.19**	**19**	*e*P		**Pn**	**10**	**13 46.5**	**+0.7**
ZEA				pmax		pmax			
	comp=E,20nm,0.8s								
ZEA				pmax		pmax			
	comp=N,10.0nm,1.1s								
ZEA				pmax		pmax			
	comp=Z,30nm,0.9s								
ZEA				MLR		MLR			
	comp=N,300nm,7.0s								
ZEA				MLR		MLR			
	comp=E,400nm,7.0s								
ZEA				MLR		MLR			
	comp=Z,400nm,5.0s								
JGF	**Kuroka**	**15.23**	**100**	Pn		**Pn**	**10**	**13 48.7**	**+2.3**
ZAK	**Zakamensk**	**15.31**	**319**	*e*P		**Pn**	**10**	**13 44.1**	**-3.4**
ZAK				pmax		pmax			
	comp=Z,7.0nm,1.2s								
MAT	**Matsushiro**	**15.57**	**95**	P		**P**	**10**	**13 56.5**	**+1.3**
MAT				*e*S		**S**	**10**	**16 56.0**	**-3.1**
MJAR	**Matsushiro Arr**	**15.57**	**95**	Pn		**Pn**	**10**	**13 50.9**	**0.0**
	baz=294,slow=11,SNR=1.3								
MJAR				LR		LR	10	19 22.6	
	comp=Z,64nm,18.7s,baz=260,slow=35								
MJAR	**Matsushiro Arr**	**15.57**	**95**	Pn		**Pn**	**10**	**13 51.0**	**+0.1**
GYA	**Guiyang**	**16.64**	**221**	⇓P		**P**	**10**	**14 11.8**	**+4.7**
GYA				sP		sP	10	14 22.9	+12
GYA				pmax		pmax			
	comp=Z,26nm,1.2s								
GYA				LR		LR			
	comp=N,260nm,8.4s								
GYA				LR		LR			
	comp=E,410nm,12.1s								
GYA				LR		LR			
	comp=Z,370nm,16.2s								
MOY	**Mondy**	**17.24**	**320**	*e*P		**P**	**10**	**14 13.6**	**-0.1**
MOY				pmax		pmax			
	comp=Z,48nm,1.7s								
ASAJ	**Asahikawa**	**18.23**	**68**	P		**Pn**	**10**	**14 24.1**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=268,slow=9.3,SNR=8.5								
ASAJ				LR		LR	10	20 41.9	
	comp=Z,102nm,20.5s,baz=306,slow=35								
JKA	**Kamikawa-asahi**	**18.23**	**68**	P		**Pn**	**10**	**14 24.1**	**-0.2**
BOD	**Bodaibo**	**18.43**	**352**	*e*P		**P**	**10**	**14 25.9**	**-0.7**
BOD				pmax		pmax			
	comp=Z,13nm,1.5s								
YSS	**Yuzh-Sakhalins**	**18.83**	**59**	*e*P		**Pn**	**10**	**14 33.0**	**+1.4**
YSS				*e*S		**S**	**10**	**18 03.9**	**-1.3**
YSS				pmax		pmax			
	comp=Z,20nm,1.1s								
YSS				MLR		MLR			
	comp=E,100nm,14.0s								
YSS				MLR		MLR			
	comp=Z,200nm,14.0s								
YSS	**Yuzh-Sakhalins**	**18.83**	**59**	P		**Pn**	**10**	**14 31.5**	**0.0**
YSS				IAmb		IAmb	10	14 38.2	
	comp=Z,27nm,1.1s								
KMI	**K

MKAR	**Makanchi Array**	**27.37**	**297**	*e*P		**P**		**10 15 57.5**	**+0.9**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
MKAR	**Makanchi Array**	**27.37**	**297**	P		**P**		**10 15 56.4**	**-0.2**
PHIT	**Phitsanulok**	**27.53**	**221**	P		**P**		**10 16 01.6**	**+3.4**
	comp=Z,46nm,0.9s								
PETK	**Petropavlovsk-**	**29.59**	**50**	P		**P**		**10 16 17.4**	**+1.1**
	comp=Z,3.2nm,0.9s,baz=238,slow=8.3,SNR=2.8								
PETK				LR		LR		10 27 41.2	
	comp=Z,66nm,19.8s,baz=252,slow=36								
PETK	**Petropavlovsk-**	**29.59**	**50**	P		**P**		**10 16 17.9**	**+1.6**
KURK	**Kurchatov**	**30.05**	**305**			**PcP**		**10 19 20.8**	**-1.3**
KURBB	**Kurchatov Arra**	**30.10**	**305**	PcP		**PcP**		**10 19 20.8**	**-1.4**
	baz=98,slow=2.6								
AAK	**Ala-Archa**	**33.23**	**290**⇑	*e*P		**P**		**10 16 47.1**	**-1.5**
AAK				pmax		pmax			
	comp=Z,6.0nm,1.0s								
BRVK	**Borovoye**	**35.38**	**309**	*de*P		**P**		**10 17 06.8**	**-0.1**
BRVK				pmax		pmax			
	comp=Z,15nm,0.8s								
BRVK	**Borovoye**	**35.38**	**309**	P		**P**		**10 17 07.2**	**+0.3**
KK31	**Karatay Array**	**36.02**	**292**	P		**P**		**10 17 12.6**	**0.0**
KK31				pmax		pmax			
	comp=Z,6.0nm,0.9s								
KK31	**Karatay Array**	**36.02**	**292**	P		**P**		**10 17 12.6**	**0.0**
KK31				IAmb		IAmb		10 17 14.8	
	comp=Z,6.1nm,0.8s								
KKAR	**Karatay Array**	**36.02**	**292**	P		**P**		**10 17 12.1**	**-0.5**
KKAR	**Karatay Array**	**36.02**	**292**	P		**P**		**10 17 10.1**	**-2.4**
KKAR				IAmb		IAmb		10 17 14.9	
	comp=Z,6.1nm,0.8s								
KKAR	**Karatay Array**	**36.02**	**292**	P		**P**		**10 17 12.1**	**-0.5**
BTK	**Batken**	**36.49**	**286**	P		**P**		**10 17 15.3**	**-1.5**
BTK	**Batken**	**36.49**	**286**	P		**P**		**10 17 15.3**	**-1.5**
NIL	**Nilore**	**36.74**	**275**	P		**P**		**10 17 17.7**	**-1.2**
NIL				pmax		pmax			
	comp=Z,12nm,0.9s								
NIL	**Nilore**	**36.74**	**275**	P		**P**		**10 17 17.7**	**-1.2**
NIL				IAmb		IAmb		10 17 21.8	
	comp=Z,12nm,0.8s								
GAR	**Garm**	**37.16**	**285**	P		**P**		**10 17 22.9**	**+0.4**
GAR				IAmb		IAmb		10 17 24.3	
	comp=Z,9.5nm,1.0s								
CHGR	**Chuyangaron**	**38.12**	**285**	P		**P**		**10 17 27.3**	**-3.4**
BILL	**Bilibino**	**38.23**	**27**⇓	*e*P		**P**		**10 17 33.3**	**+2.3**
BILL				*e*				10 17 39.9	
BILL				SS		SS		10 26 11.0	-1.2
BILL				pmax		pmax			
	comp=Z,5.0nm,0.5s								
BILL				MLR		MLR			
	comp=Z,411nm,18.0s								
SVE	**Sverdlovsk**	**40.99**	**315**	*e*P		**P**		**10 17 55.8**	**+1.7**
SVE				pmax		pmax			
	comp=Z,35nm,1.2s								
SIJI	**Sorong**	**41.92**	**161**	LR		LR		10 36 14.9	
	comp=Z,29nm,18.6s,baz=74,slow=37								
ABKAR	**Akbulak array**	**42.12**	**303**	P		**P**		**10 18 02.4**	**-1.1**
ABKAR	**Akbulak array**	**42.12**	**303**	P		**P**		**10 18 02.8**	**-0.8**
ABKAR				IAmb		IAmb		10 18 05.8	
	comp=Z,3.8nm,0.6s								
ARU	**Arti**	**42.15**	**314**	P		**P**		**10 18 02.8**	**-0.8**
	comp=Z,6.0nm,0.5s,baz=130,slow=8.9,SNR=3.2								
ARU	**Arti**	**42.15**	**314**	*d* P		**P**		**10 18 04.5**	**+0.9**
ARU				S		**S**		**10 24 29.2**	**+5.9**
ARU				SS		**SS**		**10 27 30.5**	**-0.1**
ARU				pmax		pmax			
	comp=Z,46nm,1.4s								
ARU				MLR		MLR			
	comp=Z,124nm,18.0s								
ARU	**Arti**	**42.15**	**314**	P		**P**		**10 18 03.2**	**-0.4**
JAY	**Jayapura**	**46.54**	**149**	LR		LR		10 39 00.9	
	comp=Z,38nm,18.5s,baz=324,slow=37								
GEYT	**Alibeck**	**46.54**	**288**	LR		LR		10 40 08.6	
	comp=Z,109nm,18.2s,baz=35,slow=39								
KIRV	**Kirov**	**46.86**	**318**	*ce*P		**P**		**10 18 42.5**	**+1.3**
PALK	**Pallekele**	**46.98**	**237**	LR		LR		10 40 49.6	
	comp=Z,65nm,18.5s,baz=257,slow=39								
PRGR	**Permogore**	**48.30**	**322**	*e*P		**P**		**10 18 52.3**	**-0.1**
PRGR				pmax		pmax			
	comp=Z,39nm,1.3s								
BELG	**Belogornoye**	**49.09**	**310**	P		**P**		**10 18 58.1**	**-0.4**
	comp=Z,9.9nm,0.9s,baz=169,slow=12,SNR=3.8								
BATI	**Baumata**	**49.83**	**174**	LR		LR		10 45 58.8	
	comp=Z,159nm,18.0s,baz=246,slow=43								
KLMR	**Klimovskoe**	**51.35**	**322**	*e*P		**P**		**10 19 13.6**	**-2.0**
KLMR				pmax		pmax			
	comp=Z,27nm,1.3s								
KLMR	**Klimovskoe**	**51.35**	**322**	*e*P		**P**		**10 19 13.6**	**-2.0**
KLMR				AMP				10 19 17.8	
	comp=Z,27nm,1.3s								
LVZ	**Lovozero**	**51.81**	**331**	*ce*P		**P**		**10 19 20.5**	**+1.5**
LVZ				pmax		pmax			
	comp=Z,10.0nm,0.7s								
LVZ	**Lovozero**	**51.81**	**331**	P		**P**		**10 19 19.2**	**+0.1**
IMAR	**Indian Mountai**	**53.53**	**31**	P		**P**		**10 19 31.3**	**-0.5**
MOS	**Moscow**	**53.76**	**316**	*e*P		**P**		**10 19 33.0**	**-0.5**
J20K	**Nowinta River**	**53.90**	**33**	P		**P**		**10 19 34.5**	**+0.1**
J20K				IAmb		IAmb		10 19 44.4	
	comp=Z,5.1nm,1.1s								
SPITS	**Spitsbergen Ar**	**53.99**	**346**	P		**P**		**10 19 34.6**	**-0.3**
	comp=Z,2.5nm,0.5s,baz=83,slow=9.3,SNR=7.6								
SPITS	**Spitsbergen Ar**	**53.99**	**346**	P		**P**		**10 19 35.2**	**+0.2**
SPITS				pmax		pmax			
	comp=Z,45nm,1.5s								
OBN	**Obninsk**	**54.54**	**316**⇓	*e*P		**P**		**10 19 40.2**	**+1.1**
OBN				*e**PP		**pP**		**10 19 42.8**	**+0.8**
OBN				PPP		PPP		10 22 57.0	
OBN				S		S		10 27 34.0	+16
OBN				pmax		pmax			
	comp=Z,9.0nm,0.4s								
OBN				MLR		MLR			
	comp=Z,75nm,19.0s								
ARCES	**ARCESS Array B**	**54.59**	**334**	P		**P**		**10 19 38.7**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=57,slow=8.8,SNR=9.3								
ARCES				LR		LR		10 49 02.1	
	comp=Z,31nm,18.7s,baz=45,slow=43								
ARCES	**ARCESS Array B**	**54.59**	**334**	*e*P		**P**		**10 19 41.6**	**+2.3**
ARCES				pmax		pmax			
	comp=Z,1.0nm,0.7s								
ARCES	**ARCESS Array B**	**54.59**	**334**	IAmb		IAmb		10 20 04.7	
	comp=Z,4.9nm,1.2s								
CAST	**Castle Rocks**	**55.01**	**33**	P		**P**		**10 19 42.6**	**+0.1**
CAST				IAmb		IAmb		10 19 50.2	
	comp=Z,8.4nm,1.3s								
KIV	**Kislovodsk**	**55.02**	**301**	*e*P		**P**		**10 19 42.6**	**-0.4**
KIV				pmax		pmax			
	comp=Z,12nm,1.1s								
KIV				MLR		MLR			
	comp=Z,40nm,17.0s								
BPAW	**Bear Paw Mtn.**	**55.24**	**32**	P		**P**		**10 19 44.7**	**+0.5**
COLA	**College**	**56.23**	**31**	P		**P**		**10 19 51.4**	**+0.2**
COLA				pmax		pmax			
	comp=Z,8.0nm,0.8s								
COLA	**College**	**56.23**	**31**	P		**P**		**10 19 51.4**	**+0.2**
COLA				IAmb		IAmb		10 19 53.9	
	comp=Z,7.7nm,0.8s								
CCB	**Clear Creek Bu**	**56.33**	**31**	P		**P**		**10 19 52.2**	**+0.2**
CCB				IAmb		IAmb		10 19 57.9	
	comp=Z,4.3nm,1.2s								
BMAR	**Burnt Mountain**	**56.47**	**27**	P		**P**		**10 19 52.1**	**-0.9**
ILAR	**Eielson Array**	**56.65**	**31**	P		**P**		**10 19 53.0**	**-1.2**
	comp=Z,2.0nm,0.8s,baz=283,slow=5.3,SNR=16								
ILAR	**Eielson Array**	**56.65**	**31**	*e*P		**P**		**10 19 55.1**	**+0.9**
ILAR				pmax		pmax			
	comp=Z,2.0nm,0.8s								
FINES	**FINESS Array B**	**57.33**	**325**	P		**P**		**10 19 58.0**	**-1.1**
	comp=Z,2.8nm,0.4s,baz=63,slow=6.4,SNR=23								
FINES				LR		LR		10 46 46.1	
	comp=Z,52nm,18.9s,baz=19,slow=38								
FINES	**FINESS Array B**	**57.33**	**325**	*e*P		**P**		**10 19 59.3**	**+0.3**
FINES				pmax		pmax			
	comp=Z,3.0nm,0.4s								
RIDG	**Independent Ri**	**57.88**	**31**	P		**P**		**10 20 01.5**	**-1.5**
RIDG				IAmb		IAmb		10 20 07.3	
	comp=Z,6.9nm,1.0s								
M24K	**Tolsona, Glenn**	**58.03**	**34**	P		**P**		**10 20 04.8**	**+0.7**
SCRK	**Sand Creek**	**58.13**	**31**	IAmb		IAmb		10 20 06.0	
	comp=Z,3.4nm,0.9s								
DOT	**Dot Lake**	**58.24**	**31**	P		**P**		**10 20 04.5**	**-1.0**
DOT				IAmb		IAmb		10 20 06.9	
	comp=Z,2.9nm,0.8s								
K27K	**Chicken**	**58.86**	**31**	P		**P**		**10 20 09.1**	**-0.6**
K27K				IAmb		IAmb		10 20 12.0	
	comp=Z,3.9nm,0.8s								
MNK	**Minsk**	**59.40**	**317**	*i* P		**P**		**10 20 11.1**	**-2.5**
MNK				*i*				10 20 58.4	
MNK				*i*				10 22 22.5	
MNK				*i* S		**S**		**10 28 21.3**	**-1.1**
MNK				*i*				10 30 01.4	
MNK				*i* SS		**SS**		**10 32 14.3**	**-2.3**
MNK				pmax		pmax			
	comp=E,2.0nm,0.8s								
MNK				pmax		pmax			
	comp=N,20nm,0.8s								
MNK				pmax		pmax			
	comp=Z,11nm,0.8s								
MNK				MLR		MLR			
	comp=Z,193nm,18.0s								
MNK				MLR		MLR			
	comp=E,74nm,18.0s								
MNK				MLR		MLR			
	comp=N,546nm,17.0s								
MNK	**Minsk**	**59.40**	**317**	*i* P		**P**		**10 20 11.1**	**-2.5**
	comp=E,2.0nm,0.8s								
MNK				*i* P		**P**		**10 20 11.1**	**-2.5**
	comp=N,20nm,0.8s								
MNK				*i* P		**P**		**10 20 11.1**	**-2.5**
	comp=Z,11nm,0.8s,baz=64								
MNK				*i* PcP		**PcP**		**10 20 58.5**	**-2.9**
MNK				*i* PP		**PP**		**10 22 22.5**	**-1.9**
MNK				*i* PPP		PPP		10 23 43.4	
MNK				*i* S		**S**		**10 28 21.4**	**-1.0**
MNK				*i* SS		**SS**		**10 32 14.3**	**-2.3**
MNK				*i* SSS		SSS		10 34 32.2	
MNK				*i* LQ		LQ		10 41 37.9	
MNK				*i* LR		LR		10 46 09.6	
MNK				*i* LRM		MLR		10 48 48.8	
	comp=Z,193nm,17.9s								
MNK				*i* LRM		MLR		10 49 09.6	
	comp=E,74nm,17.7s								
MNK				*i* LRM		MLR		10 49 21.0	
	comp=N,546nm,17.5s								
BCAR	**Beaver Creek A**	**59.42**	**31**	P		**P**		**10 20 14.1**	**+0.4**
EPYK	**Eagle Plains**	**59.72**	**27**	P		**P**		**10 20 15.3**	**-0.4**
DAWY	**Dawson**	**59.88**	**30**	P		**P**		**10 20 15.4**	**-1.5**
AKASG	**Malin Array Be**	**60.39**	**313**	P		**P**		**10 20 18.6**	**-1.9**
	comp=N,4.2nm,0.6s,baz=51,slow=7.2,SNR=16								
AKASG				LR		LR		10 47 50.5	
	comp=N,62nm,20.1s,baz=55,slow=38								
AKASG	**Malin Array Be**	**60.39**	**313**	*e*P		**P**		**10 20 20.4**	**-0.1**
AKASG				pmax		pmax			
	comp=Z,4.0nm,0.6s								
AKASG	**Malin Array Be**	**60.39**	**313**	IAmb		IAmb		10 20 22.5	
	comp=Z,5.2nm,1.4s								
AKBB	**Malin Array Si**	**60.39**	**313**	IAmb		IAmb		10 20 21.2	
	comp=Z,6.3nm,0.9s								
PSA00	**Pilbara Seismi**	**60.93**	**179**	P		**P**		**10 20 23.3**	**-1.1**
PSA00				IAmb		IAmb		10 20 24.3	
	comp=Z,4.8nm,1.1s								
WRAB	**Tennant Creek**	**61.04**	**163**⇑	*e*P		**P**		**10 20 24.3**	**-0.9**
WRAB				pmax		pmax			
	comp=Z,6.0nm,1.1s								
WRAB	**Tennant Creek**	**61.04**	**163**	P		**P**		**10 20 24.4**	**-0.8**
WRAB				IAmb		IAmb		10 20 24.8	
	comp=Z,5.3nm,0.9s								
WRA	**Warramunga Arr**	**61.05**	**163**	P		**P**		**10 20 23.8**	**-1.5**
	comp=Z,2.7nm,0.7s,baz=346,slow=6.5,SNR=15								
WRA	**Warramunga Arr**	**61.05**	**163**	IAmb		IAmb		10 20 24.9	
	comp=Z,0.3nm,0.9s								
WB2	**Warramunga Arr**	**61.05**	**163**	P		**P**		**10 20 23.8**	**-1.5**
WB2				IAmb		IAmb		10 20 24.9	
	comp=Z,3.8nm,0.8s								
WR0	**Warramunga Arr**	**61.11**	**163**	P		**P**		**10 20 24.5**	**-1.2**
WR0				IAmb		IAmb		10 20 24.8	
	comp=Z,3.3nm,0.8s								
BR131	**Keskin Array S**	**62.95**	**300**	P		**P**		**10 20 38.9**	**+0.7**
BR131				pmax		pmax			
	comp=Z,5.0nm,0.5s								
BR131	**Keskin Array S**	**62.95**	**300**	P		**P**		**10 20 38.9**	**+0.7**
BRTR	**Keskin Array B**	**62.95**	**300**	P		**P**		**10 20 37.1**	**-1.1**
	comp=Z,2.1nm,0.5s,baz=108,slow=3.4,SNR=7.7								
BRTR				LR		LR		10 51 17.0	
	comp=Z,48nm,18.8s,baz=94,slow=39								
BRTR	**Keskin Array B**	**62.95**	**300**	*e*P		**P**		**10 20 38.8**	**+0.7**
BRTR				pmax		pmax			
	comp=Z,2.0nm,0.4s								
NEEM	**North Greenlan**	**62.99**	**358**	*i* P		**P**		**10 20 38.3**	**+0.3**
HFS	**Hagfors**	**63.28**	**327**	P		**P**		**10 20 38.8**	**-1.1**
	comp=Z,3.6nm,0.9s,baz=101,slow=6.2,SNR=6.8								
TPGR	**Topolog**	**63.70**	**308**	⇑P		**P**		**10 20 43.5**	**+0.6**
NB2	**NORSAR Subarra**	**63.78**	**329**	P		**P**		**10 20 42.4**	**-0.8**
	comp=Z,1.5nm,0.5s,baz=55,slow=6.9								
NOA	**NORSAR Array B**	**63.78**	**329**	P		**P**		**10 20 41.5**	**-1.7**
	comp=Z,1.4nm,0.5s,baz=55,slow=7.0,SNR=6.6								
NOA				LR		LR		10 50 40.2	
	comp=Z,78nm,19.2s,baz=50,slow=38								
NOA	**NORSAR Array B**	**63.78**	**329**	*e*P		**P**		**10 20 43.2**	**0.0**
NOA				pmax		pmax			
	comp=Z,1.0nm,0.5s								
BUR08	**Bucovina Ar. S**	**64.19**	**311**	IAmb		IAmb		10 20 47.5	
	comp=Z,3.5nm,0.8s								
BURAR	**Bucovina Array**	**64.19**	**311**	⇑P		P		10 20 37.7	-8.5
BURAR	**Bucovina Array**	**64.19**	**311**	⇑P		P		10 20 37.7	-8.5
BURAR	**Bucovina Array**	**64.19**	**311**	P		**P**		**10 20 46.0**	**-0.1**
BURAR				IAmb		IAmb		10 20 47.8	
	comp=Z,4.3nm,0.8s								
VRI	**Vrincioaia**	**64.21**	**309**	⇑P		**P**		**10 20 47.1**	**+0.9**
VRI	**Vrincioaia**	**64.21**	**309**	⇑P		**P**		**10 20 47.1**	**+0.9**
PLOR	**Plostina**	**64.26**	**309**	⇑P		**P**		**10 20 47.5**	**+0.9**
PLOR	**Plostina**	**64.26**	**309**	⇑P		**P**		**10 20 47.5**	**+0.9**
KWP	**Kalwaria Pacla**	**64.56**	**314**	*e*P		**P**		**10 20 49.0**	**+0.5**
AS31	**Alice Springs**	**64.56**	**165**	P		**P**		**10 20 47.7**	**-0.9**
ASAR	**Alice Springs**	**64.56**	**165**	P		**P**		**10 20 47.2**	**-1.4**
	comp=Z,1.7nm,0.8s,baz=341,slow=5.2,SNR=11								
ASAR	**Alice Springs**	**64.56**	**165**	P		**P**		**10 20 48.7**	**0.0**
ASAR	**Alice Springs**	**64.56**	**165**	P		**P**		**10 20 48.7**	**0.0**
MLR	**Muntele Rosu**	**64.87**	**309**	⇑P		**P**		**10 20 50.9**	**+0.2**
MLR	**Muntele Rosu**	**64.87**	**309**	P		**P**		**10 20 48.5**	**-2.2**
	comp=Z,3.9nm,0.6s,baz=145,slow=15,SNR=3.6								
MLR	**Muntele Rosu**	**64.87**	**309**	⇑P		**P**		**10 20 50.9**	**+0.2**
DOPR	**Dopca**	**64.95**	**310**	⇑P		**P**		**10 20 52.6**	**+1.5**
OJC	**Ojcow**	**65.83**	**316**	*e*P		**P**		**10 20 57.0**	**+0.3**
OJC	**Ojcow**	**65.83**	**316**	P		**P**		**10 20 57.3**	**+0.7**
OJC				pmax		pmax			
	comp=Z,12nm,0.7s								
OJC	**Ojcow**	**65.83**	**316**	P		**P**		**10 20 57.3**	**+0.7**
NIE	**Niedzica**	**66.00**	**315**	*e*P		**P**		**10 20 59.6**	**+1.8**
GZR	**Gura Zlata**	**66.80**	**310**	⇑P		**P**		**10 21 03.3**	**+0.2**
GZR	**Gura Zlata**	**66.80**	**310**	⇑P		**P**		**10 21 03.3**	**+0.2**
SUMG	**Summit**	**66.93**	**353**	*i* P		**P**		**10 21 04.2**	**+0.3**
SUMG				IAmb		IAmb		10 21 04.9	
	comp=Z,6.9nm,0.5s								
VRAC	**Vranov**	**68.06**	**316**	P		**P**		**10 21 10.0**	**-0.8**
	comp=Z,1.9nm,0.3s,baz=59,slow=8.6,SNR=3.1								
VTS	**Vitosha**	**68.07**	**308**	P		**P**		**10 21 11.8**	**+0.5**
VTS				pmax		pmax			
	comp=Z,8.0nm,0.8s								
VTS	**Vitosha**	**68.07**	**308**	P		**P**		**10 21 11.8**	**+0.5**
CLL	**Collm**	**68.72**	**320**	Lm		MLR		10 54 00.0	
	comp=Z,200nm,18.0s								
CLL	**Collm**	**68.72**	**320**	*e*P		**P**		**10 21 16.0**	**+1.0**
CLL	**Collm**	**68.72**	**320**	*e*P		**P**		**10 21 16.0**	**+1.0**
YKA	**Yellowknife Ar**	**69.53**	**23**	P		**P**		**10 21 17.9**	**-1.9**
	comp=Z,1.5nm,0.5s,baz=329,slow=5.1,SNR=8.7								
GERES	**GERESS Array B**	**69.86**	**317**	P		**P**		**10 21 21.3**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=46,slow=7.0,SNR=5.7								
GERES				LR		LR		10 54 55.9	
	comp=Z,66nm,19.4s,baz=42,slow=38								
GERES	**GERESS Array B**	**69.86**	**317**	*e*P		**P**		**10 21 22.2**	**0.0**
GERES				pmax		pmax			
	comp=Z,1.0nm,0.7s								
DY2G	**Dye2**	**73.56**	**354**	*i* P		**P**		**10 21 44.6**	**+0.2**
DY2G				IAmb		IAmb		10 21 45.8	
	comp=Z,14nm,0.6s								
NRCA	**Norcia**	**73.92**	**313**	P		**P**		**10 21 46.4**	**-0.3**
HLID	**Hailey**	**84.21**	**36**	P		**P**		**10 22 42.4**	**-0.7**
HLID				IAmb		IAmb		10 22 46.4	
	comp=Z,3.6nm,0.9s								
ESDC	**Sonseca Array**	**85.31**	**319**	P		**P**		**10 22 47.8**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=24,slow=4.9,SNR=4.5								
ULM	**Lac du Bonnet**	**85.40**	**22**	LR		LR		11 04 57.8	
	comp=Z,36nm,18.0s,baz=108,slow=38								
NVAR	**Mina Array Bea**	**86.30**	**41**	P		**P**		**10 22 52.4**	**-1.3**
	comp=Z,1.3nm,0.7s,baz=315,slow=3.5,SNR=14								
PDAR	**Pinedale Array**	**86.98**	**33**	P		**P**		**10 22 56.1**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=321,slow=1.3,SNR=3.9								
NVL	**N'lazarevskaya**	**132.43**	**205**	*e*PKHKP		PKPpre		10 28 58.6	
NVL				pmax		pmax			
	comp=Z,10.0nm,0.7s								

LJU 14 10:19:33.8, 45.78N×14.56E, h0km, ML0.5, Suspected explosion, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEY	**Cerknica**	**0.10**	**247**	*i* Pg	Pg	10 19 35.3	-0.4
CEY				*i* Sg	Sg	10 19 37.4	+0.4
CEY				IAML		10 19 38.8	
	comp=Z,16nm,0.1s						
GBAS	**Gorenja Brezov**	**0.18**	**332**	*i* Pg	Pg	10 19 36.6	-0.5
GBAS				*i* Sg	Sg	10 19 39.8	+0.4
GBAS				IAML		10 19 41.2	
	comp=Z,13nm,0.2s						
VISS	**Visnje**	**0.20**	**83**	*e*Pg		10 19 37.1	-0.4
VISS				*e*Sg	Sg	10 19 40.4	+0.3
VISS				IAML		10 19 41.5	
	comp=Z,5.5nm,0.2s						
KNDS	**Knezji Dol**	**0.28**	**207**	*i* Pg	Pg	10 19 38.9	-0.3
KNDS				*e*Sg	Sg	10 19 44.1	+1.3
KNDS				IAML		10 19 47.9	
	comp=Z,7.4nm,0.2s						
GBRS	**Gornja Briga**	**0.30**	**145**	*i* Pg	Pg	10 19 39.9	+0.3
GBRS				*i* Sg	Sg	10 19 45.0	+1.4
GBRS				IAML		10 19 45.9	
	comp=Z,2.6nm,0.1s						
JAVS	**Javornik**	**0.36**	**288**	*i* Pg	Pg	10 19 40.7	-0.1
JAVS				*i* Sg	Sg	10 19 46.8	+1.3
JAVS				IAML		10 19 48.6	
	comp=Z,1.8nm,0.1s						
CRNS	**Crni Vrh**	**0.37**	**326**	*i* Pg	Pg	10 19 41.4	+0.6
CRNS				*e*Sg	Sg	10 19 46.5	+0.9
CRNS				IAML		10 19 48.3	
	comp=Z,2.1nm,0.1s						
PDKS	**Podkum**	**0.42**	**47**	*i* Pg	Pg	10 19 41.9	+0.1
PDKS				*i* Sg	Sg	10 19 48.2	+1.0
PDKS				IAML		10 19 49.3	
	comp=Z,2.6nm,0.1s						
VOJS	**Vojsko**	**0.54**	**298**	*i* Sg	Sg	10 19 52.0	+1.0
VOJS				IAML		10 19 54.0	
	comp=Z,3.2nm,0.2s						

IDC ***14*** *10:21:29.7±1.8, 58.67S×25.82W, h0km, mb4.4/3, mb1 4.3/4, mb1mx3.9/19, mbtmp4.4/4, ML4.6/1, Error ellipse: s-maj=53.4km s-min=44.8km az=78.0*

ISC 14 10:21:35.2±1.7, 58.7S±0.1×25.6W±0.4, h35km, n14, σ0.870/9, mb4.5/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**14.03**	**156**	P	**Pn**	**10 24 51.8**	**+0.6**
VNA3	**Neumayer Olymp**	**14.22**	**159**	P	**Pn**	**10 24 53.6**	**-0.1**
VNA2	**Neumayer--Watz**	**14.43**	**156**	P	**Pn**	**10 24 56.1**	**-0.4**
	baz=318,slow=14						
SNAA	**Sanae**	**15.99**	**154**	P	**Pn**	**10 25 17.7**	**+0.6**
SNAA	**Sanae**	**15.99**	**154**	Pn	**Pn**	**10 25 17.8**	**+0.7**
	2.3nm,0.3s,baz=317,slow=15,SNR=131						
BOSA	**Boshof**	**45.90**	**72**	P	**P**	**10 29 53.6**	**-0.7**
	1.9nm,0.9s,baz=208,slow=4.9,SNR=3.6						
H10S2	**ASCENSION HYDR**	**50.33**	**14**	T	T	11 24 60.0	
	baz=33,slow=74,SNR=12						
H10S3	**ASCENSION HYDR**	**50.33**	**14**	T	T	11 24 56.7	
	baz=187,slow=74,SNR=21						
H10N1	**ASCENSION HYDR**	**51.45**	**14**	T	T	11 26 22.5	
	baz=181,slow=71,SNR=19						
H10N3	**ASCENSION HYDR**	**51.45**	**14**	T	T	11 26 25.2	
	baz=181,slow=71,SNR=29						
H10N2	**ASCENSION HYDR**	**51.46**	**14**	T	T	11 26 24.0	
	baz=181,slow=71,SNR=27						
DBIC	**Dimbokro**	**67.26**	**22**	P	**P**	**10 32 26.4**	**+0.5**
	5.7nm,1.1s,baz=200,slow=8.6,SNR=1.3						
TORD	**Torodi Ar. Bea**	**74.98**	**28**	P	**P**	**10 33 13.1**	**+0.5**
	2.4nm,0.4s,baz=200,slow=6.3,SNR=37						
ILAR	**Eielson Array**	**152.45**	**308**	PKPbc	**PKPbc**	**10 41 25.2**	**-0.8**
	0.9nm,0.9s,baz=119,slow=3.2,SNR=6.2						

LVSN ***14*** *10:33:39.5±4.8, 59.67N×24.51E, h0km±318km, ML1.6*

HEL 14 10:33:43.2±0.4, 60.08N×23.67E, h0km, ML1.3, Explosion, Finland

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

ISC 14 11:16:43.5±2.0, 8°20N±0°06×83°27W±0°04, h14km±12km, n59, σ1°19/53, mb3.8/7, MS3.3/6, 4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTJ1	**Puerto Jimnez**	**0.33**	**354**	*eP*	**Pb**	**11 16 51.2**	**0.0**
PTJ1				*eS*	**Sn**	**11 16 58.4**	**-2.1**
CDITO	**Canoas**	**0.54**	**47**	⇓*iP*	**Pb**	**11 16 54.6**	**-0.1**
CDITO				*eS*	**Sb**	**11 17 01.9**	**-0.4**
CDITO	**Canoas**	**0.54**	**47**		**Pb**	**11 16 54.6**	**-0.1**
CDITO				Sg	**Sn**	**11 17 03.9**	**-1.7**
BRU2	**Volcan**	**0.82**	**44**	⇓*iP*	**Pb**	**11 16 59.7**	**+0.1**
BRU2				*eS*	**Sn**	**11 17 11.9**	**-0.9**
BRU2	**Volcan**	**0.82**	**44**		**Pb**	**11 16 59.9**	**+0.3**
BRU2				Sg	**Sn**	**11 17 12.3**	**-0.5**
SRBA	**San Rafael, Bu**	**1.03**	**355**	Pn	**Pn**	**11 17 03.1**	**-0.4**
DRK0	**Durika**	**1.05**	**1**	Pn	**Pn**	**11 17 03.5**	**-0.5**
PEZE	**Perez Zeledon,**	**1.24**	**341**	Pn	**Pn**	**11 17 06.2**	**-0.3**
CHGR2	**Aguacate**	**1.33**	**57**	⇓*iP*	**Pn**	**11 17 07.2**	**-0.5**
CHGR2				*eS*	**Sn**	**11 17 24.9**	**-0.3**
RGM0	**Gandoca**	**1.52**	**25**	Pn	**Pg**	**11 17 12.2**	**-0.7**
RIMA	**Rio Macho**	**1.66**	**339**	Pn	**Pn**	**11 17 12.4**	**+0.1**
CVTR	**Volcan Turrial**	**1.87**	**345**	Pn	**Pn**	**11 17 16.2**	**+0.7**
BATAN	**Batan**	**1.89**	**357**	⇓*iP*	**Pb**	**11 17 16.9**	**-0.9**
BATAN	**Batan**	**1.89**	**357**	Pn	**Pb**	**11 17 16.8**	**-0.9**
HDC	**Heredia**	**1.97**	**335**	Pn	**Pn**	**11 17 17.1**	**+0.5**
CAO2	**Cobano, Puntar**	**2.34**	**309**	Pn	**Pn**	**11 17 20.3**	**-1.3**
CACAO	**El Cacao, Vera**	**2.53**	**110**	*eP*	**Pn**	**11 17 22.8**	**-1.4**
JTS	**Las Juntas de**	**2.66**	**321**	Pn	**Pn**	**11 17 27.2**	**+1.2**
	66nm,0.3s,baz=162,slow=20,SNR=215						
JTS				LR	LR	11 17 51.9	
	comp=Z,45nm,21.7s,baz=200,slow=25						
JTS				Sn	**Sn**	**11 17 56.0**	**-2.0**
	103nm,0.3s,baz=25,slow=22,SNR=10						
JTS	**Las Juntas de**	**2.66**	**321**	*eP*	**Pn**	**11 17 27.4**	**+1.4**
JTS				*eS*	**Sn**	**11 17 56.4**	**-1.6**
JTS	**Las Juntas de**	**2.66**	**321**		**Pn**	**11 17 25.5**	**-0.5**
DUNO	**Dulce Nombre,**	**2.88**	**310**	Pn	**Pn**	**11 17 28.9**	**-0.1**
AZU	**Azuero**	**2.99**	**98**	*eP*	**Pn**	**11 17 31.1**	**+0.5**
ORTG	**Ortega, Santa**	**3.05**	**315**	Pn	**Pn**	**11 17 31.3**	**-0.1**
HZTE	**Horizontes, Gu**	**3.39**	**318**	Pn	**Pn**	**11 17 35.1**	**-0.9**
BCIP	**Isla Barro Col**	**3.52**	**74**		**Pn**	**11 17 39.2**	**+1.3**
ACON	**Acoyapa**	**4.18**	**334**	Pn	**Pn**	**11 17 47.6**	**+0.7**
MATN	**Matagalpa**	**5.37**	**331**	Pn	**Pn**	**11 18 03.2**	**-0.2**
CNGN	**Cerro Negro**	**5.44**	**322**	Pn	**Pn**	**11 18 04.4**	**+0.1**
PRVC	**Isla de Provid**	**5.47**	**20**	*eP*	**Pn**	**11 18 04.4**	**-0.2**
PRVC	**Isla de Provid**	**5.47**	**20**		**Pn**	**11 18 05.4**	**+0.7**
CRIN	**San Cristobal**	**5.81**	**321**	Pn	**Pn**	**11 18 08.1**	**-1.3**
SJCC	**San Jacinto, C**	**8.16**	**77**	Pn	**Pn**	**11 18 42.5**	**+0.8**
MTDJ	**Mount Denham**	**11.42**	**29**	Pn	**Pn**	**11 19 27.9**	**+1.6**
SDV	**Santo Domingo**	**12.52**	**86**	LR	LR	11 25 48.3	
	comp=Z,96nm,18.3s,baz=288,slow=45						
CMIG	**Matias Romero**	**14.36**	**309**	Pn	**Pn**	**11 20 07.5**	**+1.0**
	0.7nm,0.3s,baz=132,slow=7.3,SNR=8.7						
CMIG				Sn	**Sn**	**11 22 45.0**	**-0.7**
	0.1nm,0.3s,baz=200,slow=23,SNR=0.9						
ATAH	**Atahualpa**	**15.99**	**162**	LR	LR	11 25 57.4	
	comp=Z,217nm,18.5s,baz=0.6,slow=35						
BANI	**BANI**	**16.13**	**50**	Pn	**Pn**	**11 20 30.4**	**+0.4**
SJG	**San Juan**	**19.34**	**58**	LR	LR	11 28 37.7	
	comp=Z,61nm,18.8s,baz=246,slow=38						
SAML	**Samuel**	**26.28**	**130**	P	**P**	**11 22 18.8**	**0.0**
TKL	**Tuckaleechee C**	**27.33**	**359**	LR	LR	11 34 09.7	
	comp=Z,87nm,18.3s,baz=178,slow=38						
WHAR	**Wooly Hollow**	**28.20**	**344**	P	**P**	**11 22 35.5**	**-0.3**
WHAR				IAmb	IAmb	11 22 47.1	
	comp=Z,4.7nm,0.7s						
TXAR	**Lajitas Array**	**28.45**	**320**	P	**P**	**11 22 42.6**	**+4.4**
	comp=Z,0.1nm,0.5s,baz=123,slow=9.8,SNR=1.9						
LCAR	**Lake Charles**	**28.63**	**347**	P	**P**	**11 22 39.8**	**-0.1**
H06E1	**SOCORRO T-PHAS**	**28.83**	**294**	T	T	11 52 46.2	
	SNR=75						
PDAR	**Pinedale Array**	**41.46**	**330**	LR	LR	11 44 20.1	
	comp=Z,34nm,18.7s,baz=98,slow=40						
H03N2	**Juan Fernandez**	**41.62**	**175**	T	T	12 09 07.4	
	baz=354,slow=76,SNR=29						
H03N1	**Juan Fernandez**	**41.62**	**175**	T	T	12 09 08.4	
	baz=354,slow=76,SNR=46						
H03N3	**Juan Fernandez**	**41.63**	**175**	T	T	12 09 07.1	
	baz=354,slow=76,SNR=50						
ULM	**Lac du Bonnet**	**43.21**	**348**	LR	LR	11 42 52.1	
	comp=Z,33nm,18.9s,baz=159,slow=36						
RPN	**Rapa Nui**	**43.26**	**215**	LR	LR	11 38 36.9	
	comp=Z,40nm,18.1s,baz=66,slow=30						
NVAR	**Mina Array Bea**	**43.59**	**319**	P	**P**	**11 24 49.9**	**+2.3**
	comp=Z,0.7nm,0.5s,baz=129,slow=9.7,SNR=5.7						
PLCA	**Paso Flores**	**50.09**	**167**	P	**P**	**11 25 37.2**	**-1.0**
	comp=Z,1.6nm,0.9s,baz=340,slow=8.9,SNR=4.6						
ILAR	**Eielson Array**	**71.54**	**3**		**P**	**11 28 04.2**	**+0.3**
	comp=Z,0.5nm,1.0s,baz=108,slow=4.5,SNR=5.3						
ESDC	**Sonseca Array**	**76.59**	**51**	P	**P**	**11 28 31.5**	**-2.4**
	comp=Z,0.8nm,0.9s,baz=284,slow=6.0,SNR=2.2						
TORD	**Torodi Ar. Bea**	**83.30**	**78**	P	**P**	**11 29 09.5**	**-1.1**
	comp=Z,0.7nm,1.0s,baz=294,slow=6.6,SNR=2.5						
NOA	**NORSAR Array B**	**85.06**	**29**	LR	LR	12 04 58.6	
	comp=Z,9.1nm,19.8s,baz=315,slow=34						
GERES	**GERESS Array B**	**88.45**	**41**	LR	LR	12 08 38.3	
	comp=Z,21nm,18.9s,baz=278,slow=35						
ASAR	**Alice Springs**	**141.24**	**242**	PKhKP	PKPpre	11 36 07.8	
	comp=Z,0.4nm,0.7s,baz=116,slow=4.1,SNR=4.9						
WRA	**Warramunga Arr**	**141.80**	**248**	PKhKP	PKPpre	11 36 09.7	
	comp=Z,0.8nm,1.0s,baz=108,slow=3.2,SNR=5.5						

IDC 14 11:18:17.2±3.3, 4°88S×148°54E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.3/30, mbtmp3.4/4, Error ellipse: s-maj=76.4km s-min=49.7km az=98.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.38**	**222**	P	P	11 22 55.1	-0.6
	0.6nm,0.9s,baz=48,slow=9.9,SNR=2.5						
ASAR	**Alice Springs**	**23.41**	**216**	P	P	11 23 26.8	-1.2
	0.1nm,0.3s,baz=47,slow=8.4,SNR=6.6						
FITZ	**Fitzroy Crossi**	**25.95**	**238**	P	P	11 23 51.8	+0.1
	1.1nm,0.8s,baz=58,slow=11,SNR=1.5						
STKA	**Stephens Creek**	**27.63**	**193**	P	P	11 24 08.4	+1.7
	1.5nm,0.7s,baz=0.0,slow=4.0,SNR=2.9						
TORD	**Torodi Ar. Bea**	**146.28**	**286**	PKPbc	PKPdf	11 37 59.8	0.0
	0.3nm,0.8s,baz=67,slow=2.8,SNR=1.6						

IDC 14 11:19:59.0±71.0, 15°22S×167°80E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/32, mbtmp3.7/3, Error ellipse: s-maj=1201.0km s-min=122.9km az=66.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**29.07**	**231**	P	P	11 26 00.8	-0.6
	1.7nm,0.8s,baz=67,slow=7.7,SNR=1.8						
WRA	**Warramunga Arr**	**32.20**	**257**	P	P	11 26 29.8	+0.7
	0.6nm,1.0s,baz=87,slow=9.1,SNR=9.3						
ASAR	**Alice Springs**	**32.98**	**250**	P	P	11 26 35.6	-0.3
	0.3nm,0.4s,baz=74,slow=9.7,SNR=20						

*IDC **14** 11:25:21.9±1.2, 30°38S×177°90W, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.9/24, mbtmp4.1/6, ML3.1/1, Error ellipse: s-maj=34.5km s-min=21.0km az=110.0*
*NEIC **14** 11:25:28.0±0.6, 30°29S±0°08×177°9W±0°2, h35km±5km, mb4.3/13, Error ellipse: s-maj=23.7km s-min=11.6km az=90.0*

ISC 14 11:25:26.9±0.9, 30°34S±0°06×177°9W±0°2, h35km, n40, σ1°16/39, mb4.3/11, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.09**	**357**	Pn	**Pn**	**11 25 45.9**	**+0.2**
	116nm,0.3s,baz=30,slow=17,SNR=10						
RAO				Sn	**Sn**	**11 25 57.6**	**-1.9**
	631nm,0.3s,baz=149,slow=23,SNR=16						
RAO	**Raoul Island**	**1.09**	**357**		**Pn**	**11 25 46.0**	**+0.4**
RAO					**Sn**	**11 25 58.8**	**-0.7**
URZ	**Urewera**	**8.92**	**206**	Pn	**Pn**	**11 27 30.4**	**-2.9**
	0.2nm,0.3s,baz=316,slow=22,SNR=1.9						
URZ				Sn	**Sn**	**11 29 09.8**	**-2.8**
	2.0nm,0.3s,baz=194,slow=20,SNR=9.9						
URZ	**Urewera**	**8.92**	**206**		**Pn**	**11 27 33.6**	**+0.3**
BKZ	**Black Stump Fm**	**9.95**	**206**	Pn	**Pn**	**11 27 47.3**	**-0.1**
BSWZ	**Blackbirch Sta**	**13.16**	**208**	Pn	**Pn**	**11 28 30.8**	**-0.5**
THZ	**Tophouse**	**13.62**	**211**	Pn	**Pn**	**11 28 36.5**	**-1.0**
LTZ	**Lake Taylor**	**14.72**	**210**	Pn	**Pn**	**11 28 53.4**	**+0.9**
CTA	**Charters Tower**	**33.91**	**279**	P	**P**	**11 32 09.4**	**+2.6**
	3.2nm,0.5s,baz=100,slow=9.6,SNR=5.5						
CTAO	**Charters Tower**	**33.91**	**279**	P	**P**	**11 32 06.3**	**-0.5**
STKA	**Stephens Creek**	**34.61**	**257**	P	**P**	**11 32 13.2**	**+0.5**
	4.7nm,0.8s,baz=110,slow=9.4,SNR=6.8						
STKA	**Stephens Creek**	**34.61**	**257**	P	**P**	**11 32 13.9**	**+1.2**
STKA				IAmb	IAmb	11 32 16.7	
	comp=Z,1.1nm,0.8s						
AS31	**Alice Springs**	**43.23**	**267**	P	**P**	**11 33 25.0**	**0.0**
ASAR	**Alice Springs**	**43.23**	**267**	P	**P**	**11 33 25.3**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=105,slow=7.5,SNR=21						
ASAR				PcP	**PcP**	**11 35 12.5**	**-1.4**
	comp=Z,0.3nm,0.9s,baz=142,slow=3.1,SNR=1.7						
WR0	**Warramunga Arr**	**44.03**	**272**	P	**P**	**11 33 31.7**	**+0.2**
WR0				IAmb	IAmb	11 33 55.0	
	comp=Z,7.9nm,1.3s						
WB2	**Warramunga Arr**	**44.20**	**272**	P	**P**	**11 33 33.1**	**+0.3**
WB2				IAmb	IAmb	11 33 35.7	
	comp=Z,3.7nm,0.7s						
WRAB	**Tennant Creek**	**44.21**	**272**	P	**P**	**11 33 33.5**	**+0.6**
WRAB				IAmb	IAmb	11 33 35.8	
	comp=Z,3.1nm,0.8s						
WRA	**Warramunga Arr**	**44.22**	**272**	P	**P**	**11 33 33.0**	**0.0**
	comp=Z,2.5nm,0.6s,baz=110,slow=7.8,SNR=33						
WRA	**Warramunga Arr**	**44.22**	**272**	P	**P**	**11 33 32.9**	**0.0**
FORT	**Forrest**	**46.18**	**255**	P	**P**	**11 33 48.6**	**+0.3**
KNRA	**Kununurra**	**50.82**	**274**	P	**P**	**11 34 24.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**52.48**	**270**	P	**P**	**11 34 35.2**	**-1.5**
	comp=Z,1.4nm,0.8s,baz=128,slow=12,SNR=2.1						
FITZ	**Fitzroy Crossi**	**52.48**	**270**	P	**P**	**11 34 36.9**	**+0.2**
FITZ				IAmb	IAmb	11 34 37.6	
	comp=Z,10nm,1.5s						
CASY	**Casey**	**55.25**	**208**	P	**P**	**11 34 57.0**	**+0.8**
CASY				IAmb	IAmb	11 35 26.5	
	comp=Z,6.5nm,1.2s						
QSPA	**South Pole Qui**	**59.77**	**180**	P	**P**	**11 35 29.4**	**+1.1**
QSPA				IAmb	IAmb	11 35 37.6	
	comp=Z,2.7nm,0.8s						
MAW	**Mawson**	**72.40**	**201**	P	**P**	**11 36 50.1**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=124,slow=3.6,SNR=1.7						
MAW	**Mawson**	**72.40**	**201**	P	**P**	**11 36 50.4**	**+1.4**
H03S2	**Juan Fernandez**	**80.40**	**123**	T	T	13 06 46.7	
	baz=238,slow=74,SNR=15						
H03S1	**Juan Fernandez**	**80.41**	**124**	T	T	13 06 47.4	
	baz=238,slow=74,SNR=16						
H03S3	**Juan Fernandez**	**80.42**	**123**	T	T	13 06 47.9	
	baz=238,slow=74,SNR=16						
H03N3	**Juan Fernandez**	**80.59**	**123**	T	T	13 06 57.5	
	baz=241,slow=72,SNR=5.5						
H03N2	**Juan Fernandez**	**80.59**	**123**	T	T	13 06 58.5	
	baz=241,slow=72,SNR=5.1						
H03N1	**Juan Fernandez**	**80.61**	**123**	T	T	13 07 00.4	
	baz=241,slow=72,SNR=12						
FINES	**FINESS Array B**	**145.13**	**340**	PKPbc	**PKPbc**	**11 44 59.5**	**0.0**
	comp=Z,3.9nm,0.6s,baz=55,slow=3.4,SNR=15						
FINES	**FINESS Array B**	**145.13**	**340**		**PKPbc**	**11 44 59.1**	**-0.4**
NOA	**NORSAR Array B**	**148.71**	**351**	PKPbc	**PKPbc**	**11 45 09.3**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=13,slow=4.3,SNR=2.7						
AKASG	**Malin Array Be**	**151.33**	**323**	PKPbc	**PKPbc**	**11 45 15.8**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=47,slow=2.6,SNR=5.7						
AKASG	**Malin Array Be**	**151.33**	**323**		**PKPbc**	**11 45 15.7**	**-0.8**
TORD	**Torodi Ar. Bea**	**162.88**	**179**	PKPab	**PKPab**	**11 46 16.4**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=190,slow=3.1,SNR=3.9						
TORD	**Torodi Ar. Bea**	**162.88**	**179**	PKPdf	**PKPdf**	**11 45 24.2**	**-1.9**
TORD					**PKPab**	**11 46 14.3**	**-0.7**

MEX 14 11:31:01.2±1.0, 24°78N×109°03W, h16km±999km, MD3.6, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSIG	**Topolobambo**	**0.81**	**359**	*iP*	Pb	11 31 14.8	-2.2
TSIG				*iS*	Sb	11 31 23.9	-3.8
LPIG	**La Paz**	**1.35**	**240**	*iP*	Pn	11 31 21.7	-3.6
SSIG	**Sanalona**	**1.72**	**88**	*eP*	Pn	11 31 26.5	-4.0
SSIG				*eS*	Sn	11 31 47.5	-4.6

MAN 14 11:31:03.4, 9°02N×125°63E, h15km, mb4.1, ML2.9, MS2.5, Mindanao

*JMA **14** 11:49:50.8±0.1, 24°09N×121°62E, h54km±1km, M2.4*
*TAP **14** 11:49:51.7, 24°13N×121°65E, h53km, ML3.2, C*

ISC 14 11:49:52.7±1.2, 24°12N±0°02×121°70E±0°02, h46km±4km, n105, σ0°96/199, 3C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETL	**Fush Village**	**0.07**	**299**	P	**Pn**	**11 49 59.7**	**-0.3**
	baz=302						
ETL				S	**Sn**	**11 50 05.6**	**+0.4**
	baz=302						
TWD	**Chiawan**	**0.10**	**245**	⇑*iP*	**Pn**	**11 49 59.8**	**-0.2**
	baz=235						
TWD				*iS*	**Sn**	**11 50 05.4**	**+0.2**
	baz=235						
NACB	**Ninganchiao**	**0.10**	**299**	P	**Pn**	**11 49 59.6**	**-0.4**
	baz=298						
NACB				S	**Sn**	**11 50 05.5**	**+0.3**
	baz=298						
HWA	**Hwalien**	**0.17**	**210**	P	**Pn**	**11 50 00.7**	**+0.4**
	baz=199						
HWA				*eS*	**Sn**	**11 50 06.4**	**+0.7**
	baz=199						
ETLH	**Xiulin Townshi**	**0.21**	**293**	⇑P	**Pn**	**11 50 00.4**	**-0.4**
	baz=296						
ETLH				S	**Sn**	**11 50 06.3**	**-0.2**
	baz=296						
ETM	**Tongmen**	**0.24**	**230**	P	**Pn**	**11 50 00.3**	**-0.7**
	baz=221						
ETM				S	**Sn**	**11 50 06.4**	**-0.4**
	baz=221						
TEYL	**Yanliau Villag**	**0.27**	**199**	P	**Pn**	**11 50 01.3**	**+0.1**
	baz=197						
TEYL				S	**Sn**	**11 50 08.5**	**+1.4**
	baz=197						
ENA	**Nanau**	**0.31**	**8**	P	**Pn**	**11 50 01.4**	**-0.1**
	baz=12						
ENA				S	**Sn**	**11 50 08.9**	**+1.1**
	baz=12						
EWUT	**Wuta**	**0.33**	**13**	P	**Pn**	**11 50 01.8**	**0.0**
	baz=16						
EWUT				S	**Sn**	**11 50 09.0**	**+0.8**
	baz=16						
ESL	**Shilin**	**0.39**	**218**	*iP*	**Pn**	**11 50 01.3**	**-1.1**
	baz=215						
ESL				*iS*	**Sn**	**11 50 08.2**	**-1.1**
	baz=215						
WHF	**Hehuan Shan**	**0.39**	**273**	⇑*iP*	**Pn**	**11 50 02.3**	**-0.6**
	baz=272						
WHF				S	**Sn**	**11 50 10.0**	**-0.1**
	baz=272						
NNSB	**Datong**	**0.42**	**317**	P	**Pn**	**11 50 02.2**	**-0.6**
	baz=320						
NNSB				S	**Sn**	**11 50 09.4**	**-0.6**
	baz=320						
FUSS	**Fushou**	**0.43**	**287**	*iP*	**Pn**	**11 50 02.7**	**-0.4**
	baz=287						
FUSS				*iS*	**Sn**	**11 50 10.5**	**0.0**
	baz=287						
TEGC	**Jichi Village**	**0.43**	**199**	P	**Pn**	**11 50 03.9**	**+1.0**
	baz=192						
TEGC				S	**Sn**	**11 50 12.2**	**+2.0**
	baz=192						
CHGB	**Renai**	**0.48**	**263**	P	**Pn**	**11 50 03.3**	**-0.4**
	baz=257						
CHGB				S	**Sn**	**11 50 11.2**	**-0.3**
	baz=257						
TWT	**Tachien**	**0.49**	**285**	P	**Pn**	**11 50 03.5**	**-0.3**
	baz=285						
TWT				S	**Sn**	**11 50 11.9**	**+0.2**
	baz=285						
OWD	**Renai**	**0.50**	**251**	*iP*	**Pn**	**11 50 03.4**	**-0.5**
	baz=248						
OWD				*iS*	**Sn**	**11 50 11.2**	**-0.6**
	baz=248						
TWC	**Suao**	**0.51**	**16**	*iP*	**Pn**	**11 50 03.9**	**+0.1**
	baz=16						
TWC				*iS*	**Sn**	**11 50 13.0**	**+1.3**
	baz=16						
NDT	**Datong Townshi**	**0.51**	**341**	*iP*	**Pn**	**11 50 03.4**	**-0.4**
	baz=350						
NDT				*iS*	**Sn**	**11 50 11.6**	**-0.2**
	baz=350						
TDCB	**Techi**	**0.51**	**285**	P	**Pn**	**11 50 03.5**	**-0.4**
	baz=282						
TDCB				S	**Sn**	**11 50 11.7**	**-0.3**
	baz=282						
NDS	**Dongshan**	**0.51**	**2**	P	**Pn**	**11 50 03.4**	**-0.5**
	baz=1.0						
NDS				S	**Sn**	**11 50 11.4**	**-0.3**
	baz=1.0						
EGFH	**Guangfu**	**0.51**	**209**	*i*P	**Pn**	**11 50 02.8**	**-1.1**
	baz=212						
EGFH				*i*S	**Sn**	**11 50 11.1**	**-0.8**
	baz=212						
ENTT	**Nioudou**	**0.53**	**347**	P	**Pn**	**11 50 03.6**	**-0.5**
	baz=355						
ENTT				S	**Sn**	**11 50 11.7**	**-0.6**
	baz=355						
TWE	**Neicheng**	**0.60**	**358**	*i*P	**Pn**	**11 50 04.3**	**-0.6**
	baz=358						
TWE				S	**Sn**	**11 50 13.0**	**-0.7**
	baz=358						
NSK	**Sanguang**	**0.63**	**331**	P	**Pn**	**11 50 04.9**	**-0.6**
	baz=341						
NSK				S	**Sn**	**11 50 13.7**	**-1.0**
	baz=341						
ILA	**Ilan**	**0.64**	**4**	*e*S	**Sn**	**11 50 16.4**	**+1.6**
	baz=2.0						
HGSD	**Ruisui**	**0.68**	**202**	P	**Pn**	**11 50 05.5**	**-0.5**
	baz=207						
HGSD				S	**Sn**	**11 50 17.5**	**+2.0**
	baz=207						
NWLT	**Wulai**	**0.68**	**345**	*i*P	**Pn**	**11 50 05.6**	**-0.4**
	baz=348						
NWLT				*i*S	**Sn**	**11 50 15.0**	**-0.6**
	baz=348						
WPL	**Puli Township**	**0.68**	**261**	P	**Pn**	**11 50 05.8**	**-0.2**
	baz=260						
WPL				S	**Sn**	**11 50 15.7**	**0.0**
	baz=260						
WHP	**Taichung City**	**0.70**	**283**	*i*P	**Pn**	**11 50 06.4**	**+0.1**
	baz=283						
WHP				*i*S	**Sn**	**11 50 16.7**	**+0.4**
	baz=283						
EHY	**Hungye**	**0.70**	**209**	P	**Pn**	**11 50 04.3**	**-2.0**
	baz=205						
EHY				S	**Sn**	**11 50 14.6**	**-1.6**
	baz=205						
DPDB	**Guoxing**	**0.71**	**263**	P	**Pn**	**11 50 06.0**	**-0.4**
	baz=262						
DPDB				S	**Sn**	**11 50 16.9**	**+0.5**
	baz=262						
WCS	**Beigang Elemen**	**0.72**	**265**	P	**Pn**	**11 50 06.3**	**-0.2**
	baz=264						
WCS				S	**Sn**	**11 50 16.4**	**-0.1**
	baz=264						
NTC	**Toucheng**	**0.74**	**10**	*i*P	**Pn**	**11 50 06.6**	**-0.2**
	baz=3.0						
NTC				S	**Sn**	**11 50 16.6**	**-0.5**
	baz=3.0						
EGS		**0.75**	**17**	*i*P	**Pn**	**11 50 07.5**	**+0.6**
	baz=13						
EGS				*i*S	**Sn**	**11 50 19.1**	**+1.8**
	baz=13						
SSLB	**Suanglung**	**0.76**	**244**	P	**Pn**	**11 50 07.0**	**0.0**
	baz=242						
SSLB				S	**Sn**	**11 50 18.2**	**+0.8**
	baz=242						
SMLT	**Sun Moon Lake**	**0.77**	**252**	*i*P	**Pn**	**11 50 07.5**	**+0.3**
	baz=246						
SMLT				*i*S	**Sn**	**11 50 18.0**	**+0.2**
	baz=246						
TYC	**Yuchr**	**0.80**	**254**	P	**Pn**	**11 50 07.5**	**-0.1**
	baz=249						
TYC				S	**Sn**	**11 50 18.9**	**+0.6**
	baz=249						
LIOB	**Emei**	**0.81**	**310**	*i*P	**Pn**	**11 50 07.8**	**0.0**
	baz=312						
LIOB				*i*S	**Sn**	**11 50 19.2**	**+0.4**
	baz=312						
NSTT	**Nanjuang**	**0.81**	**309**	*i*P	**Pn**	**11 50 07.6**	**-0.1**
	baz=310						
NSTT				*i*S	**Sn**	**11 50 19.5**	**+0.8**
	baz=310						
YULB	**Yu-li**	**0.81**	**207**	P	**Pn**	**11 50 05.8**	**-2.1**
	baz=204						
YULB				S	**Sn**	**11 50 16.7**	**-2.1**
	baz=204						
NJD	**Zhudong**	**0.82**	**318**	P	**Pn**	**11 50 09.0**	**+1.1**
	baz=325						
NJD				*i*S	**Sn**	**11 50 20.0**	**+1.0**
	baz=325						
ECBN	**Changbin**	**0.83**	**196**	P	**Pn**	**11 50 07.7**	**-0.4**
	baz=201						
ECBN				S	**Sn**	**11 50 20.3**	**+1.1**
	baz=201						
EYUL	**Yuli**	**0.84**	**204**	*i*P	**Pn**	**11 50 07.7**	**-0.5**
	baz=208						
EYUL				*e*S	**Sn**	**11 50 19.1**	**-0.5**
	baz=208						
TWF1	**Yuli**	**0.85**	**206**	P	**Pn**	**11 50 06.4**	**-1.9**
	baz=207						
NHDH	**Xindian Distri**	**0.85**	**350**	*i*P	**Pn**	**11 50 07.8**	**-0.5**
	baz=352						
NHDH				*i*S	**Sn**	**11 50 19.6**	**-0.1**
	baz=352						
TIPB	**Shuangxi**	**0.85**	**8**	*i*P	**Pn**	**11 50 08.2**	**-0.2**
	baz=4.0						
TIPB				S	**Sn**	**11 50 19.8**	**0.0**
	baz=4.0						
TWA	**Mucha**	**0.86**	**353**	*i*P	**Pn**	**11 50 07.9**	**-0.6**
	baz=345						
TWA				*i*S	**Sn**	**11 50 19.9**	**0.0**
	baz=345						
TATO	**Taipei**	**0.87**	**348**	P	**Pn**	**11 50 07.8**	**-0.7**
	baz=349						
TATO				S	**Sn**	**11 50 19.3**	**-0.9**
	baz=349						
TWQ1	**Liyutan**	**0.87**	**285**	*i*P	**Pn**	**11 50 08.5

NCUH	**Zhongli** baz=332	**0.96**	**331**	*e*P		**Pn**	**11 50 09.6**	**-0.2**
NCUH	baz=332			*e*S		**Sn**	**11 50 23.2**	**+0.8**
NCU	**National Centr** baz=333	**0.96**	**331**	*e*S		**Sn**	**11 50 23.2**	**+0.8**
WDJ	**Dajia District** baz=283	**0.99**	**283**	P		**Pn**	**11 50 09.6**	**-0.6**
WDJ	baz=283			*e*S		**Sn**	**11 50 23.0**	**0.0**
FULB	**Fuli** baz=208	**0.99**	**202**	*i* P		**Pn**	**11 50 08.9**	**-1.3**
FULB	baz=208			*i* S		**Sn**	**11 50 23.8**	**+0.7**
TWS1	**Kuangyinshan** baz=357	**1.01**	**346**	P		**Pn**	**11 50 08.6**	**-1.8**
TWS1	baz=357			S		**Sn**	**11 50 22.2**	**-1.2**
ALS	**Alishan** baz=224	**1.02**	**233**	*i* P		**Pn**	**11 50 10.9**	**0.0**
ALS	baz=224			*i* S		**Sn**	**11 50 24.9**	**+0.8**
TNOU	**National Taiwa** baz=353	**1.02**	**4**	*e*P		**Pn**	**11 50 09.4**	**-1.3**
TNOU	baz=353			*e*S		**Sn**	**11 50 23.4**	**-0.5**
YM01	**YM01** baz=355	**1.03**	**354**	*e*P		**Pn**	**11 50 09.3**	**-1.4**
YM01	baz=355			*e*S		**Sn**	**11 50 22.5**	**-1.5**
WYL	**Yuanlin Townsh** baz=260	**1.03**	**261**	S		**Sn**	**11 50 25.1**	**+1.1**
WCHH	**Zhanghua** baz=267	**1.04**	**268**	*e*P		**Pn**	**11 50 11.4**	**+0.5**
WCHH	baz=267			*e*S		**Sn**	**11 50 24.6**	**+0.4**
NTST	**Danshui** baz=360	**1.06**	**348**	*e*S		**Sn**	**11 50 25.7**	**+0.9**
CHKT	**Chengkung** baz=200	**1.06**	**197**	*i* P		**Pn**	**11 50 10.3**	**-0.9**
CHKT	baz=200			*i* S		**Sn**	**11 50 24.9**	**+0.2**
YM08	**YM08** baz=346	**1.06**	**355**	*e*P		**Pn**	**11 50 09.6**	**-1.7**
YM08	baz=346			S		**Sn**	**11 50 23.3**	**-1.6**
CHN5	**Tsauling** baz=232	**1.07**	**241**	P		**Pn**	**11 50 11.3**	**0.0**
CHN5	baz=232			S		**Sn**	**11 50 26.8**	**+1.7**
ANP	**Anpu** baz=353	**1.07**	**351**	P		**Pn**	**11 50 09.4**	**-2.0**
ECS	**Chishang** baz=208	**1.11**	**203**	P		**Pn**	**11 50 10.9**	**-0.9**
ECS	baz=208			*e*S		**Sn**	**11 50 25.9**	**-0.2**
ELDTW	**Lidau** baz=204	**1.12**	**214**	*i* P		**Pn**	**11 50 10.6**	**-1.4**
ELDTW	baz=204			*i* S		**Sn**	**11 50 25.8**	**-0.5**
WGK	**Gukeng** baz=246	**1.12**	**247**	P		**Pn**	**11 50 12.1**	**+0.1**
WGK	baz=246			*i* S		**Sn**	**11 50 28.3**	**+2.0**
WDLH	**Douliu** baz=247	**1.14**	**248**	*i* P		**Pn**	**11 50 12.4**	**+0.2**
WDLH	baz=247			*i* S		**Sn**	**11 50 28.4**	**+1.6**
TWY	**Chenhua** baz=348	**1.15**	**356**	*e*P		**Pn**	**11 50 11.3**	**-1.1**
JYNG	**Yonagunijimaku**	**1.19**	**74**	P		**Pn**	**11 50 12.9**	**+0.1**
JYNG				S		**Sn**	**11 50 28.9**	**+1.1**
EDH	**Donghe** baz=196	**1.20**	**197**	*i* P		**Pn**	**11 50 11.4**	**-1.6**
EDH	baz=196			*i* S		**Sn**	**11 50 28.3**	**+0.2**
WRL	**Guolierlin Hig** baz=259	**1.23**	**260**	P		**Pn**	**11 50 12.2**	**-1.2**
WRL	baz=259			S		**Sn**	**11 50 28.5**	**-0.3**
CHN2	**Minshiung** baz=241	**1.26**	**242**	P		**Pn**	**11 50 14.6**	**+0.7**
CHN2	baz=241			*i* S		**Sn**	**11 50 32.3**	**+2.6**
STYH	**Taoyuan** baz=220	**1.27**	**222**	P		**Pn**	**11 50 14.3**	**+0.4**
STYH	baz=220			S		**Sn**	**11 50 30.4**	**+0.6**
WTK	**Tuku** baz=263	**1.27**	**250**	*i* P		**Pn**	**11 50 13.5**	**-0.5**
WTK	baz=263			*i* S		**Sn**	**11 50 31.0**	**+1.1**
TPUB	**Ta-pu** baz=229	**1.27**	**230**	P		**Pn**	**11 50 14.0**	**-0.1**
TPUB	baz=229			S		**Sn**	**11 50 32.2**	**+2.1**
STYT	**Tauyuan** baz=220	**1.28**	**222**	P		**Pn**	**11 50 14.9**	**+0.7**
STYT	baz=220			S		**Sn**	**11 50 31.2**	**+0.8**
LONT	**Longtian** baz=193	**1.32**	**203**	*i* P		**Pn**	**11 50 12.3**	**-2.4**
LONT	baz=193			*i* S		**Sn**	**11 50 29.2**	**-1.9**
CHY	**Chiayi** baz=230	**1.32**	**242**	P		**Pn**	**11 50 15.2**	**+0.5**
CHY	baz=230			*i* S		**Sn**	**11 50 32.8**	**+1.7**
WTP	**Ta-pu** baz=227	**1.32**	**229**	*i* P		**Pn**	**11 50 15.0**	**+0.3**
WTP	baz=227			*i* S		**Sn**	**11 50 33.2**	**+2.0**
TWK	**Hsinying** baz=231	**1.40**	**233**	P		**Pn**	**11 50 16.0**	**+0.2**
TWK	baz=231			S		**Sn**	**11 50 34.7**	**+1.7**
TWG	**Pinlang** baz=192	**1.42**	**204**	*i* P		**Pn**	**11 50 13.6**	**-2.4**
TWG	baz=192			*i* S		**Sn**	**11 50 30.7**	**-2.8**
SNST	**Tainan City** baz=230	**1.42**	**231**	*i* P		**Pn**	**11 50 16.1**	**+0.1**
SNST	baz=230			*i* S		**Sn**	**11 50 33.9**	**+0.3**
CHN1	**Nanshi** baz=228	**1.42**	**229**	*i* P		**Pn**	**11 50 16.1**	**+0.1**
CHN1	baz=228			*i* S		**Sn**	**11 50 35.3**	**+1.7**
WSF	**Szhu** baz=260	**1.43**	**251**	S		**Sn**	**11 50 34.9**	**+1.0**
IRIF	**Iriomote-Funau**	**1.87**	**83**	P		**Pn**	**11 50 22.0**	**-0.2**
IRIF				*e*S		**Sn**	**11 50 45.2**	**+0.6**
JKRS	**Kuro-shima**	**2.12**	**86**	P		**Pn**	**11 50 26.0**	**+0.4**
JKRS				*e*S		**Sn**	**11 50 51.5**	**+0.8**
JIJ	**Ishigaki jima**	**2.25**	**83**	P		**Pn**	**11 50 27.2**	**-0.2**
JIJ				S		**Sn**	**11 50 53.3**	**-0.6**
JISG	**Ishigakijimahi**	**2.43**	**78**	P		**Pn**	**11 50 29.9**	**0.0**
JISG				S		**Sn**	**11 50 58.2**	**-0.2**
JTJ	**Tarama**	**2.79**	**79**	P		**Pn**	**11 50 35.2**	**+0.4**
JTJ				*e*S		**Sn**	**11 51 08.4**	**+1.2**

IDC **14** *12:02:14.0±4.0, 24°.64N×94°.94E, h96km±42km, mb3.1/3, mb1 3.2/4, mb1mx3.0/40, mbtmp3.4/4, Error ellipse: s-maj=62.6km s-min=23.0km az=68.0*

ISC 14 12:02:12.0±2.3, 24°.6N±0°.3×94°.6E±0°.6, h82km, n4, σ1s02/4, mb3.3/3, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=325,slow=13,SNR=14	**7.29**	**146**	P	**Pn**	**12 03 56.5**	**+0.6**
MKAR	**Makanchi Array** 0.4nm,0.4s,baz=155,slow=9.4,SNR=5.2	**24.27**	**339**	P	**P**	**12 07 21.7**	**+0.2**
SONM	**Songino Array** 0.8nm,0.6s,baz=208,slow=9.5,SNR=4.2	**25.04**	**19**	P	**P**	**12 07 28.7**	**+0.1**
WRA	**Warramunga Arr** 0.1nm,0.4s,baz=316,slow=6.4,SNR=6.4	**58.76**	**135**	P	**P**	**12 12 00.9**	**-0.8**

INET **14** *12:09:40.6, 12°.96N×86°.59W, h17km, ML3.9*

SNET 14 12:09:45.4±1.4, 13°.62N×87°.61W, h160km±12km, ML3.3, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.41**	**213**	*e*P	Pn	12 10 07.3	-0.4
CNCH				*e*S	Sn	12 10 25.4	+0.8
LCND	**La Caada**	**0.41**	**221**	*e*P	Pn	12 10 08.1	+0.6
LCND				*e*S	Sn	12 10 25.6	+1.2
LCND				IAML		12 10 32.4	
	comp=Z,829nm,0.5s						
TGUH	**Tegucigalpa,Un**	**0.54**	**37**	*e*P	Pn	12 10 08.7	+0.5
TGUH				*e*S	Sn	12 10 25.6	-0.3
JUCU	**Jucuarn** comp=Z,343nm,0.4s	**0.72**	**240**	IAML		12 10 39.5	
TACO	**Tacachico**	**1.73**	**282**	*e*P	Pn	12 10 19.2	+1.0
TACO				IAML		12 10 19.6	
	comp=Z,132nm,0.3s						
JAYA	**Jayaque - finc**	**1.79**	**271**	*e*P	Pn	12 10 18.5	-0.5
JAYA				IAML		12 10 40.2	
	comp=Z,185nm,0.2s						

IASPEI **14** *12:09:46.3±0.9, 42°.65N±0°.02×75°.02E±0°.02, h8km±5km, Error ellipse: s-maj=2.9km s-min=2.3km az=157.8, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

KNET **14** *12:09:46.0±0.3, 42°.65N×75°.04E, h6km±5km, ml2.0, Error ellipse: s-maj=2.1km s-min=1.4km az=55.0*

SOME **14** *12:09:46.9, 42°.63N×75°.03E, h10km*

NNC **14** *12:09:46.7±0.4, 42°.67N×75°.01E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=4.0km s-min=2.1km az=178.0*

KRNET **14** *12:09:46.5±0.1, 42°.65N×75°.02E, h15km, mb3.0*

ISC 14 12:09:46.8±0.8, 42°.67N±0°.02×74°.99E±0°.01, h7km±5km, n81, σ1s01/150, 32C-26D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBK	**Karagaybulak** baz=82	**0.04**	**242**	⇑*i*P	**Pg**	**12 09 48.4**	**-0.2**
KBK	baz=82			⇑*i*S	**Sg**	**12 09 49.6**	**-0.2**
KBK	**Karagaybulak** 895nm,0.1s,SNR=845	**0.04**	**242**	⇑P	**Pg**	**12 09 48.4**	**-0.2**
KBK	4µm,0.2s			⇑S	**Sg**	**12 09 49.6**	**-0.2**
FRU1	**Bishkek** baz=2.0	**0.30**	**297**	⇑*i*P	**Pb**	**12 09 53.7**	**-0.9**
FRU1	baz=2.0			⇑*i*S	**Sb**	**12 09 58.4**	**-1.3**
AAK	**Ala-Archa** baz=69	**0.37**	**265**	⇑*i*P	**Pg**	**12 09 54.1**	**0.0**
AAK	baz=69			⇑*i*S	**Sg**	**12 09 59.9**	**+0.9**
AAK	**Ala-Archa** 79nm,0.3s,SNR=57	**0.37**	**265**	⇓P	**Pg**	**12 09 54.2**	**+0.1**
AAK	166nm,0.4s			⇑S	**Sg**	**12 09 59.9**	**+0.9**
CHMS	**Chumysh** baz=31	**0.37**	**331**	⇓*i*P	**Pb**	**12 09 54.6**	**-1.2**
CHMS	baz=31			⇓*i*S	**Sb**	**12 10 00.1**	**-1.6**
CHMS	**Chumysh** 103nm,0.2s,SNR=144	**0.37**	**331**	⇓P	**Pb**	**12 09 54.6**	**-1.2**
CHMS	68nm,0.2s			⇑S	**Sb**	**12 10 00.2**	**-1.5**
TKM2	**Tokmak 2** baz=57	**0.51**	**61**	⇑*i*P	**Pg**	**12 09 56.2**	**-0.5**
TKM2	baz=57			⇑*i*S	**Sg**	**12 10 03.3**	**-0.1**
TKM2	**Tokmak 2** 23nm,0.2s,SNR=10	**0.51**	**61**	⇑P	**Pg**	**12 09 56.3**	**-0.4**
TKM2	268nm,0.1s			⇓S	**Sg**	**12 10 03.3**	**-0.1**
UCH	**Uchtor** baz=22	**0.57**	**219**	⇑*i*P	**Pg**	**12 09 57.5**	**-0.4**
UCH	baz=22			⇑*i*S	**Sg**	**12 10 05.2**	**-0.2**
UCH	**Uchtor** 9.6nm,0.1s,SNR=17	**0.57**	**219**	⇑P	**Pg**	**12 09 57.5**	**-0.4**
UCH	59nm,0.2s			⇑S	**Sg**	**12 10 05.0**	**-0.4**
KZA	**Kyzart** baz=63	**0.62**	**162**	⇑*i*P	**Pg**	**12 09 58.1**	**-0.9**
KZA	baz=63			⇑*i*S	**Sg**	**12 10 06.4**	**-0.8**
KZA	**Kyzart** 10nm,0.1s,SNR=43	**0.62**	**162**	⇑P	**Pg**	**12 09 58.4**	**-0.6**
KZA	173nm,0.2s			⇑S	**Sg**	**12 10 06.9**	**-0.3**
USP	**Ospenovka** baz=29	**0.69**	**329**	⇓*i*P	**Pg**	**12 10 00.3**	**+0.1**
USP	baz=29			⇓*i*S	**Sb**	**12 10 10.5**	**-0.6**
USP	**Ospenovka** 43nm,0.2s,SNR=18	**0.69**	**329**	⇓P	**Pg**	**12 10 00.3**	**+0.1**
USP	26nm,0.2s			⇓S	**Sb**	**12 10 10.4**	**-0.7**
BOOM	**Boomskoye usch** baz=2.0	**0.72**	**104**	⇓*i*P	**Pg**	**12 09 59.9**	**-0.9**
BOOM	baz=2.0			⇓*i*S	**Sg**	**12 10 09.5**	**-0.7**
KST	**Kastek** baz=60	**0.80**	**62**	*e*P	**Pg**	**12 10 01.8**	**-0.5**
KST	baz=60			*e*S	**Sg**	**12 10 12.8**	**0.0**
KST	**Kastek** 4.3nm,0.2s	**0.80**	**62**	*e*P	**Pg**	**12 10 01.8**	**-0.5**
KST	24nm,0.3s			*e*S	**Sg**	**12 10 12.8**	**0.0**
KST	**Kastek** 5.8nm,0.1s	**0.80**	**62**	P	**Pg**	**12 10 01.8**	**-0.5**
KST	24nm,0.3s			S	**Sg**	**12 10 12.8**	**0.0**
DGS	**Degeres** baz=42	**0.81**	**45**	*e*P	**Pg**	**12 10 02.3**	**0.0**
DGS	baz=42			*e*S	**Sb**	**12 10 13.6**	**-0.8**
DGS	**Degeres** 1.4nm,0.1s	**0.81**	**45**	*e*P	**Pg**	**12 10 02.3**	**0.0**
DGS	21nm,0.3s			*e*S	**Sb**	**12 10 13.6**	**-0.8**
DGS	**Degeres** 1.4nm,0.1s	**0.81**	**45**	P	**Pg**	**12 10 02.3**	**0.0**
DGS	15nm,0.2s			S	**Sb**	**12 10 13.6**	**-0.8**
SGDS	**Sogindy** 6.7nm,0.1s	**0.82**	**341**	P	**Pg**	**12 10 02.3**	**-0.3**
SGDS	22nm,0.2s			S	**Sg**	**12 10 13.5**	**+0.1**
EKS2	**Erkin-Say** baz=71	**0.90**	**270**	⇑*i*P	**Pb**	**12 10 04.3**	**-0.4**
EKS2	baz=71			⇑*i*S	**Sb**	**12 10 17.0**	**+0.1**
EKS2	**Erkin-Say** 8.2nm,0.2s,SNR=16	**0.90**	**270**	⇓P	**Pb**	**12 10 04.4**	**-0.4**
EKS2	16nm,0.3s			⇓S	**Sb**	**12 10 17.2**	**+0.3**
ARLS	**Aral** baz=13	**0.95**	**212**	⇓*i*P	**Pg**	**12 10 04.2**	**-0.9**
ARLS	baz=13			⇓*i*S	**Sg**	**12 10 16.9**	**-0.6**
ULHL	**Ulahol**	**1.02**	**114**	⇓*i*P	**Pg**	**12 10 05.1**	**-1.3**
ULHL	baz=13			⇓*i*S	**Sg**	**12 10 18.5**	**-1.2**
ULHL	**Ulahol** 9.5nm,0.1s,SNR=41	**1.02**	**114**	⇓P	**Pg**	**12 10 05.1**	**-1.3**
ULHL	23nm,0.2s			⇑S	**Sg**	**12 10 18.5**	**-1.2**
AML	**Almayashu** baz=43	**1.10**	**241**	⇓*i*P	**Pg**	**12 10 07.5**	**-0.5**
AML	baz=43			⇓*i*S	**Sb**	**12 10 22.8**	**-0.4**
KRBS	**Karabastau** baz=24	**1.14**	**26**	*e*P	**Pg**	**12 10 08.2**	**-0.5**
KRBS	baz=24			*e*S	**Sb**	**12 10 23.5**	**-0.4**
KRBS	**Karabastau** 4.3nm,0.2s	**1.14**	**26**	*e*P	**Pg**	**12 10 08.2**	**-0.5**
KRBS	21nm,0.3s			*e*S	**Sb**	**12 10 23.5**	**-0.4**
KRBS	**Karabastau** 4.3nm,0.2s	**1.14**	**26**	P	**Pg**	**12 10 08.2**	**-0.5**
KRBS	21nm,0.3s			S	**Sb**	**12 10 23.5**	**-0.4**
MTBS	**Maitube** baz=64	**1.15**	**66**	*e*P	**Pg**	**12 10 08.0**	**-0.9**
MTBS	baz=64			*e*S	**Sg**	**12 10 23.5**	**-0.4**
MTBS	**Maitube** 10nm,0.2s	**1.15**	**66**	*e*P	**Pg**	**12 10 08.0**	**-0.9**
MTBS	15nm,0.3s			*e*S	**Sg**	**12 10 23.4**	**-0.4**
MTBS	**Maitube** 10nm,0.2s	**1.15**	**66**	P	**Pg**	**12 10 08.0**	**-0.9**
MTBS	15nm,0.3s			S	**Sg**	**12 10 23.5**	**-0.4**
IZV	**Izvestkoviy** baz=71	**1.25**	**73**	*e*P	**Pg**	**12 10 09.8**	**-1.0**
IZV	baz=71			*e*S	**Sb**	**12 10 26.6**	**-0.5**
IZV	**Izvestkoviy** 8.3nm,0.1s	**1.25**	**73**	*e*P	**Pg**	**12 10 09.8**	**-1.0**
IZV	31nm,0.1s			*e*S	**Sb**	**12 10 26.6**	**-0.5**
IZV	**Izvestkoviy** 8.3nm,0.1s	**1.25**	**73**	P	**Pg**	**12 10 09.6**	**-1.1**
IZV	22nm,0.2s			S	**Sb**	**12 10 26.6**	**-0.5**
MRKS	**Merke** baz=75	**1.30**	**274**	*e*P	**Pn**	**12 10 11.4**	**-0.1**
MRKS	baz=75			*e*S	**Sb**	**12 10 29.0**	**+0.3**
MRKS	**Merke** 14nm,0.2s	**1.30**	**274**	*e*P	**Pn**	**12 10 11.4**	**-0.1**
MRKS	34nm,0.2s			*e*S	**Sb**	**12 10 29.0**	**+0.3**
MRKS	**Merke** 14nm,0.2s	**1.30**	**274**	P	**Pn**	**12 10 11.4**	**-0.1**
MRKS	34nm,0.2s			S	**Sb**	**12 10 29.0**	**+0.3**
KUU	**Kurty** baz=37	**1.57**	**38**	*e*P	**Pg**	**12 10 16.1**	**-0.8**
KUU	baz=37			*e*S	**Sg**	**12 10 37.1**	**-0.1**
KUU	**Kurty** 14nm,0.3s	**1.57**	**38**	*e*P	**Pg**	**12 10 16.1**	**-0.8**
KUU	38nm,0.2s			*e*S	**Sg**	**12 10 37.0**	**-0.1**
KUU	**Kurty** 14nm,0.3s	**1.57**	**38**	P	**Pg**	**12 10 16.1**	**-0.8**
KUU	38nm,0.2s			S	**Sg**	**12 10 37.0**	**-0.1**
MDOK	**Medeo** baz=70	**1.59**	**71**	*e*P	**Pb**	**12 10 16.0**	**-0.6**
MDOK	baz=70			*e*S	**Sg**	**12 10 37.4**	**-0.5**
MDOK	**Medeo** 9.1nm,0.3s	**1.59**	**71**	*e*P	**Pb**	**12 10 16.0**	**-0.6**
MDOK	16nm,0.2s			*e*S	**Sg**	**12 10 37.3**	**-0.5**
MDOK	**Medeo** 2.6nm,0.3s	**1.59**	**71**	⇑P	**Pn**	**12 10 15.5**	**0.0**
MDOK	9.7nm,0.4s			⇑S	**Sg**	**12 10 37.3**	**-0.5**
MDOK	**Medeo** 14nm,0.3s	**1.59**	**71**	Pg	**Pb**	**12 10 15.9**	**-0.6**
MDOK	69nm,0.4s			Lg	Lg	12 10 36.8	
KTBS	**Karatobe** baz=48	**1.61**	**49**	*e*P	**Pb**	**12 10 16.6**	**-0.3**
KTBS	baz=48			*e*S	**Sg**	**12 10 38.0**	**-0.7**
KTBS	**Karatobe** 6.3nm,0.1s	**1.61**	**49**	*e*P	**Pb**	**12 10 16.6**	**-0.3**
KTBS	20nm,0.3s			*e*S	**Sg**	**12 10 38.0**	**-0.7**
KTBS	**Karatobe** 6.3nm,0.1s	**1.61**	**49**	P	**Pb**	**12 10 16.6**	**-0.3**
KTBS	20nm,0.3s			S	**Sg**	**12 10 38.0**	**-0.7**
KOTS	**Kotyrbulak** baz=68	**1.65**	**69**	*e*P	**Pb**	**12 10 17.5**	**-0.2**
KOTS	baz=68			*e*S	**Sg**	**12 10 39.4**	**-0.6**
KOTS	**Kotyrbulak** 10nm,0.2s	**1.65**	**69**	*e*P	**Pb**	**12 10 17.5**	**-0.2**
KOTS	19nm,0.3s			*e*S	**Sg**	**12 10 39.5**	**-0.6**
KOTS	**Kotyrbulak** 10nm,0.2s	**1.65**	**69**	P	**Pb**	**12 10 17.5**	**-0.2**
KOTS	19nm,0.3s			S	**Sg**	**12 10 39.5**	**-0.6**
KDJ	**Kajisay** baz=7.0	**1.71**	**108**	⇑*i*P	**Pb**	**12 10 17.8**	**-0.9**
KDJ	baz=7.0			⇑*i*S	**Sb**	**12 10 40.4**	**0.0**
MNAS	**Manas** baz=66	**1.85**	**265**	⇓*i*P	**Pb**	**12 10 20.6**	**-0.4**
MNAS	baz=66			⇓*i*S	**Sg**	**12 10 45.6**	**-0.6**
CHKK	**Chushkaly** baz=49	**1.88**	**50**	*e*P	**Pb**	**12 10 21.3**	**-0.1**
CHKK	baz=49			*e*S	**Sg**	**12 10 46.1**	**-1.0**
CHKK	**Chushkaly** 3.3nm,0.1s	**1.88**	**50**	*e*P	**Pb**	**12 10 21.3**	**-0.1**
CHKK	49nm,0.2s			*e*S	**Sg**	**12 10 46.1**	**-1.0**
CHKK	**Chushkaly** 3.3nm,0.1s	**1.88**	**50**	P	**Pb**	**12 10 21.3**	**-0.1**
CHKK	49nm,0.2s			S	**Sg**	**12 10 46.1**	**-1.0**
ANVS	**Anan'yevo** baz=85	**1.97**	**86**	⇓*i*P	**Pb**	**12 10 22.3**	**-0.9**
ANVS	baz=85			⇓*i*S	**Sb**	**12 10 48.2**	**+0.2**
BTLS	**Baital** 6.7nm,0.2s	**2.46**	**344**	*e*P	**Pb**	**12 10 32.0**	**+0.6**
BTLS	17nm,0.3s			*e*S	**Sg**	**12 11 04.5**	**-1.5**
BTLS	**Baital** 6.7nm,0.2s	**2.46**	**344**	Pg	**Pb**	**12 10 32.0**	**+0.6**
BTLS	17nm,0.3s			Lg	Lg	12 11 04.5	
KURS	**Kuram** 3.1nm,0.4s	**2.47**	**70**	*e*P	**Pb**	**12 10 31.6**	**+0.1**
KURS	9.1nm,0.6s			*e*S	**Sg**	**12 11 03.7**	**-2.4**
KURS	**Kuram** 3.1nm,0.4s	**2.47**	**70**	Pg	**Pb**	**12 10 31.6**	**+0.1**
KURS	9.1nm,0.6s			Lg	Lg	12 11 03.7	
SATY	**Saty** 7.5nm,0.2s	**2.54**	**80**	*e*P	**Pb**	**12 10 33.2**	**+0.4**
SATY	33nm,0.3s			*e*S	**Sg**	**12 11 07.2**	**-1.2**
SATY	**Saty** 9.6nm,0.3s	**2.54**	**80**	Pg	**Pb**	**12 10 32.7**	**-0.1**
SATY	33nm,0.3s			Lg	Lg	12 11 08.0	
ARXS	**Arharly** 6.6nm,0.3s	**2.58**	**52**	*e*P	**Pb**	**12 10 33.4**	**0.0**
ARXS	38nm,0.5s			*e*S	**Sb**	**12 11 06.8**	**+1.5**
ARXS	**Arharly** 6.6nm,0.3s	**2.58**	**52**	Pg	**Pb**	**12 10 33.4**	**0.0**
ARXS	38nm,0.5s			Lg	Lg	12 11 06.8	
KPKS	**Kokpek** 26nm,0.1s	**2.82**	**72**	*e*P	**Pb**	**12 10 37.6**	**0.0**

IDC 14 11:56:58.6±3.0, 7°.17S×155°.81E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/32, mbtmp3.8/5, Error ellipse: s-maj=83.4km s-min=37.1km az=114.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.6nm,0.8s,baz=63,slow=9.2,SNR=6.1	**24.39**	**237**	P	P	12 02 19.4	+0.5
WRA	0.6nm,1.1s,baz=42,slow=2.6,SNR=1.8			PcP	PcP	12 05 58.2	-0.3
H11S3	**WAKE ISLAND Hy** baz=202,slow=74	**27.67**	**23**	T	T	12 31 10.8	
H11S2	**WAKE ISLAND Hy** baz=202	**27.68**	**23**	T	T	12 31 11.1	
H11S1	**WAKE ISLAND Hy** baz=202,slow=74	**27.69**	**23**	T	T	12 31 09.7	
FITZ	**Fitzroy Crossi** 2.4nm,1.0s,baz=90,slow=9.1,SNR=2.8	**31.32**	**247**	P	P	12 03 20.2	-0.8
CMAR	**Chiang Mai Arr** 0.6nm,0.3s,baz=114,slow=4.4,SNR=4.1	**61.59**	**295**	P	P	12 07 18.5	+0.1
SONM	**Songino Array** 0.4nm,0.4s,baz=114,slow=6.5,SNR=3.5	**69.92**	**327**	P	P	12 08 12.2	+0.4
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=90,slow=5.8,SNR=2.8	**84.07**	**319**	P	P	12 09 30.9	-0.5

KPKS					*e*S		**Sg**	**12 11 14.7**	**-2.7**
	24nm,0.2s								
UZB	**Uzynbulak**	**3.00**	**80**	*e*P			**Pb**	**12 10 41.0**	**+0.4**
	3.9nm,0.3s								
UZB					*e*S		**Sg**	**12 11 20.2**	**-3.0**
	16nm,0.5s								
UZB	**Uzynbulak**	**3.00**	**80**	Pg			**Pb**	**12 10 40.5**	**-0.1**
	3.9nm,0.2s								
UZB					Lg		Lg	12 11 20.2	
	16nm,0.5s								
TRKS	**Terek-Say**	**3.09**	**250**	⇑*i*P			**Pn**	**12 10 38.1**	**+2.0**
	baz=49								
TRKS				⇑*i*S			**Sn**	**12 11 15.6**	**+2.3**
	baz=49								
SHLS	**Shalkode**	**3.32**	**80**	*e*P			**Pg**	**12 10 52.5**	**+2.0**
	8.5nm,0.3s								
SHLS					*e*S		**Sg**	**12 11 39.4**	**+6.0**
	13nm,0.6s								
SHLS	**Shalkode**	**3.32**	**80**	Pg			**Pg**	**12 10 52.5**	**+2.0**
	8.5nm,0.3s								
SHLS					Lg		Lg	12 11 39.4	
	13nm,0.6s								
KK31	**Karatay Array**	**3.32**	**279**	⇓Pg			**Pg**	**12 10 48.7**	**-1.7**
	0.9nm,0.3s,baz=98,slow=15,SNR=16								
KK31				⇑Lg			Lg	12 11 31.0	
	baz=100,slow=30,SNR=12								
PDGK	**Podgornoye**	**3.36**	**77**	Pg			**Pb**	**12 10 47.0**	**+0.2**
	1.4nm,0.4s								
PDGK					Lg		Lg	12 11 30.7	
	5.0nm,0.7s								
PDGK	**Podgornoye**	**3.36**	**77**	⇑Pg			**Pb**	**12 10 47.2**	**+0.4**
	1.2nm,0.5s								
PDGK				⇓Lg			Lg	12 11 31.0	
	3.9nm,0.4s								
IUG	**luzhnay**	**3.71**	**264**	*e*P			**Pg**	**12 10 56.2**	**-1.7**
	58nm,0.3s								
IUG					*e*S		**Sg**	**12 11 45.8**	**-0.2**
	11nm,0.8s								
IUG	**luzhnay**	**3.71**	**264**	Pg			**Pg**	**12 10 56.2**	**-1.7**
	58nm,0.3s								
IUG					Lg		Lg	12 11 45.8	
	11nm,0.8s								
DJR	**Jarkent**	**3.86**	**63**	*e*P			**Pb**	**12 10 55.8**	**+0.5**
	0.3nm,0.4s								
DJR					*e*S		**Sb**	**12 11 45.1**	**+2.8**
	0.4nm,0.3s								
DJR	**Jarkent**	**3.86**	**63**	Pg			**Pb**	**12 10 55.8**	**+0.5**
	0.3nm,0.4s								
DJR					Lg		Lg	12 11 45.1	
	0.4nm,0.3s								

IDC ***14*** *12:19:01.0±2.0,2.°57N×89.°54E, h0km, mb3.8/3, mb1 3.9/5, mb1mx3.5/42, mbtmp3.8/5, ML3.7/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/54, Error ellipse: s-maj=51.2km s-min=32.4km az=49.0*

ISC 14 12:19:01.2±1.6,2.°5N±0.°2×89.°3E±0.°2, h10km, n13, σ0°43/6, mb3.7/3, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
PALK	**Pallekele**	**9.77**	**300**	Pn	Pn		12 21 26.9	+5.0
	0.7nm,0.3s,baz=171,slow=11,SNR=1.8							
PALK				Sn	**Sn**		**12 23 11.8**	**-0.1**
	1.7nm,0.3s,baz=154,slow=12,SNR=2.2							
CMAR	**Chiang Mai Arr**	**18.53**	**30**	P	**P**		**12 23 17.9**	**-0.1**
	baz=224,slow=13,SNR=4.5							
H08S2	**Diego Garcia H**	**19.50**	**239**	T	T		12 43 51.4	
	baz=59,slow=75,SNR=14							
H08S3	**Diego Garcia H**	**19.50**	**239**	T	T		12 43 53.3	
	baz=59,slow=75,SNR=19							
H08S1	**Diego Garcia H**	**19.51**	**239**	T	T		12 43 42.7	
	baz=59,slow=75,SNR=7.8							
H01W3	**Cape Leeuwin H**	**43.87**	**150**	T	T		13 13 28.2	
	baz=325,slow=76,SNR=8.2							
H01W2	**Cape Leeuwin H**	**43.88**	**150**	T	T		13 13 34.7	
	baz=325,slow=76,SNR=11							
H01W1	**Cape Leeuwin H**	**43.88**	**150**	T	T		13 13 29.6	
	baz=325,slow=76,SNR=11							
MKAR	**Makanchi Array**	**44.58**	**353**	P	**P**		**12 27 14.0**	**+0.5**
	0.2nm,0.4s,baz=155,slow=7.8,SNR=2.8							
SONM	**Songino Array**	**47.58**	**16**	P	**P**		**12 27 37.0**	**-0.2**
	3.0nm,0.6s,baz=199,slow=8.1,SNR=16							
WRA	**Warramunga Arr**	**49.52**	**119**	P	**P**		**12 27 52.6**	**+0.2**
	0.5nm,0.6s,baz=298,slow=8.6,SNR=2.7							
KSRS	**Korea Array**	**49.73**	**41**	LR	LR		12 51 16.5	
	comp=Z,20nm,18.6s,baz=235,slow=39							
TXAR	**Lajitas Array**	**146.06**	**20**	PKPbc	**PKPdf**		**12 38 41.0**	**-0.5**
	0.4nm,0.9s,baz=297,slow=1.1,SNR=3.9							

RSNC ***14*** *12:39:01.1±1.2,8.°54N×77.°88W, h6km±8km, ML2.7*
UPA ***14*** *12:39:01.4±0.9,8.°59N×77.°84W, h15km±2km, MW3.3*

ISC 14 12:39:00.4±1.5,8.°56N±0.°05×77.°85W±0.°02, h13km±12km, n19, σ0°77/35, 1C-2D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
UPD2	**Meteti**	**0.17**	**266**	⇓*i*P	**Pb**		**12 39 05.9**	**+0.4**
UPD2				*e*S	**Sb**		**12 39 09.5**	**+0.8**
CAPC	**Capurgana**	**0.49**	**81**	⇓*i*P	**Pb**		**12 39 10.8**	**-0.2**
CAPC				*e*S	**Sb**		**12 39 17.1**	**-1.1**
CHPO	**Chepo, Panama**	**1.39**	**296**	*e*P	**Pn**		**12 39 24.7**	**-0.9**
CHPO				*e*S	**Sn**		**12 39 42.5**	**-1.4**
PTAC	**Punta Ardita,**	**1.40**	**179**	*e*P	**Pn**		**12 39 25.3**	**-0.4**
PTAC				*e*S	**Sn**		**12 39 43.6**	**-0.6**
PTAC				*i*			12 39 44.9	
	comp=Z,297nm,0.4s							
LCBC	**Los crdobas,**	**1.49**	**78**	*e*P	**Pg**		**12 39 28.9**	**-0.2**
LCBC				*e*S	**Sg**		**12 39 48.9**	**+0.5**
LCBC				*i*			12 39 54.8	
	comp=Z,57nm,0.3s							
TABO3	**Taboga, Panama**	**1.71**	**278**	*e*S	**Sn**		**12 39 51.2**	**-0.4**
UPA	**Univ. de Panam**	**1.72**	**284**	⇑*i*P	**Pn**		**12 39 30.1**	**0.0**
UPA				*e*S	**Sn**		**12 39 51.5**	**-0.5**
CHOR3	**La Chorrera**	**1.93**	**280**	*e*P	**Pn**		**12 39 33.5**	**+0.5**
CHOR3				*e*S	**Sn**		**12 39 57.4**	**+0.2**
ZANG	**Zanguenga, Cho**	**2.04**	**281**	*e*P	**Pn**		**12 39 34.7**	**+0.2**
ZANG				*e*S	**Sb**		**12 40 01.6**	**-1.0**
BCIP	**Isla Barro Col**	**2.06**	**287**	*e*P	**Pn**		**12 39 35.4**	**+0.6**
BCIP				*e*S	**Sn**		**12 40 00.9**	**+0.5**
BCIP	**Isla Barro Col**	**2.06**	**287**	*e*P	**Pn**		**12 39 35.0**	**+0.2**
BCIP				*e*S	**Sn**		**12 40 00.0**	**-0.4**
BCIP				*i*			12 40 03.3	
	comp=Z,54nm,0.3s							
DBBC	**Dabeiba**	**2.23**	**133**	*e*Pg	**Pb**		**12 39 39.5**	**-1.2**
DBBC				*e*Sg	**Sb**		**12 40 08.9**	**+0.7**
DBBC				*i*			12 40 19.8	
	comp=Z,72nm,0.6s							
VTON	**El Valle, Cocl**	**2.24**	**272**	*e*P	**Pn**		**12 39 38.4**	**+1.0**
VTON				*e*S	**Sn**		**12 40 05.7**	**+0.6**
UREC	**San Jos de Ur**	**2.42**	**109**	*e*P	**Pn**		**12 39 41.1**	**+1.3**
AZU	**Azuero**	**2.52**	**253**	*e*P	**Pn**		**12 39 41.8**	**+0.7**
AZU				*e*S	**Sn**		**12 40 11.8**	**+0.1**
SJCC	**San Jacinto, C**	**2.95**	**63**	*e*S	**Sn**		**12 40 21.7**	**-0.7**
SJCC	**San Jacinto, C**	**2.95**	**63**	*e*P	**Pn**		**12 39 47.5**	**+0.4**
SJCC				*e*S	**Sn**		**12 40 24.0**	**+1.5**
ZARC	**Zaragoza, Cauc**	**3.14**	**109**	*e*P	**Pn**		**12 39 50.9**	**+1.2**
ZARC				*e*S	**Sn**		**12 40 26.7**	**-0.4**
ZARC				*i*			12 40 35.3	
	comp=Z,16nm,0.7s							
SMLC	**San Martn de**	**3.74**	**86**	*e*P	**Pn**		**12 39 58.1**	**+0.2**
SMLC				*e*S	**Sn**		**12 40 42.0**	**+0.1**
SMLC				*i*			12 40 51.0	
	comp=Z,6.8nm,0.3s							

NEIC ***14*** *13:01:24.6±1.6, 19.°0N±0.°1×147.°1E±0.°1, h21km±7km, mb4.4/21, Error ellipse: s-maj=20.3km s-min=14.1km az=114.0*
IDC ***14*** *13:01:29.6±4.1, 18.°91N×146.°98E, h67km±39km, mb3.5/8, mb1 3.6/9, mb1mx3.4/55, mbtmp3.8/9, ML4.3/1, MS3.0/1, Ms1 3.0/1, ms1mx2.3/39, Error ellipse: s-maj=40.2km s-min=20.1km az=99.0*

ISC 14 13:01:26.2±0.7, 18.°97N±0.°07×147.°1E±0.°1, h37km, n37, σ1°12/35, mb4.2/17, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
ANA2	**Anatahan**	**2.93**	**207**	Pn	**Pn**		**13 02 10.1**	**-0.1**
GUMO	**Guam**	**5.76**	**202**	P	**Pn**		**13 02 51.4**	**+2.2**
	8.9nm,0.3s,baz=149,slow=16,SNR=7.3							
GUMO				S	**Sn**		**13 03 55.1**	**+1.1**
	2.2nm,0.3s,baz=359,slow=22,SNR=1.5							
GUMO				LR	LR		13 04 58.4	
	comp=Z,135nm,19.5s,baz=22,slow=37							
GUMO	**Guam**	**5.76**	**202**		**Pn**		**13 02 49.2**	**0.0**
PATS	**Pohnpei**	**16.26**	**136**	Pn	**Pn**		**13 05 10.5**	**-1.3**
H11S3	**WAKE ISLAND Hy**	**18.56**	**88**	T	T		13 24 53.5	
	baz=275,slow=74,SNR=10							
H11S1	**WAKE ISLAND Hy**	**18.57**	**88**	T	T		13 24 48.6	
	baz=275,slow=74,SNR=11							
H11S2	**WAKE ISLAND Hy**	**18.57**	**88**	T	T		13 24 47.3	
	baz=275,slow=74,SNR=7.9							
JOW	**Kunigami**	**19.02**	**298**	P	**P**		**13 05 44.0**	**-0.9**
JOW				IAmb	IAmb		13 06 04.2	
	comp=Z,37nm,1.1s							
MJAR	**Matsushiro Arr**	**19.18**	**338**	P	**P**		**13 05 46.2**	**-0.5**
MAJO	**Matsushiro**	**19.18**	**338**	P	**P**		**13 05 47.4**	**+0.8**
JWT	**Wachi**	**19.27**	**330**	P	**P**		**13 05 46.5**	**-1.2**
JWT				IAmb	IAmb		13 06 03.2	
	comp=Z,58nm,1.5s							
SSLB	**Suanglung**	**24.80**	**286**	P	**P**		**13 06 44.5**	**-0.4**
SSLB				IAmb	IAmb		13 06 45.8	
	comp=Z,14nm,0.9s							
PETK	**Petropavlovsk-**	**35.06**	**11**	P	**P**		**13 08 17.5**	**+2.1**
	comp=Z,2.5nm,0.9s,baz=148,slow=8.4,SNR=2.8							
WRAB	**Tennant Creek**	**40.63**	**199**	P	**P**		**13 09 02.0**	**-0.8**
WRA	**Warramunga Arr**	**40.64**	**199**	P	**P**		**13 09 01.9**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=23,slow=8.2,SNR=6.1							
WRA	**Warramunga Arr**	**40.64**	**199**	P	**P**		**13 09 00.8**	**-2.1**
AS31	**Alice Springs**	**44.28**	**197**	P	**P**		**13 09 32.6**	**+0.1**
ASAR	**Alice Springs**	**44.29**	**197**	P	**P**		**13 09 33.2**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=18,slow=14,SNR=5.9							
OHAK	**Old Harbor**	**57.89**	**34**	P	**P**		**13 11 13.6**	**-0.7**
TTA	**Tatalina**	**58.41**	**27**	P	**P**		**13 11 17.6**	**-0.3**
MK31	**Makanchi Array**	**59.24**	**314**	P	**P**		**13 11 24.2**	**+0.4**
MK31				IAmb	IAmb		13 11 26.3	
	comp=Z,1.5nm,0.9s							
MKAR	**Makanchi Array**	**59.24**	**314**	P	**P**		**13 11 23.8**	**0.0**
	comp=Z,0.6nm,0.6s,baz=94,slow=6.3,SNR=5.7							
MAKZ	**Makanchi**	**59.45**	**314**	P	**P**		**13 11 25.8**	**+0.5**
MAKZ				IAmb	IAmb		13 11 27.8	
	comp=Z,1.6nm,0.6s							
H21K	**Melozitna Rive**	**60.69**	**24**	P	**P**		**13 11 33.4**	**0.0**
H21K				IAmb	IAmb		13 11 49.0	
	comp=Z,8.0nm,1.5s							
BPAW	**Bear Paw Mtn.**	**60.93**	**26**	P	**P**		**13 11 36.2**	**+1.1**
BPAW				IAmb	IAmb		13 11 37.7	
	comp=Z,2.2nm,0.8s							
MLY	**Manley**	**61.31**	**25**	P	**P**		**13 11 39.5**	**+1.8**
MLY				IAmb	IAmb		13 11 40.0	
	comp=Z,1.5nm,0.8s							
SCM	**Sheep Creek Mo**	**61.96**	**29**	P	**P**		**13 11 42.2**	**0.0**
KURK	**Kurchatov**	**61.96**	**318**	P	**P**		**13 11 42.0**	**-0.3**
KURBB	**Kurchatov Arra**	**62.01**	**318**	P	**P**		**13 11 42.0**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=98,slow=6.8,SNR=15							
H23K	**Yukon River**	**62.02**	**25**	P	**P**		**13 11 43.9**	**+1.4**
H23K				IAmb	IAmb		13 12 11.2	
	comp=Z,2.8nm,1.1s							
ILAR	**Eielson Array**	**62.82**	**26**	P	**P**		**13 11 48.0**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=258,slow=5.5,SNR=5.5							
HMT	**Hamilton**	**63.15**	**31**	P	**P**		**13 11 48.7**	**-1.4**
DOT	**Dot Lake**	**63.80**	**28**	P	**P**		**13 11 55.0**	**+0.7**
DOT				IAmb	IAmb		13 12 06.8	
	comp=Z,3.2nm,1.1s							
BMAR	**Burnt Mountain**	**64.34**	**23**	P	**P**		**13 12 00.2**	**+2.3**
BVAR	**Borovoye Array**	**67.12**	**320**	P	**P**		**13 12 16.8**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=122,slow=5.4,SNR=5.7							
ABKAR	**Akbulak array**	**74.05**	**317**	P	**P**		**13 12 57.6**	**-0.7**
ABKAR				IAmb	IAmb		13 12 58.4	
	comp=Z,2.7nm,1.2s							
FINES	**FINESS Array B**	**87.19**	**336**	P	**P**		**13 14 07.1**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=66,slow=3.5,SNR=1.7							

BJI ***14*** *13:17:15.6±0.0,22.°53N×125.°29E, h7km, mB4.7/13, mb4.3/20, Ms4.2/1, Ms7 4.0/1*
NEIC ***14*** *13:17:17.8±1.8,22.°71N±0.°09×125.°19E±0.°04, h10km±5km, mb4.3/12, Error ellipse: s-maj=13.4km s-min=4.9km az=195.0*
IDC ***14*** *13:17:18.9±0.8,22.°77N×125.°16E, h0km, mb4.0/10, mb1 4.0/13, mb1mx3.9/48, mbtmp4.0/13, ML3.7/3, MS3.3/16, Ms1 3.3/16, ms1mx3.0/67, Error ellipse: s-maj=22.6km s-min=15.6km az=90.0*
JMA ***14*** *13:17:21.9±0.2,22.°87N×125.°07E, h47km, M4.1*
NIED ***14*** *13:17:22.0,22.°87N×125.°07E, h47km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=0.99; Mθθ=1.47; Mφφ=0.48; Mrθ=0.85; Mθφ=0.24; Mφr=0.36; Fault plane solution: M₀1.59000×10¹⁵ NP1: φs=255.00000°, δ=66.00000°, λ=-116.00000°. NP2: φs=124.00000°, δ=35.00000°, λ=-46.00000°.*

ISC 14 13:17:18.2±3.1,22.°85N±0.°06×125.°16E±0.°04, h6km±20km, n75, σ1°76/79, mb4.1/17, MS3.2/14, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
HATJ	**Hateruma jima**	**1.73**	**314**	P	**Pn**		**13 17 49.0**	**+0.2**
HATJ				*e*S	**Sn**		**13 18 09.0**	**-2.2**
JKRS	**Kuro-shima**	**1.74**	**323**	P	**Pb**		**13 17 50.0**	**-0.6**
JKRS				S	**Sn**		**13 18 10.3**	**-1.2**
JIJ	**Ishigaki jima**	**1.77**	**328**	P	**Pb**		**13 17 50.2**	**-0.9**
JIJ				*e*S	**Sn**		**13 18 10.6**	**-1.7**
JTJ	**Tarama**	**1.83**	**347**	P	**Pb**		**13 17 51.6**	**-0.5**
JTJ				*e*S	**Sb**		**13 18 13.5**	**-1.8**
JMJ2	**Miyako jima3**	**1.89**	**5**	P	**Pb**		**13 17 52.3**	**-0.8**
JMJ2				*e*S	**Sn**		**13 18 15.4**	**+0.3**
JISG	**Ishigakijimahi**	**1.90**	**336**	P	**Pb**		**13 17 52.1**	**-1.1**
JISG				S	**Sn**		**13 18 14.6**	**-0.7**
JOGS	**Gusukube**	**1.92**	**7**	P	**Pb**		**13 17 52.8**	**-0.7**
JOGS				*e*S	**Sb**		**13 18 16.3**	**-1.4**
JIRB	**Irabujima**	**1.97**	**0**	P	**Pn**		**13 17 53.2**	**+1.1**
JIRB				*e*S	**Sn**		**13 18 16.8**	**-0.3**
IRIF	**Iriomote-Funau**	**1.98**	**319**	P	**Pb**		**13 17 53.1**	**-1.5**
IRIF				*e*S	**Sn**		**13 18 15.9**	**-1.4**
JIKM	**Ikemajima**	**2.07**	**2**	P	**Pn**		**13 17 54.8**	**+1.4**
JIKM				*e*S	**Sn**		**13 18 19.5**	**0.0**
YOJ	**Yonaguni jima**	**2.54**	**310**	P	**Pn**		**13 18 01.0**	**+1.0**
YOJ				*e*S	**Sn**		**13 18 28.9**	**-2.4**
YOJ	**Yonaguni jima**	**2.54**	**310**		**Pn**		**13 18 00.8**	**+0.8**
JYNG	**Yonagunijimaku**	**2.58**	**309**	P	**Pn**		**13 18 01.5**	**+1.0**
JYNG				*e*S	**Sn**		**13 18 30.2**	**-2.1**
NACB	**Ninganchiao**	**3.53**	**293**		**Pn**		**13 18 12.4**	**-1.1**
YULB	**Yu-li**	**3.60**	**279**		**Pn**		**13 18 12.8**	**-1.7**
JKE	**Kume jima 2**	**3.76**	**23**	P	**Pn**		**13 18 17.1**	**+0.3**
JKE				*e*S	**Sn**		**13 18 59.3**	**-2.1**
TWG	**Pinlang**	**3.77**	**270**		**Pn**		**13 18 14.7**	**-2.3**
TATO	**Taipei**	**3.97**	**303**	Pn	**Pn**		**13 18 20.3**	**+0.6**
SSLB	**Suanglung**	**3.98**	**284**	Pn	**Pn**		**13 18 18.8**	**-1.1**
JJT3	**Tamagusuku3**	**4.06**	**36**	P	**Pn**		**13 18 21.8**	**+1.0**
JJT3				*e*S	**Sn**		**13 19 06.5**	**-2.2**
JAGN	**Aguni-jima**	**4.18**	**27**	P	**Pn**		**13 18 22.6**	**+0.2**
JAGN				*e*S	**Sn**		**13 19 08.9**	**-2.7**
TPUB	**Ta-pu**	**4.20**	**277**	Pn	**Pn**		**13 18 22.6**	**-0.2**
JNTH	**Nagotoyohara**	**4.48**	**35**	P	**Pn**		**13 18 27.3**	**+0.6**
JNTH				S	**Sn**		**13 19 16.0**	**-3.2**
JOW	**Kunigami**	**4.87**	**35**	Pn	**Pn**		**13 18 33.0**	**+0.9**
	15nm,0.3s,baz=175,slow=17,SNR=7.1							
JOW				Sn	**Sn**		**13 19 25.4**	**-3.4**
	13nm,0.3s,baz=83,slow=29,SNR=17							
JOW	**Kunigami**	**4.87**	**35**	Pn	**Pn**		**13 18 32.1**	**+0.1**
JMZ	**Minamidaito 2**	**6.27**	**61**	Pn	**Pn**		**13 18 48.8**	**-2.4**
KNMB	**Chin-men Tao**	**6.42**	**286**	Pn	**Pn**		**13 18 53.1**	**-0.2**
JNU	**Nakatsue**	**11.41**	**25**	Pn	**Pn**		**13 20 02.7**	**+0.9**
KSRS	**Korea Array**	**14.75**	**9**	Pn	**P**		**13 20 50.7**	**-2.8**
	0.2nm,0.3s,baz=195,slow=11,SNR=7.0							
KSRS				LR	LR		13 26 56.7	
	comp=Z,61nm,18.6s,baz=189,slow=39							
JWT	**Wachi**	**15.27**	**34**	P	**P**		**13 20 59.0**	**-0.3**
JWT				IAmb	IAmb		13 21 19.0	
	comp=Z,30nm,1.2s							
DAV	**Davao City (W)**	**15.69**	**178**	LR	LR		13 26 44.8	
	comp=Z,88nm,21.2s,baz=14,slow=36							
MAT	**Matsushiro**	**17.71**	**37**	P	**Pn**		**13 21 25.1**	**-0.4**
MJAR	**Matsushiro Arr**	**17.71**	**37**	P	**P**		**13 21 30.0**	**+3.5**
	comp=Z,0.1nm,0.3s,baz=216,slow=10,SNR=5.6							
MJAR	**Matsushiro Arr**	**17.71**	**37**	P	**Pn**		**13 21 25.2**	**-0.3**
CD2	**Chengdu**	**20.69**	**297**	P	Pn		13 22 01.3	-0.1
CD2				pmax	pmax			
	comp=Z,10.0nm,0.9s							
CN2	**Changchun**	**20.90**	**1**	*e*P	Pn		13 22 06.4	+2.7
CN2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**21.30**	**331**	*e*P	**P**		**13 22 08.4**	**+2.8**
HHC				pmax	pmax			
	comp=Z,25nm,0.9s							
HHC				pmax	pmax			
	comp=Z,97nm,5.7s							
USRK	**Ussuriysk Ar.**	**22.03**	**13**	P	**P**		**13 22 15.4**	**+2.1**
	comp=Z,2.3nm,0.8s,baz=188,slow=9.6,SNR=7.4							
USRK				LR	LR		13 29 37.8	
	comp=Z,55nm,20.9s,baz=193,slow=33							
USRK	**Ussuriysk Ar.**	**22.03**	**13**	P	**P**		**13 22 14.5**	**+1.1**
JEW	**Eniwo**	**24.10**	**30**	P	**P**		**13 22 35.0**	**+0.5**
SIJI	**Sorong**	**24.31**	**165**	LR	LR		13 29 42.8	
	comp=Z,63nm,21.6s,baz=216,slow=31							
CMAR	**Chiang Mai Arr**	**24.91**	**265**	P	**P**		**13 22 45.1**	**+2.9**
	comp=Z,1.6nm,0.6s,baz=58,slow=7.7,SNR=12							
CMAR				LR	LR		13 33 36.5	
	comp=Z,58nm,18.3s,baz=195,slow=39							
ASAJ	**Asahikawa**	**25.61**	**30**	P	**P**		**13 22 51.7**	**+3.4**
	comp=Z,2.6nm,0.4s,baz=209,slow=9.1,SNR=9.6							
KLR	**Kul'dur**	**26.84**	**10**	P	**P**		**13 23 01.5**	**+2.2**
	comp=Z,1.5nm,0.8s,baz=238,slow=7.9,SNR=4.1							
GTA	**Gaotai**	**27.13**	**313**	*e*P	**P**		**13 23 06.4**	**+4.1**
GTA				pP	pwP		13 23 11.9	+1.7
GTA				sP	sP		13 23 15.0	+13
GTA				pmax	pmax			
	comp=Z,2.0nm,1.3s							
KAPI	**Kappang**	**28.19**	**191**	LR	LR		13 34 41.3	
	comp=Z,51nm,20.2s,baz=334,slow=37							
SONM	**Songino Array**	**29.10**	**334**	P	**P**		**13 23 21.4**	**+1.7**
	comp=Z,1.4nm,0.8s,baz=151,slow=9.1,SNR=6.4							
SONM				LR	LR		13 34 41.8	
	comp=Z,57nm,21.0s,baz=122,slow=36							
SONM	**Songino Array**	**29.10**	**334**	P	**P**		**13 23 20.5**	**+0.8**
JAY	**Jayapura**	**29.42**	**147**	LR	LR		13 33 29.0	
	comp=Z,63nm,19.0s,baz=168,slow=33							
WMQ	**Urumqi**	**37.22**	**313**	*e*P	**P**		**13 24 32.5**	**+2.0**
PETK	**Petropavlovsk-**	**39.02**	**31**	LR	LR		13 42 42.4	
	comp=Z,24nm,18.4s,baz=105,slow=39							
YAK	**Yakutsk**	**39.28**	**3**	LR	LR		13 43 02.6	
	comp=Z,20nm,18.6s,baz=267,slow=39							
MK31	**Makanchi Array**	**41.84**	**316**	P	**P**		**13 25 08.3**	**-0.6**
MK31				IAmb	IAmb		13 25 13.4	
	comp=Z,3.7nm,0.9s							
MKAR	**Makanchi Array**	**41.84**	**316**	P	**P**		**13 25 11.2**	**+2.2**
	comp=Z,3.5nm,0.8s,baz=105,slow=9.4,SNR=18							
MKAR				LR	LR		13 42 16.8	
	comp=Z,28nm,19.1s,baz=90,slow=36							
MKAR	**Makanchi Array**	**41.84**	**316**	P	**P**		**13 25 08.8**	**-0.2**
MAKZ	**Makanchi**	**42.05**	**315**	P	**P**		**13 25 09.0**	**-1.6**
MAKZ				IAmb	IAmb		13 25 15.2	
	comp=Z,6.1nm,1.0s							
ZAA0	**Zalesovo Array**	**43.36**	**326**	P	**P**		**13 25 20.7**	**-0.5**
ZAA0				IAmb	IAmb		13 25 25.1	
	comp=Z,3.6nm,0.9s							
ZALV	**Zalesovo Beam**	**43.36**	**326**	P	**P**		**13 25 22.4**	**+1.2**
	comp=Z,1.5nm,0.4s,baz=117,slow=8.5,SNR=6.6							
ZALV	**Zalesovo Beam**	**43.36**	**326**	P	**P**		**13 25 20.7**	**-0.5**
WRA	**Warramunga Arr**	**43.47**	**167**	P	**P**		**13 25 22.4**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=347,slow=9.6,SNR=34							
WRA	**Warramunga Arr**	**43.47**	**167**	P	**P**		**13 25 19.1**	**-3.2**
WR0	**Warramunga Arr**	**43.52**	**167**	P	**P**		**13 25 20.4**	**-2.3**
WR0				IAmb	IAmb		13 25 32.5	
	comp=Z,3.8nm,0.6s							
KSH	**Kashi**	**44.68**	**304**	P	**P**		**13 25 33.8**	**+1.7**
KURK	**Kurchatov**	**45.46**	**320**	P	**P**		**13 25 39.4**	**+1.4**
KURBB	**Kurchatov Arra**	**45.48**	**320**	P	**P**		**13 25 39.4**	**+1.2**
	comp=Z,2.6nm,0.7s,baz=110,slow=8.2,SNR=17							
ASAR	**Alice Springs**	**47.01**	**169**	P	**P**		**13 25 51.6**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=354,slow=12,SNR=15							
ASAR	**Alice Springs**	**47.01**	**169**	P	**P**		**13 25 47.8**	**-2.7**
ABKAR	**Akbulak array**	**56.97**	**315**	P	**P**		**13 27 04.4**	**-0.1**
ABKAR				IAmb	IAmb		13 27 08.0	
	comp=Z,1.7nm,0.6s

KATZ	**Kakaramea**	**2.20**	**38**	P	Pn	13 20 06.9	+0.3
HIZ	**Hauiti**	**2.32**	**18**	P	Pn	13 20 07.7	-0.3
PXZ	**Pawanui**	**2.32**	**74**	P	Pn	13 20 06.8	-1.3
RATZ	**Rangitukua**	**2.32**	**37**	P	Pn	13 20 08.8	+0.7
GVZ	**Greta Valley S**	**2.34**	**197**	P	Pn	13 20 08.2	-0.2
LTZ	**Lake Taylor**	**2.41**	**211**	P	Pn	13 20 08.8	-0.5
KAHZ	**Kahuranaki**	**2.42**	**68**	P	Pn	13 20 08.3	-1.1
WATZ	**Wairara**	**2.44**	**35**	P	Pn	13 20 10.2	+0.5
MCHZ	**McNeill Hill**	**2.46**	**59**	P	Pn	13 20 08.9	-1.0
BKZ	**Black Stump Fm**	**2.49**	**52**	P	Pn	13 20 09.0	-1.4
AMCZ	**Amberley**	**2.63**	**201**	P	Pn	13 20 11.6	-0.7
KUTZ	**Kaahu Road**	**2.66**	**33**	P	Pn	13 20 12.1	-0.5
MRHZ	**Matea Rd**	**2.67**	**46**	P	Pn	13 20 10.9	-2.0
TLZ	**Tolley Road**	**2.69**	**27**	P	Pn	13 20 12.3	-0.7
INZ	**Inchbonnie**	**2.75**	**223**	P	Pn	13 20 13.3	-0.4
WPRZ	**Whakapapatarin**	**2.78**	**38**	P	Pn	13 20 13.1	-1.2
MTHZ	**Maungataniwha**	**2.90**	**51**	P	Pn	13 20 13.8	-2.1
OXZ	**Oxford**	**2.97**	**208**	P	Pn	13 20 15.0	-1.7
HSRZ	**Hossack Road**	**2.99**	**37**	P	Pn	13 20 15.1	-1.9
OKCZ	**Okains Bay**	**3.07**	**192**	P	Pn	13 20 17.0	-1.1
MUGZ	**Murupara**	**3.12**	**45**	P	Pn	13 20 16.3	-2.5
MQZ	**McQueen's Vall**	**3.13**	**198**	P	Pn	13 20 16.9	-2.0
RTZ	**Ruatahuna**	**3.14**	**49**	P	Pn	13 20 16.6	-2.6
OMRZ	**Omania**	**3.21**	**36**	P	Pn	13 20 18.8	-1.3
TOZ	**Tahuroa Road**	**3.22**	**22**	P	Pn	13 20 19.5	-0.7
AKCZ	**Akaroa Harbour**	**3.24**	**194**	P	Pn	13 20 18.9	-1.4
SNGZ	**Shannon Statio**	**3.25**	**54**	P	Pn	13 20 18.1	-2.5
RACZ	**Rakaia**	**3.29**	**204**	P	Pn	13 20 19.0	-2.0
MHCZ	**Mount Hutt**	**3.32**	**212**	P	Pn	13 20 19.8	-1.8
WVZ	**Waitaha Valley**	**3.36**	**225**	P	Pn	13 20 21.1	-0.9
URZ	**Urewera**	**3.47**	**46**	P	Pn	13 20 20.4	-3.1
TGRZ	**Tauranga**	**3.49**	**32**	P	Pn	13 20 23.1	-0.7
RIGZ	**Rimuhau**	**3.56**	**57**	P	Pn	13 20 22.3	-2.5
WACZ	**Wakanui South**	**3.58**	**205**	P	Pn	13 20 22.8	-2.2
MWZ	**Matawai**	**3.65**	**50**	P	Pn	13 20 23.0	-3.0
RPZ	**Rata Peaks**	**3.68**	**215**	P	Pn	13 20 24.8	-1.6
AWAZ	**Awhitu Peninsu**	**3.70**	**8**	P	Pn	13 20 26.5	-0.2
MKAZ	**Moumakai**	**3.74**	**15**	P	Pn	13 20 26.6	-0.5
GCSZ	**Gaunt Creek Bo**	**3.75**	**225**	P	Pn	13 20 26.0	-1.2
TKGZ	**Te Karaka**	**3.77**	**54**	P	Pn	13 20 24.7	-3.0
WTAZ	**Waiatarua**	**3.82**	**7**	P	Pn	13 20 28.3	0.0
ARCZ	**Arundel**	**3.82**	**212**	P	Pn	13 20 25.9	-2.4
ETAZ	**East Tamaki Re**	**3.84**	**12**	P	Pn	13 20 28.3	-0.3
EPAZ	**Eden Park BICE**	**3.89**	**9**	P	Pn	13 20 29.2	0.0
HBAZ	**Herne Bay Bore**	**3.92**	**9**	P	Pn	13 20 29.5	-0.1
RVAZ	**Riverhead Bore**	**3.98**	**7**	P	Pn	13 20 30.1	-0.4
RUGZ	**Raukumara Rang**	**3.99**	**47**	P	Pn	13 20 26.9	-3.8
MBAZ	**Motutapu North**	**4.02**	**11**	P	Pn	13 20 30.7	-0.3
TWGZ	**Tauwhareparae**	**4.02**	**52**	P	Pn	13 20 28.5	-2.5
WIAZ	**Waiheke Island**	**4.03**	**14**	P	Pn	13 20 30.9	-0.3
FOZ	**Fox Glacier**	**4.17**	**226**	P	Pn	13 20 31.3	-1.7
ABAZ	**Army Bay**	**4.18**	**10**	P	Pn	13 20 33.1	0.0
KUZ	**Kuaotunu**	**4.21**	**20**	P	Pn	13 20 32.2	-1.3
PUZ	**Puketiti**	**4.25**	**53**	P	Pn	13 20 30.6	-3.7
TMZ	**Timaru**	**4.26**	**210**	P	Pn	13 20 31.9	-2.3
PKGZ	**Pakihiroa**	**4.27**	**50**	P	Pn	13 20 31.1	-3.4
WMGZ	**Waiomatatini S**	**4.51**	**51**	P	Pn	13 20 34.1	-3.6
LBZ	**Lake Benmore**	**4.60**	**216**	P	Pn	13 20 36.8	-2.1
GRZ	**Great Barrier**	**4.62**	**15**	P	Pn	13 20 38.4	-0.8
WCZ	**Waipu Caves**	**4.79**	**4**	P	Pn	13 20 41.0	-0.5
ODZ	**Otahua Downs**	**4.96**	**208**	P	Pn	13 20 41.5	-2.2
JCZ	**Jackson Bay**	**5.08**	**227**	P	Pn	13 20 43.5	-2.1
OUZ	**Omahuta**	**5.51**	**357**	P	Pn	13 20 50.2	-1.0
EAZ	**Earnscleugh**	**5.65**	**216**	P	Pn	13 20 50.6	-2.6

*NIC **14** 13:22:55.5±0.0, 36.°09N×31.°26E, h37km±18km, Ml2.8/4*
*ISK **14** 13:22:55.5, 35.°69N×31.°22E, h3km, ML2.6/11*

ISC 14 13:22:58.9±1.3**, 35.°68N**±0.°07×**31.°13E**±0.°04**, h35**km**, n17,** σ1**$ 46/21, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**1.11**	**60**	PG	**Pn**	**13 23 16.1**	**-2.0**
GAZI				SG	**Sn**	**13 23 31.3**	**-0.9**
AKMS	**Akamas**	**1.19**	**123**	P	**Pn**	**13 23 18.3**	**-0.8**
AKMS				S	**Sn**	**13 23 36.6**	**+2.6**
AKMS				AML	AML	13 23 42.3	
	0.4nm,0.6s						
AKMS				AML	AML	13 23 42.3	
	0.4nm,0.6s						
AKMS				AML	AML	13 23 43.5	
	0.5nm,0.4s						
AKMS				AML	AML	13 23 43.5	
	0.5nm,0.4s						
ALFC	**Alefka**	**1.31**	**113**	P	**Pn**	**13 23 19.5**	**-1.3**
ALFC				S	**Sn**	**13 23 37.8**	**+0.7**
ALFC				AML	AML	13 23 44.9	
	0.5nm,0.4s						
ALFC				AML	AML	13 23 44.9	
	0.5nm,0.4s						
ALFC				AML	AML	13 23 47.1	
	0.4nm,0.4s						
ALFC				AML	AML	13 23 47.1	
	0.4nm,0.4s						
KSL	**Kastellorizon**	**1.34**	**291**	P	**Pn**	**13 23 18.9**	**-2.2**
KSL				S	**Sn**	**13 23 35.7**	**-2.0**
KSL				AML	AML	13 23 46.7	
	0.1nm,0.5s						
KSL				AML	AML	13 23 46.7	
	0.1nm,0.5s						
AKAS	**Kas**	**1.35**	**295**	PN	**Pn**	**13 23 22.9**	**+1.4**
ELL	**Elmali**	**1.46**	**318**	PN	**Pn**	**13 23 24.0**	**+1.1**
KORT	**Korkueli**	**1.46**	**335**	PN	**Pn**	**13 23 23.9**	**+0.9**
TEKE	**Tekeli-Mersin**	**1.68**	**73**	PN	**Pn**	**13 23 25.5**	**-0.3**
SZAC	**Souni**	**1.71**	**122**	S	**Sn**	**13 23 48.7**	**+1.9**
SZAC				AML	AML	13 24 02.3	
	0.3nm,0.9s						
BERE	**Bereket-Mersin**	**1.83**	**68**	PN	**Pn**	**13 23 27.6**	**-0.4**
ASGA	**Asgata**	**1.95**	**116**	S	**Sn**	**13 23 54.2**	**+1.4**
TEVE	**Tevekalti-Mers**	**2.02**	**67**	PN	**Pn**	**13 23 30.4**	**-0.2**
AKKU	**Akkuyu-Mersin**	**2.03**	**76**	PN	**Pn**	**13 23 30.5**	**-0.1**
IKL	**Isikli**	**2.15**	**74**	PN	**Pn**	**13 23 32.2**	**-0.1**
MVOU	**Mavrovouni**	**2.15**	**107**	P	**Pn**	**13 23 30.0**	**-2.2**
KEBE	**Keben-Mersin**	**2.23**	**69**	PN	**Pn**	**13 23 33.4**	**-0.1**
KIZK	**Mersin**	**2.57**	**71**	PN	**Pn**	**13 23 38.2**	**+0.1**

*IDC **14** 13:24:23.2±10.0, 16.°23N×145.°22E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/41, mbtmp3.5/4, ML2.7/1, Error ellipse: s-maj=233.2km s-min=32.7km az=63.0*
*NEIC **14** 13:24:23.7±1.1, 16.°3N±0.°1×145.°47E±0.°04, h10km±2km, mb4.3/5, Error ellipse: s-maj=18.8km s-min=7.1km az=357.0*

ISC 14 13:24:23.0±1.3**, 16.°3N**±0.°2×**145.°4E**±0.°1**, h10**km**, n10,** σ0**$ 84/10, mb4.1/6, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**0.31**	**85**		**Pg**	**13 24 29.1**	**-0.1**
GUMO	**Guam**	**2.75**	**191**	Pn	**Pn**	**13 25 06.5**	**-0.7**
	1.3nm,0.3s,baz=343,slow=19,SNR=1.4						
GUMO	**Guam**	**2.75**	**191**		**Pn**	**13 25 07.2**	**0.0**
WR0	**Warramunga Arr**	**37.59**	**197**	P	**P**	**13 31 37.5**	**-0.4**
WR0				IAmb	IAmb	13 32 02.2	
	comp=Z,4.9nm,1.2s						
WB2	**Warramunga Arr**	**37.62**	**197**	P	**P**	**13 31 38.6**	**+0.3**
WB2				IAmb	IAmb	13 32 03.7	
	comp=Z,8.9nm,1.4s						
WRA	**Warramunga Arr**	**37.63**	**197**	P	**P**	**13 31 38.1**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=21,slow=9.8,SNR=4.7						
UBPT	**Khong Chiam**	**38.38**	**274**	P	**P**	**13 31 43.9**	**-0.9**
ASAR	**Alice Springs**	**41.29**	**196**	P	**P**	**13 32 10.6**	**+1.8**
	comp=Z,0.2nm,0.7s,baz=24,slow=9.2,SNR=4.2						
CM31	**Chiang Mai Arr**	**44.28**	**280**	P	**P**	**13 32 33.6**	**+0.3**
CM31				IAmb	IAmb	13 32 37.8	
	comp=Z,7.5nm,1.2s						
CMAR	**Chiang Mai Arr**	**44.28**	**280**	P	**P**	**13 32 33.5**	**+0.3**
	comp=Z,2.4nm,0.9s,baz=71,slow=6.4,SNR=13						

*IDC **14** 13:35:37.7±2.4, 35.°64N×140.°43E, h50km±20km, mb3.3/3, mb1 3.6/6, mb1mx3.3/38, mbtmp3.8/6, ML3.4/2, MS2.4/1, Ms1 2.4/1, ms1mx2.0/37, Error ellipse: s-maj=37.8km s-min=12.8km az=82.0*
*NEIC **14** 13:35:39.6±0.8, 35.°66N±0.°06×140.°30E±0.°09, h61km±9km, mb4.3/6, Error ellipse: s-maj=10.6km s-min=8.5km az=115.0*
*JMA **14** 13:35:39.9±0.1, 35.°65N×140.°15E, h60km±2km, M2.9*

ISC 14 13:35:38.4±0.8**, 35.°63N**±0.°04×**140.°28E**±0.°04**, h64**km±9km**,** **n51,** σ1**$ 88/55, mb3.7/7, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSMT	**Sammumatsuo**	**0.14**	**86**	P	**Pn**	**13 35 50.0**	**+2.0**
JCN	**Nagara**	**0.22**	**196**	P	**Pn**	**13 35 50.3**	**+1.9**
JIHU	**Itakohorinouch**	**0.39**	**31**	P	**Pn**	**13 35 52.1**	**+2.5**
JYT	**Yasato**	**0.60**	**354**	Pn	**Pn**	**13 35 52.4**	**+0.6**
JYT				Sn	**Sn**	**13 36 01.5**	**0.0**
BSO3	**Boso 3**	**0.85**	**167**	P	**Pn**	**13 35 55.8**	**+1.3**
JAG	**Ashikaga**	**1.03**	**320**	P	**Pn**	**13 35 57.7**	**+0.7**
JOD2	**Odawara 2**	**1.04**	**249**	P	**Pn**	**13 35 57.3**	**+0.2**
JOD2				S	**Sn**	**13 36 10.1**	**-0.9**
BSO1	**Boso 1**	**1.14**	**149**	*e*S	**Sn**	**13 36 15.5**	**+3.1**
JIM2	**Oshima 3**	**1.15**	**217**	P	**Pn**	**13 35 58.4**	**-0.1**
JIM2				S	**Sn**	**13 36 12.7**	**-0.8**
JRY	**Ryogami san**	**1.18**	**289**	P	**Pn**	**13 35 59.9**	**+0.9**
JFNN	**Fujinakano**	**1.37**	**252**	P	**Pn**	**13 36 01.9**	**+0.5**
JFNN				S	**Sn**	**13 36 18.1**	**-0.6**
JKT	**Katashina**	**1.40**	**324**	P	**Pn**	**13 36 03.0**	**+1.0**
JYN	**Shimob**	**1.42**	**265**	P	**Pn**	**13 36 02.5**	**+0.4**
JYN				S	**Sn**	**13 36 18.8**	**-1.2**
MJAR	**Matsushiro Arr**	**1.90**	**299**	P	**Pn**	**13 36 09.3**	**+0.7**
	2.1nm,0.3s,baz=134,slow=13,SNR=73						
MJAR				S	**Sn**	**13 36 30.8**	**-0.8**
	2.7nm,0.3s,baz=133,slow=20,SNR=8.5						
MJAR	**Matsushiro Arr**	**1.90**	**299**		**Pn**	**13 36 08.8**	**+0.2**
MAJO	**Matsushiro**	**1.91**	**299**		**Pn**	**13 36 10.0**	**+1.4**
MAT	**Matsushiro**	**1.91**	**299**	P	**Pn**	**13 36 10.0**	**+1.4**
MAT				*e*S	**Sn**	**13 36 32.7**	**+1.1**
MJB9	**Matsu-Tunnel**	**1.91**	**299**	Pn	**Pn**	**13 36 10.3**	**+1.6**
JSG	**Sagara**	**1.96**	**241**	Pn	**Pn**	**13 36 10.8**	**+1.5**
JMM	**Marumori**	**2.27**	**10**	Pn	**Pn**	**13 36 15.7**	**+2.2**
JGF	**Kuroka**	**2.38**	**270**		**Pn**	**13 36 17.2**	**+2.2**
JHJ	**Hachijo jima 2**	**2.54**	**189**	P	**Pn**	**13 36 18.4**	**+1.2**
	44nm,0.3s,baz=324,slow=23,SNR=20						
JHJ				S	**Sn**	**13 36 47.4**	**+0.3**
	52nm,0.3s,baz=31,slow=23,SNR=7.6						
JHJ2	**Mitsune**	**2.54**	**189**	Pn	**Pn**	**13 36 18.9**	**+1.6**
INU	**Inuyama**	**2.67**	**265**		**Pn**	**13 36 20.4**	**+1.4**
JSD	**Sado**	**2.89**	**327**		**Pn**	**13 36 23.1**	**+1.1**
JWT	**Wachi**	**3.99**	**266**	Pn	**Pn**	**13 36 38.8**	**+1.7**
JTM	**Tenmabayashi**	**5.18**	**7**	Pn	**Pn**	**13 36 54.5**	**+1.2**
JMN	**Monobe**	**5.60**	**252**	Pn	**Pn**	**13 37 00.6**	**+1.4**
JHS	**Saijyo**	**5.89**	**266**	Pn	**Pn**	**13 37 05.8**	**+2.8**
ERM	**Erimo**	**6.76**	**19**	Pn	**Pn**	**13 37 14.9**	**+0.1**
ASAJ	**Asahikawa**	**8.66**	**11**	P	**Pn**	**13 37 37.9**	**-2.9**
	0.3nm,0.3s,baz=201,slow=32,SNR=2.2						
ASAJ				S	**Sn**	**13 39 14.1**	**-2.8**
	0.2nm,0.3s,baz=19,slow=24,SNR=1.7						
JKA	**Kamikawa-asahi**	**8.66**	**11**		**Pn**	**13 37 37.9**	**-2.9**
JKA					**Sn**	**13 39 14.1**	**-2.8**
JCJ	**Chichijima**	**8.67**	**169**	P	**Pn**	**13 37 39.2**	**-1.9**
	9.1nm,0.3s,baz=72,slow=14,SNR=12						
JCJ				S	**Sn**	**13 39 09.9**	**-7.4**
	3.9nm,0.3s,baz=122,slow=20,SNR=1.3						
JCJ	**Chichijima**	**8.67**	**169**	Pn	**Pn**	**13 37 39.0**	**-2.1**
KSRS	**Korea Array**	**10.10**	**284**	LR	LR	13 41 41.6	
	comp=Z,22nm,21.2s,baz=130,slow=36						
USRK	**Ussuriysk Ar.**	**10.66**	**326**	Pn	**Pn**	**13 38 08.7**	**+0.6**
USA0B	**Ussuriysk Arra**	**10.66**	**326**	Pn	**Pn**	**13 38 08.5**	**+0.3**
H11N2	**WAKE ISLAND Hy**	**28.28**	**117**	T	T	14 11 10.2	
	baz=309,slow=75,SNR=2.1						
H11N1	**WAKE ISLAND Hy**	**28.28**	**117**	T	T	14 11 09.7	
	baz=309,slow=75,SNR=2.0						
H11N3	**WAKE ISLAND Hy**	**28.30**	**117**	T	T	14 10 57.8	
	baz=309,slow=75,SNR=4.8						
H11S3	**WAKE ISLAND Hy**	**28.93**	**119**	T	T	14 11 31.7	
	baz=312						
H11S1	**WAKE ISLAND Hy**	**28.93**	**119**	T	T	14 11 30.5	
	baz=312,SNR=7.7						
H11S2	**WAKE ISLAND Hy**	**28.94**	**119**	T	T	14 11 34.6	
	baz=312						
MK31	**Makanchi Array**	**44.10**	**303**	P	**P**	**13 43 41.5**	**+1.4**
MK31				IAmb	IAmb	13 43 58.6	
	comp=Z,1.3nm,1.0s						
MKAR	**Makanchi Array**	**44.10**	**303**	P	**P**	**13 43 41.5**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=90,slow=9.6,SNR=5.9						
KNRA	**Kununurra**	**52.18**	**194**	P	**P**	**13 44 43.5**	**+0.9**
WRAB	**Tennant Creek**	**55.55**	**187**	P	**P**	**13 45 08.3**	**+1.2**
WRAB				IAmb	IAmb	13 45 22.7	
	comp=Z,5.5nm,1.3s						
WR0	**Warramunga Arr**	**55.55**	**187**	P	**P**	**13 45 08.1**	**+0.9**
WR0				IAmb	IAmb	13 45 30.9	
	comp=Z,3.9nm,1.1s						
WB2	**Warramunga Arr**	**55.56**	**187**	P	**P**	**13 45 08.2**	**+1.0**
WB2				IAmb	IAmb	13 45 16.6	
	comp=Z,7.7nm,1.4s						
WRA	**Warramunga Arr**	**55.56**	**187**	P	**P**	**13 45 07.5**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=0.9,slow=7.1,SNR=18						
ASAR	**Alice Springs**	**59.28**	**187**	P	**P**	**13 45 35.2**	**+1.8**
	comp=Z,0.3nm,0.8s,baz=21,slow=11,SNR=4.9						

*NEIC **14** 13:38:53.1±1.9, 33.°31S±0.°06×68.°64W±0.°09, h24km±8km, mb4.5/4, Md4.0(SJA), Error ellipse: s-maj=10.6km s-min=8.6km az=85.0*
*SJA **14** 13:38:54±2.1, 33.°30S±0.°06×68.°67W±0.°09, h33km±2km, Error ellipse: s-maj=10.9km s-min=8.4km az=83.0*
*GUC **14** 13:38:55.0±0.5, 33.°31S×68.°80W, h13km±2km, ML4.0*

ISC 14 13:38:53.2±0.8**, 33.°30S**±0.°06×**68.°64W**±0.°08**, h21**km±5km**,** **n33,** σ0**$ 87/36, 1C-2D, Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**1.42**	**247**	*i*P	**Pb**	**13 39 18.5**	**-0.4**
LMEL				*i* S	**Sn**	**13 39 36.1**	**+0.2**
LMEL				IAML		13 39 37.3	
	comp=E,4μm,0.2s						
FSR	**Penalolen**	**1.59**	**263**	*e*P	**Pb**	**13 39 22.6**	**+0.7**
FSR				*i* S	**Sb**	**13 39 42.8**	**+1.2**
VA03	**San Esteban**	**1.69**	**288**	*i*P	**Pb**	**13 39 23.4**	**-0.3**
VA03				*i* S	**Sb**	**13 39 44.6**	**0.0**
VA03				IAML		13 39 45.4	
	comp=E,4μm,0.3s						
VA03	**San Esteban**	**1.69**	**288**		**Pb**	**13 39 23.3**	**-0.3**
ZON	**Zonda**	**1.75**	**359**	Pg	**Pb**	**13 39 24.6**	**0.0**
MT05	**Renca**	**1.76**	**267**	*i*P	**Pb**	**13 39 24.5**	**-0.3**
MT05				*i* S	**Sb**	**13 39 46.8**	**+0.3**
MT05				IAML		13 39 50.4	
	comp=E,3μm,0.2s						
MT05	**Renca**	**1.76**	**267**		**Pb**	**13 39 24.0**	**-0.8**
MT09	**Talagante**	**2.02**	**256**	*i* S	**Sb**	**13 39 53.5**	**-0.4**
MT09	**Talagante**	**2.02**	**256**		**Pn**	**13 39 26.5**	**+0.4**
ROCH	**El Roble**	**2.02**	**279**	*e*P	**Pb**	**13 39 28.5**	**-0.7**
ROCH				*i* S	**Sb**	**13 39 53.8**	**-0.2**
ROCH				IAML		13 39 55.7	
	comp=N,2μm,0.4s						
MT01	**Popeta**	**2.25**	**255**		**Pn**	**13 39 29.8**	**+0.6**
BO01	**Tunca**	**2.31**	**241**		**Pn**	**13 39 29.1**	**-0.9**
VA05	**Santo Domingo**	**2.51**	**261**	*e*P	**Pn**	**13 39 34.7**	**+2.0**
VA05				IAML		13 40 11.9	
	comp=E,815nm,0.2s						
VA05	**Santo Domingo**	**2.51**	**261**		**Pn**	**13 39 34.0**	**+1.3**
VA01	**Torpederas**	**2.54**	**276**	Pn	**Pn**	**13 39 32.1**	**-1.0**
CO02	**Combarbal**	**2.90**	**316**		**Pn**	**13 39 39.8**	**+1.6**
GO05	**Huala**	**3.22**	**237**		**Pn**	**13 39 41.7**	**-0.8**
GO04	**Tololo Observa**	**3.62**	**329**		**Pn**	**13 39 47.9**	**-0.4**
CO06	**Fray Jorge**	**3.66**	**315**		**Pn**	**13 39 49.6**	**+1.1**
AC04	**Llanos de Chal**	**5.50**	**337**		**Pn**	**13 40 13.0**	**-0.8**
TRQA	**Tornquist**	**7.20**	**133**	Pn	**Pn**	**13 40 38.3**	**+1.1**
PB14	**IPOC Station P**	**8.78**	**349**	Pn	**Pn**	**13 40 58.3**	**-1.0**
PB10	**IPOC Station P**	**9.90**	**350**	Pn	**Pn**	**13 41 13.1**	**-1.1**
LVC	**Limon Verde**	**10.66**	**359**	Pn	**Pn**	**13 41 24.3**	**-0.6**
PB07	**IPOC Station P**	**11.59**	**354**	Pn	**Pn**	**13 41 36.6**	**-0.9**
PMSA	**Palmer Station**	**31.62**	**176**	P	**P**	**13 45 13.2**	**-1.0**
PMSA				IAmb	IAmb	13 45 31.9	
	comp=Z,12nm,1.3s						
VNA3	**Neumayer Olymp**	**48.95**	**158**	P	**P**	**13 47 38.4**	**+0.9**
VNA2	**Neumayer--Watz**	**49.57**	**158**	P	**P**	**13 47 42.6**	**+0.5**
	baz=290,slow=8.4						
VNA2	**Neumayer--Watz**	**49.57**	**158**	pP	pP	13 47 50.1	+1.0
VNA2	**Neumayer--Watz**	**49.57**	**158**	sP	sP	13 47 53.5	+1.7
SNAA	**Sanae**	**51.17**	**158**	P	**P**	**13 47 54.8**	**+0.4**
SNAA	**Sanae**	**51.17**	**158**	P	**P**	**13 47 54.5**	**+0.2**
QSPA	**South Pole Qui**	**56.93**	**180**	P	**P**	**13 48 36.9**	**+0.3**
QSPA				IAmb	IAmb	13 48 37.7	
	comp=Z,5.0nm,1.2s						

*IDC **14** 13:44:43.7±1.2, 33.°18S×109.°92W, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.7/37, mbtmp3.7/4, MS3.5/1, Ms1 3.6/1, ms1mx3.0/23, Error ellipse: s-maj=118.2km s-min=26.2km az=93.0*

ISC 14 13:44:45.1±1.2**, 33.°2S**±0.°2×**110.°1W**±0.°9**, h10**km**, n14,** σ0**$ 90/7, mb3.8/4, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**25.93**	**100**	T	T	14 17 00.2	
	baz=262,slow=75,SNR=65						
H03S3	**Juan Fernandez**	**25.95**	**100**	T	T	14 16 58.0	
	baz=262,slow=75,SNR=48						
H03S1	**Juan Fernandez**	**25.95**	**100**	T	T	14 17 00.2	
	baz=262,slow=75,SNR=67						
H03N2	**Juan Fernandez**	**25.98**	**99**	T	T	14 16 51.9	
	baz=266,slow=73,SNR=128						
H03N3	**Juan Fernandez**	**25.98**	**99**	T	T	14 16 53.1	
	baz=266,slow=73,SNR=130						
H03N1	**Juan Fernandez**	**26.00**	**99**	T	T	14 16 52.5	
	baz=266,slow=73,SNR=74						
CPUP	**Villa Florida**	**45.90**	**96**	LR	LR	14 08 00.4	
	comp=Z,60nm,19.7s,baz=216,slow=30						
QSPA	**South Pole Qui**	**57.01**	**180**	P	**P**	**13 54 31.2**	**+0.4**
	0.7nm,0.7s,baz=128,slow=2.6,SNR=7.8						
TXAR	**Lajitas Array**	**62.47**	**6**	P	**P**	**13 55 08.6**	**-0.1**
	0.1nm,0.3s,baz=179,slow=8.9,SNR=3.8						
NVAR	**Mina Array Bea**	**71.66**	**353**	P	**P**	**13 56 08.5**	**+1.4**
	1.1nm,0.8s,baz=185,slow=9.0,SNR=8.4						
PDAR	**Pinedale Array**	**75.58**	**0**	P	**P**	**13 56 29.6**	**-0.5**
	0.9nm,0.8s,baz=163,slow=5.7,SNR=6.3						
SONM	**Songino Array**	**148.97**	**309**	PKPbc	**PKPbc**	**14 04 32.5**	**-0.7**
	1.3nm,0.8s,baz=70,slow=2.1,SNR=7.3						
CMAR	**Chiang Mai Arr**	**150.17**	**248**	PKPbc	**PKiKP**	**14 04 37.1**	**-0.5**
	1.1nm,0.7s,baz=172,slow=1.3,SNR=9.2						
ZALV	**Zalesovo Beam**	**156.70**	**337**	PKPab	**PKPab**	**14 05 09.1**	**-0.2**
	0.4nm,0.3s,baz=62,slow=3.5,SNR=3.5						

*IDC **14** 13:45:51.4±1.4, 14.°81N×147.°18E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/58, mbtmp3.5/6, ML3.8/1, Error ellipse: s-maj=38.5km s-min=22.5km az=112.0*
*NEIC **14** 13:45:57.0±2.0, 14.°89N±0.°08×147.°2E±0.°1, h35km±2km, mb4.1/1, Error ellipse: s-maj=19.8km s-min=12.9km az=90.0*

ISC 14 13:45:51.6±0.9**, 14.°86N**±0.°09×**147.°28E**±0.°10**, h10**km**, n11,** σ1**$ 67/12, mb3.7/6, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**2.11**	**315**	Pn	**Pn**	**13 46 24.2**	**-2.7**
GUMO	**Guam**	**2.65**	**242**	Pn	**Pn**	**13 46 34.3**	**-0.1**
	17nm,0.3s,baz=57,slow=4.5,SNR=10						
GUMO				Sn	**Sn**	**13 47 05.2**	**-1.6**
	12nm,0.3s,baz=348,slow=20,SNR=6.0						
GUMO	**Guam**	**2.65**	**242**		**Pn**	**13 46 33.5**	**-1.0**
PATS	**Pohnpei**	**13.45**	**125**	Pn	**Pn**	**13 49 00.6**	**-2.1**
WRA	**Warramunga Arr**	**36.85**	**201**	P	**P**	**13 53 01.5**	**+1.1**
	0.6nm,0.9s,baz=21,slow=12,SNR=1.8						
ASAR	**Alice Springs**	**40.46**	**199**	P	**P**	**13 53 30.7**	**+0.1**
	0.1nm,0.5s,baz=32,slow=8.8,SNR=1.7						
SONM	**Songino Array**	**47.08**	**323**	P	**P**	**13 54 25.0**	**+1.1**
	0.5nm,0.6s,baz=155,slow=7.6,SNR=2.6						
ZALV	**Zalesovo Beam**	**61.97**	**324**	P	**P**	**13 56 12.0**	**+0.3**
MK31	**Makanchi Array**	**62.22**	**315**	P	**P**	**13 56 15.2**	**+1.6**
MK31				IAmb	IAmb	13 56 26.7	
	comp=Z,1.5nm,1.1s						
MKAR	**Makanchi Array**	**62.22**	**

BEKR IAML 13 56 56.9
comp=N,5µm,0.7s
TMBU Tom Butte, New 2.09 327 Pn Pn 13 56 23.6 +0.1
B040 Montague 2.12 270 Pn 13 56 23.2 -0.5
PAHR Pah Rah Range 2.15 176 Pn 13 56 25.1 +0.7
PAHR IAML 13 57 03.6
comp=E,3µm,1.3s
PAHR IAML 13 57 14.1
comp=N,2µm,1.2s
SVIC Surveyors Ice 2.17 326 Pb 13 56 27.2 -0.3
PINE Pine Mountain 2.17 333 Pn 13 56 24.5 -0.2
PINE IAML 13 57 01.7
comp=E,3µm,0.8s
PINE IAML 13 57 08.7
comp=N,3µm,0.8s
I07A Izee 2.23 2 Pn 13 56 25.2 -0.1
I07A IAML 13 57 09.6
comp=E,2µm,1.5s
LCMM Colby Mountain 2.25 221 Pn 13 56 26.7 +0.9
KWBU Kawak Butte, N 2.28 327 Pb 13 56 29.2 -0.3
BMN Battle Mountai 2.29 128 Pn 13 56 26.7 +0.5
BMN IAML 13 57 04.8
comp=E,2µm,0.6s
BMN IAML 13 57 08.3
comp=N,2µm,1.0s
O03E Paynes Creek 2.29 228 P Pn 13 56 26.6 +0.5
baz=46,SNR=1000
O03E Sb **Sb 13 56 59.9 +1.8**
baz=46
J04D Umpqua Nationa 2.32 307 Pn 13 56 27.1 +0.4
J04D Umpqua Nationa 2.32 307 P Pn 13 56 26.4 -0.4
baz=126,SNR=570
YBH Yreka Blue Hor 2.34 268 Pn Pn 13 56 26.4 -0.5
comp=N,33nm,0.3s,baz=44,slow=14,SNR=371
YBH Pg **Pb 13 56 30.2 -0.2**
comp=N,110nm,0.3s,baz=72,slow=12,SNR=44
YBH Lg Lg 13 57 01.5
comp=N,124nm,0.3s,baz=345,slow=22,SNR=11
YBH LR LR 13 57 18.2
comp=N,881nm,19.7s,baz=184,slow=39
YBH Yreka Blue Hor 2.34 268 Pn 13 56 25.8 -1.0
ASBU Astronaut Butt 2.36 327 Pb 13 56 30.7 -0.2
M02C Callahan 2.49 260 Pn 13 56 28.9 0.0
M02C Callahan 2.49 260 P Pn 13 56 27.7 -1.2
baz=78,SNR=287
M02C Sb **Sb 13 57 05.0 +1.0**
baz=78
N02D Trinity Center 2.50 250 Pn 13 56 28.9 -0.3
N02D Trinity Center 2.50 250 P Pn 13 56 28.1 -1.0
baz=68,SNR=383
N02D Sb **Sb 13 57 05.5 +1.2**
baz=68
VCNR Virginia City 2.56 181 Pn Pn 13 56 30.9 +0.8
WDC Whiskeytown Da 2.57 241 Pn 13 56 29.6 -0.3
WDC IAML 13 57 12.0
comp=E,2µm,1.0s
WDC IAML 13 57 12.5
comp=N,3µm,1.2s
HUMO Hull Mountain 2.61 288 Pn 13 56 29.6 -1.0
HUMO IAML 13 57 17.5
comp=E,1µm,2.0s
HUMO IAML 13 57 18.4
comp=N,2µm,1.4s
ORV Oroville 2.72 213 Pn 13 56 32.9 +0.8
ORV IAML 13 57 14.9
comp=E,2µm,0.8s
WIFE Three Sisters- 2.74 324 Pb 13 56 37.8 +0.4
VIPM Ingram Point 2.75 344 Pn 13 56 34.8 +2.1
PNTR Pine Nut 2.77 180 Pn 13 56 34.0 +1.2
I05D Terrebonne, OR 2.79 333 Pb 13 56 38.2 0.0
I05D Terrebonne, OR 2.79 333 P Pn 13 56 33.0 0.0
baz=153,SNR=46
I05D Sb **Sb 13 57 13.1 +0.5**
baz=153
HUOR Husband 2.80 325 Pb 13 56 38.3 -0.2
KTRM Thompson Ridge 2.83 272 Pn 13 56 34.5 +0.9
I04A Tendick Farm, 2.84 314 Pb 13 56 39.2 +0.2
I04A Tendick Farm, 2.84 314 P Pn 13 56 33.4 -0.3
baz=132,SNR=140
I04A Sb **Sb 13 57 14.5 +0.6**
baz=132
YERR Yerington 2.88 175 Pn Pn 13 56 35.7 +1.2
PRLK Prince Lake 2.93 324 Pb 13 56 41.2 +0.7
O02D Mt. Diablo Mer 2.95 236 Pb 13 56 41.0 +0.1
O02D Mt. Diablo Mer 2.95 236 P Pn 13 56 35.3 +0.1
baz=54,SNR=347
O02D Sb **Sb 13 57 19.1 +2.0**
baz=54
DBO Dodson Butte 2.98 296 Pb 13 56 41.8 +0.4
L02E Cave Junction 3.01 277 Pn 13 56 37.4 +1.4
L02E Cave Junction 3.01 277 P Pn 13 56 35.8 -0.2
baz=94,SNR=299
L02E Sb **Sb 13 57 19.9 +1.2**
baz=94
KVN Kaiserville 3.02 157 Pn 13 56 37.4 +1.0
KVN IAML 13 57 32.1
comp=E,1µm,1.3s
KVN IAML 13 57 36.8
comp=N,1µm,1.1s
K02D Willamette Mer 3.14 287 Pn 13 56 38.8 +0.9
K02D Willamette Mer 3.14 287 P Pn 13 56 37.6 -0.3
baz=104,SNR=887
K02D Sb **Sb 13 57 23.6 +1.0**
baz=104
MFID Camas Ranch 3.18 59 Pn 13 56 38.8 +0.3
MFID IAML 13 57 33.6
comp=N,2µm,0.6s
MFID IAML 13 57 44.2
comp=N,1µm,0.8s
BROR Big Rock Looko 3.19 320 Pb 13 56 45.7 +0.7
KRMB Red Mountain 3.25 266 Pn 13 56 39.7 +0.2
KRMB IAML 13 57 37.9
comp=N,1µm,1.7s
KRMB IAML 13 57 44.1
comp=E,749nm,1.6s
KHMM Horse Mountain 3.27 254 Pn Pn 13 56 40.4 +0.7
I03D Drain, OR 3.32 305 Pb Pb 13 56 46.6 -0.6
baz=123
I03D Sb **Sb 13 57 29.1 +1.3**
baz=123
RYN Ryan 3.33 165 Pn Pn 13 56 41.8 +1.3
RYN IAML 13 57 44.3
comp=N,2µm,1.0s
BUCK Buck Mountain 3.42 314 Pn Pn 13 56 41.4 -0.3
BUCK IAML 13 57 50.7
comp=N,1µm,1.5s
BUCK IAML 13 58 08.0
comp=E,868nm,1.5s
BMO Blue Mountains 3.42 28 13 56 41.6 -0.2
BMO IAML 13 57 47.9
comp=E,671nm,2.0s
ELK Elko 3.46 107 Pn Pn 13 56 42.8 +0.4
comp=E,3.7nm,0.3s,baz=298,slow=14,SNR=51
ELK Pg **Pb 13 56 48.7 -0.9**
comp=E,68nm,0.3s,baz=303,slow=15,SNR=175
ELK Lg Lg 13 57 36.3
comp=E,110nm,0.3s,baz=128,slow=15,SNR=7.3
ELK Elko 3.46 107 Pn 13 56 43.3 +0.9
G08A Pilot Rock 3.46 7 Pn 13 56 42.8 +0.5
J01E Myrtle Point 3.46 294 Pb Pb 13 56 47.7 -1.9
baz=111
J01E Sg **Sg 13 57 39.6 +0.3**
baz=111
JCC Jacoby Creek, 3.50 254 Pn Pn 13 56 43.4 +0.6
H04D Lebanon 3.52 320 Pb Pb 13 56 49.2 -1.3
baz=138
NVAR Mina Array Bea 3.56 164 Pn Pn 13 56 45.5 +1.7
comp=E,3.8nm,0.3s,baz=342,slow=12,SNR=99
NVAR Pg **Pb 13 56 51.2 -0.2**
comp=E,12nm,0.3s,baz=340,slow=13,SNR=34
NVAR Lg Lg 13 57 43.3
comp=E,138nm,0.3s,baz=284,slow=29,SNR=11
NVAR LR LR 13 58 34.1
comp=E,5µm,18.9s,baz=344,slow=46
NV11 Mina Array Sit 3.59 162 Pn Pn 13 56 44.8 +0.6
NV11 IAML 13 57 58.8
comp=E,798nm,1.8s
NV11 IAML 13 58 02.3
comp=N,698nm,1.5s
G05D Wamic, OR 3.61 340 Pb 13 56 50.8 -1.3
G05D Wamic, OR 3.61 340 Pb Pb 13 56 50.9 -1.2
baz=160
KCPM Cahto Peak 3.73 236 Pn Pn 13 56 46.4 +0.4
I02D Swisshome 3.85 307 Pb Pb 13 56 53.9 -2.2
baz=125
I02D Sg **Sg 13 57 50.1 -1.5**
baz=125
HOPS Hopland Field 3.91 224 Pn Pn 13 56 48.2 -0.1
HOPS IAML 13 58 05.4
comp=E,473nm,1.8s
HOPS IAML 13 58 13.5
comp=N,717nm,1.5s
GDXM Geysers 3.91 220 Pn Pn 13 56 48.5 +0.1
F07A Phinny Hill Vi 4.04 357 Pn Pn 13 56 50.0 -0.2
F07A IAML 13 58 05.9
comp=E,539nm,1.0s
PLID Pearl Lake 4.15 38 Pn Pn 13 56 52.6 +0.7
HLID Hailey 4.18 64 Pn 13 56 53.0 +0.8
HLID IAML 13 58 07.1
comp=E,428nm,1.1s
HLID IAML 13 58 19.2
comp=E,627nm,1.6s
HLID Hailey 4.18 64 P Pn 13 56 53.1 +0.9
baz=248
HLID Sb **Sb 13 57 56.5 +4.0**
baz=248
F05D White Salmon 4.25 342 Pb Pb 13 57 00.5 -2.5
baz=161
F05D Sb **Sb 13 57 58.0 +3.6**
baz=161
MLAC Mammoth, Mammo 4.26 172 P Pn 13 56 57.2 +3.7
baz=352
G03D McMinnville, O 4.29 323 Sb Sb 13 57 58.9 +3.4
baz=141
MCCM Marconi Confer 4.49 215 Pn Pn 13 56 56.0 -0.3
MCCM IAML 13 58 23.0
comp=E,361nm,1.8s
MCCM IAML 13 58 40.2
comp=N,438nm,2.3s
F04A Amboy 4.56 334 Pn 13 56 56.7 -0.6
R11A Troy Canyon, C 4.66 137 P Pn 13 57 01.0 +2.2
baz=320
R11A Sb **Sg 13 58 12.8 -4.8**
baz=320
E07A Sunnyside 4.70 358 Pn 13 56 57.9 -1.4
E07A IAML 13 58 25.8
comp=E,257nm,1.7s
ERK Elk Rock 4.87 337 Pn 13 56 58.9 -2.7
F04D Rainier, OR 4.89 331 Pb Pb 13 57 12.7 -1.2
baz=149
F04D Sb **Sb 13 58 15.0 +2.1**
baz=149
TIN Tinemaha, Big 4.91 167 P Pn 13 57 03.6 +1.3
baz=348
BGU Big Grassy Mou 5.02 99 Pn 13 57 04.5 +0.7
BGU IAML 13 58 38.0
comp=N,447nm,3.4s
GRAC Grapevine Rang 5.15 160 P Pn 13 57 07.8 +2.4
baz=341
E04D Cinebar 5.16 337 P Pn 13 57 07.0 +1.4
baz=155
D08A Wollman Farm, 5.22 5 Pn Pn 13 57 05.5 -0.9
SAO San Andreas Ge 5.29 196 Pn Pn 13 57 06.0 -1.4
SPUT South Promonto 5.38 93 Pn Pn 13 57 09.1 +0.3
DUG Dugway, Tooele 5.39 106 P Pn 13 57 11.3 +2.5
baz=290
PSUT Pine Spring 5.50 125 Pn Pn 13 57 10.5 0.0
VOG Valley Oaks Go 5.53 178 Pg Pg 13 57 32.7 -1.2
baz=358
CWC Cottonwood Cre 5.54 167 Pg Pg 13 57 33.9 -0.1
baz=348
TPNV Topopah Spring 5.54 151 P Pn 13 57 13.2 +2.3
baz=333
D05A Enumclaw 5.60 343 Pn Pn 13 57 11.1 -0.5
MCMT McKenzie Canyo 5.74 57 Pn 13 57 14.1 +0.3
FURC Furnace Creek, 5.78 158 P Pn 13 57 16.3 +2.2
baz=339
NLU North Lily Min 6.00 106 Pn Pn 13 57 17.7 +0.3
HWUT Hardware Ranch 6.01 90 Pn Pn 13 57 17.7 +0.3
MPMC Manual Prospec 6.02 164 P Pn 13 57 22.2 +4.7
baz=345
CTU Camp Tracy 6.02 99 Pn Pn 13 57 18.0 +0.5
VES Vestal, Richgr 6.02 176 P Pn 13 57 20.6 +3.2
baz=356
ISA Isabella, Lake 6.25 172 P Pn 13 57 26.2 +5.7
baz=352
JLU Jordanelle 6.26 99 Pn Pn 13 57 20.2 -0.7
MPU Maple Canyon 6.30 104 Pn Pn 13 57 21.8 +0.4
NLWA Neilton Lookou 6.32 333 Pn Pn 13 57 20.8 -0.7
MSO Missoula 6.41 37 P Pn 13 57 25.7 +2.9
baz=221
B08A Colville Reser 6.50 2 Pn Pn 13 57 24.2 +0.2
SMMC Simmler 6.54 183 P Pn 13 57 28.8 +4.2
baz=2.4
MSU Marysvale 6.58 118 Pn Pn 13 57 25.2 -0.1
NEW Newport 6.64 14 Pn Pn 13 57 29.4 +3.5
comp=N,0.2nm,0.3s,baz=204,slow=12,SNR=2.7
NEW Lg Lg 13 59 18.4
comp=N,1.0nm,0.3s,baz=276,slow=19,SNR=4.3
NEW LR LR 14 00 25.4
comp=N,2µm,19.4s,baz=192,slow=42
NEW Newport 6.64 14 Pn Pn 13 57 24.6 -1.3
B05A Bryant 6.65 345 P Pn 13 57 28.2 +2.3
baz=164
QLMT Earthquake Lak 6.65 61 Pn Pn 13 57 25.6 -0.6
IMW Indian Meadow 6.67 69 Pn Pn 13 57 26.2 -0.4
MTPU Mount Pierson 6.85 121 Pn Pn 13 57 28.1 -0.9
BOZ Bozeman (W) 6.87 54 Pn Pn 13 57 29.2 0.0
BOZ Bozeman (W) 6.87 54 P Pn 13 57 31.0 +1.9
baz=240
LCMT Little Creek M 6.89 133 Pn Pn 13 57 29.4 -0.1
JTMT Jette 6.99 31 Pn Pn 13 57 30.1 -0.7
TUQ Turquoise Moun 7.02 155 P Pn 13 57 34.7 +3.5
baz=337
H17A Grant Village 7.06 66 Pn Pn 13 57 32.4 +0.4
LKWY Lake 7.24 65 Pn Pn 13 57 33.9 -0.5
HRY Holter Researc 7.38 46 Pn Pn 13 57 36.3 +0.1
HEC Hector,Ludlow 7.47 159 Pg Pg 13 58 12.7 +1.8
baz=341
BW06 Boulder Array 7.49 80 Pn Pn 13 57 38.3 +0.6
BW06 Boulder Array 7.49 80 P Pn 13 57 41.0 +3.2
baz=266
PD31 Pinedale Array 7.49 80 Pn Pn 13 57 38.7 +0.9
PDAR Pinedale Array 7.49 80 Pn Pn 13 57 43.2 +5.4
comp=N,0.3nm,0.3s,baz=266,slow=12,SNR=19
PDAR Lg Lg 13 59 42.8
comp=N,0.4nm,0.3s,baz=285,slow=20,SNR=1.7
GCMT Greyciiff 8.18 58 Pn Pn 13 57 47.6 +0.5
WALA Waterton Lakes 8.23 27 Pn Pn 13 57 48.3 +0.5
PFO Pinyon Flats O 8.60 162 Pn Pn 13 57 58.1 +5.3
comp=N,0.1nm,0.3s,baz=330,slow=6.7,SNR=3.9
PFO Lg Lg 14 00 18.9
comp=N,0.2nm,0.3s,baz=312,slow=18,SNR=1.4
PFO LR LR 14 01 17.8
comp=N,1µm,18.6s,baz=344,slow=38
O20A White River Ci 8.75 98 Pn Pn 13 57 54.7 -0.4
PV23 Carpenter Ridg 8.78 109 Pn Pn 13 57 56.3 +0.8
PV19 Morning Glory 8.87 110 Pn Pn 13 57 56.2 -0.5
PV04 Paradox Valley 8.88 109 Pn Pn 13 57 56.6 -0.3
PV05 Paradox Valley 8.89 112 Pn Pn 13 57 57.7 +0.7
PV16 Nyswonger Mesa 8.91 110 Pn Pn 13 57 57.8 +0.5
PV18 Skein Mesa, Pa 8.95 110 Pn Pn 13 57 59.0 +1.3
PV11 David Mesa, Pa 8.95 110 Pn Pn 13 57 58.9 +1.2
PV03 Paradox Valley 8.99 110 Pn Pn 13 57 57.4 -0.8
PV12 Saucer Basin, 8.99 110 Pn Pn 13 57 57.5 -0.8
WUAZ Wupatki 9.01 132 Pn Pn 13 57 58.9 +0.3
PV13 Radium Mtn., P 9.05 111 Pn Pn 13 57 59.4 +0.3
MVCO Mesa Verde 9.74 115 Pn Pn 13 58 09.1 +0.5
CBX Cerro Bola 9.81 165 Pn Pn 13 58 08.1 -1.4
PHWY Pilot Hill 10.60 88 Pn Pn 13 58 18.9 -1.6
ISCO Idaho Springs 10.79 96 Pn Pn 13 58 22.7 -0.3
SDCO Great Sand Dun 11.59 106 Pn Pn 13 58 33.4 -0.6
TUC Tucson 11.83 141 Pn 13 58 36.5 -0.6
BBB Bella Bella 11.85 334 LR LR 14 03 39.0
comp=N,1µm,18.9s,baz=159,slow=40
ANMO Albuquerque 12.39 120 Pn Pn 13 58 46.4 +1.6
comp=N,0.1nm,0.3s,baz=303,slow=13,SNR=4.0
ANMO Lg Lg 14 02 16.2
comp=N,0.2nm,0.3s,baz=223,slow=22,SNR=1.7
ANMO LR LR 14 04 19.5
comp=N,1µm,21.0s,baz=303,slow=41
MSTX Muleshoe 15.41 115 P 13 59 30.6 0.0
R32A Long Quarter, 16.32 95 P P 13 59 40.4 -0.1
R32A IAmb IAmb 13 59 47.8
comp=Z,46nm,0.9s
ECSD EROS Data Cent 16.96 76 P P 13 59 46.8 -0.7
ECSD IAmb IAmb 13 59 53.0
comp=Z,43nm,1.5s
DLBC Dease Lake 17.86 342 P P 13 59 57.2 -0.2
comp=Z,0.1nm,0.3s,baz=180,slow=20,SNR=2.3
DLBC LR LR 14 06 38.5
comp=Z,380nm,18.6s,baz=142,slow=36
TX31 Lajitas Ar. Si 17.96 129 P P 13 59 58.8 0.0
TX31 IAmb IAmb 14 00 09.1
comp=Z,97nm,1.3s
TX32 Lajitas Array 17.96 129 P P 13 59 58.7 -0.1
TXAR Lajitas Array 17.96 129 P P 14 00 00.4 +1.7
comp=Z,0.1nm,0.3s,baz=322,slow=7.9,SNR=27
TXAR Lg Lg 14 05 17.2
baz=301,slow=26,SNR=2.1
TXAR LR LR 14 08 04.6
comp=Z,384nm,19.1s,baz=0.0,slow=41
TXAR Lajitas Array 17.96 129 P Pn 13 59 57.6 -0.5
ABTX Abilene, Hawle 18.33 114 P Pn 14 00 01.3 -1.3
ULM Lac du Bonnet 18.41 55 P Pn 14 00 07.2 +3.7
comp=Z,0.3nm,0.3s,baz=264,slow=7.4,SNR=4.1
ULM LR LR 14 06 35.2
comp=Z,326nm,20.0s,baz=256,slow=35
ULM Lac du Bonnet 18.41 55 IAmb IAmb 14 00 16.8
comp=Z,13nm,1.2s
JIS Juneau Island 18.91 335 P P 14 00 06.8 -2.0
F36A Milaca 19.18 69 P P 14 00 11.4 -0.6
LPIG La Paz 19.32 154 LR LR 14 08 09.4
comp=Z,505nm,18.1s,baz=336,slow=38
S39A Bolivar 20.58 93 P P 14 00 27.3 0.0
S39A IAmb IAmb 14 00 35.4
comp=Z,29nm,1.1s
YKA Yellowknife Ar 20.88 6 P P 14 00 30.3 0.0
comp=Z,1.0nm,0.6s,baz=191,slow=11,SNR=3.5
YKA LR LR 14 09 18.4
comp=Z,492nm,20.4s,baz=0.0,slow=39
P40A Paris 20.98 87 P P 14 00 31.8 +0.2
P40A IAmb IAmb 14 00 41.9
comp=Z,37nm,0.7s
L40A Anamosa 21.06 80 P P 14 00 32.6 +0.1
L40A IAmb IAmb 14 00 41.8
comp=Z,43nm,1.0s
R40A Maddies Statio 21.17 91 P P 14 00 34.2 +0.5
R40A IAmb IAmb 14 00 40.4
comp=Z,19nm,1.1s
I40A Norwalk 21.29 75 P P 14 00 35.2 +0.3
I40A IAmb IAmb 14 00 44.3
comp=Z,25nm,0.8s
U40A Yellville 21.42 96 P P 14 00 37.1 +0.8
U40A IAmb IAmb 14 00 45.2
comp=Z,44nm,1.4s
G40A Rib Lake 21.51 71 P P 14 00 37.3 0.0
G40A IAmb IAmb 14 00 43.9
comp=Z,44nm,1.5s
MGMO Mountain Grove 21.55 94 P P 14 00 36.9 -0.9
MGMO IAmb IAmb 14 00 46.5
comp=Z,16nm,1.0s
JFWS Jewell Farm 21.65 77 P P 14 00 38.2 -0.6
JFWS IAmb IAmb 14 00 44.8
comp=Z,37nm,0.9s
CCM Cathedral Cave 22.01 91 P P 14 00 41.9 -0.9
CCM IAmb IAmb 14 00 48.6
comp=Z,20nm,0.9s
WHAR Wooly Hollow 22.27 98 P P 14 00 44.6 -0.9
WHAR IAmb IAmb 14 00 55.5
comp=Z,23nm,1.0s
I42A Draeger Farm, 22.51 74 P P 14 00 47.3 -0.7
I42A IAmb IAmb 14 00 55.2
comp=Z,14nm,0.8s
LCAR Lake Charles 22.79 95 P P 14 00 51.2 +0.1
LCAR IAmb IAmb 14 00 58.1
comp=Z,42nm,1.3s
LOGN Logan Glacier 23.03 333 P P 14 00 53.2 -0.3
H43A Windswept, Lux 23.28 73 P P 14 00 56.1 +0.1
H43A IAmb IAmb 14 01 00.3
comp=Z,21nm,0.9s
O44A Mansfield 23.49 84 P P 14 00 58.8 +0.7
M44A Midewin, Midew 23.52 81 P P 14 00 58.2 -0.2
S44A Carbondale 23.62 90 P P 14 00 59.5 +0.1
SIUC Southern Illin 23.64 90 P P 14 00 59.6 0.0
SFIN Lafayette 24.45 83 P P 14 01 04.3 -2.9
SFIN IAmb IAmb 14 01 13.8
comp=Z,23nm,0.9s
P46A Rosedale 24.56 84 P P 14 01 07.2 -1.0
P46A IAmb IAmb 14 01 13.6
comp=Z,27nm,1.0s
OXF Oxford 24.74 97 P P 14 01 10.0 +0.1
WVT Waverly 25.25 93 P P 14 01 15.2 +0.7
WVT IAmb IAmb 14 01 22.1
comp=Z,16nm,0.9s
PLAL Pickwick Lake 25.53 95 P P 14 01 17.4 +0.4
WCI Wyandotte Cave 25.65 87 P P 14 01 17.1 -1.1
P48A Milroy 25.93 84 P P 14 01 20.6 0.0
KDAK Kodiak Island 26.23 319 LR LR 14 10 04.5
comp=Z,587nm,19.8s,baz=135,slow=33
P49A Miami Univ. Ec 26.43 83 P P 14 01 24.8 -0.5
INK Inuvik 27.54 349 P P 14 01 36.0 +1.2
comp=Z,1.5nm,0.6s,baz=128,slow=8.0,SNR=2.8
INK LR LR 14 13 59.3
comp=Z,577nm,18.9s,baz=152,slow=40
ILAR Eielson Array 27.73 335 P P 14 01 38.1 +1.5
comp=Z,1.7nm,0.7s,baz=152,slow=7.6,SNR=15
ILAR LR LR 14 12 14.3
comp=Z,352nm,19.9s,baz=145,slow=36
TKL Tuckaleechee C 28.46 91 P P 14 01 45.7 +2.3
comp=Z,3.9nm,0.7s,baz=267,slow=5.5,SNR=5.5
TKL LR LR 14 13 19.1
comp=Z,281nm,19.6s,baz=300,slow=37
SADO Sadowa 29.36 70 LR LR 14 12 42.7
comp=Z,351nm,20.2s,baz=290,slow=35
SCHQ Schefferville 36.51 51 LR LR 14 19 27.7
comp=Z,112nm,21.3s,baz=282,slow=39
PETK Petropavlovsk- 54.02 312 LR LR 14 25 13.8
comp=Z,121nm,21.7s,baz=79,slow=33
ROSC El Rosal 54.58 120 LR LR 14 33 51.9
comp=Z,143nm,18.5s,baz=94,slow=42
ARCES ARCESS Array B 65.99 13 LR LR 14 38 05.3
comp=Z,136nm,18.1s,baz=340,slow=38
NB2 NORSAR Subarra 69.93 23 P P 14 07 00.2 +0.8
comp=Z,18nm,2.0s,baz=322,slow=6.2
NOA NORSAR Array B 69.93 23 P P 14 07 00.3 +1.0
comp=Z,1.0nm,0.7s,baz=321,slow=6.2,SNR=2.2
NOA LR LR 14 38 14.5
comp=Z,83nm,18.3s,baz=300,slow=36
HFS Hagfors 71.39 23 P P 14 07 09.6 +1.4
comp=Z,5.3nm,0.9s,baz=329,slow=14,SNR=4.4
USRK Ussuriysk Ar. 73.02 314 LR LR 14 36 13.7
comp=Z,63nm,21.1s,baz=26,slow=33
FINES FINESS Array B 73.34 16 P P 14 07 20.6 +0.8
comp=Z,1.8nm,0.9s,baz=7.1,slow=5.6,SNR=2.0
FINES LR LR 14 40 39.0
comp=Z,154nm,18.2s,baz=354,slow=37
MJAR Matsushiro Arr 74.52 305 LR LR 14 38 34.4
comp=Z,29nm,19.2s,baz=270,slow=34
LPAZ La Paz 74.83 129 P P 14 07 30.9 +1.1
comp=Z,0.9nm,0.6s,baz=357,slow=5.7,SNR=5.3
LPAZ LR LR 14 41 35.1
comp=Z,54nm,18.8s,baz=324,slow=37
ESDC Sonseca Array 80.02 45 P P 14 07 57.6 -0.4
comp=Z,0.3nm,0.4s,baz=316,slow=7.2,SNR=1.5
ESDC LR LR 14 41 32.5
comp=Z,55nm,18.3s,baz=285,slow=34
MNK Minsk 80.06 19 *i* P P 14 07 57.9 0.0
comp=E,3.0nm,0.9s
MNK *i* P **P 14 07 57.9 0.0**
comp=N,11nm,0.8s
MNK *i* P **P 14 07 57.9 0.0**
comp=Z,9.0nm,0.8s,baz=336
MNK *i* PcP **PcP 14 08 05.0 -0.3**
MNK *i* PP **PP 14 10 59.5 +0.5**
MNK *i* PPP PPP 14 12 48.6
MNK *i* S **S 14 18 02.8 +0.7**
MNK *i* SS **SS 14 23 06.5 -4.2**
MNK *i* SSS SSS 14 26 39.9
MNK *i* LQ LQ 14 35 19.9
MNK *i* LR LR 14 38 58.7
MNK *i* LRM MLR 14 45 13.3
comp=Z,169nm,17.8s
MNK *i* LRM MLR 14 45 15.5
comp=N,498nm,17.8s
MNK *i* LRM MLR 14 45 17.3
comp=E,87nm,17.8s
GERES GERESS Array B 80.75 29 LR LR 14 46 23.7
comp=E,68nm,19.2s,baz=316,slow=38
SONM Songino Array 81.86 331 LR LR 14 45 24.8
comp=E,164nm,19.6s,baz=26,slow=36
ZALV Zalesovo Beam 82.29 346 P P 14 08 08.3 -1.5
comp=E,0.6nm,0.3s,baz=23,slow=5.2,SNR=2.2
ZALV LR LR 14 50 04.5
comp=E,54nm,18.3s,baz=22,slow=40
AKASG Malin Array Be 83.88 19 P P 14 08 17.5 -0.6
comp=E,0.3nm,0.4s,baz=328,slow=4.4,SNR=1.8

AKASG				LR	LR	14 47 20.3		
	comp=E,132nm,18.1s,baz=60,slow=37							
GUMO	**Guam**	**85.12**	**284**	LR	LR	14 37 14.6		
	comp=E,58nm,21.8s,baz=176,slow=29							
HHC	**Hu-ho-hao-te**	**85.55**	**324**	*eP*	**P**	**14 08 25.1**	**-1.7**	
HHC				pmax	pmax			
	comp=Z,9.0nm,0.8s							
HHC				pmax	pmax			
	comp=Z,100nm,6.6s							
NJ2	**Nanjing**	**88.91**	**314**	*eP*	**P**	**14 08 42.8**	**-0.3**	
NJ2				pmax	pmax			
	comp=Z,18nm,0.5s							
CPUP	**Villa Florida**	**88.92**	**127**	LR	LR	14 54 04.5		
	comp=Z,17nm,18.6s,baz=3.5,slow=39							
MKAR	**Makanchi Array**	**89.61**	**345**	LR	LR	14 54 38.4		
	comp=Z,68nm,19.4s,baz=18,slow=39							
WMQ	**Urumqi**	**91.25**	**341**	*eP*	**P**	**14 08 53.8**	**-0.1**	
WMQ				pP	pP	14 08 58.3	+1.2	
WMQ				pmax	pmax			
	comp=Z,17nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,110nm,4.1s							
BRTR	**Keskin Array B**	**95.23**	**20**	LR	LR	14 53 46.6		
	comp=Z,82nm,18.7s,baz=328,slow=37							

SOME ***14*** *14:08:43.4, 45.75N×83.20E, h5km*
NNC ***14*** *14:08:45.2±3.3, 45.87N×83.22E, h0km, mb1.6, mpv2.6, Error ellipse: s-maj=19.4km s-min=16.7km az=172.0*

ISC 14 14:08:43.6±2.2, 45.84N±0.06×83.32E±0.06, h5km±19km, n8, σ0§87/14, 4C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**1.19**	**324**	↑P	**Pb**	**14 09 06.2**	**-0.5**
	0.2nm,0.2s,baz=146,slow=16,SNR=93						
MK31				↑S	**Sg**	**14 09 22.3**	**+0.4**
	3.2nm,0.2s,baz=135,slow=22,SNR=68						
MAKZ	**Makanchi**	**1.34**	**317**	↑P	**Pn**	**14 09 09.0**	**-0.1**
	0.8nm,0.3s						
MAKZ				↑S	**Sn**	**14 09 26.7**	**-0.7**
	4.3nm,0.5s						
ZSN	**Zaisan**	**1.93**	**33**	*eP*	**Pb**	**14 09 19.2**	**-0.1**
	5.6nm,0.1s						
ZSN				*eS*	**Sg**	**14 09 45.5**	**-0.1**
	9.2nm,0.5s						
ZSN	**Zaisan**	**1.93**	**33**	Pg	**Pb**	**14 09 19.2**	**-0.1**
	5.6nm,0.1s						
ZSN				Lg	Lg	14 09 45.5	
	9.2nm,0.5s						
KAPS	**Kapalarasan**	**2.84**	**260**	*eP*	**Pb**	**14 09 34.4**	**-0.4**
	1.2nm,0.2s						
KAPS				*eS*	**Sb**	**14 10 11.6**	**+1.7**
	2.6nm,0.3s						
KAPS	**Kapalarasan**	**2.84**	**260**	Pg	**Pb**	**14 09 34.4**	**-0.4**
	1.2nm,0.2s						
KAPS				Lg	Lg	14 10 11.6	
	2.6nm,0.3s						
DJR	**Jarkent**	**2.92**	**240**	*eP*	**Pb**	**14 09 35.2**	**-1.0**
	0.7nm,0.1s						
DJR				*eS*	**Sb**	**14 10 12.3**	**0.0**
	1.7nm,0.5s						
KTMS	**Ketmen**	**3.19**	**223**	*eP*	**Pb**	**14 09 40.5**	**-0.4**
	2.0nm,0.1s						
KTMS				*eS*	**Sb**	**14 10 21.7**	**+1.5**
	6.5nm,0.1s						

IDC ***14*** *14:23:13.5±1.9, 14.74N×147.15E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/37, mbtmp3.7/7, ML3.8/1, MS2.3/1, Ms1 2.3/1, ms1mx2.1/39, Error ellipse: s-maj=43.2km s-min=22.5km az=93.0*
NEIC ***14*** *14:23:18.6±2.8, 14.68N±0.07×147.22E±0.09, h35km±2km, mb4.4/12, Error ellipse: s-maj=15.7km s-min=12.1km az=73.0*

ISC 14 14:23:16.5±0.8, 14.65N±0.07×147.29E±0.09, h27km, n32, σ1§02/27, mb4.2/12, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANA2	**Anatahan**	**2.27**	**318**	Pn	**Pn**	**14 23 51.8**	**-0.5**
ANA2	**Anatahan**	**2.27**	**318**	P	**Pn**	**14 23 52.1**	**-0.2**
SARN	**Sarigan**	**2.50**	**325**	P	**Pn**	**14 23 54.8**	**-0.7**
GUMO	**Guam**	**2.57**	**246**	Pn	**Pn**	**14 23 55.8**	**-0.7**
	21nm,0.3s,baz=105,slow=3.8,SNR=23						
GUMO				Sn	**Sn**	**14 24 25.5**	**-1.3**
	26nm,0.3s,baz=351,slow=23,SNR=6.2						
GUMO				LR	LR	14 25 12.9	
	comp=Z,58nm,18.5s,baz=37,slow=48						
GUMO	**Guam**	**2.57**	**246**		**Pn**	**14 23 55.5**	**-0.9**
GUMO	**Guam**	**2.57**	**246**	P	**Pn**	**14 23 56.1**	**-0.3**
PATS	**Pohnpei**	**13.32**	**124**	Pn	**Pn**	**14 26 22.6**	**-1.4**
H11S3	**WAKE ISLAND Hy**	**18.98**	**76**	T	T	14 47 20.5	
	baz=262						
H11S1	**WAKE ISLAND Hy**	**19.00**	**76**	T	T	14 47 16.6	
	baz=262						
H11S2	**WAKE ISLAND Hy**	**19.00**	**76**	T	T	14 47 22.0	
	baz=262						
H11N1	**WAKE ISLAND Hy**	**19.39**	**72**	T	T	14 47 40.7	
	baz=258						
H11N2	**WAKE ISLAND Hy**	**19.40**	**72**	T	T	14 47 52.4	
	baz=258						
H11N3	**WAKE ISLAND Hy**	**19.41**	**72**	T	T	14 47 51.5	
	baz=258						
JOW	**Kunigami**	**21.48**	**307**	P	**P**	**14 28 02.6**	**-0.6**
JOW				IAmb	IAmb	14 28 03.4	
	comp=Z,29nm,1.0s						
JMN	**Monobe**	**22.55**	**330**	P	**P**	**14 28 13.6**	**-1.0**
INU	**Inuyama**	**22.59**	**338**	P	**P**	**14 28 14.5**	**-0.4**
JSD	**Sado**	**24.63**	**343**	P	**P**	**14 28 35.7**	**+0.9**
JSD				IAmb	IAmb	14 29 00.3	
	comp=Z,13nm,1.0s						
KSRS	**Korea Array**	**28.49**	**326**	P	**P**	**14 29 10.5**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=141,slow=9.0,SNR=3.0						
JKA	**Kamikawa-asahi**	**29.64**	**353**	P	**P**	**14 29 20.4**	**+0.7**
JKA				IAmb	IAmb	14 29 21.0	
	comp=Z,5.6nm,0.9s						
MTN	**Manton Dam**	**31.66**	**211**	P	**P**	**14 29 38.6**	**+0.9**
WR0	**Warramunga Arr**	**36.60**	**200**	P	**P**	**14 30 22.3**	**+1.7**
WR0				IAmb	IAmb	14 30 46.8	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Ar**	**36.66**	**201**	P	**P**	**14 30 22.6**	**+1.5**
	comp=Z,0.5nm,0.8s,baz=23,slow=7.9,SNR=6.2						
ASAR	**Alice Springs**	**40.27**	**199**	P	**P**	**14 30 52.2**	**+0.8**
	comp=Z,0.3nm,0.9s,baz=29,slow=7.8,SNR=2.1						
CMAR	**Chiang Mai Arr**	**46.39**	**282**	P	**P**	**14 31 41.5**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=69,slow=4.8,SNR=4.3						
SONM	**Songino Array**	**47.26**	**323**	P	**P**	**14 31 46.2**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=124,slow=7.2,SNR=2.7						
SONM	**Songino Array**	**47.26**	**323**	P	**P**	**14 31 49.7**	**+2.2**
FORT	**Forrest**	**48.81**	**202**	P	**P**	**14 32 00.4**	**+1.0**
MK31	**Makanchi Array**	**62.38**	**315**	P	**P**	**14 33 36.3**	**-0.6**
MK31				IAmb	IAmb	14 33 37.7	
	comp=Z,2.7nm,1.3s						
MKAR	**Makanchi Array**	**62.38**	**315**	P	**P**	**14 33 36.7**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=90,slow=8.5,SNR=9.2						
MAKZ	**Makanchi**	**62.59**	**315**	P	**P**	**14 33 38.2**	**-0.1**
MAKZ				IAmb	IAmb	14 33 51.8	
	comp=Z,5.5nm,1.4s						
KKAR	**Karatay Array**	**70.53**	**311**	P	**P**	**14 34 29.2**	**0.0**
ABKAR	**Akbulak array**	**77.33**	**318**	P	**P**	**14 35 07.8**	**-1.0**

MEX 14 14:44:58.1±0.7, 14.36N×94.08W, h8km±62km, MD4.1, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.57**	**32**	*i* P	Pn	14 45 22.4	-4.0
PCIG				*i* S	Sn	14 45 42.3	-4.7
TGIG		**2.58**	**21**	*i* P	Pn	14 45 39.7	-0.5
TGIG				*i* S	Sn	14 46 11.2	-0.6
CCIG	**Comitan**	**2.68**	**44**	*i* P	Pn	14 45 39.5	-2.3
CCIG				*i* S	Sn	14 46 10.9	-3.6
CMIG	**Matias Romero**	**2.82**	**344**	*i* P	Pn	14 45 40.8	-2.8
CMIG				*i* S	Sn	14 46 12.3	-5.5

NOU ***14*** *14:53:17.1, 33.53S×177.03W, h30km, mb5.1/45, South of Kermadec Islands*
WEL ***14*** *14:53:21.9±0.8, 33.5S±5.×17.8W±1.3, h33km, M5.1/18, mB5.5/13, ML5.5/18, MLv5.3/18, Mw(mB)5.0/13, Error ellipse: s-maj=0.0km s-min=0.0km az=108.3*
IDC ***14*** *14:53:21.5±0.5, 33.01S×178.41W, h0km, mb4.7/17, mb1 4.8/19, mb1mx4.7/35, mbtmp4.7/19, ML5.1/2, MS4.2/13, Ms1 4.2/13, ms1mx3.9/37, Error ellipse: s-maj=18.8km s-min=14.8km az=71.0*
NEIC ***14*** *14:53:23.4±1.8, 32.97S±0.08×178.4W±1.1, h10km±1km, mb5.0/41, Error ellipse: s-maj=20.4km s-min=13.6km az=90.0*
MOS ***14*** *14:53:23.4±1.4, 32.90S×178.50W, h16km, mb5.0/12, Error ellipse: s-maj=14.7km s-min=9.8km az=97.9*
GCMT ***14*** *14:53:29.4±0.5, 33.03S±0.04×178.17W±0.03, h23km±1km, MW4.9/56, Moment Tensor Solution. s33,c38; s56,c69; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.28±.18; Mθθ -0.39±.11; Mϕϕ -1.89±.12; Mrθ 0.13±.19; Mrϕ -0.44±.07; Mθϕ 1.68±.16; Best double couple: Mo 2.72500×10^16 NP1: ϕs 200.00000°, δ 26.00000°, λ 100.00000°. NP2: ϕs 9.00000°, δ 64.00000°, λ 85.00000°. Principal axes: T 2.8730, Plg 71.0000°, Azm 269.0000°; N -0.2930, Plg 4.0000°, Azm 11.0000°; P -2.5780, Plg 19.0000°, Azm 102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 14:53:22.7±0.3, 33.11S±0.04×178.33W±0.06, h10km, n278, σ1§53/281, mb5.0/49, MS4.0/14, 9C-6D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.85**	**5**	P	**Pn**	**14 54 18.8**	**-3.1**
GLKZ				S	**Sn**	**14 55 03.6**	**-3.7**
RAO	**Raoul Island**	**3.86**	**5**	Pn	**Pn**	**14 54 21.1**	**-1.0**
	89nm,0.3s,baz=101,slow=21,SNR=5.3						
RAO				Sn	**Sn**	**14 55 04.6**	**-2.9**
	235nm,0.3s,baz=135,slow=23,SNR=5.3						
RAO	**Raoul Island**	**3.86**	**5**	P	**Pn**	**14 54 18.5**	**-3.6**
RAO						14 55 04.7	
RAO	**Raoul Island**	**3.86**	**5**	Pn	**Pn**	**14 54 18.5**	**-3.6**
RAO	**Raoul Island**	**3.86**	**5**	P	**Pn**	**14 54 21.1**	**-1.0**
RIZ	**Raoul Island**	**3.87**	**5**	P	**Pn**	**14 54 20.6**	**-1.5**
RIZ				S	**Sn**	**14 55 05.5**	**-2.2**
MXZ	**Matakaoa Point**	**5.22**	**211**		**Pn**	**14 54 38.3**	**-2.5**
MXZ	**Matakaoa Point**	**5.22**	**211**	P	**Pn**	**14 54 38.9**	**-2.0**
MXZ				S	**Sn**	**14 55 41.0**	**-0.1**
WMGZ	**Waiomatatini S**	**5.40**	**209**	P	**Pn**	**14 54 43.1**	**-0.1**
WMGZ				S	**Sn**	**14 55 46.9**	**+1.5**
PKGZ	**Pakihiroa**	**5.60**	**211**	P	**Pn**	**14 54 44.3**	**-1.7**
PKGZ				S	**Sn**	**14 55 47.8**	**-2.6**
HAZ	**Te Kaha**	**5.62**	**213**	P	**Pn**	**14 54 45.0**	**-1.3**
HAZ				S	**Sn**	**14 55 52.3**	**+1.5**
PUZ	**Puketiti**	**5.68**	**208**	P	**Pn**	**14 54 44.9**	**-2.2**
PUZ				S	**Sn**	**14 55 51.6**	**-0.7**
RUGZ	**Raukumara Rang**	**5.84**	**213**	P	**Pn**	**14 54 47.9**	**-1.4**
RUGZ				S	**Sn**	**14 55 55.9**	**-0.5**
TWGZ	**Tauwhareparae**	**5.88**	**210**	P	**Pn**	**14 54 48.6**	**-1.3**
GRZ	**Great Barrier**	**6.00**	**237**	P	**Pn**	**14 54 53.4**	**+1.9**
CNGZ	**Carnagh Static**	**6.06**	**207**	P	**Pn**	**14 54 50.4**	**-1.9**
CNGZ				S	**Sn**	**14 56 01.4**	**-0.2**
KUZ	**Kuaotunu**	**6.08**	**232**	P	**Pn**	**14 54 54.5**	**+1.9**
WHRZ	**Whale Island**	**6.09**	**218**	P	**Pn**	**14 54 53.6**	**+0.8**
MWZ	**Matawai**	**6.21**	**212**	P	**Pn**	**14 54 52.1**	**-2.3**
OPRZ	**Ohinepanea**	**6.30**	**220**	P	**Pn**	**14 54 55.5**	**-0.2**
OPRZ				S	**Sn**	**14 56 08.0**	**+0.4**
URZ	**Urewera**	**6.34**	**215**	Pn	Pn	14 54 53.3	-2.8
	19nm,0.3s,baz=128,slow=24,SNR=111						
URZ				Sn	**Sn**	**14 56 07.0**	**-1.5**
	35nm,0.3s,baz=71,slow=22,SNR=8.5						
URZ	**Urewera**	**6.34**	**215**		**Pn**	**14 54 53.7**	**-2.4**
URZ	**Urewera**	**6.34**	**215**	P	**Pn**	**14 54 54.0**	**-2.1**
URZ				S	**Sn**	**14 56 06.6**	**-1.9**
WCZ	**Waipu Caves**	**6.67**	**243**	P	**Pn**	**14 55 03.3**	**+2.6**
RAHZ	**Arahi**	**6.88**	**211**	P	**Pn**	**14 55 03.8**	**+0.2**
RAHZ				S	**Sn**	**14 56 20.3**	**-1.7**
MTHZ	**Maungataniwha**	**6.94**	**213**	P	**Pn**	**14 55 03.2**	**-1.2**
MTHZ				S	**Sn**	**14 56 21.1**	**-2.3**
OUZ	**Omahuta**	**7.01**	**250**	P	**Pn**	**14 55 08.8**	**+3.4**
NMHZ	**Naumai**	**7.15**	**212**	P	**Pn**	**14 55 07.8**	**+0.4**
ARHZ	**Aropaoanui**	**7.21**	**210**	P	**Pn**	**14 55 07.8**	**-0.3**
ARHZ				S	**Sn**	**14 56 27.6**	**-2.4**
BKZ	**Black Stump Fm**	**7.35**	**213**		Pn	14 55 07.3	-2.8
HIZ	**Hauiti**	**7.72**	**224**		**Pn**	**14 55 15.1**	**-0.1**
BFZ	**Birch Farm**	**8.71**	**208**		Pn	14 55 24.5	-4.2
PLWZ	**Palliser**	**9.87**	**209**		Pn	14 55 40.1	-4.5
KHZ	**Kahutara**	**11.29**	**212**		Pn	14 55 57.9	-6.2
OXZ	**Oxford**	**12.69**	**214**		Pn	14 56 16.6	-6.6
RPZ	**Rata Peaks**	**13.46**	**215**		Pn	14 56 26.4	-7.2
MSVF	**Nonsavu**	**15.65**	**347**	Pn	**Pn**	**14 57 01.8**	**-1.6**
	0.4nm,0.3s,baz=136,slow=23,SNR=4.2						
MSVF				LR	LR	15 02 03.0	
	comp=Z,835nm,20.3s,baz=172,slow=34						
MSVF	**Nonsavu**	**15.65**	**347**	*eP*	**Pn**	**14 57 02.1**	**-1.4**
MSVF				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MSVF	**Nonsavu**	**15.65**	**347**		**Pn**	**14 57 02.6**	**-0.9**
MSVF	**Nonsavu**	**15.65**	**347**	P	**P**	**14 57 05.5**	**-2.1**
MLZ	**Mavora Lakes**	**16.10**	**217**	Pn	**Pn**	**14 57 08.1**	**-1.0**
OUENC	**Ouen Island, N**	**16.88**	**305**		**Pn**	**14 57 18.9**	**-0.2**
OUENC				IAmb	IAmb	14 57 26.6	
	comp=Z,143nm,1.3s						
OUENC	**Ouen Island, N**	**16.88**	**305**	P	**P**	**14 57 25.4**	**+4.3**
YATNC	**Mamie plateau,**	**17.09**	**306**	P	**P**	**14 57 29.1**	**+5.6**
DZM	**Mont Dzumac**	**17.39**	**305**	*e*Pn	**P**	**14 57 28.7**	**+1.9**
	comp=Z,162nm,1.2s						
DZM				*e*LR	LR	15 01 36.6	
	comp=Z,2μm,22.9s						
DZM	**Mont Dzumac**	**17.39**	**305**	P	**P**	**14 57 28.7**	**+1.9**
	comp=Z,0.6nm,0.3s,baz=116,slow=12,SNR=12						
DZM				LR	LR	15 03 11.8	
	comp=Z,2μm,18.6s,baz=132,slow=34						
DZM	**Mont Dzumac**	**17.39**	**305**		**P**	**14 57 27.4**	**+0.6**
DZM				IAmb	IAmb	14 57 33.6	
	comp=Z,74nm,1.1s						
DZM	**Mont Dzumac**	**17.39**	**305**	P	**P**	**14 57 30.1**	**+3.3**
NOUC	**Port Laguerre**	**17.46**	**305**	P	**P**	**14 57 31.6**	**+4.0**
KOUNC	**Koumac, New Ca**	**19.89**	**305**	P	**Pn**	**14 57 58.0**	**+2.1**
AFI	**Afiamalu**	**20.02**	**19**	P	**Pn**	**14 57 58.1**	**+0.6**
	comp=Z,2.6nm,0.3s,baz=231,slow=17,SNR=4.3						
AFI	**Afiamalu**	**20.02**	**19**	P	**Pn**	**14 57 56.2**	**-1.4**
AFI				pmax	pmax		
	comp=Z,92nm,1.3s						
AFI	**Afiamalu**	**20.02**	**19**	P	**Pn**	**14 57 56.2**	**-1.4**
AFI				IAmb	IAmb	14 58 00.5	
	comp=Z,92nm,1.2s						
RAR	**Rarotonga**	**20.29**	**59**	LR	LR	15 05 37.6	
	comp=Z,398nm,19.3s,baz=254,slow=36						
ARMA	**Armidale**	**25.64**	**268**	P	**P**	**14 58 49.9**	**-2.8**
	baz=25,SNR=5.5						
TBI	**Tubuai**	**27.16**	**76**	*e*LQ	LQ	15 04 20.2	
	comp=Z,394nm,25.8s						
TBI				*e*LR	LR	15 05 34.2	
	comp=Z,405nm,29.8s,baz=239						
EIDS	**Eidsvold**	**27.71**	**278**	P	**P**	**14 59 09.7**	**-1.5**
	baz=28,SNR=9.4						
EIDS	**Eidsvold**	**27.71**	**278**	P	**P**	**14 59 12.1**	**+0.9**
EIDS				IAmb	IAmb	14 59 13.8	
	comp=Z,21nm,0.8s						
RMQ	**Roma**	**29.23**	**274**	P	**P**	**14 59 23.9**	**-0.9**
	baz=29,SNR=10						
TOO	**Toolangi**	**29.73**	**251**	P	**P**	**14 59 29.7**	**+0.6**
	baz=30,SNR=5.3						
PPT2	**Papeete2**	**30.10**	**66**	*e*LQ	LQ	15 05 27.1	
	comp=Z,368nm,23.0s						
PPT2				*e*LR	LR	15 06 58.5	
	comp=Z,294nm,22.2s,baz=231						
PPT	**Papeete**	**30.11**	**66**	LR	LR	15 12 17.2	
	comp=Z,308nm,18.3s,baz=258,slow=38						
CMSA	**Cobar Meteorol**	**30.35**	**263**	P	**P**	**14 59 34.9**	**+0.2**
	baz=30,SNR=14						
ARPS	**Mount Arapiles**	**32.69**	**252**	P	**P**	**14 59 56.6**	**+1.4**
	baz=32,SNR=5.5						
QLP	**Quilpie**	**32.99**	**271**	P	**P**	**14 59 58.9**	**+1.0**
	baz=33,SNR=14						
STKA	**Stephens Creek**	**33.68**	**261**	P	**P**	**15 00 05.0**	**+1.0**
	baz=34,SNR=4.3						
STKA	**Stephens Creek**	**33.68**	**261**	P	**P**	**15 00 03.8**	**-0.1**
	comp=Z,1.8nm,0.5s,baz=95,slow=7.8,SNR=6.7						
STKA				PcP	**PcP**	**15 02 43.4**	**-0.3**
	comp=Z,5.8nm,0.8s,baz=84,slow=5.4,SNR=6.4						
STKA				LR	LR	15 13 13.3	
	comp=Z,902nm,18.4s,baz=75,slow=35						
CTA	**Charters Tower**	**34.05**	**283**	P	**P**	**15 00 08.4**	**+1.2**
	comp=Z,17nm,0.6s,baz=115,slow=10.0,SNR=31						
CTAO	**Charters Tower**	**34.05**	**283**	P	**P**	**15 00 08.2**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,24nm,0.7s						
CTAO	**Charters Tower**	**34.05**	**283**	P	**P**	**15 00 08.2**	**+1.0**
HTT	**Hallett**	**35.56**	**257**	P	**P**	**15 00 20.6**	**+0.4**
	baz=35,SNR=9.5						
MTSU	**Mount Surprise**	**36.62**	**285**	P	**P**	**15 00 30.8**	**+1.5**
	baz=36,SNR=13						
BBOO	**Buckleboo**	**38.04**	**258**	P	**P**	**15 00 40.3**	**-0.9**
	baz=38,SNR=6.6						
QIS	**Mount Isa**	**39.31**	**278**	P	**P**	**15 00 52.5**	**+0.4**
	baz=39,SNR=8.1						
COEN	**Coen**	**39.82**	**289**	P	**P**	**15 00 56.9**	**+0.5**
COEN				IAmb	IAmb	15 00 58.8	
	comp=Z,18nm,0.8s						
AS31	**Alice Springs**	**42.75**	**270**	P	**P**	**15 01 19.7**	**-0.7**
AS31				IAmb	IAmb	15 01 21.2	
	comp=Z,12nm,0.7s						
ASAR	**Alice Springs**	**42.76**	**270**	P	**P**	**15 01 20.0**	**-0.5**
	comp=Z,36nm,0.7s,baz=110,slow=7.4,SNR=434						
ASAR				PcP	**PcP**	**15 03 11.4**	**-0.5**
	comp=Z,6.5nm,0.9s,baz=123,slow=4.4,SNR=6.5						
ASAR				S	**S**	**15 07 39.2**	**-5.2**
	comp=Z,3.8nm,1.1s,baz=116,slow=15,SNR=8.7						
ASAR				LR	LR	15 18 29.8	
	comp=Z,141nm,18.8s,baz=112,slow=35						
ASAR	**Alice Springs**	**42.76**	**270**	P	**P**	**15 01 19.8**	**-0.7**
ASAR				PcP	**PcP**	**15 03 11.8**	**-0.2**
WR0	**Warramunga Arr**	**43.81**	**275**	P	**P**	**15 01 28.0**	**-1.0**
WR0				IAmb	IAmb	15 01 30.2	
	comp=Z,22nm,0.8s						
WB2	**Warramunga Ar**	**43.98**	**275**	P	**P**	**15 01 29.1**	**-1.2**
WB2				IAmb	IAmb	15 01 31.5	
	comp=Z,34nm,0.8s						
WRAB	**Tennant Creek**	**43.98**	**275**	*c iP*	**P**	**15 01 29.7**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,29nm,0.7s						
WRAB	**Tennant Creek**	**43.98**	**275**	P	**P**	**15 01 29.3**	**-1.1**
WRAB				IAmb	IAmb	15 01 31.1	
	comp=Z,31nm,0.8s						
WRA	**Warramunga Ar**	**43.99**	**275**	P	**P**	**15 01 29.7**	**-0.7**
	comp=Z,33nm,0.8s,baz=124,slow=8.0,SNR=189						
WRA				S	**S**	**15 07 57.0**	**-5.5**
	comp=Z,1.7nm,1.1s,baz=118,slow=16,SNR=5.1						
WRA				LR	LR	15 18 40.0	
	comp=Z,236nm,19.9s,baz=115,slow=35						
WRA	**Warramunga Arr**	**43.99**	**275**	P	**P**	**15 01 29.0**	**-1.4**
FORT	**Forrest**	**45.14**	**258**	P	**P**	**15 01 38.5**	**-1.0**
	baz=45,SNR=25						
FORT	**Forrest**	**45.14**	**258**	P	**P**	**15 01 38.0**	**-1.5**
VNDA	**Vanda**	**45.38**	**186**	P	**P**	**15 01 43.3**	**+2.5**
	comp=Z,1.3nm,0.7s,baz=15,slow=5.2,SNR=7.3						
VNDA				LR	LR	15 17 14.5	
	comp=Z,151nm,19.8s,baz=21,slow=32						
WRKA	**Warakurna**	**46.92**	**265**	P	**P**	**15 01 52.0**	**-1.6**
	baz=47,SNR=62						
JAY	**Jayapura**	**48.94**	**300**	LR	LR	15 20 43.1	
	comp=Z,123nm,20.5s,baz=116,slow=34						
KDU	**Kakadu**	**49.17**	**282**	P	**P**	**15 02 09.9**	**-1.2**
	baz=49,SNR=8.2						
GENI	**Genyem**	**49.28**	**299**	P	**P**	**15 02 12.5**	**+0.6**
	comp=Z,1.1nm,0.9s						
MTN	**Manton Dam**	**50.18**	**281**	P	**P**	**15 02 17.7**	**-1.1**
	baz=50,SNR=4.2						
MTN	**Manton Dam**	**50.18**	**281**	P	**P**	**15 02 17.7**	**-1.1**
MTN				IAmb	IAmb	15 02 19.5	
	comp=Z,16nm,0.9s						
KNRA	**Kununurra**	**50.68**	**277**	P	**P**	**15 02 22.2**	**-0.4**
	baz=50,SNR=11						
KNRA	**Kununurra**	**50.68**	**277**	P	**P**	**15 02 21.9**	**-0.7**
KNRA				IAmb	IAmb	15 02 23.0	
	comp=Z,22nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.13**	**272**	P	**P**	**15 02 32.6**	**-0.8**
	baz=52,SNR=18						
FITZ	**Fitzroy Crossi**	**52.13**	**272**	P	**P**	**15 02 32.9**	**-0.5**
CASY	**Casey**	**52.63**	**209**	P	**P**	**15 02 36.8**	**+0.4**
BAKI	**Biak**	**53.22**	**297**	P	**P**	**15 02 41.0**	**-0.5**
NWAO	**Narrogin (SRO)**	**53.22**	**251**	LR	LR	15 24 11.3	
	comp=Z,225nm,18.5s,baz=71,slow=35						
MEEK	**Meekatharra**	**54.35**	**259**	P	**P**	**15 02 47.8**	**-1.9**
	baz=54,SNR=8.2						
FAKI	**Fak Fak**	**55.06**	**292**	P	**P**	**15 02 53.4**	**-1.5**
FAKI	**Fak Fak**	**55.06**	**292**	P	**P**	**15 02 53.7**	**-1.2**
	comp=Z,41nm,1.4s						
PSA00	**Pilbara Seismi**	**55.42**	**265**	P	**P**	**15 02 55.4**	**-2.0**
MORW	**Morawa**	**55.53**	**255**	P	**P**	**15 02 56.5**	**-1.8**
	baz=55,SNR=3.2						
MORW	**Morawa**	**55.53**	**255**	P	**P**	**15 02 55.8**	**-2.4**
MORW				IAmb	IAmb	15 03 15.7	
	comp=Z,29nm,1.4s						
QSPA	**South Pole Qui**	**57.01**	**180**	P	**P**	**15 03 10.7**	**+2.3**
	comp=Z,26nm,0.7s,baz=17,slow=0.8,SNR=196						
QSPA	**South Pole Qui**	**57.01**	**180**	P	**P**	**15 03 10.6**	**+2.3**
SIJI	**Sorong**	**57.11**	**293**	P	**P**	**15 03 08.5**	**-1.1**
	comp=Z,16nm,0.7s,baz=184,slow=17,SNR=4.9						
SIJI	**Sorong**	**57.11**	**293**	P	**P**	**15 03 05.1**	**-4.5**
SOEI	**Soe**	**57.51**	**280**	P	**P**	**15 03 12.7**	**+0.1**
SOEI	**Soe**	**57.51**	**280**	P	**P**

	comp=Z,10.0nm,0.9s							
GSI	**Gunungsitoli**	**85.75**	**274**	P	**P**	**15 06 01.6**	**-1.0**
KSRS	**Korea Array**	**86.23**	**320**	P	**P**	**15 06 04.3**	**+0.1**
	comp=Z,3.0nm,0.7s,baz=142,slow=5.5,SNR=15							
KSAR	**Wonju Array Be**	**86.24**	**320**	P	**P**	**15 06 03.7**	**-0.6**
KSAR	**Wonju Array Be**	**86.24**	**320**	P	**P**	**15 06 03.7**	**-0.6**
YSS	**Yuzh-Sakhalins**	**87.06**	**334**	*e*P	**P**	**15 06 08.5**	**+0.4**
YSS				pmax	pmax			
	comp=Z,30nm,1.0s							
YSS	**Yuzh-Sakhalins**	**87.06**	**334**	P	**P**	**15 06 08.2**	**+0.1**
MONP2	**Monument Peak**	**87.78**	**48**	P	**P**	**15 06 14.7**	**+2.5**
	baz=228							
NJ2	**Nanjing**	**87.80**	**311**	*e*P	**P**	**15 06 13.4**	**+1.4**
NJ2				pmax	pmax			
	comp=Z,9.0nm,0.5s							
EDW2	**Edwards Air Fo**	**88.17**	**46**	P	**P**	**15 06 16.1**	**+2.3**
	baz=227							
PFO	**Pinyon Flats O**	**88.24**	**47**‖	*e*P	**P**	**15 06 16.1**	**+1.8**
PFO				pmax	pmax			
	comp=Z,7.0nm,0.9s							
PEA0B	**Petropavlovsk-**	**88.36**	**346**	*de*P	**P**	**15 06 14.2**	**0.0**
PEA0B	**Petropavlovsk-**	**88.36**	**346**	P	**P**	**15 06 14.0**	**-0.2**
PETK	**Petropavlovsk-**	**88.36**	**346**	P	**P**	**15 06 14.7**	**+0.5**
	comp=Z,16nm,1.0s,baz=169,slow=8.9,SNR=11							
PETK	**Petropavlovsk-**	**88.36**	**346**	P	**P**	**15 06 14.1**	**-0.1**
ISA	**Isabella, Lake**	**88.42**	**45**	P	**P**	**15 06 15.1**	**+0.1**
ISA				pmax	pmax			
	comp=Z,7.0nm,1.0s							
ISA	**Isabella, Lake**	**88.42**	**45**	P	**P**	**15 06 15.1**	**+0.1**
ISA				IAmb	IAmb	15 06 17.9		
	comp=Z,7.4nm,1.0s							
ISA	**Isabella, Lake**	**88.42**	**45**	P	**P**	**15 06 17.5**	**+2.5**
	baz=226							
LRMC	**Laurel Mtn Rad**	**88.76**	**45**	P	**P**	**15 06 19.0**	**+2.3**
	baz=227							
BELC	**Belle Mtn. Jos**	**88.79**	**47**	P	**P**	**15 06 19.5**	**+2.6**
	baz=228							
CMB	**Columbia Colle**	**88.96**	**42**	P	**P**	**15 06 17.9**	**+0.4**
CMB				pmax	pmax			
	comp=Z,6.0nm,1.1s							
CMB	**Columbia Colle**	**88.96**	**42**	P	**P**	**15 06 17.9**	**+0.4**
CMB				IAmb	IAmb	15 06 19.8		
	comp=Z,5.7nm,1.1s							
HEC	**Hector,Ludlow**	**89.14**	**47**	P	**P**	**15 06 20.8**	**+2.4**
	baz=228							
USRK	**Ussuriysk Ar.**	**89.26**	**327**	P	**P**	**15 06 18.4**	**-0.2**
	comp=Z,3.5nm,0.7s,baz=84,slow=7.3,SNR=7.4							
USRK	**Ussuriysk Ar.**	**89.26**	**327**	P	**P**	**15 06 19.1**	**+0.5**
MPMC	**Manual Prospec**	**89.27**	**45**	P	**P**	**15 06 21.3**	**+2.1**
	baz=227							
IRM	**Iron Mountain**	**89.42**	**48**	P	**P**	**15 06 22.3**	**+2.6**
	baz=228							
TUQ	**Turquoise Moun**	**89.79**	**46**	P	**P**	**15 06 23.9**	**+2.4**
	baz=228							
NVAR	**Mina Array Bea**	**90.41**	**43**	P	**P**	**15 06 26.1**	**+1.7**
	comp=Z,2.5nm,0.9s,baz=222,slow=7.6,SNR=14							
TYV	**Tymovskoe**	**90.42**	**336**	*e*P	**P**	**15 06 25.4**	**+1.5**
TYV				pmax	pmax			
	comp=Z,100nm,3.5s							
TYV				pmax	pmax			
	comp=Z,27nm,0.9s							
TPNV	**Topopah Spring**	**90.61**	**45**	P	**P**	**15 06 27.6**	**+2.3**
	baz=228							
W13A	**Hualapai Mount**	**90.82**	**48**	P	**P**	**15 06 26.2**	**-0.3**
CN2	**Changchun**	**92.13**	**323**	*e*P	**P**	**15 06 32.0**	**0.0**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
PINE	**Pine Mountain**	**92.72**	**38**	P	**P**	**15 06 35.7**	**+0.7**
PINE				IAmb	IAmb	15 06 37.7		
	comp=Z,5.9nm,0.8s							
KLR	**Kul'dur**	**93.23**	**330**‖	*e*P	**P**	**15 06 37.5**	**+0.6**
KLR				pmax	pmax			
	comp=Z,4.0nm,1.1s							
CMAR	**Chiang Mai Arr**	**94.03**	**289**	PP	**PP**	**15 10 26.4**	**-1.5**
	comp=Z,1.3nm,0.9s,baz=135,slow=7.8,SNR=8.5							
CMAR				LR	LR	15 51 28.1		
	comp=Z,40nm,19.8s,baz=155,slow=37							
TXAR	**Lajitas Array**	**94.08**	**58**	P	**P**	**15 06 42.7**	**+1.2**
	comp=Z,0.4nm,0.9s,baz=197,slow=2.6,SNR=3.4							
G08A	**Pilot Rock**	**94.78**	**38**	P	**P**	**15 06 44.8**	**+0.5**
XAN	**Xi'an**	**95.52**	**307**	P	**P**	**15 06 51.6**	**+3.6**
XAN				pP	pwP	15 06 57.3	+0.4	
XAN				pmax	pmax			
	comp=Z,11nm,1.5s							
MA2	**Magadan**	**95.82**	**345**‖	*e*P	**P**	**15 06 47.7**	**-0.9**
MA2				pmax	pmax			
	comp=Z,19nm,1.3s							
HHC	**Hu-ho-hao-te**	**97.91**	**314**	*e*P	Pdif	15 06 59.9	+1.2	
HHC				pmax	pmax			
	comp=Z,20nm,0.8s							
HHC				pmax	pmax			
	comp=Z,130nm,5.7s							
ILAR	**Eielson Array**	**100.62**	**13**	P	**Pdif**	**15 07 10.1**	**+0.1**
	comp=Z,0.2nm,0.8s,baz=174,slow=10.0,SNR=2.3							
WMQ	**Urumqi**	**114.66**	**307**	*e*P	PKPdf	15 12 03.6	+0.5	
WMQ				pmax	pmax			
	comp=Z,96nm,5.3s							
WMQ				LR	LR			
	comp=Z,160nm,20.9s							
MKAR	**Makanchi Array**	**119.28**	**309**	PKP	**PKPdf**	**15 12 11.1**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=108,slow=0.8,SNR=6.1							
ZALV	**Zalesovo Beam**	**119.85**	**317**	PKP	**PKPdf**	**15 12 11.0**	**-1.6**
	comp=Z,0.9nm,0.6s,baz=157,slow=8.0,SNR=4.1							
KBL	**Kabul**	**124.99**	**292**	PKIKP	**PKPdf**	**15 12 23.1**	**-0.3**
KBL	**Kabul**	**124.99**	**292**		**PKPdf**	**15 12 23.1**	**-0.3**
KK31	**Karatay Array**	**126.30**	**302**	PKIKP	**PKPdf**	**15 12 25.3**	**-0.1**
KK31	**Karatay Array**	**126.30**	**302**		**PKPdf**	**15 12 25.3**	**-0.1**
KKAR	**Karatay Array**	**126.30**	**302**	PKIKP	**PKPdf**	**15 12 25.1**	**-0.3**
KKAR	**Karatay Array**	**126.30**	**302**	PKPdf	**PKPdf**	**15 12 25.1**	**-0.3**
GEYT	**Alibeck**	**134.40**	**293**	PKP	**PKiKP**	**15 12 42.9**	**+0.5**
	comp=Z,3.3nm,0.7s,baz=5.4,slow=3.1,SNR=4.7							
ARU	**Arti**	**134.97**	**319**	PKIKP	**PKPdf**	**15 12 41.2**	**-0.2**
APA	**Apatity**	**140.89**	**341**‖	*i*PKIKP	**PKiKP**	**15 12 54.4**	**-0.2**
APA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
APA				pmax	pmax			
	comp=Z,2.0nm,1.3s							
ARCES	**ARCESS Array B**	**141.16**	**347**	PKhKP	PKPpre	15 12 46.8		
	comp=Z,2.4nm,0.7s,baz=57,slow=4.5,SNR=12							
ARCES	**ARCESS Array B**	**141.16**	**347**	PKHKP	PKPpre	15 12 46.4		
ARCES	**ARCESS Array B**	**141.16**	**347**		PKPpre	15 12 46.4		
TRO	**Tromso**	**142.17**	**350**	*e*PKPdf	**PKPdf**	**15 12 54.4**	**+0.3**
KLMR	**Klimovskoe**	**142.99**	**330**	*e*PKHKP	PKPpre	15 12 49.3		
KLMR				pmax	pmax			
	comp=Z,17nm,1.4s							
KLMR	**Klimovskoe**	**142.99**	**330**	*e*PKPdf	PKPpre	15 12 49.4		
KLMR				AMP		15 12 53.5		
	comp=Z,17nm,1.4s							
STEI	**Steigen**	**144.26**	**351**	*e*PKPdf	PKPbc	15 12 56.7	+0.6	
LOF	**Lofoten**	**144.27**	**352**	*e*PKPdf	**PKPdf**	**15 12 58.1**	**+0.2**
FAUS	**Fauske**	**144.77**	**351**	*e*PKPbc	**PKPab**	**15 12 57.8**	**+0.1**
NBB30	**Finnes**	**145.36**	**352**	*e*PKPbc	**PKPbc**	**15 12 59.8**	**+0.1**
NBB17	**Glomfjord BYr**	**145.48**	**351**	*e*PKPab	**PKPbc**	**15 13 00.4**	**+0.4**
NBB15	**Halsa Church**	**145.60**	**352**	*e*PKPab	**PKPab**	**15 13 01.3**	**+0.6**
ZEI	**Tsey**	**145.63**	**299**	*i* PKP2	**PKPdf**	**15 13 00.0**	**-1.4**
ZEI				pmax	pmax			
	comp=Z,6.0nm,1.3s							
NBB13	**Alf Garage**	**145.74**	**352**	*e*PKPab	**PKPbc**	**15 13 01.3**	**+0.4**
KONS	**Konsvik**	**145.88**	**352**	*e*PKPbc	**PKPbc**	**15 13 01.6**	**+0.2**
NBB40	**Tonnes**	**145.88**	**352**	*e*PKPab	**PKPab**	**15 13 01.9**	**0.0**
MOR8	**Moi Rana**	**146.03**	**351**	*e*PKPbc	**PKPdf**	**15 13 01.3**	**+0.2**
KBZ	**Khabaz**	**146.31**	**301**	PKPbc	**PKPbc**	**15 13 03.4**	**0.0**
	comp=Z,12nm,1.0s,baz=104,slow=2.2,SNR=13							
MOS	**Moscow**	**146.37**	**323**	*e*PKIKP	**PKPdf**	**15 13 01.7**	**-0.2**
MOS				pmax	pmax			
	comp=Z,104nm,1.0s							
MOS				pmax	pmax			
	comp=Z,100nm,1.3s							
KIV	**Kislovodsk**	**146.45**	**301**	*i* PKP2	**PKPbc**	**15 13 03.9**	**0.0**
KIV				pmax	pmax			
	comp=Z,11nm,1.1s							
NEY	**Neytrino**	**146.47**	**300**‖	*e*PKP2	**PKPbc**	**15 13 04.9**	**+0.8**
GURO	**Guroymak-BITLI**	**147.02**	**291**	PKPbc	**PKPbc**	**15 13 05.6**	**-0.2**
OBN	**Obninsk**	**147.19**	**323**	*c i*PKP2	**PKPbc**	**15 13 05.4**	**-0.1**
OBN				pmax	pmax			
	comp=Z,52nm,1.2s							
OBN				pmax	pmax			
	comp=Z,18nm,0.6s							
FIA1	**FINESS Array S**	**147.57**	**338**		**PKPbc**	**15 13 06.0**	**-0.3**
FINES	**FINESS Array B**	**147.57**	**338**	PKPbc	**PKPbc**	**15 13 06.2**	**-0.2**
	comp=Z,30nm,0.8s,baz=79,slow=4.1,SNR=62							
FINES	**FINESS Array B**	**147.57**	**338**	*ce*PKP2	**PKPbc**	**15 13 06.1**	**-0.3**
FINES				pmax	pmax			
	comp=Z,30nm,0.8s							
FINES	**FINESS Array B**	**147.57**	**338**		**PKPbc**	**15 13 05.9**	**-0.4**
NSS	**Namsos**	**147.92**	**352**	*e*PKPbc	**PKPbc**	**15 13 07.1**	**-0.2**
MARD	**Mardin**	**147.93**	**289**		**PKPbc**	**15 13 07.5**	**-0.8**
SOC	**Sochi**	**148.63**	**301**	*e*PKHKP	PKPpre	15 13 03.5		
SOC				*i*		15 13 07.4		
SOC				*e*SSS	SSS	15 41 26.6		
SOC				pmax	pmax			
	comp=Z,12nm,0.7s							
SOC				pmax	pmax			
	comp=Z,37nm,0.9s							
MEF	**Metsahovi**	**149.04**	**338**	*e*P	**PKPbc**	**15 13 10.3**	**+0.1**
RAF	**Rauma**	**149.17**	**341**	*e*P	**PKPbc**	**15 13 10.9**	**+0.3**
VSU	**Vasula**	**149.56**	**334**	*e*P	**PKPbc**	**15 13 12.2**	**+0.6**
ANN	**Anapa**	**150.07**	**303**	*i* PKP2	**PKPbc**	**15 13 12.8**	**-0.5**
ANN				pmax	pmax			
	comp=Z,50nm,0.7s							
AAL	**Aland**	**150.36**	**341**	*e*P	**PKPab**	**15 13 19.0**	**-0.8**
MTSE	**Matsula**	**150.40**	**337**	*e*P	**PKPbc**	**15 13 13.7**	**+0.1**
AKN	**Aaknes**	**150.71**	**355**	*e*PKPbc	**PKiKP**	**15 13 15.4**	**+0.4**
GAZ	**Gaziantep**	**150.76**	**288**		**PKPbc**	**15 13 14.5**	**-0.9**
NC405	**NORSAR Array S**	**151.23**	**350**		**PKPbc**	**15 13 13.9**	**-1.6**
UPP	**Uppsala**	**151.24**	**343**	*e*P	**PKPbc**	**15 13 14.4**	**-1.1**
NB2	**NORSAR Subarra**	**151.37**	**350**	PKP	**PKPbc**	**15 13 15.7**	**-0.2**
	comp=Z,9.5nm,0.7s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**151.37**	**350**	PKPbc	**PKPbc**	**15 13 15.9**	**0.0**
	comp=Z,7.3nm,0.7s,baz=14,slow=4.1,SNR=30							
NAO01	**NORSAR Array S**	**151.61**	**351**		**PKPbc**	**15 13 15.8**	**-0.6**
NC602	**NORSAR Array S**	**151.62**	**350**	*e*PKPbc	**PKPbc**	**15 13 16.2**	**-0.2**
NC602	**NORSAR Array S**	**151.62**	**350**		**PKPbc**	**15 13 15.9**	**-0.6**
MNK	**Minsk**	**151.74**	**327**	*i* PKIKP	**PKPdf**	**15 13 10.6**	**0.0**
MNK				*i*		15 17 03.9		
MNK				*i* PPP	PPP	15 20 11.6		
MNK				*i* SS	SS	15 36 24.8	+1.9	
MNK				pmax	pmax			
	comp=E,3.0nm,1.0s							
MNK				pmax	pmax			
	comp=Z,23nm,1.0s							
MNK				pmax	pmax			
	comp=N,25nm,1.0s							
MNK	**Minsk**	**151.74**	**327**	*i* PKP	**PKPdf**	**15 13 10.7**	**+0.1**
	comp=E,3.0nm,1.1s							
MNK				*i* PKP	**PKPdf**	**15 13 10.7**	**+0.1**
	comp=N,25nm,1.0s							
MNK				*i* PKP	**PKPdf**	**15 13 10.7**	**+0.1**
	comp=Z,23nm,1.0s,baz=52							
MNK				*i* SKP		15 16 37.3		
MNK				*i* PKS	**PKSdf**	**15 16 45.3**	**+0.4**
MNK				*i* PP	**PP**	**15 17 04.0**	**+6.8**
MNK				*i* PPP	PPP	15 20 11.6		
MNK				*i* SPP	SPP	15 33 12.0		
MNK				*i* SS	**SS**	**15 36 24.9**	**+2.0**
MNK				*i* SSS	SSS	15 42 19.4		
MNK				*i* LQ	LQ	16 13 42.5		
MNK				*i* LR	LR	16 25 15.5		
BNN	**Bunyan**	**151.86**	**292**		**PKPbc**	**15 13 17.6**	**-0.4**
NACGM	**Naroch**	**151.97**	**329**	*i* PKP	**PKPdf**	**15 13 13.6**	**+2.7**
SKAR	**Skarslia**	**152.08**	**353**	*e*PKPbc	**PKPbc**	**15 13 18.0**	**+0.4**
ASK	**Askoy**	**152.52**	**356**	*e*PKPbc	**PKPbc**	**15 13 18.8**	**+0.4**
PABE	**Paberze**	**152.73**	**332**	*e*P	**PKPdf**	**15 13 13.7**	**+1.7**
DBIC	**Dimbokro**	**153.00**	**166**	PKPbc	**PKPbc**	**15 13 20.9**	**-0.1**
	comp=Z,2.3nm,0.5s,baz=180,slow=4.0,SNR=2.1							
AKASG	**Malin Array Be**	**153.22**	**319**	PKPbc	**PKPbc**	**15 13 20.0**	**-0.4**
	comp=Z,4.4nm,0.7s,baz=26,slow=2.0,SNR=16							
AKASG	**Malin Array Be**	**153.22**	**319**	PKP2	**PKPab**	**15 13 33.0**	**+0.9**
AKASG	**Malin Array Be**	**153.22**	**319**		**PKPbc**	**15 13 19.9**	**-0.4**
AKASG				PKPab	**PKPab**	**15 13 33.0**	**+0.9**
AKBB	**Malin Array Si**	**153.22**	**319**	*c i*PKIKP	**PKiKP**	**15 13 21.0**	**+0.5**
BRTR	**Keskin Array B**	**153.53**	**294**	PKPbc	**PKPbc**	**15 13 21.6**	**-0.1**
	comp=Z,8.9nm,0.7s,baz=130,slow=3.7,SNR=30							
BRTR	**Keskin Array B**	**153.53**	**294**	PKIKP	**PKPbc**	**15 13 21.0**	**-0.6**
BRTR	**Keskin Array B**	**153.53**	**294**		**PKPbc**	**15 13 21.0**	**-0.6**
SUW	**Suwalki**	**154.12**	**330**	*i* P	**PKPdf**	**15 13 16.4**	**+2.4**
UZH	**Uzhgorod**	**158.11**	**321**	*e*PKIKP	**PKPdf**	**15 13 21.4**	**+1.9**
UZH				*e*		15 13 26.7		
UZH				*e*		15 13 51.0		
CRVS	**Cervenica-Dubn**	**158.37**	**323**	*e*PKP2	**PKPab**	**15 13 54.6**	**+0.3**
DPC	**Dobruska-Polom**	**159.66**	**332**	*e*PKP2	**PKPab**	**15 14 00.2**	**+0.3**
DPC	**Dobruska-Polom**	**159.66**	**332**	*e*PKPAB	**PKPab**	**15 14 00.2**	**+0.3**
CLL	**Collm**	**160.01**	**339**	*i* PKPab	**PKPab**	**15 14 00.6**	**-0.7**
	comp=Z,9.0nm,0.8s							
CLL	**Collm**	**160.01**	**339**	PKP2	**PKPab**	**15 14 00.4**	**-0.9**
CLL	**Collm**	**160.01**	**339**	PKPab	**PKPab**	**15 14 00.3**	**-0.9**
TORD	**Torodi Ar. Bea**	**160.13**	**180**	PKP	**PKPdf**	**15 13 22.8**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=224,slow=5.8,SNR=2.6							
TORD				PKPab	**PKPab**	**15 14 02.5**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=172,slow=3.0,SNR=8.5							
PVCC	**Panska Ves**	**160.17**	**335**	*e*PKP2	**PKPab**	**15 14 02.8**	**+0.8**
PVCC	**Panska Ves**	**160.17**	**335**	*e*PKPAB	**PKPab**	**15 14 02.8**	**+0.8**
ZST	**Bratislava**	**160.97**	**327**	*e*PKP2	**PKPab**	**15 14 06.6**	**+1.0**
CKRC	**Cesky Rumlov**	**161.67**	**333**	*e*PKPAB	**PKPab**	**15 14 08.8**	**+0.2**
KHC	**Kopaonik Hory**	**161.69**	**334**	*e*PKPAB	**PKPab**	**15 14 09.0**	**+0.3**
GERES	**GERESS Array B**	**161.88**	**334**	PKPab	**PKPab**	**15 14 08.7**	**-1.0**
	comp=Z,2.3nm,0.9s,baz=71,slow=5.8,SNR=7.7							

*INET **14** 14:54:25.2, 12.°95N×86.°58W, h14km, MW3.5*
*IDC **14** 14:54:29.0±1.1, 13.°07N×86.°40W, h0km, mb3.7/5, mb1 4.1/6, mb1mx3.7/32, mbtmp3.7/6, ML3.2/1, MS2.9/4, Ms1 2.9/4, ms1mx2.7/30, Error ellipse: s-maj=53.6km s-min=14.3km az=60.0*
*SNET **14** 14:54:30.3±0.9, 12.°90N×86.°65W, h16km±6km, ML3.4*

ISC 14 14:54:30.3±0.8, 12.°96N±0.°08×86.°66W±0.°06, h10km±, n17, σ0.°81/19, mb3.9/5, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CNCH	**Conchagua**	**1.18**	**285**	*e*P		**Pb**	**14 54 52.0**	**-1.0**
CNCH				*e*S		**Sb**	**14 55 08.7**	**+0.3**
TGUH	**Tegucalpa,Un**	**1.24**	**331**	*e*P		**Pn**	**14 54 53.2**	**-0.7**
TGUH				*e*S		**Sb**	**14 55 10.9**	**+0.8**
LCND	**La Caada**	**1.25**	**286**	*e*P		**Pn**	**14 54 52.9**	**-0.9**
LCND				*e*S		**Sb**	**14 55 10.7**	**+0.6**
LCND				IAML			14 55 16.6	
	comp=Z,1μm,0.3s							
JUCU	**Jucuarn**	**1.57**	**281**	*e*P		**Pn**	**14 54 57.4**	**-1.0**
JUCU				*e*S		**Sn**	**14 55 19.4**	**+0.5**
JUCU				IAML			14 55 28.4	
	comp=Z,334nm,0.6s							
LCY	**Lacayo**	**1.66**	**286**	*e*P		**Pn**	**14 54 58.9**	**-0.6**
PACA	**Pacayal**	**1.69**	**288**	*e*P		**Pn**	**14 55 00.1**	**-0.1**
TECA	**Tecapa**	**1.87**	**287**	*e*P		**Pn**	**14 55 02.2**	**-0.4**
JAYA	**Jayaque - finc**	**2.80**	**285**	*e*P		**Pn**	**14 55 15.4**	**+0.1**
JTS	**Las Juntas de**	**3.14**	**148**	Pn		**Pn**	**14 55 18.7**	**-1.2**
	comp=Z,2.6nm,0.3s,baz=10.0,slow=6.9,SNR=8.5							
JTS				Pg		**Pb**	**14 55 27.1**	**+0.8**
	comp=Z,3.1nm,0.3s,baz=11,slow=12,SNR=8.8							
JTS				Lg		Lg	14 56 06.3	
	comp=Z,3.2nm,0.3s,baz=258,slow=20,SNR=4.4							
JTS				LR		LR	14 56 37.9	
	comp=Z,125nm,19.6s,baz=30,slow=42							
CMIG	**Matias Romero**	**8.94**	**298**	LR		LR	15 00 26.4	
	comp=Z,73nm,20.6s,baz=134,slow=39							
SJG	**San Juan**	**20.41**	**73**	LR		LR	15 05 19.9	
	comp=Z,32nm,20.9s,baz=152,slow=32							
TXAR	**Lajitas Array**	**22.69**	**319**	P		**P**	**14 59 33.1**	**+0.8**
	comp=Z,2.0nm,1.0s,baz=138,slow=9.4,SNR=8.8							
LPIG	**La Paz**	**24.96**	**300**	LR		LR	15 09 41.7	
	comp=Z,47nm,19.6s,baz=74,slow=36							
NVAR	**Mina Array Bea**	**37.84**	**318**	P		**P**	**15 01 48.3**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=125,slow=7.8,SNR=4.1							
YKA	**Yellowknife Ar**	**53.33**	**344**	P		**P**	**15 03 49.0**	**-0.5**
	comp=Z,2.0nm,0.9s,baz=138,slow=8.4,SNR=5.5							
ILAR	**Eielson Array**	**65.87**	**336**	P		**P**	**15 05 16.6**	**+0.7**
	comp=Z,0.8nm,0.9s,baz=116,slow=5.8,SNR=7.4							
ESDC	**Sonseca Array**	**76.27**	**52**	P		**P**	**15 06 18.4**	**-1.2**
	comp=Z,1.1nm,0.9s,baz=288,slow=6.3,SNR=4.6							

*IDC **14** 15:11:27.9±2.3, 7.°34S×129.°18E, h132km±26km, mb3.3/1, mb1 3.6/6, mb1mx3.3/40, mbtmp4.0/6, Error ellipse: s-maj=25.6km s-min=20.7km az=117.0*

ISC 14 15:11:25.8±0.9, 7.°46S±0.°06×129.°4E±0.°1, h100km±, n6, σ3.°15/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BATI	**Baumata**	**6.28**	**244**	P		**Pn**	**15 12 58.3**	**+2.3**
	23nm,0.3s,baz=79,slow=5.2,SNR=24							
BATI				S		**Sn**	**15 14 05.8**	**-0.5**
	11nm,0.3s,baz=54,slow=17,SNR=10							
SIJI	**Sorong**	**6.81**	**16**	P		**Pn**	**15 13 04.5**	**+1.2**
	0.8nm,0.3s,baz=233,slow=20,SNR=1.7							
SIJI				S		**Sn**	**15 14 17.2**	**-2.1**
	1.4nm,0.3s,baz=214,slow=23,SNR=6.2							
FITZ	**Fitzroy Crossi**	**11.18**	**199**	P		**Pn**	**15 14 03.4**	**+0.8**
	0.7nm,0.3s,baz=30,slow=13,SNR=27							
FITZ				S		**Sn**	**15 16 00.9**	**-4.7**
	1.0nm,0.3s,baz=112,slow=23,SNR=5.3							
WRA	**Warramunga Arr**	**13.30**	**159**	P		**Pn**	**15 14 33.0**	**+2.3**
	0.8nm,0.3s,baz=338,slow=12,SNR=51							
WRA				S		Sn	15 16 54.5	-2.6
	1.6nm,0.3s,baz=340,slow=21,SNR=11							
ASAR	**Alice Springs**	**16.68**	**165**	P		**Pn**	**15 15 17.9**	**+4.3**
	0.3nm,0.3s,baz=339,slow=9.9,SNR=18							
ASAR				S		**Sn**	**15 18 17.0**	**-1.9**
	0.4nm,0.3s,baz=352,slow=27,SNR=6.0							
MKAR	**Makanchi Array**	**68.28**	**327**	P		**P**	**15 22 13.3**	**-2.8**
	0.3nm,0.4s,baz=121,slow=7.5,SNR=7.8							

*INET **14** 15:14:04.9, 12.°95N×86.°58W, h15km, ML3.5*

SNET 14 15:14:09.6±0.5, 12.°82N×86.°58W, h43km±466km, ML3.3, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CNCH	**Conchagua**	**1.31**	**290**	*e*P		Pn	15 14 31.5	0.0
CNCH				*e*S		Sn	15 14 49.2	+1.4
LCND	**La Caada**	**1.37**	**291**	*e*P		Pn	15 14 32.3	0.0
LCND				*e*S		Sn	15 14 49.9	+0.7
LCND				IAML			15 14 55.6	
	comp=Z,421nm,0.3s							
TGUH	**Tegucigalpa,Un**	**1.40**	**331**	*e*P		Pn	15 14 32.9	0.0
TGUH				*e*S		Sn	15 14 50.5	+0.2

IDC 14 15:15:48.8±3.4, 33.°08S×178.°62W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/28, mbtmp3.5/3, ML3.4/1, MS3.4/1, Ms1 3.4/1, ms1mx2.9/22, Error ellipse: s-maj=71.8km s-min=32.2km az=106.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URZ	**Urewera**	**6.23**	**213**	Pn		Pn	15 17 22.0	0.0
	0.8nm,0.3s,baz=114,slow=19,SNR=8.6							
URZ				Sn		Sn	15 18 33.2	-0.7
	1.2nm,0.3s,baz=102,slow=20,SNR=2.7							
AFI	**Afiamalu**	**20.07**	**20**	LR		LR	15 29 35.0	
	comp=Z,111nm,18.9s,baz=254,slow=41							
HNR	**Honiara**	**30.73**	**315**	P		P	15 22 05.2	-0.6
	68nm,0.4s,baz=159,slow=11,SNR=7.6							
ASAR	**Alice Springs**	**42.51**	**270**	P		P	15 23 46.5	+0.3
	0.7nm,0.7s,baz=110,slow=7.7,SNR=6.4							
WRA	**Warramunga Arr**	**43.74**	**275**	P		P	15 23 56.1	0.0
	0.2nm,0.3s,baz=117,slow=6.9,SNR=5.7							
FINES	**FINESS Array B**	**147.45**	**338**	PKPbc		PKPbc	15 35 33.5	-0.5
	2.9nm,0.9s,baz=11,slow=1.7,SNR=2.8							

MEX 14 15:16:08.0±0.7, 19.°33N×104.°00W, h5km±3km, MD3.8, Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
R15V		**0.16**	**175**	*e*P		Pg	15 16 10.8	-0.4
R15V				*i* S		Sg	15 16 13.6	+0.3
COIG	**Colima**	**0.32**	**117**	*e*P		Pg	15 16 12.9	-1.5
COIG				*i* S		Sg	15 16 18.0	-0.6
EZ5V		**0.

comp=Z,45nm,1.0s
LBZ Lake Benmore 28.08 189 P P 15 25 21.7 +0.4
LBZ IAmb IAmb 15 25 25.4
comp=Z,36nm,1.1s
CTA Charters Tower 28.38 258 P P 15 25 22.4 -1.8
comp=Z,13nm,1.1s,baz=67,slow=8.4,SNR=2.6
MLZ Mavora Lakes 29.38 191 P P 15 25 34.7 +1.9
MLZ IAmb IAmb 15 25 36.0
comp=Z,64nm,1.1s
MTSU Mount Surprise 30.22 262 P P 15 25 40.8 +0.3
baz=30,SNR=5.2
QLP Quilpie 31.03 246 P P 15 25 48.6 +1.0
baz=31,SNR=5.2
CMSA Cobar Meteorol 31.23 236 P P 15 25 50.7 +1.4
baz=32,SNR=9.3
PPT2 Papeete2 32.92 97 eS S 15 31 18.2 -2.1
comp=Z,79nm,24.2s
PPT2 eLQ LQ 15 33 23.5
comp=Z,1μm,25.8s
PPT2 eLR LR 15 34 46.6
comp=Z,305nm,26.5s
PPT Papeete 32.92 97 LR LR 15 38 15.8
comp=Z,123nm,18.2s,baz=276,slow=34
TBI Tubuai 33.11 107 eS S 15 31 22.8 -0.2
comp=Z,64nm,24.5s
TBI eLQ LQ 15 33 28.3
comp=Z,305nm,24.5s
TBI eLR LR 15 34 49.6
comp=Z,404nm,30.0s
TOO Toolangi 33.97 226 P P 15 26 16.6 +3.3
baz=34,SNR=4.7
TOO Toolangi 33.97 226 P P 15 26 15.1 +1.8
TOO pmax pmax
comp=Z,23nm,1.3s
TOO Toolangi 33.97 226 P P 15 26 15.1 +1.8
TOO IAmb IAmb 15 26 18.1
comp=Z,23nm,1.3s
STKA Stephens Creek 34.63 238 P P 15 26 20.5 +1.5
baz=35,SNR=10
STKA Stephens Creek 34.63 238 P P 15 26 18.1 -0.9
comp=Z,22nm,1.1s,baz=69,slow=9.7,SNR=14
STKA LR LR 15 39 14.3
comp=Z,598nm,20.0s,baz=65,slow=34
STKA Stephens Creek 34.63 238 P P 15 26 19.9 +0.9
H11S2 WAKE ISLAND Hy 36.08 345 T T 16 04 28.7
baz=166,slow=76,SNR=257
H11S3 WAKE ISLAND Hy 36.09 345 T T 16 04 29.9
baz=166,slow=76,SNR=155
H11S1 WAKE ISLAND Hy 36.10 345 T T 16 04 30.3
baz=166,slow=76,SNR=250
H11N1 WAKE ISLAND Hy 37.21 346 T T 16 05 54.5
baz=164,slow=76,SNR=36
H11N3 WAKE ISLAND Hy 37.21 346 T T 16 05 53.9
baz=164,slow=76,SNR=46
H11N2 WAKE ISLAND Hy 37.23 346 T T 16 05 55.2
baz=164,slow=76,SNR=28
HTT Hallett 37.25 236 P P 15 26 42.8 +1.3
baz=38,SNR=4.0
JAY Jayapura 37.40 288 LR LR 15 42 04.1
comp=Z,282nm,18.7s,baz=92,slow=36
JAY Jayapura 37.40 288 P P 15 26 42.4 -0.5
comp=Z,334nmcomp=Z,16nm,2.2s
GENI Genyem 37.85 288 P P 15 26 46.6 -0.2
comp=Z,47nm,1.7s
BBOO Buckleboo 39.39 238 P P 15 26 59.9 +0.4
WR0 Warramunga Arr 39.40 259 P P 15 26 58.4 -1.2
WR0 IAmb IAmb 15 26 59.6
comp=Z,22nm,1.1s
WB2 Warramunga Arr 39.57 259 P P 15 27 00.2 -1.0
WB2 IAmb IAmb 15 27 01.2
comp=Z,34nm,1.1s
WRAB Tennant Creek 39.58 259⇓ eP P 15 27 00.2 -1.0
WRAB pmax pmax
comp=Z,31nm,1.7s
WRAB Tennant Creek 39.58 259 P P 15 26 59.8 -1.4
WRAB IAmb IAmb 15 27 01.2
comp=Z,37nm,1.2s
WRA Warramunga Arr 39.59 259 P P 15 26 59.5 -1.8
comp=Z,13nm,1.0s,baz=92,slow=8.4,SNR=34
WRA PP **PP 15 28 34.4 +1.9**
comp=Z,2.9nm,1.3s,baz=88,slow=9.5,SNR=4.4
WRA PcP **PcP 15 29 06.4 -1.8**
comp=Z,0.5nm,0.9s,baz=93,slow=3.3,SNR=2.1
WRA Warramunga Arr 39.59 259 P P 15 26 59.8 -1.4
AS31 Alice Springs 39.98 253 P P 15 27 03.5 -1.1
ASAR Alice Springs 39.98 253 P P 15 27 03.9 -0.7
comp=Z,23nm,1.0s,baz=84,slow=9.0,SNR=86
ASAR PcP **PcP 15 29 07.9 -1.6**
comp=Z,4.5nm,1.0s,baz=101,slow=3.4,SNR=9.3
ASAR LR LR 15 42 29.7
comp=Z,248nm,18.2s,baz=97,slow=35
ASAR Alice Springs 39.98 253 P P 15 27 03.5 -1.1
ASAR Alice Springs 39.98 253 P P 15 27 03.5 -1.1
ASAR **PcP 15 29 09.7 +0.2**
SRPI Serui, Papua 41.74 286 P P 15 27 20.0 +0.9
comp=Z,64nm,1.1s
BAKI Biak 42.13 287 P P 15 27 23.4 +1.1
comp=Z,2μmcomp=Z,98nm,1.2s
GUMO Guam 42.97 313 LR LR 15 44 00.8
comp=Z,74nm,20.6s,baz=129,slow=34
TAOE Nuku Hiva Isla 43.43 85 eS S 15 33 55.3 -3.9
comp=Z,160nm,28.8s
TAOE eLR LR 15 39 34.6
comp=Z,768nm,28.9s
MTN Manton Dam 43.45 269 P P 15 27 32.5 -0.5
MTN IAmb IAmb 15 27 33.9
comp=Z,31nm,1.1s
WRKA Warakurna 45.13 251 P P 15 27 46.3 -0.1
baz=45,SNR=8.9
KNRA Kununurra 45.26 264 P P 15 27 46.8 -0.7
baz=46,SNR=4.2
KNRA Kununurra 45.26 264 P P 15 27 46.8 -0.7
KNRA IAmb IAmb 15 27 48.2
comp=Z,37nm,1.1s
FORT Forrest 45.73 243 P P 15 27 50.5 -0.5
SIJI Sorong 46.71 285 P P 15 27 57.0 -1.9
comp=Z,33nm,0.9s,baz=89,slow=7.1,SNR=11
SIJI Sorong 46.71 285 P P 15 27 57.8 -1.1
comp=Z,419nmcomp=Z,31nm,1.4s
SWI Sorong 46.72 285 P P 15 27 58.8 -0.2
comp=Z,813nmcomp=Z,62nm,1.3s
FITZ Fitzroy Crossi 47.93 260 P P 15 28 08.6 +0.2
baz=48,SNR=8.1
FITZ Fitzroy Crossi 47.93 260 P P 15 28 08.0 -0.3
KRAI Karang Ratu 48.54 281 P P 15 28 13.8 +0.7
comp=Z,3μmcomp=Z,35nm,0.6s
SOEI Soe 50.68 271 P P 15 28 30.1 +0.5
SOEI Soe 50.68 271 P P 15 28 30.4 +0.8
comp=Z,83nm,1.2s
TNTI Ternate 50.94 285 P P 15 28 30.9 -0.5
TNTI IAmb IAmb 15 28 45.0
comp=Z,24nm,0.9s
BATI Baumata 51.16 270 P P 15 28 31.2 -1.8
comp=Z,40nm,0.7s,baz=135,slow=4.3,SNR=3.2
BATI Baumata 51.16 270 P P 15 28 34.5 +1.4
comp=Z,57nm,1.3s
SANI Sanana 51.23 281 P P 15 28 33.4 -0.1
comp=Z,906nmcomp=Z,52nm,1.2s
MMRI Maumere 52.89 272 P P 15 28 46.4 +0.4
comp=Z,76nm,1.0s
PSA00 Pilbara Seismi 53.02 255 P P 15 28 46.4 -0.4
PSA00 IAmb IAmb 15 28 48.1
comp=Z,21nm,1.4s
EDFI Ende, Flores 53.39 271 P P 15 28 49.7 0.0
comp=Z,600nmcomp=Z,52nm,1.1s
GTOI Gorontalo 54.94 283 P P 15 29 02.0 +1.1
comp=Z,16nm,1.0s
NWAO Narrogin (SRO) 55.07 241 P P 15 28 59.9 -1.8
comp=Z,36nm,1.1s,baz=63,slow=5.2,SNR=3.8
NWAO Narrogin (SRO) 55.07 241 P P 15 29 01.1 -0.5
APSI Ampana 55.69 281 P P 15 29 07.2 +0.9
comp=Z,600nmcomp=Z,50nm,1.5s
BNSI Bone 56.07 276 P P 15 29 07.8 -1.2
comp=Z,32nm,1.7s
MORW Morawa 56.07 246 P P 15 29 08.2 -0.6
MORW IAmb IAmb 15 29 10.1
comp=Z,21nm,1.1s
KAPI Kappang 56.23 275 P P 15 29 10.6 +0.4
KAPI pmax pmax
comp=Z,33nm,1.4s
KAPI Kappang 56.23 275 P P 15 29 10.6 +0.4
KAPI IAmb IAmb 15 29 12.0
comp=Z,33nm,1.4s
PLAI Plampang 57.12 270 P P 15 29 16.3 -0.2
comp=Z,66nm,1.5s
TOLI2 Tolitoli 57.19 282 P P 15 29 16.1 -0.9
MPSI Mapaga 57.76 281 P P 15 29 20.9 -0.1
comp=Z,515nmcomp=Z,28nm,1.5s
TWSI Taliwang, Sumb 58.00 270 P P 15 29 22.2 -0.5
comp=Z,44nm,1.5s
BKB Balikpapan 60.07 278 P P 15 29 35.7 -1.4
VNDA Vanda 61.31 183 P P 15 29 45.3 +0.8
comp=Z,2.3nm,0.9s,baz=348,slow=6.3,SNR=6.3
VNDA LR LR 15 53 03.8
comp=Z,373nm,18.9s,baz=21,slow=33
VNDA Vanda 61.31 183 P P 15 29 45.2 +0.8
SBA Scott Base 61.40 182 P P 15 29 46.0 +0.9
SBA pmax pmax
comp=Z,45nm,1.4s
SBA Scott Base 61.40 182 P P 15 29 46.0 +0.9
JOW Kunigami 63.33 312 LR LR 15 53 17.7
comp=Z,68nm,21.4s,baz=92,slow=32
MJAR Matsushiro Arr 63.79 327 P P 15 30 01.5 -0.1
comp=Z,7.9nm,1.0s,baz=152,slow=7.8,SNR=14
MJAR LR LR 15 58 13.5
comp=Z,74nm,18.1s,baz=125,slow=36
MJAR Matsushiro Arr 63.79 327 P P 15 30 01.1 -0.6
MJAR pmax pmax
comp=Z,18nm,1.4s
MJAR Matsushiro Arr 63.79 327 P P 15 30 01.1 -0.6
MJAR IAmb IAmb 15 30 02.8
comp=Z,18nm,1.4s
MAJO Matsushiro 63.79 327 P P 15 30 00.7 -1.0
MAJO pmax pmax
comp=Z,46nm,1.5s
MAJO Matsushiro 63.79 327 P P 15 30 00.7 -1.0
MAT Matsushiro 63.79 327 P P 15 30 01.1 -0.6
MJB9 Matsu-Tunnel 63.80 327 P P 15 30 01.2 -0.5
JSD Sado 64.90 328 P P 15 30 07.9 -0.9
CASY Casey 65.06 204 P P 15 30 08.6 -1.0
CASY IAmb IAmb 15 30 22.8
comp=Z,14nm,1.4s
JNU Nakatsue 65.59 319 P P 15 30 12.1 -1.4
TPUB Ta-pu 67.08 305 P P 15 30 21.9 -1.4
JEW Eniwo 67.16 333 P P 15 30 22.3 -0.9
LEM Lembang 67.36 269 P P 15 30 23.6 -1.8
comp=Z,14nm,0.3s,baz=151,slow=12,SNR=3.9
LEM Lembang 67.36 269 P P 15 30 25.5 +0.1
comp=Z,26nm,1.9s
JKA Kamikawa-asahi 67.72 335 P P 15 30 26.8 +0.1
JKA IAmb IAmb 15 30 35.6
comp=Z,23nm,1.4s
ASAJ Asahikawa 67.72 335 P P 15 30 26.8 0.0
ASAJ pmax pmax
comp=Z,23nm,1.4s
AMKA Amchitka 67.79 2 P P 15 30 28.2 +1.2
DBJI Dramaga 68.27 269 P P 15 30 30.4 -0.5
YSS Yuzh-Sakhalins 70.00 336 eP P 15 30 41.8 +0.9
YSS Yuzh-Sakhalins 70.00 336 P P 15 30 41.2 +0.3
YSS IAmb IAmb 15 30 42.8
comp=Z,24nm,1.5s
KSRS Korea Array 70.26 321 P P 15 30 42.2 -0.5
comp=Z,1.7nm,0.9s,baz=121,slow=7.0,SNR=7.4
KSRS LR LR 15 58 16.3
comp=Z,57nm,20.4s,baz=118,slow=33
KSAR Wonju Array Be 70.28 321 P P 15 30 42.5 -0.3
KSAR Wonju Array Be 70.28 321 P P 15 30 42.5 -0.3
PET Petropavlovsk 70.97 349 P P 15 30 45.6 -1.0
PET IAmb IAmb 15 30 56.9
comp=Z,25nm,1.1s
PEA0B Petropavlovsk- 71.23 348 P P 15 30 49.5 +1.2
PEA0B pmax pmax
comp=Z,62nm,1.5s
PEA0B Petropavlovsk- 71.23 348 P P 15 30 49.5 +1.2
PETK Petropavlovsk- 71.23 348 P P 15 30 48.2 -0.1
comp=Z,4.5nm,1.1s,baz=189,slow=11,SNR=6.2
PETK LR LR 15 56 24.8
comp=Z,275nm,21.0s,baz=153,slow=31
PETK Petropavlovsk- 71.23 348 P P 15 30 49.4 +1.1
VLA Vladivostok 71.92 328⇑ eP P 15 30 46.8 -5.8
VLA pmax pmax
comp=Z,12nm,0.9s
USA0B Ussuriysk Arra 72.64 328 P P 15 30 56.3 -0.6
USA0B pmax pmax
comp=Z,5.0nm,1.0s
USA0B Ussuriysk Arra 72.64 328 P P 15 30 56.3 -0.6
USRK Ussuriysk Ar. 72.64 328 P P 15 30 56.8 -0.1
comp=Z,4.4nm,1.1s,baz=134,slow=5.5,SNR=9.3
USRK LR LR 16 01 42.8
comp=Z,92nm,18.6s,baz=128,slow=35
USRK Ussuriysk Ar. 72.64 328 P P 15 30 57.0 +0.1
NJ2 Nanjing 73.04 312 eP P 15 31 01.0 +1.5
NJ2 pmax pmax
comp=Z,16nm,0.5s
QSPA South Pole Qui 73.40 180 P P 15 31 02.1 +0.7
QSPA IAmb IAmb 15 31 05.6
comp=Z,18nm,1.0s
MDJ Mudanjiang 74.15 327 P P 15 31 06.9 +1.1
SPIA Saint Paul Isl 74.44 8 P P 15 31 08.3 +1.2
SDPT Sand Point 74.44 14 P P 15 31 07.8 +0.5
GRNR Gornyy 75.55 335⇑ iP P 15 31 15.2 +1.4
GRNR pmax pmax
comp=Z,10.0nm,1.3s
WHN Wuhan 75.57 308⇑ P P 15 31 14.8 +0.5
CHGN Chignik 75.79 14 P P 15 31 14.1 -0.9
CN2 Changchun 75.82 325 eP P 15 31 16.6 +1.1
CN2 S S **15 40 55.8 +0.6**
CN2 pmax pmax
comp=Z,20nm,1.3s
CN2 pmax pmax
comp=Z,300nm,4.0s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,200nm,25.0s
KLR Kul'dur 76.38 332⇑ eP P 15 31 11.6 -6.9
KLR pmax pmax
comp=Z,1.0nm,1.0s
OHAK Old Harbor 77.92 17 P P 15 31 27.8 +0.8
RPSI Rantau Prapat 78.38 276 P P 15 31 28.2 -2.3
RPSI IAmb IAmb 15 31 31.6
comp=Z,26nm,1.2s
RPSI Rantau Prapat 78.38 276 P P 15 31 29.4 -1.1
PSI Prapat 78.41 276 P P 15 31 29.4 -1.5
comp=Z,10nm,1.0s,baz=170,slow=3.5,SNR=6.1
PSI Prapat 78.41 276 P P 15 31 28.3 -2.6
PSI pmax pmax
comp=Z,26nm,1.2s
MA2 Magadan 78.67 347 P P 15 31 30.9 -0.2
MA2 pmax pmax
comp=Z,76nm,1.4s
MA2 Magadan 78.67 347 P P 15 31 30.9 -0.2
ENH Enshi 79.15 306 P P 15 31 34.1 -0.3
BJT Baijiatuau 79.16 317 P P 15 31 34.0 -0.2
BJT pmax pmax
comp=Z,13nm,1.2s
BJT Baijiatuau 79.16 317 P P 15 31 34.0 -0.2
HOPS Hopland Field 79.39 44 P P 15 31 35.1 -0.4
HOPS IAmb IAmb 15 31 56.9
comp=Z,38nm,1.3s
NONG Nongkai 79.53 292 P P 15 31 38.6 +1.9
comp=Z,41nm,1.4s
PAGB Antelope Grade 79.69 48 P P 15 31 37.8 +0.5
PAGB IAmb IAmb 15 31 48.1
comp=Z,15nm,1.4s
GYA Guiyang 79.77 302⇓ iP P 15 31 39.3 +1.3
GYA pP pP 15 31 47.5 -0.6
GYA pmax pmax
comp=Z,26nm,1.3s
O19K Port Alsworth 80.25 15 P P 15 31 39.3 -0.4
O19K IAmb IAmb 15 31 44.9
comp=Z,23nm,1.1s
TIY Taiyuan 80.47 314 eP P 15 31 43.9 +2.4
TIY pmax pmax
comp=Z,20nm,0.5s
EDW2 Edwards Air Fo 80.91 50 P P 15 31 46.8 +2.9
baz=242
ISA Isabella, Lake 80.93 49 P P 15 31 43.4 -0.6
ISA pmax pmax
comp=Z,5.0nm,1.2s
ISA Isabella, Lake 80.93 49 P P 15 31 43.4 -0.6
MONP2 Monument Peak 81.18 52 P P 15 31 47.9 +2.3
baz=244
XAN Xi'an 81.26 309 P P 15 31 46.9 +1.1
XAN pP pP 15 31 54.8 -1.0
XAN pmax pmax
comp=Z,24nm,1.6s
XAN pmax pmax
comp=Z,280nm,6.2s
MDPB Devils Postpil 81.43 47 P P 15 31 46.3 -0.6
ZEA Zeya 81.56 333 eP P 15 31 48.3 +1.5
ZEA pmax pmax
comp=Z,10.0nm,1.3s
CWC Cottonwood Cre 81.57 48 P P 15 31 49.8 +2.3
baz=242
BEKR Beckworth 81.64 44 P P 15 31 48.3 +0.4
MPMC Manual Prospec 81.82 49 P P 15 31 51.2 +2.3
baz=243
L19K White Mountain 81.88 13 P P 15 31 48.2 -0.2
L19K IAmb IAmb 15 31 53.2
comp=Z,35nm,1.3s
BELC Belle Mtn. Jos 81.99 51 P P 15 31 51.8 +2.0
baz=244
HEC Hector,Ludlow 82.11 50 P P 15 31 52.4 +2.1
baz=243
LHV Little Huntoon 82.12 46 P P 15 31 51.3 +1.2
LHV IAmb IAmb 15 31 55.8
comp=Z,22nm,1.5s
PAHR Pah Rah Range 82.22 45 P P 15 31 52.2 +1.4
RYN Ryan 82.29 46 P P 15 31 51.0 -0.3
NVAR Mina Array Bea 82.34 46 P P 15 31 53.1 +1.5
comp=Z,2.0nm,0.8s,baz=226,slow=9.0,SNR=11
NVAR PP **PP 15 34 59.2 -1.8**
comp=Z,0.2nm,0.3s,baz=261,slow=5.9,SNR=4.1
NVAR Mina Array Bea 82.34 46 P P 15 31 51.8 +0.2
NV11 Mina Array Sit 82.45 46 P P 15 31 52.5 +0.5
NV11 IAmb IAmb 15 31 57.4
comp=Z,18nm,1.4s
H02S1 DAWSON INLET T 82.47 28 T T 17 02 40.6
SNR=11
H02N1 VAN INLET T-PH 82.47 28 T T 17 02 39.3
KMI Kunming 82.49 299⇓ P P 15 31 54.8 +2.1
KMI pP pP 15 32 02.3 -0.5
KMI pmax pmax
comp=Z,23nm,1.4s
KMI LR LR
comp=Z,140nm,29.5s
HHC Hu-ho-hao-te 82.60 316 eP P 15 31 48.9 -3.9
HHC pmax pmax
comp=Z,12nm,1.0s
HHC pmax pmax
comp=Z,250nm,6.6s
TUQ Turquoise Moun 82.68 50 P P 15 31 55.4 +2.1
baz=244
IRM Iron Mountain 82.69 51 P P 15 31 55.8 +2.5
baz=244
UMPA Umpang Tak 82.72 289 P P 15 31 59.7 +5.9
comp=Z,16nm,1.2s
KVN Kaiserville 82.78 46 P P 15 31 55.1 +1.2
KVN pmax pmax
comp=Z,5.0nm,1.1s
KVN Kaiserville 82.78 46 P P 15 31 55.0 +1.2
J05D Fort Rock, OR 82.79 41 P P 15 31 56.2 +2.4
baz=239
K20K Telida 83.09 13 P P 15 31 55.3 +0.6
K20K IAmb IAmb 15 32 11.3
comp=Z,18nm,1.5s
TPNV Topopah Spring 83.11 48 P P 15 31 57.1 +1.5
TPNV pmax pmax
comp=Z,11nm,1.3s
TPNV Topopah Spring 83.11 48 P P 15 31 57.0 +1.5
TPNV IAmb IAmb 15 32 13.5
comp=Z,11nm,1.3s
TPNV Topopah Spring 83.11 48 P P 15 31 57.7 +2.1
baz=243
MAW Mawson 83.17 201 P P 15 31 54.9 -0.3
baz=83,SNR=7.3
MAW Mawson 83.17 201 P P 15 31 54.7 -0.5
comp=Z,4.6nm,0.9s,baz=109,slow=6.0,SNR=8.7
MAW LR LR 16 05 35.0
comp=Z,174nm,19.0s,baz=76,slow=33
MAW Mawson 83.17 201 P P 15 31 55.6 +0.5
CM04 Chiang Mai Arr 83.36 291 P P 15 31 59.0 +2.0
comp=Z,138nmcomp=Z,14nm,1.2s
CM09 Chiang Mai Arr 83.36 291 P P 15 31 59.6 +2.6
comp=Z,131nmcomp=Z,11nm,1.3s
CM01 Chiang Mai Arr 83.38 291 P P 15 32 00.1 +3.0
comp=Z,12nm,1.2s
CM05 Chiang Mai Arr 83.39 291 P P 15 31 59.6 +2.4
comp=Z,10nm,1.3s
CM02 Chiang Mai Arr 83.40 291 P P 15 31 59.7 +2.5
comp=Z,109nmcomp=Z,13nm,1.2s
CM31 Chiang Mai Arr 83.41 291 P P 15 31 56.0 -1.2
CMAR Chiang Mai Arr 83.41 291 P P 15 31 57.8 +0.5
comp=Z,10.0nm,1.1s,baz=115,slow=3.5,SNR=37
CMAR PP **PP 15 35 06.6 -3.1**
comp=Z,0.2nm,0.3s,baz=223,slow=8.7,SNR=2.4
CMAR Chiang Mai Arr 83.41 291 P P 15 31 57.5 +0.2
CMAR Chiang Mai Arr 83.41 291 P P 15 31 57.5 +0.2
CM15 Chiang Mai Arr 83.42 291 P P 15 31 59.7 +2.3
comp=Z,92nmcomp=Z,9.2nm,1.3s
CM13 Chiang Mai Arr 83.43 291 P P 15 31 59.6 +2.2
comp=Z,82nmcomp=Z,10nm,1.1s
BTO Baotou 83.51 316 eP P 15 32 00.4 +2.9
CMMT Chiang Mai 83.52 292 P P 15 31 59.4 +1.5
comp=Z,14nm,1.4s
CHTO Chiang Mai 83.53 292 P P 15 31 58.4 +0.5
CHTO pmax pmax
comp=Z,16nm,1.1s
CHTO Chiang Mai 83.53 292 P P 15 31 59.6 +1.7
comp=Z,14nm,1.3s
CHTO Chiang Mai 83.53 292 P P 15 31 58.4 +0.5
CHTO IAmb IAmb 15 32 00.5
comp=Z,16nm,1.1s
SHPR Sheep Range 83.70 49 P P 15 31 59.9 +1.3
CD2 Chengdu 83.90 305 P P 15 32 01.0 +1.4
CD2 pmax pmax
comp=Z,30nm,1.2s
WAT6 Susitna Watana 83.95 16 P P 15 32 00.8 +1.5
baz=215
BMN Battle Mountai 84.02 45 P P 15 32 00.7 +0.6
BMN pmax pmax
comp=Z,12nm,1.2s
BMN Battle Mountai 84.02 45 P P 15 32 00.7 +0.6
BMN IAmb IAmb 15 32 05.4
comp=Z,12nm,1.2s
WVOR Wild Horse Val 84.03 43 P P 15 32 01.5 +1.4
WVOR pmax pmax
comp=Z,6.0nm,1.2s
WVOR Wild Horse Val 84.03 43 P P 15 32 01.5 +1.4
PRN Pahroc Range 84.17 48 P P 15 32 02.3 +1.3
PRN IAmb IAmb 15 32 06.7
comp=Z,18nm,1.3s
R11A Troy Canyon, C 84.21 47 P P 15 32 02.5 +1.3
R11A Troy Canyon, C 84.21 47 P P 15 32 03.0 +1.8
baz=244
I07A Izee 84.28 41 P P 15 32 03.2 +1.9
RND Reindeer 84.35 15 P P 15 32 01.5 +0.3
RND pmax pmax
comp=Z,15nm,1.2s
RND Reindeer 84.35 15 P P 15 32 01.5 +0.3
RND IAmb IAmb 15 32 04.2
comp=Z,15nm,1.2s
CTG Chitna Glacier 84.54 19 P P 15 32 03.1 +0.9
baz=221
BILL Bilibino 84.74 356⇓ eP P 15 32 04.4 +1.5
BILL e 15 32 17.5
BILL S **S 15 42 24.0 -3.9**
BILL ePS **PnS 15 43 34.6 +8.5**
BILL pmax pmax
comp=Z,16nm,1.3s
BILL MLR MLR
comp=Z,64nm,18.0s
G08A Pilot Rock 85.21 40 P P 15 32 07.5 +1.5
SPR3 Spring Creek 3 85.37 47 P P 15 32 08.8 +1.5
SPR3 IAmb IAmb 15 32 12.2
comp=Z,8.7nm,1.3s
YUK3 Moose Creek 85.43 19 P P 15 32 08.3 +1.4
baz=222
M27K Edge Creek, AK 85.43 18 P P 15 32 09.5 +2.7
baz=220
CCUT Cedar City 85.45 49 P P 15 32 09.1 +1.6
CCUT IAmb IAmb 15 32 13.3
comp=Z,10nm,1.4s
ELK Elko 85.51 45 P P 15 32 08.1 +0.4
ELK pmax pmax
comp=Z,5.0nm,1.3s
ELK Elko 85.51 45 P P 15 32 08.1 +0.4
KNB Kanab 85.62 49 P P 15 32 08.6 +0.3
KNB pmax pmax
comp=Z,18nm,1.5s
KNB Kanab 85.62 49 P P 15 32 08.6 +0.3
KNB IAmb IAmb 15 32 15.0
comp=Z,18nm,1.5s
HDA Harding Lake 85.66 15 P P 15 32 08.8 +1.2
baz=215

MDM	**Murphy Dome**	**85.80**	**14**	P	**P**		**15 32 09.0**	**+0.6**	
MDM				IAmb	IAmb		15 32 12.1		
	comp=Z,15nm,1.4s								
LZH	**Lanzhou**	**85.90**	**309**	*e*P	**P**		**15 32 11.8**	**+2.1**	
LZH				pP	PcP		15 32 16.6	+4.2	
LZH				sP	pP		15 32 19.8	0.0	
LZH				pmax	pmax				
	comp=Z,27nm,1.1s								
IL31		**85.97**	**15**	P	**P**		**15 32 08.9**	**-0.2**	
IL31				IAmb	IAmb		15 32 13.1		
	comp=Z,12nm,1.4s								
ILAR	**Eielson Array**	**85.97**	**15**	P	**P**		**15 32 08.8**	**-0.3**	
	comp=Z,1.4nm,0.8s,baz=230,slow=4.5,SNR=12								
ILAR				LR	LR		16 03 37.8		
	comp=Z,355nm,21.5s,baz=218,slow=31								
SCRK	**Sand Creek**	**86.09**	**17**	P	**P**		**15 32 10.5**	**+0.6**	
SCRK	**Sand Creek**	**86.09**	**17**	P	**P**		**15 32 11.1**	**+1.2**	
	baz=218								
YAK	**Yakutsk**	**86.48**	**340**	⇑*e*P	P		15 32 05.0	-6.7	
YAK				pmax	pmax				
	comp=Z,3.0nm,0.3s								
YAK	**Yakutsk**	**86.48**	**340**	P	**P**		**15 32 11.3**	**-0.4**	
YAK				IAmb	IAmb		15 32 14.3		
	comp=Z,9.9nm,0.7s								
MTPU	**Mount Pierson**	**86.50**	**49**	P	**P**		**15 32 14.4**	**+1.5**	
MTPU				IAmb	IAmb		15 32 18.1		
	comp=Z,8.3nm,1.2s								
F10A	**Beach Ranch, E**	**86.60**	**40**	P	**P**		**15 32 13.8**	**+1.0**	
F10A				IAmb	IAmb		15 32 25.1		
	comp=Z,9.6nm,1.2s								
J26L	**Joseph Creek**	**86.62**	**16**	P	**P**		**15 32 15.3**	**+2.9**	
	baz=218								
MSU	**Marysvale**	**86.70**	**48**	P	**P**		**15 32 15.1**	**+1.5**	
MSU	**Marysvale**	**86.70**	**48**	P	**P**		**15 32 15.1**	**+1.5**	
HLID	**Hailey**	**87.30**	**43**	P	**P**		**15 32 17.6**	**+1.2**	
HLID	**Hailey**	**87.30**	**43**	P	**P**		**15 32 18.7**	**+2.4**	
	baz=244								
SRU	**San Rafael Swe**	**88.12**	**48**	P	**P**		**15 32 21.8**	**+1.4**	
SRU				pmax	pmax				
	comp=Z,6.0nm,1.1s								
SRU	**San Rafael Swe**	**88.12**	**48**	P	**P**		**15 32 21.8**	**+1.4**	
SRU				IAmb	IAmb		15 32 24.9		
	comp=Z,6.4nm,1.1s								
TCUT	**Toone Canyon**	**88.30**	**46**	P	**P**		**15 32 22.6**	**+1.3**	
TCUT				IAmb	IAmb		15 32 27.7		
	comp=Z,16nm,1.2s								
ULN	**Ulaanbaatar**	**88.75**	**321**	P	**P**		**15 32 23.1**	**-0.1**	
ULN				pmax	pmax				
	comp=Z,25nm,1.5s								
ULN	**Ulaanbaatar**	**88.75**	**321**	P	**P**		**15 32 23.1**	**-0.1**	
MCMT	**McKenzie Canyo**	**88.86**	**42**	P	**P**		**15 32 25.1**	**+1.2**	
SYO	**Syowa Base**	**89.11**	**194**	⇑*e*P	**P**		**15 32 24.3**	**0.0**	
SONM	**Songino Array**	**89.13**	**321**	P	**P**		**15 32 24.3**	**-0.7**	
	comp=Z,1.6nm,0.5s,baz=132,slow=4.2,SNR=17								
SONM				LR	LR		16 12 28.7		
	comp=Z,51nm,18.7s,baz=104,slow=36								
SONM	**Songino Array**	**89.13**	**321**	P	**P**		**15 32 24.9**	**-0.1**	
SONM				IAmb	IAmb		15 32 29.5		
	comp=Z,10nm,1.4s								
PV22	**Blue Mesa, Par**	**89.15**	**49**	P	**P**		**15 32 25.9**	**+0.5**	
PV22				IAmb	IAmb		15 32 30.6		
	comp=Z,18nm,1.5s								
LRM	**Limekiln Ridge**	**89.53**	**42**	P	**P**		**15 32 28.3**	**+1.3**	
ANMO	**Albuquerque**	**89.60**	**53**	⇑*e*P	P		15 32 23.1	-4.4	
ANMO				pmax	pmax				
	comp=Z,1.0nm,1.0s								
IMW	**Indian Meadow**	**89.73**	**44**	P	**P**		**15 32 29.0**	**+1.0**	
TXAR	**Lajitas Array**	**89.93**	**59**	P	**P**		**15 32 30.1**	**+1.0**	
	comp=Z,0.5nm,0.6s,baz=230,slow=5.2,SNR=7.9								
TXAR	**Lajitas Array**	**89.93**	**59**	P	**P**		**15 32 31.3**	**+2.2**	
BOZ	**Bozeman (W)**	**89.96**	**42**	P	**P**		**15 32 31.3**	**+2.4**	
	baz=246								
GTA	**Gaotai**	**90.13**	**311**	⇑P	**P**		**15 32 31.0**	**+1.2**	
GTA				pP	pP		15 32 37.4	-2.5	
GTA				sP	pwP		15 32 39.8	-4.1	
GTA				pmax	pmax				
	comp=Z,17nm,1.5s								
GTA				pmax	pmax				
	comp=Z,120nm,4.9s								
GTA				LR	LR				
	comp=Z,180nm,23.6s								
GTA				LR	LR				
	comp=Z,150nm,19.6s								
GTA				LR	LR				
	comp=Z,130nm,23.3s								
BW06	**Boulder Array**	**90.21**	**45**	P	**P**		**15 32 31.1**	**+0.9**	
BW06	**Boulder Array**	**90.21**	**45**	P	**P**		**15 32 32.0**	**+1.8**	
	baz=247								
PDAR	**Pinedale Array**	**90.21**	**45**	P	**P**		**15 32 30.9**	**+0.7**	
	comp=Z,0.3nm,0.3s,baz=238,slow=7.9,SNR=7.8								
S22A	**4UR Ranch, Cre**	**90.30**	**51**	P	**P**		**15 32 33.5**	**+2.6**	
	baz=249								
SDCO	**Great Sand Dun**	**91.29**	**51**	P	**P**		**15 32 36.5**	**+1.0**	
SDCO				IAmb	IAmb		15 32 40.4		
	comp=Z,8.8nm,1.4s								
SDCO	**Great Sand Dun**	**91.29**	**51**	P	**P**		**15 32 37.3**	**+1.8**	
	baz=250								
SNAA	**Sanae**	**91.90**	**180**	P	**P**		**15 32 37.1**	**-0.3**	
SNAA	**Sanae**	**91.90**	**180**	⇓*e*P	**P**		**15 32 37.6**	**+0.2**	
SNAA				pmax	pmax				
	comp=Z,14nm,1.7s								
SNAA	**Sanae**	**91.90**	**180**	P	**P**		**15 32 37.2**	**-0.3**	
ZAK	**Zakamensk**	**92.06**	**322**	*e*P	**P**		**15 32 37.3**	**-1.2**	
ZAK				pmax	pmax				
	comp=Z,9.0nm,1.4s								
VNA3	**Neumayer Olymp**	**92.25**	**178**	P	**P**		**15 32 38.7**	**-0.2**	
VNA2	**Neumayer--Watz**	**92.62**	**179**	P	**P**		**15 32 40.7**	**0.0**	
VNA1	**Neumayer--Stat**	**92.88**	**179**	P	**P**		**15 32 41.9**	**0.0**	
TIXI	**Tiksi**	**93.63**	**347**	⇑*e*P	P		15 32 40.2	-4.9	
YKA	**Yellowknife Ar**	**95.50**	**26**	LR	LR		16 08 53.4		
	comp=Z,244nm,21.1s,baz=0.0,slow=31								
OK032	**Salt Plains WL**	**96.54**	**54**	P	**P**		**15 33 00.0**	**+0.8**	
WMQ	**Urumqi**	**100.10**	**313**	*e*P	**Pdif**		**15 33 17.6**	**+2.5**	
WMQ				pmax	pmax				
	comp=Z,14nm,0.7s								
WMQ				pmax	pmax				
	comp=Z,110nm,4.7s								
WMQ				LR	LR				
	comp=Z,160nm,21.5s								
ARU	**Arti**	**118.80**	**326**	⇑*i*PKIKP	**PKPdf**		**15 38 16.9**	**-0.4**	
KIRV	**Kirov**	**122.78**	**330**	⇑*i*PKIKP	**PKPdf**		**15 38 22.2**	**-2.6**	
APA	**Apatity**	**123.71**	**344**	⇓*i*PKIKP	PKPpre		15 38 13.8		
APA				pmax	pmax				
	comp=Z,3.0nm,0.8s								
APA				MLR	MLR				
	comp=Z,200nm,19.0s								
ARCES	**ARCESS Array B**	**124.04**	**348**	PKP	**PKPdf**		**15 38 27.2**	**+0.2**	
	comp=Z,1.7nm,0.6s,baz=17,slow=0.9,SNR=18								
KLMR	**Klimovskoe**	**126.04**	**335**	*e*PKIKP	**PKPdf**		**15 38 27.0**	**-4.0**	
KLMR				pmax	pmax				
	comp=Z,19nm,1.4s								
KLMR	**Klimovskoe**	**126.04**	**335**	*e*PKPdf	**PKPdf**		**15 38 27.0**	**-4.0**	
KLMR				AMP			15 38 33.0		
	comp=Z,19nm,1.4s								
MNK	**Minsk**	**134.90**	**334**	*i* PKIKP	**PKPdf**		**15 38 47.2**	**-0.8**	
MNK				*i*			15 41 32.6		
MNK				pmax	pmax				
	comp=N,13nm,1.0s								
MNK				pmax	pmax				
	comp=E,3.0nm,1.0s								
MNK				pmax	pmax				
	comp=Z,29nm,0.9s								
MNK				MLR	MLR				
	comp=Z,329nm,20.0s								
MNK				MLR	MLR				
	comp=E,758nm,20.0s								
MNK				MLR	MLR				
	comp=N,181nm,20.0s								
MNK	**Minsk**	**134.90**	**334**	*i* PKP	**PKPdf**		**15 38 47.2**	**-0.8**	
	comp=E,3.0nm,1.0s								
MNK				*i* PKP	**PKPdf**		**15 38 47.2**	**-0.8**	
	comp=N,13nm,1.0s								
MNK				*i* PKP	**PKPdf**		**15 38 47.2**	**-0.8**	
	comp=Z,29nm,0.9s,baz=35								
MNK				*i* PP	PP		15 41 32.7	+11	
MNK				*i* SKP			15 42 22.1		
MNK				*i* PKS	**PKSdf**		**15 42 23.4**	**-0.7**	
MNK				*i* PPP	PPP		15 44 31.9		
MNK				*i* SSS	SSS		16 04 47.2		
MNK				*i* LQ	LQ		16 22 39.8		
MNK				*i* LR	LR		16 30 01.9		
MNK				*i* LRM	MLR		16 35 51.3		
	comp=Z,329nm,20.3s								
MNK				*i* LRM	MLR		16 36 13.9		
	comp=N,181nm,20.4s								

AKASG	**Malin Array Be**	**136.84**	**329**	PKP	**PKPdf**		**15 38 52.5**	**+0.7**	
	comp=N,1.1nm,0.6s,baz=39,slow=2.0,SNR=8.6								
AKASG	**Malin Array Be**	**136.84**	**329**	*c* PKIKP	**PKPdf**		**15 38 53.0**	**+1.2**	
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.6s								
AKASG	**Malin Array Be**	**136.84**	**329**	PKPdf	**PKPdf**		**15 38 53.0**	**+1.2**	
AKBB	**Malin Array Si**	**136.84**	**329**	⇓*i*PKIKP	**PKPdf**		**15 38 52.1**	**+0.3**	
LNIZ	**Loecknitz**	**140.56**	**343**	*e*L	L		16 35 19.1		
	comp=Z,130nm,20.5s								
BSEG	**Bad Segeberg**	**141.14**	**346**	*e*L	L		16 36 26.8		
	comp=Z,227nm,21.6s								
CLL	**Collm**	**142.84**	**342**	*e*L	L		16 33 48.1		
	comp=Z,89nm,21.8s								
VYHS	**Vyhne**	**143.14**	**334**	*e*PKIKP	**PKPdf**		**15 39 05.0**	**+1.7**	
VYHS	**Vyhne**	**143.14**	**334**	*e*PKP	**PKPdf**		**15 39 05.0**	**+1.7**	
MOX	**Moxa**	**143.82**	**343**	*e*L	L		16 42 57.3		
	comp=Z,100nm,21.4s								
GEC2	**GERESS Array S**	**144.77**	**340**	PKPdf	PKPbc		15 39 06.3	+1.0	
GEC2	**GERESS Array S**	**144.77**	**340**	*e*L	L		16 40 54.5		
	comp=Z,157nm,20.8s								
GERES	**GERESS Array B**	**144.77**	**340**	PKP	PKPbc		15 39 06.0	+0.8	
	comp=Z,2.1nm,0.8s,baz=27,slow=3.6,SNR=13								
CONA	**Conrad Observa**	**144.78**	**337**	*e*P	**PKPdf**		**15 39 06.5**	**+0.2**	
	comp=Z,13nm,0.9s,SNR=7.0								
WET	**Wettzell**	**144.78**	**341**	*e*L	L		16 40 53.4		
	comp=Z,144nm,21.8s								
GRA1	**Grafenberg Arr**	**144.79**	**343**			**PKPdf**	**15 39 06.8**	**+0.6**	
GRF	**Grafenberg Arr**	**144.79**	**343**	PKIKP		**PKPdf**	**15 39 06.8**	**+0.6**	
GRF	**Grafenberg Arr**	**144.79**	**343**	*e*PKPbc		**PKPdf**	**15 39 06.4**	**+0.2**	
	baz=26,slow=3.1								
GRF				*e*L	L		16 37 06.6		
	comp=Z,138nm,19.0s								
GRFO	**Grafenberg**	**144.79**	**343**	PKIKP		**PKPdf**	**15 39 06.8**	**+0.7**	
GRFO	**Grafenberg**	**144.79**	**343**	PKPdf		**PKPdf**	**15 39 06.8**	**+0.7**	
TNS	**Taunus Mts**	**145.02**	**346**	*e*L	L		16 40 23.9		
	comp=Z,180nm,21.8s								
MEM	**Membach**	**145.17**	**349**	*d*PKiKP	**PKiKP**		**15 39 10.0**	**-0.7**	
VTS	**Vitosha**	**145.18**	**324**	PKIKP	**PKPbc**		**15 39 07.4**	**+0.5**	
VTS	**Vitosha**	**145.18**	**324**		**PKPbc**		**15 39 07.4**	**+0.5**	
BHOU	**Houvegnez**	**145.41**	**349**	*d*PKP	**PKPbc**		**15 39 07.4**	**+0.2**	
MOA	**Molln**	**145.43**	**338**	*e*P	**PKPab**		**15 39 08.6**	**+1.0**	
	comp=Z,25nm,0.9s,SNR=8.8								
ARSA	**Arzberg**	**145.46**	**336**	*e*P	**PKPab**		**15 39 08.5**	**+0.9**	
	comp=Z,21nm,1.1s,SNR=7.6								
BCLA	**Clavier**	**145.48**	**349**	*d*PKP	**PKPdf**		**15 39 07.3**	**0.0**	
BCLA				*d*PKiKP	**PKiKP**		**15 39 11.1**	**-0.1**	
BGES	**Gesves**	**145.55**	**350**	*d*PKiKP	**PKiKP**		**15 39 10.8**	**-0.6**	
BMRD	**Maredsous**	**145.68**	**350**	*d*PKP	**PKPdf**		**15 39 07.9**	**+0.3**	
BMRD				*d*PKiKP	**PKiKP**		**15 39 11.8**	**+0.1**	
DOU	**Dourbes**	**145.91**	**350**	*d*PKiKP	**PKiKP**		**15 39 12.7**	**+0.5**	
DIVS	**Divibare**	**145.92**	**328**	PKPdf	**PKPdf**		**15 39 08.2**	**-0.2**	
WLF	**Walferdange**	**146.04**	**348**	*d*PKiKP	**PKiKP**		**15 39 12.0**	**-0.5**	
WLF	**Walferdange**	**146.04**	**348**	PKP2	**PKPab**		**15 39 10.3**	**+0.6**	
WLF	**Walferdange**	**146.04**	**348**	PKPbc	**PKPab**		**15 39 10.3**	**+0.6**	
SOKA	**Soboth**	**146.13**	**336**	*e*P	**PKPbc**		**15 39 10.2**	**+0.6**	
	comp=Z,24nm,1.5s,SNR=8.2								
FUR	**Furstenfeldbru**	**146.14**	**341**	*e*L	L		16 40 21.7		
	comp=Z,173nm,20.5s								
STIP	**Stip**	**146.37**	**323**	*i* P	**PKPbc**		**15 39 10.7**	**+0.3**	
VAY	**Valandovo**	**146.39**	**322**	*i* P	**PKPbc**		**15 39 11.2**	**+0.7**	
KBA	**Koelnbreinsper**	**146.41**	**338**	*e*P	**PKPbc**		**15 39 11.0**	**+0.4**	
	comp=Z,15nm,1.1s								
OBKA	**Obir**	**146.45**	**337**	*i* P	**PKPab**		**15 39 12.3**	**+0.8**	
	comp=Z,18nm,1.8s								
SKO	**Skopje**	**146.62**	**324**	*i* P	**PKPab**		**15 39 12.7**	**+0.5**	
MYKA	**Terra Mystica**	**146.69**	**338**	*i* P	**PKPab**		**15 39 12.5**	**+0.1**	
	comp=Z,111nm,1.0s								
WATA	**Walderalm**	**146.79**	**340**	*i* P	**PKPbc**		**15 39 12.4**	**+0.8**	
	comp=Z,25nm,1.3s								
BFO	**Black Forest**	**146.81**	**345**	PKP2	**PKPbc**		**15 39 12.1**	**+0.6**	
BFO	**Black Forest**	**146.81**	**345**	PKPbc	**PKPbc**		**15 39 12.1**	**+0.6**	
BFO	**Black Forest**	**146.81**	**345**	*e*L	L		16 37 14.8		
	comp=Z,175nm,21.9s								
WTTA	**Wattenberg**	**146.83**	**340**	*i* P	**PKPbc**		**15 39 12.7**	**+0.9**	
	comp=Z,22nm,1.1s								
RETA	**Reutte**	**146.91**	**341**	*i* P	**PKPab**		**15 39 13.8**	**+0.6**	
	comp=Z,31nm,1.7s								
MOTA	**Moosalm**	**146.93**	**341**	*e*P	**PKPbc**		**15 39 12.8**	**+0.8**	
	comp=Z,33nm,1.5s,SNR=9.9								
ABTA	**Abfaltersbach**	**146.99**	**339**	*e*P	**PKPbc**		**15 39 12.4**	**+0.3**	
	comp=Z,16nm,0.9s								
SQTA	**Sankt Quirin**	**147.00**	**341**	*e*P	**PKPbc**		**15 39 13.1**	**+0.9**	
	comp=Z,45nm,1.6s,SNR=9.3								
FETA	**Feichten**	**147.33**	**341**	*e*P	**PKPbc**		**15 39 14.3**	**+1.1**	
	comp=Z,21nm,1.2s,SNR=6.3								
DAVA	**Damuels**	**147.35**	**342**	*i* P	**PKPbc**		**15 39 13.9**	**+0.7**	
	comp=Z,34nm,1.5s								
FNA	**Florina**	**147.43**	**323**	PKIKP	**PKPdf**		**15 39 11.4**	**+0.4**	
FNA	**Florina**	**147.43**	**323**	PKPdf	**PKPdf**		**15 39 11.4**	**+0.4**	
OHR	**Ohrid**	**147.54**	**324**	*i* P	**PKPbc**		**15 39 14.9**	**+1.1**	
SENIN	**Lac Senin/Sane**	**148.90**	**345**		**PKPbc**		**15 39 18.1**	**+0.7**	
MURB	**Monte Urbino**	**149.96**	**335**		**PKPbc**		**15 39 20.7**	**+0.8**	
NRCA	**Norcia**	**150.07**	**334**		**PKPbc**		**15 39 20.7**	**+0.5**	
BNI	**Bardonecchia**	**150.28**	**345**	PKIKP	**PKPbc**		**15 39 21.6**	**+0.8**	
BNI	**Bardonecchia**	**150.28**	**345**		**PKPbc**		**15 39 21.6**	**+0.8**	
INTR	**Introdacqua**	**150.40**	**332**		**PKPbc**		**15 39 21.1**	**+0.1**	
SSB	**Saint Sauveur**	**150.56**	**348**	PKIKP	**PKPbc**		**15 39 21.3**	**0.0**	
SSB	**Saint Sauveur**	**150.56**	**348**		**PKPbc**		**15 39 21.3**	**0.0**	
TIP	**Timpagrande**	**151.12**	**325**		**PKPbc**		**15 39 23.1**	**+0.3**	
H10N3	**ASCENSION HYDR**	**153.56**	**156**	T	T		18 32 42.6		
	baz=205,slow=75,SNR=5.1								
H10N1	**ASCENSION HYDR**	**153.56**	**156**	T	T		18 32 43.7		
	baz=205,slow=75,SNR=4.9								
H10N2	**ASCENSION HYDR**	**153.58**	**156**	T	T		18 32 45.6		
	baz=205,slow=75,SNR=4.3								
ESDC	**Sonseca Array**	**157.05**	**360**	PKPab	**PKPab**		**15 39 55.5**	**-0.1**	
	comp=Z,1.3nm,1.0s,baz=347,slow=5.3,SNR=4.3								
TORD	**Torodi Ar. Bea**	**173.46**	**239**	PKP	**PKPdf**		**15 39 38.6**	**-1.0**	
	comp=Z,3.2nm,1.2s,baz=146,slow=2.4,SNR=7.4								
TORD				PKPab	**PKPab**		**15 41 09.2**	**+0.7**	
	comp=Z,2.4nm,1.1s,baz=126,slow=4.2,SNR=4.9								
TORD	**Torodi Ar. Bea**	**173.46**	**239**		**PKPdf**		**15 39 38.8**	**-0.8**	

IDC **14** *15:38:20.4±0.4, 7.°64N×78.°29W, h0km, mb4.5/24, mb1 4.6/30, mb1mx4.6/33, mbtmp4.5/30, ML4.1/6, MS3.9/11, Ms1 4.0/11, ms1mx3.6/35, Error ellipse: s-maj=16.1km s-min=10.1km az=51.0*

RSNC **14** *15:38:22.6±0.7, 7.°59N×78.°45W, h12km±3km, ML4.1, Mw4.6, Fault plane solution: NP1:φs153.00000°, δ72.00000°, λ-18.00000°.*

NEIC **14** *15:38:23.4±1.6, 7.°65N±0.°05×78.°41W±0.°04, h10km±1km, mb4.9/312, Mwr4.5/33, Error ellipse: s-maj=8.7km s-min=5.8km az=185.0*

UPA **14** *15:38:23.5±0.7, 7.°59N×78.°42W, h11km±5km, MW5.1, Fault plane solution: NP1:φs159.31000°, δ49.97000°, λ68.90000°.*

NEIC **14** *15:38:23.5, 7.°65N×78.°41W, h15km, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr6.00; Mθθ-0.12; Mφφ-5.88; Mrθ3.33; Mrφ-3.86; Mθφ1.91; Fault plane solution: M0 8.06000×10^15 NP1:φs45.13000°, δ60.42000°, λ112.09000°. NP2:φs185.69000°, δ36.31000°, λ56.47000°. Principal axes: T 7.4634, Plg67.0000°, Azm358.0000°; N 1.0812, Plg19.0000°, Azm214.0000°; P -8.5445, Plg13.0000°, Azm119.0000°;*

VAO **14** *15:38:27.1±0.4, 7.°38N×77.°88W, h10km, mb4.8*

ISC 14 15:38:21.5±1.4**, 7.°61N**±0.°02×**78.°43W**±0.°02**, h5**km±3km**, n731**,σ1s**16**/799**, mb4.9**/172**, MS3.8**/8**, 35C-49D, Fault plane solution: NP1**:φs161.29028°,δ22.37700°, λ26.60092°. **NP2:**φs46.44269°,δ80.18503°,λ110.20972°. **Principal axes:** T Plg50.7506°, Azm339.1538°; N Plg19.9013°, Azm222.8519°; P Plg32.2302°, Azm119.6583°; **Panama**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.77**	**127**	⇓*i*P	**Pb**		**15 38 36.7**	**-0.8**
PTAC				*e*S	**Sg**		**15 38 46.6**	**+0.2**
PTAC				*i*			15 38 49.3	
	comp=Z,35μm,0.2s							
UPD2	**Meteti**	**1.02**	**24**	⇑*i*P	**Pn**		**15 38 42.7**	**+0.2**
UPD2				*e*S	**Sb**		**15 38 56.3**	**+0.9**
UPD2	**Meteti**	**1.02**	**24**	⇑*i*P	**Pn**		**15 38 42.7**	**+0.2**
UPD2				*e*S	**Sn**		**15 38 57.3**	**+0.1**
UPD2				*i*			15 39 03.6	
	comp=Z,14μm,0.6s							
CAPC	**Capurgana**	**1.48**	**46**	⇑*i*P	**Pn**		**15 38 48.6**	**-0.2**
CAPC				*e*S	**Sb**		**15 39 07.5**	**-1.1**
CAPC				*i*			15 39 09.7	
	comp=Z,4μm,0.4s							
CAP2	**Capurgana**	**1.48**	**46**	*e*P	**Pn**		**15 38 48.6**	**-0.2**
CAP2				*e*S	**Sb**		**15 39 08.5**	**-0.3**
CAP2	**Capurgana**	**1.48**	**46**		**Pn**		**15 38 48.4**	**-0.5**
CAP2				Sn	**Sb**		**15 39 06.4**	**-2.3**
TABO3	**Taboga, Panama**	**1.62**	**317**	*e*P	**Pb**		**15 38 51.2**	**-0.7**
TABO3				*e*S	**Sb**		**15 39 12.2**	**-0.4**
FLAM	**Flamenco Islan**	**1.69**	**320**	*e*P	**Pb**		**15 38 52.5**	**-0.7**
FLAM				*e*S	**Sn**		**15 39 14.0**	**+0.2**
SOLC	**Bahia Solano**	**1.71**	**143**	⇓*e*P	**Pn**		**15 38 49.8**	**-2.2**
SOLC				*e*S	**Sn**		**15 39 12.6**	**-1.6**
SOLC				*i*			15 39 25.3	
	comp=Z,2μm,0.3s							
UPA	**Univ. de Panam**	**1.75**	**321**	⇑*i*P	**Pb**		**15 38 53.2**	**-0.8**
UPA				*e*S	**Sg**		**15 39 16.5**	**-1.2**
UPA	**Univ. de Panam**	**1.75**	**321**	*e*S	**Sn**		**15 39 14.1**	**-1.1**
UPA				*i*			15 39 23.5	
	comp=Z,3μm,0.5s							
MFS3	**Miraflores**	**1.80**	**320**	*e*P	**Pb**		**15 38 53.9**	**-1.1**
MFS3				*e*S	**Sb**		**15 39 17.3**	**-0.5**
PML3	**Paraiso**	**1.82**	**320**	*e*P	**Pb**		**15 38 54.5**	**-0.9**
PML3				*e*S	**Sb**		**15 39 18.4**	**-0.2**
AZU	**Azuero**	**1.83**	**276**	⇓*i*P	**Pn**		**15 38 53.9**	**+0.2**
AZU				*e*S	**Sn**		**15 39 17.3**	**0.0**
AZU	**Azuero**	**1.83**	**276**	⇓*e*P	**Pn**		**15 38 53.6**	**-0.1**
AZU				*e*S	**Sn**		**15 39 15.4**	**-1.9**
AZU				*i*			15 39 25.3	
	comp=Z,13μm,0.4s							
CHOR3	**La Chorrera**	**1.84**	**314**	*e*P	**Pb**		**15 38 55.2**	**-0.4**
CHOR3				*e*S	**Sb**		**15 39 18.0**	**-1.0**
VTON	**El Valle, Cocl**	**1.94**	**301**	⇑*i*P	**Pb**		**15 38 56.1**	**-1.3**
VTON				*e*P	**Pn**		**15 38 56.3**	**+1.1**
ZANG	**Zanguenga, Cho**	**1.95**	**313**	⇑*i*P	**Pb**		**15 38 56.2**	**-1.4**
ZANG				*e*S	**Sb**		**15 39 22.1**	**-0.1**
MAD3	**Madden Dam**	**1.98**	**324**	*e*P	**Pn**		**15 38 56.4**	**+0.7**
MAD3				*e*S	**Sb**		**15 39 21.7**	**-1.2**
FRIJ	**El Hiral**	**2.05**	**321**	⇓*e*P	**Pb**		**15 38 57.7**	**-1.5**
PNME	**Penonome**	**2.07**	**295**	⇓*e*P	**Pn**		**15 38 57.6**	**+0.6**
PNME				*e*S	**Sn**		**15 39 23.8**	**+0.7**
PNME	**Penonome**	**2.07**	**295**	⇓*i*P	**Pn**		**15 38 57.5**	**+0.6**
PNME				*e*S	**Sn**		**15 39 21.6**	**-1.5**
BCIP	**Isla Barro Col**	**2.08**	**318**		**Pn**		**15 38 57.5**	**+0.5**
BCIP	**Isla Barro Col**	**2.08**	**318**	⇓*i*P	**Pn**		**15 38 57.6**	**+0.5**
BCIP				*e*S	**Sn**		**15 39 22.4**	**-1.0**
BCIP				*i*			15 39 36.2	
	comp=Z,3μm,0.7s							
MIRA3	**Miramar, Colon**	**2.15**	**336**	*e*P	**Pb**		**15 38 59.1**	**-1.8**
MLIR	**Monte Lirio**	**2.15**	**319**	*e*P	**Pn**		**15 38 58.9**	**+0.9**
DBBC	**Dabeiba**	**2.28**	**105**	⇓*e*P	**Pn**		**15 39 00.7**	**+0.7**
DBBC				*e*S	**Sn**		**15 39 27.9**	**-0.6**
LCBC	**Los crdobas,**	**2.39**	**59**	*e*P	**Pb**		**15 39 04.4**	**-0.6**
LCBC				*e*S	**Sn**		**15 39 30.7**	**-0.3**
LCBC				*i*			15 39 39.5	
	comp=Z,1μm,0.6s							
CACAO	**El Cacao, Vera**	**2.42**	**264**	⇓*i*P	**Pn**		**15 39 01.1**	**-0.7**
CACAO	**El Cacao, Vera**	**2.42**	**264**	⇓*e*P	**Pn**		**15 39 01.1**	**-0.7**
CACAO				*e*S	**Sn**		**15 39 28.4**	**-3.5**
CACAO				*i*			15 39 42.2	
	comp=Z,2μm,0.5s							
CALO3	**Calobre, Verag**	**2.49**	**287**	⇓*i*P	**Pn**		**15 39 03.8**	**+1.1**
CALO3				*e*S	**Sb**		**15 39 35.5**	**-2.2**
**STIA3

SMRC Santa Marta, M 5.45 49 *eP* **Pn 15 39 46.2 +2.8**
SMRC *eS* **Sn 15 40 45.0 -1.6**
SMRC *i* 15 40 51.7
comp=Z,81nm,0.7s
BATAN Batan 5.47 297 Pn 15 39 45.0 +1.2
PEZE Perez Zeledon, 5.48 289 Pn **Pn 15 39 45.4 +1.5**
CHIC Chingaza 5.53 122‖ *eP* **Pn 15 39 47.2 +2.3**
CHIC *i* 15 41 27.8
comp=Z,38nm,0.6s
RUSC La Rusia 5.58 107‖ *iP* **Pn 15 39 47.1 +1.4**
RUSC La Rusia 5.58 107 Pn **Pn 15 39 46.2 +0.5**
RUSC La Rusia 5.58 107‖ *eP* **Pn 15 39 47.3 +1.7**
RUSC *eS* **Sn 15 40 48.7 -1.8**
RUSC *i* 15 41 14.3
comp=Z,91nm,0.6s
PCON Cinco Dias 5.62 159 *eP* **Pn 15 39 50.1 +3.7**
BBAC Balboa, Cauca 5.67 168 *eP* **Pn 15 39 48.5 +1.7**
BBAC *i* 15 41 02.4
comp=Z,73nm,0.4s
PAMC Pamplona, Colo 5.69 92 *eP* **Pn 15 39 49.4 +2.1**
PAMC *eS* **Sn 15 40 52.7 -0.5**
PAMC *i* 15 41 17.9
comp=Z,166nm,0.5s
BETC Betania 5.73 149 *eP* **Pn 15 39 49.9 +2.5**
SOTA Rioblanco 5.73 161 *eP* **Pn 15 39 50.2 +2.4**
SOTA *eS* **Sn 15 40 53.0 -1.4**
SOTA *i* 15 40 59.2
comp=Z,77nm,0.6s
TUMC Tumaco 5.75 183 Pn **Pn 15 39 48.7 +1.0**
RIMA Rio Macho 5.78 292 Pn 15 39 49.2 +1.0
CVTR Volcan Turrial 5.78 295 Pn 15 39 49.0 +0.6
HDC Heredia 6.10 293 Pn 15 39 54.3 +1.8
GARC Garzon, Huila 6.13 151 *eP* **Pn 15 39 55.2 +2.1**
GARC *eS* **Sn 15 41 03.9 +0.2**
GARC *i* 15 41 07.0
comp=Z,94nm,0.3s
PRVC Isla de Provid 6.41 334 *eS* **Sn 15 41 08.0 -2.4**
PRVC Isla de Provid 6.41 334 Pn 15 39 55.0 -1.7
PRVC Isla de Provid 6.41 334 *eP* **Pn 15 39 55.7 -1.0**
PRVC *eS* **Sn 15 41 06.9 -3.4**
PRVC *i* 15 41 19.0
comp=Z,154nm,0.5s
CRJC Cerrejon, Guaj 6.44 58‖ *eP* **Pn 15 39 58.2 +1.0**
CRJC *eS* **Sn 15 41 06.7 -4.5**
FLOC Florencia 6.60 155 Pn 15 40 00.7 +1.4
FLOC Florencia 6.60 155‖ *eP* **Pn 15 40 01.3 +2.0**
TAMC Tame, Arauca 6.69 100‖ *eP* **Pn 15 40 02.4 +1.8**
TAMC *eS* **Sn 15 41 19.1 +1.7**
TAMC *i* 15 41 51.0
comp=Z,44nm,0.6s
JTS Las Juntas de 6.97 293 Pn **Pn 15 40 07.0 +2.6**
comp=Z,0.9nm,0.3s,baz=180,slow=20,SNR=3.6
JTS Lg Lg 15 42 02.2
comp=Z,2.2nm,0.3s,baz=52,slow=23,SNR=1.4
JTS LR LR 15 42 51.2
comp=Z,2μm,19.1s,baz=234,slow=38
JTS Las Juntas de 6.97 293 Pn Pn 15 40 05.5 +1.1
MACC Macarena, Meta 7.09 140 *eP* **Pn 15 40 07.6 +1.5**
OTAV Otavalo 7.32 180 *eP* **Pn 15 40 11.4 +1.8**
OTAV Otavalo 7.32 180 Pn Pn 15 40 10.9 +1.3
OTAV Otavalo 7.32 180 *eP* **Pn 15 40 11.3 +1.7**
ORTG Ortega, Santa 7.46 292 Pn Pn 15 40 13.2 +2.0
URIC Uribia, Colomb 7.54 57 Pn 15 40 13.6 +1.4
SDV Santo Domingo 7.82 80 Pn Pn 15 40 18.6 +2.3
comp=Z,14nm,0.3s,baz=251,slow=8.7,SNR=63
SDV Sn **Sn 15 41 43.9 -1.5**
comp=Z,20nm,0.3s,baz=329,slow=18,SNR=9.0
SDV LR LR 15 44 02.4
comp=Z,988nm,21.6s,baz=260,slow=44
SDV Santo Domingo 7.82 80 Pn Pn 15 40 17.2 +1.0
SDV Santo Domingo 7.82 80‖ *eP* **Pn 15 40 17.7 +1.4**
SDV *eS* **Sn 15 41 42.6 -2.8**
SDV *i* 15 41 49.2
comp=Z,80nm,0.6s
ACON Acoyapa 7.93 304 Pn 15 40 18.8 +1.3
MATN Matagalpa 9.07 306 Pn 15 40 34.5 +1.1
CRIN San Cristobal 9.88 302 Pn Pn 15 40 45.5 +1.2
HATO Hato, Curacao 10.38 63 Pn Pn 15 40 52.4 +1.2
MTDJ Mount Denham 10.59 5 Pn Pn 15 40 55.8 +1.7
TGUH Tegucigalpa,Un 10.79 307 Pn Pn 15 40 56.8 -0.1
FSCY Frank Sound, G 11.94 347 Pn Pn 15 41 11.9 -0.5
LCCY Blossom Villag 12.09 353 Pn Pn 15 41 14.3 -0.3
CBCY The Bluff, Cay 12.12 354 Pn Pn 15 41 14.9 -0.1
LGNH Logne 12.23 27 Pn 15 41 16.9 +0.4
GTBY Guantanamo Bay 12.66 14 Pn Pn 15 41 23.9 +1.5
MTO3 Montecristo 12.67 303 Pn Pn 15 41 22.6 -0.1
BANI BANI 13.29 35 Pn 15 41 32.9 +1.8
PCRV Puerto La Cruz 13.87 78 Pn Pn 15 41 36.4 -2.6
comp=Z,1.1nm,0.3s,baz=237,slow=7.6,SNR=5.7
PCRV Sn **Sn 15 44 10.3 -3.2**
comp=Z,0.7nm,0.3s,baz=206,slow=18,SNR=3.2
PLCV Puerto La Cruz 13.91 78 Pn 15 41 36.4 -3.1
DR12 Loma Pena Alta 14.17 37 Pn Pn 15 41 42.5 -0.7
TBTG Tabatinga, AM 14.48 144 *eP* **Pn 15 41 46.4 -0.9**
ATAH Atahualpa 14.65 180 Pn Pn 15 41 49.5 -0.4
comp=Z,0.4nm,0.3s,baz=16,slow=7.4,SNR=2.4
ATAH LR LR 15 47 13.7
comp=Z,224nm,21.6s,baz=11,slow=36
GRTK Grand Turk 15.51 26 P P 15 42 07.1 +1.5
AOPR Arecibo Observ 15.59 46 Pn Pn 15 42 00.4 -1.7
AOPR IAmb IAmb 15 42 11.0
comp=Z,85nm,1.1s
SOR Soroa 15.72 344 P P 15 42 08.8 +0.9
SJG San Juan 15.87 48 Pn Pn 15 42 03.8 -2.0
comp=Z,1.7nm,0.3s,baz=180,slow=19,SNR=1.8
SJG Sn Sn 15 44 47.6 -15
comp=Z,2.7nm,0.3s,baz=233,slow=15,SNR=1.5
SJG San Juan 15.87 48 Pn 15 42 05.3 -0.5
PDPR Patillas Dam, 15.91 48 Pn Pn 15 42 04.9 -1.4
GCPR Guaynabo City 16.05 47 Pn Pn 15 42 07.2 -0.9
CBYP Canovanas 16.19 48 Pn Pn 15 42 07.9 -2.1
CZSB Cruzeiro do Su 16.27 159 *eP* **Pn 15 42 09.3 -1.7**
MTP Monte Pirata 16.31 49 Pn Pn 15 42 10.3 -1.1
CUPR Culebra, Puert 16.64 49 Pn Pn 15 42 13.9 -1.8
BOAV Boa Vista 18.57 105 *eP* **P 15 42 37.3 -2.3**
CMIG Matias Romero 18.61 302 P P 15 42 38.8 -1.2
comp=Z,0.4nm,0.3s,baz=156,slow=7.8,SNR=5.1
CMIG LR LR 15 49 51.9
comp=Z,542nm,21.6s,baz=124,slow=37
NNA Nana 19.53 175 P P 15 42 49.1 -1.0
comp=Z,1.0nm,0.3s,baz=328,slow=3.4,SNR=2.0
PTGA Pitinga 20.19 113 P P 15 42 55.4 -2.0
comp=Z,39nm,0.9s,baz=293,slow=13,SNR=66
PTGA LR LR 15 51 16.1
comp=Z,428nm,19.6s,baz=300,slow=39
PTGA Pitinga 20.19 113 P P 15 42 57.2 -0.1
PTGA IAmb IAmb 15 42 59.3
comp=Z,48nm,0.9s
DWPF Disney Wildern 20.59 352 P Pn 15 43 02.8 -0.8
baz=172
MACA Manacapuru-AM 20.69 121 *eP* **P 15 43 02.6 -0.1**
ETMB Extrema 21.16 145 *eP* **P 15 43 07.8 +0.1**
SAML Samuel 22.39 137 P P 15 43 19.7 -1.3
SAML IAmb IAmb 15 43 26.0
comp=Z,48nm,0.9s
SAML Samuel 22.39 137 *eP* **P 15 43 20.2 -0.9**
TIGA Tifton 24.19 349 P P 15 43 41.0 +1.9
baz=167
255A Hazlehurst 24.49 352 P P 15 43 39.1 -2.6
255A IAmb IAmb 15 43 39.8
comp=Z,45nm,1.1s
BRAL Brewton 24.79 342 P P 15 43 46.6 +2.2
baz=159
154A Montrose 25.26 351 P P 15 43 46.4 -2.2
250A Grady 25.32 344 P P 15 43 48.9 -0.3
NHSC New Hope 25.42 357 P P 15 43 51.4 +1.2
baz=176
ITTB Itaituba 25.58 117 *eP* **P 15 43 51.8 -0.1**
152A Waverly Hall 25.61 348 P P 15 43 52.3 +0.4
MDP Montagnes des 25.75 94 P P 15 43 51.3 -2.1
comp=Z,17nm,0.8s,baz=278,slow=11,SNR=9.9
MDP LR LR 15 54 40.5
comp=Z,714nm,18.3s,baz=270,slow=38
LPAZ La Paz 25.84 157 P P 15 43 53.6 -1.2
comp=Z,5.4nm,0.9s,baz=351,slow=7.9,SNR=13
LPAZ LR LR 15 55 01.2
comp=Z,278nm,18.8s,baz=334,slow=39
LPAZ La Paz 25.84 157 P P 15 43 54.2 -0.6
LPAZ La Paz 25.84 157 *eP* **P 15 43 56.2 +1.4**
MALB Monte Alegre 25.88 110 *eP* **P 15 43 54.1 -0.4**
GOGA Godfrey 26.09 350 P P 15 43 57.2 +0.9
GOGA IAmb IAmb 15 44 01.5
comp=Z,22nm,1.0s
GOGA Godfrey 26.09 350 P P 15 43 58.0 +1.7
baz=169,SNR=8.5
Z51A Franklin 26.33 347 P P 15 43 59.3 +0.8
Z51A IAmb IAmb 15 44 04.0
comp=Z,26nm,0.9s
344A Westbrook Farm 26.36 336 P P 15 43 59.1 +0.4
LRAL Lakeview Retre 26.52 344 P P 15 44 00.8 +0.7
LRAL IAmb IAmb 15 44 02.6
comp=Z,26nm,0.7s
LRAL Lakeview Retre 26.52 344 P P 15 44 01.7 +1.6
baz=161,SNR=12
Y52A Lilburn 26.64 350 P P 15 44 02.3 +1.1
Y52A IAmb IAmb 15 44 07.7
comp=Z,38nm,1.1s
JSC Jenkinsville 26.67 355 P P 15 44 02.3 +0.8
JSC IAmb IAmb 15 44 05.1
comp=Z,23nm,1.0s
HODGE Hodges 26.73 353 P P 15 44 03.2 +1.3
HODGE IAmb IAmb 15 44 08.3
comp=Z,34nm,1.3s
VBMS Vicksburg 26.95 337 P P 15 44 05.4 +1.5
baz=153
BIRD Birdtown, Kers 26.97 356 P P 15 44 05.1 +0.9
BIRD IAmb IAmb 15 44 10.0
comp=Z,29nm,1.0s
Z47A Carrollton 26.98 342 P P 15 44 06.0 +1.7
Y49A Blount Mountai 27.14 345 P P 15 44 07.4 +1.7
Y49A IAmb IAmb 15 44 08.3
comp=Z,26nm,0.8s
NPGB Novo Progresso 27.23 122 *eP* **P 15 44 06.2 -0.6**
PAULI Pauline 27.26 354 P P 15 44 08.2 +1.4
PAULI IAmb IAmb 15 44 13.8
comp=Z,52nm,1.3s
VILB Vilhena 27.30 138 *eP* **P 15 44 07.1 -0.3**
W57A Gilead 27.45 357 P P 15 44 09.3 +0.9
W57A IAmb IAmb 15 44 14.7
comp=Z,16nm,1.1s
MCPB Macapa, AP 27.47 106 *eP* **P 15 44 09.0 0.0**
KMSC Kings Mountain 27.53 355 P P 15 44 10.5 +1.3
baz=174
FPAL Fort Paine 27.61 347 P P 15 44 11.0 +1.1
FPAL IAmb IAmb 15 44 17.1
comp=Z,30nm,1.2s
X48A Hartselle 27.87 345 P P 15 44 13.0 +0.7
X48A IAmb IAmb 15 44 14.6
comp=Z,19nm,0.9s
V58A Windy Hill, Pi 28.06 359 P P 15 44 15.3 +1.4
V58A IAmb IAmb 15 44 16.7
comp=Z,28nm,1.2s
Y45A Yeager Farm, C 28.07 340 P P 15 44 15.2 +1.2
W50A Signal Mountai 28.18 348 P P 15 44 16.2 +1.1
W50A IAmb IAmb 15 44 23.2
comp=Z,18nm,0.9s
PSGCX Pisagua 28.25 163 P P 15 44 17.2 +1.3
PSGCX IAmb IAmb 15 44 26.6
comp=Z,27nm,1.3s
CPCT Cooper Cave 28.27 349 P P 15 44 17.1 +1.2
CPCT IAmb IAmb 15 44 24.0
comp=Z,18nm,1.2s
SWET Sewanee 28.33 347 P P 15 44 17.2 +0.9
SWET IAmb IAmb 15 44 24.0
comp=Z,16nm,0.8s
TKL Tuckaleechee C 28.34 351 P P 15 44 15.7 -0.7
comp=Z,2.7nm,0.7s,baz=130,slow=7.5,SNR=3.0
TKL LR LR 15 55 03.7
comp=Z,170nm,21.2s,baz=174,slow=35
PB11 IPOC Station P 28.54 162 P P 15 44 19.3 +0.8
833A Chaparral WMA, 28.57 319 P P 15 44 19.9 +1.2
baz=132,SNR=6.8
V51A Loudon 28.58 350 P P 15 44 19.6 +1.0
OXF Oxford 28.62 341 P P 15 44 19.1 +0.2
baz=157
PLAL Pickwick Lake 28.65 343 P P 15 44 19.8 +0.6
U56A King 28.66 357 P P 15 44 20.3 +1.0
U56A IAmb IAmb 15 44 23.9
comp=Z,20nm,1.1s
CCAR Cane Creek 28.93 337 P P 15 44 23.1 +1.3
V48A Smith Brothers 29.03 346 P P 15 44 23.8 +1.2
PB08 IPOC Station P 29.05 162 P P 15 44 23.8 +0.4
PB08 IAmb IAmb 15 44 48.4
comp=Z,21nm,1.2s
CLDB Colider 29.06 129 *eP* **P 15 44 22.2 -0.9**
SIV San Ignacio 29.07 144 P P 15 44 22.1 -1.1
comp=Z,12nm,0.8s,baz=332,slow=9.8,SNR=30
SIV LR LR 15 56 21.0
comp=Z,236nm,19.5s,baz=333,slow=37
W45A Hickory Valley 29.14 342 P P 15 44 24.4 +0.8
TZTN Tazewell 29.18 352 P P 15 44 25.4 +1.5
baz=170
T59A Double "B" Far 29.24 1 P P 15 44 25.9 +1.5
T59A IAmb IAmb 15 44 28.0
comp=Z,25nm,1.2s
CLTN Cedars of Leba 29.25 347 P P 15 44 25.9 +1.4
CLTN IAmb IAmb 15 44 27.3
comp=Z,15nm,0.9s
T57A Hurt 29.26 359 P P 15 44 26.1 +1.4
T57A IAmb IAmb 15 44 27.4
comp=Z,28nm,1.2s
BLA Blacksburg 29.52 357 P P 15 44 28.8 +1.8
baz=176
U49A Red Boiling Sp 29.54 348 P P 15 44 28.1 +1.0
WVT Waverly 29.66 345 P P 15 44 28.6 +0.4
WVT IAmb IAmb 15 44 29.9
comp=Z,18nm,0.7s
WVT Waverly 29.66 345 P P 15 44 28.8 +0.6
baz=161
PB01 IPOC Station P 29.80 163 P P 15 44 30.9 +1.3
PB01 IAmb IAmb 15 44 55.0
comp=Z,21nm,0.9s
PTLB Pontes e Lacer 29.84 140 *eP* **P 15 44 29.0 -1.0**
T50A Nancy 29.85 350 P P 15 44 31.0 +1.1
X40A Basin Creek Fa 29.86 336 P P 15 44 29.9 -0.1
X40A Basin Creek Fa 29.86 336 P P 15 44 30.2 +0.3
baz=150
S57A Dark Hollow, R 30.02 359 P P 15 44 31.9 +0.6
S57A IAmb IAmb 15 44 34.4
comp=Z,16nm,1.2s
WHTX Lake Whitney, 30.04 326 P P 15 44 31.8 +0.2
baz=140
MIAR Mount Ida 30.22 335 P P 15 44 32.9 -0.3
MIAR Mount Ida 30.22 335 P P 15 44 33.3 +0.2
baz=149
W41B Gary Mavity, V 30.23 337 P P 15 44 33.8 +0.6
baz=152
T47A Sharon Grove 30.29 346 P P 15 44 34.5 +0.8
JCT Junction City 30.30 321 P P 15 44 33.8 -0.2
baz=134
WHAR Wooly Hollow 30.34 337 P P 15 44 34.1 -0.1
WHAR IAmb IAmb 15 44 36.9
comp=Z,21nm,1.3s
HICK Hickman 30.44 343 P P 15 44 36.2 +1.1
LCAR Lake Charles 30.62 339 P P 15 44 36.9 +0.2
LCAR IAmb IAmb 15 44 38.3
comp=Z,21nm,1.0s
T45A Paducah 30.72 344 P P 15 44 38.0 +0.5
FCAR Ozark Folk Cen 30.81 338 P P 15 44 38.2 -0.2
W39A Magazine 30.86 335 P P 15 44 39.7 +0.8
baz=149
Z35A Perchaven, San 30.96 328 P P 15 44 40.0 +0.3
Z35A IAmb IAmb 15 44 40.9
comp=Z,17nm,0.9s
PBMO Poplar Bluff 31.03 341 P P 15 44 40.7 +0.4
PBMO IAmb IAmb 15 44 42.0
comp=Z,23nm,0.9s
X37A Clayton 31.05 332 P P 15 44 40.7 +0.2
X37A IAmb IAmb 15 44 41.8
comp=Z,13nm,1.1s
R49A Shelbyville 31.15 350 P P 15 44 42.1 +0.8
R49A IAmb IAmb 15 44 43.9
comp=Z,15nm,0.8s
Q61A Milford 31.26 5 P P 15 44 43.1 +0.8
baz=186
WCI Wyandotte Cave 31.30 348 P P 15 44 43.4 +0.8
WCI Wyandotte Cave 31.30 348 P P 15 44 44.0 +1.3
baz=165
Q52A Bidwell 31.41 354 P P 15 44 44.5 +0.9
Q52A IAmb IAmb 15 44 47.3
comp=Z,18nm,0.8s
LOOK Love County 31.45 329 P P 15 44 44.3 +0.3
LOOK IAmb IAmb 15 44 45.9
comp=Z,29nm,1.1s
LVC Limon Verde 31.45 163 P P 15 44 45.4 +0.9
LVC IAmb IAmb 15 45 10.3
comp=Z,19nm,1.1s
LVC Limon Verde 31.45 163 *eP* **P 15 44 47.2 +2.7**
U40A Yellville 31.50 337 P P 15 44 44.4 0.0
baz=152,SNR=6.4
U40A Yellville 31.50 337 P P 15 44 44.8 +0.3
baz=152,SNR=6.4
S44A Carbondale 31.52 343 P P 15 44 44.7 +0.2
SIUC Southern Illin 31.53 344 P P 15 44 45.0 +0.4
Q51A Peebles 31.59 353 P P 15 44 46.4 +1.2
PRPB Parauapebas 31.66 115 *eP* **P 15 44 46.0 -0.1**
ABTX Abilene, Hawle 31.74 325 P P 15 44 47.1 +0.4
ABTX IAmb IAmb 15 44 48.7
comp=Z,18nm,1.1s
ABTX Abilene, Hawle 31.74 325 P P 15 44 47.2 +0.5
baz=137
P53A Whipple 31.85 356 P P 15 44 47.9 +0.4
P53A IAmb IAmb 15 44 50.8
comp=Z,40nm,1.5s
MGMO Mountain Grove 31.99 339 P P 15 44 48.7 0.0
MGMO IAmb IAmb 15 44 50.3
comp=Z,15nm,1.1s
P52A Corning 32.06 355 P P 15 44 50.1 +0.8
P52A Corning 32.06 355 P P 15 44 51.0 +1.7
baz=173,SNR=6.2
TX32 Lajitas Array 32.10 316 P P 15 44 49.9 0.0
TXAR Lajitas Array 32.10 316 P P 15 44 50.3 +0.3
comp=Z,5.8nm,1.0s,baz=132,slow=8.3,SNR=34
TXAR PcP **PcP 15 47 39.2 -0.2**
comp=Z,2.3nm,0.8s,baz=142,slow=5.6,SNR=11
TXAR Lajitas Array 32.10 316 P P 15 44 50.0 0.0
TX31 Lajitas Ar. Si 32.10 316 P P 15 44 50.0 0.0
TX31 IAmb IAmb 15 44 52.6
comp=Z,17nm,0.9s
OLIL Olney 32.19 346 P P 15 44 50.7 +0.2
BLO Bloomington 32.26 348 P P 15 44 52.1 +1.0
P49A Miami Univ. Ec 32.28 351 P P 15 44 51.9 +0.6
P49A Miami Univ. Ec 32.28 351 P P 15 44 52.4 +1.1
baz=168
MVL Millersville 32.30 3 P P 15 44 52.8 +1.4
MVL IAmb IAmb 15 44 55.1
comp=Z,28nm,1.1s
P48A Milroy 32.33 350 P P 15 44 52.2 +0.5
SALV Santo Antonio 32.45 136 *eP* **P 15 44 52.6 -0.3**
CCM Cathedral Cave 32.45 341 P P 15 44 52.6 -0.2
CCM Cathedral Cave 32.45 341 P P 15 44 53.0 +0.2
baz=156
O54A Avella 32.48 357 P P 15 44 54.0 +1.0
O54A IAmb IAmb 15 44 57.2
comp=Z,26nm,1.0s
O52A Adamsville 32.51 355 P P 15 44 54.1 +0.8
O56A Blue Knob Stat 32.52 360 P P 15 44 55.9 +2.5
baz=180
FNO Franklin 32.56 330 P P 15 44 53.4 -0.4
Q44A Meyer Farm, Va 32.58 345 P P 15 44 54.2 +0.2
O53A New Philadelph 32.60 356 P P 15 44 56.1 +2.0
baz=175
ACSO Alum Creek Sta 32.74 354 P P 15 44 57.3 +2.0
baz=172
P46A Rosedale 32.83 347 P P 15 44 56.0 0.0
S39A Bolivar 32.85 338 P P 15 44 55.8 -0.5
S39A IAmb IAmb 15 44 57.4
comp=Z,17nm,1.2s
OK031 S. Brethren Rd 32.85 332 P P 15 44 55.7 -0.6
OK031 IAmb IAmb 15 44 58.9
comp=Z,10nm,0.8s
WMOK Wichita Mounta 32.85 328 P P 15 44 55.0 -1.4
WMOK IAmb IAmb 15 45 21.3
comp=Z,8.0nm,0.8s
O49A Covington 32.87 352 P P 15 44 56.1 -0.3
SSPA Standing Stone 32.89 1 P P 15 44 58.6 +2.1
baz=181
QUOK Quay 32.97 332 P P 15 44 57.0 -0.4
R40A Maddies Statio 33.01 340 P P 15 44 57.2 -0.4
R40A IAmb IAmb 15 44 58.6
comp=Z,11nm,0.8s
OK029 Liberty Lake 33.02 331 P P 15 44 57.4 -0.4
N54A Moraine State 33.24 358 P P 15 45 02.0 +2.3
baz=177
N59A State Game Lan 33.25 4 P P 15 45 02.3 +2.6
baz=185
SNDB Serra Nova Dou 33.27 126 *eP* **P 15 44 59.0 -1.3**
P43A Skaggs, Pawnee 33.41 344 P P 15 45 01.4 +0.3
T35A Sooner Cattle 33.49 333 P P 15 45 01.8 -0.2
PAL Palisades 33.50 6 P P 15 45 03.7 +1.8
baz=188
SFIN Lafayette 33.54 348 P P 15 45 02.4 +0.1
SFIN Lafayette 33.54 348 P P 15 45 02.4 +0.1
baz=164,SNR=5.5
N49A Columbus Grove 33.57 352 P P 15 45 03.0 +0.5
O44A Mansfield 33.63 346 P P 15 45 03.0 0.0
BLOK Blackwell 33.69 332 P P 15 45 03.6 0.0
N47A Urbana 33.76 350 P P 15 45 04.2 +0.1
M54A Oil Creek Stat 33.78 358 P P 15 45 05.3 +1.0
baz=178
P40A Paris 34.05 341 P P 15 45 06.3 -0.4
P40A IAmb IAmb 15 45 07.6
comp=Z,14nm,0.9s
SLBS Sierra La Lagu 34.18 301 P P 15 45 08.7 +0.6
PP1B Ponte de Pedra 34.19 137 *eP* **P 15 45 08.1 -0.1**
HDIL Hopedale 34.21 345 P P 15 45 08.2 +0.1
HDIL Hopedale 34.21 345 P P 15 45 08.1 +0.1
baz=161
M64A Tiverton 34.40 10 P P 15 45 11.2 +1.4
baz=193
BINY Binghamton 34.52 3 P P 15 45 12.6 +1.8
baz=184,SNR=5.8
L59A Walton 34.57 4 P P 15 45 12.9 +1.6
L59A IAmb IAmb 15 45 14.7
comp=Z,22nm,0.9s
P38A Dawn 34.64 339 P P 15 45 11.4 -0.4
P38A IAmb IAmb 15 45 12.7
comp=Z,16nm,0.9s
M44A Midewin, Midew 34.71 347 P P 15 45 11.7 -0.7
MNTX Cornudas Mount 34.71 317 P P 15 45 12.0 -0.6
MNTX IAmb IAmb 15 45 15.3
comp=Z,15nm,1.0s
MNTX Cornudas Mount 34.71 317 P P 15 45 12.4 -0.3
baz=128,SNR=18
N41A Harden Midland 34.77 343 P P 15 45 12.3 -0.7
SMTB Santa Maria do 34.82 117 *eP* **P 15 45 14.1 +0.4**
L61B Northampton 35.07 7 P P 15 45 17.3 +1.8
baz=190
ARAG Araguaiana, MT 35.10 131 *eP* **P 15 45 15.2 -0.9**
K61A Williamstown 35.22 7 P P 15 45 17.9 +1.2
baz=189
HRV Adam Dziewonsk 35.28 9 P P 15 45 18.4 +1.1
baz=192
K62A Royalston 35.34 8 P P 15 45 19.9 +2.1
K62A Royalston 35.34 8 P P 15 45 20.0 +2.1
baz=191
KSU1 Kansas State U 35.37 335 P P 15 45 17.8 -0.3
KSU1 Kansas State U 35.37 335 P P 15 45 18.0 -0.1
baz=148
AC02 Maricunga 35.41 166 P P 15 45 21.2 +2.0
AC02 IAmb IAmb 15 45 23.1
comp=Z,13nm,1.0s
N38A Joes South For 35.58 341 P P 15 45 19.4 -0.5
L42A Oliver, Polo 35.67 346 P P 15 45 20.2 -0.5
J58A Renner 35.72 4 P P 15 45 21.9 +0.9
AQDB Aquidauana 35.76 142 P P 15 45 20.8 -0.9
AQDB Aquidauana 35.76 142 *eP* **P 15 45 21.2 -0.5**
ROSB Rosrio 35.79 106 *eP* **P 15 45 21.6 -0.4**
PEXB Peixe 35.79 123 *eP* **P 15 45 22.0 -0.1**
J59A Piesco 35.88 5 P P 15 45 24.3 +1.8
J47A Sunmer 35.93 352 P P 15 45 22.4 -0.5
J62A Henniker 35.95 8 P P 15 45 25.1 +2.1
baz=191
J61A Chester 35.97 7 P P 15 45 25.0 +1.7
baz=190
K43A Burlington 36.03 348 P P 15 45 23.3 -0.4
K43A IAmb IAmb 15 45 24.2
comp=Z,25nm,0.8s
L40A Anamosa 36.13 344 P P 15 45 23.9 -0.8
L40A IAmb IAmb 15 45 25.3
comp=Z,20nm,0.9s
I60A Shoreham 36.37 6 P P 15 45 27.4 +0.8
baz=189
NCB Newcomb 36.41 5 P P 15 45 27.2 +0.3
NCB IAmb IAmb 15 45 30.3
comp=Z,20nm,0.8s
CBKS Cedar Bluff 36.52 332 P P 15 45 28.1 0.0
CBKS Cedar Bluff 36.52 332 P P 15 45 28.7 +0.6
baz=143
SCIA State Center 36.58 341 P P 15 45 28.1 -0.4
JFWS Jewell Farm 36.67 345 P P 15 45 28.4 -0.8
JFWS Jewell Farm 36.67 345 P P 15 45 28.9 -0.3
baz=160
121A Cookes Peak, D 36.84 316 P P 15 45 30.5 -0.6

121A Cookes Peak, D 36.84 316 P P 15 45 32.7 +1.6
baz=126
LBNH Lisbon 36.93 8 P P 15 45 33.5 +2.1
baz=191
I63A Otisfield 36.94 9 P P 15 45 32.7 +1.2
baz=193
LONY Lake Ozonia 37.02 5 P P 15 45 33.3 +1.1
LONY IAmb IAmb 15 45 35.3
comp=Z,19nm,0.9s
LONY Lake Ozonia 37.02 5 P P 15 45 33.6 +1.4
baz=186,SNR=5.2
SADO Sadowa 37.02 359 P P 15 45 33.2 +1.0
SADO IAmb IAmb 15 45 34.2
comp=Z,25nm,0.8s
K38A Parkersburg 37.12 342 P P 15 45 32.4 -0.7
319A Douglas 37.24 314 P P 15 45 35.6 +1.2
319A IAmb IAmb 15 45 37.2
comp=Z,22nm,0.8s
I42A Draeger Farm, 37.29 347 P P 15 45 34.1 -0.4
I42A IAmb IAmb 15 45 35.5
comp=Z,31nm,0.9s
LENM Lemitar 37.29 319 P P 15 45 36.0 +1.1
PLVO Plevna 37.31 2 P P 15 45 35.8 +1.2
PLVO IAmb IAmb 15 45 37.5
comp=Z,21nm,0.9s
FRNY Flat Rock 37.32 6 P P 15 45 35.8 +1.1
FRNY IAmb IAmb 15 45 38.1
comp=Z,28nm,1.3s
ANMO Albuquerque 37.45 321 P P 15 45 36.4 +0.1
ANMO Albuquerque 37.45 321 P P 15 45 37.3 +1.1
baz=130
H43A Windswept, Lux 37.61 349 P P 15 45 37.1 0.0
H43A IAmb IAmb 15 45 53.0
comp=Z,16nm,0.7s
I40A Norwalk 37.68 346 P P 15 45 37.3 -0.6
I40A IAmb IAmb 15 45 38.4
comp=Z,30nm,1.2s
T25A Trinidad 37.70 325 P P 15 45 38.3 -0.1
T25A IAmb IAmb 15 45 41.1
comp=Z,13nm,0.9s
T25A Trinidad 37.70 325 P P 15 45 39.9 +1.6
baz=135,SNR=8.1
BDFB Brasilia 37.97 128 P P 15 45 40.3 -0.5
comp=Z,8.6nm,0.8s,baz=311,slow=8.0,SNR=9.1
BDFB Brasilia 37.97 128 P P 15 45 40.5 -0.2
BDFB IAmb IAmb 15 45 41.8
comp=Z,14nm,1.0s
G62A West of Eustis 38.09 9 P P 15 45 44.0 +2.7
baz=193
KSCO Kaye Shedlock' 38.10 329 P P 15 45 41.9 +0.3
KSCO Kaye Shedlock' 38.10 329 P P 15 45 42.7 +1.1
baz=139
ITRB Iturama 38.74 135 eP P 15 45 46.0 -1.1
SDCO Great Sand Dun 38.74 325 P P 15 45 48.3 +1.0
SDCO Great Sand Dun 38.74 325 P P 15 45 48.6 +1.4
baz=134,SNR=12
NBPS Pedro II - PI 38.78 107 eP P 15 45 49.0 +1.3
SDBA SAO DESIDERIO 38.81 121 eP P 15 45 47.6 -0.2
TUC Tucson 38.82 314 P P 15 45 48.6 +0.8
TUC Tucson 38.82 314 P P 15 45 48.8 +1.1
baz=122
G40A Rib Lake 38.88 347 P P 15 45 47.6 -0.4
E46A Sault Ste Mari 38.95 354 P P 15 45 48.8 +0.4
E46A IAmb IAmb 15 46 05.9
comp=Z,52nm,1.5s
IPMB Ipameri, GO 39.20 131 eP P 15 45 50.5 -0.6
K31A O'Neill 39.20 336 P P 15 45 50.6 -0.1
OGNE Ogallala 39.29 331 P P 15 45 51.7 +0.2
OGNE IAmb IAmb 15 45 53.9
comp=Z,32nm,0.8s
OGNE Ogallala 39.29 331 P P 15 45 52.8 +1.3
baz=141,SNR=5.2
ECSD EROS Data Cent 39.35 339 P P 15 45 50.8 -1.1
ECSD EROS Data Cent 39.35 339 P P 15 45 50.7 -1.2
baz=151,SNR=5.7
Q24A Divide 39.40 326 P P 15 45 53.3 +0.6
baz=136
PCMB Pacaembu 39.42 138 eP P 15 45 53.1 +0.4
CPUP Villa Florida 39.47 149 P P 15 45 51.0 -2.1
comp=Z,1.2nm,0.6s,baz=2.0,slow=9.6,SNR=3.9
CPUP LR LR 16 03 35.7
comp=Z,140nm,18.3s,baz=351,slow=38
CPUP Villa Florida 39.47 149 eP P 15 45 53.5 +0.5
X18A Snowflake 39.47 317 P P 15 45 54.3 +1.0
S22A 4UR Ranch, Cre 39.52 324 P P 15 45 55.2 +1.6
baz=132,SNR=14
W18A Petrified Fore 39.67 318 P P 15 45 55.9 +1.0
W18A IAmb IAmb 15 46 05.6
comp=Z,40nm,1.4s
W18A Petrified Fore 39.67 318 P P 15 45 56.8 +1.9
baz=126
214A Organ Pipe Nat 40.12 312 P P 15 45 59.7 +1.2
214A Organ Pipe Nat 40.12 312 P P 15 46 00.0 +1.5
baz=120,SNR=5.6
MVCO Mesa Verde 40.17 322 P P 15 45 59.3 +0.2
MVCO Mesa Verde 40.17 322 P P 15 45 59.9 +0.8
baz=130
ISCO Idaho Springs 40.25 327 P P 15 45 59.2 -0.6
ISCO Idaho Springs 40.25 327 P P 15 46 00.9 +1.1
baz=136,SNR=11
D41A Chassel 40.26 349 P P 15 45 58.6 -0.8
F36A Milaca 40.28 344 P P 15 45 58.6 -0.9
F36A IAmb IAmb 15 46 00.3
comp=Z,26nm,1.1s
X16A Lo Mia Camp, P 40.42 316 P P 15 46 02.0 +0.8
SMCO Snowmass 40.57 325 P P 15 46 03.0 +0.4
JANB Januaria 40.63 124 eP P 15 46 02.0 -0.9
PV15 Paradox Valley 40.89 323 P P 15 46 05.5 +0.4
PV15 IAmb IAmb 15 46 07.7
comp=Z,33nm,1.0s
BB19B Bebedouro 40.92 135 eP P 15 46 03.7 -1.6
PV02 Paradox Valley 40.95 323 P P 15 46 05.8 +0.2
PV02 IAmb IAmb 15 46 08.1
comp=Z,15nm,0.9s
PV13 Radium Mtn., P 40.97 323 P P 15 46 06.5 +0.8
PV13 IAmb IAmb 15 46 08.1
comp=Z,20nm,0.9s
WUAZ Wupatki 41.00 317 P P 15 46 06.8 +0.9
WUAZ IAmb IAmb 15 46 09.1
comp=Z,16nm,0.8s
WUAZ Wupatki 41.00 317 P P 15 46 07.1 +1.2
baz=125,SNR=11
PV07 Paradox Valley 41.05 323 P P 15 46 06.8 +0.5
PV07 IAmb IAmb 15 46 08.8
comp=Z,26nm,1.1s
PV03 Paradox Valley 41.05 323 P P 15 46 06.9 +0.5
PV03 IAmb IAmb 15 46 08.6
comp=Z,18nm,1.1s
PV12 Saucer Basin, 41.06 323 P P 15 46 07.3 +0.8
PV12 IAmb IAmb 15 46 08.9
comp=Z,21nm,1.0s
PV18 Skein Mesa, Pa 41.08 323 P P 15 46 07.2 +0.6
PV18 IAmb IAmb 15 46 08.7
comp=Z,19nm,1.0s
PV05 Paradox Valley 41.09 322 P P 15 46 07.0 +0.3
F33A 5 Mile Ranch, 41.09 341 P P 15 46 05.3 -1.0
PV11 David Mesa, Pa 41.09 323 P P 15 46 06.1 -0.6
PV11 IAmb IAmb 15 46 16.4
comp=Z,27nm,1.3s
PV16 Nyswonger Mesa 41.13 323 P P 15 46 06.7 -0.3
PV17 East Wray Mesa 41.13 323 P P 15 46 06.6 -0.4
PV17 IAmb IAmb 15 46 16.2
comp=Z,13nm,0.7s
PTGB Pitanga 41.14 142 eP P 15 46 07.7 +0.7
PV19 Morning Glory 41.17 323 P P 15 46 07.0 -0.3
PV20 West Nyswonger 41.18 323 P P 15 46 07.1 -0.2
PV22 Blue Mesa, Par 41.19 323 P P 15 46 07.8 +0.3
N23A Red Feather La 41.21 328 P P 15 46 08.4 +0.7
baz=136
113A Mohawk Valley, 41.22 312 P P 15 46 08.6 +1.1
PHWY Pilot Hill 41.25 329 P P 15 46 08.7 +0.7
Y14A Wickenburg 41.26 314 P P 15 46 08.7 +0.7
PV23 Carpenter Ridg 41.27 323 P P 15 46 08.3 +0.1
EYMN Ely 41.70 347 P P 15 46 10.7 -0.6
EYMN IAmb IAmb 15 46 12.6
comp=Z,33nm,1.3s
EYMN Ely 41.70 347 P P 15 46 10.9 -0.4
baz=160
FRTB Fartura 41.75 138 eP P 15 46 13.1 +1.1
O20A White River Ci 41.94 325 P P 15 46 13.9 +0.3
O20A White River Ci 41.94 325 P P 15 46 14.7 +1.1
baz=132
GLA Glamis 42.13 312 P P 15 46 16.6 +1.5
GLA IAmb IAmb 15 46 18.0
comp=Z,18nm,0.9s
GLA Glamis 42.13 312 P P 15 46 16.8 +1.7
baz=119
NBPN Ponto Novo - B 42.24 115 eP P 15 46 15.8 -0.4
PDMCI Parker Dam,Lak 42.26 314 P P 15 46 17.2 +1.2
baz=121
RWWY Rawlins 42.44 328 P P 15 46 18.3 +0.5
RWWY IAmb IAmb 15 46 20.1
comp=Z,18nm,0.9s
W13A Hualapai Mount 42.49 315 P P 15 46 19.0 +0.8
RCLB Rio Claro- Sao 42.51 135 eP P 15 46 17.9 -0.3
SRU San Rafael Swe 42.60 322 P P 15 46 19.5 +0.5
RSSD Black Hills 42.68 333 P P 15 46 20.1 +0.5
RSSD Black Hills 42.68 333 P P 15 46 20.4 +0.8
baz=141
K22A Casper 42.78 329 P P 15 46 20.7 +0.3
K22A IAmb IAmb 15 46 21.9
comp=Z,9.4nm,0.7s
K22A Casper 42.78 329 P P 15 46 20.9 +0.6
baz=137,SNR=5.5
SWSC Sam W. Stewart 42.80 311 P P 15 46 21.7 +1.2
baz=118
NEE2 Needles Airpor 42.83 314 P P 15 46 22.0 +1.3
baz=121
BC3 Big Chuckawall 42.88 312 P P 15 46 22.6 +1.4
baz=119,SNR=6.2
DIAM Diamantina, MG 42.89 127 eP P 15 46 19.9 -1.5
IKP In-Ko-Pah, Jac 42.90 311 P P 15 46 22.1 +0.7
baz=117
IRM Iron Mountain 42.90 313 P P 15 46 22.7 +1.3
baz=120,SNR=7.4
P17A Butcher Ranch, 42.96 323 P P 15 46 22.7 +0.8
RDMU Red Mountain 42.98 325 P P 15 46 22.4 +0.3
TMUT Trail Mountain 43.14 322 P P 15 46 23.9 +0.4
AGMN Agassiz Nation 43.16 343 P P 15 46 22.9 -0.2
AGMN IAmb IAmb 15 46 23.7
comp=Z,32nm,1.4s
AGMN Agassiz Nation 43.16 343 P P 15 46 23.1 0.0
baz=154
MONP2 Monument Peak 43.25 311 P P 15 46 25.3 +1.0
baz=117
MSU Marysvale 43.26 321 P P 15 46 24.9 +0.5
E28A Huff 43.27 338 P P 15 46 23.6 -0.5
E28A IAmb IAmb 15 46 24.3
comp=Z,24nm,0.7s
VAO Valinhos 43.28 135 eP P 15 46 26.1 +1.5
BELC Belle Mtn. Jos 43.45 313 P P 15 46 27.5 +1.6
baz=118,SNR=16
TCRU Three Creeks R 43.49 320 P P 15 46 26.9 +0.6
TCRU IAmb IAmb 15 46 54.5
comp=Z,13nm,0.5s
TIJ01 Guaruva-PR 43.49 140 eP P 15 46 28.0 +1.7
TPFO Pinon Flats 43.60 312 P P 15 46 28.6 +1.5
baz=118,SNR=6.4
PFO Pinyon Flats O 43.60 312 P P 15 46 26.4 -0.7
PFO Pinyon Flats O 43.60 312 P P 15 46 28.5 +1.3
baz=118,SNR=5.6
BSCB Bom Sucesso 43.60 131 eP P 15 46 27.9 +0.7
NBLV Livramento - P 43.98 109 eP P 15 46 30.6 +0.2
GDU01 Guandu, BA 44.01 119 eP P 15 46 30.4 -0.1
HEC Hector,Ludlow 44.09 313 P P 15 46 32.7 +1.7
baz=119,SNR=15
TUQ Turquoise Moun 44.09 314 P P 15 46 32.0 +1.0
baz=120
JLU Jordanelle 44.10 323 P P 15 46 31.2 +0.1
SHPR Sheep Range 44.10 316 P P 15 46 31.6 +0.5
MURC Murrieta 44.14 311 P P 15 46 32.7 +1.4
baz=117
PSUT Pine Spring 44.34 319 P P 15 46 32.4 -0.6
PARB Paraibuna 44.44 135 eP P 15 46 34.0 +0.2
BW06 Boulder Array 44.45 327 P P 15 46 33.6 -0.2
BW06 IAmb IAmb 15 46 35.5
comp=Z,10nm,0.9s
BW06 Boulder Array 44.45 327 P P 15 46 34.2 +0.3
baz=133,SNR=17
PD31 Pinedale Array 44.45 327 P P 15 46 33.5 -0.4
PD31 IAmb IAmb 15 46 46.1
comp=Z,14nm,1.1s
PDAR Pinedale Array 44.45 327 P P 15 46 33.6 -0.2
comp=Z,6.1nm,0.7s,baz=127,slow=11,SNR=38
PDAR PcP PP 15 48 16.2 -1.3
comp=Z,0.5nm,0.4s,baz=125,slow=4.5,SNR=2.4
PDAR Pinedale Array 44.45 327 P P 15 46 33.2 -0.7
NBLA Lagarto - SE 44.47 114 eP P 15 46 32.8 -1.3
RCBR Riachuelo 44.48 106 P P 15 46 34.8 +0.4
RCBR IAmb IAmb 15 46 53.4
comp=Z,28nm,1.4s
RCBR Riachuelo 44.48 106 eP P 15 46 34.7 +0.4
GSC Goldstone, Bar 44.65 314 P P 15 46 36.9 +1.4
baz=119,SNR=6.2
DUG Dugway, Tooele 44.66 322 P P 15 46 36.1 +0.6
DUG IAmb IAmb 15 46 39.0
comp=Z,12nm,1.0s
DUG Dugway, Tooele 44.66 322 P P 15 46 36.6 +1.1
baz=127,SNR=8.9
NBIT Itapeh - BA 44.68 120 eP P 15 46 36.3 +0.5
HWUT Hardware Ranch 44.80 324 P P 15 46 36.9 +0.3
HWUT IAmb IAmb 15 46 45.2
comp=Z,8.8nm,0.8s
CMC01 Camacan, BA 44.80 121 eP P 15 46 35.8 -1.0
SCI2 San Clemente I 44.89 310 P P 15 46 38.5 +1.2
baz=115
SPR3 Spring Creek 3 44.91 320 P P 15 46 36.8 -1.0
ULM Lac du Bonnet 44.93 344 P P 15 46 36.0 -1.3
comp=Z,21nm,0.9s,baz=160,slow=8.6,SNR=14
ULM Lac du Bonnet 44.93 344 P P 15 46 36.0 -1.3
CIS Catalina Islan 44.97 310 P P 15 46 39.5 +1.6
baz=116
TPNV Topopah Spring 45.08 316 P P 15 46 40.2 +1.2
TPNV Topopah Spring 45.08 316 P P 15 46 40.6 +1.6
baz=121,SNR=7.6
SJMB Sao Joao De Ma 45.09 126 eP P 15 46 37.3 -1.7
SPUT South Promonto 45.13 324 P P 15 46 39.4 +0.1
SPUT IAmb IAmb 15 46 45.3
comp=Z,13nm,1.0s
GUA01 Guaratinga, BA 45.15 122 eP P 15 46 40.2 +0.7
BGU Big Grassy Mou 45.24 323 P P 15 46 39.9 -0.2
FURC Furnace Creek, 45.27 315 P P 15 46 41.7 +1.5
baz=120
AHID Auburn Hatcher 45.29 326 P P 15 46 40.1 -0.4
AHID IAmb IAmb 15 46 42.1
comp=Z,10nm,0.8s
CNLB Canela 45.31 145 eP P 15 46 42.9 +2.2
EDW2 Edwards Air Fo 45.32 313 P P 15 46 41.9 +1.2
baz=117,SNR=10
VAS01 Vassouras-RJ 45.36 132 eP P 15 46 40.6 -0.6
LRMC Laurel Mtn Rad 45.37 313 P P 15 46 42.4 +1.2
baz=118
R11A Troy Canyon, C 45.37 318 P P 15 46 41.8 +0.5
R11A Troy Canyon, C 45.37 318 P P 15 46 42.5 +1.3
baz=123,SNR=7.1
BSFB Barra de Sao F 45.43 126 eP P 15 46 42.5 +0.8
MPMC Manual Prospec 45.51 314 P P 15 46 43.3 +0.9
baz=119,SNR=8.5
REDW Red Top Meadow 45.55 327 P P 15 46 43.2 +0.6
REDW IAmb IAmb 15 46 55.2
comp=Z,24nm,1.1s
SNOW Snow King Moun 45.56 327 P P 15 46 43.0 +0.2
SNOW IAmb IAmb 15 46 54.8
comp=Z,12nm,0.6s
LOHW Long Hollow 45.58 327 P P 15 46 43.1 +0.2
LOHW IAmb IAmb 15 46 53.7
comp=Z,10.0nm,0.9s
LAO LASA Array 45.64 333 P P 15 46 42.9 -0.3
LAO IAmb IAmb 15 46 45.2
comp=Z,11nm,1.1s
LAO LASA Array 45.64 333 P P 15 46 43.4 +0.3
baz=140
TPAW Teton Pass 45.69 327 P P 15 46 43.1 -0.7
TPAW IAmb IAmb 15 46 52.3
comp=Z,9.4nm,0.8s
OSI Osito Audit: C 45.73 312 P P 15 46 44.1 +0.1
baz=116
MOOW Moose Ponds 45.75 327 P P 15 46 44.3 +0.1
MOOW IAmb IAmb 15 46 45.9
comp=Z,8.0nm,0.8s
PLTB Pedras Altas 45.78 150 eP P 15 46 44.4 +0.1
FXWY Fox Creek 45.83 327 P P 15 46 44.6 -0.2
GRAC Grapevine Rang 45.88 316 P P 15 46 46.3 +1.1
baz=120
RLMT Red Lodge 45.93 330 P P 15 46 45.8 +0.2
RLMT IAmb IAmb 15 46 47.2
comp=Z,8.9nm,0.8s
RLMT Red Lodge 45.93 330 P P 15 46 46.1 +0.5
baz=135,SNR=5.0
FLWY Flagg Ranch 45.95 328 P P 15 46 46.3 +0.5
FLWY IAmb IAmb 15 46 55.3
comp=Z,8.7nm,0.8s
IMW Indian Meadow 45.95 327 P P 15 46 46.0 +0.1
IMW IAmb IAmb 15 46 55.8
comp=Z,10nm,0.7s
ISA Isabella, Lake 46.02 313 P P 15 46 47.1 +0.7
ISA Isabella, Lake 46.02 313 P P 15 46 47.8 +1.5
baz=118,SNR=5.1
ARVC Arvin 46.04 312 P P 15 46 47.7 +1.3
baz=117
RIB01 Linhares ES 46.04 126 eP P 15 46 46.2 -0.3
CWC Cottonwood Cre 46.11 314 P P 15 46 48.0 +0.9
baz=119
DGMT Dagmar 46.19 336 P P 15 46 47.5 +0.2
DGMT Dagmar 46.19 336 P P 15 46 47.6 +0.3
baz=143
YNE Yellowstone No 46.23 329 P P 15 46 47.5 -0.4
YNE IAmb IAmb 15 46 57.1
comp=Z,6.6nm,0.8s
TIN Tinemaha, Big 46.51 315 P P 15 46 52.0 +1.8
baz=119
YHH Holmes Hill 46.51 328 P P 15 46 50.0 -0.2
VES Vestal, Richgr 46.55 313 P P 15 46 51.8 +1.4
baz=117
GCMT Greycliff 46.60 330 P P 15 46 50.9 +0.1
PKM Mcpherson Peak 46.66 312 P P 15 46 52.3 +0.8
baz=116
QLMT Earthquake Lak 46.84 328 P P 15 46 53.8 +1.0
SMMC Simmler 46.98 312 P P 15 46 55.1 +1.4
baz=116
NV11 Mina Array Sit 47.14 317 P P 15 46 55.3 +0.2
NV11 IAmb IAmb 15 47 05.4
comp=Z,13nm,1.1s
NVAR Mina Array Bea 47.24 317 P P 15 46 56.3 +0.4
comp=Z,6.1nm,0.8s,baz=136,slow=5.9,SNR=14
NVAR PcP PcP 15 48 28.6 +1.2
comp=Z,2.5nm,0.7s,baz=136,slow=4.9,SNR=5.4
LHV Little Huntoon 47.28 316 P P 15 46 56.9 +0.9
LHV IAmb IAmb 15 46 59.6
comp=Z,16nm,1.2s
PAGB Antelope Grade 47.34 312 P P 15 46 57.0 +0.4
MDPB Devils Postpil 47.38 315 P P 15 46 57.4 +0.2
MDPB IAmb IAmb 15 47 07.4
comp=Z,6.6nm,0.9s
KVN Kaiserville 47.41 318 P P 15 46 57.8 +0.4
KVN IAmb IAmb 15 46 59.8
comp=Z,16nm,1.3s
BOZ Bozeman (W) 47.46 329 P P 15 46 57.9 +0.4
BOZ IAmb IAmb 15 46 59.5
comp=Z,6.4nm,0.8s
BOZ Bozeman (W) 47.46 329 P P 15 46 58.3 +0.7
baz=133,SNR=11
RYN Ryan 47.48 317 P P 15 46 58.2 +0.4
RYN IAmb IAmb 15 47 08.0
comp=Z,8.6nm,1.0s
BMN Battle Mountai 47.56 320 P P 15 46 58.7 +0.3
MCMT McKenzie Canyo 47.60 327 P P 15 46 59.4 +0.6
HLID Hailey 47.66 325 P P 15 46 59.8 +0.6
baz=128
TRQA Tornquist 47.95 162 eP P 15 47 02.4 +1.2
SCHQ Schefferville 48.00 9 P P 15 47 01.1 -0.3
comp=Z,28nm,0.8s,baz=189,slow=5.3,SNR=18
SCHQ Schefferville 48.00 9 P P 15 47 02.5 +1.1
LRM Limekiln Ridge 48.04 328 P P 15 47 02.5 +0.3
YERR Yerington 48.15 317 P P 15 47 03.3 +0.3
YERR IAmb IAmb 15 47 06.0
comp=Z,19nm,1.2s
EGMT Eagleton 48.24 332 P P 15 47 03.7 +0.3
EGMT IAmb IAmb 15 47 26.7
comp=Z,8.1nm,0.8s
EGMT Eagleton 48.24 332 P P 15 47 04.2 +0.8
baz=136
HRY Holter Researc 48.32 330 P P 15 47 04.7 +0.5
PAHR Pah Rah Range 48.60 318 P P 15 47 06.3 -0.1
PAHR IAmb IAmb 15 47 20.4
comp=Z,8.6nm,1.1s
PLCA Paso Flores 48.65 172 P P 15 47 07.0 +0.4
comp=Z,3.4nm,0.7s,baz=349,slow=9.0,SNR=14
PLCA LR LR 16 07 55.7
comp=Z,118nm,19.1s,baz=290,slow=36
PLCA Paso Flores 48.65 172 P P 15 47 07.5 +0.9
PLCA Paso Flores 48.65 172 eP P 15 47 08.2 +1.6
MSO Missoula 49.48 328 P P 15 47 13.3 +0.3
baz=131
WVOR Wild Horse Val 49.54 321 P P 15 47 13.6 0.0
WVOR IAmb IAmb 15 47 15.9
comp=Z,25nm,1.2s
JTMT Jette 50.26 329 P P 15 47 19.3 +0.4
F10A Beach Ranch, E 50.72 326 P P 15 47 22.1 -0.3
F10A IAmb IAmb 15 47 36.4
comp=Z,8.0nm,0.8s
I07A Izee 50.97 322 P P 15 47 23.8 -0.6
M04C Macdoel 51.25 319 P P 15 47 27.0 +0.4
baz=119
G08A Pilot Rock 51.31 324 P P 15 47 26.7 -0.3
E09A Wood Farm, Sta 51.55 326 P P 15 47 28.6 +0.1
E09A IAmb IAmb 15 47 40.9
comp=Z,11nm,1.1s
J05D Fort Rock, OR 51.61 321 P P 15 47 29.1 -0.1
baz=121
M02C Callahan 51.73 318 P P 15 47 30.7 +0.6
baz=118
L04D Klamath Falls 51.76 319 P P 15 47 30.5 +0.1
baz=119
NEW Newport 52.06 328 P P 15 47 32.0 -0.3
NEW Newport 52.06 328 P P 15 47 32.4 +0.1
baz=128
J04D Umpqua Nationa 52.14 320 P P 15 47 34.0 +0.7
baz=120
HAWA Hanford 52.27 325 P P 15 47 33.8 -0.1
I04A Tendick Farm, 52.61 321 P P 15 47 37.3 +0.8
baz=120
G05D Wamic, OR 52.68 323 P P 15 47 38.6 +1.6
baz=122
K02D Willamette Mer 52.88 319 P P 15 47 39.9 +1.3
baz=118
H04A Detroit Lake 52.92 322 P P 15 47 39.0 +0.2
H04A IAmb IAmb 15 47 52.0
comp=Z,16nm,0.9s
I03D Drain, OR 53.15 320 P P 15 47 40.9 +0.4
baz=119
H04D Lebanon 53.17 321 P P 15 47 41.5 +0.9
baz=120
J01E Myrtle Point 53.27 319 P P 15 47 42.2 +0.9
baz=118
B08A Colville Reser 53.29 327 P P 15 47 41.5 0.0
LTY Liberty 53.40 325 P P 15 47 42.1 -0.3
EDM Edmonton 53.57 335 P P 15 47 42.1 -1.3
LON Longmire 53.77 324 P P 15 47 45.0 -0.1
B05A Bryant 54.76 326 P P 15 47 52.8 +0.7
baz=123
LLLB Lillooet 55.95 328 P P 15 48 00.9 +0.2
LLLB IAmb IAmb 15 48 02.5
comp=Z,20nm,1.0s
YKA Yellowknife Ar 60.79 342 P P 15 48 33.8 -0.5
comp=Z,8.0nm,0.8s,baz=128,slow=8.0,SNR=20
YKA PcP PcP 15 49 18.6 +0.5
comp=Z,0.9nm,0.8s,baz=124,slow=6.2,SNR=2.6
YKA Yellowknife Ar 60.79 342 P P 15 48 33.9 -0.4
DLBC Dease Lake 64.16 333 P P 15 48 57.4 +0.4
DLBC IAmb IAmb 15 48 59.0
comp=Z,12nm,1.1s
TGTN Hyland Airport 65.05 336 P P 15 49 03.6 +0.9
baz=123
SIT Sitka 66.05 330 P P 15 49 11.3 +2.1
baz=115
ICESG Greenland Ices 66.41 14 *i* P P 15 49 11.5 -0.2
ICESG IAmb IAmb 15 49 13.1
comp=Z,14nm,1.0s
MMPY Sheldon Lake, 66.82 336 P P 15 49 15.5 +1.3
baz=121
SKAG Skagway 67.07 332 P P 15 49 16.1 +0.4
baz=116
FARO Faro, Yukon 67.47 335 P P 15 49 19.6 +1.3
baz=119
SUMG Summit 69.25 12 *i* P P 15 49 28.9 -0.8
SUMG IAmb IAmb 15 49 30.9
comp=Z,12nm,0.7s
PINM Pinnacle 69.61 332 P P 15 49 32.7 +1.0
baz=111
A36M Sachs Harbour 70.36 346 P P 15 49 36.0 0.0
baz=130
CTG Chitna Glacier 70.42 333 P P 15 49 37.3 +0.5
baz=110
MESA MESA 70.44 332 P P 15 49 37.0 0.0
baz=110

INK	**Inuvik**	**70.55**	**341**	P	**P**	**15 49 37.1**	**-0.1**
INK				IAmb	IAmb	15 49 54.0	
	comp=Z,12nm,1.1s						
INK	**Inuvik**	**70.55**	**341**	P	**P**	**15 49 37.5**	**+0.3**
	baz=120						
MTE	**Manteigas**	**70.56**	**50**	P	**P**	**15 49 38.1**	**+0.1**
EPYK	**Eagle Plains**	**70.70**	**339**	P	**P**	**15 49 38.9**	**+0.6**
	baz=117						
DAWY	**Dawson**	**70.75**	**336**	P	**P**	**15 49 38.4**	**-0.1**
DAWY	**Dawson**	**70.75**	**336**	P	**P**	**15 49 38.8**	**+0.2**
	baz=113						
HOPE	**Hope Point**	**70.99**	**156**	P	**P**	**15 49 40.8**	**+0.8**
M27K	**Edge Creek, AK**	**71.15**	**334**	P	**P**	**15 49 42.1**	**+0.9**
M27K				IAmb	IAmb	15 49 43.4	
	comp=Z,6.9nm,1.1s						
CRQE	**Cirque**	**71.16**	**332**	P	**P**	**15 49 42.0**	**+0.7**
	baz=109						
NEEM	**North Greenlan**	**71.28**	**6**	*i* P	**P**	**15 49 42.0**	**+0.1**
NEEM				IAmb	IAmb	15 49 43.6	
	comp=Z,26nm,0.9s						
MCARA	**McCarthy VSAT**	**71.33**	**333**	P	**P**	**15 49 42.2**	**+0.1**
MCARA				IAmb	IAmb	15 49 55.8	
	comp=Z,11nm,0.9s						
MCARA	**McCarthy VSAT**	**71.33**	**333**	P	**P**	**15 49 43.0**	**+0.9**
	baz=109						
BCAR	**Beaver Creek A**	**71.36**	**335**	P	**P**	**15 49 43.0**	**+0.6**
L27K	**Beaver Creek,**	**71.38**	**335**	P	**P**	**15 49 43.2**	**+0.7**
L27K				IAmb	IAmb	15 49 44.6	
	comp=Z,8.8nm,0.9s						
L27K	**Beaver Creek,**	**71.38**	**335**	P	**P**	**15 49 43.5**	**+1.1**
	baz=111						
VRDI	**Verde Repeater**	**71.48**	**332**	P	**P**	**15 49 44.0**	**+0.8**
VRDI				IAmb	IAmb	15 49 52.1	
	comp=Z,15nm,1.3s						
KAIM	**Kayak Island**	**71.53**	**331**	P	**P**	**15 49 45.1**	**+1.7**
	baz=107						
GLB	**Gilahina Butte**	**71.71**	**333**	P	**P**	**15 49 45.6**	**+1.1**
EGAK	**Eagle**	**71.73**	**336**	P	**P**	**15 49 45.0**	**+0.5**
EGAK	**Eagle**	**71.73**	**336**	P	**P**	**15 49 45.4**	**+0.9**
	baz=112						
BMRM	**Bremner River**	**71.93**	**332**	P	**P**	**15 49 46.6**	**+0.7**
BMRM				IAmb	IAmb	15 49 47.4	
	comp=Z,11nm,0.7s						
BMRM	**Bremner River**	**71.93**	**332**	P	**P**	**15 49 46.5**	**+0.7**
	baz=108						
L26K	**Log Cabin Wild**	**72.02**	**334**	P	**P**	**15 49 46.7**	**+0.5**
	baz=109						
N25K	**Chitina, Valde**	**72.12**	**333**	P	**P**	**15 49 47.2**	**+0.3**
	baz=108						
DOT	**Dot Lake**	**72.53**	**335**	P	**P**	**15 49 50.0**	**+0.7**
SCRK	**Sand Creek**	**72.60**	**335**	P	**P**	**15 49 50.4**	**+0.5**
SCRK	**Sand Creek**	**72.60**	**335**	P	**P**	**15 49 50.7**	**+0.9**
	baz=109,SNR=5.1						
KLU	**Klutina**	**72.69**	**332**	P	**P**	**15 49 50.8**	**+0.4**
KLU				IAmb	IAmb	15 49 52.0	
	comp=Z,8.7nm,0.9s						
KLU	**Klutina**	**72.69**	**332**	P	**P**	**15 49 50.1**	**-0.3**
	baz=106						
RIDG	**Independent Ri**	**72.89**	**335**	P	**P**	**15 49 52.3**	**+0.8**
RIDG				IAmb	IAmb	15 49 53.5	
	comp=Z,16nm,1.0s						
RIDG	**Independent Ri**	**72.89**	**335**	P	**P**	**15 49 52.1**	**+0.6**
	baz=108,SNR=6.9						
PAX	**Paxson**	**72.92**	**334**	P	**P**	**15 49 52.0**	**+0.3**
PAX				IAmb	IAmb	15 49 53.3	
	comp=Z,14nm,1.4s						
PAX	**Paxson**	**72.92**	**334**	P	**P**	**15 49 51.9**	**+0.1**
	baz=107						
DBIC	**Dimbokro**	**72.93**	**85**	P	**P**	**15 49 51.5**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=308,slow=4.6,SNR=1.2						
DBIC	**Dimbokro**	**72.93**	**85**	P	**P**	**15 49 52.4**	**-0.2**
DBIC				IAmb	IAmb	15 50 08.6	
	comp=Z,8.3nm,1.0s						
M24K	**Tolsona, Glenn**	**72.98**	**333**	P	**P**	**15 49 53.0**	**+1.0**
M24K				IAmb	IAmb	15 50 17.4	
	comp=Z,17nm,1.0s						
M24K	**Tolsona, Glenn**	**72.98**	**333**	P	**P**	**15 49 52.8**	**+0.7**
	baz=106						
PMSA	**Palmer Station**	**72.98**	**174**	P	**P**	**15 49 50.7**	**-1.1**
PMSA				IAmb	IAmb	15 50 04.6	
	comp=Z,16nm,1.1s						
PMSA	**Palmer Station**	**72.98**	**174**	*e*P	**P**	**15 49 56.3**	**+4.5**
KOWA	**Kowa**	**73.10**	**77**	P	**P**	**15 49 54.1**	**+0.5**
ESDC	**Sonseca Array**	**73.23**	**51**	P	**P**	**15 49 54.5**	**+0.5**
	comp=Z,2.5nm,0.9s,baz=271,slow=5.8,SNR=10						
ESDC	**Sonseca Array**	**73.23**	**51**	P	**P**	**15 49 54.4**	**+0.3**
SCM	**Sheep Creek Mo**	**73.43**	**332**	P	**P**	**15 49 55.0**	**+0.2**
SCM				IAmb	IAmb	15 49 56.3	
	comp=Z,15nm,0.8s						
DHY	**Denali Highway**	**73.78**	**334**	P	**P**	**15 49 56.6**	**-0.3**
	baz=106						
WAT6	**Susitna Watana**	**73.81**	**333**	P	**P**	**15 49 57.3**	**+0.2**
	baz=105						
KNK	**Knik Glacier**	**73.85**	**332**	P	**P**	**15 49 57.3**	**+0.2**
	baz=104						
SML	**Sawmill**	**73.89**	**332**	P	**P**	**15 49 57.3**	**-0.1**
SML	**Sawmill**	**73.89**	**332**	P	**P**	**15 49 56.9**	**-0.5**
	baz=104						
HDA	**Harding Lake**	**73.97**	**335**	P	**P**	**15 49 57.6**	**-0.2**
HDA				IAmb	IAmb	15 49 59.9	
	comp=Z,10nm,0.8s						
HDA	**Harding Lake**	**73.97**	**335**	P	**P**	**15 49 57.9**	**+0.1**
	baz=106,SNR=11						
BMAR	**Burnt Mountain**	**73.97**	**338**	P	**P**	**15 49 57.9**	**+0.1**
IL31		**74.05**	**336**	P	**P**	**15 49 58.0**	**-0.1**
ILAR	**Eielson Array**	**74.05**	**336**	P	**P**	**15 49 58.2**	**0.0**
	comp=Z,1.9nm,0.8s,baz=112,slow=4.3,SNR=18						
ILAR				PP	**PP**	15 52 39.1	-4.2
	comp=Z,1.7nm,1.1s,baz=93,slow=5.8,SNR=4.9						
ILAR	**Eielson Array**	**74.05**	**336**	P	**P**	**15 49 58.0**	**-0.2**
WRH	**Wood River Hil**	**74.46**	**335**	P	**P**	**15 49 60.0**	**-0.6**
RND	**Reindeer**	**74.52**	**334**	P	**P**	**15 50 01.6**	**+0.5**
RND				IAmb	IAmb	15 50 02.5	
	comp=Z,13nm,0.7s						
BRSE	**Bradley Lake S**	**74.57**	**330**	P	**P**	**15 50 02.4**	**+1.0**
	baz=102						
MCK	**McKinley**	**74.63**	**334**	P	**P**	**15 50 01.6**	**0.0**
MCK				IAmb	IAmb	15 50 17.4	
	comp=Z,12nm,1.1s						
MCK	**McKinley**	**74.63**	**334**	P	**P**	**15 50 02.1**	**+0.5**
	baz=104						
MDM	**Murphy Dome**	**74.65**	**336**	P	**P**	**15 50 01.4**	**-0.4**
MDM				IAmb	IAmb	15 50 17.8	
	comp=Z,11nm,1.1s						
NEA2	**Nenana**	**74.90**	**335**	P	**P**	**15 50 03.4**	**+0.2**
NEA2				IAmb	IAmb	15 50 05.2	
	comp=Z,7.7nm,0.8s						
NEA2	**Nenana**	**74.90**	**335**	P	**P**	**15 50 03.3**	**+0.2**
	baz=104,SNR=6.1						
CUT	**Chulitna**	**74.91**	**333**	P	**P**	**15 50 03.7**	**+0.4**
SUA	**Susitna One**	**74.93**	**332**	P	**P**	**15 50 04.0**	**+0.5**
I23K	**Minto, Yukon-K**	**75.16**	**336**	P	**P**	**15 50 04.9**	**+0.3**
	baz=104						
ESK	**Eskdalemuir**	**75.38**	**35**	P	**P**	**15 50 06.2**	**+0.1**
SKT	**Skwentna**	**75.40**	**332**	P	**P**	**15 50 06.3**	**+0.1**
SKT				IAmb	IAmb	15 50 07.4	
	comp=Z,9.2nm,1.0s						
SKT	**Skwentna**	**75.40**	**332**	P	**P**	**15 50 05.8**	**-0.3**
	baz=101						
H23K	**Yukon River**	**75.40**	**336**	P	**P**	**15 50 06.3**	**+0.2**
H23K	**Yukon River**	**75.40**	**336**	P	**P**	**15 50 06.5**	**+0.4**
	baz=104						
OHAK	**Old Harbor**	**75.45**	**327**	P	**P**	**15 50 06.2**	**-0.2**
OHAK	**Old Harbor**	**75.45**	**327**	P	**P**	**15 50 06.4**	**0.0**
	baz=99						
KTH	**Kantishna Hill**	**75.45**	**334**	P	**P**	**15 50 06.3**	**-0.2**
KTH				IAmb	IAmb	15 50 21.3	
	comp=Z,11nm,1.1s						
SPCR	**Spurr Chakacha**	**75.57**	**331**	P	**P**	**15 50 07.0**	**-0.2**
	baz=101						
BPAW	**Bear Paw Mtn.**	**75.60**	**334**	P	**P**	**15 50 07.5**	**+0.3**
BPAW				IAmb	IAmb	15 50 08.0	
	comp=Z,9.9nm,0.8s						
BPAW	**Bear Paw Mtn.**	**75.60**	**334**	P	**P**	**15 50 07.4**	**+0.2**
	baz=102,SNR=9.2						
MLY	**Manley**	**75.70**	**335**	P	**P**	**15 50 08.1**	**+0.3**
MLY				IAmb	IAmb	15 50 10.5	
	comp=Z,6.7nm,1.0s						
PPLA	**Purkeypile**	**75.88**	**333**	P	**P**	**15 50 09.1**	**0.0**
PPLA				IAmb	IAmb	15 50 16.4	
	comp=Z,10nm,0.8s						
PPLA	**Purkeypile**	**75.88**	**333**	P	**P**	**15 50 08.8**	**-0.2**
	baz=101						
Q19K	**Cape Douglas,**	**75.89**	**329**	P	**P**	**15 50 09.1**	**+0.1**
Q19K	**Cape Douglas,**	**75.89**	**329**	P	**P**	**15 50 09.1**	**+0.1**
	baz=99						
CAST	**Castle Rocks**	**75.94**	**334**	P	**P**	**15 50 08.9**	**-0.3**
CAST				IAmb	IAmb	15 50 10.0	
	comp=Z,10nm,1.1s						
CAST	**Castle Rocks**	**75.94**	**334**	P	**P**	**15 50 09.1**	**-0.1**
	baz=101						
COLD	**Coldfoot**	**76.00**	**338**	P	**P**	**15 50 10.7**	**+1.3**
COLD				IAmb	IAmb	15 50 11.7	
	comp=Z,12nm,1.4s						
COLD	**Coldfoot**	**76.00**	**338**	P	**P**	**15 50 10.3**	**+0.8**
	baz=104						
CHUM	**Lake Minchumin**	**76.13**	**334**	P	**P**	**15 50 10.2**	**0.0**
	baz=101						
I21K	**Tanana**	**76.25**	**335**	P	**P**	**15 50 10.7**	**-0.1**
I21K				IAmb	IAmb	15 50 12.1	
	comp=Z,20nm,1.4s						
H21K	**Melozitna Rive**	**76.68**	**336**	P	**P**	**15 50 13.3**	**-0.1**
H21K	**Melozitna Rive**	**76.68**	**336**	P	**P**	**15 50 13.2**	**-0.1**
	baz=101						
M19K	**Big River Lodg**	**76.72**	**332**	P	**P**	**15 50 13.7**	**+0.1**
M19K				IAmb	IAmb	15 50 31.6	
	comp=Z,8.9nm,1.1s						
K20K	**Telida**	**76.80**	**333**	P	**P**	**15 50 14.1**	**0.0**
K20K				IAmb	IAmb	15 50 19.8	
	comp=Z,14nm,1.2s						
K20K	**Telida**	**76.80**	**333**	P	**P**	**15 50 14.2**	**+0.1**
	baz=99						
O18K	**Koktuh Hills**	**76.82**	**330**	P	**P**	**15 50 14.5**	**+0.2**
O18K	**Koktuh Hills**	**76.82**	**330**	P	**P**	**15 50 13.4**	**-0.8**
	baz=98						
J20K	**Nowinta River**	**76.97**	**334**	P	**P**	**15 50 14.8**	**-0.2**
J20K				IAmb	IAmb	15 50 15.7	
	comp=Z,7.5nm,0.9s						
IMAR	**Indian Mountai**	**77.12**	**336**	P	**P**	**15 50 15.5**	**-0.4**
SVW2	**Sparrevohn**	**77.17**	**331**	P	**P**	**15 50 15.5**	**-0.7**
SVW2				IAmb	IAmb	15 50 16.2	
	comp=Z,7.1nm,0.7s						
N18K	**Kilae Creek**	**77.26**	**330**	P	**P**	**15 50 16.3**	**-0.5**
N18K				IAmb	IAmb	15 50 17.2	
	comp=Z,9.6nm,0.8s						
N18K	**Kilae Creek**	**77.26**	**330**	P	**P**	**15 50 15.6**	**-1.2**
	baz=97						
TORD	**Torodi Ar. Bea**	**78.74**	**78**	P	**P**	**15 50 24.7**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=275,slow=4.8,SNR=2.6						
A21K	**Barrow**	**79.05**	**341**	P	**P**	**15 50 26.8**	**+0.4**
	baz=99						
SDPT	**Sand Point**	**79.26**	**325**	P	**P**	**15 50 28.5**	**+0.7**
	baz=92						
ANM	**Nome**	**81.87**	**334**	P	**P**	**15 50 41.9**	**+0.2**
	baz=89						
UNV	**Unalaska Valle**	**82.78**	**323**	P	**P**	**15 50 47.4**	**+0.8**
	baz=87						
NB2	**NORSAR Subarra**	**83.23**	**29**	P	**P**	**15 50 49.5**	**+0.6**
	comp=Z,5.8nm,0.9s,baz=273,slow=5.1						
NOA	**NORSAR Array B**	**83.23**	**29**	P	**P**	**15 50 47.4**	**-1.5**
	comp=Z,2.8nm,0.8s,baz=275,slow=5.0,SNR=8.0						
KEST	**Kesra**	**83.81**	**55**	P	**P**	**15 50 50.9**	**-1.6**
	comp=Z,4.1nm,0.9s,baz=0.0,slow=0.0,SNR=2.5						
KEST	**Kesra**	**83.81**	**55**	IAmb	IAmb	15 51 06.3	
	comp=Z,8.3nm,1.0s						
NIKH	**Nikolski High**	**84.24**	**323**	P	**P**	**15 50 54.2**	**0.0**
	baz=85						
CLL	**Collm**	**85.02**	**39**	*e*P	**P**	**15 50 59.0**	**+0.8**
KHC	**Kasperske Hory**	**85.62**	**41**	*e*P	**P**	**15 51 02.5**	**+1.2**
GERES	**GERESS Array B**	**85.73**	**41**	P	**P**	**15 51 00.6**	**-1.4**
	comp=Z,1.6nm,0.9s,baz=224,slow=3.7,SNR=8.1						
ARCES	**ARCESS Array B**	**87.76**	**20**	P	**P**	**15 51 10.1**	**-1.2**
	comp=Z,2.8nm,0.8s,baz=305,slow=4.3,SNR=11						
ARCES	**ARCESS Array B**	**87.76**	**20**	P	**P**	**15 51 11.2**	**-0.1**
ARCES				IAmb	IAmb	15 51 12.2	
	comp=Z,4.4nm,0.9s						
MODS	**Modra-Piesok**	**88.15**	**42**	*e*P	**P**	**15 51 14.5**	**+0.9**
FINES	**FINESS Array B**	**90.23**	**28**	P	**P**	**15 51 21.2**	**-1.8**
	comp=Z,1.6nm,0.6s,baz=255,slow=3.7,SNR=5.3						
FINES	**FINESS Array B**	**90.23**	**28**	P	**P**	**15 51 23.4**	**+0.4**
VNA3	**Neumayer Olymp**	**90.48**	**162**	P	**P**	**15 51 27.2**	**+3.2**
VNA2	**Neumayer--Watz**	**91.05**	**162**	P	**P**	**15 51 29.5**	**+2.9**
	baz=176,slow=3.4						
SNAA	**Sanae**	**92.68**	**162**	P	**P**	**15 51 35.6**	**+1.4**
MNK	**Minsk**	**93.19**	**34**	*i* P	**P**	**15 51 35.4**	**-1.5**
	comp=E,1.0nm,1.0s						
MNK				*i* P	**P**	**15 51 35.4**	**-1.5**
	comp=N,11nm,1.0s						
MNK				*i* P	**P**	**15 51 35.4**	**-1.5**
	comp=Z,9.0nm,1.0s,baz=288						
MNK				*i* PP	**PP**	**15 55 18.5**	**-1.4**
MNK				*i* PPP	PPP	15 57 18.4	
MNK				*i* S	**SKSac**	**16 02 09.2**	**-2.6**
MNK				*i* PS	**PS**	**16 03 56.6**	**-0.6**
MNK				*i* SS	**SS**	**16 08 58.9**	**-0.1**
MNK				*i* SSS	SSS	16 11 24.4	
MNK				*i* LQ	LQ	16 26 29.5	
MNK				*i* LR	LR	16 29 49.7	
MNK				*i* LRM	MLR	16 35 14.4	
	comp=Z,257nm,20.1s						
MNK				*i* LRM	MLR	16 35 58.6	
	comp=E,778nm,20.7s						
MNK				*i* LRM	MLR	16 36 08.1	
	comp=N,183nm,20.7s						
AKASG	**Malin Array Be**	**95.14**	**37**	P	**P**	**15 51 45.3**	**-0.7**
	comp=N,0.2nm,0.3s,baz=243,slow=6.1,SNR=2.6						
KURK	**Kurchatov**	**118.61**	**16**		**PKPdf**	**15 57 10.5**	**-0.2**
KURBB	**Kurchatov Arra**	**118.66**	**17**	PKP	**PKPdf**	**15 57 10.5**	**-0.3**
	comp=N,1.1nm,0.7s,baz=333,slow=2.3,SNR=12						
MKAR	**Makanchi Array**	**123.18**	**16**	PKP	**PKPdf**	**15 57 18.8**	**-0.9**
	comp=N,0.9nm,0.7s,baz=5.9,slow=2.5,SNR=7.3						
SONM	**Songino Array**	**124.63**	**356**	PKP	**PKPdf**	**15 57 21.7**	**-0.9**
	comp=N,1.4nm,0.7s,baz=338,slow=1.0,SNR=7.4						
KSRS	**Korea Array**	**128.85**	**333**	PKP	**PKPdf**	**15 57 30.8**	**0.0**
	comp=N,3.5nm,0.9s,baz=10.0,slow=1.4,SNR=14						
STKA	**Stephens Creek**	**135.64**	**231**	PKP	**PKPdf**	**15 57 43.5**	**-0.2**
	comp=N,2.0nm,0.8s,baz=18,slow=4.6,SNR=3.0						
ASAR	**Alice Springs**	**145.13**	**239**	PKPbc	**PKPbc**	**15 57 59.9**	**-0.8**
	comp=N,16nm,0.9s,baz=118,slow=3.8,SNR=87						
WRA	**Warrumunga Arr**	**145.97**	**246**	PKPbc	**PKPdf**	**15 58 02.8**	**+0.1**
	comp=N,9.6nm,0.7s,baz=100,slow=3.3,SNR=62						
WRA	**Warramunga Arr**	**145.97**	**246**	PKPdf	**PKPdf**	**15 58 02.2**	**-0.4**
KMI	**Kunming**	**147.44**	**358**	⇑PKPbc	**PKPdf**	**15 58 05.4**	**+0.1**
KMI				pPKP	sPKPbc	15 58 08.3	-1.7
H01W1	**Cape Leeuwin H**	**150.48**	**201**	T	T	18 47 32.7	
	baz=152,slow=75,SNR=36						
H01W2	**Cape Leeuwin H**	**150.49**	**201**	T	T	18 47 28.5	
	baz=152,slow=75,SNR=39						
H01W3	**Cape Leeuwin H**	**150.50**	**201**	T	T	18 47 28.6	
	baz=152,slow=75,SNR=42						
CMAR	**Chiang Mai Arr**	**153.97**	**6**	PKP	**PKPdf**	**15 58 16.1**	**+0.9**
	comp=N,1.4nm,0.8s,baz=319,slow=2.0,SNR=9.6						
CMAR				PKPbc	**PKPbc**	**15 58 22.6**	**-0.6**
	comp=N,2.4nm,0.7s,baz=339,slow=2.8,SNR=13						
CMAR				PKPab	**PKPab**	**15 58 35.8**	**-0.4**
	comp=N,4.2nm,0.7s,baz=334,slow=5.1,SNR=16						
CMAR	**Chiang Mai Arr**	**153.97**	**6**	PKPdf	**PKPdf**	**15 58 14.1**	**-1.1**
CMAR				PKPbc	**PKPbc**	**15 58 22.6**	**-0.6**
CM15	**Chiang Mai Arr**	**153.97**	**6**	PKP	**PKiKP**	**15 58 24.7**	**+1.4**
CM09	**Chiang Mai Arr**	**153.99**	**6**	PKP	**PKiKP**	**15 58 24.8**	**+1.5**
CM02	**Chiang Mai Arr**	**153.99**	**6**	PKP	**PKiKP**	**15 58 25.3**	**+1.9**
CM13	**Chiang Mai Arr**	**154.00**	**6**	PKP	**PKiKP**	**15 58 25.0**	**+1.6**
CM01	**Chiang Mai Arr**	**154.01**	**6**	PKP	**PKiKP**	**15 58 25.0**	**+1.6**

*IDC **14** 15:43:06.3±5.4, 37.39N×71.49E, h106km±49km, mb1 3.3/6, mb1mx3.0/43, mbtmp3.7/6 Error ellipse: s-maj=63.9km s-min=19.2km az=151.0*
*NEIC **14** 15:43:08.0±1.5, 37.34N±0.07×71.7E±0.1, h130km±6km, mb4.2/2, Error ellipse: s-maj=12.3km s-min=10.0km az=97.0*
*NNC **14** 15:43:13.1±5.0, 37.61N×70.39E, h56km±187km, mb3.7, mpv3.5, Error ellipse: s-maj=89.6km s-min=34.7km az=91.0*

ISC 14 15:43:06.5±0.7, 37.27N±0.06×71.60E±0.06, h150km, n44, σ2s67/51, 2C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**2.01**	**330**		**Pn**	**15 43 41.7**	**-0.1**
DRK	**Karamyk**	**2.21**	**4**		**Pn**	**15 43 44.7**	**+0.3**
CHGR	**Chuyangaron**	**2.38**	**306**		**Pn**	**15 43 46.5**	**+0.2**
BTK	**Batken**	**2.85**	**348**	Pn	**Pn**	**15 43 53.4**	**+1.3**
KBL	**Kabul**	**3.42**	**218**	Pn	**Pn**	**15 44 01.9**	**+2.4**
NIL	**Nilore**	**3.85**	**159**	Pn	**Pn**	**15 44 07.2**	**+2.3**
KSH	**Kashi**	**4.10**	**55**	Pn	**Pn**	**15 44 04.0**	**-4.1**
KSH				Sn	Sn	15 44 45.5	-11
KSH				pmax	pmax		
	comp=Z,160nm,0.6s						
KSH				smax	smax		
	comp=N,300nm,0.7s						
KSH				smax	smax		
	comp=E,160nm,0.6s						
AML	**Almayashu**	**5.12**	**18**	P	**Pn**	**15 44 22.2**	**+0.4**
	SNR=8.6						
UCH	**Uchtor**	**5.44**	**23**	P	**Pn**	**15 44 26.7**	**+0.6**
	SNR=18						
KZA	**Kyzart**	**5.57**	**29**	P	**Pn**	**15 44 27.6**	**-0.2**
	SNR=9.2						
EKS2	**Erkin-Say**	**5.64**	**17**	P	**Pn**	**15 44 29.6**	**+1.1**
	SNR=6.2						
AAK	**Ala-Archa**	**5.80**	**22**	P	**Pn**	**15 44 30.8**	**+0.2**
	comp=E,4.6nm,0.3s,baz=192,slow=7.2,SNR=33						
AAK				S	**Sn**	**15 45 32.7**	**-3.8**
	comp=E,1.5nm,0.3s,baz=348,slow=22,SNR=12						
AAK	**Ala-Archa**	**5.80**	**22**	P	**Pn**	**15 44 31.7**	**+1.0**
	SNR=11						
AAK	**Ala-Archa**	**5.80**	**22**		**Pn**	**15 44 31.3**	**+0.6**
KK31	**Karatay Array**	**5.89**	**352**	⇑Pn	**Pn**	**15 44 32.1**	**+0.4**
	comp=E,1.3nm,0.2s,baz=174,slow=11,SNR=59						
KK31				⇓Sn	**Sn**	**15 45 34.8**	**-3.5**
	comp=E,4.6nm,0.3s,baz=168,slow=21,SNR=15						
KK31	**Karatay Array**	**5.89**	**352**		**Pn**	**15 44 32.6**	**+0.9**
KKAR	**Karatay Array**	**5.89**	**352**		**Pn**	**15 44 32.5**	**+0.8**
KKAR	**Karatay Array**	**5.89**	**352**		**Pn**	**15 44 32.3**	**+0.6**
BOOM	**Boomskoye usch**	**6.19**	**31**	Pn	**Pn**	**15 44 35.9**	**+0.1**
CHMS	**Chumysh**	**6.21**	**22**	P	**Pn**	**15 44 36.8**	**+0.8**
	SNR=9.6						
DHRM	**DHARAMSHALA**	**6.32**	**141**	*e*P	**Pn**	**15 44 38.1**	**+0.4**
DHRM				*e*S	**Sn**	**15 45 43.8**	**-5.3**
DHRM				IAML		15 45 49.6	
	comp=N,91nm,0.2s						
DHRM				IAML		15 45 50.2	
	comp=E,78nm,0.5s						
USP	**Ospenovka**	**6.39**	**19**	P	**Pn**	**15 44 39.4**	**+1.0**
	SNR=5.2						
TKM2	**Tokmak 2**	**6.42**	**27**	P	**Pn**	**15 44 39.8**	**+0.9**
	SNR=6.0						
SMLA	**Simla**	**7.66**	**141**	*e*P	**Pn**	**15 44 55.4**	**0.0**
SMLA				*e*S	**Sn**	**15 46 14.1**	**-6.7**
SMLA				IAML		15 46 18.3	
	comp=E,32nm,0.4s						
SMLA				IAML		15 46 18.4	
	comp=N,35nm,0.4s						
GEYT	**Alibeck**	**10.72**	**278**	P	**Pn**	**15 45 36.4**	**+0.3**
	comp=N,1.6nm,0.3s,baz=104,slow=13,SNR=7.5						
GEYT				S	**Sn**	**15 47 30.8**	**-3.9**
	comp=N,0.8nm,0.3s,baz=101,slow=23,SNR=2.5						
GYA0B	**ALIBECK ARRAY**	**10.72**	**278**	Pn	**Pn**	**15 45 36.4**	**+0.4**
MAKZ	**Makanchi**	**12.25**	**36**	Pn	**Pn**	**15 45 56.9**	**+1.0**
MKAR	**Makanchi Array**	**12.39**	**36**	P	**Pn**	**15 45 58.3**	**+0.6**
	comp=N,0.1nm,0.3s,baz=223,slow=13,SNR=6.8						
MK31	**Makanchi Array**	**12.39**	**36**	Pn	**Pn**	**15 45 57.7**	**0.0**
WMQ	**Urumqi**	**13.87**	**57**	*e*P	**P**	**15 46 19.0**	**-1.1**
KURBB	**Kurchatov Arra**	**14.24**	**18**	P	**Pn**	**15 46 20.0**	**-1.3**
	comp=N,0.0nm,0.3s,baz=214,slow=12,SNR=4.1						
AB31	**Akbulak array**	**14.67**	**328**	⇓P	**Pn**	**15 46 26.8**	**+0.2**
	comp=N,0.4nm,0.3s,baz=136,slow=12,SNR=24						
AB31				⇓S	Sn	15 48 58.5	-11
	comp=N,1.1nm,0.5s,baz=155,slow=23,SNR=8.1						
ABKAR	**Akbulak array**	**14.67**	**328**		**Pn**	**15 46 27.6**	**+1.0**
BVAR	**Borovoye Array**	**15.78**	**357**	P	**P**	**15 46 41.7**	**+0.6**
	comp=N,0.2nm,0.3s,baz=177,slow=14,SNR=3.6						
AKTO	**Aktyubinsk**	**16.37**	**328**	P	**Pn**	**15 46 47.9**	**+0.3**
	comp=N,0.3nm,0.3s,baz=135,slow=14,SNR=3.4						
AKTO				S	**S**	**15 49 41.8**	**-7.5**
	comp=N,0.2nm,0.3s,baz=146,slow=7.3,SNR=2.0						
AKTO	**Aktyubinsk**	**16.37**	**328**	⇑P	**P**	**15 46 49.7**	**+2.0**
	comp=N,1.7nm,0.6s						
AKTO				⇓S	**S**	**15 49 40.8**	**-8.5**
	comp=N,0.7nm,0.5s						
ZAA0	**Zalesovo Array**	**19.02**	**24**	P	**Pn**	**15 47 19.2**	**+0.3**
ZAA0				IAmb	IAmb	15 47 22.9	
	comp=Z,2.7nm,1.1s						
ZALV	**Zalesovo Beam**	**19.02**	**24**	P	**Pn**	**15 47 18.9**	**0.0**
	comp=Z,0.6nm,0.3s,baz=224,slow=11,SNR=9.2						
ZALV	**Zalesovo Beam**	**19.02**	**24**	P	**Pn**	**15 47 19.3**	**+0.4**
HHC	**Hu-ho-hao-te**	**31.05**	**71**	*e*P	**P**	**15 49 14.0**	**+3.8**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,150nm,5.7s						
SSB	**Saint S

moment-rate function Southeast of Easter Island

IDC 14 16:24:59.4±3.7, 6.47°S×154.29°E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/48, mbtmp3.5/3 Error ellipse: s-maj=154.1km s-min=53.8km az=130.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.55**	**233**	P	P	16 30 10.7	-1.0
	0.6nm,0.9s,baz=57,slow=9.8,SNR=2.5						
ASAR	**Alice Springs**	**26.01**	**227**	P	P	16 30 34.0	-0.3
	0.5nm,0.8s,baz=60,slow=9.8,SNR=5.7						
FITZ	**Fitzroy Crossi**	**30.23**	**245**	P	P	16 31 13.2	+1.1
	1.9nm,0.7s,baz=74,slow=7.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**152.21**	**286**	PKPbc	PKPbc	16 44 58.0	-0.2
	0.4nm,0.7s,baz=64,slow=3.4,SNR=2.0						

IDC 14 16:26:23.8±2.9, 6.33S×147.80E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.5/40, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=66.3km s-min=43.5km az=106.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.82**	**223**	P	P	16 30 45.0	-0.2
	0.2nm,0.3s,baz=50,slow=11,SNR=20						
ASAR	**Alice Springs**	**21.81**	**216**	P	P	16 31 18.4	+0.6
	0.8nm,0.5s,baz=45,slow=8.8,SNR=37						
FITZ	**Fitzroy Crossi**	**24.58**	**240**	P	P	16 31 44.8	-1.0
	1.0nm,0.5s,baz=56,slow=11,SNR=7.0						
STKA	**Stephens Creek**	**26.07**	**192**	P	P	16 31 59.2	+0.1
	1.2nm,0.7s,baz=17,slow=11,SNR=1.8						
TORD	**Torodi Ar. Bea**	**145.95**	**284**	PKPbc	PKPdf	16 46 06.0	+0.2
	0.5nm,0.5s,baz=87,slow=3.8,SNR=4.9						

MEX 14 16:26:48.9±0.6, 17.20N×100.23W, h33km±7km, MD4.3, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.16**	**192**	*i* P	Pn	16 26 53.6	-0.3
CAIG				*i* S	Sb	16 26 57.7	-1.7
ARIG	**Puente Sto Nin**	**1.08**	**354**	*i* P	Pn	16 27 05.1	-2.6
ARIG				*i* S	Sn	16 27 19.0	-2.5
ZIIG	**Zihuatanejo**	**1.24**	**289**	*i* P	Pn	16 27 08.6	-1.4
ZIIG				*i* S	Sn	16 27 26.0	+0.4
PLIG	**Platanillo**	**1.37**	**30**	*i* P	Pn	16 27 09.6	-2.2
PLIG				*i* S	Sn	16 27 26.6	-2.3
MGIG	**Malinaltepec**	**1.53**	**89**	*i* P	Pn	16 27 12.5	-1.5
MGIG				*i* S	Sn	16 27 32.6	-0.2
TLIG	**Tlapa**	**1.63**	**77**	*i* P	Pn	16 27 14.0	-1.4
TLIG				*i* S	Sn	16 27 32.7	-2.6
FTIG	**Fresnillo de T**	**2.12**	**70**	*i* P	Pn	16 27 20.4	-1.8
FTIG				*i* S	Sn	16 27 45.8	-1.7
TXIG	**Tlaxiaco**	**2.36**	**88**	*i* P	Pn	16 27 23.8	-1.8
TXIG				*i* S	Sn	16 27 56.3	+2.9
HLIG	**Huajuapan de L**	**2.40**	**75**	*i* P	Pn	16 27 23.9	-2.1
HLIG				*i* S	Sn	16 27 53.0	-1.4
PPM	**Popocatepetl**	**2.40**	**39**	*i* P	Pn	16 27 25.4	-1.0
PPM				*i* S	Sn	16 27 57.9	+3.0

TAP 14 16:29:58.8, 23.59N×121.67E, h29km, ML1.7, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.17**	**315**	P	Pn	16 30 05.2	-0.3
	baz=316						
TEGC				S	Sb	16 30 10.0	+1.6
	baz=316						
EGFH	**Guangfu**	**0.24**	**290**	*i* P	Pb	16 30 05.8	+0.4
	baz=289						
EGFH				*i* S	Sb	16 30 10.9	+1.2
	baz=289						
HGSD	**Ruisui**	**0.25**	**247**	P	Pb	16 30 05.7	+0.2
	baz=247						
HGSD				*e*S	Sb	16 30 10.8	+0.9
	baz=247						
TEYL	**Yanliau Villag**	**0.29**	**347**	P	Pn	16 30 07.1	0.0
	baz=348						
TEYL				S	Sn	16 30 12.9	+0.5
	baz=348						
ESL	**Shilin**	**0.31**	**316**	*i* P	Pb	16 30 06.4	0.0
	baz=316						
ESL				*i* S	Sb	16 30 11.6	+0.2
	baz=316						
EHY	**Hungye**	**0.33**	**256**	P	Pb	16 30 07.1	+0.6
	baz=254						
EHY				S	Sn	16 30 12.8	-0.7
	baz=254						
ECBN	**Changbin**	**0.34**	**217**	*e*P	Pn	16 30 08.8	+1.0
	baz=216						
ECBN				S	Sb	16 30 12.5	+0.5
	baz=216						
YULB	**Yu-li**	**0.39**	**240**	P	Pb	16 30 08.0	+0.4
	baz=240						
YULB				S	Sn	16 30 14.6	-0.6
	baz=240						
EYUL	**Yuli**	**0.40**	**234**	*i* P	Pn	16 30 08.2	-0.5
	baz=233						
EYUL				S	Sn	16 30 15.3	0.0
	baz=233						
ETM	**Tongmen**	**0.41**	**337**	P	Pn	16 30 08.3	-0.5
	baz=336						
ETM				S	Sb	16 30 14.3	+0.5
	baz=336						
TWF1	**Yuli**	**0.42**	**236**	P	Pb	16 30 08.3	+0.5
	baz=234						
TWF1				S	Sn	16 30 15.2	-0.4
	baz=234						
TWD	**Chiawan**	**0.49**	**352**	P	Pn	16 30 10.3	+0.3
	baz=352						
TWD				*e*S	Sb	16 30 16.8	+0.7
	baz=352						
FULB	**Fuli**	**0.52**	**222**	P	Pn	16 30 09.9	-0.4
	baz=221						
FULB				S	Sn	16 30 18.3	0.0
	baz=221						
OWD	**Renai**	**0.58**	**309**	P	Pb	16 30 10.9	+0.3
	baz=308						
OWD				S	Sn	16 30 19.9	-0.1
	baz=308						
NACB	**Ninganchiao**	**0.59**	**353**	*e*P	Pb	16 30 09.7	-0.9
	baz=353						
NACB				*e*S	Sb	16 30 18.8	+0.2
	baz=353						
ETLH	**Xiulin Townshi**	**0.64**	**344**	P	Pb	16 30 11.5	-0.1
	baz=344						
ETLH				S	Sb	16 30 20.6	+0.3
	baz=344						
CHGB	**Renai**	**0.65**	**316**	P	Pn	16 30 12.2	-0.1
	baz=315						
CHGB				S	Sn	16 30 21.9	0.0
	baz=315						
YUS	**Yu-Shan**	**0.67**	**262**	*i* P	Pb	16 30 12.4	+0.2
	baz=261						
YUS				S	Sb	16 30 21.9	+0.5
	baz=261						
WHF	**Hehuan Shan**	**0.67**	**326**	P	Pb	16 30 12.4	+0.1
	baz=326						
WHF				S	Sn	16 30 22.0	-0.5
	baz=326						
SSLB	**Suanglung**	**0.69**	**287**	P	Pn	16 30 12.5	-0.1
	baz=286						
SSLB				S	Sb	16 30 21.5	0.0
	baz=286						
ELDTW	**Lidau**	**0.72**	**237**	*i* P	Pb	16 30 12.2	-0.7
	baz=235						
ELDTW				*e*S	Sb	16 30 21.8	-0.7
	baz=235						
WHYT	**Xinyi Township**	**0.76**	**278**	*i* P	Pn	16 30 14.2	+0.6
	baz=278						
WHYT				S	Sn	16 30 24.9	+0.8
	baz=278						
FUSS	**Fushou**	**0.76**	**329**	P	Pn	16 30 13.9	0.0
	baz=329						
FUSS				S	Sb	16 30 24.2	+0.3
	baz=329						
ALS	**Alishan**	**0.80**	**265**	*e*P	Pn	16 30 15.8	+1.4
	baz=264						
ALS				*e*S	Sn	16 30 26.1	+0.5
	baz=264						
WCS	**Beigang Elemen**	**0.84**	**304**	*e*P	Pb	16 30 15.2	+0.4
	baz=303						
LONT	**Longtian**	**0.84**	**216**	*e*P	Pn	16 30 13.6	-1.2
	baz=216						
LONT				*e*S	Sb	16 30 25.1	-0.8
	baz=216						
NNSB	**Datong**	**0.88**	**343**	P	Pn	16 30 15.5	+0.1
	baz=342						
NNSB				S	Sb	16 30 27.1	+0.1
	baz=342						
LDUT	**Ludao**	**0.93**	**192**	*e*P	Pn	16 30 16.0	+0.1
	baz=191						
YOJ	**Yonaguni jima**	**1.50**	**54**	*e*P	Pb	16 30 26.4	+0.4
	baz=54						

*NEIC **14** 16:30:37.7±1.5, 4.72S±0.10×152.09E±0.08, h147km±5km, mb4.5/24, Error ellipse: s-maj=14.4km s-min=11.8km az=183.0*

*IDC **14** 16:30:38.8±3.6, 4.80S×152.10E, h164km±33km, mb3.5/13, mb1 3.7/13, mb1mx3.5/43, mbtmp3.9/13, Error ellipse: s-maj=21.1km s-min=13.0km az=121.0*

ISC 14 16:30:37.1±0.6, 4.76S±0.09×152.1E±0.1, h150km, n42, σ6°97/42, mb4.0/23, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.57**	**10**	Pn	**Pn**	**16 30 59.2**	**+0.2**
RABL				Sn	**Sn**	**16 31 14.2**	**-1.3**
MANU	**Manus Island**	**5.41**	**300**	Pn	**Pn**	**16 31 56.5**	**+0.5**
SAUI	**Saumlaki**	**20.88**	**260**	P	Pn	16 35 11.5	-0.6
ANA2	**Anatahan**	**21.89**	**343**	P	**P**	**16 35 18.0**	**-0.4**
DZM	**Mont Dzumac**	**22.14**	**142**	P	**P**	**16 35 20.5**	**-0.5**
	4.1nm,0.7s,baz=323,slow=20,SNR=1.6						
DZM	**Mont Dzumac**	**22.14**	**142**	IAmb	IAmb	16 35 36.3	
	comp=Z,13nm,1.1s						
MTN	**Manton Dam**	**22.17**	**247**	P	**P**	**16 35 21.8**	**+0.5**
MTN				IAmb	IAmb	16 35 50.8	
	comp=Z,22nm,1.3s						
WR0	**Warramunga Arr**	**22.79**	**227**	P	**P**	**16 35 27.5**	**+0.4**
WRAB	**Tennant Creek**	**22.91**	**227**	P	**P**	**16 35 28.7**	**+0.5**
WB2	**Warramunga Arr**	**22.91**	**227**	P	**P**	**16 35 28.8**	**+0.5**
WRA	**Warramunga Arr**	**22.92**	**227**	P	**P**	**16 35 29.1**	**+0.7**
	comp=Z,1.6nm,0.3s,baz=53,slow=9.7,SNR=60						
WRA				S	**S**	**16 39 26.0**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=54,slow=15,SNR=2.0						
WRA	**Warramunga Arr**	**22.92**	**227**	P	**P**	**16 35 28.2**	**-0.2**
KNRA	**Kununurra**	**25.33**	**243**	P	**P**	**16 35 50.8**	**+0.6**
KNRA				IAmb	IAmb	16 36 14.4	
	comp=Z,14nm,1.1s						
AS31	**Alice Springs**	**25.69**	**221**	P	**P**	**16 35 53.5**	**0.0**
ASAR	**Alice Springs**	**25.69**	**221**	P	**P**	**16 35 54.2**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=54,slow=9.1,SNR=21						
FITZ	**Fitzroy Crossi**	**29.03**	**241**	P	**P**	**16 36 22.6**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=68,slow=9.1,SNR=19						
FORT	**Forrest**	**34.36**	**218**	P	**P**	**16 37 09.2**	**-0.6**
FORT				IAmb	IAmb	16 37 29.5	
	comp=Z,16nm,1.0s						
MORW	**Morawa**	**41.80**	**231**	P	**P**	**16 38 12.8**	**+0.6**
MORW				IAmb	IAmb	16 38 41.1	
	comp=Z,20nm,1.4s						
CMAR	**Chiang Mai Arr**	**57.19**	**295**	P	**P**	**16 40 10.3**	**+1.4**
	comp=Z,1.5nm,0.7s,baz=125,slow=5.5,SNR=14						
PETK	**Petropavlovsk-**	**57.85**	**4**	P	**P**	**16 40 13.4**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=124,slow=7.4,SNR=4.7						
SMY	**Shemya**	**60.24**	**15**	P	**P**	**16 40 28.8**	**-0.5**
KIWB	**Kanaga Island**	**62.20**	**21**	P	**P**	**16 40 41.6**	**-1.0**
SONM	**Songino Array**	**65.90**	**328**	P	**P**	**16 41 07.0**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=141,slow=5.3,SNR=3.4						
PALK	**Palkele**	**72.20**	**279**	P	**P**	**16 41 43.8**	**-2.7**
Q19K	**Cape Douglas,**	**76.63**	**26**	P	**P**	**16 42 12.5**	**+1.4**
P19K	**Oil Pt**	**77.21**	**25**	P	**P**	**16 42 15.2**	**+0.9**
P19K				IAmb	IAmb	16 42 40.0	
	comp=Z,25nm,1.0s						
TIXI	**Tiksi**	**77.76**	**353**	P	**P**	**16 42 16.5**	**-0.6**
TIXI				IAmb	IAmb	16 42 23.1	
	comp=Z,10nm,0.8s						
L19K	**White Mountain**	**77.99**	**23**	P	**P**	**16 42 20.4**	**+1.8**
L19K				IAmb	IAmb	16 42 29.8	
	comp=Z,16nm,1.4s						
CNPM	**China Poot**	**78.00**	**26**	P	**P**	**16 42 20.0**	**+1.3**
CNPM				IAmb	IAmb	16 42 21.0	
	comp=Z,23nm,1.0s						
TTA	**Tatalina**	**78.00**	**22**	P	**P**	**16 42 20.2**	**+1.4**
J20K	**Nowinta River**	**79.41**	**21**	P	**P**	**16 42 27.6**	**+1.3**
J20K				IAmb	IAmb	16 42 45.8	
	comp=Z,9.5nm,1.5s						
CAST	**Castle Rocks**	**79.75**	**22**	P	**P**	**16 42 28.4**	**+0.2**
CAST				IAmb	IAmb	16 42 52.1	
	comp=Z,4.8nm,1.5s						
MKAR	**Makanchi Array**	**79.81**	**319**	P	**P**	**16 42 29.2**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=101,slow=6.3,SNR=3.6						
PWL	**Port Wells**	**79.93**	**25**	P	**P**	**16 42 30.2**	**+1.0**
PWL				IAmb	IAmb	16 42 33.2	
	comp=Z,20nm,1.1s						
ZALV	**Zalesovo Beam**	**80.71**	**326**	P	**P**	**16 42 33.5**	**0.0**
	comp=Z,0.6nm,0.4s,baz=79,slow=3.1,SNR=1.6						
ILAR	**Eielson Array**	**82.40**	**22**	P	**P**	**16 42 41.6**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=247,slow=5.3,SNR=12						
QSPA	**South Pole Qui**	**85.20**	**180**	P	**P**	**16 42 57.6**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=315,slow=4.3						
NVAR	**Mina Array Bea**	**92.64**	**52**	P	**P**	**16 43 32.7**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=266,slow=6.2,SNR=2.7						
PDAR	**Pinedale Array**	**99.37**	**48**	P	**Pdif**	**16 44 00.8**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=218,slow=5.7,SNR=1.4						
GERES	**GERESS Array B**	**123.63**	**328**	PKP	**PKiKP**	**16 49 18.2**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=350,slow=3.1,SNR=3.5						
GERES	**GERESS Array B**	**123.63**	**328**		**PKPdf**	**16 49 17.6**	**+0.4**
TORD	**Torodi Ar. Bea**	**149.59**	**288**	PKPbc	**PKPbc**	**16 50 10.2**	**+0.2**
	comp=Z,1.8nm,0.4s,baz=87,slow=2.5,SNR=19						

*JMA **14** 16:30:38.9±0.1, 24.00N×122.27E, h24km±3km, M2.5*

*TAP **14** 16:30:38.7, 24.12N×122.29E, h23km, ML2.9, D*

ISC 14 16:30:38.7±1.1, 24.07N±0.02×122.27E±0.02, h23km±13km, n88, σ1°00/165, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.54**	**297**	*e*P	**Pb**	**16 30 49.4**	**-0.1**
	baz=298						
EWUT	**Wuta**	**0.58**	**310**	*i* P	**Pb**	**16 30 49.8**	**-0.5**
	baz=312						
EWUT				*e*S	**Sb**	**16 30 57.0**	**-1.1**
	baz=312						
ETL	**Fush Village**	**0.59**	**279**	P	**Pb**	**16 30 51.4**	**+0.9**
	baz=258						
ETL				*e*S	**Sn**	**16 31 01.2**	**+0.5**
	baz=258						
ENA	**Nanau**	**0.60**	**307**	*i* P	**Pb**	**16 30 50.2**	**-0.4**
	baz=309						
ENA				*e*S	**Sb**	**16 30 56.9**	**-1.7**
	baz=309						
TWD	**Chiawan**	**0.61**	**272**	*i* P	**Pb**	**16 30 51.5**	**+0.8**
	baz=266						
NACB	**Ninganchiao**	**0.62**	**280**	P	**Pb**	**16 30 51.3**	**+0.3**
	baz=259						
NACB				S	**Sn**	**16 31 01.2**	**-0.2**
	baz=259						
TEYL	**Yanliau Villag**	**0.64**	**252**	P	**Pb**	**16 30 51.0**	**-0.2**
	baz=239						
TEYL				*e*S	**Sn**	**16 31 02.0**	**+0.1**
	baz=239						
TWC	**Suao**	**0.66**	**325**	P	**Pb**	**16 30 50.8**	**-0.7**
	baz=321						
TWC				S	**Sb**	**16 30 59.3**	**-1.0**
	baz=321						
ETM	**Tongmen**	**0.71**	**262**	P	**Pb**	**16 30 52.1**	**-0.4**
	baz=247						
ETM				S	**Sn**	**16 31 03.3**	**-0.3**
	baz=247						
JYNG	**Yonagunijimaku**	**0.73**	**58**	P	**Pb**	**16 30 53.1**	**+0.4**
JYNG				S	**Sn**	**16 31 03.2**	**-0.8**
ETLH	**Xiulin Townshi**	**0.73**	**281**	P	**Pb**	**16 30 53.0**	**+0.2**
	baz=263						
ETLH				S	**Sb**	**16 31 03.5**	**+1.0**
	baz=263						
NDS	**Dongshan**	**0.76**	**319**	*i* P	**Pb**	**16 30 52.8**	**-0.4**
	baz=318						
NDS				*i* S	**Sb**	**16 31 02.8**	**-0.3**
	baz=318						
YOJ	**Yonaguni jima**	**0.79**	**60**	P	**Pn**	**16 30 54.2**	**-0.2**
YOJ				*e*S	**Sn**	**16 31 05.4**	**0.0**
YOJ	**Yonaguni jima**	**0.79**	**60**	P	**Pn**	**16 30 54.1**	**-0.2**
	baz=61						
YOJ				S	**Sb**	**16 31 03.9**	**0.0**
	baz=61						
ESL	**Shilin**	**0.80**	**252**	*e*P	**Pb**	**16 30 51.3**	**-2.6**
	baz=240						
ESL				S	**Sb**	**16 31 05.2**	**+0.9**
	baz=240						
EGS		**0.83**	**339**	*e*P	**Pb**	**16 30 54.9**	**+0.4**
	baz=326						
EGS				S	**Sb**	**16 31 05.1**	**-0.2**
	baz=326						
ILA	**Ilan**	**0.84**	**326**	*e*P	**Pb**	**16 30 53.2**	**-1.4**
	baz=322						
ILA				S	**Sb**	**16 31 05.8**	**+0.3**
	baz=322						
TWE	**Neicheng**	**0.85**	**320**	P	**Pb**	**16 30 55.0**	**+0.2**
	baz=316						
TWE				S	**Sb**	**16 31 05.9**	**+0.1**
	baz=316						
ENTT	**Nioudou**	**0.86**	**312**	*i* P	**Pb**	**16 30 55.1**	**+0.2**
	baz=315						
ENTT				*i* S	**Sb**	**16 31 05.8**	**-0.1**
	baz=315						
EGFH	**Guangfu**	**0.86**	**243**	*i* P	**Pb**	**16 30 54.5**	**-0.5**
	baz=230						
EGFH				*e*S	**Sb**	**16 31 06.2**	**+0.1**
	baz=230						
NDT	**Datong Townshi**	**0.87**	**308**	*i* P	**Pb**	**16 30 55.6**	**+0.4**
	baz=315						
NDT				S	**Sb**	**16 31 06.9**	**+0.5**
	baz=315						
NTC	**Toucheng**	**0.88**	**333**	P	**Pb**	**16 30 55.5**	**+0.2**
	baz=329						
NTC				S	**Sb**	**16 31 06.0**	**-0.6**
	baz=329						
NNSB	**Datong**	**0.88**	**294**	P	**Pb**	**16 30 55.5**	**+0.1**
	baz=276						
NNS	**Nan Shan**	**0.90**	**295**	*i* P	**Pb**	**16 30 55.8**	**+0.1**
	baz=276						
WHF	**Hehuan Shan**	**0.92**	**275**	P	**Pb**	**16 30 55.9**	**-0.3**
	baz=260						
WHF				S	**Sb**	**16 31 08.4**	**+0.3**
	baz=260						
FUSS	**Fushou**	**0.95**	**281**	P	**Pb**	**16 30 56.7**	**+0.1**
	baz=278						
HGSD	**Ruisui**	**0.96**	**234**	P	**Pb**	**16 30 56.2**	**-0.4**
	baz=233						
HGSD				*e*S	**Sn**	**16 31 11.2**	**+1.6**
	baz=233						
TWB1	**Santiao Chiao**	**0.97**	**345**	*i* P	**Pn**	**16 30 56.2**	**-0.7**
	baz=326						
TWB1				S	**Sb**	**16 31 09.2**	**0.0**
	baz=326						
TIPB	**Shuangxi**	**0.99**	**336**	*i* P	**Pn**	**16 30 57.2**	**+0.1**
	baz=332						
TIPB				*e*S	**Sb**	**16 31 09.7**	**0.0**
	baz=332						
NWLT	**Wulai**	**0.99**	**316**	*i* P	**Pb**	**16 30 57.6**	**+0.3**
	baz=312						
CHGB	**Renai**	**1.00**	**270**	P	**Pn**	**16 30 57.3**	**-0.1**
	baz=254						
OWD	**Renai**	**1.00**	**264**	P	**Pb**	**16 30 57.2**	**-0.2**
	baz=261						
OWD				*e*S	**Sb**	**16 31 10.6**	**+0.3**
	baz=261						
TWT	**Tachien**	**1.01**	**281**	P	**Pb**	**16 30 58.2**	**+0.5**
	baz=264						
NSK	**Sanguang**	**1.03**	**306**	*i* P	**Pn**	**16 30 57.4**	**-0.3**
	baz=289						
NSK				*e*S	**Sb**	**16 31 11.5**	**+0.6**
	baz=289						
ECBN	**Changbin**	**1.06**	**225**	*e*P	**Pn**	**16 30 57.5**	**-0.5**
	baz=225						
ECBN				*e*S	**Sb**	**16 31 11.6**	**0.0**
	baz=225						
WFSB	**Wu-fen Shan**	**1.09**	**336**	*e*P	**Pn**	**16 30 56.6**	**-2.0**
	baz=332						
WFSB				S	**Sb**	**16 31 12.8**	**0.0**
	baz=332						
TWA	**Mucha**	**1.10**	**326**	*e*P	**Pb**	**16 30 59.9**	**+0.8**
	baz=322						
TWA				S	**Sn**	**16 31 14.3**	**+1.1**
	baz=322						
YULB	**Yu-li**	**1.11**	**233**	*e*P	**Pn**	**16 30 58.3**	**-0.6**
	baz=248						
YULB				*e*S	**Sb**	**16 31 13.0**	**-0.3**
	baz=248						
EYUL	**Yuli**	**1.12**	**231**	*e*P	**Pn**	**16 30 58.7**	**-0.3**
	baz=247						
EYUL				S	**Sn**	**16 31 14.4**	**+0.7**
	baz=247						
TWF1	**Yuli**	**1.14**	**232**	P	**Pn**	**16 30 59.2**	**+0.1**
	baz=247						
TWF1				*e*S	**Sn**	**16 31 13.9**	**-0.2**
	baz=247						
TATO	**Taipei**	**1.15**	**322**	P	**Pb**	**16 31 00.1**	**+0.2**
	baz=318						
TATO				S	**Sb**	**16 31 15.2**	**+0.9**
	baz=318						
TNOU	**National Taiwa**	**1.17**	**338**	*e*P	**Pn**	**16 30 57.3**	**-2.3**
	baz=333						
TNOU				*e*S	**Sn**	**16 31 12.4**	**-2.4**
	baz=333						
DPDB	**Guoxing**	**1.23**	**269**	P	**Pn**	**16 31 01.1**	**+0.6**
	baz=266						
WHP	**Taichung City**	**1.23**	**280**	*e*P	**Pb**	**16 31 01.3**	**+0.1**
	baz=266						
WHP				*e*S	**Sb**	**16 31 18.3**	**+1.7**
	baz=266						
SSLB	**Suanglung**	**1.23**	**257**	P	**Pn**	**16 31 00.5**	**0.0**
	baz=256						
SSLB				*e*S	**Sn**	**16 31 17.0**	**+0.5**
	baz=256						
WCS	**Beigang Elemen**	**1.24**	**270**	P	**Pn**	**16 31 00.6**	**0.0**
	baz=267						
FULB	**Fuli**	**1.24**	**226**	*e*P	**Pn**	**16 31 00.0**	**-0.6**
	baz=213						
FULB				*e*S	**Sn**	**16 31 15.7**	**-1.0**
	baz=213						
YM01	**YM01**	**1.25**	**330**	P	**Pb**	**16 31 02.4**	**+0.8**
	baz=341						
YM01				S	**Sn**	**16 31 17.2**	**+0.3**
	baz=341						
SMLT	**Sun Moon Lake**	**1.26**	**262**	P	**Pn**	**16 31 01.3**	**+0.3**
	baz=260						
SMLT				*e*S	**Sb**	**16 31 19.6**	**+1.8**
	baz=260						
CHKT	**Chengkung**	**1.27**	**221**	*e*P	**Pn**	**16 30 59.8**	**-1.1**
	baz=210						
CHKT				*e*S	**Sn**	**16 31 14.8**	**-2.4**
	baz=210						
YM08	**YM08**	**1.28**	**331**	*e*P	**Pb**	**16 31 03.0**	**+1.0**
	baz=327						
YM08				*e*S	**Sn**	**16 31 15.7**	**-1.8**
	baz=327						
LIOB	**Emei**	**1.28**	**297**	*e*P	**Pb**	**16 31 02.5**	**+0.5**
	baz=294						
LIOB				S	**Sb**	**16 31 19.5**	**+1.4**
	baz=294						
NSTT	**Nanjuang**	**1.28**	**296**	*e*P	**Pb**	**16 31 02.5**	**+0.4**
	baz=293						
NSTT				*e*S	**Sb**	**16 31 20.8**	**+2.6**
	baz=293						
TYC	**Yuchr**	**1.30**	**263**	P	**Pn**	**16 31 01.9**	**+0.5**
	baz=261						
YUS	**Yu-Shan**	**1.33**	**245**	*i* P	**Pn**	**16 31 02.7**	**+0.4**
	baz=244						
YUS				*e*S	**Sn**	**16 31 19.2**	**-0.4**
	baz=244						
WHYT	**Xinyi Township**	**1.34**	**254**	P	**Pb**	**16 31 03.4**	**+0.2**
	baz=244						
WHYT				*e*S	**Sn**	**16 31 19.9**	**+0.6**
	baz=244						
IRIF	**Iriomote-Funau**	**1.36**	**78**	P	**Pb**	**16 31 03.2**	**-0.3**
IRIF				*e*S	**Sb**	**16 31 22.7**	**+2.2**
EDH	**Donghe**	**1.40**	**219**	*e*P	**Pn**	**16 31 01.9**	**-0.9**
	baz=210						
EDH				*e*S	**Sn**	**16 31 18.4**	**-2.2**
	baz=210						
HATJ	**Hateruma jima**	**1.41**	**90**	P	**Pb**	**16 31 05.5**

ALS				S	Sn	16 31 22.9	+0.7		
	baz=247								
WNT	**Mingjian**	**1.46**	**263**	P	Pb	16 31 04.8	-0.4		
WNT	baz=261			S	Sb	16 31 24.3	+1.0		
CHN5	**Tsauling**	**1.53**	**253**	P	Pb	16 31 06.4	+0.1		
CHN5	baz=240			S	Sb	16 31 25.9	+0.5		
LONT	**Longtian**	**1.56**	**222**	*e*P	Pn	16 31 04.5	-0.5		
LONT	baz=223			*e*S	Sn	16 31 22.5	-1.9		
LDUT	**Ludao**	**1.57**	**208**	*e*P	Pn	16 31 04.0	-1.1		
LDUT	baz=210			*e*S	Sn	16 31 22.5	-2.2		
JKRS	**Kuro-shima**	**1.60**	**84**	P	Pb	16 31 07.3	-0.2		
JKRS				*e*S	Sb	16 31 28.2	+0.9		
WGK	**Gukeng**	**1.60**	**257**	*e*P	Pb	16 31 08.6	+1.0		
WGK	baz=256			*e*S	Sb	16 31 28.8	+1.3		
WDLH	**Douliu**	**1.63**	**257**	P	Pb	16 31 07.6	-0.4		
WDLH	baz=243			S	Sb	16 31 28.9	+0.8		
STYH	**Taoyuan**	**1.63**	**237**	P	Pn	16 31 07.0	+1.0		
STYH	baz=237			*e*S	Sb	16 31 29.4	+1.1		
STYT	**Tauyuan**	**1.65**	**237**	P	Pn	16 31 07.3	+1.0		
STYT	baz=237			S	Sb	16 31 28.5	-0.4		
TPUB	**Ta-pu**	**1.68**	**243**	P	Pn	16 31 08.0	+1.3		
TPUB	baz=243			*e*S	Sb	16 31 30.5	+0.8		
WTP	**Ta-pu**	**1.72**	**242**	P	Pb	16 31 09.1	-0.5		
WTP	baz=242			S	Sb	16 31 31.1	+0.2		
WRL	**Guolierlin Hig**	**1.74**	**265**	P	Pn	16 31 08.7	+1.3		
WRL	baz=264			*e*S	Sb	16 31 31.7	+0.4		
JIJ	**Ishigaki jima**	**1.74**	**80**	P	Pn	16 31 07.9	+0.5		
JIJ				*e*S	Sn	16 31 29.9	+1.0		
TWK	**Hsinying**	**1.81**	**244**	*e*P	Pb	16 31 11.3	+0.1		
TWK	baz=244			S	Sb	16 31 33.4	-0.1		
CHN1	**Nanshi**	**1.82**	**242**	*e*P	Pb	16 31 11.3	+0.1		
CHN1	baz=242			*e*S	Sb	16 31 34.0	+0.3		
SGST	**Jiashian**	**1.83**	**238**	P	Pb	16 31 10.4	-1.1		
SGST	baz=238			S	Sb	16 31 33.9	0.0		
SLGT	**Liugui**	**1.83**	**235**	*i* P	Pn	16 31 10.1	+1.4		
SLGT	baz=225			S	Sb	16 31 33.2	-0.7		
JISG	**Ishigakijimahi**	**1.94**	**74**	P	Pn	16 31 10.7	+0.6		
JISG				*e*S	Sn	16 31 35.2	+1.4		
SSD	**Sandimen**	**2.00**	**229**	*e*P	Pb	16 31 13.5	-0.8		
SSD	baz=223			*e*S	Sb	16 31 38.7	+0.1		
SCST	**Cishan**	**2.01**	**235**	P	Pb	16 31 13.6	-0.9		
SCST	baz=223			S	Sb	16 31 39.6	+0.6		
TSMG	**Majia**	**2.01**	**228**	P	Pn	16 31 12.8	+1.6		
TSMG	baz=222			*e*S	Sb	16 31 39.4	+0.2		
MASBT	**Mashibuluo**	**2.08**	**226**	P	Pn	16 31 13.2	+1.0		
MASBT	baz=220			S	Sn	16 31 38.4	+0.9		
SCZT	**Fangliau**	**2.27**	**222**	*e*P	Pb	16 31 17.6	-1.3		
SCZT	baz=218			*e*S	Sb	16 31 45.7	-0.8		
SLIU	**Shizi**	**2.28**	**217**	*e*P	Pn	16 31 16.6	+1.6		
SLIU	baz=219			*e*S	Sn	16 31 44.0	+1.6		
JTJ	**Tarama**	**2.29**	**75**	P	Pb	16 31 17.3	-2.1		
JTJ				*e*S	Sb	16 31 45.4	-1.9		
PNG	**Penghu**	**2.53**	**259**	*e*P	Pn	16 31 19.5	+1.1		
PNG	baz=259			*e*S	Sn	16 31 49.5	+1.0		
	baz=259								

TAP ***14*** *16:31:33.9,24.˚10N×122.˚29E,h47km,ML2.9,D*
JMA ***14*** *16:31:34.3±0.1,24.˚05N×122.˚26E,h31km±4km,M2.2*

ISC 14 16:31:33.1±1.0,**24.˚06N**±0.˚02×**122.˚29E**±0.˚02,**h26**km±11km, **n98,σ0°95/187, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
EHP	**Heping Village**	**0.56**	**297**	*e*P	Pb		16 31 44.7	+0.3
	baz=292							
EWUT	**Wuta**	**0.60**	**310**	*e*P	Pb		16 31 44.3	-0.8
EWUT	baz=311			*e*S	Sb		16 31 53.6	+0.4
ETL	**Fush Village**	**0.61**	**279**	P	Pn		16 31 46.3	+0.1
ETL	baz=265			S	Sn		16 31 55.8	+0.5
ENA	**Nanau**	**0.62**	**307**	*e*P	Pb		16 31 44.7	-0.7
ENA	baz=308			*e*S	Sb		16 31 54.0	+0.3
TWD	**Chiawan**	**0.63**	**272**	*i* P	Pn		16 31 46.5	+0.1
TWD	baz=260			S	Sn		16 31 56.3	+0.6
NACB	**Ninganchiao**	**0.64**	**280**	P	Pn		16 31 46.5	-0.1
NACB	baz=268			*e*S	Sn		16 31 57.1	+1.2
TEYL	**Yanliau Villag**	**0.66**	**253**	*e*P	Pn		16 31 48.3	+1.5
TEYL	baz=246			S	Sn		16 31 56.4	+0.1
TWC	**Suao**	**0.68**	**324**	*e*P	Pb		16 31 45.5	-0.8
TWC	baz=322			*e*S	Sb		16 31 54.0	-1.4
JYNG	**Yonagunijimaku**	**0.72**	**57**	P	Pn		16 31 48.1	+0.5
JYNG				*e*S	Sn		16 31 57.7	-0.1
ETM	**Tongmen**	**0.73**	**263**	*e*P	Pb		16 31 46.6	-0.6
ETM	baz=259			S	Sb		16 31 57.4	+0.5
ETLH	**Xiulin Townshi**	**0.75**	**281**	P	Pb		16 31 47.5	-0.2
ETLH	baz=278			S	Sn		16 31 58.4	-0.3
TEGC	**Jichi Village**	**0.77**	**243**	*e*P	Pb		16 31 47.0	-0.8
TEGC	baz=234			S	Sn		16 31 59.2	+0.2
NDS	**Dongshan**	**0.77**	**318**	P	Pb		16 31 47.6	-0.4
NDS	baz=315			S	Sn		16 31 58.8	-0.4
YOJ	**Yonaguni jima**	**0.77**	**59**	P	Pn		16 31 49.4	+1.0
YOJ				*e*S	Sn		16 31 59.3	+0.1
YOJ	**Yonaguni jima**	**0.77**	**59**	P	Pn		16 31 49.3	+0.9
YOJ	baz=61			S	Sn		16 31 59.3	+0.1
ESL	**Shilin**	**0.82**	**253**	*e*P	Pn		16 31 50.8	+1.8
ESL	baz=243			S	Sn		16 31 59.9	-0.3
EGS		**0.85**	**338**	*i* P	Pn		16 31 49.5	+0.1
EGS	baz=337			*i* S	Sb		16 32 00.3	+0.1
ILA	**Ilan**	**0.86**	**325**	*e*P	Pb		16 31 48.7	-0.7
ILA	baz=323			S	Sb		16 32 00.6	+0.1
TWE	**Neicheng**	**0.87**	**320**	P	Pn		16 31 49.7	0.0
TWE	baz=318			S	Sb		16 32 00.3	-0.5
ENTT	**Nioudou**	**0.88**	**312**	P	Pn		16 31 49.8	0.0
ENTT	baz=301			S	Sb		16 32 00.7	-0.3
EGFH	**Guangfu**	**0.88**	**244**	*e*P	Pn		16 31 52.1	+2.3
EGFH	baz=241			*e*S	Sn		16 32 02.7	+1.0
NDT	**Datong Townshi**	**0.89**	**308**	P	Pn		16 31 50.3	+0.3
NDT	baz=305			S	Sn		16 32 01.7	-0.3
NTC	**Toucheng**	**0.89**	**332**	P	Pn		16 31 50.0	0.0
NTC	baz=338			S	Sn		16 32 02.3	+0.2
NNSB	**Datong**	**0.90**	**294**	P	Pn		16 31 50.3	0.0
NNSB	baz=291			S	Sn		16 32 03.0	+0.4
NNS	**Nan Shan**	**0.92**	**295**	P	Pn		16 31 50.6	+0.1
NNS	baz=292			S	Sn		16 32 03.0	+0.2
WHF	**Hehuan Shan**	**0.94**	**275**	P	Pn		16 31 51.1	+0.1
WHF	baz=272			S	Sb		16 32 02.9	-0.4
FUSS	**Fushou**	**0.97**	**281**	P	Pb		16 31 51.5	+0.1
HGSD	**Ruisui**	**0.97**	**235**	P	Pb		16 31 51.2	-0.1
TIPB	**Shuangxi**	**1.00**	**335**	P	Pb		16 31 52.0	+0.1
TIPB	baz=346			S	Sn		16 32 04.8	0.0
NWLT	**Wulai**	**1.01**	**315**	P	Pb		16 31 52.2	+0.1
NWLT	baz=313			S	Sn		16 32 06.0	+1.0
CHGB	**Renai**	**1.02**	**270**	P	Pn		16 31 51.7	-0.3
OWD	**Renai**	**1.02**	**264**	P	Pb		16 31 52.2	0.0
OWD	baz=271			S	Sb		16 32 04.7	-0.6
TWT	**Tachien**	**1.03**	**281**	*i* P	Pb		16 31 52.6	+0.2
TWT	baz=269			S	Sb		16 32 05.6	0.0
EHY	**Hungye**	**1.04**	**238**	*e*P	Pb		16 31 53.3	+0.8
EHY	baz=247			S	Sb		16 32 05.1	-0.7
NSK	**Sanguang**	**1.04**	**306**	P	Pb		16 31 52.4	-0.2
NSK	baz=304			S	Sb		16 32 05.5	-0.4
TDCB	**Techi**	**1.05**	**281**	P	Pb		16 31 52.8	+0.1
TDCB	baz=269			S	Sn		16 32 06.6	+0.5
ECBN	**Changbin**	**1.06**	**226**	P	Pn		16 31 51.9	-0.4
ECBN	baz=215			S	Sn		16 32 05.5	-0.8
NWF	**Wu-fen Shan**	**1.11**	**336**	*e*P	Pn		16 31 50.4	-2.7
NWF	baz=346			*e*S	Sb		16 32 08.3	+0.5
WFSB	**Wu-fen Shan**	**1.11**	**336**	*e*P	Pn		16 31 50.7	-2.3
WFSB	baz=346			*e*S	Sb		16 32 07.8	+0.1
TWA	**Mucha**	**1.12**	**325**	*i* P	Pn		16 31 53.2	0.0
TWA	baz=324			S	Sb		16 32 08.6	+0.6
YULB	**Yu-li**	**1.12**	**234**	P	Pn		16 31 52.2	-1.0
YULB	baz=244			S	Sn		16 32 07.6	-0.2
EYUL	**Yuli**	**1.13**	**232**	P	Pb		16 31 54.0	-0.1
EYUL	baz=243			S	Sb		16 32 09.2	+0.7
NHDH	**Xindian Distri**	**1.14**	**323**	P	Pb		16 31 54.3	+0.2
NHDH	baz=320			*e*S	Sb		16 32 09.6	+1.1
TWF1	**Yuli**	**1.15**	**232**	*e*P	Pb		16 31 56.1	+1.8
TWF1	baz=243			S	Sn		16 32 08.2	-0.3
WPL	**Puli Township**	**1.22**	**268**	P	Pb		16 31 55.3	-0.2
DPDB	**Guoxing**	**1.24**	**269**	P	Pn		16 31 55.3	+0.4
DPDB	baz=266			S	Sb		16 32 11.7	0.0
WHP	**Taichung City**	**1.24**	**280**	*e*P	Pb		16 31 58.1	+2.1
WHP	baz=270			*e*S	Sb		16 32 13.2	+1.5
SSLB	**Suanglung**	**1.25**	**258**	*e*P	Pb		16 31 56.7	+0.6
SSLB	baz=255			S	Sb		16 32 11.5	-0.2
FULB	**Fuli**	**1.25**	**227**	P	Pn		16 31 54.5	-0.5
FULB	baz=215			S	Sn		16 32 10.8	-0.2
WCS	**Beigang Elemen**	**1.26**	**270**	P	Pb		16 31 55.6	-0.6
WCS	baz=263			S	Sb		16 32 11.9	0.0
YM01	**YM01**	**1.26**	**329**	*e*P	Pb		16 31 56.8	+0.5
YM01	baz=340			*e*S	Sb		16 32 12.8	+0.6
CHKT	**Chengkung**	**1.27**	**222**	P	Pb		16 31 56.0	-0.5
CHKT	baz=213			S	Sn		16 32 09.8	-1.7
SMLT	**Sun Moon Lake**	**1.28**	**262**	*i* P	Pn		16 31 55.7	+0.3
SMLT	baz=260			*i* S	Sb		16 32 12.9	+0.2
YM08	**YM08**	**1.29**	**331**	*e*P	Pb		16 31 57.8	+1.0
YM08	baz=341			S	Sn		16 32 10.5	-1.4
LIOB	**Emei**	**1.30**	**297**	P	Pb		16 31 57.1	+0.2
NSTT	**Nanjuang**	**1.30**	**296**	P	Pb		16 31 57.0	0.0
NSTT	baz=294			S	Sn		16 32 12.6	+0.4
TYC	**Yuchr**	**1.32**	**264**	P	Pb		16 31 56.8	-0.3
TYC	baz=261			S	Sb		16 32 13.2	-0.4
IRIF	**Iriomote-Funau**	**1.35**	**78**	P	Pb		16 31 57.9	+0.2
IRIF				*e*S	Sb		16 32 17.0	+2.4
YUS	**Yu-Shan**	**1.35**	**245**	P	Pb		16 31 58.1	+0.1
YUS	baz=243			S	Sb		16 32 14.7	-0.3
WHYT	**Xinyi Township**	**1.36**	**255**	*e*P	Pb		16 31 58.5	+0.5
WHYT	baz=245			S	Sb		16 32 14.4	-0.5
ECS	**Chishang**	**1.37**	**226**	P	Pb		16 31 57.8	-0.3
ECS	baz=237			S	Sb		16 32 15.3	0.0
HATJ	**Hateruma jima**	**1.39**	**90**	*e*S	Sb		16 32 18.0	+2.2
EDH	**Donghe**	**1.41**	**220**	*e*P	Pn		16 31 56.4	-0.7
EDH	baz=212			S	Sn		16 32 13.5	-1.4
WJS	**Zhushan**	**1.44**	**261**	*e*P	Pn		16 31 56.8	-0.8
WJS	baz=259			S	Sb		16 32 17.7	+0.3
ELDTW	**Lidau**	**1.45**	**234**	P	Pn		16 31 57.8	0.0
ELDTW	baz=223			S	Sn		16 32 16.0	-0.1
ALS	**Alishan**	**1.46**	**248**	P	Pb		16 31 59.2	-0.7
ALS	baz=246			S	Sn		16 32 16.6	0.0
CHN5	**Tsauling**	**1.54**	**253**	P	Pb		16 32 00.5	-0.6
CHN5	baz=251			*e*S	Sb		16 32 21.0	+0.8
LONT	**Longtian**	**1.56**	**223**	*e*P	Pb		16 32 01.0	-0.4
LONT	baz=231			S	Sn		16 32 17.8	-0.9
LDUT	**Ludao**	**1.57**	**209**	P	Pn		16 31 58.9	-0.4
LDUT	baz=208			*e*S	Sn		16 32 16.7	-2.1
JKRS	**Kuro-shima**	**1.58**	**83**	P	Pb		16 32 02.4	+0.6
JKRS				*e*S	Sb		16 32 23.0	+1.6
WDLH	**Douliu**	**1.64**	**257**	*e*P	Pb		16 32 01.7	-1.0
WDLH	baz=255			*e*S	Sb		16 32 25.9	+2.9
STYH	**Taoyuan**	**1.64**	**238**	P	Pn		16 32 01.3	+1.0
STYH	baz=236			*e*S	Sb		16 32 22.0	-1.1
TWGBT	**Beinan**	**1.66**	**222**	P	Pn		16 32 00.9	+0.3
TWGBT	baz=230			*e*S	Sn		16 32 22.0	+0.9
STYT	**Tauyuan**	**1.66**	**238**	P	Pb		16 32 02.0	-1.1
STYT	baz=236			*e*S	Sb		16 32 22.8	-0.8
TWG	**Pinlang**	**1.66**	**222**	P	Pn		16 32 01.2	+0.5
TWG	baz=230			*e*S	Sn		16 32 21.7	+0.6
TPUB	**Ta-pu**	**1.69**	**244**	*e*P	Pb		16 32 02.3	-1.4
TPUB	baz=242			*e*S	Sb		16 32 25.6	+1.0
JIJ	**Ishigaki jima**	**1.72**	**79**	P	Pb		16 32 02.9	-1.2
JIJ				S	Sb		16 32 24.4	-1.0
WTP	**Ta-pu**	**1.73**	**242**	*i* P	Pb		16 32 02.9	-1.5
WTP	baz=241			*e*S	Sb		16 32 26.8	+1.0
WTK	**Tuku**	**1.77**	**258**	P	Pb		16 32 04.8	-0.2
WTK	baz=256			*e*S	Sb		16 32 27.3	+0.5
TWK	**Hsinying**	**1.83**	**245**	*e*P	Pb		16 32 05.2	-0.7
TWK	baz=243			*e*S	Sb		16 32 28.4	0.0
CHN1	**Nanshi**	**1.83**	**242**	*e*P	Pn		16 32 04.2	+1.3
CHN1	baz=240			S	Sb		16 32 29.0	+0.5
SGST	**Jiashian**	**1.84**	**238**	P	Pb		16 32 05.5	-0.6
SGST	baz=237			S	Sb		16 32 29.0	+0.2
JISG	**Ishigakijimahi**	**1.92**	**74**	P	Pb		16 32 06.2	-1.3
JISG				*e*S	Sb		16 32 31.1	+0.1
WSF	**Szhu**	**1.94**	**258**	*e*P	Pn		16 32 04.7	+0.3
WSF	baz=268			S	Sb		16 32 30.9	-0.5
SSD	**Sandimen**	**2.00**	**230**	*e*P	Pb		16 32 08.0	-0.9
SSD	baz=225			*e*S	Sb		16 32 32.6	-0.8
SCST	**Cishan**	**2.02**	**235**	P	Pb		16 32 09.0	-0.1
SCST	baz=245			S	Sb		16 32 35.0	+1.2
TSMG	**Majia**	**2.02**	**229**	P	Pb		16 32 07.5	-1.8
TSMG	baz=224			S	Sn		16 32 31.4	+1.4
MASBT	**Mashibuluo**	**2.09**	**227**	P	Pn		16 32 08.3	+1.7
MASBT	baz=224			*e*S	Sb		16 32 35.7	-0.3
LAY	**Lan-yu**	**2.12**	**199**	*e*P	Pn		16 32 07.9	+0.9
LAY	baz=198			*e*S	Sn		16 32 29.7	-2.8
JTJ	**Tarama**	**2.28**	**75**	S	Sb		16 32 39.3	-2.0
SLIU	**Shizi**	**2.29**	**217**	P	Pn		16 32 09.6	+0.3
SLIU	baz=216			S	Sn		16 32 36.4	-0.2
WDGT	**Dungji**	**2.54**	**252**	*e*P	Pn		16 32 14.6	+2.0
WDGT	baz=250			*e*S	Sn		16 32 43.2	+0.6
PHUB	**P'eng-hu**	**2.54**	**258**	P	Pn		16 32 13.6	+0.9
PHUB	baz=269			S	Sn		16 32 43.8	+0.9
PNG	**Penghu**	**2.55**	**259**	*e*P	Pn		16 32 14.3	+1.5
PNG	baz=257			*e*S	Sn		16 32 43.7	+0.7
VWUC	**VWUC**	**2.75**	**290**	*e*S	Sn		16 32 46.2	-1.7
PTMZ	**Houxiangcun**	**3.04**	**289**	P	Pn		16 32 19.6	0.0
PTMZ	baz=287			*e*S	Sn		16 32 52.6	-2.6
KNMB	**Chin-men Tao**	**3.58**	**277**	*e*P	Pn		16 32 28.4	+1.4
KNMB	baz=265			*e*S	Sn		16 33 08.3	-0.2
ZPLA	**Ao Xicun**	**4.15**	**269**	*e*P	Pn		16 32 35.7	+0.9
ZPLA	baz=267			*e*S	Sn		16 33 20.4	-2.1
	baz=267							

KMA 14 16:36:33.0±0.2,**37.˚60N**×**125.˚26E,h8**km±3km,**Error ellipse: s-maj=3.1km s-min=1.2km az=14.0, South Korea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
DACB	**Daecheong-do R**	**0.50**	**298**	P	Pg		16 36 42.4	-0.2
	SNR=185							
DACB				S	Sg		16 36 49.6	+0.5
DACB	**Daecheong-do R**	**0.50**	**298**	P	Pg		16 36 42.4	-0.2
	SNR=185							
DACB				S	Sg		16 36 49.6	+0.5
KSBAR	**Backryungdo**	**0.57**	**311**	P	Pg		16 36 44.2	+0.1
	SNR=130							
KSBAR	**Backryungdo**	**0.57**	**311**	P	Pg		16 36 44.2	+0.1
	SNR=130							
KSDEI	**Deokjeokdo**	**0.75**	**117**	P	Pg		16 36 47.7	+0.2
	SNR=104							
KSDEI	**Deokjeokdo**	**0.75**	**117**	P	Pg		16 36 47.7	+0.2
	SNR=104							
YJD	**YOUNGJONGDO**	**0.94**	**98**	P	Pb		16 36 51.5	0.0
YJD	**YOUNGJONGDO**	**0.94**	**98**	P	Pb		16 36 51.5	0.0
KSGAH	**Ganghwa**	**0.95**	**83**	P	Pg		16 36 51.4	+0.2
	SNR=65							
KSGAH	**Ganghwa**	**0.95**	**83**	P	Pg		16 36 51.4	+0.2
	SNR=65							
KSGAH				S	Sb		16 37 04.0	-0.3
KSGBI	**Gyogryolbido**	**1.00**	**166**	P	Pg		16 36 52.0	-0.2
	SNR=7.9							
KSGBI	**Gyogryolbido**	**1.00**	**166**	P	Pg		16 36 52.0	-0.2
	SNR=7.9							
KSMUS	**Musan**	**1.22**	**76**	P	Pg		16 36 56.5	+0.1
	SNR=14							
KSMUS	**Musan**	**1.22**	**76**	P	Pg		16 36 56.5	+0.1
	SNR=14							

KSSES	**Seosan**	**1.25**	**130**	P	Pn	16 36 56.5	-0.2
	SNR=32						
KSSES	**Seosan**	**1.25**	**130**	P	Pn	16 36 56.5	-0.2
	SNR=32						
HAWB	**Hwaseong-si**	**1.31**	**113**	P	Pn	16 36 57.4	-0.2
	SNR=27						
HAWB	**Hwaseong-si**	**1.31**	**113**	P	Pn	16 36 57.4	-0.2
	SNR=27						

*IDC **14** 16:53:12.2±3.2, 33˚.21S×178˚.19W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/40, mbtmp3.8/3, ML3.2/1, Error ellipse: s-maj=76.2km s-min=46.5km az=124.0*
*NEIC **14** 16:53:13.2±0.8, 33˚.42S±0˚.10×178˚.0W±0˚.1, h10km±2km, mb4.3/9, Error ellipse: s-maj=19.5km s-min=16.0km az=104.0*
ISC 14 16:53:12.5±1.1, 33˚.3S±0˚.2×178˚.1W±0˚.2, h10km, n14, σ0§60/14, mb4.1/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.28**	**217**	Pn	**Pn**	**16 54 46.5**	**+1.4**
	0.5nm,0.3s,baz=113,slow=14,SNR=12						
URZ				Sn	**Sn**	**16 55 56.8**	**-0.1**
	1.5nm,0.3s,baz=114,slow=18,SNR=2.3						
BKZ	**Black Stump Fm**	**7.29**	**216**	Pn	**Pn**	**16 54 58.3**	**-0.7**
RAR	**Rarotonga**	**20.22**	**58**	P	**P**	**16 57 47.7**	**0.0**
RAR				IAmb	IAmb	16 57 54.7	
	comp=Z,41nm,1.4s						
TOO	**Toolangi**	**29.86**	**251**	P	**P**	**16 59 19.4**	**-0.7**
AS31	**Alice Springs**	**42.98**	**270**	P	**P**	**17 01 12.5**	**+0.4**
ASAR	**Alice Springs**	**42.98**	**270**	P	**P**	**17 01 12.4**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=108,slow=7.5,SNR=18						
WR0	**Warramunga Arr**	**44.05**	**275**	P	**P**	**17 01 21.4**	**+0.6**
WR0				IAmb	IAmb	17 01 45.3	
	comp=Z,4.7nm,1.2s						
WB2	**Warramunga Arr**	**44.22**	**275**	P	**P**	**17 01 22.3**	**+0.2**
WB2				IAmb	IAmb	17 01 25.3	
	comp=Z,11nm,1.4s						
WRAB	**Tennant Creek**	**44.23**	**275**	P	**P**	**17 01 22.5**	**+0.3**
WRAB				IAmb	IAmb	17 01 34.6	
	comp=Z,7.3nm,1.4s						
WRA	**Warramunga Arr**	**44.23**	**275**	P	**P**	**17 01 22.4**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=117,slow=7.8,SNR=8.2						
WRA	**Warramunga Arr**	**44.23**	**275**	IAmb	IAmb	17 01 25.5	
	comp=Z,0.5nm,1.4s						
SOEI	**Soe**	**57.77**	**280**	P	**P**	**17 03 04.0**	**-0.3**
MAW	**Mawson**	**69.54**	**201**	P	**P**	**17 04 20.8**	**-0.2**
MAW				IAmb	IAmb	17 04 34.5	
	comp=Z,1.7nm,1.5s						
FINES	**FINESS Array B**	**147.87**	**338**	PKPbc	**PKPbc**	**17 12 57.2**	**+0.2**
	comp=Z,2.0nm,0.9s,baz=31,slow=3.6,SNR=4.3						

*INET **14** 16:57:28.7, 12˚.95N×86˚.59W, h15km, MW3.7*
SNET 14 16:57:33.5±1.0, 12˚.90N×86˚.63W, h20km±6km, ML3.2, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.23**	**288**	*e*P	Pn	16 57 55.0	-0.6
CNCH				*e*S	Sn	16 58 13.2	+1.4
LCND	**La Caada**	**1.29**	**289**	*e*P	Pn	16 57 56.2	-0.3
LCND				*e*S	Sb	16 58 13.5	+0.1
LCND				IAML		16 58 17.7	
	comp=Z,427nm,0.5s						
TGUH	**Tegucigalpa,Un**	**1.31**	**332**	*e*P	Pn	16 57 56.6	-0.2
TGUH				*e*S	Sb	16 58 14.2	+0.2
JUCU	**Jucuarįn**	**1.62**	**283**	*e*P	Pn	16 58 00.8	-0.2
JUCU				*e*S	Sb	16 58 22.6	-0.1
PACA	**Pacayal**	**1.74**	**289**	*e*P	Pn	16 58 03.6	+0.8

*IDC **14** 17:02:29.8±2.1, 32˚.75S×178˚.07W, h0km, mb4.2/3, mb1 4.3/4, mb1mx3.8/35, mbtmp4.1/4, ML3.6/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/25, Error ellipse: s-maj=54.2km s-min=31.7km az=129.0*
*NEIC **14** 17:02:32.6±0.7, 32˚.59S±0˚.09×178˚.2W±0˚.3, h11km±7km, mb4.4/8, Error ellipse: s-maj=36.5km s-min=12.1km az=99.0*
*WEL **14** 17:02:33.9±0.7, 32˚.S±12˚×17˚.9W±3˚.0, h33km, M4.6/12, mB4.8/3, ML4.7/13, MLv4.7/12, Mw(mB)4.0/3, Error ellipse: s-maj=0.0km s-min=0.0km az=111.0*
ISC 14 17:02:32.8±1.0, 32˚.62S±0˚.07×178˚.2W±0˚.2, h20km, n43, σ1§57/61, mb4.3/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.36**	**4**	P	**Pn**	**17 03 23.0**	**-1.1**
GLKZ				S	**Sn**	**17 03 59.6**	**-3.8**
RAO	**Raoul Island**	**3.37**	**4**	Pn	**Pn**	**17 03 24.4**	**+0.1**
RAO				Sn	**Sn**	**17 04 02.4**	**-1.3**
MXZ	**Matakaoa Point**	**5.70**	**209**	Pn	**Pn**	**17 03 53.5**	**-2.8**
MXZ	**Matakaoa Point**	**5.70**	**209**	P	**Pn**	**17 03 54.5**	**-1.7**
MXZ				S	**Sn**	**17 05 00.8**	**-0.2**
WMGZ	**Waiomatatini S**	**5.88**	**207**	P	**Pn**	**17 03 57.3**	**-1.4**
WMGZ				S	**Sn**	**17 05 05.9**	**+0.5**
PKGZ	**Pakihiroa**	**6.07**	**209**	P	**Pn**	**17 04 00.4**	**-1.0**
PKGZ				S	**Sn**	**17 05 10.3**	**-0.1**
HAZ	**Te Kaha**	**6.08**	**211**	P	**Pn**	**17 04 01.6**	**+0.1**
HAZ				S	**Sn**	**17 05 12.7**	**+2.2**
PUZ	**Puketiti**	**6.16**	**207**	P	**Pn**	**17 04 00.7**	**-1.9**
PUZ				S	**Sn**	**17 05 11.2**	**-1.2**
RUGZ	**Raukumara Rang**	**6.30**	**211**	P	**Pn**	**17 04 04.4**	**-0.3**
RUGZ				S	**Sn**	**17 05 16.4**	**+0.2**
TWGZ	**Tauwhareparae**	**6.36**	**208**	P	**Pn**	**17 04 05.1**	**-0.3**
TWGZ				S	**Sn**	**17 05 17.6**	**+0.3**
CNGZ	**Carnagh Statio**	**6.54**	**205**	P	**Pn**	**17 04 09.0**	**+1.2**
CNGZ				S	**Sn**	**17 05 22.8**	**+1.0**
MWZ	**Matawai**	**6.68**	**210**	P	**Pn**	**17 04 07.6**	**-2.1**
MWZ				S	**Sn**	**17 05 23.1**	**-2.1**
URZ	**Urewera**	**6.80**	**213**	Pn	**Pn**	**17 04 10.8**	**-0.6**
	1.2nm,0.3s,baz=252,slow=2.4,SNR=9.0						
URZ				Sn	**Sn**	**17 05 27.4**	**-0.8**
	4.7nm,0.3s,baz=249,slow=13,SNR=14						
URZ	**Urewera**	**6.80**	**213**		**Pn**	**17 04 09.5**	**-1.9**
URZ	**Urewera**	**6.80**	**213**	P	**Pn**	**17 04 10.7**	**-0.6**
URZ				S	**Sn**	**17 05 27.2**	**-0.9**
RIGZ	**Rimuhau**	**6.90**	**207**	P	**Pn**	**17 04 10.9**	**-1.9**
RIGZ				S	**Sn**	**17 05 28.7**	**-2.0**
MUGZ	**Murupara**	**7.13**	**214**	P	**Pn**	**17 04 15.9**	**-0.1**
MUGZ				S	**Sn**	**17 05 34.9**	**-1.5**
SNGZ	**Shannon Statio**	**7.13**	**209**	P	**Pn**	**17 04 15.9**	**-0.1**
SNGZ				S	**Sn**	**17 05 35.3**	**-1.2**
RAHZ	**Arahi**	**7.35**	**210**	P	**Pn**	**17 04 19.2**	**+0.2**
RAHZ				S	**Sn**	**17 05 39.9**	**-2.0**
MTHZ	**Maungataniwha**	**7.40**	**211**	P	**Pn**	**17 04 20.5**	**+0.7**
MTHZ				S	**Sn**	**17 05 42.2**	**-1.0**
BKZ	**Black Stump Fm**	**7.82**	**212**	Pn	**Pn**	**17 04 23.2**	**-2.2**
BKZ	**Black Stump Fm**	**7.82**	**212**	P	**Pn**	**17 04 25.6**	**+0.2**
BKZ				S	**Sn**	**17 05 50.2**	**-3.1**
TSZ	**Takapari Road**	**8.78**	**211**	P	Pn	17 04 29.2	-9.5
TSZ				S	**Sn**	**17 06 11.0**	**-6.0**
DZM	**Mont Dzumac**	**17.19**	**304**	LR	LR	17 11 58.9	
	comp=Z,126nm,18.1s,baz=101,slow=33						
PPT	**Papeete**	**29.83**	**67**	LR	LR	17 20 12.3	
	comp=Z,37nm,18.0s,baz=262,slow=36						
CTA	**Charters Tower**	**34.04**	**283**	P	**P**	**17 09 18.3**	**+2.6**
	1.9nm,0.5s,baz=114,slow=11,SNR=6.4						
AS31	**Alice Springs**	**42.86**	**269**	P	**P**	**17 10 30.5**	**+0.6**
ASAR	**Alice Springs**	**42.86**	**269**	P	**P**	**17 10 30.4**	**+0.6**
	2.0nm,0.7s,baz=110,slow=7.7,SNR=49						
ASAR	**Alice Springs**	**42.86**	**269**	P	**P**	**17 10 29.8**	**-0.1**
WR0	**Warramunga Arr**	**43.87**	**275**	P	**P**	**17 10 38.4**	**+0.4**
WR0				IAmb	IAmb	17 10 57.6	
	comp=Z,9.5nm,1.4s						
WB2	**Warramunga Arr**	**44.03**	**275**	P	**P**	**17 10 39.9**	**+0.5**
WB2				IAmb	IAmb	17 10 40.2	
	comp=Z,4.3nm,0.8s						
WRAB	**Tennant Creek**	**44.04**	**275**	P	**P**	**17 10 39.7**	**+0.3**
WRAB				IAmb	IAmb	17 11 06.5	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**44.05**	**275**	P	**P**	**17 10 39.9**	**+0.4**
	comp=Z,1.5nm,0.4s,baz=114,slow=8.0,SNR=52						
WRA	**Warramunga Arr**	**44.05**	**275**	P	**P**	**17 10 38.8**	**-0.7**
MTN	**Manton Dam**	**50.19**	**281**	P	**P**	**17 11 27.7**	**+0.3**
KNRA	**Kununurra**	**50.73**	**276**	P	**P**	**17 11 32.9**	**+1.4**
QSPA	**South Pole Qui**	**57.50**	**180**	P	**P**	**17 12 21.7**	**+1.3**
QSPA				IAmb	IAmb	17 12 36.4	
	comp=Z,3.5nm,0.9s						
SNAA	**Sanae**	**75.95**	**178**	P	**PcP**	**17 14 29.6**	**-0.6**
VNA3	**Neumayer Olymp**	**76.11**	**176**	P	**PcP**	**17 14 30.5**	**-0.3**
VNA2	**Neumayer--Watz**	**76.54**	**177**	P	**PcP**	**17 14 32.9**	**+0.3**
	baz=170,slow=4.9						
VNA1	**Neumayer--Stat**	**76.77**	**177**	P	**PcP**	**17 14 34.2**	**+0.6**
FINES	**FINESS Array B**	**147.15**	**339**	PKPbc	**PKPbc**	**17 22 14.1**	**+0.5**
	comp=Z,1.6nm,0.5s,baz=48,slow=3.9,SNR=14						
AKASG	**Malin Array Be**	**152.92**	**320**	PKPbc	**PKPbc**	**17 22 27.8**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=51,slow=2.5,SNR=1.9						
AKASG				PKPab	**PKPab**	**17 22 40.7**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=57,slow=1.6,SNR=2.0						

*INET **14** 17:04:49.3, 12˚.96N×86˚.57W, h11km, MW3.9*
*SNET **14** 17:04:52.6±1.4, 12˚.86N×86˚.54W, h14km±9km, ML3.7*
*UCR **14** 17:04:52.9±1.2, 12˚.87N×86˚.53W, h15km±8km, ML3.6*
ISC 14 17:04:51.2±3.7, 12˚.9N±0˚.1×86˚.5W±0˚.2, h10km, n16, σ0§61/24, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.37**	**288**	*e*P	**Pn**	**17 05 16.5**	**-0.1**
CNCH				*e*S	**Sb**	**17 05 34.0**	**-0.8**
CNCH	**Conchagua**	**1.37**	**288**	*e*P	**Pn**	**17 05 16.5**	**-0.1**
CNCH				*e*S	**Sb**	**17 05 34.0**	**-0.8**
TGUH	**Tegucigalpa,Un**	**1.42**	**328**	*e*P	**Pn**	**17 05 17.6**	**+0.3**
TGUH				*e*S	**Sb**	**17 05 35.5**	**-0.8**
TGUH	**Tegucigalpa,Un**	**1.42**	**328**	*e*P	**Pn**	**17 05 17.6**	**+0.3**
TGUH				*e*S	**Sb**	**17 05 35.5**	**-0.8**
LCND	**La Caada**	**1.44**	**289**	*e*P	**Pn**	**17 05 17.1**	**-0.2**
LCND				*e*S	**Sb**	**17 05 36.6**	**+0.2**
LCND				IAML		17 05 40.6	
	comp=Z,1μm,0.4s						
LCND	**La Caada**	**1.44**	**289**	*e*P	**Pn**	**17 05 17.1**	**-0.2**
LCND				*e*S	**Sb**	**17 05 36.6**	**+0.2**
LCND				IAML		17 05 40.6	
	comp=Z,1μm,0.4s						
JUCU	**Jucuarįn**	**1.76**	**284**	*e*P	**Pn**	**17 05 21.6**	**-0.2**
JUCU				*e*S	**Sn**	**17 05 45.3**	**+0.9**
JUCU	**Jucuarįn**	**1.76**	**284**	*e*P	**Pn**	**17 05 21.6**	**-0.2**
JUCU				*e*S	**Sn**	**17 05 45.3**	**+0.9**
VSM	**San Miguel**	**1.83**	**289**	*e*P	**Pn**	**17 05 23.9**	**+0.9**
VSM	**San Miguel**	**1.83**	**289**	*e*P	**Pn**	**17 05 23.9**	**+0.9**
LCY	**Lacayo**	**1.85**	**288**	*e*P	**Pn**	**17 05 22.6**	**-0.5**
LCY	**Lacayo**	**1.85**	**288**	*e*P	**Pn**	**17 05 22.6**	**-0.5**
PACA	**Pacayal**	**1.89**	**289**	*e*P	**Pn**	**17 05 23.9**	**+0.2**
PACA	**Pacayal**	**1.89**	**289**	*e*P	**Pn**	**17 05 23.9**	**+0.2**
JAYA	**Jayaque - finc**	**2.99**	**286**	*e*P	**Pn**	**17 05 38.1**	**-0.7**
JAYA	**Jayaque - finc**	**2.99**	**286**	*e*P	**Pn**	**17 05 38.1**	**-0.7**

*MAN **14** 17:05:08.1, 13˚.89N×120˚.59E, h107km, mb4.3, ML3.1, MS2.9*
*NEIC **14** 17:05:11.1±1.3, 13˚.9N±0˚.1×120˚.9E±0˚.2, h173km±7km, mb4.0/7, Error ellipse: s-maj=26.4km s-min=18.7km az=59.0*
*IDC **14** 17:05:11.1±5.4, 13˚.90N×120˚.84E, h177km±54km, mb3.3/14, mb1 3.4/14, mb1mx3.3/47, mbtmp3.8/14, Error ellipse: s-maj=23.7km s-min=11.3km az=69.0*
ISC 14 17:05:08.0±0.6, 13˚.86N±0˚.08×120˚.78E±0˚.09, h150km, n29, σ1§19/27, mb3.7/18, 4C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.29**	**32**	*e*P	Pn	17 05 26.4	-2.2
PGP	**Puerto Galera**	**0.39**	**154**	*e*P	Pn	17 05 25.6	-3.3
PGP				*i* S	**Sn**	**17 05 40.3**	**-4.6**
LUBP	**Lubang**	**0.53**	**257**	*i* P	Pn	17 05 25.8	-3.8
LQP	**Lukban**	**0.78**	**71**	*e*P	**Pn**	**17 05 30.6**	**-0.7**
LQP				*i* S	**Sn**	**17 05 48.5**	**-0.6**
GQP	**Guinayangan**	**1.62**	**88**	*i* P	**Pn**	**17 05 39.8**	**+0.9**
PPR	**Puerto Princes**	**4.52**	**207**	*e*P	**Pn**	**17 06 15.3**	**+0.1**
CMAR	**Chiang Mai Arr**	**21.46**	**285**	P	**P**	**17 09 46.4**	**+1.6**
	1.1nm,0.8s,baz=90,slow=7.5,SNR=12						
KSRS	**Korea Array**	**24.35**	**14**	P	**P**	**17 10 13.0**	**+1.0**
	0.5nm,0.6s,baz=194,slow=10.0,SNR=2.9						
USRK	**Ussuriysk Ar.**	**31.72**	**15**	P	**P**	**17 11 17.6**	**0.0**
	1.2nm,0.6s,baz=138,slow=40,SNR=3.6						
SONM	**Songino Array**	**35.93**	**343**	P	**P**	**17 11 54.0**	**0.0**
	2.9nm,0.7s,baz=161,slow=10.0,SNR=21						
SONM	**Songino Array**	**35.93**	**343**	IAmb	IAmb	17 11 55.7	
	comp=Z,2.1nm,0.7s						
WRA	**Warramunga Arr**	**36.14**	**158**	P	**P**	**17 11 56.1**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=330,slow=9.9,SNR=14						
KLR	**Kul'dur**	**36.41**	**12**	P	**P**	**17 11 57.9**	**0.0**
	comp=Z,2.1nm,0.8s,baz=212,slow=6.8,SNR=5.7						
ASAR	**Alice Springs**	**39.44**	**161**	P	**P**	**17 12 24.3**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=336,slow=7.8,SNR=10.0						
MK31	**Makanchi Array**	**45.95**	**323**	P	**P**	**17 13 15.3**	**-0.6**
MK31				IAmb	IAmb	17 13 17.4	
	comp=Z,2.3nm,0.9s						
MKAR	**Makanchi Array**	**45.95**	**323**	P	**P**	**17 13 16.5**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=107,slow=8.0,SNR=20						
ZALV	**Zalesovo Beam**	**48.95**	**333**	P	**P**	**17 13 38.5**	**-0.4**
	comp=Z,1.1nm,0.4s,baz=124,slow=6.4,SNR=12						
ZALV	**Zalesovo Beam**	**48.95**	**333**	P	**P**	**17 13 37.6**	**-1.3**
STKA	**Stephens Creek**	**49.66**	**157**	P	**P**	**17 13 45.7**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=330,slow=16,SNR=1.4						
KK31	**Karatay Array**	**51.92**	**314**	P	**P**	**17 14 00.7**	**-0.8**
KK31				IAmb	IAmb	17 14 02.1	
	comp=Z,3.2nm,0.9s						
KKAR	**Karatay Array**	**51.92**	**314**	P	**P**	**17 14 01.6**	**+0.1**
BRVK	**Borovoye**	**55.76**	**326**	P	**P**	**17 14 29.0**	**-0.1**
ABKAR	**Akbulak array**	**60.67**	**319**	P	**P**	**17 15 03.0**	**-0.3**
ABKAR				IAmb	IAmb	17 15 04.1	
	comp=Z,2.1nm,0.5s						
IMAR	**Indian Mountai**	**75.61**	**25**	P	**P**	**17 16 35.2**	**-0.9**
BPAW	**Bear Paw Mtn.**	**76.88**	**27**	P	**P**	**17 16 43.3**	**-0.1**
BPAW				IAmb	IAmb	17 16 45.6	
	comp=Z,4.5nm,0.8s						
ILAR	**Eielson Array**	**78.58**	**26**	P	**P**	**17 16 52.4**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=285,slow=4.8,SNR=2.6						
ARCES	**ARCESS Array B**	**78.97**	**339**	P	**P**	**17 16 54.8**	**0.0**
	comp=Z,0.8nm,0.5s,baz=75,slow=6.9,SNR=20						
BRTR	**Keskin Array B**	**79.11**	**308**	P	**P**	**17 16 57.4**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=180,slow=33,SNR=2.4						
FINES	**FINESS Array B**	**80.19**	**331**	P	**P**	**17 17 00.8**	**-0.7**
	comp=Z,0.8nm,0.9s,baz=61,slow=8.7,SNR=3.9						

IDC 14 17:08:58.9±2.2, 1˚.92N×127˚.61E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/32, mbtmp3.2/3, Error ellipse: s-maj=148.3km s-min=28.7km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.71**	**163**	P	P	17 14 01.4	-1.1
	0.3nm,0.4s,baz=343,slow=11,SNR=6.3						
ASAR	**Alice Springs**	**26.16**	**167**	P	P	17 14 36.1	+0.9
	0.1nm,0.3s,baz=341,slow=6.9,SNR=4.6						
MKAR	**Makanchi Array**	**59.53**	**325**	P	P	17 19 04.2	0.0
	0.1nm,0.4s,baz=131,slow=5.6,SNR=1.7						

*TUL **14** 17:10:40.2±0.9, 36˚.37N±0˚.01×97˚.36W±0˚.02, h6km±7km, ML2.6, mb_Lg2.5/32(NEIC), Error ellipse: s-maj=1.9km s-min=1.6km az=224.0*
NEIC 14 17:10:40.2±1.0, 36˚.370N±0˚.007×97˚.36W±0˚.02, h6km±7km, Error ellipse: s-maj=2.2km s-min=0.4km az=65.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLOK	**Blackwell**	**0.41**	**16**		Pg	17 10 48.5	+0.4
BLOK				Sg	Sg	17 10 53.5	+0.1
CROK	**Carrier**	**0.52**	**285**		Pg	17 10 50.4	+0.2
CROK				Sg	Sg	17 10 57.8	+0.8
QUOK	**Quay**	**0.56**	**110**		Pg	17 10 51.1	+0.1
QUOK				Sg	Sg	17 10 58.5	+0.2
OK029	**Liberty Lake**	**0.58**	**188**		Pg	17 10 51.6	+0.3
OK029				Sg	Sg	17 10 59.3	+0.5
OK031	**S. Brethren Rd**	**0.59**	**135**		Pg	17 10 51.8	+0.2
OK031				Sg	Sg	17 10 59.5	+0.2
GC02	**Grant County #**	**0.63**	**320**		Pg	17 10 52.2	-0.1
KAN13	**South Haven SW**	**0.65**	**351**	Pg	Pg	17 10 52.0	-0.6
KAN17	**Caldwell West**	**0.75**	**334**	Pg	Pg	17 10 54.1	-0.4
KAN14	**Manchester OK**	**0.76**	**320**	Pg	Pg	17 10 54.7	-0.1
OK025	**Westminster Rd**	**0.79**	**179**		Pg	17 10 55.1	-0.2
T35A	**Sooner Cattle**	**0.87**	**51**	Pg	Pg	17 10 56.6	-0.3
OKCFA	**Oklahoma City**	**0.95**	**185**	Pg	Pg	17 10 57.9	-0.6
KAN12	**Harper NE Stat**	**1.06**	**331**	Pg	Pg	17 10 59.6	-0.9
FNO	**Franklin**	**1.11**	**182**		Pg	17 11 00.9	-0.6
U32A	**Winter Ranch,**	**1.33**	**271**	Pn	Pn	17 11 04.6	-0.7
U32A				IAmb_Lg		17 11 24.6	
	comp=Z,28nm,0.8s						
X34A	**Smith Ranch, M**	**1.81**	**193**	Pn	Pn	17 11 12.3	+0.4
WMOK	**Wichita Mounta**	**2.00**	**216**	Pn	Pn	17 11 14.6	0.0
WMOK				IAmb_Lg		17 11 46.7	
	comp=Z,17nm,0.8s						
R32A	**Long Quarter,**	**2.31**	**333**	Pn	Pn	17 11 18.9	-0.1
LOOK	**Love County**	**2.38**	**176**		Pn	17 11 19.9	+0.2
U38A	**Gravette**	**2.40**	**87**		Pn	17 11 21.2	+1.2
X37A	**Clayton**	**2.41**	**137**		Pn	17 11 19.6	-0.5
HHAR	**Hobbs**	**2.76**	**91**		Pn	17 11 24.6	-0.4
KSU1	**Kansas State U**	**2.79**	**12**	Pn	Pn	17 11 25.0	-0.5
KSU1				IAmb_Lg		17 12 14.0	
	comp=Z,24nm,1.0s						
W39A	**Magazine**	**3.13**	**111**	IAmb_Lg		17 12 24.0	
	comp=Z,24nm,0.9s						
S39A	**Bolivar**	**3.49**	**67**		Pn	17 11 35.6	+0.6
MIAR	**Mount Ida**	**3.58**	**119**	Pn	Pn	17 11 35.5	-0.8
U40A	**Yellville**	**3.64**	**89**	IAmb_Lg		17 12 35.8	
	comp=Z,15nm,0.8s						
X40A	**Basin Creek Fa**	**4.14**	**116**	IAmb_Lg		17 12 52.4	
	comp=Z,11nm,0.9s						
MGMO	**Mountain Grove**	**4.16**	**78**	IAmb_Lg		17 12 51.2	
	comp=Z,10nm,0.7s						
WHAR	**Wooly Hollow**	**4.26**	**103**	IAmb_Lg		17 13 02.2	
	comp=Z,15nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.26**	**95**	IAmb_Lg		17 12 59.7	
	comp=Z,9.0nm,0.7s						
WLAR	**White Oak Lake**	**4.39**	**126**	Pn	Pn	17 11 46.5	-1.0
P38A	**Dawn**	**4.44**	**42**	IAmb_Lg		17 13 00.5	
	comp=Z,8.1nm,0.8s						
R40A	**Maddies Statio**	**4.49**	**63**		Pn	17 11 48.8	+0.1
LCAR	**Lake Charles**	**5.03**	**92**	IAmb_Lg		17 13 19.5	
	comp=Z,8.2nm,0.7s						
P40A	**Paris**	**5.25**	**51**	IAmb_Lg		17 13 36.7	
	comp=Z,8.6nm,1.0s						
N38A	**Joes South For**	**5.47**	**35**	IAmb_Lg		17 13 42.6	
	comp=Z,11nm,0.8s						
PBMO	**Poplar Bluff**	**5.59**	**84**	IAmb_Lg		17 13 40.9	
	comp=Z,13nm,0.8s						
T25A	**Trinidad**	**5.71**	**280**	IAmb_Lg		17 13 51.5	
	comp=Z,10nm,1.1s						

*INET **14** 17:17:24.8, 12˚.92N×86˚.63W, h28km, MW3.6*
SNET 14 17:17:24.4±0.7, 12˚.74N×86˚.41W, h26km±999km, ML3.2, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.49**	**291**	*e*P	Pn	17 17 49.3	-0.3
CNCH				*e*S	Sb	17 18 09.8	-0.3
LCND	**La Caada**	**1.55**	**292**	*e*P	Pn	17 17 50.3	-0.2
LCND				*e*S	Sn	17 18 10.7	+0.9
LCND				IAML		17 18 12.9	
	comp=Z,274nm,0.3s						
TGUH	**Tegucigalpa,Un**	**1.56**	**327**	*e*P	Pn	17 17 50.7	0.0
TGUH				*e*S	Sn	17 18 10.3	+0.2
LCY	**Lacayo**	**1.96**	**291**	*e*P	Pn	17 17 56.5	+0.3

MEX 14 17:18:15.9±0.7, 16˚.10N×98˚.55W, h20km±16km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.50**	**54**	*i* P	Pb	17 18 24.4	-1.6
PNIG				*i* S	Sb	17 18 30.4	-2.5
TXIG	**Tlaxiaco**	**1.37**	**33**	*i* P	Pn	17 18 38.1	-2.1
TXIG				*i* S	Sn	17 18 53.6	-4.2
DAIG	**Los Arroyos**	**1.40**	**311**	*i* P	Pn	17 18 37.1	-3.2
DAIG				*i* S	Sn	17 18 53.4	-4.9
TLIG	**Tlapa**	**1.46**	**359**	*i* P	Pn	17 18 38.3	-2.9
TLIG				*i* S	Sn	17 18 54.1	-5.6
FTIG	**Fresnillo de T**	**1.84**	**12**	*i* P	Pn	17 18 44.1	-2.4
FTIG				*i* S	Sn	17 19 05.7	-3.6
HLIG	**Huajuapan de L**	**1.86**	**22**	*i* P	Pn	17 18 45.0	-1.8
HLIG				*i* S	Sn	17 19 05.5	-4.5
TOIG	**Toxpalan**	**2.44**	**35**	*i* P	Pn	17 18 55.8	+1.1
TOIG				*i* S	Sn	17 19 26.2	+2.1

*IDC **14** 17:21:31.3±1.1, 26˚.99N×103˚.47E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.7/38, mbtmp3.7/8, ML3.7/1, Error ellipse: s-maj=34.3km s-min=19.0km az=75.0*
ISC 14 17:21:36.3±0.9, 27˚.0N±0˚.1×103˚.5E±0˚.2, h35km, n8, σ0§66/8, mb3.6/6, Yunnan

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

Z35A	**Perchaven, San**	**2.43**	**178**		**Pn**	**17 26 09.6**	**0.0**
Z35A				IAmb_Lg		17 26 44.9	
	comp=Z,38nm,1.0s						
U38A	**Gravette**	**2.50**	**74**		**Pn**	**17 26 10.4**	**-0.1**
HHAR	**Hobbs**	**2.82**	**79**		**Pn**	**17 26 14.8**	**-0.1**
R32A	**Long Quarter,**	**2.86**	**338**		**Pn**	**17 26 15.8**	**+0.3**
W39A	**Magazine**	**2.97**	**100**		**Pn**	**17 26 16.8**	**-0.2**
W39A				IAmb_Lg		17 27 08.9	
	comp=Z,53nm,0.8s						
W39A	**Magazine**	**2.97**	**100**	P	**Pn**	**17 26 17.1**	**+0.1**
	baz=282						
W39A				S	**Sn**	**17 26 52.9**	**+0.1**
	baz=282						
Z38A	**Mt. Pleasant**	**3.18**	**141**		**Pn**	**17 26 19.3**	**-0.5**
MIAR	**Mount Ida**	**3.33**	**110**		**Pn**	**17 26 22.0**	**+0.1**
MIAR				IAmb_Lg		17 27 21.5	
	comp=Z,37nm,0.7s						
MIAR	**Mount Ida**	**3.33**	**110**	P	**Pn**	**17 26 22.7**	**+0.8**
	baz=292						
MIAR				S	**Sn**	**17 27 02.4**	**+0.8**
	baz=292						
KSU1	**Kansas State U**	**3.38**	**10**	IAmb_Lg		17 27 22.1	
	comp=Z,58nm,0.8s						
CBKS	**Cedar Bluff**	**3.58**	**329**		**Pn**	**17 26 25.6**	**+0.1**
CBKS				IAmb_Lg		17 27 27.3	
	comp=Z,28nm,0.8s						
CBKS	**Cedar Bluff**	**3.58**	**329**	Pb	**Pb**	**17 26 34.7**	**+1.5**
	baz=148						
CBKS				Sb	**Sg**	**17 27 22.3**	**-2.3**
	baz=148						
AMTX	**Amarillo**	**3.64**	**257**		**Pn**	**17 26 25.6**	**-0.7**
ABTX	**Abilene, Hawle**	**3.66**	**212**		**Pn**	**17 26 26.1**	**-0.4**
U40A	**Yellville**	**3.70**	**80**		**Pn**	**17 26 26.6**	**-0.4**
WHTX	**Lake Whitney,**	**3.77**	**181**	Sb	**Sb**	**17 27 23.4**	**+1.4**
	baz=1.2						
S39A	**Bolivar**	**3.77**	**58**		**Pn**	**17 26 27.3**	**-0.6**
S39A				IAmb_Lg		17 27 27.8	
	comp=Z,23nm,1.1s						
X40A	**Basin Creek Fa**	**3.92**	**108**		**Pn**	**17 26 29.0**	**-1.0**
X40A				IAmb_Lg		17 27 40.0	
	comp=Z,57nm,0.8s						
WLAR	**White Oak Lake**	**4.07**	**119**	IAmb_Lg		17 27 40.5	
	comp=Z,25nm,0.7s						
WHAR	**Wooly Hollow**	**4.16**	**95**		**Pn**	**17 26 33.5**	**+0.1**
WHAR				IAmb_Lg		17 27 40.8	
	comp=Z,42nm,1.1s						
FCAR	**Ozark Folk Cen**	**4.25**	**87**		**Pn**	**17 26 33.4**	**-1.2**
FCAR				IAmb_Lg		17 27 51.5	
	comp=Z,42nm,1.1s						
MGMO	**Mountain Grove**	**4.33**	**70**		**Pn**	**17 26 35.2**	**-0.4**
MGMO				IAmb_Lg		17 27 46.8	
	comp=Z,33nm,0.9s						
R40A	**Maddies Statio**	**4.79**	**57**		**Pn**	**17 26 41.7**	**-0.3**
P38A	**Dawn**	**4.90**	**37**		**Pn**	**17 26 42.9**	**-0.6**
CCAR	**Cane Creek**	**4.95**	**110**	IAmb_Lg		17 28 13.4	
	comp=Z,37nm,0.7s						
435B	**Jarrell**	**4.97**	**182**	IAmb_Lg		17 28 10.7	
	comp=Z,23nm,0.8s						
LCAR	**Lake Charles**	**5.04**	**85**		**Pn**	**17 26 43.7**	**-1.8**
LCAR				IAmb_Lg		17 28 14.0	
	comp=Z,31nm,1.1s						
KSCO	**Kaye Shedlock'**	**5.30**	**309**		**Pn**	**17 26 48.9**	**-0.2**
CCM	**Cathedral Cave**	**5.41**	**63**		**Pn**	**17 26 50.3**	**-0.1**
P40A	**Paris**	**5.64**	**47**	Pn	**Pn**	**17 26 53.3**	**-0.4**
JCT	**Junction City**	**5.66**	**202**	IAmb_Lg		17 28 38.6	
	comp=Z,31nm,0.7s						
PBMO	**Poplar Bluff**	**5.69**	**78**	IAmb_Lg		17 28 33.0	
	comp=Z,30nm,0.7s						
T25A	**Trinidad**	**5.85**	**286**	IAmb_Lg		17 28 40.2	
	comp=Z,22nm,0.8s						
S44A	**Carbondale**	**6.79**	**71**	IAmb_Lg		17 29 16.2	
	comp=Z,17nm,0.8s						
SIUC	**Southern Illin**	**6.82**	**71**	IAmb_Lg		17 29 14.2	
	comp=Z,23nm,0.7s						
T45A	**Paducah**	**7.14**	**77**	IAmb_Lg		17 29 21.0	
	comp=Z,28nm,0.8s						
Q44A	**Meyer Farm, Va**	**7.34**	**62**	IAmb_Lg		17 29 33.8	
	comp=Z,24nm,1.1s						
L40A	**Anamosa**	**7.90**	**35**	IAmb_Lg		17 29 44.5	
	comp=Z,11nm,0.8s						
O44A	**Mansfield**	**8.27**	**55**	IAmb_Lg		17 30 12.4	
	comp=Z,22nm,0.9s						
V48A	**Smith Brothers**	**8.57**	**87**	IAmb_Lg		17 30 04.5	
	comp=Z,11nm,1.2s						
P46A	**Rosedale**	**8.92**	**61**	IAmb_Lg		17 30 10.2	
	comp=Z,19nm,1.0s						
JFWS	**Jewell Farm**	**9.01**	**35**	IAmb_Lg		17 30 36.2	
	comp=Z,15nm,0.7s						
SFIN	**Lafayette**	**9.31**	**57**	IAmb_Lg		17 30 33.5	
	comp=Z,14nm,1.1s						
I40A	**Norwalk**	**9.62**	**30**	IAmb_Lg		17 30 39.7	
	comp=Z,8.7nm,0.7s						
RWWY	**Rawlins**	**9.70**	**310**	IAmb_Lg		17 30 55.4	
	comp=Z,12nm,1.1s						

*TUL **14** 18:08:54.8±1.0,36°.29N±0°.01×97°.52W±0°.01,h7km±7km, ML2.7,mb_Lg2.5/27(NEIC),Error ellipse: s-maj=1.9km s-min=1.4km az=192.0*

NEIC 14 18:08:54.6±1.0,36°.30N±0°.01×97°.51W±0°.02,h8km±6km, Error ellipse: s-maj=2.4km s-min=1.7km az=49.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.43**	**299**	Pg	Pg	18 09 03.1	+0.1
CROK				Sg	Sg	18 09 09.3	+0.6
OK029	**Liberty Lake**	**0.50**	**174**		Pg	18 09 04.3	0.0
BLOK	**Blackwell**	**0.52**	**27**	Pg	Pg	18 09 04.8	+0.1
BLOK				Sg	Sg	18 09 11.9	+0.4
GC02	**Grant County #**	**0.62**	**333**	Pg	Pg	18 09 06.3	-0.2
GC02				Sg	Sg	18 09 15.0	+0.4
OK031	**S. Brethren Rd**	**0.65**	**122**	Pg	Pg	18 09 07.1	+0.1
OK031				Sg	Sg	18 09 15.5	0.0
QUOK	**Quay**	**0.66**	**101**	Pg	Pg	18 09 07.4	0.0
OK025	**Westminster Rd**	**0.73**	**169**		Pg	18 09 08.5	-0.1
KAN14	**Manchester OK**	**0.75**	**331**	Pg	Pg	18 09 08.6	-0.4
OK032	**Salt Plains WL**	**0.75**	**312**	Pg	Pg	18 09 09.2	+0.1
KAN17	**Caldwell West**	**0.77**	**345**	Pg	Pg	18 09 08.5	-1.0
KAN17				IAmb_Lg		18 09 19.3	
	comp=Z,53nm,0.8s						
KAN05	**Bluff City Nor**	**0.86**	**341**	Pg	Pg	18 09 10.7	-0.4
OKCFA	**Oklahoma City**	**0.88**	**177**	Pg	Pg	18 09 11.3	-0.3
OKCSW	**OKLAHOMA CITY**	**0.89**	**176**	Pg	Pg	18 09 11.5	-0.2
T35A	**Sooner Cattle**	**1.01**	**52**	Pg	Pb	18 09 14.3	-0.1
KAN12	**Harper NE Stat**	**1.07**	**339**	Pg	Pg	18 09 14.3	-0.8
U32A	**Winter Ranch,**	**1.20**	**274**		Pb	18 09 16.8	-0.8
X34A	**Smith Ranch, M**	**1.71**	**189**		Pn	18 09 24.4	-0.3
WMOK	**Wichita Mounta**	**1.87**	**214**	Pn	Pn	18 09 27.5	+0.7
X37A	**Clayton**	**2.44**	**134**	Pn	Pn	18 09 34.0	-0.7
X37A				IAmb_Lg		18 10 18.0	
	comp=Z,30nm,1.2s						
U38A	**Gravette**	**2.53**	**86**		Pn	18 09 35.5	-0.4
HHAR	**Hobbs**	**2.89**	**89**		Pn	18 09 41.8	+1.0
CBKS	**Cedar Bluff**	**3.07**	**326**	IAmb_Lg		18 10 35.6	
	comp=Z,10nm,0.8s						
W39A	**Magazine**	**3.23**	**109**		Pn	18 09 45.4	-0.1
W39A				IAmb_Lg		18 10 40.9	
	comp=Z,20nm,1.0s						
S39A	**Bolivar**	**3.63**	**66**		Pb	18 10 00.8	+1.8
MIAR	**Mount Ida**	**3.66**	**117**	Pn	Pn	18 09 49.9	-1.6
MIAR				IAmb_Lg		18 11 00.9	
	comp=Z,6.4nm,0.7s						
AMTX	**Amarillo**	**3.68**	**249**	Pn	Pn	18 09 51.1	-0.6
AMTX				IAmb_Lg		18 10 54.4	
	comp=Z,9.8nm,0.9s						
U40A	**Yellville**	**3.76**	**88**		Pn	18 09 52.5	-0.4
ABTX	**Abilene, Hawle**	**4.07**	**206**	IAmb_Lg		18 11 01.9	
	comp=Z,7.6nm,0.9s						
X40A	**Basin Creek Fa**	**4.23**	**114**	Pn	Pn	18 09 59.6	+0.4
X40A				IAmb_Lg		18 11 14.4	
	comp=Z,6.5nm,0.7s						
MGMO	**Mountain Grove**	**4.30**	**77**	IAmb_Lg		18 11 10.9	
	comp=Z,8.1nm,0.8s						
WHAR	**Wooly Hollow**	**4.37**	**102**		Pn	18 10 00.0	-1.1
FCAR	**Ozark Folk Cen**	**4.38**	**94**	Pn	Pn	18 10 01.6	+0.2
P38A	**Dawn**	**4.58**	**42**	IAmb_Lg		18 11 22.5	
	comp=Z,8.5nm,0.8s						
R40A	**Maddies Statio**	**4.63**	**63**	IAmb_Lg		18 11 19.4	
	comp=Z,18nm,0.8s						
CCM	**Cathedral Cave**	**5.30**	**69**	IAmb_Lg		18 11 51.2	
	comp=Z,8.3nm,0.7s						
P40A	**Paris**	**5.39**	**52**	IAmb_Lg		18 11 50.7	
	comp=Z,10nm,0.7s						
PBMO	**Poplar Bluff**	**5.72**	**83**	IAmb_Lg		18 12 00.5	
	comp=Z,13nm,0.7s						
V48A	**Smith Brothers**	**8.68**	**91**	Pn	Pn	18 10 59.3	-1.1
PV03	**Paradox Valley**	**9.24**	**286**	Pn	Pn	18 11 08.7	+0.4
PV19	**Morning Glory**	**9.36**	**286**	IAmb_Lg		18 13 56.5	
	comp=Z,5.4nm,0.9s						

IDC 14 18:22:01.1±57.0,21°.36S×178°.33W,h603km±250km, mb3.1/3,mb1 3.3/4,mb1mx2.9/20,mbtmp4.2/4,Error ellipse: s-maj=734.4km s-min=101.3km az=76.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.17**	**264**	P	P	18 25 02.3	+0.5
	0.4nm,0.3s,baz=80,slow=19,SNR=5.3						
CTA	**Charters Tower**	**33.11**	**266**	P	P	18 27 49.5	+0.2
	baz=92,slow=8.7						
STKA	**Stephens Creek**	**37.15**	**245**	P	P	18 28 21.3	-1.3
	2.0nm,0.5s,baz=80,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**44.03**	**258**	P	P	18 29 17.3	+0.1
	2.7nm,0.7s,baz=94,slow=7.9,SNR=40						
WRA	**Warramunga Arr**	**44.19**	**263**	P	P	18 29 18.5	+0.1
	0.9nm,0.3s,baz=91,slow=8.3,SNR=62						

*MAN **14** 18:39:59.3,7°.24N×126°.78E,h22km,mb4.9,ML3.8,MS3.9*
*NEIC **14** 18:40:00.9±1.4,7°.33N±0°.10×126°.8E±0°.1,h62km±7km, mb4.3/17,Error ellipse: s-maj=16.4km s-min=13.3km az=65.0*
*IDC **14** 18:40:02.0±1.9,7°.22N×126°.87E,h74km±18km,mb3.8/13, mb1 4.0/15,mb1mx3.6/51,mbtmp4.2/15,MS3.1/4, Ms1 3.1/4,ms1mx2.6/47,Error ellipse: s-maj=22.2km s-min=11.4km az=75.0*

ISC 14 18:40:00.3±0.5,7°.21N±0°.05×126°.87E±0°.07,h60km,n47, σ1°.44/47,mb4.2/19,MS2.8/4,4C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.29**	**264**	P	**Pn**	**18 40 22.7**	**+0.5**
	318nm,0.3s,baz=63,slow=2.2,SNR=24						
DAV				S	**Sn**	**18 40 41.3**	**+2.8**
	242nm,0.3s,baz=273,slow=23,SNR=12						
KCP	**Kidapawan**	**1.78**	**264**	*i* P	**Pn**	**18 40 28.3**	**-0.6**
KCP				*i* S	**Sn**	**18 40 49.3**	**-1.1**
SCPH	**Surigao**	**2.90**	**332**	*e* P	**Pn**	**18 40 45.5**	**+1.4**
MSLP	**Maasin**	**3.52**	**326**	*i* P	**Pn**	**18 40 52.3**	**-0.3**
TBP	**Tagbilaran**	**3.87**	**310**	*e* P	**Pn**	**18 40 56.2**	**-1.1**
SNPH	**Sibulan**	**4.17**	**301**	*e* P	**Pn**	**18 41 01.7**	**+0.1**
SNPH				*e* S	**Sn**	**18 41 50.0**	**+0.8**
LLP	**Lapu-Lapu**	**4.22**	**317**	*i* P	**Pn**	**18 41 02.0**	**-0.1**
LLP				*i* S	**Sn**	**18 41 51.3**	**+1.2**
RCP	**Roxas**	**5.94**	**317**	*e* P	**Pn**	**18 41 27.2**	**+1.5**
TOLI2	**Tolitoli**	**8.57**	**225**	Pn	**Pn**	**18 42 00.0**	**-1.8**
SIJI	**Sorong**	**9.14**	**151**	P	**Pn**	**18 42 09.8**	**+0.1**
	3.3nm,0.3s,baz=339,slow=18,SNR=5.8						
SIJI				S	**Sn**	**18 43 48.0**	**-3.2**
	0.9nm,0.3s,baz=205,slow=22,SNR=1.4						
FAKI	**Fak Fak**	**11.40**	**152**	Pn	**Pn**	**18 42 42.0**	**+1.5**
BATI	**Baumata**	**17.59**	**190**	P	**P**	**18 44 02.6**	**+0.8**
	0.8nm,0.3s,baz=71,slow=20,SNR=1.8						
MTN	**Manton Dam**	**20.36**	**168**	P	Pn	18 44 33.5	-1.2
MTN				IAmb	IAmb	18 44 37.7	
	comp=Z,14nm,1.2s						
FITZ	**Fitzroy Crossi**	**25.17**	**183**	P	**P**	**18 45 21.0**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=0.3,slow=6.0,SNR=12						
FITZ	**Fitzroy Crossi**	**25.17**	**183**	IAmb	IAmb	18 45 30.0	
	comp=Z,6.4nm,1.2s						
WRAB	**Tennant Creek**	**27.95**	**165**	P	**P**	**18 45 45.5**	**+0.2**
WRA	**Warramunga Arr**	**27.96**	**165**	P	**P**	**18 45 45.5**	**0.0**
	comp=Z,0.7nm,0.5s,baz=345,slow=11,SNR=12						
WRA				PcP	**PcP**	**18 49 00.1**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=336,slow=1.8,SNR=2.0						
WB2	**Warramunga Arr**	**27.96**	**165**	P	**P**	**18 45 46.0**	**+0.5**
WB2				IAmb	IAmb	18 46 00.3	
	comp=Z,9.1nm,1.4s						
WR0	**Warramunga Arr**	**28.03**	**165**	P	**P**	**18 45 46.0**	**0.0**
WR0				IAmb	IAmb	18 46 14.9	
	comp=Z,3.7nm,0.9s						
PSI	**Prapat**	**28.17**	**262**	LR	LR	18 59 23.5	
	comp=Z,180nm,18.7s,baz=97,slow=41						
CMAR	**Chiang Mai Arr**	**29.39**	**295**	LR	LR	18 58 08.7	
	comp=Z,31nm,18.2s,baz=120,slow=37						
KSAR	**Wonju Array Be**	**30.11**	**2**	P	**P**	**18 46 00.6**	**-3.7**
KSRS	**Korea Array**	**30.13**	**2**	LR	LR	18 59 54.5	
	comp=Z,12nm,18.2s,baz=225,slow=40						
KS19	**Wonju Array Si**	**30.17**	**2**	P	**P**	**18 46 00.8**	**-4.1**
KS19				IAmb	IAmb	18 46 20.2	
	comp=Z,8.8nm,0.8s						
MJAR	**Matsushiro Arr**	**30.98**	**18**	LR	LR	19 01 07.9	
	comp=Z,14nm,18.4s,baz=195,slow=41						
ASAR	**Alice Springs**	**31.44**	**168**	P	**P**	**18 46 16.5**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=354,slow=9.2,SNR=18						
ASAR				PcP	**PcP**	**18 49 09.2**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=350,slow=2.4,SNR=10						
JMM	**Marumori**	**33.03**	**20**	P	**P**	**18 46 30.7**	**+0.7**
USRK	**Ussuriysk Ar.**	**37.12**	**6**	P	**P**	**18 47 04.9**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=201,slow=7.6,SNR=6.0						
FORT	**Forrest**	**37.78**	**178**	P	**P**	**18 47 12.0**	**+1.2**
ASAJ	**Asahikawa**	**39.26**	**18**	P	**P**	**18 47 24.2**	**+1.2**
	comp=Z,3.2nm,0.4s,baz=204,slow=7.5,SNR=3.6						
BBOO	**Buckleboo**	**40.74**	**168**	P	**P**	**18 47 36.7**	**+1.2**
BBOO				IAmb	IAmb	18 47 46.2	
	comp=Z,25nm,1.4s						
NWAO	**Narrogin (SRO)**	**40.95**	**192**	P	**P**	**18 47 37.6**	**+0.4**
STKA	**Stephens Creek**	**41.33**	**161**	P	**P**	**18 47 40.9**	**+0.6**
	comp=Z,2.3nm,0.5s,baz=351,slow=8.3,SNR=8.9						
STKA	**Stephens Creek**	**41.33**	**161**	P	**P**	**18 47 41.6**	**+1.3**
SONM	**Songino Array**	**44.08**	**340**	P	**P**	**18 48 04.3**	**+1.7**
	comp=Z,0.8nm,0.5s,baz=126,slow=7.3,SNR=2.4						
SONM	**Songino Array**	**44.08**	**340**	IAmb	IAmb	18 48 06.8	
	comp=Z,1.8nm,1.1s						
PETK	**Petropavlovsk-**	**52.19**	**23**	P	**P**	**18 49 05.8**	**+0.9**
	comp=Z,3.8nm,0.7s,baz=211,slow=4.3,SNR=8.3						
MK31	**Makanchi Array**	**54.82**	**324**	P	**P**	**18 49 22.8**	**-1.6**
MK31				IAmb	IAmb	18 49 24.1	
	comp=Z,1.7nm,0.9s						
MKAR	**Makanchi Array**	**54.82**	**324**	P	**P**	**18 49 23.1**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=111,slow=6.6,SNR=17						
MKAR				PcP	**PcP**	**18 50 25.2**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=97,slow=5.5,SNR=1.5						
MAKZ	**Makanchi**	**55.01**	**324**	P	**P**	**18 49 24.2**	**-1.5**
MAKZ				IAmb	IAmb	18 49 25.4	
	comp=Z,2.4nm,1.1s						
KDAK	**Kodiak Island**	**78.90**	**33**	P	**P**	**18 51 57.7**	**+0.6**
	comp=Z,2.2nm,0.5s,baz=294,slow=5.0,SNR=4.8						
ILAR	**Eielson Array**	**81.93**	**26**	P	**P**	**18 52 13.0**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=252,slow=5.0,SNR=10						
VNDA	**Vanda**	**86.83**	**173**	P	**P**	**18 52 38.9**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=325,slow=6.9,SNR=2.4						
VNDA	**Vanda**	**86.83**	**173**	IAmb	IAmb	18 52 55.6	
	comp=Z,5.0nm,1.4s						
FINES	**FINESS Array B**	**88.85**	**332**	P	**P**	**18 52 45.8**	**-2.0**
	comp=Z,1.8nm,0.9s,baz=57,slow=5.1,SNR=1.4						
TXAR	**Lajitas Array**	**119.34**	**51**	PKP	**PKiKP**	**18 58 44.3**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=248,slow=0.5,SNR=2.4						
TORD	**Torodi Ar. Bea**	**121.91**	**290**	PKP	**PKPdf**	**18 58 47.5**	**-1.5**
	comp=Z,0.6nm,0.9s,baz=70,slow=3.2,SNR=2.3						

MEX 14 18:42:03.2±0.4,14°.71N×92°.56W,h80km±7km,MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.35**	**55**	*i* P	Pn	18 42 14.2	-1.6
THIG				*i* S	Sn	18 42 23.0	-2.1
PCIG		**1.18**	**328**	*i* P	Pn	18 42 23.5	-1.0
PCIG				*i* S	Sn	18 42 38.7	-1.7
CCIG	**Comitan**	**1.62**	**15**	*i* P	Pn	18 42 32.2	+1.9
CCIG				*i* S	Sn	18 42 55.8	+5.0
CMIG	**Matias Romero**	**3.26**	**317**	*i* P	Pn	18 42 53.3	+1.2
CMIG				*i* S	Sn	18 43 29.8	0.0

*NEIC **14** 18:48:18.7±1.6,17°.0S±0°.1×173°.7W±0°.1,h161km±13km, mb4.1/8,Error ellipse: s-maj=17.9km s-min=15.7km az=53.0*
*IDC **14** 18:48:20.8±2.1,16°.71S×173°.88W,h189km±30km,mb3.7/3, mb1 3.8/6,mb1mx3.4/45,mbtmp4.3/6,MS3.1/1,Ms1 3.1/1, ms1mx2.5/34,Error ellipse: s-maj=43.8km s-min=23.8km az=160.0*
*NOU **14** 18:49:34.0,14°.92S×172°.64W,h0km,MLv3.3/5,Samoa Islands*

ISC 14 18:48:17.7±0.8,17°.04S±0°.08×173°.85W±0°.10,h150km, n17,σ1°.28/16,mb4.2/7,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.70**	**33**	P	**Pn**	**18 49 16.5**	**+2.3**
	8.6nm,0.3s,baz=212,slow=9.5,SNR=8.4						
AFI				S	**Sn**	**18 49 58.0**	**+0.1**
	69nm,0.3s,baz=57,slow=21,SNR=16						
AFI	**Afiamalu**	**3.70**	**33**		**Pn**	**18 49 14.2**	**+0.1**
AFI					**Sn**	**18 49 54.7**	**-3.3**
AFI	**Afiamalu**	**3.70**	**33**	P	**Sn**	**18 49 58.4**	**+0.4**
NIUE	**Niue**	**4.25**	**119**	Pn	**Pn**	**18 49 21.7**	**+0.5**
MSVF	**Nonsavu**	**7.76**	**264**	P	Pn	18 50 11.2	+3.1
	1.0nm,0.3s,baz=103,slow=17,SNR=7.7						
RAR	**Rarotonga**	**13.94**	**110**	P	**P**	**18 51 32.0**	**-0.2**
	1.4nm,0.3s,baz=222,slow=12,SNR=3.8						
DZM	**Mont Dzumac**	**19.23**	**252**	LR	LR	18 58 14.5	
	comp=Z,50nm,18.5s,baz=58,slow=31						
URZ	**Urewera**	**22.58**	**199**	P	**P**	**18 53 05.5**	**+0.1**
STKA	**Stephens Creek**	**42.86**	**241**	P	**P**	**18 56 02.0**	**+0.8**
	3.3nm,1.1s,baz=56,slow=11,SNR=1.8						
STKA	**Stephens Creek**	**42.86**	**241**	IAmb	IAmb	18 56 02.4	
	comp=Z,2.8nm,1.4s						
WB2	**Warramunga Arr**	**49.06**	**258**	P	**P**	**18 56 48.8**	**-1.2**
WB2				IAmb	IAmb	18 56 59.0	
	comp=Z,8.4nm,1.4s						
WRAB	**Tennant Creek**	**49.06**	**258**	P	**P**	**18 56 49.0**	**-1.0**
WRAB				IAmb	IAmb	18 57 13.3	
	comp=Z,7.1nm,1.4s						
WRA	**Warramunga Arr**	**49.07**	**258**	P	**P**	**18 56 49.1**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=97,slow=7.0,SNR=30						
AS31	**Alice Springs**	**49.21**	**253**	P	**P**	**18 56 50.4**	**-0.8**
AS31				IAmb	IAmb	18 56 51.5	
	comp=Z,1.8nm,0.5s						
ASAR	**Alice Springs**	**49.21**	**253**	P	**P**	**18 56 50.6**	**-0.5**
	comp=Z,5.1nm,0.6s,baz=88,slow=8.7,SNR=142						
FAKI	**Fak Fak**	**54.71**	**279**	P	**P**	**18 57 31.9**	**-0.1**
QSPA	**South Pole Qui**	**73.01**	**180**	P	**P**	**18 59 31.2**	**+0.3**
QSPA				IAmb	IAmb	18 59 37.7	
	comp=Z,8.2nm,1.4s						

*KRSC **14** 18:49:10.7±0.9,53°.28N×157°.95E,h181km±8km,ML3.8*
*IDC **14** 18:49:11.2±0.5,53°.46N×157°.69E,h177km±5km,mb3.2/10, mb1 3.3/11,mb1mx3.1/65,mbtmp3.7/11,Error ellipse: s-maj=20.2km s-min=15.8km az=157.0*

ISC 14 18:49:11.2±0.7,53°.27N±0°.06×158°.02E±0°.07,h182km±5km, n42,σ1°.06/51,mb3.4/11,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**0.25**	**231**	P	**Pn**	**18 49 34.9**	**-0.6**
	19nm,0.3s,baz=60,slow=8.8,SNR=432						
PETK				S	**Sn**	**18 49 55.1**	**+1.0**
	2.6nm,0.3s,baz=11,slow=9.1,SNR=5.7						
KOK	**Koryaka**	**0.37**	**86**	*e* P	**Pn**	**18 49 36.5**	**+0.6**
KRX	**Arik**	**0.39**	**76**	*e* P	**Pn**	**18 49 36.5**	**+0.5**
AVH	**Avacha**	**0.43**	**90**	*e* P	**Pn**	**18 49 36.6**	**+0.5**
GNL	**Ganaly**	**0.43**	**354**	*e* P	**Pn**	**18 49 36.2**	**+0.1**
GNL				*e* S	**Sn**	**18 49 55.0**	**-0.4**
KRER	**Koryakskii**	**0.44**	**85**	*e* P	**Pn**	**18 49 36.8**	**+0.6**
KRMR	**Karymshinskiy**	**0.45**	**172**	*e* P	**Pn**	**18 49 37.5**	**+1.5**
PET	**Petropavlovsk**	**0.45**	**123**	*e* P	**Pn**	**18 49 36.3**	**+0.3**
PET				*e* S	**Sn**	**18 49 55.4**	**+0.3**
SMAR	**Somma**	**0.47**	**90**	*e* P	**Pn**	**18 49 37.1**	**+0.7**
UGLR	**Uglovaya**	**0.48**	**97**	*e* P	**Pn**	**18 49 37.1**	**+0.8**
UGLR				*e* S	**Sn**	**18 49 56.5**	**+0.9**
DALK	**Dalny**	**0.50**	**118**	*e* P	**Pn**	**18 49 36.4**	**+0.2**
DALK				*e* S	**Sn**	**18 49 55.3**	**-0.1**
SDLR	**Sedlovina**	**0.52**	**89**	*e* P	**Pn**	**18 49 36.8**	**+0.4**
APC	**Apacha**	**0.63**	**237**	*e* P	**Pn**	**18 49 37.1**	**+0.3**
GRL	**Gorelyy**	**0.72**	**178**	*e* P	**Pn**	**18 49 38.3**	**+0.8**
MTVR	**Mutnovka**	**0.79**	**173**	*e* P	**Pn**	**18 49 38.8**	**+0.8**
NLC	**Nalytchevo**	**0.80**	**97**	*e* P	**Pn**	**18 49 38.0**	**+0.3**
RUS	**Russkaya**	**0.89**	**160**	*e* P	**Pn**	**18 49 38.3**	**0.0**
RUS				*e* S	**Sn**	**18 49 58.6**	**-0.6**
ASAK	**Asacha**	**0.89**	**185**	*e* P	**Pn**	**18 49 39.2**	**+0.7**
ASAK				*e* S	**Sn**	**18 49 58.4**	**+0.9**
KII	**Karymskiy**	**1.15**	**47**	*e* P	**Pn**	**18 49 40.8**	**+0.5**
**S

TRG				*e*Sb	**Sb**	**18 54 51.0**	**+1.0**
TRG				max		18 54 53.9		
	comp=E,2µm,0.2s							
TRG	**Tyrgan**	**1.46**	**238**	⇑*i*PG	**Pb**	**18 54 30.6**	**-0.8**
TRG				*e*		18 54 49.3		
TRG				pmax	pmax			
	comp=Z,186nm,0.2s							
TRG				smax	smax			
	comp=N,2µm,0.2s							
UUDB	**Ulan-Yde**	**1.75**	**195**	*e*Pg	**Pg**	**18 54 36.8**	**-0.9**
UUDB				*e*		18 54 38.8		
UUDB				max		18 54 47.1		
	comp=N,221nm,0.6s							
UUDB				*e*Sg	**Sg**	**18 55 00.2**	**-0.1**
UUDB				Smax		18 55 01.7		
	comp=N,695nm,0.7s							
FFNB	**Fofonovo**	**1.80**	**213**	*e*Pn	**Pb**	**18 54 36.4**	**-0.8**
FFNB				*e*Pg	**Pg**	**18 54 37.9**	**-0.8**
FFNB				*e*Sg	**Sg**	**18 55 01.7**	**-0.3**
KAB	**Kabansk**	**1.83**	**215**	*e*Pg	**Pg**	**18 54 38.9**	**-0.4**
KAB				*e*		18 54 43.6		
KAB				max		18 54 45.4		
	comp=N,361nm,0.7s							
KAB				*e*Sg	**Sg**	**18 55 02.5**	**-0.6**
KAB				Smax		18 55 04.1		
	comp=N,2µm,0.6s							
STDB	**Stepnoy Dvoret**	**1.85**	**222**	*e*Pn	**Pb**	**18 54 37.6**	**-0.4**
STDB				*e*Pg	**Pg**	**18 54 39.0**	**-0.6**
STDB				*e*Sg	**Sg**	**18 55 03.7**	**+0.2**
YLYR	**Ulyunkhan**	**2.11**	**50**	⇓*i*Pn	**Pb**	**18 54 42.0**	**-0.5**
YLYR				*e*Pg	**Pg**	**18 54 43.7**	**-0.8**
YLYR				Pmax		18 54 44.0		
	comp=N,92nm,0.2s							
YLYR				*e*Sn	**Sb**	**18 55 07.2**	**-1.5**
YLYR				*e*Sg	**Sg**	**18 55 12.6**	**+0.8**
YLYR				Smax		18 55 14.5		
	comp=N,689nm,0.3s							
HRMR	**Khuramsha**	**2.12**	**205**	*e*Pn	**Pb**	**18 54 41.4**	**-1.2**
HRMR				*e*Pg	**Pg**	**18 54 43.6**	**-1.1**
HRMR				*e*		18 54 51.0		
HRMR				max		18 54 55.5		
	comp=N,422nm,0.5s							
HRMR				*e*Sg	**Sg**	**18 55 11.4**	**-0.7**
HRMR				Smax		18 55 15.6		
	comp=N,3µm,0.6s							
HRMR				*e*		18 55 21.8		
NIZ	**Nizh Angarsk**	**2.33**	**17**	*e*Pn	**Pb**	**18 54 45.4**	**-0.8**
NIZ				*e*Pg	**Pg**	**18 54 48.0**	**-0.7**
NIZ				Pmax		18 54 52.0		
	comp=N,101nm,0.2s							
NIZ				*e*Sn	**Sb**	**18 55 14.1**	**-0.9**
NIZ				*e*Sg	**Sg**	**18 55 18.3**	**-0.6**
NIZ				Smax		18 55 20.3		
	comp=N,964nm,0.2s							
NIZ	**Nizh Angarsk**	**2.33**	**17**	*e*PN	**Pb**	**18 54 45.4**	**-0.8**
NIZ				*e*		18 54 48.3		
NIZ				*e*S	**Sb**	**18 55 14.3**	**-0.7**
NIZ				*e*		18 55 18.2		
NIZ				pmax	pmax			
	comp=Z,100nm,0.2s							
NIZ				smax	smax			
	comp=N,967nm,0.3s							
BGT	**Bolshoye Golou**	**2.35**	**231**	*e*Pn	**Pn**	**18 54 44.1**	**+1.2**
BGT				*e*Pg	**Pb**	**18 54 46.8**	**+0.2**
BGT				Pmax		18 54 56.2		
	comp=N,78nm,0.3s							
BGT				*e*Sn	**Sb**	**18 55 13.6**	**-2.1**
BGT				*e*		18 55 16.6		
BGT				*e*Sg	**Sg**	**18 55 17.7**	**-2.0**
BGT				Smax		18 55 23.2		
	comp=N,633nm,0.6s							
BGT	**Bolshoye Golou**	**2.35**	**231**	*e*PN	**Pn**	**18 54 43.8**	**+0.9**
BGT				*e*		18 54 46.6		
BGT				*e*		18 55 14.4		
BGT				pmax	pmax			
	comp=Z,99nm,0.7s							
BGT				smax	smax			
	comp=N,634nm,0.6s							
LSTR	**Listvyanka**	**2.74**	**233**	*e*Pn	**Pn**	**18 54 49.5**	**+1.3**
LSTR				*e*Pg	**Pb**	**18 54 54.1**	**+0.9**
LSTR				Pmax		18 54 55.0		
	comp=N,54nm,0.3s							
LSTR				*e*Sn	**Sn**	**18 55 22.4**	**+1.1**
LSTR				*e*		18 55 27.4		
LSTR				*e*Sg	**Sg**	**18 55 29.1**	**-3.0**
LSTR				Smax		18 55 34.6		
	comp=N,297nm,0.8s							
LSTR	**Listvyanka**	**2.74**	**233**	*e*PN	**Pb**	**18 54 54.1**	**+0.9**
LSTR				*e*		18 55 26.2		
LSTR				pmax	pmax			
	comp=Z,57nm,1.1s							
LSTR				smax	smax			
	comp=N,325nm,1.0s							
IRK	**Irkutsk**	**2.81**	**244**	*e*Pn	**Pn**	**18 54 50.5**	**+1.3**
IRK				*e*Pg	**Pb**	**18 54 54.1**	**-0.4**
IRK				*e*		18 54 56.8		
IRK				max		18 55 01.8		
	comp=N,117nm,0.2s							
IRK				*e*Sn	**Sn**	**18 55 22.3**	**-0.8**
IRK				*e*Sg	**Sb**	**18 55 30.1**	**+1.2**
IRK				*e*		18 55 32.0		
IRK				max		18 55 33.0		
	comp=N,2µm,0.6s							
IRK	**Irkutsk**	**2.81**	**244**	*e*PN	**Pb**	**18 54 54.0**	**-0.4**
IRK				*e*		18 55 30.1		
IRK				pmax	pmax			
	comp=Z,121nm,0.4s							
IRK				smax	smax			
	comp=E,3µm,0.8s							
KMO	**Kumora**	**2.85**	**34**	⇓*i*Pn	**Pb**	**18 54 52.3**	**-2.9**
KMO				*e*Pg	**Pg**	**18 54 57.2**	**-1.7**
KMO				Pmax		18 55 05.2		
	comp=E,118nm,0.5s							
KMO				*e*Sn	**Sn**	**18 55 25.9**	**+1.7**
KMO				*e*Sg	**Sg**	**18 55 35.2**	**-0.6**
KMO				Smax		18 55 37.7		
	comp=E,591nm,0.5s							
KMO	**Kumora**	**2.85**	**34**	⇓*i*PN	**Pb**	**18 54 52.3**	**-2.9**
KMO				*e*		18 54 57.2		
KMO				*e*S	**Sn**	**18 55 26.5**	**+2.3**
KMO				*e*		18 55 34.2		
KMO				pmax	pmax			
	comp=Z,110nm,0.3s							
KMO				smax	smax			
	comp=N,590nm,0.6s							
IVK	**Ivanovka**	**2.98**	**235**	*e*Pn	**Pn**	**18 54 53.1**	**+1.6**
IVK				*e*Pg	**Pb**	**18 54 58.3**	**+0.9**
IVK				*e*PgPg	**Pg**	**18 55 01.5**	**+0.2**
IVK				max		18 55 08.3		
	comp=N,39nm,0.3s							
IVK				*e*Sn	**Sn**	**18 55 27.4**	**+0.1**
IVK				*e*Sg	**Sb**	**18 55 35.4**	**+1.6**
IVK				Smax		18 55 39.0		
	comp=N,531nm,0.6s							
YOA	**Uoyan**	**3.23**	**36**	*e*Pn	**Pn**	**18 54 58.0**	**+3.1**
YOA				*e*Pg	**Pg**	**18 55 04.5**	**-1.5**
YOA				Pmax		18 55 14.9		
	comp=N,160nm,0.4s							
YOA				*e*Sn	**Sn**	**18 55 35.3**	**+1.9**
YOA				*e*Sg	**Sg**	**18 55 48.1**	**+0.3**
YOA				Smax		18 55 57.7		
	comp=N,1µm,0.5s							
YOA	**Uoyan**	**3.23**	**36**	*e*PN	**Pg**	**18 55 04.0**	**-2.0**
YOA				*i*		18 55 49.3		
YOA				pmax	pmax			
	comp=Z,100nm,0.2s							
YOA				smax	smax			
	comp=N,1µm,0.5s							
TLY	**Talaya**	**3.44**	**239**	*e*Pn	**Pn**	**18 54 59.5**	**+1.7**
TLY				*e*Pg	**Pb**	**18 55 05.4**	**+0.2**
TLY				Pmax		18 55 11.5		
	comp=N,53nm,0.4s							
TLY				*e*Sg	**Sb**	**18 55 48.9**	**+1.9**
TLY				Smax		18 55 55.6		
	comp=N,505nm,1.1s							
TLY	**Talaya**	**3.44**	**239**	*e*PN	**Pb**	**18 55 06.9**	**+1.7**
TLY				*e*		18 55 48.9		
TLY				pmax	pmax			
	comp=Z,53nm,0.5s							
TLY				smax	smax			
	comp=E,506nm,1.1s							
CIT	**Chita**	**3.50**	**114**	*e*Pn	**Pn**	**18 55 00.3**	**+1.6**
CIT				*e*Pg	**Pg**	**18 55 10.0**	**-1.2**
CIT				Pmax		18 55 11.9		
	comp=E,140nm,0.6s							
CIT				*e*Sn	**Sn**	**18 55 42.1**	**+1.9**
CIT				*e*Sg	**Sg**	**18 55 55.6**	**-1.0**
CIT				Smax		18 56 00.7		
	comp=E,979nm,0.3s							
CIT	**Chita**	**3.50**	**114**	*e*PN	**Pn**	**18 54 59.9**	**+1.2**
CIT				*e*		18 55 09.0		
CIT				*e*S	**Sn**	**18 55 42.3**	**+2.1**
CIT				*e*		18 55 54.0		
CIT				pmax	pmax			
	comp=Z,140nm,0.6s							
CIT				smax	smax			
	comp=E,979nm,0.3s							
UKT	**Uakit**	**3.62**	**56**	*e*Pn	**Pn**	**18 55 02.9**	**+2.5**
UKT				*e*Pg	**Pg**	**18 55 11.7**	**-1.9**
UKT				*e*PgPg	**PbPb**	**18 55 14.2**	**+2.7**
UKT				max		18 55 14.5		
	comp=E,71nm,1.0s							
UKT				*e*Sn	**Sn**	**18 55 44.3**	**+1.0**
UKT				*e*Sg	**Sg**	**18 55 59.0**	**-1.5**
UKT				*e*		18 56 04.8		
UKT				max		18 56 04.9		
	comp=E,224nm,0.8s							
SVKR	**Severomuysk**	**3.95**	**47**	*e*Pn	**Pn**	**18 55 08.0**	**+3.2**
SVKR				*e*Pg	**Pg**	**18 55 18.2**	**-1.6**
SVKR				Pmax		18 55 19.5		
	comp=E,89nm,0.6s							
SVKR				*e*Sn	**Sn**	**18 55 52.3**	**+1.1**
SVKR				*e*Sg	**Sg**	**18 56 10.3**	**-0.6**
SVKR				Smax		18 56 20.6		
	comp=E,840nm,0.4s							
ZAK	**Zakamensk**	**4.47**	**227**	*e*Pn	**Pn**	**18 55 14.0**	**+1.9**
ZAK				*e*Pg	**Pg**	**18 55 26.2**	**-3.6**
ZAK				Pmax		18 55 46.7		
	comp=E,22nm,0.8s							
ZAK				*e*Sn	**Sn**	**18 56 03.9**	**-0.3**
ZAK				*e*Sg	**Sg**	**18 56 23.6**	**-4.1**
ZAK				Smax		18 56 34.1		
	comp=E,121nm,0.8s							
ZAK	**Zakamensk**	**4.47**	**227**	*e*PN	**Pn**	**18 55 13.8**	**+1.7**
ZAK				*e*		18 55 26.6		
ZAK				*e*		18 56 22.6		
ZAK				pmax	pmax			
	comp=Z,18nm,0.4s							
ZAK				smax	smax			
	comp=N,113nm,0.6s							
KPC	**Khapcheranga**	**4.59**	**145**	*e*Pn	**Pn**	**18 55 14.4**	**+0.6**
KPC				*e*Pg	**Pg**	**18 55 28.7**	**-3.5**
KPC				Pmax		18 55 39.3		
	comp=N,18nm,0.4s							
KPC				*e*		18 56 05.8		
KPC				*e*Sg	**Sg**	**18 56 28.0**	**-3.6**
KPC				Smax		18 56 34.5		
	comp=N,196nm,1.3s							
KPC	**Khapcheranga**	**4.59**	**145**	*e*PN	**Pn**	**18 55 14.4**	**+0.6**
KPC				*e*		18 55 29.1		
KPC				*e*S	**Sn**	**18 56 05.9**	**-1.3**
KPC				*e*		18 56 27.7		
KPC				pmax	pmax			
	comp=Z,18nm,0.4s							
KPC				smax	smax			
	comp=E,202nm,1.0s							
MOY	**Mondy**	**4.88**	**250**	*e*Pn	**Pn**	**18 55 20.4**	**+2.7**
MOY				*e*		18 55 28.9		
MOY				max		18 55 39.0		
	comp=E,67nm,0.8s							
MOY				*e*Sn	**Sn**	**18 56 13.4**	**-0.8**
MOY				*e*Sg	**Sg**	**18 56 34.0**	**-6.7**
MOY				Smax		18 56 38.5		
	comp=E,592nm,1.3s							
MOY				*e*		18 56 43.1		
MOY	**Mondy**	**4.88**	**250**	*e*PN	**Pn**	**18 55 21.0**	**+3.3**
MOY				*e*		18 55 33.4		
MOY				pmax	pmax			
	comp=Z,60nm,0.3s							
ORL	**Orlik**	**5.26**	**262**	*e*Pn	**Pn**	**18 55 24.1**	**+1.1**
ORL				max		18 55 26.4		
	comp=Z,63nm,0.6s							
ORL				*e*		18 55 31.0		
ORL				*e*Sn	**Sn**	**18 56 22.8**	**-0.9**
ORL				*e*Sg	**Sg**	**18 56 46.4**	**-6.7**
ORL				Smax		18 56 53.9		
	comp=Z,207nm,1.3s							
ORL	**Orlik**	**5.26**	**262**	*e*PN	**Pn**	**18 55 25.8**	**+2.8**
ORL				*e*		18 55 40.7		
ORL				*e*S	**Sn**	**18 56 23.4**	**-0.3**
ORL				*e*		18 56 47.1		
ORL				pmax	pmax			
	comp=Z,65nm,1.0s							
ORL				smax	smax			
	comp=N,206nm,1.2s							
BOD	**Bodaibo**	**5.33**	**34**	*e*Pn	**Pn**	**18 55 25.7**	**+2.0**
BOD				*e*		18 55 34.7		
BOD				*e*Pg	**Pg**	**18 55 42.2**	**-4.0**
BOD				*e*Sn	**Sn**	**18 56 26.9**	**+1.8**
BOD				*e*Sg	**Sg**	**18 56 50.7**	**-4.4**
BOD				Smax		18 57 06.0		
	comp=N,121nm,0.2s							
SONM	**Songino Array**	**5.87**	**193**	Pn	**Pn**	**18 55 34.0**	**+2.7**
	comp=N,1.0nm,0.3s,baz=7.7,slow=12,SNR=5.7							
SONM				Pg	**Pg**	**18 55 54.1**	**-2.3**
	comp=N,1.6nm,0.3s,baz=10,slow=13,SNR=7.2							
SONM				Sn	**Sn**	**18 56 41.0**	**+2.5**
	comp=N,1.6nm,0.3s,baz=12,slow=22,SNR=2.5							
SONM				Lg	Lg	18 57 11.0		
	comp=N,4.4nm,0.3s,baz=10,slow=26,SNR=6.7							
VTMR	**Vitim**	**6.33**	**20**	*e*Sg	**Sg**	**18 57 22.2**	**-5.1**
TUP	**Tupik**	**6.89**	**78**	*e*Pn	**Pn**	**18 55 47.0**	**+1.8**
TUP				*e*		18 55 56.3		
TUP				*e*Pg	**Pg**	**18 56 11.4**	**-4.6**
TUP				Pmax		18 56 21.6		
	comp=N,15nm,1.4s							
TUP				*e*Sn	**Sn**	**18 57 03.7**	**+0.2**
TUP				*e*Sg	**Sg**	**18 57 40.6**	**-4.5**
TUP				Smax		18 57 50.3		
	comp=N,201nm,0.9s							
TUP	**Tupik**	**6.89**	**78**	*e*PN	**Pn**	**18 55 46.6**	**+1.4**
TUP				*e*		18 56 09.0		
TUP				*e*S	**Sn**	**18 57 03.7**	**+0.2**
TUP				*e*		18 57 38.7		
TUP				pmax	pmax			
	comp=Z,8.0nm,0.5s							
TUP				smax	smax			
	comp=N,201nm,1.0s							
KNGR	**Kungurtug, Tuv**	**7.31**	**251**	*e*	Pb	18 56 05.0	-6.2	
KNGR				*e*Pg	Pg	18 56 17.5	-6.6	
KNGR				*e*Sn	**Sn**	**18 57 12.5**	**-1.6**	
KNGR				*e*Sg	**Sg**	**18 57 51.6**	**-7.1**	
YKLR	**Yuktali**	**8.21**	**63**	*e*Sg	Sg	**18 58 20.6**	**-6.7**	
KZLR	**Kyzyl**	**8.67**	**263**	*e*Sg	Sg	18 58 31.9	-10	
CLNS	**Chul'man**	**10.00**	**64**	*e*Sg	Sn	18 59 16.2	+56	
ZALV	**Zalesovo Beam**	**13.93**	**281**	Pn	**Pn**	**18 57 22.9**	**+1.5**	
	comp=N,0.1nm,0.3s,baz=78,slow=11,SNR=3.8							
ZALV				LR	LR	19 03 10.1		
	comp=N,17nm,18.6s,baz=100,slow=39							
MKAR	**Makanchi Array**	**17.96**	**258**	P	**P**	**18 58 16.2**	**+1.9**	
	comp=N,0.0nm,0.3s,baz=48,slow=14,SNR=2.3							
KURK	**Kurchatov**	**18.42**	**273**	P	**Pn**	**18 58 23.4**	**+4.0**	
KURBB	**Kurchatov Arra**	**18.50**	**273**	P	**Pn**	**18 58 23.4**	**+3.0**	
	comp=N,0.1nm,0.3s,baz=68,slow=12,SNR=2.8							
BVAR	**Borovoye Array**	**22.54**	**284**	P	**P**	**18 59 05.5**	**+1.5**	
	comp=N,1.8nm,0.6s,baz=89,slow=10,SNR=8.6							
ILAR	**Eielson Array**	**48.70**	**33**	P	**P**	**19 02 50.1**	**+2.0**	
	comp=N,0.6nm,0.6s,baz=306,slow=7.1,SNR=4.8							

*ANF **14** 18:57:51.5±1.0,41.89N×119.64W,h3km±8km,ML2.8/9, Error ellipse: s-maj=8.7km s-min=4.1km az=104.0*
*REN **14** 18:57:51.5±1.9,41.86N±0.01°×119.63W±0.03,h9km±6km, ML2.6/4,ML2.7/5(SEA),ML2.6/52(NEIC),Error ellipse: s-maj=3.8km s-min=1.3km az=65.0*
*SEA **14** 18:57:52.6±3.6,41.87N±0.03°×119.61W±0.04,h0km±6km, Error ellipse: s-maj=4.9km s-min=3.8km az=173.0*
*NEIC **14** 18:57:52±2.1,41.89N±0.03°×119.54W±0.03,h14km±6km, Error ellipse: s-maj=4.8km s-min=3.3km az=170.0*

ISC 14 18:57:51.3±1.4,41.89N±0.03°×119.58W±0.03,h5km±13km, n50,σ0:86/60,Nevada

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKVW	**Lakeview**	**0.67**	**300**		**Pg**	**18 58 04.3**	**+0.2**
WVOR	**Wild Horse Val**	**0.89**	**52**		**Pb**	**18 58 09.8**	**+0.5**
WVOR				IAML		18 58 26.1	
	229nm,0.3s						
WVOR				IAML		18 58 27.1	
	174nm,0.6s						
WVOR	**Wild Horse Val**	**0.89**	**52**		**Sb**	**18 58 22.3**	**+0.8**
K05A	**Summer Lake**	**1.28**	**311**		**Sn**	**18 58 33.5**	**-0.3**
K05A	**Summer Lake**	**1.28**	**311**	Pn	**Pn**	**18 58 15.6**	**-0.5**
K05A	**Summer Lake**	**1.28**	**311**	IAML		18 58 36.4	
	comp=E,130nm,0.7s						
K05A				IAML		18 58 37.1	
	comp=N,200nm,0.9s						
LASM	**Arnica Sink**	**1.52**	**260**		**Pn**	**18 58 19.1**	**-0.3**
LASM					**Sb**	**18 58 39.8**	**+0.1**
LTIM	**Timbered Crate**	**1.60**	**244**		**Pn**	**18 58 20.2**	**-0.1**
LTIM					**Sg**	**18 58 43.5**	**+0.9**
HOG	**Hogback Mounta**	**1.62**	**283**		**Pn**	**18 58 20.7**	**0.0**
HOG					**Sg**	**18 58 44.0**	**+0.7**
J08A	**Circle Bar Ran**	**1.68**	**29**		**Pn**	**18 58 21.5**	**0.0**
J08A				IAML		18 58 48.0	
	comp=N,57nm,0.6s						
J08A				IAML		18 58 48.7	
	comp=E,74nm,0.4s						
M04C	**Macdoel**	**1.69**	**267**		**Pn**	**18 58 21.3**	**-0.3**
M04C					**Sg**	**18 58 45.5**	**0.0**
M04C	**Macdoel**	**1.69**	**267**	P	**Pn**	**18 58 21.3**	**-0.3**
	baz=86,SNR=25						
M04C				Sb	**Sg**	**18 58 45.2**	**-0.3**
	baz=86						
LBCM	**Butte Creek Ri**	**1.69**	**232**		**Pn**	**18 58 21.6**	**-0.1**
K04D	**Chiloquin, OR**	**1.77**	**295**		**Pb**	**18 58 24.0**	**-0.3**
K04D	**Chiloquin, OR**	**1.77**	**295**	Pb	**Pb**	**18 58 24.0**	**-0.3**
	baz=115,SNR=11						
K04D				S	**Sb**	**18 58 46.2**	**-0.7**
	baz=115						
J05D	**Fort Rock, OR**	**1.85**	**319**		**Pb**	**18 58 25.7**	**-0.1**
J05D	**Fort Rock, OR**	**1.85**	**319**	Pb	**Pb**	**18 58 25.5**	**-0.2**
	baz=140,SNR=45						
J05D				Sb	**Sg**	**18 58 50.4**	**-0.4**
	baz=140						
WVA	**Winnemucca Val**	**1.95**	**185**		**Pb**	**18 58 28.0**	**+0.7**
L04D	**Klamath Falls**	**2.05**	**280**	P	**Pn**	**18 58 26.1**	**-0.5**
	baz=99,SNR=22						
L04D				Sb	**Sg**	**18 58 56.2**	**-1.0**
	baz=99						
BEKR	**Beckworth**	**2.10**	**197**		**Pb**	**18 58 29.6**	**-0.4**
BEKR				IAML		18 58 59.8	
	comp=E,40nm,0.2s						
BEKR				IAML		18 59 00.9	
	comp=N,34nm,0.3s						
PINE	**Pine Mountain**	**2.15**	**333**	Pg	**Pb**	**18 58 31.8**	**+1.0**
PINE				IAML		18 59 15.0	
	comp=N,30nm,0.7s						
PAHR	**Pah Rah Range**	**2.18**	**176**	Pn	**Pn**	**18 58 27.5**	**-0.9**
PAHR					**Pb**	**18 58 32.1**	**+0.7**
PAHR				IAML		18 59 02.3	
	comp=E,45nm,0.6s						
PAHR				IAML		18 59 02.4	
	comp=N,28nm,0.5s						
I07A	**Izee**	**2.19**	**1**	Pg	**Pb**	**18 58 31.7**	**+0.2**
I07A				IAML		18 59 02.9	
	comp=N,31nm,0.5s						
LOY	**Loyalton**	**2.28**	**193**		**Pb**	**18 58 33.6**	**+0.6**
PEAR	**Peavine Mounta**	**2.29**	**187**		**Pb**	**18 58 34.2**	**+0.9**
BMN	**Battle Mountai**	**2.30**	**128**		**Pn**	**18 58 30.0**	**0.0**
BMN				IAML		18 59 06.5	
	comp=N,24nm,0.6s						
J04D	**Umpqua Nationa**	**2.31**	**307**	Pb	**Pb**	**18 58 33.3**	**-0.2**
	baz=126,SNR=11						
O03E	**Paynes Creek**	**2.31**	**227**	P	**Pn**	**18 58 30.2**	**+0.1**
	baz=46,SNR=17						
O03E				Sb	**Sb**	**18 59 04.0**	**+1.6**
	baz=46						
YBH	**Yreka Blue Hor**	**2.34**	**267**		**Pn**	**18 58 29.9**	**-0.7**
YBH				IAML		18 59 06.5	
	comp=N,24nm,0.5s						
M02C	**Callahan**	**2.50**	**260**	Sb	**Sb**	**18 59 09.3**	**+1.5**
	baz=78						
N02D	**Trinity Center**	**2.52**	**250**	Sb	**Sg**	**18 59 10.5**	**-1.7**
	baz=68						
WDC	**Whiskeytown Da**	**2.58**	**241**		**Pn**	**18 58 32.6**	**-1.2**
VCNR	**Virginia City**	**2.59**	**181**		**Pn**	**18 58 32.6**	**-1.4**
HUMO	**Hull Mountain**	**2.61**	**287**		**Pn**	**18 58 33.1**	**-1.0**
HUMO				IAML		18 59 15.8	
	comp=N,22nm,0.7s						
ORV	**Oroville**	**2.75**	**213**		**Pn**	**18 58 34.5**	**-1.5**
PNTR	**Pine Nut**	**2.79**	**180**		**Pn**	**18 58 35.2**	**-1.6**
YERR	**Yerington**	**2.91**	**175**		**Pb**	**18 58 44.3**	**+0.5**
O02D	**Mt. Diablo Mer**	**2.97**	**236**	Sb	**Sb**	**18 59 22.7**	**+1.5**
	baz=54						
L02E	**Cave Junction**	**3.01**	**277**	Sb	**Sb**	**18 59 23.5**	**+1.1**
	baz=94						
KVN	**Kaiserville**	**3.05**	**158**		**Pn**	**18 58 38.3**	**-2.0**
KVN				IAML		18 59 29.8	
	comp=E,12nm,0.6s						
K02D	**Willamette Mer**	**3.13**	**286**	P	**Pn**	**18 58 41.8**	**+0.4**
	baz=104,SNR=28						
MFID	**Camas Ranch**	**3.16**	**60**		**Pn**	**18 58 41.2**	**-0.6**
RYN	**Ryan**	**3.35**	**166**		**Pn**	**18 58 43.2**	**-1.3**
RYN				IAML		18 59 41.8	
	comp=N,12nm,0.5s						
RYN				IAML		18 59 42.9	
	comp=E,17nm,1.0s						
BMO	**Blue Mountains**	**3.40**	**28**		**Pn**	**18 58 43.6**	**-1.4**
ELK	**Elko**	**3.46**	**108**	Pn	**Pn**	**18 58 45.6**	**-0.5**
ELK					**Pb**	**18 58 52.6**	**-0.7**
NVAR	**Mina Array Bea**	**3.59**	**164**		**Pb**	**18 58 55.7**	**+0.3**
HLID	**Hailey**	**4.16**	**65**		**Pn**	**18 58 55.9**	**+0.3**
HLID				IAML		19 00 04.7	
	comp=E,6.4nm,0.6s						
R11A	**Troy Canyon, C**	**4.68**	**138**	Pn	**Pn**	**18 59 02.8**	**0.0**
R11A				IAML		19 00 43.2	
	comp=N,4.0nm,5.0s						
R11A				IAML		19 01 01.4	
	comp=E,3.5nm,3.8s						
SPR3	**Spring Creek 3**	**4.94**	**124**	Pn	**Pn**	**18 59 05.0**	**-1.4**
SPR3				IAML		19 00 10.5	
	comp=N,4.6nm,4.3s						
SPR3				IAML		19 00 49.0	
	comp=E,4.1nm,5.0s						
BGU	**Big Grassy Mou**	**5.02**	**99**	Pn	**Pn**	**18 59 07.9**	**+0.5**
BGU				IAML		19 00 12.9	
	comp=N,4.8nm,4.1s						
BGU				IAML		19 01 54.1	
	comp=E,6.0nm,4.3s						

*IDC **14** 19:01:12.1±1.7,6.86S×148.43E,h0km,mb3.5/4, mb1 3.7/6,mb1mx3.5/34,mbtmp3.5/6,ML3.4/2,MS3.7/1, Ms1 3.7/1,ms1mx2.5/31,Error ellipse: s-maj=50.5km s-min=25.6km az=119.0*

ISC 14 19:01:17.9±1.5,6.9S±0.2×148.2E±0.2,h35km,n8,σ0:53/7, mb3.6/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**8.65**	**300**	Pn	**Pn**	**19 03 21.1**	**+0.3**
	0.3nm,0.3s,baz=106,slow=19,SNR=1.6						
WRA	**Warramunga Arr**	**18.73**	**225**	P	**Pn**	**19 05 34.3**	**-0.2**
	0.1nm,0.3s,baz=53,slow=10,SNR=7.8						
ASAR	**Alice Springs**	**21.65**	**218**	P	**P**	**19 06 06.2**	**+0.6**
	0.5nm,0.6s,baz=56,slow=8.6,SNR=14						
FITZ	**Fitzroy Crossi**	**24.69**	**241**	P	**P**	**19 06 35.5

PKGZ	**Pakihiroa**	**3.93**	**195**	P	Pn	19 05 52.5	-2.1
PKGZ				S	S	19 06 48.0	-0.6
PUZ	**Puketiti**	**4.07**	**192**	P	Pn	19 05 54.6	-1.5
PUZ				S	S	19 06 50.9	-0.3
URZ	**Urewera**	**4.54**	**203**	P	Pn	19 06 01.3	+0.3
URZ				S	S	19 07 02.4	+2.1
BKZ	**Black Stump Fm**	**5.56**	**204**	P	Pn	19 06 13.5	+0.9
BKZ				S	S	19 07 21.9	+0.5
TMVZ	**Te Maari**	**5.81**	**209**	P	Pn	19 06 16.8	+1.2
ETVZ	**East Tongariro**	**5.83**	**209**	P	Pn	19 06 16.9	+1.1
FWVZ	**Far West T-bar**	**5.99**	**210**	P	Pn	19 06 18.7	+1.0
KAHZ	**Kahuranaki**	**6.03**	**199**	P	Pn	19 06 19.0	+1.1
KAHZ				S	S	19 07 35.3	+4.1
PKVZ	**Pokaka**	**6.11**	**211**	P	Pn	19 06 19.5	+0.6
PXZ	**Pawanui**	**6.26**	**198**	P	Pn	19 06 21.2	+0.7
PXZ				S	S	19 07 39.2	+3.3
TSZ	**Takapari Road**	**6.55**	**204**	P	Pn	19 06 24.0	0.0
TSZ				S	S	19 07 42.6	+0.4
WAZ	**Wanganui**	**6.65**	**211**	P	Pn	19 06 26.1	+0.9
PRWZ	**Pori Road**	**6.99**	**202**	P	Pn	19 06 30.1	+0.8
PRWZ				S	S	19 07 52.9	+1.1
MRZ	**Mangatainoka R**	**7.21**	**204**	P	Pn	19 06 31.4	-0.5
MRZ				S	S	19 07 55.1	-1.5
TIWZ	**Tintock**	**7.22**	**201**	P	Pn	19 06 32.6	+0.6
TIWZ				S	S	19 07 58.9	+2.1
HOWZ	**Holdsworth Sta**	**7.45**	**203**	P	Pn	19 06 34.2	-0.5
HOWZ				S	S	19 08 00.6	-1.2
OGWZ	**Otaki Gorge**	**7.49**	**205**	P	Pn	19 06 34.3	-0.9
OGWZ				S	S	19 08 02.1	-0.6
TMWZ	**Te Maipa**	**7.53**	**200**	P	Pn	19 06 35.8	+0.2
TMWZ				S	S	19 08 03.6	+0.2
KIW	**Kapiti Island**	**7.63**	**206**	P	Pn	19 06 36.7	-0.2
KIW				S	S	19 08 05.5	-0.1
MTW	**Mount Morrison**	**7.69**	**202**	P	Pn	19 06 37.2	-0.3
MTW				S	S	19 08 06.9	-0.1
CAW	**Cannon Point**	**7.79**	**205**	P	Pn	19 06 38.1	-0.6
PLWZ	**Palliser**	**8.14**	**202**	P	Pn	19 06 42.8	-0.2
PLWZ				S	S	19 08 16.9	-0.1
TCW	**Tory Channel**	**8.17**	**208**	P	Pn	19 06 42.5	-0.8
TCW				S	S	19 08 17.8	+0.2
THZ	**Tophouse**	**9.20**	**212**	P	Pn	19 06 55.9	+0.1
THZ				S	S	19 08 40.8	+0.4
KHZ	**Kahutara**	**9.49**	**207**	P	Pn	19 06 59.0	-0.1

*IDC **14** 19:15:52.3±1.5,2˝.57S×138˝.62E, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.5/31, mbtmp3.5/5, ML3.6/2, Error ellipse: s-maj=32.5km s-min=27.1km az=121.0*
*DJA **14** 19:16:00.2±1.0,2˝.5S×13˝.9E±˚, h73km±27km, M3.4/4, MLv3.4/4*

ISC 14 19:15:57.3±0.9, 3˚.11S±0˚.09×138˚.86E±0˚.05, h35km, n8, σ2s02/13, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**1.40**	**69**	P	**Pn**	**19 16 22.3**	**+1.9**
GENI				S	**Sn**	**19 16 38.9**	**+1.2**
JAY	**Jayapura**	**1.94**	**72**	Pn	**Pn**	**19 16 28.6**	**+0.8**
	3.9nm,0.3s,baz=238,slow=9.9,SNR=51						
JAY				Sn	**Sn**	**19 16 49.2**	**-1.7**
	15nm,0.3s,baz=104,slow=17,SNR=17						
JAY	**Jayapura**	**1.94**	**72**	P	**Pn**	**19 16 28.7**	**+0.9**
JAY				S	**Sn**	**19 16 50.5**	**-0.4**
SRPI	**Serui, Papua**	**2.89**	**295**	P	**Pn**	**19 16 42.4**	**+1.5**
SRPI				S	**Sn**	**19 17 14.8**	**+0.4**
WRA	**Warramunga Arr**	**17.31**	**194**	P	**P**	**19 20 00.4**	**+2.8**
	0.5nm,0.3s,baz=12,slow=13,SNR=38						
WRA				S	**Sn**	**19 23 06.4**	**-1.6**
	0.1nm,0.3s,baz=6.3,slow=25,SNR=3.3						
FITZ	**Fitzroy Crossi**	**19.74**	**220**	P	**Pn**	**19 20 27.4**	**+1.4**
	1.2nm,0.9s,baz=40,slow=11,SNR=1.8						
FITZ				S	**S**	**19 24 02.6**	**-2.5**
	2.0nm,1.1s,baz=112,slow=18,SNR=2.0						
ASAR	**Alice Springs**	**21.00**	**193**	P	Pn	19 20 42.7	+2.1
	0.6nm,0.6s,baz=20,slow=9.8,SNR=24						
MKAR	**Makanchi Array**	**70.19**	**322**	P	**P**	**19 27 03.5**	**-3.2**
	0.5nm,0.5s,baz=121,slow=7.8,SNR=5.0						

*IDC **14** 19:17:45.5±3.1,36˚.29N×70˚.89E, h174km±29km, mb3.5/11, mb1 3.6/15, mb1mx3.3/51, mbtmp4.0/15, Error ellipse: s-maj=22.5km s-min=14.1km az=20.0*
*BJI **14** 19:17:48.0±0.0,36˚.60N×71˚.00E, h175km, mB4.7/9, mb4.4/16*
*NEIC **14** 19:17:49±0.8,36˚.58N±0˚.07×70˚.83E±0˚.08, h206km±9km, mb4.2/6, Error ellipse: s-maj=10.4km s-min=9.6km az=186.0*
*SOME **14** 19:17:49.4,37˚.92N×72˚.03E, h5km*
*NNC **14** 19:18:01.4±7.0,37˚.68N×71˚.07E, h224km±55km, mb3.1, mpv3.3, Error ellipse: s-maj=71.6km s-min=36.5km az=27.0*

ISC 14 19:17:48.2±0.5, 36˚.61N±0˚.05×70˚.86E±0˚.05, h200km, n77, σ1s94/89, mb3.7/13, 4C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**2.43**	**350**		**Pn**	**19 18 32.8**	**+1.4**
CHGR	**Chuyangaron**	**2.45**	**327**	Pn	**Pn**	**19 18 32.9**	**+1.2**
KBL	**Kabul**	**2.54**	**216**	Pn	**Pn**	**19 18 33.4**	**+0.5**
DRK	**Karamyk**	**2.96**	**14**		**Pn**	**19 18 39.1**	**+1.4**
BTK	**Batken**	**3.44**	**359**	Pn	**Pn**	**19 18 44.9**	**+1.6**
NIL	**Nilore**	**3.54**	**146**	Pn	**Pn**	**19 18 44.9**	**+0.4**
TAS	**Tashkent**	**4.87**	**346**	Pn	**Pn**	**19 19 01.7**	**+0.9**
KSH	**Kashi**	**4.97**	**53**	P	**Pn**	**19 18 58.8**	**-3.5**
KSH				S	Sn	19 19 49.6	-11
KSH				smax	smax		
	comp=N,220nm,0.6s						
KSH				smax	smax		
	comp=E,190nm,0.6s						
IUG	**Iuzhnay**	**5.57**	**354**	*e*P	**Pn**	**19 19 13.3**	**+3.3**
	226nm,0.1s						
IUG				*e*S	**Sn**	**19 20 12.5**	**-2.1**
	284nm,1.1s						
CHM	**Chimkent**	**5.79**	**351**	*e*P	**Pn**	**19 19 16.6**	**+3.9**
	4.9nm,0.3s						
CHM				*e*S	**Sn**	**19 20 18.0**	**-1.5**
	437nm,0.4s						
AML	**Almayashu**	**5.94**	**21**	P	**Pn**	**19 19 15.7**	**+0.7**
	SNR=31						
DHRM	**DHARAMSHALA**	**6.25**	**132**	*e*P	**Pn**	**19 19 15.9**	**-3.1**
DHRM				*i* x	**Pn**	**19 19 19.0**	**0.0**
DHRM				*e*S	**Sn**	**19 20 26.1**	**-4.7**
UCH	**Uchtor**	**6.28**	**26**	P	**Pn**	**19 19 20.3**	**+0.8**
	SNR=34						
DZA	**Taraz**	**6.29**	**3**	*e*P	**Pn**	**19 19 22.6**	**+3.4**
	42nm,0.2s						
DZA				*e*S	**Sn**	**19 20 29.0**	**-2.2**
	212nm,0.3s						
MRKS	**Merke**	**6.39**	**16**	*e*P	**Pn**	**19 19 23.0**	**+2.4**
	26nm,0.4s						
MRKS				*e*S	**Sn**	**19 20 30.0**	**-3.8**
	86nm,0.7s						
KZA	**Kyzart**	**6.43**	**31**	P	**Pn**	**19 19 22.3**	**+0.8**
	SNR=8.2						
EKS2	**Erkin-Say**	**6.45**	**20**	P	**Pn**	**19 19 22.4**	**+1.1**
	SNR=8.9						
KK31	**Karatay Array**	**6.49**	**358**	P	**Pn**	**19 19 22.5**	**+0.7**
	1.4nm,0.3s,baz=196,slow=15,SNR=40						
KK31				⇑S	**Sn**	**19 20 31.2**	**-4.8**
	9.9nm,0.3s,baz=169,slow=13,SNR=2.5						
KK31	**Karatay Array**	**6.49**	**358**	Pn	**Pn**	**19 19 22.6**	**+0.8**
KKAR	**Karatay Array**	**6.49**	**358**		**Pn**	**19 19 22.8**	**+1.0**
KKAR	**Karatay Array**	**6.49**	**358**	Pn	**Pn**	**19 19 22.6**	**+0.8**
AAK	**Ala-Archa**	**6.64**	**24**	P	**Pn**	**19 19 24.7**	**+0.8**
	5.9nm,0.3s,baz=168,slow=4.8,SNR=37						
AAK				S	**Sn**	**19 20 35.0**	**-4.7**
	2.4nm,0.3s,baz=70,slow=15,SNR=4.4						
AAK	**Ala-Archa**	**6.64**	**24**	P	**Pn**	**19 19 24.9**	**+1.0**
	SNR=11						
KBK	**Karagaybulak**	**6.81**	**26**	P	**Pn**	**19 19 27.3**	**+1.2**
	SNR=6.5						
ULHL	**Ulahol**	**7.00**	**35**	P	**Pn**	**19 19 29.1**	**+0.5**
	SNR=8.1						
CHMS	**Chumysh**	**7.05**	**24**	P	**Pn**	**19 19 30.1**	**+1.1**
	SNR=5.3						
BOOM	**Boomskoye usch**	**7.06**	**32**	Pn	**Pn**	**19 19 30.3**	**+1.0**
USP	**Ospenovka**	**7.21**	**22**	P	**Pn**	**19 19 31.9**	**+0.7**
	SNR=5.8						
TKM2	**Tokmak 2**	**7.28**	**29**	P	**Pn**	**19 19 33.1**	**+0.9**
	SNR=12						
KST	**Kastek**	**7.53**	**30**	*e*P	**Pn**	**19 19 39.6**	**+4.2**
	18nm,0.7s						
KST				*e*S	**Sn**	**19 20 58.1**	**-2.4**
	17nm,0.8s						
GEYT	**Alibeck**	**10.24**	**281**	P	**Pn**	**19 20 10.2**	**-0.5**
	0.5nm,0.3s,baz=106,slow=11,SNR=7.1						
GEYT				S	**Sn**	**19 22 01.1**	**-4.0**
	0.7nm,0.3s,baz=105,slow=26,SNR=2.0						
MAKZ	**Makanchi**	**13.13**	**36**	⇓P	**Pn**	**19 20 47.0**	**-0.2**
	5.5nm,0.5s						
MAKZ	**Makanchi**	**13.13**	**36**	P	**Pn**	**19 20 47.3**	**+0.1**
MK31	**Makanchi Array**	**13.27**	**36**	⇓P	**Pn**	**19 20 48.7**	**-0.3**
	7.8nm,0.8s,baz=223,slow=11,SNR=59						
MK31	**Makanchi Array**	**13.27**	**36**		**Pn**	**19 20 49.2**	**+0.2**
MKAR	**Makanchi Array**	**13.27**	**36**	P	**Pn**	**19 20 49.4**	**+0.4**
	0.6nm,0.3s,baz=209,slow=10,SNR=27						
MKAR	**Makanchi Array**	**13.27**	**36**		**Pn**	**19 20 48.9**	**-0.1**
PYUN	**Piuthan**	**13.30**	**126**	*e*P	**Pn**	**19 20 48.9**	**-0.8**
	21nm,0.4s						
KOLN	**Koldanda**	**13.92**	**126**	*e*P	**Pn**	**19 20 57.5**	**+0.1**
	8.9nm,0.5s						
GKN	**Gorkha**	**14.46**	**122**	*e*P	**P**	**19 21 04.7**	**-0.6**
	23nm,0.6s						
WMQ	**Urumqi**	**14.73**	**56**	*e*P	**P**	**19 21 09.6**	**+1.6**
AB31	**Akbulak array**	**14.94**	**331**	P	**P**	**19 21 09.6**	**-0.6**
	2.6nm,0.7s,baz=144,slow=12,SNR=55						
AB31				⇑S	**S**	**19 23 48.6**	**-6.6**
	1.1nm,0.7s,baz=159,slow=24,SNR=4.6						
ABKAR	**Akbulak array**	**14.94**	**331**	P	**Pn**	**19 21 09.2**	**-0.2**
ABKAR	**Akbulak array**	**14.94**	**331**		**P**	**19 21 09.7**	**-0.5**
DMN	**Daman**	**15.03**	**123**	*e*P	**P**	**19 21 12.4**	**+0.7**
	18nm,0.5s						
KKN	**Kakani**	**15.03**	**122**	*e*P	**P**	**19 21 10.8**	**-0.9**
	14nm,0.6s						
KURBB	**Kurchatov Arra**	**15.05**	**19**	P	**P**	**19 21 10.7**	**-0.8**
	0.2nm,0.3s,baz=208,slow=11,SNR=6.3						
KURBB	**Kurchatov Arra**	**15.05**	**19**	⇑P	**P**	**19 21 10.7**	**-0.8**
	2.6nm,0.4s						
PKIN	**Phulchoki**	**15.24**	**122**	*e*P	**P**	**19 21 14.4**	**+0.3**
	20nm,0.5s						
PKI	**Pulchoki**	**15.26**	**122**	*e*P	**P**	**19 21 14.9**	**+0.6**
	19nm,0.6s						
JIRN	**Jiri**	**15.74**	**120**	*e*P	**Pn**	**19 21 20.5**	**+0.7**
	21nm,0.4s						
BVAR	**Borovoye Array**	**16.42**	**359**	P	**Pn**	**19 21 28.3**	**+0.9**
	0.7nm,0.3s,baz=165,slow=18,SNR=15						
BVAR				S	**S**	**19 24 27.4**	**-0.7**
	0.2nm,0.3s,baz=169,slow=26,SNR=4.4						
BRVK	**Borovoye**	**16.45**	**359**	⇑P	**Pn**	**19 21 28.4**	**+0.6**
	1.8nm,0.5s						
BRVK	**Borovoye**	**16.45**	**359**	P	**Pn**	**19 21 27.2**	**-0.6**
RAMN	**Ramite**	**16.47**	**121**	*e*P	**Pn**	**19 21 30.1**	**+1.6**
	9.3nm,0.3s						
AKTO	**Aktyubinsk**	**16.63**	**330**	P	**Pn**	**19 21 31.6**	**+1.6**
	1.1nm,0.3s,baz=141,slow=9.7,SNR=32						
AKTO				S	**S**	**19 24 30.8**	**-1.5**
	0.0nm,0.3s,baz=180,slow=20,SNR=1.7						
AKTO	**Aktyubinsk**	**16.63**	**330**	⇓P	**Pn**	**19 21 31.4**	**+1.5**
	4.7nm,0.6s						
ODAN	**Odare**	**17.07**	**120**	*e*P	**Pn**	**19 21 37.0**	**+1.4**
	9.2nm,0.4s						
UOSS	**Minazif**	**17.12**	**231**	P	**P**	**19 21 34.3**	**-0.1**
UOSS				IAmb	IAmb	19 22 00.3	
	comp=Z,7.6nm,1.2s						
ZAA0	**Zalesovo Array**	**19.86**	**25**	P	**P**	**19 22 04.6**	**+0.8**
ZAA0				IAmb	IAmb	19 22 05.7	
	comp=Z,8.3nm,0.7s						
ZALV	**Zalesovo Beam**	**19.86**	**25**	P	**P**	**19 22 05.0**	**+1.2**
	comp=Z,5.8nm,0.4s,baz=220,slow=11,SNR=39						
ZALV	**Zalesovo Beam**	**19.86**	**25**		**P**	**19 22 04.8**	**+0.9**
BELG	**Belogornoye**	**22.73**	**321**	P	**P**	**19 22 35.3**	**+2.4**
	comp=Z,3.2nm,0.4s,baz=153,slow=8.0,SNR=6.0						
GTA	**Gaotai**	**22.94**	**74**	*e*P	**P**	**19 22 37.0**	**+1.9**
GTA				pP	pP	19 23 12.5	0.0
GTA				sP	sP	19 23 36.8	-1.4
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
SONM	**Songino Array**	**28.36**	**56**	P	**P**	**19 23 25.7**	**+2.0**
	comp=Z,0.9nm,0.4s,baz=258,slow=7.2,SNR=2.9						
HHC	**Hu-ho-hao-te**	**31.83**	**70**	*e*P	**P**	**19 23 56.3**	**+2.0**
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,83nm,7.6s						
AKASG	**Malin Array Be**	**32.79**	**309**	P	**P**	**19 24 04.5**	**+2.2**
	comp=Z,0.7nm,0.4s,baz=83,slow=7.1,SNR=2.9						
FINES	**FINESS Array B**	**37.33**	**326**	P	**P**	**19 24 43.0**	**+2.0**
	comp=Z,0.6nm,0.4s,baz=131,slow=8.6,SNR=6.8						
ARCES	**ARCESS Array B**	**41.00**	**338**	P	**P**	**19 25 13.4**	**+2.2**
	comp=Z,1.0nm,0.7s,baz=107,slow=8.1,SNR=10						
CLL	**Collm**	**43.04**	**309**	*e*pP	pP	19 26 11.0	+0.1
YAK	**Yakutsk**	**43.94**	**36**	P	**P**	**19 25 35.4**	**+0.4**
YAK				IAmb	IAmb	19 25 36.4	
	comp=Z,6.1nm,0.9s						
NOA	**NORSAR Array B**	**44.23**	**323**	P	**P**	**19 25 39.1**	**+1.8**
	comp=Z,1.2nm,0.8s,baz=97,slow=7.7,SNR=2.8						
TORD	**Torodi Ar. Bea**	**65.61**	**268**	P	**P**	**19 28 10.2**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=48,slow=5.8,SNR=8.0						
SOEI	**Soe**	**68.11**	**121**	P	**P**	**19 28 26.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**75.05**	**126**	P	**P**	**19 29 07.8**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=329,slow=7.9,SNR=2.1						
WRA	**Warramunga Arr**	**82.14**	**122**	P	**P**	**19 29 45.8**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=322,slow=4.7,SNR=46						
ASAR	**Alice Springs**	**84.41**	**125**	P	**P**	**19 29 57.6**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=312,slow=4.9,SNR=27						

IDC 14 19:23:35.9±2.5, 35˚.80S×105˚.38W, h0km, mb4.2/2, mb1 4.7/2, mb1mx4.0/21, mbtmp4.2/2, MS3.5/3, Ms1 3.5/3, ms1mx3.2/18, Error ellipse: s-maj=126.4km s-min=68.6km az=81.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H03S2	**Juan Fernandez**	**21.79**	**93**	T	T	19 50 30.1	
	baz=257,slow=76						
H03S1	**Juan Fernandez**	**21.80**	**93**	T	T	19 50 31.9	
	baz=257,slow=76						
H03S3	**Juan Fernandez**	**21.80**	**93**	T	T	19 50 32.9	
	baz=257,slow=76						
LPAZ	**La Paz**	**38.39**	**69**	LR	LR	19 42 44.6	
	comp=Z,53nm,18.9s,baz=217,slow=30						
CPUP	**Villa Florida**	**41.88**	**91**	LR	LR	19 46 27.9	
	comp=Z,66nm,18.2s,baz=220,slow=33						
PPT	**Papeete**	**43.05**	**283**	LR	LR	19 44 35.0	
	comp=Z,65nm,21.2s,baz=39,slow=29						
TXAR	**Lajitas Array**	**64.80**	**2**	P	P	19 34 16.4	0.0
	1.4nm,0.8s,baz=184,slow=8.9,SNR=18						
PDAR	**Pinedale Array**	**78.28**	**357**	P	P	19 35 37.7	+0.1
	2.8nm,0.9s,baz=163,slow=6.6,SNR=2.3						
BRTR	**Keskin Array B**	**147.56**	**71**	PKPbc	PKPbc	19 43 21.4	-0.8
	1.3nm,0.8s,baz=238,slow=4.9,SNR=3.6						
SONM	**Songino Array**	**153.63**	**307**	PKPbc	PKPbc	19 43 36.4	0.0
	1.4nm,0.6s,baz=93,slow=3.2,SNR=2.7						

*IDC **14** 19:24:44.7±1.7, 11˚.06N×126˚.41E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/37, mbtmp3.7/6, Error ellipse: s-maj=136.8km s-min=21.5km az=72.0*
*MAN **14** 19:24:56.9, 10˚.69N×125˚.58E, h28km, mb4.4, ML3.2, MS3.0*

ISC 14 19:24:54.9±2.1, 10˚.8N±0˚.1×125˚.8E±0˚.1, h71km±18km, n12, σ0s84/17, mb3.7/6, 4C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**1.04**	**195**	⇑*e*P	**Pn**	**19 25 14.0**	**0.0**
SCPH				*e*S	**Sn**	**19 25 28.0**	**-0.2**
MSLP	**Maasin**	**1.10**	**233**	⇑*i*P	**Pn**	**19 25 14.8**	**+0.1**
MSLP				*i* S	**Sn**	**19 25 30.1**	**+0.5**
LLP	**Lapu-Lapu**	**1.82**	**255**	⇑*i*P	**Pn**	**19 25 23.6**	**-0.6**
LLP				*i* S	**Sn**	**19 25 45.2**	**-1.2**
TBP	**Tagbilaran**	**2.17**	**240**	*i* P	**Pn**	**19 25 29.4**	**+0.6**
TBP				*i* S	**Sn**	**19 25 55.3**	**+0.6**
SNPH	**Sibulan**	**2.87**	**240**	*e*P	**Pn**	**19 25 38.8**	**+0.3**
SNPH				*i* S	**Sn**	**19 26 10.7**	**-1.3**
RCP	**Roxas**	**3.05**	**285**	⇑*e*P	**Pn**	**19 25 41.5**	**+0.7**
FITZ	**Fitzroy Crossi**	**28.71**	**180**	P	**P**	**19 30 46.4**	**+0.8**
	2.4nm,1.1s,baz=0.0,slow=11,SNR=2.0						
WRA	**Warramunga Arr**	**31.69**	**165**	P	**P**	**19 31 10.4**	**-1.6**
	0.4nm,0.8s,baz=345,slow=9.8,SNR=1.7						
ASAR	**Alice Springs**	**35.17**	**167**	P	**P**	**19 31 41.9**	**-0.3**
	0.2nm,0.5s,baz=348,slow=6.5,SNR=5.8						
MKAR	**Makanchi Array**	**51.30**	**323**	P	**P**	**19 33 52.3**	**+0.4**
	0.2nm,0.3s,baz=119,slow=9.2,SNR=6.6						
ARCES	**ARCESS Array B**	**83.53**	**340**	P	**P**	**19 37 14.2**	**-0.6**
	0.9nm,0.9s,baz=70,slow=7.8,SNR=1.9						
FINES	**FINESS Array B**	**85.19**	**332**	P	**P**	**19 37 22.9**	**-0.4**
	2.5nm,0.9s,baz=66,slow=3.4,SNR=4.5						

IDC 14 19:28:10.0±6.9, 30˚.96S×177˚.52W, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.4/28, mbtmp3.2/2, Error ellipse: s-maj=292.0km s-min=59.1km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.49**	**267**	P	P	19 36 15.4	+0.1
	0.4nm,1.0s,baz=107,slow=7.7,SNR=1.6						
WRA	**Warramunga Arr**	**44.53**	**272**	P	P	19 36 23.4	-0.3
	0.2nm,0.5s,baz=114,slow=7.7,SNR=7.6						
FINES	**FINESS Array B**	**145.81**	**340**	PKPbc	PKPdf	19 47 49.5	-0.4
	2.7nm,1.0s,baz=45,slow=4.1,SNR=6.3						

*IDC **14** 19:29:39.0±0.7, 31˚.30N×141˚.93E, h0km, mb3.9/14, mb1 4.0/18, mb1mx3.9/40, mbtmp3.9/18, ML3.6/4, MS3.2/5, Ms1 3.2/5, ms1mx2.7/46, Error ellipse: s-maj=25.2km s-min=15.6km az=73.0*
*JMA **14** 19:29:40.7±0.2, 31˚.32N×142˚.05E, h42km, M4.1*
*NIED **14** 19:29:40.8, 31˚.32N×142˚.05E, h42km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.01; Mθθ-0.05; Mφφ-0.96; Mrθ-0.90; Mθφ0.30; Mφr1.05; Fault plane solution: M0 1.72000×10¹⁵ NP1: φs325.00000°, δ72.00000°, λ78.00000°. NP2: φs179.00000°, δ21.00000°, λ122.00000°.*
*NEIC **14** 19:29:41.8±1.1, 31˚.38N±0˚.07×142˚.1E±0˚.1, h20km±4km, mb4.4/17 Error ellipse: s-maj=13.6km s-min=9.5km az=70.0*

ISC 14 19:29:43.3±0.5, 31˚.34N±0˚.06×142˚.10E±0˚.09, h35km, n55, σ1s77/57, mb4.0/22, MS3.3/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.62**	**313**	Pn	**Pn**	**19 30 22.7**	**-0.4**
JHJ	**Hachijo jima 2**	**2.64**	**313**	Pn	**Pn**	**19 30 21.6**	**-1.9**
	23nm,0.3s,baz=91,slow=21,SNR=6.1						
JHJ				Sn	**Sn**	**19 30 48.7**	**-5.5**
	27nm,0.3s,baz=62,slow=23,SNR=6.7						
BSO1	**Boso 1**	**3.43**	**344**	P	**Pn**	**19 30 34.0**	**+0.2**
CBIJ	**Chichi jima**	**4.23**	**179**	P	**Pn**	**19 30 44.3**	**-1.0**
JCJ	**Chichijima**	**4.23**	**179**	Pn	**Pn**	**19 30 44.4**	**-0.9**
	9.9nm,0.3s,baz=284,slow=18,SNR=17						
JCJ				Sn	**Sn**	**19 31 29.4**	**-4.2**
	2.8nm,0.3s,baz=270,slow=20,SNR=2.0						
JHU	**Hanno**	**5.07**	**333**	P	**Pn**	**19 30 56.6**	**-0.2**
JYT	**Yasato**	**5.12**	**342**	Pn	**Pn**	**19 30 56.6**	**-0.9**
JRY	**Ryogami san**	**5.37**	**331**	P	**Pn**	**19 31 01.4**	**+0.5**
JHO	**Hitachi**	**5.41**	**347**	P	**Pn**	**19 31 00.1**	**-1.3**
JHO				S	**Sn**	**19 31 58.4**	**-3.9**
JAG	**Ashikaga**	**5.52**	**337**	P	**Pn**	**19 31 02.1**	**-0.9**
MJAR	**Matsushiro Arr**	**6.11**	**329**	Pn	**Pn**	**19 31 10.1**	**-0.9**
	0.5nm,0.3s,baz=150,slow=10,SNR=22						
MJAR				Sn	**Sn**	**19 32 19.2**	**-0.6**
	0.2nm,0.3s,baz=171,slow=17,SNR=1.2						
MJAR				LR	LR	19 33 47.7	
	comp=Z,106nm,18.9s,baz=170,slow=41						
MJAR	**Matsushiro Arr**	**6.11**	**329**		**Pn**	**19 31 10.7**	**-0.4**
MAJO	**Matsushiro**	**6.11**	**329**		**Pn**	**19 31 10.9**	**-0.2**
MAT	**Matsushiro**	**6.11**	**329**	P	**Pn**	**19 31 11.4**	**+0.3**
MAT				S	**Sn**	**19 32 21.3**	**+1.5**
JMM	**Marumori**	**6.59**	**351**		**Pn**	**19 31 16.2**	**-1.5**
JMM				Sn	**Sn**	**19 32 25.4**	**-6.2**
JSD	**Sado**	**7.39**	**336**	Pn	**Pn**	**19 31 26.9**	**-1.6**
ERM	**Erimo**	**10.68**	**4**	Pn	**Pn**	**19 32 13.2**	**-0.6**
JKA	**Kamikawa-asahi**	**12.76**	**2**		**Pn**	**19 32 39.4**	**-2.7**
ASAJ	**Asahikawa**	**12.76**	**2**	Pn	**Pn**	**19 32 39.4**	**-2.7**
	0.4nm,0.3s,baz=190,slow=17,SNR=4.8						
ASAJ				Sn	Sn	19 34 51.9	-11
	0.2nm,0.3s,baz=270,slow=20,SNR=1.7						
KSRS	**Korea Array**	**13.19**	**301**	LR	LR	19 37 54.1	
	comp=Z,70nm,18.4s,baz=105,slow=38						
KLR	**Kul'dur**	**19.50**	**339**	P	**Pn**	**19 34 08.3**	**-0.4**
	0.4nm,0.3s,baz=168,slow=7.7,SNR=6.0						
SONM	**Songino Array**	**31.72**	**312**	P	**P**	**19 36 04.7**	**+0.9**
	2.7nm,0.9s,baz=126,slow=7.4,SNR=5.1						
SONM				LR	LR	19 49 21.9	
	comp=Z,44nm,21.1s,baz=88,slow=37						
SONM	**Songino Array**	**31.72**	**312**	IAmb	IA

0.5nm,0.5s,baz=166,slow=7.1,SNR=2.2

IDC ***14*** *19:40:29.1±2.1,24°.68S×68°.97W,h0km,mb3.8/1, mb1 3.8/2,mb1mx3.5/17,mbtmp3.7/2,ML3.8/1, Error ellipse: s-maj=86.5km s-min=51.1km az=98.0*

GUC ***14*** *19:40:39.1±0.9,24°.09S×69°.47W,h93km±8km,ML3.5*

ISC 14 19:40:40.0±1.2,24°.06S±0°.07×69°.5W±0°.1,h87km±10km, n18,σ0s57/21,10C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB15	**IPOC Station P**	**0.85**	**1**	⇑*iP*	**Pn**	**19 40 57.9**	**-0.2**
PB15				*i* S	**Sn**	**19 41 11.6**	**0.0**
PB15				IAML		19 41 13.6	
	comp=N,9μm,0.3s						
PB14	**IPOC Station P**	**1.00**	**236**	⇑*iP*	**Pn**	**19 40 59.7**	**-0.2**
PB14				*i* S	**Sn**	**19 41 14.5**	**-0.2**
PB14				IAML		19 41 15.8	
	comp=E,389nm,0.4s						
PB10	**IPOC Station P**	**1.12**	**299**	⇑*iP*	**Pn**	**19 41 00.9**	**0.0**
PB10				*i* S	**Sn**	**19 41 17.2**	**+0.6**
PB10				IAML		19 41 19.4	
	comp=N,907nm,0.4s						
PB06	**IPOC Station P**	**1.35**	**357**	⇑*iP*	**Pn**	**19 41 03.9**	**-0.1**
PB06				*i* S	**Sn**	**19 41 22.3**	**+0.3**
PB06				IAML		19 41 23.1	
	comp=E,2μm,0.3s						
PB05	**IPOC Station P**	**1.37**	**331**	⇑*iP*	**Pn**	**19 41 03.9**	**-0.2**
PB05				*i* S	**Sn**	**19 41 22.5**	**+0.2**
PB05				IAML		19 41 24.8	
	comp=N,745nm,0.3s						
LVC	**Limon Verde**	**1.54**	**20**	*eP*	**Pn**	**19 41 06.3**	**-0.3**
LVC				*i* S	**Sn**	**19 41 27.0**	**+0.5**
PB04	**IPOC Station P**	**1.83**	**340**	⇑*iP*	**Pn**	**19 41 09.3**	**-0.7**
PB04				IAML		19 41 47.0	
	comp=N,443nm,0.1s						
PB03	**IPOC Station P**	**2.02**	**353**	⇑*iP*	**Pn**	**19 41 12.1**	**-0.5**
PB03				IAML		19 41 43.6	
	comp=N,405nm,0.3s						
PB07	**IPOC Station P**	**2.35**	**351**	⇑*iP*	**Pn**	**19 41 16.2**	**-0.8**
PB02	**IPOC Station P**	**2.76**	**352**	⇑*iP*	**Pn**	**19 41 21.3**	**-1.0**
PB01	**IPOC Station P**	**3.01**	**0**	⇑*iP*	**Pn**	**19 41 24.9**	**-0.7**
LPAZ	**La Paz**	**7.84**	**10**	Pn	**Pn**	**19 42 32.6**	**+0.7**
	comp=N,0.6nm,0.3s,baz=194,slow=8.5,SNR=7.4						
TORD	**Torodi Ar. Bea**	**78.72**	**70**	P	**P**	**19 52 32.7**	**-0.7**
	comp=N,0.4nm,0.5s,baz=253,slow=5.0,SNR=4.9						
H11S2	**WAKE ISLAND Hyl**	**27.62**	**275**	T	T	22 19 36.6	
	baz=107						
H11S1	**WAKE ISLAND Hyl**	**27.63**	**275**	T	T	22 19 35.5	
	baz=107						
H11S3	**WAKE ISLAND Hyl**	**27.64**	**275**	T	T	22 19 38.5	
	baz=107						
WRA	**Warramunga Arr**	**130.48**	**210**	PKP	**PKPdf**	**19 59 41.8**	**+0.4**
	comp=N,0.8nm,1.2s,baz=158,slow=2.0,SNR=1.6						
MKAR	**Makanchi Array**	**148.00**	**38**	PKPbc	**PKPbc**	**20 00 16.1**	**+0.8**
	comp=N,0.4nm,0.8s,baz=293,slow=3.3,SNR=2.7						

MEX 14 20:04:29.7±1.0,24°.79N×109°.04W,h16km±18km,MD3.7, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSIG	**Topolobambo**	**0.81**	**0**	*iP*	Pb	20 04 42.9	-2.4
TSIG				*i* S	Sb	20 04 51.9	-4.1
LPIG	**La Paz**	**1.34**	**239**	*eP*	Pn	20 04 50.4	-3.3
LPIG				*e*S	Sn	20 05 05.2	-6.0
SSIG	**Sanalona**	**1.73**	**89**	*iP*	Pn	20 04 55.3	-3.8
SSIG				*e*S	Sn	20 05 15.1	-5.8

NEIC ***14*** *20:04:43.8±1.5,22°.05S±0°.1×179°.5W±0°.2,h603km±10km, mb4.2/22,Error ellipse: s-maj=22.3km s-min=20.4km az=121.0*

IDC ***14*** *20:04:44.4±2.5,21°.83S×179°.67W,h607km±22km, mb3.3/12,mb1 3.4/14,mb1mx3.2/33,mbtmp4.3/14,Error ellipse: s-maj=44.1km s-min=19.3km az=141.0*

ISC 14 20:04:43.5±1.0,21°.9S±0°.1×179°.6W±0°.1,h600km,n37, σ0s81/35,mb4.1/23,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.69**	**332**	P	**P**	**20 06 14.5**	**+0.4**
	20nm,0.3s,baz=194,slow=8.2,SNR=21						
MSVF	**Nonsavu**	**4.69**	**332**		**P**	**20 06 14.7**	**+0.5**
MARNC	**Mare, Loyalty**	**11.47**	**270**	P	**P**	**20 07 17.4**	**+0.4**
DZM	**Mont Dzumac**	**12.91**	**267**	P	**P**	**20 07 33.8**	**+2.2**
	0.4nm,0.3s,baz=94,slow=19,SNR=1.6						
EIDS	**Eidsvold**	**27.02**	**257**	P	**P**	**20 09 40.0**	**+0.5**
EIDS				IAmb	IAmb	20 10 02.6	
	comp=Z,10nm,1.1s						
ARMA	**Armidale**	**27.09**	**246**	P	**P**	**20 09 40.6**	**+0.4**
ARMA				IAmb	IAmb	20 09 53.9	
	comp=Z,10.0nm,1.2s						
CTA	**Charters Tower**	**31.86**	**267**	P	**P**	**20 10 22.0**	**+0.7**
	comp=Z,4.4nm,0.6s,baz=104,slow=12,SNR=6.1						
CTAO	**Charters Tower**	**31.86**	**267**	P	**P**	**20 10 21.3**	**0.0**
CTAO				IAmb	IAmb	20 10 21.6	
	comp=Z,9.4nm,1.1s						
TOO	**Toolangi**	**33.84**	**235**	P	**P**	**20 10 38.1**	**+0.4**
TOO				IAmb	IAmb	20 10 44.7	
	comp=Z,13nm,1.4s						
STKA	**Stephens Creek**	**35.81**	**246**	P	**P**	**20 10 54.5**	**+0.3**
	comp=Z,2.0nm,0.6s,baz=90,slow=12,SNR=8.4						
BBOO	**Buckleboo**	**40.56**	**245**	P	**P**	**20 11 32.0**	**-0.5**
WR0	**Warramunga Arr**	**42.72**	**264**	P	**P**	**20 11 49.0**	**-0.6**
WR0				IAmb	IAmb	20 12 01.1	
	comp=Z,4.8nm,1.1s						
AS31	**Alice Springs**	**42.72**	**258**	P	**P**	**20 11 49.8**	**+0.2**
ASAR	**Alice Springs**	**42.73**	**258**	P	**P**	**20 11 49.6**	**0.0**
	comp=Z,3.6nm,0.6s,baz=99,slow=8.0,SNR=58						
WB2	**Warramunga Arr**	**42.90**	**264**	P	**P**	**20 11 50.5**	**-0.5**
WB2				IAmb	IAmb	20 11 51.4	
	comp=Z,5.0nm,1.1s						
WRAB	**Tennant Creek**	**42.90**	**264**	P	**P**	**20 11 50.5**	**-0.5**
WRAB				IAmb	IAmb	20 11 51.3	
	comp=Z,5.7nm,0.9s						
WRA	**Warramunga Arr**	**42.91**	**264**	P	**P**	**20 11 50.4**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=104,slow=7.5,SNR=12						
WRA	**Warramunga Arr**	**42.91**	**264**	IAmb	IAmb	20 11 51.4	
	comp=Z,0.4nm,1.0s						
WAKE	**Wake Island**	**43.08**	**341**	P	**P**	**20 11 51.5**	**-0.7**
JAY	**Jayapura**	**43.08**	**291**	P	**P**	**20 11 53.0**	**+0.5**
	comp=Z,7.5nm,0.7s,baz=180,slow=1.0,SNR=2.4						
FORT	**Forrest**	**47.34**	**248**	P	**P**	**20 12 23.5**	**-1.2**
KNRA	**Kununurra**	**49.06**	**268**	P	**P**	**20 12 37.7**	**+0.1**
KNRA				IAmb	IAmb	20 12 54.7	
	comp=Z,20nm,1.2s						
ANA2	**Anatahan**	**50.97**	**315**	P	**P**	**20 12 50.2**	**-1.2**
FITZ	**Fitzroy Crossi**	**51.34**	**264**	P	**P**	**20 12 54.4**	**+0.2**
	comp=Z,1.5nm,0.4s,baz=93,slow=10,SNR=27						
SIJI	**Sorong**	**52.15**	**287**	P	**P**	**20 12 59.5**	**-0.5**
	comp=Z,16nm,0.8s,baz=167,slow=19,SNR=4.6						
SOEI	**Soe**	**55.04**	**273**	P	**P**	**20 13 21.5**	**+1.0**
SOEI				IAmb	IAmb	20 13 23.0	
	comp=Z,12nm,0.8s						
BATI	**Baumata**	**55.45**	**273**	P	**P**	**20 13 23.6**	**+0.4**
	comp=Z,4.6nm,0.4s,baz=135,slow=1.4,SNR=1.5						
PSA00	**Pilbara Seismi**	**55.87**	**258**	P	**P**	**20 13 24.9**	**-1.1**
PSA00	**Pilbara Seismi**	**55.87**	**258**	P	**P**	**20 13 25.0**	**-1.1**
PSA00				IAmb	IAmb	20 13 30.1	
	comp=Z,15nm,1.2s						
MMRI	**Maumere**	**57.30**	**274**	P	**P**	**20 13 36.0**	**+0.1**
MMRI				IAmb	IAmb	20 13 58.2	
	comp=Z,43nm,1.1s						
QSPA	**South Pole Qui**	**68.17**	**180**	P	**P**	**20 14 44.1**	**-0.7**
QSPA				IAmb	IAmb	20 14 45.2	
	comp=Z,4.7nm,1.2s						
MJAR	**Matsushiro Arr**	**70.46**	**325**	P	**P**	**20 14 58.4**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=129,slow=7.7,SNR=2.7						
PETK	**Petropavlovsk-**	**77.25**	**346**	P	**P**	**20 15 36.1**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=111,slow=7.9,SNR=2.2						
TXAR	**Lajitas Array**	**89.09**	**58**	P	**P**	**20 16 37.1**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=199,slow=7.6,SNR=3.7						
CMAR	**Chiang Mai Arr**	**89.15**	**290**	P	**P**	**20 16 38.0**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=119,slow=3.2,SNR=5.4						
QUOK	**Quay**	**97.21**	**54**	P	**P**	**20 17 14.6**	**+1.5**
AKASG	**Malin Array Be**	**143.46**	**329**	PKP	PKPab	20 23 08.6	-0.7
	comp=Z,0.8nm,0.4s,baz=38,slow=3.9,SNR=6.0						

IDC 14 20:09:47.1±10.0,6°.73S×149°.31E,h103km±97km,mb3.9/4, mb1 4.0/5,mb1mx3.4/30,mbtmp4.2/5,ML4.3/1,Error ellipse: s-maj=70.5km s-min=36.4km az=122.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.59**	**226**	P	P	20 14 06.8	-0.5
	1.0nm,0.3s,baz=53,slow=10,SNR=40						
ASAR	**Alice Springs**	**22.42**	**220**	P	P	20 14 38.4	+0.8
	1.9nm,0.5s,baz=56,slow=9.9,SNR=27						
BATI	**Baumata**	**25.60**	**260**	P	P	20 15 07.3	+0.3
	6.0nm,0.4s,baz=63,slow=4.5,SNR=1.8						
FITZ	**Fitzroy Crossi**	**25.69**	**242**	P	P	20 15 07.2	-0.6
	3.4nm,0.4s,baz=54,slow=12,SNR=21						
PETK	**Petropavlovsk-**	**60.03**	**6**	P	P	20 19 42.8	-0.1
	0.9nm,0.6s,baz=158,slow=8.5,SNR=1.9						
TORD	**Torodi Ar. Bea**	**147.49**	**284**	PKPbc	PKPbc	20 29 19.8	-0.5
	0.5nm,0.5s,baz=60,slow=3.1,SNR=7.8						

INET ***14*** *20:43:26.7,12°.96N×86°.57W,h11km,MW3.5*

SNET 14 20:43:45.1±0.5,12°.93N×86°.66W,h96km±89km,ML3.3, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**1.19**	**287**	*e*P	Pn	20 44 07.7	+0.2
CNCH				*e*S	Sn	20 44 25.9	+1.4
LCND	**La Caada**	**1.25**	**288**	*e*P	Pn	20 44 08.5	+0.4
LCND				*e*S	Sn	20 44 26.1	+0.6
LCND				IAML		20 44 30.9	
	comp=Z,388nm,0.3s						
TGUH	**Tegucigalpa,Un**	**1.27**	**332**	*e*P	Pn	20 44 08.2	-0.2
TGUH				*e*S	Sn	20 44 26.6	+0.4

MEX 14 20:51:38.6±0.5,16°.52N×98°.45W,h16km±13km,MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.33**	**113**	*i* P	Pg	20 51 44.6	-1.0
PNIG				*i* S	Sg	20 51 49.2	-1.1
MGIG	**Malinaltepec**	**0.73**	**346**	*i* P	Pg	20 51 49.9	-3.0
MGIG				*i* S	Sg	20 51 58.1	-4.5
TXIG	**Tlaxiaco**	**0.97**	**42**	*e*P	Pb	20 51 54.4	-2.9
TXIG				*i* S	Sb	20 52 07.4	-2.6
TLIG	**Tlapa**	**1.04**	**354**	*e*P	Pb	20 51 54.9	-3.5
TLIG				*e*S	Sb	20 52 07.5	-4.3
DAIG	**Los Arroyos**	**1.26**	**293**	*e*P	Pn	20 51 58.1	-3.4
DAIG				*e*S	Sb	20 52 12.8	-5.1
HLIG	**Huajuapan de L**	**1.44**	**25**	*e*P	Pn	20 52 00.5	-3.7
HLIG				*e*S	Sn	20 52 15.9	-7.0

MOS ***14*** *20:52:56.1±0.8,31°.61N×138°.21E,h375km,mb4.4/11, Error ellipse: s-maj=9.2km s-min=5.4km az=108.6*

NIED ***14*** *20:52:56.9,31°.80N×138°.45E,h409km,MW4.7,Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr~0.42; Mθθ0.90; Mϕϕ~0.48; Mrθ~0.06; Mθϕ~0.72; Mϕr~0.61; Fault plane solution: M0 1.22000×10^16 NP1: ϕs 332.00000°,δ71.00000°,λ~33.00000°. NP2:ϕs 74.00000°, δ59.00000°,λ~157.00000°.*

JMA ***14*** *20:52:56.8±0.2,31°.80N×138°.45E,h409km,M5.0*

IDC ***14*** *20:52:58.5±1.0,31°.67N×138°.17E,h379km±10km, mb3.5/25,mb1 3.7/31,mb1mx3.6/47,mbtmp4.3/31,Error ellipse: s-maj=11.6km s-min=9.5km az=99.0*

NEIC ***14*** *20:52:58.3±1.8,31°.69N±0°.06×138°.21E±0°.09, h377km±7km,mb4.2/66,Error ellipse: s-maj=11.6km s-min=9.0km az=70.0*

ISC 14 20:52:58.2±0.4,31°.70N±0°.05×138°.26E±0°.05,h381km, n285,σ1s32/301,mb4.1/82,25C-14D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**1.48**	**59**	P	**Pn**	**20 53 50.6**	**+1.2**
JAOM				*e*S	**S**	**20 54 31.8**	**+1.2**
JHCJ	**Hachijojimakas**	**1.88**	**43**	⇓P	**Pn**	**20 53 52.1**	**+0.5**
JHJ	**Hachijo jima 2**	**1.91**	**42**	P	**Pn**	**20 53 52.1**	**+0.4**
	72nm,0.3s,baz=129,slow=6.5,SNR=32						
JHJ				S	**S**	**20 54 34.5**	**-0.5**
	372nm,0.3s,baz=95,slow=23,SNR=4.5						
JHJ2	**Mitsune**	**1.92**	**43**	P	**Pn**	**20 53 52.4**	**+0.6**
JHJ2	**Mitsune**	**1.92**	**43**	Pn	**Pn**	**20 53 52.5**	**+0.6**
TK02	**Tokai 2**	**2.28**	**349**	P	**Pn**	**20 53 55.6**	**+1.7**
TTO1	**TONANKAI O.B.S**	**2.29**	**327**	P	**Pn**	**20 53 55.7**	**+1.8**
TTO4	**TONANKAI O.B.S**	**2.38**	**345**	P	**Pn**	**20 53 56.2**	**+1.6**
JSG	**Sagara**	**2.96**	**359**		**Pn**	**20 53 59.7**	**+0.2**
JIE	**Ise**	**2.98**	**334**	⇑P	**Pn**	**20 54 01.1**	**+1.4**
JIE				S	**S**	**20 54 50.1**	**+0.7**
JIZS	**Izushimoda**	**3.05**	**10**	P	**Pn**	**20 54 00.8**	**+0.5**
JAA	**Atsumi**	**3.07**	**342**	⇑P	**Pn**	**20 54 01.8**	**+1.4**
JTNC	**Tanabenakahech**	**3.07**	**314**	P	**Pn**	**20 54 01.4**	**+0.9**
HMMJ	**Hamamatsu 2**	**3.18**	**352**	⇑P	**Pn**	**20 54 02.5**	**+1.1**
JWM	**Minabe**	**3.25**	**312**	P	**Pn**	**20 54 03.1**	**+1.0**
JHTM	**Izuhatsuma**	**3.31**	**11**	P	**Pn**	**20 54 02.9**	**+0.4**
JYZW	**Yoshizawa**	**3.31**	**352**	P	**Pn**	**20 54 03.6**	**+1.0**
SHZ3	**Shizuoka 3**	**3.35**	**359**	P	**Pn**	**20 54 04.0**	**+1.0**
JWY	**Kouya**	**3.37**	**319**	⇑P	**Pn**	**20 54 04.5**	**+1.3**
TSUJ	**Tsu 2**	**3.37**	**333**	⇑P	**Pn**	**20 54 04.4**	**+1.3**
JOD2	**Odawara 2**	**3.62**	**11**	P	**Pn**	**20 54 05.1**	**-0.3**
JHE	**Heguri**	**3.65**	**324**	⇑P	**Pn**	**20 54 06.9**	**+1.2**
JAO	**Obara**	**3.65**	**347**	⇑P	**Pn**	**20 54 07.0**	**+1.3**
JNY	**Yasuok**	**3.66**	**355**	⇑P	**Pn**	**20 54 06.9**	**+1.0**
BSO1	**Boso 1**	**3.72**	**37**	P	**Pn**	**20 54 05.0**	**-0.7**
INU	**Inuyama**	**3.78**	**344**	Pn	**Pn**	**20 54 07.8**	**+0.9**
JYN	**Shimob**	**3.79**	**3**	⇑P	**Pn**	**20 54 07.6**	**+0.5**
JAI	**Aioi**	**3.83**	**304**	P	**Pn**	**20 54 08.4**	**+1.0**
JGF	**Kuroka**	**3.96**	**349**	⇑P	**Pn**	**20 54 09.4**	**+0.7**
JGF	**Kuroka**	**3.96**	**349**		**Pn**	**20 54 09.1**	**+0.5**
JSGW	**Sagamiharawaka**	**3.97**	**11**	⇑P	**Pn**	**20 54 08.0**	**-0.7**
JYTA	**Yamagatataniai**	**4.08**	**342**	⇑P	**Pn**	**20 54 10.8**	**+1.0**
JNT	**Taito**	**4.16**	**359**	⇑P	**Pn**	**20 54 11.5**	**+0.8**
JMN	**Monobe**	**4.21**	**300**	Pn	**Pn**	**20 54 12.3**	**+1.2**
JWT	**Wachi**	**4.30**	**327**	Pn	**Pn**	**20 54 12.9**	**+0.9**
JRY	**Ryogami san**	**4.34**	**7**	⇑P	**Pn**	**20 54 12.3**	**-0.1**
JRY				S	**S**	**20 55 10.3**	**-2.2**
JGN	**Niukaw**	**4.58**	**350**	⇑P	**Pn**	**20 54 15.3**	**+0.4**
JNG	**Nsakai**	**4.70**	**358**	P	**Pn**	**20 54 16.2**	**+0.1**
JTO	**Tosashimizu**	**4.77**	**285**	P	**Pn**	**20 54 17.8**	**+1.0**
JYT	**Yasato**	**4.79**	**19**	Pn	**Pn**	**20 54 15.4**	**-1.6**
MJAR	**Matsushiro Arr**	**4.83**	**359**	P	**Pn**	**20 54 15.8**	**-1.6**
	2.2nm,0.3s,baz=169,slow=11,SNR=98						
MJAR				S	**S**	**20 55 19.0**	**-2.7**
	2.0nm,0.3s,baz=174,slow=17,SNR=7.0						
MJAR	**Matsushiro Arr**	**4.83**	**359**	Pn	**Pn**	**20 54 16.1**	**-1.3**
MAJO	**Matsushiro**	**4.83**	**359**	*e*P	**Pn**	**20 54 17.1**	**-0.3**
MAJO	**Matsushiro**	**4.83**	**359**	Pn	**Pn**	**20 54 17.2**	**-0.2**
MAT	**Matsushiro**	**4.83**	**359**	P	**Pn**	**20 54 17.1**	**-0.3**
MAT				*e*S	**S**	**20 55 16.2**	**-5.5**
MAT	**Matsushiro**	**4.83**	**359**	P	**Pn**	**20 54 17.1**	**-0.3**
MJB9	**Matsu-Tunnel**	**4.83**	**359**		**Pn**	**20 54 17.1**	**-0.3**
JHS	**Saijyo**	**5.42**	**309**	P	**Pn**	**20 54 24.8**	**+1.1**
JHS	**Saijyo**	**5.42**	**309**	Pn	**Pn**	**20 54 24.4**	**+0.7**
CBIJ	**Chichi jima**	**5.72**	**142**	P	**Pn**	**20 54 24.1**	**-3.1**
CBIJ				S	**S**	**20 55 32.8**	**-6.7**
JCJ	**Chichijima**	**5.72**	**142**	P	**Pn**	**20 54 24.1**	**-3.0**
	21nm,0.3s,baz=3.4,slow=17,SNR=39						
JCJ				S	S	20 55 31.6	-7.9
	56nm,0.3s,baz=100,slow=23,SNR=7.3						
JCJ	**Chichijima**	**5.72**	**142**	Pn	**Pn**	**20 54 24.8**	**-2.4**
JSD	**Sado**	**6.32**	**360**	P	**Pn**	**20 54 32.7**	**-0.8**
JSD	**Sado**	**6.32**	**360**	Pn	**Pn**	**20 54 32.6**	**-1.0**
JNU	**Nakatsue**	**6.40**	**285**	P	**Pn**	**20 54 35.8**	**+1.2**
	0.6nm,0.3s,baz=91,slow=5.1,SNR=9.2						
JNU	**Nakatsue**	**6.40**	**285**	Pn	**Pn**	**20 54 32.7**	**-1.9**
JMM	**Marumori**	**6.49**	**18**		**Pn**	**20 54 34.2**	**-1.3**
JIO	**Ouri**	**7.20**	**20**	⇑P	**Pn**	**20 54 42.2**	**-1.2**
JIO				S	**S**	**20 56 02.2**	**-7.2**
EURB	**Uiryeong-eup**	**9.08**	**296**	P	**P**	**20 55 07.0**	**+1.0**
	SNR=7.0						
EURB	**Uiryeong-eup**	**9.08**	**296**	P	**P**	**20 55 07.0**	**+1.0**
	SNR=7.0						
KSNAH	**Namhae**	**9.20**	**293**	P	**P**	**20 55 08.4**	**+1.1**
	SNR=11						
KSNAH	**Namhae**	**9.20**	**293**	P	**P**	**20 55 08.4**	**+1.1**
	SNR=11						
JTM	**Tenmabayashi**	**9.34**	**13**		**Pn**	**20 55 08.2**	**-0.1**
GWYB	**Gwangyang**	**9.42**	**293**	P	**P**	**20 55 11.2**	**+1.4**
	SNR=7.4						
GWYB	**Gwangyang**	**9.42**	**293**	P	**P**	**20 55 11.2**	**+1.4**
	SNR=7.4						
HAMB	**Hamyang**	**9.56**	**296**	P	**P**	**20 55 12.4**	**+1.0**
	SNR=8.7						
HAMB	**Hamyang**	**9.56**	**296**	P	**P**	**20 55 12.4**	**+1.0**
	SNR=8.7						
KSSAJ	**Sangju**	**9.61**	**302**	P	**P**	**20 55 12.7**	**+0.8**
	SNR=6.8						
KSSAJ	**Sangju**	**9.61**	**302**	P	**P**	**20 55 12.7**	**+0.8**
	SNR=6.8						
KSCPR	**CHUPUNGNYEONG**	**9.66**	**301**	P	**P**	**20 55 13.4**	**+0.8**
	SNR=9.2						
KSCPR	**CHUPUNGNYEONG**	**9.66**	**301**	P	**P**	**20 55 13.4**	**+0.8**
	SNR=9.2						
KSMGY	**Mungyeong**	**9.79**	**303**	P	**P**	**20 55 14.6**	**+0.7**
	SNR=15						
KSMGY	**Mungyeong**	**9.79**	**303**	P	**P**	**20 55 14.6**	**+0.7**
	SNR=15						
OKCB	**Cheongsan-myeo**	**9.84**	**301**	P	**P**	**20 55 16.0**	**+1.5**
	SNR=7.3						
OKCB	**Cheongsan-myeo**	**9.84**	**301**	P	**P**	**20 55 16.0**	**+1.5**
	SNR=7.3						
KSDGY	**Daegwallycong**	**9.90**	**310**	P	**P**	**20 55 16.0**	**+0.8**
	SNR=6.4						
KSDGY	**Daegwallycong**	**9.90**	**310**	P	**P**	**20 55 16.0**	**+0.8**
	SNR=6.4						
KSBON	**Boeun**	**9.91**	**302**	P	**Pn**	**20 55 15.6**	**+0.6**
	SNR=8.9						
KSBON	**Boeun**	**9.91**	**302**	P	**Pn**	**20 55 15.6**	**+0.6**
	SNR=8.9						
KSJMJ	**Jumunjin**	**9.95**	**311**	P	**P**	**20 55 16.2**	**+0.5**
	SNR=13						
KSJMJ	**Jumunjin**	**9.95**	**311**	P	**P**	**20 55 16.2**	**+0.5**
	SNR=13						
JOW	**Kunigami**	**9.98**	**243**	P	**P**	**20 55 17.9**	**+1.7**
	1.4nm,0.3s,baz=111,slow=12,SNR=5.9						
JOW	**Kunigami**	**9.98**	**243**		**Pn**	**20 55 15.2**	**-0.9**
KSKWJ	**Gwangju**	**10.03**	**293**	P	**P**	**20 55 19.0**	**+2.4**
	SNR=8.3						
KSKWJ	**Gwangju**	**10.03**	**293**	P	**P**	**20 55 19.0**	**+2.4**
	SNR=8.3						
TJN	**Taejon**	**10.17**	**300**	*ce*P	**P**	**20 55 19.0**	**+0.8**
KSRS	**Korea Array**	**10.27**	**307**	P	**P**	**20 55 19.8**	**+0.5**
	1.1nm,0.3s,baz=120,slow=12,SNR=40						
KSAR	**Wonju Array Be**	**10.29**	**307**	P	**Pn**	**20 55 19.1**	**-0.4**
KSAR	**Wonju Array Be**	**10.29**	**307**		**Pn**	**20 55 19.1**	**-0.4**
KS19	**Wonju Array Si**	**10.34**	**307**	P	**P**	**20 55 19.3**	**-0.7**
KSSKC	**Sokcho**	**10.34**	**312**	P	**Pn**	**20 55 21.5**	**+1.4**
	SNR=8.5						
KSSKC	**Sokcho**	**10.34**	**312**	P	**Pn**	**20 55 21.5**	**+1.4**
	SNR=8.5						
KOJ2	**Gongju-si**	**10.37**	**300**	P	**Pn**	**20 55 23.0**	**+2.5**
	SNR=11						
KOJ2	**Gongju-si**	**10.37**	**300**	P	**Pn**	**20 55 23.0**	**+2.5**
	SNR=11						
KSIJA	**INJE**	**10.43**	**310**	P	**Pn**	**20 55 22.7**	**+1.6**
	SNR=7.0						
KSCEA	**Cheonan**	**10.44**	**302**	P	**Pn**	**20 55 22.7**	**+1.5**
	SNR=6.2						
SEHB	**SEOHWA**	**10.50**	**311**	P	**Pn**	**20 55 23.3**	**+1.3**
	SNR=16						
SEHB	**SEOHWA**	**10.50**	**311**	P	**Pn**	**20 55 23.3**	**+1.3**
	SNR=16						
KSCHC	**Chuncheon**	**10.51**	**308**	P	**Pn**	**20 55 24.0**	**+1.8**
	SNR=9.8						
KSCHC	**Chuncheon**	**10.51**	**308**	P	**Pn**	**20 55 24.0**	**+1.8**
	SNR=9.8						
KSICN	**Icheon**	**10.54**	**305**	P	**Pn**	**20 55 24.0**	**+1.5**
	SNR=7.7						
KSICN	**Icheon**	**10.54**	**305**	P	**Pn**	**20 55 24.0**	**+1.5**
	SNR=7.7						
KSSWO	**Suwon**	**10.85**	**304**	P	**Pn**	**20 55 27.4**	**+1.4**
	SNR=6.6						
HWCB	**Hwacheon**	**10.85**	**310**	P	**Pn**	**20 55 27.0**	**+0.9**
	SNR=26						
KSCWO	**Cheorwon**	**10.88**	**309**	P	**Pn**	**20 55 28.6**	**+2.2**
	SNR=5.3						
KSSEO	**Seoul**	**10.98**	**305**	P	**Pn**	**20 55 29.1**	**+1.5**
	SNR=8.8						
INCN	**Inchon**	**11.18**	**304**	P	**P**	**20 55 30.0**	**+0.6**
INCN	**Inchon**	**11.18**	**304**	P	**P**	**20 55 30.0**	**+0.6**
JEW	**Eniwo**	**11.40**	**12**		**P**	**20 55 32.5**	**+0.7**
MSHR	**Mys Shultsa**	**12.24**	**334**	⇑*e*P	**P**	**20 55 41.6**	**+0.6**
ASAJ

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ULN				pmax	pmax		
	comp=Z,20nm,1.7s						
ULN	**Ulaanbaatar**	**28.66**	**313**	P	**P**	**20 58 21.1**	**-0.5**
ULN				IAmb	IAmb	20 58 23.5	
	comp=Z,24nm,1.4s						
LZH	**Lanzhou**	**28.81**	**288**	⇑P	**P**	**20 58 22.8**	**-0.3**
LZH				pP	pP	20 59 30.4	-2.1
LZH				sP	sP	21 00 15.0	-1.6
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
SONM	**Songino Array**	**29.05**	**313**	P	**P**	**20 58 25.5**	**+0.5**
	comp=Z,3.0nm,0.6s,baz=111,slow=8.1,SNR=10						
SONM	**Songino Array**	**29.05**	**313**	P	**P**	**20 58 24.7**	**-0.3**
MA2	**Magadan**	**29.11**	**13**	P	**P**	**20 58 26.5**	**+1.3**
	comp=Z,22nm,0.8s,baz=179,slow=11,SNR=5.2						
MA2	**Magadan**	**29.11**	**13**	⇓*e*P	**P**	**20 58 26.7**	**+1.5**
MA2				pmax	pmax		
	comp=Z,33nm,1.7s						
MA2	**Magadan**	**29.11**	**13**	P	**P**	**20 58 25.9**	**+0.7**
YAK	**Yakutsk**	**30.85**	**352**	⇓*e*P	**P**	**20 58 40.6**	**+0.3**
YAK				pmax	pmax		
	comp=Z,17nm,2.5s						
PATS	**Pohnpei**	**31.03**	**139**	P	**P**	**20 58 43.9**	**+1.5**
GTA	**Gaotai**	**32.02**	**295**	⇓P	**P**	**20 58 50.3**	**-0.7**
GTA				pP	pP	21 00 01.6	0.0
GTA				sP	sP	21 00 47.4	+1.7
GTA				pmax	pmax		
	comp=Z,11nm,1.2s						
PAYA	**Payao**	**36.58**	**260**	P	**P**	**20 59 32.4**	**+2.7**
	comp=Z,3μmcomp=Z,269nm,0.7s						
CMMT	**Chiang Mai**	**37.60**	**260**	P	**P**	**20 59 39.1**	**+0.8**
	comp=Z,9.8nm,1.3s						
CHTO	**Chiang Mai**	**37.60**	**260**	P	**P**	**20 59 37.7**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CHTO	**Chiang Mai**	**37.60**	**260**	P	**P**	**20 59 39.3**	**+1.0**
	comp=Z,10.0nm,1.3s						
CHTO	**Chiang Mai**	**37.60**	**260**	P	**P**	**20 59 37.7**	**-0.6**
CHTO				IAmb	IAmb	20 59 39.0	
	comp=Z,6.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**37.77**	**259**	P	**P**	**20 59 39.6**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=51,slow=7.3,SNR=14						
BILL	**Bilibino**	**39.86**	**16**	*ce*P	**P**	**20 59 58.1**	**+2.0**
BILL				pmax	pmax		
	comp=Z,72nm,2.5s						
BILL	**Bilibino**	**39.86**	**16**	P	**P**	**20 59 56.9**	**+0.8**
LSA	**Lhasa**	**40.32**	**280**	P	**P**	**20 59 59.0**	**-1.9**
LSA				pmax	pmax		
	comp=Z,9.0nm,1.4s						
LSA	**Lhasa**	**40.32**	**280**	P	**P**	**20 59 59.0**	**-1.9**
KAPI	**Kappang**	**40.55**	**209**	P	**P**	**21 00 01.3**	**-1.1**
KAPI				pmax	pmax		
	comp=Z,17nm,1.2s						
KAPI	**Kappang**	**40.55**	**209**	P	**P**	**21 00 01.3**	**-1.1**
KAPI				IAmb	IAmb	21 00 12.8	
	comp=Z,17nm,1.2s						
WMQ	**Urumqi**	**41.18**	**302**	*e*P	**P**	**21 00 08.1**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,30nm,0.7s						
DGZ	**Jazzator, Alta**	**41.65**	**311**	*d i*P	**P**	**21 00 11.5**	**+0.5**
DGZ				pmax	pmax		
	comp=Z,11nm,1.1s						
ZAA0	**Zalesovo Array**	**43.79**	**317**	P	**P**	**21 00 27.1**	**-0.6**
ZALV	**Zalesovo Beam**	**43.79**	**317**	P	**P**	**21 00 27.1**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=98,slow=9.1,SNR=6.1						
ZALV				PcP	**PcP**	**21 02 06.7**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=108,slow=2.9,SNR=5.4						
ZALV	**Zalesovo Beam**	**43.79**	**317**	P	**P**	**21 00 26.2**	**-1.4**
TAPN	**Taplejung**	**43.89**	**278**	*e*P	**P**	**21 00 28.5**	**-0.8**
	comp=Z,11nm,0.5s						
ODAN	**Odare**	**44.31**	**277**	*e*P	**P**	**21 00 32.3**	**-0.2**
	comp=Z,31nm,0.6s						
MK31	**Makanchi Array**	**44.95**	**306**	*d i*P	**P**	**21 00 36.7**	**-0.3**
MK31				*i* *PP	**pP**	**21 01 52.2**	**+0.1**
MK31	**Makanchi Array**	**44.95**	**306**	P	**P**	**21 00 36.1**	**-0.9**
MK31				IAmb	IAmb	21 00 38.1	
	comp=Z,7.5nm,0.9s						
MKAR	**Makanchi Array**	**44.95**	**306**	P	**P**	**21 00 37.0**	**0.0**
	comp=Z,5.2nm,0.8s,baz=92,slow=9.6,SNR=36						
MKAR				PcP	**PcP**	**21 02 10.0**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=83,slow=3.2,SNR=3.1						
MKAR	**Makanchi Array**	**44.95**	**306**	P	**P**	**21 00 37.0**	**0.0**
MKAR						21 02 10.0	
MKAR	**Makanchi Array**	**44.95**	**306**	P	**P**	**21 00 36.4**	**-0.6**
RAMN	**Ramite**	**44.95**	**278**	*e*P	**P**	**21 00 37.4**	**-0.1**
	comp=Z,17nm,0.5s						
JIRN	**Jiri**	**45.07**	**279**	*e*P	**P**	**21 00 38.8**	**+0.2**
	comp=Z,48nm,0.6s						
MAKZ	**Makanchi**	**45.17**	**306**	P	**P**	**21 00 38.3**	**-0.3**
MAKZ				pmax	pmax		
	comp=Z,12nm,1.3s						
MAKZ	**Makanchi**	**45.17**	**306**	P	**P**	**21 00 38.3**	**-0.3**
MAKZ				IAmb	IAmb	21 00 39.9	
	comp=Z,12nm,1.3s						
PKI	**Pulchoki**	**45.76**	**279**	*e*P	**P**	**21 00 43.4**	**-0.5**
PKIN	**Phulchoki**	**45.77**	**279**	*e*P	**P**	**21 00 43.4**	**-0.4**
KKN	**Kakani**	**45.80**	**279**	*e*P	**P**	**21 00 43.8**	**-0.2**
	comp=Z,34nm,0.9s						
DMN	**Daman**	**46.00**	**279**	*e*P	**P**	**21 00 45.0**	**-0.6**
GKN	**Gorkha**	**46.27**	**280**	*e*P	**P**	**21 00 47.3**	**-0.3**
	comp=Z,32nm,0.9s						
DANN	**Dangsing**	**46.90**	**281**	*e*P	**P**	**21 00 52.8**	**+0.2**
KOLN	**Koldanda**	**47.22**	**280**	*e*P	**P**	**21 00 55.0**	**+0.1**
PYUN	**Piuthan**	**47.62**	**281**	*e*P	**P**	**21 00 58.0**	**0.0**
	comp=Z,32nm,0.6s						
KSH	**Kashi**	**50.36**	**297**	P	**P**	**21 01 22.0**	**+3.8**
KSH				pmax	pmax		
	comp=Z,16nm,0.7s						
AAK	**Ala-Archa**	**50.88**	**301**	P	**P**	**21 01 22.4**	**+0.3**
	comp=Z,3.0nm,0.6s,baz=128,slow=4.7,SNR=8.3						
AAK	**Ala-Archa**	**50.88**	**301**	P	**P**	**21 01 22.2**	**+0.1**
AAK				IAmb	IAmb	21 01 23.2	
	comp=Z,14nm,1.4s						
WRAB	**Tennant Creek**	**51.48**	**185**	P	**P**	**21 01 24.7**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,8.0nm,1.5s						
WRAB	**Tennant Creek**	**51.48**	**185**	P	**P**	**21 01 24.7**	**-1.7**
WB2	**Warramunga Arr**	**51.49**	**185**	P	**P**	**21 01 24.5**	**-2.0**
WRA	**Warramunga Arr**	**51.49**	**185**	P	**P**	**21 01 26.4**	**-0.1**
	comp=Z,2.6nm,0.5s,baz=360,slow=7.7,SNR=78						
WRA	**Warramunga Arr**	**51.49**	**185**	P	**P**	**21 01 25.7**	**-0.8**
WR0	**Warramunga Arr**	**51.49**	**184**	P	**P**	**21 01 27.1**	**+0.6**
K20K	**Telida**	**52.21**	**32**	P	**P**	**21 01 33.2**	**+2.0**
K20K				IAmb	IAmb	21 01 34.6	
	comp=Z,9.7nm,1.0s						
BRVK	**Borovoye**	**52.42**	**315**	*d i*P	**P**	**21 01 32.8**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BRVK	**Borovoye**	**52.42**	**315**	P	**P**	**21 01 33.0**	**0.0**
BRVK				IAmb	IAmb	21 01 34.3	
	comp=Z,5.3nm,0.8s						
IMAR	**Indian Mountai**	**52.56**	**29**	P	**P**	**21 01 33.7**	**0.0**
KDAK	**Kodiak Island**	**52.84**	**39**	P	**P**	**21 01 36.7**	**+0.9**
	comp=Z,17nm,1.0s,baz=233,slow=5.1,SNR=3.0						
H21K	**Melozitna Rive**	**52.92**	**29**	P	**P**	**21 01 38.2**	**+1.9**
H21K				IAmb	IAmb	21 01 39.6	
	comp=Z,8.9nm,1.1s						
DRK	**Karamyk**	**53.52**	**298**	P	**P**	**21 01 41.3**	**-0.1**
DRK				IAmb	IAmb	21 01 42.8	
	comp=Z,12nm,0.8s						
KK31	**Karatay Array**	**53.67**	**303**	P	**P**	**21 01 41.7**	**-0.4**
KK31				pmax	pmax		
	comp=Z,36nm,1.5s						
KK31	**Karatay Array**	**53.67**	**303**		**P**	**21 01 41.7**	**-0.4**
KKAR	**Karatay Array**	**53.67**	**303**	P	**P**	**21 01 41.7**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,36nm,1.5s						
KKAR	**Karatay Array**	**53.67**	**303**	P	**P**	**21 01 41.6**	**-0.5**
KKAR	**Karatay Array**	**53.67**	**303**	P	**P**	**21 01 41.7**	**-0.4**
MLY	**Manley**	**53.75**	**30**	P	**P**	**21 01 44.3**	**+1.9**
NIL	**Nilore**	**53.93**	**291**	P	**P**	**21 01 44.5**	**+0.3**
NIL				pmax	pmax		
	comp=Z,20nm,0.6s						
NIL	**Nilore**	**53.93**	**291**	P	**P**	**21 01 44.5**	**+0.3**
BTK	**Batken**	**54.12**	**299**	P	**P**	**21 01 44.3**	**-1.2**
BTK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BTK	**Batken**	**54.12**	**299**	P	**P**	**21 01 44.2**	**-1.2**
H23K	**Yukon River**	**54.27**	**29**	P	**P**	**21 01 48.4**	**+2.3**
H23K				IAmb	IAmb	21 01 49.7	
	comp=Z,7.1nm,1.1s						
NEA2	**Nenana**	**54.46**	**30**	P	**P**	**21 01 48.7**	**+1.3**
NEA2				IAmb	IAmb	21 01 50.7	
	comp=Z,8.1nm,1.0s						
RND	**Reindeer**	**54.56**	**32**	P	**P**	**21 01 48.7**	**+0.5**
RND				pmax	pmax		
	comp=Z,10.0nm,1.0s						
RND	**Reindeer**	**54.56**	**32**	P	**P**	**21 01 48.7**	**+0.5**
RND				IAmb	IAmb	21 01 50.1	
	comp=Z,9.9nm,1.0s						
GAR	**Garm**	**54.75**	**298**	P	**P**	**21 01 49.7**	**-0.3**
MDM	**Murphy Dome**	**54.81**	**30**	P	**P**	**21 01 52.2**	**+2.3**
MDM				IAmb	IAmb	21 01 52.8	
	comp=Z,11nm,1.1s						
H24K	**Noodor Dome**	**54.96**	**29**	P	**P**	**21 01 52.8**	**+1.8**
POKR	**Poker Plat Res**	**55.15**	**30**	P	**P**	**21 01 54.6**	**+2.3**
POKR				IAmb	IAmb	21 01 55.4	
	comp=Z,11nm,1.2s						
AS31	**Alice Springs**	**55.21**	**185**	P	**P**	**21 01 54.8**	**+1.6**
ASAR	**Alice Springs**	**55.21**	**185**	P	**P**	**21 01 53.3**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=13,slow=14,SNR=31						
ASAR	**Alice Springs**	**55.21**	**185**	P	**P**	**21 01 51.6**	**-1.6**
HDA	**Harding Lake**	**55.38**	**31**	P	**P**	**21 01 54.9**	**+1.1**
IL31		**55.39**	**30**	P	**P**	**21 01 53.6**	**-0.3**
ILAR	**Eielson Array**	**55.39**	**30**	P	**P**	**21 01 54.8**	**+0.8**
	comp=Z,1.6nm,1.0s,baz=276,slow=6.8,SNR=9.0						
ILAR				pP	**pP**	**21 03 11.6**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=264,slow=7.2,SNR=2.8						
ILAR	**Eielson Array**	**55.39**	**30**	P	**P**	**21 01 54.1**	**+0.1**
CHGR	**Chuyangaron**	**55.71**	**298**	P	**P**	**21 01 56.2**	**-0.6**
BMAR	**Burnt Mountain**	**56.25**	**27**	P	**P**	**21 02 02.5**	**+2.5**
SCRK	**Sand Creek**	**56.70**	**31**	P	**P**	**21 02 03.9**	**+0.6**
KBL	**Kabul**	**56.99**	**293**	P	**P**	**21 02 05.3**	**-0.6**
KBL				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KBL	**Kabul**	**56.99**	**293**	P	**P**	**21 02 05.3**	**-0.6**
KBL				IAmb	IAmb	21 02 06.2	
	comp=Z,8.8nm,0.8s						
L26K	**Log Cabin Wild**	**57.07**	**32**	P	**P**	**21 02 07.1**	**+1.4**
L26K				IAmb	IAmb	21 02 08.8	
	comp=Z,7.0nm,1.1s						
BCAR	**Beaver Creek A**	**57.77**	**32**	P	**P**	**21 02 12.1**	**+1.5**
DAWY	**Dawson**	**58.69**	**31**	P	**P**	**21 02 16.2**	**-0.7**
ARU	**Arti**	**58.70**	**320**	*d i*P	**P**	**21 02 16.7**	**-0.3**
ARU						21 02 59.2	
ARU				S	**S**	**21 09 50.5**	**-0.5**
ARU				pmax	pmax		
	comp=Z,19nm,1.5s						
ARU	**Arti**	**58.70**	**320**	P	**P**	**21 02 16.4**	**-0.6**
ARU				IAmb	IAmb	21 02 18.1	
	comp=Z,20nm,1.3s						
PALK	**Pallekele**	**58.71**	**258**	P	**P**	**21 02 17.8**	**0.0**
	comp=Z,4.5nm,0.7s,baz=131,slow=11,SNR=1.2						
EPYK	**Eagle Plains**	**59.44**	**28**	P	**P**	**21 02 23.5**	**+1.6**
EPYK				IAmb	IAmb	21 02 24.8	
	comp=Z,11nm,0.8s						
ABKAR	**Akbulak array**	**59.46**	**312**	P	**P**	**21 02 21.7**	**-0.6**
ABKAR	**Akbulak array**	**59.46**	**312**	P	**P**	**21 02 22.0**	**-0.3**
ABKAR				IAmb	IAmb	21 02 22.7	
	comp=Z,4.0nm,0.7s						
INK	**Inuvik**	**60.31**	**25**	P	**P**	**21 02 28.3**	**+0.7**
	comp=Z,1.9nm,0.6s,baz=262,slow=7.1,SNR=3.8						
INK	**Inuvik**	**60.31**	**25**	IAmb	IAmb	21 02 29.9	
	comp=Z,7.3nm,1.2s						
KIRV	**Kirov**	**62.97**	**324**	*d i*P	**P**	**21 02 45.5**	**+0.2**
STKA	**Stephens Creek**	**63.31**	**177**	P	**P**	**21 02 48.0**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=329,slow=12,SNR=4.0						
STKA	**Stephens Creek**	**63.31**	**177**	P	**P**	**21 02 48.0**	**+0.1**
PRGR	**Permogore**	**63.85**	**328**	*e*P	**P**	**21 02 50.1**	**-0.9**
PRGR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KLMR	**Klimovskoe**	**66.89**	**328**	*e*P	**P**	**21 03 07.6**	**-2.7**
KLMR				pmax	pmax		
	comp=Z,24nm,1.9s						
KLMR	**Klimovskoe**	**66.89**	**328**	*e*P	**P**	**21 03 07.6**	**-2.7**
KLMR				AMP		21 03 12.2	
	comp=Z,24nm,1.9s						
ARCES	**ARCESS Array B**	**68.06**	**340**	P	**P**	**21 03 18.2**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=66,slow=8.6,SNR=22						
ARCES	**ARCESS Array B**	**68.06**	**340**	P	**P**	**21 03 17.9**	**+0.5**
ARCES				IAmb	IAmb	21 03 23.4	
	comp=Z,4.0nm,1.4s						
YKA	**Yellowknife Ar**	**69.72**	**28**	P	**P**	**21 03 28.7**	**+1.1**
	comp=Z,2.1nm,0.8s,baz=308,slow=5.3,SNR=2.0						
AKT	**Akhty**	**70.18**	**307**	*e*P	**P**	**21 03 30.8**	**-0.1**
AKT				*e*		21 03 49.1	
AKT				pmax	pmax		
	comp=Z,11nm,0.7s						
OBN	**Obninsk**	**70.81**	**323**	⇓*e*P	**P**	**21 03 35.3**	**+1.1**
OBN				pmax	pmax		
	comp=Z,8.0nm,0.5s						
FINES	**FINESS Array B**	**72.30**	**332**	P	**P**	**21 03 43.1**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=75,slow=4.4,SNR=25						
KBZ	**Khabaz**	**72.40**	**311**	P	**P**	**21 03 44.4**	**+0.6**
	comp=Z,5.3nm,0.8s,baz=97,slow=4.6,SNR=10						
KIV	**Kislovodsk**	**72.43**	**311**	*e*P	**P**	**21 03 44.7**	**+0.5**
KIV				pmax	pmax		
	comp=Z,11nm,1.1s						
KIV	**Kislovodsk**	**72.43**	**311**		**P**	**21 03 44.1**	**-0.1**
ONI	**Oni**	**72.55**	**310**	P	**P**	**21 03 45.1**	**+0.2**
ONI				pmax	pmax		
	comp=Z,11nm,1.3s						
ONI	**Oni**	**72.55**	**310**	P	**P**	**21 03 45.1**	**+0.2**
ONI				IAmb	IAmb	21 03 47.2	
	comp=Z,11nm,1.3s						
E07A	**Sunnyside**	**75.08**	**44**	P	**P**	**21 04 00.9**	**+1.5**
E07A				IAmb	IAmb	21 04 06.2	
	comp=Z,3.6nm,0.9s						
GURO	**Guroymak-BITLI**	**75.40**	**306**	P	**P**	**21 04 02.4**	**+0.9**
GURO				IAmb	IAmb	21 04 03.4	
	comp=Z,3.5nm,0.9s						
PINE	**Pine Mountain**	**75.82**	**47**	P	**P**	**21 04 06.1**	**+2.4**
PINE				IAmb	IAmb	21 04 07.3	
	comp=Z,7.1nm,1.0s						
MARD	**Mardin**	**76.87**	**306**	P	**P**	**21 04 08.5**	**-1.1**
MARD				IAmb	IAmb	21 04 10.6	
	comp=Z,5.0nm,0.8s						
AKASG	**Malin Array Be**	**76.89**	**322**	P	**P**	**21 04 09.2**	**0.0**
	comp=Z,4.2nm,0.6s,baz=50,slow=6.1,SNR=13						
AKASG	**Malin Array Be**	**76.89**	**322**	P	**P**	**21 04 08.5**	**-0.7**
AKASG				IAmb	IAmb	21 04 10.8	
	comp=Z,2.6nm,1.0s						
AKBB	**Malin Array Si**	**76.89**	**322**	*de*P	**P**	**21 04 09.2**	**-0.1**
AKBB	**Malin Array Si**	**76.89**	**322**	P	**P**	**21 04 09.0**	**-0.3**
NOA	**NORSAR Array B**	**78.06**	**337**	P	**P**	**21 04 15.1**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=44,slow=6.0,SNR=1.5						
LRM	**Limekiln Ridge**	**79.81**	**42**	P	**P**	**21 04 26.9**	**+1.4**
NVAR	**Mina Array Bea**	**80.32**	**51**	P	**P**	**21 04 30.2**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=284,slow=4.7,SNR=3.6						
BR131	**Keskin Array S**	**80.39**	**311**	P	**P**	**21 04 28.3**	**-0.3**
BR131				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BR131	**Keskin Array S**	**80.39**	**311**	P	**P**	**21 04 28.3**	**-0.3**
BR131				IAmb	IAmb	21 04 29.9	
	comp=Z,5.3nm,0.8s						
BRTR	**Keskin Array B**	**80.39**	**311**	P	**P**	**21 04 29.2**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=112,slow=4.3,SNR=17						
BRTR	**Keskin Array B**	**80.39**	**311**	P	**P**	**21 04 28.5**	**-0.1**
BRTR	**Keskin Array B**	**80.39**	**311**		**P**	**21 04 28.5**	**-0.1**
KWP	**Kalwaria Pacla**	**80.90**	**324**	P	**P**	**21 04 31.2**	**+0.3**
KWP				pmax	pmax		
	comp=Z,90nm,1.2s						
KWP	**Kalwaria Pacla**	**80.90**	**324**	P	**P**	**21 04 31.1**	**+0.3**
CRVS	**Cervenica-Dubn**	**81.99**	**324**	*e*P	**P**	**21 04 36.9**	**+0.3**
CRVS	**Cervenica-Dubn**	**81.99**	**324**	*e*P	**P**	**21 04 36.9**	**+0.3**
PDAR	**Pinedale Array**	**83.29**	**43**	P	**P**	**21 04 45.0**	**+1.5**
	comp=Z,0.8nm,0.8s,baz=298,slow=3.2,SNR=4.8						
CLL	**Collm**	**84.36**	**329**	*i* P	**P**	**21 04 49.3**	**+0.9**
	comp=Z,10.0nm,1.3s						
CLL	**Collm**	**84.36**	**329**	*i* P	**P**	**21 04 49.3**	**+0.9**
CLL				pmax	pmax		
	comp=Z,10.0nm,1.3s						
GERES	**GERESS Array B**	**85.80**	**327**	P	**P**	**21 04 54.3**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=69,slow=5.4,SNR=3.6						
TXAR	**Lajitas Array**	**95.47**	**51**	P	**P**	**21 05 42.2**	**+1.2**
	comp=Z,0.8nm,1.0s,baz=299,slow=5.6,SNR=4.9						
TXAR				pP	**pP**	**21 07 09.7**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=294,slow=1.2,SNR=4.1						
TORD	**Torodi Ar. Bea**	**119.00**	**310**	PKP	**PKPdf**	**21 11 02.5**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=9.3,slow=0.8,SNR=4.6						

EAF 14 21:16:00.5±0.3**,5°.49S**×**35°.92E,h2**km±2km**,Tanzania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOND	**Kondoa**	**0.59**	**348**	*i* P	Pg	21 16 10.9	-0.9
KOND				*i* S	Sg	21 16 17.9	-1.5
KOND	**Kondoa**	**0.59**	**348**	*i* P	Pg	21 16 11.0	-0.8
KOND				*i* S	Sg	21 16 18.8	-0.6
BBAT	**Babati**	**1.28**	**353**	*i* P	Pg	21 16 23.5	-1.6
BBAT				*i* S	Sg	21 16 39.6	-2.2
BBAT	**Babati**	**1.28**	**353**	*i* P	Pg	21 16 23.3	-1.8
BBAT				*i* S	Sg	21 16 40.3	-1.5
SINGT	**Singida**	**1.35**	**300**	*i* P	Pg	21 16 24.4	-2.1
SINGT				*i* S	Sg	21 16 41.4	-2.7
SINGT	**Singida**	**1.35**	**300**	*i* P	Pg	21 16 24.5	-2.0
SINGT				*i* S	Sg	21 16 42.3	-1.8

*TAP **14** 21:21:56.0, 24°.16N×122°.23E, h32km±1km, ML2.7, D*
*JMA **14** 21:21:56.0, 24°.08N×122°.21E, h41km±2km, M2.0*
ISC 14 21:21:54.5±0.7**,24°.15N**±0°.02×**122°.23E**±0°.02**,h17**km**,n85,**
σ**0s.50**/159**,4D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.47**	**290**	*e*P	**Pn**	**21 22 06.5**	**0.0**
	baz=289						
EHP				*e*S	**Sn**	**21 22 14.1**	**-0.3**
	baz=289						
EWUT	**Wuta**	**0.50**	**306**	P	**Pn**	**21 22 07.2**	**+0.2**
	baz=305						
EWUT				S	**Sn**	**21 22 14.8**	**-0.5**
	baz=305						
ENA	**Nanau**	**0.52**	**302**	⇓P	**Pn**	**21 22 07.3**	**+0.1**
	baz=301						
ENA				S	**Sn**	**21 22 15.3**	**-0.4**
	baz=301						
ETL	**Fush Village**	**0.55**	**271**	P	**Pn**	**21 22 07.7**	**+0.1**
	baz=270						
ETL				S	**Sn**	**21 22 16.5**	**0.0**
	baz=270						
TWC	**Suao**	**0.57**	**323**	*i* P	**Pn**	**21 22 07.6**	**-0.3**
	baz=323						
TWC				S	**Sn**	**21 22 16.5**	**-0.4**
	baz=323						
NACB	**Ninganchiao**	**0.58**	**273**	⇓P	**Pn**	**21 22 07.8**	**-0.2**
	baz=271						
NACB				S	**Sn**	**21 22 16.3**	**-0.8**
	baz=271						
TWD	**Chiawan**	**0.58**	**263**	*i* P	**Pn**	**21 22 08.0**	**0.0**
	baz=262						
TWD				*i* S	**Sn**	**21 22 16.2**	**-0.9**
	baz=262						
HWA	**Hwalien**	**0.59**	**253**	P	**Pn**	**21 22 08.7**	**+0.5**
	baz=252						
HWA				S	**Sn**	**21 22 18.2**	**+0.8**
	baz=252						
TEYL	**Yanliau Villag**	**0.64**	**244**	P	**Pn**	**21 22 08.9**	**+0.1**
	baz=246						
TEYL				S	**Sn**	**21 22 18.8**	**+0.2**
	baz=246						
NDS	**Dongshan**	**0.67**	**316**	P	**Pn**	**21 22 09.6**	**+0.3**
	baz=315						
NDS				S	**Sn**	**21 22 19.1**	**-0.2**
	baz=315						
ETLH	**Xiulin Townshi**	**0.68**	**275**	P	**Pn**	**21 22 09.4**	**-0.1**
	baz=274						
ETLH				S	**Sn**	**21 22 19.0**	**-0.8**
	baz=274						
ETM	**Tongmen**	**0.69**	**255**	P	**Pn**	**21 22 09.5**	**-0.1**
	baz=254						
ETM				S	**Sn**	**21 22 19.4**	**-0.6**
	baz=254						
JYNG	**Yonagunijimaku**	**0.72**	**65**	P	**Pn**	**21 22 10.6**	**+0.6**
JYNG				*e*S	**Sn**	**21 22 20.8**	**+0.2**
EGS		**0.74**	**339**	*i* P	**Pg**	**21 22 09.0**	**-0.1**
	baz=339						
EGS				*i* S	**Sn**	**21 22 20.1**	**-1.1**
	baz=339						
ILA	**Ilan**	**0.75**	**325**	*e*P	**Pn**	**21 22 11.5**	**+1.1**
	baz=324						
ILA				*e*S	**Sn**	**21 22 22.3**	**+1.0**
	baz=324						
TWE	**Neicheng**	**0.76**	**318**	⇓*i*P	**Pn**	**21 22 10.8**	**+0.2**
	baz=318						
TWE				*i* S	**Sn**	**21 22 21.6**	**-0.1**
	baz=318						
TEGC	**Jichi Village**	**0.77**	**235**	S	**Sn**	**21 22 23.2**	**+1.5**
	baz=234						
ENTT	**Nioudou**	**0.77**	**309**	P	**Pn**	**21 22 10.8**	**+0.1**
	baz=308						
ENTT				*i* S	**Sn**	**21 22 21.5**	**-0.5**
	baz=308						
YOJ	**Yonaguni jima**	**0.78**	**66**	*e*P	**Pn**	**21 22 10.7**	**-0.1**
	baz=66						
YOJ				S	**Sn**	**21 22 21.5**	**-0.6**
	baz=66						
NTC	**Toucheng**	**0.79**	**333**	*e*P	**Pn**	**21 22 11.5**	**+0.6**
	baz=332						
NTC				S	**Sn**	**21 22 21.7**	**-0.6**
	baz=332						
NDT	**Datong Townshi**	**0.79**	**305**	*i* P	**Pn**	**21 22 11.0**	**+0.1**
	baz=304						
NDT				*i* S	**Sn**	**21 22 22.9**	**+0.5**
	baz=304						
ESL	**Shilin**	**0.80**	**245**	*i* P	**Pn**	**21 22 10.7**	**-0.3**
	baz=244						
ESL				*i* S	**Sn**	**21 22 22.3**	**-0.2**
	baz=244						
NNS	**Nan Shan**	**0.83**	**291**	*i* P	**Pn**	**21 22 11.6**	**0.0**
	baz=289						
NNS				*i* S	**Sn**	**21 22 23.3**	**-0.2**
	baz=289						
EGFH	**Guangfu**	**0.87**	**237**	P	**Pn**	**21 22 12.5**	**+0.4**
	baz=236						
EGFH				S	**Sn**	**21 22 24.7**	**+0.3**
	baz=236						
WHF	**Hehuan Shan**	**0.88**	**270**	*i* P	**Pn**	**21 22 12.3**	**-0.2**
	baz=269						
WHF				S	**Sn**	**21 22 24.4**	**-0.7**
	baz=269						
TWB1	**Santiao Chiao**	**0.88**	**346**	*e*P	**Pn**	**21 22 12.7**	**+0.5**
	baz=345						
TWB1				*e*S	**Sn**	**21 22 25.2**	**+0.6**
	baz=345						
TIPB	**Shuangxi**	**0.90**	**336**	*i* P	**Pn**	**21 22 13.1**	**+0.7**
	baz=335						
TIPB				*i* S	**Sn**	**21 22 24.9**	**-0.1**
	baz=335						
FUSS	**Fushou**	**0.90**	**276**	*e*P	**Pn**	**21 22 12.7**	**0.0**
	baz=275						
FUSS				*e*S	**Sg**	**21 22 24.7**	**+0.6**
	baz=275						
NWLT	**Wulai**	**0.91**	**314**	*i* P	**Pn**	**21 22 12.9**	**+0.4**
	baz=313						
NWLT				*e*S	**Sg**	**21 22 24.6**	**+0.4**
	baz=313						
NSK	**Sanguang**	**0.95**	**304**	⇓P	**Pn**	**21 22 13.3**	**+0.2**
	baz=303						
NSK				S	**Sg**	**21 22 25.3**	**-0.2**
	baz=303						
TWT	**Tachien**	**0.96**	**276**	P	**Pn**	**21 22 14.1**	**+0.7**
	baz=275						
TWT				S	**Sn**	**21 22 27.2**	**+0.3**
	baz=275						
CHGB	**Renai**	**0.96**	**265**	P	**Pn**	**21 22 13.7**	**+0.2**
	baz=264						
CHGB				S	**Sn**	**21 22 26.7**	**-0.3**
	baz=264						
OWD	**Renai**	**0.98**	**259**	*i* P	**Pn**	**21 22 13.7**	**0.0**
	baz=258						
OWD				*i* S	**Sb**	**21 22 26.2**	**+0.4**
	baz=258						
TDCB	**Techi**	**0.98**	**276**	P	**Pn**	**21 22 14.0**	**+0.3**
	baz=275						
TDCB				S	**Sg**	**21 22 26.6**	**+0.1**
	baz=275						
HGSD	**Ruisui**	**0.98**	**228**	P	**Pg**	**21 22 13.8**	**+0.2**
	baz=228						
HGSD				*e*S	**Sg**	**21 22 26.9**	**+0.3**
	baz=228						
NWF	**Wu-fen Shan**	**1.00**	**336**	P	**Pg**	**21 22 14.0**	**0.0**
	baz=335						
NWF				*i* S	**Sg**	**21 22 26.8**	**-0.4**
	baz=335						
TWA	**Mucha**	**1.01**	**325**	P	**Pn**	**21 22 13.8**	**-0.2**
	baz=324						
TWA				*i* S	**Sn**	**21 22 28.4**	**+0.6**
	baz=324						
NHDH	**Xindian Distri**	**1.03**	**322**	*i* P	**Pg**	**21 22 15.5**	**+0.9**
	baz=321						
NHDH				*i* S	**Sn**	**21 22 28.4**	**+0.2**
	baz=321						
EHY	**Hungye**	**1.05**	**232**	P	**Pn**	**21 22 14.6**	**+0.1**
	baz=231						
EHY				S	**Sg**	**21 22 28.6**	**0.0**

	baz=231								
TAP	**Taipei**	**1.10**	**324**	*e*P		**Pb**	**21 22 14.9**	**-0.3**
	baz=323								
TAP				S		**Sg**	**21 22 30.4**	**+0.1**
	baz=323								
YULB	**Yu-li**	**1.14**	**229**	P		**Pb**	**21 22 15.9**	**+0.1**
	baz=228								
YULB				*e*S		**Sb**	**21 22 30.4**	**+0.2**
	baz=228								
EYUL	**Yuli**	**1.15**	**226**	*e*P		**Pg**	**21 22 16.7**	**-0.2**
	baz=226								
EYUL				*e*S		**Sg**	**21 22 32.2**	**+0.3**
	baz=226								
YM01	**YM01**	**1.16**	**329**	P		**Pb**	**21 22 16.4**	**+0.2**
	baz=328								
YM01				S		**Sn**	**21 22 31.1**	**-0.4**
	baz=328								
WHP	**Taichung City**	**1.18**	**276**	P		**Pg**	**21 22 17.4**	**+0.1**
	baz=275								
WHP				S		**Sg**	**21 22 32.6**	**-0.1**
	baz=275								
TWS1	**Kuangyinshan**	**1.20**	**322**	*e*P		**Pg**	**21 22 17.9**	**+0.1**
	baz=322								
TWS1				S		**Sb**	**21 22 31.3**	**-0.8**
	baz=322								
WCS	**Beigang Elemen**	**1.20**	**266**	*e*P		**Pg**	**21 22 17.4**	**-0.4**
	baz=265								
WCS				*e*S		**Sg**	**21 22 33.8**	**+0.2**
	baz=265								
LIOB	**Emei**	**1.21**	**294**	*i* P		**Pg**	**21 22 17.9**	**0.0**
	baz=293								
LIOB				*i* S		**Sg**	**21 22 33.6**	**-0.1**
	baz=293								
NSTT	**Nanjuang**	**1.22**	**293**	*i* P		**Pg**	**21 22 17.9**	**-0.1**
	baz=292								
NSTT				*i* S		**Sn**	**21 22 32.8**	**-0.1**
	baz=292								
ANP	**Anpu**	**1.22**	**328**	*e*P		**Pg**	**21 22 18.0**	**0.0**
	baz=328								
ANP				*e*S		**Sg**	**21 22 33.7**	**-0.3**
	baz=328								
SSLB	**Suanglung**	**1.22**	**253**	P		**Pn**	**21 22 17.0**	**+0.1**
	baz=252								
SSLB				S		**Sn**	**21 22 33.1**	**+0.1**
	baz=252								
NTST	**Danshui**	**1.23**	**325**	*e*P		**Pg**	**21 22 18.0**	**-0.4**
	baz=324								
NTST				S		**Sg**	**21 22 34.1**	**-0.4**
	baz=324								
SMLT	**Sun Moon Lake**	**1.24**	**258**	*i* P		**Pb**	**21 22 18.0**	**+0.4**
	baz=257								
SMLT				*i* S		**Sb**	**21 22 33.1**	**-0.3**
	baz=257								
NCU	**National Centr**	**1.25**	**311**	*e*P		**Pn**	**21 22 17.0**	**-0.3**
	baz=310								
NCUH	**Zhongli**	**1.25**	**311**	*e*P		**Pg**	**21 22 19.1**	**+0.4**
	baz=310								
NCUH				*e*S		**Sg**	**21 22 34.7**	**-0.3**
	baz=310								
TWY	**Chenhua**	**1.26**	**333**	*e*P		**Pb**	**21 22 18.0**	**+0.2**
	baz=333								
TWY				*e*S		**Sn**	**21 22 34.1**	**+0.3**
	baz=333								
FULB	**Fuli**	**1.27**	**222**	*e*P		**Pb**	**21 22 18.3**	**+0.2**
	baz=222								
FULB				*e*S		**Sb**	**21 22 34.1**	**-0.1**
	baz=222								
TYC	**Yuchr**	**1.27**	**259**	P		**Pb**	**21 22 18.5**	**+0.4**
	baz=258								
TYC				S		**Sb**	**21 22 34.0**	**-0.2**
	baz=258								
SBCB	**Hsinchu**	**1.30**	**300**	*e*P		**Pg**	**21 22 19.1**	**-0.6**
	baz=299								
SBCB				*e*S		**Sg**	**21 22 36.0**	**-0.5**
	baz=299								
CHKT	**Chengkung**	**1.31**	**217**	*e*P		**Pn**	**21 22 17.7**	**-0.3**
	baz=216								
CHKT				*e*S		**Sn**	**21 22 34.7**	**-0.4**
	baz=216								
WHYT	**Xinyi Township**	**1.33**	**251**	P		**Pg**	**21 22 19.9**	**-0.4**
	baz=250								
WHYT				*e*S		**Sb**	**21 22 36.8**	**+0.8**
	baz=250								
YUS	**Yu-Shan**	**1.34**	**241**	P		**Pb**	**21 22 19.8**	**+0.3**
	baz=240								
YUS				S		**Sb**	**21 22 35.6**	**-0.9**
	baz=240								
TWQ1	**Liyutan**	**1.34**	**279**	*e*P		**Pb**	**21 22 19.2**	**0.0**
	baz=278								
TWQ1				S		**Sb**	**21 22 36.6**	**+0.5**
	baz=278								
IRIF	**Iriomote-Funau**	**1.39**	**82**	P		**Pb**	**21 22 19.8**	**-0.2**
IRIF				*e*S		**Sb**	**21 22 37.4**	**0.0**
WJS	**Zhushan**	**1.41**	**257**	*e*P		**Pb**	**21 22 20.7**	**+0.3**
	baz=256								
WJS				*e*S		**Sb**	**21 22 38.6**	**+0.5**
	baz=256								
WNT	**Mingjian**	**1.44**	**259**	*e*P		**Pg**	**21 22 21.8**	**-0.5**
	baz=258								
WNT				*e*S		**Sn**	**21 22 37.7**	**-0.6**
	baz=258								
EDH	**Donghe**	**1.45**	**216**	*e*S		**Sn**	**21 22 38.1**	**-0.4**
	baz=215								
ALS	**Alishan**	**1.45**	**244**	P		**Pb**	**21 22 21.8**	**+0.5**
	baz=243								
ALS				*e*S		**Sb**	**21 22 39.6**	**+0.1**
	baz=243								
ELDTW	**Lidau**	**1.46**	**229**	P		**Pb**	**21 22 21.6**	**+0.2**
	baz=228								
ELDTW				*e*S		**Sn**	**21 22 38.0**	**-1.1**
	baz=228								
CHN5	**Tsauling**	**1.52**	**249**	P		**Pb**	**21 22 22.9**	**+0.6**
	baz=248								
CHN5				*e*S		**Sb**	**21 22 41.3**	**-0.1**
	baz=248								
LONT	**Longtian**	**1.59**	**219**	*e*S		**Sn**	**21 22 42.9**	**+0.7**
	baz=219								
LDUT	**Ludao**	**1.62**	**205**	*e*P		**Pb**	**21 22 23.4**	**-0.7**
	baz=205								
LDUT				*e*S		**Sn**	**21 22 41.3**	**-1.7**
	baz=205								
JKRS	**Kuro-shima**	**1.63**	**87**	P		**Pb**	**21 22 24.0**	**-0.2**
JKRS				*e*S		**Sb**	**21 22 44.1**	**-0.4**
STYH	**Taoyuan**	**1.65**	**234**	*e*P		**Pb**	**21 22 24.6**	**+0.1**
	baz=233								
STYH				*e*S		**Sn**	**21 22 44.2**	**+0.7**
	baz=233								
TPUB	**Ta-pu**	**1.69**	**240**	*e*P		**Pb**	**21 22 25.3**	**+0.1**
	baz=239								
WRL	**Guolierlin Hig**	**1.71**	**262**	*e*P		**Pb**	**21 22 25.5**	**0.0**
	baz=261								
WRL				*e*S		**Sb**	**21 22 46.0**	**-0.7**
	baz=261								
CHN2	**Minshiung**	**1.72**	**249**	*e*P		**Pb**	**21 22 25.5**	**-0.2**
	baz=248								
WTP	**Ta-pu**	**1.73**	**239**	*e*P		**Pb**	**21 22 25.0**	**-0.9**
	baz=238								
JIJ	**Ishigaki jima**	**1.76**	**83**	P		**Pn**	**21 22 25.0**	**+0.7**
JIJ				*e*S		**Sn**	**21 22 46.1**	**-0.3**
TWK	**Hsinying**	**1.82**	**241**	*e*P		**Pb**	**21 22 26.5**	**-0.9**
	baz=240								
CHN1	**Nanshi**	**1.83**	**239**	*e*P		**Pn**	**21 22 26.4**	**+1.1**
	baz=238								
CHN1				*e*S		**Sn**	**21 22 49.0**	**+1.0**
	baz=238								
SGST	**Jiashian**	**1.84**	**235**	*e*P		**Pn**	**21 22 26.5**	**+1.1**
	baz=234								
SGST				*e*S		**Sn**	**21 22 49.3**	**+0.9**
	baz=234								
SLGT	**Liugui**	**1.85**	**232**	*e*P		**Pb**	**21 22 27.3**	**-0.7**
	baz=231								
JISG	**Ishigakijimahi**	**1.95**	**77**	P		**Pn**	**21 22 27.2**	**+0.3**
JISG				*e*S		**Sn**	**21 22 51.1**	**+0.1**
MASBT	**Mashibuluo**	**2.12**	**224**	*e*P		**Pb**	**21 22 31.7**	**-0.8**
	baz=223								
JTJ	**Tarama**	**2.31**	**77**	*e*S		**Sn**	**21 23 00.2**	**+0.3**

MEX 14 21:22:22.0±0.5, 15°.59N×94°.70W, h16^{km}±999^{km}, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.44**	**85**	*e*P	Pn	21 22 44.1	-3.3
PCIG				*e*S	Sn	21 23 00.3	-5.5
CMIG	**Matias Romero**	**1.50**	**353**	*i* P	Pn	21 22 44.3	-3.9
CMIG				*i* S	Sn	21 23 02.2	-5.4
TGIG		**1.92**	**52**	*e*P	Pn	21 22 51.3	-2.8
TGIG				*e*S	Sn	21 23 13.2	-4.8
PEIG	**Puerto Escondi**	**2.39**	**280**	*e*P	Pn	21 22 55.1	-5.4
PEIG				*i* S	Sn	21 23 19.1	-10

*IDC **14** 21:33:41.2±4.3, 2°.96N×122°.82E, h602^{km}±66^{km}, mb2.5/5, mb1 2.7/5, mb1mx2.5/36, mbtmp3.5/5, Error ellipse: s-maj=60.9km s-min=19.9km az=82.0*

ISC 14 21:33:41.0±1.0, 2°.9N±0°.2×122°.6E±0°.4, h600^{km}, n6, σ0^{s}42/7, mb3.5/5, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.10**	**172**	P	**P**	**21 37 44.5**	**-0.2**
	0.5nm,0.4s,baz=6.9,slow=7.0,SNR=7.0						
WRA	**Warramunga Arr**	**25.47**	**154**	P	**P**	**21 38 22.9**	**-0.6**
	0.7nm,0.4s,baz=338,slow=11,SNR=15						
ASAR	**Alice Springs**	**28.62**	**158**	P	**P**	**21 38 51.5**	**+0.4**
	0.3nm,0.5s,baz=338,slow=7.3,SNR=5.5						
USRK	**Ussuriysk Ar.**	**41.93**	**10**	P	**P**	**21 40 40.6**	**0.0**
	1.4nm,0.6s,baz=176,slow=4.5,SNR=4.5						
MKAR	**Makanchi Array**	**55.95**	**328**	P	**P**	**21 42 23.6**	**-0.2**
	0.1nm,0.3s,baz=129,slow=7.4,SNR=4.7						
MKAR				PcP	**PcP**	**21 43 13.3**	**+0.1**
	0.4nm,0.5s,baz=132,slow=2.1,SNR=4.4						
TORD	**Torodi Ar. Bea**	**119.25**	**287**	PKP	**PKPdf**	**21 51 24.2**	**+0.2**
	0.4nm,0.8s,baz=58,slow=2.0,SNR=2.0						

NEIC 14 21:34:51.9±0.8, 37°.05N±0°.01×97°.50W±0°.02, h4^{km}±7^{km}, Error ellipse: s-maj=2.5km s-min=1.5km az=222.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.04**	**155**	Pg	Pg	21 34 53.4	+0.4
KAN13				Sg	Sg	21 34 54.5	+0.8
KS20	**Mayfield South**	**0.18**	**346**	Pg	Pg	21 34 55.2	-0.2
KS20				Sg	Sg	21 34 57.8	0.0
KAN17	**Caldwell West**	**0.21**	**268**	Pg	Pg	21 34 55.7	-0.3
KAN17				Sg	Sg	21 34 58.6	-0.2
KS21	**Milan North St**	**0.27**	**331**		Pg	21 34 56.8	-0.3
KS21					Sg	21 35 00.4	-0.1
KAN05	**Bluff City Nor**	**0.30**	**281**	Pg	Pg	21 34 57.3	-0.4
KAN05				Sg	Sg	21 35 01.3	-0.4
KAN06	**Argonia West S**	**0.35**	**304**		Pg	21 34 58.2	-0.4
KAN06					Sg	21 35 02.8	-0.3
GC02	**Grant County #**	**0.35**	**235**	Pg	Pg	21 34 58.3	-0.3
GC02				Sg	Sg	21 35 03.1	-0.1
BLOK	**Blackwell**	**0.37**	**142**	Pg	Pg	21 34 59.2	+0.2
BLOK				Sg	Sg	21 35 04.8	+1.0
KAN14	**Manchester OK**	**0.38**	**256**	Pg	Pg	21 34 58.9	-0.3
KAN14					Sg	21 35 04.0	-0.2
KAN12	**Harper NE Stat**	**0.47**	**302**	Pg	Pg	21 35 00.4	-0.4
KAN12				Sg	Sg	21 35 06.6	-0.3
OK032	**Salt Plains WL**	**0.62**	**247**	Pg	Pg	21 35 03.4	-0.4
OK032				Sg	Sg	21 35 11.8	-0.1
CROK	**Carrier**	**0.67**	**215**		Pg	21 35 04.5	-0.3
CROK				Sg	Sg	21 35 13.6	+0.2
T35A	**Sooner Cattle**	**0.80**	**99**	Pg	Pg	21 35 07.2	0.0
QUOK	**Quay**	**1.09**	**144**		Pg	21 35 12.4	-0.3
QUOK				Sg	Sg	21 35 26.8	0.0
OK031	**S. Brethren Rd**	**1.22**	**154**	Pg	Pg	21 35 14.7	-0.5
OK031				Sg	Sg	21 35 31.2	+0.1
OK029	**Liberty Lake**	**1.25**	**178**		Pg	21 35 15.5	-0.4
OK029				Sg	Sg	21 35 32.3	+0.1
U32A	**Winter Ranch,**	**1.38**	**241**		Pn	21 35 17.0	-0.9
U32A				Sg	Sg	21 35 35.2	-1.0
OK025	**Westminster Rd**	**1.48**	**175**		Pn	21 35 19.2	0.0
OK025				Sg	Sg	21 35 39.5	+0.2
OKCFA	**Oklahoma City**	**1.64**	**179**	Pn	Pb	21 35 22.1	-0.5
R32A	**Long Quarter,**	**1.67**	**325**	Pn	Pn	21 35 22.1	+0.1
FNO	**Franklin**	**1.79**	**177**		Pn	21 35 24.2	+0.5
KSU1	**Kansas State U**	**2.16**	**19**	Pn	Pn	21 35 28.7	0.0
X34A	**Smith Ranch, M**	**2.46**	**186**	Pn	Pn	21 35 33.5	+0.7
WMOK	**Wichita Mounta**	**2.53**	**205**	Pn	Pn	21 35 33.9	+0.1
U38A	**Gravette**	**2.58**	**103**	Pn	Pn	21 35 34.9	+0.5
HHAR	**Hobbs**	**2.96**	**104**	Pn	Pn	21 35 40.3	+0.6
X37A	**Clayton**	**3.01**	**144**	Pn	Pn	21 35 40.9	+0.6
X37A				IAmb_Lg		21 36 34.9	
	comp=Z,22nm,0.8s						
LOOK	**Love County**	**3.06**	**175**	Pn	Pn	21 35 41.5	+0.3
LOOK				IAmb_Lg		21 36 32.0	
	comp=Z,17nm,1.0s						
S39A	**Bolivar**	**3.39**	**78**	Pn	Pn	21 35 45.4	-0.1
W39A	**Magazine**	**3.53**	**121**	IAmb_Lg		21 36 46.8	
	comp=Z,28nm,0.8s						
Z35A	**Perchaven, San**	**3.72**	**177**	Pn	Pn	21 35 50.8	+0.7
U40A	**Yellville**	**3.80**	**99**	Pn	Pn	21 35 51.4	+0.2
AMTX	**Amarillo**	**4.02**	**239**	IAmb_Lg		21 36 57.4	
	comp=Z,12nm,1.0s						
P38A	**Dawn**	**4.04**	**49**	Pn	Pn	21 35 54.5	0.0
P38A				IAmb_Lg		21 37 10.6	
	comp=Z,10nm,0.8s						
MIAR	**Mount Ida**	**4.05**	**127**	Pn	Pn	21 35 55.2	+0.5
MIAR				IAmb_Lg		21 37 04.6	
	comp=Z,15nm,0.7s						
N35A	**Tabor**	**4.07**	**20**	IAmb_Lg		21 37 05.8	
	comp=Z,26nm,0.7s						
MGMO	**Mountain Grove**	**4.18**	**87**	Pn	Pn	21 35 57.3	+0.8
MGMO				IAmb_Lg		21 37 15.8	
	comp=Z,11nm,0.8s						
Z38A	**Mt. Pleasant**	**4.31**	**151**	IAmb_Lg		21 37 11.5	
	comp=Z,29nm,0.8s						
R40A	**Maddies Statio**	**4.33**	**72**	IAmb_Lg		21 37 14.8	
	comp=Z,11nm,0.7s						
BGNE	**Belgrade**	**4.38**	**354**	IAmb_Lg		21 37 12.6	
	comp=Z,28nm,0.7s						
WHAR	**Wooly Hollow**	**4.57**	**111**	Pn	Pn	21 36 01.4	-0.4
WHAR				IAmb_Lg		21 37 22.0	
	comp=Z,16nm,1.0s						
X40A	**Basin Creek Fa**	**4.58**	**123**	IAmb_Lg		21 37 20.8	
	comp=Z,11nm,0.7s						
P40A	**Paris**	**4.95**	**58**	IAmb_Lg		21 37 31.0	
	comp=Z,16nm,0.7s						
L34A	**Svendsen Farm,**	**4.98**	**10**	IAmb_Lg		21 37 33.4	
	comp=Z,21nm,0.8s						
N38A	**Joes South For**	**5.00**	**40**	IAmb_Lg		21 37 39.2	
	comp=Z,20nm,0.7s						
CCM	**Cathedral Cave**	**5.07**	**77**	Pn	Pn	21 36 09.6	+0.9
CCM				IAmb_Lg		21 37 41.1	
	comp=Z,12nm,0.9s						
LCAR	**Lake Charles**	**5.20**	**99**	IAmb_Lg		21 37 36.8	
	comp=Z,12nm,1.1s						
OGNE	**Ogallala**	**5.25**	**319**	Pn	Pn	21 36 12.6	+1.3
OGNE				IAmb_Lg		21 37 42.6	
	comp=Z,16nm,0.8s						
T25A	**Trinidad**	**5.53**	**273**	Pn	Pn	21 36 15.2	0.0
T25A				IAmb_Lg		21 38 00.6	
	comp=Z,9.7nm,0.9s						
N41A	**Harden Midland**	**6.34**	**53**	Pn	Pn	21 36 25.8	-0.3
K38A	**Parkersburg**	**6.67**	**32**	IAmb_Lg		21 38 36.6	
	comp=Z,11nm,0.8s						
JCT	**Junction City**	**6.83**	**197**	IAmb_Lg		21 38 38.3	
	comp=Z,16nm,1.1s						
L40A	**Anamosa**	**6.97**	**42**	IAmb_Lg		21 38 31.7	
	comp=Z,16nm,1.0s						
L42A	**Oliver, Polo**	**7.81**	**48**	Pn	Pn	21 36 46.5	+0.2
JFWS	**Jewell Farm**	**8.08**	**41**	IAmb_Lg		21 39 13.2	
	comp=Z,10nm,0.8s						

*ROM **14** 21:36:29.2±0.3, 44°.146N±0°.009×7°.22E±0°.01, h10^{km}±1^{km}, ML2.5/7, Error ellipse: s-maj=1.2km s-min=0.4km az=46.0*
*GEN **14** 21:36:29.2, 44°.15N×7°.19E, h8^{km}±2^{km}, Ml2.5*
*STR **14** 21:36:29.6±0.2, 44°.N±2°×±°, h7^{km}±2^{km}, MLv2.7/13, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
*LDG **14** 21:36:29.7±0.0, 44°.13N×7°.21E, h2^{km}, Md3.1/2, Ml2.9/41, Error ellipse: s-maj=0.9km s-min=0.8km az=60.0*
*PRU **14** 21:36:47.2±0.0, 44°.71N×9°.93E, h0^{km}*

ISC 14 21:36:28.8±0.8, 44°.14N±0°.01×7°.16E±0°.01, h13^{km}±5^{km}, n118, σ1^{s}50/196, 12C-1D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISO	**Isola**	**0.09**	**298**	Pg	**Pg**	**21 36 31.8**	**+0.1**
ISO				Sg	**Sg**	**21 36 33.5**	**-0.4**
ENR	**Entracque**	**0.20**	**65**	P	**Pg**	**21 36 33.5**	**+0.1**
ENR				S	**Sg**	**21 36 36.2**	**-0.3**
ENR	**Entracque**	**0.20**	**65**	↑P	**Pg**	**21 36 33.5**	**+0.1**
ENR				S	**Sg**	**21 36 36.2**	**-0.3**
TURF	**col de Turini**	**0.23**	**135**	Pg	**Pg**	**21 36 33.8**	**-0.1**
TURF				Sg	**Sg**	**21 36 37.1**	**-0.3**
SAOF	**Saorge**	**0.32**	**118**	Pg	**Pg**	**21 36 35.4**	**0.0**
SAOF				Sg	**Sg**	**21 36 40.0**	**+0.2**
SAOF	**Saorge**	**0.32**	**118**	↑P	**Pg**	**21 36 35.4**	**0.0**
SAOF				S	**Sg**	**21 36 40.0**	**+0.2**
SAOF	**Saorge**	**0.32**	**118**	AML	AML		
	comp=E,1930μm,0.3s						
SAOF				AML	AML		
	comp=N,2950μm,0.4s						
SBF	**Sospel**	**0.34**	**144**	*e*Pg	**Pg**	**21 36 35.9**	**+0.2**
SBF				*e*Sg	**Sg**	**21 36 40.4**	**+0.1**
	comp=N,299nm,0.2s						
PZZ	**Stroppo**	**0.37**	**355**	P	**Pg**	**21 36 36.7**	**+0.5**
PZZ				S	**Sg**	**21 36 41.8**	**+0.5**
PZZ	**Stroppo**	**0.37**	**355**	⇓P	**Pg**	**21 36 36.8**	**+0.5**
PZZ				S	**Sg**	**21 36 41.8**	**+0.5**
BURY	**Giardini Botan**	**0.46**	**141**	P	**Pg**	**21 36 38.0**	**+0.2**
BURY				S	**Sg**	**21 36 44.0**	**+0.1**
BURY	**Giardini Botan**	**0.46**	**141**	P	**Pg**	**21 36 38.0**	**+0.2**
BURY				S	**Sg**	**21 36 44.0**	**+0.1**
MGRO	**Montegrosso**	**0.48**	**102**	P	**Pg**	**21 36 38.2**	**-0.1**
MGRO				S	**Sg**	**21 36 44.6**	**0.0**
MGRO	**Montegrosso**	**0.48**	**102**	⇑P	**Pg**	**21 36 38.2**	**-0.1**
MGRO				S	**Sg**	**21 36 44.6**	**0.0**
GBOS	**Grotte di Boss**	**0.50**	**78**	P	**Pg**	**21 36 38.5**	**-0.1**
GBOS				S	**Sg**	**21 36 44.8**	**-0.5**
GBOS	**Grotte di Boss**	**0.50**	**78**	⇑P	**Pg**	**21 36 38.5**	**-0.1**
GBOS				S	**Sg**	**21 36 44.8**	**-0.5**
OGAG	**Argentiere**	**0.55**	**305**	Pg	**Pn**	**21 36 44.8**	**+2.3**
IMI	**Imperia**	**0.57**	**113**	P	**Pg**	**21 36 39.9**	**-0.1**
IMI				S	**Sg**	**21 36 47.9**	**+0.2**
IMI	**Imperia**	**0.57**	**113**	⇑P	**Pg**	**21 36 39.9**	**-0.1**
IMI				S	**Sg**	**21 36 47.8**	**0.0**
EILF	**Villa Eilenroc**	**0.59**	**182**	Pg	**Pg**	**21 36 40.8**	**+0.5**
EILF				Sg	**Sg**	**21 36 48.6**	**+0.4**
OGDI	**Digne**	**0.62**	**268**	Pg	**Pn**	**21 36 43.5**	**0.0**
MBDF	**Montbardon**	**0.65**	**335**	*e*Pg	**Pg**	**21 36 41.8**	**+0.3**
MBDF	**Montbardon**	**0.65**	**335**	*e*P	**Pn**	**21 36 43.9**	**-0.1**
MBDF				*e*Sg	**Sg**	**21 36 50.7**	**+0.5**
	comp=N,146nm,0.2s						
MBDF				*e*Sn	**Sn**	**21 36 54.9**	**+0.7**
	comp=N,140nm,0.2s						
FRF	**La Foret Royal**	**0.69**	**213**	*e*Pg	**Pg**	**21 36 42.4**	**+0.2**
FRF	**La Foret Royal**	**0.69**	**213**	*e*P	**Pn**	**21 36 44.6**	**+0.3**
FRF				*e*Sg	**Sg**	**21 36 51.4**	**+0.2**
	comp=N,313nm,0.2s						
BHB	**Bricherasio**	**0.71**	**6**	P	**Pg**	**21 36 41.9**	**-0.6**
BHB				S	**Sg**	**21 36 51.3**	**-0.6**
BHB	**Bricherasio**	**0.71**	**6**	⇑P	**Pg**	**21 36 41.9**	**-0.6**
BHB				S	**Sg**	**21 36 51.9**	**0.0**
CANO	**Canova, Maglio**	**0.78**	**85**	P	**Pg**	**21 36 43.6**	**-0.3**
CANO				S	**Sg**	**21 36 53.8**	**-0.3**
RRL	**Rocca Remolon**	**0.82**	**341**	P	**Pg**	**21 36 45.1**	**+0.2**
RRL				S	**Sb**	**21 36 56.2**	**-0.1**
RRL	**Rocca Remolon**	**0.82**	**341**	⇑P	**Pg**	**21 36 45.0**	**+0.2**
RRL				S	**Sb**	**21 36 56.6**	**+0.2**
RRL				AML	AML		
	comp=N,342μm,1.0s						
RRL				AML	AML		
	comp=E,284μm,1.2s						
QLNO	**Quiliano**	**0.87**	**77**	⇑P	**Pg**	**21 36 45.4**	**-0.3**
QLNO				S	**Sg**	**21 36 56.5**	**-0.6**
QLNO				AML	AML		
	comp=E,588μm,0.5s						
QLNO				AML	AML		
	comp=N,338μm,0.3s						
LMR	**La Mourre**	**0.93**	**211**	*e*Pg	**Pg**	**21 36 47.2**	**+0.4**
LMR				*e*Sg	**Sb**	**21 36 59.5**	**+0.3**
	comp=N,128nm,0.2s						
LMR				*e*Sn	**Sn**	**21 37 02.2**	**+1.2**
	comp=N,248nm,0.2s						
BNI	**Bardonecchia**	**0.98**	**339**	P	**Pn**	**21 36 48.2**	**-0.2**
BNI				S	**Sb**	**21 37 00.9**	**+0.3**
BNI				AML	AML		
	comp=E,152μm,0.8s						
BNI				AML	AML		
	comp=N,78μm,0.7s						
RSP	**Reno Superiore**	**1.01**	**4**	P	**Pb**	**21 36 46.8**	**-1.5**
RSP	**Reno Superiore**	**1.01**	**4**	⇑P	**Pb**	**21 36 47.0**	**-1.3**
RSP				AML	AML		
	comp=E,386μm,0.3s						
RSP				AML	AML		
	comp=N,482μm,0.3s						
MLYF	**Mely**	**1.02**	**262**	Pg	**Pn**	**21 36 49.8**	**+0.9**
MLYF				Sg	**Sn**	**21 37 04.0**	**+0.9**
PCP	**Piancastagn**	**1.07**	**67**	P	**Pb**	**21 36 49.1**	**-0.2**
PCP	**Piancastagn**	**1.07**	**67**	⇑P	**Pb**	**21 36 48.8**	**-0.5**
PCP				S	**Sb**	**21 37 02.9**	**-0.3**
MONC	**Moncucco Torin**	**1.08**	**30**	⇑P	**Pb**	**21 36 49.2**	**-0.2**
MONC				AML	AML		
	comp=E,466μm,0.3s						
MONC				AML	AML		
	comp=N,460μm,0.4s						
ROTM	**Rocchetta Tana**	**1.11**	**50**	⇑P	**Pg**	**21 36 50.6**	**+0.4**
OGMO	**Fort Saint-Gob**	**1.12**	**343**	Pg	**Pg**	**21 36 51.0**	**+0.5**
OGMO				Sg	**Sn**	**21 37 05.8**	**0.0**
ARTF	**Artigues**	**1.13**	**241**	Pg	**Pg**	**21 36 50.8**	**+0.3**
ARTF				Sg	**Sn**	**21 37 06.6**	**+0.9**
SMRF	**Simiane la Rot**	**1.16**	**262**	*e*Pn	**Pg**	**21 36 52.1**	**+1.0**
SMRF	**Simiane la Rot**	**1.16**	**262**	*e*P	**Pg**	**21 36 53.6**	**+2.5**
SMRF				*e*Sg	**Sn**	**21 37 07.6**	**+1.1**
	comp=N,132nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.20**	**311**	*e*Pn	**Pg**	**21 36 52.0**	**0.0**
ORIF	**Oris-en-Rattie**	**1.20**	**311**	*e*Pg	**Pg**	**21 36 52.9**	**+0.9**
ORIF	**Oris-en-Rattie**	**1.20**	**311**	*e*P	**Pg**	**21 36 54.4**	**+2.4**
ORIF				*e*Sg	**Sg**	**21 37 08.5**	**+0.9

CABF	La Chapelle	2.58	343	ePg	Pg	21 37 18.5	+0.1
CABF				eSn	Sn	21 37 40.9	-1.0
	comp=N,8.0nm,0.4s						
CABF				eSg	Sg	21 37 51.2	-0.7
	comp=N,5.1nm,0.3s						
LBL	Lubilhac	3.00	293	Pn	Pn	21 37 17.9	+1.7
SMF	Signal de Mont	3.43	318	ePn	Pn	21 37 23.3	+1.3
SMF	Signal de Mont	3.43	318	eP	Pb	21 37 26.4	-3.0
SMF				eSn	Sn	21 38 01.7	-0.8
	comp=N,1.8nm,0.2s						
SMF				eSg	Sg	21 38 17.8	-1.1
	comp=N,1.4nm,0.2s						
AGO	Saint Agoulin	3.44	305	Pn	Pn	21 37 24.4	+2.2
MTLF	Montolieu	3.67	259	ePn	Pn	21 37 26.3	+1.0
MTLF	Montolieu	3.67	259	ePg	Pg	21 37 38.5	-0.6
MTLF				eSn	Sn	21 38 07.6	-0.9
	comp=N,8.4nm,0.2s						
MTLF				eSg	Sg	21 38 25.2	-1.5
	comp=N,4.2nm,0.3s						
MTLF	Montolieu	3.67	259	Pn	Pn	21 37 26.5	+1.2
DAVA	Damuels	3.68	30	i Pn	Pn	21 37 27.9	+2.3
	comp=N,1.4nm,0.2s						
DAVA				eSn	Sn	21 38 11.3	+2.4
	comp=N,4.8nm,0.3s						
HINF	Hinteralfeld	3.68	357	ePn	Pn	21 37 26.2	+0.6
HINF				eSn	Sn	21 38 07.4	-1.5
	comp=N,4.1nm,0.2s						
HINF				eSg	Sg	21 38 25.5	-1.6
	comp=N,1.9nm,0.2s						
CAF	Calviac	3.73	284	ePn	Pn	21 37 27.7	+1.5
CAF	Calviac	3.73	284	ePg	Pg	21 37 39.7	-0.5
CAF				eSn	Sn	21 38 09.0	-1.0
	comp=N,1.9nm,0.1s						
AVF	Avril sur Loir	3.77	316	eP	Pn	21 37 29.2	+2.5
AVF				eSn	Sn	21 38 09.8	-1.1
	comp=N,1.0nm,0.2s						
AVF				eSg	Sg	21 38 28.6	-1.2
	comp=N,0.9nm,0.2s						
FETA	Feichten	3.82	40	ePn	Pn	21 37 30.0	+2.5
	comp=N,1.8nm,0.3s						
FETA				eSn	Sn	21 38 15.0	+2.6
	comp=N,1.5nm,0.4s						
BGF	Bois d'Agland	3.89	310	ePn	Pn	21 37 29.9	+1.6
BGF	Bois d'Agland	3.89	310	eP	Pn	21 37 32.3	+4.0
BGF				eSn	Sn	21 38 12.4	-1.4
	comp=N,2.1nm,0.2s						
BGF				eSg	Sg	21 38 32.5	-1.1
	comp=N,2.2nm,0.2s						
SSF	Saint Saulge	3.89	320	ePn	Pn	21 37 30.0	+1.7
SSF	Saint Saulge	3.89	320	eP	Pn	21 37 32.6	+4.3
SSF	Saint Saulge	3.89	320	ePg	Pg	21 37 42.9	-0.4
SSF				eSn	Sn	21 38 12.7	-1.2
	comp=N,3.6nm,0.3s						
LOR	Lormes	3.89	325	ePn	Pn	21 37 29.0	+0.6
LOR	Lormes	3.89	325	eP	Pn	21 37 32.0	+3.6
	baz=142						
LOR	Lormes	3.89	325	ePg	Pg	21 37 42.3	-1.0
LOR				eSn	Sn	21 38 12.5	-1.5
	comp=N,2.2nm,0.2s,baz=141						
LOR	Lormes	3.89	325	Pn	Pn	21 37 31.1	+2.8
HAU	Haudompre	3.91	352	ePn	Pn	21 37 30.0	+1.4
HAU	Haudompre	3.91	352	eP	Pn	21 37 32.9	+4.3
HAU				eSn	Sn	21 38 12.9	-1.5
	comp=N,7.8nm,0.3s						
HAU				eSg	Sg	21 38 32.2	-2.1
	comp=N,5.8nm,0.4s						
TCF	Toulx Ste Croi	4.11	303	ePn	Pn	21 37 32.5	+1.2
TCF				eSn	Sn	21 38 17.9	-1.4
	comp=N,5.5nm,0.3s						
GUT	Gutenstein	4.16	18	Pn	Pn	21 37 34.5	+2.4
SQTA	Sankt Quirin	4.19	41	i Pn	Pn	21 37 35.1	+2.6
	comp=N,1.0nm,0.2s						
SQTA				i Sn	Sn	21 38 24.9	+3.5
	comp=N,4.3nm,0.5s						
RETA	Reutte	4.19	36	ePn	Pn	21 37 33.9	+1.4
	comp=N,0.1nm,0.1s						
RETA				eSn	Sn	21 38 25.0	+3.6
	comp=N,0.6nm,0.2s						
RJF	Les Rejaudoux	4.19	288	ePn	Pn	21 37 33.5	+1.0
RJF				eSn	Sn	21 38 21.4	+0.1
	comp=N,3.4nm,0.3s						
MOTA	Moosalm	4.23	39	ePn	Pn	21 37 35.4	+2.2
	comp=N,0.8nm,0.2s						
MOTA				eSn	Sn	21 38 25.2	+2.7
	comp=N,2.5nm,0.4s						
CDF	Champ du Feu	4.27	1	ePn	Pn	21 37 34.4	+0.7
CDF				eSn	Sn	21 38 21.6	-1.9
	comp=N,3.2nm,0.3s						
SFTF	Sexfontaines	4.33	341	eP	Pn	21 37 37.9	+3.6
	baz=157						
SFTF				eSn	Sn	21 38 23.3	-1.3
	comp=N,8.7nm,0.4s						
SFTF				eSg	Sg	21 38 45.9	-1.7
	comp=N,2.5nm,0.3s						
WTTA	Wattenberg	4.42	44	i Pn	Pn	21 37 38.2	+2.3
	comp=N,1.2nm,0.3s						
WTTA				eSn	Sn	21 38 28.7	+1.3
	comp=N,2.0nm,0.4s						
WATA	Walderalm	4.45	42	i Pn	Pn	21 37 39.4	+3.3
	comp=N,0.8nm,0.2s						
PAGF	Fort de Pagny	4.53	348	eP	Pn	21 37 40.5	+3.4
	baz=164						
PAGF				eSn	Sn	21 38 27.4	-2.2
	baz=177						
MLS	Moulis	4.57	257	Pn	Pn	21 37 39.4	+1.7
MEZF	Maizieres J'vi	4.60	342	eP	Pn	21 37 42.5	+4.4
	baz=154						
MEZF				eSn	Sn	21 38 29.2	-2.2
	comp=N,13nm,0.6s						
LFF	La Frestale	4.66	282	ePn	Pn	21 37 39.7	+0.8
SAVF	Savonnieres en	4.69	343	eP	Pn	21 37 43.8	+4.4
	baz=164						
SAVF				eSn	Sn	21 38 32.0	-1.7
	comp=N,4.9nm,0.4s						
EPF	Esparros	5.08	260	ePn	Pn	21 37 45.1	+0.4
EPF				eSn	Sn	21 38 40.1	-3.2
EPF				eSg	Sg	21 39 09.0	-2.8
	comp=N,4.2nm,0.3s						
MFF	Saint Martin d	5.71	298	ePn	Pn	21 37 54.0	+0.7
ETSF	Etsaut	5.75	260	eP	Pn	21 37 58.9	+4.9
ETSF				eSn	Sn	21 38 57.6	-2.3
	comp=N,2.6nm,0.4s						
SJPF	Ste Jean	6.17	263	ePn	Pn	21 38 00.4	+0.7
SJPF				eSn	Sn	21 39 05.7	-4.5
GIVF	Givet	6.17	346	ePn	Pn	21 38 00.0	+0.3
BAIF	Baives	6.25	342	ePn	Pn	21 38 02.6	+1.8
BAIF				eSn	Sn	21 39 09.2	-2.9
KHC	Kasperske Hory	6.66	39	ePN	Pn	21 38 05.8	-0.7
KHC				eSN	Sn	21 39 26.8	+4.5
LDF	La Druitiere	6.72	314	ePn	Pn	21 38 08.3	+1.0
GRR	Gorron	7.00	310	ePn	Pn	21 38 11.4	+0.4

IDC 14 21:42:51.1±2.0, 41.°73S×173.°57E, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.5/20, mbtmp3.4/2, Error ellipse: s-maj=109.7km s-min=45.2km az=27.0

WEL 14 21:42:58.7, 42°S±3°×17°3E±°, h56km±7km, M4.0/92, ML4.0/30, MLv4.0/92, Error ellipse: s-maj=0.0km s-min=0.0km az=88.5

NOU 14 21:42:58.6, 42.°18S×173.°26E, h64km, MLv3.9/9, South Island, New Zealand

ISC 14 21:42:59.1±0.9, 42.°18S±0.°03×173.°21E±0.°03, h62km±7km, n121, σ1.s00/135, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KHZ	Kahutara	0.34	135	P	Pn	21 43 10.6	+0.9
KHZ				S	Sn	21 43 18.5	+1.2
THZ	Tophouse	0.47	331	P	Pn	21 43 09.3	-1.7
THZ				S	Sn	21 43 15.9	-3.7
BSWZ	Blackbirch Sta	0.68	47	P	Pn	21 43 13.7	+0.6
BSWZ				S	Sn	21 43 24.8	+1.4
GVZ	Greta Valley S	0.80	189	P	Pn	21 43 15.7	+1.0
CMWZ	Cape Campbell	0.86	61	P	Pn	21 43 16.8	+1.4
LTZ	Lake Taylor	0.92	229	P	Pn	21 43 16.7	+0.4
LTZ				S	Sn	21 43 29.1	+0.2
TUWZ	Tuamarina	0.93	36	P	Pn	21 43 16.6	+0.3
TUWZ				S	Sn	21 43 29.3	+0.4
NNZ	Nelson	0.97	8	P	Pn	21 43 16.3	-0.4
NNZ				S	Sn	21 43 29.1	-0.7
AMCZ	Amberley	1.08	202	P	Pn	21 43 18.9	+0.7
DSZ	Denniston Nort	1.14	292	P	Pn	21 43 18.3	-0.7
TCW	Tory Channel	1.25	40	P	Pn	21 43 20.7	+0.2
TCW				S	Sn	21 43 36.9	+0.4
INZ	Inchbonnie	1.42	247	P	Pn	21 43 23.0	+0.3
INZ				S	Sn	21 43 41.3	+0.9
OXZ	Oxford	1.44	217	P	Pn	21 43 22.8	-0.2
OXZ				S	Sn	21 43 40.1	-0.8
QRZ	Quartz Range	1.44	339	P	Pn	21 43 22.9	-0.2
QRZ				S	Sn	21 43 39.7	-1.4
BHW	Baring Head	1.46	59	P	Pn	21 43 23.4	+0.1
WEL	Wellington	1.47	53	P	Pn	21 43 23.7	+0.4
DUWZ	D'Urville Isla	1.47	21	P	Pn	21 43 23.7	+0.2
OKCZ	Okains Bay	1.55	184	P	Pn	21 43 24.9	+0.3
MQZ	McQueen's Vall	1.58	195	P	Pn	21 43 24.4	-0.5
MQZ				S	Sn	21 43 43.4	-0.9
PLWZ	Palliser	1.64	69	P	Pn	21 43 25.4	-0.3
MSWZ	Moikau Station	1.70	64	P	Pn	21 43 26.3	-0.2
MSWZ				S	Sn	21 43 46.3	-1.1
AKCZ	Akaroa Harbour	1.71	187	P	Pn	21 43 26.8	+0.1
RACZ	Rakaia	1.74	207	P	Pn	21 43 26.7	-0.3
CAW	Cannon Point	1.75	53	P	Pn	21 43 27.2	0.0
CAW				S	Sn	21 43 48.5	-0.1
MHCZ	Mount Hutt	1.81	221	P	Pn	21 43 27.6	-0.5
KIW	Kapiti Island	1.83	45	P	Pn	21 43 28.6	+0.3
PAWZ	Paruwai Farm	1.84	65	P	Pn	21 43 27.8	-0.6
PAWZ				S	Sn	21 43 49.9	-0.8
MTW	Mount Morrison	2.00	60	P	Pn	21 43 29.8	-0.7
MTW				S	Sn	21 43 53.3	-1.1
OGWZ	Otaki Gorge	2.00	48	P	Pn	21 43 30.6	0.0
TRWZ	Traveller	2.01	68	P	Pn	21 43 30.0	-0.7
TRWZ				S	Sn	21 43 53.7	-1.1
WACZ	Wakanui South	2.03	209	P	Pn	21 43 30.8	-0.2
WVZ	Waitaha Valley	2.04	243	P	Pn	21 43 31.6	+0.6
HOWZ	Holdsworth Sta	2.15	54	P	Pn	21 43 32.0	-0.7
RPZ	Rata Peaks	2.21	225	P	Pn	21 43 33.3	-0.1
TMWZ	Te Maipa	2.27	63	P	Pn	21 43 33.4	-0.9
ARCZ	Arundel	2.31	219	P	Pn	21 43 34.6	-0.3
MRZ	Mangatainoka R	2.34	50	P	Pn	21 43 34.6	-0.6
GCSZ	Gaunt Creek Bo	2.41	241	P	Pn	21 43 37.0	+0.9
TIWZ	Tintock	2.45	56	P	Pn	21 43 36.4	-0.3
OHWZ	Ohakea	2.53	40	P	Pn	21 43 38.5	+0.8
POWZ	Post Office Ro	2.62	48	P	Pn	21 43 38.7	-0.4
PRWZ	Pori Road	2.63	53	P	Pn	21 43 38.5	-0.8
BFZ	Birch Farm	2.73	58	P	Pn	21 43 38.9	-1.6
TMZ	Timaru	2.73	215	P	Pn	21 43 39.8	-0.8
WAZ	Wanganui	2.77	30	P	Pn	21 43 42.6	+1.5
NMEZ	Namu Road	2.81	11	P	Pn	21 43 43.1	+1.6
FOZ	Fox Glacier	2.84	240	P	Pn	21 43 42.1	+0.1
LREZ	Lake Rotokare	2.86	19	P	Pn	21 43 44.6	+2.3
DVHZ	Dannevirke	2.91	51	P	Pn	21 43 41.7	-1.4
PREZ	Palmer Road	2.92	15	P	Pn	21 43 45.8	+2.7
KHEZ	Kahui Hut	2.94	12	P	Pn	21 43 44.7	+1.2
NBEZ	Newall Road No	2.95	10	P	Pn	21 43 44.8	+1.3
TSZ	Takapari Road	2.96	45	P	Pn	21 43 43.0	-0.7
NEZ	North Egmont	2.98	13	P	Pn	21 43 45.7	+1.7
ANWZ	Angora Road	3.00	56	P	Pn	21 43 44.3	+0.2
PKE	Pukeiti	3.04	11	P	Pn	21 43 46.4	+1.6
DREZ	Durham Road	3.08	14	P	Pn	21 43 47.0	+1.8
LBZ	Lake Benmore	3.12	224	P	Pn	21 43 45.9	0.0
PNHZ	Pukenui	3.20	46	P	Pn	21 43 45.8	-1.1
WPHZ	Waipukurau	3.23	50	P	Pn	21 43 46.3	-1.0
VRZ	Vera Road	3.27	22	P	Pn	21 43 49.2	+1.4
MTVZ	Mangateitei	3.27	32	P	Pn	21 43 48.7	+0.7
PKVZ	Pokaka	3.31	30	P	Pn	21 43 49.3	+0.8
MOVZ	Moawhango	3.37	36	P	Pn	21 43 49.0	-0.4
WNVZ	Wahianoa	3.38	33	P	Pn	21 43 50.0	+0.5
DRZ	Dome Shelter	3.41	32	P	Pn	21 43 51.0	+1.0
WHVZ	Whangaehu Hut	3.41	33	P	Pn	21 43 50.5	+0.4
FWVZ	Far West T-bar	3.42	32	P	Pn	21 43 50.6	+0.4
ODZ	Otahua Downs	3.42	212	P	Pn	21 43 49.3	-0.6
BHHZ	Black Hill Sta	3.45	40	P	Pn	21 43 50.0	-0.4
TUVZ	Tukino	3.45	33	P	Pn	21 43 50.8	+0.4
KRHZ	Kereru	3.48	44	P	Pn	21 43 49.5	-1.4
PXZ	Pawanui	3.49	53	P	Pn	21 43 50.4	-0.6
NGZ	Ngauruhoe	3.50	32	P	Pn	21 43 51.9	+0.6
SNVZ	South Ngauruho	3.51	33	P	Pn	21 43 51.8	+0.5
TWVZ	Taurewa	3.54	29	P	Pn	21 43 51.9	+0.3
OTVZ	Oturere	3.54	33	P	Pn	21 43 55.8	+4.0
NNVZ	North Ngauruho	3.55	32	P	Pn	21 43 52.6	+0.8
WTVZ	West Tongariro	3.55	31	P	Pn	21 43 52.4	+0.6
ETVZ	East Tongariro	3.58	33	P	Pn	21 43 52.5	+0.2
KRVZ	Karewarewa	3.59	32	P	Pn	21 43 55.0	+2.6
TMVZ	Te Maari	3.60	33	P	Pn	21 43 52.7	+0.2
NTVZ	North Tongarir	3.60	32	P	Pn	21 43 53.0	+0.5
KAHZ	Kahuranaki	3.66	51	P	Pn	21 43 52.3	-0.9
JCZ	Jackson Bay	3.75	238	P	Pn	21 43 53.7	-0.9
RATZ	Rangitukua	3.84	31	P	Pn	21 44 00.3	+4.5
HIZ	Hauiti	3.87	19	P	Pn	21 43 56.8	+0.7
BKZ	Black Stump Fm	3.91	41	P	Pn	21 43 55.5	-1.2
WKZ	Wanaka	4.04	228	P	Pn	21 43 57.9	-0.6
ARHZ	Aropaoanui	4.09	46	P	Pn	21 43 59.7	+0.6
EAZ	Earnscleugh	4.16	222	P	Pn	21 43 59.4	-0.7
TLZ	Tolley Road	4.24	26	P	Pn	21 44 01.2	0.0
MTHZ	Maungataniwha	4.32	41	P	Pn	21 44 01.0	-1.3
RTZ	Ruatahuna	4.58	40	P	Pn	21 44 04.5	-1.3
MUGZ	Murupara	4.59	38	P	Pn	21 44 03.9	-2.0
SNGZ	Shannon Statio	4.63	44	P	Pn	21 44 06.2	-0.3
MHGZ	Mahia Peninsul	4.68	51	P	Pn	21 44 05.2	-1.9
TOZ	Tahuroa Road	4.78	22	P	Pn	21 44 08.4	-0.1
PRGZ	Paritu Road	4.82	49	P	Pn	21 44 08.5	-0.7
RAGZ	Rawiri	4.88	43	P	Pn	21 44 09.6	-0.5
RIGZ	Rimuhau	4.91	47	P	Pn	21 44 09.7	-0.6
MWZ	Matawai	5.06	42	P	Pn	21 44 11.1	-1.4
AWAZ	Awhitu Peninsu	5.22	13	P	Pn	21 44 15.7	+1.0
SYZ	Scrubby Hill	5.25	212	P	Pn	21 44 15.1	+0.2
MKAZ	Moumakai	5.29	17	P	Pn	21 44 16.0	+0.6
WTAZ	Waiatarua	5.34	12	P	Pn	21 44 17.9	+1.6
ETAZ	East Tamaki Re	5.38	15	P	Pn	21 44 17.4	+0.6
TWGZ	Tauwhareparae	5.41	44	P	Pn	21 44 16.7	-0.6
RUGZ	Raukumara Rang	5.42	41	P	Pn	21 44 16.4	-1.1
MBAZ	Motutapu North	5.56	14	P	Pn	21 44 20.4	+1.2
WIAZ	Waiheke Island	5.58	16	P	Pn	21 44 20.3	+0.8
HAZ	Te Kaha	5.64	40	P	Pn	21 44 18.1	-2.2
KUZ	Kuaotunu	5.76	21	P	Pn	21 44 22.5	+0.5
WMGZ	Waiomatatini S	5.91	44	P	Pn	21 44 22.7	-1.3
WCZ	Waipu Caves	6.29	8	P	Pn	21 44 30.3	+1.1
OUZ	Omahuta	6.95	3	P	Pn	21 44 39.2	+0.9
CTZ	Chatham Island	7.62	105	P	Pn	21 44 47.4	0.0
ASAR	Alice Springs	37.41	287	P	P	21 50 06.6	+0.4
	0.2nm,0.4s,baz=116,slow=6.3,SNR=2.0						
WRA	Warramunga Arr	39.53	292	P	P	21 50 24.6	+0.5
	0.3nm,0.4s,baz=127,slow=8.4,SNR=13						
ARCES	ARCESS Array B	147.91	339	PKPbc	PKPbc	22 02 35.6	-0.5
	0.5nm,0.6s,baz=62,slow=2.1,SNR=4.8						
TORD	Torodi Ar. Bea	150.15	197	PKPbc	PKiKP	22 02 45.0	+0.9
	0.3nm,0.5s,baz=169,slow=3.0,SNR=6.0						

MEX 14 21:56:07.8±0.5, 14.°99N×91.°92W, h159km±4km, MD3.6, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCIG	Comitan	1.30	351	i P	Pn	21 56 35.2	-1.1
CCIG				i S	Sn	21 56 55.9	-2.4
PCIG		1.45	300	i P	Pn	21 56 36.3	-1.1
PCIG				i S	Sn	21 56 58.0	-2.2

IDC 14 21:57:08.0±1.0, 29.°68N×131.°21E, h0km, mb3.7/6, mb1 3.8/10, mb1mx3.6/35, mbtmp3.6/10, ML3.4/4, MS3.3/1, Ms1 3.3/1, ms1mx2.2/50, Error ellipse: s-maj=39.1km s-min=17.5km az=89.0

JMA 14 21:57:11.6±0.1, 29.°65N×131.°30E, h46km±2km, M3.8

NIED 14 21:57:11.7, 29.°65N×131.°30E, h46km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-5.14; $M_{\theta\theta}$0.15; $M_{\phi\phi}$4.99; $M_{r\theta}$-1.58; $M_{\theta\phi}$1.93; $M_{\phi r}$4.30; Fault plane solution: $M_0$7.08000×10^{14} NP1: ϕ_s176.00000°, δ66.00000°, λ-111.00000°. NP2: ϕ_s40.00000°, δ32.00000°, λ-51.00000°.

ISC 14 21:57:12.2±2.4, 29.°66N±0.°04×131.°27E±0.°07, h31km±17km, n25, σ0.s81/40, mb3.7/6, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JMTN	Minamitane	0.80	337	P	Pn	21 57 26.9	-0.5
JMTN				eS	Sb	21 57 38.5	+0.3
JYAK	Yakushimahirau	0.88	311	P	Pn	21 57 28.0	-0.4
JYAK				eS	Sn	21 57 39.9	-0.2
JTN	Tanegashima 3	1.02	346	P	Pn	21 57 30.1	-0.3
JTN				eS	Sn	21 57 43.6	-0.2
JNN	Nakanoshima	1.23	279	P	Pn	21 57 33.3	+0.1
JNN				eS	Sn	21 57 49.4	+0.6
JKC	Kuchinoerabu	1.23	311	P	Pn	21 57 33.1	-0.1
JKC				eS	Sn	21 57 49.5	+0.7
JTSR	Tashiro 2	1.53	349	P	Pn	21 57 37.6	+0.1
JTSR				eS	Sn	21 57 56.3	-0.1
JZK	Kikaishima	1.76	221	P	Pn	21 57 41.2	+0.7
JZK				eS	Sn	21 58 02.8	+1.0
JNAR	Kushima--Naru	1.86	0	P	Pn	21 57 42.1	+0.1
JNAR				eS	Sn	21 58 04.3	-0.1
JTAJ	Takarajima	1.87	255	P	Pn	21 57 42.4	+0.3
JAM	Amami Oshima	1.92	230	P	Pn	21 57 42.5	-0.2
JAM				eS	Sn	21 58 05.6	-0.1
JSU	Suzuyama	1.97	339	P	Pn	21 57 43.3	-0.2
JSU				eS	Sn	21 58 06.9	-0.3
JNKG	Nichinankitago	2.00	3	P	Pn	21 57 44.1	+0.3
JNKG				eS	Sn	21 58 07.8	0.0
JTZ	Takazaki	2.24	356	P	Pn	21 57 47.6	+0.4
JTZ				eS	Sn	21 58 13.4	-0.4
JAMN	Amaminishikomi	2.32	233	P	Pn	21 57 48.1	-0.1
JAMN				S	Sn	21 58 15.2	-0.4
JNU	Nakatsue	3.47	355	Pn	Pn	21 58 04.3	+0.2
	6.7nm,0.3s,baz=180,slow=3.0,SNR=44						
JNU				Sn	Sn	21 58 42.5	-1.7
	6.5nm,0.3s,baz=341,slow=20,SNR=12						
JOW	Kunigami	3.86	224	Pn	Pn	21 58 08.7	-0.8
	7.0nm,0.3s,baz=93,slow=17,SNR=41						
JOW				Sn	Sn	21 58 50.9	-3.0
	8.5nm,0.3s,baz=127,slow=26,SNR=8.7						
MJAR	Matsushiro Arr	9.00	38	Pn	Pn	21 59 20.0	0.0
	0.1nm,0.3s,baz=196,slow=11,SNR=5.6						
KLR	Kul'dur	19.55	1	P	P	22 01 36.5	-0.7
	0.1nm,0.3s,baz=180,slow=8.1,SNR=2.1						
PSI	Prapat	40.68	235	LR	LR	22 20 47.1	
	comp=Z,35nm,19.4s,baz=268,slow=35						
MKAR	Makanchi Array	41.39	308	P	P	22 04 55.7	+0.1
	0.1nm,0.5s,baz=88,slow=9.5,SNR=1.8						
MKAR				PcP	PcP	22 06 54.5	+1.2
	0.3nm,0.7s,baz=81,slow=2.0,SNR=2.8						
WRA	Warramunga Arr	49.40	176	P	P	22 05 59.5	+0.3
	0.6nm,0.4s,baz=355,slow=8.5,SNR=12						
ASAR	Alice Springs	53.08	177	P	P	22 06 27.4	+0.7
	0.5nm,0.5s,baz=11,slow=13,SNR=9.0						
ARCES	ARCESS Array B	67.81	339	P	P	22 08 06.5	-0.3
	0.5nm,0.7s,baz=61,slow=7.5,SNR=1.6						
FINES	FINESS Array B	71.21	331	P	P	22 08 26.3	-1.5
	1.4nm,0.9s,baz=54,slow=5.7,SNR=1.6						
NOA	NORSAR Array B	77.41	334	P	P	22 09 05.7	+1.6
	0.6nm,0.8s,baz=54,slow=5.3,SNR=1.4						

IDC 14 22:07:55.3±0.4, 13.°68N×144.°72E, h103km±3km, mb4.0/27, mb1 4.1/28, mb1mx4.0/64, mbtmp4.3/28, MS3.3/15, Ms1 3.3/15, ms1mx3.1/39, Error ellipse: s-maj=15.7km s-min=10.5km az=81.0

NEIC 14 22:07:56.4±1.8, 13.°68N±0.°06×144.°65E±0.°10, h105km±3km, mb4.7/108, Error ellipse: s-maj=14.0km s-min=9.1km az=93.0

ISC 14 22:07:56.1±0.6, 13.°58N±0.°05×144.°68E±0.°08, h106km±5km, n188, σ1.s06/179, mb4.6/78, 1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	0.19	86	P	Pn	22 08 11.3	+0.3
	3μm,0.3s,baz=346,slow=4.6,SNR=660						
GUMO				S	Sn	22 08 21.7	-0.4
	3μm,0.3s,baz=338,slow=13,SNR=16						
GUMO	Guam	0.19	86	Pn	Pn	22 08 11.3	+0.3
GUMO				Sn	Sn	22 08 22.2	+0.1
GUMO	Guam	0.19	86	P	Pn	22 08 11.2	+0.2
ANA2	Anatahan	2.92	20		Pn	22 08 42.4	+1.4
ANA2	Anatahan	2.92	20	P	Pn	22 08 42.8	+1.8
SARN	Sarigan	3.28	19	P	Pn	22 08 47.7	+1.9
JCJ	Chichijima	13.65	351	LR	LR	22 14 44.9	
	comp=Z,54nm,20.4s,baz=132,slow=30						
PATS	Pohnpei	14.99	115	Pn	Pn	22 11 21.3	-1.2
JAY	Jayapura	16.46	194	P	P	22 11 43.2	+1.5
	0.3nm,0.3s,baz=340,slow=9.5,SNR=6.3						
JAY				LR	LR	22 17 01.4	
	comp=Z,99nm,19.5s,baz=32,slow=33						
SIJI	Sorong	19.56	224	LR	LR	22 18 53.5	
	comp=Z,62nm,19.3s,baz=39,slow=34						
JHJ	Hachijo jima 2	19.96	348	LR	LR	22 18 12.3	
	comp=Z,101nm,20.6s,baz=252,slow=31						
JOW	Kunigami	20.24	313	P	P	22 12 23.6	+0.7
	15nm,0.6s,baz=115,slow=14,SNR=6.6						
JOW	Kunigami	20.24	313	P	Pn	22 12 24.9	-0.9
JOW				IAmb	IAmb	22 12 25.4	
	comp=Z,61nm,1.4s						
FAKI	Fak Fak	20.51	218	P	Pn	22 12 29.1	+0.1
FAKI				IAmb	IAmb	22 12 51.9	
	comp=Z,48nm,1.2s						
H11S3	WAKE ISLAND Hy	21.71	74	T	T	22 34 50.0	
	baz=260,slow=75						
H11S1	WAKE ISLAND Hy	21.72	74	T	T	22 35 16.6	
	baz=260,slow=75						
H11S2	WAKE ISLAND Hy	21.72	74	T	T	22 35 04.7	
	baz=260,slow=75						
H11N1	WAKE ISLAND Hy	22.13	71	T	T	22 35 53.7	
	baz=258,slow=75						
H11N2	WAKE ISLAND Hy	22.14	71	T	T	22 35 44.3	
	baz=258,slow=75						
H11N3	WAKE ISLAND Hy	22.15	71	T	T	22 35 49.1	
	baz=258,slow=75						
JMN	Monobe	22.34	336	P	P	22 12 45.6	+0.4
JMN				IAmb	IAmb	22 12 47.4	
	comp=Z,61nm,1.4s						
INU	Inuyama	22.75	344	P	P	22 12 49.2	-0.2
INU				IAmb	IAmb	22 12 51.1	
	comp=Z,37nm,1.0s						
JNU	Nakatsue	23.17	329	P	P	22 12 53.6	+0.2
	comp=Z,15nm,0.9s,baz=153,slow=5.0,SNR=5.7						
JNU	Nakatsue	23.17	329	P	P	22 12 53.8	+0.3
JNU				IAmb	IAmb	22 12 59.6	
	comp=Z,81nm,1.5s						
JWT	Wachi	23.18	340	P	P	22 12 52.8	-0.6
MJAR	Matsushiro Arr	23.59	347	P	P	22 12 56.2	-1.0
	comp=Z,8.3nm,0.9s,baz=172,slow=6.9,SNR=20						
MJAR				LR	LR	22 19 60.0	
	comp=Z,65nm,21.6s,baz=180,slow=31						
MJAR	Matsushiro Arr	23.59	347	P	P	22 12 56.7	-0.6
MAJO	Matsushiro	23.59	347	P	P	22 12 56.9	-0.4
MAJO				IAmb	IAmb	22 12 58.6	
	comp=Z,19nm,0.8s						
MAT	Matsushiro	23.59	347	P	P	22 12 56.4	-0.9
MAT				S	S	22 17 09.4	+5.7
JHS	Saijyo	23.75	336	P	P	22 12 58.8	+0.1
JHS				IAmb	IAmb	22 12 60.0	
	comp=Z,43nm,1.1s						
YULB	Yu-li	24.19	297	P	P	22 13 02.9	+0.1
YULB				IAmb	IAmb	22 13 04.5	
	comp=Z,46nm,1.5s						
JSD	Sado	25.02	348	P	P	22 13 10.6	+0.5
JSD				IAmb	IAmb	22 13 13.7	
	comp=Z,56nm,1.2s						
COEN	Coen	27.40	183	P	P	22 13 32.7	+0.9
COEN				IAmb	IAmb	22 13 40.3	
	comp=Z,22nm,1.4s						
HNR	Honiara	27.43	146	LR	LR	22 24 38.9	
	comp=Z,57nm,19.9s,baz=249,slow=36						
KSRS	Korea Array	28.08	331	P	P	22 13 37.1	-0.6
	comp=Z,3.5nm,0.7s,baz=146,slow=9.3,SNR=11						
KSRS				LR	LR	22 24 39.0	
	comp=Z,38nm,19.5s,baz=174,slow=36						
MTN	Manton Dam	29.48	208	P	P	22 13 50.4	+0.2
NJ2	Nanjing	29.95	312	eP	P	22 13 55.3	+1.0
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
USRK	Ussuriysk Ar.	32.39	343	P	P	22 14 15.1	-0.5
	comp=Z,1.0nm,0.5s,baz=154,slow=11,SNR=2.4						
KNRA	Kununurra	33.05	209	P	P	22 14 21.9	+0.3
WR0	Warramunga Arr	34.79	197	P	P	22 14 36.9	+0.3
WRAB	Tennant Creek	34.81	197	P	P	22 14 36.9	0.0
WRAB				IAmb	IAmb	22 14 37.9	
	comp=Z,13nm,1.0s						
WB2	Warramunga Arr	34.82	197	P	P	22 14 37.3	+0.3
WB2				IAmb	IAmb	22 14 38.0	
	comp=Z,14nm,1.0s						
WRA	Warramunga Arr	34.83	197	P	P	22 14 37.2	+0.2
	comp=Z,4.5nm,0.5s,baz=22,slow=10,SNR=83						
WRA				ScP	ScP	22 20 42.6	-1.3
	comp=Z,0.9nm,0.6s,baz=25,slow=1.9,SNR=7.6						
WRA	Warramunga Arr	34.83	197	P	P	22 14 36.8	-0.2
FITZ	Fitzroy Crossi	36.65	211	P	P	22 14 53.4	+0.8
FITZ				IAmb	IAmb	22 14 53.7	
	comp=Z,5.8nm,0.8s						

KLR	**Kul'dur**	**37.11**	**346**	P	**P**	**22 14 55.3**	**-0.9**	
	comp=Z,1.7nm,0.7s,baz=148,slow=8.9,SNR=5.7							
AS31	**Alice Springs**	**38.48**	**196**	P	**P**	**22 15 08.1**	**0.0**	
ASAR	**Alice Springs**	**38.48**	**196**	P	**P**	**22 15 08.3**	**+0.3**	
	comp=Z,2.5nm,0.5s,baz=21,slow=11,SNR=62							
ASAR				PP	**PP**	**22 16 36.7**	**-1.6**	
	comp=Z,1.7nm,0.9s,baz=17,slow=11,SNR=4.2							
ASAR				ScP	**S**	**22 20 55.5**	**-0.3**	
	comp=Z,0.7nm,0.8s,baz=19,slow=5.2,SNR=4.7							
ASAR	**Alice Springs**	**38.48**	**196**	P	**P**	**22 15 07.9**	**-0.2**	
EIDS	**Eidsvold**	**39.21**	**171**	P	**P**	**22 15 14.6**	**+0.6**	
EIDS				IAmb	IAmb	22 15 20.9		
	comp=Z,16nm,1.4s							
HHC	**Hu-ho-hao-te**	**39.66**	**320**	*e*P	**P**	**22 15 18.1**	**+0.3**	
HHC				pmax	pmax			
	comp=Z,22nm,0.8s							
HHC				pmax	pmax			
	comp=Z,82nm,6.6s							
PEA0B	**Petropavlovsk-**	**40.78**	**12**	P	**P**	**22 15 27.8**	**+1.1**	
PEA0B				IAmb	IAmb	22 15 36.1		
	comp=Z,12nm,1.1s							
PETK	**Petropavlovsk-**	**40.78**	**12**	LR	LR	22 31 09.8		
	comp=Z,35nm,20.2s,baz=206,slow=34							
PETK	**Petropavlovsk-**	**40.78**	**12**	P	**P**	**22 15 28.0**	**+1.3**	
DZM	**Mont Dzumac**	**41.36**	**149**	P	**P**	**22 15 33.8**	**+1.9**	
DZM				IAmb	IAmb	22 15 34.6		
	comp=Z,18nm,0.8s							
DZM	**Mont Dzumac**	**41.36**	**149**	P	**P**	**22 15 33.8**	**+1.9**	
PSA00	**Pilbara Seismi**	**42.59**	**215**	P	**P**	**22 15 41.7**	**-0.2**	
PSA00				IAmb	IAmb	22 15 44.1		
	comp=Z,24nm,1.2s							
CMAR	**Chiang Mai Arr**	**44.14**	**283**	P	**P**	**22 15 54.6**	**+0.2**	
	comp=Z,0.7nm,0.6s,baz=88,slow=5.8,SNR=4.4							
CMAR				LR	LR	22 33 27.5		
	comp=Z,16nm,19.6s,baz=170,slow=35							
ARMA	**Armidale**	**44.25**	**171**	P	**P**	**22 15 56.0**	**+0.8**	
ARMA				IAmb	IAmb	22 16 06.2		
	comp=Z,14nm,1.3s							
STKA	**Stephens Creek**	**45.29**	**184**	P	**P**	**22 16 03.0**	**-0.2**	
	comp=Z,4.3nm,0.6s,baz=2.4,slow=7.7,SNR=10							
STKA				LR	LR	22 36 15.2		
	comp=Z,61nm,18.0s,baz=207,slow=38							
STKA	**Stephens Creek**	**45.29**	**184**	P	**P**	**22 16 03.0**	**-0.2**	
SMY	**Shemya**	**45.55**	**25**	P	**P**	**22 16 06.1**	**+1.1**	
SONM	**Songino Array**	**46.63**	**325**	P	**P**	**22 16 13.2**	**-0.6**	
	comp=Z,0.4nm,0.3s,baz=131,slow=8.1,SNR=3.5							
SONM				LR	LR	22 35 41.3		
	comp=Z,35nm,19.6s,baz=42,slow=36							
SONM	**Songino Array**	**46.63**	**325**	P	**P**	**22 16 14.3**	**+0.4**	
BBOO	**Buckleboo**	**46.85**	**190**	P	**P**	**22 16 15.7**	**+0.1**	
FORT	**Forrest**	**46.91**	**200**	P	**P**	**22 16 16.6**	**+0.6**	
GTA	**Gaotai**	**47.04**	**312**	⇓P	**P**	**22 16 17.1**	**-0.1**	
GTA				pP	pP	22 16 41.9	+0.9	
GTA				sP	sP	22 16 53.8	+1.2	
GTA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
GTA				pmax	pmax			
	comp=Z,31nm,4.4s							
GTA				LR	LR			
	comp=N,100nm,16.4s							
GTA				LR	LR			
	comp=E,120nm,17.5s							
GTA				LR	LR			
	comp=Z,48nm,14.9s							
KIWB	**Kanaga Island**	**48.92**	**31**	P	**P**	**22 16 31.3**	**0.0**	
ADK	**Adak**	**49.17**	**31**	P	**P**	**22 16 32.9**	**-0.2**	
SEY	**Seymchan**	**49.59**	**5**	P	**P**	**22 16 35.1**	**-1.0**	
	comp=Z,0.6nm,0.3s,baz=207,slow=24,SNR=1.5							
ATKA	**Atka Island**	**50.61**	**32**	P	**P**	**22 16 43.7**	**-0.2**	
MORW	**Morawa**	**50.62**	**213**	P	**P**	**22 16 44.0**	**-0.4**	
TOO	**Toolangi**	**50.88**	**179**	P	**P**	**22 16 48.0**	**+1.8**	
UNV	**Unalaska Valle**	**55.44**	**33**	P	**P**	**22 17 18.1**	**-1.4**	
AKUT	**Akutan**	**55.96**	**33**	P	**P**	**22 17 22.6**	**-0.5**	
WMQ	**Urumqi**	**57.01**	**314**	*e*P	**P**	**22 17 33.8**	**+2.9**	
AIN	**Ainahou**	**57.47**	**76**	P	**P**	**22 17 36.1**	**+1.4**	
FALS	**False Pass**	**57.51**	**33**	P	**P**	**22 17 33.7**	**-0.4**	
BKZ	**Black Stump Fm**	**60.29**	**152**	P	**P**	**22 17 54.5**	**+0.9**	
MK31	**Makanchi Array**	**61.37**	**316**	P	**P**	**22 18 00.3**	**-0.6**	
MKAR	**Makanchi Array**	**61.37**	**316**	P	**P**	**22 18 00.1**	**-0.7**	
	comp=Z,1.7nm,0.5s,baz=92,slow=8.8,SNR=28							
ZALV	**Zalesovo Beam**	**61.52**	**324**	P	**P**	**22 17 59.5**	**-2.2**	
	comp=Z,0.3nm,0.3s,baz=87,slow=5.1,SNR=1.7							
ZALV				LR	LR	22 44 11.1		
	comp=Z,23nm,19.3s,baz=92,slow=35							
MAKZ	**Makanchi**	**61.58**	**316**	P	**P**	**22 18 01.6**	**-0.7**	
MAKZ				IAmb	IAmb	22 18 02.2		
	comp=Z,3.1nm,0.6s							
SVW2	**Sparrevohn**	**63.77**	**28**	P	**P**	**22 18 17.1**	**+0.6**	
KURK	**Kurchatov**	**64.47**	**320**	P	**P**	**22 18 20.2**	**-1.0**	
L19K	**White Mountain**	**64.48**	**27**	P	**P**	**22 18 20.5**	**-0.7**	
L19K				IAmb	IAmb	22 18 44.0		
	comp=Z,14nm,1.4s							
KURBB	**Kurchatov Arra**	**64.51**	**320**	P	**P**	**22 18 20.2**	**-1.3**	
	comp=Z,2.7nm,0.3s,baz=103,slow=6.8,SNR=6.1							
RAR	**Rarotonga**	**64.57**	**122**	LR	LR	22 39 34.0		
	comp=Z,213nm,21.1s,baz=124,slow=29							
K20K	**Telida**	**65.23**	**26**	P	**P**	**22 18 25.7**	**-0.2**	
CNPM	**China Poot**	**65.34**	**30**	P	**P**	**22 18 29.9**	**-1.8**	
J20K	**Nowinta River**	**65.48**	**25**	P	**P**	**22 18 26.6**	**-1.0**	
J20K				IAmb	IAmb	22 18 28.7		
	comp=Z,8.6nm,1.4s							
SKT	**Skwentna**	**65.89**	**28**	P	**P**	**22 18 28.7**	**-1.6**	
SKT				IAmb	IAmb	22 18 52.4		
	comp=Z,14nm,1.4s							
IMAR	**Indian Mountai**	**66.28**	**23**	P	**P**	**22 18 32.1**	**-0.5**	
RC01	**Rabbit Creek A**	**66.47**	**29**	P	**P**	**22 18 33.1**	**-0.9**	
RC01				IAmb	IAmb	22 18 33.2		
	comp=Z,11nm,0.8s							
I21K	**Tanana**	**66.70**	**24**		**P**	**22 18 34.8**	**-0.6**	
MLY	**Manley**	**67.15**	**25**	P	**P**	**22 18 36.9**	**-1.4**	
KNK	**Knik Glacier**	**67.15**	**29**	P	**P**	**22 18 37.1**	**-1.2**	
KNK				IAmb	IAmb	22 18 41.8		
	comp=Z,18nm,1.3s							
SML	**Sawmill**	**67.31**	**28**	P	**P**	**22 18 38.4**	**-1.0**	
SML				IAmb	IAmb	22 18 39.3		
	comp=Z,14nm,0.8s							
RND	**Reindeer**	**67.48**	**27**	P	**P**	**22 18 39.3**	**-1.1**	
SCM	**Sheep Creek Mo**	**67.78**	**28**	P	**P**	**22 18 41.5**	**-0.9**	
SCM				IAmb	IAmb	22 18 42.7		
	comp=Z,11nm,1.0s							
FID	**Port Fidalgo**	**67.94**	**30**	P	**P**	**22 18 41.7**	**-1.6**	
COLD	**Coldfoot**	**68.03**	**22**	P	**P**	**22 18 43.4**	**-0.4**	
DHY	**Denali Highway**	**68.04**	**27**	P	**P**	**22 18 41.9**	**-2.2**	
WRH	**Wood River Hil**	**68.08**	**26**	P	**P**	**22 18 42.4**	**-1.7**	
WRH				IAmb	IAmb	22 18 43.5		
	comp=Z,4.8nm,0.7s							
MDM	**Murphy Dome**	**68.15**	**25**	P	**P**	**22 18 44.1**	**-0.5**	
MDM				IAmb	IAmb	22 18 45.5		
	comp=Z,4.2nm,0.6s							
KLU	**Klutina**	**68.36**	**29**	P	**P**	**22 18 45.1**	**-0.9**	
KLU				IAmb	IAmb	22 19 09.1		
	comp=Z,13nm,1.3s							
H24K	**Noodor Dome**	**68.52**	**24**	P	**P**	**22 18 46.2**	**-0.7**	
IL31		**68.66**	**25**	P	**P**	**22 18 45.4**	**-2.3**	
IL31				IAmb	IAmb	22 18 46.0		
	comp=Z,4.4nm,0.5s							
ILAR	**Eielson Array**	**68.66**	**25**	P	**P**	**22 18 45.4**	**-2.3**	
	comp=Z,3.1nm,0.5s,baz=249,slow=5.7,SNR=39							
ILAR				LR	LR	22 48 03.4		
	comp=Z,13nm,19.3s,baz=88,slow=35							
ILAR	**Eielson Array**	**68.66**	**25**	P	**P**	**22 18 45.0**	**-2.7**	
PAX	**Paxson**	**68.87**	**27**	P	**P**	**22 18 47.2**	**-1.9**	
N25K	**Chitina, Valde**	**69.00**	**29**	P	**P**	**22 18 48.9**	**-1.1**	
GLB	**Gilahina Butte**	**69.35**	**29**	P	**P**	**22 18 51.1**	**-1.0**	
GLB				IAmb	IAmb	22 18 52.5		
	comp=Z,9.3nm,1.1s							
VRDI	**Verde Repeater**	**69.48**	**29**	P	**P**	**22 18 51.5**	**-1.5**	
CRQM	**Cirque**	**69.56**	**30**	P	**P**	**22 18 53.0**	**-0.6**	
SCRK	**Sand Creek**	**69.72**	**26**	P	**P**	**22 18 53.5**	**-0.9**	
BVAR	**Borovoye Array**	**69.82**	**322**	P	**P**	**22 18 53.5**	**-1.6**	
	comp=Z,1.3nm,0.5s,baz=136,slow=7.4,SNR=4.6							
YAH	**Yahtse**	**70.18**	**30**	P	**P**	**22 18 57.0**	**-0.4**	
BMAR	**Burnt Mountain**	**70.19**	**23**	P	**P**	**22 18 56.4**	**-0.7**	
GRNC	**Granite Creek**	**70.23**	**30**	P	**P**	**22 18 57.2**	**-0.5**	
GRNC				IAmb	IAmb	22 18 58.0		
	comp=Z,9.6nm,0.7s							
BARN	**Barnard Glacie**	**70.32**	**30**	P	**P**	**22 18 57.7**	**-0.5**	
CTGM	**Chitina Glacie**	**70.46**	**30**	P	**P**	**22 18 57.6**	**-1.4**	
CTGM				IAmb	IAmb	22 19 00.1		
	comp=Z,8.9nm,0.8s							
L27K	**Beaver Creek,**	**70.52**	**28**	P	**P**	**22 18 58.6**	**-0.6**	
BCAR	**Beaver Creek A**	**70.54**	**28**	P	**P**	**22 18 57.9**	**-1.5**	
HYT	**Haines Junctio**	**72.31**	**30**	P	**P**	**22 19 10.2**	**0.0**	
INK	**Inuvik**	**74.45**	**22**	P	**P**	**22 19 21.4**	**-0.9**	
	comp=Z,3.8nm,0.8s,baz=264,slow=9.7,SNR=5.4							
INK	**Inuvik**	**74.45**	**22**	P	**P**	**22 19 21.6**	**-0.7**	
DIB	**Dawson Inlet,**	**74.98**	**38**	P	**P**	**22 19 24.8**	**-0.8**	
DIB				IAmb	IAmb	22 19 46.2		
	comp=Z,13nm,1.1s							
DLBC	**Dease Lake**	**76.09**	**33**	P	**P**	**22 19 32.0**	**-0.1**	
AKTO	**Aktyubinsk**	**77.55**	**319**	P	**P**	**22 19 38.0**	**-2.4**	
	comp=Z,0.8nm,0.4s,baz=108,slow=6.4,SNR=2.2							
NLWA	**Neilton Lookou**	**81.12**	**43**	P	**P**	**22 19 59.6**	**-0.2**	
NLWA				IAmb	IAmb	22 20 00.8		
	comp=Z,22nm,1.3s							
BUCK	**Buck Mountain**	**82.33**	**46**	P	**P**	**22 20 06.5**	**+0.2**	
BUCK				IAmb	IAmb	22 20 07.4		
	comp=Z,17nm,0.9s							
KHMM	**Horse Mountain**	**82.44**	**50**	P	**P**	**22 20 07.3**	**+0.3**	
KCPM	**Cahto Peak**	**82.79**	**51**	P	**P**	**22 20 08.7**	**-0.1**	
H04A	**Detroit Lake**	**82.79**	**46**	P	**P**	**22 20 08.2**	**-0.4**	
H04A				IAmb	IAmb	22 20 08.7		
	comp=Z,14nm,1.3s							
YKA	**Yellowknife Ar**	**82.96**	**27**	P	**P**	**22 20 07.9**	**-1.2**	
	comp=Z,1.4nm,0.7s,baz=290,slow=4.4,SNR=4.7							
YKA	**Yellowknife Ar**	**82.96**	**27**	P	**P**	**22 20 08.3**	**-0.7**	
YBH	**Yreka Blue Hor**	**83.02**	**49**	P	**P**	**22 20 09.8**	**-0.1**	
	comp=Z,6.1nm,0.7s,baz=304,slow=7.3							
YBH	**Yreka Blue Hor**	**83.02**	**49**	P	**P**	**22 20 09.8**	**-0.1**	
YBH				IAmb	IAmb	22 20 11.0		
	comp=Z,6.9nm,0.8s							
PINE	**Pine Mountain**	**83.86**	**47**	P	**P**	**22 20 14.6**	**+0.2**	
K05A	**Summer Lake**	**84.13**	**48**	P	**P**	**22 20 15.8**	**+0.1**	
K05A				IAmb	IAmb	22 20 16.6		
	comp=Z,12nm,0.9s							
ORV	**Oroville**	**84.39**	**51**	P	**P**	**22 20 16.6**	**-0.3**	
ORV				IAmb	IAmb	22 20 17.2		
	comp=Z,11nm,1.3s							
I07A	**Izee**	**84.80**	**46**	P	**P**	**22 20 18.6**	**-0.4**	
E09A	**Wood Farm, Sta**	**85.14**	**43**	P	**P**	**22 20 20.3**	**-0.1**	
E09A				IAmb	IAmb	22 20 22.4		
	comp=Z,7.0nm,0.9s							
BEKR	**Beckworth**	**85.17**	**50**	P	**P**	**22 20 20.7**	**-0.4**	
BEKR				IAmb	IAmb	22 20 21.3		
	comp=Z,10nm,0.7s							
WVOR	**Wild Horse Val**	**85.81**	**47**	P	**P**	**22 20 23.7**	**-0.4**	
WVOR				IAmb	IAmb	22 20 24.5		
	comp=Z,6.1nm,1.0s							
ARCES	**ARCESS Array B**	**87.04**	**342**	P	**P**	**22 20 27.2**	**-2.1**	
	comp=Z,0.9nm,0.9s,baz=46,slow=7.7,SNR=3.9							
KVN	**Kaiserville**	**87.07**	**51**	P	**P**	**22 20 30.0**	**-0.4**	
KVN				IAmb	IAmb	22 20 31.0		
	comp=Z,6.9nm,0.8s							
NVAR	**Mina Array Bea**	**87.08**	**51**	P	**P**	**22 20 30.6**	**+0.1**	
	comp=Z,3.4nm,0.5s,baz=274,slow=5.9,SNR=21							
NVAR	**Mina Array Bea**	**87.08**	**51**	P	**P**	**22 20 30.1**	**-0.4**	
BMN	**Battle Mountai**	**87.36**	**49**	P	**P**	**22 20 31.3**	**-0.4**	
BMN				IAmb	IAmb	22 20 32.4		
	comp=Z,5.6nm,0.8s							
HLID	**Hailey**	**88.49**	**46**	P	**P**	**22 20 36.5**	**-0.5**	
HLID				IAmb	IAmb	22 20 37.6		
	comp=Z,8.0nm,0.9s							
ELK	**Elko**	**88.72**	**48**	P	**P**	**22 20 38.0**	**-0.3**	
PFO	**Pinyon Flats O**	**89.80**	**56**	P	**P**	**22 20 42.7**	**-0.6**	
	comp=Z,5.9nm,0.9s,baz=285,slow=4.1,SNR=7.6							
PFO	**Pinyon Flats O**	**89.80**	**56**	P	**P**	**22 20 42.9**	**-0.4**	
PFO				IAmb	IAmb	22 20 44.7		
	comp=Z,11nm,1.1s							
PRN	**Pahroc Range**	**89.83**	**52**	P	**P**	**22 20 43.3**	**-0.1**	
PRN				IAmb	IAmb	22 20 44.4		
	comp=Z,7.2nm,1.1s							
SPR3	**Spring Creek 3**	**89.90**	**50**	P	**P**	**22 20 43.7**	**-0.3**	
SPR3				IAmb	IAmb	22 20 45.5		
	comp=Z,12nm,1.2s							
SHPR	**Sheep Range**	**90.00**	**52**	P	**P**	**22 20 44.7**	**+0.4**	
SHPR				IAmb	IAmb	22 20 45.4		
	comp=Z,8.1nm,0.8s							
YMP	**Mirror Lake Pl**	**91.01**	**43**	P	**P**	**22 20 48.8**	**-0.1**	
YMP				IAmb	IAmb	22 20 50.6		
	comp=Z,7.7nm,0.8s							
CCUT	**Cedar City**	**91.07**	**51**	P	**P**	**22 20 49.1**	**-0.2**	
CCUT				IAmb	IAmb	22 20 50.3		
	comp=Z,4.8nm,0.9s							
FINES	**FINESS Array B**	**91.09**	**335**	P	**P**	**22 20 46.5**	**-2.0**	
	comp=Z,2.6nm,1.0s,baz=60,slow=8.2,SNR=4.7							
HWUT	**Hardware Ranch**	**91.10**	**47**	P	**P**	**22 20 48.7**	**-0.6**	
HWUT				IAmb	IAmb	22 20 49.6		
	comp=Z,7.0nm,0.8s							
NLU	**North Lily Min**	**91.27**	**48**	P	**P**	**22 20 49.3**	**-0.8**	
NLU				IAmb	IAmb	22 20 50.5		
	comp=Z,4.4nm,0.7s							
VNDA	**Vanda**	**91.47**	**176**	P	**P**	**22 20 50.9**	**+1.1**	
	comp=Z,0.9nm,0.8s,baz=6.0,slow=1.3,SNR=4.4							
PDAR	**Pinedale Array**	**92.11**	**45**	P	**P**	**22 20 53.0**	**-1.0**	
	comp=Z,1.2nm,0.6s,baz=245,slow=2.6,SNR=11							
PDAR	**Pinedale Array**	**92.11**	**45**	P	**P**	**22 20 52.9**	**-1.1**	
Y14A	**Wickenburg**	**92.46**	**54**	P	**P**	**22 20 55.6**	**+0.1**	
LAO	**LASA Array**	**92.86**	**41**	P	**P**	**22 20 56.4**	**-0.8**	
WUAZ	**Wupatki**	**93.23**	**52**	P	**P**	**22 20 58.5**	**-0.7**	
PV16	**Nyswonger Mesa**	**94.13**	**49**	P	**P**	**22 21 02.4**	**-1.0**	
AKASG	**Malin Array Be**	**94.92**	**325**	LR	LR	23 06 18.1		
	comp=Z,19nm,19.6s,baz=50,slow=37							
TXAR	**Lajitas Array**	**101.52**	**56**	P	**Pdif**	**22 21 36.2**	**-0.4**	
	comp=Z,0.2nm,0.7s,baz=251,slow=3.8,SNR=3.7							
TXAR	**Lajitas Array**	**101.52**	**56**		**Pdif**	**22 21 35.3**	**-1.3**	
SNAA	**Sanae**	**118.74**	**191**	PKPdf	**PKPdf**	**22 26 30.6**	**-0.7**	
SNAA	**Sanae**	**118.74**	**191**	PKPdf	**PKPdf**	**22 26 30.3**	**-1.0**	
VNA2	**Neumayer--Watz**	**120.18**	**190**	PKPdf	**PKPdf**	**22 26 33.8**	**-0.2**	
VNA3	**Neumayer Olymp**	**120.28**	**189**	PKPdf	**PKPdf**	**22 26 33.5**	**-0.7**	
VNA1	**Neumayer--Stat**	**120.57**	**190**	PKPdf	**PKiKP**	**22 26 35.1**	**+0.4**	
TORD	**Torodi Ar. Bea**	**134.72**	**304**	PKP	**PKPdf**	**22 27 02.0**	**-1.2**	
	comp=Z,0.4nm,0.5s,baz=43,slow=2.2,SNR=7.0							
TORD	**Torodi Ar. Bea**	**134.72**	**304**		**PKPdf**	**22 27 01.9**	**-1.4**	
AC06	**Mina Casimiro**	**144.57**	**118**	PKPdf	**PKPdf**	**22 27 20.9**	**0.0**	
PB14	**IPOC Station P**	**145.18**	**114**	PKPbc	**PKPbc**	**22 27 21.6**	**-0.5**	
AC02	**Maricunga**	**145.76**	**118**		**PKPab**	**22 27 24.5**	**-0.1**	
PB11	**IPOC Station P**	**146.58**	**105**	PKPbc	**PKPbc**	**22 27 26.9**	**+0.6**	
LVC	**Limon Verde**	**146.90**	**111**	PKPbc	**PKPab**	**22 27 28.4**	**-0.6**	
PB08	**IPOC Station P**	**147.02**	**106**	PKPbc	**PKPbc**	**22 27 28.6**	**+0.8**	
LPAZ	**La Paz**	**148.21**	**99**	PKPbc	**PKPbc**	**22 27 32.0**	**+0.6**	
	comp=Z,8.0nm,0.7s,baz=314,slow=2.6,SNR=31							
LPAZ	**La Paz**	**148.21**	**99**		**PKPbc**	**22 27 31.8**	**+0.4**	

MEX 14 22:15:52.3±0.5, 14.59N×92.44W, h165km±29km, MD3.8,
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		**1.34**	**326**	*e*P		Pn		22 16 20.0	-1.5
PCIG				*e*S		Sn		22 16 42.0	-2.1

*SOME **14** 22:18:32.9, 43.10N×64.62E, h5km*
*IDC **14** 22:18:47.4±1.0, 42.13N×65.33E, h0km, mb3.5/4, mb1 3.9/12, mb1mx3.6/44, mbtmp3.7/12, ML3.4/9, Error ellipse: s-maj=15.5km s-min=10.2km az=173.0*
*ISU **14** 22:18:48, 42.14N×65.23E, h5km*
*NNC **14** 22:18:53.2±4.2, 42.64N×65.24E, h30km±34km, mb3.8, mpv3.5, Error ellipse: s-maj=39.6km s-min=10.2km az=25.0*
ISC 14 22:18:46.5±0.6, 42.36N±0.04×65.02E±0.03, h10km, n31,
σ2.29/49, mb3.6/4, 7C-4D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TMD	**Tamdy-Bulak**	**0.67**	**205**	*i* P		**Pg**		**22 18 59.0**	**-0.5**
TMD				*i* S		**Sg**		**22 19 07.0**	**-1.2**
NUT	**Nurota**	**1.87**	**164**	*e*P		**Pn**		**22 19 19.0**	**+0.5**
NUT				*e*S		**Sn**		**22 19 41.0**	**-1.2**
KRSA	**Karasay**	**3.04**	**137**	*e*P		**Pb**		**22 19 39.0**	**-1.6**
KRSA				*e*S		**Sb**		**22 20 18.0**	**+0.3**
CHM	**Chimkent**	**3.40**	**89**	*e*P		**Pn**		**22 19 39.9**	**+0.4**
	4.5nm,0.4s								
CHM				*e*S		**Sg**		**22 20 33.5**	**-2.0**
	549nm,0.3s								
YBZ	**Yangibazar**	**3.57**	**106**	*e*P		**Pn**		**22 19 43.0**	**+1.1**
YBZ				*e*S		**Sg**		**22 20 39.0**	**-2.1**
IUG	**Iuzhnay**	**3.73**	**92**	*e*P		**Pn**		**22 19 46.3**	**+2.1**
	90nm,0.3s								
IUG				*e*S		**Sg**		**22 20 44.0**	**-2.1**
	240nm,0.6s								
CHRV	**Charvak**	**3.74**	**99**	*e*P		**Pn**		**22 19 45.0**	**+0.6**
CHRV				*e*S		**Sg**		**22 20 45.0**	**-1.7**
CHMG	**Chimgan**	**3.81**	**101**	*e*P		**Pn**		**22 19 46.0**	**+0.7**
CHMG				*e*S		**Sb**		**22 20 41.0**	**+0.9**
KK31	**Karatay Array**	**4.11**	**78**	Pn		**Pn**		**22 19 51.0**	**+1.6**
	3.2nm,0.3s,baz=250,slow=14,SNR=59								
KK31				⇑Sn		**Sn**		**22 20 37.0**	**-0.5**
	2.4nm,0.2s								
KK31				⇓Lg		Lg		22 20 54.5	
	14nm,0.5s,baz=252,slow=31,SNR=9.4								
DZA	**Taraz**	**4.69**	**81**	*e*P		**Pb**		**22 20 05.8**	**-2.9**
	19nm,0.2s								
DZA				*e*S		**Sg**		**22 21 17.5**	**+0.6**
	141nm,0.7s								
BTK	**Batken**	**4.94**	**116**	*e*P		**Pn**		**22 20 00.0**	**-0.8**
BTK				*e*S		**Sn**		**22 20 59.0**	**+1.0**
MRKS	**Merke**	**6.07**	**84**	*e*P		**Pb**		**22 20 29.9**	**-2.5**
	3.3nm,0.4s								
MRKS				*e*S		**Sg**		**22 21 59.2**	**-2.1**
	20nm,0.5s								
GEYT	**Alibeck**	**6.89**	**232**	Pn		**Pn**		**22 20 29.3**	**+1.7**
	0.9nm,0.3s,baz=234,slow=50,SNR=3.3								
GEYT				Sn		**Sn**		**22 21 43.7**	**-2.4**
	2.1nm,0.3s,baz=244,slow=19,SNR=2.1								
GEYT				Lg		Lg		22 22 31.4	
	baz=117,slow=32,SNR=1.4								
AAK	**Ala-Archa**	**7.01**	**85**	Pn		**Pn**		**22 20 27.1**	**-2.2**
	0.4nm,0.3s,baz=8.0,slow=16,SNR=4.0								
AAK				Pg		**Pb**		**22 20 50.9**	**+2.6**
	0.6nm,0.3s,baz=230,slow=14,SNR=4.1								
AAK				Lg		Lg		22 22 25.3	
	0.2nm,0.3s,baz=5.6,slow=22,SNR=1.6								
AB31	**Akbulak array**	**7.75**	**335**	Pn		**Pn**		**22 20 42.2**	**+2.9**
	1.0nm,0.3s,baz=151,slow=14,SNR=74								
AB31				⇑Sn		**Sn**		**22 22 05.3**	**-1.8**
	12nm,0.7s,baz=156,slow=24,SNR=11								
AB31				⇑Lg		Lg		22 22 55.8	
	9.7nm,0.6s,baz=160,slow=29,SNR=3.5								
AKTO	**Aktyubinsk**	**9.41**	**332**	Pn		Pn		22 21 06.6	+4.5
	0.5nm,0.3s,baz=147,slow=10.0,SNR=10								
AKTO				Sn		**Sn**		**22 22 46.5**	**-1.4**
	0.8nm,0.3s,baz=329,slow=24,SNR=8.0								
AKTO				Lg		Lg		22 23 48.6	
	baz=72,slow=20,SNR=1.1								
AKTO	**Aktyubinsk**	**9.41**	**332**	⇑Pn		Pn		22 21 07.1	+5.1
	0.5nm,0.2s								
AKTO				⇑Sn		**Sn**		**22 22 45.3**	**-2.5**
	5.3nm,0.6s								
AKTO				⇓Lg		Lg		22 23 49.3	
BVAR	**Borovoye Array**	**11.26**	**17**	Pn		**Pn**		**22 21 29.4**	**+2.0**
	0.7nm,0.3s,baz=194,slow=15,SNR=8.9								
BVAR				Sn		**Sn**		**22 23 29.7**	**-3.6**
	2.4nm,0.3s,baz=204,slow=25,SNR=9.3								
BVAR				Lg		Lg		22 24 50.9	
	baz=200,slow=35,SNR=1.0								
BRVK	**Borovoye**	**11.27**	**16**	⇑Pn		**Pn**		**22 21 29.1**	**+1.6**
	1.7nm,0.5s								
BRVK				⇓Sn		**Sn**		**22 23 29.8**	**-3.6**
	4.1nm,0.4s								
KURBB	**Kurchatov Arra**	**12.43**	**44**	Pn		**Pn**		**22 21 43.5**	**+0.2**
	0.1nm,0.3s,baz=239,slow=13,SNR=2.1								
KURBB				Lg		Lg		22 25 22.9	
	baz=324,slow=26,SNR=1.0								
MAKZ	**Makanchi**	**12.88**	**64**	⇑P		**Pn**		**22 21 48.8**	**-0.7**
	0.6nm,0.5s								
MK31	**Makanchi Array**	**13.08**	**64**	⇓P		**Pn**		**22 21 51.1**

ARCES	**ARCESS Array B**	**92.25 340**	P	**P**	**22 54 05.0**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=87,slow=6.2,SNR=6.7					
ARCES	**ARCESS Array B**	**92.25 340**	P	**P**	**22 54 04.8**	**-0.9**
ARCES			IAmb	IAmb	22 54 12.1	
	comp=Z,2.6nm,1.2s					
QSPA	**South Pole Qui**	**92.33 180**	P	**P**	**22 54 07.7**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=322,slow=4.5,SNR=9.0					
QSPA	**South Pole Qui**	**92.33 180**	P	**P**	**22 54 08.0**	**+1.8**
QSPA			IAmb	IAmb	22 54 13.0	
	comp=Z,1.7nm,1.2s					
LENM	**Lemitar**	**116.56 50**	PKPdf	**PKPdf**	**22 59 37.6**	**-1.8**
TORD	**Torodi Ar. Bea**	**124.92 288**	PKP	**PKiKP**	**22 59 56.2**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=81,slow=1.3,SNR=4.4					
TORD	**Torodi Ar. Bea**	**124.92 288**		**PKiKP**	**22 59 55.8**	**-0.3**
CO02	**Combarbal**	**146.00 149**	PKPbc	**PKiKP**	**23 00 37.3**	**-1.4**
CO03	**El Pedregal**	**146.45 149**	PKPbc	**PKiKP**	**23 00 37.9**	**-1.7**

*JMA **14** 22:41:58.4±0.1, 24.5°54N×122.2°80E, h94km±1km, M1.6*
*TAP **14** 22:41:58.4, 24.5°54N×122.2°84E, h88km±1km, ML3.1, C*
ISC 14 22:41:59.5±1.4, 24.5°54N±0.04°×122.3°81E±0.03, h86km±8km, n67, σ0.9s54/121, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JYNG	**Yonagunijimaku**	**0.15**	**124**	P		**Pn**	**22 42 11.9**	**+0.1**
JYNG				S		**Sn**	**22 42 21.7**	**+0.9**
YOJ	**Yonaguni jima**	**0.20**	**112**	P		**Pn**	**22 42 12.0**	**+0.1**
YOJ				*e*S		**Sn**	**22 42 21.8**	**+0.7**
YOJ	**Yonaguni jima**	**0.20**	**112**	P		**Pn**	**22 42 11.7**	**-0.3**
	baz=113							
YOJ				*e*S		**Sn**	**22 42 20.5**	**-0.7**
	baz=113							
EGS		**0.85**	**291**	P		**Pn**	**22 42 17.1**	**-0.1**
	baz=290							
EGS				*e*S		**Sn**	**22 42 30.5**	**0.0**
	baz=290							
IRIF	**Iriomote-Funau**	**0.86**	**103**	P		**Pn**	**22 42 17.1**	**-0.2**
IRIF				S		**Sn**	**22 42 31.0**	**+0.4**
TWC	**Suao**	**0.88**	**275**	P		**Pn**	**22 42 16.6**	**-0.9**
	baz=274							
TWC				S		**Sn**	**22 42 31.0**	**+0.1**
	baz=274							
TWB1	**Santiao Chiao**	**0.88**	**302**	*e*P		**Pn**	**22 42 17.8**	**+0.3**
	baz=301							
EWUT	**Wuta**	**0.94**	**265**	*e*P		**Pn**	**22 42 18.0**	**-0.2**
	baz=264							
EWUT				*e*S		**Sn**	**22 42 32.1**	**-0.1**
	baz=264							
NTC	**Toucheng**	**0.94**	**290**	*e*P		**Pn**	**22 42 17.6**	**-0.6**
	baz=289							
NTC				*e*S		**Sn**	**22 42 32.6**	**+0.4**
	baz=289							
ENA	**Nanau**	**0.98**	**264**	P		**Pn**	**22 42 18.4**	**-0.3**
	baz=263							
ENA				S		**Sn**	**22 42 33.5**	**+0.5**
	baz=263							
ILA	**Ilan**	**0.99**	**284**	P		**Pn**	**22 42 18.0**	**-0.8**
	baz=283							
ILA				S		**Sn**	**22 42 32.8**	**-0.4**
	baz=283							
TIPB	**Shuangxi**	**0.99**	**296**	*i* P		**Pn**	**22 42 18.1**	**-0.7**
	baz=295							
TIPB				S		**Sn**	**22 42 33.7**	**+0.3**
	baz=295							
NDS	**Dongshan**	**1.00**	**276**	P		**Pn**	**22 42 19.2**	**+0.4**
	baz=275							
NDS				*e*S		**Sn**	**22 42 34.4**	**+1.0**
	baz=275							
TWE	**Neicheng**	**1.05**	**280**	*i* P		**Pn**	**22 42 19.2**	**-0.3**
	baz=279							
TWE				S		**Sn**	**22 42 34.9**	**+0.4**
	baz=279							
NWF	**Wu-fen Shan**	**1.07**	**300**	*i* P		**Pn**	**22 42 19.2**	**-0.6**
	baz=299							
NWF				S		**Sn**	**22 42 35.3**	**+0.2**
	baz=299							
WFSB	**Wu-fen Shan**	**1.07**	**300**	P		**Pn**	**22 42 19.4**	**-0.3**
	baz=299							
WFSB				*e*S		**Sn**	**22 42 34.6**	**-0.4**
	baz=299							
JKRS	**Kuro-shima**	**1.13**	**105**	P		**Pn**	**22 42 20.6**	**+0.2**
JKRS				S		**Sn**	**22 42 37.0**	**+0.8**
ENTT	**Nioudou**	**1.14**	**275**	P		**Pn**	**22 42 20.8**	**+0.2**
	baz=275							
ENTT				S		**Sn**	**22 42 36.8**	**+0.5**
	baz=275							
NACB	**Ninganchiao**	**1.17**	**252**	P		**Pn**	**22 42 19.9**	**-0.9**
	baz=252							
NACB				S		**Sn**	**22 42 36.7**	**-0.2**
	baz=252							
NDT	**Datong Townshi**	**1.18**	**273**	*i* P		**Pn**	**22 42 21.6**	**+0.5**
	baz=273							
NDT				S		**Sn**	**22 42 37.9**	**+0.6**
	baz=273							
TWD	**Chiawan**	**1.20**	**248**	P		**Pn**	**22 42 20.5**	**-0.7**
	baz=248							
TWD				S		**Sn**	**22 42 37.0**	**-0.5**
	baz=248							
TWA	**Mucha**	**1.20**	**292**	P		**Pn**	**22 42 21.0**	**-0.3**
	baz=291							
NWLT	**Wulai**	**1.21**	**282**	*e*P		**Pn**	**22 42 20.6**	**-0.8**
	baz=281							
NWLT				*e*S		**Sn**	**22 42 38.1**	**+0.1**
	baz=281							
JIJ	**Ishigaki jima**	**1.23**	**98**	P		**Pn**	**22 42 21.1**	**-0.5**
JIJ				S		**Sn**	**22 42 38.0**	**-0.2**
ETLH	**Xiulin Townshi**	**1.25**	**255**	*e*P		**Pn**	**22 42 21.5**	**-0.5**
	baz=255							
ETLH				S		**Sn**	**22 42 38.6**	**-0.4**
	baz=255							
YM01	**YM01**	**1.28**	**299**	P		**Pn**	**22 42 21.4**	**-0.9**
	baz=297							
YM01				*e*S		**Sn**	**22 42 40.2**	**+0.7**
	baz=297							
TAP	**Taipei**	**1.29**	**293**	*e*S		**Sn**	**22 42 39.1**	**-0.4**
	baz=292							
TEYL	**Yanliau Villag**	**1.29**	**239**	P		**Pn**	**22 42 22.4**	**0.0**
	baz=240							
TEYL				S		**Sn**	**22 42 38.6**	**-1.0**
	baz=240							
NNS	**Nan Shan**	**1.31**	**266**	P		**Pn**	**22 42 22.4**	**-0.4**
	baz=265							
NNS				*e*S		**Sn**	**22 42 40.5**	**+0.2**
	baz=265							
NSK	**Sanguang**	**1.33**	**276**	P		**Pn**	**22 42 22.9**	**0.0**
	baz=275							
NSK				S		**Sn**	**22 42 40.4**	**-0.2**
	baz=275							
ETM	**Tongmen**	**1.33**	**245**	P		**Pn**	**22 42 22.4**	**-0.5**
	baz=245							
ETM				S		**Sn**	**22 42 40.7**	**+0.2**
	baz=245							
JISG	**Ishigakijimahi**	**1.37**	**88**	P		**Pn**	**22 42 22.9**	**-0.4**
JISG				*e*S		**Sn**	**22 42 40.9**	**-0.4**
TWS1	**Kuangyinshan**	**1.38**	**294**	*e*S		**Sn**	**22 42 41.8**	**+0.1**
	baz=293							
ESL	**Shilin**	**1.45**	**241**	*e*P		**Pn**	**22 42 24.0**	**-0.4**
	baz=240							
ESL				S		**Sn**	**22 42 43.5**	**+0.4**
	baz=240							
FUSS	**Fushou**	**1.46**	**259**	*e*P		**Pn**	**22 42 24.3**	**-0.4**
	baz=258							
FUSS				*e*S		**Sn**	**22 42 43.5**	**-0.2**
	baz=258							
WHF	**Hehuan Shan**	**1.46**	**255**	*i* P		**Pn**	**22 42 24.5**	**-0.4**
	baz=254							
WHF				*i* S		**Sn**	**22 42 43.7**	**-0.4**
	baz=254							
TWT	**Tachien**	**1.52**	**260**	*e*S		**Sn**	**22 42 45.3**	**+0.3**
	baz=259							
EGFH	**Guangfu**	**1.53**	**236**	*e*S		**Sn**	**22 42 45.3**	**+0.3**
	baz=236							
TDCB	**Techi**	**1.53**	**260**	P		**Pn**	**22 42 25.9**	**+0.4**
	baz=259							
TDCB				S		**Sn**	**22 42 45.7**	**+0.4**
	baz=259							
NCU	**National Centr**	**1.54**	**287**	*e*P		**Pn**	**22 42 25.2**	**-0.3**
	baz=286							
NCU				*e*S		**Sn**	**22 42 45.1**	**-0.1**
	baz=286							
NCUH	**Zhongli**	**1.54**	**287**	*e*S		**Sn**	**22 42 44.2**	**-1.0**
	baz=286							
CHGB	**Renai**	**1.56**	**253**	P		**Pn**	**22 42 25.9**	**-0.1**
	baz=252							
CHGB				S		**Sn**	**22 42 46.0**	**-0.2**
	baz=252							
OWD	**Renai**	**1.60**	**249**	*i* P		**Pn**	**22 42 26.3**	**-0.2**
	baz=249							
OWD				*i* S		**Sn**	**22 42 45.8**	**-1.0**
	baz=249							
LIOB	**Emei**	**1.64**	**274**	P		**Pn**	**22 42 27.3**	**+0.5**
	baz=273							
LIOB				S		**Sn**	**22 42 47.2**	**-0.3**
	baz=273							
HGSD	**Ruisui**	**1.64**	**231**	P		**Pn**	**22 42 26.3**	**-0.5**
	baz=231							
HGSD				*e*S		**Sn**	**22 42 48.1**	**+0.6**
	baz=231							
NSTT	**Nanjuang**	**1.65**	**274**	*e*P		**Pn**	**22 42 27.2**	**+0.2**
	baz=273							
NSTT				S		**Sn**	**22 42 48.1**	**+0.3**
	baz=273							
SBCB	**Hsinchu**	**1.68**	**279**	*e*S		**Sn**	**22 42 49.0**	**+0.6**
	baz=278							
HSN	**Hsinchu**	**1.69**	**279**	*e*P		**Pn**	**22 42 27.2**	**-0.3**
	baz=280							
EHY	**Hungye**	**1.70**	**233**	P		**Pn**	**22 42 27.5**	**-0.1**
	baz=233							
EHY				S		**Sn**	**22 42 48.5**	**-0.6**
	baz=233							
WHP	**Taichung City**	**1.72**	**262**	P		**Pn**	**22 42 28.8**	**+0.8**
	baz=261							
WHP				S		**Sn**	**22 42 49.9**	**+0.4**
	baz=261							
JTJ	**Tarama**	**1.73**	**86**	P		**Pn**	**22 42 27.8**	**-0.1**
JTJ				S		**Sn**	**22 42 49.9**	**+0.4**
YULB	**Yu-li**	**1.79**	**231**	P		**Pn**	**22 42 28.6**	**-0.2**
	baz=231							
YULB				S		**Sn**	**22 42 50.8**	**-0.3**
	baz=231							
WCS	**Beigang Elemen**	**1.80**	**255**	*e*P		**Pn**	**22 42 29.6**	**+0.8**
	baz=254							
WCS				*e*S		**Sn**	**22 42 51.3**	**+0.1**
	baz=254							
NMLH	**Miaoli**	**1.84**	**270**	*e*P		**Pn**	**22 42 29.1**	**-0.3**
	baz=270							
NMLH				*e*S		**Sn**	**22 42 51.6**	**-0.5**
	baz=270							
SSLB	**Suanglung**	**1.85**	**247**	*e*P		**Pn**	**22 42 31.4**	**+1.8**
	baz=246							
SSLB				S		**Sn**	**22 42 52.9**	**+0.3**
	baz=246							
SMLT	**Sun Moon Lake**	**1.86**	**250**	*e*P		**Pn**	**22 42 30.3**	**+0.5**
	baz=249							
SMLT				*e*S		**Sn**	**22 42 53.2**	**+0.4**
	baz=249							
TYC	**Yuchr**	**1.89**	**251**	*e*P		**Pn**	**22 42 30.3**	**+0.3**
	baz=250							
TYC				*e*S		**Sn**	**22 42 52.7**	**-0.7**
	baz=250							
FULB	**Fuli**	**1.92**	**226**	*e*P		**Pn**	**22 42 30.3**	**-0.2**
	baz=226							
FULB				*e*S		**Sn**	**22 42 54.1**	**-0.1**
	baz=226							
CHKT	**Chengkung**	**1.95**	**223**	*e*S		**Sn**	**22 42 53.6**	**-1.1**
	baz=223							
WHYT	**Xinyi Township**	**1.97**	**245**	*e*P		**Pn**	**22 42 31.9**	**+0.7**
	baz=245							
WHYT				*e*S		**Sn**	**22 42 55.7**	**+0.3**
	baz=245							
YUS	**Yu-Shan**	**1.99**	**239**	*e*P		**Pn**	**22 42 32.3**	**+0.4**
	baz=238							
EDH	**Donghe**	**2.08**	**222**	*e*P		**Pn**	**22 42 32.6**	**0.0**
	baz=222							
EDH				*e*S		**Sn**	**22 42 57.5**	**-0.4**
	baz=222							
ALS	**Alishan**	**2.10**	**241**	*e*P		**Pn**	**22 42 34.4**	**+1.3**
	baz=241							
ALS				*e*S		**Sn**	**22 42 59.4**	**+0.7**
	baz=241							
ELDTW	**Lidau**	**2.12**	**231**	*e*P		**Pn**	**22 42 33.3**	**+0.1**
	baz=231							
ELDTW				*e*S		**Sn**	**22 42 58.9**	**-0.1**
	baz=231							
CHN5	**Tsauling**	**2.16**	**245**	*e*P		**Pn**	**22 42 34.7**	**+1.0**
	baz=244							
LDUT	**Ludao**	**2.22**	**214**	*e*P		**Pn**	**22 42 34.6**	**0.0**
	baz=214							
LDUT				*e*S		**Sn**	**22 43 00.5**	**-0.8**
	baz=214							
WTK	**Tuku**	**2.37**	**250**	*e*P		**Pn**	**22 42 37.7**	**+1.3**
	baz=249							

*IDC **14** 22:44:42.0±1.1, 1.2°1S×138.0°1E, h0km, mb4.0/6, mb1 4.4/8, mb1mx3.9/35, mbtmp4.3/8, ML4.7/2, MS3.2/4, Ms1 3.2/4, ms1mx2.7/39, Error ellipse: s-maj=31.4km s-min=21.5km az=88.0*
*DJA **14** 22:44:44.0±1.6, 1.7°S±10.7°×137.8°E±0.9°, h23km±18km, M4.3/5, mb4.4/2, MLv4.2/5*
*NEIC **14** 22:44:47.9±1.8, 1.4°S±0.1°×137.2°8E±0.2°, h35km±2km, mb4.3/12, Error ellipse: s-maj=27.4km s-min=18.1km az=106.0*
ISC 14 22:44:47.9±0.6, 1.5°4S±0.07°×137.8°6E±0.04°, h35km, n34, σ2.5s57/38, mb4.3/8, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SRPI	**Serui, Papua**	**1.65**	**258**	P		**Pn**	**22 45 13.9**	**-0.5**
SRPI				S		**Sn**	**22 45 36.3**	**+1.9**
BAKI	**Biak**	**1.79**	**281**	P		**Pn**	**22 45 13.7**	**-2.5**
GENI	**Genyem**	**2.53**	**114**	P		**Pn**	**22 45 28.2**	**+1.6**
GENI				S		**Sn**	**22 46 00.8**	**+4.6**
JAY	**Jayapura**	**3.00**	**109**	Pn		**Pn**	**22 45 30.4**	**-2.6**
	3.7nm,0.3s,baz=218,slow=14,SNR=9.1							
JAY				Sn		**Sn**	**22 46 05.3**	**-2.6**
	5.7nm,0.3s,baz=55,slow=12,SNR=6.2							
JAY	**Jayapura**	**3.00**	**109**	P		**Pn**	**22 45 30.6**	**-2.5**
JAY				S		**Sn**	**22 46 06.5**	**-1.4**
FAKI	**Fak Fak**	**5.77**	**256**	Pn		**Pn**	**22 46 10.1**	**-1.0**
FAKI	**Fak Fak**	**5.77**	**256**	P		**Pn**	**22 46 11.0**	**-0.1**
	0.2nm30nm,0.8s							
MTN	**Manton Dam**	**13.06**	**210**	Pn		**Pn**	**22 47 52.2**	**+1.1**
BATI	**Baumata**	**16.53**	**238**	Pn		**P**	**22 48 40.8**	**+1.3**
	3.6nm,0.3s,baz=108,slow=1.9,SNR=3.9							
GUMO	**Guam**	**16.56**	**25**	LR		LR	22 53 24.0	
	comp=Z,49nm,21.3s,baz=254,slow=32							
KNRA	**Kununurra**	**16.67**	**212**	Pn		**P**	**22 48 39.4**	**-1.6**
KNRA				IAmb		IAmb	22 48 41.0	
	comp=Z,15nm,0.6s							
WR0	**Warramunga Arr**	**18.60**	**190**	P		**Pn**	**22 49 03.4**	**+0.7**
WR0				IAmb		IAmb	22 49 05.7	
	comp=Z,14nm,0.7s							
WRAB	**Tennant Creek**	**18.60**	**190**			**Pn**	**22 49 04.2**	**+1.3**
WRAB				IAmb		IAmb	22 49 06.2	
	comp=Z,17nm,0.8s							
WB2	**Warramunga Arr**	**18.61**	**190**			**Pn**	**22 49 03.2**	**+0.2**
WB2				IAmb		IAmb	22 49 06.4	
	comp=Z,18nm,0.8s							
WRA	**Warramunga Arr**	**18.61**	**190**	P		**Pn**	**22 49 04.6**	**+1.7**
	comp=Z,2.0nm,0.3s,baz=13,slow=12,SNR=61							
WRA				S		**Sn**	**22 52 21.4**	**-8.8**
	comp=Z,0.1nm,0.3s,baz=12,slow=23,SNR=5.1							
WRA				LR		LR	22 57 13.8	
	comp=Z,102nm,19.4s,baz=25,slow=40							
WRA	**Warramunga Arr**	**18.61**	**190**	P		**Pn**	**22 49 04.1**	**+1.1**
FITZ	**Fitzroy Crossi**	**20.37**	**215**	P		Pn	22 49 23.9	+0.1
	comp=Z,6.3nm,1.0s,baz=49,slow=6.2,SNR=10							
FITZ				S		**S**	**22 53 02.8**	**-5.3**
	comp=Z,3.2nm,0.8s,baz=164,slow=13,SNR=2.9							
FITZ				LR		LR	22 58 43.2	
	comp=Z,64nm,21.7s,baz=358,slow=41							
FITZ	**Fitzroy Crossi**	**20.37**	**215**			Pn	22 49 23.8	-0.1
AS31	**Alice Springs**	**22.33**	**190**	P		**P**	**22 49 44.9**	**+2.1**
ASAR	**Alice Springs**	**22.33**	**190**	P		**P**	**22 49 45.6**	**+2.8**
	comp=Z,23nm,0.7s,baz=19,slow=12,SNR=168							
ASAR				S		**S**	**22 53 49.0**	**+2.6**
	comp=Z,2.1nm,0.9s,baz=8.5,slow=25,SNR=7.6							
ASAR	**Alice Springs**	**22.33**	**190**	P		**P**	**22 49 45.1**	**+2.3**
PSA00	**Pilbara Seismi**	**26.54**	**220**	P		**P**	**22 50 23.6**	**+1.0**
PSA00				IAmb		IAmb	22 50 31.4	
	comp=Z,14nm,1.2s							
STKA	**Stephens Creek**	**30.38**	**174**	P		**P**	**22 50 58.9**	**+2.2**
	comp=Z,3.8nm,0.8s,baz=347,slow=7.1,SNR=8.2							
STKA				LR		LR	23 04 29.2	
	comp=Z,87nm,21.9s,baz=214,slow=39							
STKA	**Stephens Creek**	**30.38**	**174**	P		**P**	**22 50 59.0**	**+2.2**
MORW	**Morawa**	**34.38**	**215**	P		**P**	**22 51 32.2**	**+0.4**
JHS	**Saijyo**	**36.62**	**353**	P		**P**	**22 51 51.5**	**+0.6**
HHC	**Hu-ho-hao-te**	**48.51**	**333**	*e*P		**P**	**22 53 28.8**	**+1.2**
HHC				pmax		pmax		
	comp=Z,16nm,0.7s							
HHC				pmax		pmax		
	comp=Z,95nm,7.6s							
WMQ	**Urumqi**	**63.57**	**322**	*e*P		**P**	**22 55 16.3**	**+1.1**
MKAR	**Makanchi Array**	**68.35**	**322**	P		**P**	**22 55 44.0**	**-1.9**
	comp=Z,0.3nm,0.5s,baz=100,slow=7.3,SNR=6.3							
MAKZ	**Makanchi**	**68.55**	**322**	P		**P**	**22 55 44.5**	**-2.6**
MAKZ				IAmb		IAmb	22 55 58.4	
	comp=Z,3.0nm,1.1s							
ILAR	**Eielson Array**	**85.12**	**25**	P		**P**	**22 57 18.8**	**-1.3**
	comp=Z,0.1nm,0.5s,baz=251,slow=5.6,SNR=1.3							
ILAR	**Eielson Array**	**85.12**	**25**	P		**P**	**22 57 19.2**	**-0.9**
QSPA	**South Pole Qui**	**88.40**	**180**	P		**P**	**22 57 36.8**	**+0.6**
	comp=Z,1.8nm,1.1s,baz=265,slow=2.6,SNR=5.8							
TORD	**Torodi Ar. Bea**	**135.11**	**287**	PKP		**PKiKP**	**23 04 04.1**	**-2.1**
	comp=Z,0.3nm,0.8s,baz=117,slow=3.1,SNR=1.7							

*IDC **14** 22:56:48.4±1.0, 39.3°38N×143.7°3E, h0km, mb3.8/8, mb1 4.0/15, mb1mx3.8/48, mbtmp3.9/15, ML3.4/7, MS3.2/5, Ms1 3.3/5, ms1mx2.7/55, Error ellipse: s-maj=22.6km s-min=17.8km az=92.0*
*JMA **14** 22:56:51.6±0.2, 39.5°54N×143.5°59E, h40km, M4.2*
*NIED **14** 22:56:51.6, 39.5°54N×143.5°59E, h40km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}6.65; $M_{\theta\theta}$0.47; $M_{\phi\phi}$-7.12; $M_{r\theta}$3.05; $M_{\theta\phi}$-3.21; $M_{r\phi}$3.19; Fault plane solution: $M_0$8.73000×10^{14} NP1:ϕ_s34.00000°, δ61.00000°, λ.106.00000°. NP2:ϕ_s184.00000°, δ33.00000°, λ.64.00000°.*
*NEIC **14** 22:56:53.9±0.9, 39.4°41N±0.0°06×143.6°6E±0.1°, h31km±4km, mb4.0/8 Error ellipse: s-maj=16.4km s-min=8.3km az=92.0*
ISC 14 22:56:53.2±0.7, 39.4°44N±0.0°05×143.6°8E±0.0°07, h35km, n58, σ1.5s62/57, mb3.9/12, MS3.3/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MIYJ	**Miyakonagasawa**	**1.44**	**276**	P		**Pn**	**22 57 15.0**	**-1.8**
JTH	**Tanohata**	**1.49**	**290**	P		**Pn**	**22 57 15.2**	**-2.2**
OFUJ	**Ofunato**	**1.60**	**258**	P		**Pn**	**22 57 17.6**	**-1.4**
OFUJ				*e*S		**Sn**	**22 57 36.8**	**-1.6**
JKEN	**Kujiedanarisaw**	**1.70**	**297**	P		**Pn**	**22 57 17.8**	**-2.5**
JKEN				*e*S		**Sn**	**22 57 37.4**	**-3.4**
JOM	**Ohasama**	**1.85**	**272**	P		**Pn**	**22 57 21.3**	**-1.1**
JANG	**Nango**	**1.91**	**300**	P		**Pn**	**22 57 20.5**	**-2.7**
JMK	**Ichinoseki**	**1.97**	**256**	P		**Pn**	**22 57 23.1**	**-1.0**
JMK				*e*S		**Sn**	**22 57 46.1**	**-1.4**
JIO	**Ouri**	**2.06**	**242**	P		**Pn**	**22 57 24.2**	**-1.2**
JRG	**Rokugo**	**2.36**	**270**	P		**Pn**	**22 57 28.7**	**-0.7**
ERM	**Erimo**	**2.60**	**351**	Pn		**Pn**	**22 57 32.3**	**-0.5**
JYK	**Kaneyama**	**2.63**	**260**	P		**Pn**	**22 57 32.7**	**-0.5**
JMM	**Marumori**	**2.75**	**236**			**Pn**	**22 57 33.4**	**-1.4**
JOT	**Ohata**	**2.79**	**315**	P		**Pn**	**22 57 33.8**	**-1.6**
JNBK	**Urakawa-nobuka**	**2.92**	**346**	P		**Pn**	**22 57 36.5**	**-0.7**
JNBK				*e*S		**Sn**	**22 58 09.3**	**-1.7**
JKB	**Kayabe**	**3.17**	**321**	P		**Pn**	**22 57 40.8**	**+0.3**
JCH	**Churui**	**3.18**	**356**	P		**Pn**	**22 57 39.2**	**-1.5**
JCH				*e*S		**Sn**	**22 58 14.3**	**-3.1**
JFT	**Otama**	**3.25**	**235**	P		**Pn**	**22 57 41.7**	**0.0**
JFT				*e*S		**Sn**	**22 58 18.4**	**-0.7**
JYT	**Yasato**	**4.23**	**222**	Pn		**Pn**	**22 57 55.5**	**+0.4**
ASAJ	**Asahikawa**	**4.74**	**351**	Pn		**Pn**	**22 58 02.3**	**+0.1**
	2.1nm,0.3s,baz=192,slow=13,SNR=7.0							
MJAR	**Matsushiro Arr**	**5.20**	**238**	Pn		**Pn**	**22 58 07.9**	**-0.6**
	0.5nm,0.3s,baz=38,slow=12,SNR=29							
MJAR	**Matsushiro Arr**	**5.20**	**238**	Pn		**Pn**	**22 58 08.4**	**-0.1**
MAJO	**Matsushiro**	**5.20**	**238**	Pn		**Pn**	**22 58 08.4**	**-0.1**
MAT	**Matsushiro**	**5.20**	**238**	P		**Pn**	**22 58 09.3**	**+0.8**
MAT				S		**Sn**	**22 59 05.6**	**-1.6**
MJB9	**Matsu-Tunnel**	**5.20**	**238**	Pn		**Pn**	**22 58 07.9**	**-0.6**
JGF	**Kuroka**	**6.32**	**235**	Pn		**Pn**	**22 58 22.4**	**-1.5**
JHJ	**Hachijo jima 2**	**7.05**	**208**	Pn		**Pn**	**22 58 30.4**	**-3.5**
	9.0nm,0.3s,baz=47,slow=17,SNR=1.4							
JHJ				Sn		**Sn**	**22 59 46.7**	**-6.0**
	20nm,0.3s,baz=250,slow=22,SNR=2.1							
JWT	**Wachi**	**7.79**	**240**	Pn		**Pn**	**22 58 45.6**	**+1.6**
USRK	**Ussuriysk Ar.**	**9.94**	**302**	Pn		**Pn**	**22 59 14.6**	**+1.2**
	baz=107,slow=13,SNR=9.9							
JCJ	**Chichijima**	**12.37**	**186**	Pn		**Pn**	**22 59 44.4**	**-2.5**
	1.5nm,0.3s,baz=360,slow=19,SNR=1.6							
JCJ				Sn			23 01 53.9	-10
	2.4nm,0.3s,baz=266,slow=21,SNR=1.5							
KSRS	**Korea Array**	**12.51**	**266**	Pn		**Pn**	**22 59 50.4**	**+1.7**
	0.2nm,0.3s,baz=91,slow=14,SNR=5.6							
KSRS				LR		LR	23 04 06.6	
	comp=Z,61nm,19.6s,baz=98,slow=35							
KLR	**Kul'dur**	**12.97**	**323**	Pn		**Pn**	**22 59 55.5**	**+0.6**
	0.1nm,0.3s,baz=132,slow=10,SNR=3.8							
KLR				LR		LR	23 05 09.0	
	comp=Z,113nm,18.6s,baz=130,slow=38							
MA2	**Magadan**	**20.65**	**10**	LR		LR	23 10 21.9	
	comp=Z,49nm,18.8s,baz=231,slow=39							
H11N2	**WAKE ISLAND Hy**	**28.03**	**128**	T		T	23 32 11.4	
	baz=320							
SONM	**Songino Array**	**28.03**	**300**	P		**P**	**23 02 41.4**	**+0.4**
	1.0nm,0.6s,baz=101,slow=7.7,SNR=4.7							
SONM	**Songino Array**	**28.03**	**300**	P		**P**	**23 02 40.9**	**-0.2**
H11N1	**WAKE ISLAND Hy**	**28.04**	**128**	T		T	23 32 06.2	
	baz=320							
H11N3	**WAKE ISLAND Hy**	**28.04**	**128**	T		T	23 32 13.0	
	baz=320							
H11S1	**WAKE ISLAND Hy**	**28.84**	**130**	T		T	23 33 16.7	
	baz=322							
H11S3	**WAKE ISLAND Hy**	**28.85**	**130**	T		T

QUOK	**Quay**	**0.67**	**125**	Pg	Pg	22 58 45.3	0.0
QUOK				Sg	Sg	22 58 54.5	+0.4
OK032	**Salt Plains WL**	**0.70**	**291**	Pg	Pg	22 58 45.6	-0.4
OK032				Sg	Sg	22 58 55.1	0.0
OK031	**S. Brethren Rd**	**0.75**	**143**	Pg	Pg	22 58 46.8	0.0
OK031				Sg	Sg	22 58 56.8	+0.2
OK029	**Liberty Lake**	**0.76**	**184**	Pg	Pg	22 58 46.9	-0.2
OK029				Sg	Sg	22 58 57.4	+0.5
T35A	**Sooner Cattle**	**0.79**	**63**	Pg	Pg	22 58 47.3	-0.3
T35A				Sg	Sg	22 58 57.6	-0.3
OK025	**Westminster Rd**	**0.97**	**178**		Pg	22 58 51.0	-0.2
OK025				Sg	Sb	22 59 04.7	-0.3
OKCFA	**Oklahoma City**	**1.14**	**183**		Pg	22 58 53.9	-0.4
OKCFA				Sg	Sg	22 59 09.4	+0.3
OKCSW	**OKLAHOMA CITY**	**1.15**	**182**		Pg	22 58 54.2	-0.2
OKCSW				Sg	Sg	22 59 09.1	-0.3
FNO	**Franklin**	**1.30**	**180**		Pn	22 58 56.6	-0.6
U32A	**Winter Ranch,**	**1.31**	**263**		Pn	22 58 56.6	-0.8
X34A	**Smith Ranch, M**	**1.98**	**191**	Pn	Pn	22 59 06.7	0.0
R32A	**Long Quarter,**	**2.14**	**331**	Pn	Pn	22 59 08.0	-0.8
WMOK	**Wichita Mounta**	**2.14**	**212**	Pn	Pn	22 59 09.2	+0.3
WMOK				IAmb_Lg		22 59 42.6	
	comp=Z,29nm,0.8s						
U38A	**Gravette**	**2.42**	**92**	IAmb_Lg		22 59 47.3	
	comp=Z,27nm,1.0s						
X37A	**Clayton**	**2.56**	**139**	Pn	Pn	22 59 15.1	+0.5
KSU1	**Kansas State U**	**2.61**	**13**	Pn	Pn	22 59 14.6	-0.7
CBKS	**Cedar Bluff**	**2.92**	**321**	Pn	Pn	22 59 18.6	-1.0
W39A	**Magazine**	**3.23**	**114**	IAmb_Lg		23 00 21.5	
	comp=Z,20nm,0.7s						
U40A	**Yellville**	**3.66**	**92**	IAmb_Lg		23 00 30.9	
	comp=Z,20nm,1.1s						
MIAR	**Mount Ida**	**3.70**	**122**	Pn	Pn	22 59 32.2	+2.0
MIAR				IAmb_Lg		23 00 30.9	
	comp=Z,24nm,0.7s						
Z38A	**Mt. Pleasant**	**3.84**	**148**	IAmb_Lg		23 00 43.1	
	comp=Z,23nm,0.9s						
AMTX	**Amarillo**	**3.87**	**246**	IAmb_Lg		23 00 40.4	
	comp=Z,27nm,0.7s						
MGMO	**Mountain Grove**	**4.15**	**80**	Pn	Pn	22 59 37.7	+1.3
MGMO				IAmb_Lg		23 00 45.6	
	comp=Z,14nm,0.8s						
X40A	**Basin Creek Fa**	**4.25**	**118**	Pn	Pn	22 59 39.1	+1.3
X40A				IAmb_Lg		23 00 52.1	
	comp=Z,12nm,0.9s						
P38A	**Dawn**	**4.32**	**44**	IAmb_Lg		23 00 48.5	
	comp=Z,12nm,0.7s						
WHAR	**Wooly Hollow**	**4.33**	**105**	IAmb_Lg		23 00 51.8	
	comp=Z,21nm,1.1s						
ABTX	**Abilene, Hawle**	**4.34**	**206**	IAmb_Lg		23 00 50.2	
	comp=Z,15nm,1.2s						
N35A	**Tabor**	**4.51**	**17**	IAmb_Lg		23 01 01.9	
	comp=Z,28nm,0.7s						
CCM	**Cathedral Cave**	**5.12**	**71**	IAmb_Lg		23 01 19.4	
	comp=Z,20nm,1.1s						
P40A	**Paris**	**5.16**	**53**	IAmb_Lg		23 01 14.3	
	comp=Z,14nm,0.8s						
PBMO	**Poplar Bluff**	**5.60**	**86**	IAmb_Lg		23 01 33.6	
	comp=Z,14nm,0.9s						
T25A	**Trinidad**	**5.66**	**278**	Pn	Pn	22 59 58.0	+0.6
OGNE	**Ogallala**	**5.69**	**322**	Pn	Pn	22 59 58.1	+0.5
OGNE				IAmb_Lg		23 01 46.6	
	comp=Z,17nm,1.1s						
435B	**Jarrell**	**5.76**	**182**	IAmb_Lg		23 01 44.4	
	comp=Z,8.4nm,0.8s						
JCT	**Junction City**	**6.39**	**199**	IAmb_Lg		23 01 57.3	
	comp=Z,9.5nm,0.9s						
L42A	**Oliver, Polo**	**8.09**	**45**	IAmb_Lg		23 02 51.1	
	comp=Z,12nm,0.7s						

MEX 14 23:09:39.5±0.7, 16°36N×98°15W, h21km±4km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.04**	**37**	*i* P	Pb	23 09 41.9	-1.4
PNIG				*i* S	Sb	23 09 44.7	-1.2
TXIG	**Tlaxiaco**	**0.96**	**22**	*i* P	Pb	23 09 55.3	-2.3
TXIG				*i* S	Sb	23 10 06.2	-3.8
MGIG	**Malinaltepec**	**0.98**	**332**	*e*P	Pb	23 09 54.9	-3.0
MGIG				*e*S	Sb	23 10 07.6	-2.9
PEIG	**Puerto Escondi**	**1.03**	**110**	*e*P	Pb	23 09 56.2	-2.5
PEIG				*e*S	Sb	23 10 08.0	-3.7

IDC 14 23:15:21.8±1.8, 33°13S×177°92W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/26, mbtmp3.8/3, ML3.4/1, Error ellipse: s-maj=44.5km s-min=36.1km az=122.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.52**	**217**	Pn	Pn	23 16 59.5	+0.5
	0.9nm,0.3s,baz=120,slow=24,SNR=5.7						
URZ				Sn	Sn	23 18 15.5	+1.4
	4.6nm,0.3s,baz=287,slow=22,SNR=10						
ASAR	**Alice Springs**	**43.10**	**270**	P	P	23 23 23.9	-0.1
	1.0nm,0.7s,baz=107,slow=7.5,SNR=9.4						
WRA	**Warramunga Arr**	**44.33**	**275**	P	P	23 23 33.5	-0.3
	0.8nm,0.4s,baz=120,slow=7.8,SNR=20						
FINES	**FINESS Array B**	**147.71**	**339**	PKPbc	PKPbc	23 35 06.7	-0.9
	0.7nm,0.5s,baz=29,slow=4.4,SNR=8.3						
TORD	**Torodi Ar. Bea**	**160.11**	**179**	PKPab	PKPab	23 36 03.0	-0.3
	0.3nm,0.5s,baz=186,slow=3.4,SNR=5.2						

MEX 14 23:17:47.7±0.6, 16°36N×98°22W, h19km±4km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.10**	**67**	*i* P	Pg	23 17 50.4	-1.2
PNIG				*i* S	Sg	23 17 53.2	-1.0
MGIG	**Malinaltepec**	**0.96**	**336**	*i* P	Pb	23 18 03.1	-2.7
MGIG				*i* S	Sb	23 18 14.7	-3.5
TXIG	**Tlaxiaco**	**0.99**	**26**	*e*P	Pb	23 18 02.8	-3.6
TXIG				*e*S	Sb	23 18 15.0	-4.3
PEIG	**Puerto Escondi**	**1.09**	**109**	*i* P	Pb	23 18 04.9	-3.0
PEIG				*i* S	Sb	23 18 19.2	-2.6
HLIG	**Huajuapan de L**	**1.52**	**15**	*e*P	Pn	23 18 10.8	-3.3
HLIG				*e*S	Sn	23 18 30.0	-3.4
FTIG	**Fresnillo de T**	**1.55**	**3**	*e*P	Pn	23 18 12.1	-2.3
FTIG				*e*S	Sn	23 18 29.8	-4.1
VHO	**Vista Hermosa**	**1.59**	**63**	*e*P	Pn	23 18 11.8	-3.2
VHO				*e*S	Sn	23 18 30.9	-4.3

MEX 14 23:20:55.6±0.6, 16°38N×98°18W, h22km±3km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.05**	**77**	*i* P	Pb	23 20 58.2	-1.3
PNIG				*i* S	Sb	23 21 01.0	-1.2
TXIG	**Tlaxiaco**	**0.95**	**24**	*i* P	Pb	23 21 10.7	-2.9
TXIG				*i* S	Sb	23 21 22.6	-3.3
MGIG	**Malinaltepec**	**0.95**	**333**	*i* P	Pb	23 21 11.1	-2.5
MGIG				*i* S	Sb	23 21 22.3	-3.6
PEIG	**Puerto Escondi**	**1.06**	**111**	*e*P	Pn	23 21 12.3	-2.9
PEIG				*e*S	Sb	23 21 24.8	-3.9
HLIG	**Huajuapan de L**	**1.48**	**14**	*e*P	Pn	23 21 19.4	-1.8
HLIG				*e*S	Sn	23 21 37.0	-3.0
VHO	**Vista Hermosa**	**1.54**	**63**	*e*P	Pn	23 21 20.6	-1.4
VHO				*e*S	Sn	23 21 38.8	-2.7
DAIG	**Los Arroyos**	**1.55**	**294**	*e*P	Pn	23 21 19.1	-2.8
DAIG				*e*S	Sn	23 21 37.5	-3.8

*IDC **14** 23:29:13.8±2.9, 33°.09S×178°.36W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.8/32, mbtmp3.9/3, ML3.7/1, Error ellipse: s-maj=71.6km s-min=44.3km az=129.0*
*NEIC **14** 23:29:14.3±2.3, 33°.3S±0°.1×178°.0W±0°.1, h10km±2km, mb4.1/5, Error ellipse: s-maj=25.5km s-min=16.8km az=334.0*

ISC 14 23:29:15.2±2.4, 33°2S±0°.1×178°3W±0°3, h10km, n14, σ0s80/15, mb4.0/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.19**	**211**	Pn	**Pn**	**23 30 34.3**	**+1.4**
URZ	**Urewera**	**6.31**	**215**	Pn	**Pn**	**23 30 48.7**	**+0.4**
	1.8nm,0.3s,baz=113,slow=23,SNR=5.5						
URZ				Sn	**Sn**	**23 31 59.1**	**-1.2**
	2.3nm,0.3s,baz=151,slow=17,SNR=5.4						
URZ	**Urewera**	**6.31**	**215**		**Pn**	**23 30 49.1**	**+0.8**
URZ					**Sn**	**23 32 00.1**	**-0.2**
OUZ	**Omahuta**	**7.02**	**251**	Pn	Pn	23 31 01.8	+3.8
BKZ	**Black Stump Fm**	**7.32**	**214**	Pn	**Pn**	**23 31 01.3**	**-0.9**
BFZ	**Birch Farm**	**8.68**	**209**	Pn	**Pn**	**23 31 21.6**	**+0.8**
LHI	**Lord Howe Isla**	**19.19**	**269**	P	**Pn**	**23 33 40.9**	**+0.8**
ASAR	**Alice Springs**	**42.78**	**270**	P	**P**	**23 37 12.8**	**-0.4**
	0.8nm,0.5s,baz=106,slow=7.7,SNR=8.5						
WR0	**Warramunga Arr**	**43.84**	**275**	P	**P**	**23 37 21.7**	**-0.1**
WR0				IAmb	IAmb	23 37 36.9	
	comp=Z,2.6nm,1.0s						
WB2	**Warramunga Arr**	**44.01**	**275**	P	**P**	**23 37 23.2**	**0.0**
WB2				IAmb	IAmb	23 37 42.6	
	comp=Z,0.9nm,0.8s						
WRAB	**Tennant Creek**	**44.01**	**275**	P	**P**	**23 37 23.6**	**+0.5**
WRAB				IAmb	IAmb	23 37 40.2	
	comp=Z,4.9nm,0.6s						
WRA	**Warramunga Arr**	**44.02**	**275**	P	**P**	**23 37 22.8**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=118,slow=7.8,SNR=23						
WRA	**Warramunga Arr**	**44.02**	**275**	P	**P**	**23 37 23.0**	**-0.3**
FINES	**FINESS Array B**	**147.63**	**338**	PKPbc	**PKPbc**	**23 48 58.3**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=51,slow=3.3,SNR=12						

*NEIC **14** 23:41:36.4±1.3, 6°.29S×130°.26E±0°.04, h108km±8km, mb4.5/19, Error ellipse: s-maj=7.9km s-min=5.4km az=194.0*
*DJA **14** 23:41:37.4±0.2, 6°S±2°×13°0E±°, h120km±5km, M4.9/20, mB5.4/9, mb4.8/20, MLv5.0/12, Mw(mB)4.8/9*
*IDC **14** 23:41:37.1±1.8, 6°.22S×130°.26E, h123km±19km, mb3.9/10, mb1 4.0/15, mb1mx3.8/33, mbtmp4.4/15, Error ellipse: s-maj=16.6km s-min=13.8km az=83.0*

ISC 14 23:41:38.4±0.5, 6°38S±0°.04×130°35E±0°.05, h150km, n81, σ2s23/84, mb4.5/23, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.85**	**150**		**Pn**	**23 42 11.8**	**+0.1**
SAUI					**Sn**	**23 42 33.6**	**-3.8**
SAUI	**Saumlaki**	**1.85**	**150**	P	**Pn**	**23 42 12.1**	**+0.3**
BNDI	**Bandanaira**	**1.90**	**346**	P	**Pn**	**23 42 09.8**	**-2.5**
MSAI	**Masohi**	**3.33**	**335**	P	**Pn**	**23 42 28.2**	**-1.8**
KRAI	**Karang Ratu**	**3.61**	**327**	P	**Pn**	**23 42 32.7**	**-0.9**
FAKI	**Fak Fak**	**3.92**	**29**	Pn	**Pn**	**23 42 34.4**	**-3.3**
FAKI				Sn	**Sn**	**23 43 18.0**	**-5.7**
FAKI	**Fak Fak**	**3.92**	**29**	P	**Pn**	**23 42 34.2**	**-3.5**
FAKI				S	**Sn**	**23 43 17.7**	**-6.0**
SIJI	**Sorong**	**5.55**	**9**	P	Pn	23 42 54.3	-4.9
	44nm,0.3s,baz=225,slow=22,SNR=82						
SIJI				S	Sn	23 43 52.2	-10
	54nm,0.3s,baz=230,slow=22,SNR=14						
SIJI	**Sorong**	**5.55**	**9**	P	Pn	23 42 54.2	-4.9
SWI	**Sorong**	**5.55**	**9**	P	**Pn**	**23 42 55.4**	**-3.8**
	2.0nm6µm106nm,0.5s						
SANI	**Sanana**	**6.12**	**314**	P	**Pn**	**23 43 06.2**	**-0.5**
	0.1nm29nm,0.6s						
LBMI	**Labuha**	**6.38**	**333**	P	**Pn**	**23 43 07.9**	**-2.2**
	1.1nm4µm220nm,0.6s						
MTN	**Manton Dam**	**6.47**	**173**	Pn	**Pn**	**23 43 10.3**	**-1.0**
MTN				Sn	**Sn**	**23 44 19.9**	**-4.3**
SOEI	**Soe**	**6.90**	**241**	Pn	**Pn**	**23 43 16.3**	**-0.9**
SOEI				Sn	**Sn**	**23 44 31.9**	**-2.7**
SOEI	**Soe**	**6.90**	**241**	P	**Pn**	**23 43 16.0**	**-1.2**
	1.6nm2µm122nm,0.7s						
BATI	**Baumata**	**7.63**	**240**	P	**Pn**	**23 43 25.6**	**-1.3**
	42nm,0.3s,baz=94,slow=0.4,SNR=22						
BATI				S	**Sn**	**23 44 47.9**	**-4.3**
	41nm,0.3s,baz=66,slow=2.1,SNR=10						
BATI	**Baumata**	**7.63**	**240**	P	**Pn**	**23 43 25.3**	**-1.6**
	0.5nm2µm67nm,0.5s						
TNTI	**Ternate**	**7.71**	**337**	Pn	**Pn**	**23 43 24.9**	**-2.9**
TNTI	**Ternate**	**7.71**	**337**	P	**Pn**	**23 43 25.3**	**-2.6**
	0.3nm98nm,0.9s						
BAKI	**Biak**	**7.71**	**48**	P	**Pn**	**23 43 28.2**	**+0.2**
	1.8nm5µm602nm,0.9s						
WAMI	**Wamena**	**8.69**	**74**	P	**Pn**	**23 43 43.9**	**+2.9**
	208nm,0.8s						
EDFI	**Ende, Flores**	**8.90**	**254**	P	**Pn**	**23 43 44.6**	**+0.6**
	9.3nm,1.0s						
KNRA	**Kununurra**	**9.37**	**189**	Pn	**Pn**	**23 43 47.8**	**-2.3**
BSSI	**Bau Bau, Buton**	**9.81**	**271**	P	**Pn**	**23 43 58.8**	**+2.9**
	52nm,0.9s						
BKSI	**Bulukumba**	**10.23**	**275**	P	Pn	23 44 10.0	+8.5
APSI	**Ampana**	**10.24**	**302**	P	**Pn**	**23 44 02.5**	**+0.8**
	65nm,0.9s						
KAPI	**Kappang**	**10.64**	**277**	P	**Pn**	**23 44 06.1**	**-0.8**
	2.4nm,0.3s,baz=100,slow=11,SNR=6.8						
JAY	**Jayapura**	**11.01**	**70**	P	**Pn**	**23 44 13.5**	**+1.7**
	2.0nm,0.3s,baz=220,slow=9.7,SNR=7.7						
JAY				S	**Sn**	**23 46 13.9**	**+0.3**
	0.9nm,0.3s,baz=47,slow=16,SNR=2.6						
JAY	**Jayapura**	**11.01**	**70**	P	**Pn**	**23 44 12.7**	**+0.9**
	10nm,0.7s						
FITZ	**Fitzroy Crossi**	**12.52**	**201**	P	**Pn**	**23 44 28.4**	**-3.1**
	7.0nm,0.3s,baz=30,slow=8.9,SNR=124						
FITZ				S	Sn	23 46 39.8	-10
	7.7nm,0.3s,baz=55,slow=22,SNR=9.1						
WRAB	**Tennant Creek**	**14.02**	**164**		**Pn**	**23 44 50.1**	**-0.6**
WRA	**Warramunga Arr**	**14.03**	**164**	P	**Pn**	**23 44 49.0**	**-1.7**
	6.7nm,0.3s,baz=338,slow=13,SNR=121						
WRA				S	Sn	23 47 17.0	-9.2
	9.0nm,0.3s,baz=343,slow=21,SNR=19						
WRA	**Warramunga Arr**	**14.03**	**164**		**Pn**	**23 44 48.8**	**-1.9**
WB2	**Warramunga Arr**	**14.03**	**164**	Pn	**Pn**	**23 44 48.4**	**-2.3**
WR0	**Warramunga Arr**	**14.10**	**164**	Pn	**Pn**	**23 44 49.5**	**-2.0**
KLNI	**Mataram**	**14.28**	**261**	P	**Pn**	**23 44 54.7**	**+0.7**
	20nm,1.5s						
COEN	**Coen**	**14.69**	**122**	Pn	**Pn**	**23 44 57.8**	**-1.2**
BBKI	**Banjar Baru**	**15.72**	**280**	P	**P**	**23 45 13.6**	**+0.9**
AS31	**Alice Springs**	**17.52**	**169**		**Pn**	**23 45 34.0**	**+0.4**
AS31				IAmb	IAmb	23 45 43.8	
	comp=Z,11nm,0.4s						
ASAR	**Alice Springs**	**17.52**	**169**	P	**Pn**	**23 45 34.3**	**+0.7**
	comp=Z,3.5nm,0.3s,baz=344,slow=10,SNR=82						
ASAR				S	**S**	**23 48 38.9**	**-8.4**
	comp=Z,4.7nm,0.3s,baz=354,slow=28,SNR=8.0						
ASAR	**Alice Springs**	**17.52**	**169**		**Pn**	**23 45 34.0**	**+0.3**
PSA00	**Pilbara Seismi**	**18.20**	**213**	P	**P**	**23 45 40.3**	**+0.3**
PSA00	**Pilbara Seismi**	**18.20**	**213**	P	**P**	**23 45 40.9**	**+1.0**
PSA00				IAmb	IAmb	23 45 41.7	
	comp=Z,29nm,0.5s						
CTA	**Charters Tower**	**20.59**	**133**	P	Pn	23 46 09.2	-0.6
	comp=Z,10nm,0.8s,baz=325,slow=12,SNR=7.9						
CTAO	**Charters Tower**	**20.59**	**133**	P	Pn	23 46 09.1	-0.7
CTAO				IAmb	IAmb	23 46 12.5	
	comp=Z,15nm,0.9s						
CISI	**Cisompet, Garu**	**22.40**	**266**	P	**P**	**23 46 24.7**	**-0.1**
CISI				IAmb	IAmb	23 46 25.9	
	comp=Z,25nm,0.7s						
GIRL	**Giralia**	**22.43**	**222**	P	**P**	**23 46 26.2**	**+1.3**
CNJI	**Cibinong**	**23.08**	**266**	P	**P**	**23 46 30.7**	**-0.3**
	comp=Z,140nm,1.2s						
FORT	**Forrest**	**24.37**	**185**	P	**P**	**23 46 45.1**	**+2.5**
FORT				IAmb	IAmb	23 46 56.9	
	comp=Z,21nm,0.7s						
BBOO	**Buckleboo**	**26.83**	**169**	P	**P**	**23 47 07.2**	**+2.4**
BBOO				IAmb	IAmb	23 47 14.8	
	comp=Z,14nm,1.1s						
STKA	**Stephens Creek**	**27.46**	**159**	P	**P**	**23 47 12.6**	**+2.2**
	comp=Z,0.9nm,0.3s,baz=312,slow=10,SNR=4.4						
STKA	**Stephens Creek**	**27.46**	**159**	P	**P**	**23 47 12.4**	**+2.0**
NWAO	**Narrogin (SRO)**	**29.10**	**203**	P	**P**	**23 47 26.6**	**+1.7**
	comp=Z,12nm,1.0s,baz=90,slow=6.1,SNR=1.9						
NWAO	**Narrogin (SRO)**	**29.10**	**203**	P	**P**	**23 47 26.8**	**+1.8**
NWAO				IAmb	IAmb	23 47 36.9	
	comp=Z,15nm,1.1s						
CMAR	**Chiang Mai Arr**	**39.61**	**309**	P	**P**	**23 48 55.1**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=127,slow=6.6,SNR=5.4						
CHTO	**Chiang Mai**	**39.82**	**310**	P	**P**	**23 48 58.0**	**+0.8**
CHTO				IAmb	IAmb	23 48 58.6	
	comp=Z,2.6nm,0.6s						
JMN	**Monobe**	**40.03**	**5**	P	**P**	**23 48 59.5**	**+0.8**
JWT	**Wachi**	**41.71**	**6**	P	**P**	**23 49 13.4**	**+0.9**
MJAR	**Matsushiro Arr**	**43.33**	**9**	P	**P**	**23 49 23.9**	**-1.6**
	comp=Z,2.7nm,0.8s,baz=179,slow=9.8,SNR=7.7						
USRK	**Ussuriysk Ar.**	**50.37**	**2**	P	**P**	**23 50 20.7**	**+0.6**
	comp=Z,2.4nm,0.7s,baz=185,slow=6.6,SNR=5.4						
USRK	**Ussuriysk Ar.**	**50.37**	**2**	P	**P**	**23 50 19.9**	**-0.1**
TAPN	**Taplejung**	**53.14**	**311**	*e*P	**P**	**23 50 41.3**	**0.0**
	comp=Z,9.6nm,0.3s						
RAMN	**Ramite**	**53.77**	**310**	*e*P	**P**	**23 50 46.2**	**+0.3**
	comp=Z,24nm,0.4s						
JIRN	**Jiri**	**54.45**	**311**	*e*P	**P**	**23 50 50.9**	**0.0**
	comp=Z,9.2nm,0.4s						
PKI	**Pulchoki**	**54.99**	**310**	*e*P	**P**	**23 50 54.6**	**-0.2**
PKIN	**Phulchoki**	**55.01**	**310**	*e*P	**P**	**23 50 54.5**	**-0.3**
KKN	**Kakani**	**55.20**	**310**	*e*P	**P**	**23 50 56.2**	**0.0**
GKN	**Gorkha**	**55.80**	**310**	*e*P	**P**	**23 51 00.5**	**+0.1**
	comp=Z,14nm,0.5s						
KOLN	**Koldanda**	**56.48**	**309**	*e*P	**P**	**23 51 05.2**	**0.0**
	comp=Z,4.0nm,0.3s						
PYUN	**Piuthan**	**57.11**	**309**	*e*P	**P**	**23 51 10.1**	**+0.4**
	comp=Z,11nm,0.5s						
ULN	**Ulaanbaatar**	**57.79**	**342**	P	**P**	**23 51 15.5**	**+1.5**
ULN				IAmb	IAmb	23 51 16.1	
	comp=Z,3.4nm,0.7s						
SONM	**Songino Array**	**57.97**	**341**	P	**P**	**23 51 16.3**	**+1.1**
	comp=Z,0.9nm,0.5s,baz=164,slow=7.6,SNR=5.2						
SONM	**Songino Array**	**57.97**	**341**	P	**P**	**23 51 16.8**	**+1.6**
WMQ	**Urumqi**	**63.07**	**327**	*e*P	**P**	**23 51 53.8**	**+4.0**
PEA0B	**Petropavlovsk-**	**63.63**	**18**	P	**P**	**23 51 55.0**	**+1.8**
PEA0B				IAmb	IAmb	23 52 10.0	
	comp=Z,8.3nm,1.1s						
PETK	**Petropavlovsk-**	**63.63**	**18**	P	**P**	**23 51 54.7**	**+1.5**
	comp=Z,2.3nm,0.6s,baz=184,slow=5.5,SNR=3.2						
PETK	**Petropavlovsk-**	**63.63**	**18**	P	**P**	**23 51 55.2**	**+2.0**
MK31	**Makanchi Array**	**67.90**	**327**	P	**P**	**23 52 22.1**	**+1.3**
MKAR	**Makanchi Array**	**67.90**	**327**	P	**P**	**23 52 21.9**	**+1.1**
	comp=Z,2.3nm,0.5s,baz=124,slow=7.6,SNR=37						
MAKZ	**Makanchi**	**68.08**	**326**	P	**P**	**23 52 23.1**	**+1.2**
MAKZ				IAmb	IAmb	23 52 25.4	
	comp=Z,2.4nm,0.5s						
ZALV	**Zalesovo Beam**	**71.19**	**334**	P	**P**	**23 52 40.7**	**0.0**
	comp=Z,1.6nm,0.5s,baz=145,slow=6.3,SNR=5.9						

*IDC **15** 00:08:58.2±6.5, 36°.39N×76°.77E, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.4/33, mbtmp3.8/3, ML3.8/1, Error ellipse: s-maj=151.2km s-min=39.9km az=130.0*
*NNC **15** 00:09:13.4±2.3, 36°.86N×76°.86E, h97km±39km, mb3.0, mpv3.6, Error ellipse: s-maj=27.8km s-min=14.9km az=37.0*

ISC 15 00:09:08.7±0.9, 36°69N±0°.08×77°1E±0°.1, h77km, n13, σ1s56/16, 1C-4D, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.27**	**342**	⇓P	**Pn**	**00 10 40.7**	**+2.0**
	1.3nm,0.3s						
AAK				⇓S	**Sn**	**00 11 49.3**	**+0.4**
	7.9nm,0.8s						
TKM2	**Tokmak 2**	**6.33**	**350**	⇑P	**Pn**	**00 10 42.0**	**+2.4**
	2.1nm,0.6s						
PDGK	**Podgornoye**	**6.89**	**15**	⇓P	**Pn**	**00 10 49.5**	**+2.3**
	2.1nm,0.3s						
KK31	**Karatay Array**	**8.15**	**324**	P	**Pn**	**00 11 05.8**	**+1.5**
	1.5nm,0.4s,baz=124,slow=12,SNR=20						
KK31				S	**Sn**	**00 12 33.3**	**-1.5**
	3.9nm,0.6s,baz=146,slow=23,SNR=11						
PYUN	**Piuthan**	**9.91**	**148**	*e*P	**Pn**	**00 11 28.8**	**+0.2**
	39nm,0.3s						
DANN	**Dangsing**	**10.05**	**144**	*e*P	**Pn**	**00 11 30.2**	**-0.2**
	8.2nm,0.2s						
KOLN	**Koldanda**	**10.47**	**146**	*e*P	**Pn**	**00 11 36.6**	**+0.5**
	7.8nm,0.3s						
GKN	**Gorkha**	**10.76**	**141**	*e*P	**Pn**	**00 11 40.2**	**+0.1**
	8.6nm,0.4s						
MKAR	**Makanchi Array**	**10.82**	**19**	Pn	**Pn**	**00 11 41.3**	**+0.7**
	0.6nm,0.3s,baz=202,slow=13,SNR=39						
MKAR				Sn	**Sn**	**00 13 37.3**	**-2.6**
	0.3nm,0.3s,baz=205,slow=27,SNR=6.4						
PKI	**Pulchoki**	**11.51**	**140**	*e*P	**Pn**	**00 11 50.9**	**+0.5**
AB31	**Akbulak array**	**17.69**	**321**	⇓P	**Pn**	**00 13 10.4**	**+0.6**
	0.4nm,0.6s,baz=130,slow=12,SNR=9.8						
FINES	**FINESS Array B**	**40.11**	**325**	P	**P**	**00 16 35.9**	**-0.6**
	4.0nm,1.0s,baz=97,slow=8.8,SNR=2.5						
TORD	**Torodi Ar. Bea**	**70.60**	**272**	P	**P**	**00 20 14.3**	**-1.8**
	0.6nm,1.0s,baz=56,slow=7.7,SNR=1.6						

IDC 15 00:21:48.6±3.5, 5°.64S×147°.00E, h240km±31km, mb3.4/3, mb1 3.5/4, mb1mx3.1/31, mbtmp3.0/4, Error ellipse: s-maj=49.8km s-min=19.0km az=124.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.81**	**220**	P	P	00 25 51.0	+0.4
	1.0nm,0.3s,baz=40,slow=11,SNR=81						
WRA				S	S	00 29 11.6	-0.2
	0.0nm,0.

comp=Z,6.8nm,1.2s
WRA **Warramunga Arr** **31.82 256** P **P** **01 21 52.4 -0.8**
comp=Z,0.5nm,0.5s,baz=80,slow=8.5,SNR=7.9
WRA **Warramunga Arr** **31.82 256** P **P** **01 21 52.7 -0.5**
ASAR **Alice Springs** **32.64 249** P **P** **01 22 00.1 -0.4**
comp=Z,1.8nm,0.6s,baz=82,slow=8.9,SNR=20
ASAR **Alice Springs** **32.64 249** P **P** **01 21 59.9 -0.6**
BBOO **Buckleboo** **33.49 232** P **P** **01 22 07.9 +0.3**
FITZ **Fitzroy Crossi** **40.02 260** P **P** **01 23 03.4 +0.2**
FITZ IAmb IAmb 01 23 09.4
comp=Z,4.0nm,1.2s
QSPA **South Pole Qui** **75.11 180** P **P** **01 27 07.5 -1.2**
QSPA IAmb IAmb 01 27 25.5
comp=Z,3.9nm,1.5s
SNAA **Sanae** **93.36 183** P **P** **01 28 38.7 -2.6**
SNAA IAmb IAmb 01 28 52.4
comp=Z,1.3nm,1.2s
ARCES **ARCESS Array B** **120.44 345** PKP **PKPdf** **01 34 15.6 -1.3**
comp=Z,0.2nm,0.4s,baz=101,slow=1.2,SNR=4.9
ARCES **ARCESS Array B** **120.44 345** **PKPdf** **01 34 16.1 -0.8**

TAP 15 01:22:49.7,21.66N×120.65E,h50km,ML3.5,10C,D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWK1	**Hengchun**	**0.32**	**28**	⇑*i*P	Pn	01 22 59.3	+0.3
	baz=29						
TWK1				*i* S	Sn	01 23 06.4	+0.8
	baz=29						
TWKBT	**Hengchun**	**0.32**	**29**	⇑*i*P	Pn	01 22 59.3	+0.3
	baz=29						
TWKBT				*i* S	Sn	01 23 06.2	+0.6
	baz=29						
TSEB	**Hengchuen, Pin**	**0.33**	**45**	⇑*i*P	Pn	01 22 59.1	-0.1
	baz=39						
TSEB				S	Sn	01 23 06.5	+0.6
	baz=39						
HEN	**Hengchun**	**0.35**	**14**	P	Pn	01 23 00.1	+0.8
	baz=15						
HEN				S	Sn	01 23 08.1	+1.8
	baz=15						
SLIU	**Shizi**	**0.57**	**14**	⇑P	Pn	01 23 02.4	+0.6
	baz=14						
SLIU				S	Sn	01 23 11.3	+0.8
	baz=14						
SCZT	**Fangliau**	**0.71**	**358**	⇑P	Pn	01 23 04.3	+0.8
	baz=358						
SCZT				S	Sn	01 23 15.1	+1.5
	baz=358						
WLCH	**Liuqiu**	**0.73**	**340**	*e*P	Pn	01 23 04.7	+0.9
	baz=340						
WLCH				*e*S	Sn	01 23 15.8	+1.7
	baz=340						
TAW	**Tawu**	**0.73**	**19**	*e*P	Pn	01 23 04.7	+0.9
	baz=19						
TAW				*e*S	Sn	01 23 15.2	+1.1
	baz=19						
EAST	**Anshuo**	**0.74**	**15**	⇑P	Pn	01 23 04.9	+0.8
	baz=15						
EAST				S	Sn	01 23 16.4	+2.0
	baz=15						
SSPT	**Xinbi**	**0.82**	**355**	*e*P	Pn	01 23 05.7	+0.7
	baz=354						
SSPT				S	Sn	01 23 18.0	+1.8
	baz=354						
LAY	**Lan-yu**	**0.92**	**66**	*e*P	Pn	01 23 07.6	+1.2
	baz=66						
LAY				*e*S	Sn	01 23 20.3	+1.7
	baz=66						
MASBT	**Mashibuluo**	**0.94**	**359**	⇑P	Pn	01 23 07.5	+0.8
	baz=359						
MASBT				S	Sn	01 23 20.2	+1.0
	baz=359						
ECL	**Taimali**	**0.97**	**17**	*e*P	Pn	01 23 08.1	+1.0
	baz=17						
ECL				*e*S	Sn	01 23 21.5	+1.7
	baz=17						
TSMG	**Majia**	**1.04**	**360**	⇑P	Pn	01 23 08.8	+0.9
	baz=359						
TSMG				S	Sn	01 23 22.8	+1.4
	baz=359						
SGLT	**Jiouru**	**1.07**	**352**	*e*P	Pn	01 23 09.3	+1.0
	baz=352						
SGLT				*e*S	Sn	01 23 23.6	+1.5
	baz=352						
SSD	**Sandimen**	**1.08**	**359**	*e*P	Pn	01 23 09.4	+0.9
	baz=359						
SSD				S	Sn	01 23 23.1	+0.7
	baz=359						
SNJT	**Kaohsiung City**	**1.12**	**345**	*e*S	Sn	01 23 24.4	+1.0
	baz=345						
TTN	**Taitung**	**1.18**	**23**	*e*P	Pn	01 23 10.8	+0.9
	baz=23						
TTN				*e*S	Sn	01 23 26.0	+1.1
	baz=23						
TWGBT	**Beinan**	**1.22**	**19**	*e*P	Pn	01 23 11.9	+1.5
	baz=19						
TWGBT				*e*S	Sn	01 23 28.6	+2.9
	baz=19						
TWG	**Pinlang**	**1.22**	**19**	P	Pn	01 23 11.4	+1.1
	baz=19						
TWG				*e*S	Sn	01 23 27.0	+1.2
	baz=19						
SCST	**Cishan**	**1.23**	**353**	*e*P	Pn	01 23 11.2	+0.7
	baz=353						
SCST				S	Sn	01 23 27.5	+1.6
	baz=353						
LDUT	**Ludao**	**1.26**	**37**	*e*P	Pn	01 23 12.1	+1.2
	baz=37						
LDUT				*e*S	Sn	01 23 28.1	+1.3
	baz=37						
LONT	**Longtian**	**1.32**	**20**	*e*P	Pn	01 23 12.8	+1.1
	baz=19						
LONT				S	Sn	01 23 29.8	+1.6
	baz=19						
SLGT	**Liugui**	**1.32**	**0**	*e*P	Pn	01 23 13.0	+1.2
SLGT				S	Sn	01 23 29.8	+1.4
SGST	**Jiashian**	**1.41**	**358**	*e*P	Pn	01 23 14.1	+1.1
	baz=357						
SGST				S	Sn	01 23 31.7	+1.2
	baz=357						
CHN3	**Shinhua**	**1.43**	**350**	*e*P	Pn	01 23 14.2	+1.0
	baz=349						
CHN3				*e*S	Sn	01 23 32.1	+1.2
	baz=349						
EDH	**Donghe**	**1.44**	**25**	*e*P	Pn	01 23 14.4	+1.0
	baz=25						
EDH				*e*S	Sn	01 23 32.0	+0.9
	baz=25						
STYH	**Taoyuan**	**1.50**	**5**	*e*P	Pn	01 23 15.4	+1.1
	baz=4.0						
STYH				*e*S	Sn	01 23 33.8	+1.1
	baz=4.0						
CHN1	**Nanshi**	**1.52**	**356**	P	Pn	01 23 15.8	+1.3
	baz=355						
CHN1				S	Sn	01 23 34.2	+1.1
	baz=355						
SNST	**Tainan City**	**1.56**	**355**	P	Pn	01 23 16.1	+1.1
	baz=354						
SNST				S	Sn	01 23 35.1	+1.1
	baz=354						
ELDTW	**Lidau**	**1.56**	**13**	P	Pn	01 23 16.4	+1.4
	baz=13						
ELDTW				S	Sn	01 23 35.1	+0.9
	baz=13						
SCLT	**Jiali**	**1.56**	**345**	*e*P	Pn	01 23 16.5	+1.4
	baz=344						
SCLT				*e*S	Sn	01 23 34.8	+0.7
	baz=344						
WTP	**Ta-pu**	**1.58**	**359**	⇑P	Pn	01 23 16.1	+0.8
	baz=359						
WTP				*e*S	Sn	01 23 35.4	+0.8
	baz=359						
CHKT	**Chengkung**	**1.58**	**25**	P	Pn	01 23 16.2	+0.9
	baz=25						
CHKT				S	Sn	01 23 35.7	+1.2
	baz=25						
TWK	**Hsinying**	**1.60**	**355**	*e*P	Pn	01 23 16.8	+1.1
	baz=355						
TWK				S	Sn	01 23 36.3	+1.1
	baz=355						
TPUB	**Ta-pu**	**1.63**	**359**	⇑P	Pn	01 23 16.7	+0.7
	baz=359						
TPUB				S	Sn	01 23 36.8	+1.0
	baz=359						
FULB	**Fuli**	**1.64**	**21**	P	Pn	01 23 17.1	+0.9
	baz=21						
FULB				*e*S	Sn	01 23 37.2	+1.0
	baz=21						
ICHU	**Yijhu**	**1.72**	**349**	*e*P	Pn	01 23 18.2	+0.9
	baz=348						
ICHU				*e*S	Sn	01 23 38.7	+0.6
	baz=348						
EYUL	**Yuli**	**1.79**	**20**	*e*P	Pn	01 23 18.9	+0.7
	baz=20						
EYUL				*e*S	Sn	01 23 40.7	+1.0
	baz=20						
YULB	**Yu-li**	**1.82**	**19**	*e*P	Pn	01 23 20.0	+1.4
	baz=19						
YULB				*e*S	Sn	01 23 41.4	+0.8
	baz=19						
WDGT	**Dungji**	**1.83**	**330**	*e*P	Pn	01 23 19.5	+0.8
	baz=330						
WDGT				*e*S	Sn	01 23 41.3	+0.5
	baz=330						
CHY	**Chiayi**	**1.84**	**354**	*e*P	Pn	01 23 19.8	+1.0
	baz=353						
CHY				*e*S	Sn	01 23 41.8	+0.9
	baz=353						
YUS	**Yu-Shan**	**1.84**	**9**	*e*P	Pn	01 23 20.3	+1.0
	baz=8.0						
YUS				*e*S	Sn	01 23 41.6	-0.1
	baz=8.0						
ALS	**Alishan**	**1.84**	**5**	*e*P	Pn	01 23 20.3	+1.1
	baz=4.0						
ALS				*e*S	Sn	01 23 41.9	+0.4
	baz=4.0						
VCHM	**Qimei**	**1.91**	**324**	*e*P	Pn	01 23 20.7	+0.9
	baz=323						
VCHM				*e*S	Sn	01 23 42.5	-0.1
	baz=323						
CHN5	**Tsauling**	**1.93**	**1**	*e*P	Pn	01 23 20.8	+0.7
CHN5				*e*S	Sn	01 23 43.9	+0.7
EHY	**Hungye**	**1.94**	**19**	*e*P	Pn	01 23 21.1	+0.9
	baz=19						
EHY				*e*S	Sn	01 23 43.9	+0.5
	baz=19						
HGSD	**Ruisui**	**1.96**	**21**	*e*P	Pn	01 23 21.6	+1.2
	baz=21						
HGSD				*e*S	Sn	01 23 44.6	+0.7
	baz=21						
WSF	**Szhu**	**2.00**	**349**	*e*P	Pn	01 23 22.5	+1.4
	baz=348						
WSF				*e*S	Sn	01 23 45.5	+0.6
	baz=348						
WDLH	**Douliu**	**2.02**	**357**	*e*P	Pn	01 23 22.9	+1.6
	baz=357						
WDLH				*e*S	Sn	01 23 46.1	+0.8
	baz=357						
WTK	**Tuku**	**2.03**	**353**	*e*P	Pn	01 23 22.2	+0.8
	baz=353						
WTK				*e*S	Sn	01 23 46.4	+0.8
	baz=353						
WHYT	**Xinyi Township**	**2.03**	**5**	*e*P	Pn	01 23 22.9	+1.4
	baz=5.0						
WHYT				*e*S	Sn	01 23 46.7	+0.9
	baz=5.0						
PHUB	**P'eng-hu**	**2.09**	**332**	*e*P	Pn	01 23 23.0	+0.7
	baz=331						
PHUB				*e*S	Sn	01 23 47.3	+0.1
	baz=331						
EGFH	**Guangfu**	**2.12**	**20**	*e*P	Pn	01 23 23.6	+0.9
	baz=19						
EGFH				*e*S	Sn	01 23 49.2	+1.3
	baz=19						
SSLB	**Suanglung**	**2.13**	**8**	*e*P	Pn	01 23 23.8	+0.8
	baz=7.0						
SSLB				*e*S	Sn	01 23 48.8	+0.5
	baz=7.0						
PNG	**Penghu**	**2.15**	**332**	*e*P	Pn	01 23 23.6	+0.6
	baz=332						
PNG				*e*S	Sn	01 23 48.8	+0.3
	baz=332						
WJS	**Zhushan**	**2.15**	**2**	*e*P	Pn	01 23 24.6	+1.5
	baz=2.0						
WJS				*e*S	Sn	01 23 48.9	+0.3
	baz=2.0						
WNT	**Mingjian**	**2.21**	**1**	*e*P	Pn	01 23 24.7	+0.9
	baz=1.0						
WNT				*e*S	Sn	01 23 50.7	+0.8
	baz=1.0						
SMLT	**Sun Moon Lake**	**2.22**	**6**	*e*P	Pn	01 23 25.3	+1.1
	baz=6.0						
SMLT				*e*S	Sn	01 23 51.3	+0.8
	baz=6.0						
TYC	**Yuchr**	**2.24**	**5**	*e*P	Pn	01 23 25.1	+0.9
	baz=5.0						
TYC				*e*S	Sn	01 23 52.0	+1.2
	baz=5.0						
WRL	**Guolierlin Hig**	**2.24**	**354**	*e*P	Pn	01 23 25.3	+0.9
	baz=353						
WRL				*e*S	Sn	01 23 51.7	+0.9
	baz=353						
ESL	**Shilin**	**2.26**	**19**	*e*P	Pn	01 23 25.8	+1.2
	baz=18						
ESL				*e*S	Sn	01 23 52.0	+0.7
	baz=18						
OWD	**Renai**	**2.33**	**12**	*e*P	Pn	01 23 26.7	+0.9
	baz=12						
OWD				*e*S	Sn	01 23 53.9	+0.7
	baz=12						
WCS	**Beigang Elemen**	**2.40**	**6**	*e*P	Pn	01 23 27.0	+0.5
	baz=5.0						
WCS				*e*S	Sn	01 23 55.5	+0.9
	baz=5.0						
WCHH	**Zhanghua**	**2.41**	**358**	*e*P	Pn	01 23 27.1	+0.5
	baz=358						
WCHH				*e*S	Sn	01 23 55.8	+0.9
	baz=358						
CHGB	**Renai**	**2.44**	**11**	*e*P	Pn	01 23 28.2	+1.0
	baz=11						
CHGB				*e*S	Sn	01 23 56.6	+0.7
	baz=11						
WHF	**Hehuan Shan**	**2.54**	**13**	*e*P	Pn	01 23 29.5	+0.7
	baz=13						
WHF				*e*S	Sn	01 23 58.6	-0.1
	baz=13						
WHP	**Taichung City**	**2.62**	**6**	*e*P	Pn	01 23 30.2	+0.6
	baz=6.0						
WHP				*e*S	Sn	01 24 00.8	+0.6
	baz=6.0						
FUSS	**Fushou**	**2.63**	**12**	*e*P	Pn	01 23 31.0	+1.1
	baz=12						
FUSS				*e*S	Sn	01 24 00.9	+0.2
	baz=12						
ETLH	**Xiulin Townshi**	**2.65**	**17**	*e*P	Pn	01 23 30.7	+0.7
	baz=16						
ETLH				*e*S	Sn	01 24 01.1	+0.2
	baz=16						
NACB	**Ninganchiao**	**2.65**	**19**	*e*P	Pn	01 23 31.0	+1.1
	baz=19						
NACB				*e*S	Sn	01 24 01.2	+0.4
	baz=19						
TWQ1	**Liyutan**	**2.67**	**2**	*e*S	Sn	01 24 01.9	+0.4
	baz=2.0						
NNS	**Nan Shan**	**2.84**	**13**	*e*P	Pn	01 23 33.7	+0.9
	baz=13						
NNS				*e*S	Sn	01 24 06.0	+0.1
	baz=13						
LIOB	**Emei**	**2.99**	**6**	*e*P	Pn	01 23 35.6	+1.0
	baz=6.0						
LIOB				*e*S	Sn	01 24 09.5	+0.2
	baz=6.0						
NSK	**Sanguang**	**3.07**	**12**	*e*P	Pn	01 23 36.8	+1.0
	baz=12						
NSK				*e*S	Sn	01 24 11.6	+0.3
	baz=12						
NDS	**Dongshan**	**3.12**	**18**	*e*P	Pn	01 23 37.3	+1.0
	baz=18						
NDS				*e*S	Sn	01 24 12.5	+0.2
	baz=18						
NWLT	**Wulai**	**3.20**	**14**	*e*P	Pn	01 23 38.0	+0.5
	baz=14						
NWLT				*e*S	Sn	01 24 14.2	-0.2
	baz=14						
KNM	**Kinmen**	**3.42**	**324**	*e*P	Pn	01 23 42.2	+1.8
	baz=321						
KNM				*e*S	Sn	01 24 20.6	+1.0
	baz=321						
KNMB	**Chin-men Tao**	**3.48**	**324**	*e*S	Sn	01 24 20.5	-0.7
	baz=323						
VWUC	**VWUC**	**3.49**	**342**	*e*P	Pn	01 23 42.6	+1.2
	baz=341						
VWUC				*e*S	Sn	01 24 20.6	-0.9
	baz=341						
PTMZ	**Houxiangcun**	**3.64**	**338**	*e*P	Pn	01 23 44.6	+1.0
	baz=337						
PTMZ				*e*S	Sn	01 24 24.6	-0.7
	baz=337						
AXDP	**Jialang**	**4.05**	**323**	*e*S	Sn	01 24 34.9	-0.5
	baz=322						
MATB	**Ma-tsu**	**4.51**	**352**	*e*P	Pn	01 23 56.2	+0.7
	baz=351						
MATB				*e*S	Sn	01 24 45.1	-1.6
	baz=351						
LYJJ	**Jianjiangzhen**	**4.93**	**351**	*e*P	Pn	01 24 01.8	+0.5
	baz=350						

MEX 15 01:32:48.1±0.8,16.37N×98.04W,h19km±12km,MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.09**	**285**	*i* P	Pg	01 32 50.5	-1.3
PNIG				*i* S	Sg	01 32 53.4	-1.0
TXIG	**Tlaxiaco**	**0.92**	**16**	*i* P	Pb	01 33 02.9	-2.7
TXIG				*i* S	Sb	01 33 13.9	-3.6
PEIG	**Puerto Escondi**	**0.93**	**113**	*i* P	Pb	01 33 05.0	-0.7
PEIG				*i* S	Sn	01 33 19.0	-0.1
MGIG	**Malinaltepec**	**1.03**	**327**	*i* P	Pb	01 33 03.2	-4.3
MGIG				*i* S	Sb	01 33 16.2	-4.6
TLIG	**Tlapa**	**1.29**	**337**	*i* P	Pn	01 33 08.2	-3.0
TLIG				*i* S	Sn	01 33 23.3	-4.8
VHO	**Vista Hermosa**	**1.43**	**61**	*i* P	Pn	01 33 12.2	-1.1
VHO				*i* S	Sg	01 33 33.5	-1.1
FTIG	**Fresnillo de T**	**1.53**	**357**	*i* P	Pn	01 33 12.7	-1.9
FTIG				*i* S	Sn	01 33 30.9	-3.2

IDC ***15*** *01:58:50.7±1.8,37.67N×75.48E,h0km,mb3.6/4, mb1 3.6/9,mb1mx3.4/40,mbtmp3.5/9,ML3.1/5,Error ellipse: s-maj=30.4km s-min=23.5km az=123.0*
SOME ***15*** *01:59:06.9,39.17N×76.75E,h10km*
KRNET ***15*** *01:59:11.7±0.1,38.78N×75.27E,mb3.4*
NNC ***15*** *01:59:14.8±2.4,38.89N×75.70E,h15km±8km,mb3.9, mpv3.5,Error ellipse: s-maj=17.1km s-min=14.5km az=165.0*

ISC 15 01:58:53.7±1.4,37.98N±0.09×75.76E±0.05,h10km,n43, σ2.566/55,mb3.5/4,12C-7D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.68**	**320**	⇓*i*P	**Pg**	**01 59 45.6**	**+0.5**
	baz=13						
SFK				⇓*i*S	**Sn**	**02 00 10.4**	**+0.6**
	baz=13						
OHH	**Osh**	**3.43**	**319**	⇑*i*P	**Pb**	**01 59 55.7**	**+1.1**
	baz=13						
OHH				⇑*i*S	**Sn**	**02 00 27.8**	**-0.3**
	baz=13						
DRK	**Karamyk**	**3.44**	**297**	⇑*i*P	**Pg**	**01 59 58.7**	**-0.9**
	baz=86						
DRK				⇑*i*S	**Sb**	**02 00 32.8**	**-4.0**
	baz=86						
ARLS	**Aral**	**4.03**	**345**	⇑*i*P	**Pb**	**02 00 03.9**	**-0.9**
	baz=47						
ARLS				⇑*i*S	**Sn**	**02 00 41.7**	**-1.2**
	baz=47						
BTK	**Batken**	**4.37**	**300**	⇑*i*P	**Pb**	**02 00 10.5**	**-0.1**
	baz=92						
BTK				⇑*i*S	**Sn**	**02 00 53.8**	**+2.5**
	baz=92						
AAK	**Ala-Archa**	**4.75**	**349**	Pn	**Pb**	**02 00 13.0**	**-4.1**
	1.5nm,0.3s,baz=159,slow=7.9,SNR=8.1						
AAK				Sn	**Sn**	**02 01 06.3**	**+5.7**
	1.1nm,0.3s,baz=164,slow=14,SNR=4.5						
AAK				Lg	Lg	02 01 28.7	
	0.6nm,0.3s,baz=70,slow=18,SNR=1.3						
AAK	**Ala-Archa**	**4.75**	**349**	⇓Pn	**Pb**	**02 00 13.3**	**-3.8**
	2.4nm,0.5s						
AAK				⇑Pg	**Pg**	**02 00 24.9**	**+0.3**
	5.2nm,0.8s						
TKM2	**Tokmak 2**	**4.93**	**359**	⇓Pn	Pb	02 00 15.9	-4.4
	3.1nm,0.5s						
TKM2				⇓Pg	**Pg**	**02 00 26.1**	**-2.1**
	2.6nm,0.3s						
TKM2				⇓Sn	**Sn**	**02 01 04.5**	**-0.8**
	9.0nm,0.7s						
KST	**Kastek**	**5.06**	**2**	*e*P	**Pb**	**02 00 18.9**	**-3.4**
	baz=7.0						
KST				*e*S	**Sn**	**02 01 10.0**	**+1.8**
	baz=7.0						
KST	**Kastek**	**5.06**	**2**	*e*P	**Pb**	**02 00 18.9**	**-3.4**
	11nm,0.2s						
KST				*e*S	**Sn**	**02 01 10.0**	**+1.8**
	5.0nm,0.6s						
KST	**Kastek**	**5.06**	**2**	Pg	**Pb**	**02 00 18.9**	**-3.4**
	11nm,0.2s						
KST				Pg	**Pg**	**02 00 30.0**	**-0.5**
	8.0nm,0.4s						
KST				Lg	Lg	02 01 10.0	
	5.0nm,0.6s						
KST				Lg	Lg	02 01 27.3	
	7.3nm,0.3s						
IZV	**Izvestkoviy**	**5.09**	**7**	Pg	**Pg**	**02 00 31.8**	**+0.7**
	5.1nm,0.5s						
IZV				Lg	Lg	02 01 30.4	
	8.0nm,0.7s						
TNSS	**Tian-Shan**	**5.13**	**10**	*e*P	**Pb**	**02 00 19.7**	**-4.0**
	3.5nm,0.5s						
TNSS				*e*S	**Sn**	**02 01 11.4**	**+1.1**
	2.6nm,0.6s						
TNSS	**Tian-Shan**	**5.13**	**10**	Pg	**Pb**	**02 00 19.7**	**-4.0**
	3.5nm,0.5s						
TNSS				Pg	**Pg**	**02 00 32.3**	**+0.4**
	6.4nm,0.5s						
TNSS				Lg	Lg	02 01 11.4	
	2.6nm,0.6s						
TNSS				Lg	Lg	02 01 31.2	
	4.4nm,0.5s						
DGS	**Degeres**	**5.25**	**0**	*e*P	**Pb**	**02 00 22.2**	**-3.4**
	4.7nm,0.3s						
DGS	**Degeres**	**5.25**	**0**	P	**Pb**	**02 00 22.3**	**-3.4**
	4.7nm,0.3s						
DGS				Pg	**Pg**	**02 00 35.2**	**+0.9**
	8.8nm,0.4s						
DGS				Lg	Lg	02 01 36.3	
	8.0nm,0.3s						
MDOK	**Medeo**	**5.27**	**10**	*e*P	**Pb**	**02 00 22.1**	**-3.8**
	4.5nm,0.8s						
MDOK				*e*S	**Sn**	**02 01 15.6**	**+2.2**
	7.0nm,0.6s						
MDOK	**Medeo**	**5.27**	**10**	Pg	**Pg**	**02 00 35.5**	**+1.0**
	5.8nm,0.8s						
MDOK				Lg	Lg	02 01 29.9	
	9.4nm,0.7s						
MDOK	**Medeo**	**5.27**	**10**	Pg	**Pb**	**02 00 22.1**	**-3.8**
	4.5nm,0.8s						
MDOK				Lg	Lg	02 01 15.6	
	7.0nm,0.6s						
KOTS	**Kotyrbulak**	**5.34**	**11**	*e*P	Pb	02 00 22.1	-5.2
	2.9nm,0.7s						
KOTS	**Kotyrbulak**	**5.34**	**11**	P	Pb	02 00 22.0	-5.2
	2.9nm,0.7s						
KOTS				Pg	**Pg**	**02 00 35.6**	**-0.5**
	5.3nm,0.2s						
KOTS				Lg	Lg	02 01 36.8	
	20nm,0.6s						
SGDS	**Sogindy**	**5.53**	**351**	Pg	**Pg**	**02 00 39.5**	**-0.1**
	2.0nm,0.3s						
SGDS				Lg	Lg	02 01 43.5	
	4.5nm,0.7s						
KRBS	**Karabastau**	**5.71**	**359**	*e*P	**Pb**	**02 00 31.5**	**-1.9**
	0.9nm,0.3s						
KRBS	**Karabastau**	**5.71**	**359**	P	**Pb**	**02 00 31.5**	**-1.9**
	0.9nm,0.3s						
KRBS				Pg	**Pg**	**02 00 42.1**	**-0.8**
	3.2nm,0.4s						
KRBS				Lg	Lg	02 01 47.9	
	4.2nm,0.4s						
KTBS	**Karatobe**	**5.76**	**7**	*e*P	**Pb**	**02 00 31.1**	**-3.2**
	1.2nm,0.3s						
KTBS	**Karatobe**	**5.76**	**7**	P	**Pb**	**02 00 31.1**	**-3.2**
	1.2nm,0.3s						
KTBS				Pg	**Pg**	**02 00 43.4**	**-0.6**
	2.7nm,0.4s						
KTBS				Lg	Lg	02 01 50.2	
	9.6nm,0.4s						

KURS	Kuram	5.79	18	*e*P		Pb	02 00 29.4	-5.4
	6.4nm,0.5s							
KURS	Kuram	5.79	18	P		Pb	02 00 29.4	-5.4
	6.4nm,0.5s							
SHLS	Shalkode	5.88	27	*e*P		Pb	02 00 32.2	-4.2
	20nm,0.3s							
SHLS	Shalkode	5.88	27	P		Pb	02 00 32.2	-4.2
	20nm,0.3s							
KUU	Kurty	5.92	4	*e*P		**Pb**	**02 00 34.1**	**-2.8**
	1.8nm,0.6s							
KUU				*e*S		**Sn**	**02 01 36.1**	**+6.8**
	4.9nm,0.1s							
KUU	Kurty	5.92	4	Pg		**Pb**	**02 00 34.1**	**-2.8**
	1.8nm,0.6s							
KUU				Lg		Lg	02 01 36.1	
	4.9nm,0.1s							
PDGK	Podgornoye	6.04	27	Pg		Pb	02 00 32.3	-6.8
	4.0nm,0.4s							
PDGK				Lg		Lg	02 01 33.2	
	6.4nm,1.0s							
PDGK	Podgornoye	6.04	27	⇑Pn		Pb	02 00 32.1	-7.0
	8.1nm,0.7s							
PDGK				⇑Sn		**Sn**	**02 01 32.6**	**+0.1**
	19nm,0.9s							
KK31	Karatay Array	6.49	324	⇓Pn		Pn	02 00 36.8	+7.5
	0.3nm,0.2s,baz=130,slow=12,SNR=24							
KK31				⇑Sn		**Sn**	**02 01 45.0**	**+1.7**
	1.1nm,0.3s,baz=148,slow=22,SNR=8.2							
MKAR	Makanchi Array	10.04	27	Pn		**Pn**	**02 01 22.1**	**+4.2**
	0.2nm,0.3s,baz=209,slow=16,SNR=6.9							
KURBB	Kurchatov Arra	12.79	8	Pn		**Pn**	**02 01 59.3**	**+3.9**
	0.0nm,0.3s,baz=184,slow=12,SNR=1.6							
ZALV	Zalesovo Beam	17.14	18	P		**P**	**02 02 55.5**	**+0.8**
	0.6nm,0.3s,baz=211,slow=11,SNR=8.5							
AKTO	Aktyubinsk	17.74	320	P		**P**	**02 03 01.5**	**0.0**
	0.1nm,0.3s,baz=128,slow=10,SNR=2.5							
SONM	Songino Array	24.36	56	P		**P**	**02 04 13.8**	**+1.9**
	1.0nm,0.6s,baz=264,slow=11,SNR=5.7							
FINES	FINESS Array B	38.45	324	P		**P**	**02 06 14.5**	**-0.8**
	0.5nm,0.3s,baz=115,slow=10,SNR=6.9							
ARCES	ARCESS Array B	41.29	336	P		**P**	**02 06 37.6**	**-1.2**
	0.5nm,0.6s,baz=106,slow=7.9,SNR=7.4							
TORD	Torodi Ar. Bea	69.52	271	P		**P**	**02 10 00.6**	**-2.3**
	0.1nm,0.4s,baz=50,slow=5.9,SNR=4.8							

ANF ***15*** *02:12:31.2±0.2,36°.09N×97°.45W,h4km,ML3.4/14, Error ellipse: s-maj=2.5km s-min=2.2km az=170.0*
TUL ***15*** *02:12:31.2±0.7,36°.07N±0°.01×97°.44W±0°.02,h2km±7km, ML3.0, mb_Lg2.9/63(NEIC), Error ellipse: s-maj=2.5km s-min=1.2km az=123.0*
NEIC ***15*** *02:12:31.3±0.6,36°.08N±0°.01×97°.45W±0°.02,h5km±7km, Error ellipse: s-maj=2.6km s-min=1.4km az=121.0*

ISC 15 02:12:31.4±1.2,36°.09N±0°.02×97°.45W±0°.02,h4km±10km, n77,σ0°51/70,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.29	180	Pg	**Pg**	**02 12 37.0**	**+0.1**
OK029				Sg	**Sg**	**02 12 41.0**	**+0.3**
OK025	Westminster Rd	0.51	169	Pg	**Pg**	**02 12 41.1**	**0.0**
OK025				Sg	**Sg**	**02 12 48.2**	**+0.4**
OK031	S. Brethren Rd	0.51	105	Pg	**Pg**	**02 12 41.2**	**0.0**
OK031				Sg	**Sg**	**02 12 48.4**	**+0.5**
CROK	Carrier	0.60	314		**Pg**	**02 12 42.7**	**-0.2**
QUOK	Quay	0.61	82	Pg	**Pg**	**02 12 43.1**	**0.0**
QUOK				Sg	**Sg**	**02 12 51.5**	**+0.5**
OKCFA	Oklahoma City	0.67	180	Pg	**Pg**	**02 12 44.0**	**-0.2**
OKCFA				Sg	**Sg**	**02 12 53.8**	**+1.0**
OKCFA	Oklahoma City baz=360,SNR=19	0.67	180	P	**Pg**	**02 12 44.0**	**-0.2**
OKCSW	OKLAHOMA CITY	0.68	179		**Pg**	**02 12 44.2**	**-0.2**
OKCSW				Sg	**Sg**	**02 12 53.7**	**+0.5**
BLOK	Blackwell	0.70	16		**Pg**	**02 12 44.8**	**-0.1**
FNO	Franklin	0.83	177		**Pg**	**02 12 46.7**	**-0.5**
FNO				IAmb_Lg		02 12 57.1	
	comp=Z,108nm,1.0s						
FNO				Sg	**Sg**	**02 12 58.1**	**+0.2**
GC02	Grant County #	0.83	337		**Pg**	**02 12 47.4**	**0.0**
OK032	Salt Plains WL	0.94	320		**Pg**	**02 12 49.2**	**-0.3**
KAN14	Manchester OK	0.96	335		**Pg**	**02 12 49.8**	**0.0**
KAN17	Caldwell West	0.99	345		**Pg**	**02 12 50.3**	**-0.1**
KAN05	Bluff City Nor	1.08	342	IAmb_Lg		02 13 05.6	
	comp=Z,58nm,1.2s						
T35A	Sooner Cattle	1.12	42		**Pg**	**02 12 52.6**	**-0.3**
T35B	Sooner Cattle baz=222,SNR=38	1.12	42	P	**Pg**	**02 12 52.6**	**-0.4**
T35B				S	**Sg**	**02 13 07.6**	**+0.1**
	baz=222						
KAN12	Harper NE Stat	1.29	340		**Pg**	**02 12 55.7**	**-0.4**
U32A	Winter Ranch,	1.29	284		**Pg**	**02 12 55.4**	**-0.6**
U32A	Winter Ranch, baz=103,SNR=13	1.29	284	P	**Pg**	**02 12 55.4**	**-0.6**
TUL1	Leonard baz=278	1.36	97	P	**Pn**	**02 12 55.7**	**-1.5**
TUL1				S	**Sg**	**02 13 15.2**	**+0.2**
	baz=278						
X34A	Smith Ranch, M	1.51	192		**Pn**	**02 12 59.2**	**-0.1**
WMOK	Wichita Mounta	1.73	219		**Pn**	**02 13 02.1**	**-0.1**
WMOK	Wichita Mounta baz=39,SNR=58	1.73	219	P	**Pn**	**02 13 02.2**	**-0.1**
WMOK				S	**Sb**	**02 13 25.5**	**-0.3**
	baz=39						
LOOK	Love County	2.10	174		**Pn**	**02 13 07.4**	**0.0**
X37A	Clayton	2.26	131		**Pn**	**02 13 09.5**	**-0.1**
X37A				IAmb_Lg		02 13 45.3	
	comp=Z,40nm,0.7s						
X37A	Clayton baz=312,SNR=35	2.26	131	P	**Pn**	**02 13 09.9**	**+0.3**
U38A	Gravette	2.50	81	Pn	**Pn**	**02 13 13.1**	**+0.2**
U38A	Gravette baz=262	2.50	81	P	**Pn**	**02 13 13.4**	**+0.5**
R32A	Long Quarter,	2.54	337		**Pn**	**02 13 13.6**	**+0.1**
R32A	Long Quarter, baz=156	2.54	337	S	**Sn**	**02 13 45.8**	**+0.9**
Z35A	Perchaven, San	2.75	177	Pn	**Pn**	**02 13 16.0**	**-0.3**
HHAR	Hobbs	2.85	85		**Pn**	**02 13 17.5**	**-0.2**
HHAR	Hobbs baz=267	2.85	85	P	**Pn**	**02 13 17.9**	**+0.2**
KSU1	Kansas State U	3.08	12		**Pn**	**02 13 20.3**	**-0.6**
KSU1				IAmb_Lg		02 14 17.8	
	comp=Z,22nm,0.8s						
W39A	Magazine	3.12	105		**Pn**	**02 13 21.2**	**-0.1**
W39A	Magazine baz=288	3.12	105	P	**Pn**	**02 13 21.4**	**0.0**
CBKS	Cedar Bluff	3.27	327	S	**Sn**	**02 14 04.4**	**+1.4**
Z38A	Mt. Pleasant baz=146	3.48	143		**Pn**	**02 13 25.7**	**-0.6**
Z38A				IAmb_Lg		02 14 25.5	
	comp=Z,24nm,0.7s						
MIAR	Mount Ida	3.52	115		**Pn**	**02 13 26.4**	**-0.5**
MIAR				IAmb_Lg		02 14 28.0	
	comp=Z,20nm,0.8s						
MIAR	Mount Ida baz=297,SNR=10	3.52	115	P	**Pn**	**02 13 27.3**	**+0.3**
MIAR				S	**Sn**	**02 14 09.9**	**+0.8**
	baz=297						
AMTX	Amarillo	3.65	252		**Pn**	**02 13 28.0**	**-0.8**
S39A	Bolivar	3.68	63		**Pn**	**02 13 28.8**	**-0.3**
S39A				IAmb_Lg		02 14 30.5	
	comp=Z,31nm,0.8s						
S39A	Bolivar baz=245,SNR=12	3.68	63	P	**Pn**	**02 13 29.3**	**+0.3**
U40A	Yellville	3.73	84		**Pn**	**02 13 29.4**	**-0.3**
U40A				IAmb_Lg		02 14 32.2	
	comp=Z,20nm,0.7s						
U40A	Yellville baz=267,SNR=5.8	3.73	84	P	**Pn**	**02 13 29.3**	**-0.5**
ABTX	Abilene, Hawle	3.90	208		**Pn**	**02 13 31.9**	**-0.2**
WHTX	Lake Whitney,	4.08	180	Pn	**Pn**	**02 13 34.5**	**-0.1**
X40A	Basin Creek Fa	4.10	112		**Pn**	**02 13 34.6**	**-0.2**
X40A				IAmb_Lg		02 14 43.4	
	comp=Z,19nm,0.7s						
WHAR	Wooly Hollow	4.28	99		**Pn**	**02 13 35.8**	**-1.5**
WHAR				IAmb_Lg		02 14 52.6	
	comp=Z,18nm,0.9s						
WLAR	White Oak Lake	4.29	123	Pn	**Pn**	**02 13 36.9**	**-0.6**
WLAR				IAmb_Lg		02 14 59.2	
	comp=Z,18nm,0.7s						
MGMO	Mountain Grove	4.30	74		**Pn**	**02 13 37.1**	**-0.6**
MGMO				IAmb_Lg		02 14 46.1	
	comp=Z,28nm,0.8s						
FCAR	Ozark Folk Cen	4.33	91	Pn	**Pn**	**02 13 37.3**	**-0.6**
FCAR				IAmb_Lg		02 14 51.0	
	comp=Z,17nm,1.0s						
W41B	Gary Mavity, V	4.33	101	P	**Pn**	**02 13 37.5**	**-0.6**
	baz=284,SNR=11						
W41B				S	**Sn**	**02 14 28.4**	**-0.7**
	baz=284						
R40A	Maddies Statio	4.69	60		**Pn**	**02 13 42.5**	**-0.4**
R40A				IAmb_Lg		02 15 00.1	
	comp=Z,26nm,0.7s						
R40A	Maddies Statio baz=243,SNR=10	4.69	60	P	**Pn**	**02 13 42.7**	**-0.2**
P38A	Dawn	4.70	40		**Pn**	**02 13 42.9**	**-0.2**
P38A				IAmb_Lg		02 15 06.1	
	comp=Z,16nm,0.7s						
MSTX	Muleshoe	4.85	246		**Pn**	**02 13 45.0**	**-0.3**
KSCO	Kaye Shedlock'	5.04	307	IAmb_Lg		02 15 22.3	
	comp=Z,15nm,0.7s						
CCAR	Cane Creek	5.14	113	Pn	**Pn**	**02 13 48.7**	**-0.4**
CCM	Cathedral Cave	5.34	67	IAmb_Lg		02 15 27.5	
	comp=Z,16nm,0.8s						
BGNE	Belgrade	5.34	354	IAmb_Lg		02 15 30.8	
	comp=Z,30nm,1.0s						
P40A	Paris	5.49	50	IAmb_Lg		02 15 30.0	
	comp=Z,31nm,0.8s						
T25A	Trinidad	5.70	283	IAmb_Lg		02 15 40.5	
	comp=Z,11nm,0.9s						
PBMO	Poplar Bluff	5.70	81	IAmb_Lg		02 15 38.0	
	comp=Z,16nm,0.8s						
N38A	Joes South For	5.75	34	IAmb_Lg		02 15 45.3	
	comp=Z,28nm,0.7s						
LPAR	Lepanto	5.83	93	IAmb_Lg		02 15 38.6	
	comp=Z,23nm,0.7s						
JCT	Junction City	5.93	200	IAmb_Lg		02 15 53.6	
	comp=Z,18nm,0.8s						
L34A	Svendsen Farm,	5.93	8	IAmb_Lg		02 15 49.2	
	comp=Z,22nm,0.7s						
OGNE	Ogallala	6.04	325	IAmb_Lg		02 15 52.2	
	comp=Z,19nm,0.7s						
SLM	Saint Louis	6.29	64	IAmb_Lg		02 15 50.5	
	comp=Z,25nm,0.8s						
SCIA	State Center	6.68	28	IAmb_Lg		02 16 17.5	
	comp=Z,16nm,0.7s						
L40A	Anamosa	7.69	37	IAmb_Lg		02 16 35.0	
	comp=Z,17nm,0.9s						
PHWY	Pilot Hill	8.14	312	IAmb_Lg		02 16 54.3	
	comp=Z,7.4nm,0.9s						
O44A	Mansfield	8.16	57	IAmb_Lg		02 16 51.4	
	comp=Z,19nm,0.8s						
L42A	Oliver, Polo	8.46	43	IAmb_Lg		02 17 12.0	
	comp=Z,16nm,1.0s						
K22A	Casper	9.60	316	IAmb_Lg		02 18 01.7	
	comp=Z,11nm,1.2s						

ATH ***15*** *02:37:20.8,34°.86N×28°.14E,h10km±4km, ML3.0/5, Error ellipse: s-maj=4.8km s-min=1.6km az=281.0*
DDA ***15*** *02:37:22.0,35°.06N×27°.91E,h11km±30km, MW3.5*
HLW ***15*** *02:37:23.6,34°.82N×28°.15E,h9km±15km,Md3.9, Ml3.8*
IDC ***15*** *02:37:24.5±3.8,35°.10N×28°.03E,h34km±36km, mb3.4/8, mb1 3.5/13,mb1mx3.4/40,mbtmp3.6/13, ML3.5/5, MS2.7/1, Ms1 2.7/1,ms1mx2.1/39, Error ellipse: s-maj=21.3km s-min=15.9km az=172.0*
NIC ***15*** *02:37:24.2±0.0,35°.05N×28°.03E,h79km±5km, Ml3.4/6*
ISK ***15*** *02:37:24.7,35°.11N×27°.96E,h85km, ML3.2/22*
THE ***15*** *02:37:25.3,35°.08N×28°.00E,h9km±3km,ML3.0/3, Error ellipse: s-maj=4.0km s-min=1.2km az=145.0*

ISC 15 02:37:21.7±1.2,34°.97N±0°.03×28°.07E±0°.02,h15km±9km, n102,σ1°43/124,mb3.5/8,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.94	308	P	**Pn**	**02 37 40.6**	**+0.2**
KARP				S	**Sn**	**02 37 53.7**	**+0.1**
	2µm,0.6s						
KARP	Karpathos	0.94	308	P	**Pn**	**02 37 40.4**	**0.0**
KARP				S	**Sn**	**02 37 55.3**	**+1.6**
KARP				AML	AML	02 37 58.3	
	comp=N,4591µm,0.6s						
KARP				AML	AML	02 38 01.9	
	comp=E,2970µm,0.6s						
KARP	Karpathos	0.94	308	PG	**Pn**	**02 37 42.0**	**+1.6**
KARP				SG	**Sn**	**02 37 55.3**	**+1.6**
KARP	Karpathos	0.94	308	P	**Pn**	**02 37 41.8**	**+1.4**
KARP				S	**Sn**	**02 37 55.4**	**+1.8**
KARP				AML	AML	02 37 58.2	
	comp=E,4.6nm,0.6s						
KARP				AML	AML	02 37 58.2	
	comp=E,4.6nm,0.6s						
KARP				AML	AML	02 38 01.5	
	comp=E,3.0nm,0.6s						
KARP				AML	AML	02 38 01.5	
	comp=E,3.0nm,0.6s						
ARG	Arkhangelos	1.25	2	P	**Pg**	**02 37 46.2**	**+0.5**
ARG				S	**Sn**	**02 38 01.5**	**+0.5**
	comp=E,600nm,0.7s						
ARG	Arkhangelos	1.25	2	P	**Pg**	**02 37 46.0**	**+0.2**
ARG				S	**Sg**	**02 38 03.3**	**+1.4**
ARG				AML	AML	02 38 14.1	
	comp=N,1360µm,0.9s						
ARG				AML	AML	02 38 20.8	
	comp=E,1131µm,0.6s						
ARG	Arkhangelos	1.25	2	PN	**Pg**	**02 37 46.2**	**+0.5**
ARG				SN	**Sg**	**02 38 01.9**	**-0.1**
ARG	Arkhangelos	1.25	2	P	**Pg**	**02 37 45.9**	**+0.2**
ZKR	Zakros	1.53	276	P	**Pb**	**02 37 50.2**	**+0.5**
ZKR				S	**Sb**	**02 38 09.3**	**+0.4**
	comp=E,270nm,0.7s						
ZKR	Zakros	1.53	276	P	**Pb**	**02 37 50.0**	**+0.2**
ZKR				S	**Sg**	**02 38 11.4**	**+0.4**
ZKR				AML	AML	02 38 30.5	
	comp=N,389µm,0.9s						
ZKR				AML	AML	02 38 36.3	
	comp=E,733µm,0.8s						
ZKR	Zakros	1.53	276	PN	**Pb**	**02 37 50.1**	**+0.4**
ZKR				SN	**Sb**	**02 38 09.0**	**+0.1**
ZKR	Zakros	1.53	276	P	**Pb**	**02 37 50.0**	**+0.2**
ZKR				AML	AML	02 38 10.7	
	comp=E,0.7nm,0.6s						
STIA	Sitia Lasithi	1.64	279	P	**Pb**	**02 37 52.1**	**+0.5**
STIA				S	**Sb**	**02 38 12.2**	**+0.1**
KSL	Kastellorizon	1.71	46	P	**Pb**	**02 37 52.6**	**-0.1**
KSL	Kastellorizon	1.71	46	P	**Pb**	**02 37 52.2**	**-0.6**
KSL				S	**Sg**	**02 38 15.5**	**-1.1**
KSL				AML	AML	02 38 50.6	
	comp=E,339µm,1.6s						
KSL				AML	AML	02 38 56.2	
	comp=N,252µm,1.1s						
KSL	Kastellorizon	1.71	46	P	**Pb**	**02 37 52.3**	**-0.4**
KSL				S	**Sb**	**02 38 14.0**	**+0.1**
KSL				AML	AML	02 38 49.8	
	comp=N,0.4nm,1.7s						
KSL				AML	AML	02 38 49.8	
	comp=N,0.4nm,1.7s						
MRSB	Marmaris-Mugla	1.75	3	PN	**Pb**	**02 37 52.7**	**-0.8**
AKAS	Kas	1.77	44	*i* P	**Pb**	**02 37 53.1**	**-0.9**
DAT	Datca	1.80	347	PN	**Pn**	**02 37 53.3**	**+1.0**
TURN	Turunc	1.81	4	*i* P	**Pb**	**02 37 54.3**	**-0.1**
TURN	Turunc	1.81	4	PN	**Pb**	**02 37 53.7**	**-0.8**
FETY	Fethiye	1.85	26	PN	**Pb**	**02 37 54.9**	**-0.4**
DALY	Dalyan (Mula)	1.90	14	PN	**Pb**	**02 37 55.1**	**-1.0**
NPS	Neapolis	2.04	279	P	**Pb**	**02 37 57.6**	**-0.8**
NPS	Neapolis	2.04	279	P	**Pb**	**02 37 57.9**	**-0.5**
NPS				AML	AML	02 38 46.5	
	comp=E,522µm,0.9s						
NPS				AML	AML	02 38 49.8	
	comp=N,527µm,1.2s						
BDRM	Kayabasi	2.15	346	*i* P	**Pn**	**02 37 57.0**	**0.0**
YER	Yerkesik	2.17	4	PN	**Pn**	**02 37 58.7**	**+1.4**
BODT	Bodrum	2.18	344	PN	**Pn**	**02 37 57.9**	**+0.5**
CAME	Cameli-Denizli	2.21	27	PN	**Pb**	**02 37 59.8**	**-1.6**
AKUM	Antalya-Kumluc	2.29	53	*i* P	**Pn**	**02 37 60.0**	**+1.1**
AKUM				*i* S	**Sn**	**02 38 25.8**	**-1.0**
AKUM				IAML		02 38 31.0	
	comp=E,20nm,0.5s						
AKUM				IAML		02 38 33.0	
	comp=N,24nm,0.4s						
MULA	Mugla, Merkez-	2.29	5	*i* P	**Pn**	**02 38 00.9**	**+1.9**
ELL	Elmali	2.32	40	PN	**Pb**	**02 38 01.9**	**-1.4**
ELL	Elmali	2.32	40	P	**Pn**	**02 38 01.3**	**+1.9**
MLSB	Milas	2.33	354	PN	**Pn**	**02 38 00.6**	**+1.0**
CAEL	Denizli, Camel	2.38	25	*i* P	**Pn**	**02 38 01.5**	**+1.3**
HRKL	Herakleio	2.46	279	PN	**Pn**	**02 38 03.0**	**+1.8**
SANT	Santorini	2.55	304	*i* P	**Pn**	**02 38 02.1**	**-0.4**
SANT	Santorini	2.55	304	PN	**Pn**	**02 38 03.7**	**+1.2**
GOLH	Golhisar	2.56	28	*i* P	**Pn**	**02 38 03.9**	**+1.1**
GOLH				IAML		02 38 31.0	
	comp=E,15nm,0.8s						
GOLH				*i* S	**Sn**	**02 38 36.0**	**+2.3**
TAVA	DENIZLI_Tavas	2.58	15	*i* P	**Pn**	**02 38 04.2**	**+1.1**
IDI	Anoyia	2.63	278	Pn	**Pn**	**02 38 05.6**	**+1.9**
	comp=E,10.0nm,0.3s,baz=73,slow=10,SNR=34						
AYDN	Tasoluk	2.69	357	*i* P	**Pn**	**02 38 03.9**	**-0.6**
KORT	Korkueli	2.74	42	*i* P	**Pn**	**02 38 07.1**	**+1.9**
KORT				*i* S	**Sn**	**02 38 41.1**	**+2.9**
KORT				IAML		02 38 52.0	
	comp=N,34nm,0.4s						
KORT	Korkueli	2.74	42	PN	**Pn**	**02 38 07.8**	**+2.5**
GCAM	G?zelcaml?	2.81	346	PN	**Pn**	**02 38 06.9**	**+0.9**
ANTB	Antalya	2.85	47	PN	**Pn**	**02 38 09.3**	**+2.8**
APE	Apeiranthos	2.94	316	*i* P	**Pn**	**02 38 08.0**	**+0.2**
APE	Apeiranthos	2.94	316	PN	**Pn**	**02 38 08.9**	**+1.0**
AYDB	Zeytinkoy-Aydi	2.98	357	PN	**Pn**	**02 38 09.3**	**+0.8**
OSC1	CSNet OBS 1	3.03	118	P	**Pn**	**02 38 11.9**	**+2.8**
OSC1				S	**Sb**	**02 38 50.0**	**-2.1**
BUCA	Burdur, Bucak-	3.10	40	*i* P	**Pb**	**02 38 14.3**	**-2.2**
BUCA				*i* S	**Sn**	**02 38 47.4**	**+0.5**
BRDR	BURDUR-Merkez	3.16	30	*i* P	**Pn**	**02 38 13.1**	**+2.1**
DGB	zmir	3.22	343	*i* P	**Pn**	**02 38 10.7**	**-1.0**
GVD	Gavdhos	3.28	269	PN	**Pn**	**02 38 14.3**	**+1.8**
IMMV	Iera Moni Meta	3.39	279	PN	**Pn**	**02 38 15.7**	**+1.7**
AKMS	Akamas	3.50	88	P	**Pn**	**02 38 17.3**	**+1.7**
AKMS				AML	AML	02 38 57.0	
	comp=N,0.2nm,0.3s						
AKMS				AML	AML	02 38 60.0	
	comp=N,0.3nm,0.5s						
MANT	Manisa	3.54	6	*i* P	**Pn**	**02 38 16.4**	**+0.1**
KULA	Kula-Manisa	3.57	7	PN	**Pn**	**02 38 17.5**	**+0.9**
URLA	Izmir	3.59	341	*i* P	**Pn**	**02 38 14.9**	**-1.9**
URLA	Izmir	3.59	341	PN	**Pn**	**02 38 17.4**	**+0.6**
KNDR	Palaiochora Ch	3.61	275	PN	**Pn**	**02 38 19.1**	**+2.1**
KZIL	AFYON_Kizioren	3.68	26	*i* P	**Pn**	**02 38 19.1**	**+0.9**
NATA	Nata	3.70	92	P	**Pn**	**02 38 20.7**	**+2.3**
ALFC	Alefka	3.72	86	P	**Pn**	**02 38 19.6**	**+1.0**
ALFC				AML	AML	02 39 04.0	
	comp=N,0.2nm,0.7s						
ALFC				AML	AML	02 39 04.0	
	comp=N,0.2nm,0.7s						
ALFC				AML	AML	02 39 04.2	
	comp=N,0.2nm,0.2s						
ALFC				AML	AML	02 39 04.2	
	comp=N,0.2nm,0.2s						
ALFC				S	**Sn**	**02 39 04.6**	**+2.5**
USAK	Uak-Merkez	3.81	11	*i* P	**Pn**	**02 38 20.9**	**+0.9**
SZAC	Souni	3.96	92	P	**Pn**	**02 38 23.6**	**+1.7**
SZAC				AML	AML	02 39 11.2	
	comp=N,0.3nm,0.9s						
SZAC				AML	AML	02 39 11.8	
	comp=N,0.2nm,0.7s						
OSC2	CSNet OBS 4	3.96	117	S	**Sn**	**02 39 11.8**	**+3.8**
ZEDA	zmir-Bergama	4.07	349	*i* P	**Pn**	**02 38 22.0**	**-1.3**
YVAC	Isparta, Yalva	4.17	37	*i* P	**Pn**	**02 38 28.0**	**+3.2**
SLUM	Salum baz=218	4.22	215	P	**Pn**	**02 38 26.5**	**+1.1**
SLUM				AMP		02 39 00.0	
	baz=218						
SLUM				S	**Sn**	**02 39 12.5**	**-1.9**
	baz=218						
ASGA	Asgata	4.26	91	P	**Pn**	**02 38 28.0**	**+2.1**
GDZ	Gediz	4.26	15	*i* P	**Pn**	**02 38 26.2**	**0.0**
KTHA	Kythira Island	4.28	289	PN	**Pn**	**02 38 27.0**	**+0.7**
CSS	Mathiatis	4.32	89	P	**Pn**	**02 38 28.6**	**+1.8**
CSS				S	**Sn**	**02 39 20.2**	**+3.3**
STEP	BALIKESIR_Sava	4.41	356	*i* P	**Pn**	**02 38 27.1**	**-1.0**
MVOU	Mavrovouni	4.56	88	P	**Pn**	**02 38 32.8**	**+2.6**
BUHA	Balikesir, Bur	4.59	350	*i* P	**Pn**	**02 38 30.7**	**+0.1**
DURS	Dursunbey	4.63	4	*i* P	**Pn**	**02 38 31.3**	**+0.1**
SWA2		6.12	202	P	**Pn**	**02 38 51.8**	**+0.1**
	baz=204						
MMAI	Mount Meron Ar	6.39	106	Pn	**Pn**	**02 38 56.6**	**+1.2**
	comp=N,1.1nm,0.3s,baz=302,slow=11,SNR=12						
MMAI				Sn	**Sn**	**02 40 08.5**	**+0.4**
	comp=N,3.1nm,0.3s,baz=295,slow=22,SNR=6.3						
BRTR	Keskin Array B	6.50	41	Pn	**Pn**	**02 38 59.3**	**+2.4**
	comp=N,0.3nm,0.3s,baz=218,slow=15,SNR=16						
SUZ	Suez baz=140	6.51	140	P	**Pn**	**02 38 56.8**	**-0.1**
EIL	Elat	7.86	130	Pn	**Pn**	**02 39 16.5**	**+1.0**
	comp=N,0.7nm,0.3s,baz=231,slow=3.1,SNR=18						
EIL				Sn	**Sn**	**02 40 41.0**	**-3.1**
	comp=N,1.0nm,0.3s,baz=18,slow=8.8,SNR=9.0						
HBST	Basata baz=133	8.05	134	P	**Pn**	**02 39 19.3**	**+1.3**
NUB	Nuweibaa baz=134	8.14	135	P	**Pn**	**02 39 20.9**	**+1.6**
HKAT	Jabal Katrina baz=140	8.17	140	P	**Pn**	**02 39 20.5**	**+0.6**
STON	Ston	11.29	317	*e*Pn	**Pn**	**02 40 00.8**	**-1.5**
RICI	Ricice	12.01	318	*e*Pn	**Pn**	**02 40 10.9**	**-1.4**
KIJV	Kijevo	12.74	319	*e*Pn	**Pn**	**02 40 20.8**	**-1.5**
VRAC	Vranov	16.64	333	LR	LR	02 47 27.0	
	comp=N,27nm,18.7s,baz=139,slow=36						
CKRC	Cesky Krumlov	17.18	328	*e*P	**Pn**	**02 41 20.9**	**-0.2**
GERES	GERESS Array B	17.47	327	P	**Pn**	**02 41 24.5**	**-0.2**
	comp=N,0.1nm,0.3s,baz=130,slow=12,SNR=7.9						
DPC	Dobruska-Polom	17.60	334	*e*P	**Pn**	**02 41 26.7**	**+0.4**
KHC	Kasperske Hory	17.73	327	*e*P	**Pn**	**02 41 27.5**	**-0.5**
ESDC	Sonseca Array	25.83	290	P	**P**	**02 42 51.7**	**-0.7**
	comp=N,1.0nm,0.7s,baz=83,slow=9.5,SNR=10						
FINES	FINES

PB04	**IPOC Station P**	**3.42**	**277**	⇑	*i* P	**Pn**	**02 41 07.5**	**+1.4**
PB04					*i* S	**S**	**02 41 51.4**	**-0.9**
PB04	**IPOC Station P**	**3.42**	**277**			**Pn**	**02 41 07.2**	**+1.1**
PB05	**IPOC Station P**	**3.44**	**268**	⇑	*i* P	**Pn**	**02 41 07.4**	**+1.3**
PB05					*e* S	**S**	**02 41 51.0**	**-1.5**
PB02	**IPOC Station P**	**3.49**	**294**	⇑	*i* P	**Pn**	**02 41 08.0**	**+1.3**
PB02					*e* S	**S**	**02 41 52.3**	**-1.2**
PB08	**IPOC Station P**	**3.62**	**316**	⇑	*i* P	**Pn**	**02 41 10.8**	**+2.3**
PB08					*i* S	**S**	**02 41 57.0**	**+0.4**
PB08	**IPOC Station P**	**3.62**	**316**			**Pn**	**02 41 10.7**	**+2.3**
PB10	**IPOC Station P**	**3.83**	**258**	⇑	*i* P	**Pn**	**02 41 11.7**	**+1.4**
PB10					*i* S	**S**	**02 41 58.0**	**-2.2**
PB10	**IPOC Station P**	**3.83**	**258**			**Pn**	**02 41 11.6**	**+1.2**
HMBC	**Humberstone**	**4.03**	**307**	⇑	*i* P	**Pn**	**02 41 13.6**	**+0.7**
HMBC					*i* S	**S**	**02 42 02.7**	**-2.0**
PB14	**IPOC Station P**	**4.05**	**242**	⇓	*i* P	**Pn**	**02 41 14.2**	**+1.0**
PB14					*i* S	**S**	**02 42 03.3**	**-1.9**
PB14	**IPOC Station P**	**4.05**	**242**			**Pn**	**02 41 14.3**	**+1.1**
TA01	**Diego Aracena**	**4.09**	**302**	⇑	*e* P	**Pn**	**02 41 14.1**	**+0.8**
TA01					*i* S	**S**	**02 42 03.6**	**-2.0**
TA01	**Diego Aracena**	**4.09**	**302**			**Pn**	**02 41 14.3**	**+1.0**
PB11	**IPOC Station P**	**4.22**	**315**	⇑	*i* P	**Pn**	**02 41 16.0**	**+0.9**
PB11					*i* S	**S**	**02 42 06.8**	**-1.8**
PB11	**IPOC Station P**	**4.22**	**315**		Pn	**Pn**	**02 41 16.1**	**+1.0**
TA02	**Huaiquique**	**4.22**	**306**		*e* P	**Pn**	**02 41 15.4**	**+0.6**
TA02					*e* S	**S**	**02 42 06.0**	**-2.4**
TA02	**Huaiquique**	**4.22**	**306**		Pn	**Pn**	**02 41 16.0**	**+1.1**
PSGC	**Pisagua**	**4.64**	**312**		*e* P	**Pn**	**02 41 20.3**	**+0.3**
PSGC					*i* S	**S**	**02 42 14.6**	**-3.1**
PSGCX	**Pisagua**	**4.64**	**312**			**Pn**	**02 41 20.4**	**+0.4**
AC02	**Maricunga**	**4.71**	**210**			**Pn**	**02 41 22.1**	**+1.0**
AP01	**Chacalluta**	**5.68**	**320**		Pn	**Pn**	**02 41 33.3**	**+0.9**
AC06	**Mina Casimiro**	**5.76**	**217**		Pn	**Pn**	**02 41 33.3**	**-0.1**
GO03	**Copiap**	**5.88**	**215**		Pn	**Pn**	**02 41 34.6**	**-0.3**
LPAZ	**La Paz**	**6.64**	**346**		P	**Pn**	**02 41 46.9**	**+2.0**
	comp=N,0.7nm,0.3s,baz=146,slow=8.8,SNR=19							
LPAZ					S	**S**	**02 43 03.1**	**+0.3**
	comp=N,0.3nm,0.3s,baz=285,slow=20,SNR=7.1							
LPAZ	**La Paz**	**6.64**	**346**		Pn	**Pn**	**02 41 45.2**	**+0.3**
AC04	**Llanos de Chal**	**6.82**	**217**		Pn	**Pn**	**02 41 45.8**	**-0.6**
GO04	**Tololo Observa**	**8.32**	**207**		Pn	**Pn**	**02 42 05.5**	**+0.1**
SIV	**San Ignacio**	**8.46**	**38**		P	**Pn**	**02 42 06.2**	**-0.8**
	comp=N,0.6nm,0.3s,baz=240,slow=11,SNR=14							
CO03	**El Pedregal**	**8.87**	**204**		Pn	**Pn**	**02 42 11.8**	**-0.3**
CO06	**Fray Jorge**	**9.12**	**209**		Pn	**Pn**	**02 42 14.9**	**-0.3**
CO02	**Combarbal**	**9.31**	**205**		Pn	**Pn**	**02 42 17.4**	**-0.3**
PTLB	**Pontes e Lacer**	**10.06**	**45**		*e* P	**Pn**	**02 42 26.4**	**-0.6**
AQDB	**Aquidauana**	**10.28**	**79**		*e* P	**P**	**02 42 33.3**	**-1.1**
VILB	**Vilhena**	**11.45**	**32**		*e* P	Pn	02 42 38.0	-6.3
MT01	**Popeta**	**11.82**	**200**		Pn	**Pn**	**02 42 50.0**	**+1.2**
SALV	**Santo Antonio**	**12.26**	**58**		*e* P	**P**	**02 42 58.5**	**+2.1**
BO01	**Tunca**	**12.26**	**198**			**P**	**02 42 56.4**	**+0.1**
GO05	**Huala**	**13.09**	**200**			**P**	**02 43 05.1**	**-0.5**
PCMB	**Pacaembu**	**14.14**	**88**		*e* P	**P**	**02 43 20.1**	**+2.7**
ITRB	**Iturama**	**15.33**	**82**		*e* P	**Pn**	**02 43 34.2**	**+2.6**
ARAG	**Araguaiana, MT**	**15.52**	**66**		*e* P	**Pn**	**02 43 36.1**	**+2.4**
FRTB	**Fartura**	**15.58**	**95**		*e* P	**Pn**	**02 43 35.0**	**+0.7**
CLDB	**Colider**	**15.62**	**43**		*e* P	**P**	**02 43 31.5**	**-2.3**
TRQA	**Tornquist**	**15.71**	**167**		P	**P**	**02 43 33.8**	**-0.7**
TIJ01	**Guaruva-PR**	**16.16**	**103**		*e* P	**P**	**02 43 39.8**	**+0.2**
TER01	**Tubaro-SC**	**16.65**	**114**		*e* P	**P**	**02 43 41.6**	**-3.3**
BB19B	**Bebedouro**	**16.74**	**88**		*e* P	**Pn**	**02 43 47.9**	**-0.2**
RCLB	**Rio Claro- Sao**	**17.50**	**93**		*e* P	**Pn**	**02 43 56.1**	**-0.9**
SPB	**Sao Paulo**	**17.53**	**96**		*e* P	**Pn**	**02 43 56.4**	**-0.8**
PET01	**Itanhaem-SP**	**17.67**	**99**		*e* P	**P**	**02 43 56.1**	**+0.1**
VAO	**Valinhos**	**17.98**	**95**		*e* P	**P**	**02 44 00.2**	**+0.8**
SNDB	**Serra Nova Dou**	**18.02**	**56**		*e* P	**P**	**02 44 00.6**	**+0.8**
PLCA	**Paso Flores**	**18.23**	**190**		P	**Pn**	**02 44 04.8**	**-0.6**
	comp=N,0.1nm,0.3s,baz=35,slow=13,SNR=3.2							
PLCA	**Paso Flores**	**18.23**	**190**		P	**P**	**02 44 02.3**	**+0.4**
PLCA					IAmb	IAmb	02 44 18.6	
	comp=Z,3.9nm,1.1s							
BDFB	**Brasilia**	**18.81**	**71**		P	**P**	**02 44 09.6**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=233,slow=13,SNR=8.9							
BDFB	**Brasilia**	**18.81**	**71**		P	**P**	**02 44 05.7**	**-2.8**
BDFB					IAmb	IAmb	02 44 11.0	
	comp=Z,12nm,1.1s							
NPGB	**Novo Progresso**	**18.95**	**36**		*e* P	**P**	**02 44 05.6**	**-4.3**
PEXB	**Peixe**	**20.30**	**62**		*e* P	**P**	**02 44 24.9**	**+0.6**
DIAM	**Diamantina, MG**	**21.81**	**82**		*e* P	**P**	**02 44 38.3**	**-0.8**
DUB01	**Friburgo-RJ**	**22.29**	**93**		*e* P	**P**	**02 44 40.9**	**-2.4**
JANB	**Januaria**	**22.31**	**74**		*e* P	**P**	**02 44 44.1**	**+0.6**
SMTB	**Santa Maria do**	**22.80**	**56**		*e* P	**P**	**02 44 49.0**	**+1.0**
SDBA	**SAO DESIDERIO**	**22.97**	**67**		*e* P	**P**	**02 44 50.6**	**+1.0**
NAN01	**Guarapari, ES**	**25.18**	**84**		*e* P	**P**	**02 45 09.7**	**+0.2**
TMAB	**Tom-Au,PA,Br**	**27.01**	**44**		*e* P	**P**	**02 45 22.3**	**-3.5**
GDU01	**Guandu, BA**	**27.05**	**75**		*e* P	**P**	**02 45 26.6**	**+0.3**
U38A	**Gravette**	**64.53**	**335**		P	**P**	**02 50 17.4**	**+0.8**
QSPA	**South Pole Qui**	**67.42**	**180**		P	**P**	**02 50 37.0**	**+2.2**
TORD	**Torodi Ar. Bea**	**75.68**	**69**		P	**P**	**02 51 26.0**	**+1.5**
	comp=Z,0.7nm,0.4s,baz=258,slow=5.8,SNR=24							
MKAR	**Makanchi Array**	**145.27**	**39**		PKPbc	**PKiKP**	**02 59 18.2**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=319,slow=3.1,SNR=7.9							

IDC ***15*** *02:51:26.4±1.2,35°.14N×28°.14E,h0km,mb3.6/4, mb1 3.6/7,mb1mx3.4/37,mbtmp3.5/7,ML3.2/3,MS2.0/1, Ms1 2.0/1,ms1mx1.8/42,Error ellipse: s-maj=27.7km s-min=20.5km az=23.0*

ATH ***15*** *02:51:27.6,34°.85N×28°.08E,h10km±31km,ML2.9/3,Error ellipse: s-maj=31.6km s-min=2.1km az=0.0*

THE ***15*** *02:51:31.1,34°.98N×28°.09E,h8km±6km,ML2.9/2,Error ellipse: s-maj=7.8km s-min=1.5km az=162.0*

DDA ***15*** *02:51:34.0,35°.15N×28°.27E,h80km±83km,ML2.5*

ISC 15 02:51:30.4±0.9,35°.04N±0°.06×28°.15E±0°.04,h28km,n35, σ1§40/38,mb3.5/4,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.95**	**302**	P	**Pb**	**02 51 48.2**	**-0.2**
KARP				S	**Sn**	**02 52 02.7**	**+2.0**
	895nm,0.6s						
KARP	**Karpathos**	**0.95**	**302**	P	**Pn**	**02 51 46.7**	**-1.3**
KARP				AML	AML	02 52 08.0	
	comp=N,1852μm,0.6s						
KARP				AML	AML	02 52 10.9	
	comp=E,1899μm,0.5s						
ARG	**Arkhangelos**	**1.17**	**359**	P	**Pb**	**02 51 53.2**	**+1.1**
ARG				S	**Sb**	**02 52 09.5**	**+2.6**
	comp=E,310nm,0.8s						
ARG	**Arkhangelos**	**1.17**	**359**	P	**Pb**	**02 51 52.6**	**+0.5**
ARG				AML	AML	02 52 24.3	
	comp=E,641μm,0.8s						
ARG				AML	AML	02 52 24.7	
	comp=N,580μm,0.9s						
ZKR	**Zakros**	**1.58**	**273**	P	**Pn**	**02 51 56.7**	**0.0**
ZKR	**Zakros**	**1.58**	**273**	P	**Pn**	**02 51 55.6**	**-1.0**
ZKR				AML	AML	02 52 19.0	
	comp=E,489μm,0.6s						
ZKR				AML	AML	02 52 37.4	
	comp=N,188μm,0.6s						
KSL	**Kastellorizon**	**1.61**	**46**	P	**Pb**	**02 51 59.1**	**-0.4**
KSL	**Kastellorizon**	**1.61**	**46**	P	**Pb**	**02 51 59.7**	**+0.2**
AKAS	**Kas**	**1.68**	**45**	*i* P	**Pb**	**02 51 59.7**	**-1.0**
STIA	**Sitia Lasithi**	**1.69**	**276**	P	**Pn**	**02 51 59.0**	**+0.9**
TURN	**Turunc**	**1.73**	**3**	*i* P	**Pb**	**02 52 00.9**	**-0.7**
TURN				IAML		02 52 30.0	
	comp=N,42nm,0.3s						
TURN				IAML		02 52 43.0	
	comp=E,48nm,1.0s						
NIS1	**Nisyros Isl.**	**1.75**	**333**	P	**Pb**	**02 52 01.0**	**-0.8**
DAT	**Datca**	**1.75**	**345**	P	**Pb**	**02 52 00.3**	**-1.6**
FETY	**Fethiye**	**1.76**	**25**	P	**Pb**	**02 52 01.3**	**-0.8**
NPS	**Neapolis**	**2.09**	**277**	P	**Pn**	**02 52 04.6**	**+1.0**
BDRM	**Kayabasi**	**2.10**	**344**	*i* P	**Pb**	**02 52 09.4**	**+1.6**
AKUM	**Antalya-Kumluc**	**2.20**	**54**	*i* P	**Pn**	**02 52 06.3**	**+1.3**
MULA	**Mugla, Merkez-**	**2.21**	**4**	*i* P	**Pb**	**02 52 08.9**	**-0.9**
MULA				IAML		02 52 54.0	
	comp=N,21nm,0.9s						
MULA				IAML		02 53 01.0	
	comp=E,37nm,0.6s						
CAEL	**Denizli, Camel**	**2.29**	**24**	*i* P	**Pb**	**02 52 09.1**	**-2.0**
CAEL				IAML		02 52 44.0	
	comp=E,91nm,0.6s						
CAEL				IAML		02 53 02.0	
	comp=N,60nm,0.7s						
GOLH	**Golhisar**	**2.47**	**27**	*i* P	**Pb**	**02 52 11.3**	**-3.0**
GOLH				IAML		02 53 09.0	
	comp=N,36nm,0.9s						
TAVA	**DENIZLI_Tavas**	**2.50**	**14**	*i* P	**Pb**	**02 52 11.7**	**-3.0**
TAVA				IAML		02 53 09.0	
	comp=E,20nm,1.0s						
TAVA				IAML		02 53 10.0	
	comp=N,19nm,1.5s						
AYDN	**Tasoluk**	**2.62**	**355**	*i* P	**Pn**	**02 52 12.2**	**+1.2**
IDI	**Anoyia**	**2.68**	**276**	Pn	**Pn**	**02 52 12.4**	**+0.7**
	comp=N,5.4nm,0.3s,baz=88,slow=14,SNR=42						
IDI				LR	LR	02 53 08.3	
	comp=N,29nm,20.5s,baz=84,slow=38						
IDI	**Anoyia**	**2.68**	**276**	P	**Pn**	**02 52 12.4**	**+0.7**
BRDR	**BURDUR-Merkez**	**3.07**	**30**	*i* P	**Pb**	**02 52 21.9**	**-2.5**
KEPZ	**Antalya-Kepez**	**3.36**	**55**	*i* P	**Pn**	**02 52 23.1**	**+1.9**
KEPZ				IAML		02 52 53.0	
	comp=E,11nm,1.0s						
KEPZ				*i* S	**Sn**	**02 53 00.2**	**+0.1**
KEPZ				IAML		02 53 14.0	
	comp=N,12nm,0.7s						
MANT	**Manisa**	**3.46**	**5**	*i* P	**Pn**	**02 52 22.5**	**-0.1**
USAK	**Uak-Merkez**	**3.73**	**11**	*i* P	**Pn**	**02 52 26.1**	**-0.1**
YVAC	**Isparta, Yalva**	**4.07**	**37**	*i* P	Pn	02 52 35.7	+4.7
MMAI	**Manol Meron Ar**	**6.35**	**106**	Pn	**Pn**	**02 53 02.6**	**+0.4**
	comp=N,0.6nm,0.3s,baz=294,slow=12,SNR=4.6						
MMAI				Sn	**Sn**	**02 54 16.1**	**+2.1**
	comp=N,1.3nm,0.3s,baz=313,slow=24,SNR=4.5						
EIL	**Elat**	**7.86**	**131**	Pn	**Pn**	**02 53 23.4**	**+0.5**
	comp=N,0.3nm,0.3s,baz=249,slow=1.1,SNR=8.0						
ESDC	**Sonseca Array**	**25.86**	**290**	P	**P**	**02 56 59.0**	**-0.7**
	comp=N,0.3nm,0.5s,baz=82,slow=9.3,SNR=4.8						
NOA	**NORSAR Array B**	**28.19**	**343**	P	**P**	**02 57 19.7**	**-0.7**
	comp=N,0.6nm,0.8s,baz=124,slow=6.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	**32.35**	**234**	P	**P**	**02 57 57.3**	**-0.2**
	comp=N,0.5nm,0.7s,baz=27,slow=8.7,SNR=5.4						
ARCES	**ARCESS Array B**	**34.58**	**358**	P	**P**	**02 58 15.5**	**-0.9**
	comp=N,1.1nm,0.9s,baz=171,slow=8.6,SNR=4.3						

MOS ***15*** *03:14:39.2±1.3,50°.21N×19°.27E,h9km,mb4.3/4,Error ellipse: s-maj=6.8km s-min=5.5km az=59.6*

LDG ***15*** *03:14:39.2±0.1,50°.14N×19°.18E,h1km,Ml4.0/3,Error ellipse: s-maj=5.2km s-min=2.7km az=11.0,Suspected Mining induced.*

IPEC ***15*** *03:14:40.9±0.1,50°.16N×19°.16E,h2km±1km,ML3.4/3, Error ellipse: s-maj=2.4km s-min=0.6km az=166.0*

VIE ***15*** *03:14:40.4±0.4,50°.20N×19°.13E,h0km,mb3.0/10,ml3.0/5, ms3.6/7,Error ellipse: s-maj=4.4km s-min=2.6km az=178.0 8 km S of Sosnowice Suspected Mining induced.*

IDC ***15*** *03:14:41.0±0.7,49°.87N×19°.25E,h0km,mb3.6/4, mb1 3.6/11,mb1mx3.5/58,mbtmp3.6/11,ML3.4/8,Error ellipse: s-maj=15.7km s-min=6.9km az=155.0*

BGR ***15*** *03:14:42.2±0.3,50°.12N×19°.13E,h1km,ML3.7/10,Error ellipse: s-maj=6.7km s-min=4.4km az=17.0*

ISC 15 03:14:39.3±0.5,50°.22N±0°.02×19°.20E±0°.02,h0km,n168, σ1§72/249,mb4.1/8,12C-11D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.39**	**90**	*e*Pg	**Pb**	**03 14 49.1**	**+0.1**
OJC				*e*Sg	**Sb**	**03 14 55.1**	**-0.4**
RAC	**Raciborz**	**0.66**	**258**	*e*PG	**Pb**	**03 14 54.0**	**+0.4**
RAC				*e*SG	**Sb**	**03 15 03.4**	**0.0**
RAC	**Raciborz**	**0.66**	**258**	*e*P	**Pb**	**03 14 54.0**	**+0.4**
RAC				*e*		03 15 03.4	
OKC	**Ostrava-Krasne**	**0.78**	**241**	*e*P	**Pg**	**03 14 53.8**	**-0.4**
OKC				*e*		03 15 04.9	
OKC				smax	smax		
	comp=N,440nm,0.8s						
OKC	**Ostrava-Krasne**	**0.78**	**241**	*e*PG	**Pg**	**03 14 53.8**	**-0.4**
OKC				*e*SG	**Sg**	**03 15 04.9**	**+0.6**
	comp=N,440nm,0.8s						
OKC	**Ostrava-Krasne**	**0.78**	**241**	*e*Pg	**Pb**	**03 14 55.4**	**-0.3**
	SNR=17						
OKC				*e*Sg	**Sb**	**03 15 06.0**	**-0.8**
	SNR=3.6						
NIE	**Niedzica**	**1.08**	**138**	*e*Pg	**Pb**	**03 15 01.1**	**+0.4**
NIE				*e*Sg	**Sn**	**03 15 16.9**	**-0.3**
NIE	**Niedzica**	**1.08**	**138**	*e*Pg	**Pb**	**03 15 01.1**	**+0.4**
	SNR=72						
NIE				*e*Sg	**Sn**	**03 15 17.7**	**+0.4**
	SNR=3.0						
LANS	**Liptovska Anna**	**1.09**	**171**	*e*P	**Pg**	**03 15 00.5**	**+0.4**
LANS				*e*		03 15 14.4	
LANS				pmax	pmax		
	comp=N,667nm,0.4s						
LANS	**Liptovska Anna**	**1.09**	**171**	*e*PG	**Pg**	**03 15 00.5**	**+0.4**
LANS				*e*SG	**Sg**	**03 15 14.4**	**+0.3**
LANS				*e*LG	Lg	03 15 15.1	
MORC	**Moravsky Berou**	**1.16**	**248**	⇓P	**Pg**	**03 15 01.9**	**+0.5**
MORC	**Moravsky Berou**	**1.16**	**248**	⇑S	**Sb**	**03 15 17.5**	**-0.2**
MORC	**Moravsky Berou**	**1.16**	**248**	*e*Pg	**Pg**	**03 15 01.9**	**+0.5**
	baz=70						
MORC				*e*Sg	**Sg**	**03 15 15.8**	**-0.6**
	comp=N,522nm,1.4s,baz=70						
MORC	**Moravsky Berou**	**1.16**	**248**	*e*PG	**Pg**	**03 15 02.0**	**+0.6**
MORC				*e*SG	**Sg**	**03 15 15.9**	**-0.5**
MORC	**Moravsky Berou**	**1.16**	**248**	*e*Pg	**Pb**	**03 15 02.2**	**0.0**
	SNR=27						
MORC				*e*Sg	**Sb**	**03 15 17.8**	**+0.1**
	SNR=5.1						
KRLC	**Kraliky**	**1.56**	**266**	*e*P	**Pn**	**03 15 08.1**	**-0.2**
KRLC				*e*		03 15 29.5	
KRLC				smax	smax		
	comp=N,351nm,0.6s						
KRLC	**Kraliky**	**1.56**	**266**	*e*PG	**Pn**	**03 15 08.1**	**-0.2**
KRLC				*e*SG	**Sn**	**03 15 29.5**	**+0.2**
	comp=N,351nm,0.6s						
JAVC	**Velka Javorina**	**1.69**	**217**	*e*Pg	**Pn**	**03 15 10.1**	**0.0**
	baz=36						
JAVC	**Velka Javorina**	**1.69**	**217**	*e*PG	**Pn**	**03 15 10.2**	**+0.1**
JAVC	**Velka Javorina**	**1.69**	**217**	*e*Pn	**Pn**	**03 15 10.3**	**+0.3**
	SNR=3.1						
VYHS	**Vyhne**	**1.75**	**188**	*e*P	**Pn**	**03 15 10.5**	**-0.3**
VYHS				*e*		03 15 32.2	
VYHS				pmax	pmax		
	comp=N,270nm,0.4s						
VYHS	**Vyhne**	**1.75**	**188**	*e*PN	**Pn**	**03 15 10.5**	**-0.3**
VYHS				*e*SN	**Sn**	**03 15 32.2**	**-1.6**
VYHS				*e*LG	Lg	03 15 34.7	
DPC	**Dobruska-Polom**	**1.85**	**275**	*e*P	**Pn**	**03 15 13.2**	**+0.9**
DPC				*e*		03 15 39.9	
DPC				smax	smax		
	comp=N,149nm,0.6s						
DPC	**Dobruska-Polom**	**1.85**	**275**	*e*PG	**Pn**	**03 15 13.2**	**+0.9**
DPC				*e*SG	**Sg**	**03 15 39.9**	**+1.3**
	comp=N,148nm,0.6s						
DPC	**Dobruska-Polom**	**1.85**	**275**	*e*Pn	**Pb**	**03 15 13.4**	**-0.5**
	SNR=16						
DPC				*e*Sg	**Sg**	**03 15 40.1**	**+1.5**
	SNR=3.7						
VRAC	**Vranov**	**1.92**	**243**	⇓P	**Pn**	**03 15 12.9**	**-0.3**
VRAC	**Vranov**	**1.92**	**243**	⇑S	**Sn**	**03 15 38.0**	**0.0**
VRAC	**Vranov**	**1.92**	**243**	Pn	**Pn**	**03 15 13.1**	**-0.1**
	comp=N,14nm,0.3s,baz=55,slow=12,SNR=52						
VRAC				Pg	**Pb**	**03 15 14.9**	**-0.3**
	comp=N,15nm,0.3s,baz=65,slow=17,SNR=53						
VRAC				Lg	Lg	03 15 40.5	
	comp=N,25nm,0.3s,baz=347,slow=23,SNR=10						
VRAC	**Vranov**	**1.92**	**243**	*e*Pn	**Pn**	**03 15 13.9**	**+0.7**
	baz=62						
VRAC				*e*Sg	**Sb**	**03 15 39.3**	**-0.3**
	comp=N,288nm,1.0s,baz=62						
VRAC	**Vranov**	**1.92**	**243**	*e*PN	**Pn**	**03 15 13.9**	**+0.7**
VRAC				*e*SG	**Sb**	**03 15 39.4**	**-0.2**
VRAC	**Vranov**	**1.92**	**243**	*e*Pn	**Pn**	**03 15 13.2**	**-0.1**
	SNR=6.5						
VRAC				*e*Pg	**Pb**	**03 15 15.2**	**0.0**
	SNR=52						
VRAC				*e*Sg	**Sg**	**03 15 40.9**	**0.0**
	SNR=3.1						
KECS	**Kecovo**	**1.93**	**154**	*e*P	**Pn**	**03 15 13.1**	**-0.3**
KECS				*e*		03 15 40.3	
KECS				pmax	pmax		
	comp=N,100nm,0.7s						
KECS	**Kecovo**	**1.93**	**154**	*e*PN	**Pn**	**03 15 13.1**	**-0.3**
KECS				*e*PG	**Pb**	**03 15 15.5**	**+0.1**
KECS				*e*SG	**Sb**	**03 15 40.3**	**+0.3**
KECS				*e*LG	Lg	03 15 42.5	
OSTC	**Ostas**	**1.94**	**281**	*e*PG	**Pn**	**03 15 14.6**	**+1.1**
OSTC				*e*SG	**Sg**	**03 15 43.7**	**+2.2**
	comp=N,151nm,0.7s						
KSP	**Ksiaz**	**1.96**	**290**	*e*Pb	**Pn**	**03 15 14.5**	**+0.8**
KSP				*e*Pg	**Pg**	**03 15 17.9**	**+1.2**
KSP				*e*Sg	**Sg**	**03 15 43.6**	**+1.6**
KSP	**Ksiaz**	**1.96**	**290**	*e*Pn	**Pn**	**03 15 14.5**	**+0.8**
	SNR=3.2						
KSP				*e*Pg	**Pg**	**03 15 17.9**	**+1.2**
	SNR=22						
KSP				*e*Sg	**Sg**	**03 15 45.1**	**+3.1**
	SNR=4.1						
CRVS	**Cervenica-Dubn**	**1.98**	**131**	*e*P	**Pn**	**03 15 14.4**	**+0.4**
CRVS	**Cervenica-Dubn**	**1.98**	**131**	*e*PN	**Pn**	**03 15 14.4**	**+0.4**
CHVC	**Chvalec**	**2.04**	**282**	*e*PG	**Pn**	**03 15 16.3**	**+1.4**
CHVC				*e*SG	**Sg**	**03 15 47.5**	**+2.6**
	comp=N,199nm,1.0s						
UPC	**Upice**	**2.06**	**279**	*e*P	**Pb**	**03 15 17.7**	**+0.2**
UPC				*e*		03 15 46.9	
UPC				smax	smax		
	comp=N,102nm,0.6s						
UPC	**Upice**	**2.06**	**279**	*e*PG	**Pb**	**03 15 17.7**	**+0.2**
UPC				*e*SG	**Sg**	**03 15 46.9**	**+1.5**
	comp=N,102nm,0.6s						
SMOL	**Smolenice**	**2.06**	**215**	*e*P	**Pn**	**03 15 14.9**	**-0.3**
SMOL				*e*		03 15 46.0	
SMOL	**Smolenice**	**2.06**	**215**	*e*PN	**Pn**	**03 15 14.9**	**-0.3**
SMOL				*e*SG	**Sg**	**03 15 46.0**	**+0.5**
KRUC	**Moravsky**	**2.16**	**239**	*e*Pn	**Pn**	**03 15 17.2**	**+0.7**
	baz=58						
KRUC				*e*Sg	**Sb**	**03 15 46.9**	**+0.4**
	comp=N,276nm,1.6s,baz=58						
KRUC	**Moravsky**	**2.16**	**239**	*e*PN	**Pn**	**03 15 17.2**	**+0.7**
KRUC				*e*SG	**Sb**	**03 15 47.0**	**+0.4**
KRUC	**Moravsky**	**2.16**	**239**	*e*Pn	**Pn**	**03 15 16.2**	**-0.3**
	SNR=7.2						
KRUC				*e*Pg	**Pb**	**03 15 19.9**	**+0.6**
	SNR=16						
KRUC				*e*Sg	**Sb**	**03 15 47.3**	**+0.8**
	SNR=3.2						
MODS	**Modra-Piesok**	**2.24**	**215**	*e*P	**Pn**	**03 15 16.4**	**-1.2**
MODS	**Modra-Piesok**	**2.24**	**215**	*e*PN	**Pn**	**03 15 16.4**	**-1.2**
MODS				*e*PG	**Pb**	**03 15 21.5**	**+1.0**
PSZ	**Piszkesteto**	**2.35**	**168**	⇓P	**Pn**	**03 15 19.0**	**-0.2**
PSZ	**Piszkesteto**	**2.35**	**168**	*e*P	**Pn**	**03 15 19.0**	**-0.2**
PSZ	**Piszkesteto**	**2.35**	**168**	*e*PG	**Pg**	**03 15 25.4**	**+1.1**
KOLS	**Kolonicke sedl**	**2.38**	**122**	*e*P	**Pn**	**03 15 20.0**	**+0.4**
KOLS	**Kolonicke sedl**	**2.38**	**122**	*e*PN	**Pn**	**03 15 20.0**	**+0.4**
KOLS				*e*PG	**Pg**	**03 15 25.2**	**+0.3**
ZST	**Bratislava**	**2.45**	**215**	*e*P	**Pn**	**03 15 20.1**	**-0.4**
ZST	**Bratislava**	**2.45**	**215**	*e*PN	**Pn**	**03 15 20.1**	**-0.4**
ZST				*e*PG	**Pg**	**03 15 27.7**	**+1.5**
SRO	**Srobarova**	**2.48**	**194**	*e*P	**Pn**	**03 15 22.5**	**+1.6**
SRO	**Srobarova**	**2.48**	**194**	*e*PN	**Pn**	**03 15 22.5**	**+1.6**
SRO				*e*PG	**Pg**	**03 15 28.0**	**+1.2**
SRO2	**Moca**	**2.52**	**192**	*e*P	**Pn**	**03 15 28.4**	**+0.9**
SRO2	**Moca**	**2.52**	**192**	*e*PG	**Pg**	**03 15 28.4**	**+0.9**
TREC	**Trest**	**2.58**	**250**	*e*P	**Pb**	**03 15 25.8**	**-0.6**
TREC				*e*		03 16 00.9	
TREC				smax	smax		
	comp=N,107nm,0.7s						
TREC	**Trest**	**2.58**	**250**	*e*PG	**Pb**	**03 15 25.8**	**-0.6**
TREC				*e*SG	**Sg**	**03 16 00.9**	**-1.2**
	comp=N,107nm,0.7s						
TREC	**Trest**	**2.58**	**250**	*e*Pn	**Pn**	**03 15 22.7**	**+0.4**
	SNR=5.7						
TREC				*e*Pg	**Pg**	**03 15 28.7**	**0.0**
	SNR=7.6						
TREC				*e*Sg	**Sg**	**03 16 02.6**	**+0.5**
	SNR=3.2						
CSKK	**Cskako**	**2.93**	**193**	*e*P	**Pn**	**03 15 27.5**	**+0.4**
PVCC	**Panska Ves**	**2.98

ROTZ	**Rotzenmuhle**	**4.53**	**267**	*e*Pn		**Pn**	**03 15 50.3**	**+1.2**
	SNR=2.4							
BURAR	**Bucovina Array**	**4.75**	**121**	⇓P		**Pn**	**03 15 53.1**	**+0.9**
OBKA	**Obir**	**4.84**	**222**	*e*Pn		**Pn**	**03 15 54.2**	**+0.9**
	comp=Z,1.8nm,0.4s							
MOX	**Moxa**	**4.87**	**278**	*e*Pn		**Pn**	**03 15 55.6**	**+1.9**
	SNR=2.9							
BZS	**Buzias**	**4.89**	**160**	⇑P		**Pn**	**03 15 54.2**	**+0.3**
FRGS	**Fruska Gora**	**5.08**	**175**	⇓P		**Pn**	**03 15 57.0**	**+0.3**
GRF	**Grafenberg Arr**	**5.18**	**267**	*e*Sg		**Sg**	**03 17 25.9**	**+0.5**
	SNR=1.6							
GZR	**Gura Zlata**	**5.40**	**152**	⇓P		**Pn**	**03 16 01.9**	**+0.8**
LOT	**Lotru**	**5.68**	**145**	⇑P		**Pn**	**03 16 04.9**	**-0.1**
WATA	**Walderalm**	**5.81**	**243**	*e*Sn		**Sn**	**03 17 16.1**	**+2.1**
	comp=Z,10nm,0.4s							
WTTA	**Wattenberg**	**5.81**	**242**	*i* Pn		**Pn**	**03 16 09.0**	**+2.2**
	comp=Z,0.7nm,0.2s							
WTTA				Sn		**Sn**	**03 17 19.2**	**+4.9**
WTTA				Sg		**Sg**	**03 17 48.1**	**+2.3**
	comp=Z,33nm,0.9s							
MOTA	**Moosalm**	**6.07**	**245**	*e*Pn		**Pn**	**03 16 12.5**	**+2.1**
	comp=Z,1.0nm,0.4s							
MOTA				Sg		**Sg**	**03 17 56.8**	**+2.5**
	comp=Z,26nm,0.7s							
SQTA	**Sankt Quirin**	**6.08**	**243**	*i* Pn		**Pn**	**03 16 12.4**	**+1.9**
	comp=Z,2.2nm,0.4s							
SQTA				*e*Sn		**Sn**	**03 17 21.8**	**+1.1**
	comp=Z,13nm,0.8s							
RETA	**Reutte**	**6.20**	**247**	*e*Pn		**Pn**	**03 16 10.9**	**-1.2**
	comp=Z,1.5nm,0.5s							
RETA				Sg		**Sg**	**03 18 02.9**	**+4.5**
	comp=Z,28nm,0.8s							
SORM	**Soroca**	**6.36**	**106**	⇓P		**Pn**	**03 16 13.3**	**-0.8**
BLEU	**Blekinge**	**6.42**	**343**	*e*P		**Pn**	**03 16 16.8**	**+1.8**
BLEU				*e*S		**Sn**	**03 17 27.8**	**-1.1**
AKASG	**Malin Array Be**	**6.42**	**82**	Pn		**Pn**	**03 16 14.8**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=264,slow=12,SNR=8.6							
AKASG				Lg		Lg	03 18 09.8	
	comp=Z,3.0nm,0.3s,baz=261,slow=29,SNR=6.4							
AKBB	**Malin Array Si**	**6.42**	**82**	⇑*e*P		**Pn**	**03 16 14.8**	**-0.2**
FETA	**Feichten**	**6.46**	**244**	Sg		**Sg**	**03 18 09.2**	**+2.5**
	comp=Z,7.9nm,0.6s							
NACGM	**Naroch**	**6.58**	**42**	*i* P		**Pn**	**03 16 19.4**	**+2.2**
DAVA	**Damuels**	**6.82**	**248**	*e*Pn		**Pn**	**03 16 22.0**	**+1.3**
	comp=Z,2.0nm,0.3s							
DAVA				Sg		**Sg**	**03 18 20.4**	**+2.1**
	comp=Z,31nm,0.8s							
MNK	**Minsk**	**6.83**	**48**	*i* P		**Pn**	**03 16 19.1**	**-1.5**
MNK				*i* S		**Sn**	**03 17 38.0**	**-1.0**
MNK				pmax	pmax			
	comp=Z,4.0nm,0.6s							
MNK				pmax	pmax			
	comp=N,1.0nm,0.6s							
MNK				MLR	MLR			
	comp=N,129nm,17.0s							
MNK				MLR	MLR			
	comp=E,15nm,17.0s							
MNK				MLR	MLR			
	comp=Z,83nm,17.0s							
MNK	**Minsk**	**6.83**	**48**	*i* P		**Pn**	**03 16 19.2**	**-1.4**
MNK				*i* P		**Pn**	**03 16 19.2**	**-1.4**
	comp=N,1.0nm,0.6s							
MNK				*i* P		**Pn**	**03 16 19.2**	**-1.4**
	comp=Z,4.0nm,0.6s,baz=235							
MNK				*i* PP		**PnPn**	**03 16 26.8**	**-1.1**
MNK				*i* S		**Sn**	**03 17 38.1**	**-0.9**
MNK				*i* LR	LR	LR	03 18 10.2	
MNK				*i* LRM	MLR	MLR	03 18 38.8	
	comp=E,15nm,17.2s							
MNK				*i* LRM	MLR	MLR	03 18 38.8	
	comp=N,129nm,17.2s							
MNK				*i* LRM	MLR	MLR	03 18 41.4	
	comp=Z,83nm,17.2s							
BJUU	**Bjuv**	**6.94**	**330**	*i* P		**Pn**	**03 16 23.9**	**+1.9**
BJUU				*e*S		**Sn**	**03 17 39.5**	**-2.1**
DEL	**Delary**	**7.02**	**335**	*e*		**Pn**	**03 16 21.8**	**-1.4**
	baz=140,slow=10							
DEL				*i* P		**Pn**	**03 16 24.7**	**+1.5**
DEL				*e*S		**Sn**	**03 17 41.2**	**-2.5**
DEL				IAML			03 17 48.3	
	comp=Z,1.5nm,0.4s							
DAVOX	**Davos/Dischmat**	**7.08**	**244**	Pn		**Pn**	**03 16 25.4**	**+1.1**
	comp=Z,1.6nm,0.3s,baz=82,slow=9.1,SNR=17							
CDF	**Champ du Feu**	**8.00**	**261**	*e*Pn		**Pn**	**03 16 32.7**	**-4.1**
CDF				*e*Sg		**Sg**	**03 18 49.5**	**-6.5**
	comp=Z,42nm,1.0s							
BORU	**Boraas**	**8.34**	**335**	*e*P		**Pn**	**03 16 41.8**	**+0.6**
BORU				*e*S		**Sn**	**03 18 16.8**	**+0.9**
HINF	**Hinteralfeld**	**8.46**	**258**	*e*Pn		**Pn**	**03 16 38.8**	**-4.3**
HINF				*e*Sg		**Sg**	**03 19 04.1**	**-6.8**
	comp=Z,45nm,1.1s							
HAU	**Haudompre**	**8.72**	**260**	*e*Pn		**Pn**	**03 16 45.1**	**-1.4**
HAU				*e*Sg		**Sg**	**03 19 12.7**	**-6.3**
	comp=Z,11nm,0.5s							
PAGF	**Fort de Pagny**	**8.95**	**264**	*e*Pn		**Pn**	**03 16 46.3**	**-3.4**
VSU	**Vasula**	**9.35**	**25**	*ce*P		**Pn**	**03 16 57.6**	**+2.5**
VSU				pmax	pmax			
	comp=Z,30nm,0.7s							
LPG	**La Plagne**	**9.61**	**245**	*e*Pn		**Pn**	**03 16 55.1**	**-3.9**
LPL	**La Plagne**	**9.61**	**245**	*e*Pn		**Pn**	**03 16 57.7**	**-1.2**
MBDF	**Montbardon**	**10.04**	**242**	*e*Pn		**Pn**	**03 17 00.6**	**-4.2**
HFS	**Hagfors**	**10.41**	**345**	Pn		**Pn**	**03 17 11.6**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=152,slow=13,SNR=5.2							
ORIF	**Oris-en-Rattie**	**10.44**	**245**	*e*Pn		**Pn**	**03 17 06.4**	**-3.8**
VIVF	**Saint-Julien-l**	**11.18**	**247**	*e*Pn		Pn	03 17 15.6	-4.7
OBN	**Obninsk**	**11.62**	**58**	*e*P		**Pn**	**03 17 26.2**	**+0.1**
OBN				pmax	pmax			
	comp=Z,7.0nm,0.5s							
OBN				MLR	MLR			
	comp=Z,24nm,10.0s							
NOA	**NORSAR Array B**	**11.73**	**341**	Pn		**Pn**	**03 17 28.0**	**+0.2**
	comp=Z,0.0nm,0.3s,baz=156,slow=12,SNR=3.8							
NOA	**NORSAR Array B**	**11.73**	**341**	P		**Pn**	**03 17 28.0**	**+0.2**
FINES	**FINESS Array B**	**11.88**	**16**	Pn		**Pn**	**03 17 29.4**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=192,slow=12,SNR=21							
FINES				Sn		**Sn**	**03 19 36.9**	**-6.0**
	comp=Z,0.6nm,0.3s,baz=202,slow=21,SNR=6.4							
VRH	**Novokhopyorsk**	**14.30**	**77**	*e*P		**Pn**	**03 17 58.4**	**-4.4**
VRH				pmax	pmax			
	comp=Z,10.0nm,0.7s							
KLMR	**Klimovskoe**	**15.60**	**39**	*e*P		**Pn**	**03 18 15.1**	**-5.1**
KLMR				pmax	pmax			
	comp=Z,9.0nm,1.1s							
KLMR	**Klimovskoe**	**15.60**	**39**	*e*Pn		**Pn**	**03 18 15.1**	**-5.1**
KLMR				AMP			03 18 17.3	
	comp=Z,9.0nm,1.1s							
ARXR	**Arkhyz**	**16.46**	**105**	⇓*e*P		**Pn**	**03 18 30.7**	**-0.9**
DOMR	**Dombai**	**16.82**	**106**	⇑*e*P		**Pn**	**03 18 36.0**	**-0.2**
DOMR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
KIV	**Kislovodsk**	**17.14**	**102**	*e*P		**Pn**	**03 18 39.1**	**-1.1**
KIV				pmax	pmax			
	comp=Z,3.0nm,1.1s							
SHA1	**Shidzhatmaz**	**17.23**	**103**	⇓*e*P		**Pn**	**03 18 38.3**	**-3.1**
NEY	**Neytrino**	**17.52**	**104**	⇓*e*P		**Pn**	**03 18 45.0**	**0.0**
NEY				pmax	pmax			
	comp=Z,2.0nm,1.2s							
BELG	**Belogornoye**	**17.86**	**72**	P		**P**	**03 18 51.1**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=294,slow=0.9,SNR=8.2							
ESDC	**Sonseca Array**	**19.41**	**246**	P		**P**	**03 19 07.5**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=61,slow=16,SNR=4.1							
ARCES	**ARCESS Array B**	**19.61**	**7**	Pn		**P**	**03 19 07.4**	**-1.4**
	baz=189,slow=11,SNR=17							
DVE	**Vedeno**	**19.81**	**101**	⇓*e*P		**P**	**03 19 08.8**	**-2.4**
DVE				pmax	pmax			
	comp=Z,8.0nm,0.9s							
ARU	**Arti**	**24.05**	**60**	*d i*P		**P**	**03 19 57.1**	**+1.3**
ARU							03 20 25.1	
ARU				SS		S	03 24 58.3	+45
ARU				pmax	pmax			
	comp=Z,3.0nm,0.9s							
AKTO	**Aktyubinsk**	**24.60**	**74**	P		**P**	**03 20 03.0**	**+2.1**
	comp=Z,3.1nm,0.8s,baz=283,slow=9.4,SNR=11							
AKTO	**Aktyubinsk**	**24.60**	**74**	P		**P**	**03 20 03.0**	**+2.1**
BRVK	**Borovoye**	**31.28**	**65**	⇑*e*P		**P**	**03 21 03.0**	**+2.4**
BRVK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
AAK	**Ala-Archa**	**38.08**	**80**	⇑*e*P		**P**	**03 21 58.1**	**-1.6**
AAK				pmax	pmax			
	comp=Z,5.0nm,1.0s							
TORD	**Torodi Ar. Bea**	**39.65**	**207**	P		**P**	**03 22 12.7**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=15,slow=9.1,SNR=2.6							
MKAR	**Makanchi Array**	**40.84**	**70**	P		**P**	**03 22 24.8**	**+2.4**
	comp=Z,0.2nm,0.4s,baz=294,slow=7.6,SNR=4.5							
SONM	**Songino Array**	**54.02**	**56**	P		**P**	**03 24 08.1**	**+3.0**
	comp=Z,1.5nm,0.8s,baz=290,slow=8.0,SNR=5.6							
BILL	**Bilibino**	**59.51**	**14**	*e*P		**P**	**03 24 45.5**	**+1.9**
BILL				*e*			03 25 33.4	
BILL				*e*			03 26 54.0	
BILL				pmax	pmax			
	comp=Z,3.0nm,1.0s							

IDC ***15*** *03:29:29.1±1.4,32.°59S×178.°33W,h0km,mb4.2/2, mb1 4.4/3,mb1mx3.9/20,mbtmp4.2/3,ML4.2/1,MS3.5/4, Ms1 3.5/4,ms1mx3.1/29,Error ellipse: s-maj=42.9km s-min=38.5km az=153.0*

NEIC ***15*** *03:29:31.3±1.1,32.°8S±0.°2×178.°33W±0.°07,h10km±2km, mb4.4/10,Error ellipse: s-maj=33.0km s-min=9.1km az=7.0*

WEL ***15*** *03:29:32.2±0.9,33.°S±11.°×17.°8W±2.°7,h33km,M4.3/10, mB4.8/7,ML4.8/12,MLv4.6/10,Mw(mB)4.1/7, Error ellipse: s-maj=0.0km s-min=0.0km az=110.3*

ISC 15 03:29:33.2±0.8, 32.°65S±0.°07×178.°3W±0.°1, h33km, n55, σ1$27/71, mb4.3/8, MS3.5/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.39**	**6**	P	**Pn**	**03 30 21.1**	**-2.6**
GLKZ				S	**Sn**	**03 31 01.0**	**-1.8**
MXZ	**Matakaoa Point**	**5.64**	**209**	Pn	**Pn**	**03 30 51.9**	**-2.7**
MXZ	**Matakaoa Point**	**5.64**	**209**	P	**Pn**	**03 30 53.2**	**-1.4**
MXZ				S	**Sn**	**03 31 58.7**	**+0.4**
WMGZ	**Waiomatatini S**	**5.82**	**207**	P	**Pn**	**03 30 56.9**	**-0.2**
WMGZ				S	**Sn**	**03 32 01.9**	**-0.8**
PKGZ	**Pakihiroa**	**6.01**	**209**	P	**Pn**	**03 30 58.1**	**-1.7**
PKGZ				S	**Sn**	**03 32 07.6**	**0.0**
HAZ	**Te Kaha**	**6.03**	**211**	P	**Pn**	**03 30 59.0**	**-0.9**
HAZ				S	**Sn**	**03 32 08.3**	**+0.6**
PUZ	**Puketiti**	**6.10**	**207**	P	**Pn**	**03 30 59.4**	**-1.6**
PUZ				S	**Sn**	**03 32 09.8**	**0.0**
RUZZ	**Raukumara Rang**	**6.25**	**211**	P	**Pn**	**03 31 02.3**	**-0.7**
RUGZ				S	**Sn**	**03 32 14.7**	**+1.3**
TWGZ	**Tauwhareparae**	**6.30**	**208**	P	**Pn**	**03 31 03.4**	**-0.4**
TWGZ				S	**Sn**	**03 32 15.6**	**+1.0**
MWZ	**Matawai**	**6.62**	**210**	P	**Pn**	**03 31 08.0**	**-0.2**
MWZ				S	**Sn**	**03 32 22.0**	**-0.5**
URZ	**Urewera**	**6.74**	**212**	Pn	**Pn**	**03 31 10.6**	**+0.8**
	4.8nm,0.3s,baz=293,slow=4.8,SNR=8.1						
URZ				Sn	**Sn**	**03 32 25.0**	**-0.4**
	4.8nm,0.3s,baz=273,slow=21,SNR=5.8						
URZ	**Urewera**	**6.74**	**212**		**Pn**	**03 31 07.0**	**-2.8**
URZ					**Sn**	**03 32 25.1**	**-0.2**
URZ	**Urewera**	**6.74**	**212**	P	**Pn**	**03 31 10.7**	**+1.0**
URZ				S	**Sn**	**03 32 24.7**	**-0.6**
RAGZ	**Rawiri**	**6.80**	**210**	P	**Pn**	**03 31 09.6**	**-1.1**
RAGZ				S	**Sn**	**03 32 26.2**	**-0.8**
RIGZ	**Rimuhau**	**6.84**	**207**	P	**Pn**	**03 31 12.0**	**+0.7**
RIGZ				S	**Sn**	**03 32 28.5**	**+0.5**
PRGZ	**Paritu Road**	**6.99**	**205**	P	**Pn**	**03 31 12.8**	**-0.4**
MUGZ	**Murupara**	**7.07**	**213**	P	**Pn**	**03 31 13.6**	**-0.8**
MUGZ				S	**Sn**	**03 32 33.7**	**+0.1**
SNGZ	**Shannon Statio**	**7.08**	**209**	P	**Pn**	**03 31 14.3**	**-0.1**
SNGZ				S	**Sn**	**03 32 33.7**	**0.0**
RTZ	**Ruatahuna**	**7.09**	**212**	P	**Pn**	**03 31 12.2**	**-2.5**
RTZ				S	**Sn**	**03 32 33.3**	**-0.8**
OUZ	**Omahuta**	**7.21**	**247**	Pn	**Pn**	**03 31 15.8**	**-0.4**
MTHZ	**Maungataniwha**	**7.35**	**211**	P	**Pn**	**03 31 18.6**	**+0.4**
MTHZ				S	**Sn**	**03 32 40.6**	**+0.2**
NMHZ	**Naumai**	**7.56**	**210**	P	**Pn**	**03 31 21.9**	**+0.8**
ARHZ	**Aropaoanui**	**7.63**	**209**	P	**Pn**	**03 31 21.8**	**-0.1**
BKZ	**Black Stump Fm**	**7.76**	**212**		**Pn**	**03 31 21.7**	**-2.1**
BKZ	**Black Stump Fm**	**7.76**	**212**	P	**Pn**	**03 31 24.2**	**+0.4**
BKZ				S	**Sn**	**03 32 48.4**	**-2.1**
MCHZ	**McNeill Hill**	**7.90**	**209**	P	**Pn**	**03 31 26.3**	**+0.6**
KWHZ	**Kaweka Forest**	**8.00**	**211**	P	**Pn**	**03 31 27.4**	**+0.3**
KAHZ	**Kahuranaki**	**8.13**	**207**	P	**Pn**	**03 31 27.3**	**-1.5**
OTVZ	**Oturere**	**8.14**	**215**	P	**Pn**	**03 31 29.9**	**+0.7**
PXZ	**Pawanui**	**8.34**	**207**	S	**Sn**	**03 33 00.1**	**-4.6**
BFZ	**Birch Farm**	**9.14**	**207**	P	**Pn**	**03 31 39.7**	**-3.0**
RPZ	**Rata Peaks**	**13.85**	**214**	Pn	**Pn**	**03 32 44.3**	**-2.9**
DZM	**Mont Dzumac**	**17.15**	**304**	LR	LR	03 38 56.8	
	comp=Z,256nm,20.4s,baz=206,slow=33						
CAN	**Canberra**	**27.18**	**255**	P	**P**	**03 35 13.1**	**-0.7**
PPT	**Papeete**	**29.90**	**67**	LR	LR	03 48 58.5	
	comp=Z,52nm,18.0s,baz=304,slow=39						
STKA	**Stephens Creek**	**33.79**	**260**	LR	LR	03 49 07.1	
	comp=Z,111nm,18.1s,baz=34,slow=35						
CTAO	**Charters Tower**	**33.98**	**283**	P	**P**	**03 36 14.3**	**+0.5**
AS31	**Alice Springs**	**42.79**	**269**	P	**P**	**03 37 28.6**	**+0.7**
ASAR	**Alice Springs**	**42.79**	**269**	P	**P**	**03 37 28.4**	**+0.5**
	1.3nm,0.5s,baz=111,slow=7.8,SNR=18						
ASAR	**Alice Springs**	**42.79**	**269**	P	**P**	**03 37 28.1**	**+0.2**
WR0	**Warramunga Arr**	**43.80**	**275**	P	**P**	**03 37 37.0**	**+0.9**
WR0				IAmb	IAmb	03 37 55.2	
	comp=Z,8.9nm,1.2s						
WB2	**Warramunga Arr**	**43.97**	**275**	P	**P**	**03 37 37.5**	**+0.1**
WB2				IAmb	IAmb	03 37 53.0	
	comp=Z,5.7nm,1.1s						
WRA	**Warramunga Arr**	**43.98**	**275**	P	**P**	**03 37 37.8**	**+0.3**
	comp=Z,1.6nm,0.3s,baz=113,slow=8.0,SNR=56						
WRA				LR	LR	03 55 17.1	
	comp=Z,49nm,18.1s,baz=130,slow=35						
WRA	**Warramunga Arr**	**43.98**	**275**	P	**P**	**03 37 37.5**	**0.0**
KNRA	**Kununurra**	**50.66**	**276**	P	**P**	**03 38 30.1**	**+0.6**
FITZ	**Fitzroy Crossi**	**52.14**	**272**	P	**P**	**03 38 41.3**	**+0.7**
FITZ				IAmb	IAmb	03 38 59.2	
	comp=Z,6.5nm,1.4s						
CASY	**Casey**	**53.05**	**209**	P	**P**	**03 38 46.6**	**0.0**
CASY				IAmb	IAmb	03 39 00.6	
	comp=Z,4.7nm,1.1s						
QSPA	**South Pole Qui**	**57.47**	**180**	P	**P**	**03 39 19.7**	**+0.9**
QSPA				IAmb	IAmb	03 39 38.4	
	comp=Z,2.7nm,0.8s						
SNAA	**Sanae**	**75.92**	**179**	P	**P**	**03 41 16.8**	**+0.6**
SNAA				IAmb	IAmb	03 41 34.6	
	comp=Z,4.0nm,1.2s						
FINES	**FINESS Array B**	**147.15**	**339**	PKPbc	**PKPbc**	**03 49 12.7**	**+0.6**
	comp=Z,5.9nm,0.8s,baz=45,slow=3.0,SNR=13						
FINES	**FINESS Array B**	**147.15**	**339**		**PKPbc**	**03 49 12.5**	**+0.5**
AKASG	**Malin Array Be**	**152.89**	**320**	PKPbc	**PKiKP**	**03 49 27.9**	**+1.3**
	comp=Z,0.6nm,0.4s,baz=40,slow=2.7,SNR=4.7						
BRTR	**Keskin Array B**	**153.37**	**294**	PKPbc	**PKiKP**	**03 49 29.1**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=123,slow=5.3,SNR=4.1						
BRTR	**Keskin Array B**	**153.37**	**294**		**PKPbc**	**03 49 28.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**160.59**	**180**	PKPab	**PKPab**	**03 50 12.3**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=189,slow=3.8,SNR=2.5						

TUL ***15*** *03:30:02.4±1.0,36.°12N±0.°01×97.°27W±0.°01,h5km±6km, ML2.6,mb_Lg2.3/18(NEIC),Error ellipse: s-maj=1.7km s-min=1.2km az=165.0*

NEIC 15 03:30:02.4±0.8, 36.°13N±0.°01×97.°278W±0.°006, h4km±7km, Error ellipse: s-maj=1.8km s-min=0.6km az=169.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.36**	**203**		Pg	03 30 09.5	0.0
OK029				Sg	Sg	03 30 14.7	+0.6
OK031	**S. Brethren Rd**	**0.40**	**116**		Pg	03 30 10.1	0.0
OK031				Sg	Sg	03 30 15.7	+0.5
QUOK	**Quay**	**0.46**	**85**		Pg	03 30 11.4	+0.1
QUOK				Sg	Sg	03 30 17.9	+0.6
OK025	**Westminster Rd**	**0.55**	**185**		Pg	03 30 12.8	-0.2
OK025				Sg	Sg	03 30 20.7	+0.5
BLOK	**Blackwell**	**0.63**	**5**		Pg	03 30 14.5	0.0
BLOK				Sg	Sg	03 30 23.4	+0.6
CROK	**Carrier**	**0.68**	**303**	Pg	Pg	03 30 15.3	-0.2
CROK				Sg	Sg	03 30 25.0	+0.6
OKCFA	**Oklahoma City**	**0.73**	**191**		Pg	03 30 16.3	-0.1
OKCFA				Sg	Sg	03 30 26.3	+0.5
OKCSW	**OKLAHOMA CITY**	**0.73**	**190**		Pg	03 30 16.4	-0.2
GC02	**Grant County #**	**0.86**	**327**		Pg	03 30 18.7	-0.2
FNO	**Franklin**	**0.88**	**187**		Pg	03 30 18.8	-0.4
T35A	**Sooner Cattle**	**1.00**	**38**		Pg	03 30 21.1	-0.4
U32A	**Winter Ranch,**	**1.42**	**281**	Pn	Pn	03 30 28.4	-0.5
X34A	**Smith Ranch, M**	**1.59**	**197**		Pn	03 30 31.2	-0.2
WMOK	**Wichita Mounta**	**1.85**	**222**	Pn	Pn	03 30 34.9	-0.1
LOOK	**Love County**	**2.13**	**178**		Pn	03 30 38.6	-0.2
X37A	**Clayton**	**2.19**	**134**	Pn	Pn	03 30 39.7	+0.1
X37A				IAmb_Lg		03 31 15.5	
	comp=Z,14nm,0.8s						
U38A	**Gravette**	**2.36**	**82**		Pn	03 30 41.5	-0.4
R32A	**Long Quarter,**	**2.56**	**334**	IAmb_Lg		03 31 22.8	
	comp=Z,13nm,1.0s						
HHAR	**Hobbs**	**2.70**	**86**		Pn	03 30 45.9	-0.7
W39A	**Magazine**	**2.99**	**107**	IAmb_Lg		03 31 45.0	
	comp=Z,11nm,0.8s						
KSU1	**Kansas State U**	**3.01**	**10**		Pn	03 30 51.1	+0.2
KSU1				IAmb_Lg		03 31 40.9	
	comp=Z,6.6nm,0.8s						
MIAR	**Mount Ida**	**3.41**	**117**	IAmb_Lg		03 31 54.4	
	comp=Z,10.0nm,1.1s						
X40A	**Basin Creek Fa**	**3.99**	**113**	IAmb_Lg		03 32 08.4	
	comp=Z,6.4nm,0.8s						
WHAR	**Wooly Hollow**	**4.15**	**100**	Pn	Pn	03 31 06.0	-0.4
FCAR	**Ozark Folk Cen**	**4.18**	**92**	IAmb_Lg		03 32 14.6	
	comp=Z,6.3nm,0.8s						
P38A	**Dawn**	**4.58**	**39**	IAmb_Lg		03 32 37.0	
	comp=Z,7.8nm,1.1s						
LCAR	**Lake Charles**	**4.96**	**89**	IAmb_Lg		03 32 46.8	
	comp=Z,5.1nm,1.1s						

TIF ***15*** *03:55:11.9,42.°50N×43.°23E,h9km*

DDA ***15*** *03:55:11.7,42.°48N×43.°25E,h8km±5km,ML3.0*

NORS ***15*** *03:55:11.6±0.0,42.°60N×43.°18E,h0km,MPVA3.9*

ISK ***15*** *03:55:11.7,42.°47N×43.°21E,h5km,ML3.1/6*

MOS ***15*** *03:55:14.9±0.0,42.°61N×43.°16E,h1km,MPVA4.0*

ISC 15 03:55:12.4±0.9, 42.°49N±0.°01×43.°20E±0.°02, h11km±6km, n69,σ1$10/125, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKB	**Tkibuli**	**0.20**	**229**	P	**Pg**	**03 55 17.1**	**+0.3**
TKB				S	**Sg**	**03 55 21.3**	**+1.5**
ONI	**Oni**	**0.21**	**60**	P	**Pg**	**03 55 16.4**	**-0.5**
ONI				S	**Sg**	**03 55 20.2**	**+0.1**
ONI	**Oni**	**0.21**	**60**	*i* Pg	**Pg**	**03 55 16.5**	**-0.5**
ONI				*i* Sg	**Sg**	**03 55 19.8**	**-0.4**
DIGR	**Digorskoe uzhe**	**0.50**	**34**	*e*Pg	**Pg**	**03 55 21.8**	**-0.5**
DIGR				*e*Sg	**Sg**	**03 55 29.5**	**+0.5**
ZEI	**Tsey**	**0.60**	**59**	*i* Pg	**Pg**	**03 55 23.9**	**-0.2**
ZEI				*e*Sg	**Sg**	**03 55 32.6**	**+0.5**
BKRG	**Bakuriani**	**0.76**	**162**	P	**Pg**	**03 55 27.3**	**+0.1**
BKRG				S	**Sb**	**03 55 38.8**	**+0.5**
ABS	**Abastumani**	**0.78**	**202**	P	**Pg**	**03 55 27.7**	**+0.1**
ABS				S	**Sb**	**03 55 39.6**	**+0.8**
NEY	**Neytrino**	**0.84**	**335**	*e*Pg	**Pg**	**03 55 28.4**	**-0.4**
NEY				*e*Sg	**Sg**	**03 55 39.9**	**+0.2**
KORR	**Kora**	**0.88**	**46**	*i* Pg	**Pb**	**03 55 29.5**	**-0.1**
KORR				*e*Sg	**Sn**	**03 55 42.7**	**-0.8**
LACR	**Lac**	**0.88**	**67**	*e*Pg	**Pg**	**03 55 28.9**	**-0.5**
LACR				*e*Sg	**Sn**	**03 55 42.8**	**-0.9**
LSNR	**Lesken**	**0.92**	**30**	*e*Pg	**Pg**	**03 55 30.1**	**0.0**
LSNR				*e*Sg	**Sg**	**03 55 42.1**	**0.0**
GUDG	**Gudauri**	**0.94**	**91**	P	Pg	03 55 25.8	-4.9
BRNG	**Burnasheti**	**0.98**	**151**	P	**Pb**	**03 55 31.4**	**-0.1**
BRNG				S	**Sn**	**03 55 46.2**	**0.0**
MTEO	**Meteo**	**1.00**	**78**	P	**Pg**	**03 55 31.4**	**-0.4**
EPOS	**Posof**	**1.04**	**200**	*i* P	**Pg**	**03 55 31.6**	**-0.9**
EPOS				*i* S	**Sn**	**03 55 47.4**	**-0.3**
NCK	**Nalchik**	**1.05**	**16**	*i* Pg	**Pn**	**03 55 33.5**	**+0.3**
NCK				*e*Sg	**Sb**	**03 55 46.4**	**0.0**
PNSH	**Pansheti**	**1.06**	**81**	P	**Pg**	**03 55 31.6**	**-1.2**
PNSH				S	**Sn**	**03 55 47.5**	**-0.6**
ARNR	**Ardon**	**1.06**	**49**	*e*Pg	**Pn**	**03 55 33.2**	**+0.1**
ARNR				*e*Sg	**Sn**	**03 55 49.8**	**+1.9**
STDR	**Stavd-Durt**	**1.09**	**35**	*i* Pg	**Pn**	**03 55 34.7**	**+1.1**
STDR				*e*Sg	**Sn**	**03 55 48.8**	**+0.2**
AKH	**Akhal

KRNR				*e*Sn		**Sb**	**03 56 35.5**	**0.0**
SOC	**Sochi**	**2.78**	**294**	*e*Pn		**Pb**	**03 56 01.9**	**-0.3**
SOC				*e*Sn		**Sb**	**03 56 34.1**	**-2.0**
GNBR	**Gunib**	**2.79**	**91**	*e*Pn		**Pb**	**03 56 02.1**	**-0.2**
GNBR				*e*Sn		**Sb**	**03 56 38.3**	**+1.9**
ARKR	**Arakani**	**2.81**	**86**	*e*Pn		**Pb**	**03 56 02.7**	**+0.1**
ARKR				*e*Sn		**Sb**	**03 56 37.6**	**+0.6**
LZRR	**Lazarevskoye**	**3.15**	**299**	*e*Pn		**Pb**	**03 56 05.7**	**-2.7**
AKT	**Akhty**	**3.52**	**105**	*e*Pn		**Pb**	**03 56 11.6**	**-3.2**
AKT				*e*Sn		**Sb**	**03 56 55.8**	**-1.8**

IDC ***15*** *04:13:32.3±0.7, 6°13′N×125°62′E, h155km±8km, mb3.4/6, mb1 3.6/6, mb1mx3.3/39, mbtmp3.8/6, Error ellipse: s-maj=55.0km s-min=14.9km az=75.0*
NEIC ***15*** *04:13:32.2±1.0, 6°27′N±0°09′×125°.8E±0°.2, h151km±9km, mb4.3/9, Error ellipse: s-maj=23.5km s-min=12.8km az=101.0*
MAN ***15*** *04:13:40.3, 6°46′N×125°.86E, h47km, mb4.4, ML3.3, MS3.1*
ISC 15 04:13:32.1±0.7, 6°17′N±0°06′×125°.9E±0°.1, h150km, n21, σ0°85/28, mb4.0/9, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**0.96**	**338**	P	**Pn**	**04 13 56.8**	**+0.2**
	194nm,0.3s,baz=180,slow=2.0,SNR=14						
DAV				LR	LR	04 14 13.9	
	comp=Z,46nm,20.4s,baz=166,slow=45						
DAV				S	**Sn**	**04 14 16.4**	**+1.1**
	354nm,0.3s,baz=129,slow=22,SNR=20						
DAV	**Davao City (W)**	**0.96**	**338**	Pn	**Pn**	**04 13 55.4**	**-1.2**
DAV				Sn	**Sn**	**04 14 16.1**	**+0.8**
KCP	**Kidapawan**	**1.19**	**315⇓**	*i*P	**Pn**	**04 13 58.8**	**+0.2**
KCP				*i* S	**Sn**	**04 14 19.9**	**+1.0**
BUKP	**Musuan**	**1.91**	**333⇑**	*i*P	**Pn**	**04 14 06.8**	**+0.6**
BUKP				*i* S	**Sn**	**04 14 34.0**	**+1.5**
TOLI2	**Tolitoli**	**7.19**	**226**	Pn	**Pn**	**04 15 14.5**	**-0.2**
TOLI2				Sn	**Sn**	**04 16 35.7**	**+0.4**
MTN	**Manton Dam**	**19.58**	**165**	P	**P**	**04 17 49.2**	**+0.6**
MTN				IAmb	IAmb	04 18 06.1	
	comp=Z,8.9nm,1.0s						
KNRA	**Kununurra**	**21.88**	**173**	P	**P**	**04 18 14.0**	**+0.8**
KNRA				IAmb	IAmb	04 18 15.4	
	comp=Z,14nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.11**	**181**	P	**P**	**04 18 34.6**	**+0.5**
	comp=Z,3.4nm,0.7s,baz=0.5,slow=7.9,SNR=13						
FITZ	**Fitzroy Crossi**	**24.11**	**181**	P	**P**	**04 18 34.3**	**+0.2**
FITZ				IAmb	IAmb	04 18 36.7	
	comp=Z,2.8nm,0.6s						
WRA	**Warramunga Arr**	**27.23**	**163**	P	**P**	**04 19 01.6**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=333,slow=11,SNR=15						
WB2	**Warramunga Arr**	**27.23**	**162**	P	**P**	**04 19 01.5**	**-0.8**
WB2				IAmb	IAmb	04 19 20.6	
	comp=Z,12nm,1.5s						
PSA00	**Pilbara Seismi**	**28.21**	**192**	P	**P**	**04 19 10.1**	**-0.8**
PSA00				IAmb	IAmb	04 19 21.4	
	comp=Z,12nm,1.3s						
AS31	**Alice Springs**	**30.65**	**166**	P	**P**	**04 19 32.6**	**0.0**
ASAR	**Alice Springs**	**30.66**	**166**	P	**P**	**04 19 32.6**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=342,slow=7.1,SNR=22						
MORW	**Morawa**	**36.30**	**195**	P	**P**	**04 20 21.5**	**+0.2**
BBOO	**Buckleboo**	**39.94**	**167**	P	**P**	**04 20 52.6**	**+0.9**
STKA	**Stephens Creek**	**40.67**	**159**	P	**P**	**04 20 58.5**	**+0.7**
	comp=Z,2.0nm,0.5s,baz=320,slow=11,SNR=4.9						
STKA	**Stephens Creek**	**40.67**	**159**	P	**P**	**04 20 58.1**	**+0.3**
MKAR	**Makanchi Array**	**55.12**	**325**	P	**P**	**04 22 47.4**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=116,slow=6.8,SNR=6.1						
MKAR				PcP	**PcP**	**04 23 47.9**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=98,slow=2.9,SNR=3.5						
MKAR	**Makanchi Array**	**55.12**	**325**	P	**P**	**04 22 46.8**	**-2.0**
MKAR					**PcP**	**04 23 47.7**	**-0.5**
ILAR	**Eielson Array**	**83.26**	**26**	P	**P**	**04 25 41.4**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=256,slow=4.6,SNR=4.4						

IDC ***15*** *04:16:50.2±1.0, 6°86′N×72°98′W, h161km±8km, mb3.0/1, mb1 3.2/3, mb1mx2.9/31, mbtmp3.6/3, Error ellipse: s-maj=43.8km s-min=7.6km az=131.0*
RSNC ***15*** *04:16:51.1±0.9, 6°80′N×73°.13W, h145km±3km, ML3.5, Mw3.8, Fault plane solution: NP1:φ=0.00000°, δ=33.00000°, λ=98.00000°.*
ISC 15 04:16:49.2±0.9, 6°81′N±0°03′×73°12′W±0°03, h158km±6km, n45, σ1°56/87, 7C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.23**	**196⇑**	*e*P	**Pn**	**04 17 10.7**	**0.0**
BARC				*e*S	**Sn**	**04 17 25.3**	**-1.9**
BARC				*i*		04 17 25.9	
	comp=Z,834nm,0.3s						
BRRC	**Barranca, Sant**	**0.66**	**296⇑**	*i*P	**Pn**	**04 17 12.7**	**+0.5**
BRRC				*e*S	**Sn**	**04 17 29.6**	**-0.2**
BRRC				*i*		04 17 33.5	
	comp=Z,572nm,0.1s						
PAMC	**Pamplona, Colo**	**0.67**	**38⇑**	*i*P	**Pn**	**04 17 13.6**	**+0.8**
PAMC				*e*S	**Sn**	**04 17 30.4**	**-0.6**
PAMC				*i*		04 17 32.7	
	comp=Z,875nm,0.4s						
RUSC	**La Rusia**	**0.91**	**178**	*e*P	**Pn**	**04 17 14.7**	**+0.1**
RUSC				*e*S	**Sn**	**04 17 32.9**	**-1.1**
RUSC				*i*		04 17 33.8	
	comp=Z,228nm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.36**	**259**	*e*P	**Pn**	**04 17 17.5**	**-0.4**
PTBC				*e*S	**Sn**	**04 17 39.0**	**-0.9**
PTBC				*i*		04 17 40.8	
	comp=Z,427nm,0.4s						
TAMC	**Tame, Arauca**	**1.37**	**106⇓**	*i*P	**Pn**	**04 17 19.1**	**+1.1**
TAMC				*e*S	**Sn**	**04 17 40.2**	**0.0**
TAMC				*i*		04 17 41.1	
	comp=Z,390nm,0.5s						
OCAC	**Ocana**	**1.43**	**352⇑**	*i*P	**Pn**	**04 17 19.1**	**+0.3**
OCAC				*e*S	**Sn**	**04 17 41.1**	**-0.5**
SPBC	**San Pablo de B**	**1.49**	**220⇑**	*e*P	**Pn**	**04 17 19.8**	**+0.4**
SPBC				*e*S	**Sn**	**04 17 42.0**	**-0.5**
SPBC				*i*		04 17 45.5	
	comp=Z,241nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.85**	**291**	*e*P	**Pn**	**04 17 23.7**	**+0.6**
ZARC				*e*S	**Sn**	**04 17 49.7**	**+0.4**
ZARC				*i*		04 17 57.2	
	comp=Z,563nm,0.4s						
NORC	**Norcasia**	**2.14**	**235**	*e*P	**Pn**	**04 17 26.9**	**+0.5**
NORC				*e*S	**Sn**	**04 17 54.9**	**-0.3**
NORC				*i*		04 18 00.2	
	comp=Z,130nm,0.2s						
SMLC	**San Martn de**	**2.19**	**335⇑**	*e*P	**Pn**	**04 17 27.2**	**+0.2**
SMLC				*e*S	**Sn**	**04 17 56.3**	**+0.1**
SMLC				*i*		04 18 02.6	
	comp=Z,526nm,0.3s						
CHIC	**Chingaza**	**2.25**	**196**	*e*P	**Pn**	**04 17 28.9**	**+0.8**
CHIC				*e*S	**Sn**	**04 17 57.9**	**-0.3**
CHIC				*i*		04 18 11.1	
	comp=Z,69nm,0.4s						
ROSC	**El Rosal**	**2.29**	**211**	P	**Pn**	**04 17 30.8**	**+2.1**
	comp=Z,11nm,0.3s,baz=294,slow=22,SNR=32						
ROSC				S	**Sn**	**04 18 03.2**	**+4.2**
	comp=Z,32nm,0.3s,baz=212,slow=22,SNR=12						
ROSC	**El Rosal**	**2.29**	**211**	*e*P	**Pn**	**04 17 29.8**	**+1.1**
ROSC				*e*S	**Sn**	**04 18 01.1**	**+2.1**
ROSC				*i*		04 18 06.3	
	comp=Z,184nm,0.5s						
HELC	**Santa Helena**	**2.47**	**256**	*e*P	**Pn**	**04 17 31.1**	**+0.4**
HELC				*e*S	**Sn**	**04 18 02.7**	**0.0**
HELC				*i*		04 18 10.1	
	comp=Z,181nm,0.3s						
UREC	**San Jos de Ur**	**2.57**	**291**	*e*P	**Pn**	**04 17 31.1**	**-0.4**
UREC				*e*S	**Sn**	**04 18 01.9**	**-2.4**
UREC				*i*		04 18 15.6	
	comp=Z,270nm,0.2s						
GUY2C	**Guyana, Caldas**	**2.73**	**235**	*e*P	**Pn**	**04 17 35.3**	**+1.3**
GUY2C				*e*S	**Sn**	**04 18 09.3**	**+0.7**
GUY2C				*i*		04 18 18.3	
	comp=Z,169nm,0.8s						
VILC	**Villavicencio,**	**2.74**	**192**	*e*P	**Pn**	**04 17 34.5**	**+0.7**
VILC				*e*S	**Sn**	**04 18 08.0**	**-0.3**
VILC				*i*		04 18 17.8	
	comp=Z,140nm,0.4s						
LL2C	**La Loma 2 Cana**	**2.74**	**353**	*e*P	**Pn**	**04 17 35.2**	**+1.6**
LL2C				*e*S	**Sn**	**04 18 10.7**	**+2.6**
LL2C				*i*		04 18 16.6	
	comp=Z,425nm,0.3s						
LL1C	**La Loma 1 Cana**	**2.75**	**351**	*e*P	**Pn**	**04 17 35.3**	**+1.6**
LL1C				*e*S	**Sn**	**04 18 11.4**	**+3.2**
PTGC	**Puerto Gaitan,**	**2.77**	**159⇑**	*e*P	**Pn**	**04 17 34.0**	**0.0**
PTGC				*e*S	**Sn**	**04 18 06.7**	**-2.1**
PTGC				*i*		04 18 09.3	
	comp=Z,112nm,0.3s						
CBOC	**Ciudad Bolivar**	**3.03**	**252**	*e*P	**Pn**	**04 17 38.8**	**+1.5**
CBOC				*e*S	**Sn**	**04 18 15.4**	**+0.8**
CBOC				*i*		04 18 18.9	
	comp=Z,56nm,0.3s						
DBBC	**Dabeiba**	**3.08**	**274**	*e*P	**Pn**	**04 17 38.8**	**+0.9**
DBBC				*e*S	**Sn**	**04 18 15.4**	**-0.2**
SDV	**Santo Domingo**	**3.21**	**50**	P	**Pn**	**04 17 40.6**	**+0.9**
	comp=Z,11nm,0.3s,baz=240,slow=10,SNR=14						
SDV				S	**Sn**	**04 18 17.3**	**-1.5**
	comp=Z,41nm,0.3s,baz=76,slow=22,SNR=20						
SDV	**Santo Domingo**	**3.21**	**50**	*e*P	**Pn**	**04 17 40.5**	**+0.8**
SDV				*e*S	**Sn**	**04 18 17.1**	**-1.7**
SDV				*i*		04 18 20.8	
	comp=Z,131nm,0.3s						
ARGC	**Ariguani, Magd**	**3.23**	**340**	*e*P	**Pn**	**04 17 40.8**	**+1.1**
ARGC				*e*S	**Sn**	**04 18 20.3**	**+1.3**
ARGC				*i*		04 18 33.8	
	comp=Z,82nm,0.5s						
PRAC	**Prado**	**3.55**	**210**	*e*P	**Pn**	**04 17 44.9**	**+1.1**
PRAC				*e*S	**Sn**	**04 18 26.4**	**+0.1**
PRAC				*i*		04 18 30.8	
	comp=Z,70nm,0.3s						
ORTC	**Ortega, Tolima**	**3.58**	**216**	*e*P	**Pn**	**04 17 45.3**	**+1.1**
ORTC				*e*S	**Sn**	**04 18 27.9**	**+0.9**
ORTC				*i*		04 18 33.5	
	comp=Z,51nm,0.5s						
ELOV	**Elorza**	**3.61**	**87**	*e*P	**Pn**	**04 17 45.0**	**+0.3**
ELOV				*e*S	**Sn**	**04 18 26.6**	**-1.1**
CVALL	**Valledupar, Ce**	**3.67**	**358**	*e*P	**Pn**	**04 17 45.1**	**-0.3**
CVALL				*e*S	**Sn**	**04 18 25.2**	**-4.1**
CVALL				*i*		04 18 29.4	
	comp=Z,70nm,0.6s						
SJCC	**San Jacinto, C**	**3.68**	**326**	*e*P	**Pn**	**04 17 45.1**	**-0.4**
SJCC				*e*S	**Sn**	**04 18 26.0**	**-3.5**
SJCC				*i*		04 18 30.8	
	comp=Z,201nm,0.4s						
CRJC	**Cerrejon, Guaj**	**4.19**	**3**	*e*P	**Pn**	**04 17 51.5**	**-0.7**
CRJC				*e*S	**Sn**	**04 18 37.8**	**-3.5**
CRJC				*i*		04 19 00.6	
	comp=Z,82nm,0.4s						
GUVC	**San Jose del G**	**4.27**	**173**	*e*P	**Pn**	**04 17 53.7**	**+0.6**
GUVC				*e*S	**Sn**	**04 18 41.9**	**-1.1**
GUVC				*i*		04 18 47.6	
	comp=Z,69nm,0.2s						
YOTC	**Yotoco, Valle**	**4.27**	**229**	*e*P	**Pn**	**04 17 54.1**	**+0.8**
YOTC				*e*S	**Sn**	**04 18 42.2**	**-1.0**
SMRC	**Santa Marta, M**	**4.46**	**346**	*e*P	**Pn**	**04 17 55.8**	**+0.2**
SMRC				*e*S	**Sn**	**04 18 43.9**	**-3.6**
SMRC				*i*		04 18 45.9	
	comp=Z,45nm,0.2s						
CAPC	**Capurgana**	**4.57**	**294**	*e*P	**Pn**	**04 17 56.1**	**-0.9**
CAPC				*e*S	**Sn**	**04 18 47.4**	**-2.6**
CAPC				*i*		04 18 50.8	
	comp=Z,34nm,0.2s						
PTAC	**Punta Ardita,**	**4.67**	**274**	*e*P	**Pn**	**04 17 58.7**	**+0.3**
PTAC				*e*S	**Sn**	**04 18 51.1**	**-1.2**
PTAC				*i*		04 19 00.3	
	comp=Z,16nm,0.4s						
MACC	**Macarena, Meta**	**4.69**	**189**	*e*P	**Pn**	**04 17 57.6**	**-1.1**
MACC				*e*S	**Sn**	**04 18 49.4**	**-3.7**
GARC	**Garzon, Huila**	**5.17**	**207**	*e*P	**Pn**	**04 18 05.5**	**+0.3**
GARC				*e*S	**Sn**	**04 19 01.0**	**-3.6**
GARC				*i*		04 19 08.6	
	comp=Z,27nm,0.2s						
POPC	**Popayan, Colom**	**5.53**	**220**	*e*P	**Pn**	**04 18 10.2**	**+0.2**
POPC				*e*S	**Sn**	**04 19 11.1**	**-2.1**
POPC				*i*		04 19 13.0	
	comp=Z,19nm,1.0s						
FLOC	**Florencia**	**5.78**	**206**	*e*P	**Pn**	**04 18 13.7**	**+0.6**
FLOC				*e*S	**Sn**	**04 19 17.1**	**-1.6**
BBAC	**Balboa, Cauca**	**6.29**	**221**	*e*P	**Pn**	**04 18 22.1**	**+2.0**
BBAC				*e*S	**Sn**	**04 19 29.6**	**-1.7**
BBAC				*i*		04 19 34.8	
	comp=Z,12nm,0.7s						
LPAZ	**La Paz**	**23.48**	**168**	P	**P**	**04 21 46.1**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=349,slow=10,SNR=3.2						
ASAR	**Alice Springs**	**149.11**	**234**	PKPbc	**PKPbc**	**04 36 20.2**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=119,slow=3.7,SNR=10						
WRA	**Warramunga Arr**	**150.33**	**241**	PKPbc	**PKiKP**	**04 36 23.5**	**0.0**
	comp=Z,0.8nm,0.5s,baz=117,slow=3.0,SNR=30						

TUL ***15*** *04:20:32±1.2, 36°07′N±0°.01×97°.58W±0°.02, h5km±7km, ML2.8, mb_Lg2.9/67(NEIC), Error ellipse: s-maj=2.5km s-min=1.8km az=85.0*
NEIC 15 04:20:32.1±0.8, 36°08′N±0°.01×97°59′W±0°02, h4km±7km, Error ellipse: s-maj=2.6km s-min=1.0km az=117.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.30**	**159**	Pg	Pg	04 20 38.1	+0.1
OK029				Sg	Sg	04 20 42.4	+0.4
CROK	**Carrier**	**0.53**	**323**	Pg	Pg	04 20 42.6	+0.4
OK025	**Westminster Rd**	**0.54**	**158**		Pg	04 20 42.5	0.0
OK025				Sg	Sg	04 20 50.0	+0.5
OK031	**S. Brethren Rd**	**0.62**	**102**	Pg	Pg	04 20 44.0	-0.1
OK031				Sg	Sg	04 20 52.5	+0.5
OKCFA	**Oklahoma City**	**0.68**	**170**		Pg	04 20 44.7	-0.3
OKCFA				Sg	Sg	04 20 54.0	+0.2
OKCSW	**OKLAHOMA CITY**	**0.69**	**170**		Pg	04 20 45.0	-0.2
OKCSW				Sg	Sg	04 20 54.5	+0.4
QUOK	**Quay**	**0.72**	**83**	Pg	Pg	04 20 45.7	-0.2
QUOK				Sg	Sg	04 20 55.4	+0.2
BLOK	**Blackwell**	**0.74**	**24**	Pg	Pg	04 20 46.2	-0.1
GC02	**Grant County #**	**0.80**	**344**	Pg	Pg	04 20 47.3	-0.1
FNO	**Franklin**	**0.84**	**169**	Pg	Pg	04 20 47.5	-0.7
FNO				Sg	Sg	04 20 59.2	+0.2
OK032	**Salt Plains WL**	**0.88**	**325**	Pg	Pg	04 20 48.6	-0.3
KAN14	**Manchester OK**	**0.92**	**341**	Pg	Pg	04 20 49.5	-0.3
KAN17	**Caldwell West**	**0.97**	**352**		Pg	04 20 50.7	0.0
KS20	**Mayfield South**	**1.15**	**1**	Pg	Pg	04 20 53.8	-0.2
U32A	**Winfield Search**	**1.18**	**285**		Pg	04 20 53.8	-0.9
T35A	**Sooner Cattle**	**1.20**	**46**		Pg	04 20 54.6	-0.6
KAN12	**Harper NE Stat**	**1.26**	**345**	Pg	Pg	04 20 55.6	-0.6
X34A	**Smith Ranch, M**	**1.49**	**188**		Pn	04 20 59.5	-0.2
WMOK	**Wichita Mounta**	**1.66**	**216**		Pn	04 21 01.6	-0.4
LOOK	**Love County**	**2.11**	**171**	Pn	Pn	04 21 08.8	+0.5
LOOK				IAmb_Lg		04 21 41.0	
	comp=Z,25nm,0.8s						
X37A	**Clayton**	**2.35**	**129**	Pn	Pn	04 21 11.6	+0.2
X37A				IAmb_Lg		04 21 48.3	
	comp=Z,43nm,0.7s						
R32A	**Long Quarter,**	**2.50**	**339**	Pn	Pn	04 21 14.3	+0.7
U38A	**Gravette**	**2.61**	**81**	Pn	Pn	04 21 15.6	+0.4
Z35A	**Perchaven, San**	**2.76**	**174**	Pn	Pn	04 21 18.6	+0.9
HHAR	**Hobbs**	**2.96**	**85**	Pn	Pn	04 21 20.2	+0.3
W39A	**Magazine**	**3.22**	**105**	Pn	Pn	04 21 23.4	-0.1
W39A				IAmb_Lg		04 22 18.4	
	comp=Z,28nm,0.9s						
Z38A	**Mt. Pleasant**	**3.54**	**142**	IAmb_Lg		04 22 31.2	
	comp=Z,32nm,0.8s						
AMTX	**Amarillo**	**3.55**	**251**	IAmb_Lg		04 22 24.1	
	comp=Z,20nm,0.7s						
MIAR	**Mount Ida**	**3.62**	**114**	Pn	Pn	04 21 28.9	-0.1
S39A	**Bolivar**	**3.78**	**64**	IAmb_Lg		04 22 31.2	
	comp=Z,42nm,0.9s						
U40A	**Yellville**	**3.84**	**85**	IAmb_Lg		04 22 34.2	
	comp=Z,19nm,0.7s						
ABTX	**Abilene, Hawle**	**3.84**	**207**	IAmb_Lg		04 22 37.3	
	comp=Z,34nm,1.3s						
WHTX	**Lake Whitney,**	**4.08**	**178**	Pn	Pn	04 21 35.1	-0.2
X40A	**Basin Creek Fa**	**4.20**	**111**	IAmb_Lg		04 22 50.5	
	comp=Z,12nm,0.8s						
WHAR	**Wooly Hollow**	**4.39**	**99**	IAmb_Lg		04 22 48.9	
	comp=Z,13nm,0.8s						
WLAR	**White Oak Lake**	**4.39**	**122**	IAmb_Lg		04 22 59.5	
	comp=Z,12nm,0.7s						
MGMO	**Mountain Grove**	**4.41**	**74**	IAmb_Lg		04 22 58.5	
	comp=Z,23nm,0.9s						
P38A	**Dawn**	**4.78**	**41**	IAmb_Lg		04 23 05.2	
	comp=Z,16nm,0.7s						
R40A	**Maddies Statio**	**4.79**	**61**	Pn	Pn	04 21 44.7	-0.3
R40A				IAmb_Lg		04 23 02.6	
	comp=Z,28nm,0.8s						
435B	**Jarrell**	**5.29**	**180**	IAmb_Lg		04 23 26.7	
	comp=Z,11nm,0.8s						
T42A	**Van Buren**	**5.32**	**78**	IAmb_Lg		04 23 31.3	
	comp=Z,12nm,0.7s						
BGNE	**Belgrade**	**5.34**	**355**	IAmb_Lg		04 23 34.3	
	comp=Z,20nm,0.7s						
CCM	**Cathedral Cave**	**5.44**	**67**	IAmb_Lg		04 23 30.5	
	comp=Z,13nm,0.8s						
T25A	**Trinidad**	**5.59**	**283**	IAmb_Lg		04 23 40.9	
	comp=Z,10.0nm,0.9s						
PBMO	**Poplar Bluff**	**5.81**	**81**	IAmb_Lg		04 23 38.7	
	comp=Z,12nm,0.7s						
JCT	**Junction City**	**5.89**	**199**	IAmb_Lg		04 23 49.0	
	comp=Z,20nm,1.0s						
L34A	**Svendsen Farm,**	**5.95**	**9**	IAmb_Lg		04 23 51.5	
	comp=Z,18nm,0.8s						
OGNE	**Ogallala**	**5.97**	**326**	IAmb_Lg		04 23 49.1	
	comp=Z,24nm,0.8s						
GNAR	**Gosnell**	**6.14**	**89**	IAmb_Lg		04 23 59.0	
	comp=Z,21nm,0.9s						
SLM	**Saint Louis**	**6.39**	**64**	IAmb_Lg		04 23 59.6	
	comp=Z,17nm,0.8s						
SCIA	**State Center**	**6.74**	**29**	IAmb_Lg		04 24 15.3	
	comp=Z,16nm,0.8s						
S44A	**Carbondale**	**6.87**	**74**	IAmb_Lg		04 24 20.5	
	comp=Z,17nm,0.8s						
SIUC	**Southern Illin**	**6.90**	**74**	IAmb_Lg		04 24 17.6	
	comp=Z,21nm,1.0s						
O44A	**Mansfield**	**8.26**	**58**	IAmb_Lg		04 24 54.3	
	comp=Z,16nm,0.8s						
JFWS	**Jewell Farm**	**8.87**	**38**	IAmb_Lg		04 25 26.2	
	comp=Z,15nm,1.1s						
CLTN	**Cedars of Leba**	**9.11**	**87**	IAmb_Lg		04 25 33.5	
	comp=Z,5.9nm,1.1s						
M44A	**Midewin, Midew**	**9.15**	**52**	IAmb_Lg		04 25 21.2	
	comp=Z,11nm,0.9s						
WCI	**Wyandotte Cave**	**9.27**	**73**	IAmb_Lg		04 25 32.7	
	comp=Z,13nm,1.2s						
K22A	**Casper**	**9.53**	**316**	IAmb_Lg		04 25 53.7	
	comp=Z,14nm,1.1s						

IDC 15 04:33:20.6±4.3, 30°.70S×179°.65W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.6/25, mbtmp3.6/2, Error ellipse: s-maj=227.7km s-min=67.2km az=168.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**41.67**	**268**	P	P	04 41 10.6	-0.6
	0.5nm,0.8s,baz=108,slow=7.9,SNR=5.1						
WRA	**Warramunga Arr**	**42.69**	**273**	P	P	04 41 19.8	+0.3
	0.5nm,0.4s,baz=113,slow=8.0,SNR=14						
FINES	**FINESS Array B**	**144.92**	**339**	PKP	PKPbc	04 52 58.2	+0.1
	0.8nm,0.6s,baz=44,slow=4.8,SNR=3.1						

IDC 15 04:54:23.6±21.0, 18°.76S×173°.99W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/31, mbtmp3.6/3, Error ellipse: s-maj=515.9km s-min=51.5km az=38.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**48.60**	**260**	P	P	05 03 09.6	+0.2
	0.6nm,0.9s,baz=96,slow=8.2,SNR=6.5						
ASAR	**Alice Springs**	**48.61**	**255**	P	P	05 03 09.1	-0.4
	0.5nm,0.7s,baz=84,slow=8.7,SNR=4.5						
VNDA	**Vanda**	**59.99**	**186**	P	P	05 04 31.4	-0.1
	0.6nm,0.6s,baz=21,slow=8.6,SNR=3.5						

INET ***15*** *05:00:32.4, 11°.12N×87°.30W, h26km, MW4.3*
IDC ***15*** *05:00:36.3±0.9, 11°.52N×86°.92W, h0km, mb4.1/12, mb1 4.3/13, mb1mx4.0/52, mbtmp4.1/13, ML3.2/1, MS3.5/15, Ms1 3.6/15, ms1mx3.4/37, Error ellipse: s-maj=33.8km s-min=14.6km az=42.0*
UCR ***15*** *05:00:39.4±2.5, 11°.27N×87°.22W, h36km±24km, ML3.6, MW5.2, mb4.6(NEIC)*
NEIC ***15*** *05:00:41.5±2.4, 11°.34N±0°.05×87°.06W±0°.06, h35km±7km, mb4.6/138, Error ellipse: s-maj=10.2km s-min=5.7km az=51.0*
SNET ***15*** *05:00:42.7±1.6, 11°.43N×87°.36W, h31km±170km, ML3.7*
ISC 15 05:00:39.2±0.6, 11°30′N±0°04′×87°12′W±0°05, h26km±3km, n250, σ1°13/215, mb4.5/75, MS3.6/14, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASN	**Masaya**	**1.17**	**54**	Pn	**Pn**	**05 01 00.3**	**+0.3**
CNGN	**Cerro Negro**	**1.26**	**19**	*e*P	**Pn**	**05 01 02.7**	**+0.3**
CNGN	**Cerro Negro**	**1.26**	**19**	Pn	**Pn**	**05 01 02.5**	**+0.2**
CRIN	**San Cristobal**	**1.39**	**3**	Pn	**Pn**	**05 01 03.7**	**+0.7**
HZTE	**Horizontes, Gu**	**1.61**	**111**	*e*P	**Pn**	**05 01 07.5**	**-0.8**
HZTE	**Horizontes, Gu**	**1.61**	**111**	Pn	**Pn**	**05 01 06.1**	**+0.2**
GBS3	**Finca Las Img**	**1.71**	**107**	*e*P	**Pn**	**05 01 07.4**	**0.0**
LAPC	**Finca la Perla**	**1.74**	**108**	*e*P	**Pn**	**05 01 07.7**	**0.0**
BUEV	**Buena Vista**	**1.75**	**106**	*e*P	**Pn**	**05 01 08.3**	**+0.3**
GB1A	**Borinquen Arri**	**1.76**	**106**	*e*P	**Pn**	**05 01 08.4**	**+0.3**
YRLE	**La Escondida,**	**1.80**	**106**	*e*P	**P

comp=Z,399nm,0.4s
UESV Universidad de 2.83 325 *e*P **Pn 05 01 23.0 +0.1**
UESV *e*S **Sn 05 01 54.2 -2.0**
UESV IAML 05 02 05.8
comp=Z,399nm,0.4s
JACO JACO, Garabito 2.92 124 *e*P **Pn 05 01 26.3 +2.4**
JACO JACO, Garabito 2.92 124 Pn 05 01 25.2 +1.3
SJTE Alcalda de S 2.95 321 *e*P **Pn 05 01 24.5 +0.1**
SJTE IAML 05 02 04.2
comp=Z,182nm,0.3s
SJTE Alcalda de S 2.95 321 *e*P **Pn 05 01 24.5 +0.1**
SJTE IAML 05 02 04.2
comp=Z,182nm,0.3s
PAVA Las Pavas 2.98 324 *e*P **Pn 05 01 25.1 +0.2**
PAVA *e*S **Sn 05 01 56.5 -3.5**
PAVA Las Pavas 2.98 324 *e*P **Pn 05 01 25.1 +0.2**
PAVA *e*S **Sn 05 01 56.5 -3.5**
LFRS El Faro 2.99 321 *e*P **Pn 05 01 25.1 +0.1**
LFRS *e*S **Sn 05 01 58.9 -1.2**
LFRS El Faro 2.99 321 *e*P **Pn 05 01 25.1 +0.1**
LFRS *e*S **Sn 05 01 58.9 -1.2**
SNET Serv Nac Est T 3.14 319 Sn 05 02 03.2 -0.6
HDC Heredia 3.23 113 Pn 05 01 29.5 +1.2
HDC3 Heredia 3 3.23 113 *e*P **Pn 05 01 28.1 -0.2**
JAYA Jayaque - finc 3.26 316 *e*P **Pn 05 01 28.8 0.0**
JAYA IAML 05 02 07.5
comp=Z,359nm,0.2s
JAYA Jayaque - finc 3.26 316 *e*P **Pn 05 01 28.8 0.0**
JAYA IAML 05 02 07.5
comp=Z,359nm,0.2s
OCM Ochomogo 3.41 114 *e*P **Pn 05 01 33.8 +2.9**
LCR2 La Lucha 2 3.43 117 *e*P **Pn 05 01 33.7 +2.4**
TACO Tacachico 3.43 321 *e*P **Pn 05 01 31.5 +0.4**
TACO Tacachico 3.43 321 *e*P **Pn 05 01 31.5 +0.4**
CEVE Cerro Verde 3.50 316 *e*P **Pn 05 01 33.2 +1.0**
CEVE IAML 05 02 18.0
comp=Z,511nm,0.4s
CEVE Cerro Verde 3.50 316 *e*P **Pn 05 01 33.2 +1.0**
CEVE IAML 05 02 18.0
comp=Z,511nm,0.4s
SBLS San Blas 3.51 316 *e*P **Pn 05 01 33.5 +1.1**
SBLS *e*S **Sn 05 02 11.2 -2.0**
SBLS San Blas 3.51 316 *e*P **Pn 05 01 33.5 +1.1**
SBLS *e*S **Sn 05 02 11.2 -2.0**
CVTR Volcan Turrial 3.54 111 Pn 05 01 34.7 +1.8
RIMA Rio Macho 3.55 115 Pn 05 01 34.9 +2.1
MTO3 Montecristo 3.77 325 *e*P **Pn 05 01 36.6 +0.6**
MTO3 Montecristo 3.77 325 *e*P **Pn 05 01 36.6 +0.6**
MTO3 Montecristo 3.77 325 Pn 05 01 36.8 +0.8
PEZE Perez Zeledon, 3.89 119 Pn **Pn 05 01 39.3 +1.9**
SRBA San Rafael, Bu 4.23 119 Pn 05 01 43.4 +1.3
DRK0 Durika 4.32 118 *e*P **Pn 05 01 46.1 +2.7**
DRK0 Durika 4.32 118 Pn **Pn 05 01 45.2 +1.9**
RIOS Rincon, Osa 4.39 126 Pn **Pn 05 01 45.8 +1.6**
TLIG Tlapa 12.71 301 Pn 05 03 40.9 +2.4
OTAV Otavalo 13.96 141 *e*P **Pn 05 03 54.2 -1.7**
ROSC El Rosal 14.20 116 LR LR 05 09 32.5
comp=Z,208nm,20.0s,baz=308,slow=38
ROSC El Rosal 14.20 116 Pn **Pn 05 03 59.8 +0.7**
RUSC La Rusia 14.88 110 Pn **Pn 05 04 06.3 -2.1**
FLOC Florencia 14.93 130 Pn **Pn 05 04 10.4 +1.8**
SDV Santo Domingo 16.41 97 Pn **P 05 04 31.4 +0.7**
comp=Z,1.4nm,0.3s,baz=247,slow=4.4,SNR=3.7
SDV Santo Domingo 16.41 97 *e*P **Pn 05 04 27.9 -0.1**
441A DeRidder 20.16 345 P **P 05 05 11.2 -0.4**
HKT Hockley 20.25 338 P Pn 05 05 14.3 -0.3
HKT IAmb IAmb 05 05 23.6
comp=Z,31nm,1.2s
344A Westbrook Farm 20.33 351 P **P 05 05 13.9 +0.5**
344A IAmb IAmb 05 05 24.2
comp=Z,34nm,1.1s
146A Union 21.31 355 P **P 05 05 26.1 +2.1**
146A IAmb IAmb 05 05 28.1
comp=Z,25nm,0.8s
152A Waverly Hall 21.38 6 IAmb IAmb 05 05 29.1
comp=Z,25nm,0.8s
LRAL Lakeview Retre 21.63 0 P **P 05 05 28.6 +1.1**
LRAL IAmb IAmb 05 05 30.6
comp=Z,17nm,0.9s
Z47A Carrollton 21.81 358 P **P 05 05 29.8 +0.4**
Z47A IAmb IAmb 05 05 45.5
comp=Z,23nm,1.1s
Z51A Franklin 21.98 4 P **P 05 05 32.1 +0.8**
Z51A IAmb IAmb 05 05 34.7
comp=Z,15nm,0.8s
PCRV Puerto La Cruz 22.12 91 P **P 05 05 32.9 -0.1**
comp=Z,6.7nm,0.8s,baz=267,slow=4.4,SNR=3.9
PLCV Puerto La Cruz 22.16 91 P **P 05 05 32.9 -0.6**
GOGA Godfrey 22.26 8 P **P 05 05 34.0 -0.3**
GOGA IAmb IAmb 05 05 37.1
comp=Z,16nm,0.8s
JCT Junction City 22.42 330 P **P 05 05 36.8 +0.7**
JCT pP **sP 05 05 46.0 -0.2**
Y49A Blount Mountai 22.46 2 P **P 05 05 36.8 +0.4**
Y49A IAmb IAmb 05 05 38.2
comp=Z,17nm,0.7s
Y52A Lilburn 22.63 7 P **P 05 05 39.0 +0.8**
Y52A IAmb IAmb 05 05 40.5
comp=Z,26nm,1.1s
WHTX Lake Whitney, 22.69 337 P **P 05 05 39.2 +0.3**
WHTX IAmb IAmb 05 05 48.9
comp=Z,21nm,1.1s
WLAR White Oak Lake 22.95 347 P **P 05 05 41.6 +0.1**
WLAR IAmb IAmb 05 05 51.2
comp=Z,23nm,1.1s
TBTG Tabatinga, AM 23.02 131 *e*P **P 05 05 42.6 +0.1**
X51A Calhoun 23.25 5 IAmb IAmb 05 05 48.1
comp=Z,29nm,1.4s
Y58A Scranton 23.51 16 IAmb IAmb 05 05 49.5
comp=Z,22nm,0.8s
TXAR Lajitas Array 23.67 322 P **P 05 05 49.7 +0.8**
comp=Z,2.8nm,0.7s,baz=134,slow=10,SNR=36
TXAR PcP **PcP 05 09 35.3 +2.2**
comp=Z,1.6nm,0.9s,baz=134,slow=5.4,SNR=7.4
TX31 Lajitas Ar. Si 23.67 322 P **P 05 05 49.3 +0.4**
TX32 Lajitas Array 23.67 322 P **P 05 05 49.2 +0.4**
CZSB Cruzeiro do Su 23.73 142 *e*P **P 05 05 50.1 +0.7**
W45A Hickory Valley 23.82 356 IAmb IAmb 05 05 49.5
comp=Z,15nm,0.8s
SWET Sewanee 23.83 2 IAmb IAmb 05 05 51.4
comp=Z,19nm,0.9s
W50A Signal Mountai 23.85 4 IAmb IAmb 05 05 52.2
comp=Z,18nm,0.8s
MIAR Mount Ida 23.88 347 P **P 05 05 49.6 -1.0**
MIAR IAmb IAmb 05 06 00.3
comp=Z,11nm,0.8s
BG3 Lake Jocassee 23.89 9 P **P 05 05 50.7 -0.1**
BG3 IAmb IAmb 05 05 53.4
comp=Z,10nm,0.8s
PAULI Pauline 23.91 11 IAmb IAmb 05 05 52.4
comp=Z,13nm,1.1s
BIRD Birdtown, Kers 24.02 14 P **P 05 05 52.3 +0.3**
BIRD IAmb IAmb 05 05 54.8
comp=Z,11nm,0.9s
ABTX Abilene, Hawle 24.15 333 P **P 05 05 52.7 -0.6**
ABTX IAmb IAmb 05 06 06.4
comp=Z,18nm,1.2s
CPCT Cooper Cave 24.16 5 IAmb IAmb 05 05 55.9
comp=Z,19nm,0.8s
H06S1 SOCORRO T 24.16 291 T T 05 31 00.1
SNR=8.1
WHAR Wooly Hollow 24.34 350 P **P 05 05 54.0 -1.0**
LOOK Love County 24.39 339 P **P 05 05 53.7 -1.7**
TKL Tuckaleechee C 24.44 7 P **P 05 05 56.4 +0.5**
comp=Z,12nm,0.7s,baz=185,slow=12,SNR=16
TKL LR LR 05 16 20.8
comp=Z,78nm,19.9s,baz=82,slow=39
TKL Tuckaleechee C 24.44 7 IAmb IAmb 05 05 58.8
comp=Z,30nm,1.2s
V51A Loudon 24.52 5 P **P 05 05 56.8 +0.2**
V51A IAmb IAmb 05 05 59.1
comp=Z,14nm,0.9s
V53A Saluda 24.57 8 IAmb IAmb 05 05 59.9
comp=Z,10nm,0.8s
CLTN Cedars of Leba 24.69 2 IAmb IAmb 05 05 59.9
comp=Z,18nm,0.9s
FCAR Ozark Folk Cen 24.90 350 P **P 05 05 57.9 -2.1**
SLBS Sierra La Lagu 24.96 303 P **P 05 05 59.7 -1.1**
U49A Red Boiling Sp 25.13 3 IAmb IAmb 05 06 04.5
comp=Z,9.5nm,0.8s
NNA Nana 25.29 156 LR LR 05 14 44.3
comp=Z,79nm,18.8s,baz=334,slow=33
TZTN Tazewell 25.34 7 IAmb IAmb 05 06 09.4
comp=Z,14nm,1.1s
V58A Windy Hill, Pi 25.44 15 IAmb IAmb 05 06 06.3
comp=Z,14nm,0.8s
LPIG La Paz 25.44 303 LR LR 05 16 41.9
comp=Z,87nm,18.4s,baz=118,slow=38
PBMO Poplar Bluff 25.54 354 P **P 05 06 04.6 -1.2**
PBMO IAmb IAmb 05 06 19.9
comp=Z,20nm,1.4s
T47A Sharon Grove 25.57 0 P **P 05 06 04.8 -1.3**
T47A IAmb IAmb 05 06 06.0
comp=Z,10.0nm,0.7s
FNO Franklin 25.61 340 P **P 05 06 05.4 -1.1**
FNO **sP 05 06 17.2 0.0**
WMOK Wichita Mounta 25.64 337 P **P 05 06 07.6 +0.8**
S39A Bolivar 26.86 349 IAmb IAmb 05 06 17.4
comp=Z,9.0nm,0.8s
CCM Cathedral Cave 26.90 353 P **P 05 06 15.7 -2.4**
CCM IAmb IAmb 05 06 17.6
comp=Z,11nm,1.1s
Q52A Bidwell 27.88 8 IAmb IAmb 05 06 29.6
comp=Z,15nm,0.9s
Q56A Snyder Ridge, 28.52 13 IAmb IAmb 05 06 34.2
comp=Z,17nm,0.9s
O52A Adamsville 29.08 8 IAmb IAmb 05 06 38.5
comp=Z,12nm,0.8s
P57A Homestead Farm 29.21 15 IAmb IAmb 05 06 40.4
comp=Z,13nm,0.9s
ANMO Albuquerque 29.39 326 P **P 05 06 41.8 +1.2**
comp=Z,1.0nm,0.8s,baz=149,slow=9.1,SNR=5.6
ANMO PcP **PcP 05 09 48.5 +2.1**
comp=Z,1.4nm,0.9s,baz=179,slow=3.4,SNR=4.7
PTGA Pitinga 29.52 112 LR LR 05 20 30.2
comp=Z,79nm,19.3s,baz=288,slow=41
ETMB Extrema 29.53 134 *e*P **P 05 06 42.2 +0.4**
MACA Manacapuru-AM 29.97 117 *e*P **P 05 06 46.0 +0.3**
MVL Millersville 30.13 17 IAmb IAmb 05 06 48.3
comp=Z,14nm,1.0s
SSPA Standing Stone 30.33 14 P **P 05 06 48.5 -0.2**
N58A Sunbury 30.82 16 IAmb IAmb 05 06 54.3
comp=Z,12nm,0.8s
N59A State Game Lan 31.15 17 P **P 05 06 55.7 -0.2**
SAML Samuel 31.17 129 P **P 05 06 56.4 0.0**
SAML Samuel 31.17 129 *e*P **P 05 06 56.5 +0.2**
X16A Lo Mia Camp, P 31.95 320 P **P 05 07 04.3 +1.0**
PV13 Radium Mtn., P 33.05 328 IAmb IAmb 05 07 25.5
comp=Z,5.5nm,1.0s
PV03 Paradox Valley 33.13 328 IAmb IAmb 05 07 24.3
comp=Z,4.3nm,0.8s
PV05 Paradox Valley 33.13 327 IAmb IAmb 05 07 26.1
comp=Z,14nm,1.4s
PV12 Saucer Basin, 33.16 328 IAmb IAmb 05 07 26.0
comp=Z,11nm,0.9s
PV18 Skein Mesa, Pa 33.16 328 IAmb IAmb 05 07 23.7
comp=Z,6.9nm,0.7s
PV11 David Mesa, Pa 33.18 328 IAmb IAmb 05 07 26.8
comp=Z,7.4nm,0.7s
PV16 Nyswonger Mesa 33.21 328 IAmb IAmb 05 07 27.5
comp=Z,6.6nm,1.0s
LPAZ La Paz 33.23 145 LR LR 05 20 59.2
comp=Z,102nm,19.4s,baz=327,slow=37
LPAZ La Paz 33.23 145 *e*P **P 05 07 14.8 -0.3**
PV19 Moving Glory 33.24 328 IAmb IAmb 05 07 24.4
comp=Z,6.4nm,0.7s
PV04 Paradox Valley 33.27 328 IAmb IAmb 05 07 28.1
comp=Z,7.9nm,1.1s
PV14 Lion Creek, Pa 33.31 328 IAmb IAmb 05 07 28.2
comp=Z,7.0nm,0.9s
ECSD EROS Data Cent 33.34 347 IAmb IAmb 05 07 22.7
comp=Z,6.4nm,0.9s
G40A Rib Lake 33.95 356 P **P 05 07 18.1 -2.3**
G40A IAmb IAmb 05 07 19.4
comp=Z,5.2nm,0.8s
SADO Sadowa 34.05 10 P **P 05 07 20.1 -1.1**
comp=Z,4.3nm,0.6s,baz=219,slow=9.8,SNR=6.6
SPMN Marine on St. 34.15 353 P **P 05 07 20.0 -2.1**
O20A White River Ci 34.26 331 P **P 05 07 22.6 -0.8**
SRU San Rafael Swe 34.65 327 IAmb IAmb 05 07 38.7
comp=Z,8.1nm,1.2s
COWI Conover 34.72 358 IAmb IAmb 05 07 25.8
comp=Z,8.5nm,0.8s
MTPU Mount Pierson 34.81 324 P **P 05 07 30.5 +2.1**
MTPU IAmb IAmb 05 07 49.2
comp=Z,3.7nm,0.7s
PFO Pinyon Flats O 34.83 314 LR LR 05 22 37.0
comp=Z,128nm,20.3s,baz=170,slow=38
F36A Milaca 34.87 352 P **P 05 07 26.5 -1.9**
F36A IAmb IAmb 05 07 26.9
comp=Z,6.3nm,0.8s
ITTB Itaituba 34.89 115 *e*P **P 05 07 29.1 +0.1**
P17A Butcher Ranch, 35.03 327 IAmb IAmb 05 07 42.6
comp=Z,12nm,1.2s
TMUT Trail Mountain 35.15 327 PcP 05 10 04.5 +2.2
MALB Monte Alegre 35.19 110 *e*P **P 05 07 31.1 -0.3**
TCRU Three Creeks R 35.35 325 P **P 05 07 34.0 +1.1**
TCRU IAmb IAmb 05 07 46.6
comp=Z,5.9nm,1.0s
TCRU **PcP 05 10 04.5 +1.6**
E38A The Farm, Brul 35.39 355 P **P 05 07 30.7 -2.1**
VILB Vilhena 35.98 131 *e*P **P 05 07 38.2 0.0**
JLU Jordanelle 36.22 328 P **P 05 07 41.7 +1.4**
NPGB Novo Progresso 36.48 119 *e*P **P 05 07 41.0 -1.6**
MCPB Macapa, AP 36.72 106 *e*P **P 05 07 45.2 +0.6**
PDAR Pinedale Array 36.93 332 P **P 05 07 45.6 -0.7**
comp=Z,0.6nm,0.7s,baz=127,slow=9.9,SNR=7.7
PDAR PcP **PcP 05 10 08.2 +0.8**
comp=Z,1.1nm,1.1s,baz=143,slow=5.2,SNR=3.8
HWUT Hardware Ranch 37.02 329 P **P 05 07 46.9 -0.2**
HWUT IAmb IAmb 05 07 59.2
comp=Z,10nm,1.1s
AGMN Agassiz Nation 37.60 350 IAmb IAmb 05 07 52.0
comp=Z,8.3nm,0.9s
AHID Auburn Hatcher 37.66 331 P **P 05 07 51.9 -0.5**
HVU Hansel Valley 37.76 328 P **P 05 07 53.7 +0.4**
SNOW Snow King Moun 38.02 332 IAmb IAmb 05 08 07.9
comp=Z,8.5nm,0.8s
LOHW Long Hollow 38.07 332 IAmb IAmb 05 08 07.0
comp=Z,8.9nm,1.4s
CLDB Colider 38.13 124 *e*P **P 05 07 55.8 -0.7**
LVC Limon Verde 38.14 152 *e*P **P 05 07 56.9 0.0**
TPAW Teton Pass 38.14 332 P **P 05 07 54.9 -1.6**
TPAW IAmb IAmb 05 08 11.3
comp=Z,8.2nm,1.1s
ELK Elko 38.38 325 P **P 05 07 59.0 +0.3**
ELK pP **sP 05 08 08.7 -0.5**
PTLB Pontes e Lacer 38.40 133 *e*P **P 05 07 59.4 +0.7**
NVAR Mina Array Bea 38.78 320 P **P 05 08 03.6 +1.6**
comp=Z,0.9nm,0.7s,baz=113,slow=6.9,SNR=2.3
NVAR PcP **PcP 05 10 15.1 +1.9**
comp=Z,1.2nm,0.8s,baz=120,slow=3.9,SNR=4.6
NVAR LR LR 05 27 52.7
comp=Z,126nm,18.0s,baz=129,slow=42
BMN Battle Mountai 39.33 323 P **P 05 08 06.9 +0.4**
BMN IAmb IAmb 05 08 19.7
comp=Z,10nm,1.2s
ULM Lac du Bonnet 39.50 351 P **P 05 08 05.6 -1.9**
comp=Z,4.3nm,0.6s,baz=155,slow=8.3,SNR=5.5
ULM Lac du Bonnet 39.50 351 IAmb IAmb 05 08 06.0
comp=Z,9.8nm,0.9s
SALV Santo Antonio 41.21 130 *e*P **P 05 08 22.9 +0.8**
WVOR Wild Horse Val 41.42 324 P **P 05 08 24.0 +0.3**
SNDB Serra Nova Dou 42.43 122 *e*P **P 05 08 32.1 -0.1**
F10A Beach Ranch, E 43.00 329 P **P 05 08 36.2 -0.4**
ARAG Araguaiana, MT 44.06 127 *e*P **P 05 08 45.0 -0.4**
SMTB Santa Maria do 44.13 115 *e*P **P 05 08 47.1 +1.2**
AQDB Aquidauana 44.19 135 *e*P **P 05 08 47.4 +1.2**
D08A Wollman Farm, 44.60 329 P **P 05 08 50.5 +1.2**
D08A pP **pP 05 08 58.8 +2.0**
D08A IAmb IAmb 05 09 00.7
comp=Z,9.0nm,1.3s
E07A Sunnyside 44.74 328 P **P 05 08 51.9 +1.5**
E07A IAmb IAmb 05 08 52.4
comp=Z,8.1nm,1.0s
E07A pP **sP 05 09 00.2 -1.2**
PEXB Peixe 45.02 120 *e*P **P 05 08 54.1 +1.1**
H03N2 Juan Fernandez 45.17 170 T T 05 57 11.5
baz=349,slow=76,SNR=6.0
H03N1 Juan Fernandez 45.17 170 T T 05 57 13.1
baz=349,slow=76,SNR=8.2
H03N3 Juan Fernandez 45.19 170 T T 05 57 11.5
baz=349,slow=76,SNR=5.0
SCHQ Schefferville 46.28 16 LR LR 05 28 11.0
comp=Z,91nm,21.0s,baz=175,slow=36
BDFB Brasilia 47.07 124 P **P 05 09 09.7 +0.4**
comp=Z,5.8nm,0.8s,baz=338,slow=8.2,SNR=6.1
BDFB Brasilia 47.07 124 P **P 05 09 10.2 +1.0**
CPUP Villa Florida 47.31 143 LR LR 05 30 25.8
comp=Z,76nm,18.3s,baz=360,slow=38
ITRB Iturama 47.54 130 *e*P **P 05 09 12.9 +0.2**
PCMB Pacaembu 48.05 133 *e*P **P 05 09 16.6 -0.1**
IPMB Ipameri, GO 48.19 127 *e*P **P 05 09 16.9 -0.9**
BB19B Bebedouro 49.73 130 *e*P **P 05 09 29.6 0.0**
JANB Januaria 49.84 121 *e*P **P 05 09 30.8 +0.2**
DIAM Diamantina, MG 51.99 124 *e*P **P 05 09 46.8 0.0**
VAO Valinhos 52.04 131 *e*P **P 05 09 46.8 -0.2**
CNLB Canela 53.43 140 *e*P **P 05 09 56.8 -0.4**
PLTB Pedras Altas 53.52 144 *e*P **P 05 09 58.0 +0.3**
YKA Yellowknife Ar 54.80 345 P **P 05 10 05.8 -0.8**
comp=Z,1.6nm,0.8s,baz=140,slow=7.3,SNR=5.0
RKT Rikitea 58.00 234 *e*T T 06 12 57.6
comp=Z,2.7nm,0.2s
PMOR Pomariorio Ree 65.62 248 *e*T T 06 22 33.0
comp=Z,1.4nm,0.2s
ILAR Eielson Array 67.19 336 P **P 05 11 29.7 -1.1**
comp=Z,0.5nm,0.8s,baz=126,slow=4.6,SNR=4.3
PPT2 Papeete2 68.03 246 *e*LR LR 05 32 10.6
comp=Z,67nm,24.8s
TBI Tubuai 70.02 240 *e*LR LR 05 33 20.0
comp=Z,55nm,24.2s
ESDC Sonseca Array 77.64 52 P **P 05 12 32.6 -1.0**
comp=Z,1.5nm,0.9s,baz=295,slow=7.8,SNR=4.3
ESDC Sonseca Array 77.64 52 IAmb IAmb 05 12 33.7
comp=Z,0.8nm,0.9s
NOA NORSAR Array B 84.21 29 LR LR 05 47 52.0
comp=Z,22nm,20.7s,baz=290,slow=34
ARCES ARCESS Array B 87.16 19 LR LR 05 52 06.6
comp=Z,19nm,18.7s,baz=265,slow=36
GERES GERESS Array B 88.59 40 LR LR 05 48 37.2
comp=Z,52nm,18.2s,baz=284,slow=33
SONM Songino Array 119.91 350 PKP **PKiKP 05 19 28.1 +0.3**
comp=Z,0.6nm,0.6s,baz=322,slow=1.4,SNR=3.4
KSRS Korea Array 121.41 328 PKP **PKiKP 05 19 31.3 +0.6**
comp=Z,1.8nm,0.8s,baz=18,slow=1.1,SNR=6.5
ASAR Alice Springs 139.13 247 PKP **PKPdf 05 20 03.8 -0.8**
comp=Z,0.4nm,0.7s,baz=127,slow=3.8,SNR=3.1
WRA Warramunga Arr 139.25 253 PKP **PKPdf 05 20 04.5 -0.4**
comp=Z,0.5nm,0.9s,baz=90,slow=2.6,SNR=2.6
CMAR Chiang Mai Arr 149.83 348 PKPbc **PKiKP 05 20 28.8 -0.1**
comp=Z,4.4nm,0.8s,baz=336,slow=3.4,SNR=19
CMAR Chiang Mai Arr 149.83 348 PKPdf **PKPdf 05 20 23.8 +0.6**

HLW ***15*** *05:04:42.9,34˚.85N×25˚.31E,h12km±16km,Md4.2,Ml4.5*
BGR ***15*** *05:04:42.9±0.0,34˚.51N×24˚.70E,h10km±,mb4.3,Ms2.8*
NIC ***15*** *05:04:42.3±0.0,34˚.56N×25˚.08E,h10km±2km,Ml4.3/5*
ISK ***15*** *05:04:42.9,34˚.81N×24˚.93E,h5km,ML3.9/16*
MED_RC ***15*** *05:04:43.0±1.1,34˚.57N×25˚.03E,h23km±1km,MW4.4/20, Moment Tensor Solution.Mantle waves: s20,c29; Duration: 1s0 Moment tensor: Scale 1015Nm; Mrr-4.40±.54; Mθθ0.33±.28; Mϕϕ4.06±.34; Mrθ-1.30±.23; Mθϕ2.15±.25; Mϕr-1.09±.28; Best double couple: M≥5.03000×1015 NP1:ϕs194.00000°,δ37.00000°, λ-106.00000°. NP2:ϕs34.00000°, δ55.00000°, λ-78.00000°. Principal axes: T 5.2900, Plg9.0000°, Azm116.0000°; N -0.5200, Plg10.0000°, Azm207.0000°; P -4.7700, Plg77.0000°, Azm343.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
IDC ***15*** *05:04:43.5±2.0,34˚.79N×25˚.02E,h12km±11km,mb4.4/24, mb1 4.4/31,mb1mx4.3/56,mbtmp4.4/31,ML4.3/7,MS3.1/10, Ms1 3.2/10,ms1mx2.8/55 Error ellipse: s-maj=12.9km s-min=12.0km az=170.0*
ATH ***15*** *05:04:43.9,34˚.77N×24˚.99E,h15km±2km,ML4.2/8, Error ellipse: s-maj=2.5km s-min=1.0km az=354.0*
THE ***15*** *05:04:44.0,34˚.77N×25˚.00E,h10km±1km,ML4.3/11, Error ellipse: s-maj=1.9km s-min=0.5km az=1.0*
NEIC ***15*** *05:04:44.9±2.4,34˚.81N±0˚.04×24˚.94E±0˚.07,h16km±4km, Error ellipse: s-maj=8.1km s-min=5.4km az=78.0*
MOS ***15*** *05:04:44.7±1.6,34˚.72N×24˚.82E,h33km,mb4.8/15, Error ellipse: s-maj=7.3km s-min=4.0km az=74.9*
DDA ***15*** *05:04:46.0,34˚.80N×24˚.94E,h13km±37km,MW4.1*
ISC 15 05:04:43.6±0.7,34.74N±0˚.03×25.02E±0˚.02,h15km±4km, n323,σ1ŝ64/352,mb4.6/52,MS3.2/8,13C-10D,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.32**	**328**	P	**Pg**	**05 04 49.9**	**-0.4**
SIVA				S	**Sg**	**05 04 54.6**	**-0.3**
	369μm,0.5s						
SIVA	**Sivas**	**0.32**	**328**	P	**Pg**	**05 04 49.6**	**-0.8**
SIVA				S	**Sg**	**05 04 54.3**	**-0.6**
SIVA				AML	AML	05 04 55.5	
SIVA				AML	AML	05 04 55.7	
TMBK	**Timbaki Herakl**	**0.39**	**328**	P	**Pg**	**05 04 51.5**	**0.0**
TMBK				S	**Sg**	**05 04 56.5**	**-0.3**
	82μm,0.5s						
IDI	**Anoyia**	**0.55**	**349**	Pg	**Pg**	**05 04 53.5**	**-1.0**
	1μm,0.3s,baz=169,slow=17,SNR=1889						
IDI				Lg	Lg	05 05 00.8	
	2μm,0.3s,baz=337,slow=20,SNR=47						
IDI				LR	LR	05 05 20.8	
	comp=Z,1μm,19.3s,baz=98,slow=74						
IDI	**Anoyia**	**0.55**	**349**	P	**Pg**	**05 04 53.5**	**-1.0**
IDI				S	**Sb**	**05 05 02.4**	**-0.4**
	23μm,0.5s						
IDI	**Anoyia**	**0.55**	**349**	P	**Pg**	**05 04 53.6**	**-1.0**
IDI				S	**Sg**	**05 05 01.2**	**-0.8**
IDI				AML	AML	05 05 02.0	
	comp=E,56198μm,0.5s						
IDI				AML	AML	05 05 03.5	
	comp=N,34373μm,0.5s						
KSTL	**Kastelli Herak**	**0.56**	**5**	P	**Pg**	**05 04 54.0**	**-0.7**
KSTL				S	**Sg**	**05 05 02.2**	**0.0**
IACM	**Heraklion**	**0.56**	**5**	P	**Pg**	**05 04 54.3**	**-0.4**
IACM				S	**Sb**	**05 05 03.0**	**0.0**
	comp=N,108μm,0.6s						
IACM	**Heraklion**	**0.56**	**5**	P	**Pg**	**05 04 54.4**	**-0.4**
IACM				S	**Sg**	**05 05 02.1**	**-0.1**
HRKL	**Herakleio**	**0.57**	**7**	P	**Pg**	**05 04 54.6**	**-0.3**
HRKL				S	**Sg**	**05 05 02.6**	**+0.1**
	comp=N,40μm,0.6s						
HRKL	**Herakleio**	**0.57**	**7**	PG	**Pg**	**05 04 54.2**	**-0.7**
HRKL				SG	**Sg**	**05 05 02.7**	**+0.2**
FRMA	**Ierapetra Chan**	**0.65**	**65**	P	**Pn**	**05 04 57.9**	**-0.4**
FRMA				S	**Sn**	**05 05 09.4**	**+1.1**
	comp=N,6μm,0.5s						
NPS	**Neapolis**	**0.71**	**43**	P	**Pg**	**05 04 56.9**	**-0.7**
NPS				S	**Sb**	**05 05 07.7**	**+0.3**
	comp=N,11μm,0.5s						
NPS	**Neapolis**	**0.71**	**43**	P	**Pg**	**05 04 56.9**	**-0.7**
NPS				S	**Sb**	**05 05 07.3**	**-0.1**
NPS				AML	AML	05 05 09.2	
	comp=N,11567μm,0.4s						
NPS				AML	AML	05 05 12.7	
	comp=E,14709μm,0.3s						
PRNS	**Prines Rethymn**	**0.75**	**326**	P	**Pg**	**05 04 57.4**	**-0.8**
GVD	**Gavdhos**	**0.77**	**277**	P	**Pg**	**05 04 58.2**	**-0.4**
GVD				S	**Sn**	**05 05 10.5**	**-0.8**
	comp=E,56μm,0.3s						
GVD	**Gavdhos**	**0.77**	**277**	P	**Pg**	**05 04 58.0**	**-0.6**
GVD				S	**Sb**	**05 05 08.8**	**-0.2**
GVD				AML	AML	05 05 20.0	
GVD				AML	AML	05 05 22.0	
GVD	**Gavdhos**	**0.77**	**277**	PG	**Pg**	**05 04 58.0**	**-0.6**
VAM	**Vamos**	**0.94**	**315**	P	**Pb**	**05 05 00.5**	**-1.2**
VAM				S	**Sb**	**05 05 13.6**	**-0.4**
	comp=E,44μm,0.4s						
VAM	**Vamos**	**0.94**	**315**	P	**Pb**	**05 05 00.7**	**-1.0**
VAM				S	**Sb**	**05 05 13.2**	**-0.8**
VAM				AML	AML	05 05 22.8	
	comp=E,36860μm,0.5s						
VAM				AML	AML	05 05 24.3	
	comp=N,52402μm,0.4s						
STIA	**Sitia Lasithi**	**0.99**	**62**	P	**Pb**	**05 05 02.6**	**+0.1**
STIA				S	**Sn**	**05 05 16.9**	**+0.1**
ZKR	**Zakros**	**1.05**	**69**	P	**Pb**	**05 05 03.5**	**0.0**
ZKR				S	**Sn**	**05 05 18.9**	**+0.6**
	comp=N,6μm,0.6s						
ZKR	**Zakros**	**1.05**	**69**	P	**Pb**	**05 05 03.6**	**0.0**
ZKR				S	**Sb**	**05 05 17.3**	**+0.1**
ZKR				AML	AML	05 05 26.8	
	comp=E,15650μm,0.7s						
ZKR				AML	AML	05 05 28.1	
	comp=N,8664μm,0.5s						
ZKR	**Zakros**	**1.05**	**69**	P	**Pb**	**05 05 03.0**	**-0.6**
ZKR				S	**Sn**	**05 05 18.6**	**+0.3**
ZKR				AML	AML	05 05 25.3	
	comp=N,15nm,0.7s						
ZKR				AML	AML	05 05 25.3	

comp=N,15nm,0.7s
ZKR AML AML 05 05 26.6
comp=N,8.5nm,0.6s
ZKR AML AML 05 05 26.6
comp=N,8.5nm,0.6s
IMMV Iera Moni Meta 1.11 310 P **Pb** **05 05 03.5 -1.1**
IMMV S **Sg** **05 05 19.2 -0.4**
comp=N,19µm,0.6s
IMMV Iera Moni Meta 1.11 310 P **Pb** **05 05 03.4 -1.1**
IMMV S **Sb** **05 05 17.8 -1.0**
IMMV AML AML 05 05 24.5
comp=N,38726µm,0.4s
IMMV AML AML 05 05 30.8
comp=E,39177µm,1.1s
IMMV Iera Moni Meta 1.11 310 PG **Pb** **05 05 03.3 -1.2**
KNDR Palaiochora Ch 1.20 294 P **Pb** **05 05 06.1 +0.1**
KNDR Palaiochora Ch 1.20 294 PN **Pn** **05 05 05.7 -0.1**
KNDR SN **Sg** **05 05 23.2 +0.9**
SANT Santorini 1.66 12 *i* P **Pb** **05 05 13.4 -0.6**
SANT *i* S **Sg** **05 05 36.0 -1.2**
SANT Santorini 1.66 12 PN **Pb** **05 05 13.7 -0.3**
SANT SN **Sg** **05 05 36.2 -1.0**
SANT Santorini 1.66 12 Pn **Pb** **05 05 13.3 -0.7**
THT2 Imerovigli 1.72 11 PN **Pb** **05 05 14.7 -0.2**
ANKY Antikythira Is 1.79 309 P **Pb** **05 05 15.4 -0.8**
KARP Karpathos 1.93 65 P **Pb** **05 05 19.0 +0.5**
KARP AML AML 05 05 59.3
comp=E,4212µm,0.7s
KARP AML AML 05 06 01.4
comp=N,7029µm,0.9s
KARP Karpathos 1.93 65 PN **Pb** **05 05 18.9 +0.3**
KARP Karpathos 1.93 65 Pn **Pb** **05 05 19.4 +0.8**
KARP Karpathos 1.93 65 S **Sb** **05 05 41.7 -0.8**
KARP AML AML 05 05 59.8
comp=N,5.3nm,0.7s
KARP AML AML 05 06 00.5
comp=N,7.0nm,0.9s
APE Apeiranthos 2.36 10 *i* P **Pb** **05 05 24.0 -1.8**
APE Apeiranthos 2.36 10⇑ *e*P **Pb** **05 05 23.8 -2.1**
APE Apeiranthos 2.36 10 PN **Pb** **05 05 23.7 -2.1**
APE Apeiranthos 2.36 10 P **Pn** **05 05 23.4 +1.5**
NIS1 Nisyros Isl. 2.56 43 PN **Pb** **05 05 27.2 -2.0**
DAT Datca 2.88 46 PN **Pn** **05 05 31.8 +2.8**
ARG Arkhangelos 2.93 59 PN **Pb** **05 05 32.9 -2.7**
ARG Arkhangelos 2.93 59⇑ P **Pn** **05 05 29.0 -0.7**
BODT Bodrum 2.97 38 PN **Pn** **05 05 32.8 +2.6**
BDRM Kayabasi 3.04 40 *i* P **Pb** **05 05 34.8 -2.6**
SLUM Salum 3.25 177 P **Pn** **05 05 34.9 +0.8**
baz=182
SLUM AMP 05 06 00.0
baz=182
SLUM S **Sn** **05 06 12.3 -0.2**
baz=182
DDIM Aydin, Didim 3.25 33 *i* P **Pn** **05 05 36.8 +2.7**
TURN Turunc 3.32 51 *i* P **Pn** **05 05 38.3 +3.3**
TURN Turunc 3.32 51 PN **Pn** **05 05 38.2 +3.3**
MLSB Milas 3.39 41 PN **Pn** **05 05 39.0 +3.0**
GCAM G?zelcaml? 3.45 31 *i* P **Pn** **05 05 39.1 +2.2**
GCAM G?zelcaml? 3.45 31 PN **Pn** **05 05 39.9 +3.1**
ITM Ithomi 3.49 315 **Pn** **05 05 39.1 +1.7**
YER Yerkesik 3.57 47 PN **Pn** **05 05 41.7 +3.2**
DALY Dalyan (Mula) 3.61 54 PN **Pn** **05 05 42.6 +3.6**
DGB zmir 3.63 24 *i* P **Pn** **05 05 41.4 +2.1**
MULA Mugla, Merkez- 3.67 46 *i* P **Pn** **05 05 43.7 +3.8**
ZEYE Izmir, Urla-Ze 3.69 19 *i* P **Pn** **05 05 40.6 +0.5**
AYDN Tasoluk 3.72 38 *i* P **Pn** **05 05 43.7 +3.1**
URLA Izmir 3.83 19 *i* P **Pn** **05 05 41.8 -0.3**
AYDB Zeytinkoy-Aydi 3.95 35 PN **Pn** **05 05 47.1 +3.3**
KSL Kastellorizon 3.98 68⇑ P **Pn** **05 05 44.8 +0.7**
AKAS Kas 4.03 67 *i* P **Pn** **05 05 47.5 +2.6**
AKAS Kas 4.03 67 **Pn** **05 05 47.5 +2.6**
CAME Cameli-Denizli 4.12 57 PN **Pn** **05 05 48.9 +2.8**
TAVA DENIZLI_Tavas 4.16 48 *i* P **Pn** **05 05 49.5 +2.7**
GOLH Golhisar 4.45 55 *i* P **Pn** **05 05 52.9 +2.3**
ELL Elmali 4.45 62 P **Pn** **05 05 52.9 +2.2**
ELL Elmali 4.45 62 PN **Pn** **05 05 54.1 +3.4**
ELL Elmali 4.45 62 **Pn** **05 05 52.9 +2.2**
ELL Elmali 4.45 62 P **Pn** **05 05 52.0 +1.2**
ZEDA zmir-Bergama 4.53 21 *i* P **Pn** **05 05 53.3 +1.7**
AKUM Antalya-Kumluc 4.62 69 *i* P **Pn** **05 05 54.9 +1.9**
MANT Manisa 4.70 36 *i* P **Pn** **05 05 56.8 +2.5**
MANT Manisa 4.70 36 **Pn** **05 05 57.1 +2.9**
AGG Agios Georgios 4.78 334 *i* P **Pn** **05 05 57.2 +2.0**
AGG Agios Georgios 4.78 334 P **Pn** **05 05 57.2 +2.0**
AGG Agios Georgios 4.78 334 Pn **Pn** **05 05 57.2 +2.0**
KOCA Canakkale, Ayv 4.83 10 *i* P **Pn** **05 05 58.3 +2.5**
KORT Korkueli 4.88 61 *i* P **Pn** **05 05 59.1 +2.4**
BUHA Balikesir, Bur 5.03 19 *i* P **Pn** **05 06 00.2 +1.8**
USAK Uak-Merkez 5.10 38 *i* P **Pn** **05 06 02.9 +3.4**
OSC1 CSNet OBS 1 5.34 102 P **Pn** **05 06 01.4 -1.4**
BALB Balikesir 5.39 24 Pn **Pn** **05 06 06.1 +2.6**
BALY Balya 5.40 22 *i* P **Pn** **05 05 05.6 +1.9**
ISP Isparta 5.41 54 P **Pn** **05 06 05.7 +1.9**
ISP Isparta 5.41 54 Pn **Pn** **05 06 05.7 +1.9**
SWA2 5.50 176 P **Pn** **05 06 05.3 +0.3**
baz=178
DURS Dursunbey 5.58 29 *i* P **Pn** **05 06 09.1 +2.9**
BAGO Egridir - ISPA 5.67 54 *i* P **Pn** **05 06 09.9 +2.4**
AKMS Akamas 6.02 85 P **Pn** **05 06 11.5 -0.7**
AKMS AML AML 05 07 19.6
comp=N,0.4nm,0.5s
AKMS AML AML 05 07 20.6
comp=N,0.7nm,0.8s
ALN Alexandroupoli 6.20 7 P **Pn** **05 06 16.4 +1.9**
ALN Alexandroupoli 6.20 7 Pn **Pn** **05 06 16.4 +1.9**
NATA Nata 6.22 88 P **Pn** **05 06 14.5 -0.4**
ALFC Alefka 6.24 84⇓ P **Pn** **05 06 14.6 -0.6**
ALFC AML AML 05 07 23.7
comp=N,0.6nm,0.7s
ALFC AML AML 05 07 24.2
comp=N,0.4nm,0.5s
SZAC Souni 6.48 88⇑ P **Pn** **05 06 18.0 -0.4**
SZAC AML AML 05 07 32.3
comp=N,0.4nm,0.8s
SZAC AML AML 05 07 32.9
comp=N,0.6nm,0.9s
FNA Florina 6.68 336 P **Pn** **05 06 22.6 +1.3**
FNA Florina 6.68 336 Pn **Pn** **05 06 22.6 +1.3**
KBN Korca 6.76 332 P **Pn** **05 06 22.6 +0.3**
KBN Korca 6.76 332 **Pn** **05 06 22.6 +0.3**
ASGA Asgata 6.78 87 P **Pn** **05 06 23.0 +0.5**
CSS Mathiatis 6.84 86 Pn **Pn** **05 06 24.0 +0.6**
CSS Mathiatis 6.84 86⇑ P **Pn** **05 06 23.7 +0.3**
VAY Valandovo 6.84 344 *e*Pn Pn 05 06 28.9 +5.5
MVOU Mavrovouni 7.09 85⇑ P **Pn** **05 06 27.5 +0.7**
STIP Stip 7.29 343 *e*Pn **Pn** **05 06 32.2 +2.6**
SCTE Santa Cesarea 7.44 318 Pn **Pn** **05 06 30.9 -0.8**
MDUB Mudurnu 7.53 39 **Pn** **05 06 34.9 +1.9**
HSAF As Saff 7.54 131 P **Pn** **05 06 32.2 -0.8**
baz=132
GLL Jalalah 7.66 130 P **Pn** **05 06 33.4 -1.4**
baz=132
TIP Timpagrande 7.95 306 **Pn** **05 06 38.7 0.0**
VTS Vitosha 7.98 350 P **Pn** **05 06 40.3 +1.1**
VTS Vitosha 7.98 350 Pn **Pn** **05 06 40.3 +1.1**
ANTO Ankara 8.03 48 P **Pn** **05 06 42.3 +2.5**
ANTO Ankara 8.03 48 Pn **Pn** **05 06 42.3 +2.5**
NBNS Bani Suef 8.11 137 P **Pn** **05 06 40.8 -0.1**
baz=139
PUK Puka 8.32 333 **Pn** **05 06 44.2 +0.4**
BRTR Keskin Array B 8.48 52 Pn **Pn** **05 06 47.4 +1.3**
comp=N,0.2nm,0.3s,baz=221,slow=14,SNR=5.7
BRTR LR LR 05 10 28.7
comp=N,65nm,20.6s,baz=236,slow=41
BRTR Keskin Array B 8.48 52 *i* P Pn 05 06 52.7 +6.6
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 8.48 52 Pn **Pn** **05 06 48.3 +2.2**
BR131 Keskin Array S 8.48 52 P **Pn** **05 06 48.0 +1.9**
BR131 Keskin Array S 8.48 52 **Pn** **05 06 48.0 +1.9**
TAMRE El Minia 8.66 143 P **Pn** **05 06 48.4 -0.1**
baz=144
MMAI Mount Meron Ar 8.81 98 Pn **Pn** **05 06 49.0 -1.5**
comp=Z,4.1nm,0.3s,baz=288,slow=12,SNR=10
PDG Podgorica 8.90 331 Pn **Pn** **05 06 49.7 -1.9**
VAE Valguarnera 9.00 291 Sn **Sn** **05 08 35.4 +1.1**
comp=Z,4.1nm,0.3s,baz=280,slow=13,SNR=4.7
GRB Gharib 9.25 132 P **Pn** **05 06 55.6 -1.0**
baz=133
TR2 Tor 2 9.76 128 P **Pn** **05 07 01.9 -1.6**
baz=129
EIL Elat 9.82 118 Pn **Pn** **05 07 03.2 -1.1**
comp=Z,3.4nm,0.3s,baz=160,slow=4.3,SNR=20
EIL Sn **Sn** **05 08 48.3 -5.9**
comp=Z,2.0nm,0.3s,baz=100,slow=2.2,SNR=5.4
HKAT Jabal Katrina 9.85 127 P **Pn** **05 07 03.4 -1.4**
baz=128
STON Ston 9.92 327 *e*Pn **Pn** **05 07 03.5 -2.0**
STON Sn **Sn** **05 08 47.7 -8.9**
NUB Nuweibaa 9.97 122 P **Pn** **05 07 05.4 -1.0**
baz=123
SGRT San Giovanni R 10.10 317 Pn **Pn** **05 07 06.9 -1.3**
ASF Jabal al Asfar 10.25 101 Pn **Pn** **05 07 09.3 -1.0**
comp=Z,1.0nm,0.3s,baz=75,slow=12,SNR=5.0
ASF Sn **Sn** **05 09 00.7 -4.3**
comp=Z,0.6nm,0.3s,baz=190,slow=22,SNR=6.3
RICI Ricice 10.66 327 *e*Pn **Pn** **05 07 14.5 -1.4**
RICI Sn Sn 05 09 05.5 -9.4
MLR Muntele Rosu 10.76 4 Pn **Pn** **05 07 18.2 +1.0**
comp=Z,0.3nm,0.3s,baz=203,slow=11,SNR=4.8
MLR LR LR 05 11 19.6
comp=Z,44nm,21.4s,baz=188,slow=37
MLR Muntele Rosu 10.76 4 Pn **Pn** **05 07 18.0 +0.7**
INTR Introdacqua 11.34 313 **Pn** **05 07 24.8 -0.3**
KIJV Kijevo 11.39 327 *e*Pn **Pn** **05 07 23.8 -2.0**
ZIRJ Zirje 11.48 324 *e*Pn **Pn** **05 07 25.4 -1.6**
ZIRJ Sn Sn 05 09 24.7 -10
MORI Morici 11.61 324 *e*Pn **Pn** **05 07 28.9 +0.2**
DUGI Dugi Otok 12.02 323 *e*Pn **Pn** **05 07 34.3 0.0**
UDBI Udbina 12.09 327 *e*Pn **Pn** **05 07 34.9 -0.4**
NRCA Norcia 12.30 315 **Pn** **05 07 39.4 +1.2**
NVLJ Novalja 12.53 325 *e*Pn **Pn** **05 07 39.8 -1.4**
BRJN Brijuni 13.32 323 *e*Pn **Pn** **05 07 49.7 -2.5**
SOKA Soboth 14.11 331 *e*P **Pn** **05 08 03.7 +0.8**
comp=Z,6.4nm,0.5s
TPSR Tuapse 14.31 45⇓ *e*P **Pn** **05 08 08.9 +3.3**
ARSA Arzberg 14.39 333 *e*P **Pn** **05 08 09.6 +2.9**
comp=Z,5.7nm,0.8s
MODS Modra-Piesok 14.79 339 *e*P **P** **05 08 19.1 +1.1**
MODS Modra-Piesok 14.79 339 *e*P **P** **05 08 19.1 +1.1**
STAL STALIGIAL 14.81 325 Pn **Pn** **05 08 12.0 -0.5**
ZOU Zoufplan 14.90 326 Pn **Pn** **05 08 12.9 -1.0**
KBA Koelnbreinsper 15.13 328 *e*P **P** **05 08 21.9 -0.1**
comp=Z,10nm,0.7s
CTI Castel Tesino 15.18 322 P **Pn** **05 08 16.1 -1.4**
CTI pmax pmax
comp=Z,10.0nm,0.7s
CTI Castel Tesino 15.18 322 Pn **Pn** **05 08 16.1 -1.4**
ABTA Abfaltersbach 15.26 326 *e*P **P** **05 08 22.8 -0.6**
comp=Z,9.2nm,0.6s
MOA Molln 15.36 332 *e*P **P** **05 08 25.2 +0.8**
comp=Z,12nm,0.8s
DOMR Dombai 15.46 52⇓ *e*P **P** **05 08 25.6 -0.1**
KRUC Moravsky 15.66 339 *e*PN **Pn** **05 08 22.8 -0.9**
VRAC Vranov 15.82 339 *e*PN **Pn** **05 08 26.1 +0.3**
MORC Moravsky Berou 15.99 342 P **P** **05 08 29.9 -1.6**
MORC pmax pmax
comp=Z,10.0nm,1.4s
MORC Moravsky Berou 15.99 342 P **P** **05 08 29.9 -1.6**
MORC Moravsky Berou 15.99 342 *e*PN **Pn** **05 08 28.0 0.0**
WTTA Wattenberg 16.05 325 *e*P **Pn** **05 08 29.8 +1.0**
comp=Z,14nm,0.8s
WATA Walderalm 16.12 325 *e*P **Pn** **05 08 29.8 -0.1**
comp=Z,20nm,0.9s
CKRC Cesky Krumlov 16.15 334 *e*P **P** **05 08 34.1 +0.9**
NEY Neytrino 16.15 53⇓ *e*P **P** **05 08 36.1 +2.7**
NEY pmax pmax
comp=Z,3.0nm,1.0s
SQTA Sankt Quirin 16.22 324 *e*P **P** **05 08 33.6 -0.5**
comp=Z,8.9nm,0.6s
AKASG Malin Array Be 16.24 10 *e*Pn **Pn** **05 08 31.4 +0.3**
comp=Z,5.1nm,0.3s,baz=202,slow=11,SNR=41
AKASG Malin Array Be 16.24 10 *e*P **Pn** **05 08 31.2 +0.1**
AKASG pmax pmax
comp=Z,33nm,0.6s
AKASG Malin Array Be 16.24 10 P **P** **05 08 33.0 -1.1**
AKASG IAmb IAmb 05 08 33.9
comp=Z,34nm,0.8s
AKBB Malin Array Si 16.24 10 *d*e**P** **P** **05 08 32.8 -1.3**
AKBB Malin Array Si 16.24 10 P **P** **05 08 33.0 -1.1**
AKBB IAmb IAmb 05 08 33.9
comp=Z,37nm,0.8s
FETA Feichten 16.31 323 *e*P **P** **05 08 34.5 -0.6**
comp=Z,12nm,0.8s
SHA1 Shidzhatmaz 16.33 51 *c i*P **P** **05 08 37.7 +2.3**
MOTA Moosalm 16.36 325 *e*P **P** **05 08 34.5 -1.1**
comp=Z,11nm,0.7s
ONI Oni 16.37 56 P **P** **05 08 36.9 +1.2**
ONI pmax pmax
comp=Z,12nm,0.8s
ONI Oni 16.37 56 P **P** **05 08 36.9 +1.2**
GEC2 GERESS Array S 16.39 333 P **P** **05 08 36.4 +0.4**
GEC2 GERESS Array S 16.39 333 *e*P **P** **05 08 36.6 +0.6**
comp=Z,16nm,0.7s,baz=150,slow=12
GEC2 *e*L L 05 14 28.0
comp=Z,59nm,18.9s
GERES GERESS Array B 16.39 333 Pn **Pn** **05 08 33.7 +0.5**
comp=Z,1.1nm,0.3s,baz=150,slow=10,SNR=66
GERES LR LR 05 16 40.7
comp=Z,44nm,18.1s,baz=152,slow=44
GERES GERESS Array B 16.39 333 P **P** **05 08 34.9 -1.1**
GERES GERESS Array B 16.39 333 P **P** **05 08 34.9 -1.1**
KIV Kislovodsk 16.45 51 *e*P **P** **05 08 38.6 +2.0**
KIV pmax pmax
comp=Z,31nm,1.1s
KIV MLR MLR
comp=Z,20nm,13.0s
KIV Kislovodsk 16.45 51 P **P** **05 08 37.6 +1.0**
KIV IAmb IAmb 05 08 40.2
comp=Z,39nm,1.2s
KRLC Kraliky 16.47 341 *e*P **P** **05 08 36.7 0.0**
KRLC Kraliky 16.47 341 *e*P **P** **05 08 36.7 0.0**
KBZ Khabaz 16.48 52 Pn **P** **05 08 37.0 +0.2**
comp=Z,0.2nm,0.3s,baz=258,slow=6.8,SNR=22
KBZ Khabaz 16.48 52 *c i*P **P** **05 08 39.4 +2.6**
DAVOX Davos/Dischmat 16.58 321 LR LR 05 15 42.0
comp=Z,63nm,20.6s,baz=86,slow=40
KHC Kasperske Hory 16.68 333 *e*P **P** **05 08 40.0 +1.0**
KHC Kasperske Hory 16.68 333 *e*P **P** **05 08 40.0 +1.0**
KHC *e*pP **sP** **05 08 45.5 +1.2**
ZEI Tsey 16.75 56 *e*P **P** **05 08 42.0 +1.9**
ZEI pmax pmax
comp=Z,6.0nm,1.1s
PYA1 Pyatigorsk 16.76 51⇑ *i*P **P** **05 08 41.6 +1.6**
NCK Nalchik 16.83 53⇑ *e*P **P** **05 08 43.5 +2.7**
NCK pmax pmax
comp=Z,14nm,1.1s
DPC Dobruska-Polom 16.84 340 *e*P **P** **05 08 40.3 -0.6**
DPC Dobruska-Polom 16.84 340 *e*P **P** **05 08 40.3 -0.6**
FUR Furstenfeldbru 16.87 327 *e*L L 05 15 41.5
comp=Z,72nm,18.1s
DAVA Damuels 16.92 322 *e*P **P** **05 08 41.8 0.0**
comp=Z,10.0nm,0.9s
WET Wettzell 16.95 332 *e*P **P** **05 08 42.6 +0.5**
comp=Z,15nm,1.0s,baz=150,slow=12
WET *e*L L 05 15 23.7
comp=Z,57nm,21.3s
UBR Ueberruh 17.07 324 *e*P **P** **05 08 44.6 +1.1**
comp=Z,49nm,1.6s,baz=150,slow=12
CHVC Chvalec 17.13 340 *e*P **P** **05 08 45.5 +1.5**
SENIN Lac Senin/Sane 17.73 316 **P** **05 08 51.6 +0.7**
GRF Grafenberg Arr 18.05 330 *e*P **P** **05 08 55.2 +1.0**
comp=Z,34nm,1.0s,baz=150,slow=12
GRF *e*L L 05 13 53.2
comp=Z,39nm,18.0s
DVE Vedeno 18.34 57⇓ *e*P **P** **05 09 02.8 +5.3**
DVE pmax pmax
comp=Z,7.0nm,0.8s
BFO Black Forest 18.39 323 P **Pn** **05 08 58.4 +0.4**
BFO pmax pmax
comp=Z,7.0nm,0.8s
BFO Black Forest 18.39 323 P **Pn** **05 08 58.4 +0.4**
BFO Black Forest 18.39 323 *e*L L 05 16 42.9
comp=Z,42nm,20.1s
MOX Moxa 18.65 333 *e*L L 05 15 14.2
comp=Z,31nm,21.6s
CLL Collm 18.70 336 *e*P **Pn** **05 09 03.0 +1.3**
CLL *i* sP **sP** **05 09 08.2 +1.7**
comp=Z,8.0nm,1.0s
CLL *e*SS **S** **05 12 43.0 +9.3**
CLL Collm 18.70 336 *e*P **Pn** **05 09 03.0 +1.3**
CLL Collm 18.70 336 *e*L L 05 15 46.0
comp=Z,62nm,18.5s
VORD Divnogorie 19.24 28 *e*P **Pn** **05 09 09.7 +1.5**
VORD pmax pmax
comp=Z,7.0nm,0.6s
SUW Suwalki 19.31 357 *e*P **P** **05 09 06.0 -1.9**
SUW Suwalki 19.31 357 IAmb IAmb 05 09 10.4
comp=Z,40nm,1.0s
MNK Minsk 19.86 5 *i* P **P** **05 09 12.8 -1.1**
MNK *i* S **Sn** **05 12 58.7 +0.4**
MNK pmax pmax
comp=N,16nm,0.6s
MNK pmax pmax
comp=Z,14nm,0.6s
MNK pmax pmax
comp=E,1.0nm,0.6s
MNK MLR MLR
comp=Z,232nm,19.0s
MNK MLR MLR
comp=N,197nm,19.0s
MNK MLR MLR
comp=E,26nm,19.0s
MNK Minsk 19.86 5 *i* P **P** **05 09 12.8 -1.1**
comp=E,1.0nm,0.6s
MNK *i* P **P** **05 09 12.8 -1.1**
comp=N,16nm,0.6s
MNK *i* P **P** **05 09 12.8 -1.1**
comp=Z,14nm,0.6s,baz=188
MNK *i* PP **PnPn** **05 09 27.0 -2.5**
MNK *i* S **Sn** **05 12 58.8 +0.5**
MNK *i* LQ LQ 05 15 05.5
MNK *i* LR LR 05 16 36.9
MNK *i* LRM MLR 05 18 38.3
comp=Z,232nm,19.1s
MNK *i* LRM MLR 05 18 40.8
comp=N,197nm,19.1s
MNK *i* LRM MLR 05 18 41.5
comp=E,26nm,19.1s
NACGM Naroch 20.20 3 *i* P **P** **05 09 16.8 -0.8**
VRH Novokhopyorsk 20.41 31 *e*P **P** **05 09 19.7 -0.3**
VRH pmax pmax
comp=Z,30nm,0.8s
IIGN Ignalina 20.62 2 *e*P **P** **05 09 20.6 -1.6**
PABE Paberze 20.77 358 *e*P **P** **05 09 21.1 -2.7**
ISAL Salakas 20.84 2 *e*P **P** **05 09 23.1 -1.5**
OBN Obninsk 21.89 18 P **P** **05 09 37.2 +1.3**
comp=Z,3.3nm,0.3s,baz=197,slow=11,SNR=3.9
OBN Obninsk 21.89 18 *e*P **P** **05 09 36.6 +0.7**
OBN *e* 05 09 59.3
OBN *e*PPP PPP 05 10 07.3
OBN pmax pmax
comp=Z,21nm,1.0s
OBN MLR MLR
comp=Z,33nm,17.0s
BLEU Blekinge 22.46 347 *i* P **P** **05 09 39.5 -2.5**
BJUU Bjuv 22.87 343 *i* P **P** **05 09 46.3 +0.1**
DEL Delary 23.03 344 *i* P **P** **05 09 46.1 -1.8**
DEL IAmb IAmb 05 09 46.8
comp=Z,5.9nm,0.5s
ESDC Sonseca Array 23.55 291 P **P** **05 09 54.4 +1.0**
comp=Z,2.6nm,0.8s,baz=79,slow=9.7,SNR=13
BELG Belogornoye 23.91 36 P **P** **05 09 57.1 +0.4**
comp=Z,35nm,0.7s,baz=36,slow=1.6,SNR=10
BORU Boraas 24.34 344 *i* P **P** **05 09 59.5 -1.1**
HFS Hagfors 24.56 347 P **P** **05 10 18.7 -1.1**
comp=Z,2.8nm,0.4s,baz=145,slow=9.0,SNR=15
HFS LR LR 05 22 04.2
comp=Z,53nm,18.6s,baz=176,slow=39
FINES FINESS Array B 26.73 1 P **P** **05 10 20.2 -1.9**
comp=Z,6.6nm,0.9s,baz=160,slow=13,SNR=11
FINES PcP **PcP** **05 13 45.6 +0.5**
comp=Z,1.6nm,0.4s,baz=165,slow=2.1,SNR=9.9
FINES LR LR 05 22 16.4
comp=Z,69nm,19.6s,baz=184,slow=40
FIA1 FINESS Array S 26.73 1 P **P** **05 10 20.4 -1.7**
FIA1 IAmb IAmb 05 10 23.6
comp=Z,32nm,1.3s
NC602 NORSAR Array S 27.43 346 P **P** **05 10 27.6 -0.9**
NC602 IAmb IAmb 05 10 45.2
comp=Z,29nm,1.4s
NAO01 NORSAR Array S 27.66 345 P **P** **05 10 30.1 -0.5**
KLMR Klimovskoe 27.75 15 *e*P **P** **05 10 28.1 -3.3**
KLMR pmax pmax
comp=Z,15nm,0.8s
KLMR Klimovskoe 27.75 15 *e*P **P** **05 10 28.1 -3.3**
KLMR AMP 05 10 30.4
comp=Z,15nm,0.8s
NB201 NORSAR Array S 27.76 346 P **P** **05 10 30.8 -0.8**
NB2 NORSAR Subarra 27.77 346 P **P** **05 10 31.5 -0.1**
comp=Z,0.8nm,0.5s,baz=156,slow=9.3
NOA NORSAR Array B 27.77 346 P **P** **05 10 31.6 -0.1**
comp=Z,2.2nm,0.8s,baz=152,slow=8.4,SNR=14
NOA LR LR 05 22 16.7
comp=Z,31nm,20.5s,baz=190,slow=38
NBO00 NORSAR Array S 27.85 345 P **P** **05 10 31.8 -0.6**
NBO00 IAmb IAmb 05 10 32.5
comp=Z,32nm,1.0s
EKA Eskdalemuir Ar 28.31 325 P **P** **05 10 36.2 -0.2**
comp=Z,1.7nm,0.5s,baz=124,slow=12,SNR=8.2
ESK Eskdalemuir 28.32 325 P **P** **05 10 36.2 -0.4**
ESK pmax pmax
comp=Z,36nm,1.3s
ESK Eskdalemuir 28.32 325 P **P** **05 10 36.2 -0.4**
ESK IAmb IAmb 05 10 56.2
comp=Z,36nm,1.2s
AKTO Aktyubinsk 28.62 47 P **P** **05 10 39.5 +0.2**
comp=Z,4.5nm,0.5s,baz=246,slow=9.5,SNR=18
AB31 Akbulak array 29.43 50 *e*P **P** **05 10 46.2 -0.3**
ABKAR Akbulak array 29.43 50 P **P** **05 10 45.6 -0.8**
ABKAR Akbulak array 29.43 50 P **P** **05 10 46.1 -0.4**
PRGR Permogore 29.94 20 *e*P **P** **05 10 47.5 -3.3**
PRGR pmax pmax
comp=Z,12nm,1.4s
TORD Torodi Ar. Bea 30.13 230 P **P** **05 10 53.6 +0.6**
comp=Z,6.7nm,0.6s,baz=34,slow=8.6,SNR=57
TORD Torodi Ar. Bea 30.13 230 P **P** **05 10 53.4 +0.4**
TORD IAmb IAmb 05 10 59.8
comp=Z,5.5nm,0.6s
ARU Arti 31.46 36 *d i*P **P** **05 11 03.9 -0.4**
ARU S **S** **05 16 14.4 +2.9**
ARU SS **SnSn** **05 17 55.6 -0.4**
ARU pmax pmax
comp=Z,15nm,1.7s
LVZ Lovozero 33.66 7 P **P** **05 11 22.2 -1.3**
LVZ pmax pmax
comp=Z,11nm,0.8s
LVZ Lovozero 33.66 7 P **P** **05 11 22.2 -1.3**
LVZ IAmb IAmb 05 11 23.0
comp=Z,11nm,0.8s
ARCES ARCESS Array B 34.84 0 P **P** **05 11 31.9 -1.9**
comp=Z,2.4nm,0.8s,baz=179,slow=10,SNR=14
ARCES PcP **PcP** **05 14 06.5 +0.1**
comp=Z,0.5nm,0.5s,baz=162,slow=3.0,SNR=3.9
ARCES LR LR 05 25 31.2
comp=Z,44nm,19.9s,baz=160,slow=36
ARCES ARCESS Array B 34.84 0 P **P** **05 11 31.8 -1.9**
BRVK Borovoye 36.66 46⇑ *e*P **P** **05 11 49.9 +0.4**
BRVK pmax pmax
comp=Z,3.0nm,1.3s
DBIC Dimbokro 39.22 231 P **P** **05 12 11.4 0.0**
comp=Z,1.8nm,0.5s,baz=33,slow=8.0,SNR=7.6
DBIC Dimbokro 39.22 231 IAmb IAmb 05 12 23.2
comp=Z,24nm,1.5s
KURBB Kurchatov Arra 41.48 51 P **P** **05 12 30.1 +0.4**
comp=Z,3.6nm,0.5s,baz=272,slow=8.6,SNR=49
KURBB Kurchatov Arra 41.48 51 P **P** **05 12 29.6 -0.2**
KURK Kurchatov 41.53 51 P **P** **05 12 30.2 -0.1**
KURK Kurchatov 41.53 51 P **P** **05 12 30.1 -0.1**
SCO Scoresbysund 43.68 339 P **P** **05 12 48.1 +0.7**
SCO pmax pmax
comp=Z,66nm,1.3s
SCO Scoresbysund 43.68 339 P **P** **05 12 48.1 +0.7**
MAKZ Makanchi 43.89 56 P **P** **05 12 50.1 +0.6**
MAKZ pmax pmax
comp=Z,4.0nm,0.6s
MAKZ Makanchi 43.89 56 P **P** **05 12 50.1 +0.6**
MAKZ IAmb IAmb 05 12 51.0
comp=Z,3.7nm,0.6s
MK31 Makanchi Array 44.10 56 *d i*P **P** **05 12 51.6 +0.4**
MK31 pmax pmax
comp=Z,8.0nm,0.6s
MK31 Makanchi Array 44.10 56 IAmb IAmb 05 12 52.8
comp=Z,7.1nm,0.6s
MKAR Makanchi Array 44.10 56 P **P** **05 12 51.9 +0.7**
comp=Z,9.3nm,0.6s,baz=279,slow=6.8,SNR=78
ZAA0 Zalesovo Array 45.38 46 P **P** **05 13 00.9 -0.3**
ZAA0 IAmb IAmb 05 13 07.9
comp=Z,3.6nm,0.6s
ZALV Zalesovo Beam 45.38 46 P **P** **05 13 00.9 -0.3**
comp=Z,2.5nm,0.5s,baz=261,slow=8.3,SNR=8.1
ZALV LR LR 05 34 11.9
comp=Z,19nm,18.8s,baz=130,slow=39
ZALV Zalesovo Beam 45.38 46 *i* P **P** **05 13 01.1 -0.1**

ZALV					pmax	pmax			
	comp=Z,3.0nm,0.4s								
ZALV	**Zalesovo Beam**	**45.38**	**46**	P	**P**		**05 13 00.6**	**-0.6**
DGZ	**Jazzator, Alta**	**47.23**	**52**	*e*P	**P**		**05 13 16.5**	**+0.4**
DGZ				pmax	pmax			
	comp=Z,5.0nm,0.7s								
SUMG	**Summit**	**49.32**	**339**	*i* P	**P**		**05 13 32.9**	**+0.7**
SUMG				IAmb	IAmb		05 13 34.0	
	comp=Z,20nm,1.0s								
SUMG	**Summit**	**49.32**	**339**	P	**P**		**05 13 32.6**	**+0.5**
SUMG				pmax	pmax			
	comp=Z,18nm,1.0s								
SUMG	**Summit**	**49.32**	**339**	P	**P**		**05 13 32.6**	**+0.5**
NOR	**Nord**	**49.34**	**353**	*i* P	**P**		**05 13 32.0**	**+0.3**
NOR				IAmb	IAmb		05 13 32.6	
	comp=Z,5.7nm,0.6s								
DY2G	**Dye2**	**51.27**	**331**	*i* P	**P**		**05 13 47.3**	**+0.5**
DY2G				IAmb	IAmb		05 13 48.3	
	comp=Z,13nm,0.6s								
ZAK	**Zakamensk**	**57.11**	**48**	*e*P	**P**		**05 14 27.2**	**-2.2**
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.1s								
GTA	**Gaotai**	**58.26**	**62**	*e*P	**P**		**05 14 38.3**	**+0.5**
GTA				pP	pwP		05 14 44.3	-0.6
GTA				sP	sP		05 14 47.9	+4.5
GTA				pmax	pmax			
	comp=Z,2.0nm,1.0s								
GTA				smax	smax				
	comp=N,3.0nm,0.9s								
GTA				smax	smax				
	comp=E,4.0nm,0.9s								
EUNU	**Eureka**	**59.58**	**349**	P	**P**		**05 14 45.8**	**-0.4**
SONM	**Songino Array**	**59.84**	**50**	P	**P**		**05 14 49.5**	**+0.9**
	comp=E,2.8nm,0.5s,baz=281,slow=6.9,SNR=14								
SONM	**Songino Array**	**59.84**	**50**	IAmb	IAmb		05 14 50.0		
	comp=Z,2.6nm,0.6s								
DRLN	**Deer Lake**	**60.08**	**311**	P	**P**		**05 14 50.1**	**+0.2**
ULN	**Ulaanbaatar**	**60.25**	**50**	*d* P	**P**		**05 14 51.9**	**+0.5**
ULN				pmax	pmax			
	comp=Z,4.0nm,0.8s								
ULN	**Ulaanbaatar**	**60.25**	**50**	P	**P**		**05 14 52.4**	**+1.0**
ULN				IAmb	IAmb		05 14 52.8		
	comp=Z,6.2nm,0.6s								
BOSA	**Boshof**	**63.02**	**180**	P	**P**		**05 15 11.5**	**+1.5**
	comp=Z,5.5nm,1.1s,baz=18,slow=9.6,SNR=3.3								
SCHQ	**Schefferville**	**63.43**	**320**	P	**P**		**05 15 13.0**	**+0.5**
	comp=Z,8.0nm,0.5s,baz=65,slow=8.0,SNR=18								
SCHQ	**Schefferville**	**63.43**	**320**	IAmb	IAmb		05 15 14.0		
	comp=Z,15nm,1.1s								
BATG	**Bathurst New B**	**66.11**	**312**	P	**P**		**05 15 31.1**	**+0.9**
CMAR	**Chiang Mai Arr**	**66.74**	**83**	P	**P**		**05 15 35.0**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=296,slow=8.5,SNR=4.4								
CMAR	**Chiang Mai Arr**	**66.74**	**83**	*e*P	**P**		**05 15 35.7**	**+1.1**
CMAR				pmax	pmax				
	comp=Z,1.0nm,0.3s								
D62A	**Allapoint, All**	**68.02**	**313**	P	**P**		**05 15 43.3**	**+1.1**
D62A				IAmb	IAmb		05 15 43.8		
	comp=Z,18nm,1.4s								
BILL	**Bilibino**	**73.50**	**14**	*e*P	**P**		**05 16 13.6**	**-1.6**
BILL				*e*			05 18 58.4		
BILL				pmax	pmax				
	comp=Z,6.0nm,1.1s								
BILL				MLR	MLR				
	comp=Z,37nm,18.0s								
INK	**Inuvik**	**76.01**	**352**	P	**P**		**05 16 29.9**	**+0.2**
	comp=Z,3.8nm,0.6s,baz=13,slow=6.8,SNR=15								
INK	**Inuvik**	**76.01**	**352**	P	**P**		**05 16 28.9**	**-0.8**
INK				IAmb	IAmb		05 16 30.1		
	comp=Z,4.7nm,0.7s								
USRK	**Ussuriysk Ar.**	**77.22**	**45**	P	**P**		**05 16 37.0**	**0.0**
	comp=Z,2.7nm,0.6s,baz=294,slow=4.4,SNR=8.5								
USRK	**Ussuriysk Ar.**	**77.22**	**45**	P	**P**		**05 16 37.3**	**+0.3**
USRK	**Ussuriysk Ar.**	**77.22**	**45**	P	**P**		**05 16 37.3**	**+0.3**
YKA	**Yellowknife Ar**	**77.81**	**342**	P	**P**		**05 16 40.2**	**+0.2**
	comp=Z,1.9nm,0.5s,baz=42,slow=5.9,SNR=18								
BMAR	**Burnt Mountain**	**77.84**	**356**	P	**P**		**05 16 41.7**	**+1.6**
EPYK	**Eagle Plains**	**78.23**	**353**	P	**P**		**05 16 42.9**	**+0.5**
COLD	**Coldfoot**	**78.28**	**358**	P	**P**		**05 16 43.5**	**+1.0**
COLD				IAmb	IAmb		05 16 44.4		
	comp=Z,12nm,1.5s								
Q56A	**Snyder Ridge,**	**78.55**	**310**	P	**P**		**05 16 44.4**	**-0.2**
Q56A				IAmb	IAmb		05 16 46.8		
	comp=Z,8.2nm,0.8s								
KSRS	**Korea Array**	**78.63**	**52**	P	**P**		**05 16 45.5**	**+0.6**
	comp=Z,2.3nm,0.5s,baz=308,slow=4.7,SNR=8.7								
FYU	**Fort Yukon**	**78.73**	**356**	P	**P**		**05 16 46.0**	**+1.0**
FYU				IAmb	IAmb		05 17 03.0		
	comp=Z,19nm,1.4s								
H24K	**Noodor Dome**	**79.59**	**357**	P	**P**		**05 16 50.1**	**+0.3**
IMAR	**Indian Mountai**	**79.59**	**359**	P	**P**		**05 16 50.4**	**+0.7**
H23K	**Yukon River**	**79.67**	**358**	P	**P**		**05 16 51.6**	**+1.5**
H23K				IAmb	IAmb		05 16 52.5		
	comp=Z,5.6nm,0.8s								
H21K	**Melozitna Rive**	**79.91**	**359**	P	**P**		**05 16 53.0**	**+1.5**
H21K				IAmb	IAmb		05 16 53.8		
	comp=Z,8.9nm,0.7s								
ILAR	**Eielson Array**	**80.61**	**356**	P	**P**		**05 16 55.4**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=341,slow=3.9,SNR=22								
BDFB	**Brasilia**	**85.44**	**248**	LR	LR		05 57 27.5		
	comp=Z,68nm,18.2s,baz=274,slow=37								
PDAR	**Pinedale Array**	**92.39**	**328**	P	**P**		**05 17 53.6**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=38,slow=2.6,SNR=3.9								
WRA	**Warramunga Arr**	**116.66**	**97**	PKP	**PKPdf**		**05 23 27.4**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=236,slow=1.9,SNR=8.4								
WRA	**Warramunga Arr**	**116.66**	**97**	PKPdf	**PKPdf**		**05 23 27.1**	**-0.5**
ASAR	**Alice Springs**	**118.09**	**100**	PKP	**PKPdf**		**05 23 30.4**	**0.0**
	comp=Z,0.4nm,0.5s,baz=314,slow=1.3,SNR=5.3								
ASAR	**Alice Springs**	**118.09**	**100**	PKPdf	**PKPdf**		**05 23 30.0**	**-0.3**

*IDC **15** 05:54:05.5±10.0, 5°.72S×149°.26E, h74km±90km, mb3.8/7, mb1 4.0/7, mb1mx3.6/26, mbtmp4.1/7, MS3.3/1, Ms1 3.3/1, ms1mx2.5/30, Error ellipse: s-maj=40.9km s-min=28.4km az=179.0*

*NEIC **15** 05:54:10.2±0.9, 5°.8S±0°.1×149°.3E±0°.2, h116km±10km, mb4.2/13, Error ellipse: s-maj=28.2km s-min=9.8km az=125.0*

ISC 15 05:54:08.5±1.2, 5°.8S±0°.2×149°.3E±0°.2, h100km, n23, σ1s 04/17, mb3.9/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
COEN	**Coen**	**10.12**	**216**	Pn		**Pn**	**05 56 31.9**	**+0.9**
EIDS	**Eidsvold**	**19.57**	**175**	P		**P**	**05 58 29.5**	**+0.8**
EIDS				IAmb		IAmb	05 58 30.4	
	comp=Z,13nm,0.8s							
WR0	**Warramunga Arr**	**20.11**	**224**	P		**P**	**05 58 34.1**	**-0.5**
WR0				IAmb		IAmb	05 58 35.0	
	comp=Z,10nm,1.0s							
WRAB	**Tennant Creek**	**20.23**	**225**	P		**P**	**05 58 35.5**	**-0.4**
WRAB				IAmb		IAmb	05 58 36.6	
	comp=Z,9.4nm,0.6s							
WB2	**Warramunga Arr**	**20.23**	**224**	P		**P**	**05 58 35.5**	**-0.4**
WRA	**Warramunga Arr**	**20.24**	**225**	P		**P**	**05 58 35.3**	**-0.7**
	comp=Z,5.6nm,0.4s,baz=52,slow=10,SNR=92							
WRA	**Warramunga Arr**	**20.24**	**225**	IAmb		IAmb	05 58 36.1	
	comp=Z,0.5nm,1.3s							
KNRA	**Kununurra**	**22.41**	**242**	P		**P**	**05 58 59.5**	**+0.4**
KNRA				IAmb		IAmb	05 59 00.5	
	comp=Z,8.0nm,1.0s							
AS31	**Alice Springs**	**23.15**	**218**	P		**P**	**05 59 05.1**	**-1.3**
ASAR	**Alice Springs**	**23.15**	**218**	P		**P**	**05 59 05.5**	**-0.9**
	comp=Z,1.4nm,0.4s,baz=54,slow=8.8,SNR=21							
DZM	**Mont Dzumac**	**23.20**	**136**	P		**P**	**05 59 07.0**	**0.0**
	comp=Z,7.0nm,0.8s,baz=282,slow=10,SNR=6.1							
DZM	**Mont Dzumac**	**23.20**	**136**	IAmb		IAmb	05 59 08.5	
	comp=Z,27nm,1.4s							
ARMA	**Armidale**	**24.63**	**175**	P		**P**	**05 59 20.3**	**+0.4**
ARMA				IAmb		IAmb	05 59 27.0	
	comp=Z,13nm,1.3s							
FITZ	**Fitzroy Crossi**	**26.13**	**240**	P		**P**	**05 59 32.7**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=54,slow=9.4,SNR=13							
FITZ	**Fitzroy Crossi**	**26.13**	**240**	IAmb		IAmb	05 59 45.3	
	comp=Z,11nm,1.5s							
STKA	**Stephens Creek**	**26.96**	**195**	P		**P**	**05 59 40.9**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=9.5,slow=16,SNR=3.2							
STKA	**Stephens Creek**	**26.96**	**195**	IAmb		IAmb	05 59 43.3	
	comp=Z,1.8nm,1.4s							
BBOO	**Buckleboo**	**29.60**	**203**	P		**P**	**06 00 02.6**	**-1.6**
KSRS	**Korea Array**	**47.38**	**337**	LR		LR	06 21 55.4	
	comp=Z,34nm,18.2s,baz=22,slow=35							
VNDA	**Vanda**	**72.03**	**177**	P		**P**	**06 05 20.7**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=352,slow=5.4,SNR=4.2							
VNDA	**Vanda**	**72.03**	**177**	IAmb		IAmb	06 05 41.3	
	comp=Z,3.3nm,1.4s							

ILAR	**Eielson Array**	**84.38**	**23**	P		**P**	**06 06 28.9**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=265,slow=5.3,SNR=6.2								
TORD	**Torodi Ar. Bea**	**147.22**	**285**	PKPbc		**PKPdf**	**06 13 41.4**	**+2.4**
	comp=Z,0.4nm,0.7s,baz=61,slow=3.2,SNR=4.3								

MEX 15 05:55:28.4±0.3, 14°.84N×93°.64W, h17km±121km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCIG		**0.95**	**25**	*i* P		Pb	05 55 43.3	-3.2
PCIG				*i* S		Sb	05 55 54.9	-3.8

*ECX **15** 05:58:36.8±0.6, 32°.59N×115°.72W, h3km±1km, MD2.2, ML2.4, Fault plane solution: NP1:φ=26.00000°, δ=45.00000°, λ=-91.00000°.*

*MEX **15** 05:58:37.2±0.5, 32°.61N×115°.61W, h16km±16km, MD3.8*

ISC 15 05:58:35.4±0.9, 32°.58N±0°.04×115°.70W±0°.02, h15km±6km, n23, σ0s50/41, 14C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SGL	**Mount Signal**	**0.07**	**346**	⇑*i*P		**Pg**	**05 58 38.2**	**-0.2**
CEA0	**Mexicali**	**0.08**	**22**	⇓*i*P		**Pg**	**05 58 38.2**	**-0.2**
CEA0				*e*S		**Sg**	**05 58 40.1**	**-0.3**
WESC	**Westside Schoo**	**0.18**	**353**	⇑*i*P		**Pb**	**05 58 40.1**	**-0.3**
POTX	**Potabilizadora**	**0.18**	**83**	*e*S		**Sb**	**05 58 44.0**	**+0.1**
YUH2	**Yuha Desert**	**0.20**	**290**	⇑*i*P		**Pg**	**05 58 40.2**	**+0.2**
YUH2				*e*S		**Sg**	**05 58 43.4**	**+0.3**
ICBC	**Inst. de Cultu**	**0.21**	**67**	⇑*i*P		**Pb**	**05 58 40.8**	**-0.2**
ICBC				*e*S		**Sb**	**05 58 44.9**	**+0.2**
ZC06	**Zona comercial**	**0.26**	**86**	⇑*e*P		**Pb**	**05 58 41.9**	**+0.1**
ZC06				*e*S		**Sb**	**05 58 46.6**	**+0.5**
POT2	**Potabilizadora**	**0.27**	**80**	⇑*i*P		**Pb**	**05 58 41.4**	**-0.6**
POT2				⇑*i*P		**Pg**	**05 58 42.2**	**+1.0**
POT2				*e*S		**Sb**	**05 58 45.9**	**-0.6**
POT2				*e*S		**Sg**	**05 58 46.9**	**+1.7**
RMX	**La Rumorosa**	**0.32**	**274**	⇑*e*P		**Pg**	**05 58 41.9**	**-0.1**
RMX				*e*S		**Sg**	**05 58 46.0**	**-0.6**
IKP	**In-Ko-Pah, Jac**	**0.35**	**282**	⇑*e*P		**Pb**	**05 58 43.1**	**-0.3**
IKP				*e*S		**Sg**	**05 58 48.1**	**+0.6**
CPBX	**Cerro Prieto**	**0.37**	**115**	*e*P		**Pb**	**05 58 43.6**	**-0.1**
CPBX				*e*S		**Sb**	**05 58 49.7**	**+0.4**
CPBX				IAML			05 58 51.4	
	comp=E,1μm,0.1s							
CPBX				*e*			05 58 51.4	
CPBX				IAML			05 58 53.5	
	comp=N,1μm,0.1s							
CPBX				⇓*e*			05 58 53.5	
SWSC	**Sam W. Stewart**	**0.37**	**348**	*e*P		**Pg**	**05 58 43.1**	**+0.2**
SWSC				*e*S		**Sb**	**05 58 48.8**	**-0.6**
CRR	**Carrizo Plain**	**0.38**	**324**	⇑*i*P		**Pb**	**05 58 43.5**	**-0.3**
MBIG	**Mexicali**	**0.46**	**112**	*i* P		**Pg**	**05 58 43.9**	**-0.6**
MBIG				*i* S		**Sg**	**05 58 49.6**	**-1.2**
CBKC	**Canebrake**	**0.56**	**305**	⇑*i*P		**Pb**	**05 58 47.1**	**+0.2**
COA	**Coachella**	**0.57**	**60**	⇓*i*P		**Pb**	**05 58 46.7**	**-0.3**
MONP2	**Monument Peak**	**0.68**	**297**	*e*P		**Pb**	**05 58 48.9**	**-0.2**
MONP2				*e*S		**Sg**	**05 58 57.8**	**0.0**
BAR	**Barrett**	**0.82**	**277**	⇑*i*P		**Pg**	**05 58 51.5**	**+0.1**
BAR				*e*S		**Sg**	**05 59 02.3**	**+0.1**
BAR				IAML			05 59 02.7	
	comp=N,164nm,0.2s							
BAR				⇑*e*			05 59 02.7	
BAR				IAML			05 59 03.0	
	comp=E,161nm,0.1s							
BAR				⇑*e*			05 59 03.0	
TJIG	**Tijuana**	**0.83**	**260**	*i* P		**Pg**	**05 58 51.7**	**+0.2**
TJIG				*i* S		**Sg**	**05 59 02.5**	**-0.1**
TJIG	**Tijuana**	**0.83**	**260**	*e*P		**Pg**	**05 58 51.7**	**+0.2**
CBX	**Cerro Bola**	**0.85**	**252**	*i* P		**Pg**	**05 58 52.2**	**+0.2**
CBX				*i* S		**Sg**	**05 59 03.2**	**0.0**
CBX	**Cerro Bola**	**0.85**	**252**	*e*P		**Pg**	**05 58 52.4**	**+0.4**
CBX				*e*S		**Sb**	**05 59 03.5**	**+0.2**
CBX				⇓*e*			05 59 05.0	
CBX				IAML			05 59 05.0	
	comp=E,117nm,0.2s							
EML	**El Monte Cty P**	**1.01**	**288**	*e*P		**Pb**	**05 58 54.5**	**-0.1**
EML				*e*S		**Sb**	**05 59 07.8**	**+0.1**

MEX 15 06:17:13.1±0.6, 24°.84N×109°.35W, h16km±13km, MD3.8, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TSIG	**Topolobambo**	**0.81**	**20**	*i* P		Pg	06 17 26.2	-2.6
TSIG				*i* S		Sb	06 17 35.6	-3.9
LPIG	**La Paz**	**1.14**	**230**	*e*P		Pn	06 17 30.5	-3.9
SSIG	**Sanalona**	**2.01**	**90**	*e*P		Pn	06 17 43.0	-3.4

*TUL **15** 06:17:58.1±2.3, 36°.018N±0°.010×97°.00W±0°.02, h4km±6km, ML2.6, mb_Lg2.6/45(NEIC), Error ellipse: s-maj=2.1km s-min=1.3km az=102.0*

NEIC 15 06:17:58.2±0.8, 36°.03N±0°.01×97°.02W±0°.02, h7km±6km, Error ellipse: s-maj=2.3km s-min=1.6km az=116.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OK031	**S. Brethren Rd**	**0.17**	**116**			Pg	06 18 01.5	-0.1
OK031						Sg	06 18 04.1	+0.2
QUOK	**Quay**	**0.29**	**60**			Pg	06 18 03.9	-0.1
QUOK						Sg	06 18 08.3	+0.5
OK029	**Liberty Lake**	**0.42**	**237**			Pg	06 18 06.7	+0.3
OK029						Sg	06 18 12.6	+0.6
OK025	**Westminster Rd**	**0.51**	**210**			Pg	06 18 08.3	+0.1
OK025						Sg	06 18 14.8	-0.1
OKCFA	**Oklahoma City**	**0.70**	**210**			Pg	06 18 11.7	-0.1
OKCFA						Sg	06 18 20.8	-0.1
OKCSW	**OKLAHOMA CITY**	**0.71**	**209**			Pg	06 18 11.6	-0.2
OKCSW						Sg	06 18 20.7	-0.3
BLOK	**Blackwell**	**0.75**	**348**			Pg	06 18 12.6	0.0
BLOK						Sg	06 18 22.9	+0.5
FNO	**Franklin**	**0.83**	**202**			Pg	06 18 13.7	-0.4
FNO				IAmb_Lg			06 18 24.9	
	comp=Z,40nm,0.9s							
FNO						Sg	06 18 25.4	+0.5
CROK	**Carrier**	**0.91**	**302**			Pg	06 18 15.7	-0.1
CROK						Sg	06 18 28.4	-0.3
T35A	**Sooner Cattle**	**0.98**	**25**			Pg	06 18 16.7	-0.3
T35A						Sg	06 18 29.6	-0.1
GC02	**Grant County #**	**1.06**	**321**			Pg	06 18 18.4	-0.3
GC02						Sg	06 18 33.0	-0.1
KAN17	**Caldwell West**	**1.18**	**330**	Pn		Pg	06 18 20.3	-0.6
KAN17						Sg	06 18 36.2	+0.1
KAN14	**Manchester OK**	**1.20**	**321**	Pn		Pg	06 18 21.1	-0.2
KAN14						Sn	06 18 36.7	-0.1
OK032	**Salt Plains WL**	**1.23**	**309**			Pb	06 18 21.4	-0.4
X34A	**Smith Ranch, M**	**1.57**	**205**	Pn		Pn	06 18 26.6	+0.2
WMOK	**Wichita Mounta**	**1.93**	**229**			Pn	06 18 32.5	+1.1
X37A	**Clayton**	**1.97**	**136**			Pn	06 18 32.4	+0.5
X37A				IAmb_Lg			06 19 02.9	
	comp=Z,23nm,0.8s							
LOOK	**Love County**	**2.03**	**184**			Pn	06 18 34.1	+1.3
LOOK				IAmb_Lg			06 19 06.0	
	comp=Z,24nm,0.8s							
U38A	**Gravette**	**2.17**	**78**			Pn	06 18 35.7	+0.9
HHAR	**Hobbs**	**2.51**	**83**			Pn	06 18 41.4	+2.0
MIAR	**Mount Ida**	**3.18**	**117**	Pn		Pn	06 18 49.5	+0.9
CBKS	**Cedar Bluff**	**3.52**	**323**	IAmb_Lg			06 19 54.0	
	comp=Z,19nm,0.8s							
WHAR	**Wooly Hollow**	**3.92**	**99**	IAmb_Lg			06 20 11.9	
	comp=Z,8.6nm,0.8s							
AMTX	**Amarillo**	**3.97**	**255**	IAmb_Lg			06 20 06.0	
	comp=Z,15nm,0.8s							
FCAR	**Ozark Folk Cen**	**3.98**	**91**	IAmb_Lg			06 20 03.5	
	comp=Z,12nm,0.8s							
MGMO	**Mountain Grove**	**3.99**	**72**	IAmb_Lg			06 20 07.5	
	comp=Z,15nm,0.7s							
R40A	**Maddies Statio**	**4.42**	**58**	IAmb_Lg			06 20 17.1	
	comp=Z,11nm,0.8s							
LCAR	**Lake Charles**	**4.75**	**88**	IAmb_Lg			06 20 38.9	
	comp=Z,7.6nm,0.9s							
T42A	**Van Buren**	**4.88**	**76**	IAmb_Lg			06 20 40.0	
	comp=Z,8.6nm,0.8s							
N35A	**Tabor**	**4.95**	**12**	IAmb_Lg			06 20 46.6	
	comp=Z,21nm,0.9s							
CCM	**Cathedral Cave**	**5.04**	**65**	IAmb_Lg			06 20 47.2	
	comp=Z,13nm,0.9s							

MSTX	**Muleshoe**	**5.15**	**248**	IAmb_Lg			06 20 47.0		
	comp=Z,7.0nm,1.1s								
P40A	**Paris**	**5.27**	**47**	IAmb_Lg			06 20 58.0		
	comp=Z,11nm,0.8s								
PBMO	**Poplar Bluff**	**5.37**	**80**	IAmb_Lg			06 20 56.5		
	comp=Z,15nm,0.8s								
N38A	**Joes South For**	**5.61**	**31**	IAmb_Lg			06 21 09.6		
	comp=Z,11nm,0.8s								
S44A	**Carbondale**	**6.45**	**73**	IAmb_Lg			06 21 24.0		
	comp=Z,14nm,0.7s								
SIUC	**Southern Illin**	**6.48**	**73**	IAmb_Lg			06 21 21.5		
	comp=Z,14nm,0.8s								
OLIL	**Olney**	**7.60**	**67**	IAmb_Lg			06 22 04.5		
	comp=Z,12nm,0.9s								
W50A	**Signal Mountai**	**9.57**	**92**	IAmb_Lg			06 23 05.8		
	comp=Z,8.2nm,1.0s								
250A	**Grady**	**9.80**	**111**	IAmb_Lg			06 23 31.1		
	comp=Z,8.0nm,1.1s								
P48A	**Milroy**	**9.80**	**66**	IAmb_Lg			06 23 10.3		
	comp=Z,6.2nm,0.8s								

*IDC **15** 06:22:48.5±0.8, 2°.64N×127°.25E, h0km, mb3.9/9, mb1 4.1/9, mb1mx3.9/34, mbtmp3.9/9, MS2.5/1, Ms1 2.5/1, ms1mx2.2/48, Error ellipse: s-maj=73.2km s-min=15.5km az=75.0*

ISC 15 06:22:56.8±0.8, 2°.6N±0°.1×127°.3E±0°.4, h64km, n10, σ1s 21/10, mb3.9/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DAV	**Davao City (W)**	**4.73**	**339**	LR		LR	06 25 59.2	
	comp=Z,51nm,18.1s,baz=302,slow=40							
FITZ	**Fitzroy Crossi**	**20.65**	**184**	P		**P**	**06 27 30.4**	**-1.0**
	2.1nm,0.5s,baz=11,slow=6.1,SNR=13							
WRA	**Warramunga Arr**	**23.47**	**163**	P		**P**	**06 27 59.6**	**-1.4**
	2.3nm,0.5s,baz=344,slow=11,SNR=54							
ASAR	**Alice Springs**	**26.92**	**166**	P		**P**	**06 28 31.2**	**-0.9**
	0.7nm,0.6s,baz=348,slow=7.0,SNR=14							
ASAR				PcP		**PcP**	**06 31 53.9**	**+0.8**
	1.3nm,0.8s,baz=351,slow=1.9,SNR=8.6							
STKA	**Stephens Creek**	**36.91**	**159**	P		**P**	**06 29 59.7**	**+0.2**
	4.7nm,0.6s,baz=334,slow=10.0,SNR=12							
USRK	**Ussuriysk Ar.**	**41.61**	**5**	P		**P**	**06 30 38.2**	**-0.4**
	1.2nm,0.6s,baz=126,slow=6.3,SNR=4.2							
SONM	**Songino Array**	**48.51**	**341**	P		**P**	**06 31 34.4**	**+0.9**
	0.5nm,0.5s,baz=156,slow=7.8,SNR=4.2							
MKAR	**Makanchi Array**	**58.77**	**325**	P		**P**	**06 32 48.1**	**-0.3**
	0.5nm,0.4s,baz=119,slow=7.6,SNR=12							
VNDA	**Vanda**	**82.27**	**173**	P		**P**	**06 35 12.6**	**+1.9**
	0.8nm,0.6s,baz=321,slow=7.4,SNR=3.6							
ARCES	**ARCESS Array B**	**91.67**	**340**	P		**P**	**06 35 55.6**	**-1.2**
	0.6nm,0.7s,baz=81,slow=7.5,SNR=4.6							

*IDC **15** 06:26:25.7±0.3, 26°.62N×124°.98E, h197km, M3.6, Northeast of Taiwan*

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JKE	**Kume jima 2**	**1.65**	**100**	P		Pn	06 27 01.2	+0.7
JIKM	**Ikemajima**	**1.71**	**172**	P		Pn	06 27 01.4	+0.3
JIKM				S		Sn	06 27 28.7	+0.1
JIRB	**Irabujima**	**1.79**	**174**	S		Sn	06 27 29.4	-0.7
JOGS	**Gusukube**	**1.89**	**168**	S		Sn	06 27 31.9	0.0
JMJ2	**Miyako jima3**	**1.90**	**170**	P		Pn	06 27 04.1	+1.1
JMJ2				S		Sn	06 27 31.8	-0.2
JTJ	**Tarama**	**1.99**	**187**	P		Pn	06 27 04.5	+0.6
JTJ				S		Sn	06 27 32.8	-0.8
JAGN	**Aguni-jima**	**2.03**	**90**	P		Pn	06 27 04.5	+0.3
JAGN				eS		Sn	06 27 33.1	-1.1
JISG	**Ishigakijimahi**	**2.11**	**197**	P		Pn	06 27 05.6	+0.4
JISG				eS		Sn	06 27 34.9	-1.0
JIJ	**Ishigaki jima**	**2.37**	**199**	P		Pn	06 27 07.6	-0.4
JIJ				S		Sn	06 27 38.7	-2.3
JKRS	**Kuro-shima**	**2.53**	**201**	P		Pn	06 27 09.6	-0.2
JKRS				S		Sn	06 27 42.1	-2.0
IRIF	**Iriomote-Funau**	**2.54**	**207**	P		Pn	06 27 09.7	-0.2
IRIF				S		Sn	06 27 43.3	-1.0
JJT3	**Tamagusuku3**	**2.56**	**100**	P		Pn	06 27 10.9	+0.8
JJ

CAW				S	Sn	06 55 08.7	+0.8
KIW	**Kapiti Island**	**1.07**	**36**	P	Pg	06 54 56.0	+0.1
KIW				S	Sn	06 55 11.6	+1.2
PAWZ	**Paruwai Farm**	**1.07**	**71**	P	Pn	06 54 55.8	0.0
PAWZ				S	Sn	06 55 11.6	+1.2
MTW	**Mount Morrison**	**1.21**	**62**	P	Pn	06 54 57.7	0.0
OGWZ	**Otaki Gorge**	**1.23**	**42**	P	Pg	06 54 58.8	-0.1
OGWZ				S	Sg	06 55 15.9	+1.0
TRWZ	**Traveller**	**1.25**	**75**	P	Pn	06 54 57.8	-0.5
HOWZ	**Holdsworth Sta**	**1.36**	**53**	P	Pn	06 55 00.1	+0.3
HOWZ				S	Sg	06 55 19.3	+0.1
QRZ	**Quartz Range**	**1.48**	**307**	P	Pg	06 55 03.2	-0.4
QRZ				S	Sg	06 55 23.6	+0.8
TMWZ	**Te Maipa**	**1.50**	**66**	P	Pn	06 55 01.3	-0.4
TIWZ	**Tintock**	**1.66**	**56**	P	Pn	06 55 04.3	+0.4
DSZ	**Denniston Nort**	**1.70**	**269**	P	Pn	06 55 05.3	+0.8
DSZ				S	Sg	06 55 29.5	-0.6
LTZ	**Lake Taylor**	**1.71**	**231**	P	Pb	06 55 05.5	-0.9
LTZ				S	Sb	06 55 27.4	-0.3
AMCZ	**Amberley**	**1.79**	**216**	P	Pn	06 55 05.5	-0.1
POWZ	**Post Office Ro**	**1.85**	**44**	P	Pb	06 55 08.0	-0.8
PRWZ	**Pori Road**	**1.85**	**51**	P	Pn	06 55 06.8	+0.4
PRWZ				S	Sb	06 55 32.4	+0.7
BFZ	**Birch Farm**	**1.94**	**58**	P	Pn	06 55 06.9	-0.8
WAZ	**Wanganui**	**2.09**	**20**	P	Pb	06 55 13.1	+0.2
DVHZ	**Dannevirke**	**2.13**	**49**	P	Pn	06 55 10.0	-0.4
OKCZ	**Okains Bay**	**2.13**	**200**	P	Pn	06 55 09.5	-0.9
OXZ	**Oxford**	**2.20**	**223**	P	Pn	06 55 10.9	-0.3
TSZ	**Takapari Road**	**2.20**	**41**	P	Pn	06 55 11.5	+0.2
ANWZ	**Angora Road**	**2.21**	**56**	P	Pn	06 55 11.0	-0.4
MQZ	**McQueen's Vall**	**2.24**	**208**	P	Pn	06 55 10.3	-1.5
MQZ				S	Sn	06 55 37.1	-1.9
AKCZ	**Akaroa Harbour**	**2.31**	**201**	P	Pn	06 55 11.6	-1.2
PNHZ	**Pukenui**	**2.42**	**42**	P	Pn	06 55 14.4	-0.1
KHEZ	**Kahui Hut**	**2.43**	**359**	P	Pb	06 55 19.0	+0.2
RACZ	**Rakaia**	**2.46**	**215**	P	Pn	06 55 14.1	-0.7
NEZ	**North Egmont**	**2.46**	**0**	P	Pb	06 55 20.3	+1.1
NBEZ	**Newall Road No**	**2.46**	**356**	P	Pg	06 55 21.5	-1.0
PKE	**Pukeiti**	**2.53**	**358**	P	Pg	06 55 22.5	-1.3
DREZ	**Durham Road**	**2.54**	**2**	P	Pb	06 55 20.6	+0.1
MTVZ	**Mangateitei**	**2.57**	**25**	P	Pb	06 55 21.7	+0.6
MHCZ	**Mount Hutt**	**2.58**	**225**	P	Pn	06 55 16.5	-0.1
PKVZ	**Pokaka**	**2.62**	**22**	P	Pb	06 55 20.0	-2.0
MOVZ	**Moawhango**	**2.65**	**29**	P	Pn	06 55 19.3	+1.8
VRZ	**Vera Road**	**2.65**	**11**	P	Pb	06 55 21.1	-1.4
WNVZ	**Wahianoa**	**2.66**	**26**	P	Pn	06 55 19.8	+2.0
TRVZ	**Turoa**	**2.67**	**25**	P	Pb	06 55 20.8	-2.2
BHHZ	**Black Hill Sta**	**2.70**	**35**	P	Pn	06 55 19.1	+0.8
DRZ	**Dome Shelter**	**2.70**	**25**	P	Pn	06 55 24.6	+1.1
WHVZ	**Whangaehu Hut**	**2.70**	**25**	P	Pn	06 55 20.9	+2.5
FWVZ	**Far West T-bar**	**2.71**	**25**	P	Pb	06 55 24.0	+0.3
KRHZ	**Kereru**	**2.72**	**41**	P	Pn	06 55 18.3	-0.1
TUVZ	**Tukino**	**2.74**	**27**	P	Pn	06 55 20.9	+2.1
WACZ	**Wakanui South**	**2.76**	**216**	P	Pn	06 55 18.5	-0.4
NGZ	**Ngauruhoe**	**2.80**	**25**	P	Pn	06 55 22.3	+2.5
SNVZ	**South Ngauruho**	**2.81**	**26**	P	Pn	06 55 22.3	+2.5
OTVZ	**Oturere**	**2.83**	**26**	P	Pn	06 55 22.3	+2.2
NNVZ	**North Ngauruho**	**2.85**	**25**	P	Pn	06 55 23.0	+2.6
TWVZ	**Taurewa**	**2.85**	**22**	P	Pb	06 55 26.5	+0.6
WTVZ	**West Tongariro**	**2.85**	**24**	P	Pb	06 55 23.6	-2.4
KAHZ	**Kahuranaki**	**2.87**	**49**	P	Pn	06 55 19.9	-0.7
KAHZ				P	Pb	06 55 20.1	-6.2
ETVZ	**East Tongariro**	**2.88**	**26**	P	Pn	06 55 23.0	+2.3
KRVZ	**Karewarewa**	**2.89**	**25**	P	Pb	06 55 26.1	-0.5
TMVZ	**Te Maari**	**2.89**	**26**	P	Pn	06 55 23.0	+2.1
NTVZ	**North Tongarir**	**2.90**	**25**	P	Pn	06 55 23.0	+2.0
KWHZ	**Kaweka Forest**	**2.91**	**39**	P	Pg	06 55 29.4	-1.6
RPZ	**Rata Peaks**	**2.98**	**227**	P	Pn	06 55 22.6	+0.5
KATZ	**Kakaramea**	**3.02**	**25**	P	Pb	06 55 30.4	+1.6
MCHZ	**McNeill Hill**	**3.03**	**42**	P	Pg	06 55 33.4	+0.1
RITZ	**Rihia Road**	**3.07**	**27**	P	Pg	06 55 32.2	-1.8
ARCZ	**Arundel**	**3.08**	**223**	P	Pn	06 55 23.1	-0.3
RATZ	**Rangitukua**	**3.14**	**25**	P	Pb	06 55 32.9	+2.0
BKZ	**Black Stump Fm**	**3.15**	**37**	P	Pb	06 55 31.4	+0.4
HIZ	**Hauiti**	**3.27**	**11**	P	Pn	06 55 29.2	+3.2
WATZ	**Wairara**	**3.27**	**23**	P	Pb	06 55 34.9	+1.9
NMHZ	**Naumai**	**3.35**	**39**	P	Pg	06 55 38.5	-1.0
TMZ	**Timaru**	**3.48**	**219**	P	Pn	06 55 28.5	-0.4
KUTZ	**Kaahu Road**	**3.50**	**23**	P	Pb	06 55 39.0	+2.0
MTHZ	**Maungataniwha**	**3.57**	**37**	P	Pb	06 55 40.5	+2.4
TLZ	**Tolley Road**	**3.58**	**19**	P	Pb	06 55 37.2	-1.0
RAHZ	**Arahi**	**3.63**	**40**	P	Pg	06 55 42.3	-2.4
MUGZ	**Murupara**	**3.85**	**33**	P	Pg	06 55 46.2	-2.7
TOZ	**Tahuroa Road**	**4.14**	**16**	P	Pb	06 55 44.2	-3.7
ODZ	**Otahua Downs**	**4.15**	**216**	P	Pb	06 55 37.0	-1.1
URZ	**Urewera**	**4.17**	**35**	P	Pg	06 55 54.9	-0.3
MKAZ	**Moumakai**	**4.69**	**11**	P	Pn	06 55 48.0	+2.4

MEX 15 06:54:43.2±0.9, 17°08N×95°18W, h100km±12km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.28**	**87**	*i* P	Pn	06 54 56.3	-1.4
CMIG				*i* S	Sn	06 55 06.8	-1.7
VHO	**Vista Hermosa**	**1.49**	**270**	*eP*	Pn	06 55 08.2	-1.2
VHO				*i* S	Sn	06 55 27.3	-2.1
TOIG	**Toxpalan**	**2.06**	**300**	*eP*	Pn	06 55 16.3	-0.4

IDC 15 06:56:34.9±2.6, 6°73S×129°89E, h158km±35km, mb3.7/1, mb1 3.3/5, mb1mx3.0/51, mbtmp3.8/5, Error ellipse: s-maj=65.8km s-min=20.0km az=89.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.98**	**13**	P	Pn	06 58 01.7	+0.3
	0.1nm,0.3s,baz=162,slow=20,SNR=3.9						
SIJI				S	Sn	06 59 02.4	-6.9
	3.4nm,0.3s,baz=253,slow=23,SNR=7.8						
FITZ	**Fitzroy Crossi**	**12.04**	**200**	P	Pn	06 59 21.4	-0.1
	0.1nm,0.3s,baz=28,slow=12,SNR=7.7						
FITZ				S	Sn	07 01 26.7	-8.1
	0.2nm,0.3s,baz=119,slow=17,SNR=4.0						
WRA	**Warramunga Arr**	**13.83**	**162**	P	Pn	06 59 42.5	-2.0
	0.2nm,0.3s,baz=346,slow=13,SNR=5.5						
WRA				S	Sn	07 02 09.1	-8.8
	0.5nm,0.3s,baz=336,slow=22,SNR=8.9						
ASAR	**Alice Springs**	**17.28**	**168**	P	Pn	07 00 27.5	+0.7
	0.3nm,0.3s,baz=344,slow=9.3,SNR=15						
MKAR	**Makanchi Array**	**67.94**	**327**	P	P	07 07 16.6	-0.1
	0.8nm,0.4s,baz=117,slow=8.0,SNR=12						

IDC 15 06:56:58.3±1.0, 31°.22N×142°.25E, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.7/54, mbtmp3.7/7, ML3.2/2, MS2.6/1, Ms1 2.6/1, ms1mx2.1/43, Error ellipse: s-maj=39.1km s-min=20.7km az=85.0

ISC 15 06:57:02.0±1.1, 31°.2N±0°.1×142°.2E±0°.2, h24km, n8, σ0s66/7, mb3.8/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.25**	**329**	Pn	**Pn**	**06 58 33.1**	**+0.3**
	0.3nm,0.3s,baz=150,slow=11,SNR=12						
KSRS	**Korea Array**	**13.32**	**302**	LR	LR	07 05 20.8	
	comp=Z,23nm,18.6s,baz=235,slow=38						
KLR	**Kul'dur**	**19.64**	**339**	P	**P**	**07 01 28.4**	**-0.5**
	0.1nm,0.3s,baz=129,slow=14,SNR=4.8						
MKAR	**Makanchi Array**	**47.93**	**307**	P	**P**	**07 05 38.5**	**0.0**
	0.5nm,0.5s,baz=85,slow=9.6,SNR=6.6						
WRA	**Warramunga Arr**	**51.44**	**189**	P	**P**	**07 06 05.1**	**-0.2**
	1.9nm,0.8s,baz=6.7,slow=7.8,SNR=8.3						
ILAR	**Eielson Array**	**54.12**	**30**	P	**P**	**07 06 24.0**	**-0.7**
	0.3nm,0.7s,baz=264,slow=5.6,SNR=5.5						
ASAR	**Alice Springs**	**55.16**	**189**	P	**P**	**07 06 32.6**	**-0.1**
	0.6nm,0.5s,baz=3.1,slow=6.5,SNR=9.1						
TXAR	**Lajitas Array**	**93.12**	**53**	P	**P**	**07 10 15.4**	**+0.9**
	0.2nm,0.7s,baz=297,slow=5.5,SNR=3.8						

RSNC 15 06:59:40.6±0.8, 8°.58N×77°.83W, h19km±7km, ML2.4
UPA 15 06:59:42.3±1.8, 8°.54N×77°.98W, h15km±4km, MW3.1

ISC 15 06:59:39.5±1.2, 8°.59N±0°.06×77°.83W±0°.03, h19km±3km, n13, σ0s66/25, 1D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPD2	**Meteti**	**0.19**	**256**	↓*i*P	**Pg**	**06 59 44.5**	**0.0**
UPD2				*e*S	**Sg**	**06 59 48.1**	**+0.2**
CAPC	**Capurgana**	**0.47**	**85**	*e*P	**Pg**	**06 59 48.9**	**-0.3**
CAPC				*e*S	**Sb**	**06 59 56.5**	**+0.6**
CAPC				*i*		06 59 56.5	
	comp=Z,664nm,0.4s						
CHPO	**Chepo, Panama**	**1.40**	**294**	*e*P	**Pn**	**07 00 03.5**	**-0.5**
CHPO				*e*S	**Sn**	**07 00 20.9**	**-1.0**
PTAC	**Punta Ardita,**	**1.44**	**179**	*e*P	**Pn**	**07 00 04.3**	**-0.3**
PTAC				*e*S	**Sn**	**07 00 22.8**	**-0.2**
PTAC				*i*		07 00 23.7	
	comp=Z,666nm,0.3s						
UPA	**Univ. de Panam**	**1.73**	**283**	*e*P	**Pn**	**07 00 08.8**	**+0.1**
UPA				*e*S	**Sn**	**07 00 30.3**	**+0.1**
UPA	**Univ. de Panam**	**1.73**	**283**	*e*P	**Pn**	**07 00 08.4**	**-0.3**
UPA				*e*S	**Sn**	**07 00 29.9**	**-0.3**
UPA				*i*		07 00 33.4	
	comp=Z,18nm,0.3s						
CHOR3	**La Chorrera**	**1.94**	**279**	*e*P	**Pn**	**07 00 12.6**	**+1.1**
CHOR3				*e*S	**Sn**	**07 00 35.7**	**+0.3**
ZANG	**Zanguenga, Cho**	**2.05**	**280**	*e*P	**Pn**	**07 00 13.3**	**+0.3**
ZANG				*e*S	**Sn**	**07 00 38.7**	**+0.6**
BCIP	**Isla Barro Col**	**2.07**	**286**	*e*P	**Pn**	**07 00 14.0**	**+0.7**
BCIP				*e*S	**Sn**	**07 00 39.0**	**+0.4**
BCIP				*i*		07 00 41.8	
	comp=Z,19nm,0.4s						
AZU	**Azuero**	**2.55**	**252**	*e*P	**Pn**	**07 00 21.1**	**+1.1**
AZU				*e*S	**Sn**	**07 00 49.1**	**-1.4**
AZU	**Azuero**	**2.55**	**252**	*e*P	**Pn**	**07 00 20.1**	**+0.2**
AZU				*e*S	**Sn**	**07 00 50.2**	**-0.2**
AZU				*i*		07 00 55.4	
	comp=Z,31nm,0.5s						
SJCC	**San Jacinto, C**	**2.92**	**63**	*e*P	**Pb**	**07 00 30.4**	**-0.6**
ZARC	**Zaragoza, Cauc**	**3.13**	**110**	*e*P	**Pn**	**07 00 28.9**	**+0.9**
ZARC				*e*S	**Sn**	**07 01 04.7**	**-0.2**
ZARC				*i*		07 01 13.7	
	comp=Z,3.9nm,0.4s						

IDC 15 07:06:33.5±4.4, 53°73N×90°90E, h0km, mb1 3.6/3, mb1mx3.2/46, mbtmp3.6/3, ML3.0/3, 2C-1D, Error ellipse: s-maj=45.6km s-min=26.2km az=43.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.61**	**276**	*i*		07 30 40.0	
	baz=91,slow=337,SNR=4.5						
ZAA0	**Zalesovo Array**	**3.61**	**276**	↓↓Pn	Pb	07 07 35.8	-2.4
	2.9nm,0.7s,baz=97,slow=16						
ZAA0				↑↑Lg	Lg	07 08 26.7	
	9.7nm,0.8s,baz=96,slow=27						
ZALV	**Zalesovo Beam**	**3.61**	**276**	Pn	Pn	07 07 31.4	+0.8
	1.6nm,0.3s,baz=92,slow=16,SNR=11						
ZALV				Lg	Lg	07 08 27.4	
	3.4nm,0.3s,baz=87,slow=25,SNR=8.2						
KURBB	**Kurchatov Arra**	**8.21**	**253**	Pn	Pn	07 08 33.9	+0.1
	0.4nm,0.3s,baz=65,slow=14,SNR=7.7						
KURBB				Lg	Lg	07 10 54.2	
	baz=64,slow=32,SNR=2.6						
MK31	**Makanchi Array**	**8.86**	**222**	↑↑Pn	Pn	07 08 43.0	+0.2
	1.3nm,0.6s						
MKAR	**Makanchi Array**	**8.86**	**222**	Pn	Pn	07 08 43.2	+0.4
	0.3nm,0.3s,baz=40,slow=13,SNR=17						
SONM	**Songino Array**	**11.44**	**115**	Lg	Lg	07 12 26.0	
	0.1nm,0.3s,baz=310,slow=34,SNR=5.5						
AAK	**Ala-Archa**	**15.54**	**231**	Lg	Lg	07 14 43.7	
	0.2nm,0.3s,baz=324,slow=23,SNR=2.4						

NNC 15 07:09:05.2±0.7, 50°.39N×79°.45E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=13.8km s-min=2.5km az=32.0, Suspected Mining explosion.
IDC 15 07:09:06.4±1.3, 50°.05N×78°.71E, h0km, mb1 3.0/2, mb1mx2.9/39, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=22.7km s-min=7.5km az=68.0

ISC 15 07:09:02.1±1.0, 50°.71N±0°.06×79°.65E±0°.03, h0km, n22, σ1s25/32, 16C-8D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR14	**Kurchatov Arra**	**0.68**	**262**	↑↑P	**Pb**	**07 09 17.2**	**+0.4**
KUR14				↓↓S	**Sb**	**07 09 25.8**	**-0.9**
KUR15	**Kurchatov Arra**	**0.70**	**263**	↓↓P	**Pb**	**07 09 17.4**	**+0.3**
KUR15				↑↑S	**Sb**	**07 09 25.9**	**-1.4**
KUR04	**Kurchatov Arra**	**0.70**	**266**	↓↓P	**Pn**	**07 09 18.4**	**-1.0**
KUR04				↑↑S	**Sb**	**07 09 27.0**	**-0.5**
KUR05	**Kurchatov Arra**	**0.71**	**265**	↑↑P	**Pb**	**07 09 17.9**	**+0.5**
KUR05				↑↑S	**Sb**	**07 09 26.6**	**-1.0**
KURBB	**Kurchatov Arra**	**0.72**	**263**	Pg	**Pb**	**07 09 17.7**	**+0.3**
	2.0nm,0.3s,baz=168,slow=18,SNR=43						
KURBB				Lg	Lg	07 09 26.4	
	5.1nm,0.3s,baz=180,slow=29,SNR=38						
KURBB	**Kurchatov Arra**	**0.72**	**263**	↑↑P	**Pb**	**07 09 17.5**	**0.0**
	29nm,0.6s						
KURBB				↓↓S	**Sb**	**07 09 26.6**	**-1.2**
	225nm,0.6s						
KUR06	**Kurchatov Arra**	**0.72**	**262**	↑↑P	**Pb**	**07 09 17.2**	**-0.3**
KUR06				↑↑S	**Sg**	**07 09 26.1**	**+0.8**
KUR07	**Kurchatov Arra**	**0.73**	**260**	↑↑P	**Pg**	**07 09 16.9**	**+0.8**
KUR07				↑↑S	**Sg**	**07 09 25.7**	**+0.1**
KUR16	**Kurchatov Arra**	**0.74**	**264**	↑↑P	**Pb**	**07 09 17.7**	**-0.1**
KUR16				↑↑S	**Sg**	**07 09 26.4**	**+0.7**
KUR17	**Kurchatov Arra**	**0.76**	**264**	↓↓P	**Pb**	**07 09 18.1**	**0.0**
KUR17				↓↓S	**Sg**	**07 09 26.9**	**+0.6**
MAKZ	**Makanchi**	**4.20**	**158**	↑↑Pn	**Pn**	**07 10 06.7**	**-0.7**
	1.6nm,0.9s						
MAKZ				↓↓Pg	**Pb**	**07 10 17.4**	**+0.5**
	2.5nm,0.8s						
MAKZ				↓↓Lg	Lg	07 11 10.8	
	8.7nm,0.7s						
MK31	**Makanchi Array**	**4.29**	**155**	↑↑Pn	**Pn**	**07 10 08.4**	**-0.3**
	0.8nm,0.5s,baz=107,slow=23,SNR=12						
MK31				↑↑Pg	**Pb**	**07 10 18.6**	**+0.2**
	1.1nm,0.4s,baz=328,slow=14,SNR=8.0						
MK31				↑↑Lg	Lg	07 11 14.1	
	8.3nm,0.6s,baz=325,slow=25,SNR=10.0						
MKAR	**Makanchi Array**	**4.29**	**155**	Pn	**Pn**	**07 10 10.0**	**+1.3**
	0.4nm,0.3s,baz=322,slow=10,SNR=16						
MKAR				Lg	Lg	07 11 12.9	
	2.6nm,0.3s,baz=327,slow=26,SNR=12						
BRZS	**Berezniki**	**4.52**	**263**	Pg	**Sb**	**07 11 20.6**	**+3.2**
	9.5nm,0.4s						
BRZS				Lg	Lg	07 12 35.3	
	30nm,0.7s						
I46RU	**ZALESOVO INFRA**	**4.54**	**42**	*i*		07 42 10.0	
	baz=223,slow=319,SNR=1.8						
ZALV	**Zalesovo Beam**	**4.54**	**42**	Pn	**Pg**	**07 10 30.0**	**+1.0**
	0.6nm,0.3s,baz=225,slow=14,SNR=3.5						
ZSN	**Zaisan**	**4.73**	**132**	Pg	**Pb**	**07 10 26.8**	**+0.8**
	17nm,0.3s						
ZSN				Lg	Lg	07 11 02.3	
	20nm,0.8s						
DJR	**Jarkent**	**6.38**	**179**	Pg	**Pb**	**07 10 54.4**	**+0.3**
	2.4nm,0.2s						
DJR				Lg	Lg	07 11 50.1	
	4.1nm,0.5s						
ARXS	**Arharly**	**6.62**	**191**	Pg	**Pg**	**07 11 05.3**	**-3.6**
	1.9nm,0.4s						
ARXS				Lg	Lg	07 12 08.6	
	9.9nm,0.4s						
KUU	**Kurty**	**7.18**	**200**	Pg	**Pg**	**07 11 19.6**	**-0.1**
	1.2nm,0.3s						
KUU				Lg	Lg	07 12 33.2	
	6.6nm,0.3s						
KTBS	**Karatobe**	**7.29**	**197**	Pg	**Pg**	**07 11 21.1**	**-0.5**
	0.7nm,0.6s						
KTBS				Lg	Lg	07 12 35.6	
	12nm,0.4s						
PDGK	**Podgornoye**	**7.39**	**181**	Pg	**Pb**	**07 11 14.1**	**+2.9**
	0.7nm,0.5s						
PDGK				Lg	Lg	07 12 23.7	
	2.7nm,0.4s						

MEX 15 07:10:58.4±0.7, 16°31N×98°55W, h5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.41**	**79**	*i* P	Pg	07 11 06.1	-0.4
PNIG				*i* S	Sg	07 11 12.0	+0.2
MGIG	**Malinaltepec**	**0.92**	**355**	*i* P	Pg	07 11 13.6	-2.5
TXIG	**Tlaxiaco**	**1.20**	**39**	*e*P	Pg	07 11 19.0	-2.5
TLIG	**Tlapa**	**1.25**	**359**	*e*P	Pg	07 11 19.6	-2.8
VHO	**Vista Hermosa**	**1.90**	**66**	*e*P	Pn	07 11 31.7	0.0

NNC 15 07:31:10.1±1.2, 53°63N×88°27E, h0km, mb3.5, mpv3.1, 6C-5D, Error ellipse: s-maj=9.8km s-min=5.1km az=60.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**2.07**	**280**	↑↑P	Pn	07 31 45.9	-0.2
	2.8nm,0.7s						
ZAA0				↑↑S	Sb	07 32 13.8	-1.0
	8.9nm,0.8s						
KURBB	**Kurchatov Arra**	**6.71**	**247**	↑↑Pn	Pn	07 32 50.0	+0.3
	1.1nm,0.2s						
KURBB				↓↓Sn	Sn	07 34 07.4	+0.6
	4.8nm,0.8s						
KURBB				↓↓Lg	Lg	07 34 42.2	
	10nm,0.8s						
MK31	**Makanchi Array**	**7.84**	**212**	↓↓Pn	Pn	07 33 06.1	+0.8
	0.9nm,0.8s,baz=28,slow=14,SNR=6.8						
MK31				↓↓Sn	Sn	07 34 35.0	+0.3
	1.2nm,0.9s,baz=51,slow=32,SNR=5.4						
MK31				↑↑Lg	Lg	07 35 20.7	
	2.9nm,0.9s,baz=21,slow=34,SNR=4.3						
MAKZ	**Makanchi**	**7.93**	**213**	↑↑Pn	Pn	07 33 06.1	-0.4
	1.2nm,0.7s						
MAKZ				↑↑Sn	Sn	07 34 39.1	+2.3
	1.8nm,1.0s						
MAKZ				↓↓Lg	Lg	07 35 21.3	
	4.2nm,1.0s						

ISK 15 07:52:39.8, 38°.69N×43°.05E, h25km, ML2.8/5
DDA 15 07:52:41.2, 38°.72N×43°.06E, h7km±2km, ML2.4

ISC 15 07:52:40.9±1.1, 38°.74N±0°.03×43°.05E±0°.03, h13km±10km, n13, σ0s96/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADCV	**BITLIS_Adilcev**	**0.27**	**286**	*i* P	**Pg**	**07 52 47.1**	**+0.5**
ADCV				*i* S	**Sb**	**07 52 52.0**	**-0.3**
ADCV				IAML		07 52 52.0	
	comp=N,1μm,0.4s						
ADCV				IAML		07 52 53.0	
	comp=E,1μm,0.1s						
VANB	**Van**	**0.30**	**118**	PG	**Pb**	**07 52 47.9**	**-0.3**
VANB				SG	**Sb**	**07 52 53.7**	**+0.6**
TVAN	**Van**	**0.35**	**127**	*i* P	**Pg**	**07 52 48.0**	**0.0**
TVAN				*i* S	**Sb**	**07 52 53.4**	**-1.2**
TVAN				IAML		07 52 54.0	
	comp=E,2μm,0.4s						
TVAN				IAML		07 52 55.0	
	comp=N,885nm,0.3s						
AKDM	**Akdamar-Van**	**0.41**	**188**	PG	**Pg**	**07 52 48.2**	**-1.0**
AKDM				SG	**Sg**	**07 52 54.8**	**0.0**
VMUR	**Van-Muradiye**	**0.48**	**58**	*i* P	**Pb**	**07 52 50.8**	**-0.5**
VMUR				*i* S	**Sb**	**07 52 57.8**	**-0.6**
VMUR				IAML		07 53 01.0	
	comp=N,234nm,0.4s						
VMUR				IAML		07 53 01.0	
	comp=E,317nm,0.6s						
MLAZ	**Malazgirt-MUS**	**0.56**	**316**	PG	**Pg**	**07 52 52.4**	**+0.4**
BLIS	**Bitlis-Merkez**	**0.80**	**247**	*i* P	**Pg**	**07 52 56.0**	**-0.5**
BLIS				*i* S	**Sg**	**07 53 05.8**	**-1.2**
BLIS				IAML		07 53 06.0	
	comp=N,366nm,0.5s						
BLIS				IAML		07 53 08.0	
	comp=E,233nm,0.6s						
GURO	**Guroymak-BITLI**	**0.82**	**257**	PG	**Pg**	**07 52 56.0**	**-0.8**
AGRB	**Hanur-Agry**	**0.84**	**357**	PG	**Pg**	**07 52 56.9**	**-0.4**
SRTM	**Siirt_Merkez**	**1.16**	**230**	*i* P	**Pg**	**07 53 03.4**	**+0.1**
SRTM				*i* S	**Sn**	**07 53 20.0**	**+1.3**
SRTM				IAML		07 53 22.0	
	comp=E,112nm,0.7s						
SRTM				IAML		07 53 29.0	
	comp=N,128nm,0.8s						
MUSM	**Mu-Merkez**	**1.20**	**270**	*i* P	**Pn**	**07 53 03.2**	**-0.4**
MUSM				*i* S	**Sb**	**07 53 19.7**	**+0.5**
MUSM				IAML		07 53 21.0	
	comp=N,27nm,0.8s						
HAKT	**HAKKARI**	**1.28**	**156**	*i* P	**Pb**	**07 53 05.0**	**-0.1**
HAKT				*i* S	**Sg**	**07 53 25.2**	**+2.8**
HAKT				IAML		07 53 28.0	
	comp=N,32nm,0.4s						
HAKT				IAML		07 53 28.0	
	comp=E,28nm,0.5s						
EJDE	**Erzurum, Palan**	**1.74**	**309**	*i* P	**Pb**	**07 53 13.1**	**+0.1**

UPA 15 08:08:44.4±2.7, 7°.47N×80°.59W, h1km±7km, MW4.0

ISC 15 08:08:42.4±1.5, 7°.33N±0°.05×80°.53W±0°.03, h15km±10km, n23, σ0s79/44, 4C-3D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACAO	**El Cacao, Vera**	**0.33**	**273**	↓*i*P	**Pn**	**08 08 51.3**	**-1.3**
CACAO				*e*S	**Sb**	**08 08 56.2**	**+1.2**
CACAO	**El Cacao, Vera**	**0.33**	**273**	*e*P	**Pn**	**08

SONM	**Songino Array**	**31.79**	**312**	P	**P**	**08 15 53.5**	**+1.1**	
	0.8nm,0.8s,baz=125,slow=12,SNR=3.4							
MK31	**Makanchi Array**	**47.87**	**307**	P	**P**	**08 18 05.7**	**0.0**	
MK31				IAmb	IAmb	08 18 06.4		
	comp=Z,1.7nm,1.0s							
MKAR	**Makanchi Array**	**47.87**	**307**	P	**P**	**08 18 05.8**	**+0.1**	
	comp=Z,0.8nm,0.6s,baz=89,slow=10,SNR=8.0							
MKAR	**Makanchi Array**	**47.87**	**307**	P	**P**	**08 18 05.3**	**-0.4**	
IMAR	**Indian Mountai**	**51.34**	**28**	P	**P**	**08 18 32.7**	**+0.8**	
WR0	**Warramunga Arr**	**51.48**	**189**	P	**P**	**08 18 32.4**	**-0.9**	
WR0				IAmb	IAmb	08 18 45.8		
	comp=Z,16nm,1.5s							
WB2	**Warramunga Arr**	**51.49**	**189**	P	**P**	**08 18 32.5**	**-0.9**	
WB2				IAmb	IAmb	08 18 33.2		
	comp=Z,5.3nm,1.1s							
WRA	**Warramunga Arr**	**51.49**	**189**	P	**P**	**08 18 32.3**	**-1.2**	
	comp=Z,2.4nm,0.7s,baz=6.1,slow=7.0,SNR=41							
WRA	**Warramunga Arr**	**51.49**	**189**	P	**P**	**08 18 31.9**	**-1.6**	
ILAR	**Eielson Array**	**54.08**	**30**	P	**P**	**08 18 51.8**	**-0.3**	
	comp=Z,0.4nm,0.7s,baz=262,slow=6.6,SNR=6.9							
AS31	**Alice Springs**	**55.22**	**189**	P	**P**	**08 18 59.7**	**-1.1**	
AS31				IAmb	IAmb	08 19 01.9		
	comp=Z,1.0nm,0.6s							
ASAR	**Alice Springs**	**55.22**	**189**	P	**P**	**08 18 59.6**	**-1.2**	
	comp=Z,1.2nm,0.5s,baz=1.2,slow=5.4,SNR=30							
ASAR	**Alice Springs**	**55.22**	**189**	P	**P**	**08 18 59.9**	**-0.9**	
CHGR	**Chuyangaron**	**58.83**	**299**	P	**P**	**08 19 26.4**	**-0.1**	
ABKAR	**Akbulak array**	**62.19**	**313**	P	**P**	**08 19 49.9**	**+0.8**	
NVAR	**Mina Array Bea**	**77.97**	**52**	P	**P**	**08 21 26.9**	**+0.6**	
	comp=Z,0.4nm,0.6s,baz=292,slow=5.7,SNR=4.2							
TXAR	**Lajitas Array**	**93.11**	**53**	P	**P**	**08 22 42.9**	**+0.9**	
	comp=Z,0.7nm,0.8s,baz=298,slow=3.1,SNR=11							

IDC ***15*** *08:12:02.5±0.6,31°.21N×142°.12E,h0km,mb4.3/15, mb1 4.4/19,mb1mx4.2/48,mbtmp4.2/19,ML3.8/3,Error ellipse: s-maj=18.9km s-min=14.7km az=82.0*

NEIC ***15*** *08:12:03.1±1.2,31°.15N±0°.04×141°.82E±0°.06,h10km±1km, mb4.7/39,Error ellipse: s-maj=11.3km s-min=2.9km az=128.0*

NIED ***15*** *08:12:03.2,31°.27N×142°.22E,h39km,MW4.3,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr-1.82; Mθθ0.14; Mφφ1.68; Mrθ0.01; Mθφ-0.61; Mφr-2.25; Fault plane solution: M₀2.91000×10¹⁵ NP1: φs355.00000°,δ71.00000°,λ-80.00000°. NP2: φs147.00000°,δ22.00000°,λ-116.00000°.*

JMA ***15*** *08:12:03.1±0.1,31°.27N×142°.22E,h39km,M4.4*

MOS ***15*** *08:12:04.8±1.2,31°.25N×142°.08E,h29km,mb4.9/24,Error ellipse: s-maj=13.1km s-min=6.2km az=111.6*

BJI ***15*** *08:12:05.3±0.0,31°.30N×142°.04E,h28km,mB4.6/25, mb4.6/45,Ms3.9/14,Ms7 3.7/12*

ISC 15 08:12:06.7±0.4,31°.18N±0°.04×141°.96E±0°.07,h35km,n144, σ1§61/160,mb4.6/54,MS4.0/8,10C,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**3.56**	**347**	P		**Pn**	**08 12 57.2**	**-1.7**
BSO3	**Boso 3**	**3.81**	**342**	P		**Pn**	**08 13 01.5**	**-1.1**
CBIJ	**Chichi jima**	**4.08**	**177**	P		**Pn**	**08 13 06.2**	**-0.3**
CBIJ				S		**Sn**	**08 13 53.4**	**+0.4**
JCJ	**Chichijima**	**4.08**	**177**	Pn		**Pn**	**08 13 06.8**	**+0.2**
	12nm,0.3s,baz=8.6,slow=18,SNR=11							
JCJ				Sn		**Sn**	**08 13 54.0**	**+0.9**
	32nm,0.3s,baz=260,slow=22,SNR=5.8							
JCJ	**Chichijima**	**4.08**	**177**	Pn		**Pn**	**08 13 04.2**	**-2.4**
JCJ				Sn		**Sn**	**08 13 51.9**	**-1.1**
JOD2	**Odawara 2**	**4.73**	**330**	*e*S		**Sn**	**08 14 09.2**	**+0.1**
JHU	**Hanno**	**5.17**	**335**	*e*S		**Sn**	**08 14 18.9**	**-1.0**
JRY	**Ryogami san**	**5.46**	**333**	*e*S		**Sn**	**08 14 26.9**	**-0.1**
JHO	**Hitachi**	**5.54**	**348**	P		**Pn**	**08 13 24.8**	**-1.8**
JAG	**Ashikaga**	**5.63**	**339**	P		**Pn**	**08 13 27.4**	**-0.5**
JGF	**Kuroka**	**5.85**	**320**			**Pn**	**08 13 28.3**	**-2.6**
INU	**Inuyama**	**5.86**	**316**	Pn		**Pn**	**08 13 28.2**	**-2.8**
MJAR	**Matsushiro Arr**	**6.19**	**331**	Pn		**Pn**	**08 13 36.0**	**+0.4**
	1.2nm,0.3s,baz=154,slow=11,SNR=29							
MJAR	**Matsushiro Arr**	**6.19**	**331**	P		**Pn**	**08 13 36.0**	**+0.4**
MJAR	**Matsushiro Arr**	**6.19**	**331**	Pn		**Pn**	**08 13 33.6**	**-2.0**
MAJO	**Matsushiro**	**6.19**	**331**	*i* P		**Pn**	**08 13 37.3**	**+1.7**
MAJO	**Matsushiro**	**6.19**	**331**	Pn		**Pn**	**08 13 33.6**	**-2.0**
MAJO				Sn		**Sn**	**08 14 43.9**	**-1.2**
MAT	**Matsushiro**	**6.19**	**331**	P		**Pn**	**08 13 37.0**	**+1.4**
MAT				S		**Sn**	**08 14 45.3**	**+0.2**
JMM	**Marumori**	**6.74**	**352**	Pn		**Pn**	**08 13 41.6**	**-1.5**
JWT	**Wachi**	**6.85**	**308**	Pn		**Pn**	**08 13 42.1**	**-2.5**
JSD	**Sado**	**7.49**	**337**	Pn		**Pn**	**08 13 51.7**	**-1.6**
JTM	**Tenmabayashi**	**9.61**	**356**	Pn		**Pn**	**08 14 21.9**	**-0.6**
ERM	**Erimo**	**10.86**	**5**	P		**Pn**	**08 14 38.0**	**-1.5**
ERM	**Erimo**	**10.86**	**5**	Pn		**Pn**	**08 14 38.0**	**-1.5**
KSRS	**Korea Array**	**13.17**	**302**	Pn		**P**	**08 15 17.4**	**-3.3**
	0.1nm,0.3s,baz=111,slow=12,SNR=8.6							
USRK	**Ussuriysk Ar.**	**15.19**	**332**	Pn		**Pn**	**08 15 37.2**	**-1.2**
	baz=129,slow=12,SNR=8.0							
YSS	**Yuzh-Sakhalins**	**15.76**	**2**	*e*P		**Pn**	**08 15 43.3**	**-2.6**
YSS				pmax		pmax		
	comp=Z,10.0nm,1.1s							
YSS				MLR		MLR		
	comp=Z,100nm,13.0s							
MDJ	**Mudanjiang**	**16.56**	**328**	P		**Pn**	**08 15 56.4**	**+0.3**
MDJ				pmax		pmax		
	comp=Z,14nm,0.8s							
MDJ				pmax		pmax		
	comp=Z,130nm,4.5s							
CN2	**Changchun**	**18.13**	**319**	*e*P		**P**	**08 16 16.6**	**+0.9**
CN2				sP		pwP	08 16 29.8	-1.5
CN2				pmax		pmax		
	comp=Z,10.0nm,0.8s							
CN2				LR		LR		
	comp=Z,200nm,17.0s							
CN2				LR		LR		
	comp=Z,200nm,17.0s							
CN2				LR		LR		
	comp=Z,200nm,19.0s							
KLR	**Kul'dur**	**19.61**	**340**	P		**P**	**08 16 31.5**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=139,slow=11,SNR=14							
KLR	**Kul'dur**	**19.61**	**340**	*ce*P		**P**	**08 16 30.9**	**-0.9**
KLR				pmax		pmax		
	comp=Z,6.0nm,0.8s							
NJ2	**Nanjing**	**19.69**	**279**	*e*P		**Pn**	**08 16 34.6**	**+0.1**
NJ2				pmax		pmax		
	comp=Z,12nm,0.6s							
GRNR	**Gornyy**	**20.00**	**350**	⇑*i* P		Pn	08 16 43.2	+5.2
GRNR				pmax		pmax		
	comp=Z,10.0nm,0.7s							
SKR	**Severo-Kuril's**	**22.15**	**24**	*e*P		**P**	**08 16 57.9**	**-1.4**
SKR				pmax		pmax		
	comp=Z,128nm,1.2s							
SKR				MLR		MLR		
	comp=Z,1μm,18.0s							
SKR				MLR		MLR		
	comp=Z,1μm,13.0s							
BJI	**Beijing**	**22.69**	**300**	P		**P**	**08 17 04.8**	**-0.3**
BJI				pP		**pwP**	**08 17 17.9**	**-2.0**
BJI				sP		**sP**	**08 17 19.8**	**+3.2**
BJI				S		**S**	**08 21 15.8**	**+4.8**
BJI				pmax		pmax		
	comp=Z,11nm,1.0s							
BJI				LR		LR		
	comp=Z,120nm,8.7s							
BJI				LR		LR		
	comp=Z,67nm,9.9s							
BJI				LR		LR		
	comp=Z,180nm,13.6s							
ZEA	**Zeya**	**24.92**	**339**	*e*P		**P**	**08 17 29.0**	**+2.7**
ZEA				pmax		pmax		
	comp=N,30nm,0.8s							
ZEA				pmax		pmax		
	comp=E,10.0nm,0.7s							
ZEA				pmax		pmax		
	comp=Z,50nm,0.7s							
HHC	**Hu-ho-hao-te**	**26.30**	**300**	*e*P		**P**	**08 17 41.4**	**+2.3**
HHC				pmax		pmax		
	comp=Z,21nm,0.9s							
HHC				pmax		pmax		
	comp=Z,57nm,6.6s							
HHC				LR		LR		
	comp=Z,160nm,11.5s							
HHC				LR		LR		
	comp=Z,170nm,18.1s							
HHC				LR		LR		
	comp=Z,220nm,18.1s							
BTO	**Baotou**	**27.40**	**299**	*e*P		**P**	**08 17 51.3**	**+2.3**
BTO				LR		LR		
	comp=Z,260nm,13.1s							
BTO				LR		LR		
	comp=Z,560nm,18.8s							
XAN	**Xi'an**	**27.91**	**285**	P		**P**	**08 17 54.0**	**+0.5**
XAN				pP		sP	08 18 03.3	-2.2
GYA	**Guiyang**	**31.20**	**270**	⇑P		P	08 18 28.3	+5.5
GYA				pmax		pmax		
	comp=Z,13nm,0.7s							
ULN	**Ulaanbaatar**	**31.33**	**312**	*ce*P		**P**	**08 18 26.5**	**+2.7**
ULN				pmax		pmax		
	comp=Z,11nm,1.7s							
SONM	**Songino Array**	**31.74**	**312**	P		**P**	**08 18 29.6**	**+2.2**
	comp=Z,2.3nm,0.8s,baz=125,slow=9.3,SNR=12							
SONM	**Songino Array**	**31.74**	**312**	P		**P**	**08 18 25.5**	**-1.9**
SONM				IAmb		IAmb	08 18 44.9	
	comp=Z,8.5nm,1.2s							
YAK	**Yakutsk**	**31.88**	**349**	*i* P		**P**	**08 18 28.7**	**+0.5**
YAK				pmax		pmax		
	comp=Z,7.0nm,0.6s							
LZH	**Lanzhou**	**31.97**	**289**	*e*P		**P**	**08 18 31.5**	**+1.9**
LZH				pP		pP	08 18 36.4	-1.7
LZH				sP		sP	08 18 39.3	-2.4
LZH				pmax		pmax		
	comp=Z,25nm,1.1s							
GTA	**Gaotai**	**35.11**	**295**	*e*P		**P**	**08 18 58.4**	**+1.6**
GTA				pP		pwP	08 19 10.8	-2.2
GTA				sP		sP	08 19 14.9	+6.3
GTA				pmax		pmax		
	comp=Z,4.0nm,1.3s							
GTA				pmax		pmax		
	comp=Z,35nm,4.4s							
GTA				LR		LR		
	comp=Z,140nm,18.5s							
GTA				LR		LR		
	comp=Z,140nm,17.4s							
GTA				LR		LR		
	comp=Z,110nm,16.4s							
BILL	**Bilibino**	**39.54**	**14**	*e*P		**P**	**08 19 34.1**	**+0.2**
BILL				pmax		pmax		
	comp=Z,14nm,1.4s							
CMAR	**Chiang Mai Ar**	**40.80**	**262**	P		**P**	**08 19 46.5**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=51,slow=7.4,SNR=5.4							
CMAR	**Chiang Mai Arr**	**40.80**	**262**	P		**P**	**08 19 42.8**	**-2.2**
SOEI	**Soe**	**44.10**	**205**	P		**P**	**08 20 11.3**	**-0.5**
WMQ	**Urumqi**	**44.12**	**302**	*e*P		**P**	**08 20 15.8**	**+4.1**
DGZ	**Jazzator, Alta**	**44.38**	**311**	*i* P		**P**	**08 20 15.1**	**+1.3**
DGZ				pmax		pmax		
	comp=Z,6.0nm,0.9s							
COEN	**Coen**	**44.89**	**178**	P		**P**	**08 20 16.9**	**-1.1**
ZAA0	**Zalesovo Array**	**46.33**	**317**	P		**P**	**08 20 27.8**	**-1.2**
ZAA0				IAmb		IAmb	08 20 46.8	
	comp=Z,5.3nm,1.1s							
ZALV	**Zalesovo Beam**	**46.33**	**317**	P		**P**	**08 20 30.6**	**+1.6**
	comp=Z,3.4nm,0.8s,baz=76,slow=6.3,SNR=7.1							
ZALV	**Zalesovo Beam**	**46.33**	**317**	P		**P**	**08 20 28.0**	**-1.0**
MK31	**Makanchi Array**	**47.80**	**307**	*i* P		**P**	**08 20 42.1**	**+1.5**
MK31	**Makanchi Array**	**47.80**	**307**	P		**P**	**08 20 39.5**	**-1.1**
MK31				IAmb		IAmb	08 20 44.8	
	comp=Z,5.0nm,0.9s							
MKAR	**Makanchi Array**	**47.80**	**307**	P		**P**	**08 20 42.3**	**+1.7**
	comp=Z,5.2nm,0.9s,baz=90,slow=9.3,SNR=21							
MKAR	**Makanchi Array**	**47.80**	**307**	P		**P**	**08 20 39.4**	**-1.2**
MAKZ	**Makanchi**	**48.01**	**307**	P		**P**	**08 20 41.1**	**-1.2**
MAKZ				pmax		pmax		
	comp=Z,3.0nm,0.6s							
MAKZ	**Makanchi**	**48.01**	**307**	P		**P**	**08 20 41.1**	**-1.2**
MAKZ				IAmb		IAmb	08 21 03.1	
	comp=Z,3.1nm,0.6s							
PDGK	**Podgornoye**	**50.11**	**302**	P		**P**	**08 20 59.4**	**+0.9**
K20K	**Telida**	**50.99**	**31**	P		**P**	**08 21 05.2**	**+0.5**
KDAK	**Kodiak Island**	**51.26**	**39**	P		**P**	**08 21 06.8**	**0.0**
	comp=Z,4.0nm,0.6s,baz=262,slow=14,SNR=7.2							
KDAK	**Kodiak Island**	**51.26**	**39**	P		**P**	**08 21 07.2**	**+0.5**
KDAK				pmax		pmax		
	comp=Z,27nm,1.4s							
KDAK	**Kodiak Island**	**51.26**	**39**	P		**P**	**08 21 07.2**	**+0.5**
KDAK				IAmb		IAmb	08 21 20.9	
	comp=Z,27nm,1.4s							
WR0	**Warramunga Arr**	**51.34**	**189**	P		**P**	**08 21 07.3**	**-0.4**
WR0				IAmb		IAmb	08 21 10.1	
	comp=Z,19nm,1.1s							
WRAB	**Tennant Creek**	**51.34**	**189**	*ce*P		**P**	**08 21 08.4**	**+0.7**
WRAB				pmax		pmax		
	comp=Z,17nm,1.0s							
WRAB	**Tennant Creek**	**51.34**	**189**	P		**P**	**08 21 07.1**	**-0.7**
WRAB				IAmb		IAmb	08 21 10.5	
	comp=Z,14nm,0.8s							
WB2	**Warramunga Arr**	**51.35**	**189**	P		**P**	**08 21 06.8**	**-1.0**
WB2				IAmb		IAmb	08 21 10.6	
	comp=Z,15nm,0.8s							
WRA	**Warramunga Arr**	**51.35**	**189**	P		**P**	**08 21 09.1**	**+1.3**
	comp=Z,12nm,0.8s,baz=8.3,slow=7.1,SNR=51							
WRA	**Warramunga Arr**	**51.35**	**189**	P		**P**	**08 21 06.4**	**-1.5**
FITZ	**Fitzroy Crossi**	**51.45**	**200**	P		**P**	**08 21 08.4**	**-0.1**
IMAR	**Indian Mountai**	**51.52**	**28**	P		**P**	**08 21 10.2**	**+1.6**
PPLA	**Purkeypile**	**51.79**	**32**	P		**P**	**08 21 11.6**	**+0.8**
PPLA				IAmb		IAmb	08 21 35.5	
	comp=Z,16nm,1.5s							
H21K	**Melozitna Rive**	**51.85**	**29**	P		**P**	**08 21 12.7**	**+1.6**
H21K				IAmb		IAmb	08 21 40.5	
	comp=Z,9.2nm,1.4s							
CAST	**Castle Rocks**	**51.89**	**31**	P		**P**	**08 21 11.9**	**+0.5**
MDOK	**Medeo**	**51.90**	**303**	P		**P**	**08 21 13.7**	**+1.8**
SUA	**Susitna One**	**52.35**	**34**	P		**P**	**08 21 15.6**	**+0.6**
SUA				IAmb		IAmb	08 21 19.0	
	comp=Z,11nm,1.2s							
TKM2	**Tokmak 2**	**52.98**	**303**	P		**P**	**08 21 22.4**	**+2.3**
H23K	**Yukon River**	**53.21**	**29**	P		**P**	**08 21 21.2**	**+0.1**
H23K				IAmb		IAmb	08 21 24.6	
	comp=Z,7.9nm,1.2s							
KSH	**Kashi**	**53.39**	**298**	P		P	08 21 29.1	+6.1
KSH				sP		pwP	08 21 43.0	+4.4
KSH				PcS		**PcS**	**08 26 27.6**	**-1.5**
KSH				pmax		pmax		
	comp=Z,8.0nm,0.9s							
SML	**Sawmill**	**53.52**	**34**	P		**P**	**08 21 24.9**	**+1.3**
SML				IAmb		IAmb	08 21 41.6	
	comp=Z,6.9nm,1.0s							
AAK	**Ala-Archa**	**53.84**	**302**	*ce*P		**P**	**08 21 28.6**	**+2.3**
AAK				pmax		pmax		
	comp=Z,12nm,0.8s							
AAK	**Ala-Archa**	**53.84**	**302**	P		**P**	**08 21 25.2**	**-1.1**
H24K	**Noodor Dome**	**53.90**	**29**	P		**P**	**08 21 27.5**	**+1.2**
SCM	**Sheep Creek Mo**	**54.00**	**34**	P		**P**	**08 21 28.1**	**+1.1**
SCM				pmax		pmax		
	comp=Z,26nm,1.4s							
SCM	**Sheep Creek Mo**	**54.00**	**34**	P		**P**	**08 21 28.1**	**+1.1**
ILAR	**Eielson Array**	**54.26**	**30**	P		**P**	**08 21 28.5**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=264,slow=6.3,SNR=12							
BRVK	**Borovoye**	**55.01**	**316**	*ce*P		**P**	**08 21 35.8**	**+1.4**
BRVK				pmax		pmax		
	comp=Z,5.0nm,1.0s							
AS31	**Alice Springs**	**55.08**	**189**	P		**P**	**08 21 35.2**	**0.0**
AS31				IAmb		IAmb	08 21 38.1	
	comp=Z,2.5nm,0.5s							
ASAR	**Alice Springs**	**55.08**	**189**	P		**P**	**08 21 36.3**	**+1.1**
	comp=Z,2.9nm,0.5s,baz=0.6,slow=5.6,SNR=44							
ASAR	**Alice Springs**	**55.08**	**189**	P		**P**	**08 21 34.1**	**-1.1**
BMAR	**Burnt Mountain**	**55.29**	**27**	P		**P**	**08 21 36.8**	**+0.5**
KK31	**Karatay Array**	**56.60**	**304**	*i* P		**P**	**08 21 48.0**	**+2.0**
KK31	**Karatay Array**	**56.60**	**304**	P		**P**	**08 21 45.3**	**-0.7**
KK31				IAmb		IAmb	08 22 04.2	
	comp=Z,13nm,1.0s							
KKAR	**Karatay Array**	**56.60**	**304**	P		**P**	**08 21 45.8**	**-0.2**
KKAR				pmax		pmax		
	comp=Z,13nm,1.0s							
KKAR	**Karatay Array**	**56.60**	**304**	P		**P**	**08 21 45.8**	**-0.2**
KKAR				IAmb		IAmb	08 22 04.2	
	comp=Z,13nm,1.0s							
KKAR	**Karatay Array**	**56.60**	**304**	P		**P**	**08 21 45.4**	**-0.6**
GAR	**Garm**	**57.77**	**299**	P		**P**	**08 21 53.4**	**-1.1**
EPYK	**Eagle Plains**	**58.42**	**28**	P		**P**	**08 21 59.8**	**+1.3**
EPYK				IAmb		IAmb	08 22 15.8	
	comp=Z,16nm,1.5s							
CHGR	**Chuyangaron**	**58.74**	**299**	P		**P**	**08 22 01.0**	**-0.2**
ARU	**Arti**	**61.11**	**321**	*c i* P		**P**	**08 22 18.6**	**+1.5**
ARU							08 24 29.1	
ARU				S		**S**	**08 30 38.1**	**+4.5**
ARU				SS		**SS**	**08 34 32.5**	**-0.7**
ARU				pmax		pmax		
	comp=Z,11nm,1.0s							
ARU	**Arti**	**61.11**	**321**	P		**P**	**08 22 17.2**	**+0.2**
ARU				IAmb		IAmb	08 22 46.7	
	comp=Z,12nm,1.0s							
AB31	**Akbulak array**	**62.15**	**313**	*i* P		**P**	**08 22 25.7**	**+1.5**
ABKAR	**Akbulak array**	**62.15**	**313**	P		**P**	**08 22 23.4**	**-0.8**
ABKAR				IAmb		IAmb	08 22 29.3	
	comp=Z,7.5nm,1.5s							
NWAO	**Narrogin (SRO)**	**67.91**	**202**	P		**P**	**08 23 01.3**	**-0.4**
NWAO				pmax		pmax		
	comp=Z,27nm,1.3s							
NWAO	**Narrogin (SRO)**	**67.91**	**202**	P		**P**	**08 23 01.3**	**-0.4**
KLMR	**Klimovskoe**	**68.97**	**329**	*e*P		**P**	**08 23 08.0**	**0.0**
KLMR				pmax		pmax		
	comp=Z,15nm,1.8s							
KLMR	**Klimovskoe**	**68.97**	**329**	*e*P		**P**	**08 23 08.0**	**0.0**
KLMR				AMP			08 23 09.1	
	comp=Z,15nm,1.8s							
AKT	**Akhty**	**72.99**	**308**	*e*P		**P**	**08 23 35.0**	**+2.0**
AKT				*e*			08 23 51.5	
AKT				pmax		pmax		
	comp=Z,16nm,1.1s							
OBN	**Obninsk**	**73.08**	**325**	*e*P		**P**	**08 23 34.7**	**+1.7**
OBN				*e*			08 23 50.2	
OBN				pmax		pmax		
	comp=Z,4.0nm,0.8s							
KBZ	**Khabaz**	**75.11**	**312**	P		**P**	**08 23 48.8**	**+3.7**
	comp=Z,3.1nm,0.7s,baz=45,slow=8.6,SNR=6.0							
KBZ	**Khabaz**	**75.11**	**312**	*i* P		**P**	**08 23 46.5**	**+1.4**
KBZ				pmax		pmax		
	comp=Z,4.0nm,0.9s							
KIV	**Kislovodsk**	**75.13**	**312**	*e*P		**P**	**08 23 45.7**	**+0.3**
KIV				pmax		pmax		
	comp=Z,7.0nm,1.1s							
KIV				MLR		MLR		
	comp=Z,25nm,18.0s							
MNK	**Minsk**	**77.61**	**327**	*i* P		**P**	**08 23 55.8**	**-3.3**
MNK				*i*			08 24 05.6	
MNK				*i*			08 26 50.6	
MNK				*i* PPP		PPP	08 28 38.3	
MNK				*i* S		**S**	**08 33 45.4**	**-2.6**
MNK				*i* SS		**SS**	**08 38 46.1**	**-0.8**
MNK				*i* SSS		SSS	08 42 10.7	
MNK				pmax		pmax		
	comp=E,1.0nm,0.6s							
MNK				pmax		pmax		
	comp=Z,8.0nm,0.6s							
MNK				pmax		pmax		
	comp=N,2.0nm,0.3s							
MNK				MLR		MLR		
	comp=Z,125nm,18.0s							
MNK				MLR		MLR		
	comp=E,1μm,18.0s							
MNK				MLR		MLR		
	comp=N,224nm,18.0s							
MNK	**Minsk**	**77.61**	**327**	*i* P		**P**	**08 23 55.8**	**-3.3**
	comp=E,1.0nm,0.6s							
MNK				*i* P		**P**	**08 23 55.8**	**-3.3**
	comp=N,2.0nm,0.3s							
MNK				*i* P		**P**	**08 23 55.8**	**-3.3**
	comp=Z,8.0nm,0.6s,baz=53							
MNK				*i* PcP		**pP**	**08 24 05.7**	**-2.4**
MNK				*i* PP		**PP**	**08 26 50.7**	**-3.1**
MNK				*i* PPP		PPP	08 28 38.4	
MNK				*i* S		**S**	**08 33 45.5**	**-2.6**
MNK				*i* SS		**SS**	**08 38 46.1**	**-0.8**
MNK				*i* SSS		SSS	08 42 10.7	
MNK				*i* LQ		LQ	08 51 07.9	
MNK				*i* LR		LR	08 56 28.9	
MNK				*i* LRM		MLR	08 59 51.1	
	comp=Z,125nm,18.1s							
MNK				*i* LRM		MLR	08 59 52.9	
	comp=E,1μm,18.1s							
MNK				*i* LRM		MLR	08 59 54.2	
	comp=N,224nm,18.1s							
LRM	**Limekiln Ridge**	**78.04**	**44**	P		**P**	**08 24 03.4**	**+1.4**
NVAR	**Mina Array Bea**	**78.17**	**52**	P		**P**	**08 24 03.6**	**+0.8**
	comp=N,0.9nm,0.7s,baz=288,slow=6.0,SNR=8.2							
NVAR	**Mina Array Bea**	**78.17**	**52**	P		**P**	**08 24 03.4**	**+0.5**
AKASG	**Malin Array Be**	**79.22**	**323**	P		**P**	**08 24 09.2**	**+1.2**
	comp=N,1.6nm,0.6s,baz=50,slow=5.4,SNR=4.1							
AKASG	**Malin Array Be**	**79.22**	**323**	P		**P**	**08 24 07.0**	**-1.0**
NB2	**NORSAR Subarra**	**79.76**	**338**	P		**P**	**08 24 11.5**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=41,slow=5.6							
NOA	**NORSAR Array B**	**79.76**	**338**	P		**P**	**08 24 11.4**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=40,slow=5.4,SNR=5.4							
PDAR	**Pinedale Array**	**81.46**	**45**	P		**P**	**08 24 21.2**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=238,slow=1.4,SNR=5.4							
PDAR	**Pinedale Array**	**81.46**	**45**	P		**P**	**08 24 20.0**	**-0.6**
BR131	**Keskin Array S**	**83.10**	**312**	P		**P**	**08 24 28.7**	**-0.4**
BR131				pmax		pmax		
	comp=Z,7.0nm,1.1s							
BR131	**Keskin Array S**	**83.10**	**312**	P		**P**	**08 24 28.7**	**-0.4**
BR131				IAmb		IAmb	08 24 47.6	
	comp=Z,6.5nm,1.1s							
BRTR	**Keskin Array B**	**83.10**	**312**	P		**P**	**08 24 31.1**	**+2.0**
	comp=Z,1.8nm,0.8s,baz=101,slow=3.1,SNR=8.0							
BRTR	**Keskin Array B**	**83.10**	**312**	*ce*P		**P**	**08 24 30.7**	**+1.6**
BRTR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
BRTR	**Keskin Array B**	**83.10**	**312**			**P**	**08 24 28.2**	**-0.9**
BURAR	**Bucovina Array**	**83.20**	**323**	P		**P**	**08 24 28.2**	**-1.2**
OJC	**Ojcow**	**84.16**	**327**	*e*P		**P**	**08 24 35.0**	**+0.8**
OJC	**Ojcow**	**84.16**	**327**	P		**P**	**08 24 35.1**	**+1.0**
OJ

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.79**	**285**	⇓*iP*	**Pg**	**08 39 36.1**	**-0.7**
DRK	baz=84			⇓*iS*	**Sg**	**08 39 47.1**	**0.0**
SFK	**Sufi-Kurgan**	**0.92**	**37**	⇑*iP*	**Pg**	**08 39 37.7**	**-1.6**
SFK	baz=36			⇑*iS*	**Sg**	**08 39 49.7**	**-1.6**
OHH	**Osh**	**1.24**	**0**	⇑*iP*	**Pn**	**08 39 44.0**	**-1.1**
OHH	baz=59			⇑*iS*	**Sb**	**08 40 00.9**	**-0.4**
BTK	**Batken**	**1.70**	**298**	⇑*iP*	**Pb**	**08 39 53.1**	**0.0**
BTK	baz=97			⇑*iS*	**Sg**	**08 40 16.0**	**-0.4**
GAR	**Garm**	**1.94**	**262**	⇓*iP*	**Pb**	**08 39 56.7**	**-0.4**
GAR	baz=62			⇓*iS*	**Sg**	**08 40 23.6**	**-0.3**
TRKS	**Terek-Say**	**2.57**	**331**	⇓*iP*	**Pn**	**08 40 04.1**	**+0.6**
TRKS	baz=30			⇓*iS*	**Sn**	**08 40 35.6**	**+0.7**
CHGR	**Chuyangaron**	**2.89**	**259**	⇑*eP*	**Pn**	**08 40 09.9**	**+2.1**
CHGR	baz=59			⇑*iS*	**Sb**	**08 40 46.1**	**-2.7**
AML	**Almayashu**	**2.93**	**13**	⇑*iP*	**Pn**	**08 40 09.5**	**+0.9**
AML	baz=13			⇑*iS*	**Sn**	**08 40 45.5**	**+1.4**
MNAS	**Manas**	**3.21**	**356**	⇑*iP*	**Pn**	**08 40 13.9**	**+1.7**
MNAS	baz=56			⇑*iS*	**Sn**	**08 40 53.1**	**+2.5**
UCH	**Uchtor**	**3.22**	**24**	⇓*eP*	**Pn**	**08 40 13.9**	**+1.2**
UCH	baz=23			⇓*iS*	**Sn**	**08 40 53.2**	**+1.8**
EKS2	**Erkin-Say**	**3.46**	**12**	⇑*iP*	**Pn**	**08 40 17.2**	**+1.5**
EKS2	baz=12			⇑*iS*	**Sn**	**08 40 58.7**	**+1.9**
MRKS	**Merke**	**3.48**	**5**	*eP*	**Pb**	**08 40 22.6**	**-0.7**
MRKS	14nm,0.4s			*eS*	**Sg**	**08 41 14.0**	**+0.7**
MRKS	27nm,0.2s **Merke**	**3.48**	**5**	Pg	**Pb**	**08 40 22.6**	**-0.7**
MRKS	14nm,0.4s			Lg	Lg	08 41 14.0	
IUG	27nm,0.2s **Iuzhnay**	**3.54**	**325**	*eP*	**Pb**	**08 40 22.4**	**-2.0**
IUG	2μm,0.3s			*eS*	**Sg**	**08 41 13.4**	**-2.0**
IUG	65nm,0.6s **Iuzhnay**	**3.54**	**325**	Pg	**Pb**	**08 40 22.4**	**-2.0**
IUG	2μm,0.3s			Lg	Lg	08 41 13.4	
AAK	65nm,0.6s **Ala-Archa**	**3.59**	**21**	⇑*iP*	**Pn**	**08 40 19.0**	**+1.5**
AAK	baz=20			⇑*iS*	**Sn**	**08 41 01.8**	**+1.7**
AAK	baz=20 **Ala-Archa**	**3.59**	**21**	⇓Pg	**Pb**	**08 40 24.4**	**-1.0**
AAK	12nm,0.5s			⇑Lg	Lg	08 41 17.9	
ULHL	22nm,0.6s **Ulahol**	**3.96**	**40**	⇑*eP*	**Pn**	**08 40 24.0**	**+1.4**
ULHL	baz=40			⇑*iS*	**Sn**	**08 41 10.4**	**+1.2**
BOOM	**Boomskoye usch**	**4.00**	**36**	⇑*eP*	**Pn**	**08 40 24.8**	**+1.7**
BOOM	baz=36			⇑*eS*	**Sn**	**08 41 12.0**	**+1.8**
KK31	**Karatay Array**	**4.19**	**337**	⇑Pn	**Pn**	**08 40 29.7**	**+4.2**
KK31	3.2nm,0.3s,baz=152,slow=12,SNR=109			⇓Sn	**Sb**	**08 41 21.2**	**-4.7**
TKM2	12nm,0.7s,baz=144,slow=23,SNR=5.1 **Tokmak 2**	**4.21**	**29**	⇓Pg	**Pb**	**08 40 32.6**	**-3.3**
TKM2	0.8nm,0.3s			⇓Lg	Lg	08 41 37.3	
SGDS	8.3nm,0.7s **Sogindy**	**4.39**	**18**	Pg	**Pb**	**08 40 38.1**	**-0.8**
SGDS	6.0nm,0.4s			Lg	Lg	08 41 40.4	
KST	12nm,0.5s **Kastek**	**4.46**	**32**	*eP*	**Pb**	**08 40 40.3**	**+0.3**
KST	8.3nm,0.4s			*eS*	**Sg**	**08 41 44.6**	**-0.2**
KST	17nm,0.4s **Kastek**	**4.46**	**32**	Pg	**Pb**	**08 40 40.3**	**+0.3**
KST	8.3nm,0.4s			Lg	Lg	08 41 44.6	
DGS	17nm,0.4s **Degeres**	**4.55**	**29**	*eP*	**Pb**	**08 40 42.9**	**+1.2**
DGS	7.7nm,0.2s			*eS*	**Sg**	**08 41 48.8**	**+1.0**
DGS	11nm,0.4s **Degeres**	**4.55**	**29**	Pg	**Pb**	**08 40 42.9**	**+1.2**
DGS	7.7nm,0.2s			Lg	Lg	08 41 48.8	
MTBS	11nm,0.4s **Maitube**	**4.73**	**34**	*eP*	**Pb**	**08 40 43.8**	**-0.9**
MTBS	6.1nm,0.3s			*eS*	**Sg**	**08 41 50.2**	**-3.2**
MTBS	8.7nm,0.3s **Maitube**	**4.73**	**34**	Pg	**Pb**	**08 40 43.8**	**-0.9**
MTBS	6.1nm,0.3s			Lg	Lg	08 41 50.2	
IZV	8.7nm,0.3s **Izvestkoviy**	**4.74**	**36**	*eP*	**Pb**	**08 40 43.9**	**-0.9**
IZV	5.5nm,0.3s			*eS*	**Sg**	**08 41 50.5**	**-3.2**
IZV	17nm,0.5s **Izvestkoviy**	**4.74**	**36**	Pg	**Pb**	**08 40 43.9**	**-0.9**
IZV	5.5nm,0.3s			Lg	Lg	08 41 50.5	
TNSS	17nm,0.5s **Tian-Shan**	**4.89**	**39**	*eP*	**Pb**	**08 40 47.9**	**+0.3**
TNSS	3.9nm,0.3s			*eS*	**Sg**	**08 41 57.4**	**-1.4**
TNSS	6.7nm,0.4s **Tian-Shan**	**4.89**	**39**	Pg	**Pb**	**08 40 47.9**	**+0.3**
TNSS	3.9nm,0.3s			Lg	Lg	08 41 57.4	
KRBS	6.7nm,0.4s **Karabastau**	**4.92**	**25**	*eP*	**Pb**	**08 40 49.7**	**+1.9**
KRBS	2.8nm,0.3s			*eS*	**Sg**	**08 42 00.6**	**+1.1**
KRBS	9.9nm,0.4s **Karabastau**	**4.92**	**25**	Pg	**Pb**	**08 40 49.7**	**+1.9**
KRBS	2.8nm,0.3s			Lg	Lg	08 42 00.6	
MDOK	9.9nm,0.4s **Medeo**	**5.04**	**38**	*eP*	**Pb**	**08 40 50.0**	**0.0**
MDOK	2.0nm,0.4s			*eS*	**Sg**	**08 42 00.8**	**-2.6**
MDOK	8.5nm,0.5s **Medeo**	**5.04**	**38**	Pg	**Pb**	**08 40 49.4**	**-0.6**
MDOK	4.5nm,0.8s			⇑Lg	Lg	08 42 01.7	
MDOK	20nm,1.0s **Medeo**	**5.04**	**38**	Pg	**Pb**	**08 40 50.0**	**0.0**
MDOK	2.0nm,0.4s			Lg	Lg	08 42 00.8	
KOTS	8.5nm,0.5s **Kotyrbulak**	**5.12**	**38**	*eP*	**Pb**	**08 40 52.0**	**+0.6**
KOTS	5.8nm,0.2s			*eS*	**Sg**	**08 42 04.5**	**-1.5**
KOTS	30nm,0.6s **Kotyrbulak**	**5.12**	**38**	Pg	**Pb**	**08 40 52.0**	**+0.6**
KOTS	5.8nm,0.2s			Lg	Lg	08 42 04.5	
KTBS	30nm,0.6s **Karatobe**	**5.31**	**32**	*eP*	**Pb**	**08 40 56.8**	**+2.3**
KTBS	2.7nm,0.6s			*eS*	**Sg**	**08 42 13.0**	**+1.0**
KTBS	19nm,0.3s **Karatobe**	**5.31**	**32**	Pg	**Pb**	**08 40 56.8**	**+2.3**
KTBS	2.7nm,0.6s			Lg	Lg	08 42 13.0	
KUU	19nm,0.3s **Kurty**	**5.32**	**29**	*eP*	**Pb**	**08 40 56.4**	**+1.6**
KUU	3.8nm,0.3s			*eS*	**Sg**	**08 42 11.9**	**-0.6**
KUU	9.0nm,0.4s **Kurty**	**5.32**	**29**	Pg	**Pb**	**08 40 56.4**	**+1.6**
KUU	3.8nm,0.3s			Lg	Lg	08 42 11.9	
CHKK	9.0nm,0.4s **Chushkaly**	**5.55**	**33**	*eP*	**Pb**	**08 41 00.4**	**+1.8**
CHKK	2.3nm,0.5s			*eS*	**Sg**	**08 42 18.8**	**-1.0**
CHKK	12nm,0.2s **Chushkaly**	**5.55**	**33**	Pg	**Pb**	**08 41 00.4**	**+1.8**
CHKK	2.3nm,0.5s			Lg	Lg	08 42 18.8	
SATY	12nm,0.2s **Saty**	**5.68**	**47**	*eP*	**Pb**	**08 41 01.6**	**+0.8**
SATY	3.4nm,0.4s			*eS*	**Sg**	**08 42 20.8**	**-3.1**
SATY	9.6nm,0.6s **Saty**	**5.68**	**47**	Pg	**Pb**	**08 41 01.6**	**+0.8**
SATY	3.4nm,0.4s			Lg	Lg	08 42 20.8	
BTLS	9.6nm,0.6s **Baital**	**5.83**	**9**	*eP*	**Pb**	**08 41 07.3**	**+3.9**
BTLS	2.1nm,0.3s			*eS*	**Sg**	**08 42 30.3**	**+1.5**
BTLS	4.1nm,0.4s **Baital**	**5.83**	**9**	Pg	**Pb**	**08 41 07.3**	**+3.9**
BTLS	2.1nm,0.3s			Lg	Lg	08 42 30.3	
UZB	4.1nm,0.4s **Uzynbulak**	**6.09**	**49**	*eP*	**Pb**	**08 41 09.0**	**+1.2**
UZB	2.2nm,0.2s			*eS*	**Sg**	**08 42 33.7**	**-3.3**
UZB	3.3nm,0.7s **Uzynbulak**	**6.09**	**49**	Pg	**Pb**	**08 41 09.0**	**+1.2**
UZB	2.2nm,0.2s			Lg	Lg	08 42 33.7	
ARXS	3.3nm,0.7s **Arharly**	**6.21**	**36**	*eP*	**Pb**	**08 41 11.9**	**+2.1**
ARXS	4.0nm,0.5s			*eS*	**Sg**	**08 42 38.7**	**-2.0**
ARXS	11nm,0.3s **Arharly**	**6.21**	**36**	Pg	**Pb**	**08 41 11.9**	**+2.1**
ARXS	4.0nm,0.5s			Lg	Lg	08 42 38.7	
PDGK	11nm,0.3s **Podgornoye**	**6.47**	**49**	Pg	**Pb**	**08 41 16.4**	**+2.1**
PDGK	1.2nm,0.7s			Lg	Lg	08 42 46.5	
	3.5nm,0.6s						

IDC 15 08:44:47.9±6.3, 7°.90S×124°.25E, h138km±70km, mb3.0/1, mb1 3.0/5, mb1mx2.9/42, mbtmp3.3/5, Error ellipse: s-maj=94.3km s-min=30.0km az=46.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.36**	**194**	P	Pn	08 45 28.0	+1.2
BATI	19nm,0.3s,baz=97,slow=8.1,SNR=4.5			S	Sn	08 45 57.0	+0.3
FITZ	10nm,0.3s,baz=204,slow=18,SNR=4.3 **Fitzroy Crossi**	**10.22**	**173**	P	Pn	08 47 09.7	-1.5
FITZ	0.1nm,0.3s,baz=2.2,slow=12,SNR=5.6			S	Sn	08 48 54.3	-10
WRA	0.3nm,0.3s,baz=125,slow=20,SNR=8.5 **Warramunga Arr**	**15.46**	**142**	P	Pn	08 48 19.3	+0.6
ASAR	0.1nm,0.3s,baz=321,slow=13,SNR=6.4 **Alice Springs**	**18.20**	**151**	P	P	08 48 51.2	+0.7
MKAR	0.1nm,0.3s,baz=332,slow=13,SNR=5.3 **Makanchi Array**	**65.99**	**330**	P	P	08 55 19.5	-0.1
	0.2nm,0.5s,baz=128,slow=7.1,SNR=3.4						

IDC 15 08:52:23.4±25.0, 1°.98N×124°.47E, h316km±282km, mb3.1/4, mb1 3.1/5, mb1mx2.9/36, mbtmp3.7/5, ML3.3/1, Error ellipse: s-maj=171.3km s-min=26.6km az=52.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.99**	**177**	P	P	08 56 33.6	+0.3
WRA	0.1nm,0.3s,baz=351,slow=10,SNR=3.3 **Warramunga Arr**	**23.84**	**156**	P	P	08 57 08.3	-0.7
ASAR	1.6nm,0.3s,baz=334,slow=10,SNR=55 **Alice Springs**	**27.10**	**161**	P	P	08 57 37.9	-0.3
STKA	0.2nm,0.3s,baz=339,slow=8.1,SNR=8.8 **Stephens Creek**	**37.39**	**156**	P	P	08 59 07.6	+0.8
MKAR	0.5nm,0.3s,baz=322,slow=11,SNR=4.7 **Makanchi Array**	**57.74**	**327**	P	P	09 01 41.9	-0.1
	0.7nm,0.4s,baz=129,slow=7.2,SNR=10						

*KRNET **15** 09:41:21.6±0.1, 43°.12N×69°.24E, mb3.2*
*SOME **15** 09:41:21.4, 43°.62N×69°.67E*
*NNC **15** 09:41:24.1±1.1, 43°.60N×69°.79E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=6.7km s-min=5.1km az=106.0, Suspected Mining explosion.*

ISC 15 09:41:23.0±2.1, 43°.65N±0°.07×69°.94E±0°.08, h0km, n23, σ1°49/30, 11C-5D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.68**	**142**	⇓P	**Pb**	**09 41 37.5**	**-0.3**
KK31	2.8nm,0.4s,baz=270,slow=11,SNR=44			S	**Sb**	**09 41 48.3**	**+0.6**
IUG	18nm,0.5s,baz=297,slow=29,SNR=84 **Iuzhnay**	**1.50**	**177**	P	**Pg**	**09 41 51.4**	**-0.3**
IUG	355nm,0.5s			S	**Sg**	**09 42 13.1**	**+2.0**
MNAS	63nm,0.3s **Manas**	**2.21**	**121**	⇓*iP*	**Pg**	**09 42 05.1**	**-0.1**
MNAS	baz=3.0			⇓*iS*	**Sg**	**09 42 36.9**	**+3.1**
TRKS	baz=3.0 **Terek-Say**	**2.29**	**157**	⇑*iP*	**Pn**	**09 42 01.5**	**-0.7**
TRKS	baz=38			⇑*iS*	**Sn**	**09 42 31.2**	**0.0**
MRKS	baz=38 **Merke**	**2.56**	**109**	Pg	**Pg**	**09 42 12.1**	**0.0**
MRKS	3.9nm,0.5s			Lg	Lg	09 42 48.9	
EKS2	12nm,0.2s **Erkin-Say**	**2.97**	**108**	⇑*eP*	**Pg**	**09 42 17.8**	**-2.2**
EKS2	baz=96			⇑*iS*	**Sg**	**09 42 58.8**	**+0.3**
BTLS	baz=96 **Baital**	**3.26**	**63**	Pg	**Pg**	**09 42 27.2**	**+1.8**
BTLS	14nm,0.5s			Lg	Lg	09 43 14.5	
USP	5.1nm,0.4s **Ospenovka**	**3.34**	**95**	⇑*iP*	**Pg**	**09 42 25.0**	**-2.0**
USP	baz=86			⇑*iS*	**Sg**	**09 43 11.4**	**+1.1**
SGDS	baz=86 **Sogindy**	**3.41**	**92**	Pg	**Pg**	**09 42 28.8**	**+0.4**
SGDS	3.1nm,0.4s			Lg	Lg	09 43 16.6	
AAK	8.8nm,0.2s **Ala-Archa**	**3.48**	**105**	⇓*iP*	**Pb**	**09 42 25.1**	**-0.5**
AAK	baz=95			⇓*iS*	**Sb**	**09 43 11.7**	**+3.2**
AAK	baz=95 **Ala-Archa**	**3.48**	**105**	⇑Pg	**Pg**	**09 42 28.0**	**-1.7**
AAK	4.2nm,0.5s			⇑Lg	Lg	09 43 17.7	
UCH	10.0nm,0.7s **Uchtor**	**3.64**	**111**	⇑*eP*	**Pb**	**09 42 26.5**	**-2.0**
UCH	baz=1.0			⇑*iS*	**Sb**	**09 43 13.8**	**+0.4**
KRBS	baz=1.0 **Karabastau**	**4.16**	**87**	Pg	**Pg**	**09 42 42.0**	**-0.7**
KRBS	4.6nm,0.2s			Lg	Lg	09 43 40.1	
TKM2	12nm,0.3s **Tokmak 2**	**4.19**	**98**	⇑Lg	Lg	09 43 41.5	
DGS	8.1nm,0.8s **Degeres**	**4.26**	**93**	Pg	**Pg**	**09 42 45.2**	**+0.5**
DGS	3.7nm,0.4s			Lg	Lg	09 43 45.4	
KST	11nm,0.4s **Kastek**	**4.43**	**96**	Pg	**Pg**	**09 42 46.7**	**-1.2**
KST	6.3nm,0.4s			Lg	Lg	09 43 48.0	
KUU	10.0nm,0.7s **Kurty**	**4.64**	**85**	Pg	**Pg**	**09 42 50.4**	**-1.4**
KUU	1.9nm,0.2s			Lg	Lg	09 43 54.5	
KTBS	11nm,0.2s **Karatobe**	**4.89**	**87**	Pg	**Pg**	**09 42 55.7**	**-1.0**
KTBS	2.8nm,0.3s			Lg	Lg	09 44 03.4	
IZV	8.5nm,0.4s **Izvestkoviy**	**4.90**	**95**	Pg	**Pg**	**09 42 55.6**	**-1.4**
IZV	2.3nm,0.2s			Lg	Lg	09 44 03.1	
TNSS	9.5nm,0.4s **Tian-Shan**	**5.15**	**94**	Pg	**Pg**	**09 42 59.9**	**-1.7**
TNSS	1.6nm,0.4s			Lg	Lg	09 44 10.7	
ARXS	4.1nm,0.5s **Arharly**	**5.72**	**82**	Pg	**Pg**	**09 43 11.4**	**-1.2**
ARXS	2.7nm,0.2s			Lg	Lg	09 44 30.8	
SATY	6.1nm,0.3s **Saty**	**6.20**	**93**	Pg	**Pg**	**09 43 21.0**	**-0.7**
SATY	1.6nm,0.2s			Lg	Lg	09 44 47.4	
PDGK	6.8nm,0.3s **Podgornoye**	**6.95**	**89**	Pg	**Pg**	**09 43 34.6**	**-1.6**
PDGK	0.6nm,0.5s			Lg	Lg	09 45 09.9	
	1.1nm,0.7s						

MEX 15 09:58:38.8±1.0, 16°.90N×91°.51W, h66km±102km, MD3.7, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.86**	**225**	*i*P	Pn	09 58 53.5	-2.0
CCIG				*i*S	Sn	09 59 06.3	-1.5
TGIG		**1.55**	**266**	*i*P	Pn	09 59 07.9	+3.5
TGIG				*i*S	Sn	09 59 27.5	+3.8

*KOLA **15** 10:00:41.9, 64°.61N×31°.07E, h0km, ML2.3, Karelia*
*IDC **15** 10:00:44.6±1.8, 64°.69N×30°.40E, h0km, mb1 3.1/3, mb1mx3.0/29, mbtmp2.9/3, ML2.1/3, Error ellipse: s-maj=27.7km s-min=9.4km az=104.0*
*UPP **15** 10:00:52.2±2.6, 64°.80N×28°.89E, h0km, ML1.8, Suspected explosion*

ISC 15 10:00:44.1±1.3, 64°.71N±0°.07×30°.32E±0°.08, h13km, n13, σ1°75/17, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**3.11**	**19**	P	**Pn**	**10 01 31.6**	**-1.2**
APA0				S	**Sn**	**10 02 08.7**	**-1.0**
APA	**Apatity**	**3.14**	**22**	P	**Pn**	**10 01 31.7**	**-1.4**
APA				S	**Sn**	**10 02 08.9**	**-1.4**
SJUU	**Sjulsmark**	**3.77**	**286**	P	**Pn**	**10 01 43.5**	**+1.7**
FINES	**FINESS Array B**	**3.80**	**212**	Pn	**Pn**	**10 01 42.9**	**+0.6**
FINES	0.1nm,0.3s,baz=37,slow=14,SNR=5.4			Pg	**Pb**	**10 01 51.8**	**+0.9**
FINES	0.9nm,0.3s,baz=31,slow=15,SNR=11			Lg	Lg	10 02 40.7	
	1.8nm,0.3s,baz=40,slow=28,SNR=7.7						
ODEU	**Stanfors**	**4.15**	**270**	P	**Pn**	**10 01 47.4**	**+0.3**
ODEU				S	**Sn**	**10 02 30.9**	**-4.5**
LILU	**Lilltraesk**	**4.48**	**282**	P	**Pn**	**10 01 53.0**	**+1.4**
SVAU	**Svanoeiden**	**4.63**	**272**	P	**Pn**	**10 01 54.0**	**+0.4**
HUSU	**Husum**	**5.07**	**259**	P	**Pn**	**10 02 01.2**	**+1.5**
ARCES	**ARCESS Array B**	**5.20**	**341**	Pn	**Pn**	**10 02 00.9**	**-0.5**
ARCES	baz=154,slow=14,SNR=19			Sn	**Sn**	**10 03 01.2**	**0.0**
ARCES	baz=154,slow=23,SNR=5.7			Lg	Lg	10 03 23.4	
	baz=154,slow=29,SNR=8.5						
KOVU	**Salmi**	**5.38**	**315**	P	**Pn**	**10 02 05.9**	**+1.9**
I37NO	**I37NO**	**6.35**	**319**	*i*		10 45 05.0	
	baz=129,slow=322,SNR=2.5						
ARNU	**Arnoeviken**	**6.58**	**249**	P	**Pn**	**10 02 22.1**	**+1.6**
NOA	**NORSAR Array B**	**9.45**	**256**	Pn	**Pn**	**10 02 59.8**	**0.0**
	0.0nm,0.3s,baz=63,slow=14,SNR=2.7						

*IDC **15** 10:04:36.6±5.4, 5°.82S×106°.05E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.3/31, mbtmp3.4/2, Error ellipse: s-maj=199.9km s-min=84.1km az=47.4*
*DJA **15** 10:04:45.2±0.9, 7°.5±4°×10°.6E±°, h11km±8km, M3.7/12, MLv3.7/12*

ISC 15 10:04:42.8±1.2, 6°.96S±0°.07×105°.65E±0°.05, h10km, n22, σ2°.42/17, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.91**	**93**	P	**Pn**	**10 05 03.4**	**+1.8**
SBJI	**Serang**	**0.96**	**30**	P	**Pn**	**10 05 02.5**	**+1.0**
SBJI				S	**Sg**	**10 05 13.9**	**+0.1**
DBJI	**Dramaga**	**1.17**	**70**	P	**Pn**	**10 05 06.0**	**+0.9**
DBJI				S	**Sb**	**10 05 21.5**	**+1.2**
CBJI	**Citeko**	**1.31**	**66**	P	**Pn**	**10 05 08.4**	**+1.2**
CNJI	**Cibinong**	**1.52**	**104**	P	**Pn**	**10 05 11.7**	**+1.7**
BLSI	**Bandar Lampung**	**1.63**	**346**	P	**Pn**	**10 05 12.0**	**+0.5**
KASI	**Kota Agung**	**1.82**	**321**	P	**Pn**	**10 05 16.1**	**+1.9**
LEM	**Lembang**	**1.96**	**86**	P	**Pn**	**10 05 18.5**	**+2.2**
CISI	**Cisompet, Garu**	**2.23**	**106**	P	**Pn**	**10 05 22.0**	**+2.0**
LWLI	**Liwa**	**2.49**	**321**	P	**Pn**	**10 05 26.7**	**+3.2**
MDSI	**Maura Dua**	**2.85**	**329**	P	**Pn**	**10 05 28.8**	**+0.4**
CMJI	**Cimerak**	**2.90**	**107**	P	**Pn**	**10 05 31.5**	**+2.5**
EGSI	**Enggano, Bengk**	**3.71**	**295**	P	**Pn**	**10 05 43.3**	**+3.1**
H01W3	**Cape Leeuwin H**	**28.87**	**165**	T	T	10 41 10.4	
H01W1	baz=344,slow=76,SNR=22 **Cape Leeuwin H**	**28.89**	**165**	T	T	10 41 11.5	
H01W2	baz=344,slow=76,SNR=31 **Cape Leeuwin H**	**28.89**	**165**	T	T	10 41 11.6	
WRA	baz=344,slow=76,SNR=22 **Warramunga Arr**	**30.68**	**118**	P	P	10 10 55.2	-2.8
ASAR	0.9nm,1.1s,baz=292,slow=11,SNR=4.0 **Alice Springs**	**31.82**	**125**	P	**P**	**10 11 05.9**	**-2.1**
H08S2	0.1nm,0.3s,baz=286,slow=8.3,SNR=1.8 **Diego Garcia H**	**32.89**	**267**	T	T	10 45 34.4	
H08S3	baz=91,slow=75,SNR=18 **Diego Garcia H**	**32.90**	**267**	T	T	10 45 38.4	
H08S1	baz=91,slow=75,SNR=15 **Diego Carcia H**	**32.90**	**267**	T	T	10 45 35.0	
TXAR	baz=91,slow=75,SNR=9.9 **Lajitas Array**	**144.54**	**47**	PKP	**PKPab**	**10 24 13.6**	**-5.3**
	0.4nm,0.5s,baz=317,slow=1.7,SNR=10						

IDC 15 10:14:37.3±7.8, 19°.62S×178°.73W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/42, mbtmp3.6/3, Error ellipse: s-maj=338.9km s-min=41.6km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.05**	**261**	P	P	10 22 47.2	0.0
ASAR	0.2nm,0.3s,baz=96,slow=6.8,SNR=11 **Alice Springs**	**44.06**	**256**	P	P	10 22 47.0	-0.3
ILAR	0.4nm,0.4s,baz=95,slow=8.6,SNR=12 **Eielson Array**	**87.61**	**13**	P	P	10 27 27.1	+0.1
	0.7nm,1.1s,baz=198,slow=5.5,SNR=2.4						

*IDC **15** 10:21:45.2±3.9, 7°.74S×127°.46E, h108km±37km, mb3.6/8, mb1 3.9/11, mb1mx3.6/37, mbtmp4.1/11, Error ellipse: s-maj=37.2km s-min=16.2km az=71.0*
*DJA **15** 10:21:47.9±1.3, 8°.5±12°×12°.7E±°, h147km±26km, M4.5/5, mb4.5/2, MLv4.5/5*

ISC 15 10:21:49.0±0.7, 8°.03S±0°.07×127°.50E±0°.08, h150km, n15, σ2°19/20, mb3.8/8, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.63**	**242**	P	**Pn**	**10 22 45.1**	**+0.5**
SOEI				S	**Sn**	**10 23 28.2**	**+0.5**
BATI	**Baumata**	**4.37**	**240**	P	**Pn**	**10 22 55.3**	**+1.1**
BATI	35nm,0.3s,baz=105,slow=3.9,SNR=13			S	**Sn**	**10 23 42.3**	**-2.5**
BATI	26nm,0.3s,baz=112,slow=11,SNR=3.9 **Baumata**	**4.37**	**240**	P	**Pn**	**10 22 55.6**	**+1.5**
FITZ	**Fitzroy Crossi**	**10.17**	**190**	P	**Pn**	**10 24 11.1**	**-0.3**
FITZ	4.3nm,0.3s,baz=27,slow=11,SNR=94			S	**Sn**	**10 26 00.3**	**-3.7**
WRA	1.9nm,0.3s,baz=353,slow=14,SNR=4.5 **Warramunga Arr**	**13.57**	**151**	P	**Pn**	**10 24 55.5**	**-0.1**
WRA	1.4nm,0.3s,baz=319,slow=14,SNR=7.3			S	**Sn**	**10 27 21.7**	**-4.2**
	1.3nm,0.3s,baz=328,slow=22,SNR=8.0						

ASAR	**Alice Springs**	**16.72**	**159**	P	**Pn**	**10 25 36.5**	**+1.9**
	0.8nm,0.3s,baz=332,slow=11,SNR=60						
ASAR				S	**S**	**10 28 40.3**	**-0.3**
	0.4nm,0.3s,baz=344,slow=24,SNR=6.8						
STKA	**Stephens Creek**	**27.11**	**153**	P	**P**	**10 27 22.3**	**+4.2**
	1.1nm,0.4s,baz=339,slow=8.8,SNR=4.5						
CMAR	**Chiang Mai Arr**	**38.56**	**313**	P	**P**	**10 28 57.2**	**-0.2**
	1.3nm,0.5s,baz=138,slow=6.9,SNR=7.5						
USRK	**Ussuriysk Ar.**	**52.14**	**4**	P	**P**	**10 30 43.1**	**-0.8**
	0.6nm,0.6s,baz=174,slow=5.7,SNR=2.5						
PETK	**Petropavlovsk-**	**66.09**	**19**	P	**P**	**10 32 18.2**	**-1.5**
	1.1nm,0.9s,baz=108,slow=3.3,SNR=4.1						
MKAR	**Makanchi Array**	**67.76**	**328**	P	**P**	**10 32 29.3**	**-1.2**
	1.0nm,0.6s,baz=121,slow=8.0,SNR=10						
ZALV	**Zalesovo Beam**	**71.43**	**335**	P	**P**	**10 32 50.8**	**-2.0**
	1.5nm,0.7s,baz=108,slow=6.8,SNR=4.3						
VNDA	**Vanda**	**71.74**	**173**	P	**P**	**10 32 57.2**	**+2.8**
	0.4nm,0.4s,baz=308,slow=6.2,SNR=9.3						
MAW	**Mawson**	**73.10**	**201**	P	**P**	**10 33 03.8**	**+1.2**
	1.6nm,1.1s,baz=102,slow=9.3,SNR=2.1						
TXAR	**Lajitas Array**	**127.58**	**59**	PKP	**PKiKP**	**10 40 37.8**	**+0.1**
	0.1nm,0.5s,baz=248,slow=1.0,SNR=1.6						

KRSC 15 10:23:46.3±2.1, 51.38N×154.01E, h423km±29km, ML4.2, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**1.76**	**86**	*e*P	P	10 24 44.0	+1.1
MIPR	**Malaya Ipel'ka**	**1.93**	**61**	*e*P	P	10 24 44.0	+0.2
APC	**Apacha**	**2.48**	**50**	*e*P	P	10 24 46.8	-0.4
KDTR	**Khodutka, Kamc**	**2.57**	**79**	*e*P	P	10 24 48.8	+0.9
KDTR				*e*S	S	10 25 38.0	-0.1
ASAK	**Asacha**	**2.61**	**66**	*e*P	P	10 24 49.5	+1.2
MTVR	**Mutnovka**	**2.81**	**65**	*e*P	P	10 24 51.5	+1.7
RUS	**Russkaya**	**2.98**	**68**	*e*P	P	10 24 52.6	+1.7
KRX	**Arik**	**3.47**	**53**	*e*P	P	10 24 56.0	+1.0
UGLR	**Uglovaya**	**3.48**	**56**	*e*P	P	10 24 57.6	+2.5
KRER	**Koryakskii**	**3.49**	**55**	*e*P	P	10 24 58.0	+2.8
SDLR	**Sedlovina**	**3.54**	**56**	*e*P	P	10 24 57.6	+2.0
SPN	**Mys Shipunski**	**4.08**	**63**	*e*P	P	10 25 01.1	+0.9
SPN				*e*S	S	10 25 59.9	-0.7
TUMR	**Tumrok**	**5.37**	**41**	*e*P	P	10 25 15.4	+2.5
MKZ	**Mys Kozlova**	**5.65**	**53**	*e*P	P	10 25 16.2	+0.6
MKZ				*e*S	S	10 26 26.1	-2.7

*NEIC **15** 10:26:09.0±2.1, 6.68S±0.08×129.31E±0.08, h213km±8km, mb4.5/18, Error ellipse: s-maj=12.4km s-min=9.4km az=139.0*
*IDC **15** 10:26:08.5±1.7, 6.72S×129.36E, h209km±18km, mb3.5/10, mb1 3.7/14, mb1mx3.6/34, mbtmp4.3/14, Error ellipse: s-maj=20.8km s-min=10.3km az=78.0*
*DJA **15** 10:26:08.0±0.5, 7.5S×129.9E, h239km±13km, M4.6/7, mb4.6/5, mB5.0/5, MLv4.7/7, Mw(mB)4.3/5*
ISC 15 10:26:07.4±0.5, 6.75S±0.05×129.37E±0.07, h200km, n60, σ1§88/64, mb4.0/21, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.27**	**123**	Pn	**Pn**	**10 26 53.3**	**+4.4**
SAUI	**Saumlaki**	**2.27**	**123**	P	**Pn**	**10 26 53.3**	**+4.4**
BNDI	**Bandanaira**	**2.28**	**14**	P	**Pn**	**10 26 51.2**	**+2.3**
FAKI	**Fak Fak**	**4.77**	**37**	Pn	**Pn**	**10 27 19.6**	**+0.7**
FAKI	**Fak Fak**	**4.77**	**37**	P	**Pn**	**10 27 19.8**	**+0.8**
SOEI	**Soe**	**5.86**	**239**	Pn	**Pn**	**10 27 34.4**	**+1.3**
SOEI	**Soe**	**5.86**	**239**	P	**Pn**	**10 27 34.7**	**+1.6**
	0.8nm3µm86nm,0.6s						
SIJI	**Sorong**	**6.14**	**18**	P	**Pn**	**10 27 36.6**	**0.0**
	11nm,0.3s,baz=230,slow=10,SNR=15						
SIJI				S	**Sn**	**10 28 41.5**	**-5.8**
	18nm,0.3s,baz=252,slow=22,SNR=19						
SIJI	**Sorong**	**6.14**	**18**	P	**Pn**	**10 27 36.5**	**-0.1**
	0.3nm2µm13nm,0.8s						
MTN	**Manton Dam**	**6.30**	**164**	Pn	**Pn**	**10 27 40.5**	**+1.9**
BATI	**Baumata**	**6.60**	**238**	P	**Pn**	**10 27 44.0**	**+1.5**
	54nm,0.3s,baz=119,slow=3.2,SNR=18						
BATI				S	**Sn**	**10 28 56.1**	**-1.9**
	22nm,0.3s,baz=28,slow=8.8,SNR=13						
BATI	**Baumata**	**6.60**	**238**	P	**Pn**	**10 27 44.0**	**+1.5**
	0.6nm2µm169nm,0.7s						
EDFI	**Ende, Flores**	**7.86**	**255**	P	**Pn**	**10 27 59.8**	**+0.8**
KNRA	**Kununurra**	**8.89**	**184**	Pn	**Pn**	**10 28 12.6**	**+0.4**
FITZ	**Fitzroy Crossi**	**11.85**	**198**	P	**Pn**	**10 28 51.8**	**+1.4**
	5.8nm,0.3s,baz=30,slow=9.7,SNR=20						
FITZ				S	**Sn**	**10 30 57.1**	**-5.4**
	2.7nm,0.3s,baz=70,slow=18,SNR=5.4						
FITZ	**Fitzroy Crossi**	**11.85**	**198**	Pn	**Pn**	**10 28 52.0**	**+1.6**
WRAB	**Tennant Creek**	**13.97**	**160**	Pn	**Pn**	**10 29 16.9**	**-0.1**
WRA	**Warramunga Arr**	**13.97**	**160**	P	**Pn**	**10 29 17.0**	**-0.1**
	6.8nm,0.3s,baz=341,slow=12,SNR=26						
WRA				S	**S**	**10 31 47.9**	**-4.8**
	2.3nm,0.3s,baz=335,slow=22,SNR=4.7						
WRA	**Warramunga Arr**	**13.97**	**160**		**Pn**	**10 29 17.1**	**0.0**
WB2	**Warramunga Arr**	**13.98**	**160**		**Pn**	**10 29 16.3**	**-0.9**
WR0	**Warramunga Arr**	**14.06**	**160**	Pn	**Pn**	**10 29 17.7**	**-0.4**
COEN	**Coen**	**15.35**	**119**		**Pn**	**10 29 35.9**	**+1.9**
COEN				IAmb	IAmb	10 29 38.0	
	comp=Z,21nm,0.7s						
PSA00	**Pilbara Seismi**	**17.37**	**211**	P	**P**	**10 29 57.5**	**+1.0**
PSA00				IAmb	IAmb	10 30 00.8	
	comp=Z,10nm,0.9s						
AS31	**Alice Springs**	**17.37**	**166**		**P**	**10 29 58.5**	**+2.0**
AS31				IAmb	IAmb	10 29 59.8	
	comp=Z,13nm,0.5s						
ASAR	**Alice Springs**	**17.37**	**166**	P	**P**	**10 29 58.3**	**+1.8**
	comp=Z,7.1nm,0.3s,baz=345,slow=10.0,SNR=72						
ASAR				S	**S**	**10 33 06.3**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=342,slow=20,SNR=7.2						
ASAR	**Alice Springs**	**17.37**	**166**	P	**P**	**10 29 58.6**	**+2.0**
CTA	**Charters Tower**	**21.08**	**131**	P	**P**	**10 30 37.5**	**+1.1**
	comp=Z,3.5nm,0.6s,baz=292,slow=13,SNR=7.7						
FORT	**Forrest**	**23.93**	**183**	P	**P**	**10 31 05.8**	**+2.5**
MORW	**Morawa**	**25.51**	**208**	P	**P**	**10 31 15.8**	**-1.8**
MORW				IAmb	IAmb	10 31 37.7	
	comp=Z,24nm,1.5s						
BBOO	**Buckleboo**	**26.66**	**167**	P	**P**	**10 31 28.2**	**+0.3**
BBOO				IAmb	IAmb	10 31 44.3	
	comp=Z,24nm,1.4s						
STKA	**Stephens Creek**	**27.48**	**157**	P	**P**	**10 31 35.7**	**+0.6**
	comp=Z,1.7nm,0.5s,baz=317,slow=8.9,SNR=9.1						
STKA	**Stephens Creek**	**27.48**	**157**	P	**P**	**10 31 35.9**	**+0.8**
ARMA	**Armidale**	**31.48**	**141**	P	**P**	**10 32 10.2**	**-0.5**
ARMA				IAmb	IAmb	10 32 31.8	
	comp=Z,22nm,1.5s						
CAN	**Canberra**	**33.68**	**150**	P	**P**	**10 32 31.7**	**+2.1**
NJ2	**Nanjing**	**39.87**	**346**	*e*P	**P**	**10 33 23.3**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
JWT	**Wachi**	**42.20**	**7**	P	**P**	**10 33 40.6**	**0.0**
JWT				IAmb	IAmb	10 33 46.1	
	comp=Z,17nm,1.2s						
MAT	**Matsushiro**	**43.86**	**10**	P	**P**	**10 33 52.0**	**-2.0**
KSRS	**Korea Array**	**44.00**	**358**	P	**P**	**10 33 54.9**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=174,slow=8.5,SNR=4.5						
XAN	**Xi'an**	**44.95**	**336**	P	**P**	**10 34 01.5**	**-1.2**
XAN				sP	pwP	10 34 57.9	+7.0
XAN				pmax	pmax		
	comp=Z,6.0nm,1.3s						
MSVF	**Nonsavu**	**48.68**	**108**	P	**P**	**10 34 31.4**	**-0.6**
MSVF				IAmb	IAmb	10 34 48.2	
	comp=Z,30nm,1.2s						
FUNA	**Funafuti**	**49.39**	**95**	P	**P**	**10 34 36.2**	**-1.1**
HHC	**Hu-ho-hao-te**	**50.12**	**342**	*e*P	**P**	**10 34 44.8**	**+2.4**
HHC				pmax	pmax		
	comp=Z,19nm,0.8s						
HHC				pmax	pmax		
	comp=Z,69nm,5.7s						
USRK	**Ussuriysk Ar.**	**50.77**	**2**	P	**P**	**10 34 46.8**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=186,slow=7.2,SNR=8.3						
USRK	**Ussuriysk Ar.**	**50.77**	**2**	P	**P**	**10 34 46.1**	**-1.0**
ASAJ	**Asahikawa**	**52.03**	**12**	P	**P**	**10 34 56.3**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=214,slow=7.3,SNR=5.5						
BKZ	**Black Stump Fm**	**53.22**	**135**	P	**P**	**10 35 05.9**	**+0.5**
BKZ				IAmb	IAmb	10 35 24.4	
	comp=Z,14nm,1.4s						
GTA	**Gaotai**	**53.46**	**332**	*e*P	**P**	**10 35 09.1**	**+1.9**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SONM	**Songino Array**	**58.01**	**342**	P	**P**	**10 35 40.3**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=167,slow=6.8,SNR=3.1						
SONM	**Songino Array**	**58.01**	**342**	IAmb	IAmb	10 35 40.6	
	comp=Z,0.8nm,1.0s						

WMQ	**Urumqi**	**62.85**	**327**	*e*P	**P**	**10 36 13.4**	**+1.3**
PEA0B	**Petropavlovsk-**	**64.29**	**19**	P	**P**	**10 36 20.4**	**-0.9**
PETK	**Petropavlovsk-**	**64.29**	**19**	P	**P**	**10 36 21.2**	**0.0**
	comp=Z,1.6nm,0.7s,baz=186,slow=4.7,SNR=5.7						
PETK	**Petropavlovsk-**	**64.29**	**19**	P	**P**	**10 36 20.4**	**-0.9**
MK31	**Makanchi Array**	**67.68**	**327**	P	**P**	**10 36 42.7**	**-0.3**
MKAR	**Makanchi Array**	**67.68**	**327**	P	**P**	**10 36 43.0**	**0.0**
	comp=Z,1.1nm,0.3s,baz=122,slow=8.1,SNR=18						
MKAR	**Makanchi Array**	**67.68**	**327**	P	**P**	**10 36 43.2**	**+0.2**
ZAA0	**Zalesovo Array**	**71.09**	**334**	P	**P**	**10 37 02.3**	**-1.4**
ZAA0				IAmb	IAmb	10 37 02.8	
	comp=Z,2.1nm,0.7s						
ZALV	**Zalesovo Beam**	**71.09**	**334**	P	**P**	**10 37 03.0**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=125,slow=9.0,SNR=3.0						
ZALV	**Zalesovo Beam**	**71.09**	**334**	P	**P**	**10 37 02.5**	**-1.2**
VNDA	**Vanda**	**72.77**	**173**	P	**P**	**10 37 13.1**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=326,slow=6.3,SNR=3.0						

MEX 15 10:32:27.8±0.7, 15.27N×92.76W, h107km±16km, MD3.7, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.60**	**127**	*i* P	Pn	10 32 43.8	-1.2
PCIG		**0.62**	**314**	*e*P	Pn	10 32 43.9	-1.3
PCIG				*e*S	Sn	10 32 56.5	-1.8

*IDC **15** 10:35:42.1±1.3, 35.77N×140.99E, h0km, mb3.4/3, mb1 3.7/6, mb1mx3.5/31, mbtmp3.7/6, ML3.1/2, MS2.5/1, Ms1 2.5/1, ms1mx2.1/35, Error ellipse: s-maj=36.5km s-min=21.1km az=95.0*
*JMA **15** 10:35:47.1±0.2, 35.90N×140.87E, h41km±2km, M3.0*
ISC 15 10:35:46.5±1.6, 35.86N±0.05×140.95E±0.09, h32km±13km, n22, σ1§01/16, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.17**	**205**	P	**Pn**	**10 35 54.3**	**+1.3**
JIHU	**Itakohorinouch**	**0.36**	**287**	P	**Pn**	**10 35 55.7**	**+0.2**
JSMT	**Sammumatsuo**	**0.46**	**242**	P	**Pn**	**10 35 57.6**	**+0.7**
JHYU	**Hitachinakayam**	**0.56**	**329**	P	**Pb**	**10 35 58.1**	**+0.1**
JYT	**Yasato**	**0.71**	**301**	P	**Pn**	**10 35 59.4**	**-1.0**
JHO	**Hitachi**	**0.81**	**338**	P	**Pn**	**10 36 01.3**	**-0.4**
BSO3	**Boso 3**	**1.12**	**199**	P	**Pb**	**10 36 07.2**	**+0.1**
MJAR	**Matsushiro Arr**	**2.32**	**288**	Pn	**Pn**	**10 36 22.6**	**+0.1**
	1.0nm,0.3s,baz=93,slow=14,SNR=32						
MAT	**Matsushiro**	**2.32**	**288**	P	**Pn**	**10 36 23.1**	**+0.6**
MAT				*e*S	**Sn**	**10 36 49.9**	**-0.1**
JHJ	**Hachijo jima 2**	**2.90**	**200**	Sn	**Sn**	**10 37 03.2**	**-1.0**
	20nm,0.3s,baz=253,slow=20,SNR=1.3						
ASAJ	**Asahikawa**	**8.34**	**8**	Pn	**Pn**	**10 37 44.3**	**-0.9**
	0.5nm,0.3s,baz=223,slow=13,SNR=7.5						
JCJ	**Chichijima**	**8.80**	**173**	Pn	**Pn**	**10 37 49.5**	**-2.1**
	7.1nm,0.3s,baz=311,slow=20,SNR=4.6						
JCJ				Sn	Sn	10 39 19.2	-10
	4.6nm,0.3s,baz=270,slow=19,SNR=1.7						
KSRS	**Korea Array**	**10.59**	**282**	LR	LR	10 41 46.5	
	comp=Z,29nm,22.0s,baz=225,slow=34						
H11N2	**WAKE ISLAND Hy**	**27.90**	**118**	T	T	11 10 36.5	
	baz=311,slow=75,SNR=7.9						
H11N1	**WAKE ISLAND Hy**	**27.90**	**118**	T	T	11 10 38.2	
	baz=311,slow=75,SNR=8.1						
H11N3	**WAKE ISLAND Hy**	**27.91**	**118**	T	T	11 10 38.2	
	baz=311,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**28.56**	**120**	T	T	11 11 31.2	
	baz=312,slow=75,SNR=9.6						
H11S3	**WAKE ISLAND Hy**	**28.56**	**120**	T	T	11 11 33.7	
	baz=312,slow=75,SNR=8.3						
H11S2	**WAKE ISLAND Hy**	**28.58**	**120**	T	T	11 11 31.0	
	baz=312,slow=75,SNR=6.8						
ILAR	**Eielson Array**	**50.68**	**32**	P	**P**	**10 44 43.5**	**+1.0**
	0.3nm,0.7s,baz=260,slow=5.4,SNR=2.7						
WRA	**Warramunga Arr**	**55.85**	**188**	P	**P**	**10 45 19.9**	**-1.1**
	0.2nm,0.3s,baz=2.2,slow=7.4,SNR=10.0						
ASAR	**Alice Springs**	**59.58**	**187**	P	**P**	**10 45 47.9**	**+0.7**
	0.2nm,0.6s,baz=14,slow=12,SNR=2.0						

MEX 15 10:49:35.8±1.0, 15.99N×95.67W, h28km±122km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**1.33**	**34**	*e*P	Pn	10 49 55.7	-2.8
CMIG				*e*S	Sn	10 50 12.4	-3.0
PEIG	**Puerto Escondi**	**1.42**	**271**	*e*P	Pn	10 49 57.9	-1.9
VHO	**Vista Hermosa**	**1.49**	**317**	*e*P	Pn	10 49 58.2	-2.7
VHO				*e*S	Sn	10 50 16.2	-3.2
TOIG	**Toxpalan**	**2.49**	**328**	*e*P	Pn	10 50 15.8	+1.3
TGIG		**2.57**	**72**	*e*P	Pn	10 50 16.6	+1.0

KMA 15 11:01:08.1±0.3, 34.88N×125.48E, h0km, Error ellipse: s-maj=7.4km s-min=1.0km az=308.0, South Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUK2	**Heuksan-myeon**	**0.19**	**188**	P	Pg	11 01 11.6	-0.1
	SNR=103						
HUK2	**Heuksan-myeon**	**0.19**	**188**	P	Pg	11 01 11.6	-0.1
	SNR=103						
KSKWJ	**Gwangju**	**1.27**	**77**	P	Pg	11 01 32.6	+0.2
	SNR=14						
KSKWJ	**Gwangju**	**1.27**	**77**	P	Pg	11 01 32.6	+0.2
	SNR=14						
KSJEU	**Jeongeup**	**1.34**	**62**	P	Pg	11 01 33.1	-0.6
	SNR=9.7						
KSJEU	**Jeongeup**	**1.34**	**62**	P	Pg	11 01 33.1	-0.6
	SNR=9.7						
KSJEU				S	Sn	11 01 53.8	+1.3
BOSB	**Boseong-gun**	**1.43**	**94**	P	Pn	11 01 35.3	+0.1
	SNR=32						
BOSB	**Boseong-gun**	**1.43**	**94**	P	Pn	11 01 35.3	+0.1
	SNR=32						
KOHB	**KOHEUNG**	**1.50**	**99**	P	Pb	11 01 36.7	-0.1
	SNR=7.6						
KOHB	**KOHEUNG**	**1.50**	**99**	P	Pb	11 01 36.7	-0.1
	SNR=7.6						
KSJEO	**Jeonju**	**1.82**	**54**	P	Pb	11 01 42.0	-0.3
	SNR=8.9						

MEX 15 11:06:24.1±1.0, 17.45N×94.57W, h136km±10km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.46**	**221**	*i* P	Pn	11 06 42.3	-1.3
CMIG				*i* S	Sn	11 06 56.6	-1.8
TGIG		**1.53**	**115**	*i* P	Pn	11 06 52.4	-0.7
TGIG				*i* S	Sn	11 07 12.8	-2.3
VHO	**Vista Hermosa**	**2.10**	**260**	*e*P	Pn	11 06 58.0	-1.8
VHO				*i* S	Sn	11 07 25.5	-1.6
TOIG	**Toxpalan**	**2.46**	**286**	*e*P	Pn	11 07 03.4	-0.8
TOIG				*e*S	Sn	11 07 33.2	-1.9

IDC 15 11:06:35.8±466.0, 51.02N×55.94E, h0km, Error ellipse: s-maj=161.3km s-min=32.5km az=113.0, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**1.47**	**114**	*i*		11 15 20.0	
	baz=295,slow=322,SNR=7.1						
I43RU	**DUBNA INFRASON**	**12.42**	**305**	*i*		12 25 40.0	
	baz=111,slow=330,SNR=5.2						
I46RU	**ZALESOVO INFRA**	**17.78**	**69**	*i*		12 57 30.0	
	baz=274,slow=321,SNR=2.2						

*NAO **15** 11:07:41.9±1.0, 68.08N×33.15E, ML1.8*
HEL 15 11:07:42.3±0.3, 68.03N×33.16E, h0km, ML1.8, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**0.43**	**189**	Pg	Pg	11 07 51.0	+0.4
	baz=5.9,slow=11						
APA0				Lg	Lg	11 07 58.0	
	baz=7.0,slow=37						
APA0				Rg	Rg	11 07 59.2	
	baz=9.5,slow=28						

APA0	**Apatity Array**	**0.43**	**189**	Pg	Pg	11 07 51.0	+0.4
	baz=5.9,slow=11						
APA0				Sg	Sb	11 07 58.0	-1.8
	baz=7.0,slow=37						
VRF	**Varrio**	**1.37**	**260**	PG	Pg	11 08 07.2	-1.4
VRF				MSG		11 08 23.8	
	comp=Z,7.5nm,0.2s						
VRF				SG	Sg	11 08 24.5	-1.9
KU6	**Riekki**	**2.39**	**214**	PG	Pb	11 08 24.9	-1.2
KU6				MSG		11 08 52.8	
	comp=Z,3.5nm,0.2s						
KU6				SG	Sb	11 08 55.9	-0.2
SGF	**Sodankyl**	**2.59**	**260**	PN	Pn	11 08 25.2	-0.2
	baz=78						
SGF				SB	Sb	11 09 00.3	-1.6
MSF	**Maaselka**	**2.67**	**219**	SG	Sb	11 09 04.3	0.0
KEV	**Kevo**	**2.82**	**311**	Pn	Pn	11 08 28.2	-0.4
KEV				Sn	Sn	11 09 01.6	-1.6
KEV	**Kevo**	**2.82**	**311**	*e*P	Pn	11 08 28.3	-0.3
KEV				*e*S	Sn	11 09 02.1	-1.1
KEV	**Kevo**	**2.82**	**311**	PN	Pn	11 08 28.5	0.0
	baz=127						
KEV				SN	Sn	11 09 02.2	-1.0
KEV				MSG		11 09 05.5	
	comp=Z,2.8nm,0.2s						
ARA0	**ARCESS Array S**	**3.17**	**302**	Pn	Pn	11 08 32.4	-1.0
	baz=115,slow=16						
ARA0				Sn	Sn	11 09 10.3	-1.5
	baz=109,slow=28						
ARA0	**ARCESS Array S**	**3.17**	**302**	Pn	Pn	11 08 32.4	-1.0
	baz=115,slow=16						
ARA0				Sn	Sn	11 09 10.3	-1.5
	baz=109,slow=28						
ARA0	**ARCESS Array S**	**3.17**	**302**	PN	Pn	11 08 32.9	-0.4
HEF	**Hetta**	**3.56**	**280**	*e*P	Pn	11 08 38.2	-0.5
HEF				*e*S	Sn	11 09 18.4	-3.0
HEF	**Hetta**	**3.56**	**280**	PN	Pn	11 08 38.3	-0.5
HEF				SG	Sb	11 09 29.7	-0.1
KLF	**Kolari**	**3.61**	**261**	PB	Pn	11 08 41.0	+1.6
KTK1	**Kautokeino**	**3.78**	**290**	Pn	Pn	11 08 40.9	-0.9
KTK1				Sn	Sn	11 09 24.1	-2.7
KTK1	**Kautokeino**	**3.78**	**290**	*e*P	Pn	11 08 40.7	-1.0
KTK1				*e*S	Sn	11 09 24.8	-2.1
KTK1				IAML		11 09 40.9	
	comp=Z,3.8nm,0.6s						
PAJU	**Pajala**	**3.99**	**260**	SG	Sg	11 09 47.0	-3.3
LANU	**Lannavaara**	**4.20**	**275**	SN	Sn	11 09 38.4	+1.3

*LVSN **15** 11:09:31.3±5.0, 59.01N×28.14E, h0km±119km, ML2.1*
*EST **15** 11:09:31.2±0.1, 59.23N×27.72E, h0km, ML1.8(HEL), Explosion*
HEL 15 11:09:31.2±0.2, 59.23N×27.71E, h0km, ML2.0, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EE03	**Tooma soojaam,**	**0.82**	**245**	*e*P	Pg	11 09 46.1	-0.8
EE03				*e*S	Sg	11 09 57.5	-0.1
ARBE	**Arbavere**	**0.91**	**284**	*e*P	Pg	11 09 48.0	-0.6
ARBE				*e*S	Sg	11 09 59.1	-1.3
VSU	**Vasula**	**0.92**	**214**	*e*P	Pg	11 09 48.8	+0.1
VSU	**Vasula**	**0.92**	**214**	*e*S	Sg	11 09 58.7	-1.9
VSU				AML	AML	11 10 38.9	
	comp=E,146nm,0.8s						
VSU				AML	AML	11 10 41.6	
	comp=N,99nm,0.8s						
VSU				AML	AML	11 10 48.6	
	comp=Z,43nm,0.7s						
VJF	**Virojoki**	**1.32**	**357**	*e*P	Pg	11 09 54.6	-1.9
VJF				MSG		11 10 11.1	
	comp=Z,8.8nm,0.2s						
VJF				*e*SB	Sg	11 10 12.2	-1.4
EE02	**Kiisa, Saku**	**1.55**	**270**	*e*P	Pn	11 09 59.0	-1.0
EE02				*e*S	Sn	11 10 18.7	-2.2
PVF	**Pernaja**	**1.62**	**326**	*e*P	Pn	11 10 00.1	-0.9
PVF				MSG		11 10 19.7	
	comp=Z,8.5nm,0.2s						
PVF				*e*SG	Sn	11 10 21.1	-1.5
MEF	**Metsahovi**	**1.95**	**302**	*e*PG	Pn	11 10 06.1	+0.6
MEF				*e*SB	Sn	11 10 30.7	0.0
MEF				MSG		11 10 33.5	
	comp=Z,4.8nm,0.1s						
MEF	**Metsahovi**	**1.95**	**302**	*e*P	Pn	11 10 06.3	+0.8
MEF				AML	AML	11 10 08.6	
	comp=Z,11nm,0.8s						
MEF				AML	AML	11 10 09.0	
	comp=E,16nm,0.8s						
MEF				*e*S	Sn	11 10 31.1	+0.4
MEF				AML	AML	11 10 33.8	
	comp=N,27nm,0.2s						
NUR	**Nurmijrvi**	**2.01**	**311**	*e*PG	Pn	11 10 07.1	+0.7
NUR				*e*SG	Sn	11 10 33.1	+0.9
NUR				MSG		11 10 34.6	
	comp=Z,5.5nm,0.1s						
MTSE	**Matsula**	**2.08**	**257**	*e*PG	Pn	11 10 08.5	+1.2
MTSE				*e*SG	Sb	11 10 35.2	-0.9
MTSE	**Matsula**	**2.08**	**257**	*e*P	Pn	11 10 08.4	+1.1
MTSE				*e*S	Sb	11 10 35.5	-0.7
MTSE				AML	AML	11 10 38.4	
	comp=E,112nm,0.4s						
MTSE				AML	AML	11 10 38.7	
	comp=Z,52nm,0.7s						
MTSE				AML	A

STKA					IAmb	IAmb	11 38 55.5	
	comp=Z,2.4nm,1.5s							
WR0	**Warramunga Arr**	**33.32**	**261**	P	**P**		**11 39 29.4**	**+0.1**
WR0					IAmb	IAmb	11 39 30.6	
	comp=Z,4.2nm,1.1s							
WB2	**Warramunga Arr**	**33.50**	**261**	P	**P**		**11 39 30.9**	**+0.1**
WB2					IAmb	IAmb	11 39 34.0	
	comp=Z,10nm,1.4s							
WRAB	**Tennant Creek**	**33.50**	**261**	P	**P**		**11 39 31.0**	**+0.1**
WRAB					IAmb	IAmb	11 39 43.4	
	comp=Z,13nm,1.5s							
WRA	**Warramunga Arr**	**33.51**	**261**	P	**P**		**11 39 30.9**	**0.0**
	comp=Z,1.0nm,0.4s,baz=89,slow=8.4,SNR=40							
WRA	**Warramunga Arr**	**33.51**	**261**	P	**P**		**11 39 30.4**	**-0.5**
AS31	**Alice Springs**	**33.92**	**254**	P	**P**		**11 39 34.6**	**+0.2**
AS31					IAmb	IAmb	11 39 34.9	
	comp=Z,5.7nm,0.4s							
ASAR	**Alice Springs**	**33.92**	**254**	P	**P**		**11 39 34.6**	**+0.2**
	comp=Z,6.9nm,0.5s,baz=83,slow=8.7,SNR=134							
ASAR	**Alice Springs**	**33.92**	**254**	P	**P**		**11 39 34.4**	**0.0**
MTN	**Manton Dam**	**37.52**	**272**	P	**P**		**11 40 07.2**	**+2.1**
KNRA	**Kununurra**	**39.24**	**267**	P	**P**		**11 40 20.7**	**+1.3**
FITZ	**Fitzroy Crossi**	**41.86**	**263**	P	**P**		**11 40 42.5**	**+1.6**
	comp=Z,3.4nm,0.7s,baz=76,slow=6.1,SNR=21							
FITZ	**Fitzroy Crossi**	**41.86**	**263**	P	**P**		**11 40 42.3**	**+1.4**
PSA00	**Pilbara Seismi**	**46.94**	**257**	P	**P**		**11 41 21.5**	**+0.4**

IDC 15 11:39:57.5±2.3, 9°20S×157°13E, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.6/43, mbtmp3.8/5, MS3.6/3, Ms1 3.5/3, ms1mx2.7/27, Error ellipse: s-maj=79.7km s-min=26.7km az=131.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.48**	**242**	P	P	11 45 16.6	-1.9
	1.2nm,0.9s,baz=65,slow=9.4,SNR=6.6						
WRA				LR	LR	11 54 18.3	
	comp=Z,62nm,19.1s,baz=30,slow=35						
ASAR	**Alice Springs**	**26.46**	**234**	P	P	11 45 38.1	+1.7
	0.6nm,0.8s,baz=74,slow=9.2,SNR=4.3						
STKA	**Stephens Creek**	**26.78**	**210**	LR	LR	11 55 28.6	
	comp=Z,80nm,19.1s,baz=26,slow=35						
PETK	**Petropavlovsk-**	**62.06**	**0**	P	P	11 50 20.3	+0.6
	1.6nm,0.8s,baz=189,slow=8.3,SNR=2.9						
CMAR	**Chiang Mai Arr**	**63.64**	**296**	P	P	11 50 31.3	+0.4
	0.6nm,0.3s,baz=116,slow=6.1,SNR=3.7						
ILAR	**Eielson Array**	**84.65**	**21**	P	P	11 52 32.0	-0.7
	1.2nm,0.8s,baz=247,slow=5.3,SNR=8.7						
YBH	**Yreka Blue Hor**	**88.80**	**48**	LR	LR	12 23 40.9	
	comp=Z,93nm,20.7s,baz=268,slow=30						

IDC 15 11:41:47.3±27.0, 23°04S×173°86W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.7/38, mbtmp4.1/4, MS2.8/1, Ms1 2.8/1, ms1mx2.3/28, Error ellipse: s-maj=492.3km s-min=152.2km az=78.0

NEIC 15 11:41:53.8±1.5, 25.6S±0.1×174.2W±0.1, h10km±2km, mb4.5/9, Error ellipse: s-maj=24.7km s-min=20.4km az=167.0

ISC 15 11:41:57.5±1.2, 25.4S±0.1×174.3W±0.2, h35km, n19, σ1§33/17, mb4.3/8, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**7.42**	**34**		**Pn**	**11 43 44.8**	**+1.3**
MSVF	**Nonsavu**	**10.43**	**315**	LR	LR	11 47 34.4	
	comp=Z,52nm,18.6s,baz=207,slow=38						
MSVF	**Nonsavu**	**10.43**	**315**	Pn	**Pn**	**11 44 24.7**	**0.0**
AFI	**Afiamalu**	**11.52**	**12**	Pn	**Pn**	**11 44 40.0**	**-1.1**
CTA	**Charters Tower**	**36.71**	**270**	P	**P**	**11 49 00.8**	**-0.7**
	3.1nm,0.3s,baz=97,slow=10,SNR=8.8						
CTAO	**Charters Tower**	**36.71**	**270**	P	**P**	**11 49 00.9**	**-0.7**
CTAO					IAmb	IAmb	11 49 01.6	
	comp=Z,17nm,1.4s						
STKA	**Stephens Creek**	**39.09**	**250**	P	**P**	**11 49 25.2**	**+3.7**
	comp=Z,2.9nm,1.1s,baz=67,slow=7.7,SNR=3.0						
STKA	**Stephens Creek**	**39.09**	**250**	P	**P**	**11 49 22.4**	**+0.9**
AS31	**Alice Springs**	**46.96**	**261**	P	**P**	**11 50 24.9**	**-0.4**
AS31					IAmb	IAmb	11 50 29.0	
	comp=Z,3.0nm,1.5s							
ASAR	**Alice Springs**	**46.96**	**261**	P	**P**	**11 50 25.9**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=95,slow=7.3,SNR=14							
ASAR	**Alice Springs**	**46.96**	**261**	P	**P**	**11 50 25.9**	**+0.6**
WR0	**Warramunga Arr**	**47.33**	**266**	P	**P**	**11 50 27.7**	**-0.5**
WR0					IAmb	IAmb	11 50 38.8	
	comp=Z,7.7nm,1.4s							
WB2	**Warramunga Arr**	**47.51**	**266**	P	**P**	**11 50 29.0**	**-0.6**
WRAB	**Tennant Creek**	**47.51**	**266**	P	**P**	**11 50 29.1**	**-0.6**
WRAB					IAmb	IAmb	11 50 31.9	
	comp=Z,8.0nm,1.4s							
WRA	**Warramunga Arr**	**47.52**	**266**	P	**P**	**11 50 28.9**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=101,slow=8.5,SNR=44							
WRA	**Warramunga Arr**	**47.52**	**266**	P	**P**	**11 50 28.9**	**-0.7**
WRA	**Warramunga Arr**	**47.52**	**266**	IAmb	IAmb	11 50 29.3	
	comp=Z,0.2nm,0.9s							
KNRA	**Kununurra**	**53.90**	**269**	P	**P**	**11 51 18.2**	**+0.5**
QSPA	**South Pole Qui**	**64.74**	**180**	P	**P**	**11 52 30.4**	**-1.7**
QSPA					IAmb	IAmb	11 52 32.6	
	comp=Z,2.2nm,1.1s							

IDC 15 11:49:51.8±2.5, 37°38N×141°03E, h71km±20km, mb3.6/6, mb1 3.6/10, mb1mx3.4/40, mbtmp3.8/10, Error ellipse: s-maj=34.3km s-min=13.3km az=80.0

JMA 15 11:49:53.2, 37°39N×140°89E, h76km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs309.00000°, δ9.00000°, λ23.00000°. NP2:φs197.00000°, δ86.00000°, λ99.00000°. Principal axes: T Plg48.0000°, Azm116.0000°; N Plg8.0000°, Azm16.0000°; P Plg41.0000°, Azm279.0000°;

JMA Felt II J1.

NIED 15 11:49:53.3, 37°40N×140°89E, h76km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.91; $M_{\theta\theta}$-0.51; $M_{\phi\phi}$-1.40; $M_{r\theta}$-0.85; $M_{\theta\phi}$-0.60; $M_{\phi r}$-2.72; Fault plane solution: $M_0$3.38000×10^{14} NP1: φs199.00000°, δ74.00000°, λ86.00000°. NP2:φs32.00000°, δ16.00000°, λ103.00000°.

ISC 15 11:49:52.7±0.9, 37.38N±0.04×140.99E±0.07, h77km±6km, n33, σ0§69/37, mb3.8/6, 11C-1D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.10**	**265**	⇑P	**Pn**	**11 50 04.1**	**+0.2**
JFK				S	**Sn**	**11 50 12.0**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.32**	**210**	⇑P	**Pn**	**11 50 05.2**	**+0.4**
ONAJ				S	**Sn**	**11 50 13.8**	**0.0**
JMST	**Minamisoumatoc**	**0.36**	**346**	⇑P	**Pn**	**11 50 05.2**	**+0.2**
JMST				eS	**Sn**	**11 50 14.2**	**+0.1**
JFFD	**Fukushimafurud**	**0.45**	**231**	P	**Pn**	**11 50 05.7**	**0.0**
JFFD				S	**Sn**	**11 50 15.0**	**-0.4**
JMM	**Marumori**	**0.52**	**342**	⇑P	**Pn**	**11 50 06.4**	**+0.1**
JMM				S	**Sn**	**11 50 16.0**	**-0.3**
JFT	**Otama**	**0.54**	**285**	⇑P	**Pn**	**11 50 06.2**	**-0.4**
JFT				eS	**Sn**	**11 50 16.0**	**-0.8**
JOU	**Okura**	**1.02**	**345**	⇑P	**Pn**	**11 50 12.1**	**+0.2**
JFY	**Yanaizu**	**1.03**	**272**	⇑P	**Pn**	**11 50 11.5**	**-0.4**
JIO	**Ouri**	**1.11**	**15**	⇓P	**Pn**	**11 50 13.4**	**+0.5**
JIO				S	**Sn**	**11 50 27.9**	**-0.2**
JYS	**Shirataka**	**1.12**	**319**	⇑P	**Pn**	**11 50 13.1**	**+0.1**
JNS	**Sasagawa**	**1.40**	**289**	P	**Pn**	**11 50 16.0**	**-0.6**
JKT	**Katashina**	**1.52**	**247**	P	**Pn**	**11 50 18.9**	**+0.6**
JAG	**Ashikaga**	**1.56**	**233**	⇑P	**Pn**	**11 50 19.0**	**+0.4**
JYA	**Atsumi**	**1.58**	**321**	⇑P	**Pn**	**11 50 19.3**	**+0.4**
JMK	**Ichinoseki**	**1.58**	**6**	P	**Pn**	**11 50 19.3**	**+0.3**
JMK				eS	**Sn**	**11 50 38.9**	**+0.1**
JYK	**Kaneyama**	**1.62**	**342**	⇑P	**Pn**	**11 50 20.1**	**+0.6**
MJAR	**Matsushiro Arr**	**2.38**	**250**	P	**Pn**	**11 50 29.8**	**+0.2**
	1.1nm,0.3s,baz=355,slow=7.6,SNR=59						
MJAR				S	Sn	11 50 49.2	-8.7
	1.5nm,0.3s,baz=74,slow=17,SNR=14						
MAT	**Matsushiro**	**2.38**	**250**	P	**Pn**	**11 50 30.6**	**+1.0**
MAT				eS	**Sn**	**11 50 59.4**	**+1.5**
JHJ	**Hachijo jima 2**	**4.36**	**193**	P	**Pn**	**11 50 56.2**	**-0.3**
	9.1nm,0.3s,baz=81,slow=19,SNR=2.5						
JHJ				S	**Sn**	**11 51 44.4**	**-1.7**
	19nm,0.3s,baz=253,slow=19,SNR=4.4						
ASAJ	**Asahikawa**	**6.84**	**10**	P	**Pn**	**11 51 29.2**	**-1.1**
	0.6nm,0.3s,baz=223,slow=11,SNR=8.0						
KSRS	**Korea Array**	**10.40**	**274**	P	**Pn**	**11 52 20.8**	**+1.9**
	0.2nm,0.3s,baz=80,slow=14,SNR=5.0						
SONM	**Songino Array**	**27.32**	**304**	P	**P**	**11 55 29.5**	**-0.7**
	0.6nm,0.3s,baz=111,slow=8.0,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**28.61**	**121**	T	T	12 26 00.6	
	baz=315,slow=75,SNR=53						
H11N1	**WAKE ISLAND Hy**	**28.62**	**121**	T	T	12 26 05.1	
	baz=315,slow=75,SNR=59						
H11N3	**WAKE ISLAND Hy**	**28.63**	**121**	T	T	12 26 03.4	
	baz=315,slow=75,SNR=37						
H11S1	**WAKE ISLAND Hy**	**29.33**	**123**	T	T	12 26 51.4	
	baz=316,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**29.33**	**123**	T	T	12 26 57.4	
	baz=316,slow=76,SNR=32						
H11S2	**WAKE ISLAND Hy**	**29.34**	**123**	T	T	12 26 55.8	
	baz=316,slow=76,SNR=17						
ZALV	**Zalesovo Beam**	**41.44**	**312**	P	**P**	**11 57 30.9**	**-0.6**
	1.9nm,0.5s,baz=61,slow=7.0,SNR=5.5						
MKAR	**Makanchi Array**	**43.65**	**302**	P	**P**	**11 57 49.3**	**-0.3**
	0.9nm,0.5s,baz=90,slow=9.8,SNR=8.9						
WRA	**Warramunga Arr**	**57.35**	**187**	P	**P**	**11 59 33.3**	**+0.4**
	0.5nm,0.6s,baz=1.9,slow=7.2,SNR=13						
ASAR	**Alice Springs**	**61.08**	**187**	P	**P**	**11 59 59.0**	**+0.4**
	0.1nm,0.4s,baz=9.8,slow=6.2,SNR=4.3						
AKASG	**Malin Array Be**	**73.82**	**322**	P	**P**	**12 01 18.2**	**-0.4**
	1.0nm,0.4s,baz=45,slow=6.0,SNR=6.9						

IDC 15 12:02:22.9±0.9, 31.15N×142.32E, h0km, mb3.7/6, mb1 4.0/8, mb1mx3.7/40, mbtmp3.7/8, ML3.2/2, Error ellipse: s-maj=36.1km s-min=19.5km az=98.0

JMA 15 12:02:24.8±0.2, 31.26N×142.14E, h44km, M3.8

ISC 15 12:02:26.1±0.8, 31.16N±0.07×142.2E±0.2, h24km, n12, σ1§47/13, mb3.7/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**3.64**	**343**	P	**Pn**	**12 03 18.7**	**-1.8**
CBIJ	**Chichi jima**	**4.05**	**181**	P	**Pn**	**12 03 27.4**	**+0.8**
JCJ	**Chichijima**	**4.05**	**181**	Pn	**Pn**	**12 03 27.5**	**+0.9**
	4.1nm,0.3s,baz=357,slow=21,SNR=6.4						
JCJ				Sn	**Sn**	**12 04 10.5**	**-2.7**
	4.5nm,0.3s,baz=283,slow=19,SNR=1.6						
JHO	**Hitachi**	**5.61**	**346**	P	**Pn**	**12 03 45.9**	**-2.1**
JAG	**Ashikaga**	**5.74**	**337**	P	**Pn**	**12 03 48.9**	**-0.9**
MJAR	**Matsushiro Arr**	**6.33**	**329**	Pn	**Pn**	**12 03 57.6**	**-0.3**
	0.2nm,0.3s,baz=130,slow=15,SNR=9.0						
MKAR	**Makanchi Array**	**48.00**	**307**	P	**P**	**12 11 04.4**	**+1.2**
	0.5nm,0.7s,baz=96,slow=10.0,SNR=3.3						
WRA	**Warramunga Arr**	**51.37**	**190**	P	**P**	**12 11 28.9**	**0.0**
	0.5nm,0.4s,baz=6.4,slow=7.9,SNR=17						
ILAR	**Eielson Array**	**54.16**	**30**	P	**P**	**12 11 48.4**	**-0.6**
	0.6nm,0.8s,baz=272,slow=6.2,SNR=5.3						
ASAR	**Alice Springs**	**55.09**	**189**	P	**P**	**12 11 56.5**	**+0.2**
	0.4nm,0.5s,baz=2.8,slow=5.6,SNR=15						
NVAR	**Mina Array Bea**	**77.99**	**52**	P	**P**	**12 14 23.5**	**+0.6**
	0.4nm,0.7s,baz=298,slow=6.6,SNR=4.9						
TXAR	**Lajitas Array**	**93.13**	**53**	P	**P**	**12 15 39.9**	**+1.3**
	0.9nm,0.8s,baz=306,slow=2.4,SNR=9.4						

IDC 15 12:04:17.3±0.7, 31.21N×142.25E, h0km, mb4.1/11, mb1 4.2/15, mb1mx4.0/42, mbtmp4.0/15, ML3.4/4, MS2.6/2, Ms1 2.6/2, ms1mx2.2/41, Error ellipse: s-maj=22.7km s-min=16.5km az=88.0

NEIC 15 12:04:19.7±2.1, 31.27N±0.03×142.16E±0.09, h10km±1km, mb4.4/28, Error ellipse: s-maj=13.9km s-min=4.8km az=100.0

JMA 15 12:04:19.3±0.1, 31.21N×142.21E, h47km, M4.2

ISC 15 12:04:20.8±0.6, 31.18N±0.06×142.21E±0.09, h24km, n62, σ1§31/63, mb4.3/23, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.80**	**314**	eS	**Sn**	**12 05 35.1**	**-1.8**
JHJ2	**Mitsune**	**2.80**	**314**	Pn	**Pn**	**12 05 03.8**	**-0.1**
JHJ	**Hachijo jima 2**	**2.82**	**314**	Pn	**Pn**	**12 05 03.2**	**-1.1**
	12nm,0.3s,baz=47,slow=19,SNR=1.8						
JHJ				Sn	**Sn**	**12 05 34.1**	**-3.5**
	24nm,0.3s,baz=90,slow=20,SNR=1.6						
BSO1	**Boso 1**	**3.61**	**344**	P	**Pn**	**12 05 14.2**	**-0.5**
BSO1				eS	**Sn**	**12 05 54.6**	**-1.7**
CBIJ	**Chichi jima**	**4.07**	**180**	P	**Pn**	**12 05 21.2**	**-0.4**
JCJ	**Chichijima**	**4.07**	**180**	Pn	**Pn**	**12 05 21.2**	**-0.4**
	3.7nm,0.3s,baz=288,slow=19,SNR=1.3						
JCJ				Sn	**Sn**	**12 06 05.0**	**-3.5**
	10nm,0.3s,baz=302,slow=19,SNR=1.6						
JHU	**Hanno**	**5.26**	**333**	P	**Pn**	**12 05 37.3**	**-0.5**
JYT	**Yasato**	**5.30**	**342**	Pn	**Pn**	**12 05 39.1**	**+0.6**
JGF	**Kuroka**	**5.99**	**319**	Pn	**Pn**	**12 05 49.1**	**+1.2**
MJAR	**Matsushiro Arr**	**6.29**	**329**	Pn	**Pn**	**12 05 51.8**	**-0.3**
	0.7nm,0.3s,baz=156,slow=13,SNR=18						
MJAR	**Matsushiro Arr**	**6.29**	**329**		**Pn**	**12 05 52.0**	**-0.1**
MAJO	**Matsushiro**	**6.30**	**329**		**Pn**	**12 05 52.3**	**+0.2**
MAT	**Matsushiro**	**6.30**	**329**	P	**Pn**	**12 05 52.4**	**+0.3**
MAT				S	**Sn**	**12 06 59.5**	**-3.8**
JMM	**Marumori**	**6.77**	**350**	Pn	**Pn**	**12 05 57.6**	**-1.0**
JWT	**Wachi**	**7.02**	**307**	Pn	**Pn**	**12 06 00.6**	**-1.4**
JSD	**Sado**	**7.57**	**336**	Pn	**Pn**	**12 06 08.8**	**-0.8**
ERM	**Erimo**	**10.84**	**4**	Pn	**Pn**	**12 06 50.7**	**-3.7**
ASAJ	**Asahikawa**	**12.91**	**1**	LR	LR	12 13 57.3	
	comp=Z,23nm,20.2s,baz=176,slow=45						
KLR	**Kul'dur**	**19.68**	**339**	P	**P**	**12 08 47.8**	**-0.2**
	0.2nm,0.3s,baz=172,slow=5.9,SNR=5.0						
YULB	**Yu-li**	**20.12**	**252**	P	**P**	**12 08 53.2**	**+0.2**
YULB					IAmb	IAmb	12 09 18.6	
	comp=Z,19nm,1.2s							
SSLB	**Suanglung**	**20.23**	**254**	P	**P**	**12 08 54.9**	**+0.7**
SSLB					IAmb	IAmb	12 08 55.7	
	comp=Z,39nm,1.3s							
PETK	**Petropavlovsk-**	**24.63**	**23**	LR	LR	12 19 44.3	
	comp=Z,19nm,21.2s,baz=226,slow=38						
SONM	**Songino Array**	**31.90**	**312**	P	**P**	**12 10 45.8**	**+1.4**
	comp=Z,0.4nm,0.4s,baz=120,slow=8.7,SNR=3.3						
MK31	**Makanchi Array**	**47.97**	**307**	P	**P**	**12 12 57.3**	**-0.3**
MKAR	**Makanchi Array**	**47.97**	**307**	P	**P**	**12 12 57.8**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=88,slow=8.2,SNR=6.0						
MKAR	**Makanchi Array**	**47.97**	**307**	P	**P**	**12 12 57.1**	**-0.4**
K20K	**Telida**	**50.88**	**31**	P	**P**	**12 13 21.3**	**+1.8**
J20K	**Nowinta River**	**50.96**	**30**	P	**P**	**12 13 21.4**	**+1.4**
J20K					IAmb	IAmb	12 13 37.8	
	comp=Z,6.0nm,1.3s							
KDAK	**Kodiak Island**	**51.13**	**39**	P	**P**	**12 13 21.6**	**+0.3**
	comp=Z,11nm,1.1s,baz=271,slow=2.8,SNR=5.2							
WR0	**Warramunga Arr**	**51.38**	**189**	P	**P**	**12 13 23.9**	**+0.3**
WR0					IAmb	IAmb	12 13 24.2	
	comp=Z,9.0nm,1.4s							
WB2	**Warramunga Arr**	**51.39**	**189**	P	**P**	**12 13 24.2**	**+0.5**
WB2					IAmb	IAmb	12 13 25.2	
	comp=Z,3.4nm,0.8s							
WRA	**Warramunga Arr**	**51.39**	**189**	P	**P**	**12 13 24.0**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=6.5,slow=7.8,SNR=27							
WRA	**Warramunga Arr**	**51.39**	**189**	P	**P**	**12 13 23.2**	**-0.5**
IMAR	**Indian Mountai**	**51.42**	**28**	P	**P**	**12 13 23.8**	**+0.4**
CAST	**Castle Rocks**	**51.77**	**31**	P	**P**	**12 13 27.9**	**+1.8**
SKT	**Skwentna**	**51.90**	**33**	P	**P**	**12 13 27.5**	**+0.4**
SKT					IAmb	IAmb	12 13 48.9	
	comp=Z,7.9nm,1.4s							
SUA	**Susitna One**	**52.23**	**34**	P	**P**	**12 13 30.4**	**+0.7**
BPAW	**Bear Paw Mtn.**	**52.33**	**31**	P	**P**	**12 13 31.3**	**+1.0**
BPAW					IAmb	IAmb	12 13 50.6	
	comp=Z,5.2nm,1.4s							
MLY	**Manley**	**52.53**	**30**	P	**P**	**12 13 31.9**	**+0.2**
TRF	**Thorofare Moun**	**52.58**	**32**	P	**P**	**12 13 33.9**	**+1.5**
TRF					IAmb	IAmb	12 14 00.9	
	comp=Z,3.8nm,1.1s							
RND	**Reindeer**	**53.22**	**32**	P	**P**	**12 13 37.4**	**+0.4**
RND					IAmb	IAmb	12 14 03.8	
	comp=Z,7.1nm,1.4s							
TOLK	**Toolik Lake Re**	**53.42**	**25**	P	**P**	**12 13 39.8**	**+1.5**
MDM	**Murphy Dome**	**53.59**	**30**	P	**P**	**12 13 41.1**	**+1.6**
ILAR	**Eielson Array**	**54.15**	**30**	P	**P**	**12 13 43.5**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=255,slow=5.9,SNR=10							
RIDG	**Independent Ri**	**55.02**	**31**	P	**P**	**12 13 50.3**	**+0.3**
RIDG					IAmb	IAmb	12 13 54.7	
	comp=Z,4.0nm,1.3s							
ASAR	**Alice Springs**	**55.12**	**189**	P	**P**	**12 13 51.4**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=9.0,slow=6.4,SNR=9.1							
ASAR	**Alice Springs**	**55.12**	**189**	P	**P**	**12 13 51.2**	**+0.1**
DOT	**Dot Lake**	**55.37**	**31**	P	**P**	**12 13 53.0**	**+0.4**
DOT					IAmb	IAmb	12 13 58.6	
	comp=Z,7.3nm,1.4s							
SCRK	**Sand Creek**	**55.40**	**31**		**P**	**12 13 52.5**	**-0.4**
SCRK					IAmb	IAmb	12 14 09.2	
	comp=Z,4.9nm,1.2s							
CRQM	**Cirque**	**55.93**	**35**	P	**P**	**12 13 55.1**	**-1.6**
K27K	**Chicken**	**56.24**	**31**	P	**P**	**12 13 58.4**	**-0.3**
K27K					IAmb	IAmb	12 14 23.7	
	comp=Z,4.9nm,1.4s							
KK31	**Karatay Array**	**56.77**	**304**	P	**P**	**12 14 04.2**	**+1.3**
KK31					IAmb	IAmb	12 14 18.9	
	comp=Z,2.0nm,0.7s							
KKAR	**Karatay Array**	**56.77**	**304**	P	**P**	**12 14 04.4**	**+1.5**
EPYK	**Eagle Plains**	**58.32**	**28**	P	**P**	**12 14 14.9**	**+1.4**
CHGR	**Chuyangaron**	**58.93**	**299**	P	**P**	**12 14 18.8**	**+0.6**
INK	**Inuvik**	**59.33**	**25**	P	**P**	**12 14 18.7**	**-1.6**
	comp=Z,3.7nm,1.1s,baz=259,slow=5.2,SNR=2.8							
INK	**Inuvik**	**59.33**	**25**	IAmb	IAmb	12 14 22.9		
	comp=Z,6.4nm,1.2s							
ABKAR	**Akbulak array**	**62.30**	**313**	P	**P**	**12 14 41.4**	**+0.6**	
FINES	**FINESS Array B**	**74.31**	**333**	P	**P**	**12 15 55.5**	**-0.3**	
	comp=Z,3.4nm,1.0s,baz=37,slow=7.1,SNR=4.4							
NVAR	**Mina Array Bea**	**78.00**	**52**	P	**P**	**12 16 18.7**	**+1.1**	
	comp=Z,0.7nm,0.6s,baz=292,slow=5.8,SNR=8.7							
PDAR	**Pinedale Array**	**81.31**	**45**	P	**P**	**12 16 35.0**	**-0.4**	
	comp=Z,0.4nm,0.6s,baz=263,slow=2.4,SNR=5.0							
TXAR	**Lajitas Array**	**93.14**	**53**	P	**P**	**12 17 34.5**	**+1.3**	
	comp=Z,2.3nm,0.9s,baz=300,slow=2.8,SNR=20							

IDC 15 12:10:47.1±1.8, 17.55S×178.81W, h572km±15km, mb2.8/4, mb1 3.2/6, mb1mx2.9/29, mbtmp3.8/6, Error ellipse: s-maj=101.8km s-min=18.4km az=154.0

ISC 15 12:10:47.1±1.3, 17.1S±0.6×179.0W±0.3, h550km, n8, σ2§31/8, mb3.2/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.94**	**256**	P	**P**	**12 12 05.2**	**+3.3**
	2.2nm,0.3s,baz=131,slow=3.0,SNR=13						
AFI	**Afiamalu**	**7.59**	**67**	P	**P**	**12 12 40.7**	**-0.2**
	2.6nm,0.3s,baz=180,slow=20,SNR=4.6						
WRA	**Warramunga Arr**	**44.29**	**259**	P	**P**	**12 18 06.8**	**-1.8**
	0.4nm,0.4s,baz=89,slow=6.9,SNR=18						
ASAR	**Alice Springs**	**44.53**	**253**	P	**P**	**12 18 08.8**	**-1.7**
	2.8nm,0.4s,baz=89,slow=8.1,SNR=70						
ASAR				PcP	**PcP**	**12 19 39.4**	**-2.4**
	0.4nm,0.4s,baz=100,slow=4.4,SNR=5.4						
ILAR	**Eielson Array**	**85.17**	**13**	P	**P**	**12 22 24.5**	**-0.5**
	0.2nm,0.4s,baz=215,slow=5.2,SNR=2.1						
TXAR	**Lajitas Array**	**85.98**	**58**	P	**P**	**12 22 29.9**	**0.0**
	0.1nm,0.4s,baz=224,slow=5.0,SNR=2.7						
BRTR	**Keskin Array B**	**143.81**	**315**	PKP	PKPbc	12 29 17.4	-2.1
	0.7nm,0.6s,baz=118,slow=3.9,SNR=3.7						
GERES	**GERESS Array B**	**146.65**	**345**	PKPbc	**PKPdf**	**12 29 26.7**	**+1.9**
	0.7nm,0.5s,baz=357,slow=2.2,SNR=6.2						

ISK 15 12:11:08.8, 37.23N×37.56E, h6km, ML2.8/8

DDA 15 12:11:09.0, 37.27N×37.59E, h2km±3km, ML2.9

ISC 15 12:11:09.2±1.2, 37.23N±0.03×37.58E±0.03, h4km±10km, n21, σ0§86/35, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GZT	**Gaziantep**	**0.13**	**354**	*i* P	**Pg**	**12 11 11.2**	**-0.6**
GZT				*i* S	**Sg**	**12 11 12.7**	**-0.8**
GAZ	**Gaziantep**	**0.30**	**260**	PG	**Pg**	**12 11 14.2**	**-0.5**
KHMN	**Narli-Kahraman**	**0.38**	**296**	PG	**Pg**	**12 11 16.5**	**+0.1**
KHMN				SG	**Sg**	**12 11 21.8**	**+0.5**
HCB	**Kahramanmara**	**0.55**	**283**	*i* P	**Pg**	**12 11 20.0**	**+0.3**
HCB				*i* S	**Sb**	**12 11 30.5**	**+0.8**
KAHM	**Kahramanmaras,**	**0.56**	**302**	*i* P	**Pb**	**12 11 20.6**	**-0.9**
KUZU	**Kuzuini**	**0.61**	**222**	*i* P	**Pb**	**12 11 22.2**	**-0.2**
KUZU				*i* S	**Sn**	**12 11 34.2**	**-0.8**
KUZU				IAML		12 11 35.0	
	comp=N,902nm,0.4s

	comp=N,2µm,1.5s								
HOPS					IAML			12 46 20.9	
	comp=E,3µm,0.9s								
MNRC	**McLaughlin Min**	**0.29**	**73**			**Pg**		**12 46 12.8**	**0.0**
FTR	**Fort Ross**	**0.39**	**226**			**Pg**		**12 46 14.5**	**-0.1**
CVS	**Carmenet Viney**	**0.52**	**149**			**Pg**		**12 46 16.7**	**-0.4**
MCCM	**Marconi Confer**	**0.65**	**185**		Pg	**Pg**		**12 46 19.9**	**+0.4**
MCCM					IAML			12 46 33.7	
	comp=N,692nm,1.1s								
GNAM	**Navarro Ridge**	**0.76**	**302**			**Pg**		**12 46 21.7**	**+0.1**
GASB	**Alder Springs**	**0.86**	**4**			**Pn**		**12 46 24.8**	**-0.4**
SUTB	**Sutter Butte**	**0.90**	**61**			**Pg**		**12 46 22.9**	**-1.3**
BRK	**Berkeley--Havi**	**1.01**	**155**			**Pb**		**12 46 26.3**	**-0.2**
VAK	**Adit at Lawren**	**1.01**	**154**			**Pg**		**12 46 25.7**	**-0.7**
BL67	**Building 67, L**	**1.01**	**155**			**Pg**		**12 46 25.8**	**-0.6**
BKS	**Berkeley--Byer**	**1.02**	**154**			**Pg**		**12 46 25.9**	**-0.6**
KCPM	**Cahto Peak**	**1.08**	**326**		Pg	**Pg**		**12 46 27.5**	**-0.1**
KCPM					IAML			12 46 48.3	
	comp=N,361nm,1.3s								
KCPM					IAML			12 46 51.9	
	comp=E,455nm,0.9s								
BDM	**Black Diamond**	**1.12**	**138**			**Pn**		**12 46 28.2**	**-0.3**
ORV	**Oroville**	**1.26**	**53**		Pg	**Pn**		**12 46 29.2**	**-1.4**
KBSM	**Bell Springs**	**1.28**	**332**			**Pn**		**12 46 30.6**	**-0.3**
KMRM	**Mail Ridge**	**1.59**	**334**			**Pb**		**12 46 36.2**	**-0.2**
KMRM					IAML			12 47 13.8	
	comp=N,130nm,1.8s								
KMRM					IAML			12 47 22.1	
	comp=E,204nm,1.6s								
COSM	**Mount Oso**	**1.71**	**138**			**Pn**		**12 46 37.0**	**+0.2**
MHC	**Mount Hamilton**	**1.72**	**147**			**Pn**		**12 46 36.2**	**-0.7**
WDC	**Whiskeytown Da**	**1.79**	**6**			**Pn**		**12 46 37.4**	**-0.4**
CMPM	**Mikes Peak**	**1.85**	**140**			**Pn**		**12 46 38.7**	**-0.1**
CMB	**Columbia Colle**	**2.04**	**111**		Pn	**Pn**		**12 46 40.7**	**-0.7**
CMB						**Pb**		**12 46 40.8**	**-3.3**
CMB					IAML			12 47 09.2	
	comp=N,80nm,0.9s								
RUBR	**Rubicon Trail**	**2.08**	**82**			**Pb**		**12 46 42.7**	**-2.2**
RUBR					IAML			12 47 15.0	
	comp=E,138nm,1.1s								
EMB	**Emerald Bay**	**2.11**	**84**		Pn	**Pn**		**12 46 42.8**	**+0.3**
MOBB	**Monterey Bay O**	**2.16**	**166**			**Pn**		**12 46 41.3**	**-1.5**
BEKR	**Beckworth**	**2.17**	**60**		Pn	**Pn**		**12 46 43.2**	**-0.1**
KHMM	**Horse Mountain**	**2.20**	**341**		Pn	**Pn**		**12 46 42.6**	**-1.0**
KHMM					IAML			12 47 42.9	
	comp=E,57nm,2.6s								
JCC	**Jacoby Creek,**	**2.23**	**335**		Pn	**Pn**		**12 46 41.1**	**-2.8**
JCC					IAML			12 47 43.2	
	comp=E,65nm,2.3s								
SAO	**San Andreas Ge**	**2.29**	**152**			**Pn**		**12 46 43.0**	**-1.8**
VCNR	**Virginia City**	**2.50**	**78**			**Pn**		**12 46 48.5**	**+0.6**
VCNR					IAML			12 47 26.6	
	comp=E,52nm,0.9s								
VCNR					IAML			12 47 48.6	
	comp=N,44nm,1.1s								
BJCM	**Johnson Can.**	**2.51**	**153**			**Pn**		**12 46 46.5**	**-1.2**
PNTR	**Pine Nut**	**2.51**	**82**			**Pb**		**12 46 49.6**	**-2.6**
HAST	**Hastings Reser**	**2.60**	**157**			**Pn**		**12 46 47.1**	**-1.9**
YERR	**Yerington**	**2.79**	**85**			**Pn**		**12 46 52.9**	**+1.2**
YERR					IAML			12 47 52.1	
	comp=N,59nm,1.0s								
PAHR	**Pah Rah Range**	**2.81**	**70**		Pn	**Pn**		**12 46 52.0**	**+0.1**
KRMB	**Red Mountain**	**2.85**	**343**		Pn	**Pn**		**12 46 52.5**	**-0.1**
KRMB					IAML			12 48 02.0	
	comp=E,33nm,2.5s								
YBH	**Yreka Blue Hor**	**2.93**	**1**		Pn	**Pn**		**12 46 55.4**	**+1.7**
	comp=E,0.3nm,0.3s,baz=197,slow=15,SNR=4.4								
YBH	**Yreka Blue Hor**	**2.93**	**1**		Pn	**Pn**		**12 46 54.9**	**+1.2**
PMPB	**Monarch Peak**	**3.03**	**148**			**Pn**		**12 46 55.1**	**+0.2**
PMPB					IAML			12 48 21.7	
	comp=N,58nm,2.1s								
MDPB	**Devils Postpil**	**3.15**	**110**			**Pn**		**12 46 58.0**	**+1.2**
MDPB					IAML			12 47 41.2	
	comp=N,50nm,1.5s								
MDPB					IAML			12 47 53.9	
	comp=E,34nm,1.1s								
RYN	**Ryan**	**3.35**	**92**			**Pn**		**12 46 59.3**	**-0.2**
RYN					IAML			12 47 56.1	
	comp=N,30nm,1.5s								
RYN					IAML			12 47 58.2	
	comp=E,33nm,1.3s								
LHV	**Little Huntoon**	**3.41**	**98**			**Pn**		**12 47 02.1**	**+2.0**
NVAR	**Mina Array Bea**	**3.54**	**95**		Pn	**Pn**		**12 47 03.1**	**+1.0**
	comp=E,0.7nm,0.3s,baz=274,slow=14,SNR=16								
NVAR					Pg	**Pb**		**12 47 11.1**	**+1.4**
	comp=E,1.6nm,0.3s,baz=276,slow=16,SNR=46								
NVAR					Lg	Lg		12 47 59.4	
	comp=E,0.8nm,0.3s,baz=269,slow=30,SNR=2.3								
NVAR	**Mina Array Bea**	**3.54**	**95**			**Pn**		**12 47 02.4**	**+0.3**
NV11	**Mina Array Sit**	**3.66**	**94**			**Pn**		**12 47 04.4**	**+0.8**
NV11					IAML			12 48 17.8	
	comp=E,22nm,1.5s								
KVN	**Kaiserville**	**3.68**	**85**		Pn	**Pn**		**12 47 04.2**	**+0.3**
KVN					IAML			12 48 07.7	
	comp=E,15nm,1.9s								
KVN					IAML			12 48 18.4	
	comp=N,15nm,1.4s								
HUMO	**Hull Mountain**	**3.81**	**358**		Pn	**Pn**		**12 47 07.1**	**+1.4**
TPH	**Tonopah**	**4.44**	**98**		Pn	**Pn**		**12 47 13.9**	**-0.5**
ISA	**Isabella, Lake**	**4.66**	**131**		Pn	**Pn**		**12 47 18.5**	**+1.2**
ISA					IAML			12 48 28.7	
	comp=E,14nm,1.8s								
ISA					IAML			12 48 36.9	
	comp=N,9.2nm,1.1s								
PINE	**Pine Mountain**	**5.18**	**15**		Pn	**Pn**		**12 47 24.6**	**-0.1**
PINE					IAML			12 49 11.0	
	comp=E,12nm,4.2s								
ELK	**Elko**	**6.14**	**69**		Pn	**Pn**		**12 47 38.5**	**+0.7**
	comp=E,0.1nm,0.3s,baz=242,slow=9.4,SNR=10								
PDAR	**Pinedale Array**	**10.80**	**64**		Pn	Pn		12 48 45.6	+4.0
	comp=E,0.1nm,0.3s,baz=250,slow=12,SNR=11								
TXAR	**Lajitas Array**	**18.42**	**115**		P	**P**		**12 50 26.2**	**+3.8**
	comp=E,0.0nm,0.3s,baz=304,slow=9.7,SNR=5.0								

NNC 15 12:46:42.2±4.9, 36°57N×69°23E, h121m±115m, mb2.9, mpv3.5, 3C, Error ellipse: s-maj=47.0km s-min=42.9km az=101.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.60**	**8**	P	Pn	12 48 17.2	+0.4
	0.7nm,0.3s,baz=176,slow=10,SNR=9.4						
KK31				⇑S	Sn	12 49 30.9	+0.4
	0.5nm,0.3s,baz=175,slow=20,SNR=4.7						
AAK	**Ala-Archa**	**7.30**	**32**	⇑P	Pn	12 48 25.8	-0.5
	2.7nm,0.5s						
AAK				⇑S	Sn	12 49 48.5	+0.8
	4.3nm,1.1s						
AB31	**Akbulak array**	**14.38**	**335**	P	Pn	12 49 59.9	0.0
	0.3nm,0.4s,baz=154,slow=12,SNR=10						

MEX 15 13:02:10.7±0.6, 18°28N×103°50W, h6km±18km, MD3.6, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.15**	**86**	*i* P	Pg	13 02 13.3	-0.4
MMIG				*i* S	Sg	13 02 15.7	0.0
COIG	**Colima**	**0.92**	**349**	*i* P	Pg	13 02 26.0	-2.3
COIG				*i* S	Sg	13 02 36.2	-4.0
R15V		**1.00**	**333**	*i* P	Pg	13 02 28.1	-1.9
R15V				*i* S	Sg	13 02 39.9	-3.0
EZ5V		**1.20**	**355**	*i* P	Pg	13 02 31.2	-2.6
EZ5V				*i* S	Sg	13 02 46.6	-2.7

MEX 15 13:06:32.6±0.5, 14°04N×92°62W, h18km±46km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.93**	**22**	*i* P	Pb	13 06 47.6	-2.6
THIG				*i* S	Sb	13 06 59.3	-2.9
PCIG		**1.75**	**341**	*i* P	Pn	13 06 57.2	-5.0
PCIG				*i* S	Sn	13 07 24.6	+0.6
TGIG		**2.76**	**350**	*i* P	Pn	13 07 14.4	-1.7
TGIG				*i* S	Sn	13 07 46.1	-3.0
CMIG	**Matias Romero**	**3.73**	**325**	*i* P	Pn	13 07 27.0	-2.4
CMIG				*i* S	Sn	13 08 09.1	-4.0

*IDC **15** 13:29:32.3±4.2, 30°94N×141°33E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/36, mbtmp3.4/4, ML2.5/1, MS2.5/1, Ms1 2.5/1, ms1mx2.0/36, Error ellipse: s-maj=172.7km s-min=26.1km az=72.0*

*JMA **15** 13:29:34.9±0.2, 31°70N×142°31E, h9km, M3.5*

ISC 15 13:29:33.8±3.0, 31°3N±0°2×142°1E±0°8, h29km, n7, σ1§44/8, mb3.6/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHU	**Hanno**	**5.11**	**333**	P	**Pn**	**13 30 50.0**	**+1.5**
JHU				S	**Sn**	**13 31 45.2**	**-1.3**
JAG	**Ashikaga**	**5.56**	**337**	P	**Pn**	**13 30 55.4**	**+0.8**
JAG				*e*S	**Sn**	**13 31 55.8**	**-1.8**
MJAR	**Matsushiro Arr**	**6.15**	**329**	Pn	**Pn**	**13 31 03.5**	**+0.8**
	0.1nm,0.3s,baz=154,slow=12,SNR=7.5						
KSRS	**Korea Array**	**13.23**	**301**	LR	LR	13 37 41.1	
	comp=Z,20nm,18.4s,baz=285,slow=38						
MKAR	**Makanchi Array**	**47.84**	**307**	P	**P**	**13 38 09.7**	**+0.8**
	0.2nm,0.5s,baz=78,slow=10,SNR=1.8						
WRA	**Warramunga Arr**	**51.51**	**189**	P	**P**	**13 38 36.0**	**-0.9**
	1.2nm,0.9s,baz=5.6,slow=7.6,SNR=13						
ASAR	**Alice Springs**	**55.23**	**189**	P	**P**	**13 39 03.7**	**-0.6**
	0.3nm,0.5s,baz=0.4,slow=5.8,SNR=10						

*NEIC **15** 14:14:45.8±1.5, 21°4S±0°1×177°6W±0°1, h338km±7km, mb4.1/15, Error ellipse: s-maj=22.2km s-min=13.5km az=123.0*

*IDC **15** 14:14:49.5±4.5, 20°87S×178°10W, h355km±33km, mb3.0/7, mb1 3.4/8, mb1mx3.2/22, mbtmp3.8/8, Error ellipse: s-maj=122.8km s-min=15.8km az=154.0*

ISC 15 14:14:47.5±0.7, 21°2S±0°1×177°7W±0°1, h350km, n28, σ1§92/25, mb3.7/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**9.23**	**39**	P	**Pn**	**14 16 57.5**	**+1.0**
	3.9nm,0.3s,baz=216,slow=1.6,SNR=13						
AFI				S	**S**	**14 18 36.4**	**-5.7**
	2.1nm,0.3s,baz=221,slow=19,SNR=1.2						
DZM	**Mont Dzumac**	**14.73**	**264**	P	**Pn**	**14 18 02.7**	**+1.2**
	0.4nm,0.3s,baz=128,slow=12,SNR=3.7						
URZ	**Urewera**	**17.55**	**194**	P	P	14 18 26.3	-3.2
URZ				IAmb	IAmb	14 18 46.9	
	comp=Z,22nm,1.3s						
BKZ	**Black Stump Fm**	**18.55**	**194**	P	**P**	**14 18 38.2**	**-2.1**
BKZ				IAmb	IAmb	14 19 05.0	
	comp=Z,15nm,1.4s						
SNZO	**South Karori**	**21.02**	**196**	P	**P**	**14 19 02.4**	**-2.3**
TUWZ	**Tuamarina**	**21.33**	**197**	P	**P**	**14 19 06.1**	**-1.4**
FOZ	**Fox Glacier**	**24.54**	**202**	P	**P**	**14 19 35.6**	**-1.0**
FOZ				IAmb	IAmb	14 19 39.7	
	comp=Z,33nm,1.0s						
ARMA	**Armidale**	**28.98**	**245**	P	**P**	**14 20 14.6**	**-1.7**
ARMA				IAmb	IAmb	14 20 18.8	
	comp=Z,11nm,1.2s						
PATS	**Pohnpei**	**36.48**	**317**	P	**P**	**14 21 19.7**	**-1.0**
TAOE	**Nuku Hiva Isla**	**38.22**	**77**	P	P	14 21 32.2	-3.2
WR0	**Warramunga Arr**	**44.56**	**263**	P	**P**	**14 22 25.9**	**-0.4**
AS31	**Alice Springs**	**44.59**	**257**	P	**P**	**14 22 25.6**	**-1.0**
ASAR	**Alice Springs**	**44.59**	**257**	P	**P**	**14 22 25.9**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=99,slow=7.8,SNR=12						
ASAR	**Alice Springs**	**44.59**	**257**	P	**P**	**14 22 25.3**	**-1.3**
WB2	**Warramunga Arr**	**44.73**	**263**	P	**P**	**14 22 26.8**	**-0.9**
WB2				IAmb	IAmb	14 22 33.2	
	comp=Z,7.2nm,1.4s						
WRAB	**Tennant Creek**	**44.74**	**263**	P	**P**	**14 22 26.3**	**-1.4**
WRAB				IAmb	IAmb	14 22 36.7	
	comp=Z,7.9nm,1.4s						
WRA	**Warramunga Arr**	**44.75**	**263**	P	**P**	**14 22 27.0**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=94,slow=6.2,SNR=10						
FITZ	**Fitzroy Crossi**	**53.18**	**263**	P	**P**	**14 23 30.9**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=146,slow=7.3,SNR=1.7						
FITZ	**Fitzroy Crossi**	**53.18**	**263**	IAmb	IAmb	14 23 41.0	
	comp=Z,3.4nm,1.1s						
TNTI	**Ternate**	**57.88**	**285**	P	**P**	**14 24 04.8**	**+0.5**
TNTI				IAmb	IAmb	14 24 05.5	
	comp=Z,25nm,0.4s						
QSPA	**South Pole Qui**	**68.84**	**180**	P	**P**	**14 25 14.7**	**-0.2**
QSPA				IAmb	IAmb	14 25 32.9	
	comp=Z,3.8nm,1.4s						
NVAR	**Mina Array Bea**	**81.39**	**43**	P	**P**	**14 26 29.1**	**+2.8**
	comp=Z,0.3nm,0.5s,baz=225,slow=8.9,SNR=2.8						
TXAR	**Lajitas Array**	**87.24**	**57**	P	**P**	**14 26 58.0**	**+2.5**
	comp=Z,0.2nm,0.6s,baz=231,slow=5.7,SNR=4.2						
ILAR	**Eielson Array**	**88.97**	**13**	P	**P**	**14 27 03.0**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=216,slow=6.7,SNR=5.0						
PDAR	**Pinedale Array**	**89.32**	**43**	P	**P**	**14 27 05.5**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=184,slow=2.7,SNR=3.6						
AKASG	**Malin Array**	**143.77**	**331**	PKP	PKPab	14 33 38.8	-0.3
	comp=Z,1.6nm,0.5s,baz=40,slow=4.7,SNR=7.6						
BRTR	**Keskin Array B**	**147.51**	**312**	PKPbc	**PKPdf**	**14 33 50.5**	**+2.5**
	comp=Z,0.7nm,0.7s,baz=153,slow=4.0,SNR=4.8						
BRTR	**Keskin Array B**	**147.51**	**312**		**PKPdf**	**14 33 49.6**	**+1.6**

*BJI **15** 14:35:32.0±0.0, 2°70N×128°30E, h140km, mB4.8/26, mb4.7/47*

*NEIC **15** 14:35:33.5±1.2, 2°66N±0°07×128°24E±0°08, h141km±6km, mb4.6/77, Error ellipse: s-maj=11.9km s-min=10.6km az=66.0*

*IDC **15** 14:35:34.0±1.3, 2°64N×128°36E, h153km±12km, mb4.0/26, mb1 4.1/28, mb1mx4.0/43, mbtmp4.5/28, MS3.0/1, Ms1 3.0/1, ms1mx2.3/37, Error ellipse: s-maj=15.4km s-min=6.8km az=77.0*

*DJA **15** 14:35:34.3±0.4, 3°N±4°×12°8E±°, h144km±4km, M4.7/18, mB5.1/8, mb4.8/18, MLv4.9/8, Mw(mB)4.4/8*

ISC 15 14:35:32.9±0.4, 2°64N±0°04×128°25E±0°05, h142km±3km, h142km:pP-P, n168, σ1§24/192, mb4.6/77, 5C-1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAMI	**Galela, Maluku**	**0.92**	**210**	P	**Pn**	**14 35 57.0**	**+0.7**
TNTI	**Ternate**	**2.05**	**205**	Pn	**Pn**	**14 36 08.9**	**+0.7**
TNTI				Sn	**Sn**	**14 36 34.3**	**-1.0**
TNTI	**Ternate**	**2.05**	**205**	P	**Pn**	**14 36 09.5**	**+1.3**
SGSI	**Sangihe**	**2.91**	**291**	P	**Pn**	**14 36 19.1**	**+0.3**
MNI	**Manado**	**3.61**	**251**	P	**Pn**	**14 36 28.4**	**+0.5**
SIJI	**Sorong**	**4.61**	**139**	P	**Pn**	**14 36 42.5**	**+1.5**
	3.2nm,0.3s,baz=128,slow=23,SNR=9.0						
SIJI				S	**Sn**	**14 37 33.9**	**-0.2**
	9.7nm,0.3s,baz=126,slow=22,SNR=12						
KCP	**Kidapawan**	**5.36**	**324**	⇑*e*P	**Pn**	**14 36 51.9**	**+0.7**
KCP				*i* S	**Sn**	**14 37 53.5**	**+1.3**
GTOI	**Gorontalo**	**5.60**	**249**	P	**Pn**	**14 36 55.8**	**+1.6**
	0.9nm2µm257nm,0.8s						
BUKP	**Musuan**	**6.10**	**329**	⇑*i*P	**Pn**	**14 37 00.0**	**-1.0**
BUKP				*i* S	**Sn**	**14 38 07.6**	**-2.2**
MRSI	**Marisa**	**6.66**	**251**	P	**Pn**	**14 37 09.7**	**+1.3**
	0.8nm2µm187nm,0.7s						
FAKI	**Fak Fak**	**6.81**	**144**	Pn	**Pn**	**14 37 12.7**	**+2.2**
FAKI	**Fak Fak**	**6.81**	**144**	P	**Pn**	**14 37 13.3**	**+2.8**
	0.4nm955nm121nm,0.9s						
APSI	**Ampana**	**7.48**	**242**	P	**Pn**	**14 37 19.1**	**-0.3**
	0.4nm1µm100nm,0.8s						
TOLI2	**Tolitoli**	**7.62**	**259**	Pn	**Pn**	**14 37 20.6**	**-0.6**
MPSI	**Mapaga**	**8.65**	**255**	P	**Pn**	**14 37 35.9**	**+0.7**
	27nm,1.2s						
BAKI	**Biak**	**8.73**	**116**	P	**Pn**	**14 37 39.8**	**+3.6**
	132nm,0.9s						
CNOP	**Candoni, Negro**	**9.06**	**322**	⇑*e*P	**Pn**	**14 37 39.2**	**-1.5**
TTSI	**Tana Toraja**	**10.14**	**236**	P	**Pn**	**14 37 54.6**	**-0.4**
	2µm128nm,0.8s						
BNSI	**Bone**	**10.73**	**229**	P	**Pn**	**14 38 04.2**	**+1.4**
	517nm48nm,0.7s						
SAUI	**Saumlaki**	**10.98**	**164**	Pn	**Pn**	**14 38 06.3**	**+0.2**
BKSI	**Bulukumba**	**11.33**	**226**	P	**Pn**	**14 38 10.0**	**-0.8**
	26nm,0.7s						
KAPI	**Kapapang**	**11.39**	**228**	P	**Pn**	**14 38 13.3**	**+1.7**
	3.9nm,0.3s,baz=47,slow=2.5,SNR=9.2						
KAPI				S	**Sn**	**14 40 14.3**	**-3.2**
	0.9nm,0.3s,baz=247,slow=22,SNR=9.2						
KAPI	**Kappang**	**11.39**	**228**		**Pn**	**14 38 12.7**	**+1.1**
GENI	**Genyem**	**13.00**	**113**	P	P	14 38 48.5	+11
JAY	**Jayapura**	**13.46**	**112**	LR	LR	14 43 26.6	
	comp=Z,56nm,19.4s,baz=36,slow=35						
MTN	**Manton Dam**	**15.64**	**170**	Pn	**Pn**	**14 39 05.7**	**-0.1**
KLNI	**Mataram**	**16.36**	**228**	P	**P**	**14 39 19.2**	**+4.4**
	1µm64nm,0.7s						
JAGI	**Jajag, Banyuwa**	**17.87**	**232**	P	**Pn**	**14 39 32.4**	**-0.4**
JAGI				IAmb	IAmb	14 39 54.9	
	comp=Z,46nm,1.3s						

KNRA	**Kununurra**	**18.20**	**178**		P	**P**		**14 39 35.6**	**+0.5**
SJI	**Sawahan**	**19.40**	**238**		P	**Pn**		**14 39 55.1**	**+4.2**
UGM	**Wanagama**	**20.55**	**239**		P	**P**		**14 40 00.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**20.76**	**187**		P	**P**		**14 40 02.0**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=13,slow=7.5,SNR=14								
FITZ	**Fitzroy Crossi**	**20.76**	**187**		P	**P**		**14 40 02.4**	**-0.3**
YULB	**Yu-li**	**21.70**	**343**		P	**P**		**14 40 13.1**	**+0.3**
TPUB	**Ta-pu**	**21.83**	**341**		P	**P**		**14 40 13.1**	**-1.0**
TPUB					IAmb	IAmb		14 40 15.2	
	comp=Z,20nm,0.7s								
ANA2	**Anatahan**	**21.93**	**51**		P	**P**		**14 40 13.0**	**-2.2**
COEN	**Coen**	**22.16**	**138**		P	**P**		**14 40 18.4**	**+0.9**
SSLB	**Suanglung**	**22.18**	**342**		P	**P**		**14 40 17.6**	**-0.1**
SSLB					IAmb	IAmb		14 40 19.9	
	comp=Z,21nm,0.8s								
YOJ	**Yonaguni jima**	**22.28**	**347**		P	**P**		**14 40 18.3**	**-0.3**
NACB	**Ninganchiao**	**22.36**	**344**		P	**P**		**14 40 19.4**	**0.0**
NACB					IAmb	IAmb		14 40 19.8	
	comp=Z,27nm,1.1s								
TATO	**Taipei**	**23.15**	**344**		P	**P**		**14 40 26.9**	**+0.1**
WRAB	**Tennant Creek**	**23.21**	**165**		P	**P**		**14 40 27.1**	**-0.5**
WRAB					IAmb	IAmb		14 40 28.8	
	comp=Z,14nm,0.7s								
WRA	**Warramunga Arr**	**23.22**	**165**		P	**P**		**14 40 27.6**	**0.0**
	comp=Z,14nm,0.6s,baz=346,slow=11,SNR=162								
WRA					S	**S**		**14 44 25.3**	**-3.6**
	comp=Z,0.8nm,0.8s,baz=346,slow=16,SNR=2.2								
WRA					ScP	**ScP**		**14 47 35.5**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=343,slow=2.8,SNR=5.4								
WRA	**Warramunga Arr**	**23.22**	**165**		P	**P**		**14 40 27.3**	**-0.3**
WB2	**Warramunga Arr**	**23.23**	**165**		P	**P**		**14 40 27.3**	**-0.4**
WB2					IAmb	IAmb		14 40 28.8	
	comp=Z,16nm,0.7s								
JMZ	**Minamidaito 2**	**23.23**	**7**		P	**P**		**14 40 27.6**	**0.0**
WR0	**Warramunga Arr**	**23.29**	**165**		P	**P**		**14 40 27.9**	**-0.3**
WR0					IAmb	IAmb		14 40 29.5	
	comp=Z,13nm,0.6s								
JOW	**Kunigami**	**24.06**	**0**		P	**P**		**14 40 35.7**	**+0.5**
	comp=Z,4.5nm,0.4s,baz=159,slow=8.2,SNR=6.0								
JOW	**Kunigami**	**24.06**	**0**		P	**P**		**14 40 35.5**	**+0.4**
JOW					IAmb	IAmb		14 40 58.5	
	comp=Z,37nm,1.4s								
PSA00	**Pilbara Seismi**	**25.43**	**198**		P	**P**		**14 40 47.8**	**+0.2**
UBPT	**Khong Chiam**	**25.73**	**301**		P	**P**		**14 40 51.7**	**+1.3**
UBPT					IAmb	IAmb		14 40 53.1	
	comp=Z,33nm,1.3s								
AS31	**Alice Springs**	**26.72**	**168**		P	**P**		**14 40 59.1**	**-0.2**
ASAR	**Alice Springs**	**26.72**	**168**		P	**P**		**14 40 59.0**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=352,slow=7.6,SNR=80								
ASAR					PcP	**PcP**		**14 44 19.5**	**+0.3**
	comp=Z,2.9nm,0.5s,baz=353,slow=2.2,SNR=28								
ASAR					ScP	**ScP**		**14 47 45.0**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=347,slow=3.0,SNR=7.6								
ASAR	**Alice Springs**	**26.72**	**168**		P	**P**		**14 40 58.9**	**-0.3**
GIRL	**Giralia**	**28.61**	**208**		P	**P**		**14 41 15.5**	**-0.5**
CTA	**Charters Tower**	**28.68**	**143**		P	**P**		**14 41 15.8**	**-0.9**
	comp=Z,2.4nm,0.7s,baz=310,slow=7.9,SNR=2.0								
CTAO	**Charters Tower**	**28.68**	**143**		P	**P**		**14 41 15.6**	**-1.1**
CTAO					IAmb	IAmb		14 41 26.2	
	comp=Z,16nm,1.4s								
JNU	**Nakatsue**	**30.43**	**4**		P	**P**		**14 41 31.1**	**-0.9**
	comp=Z,14nm,0.9s,baz=334,slow=7.2,SNR=3.7								
JNU	**Nakatsue**	**30.43**	**4**		P	**P**		**14 41 31.4**	**-0.6**
JNU					IAmb	IAmb		14 41 35.5	
	comp=Z,31nm,1.2s								
NJ2	**Nanjing**	**30.57**	**344**	*e*P		**P**		**14 41 35.5**	**+2.3**
NJ2				pmax		pmax			
	comp=Z,11nm,0.6s								
WHN	**Wuhan**	**30.72**	**336**	⇑P		**P**		**14 41 34.3**	**-0.3**
JHS	**Saijyo**	**32.52**	**7**	P		**P**		**14 41 50.7**	**+0.4**
JHS				IAmb		IAmb		14 41 53.1	
	comp=Z,22nm,1.2s								
CMAR	**Chiang Mai Arr**	**32.73**	**301**	P		**P**		**14 41 54.2**	**+1.8**
	comp=Z,2.2nm,0.6s,baz=121,slow=7.7,SNR=16								
CMMT	**Chiang Mai**	**32.88**	**301**	P		**P**		**14 41 55.8**	**+2.1**
	comp=Z,11nm,1.3s								
CMMT	**Chiang Mai**	**32.88**

comp=Z,2.3nm,0.7s,baz=240,slow=4.9,SNR=8.1
RAMN Ramite 46.62 305 *e*P **P 14 43 48.9 +1.5**
comp=Z,28nm,0.5s
JIRN Jiri 47.24 306 *e*P **P 14 43 53.7 +1.3**
PKI Pulchoki 47.83 305 *e*P **P 14 43 57.7 +0.7**
comp=Z,9.6nm,0.5s
PKIN Phulchoki 47.85 305 *e*P **P 14 43 57.6 +0.6**
KKN Kakani 48.03 306 *e*P **P 14 43 59.2 +0.9**
comp=Z,19nm,0.5s
DMN Daman 48.10 305 *e*P **P 14 43 59.8 +0.9**
comp=Z,35nm,0.8s
ULN Ulaanbaatar 48.63 341 P **P 14 44 02.8 +0.3**
ULN IAmb IAmb 14 44 04.0
comp=Z,12nm,0.8s
ULN Ulaanbaatar 48.63 341 P **P 14 44 03.0 +0.5**
comp=Z,60nm,0.9s
GKN Gorkha 48.63 306 *e*P **P 14 44 03.7 +0.8**
SONM Songino Array 48.82 341 P **P 14 44 04.6 +0.7**
comp=Z,4.3nm,0.6s,baz=153,slow=8.5,SNR=22
SONM PcP **PcP 14 45 27.4 +0.9**
comp=Z,1.7nm,0.7s,baz=161,slow=3.9,SNR=5.3
SONM Songino Array 48.82 341 P **P 14 44 04.0 +0.1**
KOLN Koldanda 49.39 305 *e*P **P 14 44 10.0 +1.3**
comp=Z,57nm,0.6s
DANN Dangsing 49.48 306 *e*P **P 14 44 10.5 +1.0**
comp=Z,80nm,0.6s
PYUN Piuthan 50.01 305 *e*P **P 14 44 14.8 +1.4**
comp=Z,53nm,0.6s
HYB Hyderabad 50.91 290 *i*P **P 14 44 21.0 +0.9**
WMQ Urumqi 54.48 325 *e*P **P 14 44 47.6 +1.6**
WMQ pmax pmax
comp=Z,25nm,0.7s
WMQ pmax pmax
comp=Z,78nm,4.7s
PEA0B Petropavlovsk- 55.88 21 P **P 14 44 55.8 +0.1**
PETK Petropavlovsk- 55.88 21 P **P 14 44 55.8 +0.1**
comp=Z,2.6nm,0.6s,baz=196,slow=5.1,SNR=25
MIDW Midway 57.66 58 P **P 14 45 07.9 -0.8**
YAK Yakutsk 59.26 1 P **P 14 45 18.5 -0.7**
MK31 Makanchi Array 59.31 325 P **P 14 45 20.2 +0.3**
MK31 IAmb IAmb 14 45 20.9
comp=Z,5.4nm,0.6s
MKAR Makanchi Array 59.31 325 P **P 14 45 20.4 +0.5**
comp=Z,10.0nm,0.6s,baz=116,slow=8.2,SNR=132
MKAR PcP **PcP 14 46 06.8 +0.3**
comp=Z,4.3nm,0.8s,baz=121,slow=4.8,SNR=8.9
MKAR Makanchi Array 59.31 325 P **P 14 45 20.2 +0.3**
MAKZ Makanchi 59.50 325 P **P 14 45 21.1 -0.1**
KSH Kashi 59.88 315 P **P 14 45 26.3 +2.2**
KSH PcP **sP 14 46 10.9 -1.0**
KSH pmax pmax
comp=Z,7.0nm,0.8s
KDJ Kajisay 60.17 318 P **P 14 45 26.3 +0.2**
KDJ IAmb IAmb 14 45 27.5
comp=Z,6.8nm,0.7s
ZAA0 Zalesovo Array 62.25 333 P **P 14 45 38.5 -1.0**
ZALV Zalesovo Beam 62.25 333 P **P 14 45 38.9 -0.7**
comp=Z,1.8nm,0.4s,baz=116,slow=7.1,SNR=8.7
ZALV Zalesovo Beam 62.25 333 P **P 14 45 38.5 -1.0**
SEY Seymchan 62.76 12 P **P 14 45 44.1 +1.3**
comp=Z,3.6nm,0.6s,baz=221,slow=7.6,SNR=8.8
KBL Kabul 63.39 308 P **P 14 45 47.5 -0.3**
KBL IAmb IAmb 14 45 48.8
comp=Z,5.9nm,1.1s
BTK Batken 63.77 314 P **P 14 45 50.0 0.0**
GAR Garm 63.77 313 P **P 14 45 50.0 -0.2**
AMKA Amchitka 64.59 33 P **P 14 45 55.2 +0.2**
KK31 Karatay Array 65.06 317 P **P 14 45 58.1 -0.1**
KKAR Karatay Array 65.06 317 P **P 14 45 58.2 0.0**
KKAR IAmb IAmb 14 45 59.3
comp=Z,4.5nm,0.8s
KIWB Kanaga Island 66.75 33 P **P 14 46 09.7 +0.8**
ATKA Atka Island 68.54 34 P **P 14 46 20.4 +0.3**
TIXI Tiksi 68.92 0 P **P 14 46 21.6 -0.4**
TIXI IAmb IAmb 14 46 39.6
comp=Z,11nm,1.0s
BVAR Borovoye Array 69.06 327 P **P 14 46 23.0 -0.3**
comp=Z,6.3nm,0.8s,baz=157,slow=8.0,SNR=29
BVAR PcP **PcP 14 46 46.2 -0.2**
comp=Z,1.4nm,0.6s,baz=116,slow=3.4,SNR=4.3
BRVK Borovoye 69.13 327 P **P 14 46 23.5 -0.2**
BRVK IAmb IAmb 14 46 24.6
comp=Z,12nm,1.1s
CASY Casey 69.93 188 P **P 14 46 28.9 +0.6**
GEYT Alibeck 72.76 309 P **P 14 46 46.5 +0.5**
comp=Z,3.7nm,0.7s,baz=204,slow=6.5,SNR=7.6
ABKAR Akbulak array 73.95 321 P **P 14 46 52.2 -0.5**
AKTO Aktyubinsk 75.45 322 P **P 14 47 01.1 -0.2**
comp=Z,4.2nm,0.7s,baz=99,slow=8.1,SNR=20
ARU Arti 76.67 328 P **P 14 47 07.4 -0.6**
comp=Z,2.8nm,0.6s,baz=121,slow=4.9,SNR=11
ARU Arti 76.67 328 P **P 14 47 07.8 -0.3**
ARU IAmb IAmb 14 47 08.1
comp=Z,8.3nm,0.6s
SDPT Sand Point 77.25 34 P **P 14 47 11.6 +0.3**
VNDA Vanda 82.16 173 P **P 14 47 37.6 +0.2**
comp=Z,1.9nm,0.5s,baz=319,slow=6.8,SNR=18
VNDA Vanda 82.16 173 P **P 14 47 37.5 +0.1**
J20K Nowinta River 82.24 26 P **P 14 47 39.1 +1.0**
J20K IAmb IAmb 14 47 40.6
comp=Z,8.7nm,1.1s
IMAR Indian Mountai 82.72 24 P **P 14 47 41.4 +0.9**
CAST Castle Rocks 83.03 26 P **P 14 47 43.1 +0.8**
CAST IAmb IAmb 14 47 43.9
comp=Z,6.6nm,1.0s
H21K Melozitna Rive 83.05 24 P **P 14 47 43.1 +0.9**
MAW Mawson 83.26 201 P **P 14 47 43.8 +0.6**
comp=Z,1.9nm,0.6s,baz=97,slow=7.2,SNR=11
I21K Tanana 83.32 25 P **P 14 47 44.8 +1.2**
I21K IAmb IAmb 14 47 46.0
comp=Z,8.0nm,1.1s
COLD Coldfoot 84.31 23 P **P 14 47 49.7 +1.1**
COLD IAmb IAmb 14 47 51.0
comp=Z,6.4nm,0.8s
RND Reindeer 84.47 27 P **P 14 47 49.4 -0.2**
RND IAmb IAmb 14 47 50.2
comp=Z,4.2nm,0.5s
KNK Knik Glacier 84.48 29 P **P 14 47 50.2 +0.6**
KNK IAmb IAmb 14 47 51.8
comp=Z,19nm,1.2s
ILAR Eielson Array 85.44 25 P **P 14 47 52.9 -1.4**
comp=Z,0.3nm,0.6s,baz=236,slow=5.4,SNR=5.1
ARCES ARCESS Array B 91.99 340 P **P 14 48 23.9 -1.3**
comp=Z,2.6nm,0.6s,baz=69,slow=6.6,SNR=15
ARCES ARCESS Array B 91.99 340 P **P 14 48 24.1 -1.1**
ARCES IAmb IAmb 14 48 25.1
comp=Z,3.6nm,0.8s
FINES FINESS Array B 93.50 332 P **P 14 48 31.1 -1.3**
comp=Z,4.2nm,1.0s,baz=90,slow=11,SNR=2.0
MNK Minsk 93.88 325 *i*P **P 14 48 32.3 -1.9**
comp=E,5.0nm,1.0s
MNK *i*P **P 14 48 32.3 -1.9**
comp=N,12nm,1.0s
MNK *i*P **P 14 48 32.3 -1.9**
comp=Z,9.0nm,1.0s,baz=80
MNK *i*pP **pP 14 49 08.1 -1.2**
MNK *i*sP **sP 14 49 23.0 -0.7**
MNK *i*PP **PP 14 52 19.6 -2.0**
MNK *i*PPP PPP 14 54 21.0
MNK *i*S **SKSac 14 58 53.3 -2.3**
MNK *i*sS pS 14 59 58.5 -19
MNK *i*SP **SP 15 00 45.0 -1.4**
MNK *i*PS **PS 15 01 02.6 -2.1**
MNK *i*SS **SS 15 05 53.5 -0.4**
MNK *i*SSS SSS 15 09 34.4
MNK *i*LRM MLR 15 31 18.2
comp=N,295nm,16.4s
MNK *i*LRM MLR 15 31 19.4
comp=E,24nm,16.4s
MNK *i*LRM MLR 15 31 22.0
comp=Z,323nm,16.4s
TXAR Lajitas Array 121.05 53 PKP **PKiKP 14 54 09.7 0.0**
comp=Z,0.3nm,0.6s,baz=353,slow=1.3,SNR=5.3
TXAR PKKPbc **PKKPbc 15 04 12.1 -1.2**
comp=Z,0.1nm,0.7s,baz=140,slow=5.9,SNR=4.2
TORD Torodi Ar. Bea 124.70 288 PKP **PKPdf 14 54 16.5 -0.3**
comp=Z,2.1nm,0.8s,baz=43,slow=2.0,SNR=11

IDC 15 14:41:10.4±2.3, 1.55N×127.59E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/42, mbtmp3.1/3, Error ellipse: s-maj=154.0km s-min=29.3km az=67.0, Halmahera

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

WRA Warramunga Arr 22.36 163 P P 14 46 09.5 -0.8
0.3nm,0.5s,baz=343,slow=11,SNR=5.3
ASAR Alice Springs 25.81 167 P P 14 46 44.1 +0.7
0.3nm,0.8s,baz=345,slow=11,SNR=1.6
MKAR Makanchi Array 59.83 326 P P 14 51 17.7 0.0
0.1nm,0.4s,baz=120,slow=6.9,SNR=1.8

DDA 15 15:01:53.8, 41.91N×26.95E, h7km±1km, ML1.6, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIRK	**Kırklareli**	**0.17**	**139**	*i*P		Pg	15 01 57.7	+0.5
KIRK				*i*S		Sg	15 02 00.8	+1.3
KIRK				IAML			15 02 03.0	
comp=N,85nm,0.6s								
KIRK	**Kırklareli**	**0.17**	**139**	*i*P		Pg	15 01 57.7	+0.5
KIRK				*i*S		Sg	15 02 00.5	+1.0
KIRK				IAML			15 02 03.0	
comp=N,85nm,0.6s								
ARMN	**Kirklareli, Me**	**0.36**	**97**	*i*P		Pg	15 02 01.2	+0.4
ARMN				*i*S		Sg	15 02 06.5	+0.9
ARMN	**Kirklareli, Me**	**0.36**	**97**	*i*P		Pg	15 02 01.2	+0.4
ARMN				*i*S		Sg	15 02 06.4	+0.8
VIZE	**Kirklareli, Vi**	**0.74**	**116**	*i*P		Pg	15 02 08.1	0.0
VIZE				*i*S		Sb	15 02 20.5	+1.1
VIZE				IAML			15 02 25.0	
comp=E,27nm,0.5s								
VIZE				IAML			15 02 26.0	
comp=N,21nm,0.2s								
VIZE	**Kirklareli, Vi**	**0.74**	**116**	*i*P		Pg	15 02 08.2	+0.1
VIZE				*i*S		Sb	15 02 19.4	0.0
VIZE				IAML			15 02 25.0	
comp=E,27nm,0.5s								
VIZE				IAML			15 02 26.0	
comp=N,21nm,0.2s								

DJA ***15*** *15:11:02.4±0.6, 3°S±3°×12°3E±°, h10km, M3.8/10, mb4.0/1, MLv3.7/10*
IDC ***15*** *15:11:03.2±2.0, 2.91S×122.59E, h0km, mb3.2/3, mb1 3.6/5, mb1mx3.3/39, mbtmp3.4/5, ML3.2/2, MS2.2/1, Ms1 2.2/1, ms1mx2.1/15, Error ellipse: s-maj=51.7km s-min=25.5km az=51.0*
ISC 15 15:11:07.0±1.1, 2.83S±0.05×122.53E±0.09, h35km, n16, σ1°91/19, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKSI	**Kolaka, Sulawe**	**1.60**	**213**	P		**Pn**	**15 11 31.0**	**-1.7**
APSI	**Ampana**	**2.10**	**335**	P		**Pn**	**15 11 38.1**	**-1.5**
APSI				S		**Sn**	**15 12 07.9**	**+3.5**
TTSI	**Tana Toraja**	**2.71**	**265**	P		**Pn**	**15 11 47.6**	**-0.5**
TTSI				S		**Sn**	**15 12 19.2**	**-0.5**
BNSI	**Bone**	**2.88**	**237**	P		**Pn**	**15 11 50.4**	**0.0**
MRSI	**Marisa**	**3.33**	**350**	P		**Pn**	**15 11 54.5**	**-2.1**
BKSI	**Bulukumba**	**3.45**	**224**	P		**Pn**	**15 11 59.3**	**+1.1**
GTOI	**Gorontalo**	**3.47**	**8**	P		**Pn**	**15 11 58.6**	**+0.1**
KAPI	**Kappang**	**3.52**	**232**	Pn		**Pn**	**15 11 59.2**	**+0.1**
2.8nm,0.3s,baz=51,slow=6.5,SNR=11								
KAPI				LR		LR	15 13 16.2	
comp=Z,38nm,21.3s,baz=125,slow=38								
KAPI	**Kappang**	**3.52**	**232**	P		**Pn**	**15 11 58.5**	**-0.7**
PMSI	**Majene**	**3.67**	**259**	P		**Pn**	**15 12 03.9**	**+2.6**
MPSI	**Mapaga**	**4.10**	**320**	P		**Pn**	**15 12 04.6**	**-2.5**
MPSI				S		**Sn**	**15 12 50.4**	**-3.5**
EDFI	**Ende, Flores**	**5.94**	**188**	P		**Pn**	**15 12 31.5**	**-1.1**
FITZ	**Fitzroy Crossi**	**15.48**	**169**	Pn		**Pn**	**15 14 41.3**	**-1.5**
0.1nm,0.3s,baz=356,slow=15,SNR=1.9								
WRA	**Warramunga Arr**	**20.55**	**147**	P		**P**	**15 15 43.6**	**+0.9**
0.4nm,0.7s,baz=326,slow=13,SNR=2.1								
ASAR	**Alice Springs**	**23.46**	**153**	P		**P**	**15 16 12.8**	**-0.7**
0.6nm,0.8s,baz=331,slow=11,SNR=2.6								
CMAR	**Chiang Mai Arr**	**31.41**	**313**	P		**P**	**15 17 27.1**	**+2.1**
0.7nm,0.7s,baz=146,slow=8.1,SNR=5.7								

TAP ***15*** *15:15:38.3, 24.26N×121.82E, h17km, ML3.4, B*
JMA ***15*** *15:15:38.2, 24.19N×121.80E, h16km±1km, M2.5*
ISC 15 15:15:37.5±0.8, 24.23N±0.01×121.90E±0.02, h14km±6km, n95, σ0°69/162, 2C-16D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.16**	**299**	⇓*i*P		**Pg**	**15 15 41.7**	**+0.1**
EHP	baz=306			*i*S		**Sg**	**15 15 44.3**	**0.0**
baz=306								
EWUT	**Wuta**	**0.24**	**333**	⇓*i*P		**Pb**	**15 15 43.2**	**-0.5**
EWUT	baz=347			*i*S		**Sg**	**15 15 46.7**	**+0.4**
baz=347								
ENA	**Nanau**	**0.24**	**324**	⇓*i*P		**Pg**	**15 15 43.0**	**+0.1**
ENA	baz=337			*i*S		**Sg**	**15 15 46.3**	**-0.1**
baz=337								
ETL	**Fush Village**	**0.26**	**254**	⇓*i*P		**Pg**	**15 15 43.3**	**+0.2**
ETL	baz=243			*i*S		**Sg**	**15 15 47.4**	**+0.5**
baz=243								
NACB	**Ninganchiao**	**0.28**	**259**	*i*P		**Pg**	**15 15 43.3**	**-0.2**
NACB	baz=250			S		**Sg**	**15 15 47.5**	**0.0**
baz=250								
TWD	**Chiawan**	**0.31**	**242**	⇓*i*P		**Pb**	**15 15 44.4**	**-0.6**
TWD	baz=235			*i*S		**Sb**	**15 15 49.1**	**-0.8**
baz=235								
HWA	**Hwalien**	**0.37**	**227**	*e*P		**Pb**	**15 15 46.6**	**+0.8**
HWA	baz=224			*e*S		**Sb**	**15 15 52.9**	**+1.4**
baz=224								
TWC	**Suao**	**0.38**	**353**	⇓*i*P		**Pb**	**15 15 45.8**	**-0.2**
TWC	baz=9.0			*i*S		**Sb**	**15 15 51.0**	**-0.8**
baz=9.0								
ETLH	**Xiulin Townshi**	**0.38**	**267**	P		**Pg**	**15 15 45.0**	**-0.3**
ETLH	baz=262			S		**Sg**	**15 15 49.9**	**-0.6**
baz=262								
NDS	**Dongshan**	**0.43**	**338**	⇓*i*P		**Pb**	**15 15 46.7**	**-0.3**
NDS	baz=344			*i*S		**Sg**	**15 15 51.9**	**-0.2**
baz=344								
TEYL	**Yanliau Villag**	**0.45**	**217**	*e*P		**Pb**	**15 15 47.6**	**+0.4**
TEYL	baz=196			*e*S		**Sb**	**15 15 55.4**	**+1.5**
baz=196								
ETM	**Tongmen**	**0.46**	**235**	P		**Pb**	**15 15 46.9**	**-0.4**
ETM	baz=235			*e*S		**Sg**	**15 15 53.0**	**+0.3**
baz=235								
ENTT	**Nioudou**	**0.51**	**323**	⇓*i*P		**Pg**	**15 15 47.7**	**+0.1**
ENTT	baz=328			*i*S		**Sg**	**15 15 54.1**	**-0.3**
baz=328								
NNSB	**Datong**	**0.51**	**293**	⇓*i*P		**Pg**	**15 15 47.5**	**-0.2**
NNSB	baz=293			S		**Sg**	**15 15 53.5**	**-1.0**
baz=293								
NDT	**Datong Townshi**	**0.51**	**317**	⇓*i*P		**Pg**	**15 15 47.7**	**+0.1**
NDT	baz=320			S		**Sg**	**15 15 53.2**	**-1.3**
baz=320								
NNS	**Nan Shan**	**0.52**	**294**	⇓*i*P		**Pg**	**15 15 47.6**	**-0.3**
NNS	baz=294			*i*S		**Sg**	**15 15 54.0**	**-0.9**
baz=294								
TWE	**Neicheng**	**0.53**	**337**	⇓*i*P		**Pb**	**15 15 48.3**	**-0.4**
TWE	baz=343			*i*S		**Sg**	**15 15 55.2**	**0.0**
baz=343								
ILA	**Ilan**	**0.55**	**346**	P		**Pb**	**15 15 49.1**	**+0.1**
ILA	baz=345			S		**Sb**	**15 15 57.1**	**+0.4**
baz=345								
WHF	**Hehuan Shan**	**0.58**	**262**	⇓*i*P		**Pg**	**15 15 48.8**	**-0.4**
WHF	baz=260			S		**Sg**	**15 15 56.7**	**-0.3**
baz=260								
ESL	**Shilin**	**0.59**	**226**	⇓*i*P		**Pb**	**15 15 49.7**	**0.0**
ESL	baz=225			S		**Sb**	**15 15 58.2**	**+0.2**
baz=225								
FUSS	**Fushou**	**0.60**	**272**	⇓*i*P		**Pg**	**15 15 49.1**	**-0.2**
FUSS	baz=271			S		**Sg**	**15 15 56.3**	**-1.0**
baz=271								
EGS		**0.61**	**3**	*e*P		**Pn**	**15 15 50.9**	**-0.9**
TEGC	**Jichi Village**	**0.61**	**212**	*e*P		**Pb**	**15 15 50.5**	**+0.4**
TEGC	baz=194			*e*S		**Sn**	**15 16 01.5**	**+0.1**
baz=194								
NTC	**Toucheng**	**0.62**	**354**	*e*P		**Pb**	**15 15 50.5**	**+0.2**
NTC	baz=360			*e*S		**Sb**	**15 15 58.4**	**-0.4**
baz=360								
NWLT	**Wulai**	**0.65**	**327**	P		**Pg**	**15 15 50.4**	**0.0**
NWLT	baz=330			S		**Sg**	**15 15 58.4**	**-0.6**
baz=330								
TWT	**Tachien**	**0.66**	**272**	P		**Pb**	**15 15 50.7**	**-0.3**
TWT	baz=270			S		**Sg**	**15 15 58.7**	**-0.5**
baz=270								
NSK	**Sanguang**	**0.66**	**312**	⇑*i*P		**Pg**	**15 15 50.2**	**-0.3**
NSK	baz=314			S		**Sg**	**15 15 58.3**	**-1.0**
baz=314								
TDCB	**Techi**	**0.68**	**272**	⇓*i*P		**Pg**	**15 15 50.7**	**-0.1**
TDCB	baz=271			S		**Sg**	**15 15 58.7**	**-1.1**
baz=271								
CHGB	**Renai**	**0.68**	**256**	P		**Pg**	**15 15 50.8**	**-0.1**
CHGB	baz=249			S		**Sg**	**15 15 59.1**	**-0.9**
baz=249								
EGFH	**Guangfu**	**0.71**	**218**	*e*P		**Pb**	**15 15 51.6**	**0.0**
EGFH	baz=228			*e*S		**Sb**	**15 16 02.3**	**+1.1**
baz=228								
OWD	**Renai**	**0.71**	**248**	P		**Pg**	**15 15 51.5**	**0.0**
OWD	baz=245			*e*S		**Sg**	**15 16 00.8**	**-0.2**
baz=245								
TIPB	**Shuangxi**	**0.74**	**355**	*e*P		**Pb**	**15 15 52.4**	**+0.1**
TIPB	baz=358			*e*S		**Sg**	**15 16 01.7**	**-0.1**
baz=358								
TWB1	**Santiao Chiao**	**0.78**	**6**	*e*P		**Pb**	**15 15 53.3**	**+0.4**
TWB1	baz=11			*e*S		**Sb**	**15 16 03.6**	**+0.3**
baz=11								
TWA	**Mucha**	**0.80**	**339**	P		**Pb**	**15 15 53.5**	**+0.2**
TWA	baz=342			S		**Sg**	**15 16 03.5**	**-0.1**
baz=342								
NHDH	**Xindian Distri**	**0.81**	**335**	*e*P		**Pb**	**15 15 53.7**	**+0.4**
NHDH	baz=337			*e*S		**Sg**	**15 16 03.6**	**-0.2**
baz=337								
NWF	**Wu-fen Shan**	**0.84**	**353**	⇑*i*P		**Pn**	**15 15 54.8**	**-0.3**
HGSD	**Ruisui**	**0.85**	**211**	*e*P		**Pn**	**15 15 55.0**	**-0.1**
HGSD	baz=196			*e*S		**Sn**	**15 16 08.6**	**+1.2**
baz=196								
WHP	**Taichung City**	**0.87**	**273**	*e*P		**Pg**	**15 15 54.3**	**-0.1**
WHP	baz=273			*e*S		**Sg**	**15 16 04.9**	**-1.0**
baz=273								
TAP	**Taipei**	**0.88**	**336**	*e*P		**Pn**	**15 15 55.7**	**+0.2**
EHY	**Hungye**	**0.89**	**216**	*e*P		**Pb**	**15 15 54.8**	**-0.1**
baz=213								
LIOB	**Emei**	**0.91**	**297**	P		**Pb**	**15 15 55.1**	**+0.1**
LIOB	baz=298			*e*S		**Sg**	**15 16 06.0**	**-0.9**
baz=298								
NSTT	**Nanjuang**	**0.91**	**296**	*e*P		**Pg**	**15 15 54.8**	**-0.4**
NSTT	baz=297			*e*S		**Sg**	**15 16 05.9**	**-1.2**
baz=297								
WCS	**Beigang Elemen**	**0.92**	**259**	*e*P		**Pg**	**15 15 55.1**	**-0.2**
YM01	**YM01**	**0.96**	**342**	P		**Pn**	**15 15 56.7**	**+0.1**
YM01	baz=343			*e*S		**Sb**	**15 16 09.1**	**+0.5**
baz=343								
SSLB	**Suanglung**	**0.97**	**243**	*e*P		**Pg**	**15 15 55.6**	**-0.7**
SSLB	baz=251			*e*S		**Sg**	**15 16 07.6**	**-1.4**
baz=251								
TWS1	**Kuangyinshan**	**0.97**	**333**	*e*P		**Pg**	**15 15 55.9**	**-0.4**
TWS1	baz=335			*e*S		**Sn**	**15 16 09.9**	**-0.4**
baz=335								
SMLT	**Sun Moon Lake**	**0.98**	**249**	P		**Pg**	**15 15 56.1**	**-0.4**
SMLT	baz=249			*e*S		**Sb**	**15 16 09.5**	**+0.4**
baz=249								
JYNG	**Yonagunijimaku**	**0.98**	**77**	P		**Pn**	**15 15 58.2**	**+1.4**
JYNG				*e*S		**Sn**	**15 16 12.1**	**+1.6**
NCU	**National Centr**	**0.98**	**319**	*e*P		**Pn**	**15 15 56.9**	**0.0**
NCU	baz=319			*e*S		**Sn**	**15 16 10.8**	**+0.2**
baz=319								
NCUH	**Zhongli**	**0.98**	**319**	*e*P		**Pb**	**15 15 56.5**	**+0.1**
NCUH	baz=319			*e*S		**Sn**	**15 16 10.3**	**-0.2**
baz=319								
YULB	**Yu-li**	**1.00**	**214**	*e*P		**Pg**	**15 15 56.3**	**-0.6**
baz=211								
SBCB	**Hsinchu**	**1.00**	**304**	*e*P		**Pn**	**15 15 57.2**	**0.0**
baz=305								
TYC	**Yuchr**	**1.01**	**251**	*e*P		**Pb**	**15 15 56.6**	**-0.1**
baz=250								
ANP	**Anpu**	**1.01**	**340**	*e*P		**Pn**	**15 15 57.3**	**-0.1**
baz=342								
NTST	**Danshui**	**1.02**	**336**	*e*P		**Pn**	**15 15 57.3**	**-0.1**
baz=338								
EYUL	**Yuli**	**1.03**	**211**	*e*P		**Pn**	**15 15 58.1**	**+0.6**
baz=223								
TWQ1	**Liyutan**	**1.03**	**277**	*e*P		**Pn**	**15 15 57.6**	**0.0**
TWQ1	baz=277			*e*S		**Sg**	**15 16 10.6**	**-0.4**
baz=277								
YOJ	**Yonaguni jima**	**1.04**	**77**	P		**Pn**	**15 15 59.2**	**+1.5**
YOJ				S		**Sn**	**15 16 12.9**	**+0.9**
YOJ	**Yonaguni jima**	**1.04**	**77**	*e*P		**Pn**	**15 15 59.1**	**+1.4**
baz=68								
NSY	**Sanyi**	**1.05**	**280**	*e*P		**Pn**	**15 15 57.9**	**0.0**
baz=281								
NMLH	**Miaoli**	**1.05**	**287**	*e*P		**Pn**	**15 15 58.3**	**+0.4**
baz=287								
TWY	**Chenhua**	**1.08**	**345**	*e*P		**Pn**	**15 15 59.4**	**+1.2**
baz=341								
TWY				*e*S		**Sn**	**15 16 13.4**	**+0.5**
baz=341								
WHYT	**Xinyi Township**	**1.09**	**241**	*e*P		**Pb**	**15 15 58.2**	**-0.1**
baz=240								
YUS	**Yu-Shan**	**1.14**	**230**	*e*P		**Pb**	**15 15 58.9**	**-0.4**
baz=230								
YUS				*e*S		**Sg**	**15 16 14.0**	**-0.5**
baz=230								
WJS	**Zhushan**	**1.15**	**249**	*e*P		**Pg**	**15 16 00.1**	**+0.5**
baz=247								
WJS				*e*S		**Sn**	**15 16 16.9**	**+2.2**
baz=247								
WDJ	**Dajia District**	**1.15**	**276**	*e*P		**Pg**	**15 15 59.5**	**-0.3**
baz=276								
WDJ				*e*S		**Sn**	**15 16 15.6**	**+0.8**
baz=276								
WNT	**Mingjian**	**1.16**	**253**	*e*P		**Pg**	**15 16 00.6**	**+0.6**
baz=250								
WNT				*e*S		**Sn**	**15 16 17.1**	**+2.0**
baz=250								
FULB	**Fuli**	**1.17**	**208**	*e*P		**Pn**	**15 15 59.4**	**-0.1**
baz=223								
CHKT	**Chengkung**	**1.23**	**204**	*e*P		**Pn**	**15 15 59.7**	**-0.5**
baz=219								
CHKT				*e*S		**Sn**	**15 16 16.9**	**+0.2**
baz=219								
ALS	**Alishan**	**1.23**	**235**	*e*P		**Pb**	**15 16 00.8**	**+0.1**
baz=224								
CHN5	**Tsauling**	**1.28**	**241**	*e*P		**Pg**	**15 16 01.9**	**-0.4**
baz=241								
CHN5				*e*S		**Sg**	**15 16 20.4**	**+1.4**
baz=241								
ELDTW	**Lidau**	**1.31**	**218**	*e*P		**Pn**	**15 16 01.4**	**-0.2**
baz=204								
WDLH	**Douliu**	**1.36**	**247**	*e*P		**Pb**	**15 16 02.9**	**+0.2**

	baz=246								
EDH	**Donghe**	**1.37**	**204**	*eP*		**Pn**	**15 16 01.1**	**-1.1**
	baz=186								
EDH				*eS*		**Sb**	**15 16 19.3**	**-0.9**
	baz=186								
WRL	**Guolierlin Hig**	**1.43**	**257**	*eP*		**Pb**	**15 16 03.7**	**-0.2**
	baz=257								
WRL				*eS*		**Sg**	**15 16 23.5**	**-0.1**
	baz=257								
STYH	**Taoyuan**	**1.47**	**225**	*eP*		**Pb**	**15 16 04.5**	**-0.2**
	baz=224								
CHN2	**Minshiung**	**1.48**	**242**	*eS*		**Sg**	**15 16 26.6**	**+1.4**
	baz=243								
WTK	**Tuku**	**1.48**	**249**	*eP*		**Pb**	**15 16 04.8**	**0.0**
	baz=249								
WTK				*eS*		**Sg**	**15 16 25.6**	**+0.3**
	baz=249								
TPUB	**Ta-pu**	**1.49**	**232**	P		**Pb**	**15 16 04.6**	**-0.3**
	baz=233								
TPUB				*eS*		**Sg**	**15 16 24.9**	**-0.5**
	baz=233								
LONT	**Longtian**	**1.50**	**208**	*eP*		**Pn**	**15 16 02.7**	**-1.3**
	baz=207								
WTP	**Ta-pu**	**1.53**	**230**	*eP*		**Pg**	**15 16 06.2**	**-0.8**
	baz=229								
CHY	**Chiayi**	**1.53**	**242**	*eP*		**Pb**	**15 16 05.8**	**+0.1**
	baz=241								
LDUT	**Ludao**	**1.60**	**194**	*eP*		**Pn**	**15 16 03.6**	**-1.8**
	baz=184								
TWK	**Hsinying**	**1.61**	**234**	*eP*		**Pb**	**15 16 06.8**	**-0.3**
	baz=235								
TWK				*eS*		**Sg**	**15 16 29.4**	**-0.1**
	baz=235								
CHN1	**Nanshi**	**1.63**	**231**	*eP*		**Pb**	**15 16 07.2**	**-0.2**
	baz=232								
CHN1				*eS*		**Sg**	**15 16 30.0**	**-0.1**
	baz=232								
SGST	**Jiashian**	**1.66**	**227**	*eP*		**Pn**	**15 16 06.5**	**+0.2**
	baz=229								
SGST				*eS*		**Sb**	**15 16 29.4**	**+0.7**
	baz=229								
IRIF	**Iriomote-Funau**	**1.68**	**86**	P		**Pb**	**15 16 07.8**	**-0.3**
IRIF				*eS*		**Sg**	**15 16 31.0**	**-0.5**
ICHU	**Yijhu**	**1.72**	**240**	*eP*		**Pb**	**15 16 08.2**	**-0.6**
	baz=239								
SCST	**Cishan**	**1.86**	**224**	*eP*		**Pb**	**15 16 11.0**	**-0.3**
	baz=223								
SSD	**Sandimen**	**1.88**	**218**	*eP*		**Pb**	**15 16 11.1**	**-0.5**
	baz=207								
SSD				*eS*		**Sb**	**15 16 35.6**	**+0.6**
	baz=207								
TSMG	**Majia**	**1.91**	**217**	*eP*		**Pb**	**15 16 11.3**	**-0.7**
	baz=231								
TSMG				*eS*		**Sb**	**15 16 35.8**	**+0.1**
	baz=231								
JKRS	**Kuro-shima**	**1.93**	**89**	P		**Pb**	**15 16 12.0**	**-0.4**
MASBT	**Mashibuluo**	**1.99**	**216**	*eP*		**Pb**	**15 16 12.1**	**-1.4**
	baz=217								
MASBT				*eS*		**Sb**	**15 16 37.5**	**-0.6**
	baz=217								
JIJ	**Ishigaki jima**	**2.05**	**86**	P		**Pb**	**15 16 13.2**	**-1.4**
JIJ				*eS*		**Sb**	**15 16 39.8**	**-0.2**
JISG	**Ishigakijimahi**	**2.23**	**80**	P		**Pb**	**15 16 16.0**	**-1.6**
JISG				*eS*		**Sb**	**15 16 44.8**	**-0.2**

IDC 15 15:19:31.7±7.3, 27°.49S×177°.82W, h0 km, mb3.2/2, mb1 3.4/2, mb1mx3.3/26, mbtmp3.2/2, Error ellipse: s-maj=329.5km s-min=111.6km az=162.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.50**	**264**	P	P	15 27 35.9	-1.3
	0.2nm,0.5s,baz=103,slow=6.7,SNR=4.9						
WRA	**Warramunga Arr**	**44.22**	**269**	P	P	15 27 43.9	+0.9
	0.2nm,0.5s,baz=108,slow=7.6,SNR=7.6						
FINES	**FINESS Array B**	**142.46**	**341**	PKP	PKPdf	15 39 05.7	-0.2
	0.8nm,0.6s,baz=94,slow=4.2,SNR=4.4						

*IDC **15** 15:28:54.5±0.9, 33°.73S×72°.00W, h0 km, mb4.0/5, mb1 4.2/7, mb1mx4.0/29, mbtmp4.0/7, ML4.3/2, MS3.3/4, Ms1 3.2/4, ms1mx3.0/22, Error ellipse: s-maj=45.8km s-min=20.2km az=93.0*

*GUC **15** 15:28:57.6±0.7, 33°.81S×72°.00W, h34 km±2 km, ML4.0*

*NEIC **15** 15:28:57.3±1.7, 33°.76S±0°.03×72°.04W±0°.05, h18 km±4 km, mb4.4/12, ML4.0(GUC), Error ellipse: s-maj=5.7km s-min=3.9km az=104.0*

ISC 15 15:28:57.5±0.5, 33°.77S±0°.03×72°.01W±0°.05, h21 km±3 km, n75, σ1°.81/80, mb4.3/7, 3C-7D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA05	**Santo Domingo**	**0.35**	**71**	⇓*iP*	**Pn**	**15 29 06.5**	**-0.9**
VA05				*i* S	**Sn**	**15 29 12.6**	**-1.2**
VA05				IAML		15 29 13.1	
	comp=E,71μm,0.3s						
VA05	**Santo Domingo**	**0.35**	**71**		**Pn**	**15 29 06.5**	**-0.9**
VA05				Sg	**Sn**	**15 29 12.0**	**-1.8**
MT01	**Popeta**	**0.64**	**98**	⇓*iP*	**Pn**	**15 29 11.0**	**-0.5**
MT01				*i* S	**Sn**	**15 29 20.3**	**-0.7**
MT01				IAML		15 29 21.1	
	comp=E,13μm,0.2s						
MT01	**Popeta**	**0.64**	**98**		**Pn**	**15 29 10.9**	**-0.5**
MT01					**Sn**	**15 29 20.2**	**-0.8**
BO03	**Pichilemu**	**0.72**	**177**	⇓*iP*	**Pb**	**15 29 11.6**	**+0.1**
BO03				*i* S	**Sb**	**15 29 21.6**	**+0.7**
BO03				IAML		15 29 24.0	
	comp=E,8μm,0.3s						
VA01	**Torpederas**	**0.81**	**22**	⇑*eP*	**Pn**	**15 29 13.5**	**-0.2**
VA01				*i* S	**Sn**	**15 29 24.6**	**-0.5**
VA01	**Torpederas**	**0.81**	**22**		**Pn**	**15 29 13.3**	**-0.4**
MT09	**Talagante**	**0.85**	**91**	⇓*iP*	**Pn**	**15 29 14.3**	**-0.2**
MT09				*i* S	**Sn**	**15 29 26.7**	**+0.3**
MT09				IAML		15 29 29.0	
	comp=N,12μm,0.5s						
MT09	**Talagante**	**0.85**	**91**		**Pn**	**15 29 14.1**	**-0.4**
MT09				Sn	**Sn**	**15 29 26.3**	**-0.1**
BO01	**Tunca**	**0.99**	**129**	⇓*iP*	**Pb**	**15 29 15.7**	**-0.3**
BO01				IAML		15 29 38.9	
	comp=N,1μm,0.6s						
BO01	**Tunca**	**0.99**	**129**		**Pb**	**15 29 15.4**	**-0.5**
MT05	**Renca**	**1.13**	**71**	*eP*	**Pb**	**15 29 18.3**	**-0.1**
MT05				*i* S	**Sn**	**15 29 34.6**	**+1.5**
MT05				IAML		15 29 43.3	
	comp=E,5μm,0.2s						
MT05	**Renca**	**1.13**	**71**	Pn	**Pb**	**15 29 18.3**	**-0.1**
MT05				Sn	**Sb**	**15 29 32.2**	**-0.4**
ROCH	**El Roble**	**1.16**	**47**	*eP*	**Pb**	**15 29 19.2**	**+0.2**
ROCH				*i* S	**Sn**	**15 29 35.7**	**+1.6**
ROCH				IAML		15 29 41.3	
	comp=E,5μm,0.5s						
GO05	**Huala**	**1.24**	**177**	⇑*iP*	**Pn**	**15 29 19.5**	**-0.1**
GO05				*i* S	**Sb**	**15 29 35.6**	**-0.1**
GO05				IAML		15 29 41.8	
	comp=N,4μm,0.2s						
GO05	**Huala**	**1.24**	**177**		**Pn**	**15 29 19.4**	**-0.3**
GO05				Sn	**Sb**	**15 29 34.9**	**-0.8**
BO02	**Sierra Bellavi**	**1.44**	**135**	⇓*iP*	**Pn**	**15 29 23.0**	**+0.4**
BO02				*i* S	**Sb**	**15 29 42.5**	**+0.8**
BO02				IAML		15 29 49.5	
	comp=E,9μm,0.3s						
BO02	**Sierra Bellavi**	**1.44**	**135**	Pn	**Pn**	**15 29 22.2**	**-0.3**
LMEL	**Las Melosas**	**1.51**	**93**	⇓*iP*	**Pb**	**15 29 24.5**	**-0.4**
LMEL				IAML		15 29 49.0	
	comp=N,5μm,0.2s						
VA03	**San Esteban**	**1.58**	**51**	*eP*	**Pb**	**15 29 25.9**	**-0.3**
VA03				*i* S	**Sb**	**15 29 47.8**	**+2.0**
VA03				IAML		15 29 54.1	
	comp=E,4μm,0.4s						
VA03	**San Esteban**	**1.58**	**51**		**Pn**	**15 29 25.0**	**+0.5**
ML02	**Panimavida**	**2.04**	**166**	*eP*	**Pn**	**15 29 32.1**	**+1.4**
ML02				*i* S	**Sb**	**15 29 57.8**	**-1.2**
ML02				IAML		15 30 07.7	
	comp=N,3μm,0.5s						
ML02	**Panimavida**	**2.04**	**166**	Pn	**Pn**	**15 29 31.1**	**+0.3**
CO02	**Combarbal**	**2.70**	**19**	⇑*iP*	**Pn**	**15 29 40.0**	**+0.1**
CO02				IAML		15 30 30.6	
	comp=E,2μm,0.7s						
CO02	**Combarbal**	**2.70**	**19**	Pn	**Pn**	**15 29 39.9**	**0.0**
CO06	**Fray Jorge**	**3.11**	**6**	*eP*	**Pn**	**15 29 44.1**	**-1.3**
CO06				IAML		15 30 43.6	
	comp=N,220nm,0.6s						
CO06	**Fray Jorge**	**3.11**	**6**		**Pn**	**15 29 44.0**	**-1.3**
CO03	**El Pedregal**	**3.13**	**21**	*eP*	**Pn**	**15 29 46.4**	**+0.7**
CO03				IAML		15 30 37.6	
	comp=E,484nm,0.7s						
CO03	**El Pedregal**	**3.13**	**21**	Pn	**Pn**	**15 29 45.8**	**0.0**
GO04	**Tololo Observa**	**3.73**	**16**		**Pn**	**15 29 53.8**	**-0.4**
LC01	**Cunco**	**5.12**	**179**	Pn	**Pn**	**15 30 12.3**	**-0.7**
AC04	**Llanos de Chal**	**5.61**	**9**	Pn	**Pn**	**15 30 18.0**	**-1.7**
H03S1	**Juan Fernandez**	**5.74**	**267**	T	T	15 36 10.6	
	baz=90,slow=74,SNR=2241						
H03S3	**Juan Fernandez**	**5.74**	**268**	T	T	15 36 12.3	
	baz=90,slow=74,SNR=580						
H03S2	**Juan Fernandez**	**5.76**	**267**	T	T	15 36 15.1	
	baz=90,slow=74,SNR=2398						
H03N1	**Juan Fernandez**	**5.77**	**271**	T	T	15 36 25.2	
	baz=98,slow=74,SNR=33						
H03N3	**Juan Fernandez**	**5.78**	**271**	T	T	15 36 22.3	
	baz=98,slow=74,SNR=41						
H03N2	**Juan Fernandez**	**5.78**	**271**	T	T	15 36 22.3	
	baz=98,slow=74,SNR=37						
GO03	**Copiap**	**6.34**	**14**		**Pn**	**15 30 29.1**	**-0.9**
AC06	**Mina Casimiro**	**6.55**	**13**	Pn	**Pn**	**15 30 31.1**	**-1.6**
PLCA	**Paso Flores**	**7.04**	**171**	Pn	**Pn**	**15 30 40.6**	**+1.1**
	comp=E,1.9nm,0.3s,baz=331,slow=11,SNR=53						
PLCA				Lg	Lg	15 32 35.0	
	comp=E,0.5nm,0.3s,baz=50,slow=23,SNR=4.3						
PLCA				LR	LR	15 33 26.4	
	comp=E,133nm,20.6s,baz=344,slow=38						
PLCA	**Paso Flores**	**7.04**	**171**	Pn	**Pn**	**15 30 39.8**	**+0.2**
LL04	**Puerto Octay**	**7.13**	**182**	Pn	**Pn**	**15 30 40.2**	**-0.4**
AC02	**Maricunga**	**7.35**	**21**	Pn	**Pn**	**15 30 43.3**	**-0.8**
LL05	**Los Muermos**	**7.71**	**188**	Pn	**Pn**	**15 30 48.7**	**+0.2**
TRQA	**Tornquist**	**9.19**	**121**	Pn	**Pn**	**15 31 10.6**	**+1.7**
PB15	**IPOC Station P**	**10.76**	**13**	Pn	**Pn**	**15 31 31.1**	**+0.5**
LVC	**Limon Verde**	**11.45**	**15**	LR	LR	15 36 28.0	
	comp=E,131nm,19.0s,baz=210,slow=40						
PB11	**IPOC Station P**	**14.11**	**9**	P	**P**	**15 32 24.4**	**+0.4**
PSGCX	**Pisagua**	**14.22**	**7**	P	**P**	**15 32 24.9**	**-0.2**
CPUP	**Villa Florida**	**14.71**	**64**	LR	LR	15 38 26.9	
	comp=E,125nm,18.1s,baz=220,slow=39						
CPUP	**Villa Florida**	**14.71**	**64**	P	**P**	**15 32 30.2**	**-0.2**
LPAZ	**La Paz**	**17.76**	**12**	P	**P**	**15 33 05.1**	**+0.2**
	comp=E,0.2nm,0.3s,baz=170,slow=8.6,SNR=9.7						
LPAZ	**La Paz**	**17.76**	**12**	P	**Pn**	**15 33 03.9**	**-0.3**
SIV	**San Ignacio**	**20.27**	**32**	P	**P**	**15 33 31.5**	**-0.4**
	comp=E,1.6nm,0.7s,baz=221,slow=14,SNR=7.1						
EFI	**East Falkland**	**20.55**	**155**	P	**P**	**15 33 34.4**	**-0.2**
SAML	**Samuel**	**26.01**	**20**	P	**P**	**15 34 28.3**	**-0.9**
SAML				IAmb	IAmb	15 34 32.1	
	comp=Z,3.6nm,0.8s						
BDFB	**Brasilia**	**28.19**	**56**	LR	LR	15 47 52.4	
	comp=Z,73nm,19.9s,baz=190,slow=40						
VNA3	**Neumayer Olymp**	**49.56**	**158**	P	**P**	**15 37 47.7**	**+1.1**
VNA1	**Neumayer--Stat**	**49.87**	**157**	P	**P**	**15 37 47.7**	**-1.2**
VNA2	**Neumayer--Watz**	**50.21**	**157**	P	**P**	**15 37 50.4**	**-1.1**
SNAA	**Sanae**	**51.79**	**158**	P	**P**	**15 38 04.1**	**+0.7**
SNAA	**Sanae**	**51.79**	**158**	P	**P**	**15 38 04.0**	**+0.6**
SNAA				IAmb	IAmb	15 38 05.4	
	comp=Z,4.4nm,1.0s						
QSPA	**South Pole Qui**	**56.46**	**180**	P	**P**	**15 38 38.7**	**+1.0**
	comp=Z,2.9nm,0.8s,baz=151,slow=1.5,SNR=14						
QSPA	**South Pole Qui**	**56.46**	**180**	P	**P**	**15 38 38.4**	**+0.7**
QSPA				IAmb	IAmb	15 38 40.3	
	comp=Z,6.6nm,1.1s						
SOR	**Soroa**	**57.22**	**348**	P	**P**	**15 38 43.5**	**+0.2**
TXAR	**Lajitas Array**	**69.55**	**331**	P	**P**	**15 40 05.5**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=151,slow=8.1,SNR=7.4						
TX31	**Lajitas Ar. Si**	**69.55**	**331**	P	**P**	**15 40 05.0**	**0.0**
WVT	**Waverly**	**71.09**	**347**	P	**P**	**15 40 13.5**	**-0.6**
WVT				IAmb	IAmb	15 40 14.7	
	comp=Z,4.8nm,0.8s						
MAW	**Mawson**	**73.39**	**164**	P	**P**	**15 40 28.6**	**+1.0**
	comp=Z,1.3nm,0.5s,baz=202,slow=6.8,SNR=4.8						
MAW	**Mawson**	**73.39**	**164**	IAmb	IAmb	15 40 29.0	
	comp=Z,0.5nm,1.0s						
TORD	**Torodi Ar. Bea**	**84.11**	**70**	P	**P**	**15 41 27.1**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=273,slow=4.4,SNR=8.9						
TORD	**Torodi Ar. Bea**	**84.11**	**70**	IAmb	IAmb	15 41 28.5	
	comp=Z,1.8nm,0.9s						
WRA	**Warramunga Arr**	**120.97**	**209**	PKP	**PKPdf**	**15 47 47.9**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=166,slow=2.5,SNR=6.7						
ZALV	**Zalesovo Beam**	**154.02**	**32**	PKPbc	**PKPbc**	**15 48 54.9**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=272,slow=4.3,SNR=5.0						

MEX 15 15:37:00.0±0.6, 14°.35N×93°.90W, h20 km, MD4.2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.50**	**26**	*i* P	Pn	15 37 22.6	-3.1
PCIG				*i* S	Sn	15 37 40.8	-3.9
CMIG	**Matias Romero**	**2.88**	**341**	*i* P	Pn	15 37 42.6	-2.2
CMIG				*i* S	Sn	15 38 15.1	-3.8

KMA 15 15:59:35.8±0.3, 36°.69N×126°.80E, h13 km±6 km, Error ellipse: s-maj=1.7km s-min=1.4km az=54.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSSES	**Seosan**	**0.30**	**290**	P	Pg	15 59 42.1	+0.1
	SNR=34						
KSSES	**Seosan**	**0.30**	**290**	P	Pg	15 59 42.1	+0.1
	SNR=34						
KSSES				S	Sg	15 59 46.3	+0.2
KOJ2	**Gongju-si**	**0.35**	**128**	P	Pg	15 59 43.1	+0.2
PYTK	**Pyeongtaek**	**0.39**	**39**	P	Pg	15 59 43.6	0.0
KSCEA	**Cheonan**	**0.39**	**69**	P	Pg	15 59 43.5	-0.2
	SNR=14						
KSCEA	**Cheonan**	**0.39**	**69**	P	Pg	15 59 43.5	-0.2
	SNR=14						
HAWB	**Hwaseong-si**	**0.40**	**357**	P	Pg	15 59 43.8	0.0
PORA	**Boryeong**	**0.41**	**209**	P	Pg	15 59 44.1	+0.1
	SNR=10						
PORA	**Boryeong**	**0.41**	**209**	P	Pg	15 59 44.1	+0.1
	SNR=10						
KSDEI	**Deokjeokdo**	**0.80**	**316**	P	Pg	15 59 51.3	+0.1
	SNR=9.3						
KSDEI	**Deokjeokdo**	**0.80**	**316**	P	Pg	15 59 51.3	+0.1
	SNR=9.3						
KSMSA	**Geumsan**	**0.80**	**136**	P	Pg	15 59 51.2	-0.1
KSBON	**Boeun**	**0.82**	**103**	P	Pg	15 59 51.4	-0.4
	SNR=6.4						
KSBON	**Boeun**	**0.82**	**103**	P	Pg	15 59 51.4	-0.4
	SNR=6.4						
KSJEO	**Jeonju**	**0.84**	**152**	P	Pg	15 59 52.1	0.0
	SNR=8.5						
KSJEO	**Jeonju**	**0.84**	**152**	P	Pg	15 59 52.1	0.0
	SNR=8.5						
KSCHC	**Chuncheon**	**1.36**	**36**	P	Pb	16 00 01.5	+0.4
	SNR=7.6						

*IDC **15** 16:10:17.4±10.0, 7°.37S×127°.91E, h71 km±99 km, mb3.5/2, mb1 3.9/4, mb1mx3.4/20, mbtmp4.0/4, ML4.1/2, Error ellipse: s-maj=263.7km s-min=39.2km az=61.0*

*DJA **15** 16:10:24.4±0.4, 8°.S±4°×12°.8E±°, h113 km±16 km, M4.3/7, mb4.0/6, MLv4.4/7*

*NEIC **15** 16:10:25.1±1.3, 7°.6S±0°.1×127°.66E±0°.08, h140 km±11 km, mb4.4/13, Error ellipse: s-maj=17.0km s-min=10.7km az=175.0*

ISC 15 16:10:25.1±0.7, 7°.69S±0°.08×127°.71E±0°.05, h150 km, n38, σ1°.82/36, mb4.2/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.57**	**95**	Pn	**Pn**	**16 11 20.0**	**+0.1**
SAUI	**Saumlaki**	**3.57**	**95**	P	**Pn**	**16 11 19.3**	**-0.6**
SAUI				S	**Sn**	**16 11 57.3**	**-5.0**
SOEI	**Soe**	**3.97**	**239**	Pn	**Pn**	**16 11 24.9**	**-0.3**
SOEI	**Soe**	**3.97**	**239**	P	**Pn**	**16 11 24.1**	**-1.1**
SOEI				S	**Sn**	**16 12 10.5**	**-1.3**
BATI	**Baumata**	**4.71**	**238**	P	**Pn**	**16 11 33.9**	**-0.9**
BATI				S	**Sn**	**16 12 27.0**	**-2.1**
MMRI	**Maumere**	**5.49**	**260**	Pn	**Pn**	**16 11 44.7**	**-0.4**
EDFI	**Ende, Flores**	**6.05**	**260**	P	**Pn**	**16 11 52.3**	**-0.3**
	0.0nm6.5nm,1.0s						
MTN	**Manton Dam**	**6.14**	**147**	Pn	**Pn**	**16 11 52.2**	**-1.4**
FAKI	**Fak Fak**	**6.55**	**44**	Pn	**Pn**	**16 11 57.9**	**-1.3**
FAKI	**Fak Fak**	**6.55**	**44**	P	**Pn**	**16 11 58.0**	**-1.3**
	0.1nm24nm,1.7s						
SWI	**Sorong**	**7.65**	**28**	P	**Pn**	**16 12 15.3**	**+1.4**
KNRA	**Kununurra**	**8.01**	**173**		**Pn**	**16 12 16.6**	**-2.1**
KAPI	**Kappang**	**8.34**	**288**	Pn	Pn	16 12 15.8	-7.3
WBSI	**Waikabubak, Su**	**8.45**	**256**	P	**Pn**	**16 12 22.0**	**-2.6**
	32nm,0.8s						
FITZ	**Fitzroy Crossi**	**10.54**	**191**		**Pn**	**16 12 49.3**	**-3.0**
WRAB	**Tennant Creek**	**13.78**	**153**	Pn	Pn	16 13 30.6	-3.6
WRA	**Warramunga Arr**	**13.78**	**153**	P	Pn	16 13 30.6	-3.7
	0.6nm,0.3s,baz=331,slow=13,SNR=58						
WRA				S	Sn	16 15 56.0	-11
	1.9nm,0.3s,baz=333,slow=22,SNR=15						
WRA	**Warramunga Arr**	**13.78**	**153**	Pn	**Pn**	**16 13 31.3**	**-3.0**
WB2	**Warramunga Arr**	**13.78**	**153**	Pn	Pn	16 13 30.6	-3.8
WR0	**Warramunga Arr**	**13.88**	**152**	Pn	Pn	16 13 31.7	-4.0
PSA00	**Pilbara Seismi**	**15.75**	**208**	Pn	**Pn**	**16 13 57.1**	**-1.8**
PSA00				IAmb	IAmb	16 13 59.1	
	comp=Z,16nm,1.3s						
PSA00	**Pilbara Seismi**	**15.75**	**208**	Pn	**Pn**	**16 13 58.0**	**-0.9**
PSA00				IAmb	IAmb	16 13 59.3	
	comp=Z,3.9nm,1.2s						
COEN	**Coen**	**16.42**	**114**	P	**Pn**	**16 14 08.3**	**+1.2**
COEN				IAmb	IAmb	16 14 28.5	
	comp=Z,22nm,1.5s						
AS31	**Alice Springs**	**16.97**	**160**	P	**P**	**16 14 14.0**	**+0.8**
ASAR	**Alice Springs**	**16.97**	**160**	P	**P**	**16 14 14.1**	**+0.9**
	comp=Z,1.3nm,0.3s,baz=339,slow=11,SNR=131						
ASAR				S	S	16 17 12.7	-10
	comp=Z,0.5nm,0.3s,baz=322,slow=21,SNR=7.2						
ASAR	**Alice Springs**	**16.97**	**160**	P	**P**	**16 14 13.8**	**+0.6**
CTAO	**Charters Tower**	**21.79**	**126**	P	**P**	**16 15 07.1**	**+1.7**
CTAO				IAmb	IAmb	16 15 09.3	
	comp=Z,13nm,1.2s						
BBOO	**Buckleboo**	**26.18**	**164**	P	**P**	**16 15 46.8**	**+1.1**
BBOO				IAmb	IAmb	16 16 12.7	
	comp=Z,26nm,1.4s						
NWAO	**Narrogin (SRO)**	**26.93**	**200**	P	**P**	**16 15 54.5**	**+2.1**
NWAO				IAmb	IAmb	16 16 09.9	
	comp=Z,32nm,1.5s						
STKA	**Stephens Creek**	**27.33**	**154**	P	**P**	**16 15 57.6**	**+1.5**
	comp=Z,1.7nm,0.4s,baz=323,slow=11,SNR=13						
STKA	**Stephens Creek**	**27.33**	**154**	P	**P**	**16 15 57.2**	**+1.2**
CAN	**Canberra**	**33.73**	**148**	P	**P**	**16 16 55.2**	**+2.8**
TOO	**Toolangi**	**33.84**	**154**	P	**P**	**16 16 56.6**	**+3.3**
TOO				IAmb	IAmb	16 17 01.7	
	comp=Z,33nm,1.4s						
PINNC	**Pines Island,**	**40.97**	**116**	P	**P**	**16 17 54.3**	**+0.8**
PYZ	**Puysegur Point**	**50.88**	**146**	P	**P**	**16 19 10.9**	**+0.2**
MK31	**Makanchi Array**	**67.57**	**328**	P	**P**	**16 21 05.3**	**-0.1**
MK31				IAmb	IAmb	16 21 14.0	
	comp=Z,2.8nm,1.5s						
MKAR	**Makanchi Array**	**67.57**	**328**	P	**P**	**16 21 05.4**	**0.0**
	comp=Z,0.2nm,0.4s,baz=111,slow=7.9,SNR=2.4						
MKAR	**Makanchi Array**	**67.57**	**328**	P	**P**	**16 21 05.1**	**-0.4**

MEX 15 16:17:14.1±0.3, 14°.46N×92°.55W, h58 km±37 km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.40**	**332**	*eP*	Pn	16 17 35.9	-1.5
PCIG				*i* S	Sn	16 17 52.9	-1.9

MEX 15 16:25:37.4±0.4, 16°.10N×97°.62W, h37 km±10 km, MD3.5, Oaxaca

*IDC **15** 16:31:18.0±2.8, 22°.84N×121°.39E, h0 km, mb3.5/4, mb1 3.6/4, mb1mx3.3/37, mbtmp3.5/4, MS3.1/3, Ms1 3.1/3, ms1mx2.6/40, Error ellipse: s-maj=243.9km s-min=23.0km az=63.0*

*TAP **15** 16:31:17.9, 23°.00N×120°.90E, h6 km, ML3.9, C*

*JMA **15** 16:31:17.6±0.1, 22°.91N×121°.35E, h0 km, M3.2*

ISC 15 16:31:18.7±0.8, 23°.04N±0°.01×120°.95E±0°.01, h10 km±6 km, n129, σ1°.09/195, mb3.4/4, MS3.0/3, 26C-13D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.16**	**21**	⇑*iP*	**Pg**	**16 31 22.2**	**-0.1**
	baz=31						
ELDTW				*i* S	**Sg**	**16 31 25.0**	**+0.1**
	baz=31						
LONT	**Longtian**	**0.21**	**128**	⇓*iP*	**Pg**	**16 31 23.1**	**0.0**
	baz=115						
LONT				S	**Sg**	**16 31 26.5**	**+0.5**
	baz=115						
STYH	**Taoyuan**	**0.21**	**309**	⇓*iP*	**Pg**	**16 31 22.6**	**-0.6**
	baz=324						
STYH				S	**Sg**	**16 31 25.5**	**-0.6**
	baz=324						
STYT	**Tauyuan**	**0.22**	**305**	⇓*iP*	**Pg**	**16 31 22.5**	**-0.8**
	baz=321						
STYT				*i* S	**Sg**	**16 31 25.6**	**-0.8**
	baz=321						
TWG	**Pinlang**	**0.24**	**153**	⇓*iP*	**Pg**	**16 31 23.5**	**-0.2**
	baz=139						
TWG				*i* S	**Sg**	**16 31 27.2**	**+0.2**
	baz=139						
TWGBT	**Beinan**	**0.25**	**152**	⇓*iP*	**Pg**	**16 31 23.5**	**-0.3**
	baz=139						
TWGBT				S	**Sg**	**16 31 27.2**	**0.0**
	baz=139						
ECS	**Chishang**	**0.25**	**77**	⇑*iP*	**Pg**	**16 31 24.5**	**+0.6**
	baz=73						
ECS				*i* S	**Sg**	**16 31 28.9**	**+1.6**
	baz=73						
SLGT	**Liugui**	**0.28**	**261**	⇑*iP*	**Pg**	**16 31 23.4**	**-1.1**
	baz=267						
SLGT				*i* S	**Sg**

SNST	**Tainan City**	**0.46**	**294**	⇓P	**Pg**	**16 31 28.0**	**+0.4**
	baz=300									
EYUL	**Yuli**	**0.46**	**47**	⇑*i*P	**Pb**	**16 31 27.8**	**-1.1**
	baz=48									
EYUL				*e*S	**Sb**	**16 31 34.5**	**-1.2**
	baz=48									
YULB	**Yu-li**	**0.47**	**42**	⇑P	**Pg**	**16 31 27.8**	**-0.2**
	baz=43									
YULB				*e*S	**Sb**	**16 31 34.6**	**-1.7**
	baz=43									
TWK	**Hsinying**	**0.48**	**298**	⇓P	**Pg**	**16 31 28.4**	**+0.2**
	baz=305									
TWK				*e*S	**Sb**	**16 31 36.4**	**-0.2**
	baz=305									
ALS	**Alishan**	**0.49**	**344**	⇑*i*P	**Pg**	**16 31 28.2**	**-0.2**
	baz=351									
ALS				*e*S	**Sb**	**16 31 35.6**	**-1.4**
	baz=351									
MASBT	**Mashibuluo**	**0.52**	**215**	⇑*i*P	**Pg**	**16 31 27.2**	**-1.6**
	baz=213									
MASBT				*e*S	**Sg**	**16 31 33.1**	**-2.4**
	baz=213									
SGLT	**Jiouru**	**0.53**	**234**	⇑P	**Pg**	**16 31 28.8**	**-0.2**
	baz=233									
ECBN	**Changbin**	**0.54**	**59**	P	**Pb**	**16 31 30.5**	**+0.2**
	baz=58									
ECBN				*e*S	**Sb**	**16 31 39.4**	**+1.4**
	baz=58									
CHN3	**Shinhua**	**0.54**	**274**	*e*P	**Pb**	**16 31 30.8**	**+0.5**
	baz=278									
TSPT	**Pingtung City**	**0.55**	**230**	*e*P	**Pg**	**16 31 29.1**	**-0.3**
	baz=229									
EHY	**Hungye**	**0.58**	**36**	⇑*e*P	**Pb**	**16 31 29.7**	**-1.3**
	baz=38									
EHY				*e*S	**Sb**	**16 31 37.5**	**-1.7**
	baz=38									
LDUT	**Ludao**	**0.60**	**127**	⇓*i*P	**Pg**	**16 31 30.3**	**-0.1**
	baz=122									
LDUT				*e*S	**Sb**	**16 31 40.2**	**+0.4**
	baz=122									
CHN5	**Tsauling**	**0.61**	**336**	P	**Pb**	**16 31 30.8**	**-0.8**
	baz=341									
CHN5				*e*S	**Sb**	**16 31 40.9**	**+0.6**
	baz=341									
HGSD	**Ruisui**	**0.63**	**44**	⇑P	**Pb**	**16 31 31.5**	**-0.3**
	baz=44									
HGSD				*e*S	**Sb**	**16 31 41.4**	**+0.8**
	baz=44									
SNJT	**Kaohsiung City**	**0.64**	**244**	*e*P	**Pg**	**16 31 32.3**	**+1.3**
	baz=245									
SSPT	**Xinbi**	**0.66**	**213**	⇑*i*P	**Pg**	**16 31 30.4**	**-1.0**
	baz=211									
SSPT				*e*S	**Sg**	**16 31 39.0**	**-1.0**
	baz=211									
EAST	**Anshuo**	**0.66**	**188**	⇑*i*P	**Pg**	**16 31 30.4**	**-1.0**
	baz=184									
EAST				*e*S	**Sg**	**16 31 39.6**	**-0.5**
	baz=184									
CHN2	**Minshiung**	**0.66**	**318**	*e*P	**Pb**	**16 31 32.6**	**+0.2**
	baz=323									
WHYT	**Xinyi Township**	**0.66**	**352**	⇑*i*P	**Pb**	**16 31 31.4**	**-1.0**
	baz=356									
WHYT				*e*S	**Sb**	**16 31 41.1**	**-0.6**
	baz=356									
TAI1	**Yung-k'ang**	**0.67**	**270**	*e*P	**Pb**	**16 31 33.7**	**+1.3**
	baz=273									
CHY	**Chiayi**	**0.67**	**313**	*e*P	**Pb**	**16 31 32.2**	**-0.3**
	baz=318									
CHY				*e*S	**Sb**	**16 31 42.7**	**+0.9**
	baz=318									
TAW	**Tawu**	**0.68**	**184**	⇑*i*P	**Pg**	**16 31 30.8**	**-1.0**
	baz=180									
TAW				*e*S	**Sg**	**16 31 41.2**	**+0.5**
	baz=180									
ICHU	**Yijhu**	**0.70**	**298**	*e*P	**Pb**	**16 31 32.5**	**+0.3**
	baz=302									
SCLT	**Jiali**	**0.71**	**281**	*e*P	**Pg**	**16 31 33.2**	**+0.8**
	baz=285									
SCZT	**Fangliau**	**0.73**	**205**	⇑*i*P	**Pg**	**16 31 31.3**	**-1.5**
	baz=202									
SCZT				*e*S	**Sg**	**16 31 40.4**	**-2.0**
	baz=202									
WGK	**Gukeng**	**0.74**	**331**	*e*P	**Pb**	**16 31 33.6**	**-0.1**
	baz=336									
SSLB	**Suanglung**	**0.75**	**0**	⇑*e*P	**Pg**	**16 31 32.4**	**-0.8**
	baz=3.0									
SSLB				*e*S	**Sb**	**16 31 44.9**	**+0.8**
	baz=3.0									
CHN8	**Yiju**	**0.75**	**294**	*e*P	**Pb**	**16 31 33.8**	**0.0**
	baz=299									
WDLH	**Douliu**	**0.75**	**330**	*e*P	**Pb**	**16 31 34.2**	**+0.3**
	baz=334									
WDLH				*e*S	**Sn**	**16 31 45.9**	**-1.0**
	baz=334									
KAU	**Kaohsiung**	**0.76**	**232**	*e*P	**Pb**	**16 31 35.5**	**+1.5**
	baz=231									
EGFH	**Guangfu**	**0.77**	**35**	⇑P	**Pg**	**16 31 32.9**	**-0.6**
	baz=36									
EGFH				*e*S	**Sb**	**16 31 43.2**	**-1.5**
	baz=36									
WJS	**Zhushan**	**0.81**	**345**	*e*P	**Pb**	**16 31 34.9**	**0.0**
	baz=349									
WJS				*e*S	**Sn**	**16 31 47.3**	**-1.0**
	baz=349									
SLIU	**Shizi**	**0.83**	**190**	⇑*i*P	**Pg**	**16 31 33.4**	**-1.3**
	baz=187									
SLIU				*e*S	**Sg**	**16 31 45.7**	**+0.2**
	baz=187									
WTK	**Tuku**	**0.83**	**321**	*e*P	**Pb**	**16 31 35.1**	**-0.1**
	baz=325									
WTK				*e*S	**Sb**	**16 31 47.4**	**+0.9**
	baz=325									
SMLT	**Sun Moon Lake**	**0.84**	**357**	⇑*e*P	**Pb**	**16 31 34.7**	**-0.8**
SMLT				*e*S	**Sn**	**16 31 48.7**	**-0.6**
TEGC	**Jichi Village**	**0.86**	**39**	*e*P	**Pb**	**16 31 35.9**	**+0.2**
	baz=40									
WLCH	**Liuqiu**	**0.86**	**218**	*e*P	**Pb**	**16 31 36.9**	**+1.1**
	baz=217									
TYC	**Yuchr**	**0.87**	**354**	*e*P	**Pb**	**16 31 35.4**	**-0.5**
	baz=358									
TYC				*e*S	**Sn**	**16 31 50.2**	**+0.5**
	baz=358									
WNT	**Mingjian**	**0.87**	**344**	*e*P	**Pb**	**16 31 36.2**	**+0.2**
	baz=347									
WNT				*e*S	**Sn**	**16 31 49.4**	**-0.4**
	baz=347									
TWP	**Hsiaoliuchiu**	**0.88**	**219**	*e*P	**Pg**	**16 31 36.5**	**+0.8**
	baz=217									
ESL	**Shilin**	**0.89**	**30**	*e*P	**Pg**	**16 31 35.2**	**-0.7**
	baz=32									
ESL				*e*S	**Sb**	**16 31 48.3**	**+0.1**
	baz=32									
WSF	**Szhu**	**0.90**	**312**	*e*P	**Pg**	**16 31 36.1**	**+0.1**
	baz=315									
WSF				*e*S	**Sb**	**16 31 48.6**	**+0.1**
	baz=315									
OWD	**Renai**	**0.94**	**13**	*e*P	**Pg**	**16 31 35.5**	**-1.3**
	baz=15									
WPL	**Puli Township**	**0.97**	**0**	*e*P	**Pb**	**16 31 37.0**	**-0.6**
	baz=3.0									
DPDB	**Guoxing**	**0.99**	**359**	*e*P	**Pb**	**16 31 38.0**	**-0.1**
	baz=1.0									
WRL	**Guolierlin Hig**	**1.01**	**329**	*e*P	**Pb**	**16 31 38.2**	**-0.1**
	baz=332									
WRL				*e*S	**Sn**	**16 31 52.8**	**-0.4**
	baz=332									
WCS	**Beigang Elemen**	**1.02**	**358**	*e*P	**Pb**	**16 31 38.3**	**-0.1**
TEYL	**Yanliau Villag**	**1.02**	**35**	*e*P	**Pn**	**16 31 38.9**	**-0.1**
	baz=36									
WTCT	**Ta-ch'eng**	**1.03**	**323**	*e*P	**Pb**	**16 31 38.9**	**+0.3**
	baz=326									
CHGB	**Renai**	**1.04**	**11**	*e*P	**Pg**	**16 31 37.4**	**-1.3**
	baz=13									
HEN	**Hengchun**	**1.04**	**191**	*e*P	**Pg**	**16 31 38.3**	**-0.5**
	baz=188									
ETM	**Tongmen**	**1.05**	**28**	*e*P	**Pb**	**16 31 38.4**	**-0.6**
	baz=29									
TWK1	**Hengchun**	**1.10**	**187**	*e*P	**Pg**	**16 31 39.1**	**-0.7**
	baz=185									
TWKBT	**Hengchun**	**1.10**	**187**	*e*P	**Pg**	**16 31 38.9**	**-0.9**
	baz=185									
TWKBT				*e*S	**Sb**	**16 31 56.9**	**+2.7**
	baz=185									
HWA	**Hwalien**	**1.11**	**32**	*e*P	**Pn**	**16 31 40.4**	**0.0**
	baz=34									
TSEB	**Hengchuen, Pin**	**1.13**	**182**	*e*P	**Pg**	**16 31 40.3**	**-0.2**
	baz=182									
LAY	**Lan-yu**	**1.14**	**151**	*e*P	**Pg**	**16 31 38.1**	**-2.4**
	baz=148									
WHF	**Hehuan Shan**	**1.14**	**15**	*e*P	**Pb**	**16 31 40.1**	**-0.6**
	baz=17									
TWD	**Chiawan**	**1.20**	**29**	*e*P	**Pb**	**16 31 41.2**	**-0.3**
	baz=31									
WDGT	**Dungji**	**1.21**	**281**	*e*P	**Pg**	**16 31 40.5**	**-1.4**
	baz=282									
WDGT				*e*S	**Sg**	**16 31 57.0**	**-0.7**
	baz=282									
TDCB	**Techi**	**1.23**	**9**	*e*P	**Pn**	**16 31 42.2**	**+0.1**
	baz=11									
TDCB				*e*S	**Sn**	**16 32 00.3**	**+1.6**
	baz=11									
TWT	**Tachien**	**1.23**	**10**	*e*P	**Pn**	**16 31 42.2**	**+0.1**
	baz=11									
FUSS	**Fushou**	**1.23**	**12**	*e*P	**Pg**	**16 31 41.1**	**-1.4**
	baz=14									
WHP	**Taichung City**	**1.23**	**360**	*e*P	**Pn**	**16 31 42.9**	**+0.7**
	baz=2.0									
WHP				*e*S	**Sn**	**16 32 00.5**	**+1.6**
	baz=2.0									
ETLH	**Xiulin Townshi**	**1.26**	**23**	*e*P	**Pg**	**16 31 41.9**	**-1.1**
	baz=24									
ETLH				*e*S	**Sn**	**16 32 00.1**	**+0.5**
	baz=24									
NACB	**Ninganchiao**	**1.28**	**27**	*e*P	**Pn**	**16 31 42.5**	**-0.1**
	baz=29									
TWQ1	**Liyutan**	**1.32**	**353**	*e*P	**Pn**	**16 31 44.2**	**+1.1**
	baz=355									
WDJ	**Dajia District**	**1.34**	**348**	*e*P	**Pb**	**16 31 44.2**	**+0.3**
	baz=350									
PHUB	**P'eng-hu**	**1.35**	**291**	*e*P	**Pn**	**16 31 42.6**	**-1.0**
	baz=292									
PHUB				*e*S	**Sb**	**16 32 00.2**	**-1.3**
	baz=292									
NSY	**Sanyi**	**1.38**	**353**	*e*P	**Pg**	**16 31 46.3**	**+1.0**
	baz=355									
PNG	**Penghu**	**1.39**	**293**	*e*P	**Pn**	**16 31 43.3**	**-0.9**
	baz=294									
PNG				*e*S	**Sb**	**16 32 01.6**	**-0.9**
	baz=294									
VCHM	**Qimei**	**1.41**	**277**	*e*P	**Pn**	**16 31 43.3**	**-1.2**
	baz=279									
VCHM				*e*S	**Sb**	**16 32 01.8**	**-1.5**
	baz=279									
NNSB	**Datong**	**1.44**	**16**	*e*P	**Pb**	**16 31 45.2**	**-0.5**
	baz=17									
NNSB				*e*S	**Sn**	**16 32 06.0**	**+2.0**
	baz=17									
NNS	**Nan Shan**	**1.45**	**15**	*e*P	**Pn**	**16 31 45.1**	**0.0**
	baz=17									
NNS				*e*S	**Sn**	**16 32 07.1**	**+2.8**
	baz=17									
NMLH	**Miaoli**	**1.50**	**354**	*e*P	**Pg**	**16 31 47.6**	**0.0**
	baz=356									
ENA	**Nanau**	**1.56**	**27**	*e*P	**Pn**	**16 31 46.8**	**+0.2**
	baz=29									
NSTT	**Nanjuang**	**1.59**	**2**	*e*P	**Pg**	**16 31 48.3**	**-0.9**
	baz=3.0									
EWUT	**Wuta**	**1.59**	**28**	*e*P	**Pg**	**16 31 48.2**	**-1.1**
	baz=29									
EWUT				*e*S	**Sg**	**16 32 09.0**	**-1.0**
	baz=29									
LIOB	**Emei**	**1.60**	**2**	*e*P	**Pg**	**16 31 48.3**	**-1.2**
	baz=4.0									
NDT	**Datong Townshi**	**1.64**	**18**	*e*P	**Pg**	**16 31 49.7**	**-0.5**
	baz=19									
NSK	**Sanguang**	**1.67**	**13**	*e*P	**Pb**	**16 31 49.4**	**-0.3**
	baz=14									
ENTT	**Nioudou**	**1.69**	**19**	*e*P	**Pg**	**16 31 50.3**	**-0.9**
	baz=21									
NDS	**Dongshan**	**1.74**	**24**	*e*P	**Pg**	**16 31 50.8**	**-1.3**
	baz=25									
NDS				*e*S	**Sg**	**16 32 14.2**	**-0.4**
	baz=25									
TWC	**Suao**	**1.77**	**27**	*e*P	**Pg**	**16 31 51.4**	**-1.2**
	baz=29									
TWC				*e*S	**Sg**	**16 32 14.5**	**-1.1**
	baz=29									
TWE	**Neicheng**	**1.80**	**21**	*e*P	**Pg**	**16 31 52.3**	**-1.0**
	baz=23									
NWLT	**Wulai**	**1.80**	**16**	*e*P	**Pg**	**16 31 52.0**	**-1.4**
	baz=17									
NHDH	**Xindian Distri**	**1.99**	**15**	*e*P	**Pg**	**16 31 56.8**	**-0.1**
	baz=16									
TWA	**Mucha**	**2.02**	**16**	*e*P	**Pg**	**16 31 56.9**	**-0.6**
	baz=18									
NWF	**Wu-fen Shan**	**2.16**	**20**	*e*P	**Pb**	**16 31 56.5**	**-1.6**
	baz=21									
YM01	**YM01**	**2.17**	**15**	*e*P	**Pg**	**16 31 60.0**	**-0.5**
	baz=16									
TWB1	**Santiao Chiao**	**2.18**	**26**	*e*P	**Pb**	**16 31 56.7**	**-1.6**
	baz=27									
ANP	**Anpu**	**2.20**	**14**	*e*P	**Pg**	**16 32 00.6**	**-0.3**
	baz=15									
JYNG	**Yonagunijimaku**	**2.31**	**52**	P	**Pn**	**16 31 56.9**	**+0.1**
JYNG				*e*S	**Sn**	**16 32 25.1**	**-0.1**
YOJ	**Yonaguni jima**	**2.36**	**53**	P	**Pn**	**16 31 57.8**	**+0.3**
YOJ				*e*S	**Sn**	**16 32 26.5**	**-0.1**
HATJ	**Hateruma jima**	**2.81**	**68**	S	**Sn**	**16 32 36.0**	**-1.6**
IRIF	**Iriomote-Funau**	**2.85**	**63**	P	**Pn**	**16 32 04.4**	**+0.1**
IRIF				*e*S	**Sn**	**16 32 38.5**	**-0.3**
JKRS	**Kuro-shima**	**3.05**	**66**	P	**Pn**	**16 32 06.9**	**-0.1**
JKRS				*e*S	**Sn**	**16 32 42.4**	**-1.1**
JIJ	**Ishigaki jima**	**3.21**	**65**	P	**Pn**	**16 32 09.2**	**0.0**
JIJ				*e*S	**Sn**	**16 32 45.4**	**-2.1**
JISG	**Ishigakijimahi**	**3.44**	**63**	P	**Pn**	**16 32 11.8**	**-0.6**
JISG				*e*S	**Sn**	**16 32 50.7**	**-2.5**
JIRB	**Irabujima**	**4.25**	**64**	*e*S	**Sn**	**16 33 11.3**	**-2.0**
SONM	**Songino Array**	**27.34**	**338**	LR	LR	16 48 36.0	
	comp=Z,30nm,20.1s,baz=132,slow=38						
PSI	**Prapat**	**29.33**	**230**	LR	LR	16 47 10.9	
	comp=Z,39nm,20.7s,baz=270,slow=32						
MKAR	**Makanchi Array**	**39.02**	**317**	P	**P**	**16 38 49.5**	**+4.0**
	0.5nm,0.7s,baz=116,slow=9.8,SNR=5.8						
ZALV	**Zalesovo Beam**	**41.09**	**328**	P	**P**	**16 39 06.6**	**+4.1**
	1.1nm,0.6s,baz=129,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**44.67**	**162**	P	**P**	**16 39 29.7**	**-2.2**
	0.3nm,0.6s,baz=346,slow=9.4,SNR=1.7						
ASAR	**Alice Springs**	**48.10**	**164**	P	**P**	**16 39 57.6**	**-1.2**
	0.2nm,0.6s,baz=344,slow=7.0,SNR=8.2						
NOA	**NORSAR Array B**	**79.14**	**332**	LR	LR	17 21 23.8	
	comp=Z,12nm,18.6s,baz=85,slow=38						

*JMA **15** 16:34:55.3±0.2,22.88N×121.39E,h0km,M3.1*
*TAP **15** 16:34:56.5,23.01N×120.92E,h6km,ML3.7,C*
ISC 15 16:34:57.0±0.8,23°01N±0°01×120°92E±0°01,h11km±6km,
n117,s095/206,13C-12D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.20**	**26**	⇑*i*P		**Pg**		**16 35 01.1**	**-0.3**
	baz=29								
ELDTW				*i* S		**Sg**		**16 35 03.7**	**-0.7**
	baz=29								
STYH	**Taoyuan**	**0.21**	**320**	⇓*i*P		**Pg**		**16 35 01.4**	**-0.1**
	baz=321								
STYH				*i* S		**Sg**		**16 35 04.3**	**-0.2**
	baz=321								
LONT	**Longtian**	**0.22**	**118**	⇓*i*P		**Pg**		**16 35 01.9**	**+0.3**
	baz=118								
LONT				*i* S		**Sg**		**16 35 05.1**	**+0.5**
	baz=118								
STYT	**Tauyuan**	**0.22**	**315**	⇓*i*P		**Pg**		**16 35 01.4**	**-0.3**
	baz=318								
STYT				S		**Sg**		**16 35 04.4**	**-0.4**
	baz=318								
TWG	**Pinlang**	**0.23**	**144**	⇓*i*P		**Pg**		**16 35 02.2**	**+0.4**
	baz=143								
TWG				*i* S		**Sg**		**16 35 05.6**	**+0.5**
	baz=143								
TWGBT	**Beinan**	**0.24**	**143**	⇓*i*P		**Pg**		**16 35 02.2**	**+0.2**
	baz=143								
TWGBT				S		**Sg**		**16 35 05.5**	**+0.3**
	baz=143								
ECS	**Chishang**	**0.29**	**72**	⇑*i*P		**Pb**		**16 35 03.3**	**-0.9**
	baz=72								
ECS				S		**Sg**		**16 35 07.5**	**+0.8**
	baz=72								
SGST	**Jiashian**	**0.32**	**283**	⇓*i*P		**Pg**		**16 35 02.9**	**-0.6**
	baz=289								
SGST				*i* S		**Sg**		**16 35 07.6**	**-0.2**
	baz=289								
TTN	**Taitung**	**0.33**	**141**	P		**Pb**		**16 35 04.7**	**-0.1**
	baz=141								
TTN				S		**Sb**		**16 35 10.2**	**+0.2**
	baz=141								
EDH	**Donghe**	**0.35**	**96**	P		**Pb**		**16 35 05.0**	**-0.3**
	baz=88								
EDH				S		**Sb**		**16 35 10.4**	**-0.4**
	baz=88								
WTP	**Ta-pu**	**0.37**	**310**	⇓*i*P		**Pb**		**16 35 04.9**	**-0.7**
	baz=311								
WTP				S		**Sb**		**16 35 10.4**	**-1.0**
	baz=311								
SSD	**Sandimen**	**0.38**	**226**	⇑*i*P		**Pg**		**16 35 03.9**	**-0.5**
	baz=219								
SSD				*i* S		**Sg**		**16 35 08.2**	**-1.2**
	baz=219								
FULB	**Fuli**	**0.39**	**61**	⇑*i*P		**Pb**		**16 35 05.4**	**-0.5**
	baz=61								
FULB				*i* S		**Sb**		**16 35 11.4**	**-0.6**
	baz=61								
TSMG	**Majia**	**0.40**	**221**	⇑*i*P		**Pg**		**16 35 04.3**	**-0.5**
	baz=218								
TSMG				S		**Sg**		**16 35 09.0**	**-1.1**
	baz=218								
TPUB	**Ta-pu**	**0.40**	**317**	⇓*i*P		**Pb**		**16 35 05.4**	**-0.7**
	baz=317								
TPUB				S		**Sb**		**16 35 11.3**	**-0.9**
	baz=317								
CHN1	**Nanshi**	**0.40**	**296**	⇓*i*P		**Pb**		**16 35 05.8**	**-0.3**
	baz=303								
CHN1				S		**Sb**		**16 35 12.3**	**-0.1**
	baz=303								
ECL	**Taimali**	**0.41**	**176**	⇓*i*P		**Pg**		**16 35 04.9**	**-0.1**
	baz=177								
ECL				S		**Sg**		**16 35 09.9**	**-0.6**
	baz=177								
SCST	**Cishan**	**0.41**	**253**	P		**Pb**		**16 35 05.8**	**-0.5**
	baz=244								
SCST				*e*S		**Sb**		**16 35 11.9**	**-0.7**
	baz=244								
CHKT	**Chengkung**	**0.42**	**77**	⇑*i*P		**Pb**		**16 35 06.4**	**0.0**
	baz=68								
CHKT				*i* S		**Sb**		**16 35 13.0**	**+0.3**
	baz=68								
SNST	**Tainan City**	**0.45**	**298**	P		**Pb**		**16 35 06.9**	**0.0**
	baz=298								
SNST				S		**Sb**		**16 35 14.3**	**+0.8**
	baz=298								
TWK	**Hsinying**	**0.48**	**303**	⇓*i*P		**Pb**		**16 35 07.2**	**-0.2**
	baz=310								
TWK				S		**Sb**		**16 35 14.9**	**+0.4**
	baz=310								
MASBT	**Mashibuluo**	**0.48**	**214**	P		**Pg**		**16 35 05.7**	**-0.6**
	baz=212								
MASBT				*e*S		**Sg**		**16 35 11.4**	**-1.2**
	baz=212								
YUS	**Yu-Shan**	**0.48**	**3**	⇑*i*P		**Pg**		**16 35 06.2**	**-0.4**
	baz=13								
YUS				*i* S		**Sg**		**16 35 12.0**	**-1.0**
	baz=13								
SGLT	**Jiouru**	**0.49**	**235**	P		**Pb**		**16 35 07.2**	**-0.4**
	baz=226								
SGLT				*e*S		**Sb**		**16 35 17.2**	**+2.5**
	baz=226								
EYUL	**Yuli**	**0.50**	**47**	*e*P		**Pg**		**16 35 06.5**	**-0.2**
	baz=47								
EYUL				*e*S		**Sg**		**16 35 12.9**	**-0.4**
	baz=47								
ALS	**Alishan**	**0.51**	**348**	⇑*i*P		**Pg**		**16 35 07.0**	**-0.1**
	baz=349								
ALS				S		**Sg**		**16 35 14.0**	**+0.1**
	baz=349								
YULB	**Yu-li**	**0.51**	**42**	⇑*i*P		**Pg**		**16 35 06.6**	**-0.4**
	baz=51								
YULB				S		**Sg**		**16 35 13.1**	**-0.8**
	baz=51								
CHN3	**Shinhua**	**0.52**	**278**	*e*P		**Pn**		**16 35 09.4**	**-0.9**
	baz=277								
CHN3				*e*S		**Sn**		**16 35 19.6**	**+0.4**
	baz=277								
SNJT	**Kaohsiung City**	**0.60**	**245**	*e*P		**Pn**		**16 35 10.8**	**-0.7**
	baz=244								
LDUT	**Ludao**	**0.60**	**123**	*e*P		**Pg**		**16 35 08.9**	**+0.2**
	baz=125								
LDUT				*e*S		**Sb**		**16 35 19.6**	**+1.5**
	baz=125								
EHY	**Hungye**	**0.62**	**36**	⇑*i*P		**Pg**		**16 35 08.5**	**-0.5**
	baz=38								
EHY				S		**Sg**		**16 35 16.6**	**-0.5**
	baz=38								
SSPT	**Xinbi**	**0.62**	**212**	P		**Pb**		**16 35 09.1**	**-0.7**
	baz=201								
EAST	**Anshuo**	**0.63**	**186**	P		**Pg**		**16 35 09.1**	**-0.1**
	baz=186								
EAST				*e*S		**Sg**		**16 35 17.8**	**+0.4**
	baz=186								
CHN5	**Tsauling**	**0.63**	**339**	⇓*i*P		**Pb**		**16 35 09.6**	**-0.5**
	baz=349								
CHN5				S		**Sb**		**16 35 19.3**	**+0.4**
	baz=349								
CHN2	**Minshiung**	**0.67**	**322**	*e*P		**Pb**		**16 35 10.8**	**+0.2**
	baz=321								
CHN2				S		**Sn**		**16 35 21.7**	**-1.1**
	baz=321								
HGSD	**Ruisui**	**0.67**	**44**	⇑*i*P		**Pb**		**16 35 10.3**	**-0.4**
	baz=35								
HGSD				S		**Sb**		**16 35 19.9**	**0.0**
	baz=35								
CHY	**Chiayi**	**0.67**	**317**	*e*P		**Pb**		**16 35 10.7**	**0.0**
	baz=317								
CHY				*e*S		**Sn**		**16 35 22.0**	**-0.9**
	baz=317								
WHYT	**Xinyi Township**	**0.69**	**355**	*e*P		**Pg**		**16 35 10.4**	**0.0**
	baz=4.0								
WHYT				S		**Sg**		**16 35 19.6**	**+0.2**
	baz=4.0								
ICHU	**Yijhu**	**0.69**	**301**	*e*P		**Pb**		**16 35 11.6**	**+0.6**
	baz=302								
SCLT	**Jiali**	**0.69**	**284**	*e*P		**Pn**		**16 35 12.3**	**-0.4**
	baz=299								
SCLT				*e*S		**Sn**		**16 35 24.5**	**+1.0**
	baz=299								
SCZT	**Fangliau**	**0.69**	**204**	P		**Pg**		**16 35 10.0**	**-0.4**
	baz=193								
CHN8	**Yiju**	**0.74**	**297**	*e*P		**Pb**		**16 35 12.4**	**+0.6**
	baz=312								
CHN8				*e*S		**Sn**		**16 35 24.8**	**+0.3**
	baz=312								
WDLH	**Douliu**	**0.77**	**332**	*e*P		**Pb**		**16 35 12.8**	**+0.5**
	baz=332								
WDLH				*e*S		**Sn**		**16 35 25.4**	**+0.2**
	baz=332								
SSLB	**Suanglung**	**0.78**	**2**	P		**Pg**		**16 35 11.2**	**-0.9**

ESL					*eS*	**Sg**	**16 35 25.7**	**-1.3**
	baz=38								
OWD	**Renai**	**0.97**	**14**	P		**Pg**	**16 35 14.2**	**-1.5**
	baz=16								
HEN	**Hengchun**	**1.01**	**190**	*eP*		**Pn**	**16 35 17.1**	**0.0**
	baz=188								
WRL	**Guolierlin Hig**	**1.02**	**331**	*eP*		**Pn**	**16 35 17.1**	**-0.2**
	baz=330								
WRL					*eS*	**Sn**	**16 35 31.4**	**-0.2**
	baz=330								
WTCT	**Ta-ch'eng**	**1.04**	**325**	*eP*		**Pn**	**16 35 17.9**	**+0.4**
	baz=325								
WTCT					*eS*	**Sn**	**16 35 32.1**	**+0.2**
	baz=325								
WCS	**Beigang Elemen**	**1.04**	**359**	*eP*		**Pn**	**16 35 17.6**	**0.0**
	baz=7.0								
WCS					*eS*	**Sn**	**16 35 32.4**	**+0.3**
	baz=7.0								
TEYL	**Yanliau Villag**	**1.06**	**36**	*eP*		**Pb**	**16 35 17.5**	**+0.2**
	baz=36								
TWK1	**Hengchun**	**1.06**	**186**	*eP*		**Pn**	**16 35 17.9**	**0.0**
	baz=192								
TWKBT	**Hengchun**	**1.07**	**186**	*eP*		**Pn**	**16 35 17.8**	**-0.1**
	baz=187								
TWKBT					*eS*	**Sn**	**16 35 35.1**	**+2.4**
	baz=187								
CHGB	**Renai**	**1.07**	**12**	*eP*		**Pg**	**16 35 16.2**	**-1.5**
	baz=11								
CHGB					*eS*	**Sn**	**16 35 34.4**	**+1.2**
	baz=11								
ETM	**Tongmen**	**1.09**	**29**	*eP*		**Pg**	**16 35 16.7**	**-1.2**
	baz=41								
TSEB	**Hengchuen, Pin**	**1.10**	**181**	*eP*		**Pn**	**16 35 20.3**	**+1.9**
	baz=191								
WCHH	**Zhanghua**	**1.12**	**343**	*eP*		**Pn**	**16 35 20.7**	**+2.1**
	baz=342								
WCHH					*eS*	**Sn**	**16 35 35.5**	**+1.5**
	baz=342								
LAY	**Lan-yu**	**1.13**	**149**	*eP*		**Pg**	**16 35 16.6**	**-2.1**
	baz=148								
HWA	**Hwalien**	**1.15**	**33**	*eP*		**Pg**	**16 35 18.6**	**-0.5**
	baz=45								
WHF	**Hehuan Shan**	**1.17**	**15**	*eP*		**Pg**	**16 35 18.0**	**-1.6**
	baz=15								
WHF					*eS*	**Sn**	**16 35 37.2**	**+1.2**
	baz=15								
WDGT	**Dungji**	**1.19**	**282**	*eP*		**Pg**	**16 35 18.7**	**-1.1**
	baz=282								
WDGT					*eS*	**Sn**	**16 35 35.9**	**+0.2**
	baz=282								
TWD	**Chiawan**	**1.23**	**30**	*eP*		**Pg**	**16 35 19.7**	**-1.0**
	baz=40								
TWD					*eS*	**Sg**	**16 35 35.1**	**-1.7**
	baz=40								
TDCB	**Techi**	**1.26**	**10**	P		**Pg**	**16 35 20.7**	**-0.5**
	baz=2.0								
TDCB					S	**Sn**	**16 35 38.5**	**+0.9**
	baz=2.0								
TWT	**Tachien**	**1.26**	**11**	P		**Pn**	**16 35 21.5**	**+0.8**
	baz=2.0								
TWT					S	**Sn**	**16 35 39.2**	**+1.4**
	baz=2.0								
WHP	**Taichung City**	**1.26**	**1**	*eP*		**Pn**	**16 35 21.6**	**+0.9**
	baz=8.0								
WHP					*eS*	**Sn**	**16 35 40.4**	**+2.6**
	baz=8.0								
FUSS	**Fushou**	**1.27**	**13**	P		**Pg**	**16 35 19.7**	**-1.7**
	baz=12								
FUSS					S	**Sn**	**16 35 40.0**	**+1.9**
	baz=12								
ETLH	**Xiulin Townshi**	**1.30**	**23**	P		**Pn**	**16 35 20.6**	**-0.6**
	baz=37								
ETLH					*eS*	**Sg**	**16 35 38.5**	**-0.4**
	baz=37								
NACB	**Ninganchiao**	**1.31**	**28**	*eP*		**Pn**	**16 35 20.2**	**-1.1**
	baz=31								
NACB					*eS*	**Sb**	**16 35 37.6**	**-0.9**
	baz=31								
PHUB	**P'eng-hu**	**1.34**	**292**	*eP*		**Pn**	**16 35 21.1**	**-0.5**
	baz=292								
PHUB					*eS*	**Sb**	**16 35 38.4**	**-0.9**
	baz=292								
TWQ1	**Liyutan**	**1.34**	**354**	P		**Pg**	**16 35 22.9**	**+0.2**
	baz=352								
TWQ1					S	**Sn**	**16 35 42.0**	**+2.5**
	baz=352								
WDJ	**Dajia District**	**1.36**	**349**	*eP*		**Pg**	**16 35 23.9**	**+0.8**
	baz=347								
WDJ					*eS*	**Sn**	**16 35 43.6**	**+3.7**
	baz=347								
PNG	**Penghu**	**1.38**	**294**	P		**Pn**	**16 35 22.1**	**0.0**
	baz=294								
PNG					S	**Sb**	**16 35 39.9**	**-0.4**
	baz=294								
VCHM	**Qimei**	**1.39**	**279**	P		**Pn**	**16 35 21.6**	**-0.7**
	baz=292								
VCHM					S	**Sb**	**16 35 40.5**	**-0.2**
	baz=292								
NSY	**Sanyi**	**1.41**	**354**	*eP*		**Pg**	**16 35 24.3**	**+0.2**
	baz=353								
NSY					*eS*	**Sg**	**16 35 44.4**	**+2.0**
	baz=353								
NNS	**Nan Shan**	**1.48**	**16**	P		**Pn**	**16 35 24.2**	**+0.4**
	baz=14								
NNS					S	**Sg**	**16 35 45.3**	**+0.5**
	baz=14								
NMLH	**Miaoli**	**1.53**	**355**	*eP*		**Pg**	**16 35 27.9**	**+1.5**
	baz=354								
NMLH					*eS*	**Sg**	**16 35 47.5**	**+1.3**
	baz=354								
ENA	**Nanau**	**1.60**	**28**	*eP*		**Pb**	**16 35 26.4**	**-0.2**
	baz=30								
NSTT	**Nanjuang**	**1.62**	**3**	*eP*		**Pg**	**16 35 28.2**	**+0.2**
NSTT					*eS*	**Sg**	**16 35 49.6**	**+0.6**
EWUT	**Wuta**	**1.63**	**29**	*eP*		**Pb**	**16 35 26.8**	**-0.3**
	baz=32								
EWUT					*eS*	**Sb**	**16 35 47.8**	**+0.1**
	baz=32								
LIOB	**Emei**	**1.63**	**3**	*eP*		**Pg**	**16 35 28.4**	**0.0**
	baz=1.0								
LIOB					*eS*	**Sg**	**16 35 50.4**	**+0.8**
	baz=1.0								
NDT	**Datong Townshi**	**1.68**	**19**	P		**Pg**	**16 35 28.4**	**-0.8**
	baz=36								
NDT					S	**Sg**	**16 35 51.9**	**+0.9**
	baz=36								
NSK	**Sanguang**	**1.71**	**13**	P		**Pb**	**16 35 28.7**	**+0.3**
	baz=11								
NSK					S	**Sb**	**16 35 50.7**	**+0.8**
	baz=11								
ENTT	**Nioudou**	**1.73**	**20**	*eP*		**Pb**	**16 35 29.0**	**+0.2**
	baz=37								
ENTT					*eS*	**Sg**	**16 35 51.9**	**-0.7**
	baz=37								
NDS	**Dongshan**	**1.77**	**24**	*eP*		**Pb**	**16 35 29.2**	**-0.3**
	baz=40								
TWC	**Suao**	**1.81**	**28**	P		**Pb**	**16 35 30.2**	**+0.2**
	baz=32								
TWC					S	**Sb**	**16 35 53.4**	**+0.6**
	baz=32								
TWE	**Neicheng**	**1.84**	**22**	P		**Pb**	**16 35 31.2**	**+0.6**
	baz=39								
TWE					*eS*	**Sg**	**16 35 57.1**	**+1.0**
	baz=39								
NWLT	**Wulai**	**1.84**	**17**	*eP*		**Pb**	**16 35 30.4**	**-0.3**
	baz=13								
NWLT					*eS*	**Sg**	**16 35 56.0**	**-0.1**
	baz=13								
NTC	**Toucheng**	**2.02**	**24**	*eP*		**Pb**	**16 35 34.3**	**+0.6**
	baz=40								
NHDH	**Xindian Distri**	**2.02**	**16**	*eP*		**Pg**	**16 35 35.0**	**-0.8**
	baz=12								
NHDH					*eS*	**Sg**	**16 36 02.1**	**+0.1**
	baz=12								
EGS		**2.05**	**27**	*eP*		**Pg**	**16 35 36.1**	**-0.2**
	baz=30								
TWA	**Mucha**	**2.05**	**17**	P		**Pg**	**16 35 35.8**	**-0.6**
	baz=13								
TWA					S	**Sg**	**16 36 04.4**	**+1.4**
	baz=13								
TIPB	**Shuangxi**	**2.12**	**23**	*eP*		**Pb**	**16 35 34.5**	**-1.0**
	baz=41								
TIPB					*eS*	**Sb**	**16 36 02.9**	**+1.0**
	baz=41								
NWF	**Wu-fen Shan**	**2.20**	**21**	*eP*		**Pb**	**16 35 37.0**	**+0.2**
	baz=39								
NWF					*eS*	**Sg**	**16 36 06.9**	**-0.8**
	baz=39								
YM01	**YM01**	**2.21**	**15**	*eP*		**Pg**	**16 35 38.3**	**-1.1**
	baz=354								
YM01					*eS*	**Sg**	**16 36 07.0**	**-1.0**
	baz=354								
TWB1	**Santiao Chiao**	**2.22**	**26**	*eP*		**Pn**	**16 35 34.6**	**+0.9**
	baz=40								
ANP	**Anpu**	**2.24**	**14**	*eP*		**Pb**	**16 35 38.1**	**+0.6**
	baz=2.0								
TWY	**Chenhua**	**2.34**	**15**	*eP*		**Pg**	**16 35 40.6**	**-1.2**
	baz=3.0								
JYNG	**Yonagunijimaku**	**2.34**	**52**	P		**Pn**	**16 35 35.6**	**+0.1**
JYNG					*eS*	**Sn**	**16 36 03.9**	**-0.4**
YOJ	**Yonaguni jima**	**2.40**	**52**	P		**Pn**	**16 35 36.3**	**+0.1**
YOJ					*eS*	**Sn**	**16 36 07.8**	**+2.2**
YOJ	**Yonaguni jima**	**2.40**	**52**	*eP*		**Pn**	**16 35 34.9**	**-1.3**
	baz=54								
PTMZ	**Houxiangcun**	**2.61**	**321**	*eP*		**Pn**	**16 35 39.5**	**+0.4**
	baz=326								
HATJ	**Hateruma jima**	**2.84**	**68**	*eS*		**Sn**	**16 36 13.9**	**-2.7**
IRIF	**Iriomote-Funau**	**2.89**	**62**	P		**Pn**	**16 35 42.9**	**-0.1**
JKRS	**Kuro-shima**	**3.08**	**66**	P		**Pn**	**16 35 47.5**	**+1.9**
JKRS					S	**Sn**	**16 36 22.1**	**-0.4**
JIJ	**Ishigaki jima**	**3.25**	**65**	P		**Pn**	**16 35 47.1**	**-0.8**
JISG	**Ishigakijimahi**	**3.48**	**62**	P		**Pn**	**16 35 50.3**	**-0.7**
JISG					*eS*	**Sn**	**16 36 29.3**	**-2.9**
LYJJ	**Jianjiangzhen**	**3.68**	**344**	*eP*		**Pn**	**16 35 55.3**	**+1.4**
	baz=348								

ANF ***15*** *16:51:02.8±0.5, 32.°95N×115.°59W, h24km±4km, ML2.9/9, Error ellipse: s-maj=4.8km s-min=1.7km az=137.0*
SCEDC ***15*** *16:51:03.0, 32.°94N×115.°54W, h17km*
ECX ***15*** *16:51:03.7±0.5, 32.°94N×115.°55W, h14km±4km, MD2.8, ML2.9*

ISC 15 16:51:02.7±1.0, 32.°95N±0.°03×115.°56W±0.°03, h17km±9km, n22, σ0°60/34, 5C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
COA	**Coachella**	**0.38**	**102**	⇑*e*	*i* P	**Pg**	**16 51 10.5**	**0.0**
EMSC	**East Mesa**	**0.53**	**113**	*eP*		**Pg**	**16 51 13.2**	**-0.1**
IKP	**In-Ko-Pah, Jac**	**0.55**	**238**	*eP*		**Pg**	**16 51 13.6**	**0.0**
IKP					*eS*	**Sb**	**16 51 21.8**	**+0.3**
IKP					IAML		16 51 22.9	
	comp=N,580nm,0.4s							
IKP				⇑*e*			16 51 22.9	
IKP				⇓*e*			16 51 23.0	
IKP					IAML		16 51 23.0	
	comp=E,450nm,0.5s							
IKP	**In-Ko-Pah, Jac**	**0.55**	**238**	P		**Pg**	**16 51 13.6**	**0.0**
	baz=59,SNR=39							
IKP					S	**Sg**	**16 51 21.1**	**+0.1**
	baz=59							
RMX	**La Rumorosa**	**0.55**	**232**	⇓*e*	P	**Pg**	**16 51 13.6**	**-0.1**
RMX					*eS*	**Sg**	**16 51 21.4**	**+0.2**
CPBX	**Cerro Prieto**	**0.57**	**157**	*eP*		**Pg**	**16 51 13.6**	**-0.4**
CPBX					IAML		16 51 25.5	
	comp=N,3μm,0.2s							
SLH	**Sleepy Hollow**	**0.63**	**293**	⇑*e*	P	**Pg**	**16 51 15.4**	**+0.2**
BC3	**Big Chuckawall**	**0.71**	**7**	P		**Pb**	**16 51 16.7**	**-0.2**
	baz=186							
BC3					S	**Sb**	**16 51 26.9**	**+0.5**
	baz=186							
MONP2	**Monument Peak**	**0.72**	**266**	⇑*e*	P	**Pb**	**16 51 16.9**	**-0.1**
MONP2					*i* S	**Sg**	**16 51 27.0**	**+0.3**
MONP2	**Monument Peak**	**0.72**	**266**		P	**Pb**	**16 51 16.9**	**-0.1**
	baz=86,SNR=151							
MONP2					S	**Sg**	**16 51 26.7**	**+0.1**
	baz=86							
MATG	**Mataguay Scout**	**0.94**	**286**	⇑*e*	P	**Pb**	**16 51 20.4**	**-0.4**
BAR	**Barrett**	**0.97**	**255**	*eP*		**Pb**	**16 51 20.6**	**-0.5**
BAR					*eS*	**Sb**	**16 51 33.7**	**0.0**
BAR					IAML		16 51 34.6	
	comp=E,344nm,0.4s							
BAR				⇓*e*			16 51 34.6	
PFO	**Pinyon Flats O**	**1.00**	**312**	P		**Pb**	**16 51 20.8**	**-0.9**
	baz=131,SNR=41							
PFO					S	**Sb**	**16 51 34.9**	**+0.1**
	baz=131							
EML	**El Monte Cty P**	**1.08**	**267**	*eP*		**Pb**	**16 51 22.0**	**-0.9**
BELC	**Belle Mtn. Jos**	**1.11**	**341**	S		**Sb**	**16 51 37.8**	**-0.2**
	baz=160							
CBX	**Cerro Bola**	**1.12**	**236**	*eP*		**Pn**	**16 51 23.7**	**-0.1**
CBX					*eS*	**Sb**	**16 51 38.8**	**+0.6**
IRM	**Iron Mountain**	**1.26**	**16**	P		**Pn**	**16 51 25.1**	**-0.5**
	baz=195,SNR=142							
IRM					S	**Sn**	**16 51 42.5**	**+0.3**
	baz=195							
109C	**Camp Elliot, M**	**1.30**	**268**	Pb		**Pn**	**16 51 26.7**	**+0.6**
	baz=87							
109C					S	**Sn**	**16 51 42.2**	**-0.8**
	baz=87							
CCX	**Cicese**	**1.42**	**221**	*eP*		**Pn**	**16 51 28.1**	**+0.4**
CCX					*eS*	**Sn**	**16 51 46.6**	**+0.5**
PDMCI	**Parker Dam,Lak**	**1.80**	**41**	Sb		**Sb**	**16 51 58.9**	**+1.4**
	baz=221							
FMP	**Fort Macarthur**	**2.41**	**289**	Sb		**Sb**	**16 52 16.8**	**+1.7**
	baz=108							
CIS	**Catalina Islan**	**2.44**	**282**	S		**Sn**	**16 52 10.2**	**-1.0**
	baz=100							

GUC ***15*** *16:55:12.1±0.8, 20.°32S×70.°00W, h46km±3km, ML3.5*
IDC ***15*** *16:55:20.4±5.6, 20.°25S×68.°09W, h0km, mb3.7/1, mb1 3.5/2, mb1mx3.3/28, mbtmp3.5/2, ML3.0/1, Error ellipse: s-maj=161.2km s-min=54.3km az=68.0*

ISC 15 16:55:11.3±1.5, 20.°30S±0.°04×70.°07W±0.°08, h48km±11km, n15, σ0°69/24, 3C-8D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TA02	**Huaiquique**	**0.07**	**296**	⇓*e*	*i* P	**Pn**	**16 55 19.1**	**+0.3**
TA02					*i* S	**Sn**	**16 55 24.6**	**+0.5**
TA01	**Diego Aracena**	**0.28**	**202**	⇓*e*	*i* P	**Pn**	**16 55 19.9**	**-0.3**
TA01					*i* S	**Sn**	**16 55 26.0**	**-0.5**
TA01					IAML		16 55 26.7	
	comp=E,7μm,0.4s							
PB11	**IPOC Station P**	**0.66**	**36**	⇓*e*	*i* P	**Pn**	**16 55 24.5**	**-0.1**
PB11					*i* S	**Sn**	**16 55 34.4**	**+0.1**
PB11					IAML		16 55 35.5	
	comp=N,4μm,0.2s							
PSGC	**Pisagua**	**0.70**	**356**	⇓*e*	*i* P	**Pn**	**16 55 25.1**	**-0.1**
PSGC					*i* S	**Sn**	**16 55 35.1**	**0.0**
PB08	**IPOC Station P**	**0.87**	**80**	⇑*e*	*i* P	**Pn**	**16 55 27.6**	**-0.1**
PB08					*i* S	**Sn**	**16 55 39.1**	**-0.4**
PB08					IAML		16 55 39.8	
	comp=N,2μm,0.2s							
PB01	**IPOC Station P**	**0.92**	**144**	⇑*e*	*i* P	**Pn**	**16 55 27.4**	**-0.6**
PB01					*i* S	**Sn**	**16 55 39.1**	**-1.1**
PB02	**IPOC Station P**	**1.03**	**171**	⇓*e*	*i* P	**Pn**	**16 55 29.3**	**-0.2**
PB02					*i* S	**Sn**	**16 55 42.6**	**-0.2**
PB02					IAML		16 55 44.0	
	comp=E,3μm,0.4s							
PB07	**IPOC Station P**	**1.43**	**173**	⇓*e*	*i* P	**Pn**	**16 55 35.4**	**+0.3**
PB07					*i* S	**Sn**	**16 55 53.1**	**+0.3**
PB07					IAML		16 55 55.5	
	comp=E,2μm,0.8s							
PB09	**IPOC Station P**	**1.68**	**153**	⇑*e*	*i* P	**Pn**	**16 55 39.4**	**+1.0**
PB09					*i* S	**Sn**	**16 56 00.7**	**+1.9**
PB09					IAML		16 56 06.3	
	comp=E,929nm,0.4s							
PB03	**IPOC Station P**	**1.76**	**171**	⇓*e*	*i* P	**Pn**	**16 55 40.3**	**+0.7**
PB03					*i* S	**Sn**	**16 56 01.5**	**+0.5**
PB03					IAML		16 56 05.5	
	comp=E,529nm,0.2s							
PB04	**IPOC Station P**	**2.02**	**182**	*eP*		**Pn**	**16 55 43.0**	**-0.2**
PB04					*i* S	**Sn**	**16 56 06.5**	**-0.9**
PB04					IAML		16 56 13.6	
	comp=N,491nm,0.3s							
PB06	**IPOC Station P**	**2.44**	**169**	⇓*e*	*i* P	**Pn**	**16 55 48.8**	**0.0**
PB06					*i* S	**Sn**	**16 56 16.6**	**-1.0**
PB06					IAML		16 56 23.9	
	comp=E,271nm,0.6s							
LPAZ	**La Paz**	**4.39**	**25**	Pn		Pn	16 56 22.7	+6.6
	comp=E,0.7nm,0.3s,baz=180,slow=6.8,SNR=16							
TORD	**Torodi Ar. Bea**	**77.98**	**71**	P		P	17 07 11.2	+6.1
	comp=E,0.2nm,0.3s,baz=256,slow=5.2,SNR=2.2							
MKAR	**Makanchi Array**	**145.27**	**34**	PKP		PKiKP	17 14 57.7	+10
	comp=E,0.3nm,0.7s,baz=303,slow=2.9,SNR=3.9							

MEX 15 17:10:36.1±1.1, 15.°97N×96.°78W, h30km±16km, MD4.3,

Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PEIG	**Puerto Escondi**	**0.35**	**274**	*i* P		**Pb**	**17 10 42.4**	**-1.9**
PEIG					*i* S	**Sb**	**17 10 48.3**	**-1.6**
PANG	**Puerto Angel**	**0.42**	**135**	*i* P		**Pb**	**17 10 43.5**	**-1.9**
PANG					*i* S	**Sb**	**17 10 50.2**	**-1.5**
OXBJ	**Oaxaca**	**1.09**	**3**	*i* P		**Pn**	**17 10 52.7**	**-2.9**
OXBJ					*i* S	**Sn**	**17 11 06.3**	**-3.5**
VHO	**Vista Hermosa**	**1.10**	**3**	*i* P		**Pn**	**17 10 53.0**	**-2.6**
VHO					*i* S	**Sn**	**17 11 07.0**	**-2.8**
PNIG	**Pinotepa**	**1.36**	**288**	*i* P		**Pn**	**17 10 57.1**	**-2.0**
PNIG					*i* S	**Sn**	**17 11 15.4**	**-0.7**
HLIG	**Huajuapan de L**	**2.09**	**332**	*i* P		**Pn**	**17 11 09.4**	**+0.1**
HLIG					*i* S	**Sn**	**17 11 34.7**	**+0.3**
TOIG	**Toxpalan**	**2.13**	**353**	*i* P		**Pn**	**17 11 10.3**	**+0.6**
TOIG					*i* S	**Sn**	**17 11 37.5**	**+2.2**
CMIG	**Matias Romero**	**2.14**	**58**	*i* P		**Pn**	**17 11 06.9**	**-2.8**
CMIG					*i* S	**Sn**	**17 11 35.2**	**0.0**
PCIG		**3.44**	**94**	*i* P		**Pn**	**17 11 25.8**	**-1.8**
PCIG					*i* S	**Pb**	**17 11 34.0**	**-2.4**

TAP 15 17:15:39.8, 23.°04N×120.°92E, h20km±1km, ML0.8, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ELDTW	**Lidau**	**0.17**	**33**	P		**Pb**	**17 15 44.5**	**-1.1**
	baz=35							
STYH	**Taoyuan**	**0.18**	**314**	*eP*		**Pb**	**17 15 44.6**	**-0.8**
	baz=314							
STYH					*eS*	**Sb**	**17 15 48.0**	**-1.4**
	baz=314							
STYT	**Tauyuan**	**0.19**	**309**	*eP*		**Pb**	**17 15 44.8**	**-0.7**
	baz=310							
STYT					*eS*	**Sb**	**17 15 48.2**	**-1.4**
	baz=310							
LONT	**Longtian**	**0.24**	**125**	*eP*		**Pb**	**17 15 45.5**	**-0.2**
	baz=124							
SLGT	**Liugui**	**0.25**	**259**	*eS*		**Sb**	**17 15 49.0**	**-1.1**
	baz=258							
TWG	**Pinlang**	**0.27**	**147**	*eP*		**Pb**	**17 15 46.0**	**-0.1**
	baz=146							
TWG					*eS*	**Sb**	**17 15 50.3**	**0.0**
	baz=146							
TWGBT	**Beinan**	**0.27**	**146**	*eS*		**Sb**	**17 15 50.4**	**0.0**
	baz=146							
WTP	**Ta-pu**	**0.34**	**306**	*eP*		**Pb**	**17 15 46.9**	**-0.2**
	baz=306							
TPUB	**Ta-pu**	**0.37**	**314**	*eP*		**Pb**	**17 15 47.3**	**-0.2**
	baz=314							
FULB	**Fuli**	**0.38**	**66**	*eS*		**Sb**	**17 15 52.9**	**-0.2**
	baz=66							
SCST	**Cishan**	**0.42**	**248**	*eP*		**Pb**	**17 15 48.9**	**+0.5**
	baz=247							

TAP 15 17:15:43.7, 23.°00N×120.°93E, h4km±1km, ML0.6, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ELDTW	**Lidau**	**0.20**	**23**	*eP*		Pg	**17 15 48.2**	**+0.5**
	baz=23							
ELDTW					S	Sg	17 15 51.2	+0.8
	baz=23							
ELDTW	**Lidau**	**0.20**	**23**	S		Pg	17 15 48.0	+0.3
	baz=35							
LONT	**Longtian**	**0.21**	**117**	*eP*		Pg	17 15 48.3	+0.6
	baz=117							
LONT	**Longtian**	**0.21**	**117**	*eS*		Pg	17 15 48.6	+0.9
	baz=124							
SLGT	**Liugui**	**0.26**	**268**	*eP*		Pg	17 15 49.6	+0.8
	baz=259							
EDH	**Donghe**	**0.34**	**95**	*eP*		Pb	17 15 51.6	-0.8
	baz=93							
EDH					*eS*	Sb	17 15 56.7	-1.6
	baz=93							
WTP	**Ta-pu**	**0.38**	**310**	*eP*		Pg	17 15 51.9	+0.8
	baz=311							
WTP					*eS*	Sb	17 15 58.0	-1.4
	baz=311							
WTP	**Ta-pu**	**0.38**	**310**	*eS*		Pg	17 15 51.9	+0.8
	baz=306							
FULB	**Fuli**	**0.39**	**59**	*eP*		Pb	17 15 52.4	-0.8
	baz=57							
FULB					*eS*	Sb	17 15 58.3	-1.3
	baz=57							
TPUB	**Ta-pu**	**0.41**	**317**	P		Pb	17 15 52.7	-0.8
	baz=318							
TPUB					*eS*	Sb	17 15 59.0	-1.2
	baz=318							
TPUB	**Ta-pu**	**0.41**	**317**	*eS*		Pb	17 15 52.3	-1.3
	baz=314							
EYUL	**Yuli**	**0.50**	**46**	*eP*		Pb	17 15 54.5	-0.5
	baz=55							
YULB	**Yu-li**	**0.52**	**41**	*eP*		Pg	17 15 53.9	+0.3
	baz=52							

TIF ***15*** *17:24:42.2, 41.°57N×41.°25E, h15km±1km*
ISK ***15*** *17:24:43.3, 41.°20N×41.°47E, h10km, ML2.5/4*
DDA ***15*** *17:24:43.8, 41.°42N×41.°23E, h7km±2km, ML2.2*

ISC 15 17:24:42.9±1.2, 41.°49N±0.°04×41.°26E±0.°04, h17km±8km, n16, σ0°86/29, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
HOPA	**Hopa-Artvin**	**0.17**	**124**	PG		**Pb**	**17 24 47.8**	**+0.2**
BCA	**Borcka**	**0.28**	**98**	PG		**Pg**	**17 24 49.3**	**+0.3**
BCA				SG		**Sg**	**17 24 53.7**	**+0.5**
DBOC	**Borcka**	**0.34**	**114**	*i* P		**Pb**	**17 24 50.5**	**0.0**
DBOC				*i* S		**Sb**	**17 24 56.1**	**+0.5**
CHOM	**Cayeli-Rize**	**0.54**	**224**	PG		**Pb**	**17 24 54.3**	**+0.4**
CHOM				SG		**Sb**	**17 25 02.3**	**+1.0**
CHAY	**Cayeli-Rize**	**0.56**	**225**	PG		**Pb**	**17 24 54.7**	**+0.4**
DBAD	**Bademkaya**	**0.57**	**145**	*i* P		**Pb**	**17 24 54.7**	**+0.2**
DBAD				*i* S		**Sb**	**17 25 02.1**	**-0.3**
DBAD					IAML		17 25 03.0	
	comp=N,156nm,0.5s							
DBAD					IAML		17 25 03.0	
	comp=E,170nm,0.5s							
EPOS	**Posof**	**1.10**	**89**	*i* P		**Pb**	**17 25 03.5**	**-0.1**
EPOS				*i* S		**Sg**	**17 25 17.6**	**-1.2**
KRIK	**Erzurum-spir**	**1.17**	**192**	*i* P		**Pn**	**17 25 05.9**	**+1.2**
KRIK				*i* S		**Sn**	**17 25 20.8**	**+0.3**
ABS	**Abastumani**

ISC 15 17:35:51.8±0.3, 37°34N±0'.04×54°37E±0'.03, h30km, n275, σ1ᵍ80/287, mb4.3/47, MS3.3/8, 15C-16D,
Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**0.83**	**95**			**Pn**	**17 36 07.8**	**+0.3**
IMND						**Sn**	**17 36 19.3**	**+0.5**
IMND	**Minoodasht**	**0.83**	**95**	*e*Sg		**Sn**	**17 36 19.3**	**+0.5**
IMND				*e*Pg		**Pn**	**17 36 07.8**	**+0.3**
IMND				*e*			17 36 22.9	
	comp=Z,6μm,0.3s							
IGLO	**Ghaloghah**	**0.94**	**207**			**Pn**	**17 36 08.2**	**-0.9**
IGLO						**Sn**	**17 36 20.0**	**-1.7**
IGLO	**Ghaloghah**	**0.94**	**207**	*e*Sg		**Sn**	**17 36 20.0**	**-1.7**
IGLO				*e*Pg		**Pn**	**17 36 08.3**	**-0.9**
MRVT	**Maraveh tapeh**	**1.41**	**76**	*e*Pg		**Pn**	**17 36 16.6**	**+1.1**
MRVT				*e*Sg		**Sb**	**17 36 35.0**	**-0.1**
MRVT				IAML			17 36 39.5	
	comp=N,10μm,0.3s							
MRVT				IAML			17 36 39.7	
	comp=E,7μm,0.4s							
MRVT	**Maraveh tapeh**	**1.41**	**76**			**Pn**	**17 36 16.5**	**+1.1**
MRVT	**Maraveh tapeh**	**1.41**	**76**	*e*Pg		**Pn**	**17 36 16.6**	**+1.1**
SHRO	**Shahrood**	**1.89**	**135**	*e*Pn		**Pn**	**17 36 23.1**	**+0.9**
SHRO				*e*Sg		**Sb**	**17 36 48.8**	**-0.1**
SHRO				IAML			17 36 56.0	
	comp=N,11μm,0.3s							
SHRO	**Shahrood**	**1.89**	**135**	Pn		**Pn**	**17 36 23.0**	**+0.9**
SHRO	**Shahrood**	**1.89**	**135**	*e*Pn		**Pn**	**17 36 23.1**	**+0.9**
IPRN	**Peran**	**1.96**	**237**	*e*Pn		**Pn**	**17 36 23.4**	**+0.2**
IPRN				*e*			17 37 02.1	
	comp=Z,19μm,0.4s							
IFIR	**Firoozkooh**	**2.14**	**218**	*e*Pn		**Pn**	**17 36 26.9**	**+1.2**
IFIR				*e*			17 36 54.9	
	comp=Z,89μm,0.4s							
BJRD	**Bojnurd**	**2.44**	**81**	*e*Pn		**Pn**	**17 36 31.5**	**+1.7**
BJRD	**Bojnurd**	**2.44**	**81**	Pn		**Pn**	**17 36 31.4**	**+1.7**
BJRD	**Bojnurd**	**2.44**	**81**	*e*Pn		**Pn**	**17 36 31.5**	**+1.7**
IDMV	**Damavand**	**2.58**	**228**	*e*Pn		**Pn**	**17 36 34.0**	**+2.2**
IDMV				*e*			17 36 42.8	
	comp=Z,46μm,0.5s							
DAMV	**Damavand**	**2.58**	**229**	*e*Pn		**Pn**	**17 36 33.2**	**+1.4**
DAMV	**Damavand**	**2.58**	**229**	Pn		**Pn**	**17 36 33.2**	**+1.4**
DAMV	**Damavand**	**2.58**	**229**	*e*Pn		**Pn**	**17 36 33.2**	**+1.4**
SBZV	**Sabzevar**	**2.77**	**109**	*e*Pn		**Pn**	**17 36 36.0**	**+1.7**
ISFR	**Sfrayin**	**2.91**	**94**	*e*Pn		**Pn**	**17 36 38.4**	**+2.0**
ISFR				*e*			17 37 32.8	
	comp=Z,34μm,0.5s							
CHTH	**Charan**	**2.97**	**242**	*e*Pn		**Pn**	**17 36 38.6**	**+1.4**
CHTH	**Charan**	**2.97**	**242**	*e*Pn		**Pn**	**17 36 38.6**	**+1.4**
GEYT	**Alibeck**	**3.03**	**78**	Pn		**Pn**	**17 36 40.2**	**+2.3**
	comp=Z,10nm,0.3s,baz=260,slow=16,SNR=4.7							
GEYT	**Alibeck**	**3.03**	**78**			**Pn**	**17 36 38.5**	**+0.7**
GEYT	**Alibeck**	**3.03**	**78**	*e*Pn		**Pn**	**17 36 38.5**	**+0.7**
GYA0B	**ALIBECK ARRAY**	**3.03**	**78**	⇑Pn		**Pn**	**17 36 39.3**	**+1.4**
GYA0B	**ALIBECK ARRAY**	**3.03**	**78**			**Pn**	**17 36 37.2**	**-0.7**
QALM	**Alamut, Qazvin**	**3.12**	**254**	*e*Pn		**Pn**	**17 36 39.1**	**-0.1**
IHSB	**Hasanabad**	**3.13**	**234**	*e*Pn		**Pn**	**17 36 42.2**	**+2.9**
THKV	**Tehran--Karaj**	**3.15**	**244**	*e*Pn		**Pn**	**17 36 40.5**	**+1.0**
THKV				IAML			17 37 37.8	
	comp=N,2μm,0.7s							
THKV	**Tehran--Karaj**	**3.15**	**244**	*e*Pn		**Pn**	**17 36 40.5**	**+1.0**
IVRN	**Varamin**	**3.17**	**223**	*e*Pn		**Pn**	**17 36 40.9**	**+1.2**
IVRN				*e*			17 37 33.5	
	comp=Z,24μm,0.5s							
IMHD	**Mahdasht**	**3.41**	**242**	*e*Pn		**Pn**	**17 36 44.6**	**+1.6**
IMHD				*e*			17 36 58.4	
	comp=Z,9μm,0.6s							
IEMG	**Emamgholi**	**3.41**	**87**	*e*Pn		**Pn**	**17 36 45.2**	**+1.9**
IEMG				*e*			17 37 48.9	
	comp=Z,12μm,0.6s							
ISFB	**Sefidab**	**3.44**	**211**	*e*Pn		**Pn**	**17 36 44.4**	**+0.9**
ISFB				*e*			17 37 47.9	
	comp=Z,8μm,0.4s							
IGZV	**Ghazvin**	**3.46**	**255**	*e*Pn		**Pn**	**17 36 44.6**	**+0.7**
IGZV				*e*			17 37 52.9	
	comp=Z,13μm,0.6s							
IAKL	**Akhelmad**	**3.59**	**100**	*e*Pn		**Pn**	**17 36 48.0**	**+2.3**
IAKL				*e*			17 37 13.3	
	comp=Z,9μm,0.4s							
QCNT	**Qazvin**	**3.65**	**255**	*e*Pn		**Pn**	**17 36 46.8**	**+0.4**
IQOM	**Qom**	**3.65**	**228**	*e*Pn		**Pn**	**17 36 47.5**	**+1.0**
IQOM				*e*			17 37 23.4	
	comp=Z,7μm,0.6s							
JIR1	**Jirandeh**	**3.71**	**262**	*e*Pn		**Pn**	**17 36 46.7**	**-0.5**
GHVR	**GHOM**	**3.79**	**222**	*e*Pn		**Pn**	**17 36 50.0**	**+1.8**
GHVR				IAML			17 38 00.1	
	comp=E,703nm,0.4s							
GHVR				IAML			17 38 01.2	
	comp=N,573nm,0.5s							
GHVR	**GHOM**	**3.79**	**222**	*e*Pn		**Pn**	**17 36 50.1**	**+1.8**
IPAY	**Payeh**	**3.81**	**102**	*e*Pn		**Pn**	**17 36 51.0**	**+2.3**
IPAY				*e*			17 38 06.4	
	comp=Z,6μm,0.5s							
KRSH	**Karshahi**	**3.82**	**209**	*e*Pn		**Pn**	**17 36 49.5**	**+0.7**
KRSH				*e*			17 37 54.6	
	comp=Z,14μm,0.4s							
TNSJ	**Nastanj**	**3.83**	**151**	*e*Pn		**Pn**	**17 36 49.8**	**+0.9**
IRAZ	**Razeghan**	**4.07**	**243**	*e*Pn		**Pn**	**17 36 53.6**	**+1.4**
IRAZ				*e*			17 37 20.7	
	comp=Z,7μm,0.7s							
IKRD	**Kardeh**	**4.16**	**96**	*e*Pn		**Pn**	**17 36 56.1**	**+2.7**
IKRD				*e*			17 37 27.2	
	comp=Z,6μm,0.4s							
ANAR	**Anarak**	**4.17**	**187**	*e*Pn		**Pn**	**17 36 54.4**	**+0.8**
IMOG	**Moghan**	**4.18**	**106**	*e*Pn		**Pn**	**17 36 55.7**	**+1.9**
QABG	**Abgarm-Qazvin**	**4.18**	**249**	*e*Pn		**Pn**	**17 36 54.6**	**+0.8**
CSN1	**Caspian**	**4.20**	**275**	*e*Pn		**Pn**	**17 36 53.6**	**-0.2**
QSDN	**Sirdan**	**4.25**	**260**	*e*Pn		**Pn**	**17 36 55.3**	**+0.6**
TABS	**Tabas**	**4.31**	**148**	*e*Pn		**Pn**	**17 36 56.9**	**+1.4**
TABS				IAML			17 38 27.7	
	comp=E,1μm,0.7s							
TABS	**Tabas**	**4.31**	**148**	*e*Pn		**Pn**	**17 36 56.9**	**+1.4**
QAMS	**Qamsar**	**4.33**	**215**	*e*Pn		**Pn**	**17 36 56.4**	**+0.5**
TKDS	**Koohdasht(Taba**	**4.34**	**148**	*e*Pn		**Pn**	**17 36 57.2**	**+1.3**
ASAO	**Ashtian**	**4.49**	**233**	*e*Pn		**Pn**	**17 36 59.3**	**+1.2**
ASAO	**Ashtian**	**4.49**	**233**	*e*Pn		**Pn**	**17 36 59.3**	**+1.2**
ASTR	**Astara**	**4.57**	**287**	*e*Pn		**Pn**	**17 36 58.8**	**-0.1**
ZNJK	**Zanjan**	**4.60**	**263**	*e*Pn		**Pn**	**17 37 00.7**	**+1.2**
ZNJK	**Zanjan**	**4.60**	**263**	*e*Pn		**Pn**	**17 37 00.7**	**+1.2**
IKLH	**Kolahrood**	**4.61**	**210**	*e*Pn		**Pn**	**17 37 00.4**	**+0.6**
LKRN	**Lenkeran, Azer**	**4.62**	**289**	*e*Pn		**Pn**	**17 36 59.3**	**-0.3**
TPRV	**Parvadeh(Tabas**	**4.70**	**156**	*e*Pn		**Pn**	**17 37 02.0**	**+1.2**
IMYA	**Miami**	**4.71**	**100**	*e*Pn		**Pn**	**17 37 02.5**	**+1.6**
IMYA				*e*			17 37 38.4	
	comp=Z,4μm,0.8s							
NDR	**Nardaran**	**4.71**	**315**	*e*Pn		**Pn**	**17 37 04.3**	**+3.6**
NASN	**Na'in**	**4.71**	**196**	*e*Pn		**Pn**	**17 37 01.8**	**+0.7**
NASN				IAML			17 38 27.8	
	comp=E,1μm,0.8s							
NASN				IAML			17 38 31.7	
	comp=N,428nm,0.5s							
NASN	**Na'in**	**4.71**	**196**	*e*Pn		**Pn**	**17 37 01.8**	**+0.7**
GOBA	**Gobu**	**4.74**	**312**	*e*Pn		**Pn**	**17 37 04.7**	**+3.5**
IZEF	**Zefreh**	**4.74**	**201**	*e*Pn		**Pn**	**17 37 02.0**	**+0.5**
HAGD	**Aghdareh**	**4.92**	**241**	*e*Pn		**Pb**	**17 37 13.9**	**-3.6**
YZKH	**Yazd**	**4.94**	**178**	*e*Pn		**Pn**	**17 37 05.6**	**+1.5**
YZKH	**Yazd**	**4.94**	**178**	*e*Pn		**Pn**	**17 37 05.6**	**+1.5**
ALIB	**Äli-Bayra**	**4.95**	**304**	*e*Pn		**Pn**	**17 37 07.2**	**+3.2**
JRKH	**Jarkhoshk**	**5.02**	**105**	*e*Pn		**Pn**	**17 37 07.1**	**+1.9**
GLBA	**Clilabad**	**5.07**	**294**	*e*Pn		**Pn**	**17 37 06.0**	**+0.2**
KHMZ	**Khomeyn**	**5.08**	**226**	*e*Pn		**Pn**	**17 37 07.4**	**+1.3**
KHMZ	**Khomeyn**	**5.08**	**226**	*e*Pn		**Pn**	**17 37 07.4**	**+1.3**
YRD	**Yardimli**	**5.08**	**290**	*e*Pn		**Pn**	**17 37 05.8**	**-0.3**
IGAR	**Gharneh**	**5.28**	**202**	*e*Pn		**Pn**	**17 37 10.6**	**+1.7**
GRMI	**Germi**	**5.32**	**288**	*e*Pn		**Pn**	**17 37 09.6**	**+0.3**
GRMI	**Germi**	**5.32**	**288**	*e*Pn		**Pn**	**17 37 09.6**	**+0.3**
ISRB	**Sarab**	**5.34**	**277**	*e*Pn		**Pn**	**17 37 10.8**	**+1.0**
ISAD	**Sadrabad**	**5.44**	**186**	*e*Pn		**Pn**	**17 37 12.0**	**+0.8**
AFRZ	**Afriz**	**5.45**	**134**	*e*Pn		**Pn**	**17 37 12.8**	**+1.7**
HSAM	**Samen**	**5.63**	**238**	*e*Pn		**Pn**	**17 37 17.0**	**+3.3**
IHSH	**Hashtrud**	**5.66**	**272**	*e*Pn		**Pn**	**17 37 14.3**	**+0.1**
ITEG	**Tejag**	**5.70**	**140**	*e*Pn		**Pn**	**17 37 16.2**	**+1.5**
IRAM	**Ramesheh**	**5.75**	**197**	*e*Pn		**Pn**	**17 37 17.2**	**+1.8**
SHK1	**Shahrekord**	**5.76**	**211**	*e*Pn		**Pn**	**17 37 17.5**	**+2.0**
BMDN	**Meydan**	**5.82**	**233**	*e*Pn		**Pn**	**17 37 19.2**	**+3.0**
IBAF	**Bafgh**	**5.82**	**170**	*e*Pn		**Pn**	**17 37 17.6**	**+1.4**
IHRS	**Heris**	**5.88**	**282**	*e*Pn		**Pn**	**17 37 17.9**	**+0.8**
AHAR	**Ahar**	**5.90**	**283**	*e*Pn		**Pn**	**17 37 18.5**	**+1.2**
IBST	**Bostanabad**	**5.95**	**276**	*e*Pn		**Pn**	**17 37 18.7**	**+0.6**
IMON	**Monand**	**5.99**	**132**	*e*Pn		**Pn**	**17 37 20.3**	**+1.6**
IBZA	**Bozab**	**6.01**	**243**	*e*Pn		**Pb**	**17 37 30.5**	**-5.4**
SHRT	**Shahrakht**	**6.08**	**126**	*e*Pn		**Pn**	**17 37 21.7**	**+2.0**
SHRT	**Shahrakht**	**6.08**	**126**	*e*Pn		**Pn**	**17 37 21.7**	**+2.0**
IDOB	**Doab**	**6.17**	**237**	*e*Pn		**Pn**	**17 37 23.1**	**+2.1**
IKOO	**Kooshah**	**6.21**	**141**	*e*Pn		**Pn**	**17 37 22.8**	**+1.1**
IDAH	**Dahanechah**	**6.43**	**134**	*e*Pn		**Pn**	**17 37 26.1**	**+1.3**
IKFM	**Kafar-mosalman**	**6.54**	**236**	*e*Pn		**Pn**	**17 37 27.1**	**+1.1**
ITBZ	**Tabriz**	**6.57**	**280**	*e*Pn		**Pn**	**17 37 27.6**	**+1.0**
BSRN	**Basiran**	**6.64**	**142**	*e*Pn		**Pn**	**17 37 29.0**	**+1.5**
BSRN	**Basiran**	**6.64**	**142**	*e*Pn		**Pn**	**17 37 29.0**	**+1.5**
IAZR	**Azarshahr**	**6.68**	**275**	*e*Pn		**Pn**	**17 37 29.3**	**+1.2**
IMRD	**Marand**	**6.98**	**284**	*e*Pn		**Pn**	**17 37 34.0**	**+1.9**
IDHR	**Dehrash**	**6.98**	**250**	*e*Pn		**Pn**	**17 37 36.7**	**+4.4**
HRA	**Herat**	**7.04**	**112**			**Pn**	**17 37 31.4**	**-1.6**
AMIS	**Naft Sefid**	**7.04**	**218**	*e*Pn		**Pn**	**17 37 35.1**	**+2.2**
KHGB	**Koh Gabri**	**7.16**	**165**	*e*Pn		**Pn**	**17 37 35.9**	**+1.1**
NHDN	**Nehbandan**	**7.56**	**140**	*e*Pn		**Pn**	**17 37 41.0**	**+0.8**
KRBR	**Kerman**	**7.60**	**164**	*e*Pn		**Pn**	**17 37 42.4**	**+1.5**
KRBR	**Kerman**	**7.60**	**164**	*e*Pn		**Pn**	**17 37 42.4**	**+1.5**
CHMN	**Cheshme madani**	**7.91**	**160**	*e*Pn		**Pn**	**17 37 46.3**	**+1.1**
NGRK	**Negar Kerman**	**7.92**	**165**	*e*Pn		**Pn**	**17 37 46.4**	**+1.1**
GNI	**Garni**	**8.03**	**293**	Pn		**Pn**	**17 37 50.7**	**+4.1**
	comp=N,2.1nm,0.3s,baz=0.0,slow=1.0,SNR=6.9							
GNI				LR		LR	17 42 27.7	
	comp=N,367nm,20.7s,baz=98,slow=49							
GNI	**Garni**	**8.03**	**293**			**Pn**	**17 37 47.7**	**+1.1**
AHBU	**AHRAM**	**8.84**	**198**	*e*Pn		**Pn**	**17 37 58.7**	**+1.2**
KBAM	**BAM**	**8.87**	**156**	*e*Pn		**Pn**	**17 37 58.5**	**+0.5**
ZHSF	**Zahedan**	**9.38**	**143**	*e*Pn		**Pn**	**17 38 06.0**	**+0.9**
ZHSF	**Zahedan**	**9.38**	**143**	*e*Pn		**Pn**	**17 38 06.0**	**+0.9**
KARS	**Kars**	**9.38**	**294**	Pn		**Pn**	**17 38 04.8**	**-0.4**
GURO	**Guroymak-BITLI**	**9.82**	**281**			**Pn**	**17 38 12.2**	**+1.1**
ONI	**Oni**	**9.88**	**305**			**Pn**	**17 38 12.9**	**+1.1**
MARD	**Mardin**	**10.82**	**274**			**Pn**	**17 38 25.9**	**+1.1**
KVAR	**Kislovodsk Arr**	**11.05**	**310**	Pn		**Pn**	**17 38 27.5**	**-0.4**
	baz=287,slow=19,SNR=1.7							
KVAR				Sn		**Sn**	**17 40 25.2**	**-5.3**
	baz=156,slow=20,SNR=2.5							
KIV	**Kislovodsk**	**11.06**	**310**	Pn		**Pn**	**17 38 28.3**	**+0.3**
KOPT	**Kop Dagi**	**11.17**	**288**	Pn		**Pn**	**17 38 28.8**	**-0.9**
CHGR	**Chuyangaron**	**11.75**	**79**	Pn		**Pn**	**17 38 34.9**	**-2.5**
SRVN	**Saravan**	**12.00**	**143**	*e*Pn		**Pn**	**17 38 43.1**	**+2.1**
KBL	**Kabul**	**12.22**	**99**	Pn		**Pn**	**17 38 43.0**	**-0.9**
UOSS	**Minazif**	**12.45**	**172**	Pn		**Pn**	**17 38 43.4**	**-3.7**
AB31	**Akbulak array**	**12.58**	**17**	⇓Pn		**Pn**	**17 38 47.8**	**-0.9**
	comp=N,3.1nm,0.5s,baz=202,slow=13,SNR=13							
AB31				Sn		**Sn**	**17 41 00.8**	**-6.8**
	comp=N,3.4nm,0.4s,baz=192,slow=24,SNR=8.6							
ABKAR	**Akbulak array**	**12.58**	**17**	Pn		**Pn**	**17 38 48.5**	**-0.1**
ABKAR	**Akbulak array**	**12.58**	**17**			**Pn**	**17 38 47.3**	**-1.3**
GAR	**Garm**	**12.66**	**78**			**Pn**	**17 38 48.3**	**-1.6**
BTK	**Batken**	**13.13**	**73**			**Pn**	**17 38 55.7**	**-0.7**
AKTO	**Aktyubinsk**	**13.35**	**10**	Pn		**Pn**	**17 39 00.3**	**+1.1**
	comp=N,0.7nm,0.3s,baz=186,slow=15,SNR=8.4							
AKTO				Sn		**Sn**	**17 41 18.2**	**-8.3**
	comp=N,0.7nm,0.3s,baz=60,slow=20,SNR=1.8							
AKTO				LR		LR	17 45 53.3	
	comp=N,150nm,18.8s,baz=184,slow=44							
AKTO	**Aktyubinsk**	**13.35**	**10**	⇓Pn		**Pn**	**17 38 58.9**	**-0.3**
	comp=N,14nm,0.8s							
AKTO				⇑Sn		**Sn**	**17 41 19.7**	**-6.7**
	comp=N,8.6nm,0.8s							
KK31	**Karatay Array**	**13.61**	**60**	P		**Pn**	**17 39 01.2**	**-1.5**
	comp=N,4.8nm,0.6s,baz=244,slow=16,SNR=15							
KK31				⇓S		Sn	17 41 23.8	-9.0
	comp=N,2.6nm,0.6s,baz=255,slow=25,SNR=3.6							
KK31	**Karatay Array**	**13.61**	**60**	Pn		**Pn**	**17 39 00.4**	**-2.3**
KKAR	**Karatay Array**	**13.61**	**60**			**Pn**	**17 39 01.4**	**-1.3**
KKAR	**Karatay Array**	**13.61**	**60**			**Pn**	**17 39 00.7**	**-2.0**
GAZ	**Gaziantep**	**13.67**	**275**	Pn		**Pn**	**17 39 05.9**	**+2.2**
DRK	**Karamyk**	**13.84**	**76**			**Pn**	**17 39 05.2**	**-0.9**
DRK						**Sn**	**17 41 35.9**	**-3.0**
WSAR	**Wadi Sarin**	**14.52**	**164**	Pn		**Pn**	**17 39 12.3**	**-3.1**
	comp=N,0.4nm,0.3s,baz=350,slow=9.4,SNR=4.9							
WSAR				LR		LR	17 46 14.0	
	comp=N,138nm,18.8s,baz=28,slow=43							
BNN	**Bunyan**	**14.67**	**282**	P		**P**	**17 39 23.3**	**+0.1**
BELG	**Belogornoye**	**15.78**	**345**	Pn		**Pn**	**17 39 32.1**	**+0.3**
	comp=N,0.8nm,0.3s,baz=210,slow=20,SNR=2.6							
BELG				Sn		Sn	17 42 11.8	-14
	comp=N,0.1nm,0.3s,baz=354,slow=10,SNR=2.6							
BELG				LR		LR	17 47 44.4	
	comp=N,140nm,20.8s,baz=137,slow=44							
NIL	**Nilore**	**15.81**	**98**	P		**Pn**	**17 39 32.3**	**0.0**
NIL				IAmb		IAmb	17 39 49.2	
	comp=Z,30nm,0.8s							
AAK	**Ala-Archa**	**16.30**	**65**	Pn		**P**	**17 39 40.5**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=220,slow=5.7,SNR=12							
AAK				LR		LR	17 47 03.4	
	comp=Z,304nm,18.0s,baz=267,slow=41							
AAK	**Ala-Archa**	**16.30**	**65**	P		**Pn**	**17 39 39.8**	**+1.3**
	comp=Z,12nm,0.9s							
AAK	**Ala-Archa**	**16.30**	**65**			**Pn**	**17 39 39.7**	**+1.1**
BR131	**Keskin Array S**	**16.39**	**285**	P		**P**	**17 39 42.0**	**-0.4**
BRTR	**Keskin Array B**	**16.39**	**285**	Pn		**P**	**17 39 43.5**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=112,slow=12,SNR=14							
BRTR				LR		LR	17 47 54.0	
	comp=Z,197nm,21.3s,baz=90,slow=44							
BRTR	**Keskin Array B**	**16.39**	**285**			**P**	**17 39 42.4**	**0.0**
ILGA	**Ilgaz**	**16.43**	**289**	P		**P**	**17 39 44.1**	**+1.2**
ILGA				IAmb		IAmb	17 39 46.5	
	comp=Z,30nm,1.3s							
FRU1	**Bishkek**	**16.43**	**64**			**Pn**	**17 39 41.2**	**+1.0**
FRU1				IAmb		IAmb	17 40 11.7	
	comp=Z,12nm,0.6s							
GHAJ	**Ghor Haditha**	**16.65**	**254**	P		**Pn**	**17 39 42.5**	**-0.5**
ANTO	**Ankara**	**17.05**	**285**	P		**Pn**	**17 39 48.6**	**+0.6**
KSH	**Kashi**	**17.07**	**76**	P		**Pn**	**17 39 45.1**	**-3.2**
KSH				pP		P	17 39 51.8	+2.0
KSH				pmax		pmax		
	comp=Z,16nm,0.7s							
KSH				LR		LR		
	comp=N,190nm,6.2s							
KSH				LR		LR		
	comp=E,190nm,7.6s							
KSH				LR		LR		
	comp=Z,430nm,15.6s							
OTUK	**Ortayu**	**17.07**	**45**	⇑P		**Pn**	**17 39 46.5**	**-1.6**
	comp=Z,20nm,1.1s							
TKM2	**Tokmak 2**	**17.15**	**64**	⇑P		**P**	**17 39 50.8**	**0.0**
	comp=Z,5.9nm,0.9s							
BOOM	**Boomskoye usch**	**17.32**	**66**	Pn		**Pn**	**17 39 50.1**	**-1.3**
EIL	**Elat**	**17.89**	**250**	LR		LR	17 48 36.7	
	comp=Z,81nm,18.4s,baz=68,slow=43							
KDJ	**Kajisay**	**18.17**	**68**			**Pn**	**17 39 59.0**	**-2.9**
TARG	**Taragay, Kyrgy**	**18.58**	**69**			**P**	**17 40 04.9**	**-1.9**
BRVK	**Borovoye**	**19.24**	**30**	P		**P**	**17 40 12.5**	**-1.0**
BVAR	**Borovoye Array**	**19.26**	**30**	P		**Pn**	**17 40 16.0**	**+1.2**
	comp=Z,1.1nm,0.3s,baz=224,slow=14,SNR=30							
ARU	**Arti**	**19.30**	**7**	P		**Pn**	**17 40 16.2**	**+0.9**
	comp=Z,0.0nm,0.3s,baz=104,slow=19,SNR=2.8							
ARU				pP		**sP**	**17 40 25.5**	**-0.5**
	comp=Z,0.0nm,0.3s,baz=176,slow=4.9,SNR=13							
ARU				LR		LR	17 49 42.8	
	comp=Z,145nm,18.9s,baz=184,slow=42							
ARU	**Arti**	**19.30**	**7**	P		**Pn**	**17 40 15.8**	**+0.5**
ARU				IAmb		IAmb	17 40 26.8	
	comp=Z,12nm,0.7s							
ELL	**Elmali**	**19.52**	**276**	P		**Pn**	**17 40 18.6**	**+0.3**
AKAS	**Kas**	**19.85**	**274**			**P**	**17 40 21.2**	**+0.7**
AKAS				IAmb		IAmb	17 40 51.2	
	comp=Z,13nm,1.1s							
PDGK	**Podgornoye**	**20.03**	**65**	⇓P		Pn	17 40 24.9	+0.7
	comp=Z,5.4nm,0.8s							
JURR	**Jurilovca**	**20.55**	**299**	⇑P		Pn	17 40 29.7	-0.5
TLCR		**20.69**	**300**	⇑P		Pn	17 40 30.8	-1.0
MFTR	**Murfatlar**	**20.76**	**297**	⇓P		Pn	17 40 32.3	-0.2
TIRR	**Tirgusor**	**20.82**	**298**	P		**P**	**17 40 31.7**	**+1.0**
TPGR	**Topolog**	**20.89**	**299**	⇓P		Pn	17 40 33.3	-0.9
TLBR	**Topalu**	**21.09**	**298**	⇓P		**P**	**17 40 35.7**	**+2.0**
MILM	**Milestii Mici**	**21.15**	**305**	⇑P		**P**	**17 40 35.7**	**+1.4**
CFR	**Carcaliu**	**21.15**	**300**	⇓P		**P**	**17 40 35.5**	**+1.2**
ICDR	**Ion Corvin**	**21.19**	**297**	⇑P		**P**	**17 40 37.3**	**+2.6**
HARR	**Harsova**	**21.20**	**299**	⇓P		**P**	**17 40 36.8**	**+2.0**
KIRV	**Kirov**	**21.51**	**353**	P		**P**	**17 40 40.6**	**+2.7**
	comp=Z,4.7nm,0.4s,baz=156,slow=7.3,SNR=4.3							
KIRV				LR		LR	17 51 14.3	
	comp=Z,95nm,19.6s,baz=168,slow=42							
OBN	**Obninsk**	**21.52**	**331**	P		**P**	**17 40 38.0**	**-0.1**
KURBB	**Kurchatov Arra**	**21.75**	**45**	P		**P**	**17 40 43.7**	**+2.9**
	comp=Z,4.3nm,0.7s,baz=246,slow=12,SNR=18							
SORM	**Soroca**	**21.84**	**308**	⇑P		**P**	**17 40 42.2**	**+0.5**
KURK	**Kurchatov**	**21.85**	**45**	P		**P**	**17 40 43.7**	**+1.9**
GHRR		**21.85**	**302**	⇓P		**P**	**17 40 43.7**	**+1.9**
KARP	**Karpathos**	**21.94**	**274**	P		**P**	**17 40 43.5**	**+0.6**
ALN	**Alexandroupoli**	**22.22**	**288**	P		**P**	**17 40 46.4**	**+0.6**
ALN				IAmb		IAmb	17 41 02.6	
	comp=Z,26nm,1.2s							
VRI	**Vrincioaia**	**22.27**	**301**	⇑P		**P**	**17 40 48.8**	**+2.4**
PLOR	**Plostina**	**22.32**	**301**	⇑P		**P**	**17 40 49.2**	**+2.3**
AKASG	**Malin Array Be**	**22.34**	**315**	P		**P**	**17 40 47.8**	**+0.7**
	comp=Z,1.2nm,0.4s,baz=120,slow=8.7,SNR=12							
AKASG				LR		LR	17 52 01.0	
	comp=Z,70nm,20.6s,baz=135,slow=43							
AKASG	**Malin Array Be**	**22.34**	**315**	P		**P**	**17 40 47.7**	**+0.7**
AKBB	**Malin Array Si**	**22.34**	**315**	P		**P**	**17 40 47.4**	**+0.3**
TESR	**Tescani**	**22.47**	**303**	⇑P		**P**	**17 40 49.6**	**+1.0**
MAKZ	**Makanchi**	**22.47**	**56**	⇓P		**P**	**17 40 50.4**	**+1.9**
	comp=Z,18nm,1.1s							
MAKZ	**Makanchi**	**22.47**	**56**	P		**P**	**17 40 49.0**	**+0.4**
MAKZ				IAmb		IAmb	17 41 01.7	
	comp=Z,15nm,0.9s							
COVR	**Voineasa-Covas**	**22.62**	**301**	⇓P		**P**	**17 40 52.8**	**+2.6**
MK31	**Makanchi Array**	**22.68**	**57**	P		**P**	**17 40 53.0**	**+2.3**
	comp=Z,13nm,0.9s,baz=248,slow=10.0,SNR=29							
MK31	**Makanchi Array**	**22.68**	**57**	P		**P**	**17 40 52.6**	**+1.9**
MK31				IAmb		IAmb	17 41 05.5	
	comp=Z,7.8nm,0.9s							
MKAR	**

XAN pP sP 17 44 15.3 +6.8
XAN pmax pmax
comp=Z,8.0nm,1.4s
ESDC Sonseca Array 45.01 292 P **P** **17 44 05.7 +1.1**
comp=Z,0.8nm,0.5s,baz=69,slow=7.9,SNR=6.0
TORD Torodi Ar. Bea 52.61 257 P **P** **17 45 03.3 +0.2**
comp=Z,1.0nm,0.6s,baz=48,slow=7.5,SNR=6.6
TORD pP **pP** **17 45 13.8 +1.5**
comp=Z,2.7nm,0.9s,baz=37,slow=6.1,SNR=7.8
TORD Torodi Ar. Bea 52.61 257 P **P** **17 45 02.8 -0.3**
RPSI Rantau Prapat 53.45 119 P **P** **17 45 06.8 -2.5**
KSRS Korea Array 56.96 66 P **P** **17 45 35.2 +0.9**
comp=Z,1.6nm,0.6s,baz=283,slow=6.3,SNR=7.8
USRK Ussuriysk Ar. 57.15 57 P **P** **17 45 36.3 +0.7**
comp=Z,1.8nm,0.8s,baz=281,slow=7.0,SNR=4.0
ILAR Eielson Array 76.86 9 P **P** **17 47 42.6 +2.1**
comp=Z,0.6nm,0.7s,baz=329,slow=3.4,SNR=2.3
ILAR pP **sP** **17 47 53.8 +0.2**
comp=Z,1.3nm,0.9s,baz=338,slow=5.0,SNR=4.4
ILAR LR LR 18 27 19.7
comp=Z,98nm,19.0s,baz=132,slow=40
ILAR Eielson Array 76.86 9 P **P** **17 47 40.6 +0.1**
WRA Warramunga Arr 94.25 112 P **P** **17 49 07.0 -1.4**
comp=Z,0.3nm,0.5s,baz=320,slow=4.2,SNR=11
ASAR Alice Springs 96.22 115 P **P** **17 49 15.7 -1.6**
comp=Z,0.5nm,0.6s,baz=314,slow=5.2,SNR=8.6

MEX 15 17:37:51.0±0.7, 16.19N×98.86W, h16km±8km, MD4.2, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.73**	**74**	*i* P		Pg	17 38 02.6	-2.7
PNIG				*i* S		Sg	17 38 11.2	-3.8
MGIG	**Malinaltepec**	**1.06**	**12**	*i* P		Pb	17 38 07.5	-3.6
MGIG				*i* S		Sb	17 38 20.2	-4.5
DAIG	**Los Arroyos**	**1.12**	**318**	*i* P		Pb	17 38 08.3	-3.7
DAIG				*i* S		Sb	17 38 21.0	-5.3
TXIG	**Tlaxiaco**	**1.49**	**45**	*i* P		Pn	17 38 13.9	-3.4
TXIG				*i* S		Sn	17 38 31.8	-4.8
PEIG	**Puerto Escondi**	**1.66**	**96**	*i* P		Pn	17 38 16.1	-3.3
PEIG				*i* S		Sn	17 38 34.7	-5.7
MEIG	**Mezcala**	**1.87**	**337**	*i* P		Pn	17 38 19.3	-3.1
MEIG				*i* S		Sn	17 38 40.7	-5.1
HLIG	**Huajuapan de L**	**1.92**	**32**	*i* P		Pn	17 38 20.4	-2.8
HLIG				*i* S		Sn	17 38 43.5	-3.6
VHO	**Vista Hermosa**	**2.22**	**66**	*i* P		Pn	17 38 24.9	-2.5
VHO				*i* S		Sn	17 38 51.0	-3.5
PLIG	**Platanillo**	**2.27**	**344**	*i* P		Pn	17 38 23.5	-4.5
PLIG				*i* S		Sb	17 38 59.8	+0.1
TOIG	**Toxpalan**	**2.56**	**42**	*i* P		Pn	17 38 28.8	-3.1
TOIG				*i* S		Sb	17 39 08.2	+0.4

IDC ***15*** *17:47:31.5±1.8, 14.06N×93.05W, h0km, mb4.1/7, mb1 4.3/9, mb1mx4.0/40, mbtmp4.1/9, ML3.6/2, MS3.8/20, Ms1 3.8/20, ms1mx3.7/32, Error ellipse: s-maj=82.4km s-min=17.2km az=44.0*
MEX ***15*** *17:47:32.0±1.2, 14.04N×93.24W, h10km, MD4.4*
NEIC ***15*** *17:47:34.3±2.7, 14.15N±0.06×93.01W±0.06, h23km±6km, mb4.5/77, Md4.4/32(MEX), Error ellipse: s-maj=9.6km s-min=7.5km az=217.0*
GCMT ***15*** *17:47:35.3±0.4, 14.12N±0.03×93.10W±0.05, h20km±1km, MW4.8/69, Moment Tensor Solution. s21,c23; s69,c80; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr 1.77±.13; Mθθ -1.11±.08; Mϕϕ -0.65±.10; Mrθ 1.09±.14; Mrϕ 0.45±.06; Mθϕ -0.28±.21; Best double couple: M₀1.93400×10¹⁶ NP1:ϕs306.00000°, δ28.00000°, λ102.00000°. NP2: ϕs113.00000°, δ63.00000°, λ84.00000°. Principal axes: T 2.1420, Plg72.0000°, Azm8.0000°; N -0.4150, Plg6.0000°, Azm115.0000°; P -1.7260, Plg17.0000°, Azm207.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
GCG ***15*** *17:47:38.5±0.3, 13.69N×92.75W, h34km, MD4.3*
ISC 15 17:47:31.3±1.5, 14.12N±0.05×93.15W±0.03, h11km±9km, n148, σ1s95/146, mb4.5/32, MS3.8/19, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
THIG		**1.16**	**47**	*i* P		**Pg**	**17 47 51.9**	**-1.8**
THIG				*i* P		**Pg**	**17 47 52.5**	**-1.2**
THIG				*i* S		**Sg**	**17 48 07.7**	**-1.1**
THIG				*i* S		**Sg**	**17 48 07.9**	**-0.9**
THIG		**1.16**	**47**			**Pg**	**17 47 52.5**	**-1.2**
THIG						**Sg**	**17 48 07.9**	**-0.9**
PCIG		**1.58**	**358**	*i* P		**Pn**	**17 47 57.9**	**-1.4**
PCIG				*i* S		Sn	17 48 11.9	-7.8
PCIG		**1.58**	**358**			**Pn**	**17 47 57.9**	**-1.4**
FUG	**Fuego 3**	**2.26**	**81**	*e*P		**Pn**	**17 48 08.7**	**0.0**
FUG				*e*S		**Sn**	**17 48 35.4**	**-1.4**
CCIG	**Comitan**	**2.36**	**24**	*i* P		**Pn**	**17 48 09.0**	**-1.2**
CCIG				*i* S		**Sn**	**17 48 39.8**	**+0.5**
CCIG	**Comitan**	**2.36**	**24**	Pn		**Pn**	**17 48 08.0**	**-2.2**
CCIG	**Comitan**	**2.36**	**24**			**Sn**	**17 48 39.8**	**+0.5**
PCG	**Pacaya**	**2.48**	**83**	*e*P		**Pn**	**17 48 13.4**	**+1.6**
PCG				*e*S		**Sn**	**17 48 40.8**	**-1.4**
TGIG		**2.65**	**1**	*i* P		**Pn**	**17 48 14.9**	**+0.9**
TGIG				*i* S		**Sn**	**17 48 46.1**	**0.0**
TGIG		**2.65**	**1**			**Pn**	**17 48 14.9**	**+0.9**
TGIG						**Sn**	**17 48 46.1**	**0.0**
NBG	**Las Nubes**	**2.75**	**80**	*e*P		**Pn**	**17 48 17.9**	**+2.2**
CMIG	**Matias Romero**	**3.40**	**331**	Pn		**Pn**	**17 48 25.6**	**+1.3**
	6.3nm,0.3s,baz=156,slow=11,SNR=50							
CMIG					LR	LR	17 49 10.3	
	comp=Z,316nm,21.7s,baz=234,slow=28							
CMIG	**Matias Romero**	**3.40**	**331**	*i* P		**Pn**	**17 48 24.6**	**+0.4**
CMIG				*i* S		**Sn**	**17 49 01.2**	**-3.4**
CMIG	**Matias Romero**	**3.40**	**331**			**Pn**	**17 48 24.6**	**+0.4**
CMIG						**Sn**	**17 49 01.2**	**-3.4**
MTO3	**Montecristo**	**3.68**	**85**			**Pn**	**17 48 29.6**	**-1.5**
SNET	**Serv Nac Est T**	**3.83**	**96**	Pn		**Pn**	**17 48 29.1**	**-1.1**
PEIG	**Puerto Escondi**	**4.29**	**296**	*i* P		**Pn**	**17 48 35.4**	**-1.2**
PEIG				*i* S		**Sn**	**17 49 22.0**	**-4.7**
VHO	**Vista Hermosa**	**4.54**	**311**	*i* P		Pg	17 49 14.7	+17
VHO				*i* S		**Sb**	**17 49 40.4**	**-5.5**
PNIG	**Pinotepa**	**5.31**	**296**	*i* P		**Pn**	**17 48 51.0**	**+0.3**
PNIG				*i* S		**Sn**	**17 49 51.2**	**-0.6**
PNIG	**Pinotepa**	**5.31**	**296**			**Pn**	**17 48 51.0**	**+0.3**
PNIG						**Sn**	**17 49 51.2**	**-0.6**
TOIG	**Toxpalan**	**5.46**	**317**	*i* P		**Pg**	**17 49 19.0**	**+3.0**
TOIG				*i* S		Sn	17 49 45.6	-10
TGUH	**Tegucigalpa,Un**	**5.70**	**90**			**Pn**	**17 48 55.3**	**-0.8**
HLIG	**Huajuapan de L**	**5.80**	**310**	*i* P		**Pn**	**17 49 00.3**	**+2.7**
HLIG				*i* S		**Sn**	**17 49 56.4**	**-7.9**
FTIG	**Fresnillo de T**	**6.10**	**309**	*i* P		**Pg**	**17 49 28.5**	**+0.4**
FTIG				*i* S		**Sn**	**17 50 04.3**	**-7.0**
CRIN	**San Cristobal**	**6.10**	**103**			**Pn**	**17 48 59.8**	**-1.7**
TLIG	**Tlapa**	**6.24**	**304**			**Pn**	**17 49 06.3**	**+2.8**
MATN	**Matagalpa**	**7.12**	**99**	Pn		**Pn**	**17 49 15.1**	**-0.5**
ACON	**Acoyapa**	**8.06**	**104**	Pn		**Pn**	**17 49 28.2**	**-0.2**
HZTE	**Horizontes, Gu**	**8.12**	**114**	Pn		**Pn**	**17 49 28.6**	**-0.6**
ORTG	**Ortega, Santa**	**8.39**	**116**			**Pn**	**17 49 33.5**	**+0.5**
DUNO	**Dulce Nombre,**	**8.49**	**117**	Pn		**Pn**	**17 49 35.4**	**+1.0**
JTS	**Las Juntas de**	**8.87**	**114**	Pn		**Pn**	**17 49 43.4**	**+3.9**
	0.7nm,0.3s,baz=165,slow=23,SNR=5.5							
JTS	**Las Juntas de**	**8.87**	**114**	Pn		**Pn**	**17 49 40.6**	**+1.1**
CAO2	**Cobano, Puntar**	**9.02**	**118**	Pn		**Pn**	**17 49 43.7**	**+2.2**
COVE	**Coope Vega, Sa**	**9.19**	**111**	Pn		**Pn**	**17 49 45.7**	**+1.8**
JACO	**JACO, Garabito**	**9.41**	**117**	Pn		**Pn**	**17 49 47.4**	**+0.5**
HDC	**Heredia**	**9.74**	**114**	Pn		**Pn**	**17 49 49.9**	**-1.6**
RIMA	**Rio Macho**	**10.06**	**114**			**Pn**	**17 49 57.5**	**+1.5**
PEZE	**Perez Zeledon,**	**10.40**	**116**			**Pn**	**17 49 59.7**	**-0.8**
SRBA	**San Rafael, Bu**	**10.74**	**116**			**Pn**	**17 50 06.3**	**+1.0**
DRK0	**Durika**	**10.83**	**115**			**Pn**	**17 50 05.5**	**-1.1**
CDITO	**Canoas**	**11.48**	**118**	Pn		**Pn**	**17 50 17.3**	**+2.0**
BRU2	**Volcan**	**11.53**	**116**	Pn		**Pn**	**17 50 16.6**	**+0.5**
ZAIG	**Zacatecas**	**12.40**	**315**	Pn		**Pn**	**17 50 29.5**	**+1.4**
HKT	**Hockley**	**15.95**	**351**	Pn		**Pn**	**17 51 17.4**	**+1.7**
JCT	**Junction City**	**17.40**	**340**	P		**P**	**17 51 37.8**	**+2.3**
TXAR	**Lajitas Array**	**18.00**	**329**	P		**P**	**17 51 46.1**	**+4.0**
	0.0nm,0.3s,baz=160,slow=7.8,SNR=16							
TXAR					LR	LR	17 58 51.6	
	comp=Z,135nm,20.6s,baz=0.0,slow=38							
TXAR	**Lajitas Array**	**18.00**	**329**			**P**	**17 51 45.2**	**+3.0**
TX31	**Lajitas Ar. Si**	**18.00**	**329**	P		**P**	**17 51 45.1**	**+2.9**
TX31					IAmb	IAmb	17 52 04.5	
	comp=Z,32nm,1.1s							
TX32	**Lajitas Array**	**18.00**	**329**	P		**P**	**17 51 44.7**	**+2.5**
352A	**Blakely**	**18.86**	**22**	P		**P**	**17 51 52.0**	**+0.5**
352A					IAmb	IAmb	17 51 55.4	
	comp=Z,58nm,1.3s							
250A	**Grady**	**18.86**	**18**	P		**Pn**	**17 51 53.4**	**+1.4**
250A					IAmb	IAmb	17 52 11.5	
	comp=Z,16nm,0.7s							
LPIG	**La Paz**	**19.00**	**304**		LR	LR	17 59 16.6	
	comp=Z,171nm,18.3s,baz=144,slow=37							
ABTX	**Abilene, Hawle**	**19.35**	**343**	P		**Pn**	**17 51 59.6**	**+1.6**
456A	**Hilliard**	**19.44**	**30**	P		**P**	**17 51 59.2**	**+1.3**
LRAL	**Lakeview Retre**	**19.65**	**16**	P		**P**	**17 52 01.5**	**+1.4**
CCAR	**Cane Creek**	**19.75**	**3**	P		**P**	**17 52 01.8**	**+0.6**
Y45A	**Yeager Farm, C**	**19.93**	**9**	P		**Pn**	**17 52 05.6**	**+0.8**
152A	**Waverly Hall**	**20.00**	**21**	P		**P**	**17 52 04.1**	**+0.1**
152A					IAmb	IAmb	17 52 27.4	
	comp=Z,34nm,1.6s							
MIAR	**Mount Ida**	**20.34**	**359**			**P**	**17 52 08.8**	**+1.1**
MIAR					IAmb	IAmb	17 52 17.3	
	comp=Z,16nm,0.9s							
X37A	**Clayton**	**20.48**	**355**	P		**P**	**17 52 11.4**	**+2.2**
X37A					IAmb	IAmb	17 52 41.0	
	comp=Z,29nm,1.4s							
ROSC	**El Rosal**	**20.71**	**115**	P		**P**	**17 52 14.4**	**+2.1**
	comp=Z,9.7nm,0.4s,baz=162,slow=5.4,SNR=7.4							
ROSC	**El Rosal**	**20.71**	**115**	P		**P**	**17 52 11.4**	**-0.9**
MNTX	**Cornudas Mount**	**20.78**	**329**	P		**P**	**17 52 12.8**	**+0.3**
X34A	**Smith Ranch, M**	**20.83**	**349**	P		**P**	**17 52 14.2**	**+1.2**
X48A	**Hartselle**	**20.99**	**14**	P		**P**	**17 52 18.3**	**+3.7**
X48A					IAmb	IAmb	17 52 50.7	
	comp=Z,23nm,1.4s							
W39A	**Magazine**	**21.00**	**359**	P		**P**	**17 52 15.7**	**+1.0**
W39A					IAmb	IAmb	17 52 53.9	
	comp=Z,52nm,1.9s							
WMOK	**Wichita Mounta**	**21.15**	**347**	P		**P**	**17 52 17.8**	**+1.3**
PLAL	**Pickwick Lake**	**21.27**	**12**	P		**P**	**17 52 14.6**	**-3.1**
PLAL					IAmb	IAmb	17 52 56.6	
	comp=Z,16nm,1.0s							
FLOC	**Florencia**	**21.31**	**124**	P		**P**	**17 52 16.8**	**-1.6**
Y52A	**Lilburn**	**21.32**	**21**	P		**P**	**17 52 15.3**	**-2.9**
Y52A					IAmb	IAmb	17 52 59.4	
	comp=Z,29nm,1.3s							
RUSC	**La Rusia**	**21.37**	**110**			**P**	**17 52 17.9**	**-1.5**
RUSC					IAmb	IAmb	17 52 25.7	
	comp=Z,24nm,1.0s							
FNO	**Franklin**	**21.40**	**350**	P		**P**	**17 52 20.2**	**+1.2**
FNO					IAmb	IAmb	17 52 23.8	
	comp=Z,18nm,0.8s							
FPAL	**Fort Paine**	**21.45**	**17**	P		**P**	**17 52 17.8**	**-1.9**
MSTX	**Muleshoe**	**21.61**	**338**	P		**P**	**17 52 23.4**	**+1.9**
MSTX					IAmb	IAmb	17 53 10.4	
	comp=Z,20nm,1.4s							
FCAR	**Ozark Folk Cen**	**21.70**	**2**	P		**P**	**17 52 20.8**	**-1.5**
OK025	**Westminster Rd**	**21.70**	**351**	P		**P**	**17 52 22.9**	**+0.5**
OK025					IAmb	IAmb	17 52 36.7	
	comp=Z,22nm,1.0s							
LCAR	**Lake Charles**	**21.93**	**4**	P		**P**	**17 52 23.6**	**-1.2**
AMTX	**Amarillo**	**22.07**	**341**	P		**P**	**17 52 27.9**	**+1.5**
AMTX					IAmb	IAmb	17 52 50.6	
	comp=Z,13nm,0.8s							
U40A	**Yellville**	**22.15**	**1**	P		**P**	**17 52 26.6**	**-0.6**
SDV	**Santo Domingo**	**22.66**	**101**	P		**P**	**17 52 34.3**	**+1.3**
	comp=Z,5.6nm,0.3s,baz=251,slow=3.5,SNR=3.8							
SDV					LR	LR	18 03 22.0	
	comp=Z,312nm,18.7s,baz=280,slow=42							
SDV	**Santo Domingo**	**22.66**	**101**	P		**P**	**17 52 32.7**	**-0.3**
SDV					IAmb	IAmb	17 52 49.5	
	comp=Z,8.7nm,0.6s							
319A	**Douglas**	**22.67**	**322**	P		**P**	**17 52 32.9**	**-0.1**
319A					IAmb	IAmb	17 53 17.4	
	comp=Z,16nm,1.3s							
121A	**Cookes Peak, D**	**22.68**	**326**	P		**P**	**17 52 33.9**	**+0.8**
121A					IAmb	IAmb	17 52 55.9	
	comp=Z,26nm,1.4s							
CLTN	**Cedars of Leba**	**22.72**	**14**	P		**P**	**17 52 33.2**	**0.0**
BLOK	**Blackwell**	**22.84**	**352**	P		**P**	**17 52 34.5**	**0.0**
BLOK					IAmb	IAmb	17 52 55.2	
	comp=Z,18nm,1.1s							
TKL	**Tuskaleechee C**	**23.05**	**20**		LR	LR	18 03 15.2	
	comp=Z,303nm,19.1s,baz=192,slow=41							
BNM	**Barren Site**	**23.39**	**331**	P		**P**	**17 52 41.2**	**+0.8**
S39A	**Bolivar**	**23.48**	**360**	P		**P**	**17 52 40.9**	**-0.2**
S39A					IAmb	IAmb	17 52 42.6	
	comp=Z,12nm,1.0s							
ANMO	**Albuquerque**	**23.96**	**332**		LR	LR	18 02 03.6	
	comp=Z,75nm,18.9s,baz=150,slow=36							
R40A	**Maddies Statio**	**24.09**	**2**	P		**P**	**17 52 45.8**	**-1.1**
TUC	**Tucson**	**24.24**	**321**	P		**P**	**17 52 48.6**	**+0.1**
TUC					IAmb	IAmb	17 53 05.3	
	comp=Z,20nm,1.6s							
U54A	**Nelsons Funny**	**24.51**	**22**	P		**P**	**17 52 48.7**	**-2.1**
U54A					IAmb	IAmb	17 53 25.6	
	comp=Z,29nm,1.2s							
U56A	**King**	**24.92**	**25**	P		**P**	**17 52 52.0**	**-2.5**
U56A					IAmb	IAmb	17 53 04.0	
	comp=Z,13nm,1.0s							
T25A	**Trinidad**	**25.03**	**338**	P		**P**	**17 52 58.1**	**+2.3**
214A	**Organ Pipe Nat**	**25.27**	**318**	P		**P**	**17 52 59.1**	**+1.3**
214A					IAmb	IAmb	17 53 13.4	
	comp=Z,25nm,1.8s							
P40A	**Paris**	**25.33**	**2**	P		**P**	**17 52 56.7**	**-1.4**
AGPR	**Aguadilla, PR**	**25.35**	**77**	P		**P**	**17 52 56.4**	**-2.2**
MLPR	**Magueyes Islan**	**25.37**	**78**	P		**P**	**17 52 55.4**	**-3.3**
SDCO	**Great Sand Dun**	**25.97**	**337**	P		**P**	**17 53 05.8**	**+1.4**
SDCO					IAmb	IAmb	17 53 08.9	
	comp=Z,13nm,1.4s							
SJG	**San Juan**	**26.23**	**78**		LR	LR	18 02 59.0	
	comp=Z,254nm,21.8s,baz=252,slow=36							
113A	**Mohawk Valley,**	**26.41**	**318**	P		**P**	**17 53 09.1**	**+1.1**
MVCO	**Mesa Verde**	**26.76**	**332**	P		**P**	**17 53 11.3**	**-0.1**
MVCO					IAmb	IAmb	17 53 18.8	
	comp=Z,17nm,1.4s							
PV03	**Paradox Valley**	**27.78**	**333**	P		**P**	**17 53 21.1**	**+0.6**
PV03					IAmb	IAmb	17 53 33.3	
	comp=Z,14nm,1.4s							
PV12	**Saucer Basin,**	**27.81**	**333**	P		**P**	**17 53 22.6**	**+1.8**
PV12					IAmb	IAmb	17 53 36.5	
	comp=Z,9.1nm,0.9s							
PV07	**Paradox Valley**	**27.84**	**333**	P		**P**	**17 53 22.4**	**+1.3**
PV07					IAmb	IAmb	17 53 40.4	
	comp=Z,7.9nm,1.1s							
PV16	**Nyswonger Mesa**	**27.86**	**333**	P		**P**	**17 53 23.6**	**+2.4**
PV16					IAmb	IAmb	17 53 33.9	
	comp=Z,22nm,1.5s							
PV04	**Paradox Valley**	**27.92**	**333**	P		**P**	**17 53 22.9**	**+1.2**
PV14	**Lion Creek, Pa**	**27.95**	**333**	P		**P**	**17 53 22.8**	**+0.7**
PV14					IAmb	IAmb	17 53 29.3	
	comp=Z,13nm,1.1s							
PV22	**Blue Mesa, Par**	**27.98**	**333**	P		**P**	**17 53 23.9**	**+1.6**
PFO	**Pinyon Flats O**	**28.71**	**317**	LR		LR	18 05 12.1	
	comp=Z,198nm,20.1s,baz=140,slow=37							
PDAR	**Pinedale Array**	**31.86**	**337**	P		**P**	**17 54 00.8**	**+4.1**
	comp=Z,0.3nm,0.3s,baz=140,slow=11,SNR=3.2							
PDAR					LR	LR	18 09 31.8	
	comp=Z,106nm,18.5s,baz=148,slow=41							
PDAR	**Pinedale Array**	**31.86**	**337**	P		**P**	**17 53 55.0**	**-1.7**
AHID	**Auburn Hatcher**	**32.47**	**335**	P		**P**	**17 54 03.6**	**+1.5**
AHID					IAmb	IAmb	17 54 08.5	
	comp=Z,15nm,1.4s							
MDPB	**Devils Postpil**	**32.85**	**320**	P		**P**	**17 54 05.3**	**-0.2**
REDW	**Red Top Meadow**	**32.87**	**336**	P		**P**	**17 54 06.3**	**+0.8**
NVAR	**Mina Array Bea**	**32.89**	**322**	P		P	17 54 10.5	+4.8
	comp=Z,2.5nm,1.0s,baz=136,slow=8.4,SNR=9.6							
NVAR					LR	LR	18 09 11.2	
	comp=Z,332nm,20.1s,baz=136,slow=40							
NVAR	**Mina Array Bea**	**32.89**	**322**	P		**P**	**17 54 06.0**	**+0.3**
LOHW	**Long Hollow**	**32.98**	**336**	P		**P**	**17 54 08.0**	**+1.5**
TPAW	**Tejon Pass**	**33.02**	**336**	P		**P**	**17 54 08.3**	**+1.4**
MOOW	**Moose Ponds**	**33.16**	**336**	P		**P**	**17 54 08.7**	**+0.7**
MOOW					IAmb	IAmb	17 54 18.1	
	comp=Z,6.5nm,1.2s							
FXWY	**Fox Creek**	**33.17**	**336**	P		**P**	**17 54 10.2**	**+2.0**
FXWY					IAmb	IAmb	17 54 19.0	
	comp=Z,13nm,1.6s							
IMW	**Indian Meadow**	**33.35**	**336**	P		**P**	**17 54 11.9**	**+2.1**
IMW					IAmb	IAmb	17 54 20.7	
	comp=Z,6.0nm,1.1s							
MCMT	**McKenzie Canyo**	**34.89**	**335**	P		**P**	**17 54 25.2**	**+2.1**
LRM	**Limekiln Ridge**	**35.55**	**337**	P		**P**	**17 54 30.8**	**+2.0**
ULM	**Lac du Bonnet**	**36.10**	**357**	LR		LR	18 13 04.6	
	comp=Z,160nm,19.0s,baz=145,slow=42							
LPAZ	**La Paz**	**39.03**	**140**	LR		LR	18 11 16.2	
	comp=Z,52nm,18.9s,baz=316,slow=37							
EDM	**Edmonton**	**42.17**	**342**	P		**P**	**17 55 24.9**	**+1.0**
SIV	**San Ignacio**	**43.59**	**132**	P		**P**	**17 55 35.8**	**0.0**
	comp=Z,1.2nm,0.7s,baz=311,slow=2.1,SNR=3.8							
SCHQ	**Schefferville**	**45.51**	**21**	LR		LR	18 16 44.0	
	comp=Z,540nm,18.6s,baz=225,slow=38							
GO04	**Tololo Observa**	**49.02**	**154**	P		**P**	**17 56 16.5**	**-2.1**
YKA	**Yellowknife Ar**	**50.66**	**347**	P		**P**	**17 56 31.6**	**+1.3**
	comp=Z,4.6nm,0.9s,baz=141,slow=8.1,SNR=5.7							
YKA					LR	LR	18 21 18.1	
	comp=Z,53nm,18.7s,baz=0.0,slow=40							
GO05	**Huala**	**52.84**	**158**	P		**P**	**17 56 45.3**	**-1.8**
CPUP	**Villa Florida**	**53.20**	**139**	LR		LR	18 19 23.8	
	comp=Z,57nm,20.3s,baz=38,slow=36							
RKT	**Rikitea**	**55.18**	**228**	*e*T		T	18 56 40.9	
	comp=Z,1.6nm,0.3s							
ILAR	**Eielson Array**	**62.30**	**337**	P		**P**	**17 57 54.5**	**+1.3**
	comp=Z,0.8nm,0.9s,baz=124,slow=4.6,SNR=9.0							
ILAR	**Eielson Array**	**62.30**	**337**	P		**P**	**17 57 53.8**	**+0.5**
RND	**Reindeer**	**62.45**	**335**	P		**P**	**17 57 55.6**	**+1.2**
PPT2	**Papeete2**	**63.96**	**242**	*e*LR		LR	18 16 56.8	
	comp=Z,87nm,24.2s							
TBI	**Tubuai**	**66.48**	**237**	*e*LR		LR	18 18 15.5	
	comp=Z,108nm,27.8s							
ESDC	**Sonseca Array**	**80.52**	**51**	LR		LR	18 29 59.8	
	comp=Z,66nm,21.2s,baz=260,slow=32							
NOA	**NORSAR Array B**	**84.57**	**28**	LR		LR	18 35 38.5	
	comp=Z,114nm,22.0s,baz=280,slow=34							
ARCES	**ARCESS Array B**	**86.37**	**18**	LR		LR	18 39 45.8	
	comp=Z,121nm,18.0s,baz=285,slow=36							
GERES	**GERESS Array B**	**90.22**	**39**	LR		LR	18 36 29.8	
	comp=Z,58nm,20.8s,baz=288,slow=33							
TORD	**Torodi Ar. Bea**	**91.43**	**76**	LR		LR	18 39 51.6	
	comp=Z,68nm,19.5s,baz=225,slow=34							
CMAR	**Chiang Mai Arr**	**145.51**	**339**	PKPbc		**PKPdf**	**18 07 11.8**	**+1.2**
	comp=Z,2.6nm,1.0s,baz=349,slow=3.8,SNR=12							
CMAR	**Chiang Mai Arr**	**145.51**	**339**			**PKPbc**	**18 07 10.8**	**+0.3**

BJI ***15*** *17:56:22.1±0.0, 24.30N×121.87E, h14km, mB4.5/25, mb4.3/38, ML4.3/11, Ms4.2/39, Ms7 4.0/36*
JMA ***15*** *17:56:22.3±0.1, 24.18N×121.80E, h24km±3km, M4.3*
NIED ***15*** *17:56:22.3, 24.18N×121.80E, h24km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr 3.39; Mθθ -2.89; Mϕϕ -0.50; Mrθ 1.55; Mθϕ -1.47; Mϕr 2.45; Fault plane solution: M₀4.54000×10¹⁵ NP1:ϕs45.00000°, δ65.00000°, λ73.00000°. NP2:ϕs262.00000°, δ30.00000°, λ123.00000°.*
TAP ***15*** *17:56:22.6, 24.25N×121.83E, h19km, ML4.9, B*
NEIC ***15*** *17:56:23.2±1.6, 24.22N±0.04×121.80E±0.05, h25km±4km, mb4.7/82, Mwr4.3/22, ML4.7(TAP), Error ellipse: s-maj=7.7km s-min=4.1km az=118.0*
ASIES ***15*** *17:56:23.5, 24.27N×121.80E, h20km, MW4.2*
NEIC ***15*** *17:56:23.2, 24.22N×121.81E, h31km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr 0.97; Mθθ -1.21; Mϕϕ 0.25; Mrθ 0.25; Mθϕ -1.96; Mϕr 2.39; Fault plane solution: M₀3.30000×10¹⁵ NP1:ϕs16.61000°, δ78.82000°, λ50.74000°. NP2:ϕs273.26000°, δ40.57000°, λ162.65000°. Principal axes: T 3.3209, Plg42.0000°, Azm249.0000°; N -0.0513, Plg38.0000°, Azm26.0000°; P -3.2696, Plg24.0000°, Azm136.0000°;*
IDC ***15*** *17:56:25.6±3.3, 24.31N×121.99E, h46km±34km, mb3.8/18, mb1 3.9/19, mb1mx3.8/39, mbtmp4.0/19, ML3.9/1, MS3.6/14, Ms1 3.6/14, ms1mx3.3/49 Error ellipse: s-maj=20.8km s-min=12.4km az=68.0*
ISC 15 17:56:22.2±0.6, 24.23N±0.01×121.85E±0.01, h18km±2km, n318, σ1s04/414, mb4.6/59, MS3.7/12, 65C-34D, Fault plane solution: NP1:ϕs29.22511°, δ62.68553°, λ57.74352°. NP2:ϕs263.20462°, δ41.29023°, λ135.94115°. Principal axes: T Plg58.8456°, Azm252.3828°; N Plg28.3074°, Azm45.3762°; P Plg11.9367°, Azm141.9142°; **Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
EHP	**Heping Village**	**0.13**	**

EGS 0.61 7 eP Pg 17 56 34.9 +0.4
baz=14
TWT Tachien 0.62 272 ⇑P Pg 17 56 35.2 +0.7
baz=270
TWT iS Sb 17 56 43.4 +0.6
baz=270
NTC Toucheng 0.62 358 ⇓P Pg 17 56 35.1 +0.6
baz=359
NTC eS Sg 17 56 43.4 +0.5
baz=359
NWLT Wulai 0.63 330⇓iP Pg 17 56 34.9 +0.1
baz=325
NWLT iS Sg 17 56 43.4 +0.2
baz=325
NSK Sanguang 0.63 315⇓iP Pg 17 56 34.8 0.0
baz=314
NSK S Sb 17 56 43.0 -0.2
baz=314
TDCB Techi 0.63 272⇑iP Pg 17 56 35.3 +0.5
baz=270
TDCB S Sg 17 56 42.8 -0.5
baz=270
CHGB Renai 0.64 255⇑iP Pg 17 56 35.4 +0.4
baz=253
CHGB iS Sb 17 56 44.4 +0.8
baz=253
OWD Renai 0.68 246⇑iP Pg 17 56 35.8 +0.2
baz=244
OWD S Sg 17 56 45.4 +0.7
baz=244
EGFH Guangfu 0.68 215 eP Pg 17 56 36.2 +0.5
baz=227
EGFH eS Sn 17 56 47.1 +0.1
baz=227
TIPB Shuangxi 0.74 358⇓iP Pg 17 56 37.1 +0.4
baz=359
TIPB iS Sg 17 56 46.5 -0.1
baz=359
TWA Mucha 0.78 342⇓iP Pg 17 56 37.9 +0.3
baz=343
TWA iS Sg 17 56 48.5 +0.5
baz=343
TWB1 Santiao Chiao 0.78 9⇓eP Pg 17 56 37.9 +0.3
baz=3.0
TWB1 S Sg 17 56 48.5 +0.5
baz=3.0
NHDH Xindian Distri 0.79 338 iP Pg 17 56 38.0 +0.3
baz=338
NHDH iS Sg 17 56 48.4 +0.2
baz=338
TATO Taipei 0.81 336⇓iP Pg 17 56 38.3 +0.2
baz=336
TATO S Sg 17 56 48.9 0.0
baz=336
TATO Taipei 0.81 336 Pg 17 56 38.2 0.0
TATO Sg Sg 17 56 49.0 0.0
WHP Taichung City 0.83 273⇑iP Pg 17 56 38.7 +0.2
baz=272
WHP iS Sg 17 56 49.5 0.0
baz=272
HGSD Ruisui 0.83 208 ⇑P Pg 17 56 38.7 +0.2
baz=198
HGSD eS Sn 17 56 52.4 +1.6
baz=198
NWF Wu-fen Shan 0.84 356⇓iP Pn 17 56 39.1 -0.1
baz=349
NWF iS Sn 17 56 50.4 -0.7
baz=349
WFSB Wu-fen Shan 0.84 356⇓iP Pn 17 56 39.2 0.0
baz=349
WFSB S Sg 17 56 50.1 +0.3
baz=349
NHY Taipei 0.84 342 eP Pg 17 56 38.9 +0.2
baz=326
NHY eS Sn 17 56 50.9 -0.3
baz=326
WPL Puli Township 0.84 255⇑iP Pg 17 56 38.9 +0.1
baz=254
WPL S Sg 17 56 50.2 +0.2
baz=254
BACT New Taipei Cit 0.85 334 eP Pb 17 56 38.2 -0.2
baz=341
BACT eS Sn 17 56 50.9 -0.3
baz=341
NJD Zhudong 0.86 306 eP Pn 17 56 39.7 +0.3
baz=310
TAP1 Taipei 0.86 340 eP Pn 17 56 39.7 +0.3
baz=338
TAP Taipei 0.86 339 ⇑P Pn 17 56 39.8 +0.4
baz=324
TAP iS Sn 17 56 51.3 -0.3
baz=324
LIOB Emei 0.86 299⇑iP Pn 17 56 39.6 0.0
baz=298
LIOB S Sg 17 56 51.0 +0.4
baz=298
DPDB Guoxing 0.87 257⇑iP Pg 17 56 39.3 +0.1
baz=256
DPDB eS Sg 17 56 51.1 +0.4
baz=256
EHY Hungye 0.87 214 ⇑P Pb 17 56 38.0 -0.8
baz=213
NSTT Nanjuang 0.87 297⇑iP Pg 17 56 39.5 +0.2
baz=296
NSTT iS Sg 17 56 50.5 -0.3
baz=296
WCS Beigang Elemen 0.88 259⇑iP Pg 17 56 39.4 +0.1
baz=258
WCS eS Sg 17 56 51.0 +0.1
baz=258
NTY Taoyuan 0.92 327 eP Pn 17 56 40.4 +0.2
baz=332
NTY eS Sn 17 56 53.2 +0.4
baz=332
TNOU National Taiwa 0.92 356⇑eP Pb 17 56 38.2 -1.4
baz=340
SSLB Suanglung 0.93 242⇑iP Pb 17 56 40.0 +0.1
baz=241
SSLB iS Sb 17 56 52.1 +0.2
baz=241
SSLB Suanglung 0.93 242 Pb 17 56 39.5 -0.3
SSLB Sb 17 56 52.4 +0.5
HSN1 Hsinchu 0.93 306 eP Pn 17 56 41.1 +0.7
baz=298
HSN1 eS Sn 17 56 53.5 +0.2
baz=298
SMLT Sun Moon Lake 0.94 248⇑iP Pb 17 56 40.2 +0.3
baz=247
YM01 YM01 0.95 344⇑iP Pg 17 56 40.5 -0.1
baz=329
YM01 S Sn 17 56 54.2 +0.5
baz=329
NCU National Centr 0.95 321 iP Pg 17 56 41.1 +0.4
baz=320
NCU S Sn 17 56 55.0 +1.2
baz=320
NCUH Zhongli 0.95 321⇑iP Pg 17 56 41.2 +0.4
baz=319
NCUH eS Sn 17 56 54.3 +0.5
baz=319
TWS1 Kuangyinshan 0.95 336 eP Pb 17 56 40.0 -0.1
baz=335
TWS1 eS Sn 17 56 53.8 0.0
baz=335
TYC Yuchr 0.96 250⇑iP Pb 17 56 40.6 +0.2
baz=241
SBCB Hsinchu 0.97 306⇑iP Pg 17 56 41.7 +0.7
baz=298
SBCB eS Sn 17 56 54.6 +0.5
baz=298
YULB Yu-li 0.98 211⇑iP Pb 17 56 39.6 -1.1
baz=213
YULB Yu-li 0.98 211 Pb 17 56 39.6 -1.1
YM08 YM08 0.98 346 eP Pb 17 56 40.9 +0.1
baz=329
ECBN Changbin 0.98 202 eP Pb 17 56 40.8 +0.1
baz=203
NWRT Kuosheng 0.98 350 eP Pg 17 56 41.5 +0.2
baz=348
HSN Hsinchu 0.98 305⇑iP Pg 17 56 41.7 +0.3
baz=307
HSN S Sn 17 56 55.5 +1.0
baz=307
TWQ1 Liyutan 0.99 277⇑iP Pg 17 56 42.1 +0.6
baz=276
TWQ1 eS Sn 17 56 54.9 +0.1
baz=276
ANP Anpu 1.00 343 P Pg 17 56 41.9 +0.2
baz=341
NTST Danshui 1.00 339 eP Pg 17 56 41.7 0.0
baz=338
NTST eS Sn 17 56 56.4 +1.5
baz=338
NJN Zhunan 1.00 297 ⇑P Pg 17 56 42.2 +0.5
baz=296
NJN S Sg 17 56 54.9 0.0
baz=296
EYUL Yuli 1.01 209 eP Pn 17 56 41.5 +0.1
baz=223
NSY Sanyi 1.01 281 P Pg 17 56 42.8 +0.9
baz=279
NSY iS Sn 17 56 57.0 +1.7
baz=279
TWF1 Yuli 1.01 210⇑iP Pb 17 56 40.1 -1.1
baz=224
NMLH Miaoli 1.01 288⇑eP Pg 17 56 42.9 +1.0
baz=292
NMLH eS Sn 17 56 56.8 +1.5
baz=292
JYNG Yonagunijimaku 1.02 77 P Pg 17 56 42.5 +0.4
JYNG S Sg 17 56 57.1 +1.5
WHYT Xinyi Township 1.06 240⇑iP Pg 17 56 42.8 0.0
baz=245
WHYT S Sg 17 56 57.2 +0.5
baz=245
NHW Xinwu Township 1.06 317 eP Pn 17 56 42.4 +0.2
baz=336
TWY Chenhua 1.06 348 P Pg 17 56 43.4 +0.5
baz=329
WWF Wufeng 1.07 260⇑eP Pg 17 56 43.7 +0.7
baz=255
TCU Taichung 1.08 266⇑iP Pg 17 56 44.0 +0.8
baz=264
TCU eS Sg 17 56 59.7 +2.4
baz=264
NSM Shimen 1.08 347 eP Pg 17 56 43.5 +0.3
baz=330
YOJ Yonaguni jima 1.08 78 P Pg 17 56 43.3 +0.1
YOJ eS Sn 17 56 57.1 +0.1
YOJ Yonaguni jima 1.08 78⇓iP Pg 17 56 43.5 +0.2
baz=68
YOJ iS Sg 17 56 59.0 +1.5
baz=68
YOJ Yonaguni jima 1.08 78 Pg 17 56 43.3 +0.1
YOJ Sg 17 56 58.9 +1.4
WJS Zhushan 1.10 249⇑iP Pg 17 56 44.0 +0.3
baz=245
WJS S Sg 17 56 59.6 +1.4
baz=245
WDJ Dajia District 1.11 276⇑eP Pg 17 56 44.1 +0.4
baz=274
WDJ eS Sg 17 56 59.6 +1.3
baz=274
WNT1 Nantou City 1.12 253 eP Pg 17 56 44.0 +0.1
baz=251
WNT Mingjian 1.12 252⇑iP Pg 17 56 44.4 +0.3
baz=248
WNT eS Sg 17 57 00.2 +1.5
baz=248
FULB Fuli 1.15 206 eP Pn 17 56 43.2 -0.2
baz=223
WCHH Zhanghua 1.19 263 P Pg 17 56 45.6 +0.3
baz=261
WCHH S Sg 17 57 03.0 +2.1
baz=261
WYL Yuanlin Townsh 1.19 257⇑eP Pg 17 56 45.3 0.0
baz=255
ALS Alishan 1.20 233⇑iP Pb 17 56 44.9 +0.4
baz=232
ALS S Sn 17 57 00.8 +0.6
baz=232
CHKT Chengkung 1.21 202 eP Pn 17 56 43.4 -0.9
baz=190
CHN5 Tsauling 1.25 240⇑iP Pb 17 56 45.9 +0.6
baz=239
CHN5 S Sg 17 57 03.2 +0.5
baz=239
ECS Chishang 1.27 207 eP Pn 17 56 45.3 +0.2
baz=210
ELDTW Lidau 1.29 217 eP Pn 17 56 44.5 -0.9
baz=206
WGK Gukeng 1.30 246⇑eP Pb 17 56 46.9 +0.8
baz=243
WDLH Douliu 1.32 246 ⇑P Pg 17 56 47.3 -0.4
baz=245
WDLH S Sg 17 57 06.1 +1.2
baz=245
EDH Donghe 1.35 202 eP Pn 17 56 45.7 -0.5
baz=192
WRL Guolierlin Hig 1.39 257 ⇑P Pb 17 56 48.3 +0.7
baz=254
WRL eS Sg 17 57 08.1 +0.9
baz=254
PCYT Pengchaiyu 1.41 8⇑iP Pb 17 56 47.8 -0.2
baz=7.0
CHN2 Minshiung 1.44 241 eP Pb 17 56 49.3 +0.8
baz=227
WTK Tuku 1.44 248 ⇑P Pb 17 56 49.2 +0.6
baz=245
STYH Taoyuan 1.44 223 eP Pn 17 56 48.1 +0.7
baz=224
TPUB Ta-pu 1.45 231⇑iP Pb 17 56 49.1 +0.3
baz=230
TPUB S Sb 17 57 08.3 +1.4
baz=230
TPUB Ta-pu 1.45 231 Pb 17 56 49.0 +0.3
TPUB Sn Sg 17 57 08.9 -0.3
STYT Tauyuan 1.46 224⇑iP Pn 17 56 48.5 +0.8
baz=224
LONT Longtian 1.48 207 eP Pn 17 56 47.2 -0.7
baz=210
WTCT Ta-ch'eng 1.48 256 P Pb 17 56 49.5 +0.3
baz=253
WTCT S Sg 17 57 09.2 -1.0
baz=253
CHY Chiayi 1.50 241⇑eP Pb 17 56 50.1 +0.7
baz=227
WTP Ta-pu 1.50 229⇑iP Pb 17 56 49.7 +0.1
baz=229
WTP S Sg 17 57 09.8 -0.9
baz=229
TWGBT Beinan 1.57 207⇑eP Pn 17 56 48.0 -1.3
baz=210
TWK Hsinying 1.57 233 ⇑P Pb 17 56 50.9 +0.1
baz=232
TWG Pinlang 1.58 207 eP Pn 17 56 47.9 -1.4
baz=210
TWG Pinlang 1.58 207 Pn 17 56 47.7 -1.5
LDUT Ludao 1.59 193 eP Pn 17 56 48.2 -1.2
baz=187
SNST Tainan City 1.60 231 P Pb 17 56 50.9 -0.3
baz=230
CHN1 Nanshi 1.60 230 ⇑P Pb 17 56 51.2 0.0
baz=229
WSF Szhu 1.60 249 ⇓P Pb 17 56 50.9 -0.4
baz=247
WSF eS Sg 17 57 13.1 -0.9
baz=247
TTN Taitung 1.61 204 eP Pn 17 56 49.9 +0.2
baz=208
SGST Jiashian 1.63 226 ⇑P Pn 17 56 51.0 +0.9
baz=213
SGST eS Sb 17 57 13.0 +1.0
baz=213
SLGT Liugui 1.66 222 eP Pb 17 56 51.9 -0.3
baz=223
ICHU Yijhu 1.68 239⇑iP Pb 17 56 52.7 +0.1
baz=223
ICHU S Sg 17 57 15.5 -1.0
baz=223
IRIF Iriomote-Funau 1.72 86 P Pn 17 56 51.9 +0.7
IRIF S Sn 17 57 13.2 +0.5
CHN8 Yiju 1.74 240⇑iP Pb 17 56 53.3 -0.4
baz=225
CHN8 eS Sb 17 57 16.3 +1.2
baz=225
CHN3 Shinhua 1.78 230 eP Pb 17 56 54.7 +0.4
baz=229
HATJ Hateruma jima 1.79 95 P Pn 17 56 53.5 +1.2
HATJ eS Sn 17 57 15.0 +0.4
ECL Taimali 1.82 207 eP Pn 17 56 51.9 -0.8
baz=200
SCST Cishan 1.83 223 eP Pb 17 56 54.5 -0.6
baz=223
SCLT Jiali 1.85 236 eP Pb 17 56 54.9 -0.6
baz=234
SCLT eS Sb 17 57 19.5 +1.3
baz=234
SSD Sandimen 1.85 217 eP Pn 17 56 53.9 +0.8
baz=219
TSMG Majia 1.88 216 eP Pb 17 56 55.8 -0.3
baz=218
TAI1 Yung-k'ang 1.90 232 eP Pb 17 56 55.9 -0.4
baz=229
SGLT Jiouru 1.95 220 ⇓P Pb 17 56 57.9 +0.7
baz=220
SGLT eS Sg 17 57 24.8 -0.4
baz=220
MASBT Mashibuluo 1.96 215 eP Pn 17 56 54.9 +0.3
baz=217
MASBT eS Sb 17 57 21.3 -0.3
baz=217
JKRS Kuro-shima 1.97 89 P Pn 17 56 56.0 +1.3
JKRS eS Sn 17 57 20.0 +1.1
TSPT Pingtung City 1.98 219 eP Pb 17 56 56.7 -1.1
baz=211
SNJT Kaohsiung City 2.02 224 eP Pb 17 56 57.9 -0.6
baz=224
EAST Anshuo 2.06 207 eP Pn 17 56 55.3 -0.6
baz=201
TAW Tawu 2.06 205 eP Pn 17 56 55.7 -0.2
baz=200
JIJ Ishigaki jima 2.10 86 P Pn 17 56 56.9 +0.5
JIJ eS Sn 17 57 22.4 +0.4
SSPT Xinbi 2.10 214 eP Pb 17 56 59.6 -0.2
baz=217
SCZT Fangliau 2.17 212 ⇑P Pb 17 56 59.5 -1.4
baz=215
SCZT eS Sb 17 57 28.9 +1.4
baz=215
LAY Lan-yu 2.20 187 eP Pn 17 56 56.6 -1.3
baz=194
PNG Penghu 2.20 253⇑iP Pn 17 56 58.4 +0.5
baz=250
PNG eS Sn 17 57 25.7 +1.0
baz=250
PHUB P'eng-hu 2.21 252⇑iP Pn 17 56 58.4 +0.5
baz=248
PHUB eS Sn 17 57 26.1 +1.4
baz=248
SLIU Shizi 2.23 206 eP Pn 17 56 58.1 -0.2
baz=203
WDGT Dungji 2.23 245 ⇑P Pn 17 56 59.4 +1.1
baz=241
JISG Ishigakijimahi 2.27 81 P Pn 17 56 59.3 +0.5
JISG eS Sn 17 57 27.7 +1.4
WLCH Liuqiu 2.31 216 eP Pb 17 57 02.5 -0.8
baz=218
VWUC VWUC 2.31 290 eP Pn 17 56 59.3 -0.1
baz=284
TWP Hsiaoliuchiu 2.32 216 eP Pn 17 57 00.5 +1.0
baz=218
HEN Hengchun 2.44 205 eP Pn 17 57 03.4 +2.2
baz=203
VCHM Qimei 2.44 246 eP Pn 17 57 02.1 +0.9
baz=229
TWKBT Hengchun 2.47 203 eP Pn 17 57 02.4 +0.8
baz=199
TWK1 Hengchun 2.47 203 eP Pn 17 57 02.8 +1.2
baz=199
TSEB Hengchuen, Pin 2.48 201 eP Pn 17 57 04.0 +2.3
baz=199
MATB Ma-tsu 2.58 318 eP Pn 17 57 02.7 -0.4
baz=311
MSUT Lienchiang 2.60 318 eP Pn 17 57 02.9 -0.5
baz=312
PTMZ Houxiangcun 2.61 289⇑eP Pn 17 57 03.5 0.0
baz=283
JTJ Tarama 2.63 81 P Pn 17 57 04.7 +0.9
JTJ S Sn 17 57 36.8 +1.6
LYJJ Jianjiangzhen 2.98 321 eP Pn 17 57 08.3 -0.3
baz=314
QZH Quanzhou 3.05 284⇑iPn Pn 17 57 09.3 -0.2
QZH Sn Sn 17 57 44.1 -1.5
QZH smax
comp=N,570nm,0.7s
QZH smax smax
comp=E,400nm,0.7s
QZH LR LR
comp=E,2μm,6.9s
QZH LR LR
comp=Z,2μm,11.4s
XPSS Dashiqiu 3.08 331 eP Pn 17 57 09.6 -0.3
baz=324
JIRB Irabujima 3.08 78 P Pn 17 57 11.1 +1.1
JIRB eS Sn 17 57 48.2 +1.8
KNM Kinmen 3.12 274⇑eP Pn 17 57 12.2 +1.6
baz=268
MHZQ Yeshan 3.16 307 eP Pn 17 57 10.4 -0.7
baz=300
KNMB Chin-men Tao 3.17 275⇑eP Pn 17 57 11.1 0.0
baz=269
KNMB Chin-men Tao 3.17 275 Pn Pn 17 57 10.7 -0.4
JIKM Ikemajima 3.17 77 P Pn 17 57 12.6 +1.4
JMJ Miyako jima 2 3.19 79 eP Pn 17 57 13.4 +1.9
baz=80
JMJ eS Sn 17 57 49.3 +0.3
baz=80
JMJ2 Miyako jima3 3.21 80 P Pn 17 57 13.6 +1.9
JOGS Gusukube 3.28 80 P Pn 17 57 14.7 +2.0
AXDP Jialang 3.59 281⇑iP Pn 17 57 19.2 +2.2
baz=275
ZPLA Ao Xicun 3.76 266⇑eP Pn 17 57 19.7 +0.4
baz=260
VDOS Pratas Island 5.90 234 eP Pn 17 57 51.3 +2.6
baz=228
JOW Kunigami 6.35 65 P Pn 17 57 55.2 +0.3
6.5nm,0.3s,baz=198,slow=11,SNR=43
JOW Kunigami 6.35 65 eP Pn 17 57 55.2 +0.3
baz=67
JOW Kunigami 6.35 65 Pn Pn 17 57 55.1 +0.1
CVP Callao Caves 6.50 180 eP Pn 17 57 57.7 +0.8
SSE Sheshan 6.86 355 Pn Pn 17 58 01.4 -0.5
SSE Sn Sn 17 59 19.9 +0.3
SSE smax smax
comp=N,62nm,1.0s
SSE smax smax
comp=E,62nm,1.2s
HKPS Hong Kong Po S 7.35 256 eP Pn 17 58 08.9 +0.3
baz=248
NJ2 Nanjing 8.23 342 eP Pn 17 58 26.8 +6.1
NJ2 pmax pmax
comp=Z,20nm,0.6s
NJ2 LR LR
comp=N,580nm,7.3s
NJ2 LR LR
comp=E,630nm,7.8s
NJ2 LR LR
comp=Z,980nm,12.8s
JMZ Minamidaito 2 8.64 78 Pn Pn 17 58 23.2 -3.2
ENH Enshi 12.53 301 Pn Pn 17 59 18.2 -1.5
GYA Guiyang 13.91 282 ⇑P Pn 17 59 39.6 +1.0
GYA pP P 17 59 42.8 -3.9
GYA S Sn 18 02 19.4 +6.7
GYA pmax pmax
comp=Z,12nm,1.0s
GYA LR LR
comp=N,310nm,8.6s
GYA LR LR
comp=E,320nm,6.1s
GYA LR LR
comp=Z,810nm,9.7s
KSAR Wonju Array Be 14.15 20 Pn Pn 17 59 41.7 0.0
KSRS Korea Array 14.17 20 P Pn 17 59 44.5 +2.5
0.1nm,0.3s,baz=207,slow=13,SNR=3.6
KSRS LR LR 18 05 55.1
comp=Z,101nm,18.8s,baz=208,slow=41
KS19 Wonju Array Si 14.20 20 Pn Pn 17 59 42.8 +0.4
JHS Saijyo 14.52 40 Pn Pn 17 59 48.8 +2.0
XAN Xi'an 14.92 314 P Pn 17 59 50.3 -2.1
XAN pP P 17 59 55.0 -2.9
XAN S Sn 18 02 35.8 -1.4
XAN pmax pmax
comp=Z,12nm,1.3s
XAN LR LR
comp=N,350nm,8.2s
XAN LR LR
comp=E,790nm,12.6s
XAN LR LR
comp=Z,750nm,11.6s
CD2 Chengdu 17.36 297 P P 18 00 26.8 +1.9
CD2 pmax pmax
comp=Z,20nm,0.5s

CD2					LR	LR		
	comp=N,480nm,11.8s							
CD2					LR	LR		
	comp=E,700nm,11.6s							
CD2					LR	LR		
	comp=Z,2μm,16.5s							
DAV	**Davao City (W)**	**17.43**	**168**		LR	LR	18 07 37.4	
	comp=Z,92nm,16.6s,baz=356,slow=38							
JCJ	**Chichijima**	**18.55**	**77**		LR	LR	18 07 30.0	
	comp=Z,139nm,18.6s,baz=100,slow=36							
MJAR	**Matsushiro Arr**	**18.67**	**45**		LR	LR	18 08 35.1	
	comp=Z,128nm,21.2s,baz=235,slow=39							
HHC	**Hu-ho-hao-te**	**18.68**	**335**	*eP*	**Pn**		**18 00 42.6**	**+2.8**
HHC					pmax	pmax		
	comp=Z,7.0nm,0.8s							
HHC					pmax	pmax		
	comp=Z,110nm,6.6s							
HHC					LR	LR		
	comp=N,350nm,13.1s							
HHC					LR	LR		
	comp=E,200nm,11.9s							
HHC					LR	LR		
	comp=Z,310nm,17.6s							
LZH	**Lanzhou**	**19.51**	**311**	⇓P		**Pn**	**18 00 52.3**	**+2.3**
LZH					pP	pwP	18 00 58.3	+2.3
LZH					sP	sP	18 01 02.9	+7.8
LZH					pmax	pmax		
	comp=Z,13nm,1.0s							
LZH					pmax	pmax		
	comp=Z,150nm,5.4s							
LZH					LR	LR		
	comp=N,410nm,10.8s							
LZH					LR	LR		
	comp=E,510nm,10.8s							
LZH					LR	LR		
	comp=E,500nm,10.8s							
CN2	**Changchun**	**19.74**	**8**	*eP*		**Pn**	**18 00 58.9**	**+6.4**
CN2					S	**Sn**	**18 04 37.3**	**+3.5**
CN2					pmax	pmax		
	comp=Z,10.0nm,0.7s							
CN2					LR	LR		
	comp=N,200nm,15.0s							
CN2					LR	LR		
	comp=E,300nm,15.0s							
CN2					LR	LR		
	comp=Z,200nm,17.0s							
JMM	**Marumori**	**21.11**	**45**		P	**P**	**18 01 05.7**	**-0.2**
JMM					IAmb	IAmb	18 01 28.1	
	comp=Z,24nm,1.3s							
CMMT	**Chiang Mai**	**21.97**	**260**		P	**P**	**18 01 16.2**	**+1.0**
	comp=Z,10nm,1.0s							
CHTO	**Chiang Mai**	**21.97**	**260**		P	**P**	**18 01 15.1**	**-0.1**
CHTO	**Chiang Mai**	**21.97**	**260**		P	**P**	**18 01 15.9**	**+0.6**
	comp=Z,6.2nm,1.0s							
CM31	**Chiang Mai Arr**	**22.08**	**259**		P	**P**	**18 01 14.5**	**-2.0**
CMAR	**Chiang Mai Arr**	**22.08**	**259**		P	**P**	**18 01 18.4**	**+1.9**
	comp=Z,5.1nm,1.0s,baz=63,slow=8.9,SNR=12							
CMAR					LR	LR	18 10 43.6	
	comp=Z,177nm,19.1s,baz=106,slow=39							
CMAR	**Chiang Mai Arr**	**22.08**	**259**		P	**P**	**18 01 14.7**	**-1.7**
GTA	**Gaotai**	**23.98**	**314**	*eP*		**P**	**18 01 36.8**	**+0.9**
GTA					pP	sP	18 01 43.9	+1.1
GTA					sP	pP	18 01 47.4	+6.4
GTA					pmax	pmax		
	comp=Z,4.0nm,1.1s							
GTA					pmax	pmax		
	comp=Z,51nm,4.1s							
GTA					LR	LR		
	comp=Z,170nm,11.3s							
GTA					LR	LR		
	comp=Z,350nm,13.1s							
GTA					LR	LR		
	comp=Z,350nm,13.1s							
ASAJ	**Asahikawa**	**26.10**	**35**		P	**P**	**18 01 52.3**	**-2.5**
	comp=Z,1.5nm,0.8s,baz=170,slow=18,SNR=1.2							
ASAJ					LR	LR	18 13 02.9	
	comp=Z,79nm,20.4s,baz=204,slow=38							
JKA	**Kamikawa-asahi**	**26.10**	**35**		P	**P**	**18 01 52.3**	**-2.6**
JKA	**Kamikawa-asahi**	**26.10**	**35**		IAmb	IAmb	18 01 53.3	
	comp=Z,26nm,1.7s							
KLR	**Kul'dur**	**26.14**	**15**		P	**P**	**18 01 54.0**	**-1.1**
	comp=Z,1.8nm,0.6s,baz=224,slow=7.7,SNR=4.3							
ULN	**Ulaanbaatar**	**26.35**	**337**		P	**P**	**18 01 56.7**	**-0.7**
ULN	**Ulaanbaatar**	**26.35**	**337**		P	**P**	**18 01 57.3**	**0.0**
	comp=Z,22nm,0.7s							
SONM	**Songino Array**	**26.56**	**336**		P	**P**	**18 01 59.7**	**+0.5**
	comp=Z,3.3nm,0.8s,baz=156,slow=11,SNR=11							
SONM					LR	LR	18 13 39.5	
	comp=Z,239nm,18.2s,baz=150,slow=39							
SONM	**Songino Array**	**26.56**	**336**		P	**P**	**18 01 58.3**	**-0.9**
LSA	**Lhasa**	**27.85**	**288**		P	**P**	**18 02 11.7**	**+0.3**
YSS	**Yuzh-Sakhalins**	**28.17**	**31**		P	**P**	**18 02 15.0**	**+1.6**
RGRI	**Rengat**	**30.91**	**221**		P	**P**	**18 02 34.5**	**-3.5**
JAY	**Jayapura**	**32.29**	**143**		LR	LR	18 16 26.3	
	comp=Z,56nm,18.1s,baz=312,slow=37							
WMQ	**Urumqi**	**34.06**	**313**	*eP*		**P**	**18 03 08.3**	**+2.8**
WMQ					LR	LR		
	comp=Z,330nm,13.9s							
WMQ					LR	LR		
	comp=Z,260nm,11.7s							
MK31	**Makanchi Array**	**38.73**	**316**		P	**P**	**18 03 43.6**	**-1.7**
MKAR	**Makanchi Array**	**38.73**	**316**		P	**P**	**18 03 45.4**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=98,slow=9.3,SNR=12							
MKAR					LR	LR	18 21 04.4	
	comp=Z,140nm,18.0s,baz=98,slow=38							
MKAR	**Makanchi Array**	**38.73**	**316**		P	**P**	**18 03 44.9**	**-0.3**
MAKZ	**Makanchi**	**38.93**	**316**		P	**P**	**18 03 46.4**	**-0.6**
PETK	**Petropavlovsk-**	**39.49**	**34**		P	**P**	**18 03 50.6**	**-0.9**
KNRA	**Kununurra**	**40.23**	**170**		P	**P**	**18 03 56.5**	**-1.5**
KNRA					IAmb	IAmb	18 03 58.1	
	comp=Z,51nm,1.8s							
TARG	**Taragay, Kyrgy**	**40.38**	**307**		P	**P**	**18 03 59.8**	**+0.2**
ZAA0	**Zalesovo Array**	**40.54**	**327**		P	**P**	**18 03 59.2**	**-1.0**
ZALV	**Zalesovo Beam**	**40.54**	**327**		P	**P**	**18 03 59.3**	**-0.9**
	comp=Z,3.2nm,0.6s,baz=115,slow=8.4,SNR=12							
ZALV					LR	LR	18 22 04.2	
	comp=Z,110nm,18.5s,baz=128,slow=38							
ZALV	**Zalesovo Beam**	**40.54**	**327**		P	**P**	**18 03 58.8**	**-1.4**
MA2	**Magadan**	**40.71**	**22**		LR	LR	18 22 21.3	
	comp=Z,72nm,18.1s,baz=238,slow=38							
KDJ	**Kajisay**	**40.91**	**307**		P	**P**	**18 04 03.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**42.23**	**175**		P	**P**	**18 04 13.8**	**-0.6**
	comp=Z,1.5nm,1.0s,baz=14,slow=12,SNR=1.8							
FITZ	**Fitzroy Crossi**	**42.23**	**175**		P	**P**	**18 04 14.3**	**-0.1**
FITZ					IAmb	IAmb	18 04 19.6	
	comp=Z,15nm,1.6s							
FRU1	**Bishkek**	**42.89**	**307**		P	**P**	**18 04 19.8**	**+0.1**
AAK	**Ala-Archa**	**42.96**	**307**		P	**P**	**18 04 20.1**	**-0.3**
NIL	**Nilore**	**43.22**	**294**		P	**P**	**18 04 21.5**	**-1.0**
NIL					IAmb	IAmb	18 04 24.7	
	comp=Z,10nm,1.2s							
COEN	**Coen**	**43.30**	**149**		P	**P**	**18 04 22.1**	**-1.0**
COEN					IAmb	IAmb	18 04 49.6	
	comp=Z,17nm,1.1s							
DRK	**Karamyk**	**44.59**	**302**		P	**P**	**18 04 33.7**	**0.0**
BTK	**Batken**	**45.39**	**303**		P	**P**	**18 04 39.4**	**-0.4**
BTK					IAmb	IAmb	18 04 41.8	
	comp=Z,14nm,1.6s							
WRAB	**Tennant Creek**	**45.56**	**163**		P	**P**	**18 04 40.9**	**-0.3**
WRA	**Warramunga Arr**	**45.56**	**163**		P	**P**	**18 04 39.9**	**-1.3**
	comp=Z,1.1nm,0.6s,baz=344,slow=8.6,SNR=15							
WRA	**Warramunga Arr**	**45.56**	**163**		P	**P**	**18 04 40.5**	**-0.7**
WB2	**Warramunga Arr**	**45.56**	**163**		P	**P**	**18 04 41.0**	**-0.2**
WB2					IAmb	IAmb	18 05 14.6	
	comp=Z,16nm,1.6s							
PSA00	**Pilbara Seismi**	**45.57**	**183**		P	**P**	**18 04 39.2**	**-2.0**
PSA00					IAmb	IAmb	18 04 59.2	
	comp=Z,25nm,1.4s							
PSA00	**Pilbara Seismi**	**45.57**	**183**		P	**P**	**18 04 40.3**	**-0.9**
PSA00					IAmb	IAmb	18 05 01.2	
	comp=Z,9.4nm,1.5s							
WR0	**Warramunga Arr**	**45.63**	**163**		P	**P**	**18 04 40.7**	**-1.1**
WR0					IAmb	IAmb	18 04 44.0	
	comp=Z,6.4nm,1.1s							
GAR	**Garm**	**45.71**	**302**		P	**P**	**18 04 41.4**	**-1.0**
KK31	**Karatay Array**	**45.93**	**307**		P	**P**	**18 04 44.2**	**+0.3**
KKAR	**Karatay Array**	**45.93**	**307**		P	**P**	**18 04 43.7**	**-0.3**
KKAR	**Karatay Array**	**45.93**	**307**		P	**P**	**18 04 44.0**	**0.0**
KKAR					IAmb	IAmb	18 04 46.4	
	comp=Z,7.2nm,1.4s							
KBL	**Kabul**	**46.69**	**295**		P	**P**	**18 04 49.2**	**-1.1**
KBL					IAmb	IAmb	18 04 53.0	
	comp=Z,13nm,0.9s							
BRVK	**Borovoye**	**48.09**	**321**		P	**P**	**18 05 00.2**	**-0.5**
BRVK					IAmb	IAmb	18 05 02.5	
	comp=Z,4.2nm,0.8s							
ASAR	**Alice Springs**	**49.03**	**165**		P	**P**	**18 05 08.8**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=339,slow=7.1,SNR=9.5							
ASAR	**Alice Springs**	**49.03**	**165**		P	**P**	**18 05 09.3**	**+1.1**
CTA	**Charters Tower**	**50.06**	**150**		P	**P**	**18 05 17.4**	**+1.4**
	comp=Z,4.1nm,0.9s,baz=319,slow=11,SNR=2.6							
CTAO	**Charters Tower**	**50.06**	**150**		P	**P**	**18 05 17.2**	**+1.2**
CTAO					IAmb	IAmb	18 05 23.3	
	comp=Z,12nm,1.1s							
ABKAR	**Akbulak array**	**53.84**	**314**		P	**P**	**18 05 43.2**	**-0.7**
ABKAR					IAmb	IAmb	18 05 45.8	
	comp=Z,5.7nm,0.9s							
GEYT	**Alibeck**	**55.30**	**300**		P	**P**	**18 05 56.3**	**+1.5**
	comp=Z,7.6nm,0.9s,baz=78,slow=3.5,SNR=10.0							
GEYT					LR	LR	18 32 51.7	
	comp=Z,61nm,18.2s,baz=170,slow=40							
GYA0B	**ALIBECK ARRAY**	**55.30**	**300**		P	**P**	**18 05 54.7**	**-0.1**
GYA0B					IAmb	IAmb	18 05 57.1	
	comp=Z,11nm,1.0s							
ARU	**Arti**	**55.44**	**323**		P	**P**	**18 05 54.0**	**-1.4**
ARU					IAmb	IAmb	18 05 55.4	
	comp=Z,3.5nm,0.6s							
STKA	**Stephens Creek**	**58.90**	**160**		P	**P**	**18 06 20.8**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=6.3,slow=9.2,SNR=1.3							
DZM	**Mont Dzumac**	**63.22**	**133**		LR	LR	18 29 56.0	
	comp=Z,30nm,20.4s,baz=132,slow=32							
TOO	**Toolangi**	**65.37**	**159**		P	**P**	**18 07 03.6**	**+0.1**
KLMR	**Klimovskoe**	**65.45**	**328**	*eP*		**P**	**18 07 01.4**	**-2.3**
KLMR					AMP		18 07 05.9	
	comp=Z,14nm,1.7s							
SVW2	**Sparrevohn**	**65.54**	**32**		P	**P**	**18 07 05.2**	**+0.9**
SVW2					IAmb	IAmb	18 07 14.2	
	comp=Z,8.5nm,1.2s							
ONI	**Oni**	**65.75**	**307**		P	**P**	**18 07 06.6**	**+0.5**
ONI					IAmb	IAmb	18 07 08.4	
	comp=Z,7.5nm,0.9s							
L19K	**White Mountain**	**65.77**	**31**		P	**P**	**18 07 06.4**	**+0.6**
L19K					IAmb	IAmb	18 07 32.3	
	comp=Z,17nm,1.6s							
IMAR	**Indian Mountai**	**65.87**	**27**		P	**P**	**18 07 06.0**	**-0.4**
J20K	**Nowinta River**	**65.88**	**29**		P	**P**	**18 07 08.2**	**+1.7**
K20K	**Telida**	**66.00**	**29**		P	**P**	**18 07 08.2**	**+0.9**
K20K					IAmb	IAmb	18 07 14.1	
	comp=Z,9.3nm,1.5s							
M19K	**Big River Lodg**	**66.02**	**31**		P	**P**	**18 07 08.0**	**+0.6**
M19K					IAmb	IAmb	18 07 37.6	
	comp=Z,16nm,1.6s							
KIV	**Kislovodsk**	**66.03**	**309**		P	**P**	**18 07 07.8**	**-0.2**
KIV					IAmb	IAmb	18 07 09.4	
	comp=Z,9.0nm,0.8s							
H21K	**Melozitna Rive**	**66.29**	**27**		P	**P**	**18 07 09.6**	**+0.5**
H21K					IAmb	IAmb	18 07 38.7	
	comp=Z,4.4nm,1.1s							
I21K	**Tanana**	**66.69**	**27**		P	**P**	**18 07 10.8**	**-0.8**
CAST	**Castle Rocks**	**66.88**	**29**		P	**P**	**18 07 13.0**	**0.0**
CAST					IAmb	IAmb	18 07 13.9	
	comp=Z,7.8nm,1.4s							
PPLA	**Purkeypile**	**66.91**	**30**		P	**P**	**18 07 13.2**	**-0.1**
TOLK	**Toolik Lake Re**	**67.17**	**23**		P	**P**	**18 07 15.3**	**+0.6**
MLY	**Manley**	**67.23**	**27**		P	**P**	**18 07 15.3**	**+0.1**
MLY					IAmb	IAmb	18 07 44.6	
	comp=Z,8.2nm,1.5s							
OHAK	**Old Harbor**	**67.24**	**36**		P	**P**	**18 07 15.2**	**-0.1**
BPAW	**Bear Paw Mtn.**	**67.26**	**28**		P	**P**	**18 07 15.7**	**+0.3**
BPAW					IAmb	IAmb	18 07 20.2	
	comp=Z,12nm,1.8s							
SKT	**Skwentna**	**67.34**	**31**		P	**P**	**18 07 15.8**	**-0.1**
SKT					IAmb	IAmb	18 07 29.1	
	comp=Z,16nm,1.7s							
KDAK	**Kodiak Island**	**67.52**	**35**		P	**P**	**18 07 17.3**	**+0.3**
H23K	**Yukon River**	**67.60**	**26**		P	**P**	**18 07 18.2**	**+0.8**
H23K					IAmb	IAmb	18 07 47.5	
	comp=Z,17nm,1.6s							
GURO	**Guroymak-BITLI**	**67.68**	**303**		P	**P**	**18 07 18.1**	**-0.5**
GURO					IAmb	IAmb	18 07 20.4	
	comp=Z,3.3nm,0.8s							
SUA	**Susitna One**	**67.80**	**31**		P	**P**	**18 07 19.9**	**+1.0**
NEA2	**Nenana**	**68.00**	**28**		P	**P**	**18 07 20.1**	**+0.1**
NEA2					IAmb	IAmb	18 07 23.4	
	comp=Z,9.4nm,1.4s							
MDM	**Murphy Dome**	**68.29**	**27**		P	**P**	**18 07 21.9**	**0.0**
MDM					IAmb	IAmb	18 07 23.5	
	comp=Z,3.8nm,1.0s							
RND	**Reindeer**	**68.31**	**29**		P	**P**	**18 07 21.4**	**-0.7**
RND					IAmb	IAmb	18 07 27.8	
	comp=Z,3.9nm,0.8s							
WRH	**Wood River Hil**	**68.44**	**28**		P	**P**	**18 07 24.6**	**+1.9**
WRH					IAmb	IAmb	18 07 39.9	
	comp=Z,8.9nm,1.5s							
SML	**Sawmill**	**68.87**	**31**		P	**P**	**18 07 24.3**	**-1.3**
MSVF	**Nonsavu**	**68.87**	**122**		LR	LR	18 32 27.0	
	comp=Z,69nm,20.8s,baz=158,slow=31							
ILAR	**Eielson Array**	**68.89**	**27**		P	**P**	**18 07 25.9**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=266,slow=6.8,SNR=2.5							
DHY	**Denali Highway**	**69.04**	**29**		P	**P**	**18 07 26.3**	**-0.4**
DHY					IAmb	IAmb	18 07 27.6	
	comp=Z,15nm,1.8s							
PWL	**Port Wells**	**69.06**	**32**		P	**P**	**18 07 26.4**	**-0.3**
PWL					IAmb	IAmb	18 07 26.5	
	comp=Z,8.6nm,1.0s							
BMAR	**Burnt Mountain**	**69.23**	**24**			**P**	**18 07 28.0**	**+0.3**
SCM	**Sheep Creek Mo**	**69.33**	**30**		P	**P**	**18 07 28.6**	**+0.2**
ARCES	**ARCESS Array B**	**69.72**	**338**		P	**P**	**18 07 30.1**	**-0.5**
	comp=Z,2.1nm,1.1s,baz=39,slow=5.8,SNR=2.6							
ARCES	**ARCESS Array B**	**69.72**	**338**		P	**P**	**18 07 30.8**	**+0.1**
ARCES					IAmb	IAmb	18 07 45.2	
	comp=Z,7.8nm,1.5s							
M24K	**Tolsona, Glenn**	**69.79**	**30**		P	**P**	**18 07 32.2**	**+0.9**
KLU	**Klutina**	**70.06**	**31**		P	**P**	**18 07 31.8**	**-1.1**
SCRK	**Sand Creek**	**70.30**	**28**		P	**P**	**18 07 33.8**	**-0.7**
SCRK					IAmb	IAmb	18 07 37.4	
	comp=Z,11nm,1.7s							
DOT	**Dot Lake**	**70.36**	**28**		P	**P**	**18 07 33.8**	**-0.8**
BMRM	**Bremner River**	**70.81**	**31**		P	**P**	**18 07 37.2**	**-0.3**
GLB	**Gilahina Butte**	**71.05**	**30**		P	**P**	**18 07 38.4**	**-0.6**
GLB					IAmb	IAmb	18 07 42.4	
	comp=Z,14nm,1.5s							
EGAK	**Eagle**	**71.27**	**27**		P	**P**	**18 07 40.1**	**0.0**
EGAK					IAmb	IAmb	18 08 09.1	
	comp=Z,18nm,1.8s							
L27K	**Beaver Creek,**	**71.48**	**29**		P	**P**	**18 07 41.1**	**-0.4**
FINES	**FINESS Array B**	**71.71**	**330**		P	**P**	**18 07 42.8**	**0.0**
	comp=Z,1.6nm,0.6s,baz=44,slow=6.1,SNR=6.5							
AKASG	**Malin Array Ba**	**73.24**	**318**		P	**P**	**18 07 50.7**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=54,slow=6.1,SNR=9.5							
BR131	**Keskin Array S**	**73.63**	**307**		P	**P**	**18 07 54.2**	**-0.7**
BR131					IAmb	IAmb	18 07 56.3	
	comp=Z,12nm,1.1s							
BRTR	**Keskin Array B**	**73.63**	**307**		P	**P**	**18 07 55.1**	**+0.2**
	comp=Z,4.9nm,1.0s,baz=109,slow=6.7,SNR=19							
BRTR	**Keskin Array B**	**73.63**	**307**		P	**P**	**18 07 53.5**	**-1.4**
NOA	**NORSAR Array B**	**78.47**	**332**		P	**P**	**18 08 21.5**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=178,slow=5.4,SNR=2.4							
GERES	**GERESS Array B**	**83.19**	**321**		P	**P**	**18 08 47.0**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=352,slow=2.7,SNR=5.4							

NOU 15 18:09:09.1,19.19S×169.73E,h249km,mb4.1/11, Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.78**	**215**	P	Pn	18 09 59.0	-0.2
LIFNC	**LIFOU**	**2.82**	**236**	P	Pn	18 09 58.9	-0.7
YATNC	**Mamie plateau,**	**3.90**	**222**	P	Pn	18 10 11.5	-0.2
PINNC	**Pines Island,**	**4.02**	**212**	P	Pn	18 10 13.1	+0.1
OUENC	**Ouen Island, N**	**4.20**	**220**	P	Pn	18 10 15.5	+0.3
DZM	**Mont Dzumac**	**4.21**	**226**	P	Pn	18 10 15.6	+0.2
NOUC	**Port Laguerre**	**4.32**	**227**	P	Pn	18 10 16.9	+0.2
ONTNC	**Ouen Toro**	**4.36**	**224**	P	Pn	18 10 17.3	+0.2
KOUNC	**Koumac, New Ca**	**5.30**	**254**	P	Pn	18 10 28.7	+0.2

IDC 15 18:17:41.0±4.1,4.25S×151.88E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.4/30,mbtmp3.6/3,Error ellipse: s-maj=164.6km s-min=51.0km az=121.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.14**	**226**	P	P	18 22 48.8	-0.4
	1.9nm,0.9s,baz=51,slow=10,SNR=8.5						
ASAR	**Alice Springs**	**25.96**	**220**	P	P	18 23 15.5	0.0
	0.5nm,1.0s,baz=50,slow=10,SNR=4.8						
FITZ	**Fitzroy Crossi**	**29.13**	**240**	P	P	18 23 44.8	+0.8
	1.2nm,0.9s,baz=61,slow=10,SNR=1.9						
TORD	**Torodi Ar. Bea**	**149.26**	**289**	PKPbc	PKPbc	18 37 31.9	-0.9
	0.5nm,0.5s,baz=90,slow=2.3,SNR=3.4						

*IDC **15** 18:26:00.4±0.6,33.29S×109.48W,h0km,mb4.4/9, mb1 4.6/9,mb1mx4.3/29,mbtmp4.4/9,MS3.9/14, Ms1 3.9/14,ms1mx3.7/28,Error ellipse: s-maj=23.1km s-min=19.8km az=101.0*

*MOS **15** 18:26:00.9±1.1,33.15S×109.41W,h10km,mb4.9/4,Error ellipse: s-maj=18.7km s-min=10.4km az=78.3*

*BJI **15** 18:26:03.0±0.0,33.20S×109.50W,h10km,Ms5.3/1, Ms7 4.7/1*

*GCMT **15** 18:26:03.5±0.3,33.29S±0.04×109.30W±0.03,h20km±1km, MW4.9/82,Moment Tension Solution. s27,c27; s82,c90; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-2.62±.18; Mθθ0.47±.11; Mφφ2.15±.13; Mrθ0.40±.24; Mrφ-0.15±.09; Mθφ~1.56±.22; Best double couple: Mo2.88200×10^16^ NP1:φs178.00000°,δ28.00000°,λ-83.00000°. NP2: φs350.00000°,δ62.00000°,λ-94.00000°. Principal axes: T 2.6460, Plg17.0000°, Azm83.0000°; N 0.4660, Plg3.0000°, Azm352.0000°; P -3.1170, Plg73.0000°, Azm251.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **15** 18:26:03.5±1.4,33.18S±0.10×109.4W±0.2,h13km±3km, mb5.1/151 Error ellipse: s-maj=19.6km s-min=14.0km az=91.0*

ISC 15 18:26:02.0±0.3,33.17S±0.07×109.55W±0.07,h10km, n407,σ0991/355,mb5.1/91,MS4.0/19,1D,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA02	**Isla de Pascua**	**5.99**	**1**	Pn	**Pn**	**18 27 32.0**	**+1.2**
VA02				LR	LR	18 29 05.7	
RPN	**Rapa Nui**	**6.03**	**2**	Pn	**Pn**	**18 27 32.4**	**+1.1**
RPN				LR	LR	18 29 09.8	
RKT	**Rikitea**	**24.50**	**288**	*eT*	T	18 56 36.8	
	1.6nm,0.3s						
H03S2	**Juan Fernandez**	**25.50**	**100**	T	T	18 58 10.2	
	baz=262,slow=75,SNR=325						
H03S3	**Juan Fernandez**	**25.51**	**100**	T	T	18 58 11.6	
	baz=262,slow=75,SNR=229						
H03S1	**Juan Fernandez**	**25.52**	**100**	T	T	18 58 10.4	
	baz=262,slow=75,SNR=264						
H03N2	**Juan Fernandez**	**25.55**	**99**	T	T	18 58 10.6	
	baz=266,slow=73,SNR=560						
H03N3	**Juan Fernandez**	**25.55**	**99**	T	T	18 58 08.7	
	baz=266,slow=73,SNR=622						
H03N1	**Juan Fernandez**	**25.56**	**99**	T	T	18 58 08.4	
	baz=266,slow=73,SNR=398						
COYC	**Coyhaique**	**31.22**	**124**	P	**P**	**18 32 21.0**	**-0.5**
COYC				IAmb	IAmb	18 32 22.7	
	comp=Z,55nm,1.6s						
ML02	**Panimavida**	**31.41**	**106**	P	**P**	**18 32 21.6**	**-1.7**
ML02				IAmb	IAmb	18 33 07.4	
	comp=Z,39nm,1.4s						
PLCA	**Paso Flores**	**31.86**	**115**	LR	LR	18 41 46.8	
	comp=Z,509nm,21.8s,baz=296,slow=30						
PLCA	**Paso Flores**	**31.86**	**115**	*eP*	**P**	**18 32 28.4**	**+1.0**
BO01	**Tunca**	**31.87**	**103**	P	**P**	**18 32 26.3**	**-1.1**
BO01				IAmb	IAmb	18 32 45.9	
	comp=Z,40nm,1.8s						
BO02	**Sierra Bellavi**	**32.05**	**104**	P	**P**	**18 32 28.1**	**-1.0**
BO02				IAmb	IAmb	18 33 27.1	
	comp=Z,38nm,2.0s						
CO06	**Fray Jorge**	**32.16**	**96**	P	**P**	**18 32 29.6**	**-0.4**
VA03	**San Esteban**	**32.59**	**100**	P	**P**	**18 32 32.0**	**-1.9**
VA03				IAmb	IAmb	18 32 53.8	
	comp=Z,41nm,1.5s						
LCO	**Las Campanas**	**33.39**	**93**	P	**P**	**18 32 41.0**	**-0.1**
LCO				pmax	pmax		
	comp=Z,28nm,1.4s						
LCO	**Las Campanas**	**33.39**	**93**	P	**P**	**18 32 41.0**	**-0.1**
LCO				IAmb	IAmb	18 32 42.5	
	comp=Z,28nm,1.4s						
TBI	**Tubuai**	**36.31**	**275**	*eS*	**S**	**18 38 46.5**	**-0.4**
	comp=Z,78nm,30.0s						
TBI				*eLR*	LR	18 42 40.7	
	comp=Z,537nm,29.5s,baz=108						
TBI	**Tubuai**	**36.31**	**275**	*eT*	T	19 11 29.0	
	comp=Z,5.7nm,0.3s						
TAOE	**Nuku Hiva Isla**	**37.19**	**304**	*eLR*	LR	18 43 18.3	
	comp=Z,496nm,25.2s						
LVC	**Limon Verde**	**37.22**	**84**	P	**P**	**18 33 13.7**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=244,slow=13,SNR=4.3						
LVC	**Limon Verde**	**37.22**	**84**	P	**P**	**18 33 13.7**	**-0.6**
LVC				pmax	pmax		
	comp=Z,27nm,1.8s						
LVC	**Limon Verde**	**37.22**	**84**	*eP*	**P**	**18 33 15.3**	**+1.0**
PB09	**IPOC Station P**	**37.30**	**83**	P	**P**	**18 33 14.7**	**0.0**
PB01	**IPOC Station P**	**37.44**	**81**	P	**P**	**18 33 14.6**	**-1.1**
PB08	**IPOC Station P**	**38.13**	**80**	P	**P**	**18 33 21.3**	**-0.6**
TRQA	**Tornquist**	**38.65**	**111**	*eP*	**P**	**18 33 26.6**	**+0.9**
PPT2	**Papeete2**	**39.09**	**283**	*eS*	**S**	**18 39 27.9**	**-1.5**
	comp=Z,74nm,24.8s						
PPT2

PETF IAmb IAmb 18 35 22.8
comp=Z,30nm,1.0s
CLDB Colider 53.90 79 *eP* **P 18 35 24.8 -1.1**
SJCC San Jacinto, C 53.91 43 P **P 18 35 25.6 -0.3**
ITRB Iturama 54.04 91 *eP* **P 18 35 26.9 0.0**
MACA Manacapuru-AM 54.50 67 *eP* **P 18 35 29.4 -0.8**
SPB Sao Paulo 54.79 97 *eP* **P 18 35 33.0 +0.7**
BB19B Bebedouro 54.96 94 *eP* **P 18 35 33.9 +0.3**
VAO Valinhos 55.43 97 *eP* **P 18 35 37.8 +0.8**
SDV Santo Domingo 55.86 49 *eP* **P 18 35 38.7 -1.5**
NPGB Novo Progresso 56.40 75 *eP* **P 18 35 42.0 -1.9**
SBA Scott Base 56.51 195 P **P 18 35 45.0 +1.1**
SBA pmax pmax
comp=Z,18nm,1.4s
SBA Scott Base 56.51 195 P **P 18 35 45.0 +1.1**
PTGA Pitinga 56.59 66 LR LR 18 56 33.8
comp=Z,96nm,20.8s,baz=221,slow=32
IPMB Ipameri, GO 56.63 91 *eP* **P 18 35 45.1 -0.6**
QSPA South Pole Qui 57.02 180 P **P 18 35 47.4 -0.5**
comp=Z,8.1nm,1.1s,baz=130,slow=1.7,SNR=11
QSPA South Pole Qui 57.02 180 P **P 18 35 48.5 +0.7**
QSPA IAmb IAmb 18 35 57.8
comp=Z,24nm,1.4s
SNDB Serra Nova Dou 57.04 83 *eP* **P 18 35 48.2 -0.3**
VNDA Vanda 57.59 195 P **P 18 35 51.2 -0.3**
comp=Z,1.2nm,1.1s,baz=114,slow=5.5,SNR=3.7
VNDA LR LR 18 54 49.4
comp=Z,93nm,20.4s,baz=112,slow=30
VNDA Vanda 57.59 195 P **P 18 35 52.2 +0.7**
VNDA pmax pmax
comp=Z,15nm,1.7s
VNDA Vanda 57.59 195 P **P 18 35 52.2 +0.7**
ITTB Itaituba 57.66 72 *eP* **P 18 35 51.5 -1.4**
BDFB Brasilia 57.92 88 P **P 18 35 54.2 -0.7**
comp=Z,4.5nm,0.8s,baz=302,slow=9.1,SNR=5.8
BDFB Brasilia 57.92 88 P **P 18 35 54.5 -0.4**
BDFB pmax pmax
comp=Z,45nm,1.5s
BDFB Brasilia 57.92 88 P **P 18 35 54.5 -0.4**
BSCB Bom Sucesso 58.13 96 *eP* **P 18 35 54.8 -1.4**
BOAV Boa Vista 58.20 63 *eP* **P 18 35 55.6 -1.1**
VAS01 Vassouras-RJ 58.67 98 *eP* **P 18 36 00.3 +0.4**
PEXB Peixe 59.46 85 *eP* **P 18 36 05.4 -0.1**
DIAM Diamantina, MG 60.29 93 *eP* **P 18 36 12.0 +0.7**
MALB Monte Alegre 60.34 71 *eP* **P 18 36 11.0 -0.5**
MC01 Montes Claros 60.82 92 *eP* **P 18 36 15.0 +0.1**
JANB Januaria 61.31 90 *eP* **P 18 36 18.3 +0.1**
PRPB Parauapebas 61.41 78 *eP* **P 18 36 17.8 -1.0**
ALF01 Guarapari-ES 61.67 97 *eP* **P 18 36 20.8 +0.3**
SMTB Santa Maria do 61.77 82 *eP* **P 18 36 21.3 0.0**
833A Chaparral WMA, 61.92 10 P **P 18 36 21.8 0.0**
baz=190
VNA3 Neumayer Olymp 62.05 159 P **P 18 36 21.5 -0.8**
SDBA SAO DESIDERIO 62.15 87 *eP* **P 18 36 23.7 -0.2**
SJMB Sao Joao De Ma 62.18 95 *eP* **P 18 36 24.3 +0.3**
BSFB Barra de Sao F 62.40 95 *eP* **P 18 36 26.2 +0.7**
TX31 Lajitas Ar. Si 62.42 6 P **P 18 36 25.2 -0.1**
TX32 Lajitas Array 62.42 6 P **P 18 36 24.3 -0.9**
TX32 IAmb IAmb 18 36 27.8
comp=Z,23nm,1.5s
TXAR Lajitas Array 62.42 6 P **P 18 36 26.6 +1.3**
comp=Z,3.8nm,1.1s,baz=179,slow=8.8,SNR=18
TXAR Lajitas Array 62.42 6 P **P 18 36 25.7 +0.4**
TXAR Lajitas Array 62.42 6 P **P 18 36 25.7 +0.4**
RIB01 Linhares ES 62.55 96 *eP* **P 18 36 26.9 +0.5**
VNA1 Neumayer--Stat 62.69 158 P **P 18 36 27.2 +0.7**
VNA2 Neumayer--Watz 62.85 159 P **P 18 36 27.0 -0.7**
MCPB Macapa, AP 62.99 71 *eP* **P 18 36 29.0 -0.4**
NAN01 Guarapari, ES 63.47 95 *eP* **P 18 36 32.0 -0.5**
SNAA Sanae 63.87 160 P **P 18 36 33.9 -0.6**
SNAA Sanae 63.87 160 PcP **PcP 18 37 09.9 -0.2**
SNAA Sanae 63.87 160 *i* P **P 18 36 33.9 -0.6**
SNAA pmax pmax
comp=Z,16nm,1.4s
SNAA Sanae 63.87 160 P **P 18 36 33.6 -0.9**
SNAA IAmb IAmb 18 36 35.6
comp=Z,18nm,1.4s
JCT Junction City 63.98 9 P **P 18 36 36.3 +0.7**
JCT pmax pmax
comp=Z,50nm,1.4s
JCT Junction City 63.98 9 P **P 18 36 36.3 +0.7**
JCT Junction City 63.98 9 P **P 18 36 36.2 +0.7**
baz=189,SNR=6.2
HKT Hockley 64.11 13 *i* P **P 18 36 36.6 +0.3**
HKT pmax pmax
comp=Z,5.0nm,1.2s
GUA01 Guaratinga, BA 64.34 94 *eP* **P 18 36 38.9 +0.6**
435B Jarrell 64.61 11 P **P 18 36 40.2 +0.6**
baz=191
MNTX Cornudas Mount 64.64 4 P **P 18 36 39.6 -0.2**
MNTX IAmb IAmb 18 36 41.4
comp=Z,27nm,1.4s
MNTX Cornudas Mount 64.64 4 P **P 18 36 40.0 +0.2**
baz=184,SNR=12
214A Organ Pipe Nat 64.86 357 P **P 18 36 42.4 +1.2**
baz=177
TUC Tucson 65.14 359 P **P 18 36 43.7 +0.5**
TUC pmax pmax
comp=Z,18nm,1.6s
TUC Tucson 65.14 359 P **P 18 36 43.7 +0.5**
TUC IAmb IAmb 18 36 45.6
comp=Z,18nm,1.6s
TUC Tucson 65.14 359 P **P 18 36 43.7 +0.5**
baz=179
121A Cookes Peak, D 65.38 2 P **P 18 36 44.7 -0.1**
121A IAmb IAmb 18 36 47.3
comp=Z,19nm,1.4s
121A Cookes Peak, D 65.38 2 P **P 18 36 46.0 +1.2**
baz=182
IKP In-Ko-Pah, Jac 65.77 354 P **P 18 36 47.5 +0.4**
baz=174
WHTX Lake Whitney, 65.81 11 P **P 18 36 47.9 +0.5**
baz=191
MDP Montagnes des 65.92 66 LR LR 19 02 11.7
comp=Z,57nm,21.5s,baz=238,slow=33
MONP2 Monument Peak 66.03 354 P **P 18 36 50.4 +1.3**
baz=174
NATX Nacogdoches 66.10 14 P **P 18 36 50.1 +0.9**
baz=193
ABTX Abilene, Hawle 66.11 9 P **P 18 36 49.3 0.0**
ABTX IAmb IAmb 18 36 51.8
comp=Z,23nm,1.3s
ABTX Abilene, Hawle 66.11 9 P **P 18 36 49.9 +0.5**
baz=189
DWPF Disney Wildern 66.54 27 P **P 18 36 53.1 +1.0**
baz=205
BC3 Big Chuckawall 66.71 355 P **P 18 36 54.7 +1.5**
baz=174
TPFO Pinon Flats 66.74 354 P **P 18 36 55.0 +1.5**
baz=174
PFO Pinyon Flats O 66.75 354 P **P 18 36 55.0 +1.5**
baz=174
Y14A Wickenburg 66.84 357 P **P 18 36 54.6 +0.6**
Y14A IAmb IAmb 18 36 56.6
comp=Z,22nm,1.4s
NBPN Ponto Novo - B 66.90 88 *eP* **P 18 36 54.6 -0.3**
BNM Barren Site 67.03 3 P **P 18 36 55.7 +0.3**
MSTX Muleshoe 67.09 6 P **P 18 36 55.6 -0.1**
MSTX Muleshoe 67.09 6 P **P 18 36 55.4 -0.3**
baz=186
BELC Belle Mtn. Jos 67.09 354 P **P 18 36 57.2 +1.4**
baz=174
IRM Iron Mountain 67.18 355 P **P 18 36 57.5 +1.3**
baz=175
X16A Lo Mia Camp, P 67.26 358 P **P 18 36 57.7 +0.9**
X16A IAmb IAmb 18 36 59.4
comp=Z,17nm,1.5s
PDMCI Parker Dam,Lak 67.26 356 P **P 18 36 57.2 +0.6**
baz=176
X18A Snowflake 67.35 360 P **P 18 36 58.5 +1.1**
X18A IAmb IAmb 18 37 00.0
comp=Z,20nm,1.1s
BBRC Big Bear Solar 67.44 353 P **P 18 37 00.3 +2.2**
baz=173
DECC Green Verdugo 67.58 352 P **P 18 37 00.3 +1.6**
baz=172
ANMO Albuquerque 67.83 3 *i* P **P 18 37 00.6 +0.2**
ANMO pmax pmax
comp=Z,5.0nm,1.1s
ANMO Albuquerque 67.83 3 P **P 18 37 01.1 +0.7**
baz=183
ROSB Rosrio 67.93 79 *eP* **P 18 37 01.5 +0.1**
Z41A Richland Creek 67.93 15 P **P 18 37 01.0 +0.1**
baz=195
W18A Petrified Fore 67.94 360 P **P 18 37 01.6 +0.5**
baz=180
HEC Hector,Ludlow 67.95 354 P **P 18 37 02.4 +1.4**
baz=174
W13A Hualapai Mount 68.04 356 P **P 18 37 02.2 +0.4**
AMTX Amarillo 68.10 7 P **P 18 37 02.4 +0.4**
baz=187
EDW2 Edwards Air Fo 68.16 353 P **P 18 37 03.6 +1.2**
baz=172
WUAZ Wupatki 68.36 358 P **P 18 37 04.6 +0.9**
baz=178
PKM Mcpherson Peak 68.39 351 P **P 18 37 05.0 +1.1**
baz=171
ARVC Arvin 68.50 352 P **P 18 37 05.2 +0.8**
baz=172
TUQ Turquoise Moun 68.51 354 P **P 18 37 04.7 +0.1**
baz=174,SNR=5.3
X37A Clayton 68.71 13 P **P 18 37 05.9 +0.2**
ISA Isabella, Lake 68.99 352 P **P 18 37 08.0 +0.5**
ISA pmax pmax
comp=Z,26nm,1.5s
ISA Isabella, Lake 68.99 352 P **P 18 37 08.0 +0.5**
ISA IAmb IAmb 18 37 10.3
comp=Z,26nm,1.5s
ISA Isabella, Lake 68.99 352 P **P 18 37 08.0 +0.5**
baz=172
MIAR Mount Ida 69.01 14 P **P 18 37 08.2 +0.6**
MIAR pmax pmax
comp=Z,20nm,1.4s
MIAR Mount Ida 69.01 14 P **P 18 37 08.2 +0.6**
MIAR IAmb IAmb 18 37 09.7
comp=Z,20nm,1.4s
MIAR Mount Ida 69.01 14 P **P 18 37 07.4 -0.2**
baz=194
X40A Basin Creek Fa 69.11 15 P **P 18 37 07.6 -0.6**
baz=195
LRAL Lakeview Retre 69.20 20 P **P 18 37 08.9 +0.2**
baz=200
MPMC Manual Prospec 69.27 353 P **P 18 37 09.8 +0.4**
baz=173,SNR=9.6
SHPR Sheep Range 69.52 355 P **P 18 37 11.5 +0.6**
SHPR IAmb IAmb 18 37 13.9
comp=Z,20nm,1.4s
W39A Magazine 69.60 14 P **P 18 37 12.0 +0.8**
W39A Magazine 69.60 14 P **P 18 37 11.4 +0.2**
baz=194,SNR=5.8
CWC Cottonwood Cre 69.71 353 P **P 18 37 13.2 +1.1**
baz=172
KNB Kanab 69.90 357 P **P 18 37 14.1 +0.9**
KNB pmax pmax
comp=Z,21nm,1.4s
KNB Kanab 69.90 357 P **P 18 37 14.1 +0.9**
KNB IAmb IAmb 18 37 15.7
comp=Z,21nm,1.4s
W41B Gary Mavity, V 69.90 15 P **P 18 37 13.3 +0.2**
baz=195,SNR=7.8
LCMT Little Creek M 69.91 357 P **P 18 37 14.5 +1.2**
TUL1 Leonard 69.92 12 P **P 18 37 13.3 +0.1**
baz=192
NBMA Muriti-CE 69.93 86 *eP* **P 18 37 14.4 +0.6**
OXF Oxford 69.94 18 P **P 18 37 12.6 -0.6**
baz=198
WHAR Wooly Hollow 70.00 15 P **P 18 37 13.7 0.0**
MVCO Mesa Verde 70.03 1 P **P 18 37 14.1 -0.1**
MVCO Mesa Verde 70.03 1 P **P 18 37 15.1 +0.9**
baz=181,SNR=6.2
TPNV Topopah Spring 70.04 354 P **P 18 37 15.3 +1.2**
TPNV pmax pmax
comp=Z,16nm,1.5s
TPNV Topopah Spring 70.04 354 P **P 18 37 15.3 +1.2**
TPNV Topopah Spring 70.04 354 P **P 18 37 15.6 +1.4**
baz=174
T25A Trinidad 70.12 4 P **P 18 37 14.7 +0.1**
T25A IAmb IAmb 18 37 17.1
comp=Z,22nm,1.4s
T25A Trinidad 70.12 4 P **P 18 37 15.7 +1.0**
baz=184
PKCU Pink Cliffs 70.30 358 P **P 18 37 17.1 +1.2**
PKCU IAmb IAmb 18 37 19.6
comp=Z,20nm,1.2s
TIN Tinemaha, Big 70.34 353 P **P 18 37 17.0 +1.2**
baz=172
PRN Pahroc Range 70.41 355 P **P 18 37 18.1 +1.8**
PRN IAmb IAmb 18 37 19.5
comp=Z,39nm,1.9s
CCUT Cedar City 70.45 357 P **P 18 37 17.8 +1.1**
CCUT IAmb IAmb 18 37 19.6
comp=Z,17nm,1.2s
S22A 4UR Ranch, Cre 70.60 2 P **P 18 37 18.8 +1.1**
baz=182,SNR=6.4
FCAR Ozark Folk Cen 70.61 15 P **P 18 37 17.4 0.0**
HHAR Hobbs 70.62 13 P **P 18 37 18.1 +0.6**
GOGA Gogfrey 70.63 23 P **P 18 37 16.7 -0.9**
baz=203
SDCO Great Sand Dun 70.66 3 P **P 18 37 18.9 +0.8**
baz=183
U38A Gravette 70.69 13 P **P 18 37 18.0 +0.1**
U38A IAmb IAmb 18 37 19.4
comp=Z,26nm,1.2s
NBAN Anadia - AL 70.80 89 *eP* **P 18 37 20.0 +0.8**
U40A Yellville 70.91 14 P **P 18 37 19.1 -0.2**
U40A Yellville 70.91 14 P **P 18 37 19.6 +0.3**
baz=195,SNR=6.0
PV04 Paradox Valley 71.21 1 P **P 18 37 21.4 +0.1**
PV04 IAmb IAmb 18 37 23.2
comp=Z,17nm,1.2s
TPH Tonopah 71.25 354 P **P 18 37 22.9 +1.4**
TPH pmax pmax
comp=Z,96nm,1.3s
TPH Tonopah 71.25 354 P **P 18 37 22.9 +1.4**
PV22 Blue Mesa, Par 71.35 1 P **P 18 37 22.4 +0.3**
MVU Marysvale 71.36 358 P **P 18 37 22.7 +0.5**
MSU Marysvale 71.36 358 P **P 18 37 22.2 0.0**
MSU Marysvale 71.36 358 P **P 18 37 22.2 0.0**
PV21 Cone Mtn., Par 71.37 0 P **P 18 37 22.1 -0.2**
PV21 IAmb IAmb 18 37 24.2
comp=Z,18nm,1.3s
R11A Troy Canyon, C 71.38 355 P **P 18 37 23.1 +0.8**
R11A IAmb IAmb 18 37 26.3
comp=Z,33nm,1.9s
R11A Troy Canyon, C 71.38 355 P **P 18 37 23.1 +0.8**
baz=175,SNR=9.6
PSUT Pine Spring 71.46 356 P **P 18 37 23.2 +0.5**
PSUT IAmb IAmb 18 37 26.3
comp=Z,26nm,1.7s
NHSC New Hope 71.49 26 P **P 18 37 22.3 -0.5**
baz=206
SWET Sewanee 71.55 20 P **P 18 37 22.8 -0.4**
SWET IAmb IAmb 18 37 24.0
comp=Z,19nm,1.2s
LHV Little Huntoon 71.55 353 P **P 18 37 24.8 +1.8**
NV11 Mina Array Sit 71.69 353 P **P 18 37 24.9 +0.8**
NV11 IAmb IAmb 18 37 27.1
comp=Z,25nm,1.2s
NVAR Mina Array Bea 71.70 353 P **P 18 37 25.7 +1.4**
comp=Z,7.3nm,1.0s,baz=178,slow=6.3,SNR=28
Q16A Castle Valley 71.74 359 P **P 18 37 24.7 +0.2**
Q16A IAmb IAmb 18 37 26.6
comp=Z,22nm,1.4s
V48A Smith Brothers 71.78 19 IAmb IAmb 18 37 25.3
comp=Z,16nm,1.2s
PBMO Poplar Bluff 71.85 16 P **P 18 37 24.8 -0.1**
PBMO IAmb IAmb 18 37 26.2
comp=Z,28nm,1.3s
WVT Waverly 71.88 18 P **P 18 37 24.0 -1.0**
baz=199
Q24A Divide 71.89 4 P **P 18 37 26.0 +0.5**
baz=184
RYN Ryan 71.92 353 P **P 18 37 26.6 +1.0**
SPR3 Spring Creek 3 71.95 356 P **P 18 37 26.3 +0.5**
SPR3 IAmb IAmb 18 37 27.7
comp=Z,17nm,1.3s
NBCL Cascavel-CE 72.02 83 *eP* **P 18 37 26.9 +0.3**
S39A Bolivar 72.11 13 IAmb IAmb 18 37 28.0
comp=Z,20nm,1.2s
KSCO Kaye Shedlock' 72.11 6 P **P 18 37 27.8 +1.2**
baz=186
JSC Jenkinsville 72.17 24 P **P 18 37 26.7 -0.1**
JSC pmax pmax
comp=Z,88nm,1.9s
JSC Jenkinsville 72.17 24 P **P 18 37 26.7 -0.1**
CBKS Cedar Bluff 72.20 8 P **P 18 37 27.6 +0.6**
baz=188
BG3 Lake Jocassee 72.26 23 P **P 18 37 28.0 +0.5**
ISCO Idaho Springs 72.70 3 P **P 18 37 31.0 +0.7**
baz=183
T47A Sharon Grove 72.88 19 IAmb IAmb 18 37 32.0
comp=Z,27nm,1.4s
CCM Cathedral Cave 72.89 15 P **P 18 37 31.1 +0.1**
CCM pmax pmax
comp=Z,33nm,1.4s
CCM Cathedral Cave 72.89 15 P **P 18 37 31.1 +0.1**
CCM IAmb IAmb 18 37 33.1
comp=Z,33nm,1.4s
CCM Cathedral Cave 72.89 15 P **P 18 37 31.2 +0.1**
baz=196
R40A Maddies Statio 72.90 14 IAmb IAmb 18 37 32.2
comp=Z,24nm,1.5s
KSU1 Kansas State U 72.91 11 P **P 18 37 31.4 +0.2**
baz=191
V53A Saluda 72.92 23 IAmb IAmb 18 37 32.9
comp=Z,19nm,1.2s
KMSC Kings Mountain 72.93 24 P **P 18 37 30.1 -1.3**
DUG Dugway, Tooele 73.07 357 P **P 18 37 33.2 +1.0**
baz=177
RDMU Red Mountain 73.38 360 IAmb IAmb 18 37 36.1
comp=Z,22nm,1.1s
JLU Jordanelle 73.43 358 IAmb IAmb 18 37 36.8
comp=Z,27nm,1.4s
DZM Mont Dzumac 73.46 254 *e*LR LR 18 59 52.7
comp=Z,272nm,29.1s
TZTN Tazewell 73.49 22 P **P 18 37 34.8 +0.1**
TZTN IAmb IAmb 18 37 36.2
comp=Z,31nm,1.4s
TZTN Tazewell 73.49 22 P **P 18 37 34.3 -0.4**
baz=202
P38A Dawn 73.94 13 P **P 18 37 36.9 -0.3**
O03E Paynes Creek 73.98 350 P **P 18 37 38.3 +0.8**
baz=169
O02D Mt. Diablo Mer 74.01 349 P **P 18 37 38.8 +1.1**
baz=168
OGNE Ogallala 74.08 6 P **P 18 37 38.9 +0.8**
baz=186
WCI Wyandotte Cave 74.26 19 P **P 18 37 39.6 +0.5**
baz=200
N02D Trinity Center 74.77 350 P **P 18 37 43.4 +1.2**
baz=168,SNR=5.4
KHMM Horse Mountain 74.84 349 P **P 18 37 44.0 +1.3**
KHMM IAmb IAmb 18 37 45.6
comp=Z,25nm,1.2s
BLA Blacksburg 75.11 24 P **P 18 37 43.6 -0.6**
baz=205
M02C Callahan 75.21 350 P **P 18 37 45.8 +1.1**
baz=168,SNR=5.8
M04C Macdoel 75.44 351 P **P 18 37 46.8 +0.7**
baz=169
K22A Casper 75.51 2 P **P 18 37 46.9 +0.4**
baz=182
YBH Yreka Blue Hor 75.52 350 LR LR 19 05 54.5
comp=Z,39nm,18.2s,baz=161,slow=32
BW06 Boulder Array 75.57 360 IAmb IAmb 18 37 48.3
comp=Z,18nm,1.2s
BW06 Boulder Array 75.57 360 P **P 18 37 46.5 -0.4**
baz=180,SNR=12
PD31 Pinedale Array 75.57 360 IAmb IAmb 18 37 48.3
comp=Z,20nm,1.3s
PDAR Pinedale Array 75.57 360 P **P 18 37 47.0 +0.1**
comp=Z,11nm,1.2s,baz=164,slow=5.9,SNR=22
WVOR Wild Horse Val 75.70 353 P **P 18 37 48.6 +1.1**
WVOR pmax pmax
comp=Z,22nm,1.4s
WVOR Wild Horse Val 75.70 353 P **P 18 37 48.6 +1.1**
WVOR IAmb IAmb 18 37 50.5
comp=Z,22nm,1.4s
HDIL Hopedale 75.71 16 P **P 18 37 47.5 0.0**
baz=197
Q51A Peebles 75.84 21 IAmb IAmb 18 37 49.5
comp=Z,17nm,1.1s
L04D Klamath Falls 75.94 350 P **P 18 37 48.9 0.0**
baz=169
L02E Cave Junction 76.07 349 P **P 18 37 50.7 +1.2**
baz=168
SFIN Lafayette 76.07 17 P **P 18 37 49.6 +0.1**
baz=199
REDW Red Top Meadow 76.18 359 IAmb IAmb 18 37 52.0
comp=Z,19nm,1.4s
CASY Casey 76.20 196 P **P 18 37 50.1 0.0**
TPAW Teton Pass 76.31 359 IAmb IAmb 18 37 51.9
comp=Z,20nm,1.2s
LOHW Long Hollow 76.42 359 IAmb IAmb 18 37 53.4
comp=Z,19nm,1.4s
MFID Camas Ranch 76.44 355 IAmb IAmb 18 37 54.8
comp=Z,20nm,1.6s
HLID Hailey 76.50 356 IAmb IAmb 18 37 54.7
comp=Z,27nm,1.2s
HLID Hailey 76.50 356 P **P 18 37 52.7 +0.6**
baz=176,SNR=22
J08A Circle Bar Ran 76.60 353 IAmb IAmb 18 37 55.7
comp=Z,22nm,1.4s
K02D Willamette Mer 76.60 349 P **P 18 37 53.2 +0.6**
baz=168
P52A Corning 76.77 21 P **P 18 37 54.2 +0.7**
P52A IAmb IAmb 18 37 55.1
comp=Z,27nm,1.2s
P52A Corning 76.77 21 P **P 18 37 54.1 +0.6**
baz=203
J05D Fort Rock, OR 76.84 351 P **P 18 37 54.4 +0.4**
baz=170,SNR=8.3
FLWY Flagg Ranch 76.90 359 IAmb IAmb 18 37 56.5
comp=Z,16nm,1.1s
RSSD Black Hills 77.09 4 P **P 18 37 55.7 +0.2**
RSSD pmax pmax
comp=Z,30nm,1.5s
RSSD Black Hills 77.09 4 P **P 18 37 55.7 +0.2**
RSSD IAmb IAmb 18 37 57.5
comp=Z,30nm,1.4s
RSSD Black Hills 77.09 4 P **P 18 37 55.8 +0.3**
baz=185
J01E Myrtle Point 77.10 349 P **P 18 37 55.9 +0.7**
baz=168
O52A Adamsville 77.30 21 IAmb IAmb 18 37 58.3
comp=Z,22nm,1.1s
PINE Pine Mountain 77.30 352 IAmb IAmb 18 37 59.6
comp=Z,28nm,1.3s
I07A Izee 77.42 353 IAmb IAmb 18 38 00.2
comp=Z,24nm,1.3s
ECSD EROS Data Cent 77.45 10 IAmb IAmb 18 37 58.9
comp=Z,24nm,1.4s
ECSD EROS Data Cent 77.45 10 P **P 18 37 57.4 +0.1**
baz=191
I04A Tendick Farm, 77.50 350 P **P 18 37 57.4 -0.1**
baz=169
I03D Drain, OR 77.54 350 P **P 18 37 57.9 +0.2**
baz=168
YHH Holmes Hill 77.60 359 IAmb IAmb 18 38 01.0
comp=Z,20nm,1.4s
O53A New Philadelph 77.61 22 P **P 18 37 58.7 +0.5**
baz=204
RLMT Red Lodge 77.93 0 P **P 18 38 00.7 +0.5**
RLMT IAmb IAmb 18 38 21.1
comp=Z,31nm,1.8s
RLMT Red Lodge 77.93 0 P **P 18 38 00.9 +0.7**
baz=180
BMO Blue Mountains 77.98 354 IAmb IAmb 18 38 02.7
comp=Z,19nm,1.5s
PLID Pearl Lake 78.11 355 IAmb IAmb 18 38 03.4
comp=Z,26nm,1.5s
DLMT Dillon 78.22 358 IAmb IAmb 18 38 04.0
comp=Z,40nm,1.9s
BOZ Bozeman (W) 78.42 359 P **P 18 38 03.7 +0.9**
BOZ pmax pmax
comp=Z,23nm,1.5s
BOZ Bozeman (W) 78.42 359 P **P 18 38 03.7 +0.9**
BOZ IAmb IAmb 18 38 05.1
comp=Z,23nm,1.5s
BOZ Bozeman (W) 78.42 359 P **P 18 38 03.2 +0.4**
baz=178,SNR=8.5
G08A Pilot Rock 78.56 353 IAmb IAmb 18 38 06.5
comp=Z,29nm,1.5s
N54A Moraine State 78.65 22 P **P 18 38 04.3 +0.3**
baz=205
G05D Wamic, OR 78.78 352 P **P 18 38 04.0 -0.6**
baz=170
SSPA Standing Stone 79.05 24 P **P 18 38 06.0 -0.2**
baz=206
F10A Beach Ranch, E 79.08 355 P **P 18 38 06.8 +0.4**
F05D White Salmon 79.43 352 P **P 18 38 09.5 +1.4**
baz=170
LAO LASA Array 79.55 2 P **P 18 38 09.6 +0.8**
baz=183
ERPA Erie 79.69 22 P **P 18 38 09.4 -0.2**
baz=205
HAWA Hanford 79.71 353 IAmb IAmb 18 38 13.4
comp=Z,33nm,1.6s
MSO Missoula 79.73 357 P **P 18 38 10.9 +1.0**

baz=176

E08A	**Dider Farm, El**	**79.76**	**353**	IAmb	IAmb	18 38 12.6		
	comp=Z,29nm,1.4s							
E07A	**Sunnyside**	**79.91**	**353**	P	**P**	**18 38 12.2**	**+1.5**	
E07A				IAmb	IAmb	18 38 14.6		
	comp=Z,40nm,1.6s							
F36A	**Milaca**	**80.00**	**11**	IAmb	IAmb	18 38 13.7		
	comp=Z,38nm,1.4s							
LTY	**Liberty**	**80.69**	**352**	IAmb	IAmb	18 38 25.0		
	comp=Z,34nm,1.9s							
NEW	**Newport**	**81.35**	**355**	P	**P**	**18 38 19.4**	**+0.9**	
	baz=174,SNR=11							
B05A	**Bryant**	**81.85**	**352**	P	**P**	**18 38 21.7**	**+0.7**	
	baz=169							
WALA	**Waterton Lakes**	**81.96**	**357**	P	**P**	**18 38 23.1**	**+1.4**	
WALA				IAmb	IAmb	18 38 24.6		
	comp=Z,34nm,1.6s							
SADO	**Sadowa**	**82.36**	**21**	LR	LR	19 12 12.8		
	comp=Z,50nm,18.2s,baz=10.0,slow=34							
K62A	**Royalston**	**82.86**	**27**	P	**P**	**18 38 26.5**	**0.0**	
	baz=211							
LONY	**Lake Ozonia**	**83.71**	**24**	P	**P**	**18 38 31.4**	**+0.6**	
	baz=209							
J63A	**Strafford**	**83.83**	**27**	P	**P**	**18 38 31.8**	**+0.4**	
	baz=211							
HNR	**Honiara**	**85.33**	**262**	LR	LR	19 08 46.6		
	comp=Z,112nm,21.8s,baz=162,slow=30							
BBB	**Bella Bella**	**86.54**	**349**	LR	LR	19 11 32.2		
	comp=Z,33nm,18.6s,baz=321,slow=32							
STKA	**Stephens Creek**	**86.81**	**234**	LR	LR	19 11 06.6		
	comp=Z,78nm,19.0s,baz=192,slow=31							
SCHQ	**Schefferville**	**95.03**	**23**	LR	LR	19 16 30.9		
	comp=Z,54nm,20.9s,baz=298,slow=32							
YUK4	**Talbot Arm**	**97.12**	**346**	P	Pdif	18 39 35.9	+1.8	
	baz=156							
OHAK	**Old Harbor**	**97.32**	**338**	P	Pdif	18 39 36.0	+1.1	
	baz=144							
H01W1	**Cape Leeuwin H**	**100.85**	**215**	T	T	20 32 54.9		
	baz=142							
H01W2	**Cape Leeuwin H**	**100.86**	**215**	T	T	20 32 55.9		
	baz=142							
H01W3	**Cape Leeuwin H**	**100.87**	**215**	T	T	20 32 54.8		
	baz=142							
BILL	**Bilibino**	**118.20**	**335**	*e*PKIKP	**PKPdf**	**18 44 48.2**	**-0.2**	
BILL				*e*		18 46 03.7		
BILL				pmax	pmax			
	comp=Z,4.0nm,1.0s							
BILL				MLR	MLR			
	comp=Z,28nm,16.0s							
KLR	**Kul'dur**	**132.48**	**309**	*i* PKIKP	**PKPdf**	**18 45 16.0**	**-0.3**	
YAK	**Yakutsk**	**133.05**	**326**	*i* PKIKP	**PKPdf**	**18 45 17.4**	**+0.5**	
CLL	**Collm**	**135.01**	**48**	*e*PKPdf	**PKiKP**	**18 45 23.0**	**+0.6**	
GERES	**GERESS Array B**	**135.45**	**52**	PKP	**PKPdf**	**18 45 21.2**	**-0.8**	
	comp=Z,0.3nm,0.5s,baz=286,slow=3.6,SNR=4.1							
NJ2	**Nanjing**	**139.50**	**282**	*e*PKP	**PKPdf**	**18 45 30.9**	**+1.0**	
CIT	**Chita**	**143.77**	**314**	*e*PKIKP	PKPbc	18 45 34.9	+0.3	
MLR	**Muntele Rosu**	**143.88**	**57**	PKHKP	PKPpre	18 45 32.2		
MLR	**Muntele Rosu**	**143.88**	**57**		PKPpre	18 45 32.2		
AKASG	**Malin Array Se**	**145.23**	**47**	PKPbc	**PKPbc**	**18 45 37.4**	**-1.7**	
	comp=Z,0.7nm,0.3s,baz=280,slow=3.7,SNR=5.3							
KLMR	**Klimovskoe**	**145.80**	**27**	*e*PKIKP	**PKPdf**	**18 45 37.7**	**-2.4**	
KLMR				pmax	pmax			
	comp=Z,43nm,1.8s							
KLMR	**Klimovskoe**	**145.80**	**27**	*e*PKPdf	**PKPdf**	**18 45 37.8**	**-2.4**	
KLMR				AMP		18 45 41.3		
	comp=Z,43nm,1.8s							
HHC	**Hu-ho-hao-te**	**146.53**	**295**	*e*PKPbc	**PKPdf**	**18 45 39.9**	**-2.3**	
ELL	**Elmali**	**146.75**	**72**	PKP2	**PKPbc**	**18 45 44.3**	**-0.1**	
ELL	**Elmali**	**146.75**	**72**		**PKPbc**	**18 45 44.3**	**-0.1**	
ENI	**Enshi**	**146.80**	**276**		**PKPdf**	**18 45 42.8**	**-0.1**	
PRGR	**Permogore**	**147.35**	**22**	*e*PKIKP	**PKPdf**	**18 45 42.7**	**0.0**	
PRGR				pmax	pmax			
	comp=Z,62nm,1.5s							
BTO	**Baotou**	**147.71**	**295**	*e*PKPbc	**PKPdf**	**18 45 43.3**	**-0.9**	
OBN	**Obninsk**	**147.75**	**37**	*e*PKP2	**PKPbc**	**18 45 46.2**	**-0.2**	
OBN				*e*		18 49 12.9		
OBN				*e*PPP	PPP	18 52 30.6		
OBN				pmax	pmax			
	comp=Z,19nm,1.1s							
MOS	**Moscow**	**147.97**	**35**	*e*PKP2	**PKPbc**	**18 45 45.6**	**-1.4**	
MOS				*e*		18 49 16.7		
XAN	**Xi'an**	**148.07**	**282**	PKPbc	**PKPbc**	**18 45 48.1**	**0.0**	
UTHA	**Uthaitani**	**148.45**	**243**	PKP	**PKiKP**	**18 45 51.8**	**+0.7**	
ULN	**Ulaanbaatar**	**148.87**	**309**	PKP2	**PKPbc**	**18 45 49.2**	**-0.6**	
ULN	**Ulaanbaatar**	**148.87**	**309**		**PKPbc**	**18 45 49.2**	**-0.6**	
IRK	**Irkutsk**	**149.09**	**318**	*e*PKP2	**PKPbc**	**18 45 49.5**	**-0.5**	
IRK				pmax	pmax			
	comp=Z,55nm,2.1s							
CSS	**Mathiatis**	**149.31**	**76**	PKPdf	**PKPdf**	**18 45 45.8**	**-1.0**	
CSS					**PKPbc**	**18 45 50.9**	**-0.3**	
SONM	**Songino Array**	**149.31**	**309**	PKPbc	**PKPbc**	**18 45 50.1**	**-0.8**	
	comp=Z,6.7nm,1.0s,baz=106,slow=3.2,SNR=7.0							
SONM	**Songino Array**	**149.31**	**309**	PKPdf	**PKPdf**	**18 45 45.0**	**-1.5**	
SONM				PKPbc	**PKPbc**	**18 45 50.8**	**-0.2**	
BRTR	**Keskin Array B**	**149.83**	**67**	PKPbc	**PKPbc**	**18 45 51.7**	**-0.8**	
	comp=Z,4.0nm,1.1s,baz=43,slow=0.9,SNR=11							
ILGA	**Ilgaz**	**149.84**	**64**		**PKPbc**	**18 45 52.4**	**-0.2**	
ZAK	**Zakamensk**	**150.41**	**315**	*e*PKIKP	**PKPbc**	**18 45 51.4**	**-2.1**	
ZAK				pmax	pmax			
	comp=Z,27nm,1.3s							
CM31	**Chiang Mai Arr**	**150.58**	**247**		**PKPbc**	**18 45 54.8**	**+0.1**	
CMAR	**Chiang Mai Arr**	**150.58**	**247**	PKPbc	**PKiKP**	**18 45 55.0**	**-0.4**	
	comp=Z,5.6nm,1.0s,baz=186,slow=1.1,SNR=24							
CMAR	**Chiang Mai Arr**	**150.58**	**247**	PKIKP	**PKPbc**	**18 45 54.6**	**-0.1**	
CMAR	**Chiang Mai Arr**	**150.58**	**247**		**PKPbc**	**18 45 54.6**	**-0.1**	
KMI	**Kunming**	**150.77**	**263**	⇓PKPbc	**PKPdf**	**18 45 51.3**	**+1.6**	
KMI				pPKP	PKiKP	18 45 55.9	0.0	
CMMT	**Chiang Mai**	**150.78**	**248**	PKP	**PKiKP**	**18 45 55.7**	**-0.1**	
CHTO	**Chiang Mai**	**150.79**	**248**	PKIKP	**PKPbc**	**18 45 54.7**	**-0.5**	
CHTO	**Chiang Mai**	**150.79**	**248**		**PKPbc**	**18 45 54.7**	**-0.5**	
BNN	**Bunyan**	**151.55**	**69**		**PKPbc**	**18 45 55.4**	**-1.2**	
LZH	**Lanzhou**	**152.45**	**285**	*e*PKPbc	**PKPdf**	**18 45 49.3**	**-2.5**	
LZH				pPKP	PKiKP	18 45 59.3	+0.3	
GTA	**Gaotai**	**155.59**	**293**	*e*PKP	**PKPdf**	**18 45 55.6**	**-0.5**	
GTA				pPKP	pPKPbc	18 46 05.8	-1.8	
GURO	**Guroymak-BITLI**	**156.40**	**69**	PKPdf	**PKPdf**	**18 45 58.0**	**+0.7**	
GURO				PKPab	**PKPab**	**18 46 25.7**	**-0.1**	
ZALV	**Zalesovo Beam**	**156.86**	**338**	PKP	**PKPdf**	**18 45 55.6**	**-1.5**	
	comp=Z,2.7nm,0.9s,baz=343,slow=3.1,SNR=9.1							
ZALV				PKPab	**PKPab**	**18 46 26.8**	**-0.1**	
	comp=Z,1.9nm,0.8s,baz=46,slow=4.3,SNR=4.9							
BRVK	**Borovoye**	**160.12**	**0**	PKP2	**PKPab**	**18 46 40.8**	**-0.2**	
BRVK	**Borovoye**	**160.12**	**0**	PKPab	**PKPab**	**18 46 40.8**	**-0.2**	
ABKAR	**Akbulak array**	**162.12**	**23**	PKPdf	**PKPdf**	**18 46 03.9**	**+0.6**	
ABKAR	**Akbulak array**	**162.12**	**23**		**PKPdf**	**18 46 03.4**	**0.0**	
WMQ	**Urumqi**	**162.85**	**313**	*e*PKP	**PKPdf**	**18 46 05.3**	**+0.9**	
MK31	**Makanchi Array**	**163.68**	**330**	PKP2	**PKPab**	**18 46 57.1**	**+0.2**	
MK31	**Makanchi Array**	**163.68**	**330**	PKPab	**PKPab**	**18 46 57.1**	**+0.2**	
MKAR	**Makanchi Array**	**163.68**	**330**	PKP	**PKPdf**	**18 46 03.6**	**-1.3**	
	comp=Z,0.7nm,0.8s,baz=336,slow=3.2,SNR=5.4							
MKAR				PKPab	**PKPab**	**18 46 57.4**	**+0.5**	
	comp=Z,2.7nm,1.1s,baz=56,slow=4.5,SNR=7.8							
MKAR	**Makanchi Array**	**163.68**	**330**	PKIKP	**PKPdf**	**18 46 03.0**	**-2.0**	
MKAR						18 46 57.1		
MKAR	**Makanchi Array**	**163.68**	**330**	PKPdf	**PKPdf**	**18 46 03.0**	**-2.0**	
MKAR				PKPab	**PKPab**	**18 46 57.1**	**+0.2**	
MAKZ	**Makanchi**	**163.80**	**331**	PKIKP	**PKPdf**	**18 46 02.9**	**-2.2**	
MAKZ						18 46 57.2		
MAKZ	**Makanchi**	**163.80**	**331**		**PKPdf**	**18 46 02.9**	**-2.2**	
MAKZ					**PKPab**	**18 46 57.2**	**-0.2**	
KSH	**Kashi**	**172.26**	**326**	PKP	**PKPdf**	**18 46 15.6**	**+4.3**	

Error ellipse: s-maj=2.3km s-min=2.2km az=165.0
*NEIC **15** 18:41:39.1±2.2, 45.85N±0.07×15.99E±0.10, h10km±10km,*
Error ellipse: s-maj=12.0km s-min=8.3km az=139.0
*RHSSO **15** 18:41:39.0±0.2, 45.73N×15.99E, h3km±2km, ML2.7/12*

ISC 15 18:41:37.9±0.8, 45.82N±0.02×16.02E±0.01, h6km±5km,
n129, σ1§10/178, 6C-7D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAG	**Zagreb**	**0.02**	**277**	*i* Pg	**Pg**	**18 41 38.6**	**-0.4**
ZAG				Sg	**Sg**	**18 41 39.8**	**-0.1**
PTJ	**Puntijarka**	**0.09**	**336**	*i* Pg	**Pg**	**18 41 39.6**	**-0.4**
PTJ				Sg	**Sg**	**18 41 41.1**	**-0.4**
GCIS	**Gornji Cirnik**	**0.28**	**279**	⇑*i*Pg	**Pg**	**18 41 43.1**	**-0.2**
GCIS				*i* Sg	**Sg**	**18 41 47.1**	**+0.1**
GCIS				IAML		18 41 48.3	
	comp=Z,265nm,0.1s						
GOLS	**Golise**	**0.33**	**304**	⇑*i*Pg	**Pg**	**18 41 44.1**	**-0.3**
CRES	**Cresnjev**	**0.40**	**270**	⇑*i*Pg	**Pg**	**18 41 45.1**	**-0.4**
CRES				*e*Sg	**Sg**	**18 41 51.5**	**+0.8**
CRES	**Cresnjev**	**0.40**	**270**	*i* Pg	**Pg**	**18 41 45.1**	**-0.4**
CRES				*e*Sg	**Sg**	**18 41 51.5**	**+0.8**
CRES				IAML		18 41 52.1	
	comp=Z,389nm,0.2s						
CRES	**Cresnjev**	**0.40**	**270**	Pg	**Pg**	**18 41 45.1**	**-0.4**
	comp=Z,1.8nm,SNR=79						
CESS	**Cesta pri Krsk**	**0.42**	**291**	*i* Pg	**Pg**	**18 41 45.8**	**-0.2**
CESS				IAML		18 41 54.6	
	comp=Z,336nm,0.2s						
KALN	**Kalnik**	**0.43**	**44**	*e*Pg	**Pg**	**18 41 45.8**	**-0.4**
KALN				Sg	**Sg**	**18 41 52.1**	**+0.3**
OZLJ	**Ozalj**	**0.44**	**242**	*e*Pg	**Pg**	**18 41 45.8**	**-0.5**
OZLJ				Sg	**Sg**	**18 41 51.5**	**-0.6**
DOBS	**Dobrina**	**0.50**	**310**	⇑*i*Pg	**Pg**	**18 41 47.5**	**-0.1**
LEGS	**Legarje**	**0.51**	**284**	⇑*i*Pg	**Pg**	**18 41 47.3**	**-0.3**
LEGS				*i* Sg	**Sg**	**18 41 54.8**	**+0.5**
MOSL	**Moslavina**	**0.56**	**112**	*e*Pg	**Pg**	**18 41 48.2**	**-0.3**
MOSL				Sg	**Sg**	**18 41 56.1**	**+0.3**
BOJS	**Bojanci**	**0.63**	**240**	⇓*i*Pg	**Pg**	**18 41 49.0**	**-0.9**
BOJS				*e*Sg	**Sg**	**18 41 57.6**	**-0.5**
BOJS	**Bojanci**	**0.63**	**240**	⇓*i*Pg	**Pg**	**18 41 49.0**	**-0.9**
BOJS				IAML		18 42 02.1	
	comp=Z,49nm,0.1s						
KOGS	**Kog**	**0.64**	**14**	Pg	**Pg**	**18 41 50.5**	**+0.2**
	comp=Z,15nm,SNR=111						
KOGS				Lg	Lg	18 41 59.6	
GROS	**Grobnik**	**0.73**	**331**	*e*Pg	**Pg**	**18 41 51.9**	**-0.1**
PDKS	**Podkum**	**0.75**	**289**	⇑*i*Pg	**Pg**	**18 41 52.0**	**-0.4**
PDKS				IAML		18 42 06.2	
	comp=Z,117nm,0.2s						
VISS	**Visnje**	**0.83**	**269**	*i* Pg	**Pg**	**18 41 53.0**	**-0.7**
VISS				IAML		18 42 08.3	
	comp=Z,159nm,0.3s						
BEHE	**Becsehely**	**0.83**	**39**	*e*P	**Pg**	**18 41 54.0**	**+0.2**
BEHE	**Becsehely**	**0.83**	**39**	⇓*i*Pg	**Pb**	**18 41 55.4**	**+0.7**
BEHE				*e*Sg	**Sn**	**18 42 08.6**	**-0.1**
BEHE	**Becsehely**	**0.83**	**39**	Pb	**Pg**	**18 41 54.0**	**+0.2**
	comp=Z,3.2nm,SNR=44						
GBRS	**Gornja Briga**	**0.90**	**251**	*i* Pg	**Pg**	**18 41 54.2**	**-0.8**
GBRS				IAML		18 42 10.2	
	comp=Z,195nm,0.4s						
VNDS	**Vrh nad Dolski**	**0.96**	**287**	*i* Pg	**Pg**	**18 41 55.6**	**-0.7**
VNDS				IAML		18 42 13.2	
	comp=Z,134nm,0.3s						
PRIJ	**Prijedor**	**0.98**	**150**	*e*Sg	**Sg**	**18 42 07.8**	**-1.5**
MRAK	**Mrakovica**	**1.02**	**142**	*e*Pg	**Pg**	**18 41 56.3**	**-1.1**
MRAK				*e*Sg	**Sg**	**18 42 09.7**	**-0.9**
PERS	**Pernice**	**1.03**	**323**	*i* Pg	**Pg**	**18 41 56.9**	**-0.6**
LJU	**Ljubljana**	**1.07**	**282**	⇓*i*Pg	**Pb**	**18 41 58.7**	**0.0**
LJU				*e*Sg	**Sb**	**18 42 13.0**	**+0.1**
SOKA	**Soboth**	**1.10**	**322**	*e*Pg	**Pg**	**18 41 58.0**	**-0.8**
	comp=Z,21nm,0.3s,SNR=29						
GBAS	**Gorenja Brezov**	**1.11**	**276**	*i* Pg	**Pg**	**18 41 58.1**	**-1.0**
CEY	**Cerknica**	**1.12**	**266**	⇓*i*Pg	**Pg**	**18 41 59.2**	**-0.1**
CEY				*e*Sg	**Sg**	**18 42 13.6**	**-0.2**
CEY	**Cerknica**	**1.12**	**266**	*i* Pg	**Pg**	**18 41 59.2**	**-0.1**
CEY				IAML		18 42 20.9	
	comp=Z,107nm,0.3s						
KNDS	**Knezji Dol**	**1.19**	**256**	*e*Pg	**Pg**	**18 41 59.9**	**-0.7**
KNDS				*i* Sg	**Sb**	**18 42 16.4**	**0.0**
KNDS				IAML		18 42 20.4	
	comp=Z,98nm,0.3s						
RIY	**Rijeka**	**1.19**	**246**	*e*Pn	**Pg**	**18 41 59.7**	**-1.0**
MOZS	**Mozjanca**	**1.20**	**294**	*i* Pg	**Pg**	**18 41 60.0**	**-0.8**
MOZS				IAML		18 42 18.6	
	comp=Z,84nm,0.3s						
OBKA	**Obir**	**1.23**	**304**	*e*Pn	**Pg**	**18 42 00.9**	**-0.6**
	comp=Z,20nm,0.2s,SNR=16						
OBKA	**Obir**	**1.23**	**304**	Pg	**Pg**	**18 42 01.1**	**-0.3**
	comp=Z,0.4nm,SNR=11						
CRNS	**Crni Vrh**	**1.25**	**282**	*e*Pg	**Pg**	**18 42 00.8**	**-1.1**
CRNS				*i* Sg	**Sn**	**18 42 19.2**	**0.0**
UDBI	**Udbina**	**1.31**	**188**	*e*Pg	**Pn**	**18 42 01.2**	**-1.5**
UDBI				Sg	**Sg**	**18 42 18.6**	**-1.3**
BLY	**Banja Luka**	**1.35**	**142**	*e*Pg	**Pn**	**18 42 01.9**	**-1.3**
BLY				*e*Sg	**Sb**	**18 42 19.6**	**-1.5**
BLY	**Banja Luka**	**1.35**	**142**	Pn	**Pn**	**18 42 02.0**	**-1.3**
	comp=Z,0.2nm,SNR=5.5						
JAVS	**Javornik**	**1.37**	**274**	*i* Pg	**Pn**	**18 42 02.9**	**-0.7**
JAVS				IAML		18 42 26.2	
	comp=Z,54nm,0.3s						
SKDS	**Skadanscina**	**1.43**	**260**	⇓*i*Pg	**Pn**	**18 42 03.7**	**-0.7**
SKDS				*e*Sg	**Sb**	**18 42 22.5**	**-1.0**
SKDS	**Skadanscina**	**1.43**	**260**	*i* Pg	**Pn**	**18 42 04.0**	**-0.3**
SKDS				IAML		18 42 25.6	
	comp=Z,44nm,0.2s						
ARSA	**Arzberg**	**1.47**	**347**	*e*Pn	**Pn**	**18 42 04.1**	**-0.8**
	comp=Z,3.4nm,0.2s,SNR=25						
ARSA				Sn	**Sg**	**18 42 25.7**	**+0.7**
	comp=Z,37nm,0.3s						
ARSA	**Arzberg**	**1.47**	**347**	Pn	**Pn**	**18 42 04.2**	**-0.8**
	comp=Z,0.2nm,SNR=16						
KOVH	**Kovagotottos**	**1.47**	**79**	*e*P	**Pn**	**18 42 03.1**	**-1.8**
KOVH	**Kovagotottos**	**1.47**	**79**	Pn	**Pn**	**18 42 03.1**	**-1.8**
	comp=Z,0.2nm,SNR=11						
GORS	**Gorjuse**	**1.50**	**290**	*e*Pg	**Pn**	**18 42 04.5**	**-0.8**
GORS				IAML		18 42 30.4	
	comp=Z,21nm,0.2s						
NVLJ	**Novalja**	**1.50**	**213**	*e*Pn	**Pn**	**18 42 04.7**	**-0.6**
NVLJ				Sn	**Sg**	**18 42 26.0**	**-0.1**
VOJS	**Vojsko**	**1.51**	**279**	*i* Pg	**Pn**	**18 42 04.1**	**-1.3**
VOJS				IAML		18 42 33.1	
	comp=Z,30nm,0.3s						
TRI	**Trieste**	**1.58**	**267**	P	**Pn**	**18 42 07.0**	**+0.6**
TRI	**Trieste**	**1.58**	**267**	Pn	**Pn**	**18 42 07.0**	**+0.6**
TRI				Sn	**Sb**	**18 42 27.9**	**+0.2**
MGRS	**Mrkonjic Grad**	**1.60**	**152**	*e*Pg	**Pn**	**18 42 06.6**	**0.0**
MGRS				*e*Sg	**Sn**	**18 42 27.8**	**+0.3**
CADS	**Cadrg**	**1.64**	**285**	*i* Pg	**Pn**	**18 42 07.2**	**0.0**
CADS				IAML		18 42 32.8	
	comp=Z,68nm,0.3s						
TIH	**Tihany**	**1.68**	**50**	*e*P	**Pn**	**18 42 07.4**	**-0.4**
TIH	**Tihany**	**1.68**	**50**	Pn	**Pn**	**18 42 07.4**	**-0.4**
	comp=Z,0.8nm,SNR=14						
EGYH	**Egyhazaskeszo**	**1.83**	**29**	Pn	**Pb**	**18 42 11.6**	**-0.1**
	comp=Z,0.3nm,SNR=4.8						
MYKA	**Terra Mystica**	**1.84**	**297**	Pn	**Pn**	**18 42 09.8**	**-0.2**
	comp=Z,4.2nm,0.2s,SNR=7.2						
MYKA				Sg	**Sg**	**18 42 38.5**	**+1.6**
	comp=Z,6.1nm,0.2s						
BRJN	**Brijuni**	**1.85**	**241**	*e*Pn	**Pn**	**18 42 10.1**	**+0.1**
MORH	**Mrgy, Hungar**	**1.87**	**77**	*e*P	**Pn**	**18 42 08.4**	**-1.9**
MORH	**Mrgy, Hungar**	**1.87**	**77**	*e*Pn	**Pb**	**18 42 12.5**	**+0.2**
MORH				*e*Sn	**Sb**	**18 42 37.0**	**+1.1**
MORH	**Mrgy, Hungar**	**1.87**	**77**	Pn	**Pn**	**18 42 08.4**	**-1.9**
	comp=Z,0.1nm,SNR=7.2						
SOP	**Sopron**	**1.90**	**11**	*e*P	**Pn**	**18 42 11.6**	**+0.9**
SOP	**Sopron**	**1.90**	**11**	Pn	**Pn**	**18 42 11.6**	**+0.9**
	comp=Z,0.1nm,SNR=4.3						
DUGI	**Dugi Otok**	**1.96**	**201**	*e*Pn	**Pn**	**18 42 11.8**	**+0.3**
DUGI				Sn	**Sn**	**18 42 37.1**	**+0.7**
MORI	**Morici**	**1.97**	**187**	*e*Pn	**Pn**	**18 42 12.3**	**+0.6**
CONA	**Conrad Observa**	**2.11**	**357**	*e*Pn	**Pn**	**18 42 13.7**	**0.0**
	comp=Z,2.9nm,0.3s,SNR=10.0						
CONA				Pg	**Pg**	**18 42 19.6**	**+1.4**
	comp=Z,4.4nm,0.2s						
CONA				Sn	**Sn**	**18 42 39.5**	**-0.8**
	comp=Z,5.7nm,0.3s						
CONA				Sg	**Sg**	**18 42 48.9**	**+3.3**
	comp=Z,24nm,0.7s						
CSKK	**Cskako**	**2.18**	**44**	*e*PG	**Pg**	**18 42 19.3**	**-0.3**
CSKK	**Cskako**	**2.18**	**44**	Pg	**Pg**	**18 42 19.3**	**-0.3**
	comp=Z,0.1nm,SNR=8.7						
ZIRJ	**Zirje**	**2.19**	**187**	*e*Pn	**Pn**	**18 42 15.2**	**+0.6**
KBA	**Koelnbreinsper**	**2.24**	**305**	*e*Pn	**Pn**	**18 42 15.2**	**-0.3**
	comp=Z,0.7nm,0.2s						
ZOU	**Zoufplan**	**2.24**	**290**	Pn	**Pn**	**18 42 16.1**	**+0.5**
STAL	**STALIGIAL**	**2.35**	**282**	Pn	**Pn**	**18 42 17.3**	**+0.3**
MOA	**Molln**	**2.36**	**330**	*e*Pn	**Pn**	**18 42 17.4**	**+0.3**
	comp=Z,2.0nm,0.1s,SNR=15						
MOA				Sn	**Sn**	**18 42 46.4**	**+0.1**
	comp=Z,6.5nm,0.2s						
RICI	**Ricice**	**2.46**	**161**	*e*Pn	**Pn**	**18 42 20.2**	**+1.7**
ZST	**Bratislava**	**2.48**	**17**	*e*P	**Pn**	**18 42 18.6**	**-0.2**
ZST	**Bratislava**	**2.48**	**17**	*e*PN	**Pn**	**18 42 18.6**	**-0.2**
ZST				*e*SG	**Sg**	**18 42 59.5**	**+1.8**
ABTA	**Abfaltersbach**	**2.60**	**292**	Pn	**Pn**	**18 42 20.7**	**+0.2**
	comp=Z,0.8nm,0.3s						
MAKA	**Makarska**	**2.63**	**164**	*e*Pn	**Pn**	**18 42 21.4**	**+0.6**
HVAR	**Hvar**	**2.66**	**173**	*e*Pn	**Pn**	**18 42 21.6**	**+0.3**
HVAR					**Sn**	**18 42 54.7**	**+0.9**
MODS	**Modra-Piesok**	**2.69**	**18**	*e*P	**Pn**	**18 42 21.0**	**-0.7**
MODS	**Modra-Piesok**	**2.69**	**18**	*e*PN	**Pn**	**18 42 21.0**	**-0.7**
MODS				*e*PG	**Pg**	**18 42 30.0**	**+0.6**
MODS				*e*SN	**Sn**	**18 42 50.7**	**-3.8**
MODS				*e*SG	**Sg**	**18 43 04.3**	**0.0**
HAPS	**Han Pijesak,Bl**	**2.71**	**129**	*e*Pn	**Pn**	**18 42 23.0**	**+1.0**
HAPS				*e*Sn	**Sn**	**18 42 55.6**	**+0.5**
FRGS	**Fruska Gora**	**2.75**	**103**	*e*Pn	**Pn**	**18 42 24.0**	**+1.6**
FRGS				*e*Sn	**Sn**	**18 42 57.6**	**+1.7**
SMOL	**Smolenice**	**2.86**	**19**	*e*P	**Pn**	**18 42 23.1**	**-0.8**
SMOL	**Smolenice**	**2.86**	**19**	*e*PN	**Pn**	**18 42 23.1**	**-0.8**
CTI	**Castel Tesino**	**3.06**	**276**	P	**Pn**	**18 42 26.1**	**-0.7**
CTI	**Castel Tesino**	**3.06**	**276**	Pn	**Pn**	**18 42 26.1**	**-0.7**
TEOL	**Teolo**	**3.09**	**263**	Pn	**Pn**	**18 42 29.1**	**+2.0**
BBLS	**Lazići**	**3.10**	**128**	*e*Pn	**Pn**	**18 42 28.2**	**+0.8**
BBLS				*e*Sn	**Sn**	**18 43 05.3**	**+0.5**
STON	**Ston**	**3.19**	**157**	*e*Pn	**Pn**	**18 42 29.3**	**+0.9**
STON				Sn	**Sn**	**18 43 08.1**	**+1.4**
CKRC	**Cesky Krumlov**	**3.21**	**339**	*e*PN	**Pn**	**18 42 28.5**	**-0.4**
CKRC				*e*SN	**Sn**	**18 43 04.3**	**-3.2**
JAVC	**Velka Javorina**	**3.24**	**20**	*e*PN	**Pn**	**18 42 29.9**	**+0.7**
KRUC	**Moravsky**	**3.25**	**4**	*e*PN	**Pn**	**18 42 28.6**	**-0.7**
KRUC				*e*SN	**Sn**	**18 43 06.0**	**-2.3**
VYHS	**Vyhne**	**3.29**	**35**	*e*P	**Pn**	**18 42 29.5**	**-0.4**
VYHS	**Vyhne**	**3.29**	**35**	*e*PN	**Pn**	**18 42 29.5**	**-0.4**
VYHS				*e*PG	**Pg**	**18 42 43.8**	**+3.0**
VYHS				*e*SN	**Sn**	**18 43 07.0**	**-2.3**
DIVS	**Divibare**	**3.30**	**120**	*e*Pn	**Pn**	**18 42 31.4**	**+1.2**
DIVS				*e*Sn	**Sn**	**18 43 10.1**	**+0.3**
WTTA	**Wattenberg**	**3.35**	**297**	*e*Pn	**Pn**	**18 42 31.6**	**+0.7**
	comp=Z,1.6nm,0.2s						
PSZ	**Piszkesteto**	**3.38**	**50**	*e*PG	**Pg**	**18 42 41.8**	**-0.9**
PSZ	**Piszkesteto**	**3.38**	**50**	P	**Pn**	**18 42 32.2**	**+1.0**
PSZ	**Piszkesteto**	**3.38**	**50**	Pn	**Pn**	**18 42 32.2**	**+1.0**
PSZ	**Piszkesteto**	**3.38**	**50**	Pg	**Pg**	**18 42 41.8**	**-0.9**
	SNR=2.4						
GEC2	**GERESS Array S**	**3.41**	**333**	Pn	**Pn**	**18 42 31.6**	**0.0**
GERES	**GERESS Array B**	**3.41**	**333**	Pn	**Pn**	**18 42 31.7**	**+0.1**
WATA	**Walderalm**	**3.42**	**298**	*e*Pn	**Pn**	**18 42 31.8**	**0.0**
	comp=Z,2.8nm,0.4s				

MATN	**Matagalpa**	**50.96**	**30**	P	**P**	**18 59 42.7 +2.1**
MTO3	**Montecristo**	**50.98**	**25**	P	**P**	**18 59 41.2 +0.4**
RUSC	**La Rusia**	**51.80**	**48**	P	**P**	**18 59 48.5 +1.1**
RUSC				IAmb	IAmb	19 00 14.9
	comp=Z,11nm,1.0s					
SDV	**Santo Domingo**	**55.64**	**48**	P	**P**	**19 00 15.1 -0.2**
SDV				IAmb	IAmb	19 00 17.1
	comp=Z,10nm,1.1s					
ZAIG	**Zacatecas**	**56.01**	**7**	P	**P**	**19 00 19.6 +1.8**
ZAIG				IAmb	IAmb	19 00 23.2
	comp=Z,18nm,1.8s					
QSPA	**South Pole Qui**	**57.00**	**180**	P	**P**	**19 00 25.7 +1.4**
QSPA				IAmb	IAmb	19 00 28.9
	comp=Z,19nm,1.7s					
URIC	**Uribia, Colomb**	**57.01**	**45**	P	**P**	**19 00 24.6 -0.1**
URIC				IAmb	IAmb	19 01 11.1
	comp=Z,17nm,0.9s					
BDFB	**Brasilia**	**57.62**	**88**	P	**P**	**19 00 30.8 +1.5**
BDFB				IAmb	IAmb	19 01 09.7
	comp=Z,17nm,1.5s					
VNDA	**Vanda**	**57.64**	**195**	LR	LR	19 19 48.8
	comp=Z,68nm,20.4s,baz=144,slow=30					
URZ	**Urewera**	**58.59**	**242**	LR	LR	19 19 25.9
	comp=Z,113nm,20.7s,baz=211,slow=30					
TX31	**Lajitas Ar. Si**	**62.41**	**5**	P	**P**	**19 01 02.5 +0.7**
TX32	**Lajitas Array**	**62.41**	**5**	P	**P**	**19 01 02.5 +0.7**
TX32				IAmb	IAmb	19 01 04.7
	comp=Z,23nm,1.8s					
TXAR	**Lajitas Array**	**62.41**	**5**	P	**P**	**19 01 03.0 +1.2**
	comp=Z,1.2nm,1.0s,baz=184,slow=8.5,SNR=8.3					
TXAR	**Lajitas Array**	**62.41**	**5**	P	**P**	**19 01 02.2 +0.4**
SNAA	**Sanae**	**63.75**	**160**	P	**P**	**19 01 10.5 +0.3**
SNAA				IAmb	IAmb	19 01 12.0
	comp=Z,19nm,1.7s					
JCT	**Junction City**	**63.95**	**9**	P	**P**	**19 01 13.2 +1.2**
JCT				IAmb	IAmb	19 01 14.4
	comp=Z,11nm,1.0s					
HKT	**Hockley**	**64.06**	**13**	P	**P**	**19 01 13.8 +1.3**
HKT				IAmb	IAmb	19 01 21.5
	comp=Z,15nm,1.4s					
319A	**Douglas**	**64.23**	**360**	P	**P**	**19 01 14.1 +0.3**
319A				IAmb	IAmb	19 01 16.8
	comp=Z,4.9nm,0.6s					
435B	**Jarrell**	**64.57**	**11**	P	**P**	**19 01 16.6 +0.7**
MNTX	**Cornudas Mount**	**64.65**	**4**	P	**P**	**19 01 16.7 +0.3**
MNTX				IAmb	IAmb	19 01 18.4
	comp=Z,11nm,1.5s					
121A	**Cookes Peak, D**	**65.39**	**1**	P	**P**	**19 01 23.1 +1.6**
121A				IAmb	IAmb	19 01 24.2
	comp=Z,12nm,1.4s					
113A	**Mohawk Valley,**	**65.76**	**356**	P	**P**	**19 01 24.8 +1.2**
113A				IAmb	IAmb	19 01 28.0
	comp=Z,16nm,1.7s					
WHTX	**Lake Whitney,**	**65.78**	**11**	P	**P**	**19 01 24.4 +0.7**
TKX	**Tecate**	**65.79**	**353**	P	**P**	**19 01 25.4 +1.6**
NATX	**Nacogdoches**	**66.05**	**14**	P	**P**	**19 01 26.2 +0.7**
ABTX	**Abilene, Hawle**	**66.09**	**9**	P	**P**	**19 01 26.6 +0.9**
MSTX	**Muleshoe**	**67.08**	**6**	P	**P**	**19 01 32.1 -0.1**
MSTX				IAmb	IAmb	19 01 33.8
	comp=Z,7.0nm,0.9s					
Z35A	**Perchaven, San**	**67.12**	**11**	P	**P**	**19 01 33.2 +0.9**
X16A	**Lo Mia Camp, P**	**67.30**	**358**	P	**P**	**19 01 34.4 +0.7**
X16A				IAmb	IAmb	19 02 24.0
	comp=Z,6.1nm,0.6s					
SMRT	**St. Maarten**	**67.34**	**48**	P	**P**	**19 01 33.5 -0.5**
X18A	**Snowflake**	**67.38**	**359**	P	**P**	**19 01 34.0 -0.2**
X18A				IAmb	IAmb	19 01 43.0
	comp=Z,15nm,1.4s					
ANMO	**Albuquerque**	**67.84**	**2**	P	**P**	**19 01 35.7 -1.3**
W13A	**Hualapai Mount**	**68.08**	**356**	P	**P**	**19 01 38.7 0.0**
AMTX	**Amarillo**	**68.09**	**7**	P	**P**	**19 01 38.0 -0.5**
ISA	**Isabella, Lake**	**69.05**	**352**	P	**P**	**19 01 46.1 +1.6**
X40A	**Basin Creek Fa**	**69.06**	**14**	P	**P**	**19 01 45.0 +0.5**
X40A				IAmb	IAmb	19 02 19.0
	comp=Z,8.4nm,1.4s					
LRAL	**Lakeview Retre**	**69.11**	**20**	P	**P**	**19 01 44.8 0.0**
PAGB	**Antelope Grade**	**69.35**	**350**	P	**P**	**19 01 48.6 +2.4**
GWY	**Greenwater Val**	**69.38**	**354**	P	**P**	**19 01 47.4 +0.8**
GWY				IAmb	IAmb	19 02 09.8
	comp=Z,17nm,1.9s					
152A	**Waverly Hall**	**69.45**	**22**	P	**P**	**19 01 47.4 +0.4**
OK029	**Liberty Lake**	**69.51**	**10**	P	**P**	**19 01 48.2 +1.0**
W39A	**Magazine**	**69.55**	**13**	P	**P**	**19 01 48.5 +1.0**
W39A				IAmb	IAmb	19 02 28.3
	comp=Z,20nm,1.6s					
SHPR	**Sheep Range**	**69.57**	**355**	P	**P**	**19 01 49.3 +1.5**
KNB	**Kanab**	**69.94**	**357**	P	**P**	**19 01 50.9 +0.8**
KNB				IAmb	IAmb	19 01 52.6
	comp=Z,23nm,1.8s					
WHAR	**Wooly Hollow**	**69.95**	**15**	P	**P**	**19 01 51.8 +1.9**
LCMT	**Little Creek M**	**69.95**	**357**	P	**P**	**19 01 50.7 +0.6**
QUOK	**Quay**	**69.99**	**11**	P	**P**	**19 01 49.6 -0.6**
MVCO	**Mesa Verde**	**70.05**	**1**	P	**P**	**19 01 51.7 +0.9**
MVCO				IAmb	IAmb	19 01 53.0
	comp=Z,11nm,1.3s					
TPNV	**Topopah Spring**	**70.10**	**354**	P	**P**	**19 01 51.4 +0.4**
TPNV				IAmb	IAmb	19 01 55.1
	comp=Z,18nm,1.9s					
T25A	**Trinidad**	**70.12**	**4**	P	**P**	**19 01 51.3 +0.1**
T25A				IAmb	IAmb	19 01 53.9
	comp=Z,25nm,1.8s					
PKCU	**Pink Cliffs**	**70.34**	**357**	P	**P**	**19 01 53.4 +0.6**
PKCU				IAmb	IAmb	19 01 55.8
	comp=Z,17nm,1.3s					
PRN	**Pahroc Range**	**70.46**	**355**	P	**P**	**19 01 55.0 +1.8**
PRN				IAmb	IAmb	19 01 58.3
	comp=Z,14nm,1.6s					
CCUT	**Cedar City**	**70.50**	**356**	P	**P**	**19 01 54.1 +0.5**
CCUT				IAmb	IAmb	19 02 02.6
	comp=Z,14nm,1.5s					
LCH	**Last Change Ra**	**70.51**	**353**	P	**P**	**19 01 54.6 +1.1**
LCH				IAmb	IAmb	19 01 57.5
	comp=Z,13nm,2.0s					
FCAR	**Ozark Folk Cen**	**70.56**	**15**	P	**P**	**19 01 54.2 +0.5**
FCAR				IAmb	IAmb	19 01 55.1
	comp=Z,8.1nm,1.2s					
HHAR	**Hobbs**	**70.58**	**13**	P	**P**	**19 01 54.8 +1.0**
HHAR				IAmb	IAmb	19 01 55.9
	comp=Z,15nm,1.1s					
U38A	**Gravette**	**70.64**	**13**	P	**P**	**19 01 55.0 +0.7**
U38A				IAmb	IAmb	19 01 56.3
	comp=Z,13nm,1.2s					
SDCO	**Great Sand Dun**	**70.67**	**3**	P	**P**	**19 01 55.8 +1.1**
SDCO				IAmb	IAmb	19 02 10.6
	comp=Z,13nm,1.2s					
T35A	**Sooner Cattle**	**70.75**	**11**	P	**P**	**19 01 55.8 +1.0**
T35A				IAmb	IAmb	19 01 57.2
	comp=Z,16nm,1.4s					
U40A	**Yellville**	**70.86**	**14**	P	**P**	**19 01 55.7 +0.2**
LCAR	**Lake Charles**	**70.94**	**15**	P	**P**	**19 01 56.5 +0.5**
LCAR				IAmb	IAmb	19 02 24.0
	comp=Z,9.8nm,1.4s					
TPH	**Tonopah**	**71.31**	**353**	P	**P**	**19 01 59.9 +1.5**
PV21	**Cone Mtn., Par**	**71.40**	**0**	P	**P**	**19 01 60.0 +1.0**
PV21				IAmb	IAmb	19 02 22.4
	comp=Z,11nm,1.2s					
MSU	**Marysvale**	**71.40**	**358**	P	**P**	**19 01 59.8 +0.8**
R11A	**Troy Canyon, C**	**71.43**	**355**	P	**P**	**19 02 00.5 +1.3**
SWET	**Sewanee**	**71.46**	**20**	P	**P**	**19 01 59.0 -0.2**
SWET				IAmb	IAmb	19 02 15.5
	comp=Z,9.9nm,1.2s					
PSUT	**Pine Spring**	**71.50**	**356**	P	**P**	**19 01 59.9 +0.3**
TCRU	**Three Creeks R**	**71.51**	**357**	P	**P**	**19 02 00.7 +1.0**
LHV	**Little Huntoon**	**71.61**	**352**	P	**P**	**19 02 02.0 +2.0**
LHV				IAmb	IAmb	19 02 04.3
	comp=Z,27nm,1.7s					
CMB	**Columbia Colle**	**71.64**	**351**	P	**P**	**19 02 00.3 +0.1**
V48A	**Smith Brothers**	**71.70**	**19**	P	**P**	**19 02 00.5 -0.2**
V48A				IAmb	IAmb	19 02 49.0
	comp=Z,17nm,1.5s					
MGMO	**Mountain Grove**	**71.75**	**14**	P	**P**	**19 02 01.9 +1.0**
MGMO				IAmb	IAmb	19 02 03.9
	comp=Z,13nm,1.1s					
NV11	**Mina Array Sit**	**71.75**	**353**	P	**P**	**19 02 02.4 +1.3**
NVAR	**Mina Array Bea**	**71.77**	**352**	P	**P**	**19 02 02.1 +0.8**
	comp=Z,2.6nm,0.9s,baz=184,slow=9.0,SNR=11					
NVAR	**Mina Array Bea**	**71.77**	**352**	P	**P**	**19 02 02.8 +1.5**
Q16A	**Castle Valley**	**71.78**	**358**	P	**P**	**19 02 02.0 +0.8**
Q16A				IAmb	IAmb	19 02 03.5
	comp=Z,12nm,1.4s					
PBMO	**Poplar Bluff**	**71.79**	**16**	P	**P**	**19 02 01.4 +0.3**
PBMO				IAmb	IAmb	19 02 03.0
	comp=Z,25nm,1.6s					
WVT	**Waverly**	**71.80**	**18**	P	**P**	**19 02 01.5 +0.3**
WVT				IAmb	IAmb	19 02 31.8
	comp=Z,28nm,1.9s					
HICK	**Hickman**	**71.84**	**17**	P	**P**	**19 02 01.1 -0.4**
T42A	**Van Buren**	**71.88**	**15**	P	**P**	**19 02 02.7 +1.1**
T42A				IAmb	IAmb	19 02 05.1
	comp=Z,24nm,1.6s					
W52A	**Murphy**	**71.94**	**22**	P	**P**	**19 02 02.8 +0.7**
W52A				IAmb	IAmb	19 02 04.4
	comp=Z,16nm,1.1s					
SRU	**San Rafael Swe**	**71.96**	**359**	P	**P**	**19 02 02.7 +0.4**
RYN	**Ryan**	**71.99**	**352**	P	**P**	**19 02 03.8 +1.3**
RYN				IAmb	IAmb	19 02 05.4
	comp=Z,18nm,1.7s					
SPR3	**Spring Creek 3**	**71.99**	**356**	P	**P**	**19 02 03.5 +0.8**
SPR3				IAmb	IAmb	19 02 05.3
	comp=Z,26nm,1.9s					
S39A	**Bolivar**	**72.06**	**13**	P	**P**	**19 02 03.8 +1.1**
KSCO	**Kaye Shedlock'**	**72.10**	**5**	P	**P**	**19 02 03.5 +0.4**
TMUT	**Trail Mountain**	**72.16**	**358**	P	**P**	**19 02 04.5 +0.9**
P17A	**Butcher Ranch,**	**72.32**	**359**	P	**P**	**19 02 04.9 +0.4**
KVN	**Kaiserville**	**72.36**	**353**	P	**P**	**19 02 04.9 +0.2**
KVN				IAmb	IAmb	19 02 08.2
	comp=Z,19nm,1.6s					
CCM	**Cathedral Cave**	**72.83**	**15**	P	**P**	**19 02 07.6 +0.3**
CCM				IAmb	IAmb	19 02 09.9
	comp=Z,12nm,1.2s					
NLU	**North Lily Min**	**72.84**	**358**	P	**P**	**19 02 08.6 +1.0**
R40A	**Maddies Statio**	**72.85**	**14**	P	**P**	**19 02 06.8 -0.6**
O20A	**White River Ci**	**72.97**	**1**	P	**P**	**19 02 09.7 +1.3**
DUG	**Dugway, Tooele**	**73.11**	**357**	P	**P**	**19 02 10.0 +0.9**
PAHR	**Pah Rah Range**	**73.15**	**352**	P	**P**	**19 02 10.3 +0.9**
PAHR				IAmb	IAmb	19 02 12.2
	comp=Z,17nm,1.6s					
RDMU	**Red Mountain**	**73.40**	**360**	P	**P**	**19 02 11.6 +0.7**
BEKR	**Beckworth**	**73.43**	**351**	P	**P**	**19 02 11.6 -0.3**
JLU	**Jordanelle**	**73.47**	**358**	P	**P**	**19 02 11.0 -0.3**
BMN	**Battle Mountai**	**73.64**	**354**	P	**P**	**19 02 13.6 +1.3**
BMN				IAmb	IAmb	19 02 14.9
	comp=Z,14nm,1.4s					
ELK	**Elko**	**73.79**	**355**	P	**P**	**19 02 13.8 +0.6**
BGU	**Big Grassy Mou**	**73.84**	**357**	P	**P**	**19 02 14.8 +1.3**
P38A	**Dawn**	**73.89**	**13**	P	**P**	**19 02 13.7 +0.2**
P38A				IAmb	IAmb	19 02 15.5
	comp=Z,21nm,1.5s					
TCUT	**Toone Canyon**	**73.98**	**358**	P	**P**	**19 02 14.9 +0.6**
OGNE	**Ogallala**	**74.07**	**6**	P	**P**	**19 02 15.4 +0.8**
U56A	**King**	**74.24**	**24**	P	**P**	**19 02 16.4 +0.7**
WDC	**Whiskeytown Da**	**74.44**	**349**	P	**P**	**19 02 16.7 0.0**
SYO	**Syowa Base**	**75.52**	**169**	*e*P	**P**	**19 02 23.0 +0.3**
SYO	**Syowa Base**	**75.52**	**169**	*e*pP	pP	19 02 26.8 +1.7
BW06	**Boulder Array**	**75.60**	**360**	P	**P**	**19 02 24.3 +0.7**
BW06				IAmb	IAmb	19 03 02.7
	comp=Z,5.9nm,0.5s					
PD31	**Pinedale Array**	**75.60**	**360**	P	**P**	**19 02 23.8 +0.2**
PDAR	**Pinedale Array**	**75.60**	**360**	P	**P**	**19 02 23.9 +0.2**
	comp=Z,1.5nm,0.9s,baz=178,slow=4.5,SNR=12					
WVOR	**Wild Horse Val**	**75.76**	**353**	P	**P**	**19 02 25.6 +1.1**
WVOR				IAmb	IAmb	19 02 27.3
	comp=Z,17nm,1.6s					
REDW	**Red Top Meadow**	**76.21**	**359**	P	**P**	**19 02 27.3 +0.2**
REDW				IAmb	IAmb	19 02 30.7
	comp=Z,12nm,1.3s					
LOHW	**Long Hollow**	**76.45**	**359**	P	**P**	**19 02 28.1 -0.4**
LOHW				IAmb	IAmb	19 02 31.2
	comp=Z,15nm,1.7s					
FXWY	**Fox Creek**	**76.49**	**359**	P	**P**	**19 02 29.4 +0.7**
HLID	**Hailey**	**76.54**	**356**	P	**P**	**19 02 29.5 +0.5**
HLID				IAmb	IAmb	19 02 32.4
	comp=Z,34nm,1.9s					
PINE	**Pine Mountain**	**77.37**	**351**	P	**P**	**19 02 35.0 +1.4**
PINE				IAmb	IAmb	19 02 36.5
	comp=Z,19nm,1.4s					
I07A	**Izee**	**77.49**	**352**	P	**P**	**19 02 35.1 +1.0**
I07A				IAmb	IAmb	19 02 37.1
	comp=Z,16nm,1.5s					
YHH	**Holmes Hill**	**77.63**	**359**	P	**P**	**19 02 36.5 +1.3**
YHH				IAmb	IAmb	19 02 38.6
	comp=Z,24nm,1.9s					
MCMT	**McKenzie Canyo**	**77.73**	**357**	P	**P**	**19 02 36.1 +0.4**
BMO	**Blue Mountains**	**78.03**	**354**	P	**P**	**19 02 38.2 +1.0**
BOZ	**Bozeman (W)**	**78.46**	**358**	P	**P**	**19 02 40.7 +1.1**
BOZ				IAmb	IAmb	19 02 41.9
	comp=Z,21nm,1.9s					
G08A	**Pilot Rock**	**78.62**	**353**	P	**P**	**19 02 41.7 +1.3**
G08A				IAmb	IAmb	19 02 44.4
	comp=Z,14nm,1.5s					
C09A	**Chrisman Ranch**	**81.04**	**354**	P	**P**	**19 02 54.7 +1.3**
NEW	**Newport**	**81.41**	**355**	P	**P**	**19 02 55.4 0.0**
	comp=Z,3.6nm,0.7s,baz=153,slow=8.0,SNR=7.2					
NEW	**Newport**	**81.41**	**355**	P	**P**	**19 02 56.4 +1.0**
NEW				IAmb	IAmb	19 02 57.9
	comp=Z,16nm,1.2s					
H01W1	**Cape Leeuwin H**	**101.01**	**215**	T	T	20 57 39.1
	baz=140					
H01W2	**Cape Leeuwin H**	**101.02**	**215**	T	T	20 57 34.3
	baz=140					
H01W3	**Cape Leeuwin H**	**101.03**	**215**	T	T	20 57 40.3
	baz=140					
MLR	**Muntele Rosu**	**143.64**	**57**	PKP	PKPbc	19 10 11.6 +0.5
	comp=Z,8.0nm,1.4s,baz=310,slow=11,SNR=3.2					
MLR	**Muntele Rosu**	**143.64**	**57**		PKPbc	19 10 11.1 0.0
AKASG	**Malin Array Be**	**145.02**	**47**	PKPbc	**PKPbc**	**19 10 14.6 -0.5**
	comp=Z,0.3nm,0.4s,baz=266,slow=5.0,SNR=10					
AKASG	**Malin Array Be**	**145.02**	**47**		**PKPbc**	**19 10 14.3 -0.8**
BRTR	**Keskin Array B**	**149.55**	**67**	PKPbc	**PKiKP**	**19 10 28.9 -0.5**
	comp=Z,1.9nm,1.0s,baz=279,slow=3.3,SNR=7.2					
BRTR	**Keskin Array B**	**149.55**	**67**	PKPdf	**PKPdf**	**19 10 22.2 -1.6**
BRTR					**PKPbc**	**19 10 27.8 -0.5**
SONM	**Songino Array**	**149.56**	**309**	PKPbc	**PKPbc**	**19 10 27.0 -1.1**
	comp=Z,2.2nm,0.8s,baz=111,slow=1.7,SNR=9.3					
SONM	**Songino Array**	**149.56**	**309**	PKPdf	**PKPdf**	**19 10 21.7 -1.9**
SONM					**sPKPdf**	**19 10 26.9 0.0**
KIRV	**Kirov**	**150.82**	**23**	PKPbc	**PKiKP**	**19 10 31.1 -0.1**
	comp=Z,1.5nm,0.3s,baz=300,slow=3.5,SNR=5.3					
CMAR	**Chiang Mai Arr**	**150.86**	**247**	PKPbc	**PKiKP**	**19 10 32.4 -0.2**
	comp=Z,1.9nm,0.7s,baz=153,slow=1.8,SNR=12					
CMAR	**Chiang Mai Arr**	**150.86**	**247**		**PKPbc**	**19 10 31.5 -0.4**
ZALV	**Zalesovo Beam**	**156.99**	**339**	PKPab	**PKPab**	**19 11 04.2 +0.2**
	comp=Z,0.6nm,0.6s,baz=69,slow=8.1,SNR=3.8					
ZALV	**Zalesovo Beam**	**156.99**	**339**	PKPdf	**PKPdf**	**19 10 32.9 -1.0**
BVAR	**Borovoye Array**	**160.18**	**1**	PKPab	**PKPab**	**19 11 16.3 -1.5**
	comp=Z,0.4nm,0.7s,baz=291,slow=9.4,SNR=4.2					
MKAR	**Makanchi Array**	**163.85**	**331**	PKP	**PKPdf**	**19 10 40.2 -1.5**
	comp=Z,0.5nm,1.0s,baz=130,slow=2.3,SNR=3.6					
MKAR	**Makanchi Array**	**163.85**	**331**	PKPab	**PKPab**	**19 11 34.0 -0.2**

IDC ***15*** *18:54:25.9± 1.0, 19°.87S × 70°.72W, h0km, mb3.9/4, mb1 4.0/7, mb1mx3.8/46, mbtmp3.9/7, ML3.4/3, MS3.1/2, Ms1 3.1/2, ms1mx2.9/27, Error ellipse: s-maj=24.2km s-min=15.2km az=89.0*

NEIC ***15*** *18:54:26.9± 2.4, 20°.02S ± 0°.03 × 70°.95W ± 0°.04, h11km ± 2km, mb4.3/5, Mwr4.2/40, ML4.0(GUC), Error ellipse: s-maj=5.1km s-min=4.2km az=95.0*

VAO ***15*** *18:54:27.5± 0.4, 19°.95S × 70°.86W, h14km, mb4.3*

NEIC ***15*** *18:54:27.5, 19°.995S × 70°.95W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr 1.85; Mθθ -0.13; Mθφ -1.72; Mrθ 0.63; Mφφ 0.46; Mφr -1.07; Fault plane solution: M0 2.2200 × 10^15 NP1: ϕ 156.54000°, δ 62.00000°, λ 82.11000°. NP2: ϕ 352.99000°, δ 29.01000°, λ 104.48000°. Principal axes: T 2.2440, Plg72.0000°, Azm48.0000°; N -0.0417, Plg7.0000°, Azm160.0000°; P -2.2023, Plg17.0000°, Azm252.0000°;*

GUC ***15*** *18:54:28.6± 0.7, 19°.96S × 70°.99W, h35km ± 3km, ML4.0*

ISC 15 18:54:27.4± 1.4, 19°.945S ± 0°.04 × 70°.97W ± 0°.06, h19km ± 6km, n84, σ 0°.92/87, mb4.1/3, 3C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TA02	**Huaiquique**	**0.86**	**113**	*e*P	**Pb**	**18 54 43.3**	**-0.3**
TA02				*i* S	**Sb**	**18 54 54.6**	**-0.1**
TA02				IAML		18 54 56.2	
	comp=N,8μm,0.2s						
TA02	**Huaiquique**	**0.86**	**113**		**Pb**	**18 54 43.2**	**-0.4**
TA02				Sn	**Sb**	**18 54 54.4**	**-0.3**
PSGC	**Pisagua**	**0.87**	**67**	||*i*P	**Pb**	**18 54 43.7**	**-0.1**
PSGC				*i* S	**Sb**	**18 54 55.0**	**-0.1**
PSGCX	**Pisagua**	**0.87**	**67**		**Pb**	**18 54 43.3**	**-0.5**
PSGCX					**Sb**	**18 54 55.1**	**0.0**
TA01	**Diego Aracena**	**0.97**	**130**	⇑*i*P	**Pb**	**18 54 45.2**	**-0.4**
TA01				*i* S	**Sb**	**18 54 57.8**	**-0.2**
TA01				IAML		18 54 58.9	
	comp=N,6μm,0.3s						
TA01	**Diego Aracena**	**0.97**	**130**		**Pb**	**18 54 45.2**	**-0.4**
TA01				Sn	**Sb**	**18 54 57.9**	**-0.1**
PB11	**IPOC Station P**	**1.25**	**82**	||*i*P	**Pn**	**18 54 50.1**	**+0.2**
PB11				*i* S	**Sb**	**18 55 06.1**	**-0.2**
PB11				IAML		18 55 08.2	
	comp=N,11μm,0.3s						
PB11	**IPOC Station P**	**1.25**	**82**	Pn	**Pn**	**18 54 50.0**	**+0.1**
PB11				Sn	**Sb**	**18 55 06.0**	**-0.2**
AP01	**Chacalluta**	**1.67**	**21**		**Pb**	**18 54 56.9**	**-0.5**
AP01				Sn	**Sg**	**18 55 20.2**	**-1.0**
PB02	**IPOC Station P**	**1.71**	**144**	*e*P	**Pn**	**18 54 55.8**	**-0.4**
PB02				*i* S	**Sn**	**18 55 16.6**	**-0.9**
PB02				IAML		18 55 25.8	
	comp=E,5μm,0.7s						
PB08	**IPOC Station P**	**1.72**	**97**	⇑*i*P	**Pn**	**18 54 57.1**	**+0.5**
PB08				*i* S	**Sb**	**18 55 19.8**	**-0.2**
PB08				IAML		18 55 23.5	
	comp=N,2μm,0.6s						
PB08	**IPOC Station P**	**1.72**	**97**		**Pn**	**18 54 56.9**	**+0.3**
PB08				Sn	**Sn**	**18 55 18.9**	**+0.6**
PB01	**IPOC Station P**	**1.77**	**129**	*i* S	**Sn**	**18 55 19.5**	**+0.3**
PB01				IAML		18 55 27.1	
	comp=E,2μm,0.4s						
PB01	**IPOC Station P**	**1.77**	**129**		**Pn**	**18 54 57.1**	**0.0**
PB01				Sn	**Sn**	**18 55 18.7**	**-0.5**
PB07	**IPOC Station P**	**2.05**	**151**	*e*P	**Pn**	**18 55 00.4**	**-0.5**
PB07				IAML		18 55 41.1	
	comp=E,1μm,0.8s						
PB07	**IPOC Station P**	**2.05**	**151**		**Pn**	**18 55 00.3**	**-0.7**
PB09	**IPOC Station P**	**2.46**	**139**	⇑*i*P	**Pn**	**18 55 07.6**	**+1.0**
PB09				*i* S	**Sn**	**18 55 36.9**	**+0.7**
PB09				IAML		18 55 51.1	
	comp=E,1μm,0.4s						
PB09	**IPOC Station P**	**2.46**	**139**		**Pn**	**18 55 07.5**	**+0.9**
PB04	**IPOC Station P**	**2.51**	**162**		**Pn**	**18 55 05.3**	**-1.4**
PB06	**IPOC Station P**	**3.05**	**155**	IAML		18 56 08.3	
	comp=N,364nm,0.3s						
PB06	**IPOC Station P**	**3.05**	**155**		**Pn**	**18 55 13.9**	**-0.8**
LVC	**Limon Verde**	**3.28**	**145**	Pn	**Pn**	**18 55 19.3**	**+1.2**
	comp=N,9.4nm,0.3s,baz=318,slow=9.2,SNR=34						
LVC				Lg	Lg	18 56 07.4	
	comp=N,18nm,0.3s,baz=41,slow=13,SNR=8.6						
LVC	**Limon Verde**	**3.28**	**145**		**Pn**	**18 55 19.1**	**+1.0**
LVC	**Limon Verde**	**3.28**	**145**	*e*P	**Pn**	**18 55 19.4**	**+1.3**
PB15	**IPOC Station P**	**3.54**	**157**		**Pn**	**18 55 20.6**	**-0.9**
PB10	**IPOC Station P**	**3.58**	**174**		**Pn**	**18 55 20.1**	**-1.8**
AF01	**San Pedro de A**	**3.97**	**140**		**Pn**	**18 55 25.6**	**-1.9**
LPAZ	**La Paz**	**4.52**	**37**	Pn	**Pn**	**18 55 35.5**	**+0.1**
	comp=N,0.4nm,0.3s,baz=299,slow=4.6,SNR=4.9						
LPAZ				Pg	**Pb**	**18 55 43.4**	**-3.1**
	comp=N,0.9nm,0.3s,baz=224,slow=6.8,SNR=13						
LPAZ				Lg	Lg	18 56 44.0	
	baz=180,slow=11,SNR=1.4						
LPAZ	**La Paz**	**4.52**	**37**		**Pn**	**18 55 36.1**	**+0.7**
LPAZ	**La Paz**	**4.52**	**37**	*e*P	**Pn**	**18 55 35.0**	**-0.3**
PB14	**IPOC Station P**	**4.70**	**174**		**Pn**	**18 55 35.5**	**-2.0**
AC02	**Maricunga**	**7.07**	**167**	Pn	**Pn**	**18 56 10.3**	**0.0**
AC06	**Mina Casimiro**	**7.41**	**176**	Pn	**Pn**	**18 56 12.4**	**-2.1**
GO03	**Copiap**	**7.65**	**175**	Pn	**Pn**	**18 56 17.4**	**-0.5**
AC04	**Llanos de Chal**	**8.23**	**181**	Pn	**Pn**	**18 56 25.7**	**-0.1**
SIV	**San Ignacio**	**10.20**	**69**	Pn	**Pn**	**18 56 51.1**	**-1.8**
	comp=N,0.7nm,0.3s,baz=258,slow=12,SNR=10						
SIV				LR	LR	19 01 01.7	
	comp=N,113nm,21.9s,baz=296,slow=40						
ETMB	**Extrema**	**11.06**	**25**	*e*P	**Pn**	**18 57 06.0**	**+1.4**
PTLB	**Pontes e Lacer**	**12.13**	**70**	*e*P	**Pn**	**18 57 18.9**	**-0.3**
CZSB	**Cruzeiro do Su**	**12.25**	**352**	*e*P	**Pn**	**18 57 22.3**	**+1.4**
VILB	**Vilhena**	**12.44**	**58**	*e*P	**Pn**	**18 57 23.8**	**+0.2**
SAML	**Samuel**	**13.27**	**36**	*e*P	**Pn**	**18 57 35.7**	**+0.9**
CPUP	**Villa Florida**	**14.07**	**119**	LR	LR	19 03 46.6	
	comp=N,80nm,21.1s,baz=261,slow=40						
AQDB	**Aquidauana**	**14.35**	**95**	*e*P	**Pn**	**18 57 49.1**	**-0.5**
SALV	**Santo Antonio**	**15.08**	**77**	*e*P	**Pn**	**18 57 59.5**	**-0.1**
H03N1	**Juan Fernandez**	**15.20**	**206**	T	T	19 13 49.1	
	baz=33,slow=72,SNR=59						
H03N2	**Juan Fernandez**	**15.21**	**206**	T	T	19 13 50.1	
	ba

KAN05					Sg	Sg	19 08 28.4	-0.1
KAN12	**Harper NE Stat**	**0.82**	**47**			Pg	19 08 18.3	-0.3
KAN17	**Caldwell West**	**0.84**	**69**		Pg	Pg	19 08 18.9	-0.3
KAN09	**Caldwell North**	**0.99**	**66**			Pg	19 08 20.2	-1.7
KAN09					IAmb_Lg		19 08 35.4	
	comp=Z,195nm,0.8s							
KAN13	**South Haven SW**	**1.06**	**75**		Pg	Pg	19 08 22.9	-0.3
BLOK	**Blackwell**	**1.23**	**89**		Pg	Pb	19 08 25.8	-0.7
OK029	**Liberty Lake**	**1.41**	**132**			Pn	19 08 28.5	-0.4
OK025	**Westminster Rd**	**1.63**	**135**			Pb	19 08 32.6	-0.6
R32A	**Long Quarter,**	**1.68**	**1**			Pb	19 08 33.4	-0.7
QUOK	**Quay**	**1.74**	**109**			Pb	19 08 34.7	-0.5
T35A	**Sooner Cattle**	**1.81**	**84**			Pb	19 08 35.6	-0.7
T35A					IAmb_Lg		19 09 03.9	
	comp=Z,14nm,1.1s							
WMOK	**Wichita Mounta**	**2.00**	**181**			Pn	19 08 38.0	+0.9
CBKS	**Cedar Bluff**	**2.21**	**340**		Pn	Pn	19 08 41.2	+1.2
X34A	**Smith Ranch, M**	**2.27**	**160**			Pb	19 08 43.2	-0.9
KSU1	**Kansas State U**	**2.90**	**35**		IAmb_Lg		19 09 37.0	
	comp=Z,13nm,1.0s							
LOOK	**Love County**	**3.03**	**154**			Pn	19 08 51.6	+0.4
X37A	**Clayton**	**3.49**	**127**			Pn	19 08 55.5	-2.1
KSCO	**Kaye Shedlock'**	**3.81**	**308**		IAmb_Lg		19 10 02.7	
	comp=Z,7.5nm,0.8s							
HHAR	**Hobbs**	**3.90**	**95**		Pn	Pn	19 09 03.4	+0.2
HHAR					IAmb_Lg		19 10 11.9	
	comp=Z,6.2nm,1.1s							
S39A	**Bolivar**	**4.43**	**76**		Pn	Pn	19 09 09.4	-1.1
T25A	**Trinidad**	**4.55**	**277**		Pn	Pn	19 09 10.9	-1.4
Z38A	**Mt. Pleasant**	**4.65**	**137**		Pn	Pn	19 09 12.2	-1.3
MIAR	**Mount Ida**	**4.75**	**116**		Pn	Pn	19 09 12.7	-2.1
X40A	**Basin Creek Fa**	**5.32**	**113**		IAmb_Lg		19 11 02.5	
	comp=Z,11nm,1.3s							
PV17	**East Wray Mesa**	**8.26**	**284**		IAmb_Lg		19 12 30.9	
	comp=Z,15nm,0.7s							

*IDC **15** 19:22:10.1±1.4,0.˚55N×134.˚96E, h0km, mb4.0/5, mb1 4.2/7, mb1mx3.7/43, mbtmp4.0/7, ML3.5/2, Error ellipse: s-maj=38.1km s-min=20.8km az=57.0*

*DJA **15** 19:22:11.2±0.9, 1.˚N±9.˚9×13.˚5E±.˚, h10km, M4.2/7, mb4.5/3, mB5.4/2, MLv4.1/7, Mw(mB)4.8/2*

*NEIC **15** 19:22:17.9±2.6, 0.˚26N±0.˚06×134.˚4E±0.˚1, h38km±5km, mb4.3/15, Error ellipse: s-maj=17.6km s-min=8.0km az=87.0*

ISC 15 19:22:14.7±0.8, 0.˚29N±0.˚08×134.˚93E±0.˚05, h26km, n31, σ2s55/31, mb4.1/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BAKI	**Biak**	**1.89**	**141**	P			**Pn**	**19 22 45.1**	**-0.1**
SRPI	**Serui, Papua**	**2.51**	**149**	P			**Pn**	**19 22 54.7**	**+0.8**
SRPI				S			**Sn**	**19 23 26.7**	**+3.0**
SIJI	**Sorong**	**3.84**	**253**	Pn			**Pn**	**19 23 10.3**	**-1.8**
	4.5nm,0.3s,baz=176,slow=23,SNR=29								
SIJI				Sn			**Sn**	**19 23 54.2**	**-2.3**
	baz=173,slow=23,SNR=2.0								
SIJI	**Sorong**	**3.84**	**253**	P			**Pn**	**19 23 10.4**	**-1.8**
SWI	**Sorong**	**3.84**	**253**	P			**Pn**	**19 23 11.5**	**-0.7**
FAKI	**Fak Fak**	**4.17**	**220**				**Pn**	**19 23 18.6**	**+1.9**
FAKI				Sn			**Sn**	**19 24 03.8**	**-0.7**
FAKI	**Fak Fak**	**4.17**	**220**	P			**Pn**	**19 23 18.7**	**+2.1**
JAY	**Jayapura**	**6.41**	**116**	Pn			**Pn**	**19 23 45.0**	**-2.6**
	0.7nm,0.3s,baz=220,slow=11,SNR=9.6								
JAY				Sn			**Sn**	**19 24 53.5**	**-6.5**
	0.9nm,0.3s,baz=193,slow=22,SNR=5.7								
JAY	**Jayapura**	**6.41**	**116**	P			**Pn**	**19 23 45.1**	**-2.4**
	0.0nm7.6nm,1.0s								
KRAI	**Karang Ratu**	**7.45**	**241**	P			**Pn**	**19 24 03.2**	**+1.4**
MTN	**Manton Dam**	**13.58**	**196**	Pn			**Pn**	**19 25 24.7**	**-1.1**
COEN	**Coen**	**16.34**	**150**				**P**	**19 26 05.8**	**+0.6**
COEN					IAmb		IAmb	19 26 47.8	
	comp=Z,27nm,1.4s								
KNRA	**Kununurra**	**17.00**	**201**	P			**Pn**	**19 26 10.4**	**-0.4**
KNRA					IAmb		IAmb	19 26 39.2	
	comp=Z,47nm,1.6s								
KNRA				Sn			**Sn**	**19 29 13.5**	**-5.6**
WRAB	**Tennant Creek**	**20.11**	**182**	P			**P**	**19 26 47.5**	**+0.8**
WB2	**Warramunga Arr**	**20.12**	**182**				Pn	19 26 47.8	-0.9
WRA	**Warramunga Arr**	**20.12**	**182**	P			Pn	19 26 48.7	0.0
	comp=Z,26nm,0.8s,baz=0.0,slow=11,SNR=157								
WRA	**Warramunga Arr**	**20.12**	**182**	P			Pn	19 26 48.3	-0.4
WR0	**Warramunga Arr**	**20.13**	**181**				Pn	19 26 48.7	-0.2
WR0					IAmb		IAmb	19 26 50.3	
	comp=Z,15nm,0.7s								
FITZ	**Fitzroy Crossi**	**20.43**	**206**	P			Pn	19 26 52.3	0.0
FITZ					IAmb		IAmb	19 27 25.9	
	comp=Z,17nm,1.6s								
CTAO	**Charters Tower**	**23.09**	**152**	P			**P**	**19 27 22.1**	**+3.5**
CTAO					IAmb		IAmb	19 27 22.9	
	comp=Z,8.0nm,0.7s								
AS31	**Alice Springs**	**23.83**	**182**	P			**P**	**19 27 27.8**	**+1.9**
ASAR	**Alice Springs**	**23.83**	**182**	P			**P**	**19 27 28.3**	**+2.4**
	comp=Z,14nm,0.8s,baz=11,slow=11,SNR=88								
ASAR	**Alice Springs**	**23.83**	**182**	P			**P**	**19 27 27.5**	**+1.5**
GIRL	**Giralia**	**30.43**	**220**	P			**P**	**19 28 22.7**	**-2.5**
STKA	**Stephens Creek**	**32.61**	**169**	P			**P**	**19 28 46.0**	**+1.7**
	comp=Z,0.6nm,0.4s,baz=325,slow=12,SNR=2.8								
KSAR	**Wonju Array Be**	**37.54**	**351**	P			**P**	**19 29 29.8**	**+3.1**
CMAR	**Chiang Mai Arr**	**39.68**	**299**	P			**P**	**19 29 43.3**	**-1.7**
	comp=Z,0.5nm,0.7s,baz=116,slow=8.1,SNR=4.3								
LBZ	**Lake Benmore**	**54.41**	**149**	P			**P**	**19 31 43.2**	**+3.5**
MK31	**Makanchi Array**	**65.13**	**323**	P			**P**	**19 32 52.5**	**-0.9**
MK31					IAmb		IAmb	19 32 53.5	
	comp=Z,1.9nm,1.2s								
MKAR	**Makanchi Array**	**65.13**	**323**	P			**P**	**19 32 52.0**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=110,slow=8.4,SNR=5.6								
MAKZ	**Makanchi**	**65.32**	**323**	P			**P**	**19 32 53.5**	**-1.2**
MAKZ					IAmb		IAmb	19 33 03.5	
	comp=Z,2.3nm,0.9s								

MEX 15 19:24:21.9±0.6, 16.˚30N×98.˚32W, h9km±5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.21**	**64**	*i* P			Pg	19 24 25.9	-0.2
PNIG				*i* S			Sg	19 24 28.8	-0.3
MGIG	**Malinaltepec**	**0.98**	**342**	*i* P			Pg	19 24 40.1	-0.6
MGIG				*i* S			Sg	19 24 51.7	-1.7
TXIG	**Tlaxiaco**	**1.09**	**29**	*eP*			Pg	19 24 39.1	-3.7
PEIG	**Puerto Escondi**	**1.17**	**105**	*i* P			Pb	19 24 40.5	-3.8
PEIG				*i* S			Sg	19 24 55.4	-4.1

TAP 15 19:27:38.9, 23.˚01N×120.˚92E, h14km, ML1.4, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.20**	**27**	P			Pg	19 27 43.7	+0.3
	baz=30								
ELDTW				*eS*			Sg	19 27 46.7	+0.1
	baz=30								
STYH	**Taoyuan**	**0.20**	**320**	P			Pb	19 27 44.1	-0.4
	baz=328								
STYH				*eS*			Sg	19 27 47.1	+0.5
	baz=328								
STYT	**Tauyuan**	**0.21**	**315**	P			Pg	19 27 44.0	+0.4
	baz=324								
STYT				*eS*			Sg	19 27 47.1	+0.3
	baz=324								
LONT	**Longtian**	**0.22**	**119**	P			Pg	19 27 44.2	+0.4
	baz=118								
LONT				*eS*			Sg	19 27 47.7	+0.6
	baz=118								
TWG	**Pinlang**	**0.24**	**144**	*eP*			Pg	19 27 44.4	+0.4
	baz=142								
TWG				*eS*			Sg	19 27 48.2	+0.7
	baz=142								
TWG	**Pinlang**	**0.24**	**144**	P			Pb	19 27 44.9	-0.1
TWGBT	**Beinan**	**0.24**	**143**	*eP*			Pb	19 27 44.7	-0.4
	baz=142								
TWGBT				*eS*			Sg	19 27 48.3	+0.6
	baz=142								
ECS	**Chishang**	**0.29**	**74**	P			Pb	19 27 45.9	0.0
	baz=72								
ECS				*eS*			Sb	19 27 50.4	-0.2
	baz=72								
SGST	**Jiashian**	**0.32**	**282**	*eP*			Pb	19 27 46.2	-0.2
	baz=287								
SGST				*eS*			Sb	19 27 50.9	-0.6
	baz=287								
TTN	**Taitung**	**0.33**	**141**	P			Pb	19 27 46.9	+0.2
	baz=144								
TTN				*eS*			Sb	19 27 52.4	+0.6
	baz=144								
EDH	**Donghe**	**0.36**	**97**	*eP*			Pg	19 27 46.4	+0.3
	baz=96								
EDH				*eS*			Sb	19 27 53.3	+0.7
	baz=96								
WTP	**Ta-pu**	**0.36**	**309**	P			Pb	19 27 47.3	+0.1
	baz=311								
WTP				*eS*			Sb	19 27 53.3	+0.4
	baz=311								
SSD	**Sandimen**	**0.38**	**225**	*eP*			Pg	19 27 46.7	+0.2
	baz=222								
SSD				*eS*			Sg	19 27 51.2	-0.4
	baz=222								
TPUB	**Ta-pu**	**0.39**	**317**	*eP*			Pb	19 27 48.1	+0.4
	baz=318								
TPUB				*eS*			Sb	19 27 53.7	+0.2
	baz=318								
FULB	**Fuli**	**0.39**	**62**	*eP*			Pb	19 27 47.9	+0.2
	baz=53								
FULB				*eS*			Sb	19 27 53.1	-0.5
	baz=53								
CHN1	**Nanshi**	**0.40**	**295**	*eP*			Pb	19 27 48.0	+0.2
	baz=297								
CHN1				*eS*			Sb	19 27 54.6	+0.8
	baz=297								
TSMG	**Majia**	**0.40**	**220**	*eP*			Pg	19 27 47.0	+0.1
	baz=218								
TSMG				*eS*			Sg	19 27 51.5	-0.8
	baz=218								
SCST	**Cishan**	**0.41**	**252**	*eP*			Pb	19 27 47.8	-0.2
	baz=252								
SCST				*eS*			Sb	19 27 54.9	+0.7
	baz=252								
ECL	**Taimali**	**0.42**	**176**	*eP*			Pb	19 27 48.4	+0.3
	baz=168								
ECL				*eS*			Sg	19 27 52.3	-0.5
	baz=168								
CHKT	**Chengkung**	**0.42**	**78**	*eP*			Pg	19 27 47.3	0.0
	baz=70								
CHKT				*eS*			Sb	19 27 56.1	+1.8
	baz=70								
TWK	**Hsinying**	**0.47**	**302**	*eP*			Pb	19 27 49.0	0.0
	baz=305								
TWK				*eS*			Sb	19 27 56.2	+0.4
	baz=305								
MASBT	**Mashibuluo**	**0.48**	**213**	*eP*			Pg	19 27 48.6	+0.2
	baz=211								
MASBT				*eS*			Sg	19 27 54.5	-0.3
	baz=211								
TWF1	**Yuli**	**0.48**	**46**	*eP*			Pb	19 27 49.0	-0.2
	baz=45								
TWF1				*eS*			Sg	19 27 55.2	+0.3
	baz=45								
EYUL	**Yuli**	**0.50**	**48**	*eP*			Pg	19 27 48.4	-0.3
	baz=41								
EYUL				*eS*			Sg	19 27 54.5	-0.8
	baz=41								
ALS	**Alishan**	**0.51**	**348**	*eP*			Pg	19 27 48.9	-0.1
	baz=360								
ALS				*eS*			Sb	19 27 56.7	-0.4
	baz=360								
YULB	**Yu-li**	**0.51**	**43**	*eP*			Pg	19 27 47.7	-1.3
	baz=41								
YULB				*eS*			Sg	19 27 55.7	-0.2
	baz=41								
ECBN	**Changbin**	**0.57**	**58**	*eP*			Pb	19 27 50.5	-0.2
	baz=50								
ECBN				*eS*			Sb	19 27 58.9	0.0
	baz=50								
EHY	**Hungye**	**0.61**	**37**	*eP*			Pg	19 27 50.5	-0.5
	baz=37								
EHY				*eS*			Sg	19 27 59.4	+0.3
	baz=37								
CHN5	**Tsauling**	**0.62**	**339**	*eP*			Pb	19 27 51.6	0.0
	baz=348								
CHN5				*eS*			Sb	19 28 01.4	+1.1
	baz=348								
HGSD	**Ruisui**	**0.67**	**44**	*eP*			Pb	19 27 52.2	-0.1
	baz=39								
HGSD				*eS*			Sb	19 28 01.3	-0.2
	baz=39								
WHYT	**Xinyi Township**	**0.68**	**355**	*eP*			Pg	19 27 52.0	-0.3
	baz=3.0								
WHYT				*eS*			Sb	19 28 02.1	+0.1
	baz=3.0								

*IDC **15** 19:34:41.4±0.5, 15.˚05S×173.˚17W, h0km, mb4.5/14, mb1 4.7/14, mb1mx4.4/47, mbtmp4.5/14, MS4.4/29, Ms1 4.4/29, ms1mx4.2/46, Error ellipse: s-maj=27.3km s-min=14.0km az=129.0*

*NEIC **15** 19:34:45.8±2.5, 14.˚98S±0.˚06×172.˚77W±0.˚07, h24km±4km, mb5.0/190, Error ellipse: s-maj=11.4km s-min=7.0km az=133.0*

*NOU **15** 19:34:46.7, 14.˚89S×172.˚39W, h73km, mb4.9/25, Samoa Islands*

*GCMT **15** 19:34:51.1±0.3, 14.˚82S±0.˚02×172.˚86W±0.˚02, h21km±1km, MW5.1/97, Moment Tensor Solution. s29,c33; s97,c118; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=2.85±.21; Mθθ3.66±.18; Mϕϕ-0.81±.13; Mrθ-4.54±.40; Mrϕ0.05±.10; Mθϕ1.93±.28; Best double couple: Mo5.94700×10^16^ NP1:ϕs246.00000°, δ21.00000°, λ-132.00000°. NP2: ϕs110.00000°, δ74.00000°, λ-76.00000°. Principal axes: T 6.0960, Plg28.0000°, Azm188.0000°; N -0.3080, Plg14.0000°, Azm286.0000°; P -5.7970, Plg58.0000°, Azm39.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 19:34:45.9±0.3, 15.˚15S±0.˚04×172.˚59W±0.˚05, h35km, n448, σ1s76/392, mb4.9/109, MS4.5/29, 10C-23D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.47**	**33**	Pn			**Pn**	**19 35 07.7**	**-2.3**
	1μm,0.3s,baz=200,slow=2.6,SNR=305								
AFI				Sn			**Sn**	**19 35 24.0**	**-3.9**
	4μm,0.3s,baz=48,slow=23,SNR=19								
AFI	**Afiamalu**	**1.47**	**33**	Pn			**Pn**	**19 35 07.8**	**-2.1**
AFI				Sn			**Sn**	**19 35 23.3**	**-4.7**
AFI	**Afiamalu**	**1.47**	**33**	P			**Pn**	**19 35 07.1**	**-2.8**
AFI	**Afiamalu**	**1.47**	**33**	P			**Pn**	**19 35 07.9**	**-2.0**
NIUE	**Niue**	**4.66**	**147**				**Pn**	**19 35 54.0**	**+0.2**
NIUE				Sn			**Sn**	**19 36 41.4**	**-5.3**
NIUE	**Niue**	**4.66**	**147**	P			**Pn**	**19 35 54.5**	**+0.7**
MSVF	**Nonsavu**	**9.34**	**253**	Pn			**Pn**	**19 37 01.0**	**+2.9**
	0.8nm,0.3s,baz=119,slow=9.6,SNR=9.4								
MSVF				LR			LR	19 40 01.3	
	comp=Z,2μm,18.2s,baz=72,slow=36								
MSVF	**Nonsavu**	**9.34**	**253**	Pn			**Pn**	**19 36 56.3**	**-1.8**
KNTN	**Kanton**	**12.33**	**4**	Pn			Pn	19 37 32.6	-6.4
RAR	**Rarotonga**	**13.59**	**118**	Pn			**Pn**	**19 37 55.6**	**-0.5**
	4.2nm,0.3s,baz=258,slow=3.6,SNR=5.7								
RAR				Sn			**Sn**	**19 40 18.7**	**-7.2**
	1.9nm,0.3s,baz=340,slow=20,SNR=1.9								
RAR				LR			LR	19 42 32.3	
	comp=Z,223nm,20.0s,baz=310,slow=33								
RAR	**Rarotonga**	**13.59**	**118**				**Pn**	**19 37 55.8**	**-0.4**
MARNC	**Mare, Loyalty**	**19.43**	**248**				**P**	**19 39 07.5**	**-1.9**
MARNC	**Mare, Loyalty**	**19.43**	**248**	P			**Pn**	**19 39 10.2**	**-0.6**
PINNC	**Pines Island,**	**20.28**	**246**				**P**	**19 39 17.7**	**-0.9**
YATNC	**Mamie plateau,**	**20.61**	**247**	P			**P**	**19 39 23.4**	**+1.2**
OUENC	**Ouen Island, N**	**20.75**	**247**	P			**P**	**19 39 20.4**	**-3.4**
OUENC					IAmb		IAmb	19 39 38.4	
	comp=Z,82nm,1.4s								
DZM	**Mont Dzumac**	**21.01**	**248**	*eP*			**P**	**19 39 27.0**	**+0.3**
	comp=Z,113nm,1.4s								
DZM				*eLQ*			LQ	19 43 23.4	
	comp=Z,1μm,36.7s								
DZM				*eLR*			LR	19 44 14.9	
	comp=Z,2μm,26.6s								
DZM	**Mont Dzumac**	**21.01**	**248**	P			**P**	**19 39 23.2**	**-3.5**
	comp=Z,20nm,1.1s,baz=329,slow=20,SNR=4.2								
DZM				LR			LR	19 46 17.1	
	comp=Z,644nm,21.0s,baz=76,slow=34								
DZM	**Mont Dzumac**	**21.01**	**248**	P			**P**	**19 39 24.8**	**-1.9**
DZM							pP	19 39 24.9	-9.1
DZM					IAmb		IAmb	19 40 02.5	
	comp=Z,136nm,1.7s								
ONTNC	**Ouen Toro**	**21.07**	**247**	P			**P**	**19 39 23.9**	**-3.2**
ONTNC					IAmb		IAmb	19 39 48.3	
	comp=Z,44nm,1.0s								
NOUC	**Port Laguerre**	**21.14**	**248**	P			**P**	**19 39 30.2**	**+2.2**
	comp=Z,40nm,1.3s								
TARA	**Tarawa**	**21.78**	**318**	P			**P**	**19 39 31.7**	**-3.2**
TARA					IAmb		IAmb	19 39 40.4	
	comp=Z,112nm,1.2s								
PPT	**Papeete**	**22.21**	**99**	LR			LR	19 46 52.7	
	comp=Z,146nm,18.5s,baz=259,slow=32								
PPT2	**Papeete2**	**22.21**	**99**	*e*LR			LR	19 45 10.7	
	comp=Z,417nm,24.5s,baz=263								
PPT2	**Papeete2**	**22.21**	**99**	*e*T			T	20 02 50.8	
	comp=Z,6.9nm,0.3s								
PPTF	**Pamatai, Papee**	**22.22**	**99**				**P**	**19 39 39.4**	**-0.4**
XMAS	**Kiritimati**	**22.73**	**43**				**P**	**19 39 43.4**	**-1.7**
TBI	**Tubuai**	**23.29**	**114**	*e*LQ			LQ	19 44 40.4	
	comp=Z,552nm,27.5s								
TBI				*e*LR			LR	19 45 30.2	
	comp=Z,895nm,27.2s,baz=289								
TBI	**Tubuai**	**23.29**	**114**	*e*T			T	20 04 10.4	
	comp=Z,10.0nm,0.3s								
MXZ	**Matakaoa Point**	**23.73**	**198**	P			**P**	**19 39 52.9**	**-2.0**
URZ	**Urewera**	**24.75**	**200**	P			**P**	**19 40 02.8**	**-1.3**
	comp=Z,32nm,0.5s,baz=67,slow=2.3,SNR=17								
URZ					LR		LR	19 49 06.6	
	comp=Z,511nm,18.5s,baz=31,slow=35								
URZ	**Urewera**	**24.75**	**200**	P			**P**	**19 40 02.4**	**-1.8**
HIZ	**Hauiti**	**25.77**	**203**	P			**P**	**19 40 14.3**	**+0.9**
BKZ	**Black Stump Fm**	**25.77**	**200**	P			**P**	**19 40 12.7**	**-0.8**
BKZ					IAmb		IAmb	19 40 18.2	
	comp=Z,15nm,0.6s								
BFZ	**Birch Farm**	**27.23**	**199**	P			**P**	**19 40 28.0**	**+1.4**
HNR	**Honiara**	**27.41**	**279**	LR			LR	19 49 10.4	
	comp=Z,309nm,21.2s,baz=100,slow=32								
MSWZ	**Moikau Station**	**28.21**	**200**	P			**P**	**19 40 34.5**	**-0.8**
PLWZ	**Palliser**	**28.35**	**199**	P			**P**	**19 40 37.0**	**+0.4**
KHZ	**Kahutara**	**29.68**	**201**	P			**P**	**19 40 47.3**	**-1.0**
KHZ					IAmb		IAmb	19 41 22.0	
	comp=Z,53nm,1.4s								
RPZ	**Rata Peaks**	**31.70**	**203**	P			**P**	**19 41 06.5**	**+0.3**
WHZ	**Wether Hill Ro**	**34.73**	**204**	P			**P**	**19 41 32.6**	**0.0**
ARMA	**Armidale**	**36.13**	**239**	P			**P**	**19 41 41.3**	**-3.7**
ARMA					IAmb		IAmb	19 41 56.8	
	comp=Z,29nm,1.4s								
RKT	**Rikitea**	**36.33**	**108**	*e*T			T	20 20 28.7	
	comp=Z,5.2nm,0.3s								
H11S2	**WAKE ISLAND Hy**	**39.16**	**328**	T			T	20 22 42.4	
	baz=146,slow=76,SNR=15								
H11S3	**WAKE ISLAND Hy**	**39.17**	**328**	T			T	20 22 43.5	
	baz=146,slow=76,SNR=17								
H11S1	**WAKE ISLAND Hy**	**39.18**	**328**	T			T	20 22 44.7	
	baz=146,slow=76,SNR=8.9								
H11N3	**WAKE ISLAND Hy**	**40.09**	**329**	T			T	20 23 51.2	
	baz=147,slow=76,SNR=7.6								
H11N1	**WAKE ISLAND Hy**	**40.10**	**329**	T			T	20 23 52.1	
	baz=147,slow=76,SNR=5.5								
H11N2	**WAKE ISLAND Hy**	**40.11**	**329**	T			T	20 23 53.0	
	baz=147,slow=76,SNR=5.9								
COEN	**Coen**	**42.78**	**266**	P			**P**	**19 42 39.5**	**-1.0**
TOO	**Toolangi**	**43.22**	**231**	P			**P**	**19 42 43.2**	**-0.6**
TOO					IAmb		IAmb	19 42 49.3	
	comp=Z,85nm,1.9s								
MIDW	**Midway**	**43.36**	**354**	P			**P**	**19 42 46.3**	**+1.4**
STKA	**Stephens Creek**	**44.83**	**240**	P			P	19 42 52.0	-4.8
	comp=Z,1.7nm,0.5s,baz=92,slow=12,SNR=8.4								
STKA	**Stephens Creek**	**44.83**	**240**	P			**P**	**19 42 54.2**	**-2.6**
BBOO	**Buckleboo**	**49.61**	**240**	P			**P**	**19 43 31.7**	**-2.3**
WR0	**Warramunga Arr**	**50.47**	**256**	P			**P**	**19 43 37.7**	**-3.0**
WB2	**Warramunga Arr**	**50.65**	**256**	P			**P**	**19 43 39.0**	**-3.0**
WB2					IAmb		IAmb	19 43 57.2	
	comp=Z,24nm,1.7s								
WRAB	**Tennant Creek**	**50.65**	**257**	P			**P**	**19 43 38.8**	**-3.3**
WRA	**Warramunga Arr**	**50.66**	**256**	P			**P**	**19 43 38.1**	**-4.1**
	comp=Z,1.7nm,0.6s,baz=93,slow=6.9,SNR=34								
WRA	**Warramunga Arr**	**50.66**	**256**	P			**P**	**19 43 38.1**	**-4.1**
WRA					PcP		**PcP**	**19 44 58.4**	**-1.0**
AS31	**Alice Springs**	**50.92**	**252**	P			**P**	**19 43 40.2**	**-4.0**
ASAR	**Alice Springs**	**50.93**	**252**	P			**P**	**19 43 40.3**	**-3.9**
	comp=Z,8.5nm,0.8s,baz=91,slow=7.5,SNR=65								
ASAR	**Alice Springs**	**50.93**	**252**	P			**P**	**19 43 40.0**	**-4.2**
ASAR					PcP		**PcP**	**19 44 59.1**	**-1.2**
MTN	**Manton Dam**	**54.53**	**265**	P			**P**	**19 44 08.9**	**-1.9**
MTN					IAmb		IAmb	19 44 09.2	
	comp=Z,22nm,1.4s								
FORT	**Forrest**	**56.22**	**243**	P			**P**	**19 44 19.8**	**-3.0**
KNRA	**Kununurra**	**56.37**	**261**	P			**P**	**19 44 22.1**	**-2.0**
FITZ	**Fitzroy Crossi**	**59.02**	**258**	P			**P**	**19 44 41.1**	**-1.6**
SBA	**Scott Base**	**63.56**	**185**	P			**P**	**19 45 14.6**	**+2.2**
VNDA	**Vanda**	**63.70**	**186**	P			**P**	**19 45 16.1**	**+2.7**
	comp=Z,5.2nm,1.0s,baz=7.5,slow=6.3,SNR=16								
VNDA					LR		LR	20 07 25.6	
	comp=Z,130nm,22.0s,baz=344,slow=31								
VNDA	**Vanda**	**63.70**	**186**	P			**P**	**19 45 15.1**	**+1.7**
VNDA					IAmb		IAmb	19 45 17.4	
	comp=Z,17nm,1.3s								
PSA00	**Pilbara Seismi**	**64.02**	**253**	P			**P**	**19 45 15.

HUMO IAmb IAmb 19 46 37.2
comp=Z,13nm,1.3s
LCH Last Change Ra 73.37 43 P P 19 46 16.3 +1.7
LHV Little Huntoon 73.39 42 P P 19 46 14.9 +0.5
LHV IAmb IAmb 19 46 38.4
comp=Z,15nm,1.2s
IRM Iron Mountain 73.40 47 P P 19 46 17.6 +2.9
baz=238
GWY Greenwater Val 73.44 44 P P 19 46 15.8 +0.7
GWY IAmb IAmb 19 46 36.0
comp=Z,19nm,1.8s
M04C Macdoel 73.47 37 P P 19 46 17.7 +2.6
baz=231
L04D Klamath Falls 73.48 37 P P 19 46 16.8 +1.7
baz=231
TUQ Turquoise Moun 73.54 45 P P 19 46 17.6 +2.0
baz=237
RYN Ryan 73.60 41 P P 19 46 17.0 +1.1
NVAR Mina Array Bea 73.63 42 P P 19 46 18.2 +2.1
comp=Z,2.7nm,0.7s,baz=228,slow=9.7,SNR=11
NVAR LR LR 20 11 34.4
comp=Z,456nm,20.7s,baz=264,slow=30
NVAR Mina Array Bea 73.63 42 P P 19 46 18.1 +1.9
YSS Yuzh-Sakhalins 73.66 330 P P 19 46 15.8 0.0
YSS IAmb IAmb 19 46 40.7
comp=Z,15nm,0.9s
113A Mohawk Valley, 73.67 49 P P 19 46 17.1 +0.9
PAHR Pah Rah Range 73.69 40 P P 19 46 17.2 +0.8
NV11 Mina Array Sit 73.72 42 P P 19 46 18.6 +2.0
I03D Drain, OR 73.83 35 P P 19 46 19.7 +2.8
baz=230
214A Organ Pipe Nat 73.96 50 P P 19 46 19.1 +1.1
214A IAmb IAmb 19 46 40.6
comp=Z,14nm,1.2s
214A Organ Pipe Nat 73.96 50 P P 19 46 20.5 +2.5
baz=240
KVN Kaiserville 74.11 41 P P 19 46 19.9 +0.9
TPH Tonopah 74.12 42 P P 19 46 20.9 +1.8
TPNV Topopah Spring 74.14 44 P P 19 46 21.0 +1.8
TPNV IAmb IAmb 19 46 22.3
comp=Z,16nm,1.6s
TPNV Topopah Spring 74.14 44 P P 19 46 21.6 +2.5
baz=237
PDMCI Parker Dam,Lak 74.19 47 P P 19 46 21.7 +2.5
baz=239
J04D Umpqua Nationa 74.23 36 P P 19 46 22.2 +2.6
baz=231
I04A Tendick Farm, 74.42 35 P P 19 46 22.3 +1.9
baz=230
KDAK Kodiak Island 74.53 11 P P 19 46 22.4 +1.7
comp=Z,3.9nm,0.5s,baz=289,slow=10,SNR=6.8
KDAK LR LR 20 13 24.2
comp=Z,466nm,20.5s,baz=252,slow=31
KDAK Kodiak Island 74.53 11 P P 19 46 21.9 +1.2
K05A Summer Lake 74.61 37 P P 19 46 23.1 +1.4
K05A IAmb IAmb 19 46 42.2
comp=Z,28nm,1.2s
SHPR Sheep Range 74.64 45 P P 19 46 23.0 +1.0
SHPR IAmb IAmb 19 46 45.6
comp=Z,16nm,1.3s
H04D Lebanon 74.70 35 P P 19 46 24.3 +2.3
baz=230
J05D Fort Rock, OR 74.76 36 P P 19 46 25.1 +2.5
baz=232
W13A Hualapai Mount 74.78 47 P P 19 46 24.5 +1.6
Y14A Wickenburg 74.81 48 P P 19 46 25.4 +2.5
QSPA South Pole Qui 74.89 180 LR LR 20 13 11.5
comp=Z,185nm,21.6s,baz=47,slow=31
QSPA South Pole Qui 74.89 180 P P 19 46 24.8 +1.9
H04A Detroit Lake 75.11 35 P P 19 46 24.3 0.0
H04A IAmb IAmb 19 46 27.0
comp=Z,32nm,1.5s
PRN Pahroc Range 75.19 44 P P 19 46 26.8 +1.6
PRN IAmb IAmb 19 46 49.0
comp=Z,26nm,1.6s
PINE Pine Mountain 75.24 36 P P 19 46 26.6 +1.2
R11A Troy Canyon, C 75.35 43 P P 19 46 27.5 +1.4
R11A Troy Canyon, C 75.35 43 P P 19 46 28.4 +2.3
baz=237
BMN Battle Mountai 75.46 40 P P 19 46 28.8 +2.2
TUC Tucson 75.63 50 P P 19 46 29.9 +2.1
TUC IAmb IAmb 19 46 32.0
comp=Z,12nm,1.1s
TUC Tucson 75.63 50 P P 19 46 30.7 +3.0
baz=242
WVOR Wild Horse Val 75.76 38 P P 19 46 30.7 +2.4
WVOR IAmb IAmb 19 46 51.6
comp=Z,17nm,1.2s
G05D Wamic, OR 75.94 35 P P 19 46 31.6 +2.5
baz=231
O18K Koktuh Hills 76.06 9 P P 19 46 30.1 +0.6
O18K IAmb IAmb 19 46 47.3
comp=Z,22nm,1.1s
O18K Koktuh Hills 76.06 9 P P 19 46 30.4 +0.9
baz=198
E04D Cinebar 76.11 33 P P 19 46 32.6 +2.7
baz=230
X16A Lo Mia Camp, P 76.17 48 P P 19 46 32.8 +1.9
X16A IAmb IAmb 19 46 51.0
comp=Z,11nm,1.0s
P19K Oil Pt 76.18 10 P P 19 46 33.6 +3.4
baz=200
LCMT Little Creek M 76.21 45 P P 19 46 32.6 +1.6
I07A Izee 76.24 36 P P 19 46 32.7 +1.7
I07A IAmb IAmb 19 46 50.0
comp=Z,14nm,1.1s
DIB Dawson Inlet, 76.31 24 P P 19 46 31.2 +0.3
DIB IAmb IAmb 19 46 50.7
comp=Z,27nm,1.3s
319A Douglas 76.33 52 P P 19 46 31.2 -0.6
319A IAmb IAmb 19 46 36.0
comp=Z,16nm,1.2s
J08A Circle Bar Ran 76.40 37 P P 19 46 33.4 +1.5
J08A IAmb IAmb 19 46 55.3
comp=Z,12nm,1.2s
CCUT Cedar City 76.41 45 P P 19 46 33.7 +1.5
MOBC Moresby Island 76.46 24 P P 19 46 32.9 +1.0
KNB Kanab 76.50 45 P P 19 46 30.8 -1.9
KNB IAmb IAmb 19 46 57.5
comp=Z,19nm,1.5s
O19K Port Alsworth 76.52 9 P P 19 46 32.5 +0.5
O19K IAmb IAmb 19 46 49.2
comp=Z,18nm,0.8s
SPR3 Spring Creek 3 76.53 43 P P 19 46 31.8 -1.2
KSRS Korea Array 76.53 315 LR LR 20 12 31.5
comp=Z,151nm,21.7s,baz=147,slow=30
PSUT Pine Spring 76.59 44 P P 19 46 33.4 +0.1
BRLK Bradley Lake 76.70 11 P P 19 46 33.5 +0.4
BRLK IAmb IAmb 19 46 50.7
comp=Z,23nm,1.1s
WUAZ Wupatki 76.76 47 P P 19 46 35.3 +1.1
WUAZ IAmb IAmb 19 46 38.5
comp=Z,13nm,1.3s
WUAZ Wupatki 76.76 47 P P 19 46 37.1 +2.9
baz=241
D05A Enumclaw 76.82 33 P P 19 46 36.1 +2.1
ELK Elko 76.89 41 LR LR 20 12 52.0
comp=Z,357nm,21.7s,baz=237,slow=30
ELK Elko 76.89 41 P P 19 46 35.6 +0.7
RSO Redoubt South 77.03 10 P P 19 46 35.1 -0.1
PKCU Pink Cliffs 77.07 45 P P 19 46 38.0 +1.9
N19K Bonanza Creek 77.09 9 P P 19 46 35.5 +0.2
N19K IAmb IAmb 19 46 52.9
comp=Z,17nm,1.1s
N19K Bonanza Creek 77.09 9 P P 19 46 36.2 +0.8
baz=198
G08A Pilot Rock 77.28 36 P P 19 46 38.2 +1.4
G08A IAmb IAmb 19 46 56.2
comp=Z,14nm,1.1s
SEW Seward 77.29 12 P P 19 46 38.0 +1.7
baz=203
X18A Snowflake 77.30 49 P P 19 46 38.9 +1.6
BBB Bella Bella 77.32 26 LR LR 20 14 45.3
comp=Z,211nm,19.5s,baz=272,slow=31
Q23K Middleton Isla 77.33 13 P P 19 46 38.3 +1.8
baz=206
A04D Lummi Island 77.44 31 P P 19 46 39.7 +2.2
baz=229
B05A Bryant 77.46 32 P P 19 46 40.3 +2.7
baz=230
MTPU Mount Pierson 77.46 45 P P 19 46 40.9 +2.5
HAWA Hanford 77.63 34 P P 19 46 40.0 +1.4
HAWA IAmb IAmb 19 46 57.4
comp=Z,11nm,1.1s
USRK Ussuriysk Ar. 77.66 323 LR LR 20 14 00.8
comp=Z,342nm,21.2s,baz=137,slow=30

MVU Marysvale 77.68 44 P P 19 46 41.5 +2.1
MSU Marysvale 77.71 44 P P 19 46 42.5 +3.0
B06A Marblemount 77.93 32 P P 19 46 41.6 +1.5
B06A IAmb IAmb 19 46 57.8
comp=Z,5.3nm,0.5s
E08A Dider Farm, El 77.95 35 P P 19 46 42.0 +1.7
E08A IAmb IAmb 19 46 44.0
comp=Z,44nm,1.9s
BMO Blue Mountains 77.96 37 P P 19 46 41.5 +0.8
BMO IAmb IAmb 19 46 43.9
comp=Z,16nm,1.6s
121A Cookes Peak, D 77.98 51 P P 19 46 42.7 +1.6
121A Cookes Peak, D 77.98 51 P P 19 46 44.2 +3.1
baz=243
MFID Camas Ranch 78.01 39 P P 19 46 42.0 +1.1
MFID IAmb IAmb 19 47 04.0
comp=Z,18nm,1.4s
RC01 Rabbit Creek A 78.15 11 P P 19 46 40.9 -0.2
RC01 IAmb IAmb 19 46 43.1
comp=Z,28nm,1.3s
RC01 Rabbit Creek A 78.15 11 P P 19 46 41.6 +0.4
baz=203
PWL Port Wells 78.21 12 P P 19 46 41.2 -0.3
PWL IAmb IAmb 19 46 59.3
comp=Z,27nm,1.2s
KAIM Kayak Island 78.21 14 P P 19 46 41.0 -0.5
SUA Susitna One 78.31 11 P P 19 46 43.5 +1.3
SUA IAmb IAmb 19 47 00.2
comp=Z,16nm,0.9s
SUA Susitna One 78.31 11 P P 19 46 42.2 0.0
baz=202
L19K White Mountain 78.34 8 P P 19 46 42.4 +0.2
baz=198
D08A Wollman Farm, 78.37 34 P P 19 46 42.9 +0.2
D08A IAmb IAmb 19 47 01.6
comp=Z,15nm,1.2s
BGU Big Grassy Mou 78.39 42 P P 19 46 45.1 +1.9
E09A Wood Farm, Sta 78.47 35 P P 19 46 44.9 +1.7
E09A IAmb IAmb 19 47 01.7
comp=Z,12nm,1.1s
Q16A Castle Valley 78.59 44 P P 19 46 47.0 +2.6
Q16A IAmb IAmb 19 47 03.4
comp=Z,13nm,1.3s
F10A Beach Ranch, E 78.66 36 P P 19 46 45.2 +0.7
F10A IAmb IAmb 19 46 47.4
comp=Z,37nm,1.8s
SKT Skwentna 78.66 10 P P 19 46 42.6 -1.3
SKT IAmb IAmb 19 46 45.1
comp=Z,32nm,1.6s
SKT Skwentna 78.66 10 P P 19 46 43.7 -0.2
baz=201
KNK Knik Glacier 78.69 12 P P 19 46 44.8 +0.7
baz=204
PMR Palmer 78.73 11 P P 19 46 45.7 +1.5
PMR IAmb IAmb 19 47 02.7
comp=Z,14nm,1.0s
PMR Palmer 78.73 11 P P 19 46 44.9 +0.6
baz=203
TMUT Trail Mountain 78.75 44 P P 19 46 46.8 +1.4
TMUT IAmb IAmb 19 46 49.9
comp=Z,23nm,1.5s
L20K Farewell, AK 78.77 9 P P 19 46 45.0 +0.4
baz=199
HLID Hailey 78.95 39 P P 19 46 47.1 +1.0
HLID Hailey 78.95 39 P P 19 46 48.1 +1.9
baz=237
DIV Divide 78.98 13 P P 19 46 45.4 -0.4
HVU Hansel Valley 79.01 41 P P 19 46 47.9 +1.3
BMRM Bremner River 79.09 13 P P 19 46 47.4 +1.0
BMRM Bremner River 79.09 13 P P 19 46 47.5 +1.1
baz=208
SRU San Rafael Swe 79.12 44 P P 19 46 49.1 +1.8
SRU IAmb IAmb 19 47 11.5
comp=Z,15nm,1.4s
P17A Buher Ranch, 79.16 44 IAmb IAmb 19 47 12.0
comp=Z,20nm,1.4s
CRQE Cirque 79.25 14 P P 19 46 48.2 +0.8
baz=209
CUT Chulitna 79.28 10 P P 19 46 48.0 +0.7
baz=202
KLU Klutina 79.28 13 IAmb IAmb 19 47 06.0
comp=Z,14nm,1.0s
KLU Klutina 79.28 13 P P 19 46 48.2 +0.7
baz=206
MNTX Cornudas Mount 79.46 53 P P 19 46 51.2 +2.1
MNTX Cornudas Mount 79.46 53 P P 19 46 51.9 +2.8
baz=245
K20K Telida 79.58 8 P P 19 46 49.7 +0.8
K20K IAmb IAmb 19 46 52.1
comp=Z,26nm,1.2s
K20K Telida 79.58 8 P P 19 46 50.3 +1.3
baz=198
N25K Chitina, Valde 79.67 13 IAmb IAmb 19 47 07.8
comp=Z,18nm,0.9s
N25K Chitina, Valde 79.67 13 P P 19 46 50.5 +0.9
baz=208
M24K Tolsona, Glenn 79.78 12 P P 19 46 52.2 +2.0
baz=206
MCARA McCarthy VSAT 79.83 14 IAmb IAmb 19 47 00.9
comp=Z,14nm,0.9s
MCARA McCarthy VSAT 79.83 14 P P 19 46 50.9 +0.6
baz=209
TX32 Lajitas Array 79.83 56 IAmb IAmb 19 47 11.0
comp=Z,16nm,1.5s
TXAR Lajitas Array 79.83 56 P P 19 46 54.1 +2.9
comp=Z,3.2nm,1.1s,baz=224,slow=6.3,SNR=19
TXAR LR LR 20 15 56.8
comp=Z,245nm,19.4s,baz=0.0,slow=31
CTG Chitna Glacier 79.87 15 P P 19 46 51.4 +0.7
baz=211
WAT6 Susitna Watana 79.90 11 P P 19 46 51.3 +0.4
baz=205
CAST Castle Rocks 79.93 9 IAmb IAmb 19 46 51.4
comp=Z,23nm,1.6s
WAT1 Susitna Watana 79.98 11 P P 19 46 52.0 +0.9
baz=204
PV22 Blue Mesa, Par 80.03 46 IAmb IAmb 19 47 12.7
comp=Z,14nm,1.0s
ANMO Albuquerque 80.05 50 LR LR 20 14 15.6
comp=Z,221nm,21.5s,baz=258,slow=30
ANMO Albuquerque 80.05 50 P P 19 46 54.8 +2.4
ANMO Albuquerque 80.05 50 P P 19 46 55.2 +2.8
baz=244
NEW Newport 80.07 34 LR LR 20 15 46.6
comp=Z,232nm,20.3s,baz=197,slow=31
PV07 Paradox Valley 80.08 46 P P 19 46 53.0 +0.5
MA2 Magadan 80.17 342 LR LR 20 16 43.4
comp=Z,167nm,21.2s,baz=184,slow=32
KTH Kantishna Hill 80.24 10 IAmb IAmb 19 46 54.8
comp=Z,23nm,1.3s
TRF Thorofare Moun 80.25 10 P P 19 46 53.6 +0.8
baz=202
HARP HAARP 80.25 13 P P 19 46 53.5 +0.9
baz=207
SKAG Skagway 80.26 18 P P 19 46 54.6 +2.0
baz=217
CHUM Lake Minchumin 80.33 9 P P 19 46 53.5 +0.6
baz=200
J20K Nowinta River 80.35 8 P P 19 46 54.1 +1.1
baz=198,SNR=16
DHY Denali Highway 80.42 11 IAmb IAmb 19 46 55.7
comp=Z,29nm,1.6s
DHY Denali Highway 80.42 11 P P 19 46 54.7 +1.0
baz=205
RND Reindeer 80.45 11 IAmb IAmb 19 47 11.9
comp=Z,23nm,1.0s
MCMT McKenzie Canyo 80.58 39 P P 19 46 56.0 +0.9
NJ2 Nanjing 80.64 307 eP P 19 46 56.3 +0.9
NJ2 pmax pmax
comp=Z,12nm,0.5s
PAX Paxson 80.70 12 IAmb IAmb 19 46 57.0
comp=Z,16nm,1.4s
PAX Paxson 80.70 12 P P 19 46 56.5 +1.4
baz=207
M26K Nabesna, AK 80.72 13 P P 19 46 56.3 +1.1
baz=209,SNR=9.4
MCK McKinley 80.74 10 P P 19 46 55.7 +0.5
baz=203
BPAW Bear Paw Mtn. 80.74 9 P P 19 46 56.3 +1.1
baz=201
HYT Haines Junctio 80.75 17 P P 19 46 56.7 +1.2
baz=214
YUK3 Moose Creek 80.78 15 P P 19 46 57.0 +1.2
baz=212
M27K Edge Creek, AK 80.94 14 P P 19 46 57.8 +1.3
baz=210,SNR=10
MSO Missoula 81.02 36 IAmb IAmb 19 47 00.0
comp=Z,15nm,1.2s
MSO Missoula 81.02 36 P P 19 46 58.5 +1.2
baz=237
S22A 4UR Ranch, Cre 81.03 47 P P 19 46 58.3 +0.6
baz=243
MENT Mentasta 81.04 13 P P 19 46 57.6 +0.7
MENT IAmb IAmb 19 47 15.4
comp=Z,14nm,1.0s
REDW Red Top Meadow 81.04 41 IAmb IAmb 19 47 20.8
comp=Z,16nm,1.4s
TPAW Teton Pass 81.05 40 IAmb IAmb 19 47 00.4
comp=Z,17nm,1.4s
BWN Browne 81.06 10 P P 19 46 57.3 +0.4
L26K Log Cabin Wild 81.20 13 P P 19 46 58.4 +0.7
L26K IAmb IAmb 19 47 15.9
comp=Z,12nm,1.1s
L26K Log Cabin Wild 81.20 13 P P 19 46 58.6 +1.0
baz=209
BVCY Beaver Creek 81.23 14 P P 19 46 59.1 +1.2
baz=211
IMW Indian Meadow 81.26 40 P P 19 47 01.2 +2.4
IMW IAmb IAmb 19 47 02.7
comp=Z,18nm,1.5s
WHY Whitehorse 81.36 18 P P 19 46 59.6 +0.9
baz=217
NEA2 Nenana 81.51 10 P P 19 46 59.2 0.0
NEA2 IAmb IAmb 19 47 02.3
comp=Z,16nm,1.2s
NEA2 Nenana 81.51 10 P P 19 46 59.6 +0.3
baz=203,SNR=6.5
RIDG Independent Ri 81.52 12 IAmb IAmb 19 47 17.7
comp=Z,22nm,1.2s
RIDG Independent Ri 81.52 12 P P 19 47 00.2 +0.8
baz=207,SNR=6.3
YHB Horse Butte 81.54 39 P P 19 47 01.5 +1.3
YHB IAmb IAmb 19 47 24.8
comp=Z,16nm,1.4s
BW06 Boulder Array 81.56 42 P P 19 47 01.7 +1.3
baz=241
PDAR Pinedale Array 81.56 42 P P 19 47 01.9 +1.5
comp=Z,0.5nm,0.5s,baz=191,slow=1.5,SNR=8.8
PDAR LR LR 20 18 23.8
comp=Z,350nm,18.9s,baz=302,slow=32
PDAR Pinedale Array 81.56 42 P P 19 47 01.1 +0.7
L27K Beaver Creek, 81.57 14 P P 19 47 00.7 +1.0
baz=210
DOT Dot Lake 81.60 12 IAmb IAmb 19 47 17.6
comp=Z,16nm,1.0s
I21K Tanana 81.60 9 P P 19 47 00.5 +0.8
I21K IAmb IAmb 19 47 02.0
comp=Z,21nm,1.4s
I21K Tanana 81.60 9 P P 19 47 00.3 +0.5
baz=200,SNR=6.4
MLY Manley 81.65 9 IAmb IAmb 19 47 17.7
comp=Z,16nm,1.0s
MLY Manley 81.65 9 P P 19 47 00.5 +0.4
baz=205,SNR=14
BOZ Bozeman (W) 81.72 38 IAmb IAmb 19 47 04.7
comp=Z,30nm,1.8s
BOZ Bozeman (W) 81.72 38 P P 19 47 01.7 +0.7
baz=239
HDA Harding Lake 81.72 11 P P 19 47 00.7 +0.4
HDA IAmb IAmb 19 47 18.3
comp=Z,15nm,1.0s
HDA Harding Lake 81.72 11 P P 19 47 00.8 +0.4
baz=205,SNR=8.2
YHH Holmes Hill 81.77 39 IAmb IAmb 19 47 06.0
comp=Z,20nm,1.7s
SCRK Sand Creek 81.90 12 IAmb IAmb 19 47 19.4
comp=Z,12nm,1.0s
SCRK Sand Creek 81.90 12 P P 19 47 02.1 +0.6
baz=208,SNR=7.2
H21K Melozitna Rive 81.94 8 P P 19 47 03.1 +1.6
H21K IAmb IAmb 19 47 04.4
comp=Z,25nm,1.2s
H21K Melozitna Rive 81.94 8 P P 19 47 02.7 +1.1
baz=200,SNR=11
I23K Minto, Yukon-K 81.98 10 IAmb IAmb 19 47 03.7
comp=Z,24nm,1.2s
I23K Minto, Yukon-K 81.98 10 P P 19 47 01.5 -0.2
baz=203,SNR=10.0
TCOL CIGO, UAF Yank 81.98 10 P P 19 47 01.8 +0.1
baz=204
COLA College 81.98 10 P P 19 47 02.2 +0.5
baz=204
IL31 82.06 11 IAmb IAmb 19 47 04.9
comp=Z,17nm,1.2s
ILAR Eielson Array 82.06 11 P P 19 47 02.9 +0.8
comp=Z,4.8nm,0.9s,baz=214,slow=5.5,SNR=22
IMAR Indian Mountai 82.12 8 P P 19 47 03.3 +0.8
J25K Salcha River, 82.20 11 P P 19 47 03.5 +0.5
baz=207,SNR=14
POKR Poker Plat Res 82.28 10 P P 19 47 04.1 +0.8
baz=205
K27K Chicken 82.36 13 P P 19 47 05.2 +1.4
baz=210
MSTX Muleshoe 82.39 52 P P 19 47 06.7 +2.0
baz=246
YNE Yellowstone No 82.40 39 IAmb IAmb 19 47 48.2
comp=Z,11nm,1.1s
J26L Joseph Creek 82.45 12 P P 19 47 06.2 +1.9
baz=208
T25A Trinidad 82.49 48 P P 19 47 06.2 +0.9
baz=245
H23K Yukon River 82.58 9 P P 19 47 06.4 +1.5
baz=203
Q24A Divide 82.76 47 P P 19 47 09.6 +2.8
baz=244
ISCO Idaho Springs 82.80 46 P P 19 47 08.9 +1.9
baz=244
H24K Noodor Dome 82.86 10 P P 19 47 07.0 +0.6
baz=204
833A Chaparral WMA, 82.91 58 P P 19 47 08.6 +1.2
baz=249
RLMT Red Lodge 82.91 40 IAmb IAmb 19 47 11.9
comp=Z,16nm,1.4s
RLMT Red Lodge 82.91 40 P P 19 47 09.2 +1.9
baz=241
PRP Porcupine Dome 82.98 11 P P 19 47 08.0 +0.8
baz=206,SNR=14
DAWY Dawson 82.99 14 IAmb IAmb 19 47 09.9
comp=Z,22nm,1.2s
DAWY Dawson 82.99 14 P P 19 47 07.9 +0.8
baz=212
CMIG Matias Romero 83.07 70 LR LR 20 17 18.5
comp=Z,157nm,19.3s,baz=235,slow=31
EGAK Eagle 83.20 13 P P 19 47 09.5 +1.4
baz=211
JCT Junction City 83.36 56 P P 19 47 11.7 +1.8
baz=248
K22A Casper 83.48 43 P P 19 47 12.0 +1.8
baz=243
AMTX Amarillo 83.59 51 P P 19 47 12.5 +1.6
baz=247
COLD Coldfoot 83.78 9 P P 19 47 12.0 +1.0
baz=202
MMPY Sheldon Lake, 83.98 18 P P 19 47 13.8 +1.6
baz=220
EGMT Eagleton 84.07 37 P P 19 47 14.8 +1.8
baz=240
PMSA Palmer Station 84.08 156 LR LR 20 15 51.9
comp=Z,185nm,21.2s,baz=244,slow=29
TGTN Hyland Airport 84.08 20 P P 19 47 15.1 +2.4
baz=223
TOLK Toolik Lake Re 85.19 8 P P 19 47 19.8 +1.6
baz=202
EPYK Eagle Plains 85.55 14 P P 19 47 21.2 +1.2
EPYK Eagle Plains 85.55 14 P P 19 47 21.1 +1.1
baz=215
WMOK Wichita Mounta 85.74 52 IAmb IAmb 19 47 24.6
comp=Z,9.5nm,1.4s
WMOK Wichita Mounta 85.74 52 P P 19 47 23.0 +1.3
baz=249
RSSD Black Hills 85.75 42 P P 19 47 21.8 0.0
RSSD IAmb IAmb 19 47 40.2
comp=Z,7.1nm,1.0s
WHTX Lake Whitney, 85.78 55 P P 19 47 23.9 +2.0
baz=250
MTO3 Montecristo 87.36 74 P P 19 47 31.7 +1.4
MTO3 IAmb IAmb 19 47 34.7
comp=Z,9.2nm,1.1s
INK Inuvik 87.85 14 P P 19 47 32.2 +1.1
comp=Z,6.2nm,1.0s,baz=177,slow=17,SNR=4.4
INK Inuvik 87.85 14 IAmb IAmb 19 47 33.4
comp=Z,13nm,1.2s
INK Inuvik 87.85 14 P P 19 47 32.2 +1.1
baz=218
MAW Mawson 88.27 198 P P 19 47 34.3 +1.0

comp=Z,5.2nm,0.5s,baz=154,slow=5.3,SNR=23
MAW LR LR 20 23 05.2
comp=Z,421nm,21.9s,baz=73,slow=33
MAW Mawson 88.27 198 P **P 19 47 34.2 +0.8**
PLCA Paso Flores 89.10 132 LR LR 20 18 54.0
comp=Z,153nm,20.5s,baz=287,slow=30
HHC Hu-ho-hao-te 89.43 313 *e*P **P 19 47 40.6 +1.2**
HHC pmax pmax
comp=Z,31nm,1.1s
HHC pmax pmax
comp=Z,1μm,5.7s
YKA Yellowknife Ar 89.56 23 P **P 19 47 40.3 +0.9**
comp=Z,6.9nm,1.1s,baz=219,slow=4.8,SNR=4.0
W41B Gary Mavity, V 90.93 54 P **P 19 47 48.6 +2.2**
baz=252
MGMO Mountain Grove 91.52 52 IAmb IAmb 19 47 53.1
comp=Z,8.1nm,1.1s
A36M Sachs Harbour 92.48 13 P **P 19 47 53.6 +0.9**
baz=226
CCM Cathedral Cave 92.57 51 P **P 19 47 54.8 +0.9**
baz=253
OXF Oxford 92.97 55 P **P 19 47 57.5 +1.7**
baz=254
SYO Syowa Base 92.99 191⇓ *e*P **P 19 47 57.0 +1.7**
VNA3 Neumayer Olymp 93.03 175 P **P 19 47 57.1 +1.6**
SNAA Sanae 93.11 177 P **P 19 47 57.7 +1.8**
SNAA Sanae 93.11 177 sP sP 19 48 10.9 +2.8
SNAA Sanae 93.11 177 P **P 19 47 56.8 +0.8**
ULM Lac du Bonnet 93.25 39 LR LR 20 24 53.5
comp=Z,430nm,19.6s,baz=294,slow=32
VNA2 Neumayer--Watz 93.53 175 P **P 19 47 59.8 +2.0**
VNA2 Neumayer--Watz 93.53 175 sP sP 19 48 15.5 +5.5
VNA1 Neumayer--Stat 93.73 175 P **P 19 48 00.5 +1.8**
WVT Waverly 94.65 54 P **P 19 48 05.5 +2.0**
baz=255
SONM Songino Array 95.18 318 LR LR 20 26 16.5
comp=Z,158nm,21.1s,baz=116,slow=33
TKL Tuckaleechee C 97.73 55 LR LR 20 27 38.6
comp=Z,199nm,18.4s,baz=280,slow=32
ARCES ARCESS Array B 124.47 352 PKP **PKPdf 19 53 40.1 -0.7**
comp=Z,0.9nm,0.7s,baz=44,slow=1.3,SNR=5.2
CLL Collm 143.66 354 *e*PKPdf **PKPdf 19 54 16.0 -1.0**
DPC Dobruska-Polom 144.16 350 *e*PKP **PKPdf 19 54 18.2 +0.2**
DPC *ex* x 19 54 33.0
KRLC Kraliky 144.35 350 *e*PKP **PKPab 19 54 14.2 -2.2**
KRLC *ex* x 19 54 33.9
BURAR Bucovina Array 144.42 339⇓P **PKPdf 19 54 19.2 +0.5**
MOX Moxa 144.44 355 *e*L L 20 55 48.6
comp=Z,142nm,20.4s
MORC Moravsky Berou 144.49 349⇓P **PKPdf 19 54 19.1 +0.4**
MORC Moravsky Berou 144.49 349 *e*PKP **PKPdf 19 54 18.3 -0.3**
MORC *e* 19 54 35.9
BIZ Bicaz 144.68 338⇑P **PKPdf 19 54 19.6 +0.6**
LANS Liptovska Anna 144.69 346 *e*P **PKiKP 19 54 21.0 -1.7**
PRU Pruhonice 144.78 352 *e*PKP **PKPdf 19 54 18.9 -0.1**
PRU *ex* x 19 54 36.1
TLCR 145.03 333⇓P **PKiKP 19 54 21.6 -1.9**
VRAC Vranov 145.12 349⇓P **PKiKP 19 54 21.5 -2.0**
VRAC Vranov 145.12 349 *e*PKP **PKPdf 19 54 20.3 +0.6**
VRAC *e* 19 54 38.2
ARCR ARCALIA 145.18 340⇑P **PKPdf 19 54 20.9 +1.1**
CFR Carcaliu 145.33 334⇓P **PKiKP 19 54 22.1 -1.9**
VRI Vrincioaia 145.34 336⇓P **PKPdf 19 54 21.6 +1.4**
JAVC Velka Javorina 145.35 348 *e*PKP **PKiKP 19 54 22.4 -1.7**
PLOR Plostina 145.39 336⇓P **PKPab 19 54 21.3 +1.0**
KRUC Moravsky 145.39 350 *e*PKP **PKPab 19 54 21.3 +1.1**
GRF Grafenberg Arr 145.41 356 *e*PKPbc **PKPab 19 54 22.0 +1.6**
baz=6.9,slow=3.0
GRF *e*L L 20 58 20.2
comp=Z,168nm,18.7s
VYHS Vyhne 145.45 347 *e*P **PKPab 19 54 22.0 +1.5**
TPGR Topolog 145.46 333⇓P **PKPab 19 54 22.0 +1.3**
OZUR 145.51 337⇓P **PKPab 19 54 22.3 +1.5**
COVR Voineasa-Covas 145.57 337⇑P **PKPdf 19 54 20.1 -0.5**
LTVH Ltavrtes, Hu 145.68 342 *e*P **PKPab 19 54 22.3 +1.0**
SMOL Smolenice 145.72 348 *e*P **PKiKP 19 54 23.6 -1.2**
PSZ Piszkesteto 145.73 345⇓P **PKPab 19 54 22.1 +0.5**
PSZ Piszkesteto 145.73 345 *e*P **PKPab 19 54 21.8 +0.1**
KHC Kasperske Hory 145.74 353 *e*PKP **PKPab 19 54 22.0 +0.4**
KHC *ex* x 19 54 39.7
DOPR Dopca 145.77 337⇑P **PKPab 19 54 22.6 +0.8**
TIRR Tirgusor 145.78 333⇓P **PKiKP 19 54 23.3 -1.7**
HARR Harsova 145.81 334⇓P **PKPab 19 54 22.6 +0.7**
TLBR Topalu 145.87 333⇓P **PKPab 19 54 23.3 +1.2**
MODS Modra-Piesok 145.89 348 *e*P **PKPab 19 54 23.1 +1.0**
CKRC Cesky Krumlov 145.95 352 *e*PKP **PKPab 19 54 22.1 -0.2**
MLR Muntele Rosu 145.96 336⇓P **PKPab 19 54 22.8 +0.2**
GERES GERESS Array B 146.01 353 PKPbc **PKPab 19 54 22.9 +0.2**
comp=Z,7.2nm,0.7s,baz=28,slow=3.5,SNR=28
ISR Istrita 146.03 335⇑P **PKPab 19 54 23.8 +1.0**
AMRR Amara 146.12 334⇓P **PKiKP 19 54 24.5 -1.2**
KMBO Kilima Mbogo 146.34 244 PKPbc **PKPab 19 54 24.8 -0.4**
comp=Z,3.0nm,0.9s,baz=100,slow=6.4,SNR=3.1
VOIR 146.35 337⇓P **PKiKP 19 54 25.6 -0.7**
BRTR Keskin Array B 146.45 322 PKPbc **PKPab 19 54 24.9 +0.2**
comp=Z,5.4nm,0.7s,baz=117,slow=1.9,SNR=18
BRTR Keskin Array B 146.45 322 PKPab 19 54 24.6 -0.2
ARR Arges 146.56 338⇓P **PKiKP 19 54 25.9 -0.8**
CONA Conrad Observa 146.58 350 *e*P **PKiKP 19 54 25.9 -0.8**
comp=Z,13nm,1.1s,SNR=5.9
SIRR Siria 146.76 342⇑P **PKPab 19 54 26.0 +0.4**
EGYH Egyhazaskeszo 146.79 348 *e*P **PKPdf 19 54 22.0 -0.5**
LOT Lotru 146.80 339⇑P **PKPbc 19 54 24.9 +0.3**
ANTO Ankara 146.86 323⇓P **PKiKP 19 54 28.4 +0.9**
MOA Molln 146.91 352 *e*P **PKPab 19 54 26.5 +0.4**
comp=Z,14nm,1.2s
GZR Gura Zlata 147.19 340⇓P **PKPab 19 54 26.6 -0.7**
ARSA Arzberg 147.29 350 *e*P **PKPab 19 54 27.6 0.0**
comp=Z,12nm,1.2s
BZS Buzias 147.36 341⇓P **PKPbc 19 54 26.3 +0.3**
MORH Mrgy, Hungar 147.63 345⇓P **PKiKP 19 54 28.3 -0.5**
MORH Mrgy, Hungar 147.63 345 *e*P **PKPbc 19 54 26.5 -0.2**
RETA Reutte 147.64 356 *e*P **PKiKP 19 54 28.5 -0.4**
comp=Z,22nm,1.4s
WATA Walderalm 147.73 355 *e*P **PKiKP 19 54 28.8 -0.4**
comp=Z,18nm,1.2s
MOTA Moosalm 147.76 355 *i* P **PKiKP 19 54 28.7 -0.6**
comp=Z,15nm,1.2s
HERR Herculane 147.76 340⇑P **PKiKP 19 54 28.3 -0.8**
KBA Koelnbreinsper 147.79 352 *e*P **PKPbc 19 54 28.2 +0.9**
comp=Z,3.8nm,0.6s
WTTA Wattenberg 147.79 355 *e*P **PKiKP 19 54 29.0 -0.3**
comp=Z,15nm,1.0s,SNR=5.3
SQTA Sankt Quirin 147.87 355 *e*P **PKiKP 19 54 29.2 -0.2**
comp=Z,9.4nm,1.0s
KOVH Kovagotottos 147.88 346 *e*P **PKPbc 19 54 28.2 +0.8**
DAVA Damuels 147.90 357 *e*P **PKiKP 19 54 29.4 -0.2**
comp=Z,16nm,1.1s
SOKA Soboth 147.93 350 *e*P **PKiKP 19 54 28.8 -0.7**
comp=Z,14nm,1.0s,SNR=6.2
FETA Feichten 148.11 356 *e*P **PKiKP 19 54 29.9 -0.1**
comp=Z,13nm,1.2s
OBKA Obir 148.17 351 *i* P **PKiKP 19 54 29.2 -0.8**
comp=Z,9.4nm,1.1s
MYKA Terra Mystica 148.19 352 *e*P **PKPbc 19 54 29.0 +0.7**
comp=Z,19nm,1.4s
ABTA Abfaltersbach 148.21 353 *i* P **PKiKP 19 54 29.5 -0.7**
comp=Z,12nm,0.9s
FRGS Fruska Gora 148.31 343⇑P **PKiKP 19 54 29.5 -0.8**
VTS Vitosha 149.43 337⇑P **PKiKP 19 54 33.7 +0.9**
PDG Podgorica 150.97 342⇓P **PKiKP 19 54 36.8 +1.0**
ESDC Sonseca Array 153.62 20 PKPbc **PKiKP 19 54 42.8 +1.4**
comp=Z,0.9nm,0.9s,baz=324,slow=2.9,SNR=2.5
ESDC PKPab **PKPab 19 54 55.6 +1.7**
comp=Z,1.2nm,1.0s,baz=325,slow=3.8,SNR=5.1

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*BJI **15** 19:37:33.2ᵗˢ0.0,24˚.35N×121˚.90E,h10ᵏᵐ,mB5.4/63, mb5.0/71,ML5.7/13,Ms5.6/89,Ms7 5.5/85*
*NEIC **15** 19:37:34.8ᵗˢ2.2,24˚.24N±0˚.05×121˚.87E±0˚.06,h16ᵏᵐ±3ᵏᵐ, mb5.3/275,Mwb5.3/27,Mwr5.3/16,Mww5.3,ML5.6(TAP), Error ellipse: s-maj=7.8km s-min=7.5km az=158.0*
*NEIC **15** 19:37:34.9,24˚.23N×121˚.88E,h21ᵏᵐ,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.41; Mθθ-0.08; Mϕϕ-0.33; Mrθ-0.37; Mθϕ-0.76; Mϕr0.91; Fault plane solution: M₀1.30000×10¹⁷ NP1:ϕ₁254.56000°, δ41.90000°,λ160.19000°. NP2:ϕ₂359.57000°,δ76.92000°, λ49.83000°. Principal axes: T 1.4038, Plg43.0000°, Azm231.0000°; N -0.2432, Plg39.0000°, Azm10.0000°; P -1.1606, Plg21.0000°, Azm119.0000°;*
*NEIC **15** 19:37:34.9,24˚.23N×121˚.88E,h25ᵏᵐ,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr3.62; Mθθ-4.71; Mϕϕ 1.09; Mrθ0.40; Mθϕ-4.68; Mϕr7.13; Fault plane solution: M₀9.55000×10¹⁶ NP1:ϕ₁22.42000°, δ75.48000°,λ52.43000°. NP2:ϕ₂274.36000°,δ39.89000°, λ156.98000°. Principal axes: T 10.1243, Plg46.0000°, Azm254.0000°; N -1.2771, Plg36.0000°, Azm33.0000°; P -8.8472, Plg21.0000°, Azm140.0000°;*
*NIED **15** 19:37:35.5,24˚.19N×121˚.78E,h26ᵏᵐ,MW5.4,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁷Nm; Mrr0.92; Mθθ-0.88; Mϕϕ-0.04; Mrθ0.41; Mθϕ-0.52; Mϕr0.76; Fault plane solution: M₀1.35000×10¹⁷ NP1:ϕ₁42.00000°, δ66.00000°,λ68.00000°. NP2:ϕ₂267.00000°,δ32.00000°, λ131.00000°.*
*MOS **15** 19:37:35.2ᵗˢ1.0,24˚.26N×121˚.87E,h33ᵏᵐ,mb5.7/38, MS5.1/29 Error ellipse: s-maj=5.9km s-min=3.7km az=116.8*
*IDC **15** 19:37:35.0ᵗˢ2.1,24˚.28N×121˚.94E,h19ᵏᵐ±13ᵏᵐ,mb4.8/54, mb1 4.8/57,mb1mx4.8/67,mbtmp4.9/57,ML4.9/2,MS4.8/28, Ms1 4.8/28,ms1mx4.6/47,Error ellipse: s-maj=10.2km s-min=8.4km az=65.0*
*TAP **15** 19:37:35.5,24˚.25N×121˚.82E,h20ᵏᵐ,ML5.7,B*
*GCMT **15** 19:37:35.8ᵗˢ0.1,24˚.21N±0˚.01×121˚.83E±0˚.01,h24ᵏᵐ, MW5.3/120,Moment Tensor Solution. s90,c156; s120,c214; Duration: 1ˢ1 Moment tensor: Scale 10¹⁷ Nm; Mrr0.51±.02; Mθθ-0.20±.01; Mϕϕ-0.30±.01; Mrθ0.35±.02; Mθϕ-0.50±.01; Mϕr0.78±.03; Best double couple: M₀1.07400×10¹⁷ NP1:ϕ₁248.00000°,δ23.00000°, λ130.00000°. NP2:ϕ₂25.00000°,δ73.00000°,λ75.00000°. Principal axes: T 0.9820, Plg59.0000°, Azm274.0000°; N 0.1840, Plg14.0000°, Azm30.0000°; P -1.1660, Plg27.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*JMA **15** 19:37:35.5,24˚.19N×121˚.78E,h26ᵏᵐ±1ᵏᵐ,M5.6*
JMA Felt I J1.
*ASIES **15** 19:37:35.9,24˚.28N×121˚.81E,h23ᵏᵐ,MW5.2*
*NEIC **15** 19:37:38,24˚.24N×121˚.83E,h18ᵏᵐ,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.34; Mθθ-0.14; Mϕϕ-0.19; Mrθ0.11; Mθϕ-0.45; Mϕr1.11; Fault plane solution: M₀1.24000×10¹⁷ NP1:ϕ₁258.00000°, δ22.00000°,λ157.00000°. NP2:ϕ₂9.00000°,δ82.00000°, λ70.00000°. Principal axes: T 1.2389, Plg49.0000°, Azm257.0000°; N -0.0037, Plg20.0000°, Azm12.0000°; P -1.2351, Plg34.0000°, Azm116.0000°;*
*BGR **15** 19:37:38.5ᵗˢ0.0,24˚.00N×121˚.27E,h33ᵏᵐ,mb5.4,Ms5.3*
ISC 15 19:37:35.6ᵗˢ0.4,24˚.23N±0˚.01×121˚.88E±0˚.01,h24ᵏᵐ±2ᵏᵐ, h25ᵏᵐ:pP-P,n1199,s1ˢ56/1357,mb5.3/312,MS5.0/67, 275C-102D,Fault plane solution: NP1:ϕ₁6.67756°, δ83.20638°,λ100.62595°. NP2:ϕ₂128.90962°,δ12.59100°, λ32.86457°. Principal axes: T Plg50.6916°, Azm288.5553°; N Plg10.5505°, Azm185.4062°; P Plg37.3337°, Azm87.2392°; Fault plane solution: NP1:ϕ₁355.83044°,δ82.79739°,λ51.81613°. NP2: ϕ₂256.77258°,δ38.75514°,λ168.44626°. Principal axes: T Plg39.7976°, Azm231.1539°; N Plg37.8292°, Azm1.4619°; P Plg27.5657°, Azm115.3750°; Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.15**	**303**	⇓*i*P		**Pb**		**19 37 39.4**	**-1.2**
	baz=313								
EHP				*i* S		**Sb**		**19 37 42.7**	**-1.3**
EWUT	**Wuta**	**0.24**	**336**	⇓*i*P		**Pb**		**19 37 40.6**	**-1.0**
	baz=349								
EWUT				*i* S		**Sb**		**19 37 44.7**	**-1.1**
	baz=349								
ENA	**Nanau**	**0.24**	**327**	⇓*i*P		**Pb**		**19 37 40.5**	**-1.2**
	baz=340								
ENA				*i* S		**Sb**		**19 37 44.7**	**-1.2**
	baz=340								
ETL	**Fush Village**	**0.25**	**255**	⇓*i*P		**Pb**		**19 37 40.9**	**-0.9**
	baz=244								
ETL				*i* S		**Sb**		**19 37 45.0**	**-1.0**
	baz=244								
NACB	**Ninganchiao**	**0.27**	**259**	⇓*i*P		**Pb**		**19 37 40.9**	**-1.2**
	baz=250								
NACB				*i* S		**Sb**		**19 37 45.1**	**-1.4**
	baz=250								
NACB	**Ninganchiao**	**0.27**	**259**			**Pb**		**19 37 40.8**	**-1.3**
TWD	**Chiawan**	**0.30**	**241**	⇓*i*P		**Pb**		**19 37 42.0**	**-0.6**
	baz=230								
TWD				*i* S		**Sb**		**19 37 46.8**	**-0.5**
	baz=230								
HWA	**Hwalien**	**0.35**	**226**	⇑P		**Pb**		**19 37 43.8**	**+0.4**
	baz=215								
HWA				*e*S		**Sb**		**19 37 49.0**	**+0.3**
	baz=215								
ETLH	**Xiulin Townshi**	**0.37**	**267**	⇓*i*P		**Pb**		**19 37 42.5**	**-1.2**
	baz=262								
ETLH				*i* S		**Sb**		**19 37 47.7**	**-1.5**
	baz=262								
TWC	**Suao**	**0.38**	**355**	⇓*i*P		**Pb**		**19 37 43.3**	**-0.6**
	baz=6.0								
TWC				*i* S		**Sb**		**19 37 49.0**	**-0.5**
	baz=6.0								
NDS	**Dongshan**	**0.43**	**339**	⇓*i*P		**Pb**		**19 37 44.0**	**-0.7**
	baz=346								
NDS				*i* S		**Sb**		**19 37 50.1**	**-0.8**
	baz=346								
ETM	**Tongmen**	**0.44**	**234**	⇑*i*P		**Pb**		**19 37 44.2**	**-0.6**
	baz=227								
ETM				*i* S		**Sb**		**19 37 51.0**	**-0.1**
	baz=227								
TEYL	**Yanliau Villag**	**0.44**	**216**	*e*P		**Pb**		**19 37 45.0**	**+0.2**
	baz=210								
TEYL				*e*S		**Sn**		**19 37 53.2**	**-0.5**
	baz=210								
NNSB	**Datong**	**0.50**	**294**	⇓*i*P		**Pb**		**19 37 45.0**	**-0.9**
	baz=294								
NNSB				S		**Sb**		**19 37 51.3**	**-1.5**
	baz=294								
ENTT	**Nioudou**	**0.50**	**325**	⇓*i*P		**Pb**		**19 37 45.0**	**-0.9**
	baz=330								
ENTT				*i* S		**Sb**		**19 37 52.2**	**-0.7**
	baz=330								
NDT	**Datong Townshi**	**0.51**	**318**	⇓P		**Pb**		**19 37 44.9**	**-1.0**
	baz=322								
NDT				*e*S		**Sb**		**19 37 52.0**	**-0.8**
	baz=322								
NNS	**Nan Shan**	**0.51**	**295**	⇓*i*P		**Pb**		**19 37 45.1**	**-1.0**
	baz=295								
NNS				*i* S		**Sb**		**19 37 51.7**	**-1.6**
	baz=295								
TWE	**Neicheng**	**0.53**	**338**	⇓*i*P		**Pb**		**19 37 45.7**	**-0.7**
	baz=345								
TWE				*e*S		**Sb**		**19 37 53.4**	**-0.3**
	baz=345								
ILA	**Ilan**	**0.55**	**347**	⇓*i*P		**Pb**		**19 37 46.5**	**-0.2**
	baz=354								
ILA				*e*S		**Sb**		**19 37 54.7**	**+0.5**
	baz=354								
WHF	**Hehuan Shan**	**0.57**	**262**	⇑*i*P		**Pb**		**19 37 46.3**	**-0.9**
	baz=258								
WHF				*e*S		**Sb**		**19 37 54.5**	**-0.7**
	baz=258								
ESL	**Shilin**	**0.58**	**225**	⇑*i*P		**Pb**		**19 37 46.8**	**-0.4**
	baz=219								
ESL				*i* S		**Sb**		**19 37 55.8**	**+0.8**
	baz=219								
FUSS	**Fushou**	**0.58**	**272**	⇑*i*P		**Pb**		**19 37 46.6**	**-0.8**
	baz=270								
FUSS				S		**Sb**		**19 37 54.2**	**-1.1**
	baz=270								
TEGC	**Jichi Village**	**0.60**	**211**	⇑P		**Pb**		**19 37 47.9**	**+0.4**
	baz=205								
TEGC				*e*S		**Sn**		**19 37 58.6**	**+0.9**
	baz=205								
EGS		**0.62**	**4**	*i* P		**Pb**		**19 37 48.0**	**+0.2**
	baz=11								
EGS				S		**Sb**		**19 37 57.0**	**+0.9**
	baz=11								
NTC	**Toucheng**	**0.63**	**356**	⇓P		**Pb**		**19 37 47.9**	**-0.1**
	baz=1.0								
NTC				*e*S		**Sb**		**19 37 57.2**	**+0.8**
	baz=1.0								
TWT	**Tachien**	**0.65**	**273**	⇑*i*P		**Pb**		**19 37 48.1**	**-0.3**
	baz=270								
TWT				S		**Sb**		**19 37 56.7**	**-0.4**
	baz=270								
NWLT	**Wulai**	**0.65**	**328**	⇑*i*P		**Pb**		**19 37 47.6**	**-0.8**
	baz=331								
NWLT				*e*S		**Sb**		**19 37 56.1**	**-1.0**
	baz=331								
NSK	**Sanguang**	**0.66**	**313**	⇑*i*P		**Pb**		**19 37 47.6**	**-0.9**
	baz=316								
NSK				S		**Sb**		**19 37 56.1**	**-1.1**
	baz=316								
TDCB	**Techi**	**0.66**	**273**	⇑*i*P		**Pb**		**19 37 48.1**	**-0.5**
	baz=271								
TDCB				S		**Sb**		**19 37 56.5**	**-1.0**
	baz=271								
CHGB	**Renai**	**0.67**	**256**	⇑*i*P		**Pb**		**19 37 48.3**	**-0.5**
	baz=252								
CHGB				S		**Sb**		**19 37 57.6**	**-0.2**
	baz=252								
EGFH	**Guangfu**	**0.69**	**217**	⇑*i*P		**Pb**		**19 37 48.5**	**-0.5**
	baz=212								
EGFH				*e*S		**Sn**		**19 38 00.7**	**+0.7**
	baz=212								
OWD	**Renai**	**0.70**	**247**	⇑*i*P		**Pb**		**19 37 48.8**	**-0.5**
	baz=244								
OWD				*e*S		**Sb**		**19 37 58.0**	**-0.6**
	baz=244								
TIPB	**Shuangxi**	**0.74**	**356**	⇓*i*P		**Pb**		**19 37 49.9**	**-0.1**
TIPB				S		**Sb**		**19 37 59.6**	**-0.2**
TWB1	**Santiao Chiao**	**0.79**	**7**	⇓*i*P		**Pb**		**19 37 50.7**	**+0.1**
	baz=12								
TWB1				*e*S		**Sb**		**19 38 00.9**	**0.0**
	baz=12								
TWA	**Mucha**	**0.80**	**340**	⇑*i*P		**Pb**		**19 37 50.7**	**-0.2**
	baz=344								
TWA				*e*S		**Sb**		**19 38 01.6**	**+0.3**
	baz=344								
NHDH	**Xindian Distri**	**0.80**	**336**	⇑*i*P		**Pb**		**19 37 50.6**	**-0.3**
	baz=339								
NHDH				*e*S		**Sb**		**19 38 00.8**	**-0.6**
	baz=339								
TATO	**Taipei**	**0.83**	**334**	⇑P		**Pb**		**19 37 51.1**	**-0.3**
	baz=337								
TATO				*e*S		**Sb**		**19 38 01.8**	**-0.4**
	baz=337								
TATO	**Taipei**	**0.83**	**334**			**Pb**		**19 37 50.9**	**-0.5**
TATO	**Taipei**	**0.83**	**334**	P		**Pb**		**19 37 51.4**	**0.0**
TATO				S		**Sb**		**19 38 01.7**	**-0.4**
HGSD	**Ruisui**	**0.84**	**210**	⇑*i*P		**Pb**		**19 37 51.6**	**0.0**
	baz=206								
HGSD				*e*S		**Sn**		**19 38 06.2**	**+2.6**
	baz=206								
NWF	**Wu-fen Shan**	**0.85**	**354**	⇓*i*P		**Pn**		**19 37 52.0**	**-0.1**
	baz=358								
NWF				*e*S		**Sb**		**19 38 03.3**	**+0.5**
	baz=358								
WFSB	**Wu-fen Shan**	**0.85**	**354**	⇓*i*P		**Pn**		**19 37 52.0**	**-0.1**
	baz=358								
WFSB				*e*S		**Sb**		**19 38 02.8**	**+0.2**
	baz=358								
WHP	**Taichung City**	**0.86**	**274**	⇑*e*P		**Pb**		**19 37 51.5**	**-0.4**
	baz=272								
WHP				*e*S		**Sb**		**19 38 02.2**	**-0.8**
	baz=272								
NHY	**Taipei**	**0.86**	**341**	*e*P		**Pn**		**19 37 52.1**	**-0.1**
	baz=344								
NHY				*e*S		**Sn**		**19 38 03.9**	**-0.2**
	baz=344								
BACT	**New Taipei Cit**	**0.87**	**332**	*e*P		**Pn**		**19 37 52.3**	**0.0**
	baz=335								
BACT				*e*S		**Sn**		**19 38 03.9**	**-0.4**
	baz=335								
WPL	**Puli Township**	**0.87**	**256**	⇑P		**Pb**		**19 37 51.7**	**-0.5**
	baz=253								
WPL				*e*S		**Sb**		**19 38 03.0**	**-0.3**
	baz=253								
TAP1	**Taipei**	**0.87**	**338**	*e*P		**Pn**		**19 37 52.4**	**-0.1**
	baz=341								
TAP	**Taipei**	**0.88**	**337**	*e*P		**Pn**		**19 37 52.4**	**-0.1**
	baz=341								
TAP				*e*S		**Sn**		**19 38 04.2**	**-0.3**
	baz=341								
EHY	**Hungye**	**0.88**	**216**	⇑P		**Pb**		**19 37 51.0**	**-1.3**
	baz=211								
EHY				*e*S		**Sn**		**19 38 05.7**	**+1.1**
	baz=211								
NJD	**Zhudong**	**0.89**	**305**	⇑*e*P		**Pb**		**19 37 52.4**	**+0.1**
	baz=306								
NJD				*e*S		**Sn**		**19 38 04.7**	**0.0**
	baz=306								
DPDB	**Guoxing**	**0.90**	**258**	⇑P		**Pb**		**19 37 52.2**	**-0.4**
	baz=255								
DPDB				*e*S		**Sb**		**19 38 03.8**	**-0.3**
	baz=255								
LIOB	**Emei**	**0.90**	**298**	⇑*i*P		**Pb**		**19 37 52.4**	**-0.1**
	baz=298								
LIOB				*e*S		**Sb**		**19 38 03.7**	**-0.3**
	baz=298								
NSTT	**Nanjuang**	**0.90**	**297**	⇑*i*P		**Pb**		**19 37 52.3**	**-0.3**
	baz=297								
NSTT				*e*S		**Sb**		**19 38 03.4**	**-0.8**
	baz=297								
WCS	**Beigang Elemen**	**0.90**	**260**	⇑*i*P		**Pb**		**19 37 52.2**	**-0.5**
	baz=257								
WCS				*e*S		**Sb**		**19 38 04.2**	**-0.1**
	baz=257								
TNOU	**National Taiwa**	**0.93**	**354**	*e*P		**Pb**		**19 37 50.9**	**-2.2**
	baz=357								
TNOU				*e*S		**Sb**		**19 38 02.8**	**-2.1**
	baz=357								
NTY	**Taoyuan**	**0.94**	**325**	⇑*e*P		**Pn**		**19 37 53.5**	**+0.2**
	baz=328								
NTY				*e*S		**Sn**		**19 38 06.7**	**+0.7**
	baz=328								
SSLB	**Suanglung**	**0.95**	**243**	⇑P		**Pb**		**19 37 52.8**	**-0.8**
	baz=240								
SSLB				*e*S		**Sb**		**19 38 04.9**	**-0.9**
	baz=240								
SSLB	**Suanglung**	**0.95**	**243**	Pn		**Pb**		**19 37 52.3**	**-1.2**
YM01	**YM01**	**0.96**	**343**	⇑P		**Pb**		**19 37 53.5**	**-0.2**
	baz=346								
YM01				*e*S		**Sn**		**19 38 06.4**	**-0.3**
	baz=346								
HSN1	**Hsinchu**	**0.96**	**305**	⇑*e*P		**Pn**		**19 37 54.0**	**+0.3**
	baz=306								
HSN1				*e*S		**Sn**		**19 38 07.3**	**+0.7**
	baz=306								
SMLT	**Sun Moon Lake**	**0.96**	**249**	⇑*e*P		**Pb**		**19 37 53.1**	**-0.6**
	baz=246								
SMLT				*e*S		**Sb**		**19 38 06.3**	**+0.2**
	baz=246								
TWS1	**Kuangyinshan**	**0.97**	**334**	⇑P		**Pb**		**19 37 52.7**	**-1.0**
	baz=337								
TWS1				*e*S		**Sn**		**19 38 07.2**	**+0.4**
	baz=337								
NCU	**National Centr**	**0.97**	**320**	⇑P		**Pb**		**19 37 54.0**	**+0.1**
	baz=322								
NCU				*e*S		**Sn**		**19 38 08.1**	**+1.2**
	baz=322								
NCUH	**Zhongli**	**0.97**	**319**	⇑P		**Pb**		**19 37 54.0**	**+0.1**
	baz=321								
NCUH				*e*S		**Sn**		**19 38 07.9**	**+0.9**
	baz=321								
ECBN	**Changbin**	**0.99**	**204**	⇓*e*P		**Pn**		**19 37 53.8**	**-0.2**
	baz=200								
ECBN				*e*S		**Sn**		**19 38 07.4**	**+0.2**
	baz=200								
YULB	**Yu-li**	**0.99**	**213**	⇑*e*P		**Pn**		**19 37 52.5**	**-1.6**
	baz=209								
YULB	

HSN eS Sn 19 38 09.0 +1.2
baz=308
ANP **Anpu** **1.01 341**⇑*e*P Pn 19 37 54.0 -0.5
baz=344
ANP eS Sn 19 38 08.2 +0.3
baz=344
NTST **Danshui** **1.01 337**⇑*e*P Pn 19 37 54.4 0.0
baz=340
NTST eS Sn 19 38 09.5 +1.6
baz=340
EYUL **Yuli** **1.02 211**⇑*e*P Pn 19 37 53.1 -1.3
baz=207
TWQ1 **Liyutan** **1.02 277**⇑*e*P Pb 19 37 55.0 +0.3
baz=276
TWQ1 eS Sn 19 38 08.5 +0.5
baz=276
TWF1 **Yuli** **1.02 212**⇑*e*P Pn 19 37 53.1 -1.4
baz=208
TWF1 eS Sn 19 38 08.9 +0.8
baz=208
NJN **Zhunan** **1.03 297**⇑*e*P Pb 19 37 55.3 +0.5
baz=297
NJN eS Sn 19 38 09.5 +1.2
baz=297
NSY **Sanyi** **1.04 281**⇑*e*P Pb 19 37 55.7 +0.7
baz=280
NSY eS Sn 19 38 09.5 +0.9
baz=280
NMLH **Miaoli** **1.04 288**⇑*e*P Pb 19 37 55.6 +0.6
baz=287
NMLH eS Sn 19 38 08.8 +0.2
baz=287
YOJ **Yonaguni jima** **1.05 77** P Pb 19 37 56.3 +1.0
YOJ S Sn 19 38 11.4 +2.5
YOJ **Yonaguni jima** **1.05 77**⇓*i*P Pb 19 37 56.2 +1.0
baz=78
YOJ S Sn 19 38 12.1 +3.2
baz=78
YOJ **Yonaguni jima** **1.05 77** P Pb 19 37 56.2 +1.0
YOJ **Yonaguni jima** **1.05 77** Pn Pb 19 37 56.2 +1.0
TWY **Chenhua** **1.08 346**⇑*e*P Pb 19 37 55.5 -0.1
baz=349
TWY eS Sn 19 38 10.2 +0.8
baz=349
WHYT **Xinyi Township** **1.08 241** ⇑P Pn 19 37 55.2 -0.1
baz=238
WHYT eS Sn 19 38 11.0 +1.5
baz=238
NHW **Xinwu Township** **1.09 316**⇑*e*P Pn 19 37 55.3 -0.1
baz=317
NHW eS Sn 19 38 11.5 +1.8
baz=317
NSM **Shimen** **1.09 346** *e*P Pb 19 37 56.4 +0.5
baz=349
WWF **Wufeng** **1.10 261**⇑*e*P Pb 19 37 56.7 +0.8
baz=259
WWF eS Sn 19 38 13.8 +3.8
baz=259
TCU **Taichung** **1.10 266** ⇑P Pb 19 37 56.8 +0.7
baz=264
TCU eS Sn 19 38 12.1 +1.9
baz=264
WJS **Zhushan** **1.13 249**⇑*e*P Pb 19 37 56.8 +0.3
baz=247
WJS eS Sb 19 38 13.3 +2.5
baz=247
WDJ **Dajia District** **1.14 276**⇑*e*P Pb 19 37 56.9 +0.2
baz=275
WDJ eS Sb 19 38 13.1 +2.0
baz=275
WNT1 **Nantou City** **1.15 254**⇑*e*P Pb 19 37 57.3 +0.5
baz=252
WNT1 eS Sb 19 38 14.2 +3.0
baz=252
WNT **Mingjian** **1.15 253**⇑*e*P Pb 19 37 57.2 +0.4
baz=250
WNT eS Sb 19 38 14.8 +3.4
baz=250
FULB **Fuli** **1.16 208**⇑*e*P Pn 19 37 56.0 -0.4
baz=205
FULB eS Sb 19 38 12.1 +0.6
baz=205
ALS **Alishan** **1.22 234**⇑*e*P Pn 19 37 57.7 +0.3
baz=231
ALS eS Sb 19 38 15.8 +2.2
baz=231
CHKT **Chengkung** **1.22 203**⇓*e*P Pn 19 37 56.3 -0.9
baz=200
CHKT eS Sn 19 38 12.1 -0.8
baz=200
WCHH **Zhanghua** **1.22 263**⇑*e*P Pb 19 37 58.2 +0.2
baz=262
WCHH eS Sb 19 38 16.0 +2.7
baz=262
WYL **Yuanlin Townsh** **1.22 258**⇑*e*P Pb 19 37 58.4 +0.4
baz=256
CHN5 **Tsauling** **1.27 241**⇑*e*P Pb 19 37 58.7 -0.2
baz=238
CHN5 eS Sb 19 38 16.6 +1.8
baz=238
ECS **Chishang** **1.28 209** *e*P Pn 19 37 57.1 -0.9
baz=206
ELDTW **Lidau** **1.30 218**⇑*e*P Pn 19 37 57.4 -1.0
baz=215
ELDTW eS Sb 19 38 16.9 +1.0
baz=215
WGK **Gukeng** **1.32 246**⇑*e*P Pb 19 37 59.9 +0.1
baz=244
WGK eS Sb 19 38 20.2 +3.9
baz=244
WDLH **Douliu** **1.34 247**⇑*e*P Pb 19 38 00.1 0.0
baz=245
WDLH eS Sb 19 38 17.6 +0.8
baz=245
EDH **Donghe** **1.36 203**⇓*e*P Pn 19 37 58.3 -0.8
baz=200
EDH eS Sb 19 38 17.1 -0.1
baz=200
PCYT **Pengchaiyu** **1.41 7**⇑*e*P Pb 19 38 00.7 -0.6
baz=10.0
PCYT eS Sb 19 38 19.5 +0.7
baz=10.0
WRL **Guolierlin Hig** **1.41 257**⇑*e*P Pb 19 38 00.7 -0.6
baz=255
WRL eS Sb 19 38 20.6 +1.6
baz=255
STYH **Taoyuan** **1.46 224**⇑*e*P Pn 19 38 01.1 +0.6
baz=222
STYH eS Sb 19 38 20.1 -0.2
baz=222
CHN2 **Minshiung** **1.46 242** *e*P Pb 19 38 01.5 -0.7
baz=240
CHN2 eS Sb 19 38 24.0 +3.7
baz=240
WTK **Tuku** **1.47 249**⇑*e*P Pb 19 38 01.9 -0.4
baz=247
WTK eS Sb 19 38 20.7 +0.2
baz=247
TPUB **Ta-pu** **1.47 232**⇑*e*P Pb 19 38 01.8 -0.5
baz=229
TPUB eS Sb 19 38 21.0 +0.4
baz=229
TPUB **Ta-pu** **1.47 232** Pb 19 38 02.0 -0.4
STYT **Tauyuan** **1.48 225**⇑*e*P Pn 19 38 01.5 +0.7
baz=222
STYT eS Sb 19 38 21.8 +1.0
baz=222
LONT **Longtian** **1.48 208**⇑*e*P Pn 19 37 59.8 -1.1
baz=205
LONT eS Sn 19 38 19.3 -0.2
baz=205
WTCT **Ta-ch'eng** **1.51 257**⇑*e*P Pb 19 38 02.2 -0.8
baz=255
WTCT eS Sb 19 38 23.2 +1.6
baz=255
WTP **Ta-pu** **1.52 230**⇑*e*P Pb 19 38 02.6 -0.5
baz=228
WTP eS Sb 19 38 23.7 +1.8
baz=228
CHY **Chiayi** **1.52 242**⇑*e*P Pb 19 38 02.6 -0.5
baz=239
CHY eS Sb 19 38 22.9 +0.9
baz=239
TWG **Pinlang** **1.58 208** *e*P Pn 19 38 01.0 -1.3
baz=205
TWG **Pinlang** **1.58 208** Pn Pn 19 38 00.7 -1.6
TWGBT **Beinan** **1.58 208**⇑*e*P Pn 19 38 01.0 -1.3
baz=206

LDUT **Ludao** **1.59 194**⇓*e*P Pn 19 38 00.9 -1.5
baz=192
LDUT eS Sn 19 38 20.1 -2.0
baz=192
TWK **Hsinying** **1.59 234**⇑*e*P Pb 19 38 03.8 -0.7
baz=231
TWK eS Sb 19 38 25.3 +1.1
baz=231
TTN **Taitung** **1.61 205** *e*P Pn 19 38 02.6 0.0
baz=202
CHN1 **Nanshi** **1.62 230**⇑*e*P Pb 19 38 04.1 -0.7
baz=228
CHN1 eS Sb 19 38 25.9 +1.0
baz=228
SNST **Tainan City** **1.62 232**⇑*e*P Pb 19 38 04.0 -0.9
baz=230
SNST eS Sb 19 38 26.2 +1.4
baz=230
WSF **Szhu** **1.63 249**⇑*e*P Pb 19 38 04.2 -0.8
baz=247
WSF eS Sb 19 38 26.5 +1.4
baz=247
SGST **Jiashian** **1.65 227**⇑*e*P Pn 19 38 03.9 +0.7
baz=224
SGST eS Sb 19 38 24.8 -0.9
baz=224
SLGT **Liugui** **1.67 223**⇑*e*P Pb 19 38 04.9 -0.9
baz=221
SLGT eS Sb 19 38 27.8 +1.5
baz=221
IRIF **Iriomote-Funau** **1.69 86** P Pb 19 38 04.9 -1.1
IRIF S Sb 19 38 27.6 +0.8
ICHU **Yijhu** **1.70 240**⇑*e*P Pb 19 38 05.4 -0.8
baz=238
ICHU eS Sb 19 38 27.7 +0.4
baz=238
CHN8 **Yiju** **1.76 241**⇑*e*P Pb 19 38 06.3 -1.0
baz=238
CHN8 eS Sb 19 38 30.1 +1.0
baz=238
HATJ **Hateruma jima** **1.76 95** P Pb 19 38 06.4 -0.9
HATJ S Sb 19 38 29.3 +0.3
CHN3 **Shinhua** **1.80 231** *e*P Pb 19 38 07.5 -0.5
baz=229
ECL **Taimali** **1.83 208** *e*P Pn 19 38 04.2 -1.5
baz=206
SCST **Cishan** **1.84 224**⇑*e*P Pb 19 38 08.0 -0.7
baz=222
SCST eS Sb 19 38 33.5 +2.1
baz=222
SCLT **Jiali** **1.87 236** *e*P Pb 19 38 07.9 -1.2
baz=234
SCLT eS Sb 19 38 31.6 -0.4
baz=234
SSD **Sandimen** **1.87 218** *e*P Pn 19 38 06.8 +0.6
baz=216
SSD eS Sb 19 38 31.7 -0.3
baz=216
TSMG **Majia** **1.89 217** *e*P Pn 19 38 07.4 +0.9
baz=215
TSMG eS Sb 19 38 31.8 -0.9
baz=215
TAI1 **Yung-k'ang** **1.92 232** *e*P Pb 19 38 09.1 -0.9
baz=230
TAI1 eS Sb 19 38 35.2 +1.6
baz=230
JKRS **Kuro-shima** **1.94 89** P Pb 19 38 08.9 -1.4
JKRS eS Sb 19 38 34.6 +0.5
SGLT **Jiouru** **1.97 221** *e*P Pb 19 38 10.4 -0.4
baz=219
MASBT **Mashibuluo** **1.98 216** *e*P Pn 19 38 08.0 +0.4
baz=214
MASBT eS Sn 19 38 32.6 +1.0
baz=214
SNJT **Kaohsiung City** **2.04 224** *e*P Pb 19 38 10.9 -1.1
baz=222
EAST **Anshuo** **2.07 208** *e*P Pn 19 38 08.0 -0.9
baz=205
JIJ **Ishigaki jima** **2.07 86** P Pn 19 38 09.8 +0.9
JIJ S Sn 19 38 35.5 +1.6
TAW **Tawu** **2.07 206** *e*P Pn 19 38 08.1 -0.8
baz=204
SSPT **Xinbi** **2.11 215** *e*P Pn 19 38 11.4 +1.9
baz=213
SCZT **Fangliau** **2.18 212** *e*P Pn 19 38 11.8 +1.4
baz=210
SCZT eS Sb 19 38 43.0 +2.0
baz=210
KAU **Kaohsiung** **2.19 222** *e*P Pb 19 38 13.0 -1.7
baz=220
LAY **Lan-yu** **2.20 188** *e*P Pn 19 38 09.1 -1.6
baz=186
PNG **Penghu** **2.23 253** *e*P Pn 19 38 11.2 +0.1
baz=252
PNG eS Sn 19 38 38.5 +0.6
baz=252
PHUB **P'eng-hu** **2.23 252**⇑*e*P Pn 19 38 11.2 +0.1
baz=250
PHUB eS Sn 19 38 37.6 -0.4
baz=250
SLIU **Shizi** **2.23 207** *e*P Pn 19 38 10.3 -0.9
baz=205
JISG **Ishigakijimahi** **2.24 80** P Pn 19 38 12.2 +0.9
JISG eS Sb 19 38 40.7 -2.1
WDGT **Dungji** **2.25 245** *e*P Pn 19 38 12.2 +0.8
baz=243
WLCH **Liuqiu** **2.32 217** *e*P Pb 19 38 15.3 -1.5
baz=215
TWP **Hsiaoliuchiu** **2.34 217** *e*P Pb 19 38 15.3 -1.7
baz=215
VWUC **VWUC** **2.34 289** *e*P Pn 19 38 12.2 -0.4
baz=289
HEN **Hengchun** **2.45 206** *e*P Pn 19 38 15.5 +1.4
baz=204
VCHM **Qimei** **2.47 246**⇑*e*P Pn 19 38 15.0 +0.6
baz=245
VCHM eS Sn 19 38 44.8 +1.1
baz=245
TWK1 **Hengchun** **2.48 204** *e*P Pn 19 38 14.6 +0.1
baz=202
TWKBT **Hengchun** **2.48 204** *e*P Pn 19 38 15.1 +0.6
baz=202
TSEB **Hengchuen, Pin** **2.48 202** *e*P Pn 19 38 14.7 +0.1
baz=201
MATB **Ma-tsu** **2.60 318**⇑*e*P Pn 19 38 15.0 -1.2
baz=318
JTJ **Tarama** **2.60 80** P Pn 19 38 17.8 +1.6
JTJ S Sb 19 38 51.5 -1.6
MSUT **Lienchiang** **2.63 318** *e*P Pn 19 38 14.9 -1.6
baz=318
PTMZ **Houxiangcun** **2.64 288**⇑*e*P Pn 19 38 16.3 -0.5
baz=288
PTMZ eS Sn 19 38 46.7 -1.3
baz=288
LYJJ **Jianjiangzhen** **3.01 321**⇑*e*P Pn 19 38 20.7 -1.1
baz=321
JIRB **Irabujima** **3.06 78** P Pn 19 38 24.0 +1.5
JIRB eS Sn 19 39 01.9 +3.6
QZH **Quanzhou** **3.08 284**⇑*i*Pn Pn 19 38 22.3 -0.5
QZH Sn Sn 19 38 56.5 -2.4
QZH smax smax
comp=N,5μm,0.8s
QZH smax smax
comp=E,3μm,1.4s
QZH LR LR
comp=N,63μm,4.7s
QZH LR LR
comp=E,21μm,3.3s
QZH LR LR
comp=Z,48μm,9.5s
XPSS **Dashiqiu** **3.10 331**⇑*e*P Pn 19 38 21.8 -1.2
baz=331
JIKM **Ikemajima** **3.14 77** P Pn 19 38 25.5 +1.9
JIKM eS Sb 19 39 04.8 -3.8
KNM **Kinmen** **3.15 274**⇑*e*P Pn 19 38 25.0 +1.2
baz=273
JMJ **Miyako jima 2** **3.16 79** *e*P Pn 19 38 26.2 +2.3
baz=80
JMJ2 **Miyako jima3** **3.18 80** P Pn 19 38 26.3 +2.1
JMJ2 eS Sn 19 39 05.1 +3.7
MHZQ **Yeshan** **3.19 306**⇑*e*P Pn 19 38 23.2 -1.1
baz=306
KNMB **Chin-men Tao** **3.20 275**⇑*e*P Pn 19 38 23.7 -0.7
baz=274
KNMB **Chin-men Tao** **3.20 275** Pn Pn 19 38 23.4 -1.0
JOGS **Gusukube** **3.25 80** P Pn 19 38 27.1 +1.9
JOGS S Sb 19 39 07.7 -4.2

AXDP **Jialang** **3.63 281**⇑*e*P Pn 19 38 32.0 +1.7
baz=280
ZPLA **Ao Xicun** **3.79 266**⇑*e*P Pn 19 38 32.3 -0.3
baz=265
JKE **Kume jima 2** **4.91 64** P Pn 19 38 49.8 +1.9
VDOS **Pratas Island** **5.92 235** *e*P Pn 19 39 03.6 +1.8
baz=233
JOW **Kunigami** **6.33 64** Pn Pn 19 39 08.0 +0.5
48nm,0.3s,baz=227,slow=8.4,SNR=230
JOW Sn Sn 19 40 19.9 +0.8
baz=163,slow=29,SNR=0.7
JOW **Kunigami** **6.33 64** P Pn 19 39 08.2 +0.7
JOW **Kunigami** **6.33 64** *e*P Pn 19 39 07.6 +0.1
baz=66
CVP **Callao Caves** **6.49 181** *e*P Pn 19 39 10.0 +0.3
CVP *i*S Sn 19 40 25.6 +2.5
SSE **Sheshan** **6.87 355** Pn Pn 19 39 14.1 -0.8
SSE Sn Sn 19 40 34.4 +2.0
SSE smax smax
comp=N,1μm,1.3s
SSE smax smax
comp=E,1μm,1.3s
HKPS **Hong Kong Po S** **7.38 256** *e*P Pn 19 39 21.9 0.0
baz=254
GZH **Guangzhou** **7.91 263** Pn Pn 19 39 24.5 -4.7
GZH Sn Sn 19 40 50.9 -7.1
GZH smax smax
comp=N,2μm,1.5s
GZH smax smax
comp=E,2μm,1.5s
NJ2 **Nanjing** **8.24 342**⇓*i*P Pn 19 39 32.6 -1.1
NJ2 S Sn 19 41 04.4 -1.7
NJ2 pmax pmax
comp=Z,180nm,0.9s
NJ2 smax smax
comp=N,3μm,1.0s
NJ2 smax smax
comp=E,2μm,1.0s
NJ2 LR LR
comp=N,23μm,10.4s
NJ2 LR LR
comp=E,16μm,9.5s
NJ2 LR LR
comp=Z,28μm,13.9s
JMZ **Minamidaito 2** **8.62 77** Pn Pn 19 39 36.2 -2.7
WHN **Wuhan** **9.19 315** ⇓P Pn 19 39 45.0 -1.7
WHN LR LR
comp=N,60μm,9.3s
WHN LR LR
comp=E,58μm,6.9s
WHN LR LR
comp=Z,75μm,11.7s
LQP **Lukban** **10.07 182**⇓*e*P Pn 19 39 56.1 -2.9
JSU **Suzuyama** **10.49 44** Pn Pn 19 40 05.0 +0.5
PGP **Puerto Galera** **10.70 185**⇑*e*P Pn 19 40 11.9 +4.3
HUK2 **Heuksan-myeon** **10.88 16** P Pn 19 40 13.0 +3.1
SNR=15
JNU **Nakatsue** **11.87 40** Pn Pn 19 40 26.4 +3.0
0.5nm,0.3s,baz=360,slow=23,SNR=3.1
JNU LR LR 19 46 29.2
comp=Z,5μm,18.8s,baz=222,slow=45
JNU **Nakatsue** **11.87 40** Pn Pn 19 40 25.1 +1.7
SMKB **Mukjeong-gil** **12.12 18** P Pn 19 40 32.0 +5.2
SNR=6.5
SMKB **Mukjeong-gil** **12.12 18** P Pn 19 40 32.0 +5.2
SNR=6.5
JTU **Tsushima** **12.17 31** Pn Pn 19 40 27.6 +0.1
QIZ **Qiongzhong** **12.33 248** P Pn 19 40 29.0 -0.8
QIZ S Sn 19 42 47.3 +0.7
QIZ pmax pmax
comp=Z,300nm,5.1s
QIZ LR LR
comp=N,8μm,16.5s
QIZ LR LR
comp=E,5μm,18.6s
QIZ LR LR
comp=Z,8μm,16.1s
QIZ **Qiongzhong** **12.33 248** Pn Pn 19 40 28.1 -1.7
HAMB **Hamyang** **12.34 23** P P 19 40 37.1 -4.7
SNR=8.6
HAMB **Hamyang** **12.34 23** P P 19 40 37.1 -4.7
SNR=8.6
KSKCH **Geochang** **12.49 23** P P 19 40 39.3 -4.2
SNR=15
KSKCH **Geochang** **12.49 23** P P 19 40 39.3 -4.2
SNR=15
ENH **Enshi** **12.56 301** Pn Pn 19 40 31.8 -1.1
TIA **Tai'an** **12.63 342** ⇓P P 19 40 39.8 -5.2
TIA S Sn 19 42 52.1 -1.7
TIA pmax pmax
comp=Z,250nm,3.9s
TIA LR LR
comp=N,13μm,9.5s
TIA LR LR
comp=E,7μm,12.8s
TIA LR LR
comp=Z,18μm,11.9s
KSGBI **Gyogryolbido** **12.76 14** P Pn 19 40 37.5 +1.9
SNR=8.5
KSGIC **Gimchen** **12.98 23** P P 19 40 46.6 -2.2
SNR=6.6
KSGIC **Gimchen** **12.98 23** P P 19 40 46.6 -2.2
SNR=6.6
TJN **Taejon** **13.00 20** *i*P Pn 19 40 38.9 +0.1
KSUSN **Ulsan** **13.04 27** P P 19 40 47.8 -1.7
SNR=6.6
KSCPR **CHUPUNGNYEONG** **13.06 22** P P 19 40 46.9 -2.8
SNR=12
KSCPR **CHUPUNGNYEONG** **13.06 22** P P 19 40 46.9 -2.8
SNR=12
OKCB **Cheongsan-myeo** **13.11 22** P P 19 40 47.0 -3.4
SNR=14
OKCB **Cheongsan-myeo** **13.11 22** P P 19 40 47.0 -3.4
SNR=14
KSEUS **ULSEONG** **13.43 24** P P 19 40 53.0 -0.9
SNR=8.5
KSEUS **ULSEONG** **13.43 24** P P 19 40 53.0 -0.9
SNR=8.5
KSADO **Andong** **13.59 25** P P 19 40 55.0 -0.6
SNR=7.1
KSADO **Andong** **13.59 25** P P 19 40 55.0 -0.6
SNR=7.1
KSCHJ **Chungju** **13.65 21** P P 19 40 55.0 -1.3
SNR=6.5
KSCHJ **Chungju** **13.65 21** P P 19 40 55.0 -1.3
SNR=6.5
KSSWO **Suwon** **13.71 17** P P 19 40 55.4 -1.6
SNR=14
DACB **Daecheong-do R** **13.78 9** P Pn 19 40 51.0 +1.5
SNR=17
DACB **Daecheong-do R** **13.78 9** P P 19 40 56.0 -1.8
SNR=9.7
INCN **Inchon** **13.83 16** P Pn 19 40 52.7 +2.5
INCN **Inchon** **13.83 16** Pn Pn 19 40 52.7 +2.5
INCN **Inchon** **13.83 16** P P 19 40 54.6 -3.7
INCN S Sn 19 43 28.0 +5.1
KSBAR **Backryungdo** **13.92 9** P Pn 19 40 52.5 +1.1
SNR=19
KSBAR **Backryungdo** **13.92 9** P P 19 40 56.9 -2.4
SNR=14
GYA **Guiyang** **13.94 282**⇑*i*P Pn 19 40 52.1 +0.2
GYA pP P 19 40 57.3 -2.5
GYA PP PnPn 19 41 02.8 +3.0
GYA S Sn 19 43 27.4 +1.4
GYA pmax pmax
comp=Z,41nm,1.3s
GYA pmax pmax
comp=Z,670nm,3.5s
GYA LR LR
comp=Z,10μm,7.5s
GYA LR LR
comp=Z,20μm,19.1s
GYA LR LR
comp=Z,26μm,10.6s
KSYOW **Yeongwol** **14.08 22** P P 19 40 59.8 -1.4
SNR=19
KSYOW **Yeongwol** **14.08 22** P P 19 40 59.8 -1.4
SNR=19
JMN **Monobe** **14.13 45** Pn Pn 19 40 50.2 -4.1
KSAR **Wonju Array Be** **14.14 20** P Pn 19 40 54.8 +0.3
KSAR **Wonju Array Be** **14.14 20** Pn Pn 19 40 54.8 +0.3
KSWJU **Wonju** **14.16 20** P P 19 41 01.0 -1.0
SNR=23
KSWJU **Wonju** **14.16 20** P P 19 41 01.0 -1.0
SNR=23
KSRS **Korea Array** **14.16 20** Pn Pn 19 40 56.6 +1.9

comp=Z,1.2nm,0.3s,baz=202,slow=13,SNR=27
KSRS LR LR 19 46 47.6
comp=Z,3µm,20.0s,baz=206,slow=39
KS19 Wonju Array Si 14.19 20 Pn 19 40 55.8 +0.7
KSMUS Musan 14.24 16 P **P 19 41 02.2 -0.7**
SNR=12
MSLP Maasin 14.30 168⇑*e*P **Pn 19 40 57.4 +0.6**
CNOP Candoni, Negro 14.34 177⇓*e*P **P 19 41 01.1 -3.0**
KSCHC Chuncheon 14.43 19 P **P 19 41 04.0 -1.0**
SNR=12
KSCHC Chuncheon 14.43 19 P **P 19 41 04.0 -1.0**
SNR=12
JHS Saijyo 14.50 40 Pn **Pn 19 40 59.1 -0.3**
KSDGY Daegwallycong 14.62 22 P **P 19 41 07.0 -0.3**
SNR=13
KSDGY Daegwallycong 14.62 22 P **P 19 41 07.0 -0.3**
SNR=13
KSCWO Cheorwon 14.63 18 P **P 19 41 06.1 -1.1**
SNR=17
KSCWO Cheorwon 14.63 18 P **P 19 41 06.1 -1.1**
SNR=17
DL2 Dalian 14.64 359⇑*i*P **Pn 19 41 02.4 +1.2**
DL2 S **Sn 19 43 50.8 +8.1**
DL2 pmax pmax
comp=Z,250nm,0.9s
DL2 pmax pmax
comp=Z,480nm,3.6s
DL2 LR LR
comp=Z,8µm,13.3s
DL2 LR LR
comp=Z,2µm,12.9s
DL2 LR LR
comp=Z,9µm,13.2s
KSIJA INJE 14.71 20 P **P 19 41 08.8 +0.6**
SNR=5.8
HWCB Hwacheon 14.80 18 P **P 19 41 10.0 +0.8**
SNR=16
KSJMJ Jumunjin 14.82 22 P **P 19 41 12.0 +2.6**
SNR=13
XAN Xi'an 14.95 314 P **Pn 19 41 05.0 -0.5**
XAN pP P 19 41 10.0 -0.9
XAN PP **PnPn 19 41 20.3 +6.7**
XAN S **Sn 19 43 49.8 -0.6**
XAN pmax pmax
comp=Z,110nm,1.3s
XAN pmax pmax
comp=Z,1µm,4.5s
XAN LR LR
comp=Z,7µm,7.8s
XAN LR LR
comp=Z,21µm,12.5s
XAN LR LR
comp=Z,25µm,13.1s
SEHB SEOHWA 15.01 20 P **P 19 41 12.4 +0.8**
SNR=17
KSSKC Sokcho 15.12 20 P **P 19 41 14.9 +2.3**
SNR=23
TIY Taiyuan 15.68 331⇓P **P 19 41 18.8 -0.2**
TIY S **S 19 44 15.8 -7.1**
TIY SS **SnSn 19 44 28.0 +6.6**
TIY pmax pmax
comp=Z,42nm,1.0s
TIY pmax pmax
comp=Z,750nm,3.7s
TIY LR LR
comp=Z,14µm,13.8s
TIY LR LR
comp=Z,6µm,13.3s
TIY LR LR
comp=Z,12µm,12.6s
JWT Wachi 16.08 44 Pn **Pn 19 41 21.1 +0.9**
BJT Baijiatuan 16.47 344 P **Pn 19 41 25.3 +0.2**
BJT pmax pmax
comp=Z,103nm,1.1s
BJT Baijiatuan 16.47 344 Pn 19 41 25.3 +0.2
BJI Beijing 16.49 344 P **P 19 41 27.6 -0.2**
BJI pP **pP 19 41 33.1 -0.5**
BJI sP **sP 19 41 36.3 -0.4**
BJI S **Sn 19 44 30.8 +3.2**
BJI PcP **PcP 19 46 14.0 -2.2**
BJI pmax pmax
comp=Z,70nm,1.3s
BJI pmax pmax
comp=Z,670nm,3.9s
BJI LR LR
comp=Z,9µm,11.2s
BJI LR LR
comp=Z,4µm,10.9s
BJI LR LR
comp=Z,11µm,13.7s
BUKP Musuan 16.54 169⇓*e*P **P 19 41 31.6 +3.0**
SLVN Son La 16.83 264 Pn 19 41 29.0 -0.8
INU Inuyama 17.16 46 P 19 41 34.8 -0.6
CD2 Chengdu 17.39 297 P **Pn 19 41 36.9 +0.1**
CD2 sP sP 19 41 47.9 +1.1
CD2 S **Sn 19 44 50.5 +0.9**
CD2 pmax pmax
comp=Z,180nm,1.4s
CD2 pmax pmax
comp=Z,2µm,9.8s
CD2 LR LR
comp=Z,13µm,7.5s
CD2 LR LR
comp=Z,20µm,11.6s
CD2 LR LR
comp=Z,25µm,12.4s
DAV Davao City (W) 17.42 168 LR LR 19 48 51.1
comp=Z,2µm,19.3s,baz=359,slow=39
KMI Kunming 17.42 277⇑P **Pn 19 41 37.5 +0.1**
KMI pP pP 19 41 45.5 +0.5
KMI sP sP 19 41 48.4 +0.2
KMI S **S 19 44 57.1 -1.8**
KMI pmax pmax
comp=Z,48nm,1.6s
KMI pmax pmax
comp=Z,590nm,3.5s
KMI LR LR
comp=Z,5µm,13.9s
KMI LR LR
comp=Z,22µm,12.0s
KMI LR LR
comp=Z,24µm,11.3s
SNY Shenyang 17.61 4⇓P **P 19 41 42.8 +2.6**
SNY S **S 19 45 00.6 -1.5**
SNY pmax pmax
comp=Z,67nm,1.9s
SNY pmax pmax
comp=Z,650nm,3.6s
SNY LR LR
comp=Z,3µm,15.1s
SNY LR LR
comp=Z,12µm,15.3s
SNY LR LR
comp=Z,13µm,11.7s
UBPT Khong Chiam 17.81 243 P **P 19 41 44.2 +1.6**
UBPT Khong Chiam 17.81 243 P P 19 41 52.1 +9.4
JHJ Hachijo jima 2 18.02 57 LR LR 19 48 20.7
comp=Z,4µm,21.6s,baz=259,slow=36
JHJ2 Mitsune 18.04 57 P **Pn 19 41 41.2 -3.6**
JCJ Chichijima 18.52 77 P **P 19 41 49.2 -1.3**
comp=Z,5.1nm,0.3s,baz=302,slow=16,SNR=2.4
JCJ LR LR 19 48 21.8
comp=Z,4µm,21.3s,baz=260,slow=35
JCJ Chichijima 18.52 77 P **P 19 41 47.2 -3.2**
JCJ IAmb IAmb 19 41 58.2
comp=Z,199nm,0.9s
MAJO Matsushiro 18.65 45 *i*P **Pn 19 41 52.7 +0.5**
MAJO Matsushiro 18.65 45 P 19 41 48.3 -3.4
MAT Matsushiro 18.65 45 P **P 19 41 49.4 -2.4**
MAT S **Sn 19 45 21.0 +0.9**
MJB9 Matsu-Tunnel 18.65 45 P **P 19 41 45.5 -6.3**
MJAR Matsushiro Arr 18.65 45 P **P 19 41 50.4 -1.4**
comp=Z,0.0nm,0.3s,baz=224,slow=8.8,SNR=7.2
MJAR LR LR 19 49 47.8
comp=Z,4µm,21.5s,baz=235,slow=39
MJAR Matsushiro Arr 18.65 45 P **P 19 41 48.6 -3.2**
HHC Hu-ho-hao-te 18.70 335 *e*P **Pn 19 41 54.6 +1.8**
HHC pP pP 19 41 57.6 -1.3
HHC PP **PnPn 19 42 08.1 +3.0**
HHC S **Sn 19 45 21.4 +0.1**
HHC sS S 19 45 28.6 +4.8
HHC pmax pmax
comp=Z,25nm,0.8s
HHC pmax pmax
comp=Z,1µm,5.7s
HHC LR LR
comp=Z,10µm,13.3s
HHC LR LR
comp=Z,5µm,15.3s
HHC LR LR
comp=Z,10µm,16.5s
BTO Baotou 19.13 331 *e*P **Pn 19 41 58.8 +0.8**
BTO LR LR
comp=Z,22µm,12.9s
BTO LR LR
comp=Z,10µm,11.0s
BTO LR LR
comp=Z,28µm,13.5s
LZH Lanzhou 19.54 311⇑P **Pn 19 42 03.9 +0.9**
LZH pP pP 19 42 08.0 +0.4
LZH sP sP 19 42 14.4 +3.7
LZH S **S 19 45 41.3 +0.2**
LZH SS **SnSn 19 46 06.3 +10**
LZH pmax pmax
comp=Z,68nm,1.0s
LZH pmax pmax
comp=Z,1µm,4.6s
LZH LR LR
comp=Z,11µm,11.4s
LZH LR LR
comp=Z,14µm,11.9s
LZH LR LR
comp=Z,17µm,11.4s
JSD Sado 19.61 42 P **P 19 42 00.2 -2.1**
CN2 Changchun 19.75 8 *e*P **Pn 19 42 06.1 +0.8**
CN2 *e*S **S 19 45 43.1 -1.9**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,300nm,3.0s
CN2 LR LR
comp=Z,6µm,11.0s
CN2 LR LR
comp=Z,8µm,11.0s
CN2 LR LR
comp=Z,6µm,12.0s
JYT Yasato 19.80 49 P **P 19 42 03.1 -1.2**
MSHR Mys Shultsa 19.85 21*c*eP **Pn 19 42 07.3 +0.8**
MSHR pmax pmax
comp=Z,52nm,1.0s
SPMM Sapulut 20.09 196 P Pn 19 42 12.0 +2.4
VLA Vladivostok 20.57 21⇓*i*P Pn 19 42 15.3 +0.3
VLA pmax pmax
comp=Z,42nm,1.1s
PBKT Sadao Pong 21.01 253 P **P 19 42 13.9 -3.8**
PBKT Sadao Pong 21.01 253 P **P 19 42 20.6 +3.0**
comp=Z,35nm,0.8s
JMM Marumori 21.10 45 P **P 19 42 15.2 -3.2**
MDJ Mudanjiang 21.29 15 P **P 19 42 21.4 +1.0**
MDJ S **S 19 46 18.9 +3.1**
MDJ pmax pmax
comp=Z,43nm,1.0s
MDJ pmax pmax
comp=Z,670nm,4.5s
MDJ LR LR
comp=Z,4µm,16.4s
MDJ LR LR
comp=Z,10µm,14.9s
MDJ LR LR
comp=Z,5µm,14.2s
MDJ Mudanjiang 21.29 15 P **P 19 42 18.3 -2.1**
MDJ IAmb IAmb 19 42 42.5
comp=Z,101nm,1.0s
USA0B Ussuriysk Arra 21.57 20 P **P 19 42 23.4 0.0**
USA0B pmax pmax
comp=Z,45nm,1.0s
USA0B Ussuriysk Arra 21.57 20 P **P 19 42 23.4 0.0**
USRK Ussuriysk Ar. 21.57 20 P **P 19 42 24.4 +1.0**
comp=Z,7.9nm,0.7s,baz=198,slow=6.7,SNR=14
USRK Ussuriysk Ar. 21.57 20 P **P 19 42 22.6 -0.8**
CMMT Chiang Mai 22.00 260 P **P 19 42 29.7 +1.5**
comp=Z,2µmcomp=Z,88nm,1.4s
CHTO Chiang Mai 22.00 260 P **P 19 42 28.8 +0.5**
CHTO pmax pmax
comp=Z,127nm,1.2s
CHTO Chiang Mai 22.00 260 P **P 19 42 28.8 +0.5**
CHTO IAmb IAmb 19 42 33.5
comp=Z,127nm,1.2s
CHTO Chiang Mai 22.00 260 P **P 19 42 29.8 +1.5**
CHTO S **S 19 46 29.5 -0.6**
CHTO Chiang Mai 22.00 260 P **P 19 42 29.9 +1.6**
comp=Z,2µmcomp=Z,949nmcomp=Z,52nm,1.1s
CM31 Chiang Mai Arr 22.11 259 P **P 19 42 29.9 +0.4**
CM31 Chiang Mai Arr 22.11 259 P **P 19 42 31.2 +1.7**
SNR=19
CMAR Chiang Mai Arr 22.11 259 P **P 19 42 31.1 +1.7**
comp=Z,33nm,0.9s,baz=62,slow=8.9,SNR=63
CMAR PcP **PcP 19 46 27.4 +0.8**
comp=Z,2.0nm,0.6s,baz=37,slow=1.1,SNR=9.5
CMAR ScP **ScP 19 50 03.8 +1.2**
comp=Z,1.6nm,0.9s,baz=45,slow=1.4,SNR=4.8
CMAR LR LR 19 51 57.5
comp=Z,5µm,19.6s,baz=112,slow=39
CMAR Chiang Mai Arr 22.11 259 P **P 19 42 30.0 +0.5**
GAMI Galela, Maluku 22.98 165 P **P 19 42 37.3 -1.3**
comp=Z,2µmcomp=Z,148nm,0.9s
TOLI2 Tolitoli 23.00 183 P **P 19 42 38.7 -0.2**
TOLI2 IAmb IAmb 19 43 05.3
comp=Z,116nm,1.4s
JTM Tennabayashi 23.04 40 P **P 19 42 34.9 -4.1**
GTOI Gorontalo 23.48 177 P **P 19 42 44.7 +1.1**
comp=Z,876nmcomp=Z,61nm,1.3s
SBUM Sibu 23.58 205 P **P 19 42 45.0 +0.4**
SRDT SRDT 23.59 250 P **P 19 42 46.4 +1.6**
comp=Z,70nm,1.7s
MRSI Marisa 23.61 180 P **P 19 42 47.4 +2.5**
comp=Z,2µmcomp=Z,87nm,1.4s
ANA2 Anatahan 23.66 105 P **P 19 42 46.9 +1.3**
ANA2 IAmb IAmb 19 42 51.8
comp=Z,80nm,0.6s
MPSI Mapaga 23.82 185 P **P 19 42 49.1 +2.1**
comp=Z,658nmcomp=Z,46nm,1.2s
TNTI Ternate 23.91 166 P **P 19 42 45.4 -2.4**
TNTI Ternate 23.91 166 P **P 19 42 49.0 +1.2**
comp=Z,2µmcomp=Z,126nm,1.4s
TEY Ternei 23.96 26 *e*P **P 19 42 54.2 +6.2**
TEY MLR MLR
comp=E,100nm,9.0s
TEY MLR MLR
comp=N,100nm,13.0s
TEY MLR MLR
comp=Z,100nm,12.0s
GTA Gaotai 24.01 314⇑P **P 19 42 49.0 +0.2**
GTA pP pP 19 42 56.9 +1.5
GTA sP sP 19 43 00.3 +1.8
GTA S **S 19 47 06.0 +1.4**
GTA sS pS 19 47 12.5 +0.1
GTA pmax pmax
comp=Z,63nm,2.0s
GTA pmax pmax
comp=Z,730nm,4.6s
GTA LR LR
comp=Z,4µm,11.3s
GTA LR LR
comp=Z,9µm,12.0s
GTA LR LR
comp=Z,11µm,12.4s
GUMO Guam 24.14 112 P **P 19 42 48.2 -1.8**
comp=Z,194nm,1.1s,baz=256,slow=3.6,SNR=6.2
GUMO LR LR 19 52 18.5
comp=Z,3µm,19.4s,baz=274,slow=37
GUMO Guam 24.14 112 P **P 19 42 49.5 -0.5**
GUMO pmax pmax
comp=Z,493nm,1.3s
GUMO Guam 24.14 112 P **P 19 42 49.5 -0.5**
JEW Eniwo 24.61 36 P **P 19 42 52.1 -1.9**
JEW IAmb IAmb 19 43 19.3
comp=Z,71nm,0.9s
APSI Ampana 24.99 181 P **P 19 42 59.0 +1.4**
comp=Z,979nmcomp=Z,1µmcomp=Z,119nm,1.2s
KSM Kuching 25.24 208 P **P 19 43 01.0 +1.0**
MTKI Muara Teweh, K 25.92 196 P **P 19 43 06.9 +0.8**
comp=Z,59nm,0.8s
STKI Sintang 26.05 204 P **P 19 43 09.6 +2.3**
comp=Z,2µmcomp=Z,32nm,0.7s
ASAJ Asahikawa 26.09 35 P **P 19 43 05.6 -1.8**
comp=Z,6.2nm,0.4s,baz=252,slow=9.7,SNR=13
ASAJ LR LR 19 54 15.6
comp=Z,2µm,21.3s,baz=239,slow=38
JKA Kamikawa-asahi 26.09 35 P **P 19 43 05.2 -2.3**
KLR Kul'dur 26.13 15 P **P 19 43 07.7 -0.1**
comp=Z,27nm,1.1s,baz=230,slow=7.5,SNR=36
KLR PcP **PcP 19 46 34.1 -0.6**
comp=Z,7.1nm,0.7s,baz=198,slow=2.8,SNR=4.9
KLR ScP **ScP 19 50 13.2 +0.2**
comp=Z,1.8nm,0.7s,baz=282,slow=16,SNR=2.1
KLR LR LR 19 54 17.5
comp=Z,1µm,19.5s,baz=198,slow=38
KLR Kul'dur 26.13 15*c*eP **P 19 43 07.6 -0.2**
ULN Ulaanbaatar 26.37 337 P **P 19 43 10.0 -0.1**
ULN pmax pmax
comp=Z,90nm,1.2s
ULN Ulaanbaatar 26.37 337 P **P 19 43 10.0 -0.1**
ULN IAmb IAmb 19 43 22.1
comp=Z,90nm,1.1s
ULN Ulaanbaatar 26.37 337 P **P 19 43 10.2 +0.1**
ULN P **P 19 43 10.2 +0.1**
ULN Ulaanbaatar 26.37 337 P **P 19 43 10.4 +0.3**
comp=Z,6µmcomp=Z,3µmcomp=Z,271nm,1.1s
SANI Sanana 26.42 171 P **P 19 43 12.7 +2.1**
comp=Z,615nmcomp=Z,40nm,1.1s
SIJI Sorong 26.56 159 LR LR 19 52 31.0
comp=Z,885nm,19.7s,baz=36,slow=34
SONM Songino Array 26.58 336 P **P 19 43 12.1 +0.1**
comp=Z,39nm,0.9s,baz=155,slow=8.6,SNR=140
SONM PcP **PcP 19 46 35.8 -0.2**
comp=Z,1.8nm,0.6s,baz=150,slow=4.5,SNR=1.3
SONM ScP **ScP 19 50 13.4 -1.1**
comp=Z,1.9nm,1.0s,baz=145,slow=2.4,SNR=3.5
SONM LR LR 19 54 53.1
comp=Z,7µm,18.2s,baz=146,slow=39
SONM Songino Array 26.58 336 P **P 19 43 11.5 -0.5**
SONM IAmb IAmb 19 43 25.3
comp=Z,114nm,1.2s
TTSI Tana Toraja 27.18 185 P **P 19 43 19.4 +1.9**
SHL Shillong 27.22 279 P **P 19 43 18.0 -0.1**
SHL pmax pmax
comp=Z,214nm,1.2s
SHL Shillong 27.22 279 P **P 19 43 18.0 -0.1**
SHL Shillong 27.22 279 P **P 19 43 18.8 +0.7**
SNR=28
KULM Kulim 27.78 231 P **P 19 43 25.0 +2.1**
YUK Yuzh-Kuril'sk 27.84 39 P P 19 43 15.5 -7.6
YUK *e*PPP PPP 19 44 17.4
YUK *e*SSS SSS 19 49 46.2
YUK pmax pmax
comp=N,106nm,1.2s
YUK pmax pmax
comp=Z,247nm,1.2s
YUK pmax pmax
comp=E,197nm,1.1s
LSA Lhasa 27.88 288 P **P 19 43 25.9 +1.6**
LSA S **S 19 48 10.4 +3.5**
LSA LR LR
comp=E,7µm,14.8s
LSA LR LR
comp=E,24µm,15.4s
LSA Lhasa 27.88 288 P **P 19 43 25.7 +1.4**
LSA Lhasa 27.88 288 P **P 19 43 22.6 -1.7**
LSA pmax pmax
comp=Z,41nm,0.8s
LSA Lhasa 27.88 288 P **P 19 43 22.6 -1.7**
LSA IAmb IAmb 19 43 27.5
comp=Z,41nm,0.8s
IPM Ipoh 28.09 229 P **P 19 43 27.0 +1.3**
YSS Yuzh-Sakhalins 28.16 31 *e*P **P 19 43 28.1 +2.1**
YSS *e**SP **pwP 19 43 37.7 +1.5**
YSS *e* 19 44 18.6
YSS *e*S **S 19 48 14.2 +4.3**
YSS *e* 19 49 45.0
YSS pmax pmax
comp=Z,30nm,1.4s
YSS MLR MLR
comp=Z,2µm,16.0s
YSS MLR MLR
comp=N,2µm,15.0s
YSS MLR MLR
comp=E,1µm,16.0s
YSS Yuzh-Sakhalins 28.16 31 P **P 19 43 26.3 +0.3**
YSS IAmb IAmb 19 43 52.5
comp=Z,51nm,1.0s
BBKI Banjar Baru 28.36 195 P **P 19 43 31.0 +2.9**
comp=Z,40nm,1.3s
CIT Chita 28.48 349 *e*P **P 19 43 28.2 -0.6**
CIT *e* 19 43 36.7
CIT *e* 19 43 39.8
CIT *e* 19 44 16.3
CIT *e* 19 44 36.3
CIT *e* 19 48 16.0
CIT pmax pmax
comp=Z,114nm,1.7s
GRNR Gornyy 28.79 19⇑*i*P **P 19 43 31.1 -0.5**
GRNR pmax pmax
comp=Z,3.0nm,1.3s
GRNR MLR MLR
comp=N,900nm,14.0s
GRNR MLR MLR
comp=E,680nm,14.0s
GRNR MLR MLR
comp=Z,1µm,15.0s
FAKI Fak Fak 28.80 158 P **P 19 43 32.6 +0.6**
FAKI IAmb IAmb 19 43 44.2
comp=Z,46nm,0.9s
FAKI Fak Fak 28.80 158 P **P 19 43 34.1 +2.1**
comp=Z,53nm,1.1s
KAPI Kappang 29.14 184 P **P 19 43 35.3 +0.3**
comp=Z,3.5nm,0.4s,baz=94,slow=11,SNR=2.5
KAPI LR LR 19 55 52.4
comp=Z,979nm,20.4s,baz=24,slow=38
KAPI Kappang 29.14 184 P **P 19 43 34.8 -0.1**
UGL Uglegorsk 29.44 27 *e*P P 19 43 42.4 +5.1
UGL pmax pmax
comp=Z,50nm,1.0s
UGL MLR MLR
comp=E,2µm,12.0s
UGL MLR MLR
comp=N,2µm,16.0s
UGL MLR MLR
comp=Z,2µm,14.0s
ZEA Zeya 29.75 6 *e*P **P 19 43 40.6 +0.6**
ZEA *e*S **S 19 48 30.3 -4.5**
ZEA pmax pmax
comp=N,100nm,2.5s
ZEA pmax pmax
comp=Z,100nm,2.4s
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=N,20nm,1.2s
ZEA pmax pmax
comp=Z,40nm,1.0s
ZEA smax smax
comp=E,600nm,11.0s
ZEA smax smax
comp=N,2µm,12.0s
ZEA smax smax
comp=Z,2µm,13.0s
ZAK Zakamensk 29.84 336 *e*P **P 19 43 39.6 -1.4**
ZAK pmax pmax
comp=Z,19nm,1.3s
TPI Tanjungpandan 30.18 209 P P 19 43 59.2 +15
TSI Tuntungan 30.50 231 P **P 19 43 50.0 +2.9**
comp=Z,69nm,0.6s
PSI Prapat 30.74 230 P **P 19 43 50.3 +1.0**
comp=Z,24nm,0.9s,baz=1.5,slow=6.0,SNR=15
PSI LR LR 19 56 01.9
comp=Z,2µm,20.9s,baz=90,slow=36
PSI Prapat 30.74 230 P **P 19 43 50.4 +1.0**
PSI pmax pmax
comp=Z,77nm,1.2s
PSI Prapat 30.74 230 P **P 19 43 50.7 +1.3**
comp=Z,29nm,1.4s,comp=Z,61nm,1.5s
PSI P **P 19 43 50.4 +1.0**
comp=Z,29nm,1.4s,comp=Z,61nm,1.5s
RPSI Rantau Prapat 30.82 230 P **P 19 43 50.4 +0.5**
RPSI IAmb IAmb 19 43 52.0
comp=Z,78nm,1.2s
TAPN Taplejung 30.87 283 *e*P **P 19 43 52.1 +1.4**
comp=Z,400nm,1.3s
IRK Irkutsk 31.04 339 *e*P **P 19 43 49.9 -1.6**
IRK pmax pmax
comp=Z,97nm,1.7s
TYV Tymovskoe 31.06 26 *e*P P 19 43 59.2 +7.5
TYV pmax pmax
comp=Z,12nm,1.0s
TYV pmax pmax
comp=Z,100nm,4.1s
TYV MLR MLR

comp=Z,1μm,14.0s
ODAN Odare 31.18 282 *e*P **P** **19 43 54.3 +1.0**
comp=Z,197nm,1.1s
MOY Mondy 31.74 335 *e*P **P** **19 43 57.4 -0.4**
MOY *e* 19 54 30.8
MOY pmax pmax
comp=Z,60nm,1.7s
MNSI Mandailing Nat 31.77 226 P **P** **19 43 58.7 +0.5**
comp=Z,1μmcomp=Z,84nm,1.0s
RAMN Ramite 31.88 282 *e*P **P** **19 44 01.4 +1.9**
comp=Z,35nm,0.6s
JIRN Jiri 32.21 284 *e*P **P** **19 44 03.5 +1.0**
comp=Z,153nm,0.9s
JAY Jayapura 32.27 143 LR LR 19 54 57.0
comp=Z,2μm,21.0s,baz=321,slow=32
MMRI Maumere 32.66 179 P **P** **19 44 05.9 -0.1**
MMRI Maumere 32.66 179 P **P** **19 44 06.8 +0.8**
comp=Z,1μmcomp=Z,82nm,1.1s
GSI Gunungsitoli 32.75 230 P **P** **19 44 06.9 0.0**
GSI IAmb IAmb 19 44 22.2
comp=Z,26nm,0.8s
EDFI Ende, Flores 32.77 180 P **P** **19 44 05.2 -1.9**
comp=Z,447nmcomp=Z,42nm,0.8s
BOK Bokaro 32.83 277 *ex* **P** **19 44 08.4 +0.9**
BOK *ex* **P** **19 44 08.5 +1.0**
PKI Pulchoki 32.91 284 *e*P **P** **19 44 08.9 +0.3**
PKIN Phulchoki 32.92 284 *e*P **P** **19 44 08.9 +0.3**
KKN Kakani 33.01 284 *e*P **P** **19 44 09.9 +0.5**
comp=Z,159nm,1.0s
LHSI Lahat 33.12 215 P P 19 44 21.9 +12
TWSI Taliwang, Sumb 33.12 189 P **P** **19 44 13.3 +3.2**
comp=Z,25nm,0.8s
DMN Daman 33.17 284 *e*P **P** **19 44 11.4 +0.6**
comp=Z,142nm,1.0s
MASI Maura Aman, Be 33.24 218 P **P** **19 44 09.4 -1.8**
comp=Z,95nm,1.0s
SJI Sawahan 33.27 199 P **P** **19 44 12.8 +1.4**
comp=Z,66nm,1.2s
MDSI Maura Dua 33.34 213 P **P** **19 44 13.4 +1.4**
comp=Z,21nm,0.8s
KSI Kapahiang 33.47 217 P **P** **19 44 14.8 +1.6**
comp=Z,51nm,0.7s
PWJI Pagerwojo 33.53 198 P **P** **19 44 14.3 +0.7**
comp=Z,72nm,1.0s
GKN Gorkha 33.57 285 *e*P **P** **19 44 14.5 +0.3**
comp=Z,284nm,1.3s
CBJI Citeko 33.80 208 P **P** **19 44 18.4 +2.4**
comp=Z,10μmcomp=Z,203nm,0.5s
KPJI Karang Pucung 33.82 204 P **P** **19 44 18.1 +2.0**
comp=Z,42nm,1.3s
SOEI Soe 33.85 176 P **P** **19 44 14.0 -2.5**
SOEI IAmb IAmb 19 44 31.8
comp=Z,35nm,0.7s
SOEI Soe 33.85 176 P **P** **19 44 13.9 -2.7**
comp=Z,52nm,0.8s
LWLI Liwa 33.86 213 P **P** **19 44 17.6 +0.9**
comp=Z,3μmcomp=Z,102nm,0.8s
DBJI Dramaga 33.97 208 P **P** **19 44 20.0 +2.5**
comp=Z,25nm,0.4s
WMQ Urumqi 34.09 313 *e*P P 19 44 12.5 -5.9
WMQ pP pP 19 44 20.5 -4.7
WMQ sP sP 19 44 29.1 +0.8
WMQ S **S** **19 49 46.8 +3.9**
WMQ pmax pmax
comp=Z,73nm,1.1s
WMQ pmax pmax
comp=Z,500nm,4.3s
WMQ LR LR
comp=N,5μm,11.9s
WMQ LR LR
comp=E,7μm,11.3s
WMQ LR LR
comp=Z,7μm,10.9s
BATI Baumata 34.27 177 P **P** **19 44 20.0 -0.1**
comp=Z,29nm,0.7s,baz=292,slow=3.0,SNR=8.9
BATI LR LR 20 00 57.8
comp=Z,636nm,19.1s,baz=350,slow=41
BATI Baumata 34.27 177 P **P** **19 44 19.8 -0.2**
comp=Z,30nm,1.2s
DANN Dangsing 34.33 285 *e*P **P** **19 44 21.8 +0.8**
CISI Cisompet, Garu 34.44 205 P **P** **19 44 20.9 -0.7**
KOLN Koldanda 34.50 284 *e*P **P** **19 44 22.9 +0.6**
comp=Z,191nm,1.1s
PYUN Piuthan 35.02 285 *e*P **P** **19 44 27.7 +0.9**
comp=Z,176nm,1.0s
MANU Manus Island 35.98 133 P **P** **19 44 35.9 +1.0**
VIS Vishakhapatnam 36.49 267 *ex* **P** **19 44 39.7 +0.5**
DGZ Jazzator, Alta 36.95 322 *i* P **P** **19 44 42.4 -0.6**
DGZ pmax pmax
comp=Z,22nm,1.8s
ZSN Zaisan 37.40 318⇑ *i*P **P** **19 44 46.0 -0.7**
comp=Z,37nm,2.4s,baz=317
ZSN *e*S **S** **19 50 37.5 +4.0**
baz=317
ZSN Zaisan 37.40 318*c i*P **P** **19 44 46.0 -0.7**
ZSN *e*S **S** **19 50 37.4 +4.0**
ZSN pmax pmax
comp=Z,37nm,2.4s
MTN Manton Dam 37.94 165 P **P** **19 44 49.9 -1.5**
MTN IAmb IAmb 19 45 10.0
comp=Z,88nm,1.4s
XMIS Christmas Isla 37.96 207 P **P** **19 44 50.5 -1.2**
YAK Yakutsk 38.16 6 P **P** **19 44 51.5 -1.3**
comp=Z,11nm,0.7s,baz=197,slow=5.0,SNR=20
YAK LR LR 20 02 21.9
comp=Z,2μm,19.4s,baz=176,slow=39
YAK Yakutsk 38.16 6 *e*P **P** **19 44 51.2 -1.7**
YAK *e* 19 46 27.9
YAK *e* 19 47 05.8
YAK *e*S **S** **19 50 42.5 -2.0**
YAK *e**SS **sS** **19 51 02.1 +5.8**
YAK *e*SSS SSS 19 53 56.1
YAK pmax pmax
comp=Z,15nm,0.8s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=E,34nm,1.5s
YAK pmax pmax
comp=Z,50nm,1.5s
YAK pmax pmax
comp=N,88nm,1.8s
YAK smax smax
comp=E,86nm,3.4s
YAK smax smax
comp=N,103nm,2.2s
YAK MLR MLR
comp=Z,2μm,13.0s
YAK MLR MLR
comp=N,1μm,13.0s
YAK MLR MLR
comp=E,751nm,12.0s
YAK Yakutsk 38.16 6 P **P** **19 44 51.1 -1.7**
JBP Jabalpur 38.28 277 *ex* **P** **19 44 55.6 +1.3**
JBP *ex* x 19 50 52.3
MK31 Makanchi Array 38.75 316 P **P** **19 44 58.2 +0.1**
MK31 pmax pmax
comp=Z,46nm,1.2s
MK31 Makanchi Array 38.75 316 P **P** **19 44 58.2 +0.1**
MKAR Makanchi Array 38.75 316 P **P** **19 44 58.3 +0.2**
comp=Z,18nm,0.8s,baz=101,slow=11,SNR=76
MKAR PcP **PcP** **19 47 09.1 -0.3**
comp=Z,3.3nm,0.7s,baz=93,slow=4.7,SNR=2.5
MKAR ScP **ScP** **19 50 56.6 +0.4**
comp=Z,1.6nm,0.9s,baz=123,slow=5.3,SNR=4.3
MKAR Makanchi Array 38.75 316 P **P** **19 44 57.6 -0.5**
MKAR S **S** **19 50 53.4 -0.7**
PATS Pohnpei 38.95 110 P **P** **19 44 58.6 -1.5**
MAKZ Makanchi 38.96 316 P **P** **19 44 59.9 +0.1**
MAKZ pmax pmax
comp=Z,36nm,0.7s
MAKZ Makanchi 38.96 316 P **P** **19 44 59.9 +0.1**
MAKZ IAmb IAmb 19 45 10.8
comp=Z,36nm,0.7s
DDI Dehra Dun 39.24 289 *ex* **P** **19 45 01.1 -1.3**
DDI *ex* **P** **19 45 02.4 -0.1**
DDI *i* x x 19 46 37.2
PEA0B Petropavlovsk- 39.48 34 P **P** **19 45 02.9 -1.1**
PEA0B pmax pmax
comp=Z,35nm,1.5s
PEA0B Petropavlovsk- 39.48 34 P **P** **19 45 02.9 -1.1**
PETK Petropavlovsk- 39.48 34 P **P** **19 45 04.1 0.0**
comp=Z,1.0nm,0.6s,baz=169,slow=9.1,SNR=3.1
PETK LR LR 20 01 10.7
comp=Z,2μm,21.8s,baz=222,slow=36
PETK Petropavlovsk- 39.48 34 P **P** **19 45 03.5 -0.6**
SHLS Shalkode 39.53 309⇑ *i*P **P** **19 45 03.0 -1.8**
comp=Z,78nm,1.7s,baz=309
SHLS *e*S **S** **19 51 03.2 -2.8**
baz=309
SHLS Shalkode 39.53 309*c i*P **P** **19 45 03.0 -1.8**
SHLS *e*S **S** **19 51 03.2 -2.8**
SHLS pmax pmax
comp=Z,78nm,1.7s
PDGK Podgornoye 39.55 309 P **P** **19 45 04.0 -1.0**
UZB Uzynbulak 39.84 309⇑ *i*P **P** **19 45 08.1 +0.6**
comp=Z,80nm,1.9s,baz=308
UZB *i* S **S** **19 51 13.5 +2.8**
comp=Z,38nm,3.3s,baz=308
UZB Uzynbulak 39.84 309*c i*P **P** **19 45 08.0 +0.6**
UZB *i* S **S** **19 51 13.5 +2.8**
UZB pmax pmax
comp=Z,81nm,1.9s
UZB smax smax
comp=E,38nm,3.3s
PET Petropavlovsk 39.92 34 *e*P P 19 45 16.8 +9.1
PET *e*S **S** **19 51 19.6 +8.4**
PET MLR MLR
comp=Z,1μm,18.0s
PET MLR MLR
comp=Z,1μm,19.0s
SMLA Simla 39.98 290 *ex* **P** **19 45 09.1 +0.6**
SMLA *ex* **P** **19 45 09.4 +0.9**
NDI New Delhi 40.06 286 *ex* **P** **19 45 10.5 +1.3**
PRZ Przheval'sk 40.13 308 P **P** **19 45 11.0 +1.2**
PRZ pmax pmax
comp=Z,56nm,1.1s
PRZ Przheval'sk 40.13 308 P **P** **19 45 11.0 +1.2**
PRZ IAmb IAmb 19 45 25.4
comp=Z,56nm,1.1s
KPKS Kokpek 40.16 309⇑ *i*P **P** **19 45 10.4 +0.4**
comp=Z,107nm,1.9s,baz=309
KPKS Kokpek 40.16 309*c i*P **P** **19 45 10.4 +0.4**
KPKS pmax pmax
comp=Z,107nm,1.9s
SATY Saty 40.26 309⇑ *i*P **P** **19 45 11.5 +0.7**
comp=Z,61nm,1.7s,baz=308
SATY *i* S **S** **19 51 19.7 +2.7**
comp=Z,70nm,3.5s,baz=308
SATY Saty 40.26 309*c i*P **P** **19 45 11.5 +0.7**
SATY *i* S **S** **19 51 19.6 +2.7**
SATY pmax pmax
comp=Z,61nm,1.7s
SATY smax smax
comp=E,70nm,3.5s
TARG Taragay, Kyrgy 40.40 307 P **P** **19 45 13.0 +0.6**
TARG IAmb IAmb 19 45 16.5
comp=Z,101nm,1.5s
ZAA0 Zalesovo Array 40.56 327 P **P** **19 45 11.6 -1.3**
ZAA0 IAmb IAmb 19 45 25.3
comp=Z,76nm,1.2s
ZALV Zalesovo Beam 40.56 327 P **P** **19 45 12.1 -0.9**
comp=Z,12nm,0.5s,baz=114,slow=7.5,SNR=39
ZALV PcP **PcP** **19 47 14.4 -0.5**
comp=Z,4.1nm,0.7s,baz=116,slow=6.3,SNR=2.1
ZALV Zalesovo Beam 40.56 327 P **P** **19 45 11.5 -1.5**
BHPL Bhopal 40.58 278 *ex* **P** **19 45 13.0 -0.7**
BHPL *ex* **P** **19 45 13.5 -0.2**
BHK Bhakra 40.62 291 *ex* **P** **19 45 14.8 +1.0**
DHRM DHARAMSHALA 40.70 292 *ex* **P** **19 45 13.0 -1.8**
DHRM *ex* **P** **19 45 14.6 -0.2**
MA2 Magadan 40.70 22 P **P** **19 45 13.6 -0.6**
comp=Z,9.9nm,0.9s,baz=216,slow=22,SNR=2.9
TDK Taldyqorghan 40.75 312 *i* P **P** **19 45 15.6 +0.8**
comp=Z,217nm,1.7s,baz=311
TDK *e*S **S** **19 51 23.3 -0.7**
baz=311
TDK *e*LR LR 20 03 10.1
comp=Z,2μm,15.0s,baz=311
TDK Taldyqorghan 40.75 312 *i* P **P** **19 45 15.5 +0.8**
TDK *e*S **S** **19 51 23.3 -0.7**
TDK pmax pmax
comp=Z,217nm,1.7s
TDK MLR MLR
comp=Z,2μm,15.0s
MDRS Chennai 40.84 262 *ex* **P** **19 45 18.5 +2.7**
HYB Hyderabad 40.94 269 *i* P **P** **19 45 17.0 +0.4**
HYB *e*sP **pwP** **19 45 25.5 +0.1**
KDJ Kajisay 40.94 307 P **P** **19 45 16.2 -0.3**
KDJ pmax pmax
comp=Z,46nm,1.1s
KDJ Kajisay 40.94 307 P **P** **19 45 16.2 -0.3**
MDOK Medeo 41.25 309 *i* P **P** **19 45 19.9 +0.8**
baz=308
MDOK *e*S **S** **19 51 35.8 +4.0**
baz=308
MDOK *e*LR LR 20 04 42.7
comp=Z,2μm,12.7s,baz=308
MDOK Medeo 41.25 309 *i* P **P** **19 45 19.8 +0.8**
MDOK *e*S **S** **19 51 35.7 +4.0**
MDOK MLR MLR
comp=Z,2μm,13.0s
AAA Alma-Ata 41.35 309 *e*P **P** **19 45 19.4 -0.5**
baz=308
AAA Alma-Ata 41.35 309 *e*P **P** **19 45 19.3 -0.5**
KSH Kashi 41.41 303 P **P** **19 45 19.8 -0.6**
KSH pP sP 19 45 30.0 -0.4
KSH PcP **PcP** **19 47 24.0 +5.8**
KSH ScP **ScP** **19 51 08.8 +1.9**
KSH S **S** **19 51 37.5 +3.3**
KSH ScS **ScS** **19 55 24.5 +1.4**
KSH pmax pmax
comp=Z,72nm,1.6s
KSH pmax pmax
comp=Z,320nm,3.6s
KSH LR LR
comp=Z,3μm,12.6s
KSH LR LR
comp=Z,4μm,16.8s
KSH LR LR
comp=Z,6μm,16.1s
CHKK Chushkaly 41.45 310 *e*P **P** **19 45 20.0 -0.5**
baz=309
ULHL Ulahol 41.65 307 P **P** **19 45 24.3 +1.9**
SNR=6.2
MTBS Maitube 41.69 308⇑ *i*P **P** **19 45 22.8 +0.2**
baz=308
BOOM Boomskoye usch 41.91 307 P **P** **19 45 22.8 -1.7**
BOOM pmax pmax
comp=Z,58nm,1.3s
BOOM Boomskoye usch 41.91 307 P **P** **19 45 22.8 -1.7**
KUU Kurty 41.91 309⇑ *i*P **P** **19 45 24.8 +0.5**
comp=Z,196nm,2.0s,baz=309
KUU Kurty 41.91 309*c i*P **P** **19 45 24.8 +0.5**
KUU pmax pmax
comp=Z,196nm,2.0s
FITZ Fitzroy Crossi 42.23 175 PcP **PcP** **19 47 20.7 -0.1**
comp=Z,3.1nm,0.7s,baz=12,slow=8.6,SNR=2.0
FITZ Fitzroy Crossi 42.23 175 P **P** **19 45 25.8 -1.2**
TKM2 Tokmak 2 42.24 308 P **P** **19 45 28.6 +1.4**
SNR=58
TKM2 Tokmak 2 42.24 308 P **P** **19 45 27.4 +0.1**
KZA Kyzart 42.34 307 P **P** **19 45 30.1 +1.8**
SNR=41
KURK Kurchatov 42.47 320 P **P** **19 45 28.7 0.0**
KURK Kurchatov 42.47 320 **ScP** **19 51 10.1 -0.6**
KURBB Kurchatov Arra 42.49 320 P **P** **19 45 28.6 -0.2**
comp=Z,18nm,0.9s,baz=116,slow=7.5,SNR=81
KURBB ScP **ScP** **19 51 10.1 -0.7**
comp=Z,1.4nm,0.8s,baz=102,slow=4.2,SNR=1.9
KURBB Kurchatov Arra 42.49 320 P **P** **19 45 28.2 -0.7**
KBK Karagaybulak 42.66 307 P **P** **19 45 31.9 +1.3**
SNR=23
CHMS Chumysh 42.87 308 P **P** **19 45 33.0 +0.9**
SNR=33
UCH Uchtor 42.91 307 P **P** **19 45 34.9 +1.9**
SNR=88
FRU1 Bishkek 42.92 307 P **P** **19 45 32.9 +0.3**
FRU1 pmax pmax
comp=Z,98nm,1.4s
FRU1 Bishkek 42.92 307 P **P** **19 45 32.9 +0.3**
FRU1 IAmb IAmb 19 45 36.3
comp=Z,98nm,1.4s
AAK Ala-Archa 42.99 307 P **P** **19 45 34.0 +0.8**
comp=Z,14nm,1.0s,baz=105,slow=8.4,SNR=32
AAK Ala-Archa 42.99 307 P **P** **19 45 34.5 +1.3**
SNR=14
AAK Ala-Archa 42.99 307 *i* P **P** **19 45 34.2 +1.0**
AAK pmax pmax
comp=Z,119nm,1.3s
AAK Ala-Archa 42.99 307 P **P** **19 45 33.4 +0.1**
AAK Ala-Archa 42.99 307 P **P** **19 45 34.3 +1.0**
SGDS Sogindy 43.04 308⇑ *i*P **P** **19 45 33.5 0.0**
comp=Z,22nm,1.2s,baz=308
USP Ospenovka 43.10 308 P **P** **19 45 34.9 +0.9**
SNR=23
NIL Nilore 43.25 294 P **P** **19 45 34.5 -0.8**
NIL pmax pmax
comp=Z,146nm,1.5s
NIL Nilore 43.25 294 P **P** **19 45 34.5 -0.8**
NIL IAmb IAmb 19 45 38.2
comp=Z,146nm,1.5s
COEN Coen 43.28 149 P **P** **19 45 35.7 +0.1**
COEN IAmb IAmb 19 45 51.3
comp=Z,54nm,0.8s
AML Almayashu 43.49 306 P **P** **19 45 38.9 +1.3**
SNR=52
AML Almayashu 43.49 306 *i* P **P** **19 45 39.0 +1.3**
SNR=52
AML Almayashu 43.49 306 P **P** **19 45 38.0 +0.3**
EKS2 Erkin-Say 43.52 307 P **P** **19 45 38.6 +1.1**
SNR=18
SEY Seymchan 43.72 20 P **P** **19 45 38.8 +0.2**
comp=Z,3.4nm,0.7s,baz=228,slow=8.2,SNR=7.8
SEY PcP **PcP** **19 47 25.4 +0.2**
comp=Z,9.1nm,0.6s,baz=214,slow=3.3,SNR=10.0
BTLS Baital 43.76 311⇑ *i*P **P** **19 45 39.6 +0.3**
comp=Z,57nm,1.9s,baz=310
BTLS *e*S **S** **19 52 08.3 0.0**
baz=310
BTLS Baital 43.76 311*c i*P **P** **19 45 39.5 +0.3**
BTLS *e*S **S** **19 52 08.3 0.0**
BTLS pmax pmax
comp=Z,57nm,1.9s
DRK Karamyk 44.62 302 P **P** **19 45 46.7 +0.1**
POO Poona 44.92 272 *ex* **P** **19 45 47.0 -1.9**
POO *ex* **P** **19 45 49.0 +0.1**
POO *ex* **P** **19 45 49.5 +0.7**
DZA Taraz 45.33 307 *e*P **P** **19 45 51.7 -0.1**
baz=307
DZA *e*S **S** **19 52 32.0 +0.7**
baz=307
DZA Taraz 45.33 307 *e*P **P** **19 45 51.7 -0.1**
DZA *e*S **S** **19 52 32.0 +0.7**
BTK Batken 45.42 303 P **P** **19 45 51.9 -0.8**
BTK pmax pmax
comp=Z,124nm,1.5s
BTK Batken 45.42 303 P **P** **19 45 51.9 -0.8**
WRAB Tennant Creek 45.54 163 P **P** **19 45 52.8 -0.9**
WRAB pmax pmax
comp=Z,43nm,0.9s
WRAB Tennant Creek 45.54 163 P **P** **19 45 52.8 -0.9**
WRAB IAmb IAmb 19 46 13.8
comp=Z,43nm,0.9s
WRA Warramunga Arr 45.55 163 P **P** **19 45 53.0 -0.7**
comp=Z,10nm,0.8s,baz=345,slow=8.3,SNR=21
WB2 Warramunga Arr 45.55 163 IAmb IAmb 19 46 13.8
comp=Z,56nm,1.1s
PSA00 Pilbara Seismi 45.57 183 P **P** **19 45 51.7 -2.1**
PSA00 IAmb IAmb 19 45 58.7
comp=Z,44nm,0.8s
PSA00 Pilbara Seismi 45.57 183 P **P** **19 45 52.5 -1.3**
PSA00 IAmb IAmb 19 45 58.7
comp=Z,16nm,0.9s
WR0 Warramunga Arr 45.62 163 IAmb IAmb 19 46 14.2
comp=Z,48nm,1.0s
OTUK Ortayu 45.62 315 P **P** **19 45 52.4 -1.6**
BRZS Berezniki 45.84 317⇑ *i*P **P** **19 45 55.8 0.0**
comp=Z,34nm,1.6s,baz=317
BRZS Berezniki 45.84 317*c i*P **P** **19 45 55.7 0.0**
BRZS pmax pmax
comp=Z,34nm,1.6s
GOA Goa 45.84 268 *ex* **P** **19 45 56.8 +0.6**
KK31 Karatay Array 45.95 307 P **P** **19 45 56.8 0.0**
KK31 pmax pmax
comp=Z,112nm,1.5s
KK31 Karatay Array 45.95 307 P **P** **19 45 56.8 0.0**
KKAR Karatay Array 45.95 307 PcP **PcP** **19 47 32.3 -1.1**
IUG luzhnay 46.20 306⇑ *i*P **P** **19 45 59.9 +1.0**
baz=306
IUG *e*S **S** **19 52 47.1 +3.1**
baz=306
IUG luzhnay 46.20 306*c i*P **P** **19 45 59.8 +1.0**
IUG *e*S **S** **19 52 47.0 +3.1**
CHM Chimkent 46.53 306 *e*S **S** **19 52 48.1 -0.5**
baz=306
TAS Tashkent 46.67 305 P **P** **19 46 03.4 +1.0**
TAS pmax pmax
comp=Z,133nm,1.2s
TAS Tashkent 46.67 305 P **P** **19 46 03.4 +1.0**
KBL Kabul 46.72 295 P **P** **19 46 03.6 +0.4**
KBL pmax pmax
comp=Z,164nm,1.1s
KBL Kabul 46.72 295 P **P** **19 46 03.6 +0.4**
KBL Kabul 46.72 295 P **P** **19 46 04.3 +1.2**
SNR=61
KBL P P **19 46 04.3 +1.2**
SNR=61
GIRL Giralia 47.18 190 P **P** **19 46 04.8 -1.6**
TIXI Tiksi 47.62 3 P **P** **19 46 08.1 -1.2**
comp=Z,27nm,0.8s,baz=140,slow=5.6,SNR=11
TIXI Tiksi 47.62 3*ce*P **P** **19 46 07.4 -1.9**
TIXI Tiksi 47.62 3 P **P** **19 46 05.8 -3.5**
TIXI IAmb IAmb 19 46 26.0
comp=Z,39nm,0.9s
TIXI PcP **PcP** **19 47 37.8 -0.8**
BVAR Borovoye Array 48.05 321 P **P** **19 46 12.8 -0.1**
comp=Z,7.5nm,0.5s,baz=140,slow=9.5,SNR=34
BVAR PcP **PcP** **19 47 40.1 -0.4**
comp=Z,9.5nm,0.8s,baz=142,slow=3.5,SNR=4.1
BRVK Borovoye 48.12 321 *i* P **P** **19 46 13.4 -0.1**
BRVK pmax pmax
comp=Z,65nm,1.6s
BRVK Borovoye 48.12 321 P **P** **19 46 12.9 -0.5**
BRVK IAmb IAmb 19 46 26.4
comp=Z,37nm,0.9s
BRVK Borovoye 48.12 321 P **P** **19 46 13.1 -0.4**
BRVK P **P** **19 46 13.1 -0.4**
AS31 Alice Springs 49.01 165 P **P** **19 46 19.9 -0.7**
ASAR Alice Springs 49.02 165 P **P** **19 46 20.9 +0.2**
comp=Z,4.6nm,0.8s,baz=340,slow=6.6,SNR=19
CTA Charters Tower 50.03 150 P **P** **19 46 29.5 +1.0**
comp=Z,7.5nm,0.6s,baz=333,slow=9.1,SNR=9.8
CTA LR LR 20 07 15.4
comp=Z,893nm,19.9s,baz=346,slow=36
CTAO Charters Tower 50.03 150 P **P** **19 46 28.3 -0.2**
CTAO pmax pmax
comp=Z,71nm,1.4s
CTAO Charters Tower 50.03 150 P **P** **19 46 28.3 -0.2**
CTAO IAmb IAmb 19 46 47.5
comp=Z,71nm,1.4s
AMKA Amchitka 51.24 43 P **P** **19 46 37.0 -0.2**
BILL Bilibino 51.43 20 *e*P **P** **19 46 41.3 +2.9**
BILL *e* 19 47 58.1
BILL *e* 19 48 36.5
BILL *e*PPP PPP 19 49 33.3
BILL *e*S **S** **19 53 59.1 +2.5**
BILL pmax pmax
comp=Z,14nm,1.2s
BILL MLR MLR
comp=Z,1μm,18.0s
HRA Herat 52.34 296 P **P** **19 46 45.1 -0.9**
HRA IAmb IAmb 19 46 47.4
comp=Z,35nm,1.1s
MORW Morawa 53.28 186 P **P** **19 46 51.5 -1.1**
MORW IAmb IAmb 19 47 01.2
comp=Z,56nm,1.5s
AB31 Akbulak array 53.87 314 *i* P **P** **19 46 56.2 -0.6**
ABKAR Akbulak array 53.87 314 P **P** **19 46 57.0 +0.2**
SVE Sverdlovsk 54.39 324*de*P **P** **19 47 00.4 0.0**
SVE *e*S **S** **19 54 37.6 +0.4**
SVE pmax pmax
comp=Z,79nm,1.4s
SVE MLR MLR
comp=Z,4μm,18.0s
AKTO Aktyubinsk 55.19 316 P **P** **19 47 06.5 +0.1**
comp=Z,20nm,1.0s,baz=88,slow=7.7,SNR=51
GEYT Alibeck 55.33 300 P **P** **19 47 08.3 +0.7**
comp=Z,54nm,0.9s,baz=128,slow=4.5,SNR=112
GEYT LR LR 20 15 42.1
comp=Z,1μm,18.3s,baz=90,slow=41
GYA0 ALIBECK ARRAY 55.33 300 P **P** **19 47 08.2 +0.6**
ARU Arti 55.46 323 P **P** **19 47 07.6 -0.7**
comp=Z,6.4nm,0.6s,baz=122,slow=2.9,SNR=44
ARU Arti 55.46 323*c i*P **P** **19 47 07.5 -0.7**

ARU 19 48 02.7
ARU PPP PPP 19 50 21.5
ARU S **S** **19 54 53.0 +1.4**
ARU 19 56 51.0
ARU SS **SS** **19 58 40.6 +4.4**
ARU pmax pmax
comp=Z,105nm,1.6s
ARU MLR MLR
comp=Z,1µm,21.0s
ARU Arti 55.46 323 P **P** **19 47 07.4 -0.8**
ARU IAmb IAmb 19 47 21.1
comp=Z,30nm,0.8s
EIDS Eidsvold 56.83 148 P **P** **19 47 18.5 +0.2**
NWAO Narrogin (SRO) 57.01 185 P **P** **19 47 19.4 0.0**
comp=Z,8.4nm,0.7s,baz=259,slow=8.9,SNR=1.7
NWAO Narrogin (SRO) 57.01 185 IAmb IAmb 19 47 41.8
comp=Z,45nm,1.3s
WBK Wadi Bani Khal 57.31 282 P **P** **19 47 23.0 +1.0**
WBK P **P** **19 47 23.0 +1.0**
BIDO Bidbid 57.83 283 P **P** **19 47 26.4 +0.9**
SNR=7.9
BIDO P **P** **19 47 26.4 +0.9**
SNR=7.9
SMDO Samad 58.01 283 P **P** **19 47 27.6 +0.6**
SMDO P **P** **19 47 27.6 +0.6**
HOQ Hoqain 58.54 284 P **P** **19 47 31.2 +0.7**
SNR=12
HOQ P **P** **19 47 31.2 +0.7**
SNR=12
NIKH Nikolski High 58.64 41 P **P** **19 47 30.6 -0.2**
baz=269
BANOM Banah 58.85 287 *i* P **P** **19 47 34.0 +1.2**
SNR=7.9
BANOM Banah 58.85 287 P **P** **19 47 34.0 +1.2**
STKA Stephens Creek 58.88 160 P **P** **19 47 32.7 +0.1**
comp=Z,6.3nm,0.6s,baz=327,slow=6.3,SNR=15
STKA LR LR 20 13 56.1
comp=Z,417nm,20.8s,baz=0.7,slow=37
SHME Shamm 58.96 287 P **P** **19 47 34.5 +1.0**
SOHO SOHO 59.08 285 *i* P **P** **19 47 34.7 +0.4**
SNR=5.8
SOHO SOHO 59.08 285 P **P** **19 47 34.9 +0.6**
MSFE Esma-Masafi 59.11 286 P **P** **19 47 35.4 +0.8**
UOSS Minazif 59.17 286 P **P** **19 47 34.7 -0.3**
UOSS P **P** **19 47 34.7 -0.3**
HATD Hatta, Dubai 59.26 285 P **P** **19 47 36.1 +0.5**
ARQ Araqi 59.30 284 P **P** **19 47 36.5 +0.6**
SNR=7.1
ARQ P **P** **19 47 36.5 +0.6**
SNR=7.1
ASHO Ashiyiah 59.37 285 *i* P **P** **19 47 37.2 +0.9**
SNR=8.2
ASHO Ashiyiah 59.37 285 P **P** **19 47 38.0 +1.7**
SNR=6.5
ASHO P **P** **19 47 38.0 +1.7**
SNR=6.5
NAZ Nazwa, Dubai 59.64 286 P **P** **19 47 38.9 +0.7**
FAQ Al Faqa, Dubai 59.76 285 P **P** **19 47 39.5 +0.5**
ALNE Al Ain 59.80 285 *i* P **P** **19 47 40.0 +0.8**
SNR=6.3
ALNE Al Ain 59.80 285 P **P** **19 47 39.9 +0.6**
SNR=9.8
ALNE P **P** **19 47 39.9 +0.6**
SNR=9.8
ASUD Al Ashush, Dub 60.02 285 P **P** **19 47 41.8 +1.0**
KIRV Kirov 60.55 325 P **P** **19 47 43.3 -0.5**
comp=Z,51nm,0.6s,baz=67,slow=2.3,SNR=43
KIRV Kirov 60.55 325 *ce* P **P** **19 47 42.5 -1.3**
BELG Belogornoye 61.69 318 P **P** **19 47 50.7 -1.0**
comp=Z,72nm,1.0s,baz=281,slow=1.0,SNR=38
JRN Qarnain Island 62.12 286 P **P** **19 47 54.7 -0.3**
JRN P **P** **19 47 54.7 -0.3**
PRGR Permogore 62.48 328 *e* P **P** **19 47 56.3 -0.5**
PRGR pmax pmax
comp=Z,54nm,0.6s
MAK Makhachkala 62.77 307 *e* P P 19 47 53.9 -5.2
MAK *e* S **S** **19 56 20.0 -6.7**
MAK pmax pmax
comp=Z,177nm,1.5s
MAK MLR MLR
comp=Z,975nm,13.0s
AKT Akhty 62.83 306 *e* P **P** **19 48 00.2 +0.5**
AKT *e* 19 48 39.1
AKT pmax pmax
comp=Z,89nm,1.1s
DZM Mont Dzumac 63.20 133 *e* P **P** **19 48 04.0 +1.8**
comp=Z,98nm,1.5s
DZM *e* S **S** **19 56 31.9 -0.7**
comp=Z,763nm,30.9s
DZM Mont Dzumac 63.20 133 *e* LR LR 20 06 39.1
comp=Z,2µm,24.8s
DZM Mont Dzumac 63.20 133 P **P** **19 48 03.5 +1.3**
comp=Z,18nm,1.1s,baz=117,slow=13,SNR=2.4
DZM LR LR 20 12 43.9
comp=Z,378nm,18.7s,baz=304,slow=33
SDPT Sand Point 63.48 39 P **P** **19 48 02.7 -0.9**
baz=275
GROC Groznyy 63.97 308 *e* P **P** **19 48 05.6 -1.4**
GROC *e* 19 48 42.9
GROC *e* S **S** **19 56 43.7 +2.0**
GROC pmax pmax
comp=Z,167nm,1.4s
GROC MLR MLR
comp=Z,1µm,14.0s
CHNA Chernabura Isl 64.03 39 P **P** **19 48 06.8 -0.4**
baz=276
CNBA Chernabura Isl 64.03 39 P **P** **19 48 07.5 +0.2**
CHGN Chignik 64.55 37 P **P** **19 48 11.0 +0.4**
CHGN Chignik 64.55 37 P **P** **19 48 10.5 -0.1**
baz=276
TTA Tatalina 65.15 30 P **P** **19 48 14.1 -0.4**
baz=275
GNI Garni 65.31 305 P **P** **19 48 16.9 +0.8**
comp=Z,91nm,1.3s,baz=352,slow=2.4,SNR=32
GNI Garni 65.31 305 P **P** **19 48 17.3 +1.3**
GNI Garni 65.31 305 *ce* P **P** **19 48 16.6 +0.6**
GNI pmax pmax
comp=Z,158nm,1.7s
GNI Garni 65.31 305 P **P** **19 48 16.7 +0.7**
GNI Garni 65.31 305 P **P** **19 48 17.2 +1.2**
UMR Umm Al-Rimmam 65.34 293 *e* P **P** **19 48 15.9 -0.3**
TOO Toolangi 65.36 160 P **P** **19 48 16.3 +0.3**
TOO pmax pmax
comp=Z,29nm,1.2s
TOO Toolangi 65.36 160 P **P** **19 48 16.3 +0.3**
TOO IAmb IAmb 19 48 32.5
comp=Z,29nm,1.2s
QRN Al-Qurain 65.38 292 *e* P **P** **19 48 16.0 -0.4**
KBD Kabd 65.45 292 *e* P **P** **19 48 16.7 -0.2**
VRH Novokhopyorsk 65.46 317 *e* P **P** **19 48 15.6 -1.0**
VRH pmax pmax
comp=Z,110nm,0.9s
VRH MLR MLR
comp=Z,470nm,16.0s
KLMR Klimovskoe 65.47 328 *c i* P **P** **19 48 15.3 -1.2**
KLMR *e* 19 50 40.3
KLMR pmax pmax
comp=Z,153nm,1.7s
KLMR MLR MLR
comp=Z,2µm,15.0s
KLMR Klimovskoe 65.47 328 ⇑ *i* P **P** **19 48 15.4 -1.1**
KLMR *e* P **P** **19 48 15.4 -1.1**
KLMR *e* P **P** **19 48 15.4 -1.1**
KLMR AMP 19 48 17.7
comp=Z,153nm,1.7s
KLMR *e* PP **PP** **19 50 40.4 +0.1**
KLMR LQ LQ 20 11 27.9
KLMR LQ LQ 20 11 27.9
KLMR LR LR 20 13 28.0
KLMR AMP 20 19 46.9
comp=Z,2µm,15.0s
NCK Nalchik 65.50 308 *i* P **P** **19 48 17.0 0.0**
NCK pmax pmax
comp=Z,27nm,1.0s
SVW2 Sparrevohn 65.53 32 IAmb IAmb 19 48 22.5
comp=Z,17nm,0.7s
MIB Mutribah 65.59 293 *e* P **P** **19 48 17.7 -0.1**
GOF Gofitskoye 65.60 310 ⇑ *i* P **P** **19 48 18.1 +0.5**
GOF *e* S **S** **19 57 05.0 +3.2**
GOF pmax pmax
comp=Z,124nm,1.1s
GOF smax smax
comp=N,68nm,1.6s
GOF smax smax
comp=E,41nm,1.5s

RDF Al-Radifah 65.64 292 *e* P **P** **19 48 17.8 -0.3**
L19K White Mountain 65.76 31 IAmb IAmb 19 48 21.8
comp=Z,22nm,1.0s
L19K White Mountain 65.76 31 P **P** **19 48 18.4 0.0**
baz=276,SNR=8.5
O18K Koktuh Hills 65.85 33 IAmb IAmb 19 48 25.2
comp=Z,27nm,0.8s
O18K Koktuh Hills 65.85 33 P **P** **19 48 18.7 -0.3**
baz=277,SNR=5.4
J20K Nowinta River 65.87 29 P **P** **19 48 19.7 +0.7**
J20K IAmb IAmb 19 48 25.5
comp=Z,15nm,0.8s
J20K Nowinta River 65.87 29 P **P** **19 48 19.2 +0.2**
baz=276,SNR=11
KBZ Khabaz 65.95 309 P **P** **19 48 20.4 +0.5**
comp=Z,42nm,0.9s,baz=92,slow=5.7,SNR=76
KBZ Khabaz 65.95 309 *ce* P **P** **19 48 20.2 +0.3**
KBZ pmax pmax
comp=Z,88nm,1.0s
RST Umm Al-Ruwaisa 65.96 293 *e* P **P** **19 48 19.2 -1.0**
AKH Akhalkalaki 65.98 306 ⇑ P **P** **19 48 22.0 +1.6**
K20K Telida 65.99 29 IAmb IAmb 19 48 26.4
comp=Z,16nm,0.8s
K20K Telida 65.99 29 P **P** **19 48 20.0 +0.2**
baz=276,SNR=11
M19K Big River Lodg 66.00 31 IAmb IAmb 19 48 26.1
comp=Z,15nm,0.8s
M19K Big River Lodg 66.00 31 P **P** **19 48 20.0 0.0**
baz=277,SNR=9.0
KVAR Kislovodsk Arr 66.05 309 P **P** **19 48 22.1 +1.4**
comp=Z,38nm,1.1s,baz=88,slow=23,SNR=15
KIV Kislovodsk 66.06 309 *e* P **P** **19 48 21.3 +0.6**
KIV *e* 19 50 43.7
KIV *e* S **S** **19 57 08.1 +0.5**
KIV *e* SS **SS** **20 01 24.6 +1.8**
KIV pmax pmax
comp=Z,135nm,1.1s
KIV pmax pmax
comp=Z,34nm,3.2s
KIV MLR MLR
comp=Z,656nm,17.0s
KIV Kislovodsk 66.06 309 P **P** **19 48 21.1 +0.3**
KIV Kislovodsk 66.06 309 P **P** **19 48 21.3 +0.6**
KIV P **P** **19 48 21.3 +0.6**
N19K Bonanza Creek 66.09 32 IAmb IAmb 19 48 26.8
comp=Z,20nm,0.8s
N19K Bonanza Creek 66.09 32 P **P** **19 48 21.1 +0.4**
baz=277
NEY Neytrino 66.17 308 *i* P **P** **19 48 22.8 +1.2**
NEY pmax pmax
comp=Z,8.0nm,0.7s
L20K Farewell, AK 66.18 30 P **P** **19 48 21.0 0.0**
baz=277,SNR=8.1
O19K Port Alsworth 66.25 33 IAmb IAmb 19 48 24.1
comp=Z,30nm,1.1s
O19K Port Alsworth 66.25 33 P **P** **19 48 21.6 +0.2**
baz=277
H21K Melozitna Rive 66.28 27 P **P** **19 48 21.8 +0.2**
H21K IAmb IAmb 19 48 28.0
comp=Z,23nm,0.8s
H21K Melozitna Rive 66.28 27 P **P** **19 48 21.6 -0.1**
baz=276,SNR=22
KARS Kars 66.45 305 P **P** **19 48 23.6 +0.3**
KARS pmax pmax
comp=Z,314nm,1.2s
KARS Kars 66.45 305 P **P** **19 48 23.6 +0.3**
I21K Tanana 66.68 27 IAmb IAmb 19 48 31.3
comp=Z,18nm,0.8s
I21K Tanana 66.68 27 P **P** **19 48 24.3 +0.2**
baz=277,SNR=8.6
Q19K Cape Douglas, 66.77 34 P **P** **19 48 25.3 +0.4**
baz=279
LVZ Lovozero 66.77 336 P **P** **19 48 23.6 -1.2**
LVZ pmax pmax
comp=Z,17nm,0.9s
LVZ Lovozero 66.77 336 P **P** **19 48 23.6 -1.2**
LVZ IAmb IAmb 19 48 46.3
comp=Z,17nm,0.9s
SII Sitkinak Islan 66.84 37 P **P** **19 48 25.4 -0.1**
baz=279
P19K 66.87 33 P **P** **19 48 26.2 +0.6**
CAST Castle Rocks 66.87 29 IAmb IAmb 19 48 32.0
comp=Z,17nm,0.6s
PPLA Purkeypile 66.89 30 IAmb IAmb 19 48 33.1
comp=Z,22nm,0.7s
VORR Voronezh 66.94 318 ⇓ *i* P **P** **19 48 25.0 -1.1**
VORR pmax pmax
comp=Z,300nm,1.4s
VORD Divnogorie 67.01 317 *e* P **P** **19 48 25.4 -1.1**
VORD pmax pmax
comp=Z,50nm,1.4s
O20K Slope Mountain 67.11 33 P **P** **19 48 27.6 +0.5**
baz=279
COLD Coldfoot 67.12 25 P **P** **19 48 27.2 +0.3**
baz=278
SPCR Spurr Chakacha 67.14 32 P **P** **19 48 27.1 -0.2**
baz=279,SNR=5.6
MOS Moscow 67.16 322 *e* P **P** **19 48 24.8 -2.6**
MOS *e* 19 50 59.4
MOS *e* S **S** **19 57 18.1 -2.2**
MOS *e* 19 58 18.5
MOS pmax pmax
comp=Z,188nm,1.6s
MOS pmax pmax
comp=Z,300nm,1.8s
MOS MLR MLR
comp=E,1µm,16.0s
MOS MLR MLR
comp=Z,1µm,16.0s
TOLK Toolik Lake Re 67.16 23 IAmb IAmb 19 48 48.1
comp=Z,22nm,1.1s
TOLK Toolik Lake Re 67.16 23 P **P** **19 48 27.7 +0.4**
baz=278
MLY Manley 67.22 27 IAmb IAmb 19 48 39.8
comp=Z,32nm,1.2s
MLY Manley 67.22 27 P **P** **19 48 28.1 +0.3**
baz=278,SNR=12
OHAK Old Harbor 67.22 36 P **P** **19 48 28.4 +0.7**
OHAK IAmb IAmb 19 48 31.7
comp=Z,22nm,0.8s
OHAK Old Harbor 67.22 36 P **P** **19 48 27.5 -0.2**
baz=280
BPAW Bear Paw Mtn. 67.25 28 IAmb IAmb 19 48 37.0
comp=Z,23nm,1.1s
BPAW Bear Paw Mtn. 67.25 28 P **P** **19 48 27.7 -0.2**
baz=279,SNR=12
APA Apatity 67.29 335 ⇓ *i* P **P** **19 48 25.9 -2.1**
APA *i* 19 48 43.0
APA *i* S **S** **19 57 16.0 -5.5**
APA pmax pmax
comp=Z,20nm,1.0s
APA MLR MLR
comp=Z,2µm,14.0s
SKT Skwentna 67.33 31 P **P** **19 48 28.1 -0.4**
baz=279
KTH Kantishna Hill 67.36 29 IAmb IAmb 19 48 37.4
comp=Z,19nm,0.9s
KDAK Kodiak Island 67.50 35 P **P** **19 48 28.9 -0.7**
comp=Z,16nm,0.7s,baz=286,slow=4.2,SNR=13
KDAK Kodiak Island 67.50 35 P **P** **19 48 29.4 -0.1**
KDAK pmax pmax
comp=Z,45nm,1.1s
KDAK Kodiak Island 67.50 35 P **P** **19 48 29.4 -0.1**
H23K Yukon River 67.59 26 IAmb IAmb 19 48 39.6
comp=Z,33nm,0.9s
H23K Yukon River 67.59 26 P **P** **19 48 30.1 0.0**
baz=279,SNR=16
HOM Homer 67.66 33 P **P** **19 48 31.0 +0.5**
baz=280
GURO Gurymak-BITLI 67.70 303 IAmb IAmb 19 48 33.2
comp=Z,28nm,0.9s
CAPN Captain Cook N 67.71 32 P **P** **19 48 31.4 +0.6**
baz=280
I23K Minto, Yukon-K 67.78 27 IAmb IAmb 19 48 43.1
comp=Z,27nm,1.4s
I23K Minto, Yukon-K 67.78 27 P **P** **19 48 31.5 +0.4**
baz=280,SNR=6.3
SUA Susitna One 67.79 31 P **P** **19 48 31.3 -0.2**
baz=280,SNR=9.7
CUT Chulitna 67.85 30 P **P** **19 48 32.0 +0.4**
baz=280
OBN Obninsk 67.86 322 P **P** **19 48 30.9 -0.9**
comp=Z,3.6nm,0.4s,baz=74,slow=6.7,SNR=24
OBN Obninsk 67.86 322 *e* P **P** **19 48 30.7 -1.1**
OBN *e* 19 48 59.7
OBN *e* 19 51 00.0
OBN *i* S **S** **19 57 26.7 -2.0**
OBN *e* SS **SS** **20 01 50.9 +0.9**
OBN pmax pmax
comp=Z,132nm,1.7s
OBN MLR MLR
comp=Z,1µm,18.0s
OBN Obninsk 67.86 322 P **P** **19 48 30.0 -1.8**
NEA2 Nenana 68.00 28 IAmb IAmb 19 48 39.9
comp=Z,22nm,0.7s
NEA2 Nenana 68.00 28 P **P** **19 48 32.4 -0.1**
baz=280,SNR=25
BRSE Bradley Lake S 68.10 33 P **P** **19 48 33.0 -0.3**
baz=281
MCK McKinley 68.21 29 IAmb IAmb 19 48 39.9
comp=Z,16nm,0.6s
MCK McKinley 68.21 29 P **P** **19 48 33.8 -0.2**
baz=281
SOC Sochi 68.24 309 *e* P **P** **19 48 33.5 -0.9**
SOC *e* 19 50 59.4
SOC *e* PPP PPP 19 52 44.7
SOC *e* S **S** **19 57 33.9 +0.2**
SOC *e* SS **SS** **20 01 52.7 -3.7**
SOC *e* SSS SSS 20 05 03.0
SOC pmax pmax
comp=Z,24nm,0.5s
SOC MLR MLR
comp=Z,711nm,17.0s
H24K Noodor Dome 68.27 26 IAmb IAmb 19 48 43.7
comp=Z,14nm,0.8s
H24K Noodor Dome 68.27 26 P **P** **19 48 34.5 +0.2**
baz=281,SNR=11
RND Reindeer 68.31 29 P **P** **19 48 33.7 -0.9**
RND pmax pmax
comp=Z,49nm,0.8s
RND Reindeer 68.31 29 P **P** **19 48 33.7 -0.9**
RC01 Rabbit Creek A 68.34 32 P **P** **19 48 34.9 +0.2**
baz=281
O22K Cooper Landing 68.46 32 P **P** **19 48 35.9 +0.5**
baz=281
PMR Palmer 68.53 31 IAmb IAmb 19 48 40.0
comp=Z,16nm,0.7s
PMR Palmer 68.53 31 P **P** **19 48 35.9 0.0**
baz=281
WAT1 Susitna Watana 68.55 30 P **P** **19 48 36.3 +0.1**
baz=281
POKR Poker Plat Res 68.58 27 P **P** **19 48 36.6 +0.3**
baz=281
GHO Glory Hole Cre 68.59 31 IAmb IAmb 19 48 58.8
comp=Z,24nm,1.0s
SEW Seward 68.67 33 IAmb IAmb 19 48 41.5
comp=Z,48nm,1.2s
SEW Seward 68.67 33 P **P** **19 48 36.8 0.0**
baz=282
MSVF Nonsavu 68.84 122 LR LR 20 15 31.4
comp=Z,255nm,21.5s,baz=325,slow=33
MSVF Nonsavu 68.84 122 P **P** **19 48 39.2 +0.6**
MSVF pmax pmax
comp=Z,33nm,1.1s
MSVF Nonsavu 68.84 122 P **P** **19 48 39.2 +0.6**
MSVF IAmb IAmb 19 48 42.4
comp=Z,33nm,1.1s
SML Sawmill 68.86 31 IAmb IAmb 19 48 45.2
comp=Z,24nm,0.7s
SML Sawmill 68.86 31 P **P** **19 48 37.7 -0.3**
baz=282,SNR=10
KNK Knik Glacier 68.88 31 IAmb IAmb 19 48 42.7
comp=Z,27nm,0.7s
KNK Knik Glacier 68.88 31 P **P** **19 48 37.7 -0.5**
baz=282,SNR=7.2
ILAR Eielson Array 68.88 27 P **P** **19 48 37.3 -0.8**
comp=Z,3.6nm,0.6s,baz=262,slow=5.0,SNR=14
HDA Harding Lake 68.93 28 P **P** **19 48 37.5 -0.9**
HDA IAmb IAmb 19 49 05.9
comp=Z,16nm,0.9s
HDA Harding Lake 68.93 28 P **P** **19 48 37.3 -1.1**
baz=282,SNR=5.7
WAT6 Susitna Watana 68.97 30 P **P** **19 48 37.0 -1.8**
baz=282,SNR=14
DHY Denali Highway 69.03 29 P **P** **19 48 38.1 -1.1**
baz=282
KEV Kevo 69.17 338 P **P** **19 48 39.1 -0.7**
KEV pmax pmax
comp=Z,16nm,0.7s
KEV Kevo 69.17 338 P **P** **19 48 39.1 -0.7**
KEV IAmb IAmb 19 48 52.5
comp=Z,16nm,0.7s
PRP Porcupine Dome 69.28 26 P **P** **19 48 40.6 -0.2**
baz=283
ANN Anapa 69.55 311 *e* P **P** **19 48 41.0 -1.5**
ANN *e* S **S** **19 57 49.5 +0.4**
ANN pmax pmax
comp=Z,195nm,1.0s
ANN MLR MLR
comp=Z,817nm,15.0s
J25K Salcha River, 69.55 27 P **P** **19 48 41.1 -1.3**
baz=283
SPA0 Spitsbergen Ar 69.58 348 *e* P **P** **19 48 43.0 +0.8**
GLI Glacier Island 69.64 31 IAmb IAmb 19 48 50.9
comp=Z,25nm,0.7s
GLI Glacier Island 69.64 31 P **P** **19 48 42.0 -0.9**
baz=283
ARA0 ARCESS Array S 69.74 338 *e* P **P** **19 48 44.2 +0.9**
ARCES ARCESS Array B 69.74 338 P **P** **19 48 43.5 +0.2**
comp=Z,4.2nm,0.8s,baz=64,slow=5.5,SNR=14
M24K Tolsona, Glenn 69.78 30 P **P** **19 48 43.6 -0.2**
baz=284,SNR=11
PAX Paxson 69.90 29 P **P** **19 48 44.3 -0.2**
PAX pmax pmax
comp=Z,14nm,1.1s
PAX Paxson 69.90 29 P **P** **19 48 44.3 -0.2**
PAX Paxson 69.90 29 P **P** **19 48 44.1 -0.4**
baz=284,SNR=7.2
RIDG Independent Ri 69.98 28 IAmb IAmb 19 49 09.9
comp=Z,23nm,0.8s
RIDG Independent Ri 69.98 28 P **P** **19 48 44.1 -0.9**
baz=284,SNR=9.0
HAMF Hammerfest 70.05 339 *e* P **P** **19 48 45.1 0.0**
KLU Klutina 70.05 31 IAmb IAmb 19 48 56.3
comp=Z,17nm,0.8s
KLU Klutina 70.05 31 P **P** **19 48 44.7 -0.7**
baz=284,SNR=6.7
HARP HAARP 70.18 30 P **P** **19 48 45.5 -0.7**
baz=284
DIV Divide 70.21 31 IAmb IAmb 19 48 48.6
comp=Z,45nm,1.4s
SCRK Sand Creek 70.30 28 P **P** **19 48 46.5 -0.5**
baz=285,SNR=11
DOT Dot Lake 70.35 28 P **P** **19 48 46.6 -0.6**
EYAK Cordova Ski Ar 70.36 32 IAmb IAmb 19 48 56.1
comp=Z,52nm,1.4s
EYAK Cordova Ski Ar 70.36 32 P **P** **19 48 47.0 -0.3**
baz=284
N25K Chitina, Valde 70.63 30 IAmb IAmb 19 48 56.4
comp=Z,13nm,0.7s
N25K Chitina, Valde 70.63 30 P **P** **19 48 49.0 -0.1**
baz=285,SNR=8.5
KTK1 Kautokeino 70.66 338 *e* P **P** **19 48 49.6 +0.6**
MENT Mentasta 70.68 29 P **P** **19 48 49.4 +0.1**
MENT IAmb IAmb 19 49 01.0
comp=Z,27nm,1.0s
BMRM Bremner River 70.80 31 IAmb IAmb 19 48 59.1
comp=Z,25nm,0.9s
BMRM Bremner River 70.80 31 P **P** **19 48 49.1 -0.9**
baz=285,SNR=7.4
L26K Log Cabin Wild 70.82 29 P **P** **19 48 49.9 -0.2**
baz=286,SNR=6.5
GLB Gilahina Butte 71.04 30 IAmb IAmb 19 49 18.2
comp=Z,35nm,1.3s
K27K Chicken 71.09 28 IAmb IAmb 19 49 00.7
comp=Z,3nm,0.9s
M26K Nabesna, AK 71.15 29 IAmb IAmb 19 49 00.8
comp=Z,22nm,0.8s
M26K Nabesna, AK 71.15 29 P **P** **19 48 51.7 -0.4**
baz=286,SNR=16
KAIM Kayak Island 71.16 32 P **P** **19 48 52.0 -0.2**
baz=286
EGAK Eagle 71.26 27 P **P** **19 48 52.0 -0.6**
EGAK IAmb IAmb 19 49 03.3
comp=Z,22nm,1.0s
EGAK Eagle 71.26 27 P **P** **19 48 52.2 -0.5**
baz=287,SNR=11
VRDI Verde Repeater 71.27 31 IAmb IAmb 19 49 06.9
comp=Z,28nm,1.4s
MCARA McCarthy VSAT 71.42 30 IAmb IAmb 19 49 22.8
comp=Z,28nm,0.8s
MCARA McCarthy VSAT 71.42 30 P **P** **19 48 53.7 0.0**
baz=286,SNR=5.5

JETT	Jettan, Norway	71.44	339	*e*	P		P	19 48 55.2	+1.4	
L27K	Beaver Creek, baz=287,SNR=13	71.47	29		P		P	19 48 54.6	+0.5	
BCAR	Beaver Creek A	71.49	29		P		P	19 48 54.3	+0.1	
CRQM	Cirque comp=Z,33nm,0.9s	71.55	31		IAmb	IAmb		19 49 03.2		
CRQE	Cirque baz=287,SNR=5.8	71.57	31		P		P	19 48 54.6	-0.1	
BGLC	Bering Glacier baz=287	71.66	32		P		P	19 48 55.2	+0.1	
M27K	Edge Creek, AK baz=287	71.66	29		P		P	19 48 55.5	+0.2	
TGL	Tana Glacier comp=Z,29nm,1.1s	71.69	31		IAmb	IAmb		19 49 20.9		
FIA1	FINESS Array S	71.73	330		P		P	19 48 54.4	-1.1	
FINES	FINESS Array B comp=Z,5.7nm,0.5s,baz=60,slow=5.4,SNR=23	71.73	330		P		P	19 48 55.1	-0.4	
FINES	FINESS Array B	71.73	330		P		P	19 48 54.4	-1.1	
WAX	Waxell Ridge comp=Z,52nm,1.3s	71.77	31		IAmb	IAmb		19 48 57.5		
SIM	Simferopol'	71.79	312	*c*	*i* P		P	19 48 55.1	-1.1	
SIM								19 49 15.0		
SIM	comp=Z,134nm,0.9s				pmax	pmax				
TRO	Tromso	71.91	339		*e*P		P	19 48 56.9	+0.4	
DIKM	Dikmen	71.92	308		⇓P		P	19 48 57.1	0.0	
BVCY	Beaver Creek baz=288	72.09	29		P		P	19 48 57.9	+0.1	
BARN	Barnard Glacie comp=Z,26nm,1.1s	72.15	31		IAmb	IAmb		19 49 27.2		
DAWY	Dawson	72.21	27		P		P	19 48 58.5	+0.1	
DAWY	comp=Z,20nm,0.8s				IAmb	IAmb		19 49 06.9		
DAWY	Dawson baz=289,SNR=9.5	72.21	27		P		P	19 48 57.9	-0.6	
VSU	Vasula	72.30	327		*e*P		P	19 48 59.3	+0.3	
CTG	Chitna Glacier baz=288,SNR=7.4	72.32	31		P		P	19 48 59.0	-0.3	
CTGM	Chitina Glacie comp=Z,28nm,1.0s	72.33	31		P		P	19 48 59.5	+0.2	
CTGM					IAmb	IAmb		19 49 10.3		
NOR	Nord comp=Z,3.9nm,0.7s	72.36	354	*i*	P		P	19 48 58.0	-1.1	
NOR					IAmb	IAmb		19 49 00.8		
YUK3	Moose Creek baz=288	72.47	30		P		P	19 49 00.1	-0.2	
EPYK	Eagle Plains comp=Z,22nm,0.8s	72.50	24		IAmb	IAmb		19 49 08.1		
EPYK	Eagle Plains baz=290,SNR=7.4	72.50	24		P		P	19 48 59.3	-0.9	
LOGN	Logan Glacier comp=Z,17nm,0.8s	72.52	31		IAmb	IAmb		19 49 20.8		
BZK	Bozkurt	72.72	309		⇑P		P	19 49 02.7	+0.8	
MNK	Minsk	72.88	322	*i*	P		P	19 49 01.7	-0.9	
MNK				*i*				19 49 18.7		
MNK				*i*				19 51 43.3		
MNK				*i*	PPP	PPP		19 53 29.0		
MNK				*i*	S	S		19 58 26.8	-0.6	
MNK				*i*	SS	SS		20 03 07.5	+0.3	
MNK	comp=Z,56nm,0.9s				pmax	pmax				
MNK	comp=E,6.0nm,0.9s				pmax	pmax				
MNK	comp=N,19nm,0.9s				pmax	pmax				
MNK	comp=Z,784nm,14.0s				MLR	MLR				
MNK	comp=N,138nm,14.0s				MLR	MLR				
MNK	comp=E,97nm,14.0s				MLR	MLR				
MNK	Minsk comp=E,6.0nm,0.9s	72.88	322	*i*	P		P	19 49 01.7	-0.8	
MNK	comp=N,19nm,0.9s			*i*	P		P	19 49 01.7	-0.8	
MNK	comp=Z,56nm,0.9s,baz=252			*i*	P		P	19 49 01.7	-0.8	
MNK				*i*	PcP		PcP	19 49 18.8	-0.8	
MNK				*i*	PP		PP	19 51 43.4	-1.2	
MNK				*i*	PPP	PPP		19 53 29.1		
MNK				*i*	S	S		19 58 26.9	-0.6	
MNK				*i*	SS	SS		20 03 07.5	+0.4	
MNK				*i*	SSS	SSS		20 06 27.9		
MNK				*i*	LQ	LQ		20 16 05.6		
MNK				*i*	LR	LR		20 19 19.7		
MNK	comp=Z,784nm,14.1s			*i*	LRM	MLR		20 23 36.5		
MNK	comp=N,138nm,14.1s			*i*	LRM	MLR		20 23 40.4		
MNK	comp=E,97nm,14.1s			*i*	LRM	MLR		20 23 41.6		
MEF	Metsahovi	72.89	329		*e*P		P	19 49 03.5	+1.0	
INK	Inuvik comp=E,14nm,0.8s,baz=318,slow=5.9,SNR=9.6	72.95	22		P		P	19 49 01.9	-0.8	
INK					LR	LR		20 23 23.8		
INK	comp=E,670nm,19.6s,baz=268,slow=38 Inuvik baz=292,SNR=7.4	72.95	22		IAmb	IAmb		19 49 10.7		
INK	Inuvik comp=Z,24nm,1.0s	72.95	22		P		P	19 49 01.5	-1.1	
PCA	Pinnacle comp=Z,45nm,0.9s	73.11	31		P		P	19 49 03.7	-0.2	
PCA					IAmb	IAmb		19 49 12.9		
PINM	Pinnacle baz=289	73.11	31		P		P	19 49 03.8	-0.1	
AKASG	Malin Array Be comp=Z,25nm,1.0s,baz=60,slow=5.8,SNR=87	73.26	318		P		P	19 49 03.9	-1.0	
AKASG	Malin Array Be comp=Z,59nm,1.4s	73.26	318		IAmb	IAmb		19 49 05.7		
AKBB	Malin Array Si	73.26	318	*c*	*e*P		P	19 49 03.9	-1.0	
NACGM	Naroch	73.37	323	*i*	P		P	19 49 05.2	-0.2	
YUK4	Talbot Arm baz=290	73.44	30		P		P	19 49 05.8	-0.2	
ISAL	Salakas	73.51	324		*e*P		P	19 49 06.7	+0.4	
IGN	Ignalina	73.53	324		*e*P		P	19 49 06.3	-0.1	
BR131	Keskin Array S	73.66	307		P		P	19 49 07.3	-0.4	
BR131	comp=Z,104nm,1.1s				pmax	pmax				
BR131	Keskin Array S	73.66	307		P		P	19 49 07.3	-0.4	
BR131	Keskin Array S SNR=35	73.66	307		P		P	19 49 07.9	+0.2	
BRTR	Keskin Array B comp=Z,31nm,0.9s,baz=103,slow=5.5,SNR=144	73.66	307		P		P	19 49 07.9	+0.2	
MTSE	Matsula	73.67	327		*e*P		P	19 49 06.4	-0.7	
YUK6	Outpost Mounta baz=290	73.70	30		P		P	19 49 07.6	0.0	
STEI	Steigen	73.80	338		*e*P		P	19 49 08.1	+0.4	
FAUS	Fauske	74.01	337		*e*P		P	19 49 09.4	+0.5	
HYT	Haines Junctio baz=291,SNR=7.0	74.14	30		P		P	19 49 09.7	-0.4	
ANTO	Ankara comp=Z,74nm,0.9s	74.23	307		P		P	19 49 10.9	0.0	
ANTO					pmax	pmax				
ANTO	Ankara baz=293	74.23	307		P		P	19 49 10.9	0.0	
LOF	Lofoten	74.30	338		*e*P		P	19 49 11.1	+0.5	
SORM	Soroca	74.62	316		⇑P		P	19 49 11.7	-1.1	
KIS	Kishinev comp=Z,50nm,2.0s	74.69	315		*e*P		P	19 49 12.0	-1.3	
KIS					*e*LR	LR		20 21 49.0		
KIS	comp=Z,400nm,16.0s				pmax	pmax				
KIS	Kishinev comp=Z,50nm,2.0s	74.69	315		*e*P		P	19 49 12.0	-1.3	
PABE	Paberze	74.69	324		*e*P		P	19 49 11.7	-1.4	
MOR8	Moi Rana	74.83	336		*e*P		P	19 49 12.8	-1.0	
KONS	Konsvik	75.17	337		*e*P		P	19 49 16.6	+0.9	
TLCR		75.29	313		⇓P		P	19 49 17.2	+0.5	
JURR	Jurilovca	75.39	313		⇓P		P	19 49 17.3	-0.1	
WHY	Whitehorse baz=293	75.39	30		P		P	19 49 17.3	0.0	
CSS	Mathiatis	75.42	302		P		P	19 49 17.0	-0.8	
FARO	Faro, Yukon baz=294,SNR=17	75.43	28		P		P	19 49 17.3	-0.1	
VLDR	Vladesti	75.55	314		⇓P		P	19 49 18.5	+0.2	
SUW	Suwalki	75.65	323		*e*P		P	19 49 17.8	-0.8	
SUW	Suwalki	75.65	323		*e*P		P	19 49 17.4	-1.3	
SKAG	Skagway comp=Z,26nm,1.0s	75.66	31		IAmb	IAmb		19 49 24.3		
SKAG	Skagway baz=293,SNR=7.2	75.66	31		P		P	19 49 19.3	+0.7	
TPGR	Topolog	75.66	313		⇓P		P	19 49 19.0	0.0	
CFR	Carcaliu	75.74	313		⇑P		P	19 49 18.8	-0.6	
TIRR	Tirgusor	75.81	312		⇓P		P	19 49 20.0	+0.3	
TLBR	Topalu	76.02	313		⇑P		P	19 49 21.5	+0.5	
HARR	Harsova	76.05	313		⇓P		P	19 49 21.7	+0.5	
MMPY	Sheldon Lake, baz=296	76.15	27		P		P	19 49 21.7	+0.2	
PRAR	RASCA	76.23	316		⇑P		P	19 49 22.3	+0.1	
BESE	Bessie Mountai	76.24	32		P		P	19 49 21.7	-0.4	
TESR	Tescani	76.26	315		⇑P		P	19 49 22.2	-0.1	
ICOR	Ion Corvin	76.33	312		⇓P		P	19 49 23.2	+0.4	
DAG	Danmarks Havn	76.42	351	*i*	P		P	19 49 23.0	+0.3	
VRI	Vrincioaia	76.43	314		⇓P		P	19 49 23.6	+0.2	
BIZ	Bicaz	76.46	315		⇓P		P	19 49 23.2	-0.3	
AMRR	Amara	76.47	313		⇑P		P	19 49 24.1	+0.5	
PLOR	Plostina	76.49	314		⇑P		P	19 49 23.7	0.0	
NSS	Namsos	76.50	335		*e*P		P	19 49 22.1	-1.2	
BISRR	Bisoca	76.56	314		⇑P		P	19 49 24.5	+0.3	
SIT	Sitka baz=294	76.63	33		P		P	19 49 24.7	+0.5	
LVV	L'vov	76.70	319		*e*P		P	19 49 24.2	-0.6	
LVV					*e*			19 52 13.5		
LVV					*e*S		S	19 59 08.0	-2.2	
LVV					*e*SS		SS	20 04 06.2	+0.9	
LVV	comp=Z,600nm,17.0s				MLR	MLR				
BUR08	Bucovina Ar. S	76.78	316		P		P	19 49 25.0	-0.4	
BUR08	comp=Z,34nm,1.2s				IAmb	IAmb		19 49 26.6		
BURAR	Bucovina Array	76.78	316		⇑P		P	19 49 24.9	-0.5	
COVR	Voineasa-Covas	76.78	314		⇓P		P	19 49 25.5	+0.2	
NEHR	Nehoiu	76.87	314		⇓P		P	19 49 26.3	+0.5	
OZUR		76.96	315		⇑P		P	19 49 26.8	+0.4	
MLR	Muntele Rosu	77.08	314		⇑P		P	19 49 27.3	+0.1	
MLR	Muntele Rosu comp=Z,19nm,1.0s,baz=346,slow=2.1,SNR=22	77.08	314		P		P	19 49 27.5	+0.4	
MLR	Muntele Rosu comp=Z,49nm,1.2s	77.08	314		IAmb	IAmb		19 49 28.5		
SECR		77.17	314		⇓P		P	19 49 27.9	+0.4	
DOPR	Dopca	77.27	315		⇑P		P	19 49 28.8	+0.7	
RAZG	Razgrad	77.41	312		⇓P		P	19 49 29.3	+0.5	
ARCR	ARCALIA	77.52	316		⇑P		P	19 49 29.8	+0.3	
KWP	Kalwaria Pacla	77.56	319		*e*P		P	19 49 29.7	0.0	
BEL	Belsk	77.82	321		*e*P		P	19 49 31.1	+0.1	
BMR	Baia Mare	77.83	317		⇑P		P	19 49 31.6	+0.4	
TGTN	Hyland Airport baz=299	77.90	27		P		P	19 49 31.6	+0.3	
ARR	Arges	77.98	314		⇑P		P	19 49 32.2	+0.1	
COPA	Copaceanca	78.06	313		⇑P		P	19 49 32.0	-0.5	
HUMR	Humele	78.07	313		⇓P		P	19 49 32.1	-0.5	
FETY	Fethiye	78.08	305		P		P	19 49 31.6	-1.2	
KOLS	Kolonicke sedl	78.10	318		*e*P		P	19 49 32.4	-0.2	
KOLS	Kolonicke sedl	78.10	318		*e*P		P	19 49 32.4	-0.2	
UZH	Uzhgorod	78.20	318		*e*P		P	19 49 33.1	-0.1	
UZH					*i*			19 49 37.9		
UZH					*e*			19 52 28.1		
UZH					*e*S		S	19 59 23.1	-3.4	
UZH					*e*PS		PnS	19 59 52.1	-17	
UZH	comp=N,110nm,15.0s				MLR	MLR				
UZH	comp=E,140nm,15.0s				MLR	MLR				
UZH	comp=Z,90nm,15.0s				MLR	MLR				
TRPA	Tarpa	78.25	318		*e*P		P	19 49 33.7	+0.3	
NC303	NORSAR Array S comp=Z,42nm,1.4s	78.33	332		IAmb	IAmb		19 49 37.2		
WTLY	Watson Lake, Y baz=298	78.35	29		P		P	19 49 34.0	+0.2	
WRAK	Wrangell Islan	78.38	33		P		P	19 49 33.6	-0.4	
WRAK	Wrangell Islan baz=296	78.38	33		P		P	19 49 34.0	0.0	
NB201	NORSAR Array S comp=Z,37nm,0.9s	78.45	332		IAmb	IAmb		19 49 42.8		
NEEM	North Greenlan	78.47	358	*i*	P		P	19 49 33.0	-1.5	
NEEM	comp=Z,18nm,1.0s				IAmb	IAmb		19 49 36.0		
NB2	NORSAR Subarra comp=Z,40nm,1.7s,baz=58,slow=5.6	78.48	332		P		P	19 49 33.4	-1.2	
NB2	NORSAR Subarra baz=58,slow=5.6	78.48	332		P		P	19 49 33.4	-1.2	
NOA	NORSAR Array B comp=Z,3.8nm,0.7s,baz=58,slow=5.6,SNR=16	78.48	332		P		P	19 49 33.8	-0.8	
NOA					LR	LR		20 27 27.5		
LOT	comp=Z,2μm,21.7s,baz=70,slow=38 Lotru	78.52	315		⇑P		P	19 49 35.1	-0.1	
DLBC	Dease Lake comp=Z,12nm,0.9s,baz=285,slow=6.1,SNR=12	78.58	31		P		P	19 49 35.6	+0.4	
DLBC	Dease Lake comp=Z,33nm,1.4s	78.58	31		IAmb	IAmb		19 49 48.6		
CRVS	Cervenica-Dubn	78.60	319		*e*P		P	19 49 35.4	0.0	
CRVS	comp=Z,157nm,2.0s				pmax	pmax				
CRVS	Cervenica-Dubn	78.60	319		*e*P		P	19 49 35.4	0.0	
DRGR		78.67	316		⇑P		P	19 49 35.9	-0.1	
ALN	Alexandroupoli	78.71	310		P		P	19 49 35.5	-0.6	
ALN	Alexandroupoli comp=Z,45nm,1.3s	78.71	310		IAmb	IAmb		19 49 37.1		
DEV	Deva	78.91	315		⇑P		P	19 49 37.5	+0.4	
ARG	Arkhangelos	78.95	305		P		P	19 49 37.2	-0.4	
WRGLY	Wrigley baz=302	78.97	25		P		P	19 49 37.4	+0.3	
RDO	Rodhopi	78.97	310		P		P	19 49 36.6	-1.0	
OJC	Ojcow	79.05	320		*e*P		P	19 49 37.8	-0.1	
OJC	Ojcow	79.05	320		P		P	19 49 37.1	-0.7	
OJC	comp=Z,90nm,1.4s				pmax	pmax				
OJC	Ojcow	79.05	320		P		P	19 49 37.1	-0.7	
NIE	Niedzica	79.09	319		*e*P		P	19 49 39.4	+1.3	
GZR	Gura Zlata	79.18	315		⇑P		P	19 49 38.4	-0.3	
MOL	Molde	79.20	335		*e*P		P	19 49 38.7	+0.4	
KECS	Kecovo	79.36	318		*e*P		P	19 49 39.9	+0.3	
KECS	comp=Z,20nm,1.5s				pmax	pmax				
KECS	Kecovo	79.36	318		*e*P		P	19 49 39.9	+0.3	
PUNG	Punghina	79.52	314		⇑P		P	19 49 40.7	+0.2	
HERR	Herculane	79.62	315		⇑P		P	19 49 41.2	+0.1	
LANS	Liptovska Anna	79.69	319		*e*P		P	19 49 41.8	+0.4	
LANS	comp=Z,16nm,1.7s				pmax	pmax				
LANS	Liptovska Anna	79.69	319		*e*P		P	19 49 41.8	+0.4	
KAVA	Kavala	79.75	310		P		P	19 49 41.0	-0.8	
DIB	Dawson Inlet, comp=Z,23nm,0.9s	79.75	36		IAmb	IAmb		19 49 46.6		
THAS	Thassos island	79.75	310		P		P	19 49 41.1	-0.7	
BZS	Buzias	79.84	315		⇓P		P	19 49 41.7	-0.5	
PSZ	Piszkesteto	79.96	318		⇑P		P	19 49 42.9	0.0	
PSZ	Piszkesteto	79.96	318		*e*P		P	19 49 42.9	0.0	
PSZ	Piszkesteto comp=Z,56nm,1.5s	79.96	318		IAmb	IAmb		19 49 44.2		
VTS	Vitosha	79.98	312		⇑P		P	19 49 43.3	0.0	
BSZH	Besenyszg	79.99	317		*e*P		P	19 49 42.3	-0.7	
NVR	Nevrokopi	80.06	311		P		P	19 49 42.5	-1.1	
OKC	Ostrava-Krasne comp=Z,800nm,15.4s	80.18	320		AMS	AMS		20 28 00.0		
SRS	Serrai	80.34	311		P		P	19 49 43.2	-1.8	
VYHS	Vyhne	80.35	319		*e*P		P	19 49 45.2	+0.2	
VYHS	comp=Z,63nm,1.4s				pmax	pmax				
VYHS	Vyhne	80.35	319		*e*P		P	19 49 45.2	+0.2	
OUR	Ouranopolis	80.38	310		P		P	19 49 44.4	-0.8	
APE	Apeiranthos	80.56	306		P		P	19 49 38.1	-8.2	
MORC	Moravsky Berou	80.56	320		⇑P		P	19 49 46.0	0.0	
MORC	Moravsky Berou comp=Z,36nm,1.5s	80.56	320		IAmb	IAmb		19 49 47.5		
MORC	Moravsky Berou	80.56	320		*e*P		P	19 49 45.8	-0.3	
KOLL	Kolacno	80.58	319		*e*P		P	19 49 46.5	+0.4	
BOVS	Bovan	80.59	314		⇑P		P	19 49 45.5	-0.8	
SOH	Sokhos	80.62	310		P		P	19 49 45.4	-1.2	
BUD	Budapest	80.68	318		*e*P		P	19 49 46.5	-0.2	
LNIZ	Loecknitz comp=Z,1μm,19.1s	80.70	325		*e*L		L	20 28 34.9		
FOO	Floro	80.72	334		*e*P		P	19 49 46.4	-0.2	
PLG	Polygyros	80.74	310		P		P	19 49 46.1	-1.1	
PAIG	Paliouri	80.75	310		P		P	19 49 46.3	-0.9	
KSP	Ksiaz	80.79	322		*e*P		P	19 49 47.3	0.0	
KNT	Kendrikon	80.80	311		P		P	19 49 46.3	-1.2	
KRLC	Kraliky	80.86	321		*e*P		P	19 49 46.9	-0.8	
KRLC					*e*			19 49 53.1		
KRLC					*e*S		S	19 59 50.1	-4.7	
KRLC	comp=Z,1μm,13.8s				MLR	MLR				
KRLC	Kraliky	80.86	321		*e*P		P	19 49 46.9	-0.8	
KRLC					*e*pP		PcP	19 49 53.1	-1.2	
KRLC					*e*S		S	19 59 50.1	-4.7	
KRLC	comp=Z,1μm,13.8s				AMS	AMS		20 28 30.0		
JAVC	Velka Javorina	80.89	320		*e*P		P	19 49 48.8	+0.9	
URZ	Urewera comp=Z,6.3nm,0.5s,baz=305,slow=22,SNR=2.3	80.89	139		P		P	19 49 48.7	+0.9	
URZ	comp=Z,258nm,19.1s,baz=30,slow=36				LR	LR		20 25 43.1		
SRO2	Moca	80.94	318		*e*P		P	19 49 47.0	-1.1	
SRO2	Moca	80.94	318		*e*P		P	19 49 47.0	-1.1	
VAY	Valandovo	80.96	311		*i* P		P	19 49 47.6	-0.8	
SRO	Srobarova	80.97	318		*e*P		P	19 49 48.7	+0.5	
SRO	Srobarova	80.97	318		*e*P		P	19 49 48.7	+0.5	
OSTC	Ostas	80.97	322		*e*P		P	19 49 48.3	+0.1	
OSTC					*ex*	x		19 49 54.3		
OSTC					*e*S		S	19 59 50.1	-5.7	
OSTC	comp=Z,1μm,14.6s				AMS	AMS		20 28 40.0		
DPC	Dobruska-Polom	81.00	321		*e*P		P	19 49 48.2	-0.2	
DPC					*e*			19 49 54.7		
DPC	comp=Z,1μm,16.2s				MLR	MLR				
DPC	Dobruska-Polom	81.00	321		*e*P		P	19 49 48.2	-0.2	
DPC					*e*pP		PcP	19 49 54.7	-0.2	
DPC					*e*S		S	19 59 41.6	-15	
DPC	comp=Z,1μm,16.2s				AMS	AMS		20 28 30.0		
CHVC	Chvalec	81.05	322		*e*P		P	19 49 48.1	-0.6	
CHVC	comp=Z,1μm,16.6s				AMS	AMS		20 28 50.0		
STIP	Stip	81.07	312	*i*	P		P	19 49 47.0	-1.9	
UPC	Upice	81.11	322		*e*P		P	19 49 54.8	+5.9	
UPC					*e*S		S	19 59 50.1	-7.1	
UPC	comp=Z,1μm,15.8s				MLR	MLR				
UPC	Upice	81.11	322		*e*pP		pP	19 49 54.8	-1.0	
UPC					*e*S		S	19 59 50.1	-7.1	
UPC	comp=Z,1μm,15.8s				AMS	AMS		20 28 40.0		
SUE	Sulen	81.14	334		*e*P		P	19 49 48.1	-0.7	
FRGS	Fruska Gora	81.19	316		⇓P		P	19 49 49.3	-0.2	
FRGS	Fruska Gora	81.19	316		⇑P		P	19 49 49.1	-0.4	
SMOL	Smolenice	81.19	319		*e*P		P	19 49 50.4	+1.0	
SMOL	comp=Z,31nm,1.7s				pmax	pmax				
SMOL	Smolenice	81.19	319		*e*P		P	19 49 50.4	+1.0	
GRG	Griva	81.23	311		P		P	19 49 48.7	-1.1	
VRAC	Vranov	81.32	320		⇑P		P	19 49 50.3	+0.2	
VRAC	Vranov comp=Z,6.6nm,0.8s,baz=70,slow=6.3,SNR=15	81.32	320		P		P	19 49 50.5	+0.4	
VRAC	Vranov	81.32	320		*e*P		P	19 49 50.1	0.0	
MODS	Modra-Piesok	81.34	319		*e*P		P	19 49 50.4	+0.2	
MODS	comp=Z,43nm,1.7s				pmax	pmax				
MODS	Modra-Piesok	81.34	319		*e*P		P	19 49 50.4	+0.2	
SKO	Skopje	81.46	312	*i*	P		P	19 49 50.4	-0.6	
MORH	Mrgy, Hungar	81.46	317		⇑P		P	19 49 50.7	-0.2	
MORH	Mrgy, Hungar	81.46	317		*e*P		P	19 49 49.6	-1.3	
MORH	Mrgy, Hungar	81.46	317		⇑*i*P		P	19 49 50.3	-0.6	
DIVS	Divibare	81.52	315		⇑*i*P		P	19 49 50.6	-0.8	
DIVS	Divibare	81.52	315		P		P	19 49 50.2	-1.2	
DIVS	comp=Z,31nm,1.3s				IAmb	IAmb		19 49 52.9		
KRUC	Moravsky	81.55	320		*e*P		P	19 49 51.1	-0.2	
EGYH	Egyhazaskeszo	81.74	318		*e*P		P	19 49 46.3	-6.0	
KOVH	Kovagototos	81.86	317		*e*P		P	19 49 52.0	-1.0	
PVCC	Panska Ves comp=Z,1μm,16.3s	81.91	322		AMS	AMS		20 29 20.0		
TREC	Trest comp=Z,1μm,15.2s	81.97	321		AMS	AMS		20 29 30.0		
BBLS	Lazići	82.00	315	⇑	*i*P		P	19 49 53.2	-0.7	
FNA	Florina	82.00	311		P		P	19 49 52.2	-1.8	
AGG	Agios Georgios	82.08	309		P		P	19 49 52.1	-2.2	
AGG	Agios Georgios comp=Z,23nm,1.0s	82.08	309		IAmb	IAmb		19 50 10.3		
SOP	Sopron	82.08	319		*e*P		P	19 49 47.2	-7.0	
BRG	Berggiesshubel comp=Z,32nm,1.7s,baz=65,slow=5.0	82.10	323		*e*P		P	19 49 53.8	-0.3	
BRG	Berggiesshubel	82.10	323		*e*P		P	19 49 54.2	+0.1	
BRG	comp=Z,32nm,1.7s				Amp			19 49 57.1		
BRG	Berggiesshubel comp=Z,6.0nm,1.1s	82.10	323		Amp			19 50 09.8		
BRG	Berggiesshubel comp=Z,8.3nm,1.1s	82.10	323		Amp			19 50 18.6		
BRG	Berggiesshubel	82.10	323		SKS		S	20 00 02.0	-5.4	
BRG	Berggiesshubel comp=N1.0,4nm,13.7s	82.10	323		Amp			20 31 38.0		
BRG	Berggiesshubel	82.10	323		P	P		19 50 07.8	+14	
BRG	Berggiesshubel	82.10	323		SS	SS		20 05 40.0	+14	
BRG	Berggiesshubel comp=E,0.7nm,15.7s	82.10	323		Amp			20 31 32.0		
BRG	Berggiesshubel comp=Z,1.6nm,14.6s	82.10	323		Amp			20 31 35.0		
PRU	Pruhonice	82.18	322		*e*P		P	19 49 53.6	-1.0	
PRU					*e*S		S	20 00 04.8	-3.5	
PRU	comp=Z,1μm,13.8s				MLR	MLR				
PRU	Pruhonice	82.18	322		*e*P		P	19 49 53.6	-1.0	
PRU					*e*S		S	20 00 04.8	-3.5	
PRU	comp=Z,1μm,13.8s				AMS	AMS		20 29 20.0		
PRA	Prague comp=Z,1μm,17.1s	82.21	322		AMS	AMS		20 29 30.0		
OHR	Ohrid	82.26	312	*i*	P		P	19 49 54.3	-1.0	
CONA	Conrad Observa comp=Z,32nm,1.5s,SNR=17	82.39	319		*e*P		P	19 49 55.8	-0.1	
FBE	Freiberg comp=Z,107nm,2.1s,baz=65,slow=5.0	82.40	323		*e*P		P	19 49 55.4	-0.3	
CLL	Collm comp=Z,63nm,2.2s	82.40	323	*i*	P		P	19 49 55.0	-0.8	
CLL				*i*	pP		PcP	19 50 01.5	+0.6	
CLL				*i*				19 50 07.7		
CLL				*e*	PP		PP	19 53 05.0	+0.7	
CLL				*e*	PPP	PPP		19 54 54.0		
CLL				*e*S		S		20 00 13.0	+2.5	
CLL				*e*	PS		PnS	20 01 02.0	+0.7	
CLL				*e*				20 03 18.0		
CLL				*e*	SS		SS	20 05 34.0	+3.4	
CLL				*e*				20 06 23.0		

KHC eS S 20 00 10.6 -7.7
KHC AMS AMS 20 29 50.0
comp=Z,1μm,14.1s
GEC2 GERESS Array S 83.22 321 eP **P 19 50 00.1 -0.1**
GEC2 eL L 20 33 14.7
comp=Z,697nm,19.2s
GERES GERESS Array B 83.22 321 P **P 19 49 59.8 -0.3**
comp=Z,6.0nm,0.9s,baz=68,slow=4.7,SNR=42
GERES LR LR 20 30 53.6
comp=Z,683nm,18.4s,baz=58,slow=38
HCY Herceg Novi 83.23 314 eP **P 19 50 00.4 +0.2**
MGRS Mrkonjic Grad 83.25 316 eP **P 19 49 58.7 -1.7**
WERN Wernitzgruen 83.25 322 eP **P 19 49 59.9 -0.3**
comp=Z,63nm,1.9s,baz=65,slow=5.0
MOA Molln 83.37 320 eP **P 19 50 01.0 +0.1**
comp=Z,15nm,0.9s,SNR=8.5
PERS Pernice 83.44 318 *i* P **P 19 50 00.9 -0.4**
comp=Z,126nm,2.2s
PERS *i* 19 50 14.2
PERS *i* 19 54 28.1
SOKA Soboth 83.47 318 eP **P 19 50 00.9 -0.6**
comp=Z,14nm,1.0s,SNR=13
MOX Moxa 83.49 323 eP **P 19 50 01.1 -0.4**
comp=Z,59nm,1.9s,baz=65,slow=5.0
MOX eL L 20 31 21.8
comp=Z,2μm,19.5s
WET Wettzell 83.54 321 eP **P 19 50 01.5 -0.2**
comp=Z,45nm,1.9s,baz=65,slow=5.0
WET eL L 20 31 44.5
comp=Z,995nm,21.1s
CLZ Clausthal 83.55 324 eP **P 19 50 02.0 +0.3**
comp=Z,50nm,1.6s,baz=65,slow=5.0
MANZ Manzenberg 83.55 322 eP **P 19 50 01.5 -0.3**
comp=Z,34nm,1.8s,baz=65,slow=5.0
ROTZ Rotzenmuhle 83.61 322 eP **P 19 50 02.1 0.0**
comp=Z,77nm,1.9s,baz=65,slow=5.0
CRES Cresnjev 83.62 318⇑*i*P **P 19 50 01.5 -0.7**
OBKA Obir 83.85 318 *i* P **P 19 50 02.9 -0.6**
comp=Z,12nm,1.0s
BOJS Bojanci 83.90 317⇑*i*P **P 19 50 02.6 -1.0**
LJU Ljubljana 84.08 318⇑*i*P **P 19 50 04.0 -0.5**
LJU Ljubljana 84.08 318 *i* P **P 19 50 04.2 -0.4**
GRA1 Grafenberg Arr 84.20 322 IAmb IAmb 19 50 19.8
comp=Z,37nm,1.3s
GRF Grafenberg Arr 84.20 322 eP **P 19 50 05.0 -0.1**
comp=Z,32nm,1.3s,baz=65,slow=5.0
GRF eL L 20 31 47.0
comp=Z,1μm,20.8s
GRFO Grafenberg 84.20 322 P **P 19 50 04.6 -0.4**
GRFO pmax pmax
comp=Z,44nm,1.4s
GRFO Grafenberg 84.20 322 P **P 19 50 04.6 -0.4**
GRFO IAmb IAmb 19 50 16.8
comp=Z,44nm,1.4s
KBA Koelnbreinsper 84.29 319 eP **P 19 50 04.5 -1.3**
comp=Z,5.0nm,0.7s
CEY Cerknica 84.29 318⇑*i*P **P 19 50 04.8 -0.8**
ABPO Ambohimpanom 84.47 246 P **P 19 50 06.5 -0.6**
ABPO pmax pmax
comp=Z,32nm,1.0s
ABPO Ambohimpanom 84.47 246 P **P 19 50 06.5 -0.6**
ABPO IAmb IAmb 19 50 08.6
comp=Z,32nm,1.0s
SKDS Skadanscina 84.64 318⇑*i*P **P 19 50 05.9 -1.5**
ABTA Abfaltersbach 84.95 319 eP **P 19 50 07.5 -1.6**
comp=Z,12nm,0.9s,SNR=5.8
FUR Furstenfeldbru 84.95 321 eL L 20 32 57.9
comp=Z,1μm,18.8s
STAL STALIGIAL 85.08 319 IAmb IAmb 19 50 23.4
comp=Z,21nm,1.0s
MILB Miltenberg 85.19 323 eP **P 19 50 09.8 -0.3**
comp=Z,23nm,1.2s,baz=65,slow=5.0
WATA Walderalm 85.20 320 eP **P 19 50 09.3 -1.0**
comp=Z,13nm,1.1s
WTTA Wattenberg 85.20 320 eP **P 19 50 09.5 -0.9**
comp=Z,25nm,1.2s,SNR=6.6
KIBK Kibwezi 85.33 265 P **P 19 50 11.7 +0.2**
KIBK IAmb IAmb 19 50 13.2
comp=Z,16nm,1.0s
LODK Lodwar 85.44 272 P **P 19 50 12.2 +0.2**
TNS Taunus Mts 85.44 324 eL L 20 31 40.9
comp=Z,928nm,18.9s
MOTA Moosalm 85.47 320 eP **P 19 50 10.6 -1.1**
comp=Z,14nm,1.2s
SQTA Sankt Quirin 85.48 320 eP **P 19 50 10.6 -1.1**
comp=Z,12nm,0.9s,SNR=6.6
KMBO Kilima Mbogo 85.56 267 P **P 19 50 13.6 +0.8**
comp=Z,8.1nm,0.8s,baz=57,slow=6.2,SNR=17
KMBO LR LR 20 28 18.1
comp=Z,355nm,20.6s,baz=94,slow=36
KMBO Kilima Mbogo 85.56 267 *i* P **P 19 50 14.0 +1.2**
KMBO pmax pmax
comp=Z,8.0nm,0.8s
FETA Feichten 85.86 320 eP **P 19 50 12.9 -0.7**
comp=Z,11nm,1.1s
TIP Timpagrande 85.89 311⇑P **P 19 50 13.6 -0.3**
TIP Timpagrande 85.89 311 IAmb IAmb 19 50 29.3
comp=Z,38nm,1.5s
ICESG Greenland Ices 85.99 353 *i* P **P 19 50 13.9 -0.2**
DAVA Damuels 86.22 321 eP **P 19 50 14.9 -0.5**
comp=Z,9.5nm,1.2s
DAVOX Davos/Dischmat 86.48 320 P **P 19 50 16.5 -0.3**
comp=Z,4.3nm,0.8s,baz=133,slow=6.9,SNR=4.4
BFO Black Forest 86.53 322 eL L 20 32 34.6
comp=Z,1μm,19.6s
AQU L'Aquila 86.60 315⇑*i*P **P 19 50 17.1 -0.1**
LLLB Lillooet 86.71 35 IAmb IAmb 19 50 22.9
comp=Z,15nm,0.8s
WLF Walferdange 86.98 324 *d*P **P 19 50 18.8 -0.1**
WLF *d*pP **pP 19 50 24.0 -1.8**
WLF Walferdange 86.98 324 P **P 19 50 18.5 -0.4**
WLF pmax pmax
comp=Z,29nm,1.0s
WLF Walferdange 86.98 324 P **P 19 50 18.5 -0.4**
WLF IAmb IAmb 19 50 20.1
comp=Z,29nm,1.0s
BMRD Maredsous 87.35 325 *d*pP pP 19 50 24.9 -2.7
B05A Bryant 87.94 37 P **P 19 50 23.9 +0.4**
baz=305
EKA Eskdalemuir Ar 87.97 332 P **P 19 50 23.0 -0.5**
comp=Z,2.1nm,0.7s,baz=40,slow=2.8,SNR=7.1
E04D Cinebar 88.65 39 P **P 19 50 27.1 +0.2**
baz=305
C06D Leavenworth 88.79 37 P **P 19 50 28.0 +0.4**
baz=306
SFJD Kangerlussuaq 88.89 357 P **P 19 50 28.5 +0.9**
comp=Z,11nm,0.9s,baz=15,slow=5.9,SNR=2.1
SFJD Kangerlussuaq 88.89 357 IAmb IAmb 19 50 44.1
comp=Z,27nm,1.1s
LON Longmire 88.97 38 P **P 19 50 28.9 +0.4**
LON pmax pmax
comp=Z,17nm,1.0s
LON Longmire 88.97 38 P **P 19 50 28.9 +0.4**
LON IAmb IAmb 19 50 53.1
comp=Z,17nm,1.0s
EDM Edmonton 89.26 30 IAmb IAmb 19 50 38.4
comp=Z,32nm,1.1s
I02D Swisshome 89.27 41 P **P 19 50 30.7 +0.8**
baz=304
LTY Liberty 89.31 37 IAmb IAmb 19 50 38.4
comp=Z,14nm,0.8s
B08A Colville Reser 89.38 36 P **P 19 50 31.1 +0.7**
B08A IAmb IAmb 19 50 36.7
comp=Z,22nm,0.8s
F05D White Salmon 89.66 39 P **P 19 50 32.1 +0.4**
baz=305
H04D Lebanon 89.70 40 P **P 19 50 32.0 +0.1**
baz=304
J01E Myrtle Point 89.75 42 P **P 19 50 32.1 0.0**
baz=304
I03D Drain, OR 89.80 41 P **P 19 50 32.6 +0.2**
baz=304
H04A Detroit Lake 89.93 40 IAmb IAmb 19 50 42.1
comp=Z,25nm,1.2s
G05D Wamic, OR 90.12 39 P **P 19 50 34.1 +0.2**
baz=306
K02D Willamette Mer 90.17 42 P **P 19 50 33.9 -0.4**
baz=304
E07A Sunnyside 90.17 37 IAmb IAmb 19 50 41.0
comp=Z,23nm,0.7s
C09A Chrisman Ranch 90.28 36 IAmb IAmb 19 50 43.3
comp=Z,17nm,0.8s
I04A Tendick Farm, 90.31 41 P **P 19 50 34.5 -0.3**
baz=305,SNR=6.9
D08A Wollman Farm, 90.39 37 P **P 19 50 35.5 +0.4**
D08A IAmb IAmb 19 50 41.1
comp=Z,21nm,0.8s
HAWA Hanford 90.45 37 IAmb IAmb 19 50 41.7
comp=Z,16nm,0.7s
L02E Cave Junction 90.50 43 P **P 19 50 36.0 +0.3**
baz=304
NEW Newport 90.61 35 IAmb IAmb 19 50 45.3
comp=Z,26nm,1.1s
NEW Newport 90.61 35 P **P 19 50 36.5 +0.4**
baz=309,SNR=11
HUMO Hull Mountain 90.65 42 P **P 19 50 37.3 +0.9**
J04D Umpqua Nationa 90.80 41 P **P 19 50 38.0 +0.7**
baz=305,SNR=8.9
E09A Wood Farm, Sta 91.14 37 IAmb IAmb 19 50 41.9
comp=Z,32nm,1.3s
L04D Klamath Falls 91.27 42 P **P 19 50 39.9 +0.4**
baz=305,SNR=13
MBAR Mbarara 91.29 270ceP **P 19 50 41.2 +1.1**
YBH Yreka Blue Hor 91.29 43 P **P 19 50 40.6 +1.1**
YBH pmax pmax
comp=Z,11nm,1.2s
YBH Yreka Blue Hor 91.29 43 P **P 19 50 40.6 +1.1**
J05D Fort Rock, OR 91.30 41 P **P 19 50 39.7 +0.1**
baz=306,SNR=9.3
K04D Chiloquin, OR 91.37 41 P **P 19 50 40.4 +0.5**
baz=305
M02C Callahan 91.40 43 P **P 19 50 40.4 +0.4**
baz=304
N02D Trinity Center 91.72 43 P **P 19 50 41.7 +0.1**
baz=304
M04C Macdoel 91.80 42 P **P 19 50 42.9 +0.9**
baz=305,SNR=8.2
WDC Whiskeytown Da 92.05 43 P **P 19 50 41.2 -1.7**
WDC pmax pmax
comp=Z,10.0nm,1.1s
WDC Whiskeytown Da 92.05 43 P **P 19 50 41.2 -1.7**
O02D Mt. Diablo Mer 92.12 44 P **P 19 50 43.7 +0.4**
baz=304
JTMT Jette 92.41 34 IAmb IAmb 19 50 46.8
comp=Z,17nm,0.9s
BMO Blue Mountains 92.62 38 IAmb IAmb 19 51 06.8
comp=Z,14nm,1.1s
O03E Paynes Creek 92.68 43 P **P 19 50 46.3 +0.3**
baz=305
KEST Kesra 92.72 311 P **P 19 50 46.0 -0.2**
comp=Z,6.8nm,1.1s,baz=191,slow=7.2,SNR=3.5
KEST Kesra 92.72 311 IAmb IAmb 19 51 08.7
comp=Z,27nm,1.4s
FFC Flin Flon 92.84 24 P **P 19 50 45.4 -0.8**
FFC pmax pmax
comp=Z,17nm,0.8s
FFC Flin Flon 92.84 24 P **P 19 50 45.4 -0.8**
FFC IAmb IAmb 19 50 48.4
comp=Z,17nm,0.8s
J08A Circle Bar Ran 92.88 39 IAmb IAmb 19 51 00.6
comp=Z,23nm,1.2s
MSO Missoula 93.18 35 IAmb IAmb 19 50 56.2
comp=Z,9.9nm,0.9s
MSO Missoula 93.18 35 P **P 19 50 48.7 +0.6**
baz=311,SNR=5.9
WVOR Wild Horse Val 93.34 40 P **P 19 50 49.2 +0.2**
WVOR pmax pmax
comp=Z,6.0nm,0.9s
WVOR Wild Horse Val 93.34 40 P **P 19 50 49.2 +0.2**
BEKR Beckworth 93.83 43 IAmb IAmb 19 51 03.2
comp=Z,7.0nm,0.7s
EGMT Eagleton 94.47 32 P **P 19 50 54.4 +0.4**
baz=314
PAHR Pah Rah Range 94.53 43 IAmb IAmb 19 51 07.7
comp=Z,12nm,1.1s
DLMT Dillon 94.85 35 P **P 19 50 56.1 +0.2**
DLMT IAmb IAmb 19 51 05.0
comp=Z,20nm,1.2s
CMB Columbia Colle 94.88 45 IAmb IAmb 19 50 58.7
comp=Z,13nm,1.2s
HLID Hailey 95.05 37 P **P 19 50 57.2 +0.3**
baz=310
BOZ Bozeman (W) 95.20 35 P **P 19 50 57.7 +0.2**
baz=313
BMN Battle Mountai 95.41 41 P **P 19 50 58.4 -0.2**
BMN pmax pmax
comp=Z,10.0nm,1.1s
BMN Battle Mountai 95.41 41 P **P 19 50 58.4 -0.2**
BMN IAmb IAmb 19 51 12.5
comp=Z,9.8nm,1.1s
KVN Kaiserville 95.72 43 IAmb IAmb 19 51 13.4
comp=Z,8.9nm,1.0s
PPT2 Papeete2 95.76 107 eS **S 20 02 16.2 -0.9**
comp=Z,258nm,26.8s
PPT2 Papeete2 95.76 107 eLR LR 20 21 52.2
comp=Z,1μm,23.2s
NVAR Mina Array Bea 95.97 43 P **P 19 51 01.4 +0.1**
comp=Z,1.4nm,0.7s,baz=288,slow=4.1,SNR=8.7
YHB Horse Butte 96.00 35 IAmb IAmb 19 51 11.7
comp=Z,10nm,1.1s
FLWY Flagg Ranch 96.71 35 IAmb IAmb 19 51 26.2
comp=Z,16nm,1.4s
RLMT Red Lodge 96.73 34 P **P 19 51 04.8 +0.2**
baz=314
TBI Tubuai 98.11 112 eS **S 20 02 34.8 -2.1**
comp=Z,229nm,28.8s
TBI Tubuai 98.11 112 eLR LR 20 22 54.8
comp=Z,619nm,24.5s
PDAR Pinedale Array 98.22 36 P Pdif 19 51 12.4 +1.0
comp=Z,0.3nm,0.5s,baz=289,slow=2.8,SNR=2.5
TAOE Nuku Hiva Isla 100.81 95 eLR LR 20 24 13.4
comp=Z,524nm,23.7s
TORD Torodi Ar. Bea 110.79 296 PKiKP **PKiKP 19 56 06.6 -0.8**
comp=Z,0.9nm,0.8s,baz=23,slow=2.7,SNR=2.5
TORD PP **PP 19 56 45.2 +0.8**
comp=Z,5.9nm,1.2s,baz=46,slow=4.4,SNR=6.9
TORD PKKPbc **PKKPbc 20 07 05.5 +0.7**
comp=Z,0.7nm,0.6s,baz=255,slow=4.2,SNR=4.2
TXAR Lajitas Array 111.06 42 Pdiff **Pdif 19 52 20.0 +11**
comp=Z,0.3nm,0.7s,baz=298,slow=2.7,SNR=4.0
TXAR PKiKP **PKiKP 19 56 07.2 -0.5**
comp=Z,0.5nm,0.7s,baz=270,slow=1.0,SNR=4.7
V53A Saluda 116.01 22 PKiKP PKiKP 19 56 16.4 -0.6
SNAA Sanae 123.48 198 PKPdf **PKPdf 19 56 29.5 -0.7**
VNA2 Neumayer--Watz 125.13 198 PKPdf **PKPdf 19 56 33.1 -0.1**
VNA2 Neumayer--Watz 125.13 198 PKiKP **PKiKP 19 56 37.1 +3.5**
VNA2 Neumayer--Watz 125.13 198 pPKPdf pPKPdf 19 56 41.3 +0.8
VNA1 Neumayer--Stat 125.51 198 PKPdf **PKPdf 19 56 34.0 0.0**
VNA1 Neumayer--Stat 125.51 198 PKiKP **PKiKP 19 56 37.3 +3.0**
VNA3 Neumayer Olymp 125.59 197 PKPdf **PKPdf 19 56 33.7 -0.5**
VNA3 Neumayer Olymp 125.59 197 PKiKP **PKiKP 19 56 37.6 +3.1**
VNA3 Neumayer Olymp 125.59 197 pPKPdf pPKPdf 19 56 42.0 +0.6
ZARC Zaragoza, Cauc 144.49 29 eP **PKPab 19 57 06.4 -2.8**
SDV Santo Domingo 144.89 22 PKPab 19 57 10.3 -0.6
SDV Santo Domingo 144.89 22 eP **PKPab 19 57 09.8 -1.1**
HELC Santa Helena 145.33 32 eP **PKPdf 19 57 12.9 +0.1**
CBOC Ciudad Bolivar 145.38 33 eP **PKPbc 19 57 11.9 -0.6**
PTBC PUERTO BERRIO 145.52 30 eP **PKPdf 19 57 10.5 -2.2**
PAMC Pamplona, Colo 145.55 26 eP **PKPdf 19 57 12.1 -1.2**
BARC Barichara 146.03 28 eP **PKPbc 19 57 14.4 -0.2**
NORC Norcasia 146.19 31 eP **PKPdf 19 57 11.3 -2.6**
GUY2C Guyana, Caldas 146.25 32 eP **PKPdf 19 57 12.9 -1.6**
MALC Bahia Malaga 146.27 36 eP **PKPab 19 57 16.2 +0.5**
SPBC San Pablo de B 146.48 30 eP **PKPbc 19 57 15.4 -0.4**
GR1C Gorgona, Isla 146.64 39 eP **PKPbc 19 57 16.2 +0.1**
RUSC La Rusia 146.70 28 PKPdf **PKPdf 19 57 15.6 +0.3**
RUSC La Rusia 146.70 28 eP **PKPdf 19 57 14.6 -0.7**
TAMC Tame, Arauca 146.73 25 eP **PKPbc 19 57 16.2 -0.2**
YOTC Yotoco, Valle 146.82 35 eP **PKPbc 19 57 16.2 -0.6**
ELOV Elorza 147.04 21 eP **PKPdf 19 57 11.1 -4.2**
ROSC El Rosal 147.08 31 PKPbc **PKPbc 19 57 17.2 -0.7**
comp=Z,16nm,0.4s,baz=192,slow=3.2,SNR=12
ROSC El Rosal 147.08 31 eP **PKPdf 19 57 14.9 -1.0**
ORTC Ortega, Tolima 147.44 33 eP **PKPdf 19 57 15.4 -0.6**
CHIC Chingaza 147.53 30 eP **PKPdf 19 57 16.4 -0.2**
PRAC Prado 147.79 33 eP **PKPbc 19 57 19.5 +0.1**
POPC Popayan, Colom 147.85 37 eP **PKPbc 19 57 18.7 -1.2**
BBAC Balboa, Cauca 147.97 38 eP **PKPbc 19 57 20.7 +0.6**
MARP Paez Belalcaza 147.99 35 eP **PKPdf 19 57 16.4 -0.8**
VILC Villavicencio, 148.01 30 eP **PKPdf 19 57 16.2 -0.8**
PCON Cinco Dias 148.18 36 eP **PKiKP 19 57 22.1 -0.9**
SOTA Rioblanco 148.23 37 eP **PKPdf 19 57 16.4 -1.5**
BETC Betania 148.39 35 eP **PKPbc 19 57 21.8 +0.7**
GCUF Volcan Galeras 148.56 39 eP **PKPdf 19 57 16.9 -1.5**
OTAV Otavalo 148.69 42 PKIKP **PKPdf 19 57 17.4 -1.2**
OTAV Otavalo 148.69 42 PKPdf 19 57 17.4 -1.2
OTAV Otavalo 148.69 42 eP **PKPbc 19 57 21.7 -0.6**
FLOC Florencia 149.21 36 eP **PKPdf 19 57 12.9 -6.0**
PTLC Puerto Leguiza 150.85 36 eP **PKPbc 19 57 26.9 -0.2**
SAML Samuel 164.06 19 PKIKP **PKPdf 19 57 36.0 -1.8**
SAML Samuel 164.06 19 PKPdf 19 57 36.0 -1.8
MT01 Popeta 165.04 133 PKPdf **PKPdf 19 57 37.5 -0.7**
MT01 **PKPab 19 58 34.6 -0.2**
BDFB Brasilia 167.23 310 PKPab **PKPab 19 58 44.5 -0.5**
comp=Z,2.0nm,0.5s,baz=130,slow=10,SNR=3.5
LPAZ La Paz 167.73 52 PKP **PKPdf 19 57 41.8 +0.3**
comp=Z,3.5nm,1.2s,baz=343,slow=2.6,SNR=8.2
LPAZ La Paz 167.73 52 PKPdf 19 57 40.1 -1.4
LPAZ La Paz 167.73 52 eP **PKPdf 19 57 38.9 -2.6**

TAP 15 19:37:58.8,24°28N×121°81E,h19km,ML4.7,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.07**	**294**	*i* P	Pg	19 38 02.4	0.0
	baz=295						
EHP				*i* S	Sg	19 38 05.2	+0.4
	baz=295						
ENA	**Nanau**	**0.16**	**338**	*i* P	Pg	19 38 03.3	0.0
	baz=340						
ENA				S	Sg	19 38 06.5	+0.3
	baz=340						
EWUT	**Wuta**	**0.16**	**351**	*i* P	Pg	19 38 03.3	0.0
	baz=351						
EWUT				*i* S	Sg	19 38 06.9	+0.5
	baz=351						
ETL	**Fush Village**	**0.21**	**234**	P	Pg	19 38 03.9	-0.1
	baz=233						
ETL				S	Sg	19 38 08.3	+0.7
	baz=233						
NACB	**Ninganchiao**	**0.22**	**241**	eP	Pg	19 38 04.6	+0.4
	baz=241						
TWD	**Chiawan**	**0.28**	**224**	P	Pb	19 38 05.1	0.0
	baz=222						
TWD				S	Sg	19 38 10.1	+0.8
	baz=222						
ETLH	**Xiulin Townshi**	**0.31**	**256**	eP	Pb	19 38 06.1	+0.4
	baz=256						
ETLH				eS	Sb	19 38 11.2	+0.9
	baz=256						
TWC	**Suao**	**0.33**	**7**	eP	Pb	19 38 06.1	0.0
	baz=9.0						
NDS	**Dongshan**	**0.36**	**347**	*i* P	Pb	19 38 06.7	0.0
	baz=347						
NDS				eS	Sb	19 38 12.4	+0.4
	baz=347						
ENTT	**Nioudou**	**0.42**	**328**	eP	Pb	19 38 07.7	0.0
	baz=329						
ENTT				eS	Sb	19 38 14.3	+0.6
	baz=329						

TAP 15 19:38:29.1,24°26N×121°81E,h19km,ML4.3,1D,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.07**	**309**	*i* P	Pg	19 38 32.7	0.0
	baz=312						
EHP				*i* S	Sg	19 38 35.7	+0.5
	baz=312						
ENA	**Nanau**	**0.17**	**341**	*i* P	Pg	19 38 33.9	0.0
	baz=343						
ENA				*i* S	Sg	19 38 37.3	+0.3
	baz=343						
EWUT	**Wuta**	**0.18**	**352**	P	Pg	19 38 34.0	0.0
	baz=352						
EWUT				*i* S	Sg	19 38 37.6	+0.4
	baz=352						
ETL	**Fush Village**	**0.20**	**238**	P	Pg	19 38 34.1	0.0
	baz=238						
ETL				S	Sg	19 38 38.4	+0.9
	baz=238						
NACB	**Ninganchiao**	**0.21**	**245**	eP	Pg	19 38 34.2	-0.1
	baz=245						
TWD	**Chiawan**	**0.26**	**227**	eP	Pb	19 38 35.6	+0.5
	baz=225						
TWD				eS	Sg	19 38 39.7	+0.5
	baz=225						
ETLH	**Xiulin Townshi**	**0.30**	**260**	P	Pg	19 38 35.8	0.0
	baz=259						
ETLH				S	Sb	19 38 41.3	+0.8
	baz=259						
TWC	**Suao**	**0.35**	**7**	eP	Pb	19 38 36.7	-0.1
	baz=8.0						
TWC				eS	Sg	19 38 41.7	+0.1
	baz=8.0						
NDS	**Dongshan**	**0.38**	**348**	*i* P	Pb	19 38 37.4	0.0
	baz=348						
NDS				S	Sb	19 38 43.3	+0.4
	baz=348						
ETM	**Tongmen**	**0.41**	**224**	P	Pg	19 38 37.4	-0.2
	baz=224						
ETM				eS	Sb	19 38 44.3	+0.5
	baz=224						
NNSB	**Datong**	**0.42**	**293**⇓	*i*P	Pb	19 38 38.3	+0.2
	baz=293						
NNSB				S	Sb	19 38 44.6	+0.5
	baz=293						
NDT	**Datong Townshi**	**0.43**	**322**	P	Pg	19 38 38.0	0.0
	baz=322						
NDT				eS	Sb	19 38 45.0	+0.6
	baz=322						
NNS	**Nan Shan**	**0.43**	**294**	P	Pb	19 38 38.4	+0.1
	baz=294						
NNS				eS	Sb	19 38 45.4	+0.8
	baz=294						
ENTT	**Nioudou**	**0.43**	**330**	P	Pb	19 38 38.5	+0.2
	baz=331						
ENTT				S	Sb	19 38 45.0	+0.5
	baz=331						
TEYL	**Yanliau Villag**	**0.43**	**206**	eP	Pb	19 38 39.1	+0.9
	baz=207						
TWE	**Neicheng**	**0.47**	**345**	eP	Pb	19 38 39.2	+0.3
	baz=346						
TWE				eS	Sb	19 38 46.5	+1.0
	baz=346						

*JMA **15** 19:43:33.6,24°24N×121°81E,h20km≤1km,M2.8*
*TAP **15** 19:43:33.2,24°27N×121°83E,h21km,ML3.7,B*
ISC 15 19:43:33.3±0.9,24°27N±0°01×121°87E±0°02,h14km≤7km,
n90,σ0°55/160,1C-12D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.12**	**290**	P	**Pb**	**19 43 37.4**	**-0.1**
	baz=295						
EHP				S	**Sb**	**19 43 40.5**	**+0.3**
	baz=295						
EWUT	**Wuta**	**0.19**	**335**	P	**Pb**	**19 43 38.4**	**-0.3**
	baz=343						
EWUT				S	**Sb**	**19 43 42.2**	**-0.1**
	baz=343						
ENA	**Nanau**	**0.20**	**324**⇓	*i*P	**Pb**	**19 43 38.2**	**-0.5**
	baz=333						
ENA				*i* S	**Sb**	**19 43 42.0**	**-0.3**
	baz=333						
ETL	**Fush Village**	**0.25**	**244**	P	**Pg**	**19 43 39.0**	**+0.2**
	baz=245						
ETL				S	**Sb**	**19 43 43.2**	**-0.6**
	baz=245						
NACB	**Ninganchiao**	**0.27**	**249**	P	**Pg**	**19 43 38.9**	**-0.1**
	baz=245						
NACB				S	**Sg**	**19 43 43.2**	**+0.4**
	baz=245						
TWD	**Chiawan**	**0.31**	**233**⇓	*i*P	**Pg**	**19 43 40.0**	**+0.2**
	baz=232						
TWD				*i* S	**Sb**	**19 43 45.1**	**-0.5**
	baz=232						
TWC	**Suao**	**0.34**	**357**⇓	*i*P	**Pb**	**19 43 40.8**	**-0.4**
	baz=9.0						
TWC				S	**Sb**	**19 43 45.8**	**-0.6**
	baz=9.0						
ETLH	**Xiulin Townshi**	**0.36**	**260**	P	**Pg**	**19 43 40.4**	**-0.2**
	baz=258						
ETLH				S	**Sg**	**19 43 45.5**	**-0.2**
	baz=258						
HWA	**Hwalien**	**0.38**	**220**	P	**Pb**	**19 43 42.0**	**+0.3**
	baz=224						
HWA				eS	**Sb**	**19 43 49.1**	**+1.6**
	baz=224						
NDS	**Dongshan**	**0.39**	**339**⇓	*i*P	**Pb**	**19 43 41.6**	**-0.4**
	baz=343						
NDS				S	**Sb**	**19 43 47.3**	**-0.6**
	baz=343						
ETM	**Tongmen**	**0.46**	**229**	eP	**Pg**	**19 43 42.4**	**0.0**
	baz=234						
ETM				eS	**Sg**	**19 43 49.2**	**+0.6**

baz=234
ENTT Nioudou 0.46 323 ⇓*i*P Pg 19 43 42.6 +0.1
baz=320
ENTT S Sb 19 43 49.5 -0.4
baz=320
NDT Datong Townshi 0.46 316 ⇓*i*P Pg 19 43 42.6 0.0
baz=318
NDT S Sb 19 43 49.7 -0.4
baz=318
TEYL Yanliau Villag 0.47 212 P Pg 19 43 42.8 +0.2
baz=200
TEYL S Sb 19 43 51.1 +0.9
baz=200
NNSB Datong 0.47 290 ⇓*i*P Pg 19 43 42.6 -0.1
baz=290
NNSB S Sg 19 43 48.7 -0.3
baz=290
NNS Nan Shan 0.48 291 ⇓*i*P Pg 19 43 42.8 -0.2
baz=291
NNS *i* S Sg 19 43 49.5 0.0
baz=291
TWE Neicheng 0.49 338 ⇓*i*P Pb 19 43 43.2 -0.4
baz=342
TWE *i* S Sg 19 43 49.9 +0.4
baz=342
ILA Ilan 0.51 348 P Pb 19 43 44.0 -0.1
baz=351
ILA S Sb 19 43 51.5 +0.2
baz=351
WHF Hehuan Shan 0.56 258 ⇓*i*P Pg 19 43 44.1 -0.4
baz=256
WHF *i* S Sg 19 43 51.8 -0.4
baz=256
FUSS Fushou 0.57 268 *e*P Pg 19 43 44.3 -0.3
baz=266
FUSS *e*S Sg 19 43 51.8 -0.4
baz=266
EGS 0.58 6 *e*P Pb 19 43 45.9 +0.7
baz=12
EGS *e*S Sb 19 43 54.0 +0.7
baz=12
NTC Toucheng 0.58 357 *e*P Pb 19 43 45.3 0.0
baz=359
NTC *e*S Sb 19 43 53.0 -0.5
baz=359
ESL Shilin 0.60 221 ⇓*i*P Pg 19 43 44.7 -0.5
baz=224
ESL *e*S Sg 19 43 53.2 +0.1
baz=224
NWLT Wulai 0.61 327 P Pg 19 43 45.2 0.0
baz=326
NWLT S Sg 19 43 53.2 -0.1
baz=326
NSK Sanguang 0.62 311 ⇑*i*P Pg 19 43 45.3 -0.1
baz=313
NSK *i* S Sg 19 43 53.4 -0.3
baz=313
TWT Tachien 0.63 269 *e*P Pb 19 43 45.9 -0.3
baz=268
TWT *e*S Sg 19 43 54.3 +0.1
baz=268
TDCB Techi 0.65 269 *e*P Pg 19 43 45.9 -0.1
baz=268
TDCB *e*S Sg 19 43 53.7 -1.0
baz=268
CHGB Renai 0.67 252 P Pg 19 43 46.0 -0.4
baz=242
CHGB S Sg 19 43 54.6 -0.7
baz=242
TIPB Shuangxi 0.70 357 P Pb 19 43 47.3 -0.1
baz=358
TIPB S Sg 19 43 56.4 +0.1
baz=358
OWD Renai 0.70 244 P Pg 19 43 46.5 -0.6
baz=242
OWD *e*S Sg 19 43 55.8 -0.6
baz=242
EGFH Guangfu 0.72 214 *e*P Pg 19 43 46.8 -0.5
baz=226
EGFH *e*S Sb 19 43 58.4 +1.0
baz=226
TWB1 Santiao Chiao 0.74 8 P Pb 19 43 48.1 +0.1
baz=2.0
TWB1 S Sb 19 43 58.1 0.0
baz=2.0
TWA Mucha 0.76 340 P Pb 19 43 48.5 +0.2
baz=342
TWA S Sb 19 43 58.4 -0.1
baz=342
NHDH Xindian Distri 0.76 336 *e*P Pb 19 43 48.7 +0.4
baz=337
NHDH *e*S Sg 19 43 57.9 -0.2
baz=337
NWF Wu-fen Shan 0.80 354 ⇓*i*P Pn 19 43 49.7 -0.6
baz=348
NWF *i* S Sb 19 43 59.8 -0.1
baz=348
TAP Taipei 0.83 337 *e*P Pb 19 43 50.0 +0.4
baz=338
TAP *e*S Sb 19 44 01.2 +0.5
baz=338
WHP Taichung City 0.84 271 *e*P Pg 19 43 49.4 -0.3
baz=270
WHP *e*S Sg 19 44 00.6 -0.1
baz=270
LIOB Emei 0.86 296 *e*P Pb 19 43 50.2 +0.1
baz=296
LIOB *e*S Sg 19 44 00.5 -0.9
baz=296
NSTT Nanjuang 0.87 295 P Pg 19 43 49.9 -0.3
baz=294
NSTT S Sg 19 44 00.8 -0.8
baz=294
HGSD Ruisui 0.87 208 *e*P Pn 19 43 51.9 +0.7
baz=198
WCS Beigang Elemen 0.90 257 *e*P Pg 19 43 50.0 -0.7
baz=254
EHY Hungye 0.91 213 *e*P Pg 19 43 49.3 -1.7
baz=211
YM01 YM01 0.92 343 *e*P Pb 19 43 51.3 +0.3
baz=344
YM01 *e*S Sb 19 44 03.4 +0.3
baz=344
TWS1 Kuangyinshan 0.92 334 *e*P Pg 19 43 50.6 -0.7
baz=334
TWS1 *e*S Sb 19 44 03.2 -0.1
baz=334
NCUH Zhongli 0.93 318 *e*P Pb 19 43 51.6 +0.3
baz=318
NCUH *e*S Sn 19 44 05.2 0.0
baz=318
NCU National Centr 0.93 319 *e*P Pb 19 43 51.5 +0.2
baz=317
NCU *e*S Sn 19 44 05.0 -0.3
baz=317
SBCB Hsinchu 0.96 303 *e*P Pg 19 43 51.9 0.0
baz=296
SBCB *e*S Sn 19 44 06.3 +0.5
baz=296
SSLB Suanglung 0.96 240 *e*P Pb 19 43 50.6 -1.2
baz=238
SMLT Sun Moon Lake 0.96 247 *e*P Pb 19 43 51.1 -0.8
baz=239
SMLT *e*S Sb 19 44 04.7 +0.2
baz=239
ANP Anpu 0.97 341 *e*P Pg 19 43 52.1 0.0
baz=340
NTST Danshui 0.97 337 *e*P Pg 19 43 52.1 0.0
baz=343
NTST *e*S Sn 19 44 06.6 +0.5
baz=343
HSN Hsinchu 0.98 303 *e*P Pb 19 43 51.9 -0.1
baz=297
HSN *e*S Sn 19 44 06.2 -0.1
baz=297
TYC Yuchr 0.99 249 *e*P Pb 19 43 51.6 -0.7
baz=239
JYNG Yonaguni jima 1.00 79 P Pn 19 43 53.0 +0.1
JYNG *e*S Sn 19 44 07.1 +0.3
TWQ1 Liyutan 1.00 275 *e*P Pg 19 43 52.7 0.0
baz=274
TWQ1 *e*S Sn 19 44 06.5 -0.4
baz=274
YULB Yu-li 1.02 211 *e*P Pb 19 43 51.7 -1.0
baz=211
NMLH Miaoli 1.02 285 *e*P Pn 19 43 53.7 +0.5
baz=283
NSY Sanyi 1.02 279 *e*P Pn 19 43 53.5 +0.2
baz=276
TWY Chenhua 1.03 346 *e*P Pn 19 43 54.1 +0.7
baz=347
TWY *e*S Sn 19 44 08.0 +0.4
baz=347
EYUL Yuli 1.05 209 *e*P Pb 19 43 52.7 -0.5
baz=221
YOJ Yonaguni jima 1.06 79 P Pg 19 43 53.7 -0.1
YOJ *e*S Sn 19 44 08.9 +0.6
YOJ Yonaguni jima 1.06 79 *e*P Pb 19 43 53.5 +0.1
baz=72
WHYT Xinyi Township 1.09 239 *e*P Pb 19 43 53.3 -0.7
baz=237
TCU Taichung 1.09 264 *e*P Pg 19 43 54.4 -0.1
baz=262
TCU *e*S Sn 19 44 10.5 +1.4
baz=262
WDJ Dajia District 1.12 274 *e*P Pn 19 43 54.6 0.0
baz=273
WDJ *e*S Sn 19 44 10.8 +0.9
baz=273
WJS Zhushan 1.13 247 *e*P Pb 19 43 54.8 +0.1
baz=236
WJS *e*S Sn 19 44 10.9 +0.8
baz=236
WNT Mingjian 1.15 250 *e*P Pn 19 43 55.2 +0.2
baz=240
FULB Fuli 1.19 206 *e*P Pg 19 43 56.2 0.0
baz=221
ALS Alishan 1.23 232 *e*P Pn 19 43 56.2 -0.2
baz=230
ALS *e*S Sg 19 44 13.5 +0.4
baz=230
CHN5 Tsauling 1.28 239 *e*P Pn 19 43 57.0 +0.2
baz=223
CHN5 *e*S Sg 19 44 15.7 +1.1
baz=223
ELDTW Lidau 1.33 216 *e*P Pn 19 43 56.5 -1.1
baz=205
WDLH Douliu 1.35 245 *e*P Pn 19 43 57.7 0.0
baz=243
WDLH *e*S Sg 19 44 16.8 0.0
baz=243
EDH Donghe 1.39 202 *e*P Pn 19 43 57.4 -0.9
baz=192
WRL Guolierlin Hig 1.41 255 *e*P Pn 19 43 58.2 -0.4
baz=253
WRL *e*S Sb 19 44 17.4 +0.2
baz=253
STYH Taoyuan 1.48 223 *e*P Pn 19 43 59.6 +0.1
baz=221
STYH *e*S Sn 19 44 18.3 -0.4
baz=221
TPUB Ta-pu 1.49 230 *e*P Pn 19 44 00.3 +0.6
baz=228
TPUB *e*S Sb 19 44 20.2 +0.7
baz=228
CHY Chiayi 1.53 240 *e*P Pn 19 44 00.8 +0.6
baz=238
CHY *e*S Sb 19 44 21.4 +0.8
baz=238
WTP Ta-pu 1.54 229 *e*P Pn 19 44 01.0 +0.6
baz=227
WTP *e*S Sb 19 44 21.7 +0.8
baz=227
TWK Hsinying 1.61 232 *e*P Pn 19 44 02.0 +0.6
baz=230
TWK *e*S Sg 19 44 24.2 -1.0
baz=230
TWG Pinlang 1.61 207 *e*P Pn 19 44 00.9 -0.5
baz=209
TWGBT Beinan 1.61 207 *e*P Pn 19 44 00.8 -0.6
baz=209
WSF Szhu 1.63 248 P Pn 19 44 02.0 +0.4
baz=244
WSF S Sb 19 44 24.2 +0.5
baz=244
SNST Tainan City 1.63 231 *e*P Pn 19 44 02.2 +0.5
baz=229
SNST *e*S Sb 19 44 23.9 +0.2
baz=229
CHN1 Nanshi 1.63 229 *e*P Pb 19 44 02.5 -0.7
baz=228
CHN1 *e*S Sb 19 44 23.9 +0.2
baz=228
IRIF Iriomote-Funau 1.70 87 P Pn 19 44 01.6 -1.0
IRIF *e*S Sb 19 44 25.0 -0.6
SSD Sandimen 1.89 217 *e*P Pn 19 44 06.3 +1.1
baz=225
JKRS Kuro-shima 1.96 90 P Pn 19 44 06.5 +0.4
JKRS *e*S Sn 19 44 30.9 +0.5
JIJ Ishigaki jima 2.08 87 P Pn 19 44 07.7 -0.1
JIJ *e*S Sn 19 44 33.1 -0.3
SCZT Fangliau 2.21 212 *e*P Pn 19 44 10.3 +0.8
baz=207
JISG Ishigakijimahi 2.25 81 P Pn 19 44 09.4 -0.7
JISG S Sn 19 44 39.2 +1.5

IDC ***15*** *19:46:14.3±0.7,25°.64N×141°.19E,h0km,mb4.0/11, mb1 4.2/11,mb1mx3.9/44,mbtmp4.0/11,Error ellipse: s-maj=27.5km s-min=15.5km az=99.0*
NEIC ***15*** *19:46:16.5±2.8,25°.64N±0°.09×141°.2E±0°.1,h10km±1km, mb4.7/24,Error ellipse: s-maj=22.0km s-min=14.8km az=106.0*

ISC 15 19:46:15.6±0.6,**25°.56N**±0°.08×**141°.2E**±0°.1,**h10**km,**n57**, σ1§**52**/49,**mb4.5**/24,**Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.76**	**29**	Pn	**Pn**	**19 46 45.3**	**-0.9**
	75nm,0.3s,baz=272,slow=23,SNR=50						
JCJ				Sn	**Sn**	**19 47 07.8**	**-1.0**
	107nm,0.3s,baz=234,slow=22,SNR=24						
JCJ	**Chichijima**	**1.76**	**29**		**Pn**	**19 46 45.1**	**-1.1**
JHJ2	**Mitsune**	**7.63**	**351**	Pn	**Pn**	**19 48 05.3**	**-1.4**
KSRS	**Korea Array**	**16.38**	**320**	Pn	**P**	**19 50 12.4**	**+3.9**
	0.1nm,0.3s,baz=136,slow=12,SNR=9.6						
H11N2	**WAKE ISLAND Hy**	**24.38**	**99**	T	T	20 16 44.8	
	baz=289,slow=75,SNR=34						
H11N1	**WAKE ISLAND Hy**	**24.38**	**99**	T	T	20 16 44.9	
	baz=289,slow=75,SNR=46						
H11N3	**WAKE ISLAND Hy**	**24.40**	**99**	T	T	20 16 46.0	
	baz=289,slow=75,SNR=42						
H11S3	**WAKE ISLAND Hy**	**24.61**	**101**	T	T	20 17 03.5	
	baz=291,slow=75,SNR=373						
H11S1	**WAKE ISLAND Hy**	**24.62**	**101**	T	T	20 17 04.1	
	baz=291,slow=75,SNR=449						
H11S2	**WAKE ISLAND Hy**	**24.63**	**101**	T	T	20 17 05.8	
	baz=291,slow=75,SNR=621						
SONM	**Songino Array**	**35.24**	**318**	P	**P**	**19 53 11.8**	**+1.4**
	1.6nm,0.8s,baz=134,slow=8.3,SNR=2.0						
YAK	**Yakutsk**	**37.28**	**351**	P	**P**	**19 53 27.3**	**-0.1**
	1.8nm,0.5s,baz=15,slow=4.0,SNR=3.5						
YAK	**Yakutsk**	**37.28**	**351**	P	**P**	**19 53 25.5**	**-1.9**
MMRI	**Maumere**	**38.68**	**211**	P	**P**	**19 53 37.6**	**-2.1**
WR0	**Warramunga Arr**	**45.71**	**189**	P	**P**	**19 54 36.1**	**-0.9**
WRAB	**Tennant Creek**	**45.71**	**189**	P	**P**	**19 54 35.8**	**-1.1**
WRAB				IAmb	IAmb	19 54 39.1	
	comp=Z,14nm,1.0s						
WB2	**Warramunga Arr**	**45.72**	**189**	P	**P**	**19 54 35.8**	**-1.2**
WRA	**Warramunga Arr**	**45.72**	**189**	P	**P**	**19 54 36.8**	**-0.2**
	comp=Z,8.2nm,0.7s,baz=8,6,slow=9.2,SNR=29						
WRA	**Warramunga Arr**	**45.72**	**189**	P	**P**	**19 54 36.4**	**-0.7**
ASAR	**Alice Springs**	**49.44**	**189**	P	**P**	**19 55 07.5**	**+1.6**
	comp=Z,2.2nm,1.2s,baz=12,slow=5.7,SNR=4.9						
MKAR	**Makanchi Array**	**50.79**	**311**	P	**P**	**19 55 17.4**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=87,slow=7.5,SNR=5.5						
MKAR	**Makanchi Array**	**50.79**	**311**	P	**P**	**19 55 16.5**	**+0.4**
MAKZ	**Makanchi**	**51.01**	**311**	P	**P**	**19 55 18.9**	**+1.2**
K20K	**Telida**	**56.16**	**29**	P	**P**	**19 55 58.0**	**+2.7**
K20K				IAmb	IAmb	19 56 12.9	
	comp=Z,14nm,1.6s						
J20K	**Nowinta River**	**56.28**	**28**	P	**P**	**19 55 59.0**	**+3.0**
J20K				IAmb	IAmb	19 56 14.4	
	comp=Z,17nm,1.8s						
IMAR	**Indian Mountai**	**56.81**	**26**	P	**P**	**19 55 57.2**	**-2.5**
CAST	**Castle Rocks**	**57.05**	**29**	P	**P**	**19 56 02.6**	**+1.0**
STKA	**Stephens Creek**	**57.11**	**180**	P	**P**	**19 56 03.8**	**+1.5**
	comp=Z,1.8nm,0.7s,baz=31,slow=15,SNR=3.1						
STKA	**Stephens Creek**	**57.11**	**180**	P	**P**	**19 56 02.7**	**+0.5**
H21K	**Melozitna Rive**	**57.12**	**27**	P	**P**	**19 56 03.0**	**+1.0**
H21K				IAmb	IAmb	19 56 10.7	
	comp=Z,12nm,1.6s						
KK31	**Karatay Array**	**59.28**	**306**	P	**P**	**19 56 16.4**	**-1.2**
KK31				IAmb	IAmb	19 56 19.2	
	comp=Z,5.0nm,1.4s						
KKAR	**Karatay Array**	**59.28**	**306**	P	**P**	**19 56 16.5**	**-1.1**
KKAR	**Karatay Array**	**59.28**	**306**	P	**P**	**19 56 16.4**	**-1.2**
KKAR				IAmb	IAmb	19 56 19.2	
	comp=Z,5.0nm,1.4s						
ILAR	**Eielson Array**	**59.48**	**28**	P	**P**	**19 56 18.3**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=255,slow=5.4,SNR=11						
ILAR	**Eielson Array**	**59.48**	**28**	P	**P**	**19 56 17.8**	**-0.6**
GAR	**Garm**	**60.05**	**302**	P	**P**	**19 56 22.2**	**-0.8**
GAR				IAmb	IAmb	19 56 25.9	
	comp=Z,6.6nm,1.0s						
BMAR	**Burnt Mountain**	**60.61**	**25**	P	**P**	**19 56 27.6**	**+1.3**
DOT	**Dot Lake**	**60.65**	**30**	P	**P**	**19 56 26.4**	**-0.1**
DOT				IAmb	IAmb	19 56 28.7	
	comp=Z,4.1nm,1.0s						
SCRK	**Sand Creek**	**60.69**	**29**	P	**P**	**19 56 27.0**	**0.0**
SCRK				IAmb	IAmb	19 56 29.2	
	comp=Z,5.6nm,1.0s						
CHGR	**Chuyangaron**	**61.00**	**302**	P	**P**	**19 56 29.7**	**+0.2**
CHGR				IAmb	IAmb	19 56 32.3	
	comp=Z,7.5nm,0.8s						
M27K	**Edge Creek, AK**	**61.65**	**31**	P	**P**	**19 56 34.0**	**+0.5**
M27K				IAmb	IAmb	19 57 04.2	
	comp=Z,15nm,1.7s						
L27K	**Beaver Creek,**	**61.66**	**30**	P	**P**	**19 56 35.6**	**+2.2**
L27K				IAmb	IAmb	19 57 13.7	
	comp=Z,5.9nm,1.6s						
BCAR	**Beaver Creek A**	**61.67**	**30**	P	**P**	**19 56 35.6**	**+2.0**
GRNC	**Granite Creek**	**61.75**	**33**	P	**P**	**19 56 36.6**	**+2.2**
YAH	**Yahtse**	**61.77**	**33**	P	**P**	**19 56 36.1**	**+1.6**
EPYK	**Eagle Plains**	**63.71**	**26**	P	**P**	**19 56 48.2**	**+1.1**
FINES	**FINESS Array B**	**78.94**	**334**	P	**P**	**19 58 18.1**	**-1.0**
	comp=Z,2.3nm,0.7s,baz=76,slow=5.9,SNR=10						
FINES	**FINESS Array B**	**78.94**	**334**	P	**P**	**19 58 18.3**	**-0.8**
NVAR	**Mina Array Bea**	**82.16**	**51**	P	**P**	**19 58 39.1**	**+2.0**
	comp=Z,0.6nm,0.6s,baz=290,slow=5.4,SNR=3.0						
AKASG	**Malin Array Be**	**83.33**	**324**	P	**P**	**19 58 40.9**	**-1.9**
	comp=Z,0.3nm,0.4s,baz=52,slow=4.0,SNR=1.5						
FXWY	**Fox Creek**	**84.55**	**44**	P	**P**	**19 58 50.0**	**+0.5**
FXWY				IAmb	IAmb	19 58 52.6	
	comp=Z,6.4nm,1.4s						
NOA	**NORSAR Array B**	**84.71**	**338**	P	**P**	**19 58 47.8**	**-1.8**
	comp=Z,0.4nm,0.6s,baz=46,slow=4.5,SNR=1.9						
H03N2	**Juan Fernandez**	**144.36**	**112**	T	T	22 47 01.7	
	baz=278,slow=78,SNR=4.8						
H03N3	**Juan Fernandez**	**144.37**	**112**	T	T	22 47 01.3	
	baz=278,slow=78,SNR=5.7						
H03N1	**Juan Fernandez**	**144.38**	**112**	T	T	22 46 59.6	
	baz=278,slow=78,SNR=4.7						
PLCA	**Paso Flores**	**149.60**	**128**	PKPbc	**PKPbc**	**20 06 04.7**	**-0.9**
	comp=Z,2.0nm,1.0s,baz=246,slow=16,SNR=1.8						
LPAZ	**La Paz**	**151.14**	**77**	PKPbc	**PKiKP**	**20 06 12.2**	**+1.1**
	comp=Z,1.0nm,0.4s,baz=339,slow=7.3,SNR=3.3						

TAP 15 19:46:32.8,24°.25N×121°.82E,h18km,ML3.6,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.09**	**309**	*i* P	Pg	19 46 36.5	+0.1
	baz=311						
EHP				*i* S	Sg	19 46 39.4	+0.7
	baz=311						
ENA	**Nanau**	**0.19**	**338**	*i* P	Pb	19 46 37.7	+0.1
	baz=339						
ENA				*i* S	Sg	19 46 41.2	+0.4
	baz=339						
EWUT	**Wuta**	**0.20**	**349**	*i* P	Pb	19 46 37.7	0.0
	baz=347						
EWUT				S	Sb	19 46 41.6	+0.7
	baz=347						
ETL	**Fush Village**	**0.20**	**242**	P	Pb	19 46 37.9	+0.1
	baz=245						
ETL				S	Sb	19 46 41.5	+0.4
	baz=245						
NACB	**Ninganchiao**	**0.22**	**249**	P	Pb	19 46 38.0	-0.1
	baz=252						
NACB				S	Sb	19 46 41.9	+0.1
	baz=252						
TWD	**Chiawan**	**0.27**	**230**	P	Pg	19 46 38.8	+0.1
	baz=235						
TWD				S	Sb	19 46 43.7	+0.5
	baz=235						
ETLH	**Xiulin Townshi**	**0.31**	**262**	P	Pg	19 46 39.5	0.0
	baz=262						
ETLH				*e*S	Sg	19 46 44.2	0.0
	baz=262						
HWA	**Hwalien**	**0.34**	**215**	P	Pb	19 46 41.2	+0.9
	baz=223						
HWA				S	Sn	19 46 47.4	-1.8
	baz=223						
TWC	**Suao**	**0.36**	**4**	P	Pb	19 46 40.6	0.0
	baz=10.0						
TWC				S	Sb	19 46 45.9	0.0
	baz=10.0						
NDS	**Dongshan**	**0.39**	**346**	P	Pb	19 46 41.2	0.0
	baz=345						
NDS				S	Sb	19 46 47.0	0.0
	baz=345						
ETM	**Tongmen**	**0.41**	**226**	P	Pg	19 46 41.2	0.0
	baz=235						
ETM				S	Sb	19 46 47.8	+0.3
	baz=235						
NNSB	**Datong**	**0.43**	**294**	*i* P	Pb	19 46 41.9	-0.1
	baz=294						
NNSB				S	Sb	19 46 48.2	-0.1
	baz=294						
NDT	**Datong Townshi**	**0.45**	**321**	P	Pb	19 46 42.3	+0.2
	baz=320						
NDT				S	Sb	19 46 48.6	+0.1
	baz=320						
NNS	**Nan Shan**	**0.45**	**295**	*i* P	Pb	19 46 42.1	-0.1
	baz=295						
NNS				*i* S	Sb	19 46 48.8	+0.1
	baz=295						
ENTT	**Nioudou**	**0.45**	**329**	P	Pb	19 46 42.2	0.0
	baz=320						
ENTT				S	Sb	19 46 49.4	+0.8
	baz=320						
TWE	**Neicheng**	**0.49**	**343**	P	Pb	19 46 42.9	+0.1
	baz=343						
TWE				S	Sb	19 46 50.5	+0.8
	baz=343						
ILA	**Ilan**	**0.51**	**353**	P	Pb	19 46 43.8	+0.5
	baz=346						
ILA				S	Sn	19 46 52.4	-1.2
	baz=346						
WHF	**Hehuan Shan**	**0.52**	**258**	P	Pg	19 46 43.0	-0.3
	baz=261						
WHF				S	Sb	19 46 50.9	0.0
	baz=261						
FUSS	**Fushou**	**0.53**	**270**	P	Pb	19 46 43.6	0.0
	baz=271						
FUSS				S	Sb	19 46 50.8	-0.1
	baz=271						
ESL	**Shilin**	**0.56**	**219**	P	Pb	19 46 44.2	+0.2
	baz=224						
ESL				S	Sb	19 46 53.1	+1.4
	baz=224						
TWT	**Tachien**	**0.59**	**270**	P	Pb	19 46 45.2	+0.6
	baz=270						
TWT				S	Sb	19 46 53.4	+0.7
	baz=270						
NSK	**Sanguang**	**0.59**	**315**	P	Pg	19 46 44.6	0.0
	baz=315						
NSK				S	Sb	19 46 52.9	+0.1
	baz=315						
NWLT	**Wulai**	**0.60**	**331**	P	Pb	19 46 44.8	+0.1
	baz=330						
NWLT				S	Sb	19 46 53.1	+0.3
	baz=330						
NTC	**Toucheng**	**0.60**	**1**	P	Pb	19 46 45.1	+0.4
NTC				*e*S	Sb	19 46 53.5	+0.6
TEGC	**Jichi Village**	**0.60**	**205**	P	Pb	19 46 45.5	+0.8
	baz=197						
TEGC				*e*S	Sb	19 46 54.1	+1.3
	baz=197						
TDCB	**Techi**	**0.60**	**270**	P	Pb	19 46 45.2	+0.4
	baz=271						
TDCB				S	Sb	19 46 53.1	0.0
	baz=271						
CHGB	**Renai**	**0.62**	**252**	P	Pb	19 46 45.4	+0.2
	baz=253						
CHGB				S	Sb	19 46 54.1	+0.5
	baz=253						
OWD	**Renai**	**0.66**	**243**	P	Pb	19 46 46.3	+0.5
	baz=244						
NHDH	**Xindian Distri**	**0.76**	**339**	P	Pg	19 46 47.9	+0.3

NHDH	baz=338			S		Sg	19 46 58.4	+0.7
TATO	**Taipei** baz=336	**0.78**	**337**	*e*P		Pn	19 46 49.6	+0.7
TATO				S		Sg	19 46 59.2	+0.8
WHP	**Taichung City** baz=273	**0.80**	**272**	S		Sn	19 46 59.9	-0.8
NWF	**Wu-fen Shan** baz=349	**0.81**	**358**	P		Pn	19 46 49.6	+0.1
NWF				*e*S		Sn	19 47 01.5	+0.3
WFSB	**Wu-fen Shan** baz=349	**0.81**	**358**	P		Pn	19 46 49.2	-0.2
WFSB				*e*S		Sn	19 47 01.5	+0.4
TAP	**Taipei** baz=339	**0.83**	**340**	S		Sn	19 47 01.3	-0.2
NSTT	**Nanjuang** baz=297	**0.83**	**297**	*e*P		Pb	19 46 48.7	-0.1
NSTT				S		Sn	19 47 00.9	-0.6
TNOU	**National Taiwa** baz=4.0	**0.89**	**357**	*e*P		Pb	19 46 48.0	-1.7
SSLB	**Suanglung** baz=250	**0.92**	**240**	*e*P		Pg	19 46 50.6	0.0
SSLB				S		Sn	19 47 03.2	-0.4
YM01	**YM01** baz=344	**0.92**	**346**	P		Pb	19 46 50.4	+0.1
YM01				S		Sn	19 47 03.7	+0.1
TWS1	**Kuangyinshan** baz=336	**0.92**	**337**	*e*P		Pb	19 46 50.0	-0.2
TWS1				*e*S		Sg	19 47 03.1	+0.3
TWQ1	**Liyutan** baz=277	**0.96**	**276**	*e*P		Pg	19 46 53.6	+2.2
TWQ1				*e*S		Sn	19 47 06.4	+1.8
ECBN	**Changbin** baz=200	**0.99**	**200**	*e*P		Pg	19 46 52.5	+0.5
ECBN				S		Sn	19 47 06.3	+1.0
WHYT	**Xinyi Township** baz=247	**1.04**	**238**	S		Sg	19 47 07.2	+0.5
WWF	**Wufeng** baz=257	**1.04**	**259**	*e*P		Pg	19 46 56.2	+3.2
WWF				S		Sg	19 47 08.8	+2.1
YOJ	**Yonaguni jima** baz=68	**1.11**	**79**	*e*P		Pn	19 46 52.9	-0.5
CHN5	**Tsauling** baz=239	**1.23**	**238**	P		Pg	19 46 56.2	-0.3

JMA **15** *19:46:47.8,24.22N×121.80E,h22km,1km,M2.9*
TAP **15** *19:46:47.4,24.25N×121.82E,h18km,ML3.9,D*
ISC 15 19:46:47.8±0.8**,24.25N**±0.02×**121.86E**±0.02**,h15**km±5km**,**n45**,σ**0.58**/86**,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
EHP	**Heping Village** baz=310	**0.12**	**301**	P		**Pg**	**19 46 50.7**	**-0.6**
EHP				S		**Sg**	**19 46 54.2**	**+0.5**
ENA	**Nanau** baz=339	**0.21**	**330**	*i* P		**Pg**	**19 46 52.3**	**-0.3**
ENA				*i* S		**Sg**	**19 46 56.0**	**+0.2**
EWUT	**Wuta** baz=348	**0.21**	**340**	*i* P		**Pg**	**19 46 52.2**	**-0.4**
EWUT				*i* S		**Sg**	**19 46 56.1**	**+0.2**
ETL	**Fush Village** baz=245	**0.23**	**248**	P		**Pg**	**19 46 52.5**	**-0.5**
ETL				S		**Sg**	**19 46 56.4**	**-0.1**
NACB	**Ninganchiao** baz=252	**0.25**	**253**	P		**Pg**	**19 46 52.7**	**-0.6**
NACB				S		**Sg**	**19 46 56.7**	**-0.2**
TWD	**Chiawan** baz=236	**0.29**	**235**	P		**Pg**	**19 46 53.9**	**0.0**
TWD				S		**Sg**	**19 46 58.1**	**0.0**
ETLH	**Xiulin Townshi** baz=263	**0.34**	**263**	P		**Pg**	**19 46 54.3**	**-0.6**
ETLH				*e*S		**Sg**	**19 46 59.1**	**-0.7**
HWA	**Hwalien** baz=223	**0.35**	**221**	P		**Pb**	**19 46 56.2**	**+0.3**
HWA				S		**Sb**	**19 47 02.1**	**+0.8**
TWC	**Suao** baz=10.0	**0.36**	**359**	P		**Pg**	**19 46 55.2**	**0.0**
TWC				S		**Sb**	**19 47 00.6**	**-0.9**
NDS	**Dongshan** baz=345	**0.41**	**342**	P		**Pg**	**19 46 55.9**	**-0.2**
NDS				S		**Sg**	**19 47 01.7**	**+0.1**
ETM	**Tongmen** baz=235	**0.43**	**230**	P		**Pg**	**19 46 56.5**	**-0.1**
ETM				S		**Sb**	**19 47 03.2**	**-0.4**
TEYL	**Yanliau Villag** baz=198	**0.45**	**212**	P		**Pg**	**19 46 56.6**	**-0.1**
TEYL				S		**Sb**	**19 47 03.8**	**-0.1**
NNSB	**Datong** baz=294	**0.47**	**293**	P		**Pg**	**19 46 56.5**	**-0.7**
NNSB				S		**Sg**	**19 47 02.9**	**-0.6**
ENTT	**Nioudou** baz=320	**0.47**	**326**	P		**Pg**	**19 46 57.2**	**-0.1**
ENTT				S		**Sg**	**19 47 04.0**	**+0.4**
NDT	**Datong Townshi** baz=320	**0.47**	**319**	P		**Pg**	**19 46 55.9**	**-1.4**
NDT				S		**Sg**	**19 47 04.0**	**+0.4**
NNS	**Nan Shan** baz=295	**0.48**	**294**	P		**Pg**	**19 46 57.0**	**-0.4**
NNS				S		**Sg**	**19 47 03.3**	**-0.6**
TWE	**Neicheng** baz=343	**0.50**	**340**	P		**Pg**	**19 46 57.3**	**-0.5**
TWE				S		**Sg**	**19 47 04.8**	**+0.2**
ILA	**Ilan** baz=346	**0.53**	**349**	*e*P		**Pb**	**19 46 59.5**	**+0.7**
ILA				*e*S		**Sb**	**19 47 07.2**	**+1.0**
WHF	**Hehuan Shan** baz=260	**0.55**	**259**	P		**Pg**	**19 46 57.8**	**-1.0**
WHF				S		**Sg**	**19 47 05.2**	**-1.1**
FUSS	**Fushou** baz=271	**0.56**	**270**	P		**Pg**	**19 46 58.6**	**-0.4**
FUSS				S		**Sg**	**19 47 06.0**	**-0.4**
ESL	**Shilin** baz=224	**0.58**	**222**	P		**Pg**	**19 46 58.7**	**-0.6**
ESL				S		**Sg**	**19 47 07.2**	**+0.2**
TEGC	**Jichi Village** baz=205	**0.61**	**208**	P		**Pg**	**19 46 59.6**	**-0.2**
TEGC				S		**Sb**	**19 47 09.9**	**+1.3**
NWLT	**Wulai** baz=331	**0.62**	**329**	P		**Pg**	**19 46 59.2**	**-0.8**
NWLT				S		**Sg**	**19 47 07.9**	**-0.4**
TWT	**Tachien** baz=270	**0.62**	**271**	P		**Pg**	**19 46 59.9**	**-0.2**
TWT				S		**Sg**	**19 47 08.2**	**-0.1**
NSK	**Sanguang** baz=315	**0.62**	**313**	P		**Pg**	**19 46 59.5**	**-0.6**
NSK				S		**Sg**	**19 47 07.7**	**-0.7**
TDCB	**Techi** baz=271	**0.64**	**271**	P		**Pg**	**19 47 00.2**	**-0.2**
TDCB				S		**Sg**	**19 47 08.0**	**-0.9**
CHGB	**Renai** baz=253	**0.65**	**253**	*e*P		**Pg**	**19 46 59.8**	**-0.8**
CHGB				S		**Sg**	**19 47 08.9**	**-0.4**
OWD	**Renai** baz=245	**0.69**	**245**	P		**Pg**	**19 47 00.5**	**-0.8**
OWD				S		**Sg**	**19 47 10.5**	**+0.1**
EGFH	**Guangfu** baz=226	**0.70**	**214**	P		**Pg**	**19 47 01.2**	**-0.3**
EGFH				S		**Sb**	**19 47 11.2**	**0.0**
TIPB	**Shuangxi** baz=360	**0.72**	**358**	P		**Pb**	**19 47 02.2**	**+0.1**
TIPB				S		**Sb**	**19 47 11.7**	**-0.2**
TWB1	**Santiao Chiao** baz=12	**0.77**	**9**	P		**Pb**	**19 47 02.8**	**-0.1**
TWB1				S		**Sb**	**19 47 13.0**	**-0.2**
TWA	**Mucha** baz=343	**0.77**	**341**	S		**Sb**	**19 47 13.0**	**-0.3**
NHDH	**Xindian Distri** baz=338	**0.77**	**337**	*e*P		**Pb**	**19 47 03.6**	**+0.6**
NHDH				S		**Sb**	**19 47 13.2**	**-0.2**
TATO	**Taipei** baz=336	**0.80**	**335**	*e*P		**Pb**	**19 47 04.0**	**+0.5**
TATO				S		**Sb**	**19 47 14.0**	**-0.1**
NWF	**Wu-fen Shan** baz=349	**0.82**	**355**	*e*P		**Pn**	**19 47 05.2**	**+0.2**
NWF				S		**Sb**	**19 47 15.9**	**+1.0**
WFSB	**Wu-fen Shan** baz=349	**0.82**	**355**	*e*P		**Pn**	**19 47 05.8**	**+0.9**
WFSB				*e*S		**Sn**	**19 47 16.4**	**-0.5**
NHY	**Taipei** baz=343	**0.83**	**342**	*e*P		**Pn**	**19 47 05.5**	**+0.5**
NHY				S		**Sn**	**19 47 16.2**	**-0.9**
WHP	**Taichung City** baz=273	**0.83**	**272**	*e*P		**Pn**	**19 47 05.6**	**+0.5**
WHP				S		**Sg**	**19 47 14.2**	**-0.8**
TAP	**Taipei** baz=339	**0.85**	**338**	*e*P		**Pn**	**19 47 06.8**	**+1.5**
TAP				S		**Sb**	**19 47 16.3**	**+0.7**
JYNG	**Yonagunijimaku** baz=1	**1.01**	**78**	P		**Pn**	**19 47 07.4**	**-0.1**
JYNG				*e*S		**Sn**	**19 47 22.4**	**+0.9**
YOJ	**Yonaguni jima** baz=12	**1.07**	**78**	P		**Pg**	**19 47 08.1**	**-0.5**
YOJ				*e*S		**Sn**	**19 47 23.4**	**+0.3**
IRIF	**Iriomote-Funau** baz=253	**1.71**	**87**	*e*S		**Sb**	**19 47 39.7**	**-0.7**
JKRS	**Kuro-shima** baz=249	**1.96**	**90**	*e*S		**Sb**	**19 47 47.4**	**-0.3**
JIJ	**Ishigaki jima** baz=213	**2.09**	**86**	P		**Pn**	**19 47 21.9**	**-0.5**
JIJ				*e*S		**Sn**	**19 47 47.9**	**-0.2**
JISG	**Ishigakijimahi** baz=205	**2.26**	**81**	*e*S		**Sn**	**19 47 52.3**	**-0.1**

TAP **15** *19:51:13.6,24.25N×121.81E,h9km,1km,ML3.4,D*
JMA **15** *19:51:13.6,24.16N×121.81E,h21km,1km,M2.5*
ISC 15 19:51:13.8±0.9**,24.23N**±0.02×**121.83E**±0.02**,h15**km±7km**,**n71**,σ**0.62**/110**,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
EHP	**Heping Village** baz=312	**0.11**	**313**	P		**Pb**	**19 51 17.5**	**-0.2**
ETL	**Fush Village** baz=241	**0.20**	**249**	*i* P		**Pb**	**19 51 18.9**	**-0.4**
ENA	**Nanau** baz=341	**0.21**	**337**	P		**Pg**	**19 51 18.3**	**-0.3**
ENA				*e*S		**Sg**	**19 51 22.3**	**+0.4**
EWUT	**Wuta** baz=350	**0.22**	**347**	*i* P		**Pg**	**19 51 18.7**	**0.0**
NACB	**Ninganchiao** baz=248	**0.22**	**255**	*e*P		**Pb**	**19 51 19.0**	**-0.6**
NACB				*e*S		**Sb**	**19 51 23.2**	**-0.2**
TWD	**Chiawan** baz=228	**0.26**	**235**	P		**Pb**	**19 51 19.7**	**-0.5**
TWD				*e*S		**Sb**	**19 51 24.9**	**+0.3**
ETLH	**Xiulin Townshi** baz=261	**0.32**	**266**	*i* P		**Pb**	**19 51 20.4**	**-0.9**
HWA	**Hwalien** baz=213	**0.33**	**219**	*i* P		**Pb**	**19 51 21.7**	**+0.4**
TWC	**Suao** baz=6.0	**0.38**	**2**	*i* P		**Pg**	**19 51 21.4**	**0.0**
TWC				*e*S		**Sg**	**19 51 27.1**	**+0.4**
ETM	**Tongmen** baz=225	**0.41**	**230**	P		**Pb**	**19 51 22.4**	**-0.3**
ETM				*e*S		**Sb**	**19 51 28.8**	**+0.1**
NDS	**Dongshan** baz=346	**0.41**	**345**	*i* P		**Pg**	**19 51 22.1**	**-0.1**
TEYL	**Yanliau Villag** baz=209	**0.42**	**211**	P		**Pb**	**19 51 22.9**	**0.0**
NNS	**Nan Shan** baz=294	**0.47**	**296**	*i* P		**Pg**	**19 51 23.1**	**-0.1**
NDT	**Datong Townshi** baz=321	**0.47**	**322**	*e*P		**Pg**	**19 51 23.3**	**+0.1**
NDT				*e*S		**Sg**	**19 51 29.8**	**+0.3**
ENTT	**Nioudou** baz=330	**0.47**	**329**	*i* P		**Pg**	**19 51 23.2**	**-0.1**
TWE	**Neicheng** baz=345	**0.51**	**343**	P		**Pg**	**19 51 23.8**	**-0.2**
TWE				*e*S		**Sg**	**19 51 31.1**	**+0.3**
WHF	**Hehuan Shan** baz=257	**0.53**	**261**	*i* P		**Pb**	**19 51 24.2**	**-0.7**
FUSS	**Fushou** baz=269	**0.54**	**272**	*i* P		**Pb**	**19 51 24.5**	**-0.6**
ILA	**Ilan** baz=354	**0.54**	**352**	*i* P		**Pg**	**19 51 24.9**	**+0.4**
ESL	**Shilin** baz=217	**0.55**	**221**	P		**Pb**	**19 51 24.7**	**-0.5**
ESL				*e*S		**Sb**	**19 51 33.1**	**+0.2**
TEGC	**Jichi Village** baz=204	**0.58**	**207**	P		**Pb**	**19 51 25.8**	**+0.1**
TEGC				*e*S		**Sn**	**19 51 35.7**	**-1.1**
TWT	**Tachien** baz=269	**0.60**	**272**	*i* P		**Pb**	**19 51 26.0**	**-0.1**
TDCB	**Techi** baz=269	**0.61**	**272**	*i* P		**Pb**	**19 51 26.1**	**-0.3**
EGS	baz=11	**0.62**	**8**	*e*P		**Pn**	**19 51 27.9**	**-0.1**
NSK	**Sanguang** baz=315	**0.62**	**316**	P		**Pg**	**19 51 25.6**	**-0.4**
NSK				*e*S		**Sg**	**19 51 34.1**	**-0.1**
NTC	**Toucheng** baz=1.0	**0.62**	**360**	P		**Pg**	**19 51 26.1**	**+0.1**
NTC				*e*S		**Sg**	**19 51 34.4**	**+0.1**
NWLT	**Wulai** baz=331	**0.62**	**331**	P		**Pg**	**19 51 25.6**	**-0.4**
NWLT				*e*S		**Sg**	**19 51 34.4**	**+0.1**
CHGB	**Renai** baz=251	**0.62**	**254**	*i* P		**Pb**	**19 51 26.2**	**-0.3**
OWD	**Renai** baz=242	**0.66**	**245**	*e*P		**Pb**	**19 51 27.0**	**-0.1**
EGFH	**Guangfu** baz=211	**0.67**	**214**	*i* P		**Pb**	**19 51 26.8**	**-0.4**
TIPB	**Shuangxi**	**0.74**	**360**	P		**Pg**	**19 51 28.2**	**0.0**
TIPB				*e*S		**Sg**	**19 51 38.0**	**0.0**
TWA	**Mucha** baz=344	**0.78**	**343**	P		**Pb**	**19 51 29.6**	**+0.5**
TWA				*e*S		**Sg**	**19 51 39.7**	**+0.4**
NHDH	**Xindian Distri** baz=339	**0.78**	**339**	P		**Pg**	**19 51 29.2**	**+0.2**
NHDH				*e*S		**Sg**	**19 51 39.4**	**+0.1**
WHP	**Taichung City** baz=271	**0.81**	**273**	P		**Pn**	**19 51 30.1**	**-0.6**
WHP				*e*S		**Sb**	**19 51 40.8**	**+0.4**
HGSD	**Ruisui** baz=205	**0.82**	**207**	P		**Pn**	**19 51 30.7**	**-0.1**
WPL	**Puli Township** baz=253	**0.83**	**255**	P		**Pb**	**19 51 29.8**	**-0.1**
WPL				*e*S		**Sb**	**19 51 40.9**	**+0.1**
WFSB	**Wu-fen Shan** baz=357	**0.84**	**357**	P		**Pn**	**19 51 31.6**	**+0.6**
NJD	**Zhudong** baz=306	**0.84**	**307**	P		**Pn**	**19 51 30.8**	**-0.3**
NJD				*e*S		**Sn**	**19 51 43.1**	**-0.2**
LIOB	**Emei** baz=298	**0.85**	**299**	P		**Pg**	**19 51 30.5**	**+0.2**
NSTT	**Nanjuang** baz=297	**0.86**	**298**	P		**Pg**	**19 51 30.4**	**0.0**
NSTT				*e*S		**Sg**	**19 51 41.8**	**+0.1**
WCS	**Beigang Elemen** baz=256	**0.86**	**259**	P		**Pn**	**19 51 31.0**	**-0.3**
WCS				*e*S		**Sn**	**19 51 42.3**	**-1.3**
TNOU	**National Taiwa** baz=357	**0.92**	**357**	P		**Pb**	**19 51 29.6**	**-1.8**
TNOU				*e*S		**Sb**	**19 51 42.3**	**-1.1**
SSLB	**Suanglung** baz=239	**0.92**	**241**	P		**Pg**	**19 51 31.0**	**-0.6**
HSN1	**Hsinchu** baz=305	**0.92**	**306**	P		**Pn**	**19 51 32.4**	**+0.2**
SMLT	**Sun Moon Lake** baz=245	**0.92**	**248**	P		**Pn**	**19 51 31.6**	**-0.7**
SMLT				*e*S		**Sn**	**19 51 45.5**	**+0.2**
NCUH	**Zhongli** baz=321	**0.94**	**321**	P		**Pg**	**19 51 32.1**	**+0.1**
NCUH				*e*S		**Sn**	**19 51 46.7**	**+1.0**
TWS1	**Kuangyinshan** baz=337	**0.94**	**337**	P		**Pb**	**19 51 31.3**	**-0.6**
TWS1				*e*S		**Sn**	**19 51 45.6**	**-0.2**
TYC	**Yuchr** baz=248	**0.95**	**250**	P		**Pn**	**19 51 33.4**	**+0.9**
TYC				*e*S		**Sn**	**19 51 46.1**	**+0.3**
TWQ1	**Liyutan** baz=275	**0.97**	**277**	P		**Pn**	**19 51 33.6**	**+0.7**
TWQ1				*e*S		**Sn**	**19 51 47.6**	**+1.2**
YM08	**YM08** baz=347	**0.98**	**347**	P		**Pg**	**19 51 32.8**	**+0.1**
NSY	**Sanyi** baz=279	**0.99**	**281**	*e*P		**Pn**	**19 51 34.1**	**+0.9**
TWF1	**Yuli** baz=207	**1.00**	**209**	P		**Pn**	**19 51 32.9**	**-0.4**
TWF1				*e*S		**Sn**	**19 51 49.2**	**+2.0**
JYNG	**Yonagunijimaku**	**1.04**	**78**	P		**Pb**	**19 51 33.3**	**-0.1**
JYNG				*e*S		**Sb**	**19 51 47.7**	**+0.8**
WHYT	**Xinyi Township** baz=237	**1.04**	**239**	P		**Pn**	**19 51 33.8**	**-0.1**
WWF	**Wufeng** baz=258	**1.05**	**260**	P		**Pg**	**19 51 35.1**	**+1.0**
WJS	**Zhushan** baz=246	**1.09**	**248**	P		**Pg**	**19 51 35.2**	**+0.4**
YOJ	**Yonaguni jima**	**1.10**	**78**	P		**Pb**	**19 51 34.1**	**-0.4**
YOJ				*e*S		**Sb**	**19 51 49.3**	**+0.7**
WNT1	**Nantou City** baz=251	**1.10**	**253**	P		**Pg**	**19 51 35.8**	**+0.7**
CHN5	**Tsauling** baz=237	**1.23**	**239**	P		**Pg**	**19 51 37.3**	**-0.2**
CHN5				*e*S		**Sg**	**19 51 56.0**	**+2.4**
WRL	**Guolierlin Hig** baz=255	**1.37**	**256**	P		**Pb**	**19 51 38.8**	**-0.3**
WRL				*e*S		**Sg**	**19 51 58.7**	**+0.7**
WTK	**Tuku** baz=246	**1.43**	**248**	P		**Pg**	**19 51 40.1**	**-1.2**
WTK				*e*S		**Sg**	**19 51 59.9**	**0.0**
STYH	**Taoyuan** baz=221	**1.43**	**223**	P		**Pb**	**19 51 39.9**	**-0.3**
CHY	**Chiayi** baz=239	**1.48**	**241**	P		**Pg**	**19 51 41.6**	**-0.7**
CHY				*e*S		**Sg**	**19 52 01.3**	**-0.3**
CHN1	**Nanshi** baz=227	**1.58**	**229**	P		**Pg**	**19 51 43.0**	**-1.3**
CHN1				*e*S		**Sg**	**19 52 05.7**	**+0.7**
ICHU	**Yijhu** baz=237	**1.67**	**239**	P		**Pb**	**19 51 43.6**	**-0.5**
ICHU				*e*S		**Sg**	**19 52 06.8**	**-0.7**
IRIF	**Iriomote-Funau**	**1.73**	**86**	P		**Pn**	**19 51 42.8**	**-0.6**
IRIF				*e*S		**Sn**	**19 52 05.2**	**0.0**
HATJ	**Hateruma jima**	**1.81**	**95**	S		**Sn**	**19 52 06.8**	**-0.3**
TSMG	**Majia** baz=214	**1.87**	**216**	P		**Pb**	**19 51 47.0**	**-0.6**
JKRS	**Kuro-shima**	**1.99**	**89**	P		**Pn**	**19 51 47.0**	**+0.2**
JKRS				*e*S		**Sn**	**19 52 12.5**	**+1.0**
JIJ	**Ishigaki jima**	**2.11**	**86**	P		**Pn**	**19 51 48.1**	**-0.5**
JIJ				*e*S		**Sn**	**19 52 13.9**	**-0.7**
JISG	**Ishigakijimahi**	**2.29**	**81**	P		**Pn**	**19 51 51.0**	**0.0**
JISG				S		**Sn**	**19 52 19.7**	**+0.8**

TAP 15 20:00:23.3,24.28N×121.81E,h18km,ML2.0,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ENA	**Nanau** baz=339	**0.16**	**338**	P		Pg	20 00 28.1	+0.4
ENA				*e*S		Sg	20 00 31.9	+1.2
EWUT	**Wuta** baz=350	**0.17**	**351**	P		Pg	20 00 28.2	+0.4
EWUT				S		Sg	20 00 31.9	+1.2
ETL	**Fush Village** baz=233	**0.21**	**234**	P		Pg	20 00 28.8	+0.5
ETL				S		Sg	20 00 33.1	+1.2
NACB	**Ninganchiao** baz=241	**0.22**	**241**	P		Pg	20 00 29.1	+0.5
NACB				S		Sg	20 00 33.3	+1.2
TWD	**Chiawan** baz=222	**0.28**	**224**	*e*P		Pb	20 00 29.9	+0.3
TWD				*e*S		Sb	20 00 34.8	+0.9
ETLH	**Xiulin Townshi** baz=256	**0.31**	**256**	*e*P		Pn	20 00 32.0	-0.9
ETLH				*e*S		Sb	20 00 35.5	+0.6
TWC	**Suao** baz=8.0	**0.33**	**7**	*e*P		Pb	20 00 30.7	0.0
TWC				*e*S		Sb	20 00 36.0	+0.4
NDS	**Dongshan** baz=346	**0.36**	**347**	*e*P		Pb	20 00 31.4	+0.2
NDS				*e*S		Sb	20 00 37.0	+0.5
NNSB	**Datong** baz=290	**0.41**	**291**	*e*P		Pb	20 00 32.5	+0.3
NNSB				*e*S		Sb	20 00 38.8	+0.6
NDT	**Datong Townshi** baz=320	**0.42**	**320**	*e*P		Pb	20 00 32.8	+0.6
NDT				*e*S		Sb	20 00 39.4	+1.1
ENTT	**Nioudou** baz=329	**0.42**	**328**	*e*P		Pb	20 00 32.6	+0.4
ENTT				*e*S		Sb	20 00 39.4	+1.1
ETM	**Tongmen** baz=222	**0.43**	**222**	*e*P		Pb	20 00 32.5	+0.1
ETM				*e*S		Sb	20 00 39.1	+0.7
NNS	**Nan Shan** baz=291	**0.43**	**292**	*e*P		Pb	20 00 32.8	+0.4
NNS				*e*S		Sb	20 00 39.4	+0.8
TWE	**Neicheng** baz=345	**0.46**	**344**	*e*P		Pb	20 00 33.1	+0.3
TWE				*e*S		Sb	20 00 40.2	+0.9
WHF	**Hehuan Shan**	**0.51**	**255**	*e*P		Pb	20 00 34.0	0.0

	baz=254							
WHF				*e*S		Sb	20 00 41.8	+0.6
	baz=254							
FUSS	**Fushou**	**0.52**	**266**	*e*P		Pb	20 00 34.2	+0.2
	baz=266							
FUSS				*e*S		Sb	20 00 42.0	+0.9
	baz=266							
NSK	**Sanguang**	**0.57**	**314**	*e*P		Pb	20 00 35.2	+0.5
	baz=314							
NSK				*e*S		Sb	20 00 43.5	+1.0
	baz=314							
NWLT	**Wulai**	**0.57**	**331**	*e*S		Sb	20 00 43.4	+1.0
	baz=330							
ESL	**Shilin**	**0.58**	**216**	*e*S		Sb	20 00 43.9	+1.3
	baz=215							
TWT	**Tachien**	**0.58**	**267**	*e*S		Sn	20 00 44.4	-1.4
	baz=266							
TDCB	**Techi**	**0.59**	**267**	*e*P		Pb	20 00 35.8	+0.6
	baz=267							
TDCB				*e*S		Sb	20 00 44.2	+1.0
	baz=267							
CHGB	**Renai**	**0.62**	**249**	*e*P		Pg	20 00 36.1	+0.5
	baz=249							
CHGB				*e*S		Sb	20 00 45.0	+1.0
	baz=249							
OWD	**Renai**	**0.66**	**241**	*e*P		Pg	20 00 36.8	+0.4
	baz=240							
OWD				*e*S		Sn	20 00 46.7	-1.2
	baz=240							
TIPB	**Shuangxi**	**0.69**	**1**	*e*P		Pg	20 00 37.5	+0.6
	baz=1.0							
TIPB				*e*S		Sg	20 00 46.7	+0.6
	baz=1.0							
EGFH	**Guangfu**	**0.70**	**210**	*e*S		Sn	20 00 47.9	-0.8
	baz=209							
WHP	**Taichung City**	**0.79**	**270**	*e*P		Pn	20 00 40.8	+1.2
	baz=269							
WHP				*e*S		Sn	20 00 50.3	-0.6
	baz=269							
WFSB	**Wu-fen Shan**	**0.79**	**358**	*e*P		Pn	20 00 39.3	-0.2
	baz=358							
LIOB	**Emei**	**0.81**	**297**	*e*P		Pg	20 00 39.2	+0.1
	baz=296							
NSTT	**Nanjuang**	**0.81**	**296**	*e*S		Sn	20 00 50.9	-0.5
	baz=295							
HGSD	**Ruisui**	**0.86**	**204**	*e*P		Pn	20 00 40.3	-0.2
	baz=204							
HGSD				*e*S		Sn	20 00 52.9	+0.3
	baz=204							
YM01	**YM01**	**0.89**	**346**	*e*P		Pn	20 00 41.3	+0.4
	baz=345							
YM01				*e*S		Sn	20 00 52.9	-0.5
	baz=345							

TAP 15 20:00:36.0, 24°29N×121°80E, h18km, ML2.2, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.06**	**289**	*e*S	Sg	20 00 42.9	+1.3
	baz=289						
ENA	**Nanau**	**0.15**	**337**	P	Pg	20 00 40.6	+0.4
	baz=339						
ENA				S	Sg	20 00 44.3	+1.2
	baz=339						
EWUT	**Wuta**	**0.16**	**351**	P	Pg	20 00 40.7	+0.4
	baz=351						
EWUT				S	Sg	20 00 44.3	+1.1
	baz=351						
ETL	**Fush Village**	**0.21**	**232**	P	Pg	20 00 41.8	+0.7
	baz=231						
ETL				S	Sg	20 00 45.6	+1.0
	baz=231						
NACB	**Ninganchiao**	**0.22**	**239**	*e*P	Pg	20 00 41.6	+0.4
	baz=238						
NACB				*e*S	Sg	20 00 45.9	+1.0
	baz=238						
TWD	**Chiawan**	**0.28**	**222**	*e*P	Pb	20 00 42.4	0.0
	baz=221						
TWD				*e*S	Sb	20 00 47.2	+0.4
	baz=221						
ETLH	**Xiulin Townshi**	**0.31**	**254**	*e*P	Pb	20 00 43.7	+0.7
	baz=254						
ETLH				*e*S	Sb	20 00 48.0	+0.4
	baz=254						
TWC	**Suao**	**0.32**	**7**	*e*P	Pb	20 00 43.2	0.0
	baz=9.0						
TWC				*e*S	Sb	20 00 48.4	+0.3
	baz=9.0						
NDS	**Dongshan**	**0.35**	**347**	*e*P	Pb	20 00 44.0	+0.2
	baz=346						
NDS				*e*S	Sb	20 00 49.5	+0.5
	baz=346						
HWA	**Hwalien**	**0.36**	**210**	*e*P	Pb	20 00 44.7	+0.9
	baz=208						
NNSB	**Datong**	**0.41**	**290**	*e*P	Pb	20 00 44.9	+0.2
	baz=289						
NNSB				*e*S	Sb	20 00 51.3	+0.6
	baz=289						
NDT	**Datong Townshi**	**0.41**	**320**	*e*P	Pb	20 00 45.2	+0.5
	baz=319						
NDT				*e*S	Sb	20 00 52.0	+1.3
	baz=319						
ENTT	**Nioudou**	**0.41**	**328**	*e*P	Pb	20 00 45.2	+0.5
	baz=328						
ENTT				*e*S	Sb	20 00 51.7	+1.0
	baz=328						
NNS	**Nan Shan**	**0.42**	**291**	*e*P	Pb	20 00 45.3	+0.3
	baz=290						
NNS				*e*S	Sb	20 00 51.7	+0.6
	baz=290						
ETM	**Tongmen**	**0.43**	**221**	*e*P	Pg	20 00 44.8	0.0
	baz=221						
ETM				*e*S	Sb	20 00 51.9	+0.6
	baz=221						
TWE	**Neicheng**	**0.45**	**344**	*e*P	Pb	20 00 45.6	+0.3
	baz=345						
TWE				*e*S	Sb	20 00 52.4	+0.7
	baz=345						
TEYL	**Yanliau Villag**	**0.46**	**204**	*e*P	Pb	20 00 45.9	+0.3
	baz=205						
TEYL				*e*S	Sb	20 00 53.2	+1.2
	baz=205						
FUSS	**Fushou**	**0.51**	**265**	*e*P	Pb	20 00 47.0	+0.4
	baz=265						
FUSS				*e*S	Sb	20 00 54.5	+0.7
	baz=265						
WHF	**Hehuan Shan**	**0.51**	**254**	*e*S	Sb	20 00 54.5	+0.6
	baz=253						
NWLT	**Wulai**	**0.56**	**331**	*e*S	Sb	20 00 56.1	+1.2
	baz=330						
NSK	**Sanguang**	**0.56**	**313**	*e*P	Pb	20 00 47.6	+0.3
	baz=313						
NSK				*e*S	Sb	20 00 56.0	+1.1
	baz=313						
TWT	**Tachien**	**0.57**	**266**	*e*S	Sb	20 00 56.6	+1.2
	baz=266						
ESL	**Shilin**	**0.58**	**216**	*e*P	Pg	20 00 47.2	-0.3
	baz=214						
ESL				*e*S	Sb	20 00 56.4	+0.9
	baz=214						
TDCB	**Techi**	**0.59**	**267**	*e*P	Pb	20 00 48.6	+0.8
	baz=266						
TDCB				*e*S	Sb	20 00 56.1	+0.2
	baz=266						
CHGB	**Renai**	**0.62**	**248**	*e*P	Pg	20 00 48.6	+0.2
	baz=248						
CHGB				*e*S	Sn	20 00 58.7	-1.0
	baz=248						
TEGC	**Jichi Village**	**0.63**	**203**	*e*P	Pb	20 00 47.7	-0.7
	baz=202						
TEGC				*e*S	Sn	20 00 58.2	-1.3
	baz=202						
OWD	**Renai**	**0.66**	**240**	*e*S	Sn	20 00 59.4	-1.3
	baz=239						
TIPB	**Shuangxi**	**0.68**	**2**	*e*P	Pn	20 00 50.1	-0.6
	baz=1.0						
TIPB				*e*S	Sg	20 00 59.1	+0.6
	baz=1.0						
EGFH	**Guangfu**	**0.71**	**209**	*e*P	Pb	20 00 49.4	-0.4
	baz=209						
EGFH				*e*S	Sn	20 01 01.2	-0.3
	baz=209						
TATO	**Taipei**	**0.74**	**337**	*e*S	Sg	20 01 01.0	+0.7
	baz=337						
NWF	**Wu-fen Shan**	**0.78**	**358**	*e*S	Pb	20 00 50.0	-1.0
	baz=358						
NWF	**Wu-fen Shan**	**0.78**	**358**	*e*P	Pb	20 00 49.9	-1.1
	baz=358						
NWF				*e*S	Sg	20 01 02.5	+0.9
	baz=358						
WFSB	**Wu-fen Shan**	**0.78**	**358**	*e*P	Pb	20 00 50.4	-0.6
	baz=358						
WFSB				*e*S	Sn	20 01 02.6	-0.7
	baz=358						
WFSB	**Wu-fen Shan**	**0.78**	**358**	*e*S	Pb	20 00 50.3	-0.7
	baz=358						
WHP	**Taichung City**	**0.78**	**269**	*e*S	Sn	20 01 03.1	-0.4
	baz=269						
LIOB	**Emei**	**0.80**	**296**	*e*P	Pg	20 00 51.7	+0.1
	baz=296						
LIOB				*e*S	Sn	20 01 04.0	+0.2
	baz=296						
LIOB	**Emei**	**0.80**	**296**	*e*S	Pg	20 00 51.6	0.0
	baz=296						
NSTT	**Nanjuang**	**0.81**	**295**	*e*P	Pg	20 00 51.9	+0.2
	baz=295						
NSTT				*e*S	Sn	20 01 04.1	+0.2
	baz=295						
WPL	**Puli Township**	**0.82**	**250**	*e*S	Sn	20 01 03.7	-0.6
	baz=250						
DPDB	**Guoxing**	**0.84**	**253**	*e*P	Pg	20 00 52.5	+0.1
	baz=252						
HGSD	**Ruisui**	**0.87**	**204**	*e*P	Pn	20 00 53.5	+0.2
	baz=203						
HGSD				*e*S	Sn	20 01 06.3	+0.9
	baz=203						
YM01	**YM01**	**0.88**	**346**	*e*P	Pn	20 00 54.0	+0.5
	baz=346						
YM01				*e*S	Sn	20 01 06.5	+0.6
	baz=346						
SSLB	**Suanglung**	**0.92**	**237**	*e*S	Pg	20 00 53.8	-0.2
	baz=237						
SSLB	**Suanglung**	**0.92**	**237**	*e*P	Pg	20 00 53.8	-0.2
	baz=237						
SSLB				*e*S	Sn	20 01 07.2	+0.3
	baz=237						
YULB	**Yu-li**	**1.01**	**208**	*e*P	Pn	20 00 55.1	-0.1
	baz=207						
YULB				*e*S	Sn	20 01 09.2	+0.2
	baz=207						

*NEIC **15** 20:01:35.0±2.7, 32°.60S±0°.04×178°.0W±0°.2, h10km±1km, mb4.6/8, Error ellipse: s-maj=23.2km s-min=3.2km az=102.0*
*IDC **15** 20:01:34.1±0.9, 32°.70S×178°.22W, h0km, mb4.6/6, mb1 4.7/8, mb1mx4.2/43, mbtmp4.6/8, ML4.4/2, Error ellipse: s-maj=29.1km s-min=24.2km az=125.0*
*WEL **15** 20:01:36.8±0.9, 33°.5S±9°.×17°.8W±2°.3, h33km, M4.7/12, mB4.9/6, ML5.4/13, MLv5.1/12, Mw(mB)4.2/6, Error ellipse: s-maj=0.0km s-min=0.0km az=109.8*

ISC 15 20:01:34.1±0.7, 32°.81S±0°.06×178°.0W±0°.1, h10km, n66, σ1°.50/82, mb4.6/8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.54**	**1**	P	**Pn**	**20 02 28.4**	**-0.7**
GLKZ				S	**Sn**	**20 03 09.9**	**-1.1**
RAO	**Raoul Island**	**3.55**	**1**	Pn	**Pn**	**20 02 28.9**	**-0.4**
	63nm,0.3s,baz=73,slow=19,SNR=1.9						
RAO				Sn	**Sn**	**20 03 08.0**	**-3.2**
	140nm,0.3s,baz=270,slow=20,SNR=2.3						
RAO	**Raoul Island**	**3.55**	**1**	Pn	**Pn**	**20 02 25.8**	**-3.4**
RAO	**Raoul Island**	**3.55**	**1**	P	**Pn**	**20 02 27.1**	**-2.2**
MXZ	**Matakaoa Point**	**5.64**	**212**	Pn	**Pn**	**20 02 58.7**	**+0.8**
MXZ	**Matakaoa Point**	**5.64**	**212**	P	**Pn**	**20 02 57.4**	**-0.6**
MXZ				S	**Sn**	**20 04 01.2**	**-1.6**
PKGZ	**Pakihiroa**	**6.01**	**211**	P	**Pn**	**20 03 02.5**	**-0.6**
PKGZ				S	**Sn**	**20 04 12.0**	**0.0**
HAZ	**Te Kaha**	**6.04**	**214**	P	**Pn**	**20 03 02.9**	**-0.5**
HAZ				S	**Sn**	**20 04 13.7**	**+1.2**
PUZ	**Puketiti**	**6.09**	**209**	P	**Pn**	**20 03 03.9**	**-0.2**
PUZ				S	**Sn**	**20 04 13.7**	**-0.1**
RUGZ	**Raukumara Rang**	**6.25**	**213**	P	**Pn**	**20 03 06.2**	**-0.3**
RUGZ				S	**Sn**	**20 04 16.4**	**-1.7**
TWGZ	**Tauwhareparae**	**6.29**	**211**	P	**Pn**	**20 03 05.7**	**-1.2**
TWGZ				S	**Sn**	**20 04 17.6**	**-1.4**
CNGZ	**Carnagh Statio**	**6.46**	**208**	P	**Pn**	**20 03 08.6**	**-0.6**
MWZ	**Matawai**	**6.62**	**212**	P	**Pn**	**20 03 12.2**	**+0.7**
MWZ				S	**Sn**	**20 04 25.8**	**-1.3**
URZ	**Urewera**	**6.76**	**215**	Pn	**Pn**	**20 03 13.2**	**-0.1**
	4.9nm,0.3s,baz=108,slow=21,SNR=15						
URZ				Sn	**Sn**	**20 04 27.4**	**-2.8**
	18nm,0.3s,baz=16,slow=23,SNR=16						
URZ	**Urewera**	**6.76**	**215**		**Pn**	**20 03 13.1**	**-0.2**
URZ	**Urewera**	**6.76**	**215**	P	**Pn**	**20 03 13.6**	**+0.3**
URZ				S	**Sn**	**20 04 27.3**	**-2.9**
RIGZ	**Rimuhau**	**6.83**	**209**	P	**Pn**	**20 03 15.1**	**+0.8**
RIGZ				S	**Sn**	**20 04 30.3**	**-1.9**
PRGZ	**Paritu Road**	**6.97**	**208**	P	**Pn**	**20 03 15.3**	**-0.9**
PRGZ				S	**Sn**	**20 04 32.9**	**-2.6**
SNGZ	**Shannon Statio**	**7.07**	**211**	P	**Pn**	**20 03 19.0**	**+1.3**
SNGZ				S	**Sn**	**20 04 36.9**	**-1.2**
MUGZ	**Murupara**	**7.09**	**216**	P	**Pn**	**20 03 19.0**	**+1.0**
MUGZ				S	**Sn**	**20 04 36.2**	**-2.4**
RTZ	**Ruatahuna**	**7.10**	**214**	P	**Pn**	**20 03 18.4**	**+0.3**
RTZ				S	**Sn**	**20 04 36.7**	**-2.2**
OUZ	**Omahuta**	**7.41**	**249**		**Pn**	**20 03 24.7**	**+2.5**
BKZ	**Black Stump Fm**	**7.77**	**214**		**Pn**	**20 03 26.6**	**-0.7**
HIZ	**Hauiti**	**8.15**	**224**	Pn	**Pn**	**20 03 36.0**	**+3.5**
MSWZ	**Moikau Station**	**10.15**	**210**	Pn	**Pn**	**20 04 00.2**	**+0.3**
PLWZ	**Palliser**	**10.28**	**210**	Pn	**Pn**	**20 04 01.6**	**-0.1**
SNZO	**South Karori**	**10.30**	**213**	Pn	**Pn**	**20 04 01.5**	**-0.5**
BHW	**Baring Head**	**10.31**	**212**	Pn	**Pn**	**20 04 02.9**	**+0.9**
TUWZ	**Tuamarina**	**10.75**	**215**	Pn	**Pn**	**20 04 08.8**	**+0.7**
NNZ	**Nelson**	**10.87**	**217**	Pn	**Pn**	**20 04 07.0**	**-2.7**
CMWZ	**Cape Campbell**	**10.88**	**213**		**Pn**	**20 04 05.7**	**-4.1**
QRZ	**Quartz Range**	**11.04**	**221**		Pn	20 04 07.1	-4.9
THZ	**Tophouse**	**11.51**	**217**	Pn	**Pn**	**20 04 17.1**	**-1.4**
KHZ	**Kahutara**	**11.71**	**213**	Pn	**Pn**	**20 04 19.4**	**-1.7**
DZM	**Mont Dzumac**	**17.47**	**304**	P	**P**	**20 05 39.1**	**-0.1**
	0.2nm,0.3s,baz=144,slow=17,SNR=1.3						
DZM	**Mont Dzumac**	**17.47**	**304**	IAmb	IAmb	20 06 10.1	
	comp=Z,64nm,1.6s						
CTA	**Charters Tower**	**34.28**	**283**	P	**P**	**20 08 21.0**	**+0.3**
	comp=Z,10nm,0.5s,baz=118,slow=10,SNR=24						
AS31	**Alice Springs**	**43.06**	**269**	P	**P**	**20 09 33.9**	**-0.5**
ASAR	**Alice Springs**	**43.06**	**269**	P	**P**	**20 09 34.1**	**-0.3**
	comp=Z,6.8nm,0.7s,baz=110,slow=7.7,SNR=104						
ASAR				PcP	**PcP**	**20 11 24.8**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=131,slow=4.4,SNR=1.3						
ASAR	**Alice Springs**	**43.06**	**269**	P	**P**	**20 09 33.5**	**-0.9**
WR0	**Warramunga Arr**	**44.09**	**275**		**P**	**20 09 42.1**	**-0.5**
WR0				IAmb	IAmb	20 10 12.9	
	comp=Z,5.5nm,0.8s						
WB2	**Warramunga Arr**	**44.26**	**275**		**P**	**20 09 43.8**	**-0.2**
WRAB	**Tennant Creek**	**44.26**	**275**	P	**P**	**20 09 43.7**	**-0.3**
WRAB				IAmb	IAmb	20 09 59.9	
	comp=Z,11nm,0.7s						
WRA	**Warramunga Arr**	**44.27**	**275**	P	**P**	**20 09 43.8**	**-0.3**
	comp=Z,5.6nm,0.4s,baz=115,slow=8.0,SNR=148						
WRA	**Warramunga Arr**	**44.27**	**275**	P	**P**	**20 09 42.7**	**-1.4**
FITZ	**Fitzroy Crossi**	**52.42**	**272**	P	**P**	**20 10 46.5**	**-0.6**
	comp=Z,4.5nm,0.8s,baz=137,slow=5.3,SNR=20						
FITZ	**Fitzroy Crossi**	**52.42**	**272**		**P**	**20 10 46.7**	**-0.4**
FITZ				IAmb	IAmb	20 10 47.8	
	comp=Z,6.8nm,0.9s						
QSPA	**South Pole Qui**	**57.31**	**180**	P	**P**	**20 11 24.7**	**+2.8**
	comp=Z,3.2nm,1.1s,baz=303,slow=1.3,SNR=5.3						
QSPA	**South Pole Qui**	**57.31**	**180**	P	**P**	**20 11 25.5**	**+3.5**
PETK	**Petropavlovsk-**	**88.15**	**346**	P	**P**	**20 14 24.6**	**0.0**
	comp=Z,3.4nm,0.9s,baz=142,slow=7.4,SNR=6.6						
MKAR	**Makanchi Array**	**119.33**	**309**	PKP	**PKiKP**	**20 20 23.6**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=84,slow=2.7,SNR=6.4						
KURK	**Kurchatov**	**122.72**	**313**		**PKiKP**	**20 20 30.8**	**+0.9**
KURBB	**Kurchatov Arra**	**122.75**	**313**	PKP	**PKiKP**	**20 20 30.8**	**+0.8**
	comp=Z,1.2nm,0.2s,baz=103,slow=2.0,SNR=12						
BVAR	**Borovoye Array**	**128.13**	**314**	PKP	**PKiKP**	**20 20 41.1**	**+0.5**
	comp=Z,1.9nm,0.9s,baz=191,slow=5.9,SNR=6.7						
KBZ	**Khabaz**	**146.43**	**301**	PKPbc	**PKPab**	**20 21 16.5**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=132,slow=5.4,SNR=5.5						
FINES	**FINESS Array B**	**147.41**	**339**	PKPbc	**PKPab**	**20 21 18.8**	**-0.5**
	comp=Z,9.2nm,0.7s,baz=47,slow=4.6,SNR=34						
FINES	**FINESS Array B**	**147.41**	**339**		**PKPbc**	**20 21 18.0**	**+0.7**
NB2	**NORSAR Subarra**	**151.13**	**351**	PKPdf	**PKiKP**	**20 21 28.1**	**+0.7**
	comp=Z,17nm,2.0s,baz=23,slow=1.9						
NB2	**NORSAR Subarra**	**151.13**	**351**	PKPdf	**PKiKP**	**20 21 28.1**	**+0.7**
	baz=23,slow=1.9						
NOA	**NORSAR Array B**	**151.13**	**351**	PKPbc	**PKiKP**	**20 21 29.1**	**+1.8**
	comp=Z,0.4nm,0.6s,baz=14,slow=4.1,SNR=2.5						
AKASG	**Malin Array Be**	**153.20**	**320**	PKPbc	**PKiKP**	**20 21 32.6**	**+0.8**
	comp=Z,1.7nm,0.7s,baz=61,slow=2.5,SNR=6.3						
AKASG	**Malin Array Be**	**153.20**	**320**		**PKPbc**	**20 21 31.3**	**-0.4**
BRTR	**Keskin Array B**	**153.69**	**294**	PKPbc	**PKPbc**	**20 21 33.4**	**0.0**
	comp=Z,1.0nm,0.8s,baz=225,slow=1.6,SNR=5.9						
BRTR	**Keskin Array B**	**153.69**	**294**	PKPdf	**PKPdf**	**20 21 25.6**	**0.0**
BRTR					**PKiKP**	**20 21 34.1**	**+0.6**
KOLS	**Kolonicke sedl**	**157.89**	**323**	*e*PKP	**PKPab**	**20 22 01.0**	**-2.7**
CLL	**Collm**	**159.84**	**340**	*e*PKPab	**PKPab**	**20 22 13.0**	**+1.0**

*JMA **15** 20:03:05.7±0.1, 24°.08N×121°.77E, h0km, M3.5*
*TAP **15** 20:03:06.2, 24°.10N×121°.79E, h8km, ML3.9, C*

ISC 15 20:03:06.7±0.9, 24°.11N±0°.01×121°.81E±0°.02, h10km±6km, n149, σ0°.85/261, 5C-20D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.18**	**287**	⇓*i*P	**Pg**	**20 03 10.2**	**-0.4**
	baz=290						
ETL				S	**Sg**	**20 03 13.2**	**-0.1**
	baz=290						
TWD	**Chiawan**	**0.20**	**263**	⇓*i*P	**Pg**	**20 03 10.6**	**-0.3**
	baz=276						
TWD				S	**Sg**	**20 03 13.7**	**-0.1**
	baz=276						
NACB	**Ninganchiao**	**0.21**	**289**	⇓*i*P	**Pg**	**20 03 10.7**	**-0.5**
	baz=293						
NACB				S	**Sg**	**20 03 13.8**	**-0.3**
	baz=293						
EHP	**Heping Village**	**0.21**	**342**	P	**Pg**	**20 03 11.1**	**-0.2**
	baz=349						
EHP				*e*S	**Sg**	**20 03 15.7**	**+1.4**
	baz=349						
HWA	**Hwalien**	**0.23**	**236**	P	**Pg**	**20 03 12.1**	**+0.6**
	baz=244						
HWA				S	**Sg**	**20 03 17.6**	**+3.0**
	baz=244						
TEYL	**Yanliau Villag**	**0.31**	**220**	*e*P	**Pg**	**20 03 13.6**	**+0.7**
	baz=236						
TEYL				*e*S	**Sg**	**20 03 17.9**	**+0.9**
	baz=236						
ETLH	**Xiulin Townshi**	**0.32**	**289**	⇓*i*P	**Pg**	**20 03 12.8**	**-0.4**
	baz=286						
ETLH				S	**Sg**	**20 03 17.8**	**+0.3**
	baz=286						
ETM	**Tongmen**	**0.32**	**245**	P	**Pg**	**20 03 13.1**	**-0.1**
	baz=253						
ETM				*e*S	**Sg**	**20 03 17.2**	**-0.4**
	baz=253						
ENA	**Nanau**	**0.33**	**349**	⇓*i*P	**Pg**	**20 03 13.3**	**0.0**
	baz=352						
ENA				*e*S	**Sg**	**20 03 18.2**	**+0.5**
	baz=352						
EWUT	**Wuta**	**0.34**	**355**	⇓P	**Pg**	**20 03 13.7**	**+0.1**
	baz=357						
EWUT				S	**Sb**	**20 03 18.9**	**-1.5**
	baz=357						
ESL	**Shilin**	**0.45**	**230**	⇑*i*P	**Pg**	**20 03 15.5**	**-0.1**
	baz=239						
ESL				*e*S	**Sb**	**20 03 23.4**	**-0.3**
	baz=239						
TEGC	**Jichi Village**	**0.47**	**212**	P	**Pb**	**20 03 16.8**	**-0.3**
	baz=211						
TEGC				*e*S	**Sb**	**20 03 25.1**	**+1.1**
	baz=211						
WHF	**Hehuan Shan**	**0.50**	**275**	*e*P	**Pg**	**20 03 16.2**	**-0.4**
	baz=277						
WHF				*e*S	**Sb**	**20 03 24.5**	**-1.0**
	baz=277						
TWC	**Suao**	**0.50**	**4**	⇓*i*P	**Pg**	**20 03 16.7**	**+0.2**
	baz=359						
TWC				*e*S	**Sb**	**20 03 24.6**	**-0.6**
	baz=359						
NNSB	**Datong**	**0.51**	**309**	⇓*i*P	**Pg**	**20 03 16.4**	**-0.2**
	baz=312						
NNSB				S	**Sg**	**20 03 23.6**	**+0.2**
	baz=312						
NNS	**Nan Shan**	**0.52**	**310**	⇓*i*P	**Pg**	**20 03 16.7**	**-0.3**
	baz=313						
NNS				*e*S	**Sg**	**20 03 22.2**	**-1.7**
	baz=313						
NDS	**Dongshan**	**0.53**	**350**	⇓*i*P	**Pg**	**20 03 17.3**	**+0.1**
	baz=350						
NDS				*e*S	**Sg**	**20 03 24.6**	**+0.4**
	baz=350						
FUSS	**Fushou**	**0.54**	**285**	⇓*i*P	**Pg**	**20 03 17.1**	**-0.2**
	baz=288						
FUSS				*e*S	**Sg**	**20 03 24.9**	**+0.4**
	baz=288						
EGFH	**Guangfu**	**0.56**	**219**	*i* P	**Pg**	**20 03 17.8**	**+0.2**
	baz=232						
EGFH				*e*S	**Sb**	**20 03 26.3**	**-0.4**
	baz=232						
NDT	**Datong Townshi**	**0.57**	**331**	⇓*i*P	**Pg**	**20 03 17.9**	**+0.1**
	baz=332						
NDT				*e*S	**Sb**	**20 03 26.8**	**-0.1**
	baz=332						
ENTT	**Nioudou**	**0.58**	**337**	⇓*i*P	**Pg**	**20 03 18.1**	**+0.1**
	baz=338						
ENTT				*e*S	**Sb**	**20 03 26.7**	**-0.6**
	baz=338						
CHGB	**Renai**	**0.58**	**266**	⇓*i*P	**Pg**	**20 03 18.0**	**-0.2**
	baz=268						
CHGB				*e*S	**Sg**	**20 03 25.2**	**-0.7**
	baz=268						
TWT	**Tachien**	**0.60**	**284**	⇓P	**Pg**	**20 03 18.6**	**+0.2**
	baz=285						
TWT				*e*S	**Sb**	**20 03 27.2**	**-0.9**
	baz=285						
OWD	**Renai**	**0.60**	**256**	⇓*i*P	**Pg**	**20 03 18.2**	**-0.2**
	baz=267						
OWD				*e*S	**Sg**	**20 03 26.8**	**+0.4**
	baz=267						
TDCB	**Techi**	**0.62**	**284**	⇓*i*P	**Pg**	**20 03 18.7**	**0.0**
	baz=285						
TDCB				*e*S	**Sg**	**20 03 26.6**	**-0.2**
	baz=285						
TWE	**Neicheng**	**0.63**	**348**	⇓*i*P	**Pg**	**20 03 19.1**	**+0.1**
	baz=350						
TWE				*e*S	**Sb**	**20 03 28.7**	**0.0**
	baz=350						
ILA	**Ilan**	**0.66**	**355**	*e*P	**Pb**	**20 03 19.9**	**-0.5**
	baz=349						
ILA				*e*S	**Sb**	**20 03 30.6**	**+1.0**
	baz=349						
NSK	**Sanguang**	**0.70**	**324**	⇓P	**Pg**	**20 03 20.5**	**+0.1**
	baz=326						
NSK				*e*S	**Sb**	**20 03 30.3**	**-0.7**
	baz=326						
HGSD	**Ruisui**	**0.71**	**210**	*e*P	**Pg**	**20 03 21.0**	**+0.6**
	baz=197						
HGSD				*e*S	**Sn**	**20 03 33.2**	**-0.6**
	baz=197						
NWLT	**Wulai**	**0.73**	**337**	⇓P	**Pb**	**20 03 21.0**	**-0.6**

Code	Station	baz	Δ°	AZ°	Op	ISC	Time	Res
YULB		baz=227			eS	Sb	20 03 35.9	+0.7
TIPB	Shuangxi	baz=360	0.86	1	P	Pb	20 03 23.8	0.0
TIPB		baz=360			S	Sb	20 03 35.9	+0.4
SMLT	Sun Moon Lake	baz=256	0.86	255	⇑iP	Pg	20 03 23.3	-0.1
SMLT		baz=256			eS	Sb	20 03 35.5	-0.1
EYUL	Yuli	baz=230	0.88	211	eP	Pb	20 03 24.3	+0.2
EYUL		baz=230			eS	Sn	20 03 37.9	-0.2
TWF1	Yuli	baz=221	0.89	212	P	Pg	20 03 24.1	+0.2
NHDH	Xindian Distri	baz=343	0.89	343	eP	Pb	20 03 24.4	0.0
NHDH		baz=343			eS	Sg	20 03 35.1	-0.5
TWA	Mucha	baz=346	0.90	347	eP	Pb	20 03 24.4	-0.1
TWA		baz=346			eS	Sb	20 03 36.8	+0.4
TYC	Yuchr	baz=259	0.90	257	eP	Pg	20 03 23.5	-0.5
TYC		baz=259			eS	Sg	20 03 34.8	-0.9
LIOB	Emei	baz=308	0.90	307	eP	Pb	20 03 24.6	0.0
LIOB		baz=308			eS	Sb	20 03 36.9	+0.2
NSTT	Nanjuang	baz=307	0.91	305	P	Pb	20 03 24.4	-0.2
NSTT		baz=307			eS	Sb	20 03 36.8	0.0
NJD	Zhudong	baz=315	0.91	314	eP	Pn	20 03 25.1	-0.6
NJD		baz=315			eS	Sn	20 03 37.6	-1.3
TWB1	Santiao Chiao		0.91	10	eP	Pb	20 03 24.6	-0.1
TWB1					eS	Sn	20 03 38.4	-0.5
TATO	Taipei	baz=343	0.92	341	P	Pb	20 03 24.9	+0.2
BACT	New Taipei Cit	baz=339	0.95	339	eP	Pn	20 03 26.1	-0.1
BACT		baz=339			eS	Sg	20 03 37.2	-0.2
NHY	Taipei	baz=346	0.96	347	eP	Pn	20 03 26.3	+0.1
NHY		baz=346			eS	Sb	20 03 38.1	0.0
NWF	Wu-fen Shan	baz=349	0.96	358	eP	Pn	20 03 25.9	-0.6
NWF		baz=349			eS	Sn	20 03 38.9	-1.4
WFSB	Wu-fen Shan	baz=359	0.96	358	P	Pn	20 03 26.1	-0.3
WHYT	Xinyi Township	baz=255	0.97	245	eP	Pg	20 03 25.5	+0.1
WHYT		baz=255			eS	Sb	20 03 39.3	+0.7
TAP	Taipei	baz=343	0.97	343	eP	Pb	20 03 25.7	0.0
TAP		baz=343			eS	Sb	20 03 38.9	+0.3
TWQ1	Liyutan	baz=298	0.98	285	eP	Pn	20 03 26.3	-0.3
TWQ1		baz=298			eS	Sb	20 03 39.1	+0.2
HSN1	Hsinchu	baz=314	0.99	313	eP	Pb	20 03 25.8	-0.2
HSN1		baz=314			eS	Sg	20 03 38.4	-0.2
NTY	Taoyuan	baz=326	1.01	332	eP	Pn	20 03 27.1	+0.2
NTY		baz=326			eS	Sg	20 03 38.3	-0.9
NSY	Sanyi	baz=291	1.01	288	P	Pn	20 03 27.3	+0.2
NSY		baz=291			eS	Sn	20 03 41.4	+0.1
SBCB	Hsinchu	baz=314	1.02	312	P	Pn	20 03 27.8	+0.6
SBCB		baz=314			eS	Sn	20 03 40.5	-1.0
FULB	Fuli	baz=227	1.02	208	eP	Pg	20 03 25.6	-0.8
FULB		baz=227			eS	Sn	20 03 42.2	+0.7
WWF	Wufeng	baz=262	1.02	267	eP	Pb	20 03 26.5	-0.1
WWF		baz=262			eS	Sg	20 03 39.3	-0.4
NMLH	Miaoli	baz=297	1.03	295	eP	Pn	20 03 27.4	+0.1
NMLH		baz=297			eS	Sn	20 03 41.8	+0.1
NCUH	Zhongli	baz=327	1.03	326	eP	Pn	20 03 27.5	+0.2
NCUH		baz=327			eS	Sn	20 03 43.1	+1.2
WJS	Zhushan	baz=256	1.03	254	eP	Pn	20 03 27.3	0.0
WJS		baz=256			eS	Sn	20 03 42.4	+0.6
NCU	National Centr	baz=328	1.03	327	eP	Pn	20 03 27.2	-0.1
NCU		baz=328			eS	Sn	20 03 42.8	+1.0
NJN	Zhunan	baz=306	1.03	304	eP	Pb	20 03 26.6	-0.2
NJN		baz=306			eS	Sg	20 03 39.6	-0.6
HSN	Hsinchu	baz=316	1.04	312	P	Pn	20 03 28.0	+0.7
HSN		baz=316			eS	Sn	20 03 42.1	+0.2
TCU	Taichung	baz=267	1.04	273	P	Pn	20 03 27.5	+0.1
TCU		baz=267			S	Sn	20 03 43.5	+1.5
TNOU	National Taiwa	baz=349	1.04	358	eP	Pn	20 03 27.1	-0.3
TNOU		baz=349			eS	Sn	20 03 42.5	+0.4
TWS1	Kuangyinshan	baz=340	1.05	340	eP	Pn	20 03 27.3	-0.4
TWS1		baz=340			eS	Sn	20 03 41.9	-0.5
WNT1	Nantou City	baz=261	1.05	259	P	Pn	20 03 27.6	0.0
WNT1		baz=261			eS	Sn	20 03 42.5	+0.1
WNT	Mingjian	baz=259	1.06	258	⇑iP	Pn	20 03 27.6	0.0
WNT		baz=259			eS	Sn	20 03 43.1	+0.7
YM01	YM01	baz=347	1.06	348	P	Pn	20 03 27.2	-0.6
YM01		baz=347			eS	Sn	20 03 42.2	-0.4
CHKT	Chengkung	baz=203	1.08	202	eP	Pb	20 03 26.2	-1.4
CHKT		baz=203			eS	Sn	20 03 44.0	+0.9
JYNG	Yonagunijimaku		1.09	71	P	Pn	20 03 28.0	-0.1
JYNG					S	Sn	20 03 42.5	-0.7
ALS	Alishan	baz=227	1.10	238	iP	Pg	20 03 27.5	-0.4
ALS		baz=227			eS	Sg	20 03 42.4	+0.2
WDJ	Dajia District	baz=295	1.10	283	eP	Pn	20 03 28.8	+0.6
WDJ		baz=295			eS	Sn	20 03 43.8	+0.4
YM08	YM08	baz=337	1.10	349	P	Pn	20 03 27.9	-0.4
NTST	Danshui	baz=342	1.10	343	P	Pn	20 03 28.2	-0.1
NTST		baz=342			eS	Sn	20 03 45.2	+1.6
ANP	Anpu	baz=349	1.11	346	eP	Pn	20 03 28.9	+0.4
WYL	Yuanlin Townsh	baz=265	1.14	263	eP	Pg	20 03 29.4	+0.8
WYL		baz=265			eS	Sn	20 03 45.1	+0.7

Code	Station	baz	Δ°	AZ°	Op	ISC	Time	Res
WCHH	Zhanghua	baz=271	1.15	269	eP	Pg	20 03 29.0	+0.2
WCHH		baz=271			eS	Sn	20 03 46.4	+1.7
YOJ	Yonaguni jima		1.15	72	P	Pg	20 03 28.9	+0.1
YOJ					S	Sn	20 03 45.8	+1.1
YOJ	Yonaguni jima	baz=69	1.15	72	P	Pg	20 03 28.9	+0.1
YOJ		baz=69			eS	Sn	20 03 45.8	+1.1
CHN5	Tsauling	baz=231	1.16	244	eP	Pg	20 03 29.1	+0.1
CHN5		baz=231			eS	Sn	20 03 46.4	+1.4
ELDTW	Lidau	baz=207	1.17	219	eP	Pb	20 03 26.9	-2.2
ELDTW		baz=207			eS	Sb	20 03 42.1	-2.2
TWY	Chenhua	baz=341	1.18	351	eP	Pg	20 03 30.3	+0.8
TWY		baz=341			eS	Sn	20 03 45.6	+0.1
EDH	Donghe	baz=188	1.22	203	P	Pn	20 03 28.8	-1.1
EDH		baz=188			eS	Sn	20 03 46.8	+0.4
WDLH	Douliu	baz=253	1.24	251	eP	Pb	20 03 30.2	0.0
WDLH		baz=253			eS	Sn	20 03 49.7	+2.8
WRL	Guolierlin Hig	baz=263	1.33	262	eP	Pb	20 03 31.8	0.0
WRL		baz=263			eS	Sg	20 03 50.8	+1.3
STYH	Taoyuan	baz=214	1.33	226	eP	Pn	20 03 31.1	-0.3
STYH		baz=214			eS	Sg	20 03 49.7	+0.1
LONT	Longtian	baz=211	1.35	208	eP	Pn	20 03 30.0	-1.7
LONT		baz=211			eS	Sn	20 03 50.1	+0.5
STYT	Tauyuan	baz=214	1.35	226	P	Pn	20 03 31.4	-0.3
STYT		baz=214			eS	Sg	20 03 51.5	+1.3
TPUB	Ta-pu	baz=236	1.35	234	eP	Pn	20 03 31.8	+0.1
TPUB		baz=236			eS	Sg	20 03 50.7	+0.6
WTK	Tuku	baz=255	1.37	253	eP	Pb	20 03 32.3	-0.1
WTK		baz=255			eS	Sg	20 03 51.2	+0.4
WTP	Ta-pu	baz=234	1.39	232	eP	Pn	20 03 32.5	+0.2
WTP		baz=234			S	Sg	20 03 51.7	+0.1
CHY	Chiayi	baz=247	1.41	245	eP	Pb	20 03 33.1	-0.1
CHY		baz=247			eS	Sg	20 03 54.5	+2.4
TWGBT	Beinan	baz=211	1.45	208	eP	Pn	20 03 30.3	-2.8
TWGBT		baz=211			eS	Sn	20 03 49.9	-2.2
TWG	Pinlang	baz=211	1.45	208	eP	Pn	20 03 30.7	-2.3
TWG		baz=211			eS	Sn	20 03 50.5	-1.7
LDUT	Ludao	baz=178	1.46	193	eP	Pn	20 03 30.4	-2.8
TWK	Hsinying	baz=223	1.47	236	P	Pb	20 03 34.0	-0.3
TWK		baz=223			eS	Sg	20 03 54.8	+0.6
CHN1	Nanshi	baz=234	1.49	232	P	Pb	20 03 34.3	-0.3
CHN1		baz=234			eS	Sg	20 03 56.6	+1.8
SNST	Tainan City	baz=236	1.49	234	P	Pb	20 03 34.4	-0.2
SNST		baz=236			eS	Sg	20 03 56.2	+1.4
SGST	Jiashian	baz=230	1.52	228	eP	Pn	20 03 33.9	-0.1
SGST		baz=230			eS	Sg	20 03 56.9	+1.2
WSF	Szhu	baz=255	1.53	253	P	Pb	20 03 35.1	-0.1
WSF		baz=255			eS	Sg	20 03 55.9	-0.1
PCYT	Pengchaiyu	baz=8.0	1.54	9	eP	Pb	20 03 34.9	-0.4
SLGT	Liugui	baz=227	1.54	224	eP	Pn	20 03 34.6	+0.3
SLGT		baz=227			eS	Sb	20 03 55.6	+0.7
ICHU	Yijhu	baz=244	1.59	243	P	Pb	20 03 35.8	-0.4
ICHU		baz=244			eS	Sg	20 03 59.8	+1.9
CHN8	Yiju	baz=239	1.65	243	eP	Pn	20 03 35.8	0.0
ECL	Taimali	baz=211	1.70	208	eP	Pn	20 03 35.7	-0.7
ECL		baz=211			eS	Sn	20 03 58.8	+0.6
SCST	Cishan	baz=222	1.71	225	eP	Pb	20 03 37.9	-0.5
SSD	Sandimen	baz=217	1.73	219	eP	Pn	20 03 36.7	-0.2
TSMG	Majia	baz=206	1.76	218	eP	Pb	20 03 38.4	-0.8
IRIF	Iriomote-Funau		1.77	82	P	Pn	20 03 37.5	+0.1
IRIF					eS	Sb	20 04 01.6	+0.1
HATJ	Hateruma jima		1.82	91	P	Pn	20 03 38.2	0.0
HATJ					eS	Sb	20 04 02.6	-0.5
MASBT	Mashibuluo	baz=215	1.84	216	eP	Pn	20 03 38.1	-0.3
EAST	Anshuo	baz=206	1.93	208	eP	Pn	20 03 40.3	+0.6
TAW	Tawu	baz=205	1.93	206	eP	Pb	20 03 41.5	-0.6
SSPT	Xinbi	baz=214	1.98	216	eP	Pb	20 03 42.2	-0.7
JKRS	Kuro-shima		2.01	86	P	Pn	20 03 41.1	+0.3
JKRS					eS	Sb	20 04 08.5	0.0
SCZT	Fangliau	baz=197	2.04	213	eP	Pn	20 03 42.4	+1.2
LAY	Lan-yu	baz=187	2.07	187	eP	Pn	20 03 38.8	-2.8
SLIU	Shizi	baz=205	2.10	207	eP	Pn	20 03 42.9	+0.9
PHUB	P'eng-hu	baz=249	2.13	254	eP	Pn	20 03 42.4	-0.1
PNG	Penghu	baz=251	2.14	256	eP	Pn	20 03 42.5	+0.1
JIJ	Ishigaki jima		2.14	83	P	Pn	20 03 42.4	-0.2
JIJ					eS	Sn	20 04 09.6	+0.3
WDGT	Dungji	baz=242	2.15	247	eP	Pn	20 03 42.5	-0.1
WLCH	Liuqiu	baz=216	2.19	217	eP	Pb	20 03 45.6	-0.8
HEN	Hengchun	baz=194	2.31	206	eP	Pn	20 03 46.1	+1.2
VWUC	VWUC	baz=301	2.33	293	eP	Pn	20 03 44.1	-1.0
JISG	Ishigakijimahi		2.33	78	P	Pn	20 03 44.9	-0.2
JISG					eS	Sn	20 04 13.2	-0.6
TWK1	Hengchun	baz=192	2.34	204	eP	Pn	20 03 46.3	+0.9
TWKBT	Hengchun	baz=192	2.34	203	eP	Pn	20 03 45.8	+0.5
VCHM	Qimei	baz=243	2.36	248	eP	Pn	20 03 45.6	0.0
PTMZ	Houxiangcun	baz=300	2.62	291	eP	Pn	20 03 48.4	-0.8
JTJ	Tarama		2.69	78	P	Pb	20 03 52.7	-2.3
JTJ					eS	Sn	20 04 24.3	+1.6
LYJJ	Jianjiangzhen	baz=327	3.06	323	eP	Pn	20 03 54.4	-0.9
JIRB	Irabujima		3.15	76	P	Pn	20 03 57.4	+1.0
JIRB					eS	Sn	20 04 35.0	+1.0
KNMB	Chin-men Tao	baz=273	3.15	277	eP	Pn	20 03 55.3	-1.1
XPSS	Dashiqiu	baz=335	3.17	333	eP	Pn	20 03 55.8	-0.9

Code	Station	baz	Δ°	AZ°	Op	ISC	Time	Res
JIKM	Ikemajima		3.23	75	P	Pn	20 03 59.2	+1.6
JIKM					eS	Sn	20 04 37.4	+1.2
JMJ2	Miyako jima3		3.27	78	eS	Sn	20 04 38.9	+1.9
JOGS	Gusukube		3.34	78	eS	Sn	20 04 41.0	+2.2
AXDP	Jialang	baz=280	3.59	284	eP	Pn	20 04 03.8	+1.3
ZPLA	Ao Xicun	baz=264	3.72	268	eP	Pn	20 04 03.6	-0.6

*JMA **15** 20:06:38.2±0.1, 24.19N × 121.78E, h22km±2km*
*TAP **15** 20:06:38.4, 24.25N × 121.80E, h18km, ML2.9, B*
ISC 15 20:06:38.2±3.0, 24.23N±0.02 × 121.82E±0.02, h17km±22km, n98, σ1.01/177, Taiwan

Code	Station Name	baz	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	Heping Village	baz=319	0.11	316	P	Pb	20 06 42.0	+0.1
EHP		baz=319			eS	Sb	20 06 44.9	+0.5
ETL	Fush Village	baz=245	0.20	249	P	Pb	20 06 43.3	-0.1
ETL		baz=245			S	Sb	20 06 47.3	+0.4
ENA	Nanau	baz=342	0.21	339	iP	Pb	20 06 43.3	-0.4
ENA		baz=342			iS	Sb	20 06 46.8	-0.5
EWUT	Wuta	baz=350	0.22	349	P	Pb	20 06 43.5	-0.3
EWUT		baz=350			S	Sb	20 06 47.0	-0.4
NACB	Ninganchiao	baz=252	0.22	255	P	Pb	20 06 43.4	-0.4
NACB		baz=252			S	Sb	20 06 47.3	-0.2
TWD	Chiawan	baz=234	0.26	234	P	Pb	20 06 44.3	-0.2
TWD		baz=234			S	Sb	20 06 48.7	+0.1
ETLH	Xiulin Townshi	baz=263	0.31	266	P	Pb	20 06 45.0	-0.4
ETLH		baz=263			S	Sb	20 06 49.8	-0.5
HWA	Hwalien	baz=223	0.32	218	P	Pn	20 06 46.5	-1.6
HWA		baz=223			S	Sn	20 06 52.9	-1.6
TWC	Suao	baz=2.0	0.38	3	P	Pb	20 06 46.2	-0.3
TWC		baz=2.0			S	Sb	20 06 51.5	-0.5
ETM	Tongmen	baz=235	0.40	229	P	Pb	20 06 47.0	+0.1
ETM		baz=235			S	Sb	20 06 53.3	+0.5
NDS	Dongshan	baz=346	0.41	346	P	Pb	20 06 47.0	-0.1
NDS		baz=346			S	Sb	20 06 52.6	-0.5
TEYL	Yanliau Villag	baz=211	0.42	210	P	Pb	20 06 47.4	+0.3
TEYL		baz=211			S	Sn	20 06 54.9	-1.8
NNSB	Datong	baz=295	0.45	296	eP	Pb	20 06 47.6	-0.2
NNSB		baz=295			eS	Sb	20 06 53.6	-0.6
NNS	Nan Shan	baz=296	0.46	297	P	Pb	20 06 47.7	-0.3
NNS		baz=296			S	Sb	20 06 54.1	-0.5
NDT	Datong Townshi	baz=322	0.47	323	P	Pb	20 06 47.9	-0.1
NDT		baz=322			S	Sb	20 06 54.5	-0.2
ENTT	Nioudou	baz=321	0.47	330	P	Pb	20 06 47.9	-0.2
ENTT		baz=321			S	Sb	20 06 54.6	-0.1
TWE	Neicheng	baz=344	0.51	344	P	Pb	20 06 48.6	-0.1
TWE		baz=344			S	Sb	20 06 55.5	-0.3
WHF	Hehuan Shan	baz=260	0.52	261	P	Pb	20 06 48.8	-0.4
WHF		baz=260			S	Sb	20 06 56.1	-0.4
FUSS	Fushou	baz=271	0.53	272	P	Pb	20 06 49.1	-0.2
FUSS		baz=271			S	Sb	20 06 56.4	-0.3
ILA	Ilan	baz=347	0.54	353	eP	Pb	20 06 49.1	-0.2
ILA		baz=347			eS	Sb	20 06 56.8	+0.2
ESL	Shilin	baz=226	0.55	221	P	Pb	20 06 49.5	0.0
ESL		baz=226			S	Sn	20 06 57.6	-2.4
TEGC	Jichi Village	baz=198	0.58	207	P	Pn	20 06 50.4	-1.4
TEGC		baz=198			S	Sn	20 06 59.7	-1.1
TWT	Tachien	baz=271	0.59	272	P	Pn	20 06 50.7	-1.4
TWT		baz=271			S	Sb	20 06 58.4	-0.1
TDCB	Techi	baz=271	0.61	272	P	Pb	20 06 50.5	0.0
TDCB		baz=271			S	Sb	20 06 58.4	-0.5
NSK	Sanguang	baz=316	0.61	316	P	Pb	20 06 50.5	-0.1
NSK		baz=316			S	Sb	20 06 58.5	-0.5
CHGB	Renai	baz=249	0.62	254	P	Pb	20 06 50.8	+0.1
CHGB		baz=249			S	Sb	20 06 59.2	0.0
NWLT	Wulai	baz=331	0.62	332	P	Pb	20 06 50.4	-0.2
NWLT		baz=331			S	Sb	20 06 58.7	-0.3
NTC	Toucheng		0.62	0	P	Pb	20 06 51.1	+0.4
NTC					S	Sb	20 06 59.4	+0.3
OWD	Renai	baz=245	0.65	245	eP	Pn	20 06 51.4	-1.4
OWD		baz=245			eS	Sn	20 07 00.6	-2.3
EGFH	Guangfu	baz=227	0.67	213	P	Pn	20 06 51.8	-1.2
EGFH		baz=227			S	Sn	20 07 01.9	-1.0
TIPB	Shuangxi	baz=359	0.74	0	P	Pn	20 06 52.9	+0.2
TIPB		baz=359			S	Sb	20 07 02.2	-0.3
TWA	Mucha	baz=343	0.78	344	P	Pb	20 06 53.3	0.0
TWA		baz=343			S	Sb	20 07 03.9	+0.3
NHDH	Xindian Distri	baz=339	0.78	340	P	Pn	20 06 54.3	-0.1
NHDH		baz=339			S	Sb	20 07 03.8	+0.2
TWB1	Santiao Chiao	baz=11	0.79	11	eP	Pb	20 06 53.8	+0.3
TWB1		baz=11			S	Sb	20 07 04.0	+0.1
TATO	Taipei	baz=337	0.80	338	eP	Pb	20 06 53.9	+0.2
TATO		baz=337			eS	Sb	20 07 04.6	+0.3
WHP	Taichung City	baz=273	0.80	273	P	Pn	20 06 54.4	-0.5
WHP		baz=273			S	Sn	20 07 04.7	-1.8
HGSD	Ruisui	baz=197	0.82	207	P	Pn	20 06 54.4	-0.6
HGSD		baz=197			S	Sn	20 07 07.6	+0.8
WPL	Puli Township	baz=255	0.82	255	eP	Pn	20 06 54.2	-0.9
WPL		baz=255			eS	Sn	20 07 05.6	-1.2
NWF	Wu-fen Shan		0.84	357	P	Pn	20 06 54.9	-0.4

	baz=349							
NWF				S	Sb	20 07 05.3	-0.1	
	baz=349							
WFSB	**Wu-fen Shan**	**0.84**	**357**	*e*P	Pn	20 06 55.0	-0.3	
	baz=349							
WFSB				*e*S	Sb	20 07 05.8	+0.5	
	baz=349							
DPDB	**Guoxing**	**0.84**	**257**	*e*P	Pn	20 06 54.6	-0.8	
	baz=257							
DPDB				*e*S	Sn	20 07 06.2	-1.2	
	baz=257							
LIOB	**Emei**	**0.84**	**299**	P	Pn	20 06 55.1	-0.3	
	baz=299							
LIOB				S	Sn	20 07 05.8	-1.6	
	baz=299							
NSTT	**Nanjuang**	**0.85**	**298**	P	Pn	20 06 54.9	-0.5	
	baz=297							
NSTT				S	Sn	20 07 05.9	-1.6	
	baz=297							
WCS	**Beigang Elemen**	**0.85**	**258**	P	Pn	20 06 54.5	-1.0	
	baz=259							
WCS				*e*S	Sn	20 07 06.5	-1.0	
	baz=259							
EHY	**Hungye**	**0.86**	**213**	P	Pn	20 06 54.7	-0.8	
	baz=223							
EHY				S	Sn	20 07 06.8	-0.8	
	baz=223							
SSLB	**Suanglung**	**0.91**	**241**	P	Pn	20 06 55.5	-0.8	
	baz=248							
SSLB				S	Sn	20 07 07.5	-1.6	
	baz=248							
SMLT	**Sun Moon Lake**	**0.91**	**248**	P	Pn	20 06 55.7	-0.7	
	baz=247							
TNOU	**National Taiwa**	**0.92**	**357**	*e*P	Pb	20 06 55.8	+0.1	
	baz=356							
TNOU				*e*S	Sb	20 07 07.1	-0.5	
	baz=356							
NCUH	**Zhongli**	**0.94**	**322**	*e*P	Pn	20 06 56.9	+0.3	
	baz=320							
NCUH				*e*S	Sn	20 07 10.6	+1.0	
	baz=320							
YM01	**YM01**	**0.94**	**346**	P	Pn	20 06 56.7	0.0	
	baz=329							
YM01				S	Sn	20 07 09.5	-0.3	
	baz=329							
TYC	**Yuchr**	**0.94**	**250**	P	Pn	20 06 56.1	-0.6	
	baz=244							
TYC				S	Sn	20 07 08.8	-0.9	
	baz=244							
YULB	**Yu-li**	**0.96**	**210**	P	Pb	20 06 55.4	-1.1	
	baz=221							
YULB				S	Sn	20 07 09.6	-0.7	
	baz=221							
TWQ1	**Liyutan**	**0.97**	**277**	P	Pn	20 06 57.8	+0.7	
	baz=277							
TWQ1				*e*S	Sn	20 07 09.4	-1.0	
	baz=277							
ECBN	**Changbin**	**0.97**	**201**	*e*P	Pn	20 06 57.0	-0.1	
	baz=202							
ECBN				*e*S	Sn	20 07 09.8	-0.7	
	baz=202							
YM08	**YM08**	**0.98**	**347**	*e*P	Pb	20 06 56.5	-0.2	
	baz=331							
YM08				*e*S	Sn	20 07 10.4	-0.2	
	baz=331							
NTST	**Danshui**	**0.99**	**340**	S	Sn	20 07 11.2	+0.3	
	baz=345							
ANP	**Anpu**	**0.99**	**344**	P	Pn	20 06 57.5	0.0	
	baz=343							
EYUL	**Yuli**	**0.99**	**208**	*e*P	Pn	20 06 57.4	0.0	
	baz=222							
TWF1	**Yuli**	**1.00**	**209**	*e*P	Pb	20 06 56.5	-0.6	
	baz=222							
WHYT	**Xinyi Township**	**1.04**	**239**	*e*P	Pn	20 06 58.1	+0.1	
	baz=232							
JYNG	**Yonagunijimaku**	**1.05**	**78**	P	Pn	20 06 58.4	+0.3	
JYNG				*e*S	Sn	20 07 12.3	0.0	
WWF	**Wufeng**	**1.05**	**260**	*e*P	Pn	20 06 59.1	+1.0	
	baz=256							
WWF				*e*S	Sn	20 07 15.7	+3.4	
	baz=256							
TCU	**Taichung**	**1.05**	**266**	*e*S	Sn	20 07 14.3	+1.9	
	baz=265							
WJS	**Zhushan**	**1.08**	**248**	*e*P	Pn	20 06 58.7	+0.1	
	baz=247							
WJS				*e*S	Sn	20 07 13.7	+0.5	
	baz=247							
WNT	**Mingjian**	**1.10**	**252**	*e*P	Pn	20 06 59.5	+0.6	
	baz=250							
WNT				*e*S	Sn	20 07 15.7	+2.0	
	baz=250							
YOJ	**Yonaguni jima**	**1.11**	**78**	P	Pn	20 06 59.2	+0.2	
	baz=68							
FULB	**Fuli**	**1.14**	**205**	*e*P	Pb	20 06 59.6	+0.1	
	baz=224							
FULB				*e*S	Sn	20 07 16.2	+1.6	
	baz=224							
WYL	**Yuanlin Townsh**	**1.17**	**257**	*e*P	Pb	20 07 01.6	+1.7	
	baz=257							
WYL				*e*S	Sn	20 07 17.4	+2.1	
	baz=257							
ALS	**Alishan**	**1.18**	**233**	*e*P	Pb	20 07 00.2	-0.1	
	baz=233							
CHKT	**Chengkung**	**1.20**	**201**	*e*P	Pb	20 07 00.4	-0.2	
	baz=217							
CHKT				*e*S	Sn	20 07 17.8	+1.6	
	baz=217							
CHN5	**Tsauling**	**1.22**	**239**	P	Pb	20 07 01.7	+0.7	
	baz=225							
CHN5				S	Sn	20 07 19.2	+2.3	
	baz=225							
WGK	**Gukeng**	**1.28**	**245**	*e*P	Pb	20 07 02.7	+0.9	
	baz=244							
WDLH	**Douliu**	**1.29**	**246**	*e*P	Pb	20 07 02.5	+0.4	
	baz=245							
EDH	**Donghe**	**1.34**	**201**	P	Pb	20 07 02.0	-0.9	
	baz=189							
EDH				*e*S	Sb	20 07 20.0	+0.2	
	baz=189							
WRL	**Guolierlin Hig**	**1.36**	**256**	*e*P	Pb	20 07 03.9	+0.6	
	baz=256							
WRL				*e*S	Sb	20 07 22.6	+2.2	
	baz=256							
WTK	**Tuku**	**1.42**	**248**	*e*P	Pb	20 07 04.7	+0.4	
	baz=248							
WTK				*e*S	Sb	20 07 24.8	+2.7	
	baz=248							
STYH	**Taoyuan**	**1.43**	**223**	*e*P	Pb	20 07 04.2	-0.1	
	baz=224							
STYH				*e*S	Sb	20 07 23.8	+1.5	
	baz=224							
TPUB	**Ta-pu**	**1.43**	**230**	P	Pb	20 07 04.9	+0.3	
	baz=232							
TPUB				S	Sb	20 07 24.3	+1.8	
	baz=232							
STYT	**Tauyuan**	**1.45**	**223**	*e*P	Pb	20 07 04.3	-0.4	
	baz=223							
WTP	**Ta-pu**	**1.48**	**229**	*e*P	Pb	20 07 05.5	+0.1	
	baz=230							
WTP				*e*S	Sb	20 07 25.4	+1.5	
	baz=230							
TWK	**Hsinying**	**1.56**	**232**	P	Pb	20 07 07.0	+0.3	
	baz=233							
TWK				*e*S	Sb	20 07 27.3	+1.2	
	baz=233							
SNST	**Tainan City**	**1.58**	**231**	*e*S	Sb	20 07 28.4	+1.7	
	baz=232							
CHN1	**Nanshi**	**1.58**	**229**	P	Pb	20 07 06.8	-0.2	
	baz=230							
CHN1				S	Sb	20 07 28.7	+2.0	
	baz=230							
WSF	**Szhu**	**1.58**	**248**	*e*S	Sb	20 07 28.6	+1.9	
	baz=249							
SGST	**Jiashian**	**1.61**	**225**	*e*P	Pb	20 07 07.2	-0.4	
	baz=226							
SGST				*e*S	Sb	20 07 29.7	+2.0	
	baz=226							
SLGT	**Liugui**	**1.64**	**221**	*e*P	Pb	20 07 07.3	-0.7	
	baz=223							
SLGT				*e*S	Sb	20 07 30.2	+1.8	
	baz=223							
ICHU	**Yijhu**	**1.66**	**239**	*e*P	Pb	20 07 08.5	+0.2	
	baz=224							
ICHU				*e*S	Sb	20 07 30.9	+1.9	
	baz=224							
IRIF	**Iriomote-Funau**	**1.74**	**86**	P	Pn	20 07 08.9	+1.2	
ECL	**Taimali**	**1.81**	**206**	*e*P	Pn	20 07 07.7	-0.9	
	baz=209							
ECL				*e*S	Sb	20 07 32.0	-1.4	
	baz=209							
SCST	**Cishan**	**1.81**	**223**	*e*P	Pb	20 07 10.8	-0.1	
	baz=223							
SCST				*e*S	Sb	20 07 36.0	+2.6	
	baz=223							
SSD	**Sandimen**	**1.84**	**217**	*e*P	Pb	20 07 10.6	-0.8	
	baz=227							
TSMG	**Majia**	**1.86**	**216**	*e*P	Pb	20 07 11.1	-0.8	
	baz=216							
TSMG				*e*S	Sb	20 07 35.6	+0.7	
	baz=216							
MASBT	**Mashibuluo**	**1.95**	**214**	*e*P	Pb	20 07 12.3	-1.0	
	baz=215							
MASBT				*e*S	Sb	20 07 37.4	+0.1	
	baz=215							
PNG	**Penghu**	**2.18**	**253**	*e*P	Pn	20 07 13.8	+0.1	
	baz=252							
PNG				*e*S	Sb	20 07 41.6	-2.3	
	baz=252							
PHUB	**P'eng-hu**	**2.18**	**251**	*e*P	Pn	20 07 14.3	+0.6	
	baz=251							
PHUB				*e*S	Sb	20 07 41.9	-2.1	
	baz=251							
WDGT	**Dungji**	**2.21**	**244**	*e*P	Pn	20 07 15.0	+0.9	
	baz=243							
SLIU	**Shizi**	**2.22**	**205**	*e*P	Pb	20 07 15.9	-2.0	
	baz=198							
PTMZ	**Houxiangcun**	**2.59**	**289**	*e*P	Pn	20 07 20.4	+1.1	
	baz=284							

MEX 15 20:08:41.3±0.8, 16°.28N×98°.31W, h7^{km}±6^{km}, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.21**	**56**	*i* P	Pg	20 08 45.4	-0.1
PNIG				*i* S	Sg	20 08 48.3	-0.1
MGIG	**Malinaltepec**	**1.00**	**342**	*i* S	Sg	20 09 11.4	-2.2
TXIG	**Tlaxiaco**	**1.10**	**28**	*e*P	Pg	20 08 58.7	-3.8
PEIG	**Puerto Escondi**	**1.15**	**104**	*i* P	Pg	20 09 00.0	-3.4
PEIG				*i* S	Sg	20 09 14.7	-3.6

*TAP **15** 20:08:53.6, 24°.27N×121°.82E, h17^{km}, ML2.8, B*
*JMA **15** 20:08:53.6±0.2, 24°.20N×121°.81E, h21^{km}±4^{km}*
ISC 15 20:08:53.5±0.9, 24°.24N±0°.01×121°.83E±0°.02, h18^{km}±2^{km}, n84, σ0^{s}.76/159, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.10**	**312**	P	Pg	20 08 57.1	-0.2
	baz=305						
EHP				S	Sg	20 08 59.9	+0.1
	baz=305						
ETL	**Fush Village**	**0.20**	**247**	P	Pg	20 08 58.7	+0.2
	baz=243						
ETL				S	Sg	20 09 02.7	+0.8
	baz=243						
ENA	**Nanau**	**0.20**	**338**	*i* P	Pb	20 08 58.2	-0.1
	baz=338						
ENA				*i* S	Sb	20 09 01.5	+0.2
	baz=338						
EWUT	**Wuta**	**0.21**	**348**	*i* P	Pb	20 08 58.4	0.0
	baz=347						
EWUT				*i* S	Sb	20 09 01.7	+0.1
	baz=347						
NACB	**Ninganchiao**	**0.22**	**253**	P	Pg	20 08 58.7	-0.1
	baz=249						
NACB				S	Sg	20 09 03.0	+0.6
	baz=249						
TWD	**Chiawan**	**0.26**	**233**	P	Pg	20 08 59.7	+0.3
	baz=234						
TWD				S	Sg	20 09 04.3	+0.8
	baz=234						
ETLH	**Xiulin Townshi**	**0.32**	**264**	P	Pg	20 09 00.4	0.0
	baz=261						
ETLH				S	Sb	20 09 05.3	-0.1
	baz=261						
HWA	**Hwalien**	**0.33**	**218**	P	Pn	20 09 02.0	-1.3
	baz=223						
HWA				S	Sn	20 09 08.6	-1.0
	baz=223						
TWC	**Suao**	**0.37**	**3**	P	Pg	20 09 01.0	-0.3
	baz=8.0						
TWC				S	Sg	20 09 06.1	-0.4
	baz=8.0						
NDS	**Dongshan**	**0.41**	**346**	P	Pg	20 09 01.8	-0.1
	baz=344						
NDS				S	Sg	20 09 07.3	-0.3
	baz=344						
ETM	**Tongmen**	**0.41**	**228**	P	Pb	20 09 02.3	0.0
	baz=235						
ETM				S	Sb	20 09 09.0	+0.8
	baz=235						
TEYL	**Yanliau Villag**	**0.42**	**209**	P	Pb	20 09 03.0	+0.5
	baz=219						
TEYL				S	Sn	20 09 10.6	-1.4
	baz=219						
NNSB	**Datong**	**0.45**	**295**	*e*P	Pg	20 09 02.7	0.0
	baz=293						
NNSB				*e*S	Sg	20 09 08.9	+0.1
	baz=293						
NNS	**Nan Shan**	**0.46**	**296**	P	Pg	20 09 02.9	-0.1
	baz=294						
NNS				S	Sb	20 09 09.4	-0.3
	baz=294						
NDT	**Datong Townshi**	**0.46**	**322**	P	Pg	20 09 02.8	-0.1
	baz=320						
NDT				S	Sg	20 09 09.2	0.0
	baz=320						
ENTT	**Nioudou**	**0.46**	**329**	P	Pg	20 09 02.9	-0.1
	baz=319						
ENTT				S	Sg	20 09 09.3	0.0
	baz=319						
TWE	**Neicheng**	**0.50**	**343**	P	Pg	20 09 03.5	-0.2
	baz=343						
TWE				S	Sg	20 09 10.4	0.0
	baz=343						
WHF	**Hehuan Shan**	**0.52**	**260**	P	Pg	20 09 04.1	-0.1
	baz=259						
WHF				S	Sb	20 09 11.8	+0.1
	baz=259						
FUSS	**Fushou**	**0.53**	**271**	P	Pb	20 09 04.4	0.0
	baz=270						
FUSS				S	Sb	20 09 11.9	+0.1
	baz=270						
ESL	**Shilin**	**0.56**	**220**	P	Pg	20 09 04.8	+0.2
	baz=225						
ESL				S	Sg	20 09 13.1	+1.0
	baz=225						
TEGC	**Jichi Village**	**0.59**	**206**	P	Pn	20 09 06.2	-0.8
	baz=199						
TEGC				S	Sn	20 09 15.6	-0.5
	baz=199						
NSK	**Sanguang**	**0.61**	**316**	P	Pb	20 09 05.5	-0.1
	baz=314						
NSK				S	Sb	20 09 13.6	-0.2
	baz=314						
TDCB	**Techi**	**0.61**	**271**	P	Pg	20 09 06.0	+0.3
	baz=270						
TDCB				S	Sg	20 09 14.3	+0.4
	baz=270						
EGS		**0.61**	**9**	P	Pg	20 09 06.1	+0.5
	baz=15						
NWLT	**Wulai**	**0.61**	**331**	P	Pb	20 09 05.3	-0.3
	baz=330						
NWLT				S	Sb	20 09 13.5	-0.4
	baz=330						
NTC	**Toucheng**	**0.61**	**0**	*e*P	Pb	20 09 05.6	0.0
	baz=359						
NTC				*e*S	Sg	20 09 14.1	+0.2
	baz=359						
CHGB	**Renai**	**0.62**	**253**	P	Pg	20 09 06.2	+0.3
	baz=248						
CHGB				S	Sg	20 09 14.6	+0.3
	baz=248						
OWD	**Renai**	**0.66**	**245**	*e*P	Pg	20 09 06.7	+0.1
	baz=244						
OWD				*e*S	Sg	20 09 16.3	+0.9
	baz=244						
EGFH	**Guangfu**	**0.68**	**213**	P	Pg	20 09 07.0	+0.2
	baz=228						
EGFH				S	Sn	20 09 18.2	+0.1
	baz=228						
TIPB	**Shuangxi**	**0.73**	**360**	P	Pb	20 09 07.6	-0.1
	baz=358						
TIPB				S	Sb	20 09 16.7	-0.6
	baz=358						
TWA	**Mucha**	**0.77**	**343**	P	Pb	20 09 08.6	+0.2
	baz=343						
NHDH	**Xindian Distri**	**0.77**	**339**	*e*P	Pg	20 09 08.8	+0.2
	baz=337						
NHDH				*e*S	Sb	20 09 18.5	0.0
	baz=337						
TATO	**Taipei**	**0.80**	**337**	P	Pb	20 09 09.0	+0.2
	baz=335						
TATO				S	Sb	20 09 19.3	+0.1
	baz=335						
WHP	**Taichung City**	**0.80**	**273**	P	Pn	20 09 10.1	+0.1
	baz=272						
WHP				S	Sg	20 09 20.0	+0.1
	baz=272						
WPL	**Puli Township**	**0.82**	**254**	P	Pg	20 09 09.7	0.0
	baz=255						
WPL				S	Sn	20 09 21.1	-0.9
	baz=255						
NWF	**Wu-fen Shan**	**0.83**	**357**	P	Pg	20 09 09.8	0.0
	baz=348						
NWF				S	Sb	20 09 19.9	-0.4
	baz=348						
WFSB	**Wu-fen Shan**	**0.83**	**357**	P	Pg	20 09 09.9	+0.2
	baz=348						
WFSB				S	Sb	20 09 20.6	+0.5
	baz=348						
HGSD	**Ruisui**	**0.83**	**206**	P	Pn	20 09 10.0	-0.2
	baz=197						
HGSD				S	Sn	20 09 23.8	+1.8
	baz=197						
NJD	**Zhudong**	**0.83**	**306**	*e*P	Pn	20 09 10.1	-0.2
	baz=310						
NJD				*e*S	Sn	20 09 21.6	-0.6
	baz=310						
LIOB	**Emei**	**0.84**	**299**	P	Pn	20 09 10.5	0.0
	baz=298						
LIOB				S	Sg	20 09 20.9	-0.3
	baz=298						
DPDB	**Guoxing**	**0.85**	**256**	*e*P	Pn	20 09 10.2	-0.4
	baz=256						
DPDB				*e*S	Sn	20 09 22.3	-0.3
	baz=256						
NSTT	**Nanjuang**	**0.85**	**298**	P	Pn	20 09 10.3	-0.2
	baz=296						
NSTT				S	Sg	20 09 21.1	-0.2
	baz=296						
WCS	**Beigang Elemen**	**0.85**	**258**	P	Pn	20 09 10.9	+0.3
	baz=258						
WCS				S	Sn	20 09 21.9	-0.8
	baz=258						
EHY	**Hungye**	**0.86**	**212**	P	Pb	20 09 09.9	0.0
	baz=224						
EHY				S	Sn	20 09 23.0	+0.1
	baz=224						
SSLB	**Suanglung**	**0.92**	**241**	P	Pg	20 09 11.1	-0.2
	baz=242						
SSLB				S	Sg	20 09 23.2	-0.3
	baz=242						
SMLT	**Sun Moon Lake**	**0.92**	**247**	*e*P	Pn	20 09 11.7	+0.2
	baz=242						
SMLT				*e*S	Sn	20 09 24.6	+0.2
	baz=242						
YM01	**YM01**	**0.93**	**346**	P	Pg	20 09 11.9	+0.2
	baz=343						
YM01				S	Sn	20 09 24.8	+0.1
	baz=343						
TYC	**Yuchr**	**0.95**	**250**	*e*P	Pg	20 09 12.0	+0.1
	baz=250						
TYC				*e*S	Sn	20 09 24.6	-0.3
	baz=250						
YM08	**YM08**	**0.97**	**347**	*e*P	Pn	20 09 12.4	+0.2
	baz=339						
YM08				*e*S	Sb	20 09 24.7	+0.5
	baz=339						
YULB	**Yu-li**	**0.97**	**210**	P	Pb	20 09 11.2	-0.7
	baz=222						
YULB				S	Sn	20 09 25.5	-0.1
	baz=222						
ANP	**Anpu**	**0.98**	**344**	P	Pb	20 09 12.3	+0.2
	baz=342						
ANP				S	Sg	20 09 25.5	-0.2
	baz=342						
EYUL	**Yuli**	**1.00**	**208**	P	Pb	20 09 12.1	-0.3
	baz=225						
EYUL				S	Sg	20 09 27.8	+1.6
	baz=225						
TWF1	**Yuli**	**1.01**	**209**	*e*P	Pn	20 09 12.4	-0.3
	baz=222						
WHYT	**Xinyi Township**	**1.04**	**239**	P	Pg	20 09 13.7	0.0
	baz=247						
WHYT				*e*S	Sg	20 09 28.1	+0.6
	baz=247						
JYNG	**Yonagunijimaku**	**1.04**	**78**	P	Pn	20 09 13.5	+0.3
JYNG				*e*S	Sn	20 09 27.4	+0.1
WWF	**Wufeng**	**1.05**	**259**	*e*P	Pg	20 09 14.2	+0.4
	baz=256						
WWF				*e*S	Sg	20 09 30.1	+2.5
	baz=256						
WJS	**Zhushan**	**1.09**	**248**	P	Pg	20 09 15.1	+0.5
	baz=245						
WJS				S	Sg	20 09 30.0	+1.2
	baz=245						
WNT1	**Nantou City**	**1.10**	**253**	*e*P	Pg	20 09 15.4	+0.6
	baz=252						
WNT1				*e*S	Sg	20 09 32.5	+3.2
	baz=252						
YOJ	**Yonaguni jima**	**1.10**	**78**	P	Pn	20 09 14.0	0.0
	baz=69						
YOJ				*e*S	Sg	20 09 30.9	+1.5
	baz=69						
WNT	**Mingjian**	**1.10**	**251**	P	Pg	20 09 15.8	+0.9
	baz=250						
WNT				S	Sg	20 09 31.7	+2.3
	baz=250						
ALS	**Alishan**	**1.18**	**232**	P	Pg	20 09 16.1	-0.4
	baz=223						
CHKT	**Chengkung**	**1.21**	**201**	*e*P	Pb	20 09 15.8	-0.1
	baz=218						
CHKT				*e*S	Sg	20 09 33.4	+0.6
	baz=218						
CHN5	**Tsauling**	**1.23**	**239**	P	Pg	20 09 17.1	-0.2
	baz=240						
CHN5				S	Sg	20 09 34.2	+0.8
	baz=240						
ELDTW	**Lidau**	**1.28**	**216**	P	Pn	20 09 16.4	-0.2
	baz=204						
WDLH	**Douliu**	**1.30**	**245**	*e*P	Pg	20 09 18.4	-0.2
	baz=246						
WDLH				*e*S	Sg	20 09 37.4	+1.7
	baz=246						
WRL	**Guolierlin Hig**	**1.37**	**256**	*e*P	Pb	20 09 18.6	0.0
	baz=256						
WRL				*e*S	Sg	20 09 38.2	+0.5
	baz=256						
WTK	**Tuku**	**1.43**	**248**	P	Pb	20 09 19.9	+0.4
	baz=248						
WTK				S	Sg	20 09 40.8	+1.2
	baz=248						
STYH	**Taoyuan**	**1.44**	**222**	*e*P	Pb	20 09 19.8	+0.1
	baz=225						
STYH				*e*S	Sg	20 09 39.3	-0.6
	baz=225						
TPUB	**Ta-pu**	**1.44**	**230**	P	Pb	20 09 20.0	+0.2
	baz=232						
TPUB				S	Sg	20 09 40.1	0.0
	baz=232						
STYT	**Tauyuan**	**1.45**	**223**	*e*P	Pb	20 09 19.7	-0.4
	baz=223						
CHY	**Chiayi**	**1.48**	**240**	*e*S	Sg	20 09 41.7	+0.4
	baz=242						
WTP	**Ta-pu**	**1.49**	**229**	P	Pb	20 09 20.8	+0.1
	baz=231						
WTP				S	Sg	20 09 42.0	+0.4
	baz=231						
TWK	**Hsinying**	**1.56**	**232**	P	Pb	20 09 22.3	+0.4
	baz=234						
TWK				*e*S	Sg	20 09 43.8	-0.2
	baz=234						
WSF	**Szhu**	**1.58**	**248**	*e*S	Sg	20 09 44.3	-0.4
	baz=249						
CHN1	**Nanshi**	**1.59**	**229**	P	Pb	20 09 22.4	+0.1
	baz=231						
CHN1				S	Sg	20 09 44.3	-0.4
	baz=231						
SLGT	**Liugui**	**1.65**	**221**	*e*P	Pb	20 09 23.2	-0.1
	baz=224						

SLGT			*e*S		**Sg**	**20 09 46.2**	**-0.4**
	baz=224						
ECL	**Taimali**	**1.82 206**	*e*P		**Pn**	**20 09 23.8**	**-0.1**
	baz=210						
ECL			*e*S		**Sb**	**20 09 47.8**	**-0.9**
	baz=210						
SSD	**Sandimen**	**1.85 217**	*e*P		**Pb**	**20 09 26.3**	**-0.4**
	baz=231						
SSD			*e*S		**Sg**	**20 09 51.0**	**-2.1**
	baz=231						
TSMG	**Majia**	**1.87 216**	*e*P		**Pb**	**20 09 26.5**	**-0.7**
	baz=218						
TSMG			*e*S		**Sb**	**20 09 51.7**	**+1.4**
	baz=218						
MASBT	**Mashibuluo**	**1.96 214**	*e*P		**Pb**	**20 09 28.4**	**-0.2**
	baz=216						
MASBT			*e*S		**Sb**	**20 09 53.4**	**+0.8**
	baz=216						
PNG	**Penghu**	**2.18 253**	*e*P		**Pn**	**20 09 30.1**	**+1.3**
	baz=252						
PNG			*e*S		**Sb**	**20 09 57.4**	**-1.8**
	baz=252						
PHUB	**P'eng-hu**	**2.19 251**	*e*P		**Pn**	**20 09 29.7**	**+0.8**
	baz=251						
PHUB			*e*S		**Sb**	**20 09 57.1**	**-2.1**
	baz=251						
SLIU	**Shizi**	**2.22 205**	*e*P		**Pb**	**20 09 31.3**	**-1.9**
	baz=200						
MATB	**Ma-tsu**	**2.56 319**	*e*P		**Pn**	**20 09 35.5**	**+1.5**
	baz=314						
MATB			*e*S		**Sb**	**20 10 07.2**	**-2.7**
	baz=314						

IDC ***15*** *20:10:13.5±1.9, 43.°82N×105.°54W, h0km, mb4.0/2, mb1 4.0/4, mb1mx3.5/47, mbtmp3.9/4, ML3.4/2, Error ellipse: s-maj=54.5km s-min=9.0km az=150.0*

NEIC ***15*** *20:10:14.4±1.6, 43.°76N±0.°04×105.°28W±0.°05, h0km±2km, ML3.3/58, Error ellipse: s-maj=7.7km s-min=5.9km az=181.0*

ISC 15 20:10:12.8±0.9, 43.°74N±0.°05×105.°22W±0.°05, h0km, n56, σ1§19/57, Wyoming

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.93**	**65**	Pg		**Pn**	**20 10 33.2**	**-0.1**
K22A	**Casper**	**1.45**	**222**			**Pn**	**20 10 40.2**	**-0.1**
K22A				IAML			20 11 05.0	
	comp=N,538nm,0.3s							
K22A				IAML			20 11 06.8	
	comp=E,334nm,0.6s							
PHWY	**Pilot Hill**	**2.44**	**184**			**Pb**	**20 10 56.5**	**-1.2**
RWWY	**Rawlins**	**2.52**	**216**			**Pb**	**20 10 57.9**	**-1.2**
RWWY				IAML			20 11 33.8	
	comp=E,194nm,0.8s							
RWWY				IAML			20 11 36.5	
	comp=E,186nm,0.7s							
LAO	**LASA Array**	**3.03**	**347**			**Pn**	**20 11 03.9**	**+1.8**
RLMT	**Red Lodge**	**3.21**	**297**	Pn		**Pn**	**20 11 05.3**	**+0.6**
RLMT				IAML			20 11 52.0	
	comp=E,51nm,0.8s							
RLMT				IAML			20 12 02.8	
	comp=E,53nm,0.6s							
PD31	**Pinedale Array**	**3.32**	**254**			**Pn**	**20 11 06.9**	**+0.8**
PDAR	**Pinedale Array**	**3.32**	**254**	Pn		**Pn**	**20 11 07.3**	**+1.2**
	comp=E,3.5nm,0.3s,baz=79,slow=16,SNR=44							
PDAR				Lg		Lg	20 11 50.9	
	comp=E,16nm,0.3s,baz=72,slow=33,SNR=14							
PDAR	**Pinedale Array**	**3.32**	**254**			**Pn**	**20 11 06.9**	**+0.8**
BW06	**Boulder Array**	**3.32**	**254**			**Pn**	**20 11 06.9**	**+0.7**
BW06				IAML			20 11 55.4	
	comp=E,47nm,0.4s							
BW06				IAML			20 11 56.9	
	comp=E,46nm,0.7s							
OGNE	**Ogallala**	**3.66**	**139**			**Pn**	**20 11 13.5**	**+2.9**
YNE	**Yellowstone No**	**3.66**	**292**			**Pn**	**20 11 11.3**	**+0.4**
YNE				IAML			20 12 12.5	
	comp=E,55nm,0.7s							
YNE				IAML			20 12 13.0	
	comp=N,63nm,0.7s							
YMP	**Mirror Lake Pl**	**3.69**	**287**			**Pn**	**20 11 12.0**	**+0.7**
YMP						**Sg**	**20 12 12.0**	**+0.7**
YMP				IAML			20 12 15.4	
	comp=N,86nm,0.7s							
GCMT	**Greycliff**	**3.78**	**304**			**Pn**	**20 11 13.2**	**+0.9**
LOHW	**Long Hollow**	**3.91**	**270**			**Pn**	**20 11 16.1**	**+1.8**
ISCO	**Idaho Springs**	**3.95**	**184**	Pn		**Pn**	**20 11 17.3**	**+2.5**
FLWY	**Flagg Ranch**	**3.98**	**277**			**Pn**	**20 11 16.4**	**+1.2**
FLWY				IAML			20 12 24.4	
	comp=N,39nm,1.0s							
FLWY				IAML			20 12 32.9	
	comp=N,43nm,1.1s							
MOOW	**Moose Ponds**	**4.01**	**272**	Pn		**Pn**	**20 11 17.1**	**+1.5**
SNOW	**Snow King Moun**	**4.03**	**268**			**Pn**	**20 11 16.5**	**+0.5**
SNOW				IAML			20 12 24.8	
	comp=N,32nm,1.0s							
SNOW				IAML			20 12 25.3	
	comp=N,33nm,0.9s							
YPP	**Pitchstone Pla**	**4.07**	**279**			**Pn**	**20 11 17.5**	**+1.0**
REDW	**Red Top Meadow**	**4.12**	**267**			**Pn**	**20 11 18.3**	**+1.2**
REDW				IAML			20 12 29.8	
	comp=N,59nm,0.9s							
REDW				IAML			20 12 34.2	
	comp=N,50nm,0.7s							
IMW	**Indian Meadow**	**4.15**	**274**			**Pn**	**20 11 18.6**	**+1.1**
IMW				IAML			20 12 28.2	
	comp=N,36nm,0.7s							
IMW				IAML			20 12 29.3	
	comp=N,27nm,0.8s							
TPAW	**Teton Pass**	**4.17**	**269**			**Pn**	**20 11 19.0**	**+1.0**
TPAW				IAML			20 12 33.5	
	comp=N,22nm,1.2s							
TPAW				IAML			20 12 45.4	
	comp=N,48nm,0.9s							
YHH	**Holmes Hill**	**4.18**	**286**			**Pn**	**20 11 19.1**	**+1.1**
YHH				IAML			20 12 31.4	
	comp=N,25nm,1.0s							
FXWY	**Fox Creek**	**4.22**	**271**	Pn		**Pn**	**20 11 19.9**	**+1.4**
O20A	**White River Ci**	**4.25**	**213**			**Pn**	**20 11 21.1**	**+2.1**
O20A				IAML			20 12 39.5	
	comp=N,35nm,1.2s							
O20A				IAML			20 12 47.0	
	comp=E,40nm,0.8s							
AHID	**Auburn Hatcher**	**4.41**	**259**			**Pn**	**20 11 22.9**	**+1.8**
AHID				IAML			20 12 35.2	
	comp=E,38nm,0.8s							
AHID				IAML			20 12 38.6	
	comp=E,27nm,0.7s							
YHB	**Horse Butte**	**4.42**	**285**			**Pn**	**20 11 22.5**	**+1.3**
YHB				IAML			20 13 17.3	
	comp=N,17nm,0.9s							
RDMU	**Red Mountain**	**4.53**	**227**			**Pn**	**20 11 23.8**	**+1.1**
RDMU				IAML			20 12 41.2	
	comp=E,26nm,1.1s							
RDMU				IAML			20 12 46.1	
	comp=N,30nm,1.0s							
QLMT	**Earthquake Lak**	**4.59**	**286**			**Pn**	**20 11 23.3**	**-0.4**
DGMT	**Dagmar**	**4.79**	**8**			**Pn**	**20 11 26.8**	**+0.7**
KSCO	**Kaye Shedlock'**	**5.11**	**157**			**Pn**	**20 11 31.7**	**+1.0**
HWUT	**Hardware Ranch**	**5.14**	**248**	Pn		**Pn**	**20 11 31.3**	**+0.1**
HWUT				IAML			20 13 07.5	
	comp=N,25nm,1.1s							
TCUT	**Toone Canyon**	**5.28**	**242**			**Pn**	**20 11 33.3**	**+0.1**
EGMT	**Eagleton**	**5.33**	**325**			**Pn**	**20 11 33.1**	**-0.5**
HRY	**Holter Researc**	**5.54**	**305**			**Pn**	**20 11 37.5**	**+0.9**
LRM	**Limekiln Ridge**	**5.56**	**295**			**Pn**	**20 11 37.9**	**+1.0**
MCMT	**McKenzie Canyo**	**5.59**	**284**			**Pn**	**20 11 38.4**	**+1.0**
PV22	**Blue Mesa, Par**	**5.86**	**209**			**Pn**	**20 11 43.0**	**+2.0**
PV07	**Paradox Valley**	**5.90**	**207**	Pn		**Pn**	**20 11 43.2**	**+1.7**
HVU	**Hansel Valley**	**5.90**	**253**			**Pn**	**20 11 42.4**	**+0.8**
P17A	**Butcher Ranch,**	**5.94**	**226**			**Pn**	**20 11 43.8**	**+1.6**
PV20	**West Nyswonger**	**6.09**	**209**			**Pn**	**20 11 45.8**	**+1.6**
PV11	**David Mesa, Pa**	**6.10**	**208**			**Pn**	**20 11 42.9**	**-1.5**
PV16	**Nyswonger Mesa**	**6.10**	**209**			**Pn**	**20 11 44.0**	**-0.4**
SRU	**San Rafael Swe**	**6.11**	**223**			**Pn**	**20 11 45.5**	**+1.1**
PV19	**Morning Glory**	**6.13**	**209**			**Pn**	**20 11 44.4**	**-0.4**
PV02	**Paradox Valley**	**6.13**	**207**			**Pn**	**20 11 45.8**	**+1.0**
PV18	**Skein Mesa, Pa**	**6.16**	**208**			**Pn**	**20 11 45.2**	**+0.1**
PV13	**Radium Mtn., P**	**6.21**	**207**			**Pn**	**20 11 45.2**	**-0.6**
TMUT	**Trail Mountain**	**6.32**	**227**			**Pn**	**20 11 46.7**	**-0.7**
ULM	**Lac du Bonnet**	**9.11**	**41**	Pn		**Pn**	**20 12 26.5**	**+1.1**
	comp=N,1.1nm,0.3s,baz=227,slow=12,SNR=4.9							
ULM				Lg		Lg	20 14 56.3	
	comp=N,0.7nm,0.3s,baz=221,slow=4.4,SNR=1.9							
ULM	**Lac du Bonnet**	**9.11**	**41**			**Pn**	**20 12 25.6**	**+0.2**

ARCES	**ARCESS Array B**	**61.40**	**18**	P		**P**	**20 20 30.2**	**+0.1**
	comp=N,3.2nm,1.2s,baz=324,slow=8.9,SNR=4.2							
ARCES	**ARCESS Array B**	**61.40**	**18**	P		**P**	**20 20 30.1**	**0.0**
MKAR	**Makanchi Array**	**89.61**	**355**	P		**P**	**20 23 11.2**	**-1.0**
	comp=N,0.4nm,1.0s,baz=351,slow=3.6,SNR=3.8							

JMA ***15*** *20:11:40.0±0.1, 24.°19N×121.°77E, h26km±1km, M2.3*

TAP ***15*** *20:11:40.3, 24.°25N×121.°81E, h18km, ML3.3, B*

ISC 15 20:11:39.9±0.8, 24.°25N±0.°01×121.°89E±0.°02, h18km±5km, n131, σ1§03/227, 3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.15**	**294**	P		**Pg**	**20 11 43.9**	**-0.1**
	baz=313							
EHP				*e*S		**Sg**	**20 11 47.0**	**+0.1**
	baz=313							
EWUT	**Wuta**	**0.22**	**333**	P		**Pg**	**20 11 45.3**	**+0.2**
	baz=347							
EWUT				*e*S		**Sg**	**20 11 49.1**	**+0.5**
	baz=347							
ENA	**Nanau**	**0.22**	**323**	*i* P		**Pg**	**20 11 45.1**	**0.0**
	baz=339							
ENA				*i* S		**Sg**	**20 11 48.7**	**0.0**
	baz=339							
ETL	**Fush Village**	**0.26**	**250**	*i* P		**Pb**	**20 11 45.3**	**-0.8**
	baz=246							
ETL				*i* S		**Sg**	**20 11 49.1**	**-0.6**
	baz=246							
NACB	**Ninganchiao**	**0.28**	**254**	⇓*i* P		**Pg**	**20 11 45.3**	**-0.7**
	baz=253							
NACB				*i* S		**Sg**	**20 11 49.4**	**-0.8**
	baz=253							
TWD	**Chiawan**	**0.32**	**238**	*i* P		**Pb**	**20 11 46.3**	**-0.7**
	baz=236							
TWD				S		**Sg**	**20 11 50.9**	**-0.4**
	baz=236							
TWC	**Suao**	**0.36**	**354**	*i* P		**Pb**	**20 11 48.0**	**+0.2**
	baz=5.0							
TWC				S		**Sb**	**20 11 53.4**	**+0.2**
	baz=5.0							
ETLH	**Xiulin Townshi**	**0.37**	**263**	P		**Pg**	**20 11 47.0**	**-0.7**
	baz=263							
ETLH				S		**Sg**	**20 11 52.2**	**-0.8**
	baz=263							
HWA	**Hwalien**	**0.38**	**224**	P		**Pb**	**20 11 48.6**	**+0.6**
	baz=224							
HWA				*e*S		**Sb**	**20 11 55.2**	**+1.6**
	baz=224							
NDS	**Dongshan**	**0.41**	**338**	*i* P		**Pb**	**20 11 48.8**	**+0.1**
	baz=344							
NDS				S		**Sb**	**20 11 54.6**	**-0.1**
	baz=344							
ETM	**Tongmen**	**0.46**	**232**	P		**Pb**	**20 11 48.8**	**-0.6**
	baz=236							
ETM				*e*S		**Sg**	**20 11 55.0**	**-0.4**
	baz=236							
TEYL	**Yanliau Villag**	**0.46**	**215**	P		**Pb**	**20 11 49.5**	**-0.1**
	baz=197							
TEYL				S		**Sb**	**20 11 57.3**	**+1.2**
	baz=197							
ENTT	**Nioudou**	**0.49**	**323**	*e*P		**Pb**	**20 11 49.7**	**-0.2**
	baz=320							
ENTT				*e*S		**Sb**	**20 11 56.4**	**-0.4**
	baz=320							
NDT	**Datong Townshi**	**0.49**	**316**	P		**Pb**	**20 11 49.7**	**-0.3**
	baz=321							
NDT				*e*S		**Sb**	**20 11 56.3**	**-0.6**
	baz=321							
NNSB	**Datong**	**0.49**	**291**	P		**Pb**	**20 11 49.5**	**-0.7**
	baz=294							
NNSB				S		**Sg**	**20 11 55.8**	**-0.8**
	baz=294							
NNS	**Nan Shan**	**0.51**	**292**	⇓*i* P		**Pb**	**20 11 49.6**	**-0.7**
	baz=295							
NNS				S		**Sg**	**20 11 56.1**	**-0.9**
	baz=295							
TWE	**Neicheng**	**0.51**	**337**	P		**Pb**	**20 11 50.4**	**0.0**
	baz=343							
TWE				S		**Sb**	**20 11 57.4**	**-0.1**
	baz=343							
ILA	**Ilan**	**0.53**	**346**	*e*P		**Pn**	**20 11 51.2**	**-1.3**
	baz=346							
ILA				*e*S		**Sb**	**20 11 59.2**	**+1.2**
	baz=346							
WHF	**Hehuan Shan**	**0.58**	**260**	*i* P		**Pg**	**20 11 50.7**	**-0.9**
	baz=261							
WHF				S		**Sg**	**20 11 58.9**	**-0.5**
	baz=261							
FUSS	**Fushou**	**0.59**	**270**	⇓*i* P		**Pg**	**20 11 51.0**	**-0.6**
	baz=272							
FUSS				*i* S		**Sg**	**20 11 58.5**	**-1.1**
	baz=272							
EGS		**0.59**	**4**	*e*P		**Pn**	**20 11 53.1**	**-0.3**
	baz=16							
EGS				*e*S		**Sb**	**20 12 01.1**	**+1.2**
	baz=16							
ESL	**Shilin**	**0.60**	**224**	P		**Pb**	**20 11 51.4**	**-0.5**
	baz=226							
ESL				*e*S		**Sg**	**20 12 00.0**	**+0.2**
	baz=226							
NTC	**Toucheng**	**0.60**	**355**	*e*P		**Pn**	**20 11 52.6**	**-1.0**
	baz=359							
NTC				*e*S		**Sb**	**20 12 00.6**	**+0.5**
	baz=359							
TEGC	**Jichi Village**	**0.63**	**211**	*e*P		**Pb**	**20 11 52.5**	**+0.2**
	baz=196							
TEGC				*e*S		**Sb**	**20 12 02.6**	**+1.9**
	baz=196							
NWLT	**Wulai**	**0.63**	**326**	*e*P		**Pb**	**20 11 52.4**	**0.0**
	baz=330							
NWLT				*e*S		**Sb**	**20 12 00.9**	**0.0**
	baz=330							
NSK	**Sanguang**	**0.64**	**311**	*e*P		**Pb**	**20 11 52.1**	**-0.5**
	baz=315							
NSK				*e*S		**Sg**	**20 12 00.7**	**-0.5**
	baz=315							
TDCB	**Techi**	**0.67**	**270**	*i* P		**Pb**	**20 11 52.6**	**-0.5**
	baz=271							
TDCB				S		**Sg**	**20 12 00.5**	**-1.5**
	baz=271							
CHGB	**Renai**	**0.68**	**254**	*i* P		**Pg**	**20 11 52.8**	**-0.5**
	baz=249							
CHGB				S		**Sg**	**20 12 01.5**	**-0.9**
	baz=249							
OWD	**Renai**	**0.71**	**246**	*e*P		**Pg**	**20 11 53.3**	**-0.6**
	baz=245							
OWD				*e*S		**Sg**	**20 12 02.7**	**-0.8**
	baz=245							
EGFH	**Guangfu**	**0.72**	**216**	*e*P		**Pg**	**20 11 53.3**	**-0.6**
	baz=228							
EGFH				*e*S		**Sb**	**20 12 04.0**	**+0.7**
	baz=228							
TIPB	**Shuangxi**	**0.72**	**355**	P		**Pn**	**20 11 54.8**	**-0.5**
	baz=359							
TIPB				S		**Sb**	**20 12 04.2**	**+0.6**
	baz=359							
TWB1	**Santiao Chiao**	**0.76**	**7**	*e*P		**Pn**	**20 11 55.6**	**-0.2**
	baz=11							
TWB1				*e*S		**Sn**	**20 12 05.9**	**-0.9**
	baz=11							
TWA	**Mucha**	**0.78**	**339**	*e*P		**Pn**	**20 11 55.4**	**-0.6**
	baz=342							
TWA				*e*S		**Sn**	**20 12 06.5**	**-0.8**
	baz=342							
NHDH	**Xindian Distri**	**0.78**	**335**	*e*P		**Pn**	**20 11 55.5**	**-0.6**
	baz=338							
NHDH				*e*S		**Sb**	**20 12 05.8**	**+0.5**
	baz=338							
TATO	**Taipei**	**0.81**	**333**	*e*S		**Sb**	**20 12 06.6**	**+0.5**
	baz=336							
NWF	**Wu-fen Shan**	**0.82**	**353**	P		**Pn**	**20 11 56.9**	**+0.2**
	baz=348							
NWF				*e*S		**Sb**	**20 12 07.2**	**+0.7**
	baz=348							
WFSB	**Wu-fen Shan**	**0.82**	**353**	P		**Pn**	**20 11 56.9**	**+0.3**
	baz=348							
WFSB				*e*S		**Sn**	**20 12 07.9**	**-0.5**
	baz=348							
NHY	**Taipei**	**0.84**	**340**	*e*P		**Pn**	**20 11 56.8**	**0.0**
	baz=342							
TAP	**Taipei**	**0.86**	**336**	*e*P		**Pn**	**20 11 57.4**	**+0.3**
	baz=339							
TAP				*e*S		**Sn**	**20 12 09.3**	**0.0**
	baz=339							
WHP	**Taichung City**	**0.86**	**272**	*e*P		**Pb**	**20 11 56.2**	**-0.2**
	baz=273							
WHP				*e*S		**Sg**	**20 12 07.3**	**-0.8**
	baz=273							
HGSD	**Ruisui**	**0.87**	**210**	*e*P		**Pb**	**20 11 56.3**	**-0.1**
	baz=195							
HGSD				*e*S		**Sn**	**20 12 10.2**	**+0.9**
	baz=195							
NJD	**Zhudong**	**0.88**	**304**	*e*P		**Pn**	**20 11 57.4**	**0.0**
	baz=311							
NJD				*e*S		**Sb**	**20 12 08.8**	**+0.8**
	baz=311							
WPL	**Puli Township**	**0.88**	**255**	P		**Pg**	**20 11 56.4**	**-0.7**
	baz=255							
WPL				*e*S		**Sg**	**20 12 08.0**	**-0.8**
	baz=255							
LIOB	**Emei**	**0.89**	**297**	*e*P		**Pb**	**20 11 57.1**	**+0.3**
	baz=298							
LIOB				*e*S		**Sb**	**20 12 08.6**	**+0.2**
	baz=298							
NSTT	**Nanjuang**	**0.89**	**295**	P		**Pb**	**20 11 56.9**	**0.0**
	baz=297							
NSTT				*e*S		**Sg**	**20 12 08.3**	**-0.8**
	baz=297							
TNOU	**National Taiwa**	**0.90**	**353**	P		**Pb**	**20 11 56.0**	**-1.0**
	baz=350							
TNOU				*e*S		**Sg**	**20 12 07.4**	**-1.9**
	baz=350							
EHY	**Hungye**	**0.90**	**215**	*e*P		**Pg**	**20 11 55.5**	**-2.0**
	baz=212							
DPDB	**Guoxing**	**0.91**	**256**	*e*P		**Pg**	**20 11 56.9**	**-0.6**
	baz=256							
WCS	**Beigang Elemen**	**0.91**	**258**	*e*P		**Pg**	**20 11 56.8**	**-0.9**
	baz=259							
WCS				*e*S		**Sg**	**20 12 08.7**	**-1.0**
	baz=259							
NTY	**Taoyuan**	**0.92**	**324**	*e*P		**Pn**	**20 11 58.2**	**+0.3**
	baz=327							
YM01	**YM01**	**0.94**	**342**	P		**Pn**	**20 11 58.8**	**+0.6**
	baz=329							
YM01				*e*S		**Sn**	**20 12 11.6**	**+0.3**
	baz=329							
HSN1	**Hsinchu**	**0.95**	**304**	*e*P		**Pn**	**20 11 59.2**	**+0.9**
	baz=296							
NCU	**National Centr**	**0.96**	**318**	*e*P		**Pn**	**20 11 59.1**	**+0.6**
	baz=320							
NCU				*e*S		**Sn**	**20 12 13.5**	**+1.7**
	baz=320							
NCUH	**Zhongli**	**0.96**	**318**	*e*P		**Pn**	**20 11 59.1**	**+0.6**
	baz=320							
NCUH				*e*S		**Sn**	**20 12 12.4**	**+0.7**
	baz=320							
SSLB	**Suanglung**	**0.97**	**242**	*e*P		**Pg**	**20 11 57.4**	**-1.3**
	baz=250							
SSLB				*e*S		**Sg**	**20 12 10.1**	**-1.4**
	baz=250							
YM08	**YM08**	**0.97**	**344**	*e*P		**Pn**	**20 11 59.3**	**+0.6**
	baz=330							
YM08				*e*S		**Sn**	**20 12 11.9**	**-0.2**
	baz=330							
SMLT	**Sun Moon Lake**	**0.97**	**248**	*e*P		**Pg**	**20 11 58.0**	**-0.8**
	baz=248							
SMLT				*e*S		**Sg**	**20 12 11.2**	**-0.5**
	baz=248							
JYNG	**Yonagunijimaku**	**0.98**	**78**	P		**Pn**	**20 12 00.0**	**+1.2**
JYNG				*e*S		**Sn**	**20 12 13.4**	**+1.1**
SBCB	**Hsinchu**	**0.98**	**303**	*e*P		**Pn**	**20 11 58.9**	**0.0**
	baz=299							
SBCB				*e*S		**Sn**	**20 12 14.1**	**+1.8**
	baz=299							
ANP	**Anpu**	**0.99**	**340**	*e*P		**Pb**	**20 11 58.4**	**-0.2**
	baz=342							
NTST	**Danshui**	**0.99**	**336**	*e*P		**Pn**	**20 11 59.9**	**+0.9**
	baz=338							
HSN	**Hsinchu**	**1.00**	**303**	*e*P		**Pb**	**20 11 58.8**	**+0.1**
	baz=307							
TYC	**Yuchr**	**1.00**	**250**	*e*P		**Pg**	**20 11 58.1**	**-1.3**
	baz=245							
TYC				*e*S		**Sg**	**20 12 11.3**	**-1.2**
	baz=245							
YULB	**Yu-li**	**1.01**	**213**	*e*P		**Pg**	**20 11 56.8**	**-2.7**
	baz=211							
ECBN	**Changbin**	**1.01**	**203**	*e*P		**Pb**	**20 11 58.8**	**-0.1**
	baz=200							
ECBN				*e*S		**Sb**	**20 12 12.6**	**+0.7**
	baz=200							
NJN	**Zhunan**	**1.02**	**295**	*e*P		**Pn**	**20 12 00.5**	**+1.1**
	baz=297							
EYUL	**Yuli**	**1.04**	**210**	*e*P		**Pg**	**20 11 59.0**	**-1.0**
	baz=223							
NMLH	**Miaoli**	**1.04**	**286**	*e*P		**Pn**	**20 12 00.7**	**+1.1**
	baz=287							
NSY	**Sanyi**	**1.04**	**279**	*e*P		**Pn**	**20 12 00.3**	**+0.7**
	baz=281							
NSY				*e*S		**Sn**	**20 12 14.4**	**+0.6**
	baz=281							
TWF1	**Yuli**	**1.04**	**211**	*e*P		**Pg**	**20 11 58.7**	**-1.5**
	baz=209							
TWF1				*e*S		**Sg**	**20 12 12.2**	**-1.7**
	baz=209							
YOJ	**Yonaguni jima**	**1.04**	**78**	P		**Pn**	**20 12 01.0**	**+1.3**
YOJ				*e*S		**Sn**	**20 12 16.4**	**+2.6**
YOJ	**Yonaguni jima**	**1.04**	**78**	*e*P		**Pn**	**20 12 00.9**	**+1.3**
	baz=69							
YOJ				*e*S		**Sn**	**20 12 17.6**	**+3.8**
	baz=69							
WHYT	**Xinyi Township**	**1.10**	**240**	*e*P		**Pg**	**20 12 00.1**	**-1.0**
	baz=247							
WHYT				*e*S		**Sg**	**20 12 15.0**	**-0.5**
	baz=247							
WWF	**Wufeng**	**1.11**	**260**	*e*P		**Pn**	**20 12 01.9**	**+1.4**
	baz=257							
WWF				*e*S		**Sn**	**20 12 17.1**	**+1.7**
	baz=257							
TCU	**Taichung**	**1.11**	**265**	*e*P		**Pn**	**20 12 01.7**	**+1.1**
	baz=266							
TCU				*e*S		**Sn**	**20 12 17.6**	**+2.2**
	baz=266							
WDJ	**Dajia District**	**1.14**	**275**	*e*P		**Pn**	**20 12 02.1**	**+1.1**
	baz=276							
WDJ				*e*S		**Sn**	**20 12 17.5**	**+1.3**
	baz=276							
WJS	**Zhushan**	**1.14**	**248**	*e*P		**Pn**	**20 12 01.6**	**+0.6**
	baz=246							
WJS				*e*S		**Sn**	**20 12 17.9**	**+1.6**
	baz=246							
WNT	**Mingjian**	**1.16**	**252**	*e*P		**Pn**	**20 12 02.6**	**+1.3**
	baz=250							
WNT				*e*S		**Sn**	**20 12 18.7**	**+2.0**
	baz=250							
FULB	**Fuli**	**1.18**	**208**	*e*P		**Pg**	**20 12 01.6**	**-1.1**
	baz=225							
FULB				*e*S		**Sn**	**20 12 19.4**	**+2.2**
	baz=225							
WCHH	**Zhanghua**	**1.23**	**262**	*e*P		**Pg**	**20 12 03.3**	**-0.3**
	baz=276							
WCHH				*e*S		**Sn**	**20 12 20.5**	**+2.2**
	baz=276							
WYL	**Yuanlin Townsh**	**1.23**	**257**	*e*P		**Pg**	**20 12 03.7**	**+0.1**
	baz=257							
WYL				*e*S		**Sn**	**20 12 21.5**	**+3.1**
	baz=257							
ALS	**Alishan**	**1.23**	**234**	*e*P		**Pg**	**20 12 02.4**	**-1.4**
	baz=235							
ALS				*e*S		**Sg**

WRL	**Guolierlin Hig**	**1.42 256**	*e*P	**Pn**	**20 12 05.6**	**+0.7**
	baz=256					
WRL			*e*S	**Sb**	**20 12 25.1**	**+1.3**
	baz=256					
STYH	**Taoyuan**	**1.48 224**	*e*P	**Pn**	**20 12 06.2**	**+0.5**
	baz=225					
STYH			*e*S	**Sn**	**20 12 25.2**	**+0.6**
	baz=225					
WTK	**Tuku**	**1.48 248**	*e*P	**Pb**	**20 12 06.7**	**-0.2**
	baz=247					
TPUB	**Ta-pu**	**1.49 231**	*e*P	**Pb**	**20 12 06.8**	**-0.3**
	baz=232					
TPUB			*e*S	**Sb**	**20 12 27.1**	**+1.4**
	baz=232					
STYT	**Tauyuan**	**1.50 224**	*e*P	**Pn**	**20 12 06.2**	**+0.3**
	baz=225					
STYT			*e*S	**Sn**	**20 12 26.6**	**+1.5**
	baz=225					
LONT	**Longtian**	**1.51 208**	*e*P	**Pn**	**20 12 04.7**	**-1.3**
	baz=207					
CHY	**Chiayi**	**1.54 241**	*e*P	**Pb**	**20 12 07.8**	**0.0**
	baz=242					
CHY			*e*S	**Sg**	**20 12 28.5**	**-0.9**
	baz=242					
WTP	**Ta-pu**	**1.54 230**	P	**Pb**	**20 12 07.6**	**-0.3**
	baz=230					
WTP			*e*S	**Sb**	**20 12 28.1**	**+1.1**
	baz=230					
TWGBT	**Beinan**	**1.61 208**	*e*P	**Pn**	**20 12 06.3**	**-1.1**
	baz=207					
TWG	**Pinlang**	**1.61 208**	*e*P	**Pn**	**20 12 06.2**	**-1.2**
	baz=207					
TWK	**Hsinying**	**1.61 233**	P	**Pb**	**20 12 08.7**	**-0.5**
	baz=234					
TWK			*e*S	**Sb**	**20 12 30.6**	**+1.3**
	baz=234					
LDUT	**Ludao**	**1.62 194**	*e*P	**Pn**	**20 12 05.6**	**-1.9**
	baz=185					
SNST	**Tainan City**	**1.64 231**	*e*P	**Pg**	**20 12 10.1**	**-1.3**
	baz=232					
SNST			*e*S	**Sb**	**20 12 31.2**	**+1.3**
	baz=232					
CHN1	**Nanshi**	**1.64 230**	*e*P	**Pb**	**20 12 09.1**	**-0.5**
	baz=231					
CHN1			*e*S	**Sg**	**20 12 31.6**	**-1.1**
	baz=231					
WSF	**Szhu**	**1.64 249**	*e*P	**Pb**	**20 12 09.1**	**-0.5**
	baz=249					
WSF			*e*S	**Sb**	**20 12 31.1**	**+1.1**
	baz=249					
SGST	**Jiashian**	**1.67 226**	*e*P	**Pn**	**20 12 08.8**	**+0.5**
	baz=213					
SGST			*e*S	**Sn**	**20 12 31.0**	**+1.8**
	baz=213					
IRIF	**Iriomote-Funau**	**1.68 87**	P	**Pb**	**20 12 09.6**	**-0.7**
SLGT	**Liugui**	**1.69 223**	*e*P	**Pb**	**20 12 09.8**	**-0.7**
	baz=224					
SLGT			*e*S	**Sb**	**20 12 32.1**	**+0.6**
	baz=224					
ICHU	**Yijhu**	**1.72 239**	*e*P	**Pb**	**20 12 10.5**	**-0.5**
	baz=238					
ECL	**Taimali**	**1.86 208**	*e*P	**Pn**	**20 12 10.4**	**-0.4**
	baz=199					
SCST	**Cishan**	**1.87 224**	*e*P	**Pb**	**20 12 12.8**	**-0.7**
	baz=224					
SCST			*e*S	**Sb**	**20 12 38.4**	**+1.9**
	baz=224					
SSD	**Sandimen**	**1.89 218**	*e*P	**Pb**	**20 12 12.9**	**-1.0**
	baz=231					
SSD			*e*S	**Sb**	**20 12 37.8**	**+0.6**
	baz=231					
TSMG	**Majia**	**1.92 217**	*e*P	**Pb**	**20 12 13.4**	**-0.9**
	baz=217					
TSMG			*e*S	**Sb**	**20 12 37.9**	**-0.1**
	baz=217					
MASBT	**Mashibuluo**	**2.00 216**	*e*P	**Pn**	**20 12 13.5**	**+0.7**
	baz=216					
MASBT			*e*S	**Sn**	**20 12 39.6**	**+2.3**
	baz=216					
EAST	**Anshuo**	**2.09 207**	*e*P	**Pn**	**20 12 13.1**	**-1.0**
	baz=201					
SSPT	**Xinbi**	**2.14 215**	*e*P	**Pn**	**20 12 15.4**	**+0.7**
	baz=213					
SCZT	**Fangliau**	**2.20 212**	*e*P	**Pn**	**20 12 17.1**	**+1.5**
	baz=212					
SCZT			*e*S	**Sn**	**20 12 45.4**	**+2.9**
	baz=212					
LAY	**Lan-yu**	**2.22 188**	*e*P	**Pn**	**20 12 15.0**	**-0.9**
	baz=180					
LAY			*e*S	**Sn**	**20 12 41.3**	**-1.7**
	baz=180					
PNG	**Penghu**	**2.24 253**	*e*P	**Pn**	**20 12 15.9**	**-0.2**
	baz=252					
PNG			*e*S	**Sn**	**20 12 43.1**	**-0.2**
	baz=252					
PHUB	**P'eng-hu**	**2.24 251**	*e*P	**Pn**	**20 12 15.8**	**-0.4**
	baz=251					
PHUB			*e*S	**Sn**	**20 12 42.6**	**-0.8**
	baz=251					
SLIU	**Shizi**	**2.26 207**	*e*P	**Pn**	**20 12 16.7**	**+0.3**
	baz=202					
WDGT	**Dungji**	**2.27 245**	*e*P	**Pn**	**20 12 17.1**	**+0.7**
	baz=243					
VWUC	**VWUC**	**2.34 289**	*e*P	**Pn**	**20 12 16.9**	**-0.6**
	baz=286					
VCHM	**Qimei**	**2.48 246**	*e*P	**Pn**	**20 12 19.5**	**0.0**
	baz=231					
VCHM			*e*S	**Sn**	**20 12 49.9**	**+0.7**
	baz=231					
TWK1	**Hengchun**	**2.50 204**	*e*P	**Pn**	**20 12 21.9**	**+2.2**
	baz=198					
TWKBT	**Hengchun**	**2.50 204**	*e*P	**Pn**	**20 12 20.9**	**+1.1**
	baz=193					
TWKBT			*e*S	**Sn**	**20 12 49.8**	**0.0**
	baz=193					
MATB	**Ma-tsu**	**2.58 317**	*e*P	**Pn**	**20 12 20.7**	**-0.1**
	baz=313					
PTMZ	**Houxiangcun**	**2.64 288**	*e*P	**Pn**	**20 12 21.0**	**-0.6**
	baz=284					
XPSS	**Dashiqiu**	**3.08 330**	*e*P	**Pn**	**20 12 27.5**	**-0.1**
	baz=325					
KNMB	**Chin-men Tao**	**3.20 275**	*e*P	**Pn**	**20 12 28.7**	**-0.6**
	baz=271					
AXDP	**Jialang**	**3.63 281**	*e*P	**Pn**	**20 12 36.8**	**+1.6**
	baz=276					
ZPLA	**Ao Xicun**	**3.80 266**	*e*P	**Pn**	**20 12 37.2**	**-0.3**
	baz=264					

*IDC **15** 20:19:58.7±2.7,32°.65S×178°.98W,h0km,mb3.8/2, mb1 4.0/3,mb1mx3.7/20,mbtmp3.8/3,ML3.7/1,MS3.6/1, Ms1 3.6/1,ms1mx2.8/41,Error ellipse: s-maj=63.6km s-min=43.8km az=123.0*

*NEIC **15** 20:20:09.6±0.6,33°.1S±0°.1×179°.3W±0°.2,h66km±14km, mb4.4/6,Error ellipse: s-maj=25.3km s-min=17.5km az=118.0*

ISC 15 20:20:06.2±1.8,**33°.0S**±0°.1×**179°.1W**±0°.2,**h45**km,**n20, σ0s97/14,mb4.3/6,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**5.06**	**204**	Pn	**Pn**	**20 21 20.2**	**+0.8**
URZ	**Urewera**	**6.12**	**209**	Pn	**Pn**	**20 21 34.1**	**+0.2**
	1.6nm,0.3s,baz=280,slow=4.8,SNR=12						
URZ				Sn	**Sn**	**20 22 42.0**	**-0.6**
	1.2nm,0.3s,baz=127,slow=20,SNR=1.8						
OUZ	**Omahuta**	**6.46**	**248**	Pn	**Pn**	**20 21 39.4**	**+0.8**
BKZ	**Black Stump Fm**	**7.14**	**209**	Pn	**Pn**	**20 21 48.8**	**+0.7**
DZM	**Mont Dzumac**	**16.77**	**307**	LR	LR	20 29 13.7	
	comp=Z,173nm,18.5s,baz=316,slow=33						
COEN	**Coen**	**39.16**	**290**	P	**P**	**20 27 30.4**	**+0.7**
ASAR	**Alice Springs**	**42.10**	**270**	P	**P**	**20 27 53.5**	**-0.5**
	0.7nm,0.6s,baz=109,slow=7.8,SNR=10.0						
WR0	**Warramunga Arr**	**43.15**	**276**	P	**P**	**20 28 01.7**	**-0.8**
WR0				IAmb	IAmb	20 28 31.3	
	comp=Z,7.5nm,1.2s						
WB2	**Warramunga Arr**	**43.31**	**275**	P	**P**	**20 28 03.7**	**-0.2**
WB2				IAmb	IAmb	20 28 13.3	
	comp=Z,15nm,1.6s						
WRAB	**Tennant Creek**	**43.32**	**275**	P	**P**	**20 28 03.6**	**-0.4**
WRAB				IAmb	IAmb	20 28 14.7	
	comp=Z,16nm,1.6s						
WRA	**Warramunga Arr**	**43.33**	**275**	P	**P**	**20 28 03.4**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=114,slow=7.8,SNR=25						
FITZ	**Fitzroy Crossi**	**51.47**	**272**	P	**P**	**20 29 04.8**	**-2.5**
FITZ				IAmb	IAmb	20 29 25.9	
	comp=Z,3.6nm,1.1s						

H03S2	**Juan Fernandez**	**79.84**	**124**	T	T	22 00 43.2	
	baz=236,slow=74						
H03S1	**Juan Fernandez**	**79.85**	**124**	T	T	22 00 35.4	
	baz=236,slow=74						
H03S3	**Juan Fernandez**	**79.86**	**124**	T	T	22 00 40.8	
	baz=236,slow=74						
H03N3	**Juan Fernandez**	**80.05**	**123**	T	T	22 00 44.5	
	baz=240,slow=72						
H03N2	**Juan Fernandez**	**80.05**	**123**	T	T	22 00 42.2	
	baz=240,slow=72						
H03N1	**Juan Fernandez**	**80.06**	**123**	T	T	22 00 40.2	
	baz=240,slow=72						
ARCES	**ARCESS Array B**	**140.87**	**347**	PKP	**PKPdf**	**20 39 30.4**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=22,slow=7.8,SNR=4.0						
FINES	**FINESS Array B**	**147.19**	**338**	PKPbc	**PKPdf**	**20 39 41.4**	**+0.1**
	comp=Z,4.0nm,1.1s,baz=46,slow=6.0,SNR=7.4						

*TUL **15** 20:29:54.2±1.7,35°.98N±0°.02×96°.79W±0°.04,h4km±4km, ML2.8,mb_Lg2.7/37(NEIC),Error ellipse: s-maj=4.6km s-min=1.9km az=104.0*

NEIC 15 20:29:54.6±1.3,**36°.00N**±0°.02×**96°.81W**±0°.04,**h4**km±5km, **Error ellipse: s-maj=4.6km s-min=2.0km az=104.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK031	**S. Brethren Rd**	**0.05**	**213**	Pg	Pg	20 29 55.7	0.0
OK031				Sg	Sg	20 29 56.7	+0.1
QUOK	**Quay**	**0.19**	**24**	Pg	Pg	20 29 58.7	+0.3
QUOK				Sg	Sg	20 30 01.7	+0.7
OK005	**Luther M Schoo**	**0.46**	**223**	Pg	Pg	20 30 03.5	+0.1
OK029	**Liberty Lake**	**0.56**	**250**	Pg	Pg	20 30 05.4	0.0
OK029				Sg	Sg	20 30 13.1	+0.4
OK001	**Jones High Sch**	**0.58**	**222**	Pg	Pg	20 30 05.7	-0.1
OK025	**Westminster Rd**	**0.60**	**226**		Pg	20 30 05.8	-0.3
OK025				Sg	Sg	20 30 14.3	+0.5
OK009	**Oakdale Elemen**	**0.65**	**231**	Pg	Pg	20 30 06.3	-0.7
OKCFA	**Oklahoma City**	**0.78**	**222**	Pg	Pg	20 30 08.7	-0.9
OKCFA				Sg	Sg	20 30 20.0	+0.3
OKCSW	**OKLAHOMA CITY**	**0.78**	**221**	Pg	Pg	20 30 08.8	-0.7
BLOK	**Blackwell**	**0.83**	**337**	Pg	Pg	20 30 10.4	-0.2
BLOK				Sg	Sg	20 30 21.5	+0.1
FNO	**Franklin**	**0.88**	**214**	Pg	Pg	20 30 10.5	-1.0
T35A	**Sooner Cattle**	**0.95**	**14**	Pg	Pg	20 30 12.4	-0.4
CROK	**Carrier**	**1.08**	**298**	Pg	Pg	20 30 14.9	-0.4
KAN13	**South Haven SW**	**1.15**	**332**	Pg	Pg	20 30 16.7	+0.1
GC02	**Grant County #**	**1.21**	**315**	Pg	Pg	20 30 16.9	-0.8
KAN17	**Caldwell West**	**1.30**	**324**	Pn	Pg	20 30 19.0	-0.6
KAN09	**Caldwell North**	**1.31**	**330**		Pn	20 30 18.4	-1.4
KAN14	**Manchester OK**	**1.34**	**316**	Pn	Pn	20 30 19.4	-0.7
KS20	**Mayfield South**	**1.37**	**334**	Pn	Pn	20 30 20.1	-0.5
OK032	**Salt Plains WL**	**1.39**	**306**	Pn	Pn	20 30 20.1	-0.8
KAN05	**Bluff City Nor**	**1.41**	**323**	Pn	Pn	20 30 20.8	-0.2
KAN08	**Anthony NE Sta**	**1.55**	**323**	Pn	Pb	20 30 23.7	-0.1
KAN16	**Harper SW Stat**	**1.59**	**321**	Pn	Pn	20 30 23.7	+0.1
KAN12	**Harper NE Stat**	**1.61**	**324**	Pn	Pn	20 30 23.1	-0.8
X34A	**Smith Ranch, M**	**1.62**	**211**		Pn	20 30 24.0	0.0
X34A				IAmb	Lg	20 30 48.5	
	comp=Z,36nm,0.9s						
U32A	**Winter Ranch,**	**1.82**	**283**	Pn	Pn	20 30 27.2	+0.5
X37A	**Clayton**	**1.83**	**140**	Pn	Pn	20 30 27.1	+0.2
X37A				IAmb	Lg	20 30 55.9	
	comp=Z,42nm,0.7s						
U38A	**Gravette**	**2.01**	**77**	Pn	Pn	20 30 29.7	+0.4
LOOK	**Love County**	**2.02**	**189**	Pn	Pn	20 30 30.1	+0.6
LOOK				IAmb	Lg	20 30 59.4	
	comp=Z,26nm,0.8s						
WMOK	**Wichita Mounta**	**2.04**	**233**	Pn	Pn	20 30 30.2	+0.4
HHAR	**Hobbs**	**2.34**	**82**	Pn	Pn	20 30 34.8	+1.0
W39A	**Magazine**	**2.59**	**107**	Pn	Pn	20 30 37.5	+0.2
R32A	**Long Quarter,**	**2.86**	**328**	Pn	Pn	20 30 41.1	0.0
MIAR	**Mount Ida**	**3.01**	**118**	Pn	Pn	20 30 43.6	+0.5
KSU1	**Kansas State U**	**3.10**	**3**	IAmb	Lg	20 31 37.7	
	comp=Z,15nm,0.8s						
Z38A	**Mt. Pleasant**	**3.11**	**151**	IAmb	Lg	20 31 34.3	
	comp=Z,28nm,0.7s						
U40A	**Yellville**	**3.22**	**82**	Pn	Pn	20 30 45.8	-0.2
S39A	**Bolivar**	**3.27**	**58**	Pn	Pn	20 30 47.1	+0.5
X40A	**Basin Creek Fa**	**3.58**	**114**	Pn	Pn	20 30 49.8	-1.2
CBKS	**Cedar Bluff**	**3.66**	**321**	Pn	Pn	20 30 52.3	+0.3
WHAR	**Wooly Hollow**	**3.75**	**99**	Pn	Pn	20 30 53.0	-0.2
FCAR	**Ozark Folk Cen**	**3.80**	**90**		Pn	20 30 51.8	-2.2
FCAR				IAmb	Lg	20 31 57.1	
	comp=Z,30nm,0.7s						
MGMO	**Mountain Grove**	**3.83**	**71**	IAmb	Lg	20 31 59.2	
	comp=Z,18nm,0.7s						
AMTX	**Amarillo**	**4.13**	**256**	IAmb	Lg	20 32 13.6	
	comp=Z,15nm,0.8s						
R40A	**Madies Statio**	**4.29**	**56**	IAmb	Lg	20 32 12.3	
	comp=Z,31nm,1.2s						
P38A	**Dawn**	**4.46**	**35**	Pn	Pn	20 31 03.2	+0.3
LCAR	**Lake Charles**	**4.58**	**87**	IAmb	Lg	20 32 25.7	
	comp=Z,9.7nm,0.8s						
CCM	**Cathedral Cave**	**4.90**	**64**	IAmb	Lg	20 32 34.6	
	comp=Z,23nm,1.1s						
PBMO	**Poplar Bluff**	**5.20**	**79**	Pn	Pn	20 31 09.7	-3.5
PBMO				IAmb	Lg	20 32 48.1	
	comp=Z,14nm,0.7s						
MSTX	**Muleshoe**	**5.30**	**249**	IAmb	Lg	20 32 50.2	
	comp=Z,8.7nm,1.2s						
KSCO	**Kaye Shedlock'**	**5.52**	**305**	IAmb	Lg	20 33 00.9	
	comp=Z,12nm,0.8s						
N38A	**Joes South For**	**5.55**	**29**	IAmb	Lg	20 33 00.9	
	comp=Z,17nm,0.7s						
JCT	**Junction City**	**6.04**	**205**	IAmb	Lg	20 33 17.5	
	comp=Z,9.4nm,0.9s						
T25A	**Trinidad**	**6.23**	**283**	Pn	Pn	20 31 26.5	-1.0
T25A				IAmb	Lg	20 33 13.9	
	comp=Z,8.0nm,0.8s						
P43A	**Skaggs, Pawnee**	**6.82**	**56**	IAmb	Lg	20 33 38.3	
	comp=Z,15nm,0.7s						
Q44A	**Meyer Farm, Va**	**6.84**	**63**	IAmb	Lg	20 33 43.3	
	comp=Z,20nm,0.9s						

*TAP **15** 20:30:11.1,24°.26N×121°.83E,h20km,ML3.7,B*
*JMA **15** 20:30:11.1,24°.22N×121°.81E,h24km±2km,M3.1*

ISC 15 20:30:10.3±0.9,**24°.21N**±0°.01×**121°.87E**±0°.02,**h15**km±7km, **n118,σ0s81/197,5C-15D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.16**	**311**	P	**Pb**	**20 30 15.1**	**+0.1**
EHP				S	**Sb**	**20 30 18.2**	**+0.1**
	baz=303						
ETL	**Fush Village**	**0.23**	**258**	*i*P	**Pb**	**20 30 16.6**	**+0.4**
ETL				S	**Sb**	**20 30 20.7**	**+0.5**
	baz=248						
ENA	**Nanau**	**0.25**	**332**	*i*P	**Pb**	**20 30 16.1**	**-0.5**
ENA				S	**Sg**	**20 30 19.8**	**+0.4**
	baz=336						
EWUT	**Wuta**	**0.25**	**341**	*i*P	**Pb**	**20 30 16.3**	**-0.3**
EWUT				S	**Sg**	**20 30 20.0**	**+0.5**
	baz=345						
NACB	**Ninganchiao**	**0.25**	**263**	*i*P	**Pb**	**20 30 16.6**	**0.0**
NACB				*i* S	**Sb**	**20 30 21.0**	**+0.2**
	baz=248						
TWD	**Chiawan**	**0.28**	**243**	*i*P	**Pb**	**20 30 17.5**	**+0.5**
TWD				*i* S	**Sb**	**20 30 22.4**	**+0.8**
	baz=234						
HWA	**Hwalien**	**0.33**	**227**	P	**Pn**	**20 30 19.7**	**-0.9**
HWA				S	**Sn**	**20 30 26.2**	**-1.0**
	baz=225						
ETLH	**Xiulin Townshi**	**0.35**	**270**	*i*P	**Pb**	**20 30 18.2**	**-0.2**
ETLH				*i* S	**Sb**	**20 30 23.2**	**-0.6**
	baz=260						
TWC	**Suao**	**0.40**	**357**	*i*P	**Pg**	**20 30 18.7**	**+0.3**
TWC				*i* S	**Sg**	**20 30 23.9**	**0.0**
	baz=9.0						
TEYL	**Yanliau Villag**	**0.42**	**216**	P	**Pn**	**20 30 20.5**	**-1.3**
TEYL				*e*S	**Sn**	**20 30 28.6**	**-0.7**
	baz=200						
ETM	**Tongmen**	**0.42**	**235**	P	**Pb**	**20 30 20.0**	**+0.5**
	baz=233						
ETM				*e*S	**Sb**	**20 30 26.6**	**+0.9**
	baz=233						
NDS	**Dongshan**	**0.45**	**342**	*i*P	**Pb**	**20 30 19.6**	**-0.4**
	baz=344						
NDS				S	**Sg**	**20 30 25.0**	**-0.3**
	baz=344						
NNSB	**Datong**	**0.50**	**297**	*i*P	**Pb**	**20 30 20.5**	**-0.3**
	baz=292						
NNSB				S	**Sg**	**20 30 26.8**	**-0.1**
	baz=292						
NNS	**Nan Shan**	**0.51**	**297**	*i*P	**Pb**	**20 30 20.7**	**-0.4**
	baz=293						
NNS				*i* S	**Sg**	**20 30 27.1**	**-0.2**
	baz=293						
NDT	**Datong Townshi**	**0.51**	**321**	*i*P	**Pg**	**20 30 20.6**	**+0.2**
	baz=319						
NDT				*i* S	**Sg**	**20 30 27.5**	**+0.2**
	baz=319						
ENTT	**Nioudou**	**0.51**	**327**	*i*P	**Pg**	**20 30 20.6**	**+0.1**
	baz=321						
ENTT				*i* S	**Sg**	**20 30 27.3**	**0.0**
	baz=321						
TWE	**Neicheng**	**0.55**	**340**	*i*P	**Pg**	**20 30 21.1**	**+0.1**
	baz=343						
TWE				S	**Sg**	**20 30 28.4**	**0.0**
	baz=343						
WHF	**Hehuan Shan**	**0.56**	**264**	*i*P	**Pb**	**20 30 22.0**	**0.0**
	baz=257						
WHF				S	**Sb**	**20 30 29.6**	**-0.4**
	baz=257						
ESL	**Shilin**	**0.56**	**226**	P	**Pn**	**20 30 22.5**	**-1.2**
	baz=224						
ESL				*e*S	**Sn**	**20 30 31.1**	**-1.7**
	baz=224						
ILA	**Ilan**	**0.57**	**349**	*i*P	**Pb**	**20 30 21.9**	**-0.1**
	baz=351						
ILA				*i* S	**Sb**	**20 30 29.6**	**-0.3**
	baz=351						
FUSS	**Fushou**	**0.57**	**274**	P	**Pb**	**20 30 22.2**	**0.0**
	baz=269						
FUSS				S	**Sb**	**20 30 29.7**	**-0.6**
	baz=269						
TWT	**Tachien**	**0.64**	**274**	P	**Pb**	**20 30 23.7**	**+0.5**
	baz=269						
TWT				S	**Sb**	**20 30 31.8**	**-0.2**
	baz=269						
EGS		**0.64**	**5**	*e*P	**Pb**	**20 30 23.9**	**+0.7**
	baz=15						
EGS				*e*S	**Sb**	**20 30 32.0**	**0.0**
	baz=15						
NTC	**Toucheng**	**0.65**	**357**	*e*P	**Pg**	**20 30 23.1**	**+0.1**
	baz=359						
NTC				*e*S	**Sg**	**20 30 31.3**	**-0.2**
	baz=359						
TDCB	**Techi**	**0.65**	**274**	*i*P	**Pb**	**20 30 23.6**	**+0.1**
	baz=269						
TDCB				S	**Sg**	**20 30 31.7**	**0.0**
	baz=269						
CHGB	**Renai**	**0.65**	**257**	P	**Pb**	**20 30 23.8**	**+0.3**
	baz=243						
CHGB				S	**Sb**	**20 30 32.2**	**-0.4**
	baz=243						
NWLT	**Wulai**	**0.66**	**330**	P	**Pg**	**20 30 23.0**	**-0.2**
	baz=327						
NWLT				S	**Sg**	**20 30 31.2**	**-0.8**
	baz=327						
NSK	**Sanguang**	**0.66**	**315**	*i*P	**Pg**	**20 30 23.0**	**-0.2**
	baz=314						
NSK				S	**Sg**	**20 30 31.1**	**-0.9**
	baz=314						
EGFH	**Guangfu**	**0.67**	**217**	*e*P	**Pn**	**20 30 24.7**	**-0.6**
	baz=226						
EGFH				*e*S	**Sn**	**20 30 35.2**	**-0.4**
	baz=226						
OWD	**Renai**	**0.68**	**249**	*i*P	**Pb**	**20 30 24.3**	**+0.3**
	baz=243						
OWD				*e*S	**Sb**	**20 30 33.5**	**+0.2**
	baz=243						
TIPB	**Shuangxi**	**0.76**	**357**	P	**Pb**	**20 30 25.4**	**0.0**
	baz=359						
TIPB				S	**Sg**	**20 30 34.5**	**-0.7**
	baz=359						
TWB1	**Santiao Chiao**	**0.81**	**8**	*e*P	**Pg**	**20 30 25.7**	**-0.2**
	baz=3.0						
TWB1				*e*S	**Sg**	**20 30 35.9**	**-0.7**
	baz=3.0						
TWA	**Mucha**	**0.81**	**341**	P	**Pg**	**20 30 26.1**	**0.0**
	baz=342						
TWA				S	**Sg**	**20 30 36.1**	**-0.7**
	baz=342						
NHDH	**Xindian Distri**	**0.82**	**337**	*e*P	**Pn**	**20 30 26.7**	**-0.6**
	baz=338						
NHDH				*e*S	**Sg**	**20 30 36.3**	**-0.6**
	baz=338						
HGSD	**Ruisui**	**0.82**	**210**	*e*P	**Pn**	**20 30 27.6**	**+0.2**
	baz=198						
WHP	**Taichung City**	**0.85**	**275**	*e*P	**Pn**	**20 30 27.2**	**-0.6**
	baz=271						
WHP				*e*S	**Sb**	**20 30 38.0**	**0.0**
	baz=271						
EHY	**Hungye**	**0.86**	**216**	*e*P	**Pg**	**20 30 26.6**	**-0.3**
	baz=212						
NWF	**Wu-fen Shan**	**0.86**	**355**	*i*P	**Pg**	**20 30 27.4**	**+0.3**
	baz=349						
NWF				S	**Sg**	**20 30 37.8**	**-0.7**
	baz=349						
WCS	**Beigang Elemen**	**0.89**	**261**	*e*P	**Pn**	**20 30 28.0**	**-0.3**
	baz=257						
WCS				*e*S	**Sg**	**20 30 39.2**	**0.0**
	baz=257						
LIOB	**Emei**	**0.89**	**299**	P	**Pg**	**20 30 27.8**	**+0.2**
	baz=297						
LIOB				S	**Sb**	**20 30 38.6**	**-0.7**
	baz=297						
TAP	**Taipei**	**0.89**	**338**	*e*P	**Pg**	**20 30 27.8**	**+0.2**
	baz=339						
TAP				S	**Sg**	**20 30 39.4**	**+0.1**
	baz=339						
NSTT	**Nanjuang**	**0.90**	**298**	*i*P	**Pg**	**20 30 27.6**	**-0.1**
	baz=296						
NSTT				*i* S	**Sb**	**20 30 38.8**	**-0.6**
	baz=296						
SSLB	**Suanglung**	**0.94**	**244**	*e*P	**Pn**	**20 30 28.5**	**-0.4**
	baz=239						
SMLT	**Sun Moon Lake**	**0.94**	**250**	*e*P	**Pn**	**20 30 29.1**	**-0.1**
	baz=240						
SMLT				*e*S	**Sn**	**20 30 42.0**	**-0.5**
	baz=240						
YULB	**Yu-li**	**0.96**	**213**	*e*P	**Pg**	**20 30 28.8**	**-0.2**
	baz=212						
TYC	**Yuchr**	**0.97**	**252**	*e*P	**Pn**	**20 30 29.2**	**-0.3**
	baz=240						
YM01	**YM01**	**0.97**	**344**	P	**Pg**	**20 30 29.2**	**+0.1**
	baz=329						
YM01				*e*S	**Sb**	**20 30 41.5**	**-0.2**
	baz=329						
TWS1	**Kuangyinshan**	**0.98**	**335**	P	**Pb**	**20 30 28.5**	**-0.6**
	baz=335						
TWS1				S	**Sb**	**20 30 41.6**	**-0.2**
	baz=335						
NCU	**National Centr**	**0.98**	**321**	*e*P	**Pg**	**20 30 29.2**	**-0.1**
	baz=319						
NCU				*e*S	**Sn**	**20 30 43.1**	**-0.1**
	baz=319						
NCUH	**Zhongli**	**0.98**	**321**	*e*P	**Pg**	**20 30 29.2**	**-0.1**
	baz=319						
NCUH				*e*S	**Sn**	**20 30 42.7**	**-0.5**
	baz=319						
EYUL	**Yuli**	**0.99**	**211**	*e*P	**Pn**	**20 30 30.7**	**+0.9**
	baz=221						
SBCB	**Hsinchu**	**0.99**	**306**	*e*P	**Pn**	**20 30 30.1**	**+0.3**
	baz=

NTST				*eS*		**Sn**	**20 30 44.5**	**+0.1**
	baz=344								
NSY	**Sanyi**	**1.03**	**282**	*eP*		**Pn**	**20 30 31.1**	**+0.8**
	baz=278								
NSY				*eS*		**Sn**	**20 30 44.4**	**-0.1**
	baz=278								
NMLH	**Miaoli**	**1.04**	**289**	P		**Pn**	**20 30 31.4**	**+1.0**
	baz=290								
NMLH				*eS*		**Sn**	**20 30 44.4**	**-0.2**
	baz=290								
WHYT	**Xinyi Township**	**1.06**	**242**	*eP*		**Pg**	**20 30 31.0**	**+0.3**
	baz=231								
YOJ	**Yonaguni jima**	**1.07**	**76**	P		**Pg**	**20 30 31.5**	**+0.5**
YOJ				*eS*		**Sn**	**20 30 47.2**	**+1.8**
YOJ	**Yonaguni jima**	**1.07**	**76**	P		**Pg**	**20 30 31.3**	**+0.3**
	baz=69								
YOJ				*eS*		**Sn**	**20 30 45.9**	**+0.4**
	baz=69								
TCU	**Taichung**	**1.09**	**267**	*eP*		**Pg**	**20 30 32.3**	**+0.9**
	baz=263								
TCU				*eS*		**Sn**	**20 30 48.6**	**+2.6**
	baz=263								
TWY	**Chenhua**	**1.09**	**347**	*eP*		**Pg**	**20 30 31.3**	**-0.1**
	baz=348								
TWY				*eS*		**Sb**	**20 30 45.3**	**+0.2**
	baz=348								
WJS	**Zhushan**	**1.11**	**250**	*eP*		**Pg**	**20 30 32.1**	**+0.3**
	baz=244								
WJS				*eS*		**Sn**	**20 30 48.7**	**+2.2**
	baz=244								
WDJ	**Dajia District**	**1.13**	**277**	*eP*		**Pg**	**20 30 32.2**	**+0.1**
	baz=274								
WDJ				*eS*		**Sn**	**20 30 48.3**	**+1.4**
	baz=274								
WNT	**Mingjian**	**1.13**	**253**	P		**Pg**	**20 30 32.8**	**+0.6**
	baz=248								
WNT				*eS*		**Sn**	**20 30 50.7**	**+3.7**
	baz=248								
FULB	**Fuli**	**1.13**	**208**	*eP*		**Pg**	**20 30 32.7**	**+0.5**
	baz=221								
ALS	**Alishan**	**1.20**	**235**	*eP*		**Pg**	**20 30 33.3**	**-0.1**
	baz=231								
WCHH	**Zhanghua**	**1.21**	**264**	*eP*		**Pg**	**20 30 33.9**	**+0.4**
	baz=259								
CHN5	**Tsauling**	**1.25**	**241**	*eP*		**Pg**	**20 30 34.6**	**+0.2**
	baz=238								
CHN5				*eS*		**Sg**	**20 30 53.0**	**+2.4**
	baz=238								
ELDTW	**Lidau**	**1.28**	**218**	*eP*		**Pb**	**20 30 33.8**	**-0.4**
	baz=206								
WDLH	**Douliu**	**1.32**	**247**	*eP*		**Pg**	**20 30 35.4**	**-0.4**
	baz=244								
WDLH				*eS*		**Sg**	**20 30 54.8**	**+1.8**
	baz=244								
EDH	**Donghe**	**1.33**	**203**	*eP*		**Pn**	**20 30 33.8**	**-0.6**
	baz=192								
WRL	**Guolierlin Hig**	**1.40**	**258**	*eP*		**Pb**	**20 30 36.0**	**-0.1**
	baz=254								
WRL				*eS*		**Sg**	**20 30 55.9**	**+0.5**
	baz=254								
STYH	**Taoyuan**	**1.44**	**224**	*eP*		**Pg**	**20 30 39.7**	**+1.7**
	baz=221								
CHN2	**Minshiung**	**1.44**	**243**	*eP*		**Pg**	**20 30 38.3**	**+0.2**
	baz=239								
CHN2				*eS*		**Sg**	**20 30 58.9**	**+2.1**
	baz=239								
WTK	**Tuku**	**1.45**	**249**	*eP*		**Pb**	**20 30 37.2**	**+0.2**
	baz=245								
WTK				*eS*		**Sg**	**20 30 57.5**	**+0.5**
	baz=245								
TPUB	**Ta-pu**	**1.45**	**232**	*eP*		**Pg**	**20 30 38.1**	**-0.1**
	baz=229								
TPUB				*eS*		**Sg**	**20 30 56.5**	**-0.5**
	baz=229								
LONT	**Longtian**	**1.46**	**208**	*eP*		**Pb**	**20 30 36.7**	**-0.5**
	baz=210								
WTP	**Ta-pu**	**1.50**	**231**	P		**Pg**	**20 30 38.7**	**-0.4**
	baz=227								
WTP				*eS*		**Sg**	**20 30 58.6**	**+0.1**
	baz=227								
CHY	**Chiayi**	**1.50**	**242**	*eP*		**Pg**	**20 30 38.8**	**-0.3**
	baz=226								
TWGBT	**Beinan**	**1.56**	**208**	*eP*		**Pn**	**20 30 37.6**	**0.0**
	baz=210								
TWG	**Pinlang**	**1.56**	**208**	*eP*		**Pn**	**20 30 37.8**	**+0.2**
	baz=210								
LDUT	**Ludao**	**1.57**	**194**	*eP*		**Pn**	**20 30 36.6**	**-1.1**
	baz=185								
LDUT				*eS*		**Sn**	**20 30 55.8**	**-2.0**
	baz=185								
TWK	**Hsinying**	**1.57**	**234**	*eP*		**Pb**	**20 30 39.4**	**+0.2**
	baz=230								
TWK				*eS*		**Sg**	**20 31 01.9**	**+0.8**
	baz=230								
CHN1	**Nanshi**	**1.60**	**231**	*eP*		**Pg**	**20 30 40.1**	**-0.9**
	baz=228								
CHN1				*eS*		**Sg**	**20 31 02.2**	**+0.5**
	baz=228								
SNST	**Tainan City**	**1.60**	**232**	*eP*		**Pg**	**20 30 40.4**	**-0.6**
	baz=229								
SNST				*eS*		**Sg**	**20 31 01.7**	**0.0**
	baz=229								
WSF	**Szhu**	**1.61**	**250**	*eP*		**Pb**	**20 30 39.7**	**-0.1**
	baz=245								
WSF				*eS*		**Sg**	**20 31 01.1**	**-1.1**
	baz=245								
SGST	**Jiashian**	**1.63**	**227**	*eP*		**Pb**	**20 30 39.3**	**-0.7**
	baz=212								
SGST				*eS*		**Sg**	**20 31 02.4**	**-0.3**
	baz=212								
ICHU	**Yijhu**	**1.68**	**240**	*eP*		**Pb**	**20 30 40.8**	**-0.2**
	baz=236								
IRIF	**Iriomote-Funau**	**1.70**	**85**	P		**Pn**	**20 30 40.1**	**+0.6**
IRIF				*eS*		**Sn**	**20 31 01.5**	**+0.5**
CHN8	**Yiju**	**1.74**	**241**	*eP*		**Pb**	**20 30 41.4**	**-0.7**
	baz=236								
HATJ	**Hateruma jima**	**1.77**	**94**	P		**Pn**	**20 30 41.3**	**+0.8**
ECL	**Taimali**	**1.81**	**208**	*eP*		**Pb**	**20 30 42.3**	**-0.8**
	baz=200								
SCST	**Cishan**	**1.82**	**224**	*eP*		**Pb**	**20 30 43.7**	**+0.3**
	baz=221								
SSD	**Sandimen**	**1.84**	**218**	*eP*		**Pb**	**20 30 43.9**	**+0.1**
	baz=217								
TSMG	**Majia**	**1.87**	**217**	*eP*		**Pb**	**20 30 43.7**	**-0.5**
	baz=216								
MASBT	**Mashibuluo**	**1.95**	**216**	*eP*		**Pb**	**20 30 44.4**	**-1.2**
	baz=215								
JKRS	**Kuro-shima**	**1.95**	**89**	P		**Pb**	**20 30 44.3**	**-1.3**
JKRS				*eS*		**Sb**	**20 31 08.9**	**-0.9**
EAST	**Anshuo**	**2.04**	**208**	*eP*		**Pb**	**20 30 46.8**	**-0.4**
	baz=202								
JIJ	**Ishigaki jima**	**2.08**	**85**	P		**Pn**	**20 30 45.3**	**+0.6**
JIJ				*eS*		**Sn**	**20 31 10.9**	**+0.5**
SCZT	**Fangliau**	**2.16**	**212**	*eP*		**Pb**	**20 30 48.1**	**-1.0**
	baz=212								
LAY	**Lan-yu**	**2.18**	**188**	*eP*		**Pn**	**20 30 45.1**	**-0.9**
	baz=194								
PNG	**Penghu**	**2.21**	**254**	*eP*		**Pn**	**20 30 46.7**	**+0.2**
	baz=248								
PNG				*eS*		**Sn**	**20 31 14.2**	**+0.6**
	baz=248								
SLIU	**Shizi**	**2.21**	**207**	*eP*		**Pb**	**20 30 48.8**	**-1.2**
	baz=201								
PHUB	**P'eng-hu**	**2.21**	**252**	*eP*		**Pn**	**20 30 46.5**	**0.0**
	baz=247								
PHUB				*eS*		**Sn**	**20 31 14.1**	**+0.5**
	baz=247								
JISG	**Ishigakijimahi**	**2.26**	**80**	P		**Pn**	**20 30 47.5**	**+0.4**
JISG				*eS*		**Sn**	**20 31 16.3**	**+1.6**
TWK1	**Hengchun**	**2.46**	**204**	*eP*		**Pb**	**20 30 52.9**	**-1.3**
	baz=199								
MATB	**Ma-tsu**	**2.61**	**318**	*eP*		**Pn**	**20 30 50.7**	**-1.2**
	baz=312								
JTJ	**Tarama**	**2.62**	**80**	*eS*		**Sb**	**20 31 26.5**	**-2.4**
PTMZ	**Houxiangcun**	**2.64**	**289**	*eP*		**Pn**	**20 30 51.6**	**-0.8**
	baz=283								
LYJJ	**Jianjiangzhen**	**3.02**	**321**	*eP*		**Pn**	**20 30 56.5**	**-1.0**
	baz=314								
JIRB	**Irabujima**	**3.07**	**78**	P		**Pn**	**20 31 00.3**	**+2.0**
JIRB				*eS*		**Sn**	**20 31 37.4**	**+2.6**
KNMB	**Chin-men Tao**	**3.19**	**275**	*eP*		**Pn**	**20 30 59.3**	**-0.6**
	baz=269								
MHZQ	**Yeshan**	**3.19**	**307**	*eP*		**Pn**	**20 30 58.7**	**-1.3**
	baz=300								
AXDP	**Jialang**	**3.62**	**282**	*eP*		**Pn**	**20 31 07.1**	**+1.2**
	baz=275								
ZPLA	**Ao Xicun**	**3.78**	**267**	*eP*		**Pn**	**20 31 07.7**	**-0.3**
	baz=260								

TUL ***15*** *20:42:06.1±1.6, 35°.984N×0°.008×96°.80W±0°.03, h4km±4km, ML2.8, mb_Lg2.6/23(NEIC), Error ellipse: s-maj=3.8km s-min=0.4km az=106.0*

NEIC 15 20:42:06.2±2.2, 36°.00N±0°.01×96°.77W±0°.01, h8km±3km, Error ellipse: s-maj=2.5km s-min=1.0km az=147.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
OK031	**S. Brethren Rd**	**0.07**	**230**	Pg		Pg	20 42 07.6	-0.6
OK031				Sg		Sg	20 42 08.5	-1.1
QUOK	**Quay**	**0.18**	**16**	Pg		Pg	20 42 10.5	+0.6
QUOK				Sg		Sg	20 42 13.4	+1.0
OK029	**Liberty Lake**	**0.59**	**250**	Pg		Pg	20 42 17.2	-0.4
OK029				Sg		Sg	20 42 24.9	-0.4
OK025	**Westminster Rd**	**0.62**	**228**	Pg		Pg	20 42 17.6	-0.6
OK025				Sg		Sg	20 42 26.2	-0.1
OKCFA	**Oklahoma City**	**0.81**	**224**	Pg		Pg	20 42 21.2	-0.5
OKCFA				Sg		Sg	20 42 31.8	-0.4
BLOK	**Blackwell**	**0.84**	**335**	Pg		Pg	20 42 22.2	-0.2
BLOK				Sg		Sg	20 42 33.3	0.0
FNO	**Franklin**	**0.90**	**215**	Pg		Pg	20 42 22.4	-1.1
FNO				Sg		Sg	20 42 34.8	-0.4
T35A	**Sooner Cattle**	**0.94**	**13**	Pg		Pg	20 42 24.2	0.0
T35A				Sg		Sb	20 42 37.4	+0.1
CROK	**Carrier**	**1.10**	**298**	Pg		Pg	20 42 26.6	-0.7
CROK				Sg		Sg	20 42 41.2	-0.4
KAN13	**South Haven SW**	**1.16**	**331**	Pg		Pn	20 42 28.6	-0.1
GC02	**Grant County #**	**1.22**	**314**	Pg		Pb	20 42 28.8	-0.8
OK032	**Salt Plains WL**	**1.41**	**305**	Pn		Pn	20 42 31.9	-0.3
KAN05	**Bluff City Nor**	**1.42**	**322**	Pn		Pn	20 42 31.9	-0.3
KAN16	**Harper SW Stat**	**1.61**	**320**	Pn		Pb	20 42 35.5	-0.6
X34A	**Smith Ranch, M**	**1.65**	**212**	Pn		Pn	20 42 36.0	+0.6
X34A				IAmb_Lg			20 43 00.1	
	comp=Z,19nm,0.7s							
X37A	**Clayton**	**1.81**	**141**			Pb	20 42 39.4	-0.2
U32A	**Winter Ranch,**	**1.84**	**282**	Pn		Pn	20 42 38.9	+0.8
U38A	**Gravette**	**1.98**	**76**			Pb	20 42 42.0	-0.4
LOOK	**Love County**	**2.03**	**190**	Pn		Pn	20 42 41.6	+0.9
WMOK	**Wichita Mounta**	**2.07**	**233**	Pn		Pn	20 42 42.6	+1.4
HHAR	**Hobbs**	**2.31**	**82**	Pn		Pb	20 42 46.6	-1.4
W39A	**Magazine**	**2.56**	**107**	Pn		Pb	20 42 50.4	-2.0
Z35A	**Perchaven, San**	**2.69**	**189**	Pn		Pn	20 42 51.9	+2.1
R32A	**Long Quarter,**	**2.87**	**328**	Pn		Pn	20 42 52.4	+0.1
MIAR	**Mount Ida**	**2.99**	**118**	Pn		Pn	20 42 55.6	+1.8
KSU1	**Kansas State U**	**3.10**	**2**	IAmb_Lg			20 43 51.6	
	comp=Z,14nm,0.9s							
Z38A	**Mt. Pleasant**	**3.10**	**151**	IAmb_Lg			20 43 46.6	
	comp=Z,18nm,0.8s							
U40A	**Yellville**	**3.19**	**82**	Pn		Pn	20 42 58.7	+2.1
S39A	**Bolivar**	**3.24**	**58**	IAmb_Lg			20 43 56.5	
	comp=Z,9.1nm,0.7s							
X40A	**Basin Creek Fa**	**3.56**	**114**	Pn		Pn	20 42 57.8	-3.9
WHAR	**Wooly Hollow**	**3.72**	**100**	Pn		Pn	20 43 02.4	-1.4
FCAR	**Ozark Folk Cen**	**3.77**	**90**	Pn		Pn	20 43 05.9	+1.3
FCAR				IAmb_Lg			20 44 08.9	
	comp=Z,22nm,0.8s							
WLAR	**White Oak Lake**	**3.79**	**126**	Pn		Pn	20 43 06.8	+2.0
MGMO	**Mountain Grove**	**3.80**	**71**	IAmb_Lg			20 44 11.4	
	comp=Z,24nm,0.7s							
ABTX	**Abilene, Hawle**	**4.12**	**216**	IAmb_Lg			20 44 18.8	
	comp=Z,6.8nm,0.8s							
R40A	**Maddies Statio**	**4.26**	**56**	Pn		Pn	20 43 13.4	+2.1
P38A	**Dawn**	**4.43**	**34**	Pn		Pn	20 43 12.7	-1.0
LCAR	**Lake Charles**	**4.55**	**87**	Pn		Pn	20 43 15.8	+0.5
LCAR				IAmb_Lg			20 44 35.4	
	comp=Z,6.0nm,0.8s							
CCM	**Cathedral Cave**	**4.87**	**63**	IAmb_Lg			20 44 43.7	
	comp=Z,14nm,0.8s							
HBAR	**Harrisburg**	**4.99**	**93**	IAmb_Lg			20 44 58.2	
	comp=Z,40nm,0.8s							
P40A	**Paris**	**5.14**	**45**	IAmb_Lg			20 44 49.9	
	comp=Z,11nm,0.8s							
PBMO	**Poplar Bluff**	**5.17**	**80**	IAmb_Lg			20 44 59.8	
	comp=Z,10nm,0.7s							
CLTN	**Cedars of Leba**	**8.46**	**86**	IAmb_Lg			20 46 40.6	
	comp=Z,21nm,1.2s							

IDC ***15*** *20:43:56.5±1.2, 24°.56N×121°.82E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.7/44, mbtmp3.8/10, ML3.5/1, MS3.1/2, Ms1 3.2/2, ms1mx2.7/44, Error ellipse: s-maj=26.4km s-min=23.3km az=175.0*

NIED ***15*** *20:43:58.3, 24°.20N×121°.78E, h25km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.30; Mθθ-1.16; Mφφ-0.14; Mrθ0.64; Mθφ-0.62; Mφr0.76; Fault plane solution: M₀1.70000×10¹⁵ NP1:φ₁50.00000°, δ63.00000°, λ76.00000°. NP2:φ₂260.00000°, δ30.00000°, λ116.00000°.*

TAP ***15*** *20:43:58.3, 24°.27N×121°.82E, h19km, ML4.5, B*

ASIES ***15*** *20:43:58.7, 24°.28N×121°.81E, h23km, MW3.9*

NEIC ***15*** *20:43:58.7±2.0, 24°.23N±0°.03×121°.82E±0°.03, h21km±5km, mb4.4/20, Mwr4.0/21, ML4.4(TAP), Error ellipse: s-maj=5.9km s-min=1.3km az=132.0*

NEIC ***15*** *20:43:58.9, 24°.23N×121°.82E, h27km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr0.45; Mθθ-0.45; Mφφ-0.01; Mrθ0.31; Mθφ-0.68; Mφr0.90; Fault plane solution: M₀1.26000×10¹⁵ NP1:φ₁21.94000°, δ77.03000°, λ59.26000°. NP2:φ₂271.26000°, δ33.12000°, λ155.74000°. Principal axes: T 1.1783, Plg49.0000°, Azm259.0000°; N 0.1447, Plg30.0000°, Azm30.0000°; P -1.3230, Plg26.0000°, Azm136.0000°;*

JMA ***15*** *20:43:58.3, 24°.20N×121°.78E, h25km± 1km, M4.0*

BJI ***15*** *20:44:02.4±0.0, 24°.56N×121°.40E, h18km, mB4.3/7, mb4.0/11, ML4.1/4, Ms3.9/6, Ms7 3.9/7*

ISC 15 20:43:58.6±0.8, 24°.27N±0°.01×121°.84E±0°.02, h17km±4km, n190, s0°99/297, mb4.1/21, 13C-26D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
EHP	**Heping Village**	**0.10**	**292**	P		**Pg**	**20 44 02.1**	**0.0**
	baz=298							
EHP				S		**Sg**	**20 44 05.0**	**+0.5**
	baz=298							
ENA	**Nanau**	**0.18**	**329**	⇓	*iP*	**Pb**	**20 44 03.1**	**-0.4**
	baz=335							
ENA					*i* S	**Sb**	**20 44 06.5**	**-0.3**
	baz=335							
EWUT	**Wuta**	**0.18**	**341**	⇓	*iP*	**Pb**	**20 44 03.3**	**-0.2**
	baz=345							
EWUT					*i* S	**Sb**	**20 44 06.8**	**0.0**
	baz=345							
ETL	**Fush Village**	**0.23**	**241**	⇓	*iP*	**Pg**	**20 44 03.8**	**-0.1**
	baz=247							
ETL					*i* S	**Sb**	**20 44 08.1**	**-0.1**
	baz=247							
NACB	**Ninganchiao**	**0.25**	**247**	⇓	*iP*	**Pg**	**20 44 03.7**	**-0.4**
	baz=249							
NACB					*i* S	**Sg**	**20 44 08.1**	**+0.1**
	baz=249							
NACB	**Ninganchiao**	**0.25**	**247**	Pg		**Pg**	**20 44 03.6**	**-0.5**
NACB				Sg		**Sb**	**20 44 08.5**	**-0.2**
TWD	**Chiawan**	**0.30**	**230**	⇓	*iP*	**Pg**	**20 44 04.8**	**-0.1**
	baz=233							
TWD					*i* S	**Sb**	**20 44 09.7**	**-0.3**
	baz=233							
TWC	**Suao**	**0.34**	**1**	⇓	*iP*	**Pb**	**20 44 05.8**	**-0.3**
	baz=10.0							
TWC					*i* S	**Sb**	**20 44 10.8**	**-0.4**
	baz=10.0							
ETLH	**Xiulin Townshi**	**0.34**	**259**	⇓	*iP*	**Pg**	**20 44 05.5**	**-0.2**
	baz=259							
ETLH					*i* S	**Sg**	**20 44 10.3**	**-0.2**
	baz=259							
HWA	**Hwalien**	**0.37**	**217**	P		**Pb**	**20 44 06.8**	**+0.2**
	baz=225							
HWA				S		**Sb**	**20 44 14.0**	**+2.0**
	baz=225							
NDS	**Dongshan**	**0.38**	**342**	⇓	*iP*	**Pb**	**20 44 06.6**	**-0.2**
	baz=344							
NDS					*i* S	**Sb**	**20 44 11.9**	**-0.6**
	baz=344							
ETM	**Tongmen**	**0.44**	**226**	⇓	*iP*	**Pg**	**20 44 07.3**	**-0.3**
	baz=233							
ETM					S	**Sg**	**20 44 14.1**	**+0.5**
	baz=233							
ENTT	**Nioudou**	**0.45**	**325**	⇓	*iP*	**Pb**	**20 44 07.6**	**-0.4**
	baz=327							
ENTT					*i* S	**Sb**	**20 44 14.2**	**-0.2**
	baz=327							
NDT	**Datong Townshi**	**0.45**	**317**	⇓	*iP*	**Pb**	**20 44 07.6**	**-0.4**
	baz=318							
NDT					S	**Sb**	**20 44 14.7**	**+0.2**
	baz=318							
NNSB	**Datong**	**0.45**	**290**	⇓	*iP*	**Pb**	**20 44 07.7**	**-0.4**
	baz=291							
NNSB					*i* S	**Sb**	**20 44 13.8**	**-0.8**
	baz=291							
NNS	**Nan Shan**	**0.46**	**291**	⇓	*iP*	**Pb**	**20 44 07.9**	**-0.5**
	baz=292							
NNS					*i* S	**Sb**	**20 44 14.3**	**-0.7**
	baz=292							
TEYL	**Yanliau Villag**	**0.46**	**209**	P		**Pb**	**20 44 08.0**	**-0.2**
	baz=198							
TEYL					S	**Sb**	**20 44 16.0**	**+1.2**
	baz=198							
TWE	**Neicheng**	**0.47**	**340**	⇓	*iP*	**Pb**	**20 44 08.3**	**-0.2**
	baz=342							
TWE					*i* S	**Sb**	**20 44 15.1**	**-0.1**
	baz=342							
ILA	**Ilan**	**0.50**	**350**	⇓	*iP*	**Pb**	**20 44 09.0**	**+0.1**
	baz=345							
ILA					*i* S	**Sb**	**20 44 16.8**	**+0.9**
	baz=345							
WHF	**Hehuan Shan**	**0.54**	**257**	⇓	*iP*	**Pg**	**20 44 09.2**	**-0.4**
	baz=257							
WHF					*i* S	**Sg**	**20 44 16.9**	**-0.1**
	baz=257							
FUSS	**Fushou**	**0.55**	**268**	⇓	*iP*	**Pb**	**20 44 09.4**	**-0.5**
	baz=269							
FUSS					S	**Sg**	**20 44 16.8**	**-0.2**
	baz=269							
EGS		**0.58**	**8**	*eP*		**Pb**	**20 44 10.6**	**+0.4**
	baz=16							
EGS				*eS*		**Sb**	**20 44 19.0**	**+0.9**
	baz=16							
NTC	**Toucheng**	**0.58**	**359**	*eP*		**Pb**	**20 44 10.5**	**+0.2**
	baz=360							
NTC				*eS*		**Sb**	**20 44 18.9**	**+0.7**
	baz=360							
ESL	**Shilin**	**0.59**	**220**	⇑	*iP*	**Pg**	**20 44 09.7**	**-0.6**
	baz=223							
ESL					S	**Sg**	**20 44 18.4**	**+0.3**
	baz=223							
NWLT	**Wulai**	**0.59**	**328**	P		**Pb**	**20 44 10.2**	**-0.3**
	baz=327							
NWLT					S	**Sb**	**20 44 17.9**	**-0.7**
	baz=327							
NSK	**Sanguang**	**0.60**	**312**	⇓	*iP*	**Pb**	**20 44 10.2**	**-0.5**
	baz=313							
NSK					*i* S	**Sb**	**20 44 18.4**	**-0.4**
	baz=313							
TWT	**Tachien**	**0.61**	**268**	⇓	*iP*	**Pb**	**20 44 11.0**	**+0.1**
	baz=269							
TWT					*i* S	**Sb**	**20 44 19.2**	**-0.1**
	baz=269							
TDCB	**Techi**	**0.63**	**268**	⇓	*iP*	**Pb**	**20 44 10.9**	**-0.2**
	baz=269							
TDCB					*i* S	**Sg**	**20 44 19.0**	**-0.4**
	baz=269							
TEGC	**Jichi Village**	**0.63**	**206**	*eP*		**Pb**	**20 44 11.0**	**0.0**
	baz=205							
TEGC				*eS*		**Sn**	**20 44 21.8**	**-0.5**
	baz=205							
CHGB	**Renai**	**0.65**	**251**	⇓	*iP*	**Pg**	**20 44 11.2**	**-0.2**
	baz=251							
CHGB					S	**Sb**	**20 44 20.4**	**-0.1**
	baz=251							
OWD	**Renai**	**0.69**	**243**	⇑	*iP*	**Pg**	**20 44 11.6**	**-0.5**
	baz=243							
OWD					S	**Sg**	**20 44 21.4**	**+0.1**
	baz=243							
TIPB	**Shuangxi**	**0.70**	**359**	⇓	*iP*	**Pb**	**20 44 12.4**	**+0.1**
	baz=359							
TIPB					*i* S	**Sb**	**20 44 21.4**	**-0.2**
	baz=359							
EGFH	**Guangfu**	**0.71**	**212**	*eP*		**Pg**	**20 44 11.9**	**-0.6**
	baz=226							
EGFH				*eS*		**Sb**	**20 44 23.0**	**+1.0**
	baz=226							
TWA	**Mucha**	**0.74**	**341**	⇓	*iP*	**Pb**	**20 44 13.2**	**+0.1**
	baz=342							
TWA					S	**Sb**	**20 44 23.4**	**+0.4**
	baz=342							
TWB1	**Santiao Chiao**	**0.74**	**10**	⇓	*iP*	**Pb**	**20 44 13.3**	**+0.2**
	baz=3.0							
TWB1					S	**Sb**	**20 44 22.9**	**0.0**
	baz=3.0							
NHDH	**Xindian Distri**	**0.75**	**337**	⇑	*iP*	**Pn**	**20 44 13.4**	**-1.0**
	baz=338							
NHDH					S	**Sb**	**20 44 23.6**	**+0.6**
	baz=338							
TATO	**Taipei**	**0.77**	**335**			**Pb**	**20 44 13.6**	**0.0**
TATO					Sg	**Sb**	**20 44 24.2**	**+0.4**
NWF	**Wu-fen Shan**	**0.80**	**356**	⇓	*iP*	**Pn**	**20 44 14.5**	**-0.6**
	baz=349							
NWF					S	**Sb**	**20 44 25.2**	**+0.6**
	baz=349							
WHP	**Taichung City**	**0.82**	**271**	⇑	*iP*	**Pb**	**20 44 14.3**	**-0.1**
	baz=271							
WHP					S	**Sb**	**20 44 25.2**	**-0.1**
	baz=271							
TAP	**Taipei**	**0.82**	**338**	*eP*		**Pn**	**20 44 14.8**	**-0.7**
	baz=338							
TAP				*eS*		**Sn**	**20 44 26.1**	**-1.1**
	baz=338							
LIOB	**Emei**	**0.84**	**296**	P		**Pn**	**20 44 15.1**	**-0.6**
	baz=297							
LIOB					S	**Sb**	**20 44 26.5**	**+0.7**
	baz=297							
NSTT	**Nanjuang**	**0.85**	**295**	⇑	*iP*	**Pb**	**20 44 15.1**	**+0.2**
	baz=295							
NSTT					*i* S	**Sb**	**20 44 25.9**	**-0.1**
	baz=295							
HGSD	**Ruisui**	**0.87**	**206**	*eP*		**Pg**	**20 44 14.4**	**-1.0**
	baz=197							
WCS	**Beigang Elemen**	**0.88**	**256**	*eP*		**Pg**	**20 44 15.1**	**-0.6**
	baz=257							
WCS				*eS*		**Sb**	**20 44 27.1**	**+0.3**
	baz=257							
EHY	**Hungye**	**0.90**	**212**	*eP*		**Pg**	**20 44 13.9**	**-2.2**
	baz=212							
YM01	**YM01**	**0.91**	**344**	⇓	*iP*	**Pn**	**20 44 16.5**	**-0.1**
	baz=328							
YM01					S	**Sn**	**20 44 28.7**	**-0.6**
	baz=328				

TWQ1	**Liyutan**	**0.98**	**275**	⇑*i*P		**Pn**	**20 44 17.8**	**+0.2**
	baz=275								
TWQ1				S		**Sg**	**20 44 30.6**	**+0.2**
	baz=275								
NMLH	**Miaoli**	**1.00**	**286**	*e*P		**Pn**	**20 44 18.5**	**+0.7**
	baz=292								
NMLH				*e*S		**Sn**	**20 44 31.6**	**+0.2**
	baz=292								
NSY	**Sanyi**	**1.00**	**278**	⇑P		**Pn**	**20 44 18.4**	**+0.6**
	baz=279								
NSY				*e*S		**Sn**	**20 44 31.6**	**+0.1**
	baz=279								
YULB	**Yu-li**	**1.01**	**210**	*e*P		**Pb**	**20 44 15.9**	**-1.8**
	baz=210								
YULB	**Yu-li**	**1.01**	**210**			**Pb**	**20 44 15.8**	**-1.8**
JYNG	**Yonaguni jima**	**1.02**	**80**	P		**Pn**	**20 44 18.1**	**0.0**
JYNG				S		**Sn**	**20 44 33.4**	**+1.4**
TWY	**Chenhua**	**1.02**	**348**	*e*P		**Pn**	**20 44 18.8**	**+0.6**
	baz=341								
TWY				*e*S		**Sn**	**20 44 33.4**	**+1.3**
	baz=341								
EYUL	**Yuli**	**1.04**	**208**	*e*P		**Pb**	**20 44 17.8**	**-0.3**
	baz=221								
WHYT	**Xinyi Township**	**1.07**	**238**	*e*P		**Pb**	**20 44 18.1**	**-0.6**
	baz=244								
WHYT				*e*S		**Sg**	**20 44 33.4**	**-0.1**
	baz=244								
TCU	**Taichung**	**1.07**	**264**	P		**Pg**	**20 44 19.6**	**+0.2**
	baz=263								
TCU				S		**Sn**	**20 44 35.1**	**+1.8**
	baz=263								
YOJ	**Yonaguni jima**	**1.08**	**80**	P		**Pn**	**20 44 19.0**	**0.0**
YOJ				S		**Sn**	**20 44 34.8**	**+1.3**
YOJ	**Yonaguni jima**	**1.08**	**80**	P		**Pn**	**20 44 18.9**	**0.0**
	baz=69								
YOJ				*e*S		**Sn**	**20 44 34.5**	**+1.0**
	baz=69								
YOJ	**Yonaguni jima**	**1.08**	**80**			**Pn**	**20 44 19.0**	**0.0**
YOJ					Sg	**Sn**	**20 44 34.5**	**+1.0**
WDJ	**Dajia District**	**1.10**	**274**	P		**Pg**	**20 44 20.2**	**+0.3**
	baz=274								
WDJ				S		**Sn**	**20 44 36.2**	**+2.2**
	baz=274								
WJS	**Zhushan**	**1.11**	**247**	*e*P		**Pg**	**20 44 19.9**	**-0.3**
	baz=245								
WJS				*e*S		**Sn**	**20 44 35.7**	**+1.3**
	baz=245								
WNT	**Mingjian**	**1.13**	**250**	⇑*i*P		**Pg**	**20 44 20.1**	**-0.4**
	baz=249								
WNT				S		**Sn**	**20 44 37.0**	**+2.2**
	baz=249								
FULB	**Fuli**	**1.18**	**205**	*e*P		**Pn**	**20 44 19.9**	**-0.5**
	baz=222								
FULB				*e*S		**Sg**	**20 44 38.1**	**+1.2**
	baz=222								
WCHH	**Zhanghua**	**1.19**	**261**	*e*P		**Pg**	**20 44 21.4**	**-0.2**
	baz=261								
WCHH				*e*S		**Sg**	**20 44 38.4**	**+1.3**
	baz=261								
ALS	**Alishan**	**1.22**	**232**	⇑P		**Pn**	**20 44 20.7**	**-0.4**
	baz=232								
ALS				*e*S		**Sg**	**20 44 38.5**	**+0.4**
	baz=232								
CHKT	**Chengkung**	**1.25**	**201**	*e*P		**Pn**	**20 44 19.5**	**-1.7**
	baz=216								
CHKT				*e*S		**Sb**	**20 44 37.3**	**-0.2**
	baz=216								
CHN5	**Tsauling**	**1.26**	**238**	P		**Pb**	**20 44 22.1**	**+0.2**
	baz=223								
CHN5				S		**Sg**	**20 44 39.3**	**-0.1**
	baz=223								
ELDTW	**Lidau**	**1.32**	**215**	*e*P		**Pn**	**20 44 21.2**	**-1.1**
	baz=204								
WDLH	**Douliu**	**1.33**	**244**	*e*P		**Pb**	**20 44 23.1**	**0.0**
	baz=244								
WDLH				*e*S		**Sg**	**20 44 42.2**	**+0.6**
	baz=244								
PCYT	**Pengchaiyu**	**1.37**	**9**	*e*P		**Pb**	**20 44 23.3**	**-0.4**
	baz=6.0								
EDH	**Donghe**	**1.39**	**201**	*e*P		**Pn**	**20 44 21.9**	**-1.2**
	baz=189								
EDH				*e*S		**Sn**	**20 44 40.6**	**-0.5**
	baz=189								
WRL	**Guolierlin Hig**	**1.39**	**255**	*e*P		**Pn**	**20 44 23.6**	**+0.4**
	baz=254								
WRL				*e*S		**Sg**	**20 44 42.8**	**-0.7**
	baz=254								
WTK	**Tuku**	**1.45**	**247**	*e*P		**Pb**	**20 44 24.9**	**-0.3**
	baz=246								
WTK				*e*S		**Sg**	**20 44 44.7**	**-0.8**
	baz=246								
CHN2	**Minshiung**	**1.45**	**240**	P		**Pg**	**20 44 25.8**	**-0.8**
	baz=240								
CHN2				S		**Sg**	**20 44 46.8**	**+1.3**
	baz=240								
STYH	**Taoyuan**	**1.47**	**222**	*e*P		**Pn**	**20 44 24.0**	**-0.3**
	baz=223								
STYH				*e*S		**Sn**	**20 44 43.3**	**+0.1**
	baz=223								
TPUB	**Ta-pu**	**1.47**	**229**	*e*P		**Pn**	**20 44 24.4**	**+0.1**
	baz=230								
TPUB				*e*S		**Sb**	**20 44 44.5**	**+0.5**
	baz=230								
TPUB	**Ta-pu**	**1.47**	**229**	Pn		**Pn**	**20 44 24.9**	**+0.5**
TPUB				Sn		**Sb**	**20 44 44.9**	**+0.9**
WTCT	**Ta-ch'eng**	**1.49**	**254**	*e*P		**Pg**	**20 44 27.1**	**0.0**
	baz=253								
WTCT				*e*S		**Sg**	**20 44 46.0**	**-0.5**
	baz=253								
LONT	**Longtian**	**1.51**	**206**	*e*P		**Pn**	**20 44 22.8**	**-2.0**
	baz=207								
CHY	**Chiayi**	**1.51**	**240**	*e*P		**Pb**	**20 44 26.1**	**0.0**
	baz=239								
CHY				*e*S		**Sg**	**20 44 46.6**	**-0.8**
	baz=239								
WTP	**Ta-pu**	**1.52**	**228**	P		**Pn**	**20 44 25.7**	**+0.7**
	baz=228								
WTP				*e*S		**Sb**	**20 44 45.7**	**+0.3**
	baz=228								
TWK	**Hsinying**	**1.60**	**231**	*e*P		**Pn**	**20 44 26.9**	**+0.8**
	baz=231								
TWK				*e*S		**Sb**	**20 44 48.0**	**+0.5**
	baz=231								
TWGBT	**Beinan**	**1.61**	**206**	*e*P		**Pn**	**20 44 23.9**	**-2.3**
	baz=197								
TWG	**Pinlang**	**1.61**	**206**	*e*P		**Pn**	**20 44 24.1**	**-2.1**
	baz=197								
TWG	**Pinlang**	**1.61**	**206**			**Pn**	**20 44 23.9**	**-2.3**
WSF	**Szhu**	**1.61**	**247**	P		**Pn**	**20 44 27.0**	**+0.8**
	baz=246								
WSF				S		**Sb**	**20 44 49.1**	**+1.1**
	baz=246								
SNST	**Tainan City**	**1.62**	**230**	*e*P		**Pb**	**20 44 27.5**	**-0.5**
	baz=230								
SNST				*e*S		**Sb**	**20 44 49.5**	**+1.3**
	baz=230								
CHN1	**Nanshi**	**1.62**	**228**	*e*P		**Pn**	**20 44 27.3**	**+0.9**
	baz=228								
CHN1				*e*S		**Sb**	**20 44 48.9**	**+0.6**
	baz=228								
LDUT	**Ludao**	**1.63**	**192**	*e*P		**Pn**	**20 44 24.1**	**-2.3**
	baz=186								
SGST	**Jiashian**	**1.66**	**225**	*e*P		**Pn**	**20 44 26.9**	**0.0**
	baz=210								
SGST				*e*S		**Sn**	**20 44 48.5**	**+0.7**
	baz=210								
ICHU	**Yijhu**	**1.70**	**238**	*e*P		**Pn**	**20 44 28.2**	**+0.8**
	baz=221								
ICHU				*e*S		**Sb**	**20 44 50.9**	**+0.6**
	baz=221								
IRIF	**Iriomote-Funau**	**1.72**	**88**	P		**Pn**	**20 44 27.6**	**-0.1**
IRIF				*e*S		**Sb**	**20 44 50.2**	**-0.9**
CHN8	**Yiju**	**1.76**	**239**	*e*P		**Pn**	**20 44 28.8**	**+0.5**
	baz=224								
CHN8				*e*S		**Sb**	**20 44 52.7**	**+0.6**
	baz=224								
HATJ	**Hateruma jima**	**1.80**	**96**	P		**Pn**	**20 44 29.3**	**+0.4**
HATJ				*e*S		**Sn**	**20 44 52.3**	**+0.9**
CHN3	**Shinhua**	**1.81**	**229**	*e*P		**Pb**	**20 44 31.2**	**0.0**
	baz=228								
CHN3				*e*S		**Sb**	**20 44 54.7**	**+1.2**
	baz=228								
SCST	**Cishan**	**1.85**	**222**	*e*P		**Pb**	**20 44 31.0**	**-1.0**
	baz=220								
ECL	**Taimali**	**1.86**	**206**	*e*P		**Pn**	**20 44 30.1**	**+0.4**
	baz=199								
SSD	**Sandimen**	**1.88**	**216**	*e*P		**Pn**	**20 44 30.9**	**+0.9**
	baz=227								
SSD				*e*S		**Sn**	**20 44 54.8**	**+1.4**
	baz=227								
TSMG	**Majia**	**1.91**	**215**	*e*P		**Pn**	**20 44 31.2**	**+0.8**
	baz=215								
TSMG				*e*S		**Sn**	**20 44 54.8**	**+0.8**
	baz=215								
JKRS	**Kuro-shima**	**1.98**	**91**	P		**Pn**	**20 44 31.6**	**+0.3**
JKRS				*e*S		**Sn**	**20 44 56.9**	**+1.3**
SGLT	**Jiouru**	**1.98**	**219**	*e*P		**Pn**	**20 44 31.3**	**0.0**
	baz=207								
MASBT	**Mashibuluo**	**1.99**	**214**	*e*P		**Pn**	**20 44 32.1**	**+0.6**
	baz=213								
MASBT				*e*S		**Sn**	**20 44 57.9**	**+1.8**
	baz=213								
EAST	**Anshuo**	**2.09**	**206**	*e*P		**Pb**	**20 44 34.9**	**-1.2**
	baz=201								
TAW	**Tawu**	**2.10**	**205**	*e*P		**Pn**	**20 44 34.1**	**+1.2**
	baz=199								
JIJ	**Ishigaki jima**	**2.10**	**87**	P		**Pn**	**20 44 32.9**	**-0.1**
JIJ				S		**Sn**	**20 44 59.2**	**+0.5**
SSPT	**Xinbi**	**2.13**	**214**	*e*P		**Pn**	**20 44 35.0**	**+1.6**
	baz=205								
SCZT	**Fangliau**	**2.20**	**211**	*e*P		**Pn**	**20 44 35.4**	**+1.0**
	baz=203								
PNG	**Penghu**	**2.21**	**252**	*e*P		**Pn**	**20 44 33.9**	**-0.6**
	baz=249								
PNG				*e*S		**Sn**	**20 45 01.1**	**-0.3**
	baz=249								
PHUB	**P'eng-hu**	**2.21**	**250**	*e*P		**Pn**	**20 44 33.8**	**-0.7**
	baz=248								
PHUB				*e*S		**Sn**	**20 45 01.0**	**-0.5**
	baz=248								
LAY	**Lan-yu**	**2.24**	**187**	*e*P		**Pn**	**20 44 33.0**	**-1.9**
	baz=193								
WDGT	**Dungji**	**2.24**	**244**	*e*P		**Pn**	**20 44 34.6**	**-0.3**
	baz=240								
SLIU	**Shizi**	**2.26**	**205**	*e*P		**Pn**	**20 44 36.3**	**+1.1**
	baz=202								
JISG	**Ishigakijimahi**	**2.27**	**82**	P		**Pn**	**20 44 34.9**	**-0.4**
JISG				S		**Sn**	**20 45 03.8**	**+0.9**
WLCH	**Liuqiu**	**2.34**	**215**	*e*P		**Pn**	**20 44 38.1**	**+1.9**
	baz=229								
VCHM	**Qimei**	**2.45**	**245**	*e*P		**Pn**	**20 44 37.6**	**-0.2**
	baz=242								
VCHM				*e*S		**Sn**	**20 45 08.1**	**+0.6**
	baz=242								
HEN	**Hengchun**	**2.48**	**205**	*e*P		**Pn**	**20 44 39.8**	**+1.7**
	baz=202								
TWK1	**Hengchun**	**2.51**	**203**	*e*P		**Pn**	**20 44 40.0**	**+1.4**
	baz=199								
TWKBT	**Hengchun**	**2.51**	**202**	*e*P		**Pn**	**20 44 38.7**	**+0.1**
	baz=199								
TSEB	**Hengchuen, Pin**	**2.52**	**200**	*e*P		**Pn**	**20 44 39.9**	**+1.2**
	baz=198								
MATB	**Ma-tsu**	**2.54**	**318**	*e*P		**Pn**	**20 44 38.6**	**-0.5**
	baz=312								
PTMZ	**Houxiangcun**	**2.59**	**288**	*e*P		**Pn**	**20 44 38.3**	**-1.4**
	baz=283								
JTJ	**Tarama**	**2.63**	**81**	P		**Pn**	**20 44 40.6**	**+0.4**
JTJ				S		**Sn**	**20 45 13.4**	**+1.6**
LYJJ	**Jianjiangzhen**	**2.95**	**321**	*e*P		**Pn**	**20 44 43.7**	**-0.9**
	baz=315								
QZH	**Quanzhou**	**3.04**	**283**	⇑*i*Pn		**Pn**	**20 44 45.0**	**-0.8**
QZH					Sn	**Sn**	**20 45 19.8**	**-2.0**
XPSS	**Dashiqiu**	**3.04**	**331**	*e*P		**Pn**	**20 44 44.8**	**-1.0**
	baz=324								
JIRB	**Irabujima**	**3.08**	**79**	P		**Pn**	**20 44 46.7**	**+0.2**
JIRB				*e*S		**Sn**	**20 45 24.3**	**+1.4**
KNM	**Kinmen**	**3.11**	**273**	*e*P		**Pn**	**20 44 47.7**	**+0.8**
	baz=268								
MHZQ	**Yeshan**	**3.13**	**306**	*e*P		**Pn**	**20 44 46.3**	**-0.8**
	baz=300								
KNMB	**Chin-men Tao**	**3.16**	**274**	*e*P		**Pn**	**20 44 46.0**	**-1.6**
	baz=269								
KNMB	**Chin-men Tao**	**3.16**	**274**			**Pn**	**20 44 46.8**	**-0.7**
JIKM	**Ikemajima**	**3.17**	**77**	P		**Pn**	**20 44 48.4**	**+0.8**
JMJ2	**Miyako jima3**	**3.21**	**81**	P		**Pn**	**20 44 49.6**	**+1.4**
JOGS	**Gusukube**	**3.28**	**81**	P		**Pn**	**20 44 50.8**	**+1.6**
AXDP	**Jialang**	**3.58**	**281**	*e*P		**Pn**	**20 44 54.3**	**+1.0**
	baz=275								
ZPLA	**Ao Xicun**	**3.76**	**266**	*e*P		**Pn**	**20 44 55.3**	**-0.5**
	baz=261								
JOW	**Kunigami**	**6.34**	**65**		Pn	**Pn**	**20 45 30.4**	**-0.9**
	2.3nm,0.3s,baz=141,slow=16,SNR=18								
JOW					Sn	**Sn**	**20 46 45.2**	**+1.8**
	baz=156,slow=26,SNR=0.8								
JOW	**Kunigami**	**6.34**	**65**			**Pn**	**20 45 30.8**	**-0.5**
JMZ	**Minamidaito 2**	**8.64**	**78**		Pn	**Pn**	**20 45 59.3**	**-3.5**
WHN	**Wuhan**	**9.13**	**315**		⇑P	**Pn**	**20 46 08.4**	**-1.1**
WHN					S	**Sn**	**20 47 53.3**	**+1.4**
WHN					LR	LR			
	comp=N,650nm,6.3s								
WHN					LR	LR			
	comp=E,1μm,6.3s								
WHN					LR	LR			
	comp=Z,1μm,12.9s								
GYA	**Guiyang**	**13.90**	**282**		⇑P	**Pn**	**20 47 16.4**	**+1.5**
GYA					S	**Sn**	**20 49 54.1**	**+5.1**
GYA					pmax	pmax			
	comp=Z,8.0nm,1.3s								
GYA					LR	LR			
	comp=Z,310nm,8.2s								
KSRS	**Korea Array**	**14.13**	**20**		Pn	**Pn**	**20 47 19.3**	**+1.3**
	0.1nm,0.3s,baz=201,slow=12,SNR=1.6								
MJAR	**Matsushiro Arr**	**18.64**	**45**		LR	LR	20 56 11.5		
	comp=Z,68nm,21.4s,baz=285,slow=40								
CMAR	**Chiang Mai Arr**	**22.09**	**259**		P	**P**	**20 48 54.6**	**+1.6**
	0.7nm,0.3s,baz=64,slow=8.3,SNR=5.1								
CMAR					LR	LR	20 58 06.9		
	comp=Z,47nm,19.2s,baz=40,slow=38								
GTA	**Gaotai**	**23.95**	**314**		*e*P	**P**	**20 49 12.5**	**+0.4**
GTA					pP	pP	20 49 16.5	-0.2
GTA					sP	sP	20 49 20.8	+1.9
GTA					pmax	pmax			
	comp=Z,2.0nm,1.1s								
KLR	**Kul'dur**	**26.10**	**15**		P	**P**	**20 49 29.6**	**-1.8**
	0.9nm,0.5s,baz=225,slow=11,SNR=2.0								
ULN	**Ulaanbaatar**	**26.31**	**337**		P	**P**	**20 49 31.0**	**-2.5**
SONM	**Songino Array**	**26.52**	**336**		P	**P**	**20 49 33.5**	**-1.9**
	1.5nm,0.8s,baz=155,slow=8.0,SNR=12								
SONM	**Songino Array**	**26.52**	**336**		IAmb	IAmb	20 49 36.0		
	comp=Z,5.4nm,1.5s								
MTN	**Manton Dam**	**37.99**	**165**		P	**P**	**20 51 15.2**	**-0.6**
MK31	**Makanchi Array**	**38.70**	**316**		P	**P**	**20 51 20.4**	**-1.1**
MKAR	**Makanchi Array**	**38.70**	**316**		P	**P**	**20 51 20.0**	**-1.6**
	comp=Z,0.7nm,0.7s,baz=100,slow=11,SNR=8.0								
MAKZ	**Makanchi**	**38.90**	**315**		P	**P**	**20 51 21.9**	**-1.4**
ZALV	**Zalesovo Beam**	**40.50**	**327**		P	**P**	**20 51 34.1**	**-2.3**
	comp=Z,1.3nm,0.6s,baz=119,slow=9.5,SNR=6.9								
KURK	**Kurchatov**	**42.41**	**320**		P	**P**	**20 51 50.4**	**-1.8**
KURBB	**Kurchatov Arra**	**42.43**	**320**		P	**P**	**20 51 50.4**	**-1.9**
	comp=Z,0.4nm,0.5s,baz=112,slow=9.9,SNR=2.3								
GAR	**Garm**	**45.68**	**302**		P	**P**	**20 52 18.3**	**-0.5**
GAR					IAmb	IAmb	20 52 42.8		
	comp=Z,3.9nm,0.8s								
KK31	**Karatay Array**	**45.90**	**307**		P	**P**	**20 52 19.6**	**-0.7**
KK31					IAmb	IAmb	20 52 21.9		
	comp=Z,5.8nm,1.5s								
KKAR	**Karatay Array**	**45.90**	**307**		P	**P**	**20 52 20.1**	**-0.1**
KKAR	**Karatay Array**	**45.90**	**307**		P	**P**	**20 52 19.7**	**-0.5**
KKAR					IAmb	IAmb	20 52 22.0		
	comp=Z,5.8nm,1.5s								
KBL	**Kabul**	**46.67**	**295**		P	**P**	**20 52 27.1**	**+0.4**
KBL					IAmb	IAmb	20 52 28.6		
	comp=Z,5.7nm,1.1s								
BRVK	**Borovoye**	**48.06**	**321**		P	**P**	**20 52 35.6**	**-1.3**
BRVK					IAmb	IAmb	20 53 06.6		
	comp=Z,2.3nm,0.9s								
ASAR	**Alice Springs**	**49.07**	**165**		P	**P**	**20 52 47.2**	**+2.1**
	comp=Z,0.5nm,0.5s,baz=347,slow=6.8,SNR=2.4								
ABKAR	**Akbulak array**	**53.81**	**314**		P	**P**	**20 53 19.7**	**-0.6**
ABKAR					IAmb	IAmb	20 53 20.8		
	comp=Z,1.9nm,0.9s								
ABKAR	**Akbulak array**	**53.81**	**314**		P	**P**	**20 53 19.7**	**-0.6**
GEYT	**Alibeck**	**55.27**	**300**		P	**P**	**20 53 32.1**	**+0.9**
	comp=Z,324nm,0.5s,baz=58,slow=17,SNR=5.5								
J20K	**Nowinta River**	**65.84**	**29**		P	**P**	**20 54 42.9**	**+0.1**
K20K	**Telida**	**65.97**	**29**		P	**P**	**20 54 45.3**	**+1.7**
K20K					IAmb	IAmb	20 55 18.5		
	comp=Z,7.6nm,1.5s								
H21K	**Melozitna Rive**	**66.25**	**27**		P	**P**	**20 54 45.2**	**-0.3**
H21K					IAmb	IAmb	20 55 16.9		
	comp=Z,4.9nm,1.6s								
I21K	**Tanana**	**66.65**	**27**		P	**P**	**20 54 47.9**	**-0.1**
BPAW	**Bear Paw Mtn.**	**67.23**	**28**		P	**P**	**20 54 51.7**	**-0.1**
BPAW					IAmb	IAmb	20 54 58.9		
	comp=Z,6.8nm,1.6s								
H23K	**Yukon River**	**67.57**	**26**		P	**P**	**20 54 53.0**	**-0.8**
H23K					IAmb	IAmb	20 54 57.7		
	comp=Z,2.8nm,1.1s								
SUA	**Susitna One**	**67.77**	**31**		P	**P**	**20 54 56.3**	**+1.0**
BMAR	**Burnt Mountain**	**69.20**	**24**		P	**P**	**20 55 02.8**	**-1.2**
SCM	**Sheep Creek Mo**	**69.29**	**30**		P	**P**	**20 55 03.6**	**-1.2**
K27K	**Chicken**	**71.07**	**28**		P	**P**	**20 55 13.8**	**-1.7**
BCAR	**Beaver Creek A**	**71.47**	**29**		P	**P**	**20 55 17.6**	**-0.4**
FINES	**FINESS Array B**	**71.67**	**330**		P	**P**	**20 55 19.2**	**0.0**
	comp=Z,1.6nm,0.8s,baz=76,slow=7.5,SNR=1.4								
BRTR	**Keskin Array B**	**73.61**	**307**		P	**P**	**20 55 30.1**	**-1.2**
	comp=Z,1.9nm,0.9s,baz=131,slow=5.4,SNR=8.3								
BRTR	**Keskin Array B**	**73.61**	**307**		P	**P**	**20 55 30.3**	**-1.0**

DJA ***15*** *20:43:58.3±1.0,5°S±9°×15°3E±1°2,h52km±5km, M4.8/13, mB6.0/3,mb4.8/13,MLv4.7/2,Mw(mB)5.7/3*
BJI ***15*** *20:44:02.5±0.0,5°.21S×152°.20E,h64km, mB5.0/8, mb4.8/14,Ms4.5/2,Ms7 4.1/1*
NEIC ***15*** *20:44:03.2±1.9,4°.82S±0°.07×152°.61E±0°.08,h61km±6km, mb4.9/85,Error ellipse: s-maj=12.6km s-min=10.4km az=67.0*
IDC ***15*** *20:44:04.0±2.5,4°.82S×152°.61E,h75km±21km, mb4.0/18, mb1 4.2/20,mb1mx4.0/44,mbtmp4.4/20,MS3.4/8, Ms1 3.4/8,ms1mx3.1/38,Error ellipse: s-maj=19.7km s-min=11.2km az=113.0*

ISC 15 20:44:02.3±0.4,4°.84S±0°.06×152°.61E±0°.07,h55km,n229, σ0s99/210,mb4.8/64,MS3.4/8,1C,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.79**	**325**		**Pn**	**20 44 18.5**	**+1.0**
RABL	**Rabaul**	**0.79**	**325**	P	**Pn**	**20 44 19.3**	**+1.8**
MANU	**Manus Island**	**5.93**	**298**		**Pn**	**20 45 27.2**	**-0.4**
HNR	**Honiara**	**8.59**	**122**	S	Sn	20 47 48.9	+9.3
	9.5nm,0.3s,baz=51,slow=18,SNR=1.9						
JAY	**Jayapura**	**12.11**	**281**	P	**Pn**	**20 46 54.1**	**+1.9**
	0.2nm,0.3s,baz=332,slow=8.9,SNR=6.9						
JAY	**Jayapura**	**12.11**	**281**	P	**Pn**	**20 46 54.6**	**+2.4**
	16nm,0.9s						
GENI	**Genyem**	**12.62**	**280**	P	**Pn**	**20 47 01.3**	**+2.1**
	52nm,0.9s						
PATS	**Pohnpei**	**12.92**	**26**	Pn	**Pn**	**20 47 02.8**	**-0.5**
COEN	**Coen**	**12.98**	**225**	Pn	**Pn**	**20 47 04.9**	**+0.7**
CTAO	**Charters Tower**	**16.37**	**202**	Pn	**Pn**	**20 47 47.9**	**-0.8**
BAKI	**Biak**	**16.87**	**282**	P	**P**	**20 47 57.4**	**+1.1**
	47nm,0.9s						
GUMO	**Guam**	**19.86**	**337**	P	**P**	**20 48 29.5**	**+0.5**
	2.6nm,0.3s,baz=153,slow=10,SNR=4.9						
GUMO	**Guam**	**19.86**	**337**	IAmb	IAmb	20 48 32.2	
	comp=Z,159nm,1.0s						
FAKI	**Fak Fak**	**20.41**	**275**	Pn	Pn	20 48 36.6	-1.0
SIJI	**Sorong**	**21.68**	**280**	P	**P**	**20 48 48.3**	**-0.4**
	comp=Z,30nm,0.7s,baz=70,slow=8.2,SNR=9.0						
SIJI	**Sorong**	**21.68**	**280**	P	**P**	**20 48 48.0**	**-0.7**
	comp=Z,30nm,0.9s						
SWI	**Sorong**	**21.68**	**280**	P	**P**	**20 48 49.9**	**+1.1**
	comp=Z,630nmcomp=Z,63nm,0.9s						
DZM	**Mont Dzumac**	**21.75**	**143**	P	**P**	**20 48 51.1**	**+1.6**
	comp=Z,6.8nm,1.0s,baz=330,slow=20,SNR=2.0						
DZM	**Mont Dzumac**	**21.75**	**143**	P	**P**	**20 48 50.6**	**+1.2**
DZM				IAmb	IAmb	20 49 25.2	
	comp=Z,45nm,1.4s						
MTN	**Manton Dam**	**22.65**	**248**	P	**P**	**20 48 58.4**	**-0.7**
MTN				IAmb	IAmb	20 49 00.5	
	comp=Z,61nm,1.6s						
WR0	**Warramunga Arr**	**23.14**	**228**	P	**P**	**20 49 03.5**	**-0.6**
WR0				IAmb	IAmb	20 49 06.9	
	comp=Z,128nm,1.7s						
WRAB	**Tennant Creek**	**23.26**	**228**	P	**P**	**20 49 05.0**	**-0.3**
WRAB				IAmb	IAmb	20 49 08.5	
	comp=Z,27nm,0.8s						
WB2	**Warramunga Arr**	**23.27**	**228**	P	**P**	**20 49 05.3**	**0.0**
WB2				IAmb	IAmb	20 49 08.6	
	comp=Z,24nm,0.7s						
WRA	**Warramunga Arr**	**23.28**	**228**	P	**P**	**20 49 04.9**	**-0.6**
	comp=Z,19nm,0.6s,baz=51,slow=9.9,SNR=205						
WRA				S	**S**	**20 53 13.6**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=48,slow=15,SNR=3.8						
WRA				LR	LR	20 58 01.7	
	comp=Z,108nm,20.6s,baz=250,slow=36						
WRA	**Warramunga Arr**	**23.28**	**228**	P	**P**	**20 49 04.1**	**-1.3**
KNRA	**Kununurra**	**25.79**	**244**	P	**P**	**20 49 27.9**	**-0.5**
KNRA				IAmb	IAmb	20 49 30.6	
	comp=Z,45nm,0.8s						
AS31	**Alice Springs**	**25.99**	**222**	P	**P**	**20 49 30.6**	**+0.3**
ASAR	**Alice Springs**	**25.99**	**222**	P	**P**	**20 49 30.6**	**+0.3**
	comp=Z,3.0nm,0.3s,baz=55,slow=9.2,SNR=76						
ASAR				S	**S**	**20 53 56.5**	**-0.8**
	comp=Z,1.0nm,0.9s,baz=45,slow=15,SNR=3.5						
ASAR	**Alice Springs**	**25.99**	**222**	P	**P**	**20 49 30.3**	**0.0**
STKA	**Stephens Creek**	**28.81**	**200**	P	**P**	**20 49 55.0**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=44,slow=13,SNR=5.1						

	comp=Z,12nm,0.7s								
HHC					pmax		pmax		
	comp=Z,78nm,7.6s								
GTA	**Gaotai**	**65.56**	**317**	*e*P		**P**		**20 54 39.3**	**-1.3**
SONM	**Songino Array**	**66.26**	**328**	P		**P**		**20 54 43.9**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=133,slow=6.1,SNR=4.9								
SONM	**Songino Array**	**66.26**	**328**	P		**P**		**20 54 45.8**	**+0.9**
CHNA	**Chernabura Isl**	**71.40**	**27**	P		**P**		**20 55 16.5**	**0.0**
	baz=231								
VNDA	**Vanda**	**72.80**	**178**	P		**P**		**20 55 26.5**	**+1.9**
WMQ	**Urumqi**	**75.64**	**317**	*e*P		**P**		**20 55 42.8**	**+0.9**
Q19K	**Cape Douglas,**	**76.47**	**25**	P		**P**		**20 55 45.1**	**-1.1**
Q19K	**Cape Douglas,**	**76.47**	**25**	P		**P**		**20 55 45.8**	**-0.3**
	baz=236								
SVW2	**Sparrevohn**	**76.94**	**23**	P		**P**		**20 55 48.6**	**-0.1**
P19K	**Oil Pt**	**77.05**	**25**	P		**P**		**20 55 48.6**	**-0.8**
N19K	**Bonanza Creek**	**77.20**	**24**	P		**P**		**20 55 49.7**	**-0.6**
N19K				IAmb		IAmb		20 56 17.4	
	comp=Z,21nm,1.6s								
HOM	**Homer**	**77.73**	**25**	P		**P**		**20 55 51.8**	**-1.3**
	baz=237								
CNPM	**China Poot**	**77.83**	**26**	P		**P**		**20 55 53.6**	**-0.2**
L19K	**White Mountain**	**77.86**	**22**	P		**P**		**20 55 54.0**	**+0.2**
L19K				IAmb		IAmb		20 55 55.0	
	comp=Z,7.3nm,0.8s								
L19K	**White Mountain**	**77.86**	**22**	P		**P**		**20 55 53.6**	**-0.3**
	baz=234,SNR=5.8								
M19K	**Big River Lodg**	**77.87**	**23**	P		**P**		**20 55 54.1**	**+0.1**
M19K				IAmb		IAmb		20 55 55.5	
	comp=Z,25nm,1.6s								
M19K	**Big River Lodg**	**77.87**	**23**	P		**P**		**20 55 53.7**	**-0.2**
	baz=234								
BRLK	**Bradley Lake**	**78.11**	**26**	P		**P**		**20 55 54.1**	**-1.2**
BRLK				IAmb		IAmb		20 56 37.5	
	comp=Z,25nm,1.3s								
BRSE	**Bradley Lake S**	**78.16**	**26**	P		**P**		**20 55 54.9**	**-0.7**
	baz=238								
L20K	**Farewell, AK**	**78.40**	**22**	P		**P**		**20 55 56.6**	**-0.3**
	baz=235								
K20K	**Telida**	**78.84**	**22**	P		**P**		**20 55 59.7**	**+0.5**
K20K				IAmb		IAmb		20 56 00.5	
	comp=Z,9.4nm,0.9s								
K20K	**Telida**	**78.84**	**22**	P		**P**		**20 55 58.9**	**-0.4**
	baz=234,SNR=6.6								
SEW	**Seward**	**78.90**	**26**	P		**P**		**20 55 58.9**	**-0.7**
	baz=239								
SKT	**Skwentna**	**79.03**	**23**	P		**P**		**20 55 59.4**	**-1.0**
SKT	**Skwentna**	**79.03**	**23**	P		**P**		**20 55 59.0**	**-1.4**
	baz=237								
SUA	**Susitna One**	**79.07**	**24**	P		**P**		**20 55 59.8**	**-0.9**
SUA				IAmb		IAmb		20 56 07.4	
	comp=Z,23nm,1.3s								
SUA	**Susitna One**	**79.07**	**24**	P		**P**		**20 55 59.6**	**-1.1**
	baz=238								
RDOG	**Red Dog Mine**	**79.07**	**16**	P		**P**		**20 56 01.4**	**+1.0**
	baz=225								
PPLA	**Purkeypile**	**79.28**	**23**	P		**P**		**20 56 02.6**	**+0.8**
	baz=236								
RC01	**Rabbit Creek A**	**79.29**	**25**	P		**P**		**20 56 01.1**	**-0.7**
RC01				IAmb		IAmb		20 56 02.0	
	comp=Z,29nm,1.2s								
RC01	**Rabbit Creek A**	**79.29**	**25**	P		**P**		**20 56 00.1**	**-1.6**
	baz=239								
J20K	**Nowinta River**	**79.29**	**21**	P		**P**		**20 56 02.1**	**+0.4**
J20K				IAmb		IAmb		20 56 03.0	
	comp=Z,9.4nm,0.8s								
J20K	**Nowinta River**	**79.29**	**21**	P		**P**		**20 56 01.4**	**-0.3**
	baz=234,SNR=9.8								
CAST	**Castle Rocks**	**79.61**	**22**	P		**P**		**20 56 02.7**	**-0.8**
	baz=236								
PWL	**Port Wells**	**79.76**	**25**	P		**P**		**20 56 04.1**	**-0.3**
CHUM	**Lake Minchumin**	**79.78**	**22**	P		**P**		**20 56 03.5**	**-0.8**
	baz=236								
PMR	**Palmer**	**79.80**	**24**	P		**P**		**20 56 03.6**	**-0.8**
	baz=239								
MKAR	**Makanchi Array**	**80.23**	**319**	P		**P**		**20 56 06.5**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=94,slow=8.5,SNR=6.9								
MKAR	**Makanchi Array**	**80.23**	**319**	P		**P**		**20 56 07.7**	**+0.5**
SML	**Sawmill**	**80.24**	**24**	P		**P**		**20 56 06.6**	**-0.3**
SML	**Sawmill**	**80.24**	**24**	P		**P**		**20 56 06.1**	**-0.8**
	baz=240,SNR=9.1								
GLI	**Glacier Island**	**80.30**	**26**	P		**P**		**20 56 06.0**	**-1.2**
	baz=241								
BPAW	**Bear Paw Mtn.**	**80.39**	**22**	P		**P**		**20 56 06.2**	**-1.5**
BPAW	**Bear Paw Mtn.**	**80.39**	**22**	P		**P**		**20 56 06.9**	**-0.8**
	baz=237								
MAKZ	**Makanchi**	**80.44**	**319**	P		**P**		**20 56 07.9**	**-0.4**
IMAR	**Indian Mountai**	**80.48**	**20**	P		**P**		**20 56 07.8**	**-0.4**
FID	**Port Fidalgo**	**80.51**	**26**	P		**P**		**20 56 08.0**	**-0.4**
FID				IAmb		IAmb		20 56 16.3	
	comp=Z,15nm,0.6s								
H21K	**Melozitna Rive**	**80.61**	**20**	P		**P**		**20 56 08.6**	**-0.3**
H21K	**Melozitna Rive**	**80.61**	**20**	P		**P**		**20 56 07.5**	**-1.3**
	baz=235								
I21K	**Tanana**	**80.63**	**21**	P		**P**		**20 56 09.0**	**+0.2**
I21K				IAmb		IAmb		20 56 10.0	
	comp=Z,17nm,1.1s								
I21K	**Tanana**	**80.63**	**21**	P		**P**		**20 56 07.9**	**-1.0**
	baz=236,SNR=11								
WAT1	**Susitna Watana**	**80.66**	**23**	P		**P**		**20 56 07.8**	**-1.4**
	baz=240								
RND	**Reindeer**	**80.84**	**23**	P		**P**		**20 56 08.4**	**-1.7**
RND				IAmb		IAmb		20 56 09.7	
	comp=Z,14nm,0.7s								
WAT6	**Susitna Watana**	**80.86**	**24**	P		**P**		**20 56 09.3**	**-1.1**
	baz=240,SNR=7.8								
MCK	**McKinley**	**80.97**	**23**	P		**P**		**20 56 09.7**	**-1.1**
MCK				IAmb		IAmb		20 56 10.4	
	comp=Z,18nm,0.8s								
MCK	**McKinley**	**80.97**	**23**	P		**P**		**20 56 09.4**	**-1.4**
	baz=239,SNR=9.4								
MLY	**Manley**	**80.99**	**21**	P		**P**		**20 56 10.2**	**-0.7**
MLY				IAmb		IAmb		20 56 11.2	
	comp=Z,12nm,0.6s								
MLY	**Manley**	**80.99**	**21**	P		**P**		**20 56 09.9**	**-1.0**
	baz=237,SNR=20								
DIV	**Divide**	**80.99**	**26**	P		**P**		**20 56 10.7**	**-0.3**
DIV				IAmb		IAmb		20 56 11.7	
	comp=Z,16nm,1.1s								
ZALV	**Zalesovo Beam**	**81.08**	**326**	P		**P**		**20 56 10.9**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=107,slow=5.8,SNR=4.3								
KLU	**Klutina**	**81.09**	**25**	P		**P**		**20 56 10.9**	**-0.6**
	baz=242,SNR=5.2								
DHY	**Denali Highway**	**81.25**	**24**	P		**P**		**20 56 11.3**	**-1.2**
DHY				IAmb		IAmb		20 56 12.8	
	comp=Z,7.9nm,0.8s								
DHY	**Denali Highway**	**81.25**	**24**	P		**P**		**20 56 10.9**	**-1.6**
	baz=241,SNR=6.6								
M24K	**Tolsona, Glenn**	**81.28**	**25**	P		**P**		**20 56 11.6**	**-0.9**
	baz=242								
NEA2	**Nenana**	**81.36**	**22**	IAmb		IAmb		20 56 12.3	
	comp=Z,9.8nm,0.7s								
NEA2	**Nenana**	**81.36**	**22**	P		**P**		**20 56 11.3**	**-1.5**
	baz=239,SNR=12								
I23K	**Minto, Yukon-K**	**81.55**	**21**	P		**P**		**20 56 12.6**	**-1.1**
	baz=239,SNR=5.7								
WRH	**Wood River Hil**	**81.67**	**22**	IAmb		IAmb		20 56 13.9	
	comp=Z,17nm,1.2s								
N25K	**Chitina, Valde**	**81.71**	**25**	P		**P**		**20 56 14.1**	**-0.8**
	baz=244								
HARP	**HAARP**	**81.83**	**25**	P		**P**		**20 56 14.7**	**-0.7**
	baz=243								
H23K	**Yukon River**	**81.83**	**21**	P		**P**		**20 56 14.7**	**-0.7**
H23K	**Yukon River**	**81.83**	**21**	P		**P**		**20 56 14.2**	**-1.1**
	baz=238								
CCB	**Clear Creek Bu**	**81.86**	**22**	IAmb		IAmb		20 56 14.6	
	comp=Z,8.0nm,0.9s								
TCOL	**CIGO, UAF Yank**	**81.95**	**22**	P		**P**		**20 56 15.1**	**-0.8**
	baz=240								
COLA	**College**	**81.96**	**22**	P		**P**		**20 56 14.8**	**-1.0**
	baz=240								
PAX	**Paxson**	**81.97**	**24**	P		**P**		**20 56 15.6**	**-0.5**
	baz=243								
GLB	**Gilahina Butte**	**81.98**	**26**	P		**P**		**20 56 15.7**	**-0.5**
GLB				IAmb		IAmb		20 56 16.9	
	comp=Z,26nm,1.2s								
CRQM	**Cirque**	**81.98**	**27**	IAmb		IAmb		20 56 16.7	
	comp=Z,15nm,0.9s								
CRQE	**Cirque**	**82.00**	**27**	P		**P**		**20 56 15.1**	**-1.3**
	baz=245								
VRDI	**Verde Repeater**	**82.04**	**26**	IAmb		IAmb		20 56 17.3	
	comp=Z,14nm,1.0s								
HDA	**Harding Lake**	**82.07**	**22**	P		**P**		**20 56 14.2**	**-2.3**
HDA	**Harding Lake**	**82.07**	**22**	P		**P**		**20 56 15.5**	**-1.1**
	baz=241								
POKR	**Poker Plat Res**	**82.23**	**22**	P		**P**		**20 56 15.5**	**-1.9**
	baz=240								
IL31		**82.27**	**22**	IAmb		IAmb		20 56 16.6	
	comp=Z,7.1nm,0.7s								
ILAR	**Eielson Array**	**82.27**	**22**	P		**P**		**20 56 16.1**	**-1.5**
	comp=Z,5.6nm,0.7s,baz=251,slow=5.3,SNR=39								
ILAR	**Eielson Array**	**82.27**	**22**	P		**P**		**20 56 15.7**	**-1.9**
MESA	**MESA**	**82.27**	**27**	P		**P**		**20 56 17.9**	**-0.1**
	baz=246								
MCARA	**McCarthy VSAT**	**82.29**	**26**	P		**P**		**20 56 17.4**	**-0.4**
	baz=245								
COLD	**Coldfoot**	**82.36**	**19**	P		**P**		**20 56 16.4**	**-1.6**
	baz=238								
H24K	**Noodor Dome**	**82.43**	**21**	P		**P**		**20 56 17.3**	**-1.2**
	baz=240								
RIDG	**Independent Ri**	**82.57**	**23**	P		**P**		**20 56 18.2**	**-1.0**
RIDG	**Independent Ri**	**82.57**	**23**	P		**P**		**20 56 18.5**	**-0.7**
	baz=243								
MENT	**Mentasta**	**82.67**	**24**	IAmb		IAmb		20 56 20.9	
	comp=Z,5.9nm,0.6s								
M26K	**Nabesna, AK**	**82.74**	**25**	P		**P**		**20 56 19.5**	**-0.7**
	baz=245								
J25K	**Salcha River,**	**82.77**	**23**	P		**P**		**20 56 19.3**	**-0.9**
	baz=242,SNR=18								
KSH	**Kashi**	**82.82**	**311**	P		**P**		**20 56 23.1**	**+1.9**
KSH				sP		sP		20 56 48.8	+6.3
DOT	**Dot Lake**	**82.84**	**24**	IAmb		IAmb		20 56 21.0	
	comp=Z,12nm,0.8s								
L26K	**Log Cabin Wild**	**82.86**	**24**	IAmb		IAmb		20 56 21.4	
	comp=Z,7.8nm,0.9s								
L26K	**Log Cabin Wild**	**82.86**	**24**	P		**P**		**20 56 20.0**	**-0.7**
	baz=244								
CTG	**Chitna Glacier**	**82.87**	**27**	P		**P**		**20 56 21.0**	**+0.1**
	baz=247,SNR=5.8								
SCRK	**Sand Creek**	**83.02**	**23**	P		**P**		**20 56 20.5**	**-1.1**
SCRK				IAmb		IAmb		20 56 22.0	
	comp=Z,10nm,1.2s								
SCRK	**Sand Creek**	**83.02**	**23**	P		**P**		**20 56 20.9**	**-0.7**
	baz=244,SNR=7.3								
PINM	**Pinnacle**	**83.02**	**28**	P		**P**		**20 56 20.6**	**-1.1**
	baz=248								
PRP	**Porcupine Dome**	**83.13**	**22**	P		**P**		**20 56 20.3**	**-2.0**
	baz=242								
M27K	**Edge Creek, AK**	**83.19**	**25**	P		**P**		**20 56 22.2**	**-0.4**
	baz=246,SNR=11								
TOLK	**Toolik Lake Re**	**83.31**	**18**	P		**P**		**20 56 22.3**	**-0.7**
	baz=238								
L27K	**Beaver Creek,**	**83.50**	**25**	P		**P**		**20 56 23.7**	**-0.3**
	baz=246,SNR=6.5								
YUK3	**Moose Creek**	**83.58**	**26**	P		**P**		**20 56 24.2**	**-0.5**
	baz=247								
BVCY	**Beaver Creek**	**83.65**	**25**	P		**P**		**20 56 24.9**	**+0.1**
	baz=247								
KURK	**Kurchatov**	**83.69**	**322**	P		**P**		**20 56 24.0**	**-1.2**
KURBB	**Kurchatov Arra**	**83.72**	**322**	P		**P**		**20 56 24.0**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=110,slow=4.0,SNR=4.9								
YUK4	**Talbot Arm**	**84.22**	**27**	P		**P**		**20 56 27.7**	**-0.2**
	baz=249,SNR=5.3								
SIT	**Sitka**	**84.41**	**31**	P		**P**		**20 56 29.1**	**+0.5**
	baz=252								
EGAK	**Eagle**	**84.47**	**23**	IAmb		IAmb		20 56 29.7	
	comp=Z,8.0nm,0.9s								
EGAK	**Eagle**	**84.47**	**23**	P		**P**		**20 56 28.7**	**-0.2**
	baz=246,SNR=6.7								
HYT	**Haines Junctio**	**84.56**	**28**	P		**P**		**20 56 29.4**	**-0.2**
	baz=250,SNR=11								
DAWY	**Dawson**	**84.90**	**24**	IAmb		IAmb		20 56 32.6	
	comp=Z,30nm,1.7s								
DAWY	**Dawson**	**84.90**	**24**	P		**P**		**20 56 30.4**	**-0.8**
	baz=248								
QSPA	**South Pole Qui**	**85.12**	**180**	LR		LR		21 32 41.1	
	comp=Z,46nm,18.3s,baz=249,slow=34								
QSPA	**South Pole Qui**	**85.12**	**180**	P		**P**		**20 56 34.2**	**+1.9**
QSPA				IAmb		IAmb		20 57 03.4	
	comp=Z,8.3nm,1.1s								
MAW	**Mawson**	**85.46**	**203**	P		**P**		**20 56 34.3**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=103,slow=14,SNR=2.1								
WHY	**Whitehse**	**85.72**	**28**	P		**P**		**20 56 35.5**	**+0.1**
	baz=252								
WRAK	**Wrangell Islan**	**85.80**	**33**	P		**P**		**20 56 35.7**	**0.0**
	baz=255								
EPYK	**Eagle Plains**	**86.78**	**22**	P		**P**		**20 56 39.7**	**-0.7**
	baz=250								
FARO	**Faro, Yukon**	**86.89**	**27**	P		**P**		**20 56 41.0**	**0.0**
	baz=254								
DLBC	**Dease Lake**	**87.51**	**31**	IAmb		IAmb		20 56 46.3	
	comp=Z,12nm,1.1s								
MMPY	**Sheldon Lake,**	**87.93**	**27**	P		**P**		**20 56 46.0**	**-0.1**
	baz=256								
WTLY	**Watson Lake, Y**	**88.50**	**29**	P		**P**		**20 56 48.4**	**-0.4**
	baz=258								
J01E	**Myrtle Point**	**88.51**	**47**	P		**P**		**20 56 50.2**	**+1.1**
	baz=262								
INK	**Inuvik**	**88.56**	**21**	P		**P**		**20 56 47.9**	**-0.8**
	baz=253								
O02D	**Mt. Diablo Mer**	**88.97**	**50**	P		**P**		**20 56 53.1**	**+1.6**
	baz=263								
M02C	**Callahan**	**89.07**	**49**	P		**P**		**20 56 53.6**	**+1.7**
	baz=263								
N02D	**Trinity Center**	**89.13**	**49**	P		**P**		**20 56 52.6**	**+0.4**
	baz=263								
F04D	**Rainier, OR**	**89.56**	**44**	P		**P**		**20 56 53.7**	**-0.3**
	baz=263								
L04D	**Klamath Falls**	**89.58**	**48**	P		**P**		**20 56 54.8**	**+0.5**
	baz=263								
I04A	**Tendick Farm,**	**89.69**	**46**	P		**P**		**20 56 54.7**	**-0.1**
	baz=263								
J05D	**Fort Rock, OR**	**90.48**	**47**	P		**P**		**20 56 59.5**	**+0.9**
	baz=264								
PINE	**Pine Mountain**	**90.75**	**46**	P		**P**		**20 56 58.2**	**-1.6**
MONP2	**Monument Peak**	**93.41**	**57**	P		**P**		**20 57 13.1**	**+0.7**
	baz=266								
BMO	**Blue Mountains**	**93.44**	**45**	P		**P**		**20 57 11.8**	**-0.4**
BMO				IAmb		IAmb		20 57 12.9	
	comp=Z,3.7nm,1.0s								
HEC	**Hector,Ludlow**	**93.60**	**56**	P		**P**		**20 57 14.4**	**+1.3**
	baz=267								
NEW	**Newport**	**93.75**	**42**	P		**P**		**20 57 13.0**	**-0.4**
	baz=267								
SPR3	**Spring Creek 3**	**95.39**	**51**	P		**P**		**20 57 21.9**	**+0.3**
SPR3				IAmb		IAmb		20 57 24.4	
	comp=Z,10nm,1.8s								
EDM	**Edmonton**	**96.27**	**37**	P		**P**		**20 57 24.4**	**-0.5**
BOZ	**Bozeman (W)**	**97.46**	**45**	P		**P**		**20 57 29.6**	**-0.9**
	baz=271								
PDAR	**Pindale Array**	**99.01**	**48**	P		**Pdif**		**20 57 36.5**	**-1.2**
	comp=Z,1.3nm,1.0s,baz=264,slow=2.7,SNR=4.3								
GOGA	**Godfrey**	**120.73**	**54**	P		**PKPdf**		**21 02 48.4**	**-0.4**
	baz=286								
M54A	**Oil Creek Stat**	**120.88**	**44**	P		**PKPdf**		**21 02 48.8**	**-0.1**
	baz=293								
O56A	**Blue Knob Stat**	**122.14**	**45**	P		**PKPdf**		**21 02 50.7**	**-0.7**
	baz=294								
GERES	**GERESS Array B**	**123.99**	**328**	PKP		**PKPdf**		**21 02 53.7**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=70,slow=3.2,SNR=5.8								
K61A	**Williamstown**	**124.63**	**40**	P		**PKPdf**		**21 02 55.3**	**-0.7**
	baz=300								
LBNH	**Lisbon**	**124.67**	**38**	P		**PKPdf**		**21 02 55.4**	**-0.7**
	baz=302								
J61A	**Chester**	**124.74**	**39**	P		**PKPdf**		**21 02 55.9**	**-0.3**
	baz=301								
L61B	**Northampton**	**125.11**	**40**	P		**PKPdf**		**21 02 56.4**	**-0.6**
	baz=300								
I63A	**Otisfield**	**125.58**	**37**	P		**PKPdf**		**21 02 56.9**	**-0.9**
	baz=303								
PKME	**Peaks-Kenny Pk**	**125.67**	**35**	P		**PKPdf**		**21 02 57.4**	**-0.5**
	baz=305								
J63A	**Strafford**	**125.70**	**38**	P		**PKPdf**		**21 02 57.3**	**-0.7**
	baz=302								
L63A	**North Scituate**	**126.10**	**40**	P		**PKPdf**		**21 02 57.5**	**-1.3**
	baz=301								
M64A	**Tiverton**	**126.51**	**40**	P		**PKPdf**		**21 02 58.0**	**-1.6**
	baz=301								
L64A	**Middleborough**	**126.55**	**40**	P		**PKPdf**		**21 02 58.4**	**-1.3**
	baz=302								
TORD	**Torodi Ar. Bea**	**150.14**	**288**	PKPbc		**PKPbc**		**21 03 47.1**	**-1.1**
	comp=Z,1.5nm,0.3s,baz=97,slow=2.3,SNR=24								
TORD	**Torodi Ar. Bea**	**150.14**	**288**			**PKPbc**		**21 03 47.9**	**-0.3**

IDC ***15*** *20:46:34.3±1.5,31.34S×177.02W,h0km,mb4.4/6, mb1 4.5/8,mb1mx4.1/42,mbtmp4.4/8,ML4.1/2,MS3.4/4, Ms1 3.5/4,ms1mx3.1/37,Error ellipse: s-maj=36.5km s-min=27.7km az=117.0*

NEIC ***15*** *20:46:35.6±2.6,31.43S±0.08×176.9W±0.2,h10km±2km, mb4.7/15,Error ellipse: s-maj=25.6km s-min=13.1km az=92.0*

ISC 15 20:46:35.6±0.9,**31.40S**±0.07×**177.2W**±0.2,**h10**km,**n58,**
σ1ᵍ94/51,mb4.5/9,MS3.4/5,1C,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**2.23**	**343**	Pn		**Pn**	**20 47 12.7**	**+0.1**
	95nm,0.3s,baz=73,slow=19,SNR=3.1							
RAO				Sn		**Sn**	**20 47 36.2**	**-4.0**
	610nm,0.3s,baz=79,slow=23,SNR=14							
RAO	**Raoul Island**	**2.23**	**343**			**Pn**	**20 47 12.4**	**-0.2**
MXZ	**Matakaoa Point**	**7.19**	**210**	Pn		**Pn**	**20 48 19.9**	**-0.9**
URZ	**Urewera**	**8.30**	**213**	Pn		**Pn**	**20 48 36.3**	**+0.4**
	1.5nm,0.3s,baz=260,slow=4.9,SNR=14							
URZ				Sn		**Sn**	**20 50 07.5**	**-2.2**
	6.0nm,0.3s,baz=162,slow=16,SNR=4.4							
URZ				LR		LR	20 52 24.4	
	comp=Z,178nm,19.3s,baz=31,slow=42							
BKZ	**Black Stump Fm**	**9.31**	**212**	Pn		**Pn**	**20 48 49.4**	**-0.5**
BFZ	**Birch Farm**	**10.68**	**208**	Pn		**Pn**	**20 49 07.3**	**-1.3**
MSWZ	**Moikau Station**	**11.71**	**209**	Pn		**Pn**	**20 49 22.5**	**-0.1**
PLWZ	**Palliser**	**11.83**	**209**	Pn		**Pn**	**20 49 25.3**	**+0.9**
TUWZ	**Tuamarina**	**12.29**	**213**	Pn		**Pn**	**20 49 28.9**	**-1.8**
BSWZ	**Blackbirch Sta**	**12.55**	**212**	Pn		**Pn**	**20 49 31.7**	**-2.5**
QRZ	**Quartz Range**	**12.55**	**219**	Pn		**Pn**	**20 49 31.5**	**-2.7**
THZ	**Tophouse**	**13.04**	**215**	Pn		**Pn**	**20 49 37.9**	**-3.1**
KHZ	**Kahutara**	**13.26**	**211**	Pn		**Pn**	**20 49 40.5**	**-3.3**
LTZ	**Lake Taylor**	**14.13**	**214**	Pn		**Pn**	**20 49 54.0**	**-1.8**
OXZ	**Oxford**	**14.65**	**213**	Pn		**Pn**	**20 50 00.2**	**-2.7**
MQZ	**McQueen's Vall**	**14.68**	**210**	Pn		**Pn**	**20 49 59.5**	**-3.7**
RPZ	**Rata Peaks**	**15.41**	**214**	Pn		**Pn**	**20 50 11.1**	**-2.0**
FOZ	**Fox Glacier**	**15.89**	**217**	Pn		**Pn**	**20 50 16.2**	**-3.0**
FOZ				IAmb		IAmb	20 50 53.0	
	comp=Z,70nm,1.2s							
LBZ	**Lake Benmore**	**16.33**	**214**	Pn		**Pn**	**20 50 23.1**	**-1.9**
LBZ				IAmb		IAmb	20 51 03.3	
	comp=Z,92nm,1.7s							
ODZ	**Otahua Downs**	**16.62**	**212**	Pn		**Pn**	**20 50 25.5**	**-3.1**
ODZ				IAmb		IAmb	20 51 04.3	
	comp=Z,146nm,1.9s							
WKZ	**Wanaka**	**17.22**	**215**	Pn		**Pn**	**20 50 33.4**	**-2.8**
WKZ				IAmb		IAmb	20 50 35.1	
	comp=Z,77nm,1.3s							
DZM	**Mont Dzumac**	**17.31**	**298**	*e*LR		LR	20 55 07.2	
	comp=Z,362nm,22.0s							
WHZ	**Wether Hill Ro**	**18.51**	**214**	P		**P**	**20 50 49.6**	**-2.3**
TBI	**Tubuai**	**25.84**	**79**	*e*LR		LR	20 58 22.7	
	comp=Z,174nm,30.2s							
PPT2	**Papeete2**	**28.54**	**68**	*e*LR		LR	20 59 37.9	
	comp=Z,151nm,23.5s							
PPT	**Papeete**	**28.55**	**68**	LR		LR	21 04 16.7	
	comp=Z,71nm,18.3s,baz=205,slow=37							
CTA	**Charters Tower**	**34.66**	**280**	P		**P**	**20 53 28.1**	**+2.7**
	comp=Z,1.6nm,0.4s,baz=91,slow=13,SNR=1.8							
CTAO	**Charters Tower**	**34.66**	**280**	P		**P**	**20 53 28.8**	**+3.4**
CTAO				IAmb		IAmb	20 53 46.6	
	comp=Z,18nm,1.2s							
STKA	**Stephens Creek**	**34.95**	**258**	P		**P**	**20 53 30.5**	**+2.6**
	comp=Z,4.8nm,0.9s,baz=66,slow=13,SNR=4.8							
STKA	**Stephens Creek**	**34.95**	**258**	P		**P**	**20 53 30.0**	**+2.1**
BBOO	**Buckleboo**	**39.38**	**255**	P		**P**	**20 54 07.2**	**+1.7**
ASAR	**Alice Springs**	**43.76**	**268**	P		**P**	**20 54 42.8**	**+1.2**
	comp=Z,4.5nm,0.9s,baz=103,slow=7.3,SNR=14							
ASAR				PcP		**PcP**	**20 56 29.1**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=117,slow=3.7,SNR=4.8							
ASAR	**Alice Springs**	**43.76**	**268**	P		**P**	**20 54 42.5**	**+0.9**
WR0	**Warramunga Arr**	**44.66**	**273**	P		**P**	**20 54 49.7**	**+1.0**
WR0				IAmb		IAmb	20 56 09.4	
	comp=Z,13nm,1.4s							
WB2	**Warramunga Arr**	**44.83**	**273**	P		**P**	**20 54 51.0**	**+0.9**
WB2				IAmb		IAmb	20 55 14.8	
	comp=Z,13nm,1.2s							
WRAB	**Tennant Creek**	**44.84**	**273**	P		**P**	**20 54 51.1**	**+1.0**
WRAB				IAmb		IAmb	20 54 51.8	
	comp=Z,5.6nm,0.8s							
WRA	**Warramunga Arr**	**44.84**	**273**	P		**P**	**20 54 50.3**	**+0.1**
	comp=Z,2.6nm,0.4s,ba

JTM	**Tenmabayashi**	**4.87**	**7**		**Pn**	**20 54 36.9**	**+1.6**
JMN	**Monobe**	**5.68**	**249**	Pn	**Pn**	**20 54 49.2**	**+2.8**
JHS	**Saijyo**	**5.89**	**263**	Pn	**Pn**	**20 54 50.4**	**+1.1**
JNU	**Nakatsue**	**8.22**	**253**	P	**Pn**	**20 55 21.9**	**+0.5**
	0.5nm,0.3s,baz=48,slow=1.2,SNR=1.8						
ASAJ	**Asahikawa**	**8.36**	**12**	P	**Pn**	**20 55 21.8**	**-1.2**
	1.1nm,0.3s,baz=236,slow=18,SNR=7.9						
JKA	**Kamikawa-asahi**	**8.36**	**12**	Pn	**Pn**	**20 55 22.0**	**-1.1**
JCJ	**Chichijima**	**8.98**	**169**	P	**Pn**	**20 55 30.0**	**-1.6**
	19nm,0.3s,baz=97,slow=24,SNR=12						
JCJ				S	**Sn**	**20 57 06.7**	**-4.8**
	5.7nm,0.3s,baz=232,slow=19,SNR=1.8						
JCJ	**Chichijima**	**8.98**	**169**	Pn	**Pn**	**20 55 29.6**	**-2.1**
KSRS	**Korea Array**	**10.01**	**282**	LR	LR	20 59 30.0	
	comp=Z,40nm,19.2s,baz=100,slow=36						
USRK	**Ussuriysk Ar.**	**10.38**	**325**	P	**Pn**	**20 55 53.9**	**+3.1**
	baz=135,slow=12,SNR=5.9						
USRK	**Ussuriysk Ar.**	**10.38**	**325**		**Pn**	**20 55 52.9**	**+2.1**
SONM	**Songino Array**	**27.63**	**306**	P	**P**	**20 59 07.2**	**-0.9**
	1.2nm,0.8s,baz=106,slow=9.0,SNR=6.3						
SONM	**Songino Array**	**27.63**	**306**	IAmb	IAmb	20 59 11.1	
	comp=Z,0.9nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.45**	**117**	T	T	21 28 55.7	
	baz=309						
H11N1	**WAKE ISLAND Hy**	**28.45**	**118**	T	T	21 29 13.7	
	baz=309,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.46**	**117**	T	T	21 29 18.5	
	baz=309,slow=74						
H11S1	**WAKE ISLAND Hy**	**29.10**	**120**	T	T	21 30 15.4	
	baz=314,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.10**	**120**	T	T	21 30 15.4	
	baz=314,slow=76						
H11S2	**WAKE ISLAND Hy**	**29.12**	**120**	T	T	21 30 16.6	
	baz=314,slow=76						
CMAR	**Chiang Mai Arr**	**40.31**	**256**	LR	LR	21 19 18.8	
	comp=Z,38nm,18.3s,baz=234,slow=38						
ZALV	**Zalesovo Beam**	**41.96**	**313**	P	**P**	**21 01 10.7**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=76,slow=6.1,SNR=3.7						
MK31	**Makanchi Array**	**43.90**	**303**	P	**P**	**21 01 27.1**	**+0.1**
MKAR	**Makanchi Array**	**43.90**	**303**	P	**P**	**21 01 26.8**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=88,slow=10,SNR=22						
MKAR	**Makanchi Array**	**43.90**	**303**	P	**P**	**21 01 27.1**	**+0.1**
MAKZ	**Makanchi**	**44.12**	**303**	P	**P**	**21 01 28.6**	**0.0**
K20K	**Telida**	**47.75**	**34**	P	**P**	**21 01 59.0**	**+2.0**
K20K				IAmb	IAmb	21 01 59.9	
	comp=Z,5.0nm,1.1s						
BATI	**Baumata**	**48.50**	**202**	LR	LR	21 22 29.6	
	comp=Z,133nm,19.6s,baz=172,slow=36						
KDAK	**Kodiak Island**	**48.53**	**41**	P	**P**	**21 02 03.0**	**-0.1**
	comp=Z,6.2nm,0.9s,baz=306,slow=10,SNR=4.6						
KDAK	**Kodiak Island**	**48.53**	**41**	P	**P**	**21 02 03.9**	**+0.8**
MLY	**Manley**	**49.27**	**32**	P	**P**	**21 02 10.7**	**+2.0**
MLY				IAmb	IAmb	21 02 11.9	
	comp=Z,2.0nm,0.8s						
NEA2	**Nenana**	**49.98**	**32**	P	**P**	**21 02 14.8**	**+0.7**
NEA2				IAmb	IAmb	21 02 16.6	
	comp=Z,3.7nm,0.9s						
MDM	**Murphy Dome**	**50.33**	**32**	P	**P**	**21 02 18.1**	**+1.4**
HDA	**Harding Lake**	**50.90**	**32**	P	**P**	**21 02 21.4**	**+0.3**
HDA				IAmb	IAmb	21 02 22.3	
	comp=Z,2.9nm,0.7s						
IL31		**50.91**	**32**	P	**P**	**21 02 21.5**	**+0.5**
IL31				IAmb	IAmb	21 02 22.0	
	comp=Z,5.5nm,1.2s						
ILAR	**Eielson Array**	**50.91**	**32**	P	**P**	**21 02 21.3**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=271,slow=6.7,SNR=13						
ILAR	**Eielson Array**	**50.91**	**32**	P	**P**	**21 02 21.2**	**+0.1**
RIDG	**Independent Ri**	**51.87**	**33**	P	**P**	**21 02 29.1**	**+0.7**
RIDG				IAmb	IAmb	21 02 49.1	
	comp=Z,6.5nm,1.3s						
DOT	**Dot Lake**	**52.23**	**33**	P	**P**	**21 02 32.3**	**+1.3**
SCRK	**Sand Creek**	**52.23**	**33**	P	**P**	**21 02 32.0**	**+0.9**
SCRK				IAmb	IAmb	21 02 33.2	
	comp=Z,6.3nm,1.3s						
KKAR	**Karatay Array**	**52.85**	**300**	P	**P**	**21 02 36.1**	**+0.2**
K27K	**Chicken**	**53.06**	**33**	P	**P**	**21 02 38.8**	**+1.7**
K27K				IAmb	IAmb	21 02 38.9	
	comp=Z,3.5nm,1.1s						
EGAK	**Eagle**	**53.36**	**32**	P	**P**	**21 02 40.1**	**+0.9**
EGAK				IAmb	IAmb	21 03 01.3	
	comp=Z,3.3nm,1.3s						
EPYK	**Eagle Plains**	**54.93**	**29**	P	**P**	**21 02 52.6**	**+1.8**
CHGR	**Chuyangaron**	**55.28**	**296**	P	**P**	**21 02 53.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**55.50**	**197**	P	**P**	**21 02 54.8**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=352,slow=12,SNR=3.6						
FITZ	**Fitzroy Crossi**	**55.50**	**197**	P	**P**	**21 02 55.8**	**+0.5**
FITZ				IAmb	IAmb	21 02 55.8	
	comp=Z,2.6nm,0.8s						
WRAB	**Tennant Creek**	**55.86**	**187**	P	**P**	**21 02 58.2**	**+0.4**
WRAB				IAmb	IAmb	21 03 16.1	
	comp=Z,6.4nm,1.4s						
WR0	**Warramunga Arr**	**55.86**	**186**	P	**P**	**21 02 58.3**	**+0.5**
WB2	**Warramunga Arr**	**55.87**	**187**	P	**P**	**21 02 58.0**	**+0.1**
WB2				IAmb	IAmb	21 03 07.2	
	comp=Z,9.1nm,1.5s						
WRA	**Warramunga Arr**	**55.87**	**187**	P	**P**	**21 02 57.4**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=0.2,slow=7.3,SNR=15						
WRA	**Warramunga Arr**	**55.87**	**187**	P	**P**	**21 02 58.2**	**+0.3**
ABKAR	**Akbulak array**	**57.92**	**310**	P	**P**	**21 03 11.5**	**-0.7**
ABKAR	**Akbulak array**	**57.92**	**310**	P	**P**	**21 03 12.0**	**-0.2**
ASAR	**Alice Springs**	**59.59**	**187**	P	**P**	**21 03 25.3**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=16,slow=11,SNR=5.6						
FINES	**FINESS Array B**	**69.33**	**332**	P	**P**	**21 04 26.7**	**-0.6**
	comp=Z,4.9nm,1.1s,baz=70,slow=4.6,SNR=3.4						
AKASG	**Malin Array Be**	**74.57**	**322**	P	**P**	**21 04 58.0**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=49,slow=5.9,SNR=4.2						
BRTR	**Keskin Array B**	**78.86**	**311**	LR	LR	21 42 17.0	
	comp=Z,125nm,21.3s,baz=255,slow=37						
PDAR	**Pinedale Array**	**79.10**	**45**	P	**P**	**21 05 25.4**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=222,slow=2.0,SNR=4.3						
TXAR	**Lajitas Array**	**91.53**	**52**	P	**P**	**21 06 27.7**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=309,slow=3.0,SNR=7.2						

IDC 15 20:53:44.0±8.2, 7.68S×127.51E, h169km±89km, mb2.8/1, mb1 3.3/5, mb1mx3.0/39, mbtmpg3.7/5, Error ellipse: s-maj=87.0km s-min=25.3km az=38.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.55**	**236**	P	Pn	20 54 52.8	+0.7
	1.8nm,0.3s,baz=108,slow=3.2,SNR=2.1						
BATI				S	Sn	20 55 45.5	+0.3
	3.6nm,0.3s,baz=306,slow=23,SNR=7.8						
FITZ	**Fitzroy Crossi**	**10.52**	**190**	P	Pn	20 56 09.8	-0.8
	0.4nm,0.3s,baz=26,slow=9.8,SNR=14						
FITZ				S	Sn	20 58 00.9	-6.5
	0.4nm,0.3s,baz=288,slow=19,SNR=2.6						
WRA	**Warramunga Arr**	**13.88**	**152**	P	Pn	20 56 53.1	-0.7
	0.3nm,0.3s,baz=329,slow=14,SNR=9.0						
WRA				S	Sn	20 59 20.4	-7.7
	0.6nm,0.3s,baz=331,slow=22,SNR=8.9						
ASAR	**Alice Springs**	**17.04**	**160**	P	Pn	20 57 33.0	+0.4
	0.2nm,0.3s,baz=340,slow=12,SNR=11						
ASAR				S	S	21 00 34.1	-6.7
	0.1nm,0.3s,baz=318,slow=16,SNR=2.6						
MKAR	**Makanchi Array**	**67.46**	**328**	P	P	21 04 21.5	-0.1
	0.1nm,0.4s,baz=124,slow=6.8,SNR=2.6						

*TUL **15** 21:08:46.8±1.2, 35.99N±0.02×96.80W±0.04, h5km±3km, ML2.9, mb_Lg2.8/50(NEIC), Error ellipse: s-maj=4.5km s-min=1.8km az=109.0*

NEIC 15 21:08:47.1±0.9, 36.00N±0.01×96.81W±0.03, h2km±6km, Error ellipse: s-maj=3.5km s-min=0.9km az=113.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.05**	**204**	Pg	Pg	21 08 48.3	+0.2
OK031				Sg	Sg	21 08 49.2	+0.4
QUOK	**Quay**	**0.19**	**27**	Pg	Pg	21 08 51.2	+0.4
QUOK				Sg	Sg	21 08 54.2	+0.9
OK029	**Liberty Lake**	**0.56**	**249**	Pg	Pg	21 08 58.0	+0.1
OK029				Sg	Sg	21 09 05.9	+0.8
OK025	**Westminster Rd**	**0.60**	**226**	Pg	Pg	21 08 58.4	-0.1
OK025				Sg	Sg	21 09 07.0	+0.7
OKCFA	**Oklahoma City**	**0.78**	**222**		Pg	21 09 01.8	-0.3
OKCSW	**OKLAHOMA CITY**	**0.78**	**221**		Pg	21 09 01.9	-0.2
BLOK	**Blackwell**	**0.82**	**337**	Pg	Pg	21 09 03.0	0.0
BLOK				Sg	Sg	21 09 14.2	+0.5
FNO	**Franklin**	**0.88**	**213**		Pg	21 09 03.2	-0.8
T35A	**Sooner Cattle**	**0.95**	**15**	Pg	Pg	21 09 05.0	-0.2
CROK	**Carrier**	**1.07**	**298**	Pg	Pg	21 09 07.5	-0.2
GC02	**Grant County #**	**1.20**	**316**		Pg	21 09 09.8	-0.3

KAN09	**Caldwell North**	**1.31**	**330**		Pg	21 09 11.5	-0.7
KAN14	**Manchester OK**	**1.33**	**316**	IAmb_Lg		21 09 28.7	
	comp=Z,62nm,0.8s						
KAN08	**Anthony NE Sta**	**1.54**	**323**		Pn	21 09 15.2	-0.4
KAN12	**Harper NE Stat**	**1.61**	**324**	Pn	Pn	21 09 16.9	+0.3
X34A	**Smith Ranch, M**	**1.63**	**211**		Pn	21 09 16.8	-0.1
X34A				IAmb_Lg		21 09 41.8	
	comp=Z,48nm,0.8s						
U32A	**Winter Ranch,**	**1.81**	**283**	Pn	Pn	21 09 19.4	0.0
X37A	**Clayton**	**1.84**	**140**		Pn	21 09 19.6	-0.1
X37A				IAmb_Lg		21 09 46.0	
	comp=Z,36nm,0.7s						
U38A	**Gravette**	**2.01**	**77**		Pn	21 09 22.3	+0.1
LOOK	**Love County**	**2.02**	**189**		Pn	21 09 22.6	+0.3
LOOK				IAmb_Lg		21 09 55.0	
	comp=Z,30nm,0.8s						
WMOK	**Wichita Mounta**	**2.04**	**233**	Pn	Pn	21 09 22.8	+0.2
HHAR	**Hobbs**	**2.34**	**82**		Pn	21 09 27.2	+0.5
W39A	**Magazine**	**2.60**	**107**		Pn	21 09 30.3	+0.2
MIAR	**Mount Ida**	**3.02**	**118**	Pn	Pn	21 09 36.1	+0.1
KSU1	**Kansas State U**	**3.10**	**3**	IAmb_Lg		21 10 32.0	
	comp=Z,18nm,0.8s						
Z38A	**Mt. Pleasant**	**3.12**	**151**	IAmb_Lg		21 10 33.5	
	comp=Z,31nm,0.8s						
U40A	**Yellville**	**3.22**	**83**	Pn	Pn	21 09 38.3	-0.5
S39A	**Bolivar**	**3.27**	**58**	Pn	Pn	21 09 39.0	-0.5
S39A				IAmb_Lg		21 10 37.2	
	comp=Z,16nm,0.7s						
X40A	**Basin Creek Fa**	**3.59**	**114**		Pn	21 09 43.3	-0.5
CBKS	**Cedar Bluff**	**3.65**	**321**	IAmb_Lg		21 10 42.5	
	comp=Z,19nm,0.9s						
WHAR	**Wooly Hollow**	**3.75**	**100**		Pn	21 09 45.9	-0.2
FCAR	**Ozark Folk Cen**	**3.81**	**90**	Pn	Pn	21 09 47.4	+0.7
FCAR				IAmb_Lg		21 10 49.0	
	comp=Z,35nm,0.9s						
MGMO	**Mountain Grove**	**3.83**	**71**	IAmb_Lg		21 10 51.8	
	comp=Z,24nm,0.7s						
AMTX	**Amarillo**	**4.13**	**256**	IAmb_Lg		21 11 04.1	
	comp=Z,23nm,0.8s						
R40A	**Maddies Stadio**	**4.29**	**56**	Pn	Pn	21 09 53.5	+0.1
R40A				IAmb_Lg		21 11 07.9	
	comp=Z,22nm,0.8s						
LCAR	**Lake Charles**	**4.59**	**87**	IAmb_Lg		21 11 11.5	
	comp=Z,16nm,1.1s						
CCM	**Cathedral Cave**	**4.91**	**64**	IAmb_Lg		21 11 25.9	
	comp=Z,18nm,0.8s						
N35A	**Tabor**	**4.94**	**10**	IAmb_Lg		21 11 37.2	
	comp=Z,20nm,0.8s						
P40A	**Paris**	**5.16**	**46**	IAmb_Lg		21 11 30.7	
	comp=Z,17nm,0.8s						
PBMO	**Poplar Bluff**	**5.21**	**80**	IAmb_Lg		21 11 40.7	
	comp=Z,13nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.51**	**305**	IAmb_Lg		21 11 50.9	
	comp=Z,19nm,0.9s						
N38A	**Joes South For**	**5.55**	**29**	IAmb_Lg		21 11 48.2	
	comp=Z,19nm,0.7s						
JCT	**Junction City**	**6.05**	**205**	IAmb_Lg		21 12 11.2	
	comp=Z,10nm,0.9s						
P43A	**Skaggs, Pawnee**	**6.82**	**56**	IAmb_Lg		21 12 23.8	
	comp=Z,22nm,1.0s						
O44A	**Mansfield**	**7.78**	**55**	IAmb_Lg		21 13 00.7	
	comp=Z,14nm,0.7s						
L42A	**Oliver, Polo**	**8.18**	**41**	IAmb_Lg		21 13 18.7	
	comp=Z,13nm,0.9s						
WCI	**Wyandotte Cave**	**8.69**	**72**	IAmb_Lg		21 13 21.4	
	comp=Z,11nm,0.9s						
R49A	**Shelbyville**	**9.57**	**73**	IAmb_Lg		21 13 49.0	
	comp=Z,14nm,0.8s						

MEX 15 21:11:39.7±0.4, 14.75N×93.28W, h16km±56km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.95**	**3**	*e*P	Pb	21 11 54.4	-3.4
PCIG				*i* S	Sb	21 12 06.1	-4.0
CCIG	**Comitan**	**1.88**	**36**	*i* P	Pn	21 12 09.2	-2.2
TGIG		**2.02**	**4**	*i* P	Pn	21 12 10.3	-2.9

*VAO **15** 21:21:18.6±0.5, 19.77S×71.06W, h10km, mb4.8*
*GUC **15** 21:21:20.3±0.5, 19.97S×71.05W, h38km±2km, ML5.1, MW5.3*
*NEIC **15** 21:21:20.9±2.0, 20.03S±0.04×70.80W±0.04, h10km±3km, mb5.0/90, Mwr5.0/47, Mww5.0, ML5.1(GUC), Error ellipse: s-maj=6.5km s-min=5.0km az=169.0*
*NEIC **15** 21:21:21, 20.09S×70.87W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}2.41; $M_{\theta\theta}$-0.25; $M_{\phi\phi}$-2.16; $M_{r\theta}$1.00; $M_{\theta\phi}$1.13; $M_{\phi r}$-2.16; Fault plane solution: M_o3.49000×10^{16} NP1:ϕ_s155.06000°, δ66.50000°, λ89.97000°. NP2:ϕ_s335.13000°, δ23.50000°, λ90.06000°. Principal axes: T 3.3499, Plg68.0000°, Azm65.0000°; N 0.2735, Plg0.0000°, Azm155.0000°; P -3.6234, Plg22.0000°, Azm245.0000°;*
*NEIC **15** 21:21:22, 20.08S×70.99W, h26km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}3.65; $M_{\theta\theta}$0.14; $M_{\phi\phi}$-3.79; $M_{r\theta}$0.74; $M_{\theta\phi}$0.69; $M_{\phi r}$-2.45; Fault plane solution: M_o4.57000×10^{16} NP1:ϕ_s355.00000°, δ28.00000°, λ98.00000°. NP2:ϕ_s166.00000°, δ62.00000°, λ86.00000°. Principal axes: T 4.4451, Plg73.0000°, Azm66.0000°; N 0.2369, Plg4.0000°, Azm168.0000°; P -4.6821, Plg17.0000°, Azm259.0000°;*
*BJI **15** 21:21:22.0±0.0, 20.00S×70.80W, h15km, mB5.1/7, Ms5.2/6, Ms7 5.0/6*
*GCMT **15** 21:21:24.9±0.2, 19.88S±0.02×71.23W±0.02, h20km, MW5.1/106, Moment Tensor Solution. s57,c66; s106,c156; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.30±.18; $M_{\theta\theta}$-0.04±.10; $M_{\phi\phi}$-4.26±.13; $M_{r\theta}$-0.03±.20; $M_{\theta\phi}$1.37±.07; $M_{\phi r}$-3.62±.24; Best double couple: M_o5.76800×10^{16} NP1:ϕ_s332.00000°, δ27.00000°, λ70.00000°. NP2:ϕ_s174.00000°, δ65.00000°, λ100.00000°. Principal axes: T 5.6700, Plg69.0000°, Azm104.0000°; N 0.2010, Plg9.0000°, Azm350.0000°; P -5.8660, Plg19.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **15** 21:21:25.5±1.7, 19.94S×70.58W, h44km±15km, mb4.2/13, mb1 4.3/18, mb1mx4.2/31, mbtmpg4.4/18, ML4.3/3, MS4.3/21, Ms1 4.3/21, ms1mx4.3/24 Error ellipse: s-maj=18.7km s-min=11.0km az=78.0*

ISC 15 21:21:20.9±1.4, 20.00S±0.03×70.85W±0.04, h14km±8km, n304, σ1$25/296, mb5.0/52, MS4.5/22, 12C-5D, Flat plane solution: NP1:**ϕ_s168.40367°, δ81.66773°, λ106.59991°. **NP2:**ϕ_s284.32831°, δ18.52100°, λ27.14228°. **Principal axes: T Plg50.6198°, Azm96.9697°; N Plg16.4197°, Azm345.9300°; P Plg34.6119°, Azm244.1952°; **Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.73**	**112**	*e*P	**Pb**	**21 21 35.7**	**+0.4**
TA02				*i* S	**Sn**	**21 21 48.1**	**+0.5**
TA02				IAML		21 21 49.6	
	comp=E,78μm,0.2s						
TA02	**Huaiquique**	**0.73**	**112**		**Pb**	**21 21 35.5**	**+0.2**
TA02					**Sn**	**21 21 47.4**	**-0.2**
PSGC	**Pisagua**	**0.79**	**60**	*e*P	**Pg**	**21 21 36.2**	**-0.1**
PSGC				*i* S	**Sn**	**21 21 49.1**	**-0.3**
PSGCX	**Pisagua**	**0.79**	**60**	Pg	**Pg**	**21 21 35.5**	**-0.8**
PSGCX				Sg	**Sn**	**21 21 48.9**	**-0.5**
TA01	**Diego Aracena**	**0.84**	**132**	*e*P	**Pb**	**21 21 37.4**	**0.0**
TA01				*i* S	**Sn**	**21 21 50.7**	**+0.1**
TA01	**Diego Aracena**	**0.84**	**132**		**Pb**	**21 21 37.5**	**+0.2**
TA01				Sn	**Sn**	**21 21 50.2**	**-0.3**
PB11	**IPOC Station P**	**1.15**	**78**	*i*P	**Pb**	**21 21 42.5**	**-0.1**
PB11				*i* S	**Sn**	**21 21 59.6**	**+1.4**
PB11	**IPOC Station P**	**1.15**	**78**	Pn	**Pb**	**21 21 42.4**	**-0.2**
PB11				Sn	**Sn**	**21 21 59.5**	**+1.2**
PB02	**IPOC Station P**	**1.59**	**146**	*i* P	**Pn**	**21 21 48.3**	**-0.4**
PB02				IAML		21 22 18.8	
	comp=E,73μm,0.5s						
PB08	**IPOC Station P**	**1.60**	**95**	*e*P	**Pn**	**21 21 49.5**	**+0.4**
PB08				*i* S	**Sg**	**21 22 12.3**	**-0.3**
PB08				IAML		21 22 19.5	
	comp=N,16μm,0.6s						
PB08	**IPOC Station P**	**1.60**	**95**		**Pn**	**21 21 49.2**	**+0.1**
PB01	**IPOC Station P**	**1.65**	**129**	*e*P	**Pn**	**21 21 49.4**	**+0.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01				*i* S	**Sb**	**21 22 11.6**	**-0.1**
PB01				IAML		21 22 21.3	
	comp=N,19μm,0.3s						
PB01	**IPOC Station P**	**1.65**	**129**		**Pn**	**21 21 49.4**	**-0.1**
AP01	**Chacalluta**	**1.69**	**17**	IAML		21 22 21.7	
	comp=E,68μm,0.8s						
AP01	**Chacalluta**	**1.69**	**17**		**Pn**	**21 21 50.3**	**+0.3**
PB07	**IPOC Station P**	**1.94**	**153**	*e*P	**Pn**	**21 21 53.2**	**-0.4**
PB07				IAML		21 22 28.1	
	comp=E,16μm,0.6s						
PB07	**IPOC Station P**	**1.94**	**153**		**Pn**	**21 21 52.3**	**-1.3**
PB03	**IPOC Station P**	**2.28**	**154**	*e*P	**Pn**	**21 21 57.5**	**-0.8**
PB03				IAML		21 22 39.8	
	comp=E,10μm,0.6s						
PB09	**IPOC Station P**	**2.34**	**140**	*e*P	**Pn**	**21 21 60.0**	**+0.9**
PB09				IAML		21 22 43.8	
	comp=E,19μm,0.7s						
PB09	**IPOC Station P**	**2.34**	**140**		**Pn**	**21 21 59.5**	**+0.5**
PB04	**IPOC Station P**	**2.41**	**164**	IAML		21 22 49.7	
	comp=E,12μm,0.6s						
PB04	**IPOC Station P**	**2.41**	**164**		**Pn**	**21 21 58.6**	**-1.5**
PB05	**IPOC Station P**	**2.90**	**168**	*e*P	**Pn**	**21 22 05.2**	**-1.6**
PB05				IAML		21 23 01.2	
	comp=N,6μm,0.5s						
PB06	**IPOC Station P**	**2.94**	**156**	*e*P	**Pn**	**21 22 06.4**	**-1.0**
PB06				IAML		21 23 01.2	
	comp=N,7μm,0.4s						
PB06	**IPOC Station P**	**2.94**	**156**		**Pn**	**21 22 06.4**	**-1.0**
LVC	**Limon Verde**	**3.17**	**146**	P	**Pn**	**21 22 11.9**	**+1.2**
	comp=N,28nm,0.3s,baz=318,slow=9.6,SNR=153						
LVC				S	**Sn**	**21 22 48.5**	**+0.1**
	comp=N,133nm,0.3s,baz=143,slow=20,SNR=6.6						
LVC				LR	LR	21 23 46.1	
	comp=N,5μm,20.4s,baz=318,slow=46						
LVC	**Limon Verde**	**3.17**	**146**	Pn	**Pn**	**21 22 11.5**	**+0.9**
LVC	**Limon Verde**	**3.17**	**146**	*e*P	**Pn**	**21 22 12.3**	**+1.7**
PB15	**IPOC Station P**	**3.44**	**158**		**Pn**	**21 22 13.0**	**-1.3**
PB10	**IPOC Station P**	**3.51**	**176**	Pn	**Pn**	**21 22 13.0**	**-2.1**
AF01	**San Pedro de A**	**3.85**	**140**		**Pn**	**21 22 21.8**	**+1.8**
LPAZ	**La Paz**	**4.51**	**35**	P	**Pn**	**21 22 30.1**	**+0.8**
	comp=N,0.3nm,0.3s,baz=212,slow=11,SNR=12						
LPAZ	**La Paz**	**4.51**	**35**	Pn	**Pn**	**21 22 31.4**	**+2.1**
PB14	**IPOC Station P**	**4.62**	**175**	Pn	**Pn**	**21 22 28.5**	**-2.2**
AC02	**Maricunga**	**6.99**	**167**	Pn	**Pn**	**21 23 02.3**	**-0.9**
AC06	**Mina Casimiro**	**7.34**	**177**		**Pn**	**21 23 06.1**	**-1.7**
GO03	**Copiapo**	**7.58**	**176**		**Pn**	**21 23 09.8**	**-1.3**
NNA	**Nana**	**9.83**	**323**	P	**Pn**	**21 23 46.0**	**+4.1**
	comp=N,3.1nm,0.3s,baz=165,slow=16,SNR=2.2						
NNA				S	**Sn**	**21 25 27.0**	**-5.2**
	comp=N,3.0nm,0.3s,baz=121,slow=1.6,SNR=3.5						
NNA				LR	LR	21 27 08.1	
	comp=N,704nm,20.2s,baz=148,slow=34						
SIV	**San Ignacio**	**10.12**	**68**	P	**Pn**	**21 23 45.4**	**-0.5**
	comp=N,4.2nm,0.3s,baz=256,slow=11,SNR=42						
SIV				S	**Sn**	**21 25 39.5**	**+0.2**
	comp=N,0.2nm,0.3s,baz=289,slow=18,SNR=1.3						
GO04	**Tololo Observa**	**10.13**	**180**	Pn	**Pn**	**21 23 46.8**	**+0.7**
ETMB	**Extrema**	**11.07**	**25**	*e*P	**Pn**	**21 23 54.8**	**-4.1**
PTLB	**Pontes e Lacer**	**12.04**	**70**	*e*P	**Pn**	**21 24 11.3**	**-0.9**
VILB	**Vilhena**	**12.38**	**57**	*e*P	**Pn**	**21 24 17.6**	**+0.7**
VA03	**San Esteban**	**12.72**	**179**	Pn	**Pn**	**21 24 22.9**	**+1.5**
SAML	**Samuel**	**13.25**	**35**		**Pn**	**21 24 26.9**	**-1.8**
CPUP	**Villa Florida**	**13.94**	**119**	P	**Pn**	**21 24 37.9**	**-0.1**
	baz=300,slow=16,SNR=1.5						
CPUP				LR	LR	21 31 02.1	
	comp=N,1μm,19.5s,baz=298,slow=42						
CPUP	**Villa Florida**	**13.94**	**119**		**Pn**	**21 24 36.3**	**-1.7**
CPUP	**Villa Florida**	**13.94**	**119**	*e*P	**Pn**	**21 24 40.1**	**+2.1**
AQDB	**Aquidauana**	**14.23**	**95**		**Pn**	**21 24 41.4**	**-0.7**
AQDB	**Aquidauana**	**14.23**	**95**	*e*P	**Pn**	**21 24 43.7**	**+1.7**
BO01	**Tunca**	**14.34**	**181**		**Pn**	**21 24 42.9**	**-0.6**
BO02	**Sierra Bellavi**	**14.74**	**180**		**Pn**	**21 24 50.1**	**+1.1**
SALV	**Santo Antonio**	**14.98**	**77**	*e*P	**Pn**	**21 24 53.0**	**+0.6**
H03N1	**Juan Fernandez**	**15.19**	**207**	T	T	21 40 39.3	
	baz=32,slow=72						
H03N2	**Juan Fernandez**	**15.20**	**207**	T	T	21 40 36.2	
	baz=32,slow=72						
H03N3	**Juan Fernandez**	**15.21**	**207**	T	T	21 40 30.8	
	baz=32,slow=72

ROSB	Rosrio	31.13	60	eP	P	P	21 27 37.7	-1.6
RIMA	Rio Macho	32.23	335	P	P	P	21 27 50.0	+0.8
RIMA				IAmb	IAmb	IAmb	21 27 55.0	
	comp=Z,29nm,1.7s							
NBPS	Pedro II - PI	32.56	65	eP	P	P	21 27 51.9	-0.2
NBLA	Lagarto - SE	33.04	79	eP	P	P	21 27 54.7	-1.5
NBMA	Muriti-CE	33.53	73	eP	P	P	21 27 59.7	-0.7
NBPB	Pedra_Branca-C	33.62	69	eP	P	P	21 28 00.5	-0.7
NBMO	Morrinhos-CE	34.32	65	eP	P	P	21 28 06.0	-1.2
NBAN	Anadia - AL	34.89	78	eP	P	P	21 28 12.6	+0.4
NBCL	Cascavel-CE	35.37	68	eP	P	P	21 28 15.8	-0.5
RCBR	Riachuelo	36.75	72	P	P	P	21 28 27.5	-0.8
RCBR				IAmb	IAmb	IAmb	21 28 29.0	
	comp=Z,39nm,1.1s							
RCBR	Riachuelo	36.75	72	eP	P	P	21 28 28.4	+0.1
HUMP	Col San Antoni	38.22	8	P	P	P	21 28 39.1	-1.3
HUMP				IAmb	IAmb	IAmb	21 29 30.4	
	comp=Z,53nm,1.4s							
HKT	Hockley	55.18	333	P	P	P	21 30 54.2	+1.1
HKT				IAmb	IAmb	IAmb	21 31 26.0	
	comp=Z,13nm,1.2s							
X48A	Hartselle	56.30	344	P	P	P	21 31 01.2	+0.1
CPCT	Cooper Cave	56.65	347	P	P	P	21 31 03.3	-0.3
CPCT				IAmb	IAmb	IAmb	21 31 04.9	
	comp=Z,14nm,1.3s							
TKL	Tuckaleechee C	56.69	347	P	P	P	21 31 04.2	+0.3
V52A	Sevierville	56.83	348	P	P	P	21 31 04.6	-0.3
V52A				IAmb	IAmb	IAmb	21 31 05.6	
	comp=Z,17nm,1.1s							
T59A	Double "B" Far	57.02	354	P	P	P	21 31 06.2	+0.1
T59A				IAmb	IAmb	IAmb	21 31 07.7	
	comp=Z,22nm,1.1s							
T57A	Hurt	57.24	352	P	P	P	21 31 08.1	+0.3
T57A				IAmb	IAmb	IAmb	21 31 09.8	
	comp=Z,20nm,1.2s							
WLAR	White Oak Lake	57.45	338	P	P	P	21 31 10.5	+1.2
V48A	Smith Brothers	57.46	345	P	P	P	21 31 09.3	-0.1
CLTN	Cedars of Leba	57.68	345	P	P	P	21 31 10.8	-0.1
CLTN				IAmb	IAmb	IAmb	21 32 23.4	
	comp=Z,19nm,1.2s							
S57A	Dark Hollow, R	57.95	352	P	P	P	21 31 13.8	+1.0
S57A				IAmb	IAmb	IAmb	21 31 14.4	
	comp=Z,16nm,1.1s							
R58B	Mineral	58.03	353	P	P	P	21 31 14.5	+1.2
R58B				IAmb	IAmb	IAmb	21 31 15.2	
	comp=Z,21nm,1.2s							
WVT	Waverly	58.09	344	P	P	P	21 31 12.8	-1.0
WVT				IAmb	IAmb	IAmb	21 31 56.6	
	comp=Z,18nm,1.2s							
WVT	Waverly	58.09	344	P	P	P	21 31 13.4	-0.4
	baz=161							
TXAR	Lajitas Array	58.37	326	P	P	P	21 31 16.0	-0.1
	comp=Z,1.0nm,0.8s,baz=148,slow=7.4,SNR=9.7							
TXAR				LR	LR	LR	21 55 18.8	
	comp=Z,159nm,18.7s,baz=0.0,slow=35							
TXAR	Lajitas Array	58.37	326	P	P	P	21 31 16.2	+0.2
MIAR	Mount Ida	58.39	338	P	P	P	21 31 16.1	+0.2
MIAR				IAmb	IAmb	IAmb	21 33 21.4	
	comp=Z,8.9nm,0.9s							
MIAR	Mount Ida	58.39	338	P	P	P	21 31 16.8	+0.9
	baz=155							
W41B	Gary Mavity, V	58.51	339	P	P	P	21 31 17.1	+0.4
	baz=156							
W39A	Magazine	59.05	338	P	P	P	21 31 22.0	+1.5
	baz=155							
X37A	Clayton	59.09	336	P	P	P	21 31 21.6	+0.9
U40A	Yellville	59.79	340	P	P	P	21 31 26.3	+0.7
	baz=156							
HHAR	Hobbs	60.09	339	P	P	P	21 31 28.2	+0.6
HHAR				IAmb	IAmb	IAmb	21 33 29.1	
	comp=Z,14nm,1.2s							
MGMO	Mountain Grove	60.33	340	P	P	P	21 31 29.4	+0.1
MGMO				IAmb	IAmb	IAmb	21 31 31.4	
	comp=Z,18nm,1.3s							
O56A	Blue Knob Stat	60.38	353	P	P	P	21 31 30.6	+0.9
O56A	Blue Knob Stat	60.38	353	P	P	P	21 31 31.2	+1.6
	baz=172							
SSPA	Standing Stone	60.68	354	P	P	P	21 31 17.7	+0.2
SSPA				IAmb	IAmb	IAmb	21 31 33.4	
	comp=Z,22nm,1.4s							
SSPA	Standing Stone	60.68	354	P	P	P	21 31 33.0	+1.5
	baz=172							
CCM	Cathedral Cave	60.85	342	P	P	P	21 31 32.7	0.0
CCM				IAmb	IAmb	IAmb	21 31 34.1	
	comp=Z,20nm,1.4s							
CCM	Cathedral Cave	60.85	342	P	P	P	21 31 33.3	+0.5
	baz=158							
MNTX	Cornudas Mount	61.14	327	P	P	P	21 31 34.9	0.0
MNTX	Cornudas Mount	61.14	327	P	P	P	21 31 35.6	+0.6
	baz=143							
S39A	Bolivar	61.16	340	P	P	P	21 31 34.7	-0.2
S39A				IAmb	IAmb	IAmb	21 31 37.0	
	comp=Z,8.5nm,0.9s							
N54A	Moraine State	61.24	352	P	P	P	21 31 35.9	+0.5
N54A	Moraine State	61.24	352	P	P	P	21 31 36.6	+1.1
	baz=170							
R40A	Maddies Statio	61.37	341	P	P	P	21 31 36.1	-0.2
R40A				IAmb	IAmb	IAmb	21 31 52.2	
	comp=Z,24nm,1.6s							
M55A	Ridgway	61.59	353	P	P	P	21 31 37.9	+0.1
BRYW	Bryant College	61.60	359	P	P	P	21 31 38.5	+0.7
MSTX	Muleshoe	61.69	330	P	P	P	21 31 39.0	+0.3
MSTX				IAmb	IAmb	IAmb	21 33 26.1	
	comp=Z,9.4nm,0.8s							
MSTX	Muleshoe	61.69	330	P	P	P	21 31 38.8	+0.1
	baz=146							
M54A	Oil Creek Stat	61.74	352	P	P	P	21 31 39.1	+0.4
M54A	Oil Creek Stat	61.74	352	P	P	P	21 31 39.8	+1.1
	baz=171							
M53A	WI Miller and	61.80	352	P	P	P	21 31 39.5	+0.4
	baz=170							
BINY	Binghamton	62.06	356	P	P	P	21 31 42.3	+1.3
	baz=175							
VNA3	Neumayer Olymp	62.07	161	P	P	P	21 31 42.1	+1.3
L61B	Northampton	62.16	358	P	P	P	21 31 43.2	+1.7
	baz=178							
HRV	Adam Dziewonsk	62.19	359	P	P	P	21 31 43.7	+1.9
	baz=179							
VNA1	Neumayer--Stat	62.30	160	P	P	P	21 31 44.3	+2.1
VNA2	Neumayer--Watz	62.66	161	P	P	P	21 31 45.1	+0.5
MMNY	Mt. Morris Dam	62.75	354	P	P	P	21 31 46.1	+0.5
121A	Cookes Peak, D	63.06	325	P	P	P	21 31 49.4	+1.4
121A				IAmb	IAmb	IAmb	21 31 55.7	
	comp=Z,24nm,1.7s							
J59A	Piesco	63.24	357	P	P	P	21 31 49.4	+0.6
ANMO	Albuquerque	64.26	328	P	P	P	21 31 55.8	-0.1
ANMO				IAmb	IAmb	IAmb	21 31 58.3	
	comp=Z,16nm,1.8s							
SNAA	Sanae	64.28	161	P	P	P	21 31 56.6	+1.1
SNAA	Sanae	64.28	161	P	P	P	21 31 55.0	-0.4
	comp=Z,11nm,1.2s,baz=275,slow=6.1,SNR=13							
SNAA	Sanae	64.28	161	P	P	P	21 31 55.2	-0.2
LONY	Lake Ozonia	64.39	357	P	P	P	21 31 57.5	+1.1
	baz=176							
FRNY	Flat Rock	64.57	358	P	P	P	21 31 58.4	+0.9
KSCO	Kaye Shedlock'	65.81	333	P	P	P	21 32 06.4	+0.5
SDCO	Great Sand Dun	66.05	330	P	P	P	21 32 08.5	+0.9
SDCO	Great Sand Dun	66.05	330	P	P	P	21 32 09.5	+1.9
	baz=144							
X16A	Lo Mia Camp, P	66.48	324	P	P	P	21 32 11.3	+1.0
ECSD	EROS Data Cent	67.68	340	P	P	P	21 32 17.5	-0.1
ECSD				IAmb	IAmb	IAmb	21 32 18.6	
	comp=Z,15nm,1.4s							
ECSD	EROS Data Cent	67.68	340	P	P	P	21 32 18.2	+0.7
	baz=154							
ISCO	Idaho Springs	67.76	332	P	P	P	21 32 19.1	+0.6
ISCO				IAmb	IAmb	IAmb	21 32 21.3	
	comp=Z,16nm,1.8s							
ISCO	Idaho Springs	67.76	332	P	P	P	21 32 20.1	+1.6
	baz=145							
W13A	Hualapai Mount	68.34	323	P	P	P	21 32 23.2	+1.1
KNB	Kanab	69.16	325	P	P	P	21 32 28.6	+1.4
Q16A	Castle Valley	69.72	327	P	P	P	21 32 31.7	+1.1
Q16A				IAmb	IAmb	IAmb	21 32 57.4	
	comp=Z,31nm,2.0s							
P17A	Butcher Ranch,	69.93	328	P	P	P	21 32 33.0	+1.2
P17A				IAmb	IAmb	IAmb	21 33 06.4	
	comp=Z,13nm,1.2s							
MVU	Marysvale	69.94	326	P	P	P	21 32 33.5	+1.5
DBIC	Dimbokro	70.07	75	P	P	P	21 32 31.5	-1.5
DBIC				LR	LR	LR	22 01 54.1	
	comp=Z,9.8nm,0.9s,baz=294,slow=4.8,SNR=3.9							
	comp=Z,524nm,19.3s,baz=256,slow=35							
DBIC	Dimbokro	70.07	75	P	P	P	21 32 32.2	-0.8
SHPR	Sheep Range	70.07	323	P	P	P	21 32 33.8	+1.0
GSC	Goldstone, Bar	70.17	321	P	P	P	21 32 36.5	+3.1
	baz=134							
QSPA	South Pole Qui	70.18	180	P	P	P	21 32 33.4	+0.3
	comp=Z,8.0nm,1.1s,baz=146,slow=4.1,SNR=8.9							
QSPA	South Pole Qui	70.18	180	P	P	P	21 32 33.3	+0.2
RDMU	Red Mountain	70.20	330	P	P	P	21 32 34.0	+0.4
RDMU				IAmb	IAmb	IAmb	21 32 36.5	
	comp=Z,19nm,1.6s							
TPNV	Topopah Spring	71.00	323	P	P	P	21 32 39.9	+1.4
TPNV				IAmb	IAmb	IAmb	21 32 47.0	
	comp=Z,32nm,1.9s							
TPNV	Topopah Spring	71.00	323	P	P	P	21 32 41.6	+3.1
	baz=135							
ISA	Isabella, Lake	71.41	321	P	P	P	21 32 42.1	+1.2
ISA	Isabella, Lake	71.41	321	P	P	P	21 32 44.0	+3.1
	baz=133							
SPR3	Spring Creek 3	71.42	326	P	P	P	21 32 41.8	+0.6
DUG	Dugway, Tooele	71.51	327	P	P	P	21 32 42.7	+1.3
DUG	Dugway, Tooele	71.51	327	P	P	P	21 32 44.2	+2.8
	baz=139							
R11A	Troy Canyon, C	71.63	324	P	P	P	21 32 45.0	+2.8
	baz=136							
CWC	Cottonwood Cre	71.71	321	P	P	P	21 32 45.5	+2.7
	baz=134							
PDAR	Pinedale Array	71.92	331	P	P	P	21 32 44.5	+0.5
	comp=Z,0.4nm,0.6s,baz=157,slow=4.2,SNR=5.5							
PDAR				LR	LR	LR	22 05 34.8	
	comp=Z,91nm,20.2s,baz=114,slow=37							
BGU	Big Grassy Mou	72.17	328	P	P	P	21 32 46.2	+0.9
TBI	Tubuai	72.26	251	eS	S	S	21 42 05.3	-3.9
	comp=Z,169nm,25.8s							
TBI	Tubuai	72.26	251	eLR	LR	LR	21 54 45.4	
	comp=Z,460nm,28.8s,baz=112							
NVAR	Mina Array Bea	73.20	323	P	P	P	21 32 53.5	+1.8
	comp=Z,1.6nm,0.8s,baz=129,slow=7.1,SNR=6.1							
NVAR				LR	LR	LR	22 03 48.8	
	comp=Z,86nm,18.7s,baz=92,slow=35							
NVAR	Mina Array Bea	73.20	323	P	P	P	21 32 52.8	+1.2
ULM	Lac du Bonnet	73.36	344	LR	LR	LR	22 06 59.7	
	comp=Z,234nm,21.0s,baz=117,slow=37							
RLMT	Red Lodge	73.65	333	P	P	P	21 32 55.5	+1.3
RLMT				IAmb	IAmb	IAmb	21 32 56.5	
	comp=Z,16nm,1.3s							
RLMT	Red Lodge	73.65	333	P	P	P	21 32 55.8	+1.6
	baz=143							
PPT2	Papeete2	73.89	257	eS	SKiKP		21 42 26.6	+1.6
	comp=Z,202nm,24.2s							
PPT2	Papeete2	73.89	257	eLR	LR	LR	21 55 34.6	
	comp=Z,388nm,24.8s							
PPT	Papeete	73.90	257	P	P	P	21 32 58.0	+1.9
	comp=Z,47nm,0.6s,baz=77,slow=19,SNR=3.2							
PPT				LR	LR	LR	21 57 25.8	
	comp=Z,147nm,18.4s,baz=108,slow=29							
YHH	Holmes Hill	74.08	332	P	P	P	21 32 58.4	+1.6
YHH				IAmb	IAmb	IAmb	21 32 59.9	
	comp=Z,25nm,1.5s							
KOWA	Kowa	74.11	68	P	P	P	21 32 56.1	-1.1
KOWA				IAmb	IAmb	IAmb	21 32 57.3	
	comp=Z,31nm,1.4s							
SCHQ	Schefferville	74.61	2	LR	LR	LR	22 05 40.8	
	comp=Z,113nm,21.9s,baz=220,slow=36							
HLID	Hailey	74.82	329	P	P	P	21 33 01.9	+1.0
HLID	Hailey	74.82	329	P	P	P	21 33 03.7	+2.8
	baz=138							
MCMT	McKenzie Canyo	75.02	330	P	P	P	21 33 03.7	+1.5
BOZ	Bozeman (W)	75.06	332	P	P	P	21 33 03.7	+1.4
	baz=141							
MFID	Camas Ranch	75.41	328	P	P	P	21 33 05.6	+1.3
MFID				IAmb	IAmb	IAmb	21 33 12.2	
	comp=Z,30nm,1.9s							
ORV	Oroville	75.80	322	P	P	P	21 33 08.0	+1.5
ORV				IAmb	IAmb	IAmb	21 33 10.2	
	comp=Z,21nm,1.4s							
EGMT	Eagleton	76.16	334	P	P	P	21 33 09.8	+1.4
EGMT				IAmb	IAmb	IAmb	21 33 11.1	
	comp=Z,26nm,1.4s							
EGMT	Eagleton	76.16	334	P	P	P	21 33 10.1	+1.7
	baz=143							
SBA	Scott Base	76.97	191	P	P	P	21 33 13.3	+0.8
VNDA	Vanda	78.00	190	P	P	P	21 33 19.3	+1.0
VNDA				IAmb	IAmb	IAmb	21 33 37.3	
	comp=Z,18nm,1.8s							
SYO	Syowa Base	78.53	160	eP	P	P	21 33 17.8	-3.6
TORD	Torodi Ar. Bea	78.58	71	P	P	P	21 33 20.9	-1.7
	comp=Z,24nm,0.9s,baz=258,slow=5.3,SNR=69							
TORD				LR	LR	LR	22 06 30.2	
	comp=Z,430nm,20.8s,baz=240,slow=34							
TORD	Torodi Ar. Bea	78.58	71	P	P	P	21 33 21.2	-1.4
EDM	Edmonton	81.65	336	P	P	P	21 33 38.7	+0.3
RAR	Rarotonga	82.02	250	LR	LR	LR	22 01 53.9	
	comp=Z,242nm,19.3s,baz=120,slow=30							
TSUM	Tsumeb	82.22	108	P	P	P	21 33 41.9	-0.5
TSUM				IAmb	IAmb	IAmb	21 33 44.1	
	comp=Z,11nm,1.1s							
BOSA	Boshof	85.75	119	LR	LR	LR	22 11 24.0	
	comp=Z,201nm,19.1s,baz=250,slow=35							
ESDC	Sonseca Array	86.06	45	P	P	P	21 34 00.9	-0.4
	comp=Z,5.0nm,1.1s,baz=234,slow=6.5,SNR=10							
ESDC				LR	LR	LR	22 08 25.5	
	comp=Z,164nm,21.1s,baz=255,slow=33							
ESDC	Sonseca Array	86.06	45	P	P	P	21 34 01.5	+0.2
ESDC				IAmb	IAmb	IAmb	21 34 03.4	
	comp=Z,10nm,1.4s							
MAW	Mawson	86.28	164	P	P	P	21 34 03.2	+1.4
	comp=Z,7.5nm,1.1s,baz=213,slow=5.9,SNR=9.1							
MAW				LR	LR	LR	22 14 52.3	
	comp=Z,127nm,18.3s,baz=238,slow=37							
MAW	Mawson	86.28	164	P	P	P	21 34 02.2	+0.3
YKA	Yellowknife Ar	89.18	341	P	P	P	21 34 16.8	+1.1
	comp=Z,2.4nm,0.8s,baz=124,slow=5.3,SNR=4.6							
YKA				LR	LR	LR	22 17 10.3	
	comp=Z,238nm,21.3s,baz=0.0,slow=38							
KEST	Kesra	93.86	53	LR	LR	LR	22 17 36.0	
	comp=Z,321nm,19.9s,baz=245,slow=36							
AFI	Afiamalu	95.27	253	LR	LR	LR	22 09 50.2	
	comp=Z,148nm,18.1s,baz=77,slow=30							
DZM	Mont Dzumac	110.14	236	eLR	LR	LR	22 12 07.0	
	comp=Z,255nm,23.4s							
KBZ	Khabaz	120.58	50	PKP	PKPdf		21 40 12.1	-0.1
	comp=Z,2.9nm,1.0s,baz=239,slow=1.6,SNR=4.5							
H11S2	WAKE ISLAND Hyl	25.87	279	T	T		23 59 45.5	
	baz=102,slow=75							
H11S1	WAKE ISLAND Hyl	25.88	279	T	T		23 59 45.5	
	baz=102,slow=75							
H11S3	WAKE ISLAND Hyl	25.89	279	T	T		23 59 46.9	
	baz=102,slow=75							
H11N3	WAKE ISLAND Hyl	25.92	280	T	T		23 59 56.3	
	baz=101,slow=74							
H11N2	WAKE ISLAND Hyl	25.94	280	T	T		23 59 52.9	
	baz=101,slow=74							
H11N1	WAKE ISLAND Hyl	25.94	280	T	T		23 59 52.3	
	baz=101,slow=74							
ARU	Arti	127.91	33	PKP	PKPdf		21 40 26.3	+0.4
	comp=Z,0.5nm,0.6s,baz=183,slow=4.4,SNR=4.6							
SEY	Seymchan	128.01	337	PKP	PKiKP		21 40 26.5	0.0
	comp=Z,3.4nm,0.9s,baz=18,slow=21,SNR=3.6							
ASAR	Alice Springs	130.34	210	PKP	PKiKP		21 40 32.4	-0.2
	comp=Z,1.6nm,1.0s,baz=123,slow=1.5,SNR=6.7							
ASAR	Alice Springs	130.34	210		PKPdf		21 40 31.7	0.0
ABKAR	Akbulak array	131.25	41	PKPdf	PKiKP		21 40 33.5	+0.1
ABKAR	Akbulak array	131.25	41	PKPdf	PKiKP		21 40 33.9	+0.4
WRA	Warramunga Arr	133.26	213	PKP	PKPdf		21 40 37.9	+0.6
	comp=Z,1.3nm,0.9s,baz=163,slow=2.2,SNR=5.9							
WRA	Warramunga Arr	133.26	213		PKPdf		21 40 37.3	0.0
WRAB	Tennant Creek	133.26	213	PKPdf	PKPdf		21 40 37.6	+0.3
ZAA0	Zalesovo Array	141.33	23	PKPdf	PKPdf		21 40 51.3	+0.3
ZALV	Zalesovo Beam	141.33	23	PKP	PKPdf		21 40 49.9	-1.2
	comp=Z,3.0nm,0.8s,baz=277,slow=1.8,SNR=7.6							
ZALV	Zalesovo Beam	141.33	23	PKPdf	PKPdf		21 40 49.6	-1.4
AAK	Ala-Archa	143.16	44	PKPdf	PKPdf		21 40 56.6	+1.7
MAKZ	Makanchi	145.26	33	PKPbc	PKPbc		21 40 58.0	+0.1
NIL	Nilore	145.38	59	PKPbc	PKPbc		21 40 58.8	+0.1
MK31	Makanchi Array	145.43	33		PKPbc		21 40 58.6	+0.2
MKAR	Makanchi Array	145.43	33	PKPbc	PKPbc		21 40 57.9	-0.6
	comp=Z,14nm,0.9s,baz=309,slow=2.5,SNR=68							
MKAR	Makanchi Array	145.43	33		PKPbc		21 40 58.6	+0.1
KSH	Kashi	145.52	48	PKPbc	PKPab		21 41 00.4	+1.0
KLR	Kul'dur	145.68	333	PKPbc	PKPbc		21 40 59.4	+0.3
	comp=Z,15nm,1.2s,baz=45,slow=3.9,SNR=17							
TARG	Taragay, Kyrgy	145.75	44		PKPab		21 41 01.1	+0.6
SOEI	Soe	146.90	208	PKPbc	PKPab		21 41 04.8	-0.5
USA0B	Ussuriysk Arra	149.27	327	PKPbc	PKiKP		21 41 10.7	+0.3
USRK	Ussuriysk Ar.	149.27	327	PKPbc	PKPbc		21 41 09.3	+0.1
	comp=Z,7.1nm,0.9s,baz=22,slow=1.6,SNR=13							
USRK	Ussuriysk Ar.	149.27	327	PKPbc	PKiKP		21 41 10.6	+0.2
MJAR	Matsushiro Arr	149.72	309	PKPbc	PKPbc		21 41 10.8	+0.2
	comp=Z,7.7nm,1.1s,baz=173,slow=0.7,SNR=15							
MJAR	Matsushiro Arr	149.72	309		PKiKP		21 41 11.4	-0.3
MAT	Matsushiro	149.72	309	PKP	PKPbc		21 41 09.1	-1.5
MDJ	Mudanjiang	150.15	330	PKPbc	PKiKP		21 41 12.4	+0.2
MDJ	Mudanjiang	150.15	330	PKPbc	PKiKP		21 41 12.1	-0.1
WMQ	Urumqi	150.24	32	ePKPbc	PKPdf		21 41 06.8	+0.2
HYB	Hyderabad	150.93	90	i PKP	PKPbc		21 41 13.0	-1.1
SONM	Songino Array	152.14	4	PKP	PKPdf		21 41 10.0	+0.5
	comp=Z,1.3nm,1.1s,baz=132,slow=2.2,SNR=7.3							
SONM				PKPbc	PKPbc		21 41 16.0	-0.1
	comp=Z,7.4nm,1.1s,baz=321,slow=1.1,SNR=25							
SONM	Songino Array	152.14	4	PKPdf	PKPdf		21 41 10.8	+1.4
SONM				PKPbc	PKiKP		21 41 17.6	+1.1
ULN	Ulaanbaatar	152.15	3	PKPdf	PKPdf		21 41 10.8	+1.2
ULN				PKPbc	PKiKP		21 41 17.2	+0.7
KSAR	Wonju Array Be	156.16	321	PKPdf	PKPdf		21 41 16.5	+1.2
GTA	Gaotai	159.05	21	ePKP	PKPdf		21 41 20.5	+1.5
GTA				LR	LR			
	comp=Z,150nm,18.9s							
GTA				LR	LR			
	comp=Z,150nm,22.5s							
GTA				LR	LR			
	comp=Z,130nm,20.7s							
HHC	Hu-ho-hao-te	159.11	355	ePKP	PKPdf		21 41 14.5	-4.5
BTO	Baotou	159.45	358	ePKP	PKPdf		21 41 05.8	-14
NJ2	Nanjing	165.18	326	ePKP	PKPdf		21 41 24.9	-0.3

*IDC **15** 21:44:59.2±2.8, 30°.73S×177°.87W, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/32, mbtmp3.7/4, ML3.3/1 Error ellipse: s-maj=63.9km s-min=21.9km az=111.0*

ISC 15 21:45:00.1±2.6, **30°.93S**±0°.09×**177°.4W**±0°.4, **h35**km, **n6**, σ1°.61/8, **mb3.7**/3, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RAO	Raoul Island	1.73	345	Pn	Pn	Pn	21 45 26.5	-1.2
	92nm,0.3s,baz=162,slow=20,SNR=2.1							
RAO				Sn	Sn	Sn	21 45 48.0	-0.5
	212nm,0.3s,baz=129,slow=21,SNR=4.0							
URZ	Urewera	8.60	210	Pn	Pn	Pn	21 47 02.5	+0.5
	0.3nm,0.3s,baz=290,slow=23,SNR=1.0							
URZ					Sn	Sn	21 48 35.0	-2.8
	0.8nm,0.3s,baz=276,slow=23,SNR=2.8							
STKA	Stephens Creek	34.87	259	P	P	P	21 51 49.4	+1.3
	0.6nm,0.3s,baz=96,slow=10,SNR=5.7							
ASAR	Alice Springs	43.60	267	P	P	P	21 53 02.0	+0.9
	0.4nm,0.7s,baz=104,slow=7.0,SNR=2.2							
WRA	Warramunga Arr	44.64	272	P	P	P	21 53 10.4	+1.0
	0.6nm,0.5s,baz=110,slow=7.7,SNR=17							
FINES	FINESS Array B	145.82	340	PKPbc	PKiKP		22 04 38.1	-0.2
	1.0nm,0.4s,baz=49,slow=4.2,SNR=15							

*IDC **15** 21:47:12.1±1.3, 35°.42N×78°.45E, h0km, mb3.6/6, mb1 3.6/11, mb1mx3.4/52, mbtmp3.5/11, ML3.1/5, MS3.6/4, Ms1 3.6/4, ms1mx2.9/44, Error ellipse: s-maj=26.8km s-min=21.7km az=65.0*

*NNC **15** 21:47:21.8±1.3, 35°.92N×78°.64E, h0km, mb4.0, mpv3.9, Error ellipse: s-maj=13.8km s-min=9.0km az=120.0*

ISC 15 21:47:15.6±0.8, **35°.44N**±0°.06×**78°.81E**±0°.09, **h10**km, **n31**, σ2°.58/34, **mb3.6**/6, **MS4.0**/3, **9C-7D**, **Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DHRM	DHARAMSHALA	3.80	214	eP	Pn	Pn	21 48 14.2	-0.2
THN	Thein Dam	3.94	222	eP	Pg	Pg	21 48 35.0	+3.8
SMLA	Simla	4.51	198	eP	Pn	Pn	21 48 21.7	-2.2
UZB	Uzynbulak	7.70	1	Pg	Pn	Pn	21 49 11.5	+3.6
	4.9nm,0.6s							
UZB				Lg	Lg	Lg	21 50 37.0	
	9.8nm,0.7s							
TNSS	Tian-Shan	7.73	350	Pg	Pb	Pb	21 49 32.5	+2.6
	4.7nm,0.3s							
TNSS				Lg	Lg	Lg	21 51 12.9	
	4.0nm,0.8s							
MDOK	Medeo	7.84	351	⇓Pn	Pn	Pn	21 49 09.9	+0.1
	8.6nm,1.1s							
MDOK				⇑Pg	Pb	Pb	21 49 36.3	+4.8
	6.2nm,0.8s							
MDOK				⇓Lg	Lg	Lg

mb4.2/13, Error ellipse: s-maj=18.6km s-min=13.4km az=140.0

ISC 15 21:47:34.5±1.1, 1.0°N±0.1°×97.2°E±0.1°, h25km, n36, σ0§82/28, mb4.1/15, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.51**	**52**		**Pn**	**21 47 45.9**	**-0.3**
GSI					**Sn**	**21 47 54.8**	**+0.7**
RPSI	**Rantau Prapat**	**2.44**	**46**		**Pn**	**21 48 13.7**	**+1.0**
PSI	**Prapat**	**2.51**	**44**	Pn	**Pn**	**21 48 12.1**	**-1.7**
	4.5nm,0.3s,baz=359,slow=4.4,SNR=17						
PSI				Sn	**Sn**	**21 48 44.7**	**+1.0**
	2.5nm,0.3s,baz=180,slow=14,SNR=2.0						
PSI				LR	LR	21 49 03.1	
	comp=Z,210nm,21.3s,slow=38						
CMAR	**Chiang Mai Arr**	**17.45**	**6**	P	**Pn**	**21 51 34.2**	**-2.0**
	0.0nm,0.3s,baz=187,slow=14,SNR=6.0						
CMAR				LR	LR	21 59 14.3	
	comp=Z,54nm,19.3s,baz=185,slow=40						
SLVN	**Son La**	**21.26**	**18**	P	**P**	**21 52 19.1**	**0.0**
SLVN				IAmb	IAmb	21 52 26.2	
	comp=Z,7.6nm,0.9s						
SHL	**Shillong**	**24.96**	**349**	P	**P**	**21 52 55.6**	**-0.8**
SHL				IAmb	IAmb	21 52 57.1	
	comp=Z,9.4nm,0.8s						
H08S2	**Diego Garcia H**	**26.07**	**250**	T	T	22 20 02.6	
	baz=71,slow=75,SNR=1282						
H08S3	**Diego Garcia H**	**26.07**	**250**	T	T	22 20 09.0	
	baz=71,slow=75,SNR=1684						
H08S1	**Diego Carcia H**	**26.08**	**250**	T	T	22 20 07.3	
	baz=71,slow=75,SNR=1076						
H01W3	**Cape Leeuwin H**	**39.06**	**158**	T	T	22 36 29.4	
	baz=333,slow=76,SNR=81						
H01W2	**Cape Leeuwin H**	**39.08**	**158**	T	T	22 36 30.4	
	baz=333,slow=76,SNR=76						
H01W1	**Cape Leeuwin H**	**39.08**	**158**	T	T	22 36 31.6	
	baz=333,slow=76,SNR=69						
WRA	**Warramunga Arr**	**41.95**	**122**	P	**P**	**21 55 22.8**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=296,slow=8.8,SNR=5.9						
WRA	**Warramunga Arr**	**41.95**	**122**	IAmb	IAmb	21 55 26.5	
	comp=Z,0.5nm,1.4s						
WRAB	**Tennant Creek**	**41.95**	**122**	P	**P**	**21 55 22.6**	**-1.1**
WRAB				IAmb	IAmb	21 55 38.0	
	comp=Z,4.8nm,1.2s						
WB2	**Warramunga Arr**	**41.96**	**122**	P	**P**	**21 55 24.0**	**+0.2**
WB2				IAmb	IAmb	21 55 26.7	
	comp=Z,8.1nm,1.3s						
ASAR	**Alice Springs**	**43.29**	**127**	P	**P**	**21 55 34.9**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=294,slow=7.7,SNR=4.3						
DRK	**Karamyk**	**44.76**	**332**	P	**P**	**21 55 47.0**	**+0.6**
BOOM	**Boomskoye usch**	**45.50**	**338**	P	**P**	**21 55 53.7**	**+1.6**
KSRS	**Korea Array**	**46.04**	**34**	P	**P**	**21 55 56.0**	**-0.1**
	comp=Z,3.0nm,0.9s,baz=223,slow=9.0,SNR=8.0						
SONM	**Songino Array**	**47.34**	**8**	P	**P**	**21 56 06.7**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=188,slow=9.3,SNR=6.5						
SONM	**Songino Array**	**47.34**	**8**	IAmb	IAmb	21 56 10.2	
	comp=Z,1.2nm,0.9s						
MK31	**Makanchi Array**	**47.44**	**346**	P	**P**	**21 56 07.4**	**+0.4**
MKAR	**Makanchi Array**	**47.44**	**346**	P	**P**	**21 56 07.0**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=159,slow=7.6,SNR=8.7						
KURBB	**Kurchatov Arra**	**51.92**	**345**	P	**P**	**21 56 41.6**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=169,slow=7.5,SNR=8.4						
KURK	**Kurchatov**	**51.99**	**345**	P	**P**	**21 56 41.6**	**0.0**
USRK	**Ussuriysk Ar.**	**52.96**	**31**	P	**P**	**21 56 49.5**	**+0.5**
	comp=Z,2.3nm,0.8s,baz=217,slow=7.8,SNR=5.3						
USRK	**Ussuriysk Ar.**	**52.96**	**31**	P	**P**	**21 56 49.2**	**+0.3**
ZAA0	**Zalesovo Array**	**53.76**	**351**	P	**P**	**21 56 54.7**	**+0.1**
ZAA0				IAmb	IAmb	21 56 56.5	
	comp=Z,5.9nm,1.2s						
ZALV	**Zalesovo Beam**	**53.76**	**351**	P	**P**	**21 56 55.1**	**+0.5**
	comp=Z,2.9nm,0.8s,baz=161,slow=9.4,SNR=8.0						
ZALV	**Zalesovo Beam**	**53.76**	**351**	P	**P**	**21 56 54.6**	**0.0**
BVAR	**Borovoye Array**	**56.44**	**341**	P	**P**	**21 57 13.7**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=165,slow=14,SNR=4.1						
ABKAR	**Akbulak array**	**57.68**	**332**	P	**P**	**21 57 23.2**	**+0.3**
ABKAR	**Akbulak array**	**57.68**	**332**	P	**P**	**21 57 23.1**	**+0.3**
ABKAR				IAmb	IAmb	21 57 23.8	
	comp=Z,2.0nm,0.9s						
KIRV	**Kirov**	**68.49**	**335**	LR	LR	22 31 03.1	
	comp=Z,114nm,18.8s,baz=280,slow=38						
BRTR	**Keskin Array B**	**69.23**	**312**	LR	LR	22 29 29.9	
	comp=Z,120nm,20.8s,baz=216,slow=36						

*NEIC **15** 21:54:16.9±1.8, 6.99S±0.09°×129.18E±0.06, h164km±10km, mb4.1/9, Error ellipse: s-maj=13.3km s-min=7.7km az=187.0*

*IDC **15** 21:54:16.1±2.1, 7.21S×129.28E, h144km±25km, mb3.5/2, mb1 3.9/7, mb1mx3.4/38, mbtmp4.3/7, MS3.7/1, Ms1 3.7/1, ms1mx2.6/34, Error ellipse: s-maj=32.1km s-min=18.7km az=87.0*

ISC 15 21:54:16.0±0.7, 7.09S±0.06×129.11E±0.06, h156km, n27, σ1§83/29, mb4.0/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.35**	**112**	Pn	**Pn**	**21 54 57.4**	**+1.8**
SAUI				Sn	**Sn**	**21 55 27.1**	**+0.9**
FAKI	**Fak Fak**	**5.19**	**37**	Pn	**Pn**	**21 55 32.9**	**+0.8**
SOEI	**Soe**	**5.47**	**241**	Pn	**Pn**	**21 55 38.5**	**+2.5**
MTN	**Manton Dam**	**6.06**	**161**	Pn	**Pn**	**21 55 43.2**	**-0.4**
BATI	**Baumata**	**6.21**	**240**	P	**Pn**	**21 55 48.3**	**+2.7**
	32nm,0.3s,baz=74,slow=1.8,SNR=30						
BATI				S	**Sn**	**21 56 54.6**	**-1.3**
	26nm,0.3s,baz=229,slow=23,SNR=6.7						
SIJI	**Sorong**	**6.54**	**19**	P	**Pn**	**21 55 50.8**	**+0.7**
	1.5nm,0.3s,baz=70,slow=23,SNR=18						
SIJI				S	**Sn**	**21 57 00.6**	**-3.2**
	3.3nm,0.3s,baz=252,slow=23,SNR=8.2						
KNRA	**Kununurra**	**8.54**	**182**		**Pn**	**21 56 15.4**	**-1.3**
FITZ	**Fitzroy Crossi**	**11.46**	**197**	P	**Pn**	**21 56 53.0**	**-2.2**
	0.7nm,0.3s,baz=15,slow=12,SNR=30						
FITZ				S	Sn	21 58 52.4	-10
	2.4nm,0.3s,baz=274,slow=23,SNR=7.8						
FITZ	**Fitzroy Crossi**	**11.46**	**197**		**Pn**	**21 56 53.1**	**-2.0**
WRAB	**Tennant Creek**	**13.75**	**159**	Pn	**Pn**	**21 57 21.3**	**-3.3**
WRA	**Warramunga Arr**	**13.75**	**159**	P	**Pn**	**21 57 21.5**	**-3.2**
	1.7nm,0.3s,baz=325,slow=14,SNR=50						
WRA				S	Sn	21 59 44.0	-13
	2.9nm,0.3s,baz=331,slow=22,SNR=11						
WRA	**Warramunga Arr**	**13.75**	**159**	Pn	**Pn**	**21 57 21.1**	**-3.5**
JAGI	**Jajag, Banyuwa**	**14.88**	**264**		**P**	**21 57 40.8**	**+0.1**
COEN	**Coen**	**15.42**	**117**	P	**Pn**	**21 57 45.6**	**+0.1**
COEN				IAmb	IAmb	21 57 50.8	
	comp=Z,15nm,1.1s						
PSA00	**Pilbara Seismi**	**16.95**	**211**	P	**Pn**	**21 58 04.7**	**+0.5**
PSA00				IAmb	IAmb	21 58 08.5	
	comp=Z,16nm,1.2s						
PSA00	**Pilbara Seismi**	**16.95**	**211**	P	**Pn**	**21 58 04.4**	**+0.3**
PSA00				IAmb	IAmb	21 58 07.9	
	comp=Z,11nm,1.5s						
AS31	**Alice Springs**	**17.12**	**165**	P	**P**	**21 58 05.2**	**-0.1**
ASAR	**Alice Springs**	**17.12**	**165**	P	**P**	**21 58 04.5**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=345,slow=11,SNR=83						
ASAR				S	S	22 01 01.8	-14
	comp=Z,0.2nm,0.3s,baz=348,slow=25,SNR=4.2						
ASAR	**Alice Springs**	**17.12**	**165**		**P**	**21 58 05.7**	**+0.4**
CTA	**Charters Tower**	**21.06**	**130**	LR	LR	22 08 34.7	
	comp=Z,198nm,21.1s,baz=54,slow=41						
CTAO	**Charters Tower**	**21.06**	**130**	P	**P**	**21 58 48.9**	**+0.8**
CTAO				IAmb	IAmb	21 58 57.8	
	comp=Z,13nm,1.4s						
BBOO	**Buckleboo**	**26.40**	**167**	P	**P**	**21 59 38.2**	**+0.2**
STKA	**Stephens Creek**	**27.28**	**156**	P	**P**	**21 59 46.6**	**+0.6**
	comp=Z,1.9nm,0.5s,baz=335,slow=11,SNR=2.0						
STKA	**Stephens Creek**	**27.28**	**156**	P	**P**	**21 59 47.0**	**+1.1**
PALK	**Pallekele**	**50.34**	**285**	P	**P**	**22 02 56.0**	**-1.5**
MKAR	**Makanchi Array**	**67.81**	**327**	P	**P**	**22 04 59.6**	**+2.4**
	comp=Z,0.5nm,0.7s,baz=136,slow=6.5,SNR=4.5						
QSPA	**South Pole Qui**	**82.89**	**180**	P	**P**	**22 06 23.9**	**+0.8**
QSPA				IAmb	IAmb	22 06 34.0	
	comp=Z,3.1nm,1.2s						

IDC 15 22:01:17.4±3.0, 32.79S×178.52W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/28, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=71.7km s-min=37.0km az=116.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.52**	**212**	Pn	Pn	22 02 55.9	+1.4
	0.8nm,0.3s,baz=300,slow=22,SNR=1.4						
URZ				Sn	Sn	22 04 08.3	-1.3
	0.4nm,0.3s,baz=115,slow=23,SNR=1.1						
ASAR	**Alice Springs**	**42.60**	**270**	P	P	22 09 15.4	0.0
	0.6nm,0.9s,baz=111,slow=7.0,SNR=2.6						
WRA	**Warramunga Arr**	**43.80**	**275**	P	P	22 09 25.0	-0.2
	0.8nm,0.5s,baz=117,slow=7.7,SNR=16						
FINES	**FINESS Array B**	**147.21**	**338**	PKPbc	PKPbc	22 21 00.8	-1.0
	3.4nm,1.1s,baz=30,slow=3.4,SNR=6.7						

TAP 15 22:01:36.5, 24.26N×121.81E, h15km, ML1.9, 2D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.18**	**339**	⇓*i* P	Pg	22 01 40.9	0.0
	baz=341						
ENA				*i* S	Sg	22 01 44.3	+0.5
	baz=341						
EWUT	**Wuta**	**0.19**	**351**	⇓*i* P	Pg	22 01 41.0	0.0
	baz=351						
EWUT				S	Sg	22 01 44.3	+0.3
	baz=351						
ETL	**Fush Village**	**0.20**	**240**	*i* P	Pg	22 01 41.3	+0.1
	baz=240						
ETL				S	Sb	22 01 45.1	-0.3
	baz=240						
NACB	**Ninganchiao**	**0.22**	**247**	*i* P	Pg	22 01 41.4	0.0
	baz=247						
NACB				S	Sb	22 01 45.4	-0.4
	baz=247						
TWD	**Chiawan**	**0.27**	**228**	*i* P	Pg	22 01 42.4	+0.1
	baz=227						
TWD				*e*S	Sb	22 01 47.0	-0.3
	baz=227						
ETLH	**Xiulin Townshi**	**0.31**	**260**	P	Pg	22 01 43.0	0.0
	baz=260						
ETLH				S	Sb	22 01 48.1	-0.5
	baz=260						
TWC	**Suao**	**0.35**	**6**	*e*P	Pg	22 01 43.6	-0.2
	baz=7.0						
TWC				*e*S	Sg	22 01 49.0	+0.3
	baz=7.0						
NDS	**Dongshan**	**0.38**	**347**	*i* P	Pg	22 01 44.5	+0.2
	baz=347						
NDS				S	Sg	22 01 50.2	+0.5
	baz=347						
ETM	**Tongmen**	**0.41**	**225**	*e*P	Pg	22 01 45.1	+0.3
	baz=225						
NNSB	**Datong**	**0.43**	**293**	P	Pb	22 01 45.5	-0.3
	baz=293						
NNSB				*e*S	Sb	22 01 51.7	-0.4
	baz=293						
NDT	**Datong Townshi**	**0.44**	**321**	*e*P	Pb	22 01 45.8	-0.1
	baz=321						
NNS	**Nan Shan**	**0.44**	**294**	*i* P	Pg	22 01 45.7	+0.3
	baz=294						
NNS				*e*S	Sb	22 01 52.0	-0.5
	baz=294						
ENTT	**Nioudou**	**0.44**	**329**	*i* P	Pg	22 01 45.7	+0.3
	baz=330						
TWE	**Neicheng**	**0.48**	**344**	*e*P	Pb	22 01 46.4	-0.3
	baz=346						
WHF	**Hehuan Shan**	**0.51**	**257**	*e*P	Pg	22 01 46.9	0.0
	baz=257						
FUSS	**Fushou**	**0.52**	**269**	*e*P	Pb	22 01 47.5	+0.1
	baz=269						
NWLT	**Wulai**	**0.59**	**331**	*e*P	Pb	22 01 48.5	0.0
	baz=331						
TDCB	**Techi**	**0.60**	**270**	P	Pb	22 01 49.0	+0.2
	baz=269						
TDCB				*e*S	Sb	22 01 57.2	+0.2
	baz=269						
CHGB	**Renai**	**0.61**	**251**	*e*P	Pb	22 01 49.0	-0.1
	baz=251						

TAP 15 22:01:43.3, 24.30N×121.79E, h22km, ML1.9, 1D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.14**	**341**	*i* P	Pb	22 01 47.9	-1.0
	baz=343						
ENA				S	Sb	22 01 51.6	-1.2
	baz=343						
EWUT	**Wuta**	**0.15**	**356**	⇓*i* P	Pb	22 01 48.0	-0.9
	baz=356						
EWUT				*i* S	Sb	22 01 51.5	-1.2
	baz=356						
ETL	**Fush Village**	**0.20**	**228**	P	Pb	22 01 48.8	-0.3
	baz=228						
ETL				*e*S	Sb	22 01 53.0	-0.1
	baz=228						
NACB	**Ninganchiao**	**0.22**	**236**	*i* P	Pb	22 01 49.0	-0.2
	baz=235						
NACB				S	Sb	22 01 53.2	+0.1
	baz=235						
TWD	**Chiawan**	**0.28**	**219**	*i* P	Pb	22 01 50.0	+0.1
	baz=218						
TWD				S	Sb	22 01 55.1	+0.9
	baz=218						
ETLH	**Xiulin Townshi**	**0.29**	**252**	*i* P	Pb	22 01 50.5	+0.4
	baz=252						
ETLH				S	Sb	22 01 55.8	+1.0
	baz=252						
TWC	**Suao**	**0.32**	**10**	*e*P	Pb	22 01 50.8	+0.4
	baz=11						
TWC				*e*S	Sb	22 01 55.4	+0.2
	baz=11						
NDS	**Dongshan**	**0.34**	**349**	*e*P	Pb	22 01 51.2	+0.5
	baz=349						
NDS				*e*S	Sb	22 01 57.2	+1.4
	baz=349						
NNSB	**Datong**	**0.39**	**289**	*e*P	Pb	22 01 52.7	+1.1
	baz=289						
NNSB				*e*S	Sn	22 01 59.1	-1.6
	baz=289						
NDT	**Datong Townshi**	**0.40**	**320**	*e*P	Pb	22 01 52.7	+1.1
	baz=320						
NDT				*e*S	Sn	22 01 59.9	-0.7
	baz=320						
ENTT	**Nioudou**	**0.40**	**329**	*e*P	Pb	22 01 52.7	+1.0
	baz=330						
ENTT				*e*S	Sn	22 01 59.2	-1.5
	baz=330						
NNS	**Nan Shan**	**0.41**	**291**	*e*P	Pn	22 01 53.0	-1.0
	baz=290						
NNS				*e*S	Sn	22 01 59.5	-1.6
	baz=290						
ETM	**Tongmen**	**0.43**	**220**	*e*P	Pb	22 01 52.4	+0.3
	baz=219						
TWE	**Neicheng**	**0.44**	**345**	*e*P	Pb	22 01 53.3	+1.0
	baz=347						
TWE				*e*S	Sn	22 02 00.5	-1.1
	baz=347						
TWE	**Neicheng**	**0.44**	**345**	*e*S	Pn	22 01 53.2	-1.1
	baz=346						
FUSS	**Fushou**	**0.50**	**264**	*e*P	Pn	22 01 54.5	-0.9
	baz=264						
FUSS				*e*S	Sn	22 02 02.7	-0.8
	baz=264						
FUSS	**Fushou**	**0.50**	**264**	*e*S	Pn	22 01 54.5	-0.9
	baz=269						
WHF	**Hehuan Shan**	**0.50**	**253**	*e*P	Pn	22 01 55.4	-0.2
	baz=252						
WHF				*e*S	Sb	22 02 02.1	+1.3
	baz=252						
NSK	**Sanguang**	**0.55**	**314**	*e*P	Pn	22 01 55.4	-0.5
	baz=314						
NWLT	**Wulai**	**0.55**	**331**	*e*P	Pn	22 01 55.3	-0.5
	baz=331						
NWLT				*e*S	Sn	22 02 03.9	-0.5
	baz=331						
TDCB	**Techi**	**0.58**	**266**	*e*P	Pn	22 01 56.0	-0.4
	baz=266						
TDCB				*e*S	Sn	22 02 05.0	-0.3
	baz=266						
CHGB	**Renai**	**0.61**	**247**	*e*P	Pb	22 01 56.2	+0.7
	baz=247						

*IDC **15** 22:03:31.7±0.5, 19.91S×70.62W, h0km, mb4.3/15, mb1 4.4/19, mb1mx4.3/32, mbtmp4.3/19, ML4.1/4, MS4.1/24, Ms1 4.0/24, ms1mx4.0/29, Error ellipse: s-maj=18.0km s-min=11.8km az=62.0*

*VAO **15** 22:03:33.0±0.5, 19.90S×70.76W, h10km, mb4.7*

*NEIC **15** 22:03:33.9±2.1, 20.02S±0.04×70.84W±0.04, h14km±1km, mb4.9/66, Mwr4.8/48, Mww4.9, ML4.9(GUC), Error ellipse: s-maj=5.7km s-min=4.6km az=54.0*

*NEIC **15** 22:03:33.6, 20.04S×70.89W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}=1.52; $M_{\theta\theta}$=0.30; $M_{\phi\phi}$=-1.22; $M_{r\theta}$=0.49; $M_{r\phi}$=0.65; $M_{\theta\phi}$=-1.26; Fault plane solution: M_0=2.05000×10^{16} NP1:ϕ_s156.83000°, δ65.66000°, λ93.44000°. NP2:ϕ_s328.52000°, δ24.57000°, λ82.44000°. Principal axes: T 2.0358, Plg69.0000°, Azm74.0000°; N 0.0250, Plg3.0000°, Azm335.0000°; P -2.0608, Plg21.0000°, Azm244.0000°;*

*GUC **15** 22:03:34.3±0.8, 20.00S×70.96W, h36km±4km, ML4.9, MW5.2*

*BJI **15** 22:03:35.0±0.0, 20.00S×70.80W, h20km, Ms5.1/2, Ms7 5.0/2*

*NEIC **15** 22:03:37, 19.85S×70.79W, h16km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}=1.59; $M_{\theta\theta}$=0.36; $M_{\phi\phi}$=-1.95; $M_{r\theta}$=0.11; $M_{r\phi}$=0.32; $M_{\theta\phi}$=-1.92; Fault plane solution: M_0=2.65000×10^{16} NP1:ϕ_s347.00000°, δ22.00000°, λ81.00000°. NP2:ϕ_s176.00000°, δ68.00000°, λ93.00000°. Principal axes: T 2.4323, Plg66.0000°, Azm92.0000°; N 0.3942, Plg3.0000°, Azm355.0000°; P -2.8265, Plg23.0000°, Azm263.0000°;*

*GCMT **15** 22:03:38.9±0.3, 19.90S±0.02×71.17W±0.02, h27km±1km, MW5.0/92, Moment Tensor Solution. s34,c37; s92,c121; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.22±.18; $M_{\theta\theta}$=-0.21±.10; $M_{\phi\phi}$=-3.01±.12; $M_{r\theta}$=0.33±.15; $M_{\theta\phi}$=0.80±.06; $M_{r\phi}$=2.58±.19; Best double couple: M_w4.14100×10^{16} NP1:ϕ_s340.00000°, δ26.00000°, λ81.00000°. NP2: ϕ_s170.00000°, δ64.00000°, λ94.00000°. Principal axes: T 4.1500, Plg70.0000°, Azm89.0000°; N -0.0160, Plg4.0000°, Azm348.0000°; P -4.1310, Plg19.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 22:03:32.8±1.4, 19.97S±0.03×70.86W±0.04, h12km±8km, n247, σ1§35/238, mb4.8/41, MS4.2/25, 31C-11D, Fault plane solution: NP1:ϕ_s187.13733°, δ78.95988°, λ102.81710°. **NP2:**ϕ_s317.22504°, δ16.85579°, λ41.33152°.

Principal axes: T Plg54.3052°, Azm112.7331°; N Plg12.5760°, Azm4.6427°; P Plg32.7735°, Azm266.3851°;

Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TA02	**Huaiquique**	**0.75**	**114**	*e*P	**Pb**	**22 03 48.2**	**+0.5**
TA02				*i* S	**Sn**	**22 03 59.5**	**-0.9**
TA02	**Huaiquique**	**0.75**	**114**		**Pb**	**22 03 48.2**	**+0.5**
TA02				Sg	**Sb**	**22 03 59.2**	**+1.3**
PSGC	**Pisagua**	**0.78**	**62**	⇓*i* P	**Pb**	**22 03 49.0**	**+0.6**
PSGC				*i* S	**Sn**	**22 04 01.2**	**-0.2**
PSGCX	**Pisagua**	**0.78**	**62**		**Pb**	**22 03 49.0**	**+0.6**
TA01	**Diego Aracena**	**0.87**	**133**	⇑*i* P	**Pb**	**22 03 50.2**	**+0.3**
TA01				*i* S	**Sb**	**22 04 02.5**	**+0.9**
TA01	**Diego Aracena**	**0.87**	**133**		**Pb**	**22 03 50.2**	**+0.3**
TA01					**Sb**	**22 04 02.4**	**+0.9**
PB11	**IPOC Station P**	**1.15**	**80**	⇓*i* P	**Pg**	**22 03 55.3**	**+0.3**
PB11				*i* S	**Sn**	**22 04 11.5**	**+0.9**
PB11				IAML		22 04 12.8	
	comp=N,32μm,0.3s						
PB11	**IPOC Station P**	**1.15**	**80**	Pn	**Pg**	**22 03 55.3**	**+0.3**
PB11				Sn	**Sn**	**22 04 11.2**	**+0.7**
PB08	**IPOC Station P**	**1.61**	**96**	⇑*i* P	**Pn**	**22 04 02.2**	**+0.8**
PB08				*i* S	**Sg**	**22 04 24.4**	**-0.4**
PB08				IAML		22 04 28.4	
	comp=N,16μm,0.4s						
PB08	**IPOC Station P**	**1.61**	**96**	Pn	**Pn**	**22 04 01.8**	**+0.3**
PB02	**IPOC Station P**	**1.62**	**146**	⇑*i* P	**Pn**	**22 04 01.0**	**-0.3**
PB02				*i* S	**Sn**	**22 04 21.1**	**-1.0**
PB02				IAML		22 04 34.1	
	comp=E,32μm,0.5s						
AP01	**Chacalluta**	**1.66**	**17**	*e*P	**Pn**	**22 04 02.3**	**+0.6**
AP01				*i* S	**Sb**	**22 04 23.5**	**-0.7**
AP01				IAML		22 04 30.0	
	comp=N,35μm,0.4s						
AP01	**Chacalluta**	**1.66**	**17**		**Pn**	**22 04 02.4**	**+0.7**
PB01	**IPOC Station P**	**1.67**	**130**	⇑*i* P	**Pn**	**22 04 02.3**	**+0.3**
PB01				*i* S	**Sn**	**22 04 24.1**	**+0.7**
PB01				IAML		22 04 31.4	
	comp=N,17μm,0.4s						
PB01	**IPOC Station P**	**1.67**	**130**		**Pn**	**22 04 02.1**	**+0.1**
PB07	**IPOC Station P**	**1.97**	**153**	⇑*i* P	**Pn**	**22 04 05.6**	**-0.6**
PB07				IAML		22 04 47.4	
	comp=E,13μm,0.4s						
PB07	**IPOC Station P**	**1.97**	**153**		**Pn**	**22 04 05.3**	**-0.9**
PB03	**IPOC Station P**	**2.31**	**154**	⇑*i* P	**Pn**	**22 04 10.3**	**-0.6**
PB03				*i* S	**Sn**	**22 04 37.9**	**-1.5**
PB03				IAML		22 04 54.0	
	comp=N,5μm,0.4s						
PB09	**IPOC Station P**	**2.37**	**141**	⇑*i* P	**Pn**	**22 04 12.6**	**+1.0**
PB09				IAML		22 04 53.2	
	comp=E,13μm,0.6s						
PB09	**IPOC Station P**	**2.37**	**141**		**Pn**	**22 04 12.4**	**+0.8**
PB04	**IPOC Station P**	**2.45**	**164**	IAML		22 04 58.0	
	comp=N,9μm,0.5s						
PB04	**IPOC Station P**	**2.45**	**164**		**Pn**	**22 04 11.4**	**-1.3**
PB05	**IPOC Station P**	**2.94**	**168**	IAML		22 05 18.3	
	comp=N,3μm,0.5s						
PB06	**IPOC Station P**	**2.98**	**156**		**Pn**	**22 04 19.0**	**-1.0**
LVC	**Limon Verde**	**3.20**	**146**	Pn	**Pn**	**22 04 24.3**	**+1.0**
	comp=N,16nm,0.3s,baz=314,slow=8.6,SNR=131						
LVC				Sn	**Sn**	**22 05 02.1**	**+0.6**
	comp=N,140nm,0.3s,baz=51,slow=22,SNR=9.3						
LVC				LR	LR	22 05 06.5	
	comp=N,618nm,18.4s,baz=322,slow=30						
LVC				Lg	Lg	22 05 10.6	
	comp=N,184nm,0.3s,baz=36,slow=19,SNR=13						
LVC	**Limon Verde**	**3.20**	**146**	Pn	**Pn**	**22 04 24.1**	**+0.9**
LVC	**Limon Verde**	**3.20**	**146**	*e*P	**Pn**	**22 04 24.5**	**+1.2**
PB15	**IPOC Station P**	**3.48**	**158**		**Pn**	**22 04 25.7**	**-1.2**
PB10	**IPOC Station P**	**3.54**	**175**	Pn	**Pn**	**22 04 25.6**	**-2.0**
AF01	**San Pedro de A**	**3.88**	**140**		**Pn**	**22 04 31.7**	**-0.9**
LPAZ	**La Paz**	**4.48**	**36**	Pn	**Pn**	**22 04 44.3**	**+3.1**
	comp=N,0.8nm,0.3s,baz=251,slow=3.9,SNR=21						
LPAZ				Lg	Lg	22 05 49.2	
	baz=218,slow=19,SNR=1.0						
LPAZ	**La Paz**	**4.48**	**36**	Pn	**Pn**	**22 04 44.5**	**+3.3**
LPAZ	**La Paz**	**4.48**	**36**	⇑*e*P	**Pn**	**22 04 45.3**	**

ITQB	Itaqui	16.12	130	eP	Pn	22 07 20.7	+1.4
CLDB	Colider	17.09	60	eP	Pn	22 07 31.7	-0.1
TRCB	Terra Rica	17.20	103	Pn	Pn	22 07 31.7	-1.5
TRCB				IAmb	IAmb	22 07 45.4	
	comp=Z,89nm,1.3s						
TRCB	Terra Rica	17.20	103	eP	Pn	22 07 32.4	-0.8
PCMB	Pacaembu	18.40	99	eP	P	22 07 45.9	-2.0
LC01	Cunco	18.89	182	P	P	22 07 51.9	-1.2
ITRB	Iturama	19.29	93	eP	P	22 07 57.4	-0.3
MACA	Manacapuru-AM	19.43	32	eP	P	22 07 58.6	-0.6
PLTB	Pedras Altas	19.44	131	P	P	22 07 58.3	-0.9
TRQA	Tornquist	19.61	159		P	22 07 59.0	-1.4
TRQA	Tornquist	19.61	159	eP	P	22 08 01.5	+0.5
NPGB	Novo Progresso	19.78	52	eP	P	22 08 01.0	-2.0
FRTB	Fartura	20.07	103	eP	P	22 08 06.4	+0.2
PTLC	Puerto Leguiza	20.38	349	eP	P	22 08 06.8	-2.8
SNDB	Serra Nova Dou	20.40	70	eP	P	22 08 08.0	-1.9
PLCA	Paso Flores	20.70	179	P	P	22 08 12.9	0.0
	comp=Z,4.0nm,0.8s,baz=359,slow=12,SNR=12						
PLCA				LR	LR	22 16 44.8	
	comp=Z,343nm,18.8s,baz=357,slow=38						
PLCA	Paso Flores	20.70	179		P	22 08 12.1	-0.8
PLCA	Paso Flores	20.70	179	eP	P	22 08 13.7	+0.7
LL04	Puerto Octay	20.92	183	P	P	22 08 15.8	+0.6
ITTB	Itaituba	21.39	46	eP	P	22 08 18.3	-2.1
OTAV	Otavalo	21.41	339	P	P	22 08 20.8	-0.4
OTAV	Otavalo	21.41	339	eP	P	22 08 28.6	+7.4
OTAV	Otavalo	21.41	339	eP	P	22 08 21.9	+0.8
IPMB	Ipameri, GO	21.51	89	eP	P	22 08 21.1	-0.7
PAC1	Pacto, Paraso	21.56	338	eP	P	22 08 27.8	+5.4
TULM	Tulcn-Chalpat	21.65	341	eP	P	22 08 21.1	-2.6
RCLB	Rio Claro- Sao	21.88	101	eP	P	22 08 25.1	-0.8
PTGA	Pitinga	21.89	30	P	P	22 08 24.7	-1.2
	comp=Z,10nm,0.5s,baz=213,slow=12,SNR=24						
PTGA				S	S	22 12 30.5	+2.9
	comp=Z,0.9nm,0.3s,baz=187,slow=16,SNR=1.3						
PTGA				Lg	Lg	22 15 05.6	
	comp=Z,1.9nm,0.8s,baz=287,slow=19,SNR=1.0						
PTGA	Pitinga	21.89	30	P	P	22 08 24.1	-1.7
PTGA				IAmb	IAmb	22 08 31.0	
	comp=Z,42nm,1.3s						
FLOC	Florencia	21.93	347	P	P	22 08 25.8	-0.4
FLOC	Florencia	21.93	347	eP	P	22 08 26.8	+0.5
SPB	Sao Paulo	22.05	104	P	P	22 08 26.3	-1.2
SPB	Sao Paulo	22.05	104	eP	P	22 08 27.1	-0.4
BDFB	Brasilia	22.16	82	P	P	22 08 28.0	-0.9
	comp=Z,3.1nm,0.4s,baz=285,slow=12,SNR=6.2						
BDFB				LR	LR	22 18 35.3	
	comp=Z,910nm,20.3s,baz=294,slow=41						
BDFB	Brasilia	22.16	82	P	P	22 08 28.1	-0.9
LL01	San Ignacio de	22.38	183	P	P	22 08 30.2	-0.7
LL01				IAmb	IAmb	22 08 45.9	
	comp=Z,48nm,1.2s						
SOTA	Rioblanco	22.68	345	eP	P	22 08 38.6	+3.8
BBAC	Balboa, Cauca	22.73	343	eP	P	22 08 34.6	-0.5
PCON	Cinco Dias	22.81	346	eP	P	22 08 36.9	+0.6
BETC	Betania	22.95	348	eP	P	22 08 37.6	+0.4
PEXB	Peixe	23.03	74	eP	P	22 08 37.9	-0.1
POPC	Popayan, Colom	23.08	345	eP	P	22 08 40.9	+2.2
PRAC	Prado	23.86	350	eP	P	22 08 48.4	+2.1
ORTC	Ortega, Tolima	24.11	349	eP	P	22 08 49.8	+1.2
YOTC	Yotoco, Valle	24.40	347	eP	P	22 08 54.9	+3.5
BOAV	Boa Vista	24.43	26	eP	P	22 08 51.4	-0.1
CHIC	Chingaza	24.60	353	eP	P	22 08 52.5	-1.0
PRPB	Parauapebas	24.61	59	eP	P	22 08 52.6	-0.7
ROSC	El Rosal	24.88	352	P	P	22 08 58.0	+1.9
	comp=Z,8.1nm,0.4s,baz=205,slow=19,SNR=2.0						
ROSC				LR	LR	22 20 12.7	
	comp=Z,970nm,18.6s,baz=206,slow=40						
ROSC	El Rosal	24.88	352	P	P	22 08 57.4	+1.4
SMTB	Santa Maria do	25.06	67	eP	P	22 08 57.8	+0.5
GUY2C	Guyana, Caldas	25.42	349	eP	P	22 09 02.9	+1.9
SPBC	San Pablo de B	25.65	353	eP	P	22 09 03.3	+0.7
NORC	Norcasia	25.67	351	eP	P	22 09 04.3	+1.5
MC01	Montes Claros	25.74	87	eP	P	22 09 02.9	-0.6
JANB	Januaria	25.77	83	eP	P	22 09 02.4	-1.3
RUSC	La Rusia	25.79	355	P	P	22 09 04.3	0.0
RUSC				IAmb	IAmb	22 09 11.3	
	comp=Z,29nm,1.0s						
RUSC	La Rusia	25.79	355	eP	P	22 09 04.7	+0.4
SDBA	SAO DESIDERIO	26.01	77	eP	P	22 09 04.6	-1.3
CBOC	Ciudad Bolivar	26.16	348	eP	P	22 09 09.2	+1.8
PTBC	PUERTO BERRIO,	26.58	352	eP	P	22 09 09.8	-1.1
MCPB	Macapa, AP	26.81	46	eP	P	22 09 13.0	0.0
PAMC	Pamplona, Colo	27.19	356	eP	P	22 09 14.9	-2.1
DBBC	Dabeiba	27.33	348	eP	P	22 09 18.2	+0.4
ZARC	Zaragoza, Cauc	27.57	351	eP	P	22 09 18.7	-1.1
SDV	Santo Domingo	28.67	0	P	P	22 09 30.1	+0.2
	comp=Z,2.7nm,0.3s,baz=252,slow=9.1,SNR=3.3						
SDV				Lg	Lg	22 18 39.7	
	comp=Z,2.7nm,0.3s,baz=276,slow=19,SNR=1.6						
SDV	Santo Domingo	28.67	0	P	P	22 09 29.5	-0.4
SMLC	San Martin de	28.76	353	eP	P	22 09 27.8	-2.7
SJCC	San Jacinto, C	29.98	351	P	P	22 09 40.7	-0.6
SJCC				IAmb	IAmb	22 09 43.6	
	comp=Z,31nm,1.1s						
SJCC	San Jacinto, C	29.98	351	eP	P	22 09 41.4	0.0
NBIT	Itapeh - BA	30.36	86	eP	P	22 09 44.6	-0.2
MDP	Montagnes des	30.68	38	P	P	22 09 45.7	-1.8
	comp=Z,5.7nm,0.8s,baz=198,slow=14,SNR=2.3						
NBPN	Ponto Novo - B	30.87	78	eP	P	22 09 48.0	-1.3
NBPS	Pedro II - PI	32.56	65	eP	P	22 10 02.9	-1.3
NBLA	Lagarto - SE	33.04	79	eP	P	22 10 06.4	-2.0
EFI	East Falkland	33.20	165	P	P	22 10 09.4	+0.2
NBMA	Muriti-CE	33.53	73	eP	P	22 10 11.2	-1.5
NBAN	Anadia - AL	34.90	78	eP	P	22 10 22.4	-2.1
NBCL	Cascavel-CE	35.37	68	eP	P	22 10 28.5	0.0
RCBR	Riachuelo	36.75	72	P	P	22 10 39.8	-0.7
RCBR				IAmb	IAmb	22 10 41.9	
	comp=Z,32nm,1.1s						
CMIG	Matias Romero	43.74	326	P	P	22 11 40.1	+1.9
	comp=Z,1.2nm,0.5s,baz=53,slow=13,SNR=2.3						
PMSA	Palmer Station	45.01	176	LR	LR	22 30 34.8	
	comp=Z,84nm,18.0s,baz=357,slow=36						
T59A	Double "B" Far	56.98	354	P	P	22 13 18.7	+0.6
T59A				IAmb	IAmb	22 13 20.4	
	comp=Z,19nm,0.9s						
WLAR	White Oak Lake	57.42	338	P	P	22 13 22.5	+1.2
S57A	Dark Hollow, R	57.92	352	P	P	22 13 25.6	+0.8
S57A				IAmb	IAmb	22 13 26.8	
	comp=Z,7.7nm,0.8s						
R58B	Mineral	58.00	353	P	P	22 13 25.9	+0.6
R58B				IAmb	IAmb	22 13 28.4	
	comp=Z,8.5nm,1.1s						
TXAR	Lajitas Array	58.34	326	P	P	22 13 28.0	-0.1
	comp=Z,1.2nm,0.9s,baz=144,slow=8.2,SNR=10						
TXAR				LR	LR	22 37 31.4	
	comp=Z,83nm,19.4s,baz=0.0,slow=35						
TXAR	Lajitas Array	58.34	326	P	P	22 13 28.2	+0.2
TX31	Lajitas Ar. Si	58.34	326	P	P	22 13 28.3	+0.3
MIAR	Mount Ida	58.36	338	P	P	22 13 27.8	-0.2
MIAR				IAmb	IAmb	22 13 29.4	
	comp=Z,9.2nm,0.9s						
T47A	Sharon Grove	58.69	345	P	P	22 13 30.3	+0.2
T47A				IAmb	IAmb	22 13 31.9	
	comp=Z,12nm,1.1s						
W39A	Magazine	59.02	338	P	P	22 13 32.7	+0.2
X37A	Clayton	59.05	336	P	P	22 13 33.3	+0.6
X37A				IAmb	IAmb	22 13 35.1	
	comp=Z,9.9nm,0.8s						
Q56A	Snyder Ridge,	59.21	352	P	P	22 13 34.7	+0.9
WUPA	West Chester U	59.75	356	P	P	22 13 38.0	+0.5
WUPA				IAmb	IAmb	22 14 07.9	
	comp=Z,11nm,1.5s						
U40A	Yellville	59.76	340	P	P	22 13 37.4	-0.2
U40A				IAmb	IAmb	22 13 39.1	
	comp=Z,6.7nm,0.9s						
SIUC	Southern Illin	59.92	343	P	P	22 13 38.6	-0.1
SIUC				IAmb	IAmb	22 13 40.0	
	comp=Z,10nm,0.7s						
SSPA	Standing Stone	60.64	354	P	P	22 13 44.4	+0.9
N58A	Sunbury	60.74	355	P	P	22 13 45.0	+0.8
N58A				IAmb	IAmb	22 13 45.8	
	comp=Z,11nm,0.9s						
MNTX	Cornudas Mount	61.11	327	P	P	22 13 46.9	0.0
S39A	Bolivar	61.12	340	P	P	22 13 47.0	+0.1
S39A				IAmb	IAmb	22 13 56.7	
	comp=Z,25nm,1.7s						
L63A	North Scituate	61.52	359	P	P	22 13 50.1	+0.7
M55A	Ridgway	61.56	353	P	P	22 13 50.2	+0.4
BRYW	Bryant College	61.57	359	P	P	22 13 50.0	+0.2
M54A	Oil Creek Stat	61.70	352	P	P	22 13 50.9	+0.1
N49A	Columbus Grove	61.83	349	P	P	22 13 51.5	-0.1
VNA2	Neumayer--Watz	62.70	161	P	P	22 13 58.2	+1.1
J56A	Wolcott	63.17	355	P	P	22 14 00.6	+0.1
J56A				IAmb	IAmb	22 14 02.7	
	comp=Z,12nm,0.9s						
SNAA	Sanae	64.32	161	P	P	22 14 08.4	+0.5
SNAA	Sanae	64.32	161	P	P	22 14 08.2	+0.3
SNAA				IAmb	IAmb	22 14 10.1	
	comp=Z,23nm,1.7s						
FRNY	Flat Rock	64.53	358	P	P	22 14 10.0	+0.6
SADO	Sadowa	64.86	353	P	P	22 14 11.2	-0.4
SADO				IAmb	IAmb	22 14 12.7	
	comp=Z,9.9nm,0.8s						
F64A	Sherman	65.55	2	P	P	22 14 16.8	+0.7
F64A				IAmb	IAmb	22 14 18.0	
	comp=Z,13nm,1.0s						
CCUT	Cedar City	69.81	325	P	P	22 14 44.8	+1.3
CCUT				IAmb	IAmb	22 14 56.1	
	comp=Z,5.8nm,0.9s						
MVU	Marysvale	69.91	326	P	P	22 14 45.5	+1.5
TMUT	Trail Mountain	69.99	328	P	P	22 14 45.8	+1.2
TMUT				IAmb	IAmb	22 14 47.7	
	comp=Z,7.3nm,1.1s						
SHPR	Sheep Range	70.04	323	P	P	22 14 45.8	+0.9
SHPR				IAmb	IAmb	22 15 24.8	
	comp=Z,10nm,1.7s						
DBIC	Dimbokro	70.07	75	P	P	22 14 44.0	-1.4
	comp=Z,7.9nm,0.9s,baz=242,slow=4.9,SNR=4.7						
DBIC				LR	LR	22 44 06.0	
	comp=Z,335nm,19.2s,baz=247,slow=35						
DBIC	Dimbokro	70.07	75	P	P	22 14 43.9	-1.4
QSPA	South Pole Qui	70.22	180	P	P	22 14 46.4	+0.9
QSPA				IAmb	IAmb	22 14 59.1	
	comp=Z,16nm,1.4s						
PSUT	Pine Spring	70.79	326	P	P	22 14 50.3	+0.9
DUG	Dugway, Tooele	71.48	327	P	P	22 14 54.7	+1.2
DUG				IAmb	IAmb	22 15 21.1	
	comp=Z,8.2nm,1.3s						
R11A	Troy Canyon, C	71.60	324	P	P	22 14 55.6	+1.3
PDAR	Pinedale Array	71.88	331	P	P	22 14 57.2	+1.2
	comp=Z,0.4nm,0.7s,baz=133,slow=6.5,SNR=4.8						
PDAR				LR	LR	22 47 56.3	
	comp=Z,73nm,18.8s,baz=110,slow=37						
PDAR	Pinedale Array	71.88	331	P	P	22 14 56.1	+0.2
HWUT	Hardware Ranch	71.93	329	P	P	22 14 57.0	+0.7
HWUT				IAmb	IAmb	22 15 29.6	
	comp=Z,18nm,1.6s						
TBI	Tubuai	72.27	251	eS	S	22 24 22.6	+1.0
	comp=Z,95nm,26.0s						
TBI	Tubuai	72.27	251	eLR	LR	22 36 58.7	
	comp=Z,300nm,28.0s						
HVU	Hansel Valley	72.65	328	P	P	22 15 01.4	+0.9
ELK	Elko	73.14	326	LR	LR	22 46 46.3	
	comp=Z,90nm,19.0s,baz=124,slow=35						
NVAR	Mina Array Bea	73.17	323	P	P	22 15 05.8	+2.1
	comp=Z,1.3nm,0.7s,baz=145,slow=5.0,SNR=6.3						
NVAR				LR	LR	22 44 39.8	
	comp=Z,46nm,19.7s,baz=92,slow=34						
NVAR	Mina Array Bea	73.17	323	P	P	22 15 05.1	+1.4
ULM	Lac du Bonnet	73.32	344	LR	LR	22 49 13.1	
	comp=Z,135nm,21.3s,baz=120,slow=37						
YNE	Yellowstone No	73.85	332	P	P	22 15 09.1	+1.5
YNE				IAmb	IAmb	22 15 10.7	
	comp=Z,9.1nm,0.9s						
PPT2	Papeete2	73.89	257	eS	S	22 24 40.8	+0.4
	comp=Z,130nm,25.8s						
PPT2	Papeete2	73.89	257	eLR	LR	22 37 45.0	
	comp=Z,202nm,23.2s,baz=102						
PPT	Papeete	73.90	257	LR	LR	22 39 28.3	
	comp=Z,110nm,20.5s,baz=134,slow=29						
KOWA	Kowa	74.11	68	P	P	22 15 08.2	-1.2
KOWA				IAmb	IAmb	22 15 26.6	
	comp=Z,28nm,1.6s						
SCHQ	Schefferville	74.57	2	LR	LR	22 50 11.1	
	comp=Z,74nm,19.3s,baz=193,slow=38						
YBH	Yreka Blue Hor	77.89	323	LR	LR	22 48 00.4	
	comp=Z,42nm,20.0s,baz=135,slow=34						
VNDA	Vanda	78.03	190	P	P	22 15 32.5	+1.7
	comp=Z,0.6nm,0.7s,baz=120,slow=3.0,SNR=4.3						
VNDA	Vanda	78.03	190	P	P	22 15 32.7	+1.9
SYO	Syowa Base	78.57	160	eP	P	22 15 30.2	-3.6
TORD	Torodi Ar. Bea	78.58	71	P	P	22 15 33.7	-1.1
	comp=Z,17nm,0.9s,baz=256,slow=4.5,SNR=52						
TORD				LR	LR	22 48 52.5	
	comp=Z,319nm,20.2s,baz=215,slow=35						
TORD	Torodi Ar. Bea	78.58	71	P	P	22 15 33.8	-1.1
NEW	Newport	79.52	331	LR	LR	22 54 40.9	
	comp=Z,65nm,18.6s,baz=169,slow=39						
BOSA	Boshof	85.78	119	LR	LR	22 51 17.3	
	comp=Z,141nm,20.9s,baz=250,slow=34						
ESDC	Sonseca Array	86.04	45	P	P	22 16 13.8	+0.3
	comp=Z,3.4nm,1.1s,baz=243,slow=5.8,SNR=8.2						
ESDC				LR	LR	22 50 49.4	
	comp=Z,108nm,21.2s,baz=275,slow=33						
MAW	Mawson	86.31	164	P	P	22 16 16.5	+2.2
	comp=Z,4.4nm,1.0s,baz=213,slow=6.0,SNR=6.5						
MAW				LR	LR	22 57 23.9	
	comp=Z,107nm,18.0s,baz=238,slow=38						
MAW	Mawson	86.31	164	P	P	22 16 15.2	+0.9
YKA	Yellowknife Ar	89.15	341	LR	LR	22 59 22.9	
	comp=Z,145nm,21.2s,baz=0.0,slow=38						
DLBC	Dease Lake	92.01	333	LR	LR	23 01 00.1	
	comp=Z,120nm,20.4s,baz=327,slow=38						
KEST	Kesra	93.85	53	LR	LR	22 59 48.5	
	comp=Z,223nm,20.0s,baz=258,slow=36						
DZM	Mont Dzumac	110.15	236	eLR	LR	22 54 32.8	
	comp=Z,152nm,24.3s						
KBZ	Khabaz	120.56	50	PKP	PKPdf	22 22 24.5	0.0
	comp=Z,2.9nm,0.8s,baz=236,slow=3.6,SNR=8.0						
H11S2	WAKE ISLAND Hyl	25.86	279	T	T	00 42 00.1	
	baz=101,slow=74,SNR=106						
H11S1	WAKE ISLAND Hyl	25.87	279	T	T	00 41 56.4	
	baz=101,slow=74,SNR=95						
H11S3	WAKE ISLAND Hyl	25.88	279	T	T	00 42 01.5	
	baz=101,slow=74,SNR=140						
H11N3	WAKE ISLAND Hyl	25.91	280	T	T	00 42 04.0	
	baz=101,slow=74						
H11N2	WAKE ISLAND Hyl	25.92	280	T	T	00 42 02.4	
	baz=101,slow=74						
H11N1	WAKE ISLAND Hyl	25.92	280	T	T	00 41 58.4	
	baz=101,SNR=14						
ASAR	Alice Springs	130.37	210	PKP	PKiKP	22 22 44.6	-0.2
	comp=Z,0.8nm,0.7s,baz=149,slow=2.0,SNR=7.4						
WRA	Warramunga Arr	133.28	213	PKP	PKPdf	22 22 49.1	-0.5
	comp=Z,0.8nm,0.7s,baz=164,slow=2.1,SNR=8.6						
WRA	Warramunga Arr	133.28	213		PKPdf	22 22 48.3	-1.3
ZAA0	Zalesovo Array	141.30	23	PKPdf	PKPdf	22 23 03.6	+0.4
ZALV	Zalesovo Beam	141.30	23	PKP	PKPdf	22 23 02.9	-0.3
	comp=Z,3.8nm,0.7s,baz=289,slow=2.3,SNR=11						
ZALV	Zalesovo Beam	141.30	23		PKPdf	22 23 04.3	+1.1
MAKZ	Makanchi	145.24	33	PKPbc	PKPdf	22 23 10.5	0.0
NIL	Nilore	145.37	59	PKPbc	PKPbc	22 23 11.0	0.0
MK31	Makanchi Array	145.41	33	PKPdf	PKPab	22 23 11.0	+0.1
MKAR	Makanchi Array	145.41	33	PKPbc	PKPdf	22 23 10.9	+0.2
	comp=Z,12nm,0.8s,baz=323,slow=3.0,SNR=84						
KSH	Kashi	145.50	48	PKPbc	PKPab	22 23 12.6	+1.0
KLR	Kul'dur	145.65	333	PKPbc	PKPab	22 23 11.9	+0.4
	comp=Z,4.7nm,0.8s,baz=39,slow=4.0,SNR=14						
PRZ	Przheval'sk	145.74	42	PKPbc	PKPab	22 23 13.8	+1.4
TARG	Taragay, Kyrgy	145.74	44	PKPbc	PKPab	22 23 13.4	+0.7
USA0B	Ussuriysk Arra	149.24	327	PKPbc	PKPbc	22 23 22.0	+0.7
USRK	Ussuriysk Ar.	149.24	327	PKPbc	PKiKP	22 23 22.4	-0.1
	comp=Z,5.1nm,0.8s,baz=356,slow=1.0,SNR=22						
USRK	Ussuriysk Ar.	149.24	327	PKPbc	PKPbc	22 23 21.8	+0.4
MJAR	Matsushiro Arr	149.69	309	PKPbc	PKPbc	22 23 23.4	+0.5
	comp=Z,2.8nm,0.8s,baz=110,slow=3.9,SNR=5.9						
MJAR	Matsushiro Arr	149.69	309		PKPbc	22 23 23.2	+0.3
MAT	Matsushiro	149.69	309	ePKP	PKPbc	22 23 21.4	-1.4
WMQ	Urumqi	150.22	32	ePKPbc	PKPdf	22 23 19.3	+0.5
SONM	Songino Array	152.11	4	PKPbc	PKiKP	22 23 29.1	+0.4
	comp=Z,5.6nm,0.8s,baz=312,slow=1.5,SNR=30						
SONM	Songino Array	152.11	4	PKPbc	PKiKP	22 23 28.8	+0.2
ULN	Ulaanbaatar	152.12	3	PKPbc	PKiKP	22 23 29.5	+0.8
GTA	Gaotai	159.02	21	ePKPbc	PKPdf	22 23 32.6	+1.4
GTA				LR	LR		
	comp=N,240nm,22.5s						
GTA				LR	LR		
	comp=E,110nm,23.3s						
GTA				LR	LR		
	comp=Z,93nm,18.9s						
HHC	Hu-ho-hao-te	159.08	355	ePKP	PKPdf	22 23 27.3	-3.9
NJ2	Nanjing	165.14	326	ePKP	PKPdf	22 23 38.3	+0.9
CMAR	Chiang Mai Arr	170.25	97	PKPab	PKPab	22 24 56.1	-1.4
	comp=Z,0.3nm,0.4s,baz=243,slow=9.0,SNR=1.9						

IDC 15 22:07:01.3±3.5, 33°22'S×178°39'W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.5/30, mbtmp3.5/3, ML3.5/1 Error ellipse: s-maj=80.2km s-min=38.4km az=116.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.22	215	Pn	Pn	22 08 35.0	+0.7
	1.1nm,0.3s,baz=312,slow=22,SNR=2.1						
URZ				Sn	Sn	22 09 44.4	-1.7
	baz=81,slow=18						
ASAR	Alice Springs	42.70	270	P	P	22 15 00.5	+0.2
	0.5nm,0.7s,baz=108,slow=7.6,SNR=5.3						
WRA	Warramunga Arr	43.94	275	P	P	22 15 10.0	-0.3
	0.2nm,0.5s,baz=114,slow=7.5,SNR=5.0						
FINES	FINESS Array B	147.65	338	PKPbc	PKPbc	22 26 46.0	-0.9
	4.8nm,1.0s,baz=1.1,slow=7.0,SNR=2.5						

NOU 15 22:15:42.5, 17°28'S×167°27'E, h0km, MLv4.5/12, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	Devils Point	0.98	117	P	Pb	22 16 01.9	-0.5
RTV	Rentapao	1.21	115	P	Pg	22 16 05.4	-0.4
LIFNC	LIFOU	3.48	180	P	Pn	22 16 36.4	-1.5
MARNC	Mare, Loyalty	4.24	170	P	Pn	22 16 48.1	-0.3
KOUNC	Koumac, New Ca	4.31	220	P	Pn	22 16 49.8	+0.5
YATNC	Mamie plateau,	4.77	184	P	Pn	22 16 54.5	-1.2
DZM	Mont Dzumac	4.83	189	P	Pn	22 16 56.7	+0.1
NOUC	Port Laguerre	4.88	191	P	Pn	22 16 57.5	+0.3
ONTNC	Ouen Toro	5.06	189	P	Pn	22 17 00.1	+0.4
OUENC	Ouen Island, N	5.13	184	P	Pn	22 17 01.4	+0.8

MEX 15 22:22:26.9±0.5, 16°36'N×98°09'W, h24km±4km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.05	305	*i* P	Pb	22 22 29.9	-1.3
PNIG				*i* S	Sb	22 22 32.8	-1.4
TXIG	Tlaxiaco	0.94	19	*i* P	Pb	22 22 42.1	-2.6
TXIG				*i* S	Sb	22 22 53.4	-3.4
PEIG	Puerto Escondi	0.97	112	*i* P	Pn	22 22 44.5	-0.6
PEIG				*i* S	Sn	22 22 58.8	+0.7
MGIG	Malinaltepec	1.01	329	*i* P	Pn	22 22 43.0	-2.7
MGIG				*eS*	Sb	22 22 55.3	-3.6

NNC 15 22:34:31.1±2.8, 37°24'N×70°56'E, h12km±11km, mb3.6, mpv3.3, 5C-4D, Error ellipse: s-maj=21.5km s-min=19.9km az=137.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.86	360	Pn	Pn	22 35 59.2	+1.4
	0.6nm,0.3s,baz=15,slow=33,SNR=12						
KK31				⇑Pg	Pb	22 36 17.5	+4.3
	0.5nm,0.2s,baz=173,slow=12,SNR=4.8						
KK31				⇑Sn	Sn	22 37 06.2	+1.3
	1.1nm,0.3s,baz=187,slow=22,SNR=4.2						
KK31				⇓Lg	Lg	22 37 37.8	
	1.8nm,0.3s,baz=165,slow=28,SNR=5.1						
AAK	Ala-Archa	6.18	28	⇑Pn	Pn	22 36 01.8	-0.5
	1.0nm,0.3s						
AAK				⇑Pg	Pb	22 36 23.9	+5.2
	1.8nm,0.5s						
AAK				⇑Sn	Sn	22 37 13.4	+0.4
	6.7nm,1.1s						
AAK				⇓Lg	Lg	22 37 47.7	
	10nm,0.9s						
TKM2	Tokmak 2	6.86	33	⇓Pn	Pn	22 36 12.2	+0.4
	1.5nm,0.5s						
TKM2				⇓Lg	Lg	22 38 08.6	
	4.3nm,1.1s						
AB31	Akbulak array	14.27	331	P	Pn	22 37 50.1	-2.7
	0.2nm,0.3s,baz=163,slow=12,SNR=11						

IDC 15 22:38:29.4±0.5, 35°36'N×78°57'E, h0km, mb4.2/25, mb1 4.4/30, mb1mx4.3/43, mbtmp4.2/30, ML4.1/4, MS3.5/19, Ms1 3.5/19, ms1mx3.4/45, Error ellipse: s-maj=14.6km s-min=11.6km az=39.0

MOS 15 22:38:29.9±1.1, 35°36'N×78°54'E, h11km, mb4.7/19, Error ellipse: s-maj=7.1km s-min=3.9km az=112.2

BJI 15 22:38:30.5±0.0, 35°43'N×78°53'E, h10km, mB4.5/14, mb4.5/32, ML4.6/3, Ms3.9/23, Ms7 3.8/23

*NEIC 15 22:38:31.9±1.5, 35°36'N±0°07×78°43'E±0°08, h10km±1km, mb4.6/47, Error ellipse:

AAK ⇓Lg Lg 22 42 39.9
221nm,1.1s
AAK Ala-Archa 7.87 338 *ce*P **Pn 22 40 28.5 +1.6**
AAK pmax pmax
comp=Z,188nm,1.7s
KNDC Almaty 7.89 352 ⇑Pg Pb 22 40 56.3 +6.2
comp=Z,40nm,0.6s
KNDC ⇓Lg Lg 22 42 40.6
comp=Z,736nm,1.1s
PDGK Podgornoye 7.95 5 ⇓Pn **Pn 22 40 28.6 +0.7**
comp=Z,22nm,0.6s
PDGK ⇑Sn **Sn 22 41 57.7 +0.8**
comp=Z,243nm,0.8s
PDGK ⇓Lg Lg 22 42 42.8
comp=Z,164nm,0.9s
FRU1 Bishkek 7.99 339 P **Pn 22 40 30.5 +2.0**
FRU1 Bishkek 7.99 339 **Pn 22 40 30.5 +2.0**
KPKS Kokpek 8.05 1 *e*P **Pn 22 40 31.4 +2.1**
CHMS Chumysh 8.13 340 P Pn 22 40 38.0 +7.7
SNR=10
EKS2 Erkin-Say 8.13 334 P **Pn 22 40 33.2 +2.8**
SNR=17
CHGR Chuyangaron 8.17 296 Pn **Pn 22 40 27.9 -3.1**
TAS Tashkent 9.35 312 P **Pn 22 40 46.8 -0.3**
TAS Tashkent 9.35 312 Pn **Pn 22 40 46.8 -0.3**
IUG Iuzhnay 9.45 318 *e*P **Pn 22 40 49.9 +1.4**
KK31 Karatay Array 9.88 323 Pn **Pn 22 40 55.0 +0.6**
comp=Z,5.8nm,0.5s,baz=127,slow=12,SNR=74
KK31 ⇓Sn **Sn 22 42 45.9 +1.5**
comp=Z,2.8nm,0.3s,baz=136,slow=19,SNR=5.8
KK31 Karatay Array 9.88 323 P **Pn 22 40 54.4 +0.1**
KK31 Karatay Array 9.88 323 **Pn 22 40 54.4 +0.1**
KKAR Karatay Array 9.88 323 P **Pn 22 40 55.0 +0.7**
KKAR Karatay Array 9.88 323 **Pn 22 40 54.7 +0.3**
KKAR Karatay Array 9.88 323 **Pn 22 40 55.0 +0.7**
WMQ Urumqi 10.97 37 *e*P **Pn 22 41 11.6 +2.3**
WMQ pP 22 41 16.0
WMQ sP 22 41 18.8
WMQ S **Sn 22 43 12.8 +1.7**
WMQ pmax pmax
comp=Z,27nm,0.9s
WMQ LR LR
comp=Z,550nm,9.5s
MAKZ Makanchi 11.68 12 ⇓Pn **Pn 22 41 18.5 -0.4**
comp=Z,35nm,1.1s
MAKZ Makanchi 11.68 12 P **Pn 22 41 18.7 -0.2**
MAKZ Makanchi 11.68 12 **Pn 22 41 18.7 -0.2**
MK31 Makanchi Array 11.72 13 ⇑Pn **Pn 22 41 18.8 -0.7**
comp=Z,8.6nm,0.8s,baz=193,slow=13,SNR=94
MK31 ⇓Sn **Sn 22 43 28.9 -0.5**
comp=Z,29nm,0.9s,baz=195,slow=23,SNR=10
MK31 Makanchi Array 11.72 13 *i* P **Pn 22 41 19.8 +0.3**
MK31 Makanchi Array 11.72 13 Pn **Pn 22 41 19.1 -0.4**
MKAR Makanchi Array 11.72 13 Pn **Pn 22 41 18.6 -0.9**
comp=Z,1.1nm,0.3s,baz=194,slow=13,SNR=34
MKAR Sn Sn 22 43 16.1 -13
comp=Z,0.5nm,0.3s,baz=183,slow=14,SNR=2.4
MKAR Makanchi Array 11.72 13 *i* P **Pn 22 41 18.7 -0.8**
MKAR pmax pmax
comp=Z,4.0nm,0.5s
MKAR Makanchi Array 11.72 13 **Pn 22 41 19.3 -0.2**
GTK Tadong 11.78 130 *ex* x 22 41 20.8
GTK IAmb IAmb 22 41 24.3
comp=Z,10.0nm,0.6s
LSA Lhasa 12.06 115 P **Pn 22 41 26.8 +2.1**
LSA pmax pmax
comp=Z,27nm,0.7s
LSA Lhasa 12.06 115 P **Pn 22 41 25.6 +0.9**
LSA Lhasa 12.06 115 Pn **Pn 22 41 25.6 +0.9**
BHPL Bhopal 12.16 185 *e*P **Pn 22 41 24.0 -1.7**
JBP Jabalpur 12.26 174 *ex* **Pn 22 41 23.6 -3.3**
JBP *ex* x 22 44 31.1
HRA Herat 13.41 270 **Pn 22 41 40.3 -2.6**
OTUK Ortayu 13.63 342 ⇑P **Pn 22 41 44.4 -1.1**
comp=Z,17nm,1.4s
SHL Shillong 15.11 127 P **Pn 22 42 02.7 -3.1**
SHL pmax pmax
comp=Z,48nm,1.3s
SHL Shillong 15.11 127 Pn **Pn 22 42 02.7 -3.1**
SHL IAmb IAmb 22 42 15.8
comp=Z,48nm,1.3s
SHL Shillong 15.11 127 *e*P **Pn 22 42 01.1 -4.7**
SHL IAmb IAmb 22 42 09.4
comp=Z,9.8nm,0.4s
BRZS Berezniki 15.18 345 *e*P **Pn 22 42 07.7 +1.2**
KURBB Kurchatov Arra 15.21 360 Pn **Pn 22 42 05.8 -1.1**
comp=Z,0.0nm,0.3s,baz=184,slow=12,SNR=3.9
KURBB Lg Lg 22 46 24.9
comp=Z,0.0nm,0.3s,baz=192,slow=31,SNR=2.0
KURBB Kurchatov Arra 15.21 360 ⇓P **Pn 22 42 07.3 +0.4**
comp=Z,5.7nm,0.6s
KURK Kurchatov 15.30 0 P **Pn 22 42 05.8 -2.3**
DGZ Jazzator, Alta 15.70 22 *i* P **Pn 22 42 12.7 -0.7**
MOKO MOKOCHONG 16.42 119 *e*P **Pn 22 42 19.2 -3.7**
MOKO IAmb IAmb 22 42 27.6
comp=Z,14nm,0.7s
GEYT Alibeck 16.57 285 Pn **Pn 22 42 19.2 -5.3**
comp=Z,0.5nm,0.3s,baz=95,slow=16,SNR=5.0
GEYT Sn Sn 22 45 15.8 -12
comp=Z,0.3nm,0.3s,baz=51,slow=28,SNR=2.3
GEYT LR LR 22 50 10.1
comp=Z,155nm,21.1s,baz=230,slow=42
GYA0B ALIBECK ARRAY 16.57 285 **Pn 22 42 22.3 -2.3**
POO Poona 17.32 195 *ex* **Pn 22 42 31.0 -3.0**
GTA Gaotai 17.36 70 *e*P **P 22 42 39.0 +3.2**
GTA pmax pmax
comp=Z,13nm,1.1s
GTA pmax pmax
comp=Z,95nm,5.1s
GTA LR LR
comp=Z,110nm,12.7s
GTA LR LR
comp=Z,140nm,12.0s
GTA LR LR
comp=Z,160nm,13.5s
HYB Hyderabad 17.92 180 *i* P **P 22 42 42.0 +0.1**
HYB *e*S **S 22 46 03.5 -3.0**
BVAR Borovoye Array 18.53 344 P **P 22 42 48.0 -0.4**
comp=Z,0.6nm,0.3s,baz=179,slow=13,SNR=20
BRVK Borovoye 18.59 344 ⇓P **P 22 42 48.9 -0.1**
comp=Z,25nm,0.8s
BRVK Borovoye 18.59 344 *ce*P **Pn 22 42 49.5 +0.1**
BRVK pmax pmax
comp=Z,28nm,1.3s
BRVK Borovoye 18.59 344 P **P 22 42 48.8 -0.1**
BRVK IAmb IAmb 22 43 00.2
comp=Z,27nm,0.9s
ZAA0 Zalesovo Array 19.05 11 P **P 22 42 53.4 -0.7**
ZALV Zalesovo Beam 19.05 11 P **P 22 42 53.7 -0.4**
comp=Z,1.3nm,0.3s,baz=200,slow=10,SNR=24
ZALV LR LR 22 51 18.8
comp=Z,101nm,20.9s,baz=213,slow=40
ZALV Zalesovo Beam 19.05 11 P **P 22 42 52.5 -1.6**
AB31 Akbulak array 19.43 321 ⇓P **P 22 42 58.3 0.0**
comp=Z,5.3nm,0.6s,baz=127,slow=11,SNR=48
ABKAR Akbulak array 19.43 321 P **P 22 42 56.8 -1.5**
ABKAR Akbulak array 19.43 321 P **P 22 42 56.7 -1.6**
LZH Lanzhou 20.54 81 *e*P Pn 22 43 17.6 +4.6
LZH pP sP 22 43 21.9 -1.3
LZH sP pP 22 43 24.9 +5.7
LZH pmax pmax
comp=Z,13nm,1.0s
LZH pmax pmax
comp=Z,72nm,4.6s
LZH LR LR
comp=N,220nm,9.8s
LZH LR LR
comp=E,200nm,10.3s
LZH LR LR
comp=Z,130nm,11.4s
WSAR Wadi Sarin 21.12 240 P **P 22 43 17.5 +0.6**
comp=Z,16nm,0.8s,baz=94,slow=8.6,SNR=16
WSAR Wadi Sarin 21.12 240 Pn **P 22 43 17.8 +0.9**
AKTO Aktyubinsk 21.14 322 P **P 22 43 16.1 -0.7**
comp=Z,16nm,0.9s,baz=112,slow=12,SNR=26
AKTO S **S 22 47 09.6 -1.1**
comp=Z,0.6nm,0.6s,baz=208,slow=14,SNR=1.1
AKTO Lg Lg 22 49 36.2
comp=Z,0.4nm,0.5s,baz=220,slow=22,SNR=1.1
AKTO LR LR 22 52 02.2
comp=Z,191nm,19.2s,baz=138,slow=38
AKTO Aktyubinsk 21.14 322 ⇑P **P 22 43 16.1 -0.7**
comp=Z,33nm,1.0s
JLN Jalan Bani Buh 21.29 237 Pn **P 22 43 20.0 +1.3**
SNR=6.1

BANOM Banah 21.30 250 Pn **P 22 43 19.0 +0.2**
CD2 Chengdu 21.57 95 P **P 22 43 22.1 +0.5**
CD2 pmax pmax
comp=Z,20nm,0.9s
CD2 LR LR
comp=Z,520nm,12.8s
CD2 LR LR
comp=Z,410nm,10.6s
CD2 LR LR
comp=Z,440nm,9.2s
MASF Masafi 21.70 249 P **P 22 43 24.3 +1.3**
SNR=8.4
UOSS Minazif 21.89 248 P **P 22 43 23.6 -1.5**
UOSS IAmb IAmb 22 43 39.8
comp=Z,15nm,1.1s
UOSS Minazif 21.89 248 P **P 22 43 26.3 +1.2**
ASHO Ashiyiah 22.15 247 pP **P 22 43 30.2 +2.3**
ASUD Al Ashush, Dub 22.73 248 pP **P 22 43 35.7 +1.6**
SNR=5.5
KMI Kunming 23.23 110 ⇓P **P 22 43 39.1 -0.3**
KMI pmax pmax
comp=Z,7.0nm,1.2s
ZAK Zakamensk 23.36 43 *e*P **P 22 43 40.2 -0.2**
ZAK pmax pmax
comp=Z,7.0nm,1.6s
UMZA Um Al Zommool 23.96 244 P **P 22 43 46.6 +0.3**
SONM Songino Array 24.10 50 P **P 22 43 48.3 +0.8**
comp=Z,8.1nm,0.8s,baz=243,slow=10,SNR=25
SONM PcP **PcP 22 47 28.0 -0.2**
comp=Z,0.5nm,0.4s,baz=202,slow=1.6,SNR=1.9
SONM Songino Array 24.10 50 P **P 22 43 48.0 +0.4**
SONM pmax pmax
comp=Z,8.0nm,0.8s
SONM Songino Array 24.10 50 P **P 22 43 48.0 +0.4**
SONM IAmb IAmb 22 43 53.8
comp=Z,8.1nm,0.8s
MZWR Madinat Zayed 24.31 248 P **P 22 43 49.5 0.0**
CHTO Chiang Mai 24.48 127 P **P 22 43 50.0 -1.1**
CHTO pmax pmax
comp=Z,10.0nm,1.2s
CHTO Chiang Mai 24.48 127 P **P 22 43 53.2 +2.1**
comp=Z,8.1nm,1.1s
CHTO Chiang Mai 24.48 127 P **P 22 43 50.0 -1.1**
CHTO Chiang Mai 24.48 127 P **P 22 43 49.8 -1.3**
comp=Z,848nmcomp=Z,4.6nm,1.1s
CMMT Chiang Mai 24.48 127 P **P 22 43 53.1 +2.0**
comp=Z,7.9nm,1.1s
CMMT Chiang Mai 24.48 127 P **P 22 43 49.2 -1.9**
ULN Ulaanbaatar 24.53 51 *ce*P **P 22 43 52.4 +0.9**
ULN pmax pmax
comp=Z,18nm,1.7s
ULN Ulaanbaatar 24.53 51 P **P 22 43 51.6 +0.1**
ULN IAmb IAmb 22 43 56.9
comp=Z,8.8nm,1.0s
CM15 Chiang Mai Arr 24.73 128 P **P 22 43 54.4 +1.0**
comp=Z,10nm,0.9s
CM31 Chiang Mai Arr 24.74 128 P **P 22 43 52.7 -0.7**
CM31 IAmb IAmb 22 44 11.9
comp=Z,8.4nm,0.8s
CMAR Chiang Mai Arr 24.74 128 P **P 22 43 52.8 -0.6**
comp=Z,4.3nm,0.8s,baz=317,slow=9.7,SNR=23
CMAR PcP **PcP 22 47 29.9 0.0**
comp=Z,0.6nm,0.3s,baz=309,slow=5.7,SNR=1.6
CMAR LR LR 22 53 51.2
comp=Z,71nm,21.6s,baz=270,slow=37
CMAR Chiang Mai Arr 24.74 128 *ce*P **P 22 43 53.0 -0.4**
CMAR pmax pmax
comp=Z,5.0nm,0.8s
CM13 Chiang Mai Arr 24.74 128 P **P 22 43 54.4 +0.9**
comp=Z,10nm,1.0s
CM02 Chiang Mai Arr 24.76 128 P **P 22 43 54.6 +1.0**
comp=Z,12nm,0.8s
CM01 Chiang Mai Arr 24.78 128 P **P 22 43 54.9 +1.1**
comp=Z,12nm,0.9s
CM09 Chiang Mai Arr 24.78 128 P P 22 44 02.3 +8.5
CM05 Chiang Mai Arr 24.78 128 P **P 22 43 54.6 +0.8**
comp=Z,7.5nm,0.8s
AKT Akhty 24.80 293 *e*P **P 22 43 56.8 +2.9**
AKT *e* 22 44 30.9
AKT pmax pmax
comp=Z,36nm,0.9s
CM04 Chiang Mai Arr 24.80 128 P **P 22 43 55.2 +1.2**
comp=Z,11nm,0.8s
XAN Xi'an 24.97 84 P **P 22 43 55.3 -0.2**
XAN pP pP 22 43 57.9 -6.7
XAN pmax pmax
comp=Z,8.0nm,0.9s
XAN LR LR
comp=Z,370nm,18.3s
XAN LR LR
comp=Z,220nm,12.7s
XAN LR LR
comp=Z,260nm,16.7s
ARU Arti 25.02 333 P **P 22 43 55.5 -0.2**
comp=Z,2.9nm,0.7s,baz=145,slow=7.0,SNR=16
ARU LR LR 22 54 16.2
comp=Z,37nm,19.1s,baz=122,slow=38
ARU Arti 25.02 333 *d* iP **P 22 43 55.8 +0.1**
ARU PPP PPP 22 44 35.8
ARU S **S 22 48 22.2 +4.2**
ARU pmax pmax
comp=Z,9.0nm,0.8s
ARU MLR MLR
comp=Z,174nm,14.0s
ARU Arti 25.02 333 P **P 22 43 55.0 -0.6**
ARU IAmb IAmb 22 44 01.4
comp=Z,18nm,0.9s
MAK Makhachkala 25.11 297 *e*P **P 22 43 51.9 -4.6**
MAK *e*S **S 22 48 15.3 -4.2**
MAK pmax pmax
comp=Z,117nm,1.1s
MAK MLR MLR
comp=Z,183nm,12.0s
GYA Guiyang 25.66 103 ⇓P **P 22 44 04.8 +3.0**
GYA sP pP 22 44 08.5 -2.6
GYA pmax pmax
comp=Z,13nm,1.3s
SLVN Son La 26.27 115 P **P 22 44 07.5 +0.1**
SLVN IAmb IAmb 22 44 13.9
comp=Z,7.2nm,0.8s
GROC Groznyy 26.38 297 *e*P **P 22 44 06.8 -1.3**
GROC *e* 22 44 47.3
GROC *e* 22 47 32.1
GROC *e*S **S 22 48 42.1 +2.4**
GROC pmax pmax
comp=Z,52nm,1.3s
GNI Garni 27.03 290 P **P 22 44 15.5 +1.3**
comp=Z,4.1nm,0.6s,baz=53,slow=5.1,SNR=1.8
GNI LR LR 22 56 55.4
comp=Z,86nm,19.2s,baz=98,slow=41
GNI Garni 27.03 290 *i* P **P 22 44 15.6 +1.4**
GNI pmax pmax
comp=Z,12nm,1.0s
GNI Garni 27.03 290 P **P 22 44 13.6 -0.6**
BELG Belogornoye 27.71 317 P **P 22 44 19.9 0.0**
comp=Z,11nm,0.7s,baz=201,slow=4.6,SNR=5.3
BELG LR LR 22 56 28.2
comp=Z,114nm,21.3s,baz=197,slow=39
AKH Akhalkalaki 27.98 293 ⇓P **P 22 44 27.7 +5.0**
NCK Nalchik 28.00 297 *i* P **P 22 44 24.2 +1.5**
NCK pmax pmax
comp=Z,3.0nm,0.8s
WHFO Wadi Hawf 28.04 238 P **P 22 44 22.5 -0.8**
ONI Oni 28.05 295 P **P 22 44 23.9 +0.8**
ONI pmax pmax
comp=Z,8.0nm,0.9s
ONI Oni 28.05 295 P **P 22 44 23.9 +0.8**
ONI IAmb IAmb 22 44 40.4
comp=Z,7.6nm,0.9s
PALK Pallekele 28.07 175 LR LR 22 55 17.9
comp=Z,174nm,21.2s,baz=96,slow=36
KBZ Khabaz 28.53 298 P **P 22 44 27.8 +0.5**
comp=Z,1.0nm,0.7s,baz=180,slow=4.0,SNR=2.1
KBZ LR LR 22 57 56.7
comp=Z,71nm,19.2s,baz=88,slow=41
KBZ Khabaz 28.53 298 *i* P **P 22 44 29.2 +1.9**
KBZ pmax pmax
comp=Z,1.0nm,0.4s
KIV Kislovodsk 28.70 298 *e*P **P 22 44 28.6 -0.4**
KIV pmax pmax
comp=Z,3.0nm,1.0s
KIV MLR MLR
comp=Z,58nm,15.0s
KIV Kislovodsk 28.70 298 PnPn P 22 45 01.1 +32
KIRV Kirov 30.10 329 *ce*P **P 22 44 42.2 +1.1**
PRGR Permogore 33.46 332 *e*P **P 22 45 10.2 -0.3**
PRGR pmax pmax
comp=Z,10.0nm,0.9s
NJ2 Nanjing 33.54 84 *e*P **P 22 45 11.8 +0.2**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
MOS Moscow 34.43 319 *e*P **P 22 45 18.0 -1.0**
MOS pmax pmax
comp=Z,31nm,1.0s
OBN Obninsk 34.81 318 *e*P **P 22 45 23.2 +0.9**
OBN *e* 22 46 43.8
OBN *e*PPP PPP 22 46 51.6
OBN *e* 22 47 51.7
OBN pmax pmax
comp=Z,32nm,1.3s
OBN MLR MLR
comp=Z,76nm,17.0s
OBN Obninsk 34.81 318 P **P 22 45 21.7 -0.6**
KLMR Klimovskoe 35.54 328 *e*P **P 22 45 26.2 -2.4**
KLMR pmax pmax
comp=Z,21nm,1.6s
KLMR Klimovskoe 35.54 328 *e*P **P 22 45 26.2 -2.4**
KLMR AMP 22 45 38.4
comp=Z,21nm,1.6s
BR131 Keskin Array S 35.56 291 P **P 22 45 28.9 -0.3**
BR131 pmax pmax
comp=Z,3.0nm,0.8s
BR131 Keskin Array S 35.56 291 P **P 22 45 28.9 -0.3**
BRTR Keskin Array B 35.56 291 P **P 22 45 28.7 -0.6**
comp=Z,2.1nm,0.8s,baz=114,slow=9.6,SNR=10
BRTR Keskin Array B 35.56 291 *ce*P **P 22 45 32.5 +3.2**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 35.56 291 P **P 22 45 29.0 -0.3**
MDUB Mudurnu 37.32 292 P **P 22 45 45.0 +0.8**
PSI Prapat 37.55 145 LR LR 23 04 30.9
comp=Z,59nm,18.4s,baz=273,slow=42
GSI Gunungsitoli 38.28 148 P **P 22 45 52.2 -0.1**
AKASG Malin Array Be 38.39 309 P **P 22 45 51.5 -1.4**
comp=Z,1.3nm,0.5s,baz=76,slow=8.4,SNR=10
AKASG LR LR 23 05 19.4
comp=Z,72nm,18.0s,baz=50,slow=42
AKASG Malin Array Be 38.39 309 *i* P **P 22 45 52.2 -0.7**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 38.39 309 P **P 22 45 52.4 -0.5**
AKBB Malin Array Si 38.39 309 *ce*P **P 22 45 53.4 +0.5**
AKBB Malin Array Si 38.39 309 P **P 22 45 52.6 -0.3**
AKBB IAmb IAmb 22 46 01.0
comp=Z,12nm,1.4s
SORM Soroca 38.86 305 ⇓P **P 22 45 56.4 -0.5**
SORM Soroca 38.86 305 ⇓P **P 22 45 56.4 -0.5**
ELL Elmali 38.99 287 P **P 22 45 57.8 -0.5**
ELL pmax pmax
comp=Z,20nm,0.8s
ELL Elmali 38.99 287 P **P 22 45 57.8 -0.5**
CFR Carcaliu 39.10 300 ⇑P **P 22 46 01.2 +2.2**
CFR Carcaliu 39.10 300 ⇑P **P 22 46 01.2 +2.2**
MNK Minsk 39.59 315 *i* P **P 22 46 01.8 -1.1**
MNK *i* 22 47 33.0
MNK *i* 22 48 08.5
MNK *i* S **S 22 52 05.9 +1.9**
MNK *i* SSS SSS 22 55 21.8
MNK pmax pmax
comp=N,3.0nm,0.7s
MNK pmax pmax
comp=Z,5.0nm,0.7s
MNK MLR MLR
comp=Z,208nm,17.0s
MNK MLR MLR
comp=N,29nm,17.0s
MNK MLR MLR
comp=E,11nm,17.0s
MNK Minsk 39.59 315 *i* P **P 22 46 01.9 -1.0**
MNK *i* P **P 22 46 01.9 -1.0**
comp=N,3.0nm,0.7s
MNK *i* P **P 22 46 01.9 -1.0**
comp=Z,5.0nm,0.7s,baz=98
MNK *i* PP **PP 22 47 33.0 -0.8**
MNK *i* PPP PPP 22 47 54.9
MNK *i* PcP **PcP 22 48 08.5 -1.2**
MNK *i* S **S 22 52 06.0 +2.0**
MNK *i* SS **SnSn 22 55 03.6 +2.3**
MNK *i* SSS SSS 22 55 21.9
MNK *i* LQ LQ 22 58 05.0
MNK *i* LR LR 23 01 29.1
MNK *i* LRM MLR 23 05 07.1
comp=Z,208nm,16.6s
MNK *i* LRM MLR 23 05 12.8
comp=N,29nm,16.6s
MNK *i* LRM MLR 23 05 15.0
comp=E,11nm,16.6s
VRI Vrincioaia 40.04 301 ⇑P **P 22 46 08.1 +1.3**
VRI Vrincioaia 40.04 301 ⇑P **P 22 46 08.1 +1.3**
TESR Tescani 40.06 302 ⇓P **P 22 46 06.8 -0.2**
PLOR Plostina 40.10 301 ⇓P **P 22 46 08.6 +1.3**
PLOR Plostina 40.10 301 ⇓P **P 22 46 08.6 +1.3**
NACGM Naroch 40.27 315 *i* P **P 22 46 09.8 +1.2**
PRAR RASCA 40.31 304 ⇓P **P 22 46 09.3 +0.3**
COVR Voineasa-Covas 40.41 301 ⇓P **P 22 46 11.0 +1.1**
BIZ Bicaz 40.41 303 ⇑P **P 22 46 10.6 +0.7**
MLR Muntele Rosu 40.62 301 ⇓P **P 22 46 13.5 +1.7**
MLR Muntele Rosu 40.62 301 ⇓P **P 22 46 13.5 +1.7**
MLR Muntele Rosu 40.62 301 P **P 22 46 11.6 -0.1**
MLR IAmb IAmb 22 46 17.0
comp=Z,13nm,0.9s
LVZ Lovozero 40.82 336 P **P 22 46 12.6 -0.4**
LVZ pmax pmax
comp=Z,13nm,0.8s
LVZ Lovozero 40.82 336 P **P 22 46 12.6 -0.4**
LVZ IAmb IAmb 22 46 17.3
comp=Z,13nm,0.8s
KLR Kul'dur 40.87 53 *ce*P **P 22 46 13.0 -0.6**
KLR pmax pmax
comp=Z,3.0nm,0.9s
DOPR Dopca 40.97 302 ⇑P **P 22 46 15.2 +0.7**
BURAR Bucovina Array 40.98 304 ⇓P **P 22 46 15.0 +0.3**
BURAR Bucovina Array 40.98 304 ⇓P **P 22 46 15.0 +0.3**
BURAR Bucovina Array 40.98 304 P **P 22 46 14.4 -0.3**
BUR08 Bucovina Ar. S 40.99 304 P **P 22 46 14.2 -0.6**
VOIR 41.25 301 ⇓P **P 22 46 16.8 -0.1**
VOIR 41.25 301 ⇓P **P 22 46 16.8 -0.1**
ARR Arges 41.55 301 ⇓P **P 22 46 20.1 +0.7**
FIA1 FINESS Array S 41.84 325 P **P 22 46 21.1 -0.2**
FIA1 IAmb IAmb 22 46 23.4
comp=Z,27nm,1.4s
FINES FINESS Array B 41.84 325 P **P 22 46 21.2 -0.1**
comp=Z,6.8nm,0.6s,baz=116,slow=8.6,SNR=27
FINES LR LR 23 04 27.5
comp=Z,155nm,19.0s,baz=248,slow=37
DRGR 42.74 303 ⇑P **P 22 46 30.3 +1.2**
DRGR 42.74 303 ⇑P **P 22 46 30.3 +1.2**
BZS Buzias 43.63 302 ⇑P **P 22 46 36.8 +0.7**
BZS Buzias 43.63 302 ⇑P **P 22 46 36.8 +0.7**
NIE Niedzica 44.14 307 *e*P **P 22 46 42.6 +2.4**
KEV Kevo 44.14 337 P **P 22 46 40.1 +0.2**
KEV pmax pmax
comp=Z,5.0nm,0.8s
KEV Kevo 44.14 337 P **P 22 46 40.1 +0.2**
KEV IAmb IAmb 22 46 44.0
comp=Z,4.9nm,0.8s
OJC Ojcow 44.41 308 P **P 22 46 42.1 -0.2**
OJC pmax pmax
comp=Z,8.0nm,0.9s
OJC Ojcow 44.41 308 P **P 22 46 42.1 -0.2**
OJC IAmb IAmb 22 46 47.4
comp=Z,7.5nm,0.9s
ARA0 ARCESS Array S 44.54 336 *e*P **P 22 46 43.3 +0.2**
ARCES ARCESS Array B 44.54 336 P **P 22 46 43.1 0.0**
comp=Z,8.4nm,0.8s,baz=98,slow=6.6,SNR=25
ARCES LR LR 23 06 50.2
comp=Z,95nm,18.9s,baz=90,slow=38
ARCES ARCESS Array B 44.54 336 P **P 22 46 43.0 -0.1**
ARCES pmax pmax
comp=Z,12nm,1.0s
ARCES ARCESS Array B 44.54 336 P **P 22 46 43.0 -0.1**
ARCES IAmb IAmb 22 46 47.9
comp=Z,12nm,0.9s
DIVS Divibare 45.00 300 P **P 22 46 46.7 -0.5**
DIVS IAmb IAmb 22 46 51.3
comp=Z,8.0nm,1.0s
KTK1 Kautokeino 45.12 335 *e*P **P 22 46 47.6 -0.1**
HAMF Hammerfest 45.52 338 *e*P **P 22 46 51.2 +0.3**
MORC Moravsky Berou 45.90 308 P **P 22 46 53.9 -0.3**
MORC pmax pmax

comp=Z,10.0nm,1.4s
MORC Moravsky Berou 45.90 308 P **P** **22 46 53.9 -0.3**
MORC IAmb IAmb 22 46 59.6
comp=Z,10.0nm,1.4s
MORC Moravsky Berou 45.90 308 *eP* **P** **22 46 55.9 +1.7**
JAVC Velka Javorina 45.91 307 *eP* **P** **22 46 58.4 +4.1**
JETT Jettan, Norway 46.24 336 *eP* **P** **22 46 57.4 +0.7**
VRAC Vranov 46.56 307 *eP* **P** **22 47 02.6 +3.2**
DPC Dobruska-Polom 46.62 309 *eP* **P** **22 47 03.0 +3.1**
DPC Dobruska-Polom 46.62 309 *eP* **P** **22 47 03.0 +3.1**
KRUC Moravsky 46.72 307 *eP* **P** **22 47 03.5 +2.9**
TRO Tromso 46.77 336 *eP* **P** **22 47 00.5 -0.1**
CONA Conrad Observa 47.23 306 *eP* **P** **22 47 06.0 +1.3**
comp=Z,6.9nm,0.9s
FAUS Fauske 47.61 332 *eP* **P** **22 47 07.2 -0.1**
MJAR Matsushiro Arr 47.61 70 P **P** **22 47 07.1 -0.7**
comp=Z,0.7nm,0.4s,baz=297,slow=9.2,SNR=2.3
STEI Steigen 47.72 333 *eP* **P** **22 47 08.4 +0.3**
MOR8 Moi Rana 47.77 330 *eP* **P** **22 47 07.7 -0.9**
PRU Pruhonice 47.80 308 *eP* **P** **22 47 12.0 +3.0**
PRU Pruhonice 47.80 308 *eP* **P** **22 47 12.0 +3.0**
SOKA Soboth 47.99 304 *eP* **P** **22 47 13.6 +2.9**
comp=Z,9.6nm,0.8s
BRG Berggiesshubel 48.06 310 *eP* **P** **22 47 14.3 +3.3**
BRG Amp 22 47 17.2
comp=Z,8.8nm,1.5s
BRG Amp 23 02 10.0
comp=Z,0.2nm,16.9s
CKRC Cesky Krumlov 48.12 307 *eP* **P** **22 47 12.1 +0.6**
MOA Molln 48.30 306 *eP* **P** **22 47 15.4 +2.4**
comp=Z,4.8nm,1.1s
KONS Konsvik 48.34 331 *eP* **P** **22 47 13.9 +1.0**
OBKA Obir 48.35 304 P **P** **22 47 17.5 +4.0**
comp=Z,7.0nm,1.2s
LOF Lofoten 48.38 333 *eP* **P** **22 47 13.7 +0.5**
TIP Timpagrande 48.46 294 P **P** **22 47 13.9 -0.5**
GERES GERESS Array B 48.51 307 P **P** **22 47 14.4 -0.3**
comp=Z,1.2nm,0.8s,baz=84,slow=6.8,SNR=11
GERES GERESS Array B 48.51 307 **P** **22 47 13.7 -0.9**
KHC Kasperske Hory 48.54 307 *eP* **P** **22 47 14.0 -0.8**
KHC Kasperske Hory 48.54 307 *eP* **P** **22 47 14.0 -0.8**
CLL Collm 48.59 310 *eP* **P** **22 47 16.0 +0.9**
comp=Z,19nm,1.7s
CLL Lm MLR 23 00 00.0
comp=Z,200nm,20.4s
CLL Collm 48.59 310 *i* P **P** **22 47 17.5 +2.4**
CLL pmax pmax
comp=Z,19nm,1.7s
NC602 NORSAR Array S 48.76 323 *eP* **P** **22 47 17.3 +1.1**
NC303 NORSAR Array S 48.84 324 P **P** **22 47 17.4 +0.5**
NB2 NORSAR Subarra 48.91 323 P **P** **22 47 16.9 -0.6**
comp=Z,1.5nm,0.5s,baz=90,slow=7.9
NB2 NORSAR Subarra 48.91 323 P **P** **22 47 16.9 -0.6**
baz=90,slow=7.9
NOA NORSAR Array B 48.91 323 P **P** **22 47 17.2 -0.3**
comp=Z,4.2nm,0.9s,baz=90,slow=7.6,SNR=11
NOA LR LR 23 08 50.5
comp=Z,58nm,20.0s,baz=265,slow=37
LEM Lembang 50.15 141 LR LR 23 08 46.6
comp=Z,39nm,21.9s,baz=343,slow=36
SKAR Skarslia 50.35 323 *eP* **P** **22 47 29.4 +0.9**
RETA Reutte 50.70 306 *eP* **P** **22 47 34.3 +3.0**
comp=Z,6.0nm,1.0s
AKN Aaknes 50.89 325 *eP* **P** **22 47 33.2 +0.8**
DAVA Damuels 51.32 306 *eP* **P** **22 47 36.1 0.0**
comp=Z,8.3nm,0.8s
VLC Villacollemand 51.74 302 P **P** **22 47 39.2 +0.1**
BER Bergen 51.84 323 *eP* **P** **22 47 40.2 +0.6**
SEY Seymchan 51.91 34 P **P** **22 47 40.0 -0.1**
comp=Z,1.1nm,0.2s,baz=319,slow=20,SNR=1.4
SEY Seymchan 51.91 34 P **P** **22 47 40.0 -0.1**
TOLI2 Tolitoli 52.00 121 P **P** **22 47 41.4 +0.1**
TOLI2 IAmb IAmb 22 47 45.7
comp=Z,7.5nm,0.8s
KMBO Kilima Mbogo 52.95 236 P **P** **22 47 48.1 -0.5**
comp=Z,3.2nm,0.9s,baz=38,slow=12,SNR=4.4
KMBO Kilima Mbogo 52.95 236 *i* P **P** **22 47 49.5 +0.8**
KMBO pmax pmax
comp=Z,3.0nm,0.9s
KIBK Kibwezi 53.32 234 P **P** **22 47 51.0 -0.2**
KIBK IAmb IAmb 22 48 08.7
comp=Z,9.4nm,1.4s
BNI Bardonecchia 54.04 304 P **P** **22 47 55.6 -0.6**
BNI pmax pmax
comp=Z,21nm,1.4s
BNI Bardonecchia 54.04 304 P **P** **22 47 55.6 -0.6**
KEST Kesra 55.15 292 P **P** **22 48 04.6 +0.3**
comp=Z,1.7nm,0.8s,baz=115,slow=19,SNR=1.6
KEST Kesra 55.15 292 P **P** **22 48 04.6 +0.3**
KEST IAmb IAmb 22 48 23.4
comp=Z,12nm,1.3s
KAPI Kappang 55.80 127 LR LR 23 13 41.8
comp=Z,9.5nm,21.8s,baz=334,slow=38
BILL Bilibino 56.87 27 *eP* **P** **22 48 18.3 +2.3**
BILL *e* 22 49 12.7
BILL *e* 22 50 23.9
BILL *e*PPP PPP 22 51 40.1
BILL pmax pmax
comp=Z,5.0nm,1.1s
BILL MLR MLR
comp=Z,205nm,17.0s
ESDC Sonseca Array 63.31 301 P **P** **22 49 00.4 -0.4**
comp=Z,0.8nm,0.8s,baz=51,slow=6.8,SNR=6.9
LSZ Lusaka 69.39 233 P **P** **22 49 39.2 -0.7**
LSZ pmax pmax
comp=Z,2.0nm,0.9s
LSZ Lusaka 69.39 233 P **P** **22 49 39.2 -0.7**
IMAR Indian Mountai 71.23 20 P **P** **22 49 50.8 +0.4**
TORD Torodi Ar. Bea 71.85 273 P **P** **22 49 53.3 -1.6**
comp=Z,1.4nm,0.8s,baz=44,slow=5.5,SNR=10
TORD Torodi Ar. Bea 71.85 273 P **P** **22 49 53.1 -1.8**
BMAR Burnt Mountain 72.43 16 P **P** **22 49 58.9 +1.3**
NEA2 Nenana 73.57 19 P **P** **22 50 04.8 +0.4**
NEA2 IAmb IAmb 22 50 08.8
comp=Z,9.6nm,1.2s
ILAR Eielson Array 74.01 19 P **P** **22 50 06.0 -0.9**
comp=Z,1.9nm,1.0s,baz=324,slow=6.5,SNR=7.8
ILAR Eielson Array 74.01 19 P **P** **22 50 06.4 -0.6**
ILAR Eielson Array 74.01 19 P **P** **22 50 06.4 -0.6**
KOWA Kowa 75.76 278 P **P** **22 50 17.0 -0.9**
WRA Warramunga Arr 76.33 127 P **P** **22 50 19.7 -1.2**
comp=Z,3.3nm,1.0s,baz=319,slow=4.5,SNR=13
WRA Warramunga Arr 76.33 127 *i* P **P** **22 50 20.0 -0.9**
WRA pmax pmax
comp=Z,3.0nm,1.0s
WRA Warramunga Arr 76.33 127 P **P** **22 50 20.6 -0.2**
WRAB Tennant Creek 76.33 127 *ce*P **P** **22 50 21.2 +0.3**
WRAB pmax pmax
comp=Z,10.0nm,1.3s
WRAB Tennant Creek 76.33 127 P **P** **22 50 20.8 -0.1**
WRAB IAmb IAmb 22 50 21.4
comp=Z,6.9nm,1.1s
BCAR Beaver Creek A 76.71 18 P **P** **22 50 23.0 +0.4**
LBTB Lobatse 78.22 228 P **P** **22 50 31.3 -0.2**
LBTB pmax pmax
comp=Z,11nm,1.3s
LBTB Lobatse 78.22 228 P **P** **22 50 31.3 -0.2**
LBTB IAmb IAmb 22 50 37.7
comp=Z,11nm,1.3s
ASAR Alice Springs 78.73 130 P **P** **22 50 33.1 -1.1**
comp=Z,2.0nm,0.8s,baz=321,slow=6.0,SNR=18
ASAR Alice Springs 78.73 130 P **P** **22 50 33.4 -0.9**
ASAR Alice Springs 78.73 130 P **P** **22 50 33.4 -0.9**
BOSA Boshof 81.11 226 P **P** **22 50 46.0 -1.1**
comp=Z,3.6nm,0.7s,baz=38,slow=2.1,SNR=5.6
BOSA Boshof 81.11 226 P **P** **22 50 46.1 -1.1**
BOSA pmax pmax
comp=Z,13nm,1.4s
BOSA Boshof 81.11 226 P **P** **22 50 46.0 -1.1**
BOSA IAmb IAmb 22 50 51.4
comp=Z,13nm,1.4s
YKA Yellowknife Ar 81.86 6 P **P** **22 50 49.6 -1.0**
comp=Z,1.8nm,0.7s,baz=316,slow=9.1,SNR=2.3
SCHQ Schefferville 85.32 341 LR LR 23 29 32.0
comp=Z,36nm,20.9s,baz=86,slow=36
ULM Lac du Bonnet 94.57 356 LR LR 23 38 49.6
comp=Z,59nm,19.2s,baz=86,slow=38
TXAR Lajitas Array 115.57 2 PKP **PKiKP** **22 57 13.5 -0.6**
comp=Z,0.2nm,0.7s,baz=357,slow=4.5,SNR=1.9
LPAZ La Paz 144.71 294 PKP PKPbc 22 58 09.0 +0.4
comp=Z,0.5nm,0.4s,baz=90,slow=7.1,SNR=2.1
LPAZ La Paz 144.71 294 PKIKP PKPbc 22 58 09.0 +0.5

*JMA **15** 22:50:31.2,24°.19N×121°.78E,h24km±1km,M3.0*
*TAP **15** 22:50:31.3,24°.26N×121°.82E,h18km,ML3.7,C*
ISC 15 22:50:30.6±0.8,**24°.27N**±0°.01×**121°.89E**±0°.02,**h16**km±6km,
n137,**s086**/234,**19D**,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.15**	**288**	P		**Pb**	**22 50 34.8**	**-0.2**
	baz=303							
EHP				S		**Sg**	**22 50 37.8**	**+0.5**
	baz=303							
EWUT	**Wuta**	**0.21**	**329**	⇓*i*P		**Pb**	**22 50 36.3**	**+0.3**
	baz=346							
EWUT				*i* S		**Sg**	**22 50 39.6**	**+0.8**
	baz=346							
ENA	**Nanau**	**0.21**	**319**	⇓*i*P		**Pb**	**22 50 36.0**	**-0.1**
	baz=337							
ENA				*e*S		**Sg**	**22 50 39.5**	**+0.5**
	baz=337							
ETL	**Fush Village**	**0.27**	**247**	P		**Pg**	**22 50 36.2**	**-0.3**
	baz=243							
ETL				*e*S		**Sg**	**22 50 40.3**	**-0.2**
	baz=243							
NACB	**Ninganchiao**	**0.29**	**252**	⇓*i*P		**Pg**	**22 50 36.6**	**-0.2**
	baz=251							
NACB				*i* S		**Sg**	**22 50 41.1**	**+0.1**
	baz=251							
TWD	**Chiawan**	**0.33**	**236**	⇓*i*P		**Pb**	**22 50 37.6**	**-0.5**
	baz=234							
TWD				S		**Sg**	**22 50 42.1**	**0.0**
	baz=234							
TWC	**Suao**	**0.34**	**353**	⇓*i*P		**Pb**	**22 50 38.8**	**+0.4**
	baz=10.0							
TWC				S		**Sb**	**22 50 44.0**	**+0.4**
	baz=10.0							
ETLH	**Xiulin Townshi**	**0.38**	**261**	⇓*i*P		**Pg**	**22 50 38.2**	**-0.3**
	baz=261							
ETLH				*i* S		**Sg**	**22 50 43.4**	**-0.5**
	baz=261							
HWA	**Hwalien**	**0.39**	**223**	*e*P		**Pb**	**22 50 39.6**	**+0.5**
	baz=222							
HWA				*e*S		**Sb**	**22 50 46.5**	**+1.7**
	baz=222							
NDS	**Dongshan**	**0.40**	**336**	⇓*i*P		**Pb**	**22 50 39.6**	**+0.3**
	baz=344							
NDS				*i* S		**Sb**	**22 50 45.2**	**0.0**
	baz=344							
ETM	**Tongmen**	**0.47**	**231**	P		**Pg**	**22 50 40.1**	**+0.1**
	baz=234							
ETM				*e*S		**Sb**	**22 50 47.2**	**-0.1**
	baz=234							
ENTT	**Nioudou**	**0.48**	**321**	⇓*i*P		**Pb**	**22 50 40.6**	**0.0**
	baz=327							
ENTT				*e*S		**Sb**	**22 50 47.2**	**-0.3**
	baz=327							
TEYL	**Yanliau Villag**	**0.48**	**214**	P		**Pb**	**22 50 40.8**	**+0.1**
	baz=198							
TEYL				*e*S		**Sb**	**22 50 48.9**	**+1.5**
	baz=198							
NDT	**Datong Townshi**	**0.48**	**314**	⇓*i*P		**Pb**	**22 50 40.6**	**-0.1**
	baz=319							
NDT				*e*S		**Sb**	**22 50 47.1**	**-0.5**
	baz=319							
NNSB	**Datong**	**0.49**	**289**	⇓*i*P		**Pb**	**22 50 40.6**	**-0.4**
	baz=293							
NNSB				S		**Sg**	**22 50 46.6**	**-0.6**
	baz=293							
TWE	**Neicheng**	**0.50**	**336**	⇓*i*P		**Pb**	**22 50 41.3**	**+0.3**
	baz=343							
TWE				*i* S		**Sb**	**22 50 48.4**	**+0.4**
	baz=343							
NNS	**Nan Shan**	**0.51**	**290**	⇓*i*P		**Pb**	**22 50 40.8**	**-0.4**
	baz=294							
NNS				*i* S		**Sg**	**22 50 47.3**	**-0.3**
	baz=294							
ILA	**Ilan**	**0.52**	**345**	*e*P		**Pn**	**22 50 41.9**	**-1.4**
	baz=346							
ILA				*e*S		**Sb**	**22 50 49.8**	**+1.2**
	baz=346							
EGS		**0.58**	**3**	*e*P		**Pn**	**22 50 43.7**	**-0.4**
	baz=15							
WHF	**Hehuan Shan**	**0.59**	**258**	⇓*i*P		**Pg**	**22 50 42.0**	**-0.4**
	baz=259							
WHF				*e*S		**Sg**	**22 50 49.6**	**-0.6**
	baz=259							
NTC	**Toucheng**	**0.59**	**354**	*i* P		**Pn**	**22 50 43.4**	**-0.9**
	baz=360							
NTC				*e*S		**Sb**	**22 50 51.0**	**+0.4**
	baz=360							
FUSS	**Fushou**	**0.59**	**268**	⇓*i*P		**Pb**	**22 50 42.3**	**-0.5**
	baz=270							
FUSS				*i* S		**Sg**	**22 50 49.8**	**-0.6**
	baz=270							
ESL	**Shilin**	**0.62**	**223**	*e*P		**Pg**	**22 50 42.6**	**-0.1**
	baz=224							
ESL				S		**Sb**	**22 50 51.4**	**0.0**
	baz=224							
NWLT	**Wulai**	**0.62**	**325**	⇓P		**Pb**	**22 50 43.2**	**+0.1**
	baz=325							
NWLT				*e*S		**Sb**	**22 50 51.4**	**-0.2**
	baz=325							
NSK	**Sanguang**	**0.64**	**310**	⇓*i*P		**Pb**	**22 50 43.1**	**-0.2**
	baz=314							
NSK				S		**Sb**	**22 50 51.6**	**-0.5**
	baz=314							
TEGC	**Jichi Village**	**0.64**	**210**	*e*P		**Pb**	**22 50 43.7**	**+0.3**
	baz=197							
TEGC				*e*S		**Sb**	**22 50 52.4**	**+0.3**
	baz=197							
TWT	**Tachien**	**0.66**	**269**	P		**Pb**	**22 50 43.7**	**0.0**
	baz=269							
TWT				S		**Sg**	**22 50 51.9**	**-0.4**
	baz=269							
TDCB	**Techi**	**0.67**	**269**	⇓*i*P		**Pb**	**22 50 43.8**	**-0.2**
	baz=270							
TDCB				S		**Sg**	**22 50 51.8**	**-1.0**
	baz=270							
CHGB	**Renai**	**0.69**	**253**	⇓P		**Pb**	**22 50 44.1**	**-0.3**
	baz=252							
CHGB				S		**Sg**	**22 50 53.1**	**-0.2**
	baz=252							
TIPB	**Shuangxi**	**0.71**	**355**	⇓*i*P		**Pn**	**22 50 45.5**	**-0.5**
	baz=359							
TIPB				S		**Sb**	**22 50 54.7**	**+0.6**
	baz=359							
OWD	**Renai**	**0.73**	**245**	P		**Pg**	**22 50 44.5**	**-0.3**
	baz=244							
EGFH	**Guangfu**	**0.73**	**216**	*e*P		**Pg**	**22 50 44.5**	**-0.4**
	baz=227							
EGFH				*e*S		**Sb**	**22 50 56.1**	**+1.4**
	baz=227							
TWB1	**Santiao Chiao**	**0.74**	**7**	*e*P		**Pn**	**22 50 46.8**	**+0.4**
	baz=11							
TWA	**Mucha**	**0.77**	**338**	*e*P		**Pn**	**22 50 46.4**	**-0.4**
	baz=343							
TWA				*e*S		**Sn**	**22 50 56.7**	**-1.2**
	baz=343							
NHDH	**Xindian Distri**	**0.77**	**334**	*e*P		**Pn**	**22 50 46.8**	**0.0**
	baz=338							
NHDH				*e*S		**Sn**	**22 50 56.8**	**-1.3**
	baz=338							
TATO	**Taipei**	**0.80**	**332**	*e*P		**Pb**	**22 50 45.7**	**-0.4**
	baz=336							
TATO				*e*S		**Sb**	**22 50 57.2**	**+0.6**
	baz=336							
NWF	**Wu-fen Shan**	**0.81**	**353**	P		**Pn**	**22 50 47.7**	**+0.3**
	baz=349							
NWF				*e*S		**Sn**	**22 50 58.3**	**-0.8**
	baz=349							
WFSB	**Wu-fen Shan**	**0.81**	**353**	*e*P		**Pn**	**22 50 47.3**	**0.0**
	baz=349							
WFSB				*e*S		**Sn**	**22 50 58.4**	**-0.6**
	baz=349							
TAP	**Taipei**	**0.85**	**335**	*e*P		**Pn**	**22 50 48.6**	**+0.7**
	baz=339							
TAP				*e*S		**Sn**	**22 50 59.6**	**-0.4**
	baz=339							
WHP	**Taichung City**	**0.87**	**271**	*i* P		**Pn**	**22 50 47.7**	**-0.5**
	baz=272							
WHP				S		**Sg**	**22 50 58.0**	**-0.9**
	baz=272							
NJD	**Zhudong**	**0.87**	**303**	*e*P		**Pn**	**22 50 47.5**	**-0.7**
	baz=308							
NJD				*e*S		**Sb**	**22 50 59.4**	**+0.6**
	baz=308							
HGSD	**Ruisui**	**0.88**	**209**	*e*P		**Pb**	**22 50 47.9**	**+0.4**
	baz=195							
HGSD				*e*S		**Sn**	**22 51 02.2**	**+1.4**
	baz=195							
LIOB	**Emei**	**0.89**	**295**	*e*P		**Pn**	**22 50 48.2**	**-0.2**
	baz=297							
LIOB				*e*S		**Sb**	**22 50 59.2**	**0.0**
	baz=297							
TNOU	**National Taiwa**	**0.89**	**353**	*e*P		**Pg**	**22 50 46.4**	**-1.4**
	baz=4.0							
NSTT	**Nanjuang**	**0.89**	**294**	P		**Pn**	**22 50 47.9**	**-0.5**
	baz=296							
NSTT				S		**Sb**	**22 50 59.7**	**+0.3**
	baz=296							
WPL	**Puli Township**	**0.89**	**254**	*e*P		**Pb**	**22 50 47.7**	**0.0**
	baz=254							
WPL				*e*S		**Sb**	**22 50 59.6**	**+0.2**
	baz=254							
NTY	**Taoyuan**	**0.91**	**324**	*e*P		**Pn**	**22 50 49.1**	**+0.4**
	baz=326							
DPDB	**Guoxing**	**0.91**	**256**	P		**Pb**	**22 50 48.1**	**0.0**
	baz=256							
DPDB				*e*S		**Sg**	**22 50 60.0**	**-0.4**
	baz=256							
EHY	**Hungye**	**0.92**	**215**	*e*P		**Pg**	**22 50 46.9**	**-1.5**
	baz=223							
EHY				*e*S		**Sg**	**22 51 00.2**	**-0.3**
	baz=223							
WCS	**Beigang Elemen**	**0.92**	**257**	*e*P		**Pb**	**22 50 48.4**	**+0.2**
	baz=258							
WCS				*e*S		**Sg**	**22 51 00.2**	**-0.4**
	baz=258							
YM01	**YM01**	**0.93**	**341**	*e*P		**Pn**	**22 50 49.5**	**+0.5**
	baz=328							
YM01				*e*S		**Sn**	**22 51 03.2**	**+1.3**
	baz=328							
TWS1	**Kuangyinshan**	**0.94**	**333**	*e*P		**Pn**	**22 50 49.1**	**0.0**
	baz=335							
TWS1				*e*S		**Sn**	**22 51 03.1**	**+1.0**
	baz=335							
HSN1	**Hsinchu**	**0.95**	**303**	*e*P		**Pn**	**22 50 49.7**	**+0.5**
	baz=295							
NCU	**National Centr**	**0.95**	**318**	*e*P		**Pn**	**22 50 49.9**	**+0.6**
	baz=319							
NCU				*e*S		**Sn**	**22 51 03.6**	**+1.1**
	baz=319							
NCUH	**Zhongli**	**0.95**	**317**	*e*P		**Pn**	**22 50 49.7**	**+0.4**
	baz=319							
NCUH				*e*S		**Sn**	**22 51 03.7**	**+1.1**
	baz=319							
JYNG	**Yonagunijimaku**	**0.98**	**79**	P		**Pn**	**22 50 51.1**	**+1.5**
ANP	**Anpu**	**0.98**	**340**	*e*P		**Pn**	**22 50 50.4**	**+0.7**
	baz=343							
ANP				*e*S		**Sn**	**22 51 04.6**	**+1.3**
	baz=343							
SBCB	**Hsinchu**	**0.98**	**303**	*e*P		**Pn**	**22 50 49.5**	**-0.2**
	baz=298							
SBCB				*e*S		**Sn**	**22 51 04.6**	**+1.3**
	baz=298							
NTST	**Danshui**	**0.98**	**336**	*e*P		**Pn**	**22 50 50.8**	**+1.1**
	baz=344							
NTST				*e*S		**Sn**	**22 51 04.7**	**+1.4**
	baz=344							
SSLB	**Suanglung**	**0.98**	**241**	*e*P		**Pb**	**22 50 48.6**	**-0.7**
	baz=242							
SSLB				*e*S		**Sg**	**22 51 01.1**	**-1.5**
	baz=242							
SMLT	**Sun Moon Lake**	**0.98**	**247**	P		**Pg**	**22 50 48.9**	**-0.8**
	baz=241							
SMLT				*e*S		**Sb**	**22 51 02.4**	**+0.3**
	baz=241							
HSN	**Hsinchu**	**1.00**	**303**	P		**Pn**	**22 50 50.9**	**+1.0**
	baz=301							
HSN				*e*S		**Sn**	**22 51 04.4**	**+0.8**
	baz=301							
TYC	**Yuchr**	**1.01**	**249**	*e*P		**Pb**	**22 50 49.2**	**-0.6**
	baz=244							
TYC				*e*S		**Sb**	**22 51 02.8**	**-0.1**
	baz=244							
YULB	**Yu-li**	**1.03**	**212**	P		**Pb**	**22 50 48.2**	**-1.8**
	baz=220							
YULB				*e*S		**Sb**	**22 51 02.0**	**-1.2**
	baz=220							
ECBN	**Changbin**	**1.03**	**203**	P		**Pn**	**22 50 50.6**	**+0.3**
	baz=200							
ECBN				*e*S		**Sn**	**22 51 05.4**	**+1.0**
	baz=200							
YOJ	**Yonaguni jima**	**1.04**	**79**	P		**Pn**	**22 50 52.0**	**+1.5**
YOJ				*e*S		**Sn**	**22 51 07.0**	**+2.4**
YOJ	**Yonaguni jima**	**1.04**	**79**	P		**Pn**	**22 50 51.9**	**+1.5**
	baz=69							
YOJ				*e*S		**Sn**	**22 51 08.1**	**+3.5**
	baz=69							
TWY	**Chenhua**	**1.04**	**345**	*e*P		**Pn**	**22 50 51.9**	**+1.4**
	baz=341							
TWY				*e*S		**Sn**	**22 51 05.3**	**+0.6**
	baz=341							
NMLH	**Miaoli**	**1.04**	**285**	*e*P		**Pn**	**22 50 51.5**	**+1.0**
	baz=292							
NMLH				*e*S		**Sn**	**22 51 05.7**	**+0.9**
	baz=292							
NSY	**Sanyi**	**1.04**	**278**	*e*P		**Pn**	**22 50 51.4**	**+0.8**
	baz=280							
NSY				*e*S		**Sn**	**22 51 05.1**	**+0.2**
	baz=280							
EYUL	**Yuli**	**1.05**	**210**	P		**Pb**	**22 50 50.6**	**+0.1**
	baz=208							
EYUL				*e*S		**Sn**	**22 51 05.9**	**+0.9**
	baz=208							
TWF1	**Yuli**	**1.06**	**211**	*e*P		**Pn**	**22 50 52.0**	**+1.2**
	baz=209							
TWF1				*e*S		**Sn**	**22 51 06.0**	**+0.8**
	baz=209							
WHYT	**Xinyi Township**	**1.11**	**239**	*e*P		**Pb**	**22 50 51.4**	**0.0**
	baz=246							
WHYT				*e*S		**Sn**	**22 51 06.6**	**+0.2**
	baz=246							
TCU	**Taichung**	**1.12**	**264**	*e*P		**Pg**	**22 50 52.8**	**+0.6**
	baz=265							
TCU				*e*S		**Sn**	**22 51 08.6**	**+1.9**
	baz=265							
WDJ	**Dajia District**	**1.15**	**274**	P		**Pg**	**22 50 53.0**	**+0.2**
	baz=276							
WDJ				*e*S		**Sn**	**22 51 09.1**	**+1.7**
	baz=276							
WJS	**Zhushan**	**1.15**	**248**	P		**Pg**	**22 50 52.8**	**-0.1**
	baz=245							
WJS				*e*S		**Sn**	**22 51 09.4**	**+1.8**
	baz=245							
YUS	**Yu-Shan**	**1.16**	**228**	*e*P		**Pb**	**22 50 51.8**	**-0.7**
	baz=227							
YUS				*e*S		**Sb**	**22 51 07.7**	**+0.2**
	baz=227							
WNT1	**Nantou City**	**1.17**	**252**	*e*P		**Pg**	**22 50 52.6**	**-0.5**
	baz=250							
WNT1				*e*S		**Sn**	**22 51 08.1**	**+0.3**
	baz=250							
WNT	**Mingjian**	**1.17**	**251**	P		**Pg**	**22 50 53.3**	**+0.1**
	baz=241							
WNT				*e*S		**Sg**	**22 51 08.1**	**-0.4**
	baz=241							
FULB	**Fuli**	**1.20**	**208**	*e*P		**Pn**	**22 50 52.5**	**-0.2**
	baz=223							
FULB				*e*S		**Sg**	**22 51 09.7**	**+0.3**
	baz=223							
WCHH	**Zhanghua**	**1.23**	**262**	*e*P		**Pg**	**22 50 54.2**	**-0.2**
	baz=262							
WCHH				*e*S		**Sg**	**22 51 11.9**	**+1.4**
	baz=262							
WYL	**Yuanlin Townsh**	**1.24**	**256**	*e*P		**Pg**	**22 50 54.0**	**-0.5**
	baz=257							
WYL				*e*S		**Sg**	**22 51 10.5**	**-0.1**
	baz=257							
ALS	**Alishan**	**1.25**	**233**	*e*P		**Pn**	**22 50 53.5**	**-0.1**
	baz=234							
ALS				*e*S		**Sn**	**22 51 10.7**	**+0.4**
	baz=234							
CHKT	**Chengkung**	**1.26**	**203**	*e*P		**Pn**	**22 50 53.2**	**-0.3**
	baz=216							
CHKT				*e*S		**Sb**	**22 51 09.8**	**0.0**
	baz=216							
CHN5	**Tsauling**	**1.30**	**239**	*e*P		**Pb**	**22 50 54.7**	**+0.1**
	baz=240							
CHN5				*e*S		**Sn**	**22 51 11.9**	**+0.7**
	baz=240							
ECS	**Chishang**	**1.32**	**208**	P		**Pg**	**22 50 55.6**	**-0.4**
	baz=207							
ECS				*e*S		**Sg**	**22 51 13.4**	**+0.1**
	baz=207							
ELDTW	**Lidau**	**1.34**	**217**	*e*P		**Pn**	**22 50 53.3**	**-1.4**
	baz=204							
ELDTW				*e*S		**Sb**	**22 51 12.8**	**+0.5**

	baz=204								
WDLH	**Douliu**	**1.37**	**245**	*eP*		**Pg**	**22 50 56.3**	**-0.6**
	baz=246								
WDLH				*eS*		**Sg**	**22 51 14.5**	**-0.3**
	baz=246								
PCYT	**Pengchaiyu**	**1.37**	**7**	*eP*		**Pg**	**22 50 56.2**	**-0.8**
	baz=6.0								
EDH	**Donghe**	**1.40**	**203**	*eP*		**Pn**	**22 50 56.0**	**+0.6**
	baz=188								
EDH				*eS*		**Sn**	**22 51 12.0**	**-1.4**
	baz=188								
WRL	**Guolierlin Hig**	**1.43**	**256**	P		**Pb**	**22 50 56.6**	**-0.3**
	baz=256								
WRL				*eS*		**Sb**	**22 51 15.2**	**+0.2**
	baz=256								
WTK	**Tuku**	**1.49**	**248**	P		**Pb**	**22 50 58.0**	**+0.1**
	baz=247								
WTK				*eS*		**Sg**	**22 51 18.0**	**-0.7**
	baz=247								
STYH	**Taoyuan**	**1.50**	**223**	P		**Pn**	**22 50 57.5**	**+0.7**
	baz=223								
STYH				*eS*		**Sn**	**22 51 16.4**	**+0.4**
	baz=223								
TPUB	**Ta-pu**	**1.50**	**231**	P		**Pb**	**22 50 58.1**	**-0.1**
	baz=231								
TPUB				*eS*		**Sn**	**22 51 16.7**	**+0.5**
	baz=231								
LONT	**Longtian**	**1.52**	**208**	*eP*		**Pn**	**22 50 56.5**	**-0.7**
	baz=207								
LONT				*eS*		**Sn**	**22 51 15.8**	**-0.8**
	baz=207								
WTCT	**Ta-ch'eng**	**1.53**	**255**	*eP*		**Pn**	**22 50 57.2**	**0.0**
	baz=253								
CHY	**Chiayi**	**1.55**	**241**	*eP*		**Pb**	**22 50 59.3**	**+0.4**
	baz=227								
WTP	**Ta-pu**	**1.55**	**229**	P		**Pb**	**22 50 58.9**	**-0.1**
	baz=230								
WTP				*eS*		**Sb**	**22 51 18.4**	**+0.1**
	baz=230								
TWGBT	**Beinan**	**1.62**	**208**	*eP*		**Pn**	**22 50 56.7**	**-1.8**
	baz=208								
TWG	**Pinlang**	**1.62**	**208**	*eP*		**Pn**	**22 50 56.1**	**-2.4**
	baz=208								
TWK	**Hsinying**	**1.63**	**233**	P		**Pb**	**22 50 59.9**	**-0.3**
	baz=233								
TWK				*eS*		**Sb**	**22 51 21.2**	**+0.6**
	baz=233								
LDUT	**Ludao**	**1.63**	**194**	*eP*		**Pn**	**22 50 56.7**	**-1.9**
	baz=185								
SNST	**Tainan City**	**1.65**	**231**	*eP*		**Pn**	**22 50 58.9**	**0.0**
	baz=229								
CHN1	**Nanshi**	**1.65**	**230**	*eP*		**Pb**	**22 51 00.4**	**-0.2**
	baz=228								
IRIF	**Iriomote-Funau**	**1.68**	**87**	P		**Pb**	**22 51 00.7**	**-0.3**
IRIF				*eS*		**Sg**	**22 51 23.4**	**-1.2**
SLGT	**Liugui**	**1.71**	**222**	*eP*		**Pn**	**22 51 00.6**	**+0.9**
	baz=221								
ICHU	**Yijhu**	**1.73**	**239**	*eP*		**Pb**	**22 51 01.4**	**-0.6**
	baz=237								
CHN8	**Yiju**	**1.79**	**240**	*eP*		**Pn**	**22 51 01.8**	**+0.9**
	baz=238								
ECL	**Taimali**	**1.87**	**208**	*eP*		**Pn**	**22 51 00.7**	**-1.2**
	baz=199								
SCST	**Cishan**	**1.88**	**223**	*eP*		**Pb**	**22 51 03.5**	**-1.0**
	baz=222								
SSD	**Sandimen**	**1.91**	**218**	*eP*		**Pb**	**22 51 03.9**	**-1.0**
	baz=230								
SSD				*eS*		**Sb**	**22 51 28.9**	**+0.4**
	baz=230								
JKRS	**Kuro-shima**	**1.93**	**90**	P		**Pb**	**22 51 04.8**	**-0.6**
JKRS				S		**Sb**	**22 51 30.0**	**+0.8**
TSMG	**Majia**	**1.93**	**217**	*eP*		**Pn**	**22 51 04.2**	**+1.5**
	baz=215								
TSMG				*eS*		**Sb**	**22 51 28.8**	**-0.5**
	baz=215								
MASBT	**Mashibuluo**	**2.01**	**215**	*eP*		**Pn**	**22 51 04.6**	**+0.7**
	baz=214								
MASBT				*eS*		**Sn**	**22 51 30.7**	**+2.0**
	baz=214								
JIJ	**Ishigaki jima**	**2.05**	**87**	P		**Pb**	**22 51 05.9**	**-1.6**
JIJ				*eS*		**Sb**	**22 51 32.2**	**-0.6**
EAST	**Anshuo**	**2.11**	**207**	*eP*		**Pn**	**22 51 06.1**	**+0.9**
	baz=201								
TAW	**Tawu**	**2.11**	**206**	*eP*		**Pn**	**22 51 06.4**	**+1.2**
	baz=207								
SSPT	**Xinbi**	**2.15**	**215**	*eP*		**Pb**	**22 51 08.1**	**-1.1**
	baz=205								
SCZT	**Fangliau**	**2.22**	**212**	*eP*		**Pn**	**22 51 08.0**	**+1.2**
	baz=211								
SCZT				*eS*		**Sb**	**22 51 36.8**	**-0.7**
	baz=211								
JISG	**Ishigakijimahi**	**2.23**	**81**	P		**Pn**	**22 51 08.2**	**+1.4**
JISG				*eS*		**Sb**	**22 51 36.2**	**-1.5**
LAY	**Lan-yu**	**2.24**	**188**	*eP*		**Pn**	**22 51 06.1**	**-0.9**
	baz=193								
PNG	**Penghu**	**2.25**	**252**	*eP*		**Pn**	**22 51 06.8**	**-0.4**
	baz=249								
PHUB	**P'eng-hu**	**2.25**	**251**	*eP*		**Pn**	**22 51 06.8**	**-0.4**
	baz=248								
SLIU	**Shizi**	**2.27**	**207**	*eP*		**Pn**	**22 51 09.3**	**+1.8**
	baz=201								
WDGT	**Dungji**	**2.28**	**244**	*eP*		**Pn**	**22 51 07.8**	**+0.3**
	baz=241								
VWUC	**VWUC**	**2.34**	**288**	*eP*		**Pn**	**22 51 07.6**	**-0.7**
	baz=285								
VCHM	**Qimei**	**2.49**	**246**	*eP*		**Pn**	**22 51 10.5**	**+0.1**
	baz=228								
TWK1	**Hengchun**	**2.52**	**204**	*eP*		**Pn**	**22 51 11.7**	**+0.8**
	baz=198								
TWKBT	**Hengchun**	**2.52**	**204**	*eP*		**Pn**	**22 51 12.1**	**+1.3**
	baz=198								
MATB	**Ma-tsu**	**2.58**	**317**	*eP*		**Pn**	**22 51 11.2**	**-0.4**
	baz=312								
JTJ	**Tarama**	**2.59**	**81**	*eS*		**Sb**	**22 51 46.8**	**-1.3**
PTMZ	**Houxiangcun**	**2.64**	**288**	*eP*		**Pn**	**22 51 11.9**	**-0.6**
	baz=283								
XPSS	**Dashiqiu**	**3.07**	**330**	*eP*		**Pn**	**22 51 18.1**	**-0.3**
	baz=324								
KNM	**Kinmen**	**3.16**	**273**	*eP*		**Pn**	**22 51 20.6**	**+1.0**
	baz=269								
KNMB	**Chin-men Tao**	**3.20**	**274**	*eP*		**Pn**	**22 51 19.1**	**-1.1**
	baz=270								
AXDP	**Jialang**	**3.63**	**281**	*eP*		**Pn**	**22 51 27.5**	**+1.4**
	baz=276								
ZPLA	**Ao Xicun**	**3.80**	**266**	*eP*		**Pn**	**22 51 28.2**	**-0.2**
	baz=262								

*ANF **15** 22:57:13.9±0.6,36˚.45N×98˚.88W, h2$^{km}_{\pm 4}$km, ML4.0/11, Error ellipse: s-maj=3.7km s-min=2.1km az=84.0*
*TUL **15** 22:57:13.2±1.3,36˚.48N±0˚.04×98˚.94W±0˚.02, h6$^{km}_{\pm 7}$km, ML3.4, mb_Lg3.3/97(NEIC), Error ellipse: s-maj=6.3km s-min=2.3km az=166.0*
*NEIC **15** 22:57:14.6±1.7,36˚.51N±0˚.04×98˚.87W±0˚.04, h12$^{km}_{\pm 7}$km, Error ellipse: s-maj=6.5km s-min=4.9km az=154.0*

ISC 15 22:57:13.3±0.9,**36˚47N**±0˚02×**98˚94W**±0˚02,**h10**$^{km}_{\pm 2}$km, **n110**,σ1⇕**26**/100,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.11**	**210**	Pg	**Pg**	**22 57 16.3**	**+0.3**
U32A				Sg	**Sg**	**22 57 18.1**	**+0.1**
U32A	**Winter Ranch,**	**0.11**	**210**	P	**Pg**	**22 57 16.3**	**+0.3**
	baz=27,SNR=977						
OK032	**Salt Plains WL**	**0.67**	**60**	Pg	**Pg**	**22 57 25.7**	**-0.6**
OK032				Sg	**Sg**	**22 57 34.5**	**-0.6**
CROK	**Carrier**	**0.77**	**87**		**Pg**	**22 57 27.9**	**-0.2**
CROK				Sg	**Sg**	**22 57 38.5**	**+0.4**
KAN14	**Manchester OK**	**0.92**	**58**		**Pg**	**22 57 30.6**	**-0.4**
KAN14				Sg	**Sg**	**22 57 43.0**	**0.0**
GC02	**Grant County #**	**0.94**	**66**		**Pg**	**22 57 30.8**	**-0.6**
GC02				Sg	**Sg**	**22 57 43.7**	**-0.1**
KAN16	**Harper SW Stat**	**1.03**	**43**		**Pg**	**22 57 32.5**	**-0.5**
KAN05	**Bluff City Nor**	**1.06**	**53**	Pg	**Pg**	**22 57 33.2**	**-0.6**
KAN08	**Anthony NE Sta**	**1.08**	**46**		**Pg**	**22 57 33.6**	**-0.4**
KAN17	**Caldwell West**	**1.10**	**58**		**Pg**	**22 57 33.8**	**-0.6**
KAN12	**Harper NE Stat**	**1.11**	**42**		**Pg**	**22 57 34.1**	**-0.6**
KAN09	**Caldwell North**	**1.25**	**58**	Pn	**Pg**	**22 57 36.5**	**-0.7**
KAN13	**South Haven SW**	**1.29**	**65**		**Pn**	**22 57 37.2**	**-0.1**
KS20	**Mayfield South**	**1.34**	**55**	Pn	**Pn**	**22 57 38.0**	**-0.1**
KS20				lAmb_Lg		22 57 57.4	
	comp=Z,206nm,0.8s						
OK029	**Liberty Lake**	**1.38**	**119**		**Pn**	**22 57 38.4**	**-0.1**
BLOK	**Blackwell**	**1.41**	**78**		**Pn**	**22 57 39.2**	**+0.2**
BLOK				lAmb_Lg		22 57 59.5	
	comp=Z,206nm,0.9s						
OK009	**Oakdale Elemen**	**1.52**	**126**		**Pn**	**22 57 40.7**	**+0.3**
OK025	**Westminster Rd**	**1.57**	**124**		**Pn**	**22 57 42.0**	**+0.8**
OKCFA	**Oklahoma City**	**1.60**	**131**		**Pn**	**22 57 42.6**	**+1.0**
OKCFA	**Oklahoma City**	**1.60**	**131**	P	**Pn**	**22 57 42.6**	**+1.0**
	baz=312,SNR=13						
OKCFA				S	**Sb**	**22 58 04.1**	**+0.9**
	baz=312						
OK001	**Jones High Sch**	**1.61**	**124**	Pn	**Pn**	**22 57 42.5**	**+0.6**
OKCSW	**OKLAHOMA CITY**	**1.62**	**131**		**Pn**	**22 57 42.7**	**+0.8**
OK005	**Luther M Schoo**	**1.63**	**120**	Pn	**Pn**	**22 57 42.7**	**+0.6**
WMOK	**Wichita Mounta**	**1.74**	**176**		**Pn**	**22 57 44.0**	**+0.6**
WMOK	**Wichita Mounta**	**1.74**	**176**	P	**Pn**	**22 57 44.1**	**+0.6**
	baz=356,SNR=120						
WMOK				S	**Sb**	**22 58 08.4**	**+1.3**
	baz=356						
WMOK	**Wichita Mounta**	**1.74**	**176**	P	**Pn**	**22 57 44.1**	**+0.6**
	baz=356						
WMOK				S	**Sb**	**22 58 08.4**	**+1.3**
	baz=356						
FNO	**Franklin**	**1.74**	**134**		**Pb**	**22 57 45.0**	**-0.4**
FNO				lAmb_Lg		22 58 10.1	
	comp=Z,145nm,0.7s						
OK031	**S. Brethren Rd**	**1.77**	**106**		**Pn**	**22 57 45.0**	**+0.9**
QUOK	**Quay**	**1.82**	**99**		**Pn**	**22 57 45.4**	**+0.7**
R32A	**Long Quarter,**	**1.95**	**5**		**Pn**	**22 57 47.8**	**+1.2**
R32A	**Long Quarter,**	**1.95**	**5**	P	**Pb**	**22 57 48.5**	**-0.5**
	baz=185,SNR=10.0						
R32A				S	**Sb**	**22 58 14.1**	**+0.7**
	baz=185						
T35A	**Sooner Cattle**	**2.00**	**76**		**Pn**	**22 57 48.1**	**+1.0**
T35B	**Sooner Cattle**	**2.00**	**76**	P	**Pn**	**22 57 48.1**	**+1.0**
	baz=258,SNR=23						
T35B				S	**Sb**	**22 58 15.3**	**+0.6**
	baz=258						
X34A	**Smith Ranch, M**	**2.07**	**154**		**Pb**	**22 57 50.2**	**-0.8**
X34A				lAmb_Lg		22 58 20.2	
	comp=Z,144nm,0.7s						
CBKS	**Cedar Bluff**	**2.42**	**345**		**Pb**	**22 57 55.5**	**-1.5**
CBKS	**Cedar Bluff**	**2.42**	**345**	P	**Pb**	**22 57 56.2**	**-0.8**
	baz=165						
CBKS				S	**Sb**	**22 58 27.7**	**+0.8**
	baz=165						
CBKS	**Cedar Bluff**	**2.42**	**345**	P	**Pb**	**22 57 56.0**	**-1.0**
	baz=165						
CBKS				Sb	**Sb**	**22 58 27.9**	**+0.9**
	baz=165						
TUL1	**Leonard**	**2.60**	**102**	P	**Pn**	**22 57 56.2**	**+0.8**
	baz=284						
TUL1	**Leonard**	**2.60**	**102**	P	**Pn**	**22 57 56.3**	**+0.8**
	baz=284						
TUL1				Sb	**Sb**	**22 58 32.7**	**+0.6**
	baz=284						
AMTX	**Amarillo**	**2.74**	**235**		**Pn**	**22 57 58.8**	**+1.4**
LOOK	**Love County**	**2.86**	**149**		**Pn**	**22 58 00.6**	**+1.6**
KSU1	**Kansas State U**	**3.21**	**34**		**Pn**	**22 58 04.9**	**+1.2**
KSU1				lAmb_Lg		22 58 54.8	
	comp=Z,74nm,0.8s						
KSU1	**Kansas State U**	**3.21**	**34**	P	**Pn**	**22 58 05.4**	**+1.7**
	baz=216						
KSU1				S	**Sn**	**22 58 43.7**	**+1.7**
	baz=216						
KSU1	**Kansas State U**	**3.21**	**34**	P	**Pn**	**22 58 05.6**	**+1.9**
	baz=216						
KSU1				S	**Sn**	**22 58 43.7**	**+1.7**
	baz=216						
Z35A	**Perchaven, San**	**3.43**	**156**		**Pn**	**22 58 07.9**	**+1.2**
Z35A	**Perchaven, San**	**3.43**	**156**	P	**Pn**	**22 58 08.3**	**+1.6**
	baz=337						
Z35A				S	**Sn**	**22 58 49.9**	**+2.4**
	baz=337						
X37A	**Clayton**	**3.46**	**122**		**Pn**	**22 58 07.7**	**+0.5**
X37A	**Clayton**	**3.46**	**122**	P	**Pn**	**22 58 08.2**	**+1.0**
	baz=304,SNR=12						
U38A	**Gravette**	**3.67**	**89**		**Pn**	**22 58 11.5**	**+1.4**
U38A				lAmb_Lg		22 59 09.2	
	comp=Z,54nm,0.8s						
KSCO	**Kaye Shedlock'**	**3.87**	**312**		**Pn**	**22 58 15.0**	**+2.0**
KSCO				lAmb_Lg		22 59 25.6	
	comp=Z,72nm,0.8s						
KSCO	**Kaye Shedlock'**	**3.87**	**312**	Pb	**Pb**	**22 58 24.5**	**+2.8**
	baz=130						
ABTX	**Abilene, Hawle**	**3.88**	**189**		**Pn**	**22 58 14.0**	**+0.9**
MSTX	**Muleshoe**	**4.01**	**233**		**Pn**	**22 58 16.1**	**+1.1**
MSTX				lAmb_Lg		22 59 26.1	
	comp=Z,62nm,0.8s						
HHAR	**Hobbs**	**4.04**	**91**		**Pn**	**22 58 15.2**	**+0.1**
HHAR				lAmb_Lg		22 59 19.5	
	comp=Z,81nm,0.8s						
W39A	**Magazine**	**4.38**	**105**		**Pn**	**22 58 20.3**	**+0.5**
W39A				lAmb_Lg		22 59 39.6	
	comp=Z,94nm,0.8s						
T25A	**Trinidad**	**4.44**	**280**		**Pn**	**22 58 22.2**	**+1.3**
T25A				lAmb_Lg		22 59 41.0	
	comp=Z,89nm,0.9s						
T25A	**Trinidad**	**4.44**	**280**	P	**Pn**	**22 58 22.6**	**+1.6**
	baz=97						
T25A				Sb	**Sg**	**22 59 33.5**	**-2.5**
	baz=97						
Z38A	**Mt. Pleasant**	**4.56**	**133**	Pn	**Pn**	**22 58 22.2**	**-0.1**
Z38A				lAmb_Lg		22 59 43.3	
	comp=Z,89nm,0.8s						
WHTX	**Lake Whitney,**	**4.64**	**164**		**Pn**	**22 58 23.4**	**0.0**
WHTX	**Lake Whitney,**	**4.64**	**164**	P	**Pn**	**22 58 25.0**	**+1.7**
	baz=345						
WHTX				Sb	**Sg**	**22 59 37.0**	**-5.1**
	baz=345						
S39A	**Bolivar**	**4.65**	**73**	Pn	**Pn**	**22 58 23.6**	**+0.1**
S39A				lAmb_Lg		22 59 50.8	
	comp=Z,52nm,0.8s						
S39A	**Bolivar**	**4.65**	**73**	P	**Pn**	**22 58 24.1**	**+0.6**
	baz=257						
MIAR	**Mount Ida**	**4.78**	**112**	Pn	**Pn**	**22 58 25.9**	**+0.6**
MIAR				lAmb_Lg		22 59 55.5	
	comp=Z,79nm,0.8s						
MIAR	**Mount Ida**	**4.78**	**112**	P	**Pn**	**22 58 26.3**	**+1.0**
	baz=296,SNR=19						
MIAR	**Mount Ida**	**4.78**	**112**	S	**Sn**	**22 59 21.1**	**+0.4**
	baz=296						
U40A	**Yellville**	**4.91**	**90**	Pn	**Pn**	**22 58 27.1**	**0.0**
U40A				lAmb_Lg		22 59 54.8	
	comp=Z,61nm,0.8s						
U40A	**Yellville**	**4.91**	**90**	S	**Sn**	**22 59 23.1**	**-0.8**
	baz=273						
237A	**Washetta, Mont**	**5.16**	**149**	lAmb_Lg		23 00 08.7	
	comp=Z,54nm,0.9s						
P38A	**Dawn**	**5.30**	**52**	Pn	**Pn**	**22 58 32.5**	**0.0**
P38A				lAmb_Lg		23 00 05.9	
	comp=Z,63nm,0.8s						
X40A	**Basin Creek Fa**	**5.36**	**110**	Pn	**Pn**	**22 58 33.9**	**+0.6**
X40A				lAmb_Lg		23 00 13.9	
	comp=Z,52nm,0.7s						
MGMO	**Mountain Grove**	**5.39**	**81**		**Pn**	**22 58 32.7**	**-1.1**
SDCO	**Great Sand Dun**	**5.40**	**286**		**Pn**	**22 58 33.5**	**-0.7**
Q24A	**Divide**	**5.52**	**299**	Sb	**Sg**	**23 00 04.5**	**-5.9**
	baz=115						
WHAR	**Wooly Hollow**	**5.52**	**100**	Pn	**Pn**	**22 58 35.7**	**+0.1**
WLAR	**White Oak Lake**	**5.52**	**119**	lAmb_Lg		23 00 25.0	
	comp=Z,37nm,0.7s						
FCAR	**Ozark Folk Cen**	**5.54**	**94**		**Pn**	**22 58 36.0**	**+0.2**
FCAR				lAmb_Lg		23 00 12.5	
	comp=Z,72nm,0.7s						
R40A	**Maddies Stadio**	**5.61**	**69**		**Pn**	**22 58 36.3**	**-0.5**
R40A				lAmb_Lg		23 00 12.6	
	comp=Z,45nm,0.8s						
435B	**Jarrell**	**5.79**	**168**	lAmb_Lg		23 00 19.2	
	comp=Z,54nm,0.8s						
NATX	**Nacogdoches**	**5.89**	**142**	lAmb_Lg		23 00 24.0	
	comp=Z,34nm,0.9s						
JCT	**Junction City**	**6.02**	**187**	Pn	**Pn**	**22 58 42.6**	**+0.1**
N38A	**Joes South For**	**6.21**	**44**		**Pn**	**22 58 45.2**	**+0.3**
ISCO	**Idaho Springs**	**6.22**	**304**		**Pn**	**22 58 45.3**	**-0.1**
P40A	**Paris**	**6.24**	**59**		**Pn**	**22 58 45.2**	**-0.1**
LCAR	**Lake Charles**	**6.30**	**91**	lAmb_Lg		23 00 47.5	
	comp=Z,29nm,0.9s						
ANMO	**Albuquerque**	**6.31**	**258**	Pn	**Pn**	**22 58 46.6**	**+0.1**
CCM	**Cathedral Cave**	**6.33**	**73**	Pn	**Pn**	**22 58 46.6**	**-0.1**
CCM				lAmb_Lg		23 00 34.1	
	comp=Z,38nm,0.8s						
CCAR	**Cane Creek**	**6.39**	**111**	lAmb_Lg		23 00 48.7	
	comp=Z,60nm,0.9s						
PBMO	**Poplar Bluff**	**6.85**	**85**	lAmb_Lg		23 01 09.1	
	comp=Z,33nm,0.8s						
Y22D	**IRIS PASSCAL I**	**6.96**	**252**	lAmb_Lg		23 01 11.0	
	comp=Z,47nm,0.8s						
PHWY	**Pilot Hill**	**7.01**	**315**	lAmb_Lg		23 01 13.0	
	comp=Z,28nm,0.8s						
SCIA	**State Center**	**7.01**	**38**	lAmb_Lg		23 01 00.2	
	comp=Z,51nm,0.7s						
MNTX	**Cornudas Mount**	**7.16**	**230**		**Pn**	**22 58 59.2**	**+1.1**
MNTX				lAmb_Lg		23 01 04.1	
	comp=Z,30nm,0.8s						
SLM	**Saint Louis**	**7.24**	**70**	lAmb_Lg		23 01 01.1	
	comp=Z,33nm,0.8s						
S44A	**Carbondale**	**7.83**	**78**	lAmb_Lg		23 01 24.9	
	comp=Z,34nm,0.7s						
SIUC	**Southern Illin**	**7.87**	**78**	lAmb_Lg		23 01 20.3	
	comp=Z,31nm,0.9s						
SUSD	**Miller**	**7.96**	**360**	lAmb_Lg		23 01 30.7	
	comp=Z,38nm,0.8s						
OXF	**Oxford**	**8.01**	**101**	lAmb_Lg		23 01 38.0	
	comp=Z,25nm,0.9s						
PV11	**David Mesa, Pa**	**8.12**	**286**	lAmb_Lg		23 01 51.9	
	comp=Z,28nm,1.2s						
PV04	**Paradox Valley**	**8.16**	**287**	lAmb_Lg		23 01 54.2	
	comp=Z,26nm,1.1s						
PV21	**Cone Mtn., Par**	**8.24**	**288**	lAmb_Lg		23 01 43.1	
	comp=Z,40nm,1.2s						
PV23	**Carpenter Ridg**	**8.25**	**287**	lAmb_Lg		23 01 52.3	
	comp=Z,24nm,1.3s						
T45A	**Paducah**	**8.28**	**83**	lAmb_Lg		23 01 44.8	
	comp=Z,44nm,0.8s						
K22A	**Casper**	**8.51**	**319**	lAmb_Lg		23 01 58.4	
	comp=Z,33nm,1.0s						
I37A	**Lemond, Waseca**	**8.64**	**28**	lAmb_Lg		23 02 06.6	
	comp=Z,33nm,1.0s						
O44A	**Mansfield**	**9.01**	**63**	lAmb_Lg		23 02 13.2	
	comp=Z,34nm,0.8s						
JFWS	**Jewell Farm**	**9.28**	**43**	lAmb_Lg		23 02 21.9	
	comp=Z,32nm,0.8s						
T47A	**Sharon Grove**	**9.51**	**83**	lAmb_Lg		23 02 15.8	
	comp=Z,18nm,0.8s						
P46A	**Rosedale**	**9.77**	**68**	lAmb_Lg		23 02 41.8	
	comp=Z,33nm,0.9s						
M44A	**Midewin, Midew**	**9.80**	**57**	lAmb_Lg		23 02 30.5	
	comp=Z,31nm,0.9s						
SPMN	**Marine on St.**	**9.90**	**26**	lAmb_Lg		23 02 38.8	
	comp=Z,28nm,1.2s						

*IDC **15** 23:06:34.0±2.6, 1˚.53N×98˚.84E, h116$^{km}_{\pm 11}$km, mb3.5/7, mb1 3.7/8, mb1mx3.3/37, mbtmp3.9/8, Error ellipse: s-maj=56.8km s-min=18.1km az=64.0*
*NEIC **15** 23:06:36.1±1.2, 1˚.63N±0˚.06×98˚.94E±0˚.08, h117$^{km}_{\pm 5}$km, mb4.0/7, Error ellipse: s-maj=13.4km s-min=7.5km az=59.0*
*DJA **15** 23:06:36.8±0.8,2˚N±3˚×9˚9E±˚, h103$^{km}_{\pm 8}$km, M3.3/7, MLv3.3/7*

ISC 15 23:06:34.2±0.7,**1˚68N**±0˚05×**98˚95E**±0˚06,**h100**km,**n29**, σ2⇕**15**/33,**mb4.1**/**11**,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRSI	**Tarutung**	**0.34**	**1**	P	**Pn**	**23 06 52.4**	**+3.1**
RPSI	**Rantau Prapat**	**1.01**	**358**	Pn	**Pn**	**23 06 58.2**	**+3.4**
MNSI	**Mandailing Nat**	**1.08**	**144**	P	**Pn**	**23 06 58.7**	**+3.2**
MNSI				S	**Sn**	**23 07 15.8**	**+4.2**
PSI	**Prapat**	**1.11**	**358**	P	**Pn**	**23 06 57.8**	**+1.7**
	12nm,0.3s,baz=177,slow=8.2,SNR=12						
PSI				S	**Sn**	**23 07 15.3**	**+2.8**
	8.9nm,0.3s,baz=182,slow=21,SNR=12						
PSI	**Prapat**	**1.11**	**358**	P	**Pn**	**23 06 58.2**	**+2.1**
PSI				P		23 06 58.3	
PSI				S	**Sn**	**23 07 14.5**	**+1.9**
PSI				S		23 07 15.1	
GSI	**Gunungsitoli**	**1.43**	**255**	Pn	**Pn**	**23 07 02.4**	**+2.8**
GSI	**Gunungsitoli**	**1.43**	**255**	P	**Pn**	**23 07 02.4**	**+2.8**
GSI				S	**Sn**	**23 07 20.7**	**+1.8**
BKNI	**Bangkinang**	**2.48**	**123**	Pn	**Pn**	**23 07 15.6**	**+2.5**
BKNI	**Bangkinang**	**2.48**	**123**	P	**Pn**	**23 07 15.6**	**+2.5**
CM31	**Chiang Mai Arr**	**16.68**	**360**		**Pn**	**23 10 23.9**	**+1.9**
CM31				lAmb	lAmb	23 10 43.3	
	comp=Z,6.1nm,1.0s						
CMAR	**Chiang Mai Arr**	**16.68**	**360**	P	**Pn**	**23 10 22.1**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=189,slow=11,SNR=17						
CMAR	**Chiang Mai Arr**	**16.68**	**360**	P	**Pn**	**23 10 23.3**	**+1.4**
WRA	**Warramunga Arr**	**40.82**	**124**	P	**P**	**23 14 04.3**	**-2.0**
	comp=Z,3.3nm,0.7s,baz=300,slow=8.9,SNR=12						
WRAB	**Tennant Creek**	**40.82**	**124**	P	**P**	**23 14 04.7**	**-1.7**
WRAB				lAmb	lAmb	23 14 08.1	
	comp=Z,3.5nm,0.7s						
WB2	**Warramunga Arr**	**40.83**	**124**	P	**P**	**23 14 04.7**	**-1.7**
WB2				lAmb	lAmb	23 14 08.1	
	comp=Z,3.6nm,0.8s						
WR0	**Warramunga Arr**	**40.99**	**123**	P	**P**	**23 14 06.0**	**-1.7**
ASAR	**Alice Springs**	**42.30**	**129**	P	**P**	**23 14 16.3**	**-2.2**
	comp=Z,0.3nm,0.5s,baz=311,slow=7.0,SNR=2.2						
KSRS	**Korea Array**	**44.48**	**33**	P	**P**	**23 14 35.4**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=216,slow=8.5,SNR=5.4						
SONM	**Songino Array**	**46.43**	**7**	P	**P**	**23 14 50.1**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=195,slow=11,SNR=4.0						
MK31	**Makanchi Array**	**47.23**	**344**	P	**P**	**23 14 57.1**	**0.0**
MK31				lAmb	lAmb	23 14 57.3	
	comp=Z,1.5nm,1.1s						
MKAR	**Makanchi Array**	**47.23**

ETM				S	Sg	23 10 54.0	+0.5		
	baz=235								
ENTT	**Nioudou**	**0.51**	**318**	P	Pb	23 10 46.9	0.0		
	baz=320								
ENTT				S	Sb	23 10 54.3	+0.3		
	baz=320								
NDT	**Datong Townshi**	**0.52**	**311**	P	Pb	23 10 47.2	+0.2		
	baz=318								
NDT				S	Sg	23 10 54.4	+0.5		
	baz=318								
TWE	**Neicheng**	**0.52**	**331**	*i* P	Pb	23 10 47.7	+0.6		
	baz=342								
TWE				*i* S	Sb	23 10 55.2	+0.9		
	baz=342								
ILA	**Ilan**	**0.53**	**340**	P	Pn	23 10 48.5	-0.7		
	baz=351								
ILA				S	Sn	23 10 56.5	-1.2		
	baz=351								
NNSB	**Datong**	**0.54**	**288**	P	Pg	23 10 47.1	-0.1		
	baz=291								
NNSB				S	Sg	23 10 53.5	-1.0		
	baz=291								
NNS	**Nan Shan**	**0.55**	**289**	*i* P	Pg	23 10 47.1	-0.3		
	baz=292								
NNS				*i* S	Sg	23 10 53.9	-1.0		
	baz=292								
EGS		**0.58**	**359**	P	Pn	23 10 50.0	+0.2		
	baz=12								
EGS				*e*S	Sn	23 10 59.2	+0.3		
	baz=12								
NTC	**Toucheng**	**0.60**	**350**	*i* P	Pn	23 10 49.7	-0.3		
	baz=359								
NTC				S	Sn	23 10 58.3	-1.1		
	baz=359								
WHF	**Hehuan Shan**	**0.63**	**260**	P	Pg	23 10 48.6	-0.4		
	baz=256								
WHF				S	Sg	23 10 56.3	-1.3		
	baz=256								
FUSS	**Fushou**	**0.64**	**269**	P	Pg	23 10 48.8	-0.3		
	baz=267								
FUSS				S	Sg	23 10 56.4	-1.3		
	baz=267								
ESL	**Shilin**	**0.65**	**226**	P	Pg	23 10 49.1	-0.1		
	baz=224								
ESL				S	Sg	23 10 57.9	+0.1		
	baz=224								
NWLT	**Wulai**	**0.65**	**322**	P	Pb	23 10 49.5	+0.2		
	baz=326								
NWLT				S	Sg	23 10 58.1	0.0		
	baz=326								
TEGC	**Jichi Village**	**0.66**	**214**	P	Pg	23 10 50.1	+0.6		
	baz=206								
TEGC				*e*S	Sn	23 11 00.9	0.0		
	baz=206								
NSK	**Sanguang**	**0.68**	**308**	P	Pg	23 10 49.6	-0.1		
	baz=313								
NSK				S	Sg	23 10 58.0	-0.8		
	baz=313								
TWT	**Tachien**	**0.70**	**269**	P	Pb	23 10 50.3	0.0		
	baz=268								
TWT				S	Sb	23 10 58.7	-0.9		
	baz=268								
TIPB	**Shuangxi**	**0.71**	**351**	P	Pn	23 10 51.9	+0.2		
	baz=358								
TIPB				S	Sn	23 11 01.5	-0.8		
	baz=358								
TDCB	**Techi**	**0.72**	**269**	P	Pb	23 10 50.3	-0.2		
	baz=269								
TDCB				S	Sb	23 10 58.9	-1.2		
	baz=269								
CHGB	**Renai**	**0.73**	**254**	P	Pb	23 10 50.5	-0.3		
	baz=242								
CHGB				S	Sb	23 10 59.6	-1.0		
	baz=242								
TWB1	**Santiao Chiao**	**0.74**	**3**	P	Pn	23 10 52.7	+0.6		
	baz=2.0								
TWB1				S	Sn	23 11 02.9	0.0		
	baz=2.0								
EGFH	**Guangfu**	**0.76**	**219**	P	Pg	23 10 51.7	+0.5		
	baz=226								
EGFH				S	Sb	23 11 01.8	+0.8		
	baz=226								
OWD	**Renai**	**0.77**	**247**	P	Pb	23 10 51.0	-0.4		
	baz=243								
OWD				S	Sb	23 11 00.6	-0.8		
	baz=243								
TWA	**Mucha**	**0.79**	**335**	P	Pn	23 10 52.5	-0.2		
	baz=342								
TWA				S	Sn	23 11 03.0	-1.1		
	baz=342								
NHDH	**Xindian Distri**	**0.80**	**331**	P	Pn	23 10 52.7	-0.1		
	baz=337								
NHDH				S	Sg	23 11 03.0	+0.4		
	baz=337								
NWF	**Wu-fen Shan**	**0.82**	**350**	P	Pn	23 10 54.0	+0.8		
	baz=348								
NWF				S	Sn	23 11 05.0	+0.1		
	baz=348								
WFSB	**Wu-fen Shan**	**0.82**	**350**	P	Pn	23 10 54.0	+0.8		
	baz=348								
WFSB				S	Sn	23 11 05.1	+0.3		
	baz=348								
TATO	**Taipei**	**0.82**	**330**	P	Pn	23 10 52.9	-0.2		
	baz=335								
TATO				S	Sg	23 11 03.6	+0.2		
	baz=335								
NHY	**Taipei**	**0.85**	**336**	*e*S	Sn	23 11 04.8	-0.6		
	baz=325								
TAP	**Taipei**	**0.87**	**333**	P	Pn	23 10 53.7	-0.1		
	baz=323								
TAP				*e*S	Sn	23 11 05.4	-0.7		
	baz=323								
TNOU	**National Taiwa**	**0.90**	**350**	*e*P	Pb	23 10 52.9	-0.6		
	baz=350								
TNOU				*e*S	Sg	23 11 04.9	-0.9		
	baz=350								
HGSD	**Ruisui**	**0.90**	**212**	P	Pn	23 10 55.0	+0.8		
	baz=199								
HGSD				*e*S	Sb	23 11 05.5	+0.2		
	baz=199								
NJD	**Zhudong**	**0.91**	**301**	*e*P	Pn	23 10 55.5	+1.2		
	baz=308								
NJD				*e*S	Sg	23 11 06.5	+0.3		
	baz=308								
WHP	**Taichung City**	**0.91**	**271**	P	Pb	23 10 53.9	+0.2		
	baz=270								
WHP				S	Sb	23 11 05.2	-0.4		
	baz=270								
LIOB	**Emei**	**0.93**	**295**	*i* P	Pg	23 10 54.7	+0.2		
	baz=296								
LIOB				S	Sb	23 11 05.8	-0.3		
	baz=296								
JYNG	**Yonagunijimaku**	**0.93**	**78**	P	Pn	23 10 57.3	+2.7		
JYNG				*e*S	Sn	23 11 11.9	+4.3		
NSTT	**Nanjuang**	**0.94**	**293**	P	Pn	23 10 54.6	-0.1		
	baz=295								
NSTT				S	Sb	23 11 05.5	-0.7		
	baz=295								
WPL	**Puli Township**	**0.94**	**255**	P	Pb	23 10 53.9	-0.3		
	baz=245								
WPL				S	Sb	23 11 05.7	-0.5		
	baz=245								
NTY	**Taoyuan**	**0.94**	**321**	*e*P	Pn	23 10 55.9	+1.1		
	baz=331								
NTY				*e*S	Sn	23 11 08.8	+0.9		
	baz=331								
EHY	**Hungye**	**0.94**	**217**	P	Pn	23 10 54.9	+0.1		
	baz=213								
EHY				S	Sb	23 11 07.6	+1.1		
	baz=213								
YM01	**YM01**	**0.94**	**339**	P	Pn	23 10 56.1	+1.2		
	baz=328								
YM01				S	Sn	23 11 08.1	+0.2		
	baz=328								
DPDB	**Guoxing**	**0.96**	**256**	P	Pb	23 10 54.4	-0.1		
	baz=247								
DPDB				S	Sb	23 11 06.2	-0.7		
	baz=247								
TWS1	**Kuangyinshan**	**0.96**	**330**	P	Pg	23 10 55.2	0.0		
	baz=334								
TWS1				S	Sn	23 11 08.5	+0.2		
	baz=334								
WCS	**Beigang Elemen**	**0.96**	**258**	P	Pb	23 10 54.4	-0.2		
	baz=251								
WCS				S	Sb	23 11 06.2	-0.9		
	baz=251								
YM08	**YM08**	**0.98**	**341**	*e*P	Pg	23 10 55.0	-0.4		
	baz=330								
YM08				S	Sn	23 11 09.4	+0.7		
	baz=330								
NCU	**National Centr**	**0.99**	**316**	*e*P	Pb	23 10 54.5	-0.5		
	baz=318								
NCU				*e*S	Sn	23 11 09.9	+1.0		
	baz=318								
NCUH	**Zhongli**	**0.99**	**316**	P	Pg	23 10 55.9	+0.3		
	baz=318								
NCUH				*e*S	Sn	23 11 09.8	+0.9		
	baz=318								
HSN1	**Hsinchu**	**0.99**	**302**	*e*P	Pg	23 10 56.6	+1.0		
	baz=297								
HSN1				*e*S	Sn	23 11 10.6	+1.7		
	baz=297								
YOJ	**Yonaguni jima**	**0.99**	**78**	P	Pn	23 10 58.0	+2.5		
YOJ				S	Sn	23 11 12.8	+3.7		
YOJ	**Yonaguni jima**	**0.99**	**78**	P	Pn	23 10 57.9	+2.4		
	baz=79								
YOJ				S	Sn	23 11 13.4	+4.4		
	baz=79								
ANP	**Anpu**	**1.00**	**337**	P	Pg	23 10 56.1	+0.3		
	baz=328								
ANP				S	Sn	23 11 10.1	+0.8		
	baz=328								
NTST	**Danshui**	**1.00**	**334**	P	Pg	23 10 56.1	+0.2		
	baz=337								
NTST				*e*S	Sn	23 11 11.1	+1.8		
	baz=337								
SBCB	**Hsinchu**	**1.02**	**301**	*e*P	Pg	23 10 56.9	+0.7		
	baz=303								
SBCB				*e*S	Sn	23 11 11.3	+1.5		
	baz=303								
SSLB	**Suanglung**	**1.02**	**243**	P	Pb	23 10 55.0	-0.7		
	baz=239								
SSLB				*e*S	Sb	23 11 09.1	+0.3		
	baz=239								
SMLT	**Sun Moon Lake**	**1.03**	**249**	P	Pb	23 10 55.8	+0.1		
	baz=239								
SMLT				S	Sb	23 11 08.2	-0.8		
	baz=239								
ECBN	**Changbin**	**1.04**	**206**	P	Pg	23 10 57.1	+0.5		
	baz=187								
ECBN				*e*S	Sb	23 11 08.9	-0.4		
	baz=187								
YULB	**Yu-li**	**1.05**	**215**	*e*P	Pb	23 10 54.8	-1.3		
	baz=211								
YULB				*e*S	Sb	23 11 10.3	+0.8		
	baz=211								
TYC	**Yuchr**	**1.05**	**251**	P	Pb	23 10 56.0	-0.1		
	baz=239								
TWY	**Chenhua**	**1.06**	**343**	P	Pg	23 10 57.7	+0.8		
	baz=333								
TWY				*e*S	Sg	23 11 11.0	+0.1		
	baz=333								
TWQ1	**Liyutan**	**1.07**	**275**	*e*P	Pg	23 10 57.7	+0.5		
	baz=274								
TWQ1				*e*S	Sb	23 11 11.1	+0.9		
	baz=274								
TWF1	**Yuli**	**1.08**	**213**	P	Pn	23 10 56.7	-0.1		
	baz=211								
TWF1				*e*S	Sn	23 11 11.9	+0.6		
	baz=211								
NMLH	**Miaoli**	**1.09**	**285**	*e*P	Pg	23 10 58.0	+0.5		
	baz=285								
NMLH				*e*S	Sn	23 11 11.9	+0.5		
	baz=285								
NSY	**Sanyi**	**1.09**	**278**	*e*P	Pg	23 10 58.6	+1.1		
	baz=278								
NSY				*e*S	Sb	23 11 11.3	+0.6		
	baz=278								
WHYT	**Xinyi Township**	**1.15**	**241**	P	Pn	23 10 57.7	0.0		
	baz=237								
WWF	**Wufeng**	**1.16**	**259**	*e*P	Pg	23 10 59.2	+0.3		
	baz=255								
WWF				*e*S	Sg	23 11 15.8	+1.8		
	baz=255								
YUS	**Yu-Shan**	**1.19**	**230**	P	Pn	23 10 58.5	-0.2		
	baz=226								
YUS				*e*S	Sb	23 11 14.8	+0.8		
	baz=226								
WDJ	**Dajia District**	**1.19**	**274**	P	Pb	23 10 58.9	+0.4		
	baz=273								
WDJ				*e*S	Sn	23 11 15.1	+1.1		
	baz=273								
WJS	**Zhushan**	**1.20**	**249**	*i* P	Pn	23 10 58.1	-0.2		
	baz=244								
WJS				*e*S	Sg	23 11 15.7	+0.5		
	baz=244								
WNT	**Mingjian**	**1.21**	**252**	P	Pb	23 10 59.6	+0.8		
	baz=248								
WNT				*e*S	Sn	23 11 15.6	+1.0		
	baz=248								
FULB	**Fuli**	**1.21**	**210**	P	Pb	23 10 59.3	+0.4		
	baz=222								
CHKT	**Chengkung**	**1.27**	**205**	P	Pb	23 11 00.3	+0.4		
	baz=189								
CHKT				S	Sn	23 11 16.4	+0.4		
	baz=189								
ALS	**Alishan**	**1.28**	**235**	P	Pn	23 10 59.9	+0.2		
	baz=231								
ALS				*e*S	Sn	23 11 15.6	-1.1		
	baz=231								
CHN5	**Tsauling**	**1.33**	**241**	P	Pb	23 11 01.3	+0.3		
	baz=236								
ECS	**Chishang**	**1.34**	**210**	P	Pb	23 11 00.9	-0.1		
	baz=220								
ECS				S	Sn	23 11 18.0	+0.4		
	baz=220								
ELDTW	**Lidau**	**1.36**	**219**	P	Pn	23 11 00.9	+0.2		
	baz=206								
ELDTW				S	Sn	23 11 18.0	-0.4		
	baz=206								
PCYT	**Pengchaiyu**	**1.37**	**5**	P	Pg	23 11 02.4	-0.5		
	baz=7.0								
PCYT				S	Sg	23 11 20.1	-0.5		
	baz=7.0								
WDLH	**Douliu**	**1.41**	**246**	P	Pb	23 11 02.4	+0.2		
	baz=243								
WDLH				*e*S	Sb	23 11 21.0	+1.2		
	baz=243								
EDH	**Donghe**	**1.41**	**205**	*e*P	Pn	23 11 00.7	-0.5		
	baz=191								
EDH				*e*S	Sn	23 11 18.2	-1.2		
	baz=191								
WRL	**Guolierlin Hig**	**1.48**	**256**	P	Pn	23 11 03.0	+0.8		
	baz=253								
WRL				*e*S	Sn	23 11 21.3	+0.3		
	baz=253								
STYH	**Taoyuan**	**1.52**	**225**	P	Pb	23 11 04.3	+0.2		
	baz=222								
STYH				*e*S	Sn	23 11 22.0	-0.2		
	baz=222								
WTK	**Tuku**	**1.53**	**248**	*e*P	Pb	23 11 04.3	0.0		
	baz=245								
WTK				*e*S	Sb	23 11 24.0	+0.6		
	baz=245								
TPUB	**Ta-pu**	**1.54**	**232**	P	Pb	23 11 04.4	0.0		
	baz=229								
TPUB				*e*S	Sb	23 11 24.3	+0.7		
	baz=229								
STYT	**Tauyuan**	**1.54**	**225**	P	Pn	23 11 03.7	+0.6		
	baz=222								
STYT				*e*S	Sn	23 11 22.1	-0.6		
	baz=222								
WTP	**Ta-pu**	**1.58**	**231**	*e*P	Pb	23 11 05.4	+0.2		
	baz=226								
IRIF	**Iriomote-Funau**	**1.63**	**87**	P	Pg	23 11 06.5	-1.3		
IRIF				S	Sg	23 11 29.2	+0.1		
LDUT	**Ludao**	**1.64**	**196**	*e*P	Pn	23 11 03.6	-0.8		
	baz=187								
LDUT				*e*S	Sn	23 11 23.4	-1.7		
	baz=187								
TWG	**Pinlang**	**1.64**	**209**	*e*P	Pn	23 11 04.9	+0.4		
	baz=210								
TWG				*e*S	Sn	23 11 26.4	+1.2		
	baz=210								
TWGBT	**Beinan**	**1.64**	**209**	*e*P	Pn	23 11 04.2	-0.2		
	baz=210								
TWGBT				S	Sn	23 11 25.1	0.0		
	baz=210								
TWK	**Hsinying**	**1.66**	**234**	P	Pb	23 11 06.3	-0.3		
	baz=230								
TWK				*e*S	Sb	23 11 28.3	+1.1		
	baz=230								
CHN1	**Nanshi**	**1.68**	**231**	P	Pb	23 11 06.7	-0.2		
	baz=227								
CHN1				*e*S	Sb	23 11 28.9	+1.1		
	baz=227								
SNST	**Tainan City**	**1.68**	**232**	*e*P	Pb	23 11 07.2	+0.3		
	baz=229								
SNST				*e*S	Sb	23 11 28.9	+1.1		
	baz=229								
WSF	**Szhu**	**1.69**	**249**	*e*S	Sb	23 11 29.3	+1.2		
	baz=245								
HATJ	**Hateruma jima**	**1.71**	**96**	S	Sg	23 11 31.3	-0.4		
SGST	**Jiashian**	**1.71**	**227**	*e*P	Pn	23 11 05.8	+0.4		
	baz=213								
SGST				*e*S	Sn	23 11 26.6	-0.3		
	baz=213								
SLGT	**Liugui**	**1.73**	**224**	P	Pb	23 11 07.5	-0.2		
	baz=221								
SLGT				*e*S	Sn	23 11 28.5	+1.1		
	baz=221								
ICHU	**Yijhu**	**1.77**	**240**	P	Pb	23 11 07.6	-0.7		
	baz=222								
ICHU				*e*S	Sb	23 11 31.4	+1.1		
	baz=222								
JKRS	**Kuro-shima**	**1.89**	**90**	P	Pg	23 11 10.8	-1.9		
JKRS				*e*S	Sg	23 11 35.8	-1.4		
ECL	**Taimali**	**1.89**	**209**	*e*S	Sn	23 11 31.6	+0.4		
	baz=210								
SSD	**Sandimen**	**1.93**	**219**	*e*P	Pn	23 11 09.3	+0.9		
	baz=217								
SSD				*e*S	Sn	23 11 32.3	+0.1		
	baz=217								
TSMG	**Majia**	**1.96**	**218**	*e*P	Pb	23 11 11.3	-0.2		
	baz=216								
TSMG				*e*S	Sn	23 11 33.1	+0.3		
	baz=216								
JIJ	**Ishigaki jima**	**2.01**	**87**	P	Pb	23 11 11.9	-0.5		
JIJ				*e*S	Sg	23 11 37.3	-3.8		
MASBT	**Mashibuluo**	**2.04**	**217**	P	Pb	23 11 12.1	-0.8		
	baz=215								
MASBT				*e*S	Sb	23 11 37.2	-0.8		
	baz=215								
EAST	**Anshuo**	**2.12**	**209**	*e*P	Pn	23 11 11.5	+0.4		
	baz=201								
EAST				*e*S	Sn	23 11 37.4	+0.4		
	baz=201								
JISG	**Ishigakijimahi**	**2.18**	**81**	P	Pb	23 11 14.9	-0.5		
JISG				S	Sg	23 11 43.6	-3.1		
SCZT	**Fangliau**	**2.24**	**213**	P	Pn	23 11 14.2	+1.6		
	baz=214								
SCZT				*e*S	Sn	23 11 40.1	+0.3		
	baz=214								
LAY	**Lan-yu**	**2.24**	**189**	*e*P	Pn	23 11 12.2	-0.5		
	baz=184								
LAY				*e*S	Sn	23 11 39.4	-0.6		
	baz=184								
SLIU	**Shizi**	**2.29**	**208**	P	Pn	23 11 15.0	+1.6		
	baz=201								
SLIU				S	Sn	23 11 41.4	+0.2		
	baz=201								
PNG	**Penghu**	**2.29**	**253**	P	Pn	23 11 13.9	+0.6		
	baz=247								
PNG				*e*S	Sn	23 11 40.2	-0.9		
	baz=247								
PHUB	**P'eng-hu**	**2.29**	**252**	*e*P	Pn	23 11 12.8	-0.6		
	baz=246								
PHUB				*e*S	Sn	23 11 39.9	-1.3		
	baz=246								
WDGT	**Dungji**	**2.32**	**245**	P	Pn	23 11 14.0	+0.3		
	baz=239								
WDGT				*e*S	Sn	23 11 40.9	-0.9		
	baz=239								
VWUC	**VWUC**	**2.38**	**288**	*e*P	Pn	23 11 14.1	-0.6		
	baz=285								
VWUC				*e*S	Sn	23 11 42.0	-1.4		
	baz=285								
VCHM	**Qimei**	**2.53**	**246**	P	Pn	23 11 17.6	+0.9		
	baz=241								
VCHM				S	Sn	23 11 47.2	+0.2		
	baz=241								
TWK1	**Hengchun**	**2.53**	**205**	*e*P	Pb	23 11 19.2	-2.2		
	baz=197								
TWK1				S	Sn	23 11 48.0	+0.8		
	baz=197								
TWKBT	**Hengchun**	**2.53**	**204**	P	Pn	23 11 18.3	+1.6		
	baz=197								
TWKBT				S	Sn	23 11 47.9	+0.7		
	baz=197								
JTJ	**Tarama**	**2.54**	**81**	*e*S	Sb	23 11 52.4	-0.1		
MATB	**Ma-tsu**	**2.61**	**317**	*e*P	Pn	23 11 17.1	-0.6		
	baz=313								
MATB				*e*S	Sn	23 11 48.0	-1.1		
	baz=313								
MSUT	**Lienchiang**	**2.64**	**316**	P	Pn	23 11 18.9	+0.8		
	baz=313								
MSUT				*e*S	Sn	23 11 49.9	+0.2		
	baz=313								
LYJJ	**Jianjiangzhen**	**3.02**	**320**	*e*P	Pn	23 11 23.6	+0.3		
	baz=315								
LYJJ				*e*S	Sn	23 11 58.0	-1.0		
	baz=315								
KNM	**Kinmen**	**3.21**	**273**	*e*P	Pn	23 11 27.1	+1.2		
	baz=268								
KNM				*e*S	Sn	23 12 05.1	+1.4		
	baz=268								
AXDP	**Jialang**	**3.67**	**281**	P	Pn	23 11 34.0	+1.7		
	baz=276								
AXDP				*e*S	Sn	23 12 15.2	-0.1		
	baz=276								
ZPLA	**Ao Xicun**	**3.85**	**266**	*e*P	Pn	23 11 34.0	-0.7		
	baz=260								
ZPLA				*e*S	Sn	23 12 17.4	-2.2		
	baz=260								

JMA ***15*** *23:25:13.8, 24.20N×121.78E, h26km±1km, M2.5*
TAP ***15*** *23:25:13.8, 24.25N×121.83E, h19km, ML3.3, B*
ISC 15 23:25:12.4±0.9, 24.24N±0.02×121.94E±0.02, h15km±7km, n100, σ1s00/171, 3C-7D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.20**	**291**	P		**Pg**	**23 25 17.8**	**+0.9**
	baz=307							
EHP				S		Sg	23 25 20.9	+0.9
	baz=307							
EWUT	**Wuta**	**0.25**	**324**	⇓*i* P		Pb	23 25 19.0	+0.4
	baz=346							
EWUT				S		Sb	23 25 23.0	+0.1
	baz=346							
ENA	**Nanau**	**0.26**	**316**	⇓*i* P		Pb	23 25 18.8	0.0
	baz=337							
ENA				*i* S		Sb	23 25 22.6	-0.5
	baz=337							
ETL	**Fush Village**	**0.30**	**255**	P		Pb	23 25 19.1	-0.3
	baz=246							
ETL				*e*S		Sg	23 25 23.2	+0.2
	baz=246							
NACB	**Ninganchiao**	**0.32**	**258**	*i* P		Pb	23 25 19.2	-0.6
	baz=252							
NACB				*i* S		Sg	23 25 23.6	-0.1
	baz=252							
TWD	**Chiawan**	**0.35**	**243**	P		Pb	23 25 20.1	-0.2
	baz=236							
TWD				S		Sb	23 25 24.9	-0.8
	baz=236							
TWC	**Suao**	**0.38**	**347**	*i* P		Pn	23 25 21.6	-1.7
	baz=8.0							
TWC				*i* S		Sb	23 25 27.0	+0.6
	baz=8.0							
HWA	**Hwalien**	**0.40**	**230**	*e*P		Pb	23 25 22.1	+0.9
	baz=227							
HWA				*e*S		Sb	23 25 29.5	+2.3
	baz=227							
ETLH	**Xiulin Townshi**	**0.42**	**266**	*i* P		Pb	23 25 21.0	-0.6
	baz=263							
ETLH				S		Sg	23 25 25.9	-0.7
	baz=263							
NDS	**Dongshan**	**0.44**	**333**	*e*P		Pb	23 25 22.4	+0.5
	baz=344							
NDS				S		Sb	23 25 28.4	+0.1
	baz=344							
TEYL	**Yanliau Villag**	**0.48**	**220**	*e*P		Pb	23 25 22.8	+0.2
	baz=201							
TEYL				*e*S		Sb	23 25 30.9	+1.4
	baz=201							
ETM	**Tongmen**	**0.49**	**236**	*e*P		Pb	23 25 22.6	-0.2
	baz=228							
ETM				*e*S		Sb	23 25 29.5	-0.2
	baz=228							
ENTT	**Nioudou**	**0.53**	**320**	*i* P		Pb	23 25 23.5	+0.2
	baz=328							
ENTT				S		Sb	23 25 30.5	-0.3

baz=328
NDT Datong Townshi 0.53 313 *i* P **Pb** 23 25 23.5 **0.0**
NDT baz=320 S **Sb** 23 25 30.5 **-0.5**
baz=320
TWE Neicheng 0.54 333⇓ *i* P **Pb** 23 25 24.1 **+0.5**
TWE baz=343 S **Sb** 23 25 31.5 **+0.3**
baz=343
NNSB Datong 0.54 290⇓ *i* P **Pb** 23 25 23.4 **-0.3**
NNSB baz=293 *i* S **Sg** 23 25 29.7 **-0.7**
baz=293
ILA Ilan 0.55 342 *eP* **Pn** 23 25 25.0 **-0.7**
ILA baz=346 *eS* **Sb** 23 25 33.2 **+1.7**
baz=346
NNS Nan Shan 0.55 291⇓ *i* P **Pb** 23 25 23.5 **-0.4**
NNS baz=294 S **Sg** 23 25 30.2 **-0.6**
baz=294
EGS 0.60 359 P **Pn** 23 25 26.3 **-0.1**
EGS baz=14 *eS* **Sn** 23 25 35.7 **-0.2**
baz=14
NTC Toucheng 0.62 351 *eP* **Pn** 23 25 25.5 **-1.1**
NTC baz=359 *eS* **Sb** 23 25 34.3 **+0.8**
baz=359
WHF Hehuan Shan 0.62 261 P **Pb** 23 25 24.6 **-0.6**
WHF baz=259 *eS* **Sg** 23 25 32.1 **-1.0**
baz=259
ESL Shilin 0.63 228⇑ *i* P **Pb** 23 25 25.0 **-0.1**
ESL baz=225 *eS* **Sb** 23 25 33.8 **+0.1**
baz=225
FUSS Fushou 0.64 271⇓ *i* P **Pb** 23 25 25.0 **-0.3**
FUSS baz=270 S **Sg** 23 25 32.6 **-0.8**
baz=270
TEGC Jichi Village 0.64 215 P **Pb** 23 25 26.0 **+0.7**
TEGC baz=199 *eS* **Sb** 23 25 36.0 **+1.9**
baz=199
NWLT Wulai 0.67 323 *i* P **Pb** 23 25 26.1 **+0.3**
NWLT baz=325 S **Sb** 23 25 34.5 **-0.4**
baz=325
NSK Sanguang 0.69 309⇓ *i* P **Pb** 23 25 26.0 **-0.1**
NSK baz=314 S **Sb** 23 25 34.5 **-0.9**
baz=314
TWT Tachien 0.70 271 *eP* **Pb** 23 25 26.4 **0.0**
TWT baz=270 S **Sg** 23 25 34.9 **-0.4**
baz=270
TDCB Techi 0.71 271 P **Pb** 23 25 26.3 **-0.3**
TDCB baz=271 S **Sg** 23 25 34.7 **-1.1**
baz=271
CHGB Renai 0.72 256⇑ *i* P **Pb** 23 25 26.6 **-0.2**
CHGB baz=253 *eS* **Sg** 23 25 35.8 **-0.3**
baz=253
EGFH Guangfu 0.74 220 *eP* **Pb** 23 25 27.1 **+0.2**
EGFH baz=227 *eS* **Sb** 23 25 38.4 **+1.6**
baz=227
TIPB Shuangxi 0.74 352 *eP* **Pn** 23 25 28.2 **-0.1**
TIPB baz=359 *eS* **Sb** 23 25 37.8 **+0.9**
baz=359
OWD Renai 0.75 248⇑ *i* P **Pb** 23 25 27.0 **-0.2**
OWD baz=244 *eS* **Sg** 23 25 36.7 **-0.3**
baz=244
TWB1 Santiao Chiao 0.77 3 *eP* **Pn** 23 25 31.0 **+2.3**
TWB1 baz=3.0 *eS* **Sn** 23 25 39.5 **-0.5**
baz=3.0
TWA Mucha 0.81 336 *eP* **Pn** 23 25 29.1 **-0.1**
TWA baz=342 *eS* **Sb** 23 25 38.2 **-0.6**
baz=342
NHDH Xindian Distri 0.81 332 *eP* **Pb** 23 25 28.1 **-0.2**
NHDH baz=338 *eS* **Sb** 23 25 39.9 **+0.9**
baz=338
NWF Wu-fen Shan 0.84 350 P **Pn** 23 25 30.3 **+0.6**
NWF baz=349 *eS* **Sb** 23 25 40.4 **+0.5**
baz=349
TATO Taipei 0.84 331 P **Pb** 23 25 28.5 **-0.2**
TATO baz=336 *eS* **Sb** 23 25 40.6 **+0.8**
baz=336
WFSB Wu-fen Shan 0.84 350 P **Pn** 23 25 30.6 **+0.9**
WFSB baz=349 *eS* **Sn** 23 25 41.4 **-0.4**
baz=349
HGSD Ruisui 0.88 213 *eP* **Pn** 23 25 30.4 **+0.1**
HGSD baz=198 *eS* **Sb** 23 25 42.1 **+1.1**
baz=198
TAP Taipei 0.89 334 *eS* **Sn** 23 25 42.5 **-0.5**
baz=339
WHP Taichung City 0.91 273 *eP* **Pb** 23 25 30.2 **+0.3**
WHP baz=272 *eS* **Sg** 23 25 41.4 **-0.5**
baz=272
EHY Hungye 0.92 218 *eP* **Pg** 23 25 29.3 **-0.9**
baz=213
WPL Puli Township 0.93 256 *eP* **Pb** 23 25 30.2 **+0.1**
WPL baz=254 S **Sb** 23 25 42.3 **0.0**
baz=254
LIOB Emei 0.94 296 *eP* **Pn** 23 25 30.9 **-0.1**
LIOB baz=298 *eS* **Sg** 23 25 41.5 **-1.2**
baz=298
NSTT Nanjuang 0.94 295 *eP* **Pb** 23 25 30.5 **+0.1**
NSTT baz=296 *eS* **Sg** 23 25 41.9 **-1.0**
baz=296
WCS Beigang Elemen 0.96 259 P **Pb** 23 25 30.7 **+0.1**
WCS baz=258 *eS* **Sg** 23 25 42.9 **-0.6**
baz=258
YM01 YM01 0.96 340 *eP* **Pn** 23 25 31.6 **+0.2**
baz=343
TWS1 Kuangyinshan 0.98 331 *eP* **Pn** 23 25 32.0 **+0.3**
TWS1 baz=335 *eS* **Sn** 23 25 45.0 **-0.3**
baz=335
NCUH Zhongli 1.00 317 *eP* **Pn** 23 25 32.6 **+0.7**
NCUH baz=319 *eS* **Sn** 23 25 46.3 **+0.6**
baz=319
YOJ Yonaguni jima 1.00 77 P **Pn** 23 25 34.2 **+2.3**
YOJ S **Sn** 23 25 50.3 **+4.5**
YOJ Yonaguni jima 1.00 77 *eP* **Pn** 23 25 33.4 **+1.5**
baz=69
SSLB Suanglung 1.01 244 *eP* **Pb** 23 25 31.2 **-0.4**
baz=241
SSLB baz=241 *eS* **Sg** 23 25 44.0 **-1.1**
baz=241
SMLT Sun Moon Lake 1.01 250 *eP* **Pb** 23 25 31.6 **-0.1**
baz=247
SMLT baz=247 *eS* **Sg** 23 25 44.1 **-1.2**
baz=247
ANP Anpu 1.02 338 *eP* **Pn** 23 25 32.4 **+0.2**
baz=341
NTST Danshui 1.02 334 *eP* **Pn** 23 25 33.5 **+1.2**
baz=344
NTST baz=344 *eS* **Sn** 23 25 48.3 **+1.9**
baz=344
YULB Yu-li 1.03 215 *eP* **Pb** 23 25 30.6 **-1.6**
baz=212
YULB baz=212 *eS* **Sg** 23 25 44.4 **-1.3**
baz=212
TYC Yuchr 1.04 252 P **Pg** 23 25 31.6 **-0.9**
baz=243
TYC baz=243 *eS* **Sg** 23 25 45.3 **-0.9**
baz=243
EYUL Yuli 1.05 213 *eP* **Pn** 23 25 32.9 **+0.3**
baz=223
TWF1 Yuli 1.06 214 *eP* **Pn** 23 25 34.0 **+1.2**
baz=211
TWF1 baz=211 *eS* **Sn** 23 25 48.0 **+0.7**
TWQ1 Liyutan 1.07 276 *eP* **Pn** 23 25 33.9 **+1.0**
baz=276
TWQ1 baz=276 *eS* **Sb** 23 25 46.8 **+0.4**
baz=276
TWY Chenhua 1.08 343 *eP* **Pn** 23 25 34.9 **+1.9**
baz=347
TWY baz=347 *eS* **Sn** 23 25 49.8 **+2.2**
baz=347
NMLH Miaoli 1.09 286 *eP* **Pn** 23 25 34.0 **+0.9**
baz=286
NSY Sanyi 1.09 280 P **Pn** 23 25 34.4 **+1.2**
baz=280
NSY baz=280 *eS* **Sb** 23 25 48.2 **+1.2**
baz=280
WHYT Xinyi Township 1.13 242 P **Pb** 23 25 33.7 **0.0**
baz=245
WHYT baz=245 *eS* **Sb** 23 25 49.2 **+1.0**
baz=245
YUS Yu-Shan 1.17 231 P **Pb** 23 25 34.2 **-0.4**
baz=228
YUS baz=228 *eS* **Sg** 23 25 49.3 **-1.1**
baz=228
WJS Zhushan 1.18 250 *eP* **Pn** 23 25 35.4 **+1.0**
baz=245
WJS baz=245 *eS* **Sg** 23 25 49.5 **-1.2**
baz=245
WDJ Dajia District 1.19 275 *eP* **Pn** 23 25 35.0 **+0.5**
baz=275
WDJ baz=275 *eS* **Sn** 23 25 51.4 **+1.0**
baz=275
FULB Fuli 1.19 210 *eP* **Pn** 23 25 34.9 **+0.3**
baz=223
WNT Mingjian 1.20 253 *eP* **Pn** 23 25 35.4 **+0.7**
baz=240
WNT baz=240 *eS* **Sb** 23 25 50.9 **+0.6**
baz=240
CHKT Chengkung 1.25 205 *eP* **Pn** 23 25 36.1 **+0.7**
baz=190
ALS Alishan 1.27 235 P **Pn** 23 25 36.1 **+0.3**
baz=233
ALS baz=233 *eS* **Sb** 23 25 53.0 **+0.6**
baz=233
WCHH Zhanghua 1.27 263 *eP* **Pb** 23 25 36.9 **+0.9**
baz=261
CHN5 Tsauling 1.32 241 P **Pb** 23 25 37.2 **+0.3**
baz=239
CHN5 baz=239 *eS* **Sg** 23 25 53.8 **-1.3**
baz=239
ELDTW Lidau 1.34 219 *eP* **Pn** 23 25 36.9 **+0.1**
baz=207
EDH Donghe 1.39 205 *eP* **Pb** 23 25 37.6 **-0.4**
baz=190
EDH baz=190 *eS* **Sg** 23 25 54.5 **-2.7**
baz=190
WDLH Douliu 1.40 247 *eP* **Pg** 23 25 38.7 **-0.5**
baz=245
WDLH baz=245 *eS* **Sn** 23 25 57.8 **+2.3**
baz=245
WRL Guolierlin Hig 1.47 257 *eP* **Pb** 23 25 39.0 **-0.4**
baz=254
STYH Taoyuan 1.51 225 P **Pn** 23 25 38.7 **-0.2**
baz=224
LONT Longtian 1.52 209 *eP* **Pn** 23 25 39.0 **0.0**
baz=210
TPUB Ta-pu 1.52 232 *eP* **Pb** 23 25 39.9 **-0.5**
baz=231
TPUB baz=231 *eS* **Sg** 23 26 00.4 **-1.0**
baz=231
WTP Ta-pu 1.57 231 *eP* **Pb** 23 25 41.0 **-0.1**
baz=229
CHY Chiayi 1.57 242 *eP* **Pb** 23 25 41.1 **-0.1**
baz=228
TWGBT Beinan 1.62 209 *eP* **Pg** 23 25 42.0 **-1.5**
baz=211
TWK Hsinying 1.65 234 P **Pb** 23 25 42.4 **0.0**
baz=232
TWK baz=232 *eS* **Sb** 23 26 03.9 **+0.9**
baz=232
CHN1 Nanshi 1.67 231 *eP* **Pb** 23 25 42.9 **+0.1**
baz=229
SNST Tainan City 1.67 233 *eP* **Pb** 23 25 42.4 **-0.4**
baz=231
SGST Jiashian 1.70 227 *eP* **Pb** 23 25 42.4 **-0.9**
baz=216
SLGT Liugui 1.72 224 *eP* **Pb** 23 25 43.2 **-0.4**
baz=223
ICHU Yihu 1.75 240 *eP* **Pb** 23 25 43.5 **-0.7**
baz=238
JKRS Kuro-shima 1.89 90 P **Pg** 23 25 48.2 **-0.4**
JKRS *eS* **Sg** 23 26 12.4 **-0.8**
SSD Sandimen 1.91 219 *eP* **Pb** 23 25 45.7 **-1.2**
baz=220
TSMG Majia 1.94 218 *eP* **Pb** 23 25 46.6 **-0.8**
baz=219
TSMG baz=219 *eS* **Sb** 23 26 11.9 **+0.5**
baz=219
JIJ Ishigaki jima 2.01 86 P **Pg** 23 25 48.5 **-2.5**
JIJ *eS* **Sg** 23 26 14.4 **-2.8**
MASBT Mashibuluo 2.02 217 *eP* **Pb** 23 25 47.5 **-1.2**
baz=218
MASBT baz=218 *eS* **Sn** 23 26 13.0 **+2.2**
baz=218
JISG Ishigakijimahi 2.19 80 *eS* **Sb** 23 26 18.6 **0.0**
SCZT Fangliau 2.22 213 *eP* **Pb** 23 25 50.8 **-1.4**
baz=208
PNG Penghu 2.28 253 *eP* **Pn** 23 25 49.4 **-0.1**
baz=249
PHUB P'eng-hu 2.29 252 *eP* **Pn** 23 25 49.2 **-0.4**
baz=248
AXDP Jialang 3.67 281 *eP* **Pn** 23 26 10.2 **+1.6**
baz=275
ZPLA Ao Xicun 3.84 266 *eP* **Pn** 23 26 10.8 **-0.2**
baz=260

*IDC **15** 23:25:25.2±1.3, 32°.76S×178°.38W, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.9/27, mbtmp4.1/4, ML4.0/1, MS3.4/4, Ms1 3.4/4, ms1mx3.0/37, Error ellipse: s-maj=38.7km s-min=35.7km az=103.0*
*NEIC **15** 23:25:29.0±1.2, 33°.2S±0°.1×178°.6W±0°.2, h10km±1km, mb4.5/10, Error ellipse: s-maj=29.5km s-min=18.7km az=104.0*
ISC 15 23:25:31.8±0.8, **33°.01S**±0°.09×**178°.6W**±0°.2, **h32**km, **n32, σ1829/27, mb4.4/8, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.79**	**9**	Pn	**Pn**	**23 26 30.2**	**+2.2**
MXZ	**Matakaoa Point**	**5.21**	**209**	Pn	**Pn**	**23 26 49.2**	**+1.7**
URZ	**Urewera**	**6.31**	**213**	Pn	**Pn**	**23 27 03.3**	**+0.7**
	3.3nm,0.3s,baz=283,slow=3.7,SNR=13						
URZ				Sn	**Sn**	**23 28 14.9**	**+1.3**
	1.7nm,0.3s,baz=341,slow=15,SNR=1.3						
URZ	**Urewera**	**6.31**	**213**	Pn	**Pn**	**23 27 02.9**	**+0.2**
BKZ	**Black Stump Fm**	**7.33**	**212**	Pn	**Pn**	**23 27 17.0**	**+0.3**
MSVF	**Nonsavu**	**15.51**	**348**	LR	LR	23 33 03.0	
	comp=Z,86nm,20.3s,baz=150,slow=30						
NIUE	**Niue**	**15.88**	**31**	P	**P**	**23 29 17.6**	**+1.1**
DZM	**Mont Dzumac**	**17.17**	**306**	LR	LR	23 34 50.7	
	comp=Z,172nm,21.0s,baz=258,slow=33						
EIDS	**Eidsvold**	**27.50**	**278**	P	**P**	**23 31 16.8**	**+1.3**
EIDS				IAmb	IAmb	23 31 24.6	
	comp=Z,7.7nm,1.1s						
STKA	**Stephens Creek**	**33.51**	**261**	LR	LR	23 44 59.1	
	comp=Z,62nm,18.2s,baz=184,slow=35						
CTAO	**Charters Tower**	**33.84**	**283**	P	**P**	**23 32 12.6**	**+1.1**
ASAR	**Alice Springs**	**42.56**	**270**	P	**P**	**23 33 24.2**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=105,slow=7.7,SNR=16						
ASAR	**Alice Springs**	**42.56**	**270**	P	**P**	**23 33 23.6**	**-1.3**
WR0	**Warramunga Arr**	**43.61**	**275**	P	**P**	**23 33 32.5**	**-0.9**
WR0				IAmb	IAmb	23 33 33.5	
	comp=Z,4.5nm,0.8s						
WB2	**Warramunga Arr**	**43.77**	**275**	P	**P**	**23 33 33.7**	**-1.0**
WB2				IAmb	IAmb	23 33 34.7	
	comp=Z,7.0nm,0.6s						
WRAB	**Tennant Creek**	**43.78**	**275**	P	**P**	**23 33 33.3**	**-1.4**
WRAB				IAmb	IAmb	23 33 34.7	
	comp=Z,7.4nm,0.7s						
WRA	**Warramunga Arr**	**43.78**	**275**	P	**P**	**23 33 33.8**	**-1.0**
	comp=Z,5.1nm,0.5s,baz=121,slow=7.8,SNR=22						
WRA	**Warramunga Arr**	**43.78**	**275**	P	**P**	**23 33 33.3**	**-1.4**
FITZ	**Fitzroy Crossi**	**51.93**	**272**	P	**P**	**23 34 37.0**	**-0.8**
FITZ				IAmb	IAmb	23 34 37.7	
	comp=Z,8.7nm,1.4s						
CASY	**Casey**	**52.62**	**209**	P	**P**	**23 34 43.0**	**+0.7**
QSPA	**South Pole Qui**	**57.11**	**180**	P	**P**	**23 35 15.2**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=343,slow=1.6,SNR=1.7						
QSPA	**South Pole Qui**	**57.11**	**180**	P	**P**	**23 35 14.7**	**-0.3**
QSPA				IAmb	IAmb	23 35 27.8	
	comp=Z,5.5nm,1.1s						
RPN	**Rapa Nui**	**59.24**	**104**	LR	LR	00 00 28.9	
	comp=Z,37nm,18.1s,baz=40,slow=36						
MKAR	**Makanchi Array**	**119.06**	**309**	PKP	**PKPdf**	**23 44 15.0**	**-2.0**
	comp=Z,0.4nm,0.7s,baz=134,slow=1.6,SNR=2.8						
MKAR	**Makanchi Array**	**119.06**	**309**		**PKPdf**	**23 44 15.2**	**-1.8**
ARCES	**ARCESS Array B**	**141.02**	**347**	PKhKP	PKPpre	23 44 49.3	
	comp=Z,1.0nm,0.9s,baz=49,slow=4.1,SNR=1.8						
ARCES	**ARCESS Array B**	**141.02**	**347**		PKPpre	23 44 51.2	
FINES	**FINESS Array B**	**147.40**	**338**	PKPbc	**PKPdf**	**23 45 09.4**	**+0.3**
	comp=Z,5.7nm,0.9s,baz=48,slow=3.8,SNR=18						
FINES	**FINESS Array B**	**147.40**	**338**		**PKPdf**	**23 45 08.9**	**-0.2**
AKASG	**Malin Array Be**	**153.02**	**319**	PKPbc	**PKPbc**	**23 45 23.8**	**-1.8**
	comp=Z,0.7nm,0.4s,baz=66,slow=1.9,SNR=4.2						
AKASG	**Malin Array Be**	**153.02**	**319**		**PKPbc**	**23 45 24.0**	**-1.5**
BRTR	**Keskin Array B**	**153.31**	**294**	PKPbc	**PKPbc**	**23 45 25.0**	**-1.8**
	comp=Z,0.8nm,0.5s,baz=100,slow=1.9,SNR=8.8						

IDC 15 23:26:19.2±2.3, **6°.08S**×**130°.40E, h0**km, **mb4.0**/1, **mb1 3.7**/3, **mb1mx3.4**/30, **mbtmp3.6**/3, **ML3.4/2, Error ellipse: s-maj=147.8km s-min=30.4km az=70.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.30**	**165**	Pn	Pn	23 29 43.2	0.0
	0.2nm,0.3s,baz=348,slow=13,SNR=9.2						
WRA				Sn	Sn	23 32 09.8	-13
	0.5nm,0.3s,baz=332,slow=22,SNR=9.6						
ASAR	**Alice Springs**	**17.81**	**169**	P	Pn	23 30 28.7	0.0
	0.2nm,0.3s,baz=356,slow=12,SNR=6.8						
MKAR	**Makanchi Array**	**67.68**	**326**	P	P	23 37 18.4	0.0
	0.7nm,0.4s,baz=120,slow=7.3,SNR=17						

*TUL **15** 23:37:23±1.4, 35°.95N×0°.02×96°.78W±0°.03, h4km±2km, ML2.5, mb_Lg2.2/9(NEIC), Error ellipse: s-maj=3.9km s-min=1.4km az=120.0*
NEIC 15 23:37:23.4±0.7, **35°.96N**±0°.02×**96°.79W**±0°.03, **h3**km±2km, **Error ellipse: s-maj=3.4km s-min=1.6km az=120.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK031	**S. Brethren Rd**	**0.04**	**255**	Pg	Pg	23 37 24.5	+0.2
OK031				Sg	Sg	23 37 25.5	+0.5
QUOK	**Quay**	**0.22**	**18**		Pg	23 37 27.9	+0.2
QUOK				Sg	Sg	23 37 31.3	+0.8
OK029	**Liberty Lake**	**0.56**	**253**	Pg	Pg	23 37 34.2	0.0
OK029				Sg	Sg	23 37 42.2	+0.7
OK025	**Westminster Rd**	**0.59**	**230**	Pg	Pg	23 37 34.3	-0.4
OK025				Sg	Sg	23 37 42.7	+0.5
FNO	**Franklin**	**0.86**	**215**	Pg	Pg	23 37 39.6	-0.3
BLOK	**Blackwell**	**0.87**	**337**	Pg	Pg	23 37 39.6	-0.4
BLOK				Sg	Sg	23 37 51.3	0.0
T35A	**Sooner Cattle**	**0.98**	**13**		Pg	23 37 41.6	-0.5
T35A				Sg	Sg	23 37 55.0	+0.2
CROK	**Carrier**	**1.10**	**300**	Pg	Pg	23 37 43.9	-0.7
KAN13	**South Haven SW**	**1.19**	**332**	Pg	Pg	23 37 46.1	0.0
KAN13				Sg	Sg	23 38 01.5	0.0
GC02	**Grant County #**	**1.24**	**316**	Pg	Pg	23 37 46.4	-0.7
X34A	**Smith Ranch, M**	**1.60**	**212**		Pn	23 37 52.5	-0.1
X37A	**Clayton**	**1.80**	**139**	IAmb_Lg		23 38 22.5	
	comp=Z,12nm,0.8s						
LOOK	**Love County**	**1.99**	**189**	Pn	Pn	23 37 58.0	0.0
U38A	**Gravette**	**2.00**	**76**	Pn	Pn	23 37 58.3	+0.1
MIAR	**Mount Ida**	**2.99**	**117**	Pn	Pn	23 38 11.6	-0.1
U40A	**Yellville**	**3.21**	**82**	Pn	Pn	23 38 13.3	-1.5
X40A	**Basin Creek Fa**	**3.56**	**113**	IAmb_Lg		23 39 25.5	
	comp=Z,4.4nm,1.0s						
WHAR	**Wooly Hollow**	**3.73**	**99**	Pn	Pn	23 38 21.8	-0.1
FCAR	**Ozark Folk Cen**	**3.79**	**90**	Pn	Pn	23 38 22.7	0.0
FCAR				IAmb_Lg		23 39 27.1	
	comp=Z,6.7nm,0.8s						
LCAR	**Lake Charles**	**4.57**	**87**	IAmb_Lg		23 39 49.7	
	comp=Z,3.6nm,0.8s						
PBMO	**Poplar Bluff**	**5.20**	**79**	IAmb_Lg		23 40 16.5	
	comp=Z,5.3nm,0.7s						

*UPA **15** 23:37:39.1±0.4, 7°.89N×78°.29W, h15km±4km, MW4.0*
*RSNC **15** 23:37:40.0±1.1, 7°.89N×78°.27W, h26km±8km, ML2.7, Mw3.0*
ISC 15 23:37:38.8±1.4, **7°.92N**±0°.04×**78°.25W**±0°.03, **h21**km±5km, **n17, σ0965/34, 4C-1D, Panama**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPD2	**Meteti**	**0.67**	**21**	*eP*	**Pn**	**23 37 52.6**	**-0.4**
UPD2				*eS*	**Sn**	**23 38 03.2**	**+0.4**
UPD2	**Meteti**	**0.67**	**21**⇓	*eP*	**Pn**	**23 37 52.6**	**-0.4**
UPD2				*eS*	**Sn**	**23 38 02.8**	**0.0**
UPD2				*i*		23 38 04.3	
	comp=Z,288nm,0.1s						
PTAC	**Punta Ardita,**	**0.89**	**150**	*eP*	**Pb**	**23 37 55.6**	**0.0**
PTAC				*eS*	**Sb**	**23 38 07.5**	**+0.6**
PTAC	**Punta Ardita,**	**0.89**	**150**⇑	*eP*	**Pb**	**23 37 55.5**	**0.0**
PTAC				*eS*	**Sb**	**23 38 07.9**	**+1.0**
PTAC				*i*		23 38 09.1	
	comp=Z,279nm,0.1s						
CAPC	**Capurgana**	**1.14**	**51**⇑	*eP*	**Pb**	**23 38 00.1**	**+0.3**
CAPC				*eS*	**Sn**	**23 38 15.5**	**+0.9**
CAPC				*i*		23 38 16.8	
	comp=Z,191nm,0.3s						
CAP2	**Capurgana**	**1.14**	**51**	*eP*	**Pb**	**23 38 00.2**	**+0.4**
CAP2				*eS*	**Sn**	**23 38 15.4**	**+0.8**
CHPO	**Chepo, Panama**	**1.50**	**326**	*eP*	**Pn**	**23 38 04.3**	**-0.2**
CHPO				*eS*	**Sb**	**23 38 24.0**	**-0.7**
TABO3	**Taboga, Panama**	**1.55**	**304**	*eP*	**Pn**	**23 38 05.1**	**-0.1**
TABO3				*eS*	**Sb**	**23 38 25.5**	**-0.6**
UPA	**Univ. de Panam**	**1.65**	**310**	*eP*	**Pn**	**23 38 06.2**	**-0.3**
UPA				*eS*	**Sn**	**23 38 26.7**	**-0.3**
UPA	**Univ. de Panam**	**1.65**	**310**	*eP*	**Pn**	**23 38 06.0**	**-0.5**
UPA				*eS*	**Sn**	**23 38 26.2**	**-0.8**
ZANG	**Zanguenga, Cho**	**1.90**	**303**	*eP*	**Pn**	**23 38 10.5**	**+0.5**
ZANG				*eS*	**Sb**	**23 38 29.7**	**-0.3**
VTON	**El Valle, Cocl**	**1.96**	**291**	*eP*	**Pn**	**23 38 11.1**	**+0.2**
VTON				*eS*	**Sn**	**23 38 36.0**	**+1.1**
BCIP	**Isla Barro Col**	**2.00**	**308**	*eP*	**Pn**	**23 38 11.9**	**+0.6**
BCIP				*eS*	**Sn**	**23 38 36.7**	**+1.0**
BCIP	**Isla Barro Col**	**2.00**	**308**	*eP*	**Pn**	**23 38 11.7**	**+0.4**
BCIP				*i*		23 38 13.1	
	comp=Z,20nm,0.3s						
BCIP				*eS*	**Sn**	**23 38 36.4**	**+0.8**
AZU	**Azuero**	**2.00**	**266**⇑	*i* P	**Pn**	**23 38 11.5**	**+0.1**
AZU				*eS*	**Sn**	**23 38 36.0**	**+0.1**
AZU	**Azuero**	**2.00**	**266**⇑	*eP*	**Pn**	**23 38 11.6**	**+0.1**
AZU				*eS*	**Sn**	**23 38 35.0**	**-0.9**
AZU				*i*		23 38 44.3	
	comp=Z,42nm,0.4s						
DBBC	**Dabeiba**	**2.22**	**114**	*eP*	**Pb**	**23 38 17.1**	**-1.2**
DBBC				*eS*	**Sn**	**23 38 40.0**	**-1.2**
DBBC				*i*		23 38 56.6	
	comp=Z,61nm,0.6s						

*ANF **15** 23:45:32.9±0.5, 36°.48N×98°.96W, h6km±4km, ML4.2/13, Error ellipse: s-maj=3.8km s-min=2.3km az=85.0*
*TUL **15** 23:45:32.7±1.6, 36°.48N±0°.04×98°.92W±0°.05, h5km±2km, ML3.6, mb_Lg3.4/118(NEIC), Error ellipse: s-maj=7.9km s-min=6.1km az=322.0*
*NEIC **15** 23:45:33.3±1.0, 36°.50N±0°.05×98°.86W±0°.04, h5km±2km, Error ellipse: s-maj=7.8km s-min=5.9km az=355.0*
ISC 15 23:45:32.8±1.2, **36°.49N**±0°.03×**98°.89W**±0°.03, **h2**km±10km, **n143, σ0975/131, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.14**	**219**	Pg	**Pg**	**23 45 35.6**	**+0.1**
U32A				Sg	**Sg**	**23 45 37.8**	**+0.4**
U32A	**Winter Ranch,**	**0.14**	**219**	P	**Pg**	**23 45 35.6**	**+0.1**
	baz=32,SNR=1000						
OK032	**Salt Plains WL**	**0.63**	**60**	Pg	**Pg**	**23 45 45.2**	**+0.4**
OK032				Sg	**Sg**	**23 45 54.3**	**+1.3**
CROK	**Carrier**	**0.73**	**89**		**Pg**	**23 45 47.2**	**+0.4**

KAN14 **Manchester OK** 0.88 58 Pg Pg 23 45 49.9 +0.3
KAN10 **Anthony SW Sta** 0.90 45 IAmb_Lg 23 46 03.5
comp=Z,304nm,0.8s
GC02 **Grant County #** 0.90 66 Pg 23 45 50.2 +0.1
KAN16 **Harper SW Stat** 0.99 42 Pg 23 45 51.9 +0.2
KAN05 **Bluff City Nor** 1.02 53 Pg 23 45 52.6 +0.2
KAN08 **Anthony NE Sta** 1.04 45 Pg Pg 23 45 52.8 0.0
KAN17 **Caldwell West** 1.06 58 Pg 23 45 53.0 0.0
KAN12 **Harper NE Stat** 1.08 41 Pg 23 45 53.5 0.0
KAN09 **Caldwell North** 1.21 57 Pg Pg 23 45 55.6 -0.2
KAN13 **South Haven SW** 1.25 65 Pg Pg 23 45 56.7 0.0
KS20 **Mayfield South** 1.30 55 Pn 23 45 57.6 -0.4
KS20 IAmb_Lg 23 46 15.5
comp=Z,202nm,0.7s
OK029 **Liberty Lake** 1.35 120 Pn 23 45 57.9 -0.7
BLOK **Blackwell** 1.37 78 Pn 23 45 58.6 -0.3
BLOK IAmb_Lg 23 46 18.7
comp=Z,288nm,0.9s
OK009 **Oakdale Elemen** 1.50 127 Pn Pb 23 46 01.1 -0.2
OK025 **Westminster Rd** 1.55 125 Pn 23 46 01.4 +0.1
OKCFA **Oklahoma City** 1.58 132 Pn 23 46 01.9 +0.1
OKCFA **Oklahoma City** 1.58 132 P Pn 23 46 01.9 +0.1
baz=312,SNR=14
OKCFA S Sb 23 46 23.6 +0.3
baz=312
OKCSW **OKLAHOMA CITY** 1.60 132 Pn 23 46 02.3 +0.3
FNO **Franklin** 1.73 135 Pn Pn 23 46 04.3 +0.6
OK031 **S. Brethren Rd** 1.74 107 Pn 23 46 04.3 +0.3
WMOK **Wichita Mounta** 1.75 177 Pn Pn 23 46 04.4 +0.3
WMOK **Wichita Mounta** 1.75 177 P Pn 23 46 03.4 -0.7
baz=356,SNR=449
WMOK S Sb 23 46 28.0 0.0
baz=356
WMOK **Wichita Mounta** 1.75 177 P Pn 23 46 03.3 -0.8
baz=356
WMOK S Sb 23 46 27.7 -0.3
baz=356
QUOK **Quay** 1.79 100 Pn Pn 23 46 05.0 +0.3
R32A **Long Quarter,** 1.93 4 P Pn 23 46 07.2 +0.6
baz=185,SNR=29
R32A S Sb 23 46 33.3 0.0
baz=185
T35A **Sooner Cattle** 1.96 77 Pn 23 46 07.2 +0.2
T35B **Sooner Cattle** 1.96 77 P Pn 23 46 07.3 +0.4
baz=258,SNR=46
T35B S Sb 23 46 34.7 +0.8
baz=258
X34A **Smith Ranch, M** 2.07 155 Pn Pn 23 46 09.7 +1.1
X34A IAmb_Lg 23 46 39.9
comp=Z,236nm,1.0s
CBKS **Cedar Bluff** 2.42 344 Pn Pn 23 46 14.0 +0.7
CBKS **Cedar Bluff** 2.42 344 Sb Sb 23 46 47.1 0.0
baz=164
CBKS **Cedar Bluff** 2.42 344 P Pb 23 46 15.3 -1.6
baz=164
CBKS Sb Sb 23 46 47.3 +0.1
baz=164
TUL1 **Leonard** 2.57 102 P Pn 23 46 15.5 +0.1
baz=284,SNR=12
TUL1 S Sn 23 46 48.3 +1.1
baz=284
TUL1 **Leonard** 2.57 102 P Pn 23 46 15.5 +0.1
baz=284
TUL1 Sb Sb 23 46 52.0 +0.4
baz=284
AMTX **Amarillo** 2.78 236 IAmb_Lg 23 47 07.5
comp=Z,194nm,0.7s
AMTX **Amarillo** 2.78 236 Sb Sg 23 46 59.9 -2.2
baz=54
LOOK **Love County** 2.86 150 Pn Pn 23 46 20.7 +1.4
LOOK IAmb_Lg 23 47 08.1
comp=Z,84nm,0.8s
KSU1 **Kansas State U** 3.17 34 Pn Pn 23 46 24.3 +0.7
KSU1 **Kansas State U** 3.17 34 P Pn 23 46 24.6 +1.0
baz=216,SNR=13
KSU1 **Kansas State U** 3.17 34 P Pn 23 46 24.6 +1.0
baz=216
Z35A **Perchaven, San** 3.43 156 Pn Pn 23 46 27.5 +0.3
Z35A **Perchaven, San** 3.43 156 P Pn 23 46 27.6 +0.5
baz=337,SNR=16
X37A **Clayton** 3.44 122 Pn 23 46 27.7 +0.4
X37A **Clayton** 3.44 122 P Pn 23 46 27.5 +0.2
baz=304,SNR=24
U38A **Gravette** 3.63 89 Pn 23 46 30.7 +0.8
U38A IAmb_Lg 23 47 35.4
comp=Z,89nm,0.8s
KSCO **Kaye Shedlock'** 3.89 311 Pn Pn 23 46 33.2 -0.4
KSCO IAmb_Lg 23 47 44.8
comp=Z,101nm,0.9s
KSCO **Kaye Shedlock'** 3.89 311 Pb Pb 23 46 43.8 +1.7
baz=130
ABTX **Abilene, Hawle** 3.91 189 Pn Pn 23 46 34.1 +0.3
ABTX IAmb_Lg 23 47 46.1
comp=Z,65nm,0.8s
ABTX **Abilene, Hawle** 3.91 189 P Pn 23 46 33.7 -0.1
baz=8.6,SNR=11
ABTX **Abilene, Hawle** 3.91 189 P Pn 23 46 33.8 +0.1
baz=8.6
HHAR **Hobbs** 4.00 92 Pn 23 46 35.4 +0.3
HHAR IAmb_Lg 23 47 39.3
comp=Z,75nm,0.7s
MSTX **Muleshoe** 4.05 233 Pn Pn 23 46 36.4 +0.6
MSTX IAmb_Lg 23 47 42.6
comp=Z,99nm,1.0s
MSTX **Muleshoe** 4.05 233 Sb Sb 23 47 38.0 +3.6
baz=50
W39A **Magazine** 4.34 106 Pn 23 46 39.6 -0.1
W39A IAmb_Lg 23 47 58.9
comp=Z,119nm,0.8s
T25A **Trinidad** 4.48 280 Pn Pn 23 46 41.8 0.0
T25A IAmb_Lg 23 48 02.4
comp=Z,95nm,0.8s
T25A **Trinidad** 4.48 280 P Pn 23 46 42.0 +0.2
baz=97
Z38A **Mt. Pleasant** 4.55 134 Pn Pn 23 46 42.2 -0.3
Z38A IAmb_Lg 23 48 05.2
comp=Z,125nm,0.9s
Z38A **Mt. Pleasant** 4.55 134 P Pn 23 46 42.5 0.0
baz=316,SNR=6.2
S39A **Bolivar** 4.61 73 Pn Pn 23 46 43.3 0.0
S39A IAmb_Lg 23 48 10.1
comp=Z,69nm,0.8s
S39A **Bolivar** 4.61 73 P Pn 23 46 43.4 0.0
baz=257,SNR=15
WHTX **Lake Whitney,** 4.64 165 Pn Pn 23 46 43.5 -0.3
WHTX IAmb_Lg 23 48 00.8
comp=Z,50nm,0.8s
WHTX **Lake Whitney,** 4.64 165 P Pn 23 46 43.6 -0.3
baz=345
MIAR **Mount Ida** 4.75 113 Pn Pn 23 46 45.4 +0.1
MIAR IAmb_Lg 23 48 14.7
comp=Z,102nm,0.8s
MIAR **Mount Ida** 4.75 113 P Pn 23 46 45.4 +0.1
baz=296,SNR=34
MIAR **Mount Ida** 4.75 113 P Pn 23 46 45.5 +0.1
baz=296
MIAR S Sn 23 47 40.5 -0.4
baz=296
U40A **Yellville** 4.87 90 Pn 23 46 46.6 -0.4
U40A IAmb_Lg 23 48 14.1
comp=Z,82nm,0.8s
BGNE **Belgrade** 4.94 6 Pn Pn 23 46 48.0 -0.1
BGNE **Belgrade** 4.94 6 P Pn 23 46 47.9 -0.1
baz=187
BGNE S Sn 23 47 46.0 +0.2
baz=187
OGNE **Ogallala** 5.08 332 Pn Pn 23 46 50.2 +0.2
237A **Washetta, Mont** 5.15 149 Pn Pn 23 46 50.4 -0.5
237A IAmb_Lg 23 48 29.0
comp=Z,74nm,0.9s
P38A **Dawn** 5.26 52 Pn Pn 23 46 52.6 +0.3
P38A IAmb_Lg 23 48 25.2
comp=Z,95nm,0.8s
X40A **Basin Creek Fa** 5.33 110 IAmb_Lg 23 48 33.2
comp=Z,66nm,0.7s
MGMO **Mountain Grove** 5.35 81 Pn 23 46 54.0 +0.3
MGMO IAmb_Lg 23 48 27.5
comp=Z,48nm,0.7s
SDCO **Great Sand Dun** 5.43 285 Pn Pn 23 46 55.2 +0.2
SDCO IAmb_Lg 23 48 32.8
comp=Z,35nm,1.1s
WHAR **Wooly Hollow** 5.49 101 Pn Pn 23 46 55.2 -0.3
WLAR **White Oak Lake** 5.50 119 Pn Pn 23 46 55.5 -0.1
WLAR IAmb_Lg 23 48 42.0
comp=Z,43nm,0.9s
FCAR **Ozark Folk Cen** 5.50 94 Pn Pn 23 46 55.5 -0.2
FCAR IAmb_Lg 23 48 31.8
comp=Z,93nm,0.7s
W41B **Gary Mavity, V** 5.55 102 P Pn 23 46 56.4 +0.1
baz=286,SNR=10
R40A **Maddies Statio** 5.57 69 Pn 23 46 56.8 +0.2
R40A IAmb_Lg 23 48 32.2
comp=Z,58nm,0.8s
R40A **Maddies Statio** 5.57 69 P Pn 23 46 57.0 +0.4
baz=253,SNR=15
435B **Jarrell** 5.80 169 Pn Pn 23 46 59.3 -0.4
435B IAmb_Lg 23 48 45.8
comp=Z,70nm,0.8s
L34A **Svendsen Farm,** 5.81 19 Pn Pn 23 46 58.8 -1.1
JCT **Junction City** 6.04 188 Pn Pn 23 47 03.0 -0.1
K31A **O'Neill** 6.12 1 Pn Pn 23 47 03.9 -0.4
N38A **Joes South For** 6.17 44 Pn 23 47 05.0 +0.2
P40A **Paris** 6.20 59 Pn Pn 23 47 04.7 -0.5
ISCO **Idaho Springs** 6.24 304 Pn Pn 23 47 06.3 +0.1
LCAR **Lake Charles** 6.26 92 Pn Pn 23 47 07.0 +0.9
LCAR IAmb_Lg 23 49 06.8
comp=Z,44nm,0.9s
CCM **Cathedral Cave** 6.29 73 Pn Pn 23 47 06.7 +0.2
CCM IAmb_Lg 23 48 50.6
comp=Z,51nm,0.7s
CCAR **Cane Creek** 6.37 112 IAmb_Lg 23 49 07.1
comp=Z,73nm,0.8s
PBMO **Poplar Bluff** 6.81 85 IAmb_Lg 23 49 16.4
comp=Z,71nm,1.1s
Y22D **IRIS PASSCAL I** 7.00 252 IAmb_Lg 23 49 32.0
comp=Z,66nm,0.8s
PHWY **Pilot Hill** 7.02 315 IAmb_Lg 23 49 32.2
comp=Z,43nm,0.9s
GNAR **Gosnell** 7.19 92 IAmb_Lg 23 49 24.6
comp=Z,76nm,0.8s
MNTX **Cornudas Mount** 7.20 230 Pn 23 47 19.0 0.0
MNTX IAmb_Lg 23 49 30.3
comp=Z,47nm,0.9s
SLM **Saint Louis** 7.20 70 IAmb_Lg 23 49 30.0
comp=Z,37nm,0.7s
143A **Socs Landing,** 7.24 119 IAmb_Lg 23 49 40.3
comp=Z,50nm,0.8s
ECSD **EROS Data Cent** 7.44 13 Pn Pn 23 47 20.5 -1.8
ECSD IAmb_Lg 23 49 42.8
comp=Z,34nm,1.0s
HICK **Hickman** 7.78 87 Pn Pn 23 47 26.5 -0.4
S44A **Carbondale** 7.79 78 Pn Pn 23 47 26.5 -0.6
S44A IAmb_Lg 23 49 44.1
comp=Z,46nm,0.7s
SIUC **Southern Illin** 7.83 78 Pn Pn 23 47 26.1 -1.4
SIUC IAmb_Lg 23 49 38.7
comp=Z,45nm,0.9s
SUSD **Miller** 7.94 360 IAmb_Lg 23 49 49.9
comp=Z,44nm,0.8s
OXF **Oxford** 7.98 102 IAmb_Lg 23 49 54.9
comp=Z,28nm,0.9s
W45A **Hickory Valley** 7.99 97 IAmb_Lg 23 50 00.2
comp=Z,62nm,0.9s
Y45A **Yeager Farm, C** 8.09 106 IAmb_Lg 23 50 13.6
comp=Z,51nm,1.2s
L40A **Anamosa** 8.14 45 Pn Pn 23 47 30.4 -1.5
PV11 **David Mesa, Pa** 8.15 286 IAmb_Lg 23 50 11.1
comp=Z,29nm,1.1s
TX31 **Lajitas Ar. Si** 8.19 211 Pn Pn 23 47 31.9 -0.8
TX31 **Lajitas Ar. Si** 8.19 211 P Pn 23 47 31.7 -1.0
baz=28,SNR=20
TX32 **Lajitas Array** 8.19 211 Pn 23 47 31.5 -1.1
TXAR **Lajitas Array** 8.19 211 Pn Pn 23 47 31.8 -0.9
T45A **Paducah** 8.24 83 IAmb_Lg 23 50 18.8
comp=Z,46nm,0.7s
RWWY **Rawlins** 8.29 311 IAmb_Lg 23 50 01.9
comp=Z,36nm,1.1s
121A **Cookes Peak, D** 8.34 244 Pn Pn 23 47 34.8 +0.1
K22A **Casper** 8.52 319 Pn Pn 23 47 37.6 +0.3
K22A IAmb_Lg 23 50 23.3
comp=Z,40nm,0.9s
HDIL **Hopedale** 8.54 59 Pn Pn 23 47 36.8 -0.6
RSSD **Black Hills** 8.57 334 Pn Pn 23 47 38.4 +0.4
RSSD IAmb_Lg 23 50 16.9
comp=Z,30nm,0.9s
I37A **Lemond, Waseca** 8.61 27 IAmb_Lg 23 50 14.5
comp=Z,40nm,0.9s
PLAL **Pickwick Lake** 8.92 97 Pn Pn 23 47 42.6 0.0
WVT **Waverly** 8.94 89 Pn Pn 23 47 41.3 -1.5
O44A **Mansfield** 8.97 63 IAmb_Lg 23 50 27.1
comp=Z,46nm,0.7s
JFWS **Jewell Farm** 9.24 43 Pn Pn 23 47 46.6 -0.4
JFWS IAmb_Lg 23 50 41.1
comp=Z,52nm,0.7s
T47A **Sharon Grove** 9.47 83 IAmb_Lg 23 50 52.8
comp=Z,30nm,1.0s
F33A **5 Mile Ranch,** 9.54 11 Pn 23 47 52.1 +1.0
F33A IAmb_Lg 23 50 38.7
comp=Z,25nm,1.0s
I40A **Norwalk** 9.73 38 IAmb_Lg 23 50 55.4
comp=Z,20nm,0.7s
P46A **Rosedale** 9.73 68 Pn Pn 23 47 54.4 +0.7
M44A **Midewin, Midew** 9.76 57 Pn Pn 23 47 52.8 -1.3
V48A **Smith Brothers** 9.79 91 IAmb_Lg 23 51 02.7
comp=Z,21nm,1.1s
SPMN **Marine on St.** 9.86 26 IAmb_Lg 23 50 58.0
comp=Z,20nm,0.8s
X48A **Hartselle** 9.87 98 IAmb_Lg 23 50 45.0
comp=Z,27nm,1.3s
BLO **Bloomington** 10.14 71 Pn 23 47 59.2 -0.1
F36A **Milaca** 10.20 22 Pn Pn 23 47 59.5 -0.5
BW06 **Boulder Array** 10.34 311 Pn Pn 23 48 03.6 +1.3
U49A **Red Boiling Sp** 10.55 86 Pn Pn 23 48 05.3 +0.3
I42A **Draeger Farm,** 10.62 43 Pn Pn 23 48 05.0 -0.8
P48A **Milroy** 11.03 70 Pn Pn 23 48 12.8 +1.3
CPCT **Cooper Cave** 11.69 91 Pn Pn 23 48 19.4 -1.1
V51A **Loudon** 11.78 89 Pn Pn 23 48 21.0 -0.7
L48A **N Adams** 12.46 60 Pn Pn 23 48 29.1 -1.9
EYMN **Ely** 12.68 23 Pn Pn 23 48 35.0 +0.9

*IDC **15** 23:47:07.7±0.6,32°.62S×178°.50W,h0km,mb4.1/8, mb1 4.3/10,mb1mx4.2/28,mbtmp4.2/10,ML4.6/2,MS4.2/8, Ms1 4.2/8,ms1mx3.8/36,Error ellipse: s-maj=25.7km s-min=19.0km az=110.0*

*WEL **15** 23:47:08.8±0.8,33°.5±5°×17°.8W±1°.3,h33km,M5.0/21, mB5.4/13,ML5.3/21,MLv5.2/21,Mw(mB)4.9/13,Error ellipse: s-maj=0.0km s-min=0.0km az=109.9*

*NEIC **15** 23:47:10.4±2.0,32°.4S±0°.1×178°.4W±0°.2,h10km±1km, mb4.8/20,Error ellipse: s-maj=27.9km s-min=17.5km az=91.0*

*GCMT **15** 23:47:15.4±0.4,32°.77S±0°.04×178°.17W±0°.03,h28km±1km, MW4.9/64,Moment Tensor Solution. s27,c31; s64,c81; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.58±.22; Mθθ-0.41±.14; Mφφ-2.17±.14; Mrθ0.48±.25; Mθφ-0.76±.09; Mφr1.49±.18; Best double couple: M0 2.96400×10^16 NP1:φ202.00000°,δ29.00000°,λ.92.00000°. NP2: φ319.00000°,δ61.00000°,λ89.00000°. Principal axes: T 3.0280, Plg74.0000°, Azm286.0000°; N -0.1260, Plg1.0000°, Azm20.0000°; P -2.8990, Plg16.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 23:47:12.3±0.5,32°.75S±0°.05×178°.33W±0°.08,h35km, n121,g2s05/125,mb4.7/19,MS4.1/9,1C,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	3.49	6	P	Pn	23 48 01.7	-2.4
GLKZ				S	Sn	23 48 42.7	-1.5
RAO	**Raoul Island**	3.50	6	Pn	Pn	23 48 01.9	-2.3
	119nm,0.3s,baz=106,slow=16,SNR=5.1						
RAO				Sn	Sn	23 48 41.4	-3.1
	46nm,0.3s,baz=275,slow=23,SNR=1.2						
RAO	**Raoul Island**	3.50	6	Pn	Pn	23 48 00.5	-3.7
RIZ	**Raoul Island**	3.51	6	P	Pn	23 48 02.4	-2.0
MXZ	**Matakaoa Point**	5.54	209	P	Pn	23 48 30.1	-2.2
MXZ				S	Sn	23 49 33.1	-1.5
WMGZ	**Waiomatatini S**	5.72	207	P	Pn	23 48 33.9	-0.9
WMGZ				S	Sn	23 49 39.4	+0.3
PKGZ	**Pakihiroa**	5.91	209	P	Pn	23 48 35.1	-2.3
PKGZ				S	Sn	23 49 43.0	-1.0
HAZ	**Te Kaha**	5.92	211	P	Pn	23 48 36.5	-1.0
HAZ				S	Sn	23 49 44.2	0.0
PUZ	**Puketiti**	6.00	207	P	Pn	23 48 36.0	-2.6
PUZ				S	Sn	23 49 43.5	-2.6

RUGZ **Raukumara Rang** 6.14 211 P Pn 23 48 38.9 -1.8
RUGZ S Sn 23 49 47.4 -2.4
TWGZ **Tauwhareparae** 6.20 208 P Pn 23 48 39.7 -1.6
TWGZ S Sn 23 49 49.9 -1.1
GRZ **Great Barrier** 6.21 234 P Pn 23 48 47.7 +6.3
KUZ **Kuaotunu** 6.32 229 P Pn 23 48 48.7 +5.8
CNGZ **Carnagh Statio** 6.38 205 P Pn 23 48 41.1 -2.7
CNGZ S Sn 23 49 56.5 +1.1
WHRZ **Whale Island** 6.38 216 P Pn 23 48 44.4 +0.5
WHRZ S Sn 23 49 58.9 +3.4
TKGZ **Te Karaka** 6.48 208 P Pn 23 48 44.3 -0.8
TKGZ S Sn 23 49 56.6 -1.2
MWZ **Matawai** 6.52 210 P Pn 23 48 43.5 -2.2
MWZ S Sn 23 49 56.8 -2.1
URZ **Urewera** 6.64 213 Pn Pn 23 48 44.9 -2.4
5.9nm,0.3s,baz=255,slow=4.2,SNR=38
URZ Sn Sn 23 49 58.6 -3.1
16nm,0.3s,baz=289,slow=5.3,SNR=8.6
URZ LR LR 23 51 33.8
comp=Z,1μm,18.0s,baz=31,slow=40
URZ **Urewera** 6.64 213 P Pn 23 48 45.8 -1.6
URZ S Sn 23 49 59.1 -2.7
RAGZ **Rawiri** 6.70 210 P Pn 23 48 47.2 -1.1
RAGZ S Sn 23 50 01.5 -1.9
RIGZ **Rimuhau** 6.74 207 P Pn 23 48 46.3 -2.5
RIGZ S Sn 23 50 03.1 -1.2
PRGZ **Paritu Road** 6.89 205 P Pn 23 48 47.0 -3.8
PRGZ S Sn 23 50 03.7 -4.3
MKAZ **Moumakai** 6.89 229 P Pn 23 48 57.7 +6.9
MUGZ **Murupara** 6.97 214 P Pn 23 48 50.6 -1.3
MUGZ S Sn 23 50 07.7 -2.3
SNGZ **Shannon Statio** 6.97 209 P Pn 23 48 51.0 -1.0
SNGZ S Sn 23 50 07.8 -2.3
RTZ **Ruatahuna** 6.99 212 P Pn 23 48 51.5 -0.8
RTZ S Sn 23 50 13.1 +2.6
KNZ **Kokohu** 7.05 206 P Pn 23 48 51.0 -2.0
KNZ S Sn 23 50 09.6 -2.3
MHGZ **Mahia Peninsul** 7.08 204 P Pn 23 48 49.4 -4.1
MHGZ S Sn 23 50 09.1 -3.6
TOZ **Tahuroa Road** 7.08 224 P Pn 23 48 56.0 +2.6
RAHZ **Arahi** 7.19 210 P Pn 23 48 54.5 -0.5
RAHZ S Sn 23 50 12.4 -3.1
MCHZ **McNeill Hill** 7.80 210 S Sn 23 50 27.0 -3.4
HIZ **Hauiti** 7.99 222 Pn Pn 23 49 10.5 +4.6
NNZ **Nelson** 10.74 216 Pn Pn 23 49 47.6 +4.1
THZ **Tophouse** 11.38 215 Pn Pn 23 49 52.3 -0.2
MSVF **Nonsavu** 15.30 347 LR LR 23 55 39.7
comp=Z,999nm,19.0s,baz=184,slow=34
DZM **Mont Dzumac** 17.18 304 *e*Pn P 23 51 14.9 +3.8
100nm,1.2s
DZM *e*LR LR 23 55 18.2
comp=Z,2μm,23.4s
DZM **Mont Dzumac** 17.18 304 P P 23 51 14.5 +3.4
DZM IAmb IAmb 23 51 20.2
comp=Z,44nm,1.1s
ARMA **Armidale** 25.66 267 P P 23 52 43.6 +4.6
ARMA IAmb IAmb 23 52 53.4
comp=Z,24nm,1.4s
TBI **Tubuai** 27.07 77 *e*S S 23 57 30.5 +3.1
comp=Z,61nm,29.8s
TBI *e*LR LR 23 59 43.3
comp=Z,445nm,29.0s
EIDS **Eidsvold** 27.66 277 P P 23 52 58.1 +1.1
EIDS IAmb IAmb 23 52 59.3
comp=Z,19nm,0.9s
PPT2 **Papeete2** 29.96 67 *e*LR LR 00 00 58.0
comp=Z,419nm,27.2s
PPT **Papeete** 29.97 67 LR LR 00 02 25.7
comp=Z,168nm,19.4s,baz=210,slow=31
STKA **Stephens Creek** 33.74 260 P P 23 53 50.4 -0.2
comp=Z,3.2nm,0.8s,baz=45,slow=9.4,SNR=5.1
STKA LR LR 00 07 16.0
comp=Z,743nm,18.3s,baz=98,slow=36
CTAO **Charters Tower** 33.97 283 P P 23 53 53.9 +1.3
BBOO **Buckleboo** 38.12 257 P P 23 54 27.3 -0.7
BBOO IAmb IAmb 23 54 43.3
comp=Z,18nm,1.1s
COEN **Coen** 39.70 289 P P 23 54 42.1 +0.7
COEN IAmb IAmb 23 54 43.7
comp=Z,13nm,0.9s
TAOE **Nuku Hiva Isla** 42.52 65 *e*LR LR 00 06 47.5
comp=Z,335nm,27.3s
AS31 **Alice Springs** 42.76 270 P P 23 55 06.5 -0.1
ASAR **Alice Springs** 42.76 270 P P 23 55 06.3 -0.2
comp=Z,15nm,0.9s,baz=112,slow=7.6,SNR=50
ASAR S S 00 01 25.2 -3.0
comp=Z,0.8nm,0.9s,baz=111,slow=14,SNR=4.7
ASAR **Alice Springs** 42.76 270 P P 23 55 06.5 0.0
WR0 **Warramunga Arr** 43.78 275 P P 23 55 14.5 -0.3
WR0 IAmb IAmb 23 55 16.2
comp=Z,20nm,1.1s
WB2 **Warramunga Arr** 43.95 275 P P 23 55 16.1 -0.1
WRAB **Tennant Creek** 43.95 275 P P 23 55 16.2 0.0
WRA **Warramunga Arr** 43.96 275 P P 23 55 15.6 -0.7
comp=Z,22nm,0.7s,baz=117,slow=7.5,SNR=249
WRA S S 00 01 39.8 -6.1
comp=Z,1.2nm,1.0s,baz=120,slow=15,SNR=3.6
WRA **Warramunga Arr** 43.96 275 P P 23 55 16.3 0.0
SBA **Scott Base** 45.68 184 P P 23 55 34.0 +4.9
VNDA **Vanda** 45.74 186 P P 23 55 32.8 +3.2
comp=Z,0.9nm,0.8s,baz=1.9,slow=5.9,SNR=3.4
VNDA **Vanda** 45.74 186 P P 23 55 33.6 +3.9
KNRA **Kununurra** 50.65 276 P P 23 56 08.7 +0.4
KNRA IAmb IAmb 23 56 28.1
comp=Z,21nm,1.1s
FITZ **Fitzroy Crossi** 52.12 272 LR LR 00 17 19.8
comp=Z,236nm,21.0s,baz=118,slow=35
FITZ **Fitzroy Crossi** 52.12 272 P P 23 56 18.9 -0.4
FITZ IAmb IAmb 23 56 19.6
comp=Z,8.4nm,0.8s
CASY **Casey** 52.95 209 P P 23 56 24.3 -0.4
CASY IAmb IAmb 23 56 39.4
comp=Z,15nm,1.0s
QSPA **South Pole Qui** 57.37 180 P P 23 56 59.1 +2.2
comp=Z,3.7nm,1.0s,baz=27,slow=4.7,SNR=5.9
QSPA **South Pole Qui** 57.37 180 P P 23 56 59.9 +3.0
SOEI **Soe** 57.45 280 P P 23 56 58.5 +0.4
SOEI **Soe** 57.45 280 P P 23 56 59.0 +0.9
comp=Z,34nm,1.2s
MAW **Mawson** 70.02 201 P P 23 58 19.3 -0.7
comp=Z,2.3nm,0.9s,baz=102,slow=6.4,SNR=4.4
MAW **Mawson** 70.02 201 P P 23 58 20.5 +0.5
JCJ **Chichijima** 70.37 323 LR LR 00 25 41.6
comp=Z,910nm,20.2s,baz=170,slow=33
SYO **Syowa Base** 74.77 193 *e*pP pP 23 58 52.7 -4.8
SNAA **Sanae** 75.82 179 P P 23 58 55.0 +0.6
SNAA **Sanae** 75.82 179 PcP PcP 23 59 03.8 -3.1
SNAA **Sanae** 75.82 179 P P 23 59 01.8 +7.3
SNAA IAmb IAmb 23 59 16.7
comp=Z,8.4nm,1.0s
VNA3 **Neumayer Olymp** 75.99 176 PcP PcP 23 59 04.9 -2.7
VNA2 **Neumayer--Watz** 76.42 177 PcP PcP 23 59 07.5 -1.9
VNA1 **Neumayer--Stat** 76.65 177 P P 23 58 58.5 -0.5
VNA1 **Neumayer--Stat** 76.65 177 PcP PcP 23 59 08.5 -1.9
H03S2 **Juan Fernandez** 79.41 123 T T 01 27 59.2
baz=236,slow=74,SNR=8.6
H03S1 **Juan Fernandez** 79.42 123 T T 01 27 57.1
baz=236,slow=74,SNR=7.7
H03S3 **Juan Fernandez** 79.43 123 T T 01 27 52.5
baz=236,slow=74,SNR=6.3
H03N3 **Juan Fernandez** 79.61 123 T T 01 28 16.0
baz=240,slow=72,SNR=8.6
H03N2 **Juan Fernandez** 79.62 123 T T 01 28 10.6
baz=240,slow=72,SNR=9.2
H03N1 **Juan Fernandez** 79.63 123 T T 01 28 18.5
baz=240,slow=72,SNR=8.7
PETK **Petropavlovsk-** 88.01 346 P P 23 59 58.9 +0.6
comp=Z,1.2nm,0.4s,baz=152,slow=6.7,SNR=5.3
PETK **Petropavlovsk-** 88.01 346 P P 23 59 58.1 -0.2
NVAR **Mina Array Bea** 90.14 43 P P 00 00 09.9 +0.9
comp=Z,0.2nm,0.3s,baz=209,slow=7.2,SNR=1.9
KDAK **Kodiak Island** 92.75 13 LR LR 00 33 07.0
comp=Z,137nm,22.0s,baz=223,slow=30
TXAR **Lajitas Array** 93.88 58 P P 00 00 28.1 +1.7
comp=Z,0.1nm,0.3s,baz=204,slow=6.5,SNR=3.4
DLBC **Dease Lake** 99.38 23 LR LR 00 34 55.2
comp=Z,45nm,21.7s,baz=134,slow=29
WMQ **Urumqi** 114.44 308 *e*P PKiKP 00 05 49.4 +1.1
WMQ pmax pmax
comp=Z,100nm,5.1s
MKAR **Makanchi Array** 119.05 309 PKP PKiKP 00 05 57.0 -0.1
comp=Z,0.9nm,0.7s,baz=221,slow=2.5,SNR=4.4
MKAR **Makanchi Array** 119.05 309 PKiKP 00 05 56.7 -0.4
ZALV **Zalesovo Beam** 119.58 318 PKP PKPdf 00 05 57.2 -0.5

comp=Z,0.6nm,0.4s,baz=169,slow=1.5,SNR=2.8
KKAR Karatay Array 126.11 302 PKPdf **PKiKP 00 06 10.6 -0.5**
ARU Arti 134.70 319 PKP **PKiKP 00 06 27.6 -0.3**
comp=Z,0.5nm,0.5s,baz=169,slow=6.9,SNR=5.2
ARU Arti 134.70 319 PKPdf **PKiKP 00 06 28.0 +0.1**
AKTO Aktyubinsk 135.44 311 PKP **PKiKP 00 06 29.7 +0.1**
comp=Z,2.0nm,0.8s,baz=171,slow=4.3,SNR=6.9
ARCES ARCESS Array B 140.81 347 PKhKP PKPpre 00 06 33.6
comp=Z,0.3nm,0.3s,baz=12,slow=1.7,SNR=9.8
KLMR Klimovskoe 142.67 330 *e*PKPdf **PKPdf 00 06 35.3 -5.7**
KLMR AMP 00 06 37.8
comp=Z,17nm,1.7s
KBZ Khabaz 146.13 301 PKPbc **PKPbc 00 06 48.0 -0.5**
comp=Z,5.1nm,1.0s,baz=128,slow=4.4,SNR=4.3
KVAR Kislovodsk Arr 146.26 301 PKPbc **PKPab 00 06 50.5 +0.6**
comp=Z,1.9nm,0.8s,baz=259,slow=23,SNR=2.4
FIA1 FINESS Array S 147.23 338 PKPbc 00 06 51.1 0.0
FINES FINESS Array B 147.23 338 PKPbc **PKPbc 00 06 51.2 0.0**
comp=Z,24nm,0.8s,baz=72,slow=6.2,SNR=45
MARD Mardin 147.81 289 PKPbc **PKPbc 00 06 53.2 -0.5**
RAF Rauma 148.83 341 *e*P **PKiKP 00 06 55.7 -1.0**
VSU Vasula 149.23 334 *e*P **PKiKP 00 06 58.4 +0.8**
AAL Aland 150.01 342 *e*P **PKiKP 00 06 58.9 -0.3**
MTSE Matsula 150.06 337 *e*P **PKiKP 00 06 59.8 +0.4**
ASF Jabal al Asfar 150.35 279 PKPbc **PKiKP 00 07 00.2 -0.7**
comp=Z,4.6nm,0.8s,baz=258,slow=3.8,SNR=12
NB2 NORSAR Subarra151.02 350 PKP **PKiKP 00 07 01.4 0.0**
comp=Z,1.7nm,0.6s,baz=29,slow=3.4
NOA NORSAR Array B151.02 350 PKPbc **PKPbc 00 07 00.4 -0.4**
comp=Z,1.1nm,0.7s,baz=15,slow=4.6,SNR=8.6
EIL Elat 151.44 273 PKPbc **PKiKP 00 07 03.4 +0.3**
comp=Z,9.3nm,0.7s,baz=129,slow=3.5,SNR=12
IIGN Ignalina 151.61 330 *e*P **PKiKP 00 07 03.5 +0.8**
MMAI Mount Meron Ar 151.74 280 PKPbc **PKiKP 00 07 04.1 +0.3**
comp=Z,12nm,0.8s,baz=72,slow=4.7,SNR=26
PABE Paberze 152.42 332 *e*P **PKiKP 00 07 05.3 +1.0**
PBUR Paburge 152.79 335 *e*P **PKiKP 00 07 06.9 +1.8**
AKASG Malin Array Be 152.95 320 PKPbc **PKiKP 00 07 05.6 0.0**
comp=Z,3.2nm,0.6s,baz=59,slow=2.4,SNR=18
AKASG Malin Array Be 152.95 320 PKiKP 00 07 05.7 +0.1
BRTR Keskin Array B 153.39 294 PKPbc **PKiKP 00 07 06.8 -0.2**
comp=Z,3.5nm,0.8s,baz=128,slow=3.6,SNR=18
BRTR Keskin Array B 153.39 294 PKPbc **PKPbc 00 07 06.3 -0.6**
TORD Torodi Ar. Bea 160.49 180 PKPab **PKPab 00 07 51.7 +1.7**
comp=Z,0.7nm,0.7s,baz=167,slow=3.0,SNR=2.8

IDC ***15*** *23:48:23.4±2.3, 33.00S×178.44W, h0km, mb4.5/3, mb1 4.7/3, mb1mx4.0/27, mbtmp4.5/3, MS4.1/3, Ms1 4.1/3, ms1mx3.6/33, Error ellipse: s-maj=139.2km s-min=41.4km az=172.0*

NEIC ***15*** *23:48:26.7±1.4, 32.9S±0.1°×178.5W±0.2, h10km±2km, mb4.6/10, Error ellipse: s-maj=31.5km s-min=14.7km az=110.0*

ISC 15 23:48:29.1±1.2, 32.9S±0.1°×178.5W±0.2, h32km, n33, σ0.92/29, mb4.6/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.68**	**8**	Pn		**Pn**		**23 49 25.6**	**+1.9**
URZ	**Urewera**	**6.43**	**213**	Sn		**Sn**		**23 51 15.4**	**+1.4**
	2.9nm,0.3s,baz=337,slow=22,SNR=1.0								
URZ	**Urewera**	**6.43**	**213**	Pn		**Pn**		**23 50 01.9**	**+0.3**
BKZ	**Black Stump Fm**	**7.45**	**212**	Pn		**Pn**		**23 50 15.4**	**-0.2**
BFZ	**Birch Farm**	**8.83**	**207**	Pn		**Pn**		**23 50 35.1**	**+0.5**
SNZO	**South Karori**	**9.99**	**211**	Pn		**Pn**		**23 50 50.7**	**+0.3**
DZM	**Mont Dzumac**	**17.17**	**305**	LR		LR		23 57 24.6	
	comp=Z,2μm,18.3s,baz=87,slow=31								
EIDS	**Eidsvold**	**27.57**	**278**			**P**		**23 54 14.7**	**+1.4**
EIDS					IAmb	IAmb		23 54 16.4	
	comp=Z,8.5nm,1.1s								
CTA	**Charters Tower**	**33.89**	**283**	P		**P**		**23 55 08.6**	**-0.6**
	comp=Z,8.1nm,0.8s,baz=112,slow=12,SNR=3.5								
CTAO	**Charters Tower**	**33.89**	**283**			**P**		**23 55 09.2**	**0.0**
AS31	**Alice Springs**	**42.63**	**270**	P		**P**		**23 56 22.4**	**-0.3**
ASAR	**Alice Springs**	**42.64**	**270**	P		**P**		**23 56 21.4**	**-1.4**
	comp=Z,5.7nm,1.0s,baz=112,slow=8.2,SNR=2.0								
ASAR	**Alice Springs**	**42.64**	**270**	P		**P**		**23 56 20.8**	**-1.9**
WR0	**Warramunga Arr**	**43.67**	**275**	P		**P**		**23 56 31.1**	**-0.1**
WR0					IAmb	IAmb		23 56 32.5	
	comp=Z,9.4nm,1.0s								
WB2	**Warramunga Arr**	**43.84**	**275**	P		**P**		**23 56 31.7**	**-0.8**
WB2					IAmb	IAmb		23 56 33.2	
	comp=Z,15nm,1.1s								
WRAB	**Tennant Creek**	**43.85**	**275**	P		**P**		**23 56 31.9**	**-0.7**
WRAB					IAmb	IAmb		23 56 33.7	
	comp=Z,13nm,0.9s								
WRA	**Warramunga Arr**	**43.85**	**275**	P		**P**		**23 56 32.2**	**-0.4**
	comp=Z,4.4nm,0.4s,baz=118,slow=7.7,SNR=8.1								
WRA	**Warramunga Arr**	**43.85**	**275**	P		**P**		**23 56 32.2**	**-0.4**
KNRA	**Kununurra**	**50.54**	**277**	P		**P**		**23 57 25.6**	**+0.8**
FITZ	**Fitzroy Crossi**	**52.00**	**272**	P		**P**		**23 57 35.0**	**-0.6**
	baz=129,slow=6.4								
FITZ	**Fitzroy Crossi**	**52.00**	**272**	P		**P**		**23 57 35.5**	**-0.1**
FITZ					IAmb	IAmb		23 57 35.9	
	comp=Z,5.6nm,1.1s								
CASY	**Casey**	**52.74**	**209**			**P**		**23 57 40.8**	**+0.3**
CASY					IAmb	IAmb		23 57 56.1	
	comp=Z,11nm,1.0s								
USRK	**Ussuriysk Ar.**	**89.03**	**327**	LR		LR		00 37 00.7	
	comp=Z,61nm,19.6s,baz=135,slow=33								
CMAR	**Chiang Mai Arr**	**93.85**	**289**	LR		LR		00 46 52.9	
	comp=Z,37nm,18.4s,baz=187,slow=37								
ARCES	**ARCESS Array B 140.34 347**			PKhKP		PKPpre		00 07 50.2	
	comp=Z,1.2nm,0.9s,baz=38,slow=1.6,SNR=1.4								
FIA1	**FINESS Array S 147.34 338**			PKPbc		**PKPbc**		**00 08 07.8**	**-0.8**
FINES	**FINESS Array B 147.34 338**			PKPbc		**PKPbc**		**00 08 07.7**	**-1.0**
	comp=Z,14nm,0.9s,baz=64,slow=4.4,SNR=4.2								
FINES	**FINESS Array B 147.34 338**					**PKPbc**		**00 08 07.9**	**-0.8**
MMAI	**Mount Meron Ar 151.65 280**			PKPbc		**PKiKP**		**00 08 20.5**	**-0.4**
	comp=Z,5.9nm,0.7s,baz=74,slow=5.1,SNR=4.0								
AKASG	**Malin Array Be 153.00 319**			PKPbc		**PKiKP**		**00 08 22.3**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=59,slow=2.4,SNR=2.6								
BR131	**Keskin Array S 153.34 294**			PKPbc		**PKPbc**		**00 08 23.1**	**-1.0**
BRTR	**Keskin Array B 153.34 294**			PKPbc		**PKPbc**		**00 08 23.3**	**-0.8**
	comp=Z,1.7nm,0.7s,baz=98,slow=2.9,SNR=5.1								
BRTR	**Keskin Array B 153.34 294**					**PKPbc**		**00 08 23.0**	**-1.2**

IDC ***16*** *00:02:06.6±1.1, 2.45N×126.98E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.7/61, mbtmp3.9/8, MS2.9/1, Ms1 2.9/1, ms1mx2.2/45, Error ellipse: s-maj=94.4km s-min=17.5km az=68.0*

DJA ***16*** *00:02:13.7±2.0, 2.7N±3°×12.7E±°, h27km±19km, M3.8/6, mb3.7/1, MLv3.8/6*

NEIC ***16*** *00:02:14.7±1.5, 2.47N±0.08°×126.9E±0.1°, h55km±6km, mb4.0/17, Error ellipse: s-maj=17.6km s-min=9.7km az=61.0*

ISC 16 00:02:14.3±0.6, 2.52N±0.07°×126.97E±0.06, h53km, n39, σ1.29/42, mb4.0/12, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GAMI	**Galela, Maluku**	**1.06**	**130**	P		**Pn**		**00 02 32.8**	**-0.1**
GAMI				S		**Sn**		**00 02 47.0**	**+0.3**
TNTI	**Ternate**	**1.78**	**167**			**Pn**		**00 02 42.9**	**+0.2**
TNTI	**Ternate**	**1.78**	**167**	P		**Pn**		**00 02 42.5**	**-0.2**
SGSI	**Sangihe**	**1.85**	**309**	P		**Pn**		**00 02 42.6**	**-1.0**
SGSI				S		**Sn**		**00 03 05.6**	**-0.2**
MNI	**Manado**	**2.38**	**243**	P		**Pn**		**00 02 50.0**	**-0.9**
GTOI	**Gorontalo**	**4.38**	**245**	P		**Pn**		**00 03 19.6**	**+1.3**
SANI	**Sanana**	**4.65**	**192**	P		**Pn**		**00 03 20.5**	**-1.4**
MRSI	**Marisa**	**5.42**	**248**	P		**Pn**		**00 03 35.0**	**+2.4**
SIJI	**Sorong**	**5.46**	**128**	LR		LR		00 05 32.6	
	comp=Z,136nm,22.0s,baz=231,slow=38								
TOLI2	**Tolitoli**	**6.34**	**257**	Pn		**Pn**		**00 03 44.0**	**-1.3**
MTN	**Manton Dam**	**15.81**	**165**	P		**P**		**00 05 55.1**	**-1.5**
MTN					IAmb	IAmb		00 05 59.1	
	comp=Z,9.2nm,0.8s								
KNRA	**Kununurra**	**18.17**	**174**	P		**P**		**00 06 21.6**	**-0.9**
KNRA					IAmb	IAmb		00 06 44.6	
	comp=Z,15nm,1.1s								
PWJI	**Pagerwojo**	**18.40**	**235**	P		**Pn**		**00 06 27.1**	**+1.4**
FITZ	**Fitzroy Crossi**	**20.53**	**184**	P		**P**		**00 06 46.2**	**-2.2**
	comp=Z,1.1nm,0.4s,baz=5.4,slow=12,SNR=11								
FITZ	**Fitzroy Crossi**	**20.53**	**184**	P		**P**		**00 06 47.3**	**-1.1**
ANA2	**Anatahan**	**22.99**	**52**	P		**P**		**00 07 16.8**	**+2.1**
WRAB	**Tennant Creek**	**23.46**	**162**	P		**P**		**00 07 17.5**	**-1.7**
WRAB					IAmb	IAmb		00 07 24.8	
	comp=Z,6.4nm,0.9s								
WRA	**Warramunga Arr**	**23.47**	**162**	P		**P**		**00 07 17.4**	**-1.9**
	comp=Z,1.8nm,0.3s,baz=342,slow=12,SNR=50								
WRA					PcP	**PcP**		**00 11 04.4**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=332,slow=1.6,SNR=1.7								
WRA	**Warramunga Arr**	**23.47**	**162**	P		**P**		**00 07 17.4**	**-1.9**
WB2	**Warramunga Arr**	**23.47**	**162**	P		**P**		**00 07 17.8**	**-1.5**
WB2					IAmb	IAmb		00 07 22.8	
	comp=Z,4.9nm,0.8s								
WR0	**Warramunga Arr**	**23.55**	**162**	P		**P**		**00 07 18.3**	**-1.8**
WR0					IAmb	IAmb		00 07 35.7	
	comp=Z,4.7nm,1.0s								
PSA00	**Pilbara Seismi**	**24.94**	**196**	P		**P**		**00 07 33.8**	**+1.0**
PSA00					IAmb	IAmb		00 07 50.1	
	comp=Z,2.8nm,1.0s								
AS31	**Alice Springs**	**26.89**	**166**	P		**P**		**00 07 53.0**	**+2.6**
ASAR	**Alice Springs**	**26.89**	**166**	P		**P**		**00 07 48.0**	**-2.4**
	comp=Z,0.4nm,0.5s,baz=350,slow=8.6,SNR=3.3								
ASAR					PcP	**PcP**		**00 11 11.9**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=344,slow=2.0,SNR=4.9								
ASAR	**Alice Springs**	**26.89**	**166**	P		**P**		**00 07 50.8**	**+0.4**
FORT	**Forrest**	**33.13**	**178**	P		**P**		**00 08 44.3**	**-1.2**
BBOO	**Buckleboo**	**36.18**	**167**	P		**P**		**00 09 11.4**	**-0.4**
STKA	**Stephens Creek**	**36.92**	**159**	P		**P**		**00 09 16.9**	**-1.3**
	comp=Z,3.4nm,0.7s,baz=325,slow=10,SNR=7.0								
STKA	**Stephens Creek**	**36.92**	**159**	P		**P**		**00 09 17.6**	**-0.6**
ARMA	**Armidale**	**40.33**	**146**	P		**P**		**00 09 48.0**	**+1.1**
MK31	**Makanchi Array**	**58.68**	**326**	P		**P**		**00 12 05.9**	**-0.5**
MK31					IAmb	IAmb		00 12 27.0	
	comp=Z,2.1nm,0.9s								
MKAR	**Makanchi Array**	**58.68**	**326**	P		**P**		**00 12 05.8**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=111,slow=7.9,SNR=8.4								
ABKAR	**Akbulak array**	**73.23**	**321**	P		**P**		**00 13 39.4**	**-0.4**
AKTO	**Aktyubinsk**	**74.75**	**322**	P		**P**		**00 13 49.6**	**+1.0**
	comp=Z,0.8nm,0.4s,baz=123,slow=10,SNR=3.6								
ARU	**Arti**	**76.08**	**328**	P		**P**		**00 13 55.4**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=78,slow=19,SNR=3.4								
ARU	**Arti**	**76.08**	**328**	P		**P**		**00 13 55.6**	**-0.5**
ARU					IAmb	IAmb		00 14 10.1	
	comp=Z,1.7nm,1.0s								
VNDA	**Vanda**	**82.21**	**173**	P		**P**		**00 14 29.1**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=328,slow=4.4,SNR=5.9								
VNDA	**Vanda**	**82.21**	**173**	P		**P**		**00 14 29.3**	**+0.1**
VNDA					IAmb	IAmb		00 14 29.8	
	comp=Z,3.7nm,1.2s								
MAW	**Mawson**	**82.71**	**200**	P		**P**		**00 14 32.3**	**+0.4**

IDC ***16*** *00:07:34.7±0.4, 7.18S×155.45E, h0km, mb4.7/29, mb1 4.7/31, mb1mx4.6/56, mbtmp4.6/31, ML3.9/2, MS4.1/20, Ms1 4.1/20, ms1mx3.9/33, Error ellipse: s-maj=13.5km s-min=12.4km az=84.0*

NEIC ***16*** *00:07:36.3±1.7, 7.30S±0.07°×155.70E±0.06°, h10km±1km, mb4.9/93, Error ellipse: s-maj=15.8km s-min=3.3km az=219.0*

GCMT ***16*** *00:07:40.3±0.3, 7.39S±0.02°×155.50E±0.03°, h24km±1km, MW5.0/76, Moment Tensor Solution. s47,c55; s76,c96; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr3.03±.18; Mθθ-2.42±.13; Mϕϕ~0.60±.13; Mrθ0.97±.17; Mθϕ 1.79±.09; Mϕr~1.90±.18; Best double couple: M◻3.93000×10^16 NP1:ϕ◻283.00000°, δ33.00000°, λ59.00000°. NP2: ϕ◻139.00000°, δ62.00000°, λ108.00000°. Principal axes: T 3.8480, Plg68.0000°, Azm85.0000°; N 0.1660, Plg16.0000°, Azm310.0000°; P -4.0120, Plg15.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***16*** *00:07:43.9±0.4, 7.5±3°×15.5±°, h59km±4km, M5.2/22, mB5.4/3, mb4.9/22, MLv5.4/2, Mw(mB)4.8/3*

ISC 16 00:07:39.0±0.3, 7.34S±0.06×155.61E±0.05, h29km, n234, σ1.971/236, mb4.9/107, MS4.1/22, 1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.64**	**312**	Pn		**Pn**		**00 08 48.7**	**+1.4**
RABL	**Rabaul**	**4.64**	**312**	P		**Pb**		**00 08 57.9**	**-1.9**
HNR	**Honiara**	**4.77**	**116**	Pn		Pb		00 08 55.7	-6.2
	59nm,0.3s,baz=268,slow=7.0,SNR=4.5								
HNR					Sn	**Sb**		**00 09 53.2**	**-5.7**
	52nm,0.3s,baz=266,slow=11,SNR=3.5								
HNR					LR	LR		00 10 55.3	
	comp=Z,6μm,18.6s,baz=280,slow=40								
HNR	**Honiara**	**4.77**	**116**			**Pn**		**00 08 48.5**	**-0.4**
HNR	**Honiara**	**4.77**	**116**	P		**Pb**		**00 09 00.9**	**-1.0**
COEN	**Coen**	**13.88**	**241**	Pn		**Pn**		**00 10 55.9**	**+2.0**
PATS	**Pohnpei**	**14.33**	**11**	Pn		**Pn**		**00 11 00.8**	**+0.7**
CTA	**Charters Tower**	**15.59**	**215**	Pn		**Pn**		**00 11 18.5**	**+1.6**
	0.5nm,0.3s,baz=38,slow=14,SNR=17								
CTA					LR	LR		00 17 18.2	
	comp=Z,992nm,19.1s,baz=46,slow=37								
CTAO	**Charters Tower**	**15.59**	**215**			**Pn**		**00 11 18.6**	**+1.6**
JAY	**Jayapura**	**15.60**	**287**	Pn		**Pn**		**00 11 13.6**	**-3.5**
	0.2nm,0.3s,baz=20,slow=8.7,SNR=5.0								
JAY	**Jayapura**	**15.60**	**287**	P		**Pn**		**00 11 16.7**	**-0.4**
	13nm,1.1s								
DZM	**Mont Dzumac**	**17.99**	**146**	*e*P		**Pn**		**00 11 44.6**	**-2.6**
	71nm,0.8s								
DZM					*e*LR	LR		00 15 53.6	
	comp=Z,573nm,23.6s								
DZM	**Mont Dzumac**	**17.99**	**146**	LR		LR		00 18 18.8	
	comp=Z,538nm,18.1s,baz=276,slow=35								
DZM	**Mont Dzumac**	**17.99**	**146**	P		**Pn**		**00 11 45.4**	**-1.8**
ONTNC	**Ouen Toro**	**18.18**	**146**			**Pn**		**00 11 46.9**	**-2.6**
EIDS	**Eidsvold**	**18.45**	**193**	P		**Pn**		**00 11 55.0**	**+2.3**
TARA	**Tarawa**	**19.31**	**64**	P		**Pn**		**00 12 04.8**	**+1.6**
GUMO	**Guam**	**23.37**	**333**	LR		LR		00 19 57.0	
	comp=Z,239nm,19.6s,baz=190,slow=32								
WR0	**Warramunga Arr**	**23.98**	**236**	P		**P**		**00 12 51.5**	**+0.2**
WR0					IAmb	IAmb		00 12 58.3	
	comp=Z,35nm,0.9s								
WRAB	**Tennant Creek**	**24.12**	**237**	P		**P**		**00 12 53.0**	**+0.3**
WRAB					IAmb	IAmb		00 12 53.8	
	comp=Z,39nm,1.0s								
WB2	**Warramunga Arr**	**24.12**	**237**	P		**P**		**00 12 53.0**	**+0.3**
WB2					IAmb	IAmb		00 12 53.9	
	comp=Z,43nm,1.1s								
WRA	**Warramunga Arr**	**24.14**	**237**	P		**P**		**00 12 52.8**	**0.0**
	comp=Z,28nm,0.9s,baz=63,slow=9.4,SNR=113								
WRA					PcP	**PcP**		**00 16 33.3**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=51,slow=2.6,SNR=4.6								
WRA					ScP	**ScP**		**00 20 12.5**	**+2.2**
	comp=Z,0.8nm,0.6s,baz=81,slow=3.0,SNR=4.9								
WRA					LR	LR		00 22 18.6	
	comp=Z,638nm,19.0s,baz=70,slow=37								
WRA	**Warramunga Arr**	**24.14**	**237**	P		**P**		**00 12 51.8**	**-0.9**
MSVF	**Nonsavu**	**24.19**	**117**	P		**P**		**00 12 56.4**	**+3.1**
	comp=Z,28nm,0.8s,baz=302,slow=2.2,SNR=8.9								
MSVF	**Nonsavu**	**24.19**	**117**	P		**P**		**00 12 55.6**	**+2.3**
MTN	**Manton Dam**	**24.70**	**255**	P		**P**		**00 12 57.9**	**-0.1**
AS31	**Alice Springs**	**26.41**	**230**	P		**P**		**00 13 13.1**	**-0.4**
ASAR	**Alice Springs**	**26.41**	**230**	P		**P**		**00 13 13.0**	**-0.4**
	comp=Z,5.9nm,1.1s,baz=61,slow=9.0,SNR=21								
ASAR					PcP	**PcP**		**00 16 39.3**	**+0.6**
	comp=Z,1.5nm,0.9s,baz=67,slow=3.3,SNR=3.0								
ASAR					ScP	**ScP**		**00 20 18.7**	**+2.0**
	comp=Z,1.6nm,0.9s,baz=61,slow=2.8,SNR=6.9								
ASAR					LR	LR		00 23 36.8	
	comp=Z,535nm,18.2s,baz=5.0,slow=36								
ASAR	**Alice Springs**	**26.41**	**230**	P		**P**		**00 13 12.2**	**-1.2**
KNRA	**Kununurra**	**27.56**	**250**	P		**P**		**00 13 23.2**	**-0.5**
KNRA					IAmb	IAmb		00 13 44.2	
	comp=Z,14nm,0.8s								
STKA	**Stephens Creek**	**27.70**	**206**	P		**P**		**00 13 25.7**	**+0.9**
	comp=Z,16nm,0.8s,baz=14,slow=10,SNR=15								
STKA					ScP	**ScP**		**00 20 22.3**	**+2.0**
	comp=Z,7.1nm,1.1s,baz=354,slow=6.4,SNR=4.6								
STKA					LR	LR		00 24 34.9	
	comp=Z,552nm,19.1s,baz=36,slow=37								
STKA	**Stephens Creek**	**27.70**	**206**	P		**P**		**00 13 25.5**	**+0.7**
SANI	**Sanana**	**29.98**	**279**	P		P		00 13 58.4	+13
FITZ	**Fitzroy Crossi**	**31.08**	**247**	P		**P**		**00 13 54.4**	**-0.6**
	comp=Z,16nm,0.8s,baz=82,slow=8.4,SNR=55								
FITZ	**Fitzroy Crossi**	**31.08**	**247**	P		**P**		**00 13 54.8**	**-0.2**
FITZ					IAmb	IAmb		00 13 55.4	
	comp=Z,16nm,0.8s								
BBOO	**Buckleboo**	**31.18**	**213**	P		**P**		**00 13 55.3**	**-0.5**
BBOO					IAmb	IAmb		00 14 20.7	
	comp=Z,20nm,1.1s								
AFI	**Afiamalu**	**32.68**	**104**	P		**P**		**00 14 11.8**	**+2.6**
	comp=Z,62nm,0.8s,baz=318,slow=4.3,SNR=4.9								
AFI					LR	LR		00 26 12.8	
	comp=Z,465nm,18.3s,baz=297,slow=34								
AFI	**Afiamalu**	**32.68**	**104**	P		**P**		**00 14 12.7**	**+3.4**
DAV	**Davao City (W)**	**33.20**	**295**	LR		LR		00 26 32.4	
	comp=Z,105nm,19.4s,baz=96,slow=34								
EDFI	**Ende, Flores**	**33.61**	**265**	P		**P**		**00 14 16.4**	**-1.0**
	comp=Z,15nm,0.8s								
EDFI					pP	**sP**		**00 14 27.6**	**-1.1**
	comp=Z,15nm,0.8s								
BKSI	**Bulukumba**	**35.33**	**271**	P		**P**		**00 14 32.5**	**+0.4**
	comp=Z,20nm,1.2s								
BNSI	**Bone**	**35.43**	**273**	P		**P**		**00 14 29.0**	**-4.0**
	comp=Z,27nm,1.2s								
NIUE	**Niue**	**35.44**	**113**	P		**P**		**00 14 33.6**	**+0.6**
KAPI	**Kappang**	**35.72**	**272**	P		**P**		**00 14 34.3**	**-1.2**
	comp=Z,12nm,0.6s,baz=128,slow=7.2,SNR=4.7								
KAPI	**Kappang**	**35.72**	**272**	P		**P**		**00 14 36.2**	**+0.7**
KAPI	**Kappang**	**35.72**	**272**	P		**P**		**00 14 33.5**	**-2.0**
	comp=Z,24nm,0.7s								
MPSI	**Mapaga**	**36.43**	**281**	P		**P**		**00 14 42.1**	**+0.5**
	comp=Z,10nm,1.1s								
PSA00	**Pilbara Seismi**	**37.30**	**244**	P		**P**		**00 14 50.1**	**+1.2**
PLAI	**Plampang**	**37.48**	**265**	P		**P**		**00 14 48.5**	**-2.0**
	comp=Z,52nm,1.1s								
BBKI	**Banjar Baru**	**40.76**	**273**	P		P		00 15 30.2	+12
RAR	**Rarotonga**	**45.21**	**113**	P		**P**		**00 15 57.1**	**+3.2**
	comp=Z,18nm,0.8s,baz=261,slow=8.0,SNR=6.6								
JNU	**Nakatsue**	**46.60**	**331**	P		**P**		**00 16 04.1**	**-0.6**
	comp=Z,11nm,1.1s,baz=124,slow=11,SNR=2.6								
JNU	**Nakatsue**	**46.60**	**331**	P		**P**		**00 16 08.8**	**+4.0**
JNU					IAmb	IAmb		00 16 21.2	
	comp=Z,20nm,1.1s								
MJAR	**Matsushiro Arr**	**46.60**	**341**	P		**P**		**00 16 02.3**	**-2.3**
	comp=Z,3.4nm,0.6s,baz=181,slow=7.7,SNR=2.7								
MJAR					LR	LR		00 35 46.5	
	comp=Z,88nm,18.8s,baz=210,slow=36								
MJAR	**Matsushiro Arr**	**46.60**	**341**	P		**P**		**00 16 07.5**	**+2.9**
MAJO	**Matsushiro**	**46.60**	**341**	P		**P**		**00 16 07.6**	**+2.9**
MAJO					IAmb	IAmb		00 16 08.0	
	comp=Z,8.9nm,0.7s								
MAT	**Matsushiro**	**46.60**	**341**	P		**P**		**00 16 05.5**	**+0.8**
JSD	**Sado**	**47.95**	**342**	P		**P**		**00 16 19.3**	**+4.2**
JSD					IAmb	IAmb		00 16 45.3	
	comp=Z,20nm,1.3s								
MDSI	**Maura Dua**	**51.22**	**270**	P		**P**		**00 16 40.4**	**-0.1**
	comp=Z,8.5nm,1.1s								
KSRS	**Korea Array**	**51.53**	**332**	P		**P**		**00 16 40.5**	**-1.7**
	comp=Z,2.9nm,0.8s,baz=150,slow=8.4,SNR=8.2								
KSRS					LR	LR		00 35 22.3	
	comp=Z,107nm,21.1s,baz=134,slow=32								
JKA	**Kamikawa-asahi**	**52.55**	**348**	P		**P**		**00 16 49.5**	**-0.3**
JKA					IAmb	IAmb		00 17 00.7	
	comp=Z,19nm,0.8s								
ASAJ	**Asahikawa**	**52.55**	**348**	P		**P**		**00 16 49.4**	**-0.4**
	comp=Z,5.5nm,0.4s,baz=4.0,slow=30,SNR=2.2								
ASAJ					LR	LR		00 37 27.8	
	comp=Z,211nm,19.9s,baz=170,slow=34								
NJ2	**Nanjing**	**52.57**	**320**	*e*P		**P**		**00 16 52.8**	**+2.6**
NJ2					pmax	pmax			
	comp=Z,10.0nm,0.5s								
PPT	**Papeete**	**54.31**	**106**	LR		LR		00 36 57.0	
	comp=Z,102nm,19.1s,baz=272,slow=32								
PPT2	**Papeete2**	**54.31**	**106**	*e*S		**S**		**00 24 37.3**	**-2.6**
	comp=Z,65nm,28.8s								
PPT2					*e*LQ	LQ		00 30 47.4	
	comp=Z,199nm,25.0s								
PPT2					*e*LR	LR		00 33 05.6	
	comp=Z,162nm,26.5s					

comp=N,120nm,16.3s
HHC LR LR
comp=E,140nm,16.4s
HHC LR LR
comp=Z,120nm,17.1s
GTA Gaotai 69.41 317 *eP* **P 00 18 45.6 +0.9**
GTA pP pP 00 18 53.3 -0.4
GTA sP sP 00 18 57.6 +0.6
GTA pmax pmax
comp=Z,4.0nm,0.8s
ULN Ulaanbaatar 69.62 327 P **P 00 18 45.2 -0.7**
ULN IAmb IAmb 00 18 46.7
comp=Z,8.1nm,1.0s
ULN Ulaanbaatar 69.62 327 P **P 00 18 46.1 +0.3**
comp=Z,34nm,0.9s
SONM Songino Array 69.95 327 P **P 00 18 47.7 -0.2**
comp=Z,8.2nm,0.9s,baz=135,slow=6.1,SNR=31
SONM PKP2bc 00 46 52.0
comp=Z,1.1nm,0.8s,baz=276,slow=2.8,SNR=4.4
SONM Songino Array 69.95 327 P **P 00 18 47.7 -0.2**
SONM IAmb IAmb 00 18 48.6
comp=Z,9.1nm,1.0s
SHL Shillong 70.00 300 P **P 00 18 47.9 -0.7**
SEY Seymchan 70.11 358 P **P 00 18 47.0 -1.3**
comp=Z,2.1nm,0.3s,baz=127,slow=5.2,SNR=5.9
VNDA Vanda 70.23 179 P **P 00 18 50.1 +1.2**
comp=Z,1.3nm,1.1s,baz=6.0,slow=4.7,SNR=3.8
VNDA LR LR 00 44 36.3
comp=Z,90nm,18.8s,baz=348,slow=32
VNDA Vanda 70.23 179 P **P 00 18 50.1 +1.2**
YAK Yakutsk 72.02 347 P **P 00 18 59.5 -0.4**
TAPN Taplejung 74.10 301 *eP* **P 00 19 13.0 -0.4**
comp=Z,62nm,1.0s
ODAN Odare 74.23 300 *eP* **P 00 19 14.0 -0.1**
comp=Z,56nm,0.7s
BILL Bilibino 75.57 4 P **P 00 19 20.9 +0.3**
GKN Gorkha 76.90 301 *eP* **P 00 19 28.5 -0.8**
comp=Z,37nm,0.8s
Q19K Cape Douglas, 77.46 24 P **P 00 19 32.5 +1.0**
KOLN Koldanda 77.72 300 *eP* **P 00 19 33.2 -0.7**
comp=Z,17nm,0.7s
DANN Dangsing 77.74 301 *eP* **P 00 19 33.0 -1.1**
SVW2 Sparrevohn 78.08 22 P **P 00 19 35.1 +0.2**
SVW2 IAmb IAmb 00 19 51.2
comp=Z,18nm,1.3s
PYUN Piuthan 78.33 301 *eP* **P 00 19 36.3 -1.0**
comp=Z,19nm,0.7s
CNPM China Poot 78.81 25 P **P 00 19 38.1 -0.9**
M19K Big River Lodg 79.04 22 P **P 00 19 41.2 +1.0**
M19K IAmb IAmb 00 19 42.0
comp=Z,12nm,0.9s
L19K White Mountain 79.05 21 P **P 00 19 40.8 +0.5**
L19K IAmb IAmb 00 19 41.8
comp=Z,12nm,0.8s
WMQ Urumqi 79.49 317 *eP* **P 00 19 45.0 +1.8**
K20K Telida 80.08 21 P **P 00 19 46.3 +0.5**
SUA Susitna One 80.15 23 P **P 00 19 45.9 -0.5**
SUA IAmb IAmb 00 19 59.1
comp=Z,14nm,1.1s
SKT Skwentna 80.15 22 P **P 00 19 44.7 -1.6**
RC01 Rabbit Creek A 80.33 24 P **P 00 19 46.9 -0.3**
RC01 IAmb IAmb 00 19 49.1
comp=Z,10.0nm,0.9s
PPLA Purkeypile 80.46 22 P **P 00 19 47.5 -0.6**
PPLA IAmb IAmb 00 19 58.3
comp=Z,20nm,1.4s
J20K Nowinta River 80.57 20 P **P 00 19 49.6 +1.1**
PWL Port Wells 80.76 24 P **P 00 19 49.0 -0.6**
CAST Castle Rocks 80.82 21 P **P 00 19 48.8 -1.0**
CAST IAmb IAmb 00 19 50.0
comp=Z,11nm,1.0s
GHO Glory Hole Cre 81.04 23 P **P 00 19 50.7 -0.4**
GHO IAmb IAmb 00 20 11.3
comp=Z,18nm,1.2s
SML Sawmill 81.29 23 P **P 00 19 52.5 +0.1**
SML IAmb IAmb 00 19 53.9
comp=Z,16nm,1.0s
KTH Kantishna Hill 81.32 21 P **P 00 19 51.1 -1.4**
KTH IAmb IAmb 00 19 52.3
comp=Z,12nm,1.1s
TRF Thorofare Moun 81.48 22 P **P 00 19 52.7 -0.8**
TRF IAmb IAmb 00 19 54.6
comp=Z,9.7nm,0.9s
BPAW Bear Paw Mtn. 81.62 21 P **P 00 19 52.7 -1.4**
SCM Sheep Creek Mo 81.70 24 P **P 00 19 55.1 +0.5**
IMAR Indian Mountai 81.85 19 P **P 00 19 55.2 0.0**
121K Tanana 81.93 20 P **P 00 19 55.2 -0.4**
H21K Melozitna Rive 81.95 19 P **P 00 19 56.0 +0.2**
RND Reindeer 81.99 22 P **P 00 19 55.1 -0.9**
RND IAmb IAmb 00 19 56.2
comp=Z,11nm,1.0s
KLU Klutina 82.09 24 P **P 00 19 57.2 +0.5**
KLU IAmb IAmb 00 19 58.6
comp=Z,17nm,1.2s
MCK McKinley 82.14 22 P **P 00 19 55.6 -1.2**
MLY Manley 82.26 20 P **P 00 19 56.8 -0.7**
MLY IAmb IAmb 00 20 01.1
comp=Z,14nm,1.4s
DHY Denali Highway 82.36 23 P **P 00 19 58.0 -0.1**
NEA2 Nenana 82.58 21 P **P 00 19 57.8 -1.3**
NEA2 IAmb IAmb 00 19 59.0
comp=Z,13nm,1.2s
QSPA South Pole Qui 82.64 180 P **P 00 20 00.4 +0.8**
I23K Minto, Yukon-K 82.80 20 P **P 00 20 01.2 +1.0**
GLB Gilahina Butte 82.94 25 P **P 00 19 59.7 -1.4**
GLB IAmb IAmb 00 20 02.7
comp=Z,12nm,1.1s
CCB Clear Creek Bu 83.07 21 P **P 00 19 59.8 -1.8**
CCB IAmb IAmb 00 20 08.4
comp=Z,5.4nm,0.7s
MDM Murphy Dome 83.09 21 P **P 00 20 00.1 -1.6**
H23K Yukon River 83.13 20 P **P 00 20 01.8 -0.1**
H23K IAmb IAmb 00 20 03.1
comp=Z,16nm,1.4s
TCOL CIGO, UAF Yank 83.17 21 P **P 00 20 01.2 -0.8**
COLA College 83.18 21 P **P 00 20 01.2 -0.8**
HDA Harding Lake 83.25 22 P **P 00 20 02.2 -0.4**
HDA IAmb IAmb 00 20 06.3
comp=Z,14nm,1.4s
IL31 83.47 21 P **P 00 20 02.3 -1.2**
IL31 IAmb IAmb 00 20 03.3
comp=Z,8.4nm,1.1s
ILAR Eielson Array 83.47 21 P **P 00 20 02.1 -1.5**
comp=Z,0.7nm,0.4s,baz=172,slow=7.2,SNR=7.4
ILAR LR LR 00 52 21.7
comp=Z,132nm,21.2s,baz=264,slow=32
ILAR Eielson Array 83.47 21 P **P 00 20 01.5 -2.1**
BARN Barnard Glacie 83.67 26 P **P 00 20 05.5 +0.5**
BARN IAmb IAmb 00 20 09.9
comp=Z,13nm,1.1s
RIDG Independent Ri 83.68 23 P **P 00 20 04.2 -0.7**
RIDG IAmb IAmb 00 20 09.2
comp=Z,8.5nm,0.8s
MENT Mentasta 83.72 24 P **P 00 20 04.6 -0.4**
MENT IAmb IAmb 00 20 12.1
comp=Z,6.7nm,0.9s
DOT Dot Lake 83.94 23 P **P 00 20 05.7 -0.4**
DOT IAmb IAmb 00 20 07.0
comp=Z,9.0nm,1.0s
MK31 Makanchi Array 84.06 319 P **P 00 20 06.4 -0.7**
MKAR Makanchi Array 84.06 319 P **P 00 20 06.5 -0.7**
comp=Z,3.6nm,0.8s,baz=100,slow=8.6,SNR=16
MKAR LR LR 00 59 11.5
comp=Z,54nm,18.7s,baz=94,slow=37
MKAR Makanchi Array 84.06 319 P **P 00 20 06.8 -0.3**
SCRK Sand Creek 84.13 23 P **P 00 20 06.4 -0.8**
SCRK IAmb IAmb 00 20 07.6
comp=Z,7.5nm,1.1s
M27K Edge Creek, AK 84.18 25 P **P 00 20 07.5 -0.1**
MAKZ Makanchi 84.28 319 P **P 00 20 06.9 -1.3**
MAKZ IAmb IAmb 00 20 35.2
comp=Z,7.6nm,0.9s
MAW Mawson 84.32 203 P **P 00 20 09.1 +1.1**
comp=Z,4.0nm,0.9s,baz=78,slow=4.8,SNR=6.8
MAW LR LR 00 55 58.3
comp=Z,62nm,18.5s,baz=57,slow=34
MAW Mawson 84.32 203 P **P 00 20 08.7 +0.7**
L27K Beaver Creek, 84.53 24 P **P 00 20 09.1 -0.1**
L27K IAmb IAmb 00 20 10.7
comp=Z,7.7nm,1.1s
BCAR Beaver Creek A 84.55 24 P **P 00 20 09.1 -0.2**
ZAA0 Zalesovo Array 84.80 326 P **P 00 20 10.3 -0.3**
ZALV Zalesovo Beam 84.80 326 P **P 00 20 09.3 -1.3**
comp=Z,3.5nm,0.7s,baz=118,slow=6.0,SNR=8.9
ZALV Zalesovo Beam 84.80 326 P **P 00 20 08.6 -2.1**

K27K Chicken 84.89 23 P **P 00 20 11.3 +0.4**
K27K IAmb IAmb 00 20 14.9
comp=Z,10nm,1.2s
HYT Haines Junctio 85.40 27 P **P 00 20 13.8 +0.2**
HYT IAmb IAmb 00 20 22.4
comp=Z,7.5nm,0.9s
EGAK Eagle 85.59 23 P **P 00 20 13.7 -0.7**
EGAK IAmb IAmb 00 20 20.7
comp=Z,7.5nm,1.0s
KSH Kashi 86.70 310 P **P 00 20 21.8 +1.2**
KSH pP sP 00 20 47.5 +15
KSH Kashi 86.70 310 S **S 00 30 48.0 -8.4**
KSH pmax pmax
comp=Z,8.0nm,1.1s
KURBB Kurchatov Arra 87.51 322 P **P 00 20 22.7 -1.3**
comp=Z,0.6nm,0.4s,baz=100,slow=4.7,SNR=4.4
NIL Nilore 87.71 304 P **P 00 20 24.1 -1.4**
EPYK Eagle Plains 87.95 22 P **P 00 20 26.1 +0.2**
DLBC Dease Lake 88.12 30 P **P 00 20 27.3 +0.3**
comp=Z,3.0nm,0.9s,baz=266,slow=3.9,SNR=3.9
YBH Yreka Blue Hor 88.66 48 P **P 00 20 29.7 -0.2**
comp=Z,0.9nm,0.7s,baz=149,slow=14,SNR=3.1
INK Inuvik 89.82 21 P **P 00 20 33.1 -1.5**
comp=Z,5.9nm,0.8s,baz=191,slow=4.8,SNR=6.3
INK Inuvik 89.82 21 P **P 00 20 34.1 -0.4**
INK IAmb IAmb 00 20 35.6
comp=Z,12nm,1.1s
BTK Batken 90.70 310 P **P 00 20 38.0 -1.5**
BTK IAmb IAmb 00 20 39.9
comp=Z,8.2nm,1.2s
NVAR Mina Array Bea 91.45 52 P **P 00 20 45.3 +2.1**
comp=Z,1.3nm,0.7s,baz=240,slow=6.6,SNR=7.7
NVAR LR LR 00 54 26.9
comp=Z,74nm,21.9s,baz=274,slow=31
KVN Kaiserville 91.69 51 P **P 00 20 44.4 +0.1**
BVAR Borovoye Array 92.94 323 P **P 00 20 48.5 -0.9**
comp=Z,3.1nm,0.7s,baz=144,slow=5.3,SNR=9.6
R11A Troy Canyon, C 93.56 52 P **P 00 20 51.7 -1.2**
R11A IAmb IAmb 00 20 53.4
comp=Z,7.6nm,0.9s
SPR3 Spring Creek 3 94.60 51 P **P 00 20 59.4 +1.6**
PDAR Pinedale Array 98.47 48 P **P 00 21 14.2 -0.9**
comp=Z,0.6nm,0.7s,baz=214,slow=4.5,SNR=6.0
PDAR LR LR 01 02 24.1
comp=Z,137nm,18.8s,baz=288,slow=33
PDAR Pinedale Array 98.47 48 P **P 00 21 14.5 -0.7**
SNAA Sanae 99.88 187 Pdiff **Pdif 00 21 21.6 +0.9**
VNA3 Neumayer Olymp 100.97 185 Pdiff **Pdif 00 21 21.2 -4.3**
VNA2 Neumayer--Watz 101.07 186 Pdiff **Pdif 00 21 21.5 -4.5**
VNA1 Neumayer--Stat 101.42 185 Pdiff **Pdif 00 21 23.6 -3.8**
ARCES ARCESS Array B 110.09 343 PKiKP **PKiKP 00 26 07.7 +0.3**
comp=Z,0.6nm,0.6s,baz=77,slow=1.6,SNR=9.8
ARCES ARCESS Array B 110.09 343 **PKiKP 00 26 05.2 -2.2**
FINES FINESS Array B 114.50 336 PKP **PKiKP 00 26 14.9 -1.1**
comp=Z,1.8nm,0.9s,baz=135,slow=0.8,SNR=6.4
FINES FINESS Array B 114.50 336 **PKiKP 00 26 14.7 -1.3**
PLCA Paso Flores 116.08 142 PKP **PKPdf 00 26 20.6 +0.7**
comp=Z,1.7nm,0.8s,baz=215,slow=2.6,SNR=3.5
PLCA Paso Flores 116.08 142 **PKiKP 00 26 19.3 -0.6**
BRTR Keskin Array B 119.07 312 PKP **PKPdf 00 26 24.5 -1.2**
comp=Z,0.5nm,0.9s,baz=48,slow=2.1,SNR=2.2
BRTR PKKPbc **PKKPbc 00 36 41.0 +0.4**
comp=Z,0.8nm,0.8s,baz=135,slow=0.7,SNR=5.2
HFS Hagfors 120.04 339 PKP **PKPdf 00 26 25.2 -1.5**
comp=Z,2.4nm,0.8s,baz=19,slow=4.9,SNR=1.9
NOA NORSAR Array B 120.22 341 PKP **PKPdf 00 26 25.8 -1.3**
comp=Z,0.8nm,0.8s,baz=40,slow=4.3,SNR=1.4
KRLC Kraliky 125.32 329 *e*PKPDF **PKPdf 00 26 36.1 -1.1**
CHVC Chvalec 125.38 330 *e*PKPDF **PKiKP 00 26 38.3 +0.6**
DPC Dobruska-Polom 125.39 329 *e*PKPDF **PKiKP 00 26 39.4 +1.7**
CKRC Cesky Krumlov 127.36 329 *e*PKPDF **PKiKP 00 26 41.7 0.0**
CKRC *ex* x 00 26 49.7
KHC Kasperske Hory 127.54 329 *e*PKPDF **PKPdf 00 26 41.7 +0.2**
KHC *ex* x 00 26 50.1
GERES GERESS Array B 127.66 329 PKP **PKPdf 00 26 42.1 +0.3**
comp=Z,1.1nm,0.8s,baz=64,slow=3.1,SNR=7.7
GERES GERESS Array B 127.66 329 **PKPdf 00 26 40.6 -1.2**
ROSC El Rosal 130.31 90 PKP **PKiKP 00 26 48.9 -0.2**
comp=Z,6.4nm,0.4s,baz=128,slow=20,SNR=4.3
ROSC El Rosal 130.31 90 **PKPdf 00 26 46.0 -2.2**
LPAZ La Paz 130.76 119 PKP **PKiKP 00 26 50.3 +0.2**
comp=Z,7.7nm,0.9s,baz=323,slow=1.2,SNR=24
LPAZ SKPbc **SKPab 00 30 14.5 +3.0**
comp=Z,6.5nm,0.9s,baz=177,slow=1.1,SNR=16
DAVOX Davos/Dischmat 130.96 329 PKP **PKPdf 00 26 48.4 +0.1**
comp=Z,1.5nm,0.6s,baz=60,slow=14,SNR=3.9
CPUP Villa Florida 133.72 138 PKP **PKPdf 00 26 54.3 +0.4**
comp=Z,4.2nm,0.8s,baz=35,slow=2.5,SNR=8.1
CPUP SKPbc **SKPab 00 30 23.3 +0.1**
comp=Z,4.9nm,1.0s,baz=253,slow=5.6,SNR=4.7
ESDC Sonseca Array 142.95 333 PKhKP PKPpre 00 27 07.0
comp=Z,0.9nm,0.9s,baz=13,slow=3.3,SNR=2.9
PMRV Marv??o 144.58 337 *e*PKP PKPbc 00 27 12.2 +0.3
PMTG Montargil 145.21 338 *e*PKP **PKPab 00 27 14.2 +0.2**
PBAR Barrancos 145.52 335 *e*PKP **PKPab 00 27 15.5 +0.3**
EVO Evora 145.60 337 *e*PKP **PKPab 00 27 15.6 +0.1**
PBEJ Beja 145.98 336 *e*PKP **PKPdf 00 27 16.0 +0.3**
MESJ Messejana 146.28 337 *e*PKP **PKPdf 00 27 13.5 -2.7**
PVAQ Vaqueiros 146.45 339 *e*PKP **PKPdf 00 27 15.8 -0.7**
BDFB Brasilia 147.30 134 PKPbc **PKPbc 00 27 20.4 -0.6**
comp=Z,41nm,0.8s,baz=153,slow=0.4,SNR=44
TORD Torodi Ar. Bea 153.71 285 PKPbc **PKPbc 00 27 35.9 -0.5**
comp=Z,2.9nm,0.9s,baz=78,slow=2.0,SNR=18
TORD Torodi Ar. Bea 153.71 285 PKPdf **PKPdf 00 27 28.4 -0.1**
TORD **PKPbc 00 27 35.4 -0.9**
DBIC Dimbokro 160.60 269 PKPab **PKPab 00 28 18.3 -0.6**
comp=Z,3.6nm,0.7s,baz=90,slow=2.0,SNR=2.2

IDC 16 00:12:54.1±1.6, 2.60S×139.29E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.3/51, mbtmpg3.4/3, ML3.3/1, Error ellipse: s-maj=34.2km s-min=16.6km az=171.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAY	**Jayapura**	**1.42**	**87**	Pg		Pg	00 13 21.3	0.0
	5.8nm,0.3s,baz=252,slow=9.6,SNR=33							
JAY				Lg		Lg	00 13 38.7	
	12nm,0.3s,baz=144,slow=23,SNR=6.0							
WRA	**Warramunga Arr**	**17.90**	**195**	P		P	00 17 05.2	-0.2
	0.1nm,0.3s,baz=20,slow=12,SNR=1.5							
ASAR	**Alice Springs**	**21.58**	**194**	P		P	00 17 45.1	-0.5
	0.4nm,0.6s,baz=22,slow=9.1,SNR=2.0							
MKAR	**Makanchi Array**	**70.06**	**322**	P		P	00 24 07.8	-0.3
	0.5nm,0.8s,baz=102,slow=7.8,SNR=1.8							

*NSSP **16** 00:14:34.6, 40.42N×42.31E, h11km, Ms3.8*
*DDA **16** 00:14:36.7, 40.42N×42.31E, h11km±1km, MW3.9*
*ISK **16** 00:14:36.8, 40.43N×42.29E, h6km, ML3.9/23*
*TIF **16** 00:14:36.3, 40.41N×42.29E, h9km±1km*
*IDC **16** 00:14:37.0±0.9, 40.42N×42.29E, h0km, mb3.4/5, mb1 3.5/13, mb1mx3.4/62, mbtmpg3.3/13, ML2.5/6, MS2.9/11, Ms1 2.9/11, ms1mx2.7/35, Error ellipse: s-maj=12.4km s-min=9.3km az=12.0*

ISC 16 00:14:36.9±0.9, 40.43N±0.01×42.31E±0.01, h7km±7km, n119, σ1s18/161, mb3.4/5, MS3.0/3, 12C-6D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SENK	**Senkaya-Erzuru**	**0.14**	**14**	PG		**Pg**	**00 14 40.6**	**+0.6**
SENK				SG		**Sg**	**00 14 43.3**	**+1.2**
HOMI	**Horasan**	**0.49**	**219**	*i* P		**Pg**	**00 14 46.4**	**-0.1**
HOMI				*i* S		**Sb**	**00 14 54.2**	**-1.3**
KOPR	**Koprukoy-ERZUR**	**0.56**	**219**	PG		**Pg**	**00 14 47.9**	**+0.1**
KOPR				SG		**Sb**	**00 14 56.2**	**-1.2**
EATA	**Eleskirt**	**0.58**	**166**	*i* P		**Pg**	**00 14 48.4**	**+0.2**
EATA				*i* S		**Sg**	**00 14 55.3**	**-0.7**
KARS	**Kars**	**0.62**	**71**	PG		**Pg**	**00 14 49.5**	**+0.6**
KARS				SG		**Sb**	**00 14 58.9**	**-0.2**
DBAD	**Bademkaya**	**0.75**	**322**	*i* P		**Pb**	**00 14 51.8**	**-0.6**
DBAD				*i* S		**Sb**	**00 15 02.5**	**-0.3**
DIGO	**Kars**	**0.81**	**91**	*i* P		**Pg**	**00 14 52.2**	**-0.5**
DIGO				*i* S		**Sg**	**00 15 02.0**	**-1.2**
ERZM	**Erzurum**	**0.89**	**234**	*i* P		**Pb**	**00 14 54.4**	**-0.5**
ERZM				*i* S		**Sg**	**00 15 05.3**	**-0.4**
EJDE	**Erzurum, Palan**	**0.97**	**233**	*i* P		**Pb**	**00 14 55.8**	**-0.5**
EJDE				*i* S		**Sb**	**00 15 09.6**	**+0.1**
AGRB	**Hanur-Agry**	**1.00**	**148**	PG		**Pg**	**00 14 55.9**	**-0.3**
AGRB				SG		**Sn**	**00 15 11.2**	**-0.8**
EAK	**Akyaka**	**1.02**	**75**	*i* P		**Pg**	**00 14 56.4**	**-0.2**
EAK				*i* S		**Sg**	**00 15 09.6**	**-0.3**

DBOC Borcka 1.03 332 *i* P **Pg 00 14 56.5 -0.4**
DBOC *i* S **Sg 00 15 09.1 -1.2**
KRIK Erzurum-spir 1.06 265 *i* P **Pb 00 14 57.4 -0.2**
KRIK *i* S **Sb 00 15 11.8 0.0**
EPOS Posof 1.12 16 *i* P **Pn 00 14 58.8 -0.3**
EPOS *i* S **Sn 00 15 14.3 -0.5**
BCA Borcka 1.14 333 ⇓P **Pg 00 14 58.1 -0.7**
BCA Borcka 1.14 333 ⇑S **Sb 00 15 14.0 +0.1**
BCA Borcka 1.14 333 PN **Pg 00 14 58.3 -0.5**
HOPA Hopa-Artvin 1.16 326 PN **Pb 00 14 58.2 -1.0**
EKAR Karacoban 1.19 189 *i* P **Pn 00 15 01.0 +0.8**
EKAR *i* S **Sn 00 15 19.6 +3.0**
VNNZ Vanand 1.21 105 *i* P **Pb 00 14 59.6 -0.5**
VNNZ *i* S **Sn 00 15 17.8 +0.9**
MLNZ Malazgirt-MUS 1.30 172 PN **Pb 00 15 01.3 -0.5**
ECAT Cat-ERZURUM 1.31 232 *i* P **Pn 00 15 01.3 -0.6**
ECAT *i* S **Sn 00 15 20.2 +0.5**
AKH Akhalkalaki 1.33 42 ⇑P **Pb 00 15 02.3 +0.1**
AKH Akhalkalaki 1.33 42 P **Pb 00 15 02.4 +0.1**
AKH S **Sn 00 15 20.9 +0.9**
AKH Akhalkalaki 1.33 42 PN **Pb 00 15 02.3 +0.1**
CHOM Cayeli-Rize 1.35 300 PN **Pg 00 15 02.5 -0.3**
CHAY Cayeli-Rize 1.37 299 PN **Pg 00 15 02.8 -0.4**
ABS Abastumani 1.38 16 P **Pb 00 15 03.1 0.0**
ABS S **Sg 00 15 22.6 +1.4**
DYDN Diyadin 1.38 129 *i* P **Pb 00 15 02.7 -0.5**
DYDN *i* S **Sg 00 15 21.2 -0.2**
METS Metsamor 1.38 101 *i* P **Pg 00 15 03.3 -0.2**
METS *i* S **Sg 00 15 24.0 +2.6**
VRTB Varto-Mus 1.43 208 *i* P **Pg 00 15 05.2 +0.9**
VRTB *i* S **Sg 00 15 27.1 +4.3**
VRTB Varto-Mus 1.43 208 PN **Pg 00 15 04.7 +0.4**
KOPT Kop Dagi 1.45 254 *i* P **Pg 00 15 04.6 0.0**
KOPT *i* S **Sg 00 15 25.7 +2.3**
IGDI IGDIR 1.47 112 *i* P **Pg 00 15 04.7 -0.4**
IGDI *i* S **Sg 00 15 25.2 +1.0**
KARO Karliova-Bingo 1.48 221 PN **Pb 00 15 04.5 -0.3**
TASB TASBURUN-IGDIR 1.54 106 PN **Pb 00 15 05.5 -0.4**
BAYB BAYBURT 1.58 264 *i* P **Pg 00 15 06.5 -0.7**
BAYB *i* S **Sb 00 15 26.3 -0.4**
BKRG Bakuriani 1.61 34 P **Pg 00 15 07.9 0.0**
BKRG S **Sg 00 15 29.8 +0.9**
ERCV ERCIS-VAN 1.62 150 PN **Pb 00 15 06.9 -0.3**
BAYT Aydıntepe-Bayb 1.66 269 PN **Pb 00 15 07.2 -0.6**
BRNG Burnasheti 1.66 43 P **Pb 00 15 08.2 +0.4**
STE Stepanavan 1.67 69 *i* P **Pb 00 15 07.8 -0.2**
STE *i* S **Sg 00 15 32.5 +2.0**
YEDI Yedisu-Bingol 1.68 234 PN **Pb 00 15 07.5 -0.7**
DMNI Dmanisi 1.69 57 P **Pb 00 15 08.2 -0.2**
DMNI S **Sg 00 15 31.1 0.0**
VMUR Van-Muradiye 1.74 145 *i* P **Pg 00 15 09.4 -0.8**
VMUR *i* S **Sb 00 15 31.7 +0.3**
TRLG Trialeti 1.75 50 P **Pb 00 15 09.7 +0.2**
TRLG S **Sg 00 15 34.0 +0.7**
CLDR Caldiran 1.79 136 *i* P **Pb 00 15 09.4 -0.6**
CLDR *i* S **Sb 00 15 33.2 +0.4**
CLDR Caldiran 1.79 136 PN **Pb 00 15 09.2 -0.9**
MUSM Mu-Merkez 1.81 200 *i* P **Pb 00 15 09.8 -0.7**
MUSM *i* S **Sg 00 15 34.7 -0.5**
KAPZ Kaputan 1.83 93 *i* P **Pb 00 15 10.2 -0.6**
KAPZ *i* S **Sg 00 15 36.0 +0.3**
KZRT Kazreti 1.85 58 P **Pb 00 15 11.0 -0.1**
KZRT S **Sg 00 15 36.1 -0.3**
KZRT Kazreti 1.85 58 *i* P **Pb 00 15 10.8 -0.2**
KZRT *i* S **Sn 00 15 32.7 0.0**
NRKZ NAREK 1.85 103 *i* P **Pb 00 15 11.6 +0.4**
NRKZ *i* S **Sg 00 15 38.4 +1.9**
GNI Garni 1.88 98 Pn **Pb 00 15 11.7 0.0**
66nm,0.3s,baz=295,slow=5.3,SNR=284
GNI Lg Lg 00 15 39.0
48nm,0.3s,baz=277,slow=14,SNR=2.6
GNI LR LR 00 16 04.2
comp=Z,256nm,19.6s,baz=180,slow=46
GNI Garni 1.88 98 *i* P **Pb 00 15 11.1 -0.6**
GNI *i* S **Sg 00 15 38.0 +0.5**
GNI Garni 1.88 98 PN **Pb 00 15 10.5 -1.2**
GURO Guroymak-BITLI 1.89 187 PN **Pb 00 15 10.4 -1.4**
BNGB Bingl 1.91 222 PN **Pb 00 15 10.6 -1.5**
TKB Tkibuli 1.99 15 P **Pb 00 15 13.4 0.0**
TKB S **Sg 00 15 40.2 -0.6**
KTUT Trabzon 2.01 287 ⇑P **Pb 00 15 13.1 -0.6**
KTUT Trabzon 2.01 287 ⇑S **Sb 00 15 37.8 -1.2**
KTUT Trabzon 2.01 287 PN **Pn 00 15 11.9 +0.7**
VANB Van 2.02 155 PN **Pb 00 15 13.6 -0.3**
BLIS Bitlis-Merkez 2.02 184 *i* P **Pb 00 15 12.6 -1.4**
BLIS *i* S **Sg 00 15 40.0 -1.8**
TVAN Van 2.08 156 *i* P **Pb 00 15 15.5 +0.4**
TVAN *i* S **Sg 00 15 43.5 -0.3**
EUZM Uzumlu 2.13 251 *i* P **Pn 00 15 13.7 +0.7**
EUZM *i* S **Sg 00 15 44.1 -1.2**
ERZN Erzincan 2.16 248 PN **Pn 00 15 14.0 +0.6**
BTNK Botanikuri 2.26 56 P **Pn 00 15 13.6 -1.1**
BTNK Botanikuri 2.26 56 *i* P **Pn 00 15 13.4 -1.3**
CHVG Ch'k'valeri 2.29 356 P **Pb 00 15 17.9 -0.6**
CHVG S **Sg 00 15 51.0 +0.4**
SEAG Tbilisi Sea 2.31 54 P **Pg 00 15 20.3 -0.9**
SEAG S **Sg 00 15 53.5 +2.3**
ONI Oni 2.32 21 P **Pb 00 15 17.9 -1.3**
ONI S **Sg 00 15 51.8 +0.2**
KELT Kelkit 2.35 264 *i* P **Pb 00 15 20.1 +0.4**
KELT *i* S **Sb 00 15 47.5 -1.5**
SRTM Siirt_Merkez 2.45 187 *i* P **Pb 00 15 19.1 -2.3**
SRTM *i* S **Sb 00 15 51.3 -0.5**
PERV Siirt/Pervari- 2.49 176 *i* P **Pb 00 15 20.5 -1.5**
PERV *i* S **Sg 00 15 54.7 -2.1**
HANI Diyarbakir_Han 2.50 217 *i* P **Pb 00 15 19.8 -2.4**
HANI *i* S **Sg 00 15 58.0 +0.9**
DGRG David-gareji 2.54 65 P **Pb 00 15 21.1 -1.7**
DGRG David-gareji 2.54 65 *i* P **Pb 00 15 21.1 -1.7**
KOVA Elazig, Kovanc 2.59 229 *i* P **Pn 00 15 19.1 -0.2**
KOVA *i* S **Sg 00 16 01.0 +1.0**
GUDG Gudauri 2.61 38 P **Pn 00 15 16.9 -2.7**
ALUC Giresun/Alucra 2.70 269 *i* P **Pb 00 15 25.1 -0.6**
ALUC *i* S **Sb 00 15 57.3 -1.8**
MTEO Meteo 2.80 36 P **Pb 00 15 25.4 -2.1**
PNSH Pansheti 2.80 37 P **Pb 00 15 24.9 -2.5**
REFA Refahiye_ERZN 2.91 250 *i* P **Pb 00 15 28.5 -0.8**
KEMA Kemaliye 3.16 250 *i* P **Pb 00 15 34.1 +0.7**
KBZ Khabaz 3.33 7 Pn **Pb 00 15 32.6 -3.5**
0.8nm,0.3s,baz=185,slow=1.0,SNR=14
KBZ Lg Lg 00 16 20.2
0.8nm,0.3s,baz=278,slow=3.5,SNR=4.3
KBZ LR LR 00 17 09.3
comp=Z,184nm,20.9s,baz=185,slow=46
KVAR Kislovodsk Arr 3.54 5 Pn **Pn 00 15 35.5 +3.2**
baz=261,slow=19,SNR=2.8
KVAR Lg Lg 00 16 30.3
baz=241,slow=19,SNR=2.6
KVAR LR LR 00 17 21.2
comp=Z,96nm,18.2s,baz=96,slow=46
BRTR Keskin Array B 6.69 267 Pn **Pn 00 16 19.1 +3.5**
0.0nm,0.3s,baz=84,slow=13,SNR=2.8
BRTR LR LR 00 19 14.5
comp=Z,242nm,19.9s,baz=77,slow=42
MMAI Mount Meron Ar 9.24 219 Pn **Pn 00 16 51.6 +1.0**
0.3nm,0.3s,baz=74,slow=15,SNR=1.4
TLCR 10.99 300 ⇑P **Pn 00 17 14.8 +0.4**
TIRR Tirgusor 11.03 296 ⇑P **Pn 00 17 15.7 +0.8**
TPGR Topolog 11.14 298 ⇓P **Pn 00 17 16.3 -0.2**
CFR Carcaliu 11.44 299 ⇑P **Pn 00 17 21.3 +0.8**
BELG Belogornoye 12.51 15 LR LR 00 23 14.1
comp=Z,57nm,20.5s,baz=136,slow=41
GEYT Alibeck 12.52 96 LR LR 00 23 33.4
comp=Z,23nm,20.2s,baz=350,slow=43
VRI Vrincioaia 12.60 301 ⇓P **Pn 00 17 37.0 +0.5**
SORM Soroca 12.61 312 ⇑P **Pn 00 17 36.2 -0.4**
PLOR Plostina 12.65 301 ⇑P **Pn 00 17 36.7 +0.5**
TESR Tescani 12.89 303 ⇑P **Pn 00 17 40.7 +0.3**
MLR Muntele Rosu 13.00 298 ⇓P **Pn 00 17 42.0 0.0**
MLR Muntele Rosu 13.00 298 Pn **Pn 00 17 43.8 +1.7**
baz=48,slow=14
DOPR Dopca 13.52 300 ⇑P **Pn 00 17 48.7 -0.3**
VOIR 13.59 297 ⇓P **Pn 00 17 49.3 -0.8**
AKASG Malin Array Be 13.74 323 Pn **Pn 00 17 52.3 +0.3**
1.7nm,0.3s,baz=138,slow=14,SNR=10
BURAR Bucovina Array 14.22 306 ⇑P **Pn 00 17 58.9 +0.2**
IDI Anoyia 14.68 255 LR LR 00 25 03.6
comp=Z,18nm,18.8s,baz=83,slow=43
AKTO Aktyubinsk 14.86 42 Pn **Pn 00 18 05.2 -2.1**
0.1nm,0.3s,baz=207,slow=11,SNR=2.3
GZR Gura Zlata 15.14 296 ⇓P **Pn 00 18 10.4 -0.7**

KOLS	**Kolonicke sedl**	**16.55**	**308**	*e*P	P	00 18 40.2	+8.2
KIRV	**Kirov**	**18.73**	**12**	LR	LR	00 27 18.5	
	comp=Z,15nm,21.5s,baz=161,slow=41						
ARU	**Arti**	**19.22**	**28**	Pn	**P**	**00 18 59.2**	**-2.1**
	0.0nm,0.3s,baz=217,slow=20,SNR=2.2						
ARU				LR	LR	00 28 38.3	
	comp=Z,38nm,18.3s,baz=228,slow=44						
GERES	**GERESS Array B**	**21.92**	**302**	P	**P**	**00 19 30.1**	**-0.7**
	0.4nm,0.7s,baz=98,slow=9.6,SNR=4.1						
BVAR	**Borovoye Array**	**22.83**	**47**	P	**P**	**00 19 42.4**	**+2.0**
	0.6nm,0.8s,baz=245,slow=16,SNR=3.3						
FINES	**FINESS Array B**	**23.26**	**340**	P	**P**	**00 19 45.9**	**+1.2**
	2.7nm,0.9s,baz=143,slow=16,SNR=5.4						
HFS	**Hagfors**	**26.54**	**328**	LR	LR	00 32 10.9	
	comp=Z,44nm,18.1s,baz=130,slow=40						
NOA	**NORSAR Array B**	**28.06**	**328**	LR	LR	00 32 34.1	
	comp=Z,27nm,21.6s,baz=295,slow=38						
ARCES	**ARCESS Array B**	**30.49**	**348**	P	**P**	**00 20 53.0**	**+3.0**
	1.4nm,1.0s,baz=174,slow=10.0,SNR=2.1						
TORD	**Torodi Ar. Bea**	**44.73**	**244**	P	**P**	**00 22 51.6**	**+0.7**
	0.4nm,0.8s,baz=50,slow=7.8,SNR=2.0						
SONM	**Songino Array**	**45.40**	**58**	LR	LR	00 44 18.8	
	comp=Z,106nm,20.6s,baz=117,slow=39						

IDC 16 00:20:00.3±2.4, 10°.21S×121°.27E, h0km, mb3.7/1, mb1 3.4/4, mb1mx3.2/48, mbtmp3.3/4, ML2.8/2, Error ellipse: s-maj=74.1km s-min=30.3km az=38.0, Savu Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.35**	**90**	Pn	Pn		00 20 40.5	+0.3
	4.7nm,0.3s,baz=332,slow=5.6,SNR=1.9							
BATI				Sn	Sn		00 21 05.5	-4.4
	9.4nm,0.3s,baz=18,slow=23,SNR=6.0							
WRA	**Warramunga Arr**	**15.89**	**129**	Pn	Pn		00 23 43.3	-2.2
	0.0nm,0.3s,baz=306,slow=14,SNR=1.4							
WRA				Sn	Sn		00 26 24.5	-18
	0.1nm,0.3s,baz=315,slow=28,SNR=1.6							
ASAR	**Alice Springs**	**18.01**	**140**	P	P		00 24 13.5	+0.6
	baz=316,slow=12,SNR=1.8							
MKAR	**Makanchi Array**	**66.56**	**332**	P	P		00 30 52.2	0.0
	0.7nm,0.8s,baz=146,slow=6.0,SNR=2.4							

IDC 16 00:23:14.2±1.3, 32°.72S×178°.28W, h0km, mb4.3/3, mb1 4.5/4, mb1mx3.9/34, mbtmp4.3/4, ML4.0/1, Error ellipse: s-maj=42.1km s-min=33.3km az=164.0
NEIC 16 00:23:18.7±1.2, 33°.05S±0°.1×178°.60W±0°.05, h10km±2km, mb4.5/11, Error ellipse: s-maj=22.0km s-min=7.2km az=180.0

ISC 16 00:23:20.4±0.9, 32°.94S±0°.09×178°.5W±0°.2, h32km, n31, σ1s11/27, mb4.4/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.71**	**7**	Pn	**Pn**		**00 24 16.5**	**+1.0**
MXZ	**Matakaoa Point**	**5.31**	**209**	Pn	**Pn**		**00 24 37.3**	**-0.2**
URZ	**Urewera**	**6.41**	**213**	Pn	**Pn**		**00 24 53.7**	**+1.2**
	2.9nm,0.3s,baz=241,slow=3.6,SNR=18							
URZ				Sn	**Sn**		**00 26 05.7**	**+1.1**
	2.5nm,0.3s,baz=112,slow=16,SNR=1.7							
EIDS	**Eidsvold**	**27.58**	**278**	P	**P**		**00 29 05.4**	**+0.7**
EIDS				IAmb	IAmb		00 29 20.7	
	comp=Z,16nm,1.5s							
TOO	**Toolangi**	**29.68**	**251**	P	**P**		**00 29 23.8**	**+0.6**
TOO				IAmb	IAmb		00 29 45.2	
	comp=Z,7.5nm,1.1s							
CTA	**Charters Tower**	**33.91**	**283**	P	**P**		**00 30 00.6**	**0.0**
	comp=Z,3.8nm,0.5s,baz=117,slow=9.6,SNR=9.4							
CTAO	**Charters Tower**	**33.91**	**283**	P	**P**		**00 30 01.8**	**+1.2**
CTAO				IAmb	IAmb		00 30 20.4	
	comp=Z,7.5nm,1.0s							
AS31	**Alice Springs**	**42.64**	**270**	P	**P**		**00 31 14.1**	**0.0**
ASAR	**Alice Springs**	**42.64**	**270**	P	**P**		**00 31 13.7**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=107,slow=7.7,SNR=16							
ASAR	**Alice Springs**	**42.64**	**270**	P	**P**		**00 31 13.8**	**-0.3**
WR0	**Warramunga Arr**	**43.69**	**275**	P	**P**		**00 31 21.9**	**-0.6**
WR0				IAmb	IAmb		00 31 45.4	
	comp=Z,13nm,1.5s							
WB2	**Warramunga Arr**	**43.85**	**275**	P	**P**		**00 31 23.3**	**-0.5**
WRAB	**Tennant Creek**	**43.86**	**275**	P	**P**		**00 31 23.1**	**-0.7**
WRAB				IAmb	IAmb		00 31 23.8	
	comp=Z,4.7nm,0.7s							
WRA	**Warramunga Arr**	**43.86**	**275**	P	**P**		**00 31 23.2**	**-0.8**
	comp=Z,4.3nm,0.5s,baz=116,slow=7.7,SNR=79							
WRA	**Warramunga Arr**	**43.86**	**275**	P	**P**		**00 31 23.0**	**-0.9**
FORT	**Forrest**	**45.07**	**258**	P	**P**		**00 31 32.5**	**-0.9**
FITZ	**Fitzroy Crossi**	**52.01**	**272**	P	**P**		**00 32 26.0**	**-1.0**
FITZ				IAmb	IAmb		00 32 34.2	
	comp=Z,2.7nm,0.9s							
QSPA	**South Pole Qui**	**57.17**	**180**	P	**P**		**00 33 05.8**	**+1.8**
QSPA				IAmb	IAmb		00 33 14.0	
	comp=Z,4.8nm,1.1s							
H03S2	**Juan Fernandez**	**79.39**	**123**	T	T		02 03 10.5	
	baz=235							
H03S1	**Juan Fernandez**	**79.41**	**123**	T	T		02 03 11.6	
	baz=235							
H03S3	**Juan Fernandez**	**79.41**	**123**	T	T		02 03 09.9	
	baz=235							
MKAR	**Makanchi Array**	**119.08**	**309**	PKP	**PKPdf**		**00 42 03.9**	**-1.7**
	comp=Z,0.8nm,0.9s,baz=134,slow=2.3,SNR=1.7							
ARCES	**ARCESS Array B**	**140.98**	**347**	PKhKP	PKPpre		00 42 40.6	
	comp=Z,2.0nm,1.0s,baz=34,slow=1.3,SNR=5.3							
ARCES	**ARCESS Array B**	**140.98**	**347**		PKPpre		00 42 39.6	
FINES	**FINESS Array B**	**147.38**	**338**	PKPbc	**PKPbc**		**00 42 58.6**	**-1.4**
	comp=Z,3.6nm,0.7s,baz=49,slow=4.1,SNR=21							
FINES	**FINESS Array B**	**147.38**	**338**		**PKPdf**		**00 42 58.1**	**+0.6**
NB2	**NORSAR Subarra**	**151.19**	**350**	PKP	**PKPbc**		**00 43 07.8**	**-1.9**
	comp=Z,0.4nm,0.5s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**151.19**	**350**	PKPbc	**PKPbc**		**00 43 07.7**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=17,slow=4.2,SNR=4.4							
BRTR	**Keskin Array B**	**153.37**	**294**	PKPbc	**PKPbc**		**00 43 14.2**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=149,slow=4.0,SNR=7.9							
TORD	**Torodi Ar. Bea**	**160.29**	**180**	PKPab	**PKPab**		**00 43 57.6**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=183,slow=4.0,SNR=1.3							
TORD	**Torodi Ar. Bea**	**160.29**	**180**	PKPdf	**PKPdf**		**00 43 16.2**	**-1.0**

IDC 16 00:29:58.8±1.1, 55°.31S×26°.96W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.8/21, mbtmp3.8/4, Error ellipse: s-maj=51.2km s-min=25.5km az=88.0
NEIC 16 00:30:05.0±2.5, 55°.45S±0°.1×27°.2W±0°.2, h35km±2km, mb4.3/9, Error ellipse: s-maj=26.3km s-min=9.9km az=37.0

ISC 16 00:30:03.0±0.9, 55°.3S±0°.1×27°.2W±0°.2, h25km, n15, σ0s76/14, mb4.1/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.49**	**277**	Pn	**Pn**		**00 31 22.8**	**-0.3**
SNAA	**Sanae**	**19.41**	**157**		**Pn**		**00 34 28.8**	**+0.8**
PMSA	**Palmer Station**	**20.40**	**228**	P	Pn		00 34 38.9	-0.8
TRQA	**Tornquist**	**29.06**	**292**	P	**P**		**00 36 01.2**	**+0.2**
QSPA	**South Pole Qui**	**34.93**	**180**	P	**P**		**00 36 52.6**	**+0.2**
	0.6nm,0.3s,baz=199,slow=1.4,SNR=9.5							
QSPA	**South Pole Qui**	**34.93**	**180**	P	**P**		**00 36 52.7**	**+0.2**
QSPA				IAmb	IAmb		00 37 18.0	
	comp=Z,5.0nm,1.4s							
MT09	**Talagante**	**37.10**	**287**	P	**P**		**00 37 10.6**	**-0.7**
MT09				IAmb	IAmb		00 37 19.1	
	comp=Z,4.3nm,1.0s							
LVC	**Limon Verde**	**44.95**	**299**	P	**P**		**00 38 17.8**	**+1.6**
LVC				IAmb	IAmb		00 38 22.3	
	comp=Z,7.5nm,1.3s							
VNDA	**Vanda**	**47.30**	**183**	P	**P**		**00 38 32.6**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=196,slow=8.5,SNR=4.7							
VNDA	**Vanda**	**47.30**	**183**	P	**P**		**00 38 33.4**	**-0.3**
LPAZ	**La Paz**	**49.97**	**305**	P	**P**		**00 38 56.1**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=153,slow=2.3,SNR=3.8							
LPAZ	**La Paz**	**49.97**	**305**	P	**P**		**00 38 56.0**	**+0.5**
LPAZ				IAmb	IAmb		00 39 24.3	
	comp=Z,5.2nm,1.5s							
TORD	**Torodi Ar. Bea**	**72.41**	**30**	P	**P**		**00 41 26.4**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=204,slow=6.8,SNR=7.7							
TORD	**Torodi Ar. Bea**	**72.41**	**30**	P	**P**		**00 41 26.8**	**0.0**
TORD				IAmb	IAmb		00 41 40.8	
	comp=Z,4.2nm,1.2s							
ILAR	**Eielson Array**	**149.64**	**313**	PKPbc	**PKPbc**		**00 49 47.9**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=109,slow=1.7,SNR=5.6							

IDC 16 00:46:44.2±2.1, 14°.56S×73°.62W, h71km±19km, mb3.3/2, mb1 3.8/6, mb1mx3.5/33, mbtmp3.9/6, MS3.0/1, Ms1 3.0/1, ms1mx2.4/13, Error ellipse: s-maj=38.6km s-min=14.8km az=34.0
NEIC 16 00:46:45.4±1.8, 14°.6S±0°.1×73°.6W±0°.1, h69km±6km, mb4.1/5, Error ellipse: s-maj=18.3km s-min=11.0km az=49.0

ISC 16 00:46:45.4±0.7, 14°.69S±0°.09×73°.66W±0°.10, h87km, n27, σ1s63/29, mb3.8/4, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.10**	**311**	P	**Pn**		**00 47 45.0**	**-0.8**
	18nm,0.3s,baz=146,slow=12,SNR=21							
NNA				S	**Sn**		**00 48 30.1**	**-2.6**
	26nm,0.3s,baz=12,slow=13,SNR=17							
LPAZ	**La Paz**	**5.56**	**107**	P	**Pn**		**00 48 08.3**	**+2.1**
	4.3nm,0.3s,baz=336,slow=8.2,SNR=56							
LPAZ	**La Paz**	**5.56**	**107**		**Pn**		**00 48 10.1**	**+3.9**
PSGCX	**Pisagua**	**5.94**	**146**		**Pn**		**00 48 10.6**	**-0.3**
PB11	**IPOC Station P**	**6.33**	**143**	Pn	**Pn**		**00 48 16.0**	**-0.3**
TA01	**Diego Aracena**	**6.72**	**151**	Pn	**Pn**		**00 48 22.1**	**+0.7**
PB08	**IPOC Station P**	**6.92**	**142**		**Pn**		**00 48 24.8**	**+0.3**
PB01	**IPOC Station P**	**7.46**	**148**	Pn	**Pn**		**00 48 31.1**	**-0.5**
PB07	**IPOC Station P**	**7.86**	**153**	Pn	**Pn**		**00 48 37.7**	**+0.5**
PB09	**IPOC Station P**	**8.22**	**150**	Pn	**Pn**		**00 48 43.8**	**+1.8**
LVC	**Limon Verde**	**9.07**	**151**	P	**Pn**		**00 48 54.8**	**+0.9**
	0.5nm,0.3s,baz=284,slow=7.7,SNR=2.2							
LVC				S	**Sn**		**00 50 31.2**	**-3.2**
	0.5nm,0.3s,baz=271,slow=22,SNR=2.2							
LVC	**Limon Verde**	**9.07**	**151**		**Pn**		**00 48 54.4**	**+0.6**
SAML	**Samuel**	**11.74**	**62**		**Pn**		**00 49 26.5**	**-3.3**
SIV	**San Ignacio**	**12.21**	**98**	P	**Pn**		**00 49 33.8**	**-2.5**
	1.5nm,0.3s,baz=282,slow=10.0,SNR=30							
PTGA	**Pitinga**	**19.38**	**46**	P	**P**		**00 51 04.1**	**-0.4**
	0.4nm,0.3s,baz=221,slow=15,SNR=2.0							
PTGA				LR	LR		00 58 59.6	
	comp=Z,41nm,18.4s,baz=201,slow=38							
BIRD	**Birdtown, Kers**	**49.49**	**353**	P	**P**		**00 55 28.7**	**+1.7**
TXAR	**Lajitas Array**	**52.49**	**327**	P	**P**		**00 55 50.0**	**+0.3**
	0.3nm,0.4s,baz=153,slow=8.1,SNR=12							
TX31	**Lajitas Ar. Si**	**52.49**	**327**	P	**P**		**00 55 50.2**	**+0.4**
TX31				IAmb	IAmb		00 56 17.2	
	comp=Z,6.2nm,1.2s							
TX32	**Lajitas Array**	**52.49**	**327**	P	**P**		**00 55 50.0**	**+0.2**
TX32				IAmb	IAmb		00 56 17.2	
	comp=Z,1.9nm,1.2s							
TORD	**Torodi Ar. Bea**	**79.55**	**73**	P	**P**		**00 58 43.4**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=249,slow=5.0,SNR=2.3							
TORD	**Torodi Ar. Bea**	**79.55**	**73**	P	**P**		**00 58 42.9**	**-0.5**
TORD				IAmb	IAmb		00 59 02.0	
	comp=Z,1.9nm,1.2s							
ASAR	**Alice Springs**	**133.31**	**216**	PKP	**PKPdf**		**01 05 52.1**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=141,slow=1.7,SNR=5.2							
ASAR	**Alice Springs**	**133.31**	**216**		**PKPdf**		**01 05 53.2**	**+1.0**
WRA	**Warramunga Arr**	**135.92**	**219**	PKP	**PKPdf**		**01 05 58.6**	**+1.4**
	comp=Z,0.5nm,0.9s,baz=64,slow=1.9,SNR=1.9							
ZALV	**Zalesovo Beam**	**137.34**	**19**	PKP	**PKPdf**		**01 05 58.2**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=281,slow=0.8,SNR=4.0							
ZALV	**Zalesovo Beam**	**137.34**	**19**		**PKPdf**		**01 05 59.1**	**+0.5**
SONM	**Songino Array**	**146.96**	**360**	PKPbc	**PKPdf**		**01 06 17.5**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=0.0,slow=3.5,SNR=1.9							

IDC 16 00:59:36.7±6.4, 32°.13S×179°.11W, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.5/28, mbtmp3.5/2, Error ellipse: s-maj=268.2km s-min=61.5km az=159.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.10**	**269**	P	P		01 07 30.2	-0.5
	0.4nm,0.6s,baz=112,slow=6.7,SNR=5.9							
WRA	**Warramunga Arr**	**43.25**	**275**	P	P		01 07 40.3	+0.2
	0.3nm,0.4s,baz=115,slow=7.9,SNR=11							
FINES	**FINESS Array B**	**146.42**	**338**	PKPbc	PKPdf		01 19 18.0	+0.5
	1.0nm,0.8s,baz=44,slow=4.8,SNR=3.8							

IDC 16 01:00:19.9±1.2, 26°.44N×108°.08W, h0km, mb4.2/3, mb1 4.2/8, mb1mx3.8/51, mbtmp3.9/8, ML3.9/5, MS3.2/3, Ms1 3.3/3, ms1mx2.8/39, Error ellipse: s-maj=20.0km s-min=14.3km az=145.0
MEX 16 01:00:22.4±0.4, 26°.53N×108°.20W, h16km±9km, MD4.4

ISC 16 01:00:19.9±0.7, 26°.42N±0°.05×108°.15W±0°.05, h10km, n14, σ1s58/18, mb4.1/3, Northern Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CSIG	**Choix**	**0.46**	**334**	*i* P	**Pg**		**01 00 28.5**	**-0.3**
CSIG				*e*S	**Sg**		**01 00 32.8**	**-2.0**
TSIG	**Topolobambo**	**1.14**	**225**	*i* P	**Pb**		**01 00 40.9**	**-0.9**
TSIG				*i* S	**Sb**		**01 00 54.9**	**-1.8**
SSIG	**Sanalona**	**1.83**	**150**	*i* P	**Pn**		**01 01 51.6**	**+0.1**
SSIG				*e*S	**Sn**		**01 01 13.8**	**-1.0**
HPIG		**2.28**	**76**	*e*P	**Pn**		**01 00 56.9**	**-1.0**
LPIG	**La Paz**	**3.02**	**221**	P	**Pn**		**01 01 09.9**	**+2.0**
	18nm,0.3s,baz=86,slow=9.5,SNR=4.4							
LPIG				Sn	**Sn**		**01 01 43.9**	**-0.2**
	6.6nm,0.3s,baz=144,slow=23,SNR=2.0							
LPIG				LR	LR		01 02 15.4	
	comp=Z,359nm,20.9s,baz=34,slow=38							
TXAR	**Lajitas Array**	**4.92**	**53**	Pn	**Pn**		**01 01 33.2**	**-0.8**
	4.6nm,0.3s,baz=229,slow=13,SNR=120							
TXAR				Pg	**Pb**		**01 01 45.1**	**-1.0**
	15nm,0.3s,baz=229,slow=16,SNR=18							
TXAR				Lg	Lg		01 02 53.6	
	28nm,0.3s,baz=236,slow=29,SNR=9.3							
TXAR				LR	LR		01 03 19.3	
	comp=Z,238nm,21.0s,baz=0.0,slow=37							
ANMO	**Albuquerque**	**8.62**	**9**	Pn	**Pn**		**01 02 26.6**	**+1.6**
	0.2nm,0.3s,baz=200,slow=10,SNR=6.5							
ANMO				Lg	Lg		01 04 49.2	
	0.7nm,0.3s,baz=99,slow=19,SNR=5.0							
NVAR	**Mina Array Bea**	**14.71**	**327**	Pn	**P**		**01 03 52.1**	**-2.4**
	0.1nm,0.3s,baz=130,slow=15,SNR=6.4							
PDAR	**Pinedale Array**	**16.35**	**356**	Pn	**P**		**01 04 11.8**	**-0.9**
	0.1nm,0.3s,baz=165,slow=11,SNR=7.6							
PDAR				Lg	Lg		01 08 56.9	
	0.1nm,0.3s,baz=168,slow=18,SNR=1.7							
SDV	**Santo Domingo**	**39.58**	**109**	P	**P**		**01 07 52.9**	**+1.0**
	2.8nm,0.3s,baz=335,slow=5.4,SNR=4.6							
ILAR	**Eielson Array**	**45.60**	**338**	P	**P**		**01 08 42.7**	**+2.7**
	2.4nm,1.0s,baz=155,slow=6.8,SNR=12							
PETK	**Petropavlovsk-**	**71.70**	**321**	P	**P**		**01 11 43.6**	**+1.6**
	1.3nm,0.7s,baz=86,slow=6.5,SNR=3.1							
NOA	**NORSAR Array B**	**80.06**	**26**	LR	LR		01 48 10.1	
	comp=Z,18nm,18.9s,baz=300,slow=36							
WRA	**Warramunga Arr**	**122.67**	**262**	PKP	**PKiKP**		**01 19 17.6**	**+0.9**
	0.5nm,0.8s,baz=85,slow=1.8,SNR=2.1							

MEX 16 01:08:04.8±0.4, 26°.36N×108°.35W, h16km±7km, MD3.8, Northern Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CSIG	**Choix**	**0.47**	**357**	*e*P	Pg		01 08 12.7	-1.5
CSIG				*e*S	Sg		01 08 18.8	-1.7
TSIG	**Topolobambo**	**0.98**	**220**	*e*P	Pn		01 08 24.9	+1.0
TSIG				*e*S	Sg		01 08 36.7	0.0
SSIG	**Sanalona**	**1.88**	**144**	*e*P	Pn		01 08 33.5	-2.8
SSIG				*e*S	Sn		01 08 54.4	-5.4
HPIG		**2.47**	**76**	*e*P	Pn		01 08 41.1	-3.5
HPIG				*e*S	Sn		01 09 10.6	-3.9
HSIG		**3.51**	**320**	*e*P	Pn		01 09 01.4	+2.7
HSIG				*e*S	Sn		01 09 40.3	+0.3

IDC 16 01:13:13.5±1.7, 34°.76N×25°.01E, h0km, mb3.6/1, mb1 3.3/4, mb1mx3.1/45, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=20.1km s-min=11.7km az=82.0
ISK 16 01:13:14.5, 34°.83N×25°.00E, h8km, ML3.1/16
ATH 16 01:13:14.8, 34°.82N×24°.98E, h18km±3km, ML3.1/5, Error ellipse: s-maj=4.5km s-min=1.3km az=341.0
THE 16 01:13:14.9, 34°.83N×25°.00E, h17km, ML3.2/8, Error ellipse: s-maj=1.0km s-min=0.3km az=353.0

ISC 16 01:13:15.0±1.1, 34°.82N±0°.04×25°.02E±0°.02, h13km±7km, n47, σ1s22/69, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.27**	**320**	P	**Pg**		**01 13 20.4**	**-0.2**
SIVA				S	**Sg**		**01 13 24.5**	**+0.2**
SIVA	**Sivas**	**0.27**	**320**	P	**Pg**		**01 13 20.6**	**+0.1**
SIVA				S	**Sg**		**01 13 24.6**	**+0.2**
SIVA				AML	AML		01 13 25.6	
	comp=E,98709μm,0.4s							
SIVA				AML	AML		01 13 26.4	
	comp=N,45957μm,0.5s							
TMBK	**Timbaki Herakl**	**0.33**	**321**	P	**Pg**		**01 13 21.6**	**-0.2**
TMBK				S	**Sb**		**01 13 26.8**	**-1.2**
	comp=N,10μm,0.5s							
IDI	**Anoyia**	**0.48**	**347**	Pg	**Pg**		**01 13 23.8**	**-0.8**
	comp=N,43nm,0.3s,baz=167,slow=16,SNR=19							
IDI				Lg	Lg		01 13 31.0	
	comp=N,308nm,0.3s,baz=91,slow=24,SNR=30							
IDI	**Anoyia**	**0.48**	**347**	P	**Pg**		**01 13 23.8**	**-0.8**
IDI				S	**Sg**		**01 13 31.2**	**+0.1**
	comp=N,3μm,0.4s							
IDI	**Anoyia**	**0.48**	**347**	P	**Pg**		**01 13 23.6**	**-1.0**
IDI				S	**Sg**		**01 13 31.0**	**0.0**
IDI				AML	AML		01 13 31.8	
	comp=E,7248μm,0.3s							
IDI				AML	AML		01 13 35.2	
	comp=N,3135μm,0.4s							
KSTL	**Kastelli Herak**	**0.49**	**5**	P	**Pg**		**01 13 24.1**	**-0.6**
KSTL				S	**Sb**		**01 13 31.5**	**-1.1**
IACM	**Heraklion**	**0.49**	**5**	P	**Pg**		**01 13 24.3**	**-0.4**
IACM				S	**Sb**		**01 13 31.6**	**-1.1**
	comp=N,8μm,0.3s							
HRKL	**Herakleio**	**0.50**	**8**	P	**Pg**		**01 13 24.5**	**-0.4**
HRKL				S	**Sb**		**01 13 32.2**	**-0.7**
	comp=N,3μm,0.8s							
HRKL	**Herakleio**	**0.50**	**8**	PG	**Pg**		**01 13 24.7**	**-0.2**
HRKL				SG	**Sb**		**01 13 31.9**	**-1.0**
FRMA	**Ierapetra Chan**	**0.62**	**71**	P	**Pb**		**01 13 28.2**	**+0.5**
FRMA				S	**Sn**		**01 13 39.5**	**-0.1**
NPS	**Neapolis**	**0.66**	**47**	P	**Pg**		**01 13 27.2**	**-0.7**
NPS				S	**Sb**		**01 13 37.1**	**-0.5**
	comp=N,1μm,0.5s							
NPS	**Neapolis**	**0.66**	**47**	P	**Pg**		**01 13 27.1**	**-0.8**
NPS				S	**Sb**		**01 13 37.1**	**-0.5**
NPS				AML	AML		01 13 37.4	
	comp=E,2933μm,0.5s							
NPS				AML	AML		01 13 41.7	
	comp=N,2102μm,0.4s							
PRNS	**Prines Rethymn**	**0.69**	**322**	P	**Pg**		**01 13 27.8**	**-0.7**
GVD	**Gavdhos**	**0.77**	**272**	P	**Pg**		**01 13 29.0**	**-0.9**
GVD				S	**Sg**		**01 13 40.0**	**+0.1**
	comp=N,2μm,0.4s							
GVD	**Gavdhos**	**0.77**	**272**	P	**Pg**		**01 13 28.7**	**-1.1**
GVD				AML	AML		01 13 45.9	
	comp=E,4614μm,0.4s							
GVD				AML	AML		01 13 50.8	
	comp=N,4501μm,0.4s							
GVD	**Gavdhos**	**0.77**	**272**	PG	**Pg**		**01 13 29.5**	**-0.4**
GVD				SG	**Sg**		**01 13 40.6**	**+0.7**
VAM	**Vamos**	**0.89**	**312**	P	**Pg**		**01 13 30.9**	**-1.4**
VAM	**Vamos**	**0.89**	**312**	P	**Pg**		**01 13 30.8**	**-1.4**
ZKR	**Zakros**	**1.03**	**73**	P	**Pg**		**01 13 33.6**	**-1.2**
ZKR				S	**Sg**		**01 13 47.6**	**-0.7**
	comp=N,665nm,0.5s							
ZKR	**Zakros**	**1.03**	**73**	P	**Pg**		**01 13 33.7**	**-1.2**
ZKR				S	**Sb**		**01 13 48.6**	**+0.5**
ZKR				AML	AML		01 13 57.1	
	comp=N,837μm,0.5s							
ZKR				AML	AML		01 14 00.8	
	comp=E,1818μm,0.5s							
ZKR	**Zakros**	**1.03**	**73**	PG	**Pb**		**01 13 34.9**	**+0.2**
ZKR				SG	**Sn**		**01 13 50.0**	**+0.5**
IMMV	**Iera Moni Meta**	**1.07**	**307**	P	**Pg**		**01 13 33.1**	**-2.5**
IMMV				S	**Sg**		**01 13 48.0**	**-1.5**
	comp=E,1μm,0.5s							
IMMV	**Iera Moni Meta**	**1.07**	**307**	P	**Pg**		**01 13 33.7**	**-1.9**
IMMV	**Iera Moni Meta**	**1.07**	**307**	PG	**Pg**		**01 13 34.0**	**-1.6**
IMMV				SG	**Sb**		**01 13 49.9**	**+0.7**
KNDR	**Palaiochora Ch**	**1.17**	**291**	P	**Pg**		**01 13 35.9**	**-1.7**
KNDR				S	**Sg**		**01 13 52.0**	**-0.8**
KNDR	**Palaiochora Ch**	**1.17**	**291**	PN	**Pg**		**01 13 36.8**	**-0.8**
KNDR				SN	**Sn**		**01 13 55.1**	**+2.1**
SANT	**Santorini**	**1.59**	**13**	PN	**Pn**		**01 13 43.2**	**+0.2**
THT2	**Imerovigli**	**1.65**	**11**	PN	**Pn**		**01 13 44.1**	**+0.3**
KARP	**Karpathos**	**1.90**	**67**	P	**Pg**		**01 13 50.3**	**-1.2**
KARP	**Karpathos**	**1.90**	**67**	PN	**Pb**		**01 13 48.8**	**-0.8**
KTHA	**Kythira Island**	**2.15**	**313**	PN

MLY IAmb IAmb 01 21 32.2
comp=Z,7.9nm,1.5s
KLU Klutina 18.52 46 P P 01 21 09.2 -0.9
KLU IAmb IAmb 01 21 30.1
comp=Z,16nm,1.4s
I23K Minto, Yukon-K 18.84 34 P P 01 21 13.6 +0.1
I23K IAmb IAmb 01 21 16.6
comp=Z,7.2nm,1.1s
CCB Clear Creek Bu 19.12 36 P Pn 01 21 17.1 -0.5
HDA Harding Lake 19.32 37 P P 01 21 18.2 -0.6
HDA IAmb IAmb 01 21 18.6
comp=Z,3.8nm,0.9s
IL31 19.53 36 P P 01 21 20.8 -0.2
ILAR Eielson Array 19.53 36 P P 01 21 18.2 -2.8
comp=Z,0.2nm,0.3s,baz=235,slow=9.0,SNR=12
ILAR Eielson Array 19.53 36 P Pn 01 21 22.1 -0.4
H24K Noodor Dome 19.75 33 P P 01 21 23.5 0.0
H24K IAmb IAmb 01 21 40.6
comp=Z,4.9nm,1.1s
DOT Dot Lake 20.12 41 P P 01 21 24.4 -3.2
DOT IAmb IAmb 01 21 46.0
comp=Z,5.3nm,1.4s
M26K Nabesna, AK 20.13 45 P P 01 21 26.6 -1.0
SCRK Sand Creek 20.29 40 P P 01 21 27.8 -1.6
SCRK IAmb IAmb 01 21 28.2
comp=Z,3.1nm,0.6s
PRP Porcupine Dome 20.40 35 P P 01 21 30.3 -0.4
PRP IAmb IAmb 01 21 52.7
comp=Z,4.1nm,1.3s
TOLK Toolik Lake Re 20.99 25 P P 01 21 36.7 -0.2
TOLK IAmb IAmb 01 21 52.0
comp=Z,6.7nm,1.1s
K27K Chicken 21.08 41 P P 01 21 37.8 0.0
K27K IAmb IAmb 01 21 42.4
comp=Z,3.3nm,1.1s
EGAK Eagle 21.73 39 P P 01 21 44.3 -0.4
TXAR Lajitas Array 55.87 84 P P 01 26 33.2 +2.2
comp=Z,0.1nm,0.4s,baz=311,slow=5.8,SNR=2.8
ARCES ARCESS Array B 58.52 352 P P 01 26 47.5 -1.4
comp=Z,0.8nm,0.8s,baz=20,slow=8.6,SNR=4.7
GERES GERESS Array B 79.91 355 P P 01 29 01.8 +0.1
comp=Z,0.4nm,0.6s,baz=27,slow=4.5,SNR=2.8
WRA Warramunga Arr 84.03 228 P P 01 29 35.7 +12
comp=Z,0.3nm,0.8s,baz=26,slow=5.9,SNR=1.9

*IDC **16** 01:26:50.9±5.3,56.°07S×27.°60W,h83km±48km,mb4.1/9, mb1 4.2/10,mb1mx4.1/19,mbtmp4.5/10,ML4.9/1,MS3.0/4, Ms1 2.9/4,ms1mx2.9/18,Error ellipse: s-maj=22.7km s-min=15.1km az=52.0*
*NEIC **16** 01:26:50.7±1.1,56.°1S±0.°1×27.°6W±0.°2,h79km±5km, mb4.6/32,Error ellipse: s-maj=19.8km s-min=13.5km az=211.0*
ISC 16 01:26:53.7±0.4,**56.°15S**±0.°07×**27.°71W**±0.°08,**h112**km, **n110**,σ0.°96/106,**mb4.5**/15,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**5.37**	**287**	Pn		**Pn**	**01 28 08.8**	**-2.6**
VNA1	**Neumayer--Stat**	**16.81**	**157**	P		**Pn**	**01 30 40.9**	**-0.9**
VNA3	**Neumayer Olymp**	**16.99**	**160**	P		**Pn**	**01 30 42.9**	**-1.2**
VNA2	**Neumayer--Watz**	**17.21**	**157**	P		**Pn**	**01 30 46.1**	**-0.6**
baz=315,slow=13								
SNAA	**Sanae**	**18.77**	**156**	P		**P**	**01 31 03.0**	**-0.7**
SNAA	**Sanae**	**18.77**	**156**	P		**P**	**01 31 03.1**	**-0.6**
4.1nm,0.3s,baz=302,slow=10,SNR=252								
SNAA				LR		LR	01 37 12.6	
comp=Z,28nm,21.8s,baz=24,slow=33								
SNAA	**Sanae**	**18.77**	**156**	P		**P**	**01 31 03.1**	**-0.6**
SNAA				IAmb		IAmb	01 31 03.9	
comp=Z,27nm,0.6s								
PMSA	**Palmer Station**	**19.61**	**229**	P		**Pn**	**01 31 19.2**	**+4.0**
comp=Z,1nm,0.3s,baz=66,slow=7.7,SNR=8.1								
PMSA	**Palmer Station**	**19.61**	**229**	P		**Pn**	**01 31 18.3**	**+3.1**
PMSA	**Palmer Station**	**19.61**	**229**	*eP*		**P**	**01 31 09.2**	**-3.6**
TRQA	**Tornquist**	**29.10**	**294**	P		**P**	**01 32 43.5**	**0.0**
TRQA	**Tornquist**	**29.10**	**294**	*eP*		**P**	**01 32 43.5**	**0.0**
PLTB	**Pedras Altas**	**30.35**	**313**	P		**P**	**01 32 54.8**	**+0.1**
PLTB				IAmb		IAmb	01 32 57.9	
comp=Z,25nm,1.5s								
PLTB	**Pedras Altas**	**30.35**	**313**	*eP*		**P**	**01 32 55.3**	**+0.6**
PLCA	**Paso Flores**	**31.73**	**281**	P		**P**	**01 33 05.9**	**-0.9**
comp=Z,1.0nm,0.7s,baz=131,slow=12,SNR=4.1								
PLCA				LR		LR	01 45 13.1	
comp=Z,32nm,18.6s,baz=164,slow=35								
PLCA	**Paso Flores**	**31.73**	**281**	P		**P**	**01 33 06.1**	**-0.7**
LL04	**Puerto Octay**	**32.64**	**279**	P		**P**	**01 33 14.0**	**-0.6**
QSPA	**South Pole Qui**	**34.10**	**180**	P		**P**	**01 33 28.1**	**+0.9**
PARB	**Paraibuna**	**35.33**	**331**	*eP*		**P**	**01 33 39.5**	**+1.5**
VAO	**Valinhos**	**36.02**	**329**	*eP*		**P**	**01 33 45.7**	**+1.7**
CPUP	**Villa Florida**	**36.66**	**312**	P		**P**	**01 33 48.8**	**-0.6**
comp=Z,2.0nm,0.6s,baz=146,slow=8.1,SNR=4.7								
CPUP				LR		LR	01 49 33.2	
comp=Z,13nm,18.8s,baz=206,slow=37								
CPUP	**Villa Florida**	**36.66**	**312**	P		**P**	**01 33 49.5**	**+0.1**
CPUP	**Villa Florida**	**36.66**	**312**	*eP*		**P**	**01 33 49.3**	**+0.0**
ALF01	**Guarapari-ES**	**36.79**	**339**	*eP*		**P**	**01 33 51.5**	**+1.1**
BSCB	**Bom Sucesso**	**37.34**	**333**	*eP*		**P**	**01 33 56.1**	**+0.9**
RIB01	**Linhares ES**	**38.00**	**340**	*eP*		**P**	**01 34 00.7**	**+0.1**
SJMB	**Sao Joao De Ma**	**38.74**	**339**	*eP*		**P**	**01 34 07.0**	**+0.2**
CO02	**Combarbal**	**39.08**	**291**	P		**P**	**01 34 09.9**	**+0.1**
NAN01	**Guarapari, ES**	**39.38**	**341**	*eP*		**P**	**01 34 12.4**	**+0.2**
MAW	**Mawson**	**40.24**	**144**	P		**P**	**01 34 18.7**	**-0.1**
comp=Z,2.2nm,0.4s,baz=214,slow=5.8,SNR=8.8								
MAW				LR		LR	01 50 03.5	
comp=Z,28nm,18.6s,baz=242,slow=35								
MAW	**Mawson**	**40.24**	**144**	P		**P**	**01 34 18.4**	**-0.3**
GUA01	**Guaratinga, BA**	**40.56**	**342**	*eP*		**P**	**01 34 22.8**	**+0.8**
IPMB	**Ipameri, GO**	**41.13**	**330**	*eP*		**P**	**01 34 27.4**	**+0.7**
AC04	**Llanos de Chal**	**41.52**	**294**	P		**P**	**01 34 29.4**	**-0.3**
AC02	**Maricunga**	**41.66**	**297**	P		**P**	**01 34 32.4**	**+0.9**
CMC01	**Camacan, BA**	**41.70**	**343**	*eP*		**P**	**01 34 31.7**	**+0.4**
NBIT	**Itapeh - BA**	**42.11**	**343**	*eP*		**P**	**01 34 35.8**	**+1.2**
BDFB	**Brasilia**	**43.31**	**331**	P		**P**	**01 34 44.9**	**+0.5**
comp=Z,3.3nm,0.6s,baz=175,slow=2.1,SNR=6.4								
BDFB	**Brasilia**	**43.31**	**331**	P		**P**	**01 34 45.2**	**+0.8**
BDFB				IAmb		IAmb	01 34 47.2	
comp=Z,11nm,1.4s								
GDU01	**Guandu, BA**	**43.32**	**343**	*eP*		**P**	**01 34 44.5**	**+0.1**
GDU01				*epP*		**pwP**	**01 35 12.5**	**+0.5**
PB14	**IPOC Station P**	**44.13**	**298**	P		**P**	**01 34 50.6**	**-0.6**
PB14				IAmb		IAmb	01 35 00.3	
comp=Z,14nm,1.3s								
LVC	**Limon Verde**	**45.10**	**301**	P		**P**	**01 34 59.1**	**+0.1**
LVC				IAmb		IAmb	01 35 02.4	
comp=Z,7.9nm,0.6s								
LVC	**Limon Verde**	**45.10**	**301**	*eP*		**P**	**01 34 59.5**	**+0.5**
SALV	**Santo Antonio**	**45.48**	**321**	*eP*		**P**	**01 35 01.7**	**+0.1**
PB04	**IPOC Station P**	**45.94**	**300**	P		**P**	**01 35 05.4**	**0.0**
BOSA	**Boshof**	**46.27**	**76**	P		**P**	**01 35 07.5**	**-0.4**
comp=Z,3.4nm,0.9s,baz=225,slow=8.6,SNR=2.2								
BOSA	**Boshof**	**46.27**	**76**	P		**P**	**01 35 06.7**	**-1.2**
BOSA				IAmb		IAmb	01 35 09.6	
comp=Z,7.6nm,1.2s								
PB07	**IPOC Station P**	**46.32**	**300**	P		**P**	**01 35 08.9**	**+0.5**
VNDA	**Vanda**	**46.46**	**183**	P		**P**	**01 35 10.1**	**+1.5**
comp=Z,4.9nm,0.6s,baz=186,slow=6.7,SNR=58								
VNDA	**Vanda**	**46.46**	**183**	P		**P**	**01 35 10.2**	**+1.6**
VNDA				IAmb		IAmb	01 35 10.9	
comp=Z,5.0nm,0.7s								
PB01	**IPOC Station P**	**46.71**	**301**	P		**P**	**01 35 11.2**	**-0.1**
PB01				IAmb		IAmb	01 35 12.6	
comp=Z,14nm,1.3s								
PEXB	**Peixe**	**46.76**	**332**	*eP*		**P**	**01 35 12.3**	**+0.7**
NBAN	**Anadia - AL**	**46.85**	**348**	*eP*		**P**	**01 35 12.0**	**-0.3**
PTLB	**Pontes e Lacer**	**47.17**	**317**	*eP*		**P**	**01 35 14.9**	**+0.2**
NBRF	**Rio Formoso -**	**47.71**	**350**	*eP*		**P**	**01 35 18.4**	**-0.5**
PSGCX	**Pisagua**	**48.26**	**302**	P		**P**	**01 35 23.1**	**-0.1**
PSGCX				IAmb		IAmb	01 35 32.8	
comp=Z,9.4nm,1.3s								
NBLV	**Livramento - P**	**49.21**	**348**	*eP*		**P**	**01 35 29.8**	**-0.7**
H10N1	**ASCENSION HYDR**	**49.30**	**17**	T		T	02 29 33.1	
baz=195,slow=75								
H10N3	**ASCENSION HYDR**	**49.30**	**17**	T		T	02 29 32.5	
baz=195,slow=75								
LBTB	**Lobatse**	**49.31**	**74**	P		**P**	**01 35 31.0**	**-0.4**
H10N2	**ASCENSION HYDR**	**49.31**	**17**	T		T	02 29 33.9	
baz=195,slow=75								
NBMA	**Muriti-CE**	**49.44**	**345**	*eP*		**P**	**01 35 33.4**	**+1.1**
NBPV	**Pedro Velho**	**49.96**	**350**	*epP*		pP	01 36 04.9	+3.4
LPAZ	**La Paz**	**50.20**	**306**	P		**P**	**01 35 39.1**	**+0.5**
comp=Z,5.1nm,0.4s,baz=104,slow=4.2,SNR=34								
LPAZ	**La Paz**	**50.20**	**306**	P		**P**	**01 35 39.5**	**+0.8**
LPAZ	**La Paz**	**50.20**	**306**	*eP*		**P**	**01 35 38.2**	**-0.5**
NBCL	**Cascavel-CE**	**52.47**	**347**	*epP*		pP	01 36 25.1	+4.8
PRPB	**Parauapebas**	**52.84**	**332**	*eP*		**P**	**01 35 58.6**	**+0.9**
NPGB	**Novo Progresso**	**53.63**	**325**	*eP*		**P**	**01 36 01.9**	**-1.5**
SAML	**Samuel**	**54.67**	**315**	P		**P**	**01 36 10.8**	**-0.1**
SAML				IAmb		IAmb	01 36 11.5	
comp=Z,4.6nm,0.9s								
ROSB	**Rosrio**	**54.71**	**340**	*eP*		**P**	**01 36 11.7**	**+0.5**
ETMB	**Extrema**	**55.11**	**312**	*eP*		**P**	**01 36 14.1**	**-0.1**
ETMB				*epP*		**pP**	**01 36 43.6**	**+3.1**
ITTB	**Itaituba**	**56.27**	**326**	*eP*		**P**	**01 36 22.2**	**-0.2**
MACA	**Manacapuru-AM**	**59.06**	**321**	*eP*		**P**	**01 36 40.8**	**-1.1**
CZSB	**Cruzeiro do Su**	**59.81**	**306**	*eP*		**P**	**01 36 46.3**	**-0.8**
BOAV	**Boa Vista**	**64.18**	**323**	*eP*		**P**	**01 37 15.2**	**-1.1**
DBIC	**Dimbokro**	**65.38**	**25**	P		**P**	**01 37 23.6**	**-0.5**
comp=Z,4.5nm,0.7s,baz=196,slow=6.8,SNR=5.7								
DBIC	**Dimbokro**	**65.38**	**25**	P		**P**	**01 37 24.2**	**+0.2**
DBIC				IAmb		IAmb	01 37 26.1	
comp=Z,7.5nm,0.9s								
KOWA	**Kowa**	**73.13**	**24**	P		**P**	**01 38 12.4**	**+0.6**
TORD	**Torodi Ar. Bea**	**73.29**	**30**	P		**P**	**01 38 12.8**	**+0.1**
comp=Z,6.0nm,0.4s,baz=201,slow=6.5,SNR=199								
TORD	**Torodi Ar. Bea**	**73.29**	**30**	P		**P**	**01 38 12.6**	**-0.1**
TORD				IAmb		IAmb	01 38 13.7	
comp=Z,6.6nm,1.1s								
FINES	**FINESS Array B**	**124.61**	**28**	PKP		**PKPdf**	**01 45 37.8**	**-0.5**
comp=Z,2.5nm,0.6s,baz=215,slow=2.3,SNR=9.8								
FINES	**FINESS Array B**	**124.61**	**28**	PKPdf		**PKPdf**	**01 45 38.0**	**-0.3**
ABKAR	**Akbulak array**	**127.67**	**56**	PKPdf		**PKPdf**	**01 45 44.7**	**+0.2**
KSH	**Kashi**	**128.87**	**75**	PKP		**PKiKP**	**01 45 48.3**	**+0.2**
ARCES	**ARCESS Array B**	**131.14**	**22**	PKP		**PKPdf**	**01 45 50.5**	**-0.1**
comp=Z,0.9nm,0.6s,baz=194,slow=1.7,SNR=12								
ARCES	**ARCESS Array B**	**131.14**	**22**	PKPdf		**PKPdf**	**01 45 50.3**	**-0.3**
MKAR	**Makanchi Array**	**137.19**	**72**	PKP		**PKiKP**	**01 46 04.0**	**-0.6**
comp=Z,0.5nm,0.5s,baz=223,slow=0.3,SNR=3.5								
MKAR	**Makanchi Array**	**137.19**	**72**	PKPdf		**PKiKP**	**01 46 04.3**	**-0.2**
ZALV	**Zalesovo Beam**	**142.67**	**64**	PKhKP		PKPpre	01 46 08.1	
comp=Z,1.0nm,0.4s,baz=220,slow=4.5,SNR=3.6								
HYT	**Haines Junctio**	**144.62**	**307**	PKPdf		**PKPdf**	**01 46 15.9**	**+0.2**
INK	**Inuvik**	**145.70**	**321**	PKPdf		**PKPbc**	**01 46 17.9**	**+0.2**
EPYK	**Eagle Plains**	**146.30**	**317**	PKPdf		**PKPbc**	**01 46 19.7**	**0.0**
BCAR	**Beaver Creek A**	**147.33**	**310**	PKPdf		**PKPbc**	**01 46 22.2**	**-0.6**
BMRM	**Bremner River**	**147.88**	**305**	PKPbc		**PKiKP**	**01 46 26.2**	**+0.1**
DOT	**Dot Lake**	**148.49**	**310**	PKPbc		**PKPbc**	**01 46 26.3**	**+0.5**
RIDG	**Independent Ri**	**148.85**	**310**	PKPbc		**PKiKP**	**01 46 27.5**	**-0.4**
BMAR	**Burnt Mountain**	**149.56**	**317**	PKPbc		**PKiKP**	**01 46 28.9**	**-0.4**
SML	**Sawmill**	**149.85**	**306**	PKPbc		**PKPbc**	**01 46 29.0**	**-0.2**
IL31		**149.97**	**312**	PKPbc		**PKiKP**	**01 46 30.0**	**-0.1**
ILAR	**Eielson Array**	**149.97**	**312**	PKPbc		**PKPbc**	**01 46 29.2**	**-0.1**
comp=Z,6.8nm,0.8s,baz=132,slow=1.9,SNR=48								
ILAR	**Eielson Array**	**149.97**	**312**	PKPbc		**PKPbc**	**01 46 29.4**	**+0.1**
KDAK	**Kodiak Island**	**150.60**	**296**	PKPbc		**PKiKP**	**01 46 31.9**	**+0.3**
comp=Z,4.3nm,0.4s,baz=218,slow=4.3,SNR=14								
KDAK	**Kodiak Island**	**150.60**	**296**			**PKiKP**	**01 46 31.7**	**+0.1**
SONM	**Songino Array**	**151.02**	**87**	PKPbc		**PKPbc**	**01 46 32.6**	**+0.1**
comp=Z,4.5nm,0.5s,baz=220,slow=3.5,SNR=22								
SONM	**Songino Array**	**151.02**	**87**	PKPbc		**PKiKP**	**01 46 32.8**	**-0.3**
SKT	**Skwentna**	**151.36**	**305**	PKPbc		**PKiKP**	**01 46 33.1**	**0.0**
BPAW	**Bear Paw Mtn.**	**151.57**	**310**	PKPbc		**PKiKP**	**01 46 33.4**	**-0.1**
PPLA	**Purkeypile**	**151.87**	**307**	PKPbc		**PKiKP**	**01 46 34.3**	**-0.1**
IMAR	**Indian Mountai**	**152.99**	**313**	PKPbc		**PKiKP**	**01 46 36.9**	**+0.5**

WEL 16 01:38:59.8,43.°S±4.°×17.°3E±.°,h18km±9km,M3.5/23, ML3.7/23,MLv3.5/23,Error ellipse: s-maj=0.0km s-min=0.0km az=76.3,South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LTZ	**Lake Taylor**	**0.38**	**224**	P		Pb	01 39 08.6	+0.4
LTZ				S		Sb	01 39 14.6	+0.8
GVZ	**Greta Valley S**	**0.55**	**147**	P		Pb	01 39 11.6	+0.7
AMCZ	**Amberley**	**0.67**	**179**	P		Pn	01 39 14.5	0.0
KHZ	**Kahutara**	**0.68**	**83**	P		Pg	01 39 13.3	+0.2
THZ	**Tophouse**	**0.77**	**15**	P		Pb	01 39 14.7	0.0
THZ				S		Sg	01 39 25.6	+0.6
INZ	**Inchbonnie**	**0.90**	**256**	P		Pn	01 39 17.8	+0.2
OXZ	**Oxford**	**0.93**	**208**	P		Pn	01 39 19.0	+1.1
DSZ	**Denniston Nort**	**0.98**	**321**	P		Pg	01 39 19.6	+0.8
MQZ	**McQueen's Vall**	**1.20**	**179**	P		Pb	01 39 22.2	+0.2
MQZ				S		Sg	01 39 38.7	0.0
BSWZ	**Blackbirch Sta**	**1.22**	**50**	P		Pg	01 39 23.1	-0.2
BSWZ				S		Sg	01 39 42.6	+3.5
OKCZ	**Okains Bay**	**1.26**	**166**	P		Pb	01 39 23.1	+0.1
OKCZ				S		Sg	01 39 40.2	-0.3
RACZ	**Rakaia**	**1.27**	**196**	P		Pb	01 39 23.6	+0.4
MHCZ	**Mount Hutt**	**1.29**	**217**	P		Pg	01 39 24.1	-0.5
AKCZ	**Akaroa Harbour**	**1.38**	**172**	P		Pn	01 39 24.6	+0.4
CMWZ	**Cape Campbell**	**1.40**	**58**	P		Pg	01 39 27.0	+0.3
NNZ	**Nelson**	**1.40**	**24**	P		Pb	01 39 25.8	+0.4
TUWZ	**Tuamarina**	**1.45**	**43**	P		Pb	01 39 26.9	+0.7
WVZ	**Waitaha Valley**	**1.51**	**247**	P		Pg	01 39 28.2	-0.5
WACZ	**Wakanui South**	**1.55**	**202**	P		Pb	01 39 27.4	-0.5
RPZ	**Rata Peaks**	**1.67**	**223**	P		Pb	01 39 30.2	+0.1
QRZ	**Quartz Range**	**1.68**	**357**	P		Pb	01 39 30.6	+0.5
TCW	**Tory Channel**	**1.78**	**44**	P		Pb	01 39 31.9	-0.1
ARCZ	**Arundel**	**1.79**	**216**	P		Pn	01 39 30.9	+1.1
GCSZ	**Gaunt Creek Bo**	**1.88**	**244**	P		Pb	01 39 34.1	+0.5
DUWZ	**D'Urville Isla**	**1.96**	**30**	P		Pb	01 39 34.7	-0.2
BHW	**Baring Head**	**2.00**	**57**	P		Pn	01 39 33.8	+1.2
PLWZ	**Palliser**	**2.17**	**65**	P		Pn	01 39 35.5	+0.5
TMZ	**Timaru**	**2.22**	**212**	P		Pn	01 39 36.7	+0.9
MSWZ	**Moikau Station**	**2.23**	**62**	P		Pn	01 39 36.5	+0.6
CAW	**Cannon Point**	**2.29**	**53**	P		Pn	01 39 38.0	+1.2
FOZ	**Fox Glacier**	**2.31**	**243**	P		Pb	01 39 40.1	-0.7
KIW	**Kapiti Island**	**2.37**	**47**	P		Pb	01 39 40.0	-1.9
PAWZ	**Paruwai Farm**	**2.37**	**63**	P		Pn	01 39 38.2	+0.4
MTW	**Mount Morrison**	**2.53**	**59**	P		Pn	01 39 40.3	+0.3
OGWZ	**Otaki Gorge**	**2.54**	**49**	P		Pn	01 39 41.6	+1.5
LBZ	**Lake Benmore**	**2.59**	**223**	P		Pn	01 39 43.3	+2.4
HOWZ	**Holdsworth Sta**	**2.69**	**54**	P		Pn	01 39 43.1	+0.9
TMWZ	**Te Maipa**	**2.81**	**61**	P		Pn	01 39 43.8	-0.1
MRZ	**Mangatainoka R**	**2.88**	**51**	P		Pn	01 39 45.6	+0.8
ODZ	**Otahua Downs**	**2.92**	**209**	P		Pn	01 39 46.0	+0.7
JCZ	**Jackson Bay**	**3.22**	**240**	P		Pb	01 39 54.5	-1.9
WAZ	**Wanganui**	**3.27**	**34**	P		Pb	01 39 54.3	-3.0
PREZ	**Palmer Road**	**3.36**	**21**	P		Pb	01 39 57.0	-2.0
NBEZ	**Newall Road No**	**3.37**	**17**	P		Pb	01 39 56.7	-2.3
KHEZ	**Kahui Hut**	**3.37**	**19**	P		Pb	01 39 56.3	-2.8
NEZ	**North Egmont**	**3.42**	**19**	P		Pb	01 39 56.9	-2.9
PKE	**Pukeiti**	**3.46**	**18**	P		Pb	01 39 57.1	-3.5
TSZ	**Takapari Road**	**3.50**	**47**	P		Pn	01 39 53.9	+0.5
PNHZ	**Pukenui**	**3.73**	**47**	P		Pn	01 39 59.2	+2.6
VRZ	**Vera Road**	**3.74**	**26**	P		Pb	01 40 01.3	-4.1
WNVZ	**Wahianoa**	**3.89**	**36**	P		Pn	01 40 02.1	+3.3
MOVZ	**Moawhango**	**3.89**	**38**	P		Pn	01 40 01.9	+3.1
WHVZ	**Whangaehu Hut**	**3.92**	**36**	P		Pn	01 40 02.6	+3.3
TUVZ	**Tukino**	**3.96**	**36**	P		Pn	01 40 02.6	+2.8
BHHZ	**Black Hill Sta**	**3.98**	**42**	P		Pn	01 40 07.7	-1.6
NGZ	**Ngauruhoe**	**4.02**	**35**	P		Pn	01 40 04.0	+3.4
NNVZ	**North Ngauruho**	**4.06**	**35**	P		Pn	01 40 04.3	+3.2
WTVZ	**West Tongariro**	**4.06**	**35**	P		Pn	01 40 05.6	+4.4
ETVZ	**East Tongariro**	**4.10**	**36**	P		Pn	01 40 04.0	+2.4
TMVZ	**Te Maari**	**4.11**	**36**	P		Pn	01 40 04.3	+2.4
KAHZ	**Kahuranaki**	**4.20**	**51**	P		Pn	01 40 03.8	+0.9
HIZ	**Hauiti**	**4.33**	**24**	P		Pn	01 40 08.5	+3.8
TLZ	**Tolley Road**	**4.72**	**29**	P		Pn	01 40 15.4	+5.2
TOZ	**Tahuroa Road**	**5.25**	**26**	P		Pn	01 40 21.2	+3.9
MKAZ	**Moumakai**	**5.73**	**21**	P		Pn	01 40 28.1	+4.1
WCZ	**Waipu Caves**	**6.69**	**12**	P		Pn	01 40 42.7	+5.5

*TIF **16** 01:43:06.8,43.°08N×41.°42E,h9km±2km*
*MOS **16** 01:43:09.0±0.0,43.°19N×41.°68E,h12km,MPVA3.0*
ISC 16 01:43:09.3±0.9,**43.°20N**±0.°03×**41.°63E**±0.°03,**h13**km±6km, **n18**,σ0.°84/35,**Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DOMR	**Dombai**	**0.09**	**358**	*i* Pg		**Pg**	**01 43 12.2**	**-0.1**
DOMR				*i* Sg		**Sg**	**01 43 14.8**	**+0.4**
CHVG	**Ch'k'valeri**	**0.59**	**145**	P		**Pg**	**01 43 19.4**	**-1.4**
CHVG				S		**Sg**	**01 43 27.8**	**-0.8**
NEY	**Neytrino**	**0.80**	**86**	*i* Pg		**Pb**	**01 43 24.0**	**-1.1**
NEY				*i* Sg		**Sb**	**01 43 34.0**	**-1.9**
SHA1	**Shidzhatmaz**	**0.92**	**54**	*i* Pg		**Pb**	**01 43 26.9**	**-0.3**
SHA1				*eSg*		**Sg**	**01 43 39.6**	**+0.4**
AHMR	**Akhmetovskaya**	**1.04**	**336**	*i* Pg		**Pg**	**01 43 29.4**	**0.0**
AHMR				*eSg*		**Sn**	**01 43 44.2**	**+0.1**
KBZ	**Khabaz**	**1.06**	**60**	*i* Pg		**Pb**	**01 43 29.5**	**0.0**
KBZ				*i* Sg		**Sb**	**01 43 43.1**	**-0.2**
KIV	**Kislovodsk**	**1.07**	**45**	*ePg*		**Pn**	**01 43 29.9**	**-0.3**
KIV				*eSg*		**Sg**	**01 43 44.5**	**+0.5**
KIV0	**Kislovodsk Arr**	**1.08**	**46**	*ePg*		**Pb**	**01 43 29.9**	**0.0**
KIV0				*eSg*		**Sg**	**01 43 44.5**	**+0.3**
RPOR	**Krasnaya Polya**	**1.11**	**297**	*ePg*		**Pn**	**01 43 30.0**	**-0.5**
RPOR				*eSg*		**Sn**	**01 43 47.0**	**+1.3**
BEYR	**Belyy Ugol+**	**1.18**	**47**	*ePg*		**Pb**	**01 43 31.8**	**+0.2**
BEYR				*eSg*		**Sg**	**01 43 47.8**	**+0.3**
TKB	**Tkibuli**	**1.32**	**130**	P		**Pn**	**01 43 33.2**	**-0.2**
TKB				S		**Sg**	**01 43 51.9**	**+0.2**
PYA1	**Pyatigorsk**	**1.37**	**51**	*ePg*		**Pn**	**01 43 34.1**	**0.0**
PYA1				*eSg*		**Sg**	**01 43 53.0**	**-0.3**
SOC	**Sochi**	**1.44**	**286**	*ePg*		**Pb**	**01 43 35.2**	**-0.8**
SOC				*eSg*		**Sb**	**01 43 54.2**	**-0.1**
ONI	**Oni**	**1.48**	**114**	P		**Pb**	**01 43 36.4**	**-0.2**
ONI				S		**Sg**	**01 43 58.8**	**+2.0**
ABS	**Abastumani**	**1.69**	**148**	P		**Pn**	**01 43 38.4**	**-0.3**
ABS				S		**Sb**	**01 44 01.7**	**+0.1**
LZRR	**Lazarevskoye**	**1.79**	**295**	*i* Pg		**Pb**	**01 43 41.8**	**-0.1**
LZRR				*i* Sg		**Sb**	**01 44 04.4**	**+0.2**
BKRG	**Bakuriani**	**2.01**	**135**	P		**Pn**	**01 43 43.5**	**+0.4**
BKRG				S		**Sb**	**01 44 11.1**	**+0.3**
DGRG	**David-gareji**	**3.28**	**121**	P		**Pb**	**01 44 09.9**	**+2.5**

*JMA **16** 02:07:17.9±0.1,24.°22N×121.°84E,h16km±4km,M3.2*
*TAP **16** 02:07:17.8,24.°25N×121.°83E,h18km,ML4.0,C*
*ASIES **16** 02:07:18.1,24.°26N×121.°82E,h26km,MW3.7*
*NEIC **16** 02:07:18.1±1.0,24.°24N±0.°02×121.°81E±0.°02,h23km±7km, mb4.1/2,ML4.3(TAP),Error ellipse: s-maj=3.5km s-min=3.1km az=197.0*
ISC 16 02:07:17.9±0.8,**24.°23N**±0.°01×**121.°86E**±0.°02,**h18**km±3km, **n121**,σ0.°87/214,**4C-15D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EHP	**Heping Village**	**0.13**	**306**	*i* P		**Pg**	**02 07 21.8**	**-0.1**
baz=311								
EHP				S		**Sg**	**02 07 24.8**	**+0.1**
baz=311								
ENA	**Nanau**	**0.22**	**331**	⇓ *i* P		**Pg**	**02 07 23.0**	**-0.2**
baz=339								
ENA				*i* S		**Sg**	**02 07 26.8**	**0.0**
baz=339								
EWUT	**Wuta**	**0.23**	**341**	⇓ *i* P

baz=3.0
TWA Mucha 0.79 341 ⇓ *i*P Pb 02 07 33.1 +0.1
baz=343
TWA *i* S **Sb 02 07 43.8 +0.4**
baz=343
NHDH Xindian Distri 0.79 337 P Pn 02 07 34.0 -0.1
baz=338
NHDH S **Sb 02 07 43.7 +0.3**
baz=338
TATO Taipei 0.81 335 Pb 02 07 33.5 -0.1
TATO **Sb 02 07 44.1 0.0**
WHP Taichung City 0.84 273 P Pb 02 07 33.9 -0.1
baz=273
WHP S **Sg 02 07 44.7 -0.6**
baz=273
HGSD Ruisui 0.84 209 P Pb 02 07 34.5 +0.6
baz=198
HGSD S **Sn 02 07 47.9 +1.2**
baz=198
NWF Wu-fen Shan 0.84 355 P Pn 02 07 34.6 -0.3
baz=349
NWF S **Sb 02 07 45.5 +0.6**
baz=349
TAP Taipei 0.87 338 *e*P Pb 02 07 34.4 0.0
baz=339
TAP *e*S **Sn 02 07 46.8 -0.5**
baz=339
LIOB Emei 0.87 298 P Pb 02 07 34.8 +0.2
baz=298
LIOB S **Sb 02 07 45.9 0.0**
baz=298
EHY Hungye 0.87 214 *e*P Pg 02 07 33.2 -1.7
baz=223
EHY *e*S **Sg 02 07 46.3 -0.2**
baz=223
NSTT Nanjuang 0.88 297 P Pb 02 07 34.7 +0.1
baz=297
NSTT S **Sb 02 07 45.9 -0.1**
baz=297
WCS Beigang Elemen 0.88 259 P Pg 02 07 34.3 -0.8
baz=258
WCS S **Sg 02 07 46.0 -0.8**
baz=258
SSLB Suanglung 0.94 242 *e*P Pg 02 07 34.8 -1.3
baz=250
SSLB *e*S **Sg 02 07 46.9 -1.7**
baz=250
SSLB Suanglung 0.94 242 Pg 02 07 35.0 -1.2
SSLB **Sg 02 07 47.5 -1.0**
SMLT Sun Moon Lake 0.94 249 *e*P Pg 02 07 35.2 -1.1
baz=248
SMLT *e*S **Sb 02 07 48.8 +0.8**
baz=248
YM01 YM01 0.95 344 P Pn 02 07 36.4 0.0
baz=328
YM01 *e*S **Sb 02 07 48.3 +0.2**
baz=328
NCUH Zhongli 0.96 320 *e*P Pn 02 07 36.1 -0.3
baz=320
NCUH *e*S **Sb 02 07 49.2 +1.0**
baz=320
NCU National Centr 0.96 320 *e*P Pn 02 07 36.5 0.0
baz=320
NCU *e*S **Sn 02 07 50.3 +0.7**
baz=320
SBCB Hsinchu 0.97 305 *e*P Pn 02 07 37.0 +0.3
baz=305
SBCB *e*S **Sn 02 07 51.1 +1.1**
baz=305
TYC Yuchr 0.97 251 ⇑ *i*P Pg 02 07 35.7 -1.1
baz=243
TYC S **Sb 02 07 49.8 +1.1**
baz=243
YULB Yu-li 0.98 212 *e*P Pg 02 07 34.7 -2.3
baz=213
YULB Yu-li 0.98 212 Pg 02 07 36.2 -0.7
YULB **Sg 02 07 48.9 -1.0**
HSN Hsinchu 0.99 305 *e*P Pn 02 07 36.9 0.0
baz=307
HSN *e*S **Sn 02 07 50.8 +0.4**
baz=307
ANP Anpu 1.00 342 *e*P Pn 02 07 37.2 +0.1
baz=328
ANP *e*S **Sb 02 07 49.8 +0.2**
baz=328
TWQ1 Liyutan 1.00 277 ⇓ *i*P Pn 02 07 37.5 +0.5
baz=276
TWQ1 *e*S **Sn 02 07 50.9 +0.2**
baz=276
NTST Danshui 1.00 338 *e*P Pn 02 07 37.4 +0.4
baz=345
NTST *e*S **Sn 02 07 51.9 +1.2**
baz=345
EYUL Yuli 1.01 209 *e*P Pn 02 07 37.7 +0.5
baz=223
JYNG Yonagunijimaku 1.01 77 P Pn 02 07 37.9 +0.7
JYNG *e*S **Sn 02 07 53.5 +2.5**
NSY Sanyi 1.02 281 *e*P Pn 02 07 37.7 +0.4
baz=280
NMLH Miaoli 1.02 288 *e*P Pn 02 07 38.1 +0.7
baz=293
NMLH *e*S **Sb 02 07 50.3 +0.2**
baz=293
TWY Chenhua 1.07 347 *e*P Pn 02 07 39.0 +1.0
baz=330
YOJ Yonaguni jima 1.07 77 P Pn 02 07 38.4 +0.4
YOJ *e*S **Sn 02 07 53.7 +1.2**
YOJ Yonaguni jima 1.07 77 *e*P Pn 02 07 38.2 +0.2
baz=68
YOJ *e*S **Sn 02 07 52.9 +0.4**
baz=68
YOJ Yonaguni jima 1.07 77 Pn 02 07 38.2 +0.2
YOJ **Sn 02 07 53.7 +1.2**
TCU Taichung 1.08 266 *e*P Pn 02 07 38.8 +0.6
baz=265
TCU *e*S **Sn 02 07 54.8 +2.0**
baz=265
YUS Yu-Shan 1.11 229 ⇑ *i*P Pg 02 07 38.3 -1.3
baz=228
YUS S **Sg 02 07 51.9 -2.3**
baz=228
WJS Zhushan 1.11 249 *e*P Pb 02 07 38.7 +0.1
baz=241
WDJ Dajia District 1.12 276 *e*P Pn 02 07 38.9 +0.2
baz=275
WDJ *e*S **Sn 02 07 55.3 +1.7**
baz=275
WNT Mingjian 1.13 252 *e*P Pb 02 07 39.1 +0.2
baz=251
WNT *e*S **Sn 02 07 56.2 +2.3**
baz=251
FULB Fuli 1.15 207 *e*P Pb 02 07 39.1 -0.2
baz=224
WCHH Zhanghua 1.20 263 *e*P Pg 02 07 40.6 -0.4
baz=262
WCHH *e*S **Sn 02 07 58.0 +2.4**
baz=262
ALS Alishan 1.20 234 *e*P Pb 02 07 39.9 -0.4
baz=233
ALS *e*S **Sg 02 07 56.3 -0.7**
baz=233
CHKT Chengkung 1.22 202 *e*P Pn 02 07 39.6 -0.4
baz=217
CHKT *e*S **Sb 02 07 55.9 +0.1**
baz=217
CHN5 Tsauling 1.25 240 P Pg 02 07 41.5 -0.6
baz=239
CHN5 S **Sg 02 07 58.2 -0.3**
baz=239
ELDTW Lidau 1.29 217 *e*P Pn 02 07 40.6 -0.6
baz=205
ELDTW *e*S **Sb 02 07 58.2 +0.1**
baz=205
WDLH Douliu 1.32 246 *e*P Pg 02 07 42.7 -0.7
baz=245
WDLH *e*S **Sg 02 08 01.4 +0.6**
baz=245
EDH Donghe 1.35 202 *e*P Pn 02 07 40.8 -1.1
baz=190
EDH *e*S **Sb 02 07 57.3 -2.4**
baz=190
WRL Guolierlin Hig 1.40 257 *e*P Pn 02 07 42.9 +0.5
baz=255
WRL *e*S **Sn 02 08 01.2 +0.8**
baz=255
STYH Taoyuan 1.45 223 *e*P Pn 02 07 43.2 0.0
baz=223
STYH *e*S **Sn 02 08 00.9 -0.9**
baz=223
WTK Tuku 1.45 248 *e*P Pb 02 07 44.2 -0.1
baz=247
WTK *e*S **Sg 02 08 04.3 -0.5**
baz=247
TPUB Ta-pu 1.46 231 *e*P Pn 02 07 43.9 +0.5
baz=230
TPUB *e*S **Sn 02 08 03.6 +1.5**
baz=230
TPUB Ta-pu 1.46 231 Pn Pn 02 07 44.0 +0.7
CHY Chiayi 1.50 241 *e*P Pb 02 07 45.5 +0.3
baz=240
CHY *e*S **Sb 02 08 05.0 +1.0**
baz=240
WTP Ta-pu 1.51 230 P Pn 02 07 45.1 +1.1
baz=229
WTP *e*S **Sn 02 08 03.8 +0.5**
baz=229
TWGBT Beinan 1.58 207 *e*P Pn 02 07 45.2 +0.2
baz=211
TWG Pinlang 1.58 207 *e*P Pn 02 07 44.6 -0.4
baz=211
TWG Pinlang 1.58 207 Pn Pn 02 07 43.1 -1.9
TWK Hsinying 1.58 233 P Pn 02 07 46.1 +1.0
baz=232
TWK S **Sb 02 08 07.6 +1.2**
baz=232
LDUT Ludao 1.59 193 *e*P Pn 02 07 43.3 -1.8
baz=186
CHN1 Nanshi 1.60 230 *e*P Pb 02 07 46.9 -0.1
baz=229
CHN1 *e*S **Sg 02 08 08.7 -1.0**
baz=229
SNST Tainan City 1.60 231 *e*P Pb 02 07 47.4 +0.4
baz=231
WSF Szhu 1.61 249 *e*P Pn 02 07 46.2 +0.8
baz=248
WSF *e*S **Sb 02 08 08.1 +1.0**
baz=248
SGST Jiashian 1.64 226 P Pn 02 07 46.1 +0.3
baz=213
SGST S **Sb 02 08 08.8 +0.9**
baz=213
ICHU Yijhu 1.69 239 *e*P Pn 02 07 47.0 +0.6
baz=224
ICHU *e*S **Sb 02 08 10.3 +1.0**
baz=224
IRIF Iriomote-Funau 1.71 86 P Pn 02 07 47.2 +0.4
IRIF S **Sn 02 08 09.4 +1.2**
HATJ Hateruma jima 1.79 95 P Pn 02 07 47.4 -0.4
SCST Cishan 1.83 223 *e*P Pb 02 07 50.4 -0.6
baz=224
SSD Sandimen 1.86 218 P Pn 02 07 50.1 +1.3
baz=219
SSD *e*S **Sb 02 08 15.2 +0.9**
baz=219
TSMG Majia 1.89 217 *e*P Pn 02 07 50.0 +0.8
baz=218
TSMG *e*S **Sn 02 08 14.0 +1.4**
baz=218
JKRS Kuro-shima 1.96 89 P Pn 02 07 51.2 +1.0
JKRS S **Sb 02 08 16.3 -0.9**
MASBT Mashibuluo 1.97 215 *e*P Pn 02 07 51.6 +1.3
baz=217
MASBT *e*S **Sn 02 08 16.1 +1.6**
baz=217
JIJ Ishigaki jima 2.09 86 P Pn 02 07 52.4 +0.4
JIJ *e*S **Sn 02 08 17.9 +0.4**
SSPT Xinbi 2.11 215 *e*P Pb 02 07 54.5 -1.1
baz=218
SCZT Fangliau 2.17 212 *e*P Pn 02 07 54.3 +1.2
baz=215
SCZT *e*S **Sn 02 08 22.3 +2.6**
baz=215
PNG Penghu 2.21 253 *e*P Pn 02 07 53.1 -0.6
baz=251
PNG *e*S **Sn 02 08 21.4 +0.9**
baz=251
PHUB P'eng-hu 2.21 252 *e*P Pn 02 07 52.8 -0.9
baz=250
PHUB *e*S **Sn 02 08 21.0 +0.3**
baz=250
SLIU Shizi 2.23 206 *e*P Pn 02 07 55.9 +2.0
baz=203
JISG Ishigakijimahi 2.26 81 P Pn 02 07 54.0 -0.4
TWKBT Hengchun 2.48 203 *e*P Pn 02 07 58.6 +1.3
baz=199
JTJ Tarama 2.62 80 S Sn 02 08 32.5 +1.8
KNMB Chin-men Tao 3.17 275 *e*P Pn 02 08 05.4 -1.5
baz=269
KNMB Chin-men Tao 3.17 275 Pn Pn 02 08 06.0 -0.9
AXDP Jialang 3.60 281 *e*P Pn 02 08 13.6 +0.7
baz=275
ZPLA Ao Xicun 3.77 266 *e*P Pn 02 08 15.0 -0.1
baz=261
JOW Kunigami 6.35 65 Pn Pn 02 08 49.2 -1.4
KS19 Wonju Array Si 14.19 20 Pn Pn 02 10 38.2 +0.2
WR0 Warramunga Arr 45.63 163 P P 02 15 36.2 -1.2
WR0 IAmb IAmb 02 15 55.5
comp=Z,4.6nm,1.1s
ABKAR Akbulak array 53.85 314 P P 02 16 40.4 +0.6
ABKAR IAmb IAmb 02 16 40.6
comp=Z,1.0nm,0.8s

*DJA **16** 02:12:59.5±1.8,8˚N±6˚×12˚7E±˚, h38km±15km, M4.8/6, mB5.8/2, mb4.8/6, MLv4.8/1, Mw(mB)5.4/2*
*MAN **16** 02:13:01.7, 8.00N×126.66E, h12km, mb4.7, ML3.6, MS3.5*
*NEIC **16** 02:13:07.1±1.6, 8.06N±0.08×126.44E±0.08, h77km±7km, mb4.6/34, Error ellipse: s-maj=12.9km s-min=9.8km az=54.0*
*IDC **16** 02:13:07.5±1.8,8.04N×126.35E, h90km±16km, mb3.7/16, mb1 3.9/18, mb1mx3.8/33, mbtmp4.1/18, MS3.1/6, Ms1 3.2/6, ms1mx3.0/25, Error ellipse: s-maj=26.6km s-min=11.5km az=80.0*

ISC 16 02:13:03.3±1.0, 8.11N±0.04×126.69E±0.08, h50km±9km, n88, σ1♀86/88, mb4.4/31, MS3.1/6, 3C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.33**	**283**	⇓ *i*P	Pn	**02 13 11.3**	**-1.5**
BIPH				*i* S	Sn	**02 13 16.7**	**-2.7**
DAV	**Davao City (W)**	**1.51**	**227**	P	Pn	**02 13 29.5**	**+1.5**
	153nm,0.3s,baz=52,slow=2.6,SNR=30						
DAV				S	Sn	**02 13 50.2**	**+3.8**
	232nm,0.3s,baz=87,slow=23,SNR=6.4						
DAV	**Davao City (W)**	**1.51**	**227**		Pn	**02 13 29.6**	**+1.7**
DAV	**Davao City (W)**	**1.51**	**227**	P	Pn	**02 13 29.2**	**+1.2**
DAV				S	Sn	**02 13 52.3**	**+5.8**
BUKP	**Musuan**	**1.62**	**262**	⇓ *e*P	Pn	**02 13 29.4**	**-0.2**
BUKP				*i* S	Sn	**02 13 51.7**	**+2.3**
KCP	**Kidapawan**	**1.92**	**235**	⇓ *i*P	Pn	**02 13 33.5**	**-0.2**
KCP				*i* S	Sn	**02 13 57.0**	**+0.2**
SCPH	**Surigao**	**2.04**	**325**	⇑ *e*P	Pn	**02 13 38.7**	**+3.4**
MSLP	**Maasin**	**2.70**	**318**	⇓ *e*P	Pn	**02 13 46.5**	**+2.2**
DCPH	**Dipolog City**	**3.33**	**278**	⇑ *e*P	Pn	**02 13 56.0**	**+3.1**
LLP	**Lapu-Lapu**	**3.47**	**309**	⇓ *e*P	Pn	**02 13 58.5**	**+3.6**
LLP				*e*S	Sn	**02 14 40.2**	**+5.5**
SNPH	**Sibulan**	**3.62**	**290**	*e*P	Pn	**02 13 58.8**	**+1.7**
SNPH				*e*S	Sn	**02 14 40.4**	**+1.7**
SGSI	**Sangihe**	**4.54**	**195**	P	Pn	02 14 24.4	+15
SGSI				S	Sn	**02 15 05.1**	**+3.9**
RCP	**Roxas**	**5.18**	**312**	⇑ *e*P	Pn	**02 14 22.0**	**+3.6**
GTOI	**Gorontalo**	**8.28**	**206**	P	Pn	**02 15 00.3**	**-0.6**
	31nm,0.6s						
MRSI	**Marisa**	**8.93**	**212**	P	Pn	**02 15 11.5**	**+1.6**
TOLI2	**Tolitoli**	**9.11**	**221**	Pn	Pn	**02 15 11.4**	**-0.8**
TPUB	**Ta-pu**	**16.19**	**340**	Pn	Pn	**02 16 48.3**	**+0.8**
GENI	**Genyem**	**17.14**	**128**	P	Pn	02 16 46.0	-14
BATI	**Baumata**	**18.44**	**189**	P	Pn	**02 17 15.6**	**+0.1**
	3.6nm,0.3s,baz=5.2,slow=5.2,SNR=3.7						
JOW	**Kunigami**	**18.68**	**4**	P	Pn	**02 17 21.5**	**+3.2**
	baz=215,slow=9.6,SNR=8.6						
MTN	**Manton Dam**	**21.28**	**168**	P	P	**02 17 46.8**	**+1.0**
MTN				IAmb	IAmb	02 17 57.0	
	comp=Z,14nm,1.0s						
KNRA	**Kununurra**	**23.72**	**175**	P	P	**02 18 10.9**	**-0.1**
KNRA				IAmb	IAmb	02 18 13.0	
	comp=Z,17nm,0.5s						
FITZ	**Fitzroy Crossi**	**26.06**	**182**	P	P	**02 18 33.0**	**+0.7**
	comp=Z,7.2nm,0.7s,baz=26,slow=6.0,SNR=24						
FITZ	**Fitzroy Crossi**	**26.06**	**182**	P	P	**02 18 31.3**	**-0.9**
FITZ				IAmb	IAmb	02 18 36.2	
	comp=Z,8.5nm,0.8s						

JMN Monobe 26.35 14 P P 02 18 36.2 +1.4
JMN IAmb IAmb 02 18 39.9
comp=Z,29nm,0.9s
COEN Coen 27.36 143 P P 02 18 45.3 +1.3
COEN IAmb IAmb 02 18 58.3
comp=Z,34nm,1.5s
RPSI Rantau Prapat 28.14 261 P P 02 18 48.4 -2.7
RPSI IAmb IAmb 02 19 13.6
comp=Z,9.2nm,1.1s
JWT Wachi 28.20 15 P P 02 18 53.0 +1.6
JWT IAmb IAmb 02 19 19.7
comp=Z,21nm,1.2s
CMAR Chiang Mai Arr 28.85 294 P P 02 18 55.8 -1.6
comp=Z,1.0nm,0.4s,baz=112,slow=7.2,SNR=1.6
CMAR LR LR 02 31 58.8
comp=Z,42nm,19.1s,baz=172,slow=40
CMAR Chiang Mai Arr 28.85 294 P P 02 18 57.0 -0.3
WRA Warramunga Arr 28.88 165 P P 02 18 56.9 -0.7
comp=Z,0.9nm,0.6s,baz=347,slow=10.0,SNR=7.0
WRA LR LR 02 31 22.5
comp=Z,45nm,20.9s,baz=220,slow=38
WRA Warramunga Arr 28.88 165 P P 02 18 58.3 +0.7
WB2 Warramunga Arr 28.88 165 P P 02 18 56.6 -1.0
WR0 Warramunga Arr 28.94 165 P P 02 18 58.3 +0.1
KSRS Korea Array 29.23 2 P P 02 19 00.6 0.0
comp=Z,0.6nm,0.3s,baz=169,slow=6.2,SNR=1.9
KSRS LR LR 02 33 04.2
comp=Z,40nm,18.3s,baz=186,slow=41
MJAR Matsushiro Arr 30.19 19 LR LR 02 29 45.8
comp=Z,31nm,21.6s,baz=310,slow=33
PSA00 Pilbara Seismi 30.25 193 P P 02 19 09.3 -0.4
PSA00 IAmb IAmb 02 19 20.1
comp=Z,26nm,1.4s
ASAR Alice Springs 32.36 168 P P 02 19 29.5 +1.2
comp=Z,0.8nm,0.4s,baz=342,slow=7.3,SNR=9.8
ASAR PcP **PcP 02 22 14.4 -0.9**
comp=Z,0.8nm,0.7s,baz=346,slow=2.6,SNR=5.9
ASAR Alice Springs 32.36 168 P P 02 19 27.2 -1.1
USA0B Ussuriysk Arra 36.25 6 P P 02 20 02.7 +1.0
USA0B IAmb IAmb 02 20 14.2
comp=Z,6.1nm,0.9s
USRK Ussuriysk Ar. 36.25 6 P P 02 20 02.0 +0.3
comp=Z,4.6nm,0.9s,baz=187,slow=7.3,SNR=7.6
USRK Ussuriysk Ar. 36.25 6 P P 02 20 02.1 +0.5
SHL Shillong 37.40 302 P P 02 20 12.2 +0.2
MORW Morawa 38.36 195 P P 02 20 20.0 +0.2
FORT Forrest 38.69 178 P P 02 20 22.1 -0.4
H11S3 WAKE ISLAND Hy 40.19 71 T T 03 03 48.8
baz=262,slow=76,SNR=38
H11S1 WAKE ISLAND Hy 40.20 71 T T 03 03 47.9
baz=262,slow=76,SNR=24
H11S2 WAKE ISLAND Hy 40.20 71 T T 03 03 47.9
baz=262,slow=76,SNR=28
H11N1 WAKE ISLAND Hy 40.59 69 T T 03 04 41.4
baz=265,slow=74,SNR=27
H11N2 WAKE ISLAND Hy 40.60 69 T T 03 04 35.6
baz=265,slow=74,SNR=28
H11N3 WAKE ISLAND Hy 40.61 69 T T 03 04 15.7
baz=265,slow=74,SNR=20
BBOO Buckleboo 41.66 168 P P 02 20 46.6 -0.4
STKA Stephens Creek 42.24 161 P P 02 20 50.9 -0.9
comp=Z,1.2nm,0.3s,baz=334,slow=7.5,SNR=4.3
STKA LR LR 02 39 45.8
comp=Z,43nm,20.3s,baz=337,slow=38
STKA Stephens Creek 42.24 161 P P 02 20 51.1 -0.7
SONM Songino Array 43.18 340 P P 02 20 58.0 -1.4
comp=Z,0.4nm,0.6s,baz=142,slow=7.3,SNR=2.0
TOO Toolangi 48.73 160 P P 02 21 43.4 +0.3
PEA0B Petropavlovsk- 51.44 23 P P 02 22 05.8 +2.4
PEA0B IAmb IAmb 02 22 17.5
comp=Z,10.0nm,1.1s
PETK Petropavlovsk- 51.44 23 P P 02 22 05.8 +2.4
comp=Z,3.1nm,0.6s,baz=191,slow=6.6,SNR=9.0
PETK LR LR 02 43 11.6
comp=Z,16nm,20.6s,baz=155,slow=35
PETK Petropavlovsk- 51.44 23 P P 02 22 06.0 +2.6
MK31 Makanchi Array 53.99 324 P P 02 22 22.1 -0.3
MKAR Makanchi Array 53.99 324 P P 02 22 22.3 -0.2
comp=Z,2.2nm,0.6s,baz=120,slow=8.4,SNR=15
ZALV Zalesovo Beam 56.71 332 P P 02 22 40.4 -1.5
comp=Z,0.9nm,0.4s,baz=115,slow=8.8,SNR=3.7
ZALV Zalesovo Beam 56.71 332 P P 02 22 40.0 -1.8
KKAR Karatay Array 60.06 315 P P 02 23 04.9 -0.6
ABKAR Akbulak array 68.78 320 P P 02 24 00.5 -1.7
CASY Casey 75.13 187 P P 02 24 39.9 0.0
CASY IAmb IAmb 02 24 57.4
comp=Z,8.4nm,1.4s
KDAK Kodiak Island 78.24 33 P P 02 24 59.4 +1.7
IMAR Indian Mountai 78.39 24 P P 02 24 60.0 +1.6
SKT Skwentna 79.03 28 P P 02 25 02.7 +0.7
SKT IAmb IAmb 02 25 19.4
comp=Z,17nm,1.4s
BPAW Bear Paw Mtn. 79.40 26 P P 02 25 05.4 +1.4
BPAW IAmb IAmb 02 25 06.1
comp=Z,6.5nm,1.3s
H23K Yukon River 80.10 25 P P 02 25 09.8 +2.0
I23K Minto, Yukon-K 80.15 25 P P 02 25 09.7 +1.7
RND Reindeer 80.32 27 P P 02 25 10.1 +1.1
RND IAmb IAmb 02 25 26.8
comp=Z,13nm,1.4s
SML Sawmill 80.54 29 P P 02 25 11.2 +1.0
SCM Sheep Creek Mo 81.01 29 P P 02 25 14.1 +1.3
ILAR Eielson Array 81.20 26 P P 02 25 14.0 +0.4
comp=Z,0.4nm,0.4s,baz=260,slow=4.6,SNR=5.5
RIDG Independent Ri 82.11 27 P P 02 25 19.4 +0.8
RIDG IAmb IAmb 02 25 20.0
comp=Z,10nm,1.2s
K27K Chicken 83.32 26 P P 02 25 27.1 +2.4
K27K IAmb IAmb 02 25 38.9
comp=Z,8.5nm,1.4s
BCAR Beaver Creek A 83.53 27 P P 02 25 27.8 +1.9
ARCES ARCESS Array B 86.35 340 P P 02 25 38.6 -1.3
comp=Z,0.9nm,0.8s,baz=72,slow=5.8,SNR=5.8
ARCES ARCESS Array B 86.35 340 P P 02 25 39.6 -0.2
ARCES IAmb IAmb 02 25 48.4
comp=Z,5.0nm,1.3s
BRTR Keskin Array B 87.21 310 P P 02 25 42.0 -2.9
comp=Z,0.3nm,0.6s,baz=91,slow=6.1,SNR=2.4
FINES FINESS Array B 87.98 332 P P 02 25 46.8 -1.1
comp=Z,0.7nm,0.4s,baz=83,slow=4.3,SNR=11
FINES FINESS Array B 87.98 332 P P 02 25 46.4 -1.5
AKASG Malin Array Be 88.49 321 P P 02 25 48.8 -1.7
comp=Z,0.6nm,0.5s,baz=66,slow=5.2,SNR=4.1
TXAR Lajitas Array 118.91 50 PKP PKiKP 02 31 47.6 +0.4
comp=Z,0.4nm,0.7s,baz=350,slow=2.9,SNR=7.0
TXAR Lajitas Array 118.91 50 PKiKP 02 31 47.0 -0.2
TORD Torodi Ar. Bea 121.43 291 PKP PKPdf 02 31 50.9 -1.4
comp=Z,0.7nm,0.8s,baz=53,slow=4.0,SNR=4.3

MEX 16 02:15:49.8±0.3, 15.89N×98.53W, h26km±47km, MD3.9, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.63**	**38**	*i* P	Pb	02 16 00.3	-2.0
PNIG				*i* S	Sb	02 16 08.4	-2.4
PEIG	**Puerto Escondi**	**1.33**	**85**	*i* P	Pb	02 16 15.0	+0.8
PEIG				*i* S	Sn	02 16 30.3	+0.5
TXIG	**Tlaxiaco**	**1.54**	**28**	*i* P	Pn	02 16 13.4	-2.5
TXIG				*i* S	Sn	02 16 34.6	-0.6
TLIG	**Tlapa**	**1.66**	**359**	*i* P	Pn	02 16 15.0	-2.4
TLIG				*i* S	Sn	02 16 33.7	-4.3
FTIG	**Fresnillo de T**	**2.04**	**11**	*i* P	Pn	02 16 21.1	-1.6
FTIG				*i* S	Sn	02 16 37.5	-10
HLIG	**Huajuapan de L**	**2.05**	**20**	*i* P	Pn	02 16 23.2	+0.3
HLIG				*i* S	Sn	02 16 48.5	+0.8

*TUL **16** 02:30:01.9±1.6, 35.98N±0.02×96.80W±0.04, h4km±6km, ML4.1, mb3.7/2(NEIC), mb_Lg4.0/122(NEIC), Mwr3.7/41(NEIC), Error ellipse: s-maj=4.5km s-min=2.6km az=109.0*
*ANF **16** 02:30:02.2±0.2, 36.00N×96.81W, h4km, ML4.7/21, Error ellipse: s-maj=2.1km s-min=1.8km az=139.0*
*NEIC **16** 02:30:02.1±1.4, 36.00N±0.02×96.80W±0.05, h5km±1km, Error ellipse: s-maj=6.6km s-min=3.1km az=276.0*
*NEIC **16** 02:30:02.1, 36.00N×96.80W, h3km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.32; $M_{\theta\theta}$3.57; $M_{\phi\phi}$-3.25; $M_{r\theta}$-0.04; $M_{\theta\phi}$-2.28; $M_{\phi r}$-0.82; Fault plane solution: $M_0$4.19000×10^{14} NP1:ϕ_s331.24000°, δ83.40000°, λ-10.26000°. NP2:ϕ_s62.43000°, δ79.81000°, λ-173.30000°. Principal axes: T 4.2735, Plg3.0000°,*

Azm17.0000°; N -0.1643, Plg78.0000°, Azm119.0000°; P -4.1091, Plg12.0000°, Azm287.0000°;
*IDC **16** 02:30:02.1±0.9, 35°.98N×96°.84W, h0km, mb3.7/2, mb1 3.9/9, mb1mx3.6/39, mbtmp3.6/9, ML3.5/7, MS3.0/10, Ms1 3.0/10, ms1mx2.8/50 Error ellipse: s-maj=13.0km s-min=9.6km az=133.0*

ISC 16 02:30:02.4±0.8, 35°.99N±0°.02×96°.79W±0°.02, h8km±5km, n223, σ1°08/240, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.05**	**229**		**Pg**	**02 30 03.4**	**-0.7**
OK031				Sg	**Sg**	**02 30 04.4**	**-1.0**
QUOK	**Quay**	**0.20**	**20**	Pg	**Pg**	**02 30 06.3**	**0.0**
QUOK				Sg	**Sg**	**02 30 09.4**	**+0.3**
OK005	**Luther M Schoo**	**0.47**	**225**		**Pg**	**02 30 11.2**	**-0.2**
OK005				Sg	**Sg**	**02 30 17.7**	**+0.2**
OK011	**Prague**	**0.51**	**170**		**Pg**	**02 30 12.0**	**-0.2**
OK011				Sg	**Sg**	**02 30 19.3**	**+0.4**
OK029	**Liberty Lake**	**0.57**	**251**		**Pg**	**02 30 13.0**	**-0.5**
OK029				Sg	**Sg**	**02 30 20.9**	**-0.1**
OK025	**Westminster Rd**	**0.60**	**228**		**Pg**	**02 30 13.5**	**-0.5**
OK025	comp=Z,1μm,0.8s			IAmb_Lg		02 30 21.5	
OK025				Sg	**Sg**	**02 30 22.0**	**+0.1**
OK009	**Oakdale Elemen**	**0.66**	**232**		**Pg**	**02 30 14.6**	**-0.4**
OK009				Sg	**Sg**	**02 30 23.7**	**+0.2**
OKCFA	**Oklahoma City**	**0.79**	**224**		**Pg**	**02 30 16.7**	**-0.8**
OKCFA	comp=Z,2μm,1.1s			IAmb_Lg		02 30 27.1	
OKCFA	**Oklahoma City** baz=43,SNR=76	**0.79**	**224**	P	**Pg**	**02 30 16.7**	**-0.8**
OKCFA	baz=43			S	**Sg**	**02 30 27.7**	**0.0**
OKCSW	**OKLAHOMA CITY**	**0.79**	**222**		**Pg**	**02 30 16.6**	**-0.8**
TUL1	**Leonard** baz=275	**0.81**	**95**	P	**Pg**	**02 30 17.6**	**-0.4**
TUL1	baz=275			S	**Sg**	**02 30 28.5**	**-0.1**
TUL1	**Leonard** baz=275,SNR=767	**0.81**	**95**	P	**Pg**	**02 30 17.6**	**-0.4**
TUL1	baz=275			S	**Sg**	**02 30 28.3**	**-0.3**
BLOK	**Blackwell**	**0.84**	**336**		**Pg**	**02 30 18.1**	**-0.5**
FNO	**Franklin**	**0.88**	**214**	Pg	**Pg**	**02 30 18.4**	**-0.9**
FNO	comp=Z,1μm,0.8s			IAmb_Lg		02 30 29.8	
T35A	**Sooner Cattle**	**0.95**	**14**		**Pg**	**02 30 20.1**	**-0.6**
T35B	**Sooner Cattle** baz=194	**0.95**	**14**	P	**Pg**	**02 30 20.1**	**-0.6**
T35B	baz=194			S	**Sg**	**02 30 33.0**	**-0.1**
CROK	**Carrier**	**1.09**	**298**		**Pg**	**02 30 22.5**	**-0.9**
KAN13	**South Haven SW**	**1.16**	**332**		**Pg**	**02 30 24.0**	**-0.7**
GC02	**Grant County #**	**1.22**	**315**		**Pg**	**02 30 24.8**	**-1.0**
KAN17	**Caldwell West**	**1.31**	**324**		**Pn**	**02 30 26.4**	**-0.6**
KAN09	**Caldwell North**	**1.33**	**330**		**Pn**	**02 30 26.8**	**-0.4**
KAN14	**Manchester OK**	**1.35**	**316**		**Pn**	**02 30 27.0**	**-0.6**
KS20	**Mayfield South**	**1.38**	**334**		**Pn**	**02 30 27.7**	**-0.3**
KS20	comp=Z,871nm,0.7s			IAmb_Lg		02 30 48.6	
OK032	**Salt Plains WL**	**1.41**	**306**		**Pn**	**02 30 27.8**	**-0.5**
KAN05	**Bluff City Nor**	**1.42**	**322**		**Pn**	**02 30 28.4**	**-0.1**
KAN08	**Anthony NE Sta**	**1.56**	**323**		**Pn**	**02 30 30.5**	**0.0**
KAN16	**Harper SW Stat**	**1.61**	**321**		**Pn**	**02 30 31.3**	**+0.2**
X34A	**Smith Ranch, M**	**1.63**	**212**		**Pn**	**02 30 31.8**	**+0.5**
X34A	comp=Z,1μm,0.9s			IAmb_Lg		02 30 56.3	
KAN12	**Harper NE Stat**	**1.63**	**324**		**Pn**	**02 30 31.6**	**+0.2**
X37A	**Clayton**	**1.81**	**140**		**Pn**	**02 30 34.6**	**+0.7**
X37A	comp=Z,2μm,1.2s			IAmb_Lg		02 31 01.6	
X37A	**Clayton** baz=320,SNR=416	**1.81**	**140**	P	**Pn**	**02 30 34.7**	**+0.8**
X37A	baz=320			S	**Sg**	**02 31 00.2**	**-0.4**
U32A	**Winter Ranch,**	**1.83**	**283**		**Pn**	**02 30 34.5**	**+0.3**
U32A	comp=Z,639nm,0.8s			IAmb_Lg		02 31 00.7	
U32A	**Winter Ranch,** baz=102,SNR=65	**1.83**	**283**	P	**Pn**	**02 30 34.5**	**+0.3**
U32A	baz=102			S	**Sb**	**02 30 60.0**	**+0.7**
U38A	**Gravette**	**2.00**	**76**	IAmb_Lg		02 31 06.3	
U38A	comp=Z,1μm,0.8s **Gravette** baz=257,SNR=111	**2.00**	**76**	P	**Pn**	**02 30 37.2**	**+0.7**
U38A	baz=257			S	**Sb**	**02 31 04.9**	**+0.9**
LOOK	**Love County**	**2.02**	**189**		**Pn**	**02 30 37.4**	**+0.7**
LOOK	comp=Z,746nm,0.9s			IAmb_Lg		02 31 08.4	
WMOK	**Wichita Mounta**	**2.05**	**233**		**Pn**	**02 30 37.7**	**+0.5**
WMOK	comp=Z,582nm,0.8s			IAmb_Lg		02 31 12.1	
WMOK	**Wichita Mounta** baz=52	**2.05**	**233**	P	**Pn**	**02 30 37.8**	**+0.7**
WMOK	baz=52			S	**Sb**	**02 31 05.4**	**-0.2**
WMOK	**Wichita Mounta** baz=52	**2.05**	**233**	P	**Pn**	**02 30 37.4**	**+0.2**
WMOK	baz=52			Sb	**Sb**	**02 31 05.8**	**+0.3**
HHAR	**Hobbs**	**2.33**	**82**		**Pn**	**02 30 41.7**	**+0.7**
HHAR	**Hobbs** baz=263	**2.33**	**82**	P	**Pn**	**02 30 41.9**	**+1.0**
W39A	**Magazine**	**2.57**	**107**		**Pn**	**02 30 44.8**	**+0.5**
W39A	**Magazine** baz=289,SNR=46	**2.57**	**107**	P	**Pn**	**02 30 44.9**	**+0.6**
W39A	**Magazine** baz=289,SNR=109	**2.57**	**107**	P	**Pn**	**02 30 44.8**	**+0.5**
W39A	baz=289			Sb	**Sb**	**02 31 21.9**	**+1.4**
Z35A	**Perchaven, San**	**2.68**	**188**	Pn	**Pn**	**02 30 46.2**	**+0.4**
Z35A	comp=Z,334nm,1.0s			IAmb_Lg		02 31 32.7	
Z35A	**Perchaven, San** baz=8.0,SNR=46	**2.68**	**188**	P	**Pn**	**02 30 46.4**	**+0.6**
R32A	**Long Quarter,**	**2.87**	**328**		**Pn**	**02 30 48.7**	**+0.1**
R32A	comp=Z,351nm,0.8s			IAmb_Lg		02 31 39.2	
R32A	**Long Quarter,** baz=147	**2.87**	**328**	S	**Sn**	**02 31 24.1**	**+0.8**
MIAR	**Mount Ida**	**3.00**	**118**	Pn	**Pn**	**02 30 51.0**	**+0.8**
MIAR	comp=Z,333nm,0.9s			IAmb_Lg		02 31 43.9	
MIAR	**Mount Ida** baz=300,SNR=136	**3.00**	**118**	P	**Pn**	**02 30 50.9**	**+0.8**
MIAR	**Mount Ida** baz=300,SNR=51	**3.00**	**118**	P	**Pn**	**02 30 50.9**	**+0.8**
MIAR	baz=300			S	**Sn**	**02 31 27.7**	**+1.4**
Z38A	**Mt. Pleasant**	**3.10**	**151**	Pn	**Pn**	**02 30 52.1**	**+0.5**
Z38A	comp=Z,698nm,0.8s			IAmb_Lg		02 31 41.8	
KSU1	**Kansas State U**	**3.11**	**3**		**Pn**	**02 30 51.8**	**0.0**
KSU1	comp=Z,507nm,0.8s			IAmb_Lg		02 31 47.6	
KSU1	**Kansas State U** baz=183,SNR=85	**3.11**	**3**	P	**Pn**	**02 30 51.5**	**-0.2**
KSU1	baz=183			Sb	**Sb**	**02 31 39.0**	**+3.0**
U40A	**Yellville**	**3.21**	**82**		**Pn**	**02 30 53.5**	**+0.5**
U40A	comp=Z,437nm,0.9s			IAmb_Lg		02 31 48.8	
U40A	**Yellville** baz=264,SNR=35	**3.21**	**82**	P	**Pn**	**02 30 54.1**	**+1.1**
U40A	**Yellville** baz=264,SNR=20	**3.21**	**82**	P	**Pn**	**02 30 53.2**	**+0.1**
S39A	**Bolivar**	**3.26**	**58**		**Pn**	**02 30 54.6**	**+0.8**
S39A	comp=Z,439nm,0.7s			IAmb_Lg		02 31 52.1	
S39A	**Bolivar** baz=239,SNR=32	**3.26**	**58**	P	**Pn**	**02 30 54.7**	**+0.8**
X40A	**Basin Creek Fa**	**3.57**	**114**		**Pn**	**02 30 59.0**	**+1.0**
X40A	comp=Z,251nm,0.8s			IAmb_Lg		02 32 02.8	
X40A	**Basin Creek Fa** baz=296,SNR=82	**3.57**	**114**	P	**Pn**	**02 30 58.7**	**+0.7**
X40A	**Basin Creek Fa** baz=296,SNR=40	**3.57**	**114**	P	**Pn**	**02 30 59.0**	**+1.0**
CBKS	**Cedar Bluff**	**3.67**	**321**	Pn	**Pn**	**02 30 59.8**	**+0.3**
CBKS	comp=Z,294nm,0.8s			IAmb_Lg		02 32 05.9	
CBKS	**Cedar Bluff** baz=140	**3.67**	**321**	P	**Pn**	**02 30 59.5**	**0.0**
WHAR	**Wooly Hollow**	**3.73**	**99**		**Pn**	**02 31 00.9**	**+0.6**
WHAR	comp=Z,522nm,1.0s			IAmb_Lg		02 32 03.3	
FCAR	**Ozark Folk Cen**	**3.79**	**90**	Pn	**Pn**	**02 31 01.6**	**+0.5**
W41B	**Gary Mavity, V** baz=284,SNR=189	**3.79**	**101**	P	**Pn**	**02 31 01.5**	**+0.4**
W41B	baz=284			S	**Sn**	**02 31 47.5**	**+1.7**
W41B	**Gary Mavity, V** baz=284,SNR=40	**3.79**	**101**	P	**Pn**	**02 31 01.4**	**+0.4**
W41B	baz=284			S	**Sn**	**02 31 46.7**	**+0.8**
WLAR	**White Oak Lake**	**3.80**	**126**	Pn	**Pn**	**02 31 01.9**	**+0.7**
WLAR	comp=Z,328nm,1.0s			IAmb_Lg		02 32 10.1	
MGMO	**Mountain Grove**	**3.82**	**71**	Pn	**Pn**	**02 31 02.4**	**+0.8**
WHTX	**Lake Whitney,**	**4.03**	**188**	Pn	**Pn**	**02 31 04.5**	**+0.1**
WHTX	**Lake Whitney,** baz=7.7	**4.03**	**188**	S	**Sn**	**02 31 52.2**	**+0.6**
WHTX	**Lake Whitney,** baz=7.7,SNR=23	**4.03**	**188**	P	**Pn**	**02 31 04.3**	**-0.1**
WHTX	baz=7.7			Sb	**Sb**	**02 32 06.0**	**+3.7**
237A	**Washetta, Mont**	**4.06**	**168**	Pn	**Pn**	**02 31 04.7**	**-0.1**
237A	**Washetta, Mont** baz=349,SNR=9.5	**4.06**	**168**	P	**Pn**	**02 31 04.8**	**0.0**
237A	baz=349			S	**Sn**	**02 31 52.6**	**+0.1**
ABTX	**Abilene, Hawle**	**4.10**	**216**	Pn	**Pn**	**02 31 05.1**	**-0.3**
ABTX	comp=Z,231nm,0.9s			IAmb_Lg		02 32 18.3	
ABTX	**Abilene, Hawle** baz=34,SNR=5.7	**4.10**	**216**	P	**Pn**	**02 31 05.5**	**0.0**
ABTX	**Abilene, Hawle** baz=34,SNR=23	**4.10**	**216**	P	**Pn**	**02 31 05.2**	**-0.2**
ABTX	baz=34			S	**Sn**	**02 31 53.6**	**0.0**
AMTX	**Amarillo**	**4.14**	**256**	Pn	**Pn**	**02 31 07.0**	**+1.0**
AMTX	comp=Z,532nm,0.7s			IAmb_Lg		02 32 21.3	
AMTX	**Amarillo** baz=73	**4.14**	**256**	Sb	**Sb**	**02 32 08.5**	**+2.6**
Z41A	**Richland Creek** baz=311,SNR=9.5	**4.27**	**128**	P	**Pn**	**02 31 07.9**	**+0.3**
Z41A	**Richland Creek** baz=311,SNR=8.8	**4.27**	**128**	P	**Pn**	**02 31 07.7**	**+0.1**
Z41A	baz=311			S	**Sn**	**02 31 57.7**	**+0.1**
R40A	**Maddies Statio**	**4.28**	**56**	Pn	**Pn**	**02 31 08.1**	**+0.3**
R40A	comp=Z,619nm,0.9s			IAmb_Lg		02 32 20.1	
R40A	**Maddies Statio** baz=239,SNR=33	**4.28**	**56**	P	**Pn**	**02 31 08.4**	**+0.5**
P38A	**Dawn**	**4.45**	**34**	Pn	**Pn**	**02 31 10.2**	**0.0**
P38A	comp=Z,350nm,0.9s			IAmb_Lg		02 32 22.9	
P38A	**Dawn** baz=216,SNR=15	**4.45**	**34**	P	**Pn**	**02 31 10.4**	**+0.2**
LCAR	**Lake Charles**	**4.57**	**87**	Pn	**Pn**	**02 31 11.5**	**-0.3**
LCAR	comp=Z,353nm,1.1s			IAmb_Lg		02 32 26.7	
NATX	**Nacogdoches**	**4.57**	**157**	Pn	**Pn**	**02 31 12.2**	**+0.3**
NATX	comp=Z,231nm,0.9s			IAmb_Lg		02 32 38.9	
NATX	**Nacogdoches** baz=338	**4.57**	**157**	S	**Sn**	**02 32 03.6**	**-1.6**
CCAR	**Cane Creek**	**4.61**	**115**	Pn	**Pn**	**02 31 12.6**	**+0.3**
CCAR	**Cane Creek** baz=296,SNR=14	**4.61**	**115**	P	**Pn**	**02 31 13.0**	**+0.6**
T42A	**Van Buren**	**4.71**	**76**	Pn	**Pn**	**02 31 14.4**	**+0.8**
T42A	comp=Z,439nm,0.9s			IAmb_Lg		02 32 31.0	
CCM	**Cathedral Cave**	**4.89**	**63**	Pn	**Pn**	**02 31 16.5**	**+0.3**
CCM	comp=Z,458nm,0.8s			IAmb_Lg		02 32 39.7	
N35A	**Tabor**	**4.95**	**10**		**Pn**	**02 31 16.9**	**-0.1**
N35A	comp=Z,470nm,0.7s			IAmb_Lg		02 32 51.6	
N35A	**Tabor** baz=191,SNR=7.4	**4.95**	**10**	P	**Pn**	**02 31 17.1**	**+0.1**
P40A	**Paris**	**5.16**	**45**	Pn	**Pn**	**02 31 20.5**	**+0.7**
PBMO	**Poplar Bluff**	**5.19**	**79**	Pn	**Pn**	**02 31 22.4**	**+2.1**
PBMO	comp=Z,437nm,0.9s			IAmb_Lg		02 32 58.5	
435B	**Jarrell**	**5.23**	**188**	Pn	**Pn**	**02 31 20.8**	**-0.2**
435B	comp=Z,198nm,0.7s			IAmb_Lg		02 32 51.2	
LPAR	**Lepanto**	**5.29**	**92**	IAmb_Lg		02 32 51.6	
MSTX	**Muleshoe**	**5.31**	**249**	Pn	**Pn**	**02 31 21.8**	**-0.3**
GNAR	**Gosnell**	**5.49**	**88**	IAmb_Lg		02 33 07.2	
BGNE	**Belgrade**	**5.52**	**349**	Pn	**Pn**	**02 31 25.5**	**+0.7**
143A	**Socs Landing,**	**5.53**	**125**	Pn	**Pn**	**02 31 25.6**	**+0.6**
143A	comp=Z,192nm,0.8s			IAmb_Lg		02 33 07.9	
KSCO	**Kaye Shedlock'**	**5.54**	**305**	Pn	**Pn**	**02 31 24.5**	**-0.7**
KSCO	comp=Z,312nm,0.7s			IAmb_Lg		02 33 03.9	
KSCO	**Kaye Shedlock'** baz=121,SNR=6.2	**5.54**	**305**	P	**Pn**	**02 31 24.8**	**-0.4**
N38A	**Joes South For**	**5.55**	**29**		**Pn**	**02 31 25.5**	**+0.2**
N38A	comp=Z,401nm,0.7s			IAmb_Lg		02 33 14.2	
N38A	**Joes South For** baz=211,SNR=12	**5.55**	**29**	P	**Pn**	**02 31 25.1**	**-0.1**
MET	**Memphis--Engin**	**5.66**	**97**	IAmb_Lg		02 33 09.8	
LNXT	**Lenox**	**5.92**	**87**	Pn	**Pn**	**02 31 30.7**	**+0.4**
L34A	**Svendsen Farm,**	**5.98**	**3**	Pn	**Pn**	**02 31 31.4**	**+0.2**
JCT	**Junction City**	**6.04**	**206**		**Pn**	**02 31 32.0**	**-0.1**
JCT	comp=Z,295nm,0.9s			IAmb_Lg		02 33 26.3	
JCT	**Junction City** baz=24	**6.04**	**206**	P	**Pn**	**02 31 31.8**	**-0.3**
HICK	**Hickman**	**6.13**	**83**	Pn	**Pn**	**02 31 33.7**	**+0.4**
OXF	**Oxford**	**6.22**	**102**		**Pn**	**02 31 33.3**	**-1.1**
OXF	comp=Z,208nm,1.1s			IAmb_Lg		02 33 22.6	
OXF	**Oxford** baz=286,SNR=13	**6.22**	**102**	P	**Pn**	**02 31 33.5**	**-0.9**
OXF	baz=286			S	**Sn**	**02 32 45.5**	**-0.2**
T25A	**Trinidad**	**6.24**	**283**	Pn	**Pn**	**02 31 34.1**	**-0.9**
T25A	comp=Z,198nm,0.7s			IAmb_Lg		02 33 24.2	
T25A	**Trinidad** baz=98	**6.24**	**283**	P	**Pn**	**02 31 34.7**	**-0.3**
W45A	**Hickory Valley**	**6.25**	**95**	Pn	**Pn**	**02 31 34.8**	**-0.2**
W45A	comp=Z,275nm,0.7s			IAmb_Lg		02 33 34.7	
S44A	**Carbondale**	**6.28**	**72**	Pn	**Pn**	**02 31 34.7**	**-0.5**
SIUC	**Southern Illin**	**6.31**	**72**	Pn	**Pn**	**02 31 35.8**	**+0.1**
Y45A	**Yeager Farm, C**	**6.32**	**107**	Pn	**Pn**	**02 31 35.1**	**-0.7**
Y45A	comp=Z,158nm,0.8s			IAmb_Lg		02 33 36.3	
Y45A	**Yeager Farm, C** baz=292,SNR=8.3	**6.32**	**107**	P	**Pn**	**02 31 35.8**	**0.0**
VBMS	**Vicksburg** baz=308	**6.42**	**124**	S	**Sn**	**02 32 50.8**	**+0.1**
OGNE	**Ogallala**	**6.43**	**322**	Pn	**Pn**	**02 31 37.6**	**0.0**
OGNE	comp=Z,398nm,0.8s			IAmb_Lg		02 33 30.8	
OGNE	**Ogallala** baz=139	**6.43**	**322**	P	**Pn**	**02 31 37.5**	**0.0**
OGNE	baz=139			S	**Sn**	**02 32 49.4**	**-1.8**
SCIA	**State Center**	**6.53**	**24**	Pn	**Pn**	**02 31 39.0**	**+0.2**
SCIA	comp=Z,231nm,0.8s			IAmb_Lg		02 33 35.1	
SCIA	**State Center** baz=206,SNR=8.6	**6.53**	**24**	P	**Pn**	**02 31 39.0**	**+0.2**
SCIA	**State Center** baz=206	**6.53**	**24**	P	**Pn**	**02 31 38.9**	**+0.2**
N41A	**Harden Midland**	**6.63**	**43**	Pn	**Pn**	**02 31 40.5**	**+0.4**
P43A	**Skaggs, Pawnee**	**6.81**	**55**		**Pn**	**02 31 42.5**	**-0.1**
P43A	comp=Z,352nm,0.8s			IAmb_Lg		02 33 45.8	
735A	**Kenedy**	**7.16**	**187**	Pn	**Pn**	**02 31 48.2**	**+0.7**
PLAL	**Pickwick Lake**	**7.18**	**95**	Pn	**Pn**	**02 31 46.7**	**-1.0**
PLAL	comp=Z,103nm,0.8s			IAmb_Lg		02 34 02.1	
SDCO	**Great Sand Dun**	**7.20**	**287**	Pn	**Pn**	**02 31 49.6**	**+1.4**
SDCO	**Great Sand Dun** baz=102	**7.20**	**287**	P	**Pn**	**02 31 48.4**	**+0.2**
146A	**Union**	**7.22**	**115**	Pn	**Pn**	**02 31 48.1**	**-0.1**
WVT	**Waverly**	**7.26**	**86**	Pn	**Pn**	**02 31 48.6**	**-0.1**
WVT	**Waverly** baz=271	**7.26**	**86**	P	**Pn**	**02 31 48.5**	**-0.2**
Q24A	**Divide** baz=112	**7.28**	**297**	P	**Pn**	**02 31 49.5**	**+0.2**
Q24A	baz=112			S	**Sn**	**02 33 10.7**	**-1.7**
K38A	**Parkersburg**	**7.34**	**24**	Pn	**Pn**	**02 31 49.0**	**-0.9**
K38A	comp=Z,187nm,0.8s			IAmb_Lg		02 34 08.8	
HDIL	**Hopedale**	**7.45**	**50**	Pn	**Pn**	**02 31 51.9**	**+0.5**
HDIL	**Hopedale** baz=234	**7.45**	**50**	P	**Pn**	**02 31 51.1**	**-0.3**
HDIL	baz=234			S	**Sn**	**02 33 14.5**	**-1.5**
L40A	**Anamosa**	**7.45**	**34**		**Pn**	**02 31 51.1**	**-0.3**
L40A	comp=Z,226nm,0.9s			IAmb_Lg		02 34 03.8	
346A	**Big Creek Wild**	**7.63**	**125**	Pn	**Pn**	**02 31 53.9**	**0.0**
Z47A	**Carrollton**	**7.71**	**109**		**Pn**	**02 31 53.9**	**-1.0**
ECSD	**EROS Data Cent**	**7.74**	**1**	Pn	**Pn**	**02 31 54.0**	**-1.3**
ECSD	**EROS Data Cent** baz=181,SNR=6.2	**7.74**	**1**	P	**Pn**	**02 31 54.3**	**-1.0**
O44A	**Mansfield**	**7.77**	**55**	Pn	**Pn**	**02 31 56.3**	**+0.6**
O44A	comp=Z,271nm,0.8s			IAmb_Lg		02 34 18.7	
T47A	**Sharon Grove**	**7.86**	**80**		**Pn**	**02 31 56.8**	**-0.3**
ISCO	**Idaho Springs**	**7.95**	**301**	Pn	**Pn**	**02 31 58.1**	**-0.3**
ISCO	**Idaho Springs** baz=116,SNR=14	**7.95**	**301**	P	**Pn**	**02 31 57.8**	**-0.6**
833A	**Chaparral WMA,** baz=15	**7.95**	**197**	P	**Pn**	**02 31 58.2**	**0.0**
ANMO	**Albuquerque**	**7.96**	**265**	Pn	**Pn**	**02 32 00.3**	**+1.8**
ANMO	comp=Z,0.1nm,0.3s,baz=78,slow=14,SNR=1.7 comp=Z,0.9nm,0.3s,baz=77,slow=17,SNR=11			Pg	**Pb**	**02 32 24.9**	**+4.3**
ANMO	comp=Z,3.8nm,0.3s,baz=351,slow=18,SNR=3.2			Lg	Lg	02 34 12.4	
ANMO	comp=Z,115nm,19.8s,baz=80,slow=39			LR	LR	02 35 10.5	
V48A	**Smith Brothers** comp=Z,88nm,0.9s	**8.10**	**89**	IAmb_Lg		02 34 35.8	
L42A	**Oliver, Polo**	**8.17**	**41**	Pn	**Pn**	**02 32 00.5**	**-0.7**
L42A	comp=Z,264nm,0.8s			IAmb_Lg		02 34 24.3	
BNM	**Barren Site**	**8.27**	**260**	Pn	**Pn**	**02 32 02.1**	**-0.8**
MNTX	**Cornudas Mount**	**8.33**	**242**	Pn	**Pn**	**02 32 03.5**	**0.0**
MNTX	**Cornudas Mount** baz=57	**8.33**	**242**	P	**Pn**	**02 32 03.1**	**-0.4**
I37A	**Lemond, Waseca** comp=Z,107nm,0.8s	**8.43**	**17**	IAmb_Lg		02 34 44.1	
JFWS	**Jewell Farm**	**8.57**	**34**		**Pn**	**02 32 06.2**	**-0.5**
JFWS	comp=Z,206nm,0.7s			IAmb_Lg		02 34 43.5	
JFWS	**Jewell Farm** baz=218,SNR=8.4	**8.57**	**34**	P	**Pn**	**02 32 06.0**	**-0.6**
LRAL	**Lakeview Retre**	**8.60**	**107**	Pn	**Pn**	**02 32 06.3**	**-0.9**
LRAL	**Lakeview Retre** baz=293	**8.60**	**107**	P	**Pn**	**02 32 06.6**	**-0.6**
SUSD	**Miller**	**8.61**	**350**	Pn	**Pn**	**02 32 07.5**	**+0.3**
SUSD	comp=Z,213nm,0.9s			IAmb_Lg		02 34 36.2	
PHWY	**Pilot Hill**	**8.61**	**311**	Pn	**Pn**	**02 32 06.9**	**-0.6**
PHWY	comp=Z,89nm,0.8s			IAmb_Lg		02 34 48.6	
N23A	**Red Feather La** baz=122	**8.69**	**307**	P	**Pn**	**02 32 08.7**	**0.0**
M44A	**Midewin, Midew**	**8.71**	**49**	Pn	**Pn**	**02 32 07.8**	**-0.7**
Y49A	**Blount Mountai**	**8.78**	**101**	Pn	**Pn**	**02 32 09.8**	**+0.1**
SFIN	**Lafayette** comp=Z,285nm,0.9s	**8.80**	**57**	IAmb_Lg		02 34 40.7	
TX31	**Lajitas Ar. Si**	**8.81**	**223**	Pn	**Pn**	**02 32 09.0**	**-1.2**
TX32	**Lajitas Array**	**8.81**	**223**	Pn	**Pn**	**02 32 09.8**	**-0.3**
TXAR	**Lajitas Array** comp=Z,0.4nm,0.3s,baz=41,slow=11,SNR=34	**8.81**	**223**	Pn	**Pn**	**02 32 08.6**	**-1.5**
TXAR	comp=Z,1.1nm,0.3s,baz=42,slow=12,SNR=2.6			Sn	**Sn**	**02 33 44.9**	**-4.7**
TXAR	comp=Z,1.8nm,0.3s,baz=52,slow=34,SNR=3.4			Lg	Lg	02 34 32.5	
TXAR	comp=Z,52nm,19.2s,baz=0.0,slow=36			LR	LR	02 35 17.3	
TXAR	**Lajitas Array**	**8.81**	**223**	Pn	**Pn**	**02 32 09.8**	**-0.3**
SWET	**Sewanee**	**8.88**	**92**	Pn	**Pn**	**02 32 10.6**	**-0.3**
U49A	**Red Boiling Sp**	**8.91**	**83**	Pn	**Pn**	**02 32 11.8**	**+0.4**
I40A	**Norwalk**	**9.20**	**29**		**Pn**	**02 32 14.4**	**-1.0**
I40A	comp=Z,83nm,0.7s			IAmb_Lg		02 35 03.9	
K43A	**Burlington**	**9.37**	**42**	Pn	**Pn**	**02 32 17.2**	**-0.5**
K43A	comp=Z,202nm,0.8s			IAmb_Lg		02 35 06.5	
W50A	**Signal Mountai**	**9.38**	**91**	Pn	**Pn**	**02 32 19.1**	**+1.2**
BRAL	**Brewton**	**9.44**	**118**	Pn	**Pn**	**02 32 19.1**	**+0.5**
250A	**Grady**	**9.61**	**112**	Pn	**Pn**	**02 32 19.5**	**-1.5**
RSSD	**Black Hills**	**9.84**	**328**	Pn	**Pn**	**02 32 24.1**	**-0.2**
RSSD	comp=Z,88nm,0.8s			IAmb_Lg		02 35 32.5	
F33A	**5 Mile Ranch,**	**9.85**	**2**		**Pn**	**02 32 22.3**	**-2.0**
F33A	comp=Z,75nm,0.7s			IAmb_Lg		02 35 18.1	
I42A	**Draeger Farm,**	**9.94**	**35**	Pn	**Pn**	**02 32 24.6**	**-0.9**
I42A	comp=Z,152nm,1.0s			IAmb_Lg		02 35 20.7	
PV16	**Nyswonger Mesa**	**9.95**	**287**	Pn	**Pn**	**02 32 28.2**	**+2.3**
PV17	**East Wray Mesa**	**9.98**	**287**	Pn	**Pn**	**02 32 27.9**	**+1.6**
CPCT	**Cooper Cave**	**9.99**	**89**	Pn	**Pn**	**02 32 25.9**	**-0.3**
PV21	**Cone Mtn., Par**	**10.04**	**288**	Pn	**Pn**	**02 32 28.1**	**+0.9**
V51A	**Loudon**	**10.09**	**87**		**Pn**	**02 32 27.3**	**-0.3**
L46A	**Eue Claire**	**10.14**	**50**	Pn	**Pn**	**02 32 26.8**	**-1.4**
F36A	**Milaca**	**10.17**	**13**		**Pn**	**02 32 26.9**	**-1.7**
R50A	**Paris**	**10.21**	**73**	Pn	**Pn**	**02 32 28.8**	**-0.4**
G40A	**Rib Lake**	**10.53**	**26**	Pn	**Pn**	**02 32 31.6**	**-2.0**
TKL	**Tuckaleechee C** comp=Z,0.2nm,0.3s,baz=303,slow=13,SNR=2.7	**10.57**	**88**	Pn	**Pn**	**02 32 33.4**	**-0.8**
TKL	comp=Z,4.8nm,0.3s,baz=186,slow=23,SNR=10			Lg	Lg	02 35 32.0	
TKL	**Tuckaleechee C**	**10.57**	**88**	Pn	**Pn**	**02 32 33.6**	**-0.6**
H43A	**Windswept, Lux**	**10.91**	**36**	Pn	**Pn**	**02 32 37.5**	**-1.3**
GOGA	**Godfrey**	**11.26**	**99**	Pn	**Pn**	**02 32 43.0**	**-0.6**
COWI	**Conover**	**11.63**	**27**	Pn	**Pn**	**02 32 48.7**	**+0.1**
J47A	**Sunmer**	**11.72**	**48**	Pn	**Pn**	**02 32 47.8**	**-2.1**
553A	**Crawfordville**	**11.86**	**116**	Pn	**Pn**	**02 32 50.4**	**-1.5**
BW06	**Boulder Array**	**11.97**	**308**	Pn	**Pn**	**02 32 53.9**	**+0.4**
PDAR	**Pinedale Array** comp=Z,0.1nm,0.3s,baz=118,slow=15,SNR=3.8	**11.97**	**308**	Pn	**Pn**	**02 32 53.0**	**-0.5**
PDAR	comp=Z,0.9nm,0.3s,baz=94,slow=31,SNR=2.7			Lg	Lg	02 36 15.2	
PDAR	comp=Z,39nm,18.2s,baz=109,slow=36			LR	LR	02 37 13.1	
PDAR	**Pinedale Array**	**11.97**	**308**		**Pn**	**02 32 52.4**	**-1.1**
P52A	**Corning**	**12.15**	**68**	Pn	**Pn**	**02 32 53.6

CMIG	**Matias Romero**	**18.90**	**174**	P	**Pn**	**02 34 25.1**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=351,slow=10,SNR=3.0						
YBH	**Yreka Blue Hor**	**20.95**	**294**	LR	LR	02 42 47.1	
	comp=Z,35nm,20.0s,baz=60,slow=37						
ILAR	**Eielson Array**	**41.27**	**330**	P	**P**	**02 37 49.2**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=119,slow=9.4,SNR=5.5						
ARCES	**ARCESS Array B**	**66.72**	**19**	P	**P**	**02 40 56.2**	**+2.7**
	comp=Z,1.2nm,0.8s,baz=329,slow=8.7,SNR=4.2						
FINES	**FINES Array B**	**72.45**	**25**	LR	LR	03 13 19.1	
	comp=Z,30nm,18.8s,baz=240,slow=36						

JMA ***16*** *02:38:59.3,24.°28N×121.°84E,h0km*
TAP ***16*** *02:38:59.4,24.°28N×121.°82E,h17km,ML3.3,B*
ISC 16 02:38:59.8±0.8,24.°27N±0.°01×121.°84E±0.°02,h17km±5km,
n96,σ0s84/152,12D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.10**	**294**	*i* P		**Pg**	**02 39 02.9**	**-0.4**
	baz=296							
EHP				*i* S		**Sg**	**02 39 05.7**	**0.0**
	baz=296							
ENA	**Nanau**	**0.18**	**330**	⇓*i* P		**Pg**	**02 39 04.0**	**-0.4**
	baz=335							
ENA				S		**Sg**	**02 39 07.2**	**-0.3**
	baz=335							
EWUT	**Wuta**	**0.18**	**342**	P		**Pg**	**02 39 04.2**	**-0.3**
	baz=345							
EWUT				S		**Sg**	**02 39 07.5**	**0.0**
	baz=345							
ETL	**Fush Village**	**0.23**	**241**	P		**Pg**	**02 39 04.7**	**-0.4**
	baz=241							
ETL				*e*S		**Sg**	**02 39 08.6**	**-0.1**
	baz=241							
NACB	**Ninganchiao**	**0.24**	**247**	*i* P		**Pg**	**02 39 04.7**	**-0.6**
	baz=248							
NACB				*i* S		**Sg**	**02 39 08.5**	**-0.6**
	baz=248							
TWD	**Chiawan**	**0.29**	**229**	⇓*i* P		**Pg**	**02 39 05.8**	**-0.3**
	baz=233							
TWD				S		**Sb**	**02 39 10.7**	**-0.4**
	baz=233							
ETLH	**Xiulin Townshi**	**0.33**	**259**	⇓P		**Pg**	**02 39 06.3**	**-0.6**
	baz=260							
ETLH				S		**Sb**	**02 39 11.6**	**-0.7**
	baz=260							
TWC	**Suao**	**0.34**	**2**	*i* P		**Pg**	**02 39 06.6**	**-0.3**
	baz=8.0							
TWC				S		**Sb**	**02 39 11.7**	**-0.7**
	baz=8.0							
HWA	**Hwalien**	**0.36**	**216**	P		**Pb**	**02 39 08.2**	**+0.5**
	baz=223							
HWA				*e*S		**Sb**	**02 39 14.6**	**+1.5**
	baz=223							
NDS	**Dongshan**	**0.38**	**343**	⇓*i* P		**Pb**	**02 39 07.4**	**-0.7**
	baz=343							
NDS				*i* S		**Sb**	**02 39 13.0**	**-0.6**
	baz=343							
ETM	**Tongmen**	**0.44**	**226**	P		**Pg**	**02 39 08.3**	**-0.4**
	baz=234							
ETM				*e*S		**Sb**	**02 39 15.2**	**-0.1**
	baz=234							
ENTT	**Nioudou**	**0.44**	**326**	*i* P		**Pg**	**02 39 08.5**	**-0.3**
	baz=327							
ENTT				*i* S		**Sb**	**02 39 14.9**	**-0.7**
	baz=327							
NDT	**Datong Townshi**	**0.44**	**318**	*e*P		**Pb**	**02 39 08.6**	**-0.5**
	baz=318							
NDT				*i* S		**Sb**	**02 39 15.2**	**-0.3**
	baz=318							
NNSB	**Datong**	**0.44**	**291**	⇓*i* P		**Pg**	**02 39 08.6**	**-0.3**
	baz=291							
NNSB				*i* S		**Sg**	**02 39 14.6**	**-0.5**
	baz=291							
NNS	**Nan Shan**	**0.46**	**292**	⇓*i* P		**Pg**	**02 39 08.8**	**-0.4**
	baz=292							
NNS				*e*S		**Sg**	**02 39 15.1**	**-0.3**
	baz=292							
TEYL	**Yanliau Villag**	**0.46**	**209**	*e*P		**Pg**	**02 39 08.8**	**-0.2**
	baz=221							
TEYL				*e*S		**Sb**	**02 39 16.7**	**+0.9**
	baz=221							
TWE	**Neicheng**	**0.47**	**341**	P		**Pb**	**02 39 09.2**	**-0.5**
	baz=342							
TWE				*e*S		**Sg**	**02 39 15.6**	**-0.3**
	baz=342							
ILA	**Ilan**	**0.50**	**351**	*e*P		**Pb**	**02 39 09.8**	**-0.3**
	baz=345							
ILA				*e*S		**Sb**	**02 39 17.1**	**0.0**
	baz=345							
WHF	**Hehuan Shan**	**0.54**	**257**	⇓*i* P		**Pg**	**02 39 10.1**	**-0.6**
	baz=258							
WHF				*e*S		**Sg**	**02 39 17.6**	**-0.5**
	baz=258							
FUSS	**Fushou**	**0.54**	**268**	⇓*i* P		**Pg**	**02 39 10.4**	**-0.3**
	baz=269							
FUSS				*e*S		**Sg**	**02 39 17.5**	**-0.6**
	baz=269							
EGS		**0.58**	**8**	*e*P		**Pb**	**02 39 12.6**	**+1.1**
	baz=15							
YHNB	**Yeheng**	**0.58**	**313**	⇓*i* P		**Pg**	**02 39 11.0**	**-0.4**
	baz=313							
YHNB				S		**Sg**	**02 39 18.9**	**-0.3**
	baz=313							
NTC	**Toucheng**	**0.58**	**359**	*e*P		**Pb**	**02 39 11.3**	**-0.2**
	baz=359							
NTC				*e*S		**Sg**	**02 39 18.6**	**-0.5**
	baz=359							
ESL	**Shilin**	**0.59**	**219**	*e*P		**Pg**	**02 39 11.0**	**-0.5**
	baz=224							
ESL				*e*S		**Sb**	**02 39 20.3**	**+0.6**
	baz=224							
NWLT	**Wulai**	**0.59**	**329**	⇓P		**Pg**	**02 39 11.1**	**-0.5**
	baz=324							
NWLT				*e*S		**Sg**	**02 39 19.0**	**-0.5**
	baz=324							
NSK	**Sanguang**	**0.59**	**313**	⇓*i* P		**Pg**	**02 39 11.1**	**-0.6**
	baz=313							
NSK				*e*S		**Sg**	**02 39 19.2**	**-0.5**
	baz=313							
TWT	**Tachien**	**0.60**	**268**	*e*P		**Pb**	**02 39 12.0**	**-0.1**
	baz=269							
TWT				*e*S		**Sb**	**02 39 20.1**	**-0.2**
	baz=269							
TDCB	**Techi**	**0.62**	**269**	P		**Pb**	**02 39 11.9**	**-0.4**
	baz=269							
TDCB				*e*S		**Sg**	**02 39 20.0**	**-0.5**
	baz=269							
CHGB	**Renai**	**0.64**	**251**	⇓*i* P		**Pg**	**02 39 12.2**	**-0.4**
	baz=247							
CHGB				*e*S		**Sb**	**02 39 21.4**	**0.0**
	baz=247							
OWD	**Renai**	**0.68**	**243**	*e*P		**Pg**	**02 39 12.9**	**-0.4**
	baz=244							
OWD				*e*S		**Sb**	**02 39 22.7**	**+0.2**
	baz=244							
TIPB	**Shuangxi**	**0.70**	**359**	*e*P		**Pb**	**02 39 13.4**	**-0.1**
	baz=358							
TIPB				*e*S		**Sg**	**02 39 22.2**	**-0.7**
	baz=358							
EGFH	**Guangfu**	**0.71**	**212**	*e*P		**Pg**	**02 39 13.1**	**-0.7**
	baz=227							
EGFH				*e*S		**Sb**	**02 39 24.0**	**+0.9**
	baz=227							
TWA	**Mucha**	**0.74**	**342**	*e*P		**Pb**	**02 39 14.2**	**-0.1**
	baz=342							
TWA				*e*S		**Sb**	**02 39 24.1**	**0.0**
	baz=342							
NHDH	**Xindian Distri**	**0.75**	**338**	*e*P		**Pn**	**02 39 15.3**	**-0.2**
	baz=337							
NHDH				*e*S		**Sg**	**02 39 23.1**	**-1.3**
	baz=337							
TWB1	**Santiao Chiao**	**0.75**	**10**	*e*P		**Pb**	**02 39 14.9**	**+0.5**
	baz=10.0							
TWB1				*e*S		**Sb**	**02 39 24.1**	**-0.2**
	baz=10.0							
TATO	**Taipei**	**0.77**	**336**	*e*P		**Pg**	**02 39 14.4**	**-0.5**
	baz=330							
NWF	**Wu-fen Shan**	**0.80**	**356**	P		**Pb**	**02 39 15.8**	**+0.5**
	baz=348							
NWF				*e*S		**Sg**	**02 39 24.8**	**-1.3**
	baz=348							
WHP	**Taichung City**	**0.81**	**271**	*e*P		**Pb**	**02 39 15.6**	**0.0**
	baz=272							
WHP				*e*S		**Sb**	**02 39 26.4**	**+0.1**
	baz=272							
LIOB	**Emei**	**0.84**	**297**	*e*P		**Pb**	**02 39 16.2**	**+0.3**
	baz=297							
LIOB				*e*S		**Sb**	**02 39 27.6**	**+0.7**
	baz=297							
NSTT	**Nanjuang**	**0.84**	**295**	P		**Pb**	**02 39 16.0**	**0.0**
	baz=296							
NSTT				*e*S		**Sb**	**02 39 27.1**	**+0.1**
	baz=296							
HGSD	**Ruisui**	**0.86**	**206**	*e*P		**Pb**	**02 39 16.7**	**+0.3**
	baz=194							
HGSD				*e*S		**Sb**	**02 39 28.7**	**+1.2**
	baz=194							
WCS	**Beigang Elemen**	**0.87**	**256**	*e*P		**Pg**	**02 39 16.3**	**-0.5**
	baz=258							
WCS				*e*S		**Sb**	**02 39 28.7**	**+0.8**
	baz=258							
EHY	**Hungye**	**0.90**	**212**	*e*P		**Pg**	**02 39 15.5**	**-1.8**
	baz=211							
YM01	**YM01**	**0.91**	**344**	P		**Pb**	**02 39 17.3**	**+0.2**
	baz=328							
YM01				*e*S		**Sn**	**02 39 31.1**	**+0.7**
	baz=328							
TWS1	**Kuangyinshan**	**0.91**	**335**	*e*P		**Pg**	**02 39 16.8**	**-0.8**
	baz=334							
TWS1				*e*S		**Sb**	**02 39 29.6**	**+0.7**
	baz=334							
NCUH	**Zhongli**	**0.91**	**320**	*e*P		**Pb**	**02 39 17.7**	**+0.5**
	baz=319							
NCUH				*e*S		**Sn**	**02 39 31.1**	**+0.5**
	baz=319							
NCU	**National Centr**	**0.92**	**320**	*e*P		**Pb**	**02 39 17.6**	**+0.4**
	baz=319							
NCU				*e*S		**Sn**	**02 39 31.0**	**+0.4**
	baz=319							
SMLT	**Sun Moon Lake**	**0.94**	**246**	*e*P		**Pg**	**02 39 17.2**	**-1.0**
	baz=241							
SMLT				*e*S		**Sg**	**02 39 28.4**	**-2.1**
	baz=241							
SSLB	**Suanglung**	**0.94**	**239**	*e*P		**Pg**	**02 39 16.9**	**-1.2**
	baz=241							
SSLB				*e*S		**Sg**	**02 39 29.6**	**-0.9**
	baz=241							
ANP	**Anpu**	**0.96**	**342**	*e*P		**Pg**	**02 39 16.3**	**-2.1**
	baz=342							
TYC	**Yuchr**	**0.97**	**248**	*e*P		**Pg**	**02 39 17.8**	**-0.9**
	baz=250							
TYC				*e*S		**Sg**	**02 39 30.2**	**-1.1**
	baz=250							
TWQ1	**Liyutan**	**0.97**	**275**	*e*P		**Pn**	**02 39 19.3**	**+0.6**
	baz=276							
TWQ1				*e*S		**Sg**	**02 39 30.2**	**-1.4**
	baz=276							
NMLH	**Miaoli**	**0.99**	**286**	*e*P		**Pn**	**02 39 19.8**	**+0.9**
	baz=286							
NSY	**Sanyi**	**0.99**	**279**	*e*P		**Pg**	**02 39 18.2**	**-0.9**
	baz=279							
TWY	**Chenhua**	**1.02**	**348**	*e*P		**Pn**	**02 39 19.7**	**+0.3**
	baz=332							
YOJ	**Yonaguni jima**	**1.09**	**80**	P		**Pg**	**02 39 20.2**	**-0.7**
YOJ				*e*S		**Sn**	**02 39 35.9**	**+1.1**
YOJ	**Yonaguni jima**	**1.09**	**80**	*e*P		**Pg**	**02 39 20.1**	**-0.8**
	baz=70							
WDJ	**Dajia District**	**1.10**	**274**	*e*P		**Pn**	**02 39 20.8**	**+0.5**
	baz=274							
WJS	**Zhushan**	**1.11**	**246**	*e*P		**Pn**	**02 39 21.4**	**+0.8**
	baz=241							
YUS	**Yu-Shan**	**1.12**	**226**	*e*P		**Pg**	**02 39 20.4**	**-1.3**
	baz=227							
WNT	**Mingjian**	**1.12**	**250**	*e*P		**Pn**	**02 39 21.8**	**+1.1**
	baz=241							
FULB	**Fuli**	**1.18**	**205**	*e*P		**Pb**	**02 39 21.4**	**-0.3**
	baz=222							
WCHH	**Zhanghua**	**1.19**	**261**	*e*P		**Pb**	**02 39 21.3**	**-0.5**
	baz=261							
ALS	**Alishan**	**1.21**	**232**	P		**Pg**	**02 39 22.1**	**-1.2**
	baz=234							
ALS				*e*S		**Sg**	**02 39 38.0**	**-1.2**
	baz=234							
CHKT	**Chengkung**	**1.24**	**200**	*e*P		**Pn**	**02 39 20.6**	**-1.8**
	baz=187							
CHN5	**Tsauling**	**1.26**	**238**	*e*P		**Pb**	**02 39 23.3**	**+0.2**
	baz=240							
CHN5				*e*S		**Sg**	**02 39 40.0**	**-0.5**
	baz=240							
PCYT	**Pengchaiyu**	**1.37**	**9**	*e*P		**Pn**	**02 39 24.2**	**+0.1**
	baz=7.0							
EDH	**Donghe**	**1.38**	**201**	*e*P		**Pn**	**02 39 22.4**	**-1.8**
	baz=189							
WRL	**Guolierlin Hig**	**1.39**	**255**	*e*P		**Pb**	**02 39 25.5**	**+0.3**
	baz=255							
WTK	**Tuku**	**1.45**	**247**	*e*P		**Pn**	**02 39 25.1**	**-0.1**
	baz=246							
STYH	**Taoyuan**	**1.47**	**222**	*e*P		**Pn**	**02 39 25.4**	**0.0**
	baz=225							
STYH				*e*S		**Sn**	**02 39 44.9**	**+0.7**
	baz=225							
TPUB	**Ta-pu**	**1.47**	**229**	*e*P		**Pb**	**02 39 26.5**	**-0.2**
	baz=232							
TPUB				*e*S		**Sn**	**02 39 45.4**	**+1.0**
	baz=232							
CHY	**Chiayi**	**1.51**	**240**	*e*P		**Pb**	**02 39 27.0**	**-0.3**
	baz=228							
WTP	**Ta-pu**	**1.52**	**228**	*e*P		**Pn**	**02 39 27.1**	**+0.9**
	baz=228							
TWK	**Hsinying**	**1.59**	**231**	*e*P		**Pn**	**02 39 28.3**	**+1.1**
	baz=231							
TWG	**Pinlang**	**1.61**	**206**	*e*P		**Pn**	**02 39 26.8**	**-0.6**
	baz=196							
CHN1	**Nanshi**	**1.62**	**228**	*e*P		**Pn**	**02 39 28.1**	**+0.5**
	baz=231							
CHN1				*e*S		**Sn**	**02 39 49.0**	**+1.0**
	baz=231							
LDUT	**Ludao**	**1.63**	**192**	*e*P		**Pn**	**02 39 25.1**	**-2.6**
	baz=184							
SLGT	**Liugui**	**1.68**	**221**	*e*P		**Pn**	**02 39 29.0**	**+0.7**
	baz=222							
ICHU	**Yijhu**	**1.69**	**238**	*e*P		**Pn**	**02 39 29.8**	**+1.3**
	baz=238							
IRIF	**Iriomote-Funau**	**1.73**	**87**	P		**Pn**	**02 39 30.2**	**+1.2**
CHN8	**Yiju**	**1.75**	**239**	*e*P		**Pn**	**02 39 30.4**	**+1.1**
	baz=238							
SCST	**Cishan**	**1.85**	**222**	*e*P		**Pb**	**02 39 32.9**	**-0.3**
	baz=222							
SSD	**Sandimen**	**1.88**	**216**	*e*P		**Pn**	**02 39 32.5**	**+1.4**
	baz=202							
TSMG	**Majia**	**1.91**	**215**	*e*P		**Pn**	**02 39 33.1**	**+1.6**
	baz=216							
JKRS	**Kuro-shima**	**1.98**	**91**	P		**Pb**	**02 39 34.5**	**-0.9**
JKRS				S		**Sn**	**02 39 59.3**	**+2.4**
MASBT	**Mashibuluo**	**1.99**	**214**	*e*P		**Pn**	**02 39 33.6**	**+1.0**
	baz=215							
JIJ	**Ishigaki jima**	**2.10**	**87**	P		**Pb**	**02 39 36.8**	**-0.7**
JIJ				S		**Sn**	**02 40 00.9**	**+0.9**
SCZT	**Fangliau**	**2.20**	**211**	*e*P		**Pn**	**02 39 36.4**	**+0.9**
	baz=202							
PHUB	**P'eng-hu**	**2.21**	**250**	*e*P		**Pn**	**02 39 34.8**	**-0.8**
	baz=249							
WDGT	**Sangji**	**2.23**	**244**	*e*P		**Pn**	**02 39 37.0**	**+1.0**
	baz=243							
SLIU	**Shizi**	**2.26**	**205**	*e*P		**Pn**	**02 39 37.3**	**+1.0**
	baz=201							
JISG	**Ishigakijimahi**	**2.27**	**82**	S		**Sn**	**02 40 06.3**	**+2.1**
MATB	**Ma-tsu**	**2.54**	**318**	*e*P		**Pn**	**02 39 40.2**	**0.0**
	baz=313							
AXDP	**Jialang**	**3.58**	**281**	*e*P		**Pn**	**02 39 56.3**	**+1.8**
	baz=276							

TEH ***16*** *02:39:17.8,29.°55N×52.°56E,h12km,ML3.3*
KISR ***16*** *02:39:18.6±0.8,29.°76N×52.°42E,h20km±807km,ML3.7*
THR ***16*** *02:39:19.2±0.4,29.°63N×52.°61E,h18km±6km,ML3.3*
DSN ***16*** *02:39:22.5±1.8,29.°25N×52.°80E,h15km,ML3.3/10,Error ellipse: s-maj=29.7km s-min=13.2km az=27.0*
OMAN ***16*** *02:39:23.4±0.4,29.°08N×52.°82E,h2km±17km,mb5.1/5, Error ellipse: s-maj=34.2km s-min=6.2km az=348.0*
ISC 16 02:39:17.4±0.8,29.°51N±0.°04×52.°66E±0.°03,h10km,n81,
σ1s88/100,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SHI	**Shiraz**	**0.18**	**317**	*e*Pg		**Pg**	**02 39 20.4**	**-1.0**
KAZ1	**Kazerun**	**0.90**	**278**	*e*Pg		**Pg**	**02 39 34.0**	**-0.6**
KAZ1				*e*			02 39 51.0	
	comp=Z,19μm,0.1s							
QIR1	**Qir**	**1.08**	**162**	*e*Pg		**Pn**	**02 39 39.6**	**+1.0**
QIR1				*e*Sg		**Sn**	**02 39 56.2**	**+2.5**

JHRM	**Jahrom**	**1.28**	**141**	*e*Pg		**Pg**	**02 39 44.1**	**+2.1**
KLNJ	**Kolanjah**	**1.76**	**329**	*e*Pn		**Pn**	**02 39 48.4**	**+0.2**
KLNJ				*e*			02 40 17.9	
	comp=Z,3μm,0.4s							
LMD1	**Lamerd**	**2.21**	**168**	*e*Pn		**Pn**	**02 39 56.6**	**+2.5**
IRAM	**Ramesheh**	**2.31**	**354**	*e*Pn		**Pn**	**02 39 57.2**	**+1.6**
ABEH	**Behbahan**	**2.35**	**298**	*e*Pn		**Pn**	**02 39 57.1**	**+1.0**
LAR1	**LAR**	**2.37**	**140**	*e*		Sg	02 40 49.3	+16
	comp=Z,5μm,0.5s							
IMEH	**Mehriz**	**2.52**	**41**	*e*			02 40 07.6	
	comp=Z,1μm,0.4s							
IMEH				*e*Pn		**Pn**	**02 40 01.1**	**+2.4**
ISAD	**Sadrabad**	**2.56**	**20**	*e*Pn		**Pn**	**02 40 00.9**	**+1.8**
IGAR	**Gharneh**	**2.94**	**350**	*e*			02 40 22.5	
	comp=Z,560nm,0.4s							
IGAR				*e*Pn		**Pn**	**02 40 05.4**	**+1.1**
ICHK	**Chekchek**	**3.12**	**28**	*e*Pn		**Pn**	**02 40 08.2**	**+1.4**
IBAF	**Bafgh**	**3.26**	**50**	*e*Pn		**Pn**	**02 40 10.5**	**+1.9**
IBAF				*e*			02 40 21.9	
	comp=Z,444nm,0.3s							
NASN	**Na'in**	**3.28**	**2**	*e*Pn		**Pn**	**02 40 10.6**	**+1.4**
NASN				IAML			02 41 10.8	
	comp=N,95nm,0.6s							
NASN				IAML			02 41 14.5	
	comp=E,133nm,0.7s							
NASN	**Na'in**	**3.28**	**2**	*e*Pn		**Pn**	**02 40 10.6**	**+1.4**
YZKH	**Yazd**	**3.32**	**30**	*e*Pn		**Pn**	**02 40 11.2**	**+1.7**
YZKH	**Yazd**	**3.32**	**30**	*e*Pn		**Pn**	**02 40 11.2**	**+1.7**
IZEF	**Zefreh**	**3.39**	**355**	*e*Pn		**Pn**	**02 40 10.9**	**+0.3**
KHGB	**Koh Gabri**	**3.42**	**74**	*e*Pn		**Pn**	**02 40 13.6**	**+2.6**
KHGB				*e*			02 40 31.1	
	comp=Z,401nm,0.3s							
IPIR	**Pirpir**	**3.51**	**335**	*e*Pn		**Pn**	**02 40 13.0**	**+0.7**
NGRK	**Negar Kerman**	**3.55**	**87**	*e*Pn		**Pn**	**02 40 15.6**	**+2.7**
NGRK				*e*			02 41 27.4	
	comp=Z,420nm,0.4s							
KRBR	**Kerman**	**3.60**	**81**	*e*Pn		**Pn**	**02 40 16.8**	**+3.3**
KRBR				*e*Sg		**Sg**	**02 41 12.3**	**-0.7**
KRBR				IAML			02 41 24.2	
	comp=N,28nm,0.6s							
KRBR	**Kerman**	**3.60**	**81**	*e*Pn		**Pn**	**02 40 16.8**	**+3.3**
GENO	**Geno**	**3.74**	**123**	*e*Pn		**Pn**	**02 40 19.1**	**+3.8**
GENO				*e*			02 41 02.9	
	comp=Z,452nm,0.2s							
ANAR	**Anarak**	**3.78**	**14**	*e*Pn		**Pn**	**02 40 18.1**	**+2.2**
IKLH	**Kolahrood**	**3.91**	**347**	*e*Pn		**Pn**	**02 40 18.4**	**+0.7**
SHMA	**Al-Shehemyia**	**3.94**	**203**	P		**Pn**	**02 40 20.8**	**+3.0**
QRN	**Al-Qurain**	**4.22**	**261**	*e*P		**Pn**	**02 40 23.0**	**+1.3**
QRN				*e*S		**Sn**	**02 41 12.1**	**+1.1**
CHMN	**Cheshme madani**	**4.26**	**84**	*e*Pn		**Pn**	**02 40 26.4**	**+3.8**
CHMN				*e*			02 40 49.2	
	comp=Z,208nm,0.7s							
UMR	**Umm Al-Rimmam**	**4.31**	**272**	*e*P		**Pn**	**02 40 24.4**	**+1.5**
QAMS	**Qamsar**	**4.35**	**346**	*e*Pn		**Pn**	**02 40 25.6**	**+1.8**
KRSH	**Karshahi**	**4.47**	**354**	*e*Pn		**Pn**	**02 40 25.7**	**+0.3**
RDF	**Al-Radifah**	**4.50**	**264**	*e*P		**Pn**	**02 40 27.4**	**+1.8**
RDF				*e*S		**Sn**	**02 41 18.4**	**+0.3**
RDF				IAML			02 41 22.7	
	comp=Z,76nm,0.4s							
JRN	**Qarnain Island**	**4.55**	**178**	*e*Pn		**Pn**	**02 40 26.7**	**+0.4**
SHME	**Shamm**	**4.62**	**137**	P		**Pn**	**02 40 28.0**	**+0.7**
SHME	**Shamm**	**4.62**	**137**	*e*Pn		**Pn**	**02 40 27.0**	**-0.3**
SHME	**Shamm**	**4.62**	**137**	P		**Pn**	**02 40 28.6**	**+1.3**
SHME				S		**Sn**	**02 41 20.5**	**-0.6**
MIB	**Mutribah**	**4.64**	**275**	*e*P		**Pn**	**02 40 28.2**	**+0.7**
BANOM	**Banah**	**4.81**	**137**	P		**Pn**	**02 40 30.5**	**+0.5**
BANOM				S		**Sn**	**02 41 24.3**	**-1.5**
BANOM	**Banah**	**4.81**	**137**	*e*Pn		**Pn**	**02 40 31.2**	**+1.3**
BANOM	**Banah**	**4.81**	**137**	P		**Pn**	**02 40 31.1**	**+1.1**
	SNR=30							
BANOM				S		**Sn**	**02 41 24.5**	**-1.3**
ISFB	**Sefidab**	**4.84**	**356**	*e*Pn		**Pn**	**02 40 30.3**	**-0.1**
TRNA	**Turayna**	**4.92**	**196**	P		**Pn**	**02 40 33.1**	**+1.7**
TRNA				S		**Sn**	**02 41 29.9**	**+1.4**
RST	**Umm Al-Ruwaisa**	**4.94**	**271**	*e*P		**Pn**	**02 40 32.5**	**+0.9**
MASF	**Masafi**	**5.16**	**142**	P		**Pn**	**02 40 36.1**	**+1.4**
	SNR=9.4							
MASF				S		**Sn**	**02 41 33.2**	**-1.2**
MSFE	**Esma-Masafi**	**5.17**	**142**	P		**Pn**	**02 40 36.1**	**+1.2**
MSFE	**Esma-Masafi**	**5.17**	**142**	*e*Pn		**Pn**	**02 40 36.2**	**+1.3**
NAZ	**Nazwa, Dubai**	**5.24**	**149**	P		**Pn**	**02 40 37.0**	**+1.3**
NAZ	**Nazwa, Dubai**	**5.24**	**149**	*e*Pn		**Pn**	**02 40 37.1**	**+1.4**
MDH	**Madha**	**5.29**	**141**	P		**Pn**	**02 40 37.5**	**+1.0**
MDH	**Madha**	**5.29**	**141**	*e*Pn		**Pn**	**02 40 36.8**	**+0.3**
MDH	**Madha**	**5.29**	**141**	P		**Pn**	**02 40 37.7**	**+1.2**
MDH				S		**Sn**	**02 41 36.0**	**-1.6**
ASUD	**Al Ashush, Dub**	**5.41**	**153**	P		**Pn**	**02 40 39.8**	**+1.7**
ASUD	**Al Ashush, Dub**	**5.41**	**153**	*e*Pn		**Pn**	**02 40 39.8**	**+1.7**
ASUD	**Al Ashush, Dub**	**5.41**	**153**	P		**Pn**	**02 40 39.8**	**+1.7**
	SNR=23							
ASUD				S		**Sn**	**02 41 40.8**	**+0.2**
FAQ	**Al Faqa, Dubai**	**5.42**	**150**	P		**Pn**	**02 40 39.6**	**+1.4**
FAQ	**Al Faqa, Dubai**	**5.42**	**150**	*e*Pn		**Pn**	**02 40 39.4**	**+1.2**
FAQ	**Al Faqa, Dubai**	**5.42**	**150**	P		**Pn**	**02 40 39.9**	**+1.7**
FAQ				S		**Sn**	**02 41 39.3**	**-1.3**
ASAO	**Ashtian**	**5.50**	**337**	*e*Pn		**Pn**	**02 40 41.1**	**+1.5**
ASAO	**Ashtian**	**5.50**	**337**	*e*Pn		**Pn**	**02 40 41.1**	**+1.5**
IVRN	**Varamin**	**5.53**	**352**	*e*Pn		**Pn**	**02 40 40.9**	**+1.1**
UOSS	**Minazif**	**5.53**	**144**	P		**Pn**	**02 40 40.9**	**+1.1**
UOSS				S		**Sn**	**02 41 40.5**	**-3.0**
TNSJ	**Nastanj**	**5.57**	**36**	*e*Pn		**Pn**	**02 40 41.6**	**+1.2**
HATD	**Hatta, Dubai**	**5.60**	**146**	P		**Pn**	**02 40 41.8**	**+1.1**
HATD	**Hatta, Dubai**	**5.60**	**146**	*e*Pn		**Pn**	**02 40 42.0**	**+1.3**
HATD	**Hatta, Dubai**	**5.60**	**146**	P		**Pn**	**02 40 42.7**	**+2.1**
HATD				S

	baz=259								
ETLH				*e*S	**Sb**	02 42 25.5	-0.4		
	baz=259								
TWC	**Suao**	0.32	7	*e*P	**Pg**	02 42 20.9	-0.3		
	baz=9.0								
TWC				*e*S	**Sb**	02 42 26.1	-0.3		
	baz=9.0								
NDS	**Dongshan**	0.35	347	⇓*i*P	**Pb**	02 42 21.8	-0.3		
	baz=343								
NDS				S	**Sb**	02 42 27.0	-0.4		
	baz=343								
HWA	**Hwalien**	0.36	211	*e*P	**Pb**	02 42 22.2	+0.1		
	baz=225								
HWA				*e*S	**Sb**	02 42 28.6	+1.3		
	baz=225								
NNSB	**Datong**	0.41	290	⇓*i*P	**Pb**	02 42 22.8	-0.2		
	baz=291								
NNSB				*e*S	**Sb**	02 42 28.9	-0.2		
	baz=291								
NDT	**Datong Townshi**	0.41	320	P	**Pb**	02 42 22.9	-0.1		
	baz=318								
NDT				*i* S	**Sb**	02 42 29.2	+0.2		
	baz=318								
ENTT	**Nioudou**	0.41	328	P	**Pb**	02 42 22.7	-0.4		
	baz=326								
ENTT				*e*S	**Sb**	02 42 29.2	+0.2		
	baz=326								
NNS	**Nan Shan**	0.42	291	⇓*i*P	**Pb**	02 42 23.0	-0.3		
	baz=292								
NNS				*e*S	**Sb**	02 42 29.2	-0.2		
	baz=292								
ETM	**Tongmen**	0.43	222	P	**Pg**	02 42 22.7	-0.3		
	baz=233								
ETM				*e*S	**Sb**	02 42 29.8	+0.4		
	baz=233								
TWE	**Neicheng**	0.45	344	*e*P	**Pb**	02 42 23.4	-0.3		
	baz=342								
TWE				*e*S	**Sb**	02 42 29.8	-0.2		
	baz=342								
TEYL	**Yanliau Villag**	0.46	205	*e*P	**Pg**	02 42 23.5	0.0		
	baz=198								
TEYL				*e*S	**Sg**	02 42 28.7	-1.0		
	baz=198								
ILA	**Ilan**	0.48	354	*e*P	**Pg**	02 42 23.6	-0.4		
	baz=351								
ILA				*e*S	**Sb**	02 42 32.1	+1.3		
	baz=351								
FUSS	**Fushou**	0.52	266	⇓*i*P	**Pb**	02 42 24.6	-0.2		
	baz=269								
FUSS				*e*S	**Sb**	02 42 32.3	+0.2		
	baz=269								
YHNB	**Yeheng**	0.55	314	⇓*i*P	**Pb**	02 42 25.2	-0.1		
	baz=313								
YHNB				*i* S	**Sb**	02 42 33.4	+0.6		
	baz=313								
NWLT	**Wulai**	0.56	331	*e*P	**Pb**	02 42 25.3	-0.2		
	baz=324								
NWLT				*e*S	**Sb**	02 42 33.7	+0.5		
	baz=324								
NSK	**Sanguang**	0.56	314	P	**Pb**	02 42 25.5	-0.1		
	baz=313								
NSK				*i* S	**Sb**	02 42 33.6	+0.3		
	baz=313								
NTC	**Toucheng**	0.57	2	*e*P	**Pb**	02 42 25.5	0.0		
	baz=360								
NTC				*e*S	**Sb**	02 42 33.2	0.0		
	baz=360								
EGS		0.57	12	*e*P	**Pb**	02 42 26.1	+0.6		
	baz=15								
TWT	**Tachien**	0.58	267	P	**Pb**	02 42 26.1	+0.3		
	baz=268								
TWT				*e*S	**Sb**	02 42 34.1	+0.3		
	baz=268								
ESL	**Shilin**	0.58	216	*e*P	**Pg**	02 42 25.4	-0.4		
	baz=224								
ESL				*e*S	**Sb**	02 42 34.1	+0.4		
	baz=224								
TDCB	**Techi**	0.59	267	*e*P	**Pb**	02 42 26.2	+0.1		
	baz=269								
TDCB				*i* S	**Sb**	02 42 34.3	+0.2		
	baz=269								
CHGB	**Renai**	0.62	249	P	**Pb**	02 42 26.4	-0.2		
	baz=251								
CHGB				S	**Sb**	02 42 35.5	+0.5		
	baz=251								
OWD	**Renai**	0.66	240	*e*P	**Pb**	02 42 27.3	0.0		
	baz=243								
OWD				*e*S	**Sb**	02 42 36.6	+0.4		
	baz=243								
TIPB	**Shuangxi**	0.68	1	*e*P	**Pb**	02 42 27.6	0.0		
	baz=359								
TIPB				S	**Sb**	02 42 36.6	-0.1		
	baz=359								
EGFH	**Guangfu**	0.71	209	P	**Pg**	02 42 27.4	-0.7		
	baz=226								
EGFH				*e*S	**Sb**	02 42 38.5	+1.2		
	baz=226								
TWA	**Mucha**	0.72	344	*e*P	**Pg**	02 42 27.5	-0.9		
	baz=342								
TWA				*e*S	**Sb**	02 42 38.4	+0.6		
	baz=342								
NHDH	**Xindian Distri**	0.72	339	*e*P	**Pb**	02 42 28.1	-0.1		
	baz=337								
NHDH				*e*S	**Sb**	02 42 38.0	+0.3		
	baz=337								
TWB1	**Santiao Chiao**	0.74	13	*e*P	**Pb**	02 42 28.9	+0.4		
	baz=11								
NWF	**Wu-fen Shan**	0.78	358	*e*P	**Pb**	02 42 30.2	-0.2		
	baz=348								
NWF				*e*S	**Sb**	02 42 40.1	+0.5		
	baz=348								
WHP	**Taichung City**	0.79	270	*e*P	**Pb**	02 42 29.9	+0.5		
	baz=271								
WHP				*e*S	**Sn**	02 42 41.0	-0.8		
	baz=271								
TAP	**Taipei**	0.80	340	*e*P	**Pb**	02 42 30.0	+0.5		
	baz=338								
LIOB	**Emei**	0.80	297	*e*P	**Pn**	02 42 30.4	-0.3		
	baz=297								
LIOB				*e*S	**Sn**	02 42 41.6	-0.6		
	baz=297								
NSTT	**Nanjuang**	0.81	295	*e*P	**Pb**	02 42 30.2	+0.4		
	baz=295								
NSTT				*e*S	**Sb**	02 42 41.0	+0.6		
	baz=295								
WCS	**Beigang Elemen**	0.85	255	*e*P	**Pb**	02 42 30.6	+0.2		
	baz=257								
WCS				*e*S	**Sg**	02 42 41.0	-1.0		
	baz=257								
HGSD	**Ruisui**	0.86	204	*e*P	**Pb**	02 42 31.8	+1.1		
	baz=195								
HGSD				*e*S	**Sb**	02 42 43.8	+1.9		
	baz=195								
NCUH	**Zhongli**	0.88	320	*e*P	**Pn**	02 42 32.0	+0.3		
	baz=319								
YM01	**YM01**	0.88	346	P	**Pn**	02 42 31.7	-0.1		
	baz=344								
YM01				*e*S	**Sn**	02 42 43.6	-0.6		
	baz=344								
TWS1	**Kuangyinshan**	0.88	337	*e*P	**Pn**	02 42 33.3	+1.5		
	baz=335								
TWS1				*e*S	**Sn**	02 42 44.5	+0.4		
	baz=335								
EHY	**Hungye**	0.90	210	*e*P	**Pg**	02 42 29.7	-2.0		
	baz=222								
EHY				*e*S	**Sg**	02 42 41.5	-2.0		
	baz=222								
SBCB	**Hsinchu**	0.90	304	*e*P	**Pn**	02 42 31.8	-0.2		
	baz=295								
SMLT	**Sun Moon Lake**	0.92	244	*e*P	**Pg**	02 42 31.3	-0.9		
	baz=240								
SMLT				*e*S	**Sb**	02 42 44.7	+1.1		
	baz=240								
SSLB	**Suanglung**	0.92	238	*e*P	**Pg**	02 42 31.2	-1.0		
	baz=240								
SSLB				*e*S	**Sb**	02 42 44.4	+0.8		
	baz=240								
TWQ1	**Liyutan**	0.94	274	*e*P	**Pn**	02 42 34.0	+1.4		
	baz=275								
TYC	**Yuchr**	0.95	246	*e*P	**Pg**	02 42 32.0	-0.7		
	baz=242								
TYC				*e*S	**Sb**	02 42 45.4	+1.1		
	baz=242								
NMLH	**Miaoli**	0.96	285	*e*P	**Pn**	02 42 34.1	+1.3		
	baz=285								
NSY	**Sanyi**	0.96	278	*e*P	**Pn**	02 42 33.7	+0.9		
	baz=278								
TWY	**Chenhua**	1.00	349	*e*P	**Pn**	02 42 34.5	+1.1		
	baz=347								
ECBN	**Changbin**	1.02	199	P	**Pb**	02 42 33.5	+0.2		
	baz=200								
ECBN				*e*S	**Sb**	02 42 48.0	+1.6		
	baz=200								
WNT	**Mingjian**	1.10	249	*e*P	**Pn**	02 42 36.5	+1.8		
	baz=241								
YOJ	**Yonaguni jima**	1.11	81	P	**Pb**	02 42 34.5	-0.4		
YOJ	**Yonaguni jima**	1.11	81	*e*P	**Pb**	02 42 33.8	-1.1		
	baz=70								
FULB	**Fuli**	1.18	204	*e*P	**Pb**	02 42 36.2	+0.1		
	baz=221								
ALS	**Alishan**	1.20	230	*e*P	**Pg**	02 42 37.1	-0.4		
	baz=232								
ALS				*e*S	**Sn**	02 42 53.5	+1.3		
	baz=232								
CHN5	**Tsauling**	1.24	237	*e*P	**Pg**	02 42 37.6	-0.6		
	baz=239								
CHN5				*e*S	**Sn**	02 42 55.6	+2.5		
	baz=239								
CHKT	**Chengkung**	1.25	199	*e*P	**Pn**	02 42 35.3	-1.5		
	baz=187								
ELDTW	**Lidau**	1.31	214	*e*P	**Pn**	02 42 36.8	-1.0		
	baz=204								
ELDTW				*e*S	**Sb**	02 42 53.7	-1.1		
	baz=204								
PCYT	**Pengchaiyu**	1.36	10	*e*P	**Pn**	02 42 38.4	+0.1		
	baz=7.0								
WRL	**Guolierlin Hig**	1.36	254	*e*P	**Pg**	02 42 39.6	-0.9		
	baz=256								
WRL				*e*S	**Sg**	02 42 57.8	-0.5		
	baz=256								
EDH	**Donghe**	1.39	200	*e*P	**Pn**	02 42 37.1	-1.6		
	baz=189								
EDH				*e*S	**Sn**	02 42 55.6	-0.9		
	baz=189								
STYH	**Taoyuan**	1.46	221	*e*P	**Pn**	02 42 39.7	+0.1		
	baz=222								
TPUB	**Ta-pu**	1.46	228	*e*P	**Pn**	02 42 40.6	+0.9		
	baz=231								
TPUB				*e*S	**Sg**	02 43 00.4	-1.0		
	baz=231								
WTP	**Ta-pu**	1.50	227	*e*P	**Pn**	02 42 40.7	+0.4		
	baz=227								
TWK	**Hsinying**	1.58	230	*e*P	**Pn**	02 42 42.4	+1.1		
	baz=230								
CHN1	**Nanshi**	1.60	227	*e*P	**Pn**	02 42 41.3	-0.4		
	baz=228								
SLGT	**Liugui**	1.67	220	*e*P	**Pn**	02 42 43.2	+0.7		
	baz=221								
SLGT				*e*S	**Sn**	02 43 05.2	+1.7		
	baz=221								
IRIF	**Iriomote-Funau**	1.76	88	P	**Pn**	02 42 44.5	+0.8		
IRIF				*e*S	**Sn**	02 43 07.3	+1.7		
SSD	**Sandimen**	1.87	215	*e*P	**Pn**	02 42 46.7	+1.3		
	baz=209								
TSMG	**Majia**	1.90	214	*e*P	**Pn**	02 42 45.8	+0.1		
	baz=208								
MASBT	**Mashibuluo**	1.98	213	*e*P	**Pn**	02 42 47.8	+0.9		
	baz=207								
JKRS	**Kuro-shima**	2.01	91	P	**Pn**	02 42 47.5	+0.3		
JKRS				*e*S	**Sn**	02 43 13.1	+1.2		
JIJ	**Ishigaki jima**	2.13	87	S	**Sn**	02 43 14.8	-0.1		
WDGT	**Dungji**	2.22	243	*e*P	**Pn**	02 42 50.5	+0.4		
	baz=241								
VWUC	**VWUC**	2.26	289	*e*P	**Pn**	02 42 50.3	-0.3		
	baz=285								
SLIU	**Shizi**	2.26	204	*e*P	**Pn**	02 42 49.5	-1.2		
	baz=201								
PTMZ	**Houxiangcun**	2.56	288	*e*P	**Pn**	02 42 54.8	+0.1		
	baz=283								
XPSS	**Dashiqiu**	3.01	331	*e*P	**Pn**	02 43 00.5	-0.5		
	baz=324								
KNMB	**Chin-men Tao**	3.12	274	*e*P	**Pn**	02 43 01.8	-0.7		
	baz=270								

MEX 16 02:54:47.9±0.5, 25°23N×109°79W, h16$^{km}_{\pm 11}$, MD3.9, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
TSIG	**Topolobambo**	0.78	61	*i* P	Pb	02	55 00.2	-2.8
TSIG				*i* S	Sg	02	55 09.4	-3.9
LPIG	**La Paz**	1.21	203	*i* P	Pn	02	55 06.3	-3.9
CSIG	**Choix**	2.05	38	*i* P	Pn	02	55 21.6	-0.1
CSIG				*i* S	Sb	02	55 50.3	+0.3
SSIG	**Sanalona**	2.44	99	*i* P	Pn	02	55 24.1	-3.0
SSIG				*i* S	Sn	02	55 49.8	-6.9

ISK **16** *03:23:22.9,36°.15N×30°.79E, h80$^{km}_{\pm 2}$, ML3.9/20*
DDA **16** *03:23:22.8,36°.11N×30°.78E, h48$^{km}_{\pm 4}$, MW4.0*
NEIC **16** *03:23:23.7±1.3,36°.16N±0°.04×30°.78E±0°.04, h86$^{km}_{\pm 8}$, Error ellipse: s-maj=7.4km s-min=1.2km az=214.0*
IDC **16** *03:23:23.7±1.7,36°.30N×30°.80E, h81$^{km}_{\pm 21}$, mb3.8/9, mb1 3.8/15, mb1mx3.6/50, mbtmp4.1/15, MS2.8/1, Ms1 2.8/1, ms1mx2.1/45, Error ellipse: s-maj=19.0km s-min=16.0km az=5.0*
NIC **16** *03:23:23.8±0.0,36°.10N×30°.71E, h82$^{km}_{\pm 2}$, MI4.2/6*
HLW **16** *03:23:24.2,35°.97N×31°.11E, h16$^{km}_{\pm 17}$, Md4.2, MI4.3*
THE **16** *03:23:25.1,36°.42N×30°.71E, h8$^{km}_{\pm 11}$, ML3.2/1, Error ellipse: s-maj=15.2km s-min=0.9km az=92.0*

ISC 16 03:23:23.4±0.7, 36°20N±0°.03×30°76E±0°.02, h87$^{km}_{\pm 6}$, n165, σ1§85/232, mb4.1/12, 3C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
AKUM	**Antalya-Kumluc**	0.36	291	*i* P	**Pn**	03	23 36.8	-0.1
AKUM				*i* S	**Sn**	03	23 45.9	-0.9
DEMR	**Demre-Antalya**	0.69	274	PG	**Pn**	03	23 39.5	-0.1
DEMR	**Demre-Antalya**	0.69	274		**Pn**	03	23 39.0	-0.6
DEMR					**Sn**	03	23 50.5	-1.2
ANTB	**Antalya**	0.71	353	PG	**Pn**	03	23 39.8	0.0
ANTB				SG	**Sn**	03	23 52.3	+0.4
ANTB	**Antalya**	0.71	353		**Pn**	03	23 39.5	-0.2
ANTB					**Sn**	03	23 52.3	+0.4
KORT	**Korkueli**	0.87	338	*i* P	**Pn**	03	23 42.2	+0.5
KORT				*i* S	**Sn**	03	23 56.0	+0.8
KORT	**Korkueli**	0.87	338	PG	**Pn**	03	23 41.9	+0.3
KORT				SG	**Sn**	03	23 55.5	+0.3
ELL	**Elmali**	0.88	309	PG	**Pn**	03	23 41.8	+0.1
ELL				SG	**Sn**	03	23 55.8	+0.4
ELL	**Elmali**	0.88	309		**Pn**	03	23 42.3	+0.6
ELL				Sn	**Sn**	03	23 57.0	+1.5
ELL	**Elmali**	0.88	309	P	**Pn**	03	23 42.4	+0.6
ELL				S	**Sn**	03	23 56.7	+1.2
AKAS	**Kas**	0.94	273	*i* P	**Pn**	03	23 42.4	0.0
AKAS				*i* S	**Sn**	03	23 54.1	-2.5
AKAS	**Kas**	0.94	273	PG	**Pn**	03	23 42.2	-0.1
AKAS				SG	**Sn**	03	23 56.2	-0.3
AKAS	**Kas**	0.94	273	Pn	**Pn**	03	23 42.2	-0.1
AKAS				Sn	**Sn**	03	23 56.8	+0.3
KSL	**Kastellorizon**	0.96	268	P	**Pn**	03	23 42.8	+0.4
KSL				S	**Sn**	03	23 56.6	0.0
	2um,0.3s							
KSL	**Kastellorizon**	0.96	268	P	**Pn**	03	23 42.2	-0.2
KSL				S	**Sn**	03	23 57.5	+0.9
KSL				AML	AML	03	23 58.1	
	3.5nm,0.6s							
KSL				AML	AML	03	23 58.1	
	3.5nm,0.6s							
KSL				AML	AML	03	23 58.2	
	3.6nm,0.4s							
KSL				AML	AML	03	23 58.2	
	3.6nm,0.4s							
KEPZ	**Antalya-Kepez**	0.98	44	*i* P	**Pn**	03	23 42.6	-0.1
KEPZ				*i* S	**Sn**	03	23 53.5	-3.7
BUCA	**Burdur, Bucak-**	1.14	352	*i* P	**Pn**	03	23 45.2	+0.5
BUCA				*i* S	**Sn**	03	24 00.3	-0.4
GAZI	**Gazipasa**	1.26	88	*i* P	**Pn**	03	23 45.6	-0.4
GAZI				*i* S	**Sn**	03	24 00.8	-2.2
GAZI	**Gazipasa**	1.26	88	PN	**Pn**	03	23 45.6	-0.4
BCK	**Bucak**	1.27	354	PN	**Pn**	03	23 46.9	+0.6
CAME	**Cameli-Denizli**	1.39	303	PN	**Pn**	03	23 48.6	+0.8
CAME	**Cameli-Denizli**	1.39	303	Pn	**Pn**	03	23 48.6	+0.8
CAME				Sn	**Sn**	03	24 07.2	+0.9
GOLH	**Golhisar**	1.42	317	*i* P	**Pn**	03	23 48.7	+0.6
GOLH				*i* S	**Sn**	03	24 05.4	-1.4
FETY	**Fethiye**	1.42	288	P	**Pn**	03	23 48.1	0.0
FETY				S	**Sn**	03	24 05.9	-0.9
FETY	**Fethiye**	1.42	288	PN	**Pn**	03	23 48.7	+0.6
FETY	**Fethiye**	1.42	288	Pn	**Pn**	03	23 48.7	+0.6
FETY				Sn	**Sn**	03	24 07.1	+0.3
SEDI	**Konya, Seydise**	1.48	32	*i* P	**Pn**	03	23 49.5	+0.5
SEDI				*i* S	**Sn**	03	24 06.9	-1.4
SEYD	**Seydisehir-KON**	1.48	35	PN	**Pn**	03	23 49.5	+0.5
SEYD	**Seydisehir-KON**	1.48	35	Pn	**Pn**	03	23 49.5	+0.5
SEYD				Sn	**Sn**	03	24 08.7	+0.5
CAEL	**Denizli, Camel**	1.48	309	*i* P	**Pn**	03	23 50.2	+1.2
CAEL				*i* S	**Sn**	03	24 06.5	-1.8
BRDR	**BURDUR-Merkez**	1.60	340	*i* P	**Pn**	03	23 51.3	+0.8
BRDR				*i* S	**Sn**	03	24 09.7	-1.2
ISP	**Isparta**	1.64	353	PN	**Pn**	03	23 52.1	+1.2
ISP	**Isparta**	1.64	353	Pn	**Pn**	03	23 51.4	+0.5
ISP				Sn	**Sn**	03	24 13.2	+1.5
AKMS	**Akamas**	1.74	132	P	**Pn**	03	23 52.3	+0.1
AKMS				AML	AML	03	24 13.4	
	4.4nm,0.3s							
AKMS				AML	AML	03	24 13.4	
	4.4nm,0.3s							
AKMS				S	**Sn**	03	24 14.7	+0.8
AKMS				AML	AML	03	24 15.2	
	12nm,0.3s							
AKMS				AML	AML	03	24 15.2	
	12nm,0.3s							
BAGO	**Egridir - ISPA**	1.79	1	*i* P	**Pn**	03	23 53.1	+0.2
BAGO				*i* S	**Sn**	03	24 09.3	-6.0
BOZY	**Bozyazi-Mersin**	1.79	92	PN	**Pn**	03	23 52.8	0.0
BOZY	**Bozyazi-Mersin**	1.79	92	Pn	**Pn**	03	23 52.8	0.0
BOZY				Sn	**Sn**	03	24 14.8	-0.3
DALY	**Dalyan (Mula)**	1.81	291	*i* P	**Pn**	03	23 53.3	+0.3
DALY				*i* S	**Sn**	03	24 12.3	-3.2
DALY	**Dalyan (Mula)**	1.81	291	PN	**Pn**	03	23 54.4	+1.4
DALY	**Dalyan (Mula)**	1.81	291	Pn	**Pn**	03	23 54.4	+1.4
BASM	**Basmaki-Afyon**	1.81	342	PN	**Pn**	03	23 54.1	+0.9
BASM	**Basmaki-Afyon**	1.81	342	Pn	**Pn**	03	23 54.0	+0.9
BASM				Sn	**Sn**	03	24 17.6	+1.9
ALFC	**Alefka**	1.82	124	⇓P	**Pn**	03	23 53.4	+0.2
ALFC				AML	AML	03	24 13.7	
	4.7nm,0.2s							
ALFC				AML	AML	03	24 15.0	
	7.9nm,0.4s							
TEKE	**Tekeli-Mersin**	1.90	91	PN	**Pn**	03	23 54.6	+0.4
TEKE	**Tekeli-Mersin**	1.90	91	Pn	**Pn**	03	23 54.6	+0.4
TAVA	**DENIZLI_Tavas**	1.95	311	*i* P	**Pn**	03	23 55.7	+0.7
TAVA				*i* S	**Sn**	03	24 15.7	-3.4
BERE	**Bereket-Mersin**	1.99	85	PN	**Pn**	03	23 56.3	+0.7
BERE	**Bereket-Mersin**	1.99	85	Pn	**Pn**	03	23 56.3	+0.7
KKBE	**Karaman, Kazim**	2.03	59	*i* P	**Pn**	03	23 57.0	+1.0
KKBE				*i* S	**Sn**	03	24 19.5	-1.3
KMER	**Konya-Meram**	2.03	39	*i* P	**Pn**	03	23 56.7	+0.7
KMER				*i* S	**Sn**	03	24 19.0	-1.9
DOGA	**KONYA_Doganhis**	2.04	20	*i* P	**Pn**	03	23 57.0	+0.7
DOGA				*i* S	**Sn**	03	24 18.6	-2.6
NATA	**Nata**	2.04	133	P	**Pn**	03	23 56.5	+0.4
NATA				AML	AML	03	24 20.7	
	5.6nm,0.3s							
NATA				AML	AML	03	24 20.7	
	5.6nm,0.3s							
NATA				S	**Sn**	03	24 21.9	+0.9
NATA				AML	AML	03	24 22.4	
	5.5nm,0.4s							
NATA				AML	AML	03	24 22.4	
	5.5nm,0.4s							
YVAC	**Isparta, Yalva**	2.11	10	*i* P	**Pn**	03	23 57.2	+0.1
YVAC				*i* S	**Sn**	03	24 20.1	-2.6
TURN	**Turunc**	2.11	287	*i* P	**Pn**	03	23 57.7	+0.7
TURN				*i* S	**Sn**	03	24 20.7	-1.9
TURN	**Turunc**	2.11	287	PN	**Pn**	03	23 57.7	+0.7
KZIL	**AFYON_Kizioren**	2.12	347	*i* P	**Pn**	03	23 57.5	+0.3
KZIL				*i* S	**Sn**	03	24 20.6	-2.4
ARG	**Arkhangelos**	2.13	271	PN	**Pn**	03	23 57.4	+0.1
ARG	**Arkhangelos**	2.13	271	⇑P	**Pn**	03	23 57.2	-0.1
ARG				S	**Sn**	03	24 23.6	+0.5
MRSB	**Marmaris-Mugla**	2.13	285	PN	**Pn**	03	23 58.9	+1.6
MRSB	**Marmaris-Mugla**	2.13	285	Pn	**Pn**	03	23 58.9	+1.6
KONT	**Konya--Tatoy**	2.16	36	*i* P	**Pn**	03	23 58.5	+0.7
KONT				*i* S	**Sn**	03	24 22.3	-1.6
KONT	**Konya--Tatoy**	2.16	36	PN	**Pn**	03	23 58.6	+0.9
KONT	**Konya--Tatoy**	2.16	36	Pn	**Pn**	03	23 59.2	+1.5
YER	**Yerkesik**	2.20	296	P	**Pn**	03	23 58.6	+0.3
YER	**Yerkesik**	2.20	296	PN	**Pn**	03	23 59.1	+0.8
YER	**Yerkesik**	2.20	296	Pn	**Pn**	03	23 59.1	+0.8
MULA	**Mugla, Merkez-**	2.23	299	*i* P	**Pn**	03	23 58.7	+0.1
MULA				*i* S	**Sn**	03	24 19.9	-5.6
KRMN	**Karaman**	2.23	63	PN	**Pn**	03	23 59.6	+0.9
KRMN	**Karaman**	2.23	63	Pn	**Pn**	03	23 59.6	+0.9
SZAC	**Souni**	2.25	129	⇑P	**Pn**	03	23 59.1	+0.2
SZAC				S	**Sn**	03	24 26.7	+0.7
SZAC				AML	AML	03	24 27.4	
	3.7nm,0.3s							
SZAC				AML	AML	03	24 27.4	
	3.7nm,0.3s							
SZAC				AML	AML	03	24 27.4	
	3.7nm,0.2s							
SZAC				AML	AML	03	24 27.4	
	3.7nm,0.2s							
GULN	**MERSIN_Gulnar**	2.25	89	*i* P	**Pn**	03	23 59.1	+0.3
GULN				*i* S	**Sn**	03	24 21.8	-4.1
SHUT	**Suhut-Afyon**	2.36	356	PN	**Pn**	03	24 00.9	+0.5

DQRL	**Deir Qamar**	**4.66**	**121**	*eP*		**Pn**	**03 24 30.3**	**-1.2**
QRWL	**Qaraoun**	**4.83**	**122**	*eP*		**Pn**	**03 24 33.5**	**-0.3**
BNN	**Bunyan**	**4.83**	**55**	Pn		**Pn**	**03 24 34.2**	**+0.3**
IDI	**Anoyia**	**4.86**	**261**	P		**Pn**	**03 24 34.7**	**+0.5**
	8.9nm,0.3s,baz=78,slow=17,SNR=56							
IDI				S		**Sn**	**03 25 26.5**	**-2.8**
	11nm,0.3s,baz=276,slow=20,SNR=9.8							
RCY	**Rachaya**	**4.96**	**121**	*eP*		**Pn**	**03 24 35.6**	**-0.1**
MMAI	**Mount Meron Ar**	**4.97**	**128**	P		**Pn**	**03 24 35.8**	**+0.1**
	114nm,0.3s,baz=317,slow=12,SNR=290							
GAZ	**Gaziantep**	**5.27**	**77**	Pn		**Pn**	**03 24 38.7**	**-1.1**
MATC	**Matruh**	**5.66**	**212**	P		**Pn**	**03 24 45.9**	**+0.9**
	baz=217							
MATC				AMP			03 25 00.0	
	baz=217							
GHAJ	**Ghor Haditha**	**6.31**	**139**	Pn		**Pn**	**03 24 53.4**	**-0.4**
KOT	**Kottamia**	**6.31**	**172**	P		**Pn**	**03 24 54.1**	**+0.1**
	baz=174							
KOT				S		**Sn**	**03 25 57.8**	**-6.9**
	baz=174							
HHAG	**Hagoal**	**6.33**	**169**	P		**Pn**	**03 24 54.6**	**+0.5**
	baz=171							
HHAG				S		**Sn**	**03 25 58.0**	**-7.0**
	baz=171							
HMYD	**Mayadein**	**6.38**	**180**	P		**Pn**	**03 24 55.9**	**+1.0**
	baz=183							
ASF	**Jabal al Asfar**	**6.47**	**127**	P		**Pn**	**03 24 57.0**	**+0.8**
	5.2nm,0.3s,baz=67,slow=7.7,SNR=41							
ASF				S		**Sn**	**03 26 07.7**	**-1.0**
	5.4nm,0.3s,baz=108,slow=23,SNR=7.2							
HNAT	**Natroun**	**6.55**	**181**	P		**Pn**	**03 24 58.0**	**+0.8**
	baz=184							
HNAT				S		**Sn**	**03 26 06.3**	**-4.0**
	baz=184							
SUZ	**Suez**	**6.57**	**164**	P		**Pn**	**03 24 57.5**	**+0.1**
	baz=166							
HSAF	**As Saff**	**6.59**	**174**	P		**Pn**	**03 24 57.7**	**-0.1**
	baz=176							
GLL	**Jalalah**	**6.65**	**173**	P		**Pn**	**03 24 58.5**	**-0.1**
	baz=175							
ZAF	**Zafarana**	**7.06**	**167**	AMP			03 26 00.0	
	baz=169							
RYAN	**Fayoum**	**7.11**	**183**	P		**Pn**	**03 25 04.6**	**-0.1**
	baz=187							
RYAN				S		**Sn**	**03 26 18.0**	**-5.9**
	baz=187							
EIL	**Elat**	**7.40**	**150**	P		**Pn**	**03 25 08.6**	**-0.1**
	8.6nm,0.3s,baz=215,slow=5.8,SNR=82							
EIL				S		**Sn**	**03 26 27.6**	**-3.4**
	5.2nm,0.3s,baz=54,slow=18,SNR=6.9							
NBNS	**Bani Suef**	**7.56**	**176**	P		**Pn**	**03 25 10.8**	**-0.2**
	baz=178							
HKAT	**Jabal Katrina**	**8.12**	**159**	P		**Pn**	**03 25 18.1**	**-0.7**
	baz=161							
SWA2		**8.25**	**214**	P		**Pn**	**03 25 19.9**	**-0.4**
	baz=217							
TAMRE	**El Minia**	**8.49**	**179**	P		**Pn**	**03 25 23.2**	**-0.4**
	baz=182							
TAMRE				AMP			03 27 00.0	
	baz=182							
HFRF	**Wahat Farafira**	**9.26**	**194**	P		**Pn**	**03 25 33.7**	**-0.4**
	baz=196							
HFRF				S		**Sn**	**03 27 11.7**	**-4.8**
	baz=196							
MLR	**Muntele Rosu**	**9.97**	**340**	Pn		**Pn**	**03 25 44.7**	**+0.8**
HDK1	**Dakhla**	**10.68**	**187**	P		**Pn**	**03 25 52.9**	**-0.6**
	baz=189							
TIP	**Timpagrande**	**11.49**	**289**	Pn		**Pn**	**03 26 04.1**	**-0.4**
GERES	**GERESS Array B**	**17.78**	**321**	P		**P**	**03 27 25.3**	**+0.6**
	0.1nm,0.3s,baz=128,slow=8.8,SNR=3.6							
BELG	**Belogornoye**	**20.11**	**31**	P		**P**	**03 27 50.6**	**+0.6**
	5.0nm,0.3s,baz=215,slow=12,SNR=7.8							
GEYT	**Alibeck**	**21.87**	**77**	P		**P**	**03 28 10.8**	**+1.7**
	4.3nm,0.5s,baz=280,slow=8.6,SNR=7.2							
AKTO	**Aktyubinsk**	**24.23**	**46**	P		**P**	**03 28 31.4**	**-0.5**
	6.9nm,0.5s,baz=242,slow=9.1,SNR=32							
ABKAR	**Akbulak array**	**24.92**	**49**	P		**P**	**03 28 38.1**	**0.0**
ABKAR	**Akbulak array**	**24.92**	**49**	P		**P**	**03 28 38.3**	**+0.1**
FINES	**FINESS Array B**	**25.44**	**355**	P		**P**	**03 28 42.0**	**-0.8**
	2.0nm,0.4s,baz=156,slow=12,SNR=24							
FINES	**FINESS Array B**	**25.44**	**355**	P		**P**	**03 28 42.1**	**-0.7**
FIA1	**FINESS Array S**	**25.44**	**355**	P		**P**	**03 28 42.2**	**-0.6**
FIA1				IAmb		IAmb	03 28 50.9	
	comp=Z,14nm,1.1s							
HFS	**Hagfors**	**26.36**	**341**	P		**P**	**03 28 51.1**	**0.0**
	comp=Z,1.2nm,0.8s,baz=144,slow=12,SNR=1.3							
HFS				LR		LR	03 40 28.9	
	comp=Z,17nm,18.2s,baz=191,slow=39							
CHGR	**Chuyangaron**	**30.44**	**74**	P		**P**	**03 29 28.5**	**+0.7**
CHGR				IAmb		IAmb	03 29 29.7	
	comp=Z,13nm,0.9s							
GAR	**Garm**	**31.30**	**73**	P		**P**	**03 29 36.4**	**+1.0**
ARCES	**ARCESS Array B**	**33.52**	**357**	P		**P**	**03 29 53.7**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=170,slow=9.7,SNR=13							
ARCES	**ARCESS Array B**	**33.52**	**357**	P		**P**	**03 29 53.5**	**-0.7**
ARCES				IAmb		IAmb	03 30 13.4	
	comp=Z,4.9nm,1.2s							
TORD	**Torodi Ar. Bea**	**34.76**	**236**	P		**P**	**03 30 08.0**	**+2.5**
	comp=Z,0.9nm,0.9s,baz=25,slow=9.1,SNR=3.5							
MAKZ	**Makanchi**	**39.16**	**58**	P		**P**	**03 30 42.3**	**-0.2**
MAKZ				IAmb		IAmb	03 30 56.4	
	comp=Z,4.5nm,1.4s							
MK31	**Makanchi Array**	**39.38**	**58**	P		**P**	**03 30 44.2**	**-0.2**
MKAR	**Makanchi Array**	**39.38**	**58**	P		**P**	**03 30 44.2**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=280,slow=6.5,SNR=11							
ZALV	**Zalesovo Beam**	**40.98**	**47**	P		**P**	**03 30 57.0**	**-0.5**
	comp=Z,1.9nm,0.3s,baz=264,slow=8.6,SNR=5.9							
ZALV	**Zalesovo Beam**	**40.98**	**47**	P		**P**	**03 30 58.7**	**+1.3**
SONM	**Songino Array**	**55.27**	**53**	P		**P**	**03 32 48.1**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=302,slow=10,SNR=4.9							
SONM	**Songino Array**	**55.27**	**53**	P		**P**	**03 32 48.3**	**+0.6**
SONM				IAmb		IAmb	03 32 54.3	
	comp=Z,4.0nm,1.5s							
ULN	**Ulaanbaatar**	**55.68**	**52**	P		**P**	**03 32 51.6**	**+0.9**

*ANF **16** 03:27:56.8±0.3,32.°95N×115.°55W,h18km±3km, ML3.2/11, Error ellipse: s-maj=4.0km s-min=2.1km az=160.0*
*PAS **16** 03:27:57.8±2.3,32.°93N±0.°04×115.°54W±0.°03,h12km±6km, ML3.3/60,ML3.2/51(NEIC), Error ellipse: s-maj=6.0km s-min=2.4km az=154.0*
*SCEDC **16** 03:27:57.9,32.°93N×115.°55W,h8km*
*NEIC **16** 03:27:57.7±2.5, 32.°96N±0.°03×115.°55W±0.°02,h16km±6km, Error ellipse: s-maj=5.2km s-min=1.5km az=160.0*

ISC 16 03:27:57.3±0.9, 32.°95N±0.°02×115.°55W±0.°02, h14km±7km, n41, σ0.84/56, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWSC	**Sam W. Stewart**	**0.21**	**270**	P	**Pg**	**03 28 02.4**	**+0.4**
	baz=93,SNR=779						
SWSC				S	**Sg**	**03 28 05.0**	**-0.1**
	baz=93						
SUP	**Superstition M**	**0.23**	**272**		**Pg**	**03 28 02.8**	**+0.5**
SUP					**Sg**	**03 28 05.3**	**-0.4**
UABX	**UABC, Campus M**	**0.33**	**163**	Pg	**Pg**	**03 28 04.7**	**+0.7**
UABX				Sg	**Sb**	**03 28 10.3**	**+0.3**
UABX				IAML		03 28 10.6	
	comp=N,6μm,0.6s						
UABX				IAML		03 28 11.3	
	comp=E,3μm,0.6s						
IKP	**In-Ko-Pah, Jac**	**0.56**	**238**	P	**Pg**	**03 28 08.5**	**+0.2**
	baz=59,SNR=29						
IKP				S	**Sg**	**03 28 15.7**	**+0.1**
	baz=59						
RMX	**La Rumorosa**	**0.56**	**232**		**Pg**	**03 28 08.4**	**+0.1**
RMX				Sg	**Sg**	**03 28 15.7**	**-0.2**
RMX				IAML		03 28 17.4	
	comp=N,2μm,0.3s						
RMX				IAML		03 28 17.6	
	comp=E,3μm,0.6s						
CPBX	**Cerro Prieto**	**0.57**	**158**	Pg	**Pg**	**03 28 08.4**	**0.0**
CPBX				Sg	**Sg**	**03 28 16.8**	**+0.9**
GLA	**Glamis**	**0.62**	**80**	Pg	**Pg**	**03 28 09.2**	**-0.3**
GLA				Sg	**Sg**	**03 28 17.2**	**-0.4**
GLA				IAML		03 28 22.1	
	comp=E,1μm,0.6s						
GLA				IAML		03 28 26.2	
	comp=N,1μm,0.8s						
GLA	**Glamis**	**0.62**	**80**	P	**Pg**	**03 28 09.2**	**-0.3**
	baz=259,SNR=121						
GLA				S	**Sg**	**03 28 17.1**	**-0.5**
	baz=259						
BC3	**Big Chuckawall**	**0.71**	**7**	P	**Pg**	**03 28 11.6**	**+0.4**
	baz=186,SNR=644						
BC3				S	**Sb**	**03 28 21.6**	**+0.4**
	baz=186						
MONP2	**Monument Peak**	**0.73**	**266**	P	**Pg**	**03 28 11.6**	**0.0**
	baz=86,SNR=169						
MONP2				S	**Sg**	**03 28 21.5**	**+0.2**
	baz=86						
GUVIX	**Guadalupe Vict**	**0.76**	**148**	Pg	**Pg**	**03 28 11.9**	**-0.1**
GUVIX				IAML		03 28 31.8	
	comp=E,2μm,0.9s						
TKX	**Tecate**	**0.97**	**247**	Pg	**Pb**	**03 28 15.2**	**-0.6**
BAR	**Barrett**	**0.98**	**255**	Pg	**Pb**	**03 28 15.4**	**-0.7**
PFO	**Pinyon Flats O**	**1.01**	**311**		**Pb**	**03 28 15.4**	**-1.2**
PFO				IAML		03 28 38.0	
	comp=E,305nm,1.0s						
PFO	**Pinyon Flats O**	**1.01**	**311**	P	**Pb**	**03 28 15.5**	**-1.2**
	baz=131,SNR=51						
PFO				S	**Sb**	**03 28 30.0**	**+0.2**
	baz=131						
BELC	**Belle Mtn. Jos**	**1.11**	**341**	P	**Pb**	**03 28 17.5**	**-1.0**
	baz=160,SNR=37						
BELC				S	**Sb**	**03 28 32.3**	**-0.6**
	baz=160						
CBX	**Cerro Bola**	**1.13**	**236**		**Pb**	**03 28 17.9**	**-0.8**
CBX				IAML		03 28 34.4	
	comp=E,731nm,0.5s						
CBX				IAML		03 28 37.4	
	comp=N,738nm,0.4s						
IRM	**Iron Mountain**	**1.25**	**16**	P	**Pn**	**03 28 19.6**	**-0.8**
	baz=195						
IRM				S	**Sn**	**03 28 37.8**	**+0.7**
	baz=195						
109C	**Camp Elliot, M**	**1.31**	**268**	Pn	**Pn**	**03 28 20.2**	**-0.9**
109C	**Camp Elliot, M**	**1.31**	**268**	P	**Pn**	**03 28 20.0**	**-1.1**
	baz=88						
109C				S	**Sb**	**03 28 38.5**	**+0.2**
	baz=88						
TJX	**Tijuana**	**1.34**	**251**	Pn	**Pn**	**03 28 22.2**	**+0.7**
CCX	**Cicese**	**1.43**	**221**	Pn	**Pn**	**03 28 22.5**	**-0.3**
CCX				IAML		03 28 42.4	
	comp=N,545nm,0.6s						
CCX				IAML		03 28 49.0	
	comp=E,694nm,0.7s						
MURC	**Murrieta**	**1.52**	**296**	P	**Pn**	**03 28 23.0**	**-1.2**
	baz=115						
MURC				Sb	**Sg**	**03 28 46.3**	**0.0**
	baz=115						
PDMCI	**Parker Dam,Lak**	**1.79**	**41**	Sb	**Sb**	**03 28 53.3**	**+1.0**
	baz=221						
SFX	**San Felipe**	**2.00**	**162**	Pn	**Pn**	**03 28 31.0**	**+0.4**
SFX				IAML		03 29 11.1	
	comp=N,82nm,0.7s						
MWC	**Mount Wilson**	**2.45**	**302**	Pn	**Pn**	**03 28 37.9**	**+0.9**
MWC				IAML		03 29 23.9	
	comp=N,78nm,0.7s						
MWC				IAML		03 29 30.2	
	comp=E,67nm,1.1s						
PASC	**Pasadena Art C**	**2.52**	**300**	Pn	**Pn**	**03 28 38.5**	**+0.7**
GSC	**Goldstone, Bar**	**2.57**	**336**	Pn	**Pn**	**03 28 39.3**	**+0.7**
GSC				IAML		03 29 44.4	
	comp=E,53nm,1.4s						
QSM	**Queen of Sheba**	**3.20**	**341**	Pn	**Pn**	**03 28 49.4**	**+2.2**
GWY	**Greenwater Val**	**3.36**	**344**	Pn	**Pn**	**03 28 51.3**	**+1.8**
GWY				IAML		03 30 04.0	
	comp=E,23nm,0.9s						
SHPR	**Sheep Range**	**3.56**	**5**	Pn	**Pn**	**03 28 54.2**	**+1.8**
ISA	**Isabella, Lake**	**3.63**	**319**	Pn	**Pn**	**03 28 54.8**	**+1.6**
TPNV	**Topopah Spring**	**4.03**	**352**	Pn	**Pn**	**03 29 00.3**	**+1.5**
TPNV				IAML		03 30 36.6	
	comp=E,18nm,0.8s						
TPNV				IAML		03 30 40.9	
	comp=E,18nm,1.1s						
PRN	**Pahroc Range**	**4.47**	**5**	Pn	**Pn**	**03 29 05.5**	**+0.8**
PRN				IAML		03 30 48.1	
	comp=N,22nm,0.8s						
PRN				IAML		03 30 49.2	
	comp=E,22nm,0.8s						
KNB	**Kanab**	**4.64**	**28**		**Pn**	**03 29 07.7**	**+0.6**
KNB				IAML		03 30 40.7	
	comp=N,16nm,0.7s						
PKCU	**Pink Cliffs**	**5.21**	**30**	Pn	**Pn**	**03 29 15.0**	**-0.1**
PKCU				IAML		03 31 02.0	
	comp=N,26nm,0.9s						
W18A	**Petrified Fore**	**5.29**	**64**	Pn	**Pn**	**03 29 17.3**	**+1.2**
W18A				IAML		03 30 55.8	
	comp=N,32nm,1.4s						
W18A				IAML		03 30 59.0	
	comp=E,25nm,1.1s						
R11A	**Troy Canyon, C**	**5.39**	**360**	Pn	**Pn**	**03 29 17.4**	**-0.1**
PSUT	**Pine Spring**	**5.74**	**13**	Pn	**Pn**	**03 29 21.7**	**-0.6**
MTPU	**Mount Pierson**	**5.78**	**27**	Pn	**Pn**	**03 29 22.5**	**-0.4**
MSU	**Marysvale**	**6.19**	**25**	Pn	**Pn**	**03 29 27.4**	**-1.1**

*TUL **16** 03:43:26.2±1.8, 35.°99N±0.°01×96.°80W±0.°03,h4km±4km, ML2.9,mb_Lg2.6/38(NEIC), Error ellipse: s-maj=3.4km s-min=1.0km az=121.0*

NEIC 16 03:43:26.7±1.4, 36.°00N±0.°01×96.°81W±0.°01, h5km±1km, Error ellipse: s-maj=2.6km s-min=2.1km az=281.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.06**	**206**	Pg	Pg	03 43 27.8	-0.3
OK031				Sg	Sg	03 43 28.8	-0.2
QUOK	**Quay**	**0.19**	**26**	Pg	Pg	03 43 30.5	+0.1
QUOK				Sg	Sg	03 43 33.4	+0.5
OK025	**Westminster Rd**	**0.60**	**226**	Pg	Pg	03 43 37.9	-0.3
OK025				Sg	Sg	03 43 46.5	+0.4
OKCFA	**Oklahoma City**	**0.79**	**222**	Pg	Pg	03 43 41.0	-0.8
BLOK	**Blackwell**	**0.82**	**337**	Pg	Pg	03 43 42.2	-0.3
BLOK				Sg	Sg	03 43 53.4	+0.2
FNO	**Franklin**	**0.89**	**213**	Pg	Pg	03 43 42.7	-1.0
T35A	**Sooner Cattle**	**0.94**	**15**		Pg	03 43 44.3	-0.4
T35A				Sg	Sg	03 43 56.7	-0.3
CROK	**Carrier**	**1.07**	**298**		Pg	03 43 46.9	-0.4
CROK				Sg	Sg	03 44 01.5	+0.3
KAN13	**South Haven SW**	**1.14**	**332**	Pg	Pg	03 43 48.0	-0.6
KAN13				Sg	Sg	03 44 03.5	0.0
GC02	**Grant County #**	**1.20**	**315**		Pg	03 43 49.0	-0.7
KAN17	**Caldwell West**	**1.29**	**324**		Pn	03 43 50.1	-1.3
OK032	**Salt Plains WL**	**1.38**	**306**		Pn	03 43 52.1	-0.6
X34A	**Smith Ranch, M**	**1.63**	**211**		Pn	03 43 56.2	+0.1
U32A	**Winter Ranch,**	**1.81**	**283**	Pn	Pn	03 43 58.9	+0.3
X37A	**Clayton**	**1.84**	**140**	Pn	Pn	03 43 59.6	+0.7
X37A				IAmb_Lg		03 44 25.4	
	comp=Z,21nm,0.7s						
U38A	**Gravette**	**2.01**	**77**		Pn	03 44 01.9	+0.6
LOOK	**Love County**	**2.03**	**189**	Pn	Pn	03 44 02.3	+0.7
LOOK				IAmb_Lg		03 44 34.1	
	comp=Z,24nm,1.0s						
HHAR	**Hobbs**	**2.34**	**82**		Pn	03 44 06.9	+1.1
W39A	**Magazine**	**2.59**	**107**	Pn	Pn	03 44 09.6	+0.3
MIAR	**Mount Ida**	**3.02**	**118**	Pn	Pn	03 44 15.6	+0.4
KSU1	**Kansas State U**	**3.10**	**3**	Pn	Pn	03 44 16.5	+0.2
KSU1				IAmb_Lg		03 45 08.5	
	comp=Z,13nm,0.9s						
Z38A	**Mt. Pleasant**	**3.12**	**151**	IAmb_Lg		03 45 11.4	
	comp=Z,20nm,0.7s						
U40A	**Yellville**	**3.22**	**83**	Pn	Pn	03 44 17.7	-0.3
S39A	**Bolivar**	**3.26**	**58**	Pn	Pn	03 44 19.5	+1.0
S39A				IAmb_Lg		03 45 14.0	
	comp=Z,14nm,0.8s						
X40A	**Basin Creek Fa**	**3.59**	**114**	Pn	Pn	03 44 23.7	+0.7
WHAR	**Wooly Hollow**	**3.75**	**100**	Pn	Pn	03 44 25.2	0.0
FCAR	**Ozark Folk Cen**	**3.80**	**90**	Pn	Pn	03 44 27.1	+1.1
FCAR				IAmb_Lg		03 45 29.0	
	comp=Z,24nm,0.8s						
MGMO	**Mountain Grove**	**3.83**	**71**	IAmb_Lg		03 45 31.5	
	comp=Z,32nm,0.9s						
AMTX	**Amarillo**	**4.13**	**256**	IAmb_Lg		03 45 43.8	
	comp=Z,9.9nm,0.8s						
R40A	**Maddies Statio**	**4.29**	**56**	IAmb_Lg		03 45 47.0	
	comp=Z,17nm,0.8s						
T42A	**Van Buren**	**4.72**	**76**	IAmb_Lg		03 45 54.4	
	comp=Z,8.4nm,0.9s						
CCM	**Cathedral Cave**	**4.90**	**64**	IAmb_Lg		03 46 07.1	
	comp=Z,14nm,0.7s						
N35A	**Tabor**	**4.94**	**10**	IAmb_Lg		03 46 09.4	
	comp=Z,10nm,0.8s						
P40A	**Paris**	**5.16**	**46**	IAmb_Lg		03 46 11.6	
	comp=Z,15nm,0.7s						
PBMO	**Poplar Bluff**	**5.20**	**80**	IAmb_Lg		03 46 23.0	
	comp=Z,10nm,0.8s						
N38A	**Joes South For**	**5.54**	**29**	IAmb_Lg		03 46 27.5	
	comp=Z,16nm,0.8s						
JCT	**Junction City**	**6.05**	**205**	IAmb_Lg		03 46 51.6	
	comp=Z,7.3nm,0.8s						
OXF	**Oxford**	**6.24**	**102**	Pn	Pn	03 44 57.9	-1.5
P43A	**Skaggs, Pawnee**	**6.81**	**56**	IAmb_Lg		03 47 03.0	
	comp=Z,14nm,1.0s						
O44A	**Mansfield**	**7.77**	**55**	IAmb_Lg		03 47 39.9	
	comp=Z,8.3nm,0.8s						
T50A	**Nancy**	**9.69**	**80**	IAmb_Lg		03 48 38.6	
	comp=Z,3.0nm,0.8s						

JMA 16 03:44:18.2±0.1, 24.°33N×123.°78E, h14km±1km, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.05**	**276**	P	Pg	03 44 20.7	-0.1
IRIF				S	Sg	03 44 22.5	-0.1
JKRS	**Kuro-shima**	**0.23**	**114**	P	Pg	03 44 23.1	-0.1
JKRS				*eS*	Sg	03 44 26.7	+0.1
HATJ	**Hateruma jima**	**0.27**	**175**	P	Pg	03 44 23.8	-0.2
JIJ	**Ishigaki jima**	**0.33**	**84**	P	Pg	03 44 24.8	-0.2
JIJ				*eS*	Sg	03 44 29.4	-0.3

TAP 16 03:44:58.6, 24.°25N×121.°79E, h15km, ML1.7, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.08**	**324**	*eP*	Pg	03 45 01.9	+0.2
	baz=328						
EHP				*eS*	Sg	03 45 04.2	+0.5
	baz=328						
ETL	**Fush Village**	**0.18**	**241**	P	Pb	03 45 03.5	0.0
	baz=240						
ETL				S	Sb	03 45 07.2	+0.4
	baz=240						
ENA	**Nanau**	**0.19**	**346**	P	Pb	03 45 03.6	-0.1
	baz=348						
ENA				S	Sb	03 45 07.2	0.0
	baz=348						
NACB	**Ninganchiao**	**0.19**	**248**	P	Pb	03 45 03.6	-0.2
	baz=248						
NACB				S	Sb	03 45 07.4	+0.1
	baz=248						
EWUT	**Wuta**	**0.20**	**357**	P	Pb	03 45 03.9	-0.1
	baz=356						
EWUT				S	Sb	03 45 07.8	+0.3
	baz=356						
TWD	**Chiawan**	**0.24**	**227**	*i* P	Pb	03 45 04.6	-0.1
	baz=225						
TWD				*i* S	Sb	03 45 08.9	+0.1
	baz=225						
ETLH	**Xiulin Townshi**	**0.28**	**262**	*eP*	Pb	03 45 05.3	-0.1
	baz=262						
ETLH				S	Sb	03 45 10.2	+0.1
	baz=262						
HWA	**Hwalien**	**0.32**	**212**	P	Pb	03 45 05.8	-0.1
	baz=210						
HWA				S	Sb	03 45 11.2	+0.3
	baz=210						
TWC	**Suao**	**0.36**	**8**	P	Pb	03 45 07.0	+0.2
	baz=9.0						
TWC				*eS*	Sb	03 45 12.6	+0.3
	baz=9.0						
NDS	**Dongshan**	**0.39**	**350**	*eP*	Pg	03 45 06.7	+0.1
	baz=349						
NDS				*eS*	Sb	03 45 13.1	0.0
	baz=349						
NNSB	**Datong**	**0.41**	**296**	P	Pb	03 45 07.7	0.0
	baz=295						
NNSB				*eS*	Sb	03 45 14.1	+0.3
	baz=295						
NNS	**Nan Shan**	**0.43**	**297**	*i* P	Pb	03 45 08.0	+0.1
	baz=297						
NNS				S	Sb	03 45 14.4	+0.2
	baz=297						
NDT	**Datong Townshi**	**0.44**	**325**	P	Pb	03 45 08.4	+0.4
	baz=324						
NDT				S	Sb	03 45 15.0	+0.6
	baz=324						
ENTT	**Nioudou**	**0.44**	**332**	P	Pb	03 45 08.3	+0.2
	baz=333						
ENTT				S	Sb	03 45 15.0	+0.4
	baz=333						
TWE	**Neicheng**	**0.49**	**347**	P	Pb	03 45 08.8	-0.1
	baz=348						
TWE				S	Sb	03 45 15.7	-0.1
	baz=348						
WHF	**Hehuan Shan**	**0.49**	**258**	*i* P	Pb	03 45 08.9	-0.3
	baz=257						
WHF				*i* S	Sb	03 45 16.3	0.0
	baz=257						
FUSS	**Fushou**	**0.50**	**270**	*eP*	Pb	03 45 09.0	-0.2
	baz=270						
FUSS				*eS*	Sb	03 45 16.5	+0.1
	baz=270						
ILA	**Ilan**	**0.52**	**356**	*eP*	Pb	03 45 09.2	-0.2
	baz=356						
ILA				*eS*	Sb	03 45 17.1	+0.4
	baz=356						
ESL	**Shilin**	**0.54**	**217**	P	Pb	03 45 09.7	-0.1
	baz=216						
ESL				*eS*	Sb	03 45 17.7	+0.4
	baz=216						
TWT	**Tachien**	**0.56**	**271**	*eS*	Sb	03 45 19.6	+1.5
	baz=270						
YHNB	**Yeheng**	**0.57**	**318**	P	Pb	03 45 10.8	+0.5
	baz=318						
YHNB				S	Sb	03 45 19.0	+0.8
	baz=318						
TDCB	**Techi**	**0.58**	**271**	*eS*	Sb	03 45 19.2	+0.6
	baz=270						
NSK	**Sanguang**	**0.58**	**317**	*eP*	Pg	03 45 10.0	0.0
	baz=317						
NSK				S	Sb	03 45 19.0	+0.4
	baz=317						
CHGB	**Renai**	**0.59**	**252**	P	Pb	03 45 11.0	+0.2
	baz=251						
CHGB				S	Sb	03 45 18.9	-0.2
	baz=251						
NTC	**Toucheng**	**0.61**	**3**	*eP*	Pg	03 45 10.5	0.0
	baz=3.0						
NTC				*eS*	Sb	03 45 19.8	+0.5
	baz=3.0						
WHP	**Taichung City**	**0.77**	**273**	*eP*	Pb	03 45 14.2	+0.5
	baz=272						
WHP				*eS*	Sb	03 45 24.7	+0.6
	baz=272						
YM01	**YM01**	**0.92**	**347**	*eS*	Sn	03 45 29.8	-0.2
	baz=347						

*BJI **16** 03:51:19.4±0.0, 0.°85N×96.°13E, h20km, mB4.9/29, mb4.7/47,

PSI S Sn 03 52 41.0 -4.2
PSI S Sn 03 52 41.6 -3.6
TSI Tuntungan 2.92 50 P Pn 03 52 13.9 +1.4
LASI Langsa, Aceh 3.27 30 P Pb 03 52 26.2 +1.1
MNSI Mandailing Nat 3.33 104 P Pn 03 52 18.7 +0.4
MNSI S Sn 03 52 57.8 +0.7
LHMI Lhok Sumawe 3.66 9 P Pn 03 52 22.8 +0.1
SISI Saibi 4.00 137 P Pn 03 52 25.3 -2.1
SISI S Sn 03 53 11.4 -2.1
PDSI Padang 4.81 121 P Pn 03 52 37.4 -1.3
BKNI Bangkinang 4.86 105 Pn 03 52 40.3 +0.9
KRJI Kerinci 6.30 126 P Pn 03 52 57.0 -2.1
4.8nm15µm1µm,0.5s
PKDT Phuket 6.56 18 P Pn 03 53 09.0 +6.4
157nm,0.6s
PKDT Phuket 6.56 18 P Pn 03 53 09.0 +6.4
157nm,0.6s
TRTT Trang 7.04 28 P Pn 03 53 09.7 +0.5
0.5nm107nm,0.7s
TRTT Trang 7.04 28 P Pn 03 53 09.8 +0.5
0.5nm107nm,0.7s
MASI Maura Aman, Be 7.54 129 P Pn 03 53 16.4 +0.2
1.0nm3µm236nm,0.5s
UBSI University, Be 7.97 132 P Pn 03 53 21.1 -0.9
1.7nm13µm438nm,0.6s
KSI Kapahiang 8.14 130 P Pn 03 53 23.7 -0.7
14µm230nm,0.8s
SURA Surathani 8.20 23 P Pn 03 53 24.6 -0.6
1.0nm16µm153nm,0.6s
SURA Surathani 8.20 23 P Pn 03 53 24.0 -1.2
16µm151nm,0.6s
LHSI Lahat 8.97 127 P Pn 03 53 35.6 -0.2
4µm206nm,1.0s
EGSI Enggano, Bengk 9.10 139 P Pn 03 53 35.8 -1.7
148nm,0.5s
MDSI Maura Dua 9.89 128 P Pn 03 53 47.2 -1.2
71nm,0.9s
LWLI Liwa 10.13 130 P Pn 03 53 51.1 -0.7
243nm,0.6s
KASI Kota Agung 10.79 131 P Pn 03 53 58.4 -2.3
69nm,0.7s
SRAK Srakaew 13.56 24 P P 03 54 44.1 -3.3
9µm903nm,0.6s
LEM Lembang 14.03 127 Pn Pn 03 54 44.5 -0.7
4.6nm,0.3s,baz=300,slow=20,SNR=1.6
LEM LR LR 04 00 40.6
comp=Z,191nm,20.2s,baz=253,slow=40
UTHA Uthaitani 14.21 12 P P 03 54 56.1 +1.5
UTHA Uthaitani 14.21 12 P P 03 54 56.1 +1.5
5.6nm,0.7s
STKI Sintang 15.21 96 P P 03 55 07.0 +1.2
PHIT Phitsanulok 16.00 14 P P 03 55 15.0 +0.4
122nm,0.8s
PHIT Phitsanulok 16.00 14 P P 03 55 15.0 +0.4
30nm,0.8s
UBPT Khong Chiam 16.31 33 P P 03 55 18.8 +0.8
23nm,2.9s
UBPT Khong Chiam 16.31 33 P P 03 55 18.0 0.0
23nm,2.9s
UBPT Khong Chiam 16.31 33 P Pn 03 55 15.1 -0.1
UBPT Khong Chiam 16.31 33 P P 03 55 17.3 -0.7
22nm,2.9s
MHMT Maesarieng 16.55 5 P P 03 55 22.6 +2.0
32nm,0.9s
MHMT Maesarieng 16.55 5 P P 03 55 22.0 +1.4
32nm,0.9s
UTTA Uttaradit 16.57 14 P P 03 55 22.1 +1.3
26nm,0.7s
UTTA Uttaradit 16.57 14 P P 03 55 22.2 +1.3
6.5nm,0.7s
PALK Pallekele 16.57 290 Sn Sn 03 58 05.5 -17
0.8nm,0.3s,baz=139,slow=23,SNR=1.9
PALK LR LR 04 00 28.8
comp=Z,165nm,21.6s,baz=220,slow=33
CM05 Chiang Mai Arr 16.89 9 P P 03 55 24.8 +0.3
100nm12nm,0.9s
CM05 Chiang Mai Arr 16.89 9 P P 03 55 24.0 -0.5
100nm12nm,0.9s
CM04 Chiang Mai Arr 16.90 9 P P 03 55 24.9 +0.4
165nm22nm,1.0s
CM04 Chiang Mai Arr 16.90 9 P P 03 55 24.9 +0.4
165nm22nm,1.0s
CM13 Chiang Mai Arr 16.91 8 P P 03 55 24.9 +0.3
15nm,0.9s
CM13 Chiang Mai Arr 16.91 8 P P 03 55 25.0 +0.3
15nm,0.9s
CM01 Chiang Mai Arr 16.91 9 P P 03 55 25.2 +0.5
201nm24nm,0.9s
CM01 Chiang Mai Arr 16.91 9 P P 03 55 25.2 +0.5
201nm24nm,0.9s
CM02 Chiang Mai Arr 16.93 9 P P 03 55 25.6 +0.8
152nm20nm,0.9s
CM02 Chiang Mai Arr 16.93 9 P P 03 55 25.6 +0.8
152nm20nm,0.9s
CM15 Chiang Mai Arr 16.94 8 P P 03 55 26.1 +1.1
18nm,0.7s
CM15 Chiang Mai Arr 16.94 8 P P 03 55 26.1 +1.1
18nm,0.7s
CM09 Chiang Mai Arr 16.94 9 P P 03 55 25.8 +0.8
19nm,0.9s
CM09 Chiang Mai Arr 16.94 9 P P 03 55 25.8 +0.8
19nm,0.9s
CMAR Chiang Mai Arr 16.95 8 P Pn 03 55 22.3 -1.0
0.9nm,0.3s,baz=198,slow=11,SNR=28
CMAR LR LR 04 01 01.0
comp=Z,74nm,21.2s,baz=88,slow=34
CMAR Chiang Mai Arr 16.95 8 Pn 03 55 22.6 -0.7
CM36 Chiang Mai Arr 17.03 9 P P 03 55 27.0 +1.0
CM32 Chiang Mai Arr 17.13 8 P P 03 55 27.0 0.0
CM35 Chiang Mai Arr 17.20 9 P Pn 03 55 27.0 +0.6
CHTO Chiang Mai 17.30 8 P Pn 03 55 27.0 -0.7
11nm,1.1s
CHTO Chiang Mai 17.30 8 Pn 03 55 26.4 -1.2
CHTO Chiang Mai 17.30 8 P Pn 03 55 26.1 -1.6
6.0nm,1.1s
CMMT Chiang Mai 17.30 8 P Pn 03 55 26.9 -0.8
11nm,1.1s
CMMT Chiang Mai 17.30 8 P Pn 03 55 26.9 -0.8
11nm,1.1s
CMMT Chiang Mai 17.30 8 P Pn 03 55 25.8 -1.9
CM33 Chiang Mai Arr 17.30 8 P Pn 03 55 26.0 -1.7
CM34 Chiang Mai Arr 17.37 9 P Pn 03 55 28.0 -0.5
MTKI Muara Teweh, K 18.72 98 P P 03 55 44.5 -0.2
95nm,0.5s
SLVN Son La 20.96 20 P 03 56 08.6 -0.5
SLVN IAmb IAmb 03 56 18.9
comp=Z,19nm,0.7s
IMP Imphal 23.21 354 *eP* P 03 56 32.6 -0.4
HYB Hyderabad 23.51 313 *i P* P 03 56 42.0 +6.0
MPSI Mapaga 23.59 93 P P 03 56 37.1 +0.3
comp=Z,2µmcomp=Z,18nm,0.8s
KMI Kunming 24.19 14 ⇓P P 03 56 44.3 +1.7
KMI pP pwP 03 56 52.8 +0.1
KMI pmax pmax
comp=Z,29nm,0.8s
KMI LR LR
comp=Z,420nm,11.0s
KMI LR LR
comp=Z,260nm,12.4s
KMI LR LR
comp=Z,460nm,13.0s
SHL Shillong 24.21 350 P P 03 56 40.9 -1.8
SHL Shillong 24.21 350 *eP* P 03 56 42.5 -0.3
SHL IAmb IAmb 03 56 44.4
comp=Z,46nm,0.8s
BOK Bokaro 24.28 336 *eP* P 03 56 43.9 +0.7
BOK IAmb IAmb 03 56 45.8
comp=Z,97nm,0.8s
KAPI Kappang 24.29 106 P P 03 56 43.9 +0.5
comp=Z,15nm,0.8s,baz=310,slow=11,SNR=9.3
KAPI Kappang 24.29 106 P P 03 56 43.4 0.0
KAPI IAmb IAmb 03 56 46.1
comp=Z,22nm,0.8s
KAPI Kappang 24.29 106 P P 03 56 44.1 +0.7
comp=Z,26nm,1.0s
MOKO MOKOCHONG 24.64 356 *eP* P 03 56 45.9 -0.7
BKSI Bulukumba 24.73 106 P P 03 56 47.9 +0.5
comp=Z,28nm,0.9s
H08S2 Diego Garcia H 25.50 249 T T 04 23 46.7
baz=69,slow=75,SNR=2001
H08S3 Diego Garcia H 25.50 249 T T 04 23 48.2
baz=69,slow=75,SNR=812
H08S1 Diego Garcia H 25.52 249 T T 04 23 48.0
baz=69,slow=75,SNR=1158
ITAN ITANAGAR 25.52 355 *eP* P 03 56 53.7 -0.8
ITAN IAmb IAmb 03 56 55.8

LKP Lekhapani 25.59 359 *eP* P 03 56 55.0 -0.1
LKP IAmb IAmb 03 56 57.2
KKSI Kolaka, Sulawe 25.93 103 P P 03 57 04.8 +6.5
GTK Tadong 26.63 344 *eP* P 03 57 04.8 +0.2
GYA Guiyang 26.64 21 ⇑P P 03 57 07.3 +2.7
GYA pP pwP 03 57 15.0 +0.1
GYA pmax pmax
comp=Z,21nm,0.9s
BHPL Bhopal 28.28 321 IAmb IAmb 03 57 10.9
comp=Z,4.3nm,1.0s
BATI Baumata 29.62 114 LR LR 04 10 25.7
comp=Z,97nm,21.1s,baz=296,slow=38
DAV Davao City (W) 29.64 79 LR LR 04 11 16.2
comp=Z,66nm,18.3s,baz=206,slow=40
PSA00 Pilbara Seismi 32.53 136 P P 03 57 57.0 +0.2
XAN Xi'an 34.35 19 P P 03 58 11.9 -0.8
XAN pP pP 03 58 19.4 +0.1
XAN sP sP 03 58 22.3 +0.3
XAN S S 04 03 35.8 -3.2
XAN pmax pmax
comp=Z,12nm,0.8s
XAN pmax pmax
comp=Z,140nm,3.6s
XAN LR LR
comp=Z,340nm,11.5s
XAN LR LR
comp=Z,240nm,12.9s
XAN LR LR
comp=Z,490nm,12.4s
FITZ Fitzroy Crossi 34.85 125 P P 03 58 16.8 -0.4
FITZ IAmb IAmb 03 58 17.3
comp=Z,13nm,0.9s
LZH Lanzhou 35.02 11 *eP* P 03 58 26.9 +8.4
LZH pP pwP 03 58 31.5 +2.9
LZH pmax pmax
comp=Z,16nm,1.1s
KNRA Kununurra 36.35 119 P P 03 58 29.1 -1.0
KNRA IAmb IAmb 03 58 31.7
comp=Z,20nm,1.1s
NJ2 Nanjing 36.99 33 *eP* P 03 58 37.0 +1.8
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
GTA Gaotai 37.77 4 *eP* P 03 58 41.6 -0.3
GTA pP sP 03 58 50.3 -1.1
GTA sP pwP 03 58 53.8 +1.8
GTA pmax pmax
comp=Z,7.0nm,1.3s
NIL Nilore 38.53 328 P P 03 58 47.5 -0.8
NIL IAmb IAmb 03 58 48.2
comp=Z,16nm,0.6s
H01W3 Cape Leeuwin H 39.94 157 T T 04 41 29.8
baz=333,slow=76,SNR=557
H01W2 Cape Leeuwin H 39.95 157 T T 04 41 30.8
baz=333,slow=76,SNR=674
H01W1 Cape Leeuwin H 39.96 157 T T 04 41 30.7
baz=333,slow=76,SNR=588
HHC Hu-ho-hao-te 41.43 18 *eP* P 03 59 13.8 +1.4
HHC pmax pmax
comp=Z,21nm,0.9s
HHC pmax pmax
comp=Z,120nm,4.4s
HHC LR LR
comp=Z,280nm,12.5s
HHC LR LR
comp=Z,160nm,15.2s
HHC LR LR
comp=Z,200nm,12.5s
KSH Kashi 42.06 336 P P 03 59 16.5 -1.1
KSH pP pP 03 59 21.8 -2.4
KSH sP sP 03 59 25.1 -1.8
KSH pmax pmax
comp=Z,6.0nm,0.5s
KSH LR LR
comp=Z,150nm,9.2s
KSH LR LR
comp=Z,150nm,9.0s
BJT Baijiatuau 42.28 23 P P 03 59 18.9 -0.3
BJT IAmb IAmb 03 59 21.3
comp=Z,15nm,0.7s
BJI Beijing 42.30 23 P P 03 59 20.8 +1.4
BJI pP **sP** 03 59 27.9 -0.9
BJI sP **pwP** 03 59 30.0 +0.3
BJI PcP **PcP** 04 01 15.3 +2.5
BJI S S 04 05 43.8 +5.0
BJI pmax pmax
comp=Z,25nm,0.7s
BJI LR LR
comp=Z,73nm,7.7s
WMQ Urumqi 42.74 351 *eP* P 03 59 24.8 +1.8
WMQ pmax pmax
comp=Z,21nm,1.3s
WMQ pmax pmax
comp=Z,170nm,4.7s
WRA Warramunga Arr 42.97 122 P P 03 59 24.7 -0.5
comp=Z,5.0nm,0.7s,baz=303,slow=9.3,SNR=47
WRA LR LR 04 17 50.1
comp=Z,62nm,20.7s,baz=320,slow=37
WRA Warramunga Arr 42.97 122 P P 03 59 24.2 -1.0
WB2 Warramunga Arr 42.98 122 P P 03 59 25.3 0.0
WR0 Warramunga Arr 43.15 122 P P 03 59 26.5 -0.2
TARG Taragay, Kyrgy 43.30 340 P P 03 59 27.3 -0.7
TARG IAmb IAmb 03 59 30.8
comp=Z,8.9nm,0.8s
DRK Karamyk 43.84 332 P P 03 59 31.6 -0.7
FORT Forrest 44.13 139 P P 03 59 34.6 +0.3
FORT IAmb IAmb 03 59 38.1
comp=Z,18nm,0.8s
GAR Garm 44.17 331 P P 03 59 34.0 -0.7
GAR IAmb IAmb 03 59 34.9
comp=Z,14nm,0.8s
ASAR Alice Springs 44.32 127 P P 03 59 35.9 -0.1
comp=Z,2.3nm,0.7s,baz=304,slow=7.6,SNR=16
ASAR Alice Springs 44.32 127 P P 03 59 36.0 0.0
CHGR Chuyangaron 44.48 329 P P 03 59 36.1 -1.1
BOOM Boomskoye usch 44.63 338 P P 03 59 37.8 -0.7
BOOM IAmb IAmb 03 59 56.0
comp=Z,6.9nm,0.8s
BTK Batken 44.76 332 P P 03 59 39.3 -0.1
BTK IAmb IAmb 03 59 41.4
comp=Z,19nm,1.1s
AAK Ala-Archa 45.30 337 P P 03 59 43.7 -0.1
KSAR Wonju Array Be 45.98 35 P P 03 59 49.1 +0.1
KSRS Korea Array 46.02 35 P P 03 59 49.7 +0.5
comp=Z,5.2nm,0.9s,baz=226,slow=9.3,SNR=16
KSRS LR LR 04 19 47.5
comp=Z,106nm,19.4s,baz=219,slow=37
MK31 Makanchi Array 46.66 347 P P 03 59 53.6 -0.6
MK31 IAmb IAmb 03 59 55.3
comp=Z,7.2nm,0.9s
MKAR Makanchi Array 46.66 347 P P 03 59 54.3 +0.1
comp=Z,6.8nm,0.8s,baz=162,slow=8.5,SNR=46
MAKZ Makanchi 46.74 346 P P 03 59 55.0 +0.2
MAKZ IAmb IAmb 03 59 59.5
comp=Z,7.0nm,0.5s
SONM Songino Array 46.87 9 P P 03 59 56.4 +0.4
comp=Z,8.6nm,0.7s,baz=190,slow=9.3,SNR=48
SONM Songino Array 46.87 9 P P 03 59 55.9 -0.1
SONM IAmb IAmb 03 59 57.4
comp=Z,6.1nm,0.7s
ULN Ulaanbaatar 47.01 10 P P 03 59 56.5 -0.6
ULN IAmb IAmb 03 59 57.8
comp=Z,4.5nm,0.7s
ULN Ulaanbaatar 47.01 10 P P 03 59 56.5 -0.6
comp=Z,26nm,0.7s
KK31 Karatay Array 47.33 334 P P 03 59 59.2 -0.2
KK31 IAmb IAmb 04 00 01.2
comp=Z,11nm,1.1s
KKAR Karatay Array 47.33 334 P P 03 59 59.5 0.0
KKAR Karatay Array 47.33 334 P P 03 59 59.2 -0.3
KKAR IAmb IAmb 04 00 01.2
comp=Z,11nm,1.1s
JMN Monobe 47.48 44 P P 04 00 01.0 +0.2
JHS Saijyo 47.69 42 P P 04 00 02.0 -0.4
GEYT Alibeck 50.36 321 P P 04 00 22.5 -0.4
comp=Z,34nm,0.7s,baz=126,slow=7.4,SNR=11
MAT Matsushiro 51.98 43 P P 04 00 34.7 -0.3
MAT *eS* **S** 04 07 55.6 -1.5
MJAR Matsushiro Arr 51.98 43 P P 04 00 35.4 +0.3
comp=Z,5.3nm,0.8s,baz=228,slow=5.9,SNR=8.1
MJAR LR LR 04 24 18.5
comp=Z,31nm,18.6s,baz=250,slow=38
MJAR Matsushiro Arr 51.98 43 P P 04 00 34.9 -0.1
USA0B Ussuriysk Arra 52.88 32 P P 04 00 41.8 +0.3
USA0B IAmb IAmb 04 00 43.7
comp=Z,17nm,1.0s

USRK Ussuriysk Ar. 52.88 32 P P 04 00 42.4 +0.9
comp=Z,12nm,0.9s,baz=226,slow=6.1,SNR=29
USRK LR LR 04 25 11.0
comp=Z,116nm,18.7s,baz=180,slow=38
USRK Ussuriysk Ar. 52.88 32 P P 04 00 41.2 -0.3
ZAA0 Zalesovo Array 53.04 352 P P 04 00 42.5 0.0
ZALV Zalesovo Beam 53.04 352 P P 04 00 42.6 +0.2
comp=Z,14nm,0.5s,baz=180,slow=7.5,SNR=32
ZALV LR LR 04 27 58.7
comp=Z,21nm,18.0s,baz=106,slow=41
CTAO Charters Tower 53.45 116 P P 04 00 46.3 +0.1
CTAO IAmb IAmb 04 00 47.5
comp=Z,13nm,1.1s
STKA Stephens Creek 54.26 132 P P 04 00 52.1 +0.2
comp=Z,6.0nm,0.9s,baz=314,slow=7.6,SNR=7.2
STKA LR LR 04 26 21.9
comp=Z,34nm,20.4s,baz=216,slow=39
ABKAR Akbulak array 56.76 332 P P 04 01 08.9 -0.6
ABKAR IAmb IAmb 04 01 09.8
comp=Z,13nm,0.8s
ABKAR Akbulak array 56.76 332 P P 04 01 09.0 -0.6
KMBO Kilima Mbogo 59.15 268 P P 04 01 27.4 +0.1
comp=Z,0.8nm,0.5s,baz=60,slow=14,SNR=2.2
KBZ Khabaz 63.21 319 P P 04 01 53.2 -0.7
comp=Z,5.7nm,0.8s,baz=126,slow=5.8,SNR=17
BRTR Keskin Array B 68.21 312 P P 04 02 25.2 -1.3
comp=Z,2.1nm,0.8s,baz=131,slow=6.3,SNR=11
ELL Elmali 70.28 309 P P 04 02 38.8 -0.6
PETK Petropavlovsk- 71.88 34 P P 04 02 48.7 +0.1
comp=Z,0.8nm,0.6s,baz=226,slow=3.8,SNR=2.2
PETK LR LR 04 35 08.9
comp=Z,26nm,20.2s,baz=281,slow=36
KLMR Klimovskoe 73.03 335 *eP* P 04 02 53.1 -2.1
KLMR AMP 04 02 58.8
comp=Z,17nm,1.5s
BOSA Boshof 74.23 240 P P 04 03 00.5 -2.7
comp=Z,8.3nm,1.2s,baz=84,slow=9.2,SNR=3.0
AKASG Malin Array Be 74.42 323 P P 04 03 02.1 -1.5
comp=Z,0.8nm,0.4s,baz=87,slow=4.6,SNR=9.4
AKASG Malin Array Be 74.42 323 P P 04 03 02.5 -1.1
VRI Vrincioaia 74.75 317 ⇑P P 04 03 05.7 0.0
TESR Tescani 74.95 318 ⇑P P 04 03 05.9 -1.0
MLR Muntele Rosu 75.19 317 ⇑P P 04 03 08.1 -0.3
MLR Muntele Rosu 75.19 317 P P 04 03 08.4 0.0
MLR IAmb IAmb 04 03 11.8
comp=Z,17nm,1.5s
BURAR Bucovina Array 76.16 319 ⇑P P 04 03 13.9 0.0
BURAR Bucovina Array 76.16 319 P P 04 03 13.9 0.0
BUR08 Bucovina Ar. S 76.18 319 P P 04 03 14.1 +0.1
KWP Kalwaria Pacla 78.22 320 P P 04 03 25.3 +0.1
KOLS Kolonicke sedl 78.36 320 *eP* P 04 03 26.9 +0.8
FINES FINESS Array B 79.25 333 P P 04 03 29.8 -0.9
comp=Z,2.7nm,0.6s,baz=103,slow=6.8,SNR=12
SYO Syowa Base 80.12 198 ⇑*eP* P 04 03 38.6 +3.5
MORC Moravsky Berou 81.55 320 ⇑P P 04 03 43.0 -0.3
ARCES ARCESS Array B 81.88 340 P P 04 03 44.0 -0.6
comp=Z,6.7nm,1.0s,baz=99,slow=4.6,SNR=18
ARCES ARCESS Array B 81.88 340 P P 04 03 44.9 +0.3
ARCES IAmb IAmb 04 03 46.2
comp=Z,11nm,1.2s
GEC2 GERESS Array S 83.95 319 P P 04 03 56.0 +0.1
GEC2 IAmb IAmb 04 03 56.8
comp=Z,11nm,1.4s
GERES GERESS Array B 83.95 319 P P 04 03 55.5 -0.4
comp=Z,2.9nm,1.0s,baz=106,slow=4.3,SNR=14
GERES GERESS Array B 83.95 319 P P 04 03 55.7 -0.2
NOA NORSAR Array B 86.24 331 P P 04 04 06.5 -0.6
comp=Z,2.5nm,0.9s,baz=95,slow=4.9,SNR=4.5
VNDA Vanda 86.38 169 P P 04 04 05.8 -1.5
comp=Z,0.8nm,1.0s,baz=309,slow=8.5,SNR=3.7
KEST Kesra 86.63 306 P P 04 04 08.6 -1.1
comp=Z,4.4nm,0.9s,baz=180,slow=4.0,SNR=3.7
TORD Torodi Ar. Bea 94.17 283 P P 04 04 44.6 -0.6
comp=Z,1.8nm,1.0s,baz=85,slow=3.1,SNR=4.8
NVAR Mina Array Bea 128.96 35 PKP **PKiKP** 04 10 34.5 -0.3
comp=Z,0.5nm,0.7s,baz=291,slow=5.4,SNR=3.7
PDAR Pinedale Array 130.05 25 PKP **PKPdf** 04 10 36.0 -0.1
comp=Z,0.4nm,0.6s,baz=318,slow=1.2,SNR=5.3
TXAR Lajitas Array 143.77 30 PKP PKPbc 04 10 59.2 +0.1
comp=Z,1.2nm,0.9s,baz=292,slow=1.5,SNR=12
CPUP Villa Florida 144.71 224 PKP **PKPab** 04 11 01.7 -0.1
comp=Z,8.6nm,0.9s,baz=92,slow=1.9,SNR=12

MAN 16 04:03:23.1, 10°.21N×124°.34E, h29km, mb4.0, ML2.7, MS2.3, 2C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LLP	**Lapu-Lapu**	**0.38**	**286**	⇑*iP*	Pn	04 03 33.2	+0.6
LLP				*i* S	Sn	04 03 40.2	+1.2
MSLP	**Maasin**	**0.52**	**99**	⇓*eP*	Pn	04 03 36.7	+2.1
MSLP				*e*S	Sn	04 03 45.9	+3.4
SNPH	**Sibulan**	**1.39**	**231**	⇑*iP*	Pn	04 03 45.2	-1.4
SNPH				*i* S	Sn	04 04 00.5	-3.5

*AEIC **16** 04:08:37±1.4, 58°.75N±0°.02×134°.47W±0°.04, h5km±4km, Error ellipse: s-maj=3.8km s-min=2.2km az=214.0*
*NEIC **16** 04:08:38.0±2.6, 58°.70N±0°.02×134°.50W±0°.03, h1km±5km, Error ellipse: s-maj=3.6km s-min=2.1km az=209.0*
*PGC **16** 04:08:38.6±0.0, 58°.74N×134°.46W, h1km, ML2.5/2, 49km northeast of Juneau, Ak Southeastern Alaska*

ISC 16 04:08:36.9±1.2, 58.79N±0°.03×134.47W±0°.04, h3km±14km, n23, σ1°08/34, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESE	**Bessie Mountai**	**0.29**	**224**	P	**Pg**	**04 08 43.0**	**+0.5**
BESE				S	**Sg**	**04 08 46.6**	**+0.2**
BESE	**Bessie Mountai**	**0.29**	**224**		**Pg**	**04 08 43.0**	**+0.5**
BESE					**Sg**	**04 08 46.6**	**+0.2**
SKAG	**Skagway**	**0.81**	**327**		**Pg**	**04 08 53.2**	**+0.9**
SIT	**Sitka**	**1.80**	**195**	Pn	**Pn**	**04 09 08.7**	**0.0**
SIT					**Sb**	**04 09 32.5**	**-0.8**
SIT				IAML		04 09 34.3	
	comp=E,61nm,0.8s						
SIT				IAML		04 09 37.8	
	comp=N,61nm,1.4s						
WHY	**Whitehorse**	**1.89**	**354**	Pn	**Pb**	**04 09 11.8**	**-0.2**
WHY				Sn	**Sb**	**04 09 36.4**	**+0.4**
WHY	**Whitehorse**	**1.89**	**354**	Pn	**Pb**	**04 09 11.8**	**-0.2**
WHY				Sn	**Sb**	**04 09 36.4**	**+0.4**
WHY	**Whitehorse**	**1.89**	**354**	IAML		04 09 41.3	
	comp=N,41nm,0.3s						
WHY				IAML		04 09 41.4	
	comp=E,71nm,0.5s						
DLBC	**Dease Lake**	**2.35**	**97**	Pn	**Pn**	**04 09 17.2**	**+0.8**
DLBC				Sg	**Sg**	**04 09 51.6**	**-0.7**
DLBC	**Dease Lake**	**2.35**	**97**	Pn	**Pn**	**04 09 17.2**	**+0.8**
DLBC				Sg	**Sg**	**04 09 51.6**	**-0.7**
DLBC	**Dease Lake**	**2.35**	**97**	IAML		04 09 55.6	
	comp=E,34nm,0.3s						
DLBC				IAML		04 09 56.3	
	comp=N,49nm,0.4s						
HYT	**Haines Junctio**	**2.55**	**324**	Pn	**Pb**	**04 09 22.4**	**-1.0**
HYT				Sg	**Sg**	**04 09 59.1**	**+0.2**
HYT	**Haines Junctio**	**2.55**	**324**	Pn	**Pb**	**04 09 22.4**	**-1.0**
HYT				Sg	**Sg**	**04 09 59.1**	**+0.2**
YUK7	**Dusty Glacier**	**2.55**	**315**	Pg	**Pg**	**04 09 25.2**	**-0.5**
YUK7	**Dusty Glacier**	**2.55**	**315**	Pg	**Pg**	**04 09 25.2**	**-0.5**
WRAK	**Wrangell Islan**	**2.64**	**153**		**Pn**	**04 09 20.5**	**+0.3**
PNL	**Peninsula**	**2.68**	**291**	Pn	**Pb**	**04 09 24.1**	**-1.4**
PNL	**Peninsula**	**2.68**	**291**	Pn	**Pb**	**04 09 24.1**	**-1.4**
YUK5	**Granite Creek**	**2.90**	**325**	Pn	**Pb**	**04 09 28.7**	**-0.7**
YUK5				Pg	**Pg**	**04 09 30.8**	**-1.7**
YUK5				Sg	**Sg**	**04 10 09.8**	**-0.3**
YUK5	**Granite Creek**	**2.90**	**325**	Pn	**Pb**	**04 09 28.7**	**-0.7**
YUK5				Pg	**Pg**	**04 09 30.8**	**-1.7**
YUK5				Sg	**Sg**	**04 10 09.8**	**-0.3**
YUK6	**Outpost Mounta**	**2.92**	**319**	Pg	**Pb**	**04 09 31.6**	**+1.9**
YUK6	**Outpost Mounta**	**2.92**	**319**	Pg	**Pb**	**04 09 31.6**	**+1.9**
YUK4	**Talbot Arm**	**3.31**	**323**	Pg	**Pb**	**04 09 38.5**	**+2.2**
YUK4	**Talbot Arm**	**3.31**	**323**	Pg	**Pb**	**04 09 38.5**	**+2.2**

MEX 16 04:12:37.1±0.5, 15°.04N×93°.85W, h123km±36km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.89**	**43**	*i* P	Pn	04 12 57.2	-1.2
CMIG	**Matias Romero**	**2.27**	**334**	*eP*	Pn	04 13 12.8	-1.3

IDC 16 04:16:59.0±27.0, 19°28.2S×172°51.9W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.7/24, mbtmp4.1/4, Error ellipse: s-maj=511.0km s-min=168.3km az=75.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**38.31**	**262**	P	P	04 24 22.4	+0.7
	2.3nm,0.6s,baz=97,slow=14,SNR=3.7						
STKA	**Stephens Creek**	**42.38**	**244**	P	P	04 24 53.9	-1.4
	0.9nm,0.4s,baz=72,slow=6.4,SNR=3.4						
ASAR	**Alice Springs**	**49.32**	**255**	P	P	04 25 50.4	+0.1
	2.6nm,0.8s,baz=92,slow=8.0,SNR=24						
WRA	**Warramunga Arr**	**49.43**	**260**	P	P	04 25 51.1	0.0
	1.1nm,0.8s,baz=93,slow=8.2,SNR=18						

KRNET 16 04:21:13.2±0.1, 40°84N×69°84E, h10km, mb2.6, 13C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAS	**Tashkent**	**0.63**	**320**	⇑*i* P	Pg	04 21 25.1	-0.4
	baz=20						
TAS				⇑*i* S	Sg	04 21 34.2	+0.3
	baz=20						
BTK	**Batken**	**1.08**	**136**	⇑*i* P	Pg	04 21 33.6	-0.5
	baz=36						
BTK				⇑*i* S	Sg	04 21 48.2	+0.1
	baz=36						
TRKS	**Terek-Say**	**1.20**	**55**	⇑*i* P	Pb	04 21 35.8	-0.3
	baz=58						
TRKS				⇑*i* S	Sg	04 21 52.1	+0.2
	baz=58						
GAR	**Garm**	**1.88**	**169**	⇑*e* P	Pg	04 21 48.5	-0.7
	baz=69						
GAR				⇑*i* S	Sg	04 22 13.5	-0.1
	baz=69						
CHGR	**Chuyangaron**	**2.25**	**194**	⇑*i* P	Pb	04 21 53.5	-0.5
	baz=94						
CHGR				⇑*i* S	Sb	04 22 22.2	+0.4
	baz=94						
OHH	**Osh**	**2.26**	**97**	⇑*i* P	Pb	04 21 53.8	-0.4
	baz=97						
OHH				⇑*i* S	Sb	04 22 22.7	+0.4
	baz=97						
KK31	**Karatay Array**	**2.31**	**12**	⇑Pg	Sb	04 22 23.9	+0.2
	0.2nm,0.3s,baz=156,slow=14,SNR=4.0						
KK31				Lg	Lg	04 23 08.3	
	1.5nm,0.6s,baz=158,slow=27,SNR=4.9						

*IDC **16** 04:22:48.2±14.0, 13°91N×90°51W, h0km, mb4.0/2, mb1 1.4/0/3, mb1mx3.6/22, mbtmp3.7/3, ML3.9/1, Error ellipse: s-maj=285.6km s-min=56.8km az=180.0*
*SNET **16** 04:23:01.3±1.2, 13°90N×91°21W, h1km±15km, ML3.5*
ISC 16 04:22:57.1±2.9, 14°2N±0°6×91°5W±0°3, h10km, n10, σ0s86/15, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEVE	**Cerro Verde**	**1.83**	**100**	*e* P	**Pb**	**04 23 30.5**	**-0.5**
CEVE				*e* S	**Sn**	**04 23 52.5**	**+0.1**
CEVE				IAML		04 23 58.1	
	comp=Z,2μm,0.3s						
JAYA	**Jayaque - finc**	**2.04**	**104**	*e* P	**Pn**	**04 23 32.2**	**+0.5**
JAYA				*e* S	**Sn**	**04 23 55.9**	**-1.4**
JAYA				IAML		04 23 56.8	
	comp=Z,1μm,0.2s						
CEDA	**San Andres**	**2.06**	**100**	*e* P	**Pn**	**04 23 32.1**	**+0.3**
CEDA				*e* S	**Sn**	**04 23 57.5**	**-0.1**
CEDA				IAML		04 24 09.2	
	comp=Z,347nm,0.4s						
COEG	**Centro de Oper**	**2.58**	**102**	*e* P	**Pn**	**04 23 40.5**	**+1.3**
COEG				*e* S	**Sn**	**04 24 11.6**	**+0.9**
COEG				IAML		04 24 21.5	
	comp=Z,279nm,0.4s						
COEB	**Comit de Eme**	**2.94**	**103**	*e* P	**Pn**	**04 23 44.9**	**+0.8**
COEB				*e* S	**Sn**	**04 24 18.7**	**-0.9**
COEB				IAML		04 24 33.2	
	comp=Z,144nm,0.4s						
JUCU	**Jucuarįn**	**3.27**	**106**	*e* P	**Pn**	**04 23 49.3**	**+0.7**
JUCU				*e* S	**Sn**	**04 24 27.0**	**-0.6**
JUCU				IAML		04 24 43.6	
	comp=Z,135nm,0.4s						
LCND	**La Caada**	**3.59**	**103**	*e* P	**Pn**	**04 23 53.9**	**+1.0**
LCND				IAML		04 24 43.0	
	comp=Z,126nm,0.3s						
TXAR	**Lajitas Array**	**18.84**	**325**	P	**Pn**	**04 27 18.4**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=138,slow=11,SNR=6.8						
NVAR	**Mina Array Bea**	**33.86**	**321**	P	**P**	**04 29 39.7**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=130,slow=8.4,SNR=5.0						
SCHQ	**Schefferville**	**44.90**	**20**	P	P	04 31 03.8	-8.1
	comp=Z,6.0nm,0.9s,baz=234,slow=9.0,SNR=4.0						

*GRAL **16** 04:26:36.5±0.3, 34°13N×35°15E, h13km±1km, MD2.7*
*GII **16** 04:26:36.0±0.0, 34°02N×35°12E, h11km, MD1.3/1, Mm1.8/2*
ISC 16 04:26:34.1±3.0, 34°10N±0°09×35°0E±0°1, h9km±17km, n14, σ0s59/20, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BEYL	**Beirut**	**0.45**	**121**	*e* P	**Pg**	**04 26 43.6**	**+0.8**
BHL	**Bhannes**	**0.56**	**111**	*e* P	**Pg**	**04 26 45.3**	**+0.4**
BHL				*e* S	**Sg**	**04 26 51.9**	**-0.3**
DQRL	**Deir Qamar**	**0.60**	**131**	*e* P	**Pg**	**04 26 46.5**	**+0.8**
DQRL				*e* S	**Sg**	**04 26 54.0**	**+0.4**
QRWL	**Qaraoun**	**0.78**	**135**	*e* P	**Pg**	**04 26 49.5**	**+0.5**
HWQ	**Hawqa**	**0.78**	**77**	*e* P	**Pg**	**04 26 48.6**	**-0.5**
RCY	**Rachaya**	**0.90**	**132**	*e* P	**Pg**	**04 26 51.4**	**0.0**
RCY				*e* S	**Sg**	**04 27 02.4**	**-0.8**
HNTI	**Hanita**	**1.02**	**173**	Pg	**Pg**	**04 26 53.6**	**-0.1**
NATI	**Neve Ativ**	**1.02**	**145**	Pg	**Pg**	**04 26 53.4**	**-0.4**
NATI				Sg	**Sg**	**04 27 05.9**	**-1.2**
GEM	**Giv'at Ha'Em**	**1.03**	**149**	Pg	**Pg**	**04 26 53.8**	**-0.1**
GEM				Sg	**Sg**	**04 27 07.0**	**-0.4**
MMC7	**Mount Meron ar**	**1.12**	**164**	Pg	**Pb**	**04 26 55.6**	**0.0**
OFRI	**`Ofer**	**1.48**	**181**	Pn	**Pn**	**04 27 01.2**	**+0.3**
OFRI				Sn	**Sn**	**04 27 20.0**	**-0.3**
MMLI	**Mount Malkishu**	**1.69**	**169**	Pn	**Pn**	**04 27 03.9**	**+0.1**
SLTI	**Sal'it**	**1.86**	**180**	Pn	**Pn**	**04 27 06.9**	**+0.9**
HMDT	**Nahal Hemdat**	**1.89**	**167**	Pn	**Pn**	**04 27 06.8**	**+0.3**

*TUL **16** 04:40:43.3±0.8, 36°01N±0°01×96°81W±0°02, h0km±7km, ML2.7, mb_Lg2.4/19(NEIC), Error ellipse: s-maj=2.9km s-min=1.5km az=99.0*
NEIC 16 04:40:45.1±0.9, 36°000N±0°009×96°80W±0°03, h3km±4km, Error ellipse: s-maj=3.4km s-min=0.7km az=110.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK031	**S. Brethren Rd**	**0.06**	**213**	Pg	Pg	04 40 46.1	-0.2
OK031				Sg	Sg	04 40 47.2	+0.1
QUOK	**Quay**	**0.19**	**24**	Pg	Pg	04 40 48.8	+0.1
QUOK				Sg	Sg	04 40 51.8	+0.5
OK029	**Liberty Lake**	**0.57**	**249**	Pg	Pg	04 40 55.8	-0.2
OK029				IAmb_Lg		04 41 01.9	
	comp=Z,36nm,0.9s						
OK029				Sg	Sg	04 41 03.7	+0.4
OK025	**Westminster Rd**	**0.60**	**226**	Pg	Pg	04 40 56.2	-0.5
OK025				Sg	Sg	04 41 04.8	+0.3
OKCFA	**Oklahoma City**	**0.79**	**222**	Pg	Pg	04 40 59.6	-0.6
OKCFA				Sg	Sg	04 41 10.5	+0.1
BLOK	**Blackwell**	**0.83**	**336**	Pg	Pg	04 41 00.6	-0.4
BLOK				Sg	Sg	04 41 11.8	0.0
FNO	**Franklin**	**0.89**	**214**		Pg	04 40 60.0	-2.1
FNO				IAmb_Lg		04 41 12.9	
	comp=Z,24nm,1.0s						
FNO				Sg	Sg	04 41 13.6	-0.1
T35A	**Sooner Cattle**	**0.94**	**14**	Pg	Pg	04 41 02.7	-0.6
T35A				Sg	Sg	04 41 15.5	0.0
CROK	**Carrier**	**1.08**	**298**		Pg	04 41 05.2	-0.6
GC02	**Grant County #**	**1.20**	**315**	Pg	Pg	04 41 07.4	-0.8
KAN09	**Caldwell North**	**1.31**	**330**	Pn	Pg	04 41 10.1	-0.2
KAN05	**Bluff City Nor**	**1.40**	**322**	Pn	Pb	04 41 11.8	-0.1
KS21	**Milan North St**	**1.46**	**332**	IAmb_Lg		04 41 32.5	
	comp=Z,31nm,0.8s						
KAN16	**Harper SW Stat**	**1.59**	**321**	Pn	Pn	04 41 14.6	+0.3
X34A	**Smith Ranch, M**	**1.63**	**211**	Pn	Pn	04 41 14.6	-0.1
U32A	**Winter Ranch,**	**1.82**	**283**	Pn	Pn	04 41 17.5	+0.1
X37A	**Clayton**	**1.83**	**140**		Pn	04 41 17.7	+0.2
LOOK	**Love County**	**2.03**	**189**	Pn	Pn	04 41 20.2	+0.1
LOOK				IAmb_Lg		04 41 52.8	
	comp=Z,17nm,0.8s						
WMOK	**Wichita Mounta**	**2.05**	**233**		Pn	04 41 21.0	+0.5
W39A	**Magazine**	**2.59**	**107**	Pn	Pn	04 41 28.2	+0.3
KSU1	**Kansas State U**	**3.10**	**3**	Pn	Pn	04 41 35.2	+0.3
U40A	**Yellville**	**3.21**	**82**	Pn	Pn	04 41 37.2	+0.7
WHAR	**Wooly Hollow**	**3.74**	**100**	Pn	Pn	04 41 43.8	0.0
FCAR	**Ozark Folk Cen**	**3.80**	**90**	IAmb_Lg		04 42 47.2	
	comp=Z,12nm,0.8s						
AMTX	**Amarillo**	**4.14**	**256**	IAmb_Lg		04 43 02.0	
	comp=Z,7.4nm,0.8s						
P38A	**Dawn**	**4.45**	**35**	IAmb_Lg		04 43 03.5	
	comp=Z,5.1nm,0.8s						
T42A	**Van Buren**	**4.71**	**76**	IAmb_Lg		04 43 10.5	
	comp=Z,8.3nm,0.7s						
N35A	**Tabor**	**4.94**	**10**	IAmb_Lg		04 43 28.4	
	comp=Z,9.3nm,0.7s						
PBMO	**Poplar Bluff**	**5.20**	**80**	IAmb_Lg		04 43 38.5	
	comp=Z,5.1nm,0.8s						
P43A	**Skaggs, Pawnee**	**6.81**	**56**	IAmb_Lg		04 44 28.1	
	comp=Z,7.1nm,0.7s						

MEX 16 04:45:43.3±0.7, 16°28N×98°14W, h12km±2km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.11**	**8**	*i* P	Pg	04 45 45.4	-0.9
PNIG				*i* S	Sg	04 45 47.9	-0.6
PEIG	**Puerto Escondi**	**1.00**	**106**	*i* P	Pg	04 45 59.5	-3.1
PEIG				*i* S	Sg	04 46 11.8	-3.8
TXIG	**Tlaxiaco**	**1.03**	**20**	*i* P	Pg	04 45 59.7	-3.5
TXIG				*i* S	Sg	04 46 12.8	-3.9
MGIG	**Malinaltepec**	**1.06**	**334**	*i* P	Pb	04 46 00.1	-3.6
MGIG				*i* S	Sg	04 46 13.6	-3.9
TLIG	**Tlapa**	**1.34**	**342**	*e* P	Pn	04 46 05.4	-2.6
TLIG				*e* S	Sb	04 46 22.2	-3.4
VHO	**Vista Hermosa**	**1.56**	**60**	*e* P	Pn	04 46 08.8	-2.4
HLIG	**Huajuapan de L**	**1.57**	**12**	*e* P	Pn	04 46 09.3	-2.0
HLIG				*e* S	Sn	04 46 29.2	-2.6
FTIG	**Fresnillo de T**	**1.62**	**0**	*e* P	Pn	04 46 09.4	-2.5
FTIG				*e* S	Sn	04 46 30.0	-2.7

*DJA **16** 04:46:25.6±0.6, 8°S×5°×12°3E±°, h227km±6km, M3.7/6, mb4.0/2, mB4.4/1, MLv3.6/6, Mw(mB)3.6/1*
*IDC **16** 04:46:28.7±1.4, 8°31S×122°53E, h226km±12km, mb3.5/2, mb1 3.6/6, mb1mx3.2/34, mbtmp4.1/6, Error ellipse: s-maj=88.6km s-min=18.1km az=60.0*
ISC 16 04:46:27.1±1.0, 8°03S±0°09×122°81E±0°08, h221km, n13, σ1s72/19, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**0.82**	**223**	P	**Pn**	**04 46 58.2**	**+0.1**
EDFI	**Ende, Flores**	**1.31**	**237**	P	**Pn**	**04 47 01.4**	**0.0**
EDFI				S	**S**	**04 47 30.6**	**+2.6**
SOEI	**Soe**	**2.24**	**140**	P	**Pn**	**04 47 09.5**	**-0.3**
SOEI				S	**S**	**04 47 42.0**	**-0.9**
BATI	**Baumata**	**2.32**	**159**	P	**Pn**	**04 47 11.1**	**+0.6**
	57nm,0.3s,baz=42,slow=1.8,SNR=22						
BATI				S	**S**	**04 47 45.0**	**+0.7**
	46nm,0.3s,baz=262,slow=23,SNR=9.4						
BSSI	**Bau Bau, Buton**	**2.97**	**309**	P	**Pn**	**04 47 16.4**	**-1.2**
WBSI	**Waikabubak, Su**	**3.73**	**244**	P	**Pn**	**04 47 27.6**	**+1.1**
BKSI	**Bulukumba**	**3.79**	**315**	P	**Pn**	**04 47 25.9**	**-1.3**
PLAI	**Plampang**	**5.04**	**261**	P	**Pn**	**04 47 42.6**	**0.0**
	0.2nm755nm28nm,1.1s						
PLAI				S	**S**	**04 48 39.6**	**-2.5**
	0.2nm755nm28nm,1.1s						
FITZ	**Fitzroy Crossi**	**10.38**	**165**	P	**Pn**	**04 48 49.6**	**-1.3**
	0.6nm,0.3s,baz=359,slow=12,SNR=37						
FITZ				S	**S**	**04 50 43.3**	**-4.0**
	2.0nm,0.3s,baz=146,slow=7.3,SNR=23						
WRA	**Warramunga Arr**	**16.28**	**138**	P	**P**	**04 50 02.8**	**-0.1**
	0.7nm,0.3s,baz=311,slow=12,SNR=35						
WRA				S	**S**	**04 52 59.9**	**-2.4**
	0.4nm,0.3s,baz=308,slow=24,SNR=5.8						
ASAR	**Alice Springs**	**18.84**	**147**	P	**P**	**04 50 31.6**	**+0.8**
	1.1nm,0.3s,baz=319,slow=11,SNR=5.4						
STKA	**Stephens Creek**	**29.47**	**146**	P	**P**	**04 52 11.6**	**+1.0**
	1.5nm,0.4s,baz=319,slow=11,SNR=5.4						
MKAR	**Makanchi Array**	**65.39**	**331**	P	**P**	**04 56 47.7**	**+1.6**
	0.9nm,0.5s,baz=131,slow=7.1,SNR=11						

*ANF **16** 04:48:01.5±0.5, 36°48N×98°89W, h6km±3km, ML4.8/20, Error ellipse: s-maj=3.0km s-min=2.4km az=109.0*
*NEIC **16** 04:48:01.1, 36°50N×98°93W, h3km, Moment Tensor Solution. Moment tensor: Scale 10^14 Nm; Mrr=4.52; Mθθ=4.24; Mφφ=0.28; Mrθ=-0.81; Mφr=0.65; Mφr=1.72; Fault plane solution: Mo=4.83000×10^14 NP1:ϕs=243.60000°, δ=44.43000°, λ=-117.20000°. NP2:ϕs=99.35000°, δ=51.49000°, λ=-65.86000°. Principal axes: T 4.3820, Plg4.0000°, Azm173.0000°; N 0.7939, Plg19.0000°, Azm264.0000°; P -5.1759, Plg71.0000°, Azm72.0000°;*
*TUL **16** 04:48:01.2, 36°48N±0°04×98°94W±0°05, h11km±5km, ML3.8, mb_Lg4.0/146(NEIC), Mwr3.7/27(NEIC) Error ellipse: s-maj=6.2km s-min=4.8km az=149.0*
*NEIC **16** 04:48:01.0±1.1, 36°50N±0°02×98°93W±0°04, h12km±5km, Error ellipse: s-maj=5.1km s-min=2.1km az=85.0*
*IDC **16** 04:48:01.1±0.7, 36°53N×98°91W, h0km, mb4.1/4, mb1 4.2/12, mb1mx3.9/49, mbtmp4.1/12, ML3.4/6, MS3.1/11, Ms1 3.1/11, ms1mx2.9/46, Error ellipse: s-maj=11.3km s-min=9.5km az=147.0*
ISC 16 04:48:00.8±0.9, 36°50N±0°02×98°88W±0°02, h8km±6km, n280, σ1s19/280, mb4.1/4, MS3.2/7, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.15**	**221**		**Pg**	**04 48 04.1**	**0.0**
U32A					**Sg**	**04 48 06.4**	**+0.1**
U32A	**Winter Ranch,**	**0.15**	**221**	P	**Pg**	**04 48 03.9**	**-0.1**
	baz=26,SNR=1000						
U32A				S	**Sg**	**04 48 06.2**	**-0.1**
	baz=26						
OK032	**Salt Plains WL**	**0.62**	**60**		**Pg**	**04 48 13.7**	**+0.9**
OK032				Sg	**Sb**	**04 48 22.8**	**+0.1**
CROK	**Carrier**	**0.72**	**89**		**Pb**	**04 48 15.7**	**+0.1**
CROK				Sg	**Sb**	**04 48 25.9**	**+0.3**
KAN10	**Anthony SW Sta**	**0.89**	**45**	Pg	**Pn**	**04 48 22.9**	**+3.3**
KAN10				IAmb_Lg		04 48 30.9	
	comp=Z,1μm,0.8s						
GC02	**Grant County #**	**0.89**	**66**		**Pb**	**04 48 18.7**	**+0.2**
KAN16	**Harper SW Stat**	**0.98**	**42**		**Pb**	**04 48 20.3**	**+0.3**
KAN16				Sg	**Sb**	**04 48 34.2**	**+1.1**
KAN05	**Bluff City Nor**	**1.01**	**53**		**Pb**	**04 48 21.0**	**+0.4**
KAN08	**Anthony NE Sta**	**1.03**	**45**		**Pg**	**04 48 20.9**	**+0.3**
KAN17	**Caldwell West**	**1.05**	**58**		**Pb**	**04 48 21.6**	**+0.4**
KAN12	**Harper NE Stat**	**1.07**	**41**		**Pb**	**04 48 21.9**	**+0.4**
KAN09	**Caldwell North**	**1.20**	**57**		**Pg**	**04 48 24.2**	**+0.5**
KAN13	**South Haven SW**	**1.24**	**65**		**Pg**	**04 48 24.9**	**+0.4**
KS20	**Mayfield South**	**1.29**	**55**		**Pg**	**04 48 25.8**	**+0.3**
KS20				IAmb_Lg		04 48 44.7	
	comp=Z,796nm,0.8s						
OK029	**Liberty Lake**	**1.35**	**121**		**Pb**	**04 48 26.4**	**+0.1**
BLOK	**Blackwell**	**1.36**	**78**		**Pb**	**04 48 26.9**	**+0.4**
OK025	**Westminster Rd**	**1.55**	**126**		**Pb**	**04 48 29.7**	**+0.1**
OKCFA	**Oklahoma City**	**1.58**	**133**		**Pb**	**04 48 30.1**	**-0.1**
OKCFA	**Oklahoma City**	**1.58**	**133**	P	**Pb**	**04 48 30.3**	**0.0**
	baz=313,SNR=96						
OKCFA				S	**Sg**	**04 48 51.8**	**+0.2**
	baz=313						
OKCSW	**OKLAHOMA CITY**	**1.60**	**133**		**Pn**	**04 48 30.1**	**+0.8**
FNO	**Franklin**	**1.72**	**135**	Pn	**Pn**	**04 48 31.4**	**+0.4**
FNO				IAmb_Lg		04 48 59.7	
	comp=Z,1μm,0.7s						
OK031	**S. Brethren Rd**	**1.73**	**108**		**Pn**	**04 48 31.7**	**+0.5**
WMOK	**Wichita Mounta**	**1.75**	**177**		**Pn**	**04 48 31.8**	**+0.3**
WMOK				IAmb_Lg		04 48 59.2	
	comp=Z,790nm,0.8s						
WMOK	**Wichita Mounta**	**1.75**	**177**	P	**Pn**	**04 48 31.8**	**+0.3**
	baz=356,SNR=1000						
WMOK				S	**Sb**	**04 48 55.5**	**+0.2**
	baz=356						
WMOK	**Wichita Mounta**	**1.75**	**177**	P	**Pn**	**04 48 31.7**	**+0.2**
	baz=356,SNR=808						
WMOK				S	**Sb**	**04 48 55.2**	**-0.2**
	baz=356						
QUOK	**Quay**	**1.78**	**100**	Pn	**Pn**	**04 48 32.1**	**+0.3**
QUOK				IAmb_Lg		04 48 59.5	
	comp=Z,667nm,0.9s						
R32A	**Long Quarter,**	**1.93**	**4**		**Pb**	**04 48 35.2**	**-1.0**
R32A	**Long Quarter,**	**1.93**	**4**	P	**Pb**	**04 48 35.7**	**-0.5**
	baz=185,SNR=118						
R32A				S	**Sb**	**04 49 01.3**	**+0.9**
	baz=185						
T35A	**Sooner Cattle**	**1.95**	**77**		**Pn**	**04 48 35.1**	**+1.0**
T35B	**Sooner Cattle**	**1.95**	**77**	P	**Pb**	**04 48 35.7**	**-0.8**
	baz=258,SNR=131						
T35B				S	**Sg**	**04 49 03.1**	**-0.3**
	baz=258						
X34A	**Smith Ranch, M**	**2.07**	**155**	Pn	**Pn**	**04 48 35.9**	**0.0**
X34A				IAmb_Lg		04 49 09.6	
	comp=Z,867nm,0.8s						
CBKS	**Cedar Bluff**	**2.41**	**344**	Pn	**Pn**	**04 48 40.5**	**0.0**
CBKS	**Cedar Bluff**	**2.41**	**344**	P	**Pn**	**04 48 42.2**	**+1.6**
	baz=164,SNR=58						
CBKS				S	**Sb**	**04 49 15.5**	**+1.2**
	baz=164						
CBKS	**Cedar Bluff**	**2.41**	**344**	P	**Pn**	**04 48 42.0**	**+1.4**
	baz=164,SNR=111						
CBKS				Sb	**Sb**	**04 49 15.9**	**+1.5**
	baz=164						
TUL1	**Leonard**	**2.56**	**102**	P	**Pn**	**04 48 44.0**	**+1.5**
	baz=284,SNR=36						
TUL1				S	**Sn**	**04 49 16.1**	**+2.1**
	baz=284						
TUL1	**Leonard**	**2.56**	**102**	P	**Pn**	**04 48 43.8**	**+1.2**
	baz=284,SNR=76						
TUL1				S	**Sn**	**04 49 16.4**	**+2.4**
	baz=284						
AMTX	**Amarillo**	**2.79**	**236**	Pn	**Pn**	**04 48 44.9**	**-0.9**
AMTX	**Amarillo**	**2.79**	**236**	P	**Pn**	**04 48 47.5**	**+1.8**
	baz=53,SNR=22						
AMTX				S	**Sn**	**04 49 19.9**	**+0.2**
	baz=53						
AMTX	**Amarillo**	**2.79**	**236**	P	**Pn**	**04 48 47.6**	**+1.8**
	baz=53						
AMTX				Sb	**Sb**	**04 49 26.7**	**+1.5**
	baz=53						
LOOK	**Love County**	**2.86**	**150**	Pn	**Pn**	**04 48 46.6**	**0.0**
LOOK				IAmb_Lg		04 49 33.9	
	comp=Z,331nm,0.9s						
KSU1	**Kansas State U**	**3.16**	**34**		**Pn**	**04 48 52.2**	**+1.4**
KSU1				IAmb_Lg		04 49 42.9	
	comp=Z,334nm,0.7s						
KSU1	**Kansas State U**	**3.16**	**34**	P	**Pn**	**04 48 53.1**	**+2.3**
	baz=216,SNR=48						
KSU1				S	**Sn**	**04 49 31.9**	**+3.2**
	baz=216						
KSU1	**Kansas State U**	**3.16**	**34**	P	**Pn**	**04 48 52.9**	**+2.1**
	baz=216,SNR=74						
KSU1				S	**Sn**	**04 49 30.7**	**+2.0**
	baz=216						
Z35A	**Perchaven, San**	**3.43**	**157**		**Pn**	**04 48 54.8**	**+0.4**
Z35A	**Perchaven, San**	**3.43**	**157**	P	**Pn**	**04 48 56.2**	**+1.7**
	baz=337,SNR=85						
Z35A				S	**Sn**	**04 49 37.6**	**+2.4**
	baz=337						
X37A	**Clayton**	**3.43**	**123**		**Pn**	**04 48 55.2**	**+0.7**
X37A	**Clayton**	**3.43**	**123**	P	**Pn**	**04 48 56.0**	**+1.4**
	baz=304,SNR=133						
U38A	**Gravette**	**3.62**	**90**		**Pn**	**04 48 57.8**	**+0.7**
U38A				IAmb_Lg		04 50 01.1	
	comp=Z,269nm,0.7s						
KSCO	**Kaye Shedlock'**	**3.89**	**311**		**Pn**	**04 49 01.3**	**+0.3**
KSCO				IAmb_Lg		04 50 13.0	
	comp=Z,609nm,0.7s						
KSCO	**Kaye Shedlock'**	**3.89**	**311**	P	**Pn**	**04 49 01.5**	**+0.6**
	baz=130,SNR=9.5						
KSCO				S	**Sn**	**04 49 47.0**	**+0.1**
	baz=130						
ABTX	**Abilene, Hawle**	**3.91**	**189**	Pn	**Pn**	**04 49 01.3**	**+0.1**
ABTX				IAmb_Lg		04 50 12.5	
	comp=Z,313nm,0.7s						
ABTX	**Abilene, Hawle**	**3.91**	**189**	P	**Pn**	**04 49 02.1**	**+1.0**
	baz=8.4,SNR=28						
ABTX	**Abilene, Hawle**	**3.91**	**189**	P	**Pn**	**04 49 02.0**	**+0.9**
	baz=8.4,SNR=39						
HHAR	**Hobbs**	**3.99**	**92**		**Pn**	**04 49 02.8**	**+0.5**
HHAR				IAmb_Lg		04 50 09.2	
	comp=Z,546nm,0.9s						
MSTX	**Muleshoe**	**4.06**	**233**	Pn	**Pn**	**04 49 02.5**	**-0.8**
MSTX				IAmb_Lg		04 50 13.8	
	comp=Z,382nm,0.8s						
MSTX	**Muleshoe**	**4.06**	**233**	P	**Pn**	**04 49 04.5**	**+1.2**
	baz=50,SNR=12						
MSTX	**Muleshoe**	**4.06**	**233**	P	**Pn**	**04 49 04.2**	**+0.9**
	baz=50,SNR=19						
MSTX				Sb	**Sb**	**04 50 05.4**	**+3.4**
	baz=50						
W39A	**Magazine**	**4.34**	**106**		**Pn**	**04 49 07.3**	**+0.4**
W39A	**Magazine**	**4.34**	**106**	P	**Pn**	**04 49 08.0**	**+1.0**
	baz=289,SNR=18						
W39A	**Magazine**	**4.34**	**106**	P	**Pn**	**04 49 07.9**	**+1.0**
	baz=289,SNR=21						
T25A	**Trinidad**	**4.49**	**280**		**Pn**	**04 49 08.2**	**-1.0**
T25A	**Trinidad**	**4.49**	**280**	P	**Pn**	**04 49 10.0**	**+0.8**
	baz=97,SNR=33						
T25A				S	**Sn**	**04 50 00.6**	**-1.0**
	baz=97						
Z38A	**Mt. Pleasant**	**4.54**	**134**	Pn	**Pn**	**04 49 10.0**	**+0.2**
Z38A	**Mt. Pleasant**	**4.54**	**134**	P	**Pn**	**04 49 10.9**	**+1.1**
	baz=316,SNR=16						
S39A	**Bolivar**	**4.60**	**73**	Pn	**Pn**	**04 49 11.2**	**+0.7**
S39A				IAmb_Lg		04 50 38.6	
	comp=Z,294nm,0.8s						
S39A	**Bolivar**	**4.60**	**73**	P	**Pn**	**04 49 11.7**	**+1.1**
	baz=257,SNR=52						
WHTX	**Lake Whitney,**	**4.64**	**165**	Pn	**Pn**	**04

baz=101,SNR=57
WHAR Wooly Hollow 5.48 101 Pn Pn 04 49 23.0 +0.3
WLAR White Oak Lake 5.50 119 Pn Pn 04 49 22.4 -0.5
WLAR IAmb_Lg 04 51 09.1
comp=Z,349nm,1.1s
FCAR Ozark Folk Cen 5.50 94 Pn Pn 04 49 22.5 -0.3
FCAR IAmb_Lg 04 51 00.3
comp=Z,412nm,0.7s
W41B Gary Mavity, V 5.55 102 P Pn 04 49 24.4 +0.8
baz=286
W41B Gary Mavity, V 5.55 102 P Pn 04 49 24.3 +0.8
baz=286,SNR=9.5
Q24A Divide 5.55 298 P Pn 04 49 23.3 -0.6
baz=115,SNR=7.5
R40A Maddies Statio 5.56 69 Pn 04 49 23.7 0.0
R40A IAmb_Lg 04 51 00.3
comp=Z,241nm,0.8s
R40A Maddies Statio 5.56 69 P Pn 04 49 24.8 +1.0
baz=253
435B Jarrell 5.80 169 Pn 04 49 25.7 -1.4
435B IAmb_Lg 04 51 08.1
comp=Z,372nm,0.7s
435B Jarrell 5.80 169 P Pn 04 49 27.7 +0.7
baz=349,SNR=13
435B Jarrell 5.80 169 P Pn 04 49 27.5 +0.4
baz=349
435B S Sn 04 50 34.2 +0.5
baz=349
L34A Svendsen Farm, 5.80 19 Pn 04 49 25.8 -1.3
NATX Nacogdoches 5.88 142 Pn Pn 04 49 27.6 -0.5
NATX IAmb_Lg 04 51 22.6
comp=Z,136nm,0.8s
NATX Nacogdoches 5.88 142 P Pn 04 49 28.0 -0.1
baz=324
Z41A Richland Creek 5.95 121 P Pn 04 49 29.8 +0.7
baz=304
JCT Junction City 6.05 188 Pn Pn 04 49 29.4 -1.1
JCT Junction City 6.05 188 P Pn 04 49 30.9 +0.3
baz=6.7,SNR=18
K31A O'Neill 6.12 1 04 49 32.1 +0.6
K31A O'Neill 6.12 1 S Sn 04 50 41.7 0.0
baz=181
N38A Joes South For 6.16 44 Pn 04 49 31.6 -0.4
N38A Joes South For 6.16 44 P Pn 04 49 32.9 +1.0
baz=228,SNR=15
N38A S Sn 04 50 41.8 -0.7
baz=228
P40A Paris 6.18 59 Pn 04 49 32.3 0.0
ISCO Idaho Springs 6.25 304 Pn Pn 04 49 32.5 -1.0
ISCO Idaho Springs 6.25 304 P Pn 04 49 34.7 +1.2
baz=120,SNR=17
ISCO Idaho Springs 6.25 304 P Pn 04 49 34.1 +0.6
baz=120,SNR=9.4
LCAR Lake Charles 6.25 92 Pn 04 49 32.7 -0.6
LCAR IAmb_Lg 04 51 20.4
comp=Z,151nm,0.8s
T42A Van Buren 6.27 83 Pn 04 49 33.7 +0.1
T42A IAmb_Lg 04 51 23.8
comp=Z,147nm,0.8s
CCM Cathedral Cave 6.28 73 Pn Pn 04 49 33.8 +0.1
CCM IAmb_Lg 04 51 19.1
comp=Z,206nm,0.7s
CCM Cathedral Cave 6.28 73 P Pn 04 49 34.3 +0.6
baz=258,SNR=8.1
CCM Cathedral Cave 6.28 73 P Pn 04 49 34.8 +1.1
baz=258
ANMO Albuquerque 6.36 258 Pn Pn 04 49 36.3 +1.4
comp=Z,0.9nm,0.3s,baz=82,slow=15,SNR=17
ANMO Lg Lg 04 51 18.2
comp=Z,10nm,0.3s,baz=338,slow=22,SNR=6.8
ANMO Albuquerque 6.36 258 Pn Pn 04 49 32.0 -2.9
ANMO Albuquerque 6.36 258 P Pn 04 49 35.7 +0.8
baz=74
CCAR Cane Creek 6.36 112 Pn 04 49 34.6 -0.2
CCAR IAmb_Lg 04 51 35.6
comp=Z,241nm,0.8s
BNM Barren Site 6.75 252 Pn Pn 04 49 39.5 -0.9
PBMO Poplar Bluff 6.80 85 Pn Pn 04 49 41.1 +0.4
PBMO IAmb_Lg 04 51 44.5
comp=Z,182nm,0.7s
SCIA State Center 6.97 37 Pn 04 49 43.2 +0.1
SCIA IAmb_Lg 04 51 53.9
comp=Z,295nm,0.8s
SCIA State Center 6.97 37 P Pn 04 49 44.4 +1.3
baz=221
Y22D IRIS PASSCAL I 7.01 252 Pn Pn 04 49 43.1 -0.7
LENM Lemitar 7.01 253 Pn 04 49 42.6 -1.3
PHWY Pilot Hill 7.02 315 Pn 04 49 44.1 0.0
PHWY IAmb_Lg 04 52 00.8
comp=Z,185nm,0.8s
N23A Red Feather La 7.06 311 P Pn 04 49 44.8 +0.2
baz=126,SNR=28
GNAR Gosnell 7.18 92 IAmb_Lg 04 52 07.0
comp=Z,298nm,0.8s
SLM Saint Louis 7.19 70 Pn 04 49 46.6 +0.4
SLM IAmb_Lg 04 51 48.8
comp=Z,194nm,0.8s
MNTX Cornudas Mount 7.21 230 Pn Pn 04 49 45.5 -0.9
MNTX IAmb_Lg 04 51 52.0
comp=Z,196nm,0.8s
MNTX Cornudas Mount 7.21 230 P Pn 04 49 46.7 +0.3
baz=46,SNR=20
MNTX Cornudas Mount 7.21 230 P Pn 04 49 46.6 +0.2
baz=46,SNR=24
143A Socs Landing, 7.23 119 Pn Pn 04 49 46.5 -0.2
143A IAmb_Lg 04 52 06.6
comp=Z,224nm,0.8s
MET Memphis--Engin 7.39 98 IAmb_Lg 04 52 02.0
comp=Z,186nm,0.8s
ECSD EROS Data Cent 7.43 13 Pn Pn 04 49 48.4 -1.1
ECSD IAmb_Lg 04 52 08.4
comp=Z,137nm,1.0s
ECSD EROS Data Cent 7.43 13 P Pn 04 49 49.2 -0.4
baz=194,SNR=7.9
441A DeRidder 7.44 139 IAmb_Lg 04 52 18.6
comp=Z,128nm,1.2s
N41A Harden Midland 7.56 54 Pn 04 49 51.3 +0.1
N41A IAmb_Lg 04 52 14.8
comp=Z,254nm,0.7s
HENM Henderson Moun 7.57 86 IAmb_Lg 04 52 10.3
comp=Z,264nm,0.8s
LNXT Lenox 7.59 90 IAmb_Lg 04 52 19.1
comp=Z,254nm,0.7s
735A Kenedy 7.67 173 IAmb_Lg 04 52 24.1
comp=Z,153nm,0.8s
HALT Halls 7.73 92 IAmb_Lg 04 52 26.2
comp=Z,176nm,0.9s
K38A Parkersburg 7.74 36 Pn 04 49 53.6 -0.2
HICK Hickman 7.77 87 Pn 04 49 54.7 +0.6
HICK LR 04 52 06.4
S44A Carbondale 7.78 78 Pn 04 49 54.7 +0.4
S44A IAmb_Lg 04 52 19.1
comp=Z,204nm,0.8s
S44A Carbondale 7.78 78 P Pn 04 49 55.1 +0.8
baz=264,SNR=8.0
SIUC Southern Illin 7.81 78 Pn 04 49 54.0 -0.7
SIUC IAmb_Lg 04 52 22.2
comp=Z,148nm,0.8s
PV15 Paradox Valley 7.86 286 Pn Pn 04 49 54.2 -1.4
SUSD Miller 7.94 360 IAmb_Lg 04 52 19.3
comp=Z,190nm,0.7s
OXF Oxford 7.97 102 IAmb_Lg 04 52 32.9
comp=Z,130nm,0.8s
OXF Oxford 7.97 102 P Pn 04 49 56.2 -0.6
baz=287,SNR=11
P43A Skaggs, Pawnee 8.02 64 Pn 04 49 57.5 0.0
P43A Skaggs, Pawnee 8.02 64 P Pn 04 49 58.0 +0.5
baz=250,SNR=15
PV02 Paradox Valley 8.04 285 IAmb_Lg 04 52 35.4
comp=Z,99nm,1.1s
Y45A Yeager Farm, C 8.08 106 Pn Pn 04 49 57.3 -1.1
Y45A IAmb_Lg 04 52 37.9
comp=Z,120nm,0.9s
PV12 Saucer Basin, 8.11 286 IAmb_Lg 04 52 30.4
comp=Z,101nm,1.0s
VBMS Vicksburg 8.12 119 IAmb_Lg 04 52 41.6
comp=Z,104nm,1.2s
L40A Anamosa 8.13 45 Pn 04 49 58.4 -0.7
PV11 David Mesa, Pa 8.16 286 IAmb_Lg 04 52 39.7
comp=Z,152nm,1.1s
833A Chaparral WMA, 8.16 183 P Pn 04 50 00.4 +1.0
baz=2.6
Q44A Meyer Farm, Va 8.18 70 Pn 04 49 59.1 -0.6
TX31 Lajitas Ar. Si 8.20 211 Pn Pn 04 49 59.1 -1.0
TX31 Lajitas Ar. Si 8.20 211 P Pn 04 50 00.2 +0.1
baz=28,SNR=76

TX32 Lajitas Array 8.20 211 Pn 04 49 58.6 -1.4
TXAR Lajitas Array 8.20 211 Pn Pn 04 50 00.1 +0.1
comp=Z,4.5nm,0.3s,baz=25,slow=10,SNR=232
TXAR Lg Lg 04 52 17.4
comp=Z,12nm,0.3s,baz=26,slow=27,SNR=7.7
TXAR LR LR 04 53 25.4
comp=Z,91nm,18.3s,baz=0.0,slow=40
TXAR Lajitas Array 8.20 211 Pn Pn 04 49 59.9 -0.2
PV04 Paradox Valley 8.20 286 IAmb_Lg 04 52 32.0
comp=Z,99nm,1.0s
PV23 Carpenter Ridg 8.29 287 IAmb_Lg 04 52 40.1
comp=Z,129nm,1.2s
RWWY Rawlins 8.30 311 IAmb_Lg 04 52 31.1
comp=Z,159nm,1.1s
PV10 Paradox Valley 8.30 286 IAmb_Lg 04 52 36.1
comp=Z,87nm,1.2s
121A Cookes Peak, D 8.35 244 P Pn 04 50 02.4 +0.2
baz=59
344A Westbrook Farm 8.43 124 IAmb_Lg 04 52 25.3
comp=Z,95nm,1.3s
K22A Casper 8.52 319 Pn 04 50 03.6 -1.0
K22A IAmb_Lg 04 52 46.2
comp=Z,175nm,0.9s
HDIL Hopedale 8.53 59 Pn Pn 04 50 04.1 -0.4
HDIL Hopedale 8.53 59 P Pn 04 50 05.2 +0.7
baz=245,SNR=12
HDIL Hopedale 8.53 59 P Pn 04 50 04.9 +0.3
baz=245,SNR=25
RSSD Black Hills 8.57 334 Pn Pn 04 50 04.2 -1.1
RSSD IAmb_Lg 04 52 43.6
comp=Z,128nm,0.9s
RSSD Black Hills 8.57 334 P Pn 04 50 06.0 +0.7
baz=151
I37A Lemond, Waseca 8.60 27 IAmb_Lg 04 52 43.1
comp=Z,173nm,0.9s
PLAL Pickwick Lake 8.91 97 Pn 04 50 09.1 -0.6
PLAL IAmb_Lg 04 52 54.8
comp=Z,78nm,0.9s
WVT Waverly 8.93 89 Pn Pn 04 50 09.2 -0.7
WVT Waverly 8.93 89 P Pn 04 50 09.9 -0.1
baz=276
O44A Mansfield 8.96 63 Pn 04 50 10.4 0.0
O44A IAmb_Lg 04 52 55.9
comp=Z,172nm,0.8s
O44A Mansfield 8.96 63 P Pn 04 50 10.9 +0.5
baz=249,SNR=7.0
146A Union 8.97 113 Pn 04 50 10.0 -0.5
146A IAmb_Lg 04 53 01.3
comp=Z,80nm,0.9s
L42A Oliver, Polo 9.02 50 Pn Pn 04 50 10.8 -0.4
JFWS Jewell Farm 9.23 43 Pn 04 50 14.3 +0.1
JFWS IAmb_Lg 04 53 09.7
comp=Z,186nm,0.7s
JFWS Jewell Farm 9.23 43 P Pn 04 50 15.2 +1.0
baz=229,SNR=15
JFWS Jewell Farm 9.23 43 P Pn 04 50 14.7 +0.5
baz=229,SNR=28
T47A Sharon Grove 9.46 84 Pn 04 50 17.3 -0.1
T47A IAmb_Lg 04 53 21.3
comp=Z,99nm,0.8s
Z47A Carrollton 9.47 107 Pn 04 50 17.8 +0.3
F33A 5 Mile Ranch, 9.54 11 Pn 04 50 17.4 -0.9
F33A IAmb_Lg 04 53 07.2
comp=Z,111nm,0.9s
SRU San Rafael Swe 9.58 289 IAmb_Lg 04 53 14.4
comp=Z,75nm,1.2s
I40A Norwalk 9.72 38 Pn 04 50 20.8 0.0
P46A Rosedale 9.72 68 Pn 04 50 20.7 -0.1
P46A IAmb_Lg 04 53 10.7
comp=Z,153nm,0.7s
M44A Midewin, Midew 9.75 57 Pn 04 50 21.5 +0.3
SPMN Marine on St. 9.86 26 Pn Pn 04 50 22.9 +0.2
SPMN IAmb_Lg 04 53 22.4
comp=Z,78nm,0.8s
SFIN Lafayette 10.02 64 Pn 04 50 25.2 +0.2
SFIN Lafayette 10.02 64 P Pn 04 50 25.3 +0.4
baz=251
BLO Bloomington 10.13 71 Pn 04 50 26.5 0.0
CLTN Cedars of Leba 10.14 89 Pn 04 50 26.7 +0.1
WCI Wyandotte Cave 10.17 76 Pn Pn 04 50 27.2 +0.2
WCI Wyandotte Cave 10.17 76 P Pn 04 50 27.3 +0.4
baz=264
F36A Milaca 10.19 22 Pn 04 50 27.2 0.0
L44A Lake County Fo 10.21 53 Pn 04 50 27.7 +0.1
L44A Lake County Fo 10.21 53 P Pn 04 50 27.8 +0.3
baz=240
PD31 Pinedale Array 10.34 311 Pn 04 50 28.3 -1.2
PDAR Pinedale Array 10.34 311 Pn Pn 04 50 30.3 +0.7
comp=Z,0.8nm,0.3s,baz=123,slow=15,SNR=25
PDAR Lg Lg 04 53 23.5
comp=Z,1.8nm,0.3s,baz=109,slow=35,SNR=5.8
PDAR Pinedale Array 10.34 311 Pn 04 50 28.9 -0.7
BW06 Boulder Array 10.34 311 Pn 04 50 28.8 -0.7
BW06 Boulder Array 10.34 311 P Pn 04 50 28.9 -0.7
baz=124,SNR=5.9
LRAL Lakeview Retre 10.36 106 Pn Pn 04 50 29.2 -0.4
LRAL Lakeview Retre 10.36 106 P Pn 04 50 30.0 +0.4
baz=293
U49A Red Boiling Sp 10.55 86 Pn Pn 04 50 32.4 +0.2
I42A Draeger Farm, 10.61 43 Pn 04 50 32.6 -0.4
I42A Draeger Farm, 10.61 43 P Pn 04 50 33.4 +0.4
baz=229,SNR=5.9
G40A Rib Lake 10.95 34 Pn Pn 04 50 36.8 -0.8
P48A Milroy 11.02 70 Pn Pn 04 50 37.6 -1.1
HPIG 11.14 213 Pn Pn 04 50 39.4 -1.1
N47A Urbana 11.19 63 Pn 04 50 40.2 -0.8
L46A Eue Claire 11.20 57 Pn 04 50 40.0 -1.1
T50A Nancy 11.28 83 Pn 04 50 42.0 -0.2
LOHW Long Hollow 11.45 312 Pn 04 50 44.3 -0.4
LAO LASA Array 11.57 334 Pn 04 50 44.5 -1.7
LAO LASA Array 11.57 334 P Pn 04 50 45.4 -0.7
baz=149,SNR=7.0
P49A Miami Univ. Ec 11.58 71 Pn 04 50 44.7 -1.5
P49A Miami Univ. Ec 11.58 71 P Pn 04 50 45.1 -1.1
baz=259
TPAW Teton Pass 11.59 311 Pn 04 50 45.6 -1.1
CPCT Cooper Cave 11.68 91 Pn 04 50 47.4 -0.3
R50A Paris 11.71 77 Pn 04 50 48.1 -0.1
FXWY Fox Creek 11.72 311 Pn Pn 04 50 47.3 -1.1
V51A Loudon 11.77 89 Pn 04 50 48.9 0.0
YNE Yellowstone No 11.97 319 Pn 04 50 50.7 -1.2
Q49A Covington 12.00 68 Pn 04 50 50.3 -1.7
COWI Conover 12.06 34 Pn 04 50 52.9 0.0
TKL Tuckaleechee C 12.25 89 Pn Pn 04 50 55.4 -0.2
comp=Z,0.7nm,0.3s,baz=237,slow=8.1,SNR=11
TKL Lg Lg 04 54 22.2
comp=Z,2.3nm,0.3s,baz=192,slow=24,SNR=7.3
TKL Tuckaleechee C 12.25 89 Pn 04 50 55.1 -0.4
N49A Columbus Grove 12.30 64 Pn Pn 04 50 54.6 -1.5
GCMT Greycliff 12.33 322 Pn Pn 04 50 56.4 -0.3
L48A N Adams 12.45 60 Pn 04 50 57.5 -0.7
DGMT Dagmar 12.59 344 Pn 04 50 59.2 -0.9
DGMT Dagmar 12.59 344 P Pn 04 50 59.4 -0.7
baz=160,SNR=6.8
J47A Sumner 12.72 54 Pn 04 51 01.8 -0.1
ACSO Alum Creek Sta 13.02 69 Pn 04 51 05.0 -1.0
ELK Elko 13.48 293 LR LR 04 56 51.9
comp=Z,37nm,21.0s,baz=72,slow=40
P52A Corning 13.56 72 Pn 04 51 12.0 -1.4
P52A Corning 13.56 72 P Pn 04 51 10.0 -3.4
baz=262
N51A Ashland 13.62 66 Pn 04 51 12.5 -1.7
GLMI Grayling 13.64 48 P Pn 04 51 11.2 -3.2
baz=237,SNR=7.0
ULM Lac du Bonnet 13.92 8 Pn Pn 04 51 15.4 -2.8
comp=Z,0.8nm,0.3s,baz=195,slow=12,SNR=4.0
ULM Sn Sn 04 53 40.9 -12
comp=Z,2.0nm,0.3s,baz=141,slow=22,SNR=4.7
ULM Lg Lg 04 55 14.7
comp=Z,1.4nm,0.3s,baz=266,slow=18,SNR=5.1
ULM LR LR 04 56 53.3
comp=Z,75nm,18.5s,baz=303,slow=38
K50A Casco 14.00 58 Pn 04 51 18.3 -1.0
E46A Sault Ste Mari 14.70 43 Pn Pn 04 51 25.9 -3.0
O54A Avella 14.98 70 P Pn 04 51 30.6 -2.1
M53A WI Miller and 14.99 65 Pn Pn 04 51 29.9 -3.0
R55A Marlinton 15.02 78 Pn Pn 04 51 31.4 -1.9
N54A Moraine State 15.40 67 Pn Pn 04 51 37.8 -0.5
NVAR Mina Array Bea 15.55 283 Pn P 04 51 44.3 -0.5
comp=Z,0.1nm,0.3s,baz=85,slow=11,SNR=5.7
T57A Hurt 15.74 82 P Pn 04 51 41.5 -1.2
LPIG La Paz 15.79 222 LR LR 04 58 08.6
comp=Z,51nm,21.0s,baz=24,slow=38
SADO Sadowa 17.08 55 Pn Pn 04 51 59.1 -0.7
comp=Z,0.6nm,0.3s,baz=249,slow=13,SNR=4.6
SADO Sn Sn 04 55 00.5 -9.3
comp=Z,0.6nm,0.3s,baz=347,slow=22,SNR=2.5
SADO Lg Lg 04 56 50.4
comp=Z,0.5nm,0.3s,baz=345,slow=22,SNR=2.4
SADO Sadowa 17.08 55 Pn Pn 04 51 56.8 -3.0
L56A Greenwood 17.42 65 Pn Pn 04 52 04.0 -0.1
YBH Yreka Blue Hor 19.19 293 Pn Pn 04 52 28.7 +2.8
comp=Z,0.2nm,0.3s,baz=83,slow=2.8,SNR=13
YBH Yreka Blue Hor 19.19 293 P P 04 52 24.3 -0.7
J58A Remsen 19.31 62 P P 04 52 26.2 0.0
FRNY Flat Rock 20.85 59 P P 04 52 43.4 +0.5
BBB Bella Bella 25.90 316 LR LR 05 03 21.9
comp=Z,32nm,20.1s,baz=101,slow=36
YKA Yellowknife Ar 27.80 344 LR LR 05 05 22.8
comp=Z,70nm,20.5s,baz=0.0,slow=38
ILAR Eielson Array 40.00 330 P 04 55 37.6 +2.1
comp=Z,1.9nm,0.7s,baz=112,slow=6.9,SNR=16
ILAR Eielson Array 40.00 330 P P 04 55 35.7 +0.1
JMIC Jan Mayen 56.10 23 LR LR 05 21 38.0
comp=Z,21nm,20.1s,baz=264,slow=36
ARCES ARCESS Array B 66.78 18 P P 04 58 53.5 +1.2
comp=Z,1.6nm,0.9s,baz=318,slow=6.6,SNR=5.1
ARCES LR LR 05 28 10.4
comp=Z,25nm,18.4s,baz=150,slow=36
ARCES ARCESS Array B 66.78 18 P P 04 58 52.0 -0.2
NOA NORSAR Array B 67.51 30 LR LR 05 27 50.9
comp=Z,15nm,18.2s,baz=295,slow=35
HFS Hagfors 69.03 30 LR LR 05 27 55.3
comp=Z,17nm,20.0s,baz=292,slow=35
FINES FINESS Array B 72.69 24 P P 04 59 30.6 +1.9
comp=Z,1.4nm,0.7s,baz=29,slow=4.4,SNR=3.7
AKASG Malin Array Be 81.91 30 LR LR 05 36 04.5
comp=Z,19nm,19.9s,baz=40,slow=35
TORD Torodi Ar. Bea 90.58 73 P P 05 01 04.8 +0.9
comp=Z,0.5nm,0.4s,baz=302,slow=9.6,SNR=6.3

IDC 16 04:48:27.1±28.0, 22°70S×173°40W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.7/40, mbtmp4.1/4, Error ellipse: s-maj=525.4km s-min=154.8km az=78.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.58**	**266**	P	P	04 55 44.4	+0.7
	3.0nm,0.3s,baz=91,slow=10,SNR=5.2						
STKA	**Stephens Creek**	**40.79**	**247**	P	P	04 56 09.7	-0.7
	0.9nm,0.4s,baz=97,slow=8.7,SNR=4.2						
ASAR	**Alice Springs**	**48.22**	**258**	P	P	04 57 09.7	-0.3
	0.6nm,0.5s,baz=92,slow=8.1,SNR=4.4						
WRA	**Warramunga Arr**	**48.56**	**263**	P	P	04 57 12.5	-0.1
	1.4nm,0.4s,baz=101,slow=8.3,SNR=15						

*FUNV **16** 04:54:08.2, 10°38N×62°07W, h2km, MW3.7*
*TRN **16** 04:54:10.1, 10°38N×62°00W, h11km, MD3.8*
ISC 16 04:54:07.2±1.3, 10°34N±0°03×62°12W±0°03, h6km±11km, n39,σ1°57/60, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPP	**Pointe-a-Pierr**	**0.66**	**92**	*eP*	**Pb**	**04 54 21.3**	**+0.3**
TPP				*eS*	**Sb**	**04 54 29.3**	**-1.1**
TRN	**Trinidad (W)**	**0.77**	**66**	*eP*	**Pg**	**04 54 21.8**	**-0.2**
TRN				*eS*	**Sg**	**04 54 31.7**	**-0.3**
TRN	**Trinidad (W)**	**0.77**	**66**	*eP*	**Pg**	**04 54 21.5**	**-0.5**
TRN				*eS*	**Sg**	**04 54 31.9**	**-0.1**
TBH	**Brigand Hill**	**1.04**	**82**	*eP*	**Pn**	**04 54 29.3**	**+0.9**
CRUV	**Carupano**	**1.15**	**287**	*eP*	**Pb**	**04 54 30.1**	**+0.6**
CRUV				*eS*	**Sg**	**04 54 44.7**	**+0.5**
GRFF	**Grenada Fort F**	**1.74**	**12**	*eP*	**Pn**	**04 54 38.5**	**+0.5**
GRFF				*eS*	**Sn**	**04 55 00.2**	**-0.3**
TOSP	**Speyside**	**1.82**	**58**	*eP*	**Pb**	**04 54 40.2**	**-0.8**
TOSP				*eS*	**Sn**	**04 55 00.4**	**-2.1**
TOSP	**Speyside**	**1.82**	**58**	*eP*	**Pn**	**04 54 39.2**	**+0.1**
TOSP				*eS*	**Sn**	**04 55 02.4**	**-0.1**
GRGR	**Grenville**	**1.84**	**14**	*eP*	**Pb**	**04 54 40.0**	**+0.6**
GRGR				*eS*	**Sn**	**04 55 03.6**	**+0.6**
GRHS	**Sauteurs**	**1.93**	**14**	*eP*	**Pb**	**04 54 43.3**	**+0.5**
GRHS				*eS*	**Sb**	**04 55 06.9**	**-0.3**
GRSS	**Sisters**	**2.01**	**14**	*eP*	**Pb**	**04 54 44.7**	**+0.5**
GRSS				*eS*	**Sb**	**04 55 08.4**	**-1.0**
CUMV	**Cumana_UDO**	**2.04**	**273**	*eP*	**Pn**	**04 54 43.6**	**+1.5**
CUMV				*eS*	**Sn**	**04 55 09.8**	**+1.8**
GCMP	**Grenada, Carri**	**2.24**	**18**	*eP*	**Pn**	**04 54 45.8**	**+0.9**
GCMP				*eS*	**Sn**	**04 55 14.0**	**+1.1**
RIOV	**Rio Grande**	**2.27**	**172**	*eP*	**Pn**	**04 54 46.7**	**+1.3**
RIOV				*eS*	**Sn**	**04 55 15.3**	**+1.7**
PCRV	**Puerto La Cruz**	**2.48**	**267**	*eP*	**Pn**	**04 54 48.6**	**+0.4**
PCRV				*eS*	**Sn**	**04 55 19.4**	**+0.5**
SVOC	**Richmond Hill,**	**2.93**	**17**	*eP*	**Pb**	**04 54 57.4**	**-2.5**
PRGV	**PARIAGUAN**	**2.94**	**238**	*eP*	**Pn**	**04 54 56.1**	**+1.6**
PRGV				*eS*	**Sn**	**04 55 31.7**	**+1.5**
SVB	**Belmont**	**3.04**	**16**	*eP*	**Pn**	**04 54 57.9**	**+2.1**
SVV	**Soufriere Volc**	**3.09**	**17**	*eP*	**Pn**	**04 54 57.2**	**+0.6**
SSV	**Crater Summit**	**3.11**	**17**	*eP*	**Pn**	**04 54 59.0**	**+2.1**
MCLT	**Moule a Chique**	**3.54**	**19**	*eP*	**Pn**	**04 55 05.7**	**+2.9**
MCLT				*eS*	**Sn**	**04 55 45.4**	**+0.4**
SLCP	**Castries, St.**	**3.81**	**17**	*eP*	**Pn**	**04 55 08.5**	**+2.0**
SLBI	**Saint Lucia, B**	**3.83**	**17**	*eP*	**Pn**	**04 55 08.6**	**+1.9**
SLBI				*eS*	**Sn**	**04 55 51.5**	**-0.6**
BIRV	**Birongo**	**4.09**	**272**	*eP*	**Pn**	**04 55 11.0**	**+0.7**
BIRV				*eS*	**Sn**	**04 55 57.7**	**-0.7**
MERV	**Las Mercedes**	**4.26**	**256**	*eP*	**Pn**	**04 55 13.9**	**+1.3**
MERV				*eS*	**Sn**	**04 56 01.3**	**-1.4**
MPOM	**Morne Pois Mar**	**4.26**	**17**	*eP*	**Pn**	**04 55 14.4**	**+1.7**
MPOM	**Morne Pois Mar**	**4.26**	**17**	*eS*	**Sn**	**04 56 03.5**	**+0.7**
BIM	**Bigot**	**4.28**	**14**	*eP*	**Pn**	**04 55 14.4**	**+1.5**
BIM	**Bigot**	**4.28**	**14**	*eS*	**Sn**	**04 56 02.4**	**-0.9**
TACV	**Tcata**	**4.83**	**268**	*eP*	**Pn**	**04 55 20.8**	**+0.2**
DSLB	**Salisbury**	**5.12**	**8**	*eP*	**Pn**	**04 55 26.4**	**+2.0**
CACV	**CAICARA DEL OR**	**5.16**	**238**	*eP*	**Pn**	04 55 20.0	-5.1
CACV				*eS*	Sn	04 56 13.2	-12
BENV	**Beln**	**5.41**	**267**	*eP*	**Pn**	**04 55 28.8**	**+0.3**
BENV				*eS*	**Sn**	**04 56 28.7**	**-2.4**
MAGL	**Barre de l'ile**	**5.64**	**8**	*eP*	**Pn**	**04 55 33.2**	**+1.7**
BAUV	**El Baul**	**6.00**	**257**	*eP*	**Pn**	**04 55 37.2**	**+0.6**
BAUV				*eS*	**Sn**	**04 56 42.4**	**-3.3**
ABD	**La Joyeuse, An**	**6.13**	**6**	*eP*	**Pn**	**04 55 41.9**	**+3.6**
MAPV	**Macapo**	**6.26**	**266**	*eP*	**Pn**	**04 55 39.8**	**-0.4**
MAPV				*eS*	**Sn**	**04 56 48.0**	**-4.2**
ANBD	**Bethesda, Anti**	**6.68**	**3**	*eP*	**Pn**	**04 55 48.5**	**+2.7**
ANWB	**Willy Bob**	**7.29**	**2**	*eP*	**Pn**	**04 55 56.6**	**+2.2**

IDC 16 05:01:29.6±4.8, 31°02N×141°66E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/28, mbtmp3.6/4, ML2.7/1, Error ellipse: s-maj=187.5km s-min=25.9km az=71.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**6.21**	**333**	Pn	Pn	05 03 00.7	-2.0
	0.2nm,0.3s,baz=158,slow=11,SNR=4.2						
MKAR	**Makanchi Array**	**47.69**	**307**	P	P	05 10 08.7	+0.8
	0.6nm,0.7s,baz=84,slow=8.9,SNR=4.2						
WRA	**Warramunga Arr**	**51.15**	**189**	P	P	05 10 34.4	-0.2
	0.7nm,0.5s,baz=6.2,slow=7.5,SNR=14						
ASAR	**Alice Springs**	**54.88**	**189**	P	P	05 11 01.7	-0.3
	0.3nm,0.5s,baz=351,slow=4.6,SNR=6.0						

*MEX **16** 05:17:08.8±0.4, 14°46N×94°19W, h11km±10km, MD4.5*
*NEIC **16** 05:17:11.7±2.2, 14°65N±0°04×94°09W±0°05, h26km±8km, mb4.2/21, Md4.5/18(MEX), Error ellipse: s-maj=7.6km s-min=5.1km az=72.0*
*IDC **16** 05:17:14.1±2.1, 14°87N×93°70W, h28km±5km, mb3.6/5, mb1 3.9/7, mb1mx3.6/37, mbtmp3.7/7, ML3.6/2, MS3.2/5, Ms1 3.2/5, ms1mx2.9/27, Error ellipse: s-maj=65.6km s-min=28.4km az=40.0*
ISC 16 05:17:12.1±0.8, 14°64N±0°06×94°05W±0°06, h26km±5km, n47,σ1°33/58, mb4.2/12, MS3.3/4, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.32**	**37**	*i* P	**Pn**	**05 17 32.8**	**-2.0**
PCIG				*i* S	**Sn**	**05 17 51.6**	**-0.1**
PCIG		**1.32**	**37**		**Pn**	**05 17 32.8**	**-2.0**
PCIG					**Sn**	**05 17 51.6**	**-0.1**
THIG		**1.75**	**81**	*i* P	**Pn**	**05 17 39.1**	**-1.6**
THIG				*i* S	**Sn**	**05 18 02.8**	**+0.7**
THIG		**1.75**	**81**		**Pn**	**05 17 39.1**	**-1.6**

THIG						Sn	05 18 02.8	+0.7	
RTAL	**Retalhuleu**	**2.28**	**93**			**Pn**	**05 17 46.5**	**-1.6**	
TGIG		**2.30**	**23**	*i*	P	**Pn**	**05 17 48.6**	**+0.2**	
TGIG				*i*	S	**Sb**	**05 18 20.7**	**-0.4**	
TGIG		**2.30**	**23**			**Pn**	**05 17 48.6**	**+0.2**	
TGIG						**Sb**	**05 18 20.7**	**-0.4**	
CCIG	**Comitan**	**2.46**	**48**	*e*	P	**Pn**	**05 17 51.7**	**+1.0**	
CCIG				*i*	S	**Sn**	**05 18 22.1**	**+2.1**	
CCIG	**Comitan**	**2.46**	**48**		Pn	**Pn**	**05 17 51.5**	**+0.9**	
HUEH	**Huehuetenango**	**2.55**	**74**			**Pn**	**05 17 52.3**	**+0.3**	
CMIG	**Matias Romero**	**2.56**	**342**		Pn	**Pn**	**05 17 51.0**	**-0.9**	
	11nm,0.3s,baz=161,slow=10,SNR=127								
CMIG					Sn	**Sn**	**05 18 22.0**	**-0.2**	
	35nm,0.3s,baz=171,slow=16,SNR=8.7								
CMIG	**Matias Romero**	**2.56**	**342**	*i*	P	**Pn**	**05 17 50.8**	**-1.1**	
CMIG				*i*	S	**Sn**	**05 18 20.9**	**-1.4**	
CMIG	**Matias Romero**	**2.56**	**342**			**Pn**	**05 17 50.8**	**-1.1**	
CMIG						**Sn**	**05 18 20.9**	**-1.4**	
MTO3	**Montecristo**	**4.55**	**92**		Pn	**Pn**	**05 18 19.9**	**+0.5**	
ESQI	**Esquipulas**	**4.56**	**90**		Pn	**Pn**	**05 18 20.3**	**+0.8**	
PETF	**Flores**	**4.62**	**60**			**Pn**	**05 18 20.7**	**+0.5**	
MATN	**Matagalpa**	**8.07**	**101**		Pn	**Pn**	**05 19 06.8**	**-1.0**	
ORTG	**Ortega, Santa**	**9.41**	**116**		Pn	**Pn**	**05 19 26.4**	**+0.4**	
RIMA	**Rio Macho**	**11.07**	**115**			**Pn**	**05 19 49.9**	**+0.8**	
SOR	**Soroa**	**13.23**	**51**		Pn	**Pn**	**05 20 16.7**	**-1.6**	
TXAR	**Lajitas Array**	**17.11**	**330**		Pn	**P**	**05 21 14.0**	**+2.9**	
	0.1nm,0.3s,baz=153,slow=11,SNR=5.9								
TXAR					LR	LR	05 28 01.8		
	comp=Z,53nm,21.7s,baz=0.0,slow=38								
ABTX	**Abilene, Hawle**	**18.61**	**345**		P	**P**	**05 21 24.6**	**-3.0**	
ABTX					IAmb	IAmb	05 21 38.5		
	comp=Z,11nm,0.7s								
MIAR	**Mount Ida**	**19.82**	**1**		P	**P**	**05 21 39.8**	**-0.9**	
MNTX	**Cornudas Mount**	**19.89**	**331**		P	**P**	**05 21 40.9**	**-0.7**	
W39A	**Magazine**	**20.47**	**1**		P	**P**	**05 21 48.7**	**+1.0**	
W39A					IAmb	IAmb	05 22 08.9		
	comp=Z,7.8nm,0.8s								
FCAR	**Ozark Folk Cen**	**21.23**	**4**		P	**P**	**05 21 56.4**	**+0.4**	
FCAR					IAmb	IAmb	05 22 08.4		
	comp=Z,10nm,0.9s								
LCAR	**Lake Charles**	**21.49**	**6**		P	**P**	**05 21 59.5**	**+0.7**	
U40A	**Yellville**	**21.65**	**3**		P	**P**	**05 22 00.1**	**-0.4**	
121A	**Cookes Peak, D**	**21.77**	**327**		P	**P**	**05 22 01.5**	**-0.5**	
121A					IAmb	IAmb	05 22 18.5		
	comp=Z,13nm,0.8s								
FLOC	**Florencia**	**22.33**	**124**		P	**P**	**05 22 07.3**	**-0.8**	
FLOC					IAmb	IAmb	05 22 23.9		
	comp=Z,16nm,1.3s								
RUSC	**La Rusia**	**22.37**	**111**		P	**P**	**05 22 07.0**	**-2.0**	
MGMO	**Mountain Grove**	**22.48**	**4**		P	**P**	**05 22 08.7**	**-0.7**	
MGMO					IAmb	IAmb	05 22 19.5		
	comp=Z,9.0nm,0.9s								
LENM	**Lemitar**	**22.68**	**331**		P	**P**	**05 22 12.2**	**+0.4**	
TKL	**Tuckaleechee C**	**22.87**	**22**		LR	LR	05 33 19.8		
	comp=Z,54nm,18.9s,baz=200,slow=43								
ANMO	**Albuquerque**	**23.10**	**333**		P	**P**	**05 22 17.7**	**+1.6**	
	comp=Z,0.4nm,0.4s,baz=150,slow=16,SNR=3.8								
TUC	**Tucson**	**23.28**	**322**		P	**P**	**05 22 16.4**	**-1.5**	
TUC					IAmb	IAmb	05 22 39.8		
	comp=Z,12nm,1.4s								
P40A	**Paris**	**24.85**	**4**		P	**P**	**05 22 29.6**	**-2.8**	
PV01	**Paradox Valley**	**26.70**	**334**		P	**P**	**05 22 48.1**	**-1.4**	
PV01					IAmb	IAmb	05 23 07.2		
	comp=Z,7.0nm,1.2s								
BGNE	**Belgrade**	**26.90**	**353**		P	**P**	**05 22 52.7**	**+1.7**	
ECSD	**EROS Data Cent**	**29.07**	**356**		P	**P**	**05 23 08.3**	**-2.1**	
ECSD					IAmb	IAmb	05 23 19.1		
	comp=Z,5.2nm,0.8s								
NVAR	**Mina Array Bea**	**31.94**	**322**		P	**P**	**05 23 38.7**	**+2.7**	
	comp=Z,1.2nm,0.7s,baz=151,slow=9.0,SNR=8.1								
NVAR					pP	**pwP**	**05 23 47.6**	**+0.8**	
	comp=Z,3.3nm,0.9s,baz=116,slow=6.8,SNR=8.7								
SCHQ	**Schefferville**	**45.34**	**22**		LR	LR	05 46 49.7		
	comp=Z,51nm,19.5s,baz=150,slow=39								
ILAR	**Eielson Array**	**61.47**	**337**		P	**P**	**05 27 26.7**	**+0.5**	
	comp=Z,0.8nm,0.7s,baz=153,slow=3.7,SNR=5.8								
ILAR					pP	**sP**	**05 27 35.8**	**-0.9**	
	comp=Z,2.1nm,0.9s,baz=140,slow=4.7,SNR=10								
NOA	**NORSAR Array B**	**84.52**	**28**		P	**P**	**05 29 43.5**	**+0.8**	
	comp=Z,0.7nm,0.7s,baz=290,slow=5.0,SNR=2.8								
NOA					pP	**pP**	**05 29 51.3**	**+0.8**	
	comp=Z,1.6nm,0.8s,baz=291,slow=4.7,SNR=5.1								
NOA					LR	LR	06 07 13.5		
	comp=Z,12nm,18.2s,baz=235,slow=36								
ARCES	**ARCESS Array B**	**86.14**	**18**		P	**P**	**05 29 51.2**	**+0.7**	
	comp=Z,1.0nm,0.8s,baz=291,slow=5.7,SNR=6.0								
ARCES					LR	LR	06 08 17.6		
	comp=Z,14nm,20.6s,baz=335,slow=36								
WRA	**Warramunga Arr**	**133.62**	**256**		PKP	**PKiKP**	**05 36 28.0**	**-0.5**	
	comp=Z,0.4nm,0.8s,baz=127,slow=2.2,SNR=2.2								
WRA					pPKP	**pPKPdf**	**05 36 35.7**	**+0.6**	
	comp=Z,0.4nm,0.7s,baz=120,slow=2.8,SNR=2.1								
CMAR	**Chiang Mai Arr**	**144.70**	**338**		pPKP	pPKPdf	05 36 55.5	+0.2	
	comp=Z,0.8nm,0.3s,baz=358,slow=4.7,SNR=1.9								

MEX 16 05:23:56.3±0.5, 15.74N×93.86W, h101km±7km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.62**	**93**	*i* P	Pn	05 24 11.5	-1.6
PCIG				*i* S	Sn	05 24 24.1	-1.6
CMIG	**Matias Romero**	**1.66**	**324**	*i* P	Pn	05 24 23.4	-1.2
CMIG				*i* S	Sn	05 24 44.7	-1.4
CCIG	**Comitan**	**1.75**	**72**	*i* P	Pn	05 24 24.4	-1.5
CCIG				*i* S	Sn	05 24 51.5	+3.2

*TAP **16** 05:28:06.8, 24.27N×121.85E, h20km, ML3.2, B*
*JMA **16** 05:28:07.1, 24.22N×121.82E, h23km±1km, M2.2*
ISC 16 05:28:06.7±0.9, 24.25N±0.02×121.87E±0.02, h18km±4km, n85, σ0s52/137, 2C-10D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.14**	**297**	*e* P	**Pg**	**05 28 10.9**	**+0.2**
	baz=290						
EHP				*e* S	**Sg**	**05 28 14.2**	**+0.7**
	baz=290						
EWUT	**Wuta**	**0.21**	**336**	⇓ *i* P	**Pb**	**05 28 12.0**	**0.0**
	baz=339						
EWUT				S	**Sg**	**05 28 15.5**	**+0.1**
	baz=339						
ENA	**Nanau**	**0.22**	**326**	*i* P	**Pg**	**05 28 11.9**	**0.0**
	baz=329						
ENA				*e* S	**Sb**	**05 28 15.4**	**-0.2**
	baz=329						
ETL	**Fush Village**	**0.25**	**249**	P	**Pb**	**05 28 12.7**	**+0.1**
	baz=247						
ETL				*e* S	**Sb**	**05 28 17.1**	**+0.6**
	baz=247						
NACB	**Ninganchiao**	**0.27**	**254**	⇓ *i* P	**Pg**	**05 28 12.7**	**0.0**
	baz=252						
NACB				*i* S	**Sb**	**05 28 17.4**	**+0.3**
	baz=252						
TWD	**Chiawan**	**0.30**	**237**	*e* P	**Pb**	**05 28 13.7**	**0.0**
	baz=234						
TWD				*e* S	**Sb**	**05 28 19.0**	**+0.7**
	baz=234						
ETLH	**Xiulin Townshi**	**0.36**	**263**	⇓ *i* P	**Pg**	**05 28 14.4**	**+0.1**
	baz=259						
ETLH				S	**Sg**	**05 28 19.6**	**+0.1**
	baz=259						
TWC	**Suao**	**0.36**	**356**	⇓ *i* P	**Pg**	**05 28 14.4**	**+0.1**
	baz=6.0						
TWC				*e* S	**Sb**	**05 28 19.9**	**-0.1**
	baz=6.0						
HWA	**Hwalien**	**0.36**	**222**	*e* P	**Pb**	**05 28 15.5**	**+0.8**
	baz=227						
HWA				*e* S	**Sn**	**05 28 22.7**	**-1.1**
	baz=227						
NDS	**Dongshan**	**0.41**	**339**	⇓ *i* P	**Pg**	**05 28 15.3**	**+0.1**
	baz=341						
NDS				*e* S	**Sb**	**05 28 21.2**	**-0.2**
	baz=341						
ETM	**Tongmen**	**0.45**	**231**	P	**Pb**	**05 28 16.2**	**+0.1**
	baz=236						
ETM				*e* S	**Sb**	**05 28 23.5**	**+1.0**
	baz=236						
TEYL	**Yanliau Villag**	**0.46**	**214**	*e* P	**Pb**	**05 28 16.4**	**+0.2**
	baz=213						
TEYL				*e* S	**Sb**	**05 28 23.2**	**+0.5**
	baz=213						
ENTT	**Nioudou**	**0.48**	**324**	⇓ *i* P	**Pg**	**05 28 16.4**	**-0.1**
	baz=324						
ENTT				*e* S	**Sb**	**05 28 23.7**	**+0.3**
	baz=324						
NDT	**Datong Townshi**	**0.48**	**317**	P	**Pg**	**05 28 16.6**	**+0.1**
	baz=316						
NDT				*e* S	**Sb**	**05 28 23.4**	**-0.1**
	baz=316						
NNSB	**Datong**	**0.48**	**292**	⇓ *i* P	**Pg**	**05 28 16.6**	**+0.1**
	baz=289						
NNSB				S	**Sg**	**05 28 23.0**	**-0.1**
	baz=289						
NNS	**Nan Shan**	**0.49**	**293**	⇓ *i* P	**Pg**	**05 28 16.7**	**0.0**
	baz=290						
NNS				S	**Sg**	**05 28 23.5**	**0.0**
	baz=290						
TWE	**Neicheng**	**0.51**	**338**	⇓ *i* P	**Pg**	**05 28 16.9**	**0.0**
	baz=340						
TWE				*e* S	**Sg**	**05 28 23.7**	**-0.1**
	baz=340						
ILA	**Ilan**	**0.53**	**347**	*e* P	**Pn**	**05 28 18.6**	**-0.8**
	baz=349						
ILA				*e* S	**Sb**	**05 28 25.9**	**+1.1**
	baz=349						
WHF	**Hehuan Shan**	**0.57**	**260**	⇑ *i* P	**Pg**	**05 28 18.0**	**-0.2**
	baz=256						
WHF				*e* S	**Sg**	**05 28 25.5**	**-0.3**
	baz=256						
FUSS	**Fushou**	**0.57**	**270**	*e* P	**Pg**	**05 28 18.3**	**+0.1**
	baz=267						
FUSS				S	**Sg**	**05 28 26.2**	**+0.1**
	baz=267						
ESL	**Shilin**	**0.59**	**223**	*e* P	**Pb**	**05 28 18.5**	**-0.1**
	baz=225						
ESL				*e* S	**Sb**	**05 28 27.4**	**+0.9**
	baz=225						
EGS		**0.60**	**5**	*e* P	**Pn**	**05 28 19.7**	**-0.6**
	baz=8.0						
EGS				*e* S	**Sb**	**05 28 27.4**	**+0.7**
	baz=8.0						
NTC	**Toucheng**	**0.60**	**356**	P	**Pg**	**05 28 18.8**	**+0.1**
	baz=357						
NTC				*e* S	**Sb**	**05 28 27.7**	**+0.7**
	baz=357						
TEGC	**Jichi Village**	**0.62**	**210**	P	**Pg**	**05 28 19.7**	**+0.8**
	baz=207						
TEGC				*e* S	**Sn**	**05 28 29.3**	**-0.8**
	baz=207						
YHNB	**Yeheng**	**0.62**	**313**	⇓ P	**Pb**	**05 28 18.9**	**-0.1**
	baz=312						
YHNB				S	**Sg**	**05 28 27.0**	**-0.3**
	baz=312						
NWLT	**Wulai**	**0.63**	**327**	P	**Pb**	**05 28 19.0**	**-0.1**
	baz=325						
NWLT				*e* S	**Sg**	**05 28 27.6**	**0.0**
	baz=325						
NSK	**Sanguang**	**0.63**	**312**	P	**Pb**	**05 28 19.1**	**-0.2**
	baz=312						
NSK				S	**Sb**	**05 28 27.4**	**-0.5**
	baz=312						
TWT	**Tachien**	**0.64**	**271**	*e* P	**Pg**	**05 28 19.8**	**+0.4**
	baz=268						
TWT				*e* S	**Sb**	**05 28 28.3**	**+0.2**
	baz=268						
TDCB	**Techi**	**0.65**	**271**	*e* P	**Pb**	**05 28 19.6**	**-0.1**
	baz=268						
TDCB				*e* S	**Sb**	**05 28 28.2**	**-0.3**
	baz=268						
CHGB	**Renai**	**0.67**	**254**	⇑ *i* P	**Pb**	**05 28 20.0**	**0.0**
	baz=251						
CHGB				*e* S	**Sb**	**05 28 29.0**	**0.0**
	baz=251						
OWD	**Renai**	**0.70**	**246**	*e* P	**Pb**	**05 28 20.3**	**-0.2**
	baz=243						
OWD				*e* S	**Sb**	**05 28 29.5**	**-0.4**
	baz=243						
EGFH	**Guangfu**	**0.71**	**215**	*e* P	**Pb**	**05 28 20.6**	**+0.1**
	baz=227						
EGFH				*e* S	**Sg**	**05 28 30.6**	**+0.5**
	baz=227						
TIPB	**Shuangxi**	**0.72**	**357**	P	**Pg**	**05 28 20.9**	**0.0**
	baz=357						
TIPB				*e* S	**Sb**	**05 28 29.8**	**-0.6**
	baz=357						
TWB1	**Santiao Chiao**	**0.76**	**8**	*e* P	**Pg**	**05 28 21.8**	**+0.1**
	baz=1.0						
TWB1				*e* S	**Sg**	**05 28 32.0**	**+0.1**
	baz=1.0						
TWA	**Mucha**	**0.78**	**340**	*e* P	**Pg**	**05 28 22.1**	**+0.2**
	baz=340						
TWA				*e* S	**Sg**	**05 28 33.1**	**+0.9**
	baz=340						
NHDH	**Xindian Distri**	**0.78**	**336**	*e* P	**Pn**	**05 28 22.5**	**-0.3**
	baz=336						
NHDH				*e* S	**Sg**	**05 28 32.9**	**+0.5**
	baz=336						
NWF	**Wu-fen Shan**	**0.82**	**354**	P	**Pn**	**05 28 23.2**	**-0.3**
	baz=347						
NWF				*e* S	**Sg**	**05 28 33.8**	**0.0**
	baz=347						
WFSB	**Wu-fen Shan**	**0.82**	**354**	P	**Pn**	**05 28 23.4**	**-0.1**
	baz=354						
WHP	**Taichung City**	**0.85**	**272**	*e* P	**Pg**	**05 28 23.3**	**0.0**
	baz=270						
WHP				*e* S	**Sg**	**05 28 35.0**	**+0.5**
	baz=270						
HGSD	**Ruisui**	**0.86**	**209**	*e* P	**Pn**	**05 28 23.8**	**-0.1**
	baz=199						
HGSD				*e* S	**Sg**	**05 28 35.4**	**+0.6**
	baz=199						
LIOB	**Emei**	**0.88**	**297**	*e* P	**Pn**	**05 28 24.2**	**0.0**
	baz=295						
LIOB				*e* S	**Sg**	**05 28 35.8**	**+0.4**
	baz=295						
NSTT	**Nanjuang**	**0.88**	**296**	*e* P	**Pb**	**05 28 23.9**	**-0.1**
	baz=294						
NSTT				S	**Sg**	**05 28 35.8**	**+0.2**
	baz=294						
EHY	**Hungye**	**0.90**	**214**	*e* P	**Pb**	**05 28 22.5**	**-1.3**
	baz=213						
WCS	**Beigang Elemen**	**0.90**	**258**	P	**Pg**	**05 28 24.4**	**+0.2**
	baz=256						
WCS				*e* S	**Sg**	**05 28 36.7**	**+0.5**
	baz=256						
TNOU	**National Taiwa**	**0.90**	**354**	*e* P	**Pg**	**05 28 24.2**	**-0.1**
	baz=349						
TNOU				*e* S	**Sn**	**05 28 36.6**	**-0.5**
	baz=349						
YM01	**YM01**	**0.94**	**343**	*e* P	**Pg**	**05 28 24.9**	**0.0**
	baz=327						
YM01				*e* S	**Sn**	**05 28 38.0**	**-0.1**
	baz=327						
TWS1	**Kuangyinshan**	**0.94**	**334**	*e* P	**Pb**	**05 28 24.6**	**0.0**
	baz=332						
NCUH	**Zhongli**	**0.95**	**319**	*e* P	**Pg**	**05 28 25.4**	**+0.1**
	baz=315						
SSLB	**Suanglung**	**0.96**	**242**	*e* P	**Pb**	**05 28 24.4**	**-0.4**
	baz=240						
SSLB				*e* S	**Sg**	**05 28 38.1**	**+0.1**
	baz=240						
SMLT	**Sun Moon Lake**	**0.96**	**248**	P	**Pn**	**05 28 25.3**	**-0.1**
	baz=245						
ANP	**Anpu**	**0.99**	**341**	*e* P	**Pg**	**05 28 26.4**	**+0.5**
	baz=340						
NTST	**Danshui**	**0.99**	**337**	*e* P	**Pn**	**05 28 25.8**	**+0.1**
	baz=335						
TYC	**Yuchr**	**0.99**	**250**	*e* P	**Pb**	**05 28 25.6**	**+0.3**
	baz=240						
YULB	**Yu-li**	**1.00**	**212**	*e* P	**Pb**	**05 28 24.8**	**-0.8**
	baz=212						
NSY	**Sanyi**	**1.03**	**280**	*e* P	**Pg**	**05 28 28.0**	**+1.3**
	baz=276						
EYUL	**Yuli**	**1.03**	**210**	*e* P	**Pg**	**05 28 26.7**	**0.0**
	baz=224						
TWY	**Chenhua**	**1.05**	**346**	*e* P	**Pg**	**05 28 27.6**	**+0.4**
	baz=329						
YOJ	**Yonaguni jima**	**1.06**	**78**	P	**Pg**	**05 28 27.1**	**-0.1**
YOJ				*e* S	**Sg**	**05 28 42.2**	**+1.1**
YOJ	**Yonaguni jima**	**1.06**	**78**	*e* P	**Pg**	**05 28 27.2**	**-0.1**
	baz=71						
WDJ	**Dajia District**	**1.13**	**275**	*e* P	**Pg**	**05 28 29.0**	**+0.4**
	baz=271						
WJS	**Zhushan**	**1.13**	**248**	*e* P	**Pg**	**05 28 28.9**	**+0.3**
	baz=241						
YUS	**Yu-Shan**	**1.13**	**228**	*e* P	**Pb**	**05 28 27.7**	**-0.4**
	baz=227						
WNT	**Mingjian**	**1.15**	**252**	*e* P	**Pg**	**05 28 29.2**	**+0.3**
	baz=248						
FULB	**Fuli**	**1.17**	**207**	*e* P	**Pn**	**05 28 27.8**	**-0.5**
	baz=223						
ALS	**Alishan**	**1.22**	**233**	*e* P	**Pg**	**05 28 30.2**	**-0.2**
	baz=232						
ALS				*e* S	**Sn**	**05 28 46.1**	**+0.6**
	baz=232						
CHKT	**Chengkung**	**1.23**	**202**	*e* P	**Pn**	**05 28 28.7**	**-0.4**
	baz=190						
CHN5	**Tsauling**	**1.27**	**240**	*e* P	**Pb**	**05 28 30.5**	**+0.3**
	baz=238						
CHN5				*e* S	**Sg**	**05 28 47.7**	**-0.2**
	baz=238						
EDH	**Donghe**	**1.37**	**202**	*e* P	**Pn**	**05 28 30.0**	**-1.0**
	baz=192						
WRL	**Guolierlin Hig**	**1.41**	**256**	*e* P	**Pb**	**05 28 32.3**	**-0.2**
	baz=254						
WRL				*e* S	**Sg**	**05 28 52.6**	**+0.2**
	baz=254						
WTK	**Tuku**	**1.47**	**248**	*e* P	**Pn**	**05 28 32.2**	**-0.1**
	baz=245						
STYH	**Taoyuan**	**1.47**	**223**	*e* P	**Pb**	**05 28 33.7**	**+0.1**
	baz=224						
CHN4	**Tsaushan**	**1.48**	**233**	*e* P	**Pb**	**05 28 34.0**	**+0.3**
	baz=232						
CHN4				*e* S	**Sg**	**05 28 54.6**	**+0.2**
	baz=232						
TPUB	**Ta-pu**	**1.48**	**231**	P	**Pb**	**05 28 33.8**	**+0.1**
	baz=230						
WTP	**Ta-pu**	**1.53**	**229**	*e* P	**Pb**	**05 28 34.9**	**+0.4**
	baz=229						
TWK	**Hsinying**	**1.60**	**233**	*e* P	**Pb**	**05 28 35.2**	**-0.6**
	baz=232						
TWK				*e* S	**Sg**	**05 28 58.2**	**-0.2**
	baz=232						
CHN1	**Nanshi**	**1.62**	**230**	*e* P	**Pb**	**05 28 36.4**	**+0.2**
	baz=229						
SLGT	**Liugui**	**1.68**	**222**	*e* P	**Pb**	**05 28 36.6**	**-0.5**
	baz=223						
TSMG	**Majia**	**1.91**	**217**	*e* P	**Pn**	**05 28 38.9**	**+0.6**
	baz=219						
TAI1	**Yung-k'ang**	**1.93**	**232**	*e* P	**Pb**	**05 28 42.3**	**+0.9**
	baz=231						
JKRS	**Kuro-shima**	**1.95**	**90**	P	**Pn**	**05 28 40.0**	**+1.1**
JKRS				*e* S	**Sb**	**05 29 04.8**	**-0.9**
MASBT	**Mashibuluo**	**1.99**	**215**	*e* P	**Pb**	**05 28 41.0**	**-1.4**
	baz=218						
JIJ	**Ishigaki jima**	**2.07**	**86**	*e* S	**Sn**	**05 29 07.2**	**+1.2**
LAY	**Lan-yu**	**2.22**	**188**	*e* P	**Pn**	**05 28 40.7**	**-2.0**
	baz=193						
WDGT	**Dungji**	**2.25**	**245**	*e* P	**Pn**	**05 28 43.9**	**+0.8**
	baz=241						
PTMZ	**Houxiangcun**	**2.63**	**288**	*e* P	**Pn**	**05 28 47.7**	**-0.5**
	baz=282						

MEX 16 05:34:18.4±0.8, 16.38N×99.19W, h16km±98km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGIG	**Malinaltepec**	**1.00**	**32**	*i* P	Pb	05 34 33.6	-3.9
MGIG				*i* S	Sb	05 34 44.3	-6.2
PNIG	**Pinotepa**	**1.02**	**89**	*i* P	Pb	05 34 34.4	-3.4
PNIG				*i* S	Sb	05 34 46.5	-4.4
TLIG	**Tlapa**	**1.32**	**27**	*i* P	Pn	05 34 38.9	-3.4
TLIG				*i* S	Sb	05 34 54.5	-5.1
TXIG	**Tlaxiaco**	**1.61**	**57**	*i* P	Pn	05 34 43.5	-3.0
TXIG				*i* S	Sn	05 35 04.6	-2.6
PEIG	**Puerto Escondi**	**2.00**	**101**	*i* P	Pn	05 34 53.0	+1.4
PEIG				*i* S	Sb	05 35 20.8	+1.7

*IDC **16** 05:36:22.9±0.7, 5.85S×153.51E, h0km, mb4.3/15, mb1 4.5/15, mb1mx4.3/36, mbtmp4.3/15, MS3.6/15, Ms1 3.6/15, ms1mx3.5/26, Error ellipse: s-maj=25.5km s-min=14.4km az=96.0*
*NEIC **16** 05:36:25.4±1.5, 5.82S±0.08×153.47E±0.06, h10km±1km, mb4.7/35, Error ellipse: s-maj=14.7km s-min=6.7km az=211.0*
*DJA **16** 05:36:30.4±3.9, 6˚S±14˚×15˚4E±2˚3, h59km±29km, M4.7/9, mB5.3/3, mb4.7/9, Mw(mB)4.7/3*
ISC 16 05:36:27.9±0.5, 5.83S±0.07×153.5E±0.1, h32km, n81, σ1s16/67, mb4.6/27, MS3.7/18, 1C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.07**	**322**		**Pn**	**05 37 01.6**	**+1.2**
MANU	**Manus Island**	**7.14**	**302**	Pn	**Pn**	**05 38 07.5**	**-2.6**
COEN	**Coen**	**12.94**	**231**	Pn	**Pn**	**05 39 29.5**	**-0.2**
PATS	**Pohnpei**	**13.49**	**21**	Pn	**Pn**	**05 39 35.6**	**-1.5**
CTA	**Charters Tower**	**15.80**	**206**	Pn	**P**	**05 40 12.9**	**+1.2**
	0.4nm,0.3s,baz=36,slow=14,SNR=10						
CTAO	**Charters Tower**	**15.80**	**206**	Pn	**Pn**	**05 40 07.5**	**-0.7**
CTAO				IAmb	IAmb	05 40 13.8	
	comp=Z,42nm,1.4s						
EIDS	**Eidsvold**	**19.56**	**186**	P	**P**	**05 40 53.1**	**0.0**
EIDS				IAmb	IAmb	05 40 54.6	
	comp=Z,20nm,0.8s						
DZM	**Mont Dzumac**	**20.46**	**143**	*e* P	Pn	05 41 05.8	+0.5
	comp=Z,68nm,1.1s						
DZM				*e* LR	LR	05 46 13.4	
	comp=Z,341nm,21.8s						
DZM	**Mont Dzumac**	**20.46**	**143**	P	**P**	**05 41 02.6**	**-0.4**
	comp=Z,7.8nm,0.9s,baz=1.0,slow=12,SNR=3.0						
DZM	**Mont Dzumac**	**20.46**	**143**	P	**P**	**05 41 02.7**	**-0.4**
DZM				IAmb	IAmb	05 41 18.6	
	comp=Z,28nm,1.0s						
GUMO	**Guam**	**21.09**	**336**	LR	LR	05 48 17.8	
	comp=Z,63nm,19.1s,baz=238,slow=34						
WR0	**Warramunga Arr**	**23.13**	**231**	P	**P**	**05 41 32.0**	**+0.5**
WRAB	**Tennant Creek**	**23.26**	**231**	P	**P**	**05 41 32.4**	**-0.5**
WB2	**Warramunga Arr**	**23.27**	**231**	P	**P**	**05 41 33.0**	**+0.2**
WRA	**Warramunga Arr**	**23.28**	**231**	P	**P**	**05 41 31.8**	**-1.2**
	comp=Z,3.9nm,0.6s,baz=57,slow=9.4,SNR=33						
WRA				ScP	**ScP**	**05 48 59.1**	**+3.1**
	comp=Z,1.9nm,0.9s,baz=69,slow=2.7,SNR=8.8						
WRA				LR	LR	05 50 59.3	
	comp=Z,263nm,18.2s,baz=55,slow=38						
WRA	**Warramunga Arr**	**23.28**	**231**	P	**P**	**05 41 31.9**	**-1.0**
ARMA	**Armidale**	**24.52**	**184**	P	**P**	**05 41 44.6**	**-0.1**
ARMA				IAmb	IAmb	05 41 46.2	
	comp=Z,21nm,1.1s						
AS31	**Alice Springs**	**25.85**	**225**	P	**P**	**05 41 56.2**	**-0.5**
ASAR	**Alice Springs**	**25.85**	**225

USA0B	**Ussuriysk Arra**	**53.43**	**341**	P	**P**		**05 45 45.5**	**+0.8**
USA0B				IAmb	IAmb		05 45 46.1	
	comp=Z,11nm,1.0s							
USRK	**Ussuriysk Ar.**	**53.43**	**341**	P	**P**		**05 45 44.8**	**+0.1**
	comp=Z,5.3nm,0.8s,baz=165,slow=7.9,SNR=15							
USRK				LR	LR		06 06 29.9	
	comp=Z,24nm,20.8s,baz=173,slow=34							
USRK	**Ussuriysk Ar.**	**53.43**	**341**	P	**P**		**05 45 45.3**	**+0.6**
PPT2	**Papeete2**	**56.81**	**107**	eLR	LR		06 02 41.8	
	comp=Z,49nm,21.8s							
TBI	**Tubuai**	**57.55**	**114**	eLR	LR		06 03 08.2	
	comp=Z,100nm,21.8s							
PETK	**Petropavlovsk-**	**58.83**	**3**	P	**P**		**05 46 22.7**	**-0.4**
	comp=Z,1.8nm,0.4s,baz=191,slow=7.2,SNR=6.1							
CMAR	**Chiang Mai Arr**	**58.90**	**296**	P	**P**		**05 46 25.5**	**+1.2**
	comp=Z,1.0nm,0.3s,baz=115,slow=5.5,SNR=7.3							
SONM	**Songino Array**	**67.53**	**328**	P	**P**		**05 47 23.4**	**+2.2**
	comp=Z,2.0nm,0.5s,baz=142,slow=5.2,SNR=13							
SONM	**Songino Array**	**67.53**	**328**	P	**P**		**05 47 21.7**	**+0.5**
SONM				IAmb	IAmb		05 47 25.7	
	comp=Z,10nm,1.4s							
VNDA	**Vanda**	**71.78**	**178**	P	**P**		**05 47 47.8**	**+1.0**
	comp=Z,1.7nm,1.0s,baz=322,slow=7.5,SNR=7.7							
VNDA	**Vanda**	**71.78**	**178**	IAmb	IAmb		05 47 53.8	
	comp=Z,4.7nm,1.4s							
N18K	**Kilae Creek**	**77.14**	**23**	P	**P**		**05 48 19.0**	**+0.9**
N18K				IAmb	IAmb		05 48 43.0	
	comp=Z,7.3nm,1.1s							
CNPM	**China Poot**	**78.36**	**25**	P	**P**		**05 48 25.5**	**+0.6**
L19K	**White Mountain**	**78.45**	**22**	P	**P**		**05 48 25.8**	**+0.4**
L19K				IAmb	IAmb		05 48 49.9	
	comp=Z,7.1nm,1.2s							
J20K	**Nowinta River**	**79.92**	**21**	P	**P**		**05 48 33.7**	**+0.4**
J20K				IAmb	IAmb		05 49 00.8	
	comp=Z,8.8nm,1.4s							
ZSN	**Zaisan**	**80.07**	**320**	*eP*	**P**		**05 48 34.9**	**+0.4**
	baz=320							
I21K	**Tanana**	**81.26**	**20**	P	**P**		**05 48 41.0**	**+0.5**
I21K				IAmb	IAmb		05 49 06.9	
	comp=Z,4.1nm,0.9s							
MK31	**Makanchi Array**	**81.52**	**319**	IAmb	IAmb		05 48 46.3	
	comp=Z,3.1nm,0.8s							
MKAR	**Makanchi Array**	**81.52**	**319**	P	**P**		**05 48 43.4**	**+1.0**
	comp=Z,3.1nm,0.7s,baz=97,slow=6.3,SNR=25							
MKAR	**Makanchi Array**	**81.52**	**319**	P	**P**		**05 48 43.2**	**+0.9**
MAKZ	**Makanchi**	**81.73**	**319**	P	**P**		**05 48 44.3**	**+0.9**
MAKZ				IAmb	IAmb		05 48 46.8	
	comp=Z,8.1nm,1.0s							
ZALV	**Zalesovo Beam**	**82.36**	**326**	P	**P**		**05 48 46.5**	**0.0**
	comp=Z,4.2nm,0.5s,baz=118,slow=6.3,SNR=13							
ZALV				LR	LR		06 26 13.5	
	comp=Z,30nm,19.7s,baz=71,slow=36							
SHLS	**Shalkode**	**82.41**	**315**	*eP*	**P**		**05 48 44.8**	**-2.5**
	baz=315							
UZB	**Uzynbulak**	**82.72**	**315**	*eP*	**P**		**05 48 47.7**	**-1.2**
	baz=315							
ILAR	**Eielson Array**	**82.87**	**22**	P	**P**		**05 48 47.1**	**-1.8**
	comp=Z,1.4nm,0.8s,baz=255,slow=5.5,SNR=8.9							
ILAR				LR	LR		06 22 22.2	
	comp=Z,71nm,19.0s,baz=250,slow=33							
M27K	**Edge Creek, AK**	**83.73**	**25**	P	**P**		**05 48 53.9**	**+0.3**
M27K				IAmb	IAmb		05 48 56.2	
	comp=Z,10nm,1.2s							
MDOK	**Medeo**	**84.12**	**314**	*eP*	**P**		**05 48 56.2**	**+0.1**
	baz=314							
QSPA	**South Pole Qui**	**84.14**	**180**	P	**P**		**05 48 56.5**	**+0.9**
CHKK	**Chushkaly**	**84.33**	**315**	*eP*	**P**		**05 48 57.4**	**+0.4**
	baz=315							
MTBS	**Maitube**	**84.56**	**314**	*eP*	**P**		**05 48 57.8**	**-0.4**
	baz=314							
BOOM	**Boomskoye usch**	**84.76**	**314**	IAmb	IAmb		05 49 17.2	
	comp=Z,6.6nm,0.9s							
KUU	**Kurty**	**84.79**	**315**	*eP*	**P**		**05 48 59.2**	**-0.1**
	baz=315							
MAW	**Mawson**	**84.87**	**203**	LR	LR		06 25 10.3	
	comp=Z,51nm,19.0s,baz=54,slow=34							
AAK	**Ala-Archa**	**85.84**	**313**	P	**P**		**05 49 05.6**	**+0.9**
AAK				IAmb	IAmb		05 49 08.6	
	comp=Z,4.3nm,0.8s							
SGDS	**Sogindy**	**85.91**	**314**	*eP*	**P**		**05 49 04.1**	**-0.8**
	baz=314							
BTLS	**Baital**	**86.64**	**316**	*eP*	**P**		**05 49 09.2**	**+0.7**
	baz=316							
BRZS	**Berezniki**	**88.51**	**320**	*eP*	**P**		**05 49 17.2**	**-0.1**
	baz=320							
BRVK	**Borovoye**	**90.52**	**323**	P	**P**		**05 49 26.5**	**-0.1**
NVAR	**Mina Array Bea**	**92.21**	**52**	LR	LR		06 26 42.3	
	comp=Z,53nm,19.0s,baz=274,slow=33							
SYO	**Syowa Base**	**92.91**	**199**	⇑*eX*	P		05 49 32.0	-5.4
YKA	**Yellowknife Ar**	**96.03**	**28**	LR	LR		06 28 36.3	
	comp=Z,36nm,21.1s,baz=0.0,slow=33							
SZCU	**Shurtz Canyon**	**96.26**	**53**	P	**P**		**05 49 51.0**	**-2.7**
PDAR	**Pinedale Array**	**99.06**	**48**	LR	LR		06 30 12.6	
	comp=Z,87nm,19.5s,baz=279,slow=33							
BDFB	**Brasilia**	**149.88**	**135**	PKPbc	**PKPbc**		**05 56 16.2**	**+0.1**
	comp=Z,3.5nm,0.5s,baz=200,slow=6.7,SNR=4.0							
TORD	**Torodi Ar. Bea**	**151.23**	**287**	PKPbc	**PKiKP**		**05 56 19.5**	**-0.2**
	comp=Z,4.4nm,0.7s,baz=53,slow=2.4,SNR=16							
TORD	**Torodi Ar. Bea**	**151.23**	**287**		**PKiKP**		**05 56 20.0**	**+0.3**

MEX 16 05:38:14.5±0.5, 14°23N×93°94W, h25km±51km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.63**	**25**	*i* P	Pn	05 38 38.9	-2.7
PCIG				*i* S	Sn	05 38 58.4	-3.4
CMIG	**Matias Romero**	**2.99**	**342**	*i* P	Pn	05 38 58.3	-2.1
CMIG				*i* S	Sn	05 39 30.1	-5.4

MEX 16 05:48:45.9±0.5, 14°19N×93°92W, h17km±40km, MD4.2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.65**	**24**	*i* P	Pn	05 49 10.8	-3.4
PCIG				*i* S	Sn	05 49 29.9	-5.0
TGIG		**2.69**	**17**	*i* P	Pn	05 49 27.2	-1.2
TGIG				*i* S	Sn	05 49 57.0	-3.6
CCIG	**Comitan**	**2.70**	**39**	*i* P	Pn	05 49 28.2	-0.6
CCIG				*i* S	Sn	05 49 58.1	-3.0
CMIG	**Matias Romero**	**3.03**	**342**	*i* P	Pn	05 49 30.5	-2.7
CMIG				*i* S	Sn	05 50 03.4	-5.7

*NNC **16** 05:54:28.9±0.5, 44°91N×81°03E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=5.9km s-min=2.9km az=127.0*
*SOME **16** 05:54:30.2, 44°88N×80°93E, h20km*
ISC 16 05:54:31.2±1.3, 44°84N±0°04×81°14E±0°05, h28km±15km, n41, σ1.9s67/61, 8C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**1.09**	**243**	*eP*	**Pn**	**05 54 49.6**	**-1.1**
	73nm,0.3s						
DJR				*eS*	**Sn**	**05 55 04.2**	**-0.8**
	252nm,0.1s						
DJR	**Jarkent**	**1.09**	**243**	P	**Pn**	**05 54 49.6**	**-1.1**
	73nm,0.3s						
DJR				S	**Sn**	**05 55 04.1**	**-0.8**
	252nm,0.1s						
KAPS	**Kapalarasan**	**1.34**	**290**	*eP*	**Pn**	**05 54 52.7**	**-1.4**
	70nm,0.2s						
KAPS				*eS*	**Sn**	**05 55 09.4**	**-1.6**
	161nm,0.2s						
KAPS	**Kapalarasan**	**1.34**	**290**	P	**Pn**	**05 54 52.7**	**-1.4**
	70nm,0.2s						
KAPS				S	**Sn**	**05 55 09.4**	**-1.6**
	161nm,0.2s						
PDGK	**Podgornoye**	**1.92**	**219**	P	**Pb**	**05 55 04.0**	**-1.7**
	14nm,0.3s						
PDGK				S	**Sb**	**05 55 28.3**	**-1.0**
	175nm,0.6s						
PDGK	**Podgornoye**	**1.92**	**219**	⇑Pn	**Pn**	**05 55 02.9**	**+0.7**
	6.0nm,0.2s						
PDGK				Sn	**Sb**	**05 55 29.0**	**-0.3**
	81nm,0.5s						
TDK	**Taldyqorghan**	**1.95**	**276**	*eP*	**Pb**	**05 55 03.6**	**-2.4**
	222nm,0.4s						
TDK				*eS*	**Sb**	**05 55 28.9**	**-1.0**
	515nm,0.3s						
TDK	**Taldyqorghan**	**1.95**	**276**	P	**Pb**	**05 55 03.6**	**-2.4**
	222nm,0.4s						
TDK				S	**Sb**	**05 55 28.9**	**-1.0**
	515nm,0.3s						

MAKZ	**Makanchi**	**2.05**	**16**	⇑Pn	**Pn**		**05 55 03.8**	**-0.1**
	3.6nm,0.4s								
MAKZ				⇑Sn	**Sn**		**05 55 30.2**	**+1.7**
	27nm,0.3s								
SHLS	**Shalkode**	**2.07**	**216**	*eP*	**Pn**		**05 55 04.0**	**-0.3**
SHLS				*eS*	**Sn**		**05 55 28.7**	**-0.5**
SHLS	**Shalkode**	**2.07**	**216**	P	**Pn**		**05 55 03.9**	**-0.3**
SHLS				S	**Sn**		**05 55 28.7**	**-0.5**
MK31	**Makanchi Array**	**2.11**	**22**	⇑Pn	**Pn**		**05 55 04.7**	**+0.1**
	1.5nm,0.2s,baz=207,slow=13,SNR=346								
MK31				⇓Sn	**Sn**		**05 55 31.0**	**+1.0**
	26nm,0.3s,baz=258,slow=25,SNR=5.0								
KPKS	**Kokpek**	**2.24**	**233**	*eP*	**Pb**		**05 55 10.2**	**-0.9**
	62nm,0.1s								
KPKS				*eS*	**Sb**		**05 55 38.5**	**+0.2**
	288nm,0.3s								
UZB	**Uzynbulak**	**2.28**	**223**	*eP*	**Pb**		**05 55 10.7**	**-1.1**
	12nm,0.2s								
UZB				*eS*	**Sb**		**05 55 39.6**	**0.0**
	111nm,0.3s								
UZB	**Uzynbulak**	**2.28**	**223**	Pg	**Pb**		**05 55 10.7**	**-1.1**
	12nm,0.2s								
UZB				Lg	Lg		05 55 39.6		
	111nm,0.3s								
KOTS	**Kotyrbulak**	**3.32**	**242**	*eP*	**Pb**		**05 55 29.1**	**-0.3**
	12nm,0.2s								
KOTS				*eS*	**Sb**		**05 56 11.3**	**+1.9**
	117nm,0.4s								
KOTS	**Kotyrbulak**	**3.32**	**242**	Pg	**Pb**		**05 55 29.1**	**-0.3**
	12nm,0.2s								
KOTS				Lg	Lg		05 56 11.3		
	117nm,0.4s								
KTBS	**Karatobe**	**3.40**	**252**	*eP*	**Pb**		**05 55 29.5**	**-1.2**
	13nm,0.6s								
KTBS				*eS*	**Sb**		**05 56 11.8**	**+0.3**	
	120nm,0.6s								
KTBS	**Karatobe**	**3.40**	**252**	Pg	**Pb**		**05 55 29.5**	**-1.2**
	13nm,0.6s								
KTBS				Lg	Lg		05 56 11.8		
	120nm,0.6s								
MDOK	**Medeo**	**3.40**	**242**	⇑Pg	**Pb**		**05 55 32.3**	**+1.6**
	7.2nm,0.4s								
MDOK				⇓Lg	Lg		05 56 12.1		
	57nm,0.6s								
KUU	**Kurty**	**3.57**	**256**	*eP*	**Pb**		**05 55 32.6**	**-1.1**
	6.6nm,0.3s								
KUU				*eS*	**Sb**		**05 56 17.1**	**+0.6**
	57nm,0.3s								
KUU	**Kurty**	**3.57**	**256**	Pg	**Pb**		**05 55 32.6**	**-1.1**
	6.6nm,0.3s								
KUU				Lg	Lg		05 56 17.1		
	57nm,0.3s								
ZSN	**Zaisan**	**3.68**	**43**	*eP*	**Pb**		**05 55 35.3**	**-0.2**
	5.1nm,0.2s								
ZSN				*eS*	**Sb**		**05 56 21.6**	**+2.1**	
	19nm,0.6s								
ZSN	**Zaisan**	**3.68**	**43**	Pg	**Pb**		**05 55 35.3**	**-0.2**
	5.1nm,0.2s								
ZSN				Lg	Lg		05 56 21.6		
	19nm,0.6s								
IZV	**Izvestkoviy**	**3.73**	**243**	*eP*	**Pb**		**05 55 37.1**	**+0.6**
	9.8nm,0.4s								
IZV				*eS*	**Sb**		**05 56 25.1**	**+3.7**	
	37nm,0.3s								
IZV	**Izvestkoviy**	**3.73**	**243**	Pg	**Pb**		**05 55 37.1**	**+0.6**
	9.8nm,0.4s								
IZV				Lg	Lg		05 56 25.1		
	37nm,0.3s								
MTBS	**Maitube**	**3.81**	**245**	*eP*	**Pb**		**05 55 36.5**	**-1.2**
	16nm,0.4s								
MTBS				*eS*	**Sb**		**05 56 23.9**	**+0.5**	
	65nm,0.3s								
MTBS	**Maitube**	**3.81**	**245**	Pg	**Pb**		**05 55 36.5**	**-1.2**
	16nm,0.4s								
MTBS				Lg	Lg		05 56 23.9		
	65nm,0.3s								
KRBS	**Karabastau**	**4.09**	**256**	*eP*	**Pb**		**05 55 41.4**	**-1.1**
	6.3nm,0.5s								
KRBS				*eS*	**Sb**		**05 56 32.3**	**+0.9**	
	52nm,0.4s								
KRBS	**Karabastau**	**4.09**	**256**	Pg	**Pb**		**05 55 41.4**	**-1.1**
	6.3nm,0.5s								
KRBS				Lg	Lg		05 56 32.3		
	52nm,0.4s								
DGS	**Degeres**	**4.19**	**249**	*eP*	**Pb**		**05 55 42.8**	**-1.4**
	15nm,0.2s								
DGS				*eS*	**Sb**		**05 56 35.1**	**+0.7**	
	66nm,0.7s								
DGS	**Degeres**	**4.19**	**249**	Pg	**Pb**		**05 55 42.8**	**-1.4**
	15nm,0.2s								
DGS				Lg	Lg		05 56 35.1		
	66nm,0.7s								
TKM2	**Tokmak 2**	**4.44**	**246**	⇑Pg	**Pb**		**05 55 49.2**	**+0.6**
	2.6nm,0.5s								
TKM2				⇓Lg	Lg		05 56 47.2		
	16nm,0.4s								
SGDS	**Sogindy**	**4.89**	**256**	Pg	**Pb**		**05 55 58.4**	**+2.4**
	3.1nm,0.3s								
SGDS				Lg	Lg		05 57 01.3		
	29nm,0.9s								
BTLS	**Baital**	**5.04**	**275**	*eP*	**Pb**		**05 56 01.1**	**+2.5**
	4.4nm,0.5s								
BTLS				*eS*	Sb		05 57 07.3	+8.6	
	8.3nm,0.6s								
BTLS	**Baital**	**5.04**	**275**	Pg	**Pb**		**05 56 01.1**	**+2.5**
	4.4nm,0.5s								
BTLS				Lg	Lg		05 57 07.3		
	8.3nm,0.6s								
AAK	**Ala-Archa**	**5.29**	**248**	Lg	Lg		05 57 12.6		
	16nm,0.7s								
MRKS	**Merke**	**6.10**	**253**	*eP*	**Pb**		**05 56 18.9**	**+2.2**
	3.6nm,1.0s								
MRKS				*eS*	**Sb**		**05 57 36.6**	**+7.3**	
	12nm,0.7s								
MRKS	**Merke**	**6.10**	**253**	Pg	**Pb**		**05 56 18.9**	**+2.2**
	3.6nm,1.0s								
MRKS				Lg	Lg		05 57 36.6		
	12nm,0.7s								
OTUK	**Ortayu**	**6.96**	**302**	⇑Pg	Pb		05 56 35.5	+4.3	
	1.8nm,0.8s								
OTUK				⇑Lg	Lg		05 58 03.2		
	8.3nm,0.7s								
KK31	**Karatay Array**	**7.86**	**261**	⇓Lg	Lg		05 58 34.6		
	1.9nm,0.5s,baz=74,slow=26,SNR=6.6								

INET 16 06:10:06.5, 12°95N×86°61W, h15km, MW3.7, Nicaragua

NEIC 16 06:20:04.6±0.8, 36°01N±0°02×96°81W±0°03, h2km±7km, mb_Lg2.6/29, Error ellipse: s-maj=3.8km s-min=2.4km az=126.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK031	**S. Brethren Rd**	**0.06**	**200**	Pg	Pg	06 20 05.9	+0.1
OK031				Sg	Sg	06 20 06.9	+0.3
QUOK	**Quay**	**0.18**	**28**	Pg	Pg	06 20 08.6	+0.5
QUOK				Sg	Sg	06 20 11.6	+1.0
OK029	**Liberty Lake**	**0.56**	**248**	Pg	Pg	06 20 15.5	+0.2
OK029				Sg	Sg	06 20 23.4	+0.8
OK025	**Westminster Rd**	**0.60**	**225**	Pg	Pg	06 20 15.9	-0.2
OK025				Sg	Sg	06 20 24.5	+0.6
OKCFA	**Oklahoma City**	**0.79**	**221**	Pg	Pg	06 20 19.1	-0.6
OKCSW	**OKLAHOMA CITY**	**0.79**	**220**	Pg	Pg	06 20 19.3	-0.4
BLOK	**Blackwell**	**0.82**	**337**	Pg	Pg	06 20 20.3	+0.1
FNO	**Franklin**	**0.89**	**213**	Pg	Pg	06 20 20.7	-0.9
T35A	**Sooner Cattle**	**0.94**	**15**	Pg	Pg	06 20 22.4	-0.1
CROK	**Carrier**	**1.07**	**298**	Pg	Pg	06 20 25.0	0.1
KAN13	**South Haven SW**	**1.14**	**332**	Pn	Pg	06 20 26.3	-0.1
GC02	**Grant County #**	**1.19**	**315**	Pn	Pg	06 20 27.1	-0.3
KAN09	**Caldwell North**	**1.30**	**330**	Pg	Pg	06 20 29.2	-0.2
OK032	**Salt Plains WL**	**1.38**	**306**	Pn	Pn	06 20 30.1	-0.8
X34A	**Smith Ranch, M**	**1.63**	**211**		Pn	06 20 34.3	-0.1
X34A				IAmb_Lg		06 20 59.4	
	comp=Z,41nm,1.0s						
U32A	**Winter Ranch,**	**1.81**	**282**	Pn	Pn	06 20 36.4	-0.4
U38A	**Gravette**	**2.01**	**77**		Pn	06 20 39.7	+0.2
LOOK	**Love County**	**2.04**	**189**	Pn	Pn	06 20 40.2	+0.3
LOOK				IAmb_Lg		06 21 12.6	
	comp=Z,22nm,0.8s						
WMOK	**Wichita Mounta**	**2.05**	**232**	Pn	Pn	06 20 40.4	+0.3
HHAR	**Hobbs**	**2.34**	**83**	Pn	Pn	06 20 44.2	0.0
W39A	**Magazine**	**2.60**	**107**	Pn	Pn	06 20 47.7	0.0
MIAR	**Mount Ida**	**3.02**	**118**	Pn	Pn	06 20 53.5	-0.1
KSU1	**Kansas State U**	**3.09**	**3**		Pn	06 20 53.8	-0.6
U40A	**Yellville**	**3.22**	**83**	Pn	Pn	06 20 56.0	-0.2
S39A	**Bolivar**	**3.27**	**58**	Pn	Pn	06 20 57.4	+0.6
CBKS	**Cedar Bluff**	**3.64**	**321**	IAmb_Lg		06 22 01.6	
	comp=Z,20nm,0.9s						
WHAR	**Wooly Hollow**	**3.75**	**100**	Pn	Pn	06 21 03.2	-0.3
FCAR	**Ozark Folk Cen**	**3.81**	**90**	Pn	Pn	06 21 05.0	+0.7
FCAR				IAmb_Lg		06 22 07.0	
	comp=Z,18nm,0.7s						
WLAR	**White Oak Lake**	**3.83**	**126**	IAmb_Lg		06 22 10.6	
	comp=Z,15nm,1.2s						
MGMO	**Mountain Grove**	**3.83**	**71**	IAmb_Lg		06 22 09.1	
	comp=Z,13nm,0.8s						
AMTX	**Amarillo**	**4.13**	**256**	IAmb_Lg		06 22 19.1	
	comp=Z,9.5nm,0.7s						
R40A	**Maddies Statio**	**4.29**	**57**	Pn	Pn	06 21 11.0	+0.2
R40A				IAmb_Lg		06 22 23.2	
	comp=Z,10nm,0.8s						
P38A	**Dawn**	**4.45**	**35**	IAmb_Lg		06 22 31.3	
	comp=Z,13nm,0.9s						
T42A	**Van Buren**	**4.72**	**76**	IAmb_Lg		06 22 31.2	
	comp=Z,8.9nm,0.7s						
N35A	**Tabor**	**4.93**	**10**	IAmb_Lg		06 22 53.3	
	comp=Z,14nm,1.1s						
PBMO	**Poplar Bluff**	**5.21**	**80**	IAmb_Lg		06 23 01.0	
	comp=Z,8.9nm,0.8s						
SLM	**Saint Louis**	**5.86**	**61**	IAmb_Lg		06 23 08.9	
	comp=Z,11nm,0.8s						
JCT	**Junction City**	**6.06**	**205**	IAmb_Lg		06 23 23.4	
	comp=Z,6.5nm,0.9s						
S44A	**Carbondale**	**6.29**	**72**	IAmb_Lg		06 23 22.1	
	comp=Z,12nm,0.7s						

IDC 16 06:29:52.6±2.8, 54°13N×86°55E, h0km, mb1 3.0/2, mb1mx3.0/32, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=24.1km s-min=14.2km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.04**	**261**	*i*		06 37 10.0	
	baz=81,slow=331,SNR=1.0						
ZALV	**Zalesovo Beam**	**1.04**	**261**	Pg	Pg	06 30 11.6	-0.9
	2.1nm,0.3s,baz=79,slow=17,SNR=14						
ZALV				Lg	Lg	06 30 26.8	
	1.7nm,0.3s,baz=74,slow=29,SNR=8.8						
ZALV				Rg	Rg	06 30 35.1	
	44nm,1.1s,baz=79,slow=31,SNR=11						
KURBB	**Kurchatov Arra**	**6.04**	**238**	Pn	Pn	06 31 24.9	+1.9
	0.1nm,0.3s,baz=57,slow=14,SNR=5.4						
MKAR	**Makanchi Array**	**7.83**	**202**	Pn	Pn	06 31 48.2	+0.5
	0.3nm,0.3s,baz=21,slow=12,SNR=9.6						

*JMA **16** 06:30:43.8, 24°19N×121°80E, h21km±1km, M2.9*
*TAP **16** 06:30:43.8, 24°25N×121°82E, h18km, ML3.8, B*
*ASIES **16** 06:30:44.0, 24°26N×121°80E, h23km, MW3.3*
ISC 16 06:30:43.5±0.8, 24°23N±0°02×121°88E±0°02, h17km±5km, n91, σ0.881/158, 3C-12D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.15**	**302**	P	**Pg**	**06 30 47.6**	**0.0**
	baz=313						
EHP				S	**Sg**	**06 30 50.7**	**+0.3**
	baz=313						
EWUT	**Wuta**	**0.24**	**336**	P	**Pg**	**06 30 48.9**	**+0.1**
	baz=348						
EWUT				S	**Sg**	**06 30 52.6**	**+0.1**
	baz=348						
ENA	**Nanau**	**0.24**	**327**	⇓*i* P	**Pg**	**06 30 48.8**	**-0.1**
	baz=338						
ENA				*i* S	**Sg**	**06 30 52.4**	**-0.1**
	baz=338						
ETL	**Fush Village**	**0.25**	**254**	P	**Pb**	**06 30 49.0**	**-0.6**
	baz=247						
ETL				S	**Sb**	**06 30 52.9**	**-0.7**
	baz=247						
NACB	**Ninganchiao**	**0.27**	**258**	⇓*i* P	**Pg**	**06 30 49.1**	**-0.3**
	baz=253						
NACB				*i* S	**Sg**	**06 30 53.1**	**-0.3**
	baz=253						
TWD	**Chiawan**	**0.30**	**241**	⇓*i* P	**Pb**	**06 30 49.9**	**-0.6**
	baz=236						
TWD				*i* S	**Sb**	**06 30 54.6**	**-0.6**
	baz=236						
HWA	**Hwalien**	**0.36**	**226**	P	**Pb**	**06 30 52.1**	**+0.7**
	baz=224						
HWA				S	**Sb**	**06 30 58.6**	**+1.8**
	baz=224						
ETLH	**Xiulin Townshi**	**0.37**	**267**	P	**Pg**	**06 30 50.6**	**-0.5**
	baz=263						
ETLH				S	**Sg**	**06 30 55.5**	**-0.9**
	baz=263						
TWC	**Suao**	**0.38**	**355**	⇓*i* P	**Pb**	**06 30 51.6**	**-0.2**
	baz=10.0						
TWC				*i* S	**Sb**	**06 30 57.1**	**-0.4**
	baz=10.0						
NDS	**Dongshan**	**0.43**	**339**	⇓*i* P	**Pb**	**06 30 52.4**	**-0.3**
	baz=345						
NDS				*i* S	**Sb**	**06 30 58.1**	**-0.8**
	baz=345						
ETM	**Tongmen**	**0.44**	**234**	P	**Pb**	**06 30 52.5**	**-0.4**
	baz=235						
ETM				*e*S	**Sg**	**06 30 58.6**	**+0.1**
	baz=235						
TEYL	**Yanliau Villag**	**0.44**	**216**	*eP*	**Pb**	**06 30 53.1**	**+0.2**
	baz=198						
TEYL				*e*S	**Sb**	**06 31 00.8**	**+1.6**
	baz=198						
NNSB	**Datong**	**0.50**	**294**	⇓*i* P	**Pg**	**06 30 53.1**	**-0.4**
	baz=294						
NNSB				*i* S	**Sg**	**06 30 59.3**	**-1.0**
	baz=294						
ENTT	**Nioudou**	**0.50**	**325**	⇓*i* P	**Pb**	**06 30 53.4**	**-0.5**
	baz=329						
ENTT				S	**Sg**	**06 31 00.2**	**-0.1**
	baz=329						
NDT	**Datong Townshi**	**0.50**	**318**	P	**Pb**	**06 30 53.4**	**-0.5**
	baz=321			

	baz=271							
TDCB				S		Sg	06 31 04.0	-1.4
	baz=271							
CHGB	**Renai**	**0.67**	**256**	⇑*i* P		Pb	06 30 56.5	-0.4
	baz=253							
CHGB				S		Sg	06 31 05.2	-0.4
	baz=253							
EGFH	**Guangfu**	**0.70**	**217**	*e*P		Pb	06 30 57.1	-0.1
	baz=227							
EGFH				*e*S		Sb	06 31 07.0	+0.5
	baz=227							
OWD	**Renai**	**0.70**	**247**	*e*P		Pg	06 30 56.6	-0.7
	baz=245							
OWD				*e*S		Sg	06 31 06.3	-0.3
	baz=245							
TIPB	**Shuangxi**	**0.74**	**356**	P		Pb	06 30 58.4	+0.4
	baz=360							
TIPB				S		Sb	06 31 07.5	-0.4
	baz=360							
TWB1	**Santiao Chiao**	**0.78**	**7**	*e*P		Pn	06 30 59.3	-0.5
	baz=4.0							
TWB1				*e*S		Sb	06 31 09.2	+0.1
	baz=4.0							
TWA	**Mucha**	**0.80**	**340**	P		Pb	06 30 58.9	0.0
	baz=343							
TWA				S		Sg	06 31 08.9	-0.7
	baz=343							
NHDH	**Xindian Distri**	**0.80**	**336**	P		Pn	06 30 59.5	-0.6
	baz=338							
NHDH				S		Sg	06 31 09.2	-0.6
	baz=338							
NWF	**Wu-fen Shan**	**0.84**	**354**	⇓*i* P		Pn	06 31 00.3	-0.4
	baz=349							
NWF				S		Sb	06 31 11.8	+0.9
	baz=349							
HGSD	**Ruisui**	**0.84**	**210**	P		Pn	06 31 00.6	-0.1
	baz=196							
HGSD				*e*S		Sn	06 31 14.1	+1.4
	baz=196							
WHP	**Taichung City**	**0.86**	**273**	P		Pb	06 30 59.9	-0.1
	baz=273							
WHP				S		Sg	06 31 10.7	-0.9
	baz=273							
TAP	**Taipei**	**0.88**	**337**	*e*P		Pn	06 31 03.4	+2.3
	baz=339							
TAP				*e*S		Sb	06 31 12.3	+0.6
	baz=339							
EHY	**Hungye**	**0.88**	**216**	P		Pg	06 31 00.0	-0.6
	baz=213							
LIOB	**Emei**	**0.89**	**298**	P		Pb	06 31 00.6	0.0
	baz=298							
LIOB				S		Sg	06 31 11.7	-1.0
	baz=298							
NSTT	**Nanjuang**	**0.90**	**297**	P		Pg	06 31 00.4	-0.6
	baz=297							
NSTT				S		Sg	06 31 11.8	-1.0
	baz=297							
WCS	**Beigang Elemen**	**0.91**	**259**	*e*P		Pg	06 31 00.5	-0.6
	baz=258							
WCS				*e*S		Sg	06 31 10.9	-2.1
	baz=258							
SSLB	**Suanglung**	**0.96**	**243**	*e*P		Pg	06 31 00.9	-1.1
	baz=249							
SSLB				*e*S		Sg	06 31 12.7	-1.9
	baz=249							
YM01	**YM01**	**0.96**	**343**	*e*P		Pn	06 31 02.0	-0.2
	baz=329							
YM01				*e*S		Sb	06 31 14.2	+0.1
	baz=329							
SMLT	**Sun Moon Lake**	**0.96**	**249**	P		Pg	06 31 01.2	-1.0
	baz=248							
SMLT				S		Sg	06 31 14.4	-0.4
	baz=248							
TWS1	**Kuangyinshan**	**0.97**	**334**	*e*P		Pg	06 31 01.4	-0.8
	baz=336							
TWS1				*e*S		Sb	06 31 14.6	+0.2
	baz=336							
NCUH	**Zhongli**	**0.97**	**319**	*e*P		Pb	06 31 02.0	+0.1
	baz=320							
NCUH				*e*S		Sb	06 31 15.2	+0.6
	baz=320							
NCU	**National Centr**	**0.97**	**319**	*e*P		Pn	06 31 02.4	-0.1
	baz=320							
NCU				*e*S		Sn	06 31 16.0	+0.1
	baz=320							
YULB	**Yu-li**	**0.99**	**213**	*e*P		Pg	06 31 00.5	-2.2
	baz=212							
JYNG	**Yonaguni jima**	**0.99**	**77**	P		Pn	06 31 03.4	+0.7
SBCB	**Hsinchu**	**0.99**	**305**	*e*P		Pn	06 31 03.2	+0.6
	baz=299							
SBCB				*e*S		Sn	06 31 17.0	+0.7
	baz=299							
TYC	**Yuchr**	**0.99**	**251**	*e*P		Pg	06 31 01.8	-0.9
	baz=243							
TYC				*e*S		Sb	06 31 15.5	+0.4
	baz=243							
HSN	**Hsinchu**	**1.01**	**305**	*e*P		Pb	06 31 02.8	+0.2
	baz=307							
HSN				*e*S		Sn	06 31 17.3	+0.5
	baz=307							
EYUL	**Yuli**	**1.02**	**211**	*e*P		Pb	06 31 02.8	+0.1
	baz=222							
TWQ1	**Liyutan**	**1.02**	**277**	*e*P		Pb	06 31 02.7	-0.1
	baz=276							
TWQ1				*e*S		Sg	06 31 15.9	-0.8
	baz=276							
NSY	**Sanyi**	**1.04**	**281**	*e*P		Pn	06 31 03.4	+0.1
	baz=273							
NSY				*e*S		Sn	06 31 18.0	+0.4
	baz=273							
NMLH	**Miaoli**	**1.04**	**287**	*e*P		Pn	06 31 04.0	+0.6
	baz=287							
YOJ	**Yonaguni jima**	**1.05**	**77**	P		Pn	06 31 04.4	+0.9
YOJ				*e*S		Sn	06 31 19.9	+2.1
YOJ	**Yonaguni jima**	**1.05**	**77**	*e*P		Pn	06 31 04.2	+0.7
	baz=68							
YOJ				*e*S		Sn	06 31 18.1	+0.3
	baz=68							
TWY	**Chenhua**	**1.07**	**346**	*e*P		Pn	06 31 05.2	+1.4
	baz=330							
YUS	**Yu-Shan**	**1.13**	**229**	*e*P		Pg	06 31 04.0	-1.4
	baz=227							
WJS	**Zhushan**	**1.13**	**249**	*e*P		Pn	06 31 05.7	+1.1
	baz=246							
WJS				*e*S		Sn	06 31 21.6	+1.8
	baz=246							
WDJ	**Dajia District**	**1.14**	**276**	*e*P		Pn	06 31 05.0	+0.3
	baz=275							
WDJ				*e*S		Sn	06 31 20.7	+0.7
	baz=275							
WNT	**Mingjian**	**1.15**	**253**	*e*P		Pg	06 31 05.3	-0.4
	baz=251							
WNT				*e*S		Sn	06 31 21.9	+1.6
	baz=251							
FULB	**Fuli**	**1.16**	**208**	*e*P		Pg	06 31 05.7	-0.2
	baz=222							
ALS	**Alishan**	**1.22**	**234**	*e*P		Pb	06 31 05.6	-0.7
	baz=233							
ALS				*e*S		Sb	06 31 22.4	+0.5
	baz=233							
WCHH	**Zhanghua**	**1.22**	**263**	*e*P		Pg	06 31 06.7	-0.4
	baz=262							
WCHH				*e*S		Sn	06 31 22.7	+0.8
	baz=262							
CHKT	**Chengkung**	**1.22**	**203**	*e*P		Pn	06 31 04.5	-1.3
	baz=189							
CHN5	**Tsauling**	**1.27**	**241**	P		Pb	06 31 07.0	0.0
	baz=239							
CHN5				S		Sn	06 31 24.7	+1.4
	baz=239							
ELDTW	**Lidau**	**1.30**	**218**	*e*P		Pn	06 31 06.3	-0.8
	baz=206							
EDH	**Donghe**	**1.36**	**203**	*e*P		Pn	06 31 07.5	-0.2
	baz=191							
WRL	**Guolierlin Hig**	**1.42**	**257**	*e*P		Pn	06 31 08.9	+0.4
	baz=256							
WRL				*e*S		Sn	06 31 27.5	+0.7
	baz=256							
STYH	**Taoyuan**	**1.46**	**224**	*e*P		Pn	06 31 09.4	+0.3
	baz=222							
CHN4	**Tsaushan**	**1.47**	**234**	*e*P		Pb	06 31 10.2	-0.2
	baz=233							
CHN4				*e*S		Sg	06 31 31.0	+0.1
	baz=233							
WTK	**Tuku**	**1.47**	**249**	*e*P		Pb	06 31 10.0	-0.4
	baz=247							
WTK				*e*S		Sg	06 31 30.0	-1.0
	baz=247							
TPUB	**Ta-pu**	**1.48**	**231**	*e*P		Pn	06 31 10.0	+0.6
	baz=230							
TPUB				*e*S		Sb	06 31 29.3	+0.3
	baz=230							
LONT	**Longtian**	**1.49**	**208**	*e*P		Pn	06 31 07.7	-1.8
	baz=209							
WTP	**Ta-pu**	**1.52**	**230**	*e*P		Pn	06 31 10.7	+0.7
	baz=228							
CHY	**Chiayi**	**1.52**	**242**	*e*P		Pb	06 31 10.9	-0.3
	baz=241							
CHY				*e*S		Sg	06 31 32.3	-0.3
	baz=241							
TWK	**Hsinying**	**1.60**	**233**	*e*P		Pn	06 31 11.9	+0.8
	baz=231							
CHN1	**Nanshi**	**1.62**	**230**	*e*P		Pb	06 31 12.9	-0.1
	baz=229							
CHN1				*e*S		Sb	06 31 34.3	+1.2
	baz=229							
IRIF	**Iriomote-Funau**	**1.69**	**86**	P		Pb	06 31 13.1	-1.0
ICHU	**Yijhu**	**1.71**	**240**	*e*P		Pn	06 31 13.6	+1.1
	baz=237							
HATJ	**Hateruma jima**	**1.76**	**95**	P		Pb	06 31 15.2	-0.2
TSMG	**Majia**	**1.90**	**217**	*e*P		Pn	06 31 16.0	+0.9
	baz=215							
JKRS	**Kuro-shima**	**1.94**	**89**	P		Pb	06 31 17.1	-1.3
MASBT	**Mashibuluo**	**1.98**	**216**	*e*P		Pn	06 31 17.0	+0.8
	baz=214							
JIJ	**Ishigaki jima**	**2.06**	**86**	P		Pn	06 31 18.3	+0.9
JIJ				*e*S		Sb	06 31 44.6	-1.4
JISG	**Ishigakijimahi**	**2.24**	**80**	P		Pn	06 31 20.6	+0.8
JTJ	**Tarama**	**2.60**	**80**	P		Pn	06 31 26.1	+1.3

JMA 16 06:48:19.8±0.4, 38°15N×149°00E, h47km, M4.0, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NEM2	**Nemuro 2**	**5.77**	**336**	P		Pn	06 49 44.3	+1.6
NEM2				*e*S		Sn	06 50 48.5	+1.0
MIYJ	**Miyakonagasawa**	**5.78**	**286**	P		Pn	06 49 45.6	+2.6
MIYJ				*e*S		Sn	06 50 50.7	+2.7
OFUJ	**Ofunato**	**5.82**	**281**	P		Pn	06 49 45.8	+2.3
OFUJ				*e*S		Sn	06 50 50.5	+1.7
JMK	**Ichinoseki**	**6.15**	**280**	P		Pn	06 49 50.6	+2.6
JMK				*e*S		Sn	06 50 59.8	+2.8
JCH	**Churui**	**6.20**	**318**	P		Pn	06 49 52.0	+3.3
JCH				*e*S		Sn	06 51 01.8	+3.7
JOT	**Ohata**	**6.92**	**300**	P		Pn	06 50 01.6	+3.0
JOT				*e*S		Sn	06 51 18.6	+2.6
JKB	**Kayabe**	**7.16**	**304**	P		Pn	06 50 05.0	+3.1
JKB				*e*S		Sn	06 51 25.0	+3.1

NNC ***16*** *07:07:58.5±0.5, 50.01N×78.72E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=8.4km s-min=2.6km az=80.0, Suspected Mining explosion.*

ISC 16 07:07:58.0±0.9, 50.05N±0.03×78.47E±0.06, h0km, n18, σ1§18/36, 12C-11D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.54**	**3**	⇑P		**Pb**	**07 08 09.7**	**-0.6**
KUR07				⇓S		**Sb**	**07 08 18.9**	**+0.3**
KUR06	**Kurchatov Arra**	**0.56**	**4**	⇑P		**Pb**	**07 08 10.2**	**-0.5**
KUR06				⇑S		**Sb**	**07 08 19.3**	**+0.1**
KUR14	**Kurchatov Arra**	**0.57**	**8**	⇓P		**Pb**	**07 08 10.0**	**-1.0**
KUR14				⇑S		**Sb**	**07 08 18.9**	**-0.8**
KUR15	**Kurchatov Arra**	**0.58**	**6**	⇓P		**Pb**	**07 08 10.3**	**-0.7**
KUR15				⇓S		**Sb**	**07 08 19.3**	**-0.4**
KURBB	**Kurchatov Arra**	**0.58**	**4**	⇑P		**Pb**	**07 08 10.5**	**-0.5**
	39nm,0.3s							
KURBB				⇑S		**Sb**	**07 08 19.5**	**-0.3**
	69nm,0.4s							
KUR16	**Kurchatov Arra**	**0.58**	**2**	⇓P		**Pb**	**07 08 10.7**	**-0.4**
KUR16				⇑S		**Sb**	**07 08 19.8**	**-0.1**
KUR17	**Kurchatov Arra**	**0.59**	**360**	⇓P		**Pb**	**07 08 10.9**	**-0.3**
KUR17				⇓S		**Sb**	**07 08 20.7**	**+0.6**
KUR05	**Kurchatov Arra**	**0.60**	**4**	⇓P		**Pb**	**07 08 10.6**	**-0.7**
KUR05				⇑S		**Sb**	**07 08 19.8**	**-0.6**
KUR04	**Kurchatov Arra**	**0.62**	**4**	⇑P		**Pb**	**07 08 11.2**	**-0.5**
KUR04				⇓S		**Sb**	**07 08 20.7**	**-0.3**
MAKZ	**Makanchi**	**3.99**	**143**	P		**Pn**	**07 09 03.5**	**+3.0**
MAKZ				S		**Sb**	**07 09 55.9**	**-2.2**
UKR	**Ust'-Kan**	**4.12**	**75**	P		**Pn**	**07 09 02.4**	**+0.1**
UKR				S		**Sn**	**07 09 52.2**	**+1.0**
MK31	**Makanchi Array**	**4.13**	**141**	Pn		**Pn**	**07 09 02.8**	**+0.4**
	0.2nm,0.1s,baz=280,slow=6.4,SNR=78							
MK31				⇓Pg		**Pb**	**07 09 12.0**	**+0.4**
	0.6nm,0.2s,baz=334,slow=13,SNR=22							
MK31				⇑Lg		Lg	07 10 04.4	
	13nm,0.5s,baz=335,slow=24,SNR=22							
MKAR	**Makanchi Array**	**4.13**	**141**	P		**Pn**	**07 09 02.2**	**-0.2**
MKAR				S		**Sb**	**07 10 00.7**	**-1.3**
OTUK	**Ortayu**	**4.41**	**248**	⇓Pn		**Pn**	**07 09 09.7**	**+3.5**
	2.5nm,0.3s							
OTUK				⇑Pg		**Pg**	**07 09 21.1**	**-1.4**
	1.3nm,0.3s							
OTUK				⇑Lg		Lg	07 10 21.1	
	7.0nm,0.5s							
DGZ	**Jazzator, Alta**	**5.80**	**90**	P		**Pn**	**07 09 26.6**	**+1.2**
DGZ				S		**Sn**	**07 10 34.4**	**+1.6**
CHBI	**Chibit, Altay**	**5.81**	**84**	P		**Pn**	**07 09 26.9**	**+1.4**
CHBI				S		**Sn**	**07 10 32.4**	**-0.4**
AKAR	**Aktash**	**5.88**	**84**	P		**Pn**	**07 09 27.6**	**+1.1**
AKAR				S		**Sn**	**07 10 33.4**	**-1.3**
ULGR	**Ulagan, Altay**	**6.11**	**81**	P		**Pn**	**07 09 30.2**	**+0.6**
ULGR				S		**Sn**	**07 10 39.9**	**-0.2**

MEX 16 07:14:23.0±0.6, 16.47N×98.55W, h16km±999km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.41**	**101**	*i* P		Pg	07 14 30.1	-1.2
PNIG				*i* S		Sg	07 14 35.1	-1.9
MGIG	**Malinaltepec**	**0.77**	**354**	*i* P		Pg	07 14 35.3	-2.7
MGIG				*i* S		Sg	07 14 44.6	-3.6
TXIG	**Tlaxiaco**	**1.08**	**44**	*e*P		Pb	07 14 40.1	-3.4
TXIG				*i* S		Sb	07 14 53.3	-4.2

TUL ***16*** *07:24:50±1.1, 36.45N±0.02×97.10W±0.03, h4km±7km, ML2.6, mb_Lg2.8/69(NEIC), Error ellipse: s-maj=3.1km s-min=2.2km az=58.0*

NEIC 16 07:24:50.2±0.8, 36.44N±0.02×97.13W±0.02, h2km±7km, Error ellipse: s-maj=2.5km s-min=1.9km az=184.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BLOK	**Blackwell**	**0.33**	**347**			Pg	07 24 56.6	+0.2
QUOK	**Quay**	**0.43**	**129**			Pg	07 24 58.4	-0.1
OK031	**S. Brethren Rd**	**0.54**	**155**			Pg	07 25 00.7	+0.1
KAN13	**South Haven SW**	**0.64**	**334**			Pg	07 25 02.3	-0.1
T35A	**Sooner Cattle**	**0.68**	**46**			Pg	07 25 02.6	-0.7
CROK	**Carrier**	**0.69**	**275**			Pg	07 25 03.8	+0.3
OK029	**Liberty Lake**	**0.70**	**203**			Pg	07 25 03.8	+0.2
GC02	**Grant County #**	**0.72**	**305**			Pg	07 25 03.9	-0.1
KAN17	**Caldwell West**	**0.79**	**320**			Pg	07 25 05.6	+0.2
KAN09	**Caldwell North**	**0.80**	**330**	Pg		Pg	07 25 05.3	-0.2
KS20	**Mayfield South**	**0.86**	**336**	Pg		Pg	07 25 06.1	-0.5
OK025	**Westminster Rd**	**0.88**	**191**			Pg	07 25 07.1	0.0
OK032	**Salt Plains WL**	**0.94**	**293**			Pg	07 25 08.2	-0.2
KAN08	**Anthony NE Sta**	**1.03**	**319**	Pg		Pg	07 25 09.7	-0.4
OKCFA	**Oklahoma City**	**1.06**	**195**			Pg	07 25 10.1	-0.4
OKCSW	**OKLAHOMA CITY**	**1.07**	**194**			Pg	07 25 09.9	-0.7
KAN16	**Harper SW Stat**	**1.08**	**316**	Pg		Pg	07 25 10.9	-0.1
FNO	**Franklin**	**1.21**	**191**			Pg	07 25 12.6	-0.7
U32A	**Winter Ranch,**	**1.52**	**268**			Pn	07 25 18.2	-0.2
U32A				IAmb_Lg			07 25 41.1	
	comp=Z,48nm,0.8s							
X34A	**Smith Ranch, M**	**1.93**	**198**			Pn	07 25 24.7	+0.7
X34A				IAmb_Lg			07 25 52.7	
	comp=Z,46nm,1.1s							
WMOK	**Wichita Mounta**	**2.17**	**219**			Pn	07 25 27.8	+0.4
WMOK				IAmb_Lg			07 26 00.9	
	comp=Z,26nm,0.8s							
U38A	**Gravette**	**2.21**	**89**			Pn	07 25 28.1	+0.2
X37A	**Clayton**	**2.34**	**142**			Pn	07 25 29.8	+0.2
X37A				IAmb_Lg			07 26 06.0	
	comp=Z,45nm,0.7s							
LOOK	**Love County**	**2.45**	**181**	Pn		Pn	07 25 31.6	+0.5
HHAR	**Hobbs**	**2.58**	**93**			Pn	07 25 33.7	+0.8
KSU1	**Kansas State U**	**2.68**	**9**	Pn		Pn	07 25 33.9	-0.5
W39A	**Magazine**	**2.99**	**114**			Pn	07 25 39.7	+1.2
W39A				IAmb_Lg			07 26 26.2	
	comp=Z,24nm,0.8s							
Z35A	**Perchaven, San**	**3.11**	**182**	Pn		Pn	07 25 38.9	-1.3
S39A	**Bolivar**	**3.29**	**67**	Pn		Pn	07 25 43.0	+0.3
S39A				IAmb_Lg			07 26 36.6	
	comp=Z,26nm,1.1s							
U40A	**Yellville**	**3.45**	**90**	Pn		Pn	07 25 44.9	0.0
MIAR	**Mount Ida**	**3.46**	**122**	Pn		Pn	07 25 45.5	+0.4
Z38A	**Mt. Pleasant**	**3.63**	**150**	IAmb_Lg			07 26 55.2	
	comp=Z,30nm,0.7s							
MGMO	**Mountain Grove**	**3.96**	**78**	IAmb_Lg			07 27 04.2	
	comp=Z,14nm,0.9s							
X40A	**Basin Creek Fa**	**4.01**	**118**	IAmb_Lg			07 27 00.3	
	comp=Z,17nm,0.8s							
AMTX	**Amarillo**	**4.02**	**249**	IAmb_Lg			07 27 05.4	
	comp=Z,18nm,0.7s							
WHAR	**Wooly Hollow**	**4.09**	**105**	IAmb_Lg			07 27 01.3	
	comp=Z,28nm,0.9s							
P38A	**Dawn**	**4.26**	**41**	IAmb_Lg			07 27 13.0	
	comp=Z,16nm,0.7s							
R40A	**Maddies Statio**	**4.29**	**63**	IAmb_Lg			07 27 08.1	
	comp=Z,30nm,0.7s							
WLAR	**White Oak Lake**	**4.29**	**129**	IAmb_Lg			07 27 12.2	
	comp=Z,15nm,0.8s							
N35A	**Tabor**	**4.56**	**14**	IAmb_Lg			07 27 26.6	
	comp=Z,24nm,1.1s							
T42A	**Van Buren**	**4.88**	**81**	IAmb_Lg			07 27 20.3	
	comp=Z,12nm,0.7s							
CCM	**Cathedral Cave**	**4.96**	**69**	IAmb_Lg			07 27 23.5	
	comp=Z,35nm,0.8s							
BGNE	**Belgrade**	**5.02**	**351**	IAmb_Lg			07 27 41.8	
	comp=Z,27nm,0.8s							
CCAR	**Cane Creek**	**5.06**	**118**	IAmb_Lg			07 27 35.9	
	comp=Z,21nm,1.2s							
P40A	**Paris**	**5.06**	**51**	IAmb_Lg			07 27 28.8	
	comp=Z,27nm,0.8s							
KSCO	**Kaye Shedlock'**	**5.06**	**302**	IAmb_Lg			07 27 45.0	
	comp=Z,11nm,0.8s							
MSTX	**Muleshoe**	**5.24**	**244**	IAmb_Lg			07 27 45.9	
	comp=Z,9.6nm,0.8s							
N38A	**Joes South For**	**5.30**	**34**	IAmb_Lg			07 27 42.2	
	comp=Z,25nm,0.8s							
PBMO	**Poplar Bluff**	**5.40**	**84**	IAmb_Lg			07 27 42.1	
	comp=Z,27nm,1.0s							
L34A	**Svendsen Farm,**	**5.55**	**6**	IAmb_Lg			07 27 58.3	
	comp=Z,27nm,1.0s							
T25A	**Trinidad**	**5.89**	**279**	IAmb_Lg			07 28 06.7	
	comp=Z,9.5nm,0.7s							
OGNE	**Ogallala**	**5.91**	**321**	IAmb_Lg			07 28 04.5	
	comp=Z,20nm,0.8s							
JCT	**Junction City**	**6.35**	**201**	IAmb_Lg			07 28 17.1	
	comp=Z,8.4nm,1.0s							
W45A	**Hickory Valley**	**6.58**	**99**	IAmb_Lg			07 28 15.9	
	comp=Z,15nm,0.8s							
L40A	**Anamosa**	**7.24**	**37**	IAmb_Lg			07 28 40.9	
	comp=Z,11nm,0.7s							
JFWS	**Jewell Farm**	**8.36**	**37**	IAmb_Lg			07 29 17.9	
	comp=Z,10nm,0.8s							
P46A	**Rosedale**	**8.44**	**65**	IAmb_Lg			07 29 22.4	
	comp=Z,18nm,1.0s							
SFIN	**Lafayette**	**8.80**	**60**	IAmb_Lg			07 29 26.5	
	comp=Z,15nm,0.9s							
I40A	**Norwalk**	**8.95**	**32**	IAmb_Lg			07 29 45.7	
	comp=Z,11nm,0.9s							
K22A	**Casper**	**9.54**	**313**	IAmb_Lg			07 30 05.3	
	comp=Z,11nm,1.2s							

IDC 16 07:39:06.1±3.2, 53.75N×88.19E, h0km, mb1 3.2/3, mb1mx3.1/55, mbtmp3.2/3, ML2.8/3, Error ellipse: s-maj=30.8km s-min=18.6km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**2.01**	**277**	*i*			07 52 48.7	
	baz=93,slow=341,SNR=1.4							
ZALV	**Zalesovo Beam**	**2.01**	**277**	Pn		Pn	07 39 41.5	+0.3
	3.7nm,0.3s,baz=92,slow=13,SNR=33							
ZALV				Lg		Lg	07 40 09.8	
	7.0nm,0.3s,baz=94,slow=26,SNR=15							
KURBB	**Kurchatov Arra**	**6.72**	**246**	Pn		Pn	07 40 46.4	+0.5
	0.3nm,0.3s,baz=62,slow=14,SNR=5.7							
KURBB				Lg		Lg	07 42 38.2	
	0.1nm,0.3s,baz=61,slow=30,SNR=5.4							
MKAR	**Makanchi Array**	**7.92**	**211**	Pn		Pn	07 41 03.6	+1.1
	0.3nm,0.3s,baz=28,slow=13,SNR=12							

IDC ***16*** *07:40:51.6±0.3, 1.86N×126.32E, h0km, mb5.7/44, mb1 5.6/47, mb1mx5.6/49, mbtmp5.6/47, ML4.6/3, MS5.6/29, Ms1 5.6/29, ms1mx5.3/43, Error ellipse: s-maj=13.2km s-min=9.0km az=68.0*

MOS ***16*** *07:40:54.8±1.1, 1.91N×126.38E, h30km, mb6.3/87, MS5.9/47, Error ellipse: s-maj=7.0km s-min=3.8km az=112.9*

BJI ***16*** *07:40:57.5±0.0, 1.89N×126.42E, h50km, mB6.1/77, mb5.7/85, Ms6.1/98, Ms7 6.0/91*

NEIC ***16*** *07:40:58.7±2.0, 1.88N±0.06×126.43E±0.06, h42km±3km, mb6.1/298, Ms_20 6.0/365, Mwb6.3/43, Mww6.3, Mwc6.3(GCMT), Error ellipse: s-maj=9.1km s-min=7.6km az=221.0*

NEIC ***16*** *07:40:59.6, 1.86N×126.38E, h54km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr3.55; Mθθ-1.11; Mϕϕ-2.45; Mrθ 0.18; Mϕr-0.60; Mϕr-0.15; Fault plane solution: M₀3.21000×10¹⁸ NP1:ϕs23.78000°, δ44.33000°, λ94.13000°. NP2:ϕs198.01000°, δ45.81000°, λ85.97000°. Principal axes: T 3.5649, Plg87.0000°, Azm35.0000°; N -0.8890, Plg3.0000°, Azm201.0000°; P -2.6760, Plg1.0000°, Azm291.0000°;*

DJA ***16*** *07:40:59.5±0.2, 1°N±2°×12°7E±°, h51km±2km, M6.2/120, mB6.4/108, mb6.0/120, MLv6.3/17, Mw6.3/67, Mw(mB)6.2/108, MwMwp6.1/103, Mwp6.1/103*

GCMT ***16*** *07:41:01.7±0.0, 2.01N×126.47E, h33km, MW6.3/167, Moment Tensor Solution. s167,c414; s160,c658; Duration: 3ᵊ5 Moment tensor: Scale 10¹⁸Nm; Mrr3.60±.02; Mθθ-0.70±.01; Mϕϕ-2.90±.01; Mrθ0.03±.03; Mϕϕ-1.75±.01; Mϕr-0.90±.03; Best double couple: M₀3.84400×10¹⁸ NP1:ϕs37.00000°, δ40.00000°, λ102.00000°. NP2:ϕs202.00000°, δ51.00000°, λ80.00000°. Principal axes: T 3.7400, Plg80.0000°, Azm66.0000°; N 0.2020, Plg7.0000°, Azm208.0000°; P -3.9470, Plg6.0000°, Azm298.0000°; nsta1

MNI S Sn 07 41 52.0 +4.5
SGSI Sangihe 2.04 332 P Pn 07 41 29.3 -2.0
KMSI Cibinong 2.83 243 P Pn 07 41 41.2 -0.8
GTOI Gorontalo 3.70 251 P Pn 07 41 53.3 -0.7
SANI Sanana 3.93 187 ⇑P Pn 07 41 54.4 -2.8
SANI Sanana 3.93 187 P Pn 07 41 54.9 -2.3
LUWI Luwuk 4.72 232 Pn 07 42 10.2 +2.2
LUWI Luwuk 4.72 232 ⇓P Pn 07 42 07.4 -0.6
LUWI Luwuk 4.72 232 P Pn 07 42 07.9 -0.1
MRSI Marisa 4.76 253 P Pn 07 42 08.6 0.0
DAV Davao City (W) 5.24 350 Pn Pn 07 42 14.3 -1.0
85nm,0.3s,baz=331,slow=2.0,SNR=1.6
DAV Davao City (W) 5.24 350 P Pn 07 42 16.2 +1.0
DAV Davao City (W) 5.24 350 P Pn 07 42 16.3 +1.0
DAV Davao City (W) 5.24 350 ⇓P Pn 07 42 15.1 -0.2
DAV Davao City (W) 5.24 350 P Pn 07 42 19.1 +3.9
47nm348µm93µm5µm,1.5s
KCP Kidapawan 5.29 345 ⇓*e*P Pn 07 42 16.7 +0.8
KCP *i* S Sn 07 43 36.8 +21
SWI Sorong 5.48 120 P Pn 07 42 17.1 -1.4
9.1nm526µm52µm2µm,1.2s
SIJI Sorong 5.49 120 Pn Pn 07 42 15.4 -3.2
16nm,0.3s,baz=310,slow=10,SNR=25
SIJI LR LR 07 44 52.9
comp=Z,401µm,20.4s,baz=314,slow=43
SIJI Sorong 5.49 120 P Pn 07 42 16.3 -2.3
4.8nm278µm25µm751nm,0.8s
KRAI Karang Ratu 5.49 160 P Pn 07 42 19.8 +1.1
10nm418µm45µm2µm,1.4s
MSAI Masohi 5.72 155 P Pn 07 42 23.3 +1.5
1.8nm807nm6µm654nm,0.8s
TOLI2 Tolitoli 5.76 263 Pn Pn 07 42 21.0 -1.4
BUKP Musuan 6.14 347 ⇓*e*P Pn 07 42 29.9 +2.4
BUKP *i* S Sn 07 43 29.9 -6.5
BIPH Bislig 6.27 359 ⇓*e*P Pn 07 42 31.1 +1.7
BIPH eS Sn 07 43 46.1 +6.4
ZCP Zamboanga City 6.69 319 ⇓*e*P Pn 07 42 33.7 -1.4
ZCP eS Sn 07 43 53.7 +3.7
PAGZ Pagadian 6.70 332 ⇓*e*P Pn 07 42 34.2 -1.0
MPSI Mapaga 6.77 257 P Pn 07 42 37.9 +1.7
9.7nm470µm44µm2µm,0.9s
BNDI Bandanaira 7.21 152 ⇓P Pn 07 42 40.7 -1.5
BNDI Bandanaira 7.21 152 P Pn 07 42 44.7 +2.5
22nm297µm87µm3µm,1.4s
DCPH Dipolog City 7.37 335 ⇑*e*P Pn 07 42 53.5 +9.2
FAKI Fak Fak 7.46 130 Pn Pn 07 42 48.1 +2.4
FAKI Fak Fak 7.46 130 ⇓P Pn 07 42 44.0 -1.7
FAKI Fak Fak 7.46 130 P Pn 07 42 47.8 +2.1
7.4nm356µm36µm1µm,1.3s
KKSI Kolaka, Sulawe 7.71 219 P Pn 07 42 49.6 +0.4
8.7nm23µm3µm,0.9s
SNPH Sibulan 8.10 337 *e*P Pn 07 43 00.4 +5.9
TTSI Tana Toraja 8.27 234 P Pn 07 42 56.5 -0.3
166µm30µm3µm,0.9s
MSLP Maasin 8.37 349 ⇑*e*P Pn 07 43 04.6 +6.5
LLP Lapu-Lapu 8.76 343 *e*P Pn 07 43 06.4 +3.0
LLP eS Sn 07 44 48.5 +7.6
CNOP Candoni, Negro 8.79 334 ⇓*e*P Pn 07 43 01.2 -2.7
BNSI Bone 8.92 226 P Pn 07 43 05.5 -0.2
124µm21µm1µm,0.9s
PMSI Majene 9.27 235 P Pn 07 43 13.3 +2.8
86µm27µm1µm,2.0s
BKSI Bulukumba 9.57 222 P Pn 07 43 14.2 -0.4
99µm17µm938nm,1.0s
KAPI Kappang 9.60 225 Pn Pn 07 43 13.3 -1.8
11nm,0.3s,baz=53,slow=6.1,SNR=27
KAPI LR LR 07 46 27.6
comp=Z,14µm,21.3s,baz=85,slow=36
KAPI Kappang 9.60 225 P Pn 07 43 14.7 -0.3
KAPI Kappang 9.60 225 Pn Pn 07 43 14.7 -0.3
KAPI Kappang 9.60 225 P Pn 07 43 19.3 +4.3
KAPI P Pn 07 43 19.3 +4.3
KAPI Kappang 9.60 225 P Pn 07 43 15.1 +0.1
96µm12µm816nm,1.1s
JAP San Jose, Anti 9.91 333 ⇓*e*P Pn 07 43 21.9 +2.7
MKS Makassar 9.95 225 P Pn 07 43 21.4 +1.7
81µm16µm1µm,0.7s
BSSI Bau Bau, Buton 9.97 217 P Pn 07 43 21.4 +1.3
45µm14µm602nm,0.6s
BAKI Biak 10.08 108 P Pn 07 43 22.1 +0.6
10µm,1.3s
BKB Balikpapan 10.09 252 Pn 07 43 20.9 -0.9
BKB Balikpapan 10.09 252 P Pn 07 43 23.8 +2.1
265µm20µm977nm,0.7s
RCP Roxas 10.32 339 ⇓*e*P Pn 07 43 26.8 +1.9
SRPI Serui, Papua 10.43 111 P Pn 07 43 26.1 -0.2
119µm42µm1µm,1.2s
SAUI Saumlaki 10.90 154 Pn Pn 07 43 35.0 +2.2
SAUI Saumlaki 10.90 154 P Pn 07 43 33.2 +0.4
162µm31µm979nm,0.8s
PPR Puerto Princes 11.01 316 ⇑*i*P Pn 07 43 37.0 +2.7
MMRI Maumere 11.27 202 Pn Pn 07 43 37.6 -0.2
MMRI Maumere 11.27 202 P Pn 07 43 39.8 +1.9
69µm17µm1µm,1.4s
KBKI Kotabaru 11.54 244 P Pn 07 43 43.7 +2.2
608nm,1.0s
EDFI Ende, Flores 11.59 204 P Pn 07 43 43.7 +1.4
6µm44µm271nm,1.7s
SOEI Soe 11.76 191 Pn Pn 07 43 48.1 +3.4
SOEI Soe 11.76 191 P Pn 07 43 49.1 +4.4
101µm36µm2µm,1.2s
MTKI Muara Teweh, K 11.93 257 P Pn 07 43 48.8 +1.9
95µm13µm422nm,1.1s
BATI Baumata 12.33 193 Pn Pn 07 43 55.3 +3.0
4.7nm,0.3s,baz=350,slow=6.1,SNR=2.1
BATI Baumata 12.33 193 P Pn 07 43 54.4 +2.1
51µm13µm815nm,1.2s
GQP Guinayangan 12.61 342 ⇓*e*P Pn 07 44 00.6 +4.5
PGP Puerto Galera 12.79 335 ⇑*e*P Pn 07 44 00.7 +2.1
BBKI Banjar Baru 12.80 246 P Pn 07 43 59.6 +0.8
62µm16µm530nm,1.4s
JCNP Jose Panganiba 12.90 343 ⇓*i*P Pn 07 44 00.8 +0.8
JCNP *i* S Sn 07 46 17.3 -4.9
LQP Lukban 13.11 338 *e*P Pn 07 44 03.2 0.0
PKKI Palangkaraya 13.17 252 P Pn 07 44 04.9 +1.0
106µm13µm750nm,1.0s
TGY Tagaytay City 13.34 336 ⇓*e*P Pn 07 44 00.1 -6.0
WBSI Waikabubak, Su 13.45 212 P Pn 07 44 08.1 +0.4
67µm15µm664nm,1.3s
PLAI Plampang 13.73 219 P Pn 07 44 11.5 0.0
59µm25µm2µm,1.5s
TWSI Taliwang, Sumb 14.25 222 P Pn 07 44 20.6 +2.1
31µm12µm1µm,1.1s
GENI Genyem 14.37 108 ⇑P Pn 07 44 20.8 +0.8
GENI Genyem 14.37 108 P Pn 07 44 20.4 +0.3
155µm53µm3µm,0.9s
JAY Jayapura 14.86 107 Pn Pn 07 44 27.1 +0.5
5.6nm,0.3s,baz=279,slow=4.1,SNR=32
JAY LR LR 07 49 46.0
comp=Z,52µm,20.4s,baz=311,slow=36
JAY Jayapura 14.86 107 P Pn 07 44 25.7 -0.9
63µm11µm824nm,0.9s
SRBI Singaraja 14.98 229 P P 07 44 31.6 -1.2
56µm17µm1µm,1.2s
STKI Sintang 15.13 263 P Pn 07 44 30.9 +0.9
MTN Manton Dam 15.33 163 P Pn 07 44 29.8 -2.8
baz=15,SNR=7.3
MTN Manton Dam 15.33 163 Pn Pn 07 44 32.7 0.0
MTN Manton Dam 15.33 163 ⇓P Pn 07 44 30.0 -2.6
KMMI Kalianget 15.33 235 P P 07 44 36.7 +0.1
65µm23µm2µm,1.3s
DNP Denpasar 15.38 227 P P 07 44 40.9 +3.8
PBKI Pangkalan Bun 15.51 253 P Pn 07 44 35.7 +0.7
85µm13µm481nm,1.7s
ABJI Asem Bagus 15.55 232 P Pn 07 44 35.9 +0.3
66µm22µm1µm,1.1s
KDU Kakadu 15.63 158 P Pn 07 44 34.9 -1.7
baz=16,SNR=94
KDU Kakadu 15.63 158 ⇓P Pn 07 44 34.4 -2.2
BYJI Banyuwangi 15.72 230 P P 07 44 40.5 -0.4
43µm36µm2µm,1.3s
JAGI Jajag, Banyuwa 16.03 230 P P 07 44 44.5 +0.1
JAGI IAmb IAmb 07 45 08.0
comp=Z,1µm,0.9s
JAGI Jajag, Banyuwa 16.03 230 ⇑P P 07 44 44.3 -0.2
JAGI Jajag, Banyuwa 16.03 230 P P 07 44 46.3 +1.8
comp=Z,58µmcomp=Z,24µmcomp=Z,2µm,0.9s
CVP Callao Caves 16.39 344 ⇓*e*P Pn 07 44 45.6 -0.5
GMJI Gumukmas 16.46 232 P P 07 44 51.2 +2.0
comp=Z,61µmcomp=Z,20µmcomp=Z,900nm,0.9s
GRJI Gresik 16.49 238 P P 07 44 50.2 +0.7
comp=Z,765nmcomp=Z,4µmcomp=Z,310nm,1.0s
TBJI Tambak Boyo 16.98 239 P P 07 44 55.7 +0.7
comp=Z,34µmcomp=Z,14µmcomp=Z,559nm,0.9s
KRKI Karangkates 17.19 234 P Pn 07 44 56.6 +0.4
comp=Z,65µmcomp=Z,45µmcomp=Z,1µm,1.0s
MMPI Merauke 17.24 127 P Pn 07 44 57.1 +0.3
comp=Z,76µmcomp=Z,70µmcomp=Z,2µm,0.9s
SJI Sawahan 17.52 237 P Pn 07 44 59.0 -1.4
comp=Z,45µmcomp=Z,16µmcomp=Z,686nm,1.0s
KNRA Kununurra 17.58 173 P Pn 07 44 58.8 -2.2
baz=18,SNR=154
KNRA Kununurra 17.58 173 P Pn 07 44 58.5 -2.5
KNRA IAmb IAmb 07 45 17.0
comp=Z,1µm,0.8s
PWJI Pagerwojo 17.65 236 P Pn 07 45 00.4 -1.5
comp=Z,14µmcomp=Z,749nm,0.9s
PCJI Pacitan 18.26 237 P Pn 07 45 11.5 +2.1
comp=Z,45µmcomp=Z,17µmcomp=Z,1µm,1.1s
SMRI Semarang 18.31 241 P P 07 45 08.0 -1.7
SMRI Semarang 18.31 241 ⇑P Pn 07 45 10.9 +0.8
SMRI Semarang 18.31 241 P Pn 07 45 10.5 +0.5
comp=Z,54µmcomp=Z,19µmcomp=Z,744nm,0.9s
UGM Wanagama 18.66 238 P P 07 45 12.2 -1.4
UGM Wanagama 18.66 238 P Pn 07 45 17.1 +2.8
comp=Z,52µmcomp=Z,17µmcomp=Z,396nm,0.7s
YOGI Yogyakarta 18.81 239 P Pn 07 45 18.0 +1.9
TPI Tanjungpandan 19.39 256 P Pn 07 45 23.3 +0.3
comp=Z,53µmcomp=Z,10µmcomp=Z,265nm,1.4s
CTJI Waduk Cacaban 19.40 243 P P 07 45 22.3 +0.7
comp=Z,7µmcomp=Z,283nm,1.2s
KPJI Karang Pucung 19.77 242 P P 07 45 23.8 -1.8
comp=Z,48µmcomp=Z,10µmcomp=Z,799nm,1.2s
FITZ Fitzroy Crossi 19.86 182 P P 07 45 23.7 -2.9
baz=20,SNR=200
FITZ Fitzroy Crossi 19.86 182 P P 07 45 24.0 -2.5
comp=Z,1.0nm,0.3s,baz=14,slow=9.2,SNR=29
FITZ Fitzroy Crossi 19.86 182 P 07 45 25.8 -0.8
FITZ Fitzroy Crossi 19.86 182 ⇑P P 07 45 23.7 -2.9
JCJI Jatiwangi 20.00 245 P Pn 07 45 30.9 +0.7
comp=Z,40µmcomp=Z,14µmcomp=Z,558nm,1.3s
CMJI Cimerak 20.40 242 P P 07 45 32.0 -0.5
comp=Z,23µmcomp=Z,5µmcomp=Z,287nm,0.9s
LEM Lembang 20.73 245 P P 07 45 36.3 0.0
comp=Z,125nm,0.8s,baz=9.5,slow=7.7,SNR=11
LEM LR LR 07 55 48.0
comp=Z,29µm,18.2s,baz=60,slow=44
PPBI Pangkal Pinang 20.75 259 P P 07 45 36.9 +0.6
comp=Z,48µmcomp=Z,20µmcomp=Z,436nm,0.9s
CISI Cisompet, Garu 20.86 243 P P 07 45 35.8 -1.7
CISI Cisompet, Garu 20.86 243 ⇓P Pn 07 45 40.0 -0.5
CISI Cisompet, Garu 20.86 243 P P 07 45 35.8 -1.7
comp=Z,22µmcomp=Z,5µmcomp=Z,298nm,1.0s
CBJI Citeko 21.28 247 P P 07 45 42.8 +0.9
comp=Z,45µmcomp=Z,21µmcomp=Z,632nm,0.9s
CNJI Cibinong 21.37 245 P P 07 45 45.0 +2.1
comp=Z,10µmcomp=Z,506nm,1.3s
TWG Pinlang 21.48 346 P P 07 45 40.0 -4.0
TWG IAmb IAmb 07 45 49.0
comp=Z,399nm,0.5s
TWG IAMs_20 IAMs_20 07 54 08.2
comp=Z,64µm,22.0s
GUMO Guam 21.58 56 P P 07 45 45.2 +0.1
comp=Z,276nm,0.6s,baz=199,slow=11,SNR=14
GUMO LR LR 07 53 37.3
comp=Z,7µm,19.2s,baz=238,slow=35
GUMO Guam 21.58 56 P 07 45 45.2 +0.1
GUMO Guam 21.58 56 P P 07 45 44.7 -0.5
GUMO IAmb IAmb 07 45 54.5
comp=Z,794nm,0.9s
GUMO Guam 21.58 56 ⇑P P 07 45 43.9 -1.3
SKJI Sukabumi 21.77 246 P P 07 45 51.0 +3.8
comp=Z,4µmcomp=Z,312nm,0.6s
SBJI Serang 21.83 249 P P 07 45 50.8 +2.9
comp=Z,41µmcomp=Z,13µmcomp=Z,658nm,1.0s
YULB Yu-li 21.98 347 P P 07 45 45.6 -3.8
YULB IAMs_20 IAMs_20 07 55 12.7
comp=Z,46µm,22.0s
DSRI Dabo 22.04 264 P P 07 45 52.4 +2.2
comp=Z,31µmcomp=Z,9µmcomp=Z,321nm,1.4s
TPUB Ta-pu 22.05 345 P P 07 45 46.9 -3.2
TPUB IAmb IAmb 07 45 58.3
comp=Z,760nm,0.7s
TPUB IAMs_20 IAMs_20 07 54 57.4
comp=Z,51µm,20.0s
PMBI Palembang 22.24 258 IAMs_20 IAMs_20 07 55 37.9
comp=Z,46µm,20.0s
PMBI Palembang 22.24 258 P P 07 45 56.0 +3.7
comp=Z,51µmcomp=Z,2µm,1.1s
BLSI Bandar Lampung 22.41 251 P P 07 45 54.8 +0.6
comp=Z,35µmcomp=Z,8µmcomp=Z,716nm,1.0s
SSLB Suanglung 22.44 347 P P 07 45 51.5 -2.9
SSLB IAmb IAmb 07 46 05.7
comp=Z,538nm,0.9s
KLI Kotabumi 22.63 253 P P 07 46 01.3 +4.8
comp=Z,43µmcomp=Z,13µmcomp=Z,882nm,1.1s
NACB Ninganchiao 22.67 348 P P 07 45 54.5 -2.2
YOJ Yonaguni jima 22.71 352 P P 07 45 56.2 -1.0
YOJ pmax pmax
comp=Z,1µm,1.2s
YOJ Yonaguni jima 22.71 352 P P 07 45 56.2 -1.0
YOJ IAmb IAmb 07 46 36.0
comp=Z,1µm,1.2s
YOJ Yonaguni jima 22.71 352 ⇑P P 07 45 56.6 -0.5
BTDF Bukit Timah Da 22.72 269 P P 07 45 57.4 -0.1
comp=Z,33µmcomp=Z,8µmcomp=Z,343nm,0.9s
COEN Coen 22.82 134 P P 07 45 57.7 -0.7
COEN IAmb IAmb 07 46 18.0
comp=Z,787nm,1.2s
COEN Coen 22.82 134 ⇑P P 07 45 55.6 -2.8
WRAB Tennant Creek 23.00 161 *ce*P P 07 45 56.9 -3.3
WRAB P3KPbc 08 19 32.1
comp=Z,3.9nm,0.9s,baz=162,slow=4.3,SNR=15
WRA Warramunga Arr 23.00 161 *i* P P 07 45 56.9 -3.4
WRA pmax pmax
comp=Z,840nm,0.8s
WRA Warramunga Arr 23.00 161 P P 07 45 57.5 -2.8
WB2 Warramunga Arr 23.01 161 P P 07 45 57.6 -2.7
WR0 Warramunga Arr 23.09 160 IAmb IAmb 07 46 11.2
comp=Z,873nm,0.8s
KASI Kota Agung 23.17 251 P P 07 46 02.1 +0.1
comp=Z,38µmcomp=Z,6µmcomp=Z,456nm,0.9s
MDSI Maura Dua 23.18 254 P P 07 46 01.1 -1.0
comp=Z,25µmcomp=Z,6µmcomp=Z,277nm,1.0s
YHNB Yeheng 23.20 348 P P 07 45 59.8 -2.4
YHNB IAmb IAmb 07 46 28.4
comp=Z,403nm,0.8s
YHNB IAMs_20 IAMs_20 07 56 03.9
comp=Z,63µm,22.0s
LWLI Liwa 23.44 253 P P 07 46 04.2 -0.5
comp=Z,10µmcomp=Z,1µm,0.7s
TATO Taipei 23.47 349 P P 07 46 02.4 -2.4
TATO Taipei 23.47 349 P P 07 46 06.4 +1.7
TATO P P 07 46 06.4 +1.7
QIZ Qiongzhong 23.60 317 P P 07 46 04.8 -1.3
QIZ sP sP 07 46 23.3 0.0
QIZ S S 07 50 15.3 -1.9
QIZ pmax pmax
comp=Z,85nm,1.4s
QIZ pmax pmax
comp=Z,5µm,3.5s
QIZ LR LR
comp=Z,19µm,13.3s
QIZ LR LR
comp=Z,29µm,20.8s
QIZ LR LR
comp=Z,40µm,24.5s
QIZ Qiongzhong 23.60 317 P P 07 46 04.7 -1.3
QIZ IAmb IAmb 07 46 10.5
comp=Z,2µm,1.9s
QIZ IAMs_20 IAMs_20 07 53 59.0
comp=Z,48µm,22.0s
LHSI Lahat 23.65 256 P P 07 46 08.5 +1.9
comp=Z,38µmcomp=Z,12µmcomp=Z,424nm,1.0s
ANA2 Anatahan 23.76 52 P P 07 46 08.0 +0.4
ANA2 IAmb IAmb 07 46 17.8
comp=Z,634nm,0.9s
KNMB Chin-men Tao 23.79 341 P P 07 46 05.9 -1.9
XMI Christmas Isla 24.06 239 ⇓P P 07 46 10.5 +0.2
XMIS Christmas Isla 24.11 239 P P 07 46 08.7 -2.1
XMIS IAmb IAmb 07 46 21.1
comp=Z,536nm,0.9s
QZH Quanzhou 24.17 342 ⇑*i*P P 07 46 09.6 -1.6
QZH pP pP 07 46 22.0 -1.2
QZH PP PnPn 07 46 45.3 +2.6
QZH S S 07 50 23.3 -2.9
QZH pmax pmax
comp=Z,110nm,1.2s
QZH pmax pmax
comp=Z,4µm,4.3s
QZH LR LR
comp=Z,22µm,22.3s
QZH LR LR
comp=Z,9µm,20.4s
QZH LR LR
comp=Z,32µm,25.6s
PSA00 Pilbara Seismi 24.19 195 P P 07 46 10.0 -1.4
PSA00 Pilbara Seismi 24.19 195 IAmb IAmb 07 46 14.6
comp=Z,3µm,2.0s
JMZ Minamidaito 2 24.24 10 P P 07 46 10.4 -1.4
JMZ IAmb IAmb 07 46 28.5
comp=Z,797nm,0.9s
JMZ Minamidaito 2 24.24 10 ⇑P P 07 46 11.3 -0.5
UBPT Khong Chiam 24.65 304 P P 07 46 15.8 +0.1
comp=Z,50µmcomp=Z,13µmcomp=Z,315nm,1.3s
UBPT Khong Chiam 24.65 304 P P 07 46 15.8 +0.1
comp=Z,50µmcomp=Z,13µmcomp=Z,315nm,1.3s
UBPT Khong Chiam 24.65 304 P P 07 46 15.1 -0.7
UBPT IAmb IAmb 07 46 33.9
comp=Z,1µm,1.7s
UBPT Khong Chiam 24.65 304 ⇓P P 07 46 15.9 +0.1
UBPT Khong Chiam 24.65 304 P P 07 46 15.5 -0.3
comp=Z,44µmcomp=Z,12µmcomp=Z,300nm,1.3s
MASI Maura Aman, Be 24.76 258 P P 07 46 17.3 +0.5
comp=Z,43µmcomp=Z,31µmcomp=Z,3µm,0.9s
UBSI University, Be 24.85 257 P P 07 46 18.2 +0.6
comp=Z,2µmcomp=Z,15µmcomp=Z,1µm,0.9s
JOW Kunigami 24.88 4 P P 07 46 17.7 0.0
comp=Z,370nm,0.9s,baz=199,slow=7.7,SNR=92
JOW S S 07 50 35.5 -2.1
comp=Z,30nm,1.0s,baz=168,slow=9.3,SNR=2.0
JOW Kunigami 24.88 4 P P 07 46 17.9 +0.2
JOW Kunigami 24.88 4 ⇑P P 07 46 17.6 0.0
EGSI Enggano, Bengk 25.24 253 P P 07 46 20.9 -0.2
comp=Z,20µmcomp=Z,5µmcomp=Z,376nm,1.0s
KRJI Kerinci 25.34 261 P P 07 46 25.4 +3.2
comp=Z,47µmcomp=Z,52µmcomp=Z,2µm,1.2s
BKNI Bangkinang 25.50 267 P P 07 46 23.9 +0.4
BKNI IAmb IAmb 07 46 59.7
comp=Z,1µm,1.5s
QIS Mount Isa 25.73 151 P P 07 46 23.6 -1.9
baz=26,SNR=144
PDSI Padang 26.18 264 P P 07 46 31.8 +2.1
comp=Z,4µmcomp=Z,146nm,1.1s
RABL Rabaul 26.35 103 P P 07 46 31.6 +0.4
RABL IAmb IAmb 07 47 02.4
comp=Z,584nm,1.1s
AS31 Alice Springs 26.39 165 P P 07 46 30.3 -1.2
ASAR Alice Springs 26.39 165 P P 07 46 29.0 -2.5
comp=Z,27nm,0.5s,baz=345,slow=7.8,SNR=115
ASAR PcP **PcP** 07 49 58.8 +2.5
comp=Z,33nm,0.5s,baz=353,slow=2.1,SNR=6.5
ASAR S S 07 51 03.4 +1.8
comp=Z,33nm,1.0s,baz=350,slow=21,SNR=4.7
ASAR P3KPbc 08 19 19.1
comp=Z,1.9nm,0.8s,baz=154,slow=4.7,SNR=11
ASAR Alice Springs 26.39 165 P P 07 46 30.3 -1.1
MTSU Mount Surprise 26.52 139 P P 07 46 31.2 -1.4
baz=26,SNR=110
WRKA Warakurna 26.81 176 P P 07 46 33.6 -1.6
baz=27,SNR=59
WRKA Warakurna 26.81 176 ⇓P P 07 46 33.5 -1.6
MNSI Mandailing Nat 26.93 268 P P 07 46 38.9 +2.5
comp=Z,28µmcomp=Z,9µmcomp=Z,223nm,1.1s
GIRL Giralia 27.15 205 P P 07 46 37.5 -0.7
baz=27,SNR=34
GIRL Giralia 27.15 205 P P 07 46 36.6 -1.6
GIRL IAmb IAmb 07 46 44.4
comp=Z,872nm,1.1s
GIRL Giralia 27.15 205 ⇓P P 07 46 37.6 -0.6
TRTT Trang 27.35 283 P P 07 46 42.2 +2.0
comp=Z,9µmcomp=Z,96nm,1.0s
TRTT Trang 27.35 283 P P 07 46 42.0 +1.8
comp=Z,9µmcomp=Z,96nm,1.0s
KHON Khomkaen 27.39 303 P P 07 46 42.5 +2.0
comp=Z,6µmcomp=Z,329nm,0.7s
KHON Khomkaen 27.39 303 P P 07 46 42.5 +2.0
comp=Z,1µmcomp=Z,82nm,0.7s
RPSI Rantau Prapat 27.57 272 P P 07 46 40.6 -1.5
PSI Prapat 27.57 272 P P 07 46 40.5 -1.8
comp=Z,156nm,1.1s
PSI ScP **ScP** 07 53 41.0 +4.6
comp=Z,24nm,0.9s,baz=182,slow=3.0,SNR=5.5
PSI Prapat 27.57 272 P P 07 46 41.8 -0.5
comp=Z,16µmcomp=Z,3µmcomp=Z,123nm,1.6s,comp=Z,39µm,1.6s,
comp=Z,6µm,1.6s,comp=Z,258nm,1.6s
PSI P P 07 46 40.7 -1.6
comp=Z,16µmcomp=Z,3µmcomp=Z,123nm,1.6s,comp=Z,39µm,1.6s,
comp=Z,6µm,1.6s,comp=Z,258nm,1.6s
SISI Saibi 27.59 264 P P 07 46 40.5 -1.8
comp=Z,18µmcomp=Z,3µmcomp=Z,176nm,0.9s
PATY Pattaya 27.65 295 P P 07 46 52.7 +10
PATY Pattaya 27.65 295 P P 07 46 52.7 +10
KRAB Krabi 27.90 284 P P 07 46 49.6 +4.5
comp=Z,54µmcomp=Z,2µm,0.7s
KRAB Krabi 27.90 284 P P 07 46 49.0 +3.9
comp=Z,14µmcomp=Z,544nm,0.7s
TSI Tuntunan 27.95 274 P P 07 46 53.9 +8.3
NONG Nongkai 28.00 307 P P 07 46 44.8 -1.1
comp=Z,8µmcomp=Z,528nm,0.9s
NONG Nongkai 28.00 307 P P 07 46 44.9 -1.1
comp=Z,8µmcomp=Z,534nm,0.9s
PBSI Pulau Batu 28.28 266 P P 07 46 57.1 +8.6
PKDT Phuket 28.68 283 P P 07 46 55.3 +3.3
comp=Z,26µmcomp=Z,5µmcomp=Z,137nm,0.9s
PKDT Phuket 28.68 283 P P 07 46 55.3 +3.3
comp=Z,26µmcomp=Z,5µmcomp=Z,137nm,0.9s
PHET Kaeng Krachan 28.77 294 P P 07 46 56.4 +3.5
comp=Z,1µmcomp=Z,148nm,0.9s
PHET Kaeng Krachan 28.77 294 P P 07 46 56.4 +3.5
comp=Z,288nmcomp=Z,38nm,0.9s
GSI Gunungsitoli 28.92 269 P P 07 46 51.4 -2.8
GSI Gunungsitoli 28.92 269 ⇑P P 07 46 51.4 -2.8
GSI Gunungsitoli 28.92 269 P P 07 46 54.1 -0.1
comp=Z,26µmcomp=Z,5µmcomp=Z,303nm,1.0s
PBKT Sadao Pong 29.06 302 P P 07 47 02.2 +6.8
PBKT Sadao Pong 29.06 302 P P 07 46 53.9 -1.5
PBKT Sadao Pong 29.06 302 P P 07 46 57.0 +1.6
comp=Z,59nm,0.6s
CTA Charters Tower 29.19 139 P P 07 46 55.9 -0.6
comp=Z,195nm,1.1s,baz=312,slow=11,SNR=45
CTA LR LR 08 00 27.2
comp=Z,30µm,21.5s,baz=326,slow=40
CTAO Charters Tower 29.19 139 P P 07 46 55.7 -0.8
CTAO pmax pmax
comp=Z,930nm,1.3s
CTAO MLR MLR
comp=Z,30µm,21.0s
CTAO Charters Tower 29.19 139 P P 07 46 55.7 -0.8
CTAO IAmb IAmb 07 47 05.3
comp=Z,930nm,1.3s
CTAO Charters Tower 29.19 139 IAMs_20 IAMs_20 08 00 13.7
comp=Z,30µm,21.0s
CTAO Charters Tower 29.19 139 ⇑P P 07 46 56.6 +0.1
JCJ Chichijima 29.25 30 P P 07 46 56.9 0.0
comp=Z,647nm,0.7s,baz=244,slow=7.4,SNR=18
JCJ LR LR 07 57 10.4
comp=Z,15µm,20.5s,baz=219,slow=33
JCJ Chichijima 29.25 30 P P 07 46 54.5 -2.4
SLVN Son La 29.30 313 P P 07 46 57.1 -0.5
SLVN IAMs_20 IAMs_20 07 57 43.6
comp=Z,37µm,22.0s
MEEK Meekatharra 29.35 195 P P 07 46 55.8 -2.1
baz=29,SNR=42
SSE Sheshan 29.50 351 P P 07 46 59.0 -0.1
SSE sP **sP** 07 47 19.3 +2.8
SSE S S 07 51 51.5 +1.2
SSE pmax pmax
comp=Z,25nm,1.5s
SSE pmax pmax
comp=Z,2µm,5.1s
SSE LR LR
comp=Z,6µm,24.3s
JSU Suzuyama 29.71 7 P P 07 46 59.5 -1.5

JSU	**Suzuyama**	**29.71**	**7**	⇑P		**P**		**07 47 00.4**	**-0.6**	
SRDT	**SRDT**	**29.75**	**296**	P		**P**		**07 47 05.3**	**+3.8**	
	comp=Z,175nm,1.5s									
SRDT	**SRDT**	**29.75**	**296**	P		**P**		**07 47 05.3**	**+3.8**	
	comp=Z,175nm,1.5s									
SRDT	**SRDT**	**29.75**	**296**	P		**P**		**07 47 02.7**	**+1.2**	
	comp=Z,130nm,1.2s									
PHIT	**Phitsanulok**	**29.82**	**302**	P		**P**		**07 47 02.4**	**+0.3**	
	comp=Z,7μmcomp=Z,826nm,0.8s									
PHIT	**Phitsanulok**	**29.82**	**302**	P		**P**		**07 47 02.0**	**-0.1**	
	comp=Z,2μmcomp=Z,205nm,0.8s									
UTHA	**Uthaitani**	**29.94**	**299**	P		**P**		**07 47 03.5**	**+0.3**	
	comp=Z,2μmcomp=Z,212nm,0.6s									
UTHA	**Uthaitani**	**29.94**	**299**	P		**P**		**07 47 03.5**	**+0.3**	
	comp=Z,465nmcomp=Z,53nm,0.6s									
UTTA	**Uttaradit**	**29.96**	**303**	P		**P**		**07 47 04.8**	**+1.4**	
	comp=Z,2μmcomp=Z,175nm,0.8s									
UTTA	**Uttaradit**	**29.96**	**303**	P		**P**		**07 47 04.8**	**+1.4**	
	comp=Z,472nmcomp=Z,44nm,0.8s									
MLSI	**Meulaboh, Aceh**	**30.14**	**275**	P		**P**		**07 47 04.6**	**-0.5**	
	comp=Z,156nm,0.6s									
NANT	**Nan**	**30.36**	**305**	P		**P**		**07 47 10.7**	**+3.8**	
	comp=Z,60μmcomp=Z,3μm,0.6s									
NANT	**Nan**	**30.36**	**305**	P		**P**		**07 47 10.0**	**+3.1**	
	comp=Z,15μmcomp=Z,843nm,0.6s									
KHLT	**Khaolaem Dam**	**30.40**	**297**	P		**P**		**07 47 09.7**	**+2.5**	
	comp=Z,1μmcomp=Z,97nm,0.8s									
KHLT	**Khaolaem Dam**	**30.40**	**297**	P		**P**		**07 47 09.7**	**+2.5**	
	comp=Z,1μmcomp=Z,97nm,0.8s									
UMPA	**Umpang Tak**	**30.72**	**299**	P		**P**		**07 47 12.1**	**+2.0**	
	comp=Z,4μmcomp=Z,174nm,0.8s									
UMPA	**Umpang Tak**	**30.72**	**299**	P		**P**		**07 47 12.2**	**+2.0**	
	comp=Z,878nmcomp=Z,43nm,0.8s									
WHN	**Wuhan**	**30.75**	**339**	⇓P		**P**		**07 47 10.8**	**+0.6**	
WHN				pP		**pP**		**07 47 22.8**	**+0.5**	
WHN				S		**S**		**07 52 13.3**	**+3.2**	
WHN				pmax		pmax				
	comp=Z,200nm,1.2s									
WHN				pmax		pmax				
	comp=Z,4μm,4.1s									
WHN				LR		LR				
	comp=Z,6μm,12.3s									
WHN				LR		LR				
	comp=Z,28μm,16.2s									
WHN				LR		LR				
	comp=Z,68μm,23.1s									
NJ2	**Nanjing**	**30.87**	**347**	⇑P		**P**		**07 47 12.5**	**+1.3**	
NJ2				pP		**sP**		**07 47 27.3**	**-1.4**	
NJ2				S		**S**		**07 52 11.9**	**0.0**	
NJ2				pmax		pmax				
	comp=Z,77nm,0.8s									
NJ2				pmax		pmax				
	comp=Z,3μm,8.3s									
NJ2				LR		LR				
	comp=Z,16μm,23.7s									
NJ2				LR		LR				
	comp=Z,14μm,22.3s									
NJ2				LR		LR				
	comp=Z,29μm,21.8s									
GYA	**Guiyang**	**31.00**	**324**	⇑P		**P**		**07 47 10.6**	**-2.0**	
GYA				pP		pP		07 47 22.8	-1.8	
GYA				PP		**PnPn**		**07 48 17.9**	**+2.9**	
GYA				PcP		**PcP**		**07 50 12.4**	**+4.5**	
GYA				S		**S**		**07 52 11.6**	**-2.7**	
GYA				sS		sS		07 52 30.1	-4.5	
GYA				pmax		pmax				
	comp=Z,2μm,5.8s									
GYA				LR		LR				
	comp=Z,11μm,23.0s									
GYA				LR		LR				
	comp=Z,14μm,17.5s									
GYA				LR		LR				
	comp=Z,22μm,25.0s									
LAMP	**Lampang**	**31.11**	**304**	P		**P**		**07 47 14.6**	**+1.1**	
	comp=Z,1μmcomp=Z,140nm,0.8s									
LAMP	**Lampang**	**31.11**	**304**	P		**P**		**07 47 14.0**	**+0.5**	
	comp=Z,325nmcomp=Z,35nm,0.8s									
GOS1	**Gosan-ri**	**31.27**	**360**	P		P		07 47 20.4	+5.7	
	SNR=12									
PAYA	**Payao**	**31.32**	**306**	P		**P**		**07 47 15.5**	**+0.1**	
	comp=Z,1μmcomp=Z,134nm,1.0s									
PAYA	**Payao**	**31.32**	**306**	P		**P**		**07 47 15.6**	**+0.1**	
	comp=Z,340nmcomp=Z,33nm,1.0s									
JNU	**Nakatsue**	**31.36**	**7**	P		**P**		**07 47 14.5**	**-1.0**	
JNU	**Nakatsue**	**31.36**	**7**	⇑P		**P**		**07 47 14.6**	**-1.0**	
HALB	**Hallimjungang-**	**31.37**	**360**	P		**P**		**07 47 18.0**	**+2.4**	
	SNR=22									
KSJJU	**Jeju**	**31.39**	**0**	P		**P**		**07 47 16.9**	**+1.0**	
	SNR=9.7									
CM31	**Chiang Mai Arr**	**31.65**	**303**	P		**P**		**07 47 20.9**	**+2.6**	
	SNR=17									
CMAR	**Chiang Mai Arr**	**31.65**	**303**	P		**P**		**07 47 17.0**	**-1.3**	
	comp=Z,32nm,1.1s,baz=127,slow=7.3,SNR=46									
CMAR				PcP		**PcP**		**07 50 12.3**	**+2.6**	
	comp=Z,27nm,0.9s,baz=162,slow=1.7,SNR=7.7									
CMAR				ScP		**ScP**		**07 53 54.8**	**+5.6**	
	comp=Z,2.3nm,0.3s,baz=136,slow=3.2,SNR=4.2									
CMAR				PKiKP		**PKiKP**		**07 57 40.1**	**+1.2**	
	comp=Z,1.8nm,0.5s,baz=290,slow=1.9,SNR=4.0									
CMAR	**Chiang Mai Arr**	**31.65**	**303**	P		**P**		**07 47 16.5**	**-1.8**	
CMAR	**Chiang Mai Arr**	**31.65**	**303**	P		**P**		**07 47 16.5**	**-1.8**	
CMMT	**Chiang Mai**	**31.81**	**304**	P		**P**		**07 47 19.2**	**-0.5**	
	comp=Z,4μmcomp=Z,204nm,0.9s									
CMMT	**Chiang Mai**	**31.81**	**304**	P		**P**		**07 47 19.2**	**-0.5**	
	comp=Z,4μmcomp=Z,204nm,0.9s									
CMMT	**Chiang Mai**	**31.81**	**304**	P		**P**		**07 47 18.3**	**-1.4**	
	comp=Z,33μmcomp=Z,4μmcomp=Z,195nm,0.9s									
CHTO	**Chiang Mai**	**31.82**	**304**	P		**P**		**07 47 19.3**	**-0.5**	
	comp=Z,26μmcomp=Z,4μmcomp=Z,203nm,0.9s									
CHTO	**Chiang Mai**	**31.82**	**304**			**P**		**07 47 18.6**	**-1.1**	
CHTO	**Chiang Mai**	**31.82**	**304**	P		**P**		**07 47 18.3**	**-1.4**	
CHTO				IAmb		IAmb		07 47 27.5		
	comp=Z,114nm,0.8s									
CHTO	**Chiang Mai**	**31.82**	**304**	P		**P**		**07 47 21.3**	**+1.5**	
CHTO				P		**P**		**07 47 21.3**	**+1.5**	
CHTO	**Chiang Mai**	**31.82**	**304**	⇓P		**P**		**07 47 18.7**	**-1.0**	
CHTO	**Chiang Mai**	**31.82**	**304**	P		**P**		**07 47 18.2**	**-1.6**	
	comp=Z,14μmcomp=Z,2μmcomp=Z,114nm,0.9s									
PATS	**Pohnpei**	**32.09**	**80**	P		**P**		**07 47 21.8**	**-0.4**	
	baz=32,SNR=5.3									
PATS	**Pohnpei**	**32.09**	**80**	P		**P**		**07 47 22.4**	**+0.1**	
PATS				IAmb		IAmb		07 47 24.9		
	comp=Z,405nm,1.3s									
MORW	**Morawa**	**32.36**	**197**	P		**P**		**07 47 22.4**	**-2.0**	
	baz=32,SNR=86									
MORW	**Morawa**	**32.36**	**197**	P		**P**		**07 47 22.7**	**-1.7**	
MORW	**Morawa**	**32.36**	**197**	⇑P		**P**		**07 47 22.3**	**-2.0**	
MHMT	**Maesarieng**	**32.37**	**302**	P		**P**		**07 47 26.6**	**+2.0**	
	comp=Z,4μmcomp=Z,397nm,0.8s									
MHMT	**Maesarieng**	**32.37**	**302**	P		**P**		**07 47 26.7**	**+2.0**	
	comp=Z,4μmcomp=Z,397nm,0.8s									
KSJDO	**Jindo**	**32.43**	**360**	P		P		07 47 30.8	+5.8	
	SNR=8.8									
KSJDO	**Jindo**	**32.43**	**360**	P		P		07 47 30.8	+5.8	
	SNR=8.8									
JMN	**Monobe**	**32.44**	**12**	P		**P**		**07 47 23.7**	**-1.3**	
JMN				IAmb		IAmb		07 47 33.3		
	comp=Z,382nm,1.0s									
JMN	**Monobe**	**32.44**	**12**	⇑P		**P**		**07 47 24.8**	**-0.3**	
FORT	**Forrest**	**32.50**	**178**	P		**P**		**07 47 23.5**	**-2.0**	
	baz=32,SNR=23									
FORT	**Forrest**	**32.50**	**178**	P		**P**		**07 47 23.6**	**-2.0**	
FORT	**Forrest**	**32.50**	**178**	⇑P		**P**		**07 47 23.2**	**-2.4**	
ENH	**Enshi**	**32.53**	**332**	IAmb		IAmb		07 47 38.7		
	comp=Z,261nm,0.9s									
ENH				IAMs_20		IAMs_20		08 01 55.3		
	comp=Z,28μm,21.0s									
KMI	**Kunming**	**32.55**	**317**	⇓P		**P**		**07 47 25.9**	**-0.5**	
KMI				pP		pP		07 47 40.8	+2.3	
KMI				sP		sP		07 47 48.4	+4.3	
KMI				PP		**PnPn**		**07 48 36.1**	**+1.0**	
KMI				S		**S**		**07 52 32.1**	**-6.7**	
KMI				sS		sS		07 52 59.1	0.0	
KMI				pmax		pmax				
	comp=Z,58nm,1.2s									
KMI				pmax		pmax				
	comp=Z,1μm,6.4s									
KMI				LR		LR				
	comp=Z,18μm,21.4s									
KMI				LR		LR				
	comp=Z,21μm,23.3s									
KMI				LR		LR				
	comp=Z,38μm,22.3s									
KOHB	**KOHEUNG**	**32.59**	**1**	P		**P**		**07 47 26.4**	**+0.2**	
	SNR=14									
KOHB	**KOHEUNG**	**32.59**	**1**	P		**P**		**07 47 26.4**	**+0.2**	
	SNR=14									
JTU	**Tsushima**	**32.60**	**4**	P		**P**		**07 47 25.6**	**-0.7**	
JTU	**Tsushima**	**32.60**	**4**	⇑P		**P**		**07 47 26.1**	**-0.2**	
BOSB	**Boseong-gun**	**32.73**	**1**	P		**P**		**07 47 28.0**	**+0.5**	
	SNR=30									
BOSB	**Boseong-gun**	**32.73**	**1**	P		**P**		**07 47 28.0**	**+0.5**	
	SNR=30									
KSSCH	**SUNCHEON**	**33.03**	**1**	P		**P**		**07 47 32.2**	**+2.1**	
	SNR=26									
QLP	**Quilpie**	**33.07**	**150**	P		**P**		**07 47 29.7**	**-0.9**	
	baz=33,SNR=42									
QLP	**Quilpie**	**33.07**	**150**	⇓P		**P**		**07 47 28.7**	**-1.9**	
KSKWJ	**Gwangju**	**33.12**	**1**	P		**P**		**07 47 32.5**	**+1.5**	
	SNR=14									
KSKWJ	**Gwangju**	**33.12**	**1**	P		**P**		**07 47 32.5**	**+1.5**	
	SNR=14									
GOCB	**Gochang-gun**	**33.31**	**0**	P		**P**		**07 47 37.0**	**+4.4**	
	SNR=12									
GOCB	**Gochang-gun**	**33.31**	**0**	P		**P**		**07 47 37.0**	**+4.4**	
	SNR=12									
SUCA	**Sunchang**	**33.34**	**1**	P		**P**		**07 47 35.0**	**+2.2**	
	SNR=16									
SUCA	**Sunchang**	**33.34**	**1**	P		**P**		**07 47 35.0**	**+2.2**	
	SNR=16									
NAWB	**Namwon**	**33.39**	**1**	P		**P**		**07 47 34.0**	**+0.7**	
	SNR=26									
NAWB	**Namwon**	**33.39**	**1**	P		**P**		**07 47 34.0**	**+0.7**	
	SNR=26									
KSJEU	**Jeongeup**	**33.45**	**1**	P		**P**		**07 47 38.1**	**+4.3**	
	SNR=20									
KSJEU	**Jeongeup**	**33.45**	**1**	P		**P**		**07 47 38.1**	**+4.3**	
	SNR=20									
HAMB	**Hamyang**	**33.49**	**2**	P		**P**		**07 47 34.0**	**-0.1**	
	SNR=39									
JHS	**Saijyo**	**33.53**	**10**	P		**P**		**07 47 33.8**	**-0.7**	
JHS				IAmb		IAmb		07 47 40.8		
	comp=Z,178nm,0.8s									
JHS	**Saijyo**	**33.53**	**10**	⇑P		**P**		**07 47 34.4**	**-0.2**	
KSKCH	**Geochang**	**33.60**	**2**	P		**P**		**07 47 35.2**	**+0.1**	
	SNR=32									
BLDU	**Ballidu**	**33.63**	**195**	P		P		**07 47 33.4**	**-2.0**	
	baz=34,SNR=37									
KSJEO	**Jeonju**	**33.90**	**1**	P		**P**		**07 47 39.0**	**+1.2**	
	SNR=18									
KSCPR	**CHUPUNGNYEONG**	**34.20**	**2**	P		**P**		**07 47 41.9**	**+1.6**	
	SNR=16									
JWT	**Wachi**	**34.26**	**13**	P		**P**		**07 47 40.4**	**-0.4**	
JWT				IAmb		IAmb		07 47 46.2		
	comp=Z,401nm,1.0s									
JWT	**Wachi**	**34.26**	**13**	⇑P		**P**		**07 47 40.4**	**-0.4**	
OKCB	**Cheongsan-myeo**	**34.32**	**2**	P		**P**		**07 47 41.0**	**-0.3**	
	SNR=44									
TJN	**Taejon**	**34.34**	**1**	*de*P		**P**		**07 47 41.5**	**0.0**	
KSEUS	**ULSEONG**	**34.37**	**3**	P		**P**		**07 47 41.7**	**0.0**	
	SNR=22									
KSSAJ	**Sangju**	**34.40**	**2**	P		**P**		**07 47 45.3**	**+3.3**	
	SNR=9.1									
JSG	**Sagara**	**34.41**	**17**	P		**P**		**07 47 42.4**	**+0.3**	
KOJ2	**Gongju-si**	**34.43**	**1**	P		**P**		**07 47 47.0**	**+4.7**	
	SNR=10									
KSBON	**Boeun**	**34.48**	**2**	P		**P**		**07 47 43.3**	**+0.6**	
	SNR=104									
KSMGY	**Mungyeong**	**34.64**	**2**	P		**P**		**07 47 44.2**	**+0.1**	
	SNR=42									
KSMGY	**Mungyeong**	**34.64**	**2**	P		**P**		**07 47 47.9**	**+3.8**	
	SNR=20									
INU	**Inuyama**	**34.71**	**15**	P		**P**		**07 47 43.9**	**-0.8**	
INU	**Inuyama**	**34.71**	**15**	⇑P		**P**		**07 47 44.0**	**-0.8**	
KSCHJ	**Chungju**	**34.85**	**2**	P		**P**		**07 47 47.0**	**+1.0**	
	SNR=16									
JGF	**Kuroka**	**35.04**	**16**	P		**P**		**07 47 46.7**	**-1.0**	
JGF	**Kuroka**	**35.04**	**16**	⇓P		**P**		**07 47 47.0**	**-0.6**	
MUN	**Mundaring**	**35.05**	**195**	P		**P**		**07 47 45.8**	**-1.9**	
	baz=35,SNR=33									
KSTBA	**Taebaek**	**35.15**	**3**	P		**P**		**07 47 52.3**	**+3.7**	
	SNR=17									
KSYOW	**Yeongwol**	**35.17**	**3**	P		**P**		**07 47 48.9**	**+0.2**	
	SNR=43									
KSGWL	**Sabuk**	**35.23**	**3**	P		P		07 47 54.2	+5.1	
	SNR=6.4									
TIA	**Tai'an**	**35.25**	**347**	P		**P**		**07 47 48.0**	**-1.4**	
TIA				pP		**pP**		**07 48 01.6**	**0.0**	
TIA				PP		**PP**		**07 49 10.6**	**+0.4**	
TIA				S		**S**		**07 53 16.9**	**-3.0**	
TIA				pmax		pmax				
	comp=Z,2μm,7.5s									
TIA				LR		LR				
	comp=Z,9μm,19.2s									
TIA				LR		LR				
	comp=Z,10μm,17.8s									
TIA				LR		LR				
	comp=Z,15μm,24.9s									
KSWJU	**Wonju**	**35.39**	**2**	P		**P**		**07 47 52.0**	**+1.4**	
	SNR=29									
KSWJU	**Wonju**	**35.39**	**2**	P		P		07 47 56.0	+5.4	
	SNR=12									
KSAR	**Wonju Array Be**	**35.42**	**2**	P		**P**		**07 47 50.2**	**-0.6**	
KSAR	**Wonju Array Be**	**35.42**	**2**	P		**P**		**07 47 50.2**	**-0.6**	
KSRS	**Korea Array**	**35.43**	**2**	P		**P**		**07 47 50.1**	**-0.8**	
	comp=Z,18nm,0.6s,baz=180,slow=10.0,SNR=53									
KSRS				PcP		**PcP**		**07 50 23.1**	**+3.2**	
	comp=Z,33nm,0.8s,baz=189,slow=3.2,SNR=10									
KSRS				S		**S**		**07 53 28.9**	**+6.4**	
	comp=Z,0.5nm,0.3s,baz=21,slow=39,SNR=1.9									
INCN	**Inchon**	**35.44**	**0**	P		**P**		**07 47 51.2**	**+0.2**	
INCN				pmax		pmax				
	comp=Z,125nm,0.8s									
INCN				MLR		MLR				
	comp=Z,13μm,21.0s									
INCN	**Inchon**	**35.44**	**0**	P		**P**		**07 47 51.2**	**+0.2**	
INCN	**Inchon**	**35.44**	**0**	P		**P**		**07 47 52.1**	**+1.1**	
INCN				P		**P**		**07 47 52.1**	**+1.1**	
RMQ	**Roma**	**35.45**	**144**	P		**P**		**07 47 50.2**	**-1.0**	
	baz=36,SNR=40									
KS19	**Wonju Array Si**	**35.48**	**2**	P		**P**		**07 47 50.6**	**-0.8**	
BBOO	**Buckleboo**	**35.66**	**166**	P		**P**		**07 47 50.6**	**-2.3**	
	baz=36,SNR=37									
ULDB	**Ullung-do Bore**	**35.67**	**6**	P		**P**		**07 47 55.0**	**+2.0**	
	SNR=11									
KSDGY	**Daegwallycong**	**35.70**	**3**	P		**P**		**07 47 54.0**	**+0.7**	
	SNR=27									
KSDGY	**Daegwallycong**	**35.70**	**3**	P		P		07 47 59.0	+5.7	
	SNR=15									
NWAO	**Narrogin (SRO)**	**35.70**	**193**	P		**P**		**07 47 51.9**	**-1.5**	
	baz=36,SNR=13									
NWAO	**Narrogin (SRO)**	**35.70**	**193**	IAmb		IAmb		07 48 17.7		
	comp=Z,358nm,1.3s									
NWAO	**Narrogin (SRO)**	**35.70**	**193**	P		**P**		**07 47 56.6**	**+3.3**	
NWAO				P		**P**		**07 47 56.6**	**+3.3**	
KSJMJ	**Jumunjin**	**35.90**	**3**	P		**P**		**07 47 55.6**	**+0.7**	
	SNR=25									
KSIJA	**INJE**	**35.97**	**2**	P		**P**		**07 47 59.5**	**+4.0**	
	SNR=13									
XAN	**Xi'an**	**35.97**	**335**	P		**P**		**07 47 53.3**	**-2.4**	
XAN				pP		pP		07 48 07.4	-0.5	
XAN				sP		sP		07 48 11.9	-1.5	
XAN				PP		**PnPn**		**07 49 17.6**	**0.0**	
XAN				S		**S**		**07 53 28.1**	**-3.0**	
XAN				sS		sS		07 53 51.3	-0.2	
XAN				pmax		pmax				
	comp=Z,110nm,1.1s									
XAN				pmax		pmax				
	comp=Z,2μm,4.2s									
XAN				LR		LR				
	comp=Z,22μm,20.3s									
XAN				LR		LR				
	comp=Z,16μm,21.1s									
XAN				LR		LR				
	comp=Z,23μm,22.1s									
CD2	**Chengdu**	**36.02**	**326**	P		**P**		**07 47 53.9**	**-2.2**	
CD2				PP		**PnPn**		**07 49 12.5**	**-5.7**	
CD2				S		**S**		**07 53 28.8**	**-3.0**	
CD2				ScS		**ScS**		**07 58 04.8**	**-5.3**	
CD2				pmax		pmax				
	comp=Z,390nm,1.1s									
CD2				pmax		pmax				
	comp=Z,2μm,5.3s									
CD2				LR		LR				
	comp=Z,14μm,17.5s									
CD2				LR		LR				
	comp=Z,26μm,20.6s									
CD2				LR		LR				
	comp=Z,22μm,21.0s									
KSCWO	**Cheorwon**	**36.05**	**1**	P		P		07 48 02.7	+6.5	
	SNR=12									
EIDS	**Eidsvold**	**36.06**	**140**	P		**P**		**07 47 55.3**	**-1.2**	
	baz=36,SNR=50									
EIDS	**Eidsvold**	**36.06**	**140**	P		**P**		**07 47 54.7**	**-1.7**	
EIDS	**Eidsvold**	**36.06**	**140**	⇓P		**P**		**07 47 54.5**	**-2.0**	
MAJO	**Matsushiro**	**36.16**	**16**	*c* iP		**P**		**07 47 55.1**	**-2.1**	
MAJO				pmax		pmax				
	comp=Z,687nm,1.6s									
MAJO				MLR		MLR				
	comp=Z,10μm,19.0s									
MAJO	**Matsushiro**	**36.16**	**16**	P		**P**		**07 47 55.6**	**-1.6**	
MAJO	**Matsushiro**	**36.16**	**16**	⇑P		**P**		**07 47 55.2**	**-2.1**	
MAT	**Matsushiro**	**36.16**	**16**	P		**P**		**07 47 54.7**	**-2.5**	
MAT				S		**S**		**07 53 33.4**	**-0.4**	
MJAR	**Matsushiro Arr**	**36.16**	**16**	P		**P**		**07 47 54.7**	**-2.5**	
	comp=Z,93nm,0.9s,baz=192,slow=8.6,SNR=51									
MJAR				PcP		**PcP**		**07 50 24.0**	**+1.8**	
	comp=Z,39nm,1.0s,baz=185,slow=2.8,SNR=5.2									
MJAR				LR		LR		08 01 22.6		
	comp=Z,10μm,20.4s,baz=205,slow=34									
MJAR	**Matsushiro Arr**	**36.16**	**16**	P		**P**		**07 47 55.2**	**-2.0**	
MJAR				pmax		pmax				
	comp=Z,219nm,1.0s									
MJAR	**Matsushiro Arr**	**36.16**	**16**	P		**P**		**07 47 55.2**	**-2.0**	
MJAR				IAmb		IAmb		07 48 04.9		
	comp=Z,219nm,0.9s									
SEHB	**SEOHWA**	**36.26**	**2**	P		**P**		**07 48 02.1**	**+4.1**	
	SNR=13									
KSSKC	**Sokcho**	**36.29**	**3**	P		**P**		**07 48 00.7**	**+2.4**	
	SNR=12									
JYT	**Yasato**	**36.46**	**19**	IAmb		IAmb		07 48 11.3		
	comp=Z,193nm,0.8s									
STKA	**Stephens Creek**	**36.49**	**158**	P		**P**		**07 47 57.8**	**-2.3**	
	baz=36,SNR=62									
STKA	**Stephens Creek**	**36.49**	**158**	P		**P**		**07 47 57.6**	**-2.5**	
	comp=Z,258nm,0.9s,baz=348,slow=7.1,SNR=54									
STKA				LR		LR		08 05 01.2		
	comp=Z,15μm,21.9s,baz=341,slow=40									
HTT	**Hallett**	**37.02**	**163**	P		**P**		**07 48 03.1**	**-1.5**	
	baz=37,SNR=61									
HTT	**Hallett**	**37.02**	**163**	⇑P		**P**		**07 48 03.3**	**-1.3**	
DL2	**Dalian**	**37.13**	**354**	P		**P**		**07 48 04.8**	**-0.5**	
DL2				pP		**pP**		**07 48 16.3**	**-1.2**	
DL2				PcP		**PcP**		**07 50 29.6**	**+4.7**	
DL2				S		**S**		**07 53 47.6**	**-0.8**	
DL2				SS		**SnSn**		**07 56 22.9**	**-3.5**	
DL2				pmax		pmax				
	comp=Z,420nm,0.8s									
DL2				pmax		pmax				
	comp=Z,4μm,5.6s									
DL2				LR		LR				
	comp=Z,11μm,20.4s									
DL2				LR		LR				
	comp=Z,23μm,21.0s									
DL2				LR		LR				
	comp=Z,24μm,16.4s									
JSD	**Sado**	**37.58**	**15**	⇑P		**P**		**07 48 07.5**	**-1.7**	
CMSA	**Cobar Meteorol**	**37.90**	**153**	P		**P**		**07 48 10.6**	**-1.4**	
	baz=38,SNR=147									
TIY	**Taiyuan**	**37.94**	**342**	⇑P		**P**		**07 48 12.8**	**+0.4**	
TIY				pP		**sP**		**07 48 29.9**	**-0.1**	
TIY				S		**S**		**07 53 56.8**	**-4.2**	
TIY				sS		**sS**		**07 54 26.8**	**+5.3**	
TIY				pmax		pmax				
	comp=Z,63nm,0.9s									
TIY				pmax		pmax				
	comp=Z,2μm,6.9s									
TIY				LR		LR				
	comp=Z,9μm,14.9s									
TIY				LR		LR				
	comp=Z,6μm,17.6s									
TIY				LR		LR				
	comp=Z,30μm,24.9s									
JMM	**Marumori**	**38.15**	**18**	⇑P		**P**		**07 48 13.4**	**-0.6**	
IMP	**Imphal**	**38.83**	**309**	*e*P		**P**		**07 48 17.0**	**-3.0**	
IMP				IAmb		IAmb		07 48 23.5		
	comp=Z,3μm,2.9s									
BJT	**Baijiatuan**	**39.11**	**347**	P		**P**		**07 48 21.0**	**-1.1**	
BJT				pmax		pmax				
	comp=Z,252nm,1.0s									
BJT				MLR		MLR				
	comp=Z,8μm,21.0s									
BJT	**Baijiatuan**	**39.11**	**347**	P		**P**		**07 48 20.9**	**-1.1**	
BJT				IAmb		IAmb		07 48 33.4		
	comp=Z,252nm,1.0s									
BJI	**Beijing**	**39.13**	**347**	P		**P**		**07 48 20.8**	**-1.4**	
BJI				pP		**pwP**		**07 48 37.0**	**+0.1**	
BJI				sP		**sP**		**07 48 42.1**	**+2.2**	
BJI				PP		**PnPn**		**07 49 55.4**	**-0.2**	
BJI				S		**S**		**07 54 18.5**	**-0.2**	
BJI				pmax		pmax				
	comp=Z,85nm,1.3s									
BJI				pmax		pmax				
	comp=Z,3μm,7.8s									
BJI				LR		LR				
	comp=Z,5μm,17.2s									
BJI				LR		LR				
	comp=Z,7μm,19.0s									
BJI				LR		LR				
	comp=Z,11μm,23.0s									
KOHI	**KOHIMA**	**39.17**	**310**	*e*P		**P**		**07 48 20.7**	**-2.3**	
KOHI				IAMs_20		IAMs_20		08 03 33.5		
	comp=Z,31μm,25.4s									
MOKO	**MOKOCHONG**	**39.18**	**311**	*e*P		**P**	

comp=Z,3µm,5.6s
HHC LR LR
comp=Z,24µm,21.1s
HHC LR LR
comp=Z,12µm,18.1s
HHC LR LR
comp=Z,36µm,18.5s
BTO Baotou 41.34 341 *e*P **P 07 48 39.8 -0.9**
BTO S **S 07 54 52.8 +0.8**
BTO LR LR
comp=Z,65µm,22.7s
BTO LR LR
comp=Z,46µm,23.0s
VLA Vladivostok 41.35 6*ce*P **P 07 48 40.4 -0.1**
VLA pmax pmax
comp=Z,309nm,1.0s
VLA MLR MLR
comp=Z,7µm,19.0s
YNG Young 41.45 152 P **P 07 48 41.4 -0.1**
baz=42,SNR=77
KWAJ Kwajalein Atol 41.48 79 IAMs_20 IAMs_20 08 03 08.3
comp=Z,16µm,20.0s
CN2 Changchun 41.76 359 *e*P **P 07 48 42.8 -1.1**
CN2 PP **PP 07 50 22.9 +1.7**
CN2 *e*S **S 07 54 55.6 -2.2**
CN2 SS **SS 07 57 59.8 -5.4**
CN2 pmax pmax
comp=Z,3µm,11.0s
CN2 LR LR
comp=Z,8µm,20.0s
CN2 LR LR
comp=Z,10µm,20.0s
CN2 LR LR
comp=Z,10µm,23.0s
MGCD Mangrove Creek 41.92 148 P **P 07 48 45.3 -0.1**
baz=42,SNR=14
RIV Riverview 42.43 149 P **P 07 48 49.1 -0.3**
baz=42,SNR=6.7
RIV Riverview 42.43 149 ⇑P **P 07 48 52.2 +2.7**
USA0B Ussuriysk Arra 42.43 6 P **P 07 48 48.7 -0.6**
USA0B pmax pmax
comp=Z,222nm,0.9s
USA0B Ussuriysk Arra 42.43 6 P **P 07 48 48.7 -0.6**
USRK Ussuriysk Ar. 42.43 6 P **P 07 48 48.4 -0.9**
comp=Z,161nm,1.0s,baz=191,slow=7.7,SNR=95
USRK LR LR 08 08 24.7
comp=Z,3µm,19.5s,baz=186,slow=39
USRK PKP2ab 08 22 05.9
comp=Z,1.8nm,0.7s,baz=56,slow=7.1,SNR=4.5
USRK Ussuriysk Ar. 42.43 6 P **P 07 48 48.8 -0.5**
CAN Canberra 42.57 152 IAmb IAmb 07 48 54.8
comp=Z,751nm,1.2s
CAN Canberra 42.57 152 ⇑P **P 07 48 50.2 -0.5**
MDJ Mudanjiang 42.65 3 P **P 07 48 51.0 -0.2**
MDJ pP pP 07 49 04.8 +1.3
MDJ sP sP 07 49 11.4 +2.5
MDJ S **S 07 55 09.8 -1.1**
MDJ sS sS 07 55 33.5 +1.8
MDJ SS **SS 07 58 20.5 -2.2**
MDJ pmax pmax
comp=Z,57nm,1.3s
MDJ pmax pmax
comp=Z,6µm,11.3s
MDJ LR LR
comp=Z,11µm,23.1s
MDJ LR LR
comp=Z,8µm,20.7s
MDJ LR LR
comp=Z,26µm,24.5s
ERM Erimo 42.68 18 P **P 07 48 50.6 -0.8**
ERM pmax pmax
comp=Z,245nm,0.9s
ERM Erimo 42.68 18 P **P 07 48 50.6 -0.8**
ERM IAmb IAmb 07 49 02.7
comp=Z,245nm,0.9s
H11S3 WAKE ISLAND Hy 42.71 65 T T 08 34 39.7
baz=252,slow=75,SNR=21
H11S2 WAKE ISLAND Hy 42.72 65 T T 08 34 37.8
baz=252,slow=75,SNR=38
H11S1 WAKE ISLAND Hy 42.73 65 T T 08 34 43.6
baz=252,slow=75,SNR=28
CNB Canberra Magne 42.74 152 P **P 07 48 52.5 +0.4**
baz=43,SNR=36
JEW Eniwo 42.92 16 ⇑P **P 07 48 53.5 +0.1**
WAKE Wake Island 42.93 63 P **P 07 48 54.4 +0.6**
TOO Toolangi 43.01 158 P **P 07 48 54.0 -0.2**
baz=43,SNR=50
TOO Toolangi 43.01 158 ⇓P **P 07 48 53.0 -1.2**
KOUNC Koumac, New Ca 43.21 123 ⇑P **P 07 48 56.8 +0.8**
LSA Lhasa 43.51 313 P **P 07 48 57.8 -1.1**
LSA S S 07 55 12.4 -12
LSA pmax pmax
comp=Z,240nm,1.4s
LSA LR LR
comp=Z,32µm,27.8s
LSA LR LR
comp=Z,36µm,32.7s
LSA LR LR
comp=Z,32µm,32.0s
LSA Lhasa 43.51 313 P **P 07 48 57.8 -1.1**
LSA Lhasa 43.51 313 P **P 07 48 58.0 -0.9**
LSA pmax pmax
comp=Z,168nm,0.7s
LSA Lhasa 43.51 313 P **P 07 48 58.0 -0.9**
TEY Ternei 43.90 10⇑ *e*P **P 07 49 01.2 0.0**
TEY *e* 07 55 31.0
TEY pmax pmax
comp=E,10.0nm,1.2s
TEY pmax pmax
comp=Z,80nm,2.0s
TEY pmax pmax
comp=N,40nm,1.3s
TEY pmax pmax
comp=Z,2µm,5.7s
TEY pmax pmax
comp=N,1µm,5.4s
TEY pmax pmax
comp=N,5µm,26.2s
TEY MLR MLR
comp=E,1µm,18.0s
TEY MLR MLR
comp=N,3µm,19.0s
TEY MLR MLR
comp=Z,3µm,19.0s
MILA Mila 44.08 154 P **P 07 49 02.1 -0.8**
baz=44,SNR=12
MILA Mila 44.08 154 ⇑P **P 07 49 04.1 +1.3**
ASAJ Asahikawa 44.42 17 LR LR 08 07 42.5
comp=Z,9µm,21.5s,baz=222,slow=36
ASAJ Asahikawa 44.42 17 P **P 07 49 04.9 -0.5**
ASAJ pmax pmax
comp=Z,318nm,0.9s
JKA Kamikawa-asahi 44.42 17 P **P 07 49 04.9 -0.5**
JKA IAmb IAmb 07 49 13.7
comp=Z,318nm,0.9s
GTA Gaotai 44.57 330 ⇑P **P 07 49 05.0 -1.9**
GTA PcP **PP 07 50 53.3 +1.6**
GTA S **S 07 55 32.3 -7.2**
GTA pmax pmax
comp=Z,20nm,1.5s
GTA pmax pmax
comp=Z,2µm,5.6s
GTA LR LR
comp=Z,9µm,19.6s
GTA LR LR
comp=Z,14µm,20.7s
GTA LR LR
comp=Z,22µm,21.1s
BOK Bokaro 44.93 302 *e*P **P 07 49 08.7 -1.1**
BOK IAmb IAmb 07 49 13.7
comp=Z,77nm,1.0s
VIS Vishakhapatnam 45.20 293 *e*P **P 07 49 12.4 +0.4**
YUK Yuzh-Kuril'sk 45.37 20*c i*P **P 07 49 15.3 +2.4**
YUK *i* *PP **sP 07 49 30.3 -0.5**
YUK *i* 07 50 50.1
YUK *i* 07 51 02.2
YUK *i* S **S 07 55 53.0 +2.5**
YUK *i* 07 59 10.5
YUK *i* SSS SSS 08 00 09.6
YUK pmax pmax
comp=Z,824nm,2.1s
YUK pmax pmax
comp=E,251nm,0.8s
YUK pmax pmax
comp=Z,684nm,0.8s
YUK pmax pmax
comp=N,182nm,0.5s
RAMN Ramite 45.65 307 *e*P **P 07 49 15.9 +0.1**
comp=N,123nm,0.5s
DZM Mont Dzumac 45.68 124 *e*P **P 07 49 15.1 -0.9**
comp=N,975nm,1.2s
DZM *e*S **S 07 55 50.7 -5.2**
comp=N,17µm,38.5s
DZM *e*LQ LQ 08 00 04.6
comp=N,21µm,30.1s
DZM *e*LR LR 08 02 03.3
comp=N,39µm,25.1s
DZM Mont Dzumac 45.68 124 IAmb IAmb 07 49 24.0
comp=Z,447nm,1.1s
DZM Mont Dzumac 45.68 124 ⇓P **P 07 49 15.0 -0.9**
ONTNC Ouen Toro 45.79 124 P **P 07 49 15.2 -1.5**
ONTNC IAmb IAmb 07 49 19.9
comp=Z,525nm,1.3s
LIFNC LIFOU 45.80 122 P **P 07 49 16.1 -0.6**
LIFNC IAMs_20 IAMs_20 08 06 30.1
comp=Z,14µm,22.0s
PALK Pallekele 45.94 278 P **P 07 49 15.4 -2.6**
PALK pmax pmax
comp=Z,141nm,1.3s
PALK MLR MLR
comp=Z,17µm,21.0s
PALK Pallekele 45.94 278 P **P 07 49 15.4 -2.6**
PALK Pallekele 45.94 278 IAMs_20 IAMs_20 08 09 26.1
comp=Z,17µm,21.0s
PALK Pallekele 45.94 278 P **P 07 49 18.6 +0.6**
PALK P **P 07 49 18.6 +0.6**
PALK Pallekele 45.94 278 P **P 07 49 19.4 +1.4**
comp=Z,12µmcomp=Z,65nm,0.8s
OUENC Ouen Island, N 46.16 124 IAmb IAmb 07 49 23.4
comp=Z,499nm,1.4s
JIRN Jiri 46.29 307 *e*P **P 07 49 19.4 -1.6**
comp=Z,306nm,0.7s
TARA Tarawa 46.41 90 P **P 07 49 23.3 +1.6**
TARA IAmb IAmb 07 49 26.0
comp=Z,358nm,1.4s
TARA Tarawa 46.41 90 IAMs_20 IAMs_20 08 04 44.0
comp=Z,17µm,21.0s
GUN Gumba 46.65 308 *e*P **P 07 49 22.2 -1.5**
comp=Z,628nm,0.8s
PINNC Pines Island, 46.75 124 P **P 07 49 24.2 0.0**
MARNC Mare, Loyalty 46.76 122 ⇑P **P 07 49 25.0 +0.7**
PKI Pulchoki 46.87 307 *e*P **P 07 49 24.8 -0.7**
comp=Z,66nm,0.4s
PKIN Phulchoki 46.88 307 *e*P **P 07 49 24.8 -0.7**
KKN Kakani 47.07 307 *e*P **P 07 49 26.5 -0.4**
comp=Z,131nm,0.5s
YSS Yuzh-Sakhalins 47.08 15*ce*P **P 07 49 25.7 -0.6**
YSS *e**SP **pP 07 49 39.8 +0.9**
YSS *e* 07 51 17.0
YSS *e*PPP PPP 07 52 00.9
YSS *e*S **S 07 56 14.3 -0.7**
YSS *e* 07 56 27.0
YSS pmax pmax
comp=Z,140nm,1.3s
YSS pmax pmax
comp=Z,3µm,4.9s
YSS pmax pmax
comp=Z,3µm,6.3s
YSS pmax pmax
comp=N,1µm,10.7s
YSS Yuzh-Sakhalins 47.08 15 P **P 07 49 25.5 -0.9**
YSS Yuzh-Sakhalins 47.08 15 ⇑P **P 07 49 25.8 -0.6**
MDRS Chennai 47.10 286 *e*P **P 07 49 25.2 -1.8**
KUR Kuril'sk 47.10 21*d i*P **P 07 49 26.4 -0.1**
KUR *i* S **S 07 56 17.0 +1.6**
KUR pmax pmax
comp=Z,806nm,1.0s
KUR pmax pmax
comp=E,234nm,1.2s
KUR pmax pmax
comp=N,199nm,0.9s
KUR pmax pmax
comp=Z,5µm,8.4s
KUR pmax pmax
comp=N,3µm,11.1s
KUR pmax pmax
comp=E,2µm,9.1s
KUR MLR MLR
comp=Z,2µm,18.0s
KUR MLR MLR
comp=E,2µm,16.0s
DMN Daman 47.13 307 *e*P **P 07 49 27.3 -0.1**
comp=E,530nm,1.2s
KLR Kul'dur 47.39 5 P **P 07 49 27.6 -1.1**
comp=E,28nm,0.8s,baz=201,slow=5.0,SNR=3.5
KLR S **S 07 56 24.4 +5.0**
comp=E,3.6nm,1.0s,baz=358,slow=21,SNR=3.5
KLR PKP2ab 08 21 41.8
comp=E,2.0nm,0.8s,baz=9.9,slow=5.5,SNR=4.4
GKN Gorkha 47.67 307 *e*P **P 07 49 31.0 -0.5**
comp=E,294nm,0.9s
MOO Moorlands 47.91 159 P **P 07 49 32.9 0.0**
baz=48,SNR=5.9
TAU Tasmania Unive 48.37 160 P **P 07 49 37.1 +0.7**
TAU pmax pmax
comp=Z,288nm,1.3s
TAU Tasmania Unive 48.37 160 P **P 07 49 37.0 +0.7**
TAU IAmb IAmb 07 49 40.3
comp=Z,288nm,1.2s
KOLN Koldanda 48.41 306 *e*P **P 07 49 37.3 0.0**
comp=Z,375nm,0.6s
DANN Dangsing 48.52 307 *e*P **P 07 49 38.0 -0.2**
comp=Z,702nm,0.7s
ULN Ulaanbaatar 48.81 343*c i*P **P 07 49 38.7 -1.2**
ULN pmax pmax
comp=Z,143nm,1.7s
ULN Ulaanbaatar 48.81 343 P **P 07 49 39.3 -0.6**
ULN IAmb IAmb 07 49 59.8
comp=Z,137nm,0.9s
ULN Ulaanbaatar 48.81 343 P **P 07 49 40.7 +0.8**
ULN Ulaanbaatar 48.81 343 ⇑P **P 07 49 38.9 -1.0**
ULN Ulaanbaatar 48.81 343 P **P 07 49 38.9 -1.0**
comp=Z,64µmcomp=Z,18µmcomp=Z,610nm,1.2s
UGL Uglegorsk 48.89 14*c i*P **P 07 49 40.1 -0.2**
UGL *e*S **S 07 56 40.5 0.0**
UGL pmax pmax
comp=Z,5µm,5.0s
UGL pmax pmax
comp=N,150nm,0.9s
UGL pmax pmax
comp=E,740nm,1.0s
UGL pmax pmax
comp=Z,910nm,1.0s
UGL pmax pmax
comp=N,1µm,6.0s
UGL pmax pmax
comp=E,1µm,6.0s
UGL pmax pmax
comp=Z,3µm,7.0s
UGL smax smax
comp=N,4µm,7.0s
UGL smax smax
comp=E,6µm,7.0s
SONM Songino Array 48.98 342 P **P 07 49 39.5 -1.7**
comp=E,37nm,0.8s,baz=156,slow=8.0,SNR=68
SONM PcP **PcP 07 51 08.3 +3.6**
comp=E,42nm,0.8s,baz=152,slow=3.5,SNR=3.8
SONM LR LR 08 13 55.6
comp=E,6µm,21.0s,baz=154,slow=40
SONM PKP2ab 08 21 38.5
comp=E,4.2nm,1.1s,baz=321,slow=2.9,SNR=7.6
SONM Songino Array 48.98 342 P **P 07 49 39.5 -1.7**
SONM pmax pmax
comp=Z,147nm,1.0s
SONM Songino Array 48.98 342 P **P 07 49 39.5 -1.7**
SONM IAmb IAmb 07 49 54.4
comp=Z,147nm,1.0s
PYUN Piuthan 49.03 306 *e*P **P 07 49 42.1 0.0**
comp=Z,803nm,0.7s
GRNR Gornyy 49.44 8⇑ *i*P **P 07 49 44.4 -0.1**
GRNR *e* 07 51 37.2
GRNR *e*S **S 07 56 53.3 +5.0**
GRNR pmax pmax
comp=Z,60nm,1.1s
GRNR smax smax
comp=N,3.0nm,0.9s
GRNR MLR MLR
comp=E,660nm,13.0s
GRNR MLR MLR
comp=N,4µm,20.0s
GRNR MLR MLR
comp=Z,5µm,20.0s
HYB Hyderabad 49.55 291 *i* P **P 07 49 44.0 -1.9**
comp=Z,280nm,1.0s
HYB *es*P **sP 07 50 03.0 -1.0**
HYB *e*PP **PP 07 51 44.0 +3.4**
HYB *e*PPP PPP 07 52 32.0
HYB *e*ScP **ScP 07 54 58.0 -1.0**
HYB *e*S **S 07 56 52.0 +1.2**
HYB *e*ScS **ScS 07 59 36.0 +1.8**
HYB *e*SS SS 08 00 44.0 +20
NFK Norfolk Island 50.18 131 P **P 07 49 49.5 -1.0**
baz=50,SNR=8.9
NFK Norfolk Island 50.18 131 ⇓P **P 07 49 51.7 +1.2**
TYV Tymovskoe 50.69 13 *e*P **P 07 49 54.4 +0.4**
TYV *e*S **S 07 57 10.2 +4.6**
TYV pmax pmax
comp=Z,5µm,5.6s
TYV pmax pmax
comp=Z,93nm,0.9s
TYV smax smax
comp=N,3µm,7.9s
TYV smax smax
comp=E,7µm,7.9s
CIT Chita 51.14 350 *e*P **P 07 49 57.5 +0.1**
CIT *e* 07 51 08.3
CIT *e* 07 51 49.7
CIT *e* 07 52 59.9
CIT *e* 07 57 17.5
CIT *e* 07 59 46.1
CIT pmax pmax
comp=Z,1µm,2.6s
ZEA Zeya 51.70 1 *e*P **P 07 50 00.0 -1.5**
ZEA *e* 07 50 17.0
ZEA *e* 07 51 10.7
ZEA *e* 07 51 59.8
ZEA *e*S **S 07 57 19.7 +0.2**
ZEA *e* 07 59 48.5
ZEA pmax pmax
comp=N,1µm,12.2s
ZEA pmax pmax
comp=Z,1µm,9.5s
ZEA pmax pmax
comp=Z,70nm,0.8s
ZEA pmax pmax
comp=N,900nm,6.5s
ZEA pmax pmax
comp=Z,1µm,6.3s
ZEA smax smax
comp=Z,1µm,9.2s
ZEA smax smax
comp=E,500nm,8.2s
ZEA smax smax
comp=N,2µm,13.8s
ZEA MLR MLR
comp=N,6µm,21.0s
ZEA MLR MLR
comp=Z,7µm,24.0s
BHPL Bhopal 52.05 298 *e*P **P 07 50 03.0 -1.7**
BHPL IAmb IAmb 07 50 07.7
comp=Z,101nm,0.7s
ZAK Zakamensk 52.20 341 *e*P **P 07 50 04.4 -1.0**
ZAK pmax pmax
comp=Z,60nm,1.3s
NKL Nikolayevsk 52.44 11 *e*P **P 07 50 03.7 -3.3**
NKL *e*S **S 07 57 34.4 +4.8**
NKL pmax pmax
comp=N,453nm,1.0s
NKL pmax pmax
comp=E,3.0nm,1.0s
NKL pmax pmax
comp=Z,397nm,1.1s
NKL smax smax
comp=E,4.0nm,3.2s
NKL smax smax
comp=N,706nm,2.9s
IRK Irkutsk 53.52 343 *e*P **P 07 50 14.2 -0.8**
IRK *e* 07 57 48.8
IRK pmax pmax
comp=Z,549nm,3.7s
KAD Karad 53.61 290 *i* P **P 07 50 17.0 +0.7**
DDI Dehra Dun 53.87 307 *e*P **P 07 50 16.5 -1.5**
DDI IAmb IAmb 07 50 22.6
comp=Z,128nm,0.6s
NDI New Delhi 53.96 305 *e*P **P 07 50 20.0 +1.4**
MOY Mondy 54.04 341 *e*P **P 07 50 18.6 -0.4**
MOY pmax pmax
comp=Z,641nm,2.0s
WMQ Urumqi 54.11 326 *e*P **P 07 50 19.0 -0.6**
WMQ pP pP 07 50 31.9 -0.5
WMQ sP sP 07 50 43.8 +6.1
WMQ S **S 07 57 49.8 -3.1**
WMQ pmax pmax
comp=Z,220nm,0.9s
WMQ pmax pmax
comp=Z,4µm,4.5s
WMQ LR LR
comp=Z,13µm,21.1s
WMQ LR LR
comp=Z,14µm,21.1s
WMQ LR LR
comp=Z,21µm,24.5s
POO Poona 54.16 291 *e*P **P 07 50 18.0 -2.3**
POO *e*P **P 07 50 19.9 -0.3**
MSVF Nonsavu 54.37 113*de*P **P 07 50 22.1 +0.2**
MSVF pmax pmax
comp=Z,489nm,1.3s
MSVF MLR MLR
comp=Z,10µm,17.0s
MSVF Nonsavu 54.37 113 P **P 07 50 21.1 -0.8**
MSVF Nonsavu 54.37 113 IAMs_20 IAMs_20 08 12 22.7
comp=Z,13µm,20.0s
DGAR Diego Garcia 54.70 260 IAMs_20 IAMs_20 08 11 48.2
comp=Z,11µm,21.0s
SKR Severo-Kuril's 54.70 23 *e*P **P 07 50 22.6 -1.0**
SKR *e* 07 52 25.2
SKR *e*S **S 07 57 59.2 -1.2**
SKR *e*SS **SS 08 01 42.3 -1.7**
SKR pmax pmax
comp=Z,2µm,3.9s
SKR pmax pmax
comp=Z,700nm,6.4s
SKR pmax pmax
comp=Z,160nm,0.9s
SKR MLR MLR
comp=Z,2µm,17.0s
SKR MLR MLR
comp=Z,2µm,16.0s
SMLA Simla 54.88 307 *e*P **P 07 50 23.4 -1.8**
SMLA IAmb IAmb 07 50 28.6
comp=Z,265nm,0.4s
BHK Bhakra 55.59 307 *e*P **P 07 50 30.2 -0.2**
DHRM DHARAMSHALA 55.99 308 *e*P **P 07 50 32.4 -1.1**
DHRM IAmb IAmb 07 50 38.0
comp=Z,432nm,0.6s
BOD Bodaibo 56.66 352 *e*P **P 07 50 36.5 -1.0**
BOD pmax pmax
comp=Z,398nm,1.3s
PEA0B Petropavlovsk- 57.23 22*ce*P **P 07 50 41.4 -0.2**
PEA0B Petropavlovsk- 57.23 22 P **P 07 50 41.6 0.0**
PEA0B IAmb IAmb 07 50 49.1
comp=Z,273nm,1.2s
PETK Petropavlovsk- 57.23 22 P **P 07 50 40.9 -0.8**
comp=Z,41nm,0.9s,baz=203,slow=11,SNR=47
PETK LR LR 08 14 22.4
comp=Z,4µm,21.5s,baz=206,slow=35
PETK PKPPKP P'P'df 08 20 19.2 -11
comp=Z,3.5nm,1.0s,baz=132,slow=6.2,SNR=4.3
PETK PKP2bc 08 20 43.4
comp=Z,6.8nm,1.1s,baz=63,slow=8.8,SNR=4.1
OUZ Omahuta 57.42 135 P **P 07 50 42.7 -0.6**
OUZ IAmb IAmb 07 50 47.5
comp=Z,291nm,1.5s
OUZ IAMs_20 IAMs_20 08 19 07.2
comp=Z,12µm,18.0s
OUZ Omahuta 57.42 135 ⇓P **P 07 50 44.7 +1.4**
PET Petropavlovsk 57.52 22 *e*P **P 07 50 43.6 0.0**
PET *e* 07 52 50.5
PET *e*S **S 07 58 38.4 +0.7**
PET *e*SS **SS 08 02 30.2 +1.9**
PET pmax pmax
comp=Z,5µm,6.1s
PET pmax pmax
comp=Z,5µm,12.6s
PET pmax pmax
comp=Z,294nm,1.2s
PET MLR MLR

comp=Z,6µm,19.0s
PET MLR MLR
comp=Z,5µm,19.0s
PET Petropavlovsk 57.52 22 P **P** **07 50 43.7 0.0**
PET IAmb IAmb 07 50 51.6
comp=Z,298nm,1.2s
PET Petropavlovsk 57.52 22 ⇓P **P** **07 50 44.0 +0.3**
ZSN Zaisan 57.94 328 ⇑*i*P **P** **07 50 46.9 +0.1**
comp=Z,638nm,3.7s,baz=328
ZSN *i* S **S** **07 58 45.5 +2.0**
comp=Z,554nm,5.0s,baz=328
ZSN Zaisan 57.94 328*c i*P **P** **07 50 46.8 0.0**
ZSN *i* S **S** **07 58 45.4 +2.0**
ZSN pmax pmax
comp=Z,638nm,3.7s
ZSN smax smax
comp=N,554nm,5.0s
DGZ Jazzator, Alta 58.09 331*c i*P **P** **07 50 46.5 -1.5**
DGZ pmax pmax
comp=Z,199nm,1.8s
DGZ MLR MLR
comp=Z,14µm,22.0s
SHLS Shalkode 58.63 321 *e*P **P** **07 50 48.5 -3.3**
comp=Z,107nm,1.0s,baz=322
SHLS *i* S **S** **07 58 50.9 -2.1**
baz=322
SHLS Shalkode 58.63 321 *e*P **P** **07 50 48.5 -3.3**
SHLS *i* S **S** **07 58 50.8 -2.1**
SHLS pmax pmax
comp=Z,107nm,1.0s
NIL Nilore 58.88 309 P **P** **07 50 52.5 -1.2**
NIL pmax pmax
comp=Z,344nm,1.2s
NIL MLR MLR
comp=Z,7µm,22.0s
NIL Nilore 58.88 309 P **P** **07 50 52.5 -1.2**
UZB Uzynbulak 58.90 321 *e*P **P** **07 50 51.6 -2.2**
comp=Z,275nm,2.0s,baz=321
UZB *e*S **S** **07 58 56.3 -0.2**
baz=321
UZB Uzynbulak 58.90 321 *e*P **P** **07 50 51.5 -2.2**
UZB *e*S **S** **07 58 56.2 -0.2**
UZB pmax pmax
comp=Z,275nm,2.0s
MK31 Makanchi Array 58.95 326*c i*P **P** **07 50 51.9 -2.0**
MK31 Makanchi Array 58.95 326 IAmb IAmb 07 50 58.9
comp=Z,95nm,0.8s
MKAR Makanchi Array 58.95 326 P **P** **07 50 52.0 -1.8**
comp=Z,57nm,0.5s,baz=120,slow=7.5,SNR=182
MKAR S **S** **07 58 55.8 -0.8**
comp=Z,3.7nm,0.9s,baz=113,slow=2.8,SNR=3.5
MKAR LR LR 08 16 59.0
comp=Z,15µm,21.1s,baz=120,slow=37
MKAR PKPPKP **P'P'df** **08 20 20.8 -7.8**
comp=Z,3.4nm,0.9s,baz=267,slow=2.7,SNR=9.7
MKAR PKP2bc 08 20 40.2
comp=Z,4.8nm,0.8s,baz=318,slow=3.3,SNR=9.4
MKAR Makanchi Array 58.95 326 P **P** **07 50 52.7 -1.1**
PRZ Przheval'sk 58.96 320 P **P** **07 50 54.8 +0.5**
PRZ pmax pmax
comp=Z,258nm,0.8s
PRZ Przheval'sk 58.96 320 P **P** **07 50 54.8 +0.5**
BHUJ Bhuj 58.97 296 *e*P **P** **07 50 53.5 -0.9**
BHUJ IAmb IAmb 07 51 01.2
comp=Z,67nm,0.3s
TARG Taragay, Kyrgy 58.98 319 IAmb IAmb 07 51 07.1
comp=Z,137nm,0.8s
MAKZ Makanchi 59.13 326 P **P** **07 50 53.4 -1.7**
MAKZ Makanchi 59.13 326 P **P** **07 50 53.7 -1.4**
MAKZ IAmb IAmb 07 51 02.5
comp=Z,312nm,1.2s
MAKZ Makanchi 59.13 326 ⇑P **P** **07 50 52.9 -2.2**
KSH Kashi 59.20 316 P **P** **07 50 55.4 -0.5**
KSH sP sP 07 51 17.3 +3.3
KSH PcP **PcP** **07 51 39.4 -4.5**
KSH S **S** **07 58 56.8 -3.6**
KSH pmax pmax
comp=Z,150nm,1.1s
KSH pmax pmax
comp=Z,2µm,7.3s
KSH LR LR
comp=Z,5µm,28.4s
KSH LR LR
comp=Z,6µm,27.9s
KSH LR LR
comp=Z,12µm,28.9s
SATY Saty 59.24 321 *e*P **P** **07 50 54.0 -2.2**
baz=321
SATY *e*S **S** **07 59 01.5 +0.6**
baz=321
SATY Saty 59.24 321 *e*P **P** **07 50 53.9 -2.2**
SATY *e*S **S** **07 59 01.5 +0.6**
KPKS Kokpek 59.27 321 *e*P **P** **07 50 54.3 -2.0**
comp=Z,587nm,2.1s,baz=321
KPKS *e*S **S** **07 59 00.3 -0.9**
baz=321
KPKS Kokpek 59.27 321 *e*P **P** **07 50 54.2 -2.0**
KPKS *e*S **S** **07 59 00.3 -0.9**
KPKS pmax pmax
comp=Z,587nm,2.1s
PYZ Puysegur Point 59.51 149 IAMs_20 IAMs_20 08 20 06.1
comp=Z,9µm,20.0s
FOZ Fox Glacier 59.56 145 P **P** **07 50 58.5 +0.5**
FOZ IAmb IAmb 07 51 49.2
comp=Z,132nm,1.1s
FOZ IAMs_20 IAMs_20 08 19 18.3
comp=Z,9µm,19.0s
KDJ Kajisay 59.58 319 P **P** **07 50 57.6 -0.9**
KDJ pmax pmax
comp=Z,189nm,0.8s
KDJ Kajisay 59.58 319 P **P** **07 50 57.6 -0.9**
KDJ IAmb IAmb 07 51 06.6
comp=Z,190nm,0.8s
QRZ Quartz Range 59.64 141 P **P** **07 50 58.1 -0.5**
QRZ Quartz Range 59.64 141 P **P** **07 51 00.5 +1.8**
DSZ Denniston Nort 59.70 142 P **P** **07 50 59.2 0.0**
MLZ Mavora Lakes 59.76 147 P **P** **07 50 58.4 -1.1**
MLZ IAmb IAmb 07 51 02.4
comp=Z,426nm,1.9s
WKZ Wanaka 59.91 146 P **P** **07 51 00.2 -0.3**
HIZ Hauiti 59.94 137 P **P** **07 51 00.5 -0.3**
WHZ Wether Hill Ro 60.00 148 IAmb IAmb 07 51 03.6
comp=Z,234nm,1.3s
WHZ IAMs_20 IAMs_20 08 19 57.1
comp=Z,12µm,20.0s
INZ Inchbonnie 60.04 143 P **P** **07 51 04.0 +2.6**
YAK Yakutsk 60.06 2 P **P** **07 51 00.1 -1.0**
comp=Z,153nm,0.7s,baz=199,slow=0.9,SNR=23
YAK S **S** **07 59 09.4 -0.9**
comp=Z,10nm,0.3s,baz=39,slow=0.8,SNR=1.3
YAK LR LR 08 18 03.6
comp=Z,4µm,21.6s,baz=179,slow=37
YAK PKPPKP **P'P'df** **08 20 24.6 -1.0**
comp=Z,7.5nm,0.4s,baz=33,slow=1.1,SNR=1.2
YAK Yakutsk 60.06 2 ⇑*i*P **P** **07 51 00.1 -1.0**
YAK *e**PP pP 07 51 04.9 -9.0
YAK *e* 07 51 48.0
YAK *e* 07 53 15.0
YAK *e*S **S** **07 59 10.6 +0.3**
YAK *e**SS **pS** **07 59 24.7 -0.9**
YAK *e* 08 00 46.7
YAK *e*SS **SS** **08 03 13.0 +5.2**
YAK pmax pmax
comp=Z,264nm,1.0s
YAK pmax pmax
comp=N,135nm,1.1s
YAK pmax pmax
comp=E,44nm,1.2s
YAK pmax pmax
comp=Z,149nm,1.7s
YAK pmax pmax
comp=N,136nm,1.7s
YAK pmax pmax
comp=E,52nm,1.5s
YAK smax smax
comp=E,2µm,2.4s
YAK smax smax
comp=N,1µm,2.0s
YAK MLR MLR
comp=Z,9µm,22.0s
YAK MLR MLR
comp=N,6µm,22.0s
YAK MLR MLR
comp=E,4µm,20.0s
YAK Yakutsk 60.06 2 P **P** **07 51 00.8 -0.4**
YAK Yakutsk 60.06 2 ⇑P **P** **07 51 00.2 -1.0**

MDOK Medeo 60.16 320 *e*P **P** **07 51 01.3 -1.1**
baz=320
MDOK *e*S **S** **07 59 09.5 -3.2**
baz=320
MDOK Medeo 60.16 320 *e*P **P** **07 51 01.3 -1.1**
MDOK *e*S **S** **07 59 09.5 -3.2**
TNSS Tian-Shan 60.17 320 *e*P **P** **07 51 01.1 -1.6**
baz=320
TDK Taldyqorghan 60.23 323 *e*P **P** **07 51 03.1 +0.3**
comp=E,852nm,2.2s,baz=323
TDK *i* S **S** **07 59 10.7 -2.7**
baz=323
TDK *e*LR LR 08 17 43.6
comp=E,7µm,24.0s,baz=323
TDK Taldyqorghan 60.23 323 *e*P **P** **07 51 03.0 +0.3**
TDK *i* S **S** **07 59 10.6 -2.7**
TDK pmax pmax
comp=Z,852nm,2.2s
TDK MLR MLR
comp=Z,7µm,24.0s
ULHL Ulahol 60.25 319 P **P** **07 51 04.3 +1.1**
SNR=41
AAA Alma-Ata 60.27 320 *e*P **P** **07 51 03.3 +0.2**
baz=320
AAA *e*LR LR 08 18 34.0
comp=Z,19µm,28.4s,baz=320
AAA Alma-Ata 60.27 320 *e*P **P** **07 51 03.3 +0.2**
AAA MLR MLR
comp=Z,19µm,28.0s
LBZ Lake Benmore 60.29 145 IAMs_20 IAMs_20 08 20 57.6
comp=Z,10µm,18.0s
RPZ Rata Peaks 60.39 144 P **P** **07 51 03.9 +0.1**
RPZ IAmb IAmb 07 51 06.7
comp=Z,259nm,1.2s
RPZ Rata Peaks 60.39 144 P **P** **07 51 06.5 +2.7**
THZ Tophouse 60.39 141 IAmb IAmb 07 51 06.2
comp=Z,138nm,1.0s
THZ Tophouse 60.39 141 P **P** **07 51 02.6 -1.3**
CHKK Chushkaly 60.53 321 *e*P **P** **07 51 03.4 -1.5**
baz=321
MTBS Maitube 60.54 320 *e*P **P** **07 51 04.1 -0.9**
baz=320
MTBS *e*S **S** **07 59 20.6 +3.1**
baz=320
MA2 Magadan 60.55 14 P **P** **07 51 04.4 -0.2**
comp=Z,280nm,0.8s,baz=197,slow=6.2,SNR=42
MA2 Magadan 60.55 14 P **P** **07 51 04.9 +0.3**
BOOM Boomskoye usch 60.56 319 IAmb IAmb 07 51 12.1
comp=Z,194nm,1.3s
ARCZ Arundel 60.60 144 P **P** **07 51 07.9 +2.7**
OXZ Oxford 60.75 143 IAmb IAmb 07 51 16.0
comp=Z,170nm,1.3s
KZA Kyzart 60.83 318 P **P** **07 51 06.7 -0.6**
SNR=47
TUWZ Tuamarina 60.86 141 P **P** **07 51 04.4 -2.6**
TUWZ Tuamarina 60.86 141 P **P** **07 51 08.0 +1.0**
ODZ Otahua Downs 60.95 146 IAmb IAmb 07 51 10.5
comp=Z,288nm,1.6s
ODZ Otahua Downs 60.95 146 ⇓P **P** **07 51 09.5 +1.9**
TCW Tory Channel 60.96 140 P **P** **07 51 09.3 +1.7**
KUU Kurty 60.97 321 *e*P **P** **07 51 05.7 -2.1**
comp=Z,454nm,1.2s,baz=321
KUU *e*S **S** **07 59 21.0 -1.7**
baz=321
KUU Kurty 60.97 321 *e*P **P** **07 51 05.6 -2.1**
KUU *e*S **S** **07 59 21.0 -1.7**
KUU pmax pmax
comp=Z,454nm,1.2s
BSWZ Blackbirch Sta 60.98 141 P **P** **07 51 09.6 +1.8**
TKM2 Tokmak 2 60.98 319 P **P** **07 51 06.3 -1.8**
SNR=82
TKM2 Tokmak 2 60.98 319 *i*P **P** **07 51 06.3 -1.8**
TKM2 pmax pmax
comp=Z,100nm,0.8s
KHZ Kahutara 61.15 142 P **P** **07 51 07.0 -1.9**
KHZ IAmb IAmb 07 51 11.0
comp=Z,171nm,1.1s
KHZ Kahutara 61.15 142 P **P** **07 51 07.1 -1.9**
KHZ Kahutara 61.15 142 ⇑P **P** **07 51 06.6 -2.3**
KIW Kapiti Island 61.18 140 P **P** **07 51 11.1 +1.8**
SNZO South Karori 61.28 140 P **P** **07 51 08.8 -1.0**
KBK Karagaybulak 61.29 319 P **P** **07 51 12.0 +1.8**
SNR=32
URZ Urewera 61.36 136 IAmb IAmb 07 51 12.5
comp=Z,352nm,1.3s
URZ IAMs_20 IAMs_20 08 20 07.5
comp=Z,12µm,19.0s
URZ Urewera 61.36 136 ⇓P **P** **07 51 09.7 -0.7**
UCH Uchtor 61.39 318 P **P** **07 51 10.3 -0.8**
SNR=131
BHW Baring Head 61.44 140 P **P** **07 51 09.9 -1.1**
BHW Baring Head 61.44 140 P **P** **07 51 11.3 +0.3**
CHMS Chumysh 61.57 319 P **P** **07 51 13.0 +1.1**
SNR=26
AAK Ala-Archa 61.58 319 P **P** **07 51 11.5 -0.6**
comp=Z,33nm,0.7s,baz=134,slow=5.3,SNR=35
AAK S **S** **07 59 25.3 -5.6**
comp=Z,0.7nm,0.3s,baz=130,slow=20,SNR=1.1
AAK PKPPKP **P'P'df** **08 20 17.5 -7.6**
comp=Z,0.9nm,0.3s,baz=254,slow=3.5,SNR=6.7
AAK PKP2bc 08 20 33.1
comp=Z,8.3nm,0.9s,baz=202,slow=6.7,SNR=9.8
AAK Ala-Archa 61.58 319 P **P** **07 51 13.5 +1.4**
SNR=32
AAK Ala-Archa 61.58 319*c i*P **P** **07 51 10.7 -1.4**
AAK pmax pmax
comp=Z,120nm,1.0s
AAK MLR MLR
comp=Z,43µm,26.0s
AAK Ala-Archa 61.58 319 P **P** **07 51 11.0 -1.1**
AAK IAmb IAmb 07 52 02.7
comp=Z,97nm,0.9s
AAK Ala-Archa 61.58 319 P **P** **07 51 12.2 +0.1**
AAK P **P** **07 51 12.2 +0.1**
PLWZ Palliser 61.77 140 P **P** **07 51 13.4 +0.1**
SGDS Sogindy 61.86 319 *e*P **P** **07 51 13.3 -0.5**
comp=Z,209nm,2.6s,baz=320
SGDS *e*S **S** **07 59 35.3 +1.1**
baz=320
SGDS Sogindy 61.86 319 *e*P **P** **07 51 13.8 0.0**
USP Ospenovka 61.86 319 P **P** **07 51 12.3 -1.5**
SNR=93
MXZ Matakaoa Point 61.88 135 P **P** **07 51 15.5 +1.5**
MXZ IAmb IAmb 07 51 15.5
comp=Z,141nm,1.2s
AML Almayashu 61.89 318 P **P** **07 51 16.2 +1.7**
SNR=40
AML Almayashu 61.89 318 *i*P **P** **07 51 15.3 +0.8**
SNR=64
AML Almayashu 61.89 318 P **P** **07 51 16.2 +1.7**
KNTN Kanton 61.94 94 IAMs_20 IAMs_20 08 16 50.2
comp=Z,9µm,20.0s
BFZ Birch Farm 61.96 139 IAmb IAmb 07 51 38.0
comp=Z,126nm,0.7s
BFZ IAMs_20 IAMs_20 08 17 37.1
comp=Z,12µm,21.0s
EKS2 Erkin-Say 62.07 318 P **P** **07 51 16.3 +1.0**
SNR=66
DRK Karamyk 62.12 314 P **P** **07 51 15.3 -0.7**
DRK IAmb IAmb 07 51 29.7
comp=Z,341nm,1.3s
ZAA0 Zalesovo Array 62.13 334 IAmb IAmb 07 51 44.1
comp=Z,168nm,1.2s
ZALV Zalesovo Beam 62.13 334 P **P** **07 51 13.4 -1.9**
comp=Z,16nm,0.6s,baz=116,slow=6.9,SNR=28
ZALV S **S** **07 59 36.7 -0.4**
comp=Z,3.9nm,0.7s,baz=123,slow=16,SNR=3.8
ZALV LR LR 08 18 52.6
comp=Z,5µm,21.3s,baz=132,slow=37
ZALV PKPPKP **P'P'df** **08 20 18.5 -4.5**
comp=Z,0.7nm,0.3s,baz=290,slow=4.3,SNR=4.4
ZALV PKP2bc 08 20 29.2
comp=Z,5.4nm,0.8s,baz=272,slow=4.3,SNR=5.8
ZALV Zalesovo Beam 62.13 334 P **P** **07 51 13.1 -2.2**
ZALV Zalesovo Beam 62.13 334 P **P** **07 51 13.1 -2.2**
MCQ Macquarie Isla 62.25 159 ⇓P **P** **07 51 19.7 +3.6**
KBL Kabul 62.47 308 P **P** **07 51 16.6 -1.7**
KBL pmax pmax
comp=Z,131nm,0.7s
KBL Kabul 62.47 308 P **P** **07 51 16.6 -1.7**
KBL IAmb IAmb 07 51 25.7
comp=Z,132nm,0.7s
KBL Kabul 62.47 308 P **P** **07 51 18.9 +0.6**
SNR=95
KBL P **P** **07 51 18.9 +0.6**
SNR=95

BTLS Baital 62.95 321 *e*P **P** **07 51 19.0 -2.0**
comp=Z,134nm,1.5s,baz=321
BTLS *i* S **S** **07 59 45.0 -2.7**
baz=321
BTLS Baital 62.95 321 *e*P **P** **07 51 19.0 -2.0**
BTLS *i* S **S** **07 59 45.0 -2.7**
BTLS pmax pmax
comp=Z,134nm,1.5s
BTK Batken 63.04 315 P **P** **07 51 21.1 -0.8**
BTK pmax pmax
comp=Z,150nm,0.9s
BTK Batken 63.04 315 P **P** **07 51 21.1 -0.8**
BTK IAmb IAmb 07 51 32.8
comp=Z,150nm,0.9s
AFI Afiamalu 63.13 107 P **P** **07 51 22.1 -0.7**
AFI pmax pmax
comp=Z,212nm,1.3s
AFI Afiamalu 63.13 107 P **P** **07 51 22.1 -0.7**
AFI IAmb IAmb 07 51 45.2
comp=Z,212nm,1.2s
KURBB Kurchatov Arra 63.17 328 P **P** **07 51 20.4 -2.0**
comp=Z,126nm,0.7s,baz=129,slow=6.2,SNR=145
KURBB S **S** **07 59 51.4 +1.2**
comp=Z,2.2nm,0.3s,baz=114,slow=16,SNR=8.5
KURBB PKPPKP **P'P'df** **08 20 18.1 -3.6**
comp=Z,2.3nm,0.4s,baz=283,slow=3.7,SNR=6.0
KURBB PKP2bc 08 20 26.7
comp=Z,5.2nm,0.8s,baz=292,slow=2.9,SNR=11
KURBB Kurchatov Arra 63.17 328 P **P** **07 51 20.9 -1.5**
KURK Kurchatov 63.18 328 P **P** **07 51 20.4 -2.0**
KURK Kurchatov 63.18 328 P **P** **07 51 20.4 -2.0**
CHGR Chuyangaron 63.74 313 P **P** **07 51 24.6 -1.9**
DZA Taraz 63.80 318 *e*P **P** **07 51 25.8 -0.9**
baz=318
DZA *e*S **S** **07 59 58.8 +0.4**
baz=318
DZA Taraz 63.80 318 *e*P **P** **07 51 25.8 -0.9**
DZA *e*S **S** **07 59 58.8 +0.4**
SEY Seymchan 63.88 13 LR LR 08 18 07.1
comp=Z,4µm,21.7s,baz=198,slow=35
SEY PKPPKP 08 20 21.9
comp=Z,3.4nm,0.8s,baz=61,slow=3.6,SNR=1.9
SMY Shemya 64.17 30 P **P** **07 51 28.5 -0.4**
SMY pmax pmax
comp=Z,407nm,1.2s
SMY Shemya 64.17 30 P **P** **07 51 28.5 -0.4**
SMY Shemya 64.17 30 ⇑P **P** **07 51 30.4 +1.5**
SMY ⇑p **P** **07 51 33.0 +4.1**
IUG luzhnay 64.39 317 *e*P **P** **07 51 27.9 -2.9**
baz=317
IUG *e*S **S** **08 00 05.8 -0.1**
baz=317
IUG luzhnay 64.39 317 *e*P **P** **07 51 27.8 -2.9**
IUG *e*S **S** **08 00 05.7 -0.1**
KK31 Karatay Array 64.43 318 *i*P **P** **07 51 28.5 -2.4**
KKAR Karatay Array 64.43 318 P **P** **07 51 29.4 -1.5**
KKAR Karatay Array 64.43 318 P **P** **07 51 29.4 -1.5**
KKAR Karatay Array 64.43 318 IAmb IAmb 07 51 35.8
comp=Z,110nm,0.9s
KKAR Karatay Array 64.43 318 ⇓P **P** **07 51 29.1 -1.8**
TAS Tashkent 64.59 315 IAmb IAmb 07 51 34.9
comp=Z,161nm,0.6s
CHM Chimkent 64.75 317 *e*S **S** **08 00 07.7 -2.4**
baz=317
OTUK Ortayu 65.46 323 P **P** **07 51 36.1 -1.4**
NIUE Niue 65.79 112 P **P** **07 51 39.5 -0.5**
baz=66,SNR=4.0
NIUE Niue 65.79 112 P **P** **07 51 43.3 +3.3**
BRZS Berezniki 66.07 325 *e*P **P** **07 51 38.1 -3.2**
comp=Z,464nm,2.9s,baz=325
BRZS *e*S **S** **08 00 24.6 -1.4**
baz=325
BRZS Berezniki 66.07 325 *e*P **P** **07 51 38.9 -2.4**
BRZS *e*S **S** **08 00 24.6 -1.4**
BRZS pmax pmax
comp=Z,464nm,2.9s
AMKA Amchitka 66.17 33 P **P** **07 51 42.8 +0.9**
JLN Jalan Bani Buh 68.11 293 P **P** **07 51 54.8 0.0**
JLN P **P** **07 51 54.8 0.0**
WBK Wadi Bani Khal 68.57 293 P **P** **07 51 57.9 +0.3**
SNR=6.3
WBK P **P** **07 51 57.9 +0.3**
SNR=6.3
ADK Adak 68.62 34 P **P** **07 51 57.8 +0.4**
ADK pmax pmax
comp=Z,182nm,0.8s
ADK Adak 68.62 34 P **P** **07 51 57.8 +0.4**
ADK IAmb IAmb 07 52 21.1
comp=Z,182nm,0.8s
ADK Adak 68.62 34 ⇑P **P** **07 51 57.0 -0.3**
BVAR Borovoye Array 68.75 327 P **P** **07 51 55.9 -2.3**
comp=Z,37nm,0.7s,baz=152,slow=9.6,SNR=65
BVAR PKP2bc 08 20 13.2
comp=Z,2.9nm,0.9s,baz=258,slow=7.4,SNR=5.8
BRVK Borovoye 68.82 327*c i*P **P** **07 51 56.8 -1.8**
BRVK pmax pmax
comp=Z,204nm,1.7s
BRVK MLR MLR
comp=Z,5µm,18.0s
BRVK Borovoye 68.82 327 P **P** **07 51 57.6 -1.0**
BRVK IAmb IAmb 07 52 08.1
comp=Z,148nm,0.8s
BRVK Borovoye 68.82 327 IAMs_20 IAMs_20 08 22 20.4
comp=Z,8µm,22.0s
BRVK Borovoye 68.82 327 P **P** **07 51 58.5 -0.1**
BRVK P **P** **07 51 58.5 -0.1**
WSAR Wadi Sarin 68.96 294 P **P** **07 51 58.9 -1.2**
comp=Z,17nm,0.8s,baz=124,slow=9.1,SNR=12
WSAR PKPPKP **P'P'df** **08 20 12.4 -1.6**
comp=Z,15nm,1.1s,baz=308,slow=3.7,SNR=9.3
WSAR LR LR 08 23 57.6
comp=Z,1µm,21.8s,baz=104,slow=38
WSAR Wadi Sarin 68.96 294 P **P** **07 52 00.1 0.0**
SNR=7.4
CASY Casey 68.96 187 P **P** **07 51 58.4 -0.8**
CASY Casey 68.96 187 ⇑P **P** **07 52 01.4 +2.3**
GSTR Great Sitkin T 69.06 34 P **P** **07 52 00.3 +0.1**
MHTO MHTO 69.31 292 P **P** **07 52 02.7 +0.5**
SNR=17
MHTO P **P** **07 52 02.7 +0.5**
SNR=17
JMDO Jabal Madar 69.33 293 P **P** **07 52 02.3 -0.1**
SNR=10
JMDO P **P** **07 52 02.3 -0.1**
SNR=10
BIDO Bidbid 69.45 294 P **P** **07 52 03.2 +0.1**
SNR=14
BIDO P **P** **07 52 03.2 +0.1**
SNR=14
SMDO Samad 69.47 294 P **P** **07 52 03.9 +0.6**
DQM DQM 69.60 290 P **P** **07 52 04.0 -0.1**
SNR=13
DQM P **P** **07 52 04.0 -0.1**
SNR=13
TIXI Tiksi 69.69 1 P **P** **07 52 01.5 -2.1**
comp=Z,49nm,1.0s,baz=152,slow=5.8,SNR=21
TIXI S **S** **08 01 07.3 -1.1**
comp=Z,2.7nm,0.4s,baz=92,slow=12,SNR=1.4
TIXI PKPPKP **P'P'df** **08 20 08.1 -1.6**
comp=Z,3.8nm,0.6s,baz=48,slow=6.1,SNR=3.4
TIXI LR LR 08 23 12.3
comp=Z,7µm,21.9s,baz=202,slow=36
TIXI Tiksi 69.69 1*c i*P **P** **07 52 01.7 -1.9**
TIXI Tiksi 69.69 1 P **P** **07 52 02.2 -1.4**
TIXI IAmb IAmb 07 52 14.8
comp=Z,282nm,1.4s
TIXI IAMs_20 IAMs_20 08 21 23.2
comp=Z,9µm,22.0s
TIXI Tiksi 69.69 1 ⇑P **P** **07 52 02.0 -1.6**
ATKA Atka Island 70.15 34 ⇑P **P** **07 52 06.0 -0.8**
ATKA ⇓P **P** **07 52 06.5 -0.3**
HOQ Hoqain 70.20 294 P **P** **07 52 07.1 -0.6**
SNR=14
BSY Bisya 70.21 293 P **P** **07 52 07.6 -0.3**
SNR=10
ARQ Araqi 70.89 294 P **P** **07 52 12.4 +0.4**
SNR=8.8
SOHO SOHO 70.97 295 *i*P **P** **07 52 11.5 -0.9**
SNR=7.7
SOHO SOHO 70.97 295 P **P** **07 52 12.5 +0.1**
SHAO Shalim 71.24 288 P **P** **07 52 13.5 -0.6**
SHAO Shalim 71.24 288 P **P** **07 52 15.3 +1.2**
MDH Madha 71.32 296 P **P** **07 52 12.3 -2.2**
MDH Madha 71.32 296 P **P** **07 52 15.8 +1.3**
UOSS Minazif 71.36 296 P **P** **07 52 14.4 -0.4**

UOSS	Minazif		71.36	296		P		P	07 52 15.1	+0.3
BILL	Bilibino		71.40	15	⇓	iP		P	07 52 14.2	+0.1
BILL						e			07 52 36.9	
BILL						e			07 54 58.7	
BILL						ePPP		PPP	07 56 33.4	
BILL						i S		PnS	08 02 05.4	+2.6
BILL						eSS		SS	08 06 01.5	-2.2
BILL						pmax		pmax		
	comp=Z,216nm,2.5s									
BILL						MLR		MLR		
	comp=Z,5μm,21.0s									
BANOM	Banah		71.40	297	i	P		P	07 52 14.3	-0.7
	SNR=5.9									
BANOM	Banah		71.40	297		P		P	07 52 16.0	+0.9
HATD	Hatta, Dubai		71.42	295	i	P		P	07 52 14.2	-0.9
	SNR=14									
HATD	Hatta, Dubai		71.42	295		P		P	07 52 14.9	-0.2
	SNR=10									
MSFE	Esma-Masafi		71.45	296	i	P		P	07 52 14.3	-1.0
	SNR=8.7									
MASF	Masafi		71.46	296		P		P	07 52 16.7	+1.3
	SNR=7.7									
ASHO	Ashiyiah		71.47	295	i	P		P	07 52 14.3	-1.1
	SNR=5.1									
ASHO	Ashiyiah		71.47	295		P		P	07 52 16.3	+0.9
	SNR=7.8									
SHME	Shamm		71.55	297	i	P		P	07 52 14.5	-1.4
	SNR=7.0									
SHME	Shamm		71.55	297		P		P	07 52 16.0	+0.1
ALNE	Al Ain		71.67	295	i	P		P	07 52 15.4	-1.3
	SNR=21									
ALNE	Al Ain		71.67	295		P		P	07 52 17.7	+1.0
	SNR=41									
NAZ	Nazwa, Dubai		71.86	296	i	P		P	07 52 15.6	-2.1
	SNR=6.4									
NAZ	Nazwa, Dubai		71.86	296		P		P	07 52 20.0	+2.3
	SNR=8.1									
DMTO	DMTO		71.86	288		P		P	07 52 20.0	+2.1
GEYT	Alibeck		71.88	309		P		P	07 52 16.0	-1.7
	comp=Z,33nm,0.7s,baz=163,slow=6.2,SNR=50									
GYA0	ALIBECK ARRAY		71.88	309		P		P	07 52 16.6	-1.1
FAQ	Al Faqa, Dubai		71.89	295	i	P		P	07 52 17.3	-0.7
	SNR=13									
FAQ	Al Faqa, Dubai		71.89	295		P		P	07 52 18.8	+0.8
	SNR=13									
UMZA	Um Al Zommool		72.08	293		P		P	07 52 20.8	+1.7
ASUD	Al Ashush, Dub		72.12	295	i	P		P	07 52 16.1	-3.2
	SNR=20									
ASUD	Al Ashush, Dub		72.12	295		P		P	07 52 20.4	+1.1
	SNR=16									
SOCY	Socotra		72.51	282		P		P	07 52 19.2	-2.7
SOCY						IAmb		IAmb	07 52 26.5	
	comp=Z,251nm,0.9s									
SOCY						IAMs_20		IAMs_20	08 22 19.6	
	comp=Z,10μm,22.0s									
SOCY	Socotra		72.51	282		P		P	07 52 23.4	+1.5
	SNR=5.4									
SOCY	Socotra		72.51	282	⇑	P		P	07 52 21.6	-0.4
SOCY					⇓	P		pP	07 52 21.6	-14
SOCY					⇑	P		P	07 52 25.7	+3.7
RBK	Rabkut		72.56	288		P		P	07 52 24.0	+1.9
DOK	Doka		72.70	289		P		P	07 52 23.5	+0.6
	SNR=17									
RER	Riviere de l'E		72.79	247		P		P	07 52 26.6	+3.1
WHFO	Wadi Hawf		73.00	288		P		P	07 52 24.3	-0.4
	SNR=10.0									
MZWR	Madinat Zayed		73.35	294		P		P	07 52 28.0	+1.4
ABTO	Aybut		73.41	287		P		P	07 52 27.4	+0.2
	SNR=8.8									
AB31	Akbulak array		73.44	321	i	P		P	07 52 25.4	-1.2
ABKAR	Akbulak array		73.44	321		P		P	07 52 25.2	-1.4
ABKAR	Akbulak array		73.44	321		IAmb		IAmb	07 52 32.0	
	comp=Z,79nm,0.7s									
NIKH	Nikolski High		73.46	35		IAmb		IAmb	07 52 35.6	
	comp=Z,348nm,1.2s									
NIKH	Nikolski High		73.46	35		P		P	07 52 24.1	-2.6
	baz=250									
NIKH						S		S	08 01 52.0	-0.5
	baz=250									
MZR	Muzera		73.65	293	i	P		P	07 52 25.9	-2.6
	SNR=30									
MZR	Muzera		73.65	293		P		P	07 52 29.0	+0.6
	SNR=32									
SPIA	Saint Paul Isl		74.20	30		P		P	07 52 30.1	-0.8
	baz=248									
GHWR	Ruwais		74.28	294		P		P	07 52 33.7	+1.6
JRN	Qarnain Island		74.39	295		P		P	07 52 31.8	-0.9
	SNR=17									
AKTO	Aktyubinsk		74.97	322		P		P	07 52 33.6	-2.0
	comp=Z,92nm,0.7s,baz=104,slow=7.1,SNR=107									
AKTO						S		S	08 02 06.0	-3.6
	comp=Z,1.7nm,0.9s,baz=175,slow=11,SNR=1.5									
AKTO						PKPPKP		P'P'df	08 20 02.9	+1.0
	comp=Z,1.7nm,0.8s,baz=286,slow=4.4,SNR=6.1									
AKTO						LR		LR	08 27 01.4	
	comp=Z,5μm,21.7s,baz=100,slow=37									
UNV	Unalaska Valle		75.07	34		P		P	07 52 35.4	-0.6
UNV						IAmb		IAmb	07 52 46.0	
	comp=Z,216nm,0.9s									
UNV	Unalaska Valle		75.07	34		P		P	07 52 34.3	-1.8
	baz=252									
UNV						S		S	08 02 10.3	-0.3
	baz=252									
SLWR	Sila		75.37	294		P		P	07 52 38.8	+0.5
SVE	Sverdlovsk		75.42	329	de	P		P	07 52 36.5	-1.5
SVE					e	S		S	08 02 10.0	-4.3
SVE						pmax		pmax		
	comp=Z,670nm,1.3s									
KIP	Kipapa		75.81	68		IAMs_20		IAMs_20	08 25 00.8	
	comp=Z,8μm,21.0s									
TRNA	Turayna		75.86	295		P		P	07 52 42.5	+1.4
SHMA	Al-Shehemyia		76.17	296		P		P	07 52 44.4	+1.5
GAMB	Gambell		76.18	24		IAmb		IAmb	07 52 56.7	
	comp=Z,232nm,1.1s									
GAMB	Gambell		76.18	24		P		P	07 52 39.7	-2.4
	baz=245									
GAMB						S		S	08 02 26.2	+3.8
	baz=245									
ARU	Arti		76.38	328		P		P	07 52 41.2	-2.3
	comp=Z,70nm,0.6s,baz=94,slow=2.6,SNR=8.6									
ARU						S		S	08 02 19.9	-5.0
	comp=Z,1.9nm,0.2s,baz=318,slow=18,SNR=1.3									
ARU						PKPPKP		P'P'df	08 19 55.3	-3.7
	comp=Z,0.9nm,0.3s,baz=218,slow=7.3,SNR=3.6									
ARU	Arti		76.38	328	c	iP		P	07 52 41.4	-2.0
ARU									07 55 30.7	
ARU						PPP		PPP	07 57 15.9	
ARU						S		S	08 02 23.7	-1.2
ARU						SS		SS	08 07 16.0	-4.0
ARU						SSS		SSS	08 10 38.3	
ARU						pmax		pmax		
	comp=Z,274nm,1.4s									
ARU						MLR		MLR		
	comp=Z,8μm,20.0s									
ARU	Arti		76.38	328		P		P	07 52 41.4	-2.0
ARU						IAmb		IAmb	07 52 46.9	
	comp=Z,235nm,0.8s									
ARU						IAMs_20		IAMs_20	08 29 47.3	
	comp=Z,9μm,22.0s									
SAKB	Bahrain		76.56	296		P		P	07 52 46.7	+1.5
FALS	False Pass		77.09	34		P		P	07 52 47.9	+0.4
FALS						IAmb		IAmb	07 52 53.8	
	comp=Z,296nm,0.9s									
FALS	False Pass		77.09	34		P		P	07 52 45.7	-1.8
	baz=255,SNR=6.1									
FALS						S		S	08 02 34.4	+1.6
	baz=255									
SBV	Sambava		77.40	256		P		P	07 52 49.3	-0.7
	SNR=8.5									
SBV	Sambava		77.40	256		P		P	07 52 54.2	+4.2
POHA	Pohakuloa		78.05	70		IAMs_20		IAMs_20	08 22 38.0	
	comp=Z,8μm,20.0s									
MLH	Mauna Loa		78.17	71		P		P	07 52 55.4	+0.8
PUH	Pauahi		78.33	71		P		P	07 52 56.4	+1.1
TNA	Tin City		78.38	23		P		P	07 52 54.1	-0.3
	baz=248									
TNA						S		S	08 02 50.0	+3.8
	baz=248									
SDPT	Sand Point		78.85	34		P		P	07 52 56.7	-0.6
SDPT	Sand Point		78.85	34		P		P	07 52 56.0	-1.2
	baz=257,SNR=7.5									
SDPT						S		S	08 02 52.3	+0.6
	baz=257									
ANM	Nome		79.04	24		P		P	07 52 57.7	-0.4
	baz=251									
ANM						S		S	08 02 57.7	+4.3
	baz=251									
QRN	Al-Qurain		79.09	299		eP		P	07 52 57.2	-1.9
CNBA	Chernabura Isl		79.24	34		P		P	07 52 59.8	+0.4
CNBA						IAmb		IAmb	07 53 05.9	
	comp=Z,146nm,0.9s									
CHNA	Chernabura Isl		79.24	34		P		P	07 52 58.1	-1.2
	baz=258,SNR=6.4									
CHNA						S		S	08 02 59.2	+3.4
	baz=258									
KBD	Kabd		79.31	299		eP		P	07 52 59.0	-1.3
UMR	Umm Al-Rimmam		79.32	300		eP		P	07 52 58.6	-1.8
RDF	Al-Radifah		79.42	299		eP		P	07 52 58.8	-2.2
RST	Umm Al-Ruwaisa		79.94	299		eP		P	07 53 01.8	-2.0
CHGN	Chignik		80.19	33		P		P	07 53 04.0	-0.5
CHGN	Chignik		80.19	33		P		P	07 53 03.4	-1.1
	baz=259,SNR=5.7									
AKT	Akhty		80.35	312		eP		P	07 53 04.8	-1.1
AKT						e			07 53 11.8	
AKT						e			07 56 09.5	
AKT						eS		S	08 03 08.1	-0.3
AKT						pmax		pmax		
	comp=Z,118nm,0.8s									
ABPO	Ambohimpanom		80.47	250		P		P	07 53 05.9	-1.2
ABPO						pmax		pmax		
	comp=Z,136nm,0.9s									
ABPO	Ambohimpanom		80.47	250		P		P	07 53 05.9	-1.2
ABPO						IAmb		IAmb	07 53 18.6	
	comp=Z,136nm,0.8s									
ABPO	Ambohimpanom		80.47	250		IAMs_20		IAMs_20	08 23 15.0	
	comp=Z,7μm,22.0s									
MAK	Makhachkala		80.67	313		eP		P	07 53 03.9	-3.5
MAK						e			07 53 11.9	
MAK						e			07 56 08.2	
MAK						ePPP		PPP	07 57 56.8	
MAK						eS		S	08 03 08.5	-2.9
MAK						eSS		SS	08 08 21.5	-3.6
MAK						eSSS		SSS	08 11 51.2	
MAK						pmax		pmax		
	comp=Z,367nm,1.4s									
MAK						MLR		MLR		
	comp=Z,4μm,21.0s									
RDOG	Red Dog Mine		81.09	21		P		P	07 53 11.2	+2.0
RDOG						IAmb		IAmb	07 53 19.9	
	comp=Z,346nm,1.4s									
RDOG	Red Dog Mine		81.09	21		P		P	07 53 10.9	+1.7
	baz=253									
RDOG						S		S	08 03 17.6	+2.7
	baz=253									
VOI	Vohitsoka		81.15	248		P		P	07 53 09.2	-1.4
VOI						IAmb		IAmb	07 53 26.0	
	comp=Z,186nm,1.1s									
VOI	Vohitsoka		81.15	248		P		P	07 53 13.1	+2.6
	SNR=15									
VOI	Vohitsoka		81.15	248		P		P	07 53 12.9	+2.4
VNDA	Vanda		81.62	173		P		P	07 53 10.7	-1.1
	comp=Z,163nm,1.0s,baz=319,slow=5.8,SNR=68									
VNDA						S		S	08 03 20.9	+0.8
	comp=Z,0.7nm,1.0s,baz=227,slow=19,SNR=1.2									
VNDA						PKKPbc		PKKPbc	08 11 48.0	+0.1
	comp=Z,2.8nm,0.8s,baz=222,slow=2.4,SNR=10									
VNDA						PKPPKP		P'P'df	08 19 45.1	-2.8
	comp=Z,1.7nm,1.0s,baz=121,slow=1.3,SNR=5.7									
VNDA						LR		LR	08 31 24.0	
	comp=Z,4μm,18.5s,baz=342,slow=37									
VNDA	Vanda		81.62	173		P		P	07 53 10.5	-1.3
VNDA						pmax		pmax		
	comp=Z,344nm,1.1s									
VNDA	Vanda		81.62	173		P		P	07 53 10.5	-1.3
VNDA						IAmb		IAmb	07 53 15.7	
	comp=Z,344nm,1.1s									
CHIR	Chirikof Islan		81.65	34		P		P	07 53 11.7	-0.6
CHIR						IAmb		IAmb	07 53 19.5	
	comp=Z,209nm,1.0s									
CHIR						IAMs_20		IAMs_20	08 25 21.6	
	comp=Z,7μm,22.0s									
CHIR	Chirikof Islan		81.65	34		P		P	07 53 11.7	-0.6
	baz=261									
CHIR						S		S	08 03 24.7	+3.7
	baz=261									
KIRV	Kirov		81.68	329		P		P	07 53 10.8	-1.6
	comp=Z,112nm,0.6s,baz=98,slow=5.1,SNR=51									
KIRV						S		S	08 03 19.2	-2.0
	comp=Z,13nm,0.3s,baz=271,slow=22,SNR=30									
KIRV						PKPPKP		P'P'df	08 19 50.5	+1.1
	comp=Z,9.2nm,0.5s,baz=107,slow=2.1,SNR=3.5									
KIRV	Kirov		81.68	329	ce	P		P	07 53 11.1	-1.3
BELG	Belogornoye		81.73	323		P		P	07 53 10.7	-2.1
	comp=Z,341nm,0.7s,baz=309,slow=1.7,SNR=51									
BELG						S		S	08 03 20.1	-1.8
	comp=Z,12nm,0.7s,baz=130,slow=22,SNR=12									
BELG						PKKPbc		PKKPbc	08 11 46.5	0.0
	comp=Z,23nm,0.9s,baz=118,slow=9.8,SNR=4.0									
MAW	Mawson		81.94	200		P		P	07 53 12.9	-0.7
	baz=82,SNR=57									
MAW	Mawson		81.94	200		P		P	07 53 12.4	-1.2
	comp=Z,107nm,1.0s,baz=79,slow=5.7,SNR=25									
MAW						PKKPbc		PKKPbc	08 11 46.7	-0.1
	comp=Z,3.4nm,1.0s,baz=251,slow=3.6,SNR=3.7									
MAW						PKPPKP		P'P'df	08 19 48.6	+0.8
	comp=Z,3.2nm,0.8s,baz=248,slow=4.5,SNR=5.3									
MAW						LR		LR	08 26 06.9	
	comp=Z,2μm,21.9s,baz=57,slow=33									
MAW	Mawson		81.94	200		P		P	07 53 13.2	-0.4
N18K	Kilae Creek		82.31	29		P		P	07 53 16.4	+0.7
N18K						IAmb		IAmb	07 53 20.1	
	comp=Z,371nm,1.9s									
GNI	Garni		82.49	310		P		P	07 53 16.2	-1.2
	comp=Z,22nm,0.7s,baz=213,slow=3.3,SNR=18									
GNI						S		S	08 03 30.2	-0.5
	comp=Z,2.7nm,0.3s,baz=54,slow=18,SNR=1.5									
GNI	Garni		82.49	310		P		P	07 53 16.4	-0.9
GNI	Garni		82.49	310		eP		P	07 53 19.2	+1.9
GNI	Garni		82.49	310	ce	P		P	07 53 16.6	-0.7
GNI						pmax		pmax		
	comp=Z,301nm,2.0s									
GNI	Garni		82.49	310		P		P	07 53 18.3	+1.0
GNI						IAmb		IAmb	07 53 43.4	
	comp=Z,298nm,1.1s									
GNI	Garni		82.49	310		P		P	07 53 17.9	+0.5
O18K	Koktuh Hills		82.51	30		IAmb		IAmb	07 53 24.6	
	comp=Z,296nm,1.4s									
O18K						IAMs_20		IAMs_20	08 25 46.0	
	comp=Z,6μm,22.0s									
O18K	Koktuh Hills		82.51	30		P		P	07 53 16.2	-0.6
	baz=261,SNR=19									
O18K						S		S	08 03 33.6	+3.8
	baz=261									
SVW2	Sparrevohn		82.53	29		P		P	07 53 17.2	+0.3
SVW2						IAmb		IAmb	07 53 22.2	
	comp=Z,429nm,1.8s									
SBA	Scott Base		82.54	172		P		P	07 53 16.7	+0.1
SBA						pmax		pmax		
	comp=Z,643nm,1.4s									
SBA	Scott Base		82.54	172		P		P	07 53 16.7	+0.1
SII	Sitkinak Islan		82.55	33		P		P	07 53 17.8	+0.7
SII	Sitkinak Islan		82.55	33		P		P	07 53 17.5	+0.4
	baz=262									
SII						S		S	08 03 32.4	+2.0
	baz=262									
TTA	Tatalina		82.65	27		IAmb		IAmb	07 53 26.2	
	comp=Z,150nm,0.9s									
TTA	Tatalina		82.65	27		S		S	08 03 35.8	+4.6
	baz=260									
O19K	Port Alsworth		83.00	30		P		P	07 53 18.5	-0.7
	baz=262,SNR=12									
O19K						S		S	08 03 38.4	+3.7
	baz=262									
HARA	HARA		83.01	279		eP		P	07 53 29.8	+9.2
HARA						eS		S	08 03 51.4	+14
N19K	Bonanza Creek		83.01	29		P		P	07 53 19.6	+0.1
	baz=261,SNR=53									
N19K						S		S	08 03 39.2	+4.1
	baz=261									
L19K	White Mountain		83.05	28		P		P	07 53 20.0	+0.4
L19K						IAmb		IAmb	07 53 28.4	
	comp=Z,338nm,1.1s									
L19K	White Mountain		83.05	28		P		P	07 53 19.8	+0.2
	baz=261,SNR=78									
L19K						S		S	08 03 39.8	+4.5
	baz=261									
OHAK	Old Harbor		83.13	33		P		P	07 53 19.4	-0.5
OHAK						IAmb		IAmb	07 53 27.5	
	comp=Z,180nm,1.0s									
OHAK	Old Harbor		83.13	33		P		P	07 53 19.9	-0.1
	baz=263									
OHAK						S		S	08 03 36.8	+0.7
	baz=263									
Q19K	Cape Douglas,		83.16	31		P		P	07 53 19.9	-0.3
Q19K						IAmb		IAmb	07 53 26.7	
	comp=Z,424nm,1.4s									
Q19K	Cape Douglas,		83.16	31		P		P	07 53 19.8	-0.4
	baz=262									
M19K	Big River Lodg		83.22	28		IAmb		IAmb	07 53 37.5	
	comp=Z,154nm,1.0s									
M19K	Big River Lodg		83.22	28		P		P	07 53 21.2	+0.7
	baz=261,SNR=58									
M19K						S		S	08 03 41.4	+4.4
	baz=261									
ZEI	Tsey		83.30	313		eP		P	07 53 19.3	-2.2
ZEI						pmax		pmax		
	comp=Z,100nm,1.1s									
ATD	Arta Tunnel		83.41	281		P		P	07 53 24.0	+1.5
	SNR=18									
P19K	Oil Pt		83.47	30		P		P	07 53 21.3	-0.4
	baz=263									
P19K						S		S	08 03 40.8	+1.2
	baz=263									
AKH	Akhalkalaki		83.52	311	⇓	P		P	07 53 22.6	0.0
AKH	Akhalkalaki		83.52	311		eP		P	07 53 25.3	+2.7
L20K	Farewell, AK		83.55	27		P		P	07 53 22.5	+0.3
	baz=262,SNR=66									
L20K						S		S	08 03 44.9	+4.6
	baz=262									
NCK	Nalchik		83.56	313	⇑	eP		P	07 53 21.8	-0.8
NCK						pmax		pmax		
	comp=Z,90nm,0.6s									
NCK						MLR		MLR		
	comp=Z,4μm,22.0s									
KDAK	Kodiak Island		83.57	32		P		P	07 53 22.3	0.0
KDAK						pmax		pmax		
	comp=Z,152nm,1.0s									
KDAK	Kodiak Island		83.57	32		P		P	07 53 22.3	0.0
KDAK						IAmb		IAmb	07 53 30.5	
	comp=Z,152nm,0.9s									
K20K	Telida		83.59	26		P		P	07 53 22.6	+0.3
K20K						IAmb		IAmb	07 53 27.6	
	comp=Z,413nm,1.4s									
K20K	Telida		83.59	26		P		P	07 53 22.7	+0.3
	baz=262,SNR=79									
K20K						S		S	08 03 46.6	+5.9
	baz=262									
ONI	Oni		83.61	312		IAmb		IAmb	07 53 36.3	
	comp=Z,201nm,1.0s									
J20K	Nowinta River		83.68	26		P		P	07 53 23.2	+0.5
J20K	Nowinta River		83.68	26		P		P	07 53 23.3	+0.5
	baz=261,SNR=96									
J20K						S		S	08 03 47.1	+5.6
	baz=261									
KARS	Kars		83.79	310		P		P	07 53 25.5	+1.5
KARS						pmax		pmax		
	comp=Z,848nm,1.1s									
KARS	Kars		83.79	310		P		P	07 53 25.5	+1.5
O20K	Slope Mountain		83.83	30		P		P	07 53 22.9	-0.8
	baz=263									
O20K						S		S	08 03 43.4	+0.1
	baz=263									
PRGR	Permogore		84.02	332		eP		P	07 53 23.5	-0.9
PRGR						eS		S	08 03 45.4	+0.5
PRGR						pmax		pmax		
	comp=Z,2μm,1.5s									
A21K	Barrow		84.04	18		P		P	07 53 24.9	+0.5
A21K	Barrow		84.04	18		P		P	07 53 23.6	-0.8
	baz=258									
A21K						S		S	08 03 47.7	+2.9
	baz=258									
GOF	Gofitskoye		84.05	315	⇑	eP		P	07 53 27.5	+2.5
GOF						eS		S	08 03 48.9	+2.9
GOF						pmax		pmax		
	comp=Z,293nm,1.1s									
GOF						smax		smax		
	comp=E,396nm,2.5s									
GOF						smax		smax		
	comp=N,1μm,3.0s									
KBZ	Khabaz		84.08	314		P		P	07 53 23.9	-1.3
	comp=N,40nm,0.7s,baz=93,slow=4.9,SNR=32									
KBZ						S		S	08 03 47.6	+1.3
	comp=N,1.5nm,0.6s,baz=281,slow=17,SNR=11									
KBZ						LR		LR	08 35 12.7	
	comp=N,4μm,20.9s,baz=62,slow=39									
KBZ	Khabaz		84.08	314	c	iP		P	07 53 23.5	-1.7
KBZ						pmax		pmax		
	comp=Z,147nm,1.1s									
KBZ						MLR		MLR		
	comp=Z,5μm,23.0s									
IMAR	Indian Mountai		84.12	24		P		P	07 53 25.0	+0.1
SIRT	Sirnak		84.15	307		P		P	07 53 26.9	+1.1
SPCR	Spurr Chakacha		84.16	29		P		P	07 53 24.3	-1.0
	baz=263,SNR=20									
SPCR						S		S	08 03 47.7	+1.0
	baz=263									
NEY	Neytrino		84.18	313	⇓	eP		P	07 53 26.1	+0.1
NEY						pmax		pmax		
	comp=Z,32nm,0.8s									
KIV	Kislovodsk		84.25	314		eP		P	07 53 24.6	-1.6
KIV						e			07 56 36.8	
KIV						e			08 03 44.3	
KIV						eSS		SS	08 09 14.5	-3.9
KIV						pmax		pmax		
	comp=Z,122nm,1.1s									
KIV						pmax		pmax		
	comp=Z,421nm,4.4s									
KIV						MLR		MLR		
	comp=Z,4μm,20.0s									
KIV	Kislovodsk		84.25	314		P		P	07 53 26.3	+0.1
KIV						IAmb		IAmb	07 53 42.0	
	comp=Z,244nm,1.1s									
KIV	Kislovodsk		84.25	314		P		P	07 53 27.2	+1.0
HOM	Homer		84.27	30		P		P	07 53 27.2	+1.4
HOM	Homer		84.27	30		P		P	07 53 25.4	-0.4
	baz=264									
HOM						S		S	08 03 47.8	+0.3
	baz=264									
PPLA	Purkeypile		84.38	27		IAmb		IAmb	07 54 26.4	
	comp=Z,363nm,1.4s									
PPLA	Purkeypile		84.38	27		P		P	07 53 25.6	-0.9
	baz=263									
PPLA						S		S	08 03 47.6	-1.2
	baz=263									
CHUM	Lake Minchumin		84.44	26		P		P	07 53 26.5	-0.1
	baz=263									
CHUM						S		S	08 03 50.1	+1.1

PPT2 eLR LR 08 20 05.7
comp=Z,13µm,26.0s
PAE Paea 84.77 108 *e*P **P** **07 53 29.0 -0.2**
comp=Z,25nm,1.3s
BATM Batumi 84.87 311 ⇑P **P** **07 53 30.7 +1.4**
BATM Batumi 84.87 311 *e*P **P** **07 53 30.8 +1.5**
BATM Batumi 84.87 311 ⇑P **P** **07 53 30.7 +1.4**
SUA Susitna One 84.89 29 P **P** **07 53 28.7 -0.4**
SUA Susitna One 84.89 29 P **P** **07 53 27.7 -1.3**
baz=265,SNR=44
SUA S **S** **08 03 51.7 -2.3**
baz=265
BCA Borcka 84.92 311 ⇑P **P** **07 53 30.5 +0.9**
TIAR Tiarei 84.99 108 *e*P **P** **07 53 30.6 +0.3**
comp=Z,12nm,1.2s
BPAW Bear Paw Mtn. 85.05 26 P **P** **07 53 29.4 -0.3**
BPAW Bear Paw Mtn. 85.05 26 P **P** **07 53 28.5 -1.2**
baz=264,SNR=29
BPAW S **S** **08 03 54.7 -0.6**
baz=264
CUT Chulitna 85.21 28 P **P** **07 53 29.0 -1.5**
baz=265
CUT S **S** **08 03 53.6 -3.1**
baz=265
TEND Ethiopian Broa 85.21 282 *e*P P 07 53 36.5 +4.9
TEND *i* S **S** **08 04 05.9 +7.2**
MLY Manley 85.25 25 P **P** **07 53 30.2 -0.6**
baz=264,SNR=29
MLY S **S** **08 03 56.0 -1.2**
baz=264
TBI Tubuai 85.26 113 *e*P **P** **07 53 31.5 -0.1**
comp=Z,242nm,1.2s
TBI Tubuai 85.26 113 *e*S **S** **08 03 53.0 -5.8**
comp=Z,4µm,25.8s
TBI Tubuai 85.26 113 *e*LQ LQ 08 16 44.4
comp=Z,3µm,28.2s
TBI *e*LR LR 08 20 26.1
comp=Z,13µm,28.5s
VRH Novokhopyorsk 85.27 321 *e*P **P** **07 53 30.1 -0.9**
VRH *e*S **S** **08 03 51.6 -6.2**
VRH pmax pmax
comp=Z,590nm,0.7s
VRH pmax pmax
comp=Z,590nm,0.7s
VRH smax smax
comp=N,3µm,2.7s
VRH MLR MLR
comp=Z,6µm,21.0s
TRF Thorofare Moun 85.29 27 IAmb IAmb 07 54 02.7
comp=Z,173nm,1.3s
O22K Cooper Landing 85.31 30 IAMs_20 IAMs_20 08 31 23.9
comp=Z,5µm,21.0s
O22K Cooper Landing 85.31 30 P **P** **07 53 29.7 -1.3**
baz=266,SNR=30
O22K S **S** **08 03 55.6 -2.2**
baz=266
RC01 Rabbit Creek A 85.35 29 P **P** **07 53 30.0 -1.2**
baz=266,SNR=46
RC01 S **S** **08 03 55.4 -2.8**
baz=266
SEW Seward 85.41 30 P **P** **07 53 31.1 -0.4**
SEW IAmb IAmb 07 53 42.7
comp=Z,189nm,1.0s
SEW Seward 85.41 30 P **P** **07 53 30.7 -0.8**
baz=266,SNR=22
SEW S **S** **08 03 56.9 -1.9**
baz=266
PMR Palmer 85.68 29 P **P** **07 53 31.7 -1.1**
baz=266,SNR=34
PMR S **S** **08 03 58.5 -2.8**
baz=266
COLD Coldfoot 85.68 23 IAmb IAmb 07 53 41.8
comp=Z,111nm,0.9s
COLD Coldfoot 85.68 23 P **P** **07 53 32.9 +0.1**
baz=265,SNR=74
COLD S **S** **08 04 00.0 -1.3**
baz=265
BWN Browne 85.72 26 IAmb IAmb 07 53 56.3
comp=Z,166nm,1.1s
GHO Glory Hole Cre 85.79 28 IAmb IAmb 07 53 45.0
comp=Z,95nm,0.8s
H23K Yukon River 85.82 24 IAmb IAmb 07 53 42.3
comp=Z,83nm,0.8s
H23K Yukon River 85.82 24 P **P** **07 53 33.3 -0.2**
baz=265,SNR=55
H23K S **S** **08 04 01.1 -1.7**
baz=265
I23K Minto, Yukon-K 85.84 25 IAmb IAmb 07 53 42.9
comp=Z,340nm,1.7s
I23K Minto, Yukon-K 85.84 25 P **P** **07 53 33.1 -0.5**
baz=266,SNR=48
I23K S **S** **08 04 06.0 +3.2**
baz=266
MCK McKinley 85.92 26 P **P** **07 53 33.3 -0.8**
MCK pmax pmax
comp=Z,352nm,1.8s
MCK McKinley 85.92 26 P **P** **07 53 33.3 -0.8**
MCK IAmb IAmb 07 53 41.3
comp=Z,352nm,1.8s
MCK McKinley 85.92 26 P **P** **07 53 32.6 -1.5**
baz=266,SNR=32
NEA2 Nenana 85.92 25 P **P** **07 53 34.5 +0.4**
NEA2 Nenana 85.92 25 P **P** **07 53 32.8 -1.2**
baz=266,SNR=22
NEA2 S **S** **08 04 06.0 +2.3**
baz=266
RND Reindeer 85.93 27 P **P** **07 53 32.9 -1.3**
RND pmax pmax
comp=Z,357nm,1.9s
RND Reindeer 85.93 27 P **P** **07 53 32.9 -1.3**
RND IAmb IAmb 07 53 41.4
comp=Z,357nm,1.9s
KNK Knik Glacier 85.99 29 P **P** **07 53 34.4 0.0**
KNK Knik Glacier 85.99 29 P **P** **07 53 33.4 -1.0**
baz=267,SNR=30
PWL Port Wells 86.01 29 IAMs_20 IAMs_20 08 28 09.6
comp=Z,5µm,22.0s
TOLK Toolik Lake Re 86.05 21 P **P** **07 53 35.1 +0.4**
TOLK IAmb IAmb 07 53 43.5
comp=Z,100nm,0.9s
TOLK Toolik Lake Re 86.05 21 P **P** **07 53 34.1 -0.5**
baz=265,SNR=24
TOLK S **S** **08 04 09.2 +4.3**
baz=265
SML Sawmill 86.07 28 P **P** **07 53 33.3 -1.5**
baz=267,SNR=24
SML S **S** **08 04 09.8 +4.4**
baz=267
MEH Mehetia 86.22 108 *e*P **P** **07 53 36.4 -0.1**
comp=Z,48nm,1.3s
PMOR Pomariorio Ree 86.24 105 *e*P **P** **07 53 36.7 +0.2**
comp=Z,363nm,1.5s
MDM Murphy Dome 86.31 25 P **P** **07 53 34.9 -1.1**
KTUT Trabzon 86.31 311 ⇑P **P** **07 53 36.4 0.0**
SOC Sochi 86.38 313 *c i*P **P** **07 53 34.4 -2.3**
SOC *e* 07 56 55.4
SOC *e*PPP PPP 07 58 53.1
SOC *i* S S 08 03 57.4 -12
SOC pmax pmax
comp=Z,168nm,0.7s
SOC MLR MLR
comp=Z,4µm,18.0s
WAT6 Susitna Watana 86.39 28 P **P** **07 53 35.3 -1.2**
baz=267,SNR=37
WAT6 S **S** **08 04 11.0 +2.2**
baz=267
TCOL CIGO, UAF Yank 86.46 25 P **P** **07 53 34.5 -2.1**
baz=267
TCOL S **S** **08 04 10.2 +1.2**
baz=267
COLA College 86.46 25 P **P** **07 53 35.6 -1.0**
COLA pmax pmax
comp=Z,30nm,1.0s
COLA MLR MLR
comp=Z,4µm,22.0s
COLA College 86.46 25 P **P** **07 53 35.6 -1.0**
COLA College 86.46 25 P **P** **07 53 34.8 -1.8**
baz=267
COLA S **S** **08 04 09.4 +0.5**
baz=267
ANKE Ethiopia-Afar 86.50 279 *e*P **P** **07 53 39.2 +0.8**
ANKE *i* S **PcP** **07 53 45.8 +5.0**
ANKE *e*S **S** **08 04 11.4 -0.7**
H24K Noodor Dome 86.50 24 P **P** **07 53 36.3 -0.6**
baz=267,SNR=43
H24K S **S** **08 04 12.2 +2.7**
baz=267

VAH Vaihoa 86.51 105 *e*P **P** **07 53 37.8 0.0**
comp=Z,216nm,1.4s
SCM Sheep Creek Mo 86.55 28 P **P** **07 53 37.4 +0.2**
SCM pmax pmax
comp=Z,185nm,1.0s
SCM Sheep Creek Mo 86.55 28 P **P** **07 53 37.4 +0.2**
SCM IAmb IAmb 07 53 46.0
comp=Z,185nm,1.0s
DESE Dese 86.57 281 *e*P **P** **07 53 39.6 +1.0**
DESE *e*S **S** **08 04 13.0 +0.4**
DHY Denali Highway 86.58 27 P **P** **07 53 36.5 -1.0**
DHY Denali Highway 86.58 27 P **P** **07 53 36.1 -1.3**
baz=268,SNR=11
DHY S **S** **08 04 11.9 +1.3**
baz=268
GLI Glacier Island 86.62 29 P **P** **07 53 37.0 -0.6**
GLI IAmb IAmb 07 53 45.5
comp=Z,114nm,0.7s
GLI Glacier Island 86.62 29 P **P** **07 53 36.2 -1.4**
baz=268
GLI S **S** **08 04 12.8 +2.1**
baz=268
POKR Poker Plat Res 86.65 25 P **P** **07 53 35.7 -1.9**
baz=267
POKR S **S** **08 04 12.2 +1.3**
baz=267
VORD Divnogorie 86.79 321 *e*P **P** **07 53 36.6 -1.9**
VORD *e*S **SKSac** **08 04 00.5 -1.0**
VORD pmax pmax
comp=Z,120nm,0.7s
VORD pmax pmax
comp=Z,100nm,0.7s
VORD smax smax
comp=N,190nm,4.2s
HDA Harding Lake 86.83 26 P **P** **07 53 36.4 -2.1**
baz=268,SNR=36
HDA S **S** **08 04 12.7 +0.1**
baz=268
HDA S **S** **08 04 12.7 +0.1**
baz=268
VORR Voronezh 86.86 321 *e*P **P** **07 53 36.0 -2.8**
VORR pmax pmax
comp=Z,750nm,2.0s
ILAR Eielson Array 86.87 25 P **P** **07 53 36.0 -2.7**
comp=Z,8.9nm,0.8s,baz=276,slow=4.2,SNR=26
ILAR PKKPbc **PKKPbc** **08 11 35.4 +0.3**
comp=Z,3.3nm,1.0s,baz=60,slow=1.4,SNR=7.4
ILAR PKPPKP **P'P'df** **08 19 41.9 +2.2**
comp=Z,1.9nm,1.1s,baz=96,slow=1.1,SNR=6.3
ILAR LR LR 08 30 31.9
comp=Z,1µm,21.8s,baz=274,slow=34
ILAR Eielson Array 86.87 25 P **P** **07 53 35.6 -3.1**
ILAR Eielson Array 86.87 25 P **P** **07 53 35.6 -3.1**
KLMR Klimovskoe 86.90 331 *c i*P **P** **07 53 36.5 -2.3**
KLMR *e* 07 56 59.7
KLMR S **SKSac** **08 04 01.4 -0.4**
KLMR pmax pmax
comp=Z,278nm,1.0s
KLMR MLR MLR
comp=Z,8µm,20.0s
KLMR Klimovskoe 86.90 331 ⇑ *i*P **P** **07 53 36.5 -2.3**
KLMR *e*P **P** **07 53 36.5 -2.3**
KLMR *e*P **P** **07 53 36.5 -2.3**
KLMR AMP 07 53 42.9
comp=Z,278nm,1.0s
KLMR *e*PP **PP** **07 56 59.8 -2.2**
KLMR S **SKSac** **08 04 01.4 -0.4**
KLMR S **SKSac** **08 04 01.4 -0.4**
KLMR LQ LQ 08 24 27.9
KLMR LQ LQ 08 24 27.9
KLMR LR LR 08 28 43.9
KLMR AMP 08 35 27.2
comp=Z,8µm,20.3s
FID Port Fidalgo 86.92 29 P **P** **07 53 37.9 -1.1**
FID IAmb IAmb 07 54 11.9
comp=Z,196nm,1.3s
Q23K Middleton Isla 86.94 31 P **P** **07 53 39.1 +0.1**
baz=269
M24K Tolsona, Glenn 87.10 28 P **P** **07 53 39.6 -0.3**
M24K IAmb IAmb 07 53 49.2
comp=Z,170nm,1.1s
M24K Tolsona, Glenn 87.10 28 P **P** **07 53 39.4 -0.6**
baz=269,SNR=18
M24K S **S** **08 04 17.0 +1.6**
baz=269
KLU Klutina 87.21 29 IAmb IAmb 07 54 21.3
comp=Z,126nm,1.2s
KLU Klutina 87.21 29 P **P** **07 53 39.5 -0.9**
baz=269,SNR=16
KLU S **S** **08 04 19.0 +2.5**
baz=269
DIV Divide 87.27 29 P **P** **07 53 40.7 -0.1**
DIV IAmb IAmb 07 54 13.2
comp=Z,283nm,1.5s
EYAK Cordova Ski Ar 87.27 30 P **P** **07 53 39.6 -1.1**
baz=269
EYAK S **S** **08 04 17.8 +0.9**
baz=269
ARPR Arapgir-MALATY 87.40 309 *e*P **P** **07 53 42.4 +0.4**
PAX Paxson 87.45 27 P **P** **07 53 40.6 -1.0**
baz=269,SNR=12
PAX S **S** **08 04 20.1 +1.4**
baz=269
PRP Porcupine Dome 87.47 25 P **P** **07 53 41.6 -0.1**
PRP Porcupine Dome 87.47 25 P **P** **07 53 39.6 -2.1**
baz=269
PRP S **S** **08 04 18.0 -1.0**
baz=269
AAE Adis Abeba 87.47 279 *e*P **P** **07 53 45.6 +2.5**
AAE *e*S **S** **08 04 14.2 -7.1**
AAE *i* S **SKKSac** **08 04 18.4 +1.1**
J25K Salcha River, 87.52 26 P **P** **07 53 39.7 -2.2**
baz=269,SNR=30
J25K S **S** **08 04 19.7 +0.4**
baz=269
FURI Furi 87.56 279 *e*P P 07 53 48.9 +5.5
FURI *e*S **S** **08 04 15.7 -6.5**
HARP HAARP 87.58 28 P **P** **07 53 41.3 -0.9**
baz=270
FYU Fort Yukon 87.60 24 P **P** **07 53 42.0 -0.2**
FYU IAmb IAmb 07 53 55.8
comp=Z,129nm,1.2s
RIDG Independent Ri 87.74 26 IAmb IAmb 07 53 53.5
comp=Z,92nm,1.0s
RIDG Independent Ri 87.74 26 P **P** **07 53 41.5 -1.4**
baz=270,SNR=45
RIDG S **S** **08 04 23.0 +1.5**
baz=270
MOS Moscow 87.83 326 *e*P **P** **07 53 40.7 -2.7**
MOS *e* 07 53 57.1
MOS *e* 07 57 12.7
MOS *e* 08 04 08.8
MOS *e*S **S** **08 04 23.4 +1.0**
MOS pmax pmax
comp=Z,357nm,1.3s
MOS pmax pmax
comp=Z,2µm,3.6s
MOS MLR MLR
comp=E,6µm,22.0s
MOS MLR MLR
comp=Z,8µm,22.0s
BMRM Bremner River 87.84 29 P **P** **07 53 42.8 -0.6**
BMRM IAmb IAmb 07 54 00.7
comp=Z,108nm,1.1s
BMRM Bremner River 87.84 29 P **P** **07 53 43.1 -0.4**
baz=270
BMRM S **S** **08 04 24.2 +1.7**
baz=270
N25K Chitina, Valde 87.84 29 P **P** **07 53 42.9 -0.6**
baz=270,SNR=11
N25K S **S** **08 04 25.4 +2.8**
baz=270
BMAR Burnt Mountain 87.87 23 P **P** **07 53 43.0 -0.4**
HMT Hamilton 88.01 30 IAMs_20 IAMs_20 08 32 50.4
comp=Z,5µm,22.0s
DILA Dilla 88.02 276 *e*P **P** **07 53 48.9 +3.5**
DILA *e*S **S** **08 04 18.4 -7.9**
ANN Anapa 88.03 315 *e*P **P** **07 53 43.2 -1.4**
ANN *e* 07 57 13.6
ANN *e* 08 04 11.8
ANN *e* 08 04 19.9
ANN pmax pmax
comp=Z,458nm,0.8s
ANN pmax pmax
comp=N,127nm,0.7s
ANN pmax pmax
comp=E,68nm,0.6s
ANN MLR MLR
comp=N,6µm,24.0s
ANN MLR MLR
comp=Z,8µm,24.0s
SCRK Sand Creek 88.12 26 P **P** **07 53 43.9 -1.0**
SCRK Sand Creek 88.12 26 P **P** **07 53 43.4 -1.4**
baz=270,SNR=17
GLB Gilahina Butte 88.22 29 P **P** **07 53 44.9 -0.4**
MENT Mentasta 88.25 27 P **P** **07 53 44.2 -1.1**
BERG Berg Lake 88.29 30 P **P** **07 53 46.6 +1.1**
BERG IAmb IAmb 07 53 54.3
comp=Z,88nm,1.0s
GAZ Gaziantep 88.31 307 P **P** **07 53 44.7 -1.6**
VRDI Verde Repeater 88.40 29 P **P** **07 53 46.7 +0.4**
L26K Log Cabin Wild 88.42 27 P **P** **07 53 44.5 -1.6**
baz=271,SNR=28
L26K S **S** **08 04 29.5 +1.7**
baz=271
OBN Obninsk 88.44 325 P **P** **07 53 44.4 -1.9**
comp=Z,22nm,0.6s,baz=66,slow=3.8,SNR=24
OBN S **SKSac** **08 04 14.1 +2.8**
comp=Z,5.3nm,0.3s,baz=165,slow=23,SNR=1.6
OBN Obninsk 88.44 325 ⇓ *e*P **P** **07 53 44.6 -1.7**
OBN *i* S **S** **08 04 24.5 -3.7**
OBN pmax pmax
comp=Z,145nm,0.7s
OBN MLR MLR
comp=Z,10µm,23.0s
OBN Obninsk 88.44 325 P **P** **07 53 44.5 -1.7**
OBN IAMs_20 IAMs_20 08 35 41.3
comp=Z,5µm,22.0s
KIBK Kibwezi 88.53 268 P **P** **07 53 47.0 -0.8**
KIBK IAmb IAmb 07 54 05.3
comp=Z,185nm,1.3s
KIBK Kibwezi 88.53 268 P **P** **07 53 49.8 +2.0**
SNR=36
CRQM Cirque 88.56 29 P **P** **07 53 47.7 +0.7**
CRQM IAmb IAmb 07 53 57.0
comp=Z,84nm,1.1s
CRQM IAMs_20 IAMs_20 08 33 21.5
comp=Z,5µm,22.0s
CRQE Cirque 88.58 29 P **P** **07 53 46.8 -0.2**
baz=271
M26K Nabesna, AK 88.59 28 P **P** **07 53 46.5 -0.5**
baz=271,SNR=15
M26K S **S** **08 04 33.0 +3.4**
baz=271
MCARA McCarthy VSAT 88.60 29 P **P** **07 53 46.4 -0.6**
baz=271,SNR=16
ASF Jabal al Asfar 88.68 302 P **P** **07 53 47.6 -0.5**
comp=Z,129nm,0.8s,baz=248,slow=0.8,SNR=51
WAX Waxell Ridge 88.71 30 P **P** **07 53 46.1 -1.5**
TGL Tana Glacier 88.71 29 IAMs_20 IAMs_20 08 33 35.9
comp=Z,5µm,22.0s
K27K Chicken 88.96 26 IAmb IAmb 07 53 57.1
comp=Z,92nm,0.9s
K27K Chicken 88.96 26 P **P** **07 53 48.0 -0.6**
baz=272
K27K S **S** **08 04 36.2 +3.3**
baz=272
LVZ Lovozero 88.98 338 *c i*P **P** **07 53 46.9 -1.8**
LVZ pmax pmax
comp=Z,48nm,1.0s
LVZ MLR MLR
comp=Z,7µm,20.0s
LVZ Lovozero 88.98 338 P **P** **07 53 46.4 -2.3**
LVZ IAmb IAmb 07 54 03.0
comp=Z,63nm,0.9s
LVZ IAMs_20 IAMs_20 08 36 56.4
comp=Z,6µm,20.0s
L27K Beaver Creek, 89.11 27 IAMs_20 IAMs_20 08 30 17.1
comp=Z,4µm,20.0s
L27K Beaver Creek, 89.11 27 P **P** **07 53 48.8 -0.6**
baz=272,SNR=37
L27K S **S** **08 04 36.5 +2.1**
baz=272
M27K Edge Creek, AK 89.11 28 P **P** **07 53 48.6 -1.0**
baz=272,SNR=16
M27K S **S** **08 04 37.6 +2.9**
baz=272
BCAR Beaver Creek A 89.12 27 P **P** **07 53 49.5 -0.1**
MESA MESA 89.16 30 P **P** **07 53 48.5 -1.5**
baz=272
GRNC Granite Creek 89.24 29 P **P** **07 53 50.3 0.0**
GRNC IAMs_20 IAMs_20 08 33 51.8
comp=Z,5µm,22.0s
YAH Yahtse 89.26 30 P **P** **07 53 51.2 +0.8**
YAH IAMs_20 IAMs_20 08 29 43.3
comp=Z,6µm,22.0s
BARN Barnard Glacie 89.27 29 IAmb IAmb 07 54 01.1
comp=Z,99nm,1.0s
KMBO Kilima Mbogo 89.28 269 P **P** **07 53 50.8 -0.8**
comp=Z,5.1nm,0.6s,baz=82,slow=5.4,SNR=18
KMBO LR LR 08 31 42.9
comp=Z,3µm,20.2s,baz=88,slow=34
EGAK Eagle 89.32 25 P **P** **07 53 48.7 -1.6**
baz=273,SNR=14
EGAK S **S** **08 04 37.1 +0.9**
baz=273
BNN Bunyan 89.35 309 P **P** **07 53 50.1 -1.1**
HWQ Hawqa 89.42 304 *e*P **P** **07 53 50.8 -0.8**
CTG Chitna Glacier 89.43 29 P **P** **07 53 49.8 -1.2**
baz=273,SNR=26
CTG S **S** **08 04 40.6 +2.9**
baz=273
CTGM Chitina Glacie 89.43 29 P **P** **07 53 50.6 -0.5**
CTGM IAmb IAmb 07 53 59.3
comp=Z,103nm,0.9s
CTGM IAMs_20 IAMs_20 08 33 47.9
comp=Z,5µm,22.0s
APA Apatity 89.47 337 ⇓ *i*P **P** **07 53 48.0 -2.9**
APA *i* 07 57 24.0
APA *i* 08 04 17.0
APA *i* S **S** **08 04 36.0 -1.5**
APA *i* SS **SS** **08 10 39.0 +5.7**
APA *i* SSS SSS 08 14 16.0
APA pmax pmax
comp=Z,34nm,0.8s
APA MLR MLR
comp=Z,11µm,27.0s
TABL Table Mountain 89.55 30 P **P** **07 53 51.7 0.0**
TABL IAmb IAmb 07 54 08.0
comp=Z,84nm,1.0s
TABL IAMs_20 IAMs_20 08 30 04.2
comp=Z,7µm,22.0s
BVCY Beaver Creek 89.58 28 P **P** **07 53 51.2 -0.4**
baz=273,SNR=21
BVCY S **S** **08 04 41.7 +2.8**
baz=273
LOGN Logan Glacier 89.60 29 P **P** **07 53 52.2 +0.3**
QRWL Qaraoun 89.66 303 *e*P **P** **07 53 51.8 -0.9**
BHL Bhannes 89.67 304 *e*P **P** **07 53 52.4 -0.4**
DIKM Dikmen 89.70 311 ⇑P **P** **07 53 52.0 -0.6**
DQRL Deir Qamar 89.75 304 *e*P **P** **07 53 53.2 0.0**
YUK3 Moose Creek 89.81 28 P **P** **07 53 51.7 -1.2**
baz=274,SNR=14
YUK3 S **S** **08 04 43.5 +2.1**
baz=274
GHAJ Ghor Haditha 89.84 301 IAMs_20 IAMs_20 08 36 43.9
comp=Z,6µm,22.0s
MMAI Mount Meron Ar 89.91 303 P **P** **07 53 53.4 -0.5**
comp=Z,16nm,0.5s,baz=57,slow=5.3,SNR=15
MMLI Mount Malkishu 89.92 302 *e*P **P** **07 53 54.8 +0.9**
PCA Pinnacle 90.01 30 P **P** **07 53 55.5 +1.8**
PCA IAmb IAmb 07 54 03.5
comp=Z,86nm,1.0s
PINM Pinnacle 90.02 30 P **P** **07 53 52.7 -1.1**
baz=274
PINM S **S** **08 04 45.6 +2.5**
baz=274
CMRD Camardi-Nigde 90.06 308 *e*P **P** **07 53 56.2 +1.6**
DAWY Dawson 90.13 26 P **P** **07 53 53.7 -0.5**
baz=275,SNR=29
DAWY S **S** **08 04 45.4 +1.4**
baz=275
HRFI Mount Harif 90.34 300 *e*P **P** **07 53 55.2 -0.7**
SIM Simferopol' 90.38 315 *e*P **P** **07 53 54.9 -0.8**
SIM *e* 08 04 26.0
SIM *e*S **S** **08 04 45.0 -1.9**
SIM pmax pmax
comp=Z,259nm,1.0s
SIM MLR MLR
comp=Z,3µm,29.0s
EIL Elat 90.43 300 P **P** **07 53 54.6 -1.6**
comp=Z,20nm,0.7s,baz=79,slow=6.4,SNR=6.0

EIL S **SKSac** **08 04 25.5 +1.3**
comp=Z,0.8nm,0.4s,baz=109,slow=11,SNR=1.3
EIL Elat **90.43 300** *e*P **P** **07 53 56.7 +0.4**
BZK Bozkurt **90.62 312** ⇑P **P** **07 53 57.4 +0.5**
SYO Syowa Base **90.62 201**‖*e*P **P** **07 53 56.5 +0.3**
SYO Syowa Base **90.62 201**‖*i* PcP **PcP** **07 53 58.4 +1.1**
YUK4 Talbot Arm **90.71 29** P **P** **07 53 56.2 -1.0**
baz=275,SNR=7.5
YUK4 S **S** **08 04 51.9 +2.3**
baz=275
HOPEN Hopen **90.87 347** *e*P **P** **07 53 56.9 -0.4**
HOPEN IVmB_BB 07 54 00.7
comp=Z,1μm,3.6s
HOPEN *e*SKSac **SKSac** **08 04 23.9 -0.9**
HOPEN *e*SS **SS** **08 10 44.9 -8.3**
HOPEN IVMs_BB IVMs_BB 08 37 35.3
comp=Z,3μm,20.0s
YUK6 Outpost Mounta **90.88 29** P **P** **07 53 57.5 -0.5**
baz=276
YUK6 S **S** **08 04 52.2 +0.9**
baz=276
BR131 Keskin Array S **91.02 310** P **P** **07 53 56.6 -2.4**
BR131 pmax pmax
comp=Z,59nm,0.9s
BR131 Keskin Array S **91.02 310** P **P** **07 53 56.5 -2.4**
BR131 IAmb IAmb 07 54 09.6
comp=Z,59nm,0.8s
BR131 Keskin Array S **91.02 310** P **P** **07 53 59.0 +0.1**
SNR=36
BRTR Keskin Array B **91.02 310** P **P** **07 53 56.2 -2.8**
comp=Z,11nm,0.8s,baz=129,slow=5.4,SNR=20
BRTR PKKPbc **PKKPbc** **08 11 25.0 +1.1**
comp=Z,2.0nm,0.9s,baz=222,slow=1.7,SNR=4.6
BRTR PKPPKP **P'P'df** **08 19 31.9 -1.6**
comp=Z,0.6nm,0.4s,baz=330,slow=8.3,SNR=2.9
BRTR Keskin Array B **91.02 310** *e*P **P** **07 53 58.6 -0.4**
BRTR Keskin Array B **91.02 310** P **P** **07 53 56.3 -2.7**
EPYK Eagle Plains **91.02 24** IAmb IAmb 07 54 01.9
comp=Z,146nm,1.4s
EPYK Eagle Plains **91.02 24** P **P** **07 53 56.8 -1.5**
baz=277,SNR=20
LODK Lodwar **91.02 273** P **P** **07 53 58.3 -1.2**
LODK IAmb IAmb 07 54 16.6
comp=Z,118nm,1.8s
LODK IAMs_20 IAMs_20 08 33 11.0
comp=Z,7μm,22.0s
LODK Lodwar **91.02 273** P **P** **07 54 01.4 +1.9**
SNR=9.4
YESY Yesilyurt **91.05 308** *e*P **P** **07 53 59.9 +0.8**
HYT Haines Junctio **91.31 29** IAmb IAmb 07 54 07.2
comp=Z,103nm,1.5s
HYT Haines Junctio **91.31 29** P **P** **07 53 59.5 -0.3**
baz=276
PUL Pulkovo **91.51 330***ce*P **P** **07 53 59.9 -0.7**
PUL pmax pmax
comp=Z,102nm,1.2s
PUL MLR MLR
comp=Z,9μm,22.0s
CSS Mathiatis **91.54 305** *e*P **P** **07 54 01.8 +0.5**
CSS Mathiatis **91.54 305** IAmb IAmb 07 54 08.2
comp=Z,141nm,1.1s
KEV Kevo **91.54 340** P **P** **07 53 58.4 -2.1**
KEV pmax pmax
comp=Z,47nm,0.9s
KEV Kevo **91.54 340** P **P** **07 53 58.4 -2.1**
KEV IAMs_20 IAMs_20 08 40 52.3
comp=Z,5μm,21.0s
ANTO Ankara **91.66 310** *e*P **P** **07 54 02.6 +0.7**
ANTO Ankara **91.66 310** P **P** **07 54 00.2 -1.7**
MAYO Mayo, Yukon **91.73 26** P **P** **07 54 00.8 -0.8**
baz=278,SNR=19
QSPA South Pole Qui **91.79 180** P **P** **07 54 01.1 -0.8**
QSPA IAmb IAmb 07 54 42.6
comp=Z,171nm,1.4s
LEF Lefka **91.89 305** ⇑P **P** **07 54 06.0 +3.1**
INK Inuvik **91.96 21** S **SKSac** **08 04 33.5 +2.2**
comp=Z,1.2nm,0.6s,baz=76,slow=31,SNR=6.2
INK Inuvik **91.96 21** P **P** **07 54 01.3 -1.2**
INK pmax pmax
comp=Z,47nm,1.0s
INK Inuvik **91.96 21** P **P** **07 54 01.3 -1.2**
INK Inuvik **91.96 21** P **P** **07 54 01.2 -1.2**
baz=280,SNR=16
ARA0 ARCESS Array S **92.10 340** *e*P **P** **07 54 00.8 -2.4**
ARCES ARCESS Array B **92.10 340** P **P** **07 54 00.7 -2.5**
comp=Z,77nm,0.8s,baz=79,slow=6.3,SNR=39
ARCES PKKPbc **PKKPbc** **08 11 21.1 -1.0**
comp=Z,2.0nm,0.7s,baz=257,slow=3.4,SNR=9.2
ARCES LR LR 08 41 30.3
comp=Z,3μm,19.8s,baz=65,slow=40
ARCES ARCESS Array B **92.10 340** P **P** **07 54 00.6 -2.5**
ARCES pmax pmax
comp=Z,110nm,1.0s
ARCES ARCESS Array B **92.10 340** P **P** **07 54 00.6 -2.6**
ARCES IAmb IAmb 07 54 07.1
comp=Z,110nm,0.9s
SPB2 Spitsbergen Ar **92.24 349** IAmb IAmb 07 54 07.7
comp=Z,71nm,0.8s
SPA0 Spitsbergen Ar **92.24 349** *e*P **P** **07 54 02.0 -1.7**
SPA0 IVmBBB 07 54 05.8
comp=Z,1μm,2.8s
SPA0 *e*PP **PP** **07 57 36.8 -7.4**
SPA0 *e*SKSac **SKSac** **08 04 32.4 -0.3**
SPA0 *e*SP SPn 08 06 15.9 +2.3
SPA0 *e*SS **SS** **08 11 19.0 +6.0**
SPA0 IVMs_BB IVMs_BB 08 37 36.4
comp=Z,3μm,23.5s
SPITS Spitsbergen Ar **92.24 349** P **P** **07 54 01.4 -2.2**
comp=Z,22nm,0.9s,baz=99,slow=8.5,SNR=14
HAMF Hammerfest **92.48 341** *e*P **P** **07 54 02.8 -2.0**
HAMF IVmB_BB 07 54 06.4
comp=Z,710nm,0.3s
HAMF *e*PP **PP** **07 57 46.6 +0.4**
HAMF *e*SKSac **SKSac** **08 04 34.2 +0.1**
HAMF IVMs_BB IVMs_BB 08 41 33.7
comp=Z,2μm,24.2s
SKAG Skagway **92.56 30** P **P** **07 54 05.1 -0.3**
baz=278,SNR=18
WHY Whitehorse **92.61 29** IAmb IAmb 07 54 14.0
comp=Z,83nm,1.0s
WHY Whitehorse **92.61 29** P **P** **07 54 05.5 -0.3**
baz=278,SNR=20
KBS Kingsbay **92.78 350** *i* P **P** **07 54 06.5 +0.4**
KBS IAMs_20 IAMs_20 08 35 16.1
comp=Z,25μm,24.0s
KBS Kingsbay **92.78 350** *e*P **P** **07 54 06.8 +0.7**
KBS IVmBBB 07 54 22.5
comp=Z,911nm,1.6s
KBS *e*PP **PP** **07 57 46.2 -2.2**
KBS *e*SKSac **SKSac** **08 04 38.9 +3.4**
KBS *e*SS **SS** **08 11 23.1 +2.6**
KBS IVMs_BB IVMs_BB 08 35 10.7
comp=Z,3μm,24.4s
KBS Kingsbay **92.78 350** IAMs_20 IAMs_20 08 36 31.2
comp=Z,6μm,22.0s
HSPB Hornsund (broa **92.83 348** *e*P **P** **07 54 07.0 +0.6**
HSPB *e*SKSac **SKSac** **08 04 37.8 +2.0**
HSPB *e*SS **ScS** **08 05 10.8 +1.2**
HSPB Hornsund (broa **92.83 348** *e*P **P** **07 54 06.1 -0.2**
HSPB IVmBBB 07 54 12.3
comp=Z,961nm,2.9s
HSPB *e*PP **PP** **07 57 46.6 -2.1**
HSPB *e*SKSac **SKSac** **08 04 36.9 +1.1**
HSPB *e*SS **SS** **08 11 25.1 +3.9**
HSPB IVMs_BB IVMs_BB 08 38 04.1
comp=Z,4μm,18.7s
MDUB Mudurnu **92.83 310** P **P** **07 54 05.5 -1.8**
BJO1 Bjornoya **92.84 345** *e*P **P** **07 54 04.2 -2.2**
BJO1 *e*SKSac **SKSac** **08 04 36.8 +0.8**
BJO1 *e*SS **SS** **08 11 25.9 +4.4**
BJO1 IVMs_BB IVMs_BB 08 40 40.9
comp=Z,2μm,21.7s
SIT Sitka **92.89 33** P **P** **07 54 05.9 -1.1**
SIT pmax pmax
comp=Z,96nm,1.1s
SIT Sitka **92.89 33** P **P** **07 54 05.9 -1.1**
SIT IAmb IAmb 07 54 15.2
comp=Z,96nm,1.1s
SIT Sitka **92.89 33** P **P** **07 54 08.7 +1.7**
baz=278
BESE Bessie Mountai **92.93 31** P **P** **07 54 06.6 -0.7**
BESE IAmb IAmb 07 54 32.8
comp=Z,143nm,1.3s
KTK1 Kautokeino **93.00 339** *e*P **P** **07 54 04.9 -2.4**
KTK1 IVmB_BB 07 54 13.6
comp=Z,1μm,3.4s
KTK1 *e*SKSac **SKSac** **08 04 37.6 +0.5**
KTK1 *e*SS **SS** **08 11 27.4 +3.3**
KTK1 IVMs_BB IVMs_BB 08 35 05.9
comp=Z,2μm,20.2s
FARO Faro, Yukon **93.09 27** P **P** **07 54 08.2 +0.3**
baz=280
AKASG Malin Array Be **93.18 321** P **P** **07 54 05.8 -2.7**
comp=Z,17nm,0.8s,baz=69,slow=4.5,SNR=25
AKASG PKKPbc **PKKPdf** **08 11 17.7 +1.0**
comp=Z,1.2nm,0.5s,baz=271,slow=2.9,SNR=4.2
AKASG LR LR 08 39 59.1
comp=Z,6μm,21.3s,baz=80,slow=38
AKASG Malin Array Be **93.18 321** P **P** **07 54 05.9 -2.5**
AKBB Malin Array Si **93.18 321***c i*P **P** **07 54 07.4 -1.1**
AKBB pmax pmax
comp=Z,61nm,1.3s
JIS Juneau Island **93.22 32** IAmb IAmb 07 54 16.7
comp=Z,82nm,0.9s
JIS IAMs_20 IAMs_20 08 33 43.2
comp=Z,4μm,22.0s
PURM Purcari **93.22 317** ‖P **P** **07 54 07.4 -1.3**
FINES FINESS Array B **93.35 332** P **P** **07 54 06.4 -2.7**
comp=Z,23nm,0.7s,baz=75,slow=3.7,SNR=29
FINES PKKPbc **PKKPbc** **08 11 18.2 -0.4**
comp=Z,1.4nm,0.7s,baz=204,slow=1.4,SNR=2.1
FINES LR LR 08 39 46.4
comp=Z,5μm,21.9s,baz=73,slow=38
BORA Eskisehir **93.45 310** *e*P **P** **07 54 10.4 +0.2**
MNK Minsk **93.50 325** *i* P P 07 54 03.2 -6.7
MNK *i* 07 57 48.5
MNK pmax pmax
comp=N,38nm,1.3s
MNK pmax pmax
comp=E,9.0nm,1.0s
MNK pmax pmax
comp=Z,68nm,1.0s
MNK MLR MLR
comp=Z,7μm,24.0s
MNK MLR MLR
comp=E,851nm,23.0s
MNK MLR MLR
comp=N,2μm,18.0s
MNK Minsk **93.50 325** *i* P P 07 54 03.2 -6.7
comp=E,9.0nm,1.0s
MNK *i* P P 07 54 03.2 -6.7
comp=N,38nm,1.3s,baz=82
MNK *i* P **PcP** **07 54 03.8 -6.6**
comp=Z,68nm,1.0s
MNK *i* PP **PP** **07 57 48.6 -6.0**
MNK *i* PPP PPP 07 59 49.1
MNK *i* S **SKSac** **08 04 29.8 -11**
MNK *i* SS **SS** **08 11 23.7 -8.2**
MNK *i* SSS SSS 08 15 03.0
MNK *i* LQ LQ 08 30 24.3
MNK *i* LR LR 08 35 18.2
MNK *i* LRM MLR 08 37 27.3
comp=Z,7μm,23.5s
MNK *i* LRM MLR 08 37 31.1
comp=E,851nm,22.9s
MNK *i* LRM MLR 08 37 45.1
comp=N,2μm,18.4s
VSU Vasula **93.53 329** *e*P **P** **07 54 09.2 -0.6**
VSU Vasula **93.53 329***ce*P **P** **07 54 08.6 -1.3**
VSU pmax pmax
comp=Z,100nm,0.8s
VSU MLR MLR
comp=Z,22μm,24.0s
ISP Isparta **93.59 308** *e*P **P** **07 54 11.4 +0.5**
AUBOZ BOZOYUK **93.78 310** *e*P **P** **07 54 11.8 +0.2**
A36M Sachs Harbour **93.82 17** P **P** **07 54 10.8 -0.1**
baz=288
A36M S **S** **08 05 18.9 +2.3**
baz=288
JETT Jettan, Norway **93.84 340** *e*P **P** **07 54 10.4 -0.8**
JETT *e*PP **PP** **07 57 57.4 +0.5**
JETT *e*SKSac **SKSac** **08 04 39.6 -2.2**
JETT *e*SS **SS** **08 11 39.2 +3.1**
JETT IVMs_BB IVMs_BB 08 35 48.0
comp=Z,2μm,22.7s
KIS Kishinev **93.89 317** *e*P **P** **07 54 09.0 -2.8**
comp=Z,480nm,4.7s
KIS Kishinev **93.89 317** *e*PP **PP** **07 58 02.0 +4.1**
KIS Kishinev **93.89 317** *e*PS PS 08 06 32.0 -6.4
KIS *e*LQ LQ 08 29 12.0
KIS LRM MLR 08 37 10.0
comp=Z,1μm,23.0s
MILM Milestii Mici **93.90 317** ⇑P **P** **07 54 09.8 -2.1**
MMPY Sheldon Lake, **93.97 27** P **P** **07 54 12.7 +0.7**
baz=282
SORM Soroca **94.06 318** ⇑P **P** **07 54 10.9 -1.7**
SORM Soroca **94.06 318** ⇑P **P** **07 54 10.9 -1.7**
NACGM Naroch **94.07 325** *i* P **P** **07 54 11.9 -0.6**
TLCR **94.10 315** ⇑P **P** **07 54 12.5 -0.4**
TLCR **94.10 315** ⇑P **P** **07 54 12.5 -0.4**
JURR Jurilovca **94.11 315** ⇑P **P** **07 54 12.9 0.0**
TVSB Tavsanli **94.26 310** *e*P **P** **07 54 14.2 +0.3**
IIGN Ignalina **94.31 326** *e*P **P** **07 54 15.2 +1.6**
TRO Tromso **94.31 340** *e*P **P** **07 54 11.3 -2.0**
TRO IVmB_BB 07 54 19.4
comp=Z,851nm,3.0s
TRO *e*PP **PP** **07 58 01.0 +0.5**
TRO *e*SKSac **SKSac** **08 04 44.5 +0.4**
TRO *e*SS **SS** **08 11 46.6 +3.9**
TRO IVMs_BB IVMs_BB 08 36 03.9
comp=Z,2μm,18.1s
ISAL Salakas **94.33 326** *e*P **P** **07 54 15.2 +1.6**
CRAG Craig **94.35 34** P **P** **07 54 15.1 +1.3**
baz=280
MEF Metsahovi **94.39 331** *e*P **P** **07 54 15.2 +1.4**
TPGR Topolog **94.42 315** ⇑P **P** **07 54 16.5 +2.1**
TIRR Tirgusor **94.47 315** ⇑P **P** **07 54 13.4 -1.2**
TIRR Tirgusor **94.47 315** ⇑P **P** **07 54 13.4 -1.2**
TIRR Tirgusor **94.47 315** P **P** **07 54 12.8 -1.8**
TIRR IAmb IAmb 07 54 19.4
comp=Z,162nm,1.2s
TIRR IAMs_20 IAMs_20 08 40 00.2
comp=Z,6μm,20.0s
CFR Carcaliu **94.58 315** ⇑P **P** **07 54 14.6 -0.5**
CFR Carcaliu **94.58 315** ⇑P **P** **07 54 14.6 -0.5**
WRAK Wrangell Islan **94.61 33** IAmb IAmb 07 54 22.2
comp=Z,141nm,1.1s
WRAK Wrangell Islan **94.61 33** P **P** **07 54 15.7 +0.8**
baz=280
SCTR Scanteiesti **94.62 316** ⇑P **P** **07 54 17.5 +2.3**
HARR Harsova **94.79 315** ⇑P **P** **07 54 13.8 -2.2**
HARR Harsova **94.79 315** ⇑P **P** **07 54 13.8 -2.2**
NOR Nord **94.91 355** *i* P **P** **07 54 14.3 -1.5**
NOR IAmb IAmb 07 54 20.5
comp=Z,72nm,1.3s
NOR IAMs_20 IAMs_20 08 37 21.6
comp=Z,6μm,25.3s
ICOR Ion Corvin **94.95 314** ⇑P **P** **07 54 19.2 +2.4**
MTSE Matsula **94.98 329** *e*P **P** **07 54 15.8 -0.8**
ODBI Odobesti **95.26 316** ⇑P **P** **07 54 18.9 +0.8**
TESR Tescani **95.43 317** ⇑P **P** **07 54 17.4 -1.6**
YER Yerkesik **95.43 307** *e*P **P** **07 54 18.7 -0.6**
DLBC Dease Lake **95.44 31** P **P** **07 54 18.7 -0.2**
VRI Vrincioaia **95.47 316** ⇑P **P** **07 54 18.5 -0.7**
VRI Vrincioaia **95.47 316** *e*P **P** **07 54 20.5 +1.3**
VRI Vrincioaia **95.47 316** ⇑P **P** **07 54 18.5 -0.7**
RAF Rauma **95.48 332** *e*P **P** **07 54 20.0 +1.2**
TURN Turunc **95.50 307** *e*P **P** **07 54 19.3 -0.2**
PLOR Plostina **95.53 316** ⇑P **P** **07 54 18.2 -1.3**
PLOR Plostina **95.53 316** ⇑P **P** **07 54 18.2 -1.3**
BISRR Bisoca **95.53 316** ⇑P **P** **07 54 20.3 +0.8**
PABE Paberze **95.55 326** *e*P **P** **07 54 18.1 -1.2**
PABE Paberze **95.55 326** IAmb IAmb 07 54 24.6
comp=Z,85nm,0.9s
TGTN Hyland Airport **95.58 28** P **P** **07 54 19.0 -0.4**
baz=284
ALE Alert **95.60 1** IAMs_20 IAMs_20 08 38 44.0
comp=Z,4μm,22.0s
ARG Arkhangelos **95.66 306** *e*P **P** **07 54 20.5 +0.3**
BIZ Bicaz **95.73 317** ⇑P **P** **07 54 18.9 -1.5**
GZKV Gazikoy-Tekird **95.73 311** *e*P **P** **07 54 19.9 -0.5**
MAR3 Marsite Statio **95.76 311** *e*P **P** **07 54 20.5 -0.1**
MBAR Mbarara **95.78 270** IAMs_20 IAMs_20 08 36 34.9
comp=Z,4μm,22.0s
MBAR Mbarara **95.78 270** P **P** **07 54 23.5 +2.0**
COVR Voineasa-Covas **95.83 316** ⇑P **P** **07 54 19.5 -1.4**
NEHR Nehoiu **95.83 316** ⇑P **P** **07 54 19.8 -1.0**
SULR **95.97 315** ⇑P **P** **07 54 23.6 +2.2**
MLR Muntele Rosu **96.07 316** ⇑P **P** **07 54 20.4 -1.7**
MLR Muntele Rosu **96.07 316** ⇑P **P** **07 54 19.8 -2.2**
comp=Z,30nm,0.6s,baz=280,slow=4.8,SNR=27
MLR Muntele Rosu **96.07 316** ⇑P **P** **07 54 20.4 -1.7**
MLR Muntele Rosu **96.07 316** IAmb IAmb 07 54 38.1
comp=Z,121nm,1.3s
MLR IAMs_20 IAMs_20 08 45 14.3
comp=Z,5μm,22.0s
OZUR **96.08 317** ⇑P **P** **07 54 26.7 +4.7**
STEI Steigen **96.14 339** *e*P **P** **07 54 19.3 -2.3**
STEI *e*PP **PP** **07 58 13.3 -1.4**
STEI *e*SKSac **SKSac** **08 04 54.0 +0.1**
STEI IVMs_BB IVMs_BB 08 42 42.8
comp=Z,3μm,21.6s
BURAR Bucovina Array **96.22 318** ⇑P **P** **07 54 22.0 -0.7**
BURAR Bucovina Array **96.22 318** ⇑P **P** **07 54 22.0 -0.7**
BURAR Bucovina Array **96.22 318** P **P** **07 54 21.0 -1.7**
BURAR IAmb IAmb 07 54 28.5
comp=Z,90nm,0.8s
BUR08 Bucovina Ar. S **96.23 318** IAmb IAmb 07 54 35.5
comp=Z,84nm,0.9s
SUW Suwalki **96.30 325** *e*P **P** **07 54 23.1 +0.4**
SUW *e*SKSac **SKSac** **08 04 57.9 +2.6**
SUW *e*S **ScS** **08 05 39.6 +0.3**
SUW Suwalki **96.30 325** *e*P **P** **07 54 20.8 -1.8**
SUW Suwalki **96.30 325** P **P** **07 54 21.1 -1.6**
SUW pmax pmax
comp=Z,184nm,1.0s
SUW Suwalki **96.30 325** P **P** **07 54 21.1 -1.6**
FAUS Fauske **96.31 339** *e*P **P** **07 54 20.0 -2.4**
FAUS IVmB_BB 07 54 28.5
comp=Z,773nm,3.0s
FAUS *e*PP **PP** **07 58 16.3 +0.3**
FAUS *e*SKSac **SKSac** **08 04 56.1 +1.3**
FAUS *e*SS **SS** **08 12 11.2 0.0**
FAUS IVMs_BB IVMs_BB 08 44 25.1
comp=Z,2μm,20.5s
DOPR Dopca **96.38 316** ⇑P **P** **07 54 23.7 +0.4**
KARP Karpathos **96.52 306** *e*P **P** **07 54 24.8 +0.6**
PBUR Paburge **96.56 327** *e*P **P** **07 54 24.9 +1.0**
LVV L'vov **96.61 320** *e*P **P** **07 54 22.7 -1.5**
LVV *e* 08 04 56.0
LVV *e*S **S** **08 05 38.6 -3.1**
LVV *e*PS **PS** **08 07 04.3 -3.8**
LVV pmax pmax
comp=Z,870nm,4.7s
URLA Izmir **96.61 309** *e*P **P** **07 54 25.1 +0.6**
LOF Lofoten **96.66 340** *e*P **P** **07 54 23.9 -0.2**
LOF IVmB_BB 07 54 24.8
comp=Z,784nm,2.5s
LOF *e*SKSac **SKSac** **08 04 58.0 +1.3**
LOF *e*SS **SS** **08 12 20.0 +4.1**
LOF IVMs_BB IVMs_BB 08 37 34.3
comp=Z,2μm,29.4s
ALN Alexandroupoli **96.68 311** *e*P **P** **07 54 23.8 -0.9**
VOIR **96.70 316** ⇑P **P** **07 54 25.0 +0.2**
VOIR **96.70 316** ⇑P **P** **07 54 25.0 +0.2**
ARCR ARCALIA **96.89 318** ⇑P **P** **07 54 25.4 -0.2**
HUMR Humele **96.90 315** ⇑P **P** **07 54 26.4 +0.8**
ARR Arges **97.00 316** ⇑P **P** **07 54 25.1 -1.1**
RDO Rodhopi **97.02 312** *e*P Pdif 07 54 26.8 +0.4
MOR8 Moi Rana **97.06 338** *e*P **P** **07 54 22.3 -3.7**
MOR8 IVmB_BB 07 54 30.0
comp=Z,584nm,3.0s
MOR8 *e*PP **PP** **07 58 19.5 -2.3**
MOR8 *e*SKSac **SKSac** **08 04 59.4 +0.5**
MOR8 *e*SS **SS** **08 12 20.9 -0.8**
MOR8 IVMs_BB IVMs_BB 08 37 56.1
comp=Z,2μm,21.4s
SIGR SIGRI **97.06 310** *e*P Pdif 07 54 26.7 +0.1
WRGLY Wrigley **97.25 25** P **P** **07 54 25.6 -1.2**
baz=289
BMR Baia Mare **97.36 318** ⇑P **P** **07 54 27.6 -0.1**
BMR Baia Mare **97.36 318** ⇑P **P** **07 54 27.6 -0.1**
KONS Konsvik **97.43 338** *e*P **P** **07 54 26.4 -1.1**
CJR Cluj-Napoca **97.47 317** ⇑P **P** **07 54 28.2 -0.1**
CJR Cluj-Napoca **97.47 317** ⇑P **P** **07 54 28.2 -0.1**
KWP Kalwaria Pacla **97.48 320** *e*P Pdif 07 54 29.6 +1.3
KWP *e*SKSac **SKSac** **08 05 05.5 +3.7**
KWP *e*S **ScS** **08 05 50.0 +0.5**
PLD Plovdiv **97.49 313** *e*P **P** **07 54 27.6 -0.8**
STOK Stokkvaagen **97.53 338** *e*P **P** **07 54 27.2 -0.8**
STOK *e*SKSac **SKSac** **08 05 04.8 +3.6**
LOT Lotru **97.58 316** ⇑P **P** **07 54 28.0 -0.9**
LOT Lotru **97.58 316** *e*P Pdif 07 54 29.7 +0.7
KLNR Kaliningrad **97.86 326**‖*e*P **P** **07 54 28.0 -1.7**
KLNR pmax pmax
comp=Z,107nm,1.2s
KOLS Kolonicke sedl **97.91 320**‖*e*P Pdif 07 54 32.3 +2.1
KOLS *e* 08 05 06.7
KOLS *e*SS SS 08 12 47.4 +13
KOLS Kolonicke sedl **97.91 320** *e*PDIFF Pdif 07 54 32.3 +2.1
UZH Uzhgorod **97.96 320**⇑*e*P Pdif 07 54 30.7 +0.3
UZH *i* *PP pP 07 54 44.7 +0.8
UZH *e* 07 58 30.9
UZH *e*PPP PPP 08 00 41.0
UZH *i* 08 05 07.6
UZH *i* S **S** **08 05 49.6 -3.7**
UZH *i* PS **PS** **08 07 20.0 -2.8**
UZH MLR MLR
comp=N,900nm,22.0s
UZH MLR MLR
comp=E,900nm,22.0s
UZH MLR MLR
comp=Z,340nm,22.0s
DRGR **98.05 318** ⇑P **P** **07 54 30.0 -0.9**
DRGR **98.05 318** ⇑P **P** **07 54 30.0 -0.9**
BEL Belsk **98.19 323** *e*P Pdif 07 54 32.7 +1.4
BEL *e*SKSac **SKSac** **08 05 09.3 +4.2**
BEL *e*S **ScS** **08 05 57.0 +1.8**
GZR Gura Zlata **98.28 316** ⇑P **P** **07 54 31.1 -0.9**
GZR Gura Zlata **98.28 316** ⇑P **P** **07 54 31.1 -0.9**
OUR Ouranopolis **98.32 311** *e*P **P** **07 54 31.8 -0.3**
IDI Anoyia **98.39 306** P Pdif 07 54 32.7 0.0
comp=Z,12nm,0.7s,baz=325,slow=11,SNR=9.4
VTS Vitosha **98.47 313** ⇑P Pdif 07 54 33.4 +0.4
VTS Vitosha **98.47 313** ⇑P Pdif 07 54 33.4 +0.4
LSZ Lusaka **98.51 255** P Pdif 07 54 33.8 +0.1
LSZ pmax pmax
comp=Z,37nm,1.0s
LSZ Lusaka **98.51 255** P Pdif 07 54 33.8 +0.1
LSZ Lusaka **98.51 255** P Pdif 07 54 34.1 +0.4
DJES Djerdap **98.60 316** ⇑P Pdif 07 54 34.2 +0.8
HERR Herculane **98.63 316** ⇑P **P** **07 54 32.6 -0.8**
NSS Namsos **98.64 337** *e*P **P** **07 54 31.5 -1.5**
NSS *e*SKSac **SKSac** **08 05 09.4 +2.5**
HORT Hortiatis **98.94 311** *e*P **P** **07 54 33.9 -1.1**
KNT Kendrikon **98.98 312** *e*P **P** **07 54 34.5 -0.6**
BZS Buzias **99.03 317** ⇑P **Pdif** **07 54 34.7 -0.6**
BZS Buzias **99.03 317** ⇑P **Pdif** **07 54 34.7 -0.6**
DAG Danmarks Havn **99.05 352** *i* P **Pdif** **07 54 32.5 -2.1**
DAG IAmb IAmb 07 54 38.2
comp=Z,37nm,0.9s
DAG IAMs_20 IAMs_20 08 39 46.9
comp=Z,6μm,27.7s
NIE Niedzica **99.06 321** *e*P **Pdif** **07 54 37.7 +2.3**
NIE *e*SKSac **SKSac** **08 05 14.3 +4.5**
GVD Gavdhos **99.11 306** *e*P **Pdif** **07 54 35.4 -0.4**
MDVR Moldovita **99.14 316** ⇑P **Pdif** **07 54 36.5 +0.7**
KECS Kecovo **99.16 320** *e*P **Pdif** **07 54 36.8 +1.0**
KECS Kecovo **99.16 320** *e*PDIFF **Pdif** **07 54 36.8 +1.0**
OJC Ojcow **99.19 321** *e*P **Pdif** **07 54 36.7 +0.8**
OJC *e*SKSac **SKSac** **08 05 11.9 +1.6**
OJC *e*S **S** **08 06 04.6 +0.9**
VAY Valandovo **99.20 312** *e*P **Pdif** **07 54 33.1 -3.0**
VAY *i* S **SKSac** **08 05 10.4 -0.3**
KNDR Palaiochora Ch **99.37 306** *e*P **Pdif** **07 54 35.9 -1.1**
BOVS Bovan **99.38 315** ⇑P **Pdif** **07 54 36.2 -0.6**
GRG Griva **99.39 312** *e*P **Pdif** **07 54 36.3 -0.7**
STIP Stip **99.41 313** *e*P **Pdif** **07 54 32.9 -4.1**
HFS Hagfors **99.54 332** P **Pdif** **07 54 34.1 -3.1**
comp=Z,13nm,0.8s,baz=144,slow=3.5,SNR=9.9
LANS Liptovska Anna **99.66 320** *e*P **Pdif** **07 54 41.4 +3.4**
LANS Liptovska Anna **99.66 320** *e*PDIFF **Pdif** **07 54 41.4 +3.4**
PSZ Piszkesteto **99.68 319** ⇑P **Pdif** **07 54 38.9 +0.7**
PSZ Piszkesteto **99.68 319** *e*P **Pdif** **07 54 37.7 -0.4**
PSZ Piszkesteto **99.68 319** ⇑P **Pdif** **07 54 38.9 +0.7**
PSZ Piszkesteto **99.68 319** IAMs_20 IAMs_20 08 44 13.7
comp=Z,5μm,22.0s
AGG Agios Georgios **99.80 310** *e*P **Pdif** **07 54 37.4 -1.5**
SKO Skopje **99.91 313** *e*P **Pdif** **07 54 37.9 -1.4**
SKO *i* S **SKSac** **08 05 15.5 +1.3**
GKP Gorka Klasztor **99.91 325** *e*P **Pdif** **07 54 40.4 +1.4**

GKP				*e*SKSac	**SKSac**	**08 05 15.7**	**+2.0**
GKP				*e*S	**S**	**08 06 14.1**	**+4.5**
FNA	**Florina**	**100.19**	**312**	*e*P	**Pdif**	**07 54 39.8**	**-0.8**
VYHS	**Vyhne**	**100.22**	**320⇑**	*e*P	**Pdif**	**07 54 43.1**	**+2.6**
VYHS				*e*		08 05 16.5	
NC602	**NORSAR Array S**	**100.31**	**333**	*e*Pdif	**Pdif**	**07 54 40.5**	**-0.1**
NC602				IVmB_BB		07 55 00.5	
	comp=Z,976nm,3.6s						
NC602				*e*PP	**PP**	**07 58 45.5**	**-1.3**
NC602				*e*SKSac	**SKSac**	**08 05 15.1**	**-0.3**
NC602				*e*SS	**SS**	**08 13 13.6**	**+6.1**
NC602				IVmS_BB	IVmS_BB	08 42 35.3	
	comp=Z,3μm,18.4s						
OKC	**Ostrava-Krasne**	**100.31**	**321**	*e*P	**Pdif**	**07 54 43.0**	**+2.2**
OKC				*e*		08 05 18.3	
OKC				MLR	MLR		
	comp=Z,3μm,20.0s						
OKC	**Ostrava-Krasne**	**100.31**	**321**	*e*PDIFF	**Pdif**	**07 54 43.0**	**+2.2**
OKC				*e*SKS		08 05 18.3	
OKC				AMS	AMS	08 43 50.0	
	comp=Z,3μm,20.0s						
NB2	**NORSAR Subarra1**	**100.33**	**333**	P	**Pdif**	**07 54 37.9**	**-2.8**
	comp=Z,37nm,1.1s,baz=69,slow=4.4						
NB2	**NORSAR Subarra**	**100.33**	**333**	P	**Pdif**	**07 54 37.9**	**-2.8**
	baz=69,slow=4.4						
NOA	**NORSAR Array B**	**100.33**	**333**	P	**Pdif**	**07 54 37.7**	**-3.1**
	comp=Z,14nm,0.8s,baz=68,slow=4.5,SNR=18						
NOA				PKKPbc	**PKKPbc**	**08 11 00.0**	**+0.4**
	comp=Z,2.5nm,0.8s,baz=67,slow=3.1,SNR=7.9						
BUD	**Budapest**	**100.35**	**319**	*e*P	**Pdif**	**07 54 42.8**	**+1.8**
FRGS	**Fruska Gora**	**100.38**	**316⇑**	P	**Pdif**	**07 54 40.4**	**-0.9**
OHR	**Ohrid**	**100.55**	**312**	*e*P	**Pdif**	**07 54 40.5**	**-1.7**
OHR				*i* S	**SKSac**	**08 05 18.4**	**+0.8**
MORC	**Moravsky Berou**	**100.71**	**321⇑**	P	**Pdif**	**07 54 41.1**	**-1.6**
MORC	**Moravsky Berou**	**100.71**	**321⇑**	P	**Pdif**	**07 54 41.1**	**-1.6**
MORC	**Moravsky Berou**	**100.71**	**321**	*e*PDIFF	**Pdif**	**07 54 44.5**	**+1.8**
MORC				*e*SKS		08 05 20.6	
MORC				*e*SDIFF	**Sdif**	**08 06 22.3**	**+5.8**
NEEM	**North Greenlan**	**100.77**	**359**	*e*P	**Pdif**	**07 54 43.3**	**+0.6**
NEEM				IAmb	IAmb	07 54 47.8	
	comp=Z,110nm,1.4s						
BOSA	**Boshof**	**100.77**	**241**	P	**Pdif**	**07 54 44.8**	**+1.3**
	comp=Z,7.1nm,0.8s,baz=106,slow=4.2,SNR=5.5						
JAVC	**Velka Javorina**	**100.87**	**320**	*e*PDIFF	**Pdif**	**07 54 45.7**	**+2.3**
JAVC				*e*SKS		08 05 23.8	
JAVC				*e*SDIFF	**Sdif**	**08 06 22.7**	**+4.7**
CSKK	**Cskako**	**100.89**	**319**	*e*P	**Pdif**	**07 54 42.7**	**-0.7**
KRLC	**Kraliky**	**101.09**	**322**	*e*P	**Pdif**	**07 54 46.9**	**+2.5**
KRLC				*e*		08 05 21.6	
KRLC				MLR	MLR		
	comp=Z,6μm,21.5s						
KRLC	**Kraliky**	**101.09**	**322**	*e*PDIFF	**Pdif**	**07 54 46.9**	**+2.5**
KRLC				*e*pP	**pPdif**	**07 54 54.1**	**-3.9**
KRLC				*e*SKS		08 05 21.6	
KRLC				AMS	AMS	08 44 10.0	
	comp=Z,6μm,21.5s						
KSP	**Ksiaz**	**101.17**	**323**	*e*P	**Pdif**	**07 54 46.3**	**+1.7**
KSP				*e*SKSac	**SKSac**	**08 05 23.6**	**+3.6**
KSP				*e*S	**Sdif**	**08 06 27.6**	**+7.3**
MOL	**Molde**	**101.26**	**336**	*e*Pdif	**Pdif**	**07 54 44.2**	**-0.5**
MOL				*e*SKSac	**SKSac**	**08 05 22.3**	**+2.4**
MOL				*e*SP	**SP**	**08 07 53.2**	**+2.3**
MOL				*e*SS	**SS**	**08 13 20.7**	**+0.2**
MOL				IVmS_BB	IVmS_BB	08 45 30.7	
	comp=Z,4μm,22.5s						
YKA	**Yellowknife Ar**	**101.27**	**24**	P	**Pdif**	**07 54 45.0**	**+0.2**
	comp=Z,7.4nm,0.8s,baz=306,slow=4.2,SNR=6.2						
YKA				PKKPbc	**PKKPbc**	**08 10 57.4**	**+0.6**
	comp=Z,3.8nm,0.9s,baz=99,slow=3.9,SNR=3.7						
YKA	**Yellowknife Ar**	**101.27**	**24**	P	**Pdif**	**07 54 45.0**	**+0.2**
DPC	**Dobruska-Polom**	**101.30**	**322**	*e*P	**Pdif**	**07 54 44.7**	**-0.6**
DPC				*e*		07 58 58.6	
DPC				*e*		08 05 23.2	
DPC				MLR	MLR		
	comp=Z,5μm,21.5s						
DPC	**Dobruska-Polom**	**101.30**	**322**	*e*PDIFF	**Pdif**	**07 54 44.7**	**-0.6**
DPC				*ex*	x	07 54 55.1	
DPC				*e*pP	pP	07 55 00.0	+0.9
DPC				*ex*	x	07 58 37.5	
DPC				*e*PP	**PP**	**07 58 58.6**	**+3.9**
DPC				*e*SKS		08 05 23.2	
DPC				AMS	AMS	08 42 00.0	
	comp=Z,5μm,21.5s						
OSTC	**Ostas**	**101.30**	**322**	*e*SKS		08 05 21.7	
OSTC				AMS	AMS	08 43 30.0	
	comp=Z,7μm,22.8s						
DBG	**Daneborg**	**101.31**	**351**	*i* P	**Pdif**	**07 54 45.1**	**+0.3**
DBG				IAmb	IAmb	07 54 48.9	
	comp=Z,21nm,0.9s						
DBG				IAMs_20	IAMs_20	08 42 11.2	
	comp=Z,7μm,26.3s						
CHVC	**Chvalec**	**101.39**	**322**	*e*PDIFF	**Pdif**	**07 54 47.1**	**+1.4**
PDG	**Podgorica**	**101.39**	**314⇑**	P	**Pdif**	**07 54 45.8**	**0.0**
VRAC	**Vranov**	**101.43**	**321⇑**	P	**Pdif**	**07 54 45.0**	**-0.8**
VRAC	**Vranov**	**101.43**	**321**	P	**Pdif**	**07 54 46.3**	**+0.4**
	comp=Z,6.7nm,0.7s,baz=66,slow=6.1,SNR=6.7						
VRAC	**Vranov**	**101.43**	**321⇑**	P	**Pdif**	**07 54 45.0**	**-0.8**
VRAC	**Vranov**	**101.43**	**321**	*e*PDIFF	**Pdif**	**07 54 47.3**	**+1.4**
VRAC				*e*PP	**PP**	**07 58 58.3**	**+2.6**
VRAC				*e*SKS		08 05 24.7	
VRAC				*e*SDIFF	**Sdif**	**08 06 26.3**	**+3.8**
UPC	**Upice**	**101.44**	**322**	*e*P	**Pdif**	**07 54 47.0**	**+1.1**
UPC				*e*		08 05 24.0	
UPC				MLR	MLR		
	comp=Z,7μm,22.8s						
UPC	**Upice**	**101.44**	**322**	*e*PDIFF	**Pdif**	**07 54 47.0**	**+1.1**
UPC				*e*SKS		08 05 24.0	
UPC				AMS	AMS	08 43 40.0	
	comp=Z,7μm,22.8s						
JMIC	**Jan Mayen**	**101.59**	**346**	*e*P	**Pdif**	**07 54 44.5**	**-1.5**
JMIC				IVmB_BB		07 54 49.3	
	comp=Z,1μm,1.9s						
JMIC				*e*PP	**PP**	**07 58 54.5**	**-1.6**
JMIC				*e*SKSac	**SKSac**	**08 05 23.6**	**+2.3**
JMIC				*e*SP	**SP**	**08 07 52.8**	**-1.3**
JMIC				IVMs_BB	IVMs_BB	08 41 57.3	
	comp=Z,1μm,24.2s						
KRUC	**Moravsky**	**101.62**	**321**	*e*PDIFF	**Pdif**	**07 54 48.4**	**+1.7**
KRUC				*e*SKS		08 05 24.7	
KRUC				*e*SDIFF	**Sdif**	**08 06 27.3**	**+3.2**
KONO	**Kongsberg**	**101.64**	**332**	*e*Pdif	**Pdif**	**07 54 45.5**	**-1.0**
KONO				IVmB_BB		07 54 46.0	
	comp=Z,411nm,2.2s						
KONO				*e*PP	**PP**	**07 58 57.2**	**+0.5**
KONO				*e*SKSac	**SKSac**	**08 05 21.4**	**-0.4**
KONO				*e*SS	**SS**	**08 13 30.5**	**+4.6**
KONO				IVMs_BB	IVMs_BB	08 39 16.2	
	comp=Z,3μm,29.5s						
KONO	**Kongsberg**	**101.64**	**332**	IAMs_20	IAMs_20	08 44 30.1	
	comp=Z,5μm,21.0s						
AKN	**Aaknes**	**101.67**	**335**	*e*Pdif	**Pdif**	**07 54 46.3**	**-0.3**
AKN				IVmB_BB		07 54 51.3	
	comp=Z,3μm,2.7s						
AKN				*e*PP	**PP**	**07 58 57.6**	**+0.6**
AKN				*e*SKSac	**SKSac**	**08 05 20.0**	**-1.9**
AKN				*e*SP	**SP**	**08 07 56.0**	**+0.6**
AKN				*e*SS	**SS**	**08 13 31.1**	**+4.8**
AKN				IVMs_BB	IVMs_BB	08 45 21.3	
	comp=Z,2μm,3.2s						
SKAR	**Skarslia**	**101.78**	**334**	*e*Pdif	**Pdif**	**07 54 42.7**	**-4.5**
SKAR				IVmB_BB		07 54 44.0	
	comp=Z,1μm,3.1s						
SKAR				*e*PP	**PP**	**07 58 56.0**	**-1.9**
SKAR				*e*SKSac	**SKSac**	**08 05 25.1**	**+2.5**
SKAR				*e*SS	**SS**	**08 13 31.9**	**+3.9**
SKAR				IVMs_BB	IVMs_BB	08 39 19.8	
	comp=Z,3μm,23.0s						
NLWA	**Neilton Lookou**	**101.79**	**41**	IAMs_20	IAMs_20	08 34 05.0	
	comp=Z,4μm,21.0s						
A04D	**Lummi Island**	**102.16**	**39**	Pdiff	**Pdif**	**07 54 49.7**	**+0.6**
	baz=287						
CONA	**Conrad Observa**	**102.29**	**320**	*e*P	**Pdif**	**07 54 50.7**	**+0.9**
	comp=Z,9.6nm,1.7s						
CONA				*e*P	**PKKPbc**	**08 10 54.7**	**+1.2**
	comp=Z,8.6nm,1.0s						
PVCC	**Panska Ves**	**102.31**	**323**	*e*P	**Pdif**	**07 54 48.9**	**-0.8**
PVCC				*e*		07 59 03.5	
PVCC				*e*		08 05 26.8	
PVCC				MLR	MLR		
	comp=Z,8μm,22.2s						
PVCC	**Panska Ves**	**102.31**	**323**	*e*PDIFF	**Pdif**	**07 54 48.9**	**-0.8**
PVCC				*e*PP	**PP**	**07 59 03.5**	**+1.3**
PVCC				*e*SKS		08 05 26.8	
PVCC				AMS	AMS	08 44 20.0	
	comp=Z,8μm,22.2s						
KOGS	**Kog**	**102.46**	**318**	*i* Pdiff	**Pdif**	**07 54 51.7**	**+1.3**
KOGS				*e*SKSac	**SKSac**	**08 05 28.5**	**+2.1**
KOGS				*e*SP	**SP**	**08 08 03.7**	**-0.9**
PRU	**Pruhonice**	**102.50**	**322**	*e*P	**Pdif**	**07 54 50.7**	**+0.1**
PRU				*e*		07 59 07.8	
PRU				*e*		08 05 27.5	
PRU				MLR	MLR		
	comp=Z,8μm,24.6s						
PRU	**Pruhonice**	**102.50**	**322**	*e*PDIFF	**Pdif**	**07 54 50.7**	**+0.1**
PRU				*e*PP	**PKiKP**	**07 59 07.8**	**-3.9**
PRU				*e*SKS		08 05 27.5	
PRU				AMS	AMS	08 45 10.0	
	comp=Z,8μm,24.6s						
PRA	**Prague**	**102.54**	**322**	*e*PP	**PKiKP**	**07 59 07.5**	**-4.3**
PRA				*e*SKS		08 05 27.8	
PRA				AMS	AMS	08 46 00.0	
	comp=Z,6μm,19.8s						
BRG	**Berggiesshubel**	**102.58**	**323⇓**	*e*Pif	**Pdif**	**07 54 50.1**	**-0.8**
BRG				Amp		07 54 54.5	
	comp=Z,13nm,0.9s						
BRG	**Berggiesshubel**	**102.58**	**323**	P	**Pdif**	**07 55 01.7**	**+11**
BRG				Amp		07 55 02.8	
	comp=Z,18nm,0.9s						
BRG	**Berggiesshubel**	**102.58**	**323**	SP	SP	08 08 04.0	-1.6
BRG				Amp		08 44 57.0	
	comp=Z,7.6nm,23.3s						
BRG				Amp		08 45 04.0	
	comp=E,5.1nm,27.4s						
BRG				Amp		08 45 26.0	
	comp=N,6.3nm,23.9s						
BRG	**Berggiesshubel**	**102.58**	**323**	PP	**PKiKP**	**07 59 08.1**	**-3.8**
BRG	**Berggiesshubel**	**102.58**	**323**	Amp		07 59 17.5	
	comp=Z,26nm,1.4s						
B05A	**Bryant**	**102.69**	**40**	Pdiff	**Pdif**	**07 54 52.5**	**+1.1**
	baz=288						
ARSA	**Arzberg**	**102.71**	**319**	*e*P	**Pdif**	**07 54 52.7**	**+1.1**
	comp=Z,9.4nm,1.4s						
ARSA				*e*P	**PKKPbc**	**08 10 52.2**	**0.0**
	comp=Z,1.5nm,0.5s						
HOMB	**Homborsund**	**102.73**	**331**	*e*Pdif	**Pdif**	**07 54 50.1**	**-1.2**
HOMB				IVmBBB		07 54 52.0	
	comp=Z,903nm,2.5s						
HOMB				*e*PP	**PP**	**07 59 06.8**	**+1.8**
HOMB				*e*SKSac	**SKSac**	**08 05 26.7**	**-0.3**
HOMB				*e*SP	**SP**	**08 08 07.3**	**+0.6**
HOMB				IVMs_BB	IVMs_BB	08 44 27.9	
	comp=Z,4μm,22.2s						
FOO	**Floro**	**102.76**	**335**	*e*Pdif	**Pdif**	**07 54 49.1**	**-2.3**
FOO				IVmB_BB		07 54 57.8	
	comp=Z,956nm,3.0s						
FOO				*e*PP	**PP**	**07 59 04.4**	**-0.7**
FOO				*e*SKSac	**SKSac**	**08 05 29.2**	**+2.2**
FOO				*e*SS	**SS**	**08 13 44.7**	**+3.5**
FOO				IVMs_BB	IVMs_BB	08 45 03.2	
	comp=Z,3μm,18.9s						
G03D	**McMinnville, O**	**102.79**	**43**	Pdiff	**Pdif**	**07 54 52.8**	**+0.8**
	baz=286						
J01E	**Myrtle Point**	**102.88**	**45**	Pdiff	**Pdif**	**07 54 52.6**	**+0.2**
	baz=285						
COR	**Corvallis**	**102.94**	**43**	IAMs_20	IAMs_20	08 34 40.6	
	comp=Z,5μm,20.0s						
CLL	**Collm**	**102.99**	**324**	*i* Pdif	**Pdif**	**07 54 53.4**	**+0.7**
	comp=Z,143nm,2.7s						
CLL				*e*pPdif	**pPdif**	**07 55 05.0**	**-1.3**
CLL				*e*		07 58 00.0	
CLL				*e*PP	**PP**	**07 59 09.0**	**+1.7**
CLL				*e*PPP	PPP	08 01 18.0	
CLL				*e*SKSac	**SKSac**	**08 05 32.0**	**+3.4**
CLL				*e*Sdif	**Sdif**	**08 06 36.0**	**+0.6**
CLL				*e*SP	**SP**	**08 08 08.0**	**-1.9**
CLL				*e*PPS	PPS	08 09 00.0	
CLL				*e*PKKPdf	**PKKPdf**	**08 11 02.0**	**+3.1**
CLL				*e*pPKKPdf		08 11 13.0	
CLL				*e*SS	**SS**	**08 13 45.0**	**-0.2**
CLL				*e*		08 15 00.0	
CLL				*e*SSS	SSS	08 18 06.0	
CLL				*e*		08 22 24.0	
CLL				LmV		08 45 00.0	
	comp=Z,8μm,21.5s						
CLL	**Collm**	**102.99**	**324**	*i* P	**Pdif**	**07 54 53.4**	**+0.7**
CLL				*e*		07 59 09.0	
CLL				*e*		08 05 32.0	
CLL				*e*S	**Sdif**	**08 06 36.0**	**+0.6**
CLL				pmax	pmax		
	comp=Z,143nm,2.7s						
CLL				MLR	MLR		
	comp=Z,8μm,21.5s						
CLL	**Collm**	**102.99**	**324**	*e*L	L	08 46 20.4	
	comp=Z,8μm,21.5s						
CKRC	**Cesky Krumlov**	**103.01**	**321**	*e*PDIFF	**Pdif**	**07 54 55.3**	**+2.4**
CKRC				*ex*	x	07 55 06.8	
CKRC				*e*PP	**PKiKP**	**07 59 11.1**	**-1.6**
CKRC				*e*SKS		08 05 29.6	
CKRC				AMS	AMS	08 46 10.0	
	comp=Z,5μm,20.1s						
SUE	**Sulen**	**103.14**	**335**	*e*Pdif	**Pdif**	**07 54 50.6**	**-2.5**
SUE				*e*PP	**PP**	**07 59 07.6**	**-0.4**
SUE				*e*SKSac	**SKSac**	**08 05 27.9**	**-1.0**
SUE				*e*SS	**SS**	**08 13 50.3**	**+3.8**
I03D	**Drain, OR**	**103.14**	**44**	Pdiff	**Pdif**	**07 54 54.3**	**+0.8**
	baz=286						
BLS5	**Blasjo**	**103.17**	**333**	*e*Pdif	**Pdif**	**07 54 50.8**	**-2.6**
BLS5				IVmB_BB		07 54 56.8	
	comp=Z,430nm,2.0s						
BLS5				*e*PP	**PP**	**07 59 07.5**	**-0.8**
BLS5				*e*SKSac	**SKSac**	**08 05 28.9**	**-0.3**
BLS5				*e*SP	**SP**	**08 08 11.4**	**0.0**
BLS5				IVMs_BB	IVMs_BB	08 44 12.3	
	comp=Z,4μm,20.9s						
K02D	**Willamette Mer**	**103.19**	**45**	Pdiff	**Pdif**	**07 54 54.3**	**+0.4**
	baz=285						
SOKA	**Soboth**	**103.20**	**319**	*e*P	**Pdif**	**07 54 53.3**	**-0.5**
	comp=Z,6.2nm,0.9s						
BER	**Bergen**	**103.22**	**334**	*e*Pdif	**Pdif**	**07 54 53.1**	**-0.4**
BER				IVmBBB		07 54 54.2	
	comp=Z,780nm,2.2s						
BER				*e*PP	**PP**	**07 59 07.2**	**-1.4**
BER				*e*SKSac	**SKSac**	**08 05 30.6**	**+1.3**
BER				*e*SP	**SP**	**08 08 14.2**	**+2.4**
BER				IVMs_BB	IVMs_BB	08 42 50.2	
	comp=Z,3μm,20.9s						
ASK	**Askoy**	**103.23**	**334**	*e*PP	**PKiKP**	**07 59 09.0**	**-3.7**
ASK				*e*SKSac	**SKSac**	**08 05 32.0**	**+2.7**
ASK				*e*SP	**SP**	**08 08 15.6**	**+3.7**
SNART	**Snartemo**	**103.32**	**332**	*e*Pdif	**Pdif**	**07 54 55.1**	**+1.1**
SNART				*e*SKSac	**SKSac**	**08 05 30.1**	**+0.3**
SNART				*e*SP	**SP**	**08 08 14.1**	**+1.2**
MOA	**Molln**	**103.34**	**320**	*e*P	**Pdif**	**07 54 55.7**	**+1.3**
	comp=Z,16nm,0.9s						
MOA				*e*P	**PKKPbc**	**08 10 49.9**	**-0.4**
	comp=Z,13nm,1.2s						
H04D	**Lebanon**	**103.34**	**43**	Pdiff	**Pdif**	**07 54 55.2**	**+0.8**
	baz=286						
KHC	**Kasperske Hory**	**103.37**	**322**	*e*P	**Pdif**	**07 54 54.2**	**-0.3**
KHC				*e*		07 59 13.4	
KHC				*e*		08 05 32.4	
KHC				MLR	MLR		
	comp=Z,6μm,20.8s						
KHC	**Kasperske Hory**	**103.37**	**322**	*e*PDIFF	**Pdif**	**07 54 54.2**	**-0.3**
KHC				*e*PP	**PKiKP**	**07 59 13.4**	**0.0**
KHC				*e*SKS		08 05 32.4	
KHC				AMS	AMS	08 50 10.0	
	comp=Z,6μm,20.8s						
L02E	**Cave Junction**	**103.37**	**46**	Pdiff	**Pdif**	**07 54 55.4**	**+0.7**
	baz=285						
SNAA	**Sanae**	**103.37**	**195**	P	**Pdif**	**07 54 57.0**	**+3.0**
SNAA	**Sanae**	**103.37**	**195**	PKKPbc	PKKPbc	08 10 47.0	-4.1
SNAA	**Sanae**	**103.37**	**195**	PKiKP	PKiKP	07 59 00.6	-12
SNAA	**Sanae**	**103.37**	**195**	PKKPbc	PKKPbc	08 10 47.3	-3.7
	comp=Z,8.2nm,0.8s,baz=311,slow=1.9,SNR=19						
SNAA	**Sanae**	**103.37**	**195***c*	*i* P	**Pdif**	**07 54 53.6**	**-0.5**
SNAA	**Sanae**	**103.37**	**195**	IAMs_20	IAMs_20	08 37 46.6	
	comp=Z,3μm,20.0s						
GEC2	**GERESS Array S**	**103.38**	**321**	*e*L	L	08 46 45.6	
	comp=Z,4μm,21.5s						
GERES	**GERESS Array B**	**103.38**	**321**	Pdiff	**Pdif**	**07 54 54.5**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=94,slow=4.4,SNR=11						
GERES				PKKPbc	**PKKPbc**	**08 10 48.4**	**-2.0**
	comp=Z,0.6nm,0.4s,baz=208,slow=2.6,SNR=6.0						
JCC	**Jacoby Creek,**	**103.40**	**47**	IAMs_20	IAMs_20	08 32 57.2	
	comp=Z,6μm,22.0s						
C06D	**Leavenworth**	**103.56**	**40**	Pdiff	**Pdif**	**07 54 54.7**	**-0.6**
	baz=288						
BSEG	**Bad Segeberg**	**103.57**	**327**	*e*L	L	08 46 40.1	
	comp=Z,5μm,22.0s						
OBKA	**Obir**	**103.57**	**319**	*e*P	**Pdif**	**07 54 56.5**	**+1.0**
	comp=Z,8.2nm,1.2s						
OBKA				*e*P	**PKKPbc**	**08 10 51.3**	**+1.5**
	comp=Z,6.9nm,0.8s						
HUMO	**Hull Mountain**	**103.71**	**45**	IAMs_20	IAMs_20	08 44 53.3	
	comp=Z,3μm,21.0s						
LJU	**Ljubljana**	**103.72**	**318**	*i* Pdiff	**Pdif**	**07 54 57.4**	**+1.3**
LJU				*i*		07 59 23.1	
LJU				*e*SKSac	**SKSac**	**08 05 34.2**	**+1.9**
LJU				*e*Sdiff	**Sdif**	**08 06 45.4**	**+3.7**
LJU				*e*		08 14 33.9	
LJU				*e*		08 19 06.1	
I04A	**Tendick Farm,**	**103.77**	**44**	Pdiff	**Pdif**	**07 54 57.1**	**+0.7**
	baz=286						
WET	**Wettzell**	**103.80**	**322**	*e*L	L	08 50 50.5	
	comp=Z,4μm,22.0s						
F05D	**White Salmon**	**103.81**	**42**	Pdiff	**Pdif**	**07 54 58.4**	**+1.8**
	baz=288						
CEY	**Cerknica**	**103.88**	**318**	*i* Pdiff	**Pdif**	**07 54 58.3**	**+1.4**
CEY				*e*		07 59 24.9	
CEY				*e*SKSac	**SKSac**	**08 05 35.9**	**+2.8**
CEY				*e*Sdiff	**Sdif**	**08 06 47.5**	**+4.3**
MOX	**Moxa**	**104.05**	**323**	*e*L	L	08 47 03.6	
	comp=Z,8μm,20.4s						
M02C	**Callahan**	**104.11**	**47**	Pdiff	**Pdif**	**07 54 59.2**	**+1.2**
	baz=286						
MYKA	**Terra Mystica**	**104.12**	**319**	*e*P	**Pdif**	**07 54 59.1**	**+1.1**
	comp=Z,2.9nm,1.0s						
MYKA				*e*P	**PKKPbc**	**08 10 49.4**	**+1.3**
	comp=Z,14nm,1.4s						
YBH	**Yreka Blue Hor**	**104.12**	**46**	IAMs_20	IAMs_20	08 41 10.3	
	comp=Z,3μm,22.0s						
J04D	**Umpqua Nationa**	**104.14**	**45**	Pdiff	**Pdif**	**07 54 59.6**	**+1.3**
	baz=286						
KBA	**Koelnbreinsper**	**104.18**	**320**	*e*P	**Pdif**	**07 54 58.3**	**0.0**
	comp=Z,13nm,0.9s						
SUR	**Sutherland**	**104.24**	**237**	IAMs_20	IAMs_20	08 40 06.1	
	comp=Z,5μm,20.0s						
SUR	**Sutherland**	**104.24**	**237**	P	**Pdif**	**07 54 59.5**	**+0.6**
L04D	**Klamath Falls**	**104.28**	**46**	Pdiff	**Pdif**	**07 54 59.1**	**+0.3**
	baz=286						
N02D	**Trinity Center**	**104.33**	**47**	Pdiff	**Pdif**	**07 55 00.2**	**+1.1**
	baz=286						
I05D	**Terrebonne, OR**	**104.36**	**43**	Pdiff	**Pdif**	**07 55 00.5**	**+1.5**
	baz=287						
O02D	**Mt. Diablo Mer**	**104.48**	**48**	Pdiff	**Pdif**	**07 55 00.8**	**+1.1**
	baz=285						
WDC	**Whiskeytown Da**	**104.55**	**47**	IAMs_20	IAMs_20	08 34 08.8	
	comp=Z,5μm,22.0s						
K04D	**Chiloquin, OR**	**104.56**	**45**	Pdiff	**Pdif**	**07 55 01.5**	**+1.4**
	baz=287						
HOPS	**Hopland Field**	**104.57**	**49**	IAMs_20	IAMs_20	08 33 22.4	
	comp=Z,5μm,22.0s						
GRA1	**Grafenberg Arr**	**104.62**	**323**	IAMs_20	IAMs_20	08 44 28.4	
	comp=Z,5μm,21.0s						
GRF	**Grafenberg Arr**	**104.62**	**323**	*e*Pdiff	**Pdif**	**07 55 07.4**	**+7.3**
GRF				*e*L	L	08 44 28.8	
	comp=Z,6μm,21.1s						
J05D	**Fort Rock, OR**	**104.74**	**44**	Pdiff	**Pdif**	**07 55 01.4**	**+0.5**
	baz=287						
M04C	**Macdoel**	**104.74**	**46**	Pdiff	**Pdif**	**07 55 00.6**	**-0.3**
	baz=286						
SCO	**Scoresbysund**	**104.81**	**350**	IAMs_20	IAMs_20	08 44 00.0	
	comp=Z,4μm,22.0s						
ABTA	**Abfaltersbach**	**104.82**	**319**	*e*P	**Pdif**	**07 55 03.4**	**+2.3**
	comp=Z,7.8nm,0.9s						
ABTA				*e*P	**PKKPbc**	**08 10 47.4**	**+1.4**
	comp=Z,18nm,1.3s						
MCCM	**Marconi Confer**	**104.93**	**50**	IAMs_20	IAMs_20	08 43 08.9	
	comp=Z,3μm,20.0s						
HAWA	**Hanford**	**104.93**	**41**	IAMs_20	IAMs_20	08 34 45.0	
	comp=Z,5μm,22.0s						
VNA2	**Neumayer--Watz**	**104.98**	**194**	P	**Pdif**	**07 54 56.7**	**-4.5**
VNA2	**Neumayer--Watz**	**104.98**	**194**	PKKPbc	PKKPbc	08 10 38.9	-7.2
VNA2	**Neumayer--Watz**	**104.98**	**194**	PKiKP	PKiKP	07 59 07.2	-8.5
SUMG	**Summit**	**105.06**	**355**	*e*P	**Pdif**	**07 55 06.9**	**+4.9**
SUMG				IAMs_20	IAMs_20	08 41 18.1	
	comp=Z,8μm,27.7s						
SUMG	**Summit**	**105.06**	**355**	*i* P	**PKKPbc**	**08 10 46.2**	**-0.2**
SUMG	**Summit**	**105.06**	**355**	IAMs_20	IAMs_20	08 44 05.8	
	comp=Z,4μm,22.0s						
FUR	**Furstenfeldbru**	**105.13**	**321**	*e*L	L	08 47 59.8	
	comp=Z,5μm,20.7s						
O03E	**Paynes Creek**	**105.17**	**47**	Pdiff	**PKiKP**	**07 59 19.7**	**+2.7**
	baz=286						
WTTA	**Wattenberg**	**105.22**	**320**	*e*P	**Pdif**	**07 55 03.9**	**+1.0**
	comp=Z,17nm,1.2s						
WTTA				*e*P	**PKKPbc**	**08 10 46.8**	**+1.9**
	comp=Z,8.4nm,0.8s						
WTTA				*e*P	**PKKPab**	**08 11 04.8**	**+3.0**
	comp=Z,13nm,1.

comp=Z,4µm,22.0s
BORG Borgarnes 109.49 346 IAMs_20 IAMs_20 08 49 11.5
comp=Z,3µm,20.0s
ESK Eskdalemuir 109.78 332 IAMs_20 IAMs_20 08 50 57.3
comp=Z,5µm,19.0s
ELK Elko 109.78 45 IAMs_20 IAMs_20 08 44 06.0
comp=Z,3µm,20.0s
DLMT Dillon 109.81 40 IAMs_20 IAMs_20 08 37 27.0
comp=Z,5µm,22.0s
BOZ Bozeman (W) 110.33 39 IAMs_20 IAMs_20 08 41 45.7
comp=Z,4µm,22.0s
EGMT Eagleton 110.41 37 IAMs_20 IAMs_20 08 42 28.4
comp=Z,3µm,21.0s
KEST Kesra 110.62 309 PKKPbc PKKPbc 08 10 28.2 +0.8
comp=Z,3.7nm,0.7s,baz=277,slow=7.6,SNR=3.7
CLF Chambon-Foret 110.70 324 IAMs_20 IAMs_20 08 48 17.1
comp=Z,5µm,22.0s
FFC Flin Flon 110.97 28 IAMs_20 IAMs_20 08 44 40.3
comp=Z,4µm,22.0s
PFO Pinyon Flats O 111.18 53 PP **PP** **08 00 09.4 +1.3**
PFO PKKPab **PKKPab** **08 10 38.6 +3.4**
comp=Z,5.3nm,0.8s,baz=167,slow=4.1,SNR=5.6
SFJD Kangerlussuaq 111.25 359 IAMs_20 IAMs_20 08 53 54.5
comp=Z,3µm,18.0s
FXWY Fox Creek 111.55 41 IAMs_20 IAMs_20 08 40 17.2
comp=Z,5µm,22.0s
DY2G Dye2 111.61 357 IAmb IAmb 08 10 35.3
comp=Z,167nm,1.5s
DY2G Dye2 111.61 357 *i* P **PKKPbc** **08 10 25.2 -0.1**
TPAW Teton Pass 111.66 41 IAMs_20 IAMs_20 08 40 09.2
comp=Z,5µm,22.0s
MOOW Moose Ponds 111.69 41 IAMs_20 IAMs_20 08 40 33.8
comp=Z,5µm,22.0s
DUG Dugway, Tooele 111.71 45 IAMs_20 IAMs_20 08 36 02.9
comp=Z,3µm,22.0s
REDW Red Top Meadow 111.78 41 IAMs_20 IAMs_20 08 40 13.4
comp=Z,4µm,22.0s
SNOW Snow King Moun 111.80 41 IAMs_20 IAMs_20 08 40 26.9
comp=Z,5µm,22.0s
LOHW Long Hollow 111.84 41 IAMs_20 IAMs_20 08 39 16.8
comp=Z,5µm,21.0s
HWUT Hardware Ranch 112.03 43 IAMs_20 IAMs_20 08 40 35.1
comp=Z,4µm,21.0s
RLMT Red Lodge 112.03 39 IAMs_20 IAMs_20 08 43 29.8
comp=Z,3µm,21.0s
IRM Iron Mountain 112.06 52 PKiKP **PKiKP** **07 59 31.5 +1.5**
baz=288
PDMCI Parker Dam,Lak 112.80 52 PKiKP **PKiKP** **07 59 32.7 +1.3**
baz=289
BW06 Boulder Array 112.89 42 IAMs_20 IAMs_20 08 41 11.8
comp=Z,4µm,21.0s
PDAR Pinedale Array 112.89 42 Pdiff **Pdif** **07 55 39.0 +1.7**
comp=Z,0.1nm,0.6s,baz=358,slow=2.9,SNR=1.3
PDAR PKiKP **PKiKP** **07 59 31.4 -0.3**
comp=Z,1.3nm,0.6s,baz=62,slow=1.5,SNR=10
PDAR PP **PP** **08 00 25.2 +5.2**
comp=Z,12nm,1.1s,baz=307,slow=5.4,SNR=8.4
PDAR PKKPbc **PKKPbc** **08 10 20.8 +0.4**
comp=Z,2.3nm,0.6s,baz=119,slow=5.2,SNR=16
PDAR PKKPab **PKKPab** **08 10 28.5 +0.8**
comp=Z,2.4nm,0.7s,baz=128,slow=6.0,SNR=6.5
LAO LASA Array 113.15 37 IAMs_20 IAMs_20 08 39 31.1
comp=Z,3µm,22.0s
LAO LASA Array 113.15 37 PKiKP **PKiKP** **07 59 32.4 +0.6**
baz=300
DGMT Dagmar 113.40 34 IAMs_20 IAMs_20 08 45 15.2
comp=Z,3µm,22.0s
WUAZ Wupatki 114.51 49 IAMs_20 IAMs_20 08 42 48.6
comp=Z,4µm,22.0s
WUAZ Wupatki 114.51 49 PKiKP **PKiKP** **07 59 35.9 +1.0**
baz=292
RWWY Rawlins 114.93 42 IAMs_20 IAMs_20 08 42 36.8
comp=Z,4µm,22.0s
PV03 Paradox Valley 115.30 46 **PKPdf** **07 59 36.6 +0.2**
PV13 Radium Mtn., P 115.36 46 **PKiKP** **07 59 35.8 -0.8**
RSSD Black Hills 115.79 38 PKiKP **PKiKP** **07 59 35.5 -1.7**
RSSD Black Hills 115.79 38 **PKiKP** **07 59 35.5 -1.7**
RSSD Black Hills 115.79 38 IAMs_20 IAMs_20 08 44 21.9
comp=Z,3µm,21.0s
W18A Petrified Fore 115.90 49 PKiKP **PKiKP** **07 59 39.4 +1.8**
baz=293
MVCO Mesa Verde 115.99 47 IAMs_20 IAMs_20 08 48 12.4
comp=Z,4µm,20.0s
MVCO Mesa Verde 115.99 47 PKiKP **PKiKP** **07 59 39.0 +1.2**
baz=295
TUC Tucson 116.11 53 IAMs_20 IAMs_20 08 47 52.5
comp=Z,4µm,21.0s
TUC Tucson 116.11 53 PKiKP **PKiKP** **07 59 39.0 +1.0**
baz=291
N23A Red Feather La 116.15 42 PKiKP **PKiKP** **07 59 38.4 +0.4**
baz=298
PHWY Pilot Hill 116.28 41 IAMs_20 IAMs_20 08 41 41.4
comp=Z,3µm,22.0s
MDND Maddock 116.28 33 PKiKP **PKiKP** **07 59 38.1 +0.3**
baz=307
ULM Lac du Bonnet 116.69 29 PKP **PKPdf** **07 59 37.2 -1.2**
comp=Z,16nm,0.7s,baz=294,slow=3.5,SNR=9.4
ULM PKKPab **PKKPbc** **08 10 08.7 +1.4**
comp=Z,8.0nm,0.9s,baz=117,slow=5.9,SNR=5.0
NRS Narsarsuaq 116.83 356 PKiKP **PKPdf** **07 59 37.9 -0.4**
NRS Narsarsuaq 116.83 356 **PKPdf** **07 59 37.9 -0.4**
NRS IAMs_20 IAMs_20 08 53 54.9
comp=Z,3µm,21.0s
ISCO Idaho Springs 116.88 43 IAMs_20 IAMs_20 08 43 11.6
comp=Z,4µm,22.0s
S22A 4UR Ranch, Cre 116.96 46 PKiKP **PKiKP** **07 59 40.0 +0.3**
baz=296
CART Cartagena 117.62 315 PKP **PKiKP** **07 59 41.7 +1.1**
SDCO Great Sand Dun 117.91 45 PKPdf **PKPdf** **07 59 40.4 -1.1**
SDCO Great Sand Dun 117.91 45 PKiKP **PKiKP** **07 59 42.1 +0.5**
baz=297
AGMN Agassiz Nation 117.97 31 IAMs_20 IAMs_20 08 52 11.7
comp=Z,3µm,22.0s
121A Cookes Peak, D 118.39 51 PKiKP **PKiKP** **07 59 43.6 +1.1**
baz=293
ANMO Albuquerque 118.43 48 PKKPab PKKPab 08 10 02.0 -1.2
comp=Z,0.8nm,0.5s,baz=143,slow=5.3,SNR=1.7
ANMO Albuquerque 118.43 48 PKiKP **PKiKP** **07 59 42.7 +0.2**
ANMO MLR MLR
comp=Z,3µm,20.0s
ANMO Albuquerque 118.43 48 PKPdf **PKiKP** **07 59 42.7 +0.2**
ANMO Albuquerque 118.43 48 IAMs_20 IAMs_20 08 49 03.3
comp=Z,3µm,20.0s
ANMO Albuquerque 118.43 48 PKiKP **PKiKP** **07 59 43.1 +0.6**
baz=295
Y22D IRIS PASSCAL I 118.44 49 PKiKP **PKiKP** **07 59 43.7 +1.2**
baz=294
BNM Barren Site 118.64 49 PKPdf **PKiKP** **07 59 43.0 0.0**
SUSD Miller 118.66 36 PKiKP **PKiKP** **07 59 42.9 +0.5**
baz=306
ESDC Sonseca Array 118.68 318 PKP **PKiKP** **07 59 45.9 +3.2**
comp=Z,2.9nm,1.0s,baz=8.5,slow=1.8,SNR=5.4
ESDC PP **PP** **08 01 03.6 +3.1**
comp=Z,9.4nm,0.9s,baz=54,slow=7.1,SNR=7.3
ESDC PKKPab **PKKPab** **08 10 01.5 -0.5**
comp=Z,4.8nm,1.1s,baz=259,slow=2.2,SNR=6.0
OGNE Ogallala 118.70 40 IAMs_20 IAMs_20 08 44 37.2
comp=Z,4µm,22.0s
OGNE Ogallala 118.70 40 PKiKP **PKiKP** **07 59 43.6 +0.8**
baz=302
T25A Trinidad 118.95 45 **PKPdf** **07 59 42.8 -0.7**
T25A Trinidad 118.95 45 PKiKP **PKiKP** **07 59 43.8 +0.3**
baz=298
PAB San Pablo 119.00 318 IAMs_20 IAMs_20 08 59 57.2
comp=Z,3µm,22.0s
KSCO Kaye Shedlock' 119.29 42 PKiKP **PKiKP** **07 59 44.7 +0.7**
baz=300
EPT El Paso 119.69 52 IAMs_20 IAMs_20 08 43 22.9
comp=Z,4µm,21.0s
MELI Melilla 120.04 313 PKP **PKiKP** **07 59 47.0 +1.6**
PGAV Gavieira, Arco 120.22 322 *e*LR LR 08 45 37.0
comp=Z,3µm,22.0s
POLO Lamas de Olo 120.26 321 *e*PKP **PKiKP** **07 59 48.9 +3.1**
EYMN Ely 120.37 29 IAMs_20 IAMs_20 08 57 07.9
comp=Z,3µm,21.0s
EYMN Ely 120.37 29 PKiKP **PKiKP** **07 59 46.4 +0.7**
baz=315
ECSD EROS Data Cent 120.43 35 PKPdf **PKPdf** **07 59 44.4 -1.4**
ECSD EROS Data Cent 120.43 35 IAMs_20 IAMs_20 08 53 53.5
comp=Z,3µm,20.0s
ECSD EROS Data Cent 120.43 35 PKiKP **PKPdf** **07 59 45.7 -0.1**
baz=308
MNTX Cornudas Mount 120.59 51 PKPdf **PKPdf** **07 59 45.3 -1.2**
MNTX IAMs_20 IAMs_20 08 50 38.9
comp=Z,4µm,20.0s
MNTX Cornudas Mount 120.59 51 PKiKP **PKiKP** **07 59 47.0 +0.4**
baz=294
MTE Manteigas 120.64 320 *e*LR LR 08 45 40.4
comp=Z,3µm,24.0s
MTE Manteigas 120.64 320 IAMs_20 IAMs_20 08 57 39.4
comp=Z,4µm,22.0s
BGNE Belgrade 120.89 38 PKiKP **PKiKP** **07 59 47.2 +0.3**
baz=305
PMRV Marv??o 121.07 319 *e*LR LR 08 45 08.6
comp=Z,3µm,20.0s
PVLZ Peæn de 121.09 314 PKP **PKiKP** **07 59 49.0 +1.5**
CBKS Cedar Bluff 121.32 41 PKiKP **PKiKP** **07 59 48.3 +0.4**
baz=302
PESTR Estremoz 121.51 319 *e*PKP **PKiKP** **07 59 52.5 +4.3**
PBAR Barrancos 121.51 318 *e*PKP **PKiKP** **07 59 52.3 +4.1**
CEU Ceuta 121.51 315 PKP **PKPdf** **07 59 44.3 -3.8**
SPMN Marine on St. 121.58 32 PKiKP **PKPdf** **07 59 47.6 -0.3**
baz=312
MSTX Muleshoe 121.59 48 PKiKP **PKiKP** **07 59 49.2 +0.5**
baz=297
ARNO Arenosillo 121.86 317 PKP **PKiKP** **07 59 51.8 +2.9**
EVO Evora 121.97 319 PKP **PKiKP** **07 59 56.1 +7.1**
AMTX Amarillo 121.97 46 IAMs_20 IAMs_20 08 51 38.6
comp=Z,3µm,22.0s
AMTX Amarillo 121.97 46 PKiKP **PKPdf** **07 59 49.0 -0.1**
baz=299
I37A Lemond, Waseca 122.06 33 **PKPdf** **07 59 47.1 -1.8**
HPIG 122.19 56 PKPdf **PKPdf** **07 59 48.9 -1.0**
PVAQ Vaqueiros 122.37 317 *e*LR LR 08 45 37.2
comp=Z,3µm,22.0s
SCHQ Schefferville 122.42 9 PKP **PKPdf** **07 59 48.7 -0.7**
comp=Z,16nm,0.3s,baz=34,slow=3.8,SNR=53
SCHQ PKKPbc **PKKPab** **08 09 44.9 -0.6**
comp=Z,7.3nm,0.8s,baz=174,slow=2.6,SNR=5.3
IFR Ifrane 122.47 312 PKP **PKiKP** **07 59 51.8 +1.3**
MESJ Messejana 122.48 318 *e*PKPdf **PKPdf** **07 59 49.0 -1.0**
MESJ *e*PP **PP** **08 01 25.7 -0.6**
MESJ IAMs_20 IAMs_20 08 54 15.3
comp=Z,6µm,27.2s
MESJ Messejana 122.48 318 *e*PKIKP **PKPdf** **07 59 48.9 -1.0**
MESJ *e* 08 01 25.6
PBDV Barranco-do-Ve 122.60 317 *e*PKP **PKiKP** **07 59 52.9 +2.5**
LIS Lisbon 122.61 320 *e*PP PP 08 01 26.6 -0.6
LIS IAMs_20 IAMs_20 08 57 22.6
comp=N,4µm,16.2s
N35A Tabor 122.75 37 **PKPdf** **07 59 48.2 -2.2**
COWI Conover 122.81 29 **PKPdf** **07 59 49.2 -1.1**
G40A Rib Lake 122.88 30 PKPdf **PKPdf** **07 59 49.1 -1.4**
TX31 Lajitas Ar. Si 122.90 53 PKPdf **PKPdf** **07 59 49.2 -1.9**
TX32 Lajitas Array 122.90 53 **PKPdf** **07 59 49.7 -1.4**
TXAR Lajitas Array 122.90 53 PKP **PKPdf** **07 59 50.0 -1.1**
comp=N,6.5nm,0.8s,baz=246,slow=0.8,SNR=24
TXAR PKKPbc **PKKPab** **08 09 43.0 -0.8**
comp=N,3.5nm,1.0s,baz=139,slow=4.3,SNR=4.8
TXAR SKKPbc SKKPbc 08 13 34.8 +5.4
comp=N,7.2nm,1.3s,baz=130,slow=3.9,SNR=5.0
TXAR Lajitas Array 122.90 53 PKiKP **PKPdf** **07 59 50.0 -1.1**
TXAR Lajitas Array 122.90 53 PKiKP **PKPdf** **07 59 50.5 -0.6**
MORF Marmelete 123.05 318 *e*PKPdf **PKPdf** **07 59 50.1 -1.1**
MORF *e*PP **PP** **08 01 29.5 -0.8**
MORF IAMs_20 IAMs_20 08 49 37.3
comp=E,4µm,13.8s
MORF Marmelete 123.05 318 *e*PKIKP **PKPdf** **07 59 50.0 -1.1**
MORF *e* 08 01 29.4
MORF Marmelete 123.05 318 *e*PKP **PKPdf** **07 59 51.1 0.0**
KSU1 Kansas State U 123.19 39 **PKPdf** **07 59 50.4 -0.9**
KSU1 Kansas State U 123.19 39 IAMs_20 IAMs_20 08 54 18.0
comp=Z,4µm,21.0s
KSU1 Kansas State U 123.19 39 PKiKP **PKPdf** **07 59 51.3 0.0**
baz=306
TORD Torodi Ar. Bea 123.25 287 PKP **PKPdf** **07 59 50.9 -1.1**
comp=Z,23nm,0.7s,baz=48,slow=1.7,SNR=33
TORD PKKPbc **PKKPab** **08 09 42.4 +0.1**
comp=Z,9.6nm,0.7s,baz=263,slow=1.7,SNR=24
TORD Torodi Ar. Bea 123.25 287 PKPdf **PKPdf** **07 59 49.1 -2.9**
K38A Parkersburg 123.30 34 **PKPdf** **07 59 48.1 -3.2**
OK032 Salt Plains WL 123.42 43 IAMs_20 IAMs_20 08 53 11.5
comp=Z,4µm,20.0s
SCIA State Center 123.53 35 IAMs_20 IAMs_20 08 57 22.3
comp=Z,3µm,20.0s
SCIA State Center 123.53 35 PKiKP **PKPdf** **07 59 51.9 +0.1**
baz=310
WMOK Wichita Mounta 124.11 45 IAMs_20 IAMs_20 08 54 18.2
comp=Z,3µm,20.0s
WMOK Wichita Mounta 124.11 45 PKiKP **PKiKP** **07 59 53.7 +0.2**
baz=301
N38A Joes South For 124.22 36 **PKPdf** **07 59 49.9 -3.3**
AVE Averroes 124.25 313 PKP **PKiKP** **07 59 54.0 +0.2**
OK029 Liberty Lake 124.47 43 **PKPdf** **07 59 53.3 -0.6**
JFWS Jewell Farm 124.50 32 PKiKP **PKPdf** **07 59 51.7 -2.0**
JFWS Jewell Farm 124.50 32 **PKPdf** **07 59 51.7 -2.0**
JFWS Jewell Farm 124.50 32 IAMs_20 IAMs_20 08 47 22.6
comp=Z,3µm,22.0s
JFWS Jewell Farm 124.50 32 PKiKP **PKPdf** **07 59 51.8 -1.8**
baz=314
I42A Draeger Farm, 124.51 31 PKPdf **PKPdf** **07 59 52.0 -1.7**
ABTX Abilene, Hawle 124.54 48 PKiKP **PKPdf** **07 59 54.2 +0.1**
baz=299
P38A Dawn 124.78 37 PKPdf **PKPdf** **07 59 52.8 -1.5**
FNO Franklin 124.80 44 PKPdf **PKPdf** **07 59 54.2 -0.3**
OK031 S. Brethren Rd 124.81 43 IAMs_20 IAMs_20 08 58 49.4
comp=Z,3µm,21.0s
JCT Junction City 125.43 50 PKiKP **PKPdf** **07 59 55.1 -0.8**
JCT MLR MLR
comp=Z,6µm,21.0s
JCT Junction City 125.43 50 PKPdf **PKPdf** **07 59 55.1 -0.8**
JCT Junction City 125.43 50 PKiKP **PKiKP** **07 59 56.8 +0.5**
baz=298
L42A Oliver, Polo 125.43 33 PKPdf **PKPdf** **07 59 53.7 -1.7**
TUL1 Leonard 125.54 42 PKiKP **PKiKP** **07 59 56.6 +0.4**
baz=304
K43A Burlington 125.65 31 **PKPdf** **07 59 55.0 -0.9**
GLMI Grayling 125.88 27 IAMs_20 IAMs_20 08 58 52.6
comp=Z,3µm,21.0s
GLMI Grayling 125.88 27 PKiKP **PKiKP** **07 59 57.1 +0.5**
baz=321
L44A Lake County Fo 126.24 31 IAMs_20 IAMs_20 09 01 56.7
comp=Z,3µm,22.0s
L44A Lake County Fo 126.24 31 PKiKP **PKPdf** **07 59 57.0 0.0**
baz=316
WHTX Lake Whitney, 126.46 47 PKiKP **PKPdf** **07 59 57.0 -0.7**
baz=301
HQIL Hanson Quary C 126.54 32 IAMs_20 IAMs_20 09 02 43.7
comp=Z,3µm,22.0s
X37A Clayton 126.56 43 IAMs_20 IAMs_20 08 47 23.9
comp=Z,4µm,22.0s
HDIL Hopedale 126.63 34 PKPdf **PKPdf** **07 59 56.4 -1.4**
HDIL IAMs_20 IAMs_20 08 52 43.4
comp=Z,4µm,22.0s
HDIL Hopedale 126.63 34 PKiKP **PKPdf** **07 59 57.5 -0.3**
baz=314
833A Chaparral WMA, 126.72 52 PKiKP **PKPdf** **07 59 58.4 +0.1**
baz=297
435B Jarrell 126.97 49 PKiKP **PKPdf** **07 59 58.6 -0.2**
baz=300
P43A Skaggs, Pawnee 127.13 35 **PKPdf** **07 59 57.7 -1.1**
CCM Cathedral Cave 127.16 37 PKiKP **PKPdf** **07 59 58.1 -0.8**
CCM Cathedral Cave 127.16 37 PKPdf **PKPdf** **07 59 58.1 -0.8**
CCM Cathedral Cave 127.16 37 IAMs_20 IAMs_20 08 59 57.7
comp=Z,3µm,20.0s
CCM Cathedral Cave 127.16 37 PKiKP **PKPdf** **07 59 58.3 -0.6**
baz=310
U40A Yellville 127.21 40 PKiKP **PKPdf** **07 59 58.9 -0.1**
baz=308
W39A Magazine 127.29 42 IAMs_20 IAMs_20 08 56 46.9
comp=Z,3µm,21.0s
W39A Magazine 127.29 42 PKiKP **PKPdf** **07 59 58.0 -1.2**
baz=306
MIAR Mount Ida 127.81 42 PKiKP **PKiKP** **08 00 01.5 +0.7**
baz=306
SFIN Lafayette 127.95 32 PKiKP **PKPdf** **07 59 58.7 -1.6**
baz=316
L48A N Adams 128.17 29 **PKPdf** **07 59 59.5 -1.2**
WHAR Wooly Hollow 128.22 41 **PKPdf** **07 59 59.1 -1.9**
SADO Sadowa 128.25 23 PKPdf **PKPdf** **07 59 59.6 -1.1**
KVTX Kingsville 128.26 52 IAMs_20 IAMs_20 08 49 35.1
comp=Z,3µm,21.0s
AAM Ann Arbor 128.27 28 IAMs_20 IAMs_20 08 59 16.9
comp=Z,3µm,22.0s
AAM Ann Arbor 128.27 28 PKiKP **PKiKP** **08 00 01.6 +0.2**
baz=320
W41B Gary Mavity, V 128.31 41 PKiKP **PKiKP** **08 00 02.2 +0.4**
baz=307
X40A Basin Creek Fa 128.34 42 PKiKP **PKiKP** **08 00 02.1 +0.2**
baz=306
KOWA Kowa 128.38 290 IAMs_20 IAMs_20 08 55 39.3
comp=Z,4µm,21.0s
OLIL Olney 128.55 35 **PKPdf** **08 00 01.0 -0.5**
S44A Carbondale 128.58 36 **PKPdf** **07 59 59.2 -2.4**
SIUC Southern Illin 128.59 36 **PKPdf** **08 00 00.0 -1.6**
NATX Nacogdoches 128.61 46 PKiKP **PKiKP** **08 00 02.4 0.0**
baz=303
Z41A Richland Creek 129.07 43 PKiKP **PKiKP** **08 00 04.0 +0.7**
baz=306
P48A Milroy 129.51 32 PKPdf **PKPdf** **08 00 02.1 -1.2**
O49A Covington 129.54 31 **PKPdf** **08 00 01.6 -1.8**
P49A Miami Univ. Ec 129.83 31 IAMs_20 IAMs_20 09 04 17.6
comp=Z,4µm,21.0s
P49A Miami Univ. Ec 129.83 31 PKiKP **PKPdf** **08 00 03.7 -0.2**
baz=318
WCI Wyandotte Cave 129.92 34 PKiKP **PKPdf** **08 00 04.3 +0.1**
WCI MLR MLR
comp=Z,4µm,21.0s
WCI Wyandotte Cave 129.92 34 PKPdf **PKPdf** **08 00 04.3 +0.1**
WCI Wyandotte Cave 129.92 34 IAMs_20 IAMs_20 08 54 55.4
comp=Z,4µm,21.0s
WCI Wyandotte Cave 129.92 34 PKiKP **PKPdf** **08 00 04.4 +0.3**
baz=315
PQI Presque Isle 130.00 13 IAMs_20 IAMs_20 09 07 42.5
comp=Z,3µm,21.0s
LONY Lake Ozonia 130.04 20 IAMs_20 IAMs_20 09 00 11.2
comp=Z,2µm,22.0s
LONY Lake Ozonia 130.04 20 PKiKP **PKiKP** **08 00 04.9 -0.1**
baz=332
ERPA Erie 130.08 26 IAMs_20 IAMs_20 08 59 36.0
comp=Z,3µm,20.0s
ERPA Erie 130.08 26 PKiKP **PKPdf** **08 00 04.1 -0.2**
baz=325
ACSO Alum Creek Sta 130.18 30 IAMs_20 IAMs_20 09 02 21.7
comp=Z,3µm,20.0s
ACSO Alum Creek Sta 130.18 30 PKiKP **PKPdf** **08 00 04.5 -0.1**
baz=320
M53A WI Miller and 130.32 27 PKPdf **PKPdf** **08 00 03.0 -1.9**
M53A WI Miller and 130.32 27 PKiKP **PKPdf** **08 00 04.6 -0.2**
baz=323
J56A Wolcott 130.39 22 **PKPdf** **08 00 03.2 -1.7**
MMNY Mt. Morris Dam 130.44 24 **PKPdf** **08 00 03.5 -1.5**
WVT Waverly 130.48 37 PKHKP PKPpre 07 59 50.4
WVT Waverly 130.48 37 PKPpre 07 59 50.4
WVT PKPpre 07 59 56.0
WVT Waverly 130.48 37 IAMs_20 IAMs_20 09 04 55.6
comp=Z,3µm,21.0s
WVT Waverly 130.48 37 PKiKP **PKPdf** **08 00 05.1 -0.1**
baz=312
OXF Oxford 130.56 40 PKiKP **PKPdf** **08 00 05.7 +0.2**
baz=310
J57A Williamstown 130.60 22 PKPdf **PKPdf** **08 00 04.5 -0.8**
KIC Kosan Boka 130.64 280 *e*PKP1 **PKiKP** **08 00 10.3 +3.3**
comp=Z,111nm,1.3s
DBIC Dimbokro 130.71 280 PKP **PKiKP** **08 00 07.8 +0.7**
comp=Z,8.4nm,0.6s,baz=66,slow=2.4,SNR=15
DBIC SKPbc **SKPab** **08 03 30.9 +4.4**
comp=Z,59nm,1.1s,baz=7.5,slow=5.7,SNR=13
M54A Oil Creek Stat 130.72 26 IAMs_20 IAMs_20 09 01 34.9
comp=Z,4µm,22.0s
M54A Oil Creek Stat 130.72 26 PKiKP **PKPdf** **08 00 05.5 -0.1**
baz=325
TIC Toumodi 130.87 280 *e*PKP1 **PKiKP** **08 00 10.6 +3.1**
VT1 Waterbury 130.89 18 IAMs_20 IAMs_20 08 55 59.8
comp=Z,4µm,22.0s
LIC Lamto 130.94 280 *e*PKP1 **PKiKP** **08 00 09.7 +2.1**
comp=Z,296nm,1.9s
PKME Peaks-Kenny Pk 131.01 15 IAMs_20 IAMs_20 09 02 19.6
comp=Z,3µm,22.0s
PKME Peaks-Kenny Pk 131.01 15 PKiKP **PKiKP** **08 00 06.5 -0.4**
baz=339
N54A Moraine State 131.02 27 IAMs_20 IAMs_20 09 07 09.4
comp=Z,3µm,21.0s
N54A Moraine State 131.02 27 PKiKP **PKiKP** **08 00 07.2 +0.1**
baz=324
O53A New Philadelph 131.02 28 **PKPdf** **08 00 04.8 -1.4**
O53A IAMs_20 IAMs_20 09 06 40.7
comp=Z,3µm,22.0s
O53A New Philadelph 131.02 28 PKiKP **PKPdf** **08 00 06.1 -0.1**
baz=322
P52A Corning 131.06 29 **PKPdf** **08 00 03.9 -2.4**
P52A IAMs_20 IAMs_20 09 03 38.9
comp=Z,3µm,21.0s
P52A Corning 131.06 29 PKiKP **PKPdf** **08 00 06.5 +0.3**
baz=321
PLAL Pickwick Lake 131.09 38 IAMs_20 IAMs_20 08 54 31.0
comp=Z,4µm,21.0s
I60A Shoreham 131.15 19 PKiKP **PKiKP** **08 00 07.5 +0.3**
baz=334
LBNH Lisbon 131.22 18 PKiKP **PKPdf** **08 00 05.5 -1.0**
LBNH MLR MLR
comp=Z,3µm,22.0s
LBNH Lisbon 131.22 18 **PKPdf** **08 00 05.5 -1.0**
LBNH IAMs_20 IAMs_20 08 57 18.4
comp=Z,3µm,22.0s
LBNH Lisbon 131.22 18 PKiKP **PKiKP** **08 00 07.5 +0.1**
baz=335
VBMS Vicksburg 131.24 43 PKiKP **PKiKP** **08 00 08.1 +0.4**
baz=307
PMOZ Porto Moniz, M 131.35 318 *e*LR LR 08 47 01.7
comp=Z,2µm,20.0s
CLTN Cedars of Leba 131.39 36 **PKPdf** **08 00 05.1 -1.9**
BINY Binghamton 131.64 22 IAMs_20 IAMs_20 09 02 07.0
comp=Z,3µm,22.0s
BINY Binghamton 131.64 22 PKiKP **PKiKP** **08 00 08.1 -0.2**
baz=330
I62A Tamworth 131.73 17 IAMs_20 IAMs_20 09 04 42.8
comp=Z,3µm,22.0s
I63A Otisfield 131.79 17 PKiKP **PKiKP** **08 00 09.1 +0.6**
baz=337
J61A Chester 131.84 19 PKiKP **PKiKP** **08 00 09.0 +0.4**
baz=334
MCWV Mont Chateau 132.13 28 PKiKP **PKPdf** **08 00 08.7 +0.4**
baz=324
J62A Henniker 132.18 18 PKiKP **PKiKP** **08 00 09.8 +0.5**
baz=335
Q54A Coxs Mills 132.20 29 PKPpre 08 00 02.3
SSPA Standing Stone 132.20 25 PKPpre 07 59 59.8
SSPA Standing Stone 132.20 25 PKiKP **PKiKP** **08 00 09.7 +0.3**
baz=326
K61A Williamstown 132.21 20 PKiKP **PKiKP** **08 00 09.9 +0.5**
baz=333
O56A Blue Knob Stat 132.21 26 IAMs_20 IAMs_20 09 01 09.4
comp=Z,4µm,22.0s
O56A Blue Knob Stat 132.21 26 PKiKP **PKiKP** **08 00 09.8 +0.2**
baz=325
SWET Sewanee 132.23 36 **PKPdf** **08 00 07.1 -1.6**
KSPA Keystone Colle 132.28 23 **PKPdf** **08 00 07.8 -0.7**
J63A Strafford 132.35 17 PKiKP **PKiKP** **08 00 10.3 +0.7**
baz=336
K62A Royalston 132.55 19 PKiKP **PKiKP** **08 00 10.9 +0.8**
baz=334
L61B Northampton 132.60 19 PKiKP **PKiKP** **08 00 11.2 +1.0**
baz=334
TZTN Tazewell 132.65 33 PKiKP **PKiKP** **08 00 11.4 +0.9**
baz=317
N59A State Game Lan 132.82 23 IAMs_20 IAMs_20 09 02 57.4
comp=Z,3µm,21.0s
N59A State Game Lan 132.82 23 PKiKP **PKiKP** **08 00 11.3 +0.5**
baz=329
CPCT Cooper Cave 132.89 35 **PKPdf** **08 00 08.7 -1.2**
HRV Adam Dziewonsk 132.91 18 IAMs_20 IAMs_20 08 57 30.0
comp=Z,4µm,22.0s
HRV Adam Dziewonsk 132.91 18 PKiKP **PKiKP** **08 00 11.2 +0.4**
baz=335
LRAL Lakeview Retre 133.04 39 PKiKP **PKiKP** **08 00 10.9 -0.5**
baz=311
WES Weston 133.09 18 IAMs_20 IAMs_20 09 09 40.9
comp=Z,3µm,20.0s
TKL Tuckaleechee C 133.16 34 PKP **PKPdf** **08 00 10.1 -0.3**
comp=Z,78nm,0.9s,baz=337,slow=4.2,SNR=6.2
TKL SKPbc **SKPab** **08 03 37.3 +0.9**
comp=Z,29nm,1.1s,baz=283,slow=8.6,SNR=4.3
BCX Boston College 133.18 18 IAMs_20 IAMs_20 08 57 39.3
comp=Z,3µm,22.0s
PAL Palisades 133.45 21 IAMs_20 IAMs_20 08 59 24.7
comp=Z,4µm,22.0s
PAL Palisades 133.45 21 PKiKP **PKiKP** **08 00 12.4 +0.5**
baz=332
L63A North Scituate 133.47 19 PKiKP **PKiKP** **08 00 12.4 +0.5**
baz=335
W52A Murphy 133.48 35 PKPpre 08 00 00.0
WSPT Westport, CT 133.51 21 PKPpre 08 00 05.9
WSPT IAMs_20 IAMs_20 08 57 34.3
comp=Z,3µm,21.0s
YLE Yale 133.52 20 IAMs_20 IAMs_20 09 00 36.5
comp=Z,4µm,22.0s
L64A Middleborough 133.65 18 IAMs_20 IAMs_20 09 03 38.6
comp=Z,3µm,22.0s
L64A Middleborough 133.65 18 PKiKP **PKiKP** **08 00 11.8 -0.5**

	baz=336							
BLA	**Blacksburg**	**133.78**	**30**	PKiKP	**PKPdf**	**08 00 12.0**	**+0.5**
	baz=321							
P60A	**Greenville**	**133.82**	**24**	IAMs_20	IAMs_20	09 11 31.8		
	comp=Z,3μm,20.0s							
P60A	**Greenville**	**133.82**	**24**	PKiKP	**PKiKP**	**08 00 12.8**	**0.0**	
	baz=329							
M64A	**Tiverton**	**133.88**	**18**	PKiKP	**PKiKP**	**08 00 12.6**	**-0.1**	
	baz=335							
M65A	**Busby, Falmout**	**134.05**	**18**	IAMs_20	IAMs_20	09 05 44.2		
	comp=Z,3μm,21.0s							
M65A	**Busby, Falmout**	**134.05**	**18**	PKiKP	**PKiKP**	**08 00 13.5**	**+0.4**	
	baz=336							
BRAL	**Brewton**	**134.21**	**41**	PKiKP	**PKiKP**	**08 00 14.7**	**+0.9**	
	baz=310							
CBN	**Corbin Frederi**	**134.43**	**27**	IAMs_20	IAMs_20	08 59 10.8		
	comp=Z,4μm,22.0s							
CBN	**Corbin Frederi**	**134.43**	**27**	PKiKP	**PKiKP**	**08 00 13.5**	**-0.5**	
	baz=326							
Q61A	**Milford**	**134.74**	**24**	PKiKP	**PKiKP**	**08 00 15.0**	**+0.4**	
	baz=329							
KMSC	**Kings Mountain**	**134.89**	**33**	PKiKP	**PKiKP**	**08 00 15.4**	**+0.3**	
	baz=319							
GOGA	**Godfrey**	**134.95**	**36**	PKiKP	**PKiKP**	**08 00 14.8**	**-0.5**	
	baz=315							
CMIG	**Matias Romero**	**135.05**	**64**	PKP	**PKPdf**	**08 00 13.6**	**-0.7**	
	comp=Z,14nm,0.9s,baz=277,slow=2.1,SNR=5.6							
U59A	**Littleton**	**135.75**	**28**		**PKPdf**	**08 00 09.2**	**-6.0**	
TIGA	**Tifton**	**136.25**	**38**	PKiKP	**PKiKP**	**08 00 17.4**	**-0.5**	
	baz=314							
CNNC	**Cliffs of the**	**136.59**	**29**	IAMs_20	IAMs_20	09 06 33.4		
	comp=Z,3μm,21.0s							
CNNC	**Cliffs of the**	**136.59**	**29**	PKiKP	**PKiKP**	**08 00 18.5**	**0.0**	
	baz=323							
V61A	**Roper**	**136.77**	**28**		PKPpre	08 00 10.1		
NHSC	**New Hope**	**137.05**	**34**	PKiKP	**PKiKP**	**08 00 19.7**	**+0.2**	
	baz=319							
PLCA	**Paso Flores**	**138.35**	**160**	PKhKP	PKPpre	08 00 11.6		
	comp=Z,13nm,0.9s,baz=220,slow=6.9,SNR=16							
PLCA				SKPab	**SKPab**	**08 04 02.0**	**+3.0**	
	comp=Z,8.9nm,0.9s,baz=162,slow=7.4,SNR=3.7							
PLCA	**Paso Flores**	**138.35**	**160**	PKHKP	PKPpre	08 00 12.0		
PLCA	**Paso Flores**	**138.35**	**160**		PKPpre	08 00 12.0		
PLCA	**Paso Flores**	**138.35**	**160**	*eP*	**PKPdf**	**08 00 20.8**	**+0.9**	
LC01	**Cunco**	**139.50**	**158**		PKPpre	08 00 14.7		
SNET	**Serv Nac Est T**	**141.35**	**65**	IAMs_20	IAMs_20	08 57 10.9		
	comp=Z,3μm,20.0s							
TGUH	**Tegucigalpa,Un**	**142.98**	**64**	IAMs_20	IAMs_20	09 00 12.9		
	comp=Z,3μm,20.0s							
TRQA	**Tornquist**	**143.16**	**169**	PKIKP	PKPbc	08 00 25.7	+0.1	
TRQA	**Tornquist**	**143.16**	**169**	PKPdf	PKPbc	08 00 25.7	+0.1	
TRQA	**Tornquist**	**143.16**	**169**	*eP*	**PKPdf**	**08 00 29.6**	**+0.9**	
BO02	**Sierra Bellavi**	**143.50**	**156**	*iP*	PKPab	08 00 26.0	+0.2	
BO01	**Tunca**	**143.72**	**155**	*iP*	PKPab	08 00 23.9	-2.6	
CNGN	**Cerro Negro**	**144.08**	**66**		PKPbc	08 00 29.9	+1.0	
MT01	**Popeta**	**144.10**	**154**	*iP*	**PKPab**	**08 00 27.1**	**-0.8**	
MT01	**Popeta**	**144.10**	**154**		**PKPab**	**08 00 26.8**	**-1.1**	
MT09	**Talagante**	**144.29**	**155**	*eP*	PKPbc	08 00 29.3	+0.1	
BBSR	**BB Station**	**144.33**	**16**		**PKPab**	**08 00 28.2**	**-0.6**	
BBSR	**BB Station**	**144.33**	**16**	IAMs_20	IAMs_20	09 07 21.2		
	comp=Z,2μm,21.0s							
LMEL	**Las Melosas**	**144.56**	**156**	*iP*	**PKPab**	**08 00 28.9**	**-1.0**	
ROCH	**El Roble**	**144.97**	**154**	*iP*	**PKPdf**	**08 00 32.2**	**0.0**	
VA03	**San Esteban**	**145.34**	**154**	*iP*	**PKPbc**	**08 00 31.8**	**-0.7**	
SAJU	**San Juanillo,**	**145.81**	**69**	*eP*	**PKiKP**	**08 00 37.0**	**-0.9**	
GBS3	**Finca Las Img**	**145.81**	**68**	*eP*	**PKiKP**	**08 00 37.9**	**-0.1**	
LAPC	**Finca la Perla**	**145.84**	**68**	*eP*	**PKPdf**	**08 00 31.6**	**-2.3**	
BUEV	**Buena Vista**	**145.85**	**68**	*eP*	**PKPdf**	**08 00 34.1**	**+0.1**	
GB1A	**Boringuen Arri**	**145.85**	**68**	*eP*	**PKPdf**	**08 00 33.1**	**-0.9**	
BUAI	**Buenos Aires**	**145.90**	**68**	*eP*	**PKPdf**	**08 00 33.3**	**-0.7**	
GPS2	**Hotel Rincn d**	**145.92**	**68**	*eP*	**PKiKP**	**08 00 36.9**	**-1.4**	
GRZA	**Playa Garza**	**145.93**	**69**	*eP*	**PKPab**	**08 00 36.0**	**+0.7**	
GUAI	**GUAI**	**145.93**	**69**	*eP*	**PKPdf**	**08 00 33.9**	**-0.1**	
SACV	**Santiago Islan**	**146.01**	**301**		**PKPbc**	**08 00 34.8**	**-0.2**	
SACV				IAMs_20	IAMs_20	09 10 16.9		
	comp=Z,2μm,20.0s							
LIM1	**Limonal**	**146.03**	**68**	*eP*	**PKiKP**	**08 00 38.1**	**-0.4**	
GUAB	**Guayabo de Bag**	**146.05**	**68**	*eP*	**PKiKP**	**08 00 38.0**	**-0.5**	
INDI	**Punta indio, G**	**146.07**	**69**	*eP*	**PKPdf**	**08 00 34.5**	**+0.2**	
COLC	**Colonia**	**146.09**	**68**	*eP*	**PKPdf**	**08 00 33.5**	**-0.8**	
HORNC	**Hornillas**	**146.09**	**68**	*eP*	**PKPdf**	**08 00 34.3**	**-0.1**	
CUI	**Cuipilapa**	**146.12**	**68**	*eP*	**PKPbc**	**08 00 35.7**	**+0.3**	
ACAL	**Aguas Claras**	**146.25**	**68**	*eP*	**PKPdf**	**08 00 34.5**	**-0.2**	
JTS	**Las Juntas de**	**146.44**	**68**	PKP	**PKPdf**	**08 00 35.1**	**+0.2**	
	comp=Z,82nm,0.9s,baz=350,slow=3.2,SNR=32							
JTS				PKPbc	**PKiKP**	**08 00 38.3**	**-1.0**	
	comp=Z,122nm,1.1s,baz=0.2,slow=2.9,SNR=28							
CO02	**Combarbal**	**146.46**	**152**	*iP*	**PKPdf**	**08 00 35.3**	**+0.6**	
CASO	**Castillo**	**146.60**	**68**	*eP*	**PKPbc**	**08 00 36.6**	**-0.2**	
CO06	**Fray Jorge**	**146.60**	**151**	*iP*	**PKPbc**	**08 00 35.0**	**+0.2**	
CEDE	**Laguna Cedeo**	**146.61**	**68**	*eP*	**PKPbc**	**08 00 37.0**	**+0.1**	
LAFE	**Finca La Fe, P**	**146.64**	**69**	*eP*	**PKPbc**	**08 00 37.3**	**+0.4**	
FORC	**Fortuna**	**146.65**	**68**	*eP*	**PKPab**	**08 00 37.8**	**-0.2**	
COVE	**Coope Vega, Sa**	**146.81**	**67**	*eP*	**PKPdf**	**08 00 36.4**	**+0.8**	
LPA	**La Plata**	**146.87**	**173**	PKIKP	**PKPdf**	**08 00 30.7**	**-4.4**	
CO03	**El Pedregal**	**146.91**	**152**	*iP*	**PKPdf**	**08 00 36.3**	**+0.9**	
CO03	**El Pedregal**	**146.91**	**152**		**PKPdf**	**08 00 34.8**	**-0.6**	
JACO	**JACO, Garabito**	**146.92**	**69**	*eP*	**PKPab**	**08 00 38.6**	**-0.5**	
SRA1	**San Ramn**	**146.95**	**68**	*eP*	**PKPab**	**08 00 38.7**	**-0.6**	
HDC	**Heredia**	**147.32**	**68**	*eP*	**PKPbc**	**08 00 37.8**	**-1.1**	
RIFO	**Rio Frio, Sara**	**147.39**	**68**	*eP*	**PKPbc**	**08 00 38.6**	**-0.4**	
GO04	**Tololo Observa**	**147.42**	**151**	*iP*	**PKPbc**	**08 00 39.2**	**+0.3**	
OCM	**Ochomogo**	**147.50**	**68**	*eP*	**PKPbc**	**08 00 38.9**	**-0.7**	
LCR2	**La Lucha 2**	**147.50**	**69**	*eP*	**PKPbc**	**08 00 38.9**	**-0.7**	
RIMA	**Rio Macho**	**147.63**	**69**	*eP*	**PKPbc**	**08 00 38.9**	**-1.0**	
CVTR	**Volcan Turrial**	**147.64**	**68**	*eP*	**PKPbc**	**08 00 39.4**	**-0.8**	
CVTR	**Volcan Turrial**	**147.64**	**68**		**PKPbc**	**08 00 40.3**	**+0.1**	
PEZE	**Perez Zeledon,**	**147.93**	**69**	*eP*	**PKPbc**	**08 00 39.8**	**-0.8**	
DRK0	**Durika**	**148.37**	**69**	*eP*	**PKPbc**	**08 00 41.0**	**-0.9**	
LCO	**Las Campanas**	**148.43**	**150**	PKP2	**PKPbc**	**08 00 40.6**	**-1.1**	
LCO	**Las Campanas**	**148.43**	**150**	*iP*	**PKPbc**	**08 00 41.0**	**-0.7**	
LCO	**Las Campanas**	**148.43**	**150**		**PKPbc**	**08 00 40.6**	**-1.1**	
LCO	**Las Campanas**	**148.43**	**150**	IAMs_20	IAMs_20	08 58 12.8		
	comp=Z,3μm,22.0s							
PRVC	**Isla de Provid**	**148.48**	**60**	PKPab	**PKiKP**	**08 00 43.6**	**+0.2**	
PRVC	**Isla de Provid**	**148.48**	**60**	*eP*	**PKiKP**	**08 00 43.0**	**-0.4**	
EDSV	**San Vito**	**148.76**	**70**	*eP*	**PKPdf**	**08 00 40.5**	**+1.5**	
AC04	**Llanos de Chal**	**148.89**	**149**	*iP*	**PKPbc**	**08 00 41.3**	**-1.3**	
BRU2	**Volcan**	**149.04**	**70**	*eP*	**PKPbc**	**08 00 41.8**	**-1.8**	
MTDJ	**Mount Denham**	**149.04**	**49**	IAMs_20	IAMs_20	09 17 11.0		
	comp=Z,3μm,22.0s							
BBJ	**Bamboo Saint A**	**149.14**	**48**	*i* P	**PKiKP**	**08 00 45.0**	**+0.3**	
STH	**Stony Hill**	**149.67**	**48**	*i* P	**PKiKP**	**08 00 47.7**	**+1.9**	
HOJ	**Hope**	**149.76**	**48**	*i* P	**PKiKP**	**08 00 47.1**	**+1.1**	
GO03	**Copiap**	**149.82**	**149**	*iP*	**PKPbc**	**08 00 42.9**	**-2.1**	
PLTB	**Pedras Altas**	**150.27**	**180**		**PKPbc**	**08 00 44.3**	**-1.6**	
PLTB	**Pedras Altas**	**150.27**	**180**	*eP*	**PKPbc**	**08 00 43.4**	**-2.5**	
CACAO	**El Cacao, Vera**	**151.21**	**71**	*eP*	**PKPdf**	**08 00 44.4**	**+1.7**	
PNME	**Penonome**	**151.34**	**69**	*eP*	**PKiKP**	**08 00 50.1**	**+0.7**	
BCIP	**Isla Barro Col**	**151.56**	**67**	*eP*	**PKPdf**	**08 00 43.6**	**+0.5**	
AZU	**Azuero**	**151.62**	**70**	*eP*	**PKPdf**	**08 00 44.4**	**+1.1**	
CPSB	**Cacapava Do Su**	**151.62**	**180**	*eP*	**PKPdf**	**08 00 44.3**	**+1.4**	
PB14	**IPOC Station P**	**152.10**	**146**		**PKPdf**	**08 00 46.9**	**+2.8**	
ITQB	**Itaqui**	**152.19**	**174**	*eP*	**PKPdf**	**08 00 45.1**	**+1.4**	
CNLB	**Canela**	**152.59**	**185**	*eP*	**PKPdf**	**08 00 45.9**	**+1.5**	
TER01	**Tubaro-SC**	**153.16**	**189**	*eP*	**PKPdf**	**08 00 46.4**	**+1.2**	
PB04	**IPOC Station P**	**154.01**	**143**	IAMs_20	IAMs_20	08 59 48.6		
	comp=Z,3μm,22.0s							
LVC	**Limon Verde**	**154.53**	**145**	PKP	**PKPdf**	**08 00 48.8**	**+1.1**	
	comp=Z,15nm,1.0s,baz=203,slow=2.4,SNR=17							
LVC				PKPbc	**pPKPdf**	**08 00 59.2**	**-2.6**	
	comp=Z,83nm,1.1s,baz=272,slow=2.8,SNR=14							
LVC				PP	**PP**	**08 04 46.3**	**+1.3**	
	comp=Z,12nm,1.2s,baz=220,slow=6.1,SNR=3.3							
LVC	**Limon Verde**	**154.53**	**145**		**PKPdf**	**08 00 50.0**	**+2.3**	
LVC	**Limon Verde**	**154.53**	**145**	*eP*	**PKPdf**	**08 00 49.5**	**+1.7**	
NNA	**Nana**	**154.77**	**115**	PKP	**PKPdf**	**08 00 49.4**	**+1.5**	
	comp=Z,20nm,0.8s,baz=273,slow=4.3,SNR=12							
NNA				PKPbc	**PKiKP**	**08 00 58.4**	**+1.9**	
	comp=Z,130nm,1.2s,baz=248,slow=3.1,SNR=15							
NNA	**Nana**	**154.77**	**115**		**PKPdf**	**08 00 51.4**	**+3.5**	
SOLC	**Bahia Solano**	**154.81**	**71**	*eP*	**PKPdf**	**08 00 50.8**	**+2.9**	
LCBC	**Los crdobas,**	**154.84**	**65**	*eP*	**PKPdf**	**08 00 51.3**	**+3.4**	
GR1C	**Gorgona, Isla**	**154.87**	**79**	*eP*	**PKPdf**	**08 00 43.9**	**-4.1**	
OTAV	**Otavalo**	**154.97**	**85**	*eP*	**PKPdf**	**08 00 49.9**	**+1.2**	
CUSE	**Cuicocha Este**	**155.01**	**85**	*eP*	**PKPdf**	**08 00 51.7**	**+3.0**	
PIZC	**Pizarro, Choco**	**155.22**	**74**	*eP*	**PKPdf**	**08 00 48.8**	**+0.4**	
PB01	**IPOC Station P**	**155.38**	**142**	IAMs_20	IAMs_20	09 06 29.1		
	comp=Z,2μm,21.0s							
CPUP	**Villa Florida**	**155.41**	**172**	PKP	**PKPdf**	**08 00 49.0**	**+0.7**	
	comp=Z,9.5nm,1.0s,baz=279,slow=0.5,SNR=11							
CPUP				PKPab	sPKPbc	08 01 17.2	+0.8	
	comp=Z,69nm,0.9s,baz=187,slow=2.9,SNR=12							

CPUP	**Villa Florida**	**155.41**	**172**	*eP*	**PKPdf**	**08 00 50.0**	**+1.7**	
TULM	**Tulcn-Chalpat**	**155.58**	**84**	*eP*	**PKPdf**	**08 00 49.6**	**0.0**	
DBBC	**Dabeiba**	**155.68**	**68**	*eP*	**PKPdf**	**08 00 51.7**	**+2.6**	
BBAC	**Balboa, Cauca**	**155.95**	**81**	*eP*	**PKPdf**	**08 00 50.1**	**+0.4**	
GCUF	**Volcan Galeras**	**155.96**	**83**	*eP*	**PKPdf**	**08 00 53.0**	**+2.9**	
PB11	**IPOC Station P**	**156.22**	**139**	IAMs_20	IAMs_20	09 08 47.6		
	comp=Z,2μm,20.0s							
CBOC	**Ciudad Bolivar**	**156.24**	**71**	*eP*	**PKPdf**	**08 00 51.3**	**+1.2**	
PB08	**IPOC Station P**	**156.26**	**141**	IAMs_20	IAMs_20	09 03 05.5		
	comp=Z,2μm,22.0s							
ARGC	**Ariguani, Magd**	**156.28**	**60**	*eP*	**PKPdf**	**08 00 52.0**	**+2.2**	
TIJ01	**Guayura-PR**	**156.28**	**190**	*eP*	**PKPdf**	**08 00 51.0**	**+1.3**	
POPC	**Popayan, Colom**	**156.42**	**79**	*eP*	**PKPdf**	**08 00 50.1**	**-0.3**	
SOTA	**Rioblanco**	**156.56**	**80**	*eP*	**PKPdf**	**08 00 48.4**	**-2.5**	
SJG	**San Juan**	**156.56**	**32**	PKP	**PKPdf**	**08 00 51.2**	**+1.1**	
	comp=Z,7.4nm,0.4s,baz=344,slow=9.8,SNR=2.5							
SJG				PKPab	**PKPab**	**08 01 20.7**	**+1.8**	
	comp=Z,11nm,0.4s,baz=345,slow=22,SNR=2.0							
SJG				PP	**PP**	**08 04 56.6**	**+0.8**	
	comp=Z,3.5nm,0.4s,baz=343,slow=17,SNR=1.2							
SJG	**San Juan**	**156.56**	**32**	IAMs_20	IAMs_20	09 26 37.6		
	comp=Z,2μm,22.0s							
SJG	**San Juan**	**156.56**	**32**	*eP*	**PKPdf**	**08 00 50.8**	**+0.7**	
HELC	**Santa Helena**	**156.59**	**70**	*eP*	**PKPdf**	**08 00 51.3**	**+0.6**	
CRJC	**Cerrejon, Guaj**	**156.85**	**56**	*eP*	**PKPdf**	**08 00 52.4**	**+1.7**	
SMLC	**San Martn de**	**156.92**	**62**	*eP*	**PKPdf**	**08 00 47.3**	**-3.4**	
LL1C	**La Loma 1 Cana**	**157.03**	**60**	*eP*	**PKPdf**	**08 00 52.6**	**+1.8**	
GUY2C	**Guyana, Caldas**	**157.05**	**72**	*eP*	**PKPdf**	**08 00 51.3**	**-0.1**	
MARP	**Paez Belalcaza**	**157.07**	**78**	*eP*	**PKPdf**	**08 00 51.3**	**0.0**	
LL2C	**La Loma 2 Cana**	**157.12**	**60**	*eP*	**PKPdf**	**08 00 53.0**	**+2.1**	
DUB01	**Friburgo-RJ**	**157.18**	**207**	*eP*	**PKPdf**	**08 00 53.3**	**+2.5**	
PARB	**Paraibuna**	**157.34**	**199**	*eP*	**PKPdf**	**08 00 53.3**	**+2.3**	
NORC	**Norcasia**	**157.42**	**71**	*eP*	**PKPdf**	**08 00 51.3**	**-0.1**	
PTBC	**PUERTO BERRIO**	**157.47**	**68**	*eP*	**PKPdf**	**08 00 50.5**	**-0.9**	
ORTC	**Ortega, Tolima**	**157.52**	**75**	*eP*	**PKPdf**	**08 00 51.3**	**-0.2**	
ALF01	**Guarapari-ES**	**157.58**	**213**	*eP*	**PKPdf**	**08 00 52.1**	**+0.8**	
SPB	**Sao Paulo**	**157.62**	**195**	*eP*	**PKPdf**	**08 00 53.5**	**+2.2**	
OCAC	**Ocana**	**157.83**	**63**	*eP*	**PKPdf**	**08 00 53.0**	**+1.0**	
BRRC	**Buenavista, Sant**	**157.95**	**66**	*eP*	**PKPdf**	**08 00 53.2**	**+1.2**	
VAO	**Valinhos**	**158.06**	**196**	*eP*	**PKPdf**	**08 00 54.5**	**+2.6**	
SMRT	**St. Maarten**	**158.07**	**25**	*eP*	PKPdf	08 00 43.8	-8.2	
SMRT	**St. Maarten**	**158.07**	**25**	IAMs_20	IAMs_20	09 22 34.2		
	comp=Z,3μm,22.0s							
SPBC	**San Pablo de B**	**158.14**	**70**	*eP*	**PKPdf**	**08 00 50.8**	**-1.6**	
ROSC	**El Rosal**	**158.16**	**72**	PKP	**PKPdf**	**08 00 52.9**	**+0.1**	
	comp=Z,39nm,0.9s,baz=149,slow=2.9,SNR=19							
ROSC				PKPab	**PKPab**	**08 01 29.3**	**+2.7**	
	comp=Z,65nm,0.9s,baz=146,slow=1.5,SNR=9.1							
ROSC	**El Rosal**	**158.16**	**72**	*eP*	**PKPdf**	**08 00 50.7**	**-2.0**	
FRTB	**Fartura**	**158.32**	**190**	*eP*	**PKPdf**	**08 00 54.8**	**+2.6**	
SEUS	**St. Eustatius**	**158.61**	**26**	*eP*	**PKPdf**	**08 00 51.5**	**-1.1**	
SEUS	**St. Eustatius**	**158.61**	**26**	IAMs_20	IAMs_20	09 29 12.4		
	comp=Z,3μm,20.0s							
CHIC	**Chingaza**	**158.78**	**72**	*eP*	**PKPdf**	**08 00 52.8**	**-0.7**	
ANWB	**Willy Bob**	**158.94**	**22**	*eP*	**PKPdf**	**08 00 52.6**	**-0.4**	
ANWB	**Willy Bob**	**158.94**	**22**	IAMs_20	IAMs_20	09 08 25.8		
	comp=Z,3μm,22.0s							
RUSC	**La Rusia**	**158.98**	**68**	*eP*	**PKPdf**	**08 00 51.2**	**-2.6**	
BSFB	**Barra de Sao F**	**159.07**	**216**	*eP*	**PKPdf**	**08 00 56.3**	**+3.1**	
BSCB	**Bom Sucesso**	**159.17**	**204**	*eP*	**PKPdf**	**08 00 55.4**	**+2.1**	
TRCB	**Terra Rica**	**159.19**	**182**	*eP*	**PKPdf**	**08 00 55.4**	**+2.2**	
HATO	**Hato, Curacao**	**159.25**	**47**	IAMs_20	IAMs_20	09 27 21.3		
	comp=Z,3μm,22.0s							
MACC	**Macarena, Meta**	**159.27**	**79**	*eP*	**PKPdf**	**08 00 53.8**	**+0.2**	
SJMB	**Sao Joao De Ma**	**159.37**	**215**	*eP*	**PKPdf**	**08 00 56.3**	**+2.8**	
NAN01	**Guarapari, ES**	**159.40**	**219**	*eP*	**PKPdf**	**08 00 55.9**	**+2.3**	
ANBD	**Bethesda, Anti**	**159.51**	**23**	*eP*	**PKPdf**	**08 00 51.6**	**-2.1**	
LPAZ	**La Paz**	**159.68**	**136**	PKP	**PKPdf**	**08 00 55.2**	**+0.5**	
	comp=Z,33nm,1.1s,baz=221,slow=1.0,SNR=30							
LPAZ				PKPab	**PKPab**	**08 01 36.5**	**+3.2**	
	comp=Z,70nm,1.2s,baz=170,slow=2.1,SNR=6.1							
LPAZ				PP	**PP**	**08 05 14.1**	**-0.1**	
	comp=Z,9.2nm,1.1s,baz=207,slow=4.7,SNR=3.7							
LPAZ	**La Paz**	**159.68**	**136**	*eP*	**PKPdf**	**08 00 56.9**	**+2.2**	
SDV	**Santo Domingo**	**159.86**	**58**	PKP	**PKPdf**	**08 00 53.6**	**-0.9**	
	comp=Z,36nm,0.6s,baz=10.0,slow=0.6,SNR=15							
SDV				PKPab	**PKPab**	**08 01 36.8**	**+3.1**	
	comp=Z,46nm,0.7s,baz=329,slow=6.6,SNR=8.0							
SDV				PP	**PP**	**08 05 15.0**	**-0.2**	
	comp=Z,4.9nm,0.3s,baz=314,slow=6.0,SNR=3.3							
SDV	**Santo Domingo**	**159.86**	**58**	PKPdf	**PKPdf**	**08 00 55.2**	**+0.8**	
SDV	**Santo Domingo**	**159.86**	**58**	*eP*	**PKPdf**	**08 00 54.2**	**-0.2**	
SDV	**Santo Domingo**	**159.86**	**58**	*eP*	**PKPdf**	**08 00 56.5**	**+2.0**	
SOCV	**Socops**	**159.97**	**60**	*eP*	**PKPdf**	**08 00 54.2**	**-0.2**	
CZSB	**Cruzeiro do Su**	**160.01**	**108**	*eP*	**PKPdf**	**08 00 56.8**	**+2.4**	
ABD	**La Joyeuse, An**	**160.14**	**23**	*eP*	**PKPdf**	**08 00 53.5**	**-0.9**	
PTGC	**Puerto Gaitan,**	**160.43**	**72**	*eP*	**PKPdf**	**08 00 53.4**	**-1.5**	
CBE	**Ff, Capester**	**160.46**	**23**	*eP*	**PKPdf**	**08 00 53.5**	**-1.4**	
MAGL	**Barre de l'ile**	**160.69**	**23**	*eP*	**PKPdf**	**08 00 52.2**	**-2.9**	
MAGL	**Barre de l'ile**	**160.69**	**23**	*eP*	PKPdf	08 01 03.3	+8.3	
DSLB	**Salisbury**	**161.10**	**24**	*eP*	**PKPdf**	**08 00 52.2**	**-3.3**	
NBAN	**Anadia - AL**	**161.20**	**245**	*eP*	**PKPdf**	**08 00 58.1**	**+2.4**	
DLPL	**La Plaine**	**161.27**	**24**	*eP*	**PKPdf**	**08 00 49.8**	**-5.9**	
NBPV	**Pedro Velho**	**161.29**	**255**	*eP*	**PKPdf**	**08 00 58.3**	**+2.5**	
AQDB	**Aquidauana**	**161.39**	**174**	*eP*	**PKPdf**	**08 00 58.0**	**+2.3**	
ELOV	**Elorza**	**161.78**	**61**	*eP*	**PKPdf**	**08 00 53.8**	**-2.5**	
FDF	**Fort de France**	**161.84**	**24**	*eP*	**PKPdf**	**08 00 56.6**	**+0.2**	
ILAM	**Ilet Lapin Mar**	**161.92**	**24**	*eP*	PKPdf	08 00 47.7	-8.7	
BAUV	**El Baul**	**161.96**	**53**	*eP*	**PKPdf**	**08 00 54.4**	**-2.0**	
NBLA	**Lagarto - SE**	**161.96**	**239**	*eP*	**PKPdf**	**08 00 59.4**	**+2.9**	
RCBR	**Riachuelo**	**162.01**	**257**	*eP*	**PKPdf**	**08 00 59.2**	**+2.6**	
ITRB	**Iturama**	**162.01**	**190**	*eP*	**PKPdf**	**08 00 58.9**	**+2.5**	
BIM	**Bigot**	**162.07**	**24**	*eP*	**PKPdf**	**08 00 52.6**	**-3.9**	
MPOM	**Morne Pois Mar**	**162.22**	**24**	*eP*	**PKPdf**	**08 00 53.2**	**-3.5**	
MC01	**Montes Claros**	**162.51**	**212**	*eP*	**PKPdf**	**08 00 59.7**	**+2.6**	
SLBI	**Saint Lucia, B**	**162.56**	**25**	*eP*	**PKPdf**	**08 00 49.6**	**-7.3**	
MCLT	**Moule a Chique**	**162.85**	**25**	*eP*	**PKPdf**	**08 00 55.7**	**-1.6**	
SVB	**Belmont**	**163.10**	**27**	*eP*	**PKPdf**	**08 00 54.2**	**-3.4**	
NBPA	**Parau_RN**	**163.20**	**256**	*eP*	**PKPdf**	**08 01 00.4**	**+2.7**	
TBTG	**Tabatinga, AM**	**163.46**	**98**	*eP*	**PKPdf**	**08 00 58.9**	**+0.9**	
TBTG	**Tabatinga, AM**	**163.46**	**98**	*eP*	**PKPdf**	**08 01 00.9**	**+2.9**	
PCRV	**Puerto La Cruz**	**163.69**	**43**	PP	PP	08 05 32.9	-1.9	
	comp=Z,9.1nm,1.0s,baz=114,slow=22,SNR=1.5							
GCMP	**Grenada, Carri**	**163.71**	**29**	*eP*	**PKPdf**	**08 00 51.8**	**-6.3**	
GRGR	**Grenville**	**163.90**	**30**	*eP*	PKPdf	08 00 49.4	-8.9	
BBGH	**Gun Hill**	**163.92**	**22**	*eP*	**PKPdf**	**08 00 55.8**	**-2.6**	
NBPN	**Ponto Novo - B**	**164.06**	**235**	*eP*	**PKPdf**	**08 01 01.6**	**+3.1**	
SIV	**San Ignacio**	**164.11**	**152**	PKP	**PKPdf**	**08 00 57.7**	**-0.8**	
	comp=Z,25nm,1.0s,baz=259,slow=1.5,SNR=30							
SIV				PKPab	**PKPab**	**08 01 54.2**	**+2.4**	
	comp=Z,95nm,1.1s,baz=220,slow=5.1,SNR=18							
SIV				PP	**PP**	**08 05 38.4**	**+2.1**	
	comp=Z,6.0nm,1.1s,baz=191,slow=6.2,SNR=1.5							
NBMA	**Muriti-CE**	**164.34**	**249**	*eP*	**PKPdf**	**08 01 01.5**	**+2.7**	
NBCL	**Cascavel-CE**	**164.63**	**261**	*eP*	**PKPdf**	**08 01 02.7**	**+3.6**	
ETMB	**Extrema**	**165.10**	**122**	*eP*	**PKPdf**	**08 01 02.5**	**+3.1**	
TOSP	**Speyside**	**165.16**	**28**	*eP*	**PKPdf**	**08 01 00.7**	**+1.3**	
TRN	**Trinidad (W)**	**165.28**	**32**	*eP*	**PKPdf**	**08 00 59.6**	**+0.1**	
BDFB	**Brasilia**	**165.29**	**201**	PKP	**PKPdf**	**08 00 59.2**	**-0.4**	
	comp=Z,14nm,0.9s,baz=57,slow=1.4,SNR=17							
BDFB				PKPab	**PKPab**	**08 01 59.6**	**+2.6**	
	comp=Z,38nm,0.9s,baz=136,slow=4.3,SNR=6.8							
BDFB				PP	**PP**	**08 05 41.0**	**-1.4**	
	comp=Z,4.5nm,0.8s,baz=203,slow=8.1,SNR=1.7							
BDFB	**Brasilia**	**165.29**	**201**		**PKPdf**	**08 01 00.5**	**+0.9**	
NBMO	**Morrinhos-CE**	**166.48**	**264**	*eP*	**PKPab**	**08 02 07.8**	**+5.1**	
SDBA	**SAO DESIDERIO**	**166.50**	**219**	*eP*	**PKPdf**	**08 01 04.5**	**+3.9**	
VILB	**Vilhena**	**167.15**	**149**	*eP*	**PKPdf**	**08 01 04.8**	**+3.7**	
NBPS	**Pedro II - PI**	**167.71**	**258**	*eP*	**PKPab**	**08 02 10.1**	**+1.9**	
SAML	**Samuel**	**168.07**	**126**	PKIKP	**PKPdf**	**08 01 00.5**	**-1.2**	
SAML	**Samuel**	**168.07**	**126**		**PKPdf**	**08 01 00.5**	**-1.2**	
SNDB	**Serra Nova Dou**	**169.73**	**192**	*eP*	**PKPdf**	**08 01 06.6**	**+3.9**	
ROSB	**Rosrio**	**170.58**	**264**	*eP*	**PKPdf**	**08 01 06.8**	**+3

MNI				S	**Sn**	08 20 32.2	**-0.1**
SGSI	**Sangihe**	**2.09**	**328**	P	**Pn**	08 20 12.3	**-0.6**
KMSI	**Cibinong**	**2.98**	**244**	P	Pn	08 20 29.5	+4.3
GTOI	**Gorontalo**	**3.85**	**251**	P	**Pn**	08 20 37.9	**+0.8**
SANI	**Sanana**	**3.99**	**190**	P	Pn	08 20 46.2	+7.1
MRSI	**Marisa**	**4.92**	**253**	P	Pn	08 20 57.4	+5.6
DAV	**Davao City (W)**	**5.23**	**348**	LR	LR	08 22 57.3	
	comp=Z,2µm,19.7s,baz=54,slow=40						
TOLI2	**Tolitoli**	**5.92**	**262**	Pn	**Pn**	08 21 04.5	**-1.0**
MTN	**Manton Dam**	**15.32**	**163**	Pn	**Pn**	08 23 13.1	**-0.5**
MTN				IAmb	IAmb	08 23 20.7	
	comp=Z,25nm,1.4s						
KNRA	**Kununurra**	**17.60**	**173**		**Pn**	08 23 40.9	**-1.4**
KNRA				IAmb	IAmb	08 23 52.7	
	comp=Z,28nm,1.4s						
FITZ	**Fitzroy Crossi**	**19.91**	**183**	P	**P**	08 24 08.7	**+0.5**
	comp=Z,1.0nm,0.4s,baz=16,slow=9.8,SNR=6.5						
FITZ	**Fitzroy Crossi**	**19.91**	**183**	P	**P**	08 24 08.3	**+0.1**
COEN	**Coen**	**22.74**	**134**	P	**P**	08 24 38.4	**-0.3**
COEN				IAmb	IAmb	08 25 34.0	
	comp=Z,10nm,1.1s						
WRAB	**Tennant Creek**	**22.99**	**161**	P	**P**	08 24 40.1	**-1.1**
WRAB				IAmb	IAmb	08 24 43.7	
	comp=Z,7.5nm,0.7s						
WRA	**Warramunga Arr**	**23.00**	**161**	P	**P**	08 24 39.7	**-1.6**
	comp=Z,6.6nm,0.6s,baz=340,slow=12,SNR=59						
WRA	**Warramunga Arr**	**23.00**	**161**	P	**P**	08 24 40.8	**-0.5**
WB2	**Warramunga Arr**	**23.00**	**161**	P	**P**	08 24 39.6	**-1.7**
WR0	**Warramunga Arr**	**23.08**	**161**	P	**P**	08 24 41.0	**-1.1**
WR0				IAmb	IAmb	08 24 48.8	
	comp=Z,16nm,1.4s						
AS31	**Alice Springs**	**26.39**	**165**	P	**P**	08 25 12.5	**-0.1**
ASAR	**Alice Springs**	**26.39**	**165**	P	**P**	08 25 13.2	**+0.6**
	comp=Z,2.0nm,0.6s,baz=347,slow=12,SNR=15						
ASAR				PcP	**PcP**	**08 28 37.9**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=1.8,slow=2.2,SNR=4.5						
FORT	**Forrest**	**32.54**	**178**	P	**P**	08 26 07.8	**+0.8**
STKA	**Stephens Creek**	**36.48**	**158**	P	**P**	08 26 41.0	**0.0**
	comp=Z,1.4nm,0.6s,baz=349,slow=7.7,SNR=4.4						
STKA	**Stephens Creek**	**36.48**	**158**	IAmb	IAmb	08 27 27.6	
	comp=Z,6.1nm,1.9s						
TOO	**Toolangi**	**42.99**	**158**	P	**P**	08 27 36.3	**+1.1**
MKAR	**Makanchi Array**	**59.00**	**326**	P	**P**	08 29 34.6	**-0.7**
	comp=Z,0.8nm,0.4s,baz=121,slow=8.6,SNR=9.5						
KURBB	**Kurchatov Arra**	**63.22**	**328**	P	**P**	08 30 04.1	**+0.3**
	comp=Z,0.8nm,0.3s,baz=126,slow=6.2,SNR=4.0						
VNDA	**Vanda**	**81.65**	**173**	P	**P**	08 31 53.5	**+0.5**
	comp=Z,0.8nm,0.6s,baz=310,slow=6.6,SNR=6.1						
VNDA	**Vanda**	**81.65**	**173**	IAmb	IAmb	08 32 39.4	
	comp=Z,3.9nm,1.4s						

MEX 16 08:21:24.4±0.5, 15°13.N×94°43.W, h16km±7km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.30**	**64**	*i* P	Pn	08 21 44.4	-3.5
PCIG				*i* S	Sb	08 21 59.6	-5.3
CMIG	**Matias Romero**	**2.00**	**347**	*i* P	Pn	08 21 54.3	-3.2
CMIG				*i* S	Sn	08 22 17.2	-5.0
CCIG	**Comitan**	**2.49**	**62**	*i* P	Pn	08 22 04.0	-0.4
CCIG				*i* S	Sn	08 22 36.2	+1.6
PEIG	**Puerto Escondi**	**2.76**	**289**	*i* P	Pn	08 22 04.5	-3.5
PEIG				*i* S	Sn	08 22 33.1	-7.9
PNIG	**Pinotepa**	**3.77**	**290**	*i* P	Pn	08 22 19.5	-2.5
PNIG				*i* S	Sn	08 22 57.5	-8.6
TOIG	**Toxpalan**	**3.88**	**320**	*i* P	Pn	08 22 25.4	+1.9
TOIG				*i* S	Sn	08 23 07.7	-1.2

*IDC **16** 08:25:20.9±2.1,9°.17S×114°.08E, h0km, mb3.3/3, mb1 3.7/5,mb1mx3.5/40,mbtmp3.6/5,ML3.8/2,Error ellipse: s-maj=56.0km s-min=26.6km az=51.0*
*DJA **16** 08:25:35.8±0.5,9°.S±.8°×11°.5E±°, h81km±8km, M3.7/7, MLv3.7/7*
ISC 16 08:25:34.7±0.9, 8°.86S±0°.09×114°.88E±0°.04, h106km±7km, n16, σ0°.95/26, mb3.3/3, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	**Denpasar**	**0.38**	**61**	P	**Pn**	**08 25 51.1**	**+0.7**
DNP				S	**Sn**	**08 26 03.7**	**+1.5**
JAGI	**Jajag, Banyuwa**	**0.81**	**298**	P	**Pn**	**08 25 53.6**	**-0.2**
JAGI				S	**Sn**	**08 26 07.0**	**-1.2**
BYJI	**Banyuwangi**	**0.82**	**321**	P	**Pn**	**08 25 54.9**	**+1.0**
BYJI				S	**Sn**	**08 26 08.6**	**+0.3**
SRBI	**Singaraja**	**0.84**	**23**	P	**Pn**	**08 25 54.3**	**+0.3**
SRBI				S	**Sn**	**08 26 08.0**	**-0.5**
KHKI	**Kahang-Kahang**	**0.87**	**56**	P	**Pn**	**08 25 53.5**	**-0.9**
ABJI	**Asem Bagus**	**1.23**	**329**	P	**Pn**	**08 25 59.3**	**+1.1**
ABJI				S	**Sn**	**08 26 15.8**	**-0.2**
GMJI	**Gumukmas**	**1.53**	**292**	P	**Pn**	**08 26 02.4**	**+0.7**
GMJI				S	**Sn**	**08 26 22.2**	**0.0**
TWSI	**Taliwang, Sumb**	**1.98**	**87**	P	**Pn**	**08 26 07.6**	**+0.2**
TWSI				S	**Sn**	**08 26 32.6**	**+0.3**
PLAI	**Plampang**	**2.87**	**90**	P	**Pn**	**08 26 20.0**	**+1.1**
PLAI				S	**Sn**	**08 26 53.0**	**+0.1**
PWJI	**Pagerwojo**	**3.15**	**285**	P	**Pn**	**08 26 23.4**	**+0.7**
PWJI				S	**Sn**	**08 27 00.4**	**+0.7**
SJI	**Sawahan**	**3.27**	**290**	P	**Pn**	**08 26 25.0**	**+0.6**
KAPI	**Kappang**	**6.16**	**52**	Pn	**Pn**	**08 27 04.6**	**+1.3**
	2.0nm,0.3s,baz=241,slow=6.0,SNR=6.2						
KAPI				Sn	**Sn**	**08 28 12.0**	**-0.5**
	1.3nm,0.3s,baz=81,slow=23,SNR=6.2						
FITZ	**Fitzroy Crossi**	**13.92**	**132**	Pn	**Pn**	**08 28 45.8**	**-1.6**
	0.3nm,0.3s,baz=301,slow=10.0,SNR=18						
FITZ				Sn	Sn	08 31 08.4	-12
	0.4nm,0.3s,baz=178,slow=21,SNR=9.7						
WRA	**Warramunga Arr**	**21.80**	**122**	P	**P**	**08 30 20.1**	**+1.6**
	0.5nm,0.3s,baz=297,slow=12,SNR=11						
ASAR	**Alice Springs**	**23.41**	**131**	P	**P**	**08 30 35.6**	**+1.1**
	0.5nm,0.4s,baz=302,slow=9.2,SNR=7.2						
MKAR	**Makanchi Array**	**62.55**	**335**	P	**P**	**08 35 46.4**	**-1.0**
	0.2nm,0.4s,baz=147,slow=5.5,SNR=2.5						

MEX 16 08:32:12.4±0.4, 15°.69N×93°.82W, h36km±12km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.58**	**88**	*i* P	Pn	08 32 22.3	-1.9
PCIG				*i* S	Sn	08 32 30.3	-2.1
CCIG	**Comitan**	**1.72**	**70**	*i* P	Pn	08 32 38.6	-1.3
CCIG				*i* S	Sn	08 32 58.7	-2.1
CMIG	**Matias Romero**	**1.73**	**324**	*i* P	Pn	08 32 38.5	-1.4
CMIG				*i* S	Sn	08 32 58.7	-2.1
VHO	**Vista Hermosa**	**3.12**	**297**	*eP*	Pn	08 32 57.6	-1.6
VHO				*eS*	Sn	08 33 35.6	+0.2

*TUL **16** 08:42:21.9±1.4,35°.98N±0°.01×96°.80W±0°.02, h5km±3km, ML2.8,mb_Lg2.8/30(NEIC),Error ellipse: s-maj=2.9km s-min=0.8km az=126.0*
NEIC 16 08:42:22.4±1.0, 35°.989N±0°.004×96°.83W±0°.02, h1km±6km, Error ellipse: s-maj=2.1km s-min=0.7km az=99.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.04**	**193**		Pg	08 42 23.3	+0.2
QUOK	**Quay**	**0.21**	**28**		Pg	08 42 26.4	0.0
QUOK				Sg	Sg	08 42 29.4	+0.3
OK029	**Liberty Lake**	**0.54**	**250**		Pg	08 42 33.1	+0.3
OK029				Sg	Sg	08 42 41.0	+1.2
OK025	**Westminster Rd**	**0.58**	**226**		Pg	08 42 33.5	0.0
OK025				Sg	Sg	08 42 41.7	+0.7
OKCFA	**Oklahoma City**	**0.76**	**222**		Pg	08 42 36.7	-0.4
OKCFA				Sg	Sg	08 42 47.2	+0.3
OKCSW	**OKLAHOMA CITY**	**0.76**	**221**		Pg	08 42 36.8	-0.3
BLOK	**Blackwell**	**0.83**	**338**		Pg	08 42 38.3	-0.1
BLOK				Sg	Sg	08 42 48.9	-0.2
FNO	**Franklin**	**0.87**	**213**		Pg	08 42 38.3	-0.7
FNO				Sg	Sg	08 42 49.6	-0.6
T35A	**Sooner Cattle**	**0.96**	**15**		Pg	08 42 40.2	-0.6
CROK	**Carrier**	**1.07**	**299**		Pg	08 42 42.6	-0.3
KAN13	**South Haven SW**	**1.15**	**333**	Pg	Pg	08 42 44.3	-0.1
OK032	**Salt Plains WL**	**1.38**	**307**		Pn	08 42 48.0	-0.8
KS21	**Milan North St**	**1.46**	**333**	IAmb_Lg		08 43 08.7	
	comp=Z,48nm,1.0s						
X34A	**Smith Ranch, M**	**1.61**	**211**		Pn	08 42 51.5	-0.4
U32A	**Winter Ranch,**	**1.80**	**283**		Pn	08 42 54.9	+0.3
X37A	**Clayton**	**1.84**	**139**		Pn	08 42 55.0	0.0
LOOK	**Love County**	**2.01**	**188**		Pn	08 42 57.9	+0.4
LOOK				IAmb_Lg		08 43 29.1	
	comp=Z,30nm,0.9s						
WMOK	**Wichita Mounta**	**2.02**	**233**		Pn	08 42 58.0	+0.3
U38A	**Gravette**	**2.03**	**76**		Pn	08 42 57.5	-0.2
HHAR	**Hobbs**	**2.36**	**82**		Pn	08 43 02.9	+0.6
W39A	**Magazine**	**2.60**	**107**	Pn	Pn	08 43 05.9	+0.3
MIAR	**Mount Ida**	**3.03**	**117**		Pn	08 43 11.5	0.0
Z38A	**Mt. Pleasant**	**3.12**	**150**	IAmb_Lg		08 44 08.6	
	comp=Z,22nm,0.8s						
FCAR	**Ozark Folk Cen**	**3.82**	**90**	IAmb_Lg		08 44 24.2	
	comp=Z,30nm,0.8s						
MGMO	**Mountain Grove**	**3.85**	**71**	IAmb_Lg		08 44 27.2	
	comp=Z,17nm,0.7s						
R40A	**Maddies Statio**	**4.31**	**56**	IAmb_Lg		08 44 43.0	
	comp=Z,15nm,0.8s						
N35A	**Tabor**	**4.95**	**10**	IAmb_Lg		08 45 01.2	
	comp=Z,12nm,0.8s						
HBAR	**Harrisburg**	**5.04**	**93**	IAmb_Lg		08 45 06.0	
	comp=Z,30nm,0.8s						
PBMO	**Poplar Bluff**	**5.22**	**79**	IAmb_Lg		08 45 19.5	
	comp=Z,10.0nm,0.8s						
N38A	**Joes South For**	**5.56**	**29**	IAmb_Lg		08 45 23.1	
	comp=Z,12nm,0.7s						
L34A	**Svendsen Farm,**	**5.98**	**3**	IAmb_Lg		08 45 42.1	
	comp=Z,17nm,0.9s						
S44A	**Carbondale**	**6.31**	**72**	IAmb_Lg		08 45 40.4	
	comp=Z,18nm,0.8s						
SIUC	**Southern Illin**	**6.34**	**72**	IAmb_Lg		08 45 42.9	
	comp=Z,22nm,0.8s						
OGNE	**Ogallala**	**6.42**	**322**	IAmb_Lg		08 45 54.1	
	comp=Z,12nm,0.7s						
WCI	**Wyandotte Cave**	**8.71**	**72**	IAmb_Lg		08 46 57.1	
	comp=Z,8.4nm,0.8s						
P48A	**Milroy**	**9.68**	**66**	IAmb_Lg		08 47 28.4	
	comp=Z,13nm,1.1s						

*IDC **16** 08:56:06.6±1.1,51°.52N×175°.33W, h0km, mb3.6/4, mb1 3.9/5,mb1mx3.5/60,mbtmp3.5/5,ML3.8/1,MS4.4/2, Ms1 4.4/2,ms1mx3.6/41,Error ellipse: s-maj=48.3km s-min=26.6km az=151.0*
*AEIC **16** 08:56:11±1.4,51°.56N±0°.10×175°.15W±0°.05, h28km±5km, ML3.8,Error ellipse: s-maj=14.5km s-min=3.4km az=167.0*
*NEIC **16** 08:56:13.0±1.6,51°.65N±0°.08×175°.18W±0°.04, h34km±8km, Error ellipse: s-maj=12.0km s-min=3.0km az=173.0*
ISC 16 08:56:11.3±2.5, 51°.54N±0°.10×175°.14W±0°.04, h28km±17km, n52, σ1°64/50, mb3.7/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSIG	**Igitkin Island**	**0.66**	**312**		**Pn**	**08 56 24.5**	**-0.3**
GSIG					**Sb**	**08 56 33.7**	**+0.5**
GSMY	**Great Sitkin M**	**0.76**	**312**		**Pn**	**08 56 26.1**	**-0.1**
GSTR	**Great Sitkin T**	**0.80**	**314**		**Pn**	**08 56 26.9**	**+0.2**
GSTD	**Great Sitkin T**	**0.81**	**310**		**Pn**	**08 56 26.8**	**-0.1**
GSTD					**Sn**	**08 56 37.5**	**-0.5**
ETKA	**Kagalaska Isla**	**0.85**	**292**		**Pn**	**08 56 27.3**	**-0.2**
ETKA					**Sn**	**08 56 37.9**	**-1.1**
ATKA	**Atka Island**	**0.88**	**41**		**Pn**	**08 56 27.3**	**-0.5**
ATKA					**Sn**	**08 56 38.4**	**-1.2**
KOKI	**Mount Kliuchef**	**0.97**	**36**		**Pn**	**08 56 29.2**	**+0.1**
KOFP	**Korovin Flat P**	**0.97**	**41**		**Pn**	**08 56 29.3**	**+0.1**
KOWE	**Korovin West**	**0.99**	**33**		**Pn**	**08 56 29.7**	**+0.4**
KOWE					**Sn**	**08 56 42.5**	**0.0**
KOKV	**Korovin Volcan**	**1.01**	**36**		**Pn**	**08 56 30.0**	**+0.2**
ADK	**Adak**	**1.02**	**290**		**Pn**	**08 56 29.6**	**-0.2**
KIRH	**Kanaga Island**	**1.27**	**287**		**Pn**	**08 56 33.3**	**+0.1**
KIWB	**Kanaga Island**	**1.29**	**285**		**Pn**	**08 56 33.5**	**+0.1**
KINC	**Kanaga Island**	**1.30**	**288**		**Pn**	**08 56 33.8**	**+0.3**
KINC					**Sn**	**08 56 51.3**	**+1.4**
KIKV	**Kanaga Island**	**1.31**	**286**		**Pn**	**08 56 33.9**	**+0.2**
KIMD	**Kanaga Island**	**1.32**	**280**		**Pn**	**08 56 33.9**	**0.0**
KICM	**Kanaga Island**	**1.33**	**287**		**Pn**	**08 56 34.4**	**+0.3**
TAFP	**Tanaga Falls P**	**1.81**	**282**		**Pn**	**08 56 41.3**	**+0.8**
TAFP					**Sn**	**08 57 02.4**	**-0.2**
TASE	**Tanaga Southea**	**1.83**	**280**		**Pn**	**08 56 41.8**	**+0.9**
GAEA	**Gareloi East**	**2.26**	**277**		**Pn**	**08 56 48.4**	**+1.5**
GALA	**Gareloi Lava P**	**2.27**	**277**		**Pn**	**08 56 48.4**	**+1.4**
CEPE	**Semis' Perret**	**3.27**	**279**		**Pn**	**08 57 02.3**	**+1.7**
CEPE					**Sn**	**08 57 40.5**	**+1.9**
AMKA	**Amchitka**	**3.48**	**269**		**Pn**	**08 57 05.1**	**+1.6**
LSNW	**Little Sitkin**	**3.97**	**279**		**Pn**	**08 57 11.4**	**+1.1**
NIKH	**Nikolski High**	**4.12**	**67**		**Pn**	**08 57 13.3**	**+1.0**
NIKH	**Nikolski High**	**4.12**	**67**	Pn	**Pn**	**08 57 13.0**	**+0.7**
MAPS	**Pakushin South**	**5.48**	**62**		**Pn**	**08 57 33.1**	**+2.1**
UNV	**Unalaska Valle**	**5.73**	**63**	Pn	**Pn**	**08 57 37.3**	**+2.9**
SPIA	**Saint Paul Isl**	**6.32**	**25**	Pn	**Pn**	**08 57 44.2**	**+1.6**
SMY	**Shemya**	**6.73**	**284**	Pn	**Pn**	**08 57 48.5**	**+0.4**
OHAK	**Old Harbor**	**13.91**	**57**	Pn	**Pn**	**08 59 24.4**	**-1.9**
SVW2	**Sparrevohn**	**14.40**	**41**	Pn	**Pn**	**08 59 33.7**	**+0.6**
KDAK	**Kodiak Island**	**14.43**	**56**	Pn	**Pn**	**08 59 29.6**	**-3.8**
	0.2nm,0.3s,baz=265,slow=3.1,SNR=12						
KDAK				Sn	**Sn**	**09 02 19.6**	**+7.4**
	0.1nm,0.3s,baz=54,slow=14,SNR=1.1						
CNPM	**China Poot**	**15.64**	**50**	Pn	**Pn**	**08 59 49.6**	**0.0**
HDA	**Harding Lake**	**19.51**	**38**	P	**P**	**09 00 33.2**	**-2.8**
ILAR	**Eielson Array**	**19.70**	**37**	P	**P**	**09 00 38.7**	**+0.5**
	0.3nm,0.3s,baz=220,slow=9.3,SNR=6.7						
SEY	**Seymchan**	**20.69**	**316**	P	Pn	09 00 52.5	+1.3
	1.9nm,0.7s,baz=102,slow=12,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**34.75**	**211**	T	T	09 40 25.7	
	baz=20,slow=76,SNR=54						
H11N3	**WAKE ISLAND Hy**	**34.75**	**211**	T	T	09 40 27.9	
	baz=20,slow=76,SNR=47						
H11N1	**WAKE ISLAND Hy**	**34.76**	**211**	T	T	09 40 17.9	
	baz=20,slow=76,SNR=52						
H11S1	**WAKE ISLAND Hy**	**35.95**	**210**	T	T	09 41 42.3	
	baz=19,slow=76,SNR=76						
H11S2	**WAKE ISLAND Hy**	**35.97**	**210**	T	T	09 41 42.6	
	baz=19,slow=76,SNR=63						
H11S3	**WAKE ISLAND Hy**	**35.97**	**210**	T	T	09 41 42.7	
	baz=19,slow=76,SNR=44						
PDAR	**Pinedale Array**	**44.06**	**75**	P	**P**	**09 04 17.0**	**+0.1**
	1.0nm,0.5s,baz=308,slow=3.8,SNR=12						
PDAR				LR	LR	09 20 29.8	
	comp=Z,454nm,21.4s,baz=20,slow=33						
MKAR	**Makanchi Array**	**61.70**	**310**	P	**P**	**09 06 25.6**	**-1.0**
	0.1nm,0.3s,baz=54,slow=8.0,SNR=2.8						
RAR	**Rarotonga**	**73.69**	**165**	LR	LR	09 31 08.1	
	comp=Z,302nm,20.6s,baz=332,slow=28						
WRA	**Warramunga Arr**	**83.76**	**227**	P	**P**	**09 08 36.7**	**-1.0**
	0.4nm,1.0s,baz=36,slow=5.4,SNR=5.9						
ASAR	**Alice Springs**	**87.20**	**225**	P	**P**	**09 08 54.6**	**-0.2**
	0.5nm,0.8s,baz=20,slow=4.0,SNR=4.8						
H03N2	**Juan Fernandez**	**119.00**	**108**	T	T	11 25 21.7	
	baz=318,slow=77,SNR=15						
H03N1	**Juan Fernandez**	**119.01**	**108**	T	T	11 25 23.0	
	baz=318,slow=77,SNR=27						
H03N3	**Juan Fernandez**	**119.02**	**108**	T	T	11 25 22.3	
	baz=318,slow=77,SNR=21						
BOSA	**Boshof**	**152.47**	**318**	PKPbc	**PKPbc**	**09 16 03.9**	**-0.8**
	3.2nm,0.9s,baz=69,slow=3.4,SNR=3.6						

IDC 16 08:59:34.3±2.0, 52°.42N×35°.35E, h0km, mb1 3.8/3, mb1mx3.3/44, mbtmp3.7/3, ML3.1/4, Error ellipse: s-maj=22.1km s-min=12.1km az=115.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBN	**Obninsk**	**2.79**	**14**	Lg	Lg	09 00 60.0	
	3.1nm,0.3s,baz=12,slow=22,SNR=28						
OBN				Rg	Rg	09 01 18.6	
	6.2nm,0.3s,baz=124,slow=21,SNR=1.7						
AKASG	**Malin Array Be**	**4.19**	**248**	Pn	Pn	09 00 37.7	-1.8
	1.8nm,0.3s,baz=63,slow=15,SNR=6.8						
AKASG				Pg	Pb	09 00 47.8	-1.1
	2.0nm,0.3s,baz=58,slow=15,SNR=4.3						
AKASG				Sn	Sn	09 01 26.1	-3.0
	4.7nm,0.3s,baz=62,slow=22,SNR=8.5						
AKASG				Lg	Lg	09 01 40.7	
	6.4nm,0.3s,baz=69,slow=29,SNR=6.2						
I43RU	**DUBNA INFRASON**	**4.45**	**13**	*i*		09 27 20.0	
	baz=193,slow=322,SNR=8.9						
BELG	**Belogornoye**	**7.51**	**85**	Pn	Pn	09 01 23.5	-1.5
	0.4nm,0.3s,baz=252,slow=20,SNR=2.5						
BELG				Lg	Lg	09 03 26.0	
	0.9nm,0.3s,baz=225,slow=22,SNR=1.6						
FINES	**FINESS Array B**	**10.36**	**334**	Pn	Pn	09 02 00.8	-3.2
	0.2nm,0.3s,baz=150,slow=13,SNR=6.3						
FINES				Sn	Sn	09 03 49.3	-11
	0.4nm,0.3s,baz=147,slow=23,SNR=6.1						
FINES				Lg	Lg	09 04 58.5	
	0.2nm,0.3s,baz=149,slow=27,SNR=3.1						
I31KZ	**AKTYUBINSK INF**	**14.29**	**89**	*i*		10 25 40.0	
	baz=286,slow=321,SNR=2.0						
ARCES	**ARCESS Array B**	**17.78**	**349**	P	Pn	09 03 41.8	-1.1
	baz=165,slow=10.0,SNR=11						

MEX 16 09:00:57.8±0.7, 15°.20N×94°.44W, h16km±690km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.28**	**67**	*i* P	Pn	09 01 17.1	-4.0
PCIG				*i* S	Sb	09 01 32.6	-5.2
CMIG	**Matias Romero**	**1.93**	**347**	*i* P	Pn	09 01 26.7	-3.3
CMIG				*i* S	Sn	09 01 49.0	-4.8
CCIG	**Comitan**	**2.47**	**64**	*i* P	Pn	09 01 36.0	-1.6
CCIG				*i* S	Sn	09 02 06.6	-0.8

*TUL **16** 09:03:40.4±1.4,35°.98N±0°.01×96°.81W±0°.01, h4km±3km, ML2.8,mb_Lg2.9/61(NEIC),Error ellipse: s-maj=2.1km s-min=1.5km az=148.0*
NEIC 16 09:03:40.9±1.2, 36°.00N±0°.01×96°.82W±0°.02, h4km±3km, Error ellipse: s-maj=3.1km s-min=1.8km az=110.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.05**	**198**		Pg	09 03 41.6	-0.4
OK031				Sg	Sg	09 03 42.7	-0.1
QUOK	**Quay**	**0.20**	**28**		Pg	09 03 44.8	+0.1
QUOK				Sg	Sg	09 03 48.0	+0.6
OK029	**Liberty Lake**	**0.55**	**249**		Pg	09 03 51.5	0.0
OK029				Sg	Sg	09 03 59.1	+0.4
OK025	**Westminster Rd**	**0.59**	**225**		Pg	09 03 52.0	-0.3
OK025				Sg	Sg	09 04 00.4	+0.5
OKCFA	**Oklahoma City**	**0.78**	**222**		Pg	09 03 55.1	-0.7
OKCFA				Sg	Sg	09 04 06.0	+0.2
OKCSW	**OKLAHOMA CITY**	**0.78**	**220**		Pg	09 03 55.2	-0.6
BLOK	**Blackwell**	**0.82**	**337**		Pg	09 03 56.6	-0.2
BLOK				Sg	Sg	09 04 07.7	+0.3
FNO	**Franklin**	**0.88**	**213**		Pg	09 03 56.8	-0.9
T35A	**Sooner Cattle**	**0.95**	**15**		Pg	09 03 58.6	-0.5
T35A				Sg	Sg	09 04 11.6	+0.1
CROK	**Carrier**	**1.07**	**299**		Pg	09 04 00.9	-0.5
KAN13	**South Haven SW**	**1.14**	**333**	Pg	Pg	09 04 02.7	-0.2
GC02	**Grant County #**	**1.19**	**316**		Pg	09 04 03.2	-0.6
KAN17	**Caldwell West**	**1.29**	**324**		Pg	09 04 05.0	-0.7
KAN09	**Caldwell North**	**1.30**	**331**		Pg	09 04 05.5	-0.5
KAN09				IAmb_Lg		09 04 23.2	
	comp=Z,56nm,0.9s						
OK032	**Salt Plains WL**	**1.38**	**306**		Pn	09 04 06.7	-0.4
KAN16	**Harper SW Stat**	**1.58**	**321**	Pn	Pn	09 04 09.8	-0.1
X34A	**Smith Ranch, M**	**1.62**	**211**	Pn	Pn	09 04 10.2	-0.1
X34A				IAmb_Lg		09 04 34.3	
	comp=Z,36nm,0.8s						
X37A	**Clayton**	**1.84**	**139**	Pn	Pn	09 04 13.6	+0.3
X37A				IAmb_Lg		09 04 40.1	
	comp=Z,36nm,0.7s						
U38A	**Gravette**	**2.02**	**77**	Pn	Pn	09 04 16.4	+0.6
LOOK	**Love County**	**2.02**	**188**	Pn	Pn	09 04 16.4	+0.5
LOOK				IAmb_Lg		09 04 44.5	
	comp=Z,35nm,0.9s						
WMOK	**Wichita Mounta**	**2.04**	**232**		Pn	09 04 16.6	+0.6
HHAR	**Hobbs**	**2.35**	**82**		Pn	09 04 21.3	+1.0
W39A	**Magazine**	**2.60**	**107**		Pn	09 04 23.8	0.0
Z35A	**Perchaven, San**	**2.68**	**188**	Pn	Pn	09 04 25.1	+0.1
KSU1	**Kansas State U**	**3.10**	**3**	IAmb_Lg		09 05 26.4	
	comp=Z,26nm,0.8s						
Z38A	**Mt. Pleasant**	**3.12**	**150**	IAmb_Lg		09 05 21.8	
	comp=Z,36nm,0.9s						
S39A	**Bolivar**	**3.28**	**58**	IAmb_Lg		09 05 28.5	
	comp=Z,19nm,0.8s						
CBKS	**Cedar Bluff**	**3.65**	**321**	IAmb_Lg		09 05 42.7	
	comp=Z,20nm,0.8s						
WHAR	**Wooly Hollow**	**3.76**	**100**	IAmb_Lg		09 05 46.6	
	comp=Z,21nm,0.7s						
FCAR	**Ozark Folk Cen**	**3.81**	**90**	IAmb_Lg		09 05 43.4	
	comp=Z,46nm,0.7s						
MGMO	**Mount

X34A	Smith Ranch, M	1.62	211	Pn	Pn	09 07 46.0	+0.2	
U32A	Winter Ranch,	1.81	283		Pn	09 07 48.4	+0.2	
X37A	Clayton	1.84	140	IAmb_Lg		09 08 16.4		
	comp=Z,22nm,0.8s							
U38A	Gravette	2.02	77		Pn	09 07 51.8	+0.7	
LOOK	Love County	2.03	189	Pn	Pn	09 07 51.1	-0.2	
LOOK				IAmb_Lg		09 08 22.8		
	comp=Z,19nm,0.8s							
WMOK	Wichita Mounta	2.04	232	Pn	Pn	09 07 52.5	+1.0	
HHAR	Hobbs	2.35	82	Pn	Pn	09 07 56.6	+1.0	
Z35A	Perchaven, San	2.69	188	Pn	Pn	09 08 00.9	+0.6	
MIAR	Mount Ida	3.02	118	Pn	Pn	09 08 05.4	+0.4	
KSU1	Kansas State U	3.10	3	IAmb_Lg		09 09 00.9		
	comp=Z,19nm,0.8s							
WHAR	Wooly Hollow	3.76	100	Pn	Pn	09 08 15.1	+0.1	
FCAR	Ozark Folk Cen	3.81	90	IAmb_Lg		09 09 20.3		
	comp=Z,22nm,0.8s							
ABTX	Abilene, Hawle	4.10	216	IAmb_Lg		09 09 35.0		
	comp=Z,14nm,1.1s							
R40A	Maddies Statio	4.29	56	IAmb_Lg		09 09 35.3		
	comp=Z,14nm,0.8s							
CCAR	Cane Creek	4.64	115	Pn	Pn	09 08 27.1	0.0	
T42A	Van Buren	4.72	76	IAmb_Lg		09 09 45.1		
	comp=Z,11nm,0.9s							
CCM	Cathedral Cave	4.91	64	IAmb_Lg		09 09 53.8		
	comp=Z,13nm,0.8s							
P40A	Paris	5.17	46	IAmb_Lg		09 10 07.1		
	comp=Z,16nm,0.7s							
PBMO	Poplar Bluff	5.21	80	IAmb_Lg		09 10 14.0		
	comp=Z,7.3nm,0.8s							
N38A	Joes South For	5.55	29	IAmb_Lg		09 10 14.1		
	comp=Z,14nm,0.7s							
S44A	Carbondale	6.30	72	IAmb_Lg		09 10 35.2		
	comp=Z,16nm,0.8s							
OGNE	Ogallala	6.41	322	IAmb_Lg		09 10 50.9		
	comp=Z,11nm,0.9s							

TUL ***16*** *09:07:41.2±1.2, 35°.98N±0°.02×96°.81W±0°.02, h3km±3km, ML2.7, mb_Lg2.8/39(NEIC), Error ellipse: s-maj=3.3km s-min=1.2km az=130.0*

NEIC 16 09:07:41.4±1.2, 35°.99N±0°.02×96°.80W±0°.02, h5km±2km, Error ellipse: s-maj=3.2km s-min=1.5km az=125.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK031	S. Brethren Rd	0.05	218	Pg	Pg	09 07 42.5	-0.1
OK031				Sg	Sg	09 07 43.6	+0.1
QUOK	Quay	0.20	23	Pg	Pg	09 07 45.7	+0.4
QUOK				Sg	Sg	09 07 48.4	+0.5
OK005	Luther M Schoo	0.46	223	Pg	Pg	09 07 50.2	-0.1
OK005				Sg	Sg	09 07 56.9	+0.7
OK029	Liberty Lake	0.56	250	Pg	Pg	09 07 52.2	0.0
OK029				Sg	Sg	09 08 00.0	+0.5
OK001	Jones High Sch	0.58	223	Pg	Pg	09 07 52.5	-0.1
OK001				Sg	Sg	09 08 00.9	+0.7
OK025	Westminster Rd	0.59	227	Pg	Pg	09 07 52.7	-0.1
OK025				Sg	Sg	09 08 01.4	+0.8
OKCFA	Oklahoma City	0.78	223	Pg	Pg	09 07 56.1	-0.3
OKCFA				Sg	Sg	09 08 07.0	+0.6
OKCSW	OKLAHOMA CITY	0.78	222	Pg	Pg	09 07 56.4	0.0
T35A	Sooner Cattle	0.95	14	Pg	Pg	09 07 59.5	-0.2
CROK	Carrier	1.08	299	Pg	Pg	09 08 01.8	-0.4
GC02	Grant County #	1.21	316	Pg	Pg	09 08 04.0	-0.6
KS21	Milan North St	1.47	332	IAmb_Lg		09 08 28.8	
	comp=Z,72nm,0.7s						
X34A	Smith Ranch, M	1.62	212	Pn	Pn	09 08 10.1	-0.7
X34A				IAmb_Lg		09 08 34.9	
	comp=Z,40nm,0.8s						
U32A	Winter Ranch,	1.82	283	Pn	Pn	09 08 13.8	+0.3
X37A	Clayton	1.82	140	Pn	Pn	09 08 13.1	-0.4
X37A				IAmb_Lg		09 08 42.9	
	comp=Z,47nm,0.7s						
U38A	Gravette	2.01	76		Pn	09 08 16.3	+0.3
LOOK	Love County	2.02	189	Pn	Pn	09 08 16.0	-0.1
LOOK				IAmb_Lg		09 08 48.2	
	comp=Z,46nm,0.8s						
WMOK	Wichita Mounta	2.04	233		Pn	09 08 17.1	+0.5
W39A	Magazine	2.59	107	Pn	Pn	09 08 23.6	-0.4
MIAR	Mount Ida	3.01	118	IAmb_Lg		09 09 25.3	
	comp=Z,20nm,0.9s						
Z38A	Mt. Pleasant	3.11	151	IAmb_Lg		09 09 27.4	
	comp=Z,35nm,0.8s						
KSU1	Kansas State U	3.11	3	IAmb_Lg		09 09 22.8	
	comp=Z,17nm,0.9s						
S39A	Bolivar	3.27	58	IAmb_Lg		09 09 29.2	
	comp=Z,20nm,0.8s						
WHAR	Wooly Hollow	3.74	99	IAmb_Lg		09 09 44.0	
	comp=Z,19nm,0.8s						
AMTX	Amarillo	4.13	256	IAmb_Lg		09 10 00.3	
	comp=Z,25nm,0.7s						
R40A	Maddies Statio	4.29	56	IAmb_Lg		09 09 56.6	
	comp=Z,32nm,0.9s						
P38A	Dawn	4.46	35	IAmb_Lg		09 10 07.9	
	comp=Z,14nm,0.9s						
LCAR	Lake Charles	4.58	87	IAmb_Lg		09 10 07.0	
	comp=Z,14nm,0.8s						
T42A	Van Buren	4.72	76	IAmb_Lg		09 10 10.3	
	comp=Z,22nm,0.9s						
CCM	Cathedral Cave	4.90	63	IAmb_Lg		09 10 26.8	
	comp=Z,25nm,0.7s						
N35A	Tabor	4.95	10	IAmb_Lg		09 10 30.6	
	comp=Z,31nm,0.8s						
P40A	Paris	5.17	45	IAmb_Lg		09 10 34.9	
	comp=Z,18nm,0.7s						
PBMO	Poplar Bluff	5.20	79	IAmb_Lg		09 10 38.8	
	comp=Z,17nm,0.7s						
435B	Jarrell	5.23	187	IAmb_Lg		09 10 31.3	
	comp=Z,9.9nm,0.8s						
KSCO	Kaye Shedlock'	5.53	305	IAmb_Lg		09 10 47.7	
	comp=Z,16nm,0.9s						
N38A	Joes South For	5.55	29	IAmb_Lg		09 10 42.5	
	comp=Z,19nm,0.8s						

SOME ***16*** *09:21:54.7, 40°.97N×69°.78E, h0km*
NNC ***16*** *09:21:54.5±2.0, 40°.96N×69°.59E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=12.9km s-min=8.1km az=37.0*
KRNET ***16*** *09:21:55.7±0.1, 40°.99N×69°.76E, h9km, mb3.0*

ISC 16 09:21:56.7±0.9, 40°.99N±0°.03×69°.85E±0°.04, h10km, n21, σ2°.33/35, 18C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAS	Tashkent	0.53	309	⇑*i*	P	09 22 05.2	-1.9
	baz=14						
TAS				⇑*i*	S	09 22 12.3	-1.9
	baz=14						
TRKS	Terek-Say	1.11	61	⇑*i*	P	09 22 17.9	-0.3
	baz=66						
TRKS				⇑*i*	S	09 22 34.5	+0.4
	baz=66						
IUG	Iuzhnay	1.16	7	*e*	P	09 22 20.7	+1.5
	1μm,0.3s						
IUG				*e*	S	09 22 39.9	+4.7
	152nm,0.4s						
IUG	Iuzhnay	1.16	7	P		09 22 17.9	-1.1
	2μm,0.2s						
IUG				S		09 22 34.9	-0.3
	152nm,0.4s						
BTK	Batken	1.19	141	⇑*i*	P	09 22 19.6	0.0
	baz=39						
BTK				⇑*i*	S	09 22 36.4	+0.6
	baz=39						
GAR	Garm	2.02	170	⇑*i*	P	09 22 33.5	-0.1
	baz=68						
GAR				⇑*i*	S	09 23 01.1	-0.6
	baz=68						
DRK	Karamyk	2.12	135	⇑*i*	P	09 22 35.4	-0.1
	baz=33						
DRK				⇑*i*	S	09 23 04.6	-0.4
	baz=33						
KK31	Karatay Array	2.17	13	Pg		09 22 36.5	-1.8
	3.9nm,0.3s,baz=198,slow=15,SNR=113						
KK31				Lg	Lg	09 23 06.9	
	7.9nm,0.3s,baz=201,slow=26,SNR=18						
OHH	Osh	2.28	101	⇑*i*	P	09 22 37.4	-0.6
	baz=1.0						
OHH				⇑*i*	S	09 23 08.0	+1.7
	baz=1.0						
MNAS	Manas	2.49	52	⇑*i*	P	09 22 40.7	-0.9
	baz=53						
MNAS				⇑*i*	S	09 23 13.2	+0.8
	baz=53						
MRKS	Merke	3.07	54	*e*	P	09 22 53.9	-1.7
	4.6nm,0.5s						
MRKS				*e*	S	09 23 37.2	+1.8
	13nm,0.6s						
MRKS	Merke	3.07	54	Pg	Pg	09 22 54.1	-1.6
	5.4nm,0.5s						
MRKS				Lg	Lg	09 23 37.5	
	13nm,0.6s						
AML	Almayashu	3.10	67	⇑*i*	P	09 22 49.5	-2.8
	baz=68						
AML				⇑*i*	S	09 23 28.3	-2.0
	baz=68						
AAK	Ala-Archa	3.84	63	⇓	Pg	09 23 08.8	-1.6
	2.4nm,0.6s						
AAK				⇑	Lg	09 24 02.1	
	3.9nm,0.6s						
TKM2	Tokmak 2	4.70	64	⇓	Pg	09 23 23.1	+3.7
	1.6nm,0.6s						
TKM2				⇑	Lg	09 24 27.5	
	4.3nm,0.6s						
DGS	Degeres	4.95	61	Pg	Pg	09 23 27.7	-3.8
	4.7nm,0.5s						
DGS				Lg	Lg	09 24 34.6	
	4.4nm,0.5s						
KST	Kastek	5.00	64	*e*	P	09 23 28.5	-4.0
	1.3nm,0.5s						
KST				*e*	S	09 24 35.6	-1.6
	2.7nm,0.7s						
BTLS	Baital	5.09	36	*e*	P	09 23 29.4	+3.6
	2.2nm,0.6s						
BTLS				*e*	S	09 24 38.3	-1.7
	4.6nm,0.4s						
BTLS	Baital	5.09	36	Pg	Pb	09 23 29.4	+3.6
	2.2nm,0.6s						
BTLS				Lg	Lg	09 24 38.3	
	4.6nm,0.4s						
KRBS	Karabastau	5.10	56	*e*	P	09 23 29.8	+3.8
	1.8nm,0.5s						
KRBS				*e*	S	09 24 37.9	-2.5
	2.6nm,0.8s						
KRBS	Karabastau	5.10	56	Pg	Pb	09 23 29.7	+3.8
	2.0nm,0.6s						
KRBS				Lg	Lg	09 24 38.7	
	6.1nm,0.5s						

MEX 16 09:23:32.2±0.5, 17°.13N×99°.74W, h40km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MGIG	Malinaltepec	1.06	84	*e*	P	09 23 49.2	-1.6
MGIG				*i*	S	09 24 02.4	-2.1
TLIG	Tlapa	1.20	69	*i*	P	09 23 50.5	-2.1
TLIG				*e*	S	09 24 04.7	-3.1
FTIG	Fresnillo de T	1.72	63	*e*	P	09 23 58.4	-1.3
FTIG				*e*	S	09 24 18.4	-2.1

NEIC ***16*** *09:39:05.8±1.1, 24°.26N±0°.03×121°.82E±0°.05, h24km±9km, ML4.0(TAP), Error ellipse: s-maj=6.7km s-min=3.6km az=92.0*
JMA ***16*** *09:39:05.6±0.1, 24°.23N×121°.81E, h22km±2km, M2.8*
TAP ***16*** *09:39:05.5, 24°.27N×121°.83E, h21km, ML3.6, B*

ISC 16 09:39:06.0±0.8, 24°.25N±0°.01×121°.84E±0°.02, h18km±4km, n116, σ0°67/198, 14C-7D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	Heping Village	0.11	305	P	Pg	09 39 09.6	-0.1
	baz=301						
EHP				S	Sg	09 39 12.9	+0.7
	baz=301						
ENA	Nanau	0.20	334	⇓*i*	P	09 39 10.6	-0.5
	baz=335						
ENA				*i*	S	09 39 14.4	+0.3
	baz=335						
EWUT	Wuta	0.20	345	⇓*i*	P	09 39 10.8	-0.3
	baz=345						
EWUT				S	Sg	09 39 14.6	+0.3
	baz=345						
ETL	Fush Village	0.21	245	P	Pb	09 39 11.2	-0.2
	baz=247						
ETL				S	Sg	09 39 15.2	+0.6
	baz=247						
NACB	Ninganchiao	0.23	251	⇑*i*	P	09 39 11.2	-0.5
	baz=247						
NACB				*i*	S	09 39 15.5	+0.5
	baz=247						
NACB	Ninganchiao	0.23	251		Pb	09 39 11.2	-0.5
NACB				Sg	Sg	09 39 15.6	+0.5
TWD	Chiawan	0.28	232	⇑*i*	P	09 39 12.0	-0.1
	baz=233						
TWD				*i*	S	09 39 17.1	+0.9
	baz=233						
ETLH	Xiulin Townshi	0.33	263	⇑	P	09 39 12.7	-0.3
	baz=259						
ETLH				S	Sg	09 39 17.8	+0.1
	baz=259						
HWA	Hwalien	0.34	218	P	Pb	09 39 14.2	+0.6
	baz=215						
HWA				S	Sb	09 39 20.6	+1.9
	baz=215						
TWC	Suao	0.36	2	⇓*i*	P	09 39 13.2	-0.3
	baz=9.0						
TWC				*i*	S	09 39 18.5	-0.1
	baz=9.0						
NDS	Dongshan	0.40	344	⇓*i*	P	09 39 14.0	-0.2
	baz=344						
NDS				S	Sg	09 39 19.6	-0.2
	baz=344						
ETM	Tongmen	0.42	228	P	Pg	09 39 14.5	-0.1
	baz=235						
ETM				S	Sb	09 39 21.1	+0.1
	baz=235						
TEYL	Yanliau Villag	0.44	210	P	Pg	09 39 15.1	+0.2
	baz=200						
TEYL				*e*	Sb	09 39 22.5	+1.1
	baz=200						
NNSB	Datong	0.45	293	P	Pg	09 39 14.9	-0.3
	baz=291						
NNSB				S	Sg	09 39 21.0	-0.4
	baz=291						
NDT	Datong Townshi	0.46	320	⇑*i*	P	09 39 15.1	-0.2
	baz=318						
NDT				S	Sg	09 39 21.6	+0.1
	baz=318						
ENTT	Nioudou	0.46	328	⇓*i*	P	09 39 14.9	-0.4
	baz=321						
ENTT				S	Sg	09 39 21.8	+0.1
	baz=321						
NNS	Nan Shan	0.46	294	⇑*i*	P	09 39 15.1	-0.3
	baz=292						
NNS				*i*	S	09 39 21.7	-0.1
	baz=292						
TWE	Neicheng	0.49	342	⇓*i*	P	09 39 15.7	-0.3
	baz=343						
TWE				*i*	S	09 39 22.5	-0.1
	baz=343						
ILA	Ilan	0.52	351	*e*	P	09 39 16.4	-0.2
	baz=352						
ILA				S	Sb	09 39 24.2	+0.4
	baz=352						
WHF	Hehuan Shan	0.53	259	⇑*i*	P	09 39 16.4	-0.4
	baz=256						
WHF				*i*	S	09 39 23.8	-0.2
	baz=256						
FUSS	Fushou	0.54	270	⇑*i*	P	09 39 16.7	-0.4
	baz=267						
FUSS				S	Sg	09 39 23.8	-0.4
	baz=267						
ESL	Shilin	0.57	220	⇑	P	09 39 16.8	-0.7
	baz=224						
ESL				S	Sg	09 39 25.3	+0.4
	baz=224						
YHNB	Yeheng	0.59	315	⇑*i*	P	09 39 17.3	-0.6
	baz=314						
YHNB				S	Sb	09 39 25.2	-0.8
	baz=314						
YHNB	Yeheng	0.59	315		Pb	09 39 17.4	-0.6
YHNB				Sg	Sb	09 39 25.8	-0.2
EGS		0.60	8	*e*	P	09 39 18.0	+0.1
	baz=12						
EGS				*e*	Sb	09 39 26.3	+0.2
	baz=12						
NTC	Toucheng	0.60	359	*e*	P	09 39 17.6	-0.4
	baz=359						
NTC				*e*	S	09 39 25.5	-0.7
	baz=359						
TEGC	Jichi Village	0.60	207	*e*	P	09 39 17.7	-0.3
	baz=199						
TEGC				*e*	S	09 39 28.4	-0.6
	baz=199						
TWT	Tachien	0.60	270	*e*	P	09 39 18.2	+0.1
	baz=268						
NWLT	Wulai	0.61	330	*e*	P	09 39 17.4	-0.7
	baz=327						
NWLT				*e*	S	09 39 25.6	-0.8
	baz=327						
NSK	Sanguang	0.61	314	⇓*i*	P	09 39 17.6	-0.6
	baz=313						
NSK				*i*	S	09 39 25.7	-0.8
	baz=313						
TDCB	Techi	0.62	270	⇑	P	09 39 18.1	-0.3
	baz=269						
TDCB				S	Sb	09 39 26.1	-0.7
	baz=269						
CHGB	Renai	0.63	253	⇑*i*	P	09 39 18.3	-0.4
	baz=242						
CHGB				S	Sg	09 39 27.5	+0.4
	baz=242						
OWD	Renai	0.67	244	⇑*i*	P	09 39 18.8	-0.5
	baz=242						
OWD				S	Sg	09 39 28.6	+0.3
	baz=242						
EGFH	Guangfu	0.69	213	*e*	P	09 39 18.8	-0.7
	baz=225						
EGFH				*e*	S	09 39 29.7	+1.0
	baz=225						
TIPB	Shuangxi	0.72	359	*e*	P	09 39 19.7	-0.3
	baz=359						
TIPB				S	Sb	09 39 28.9	-0.7
	baz=359						
TWA	Mucha	0.76	342	*e*	P	09 39 20.7	-0.1
	baz=342						
TWA				*e*	S	09 39 30.2	-0.6
	baz=342						
NHDH	Xindian Distri	0.77	338	*e*	P	09 39 20.9	+0.1
	baz=337						
NHDH				S	Sb	09 39 30.5	-0.4
	baz=337						
TWB1	Santiao Chiao	0.77	10	*e*	P	09 39 20.8	-0.1
	baz=3.0						
TWB1				*e*	S	09 39 30.4	-0.5
	baz=3.0						
TATO	Taipei	0.79	336		Pb	09 39 21.1	-0.1
TATO					Sb	09 39 31.9	+0.3
WHP	Taichung City	0.81	272	P	Pb	09 39 21.6	-0.1
	baz=270						
WHP				*e*	Sb	09 39 32.5	+0.1
	baz=270						
NWF	Wu-fen Shan	0.82	356	P	Pb	09 39 21.7	0.0
	baz=348						
NWF				S	Sb	09 39 32.4	-0.2
	baz=348						
HGSD	Ruisui	0.84	207	P	Pb	09 39 22.3	+0.2
	baz=199						
HGSD				S	Sn	09 39 35.7	+0.7
	baz=199						
LIOB	Emei	0.85	298	*e*	Pb	09 39 22.3	+0.1
	baz=296						
LIOB				*e*	Sb	09 39 33.7	+0.4
	baz=296						
NSTT	Nanjuang	0.85	297	P	Pb	09 39 22.1	-0.2
	baz=295						
NSTT				S	Sb	09 39 33.1	-0.3
	baz=295						
WCS	Beigang Elemen	0.87	257	*e*	Pb	09 39 22.2	-0.3
	baz=248						
EHY	Hungye	0.88	213	P	Pb	09 39 21.2	-1.5
	baz=220						
EHY				*e*	Sg	09 39 35.1	+0.4
	baz=220						
YM01	YM01	0.93	345	*e*	Pb	09 39 23.8	+0.2
	baz=328						
YM01				*e*	Sb	09 39 35.7	+0.2
	baz=328						
NCU	National Centr	0.93	321	*e*	Sn	09 39 38.0	+0.9
	baz=319						
NCUH	Zhongli	0.93	320	*e*	Pb	09 39 24.0	+0.4
	baz=318						
NCUH				*e*	Sn	09 39 37.7	+0.6
	baz=318						
SSLB	Suanglung	0.93	240	*e*	Pb	09 39 22.7	-0.9
	baz=239						
SSLB				*e*	Sb	09 39 35.8	+0.2
	baz=239						
SSLB	Suanglung	0.93	240		Pb	09 39 22.6	-0.9
TWS1	Kuangyinshan	0.93	336	*e*	Pb	09 39 23.4	-0.1
	baz=335						
TWS1				*e*	Sg	09 39 36.8	+0.5
	baz=335						
SMLT	Sun Moon Lake	0.93	247	*e*	Pb	09 39 22.9	-0.8
	baz=245						
SBCB	Hsinchu	0.94	305	*e*	Pb	09 39 24.3	+0.4
	baz=297						
SBCB				*e*	Sn	09 39 38.9	+1.4
	baz=297						
TYC	Yuchr	0.96	249	⇑*i*	P	09 39 23.4	-0.7
	baz=239						
HSN	Hsinchu	0.96	305	*e*	P	09 39 24.4	+0.2
	baz=306						
HSN				*e*	Sn	09 39 38.1	+0.2
	baz=306						
ANP	Anpu	0.98	343	*e*	P	09 39 24.2	-0.2
	baz=341						
NTST	Danshui	0.98	339	*e*	P	09 39 25.0	+0.2
	baz=343						
NTST				*e*	Sn	09 39 38.6	+0.4
	baz=343						
YULB	Yu-li	0.99	210	*e*	P	09 39 22.5	-2.1
	baz=211						
YULB	Yu-li	0.99	210		Pb	09 39 22.3	-2.3
YULB					Sb	09 39 37.5	+0.3
NMLH	Miaoli	0.99	287	*e*	P	09 39 25.8	+0.5
	baz=285						
NMLH				*e*	Sg	09 39 39.1	+0.7
	baz=285						
NSY	Sanyi	0.99	280	*e*	P	09 39 25.3	+0.2
	baz=278						
NSY				*e*	Sb	09 39 38.0	+0.5
	baz=278						
EYUL	Yuli	1.02	208	*e*	P	09 39 25.4	+0.3
	baz=221						
JYNG	Yonaguni jima	1.03	79	P	Pb	09 39 25.2	-0.1
JYNG				*e*	Sg	09 39 40.5	+1.0
TWY	Chenhua	1.04	348	*e*	Pb	09 39 25.7	+0.1
	baz=331						
WHYT	Xinyi Township	1.05	239	*e*	Pb	09 39 25.2	-0.6
	baz=237						
YOJ	Yonaguni jima	1.09	79	P	Pn	09 39 26.0	-0.4
YOJ				*e*	Sn	09 39 41.5	+0.4
YOJ	Yonaguni jima	1.09	79	*e*	Pn	09 39 25.7	-0.7
	baz=71						
YOJ	Yonaguni jima	1.09	79		Pn	09 39 25.5	-0.9
WDJ	Dajia District	1.10	275	*e*	Pn	09 39 26.3	-0.1
	baz=273						
WDJ				*e*	Sg	09 39 42.8	+1.2
	baz=273						
WJS	Zhushan	1.10	247	*e*	Pn	09 39 26.6	+0.1
	baz=237						
WJS				*e*	Sg	09 39 43.4	+1.7
	baz=237						
YUS	Yu-Shan	1.11	227	*e*	Pb	09 39 26.0	-1.0
	baz=226						
YUS				*e*	Sn	09 39 42.0	-0.2
	baz=226						
FULB	Fuli	1.16	206	*e*	Pn	09 39 27.0	-0.4
	baz=221						
WCHH	Zhanghua	1.18	262	*e*	Pb	09 39 28.3	+0.5
	baz=271						
WCHH				*e*	Sg	09 39 44.7	+0.5
	baz=271						
ALS	Alishan	1.20	232	⇑*i*	P	09 39 27.7	-0.5
	baz=231						
ALS				S	Sg	09 39 45.8	+0.9
	baz=231						
CHKT	Chengkung	1.22	201	*e*	Pn	09 39 27.0	-1.3
	baz=189						
CHN5	Tsauling	1.24	239	*e*	Pn	09 39 28.9	+0.3
	baz=223						
CHN5				*e*	Sg	09 39 47.6	+1.3
	baz=223						
ELDTW	Lidau	1.30	216	*e*	Pn	09 39 28.8	-0.5
	baz=206						

WDLH	**Douliu**	**1.31**	**245**	*e*P	**Pb**	**09 39 30.3**	**+0.2**
	baz=243							
WDLH				*e*S	**Sg**	**09 39 49.0**	**+0.6**
	baz=243							
EDH	**Donghe**	**1.36**	**201**	*e*P	**Pn**	**09 39 28.9**	**-1.2**
	baz=191							
EDH				*e*S	**Sn**	**09 39 46.2**	**-1.6**
	baz=191							
WRL	**Guolierlin Hig**	**1.38**	**256**	*e*P	**Pn**	**09 39 30.3**	**-0.1**
	baz=253							
WRL				*e*S	**Sg**	**09 39 50.5**	**0.0**
	baz=253							
WTK	**Tuku**	**1.44**	**247**	*e*P	**Pb**	**09 39 32.0**	**-0.3**
	baz=244							
WTK				*e*S	**Sg**	**09 39 52.0**	**-0.5**
	baz=244							
CHN4	**Tsaushan**	**1.45**	**232**	P	**Pb**	**09 39 32.2**	**-0.2**
	baz=231							
CHN4				S	**Sg**	**09 39 52.0**	**-0.7**
	baz=231							
STYH	**Taoyuan**	**1.45**	**222**	*e*P	**Pn**	**09 39 31.6**	**+0.2**
	baz=221							
STYH				*e*S	**Sb**	**09 39 50.9**	**+0.3**
	baz=221							
TPUB	**Ta-pu**	**1.46**	**230**	*e*P	**Pb**	**09 39 32.4**	**-0.2**
	baz=228							
TPUB				*e*S	**Sb**	**09 39 51.1**	**+0.4**
	baz=228							
TPUB	**Ta-pu**	**1.46**	**230**		**Pn**	**09 39 31.7**	**+0.2**
LONT	**Longtian**	**1.49**	**206**	*e*P	**Pn**	**09 39 30.7**	**-1.2**
	baz=209							
CHY	**Chiayi**	**1.49**	**240**	*e*P	**Pb**	**09 39 33.2**	**0.0**
	baz=238							
CHY				*e*S	**Sg**	**09 39 53.9**	**-0.3**
	baz=238							
WTP	**Ta-pu**	**1.50**	**229**	*e*P	**Pn**	**09 39 32.6**	**+0.5**
	baz=227							
WTP				*e*S	**Sg**	**09 39 54.7**	**+0.2**
	baz=227							
TWK	**Hsinying**	**1.58**	**232**	*e*P	**Pn**	**09 39 34.0**	**+0.8**
	baz=230							
TWK				*e*S	**Sg**	**09 39 56.1**	**-0.8**
	baz=230							
TWG	**Pinlang**	**1.59**	**206**	*e*P	**Pn**	**09 39 32.5**	**-0.7**
	baz=198							
TWG	**Pinlang**	**1.59**	**206**		**Pn**	**09 39 32.3**	**-0.9**
TWGBT	**Beinan**	**1.59**	**206**	*e*P	**Pn**	**09 39 32.6**	**-0.6**
	baz=198							
CHN1	**Nanshi**	**1.60**	**229**	P	**Pb**	**09 39 34.5**	**-0.6**
	baz=227							
CHN1				*e*S	**Sb**	**09 39 55.6**	**+0.6**
	baz=227							
LDUT	**Ludao**	**1.60**	**192**	*e*P	**Pn**	**09 39 31.9**	**-1.6**
	baz=187							
SGST	**Jiashian**	**1.64**	**225**	*e*P	**Pn**	**09 39 33.9**	**0.0**
	baz=212							
ICHU	**Yijhu**	**1.68**	**238**	*e*P	**Pn**	**09 39 35.3**	**+0.9**
	baz=221							
ICHU				*e*S	**Sb**	**09 39 58.3**	**+1.1**
	baz=221							
IRIF	**Iriomote-Funau**	**1.73**	**87**	P	**Pn**	**09 39 34.7**	**-0.5**
IRIF				*e*S	**Sn**	**09 39 56.7**	**-0.1**
HATJ	**Hateruma jima**	**1.81**	**96**	P	**Pn**	**09 39 36.4**	**+0.1**
HATJ				*e*S	**Sn**	**09 39 59.1**	**+0.3**
SSD	**Sandimen**	**1.86**	**217**	*e*P	**Pn**	**09 39 38.2**	**+1.1**
	baz=215							
TSMG	**Majia**	**1.89**	**216**	*e*P	**Pn**	**09 39 38.6**	**+1.2**
	baz=215							
TSMG				*e*S	**Sb**	**09 40 02.8**	**-0.4**
	baz=215							
MASBT	**Mashibuluo**	**1.97**	**214**	*e*P	**Pn**	**09 39 38.4**	**-0.1**
	baz=215							
JKRS	**Kuro-shima**	**1.98**	**90**	P	**Pn**	**09 39 38.8**	**+0.1**
JKRS				*e*S	**Sn**	**09 40 03.5**	**+0.4**
EAST	**Anshuo**	**2.07**	**206**	*e*P	**Pn**	**09 39 41.1**	**+1.2**
	baz=201							
JIJ	**Ishigaki jima**	**2.11**	**86**	P	**Pn**	**09 39 39.9**	**-0.5**
JIJ				*e*S	**Sn**	**09 40 06.0**	**-0.2**
PHUB	**P'eng-hu**	**2.20**	**251**	*e*P	**Pn**	**09 39 40.8**	**-0.8**
	baz=246							
PHUB				*e*S	**Sn**	**09 40 07.3**	**-1.2**
	baz=246							
JISG	**Ishigakijimahi**	**2.28**	**81**	P	**Pn**	**09 39 42.4**	**-0.4**
JISG				*e*S	**Sn**	**09 40 09.9**	**-0.5**
PTMZ	**Houxiangcun**	**2.59**	**288**	*e*P	**Pn**	**09 39 46.0**	**-1.1**
	baz=283							
JTJ	**Tarama**	**2.64**	**81**	P	**Pn**	**09 39 48.6**	**+0.9**
JTJ				*e*S	**Sn**	**09 40 20.2**	**+0.9**
JIRB	**Irabujima**	**3.09**	**79**	P	**Pn**	**09 39 55.2**	**+1.3**
KNMB	**Chin-men Tao**	**3.15**	**275**	Pn	**Pn**	**09 39 54.1**	**-0.7**
JIKM	**Ikemajima**	**3.18**	**77**	P	**Pn**	**09 39 56.5**	**+1.4**
JMJ2	**Miyako jima3**	**3.22**	**81**	P	**Pn**	**09 39 56.4**	**+0.7**
JOGS	**Gusukube**	**3.29**	**80**	P	**Pn**	**09 39 56.6**	**-0.1**
AXDP	**Jialang**	**3.58**	**281**	*e*P	**Pn**	**09 40 01.6**	**+1.0**
	baz=276							
JOW	**Kunigami**	**6.36**	**65**	Pn	**Pn**	**09 40 38.2**	**-0.7**

*INET **16** 09:51:04.3,8.18N×82.85W,h15km,MW3.4*
UPA 16 09:51:13.0±0.9, 8.39N×82.82W, h27km±3km, MW4.5, 3C-6D, Fault plane solution: NP1:ϕ=148.08000°, δ=90.00000°, λ=90.00000°., **Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDITO	**Canoas**	**0.19**	**343**	*e*P	Pb	09 51 19.0	+0.2
CDITO				*e*S	Sb	09 51 22.9	+0.1
BAGA3	**Bagala, Chiriq**	**0.30**	**74**	*i*P	Pb	09 51 20.3	+0.2
BAGA3				*e*S	Sb	09 51 25.9	+0.9
DVD	**David**	**0.36**	**82**	*i*P	Pb	09 51 20.7	-0.4
DVD				*e*S	Sb	09 51 27.6	+0.9
LOCO3	**Loma Colorada,**	**0.39**	**87**	*i*P	Pb	09 51 21.1	-0.5
MLIR3	**Monte Lirio, C**	**0.40**	**359**	*e*P	Pb	09 51 22.3	+0.5
BRU2	**Volcan**	**0.42**	**17**	*e*P	Pb	09 51 22.2	0.0
BRU2				*e*S	Sb	09 51 29.3	+0.9
BCO2	**Palmira**	**0.43**	**41**	*i*P	Pb	09 51 22.3	0.0
BCO2				*e*S	Sn	09 51 30.4	-0.5
PTAR3	**Potrerillos Ar**	**0.44**	**46**	*i*P	Pb	09 51 22.3	-0.1
PTAR3				*e*S	Sn	09 51 29.9	-1.0
BC3P	**Paso Ancho**	**0.47**	**25**	*e*P	Pb	09 51 22.8	-0.2
BC3P				*e*S	Sb	09 51 30.5	+0.7
CHIR3	**Chiriqui UPA,**	**0.48**	**89**	*i*P	Pb	09 51 22.1	-0.8
CHIR3				*e*S	Sb	09 51 30.2	+0.5
PTJ1	**Puerto Jimnez**	**0.50**	**287**	*e*P	Pb	09 51 22.7	-0.7
PTJ1				*e*S	Sn	09 51 31.4	-0.8
LNBQ3	**Los Naranjos,**	**0.55**	**43**	*i*P	Pb	09 51 23.4	-0.8
LNBQ3				*e*S	Sb	09 51 32.6	+0.8
CHGR2	**Aguacate**	**0.86**	**50**	*e*P	Pb	09 51 28.0	-1.4
CHGR2				*e*S	Sb	09 51 40.3	-0.3
DRK0	**Durika**	**0.97**	**334**	*e*P	Pn	09 51 29.7	-1.3
DRK0				*e*S	Sb	09 51 43.8	0.0
REME3	**Remedios, Chir**	**0.99**	**99**	*i*P	Pn	09 51 29.5	-1.6
REME3				*e*S	Sb	09 51 43.5	-0.6
CNI2	**El Empalme, Bo**	**1.08**	**18**	*e*P	Pn	09 51 32.0	-0.5
CNI2				*e*S	Sn	09 51 45.6	-1.0
BATAN	**Batan**	**1.79**	**342**	*e*P	Pn	09 51 43.1	+1.0
BATAN				*e*S	Sn	09 52 05.3	+1.2
HDC	**Heredia**	**2.05**	**321**	*e*P	Pn	09 51 46.3	+0.3
HDC				*e*S	Sn	09 52 10.8	+0.1
PNME	**Penonome**	**2.46**	**88**	*e*P	Pn	09 51 51.9	+0.4
PNME				*e*S	Sn	09 52 21.1	+0.4
AZU	**Azuero**	**2.58**	**103**	*e*P	Pn	09 51 53.5	+0.4
AZU				*e*S	Sn	09 52 22.6	-1.0

TAP 16 09:53:05.5, 23.96N×121.51E, h19km±1km, ML1.3, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETM	**Tongmen**	**0.02**	**282**	*i*P	Pg	09 53 09.2	+0.4
	baz=282						
ETM				*i*S	Sg	09 53 11.8	+0.7
	baz=282						
TWD	**Chiawan**	**0.14**	**34**	*i*P	Pg	09 53 10.3	+0.5
	baz=36						
TWD				S	Sg	09 53 13.7	+1.0
	baz=36						
ETLH	**Xiulin Townshi**	**0.24**	**354**	P	Pg	09 53 12.0	+0.6
	baz=354						
WHF	**Hehuan Shan**	**0.29**	**309**	*i*P	Pb	09 53 12.8	+0.5
	baz=309						
WHF				S	Sg	09 53 17.8	+1.0
	baz=309						
OWD	**Renai**	**0.31**	**269**	P	Pb	09 53 12.9	+0.5
	baz=268						
OWD				S	Sb	09 53 17.6	+0.5
	baz=268						
NNSB	**Datong**	**0.48**	**346**	*e*P	Pb	09 53 16.0	+0.5
	baz=345						
NNSB				S	Sb	09 53 22.7	+0.4
	baz=345						
SSLB	**Suanglung**	**0.54**	**251**	*e*S	Sg	09 53 23.2	-0.5
	baz=251						
YULB	**Yu-li**	**0.60**	**199**	*e*P	Pb	09 53 16.7	-0.7
	baz=198						

TAP 16 09:53:09.0, 24.24N×121.83E, h13km, ML1.8, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.20**	**336**	P	Pb	09 53 14.2	-0.4
	baz=337						
ENA				S	Sb	09 53 18.1	-0.3
	baz=337						
EWUT	**Wuta**	**0.21**	**346**	*i*P	Pb	09 53 14.3	-0.5
	baz=346						
EWUT				*i*S	Sb	09 53 18.0	-0.5
	baz=346						
NACB	**Ninganchiao**	**0.23**	**252**	*i*P	Pg	09 53 14.5	+0.6
	baz=252						
NACB				S	Sb	09 53 19.1	0.0
	baz=252						
ETLH	**Xiulin Townshi**	**0.32**	**264**	P	Pg	09 53 16.1	+0.5
	baz=263						
ETLH				S	Sb	09 53 21.3	-0.6
	baz=263						
ETLH	**Xiulin Townshi**	**0.32**	**264**	S	Pg	09 53 16.1	+0.5
	baz=354						
NDS	**Dongshan**	**0.40**	**345**	*i*P	Pb	09 53 17.8	-0.3
	baz=344						
NDS				*i*S	Sb	09 53 23.8	-0.4
	baz=344						
NNSB	**Datong**	**0.45**	**294**	P	Pb	09 53 18.7	-0.2
	baz=294						
NNSB				S	Sb	09 53 25.4	-0.3
	baz=294						
NDT	**Datong Townshi**	**0.46**	**321**	S	Sb	09 53 26.3	+0.4
	baz=320						
NNS	**Nan Shan**	**0.46**	**295**	P	Pb	09 53 18.9	-0.3
	baz=295						
NNS				S	Sb	09 53 26.0	-0.1
	baz=295						
ENTT	**Nioudou**	**0.46**	**328**	*i*P	Pb	09 53 19.0	-0.1
	baz=329						
ENTT				S	Sb	09 53 26.1	+0.2
	baz=329						
YHNB	**Yeheng**	**0.59**	**316**	P	Pb	09 53 21.4	0.0
	baz=315						
YHNB				S	Sb	09 53 30.0	+0.3
	baz=315						
NSK	**Sanguang**	**0.61**	**315**	P	Pb	09 53 21.8	+0.1
	baz=315						
NSK				S	Sb	09 53 30.6	+0.3
	baz=315						
NWLT	**Wulai**	**0.61**	**331**	P	Pb	09 53 21.6	0.0
	baz=330						
NWLT				*i*S	Sb	09 53 30.6	+0.4
	baz=330						

*TUL **16** 10:09:31±1.1, 35.98N±0.02×96.81W±0.03, h5km±3km, ML2.5, mb_Lg2.3/15(NEIC), Error ellipse: s-maj=3.5km s-min=2.3km az=84.0*
NEIC 16 10:09:31.2±0.8, 36.00N±0.02×96.81W±0.04, h4km±4km, Error ellipse: s-maj=5.2km s-min=2.6km az=110.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK031	**S. Brethren Rd**	**0.05**	**206**		Pg	10 09 32.5	+0.1
OK031				Sg	Sg	10 09 33.4	+0.3
QUOK	**Quay**	**0.20**	**26**		Pg	10 09 35.5	+0.5
OK029	**Liberty Lake**	**0.56**	**249**	Pg	Pg	10 09 42.0	+0.2
OK025	**Westminster Rd**	**0.59**	**226**		Pg	10 09 42.6	0.0
OK025				Sg	Sg	10 09 51.0	+0.7
OKCFA	**Oklahoma City**	**0.78**	**222**		Pg	10 09 45.8	-0.3
OKCSW	**OKLAHOMA CITY**	**0.78**	**221**		Pg	10 09 45.7	-0.4
BLOK	**Blackwell**	**0.83**	**337**	Pg	Pg	10 09 47.3	+0.2
FNO	**Franklin**	**0.88**	**213**	Pg	Pg	10 09 47.4	-0.7
FNO				Sg	Sg	10 09 59.8	+0.3
T35A	**Sooner Cattle**	**0.95**	**15**		Pg	10 09 49.4	-0.1
CROK	**Carrier**	**1.07**	**299**		Pg	10 09 51.5	-0.2
GC02	**Grant County #**	**1.20**	**316**		Pg	10 09 53.9	-0.3
KAN17	**Caldwell West**	**1.30**	**324**	Pn	Pg	10 09 55.6	-0.4
KAN09	**Caldwell North**	**1.31**	**331**	Pn	Pg	10 09 55.7	-0.6
KS20	**Mayfield South**	**1.37**	**334**	Pn	Pn	10 09 56.8	-0.3
KS20				lAmb_Lg		10 10 17.6	
	comp=Z,16nm,0.8s						
OK032	**Salt Plains WL**	**1.39**	**306**		Pn	10 09 57.0	-0.3
KAN05	**Bluff City Nor**	**1.40**	**323**	Pn	Pn	10 09 57.2	-0.3
KS21	**Milan North St**	**1.46**	**332**	lAmb_Lg		10 10 17.8	
	comp=Z,18nm,0.9s						
KAN08	**Anthony NE Sta**	**1.54**	**323**	Pn	Pn	10 09 59.4	-0.1
KAN12	**Harper NE Stat**	**1.61**	**324**	Pn	Pb	10 10 01.1	-0.4
X34A	**Smith Ranch, M**	**1.62**	**211**		Pn	10 10 00.7	+0.1
U32A	**Winter Ranch,**	**1.81**	**283**	Pn	Pn	10 10 03.3	+0.1
U32A				lAmb_Lg		10 10 33.6	
	comp=Z,16nm,0.9s						
LOOK	**Love County**	**2.02**	**189**		Pn	10 10 06.7	+0.6
WMOK	**Wichita Mounta**	**2.04**	**233**	Pn	Pn	10 10 06.9	+0.6
S39A	**Bolivar**	**3.27**	**58**	lAmb_Lg		10 11 20.8	
	comp=Z,5.2nm,0.8s						
FCAR	**Ozark Folk Cen**	**3.81**	**90**	lAmb_Lg		10 11 35.3	
	comp=Z,11nm,0.8s						
MGMO	**Mountain Grove**	**3.84**	**71**	lAmb_Lg		10 11 42.7	
	comp=Z,5.8nm,0.9s						
PBMO	**Poplar Bluff**	**5.21**	**80**	lAmb_Lg		10 12 23.4	
	comp=Z,8.0nm,0.7s						
WVT	**Waverly**	**7.28**	**86**	lAmb_Lg		10 13 26.9	
	comp=Z,3.6nm,1.2s						
HDIL	**Hopedale**	**7.46**	**50**	lAmb_Lg		10 13 37.9	
	comp=Z,7.2nm,0.8s						

*IDC **16** 10:15:25.7±3.1, 7.90S×159.54E, h71km±37km, mb3.8/6, mb1 4.0/7, mb1mx3.6/40, mbtmp4.2/7, ML4.4/1, MS3.5/1, Ms1 3.5/1, ms1mx2.9/33, Error ellipse: s-maj=41.5km s-min=27.8km az=95.0*
ISC 16 10:15:22.2±1.5, 7.7S±0.1×159.6E±0.2, h35km, n16, σ1°44/10, mb4.0/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.73**	**168**	P	**Pn**	**10 15 49.8**	**-0.1**
	63nm,0.3s,baz=195,slow=3.5,SNR=14						
HNR				LR	LR	10 16 09.0	
	comp=Z,41nm,19.9s,baz=334,slow=27						
HNR				S	**Sn**	**10 16 11.6**	**+0.8**
	823nm,0.3s,baz=78,slow=23,SNR=29						
CTA	**Charters Tower**	**17.82**	**225**	P	**P**	**10 19 30.2**	**+2.2**
	1.1nm,0.3s,baz=44,slow=11,SNR=15						
JAY	**Jayapura**	**19.49**	**284**	P	**Pn**	**10 19 48.3**	**+0.4**
	1.2nm,0.3s,baz=118,slow=4.2,SNR=6.4						
H11S3	**WAKE ISLAND Hy 26.98**	**15**		T	T	10 49 34.1	
	baz=195,slow=76,SNR=323						
H11S2	**WAKE ISLAND Hy 26.98**	**15**		T	T	10 49 41.6	
	baz=195,slow=76,SNR=1670						
H11S1	**WAKE ISLAND Hy 27.00**	**15**		T	T	10 49 42.4	
	baz=195,slow=76,SNR=434						
WRA	**Warramunga Arr**	**27.30**	**241**	P	**P**	**10 21 02.6**	**-1.2**
	0.8nm,0.3s,baz=70,slow=9.0,SNR=20						
H11N1	**WAKE ISLAND Hy 28.20**	**15**		T	T	10 50 58.2	
	baz=195,slow=76,SNR=316						
H11N3	**WAKE ISLAND Hy 28.21**	**15**		T	T	10 51 06.6	
	baz=195,slow=76,SNR=275						
H11N2	**WAKE ISLAND Hy 28.22**	**15**		T	T	10 51 15.4	
	baz=195,slow=76,SNR=358						
ASAR	**Alice Springs**	**29.27**	**234**	P	**P**	**10 21 19.5**	**-1.9**
	2.0nm,0.5s,baz=62,slow=9.8,SNR=34						
STKA	**Stephens Creek**	**29.29**	**212**	P	**P**	**10 21 20.4**	**-1.0**
	3.2nm,0.5s,baz=40,slow=16,SNR=6.1						
JHJ	**Hachijo jima 2**	**44.77**	**336**	LR	LR	10 43 23.6	
	comp=Z,54nm,18.9s,baz=83,slow=37						
CMAR	**Chiang Mai Arr**	**65.21**	**294**	P	**P**	**10 26 01.9**	**+1.3**
	0.5nm,0.3s,baz=126,slow=5.7,SNR=2.1						
SONM	**Songino Array**	**72.45**	**326**	P	**P**	**10 26 45.7**	**+0.4**
	0.6nm,0.5s,baz=125,slow=4.9,SNR=3.7						
MKAR	**Makanchi Array**	**86.97**	**318**	P	**P**	**10 28 03.1**	**-0.8**
	0.4nm,0.6s,baz=83,slow=6.1,SNR=7.2						

IDC 16 10:22:23.7±2.0, 1.76N×126.40E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/42, mbtmp3.7/3, Error ellipse: s-maj=159.0km s-min=25.0km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.93**	**161**	P	P	10 27 28.9	-0.6
	2.2nm,0.5s,baz=340,slow=12,SNR=24						
ASAR	**Alice Springs**	**26.30**	**164**	P	P	10 28 02.0	+0.8
	0.8nm,0.7s,baz=351,slow=14,SNR=10						
MKAR	**Makanchi Array**	**58.99**	**326**	P	P	10 32 24.9	-0.3
	0.2nm,0.3s,baz=128,slow=7.9,SNR=6.0						

*HEL **16** 10:43:39.8±0.2, 63.11N×27.77E, h0km, ML2.1, Explosion*
*IDC **16** 10:43:40.4±1.9, 63.02N×28.27E, h0km, mb1 3.0/2, mb1mx2.9/28, mbtmp2.9/2, ML2.2/2, Error ellipse: s-maj=28.8km s-min=6.5km az=108.0*
*KOLA **16** 10:43:41.8, 62.99N×27.87E, h0km, ML2.5, East Finland*
*BER **16** 10:43:44.0±1.3, 63.07N×27.72E, h0km, ML1.9, ML2.1(HEL), Suspected explosion*
ISC 16 10:43:40.8±0.9, 63.09N±0.03×27.58E±0.04, h0km, n29, σ2°28/52, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUF	**Sumiainen**	**0.75**	**241**	PG	**Pg**	**10 43 54.7**	**-0.4**
SUF				SB	**Sb**	**10 44 08.2**	**+0.7**
KAF	**Kangasniemi**	**1.14**	**212**	PG	**Pg**	**10 44 01.5**	**-1.2**
KAF				SN	**Sb**	**10 44 19.9**	**+1.1**
KEF	**Keuruu**	**1.56**	**235**	PG	**Pn**	**10 44 09.3**	**-0.4**
KEF				MSG		10 44 28.8	
	comp=Z,12nm,0.2s						
KEF				SN	**Sg**	**10 44 33.3**	**+2.6**
JOF	**Joensuu**	**1.71**	**94**	PG	**Pn**	**10 44 09.1**	**-2.7**
JOF				SN	**Sn**	**10 44 33.6**	**-0.7**
FIA0	**FINESS Array S**	**1.79**	**204**	PG	**Pn**	**10 44 12.5**	**-0.4**
	baz=25						
FIA0				SN	**Sg**	**10 44 38.6**	**+0.3**
FINES	**FINESS Array B**	**1.79**	**204**	Pg	**Pn**	**10 44 12.8**	**-0.1**
	comp=Z,1.4nm,0.3s,baz=28,slow=17,SNR=50						
FINES				Lg	Lg	10 44 40.0	
	comp=Z,6.9nm,0.3s,baz=28,slow=27,SNR=44						
OUF	**Merijarvi**	**1.80**	**317**	PG	**Pn**	**10 44 12.6**	**-0.4**
	baz=136						
OUF				MSG		10 44 34.7	
	comp=Z,17nm,0.2s						
VAF	**Ylistaro**	**2.23**	**271**	PG	**Pn**	**10 44 20.6**	**+1.7**
	baz=88						
VAF				MSG		10 44 48.5	
	comp=Z,18nm,0.2s						
VAF				SG	**Sb**	**10 44 50.9**	**+0.8**
VJF	**Virojoki**	**2.56**	**180**	PG	**Pn**	**10 44 25.2**	**+1.8**
VJF				MSG		10 44 56.0	
	comp=Z,9.5nm,0.2s						
VJF				SG	**Sb**	**10 44 59.9**	**+0.5**
PVF	**Pernaja**	**2.68**	**198**	PG	**Pb**	**10 44 29.8**	**+0.3**
PVF				MSG		10 45 00.1	
	comp=Z,7.3nm,0.2s						
PVF				SG	**Sb**	**10 45 05.1**	**+2.2**
NUR	**Nurmijrvi**	**2.94**	**210**	SG	**Sb**	**10 45 12.7**	**+2.3**
KU6	**Riekki**	**3.11**	**18**	PB	**Pn**	**10 44 32.5**	**+1.4**
	baz=202						
KU6				MSG		10 45 10.0	
	comp=Z,3.6nm,0.2s						
KU6				SB	**Sn**	**10 45 11.9**	**+3.0**
TOP	**Tornio**	**3.31**	**336**	PB	**Pn**	**10 44 36.8**	**+3.0**
RNF	**Rovaniemi**	**3.60**	**350**	PB	**Pn**	**10 44 41.1**	**+3.4**
RNF				SG	**Sb**	**10 45 28.7**	**-0.6**
HUSU	**Husum**	**3.79**	**278**	PB	**Pn**	**10 44 44.0**	**+3.7**
APA0	**Apatity Array**	**5.07**	**24**	P	**Pn**	**10 44 58.3**	**+0.4**
APA0				S	**Sn**	**10 45 55.8**	**-1.3**
HEF	**Hetta**	**5.58**	**345**	*e*P	**Pn**	**10 45 06.6**	**+1.7**
HEF				*e*S	**Sn**	**10 46 07.8**	**-1.8**
SALU	**Saltoluokta**	**5.75**	**322**	*e*P	**Pn**	**10 45 09.5**	**+2.3**
SALU				*e*S	**Sn**	**10 46 11.8**	**-2.1**
KTK1	**Kautokeino**	**6.20**	**345**	*e*P	**Pn**	**10 45 15.2**	**+1.8**
KTK1				*e*S	**Sn**	**10 46 21.8**	**-3.1**
MOR8	**Moi Rana**	**6.43**	**304**	*e*P	**Pn**	**10 45 16.8**	**+0.2**
MOR8				*e*S	**Sn**	**10 46 26.2**	**-4.4**
MOR8				IAML		10 46 35.3	
	comp=Z,1.9nm,0.4s						
ARA0	**ARCESS Array S**	**6.53**	**354**	*e*P	**Pn**	**10 45 17.6**	**-0.3**
ARA0				*e*S	**Sn**	**10 46 29.6**	**-3.4**
ARA0				IAML		10 46 30.5	
	comp=Z,1.5nm,0.8s						
ARCES	**ARCESS Array B**	**6.53**	**354**	Pn	**Pn**	**10 45 18.2**	**+0.3**
	baz=166,slow=15,SNR=11						
ARCES				Sn	**Sn**	**10 46 29.8**	**-3.1**
	baz=169,slow=26,SNR=5.9						
KIF	**Kilpisjarvi**	**6.54**	**338**	*e*P	**Pn**	**10 45 20.0**	**+1.9**
KIF				*e*S	**Sn**	**10 46 29.9**	**-3.4**
KEV	**Kevo**	**6.70**	**358**	*e*P	**Pn**	**10 45 20.6**	**+0.4**
KEV				*e*S	**Sn**	**10 46 33.5**	**-3.6**
FAUS	**Fauske**	**6.72**	**315**	*e*P	**Pn**	**10 45 22.1**	**+1.9**
FAUS				*e*S	**Sn**	**10 46 33.9**	**-3.7**
KONS	**Konsvik**	**7.05**	**305**	*e*P	**Pn**	**10 45 25.9**	**+0.8**
KONS				*e*S	**Sn**	**10 46 42.6**	**-3.2**
STEI	**Steigen**	**7.05**	**319**	*e*P	**Pn**	**10 45 26.1**	**+1.0**
STEI				*e*S	**Sn**	**10 46 41.6**	**-4.3**
NSS	**Namsos**	**7.06**	**289**	*e*P	**Pn**	**10 45 27.1**	**+1.9**
NSS				*e*S	**Sn**	**10 46 41.8**	**-4.2**
NSS				IAML		10 46 42.5	
	comp=Z,2.3nm,0.7s						
NOA	**NORSAR Array B**	**7.95**	**262**	Pn	**Pn**	**10 45 39.8**	**+2.3**
	comp=Z,0.0nm,0.3s,baz=63,slow=14,SNR=1.9						

*NORS **16** 10:47:11.0±0.0, 41.28N×45.24E, h20km, MPVA3.6*
*TIF **16** 10:47:13.1, 41.37N×45.19E, h22km±1km*
ISC 16 10:47:13.4±1.0, 41.40N±0.05×45.17E±0.03, h15km±7km, n22, σ1°16/40, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGRG	**David-gareji**	**0.16**	**72**	P	**Pg**	**10 47 18.0**	**+0.5**
DGRG				S	**Sg**	**10 47 22.1**	**+1.9**
BTNK	**Botanikuri**	**0.40**	**316**	P	**Pg**	**10 47 19.1**	**-2.3**
BT

MEX 16 10:48:12.6±0.6, 14°23'N×93°24'W, h20km±165km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.47**	**1**	*i* P	Pn	10 48 35.3	-2.7
PCIG				*i* S	Sn	10 48 52.1	-4.4
CCIG	**Comitan**	**2.30**	**27**	*i* P	Pn	10 48 47.3	-2.3

IDC ***16*** *11:10:06.7±0.4, 35°.34N×78°.62E, h0km, mb4.6/37, mb1 4.7/42, mb1mx4.6/57, mbtmp4.6/42, ML4.2/5, MS4.1/32, Ms1 4.1/32, ms1mx3.9/49, Error ellipse: s-maj=11.9km s-min=9.4km az=21.0*

MOS ***16*** *11:10:06.9±1.2, 35°.40N×78°.53E, h10km, mb5.0/44, MS4.3/12, Error ellipse: s-maj=6.1km s-min=3.3km az=112.0*

BJI ***16*** *11:10:07.7±0.0, 35°.46N×78°.47E, h8km, mB4.8/33, mb4.6/50, ML4.9/7, Ms4.5/49, Ms7 4.2/46*

NNC ***16*** *11:10:08.5±3.4, 35°.47N×78°.46E, h0km, mb5.3, mpv5.2, Error ellipse: s-maj=37.3km s-min=31.0km az=105.0*

NEIC ***16*** *11:10:08.4±1.6, 35°.33N±0°.07×78°.51E±0°.08, h10km±1km, mb4.9/89, Error ellipse: s-maj=12.1km s-min=10.9km az=28.0*

BGR ***16*** *11:10:25.1±0.0, 35°.57N×76°.82E, h33km, mb5.2*

ISC 16 11:10:11.4±0.3, 35°.40N±0°.03×78°.40E±0°.03, h26km, n537, σ2s13/557, mb4.9/161, MS4.2/51, 53C-29D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHRM	**DHARAMSHALA**	**3.59**	**210**	*eP*	**Pn**	**11 11 08.3**	**+2.6**
DHRM				IAML		11 12 08.5	
	comp=N,2μm,1.0s						
DHRM				IAML		11 12 12.0	
	comp=E,2μm,0.7s						
BHK	**Bhakra**	**4.30**	**203**	*eP*	**Pn**	**11 11 16.0**	**+0.8**
BHK				*eS*	**Sb**	**11 12 26.8**	**+8.9**
SMLA	**Simla**	**4.38**	**194**	*eP*	**Pn**	**11 11 18.4**	**+2.1**
SMLA				IAML		11 12 37.2	
	comp=E,712nm,1.3s						
SMLA				IAML		11 12 41.8	
	comp=N,621nm,1.0s						
KSH	**Kashi**	**4.54**	**336**	Pn	**Pn**	**11 11 17.8**	**-0.7**
KSH				Sn	**Sn**	**11 12 09.1**	**-1.4**
KSH				smax	smax		
	comp=N,2μm,0.9s						
KSH				smax	smax		
	comp=N,2μm,1.2s						
CHCP	**Chirah Chowk**	**4.58**	**249**	P	**Pn**	**11 11 21.3**	**+2.3**
NIL	**Nilore**	**4.59**	**249**	P	**Pn**	**11 11 20.7**	**+1.5**
NIL	**Nilore**	**4.59**	**249**		**Pn**	**11 11 20.7**	**+1.5**
DDI	**Dehra Dun**	**5.07**	**183**	*eP*	**Pn**	**11 11 27.9**	**+2.1**
CEP	**Cherat**	**5.58**	**255**	P	**Pn**	**11 11 33.2**	**+0.4**
THW	**Thamme Wali**	**6.10**	**247**	P	**Pn**	**11 11 41.9**	**+2.0**
DRK	**Karamyk**	**6.64**	**310**		**Pn**	**11 11 47.8**	**+0.2**
NDI	**New Delhi**	**6.77**	**189**	*eP*	**Pn**	**11 11 52.0**	**+2.9**
KDJ	**Kajisay**	**6.79**	**352**	P	**Pn**	**11 11 50.1**	**+0.6**
KDJ	**Kajisay**	**6.79**	**352**		**Pn**	**11 11 50.1**	**+0.6**
ULHL	**Ulahol**	**7.04**	**347**	P	**Pn**	**11 11 54.4**	**+1.4**
	SNR=28						
PRZ	**Przheval'sk**	**7.07**	**0**	P	**Pn**	**11 11 53.3**	**-0.1**
PRZ	**Przheval'sk**	**7.07**	**0**		**Pn**	**11 11 53.3**	**-0.1**
KZA	**Kyzart**	**7.11**	**341**	P	**Pn**	**11 11 55.4**	**+1.3**
	SNR=27						
BOOM	**Boomskoye usch**	**7.33**	**346**	P	**Pn**	**11 11 58.3**	**+1.3**
BOOM	**Boomskoye usch**	**7.33**	**346**		**Pn**	**11 11 58.3**	**+1.3**
GAR	**Garm**	**7.38**	**302**		**Pn**	**11 11 56.3**	**-1.3**
UCH	**Uchtor**	**7.46**	**337**	P	**Pn**	**11 12 00.7**	**+1.7**
	SNR=35						
BTK	**Batken**	**7.59**	**310**	P	**Pn**	**11 12 00.3**	**-0.1**
BTK	**Batken**	**7.59**	**310**		**Pn**	**11 12 00.3**	**-0.1**
SATY	**Saty**	**7.65**	**0**	*eP*	**Pn**	**11 12 02.0**	**+0.8**
	baz=0.4						
SATY	**Saty**	**7.65**	**0**	*eP*	**Pn**	**11 12 02.0**	**+0.8**
AML	**Almayashu**	**7.66**	**333**	P	**Pn**	**11 12 05.4**	**+3.8**
	SNR=12						
AML	**Almayashu**	**7.66**	**333**	*i* P	**Pn**	**11 12 03.4**	**+1.8**
	SNR=18						
AML	**Almayashu**	**7.66**	**333**	P	Pn	11 12 12.1	+10
KBK	**Karagaybulak**	**7.72**	**341**	P	Pn	11 12 07.5	+5.1
	SNR=12						
KBL	**Kabul**	**7.72**	**266**	P	**Pn**	**11 12 02.5**	**+0.1**
KBL	**Kabul**	**7.72**	**266**	Pn	**Pn**	**11 12 02.5**	**+0.1**
KBL	**Kabul**	**7.72**	**266**	P	Pn	11 12 08.4	+6.0
	SNR=15						
UZB	**Uzynbulak**	**7.75**	**3**	*eP*	**Pn**	**11 12 03.1**	**+0.4**
	baz=3.8						
UZB				*eS*	**Sn**	**11 13 32.5**	**+2.9**
	baz=3.8						
UZB	**Uzynbulak**	**7.75**	**3**	*eP*	**Pn**	**11 12 03.1**	**+0.4**
UZB				*eS*	**Sn**	**11 13 32.5**	**+2.9**
SHLS	**Shalkode**	**7.79**	**6**	*eP*	**Pn**	**11 12 03.6**	**+0.4**
	baz=8.5						
SHLS				*eS*	**Sn**	**11 13 28.1**	**-2.6**
	baz=8.5						
SHLS	**Shalkode**	**7.79**	**6**	*eP*	**Pn**	**11 12 03.6**	**+0.4**
SHLS				*eS*	**Sn**	**11 13 28.0**	**-2.6**
TKM2	**Tokmak 2**	**7.82**	**345**	P	**Pn**	**11 12 05.2**	**+1.5**
	SNR=30						
TKM2	**Tokmak 2**	**7.82**	**345**	⇓Pn	**Pn**	**11 12 04.2**	**+0.5**
	comp=N,49nm,0.8s						
TKM2				⇑Pg	**Pb**	**11 12 28.5**	**+2.2**
	comp=N,111nm,0.8s						
TKM2				⇑Lg	Lg	11 14 21.0	
	comp=N,526nm,1.2s						
TKM2	**Tokmak 2**	**7.82**	**345**	*i* P	**Pn**	**11 12 04.1**	**+0.5**
TKM2				pmax	pmax		
	comp=Z,49nm,0.8s						
MDOK	**Medeo**	**7.82**	**353**	*eP*	**Pn**	**11 12 04.3**	**+0.7**
	baz=353						
MDOK	**Medeo**	**7.82**	**353**	⇓Pn	**Pn**	**11 12 04.5**	**+0.9**
	comp=Z,53nm,0.7s						
MDOK				⇓Pg	**Pb**	**11 12 28.5**	**+2.2**
	comp=Z,82nm,0.7s						
MDOK				⇓Lg	Lg	11 14 11.3	
	comp=Z,547nm,1.1s						
MDOK	**Medeo**	**7.82**	**353**	P	**Pn**	**11 12 04.5**	**+0.9**
AAK	**Ala-Archa**	**7.84**	**338**	Pn	**Pn**	**11 12 05.7**	**+1.9**
	comp=Z,9.7nm,0.3s,baz=155,slow=14,SNR=59						
AAK				Lg	Lg	11 14 13.3	
	comp=Z,0.5nm,0.3s,baz=26,slow=15,SNR=6.8						
AAK	**Ala-Archa**	**7.84**	**338**	P	**Pn**	**11 12 05.7**	**+1.9**
	SNR=42						
AAK	**Ala-Archa**	**7.84**	**338**	⇑Pn	**Pn**	**11 12 05.3**	**+1.4**
	comp=Z,175nm,0.8s						
AAK				⇑Pg	Pb	11 12 31.8	+5.2
	comp=Z,198nm,0.8s						
AAK				⇑Lg	Lg	11 14 12.2	
	comp=Z,713nm,1.1s						
AAK	**Ala-Archa**	**7.84**	**338**	*c iP*	**Pn**	**11 12 04.9**	**+1.0**
AAK				pmax	pmax		
	comp=Z,486nm,1.7s						
AAK	**Ala-Archa**	**7.84**	**338**	P	Pn	11 12 15.0	+11
MTBS	**Maitube**	**7.87**	**349**	*eP*	**Pn**	**11 12 04.6**	**+0.4**
	baz=350						
KNDC	**Almaty**	**7.88**	**352**	⇑Pn	**Pn**	**11 12 08.3**	**+3.8**
	comp=Z,89nm,0.6s						
KNDC				⇓Pg	**Pb**	**11 12 30.6**	**+3.2**
	comp=Z,166nm,0.7s						
KNDC				⇓Lg	Lg	11 14 15.6	
	comp=Z,1μm,0.9s						
KNDC	**Almaty**	**7.88**	**352**	P	**Pn**	**11 12 08.2**	**+3.8**
FRU1	**Bishkek**	**7.96**	**340**	P	**Pn**	**11 12 04.6**	**-0.8**
FRU1	**Bishkek**	**7.96**	**340**		**Pn**	**11 12 04.6**	**-0.8**
KPKS	**Kokpek**	**8.06**	**2**	*eP*	**Pn**	**11 12 07.2**	**+0.3**
	baz=1.8						
KPKS	**Kokpek**	**8.06**	**2**	*eP*	**Pn**	**11 12 07.1**	**+0.3**
CHGR	**Chuyangaron**	**8.07**	**296**	Pn	**Pn**	**11 12 04.4**	**-2.6**
EKS2	**Erkin-Say**	**8.09**	**335**	P	Pn	11 11 58.8	-8.5
	SNR=17						
CHMS	**Chumysh**	**8.10**	**341**	P	**Pn**	**11 12 08.9**	**+1.6**
	SNR=15						
CHKK	**Chushkaly**	**8.51**	**353**	*eP*	**Pn**	**11 12 13.2**	**+0.3**
	baz=353						
SGDS	**Segindy**	**8.55**	**341**	*eP*	**Pn**	**11 12 15.7**	**+2.1**
	baz=341						
KUU	**Kurty**	**8.63**	**350**	*eP*	**Pn**	**11 12 13.6**	**-1.0**
	baz=350						
KUU	**Kurty**	**8.63**	**350**	*eP*	**Pn**	**11 12 13.5**	**-1.0**
IUG	**luzhnay**	**9.38**	**318**	*i* P	**Pn**	**11 12 23.6**	**-1.4**
	baz=318						
IUG				*i* S	**Sn**	**11 14 12.5**	**+2.9**
IUG	**luzhnay**	**9.38**	**318**	*i* P	**Pn**	**11 12 23.5**	**-1.4**
IUG				*i* S	**Sn**	**11 14 12.5**	**+2.9**
KK31	**Karatay Array**	**9.82**	**324**	⇓Pn	**Pn**	**11 12 30.4**	**-0.5**
	comp=Z,11nm,0.5s,baz=129,slow=11,SNR=148						
KK31				⇑Sn	**Sn**	**11 14 22.5**	**+2.1**
	comp=Z,25nm,0.8s						
KK31	**Karatay Array**	**9.82**	**324**	P	**Pn**	**11 12 30.9**	**0.0**
KK31	**Karatay Array**	**9.82**	**324**	Pn	**Pn**	**11 12 30.9**	**0.0**
KKAR	**Karatay Array**	**9.82**	**324**	P	**Pn**	**11 12 30.8**	**-0.1**
KKAR	**Karatay Array**	**9.82**	**324**		**Pn**	**11 12 30.8**	**-0.1**
BTLS	**Baital**	**10.19**	**342**	*eP*	**Pn**	**11 12 35.3**	**-0.6**
	baz=342						
BTLS	**Baital**	**10.19**	**342**	*eP*	**Pn**	**11 12 35.3**	**-0.6**
WMQ	**Urumqi**	**11.05**	**38**	*eP*	**Pn**	**11 12 48.5**	**+0.8**
WMQ				pP		11 12 52.8	
WMQ				sP		11 12 56.9	
WMQ				S	**Sn**	**11 14 53.0**	**+2.6**
WMQ				sS		11 14 57.0	
WMQ				pmax	pmax		
	comp=Z,79nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,270nm,4.1s						
WMQ				LR	LR		
	comp=Z,2μm,9.7s						
WMQ				LR	LR		
	comp=Z,1μm,9.3s						
WMQ				LR	LR		
	comp=Z,1μm,9.3s						
MAKZ	**Makanchi**	**11.71**	**12**	⇑Pn	**Pn**	**11 12 53.4**	**-3.4**
	comp=Z,99nm,1.1s						
MAKZ	**Makanchi**	**11.71**	**12**	P	**Pn**	**11 12 54.9**	**-1.9**
MAKZ	**Makanchi**	**11.71**	**12**		**Pn**	**11 12 54.9**	**-1.9**
MK31	**Makanchi Array**	**11.75**	**13**	⇓Pn	**Pn**	**11 12 55.7**	**-1.6**
	comp=Z,14nm,0.6s,baz=195,slow=15,SNR=14						
MK31				⇓Sn	**Sn**	**11 15 02.7**	**-4.9**
	comp=Z,55nm,0.9s,baz=159,slow=37,SNR=3.8						
MK31	**Makanchi Array**	**11.75**	**13**	*eP*	**Pn**	**11 12 56.3**	**-1.1**
MK31	**Makanchi Array**	**11.75**	**13**		**Pn**	**11 12 54.7**	**-2.6**
MKAR	**Makanchi Array**	**11.75**	**13**	Pn	**Pn**	**11 12 56.8**	**-0.6**
	comp=Z,2.8nm,0.3s,baz=190,slow=12,SNR=40						
MKAR				Sn	**Sn**	**11 15 01.1**	**-6.5**
	comp=Z,1.0nm,0.3s,baz=187,slow=22,SNR=3.2						
MKAR				LR	LR	11 18 10.4	
	comp=Z,1μm,18.9s,baz=196,slow=41						
MKAR	**Makanchi Array**	**11.75**	**13**		**Pn**	**11 12 55.4**	**-2.0**
GTK	**Tadong**	**11.87**	**130**	*ex*	**Pn**	**11 12 59.0**	**-0.2**
BHPL	**Bhopal**	**12.15**	**184**	*eP*	**Pn**	**11 13 00.3**	**-2.5**
BHPL				*ex*	x	11 13 00.8	
LSA	**Lhasa**	**12.17**	**114**	P	**Pn**	**11 13 02.8**	**-0.7**
LSA				LR	LR		
	comp=Z,6μm,9.3s						
LSA				LR	LR		
	comp=Z,7μm,11.4s						
LSA	**Lhasa**	**12.17**	**114**	P	**Pn**	**11 13 03.7**	**+0.2**
LSA	**Lhasa**	**12.17**	**114**	P	**Pn**	**11 13 00.6**	**-2.9**
LSA	**Lhasa**	**12.17**	**114**	Pn	**Pn**	**11 13 00.6**	**-2.9**
BOK	**Bokaro**	**13.27**	**149**	*eP*	Pn	11 13 13.1	-5.0
BOK				*ex*	x	11 13 13.2	
HRA	**Herat**	**13.30**	**270**		**Pn**	**11 13 17.0**	**-1.7**
BHUJ	**Bhuj**	**14.29**	**214**	*eP*	**Pn**	**11 13 29.4**	**-2.7**
BRZS	**Berezniki**	**15.16**	**346**	*eP*	**Pn**	**11 13 41.1**	**-2.6**
	baz=346						
BRZS				*eS*	**Sn**	**11 16 31.1**	**+0.4**
	baz=346						
BRZS	**Berezniki**	**15.16**	**346**	*eP*	**Pn**	**11 13 41.1**	**-2.6**
BRZS				*eS*	**Sn**	**11 16 31.1**	**+0.4**
SHL	**Shillong**	**15.19**	**126**	P	Pn	11 13 36.6	-7.8
SHL				pmax	pmax		
	comp=Z,33nm,0.7s						
SHL	**Shillong**	**15.19**	**126**	Pn	Pn	11 13 36.6	-7.8
SHL				lAmb	lAmb	11 13 48.0	
	comp=Z,33nm,0.7s						
SHL	**Shillong**	**15.19**	**126**	*eP*	**Pn**	**11 13 37.9**	**-6.5**
SHL				lAmb	lAmb	11 13 47.4	
	comp=Z,60nm,1.4s						
SHL	**Shillong**	**15.19**	**126**	P	**Pn**	**11 13 46.0**	**+1.6**
	SNR=6.6						
KURBB	**Kurchatov Arra**	**15.21**	**0**	Pn	**Pn**	**11 13 42.5**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=185,slow=12,SNR=16						
KURBB				Sn	**Sn**	**11 16 27.8**	**-4.2**
	comp=Z,0.1nm,0.3s,baz=174,slow=29,SNR=2.1						
KURBB				Lg	Lg	11 18 08.3	
	baz=183,slow=29,SNR=5.5						
KURK	**Kurchatov**	**15.31**	**1**	P	**Pn**	**11 13 42.5**	**-3.1**
KURK	**Kurchatov**	**15.31**	**1**		**Pn**	**11 13 42.5**	**-3.1**
DGZ	**Jazzator, Alta**	**15.75**	**22**	*i* P	**Pn**	**11 13 50.2**	**-1.3**
DGZ				pmax	pmax		
	comp=Z,52nm,0.8s						
GEYT	**Alibeck**	**16.46**	**285**	Pn	**Pn**	**11 13 55.8**	**-4.8**
	comp=Z,1.0nm,0.3s,baz=165,slow=18,SNR=5.1						
GEYT				LR	LR	11 21 46.3	
	comp=Z,1μm,19.0s,baz=80,slow=42						
GEYT	**Alibeck**	**16.46**	**285**	Pn	Pn	11 13 51.3	-9.3
GYA0B	**ALIBECK ARRAY**	**16.46**	**285**	Pn	**Pn**	**11 13 57.9**	**-2.7**
MOKO	**MOKOCHONG**	**16.52**	**119**	*eP*	**Pn**	**11 13 58.5**	**-3.0**
KOHI	**KOHIMA**	**16.60**	**121**	*eP*	**Pn**	**11 13 57.9**	**-4.7**
POO	**Poona**	**17.28**	**195**	lAmb	lAmb	11 14 13.8	
	comp=Z,112nm,1.2s						
GTA	**Gaotai**	**17.48**	**70**	⇑P	**P**	**11 14 14.6**	**+0.2**
GTA				pP	pP	11 14 19.4	-3.5
GTA				sP	sP	11 14 21.8	-5.3
GTA				pmax	pmax		
	comp=Z,9.0nm,1.6s						
GTA				pmax	pmax		
	comp=Z,89nm,4.5s						
GTA				LR	LR		
	comp=Z,230nm,13.1s						
GTA				LR	LR		
	comp=Z,360nm,13.5s						
GTA				LR	LR		
	comp=Z,420nm,14.5s						
HYB	**Hyderabad**	**17.91**	**180**	*i* P	**Pn**	**11 14 15.0**	**-3.8**
HYB				*eS*	**Sn**	**11 17 39.0**	**+1.2**
VIS	**Vishakhapatnam**	**18.15**	**165**	*eP*	**Pn**	**11 14 20.5**	**-1.2**
VIS				lAmb	lAmb	11 14 22.1	
	comp=Z,27nm,0.5s						
BVAR	**Borovoye Array**	**18.51**	**345**	P	**P**	**11 14 25.4**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=172,slow=16,SNR=36						
BVAR				Lg	Lg	11 19 49.8	
	baz=156,slow=33,SNR=1.9						
BRVK	**Borovoye**	**18.56**	**344**	⇓P	**P**	**11 14 25.5**	**-0.6**
	comp=Z,70nm,0.9s						
BRVK	**Borovoye**	**18.56**	**344**	*d iP*	**P**	**11 14 26.0**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,67nm,1.3s						
BRVK	**Borovoye**	**18.56**	**344**	P	**P**	**11 14 24.7**	**-1.4**
BRVK				lAmb	lAmb	11 14 33.2	
	comp=Z,77nm,1.0s						
ZAA0	**Zalesovo Array**	**19.09**	**12**	P	**P**	**11 14 31.4**	**-0.4**
ZALV	**Zalesovo Beam**	**19.09**	**12**	P	**P**	**11 14 30.9**	**-1.0**
	comp=Z,2.7nm,0.3s,baz=197,slow=11,SNR=26						
ZALV				LR	LR	11 22 55.8	
	comp=Z,413nm,20.4s,baz=182,slow=40						
ZALV	**Zalesovo Beam**	**19.09**	**12**	P	**P**	**11 14 31.4**	**-0.5**
ZALV	**Zalesovo Beam**	**19.09**	**12**	P	**P**	**11 14 31.4**	**-0.5**
AB31	**Akbulak array**	**19.36**	**321**	P	**P**	**11 14 33.6**	**-1.4**
	comp=Z,21nm,0.7s,baz=130,slow=12,SNR=244						
AB31	**Akbulak array**	**19.36**	**321**	*i* P	**P**	**11 14 33.6**	**-1.4**
ABKAR	**Akbulak array**	**19.36**	**321**	P	**P**	**11 14 35.1**	**+0.2**
ABKAR	**Akbulak array**	**19.36**	**321**	P	**P**	**11 14 34.9**	**-0.1**
LZH	**Lanzhou**	**20.66**	**81**	*eP*	Pn	11 14 52.0	+0.3
LZH				pP	pP	11 14 55.9	-2.0
LZH				sP	sP	11 14 58.0	-4.1
LZH				S	Sn	11 18 44.0	-0.1
LZH				SS	**SnSn**	**11 19 10.4**	**+12**
LZH				pmax	pmax		
	comp=Z,23nm,1.0s						
LZH				pmax	pmax		
	comp=Z,150nm,4.6s						
LZH				LR	LR		
	comp=Z,630nm,13.6s						
LZH				LR	LR		
	comp=Z,430nm,12.5s						
LZH				LR	LR		
	comp=Z,340nm,14.1s						
WSAR	**Wadi Sarin**	**21.02**	**240**	P	**P**	**11 14 53.6**	**+0.4**
	comp=Z,36nm,0.8s,baz=97,slow=8.3,SNR=26						
WSAR				LR	LR	11 25 06.5	
	comp=Z,288nm,18.3s,baz=328,slow=42						
WSAR	**Wadi Sarin**	**21.02**	**240**	P	**P**	**11 14 54.3**	**+1.1**
	SNR=8.2						
AKTO	**Aktyubinsk**	**21.07**	**322**	P	**P**	**11 14 52.8**	**-0.7**
	comp=Z,41nm,0.9s,baz=119,slow=12,SNR=31						
AKTO				S	**S**	**11 18 45.6**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=22,slow=19,SNR=0.8						
AKTO				LR	LR	11 23 39.3	
	comp=Z,764nm,19.2s,baz=130,slow=38						
AKTO	**Aktyubinsk**	**21.07**	**322**	⇓P	**P**	**11 14 52.8**	**-0.7**
	comp=Z,73nm,1.0s						
BANOM	**Banah**	**21.19**	**250**	*i* P	**P**	**11 14 55.4**	**+0.4**
	SNR=12						
BANOM	**Banah**	**21.19**	**250**	P	**P**	**11 14 56.0**	**+1.0**
JLN	**Jalan Bani Buh**	**21.19**	**237**	P	**P**	**11 14 56.3**	**+1.3**
	SNR=5.4						
SHME	**Shamm**	**21.24**	**250**	P	**P**	**11 14 55.7**	**+0.2**
MDH	**Madha**	**21.52**	**248**	P	**P**	**11 14 57.1**	**-1.4**
MASF	**Masafi**	**21.59**	**249**	P	**P**	**11 15 00.6**	**+1.3**
	SNR=18						
MSFE	**Esma-Masafi**	**21.59**	**248**	*i* P	**P**	**11 15 00.2**	**+0.9**
	SNR=8.9						
CD2	**Chengdu**	**21.68**	**95**	P	**P**	**11 15 00.1**	**-0.2**
CD2				S	**S**	**11 19 00.6**	**+1.6**
CD2				pmax	pmax		
	comp=Z,20nm,0.7s						
CD2				pmax	pmax		
	comp=Z,200nm,6.5s						
CD2				LR	LR		
	comp=Z,1μm,11.8s						
CD2				LR	LR		
	comp=Z,1μm,9.2s						
CD2				LR	LR		
	comp=Z,2μm,10.8s						
UOSS	**Minazif**	**21.79**	**247**	P	**P**	**11 15 01.1**	**-0.3**
SOHO	**SOHO**	**22.00**	**245**	P	**P**	**11 15 03.9**	**+0.3**
ASHO	**Ashiyiah**	**22.04**	**247**	*i* P	**P**	**11 15 06.4**	**+2.2**
	SNR=11						
ASHO	**Ashiyiah**	**22.04**	**247**	P	**P**	**11 15 06.5**	**+2.3**
	SNR=9.1						
NAZ	**Nazwa, Dubai**	**22.17**	**248**	P	**P**	**11 15 06.4**	**+0.9**
NAZ	**Nazwa, Dubai**	**22.17**	**248**	P	**P**	**11 15 08.2**	**+2.7**
	SNR=8.7						
FAQ	**Al Faqa, Dubai**	**22.36**	**248**	P	**P**	**11 15 08.4**	**+0.9**
FAQ	**Al Faqa, Dubai**	**22.36**	**248**	P	**P**	**11 15 09.0**	**+1.5**
	SNR=9.0						
ASUD	**Al Ashush, Dub**	**22.62**	**248**	*i* P	**P**	**11 15 12.1**	**+1.7**
	SNR=12						
ASUD	**Al Ashush, Dub**	**22.62**	**248**	P	**P**	**11 15 12.6**	**+2.3**
	SNR=8.1						
ALNE	**Al Ain**	**22.63**	**246**	P	**P**	**11 15 12.9**	**+2.5**
	SNR=5.2						
MOY	**Mondy**	**22.94**	**38**	*eP*	**P**	**11 15 14.7**	**+1.1**
MOY				pmax	pmax		
	comp=Z,35nm,2.0s						
MHTO	**MHTO**	**22.96**	**237**	P	**P**	**11 15 16.4**	**+2.4**
KMI	**Kunming**	**23.33**	**109**	⇑P	**P**	**11 15 16.3**	**-1.6**
KMI				pP	pP	11 15 17.8	-9.0
KMI				PP	**PnPn**	**11 15 46.9**	**+2.7**
KMI				S	**S**	**11 19 24.3**	**-5.0**
KMI				sS	pS	11 19 30.8	-8.7
KMI				pmax	pmax		
	comp=Z,17nm,0.8s						
KMI				LR	LR		
	comp=Z,380nm,10.1s						
KMI				LR	LR		
	comp=Z,490nm,8.2s						
KMI				LR	LR		
	comp=Z,410nm,9.0s						
ZAK	**Zakamensk**	**23.44**	**43**	*eP*	**P**	**11 15 17.3**	**-1.3**
ZAK				pmax	pmax		
	comp=Z,19nm,1.3s						
SONM	**Songino Array**	**24.20**	**51**	P	**P**	**11 15 25.8**	**-0.1**
	comp=Z,10nm,0.6s,baz=244,slow=9.9,SNR=34						
SONM				PcP	**PcP**	**11 19 04.9**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=253,slow=3.0,SNR=3.2						
SONM				LR	LR	11 26 17.4	
	comp=Z,272nm,19.9s,baz=244,slow=40						
SONM	**Songino Array**	**24.20**	**51**	P	**P**	**11 15 25.8**	**-0.1**
SONM				pmax	pmax		
	comp=Z,23nm,1.0s						
SONM	**Songino Array**	**24.20**	**51**	P	**P**	**11 15 25.8**	**-0.1**
SONM				lAmb	lAmb	11 15 29.3	
	comp=Z,23nm,1.0s						
MHMT	**Maesarieng**	**24.39**	**130**	P	**P**	**11 15 33.2**	**+5.6**
MHMT	**Maesarieng**	**24.39**	**130**	P	**P**	**11 15 33.2**	**+5.6**
CM33	**Chiang Mai Arr**	**24.57**	**127**	P	**P**	**11 15 27.0**	**-2.3**
CHTO	**Chiang Mai**	**24.57**	**127**	P	**P**	**11 15 28.2**	**-1.1**
CHTO				pmax	pmax		
	comp=Z,26nm,1.1s						
CHTO	**Chiang Mai**	**24.57**	**127**	P	**P**	**11 15 27.5**	**-1.8**
	comp=Z,26nm,1.2s						
CHTO	**Chiang Mai**	**24.57**	**127**	P	**P**	**11 15 28.2**	**-1.1**
CHTO				lAmb	lAmb	11 15 42.0	
	comp=Z,26nm,1.1s						
CHTO	**Chiang Mai**	**24.57**	**127**	P	**P**	**11 15 28.3**	**-1.1**
	comp=Z,14nm,1.2s						
SVE	**Sverdlovsk**	**24.57**	**336**	*eP*	**P**	**11 15 29.6**	**+0.6**
SVE				*eS*	**S**	**11 19 53.1**	**+5.0**
SVE				pmax	pmax		
	comp=Z,29nm,1.0s						
SVE				MLR	MLR		
	comp=Z,1μm,15.0s						
CM32	**Chiang Mai Arr**	**24.62**	**127**	P	**P**	**11 15 30.0**	**+0.2**
ULN	**Ulaanbaatar**	**24.62**	**51**	*ce* P	**P**	**11 15 29.4**	**-0.3**
ULN				pmax	pmax		
	comp=Z,45nm,1.7s						
ULN	**Ulaanbaatar**	**24.62**	**51**	P	**P**	**11 15 29.4**	**-0.3**
ULN				lAmb	lAmb	11 15 33.5	
	comp=Z,21nm,0.9s						
ULN	**Ulaanbaatar**	**24.62**	**51**	P	**P**	**11 15 29.7**	**-0.1**
	comp=Z,1μmcomp=Z,96nm,1.1s						
CM34	**Chiang Mai Arr**	**24.68**	**126**	P	**P**	**11 15 28.0**	**-2.3**
AKT	**Akhty**	**24.69**	**293**	*eP*	**P**	**11 15 30.8**	**+0.4**
AKT				*e*		11 16 02.3	
AKT				pmax	pmax		
	comp=Z,110nm,1.2s						
PAYA	**Pay

ARU	**Arti**	**24.98 333**	*d*	*i*	P	**P**	**11 15 33.0 +0.3**
ARU							11 16 04.9
ARU					S	**S**	**11 20 01.5 +6.8**
ARU					SS	**SnSn**	**11 20 53.8 +10**
ARU					pmax	pmax	
	comp=Z,26nm,0.8s						
ARU					MLR	MLR	
	comp=Z,693nm,12.0s						
ARU	**Arti**	**24.98 333**			P	**P**	**11 15 32.5 -0.1**
MAK	**Makhachkala**	**25.01 297**		*e*P	P	**P**	**11 15 29.9 -3.1**
MAK				*e*S		**S**	**11 19 52.6 -2.8**
MAK					pmax	pmax	
	comp=Z,94nm,0.8s						
MAK					MLR	MLR	
	comp=Z,986nm,15.0s						
XAN	**Xi'an**	**25.08 84**			P	**P**	**11 15 31.9 -2.0**
XAN					pP	pP	11 15 35.6 -7.6
XAN					sP	sP	11 15 38.6 -8.5
XAN					PP	**PnPn**	**11 16 14.3 +6.4**
XAN					S	**S**	**11 19 56.8 -0.2**
XAN					sS	pS	11 20 03.9 -3.2
XAN					pmax	pmax	
	comp=Z,7.0nm,1.0s						
XAN					pmax	pmax	
	comp=Z,200nm,5.0s						
XAN					LR	LR	
	comp=Z,690nm,15.1s						
XAN					LR	LR	
	comp=Z,500nm,12.6s						
XAN					LR	LR	
	comp=Z,500nm,14.5s						
LAMP	**Lampang**	**25.23 126**			P	**P**	**11 15 34.6 -0.7**
	comp=Z,468nmcomp=Z,52nm,0.8s						
LAMP	**Lampang**	**25.23 126**			P	**P**	**11 15 34.6 -0.7**
	comp=Z,117nmcomp=Z,13nm,0.8s						
BTO	**Baotou**	**25.38 69**		*e*P		**P**	**11 15 35.1 -1.5**
GYA	**Guiyang**	**25.77 102**		⇑P		**P**	**11 15 38.8 -1.5**
GYA				sP		pP	11 15 44.8 -4.7
GYA				S		**S**	**11 20 10.4 +2.4**
GYA				pmax		pmax	
	comp=Z,22nm,1.1s						
GYA				LR		LR	
	comp=Z,270nm,7.3s						
GYA				LR		LR	
	comp=Z,420nm,6.6s						
GYA				LR		LR	
	comp=Z,330nm,9.7s						
UTTA	**Uttaradit**	**26.39 126**		P		**P**	**11 15 47.1 +1.3**
	comp=Z,305nmcomp=Z,34nm,0.7s						
UTTA	**Uttaradit**	**26.39 126**		P		**P**	**11 15 47.1 +1.3**
	comp=Z,76nmcomp=Z,8.5nm,0.7s						
UMR	**Umm Al-Rimmam**	**26.47 266**		*e*P		**P**	**11 15 45.5 -0.9**
HHC	**Hu-ho-hao-te**	**26.55 68**		*e*P		**P**	**11 15 46.5 -0.8**
HHC				S		**S**	**11 20 26.1 +5.9**
HHC				SS		**SnSn**	**11 21 25.8 +2.8**
HHC				pmax		pmax	
	comp=Z,16nm,0.9s						
HHC				pmax		pmax	
	comp=Z,120nm,4.8s						
HHC				LR		LR	
	comp=Z,310nm,12.2s						
HHC				LR		LR	
	comp=Z,300nm,13.1s						
HHC				LR		LR	
	comp=Z,310nm,13.0s						
PHIT	**Phitsanulok**	**26.70 127**		P		**P**	**11 15 53.1 +4.4**
PHIT	**Phitsanulok**	**26.70 127**		P		**P**	**11 15 53.0 +4.4**
	comp=Z,23nm,0.8s						
RDF	**Al-Radifah**	**26.83 265**		*e*P		**P**	**11 15 48.6 -1.1**
GNI	**Garni**	**26.92 290**		P		**P**	**11 15 51.7 +1.0**
	comp=Z,12nm,0.6s,baz=151,slow=5.2,SNR=11						
GNI				LR		LR	11 28 32.6
	comp=Z,297nm,18.0s,baz=63,slow=41						
GNI	**Garni**	**26.92 290**	⇓	*e*P		**P**	**11 15 53.1 +2.5**
GNI				pmax		pmax	
	comp=Z,54nm,1.3s						
GNI	**Garni**	**26.92 290**		P		**P**	**11 15 52.8 +2.1**
GNI	**Garni**	**26.92 290**		P		**P**	**11 15 54.5 +3.8**
RST	**Umm Al-Ruwaisa**	**27.07 266**		*e*P		**P**	**11 15 50.8 -1.1**
UTHA	**Uthaitani**	**27.31 131**		P		**P**	**11 15 53.4 -0.6**
	comp=Z,38nm,0.7s						
UTHA	**Uthaitani**	**27.31 131**		P		**P**	**11 15 53.4 -0.6**
	comp=Z,9.3nm,0.7s						
BELG	**Belogornoye**	**27.64 317**		P		**P**	**11 15 57.1 +0.4**
	comp=Z,27nm,0.9s,baz=167,slow=1.9,SNR=7.8						
BELG				LR		LR	11 27 54.4
	comp=Z,430nm,19.0s,baz=137,slow=38						
AKH	**Akhalkalaki**	**27.87 293**	⇑	P		**P**	**11 16 04.1 +4.9**
NCK	**Nalchik**	**27.90 297**	⇓	*e*P		**P**	**11 16 01.0 +1.8**
NCK				pmax		pmax	
	comp=Z,21nm,0.4s						
NONG	**Nongkai**	**27.93 122**		P		**P**	**11 16 02.0 +2.4**
	comp=Z,3µmcomp=Z,26nm,1.0s						
NONG	**Nongkai**	**27.93 122**		P		**P**	**11 16 02.1 +2.4**
	comp=Z,3µmcomp=Z,26nm,1.0s						
ONI	**Oni**	**27.94 296**		P		**P**	**11 16 00.1 +0.4**
ONI				pmax		pmax	
	comp=Z,23nm,0.9s						
ONI	**Oni**	**27.94 296**		P		**P**	**11 16 00.1 +0.4**
ONI				IAmb		IAmb	11 16 17.4
	comp=Z,23nm,0.9s						
PALK	**Pallekele**	**28.07 175**		LR		LR	11 27 32.9
	comp=Z,998nm,18.7s,baz=103,slow=37						
KARS	**Kars**	**28.18 291**		P		**P**	**11 16 02.3 +0.4**
KARS				pmax		pmax	
	comp=Z,52nm,0.4s						
KARS	**Kars**	**28.18 291**		P		**P**	**11 16 02.3 +0.4**
KBZ	**Khabaz**	**28.43 298**		P		**P**	**11 16 05.1 +1.3**
	comp=Z,2.5nm,0.7s,baz=131,slow=7.6,SNR=7.4						
KBZ				LR		LR	11 29 33.3
	comp=Z,301nm,18.9s,baz=86,slow=41						
KBZ	**Khabaz**	**28.43 298**	⇓	*e*P		**P**	**11 16 05.3 +1.4**
GOF	**Gofitskoye**	**28.47 301**	⇑	*e*P		**P**	**11 16 08.2 +4.0**
GOF				pmax		pmax	
	comp=Z,27nm,0.8s						
NEY	**Neytrino**	**28.52 297**	⇓	*e*P		**P**	**11 16 07.1 +2.2**
NEY				pmax		pmax	
	comp=Z,2.0nm,0.9s						
KIV	**Kislovodsk**	**28.60 298**		*e*P		**P**	**11 16 07.7 +2.2**
KIV				pmax		pmax	
	comp=Z,6.0nm,1.0s						
KIV				MLR		MLR	
	comp=Z,265nm,15.0s						
KIV	**Kislovodsk**	**28.60 298**		P		**P**	**11 16 05.8 +0.2**
KIV				IAmb		IAmb	11 16 13.9
	comp=Z,7.0nm,0.5s						
CHAI	**Chaiyaphum**	**28.67 127**		P		**P**	**11 16 08.9 +2.7**
	comp=Z,20nm,0.9s						
CHAI	**Chaiyaphum**	**28.67 127**		P		**P**	**11 16 09.0 +2.7**
	comp=Z,5.0nm,0.9s						
SIRT	**Sirnak**	**28.89 285**		P		**P**	**11 16 07.0 -1.2**
GURO	**Guroymak-BITLI**	**29.10 287**		P		**P**	**11 16 08.8 -1.3**
GURO				IAmb		IAmb	11 16 33.4
	comp=Z,6.1nm,0.3s						
SKNT	**Sakolnakorn**	**29.25 122**		P		**P**	**11 16 09.7 -1.7**
	comp=Z,33nm,1.6s						
SKNT	**Sakolnakorn**	**29.25 122**		P		**P**	**11 16 09.8 -1.7**
KIRV	**Kirov**	**30.05 330**		P		**P**	**11 16 19.1 +1.1**
	comp=Z,22nm,0.7s,baz=123,slow=8.7,SNR=7.2						
KIRV				LR		LR	11 29 13.9
	comp=Z,442nm,19.8s,baz=127,slow=38						
KIRV	**Kirov**	**30.05 330**	*ce*	P		**P**	**11 16 19.0 +1.0**
BJI	**Beijing**	**30.09 70**		P		**P**	**11 16 20.5 +1.9**
BJI				S		**S**	**11 21 16.3 +0.7**
BJI				pmax		pmax	
	comp=Z,11nm,0.6s						
BJI				LR		LR	
	comp=Z,240nm,13.5s						
BJI				LR		LR	
	comp=Z,220nm,12.9s						
BJI				LR		LR	
	comp=Z,410nm,12.4s						
VRH	**Novokhopyorsk**	**30.63 312**		*e*P		**P**	**11 16 22.6 -0.7**
VRH				pmax		pmax	
	comp=Z,30nm,1.2s						
SOC	**Sochi**	**30.72 297**		*e*P		**P**	**11 16 23.7 -0.5**
SOC				*e*			11 17 24.4
SOC				*e*PPP		PPP	11 17 38.8
SOC				*e*S		**S**	**11 21 28.8 +3.3**
SOC				*e*SSS		SSS	11 23 27.4
SOC				pmax		pmax	
	comp=Z,8.0nm,0.5s						
SOC				MLR		MLR	
	comp=Z,218nm,16.0s						
VORD	**Divnogorie**	**32.04 311**		*e*P		**P**	**11 16 34.1 -1.6**
VORD				pmax		pmax	
	comp=Z,10.0nm,1.0s						
QIZ	**Qiongzhong**	**32.20 112**		P		**P**	**11 16 37.8 +0.4**
QIZ				S		**S**	**11 21 50.5 +1.6**
QIZ				LR		LR	
	comp=Z,170nm,11.8s						
PRGR	**Permogore**	**33.41 332**		*e*P		**P**	**11 16 47.8 +0.3**
PRGR				pmax		pmax	
	comp=Z,35nm,1.1s						
NJ2	**Nanjing**	**33.65 84**		*e*P		**P**	**11 16 47.6 -2.4**
NJ2				pmax		pmax	
	comp=Z,10.0nm,0.5s						
MOS	**Moscow**	**34.36 319**		*e*P		**P**	**11 16 54.2 -1.7**
MOS				*e*			11 18 09.1
MOS				pmax		pmax	
	comp=Z,64nm,1.2s						
OBN	**Obninsk**	**34.74 318**	⇑	*e*P		**P**	**11 16 59.3 +0.2**
OBN				*e*			11 18 13.7
OBN				pmax		pmax	
	comp=Z,46nm,0.9s						
OBN				MLR		MLR	
	comp=Z,335nm,18.0s						
OBN	**Obninsk**	**34.74 318**		P		**P**	**11 16 59.0 -0.1**
ILGA	**Ilgaz**	**35.25 293**		P		**P**	**11 17 03.2 -0.8**
ILGA				IAmb		IAmb	11 17 08.6
	comp=Z,15nm,0.8s						
BR131	**Keskin Array S**	**35.46 291**		P		**P**	**11 17 06.3 +0.5**
BR131				pmax		pmax	
	comp=Z,12nm,0.9s						
BR131	**Keskin Array S**	**35.46 291**		P		**P**	**11 17 06.3 +0.5**
BR131				IAmb		IAmb	11 17 09.8
	comp=Z,12nm,0.8s						
BR131	**Keskin Array S**	**35.46 291**		P		**P**	**11 17 08.8 +3.0**
	SNR=6.3						
BRTR	**Keskin Array B**	**35.46 291**		P		**P**	**11 17 06.8 +1.0**
	comp=Z,5.0nm,0.7s,baz=108,slow=9.5,SNR=26						
BRTR				LR		LR	11 35 18.7
	comp=Z,188nm,18.2s,baz=92,slow=42						
BRTR	**Keskin Array B**	**35.46 291**		P		**P**	**11 17 05.7 -0.1**
KLMR	**Klimovskoe**	**35.49 328**		*e*P		**P**	**11 17 03.5 -2.1**
KLMR				pmax		pmax	
	comp=Z,19nm,0.8s						
KLMR	**Klimovskoe**	**35.49 328**		*e*P		**P**	**11 17 03.5 -2.1**
KLMR				AMP			11 17 11.1
	comp=Z,19nm,0.8s						
SNY	**Shenyang**	**35.56 66**	⇓	P		**P**	**11 17 09.5 +3.1**
SNY				pmax		pmax	
	comp=Z,12nm,0.5s						
SNY				LR		LR	
	comp=Z,220nm,10.4s						
SNY				LR		LR	
	comp=Z,170nm,9.5s						
SNY				LR		LR	
	comp=Z,230nm,10.2s						
BR231	**Keskin MP Arra**	**36.10 291**		P		**P**	**11 17 12.5 +1.2**
BR231				IAmb		IAmb	11 17 26.6
	comp=Z,14nm,0.8s						
EIL	**Elat**	**36.85 274**		P		**P**	**11 17 19.0 +1.4**
	comp=Z,6.0nm,0.8s,baz=54,slow=10,SNR=4.9						
MDUB	**Mudurnu**	**37.22 292**		P		**P**	**11 17 20.3 -0.4**
AKASG	**Malin Array Be**	**38.30 309**		P		**P**	**11 17 29.2 -0.4**
	comp=Z,9.8nm,0.6s,baz=80,slow=7.5,SNR=20						
AKASG				PP		**PP**	**11 18 57.5 +0.3**
	comp=Z,3.0nm,0.7s,baz=91,slow=12,SNR=2.7						
AKASG				PcP		**PcP**	**11 19 43.2 +0.1**
	comp=Z,0.7nm,0.3s,baz=72,slow=2.6,SNR=4.4						
AKASG				LR		LR	11 35 40.9
	comp=Z,136nm,21.0s,baz=95,slow=40						
AKASG	**Malin Array Be**	**38.30 309**		P		**P**	**11 17 29.7 +0.1**
AKASG				pmax		pmax	
	comp=Z,12nm,0.8s						
AKASG	**Malin Array Be**	**38.30 309**		P		**P**	**11 17 29.6 +0.1**
AKBB	**Malin Array Si**	**38.30 309**	*d*	*i*P		**P**	**11 17 29.0 -0.6**
AKBB				pmax		pmax	
	comp=Z,13nm,0.7s						
AKBB	**Malin Array Si**	**38.30 309**		P		**P**	**11 17 28.9 -0.8**
AKBB				IAmb		IAmb	11 17 33.4
	comp=Z,13nm,0.7s						
GSI	**Gunungsitoli**	**38.33 148**		P		**P**	**11 17 27.3 -2.9**
GSI				IAmb		IAmb	11 17 30.5
	comp=Z,24nm,0.8s						
ZEA	**Zeya**	**38.44 46**		*e*P		**P**	**11 17 31.6 +0.8**
ZEA				MLR		MLR	
	comp=E,300nm,17.0s						
ZEA				MLR		MLR	
	comp=Z,300nm,13.0s						
MILM	**Milestii Mici**	**38.47 303**		⇑P		**P**	**11 17 32.8 +1.7**
SORM	**Soroca**	**38.77 305**		⇑P		**P**	**11 17 33.1 -0.5**
SORM	**Soroca**	**38.77 305**		⇑P		**P**	**11 17 33.1 -0.5**
TPGR	**Topolog**	**38.82 300**		⇑P		**P**	**11 17 36.6 +2.5**
ELL	**Elmali**	**38.88 287**		P		**P**	**11 17 34.7 -0.1**
ELL				pmax		pmax	
	comp=Z,58nm,0.9s						
ELL	**Elmali**	**38.88 287**		P		**P**	**11 17 34.7 -0.1**
KSRS	**Korea Array**	**39.54 72**		P		**P**	**11 17 38.2 -1.9**
	comp=Z,1.7nm,0.8s,baz=278,slow=8.1,SNR=7.6						
MNSI	**Mandailing Nat**	**39.68 146**		P		**P**	**11 17 44.3 +2.8**
MDJ	**Mudanjiang**	**39.71 61**		P		**P**	**11 17 40.4 -1.1**
VRI	**Vrincioaia**	**39.95 301**		⇑P		**P**	**11 17 46.8 +3.3**
VRI	**Vrincioaia**	**39.95 301**		⇑P		**P**	**11 17 46.8 +3.3**
TESR	**Tescani**	**39.97 302**		⇑P		**P**	**11 17 46.6 +3.0**
PLOR	**Plostina**	**40.01 301**		⇑P		**P**	**11 17 44.8 +0.8**
PLOR	**Plostina**	**40.01 301**		⇑P		**P**	**11 17 44.8 +0.8**
ISR	**Istrita**	**40.13 300**		⇑P		**P**	**11 17 49.3 +4.2**
ISR	**Istrita**	**40.13 300**		⇑P		**P**	**11 17 49.3 +4.2**
NACGM	**Naroch**	**40.20 315**	*j*	P		**P**	**11 17 45.7 +0.3**
COVR	**Voineasa-Covas**	**40.32 301**		⇑P		**P**	**11 17 50.4 +3.8**
BIZ	**Bicaz**	**40.32 303**		⇑P		**P**	**11 17 49.6 +3.1**
MLR	**Muntele Rosu**	**40.52 301**		⇑P		**P**	**11 17 50.4 +2.0**
MLR	**Muntele Rosu**	**40.52 301**		P		**P**	**11 17 49.7 +1.3**
	comp=Z,35nm,0.8s,baz=138,slow=4.1,SNR=21						
MLR	**Muntele Rosu**	**40.52 301**		⇑P		**P**	**11 17 50.4 +2.0**
LVZ	**Lovozero**	**40.78 336**	*ce*	P		**P**	**11 17 52.1 +2.0**
LVZ				pmax		pmax	
	comp=Z,53nm,1.3s						
LVZ	**Lovozero**	**40.78 336**		P		**P**	**11 17 50.8 +0.6**
LVZ				IAmb		IAmb	11 17 53.6
	comp=Z,26nm,0.8s						
VSU	**Vasula**	**40.80 321**		*e*P		**P**	**11 17 50.8 +0.5**
VSU	**Vasula**	**40.80 321**	⇑	*e*P		**P**	**11 17 51.8 +1.5**
VSU				pmax		pmax	
	comp=Z,106nm,1.5s						
DOPR	**Dopca**	**40.88 302**		⇑P		**P**	**11 17 54.5 +3.4**
BURAR	**Bucovina Array**	**40.89 304**		⇑P		**P**	**11 17 54.0 +2.6**
BURAR	**Bucovina Array**	**40.89 304**		⇑P		**P**	**11 17 54.0 +2.6**
BURAR	**Bucovina Array**	**40.89 304**		P		**P**	**11 17 51.1 -0.3**
BUR08	**Bucovina Ar. S**	**40.90 304**		P		**P**	**11 17 51.3 -0.2**
KLR	**Kul'dur**	**40.96 53**		*d*P		**P**	**11 17 50.5 -1.3**
	comp=Z,3.7nm,0.8s,baz=282,slow=9.2,SNR=15						
KLR	**Kul'dur**	**40.96 53**	*d*	*i*P		**P**	**11 17 50.2 -1.6**
KLR				pmax		pmax	
	comp=Z,6.0nm,0.9s						
APA	**Apatity**	**41.04 336**	⇓	*i*P		**P**	**11 17 53.7 +1.6**
APA				pmax		pmax	
	comp=Z,5.0nm,0.8s						
APA				MLR		MLR	
	comp=Z,900nm,15.0s						
VOIR		**41.16 301**		⇑P		**P**	**11 17 54.3 +0.8**
VOIR		**41.16 301**		⇑P		**P**	**11 17 54.3 +0.8**
ARR	**Arges**	**41.45 301**		⇑P		**P**	**11 17 59.1 +3.2**
YAK	**Yakutsk**	**41.45 34**		LR		LR	11 36 56.6
	comp=Z,212nm,18.5s,baz=266,slow=39						
USRK	**Ussuriysk Ar.**	**41.46 61**		P		**P**	**11 17 54.7 -1.2**
	comp=Z,1.3nm,0.7s,baz=276,slow=6.0,SNR=1.4						
ARCR	**ARCALIA**	**41.51 303**		⇑P		**P**	**11 17 59.7 +3.4**
PDSI	**Padang**	**41.59 146**		P		**P**	**11 17 56.1 -1.2**
	comp=Z,4µmcomp=Z,10nm,1.0s						
LVV	**L'vov**	**41.61 308**		*e*P		**P**	**11 17 59.4 +2.3**
FIA1	**FINESS Array S**	**41.78 325**		P		**P**	**11 17 58.3 0.0**
FIA1				IAmb		IAmb	11 18 01.3
	comp=Z,18nm,0.8s						
FINES	**FINESS Array B**	**41.78 325**		P		**P**	**11 17 58.4 +0.1**
	comp=Z,16nm,0.6s,baz=112,slow=9.0,SNR=39						
FINES				LR		LR	11 35 55.9
	comp=Z,274nm,18.1s,baz=84,slow=37						
FINES	**FINESS Array B**	**41.78 325**		P		**P**	**11 17 58.2 -0.1**
PABE	**Paberze**	**41.87 316**		*e*P		**P**	**11 18 00.0 +0.9**
PABE	**Paberze**	**41.87 316**		P		**P**	**11 17 59.0 -0.1**
SUW	**Suwalki**	**42.22 314**		P		**P**	**11 18 03.0 +1.0**
SUW				pmax		pmax	
	comp=Z,38nm,0.6s						
SUW	**Suwalki**	**42.22 314**		P		**P**	**11 18 03.0 +1.0**
MEF	**Metsahovi**	**42.32 323**		*e*P		**P**	**11 18 04.2 +1.5**
MTSE	**Matsula**	**42.35 321**		*e*P		**P**	**11 18 04.5 +1.5**
KWP	**Kalwaria Pacla**	**42.47 307**		P		**P**	**11 18 04.5 +0.3**
KWP				pmax		pmax	
	comp=Z,153nm,1.0s						
KWP	**Kalwaria Pacla**	**42.47 307**		P		**P**	**11 18 04.5 +0.3**
DRGR		**42.65 303**		⇑P		**P**	**11 18 09.2 +3.4**
DRGR		**42.65 303**		⇑P		**P**	**11 18 09.2 +3.4**
GZR	**Gura Zlata**	**42.75 301**		⇑P		**P**	**11 18 10.0 +3.4**
GZR	**Gura Zlata**	**42.75 301**		⇑P		**P**	**11 18 10.0 +3.4**
KOLS	**Kolonicke sedl**	**42.79 306**		*e*P		**P**	**11 18 09.0 +2.2**
KOLS				pmax		pmax	
	comp=Z,21nm,1.2s						
KOLS	**Kolonicke sedl**	**42.79 306**		*e*P		**P**	**11 18 09.0 +2.2**
IDI	**Anoyia**	**43.18 286**		P		**P**	**11 18 11.0 +0.8**
	comp=Z,4.7nm,0.5s,baz=31,slow=5.9,SNR=2.2						
BZS	**Buzias**	**43.54 302**		⇑P		**P**	**11 18 16.3 +3.5**
BZS	**Buzias**	**43.54 302**		⇑P		**P**	**11 18 16.3 +3.5**
BOVS	**Bovan**	**43.75 299**		⇑P		**P**	**11 18 17.6 +3.0**
NIE	**Niedzica**	**44.05 307**		*e*P		**P**	**11 18 21.1 +4.1**
AGG	**Agios Georgios**	**44.20 292**		P		**P**	**11 18 18.3 0.0**
AGG				pmax		pmax	
	comp=Z,35nm,1.4s						
AGG	**Agios Georgios**	**44.20 292**		P		**P**	**11 18 18.3 0.0**
AGG				IAmb		IAmb	11 18 22.0
	comp=Z,35nm,1.4s						
OJC	**Ojcow**	**44.32 308**		*e*P		**P**	**11 18 21.3 +2.2**
OJC	**Ojcow**	**44.32 308**		P		**P**	**11 18 19.0 0.0**
OJC				pmax		pmax	
	comp=Z,18nm,0.9s						
OJC	**Ojcow**	**44.32 308**		P		**P**	**11 18 19.0 0.0**
OJC				IAmb		IAmb	11 18 22.5
	comp=Z,18nm,0.9s						
PSZ	**Piszkesteto**	**44.45 305**		*e*P		**P**	**11 18 20.5 +0.3**
PSZ	**Piszkesteto**	**44.45 305**		P		**P**	**11 18 19.3 -0.9**
PSZ				pmax		pmax	
	comp=Z,9.0nm,0.9s						
PSZ	**Piszkesteto**	**44.45 305**		P		**P**	**11 18 19.2 -0.9**
ARA0	**ARCESS Array S**	**44.50 336**		*e*P		**P**	**11 18 19.6 -0.7**
ARCES	**ARCESS Array B**	**44.50 336**		P		**P**	**11 18 20.2 0.0**
	comp=Z,20nm,0.6s,baz=105,slow=7.9,SNR=36						
ARCES				LR		LR	11 38 25.8
	comp=Z,382nm,18.6s,baz=120,slow=38						
ARCES	**ARCESS Array B**	**44.50 336**		P		**P**	**11 18 20.3 0.0**
ARCES				pmax		pmax	
	comp=Z,27nm,0.8s						
ARCES	**ARCESS Array B**	**44.50 336**		P		**P**	**11 18 20.3 0.0**
FNA	**Florina**	**44.52 295**		P		**P**	**11 18 20.6 -0.3**
FNA				pmax		pmax	
	comp=Z,11nm,1.0s						
FNA	**Florina**	**44.52 295**		P		**P**	**11 18 20.6 -0.3**
FNA				IAmb		IAmb	11 18 23.8
	comp=Z,11nm,1.0s						
TIXI	**Tiksi**	**44.63 20**		LR		LR	11 38 17.4
	comp=Z,352nm,18.1s,baz=254,slow=38						
FRGS	**Fruska Gora**	**44.86 301**		⇑P		**P**	**11 18 26.4 +2.9**
DIVS	**Divibare**	**44.90 300**		P		**P**	**11 18 24.2 +0.4**
DIVS				IAmb		IAmb	11 18 27.8
	comp=Z,19nm,1.0s						
KTK1	**Kautokeino**	**45.08 335**		*e*P		**P**	**11 18 24.4 -0.5**
VYHS	**Vyhne**	**45.09 306**		*e*P		**P**	**11 18 28.2 +2.9**
VYHS				pmax		pmax	
	comp=Z,25nm,1.4s						
VYHS	**Vyhne**	**45.09 306**		*e*P		**P**	**11 18 28.2 +2.9**
PUK	**Puka**	**45.35 297**		P		**P**	**11 18 27.2 -0.3**
PUK				IAmb		IAmb	11 18 30.5
	comp=Z,17nm,1.0s						
HAMF	**Hammerfest**	**45.49 338**		*e*P		**P**	**11 18 28.2 +0.2**
MORH	**Mrgy, Hungar**	**45.51 303**		*e*P		**P**	**11 18 29.3 +0.8**
MORC	**Moravsky Berou**	**45.81 308**		⇑P		**P**	**11 18 33.5 +2.6**
MORC	**Moravsky Berou**	**45.81 308**		⇑P		**P**	**11 18 33.5 +2.6**
MORC	**Moravsky Berou**	**45.81 308**		P		**P**	**11 18 30.9 -0.1**
MORC				IAmb		IAmb	11 18 34.8
	comp=Z,17nm,1.1s						
MORC	**Moravsky Berou**	**45.81 308**		*e*P		**P**	**11 18 33.2 +2.3**
JAVC	**Velka Javorina**	**45.82 307**		*e*P		**P**	**11 18 34.6 +3.5**
KOVH	**Kovagotottos**	**45.90 303**		*e*P		**P**	**11 18 31.8 +0.1**
MODS	**Modra-Piesok**	**46.14 306**		*e*P		**P**	**11 18 35.2 +1.7**
MODS				pmax		pmax	
	comp=Z,8.0nm,1.0s						
MODS	**Modra-Piesok**	**46.14 306**		*e*P		**P**	**11 18 35.2 +1.7**
JETT	**Jettan, Norway**	**46.20 336**		*e*P		**P**	**11 18 34.0 +0.3**
KRLC	**Kraliky**	**46.27 308**		*e*P		**P**	**11 18 34.5 -0.1**
KRLC				*e*			11 18 37.4
KRLC	**Kraliky**	**46.27 308**		*e*P		**P**	**11 18 34.5 -0.1**
VRAC	**Vranov**	**46.47 307**		P		**P**	**11 18 36.9 +0.8**
	comp=Z,16nm,0.9s,baz=93,slow=9.0,SNR=12						
VRAC	**Vranov**	**46.47 307**		*e*P		**P**	**11 18 38.6 +2.5**
KSP	**Ksiaz**	**46.50 309**		*e*P		**P**	**11 18 38.9 +2.6**
DPC	**Dobruska-Polom**	**46.53 309**		*e*P		**P**	**11 18 37.0 +0.4**
DPC				MLR		MLR	
	comp=Z,300nm,11.6s						
DPC	**Dobruska-Polom**	**46.53 309**		*e*P		**P**	**11 18 37.0 +0.4**
DPC				AMS		AMS	11 40 20.0
	comp=Z,300nm,11.6s						
OSTC	**Ostas**	**46.58 309**		*e*P		**P**	**11 18 39.6 +2.6**
KRUC	**Moravsky**	**46.63 307**		*e*P		**P**	**11 18 39.8 +2.4**
UPC	**Upice**	**46.71 309**		*e*P		**P**	**11 18 38.5 +0.5**
UPC				MLR		MLR	
	comp=Z,300nm,12.3s						
UPC	**Upice**	**46.71 309**		*e*P		**P**	**11 18 38.5 +0.5**
UPC				AMS		AMS	11 40 30.0
	comp=Z,300nm,12.3s						
TRO	**Tromso**	**46.72 336**		*e*P		**P**	**11 18 38.0 +0.3**
STKI	**Sintang**	**46.75 131**		P		**P**	**11 18 41.6 +3.0**
CONA	**Conrad Observa**	**47.14 306**		*e*P		**P**	**11 18 44.1 +2.7**
	comp=Z,21nm,0.9s,SNR=13						
ARSA	**Arzberg**	**47.47 305**		*e*P		**P**	**11 18 46.7 +2.7**
	comp=Z,7.4nm,0.7s						
FAUS	**Fauske**	**47.56 332**		*e*P		**P**	**11 18 45.3 +0.9**
HFS	**Hagfors**	**47.62 322**		P		**P**

	comp=Z,200nm,14.8s						
KHC	**Kasperske Hory**	**48.46**	**307**	*e*P	**P**	**11 18 51.9**	**+0.3**
KHC				*e*PP	**PP**	**11 20 44.0**	**-0.2**
KHC				AMS	AMS	11 41 40.0	
	comp=Z,200nm,14.8s						
CLL	**Collm**	**48.51**	**310**	*e*P	**P**	**11 18 52.0**	**+0.1**
	comp=Z,12nm,1.0s						
CLL				*e*SS	SS	11 29 24.0	+2.9
CLL				Lm	MLR	11 41 00.0	
	comp=Z,400nm,20.8s						
CLL	**Collm**	**48.51**	**310**	P	**P**	**11 18 52.2**	**+0.3**
CLL				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CLL	**Collm**	**48.51**	**310**	P	**P**	**11 18 52.2**	**+0.3**
CLL				IAmb	IAmb	11 18 55.1	
	comp=Z,10nm,0.9s						
CLL	**Collm**	**48.51**	**310**	*e*P	**P**	**11 18 54.1**	**+2.2**
	comp=Z,12nm,0.9s,baz=81,slow=7.7						
CLL				*e*L	L	11 41 21.6	
	comp=Z,375nm,20.9s						
NSS	**Namsos**	**48.60**	**328**	*e*P	**P**	**11 18 53.1**	**+0.7**
NC405	**NORSAR Array S**	**48.61**	**324**	P	**P**	**11 18 51.5**	**-1.0**
NC602	**NORSAR Array S**	**48.69**	**323**	*e*P	**P**	**11 18 53.0**	**-0.2**
NC602	**NORSAR Array S**	**48.69**	**323**	P	**P**	**11 18 54.1**	**+1.0**
JAVS	**Javornik**	**48.71**	**303**	*i* P	**P**	**11 18 56.1**	**+2.4**
NC303	**NORSAR Array S**	**48.78**	**324**	P	**P**	**11 18 53.0**	**-0.8**
NB2	**NORSAR Subarra**	**48.85**	**323**	P	**P**	**11 18 53.4**	**-1.1**
	comp=Z,15nm,0.9s,baz=90,slow=7.9						
NB2	**NORSAR Subarra**	**48.85**	**323**	P	**P**	**11 18 53.4**	**-1.1**
	baz=90,slow=7.9						
NOA	**NORSAR Array B**	**48.85**	**323**	P	**P**	**11 18 54.3**	**-0.1**
	comp=Z,9.6nm,0.8s,baz=90,slow=7.6,SNR=17						
NOA				LR	LR	11 40 28.7	
	comp=Z,234nm,21.6s,baz=75,slow=37						
CADS	**Cadrg**	**48.86**	**304**	*i* P	**P**	**11 18 57.0**	**+2.2**
WET	**Wettzell**	**48.91**	**308**	*e*P	**P**	**11 18 57.7**	**+2.7**
	comp=Z,11nm,0.9s,baz=81,slow=7.7						
WET				*e*L	L	11 41 19.9	
	comp=Z,168nm,20.2s						
KBA	**Koelnbreinsper**	**48.97**	**305**	*e*P	**P**	**11 18 57.9**	**+2.2**
	comp=Z,6.1nm,0.8s						
TANN	**Tannenbergstha**	**48.98**	**309**	*e*P	**P**	**11 18 58.2**	**+2.6**
	comp=Z,8.3nm,0.9s,baz=81,slow=7.7						
GUNZ	**Gunzen**	**49.07**	**309**	*e*P	**P**	**11 18 58.8**	**+2.5**
	comp=Z,10nm,0.9s,baz=81,slow=7.7						
NC204	**NORSAR Array S**	**49.07**	**324**	P	**P**	**11 18 55.2**	**-0.9**
PLN	**Plauen**	**49.16**	**309**	*e*P	**P**	**11 18 59.5**	**+2.6**
	comp=Z,30nm,1.7s,baz=81,slow=7.7						
ROTZ	**Rotzenmuhle**	**49.24**	**308**	*e*P	**P**	**11 19 00.5**	**+2.9**
	comp=Z,20nm,1.2s,baz=81,slow=7.7						
FLTG	**Flechtingen**	**49.46**	**312**	*e*P	**P**	**11 19 01.2**	**+2.1**
	comp=Z,26nm,0.8s,baz=81,slow=7.7						
MOX	**Moxa**	**49.47**	**310**	*e*P	**P**	**11 19 01.9**	**+2.6**
	comp=Z,22nm,1.3s,baz=81,slow=7.7						
MOX				*e*L	L	11 42 02.6	
	comp=Z,274nm,20.8s						
ABTA	**Abfaltersbach**	**49.59**	**304**	*e*P	**P**	**11 19 02.2**	**+1.8**
	comp=Z,6.7nm,0.9s						
KONO	**Kongsberg**	**49.70**	**322**	*e*P	**P**	**11 19 01.4**	**+0.5**
BSEG	**Bad Segeberg**	**49.80**	**314**	*e*P	**P**	**11 19 04.6**	**+2.9**
	comp=Z,22nm,0.8s,baz=81,slow=7.7						
BSEG				*e*L	L	11 41 53.8	
	comp=Z,346nm,19.1s						
GRA1	**Grafenberg Arr**	**49.88**	**308**	P	**P**	**11 19 01.2**	**-1.3**
GRF	**Grafenberg Arr**	**49.88**	**308**	P	**P**	**11 19 01.2**	**-1.3**
GRF				pmax	pmax		
	comp=Z,29nm,1.0s						
GRF	**Grafenberg Arr**	**49.88**	**308**	*e*P	**P**	**11 19 05.9**	**+3.5**
	comp=Z,31nm,1.0s,baz=81,slow=7.7						
GRF				*e*L	L	11 43 34.0	
	comp=Z,169nm,19.9s						
SPA0	**Spitsberger Ar**	**49.96**	**346**	*e*P	**P**	**11 19 02.7**	**+0.1**
NRCA	**Norcia**	**50.06**	**299**	P	**P**	**11 19 03.7**	**-0.3**
NRCA				IAmb	IAmb	11 19 07.7	
	comp=Z,12nm,0.8s						
WTTA	**Wettenberg**	**50.07**	**305**	*e*P	**P**	**11 19 06.3**	**+2.2**
	comp=Z,7.7nm,0.7s						
NRDL	**Niedersach Rie**	**50.12**	**312**	*e*P	**P**	**11 19 07.0**	**+2.9**
	comp=Z,58nm,1.4s,baz=81,slow=7.7						
FUR	**Furstenfeldbru**	**50.13**	**307**	*e*L	L	11 42 10.3	
	comp=Z,153nm,20.7s						
SKAR	**Skarslia**	**50.29**	**323**	*e*P	**P**	**11 19 06.1**	**+0.7**
CTI	**Castel Tesino**	**50.32**	**304**	P	**P**	**11 19 06.0**	**0.0**
CTI				pmax	pmax		
	comp=Z,13nm,0.9s						
CTI	**Castel Tesino**	**50.32**	**304**	P	**P**	**11 19 06.0**	**0.0**
CTI				IAmb	IAmb	11 19 08.7	
	comp=Z,13nm,0.9s						
GTTG	**Gottingen**	**50.36**	**311**	*e*P	**P**	**11 19 08.9**	**+2.9**
	comp=Z,48nm,0.9s,baz=81,slow=7.7						
SQTA	**Sankt Quirin**	**50.37**	**305**	*e*P	**P**	**11 19 07.8**	**+1.5**
	comp=Z,9.6nm,0.6s						
MURB	**Monte Urbino**	**50.37**	**300**	P	**P**	**11 19 06.6**	**+0.3**
MOTA	**Moosalm**	**50.41**	**306**	*e*P	**P**	**11 19 08.1**	**+1.4**
	comp=Z,11nm,0.7s,SNR=5.1						
MOL	**Molde**	**50.56**	**325**	*e*P	**P**	**11 19 07.1**	**-0.2**
RETA	**Reutte**	**50.61**	**306**	*e*P	**P**	**11 19 09.6**	**+1.5**
	comp=Z,8.5nm,0.8s						
FETA	**Feichten**	**50.73**	**305**	*e*P	**P**	**11 19 10.5**	**+1.4**
	comp=Z,9.8nm,0.8s						
MILB	**Miltenberg**	**51.09**	**309**	*e*P	**P**	**11 19 14.0**	**+2.4**
	comp=Z,23nm,1.3s,baz=81,slow=7.7						
DAVA	**Damuels**	**51.23**	**306**	*e*P	**P**	**11 19 14.8**	**+1.9**
	comp=Z,26nm,0.7s,SNR=8.1						
DAVOX	**Davos/Dischmat**	**51.35**	**305**	P	**P**	**11 19 14.7**	**+0.9**
	comp=Z,15nm,0.6s,baz=93,slow=8.9,SNR=22						
MA2	**Magadan**	**51.51**	**38**	*e*P	**P**	**11 19 14.2**	**-0.4**
MA2				pmax	pmax		
	comp=Z,28nm,1.9s						
TNS	**Taunus Mts**	**51.54**	**310**	*e*L	L	11 43 15.1	
	comp=Z,284nm,19.4s						
BBKI	**Banjar Baru**	**51.58**	**131**	P	**P**	**11 19 19.1**	**+3.5**
SEY	**Seymchan**	**51.98**	**34**	LR	LR	11 43 19.2	
	comp=Z,368nm,18.2s,baz=266,slow=38						
BFO	**Black Forest**	**52.02**	**307**	*e*L	L	11 44 30.4	
	comp=Z,112nm,20.8s						
MPSI	**Mapaga**	**52.03**	**123**	P	**P**	**11 19 23.1**	**+4.1**
KBKI	**Kotabaru**	**52.28**	**129**	P	**P**	**11 19 24.4**	**+3.6**
KMBO	**Kilima Mbogo**	**52.85**	**236**	P	**P**	**11 19 25.3**	**-0.1**
	comp=Z,3.5nm,0.7s,baz=43,slow=8.5,SNR=7.9						
KMBO				LR	LR	11 41 52.8	
	comp=Z,108nm,21.8s,baz=92,slow=36						
BTNL	**Ternell**	**52.92**	**310**	*dp*P	**P**	**11 19 27.7**	**+2.5**
MEM	**Membach**	**52.99**	**310**	*dp*P	**P**	**11 19 28.3**	**+2.6**
BHOU	**Houvegnez**	**53.05**	**310**	*dp*P	**P**	**11 19 29.1**	**+3.0**
WLF	**Walferdange**	**53.11**	**309**	*dp*P	**P**	**11 19 29.8**	**+3.2**
SENIN	**Lac Senin/Sane**	**53.18**	**305**	P	**P**	**11 19 26.6**	**-0.8**
SENIN				IAmb	IAmb	11 19 30.3	
	comp=Z,17nm,0.8s						
KIBK	**Kibwezi**	**53.22**	**234**	P	**P**	**11 19 27.1**	**-0.8**
MRSI	**Marisa**	**53.35**	**121**	P	**P**	**11 19 31.4**	**+2.6**
BGES	**Gesves**	**53.61**	**310**	*dp*P	**P**	**11 19 32.7**	**+2.5**
BMRD	**Maredsous**	**53.83**	**310**	*dP*	**P**	**11 19 31.8**	**0.0**
BMRD				*dp*P	**pP**	**11 19 34.1**	**-7.5**
DOU	**Dourbes**	**53.99**	**310**	*dp*P	**P**	**11 19 35.3**	**+2.3**
TTSI	**Tana Toraja**	**54.46**	**126**	P	**P**	**11 19 35.5**	**-1.3**
	comp=Z,2μmcomp=Z,11nm,0.7s						
KEST	**Kesra**	**55.04**	**292**	P	**P**	**11 19 42.2**	**+1.2**
	comp=Z,5.5nm,0.7s,baz=82,slow=7.1,SNR=4.3						
PETK	**Petropavlovsk-**	**56.53**	**45**	P	**P**	**11 19 50.9**	**-0.3**
	comp=Z,1.8nm,0.9s,baz=282,slow=7.2,SNR=2.0						
PETK				LR	LR	11 45 52.6	
	comp=Z,112nm,19.4s,baz=279,slow=38						
SOEI	**Soe**	**62.38**	**127**	P	**P**	**11 20 28.5**	**-3.8**
SOEI	**Soe**	**62.38**	**127**	P	**P**	**11 20 32.5**	**+0.3**
	comp=Z,75nm,0.7s						
ESDC	**Sonseca Array**	**63.22**	**301**	P	**P**	**11 20 38.9**	**+1.4**
	comp=Z,2.7nm,0.7s,baz=55,slow=7.3,SNR=14						
NEEM	**North Greenlan**	**63.31**	**349**	*i* P	**P**	**11 20 37.3**	**-0.6**
SUMG	**Summit**	**63.98**	**343**	*i* P	**P**	**11 20 43.5**	**+1.1**
SUMG				IAmb	IAmb	11 20 47.5	
	comp=Z,11nm,0.9s						
ICESG	**Greenland Ices**	**66.40**	**340**	*i* P	**P**	**11 21 00.3**	**+2.2**
ICESG				IAmb	IAmb	11 21 01.6	
	comp=Z,13nm,0.9s						
JAY	**Jayapura**	**69.26**	**109**	LR	LR	11 50 27.7	
	comp=Z,42nm,20.6s,baz=42,slow=35						
LSZ	**Lusaka**	**69.29**	**232**	P	**P**	**11 21 15.5**	**-1.2**
LSZ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
LSZ	**Lusaka**	**69.29**	**232**	P	**P**	**11 21 15.5**	**-1.2**
LSZ				IAmb	IAmb	11 21 19.9	
	comp=Z,6.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**69.55**	**132**	LR	LR	11 54 58.7	
	comp=Z,38nm,19.1s,baz=309,slow=39						
FITZ	**Fitzroy Crossi**	**69.55**	**132**	P	**P**	**11 21 16.0**	**-2.1**
FITZ				IAmb	IAmb	11 21 16.4	
	comp=Z,6.9nm,1.1s						
IMAR	**Indian Mountai**	**71.28**	**20**	P	**P**	**11 21 26.6**	**-1.5**
COLD	**Coldfoot**	**71.28**	**18**	P	**P**	**11 21 27.8**	**-0.3**
COLD				IAmb	IAmb	11 21 32.4	
	comp=Z,6.1nm,0.9s						
TORD	**Torodi Ar. Bea**	**71.73**	**273**	P	**P**	**11 21 32.9**	**+1.2**
	comp=Z,3.8nm,0.6s,baz=46,slow=5.1,SNR=21						
TORD				LR	LR	11 56 42.5	
	comp=Z,44nm,18.7s,baz=160,slow=39						
TORD	**Torodi Ar. Bea**	**71.73**	**273**	P	**P**	**11 21 29.9**	**-1.8**
H21K	**Melozitna Rive**	**71.78**	**20**	P	**P**	**11 21 30.2**	**-0.9**
I21K	**Tanana**	**72.37**	**20**	P	**P**	**11 21 34.3**	**-0.3**
I21K				IAmb	IAmb	11 21 37.8	
	comp=Z,13nm,1.4s						
BMAR	**Burnt Mountain**	**72.47**	**16**	P	**P**	**11 21 34.8**	**-0.5**
J20K	**Nowinta River**	**72.49**	**21**	P	**P**	**11 21 35.0**	**-0.4**
J20K				IAmb	IAmb	11 21 40.1	
	comp=Z,5.9nm,0.8s						
MLY	**Manley**	**72.83**	**20**	P	**P**	**11 21 36.7**	**-0.8**
BPAW	**Bear Paw Mtn.**	**73.47**	**20**	P	**P**	**11 21 39.5**	**-1.7**
NEA2	**Nenana**	**73.62**	**19**	P	**P**	**11 21 41.4**	**-0.7**
NEA2				IAmb	IAmb	11 21 46.1	
	comp=Z,6.5nm,0.8s						
CAST	**Castle Rocks**	**73.67**	**21**	P	**P**	**11 21 41.9**	**-0.6**
CAST				IAmb	IAmb	11 21 45.4	
	comp=Z,19nm,1.4s						
TCOL	**CIGO, UAF Yank**	**73.72**	**19**	P	**P**	**11 21 41.5**	**-1.1**
TCOL				IAmb	IAmb	11 21 45.4	
	comp=Z,17nm,1.4s						
COLA	**College**	**73.72**	**19**	P	**P**	**11 21 41.8**	**-0.8**
COLA				pmax	pmax		
	comp=Z,19nm,1.4s						
COLA	**College**	**73.72**	**19**	P	**P**	**11 21 41.8**	**-0.8**
COLA				IAmb	IAmb	11 21 45.4	
	comp=Z,19nm,1.4s						
ILAR	**Eielson Array**	**74.06**	**18**	P	**P**	**11 21 42.8**	**-1.8**
	comp=Z,2.4nm,0.7s,baz=318,slow=4.5,SNR=20						
ILAR				LR	LR	11 58 58.8	
	comp=Z,129nm,18.9s,baz=306,slow=40						
RIDG	**Independent Ri**	**75.42**	**18**	P	**P**	**11 21 50.4**	**-2.2**
RIDG				IAmb	IAmb	11 21 54.6	
	comp=Z,14nm,1.2s						
SCRK	**Sand Creek**	**75.44**	**18**	P	**P**	**11 21 51.6**	**-1.2**
KOWA	**Kowa**	**75.64**	**278**	P	**P**	**11 21 53.8**	**-0.8**
PAX	**Paxson**	**75.88**	**19**	P	**P**	**11 21 55.1**	**-0.3**
PAX				pmax	pmax		
	comp=Z,6.0nm,1.0s						
PAX	**Paxson**	**75.88**	**19**	P	**P**	**11 21 55.1**	**-0.3**
WRA	**Warramunga Arr**	**76.42**	**127**	P	**P**	**11 21 56.5**	**-2.3**
	comp=Z,5.6nm,0.9s,baz=310,slow=6.2,SNR=28						
WRA	**Warramunga Arr**	**76.42**	**127**	*i* P	**P**	**11 21 56.5**	**-2.3**
WRA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WRA	**Warramunga Arr**	**76.42**	**127**	P	**P**	**11 21 56.7**	**-2.1**
WRAB	**Tennant Creek**	**76.42**	**127**	*e*P	**P**	**11 21 56.7**	**-2.1**
WRAB				pmax	pmax		
	comp=Z,13nm,1.3s						
WRAB	**Tennant Creek**	**76.42**	**127**	P	**P**	**11 21 56.7**	**-2.1**
WRAB				IAmb	IAmb	11 22 01.9	
	comp=Z,7.8nm,0.8s						
WB2	**Warramunga Arr**	**76.42**	**127**	P	**P**	**11 21 55.3**	**-3.5**
WB2				IAmb	IAmb	11 21 57.5	
	comp=Z,12nm,1.1s						
DAWY	**Dawson**	**76.46**	**16**	P	**P**	**11 21 57.3**	**-1.2**
WR0	**Warramunga Arr**	**76.56**	**127**	P	**P**	**11 21 56.4**	**-3.2**
L27K	**Beaver Creek,**	**76.74**	**18**	P	**P**	**11 21 59.8**	**-0.3**
BCAR	**Beaver Creek A**	**76.75**	**18**	P	**P**	**11 21 59.1**	**-1.1**
KDAK	**Kodiak Island**	**77.79**	**25**	P	**P**	**11 22 05.9**	**-0.1**
	comp=Z,4.5nm,0.8s,baz=315,slow=7.1,SNR=1.7						
LBTB	**Lobatse**	**78.13**	**228**	P	**P**	**11 22 08.3**	**-0.1**
LBTB				pmax	pmax		
	comp=Z,24nm,1.2s						
LBTB	**Lobatse**	**78.13**	**228**	P	**P**	**11 22 08.3**	**-0.1**
AS31	**Alice Springs**	**78.81**	**130**	P	**P**	**11 22 09.9**	**-2.3**
ASAR	**Alice Springs**	**78.81**	**130**	P	**P**	**11 22 10.0**	**-2.2**
	comp=Z,3.4nm,0.8s,baz=322,slow=5.9,SNR=34						
ASAR				PKKPbc	**PKKPbc**	**11 41 07.7**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=156,slow=2.5,SNR=4.6						
ASAR	**Alice Springs**	**78.81**	**130**	P	**P**	**11 22 10.0**	**-2.2**
DBIC	**Dimbokro**	**80.68**	**272**	P	**P**	**11 22 23.1**	**+0.5**
	comp=Z,7.1nm,1.0s,baz=32,slow=12,SNR=3.9						
DBIC				LR	LR	12 00 33.1	
	comp=Z,93nm,18.7s,baz=66,slow=37						
KIC	**Kosan Boka**	**80.76**	**271**	*e*PKIKP	**P**	**11 22 24.5**	**+1.5**
	comp=Z,20nm,0.8s						
TIC	**Toumodi**	**80.83**	**272**	*e*PKIKP	**P**	**11 22 24.7**	**+1.3**
BOSA	**Boshof**	**81.02**	**225**	P	**P**	**11 22 23.4**	**-0.8**
	comp=Z,8.2nm,0.7s,baz=20,slow=3.3,SNR=13						
BOSA	**Boshof**	**81.02**	**225**	P	**P**	**11 22 23.3**	**-0.8**
BOSA				IAmb	IAmb	11 22 23.7	
	comp=Z,15nm,0.9s						
LIC	**Lamto**	**81.07**	**271**	*e*PKIKP	**P**	**11 22 25.1**	**+0.4**
	comp=Z,46nm,1.1s						
YKA	**Yellowknife Ar**	**81.88**	**6**	P	**P**	**11 22 26.8**	**-1.3**
	comp=Z,4.2nm,0.7s,baz=350,slow=4.8,SNR=5.4						
YKA				LR	LR	12 02 39.7	
	comp=Z,124nm,18.7s,baz=0.0,slow=38						
DLBC	**Dease Lake**	**83.54**	**15**	P	**P**	**11 22 35.8**	**-1.1**
DLBC				IAmb	IAmb	11 22 36.9	
	comp=Z,13nm,1.4s						
CTAO	**Charters Tower**	**84.69**	**119**	P	**P**	**11 22 41.5**	**-1.7**
CTAO				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CTAO	**Charters Tower**	**84.69**	**119**	P	**P**	**11 22 41.5**	**-1.7**
CTAO				IAmb	IAmb	11 22 45.2	
	comp=Z,10nm,0.9s						
SCHQ	**Schefferville**	**85.29**	**341**	LR	LR	12 05 08.4	
	comp=Z,139nm,18.5s,baz=44,slow=39						
SUR	**Sutherland**	**86.38**	**226**	P	**P**	**11 22 50.2**	**-1.4**
STKA	**Stephens Creek**	**89.41**	**131**	P	**P**	**11 23 04.1**	**-1.7**
	comp=Z,2.0nm,0.7s,baz=311,slow=8.0,SNR=4.1						
STKA	**Stephens Creek**	**89.41**	**131**	P	**P**	**11 23 03.3**	**-2.5**
ULM	**Lac du Bonnet**	**94.57**	**356**	LR	LR	12 10 54.4	
	comp=Z,280nm,18.2s,baz=348,slow=38						
NEW	**Newport**	**95.56**	**10**	P	**P**	**11 23 33.1**	**-1.1**
NEW				pmax	pmax		
	comp=Z,3.0nm,1.0s						
NEW	**Newport**	**95.56**	**10**	P	**P**	**11 23 33.1**	**-1.1**
NEW				IAmb	IAmb	11 23 38.1	
	comp=Z,2.8nm,0.9s						
PDAR	**Pinedale Array**	**101.87**	**6**	PKiKP	**PKiKP**	**11 28 26.5**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=132,slow=2.2,SNR=3.7						
TXAR	**Lajitas Array**	**115.58**	**2**	PKP	**PKiKP**	**11 28 51.2**	**-0.4**
	comp=Z,0.1nm,0.5s,baz=154,slow=1.2,SNR=4.2						
LPAZ	**La Paz**	**144.61**	**294**	PKP	**PKPdf**	**11 29 46.4**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=5.9,slow=2.4,SNR=6.9						

*IDC **16** 11:49:34.3±0.4,30.00°S×177.68°W,h0km,mb4.7/21, mb1 4.8/23,mb1mx4.8/30,mbtmp4.7/23,ML4.4/2,MS3.9/14, Ms1 3.9/14,ms1mx3.6/25,Error ellipse: s-maj=15.5km s-min=14.5km az=147.0*

*NEIC **16** 11:49:40.3±1.9,30.16°S±0.05°×177.6°W±0.1°,h35km±1km, mb4.9/75, Error ellipse: s-maj=15.7km s-min=8.7km az=83.0*

ISC 16 11:49:38.9±0.3,30.26°S±0.04°×177.58°W±0.06°,h33km, n322,σ2ϕ04/316,mb4.9/60,MS3.9/16,2D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.04**	**344**	P	**Pn**	**11 49 56.5**	**-0.6**
GLKZ				S	**Sn**	**11 50 08.5**	**-2.0**
RAO	**Raoul Island**	**1.05**	**344**	Pn	**Pn**	**11 49 56.7**	**-0.5**
	4μm,0.3s,baz=116,slow=4.2,SNR=276						
RAO				Sn	**Sn**	**11 50 08.1**	**-2.6**
	14μm,0.3s,baz=18,slow=20,SNR=22						
RAO	**Raoul Island**	**1.05**	**344**		**Pn**	**11 49 56.8**	**-0.5**
RAO				Sn	**Sn**	**11 50 09.3**	**-1.4**
RIZ	**Raoul Island**	**1.06**	**343**	P	**Pn**	**11 49 56.7**	**-0.6**
RIZ				S	**Sn**	**11 50 09.0**	**-1.9**
MXZ	**Matakaoa Point**	**8.04**	**204**	Pn	**Pn**	**11 51 30.5**	**-2.8**
MXZ	**Matakaoa Point**	**8.04**	**204**	P	**Pn**	**11 51 29.8**	**-3.5**
WMGZ	**Waiomatatini S**	**8.23**	**203**	P	**Pn**	**11 51 33.3**	**-2.7**
HAZ	**Te Kaha**	**8.40**	**206**	P	**Pn**	**11 51 35.7**	**-2.6**
HAZ				S	**Sn**	**11 53 12.5**	**+0.5**
PKGZ	**Pakihiroa**	**8.41**	**204**	P	**Pn**	**11 51 35.1**	**-3.4**
PKGZ				S	**Sn**	**11 53 09.1**	**-3.3**
PUZ	**Puketiti**	**8.52**	**203**	P	**Pn**	**11 51 36.3**	**-3.5**
PUZ				S	**Sn**	**11 53 11.7**	**-3.1**
RUGZ	**Raukumara Rang**	**8.63**	**206**	P	**Pn**	**11 51 38.5**	**-3.0**
TWGZ	**Tauwhareparae**	**8.71**	**204**	P	**Pn**	**11 51 40.0**	**-2.5**
TWGZ				S	**Sn**	**11 53 18.7**	**-0.8**
CNGZ	**Carnagh Statio**	**8.91**	**202**	P	**Pn**	**11 51 41.9**	**-3.3**
TKGZ	**Te Karaka**	**8.99**	**204**	P	**Pn**	**11 51 43.5**	**-2.8**
TKGZ				S	**Sn**	**11 53 22.8**	**-3.5**
OPRZ	**Ohinepanea**	**8.99**	**211**	P	**Pn**	**11 51 45.7**	**-0.6**
OPRZ				S	**Sn**	**11 53 25.9**	**-0.4**
MWZ	**Matawai**	**9.01**	**205**	P	**Pn**	**11 51 42.6**	**-4.0**
URZ	**Urewera**	**9.10**	**207**	Pn	**Pn**	**11 51 45.2**	**-2.6**
	1.3nm,0.3s,baz=120,slow=20,SNR=7.2						
URZ				Sn	**Sn**	**11 53 26.6**	**-2.5**
	11nm,0.3s,baz=255,slow=20,SNR=5.6						
URZ	**Urewera**	**9.10**	**207**	P	**Pn**	**11 51 44.6**	**-3.2**
URZ				S	**Sn**	**11 53 25.0**	**-4.1**
RIGZ	**Rimuhau**	**9.25**	**203**	P	**Pn**	**11 51 47.0**	**-3.0**
PRGZ	**Paritu Road**	**9.41**	**202**	P	**Pn**	**11 51 47.7**	**-4.4**
PRGZ				S	**Sn**	**11 53 30.6**	**-6.1**
RRRZ	**Republican Roa**	**9.42**	**210**	P	**Pn**	**11 51 54.1**	**+1.9**
MUGZ	**Murupara**	**9.43**	**208**	P	**Pn**	**11 51 48.3**	**-4.0**
MUGZ				S	**Sn**	**11 53 34.6**	**-2.6**
RTZ	**Ruatahuna**	**9.46**	**207**	P	**Pn**	**11 51 49.7**	**-3.2**
SNGZ	**Shannon Statio**	**9.47**	**205**	P	**Pn**	**11 51 49.6**	**-3.4**
MTHZ	**Maungataniwha**	**9.72**	**207**	P	**Pn**	**11 51 52.3**	**-4.1**
MTHZ				S	**Sn**	**11 53 40.6**	**-3.8**
WHHZ	**Waihua**	**9.77**	**204**	P	**Pn**	**11 51 56.1**	**-1.0**
WHHZ				S	**Sn**	**11 53 42.3**	**-3.3**
MRHZ	**Matea Rd**	**9.87**	**208**	P	**Pn**	**11 51 54.6**	**-3.9**
NMHZ	**Naumai**	**9.95**	**206**	P	**Pn**	**11 51 56.3**	**-3.2**
ARHZ	**Aropaoanui**	**10.02**	**205**	P	**Pn**	**11 51 56.1**	**-4.4**
BKZ	**Black Stump Fm**	**10.13**	**207**	P	**Pn**	**11 51 57.9**	**-4.1**
HIZ	**Hauiti**	**10.33**	**215**	P	**Pn**	**11 52 07.8**	**+3.2**
NTVZ	**North Tongarir**	**10.41**	**210**	P	**Pn**	**11 52 03.6**	**-2.3**
TMVZ	**Te Maari**	**10.41**	**210**	P	**Pn**	**11 52 02.5**	**-3.5**
ETVZ	**East Tongariro**	**10.43**	**210**	P	**Pn**	**11 52 03.9**	**-2.2**
NNVZ	**North Ngauruho**	**10.46**	**210**	P	**Pn**	**11 52 06.9**	**+0.2**
NGZ	**Ngauruhoe**	**10.51**	**210**	P	**Pn**	**11 52 08.9**	**+1.7**
KAHZ	**Kahuranaki**	**10.53**	**204**	P	Pn	11 52 01.6	-5.9
TUVZ	**Tukino**	**10.56**	**210**	P	**Pn**	**11 52 08.5**	**+0.5**
BHHZ	**Black Hill Sta**	**10.58**	**208**	P	**Pn**	**11 52 07.6**	**-0.6**
KRHZ	**Kereru**	**10.59**	**206**	P	**Pn**	**11 52 03.5**	**-4.8**
WHVZ	**Whangaehu Hut**	**10.60**	**210**	P	**Pn**	**11 52 10.1**	**+1.5**
MOVZ	**Moawhango**	**10.63**	**209**	P	**Pn**	**11 52 06.0**	**-2.9**
WNVZ	**Wahianoa**	**10.63**	**210**	P	**Pn**	**11 52 08.2**	**-0.8**
PXZ	**Pawanui**	**10.75**	**203**	P	**Pn**	**11 52 07.4**	**-3.0**
VRZ	**Vera Road**	**10.85**	**213**	P	**Pn**	**11 52 14.9**	**+3.1**
PNHZ	**Pukenui**	**10.89**	**206**	P	**Pn**	**11 52 08.0**	**-4.4**
WPHZ	**Waipukurau**	**10.93**	**205**	P	**Pn**	**11 52 08.5**	**-4.4**
TSZ	**Takapari Road**	**11.10**	**207**	P	**Pn**	**11 52 11.4**	**-4.0**
PRWZ	**Pori Road**	**11.53**	**205**	P	**Pn**	**11 52 16.8**	**-4.4**
BFZ	**Birch Farm**	**11.54**	**204**	P	**Pn**	**11 52 18.4**	**-2.9**
MRZ	**Mangatainoka R**	**11.77**	**206**	P	**Pn**	**11 52 22.2**	**-2.2**
MSVF	**Nonsavu**	**13.09**	**341**	Pn	**Pn**	**11 52 44.0**	**+1.3**
	0.8nm,0.3s,baz=157,slow=15,SNR=2.2						
MSVF				LR	LR	11 57 00.5	
	comp=Z,598nm,18.6s,baz=168,slow=35						
QRZ	**Quartz Range**	**13.25**	**215**	P	**Pn**	**11 52 41.9**	**-2.7**
BSWZ	**Blackbirch Sta**	**13.35**	**209**	P	**Pn**	**11 52 44.5**	**

TAU IAmb IAmb 11 56 18.3
comp=Z,60nm,1.5s
PMOR Pomariorio Ree 31.21 67 *e*T T 12 28 42.8
comp=Z,3.3nm,0.3s
VAH Vaihoa 31.29 68 *e*T T 12 28 48.8
comp=Z,105nm,0.2s
TOO Toolangi 31.35 247 P **P** **11 55 58.3 +1.9**
TOO IAmb IAmb 11 55 59.8
comp=Z,16nm,1.1s
CTA Charters Tower 34.13 279 P **P** **11 56 22.0 +1.1**
comp=Z,27nm,0.5s,baz=101,slow=10,SNR=99
CTAO Charters Tower 34.13 279 P **P** **11 56 22.4 +1.4**
STKA Stephens Creek 34.86 257 P **P** **11 56 28.5 +1.4**
comp=Z,15nm,0.4s,baz=99,slow=10,SNR=76
STKA Stephens Creek 34.86 257 P **P** **11 56 28.8 +1.7**
RKT Rikitea 38.56 90 *e*T T 12 38 01.2
comp=Z,2.7nm,0.3s
BBOO Buckleboo 39.35 254 P **P** **11 57 05.2 -0.1**
BBOO IAmb IAmb 11 57 22.8
comp=Z,25nm,1.0s
COEN Coen 39.58 285 P **P** **11 57 08.8 +1.5**
TAOE Nuku Hiva Isla 40.92 67 *e*LR LR 12 08 30.7
comp=Z,254nm,25.9s
AS31 Alice Springs 43.48 267 P **P** **11 57 38.6 -0.6**
ASAR Alice Springs 43.48 267 P **P** **11 57 38.5 -0.7**
comp=Z,7.6nm,0.4s,baz=103,slow=7.5,SNR=105
ASAR PcP **PcP** **11 59 27.2 +0.2**
comp=Z,1.9nm,0.3s,baz=122,slow=3.9,SNR=7.9
ASAR ScP **ScP** **12 03 19.6 +3.6**
comp=Z,0.6nm,0.8s,baz=115,slow=3.6,SNR=3.0
ASAR PKiKP **PKiKP** **12 06 28.1 -1.4**
comp=Z,0.3nm,0.4s,baz=119,slow=1.6,SNR=6.4
ASAR LR LR 12 15 20.6
comp=Z,207nm,18.5s,baz=146,slow=36
ASAR Alice Springs 43.48 267 P **P** **11 57 38.9 -0.3**
WR0 Warramunga Arr 44.27 272 P **P** **11 57 44.9 -0.7**
WR0 IAmb IAmb 11 57 47.8
comp=Z,13nm,0.6s
WB2 Warramunga Arr 44.44 272 P **P** **11 57 46.4 -0.5**
WRAB Tennant Creek 44.45 272 P **P** **11 57 46.3 -0.7**
WRAB IAmb IAmb 11 57 48.6
comp=Z,18nm,0.6s
WRA Warramunga Arr 44.45 272 P **P** **11 57 46.2 -0.8**
comp=Z,13nm,0.3s,baz=110,slow=8.1,SNR=313
WRA PcP **PcP** **11 59 29.5 -0.8**
comp=Z,1.7nm,0.7s,baz=115,slow=3.1,SNR=2.0
WRA ScP **ScP** **12 03 22.9 +2.9**
comp=Z,0.5nm,0.8s,baz=96,slow=4.1,SNR=1.8
WRA S **S** **12 04 16.1 -4.0**
comp=Z,0.5nm,0.8s,baz=110,slow=14,SNR=2.3
WRA PKiKP **PKiKP** **12 06 29.1 -1.3**
comp=Z,0.7nm,0.6s,baz=153,slow=0.9,SNR=11
WRA LR LR 12 13 53.8
comp=Z,140nm,21.5s,baz=90,slow=33
WRA Warramunga Arr 44.45 272 P **P** **11 57 46.1 -0.9**
FORT Forrest 46.43 255 P **P** **11 58 01.8 -0.8**
JAY Jayapura 48.16 297 P **P** **11 58 15.3 -0.9**
comp=Z,10nm,0.6s,baz=174,slow=6.2,SNR=7.5
SBA Scott Base 48.20 184 P P 11 58 20.6 +4.9
SBA IAmb IAmb 11 58 36.4
comp=Z,12nm,0.9s
VNDA Vanda 48.27 186 P **P** **11 58 19.6 +3.4**
comp=Z,1.2nm,0.5s,baz=28,slow=6.2,SNR=11
VNDA LR LR 12 16 06.2
comp=Z,86nm,21.0s,baz=296,slow=33
VNDA Vanda 48.27 186 P **P** **11 58 20.2 +4.0**
MTN Manton Dam 50.32 279 P **P** **11 58 32.3 -0.4**
MTN IAmb IAmb 11 58 32.7
comp=Z,9.7nm,0.7s
KNRA Kununurra 51.05 274 P **P** **11 58 37.5 -0.7**
FITZ Fitzroy Crossi 52.72 270 P **P** **11 58 50.4 -0.3**
comp=Z,6.1nm,0.8s,baz=152,slow=7.5,SNR=11
FITZ Fitzroy Crossi 52.72 270 P **P** **11 58 50.2 -0.3**
FITZ IAmb IAmb 11 59 17.9
comp=Z,12nm,1.2s
FAKI Fak Fak 54.63 290 P **P** **11 59 03.8 -0.9**
FAKI IAmb IAmb 11 59 19.4
comp=Z,23nm,1.0s
CASY Casey 55.43 208 P **P** **11 59 10.3 +0.6**
PSA00 Pilbara Seismi 56.34 263 P **P** **11 59 15.5 -1.5**
PSA00 IAmb IAmb 11 59 33.2
comp=Z,18nm,1.2s
GUMO Guam 56.64 315 P **P** **11 59 17.5 -1.5**
comp=Z,38nm,0.7s,baz=58,slow=10.0,SNR=2.5
GUMO Guam 56.64 315 P **P** **11 59 17.7 -1.3**
MORW Morawa 56.91 253 P **P** **11 59 19.8 -1.2**
QSPA South Pole Qui 59.85 180 P **P** **11 59 43.8 +2.8**
comp=Z,8.8nm,0.7s,baz=15,slow=0.5,SNR=77
QSPA South Pole Qui 59.85 180 P **P** **11 59 44.0 +3.0**
QSPA IAmb IAmb 12 00 02.3
comp=Z,18nm,0.9s
SANI Sanana 60.27 286 P **P** **11 59 43.3 -1.1**
comp=Z,32nm,0.9s
GIRL Giralia 60.72 259 P **P** **11 59 47.5 +0.1**
GTOI Gorontalo 64.23 287 P **P** **12 00 07.9 -3.1**
comp=Z,14nm,0.6s
TOLI2 Tolitoli 66.34 286 P **P** **12 00 24.3 -0.3**
MTKI Muara Teweh, K 70.19 281 P **P** 12 00 53.9 +5.1
MAW Mawson 72.56 200 P **P** **12 01 03.8 +1.6**
comp=Z,2.9nm,0.5s,baz=152,slow=5.1,SNR=13
MAW LR LR 12 31 50.2
comp=Z,121nm,19.7s,baz=62,slow=35
MAW Mawson 72.56 200 P **P** **12 01 03.9 +1.7**
JOW Kunigami 76.84 312 P **P** **12 01 26.5 -1.1**
comp=Z,9.6nm,0.7s,baz=192,slow=4.6,SNR=13
JOW Kunigami 76.84 312 P **P** **12 01 26.6 -0.9**
JOW IAmb IAmb 12 01 28.4
comp=Z,9.6nm,0.8s
SYO Syowa Base 77.33 193‖ *e*P **P** **12 01 29.4 -0.3**
SYO Syowa Base 77.33 193‖ *e*PcP **PcP** **12 01 40.0 -0.2**
MDSI Maura Dua 77.60 272 P **P** **12 01 28.7 -3.5**
comp=Z,12nm,0.8s
JGF Kuroka 78.03 324 P **P** **12 01 34.3 +0.2**
JGF IAmb IAmb 12 01 53.3
comp=Z,20nm,1.4s
SNAA Sanae 78.28 178 P **P** **12 01 36.1 +1.0**
SNAA Sanae 78.28 178 P **P** **12 01 35.9 +0.8**
MJAR Matsushiro Arr 78.33 325 P **P** **12 01 34.5 -1.2**
comp=Z,3.3nm,0.8s,baz=156,slow=5.8,SNR=6.7
MAT Matsushiro 78.34 325 P **P** **12 01 33.8 -1.9**
VNA3 Neumayer Olymp 78.42 176 P **P** **12 01 36.8 +1.0**
JMN Monobe 78.45 320 P **P** **12 01 37.2 +0.8**
JSU Suzuyama 78.78 317 P **P** **12 01 37.1 -1.2**
JWT Wachi 78.80 322 P **P** **12 01 38.2 -0.1**
JWT IAmb IAmb 12 01 40.2
comp=Z,15nm,1.2s
VNA2 Neumayer--Watz 78.86 177 P **P** **12 01 39.0 +0.8**
baz=174,slow=4.3
VNA1 Neumayer--Stat 79.08 176 P **P** **12 01 40.9 +1.5**
JNU Nakatsue 79.69 318 P **P** **12 01 41.3 -2.0**
JNU IAmb IAmb 12 02 02.8
comp=Z,26nm,1.1s
H03S2 Juan Fernandez 80.24 123 T T 13 31 06.0
baz=238,slow=74,SNR=115
H03S1 Juan Fernandez 80.25 123 T T 13 31 04.3
baz=238,slow=74,SNR=60
H03S3 Juan Fernandez 80.26 123 T T 13 31 06.3
baz=238,slow=74,SNR=55
H03N3 Juan Fernandez 80.43 123 T T 13 31 13.9
baz=240,slow=72,SNR=25
H03N2 Juan Fernandez 80.43 123 T T 13 31 18.4
baz=240,slow=72,SNR=24
H03N1 Juan Fernandez 80.45 123 T T 13 31 17.3
baz=240,slow=72,SNR=31
KIWB Kanaga Island 81.76 0 P **P** **12 01 54.3 +0.5**
ADK Adak 81.80 1 P **P** **12 01 54.2 +0.2**
ATKA Atka Island 82.17 2 P **P** **12 01 56.3 +0.4**
PLCA Paso Flores 82.34 133 P **P** **12 01 59.6 +2.1**
comp=Z,4.4nm,0.9s,baz=230,slow=3.3,SNR=7.6
PLCA LR LR 12 29 58.2
comp=Z,67nm,20.0s,baz=176,slow=29
PLCA Paso Flores 82.34 133 P **P** **12 01 59.6 +2.1**
LC01 Cunco 82.48 131 P **P** **12 01 59.7 +1.4**
LC01 IAmb IAmb 12 02 00.5
comp=Z,11nm,0.8s
NIKH Nikolski High 83.23 5 P **P** **12 02 01.8 +0.3**
KSRS Korea Array 84.48 319 P **P** **12 02 08.2 0.0**
comp=Z,1.6nm,0.6s,baz=145,slow=5.5,SNR=7.9
BO02 Sierra Bellavi 85.47 128 P **P** **12 02 15.0 +1.3**
BO02 IAmb IAmb 12 02 15.7
comp=Z,8.9nm,0.6s
MT01 Popeta 85.66 127 P **P** **12 02 15.8 +1.3**
PEA0B Petropavlovsk- 85.77 345 P **P** **12 02 14.5 +0.2**
PETK Petropavlovsk- 85.77 345 P **P** **12 02 14.1 -0.2**
comp=Z,17nm,0.8s,baz=160,slow=9.0,SNR=32
PETK LR LR 12 33 40.4
comp=Z,45nm,21.1s,baz=140,slow=31
PETK Petropavlovsk- 85.77 345 P **P** **12 02 15.0 +0.7**
PSI Prapat 85.78 276 LR LR 12 42 34.4
comp=Z,76nm,18.2s,baz=94,slow=37
PFO Pinyon Flats O 85.85 47 P **P** **12 02 16.5 +1.2**
comp=Z,5.2nm,1.0s,baz=297,slow=3.8,SNR=6.8
PFO Pinyon Flats O 85.85 47 P **P** **12 02 16.7 +1.3**
PFO IAmb IAmb 12 02 17.3
comp=Z,6.4nm,0.9s
MT09 Talagante 85.89 127 P **P** **12 02 16.8 +1.0**
MT09 IAmb IAmb 12 02 17.6
comp=Z,12nm,0.9s
CMB Columbia Colle 86.42 42 P **P** **12 02 18.9 +1.0**
CMB IAmb IAmb 12 02 19.9
comp=Z,7.4nm,1.0s
NJ2 Nanjing 86.43 310 *e*P **P** **12 02 19.5 +1.4**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
GSC Goldstone, Bar 86.73 46 P **P** **12 02 20.7 +1.1**
GSC IAmb IAmb 12 02 22.2
comp=Z,10nm,1.1s
ORV Oroville 86.84 40 P **P** **12 02 21.2 +1.3**
WDC Whiskeytown Da 86.98 39 P **P** **12 02 22.1 +1.5**
WDC IAmb IAmb 12 02 22.7
comp=Z,13nm,1.4s
USA0B Ussuriysk Arra 87.25 326 P **P** **12 02 22.2 +0.4**
USA0B IAmb IAmb 12 02 23.5
comp=Z,6.4nm,1.2s
USRK Ussuriysk Ar. 87.25 326 P **P** **12 02 21.9 +0.1**
comp=Z,1.1nm,0.6s,baz=149,slow=3.8,SNR=8.4
USRK Ussuriysk Ar. 87.25 326 P **P** **12 02 21.6 -0.1**
CO02 Combarbal 87.31 125 P **P** **12 02 23.2 +0.4**
BEKR Beckworth 87.69 40 P **P** **12 02 25.3 +1.0**
NVAR Mina Array Bea 87.89 43 P **P** **12 02 26.5 +1.2**
comp=Z,3.7nm,0.7s,baz=222,slow=8.3,SNR=29
NVAR LR LR 12 39 11.8
comp=Z,57nm,18.1s,baz=269,slow=34
NVAR Mina Array Bea 87.89 43 P **P** **12 02 26.0 +0.7**
NV11 Mina Array Sit 87.98 43 P **P** **12 02 26.6 +0.9**
NV11 IAmb IAmb 12 02 27.7
comp=Z,6.5nm,1.1s
TPH Tonopah 88.30 43 P **P** **12 02 28.2 +1.0**
KVN Kaiserville 88.43 42 P **P** **12 02 28.3 +0.5**
KVN IAmb IAmb 12 02 29.5
comp=Z,5.0nm,0.9s
W13A Hualapai Mount 88.44 47 P **P** **12 02 28.8 +0.8**
W13A IAmb IAmb 12 02 30.7
comp=Z,5.3nm,1.0s
LCMT Little Creek M 90.04 46 P **P** **12 02 36.5 +1.1**
LCMT IAmb IAmb 12 02 37.9
comp=Z,5.3nm,1.0s
PINE Pine Mountain 90.08 37 P **P** **12 02 36.1 +0.7**
PINE IAmb IAmb 12 02 37.7
comp=Z,20nm,1.4s
I07A Izee 91.03 38 P **P** **12 02 40.5 +0.7**
I07A IAmb IAmb 12 02 41.2
comp=Z,3.5nm,0.8s
J08A Circle Bar Ran 91.09 39 P **P** **12 02 40.9 +0.8**
J08A IAmb IAmb 12 02 42.0
comp=Z,5.5nm,1.0s
TXAR Lajitas Array 92.01 57 P **P** **12 02 46.0 +1.3**
comp=Z,1.5nm,1.0s,baz=207,slow=8.0,SNR=11
MNTX Cornudas Mount 92.11 54 P **P** **12 02 45.3 +0.4**
G08A Pilot Rock 92.13 37 P **P** **12 02 45.8 +1.0**
G08A IAmb IAmb 12 02 46.8
comp=Z,8.3nm,1.1s
MFID Camas Ranch 92.58 40 P **P** **12 02 47.4 +0.4**
MFID IAmb IAmb 12 02 48.7
comp=Z,5.0nm,0.8s
TMUT Trail Mountain 92.71 45 P **P** **12 02 48.6 +0.7**
TMUT IAmb IAmb 12 02 49.9
comp=Z,3.1nm,0.7s
ANMO Albuquerque 93.21 51 P **P** **12 02 51.2 +1.0**
HVU Hansel Valley 93.29 43 P **P** **12 02 51.2 +0.9**
HVU IAmb IAmb 12 02 52.2
comp=Z,7.6nm,1.2s
D08A Wollman Farm, 93.34 36 P **P** **12 02 51.1 +0.9**
D08A IAmb IAmb 12 02 52.0
comp=Z,4.3nm,0.8s
HLID Hailey 93.47 41 P **P** **12 02 51.9 +0.8**
HLID IAmb IAmb 12 02 53.1
comp=Z,3.0nm,0.8s
F10A Beach Ranch, E 93.49 37 P **P** **12 02 50.6 -0.5**
F10A IAmb IAmb 12 02 51.9
comp=Z,4.0nm,0.8s
XAN Xi'an 94.32 307 P P 12 02 48.9 -6.2
XAN pmax pmax
comp=Z,3.0nm,0.9s
PDAR Pinedale Array 95.79 43 P **P** **12 03 02.1 +0.3**
comp=Z,0.5nm,0.8s,baz=230,slow=3.7,SNR=5.2
PDAR PKKPbc **PKKPbc** **12 19 51.8 -0.5**
comp=Z,0.4nm,0.5s,baz=86,slow=4.4,SNR=4.1
PDAR LR LR 12 41 23.6
comp=Z,38nm,18.1s,baz=266,slow=32
HHC Hu-ho-hao-te 96.40 314 *e*P **P** **12 03 07.6 +3.1**
HHC pmax pmax
comp=Z,15nm,1.3s
HHC pmax pmax
comp=Z,100nm,7.5s
HHC LR LR
comp=N,130nm,19.6s
HHC LR LR
comp=E,130nm,17.9s
HHC LR LR
comp=Z,69nm,22.9s
ILAR Eielson Array 97.71 13 P **P** **12 03 09.1 -0.6**
comp=Z,0.4nm,0.6s,baz=222,slow=5.6,SNR=5.1
BOSA Boshof 117.53 203 PKP **PKiKP** **12 08 22.5 +0.6**
comp=Z,1.0nm,0.4s,baz=211,slow=1.8,SNR=5.2
MKAR Makanchi Array 117.96 310 PKP **PKPdf** **12 08 20.6 -1.3**
comp=Z,1.6nm,0.6s,baz=204,slow=1.0,SNR=17
ZALV Zalesovo Beam 118.17 318 PKP **PKPdf** **12 08 21.3 -0.7**
comp=Z,0.7nm,0.3s,baz=79,slow=3.1,SNR=2.7
KSH Kashi 120.48 301 PKP **PKiKP** **12 08 27.5 +0.3**
SPA0 Spitsbergen Ar 131.59 356 *e*PKPdf **PKiKP** **12 08 47.7 -0.4**
SPITS Spitsbergen Ar 131.59 356 PKP **PKPdf** **12 08 47.2 +0.1**
comp=Z,10nm,0.8s,baz=38,slow=7.3,SNR=4.1
GEYT Alibeck 133.83 295 PKP **PKPdf** **12 08 52.5 +0.1**
comp=Z,3.6nm,0.7s,baz=5.7,slow=1.5,SNR=5.2
H10S3 ASCENSION HYDR 137.69 154 T T 14 43 27.0
baz=204,slow=74,SNR=147
H10S2 ASCENSION HYDR 137.69 154 T T 14 43 27.1
baz=16,slow=74,SNR=50
ARA0 ARCESS Array S 138.53 348 *e* PKPpre 12 08 51.8
ARA0 *e*PKPdf **PKPdf** **12 08 01.2 +1.0**
ARCES ARCESS Array B 138.53 348 PKhKP PKPpre 12 08 51.2
comp=Z,0.9nm,0.4s,baz=56,slow=2.9,SNR=16
ARCES PKP **PKPdf** **12 09 00.5 +0.3**
comp=Z,2.5nm,0.4s,baz=43,slow=1.2,SNR=14
H10N3 ASCENSION HYDR 138.78 154 T T 14 44 48.7
baz=203,slow=75,SNR=89
H10N1 ASCENSION HYDR 138.78 154 T T 14 44 47.2
baz=203,slow=75,SNR=239
H10N2 ASCENSION HYDR 138.79 154 T T 14 44 50.0
baz=203,slow=75,SNR=115
KTK1 Gautokeino 139.39 349 *e*PKPdf **PKiKP** **12 09 02.9 -1.2**
KLMR Klimovskoe 140.81 332 *e*PKPdf **PKPdf** **12 09 02.5 -2.0**
KLMR 12 09 04.6
comp=Z,9.0nm,0.9s
LOF Lofoten 141.53 353 *e*PKPdf **PKPdf** **12 09 06.4 +0.7**
FAUS Fauske 142.06 352 *e*PKPdf **PKPdf** **12 09 05.7 -0.9**
KONS Konsvik 143.16 353 *e*PKPdf **PKPdf** **12 09 09.2 +0.6**
MOR8 Moi Rana 143.32 352 *e*PKPdf **PKPdf** **12 09 09.6 +0.7**
CLDR Caldiran 145.00 296 *e*P PKPbc 12 09 11.9 -0.5
FINES FINESS Array B 145.14 340 PKP **PKPbc** **12 09 11.1 -0.7**
comp=Z,90nm,0.8s,baz=57,slow=3.6,SNR=237
NSS Namsos 145.19 353 *e*PKPbc **PKPbc** **12 09 11.2 -0.7**
KBZ Khabaz 145.35 304 PKPbc **PKPbc** **12 09 12.4 -0.5**
comp=Z,4.6nm,0.8s,baz=267,slow=0.9,SNR=8.2
AKDM Akdamar-Van 145.75 295 *e*P **PKPdf** **12 09 14.4 +0.1**
MEF Metsahovi 146.62 340 *e*P **PKPbc** **12 09 15.6 -0.7**
VSU Vasula 147.25 336 *e*P **PKPbc** **12 09 17.9 -0.2**
MOL Molde 147.51 356 *e*PKPdf **PKPdf** **12 09 17.2 +1.1**
SOFL Sornfelli, Far 147.60 8 *e*PKPab **PKPab** **12 09 21.7 +0.3**
AAL Aland 147.84 344 *e*P **PKPbc** **12 09 18.5 -1.2**
AKN Aaknes 147.94 356 *e*PKPbc **PKPbc** **12 09 19.9 -0.1**
MTSE Matsula 148.01 339 *e*P **PKPbc** **12 09 19.9 -0.4**
PTK Pertek 148.53 296 *e*P **PKPab** **12 09 33.7 +7.6**
FOO Floro 148.61 358 *e*pPKPdf **PKPbc** **12 09 21.4 -0.2**
NB2 NORSAR Subarra 148.67 352 PKP **PKPbc** **12 09 21.0 -1.0**
comp=Z,8.0nm,0.6s,baz=13,slow=2.8
NOA NORSAR Array B 148.67 352 PKPbc **PKPbc** **12 09 21.3 -0.7**
comp=Z,7.7nm,0.6s,baz=14,slow=4.2,SNR=38
UPP Uppsala 148.68 345 *e*P **PKiKP** **12 09 24.2 +0.8**
NC602 NORSAR Array S 148.92 351 *e*pPKPdf **PKPbc** **12 09 21.8 -0.8**
SUE Sulen 149.16 358 *e*pPKPdf **PKPbc** **12 09 22.8 -0.3**
HFS Hagfors 149.18 349 PKPbc **PKPbc** **12 09 22.3 -0.9**
comp=Z,15nm,0.7s,baz=58,slow=3.7,SNR=30
SKAR Skarslia 149.33 354 *e*pPKPdf **PKPbc** **12 09 23.5 -0.2**
ARPR Arapgir-MALATY 149.34 296 *e*P **PKPbc** **12 09 24.9 +0.4**
MNK Minsk 149.65 330 *i* PKP **PKPdf** **12 09 17.9 -1.9**
comp=E,4.0nm,1.0s
MNK *i* PKP **PKPdf** **12 09 17.9 -1.9**
comp=N,23nm,1.2s
MNK *i* PKP **PKPdf** **12 09 17.9 -1.9**
comp=Z,17nm,0.9s,baz=48
MNK *i* pPKP **sPKPab** **12 09 47.9 +5.6**
MNK *i* SKP 12 12 41.0
MNK *i* PKS **PKSdf** **12 12 52.9 -1.6**
MNK *i* PP **PP** **12 12 56.6 -1.1**
MNK *i* PPP PPP 12 16 17.9
MNK *i* SKS **SKSdf** **12 16 20.4 -4.8**
MNK *i* SKKS SKKSdf 12 25 09.3 -11
MNK *i* SS **SS** **12 32 03.4 -6.5**
MNK *i* SSS SSS 12 37 42.9
MNK *i* LRM MLR 13 19 59.1
comp=N,645nm,16.6s
MNK *i* LRM MLR 13 20 04.2
comp=E,140nm,19.1s
MNK *i* LRM MLR 13 20 10.5
comp=Z,167nm,11.4s
ASK Askoy 149.72 357 *e*pPKPdf **PKPbc** **12 09 24.0 -0.5**
OSL Oslo 149.80 352 *e*PKPbc **PKiKP** **12 09 25.6 -0.1**
NACGM Naroch 149.83 332 *i* PKP **PKPbc** **12 09 25.1 +0.1**
DARE Darende-Malaty 150.05 296 *e*P **PKPbc** **12 09 26.5 +0.3**
KONO Kongsberg 150.22 353 *e*pPKPdf **PKPbc** **12 09 25.3 -0.4**
ODD1 Odda 150.22 356 *e*pPKPdf **PKPbc** **12 09 25.4 -0.4**
SVSK Karacayir 150.27 298 *e*P **PKiKP** **12 09 27.0 -0.3**
PABE Paberze 150.48 335 *e*P **PKPbc** **12 09 26.3 -0.2**
SARI SarD1z-Kayseri 150.90 295 *e*P **PKPbc** **12 09 28.2 -0.1**
KMY Karmoy 150.99 357 *e*pPKPdf **PKPbc** **12 09 27.1 -0.4**
BNN Bunyan 151.29 296 *e*P **PKPbc** **12 09 28.6 -0.6**
AKASG Malin Array Be 151.41 323 PKPbc **PKPbc** **12 09 28.2 -0.6**
comp=Z,6.3nm,0.3s,baz=46,slow=3.1,SNR=46
AKASG Malin Array Be 151.41 323 PKPdf **PKPdf** **12 09 24.5 +1.8**
AKASG PKPbc **PKPbc** **12 09 28.2 -0.6**
CEYT Ceyhan 151.54 293 *e*P **PKPbc** **12 09 29.5 -0.1**
HOMB Homborsund 151.69 353 *i* P **PKiKP** **12 09 29.4 -0.2**
HOMB Homborsund 151.69 353 *e*PKPbc **PKPbc** **12 09 29.0 -0.2**
BORU Boraas 151.71 348 *i* P **PKPbc** **12 09 29.0 -0.3**
SNART Snartemo 151.74 355 *i* P **PKiKP** **12 09 29.5 -0.2**
SNART Snartemo 151.74 355 *e*pPKPdf **PKPbc** **12 09 28.8 -0.5**
SUW Suwalki 151.92 334 *e*P **PKPbc** **12 09 29.3 -0.6**
ONAU Onsala 152.08 349 *i* P **PKPbc** **12 09 29.5 -0.6**
CMRD Camardi-Nigde 152.09 294 *e*P **PKPbc** **12 09 30.5 -0.5**
BLEU Blekinge 152.31 344 *i* P **PKPbc** **12 09 30.1 -0.6**
FABU Falkenberg 152.31 348 *i* P **PKPbc** **12 09 30.2 -0.5**
DEL Delary 152.59 346 *i* P **PKPbc** **12 09 31.2 -0.1**
BRTR Keskin Array B 152.85 299 PKPbc **PKPbc** **12 09 32.0 -0.7**
comp=Z,4.8nm,0.4s,baz=131,slow=3.4,SNR=16
BRTR Keskin Array B 152.85 299 *e*P **PKPbc** **12 09 31.3 -1.4**
EKA Eskdalemuir Ar 154.63 7 PKPab **PKPab** **12 09 50.1 -0.4**
comp=Z,1.7nm,0.5s,baz=352,slow=2.5,SNR=5.3
KOLS Kolonicke sedl 156.01 327 *e*PKP **PKPab** **12 09 57.7 +1.0**
FLTG Flechtingen 157.01 346 *e*PKPab **PKPab** **12 09 60.0 -0.9**
baz=22,slow=3.9
DPC Dobruska-Polom 157.38 336 *e*PKPAB **PKPab** **12 10 02.7 +0.1**
CLL Collm 157.55 342 *e*PKPdiff PKPab 12 09 50.0 -13
CLL *i* PKPab pPKPab 12 10 02.3 -10
comp=Z,11nm,0.7s
CLL *e* 12 10 33.0
CLZ Clausthal 157.65 347 *e*PKPab **PKPab** **12 10 03.2 -0.5**
baz=22,slow=3.9
BRG Berggiesshubel 157.68 341 *e*PKPab **PKPab** **12 10 03.3 -0.5**
baz=22,slow=3.9
BRG Berggiesshubel 157.68 341 *i* PKP **PKPab** **12 10 03.5 -0.3**
BRG Amp 12 10 04.1
comp=Z,13nm,0.8s
PVCC Panska Ves 157.80 339 *e*PKPAB **PKPab** **12 10 04.7 +0.4**
FBE Freiberg 157.80 341 *e*PKPab **PKPab** **12 10 04.2 -0.1**
baz=22,slow=3.9
GTTG Gottingen 158.01 347 *e*PKPab **PKPab** **12 10 04.8 -0.4**
baz=22,slow=3.9
MOX Moxa 158.50 344 *e*PKPab **PKPab** **12 10 06.9 -0.5**
baz=22,slow=3.9
PLN Plauen 158.52 343 *e*PKPab **PKPab** **12 10 07.0 -0.5**
baz=22,slow=3.9
GUNZ Gunzen 158.58 342 *e*PKPab **PKPab** **12 10 07.2 -0.6**
baz=22,slow=3.9
WERN Wernitzgruen 158.64 342 *e*PKPab **PKPab** **12 10 07.7 -0.4**
baz=22,slow=3.9
KHC Kasperske Hory 159.33 339 *e*PKPAB **PKPab** **12 10 10.8 -0.3**
CKRC Cesky Krumlov 159.37 337 *e*PKPAB **PKPab** **12 10 11.4 +0.2**
GRF Grafenberg Arr 159.48 344 *e*PKPab **PKPab** **12 10 11.3 -0.4**
baz=22,slow=3.9
GRF *e*L L 13 33 00.7
comp=Z,59nm,20.1s
WET Wettzell 159.53 340 *e*PKPab **PKPab** **12 10 11.9 -0.1**
baz=22,slow=3.9
GERES GERESS Array B 159.54 338 PKPab **PKPab** **12 10 11.6 -0.5**
comp=Z,1.9nm,0.7s,baz=34,slow=5.0,SNR=10
TNS Taunus Mts 159.55 349 *e*PKPab **PKPab** **12 10 11.4 -0.6**
baz=22,slow=3.9
MILB Miltenberg 159.78 347 *e*PKPab **PKPab** **12 10 12.2 -0.7**
baz=22,slow=3.9
FUR Furstenfeldbru 160.87 342 *e*L L 13 32 15.9
comp=Z,86nm,20.4s
SOKA Soboth 160.91 333 *e*P **PKPab** **12 10 17.5 -0.6**
comp=Z,2.4nm,0.7s
BFO Black Forest 161.40 348 *e*L L 13 32 30.6
comp=Z,70nm,21.7s
WATA Walderalm 161.54 340 *e*P **PKPab** **12 10 20.6 -0.3**
comp=Z,5.1nm,0.5s
WTTA Wattenberg 161.59 340 *e*P **PKPab** **12 10 20.9 -0.2**
comp=Z,12nm,0.6s
RETA Reutte 161.63 342 *e*P **PKPab** **12 10 21.0 -0.2**
comp=Z,7.0nm,0.5s
MOTA Moosalm 161.67 341 *e*P **PKPab** **12 10 21.3 -0.2**
comp=Z,4.6nm,0.5s
SQTA Sankt Quirin 161.75 341 *i* P **PKPab** **12 10 21.9 +0.1**
comp=Z,15nm,1.0s
DAVA Damuels 162.05 343 *e*P **PKPab** **12 10 23.0 -0.1**
comp=Z,11nm,0.8s
FETA Feichten 162.07 341 *e*P **PKPab** **12 10 23.1 -0.1**
comp=Z,3.7nm,0.7s
DAVOX Davos/Dischmat 162.52 343 PKPab **PKPab** **12 10 25.1 -0.2**
comp=Z,12nm,0.6s,baz=0.0,slow=5.1,SNR=6.9
TORD Torodi Ar. Bea 162.95 178 PKP **PKPdf** **12 09 38.6 +0.2**
comp=Z,0.5nm,0.8s,baz=230,slow=0.6,SNR=2.4
TORD PKPab **PKPab** **12 10 28.8 +1.2**
comp=Z,1.7nm,0.5s,baz=175,slow=3.8,SNR=11

*IDC **16** 12:06:21.8±4.2,21°.99S×179°.24W,h578^{km}±47^{km}, mb3.1/4, mb1 3.3/7, mb1mx2.9/35, mbtmp4.2/7, Error ellipse: s-maj=103.8km s-min=43.9km az=63.0*

ISC 16 12:06:21.1±2.7, 21°.8S±0°.2×179°.1W±0°.3, h600^{km}, n7, σ0^{s}84/7, mb3.9/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.85**	**326**	P	**P**		**12 07 52.9**	**-0.1**
	5.7nm,0.3s,baz=174,slow=10,SNR=25							
DZM	**Mont Dzumac**	**13.44**	**266**	P	**P**		**12 09 13.4**	**-1.2**
	0.3nm,0.3s,baz=81,slow=19,SNR=1.4							
URZ	**Urewera**	**16.75**	**190**	P	**P**		**12 09 44.5**	**-0.6**
	0.6nm,0.3s,baz=134,slow=19,SNR=2.2							
CTA	**Charters Tower**	**32.39**	**267**	P	**P**		**12 12 03.9**	**+0.6**
	2.9nm,0.4s,baz=93,slow=10,SNR=14							
STKA	**Stephens Creek**	**36.34**	**245**	P	**P**		**12 12 36.8**	**+0.8**
	1.0nm,0.4s,baz=96,slow=7.0,SNR=5.6							
ASAR	**Alice Springs**	**43.26**	**258**	P	**P**		**12 13 31.8**	**+0.4**
	2.1nm,0.6s,baz=99,slow=7.9,SNR=38							
WRA	**Warramunga Arr**	**43.45**	**264**	P	**P**		**12 13 32.7**	**-0.1**
	0.8nm,0.3s,baz=110,slow=7.8,SNR=52							

*NEIC **16** 12:09:52.8±1.2, 36°.34N±0°.01×96°.82W±0°.05, h5^{km}±2^{km}, Error ellipse: s-maj=6.4km s-min=3.0km az=260.0*

*NEIC **16** 12:09:52.5, 36°.34N×96°.79W, h3^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; M_{rr}=0.46; $M_{\theta\theta}$6.56; $M_{\phi\phi}$-6.10; $M_{r\theta}$0.51; $M_{\theta\phi}$-3.92; $M_{\phi r}$1.74; Fault plane solution: M_{0}7.67000×10^{13} NP1:ϕ_s150.00000°, δ80.00000°, λ-10.00000°. NP2:ϕ_s242.00000°, δ80.00000°, λ-170.00000°. Principal axes: T 7.6742, Plg0.0000°, Azm16.0000°; N -0.0017, Plg76.0000°, Azm285.0000°; P -7.6725, Plg14.0000°, Azm106.0000°;*

*ANF **16** 12:09:52.8±0.4, 36°.32N×96°.76W, h3^{km}, ML4.3/20 Error*

ellipse: s-maj=4.1km s-min=3.7km az=30.0
*TUL **16** 12:09:52.5±1.3,36°32.9N×0°01.0×96°79W×0°05,h3km×7km, ML3.5,mb_Lg3.5/136(NEIC),Mwr3.2/9(SLM),Error ellipse: s-maj=5.8km s-min=0.8km az=79.0*
*IDC **16** 12:09:52.4±1.0,36°58N×96°81W,h0km,mb1 3.9/4, mb1mx3.5/53,mbtmp3.6/4,ML3.4/4,Error ellipse: s-maj=13.5km s-min=10.2km az=130.0*

ISC 16 12:09:52.7±1.0,36°32N±0°02×96°81W±0°02,h5km±8km, n183,σ0§70/176,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QUOK	**Quay**	**0.17**	**152**	Pg	**Pg**	**12 09 56.4**	**+0.4**
QUOK				Sg	**Sg**	**12 09 59.2**	**+0.9**
OK031	**S. Brethren Rd**	**0.37**	**184**		**Pg**	**12 10 00.3**	**+0.5**
OK031				Sg	**Sg**	**12 10 05.6**	**+1.0**
BLOK	**Blackwell**	**0.55**	**323**		**Pg**	**12 10 03.3**	**0.0**
BLOK				Sg	**Sg**	**12 10 10.4**	**-0.1**
T35A	**Sooner Cattle**	**0.64**	**22**		**Pg**	**12 10 04.5**	**-0.5**
T35A				Sg	**Sg**	**12 10 12.9**	**-0.4**
T35B	**Sooner Cattle** baz=201,SNR=213	**0.64**	**22**	P	**Pg**	**12 10 04.6**	**-0.4**
T35B	baz=201			S	**Sg**	**12 10 13.0**	**-0.4**
OK005	**Luther M Schoo**	**0.73**	**205**		**Pg**	**12 10 07.1**	**+0.3**
OK029	**Liberty Lake**	**0.74**	**225**		**Pg**	**12 10 07.2**	**+0.3**
OK025	**Westminster Rd**	**0.85**	**211**	Pg	**Pg**	**12 10 09.4**	**+0.3**
KAN13	**South Haven SW**	**0.88**	**322**		**Pg**	**12 10 09.3**	**-0.2**
KAN13				Sg	**Sg**	**12 10 21.1**	**+0.2**
TUL1	**Leonard** baz=298,SNR=124	**0.92**	**116**	P	**Pg**	**12 10 10.0**	**-0.3**
TUL1	baz=298			S	**Sg**	**12 10 21.7**	**-0.5**
TUL1	**Leonard** baz=298,SNR=64	**0.92**	**116**	P	**Pg**	**12 10 10.1**	**-0.2**
TUL1	baz=298			S	**Sg**	**12 10 21.5**	**-0.7**
CROK	**Carrier**	**0.97**	**281**		**Pg**	**12 10 11.1**	**-0.2**
GC02	**Grant County #**	**1.00**	**302**		**Pg**	**12 10 11.6**	**-0.3**
KAN09	**Caldwell North**	**1.04**	**322**		**Pg**	**12 10 12.2**	**-0.5**
OKCFA	**Oklahoma City**	**1.04**	**210**		**Pg**	**12 10 12.3**	**-0.4**
OKCFA	**Oklahoma City** baz=30,SNR=19	**1.04**	**210**	P	**Pg**	**12 10 12.3**	**-0.4**
OKCFA	baz=30			S	**Sb**	**12 10 27.2**	**0.0**
OKCSW	**OKLAHOMA CITY**	**1.05**	**210**		**Pg**	**12 10 12.3**	**-0.4**
KAN17	**Caldwell West**	**1.06**	**313**		**Pg**	**12 10 12.6**	**-0.4**
KS20	**Mayfield South**	**1.09**	**327**		**Pg**	**12 10 13.1**	**-0.5**
KAN05	**Bluff City Nor**	**1.16**	**313**		**Pg**	**12 10 14.5**	**-0.5**
FNO	**Franklin**	**1.17**	**205**		**Pg**	**12 10 14.3**	**-0.8**
OK032	**Salt Plains WL**	**1.23**	**294**		**Pg**	**12 10 15.7**	**-0.6**
KAN08	**Anthony NE Sta**	**1.30**	**314**		**Pn**	**12 10 16.9**	**-0.6**
KAN16	**Harper SW Stat**	**1.36**	**312**		**Pn**	**12 10 17.9**	**-0.4**
KAN12	**Harper NE Stat**	**1.37**	**316**	Pn	**Pn**	**12 10 18.1**	**-0.4**
U32A	**Winter Ranch,**	**1.77**	**273**		**Pb**	**12 10 25.2**	**-0.5**
U32A	**Winter Ranch,** baz=91,SNR=43	**1.77**	**273**	P	**Pb**	**12 10 25.4**	**-0.3**
U32A	baz=91			S	**Sg**	**12 10 49.6**	**-0.1**
X34A	**Smith Ranch, M**	**1.91**	**206**		**Pb**	**12 10 27.2**	**-0.8**
U38A	**Gravette**	**1.96**	**86**		**Pn**	**12 10 26.9**	**+0.4**
U38A	comp=Z,316nm,0.9s			IAmb_Lg		12 10 56.0	
U38A	**Gravette** baz=267,SNR=203	**1.96**	**86**	P	**Pn**	**12 10 27.2**	**+0.7**
U38A	baz=267			S	**Sb**	**12 10 53.8**	**+0.3**
X37A	**Clayton**	**2.09**	**145**		**Pn**	**12 10 29.1**	**+0.8**
X37A	comp=Z,206nm,0.8s			IAmb_Lg		12 11 04.1	
X37A	**Clayton** baz=327,SNR=149	**2.09**	**145**	P	**Pn**	**12 10 29.0**	**+0.7**
X37A	baz=327			S	**Sb**	**12 10 57.4**	**+0.2**
WMOK	**Wichita Mounta**	**2.25**	**226**		**Pn**	**12 10 32.1**	**+1.4**
WMOK	comp=Z,129nm,1.1s			IAmb_Lg		12 11 11.2	
WMOK	**Wichita Mounta** baz=45,SNR=70	**2.25**	**226**	P	**Pn**	**12 10 31.5**	**+0.8**
WMOK	baz=45			S	**Sb**	**12 11 01.6**	**-0.6**
WMOK	**Wichita Mounta** baz=45	**2.25**	**226**	P	**Pn**	**12 10 31.2**	**+0.5**
WMOK	baz=45			S	**Sb**	**12 11 00.9**	**-1.3**
HHAR	**Hobbs**	**2.31**	**90**		**Pn**	**12 10 32.4**	**+0.9**
HHAR	**Hobbs** baz=272	**2.31**	**90**	P	**Pn**	**12 10 32.3**	**+0.8**
HHAR	baz=272			Sb	**Sb**	**12 11 05.0**	**+1.1**
LOOK	**Love County**	**2.34**	**188**		**Pn**	**12 10 32.1**	**+0.3**
LOOK	comp=Z,329nm,0.8s			IAmb_Lg		12 11 13.1	
R32A	**Long Quarter,**	**2.59**	**325**		**Pn**	**12 10 35.9**	**+0.6**
R32A	comp=Z,190nm,0.8s			IAmb_Lg		12 11 16.6	
R32A	**Long Quarter,** baz=143,SNR=11	**2.59**	**325**	P	**Pn**	**12 10 36.0**	**+0.7**
R32A	baz=143			Sb	**Sb**	**12 11 13.6**	**+1.8**
W39A	**Magazine**	**2.70**	**114**		**Pn**	**12 10 37.0**	**+0.3**
W39A	**Magazine** baz=296,SNR=28	**2.70**	**114**	P	**Pn**	**12 10 37.1**	**+0.3**
W39A	**Magazine** baz=296,SNR=56	**2.70**	**114**	P	**Pn**	**12 10 36.7**	**-0.1**
KSU1	**Kansas State U**	**2.78**	**3**		**Pn**	**12 10 38.1**	**+0.2**
KSU1	comp=Z,120nm,0.8s			IAmb_Lg		12 11 28.4	
KSU1	**Kansas State U** baz=183,SNR=14	**2.78**	**3**	P	**Pn**	**12 10 37.8**	**-0.1**
KSU1	baz=183			Sb	**Sb**	**12 11 18.8**	**+1.5**
KSU1	**Kansas State U** baz=183,SNR=49	**2.78**	**3**	P	**Pn**	**12 10 37.8**	**-0.1**
Z35A	**Perchaven, San**	**3.00**	**187**		**Pn**	**12 10 41.0**	**0.0**
S39A	**Bolivar**	**3.11**	**63**	Pn	**Pn**	**12 10 43.1**	**+0.8**
S39A	**Bolivar** baz=245,SNR=118	**3.11**	**63**	P	**Pn**	**12 10 42.8**	**+0.5**
MIAR	**Mount Ida**	**3.18**	**123**	Pn	**Pn**	**12 10 44.1**	**+0.8**
MIAR	comp=Z,80nm,0.7s			IAmb_Lg		12 11 37.4	
MIAR	**Mount Ida** baz=305,SNR=58	**3.18**	**123**	P	**Pn**	**12 10 44.0**	**+0.8**
MIAR	baz=305			Sb	**Sn**	**12 11 22.5**	**+0.9**
MIAR	**Mount Ida** baz=305,SNR=20	**3.18**	**123**	P	**Pn**	**12 10 43.8**	**+0.5**
MIAR	baz=305			S	**Sn**	**12 11 22.2**	**+0.6**
U40A	**Yellville**	**3.19**	**88**	Pn	**Pn**	**12 10 43.9**	**+0.4**
U40A	comp=Z,132nm,0.8s			IAmb_Lg		12 11 34.1	
U40A	**Yellville** baz=271,SNR=160	**3.19**	**88**	P	**Pn**	**12 10 44.0**	**+0.4**
U40A	**Yellville** baz=271,SNR=82	**3.19**	**88**	P	**Pn**	**12 10 43.9**	**+0.4**
Z38A	**Mt. Pleasant**	**3.40**	**153**		**Pn**	**12 10 46.9**	**+0.5**
CBKS	**Cedar Bluff**	**3.41**	**318**		**Pn**	**12 10 46.7**	**+0.2**
CBKS	**Cedar Bluff** baz=136,SNR=9.4	**3.41**	**318**	P	**Pn**	**12 10 46.9**	**+0.3**
CBKS	**Cedar Bluff** baz=136,SNR=11	**3.41**	**318**	P	**Pn**	**12 10 46.8**	**+0.2**
CBKS	baz=136			Sb	**Sb**	**12 11 38.4**	**+3.0**
X40A	**Basin Creek Fa**	**3.72**	**118**		**Pn**	**12 10 51.7**	**+0.8**
X40A	comp=Z,152nm,0.7s			IAmb_Lg		12 11 52.5	
X40A	**Basin Creek Fa** baz=301,SNR=32	**3.72**	**118**	P	**Pn**	**12 10 51.5**	**+0.6**
X40A	**Basin Creek Fa** baz=301,SNR=12	**3.72**	**118**	P	**Pn**	**12 10 51.5**	**+0.7**
MGMO	**Mountain Grove**	**3.74**	**76**		**Pn**	**12 10 51.8**	**+0.7**
MGMO	comp=Z,77nm,0.7s			IAmb_Lg		12 11 55.2	
WHAR	**Wooly Hollow**	**3.81**	**104**		**Pn**	**12 10 52.3**	**+0.2**
WHAR	comp=Z,169nm,0.8s			IAmb_Lg		12 11 54.8	
FCAR	**Ozark Folk Cen**	**3.81**	**95**	Pn	**Pn**	**12 10 52.3**	**+0.2**
W41B	**Gary Mavity, V** baz=289,SNR=20	**3.88**	**106**	P	**Pn**	**12 10 52.8**	**-0.1**
W41B	baz=289			S	**Sn**	**12 11 39.5**	**+0.6**
W41B	**Gary Mavity, V** baz=289,SNR=5.9	**3.88**	**106**	P	**Pn**	**12 10 52.7**	**-0.3**
W41B				S	**Sn**	**12 11 39.5**	**+0.6**
WLAR	**White Oak Lake** baz=289	**4.01**	**130**		**Pn**	**12 10 55.1**	**+0.3**
WLAR	comp=Z,100nm,0.8s			IAmb_Lg		12 12 03.2	
R40A	**Maddies Statio**	**4.12**	**60**		**Pn**	**12 10 56.4**	**+0.2**
R40A	comp=Z,86nm,0.7s			IAmb_Lg		12 12 05.5	
R40A	**Maddies Statio** baz=243,SNR=48	**4.12**	**60**	P	**Pn**	**12 10 56.5**	**+0.2**
P38A	**Dawn**	**4.19**	**37**		**Pn**	**12 10 58.1**	**+0.8**
P38A	comp=Z,71nm,1.0s			IAmb_Lg		12 12 13.0	
P38A	**Dawn** baz=219,SNR=6.3	**4.19**	**37**	P	**Pn**	**12 10 57.8**	**+0.5**
AMTX	**Amarillo**	**4.22**	**252**		**Pn**	**12 10 58.5**	**+0.7**
AMTX	comp=Z,87nm,0.9s			IAmb_Lg		12 12 14.3	
AMTX	**Amarillo** baz=69	**4.22**	**252**	P	**Pn**	**12 10 58.9**	**+1.0**
WHTX	**Lake Whitney,**	**4.35**	**187**		**Pn**	**12 10 59.1**	**-0.4**
WHTX	**Lake Whitney,** baz=7.1	**4.35**	**187**	P	**Pn**	**12 10 59.0**	**-0.5**
ABTX	**Abilene, Hawle**	**4.37**	**213**		**Pn**	**12 10 59.8**	**0.0**
ABTX	comp=Z,86nm,1.2s			IAmb_Lg		12 12 15.7	
ABTX	**Abilene, Hawle** baz=32	**4.37**	**213**	P	**Pn**	**12 10 59.7**	**-0.1**
ABTX	baz=32			S	**Sn**	**12 11 51.1**	**0.0**
237A	**Washetta, Mont**	**4.39**	**169**		**Pn**	**12 11 00.1**	**+0.1**
237A	comp=Z,67nm,0.9s			IAmb_Lg		12 12 21.1	
Z41A	**Richland Creek** baz=314	**4.49**	**132**	S	**Sn**	**12 11 53.3**	**-0.7**
LCAR	**Lake Charles**	**4.58**	**91**		**Pn**	**12 11 02.2**	**-0.4**
LCAR	comp=Z,50nm,0.7s			IAmb_Lg		12 12 28.9	
LCAR	**Lake Charles** baz=275,SNR=21	**4.58**	**91**	P	**Pn**	**12 11 02.2**	**-0.4**
N35A	**Tabor**	**4.62**	**11**		**Pn**	**12 11 03.0**	**-0.3**
N35A	**Tabor** baz=192,SNR=7.3	**4.62**	**11**	P	**Pn**	**12 11 02.9**	**-0.3**
T42A	**Van Buren**	**4.65**	**80**		**Pn**	**12 11 03.8**	**+0.3**
T42A	comp=Z,110nm,1.0s			IAmb_Lg		12 12 20.6	
T42A	**Van Buren** baz=263,SNR=144	**4.65**	**80**	P	**Pn**	**12 11 03.6**	**+0.1**
CCM	**Cathedral Cave**	**4.77**	**67**		**Pn**	**12 11 05.3**	**+0.2**
CCM	comp=Z,68nm,0.7s			IAmb_Lg		12 12 27.9	
CCM	**Cathedral Cave** baz=250,SNR=11	**4.77**	**67**	P	**Pn**	**12 11 05.4**	**+0.2**
CCM	**Cathedral Cave** baz=250	**4.77**	**67**	P	**Pn**	**12 11 05.0**	**-0.2**
CCM	baz=250			S	**Sn**	**12 12 00.8**	**0.0**
CCAR	**Cane Creek**	**4.77**	**119**	Pn	**Pn**	**12 11 05.9**	**+0.7**
CCAR	comp=Z,133nm,0.9s			IAmb_Lg		12 12 35.9	
NATX	**Nacogdoches**	**4.88**	**158**		**Pn**	**12 11 08.0**	**+1.2**
NATX	comp=Z,60nm,0.9s			IAmb_Lg		12 12 40.0	
P40A	**Paris**	**4.94**	**48**		**Pn**	**12 11 07.3**	**-0.3**
P40A	comp=Z,142nm,0.8s			IAmb_Lg		12 12 25.2	
HBAR	**Harrisburg**	**5.05**	**97**	Pn	**Pn**	**12 11 08.5**	**-0.5**
PBMO	**Poplar Bluff**	**5.15**	**83**		**Pn**	**12 11 09.6**	**-0.9**
PBMO	comp=Z,121nm,0.8s			IAmb_Lg		12 12 39.3	
BGNE	**Belgrade** comp=Z,123nm,0.8s	**5.19**	**349**	IAmb_Lg		12 12 42.8	
N38A	**Joes South For**	**5.27**	**31**		**Pn**	**12 11 12.1**	**0.0**
LPAR	**Lepanto**	**5.33**	**96**	Pn	**Pn**	**12 11 12.1**	**-0.8**
KSCO	**Kaye Shedlock'**	**5.34**	**302**		**Pn**	**12 11 13.5**	**+0.3**
KSCO	comp=Z,55nm,0.7s			IAmb_Lg		12 12 52.4	
KSCO	**Kaye Shedlock'** baz=118,SNR=9.2	**5.34**	**302**	P	**Pn**	**12 11 13.4**	**+0.2**
MSTX	**Muleshoe**	**5.42**	**246**		**Pn**	**12 11 14.9**	**+0.6**
MSTX	**Muleshoe** baz=62,SNR=11	**5.42**	**246**	P	**Pn**	**12 11 14.0**	**-0.3**
435B	**Jarrell**	**5.56**	**187**	Pn	**Pn**	**12 11 17.0**	**+0.8**
435B	comp=Z,51nm,0.8s			IAmb_Lg		12 13 05.8	
L34A	**Svendsen Farm,**	**5.65**	**3**	Pn	**Pn**	**12 11 17.2**	**-0.1**
PARMO	**Parma**	**5.69**	**84**	Pn	**Pn**	**12 11 18.8**	**+0.9**
143A	**Socs Landing,**	**5.74**	**127**	Pn	**Pn**	**12 11 19.5**	**+1.0**
143A	comp=Z,90nm,0.8s			IAmb_Lg		12 13 07.3	
PENMO	**Penman** comp=Z,94nm,0.7s	**5.79**	**87**	IAmb_Lg		12 12 56.5	
LNXT	**Lenox**	**5.92**	**90**	Pn	**Pn**	**12 11 20.3**	**-0.7**
HENM	**Henderson Moun**	**5.92**	**84**	Pn	**Pn**	**12 11 21.9**	**+0.9**
HALT	**Halt** comp=Z,103nm,0.8s	**6.06**	**92**	IAmb_Lg		12 13 11.6	
GLAT	**Glass**	**6.07**	**88**	Pn	**Pn**	**12 11 21.5**	**-1.7**
HICK	**Hickman**	**6.11**	**86**	Pn	**Pn**	**12 11 22.4**	**-1.3**
T25A	**Trinidad**	**6.16**	**280**		**Pn**	**12 11 24.9**	**+0.3**
T25A	**Trinidad** baz=95	**6.16**	**280**	P	**Pn**	**12 11 25.0**	**+0.4**
OGNE	**Ogallala**	**6.17**	**320**		**Pn**	**12 11 24.6**	**+0.1**
OGNE	**Ogallala** baz=137,SNR=6.6	**6.17**	**320**	P	**Pn**	**12 11 25.0**	**+0.5**
OGNE	**Ogallala** baz=137	**6.17**	**320**	P	**Pn**	**12 11 24.9**	**+0.4**
342A	**Flagon Creek P** comp=Z,37nm,0.8s	**6.18**	**142**	IAmb_Lg		12 13 11.3	
S44A	**Carbondale**	**6.20**	**75**		**Pn**	**12 11 22.6**	**-2.2**
S44A	comp=Z,118nm,0.9s			IAmb_Lg		12 13 08.2	
S44A	**Carbondale** baz=260,SNR=6.5	**6.20**	**75**	P	**Pn**	**12 11 25.0**	**+0.2**
SIUC	**Southern Illin**	**6.23**	**75**		**Pn**	**12 11 24.9**	**-0.3**
SCIA	**State Center**	**6.24**	**25**		**Pn**	**12 11 25.0**	**-0.4**
SCIA	**State Center** baz=208	**6.24**	**25**	P	**Pn**	**12 11 25.4**	**0.0**
OXF	**Oxford**	**6.30**	**104**		**Pn**	**12 11 25.4**	**-0.9**
OXF	comp=Z,75nm,0.8s			IAmb_Lg		12 13 10.8	
OXF	**Oxford** baz=289,SNR=7.1	**6.30**	**104**	P	**Pn**	**12 11 25.7**	**-0.6**
OXF	**Oxford** baz=289	**6.30**	**104**	P	**Pn**	**12 11 25.5**	**-0.8**
W45A	**Hickory Valley**	**6.30**	**98**	Pn	**Pn**	**12 11 26.1**	**-0.2**
W45A	comp=Z,110nm,0.8s			IAmb_Lg		12 13 14.7	
JCT	**Junction City** comp=Z,83nm,0.9s	**6.34**	**204**	IAmb_Lg		12 13 21.4	
Y45A	**Yeager Farm, C**	**6.44**	**110**	Pn	**Pn**	**12 11 27.5**	**-0.6**
P43A	**Skaggs, Pawnee**	**6.64**	**58**		**Pn**	**12 11 30.6**	**-0.3**
P43A	**Skaggs, Pawnee** baz=242,SNR=9.1	**6.64**	**58**	P	**Pn**	**12 11 30.6**	**-0.3**
Q44A	**Meyer Farm, Va**	**6.70**	**65**	Pn	**Pn**	**12 11 31.5**	**-0.2**
Q44A	comp=Z,89nm,0.8s			IAmb_Lg		12 13 33.8	
SDCO	**Great Sand Dun** comp=Z,40nm,1.1s	**7.10**	**284**	IAmb_Lg		12 13 38.9	
SDCO	**Great Sand Dun** baz=99	**7.10**	**284**	P	**Pn**	**12 11 38.5**	**+1.0**
Q24A	**Divide** baz=109	**7.13**	**294**	P	**Pn**	**12 11 38.4**	**+0.5**
L40A	**Anamosa**	**7.19**	**35**	Pn	**Pn**	**12 11 38.0**	**-0.4**
L40A	comp=Z,72nm,0.8s			IAmb_Lg		12 13 52.2	
PLAL	**Pickwick Lake**	**7.23**	**98**		**Pn**	**12 11 37.4**	**-1.6**
PLAL	comp=Z,28nm,0.7s			IAmb_Lg		12 13 46.4	
ECSD	**EROS Data Cent**	**7.41**	**1**		**Pn**	**12 11 41.0**	**-0.4**
ECSD	**EROS Data Cent** baz=181	**7.41**	**1**	P	**Pn**	**12 11 40.8**	**-0.6**
O44A	**Mansfield** comp=Z,86nm,0.7s	**7.59**	**57**	IAmb_Lg		12 14 09.2	
ISCO	**Idaho Springs**	**7.77**	**299**		**Pn**	**12 11 47.0**	**+0.3**
ISCO	comp=Z,25nm,0.8s			IAmb_Lg		12 14 14.7	
ISCO	**Idaho Springs** baz=114	**7.77**	**299**	P	**Pn**	**12 11 46.8**	**+0.1**
T47A	**Sharon Grove** comp=Z,76nm,1.1s	**7.83**	**82**	IAmb_Lg		12 14 14.0	
ANMO	**Albuquerque** comp=Z,0.8nm,0.3s,baz=78,slow=17,SNR=16	**7.98**	**263**	Pg	Pg	12 12 19.1	-6.4
ANMO	comp=Z,1.0nm,0.3s,baz=40,slow=11,SNR=3.0			Lg	Lg	12 14 07.4	
I37A	**Lemond, Waseca** comp=Z,51nm,0.9s	**8.12**	**18**	IAmb_Lg		12 14 25.4	
X48A	**Hartselle**	**8.19**	**100**	IAmb_Lg		12 14 10.6	
P46A	**Rosedale** comp=Z,36nm,0.8s	**8.26**	**64**	Pn	**Pn**	**12 11 52.1**	**-1.1**
SUSD	**Miller** comp=Z,48nm,0.8s	**8.28**	**349**	IAmb_Lg		12 14 28.3	
JFWS	**Jewell Farm**	**8.30**	**36**	Pn	**Pn**	**12 11 54.1**	**+0.4**
JFWS	comp=Z,51nm,0.7s			IAmb_Lg		12 14 13.1	
JFWS	**Jewell Farm** baz=220	**8.30**	**36**	P	**Pn**	**12 11 53.8**	**+0.1**
PHWY	**Pilot Hill** comp=Z,40nm,0.8s	**8.39**	**309**	IAmb_Lg		12 14 23.5	
CLTN	**Cedars of Leba** comp=Z,26nm,1.0s	**8.47**	**88**	IAmb_Lg		12 14 25.4	
MNTX	**Cornudas Mount**	**8.48**	**240**	Pn	**Pn**	**12 11 57.3**	**+1.1**
MNTX	**Cornudas Mount** baz=55	**8.48**	**240**	P	**Pn**	**12 11 56.8**	**+0.6**
N23A	**Red Feather La** baz=120	**8.49**	**305**	P	**Pn**	**12 11 56.7**	**+0.2**
WCI	**Wyandotte Cave** comp=Z,45nm,0.8s	**8.59**	**74**	IAmb_Lg		12 14 30.4	
WCI	**Wyandotte Cave** baz=260	**8.59**	**74**	P	**Pn**	**12 11 57.0**	**-0.7**
SFIN	**Lafayette** comp=Z,68nm,0.9s	**8.64**	**59**	IAmb_Lg		12 14 27.2	
U49A	**Red Boiling Sp**	**8.89**	**85**		**Pn**	**12 12 00.8**	**-1.0**
U49A	**Red Boiling Sp** baz=272,SNR=5.6	**8.89**	**85**	P	**Pn**	**12 12 01.9**	**+0.1**
I40A	**Norwalk** comp=Z,45nm,0.9s	**8.92**	**30**	IAmb_Lg		12 14 46.2	
TXAR	**Lajitas Array** comp=Z,0.4nm,0.3s,baz=45,slow=11,SNR=26	**9.04**	**222**	Pn	**Pn**	**12 12 05.1**	**+1.1**
TXAR	comp=Z,0.4nm,0.3s,baz=30,slow=15,SNR=5.5			Pg		12 12 35.6	
TXAR	comp=Z,0.6nm,0.3s,baz=45,slow=17,SNR=1.4			Sn	**Sn**	**12 13 46.3**	**-0.1**
TXAR	comp=Z,1.6nm,0.3s,baz=44,slow=26,SNR=8.7			Lg	Lg	12 14 38.5	
FPAL	**Fort Paine** comp=Z,20nm,0.8s	**9.31**	**98**	IAmb_Lg		12 14 56.1	
SPMN	**Marine on St.** comp=Z,21nm,0.8s	**9.40**	**18**	IAmb_Lg		12 15 06.8	
W50A	**Signal Mountai** comp=Z,23nm,0.7s	**9.41**	**93**	IAmb_Lg		12 15 02.4	
R49A	**Shelbyville** comp=Z,18nm,0.7s	**9.48**	**75**	IAmb_Lg		12 14 58.7	
P48A	**Milroy** comp=Z,35nm,0.7s	**9.53**	**67**	IAmb_Lg		12 14 58.6	
RSSD	**Black Hills**	**9.55**	**327**	Pn	**Pn**	**12 12 10.9**	**-0.1**
RSSD	comp=Z,30nm,0.9s			IAmb_Lg		12 15 08.0	
RSSD	**Black Hills** baz=142	**9.55**	**327**	P	**Pn**	**12 12 11.2**	**+0.1**
T50A	**Nancy**	**9.64**	**82**	Pn	**Pn**	**12 12 11.4**	**-0.7**
I42A	**Draeger Farm,**	**9.68**	**36**	Pn	**Pn**	**12 12 12.3**	**-0.3**
I42A	comp=Z,37nm,0.8s			IAmb_Lg		12 15 02.4	
PV02	**Paradox Valley** comp=Z,26nm,1.2s	**9.70**	**285**	IAmb_Lg		12 15 13.3	
RWWY	**Rawlins** comp=Z,30nm,0.9s	**9.71**	**307**	IAmb_Lg		12 15 10.9	
250A	**Grady** comp=Z,27nm,1.0s	**9.75**	**113**	IAmb_Lg		12 15 12.2	
PV13	**Radium Mtn., P** comp=Z,17nm,1.0s	**9.76**	**284**	IAmb_Lg		12 15 16.7	
K22A	**Casper** comp=Z,61nm,1.2s	**9.81**	**313**	IAmb_Lg		12 15 17.6	
N47A	**Urbana** comp=Z,38nm,0.8s	**9.81**	**59**	IAmb_Lg		12 15 07.2	
PV04	**Paradox Valley** comp=Z,17nm,1.1s	**9.85**	**286**	IAmb_Lg		12 15 19.0	
L46A	**Eue Claire** comp=Z,60nm,0.7s	**9.94**	**52**	IAmb_Lg		12 15 13.7	
CPCT	**Cooper Cave** comp=Z,21nm,1.1s	**10.01**	**91**	IAmb_Lg		12 15 13.8	
TKL	**Tuckaleechee C** comp=Z,0.5nm,0.3s,baz=274,slow=13,SNR=2.1	**10.58**	**90**	Pn	**Pn**	**12 12 25.2**	**+0.2**
TKL	comp=Z,1.6nm,0.3s,baz=166,slow=20,SNR=5.6			Lg	Lg	12 15 19.9	
PDAR	**Pinedale Array** comp=Z,0.1nm,0.3s,baz=118,slow=18,SNR=6.3	**11.76**	**307**	Pn	**Pn**	**12 12 39.8**	**-1.5**
PDAR	comp=Z,0.2nm,0.3s,baz=112,slow=29,SNR=2.3			Lg	Lg	12 15 53.1	
PDAR	**Pinedale Array**	**11.76**	**307**		**Pn**	**12 12 39.0**	**-2.3**
ULM	**Lac du Bonnet** comp=Z,0.4nm,0.3s,baz=178,slow=13,SNR=1.9	**13.94**	**2**	Pn	Pn	12 13 03.4	-7.4
ULM	comp=Z,0.5nm,0.3s,baz=270,slow=20,SNR=2.4			Sn	Sn	12 15 29.9	-16
ULM	baz=274,slow=19,SNR=1.4			Lg	Lg	12 16 55.2	

*NSSP **16** 12:23:40.8,38°85N×43°50E,h8km,Ms3.1*
*DDA **16** 12:23:41.0,38°87N×43°52E,h2km±4km,MW3.5*
*ISK **16** 12:23:41.7,38°87N×43°53E,h2km,ML3.2/15*
*TEH **16** 12:23:42.6,38°86N×43°53E,h7km,ML3.0*

ISC 16 12:23:43.0±1.0,38°88N±0°02×43°52E±0°02,h12km±8km, n56,σ1§32/73,1C-1D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERCV	**ERCIS-VAN**	**0.20**	**315**	PG	**Pg**	**12 23 47.3**	**-0.3**
ERCV	**ERCIS-VAN**	**0.20**	**315**	*e*Pg	**Pg**	**12 23 47.3**	**-0.3**
VANB	**Van**	**0.30**	**201**	PG	**Pb**	**12 23 50.5**	**+0.1**
VANB				SG	**Sb**	**12 23 56.5**	**+1.2**
VANB	**Van**	**0.30**	**201**	*e*Pg	**Pb**	**12 23 50.4**	**+0.1**
TVAN	**Van**	**0.36**	**195**	*i* P	**Pb**	**12 23 50.4**	**-1.0**
TVAN				*i* S	**Sb**	**12 23 57.0**	**-0.1**
TVAN	comp=E,5μm,0.5s			IAML		12 23 59.0	
TVAN	**Van**	**0.36**	**195**	*e*Pg	**Pb**	**12 23 50.4**	**-1.0**
CLDR	**Caldiran**	**0.41**	**49**	*i* P	**Pb**	**12 23 50.6**	**-1.7**
CLDR				*i* S	**Sb**	**12 23 57.1**	**-1.4**
CLDR	comp=N,2μm,0.4s			IAML		12 23 58.0	
CLDR	**Caldiran**	**0.41**	**49**	PG	**Pb**	**12 23 50.7**	**-1.6**
CLDR				SG	**Sb**	**12 23 57.3**	**-1.2**
CLDR	**Caldiran**	**0.41**	**49**	*e*Pg	**Pb**	**12 23 50.7**	**-1.6**
ADCV	**BITLIS_Adilcev**	**0.63**	**264**	*i* P	**Pb**	**12 23 55.1**	**-0.9**
ADCV				*i* S	**Sb**	**12 24 05.3**	**+0.5**
ADCV	comp=N,729nm,0.4s			IAML		12 24 06.0	
ADCV	**BITLIS_Adilcev**	**0.63**	**264**	*e*Pg	**Pb**	**12 23 55.1**	**-0.9**
DYDN	**Diyadin**	**0.68**	**11**	*i* P	**Pb**	**12 23 55.7**	**-1.2**
DYDN				*i* S	**Sb**	**12 24 05.7**	**-0.7**
DYDN	comp=N,459nm,0.4s			IAML		12 24 14.0	
DYDN	**Diyadin**	**0.68**	**11**	*e*Pg	**Pb**	**12 23 55.7**	**-1.2**
AKDM	**Akdamar-Van**	**0.69**	**218**	PG	**Pg**	**12 23 55.3**	**-1.2**
AKDM	**Akdamar-Van**	**0.69**	**218**	*e*Pg	**Pb**	**12 23 55.8**	**-1.3**
MLAZ	**Malazgirt-MUS**	**0.81**	**290**	PG	**Pb**	**12 23 58.1**	**-1.0**
MLAZ				SG	**Sn**	**12 24 11.1**	**-1.2**
MLAZ	**Malazgirt-MUS**	**0.81**	**290**	*e*Pg	**Pb**	**12 23 58.0**	**-1.0**
AGRB	**Hanur-Agry**	**0.81**	**330**	PG	**Pb**	**12 23 58.2**	**-1.0**
AGRB	**Hanur-Agry**	**0.81**	**330**	*e*Pg	**Pb**	**12 23 58.2**	**-1.0**
IGDI	**IGDIR**

SRTM				*i* S	**Sg**	**12 24 33.9**	**+1.5**
SRTM				IAML		12 24 37.0	
	comp=N,268nm,1.0s						
SRTM	**Siirt_Merkez**	**1.54**	**235**	*e*Pn	**Pg**	**12 24 11.6**	**-0.9**
NAX	**Nakhchivan**	**1.56**	**78**	*e*Pn	**Pg**	**12 24 12.1**	**-0.9**
MUSM	**Mu-Merkez**	**1.58**	**265**	*i* P	**Pb**	**12 24 11.6**	**-0.6**
MUSM				IAML		12 24 44.0	
	comp=N,43nm,1.1s						
GNI	**Garni**	**1.58**	**36**	*i* P	**Pg**	**12 24 12.4**	**-1.0**
GNI				*i* S	**Sg**	**12 24 36.5**	**+2.5**
GNI	**Garni**	**1.58**	**36**	PN	**Pg**	**12 24 12.1**	**-1.3**
SIRT	**Sirnak**	**1.62**	**212**	PN	**Pb**	**12 24 12.1**	**-0.7**
SBZ	**Shahbuz**	**1.66**	**71**	*e*Pn	**Pg**	**12 24 13.3**	**-1.6**
KAPZ	**Kaputan**	**1.71**	**32**	*i* P	**Pg**	**12 24 14.2**	**-1.5**
KAPZ				*i* S	**Sg**	**12 24 37.8**	**-0.1**
KOPR	**Koprukoy-ERZUR**	**1.71**	**311**	PN	**Pb**	**12 24 13.8**	**-0.6**
IMRD	**Marand**	**1.71**	**95**	*e*Pn	**Pg**	**12 24 14.2**	**-1.6**
IMRD				*e*		12 24 23.6	
	comp=Z,3μm,0.5s						
ISHB	**Shabestar**	**1.74**	**109**	*e*Pn	**Pb**	**12 24 13.8**	**-1.3**
ISHB				*e*		12 24 22.6	
	comp=Z,1μm,0.4s						
KARS	**Kars**	**1.78**	**349**	PN	**Pb**	**12 24 14.5**	**-1.2**
SENK	**Senkaya-Erzuru**	**1.91**	**332**	PN	**Pb**	**12 24 16.5**	**-1.4**
ECAT	**Cat-ERZURUM**	**2.11**	**291**	*i* P	**Pg**	**12 24 21.4**	**-2.0**
BNGB	**Bingl**	**2.22**	**274**	PN	**Pb**	**12 24 20.9**	**-2.3**
GRS	**Goris**	**2.27**	**73**	⇑*i*P	**Pn**	**12 24 20.0**	**-0.5**
GRS				⇓*i*S	**Sb**	**12 24 52.0**	**-0.1**
IAZR	**Azarshahr**	**2.27**	**121**	*e*Pn	**Pb**	**12 24 24.1**	**0.0**
IAZR				*e*		12 24 29.1	
	comp=Z,3μm,0.5s						
EMRE	**Erzurum,Aziziy**	**2.29**	**301**	*i* P	**Pg**	**12 24 25.6**	**-1.2**
MAZI	**Mazidag**	**2.81**	**241**	PN	**Pn**	**12 24 29.1**	**+1.3**
IHRS	**Heris**	**2.81**	**100**	*e*Pn	**Pn**	**12 24 28.5**	**+0.5**
IHRS				*e*		12 24 45.6	
	comp=Z,458nm,0.6s						

NNC ***16*** *12:24:34.1±1.8, 41.˚62N×80.˚63E, h0km, mb4.2, mpv3.9,*
Error ellipse: s-maj=12.4km s-min=8.3km az=149.0
SOME ***16*** *12:24:34.0, 41.˚82N×80.˚67E, h5km*
KRNET ***16*** *12:24:34.3±0.1, 41.˚73N×80.˚82E, h30km, mb3.8*

ISC 16 12:24:37.1±1.8, **41.˚81N**±0.˚07×**80.˚52E**±0.˚06, **h10**km, **n57,**
σ1s88/95, 24C-12D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.56**	**330**		*e*P		**Pn**	**12 25 02.7**	**-2.3**
	baz=34								
SHLS					*e*S		**Sn**	**12 25 24.0**	**-1.4**
	baz=34								
SHLS	**Shalkode**	**1.56**	**330**		*e*P		**Pn**	**12 25 02.7**	**-2.3**
	59nm,0.3s								
SHLS					*e*S		**Sn**	**12 25 24.0**	**-1.4**
	302nm,0.2s								
SHLS	**Shalkode**	**1.56**	**330**		P		**Pb**	**12 25 06.0**	**-0.2**
	283nm,0.1s								
SHLS					S		**Sg**	**12 25 29.8**	**+2.5**
	302nm,0.2s								
KTMS	**Ketmen**	**1.64**	**356**		*e*P		**Pn**	**12 25 05.6**	**-0.6**
	baz=49								
KTMS					*e*S		**Sg**	**12 25 28.6**	**-1.4**
	baz=49								
KTMS	**Ketmen**	**1.64**	**356**		*e*P		**Pn**	**12 25 05.6**	**-0.6**
	69nm,0.4s								
KTMS					*e*S		**Sg**	**12 25 28.6**	**-1.4**
	676nm,0.4s								
KTMS	**Ketmen**	**1.64**	**356**		P		**Pg**	**12 25 07.8**	**-0.8**
	1.1nm,0.2s								
KTMS					S		**Sg**	**12 25 32.3**	**+2.3**
	738nm,0.3s								
PDGK	**Podgornoye**	**1.70**	**334**		Pg		**Pg**	**12 25 09.3**	**-0.5**
	118nm,0.3s								
PDGK					Lg		Lg	12 25 35.6	
	161nm,0.3s								
PDGK	**Podgornoye**	**1.70**	**334**		⇑P		**Pb**	**12 25 07.3**	**-1.2**
	73nm,0.3s								
PDGK					⇑S		**Sg**	**12 25 32.3**	**+0.5**
	103nm,0.3s								
PRZ	**Przheval'sk**	**1.71**	**294**	⇑*i*P			**Pb**	**12 25 08.6**	**-0.2**
	baz=94								
PRZ				⇑*i*S			**Sg**	**12 25 33.3**	**+1.1**
	baz=94								
UZB	**Uzynbulak**	**1.74**	**321**		*e*P		**Pb**	**12 25 08.4**	**-0.8**
	baz=17								
UZB					*e*S		**Sg**	**12 25 33.4**	**+0.4**
	baz=17								
UZB	**Uzynbulak**	**1.74**	**321**		*e*P		**Pb**	**12 25 08.4**	**-0.8**
	88nm,0.3s								
UZB					*e*S		**Sg**	**12 25 33.4**	**+0.4**
	547nm,0.4s								
UZB	**Uzynbulak**	**1.74**	**321**		Pg		**Pg**	**12 25 10.6**	**+0.2**
	163nm,0.3s								
UZB					Lg		Lg	12 25 37.8	
	547nm,0.4s								
SATY	**Saty**	**2.00**	**309**		*e*P		**Pb**	**12 25 13.2**	**-0.5**
	baz=7.0								
SATY					*e*S		**Sg**	**12 25 42.5**	**+1.0**
	baz=7.0								
SATY	**Saty**	**2.00**	**309**		*e*P		**Pb**	**12 25 13.2**	**-0.5**
	24nm,0.5s								
SATY					*e*S		**Sg**	**12 25 42.4**	**+1.0**
	283nm,0.3s								
SATY	**Saty**	**2.00**	**309**		Pg		**Pg**	**12 25 14.7**	**-0.8**
	73nm,0.3s								
SATY					Lg		Lg	12 25 44.9	
	283nm,0.3s								
KPKS	**Kokpek**	**2.14**	**321**		*e*P		**Pb**	**12 25 15.3**	**-0.7**
	224nm,0.2s								
KPKS					*e*S		**Sg**	**12 25 45.4**	**-0.5**
	332nm,0.4s								
ANVS	**Anan'yevo**	**2.33**	**296**	⇑*e*P			**Pb**	**12 25 17.3**	**-2.0**
	baz=95								
ANVS				⇑*i*S			**Sb**	**12 25 48.4**	**+0.2**
	baz=95								
KDJ	**Kajisay**	**2.51**	**279**	⇑*i*P			**Pb**	**12 25 19.8**	**-2.6**
	baz=80								
KDJ				⇑*i*S			**Sb**	**12 25 52.9**	**-0.5**
	baz=80								
DJR	**Jarkent**	**2.58**	**348**		*e*P		**Pb**	**12 25 21.9**	**-1.6**
	1.1nm,0.4s								
DJR					*e*S		**Sb**	**12 25 56.1**	**+0.8**
	8.7nm,0.3s								
DJR	**Jarkent**	**2.58**	**348**		Pg		**Pb**	**12 25 23.7**	**+0.1**
	1.6nm,0.2s								
DJR					Lg		Lg	12 25 58.8	
	8.7nm,0.3s								
KOTS	**Kotyrbulak**	**2.90**	**301**		*e*P		**Pb**	**12 25 28.3**	**-0.6**
	27nm,0.6s								
KOTS					*e*S		**Sg**	**12 26 08.0**	**-2.1**
	120nm,0.7s								
KOTS	**Kotyrbulak**	**2.90**	**301**		Pg		**Pb**	**12 25 29.7**	**+0.8**
	43nm,0.3s								
KOTS					Lg		Lg	12 26 10.0	
	86nm,0.3s								
MDOK	**Medeo**	**2.90**	**299**	⇑Pg			**Pb**	**12 25 25.9**	**-3.1**
	13nm,0.4s								
MDOK				⇑Lg			Lg	12 26 09.7	
	59nm,0.5s								
AAA	**Alma-Ata**	**3.01**	**299**		*e*P		**Pb**	**12 25 31.1**	**+0.3**
	39nm,0.1s								
AAA					*e*S		**Sg**	**12 26 12.1**	**-1.7**
	13nm,0.1s								
AAA	**Alma-Ata**	**3.01**	**299**		Pg		**Pb**	**12 25 31.1**	**+0.3**
	39nm,0.1s								
AAA					Lg		Lg	12 26 12.1	
	13nm,0.1s								
IZV	**Izvestkoviy**	**3.14**	**294**		*e*P		**Pb**	**12 25 34.0**	**+0.9**
	26nm,0.5s								
IZV					*e*S		**Sg**	**12 26 17.2**	**-0.8**
	125nm,0.4s								
IZV	**Izvestkoviy**	**3.14**	**294**		Pg		**Pb**	**12 25 34.0**	**+0.9**
	26nm,0.5s								
IZV					Lg		Lg	12 26 17.2	
	125nm,0.4s								
ULHL	**Ulahol**	**3.22**	**279**	⇑*i*P			**Pn**	**12 25 29.3**	**+1.4**
	baz=80								
ULHL				⇑*i*S			**Sb**	**12 26 10.0**	**-3.7**
	baz=80								
MTBS	**Maitube**	**3.30**	**295**		*e*P		**Pb**	**12 25 36.9**	**+1.1**
	9.3nm,0.2s								
MTBS					*e*S		**Sg**	**12 26 22.1**	**-1.1**
	70nm,0.3s								
MTBS	**Maitube**	**3.30**	**295**		Pg		**Pb**	**12 25 36.9**	**+1.1**
	9.3nm,0.2s								
MTBS					Lg		Lg	12 26 22.1	
	70nm,0.3s								
KTBS	**Karatobe**	**3.41**	**305**		*e*P		**Pb**	**12 25 38.5**	**+0.9**
	13nm,0.2s								
KTBS					*e*S		**Sg**	**12 26 24.9**	**-1.6**
	131nm,0.3s								
KTBS	**Karatobe**	**3.41**	**305**		Pg		**Pb**	**12 25 38.5**	**+0.9**
	13nm,0.2s								
KTBS					Lg		Lg	12 26 24.9	
	131nm,0.3s								
BOOM	**Boomskoye usch**	**3.47**	**283**	⇓*e*P			**Pn**	**12 25 33.1**	**+1.8**
	baz=83								
BOOM				⇓*i*S			**Sn**	**12 26 16.0**	**+3.4**
	baz=83								
KAPS	**Kapalarasan**	**3.58**	**347**		*e*P		**Pb**	**12 25 39.8**	**-0.7**
	0.8nm,0.3s								
KAPS					*e*S		**Sb**	**12 26 27.5**	**+3.5**
	7.8nm,0.5s								
KAPS	**Kapalarasan**	**3.58**	**347**		Pg		**Pg**	**12 25 44.9**	**-0.7**
	2.4nm,0.4s								
KAPS					Lg		Lg	12 26 36.5	
	9.6nm,0.5s								
KUU	**Kurty**	**3.71**	**306**		*e*P		**Pb**	**12 25 44.3**	**+1.6**
	5.6nm,0.2s								
KUU					*e*S		**Sg**	**12 26 34.5**	**-1.8**
	27nm,0.3s								
KUU	**Kurty**	**3.71**	**306**		Pg		**Pb**	**12 25 44.3**	**+1.6**
	5.6nm,0.2s								
KUU					Lg		Lg	12 26 34.5	
	27nm,0.3s								
DGS	**Degeres**	**3.79**	**294**		*e*P		**Pb**	**12 25 45.8**	**+1.7**
	13nm,0.4s								
DGS					*e*S		**Sg**	**12 26 38.0**	**-0.8**
	46nm,0.5s								
DGS	**Degeres**	**3.79**	**294**		Pg		**Pb**	**12 25 45.8**	**+1.7**
	13nm,0.4s								
DGS					Lg		Lg	12 26 38.0	
	46nm,0.5s								
TKM2	**Tokmak 2**	**3.81**	**289**	⇓*e*P			**Pn**	**12 25 37.8**	**+1.7**
	baz=89								
TKM2				⇓*i*S			**Sn**	**12 26 24.6**	**+3.5**
	baz=89								
TKM2	**Tokmak 2**	**3.81**	**289**	⇑Pn			**Pn**	**12 25 38.7**	**+2.7**
TKM2				⇓Pg			**Pg**	**12 25 48.2**	**-1.9**
	6.9nm,0.4s								
TKM2				⇑Lg			Lg	12 26 38.4	
	21nm,0.4s								
KZA	**Kyzart**	**3.94**	**276**	⇑*e*P			**Pn**	**12 25 39.5**	**+1.5**
	baz=77								
KZA				⇑*e*S			**Sn**	**12 26 27.6**	**+3.1**
	baz=77								
KRBS	**Karabastau**	**4.04**	**300**		*e*P		**Pb**	**12 25 50.0**	**+1.7**
	6.4nm,0.4s								
KRBS					*e*S		**Sg**	**12 26 44.5**	**-2.2**
	64nm,0.3s								
KRBS	**Karabastau**	**4.04**	**300**		Pg		**Pb**	**12 25 49.9**	**+1.7**
	6.4nm,0.4s								
KRBS					Lg		Lg	12 26 44.5	
	64nm,0.3s								
UCH	**Uchtor**	**4.49**	**277**	⇓*e*P			**Pn**	**12 25 47.2**	**+1.6**
	baz=78								
UCH				⇓*e*S			**Sn**	**12 26 40.9**	**+2.7**
	baz=78								
AAK	**Ala-Archa**	**4.55**	**283**	⇑*i*P			**Pn**	**12 25 47.8**	**+1.7**
	baz=83								
AAK				⇑*i*S			**Sn**	**12 26 41.8**	**+2.6**
	baz=83								
AAK	**Ala-Archa**	**4.55**	**283**	⇓Pg			**Pg**	**12 26 00.6**	**-3.6**
	8.8nm,0.6s								
AAK				⇓Lg			Lg	12 27 02.7	
	19nm,0.7s								
SGDS	**Sogindy**	**4.65**	**293**		Pg		**Pb**	**12 26 01.3**	**+2.7**
	7.1nm,0.6s								
SGDS					Lg		Lg	12 27 04.4	
	19nm,0.6s								
USP	**Ospenovka**	**4.68**	**290**	⇓*i*P			**Pn**	**12 25 49.6**	**+1.8**
	baz=90								
USP				⇓*i*S			**Sn**	**12 26 44.8**	**+2.6**
	baz=90								
AML	**Almayashu**	**5.10**	**276**	⇑*e*P			**Pn**	**12 25 55.5**	**+1.6**
	baz=77								
AML				⇑*i*S			**Sn**	**12 26 55.7**	**+2.7**
	baz=77								
MAKZ	**Makanchi**	**5.11**	**11**	⇑Pn			**Pn**	**12 25 54.1**	**+0.5**
	5.6nm,0.4s								
MAKZ				⇑Sn			**Sn**	**12 26 54.9**	**+2.2**
	3.9nm,0.4s								
MAKZ				⇓Lg			Lg	12 27 12.1	
	3.9nm,0.4s								
MK31	**Makanchi Array**	**5.15**	**14**	Pn			**Pn**	**12 25 54.2**	**+0.1**
	0.7nm,0.2s,baz=195,slow=14,SNR=60								
MK31				⇑Sn			**Sn**	**12 26 54.3**	**+0.6**
	5.9nm,0.6s,baz=195,slow=23,SNR=6.0								
MK31				⇑Lg			Lg	12 27 15.0	
	9.5nm,0.6s,baz=191,slow=27,SNR=5.4								
MRKS	**Merke**	**5.49**	**282**		*e*P		**Pg**	**12 26 17.8**	**-4.5**
	3.3nm,0.3s								
MRKS					*e*S		**Sg**	**12 27 32.5**	**-0.8**
	17nm,0.4s								
MRKS	**Merke**	**5.49**	**282**		Pg		**Pg**	**12 26 17.8**	**-4.5**
	3.3nm,0.3s								
MRKS					Lg		Lg	12 27 32.6	
	17nm,0.4s								
BTLS	**Baital**	**5.71**	**307**		*e*P		**Pg**	**12 26 22.7**	**-3.8**
	3.7nm,0.4s								
BTLS					*e*S		**Sg**	**12 27 40.6**	**+0.1**
	3.2nm,0.3s								
BTLS	**Baital**	**5.71**	**307**		Pg		**Pg**	**12 26 22.7**	**-3.8**
	3.7nm,0.4s								
BTLS					Lg		Lg	12 27 40.6	
	3.2nm,0.3s								
KK31	**Karatay Array**	**7.51**	**283**		Pg		**Pg**	**12 26 59.9**	**-1.0**
	1.1nm,0.5s,baz=82,slow=16,SNR=8.2								
KK31					Lg		Lg	12 28 38.3	
	2.6nm,0.5s,baz=88,slow=28,SNR=9.7								

TAP 16 12:25:29.1, 24.˚26N×121.˚83E, h17km, ML2.7, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.18**	**335**		P		Pg	12 25 33.7	0.0
	baz=337								
ENA					S		Sb	12 25 37.1	-0.2
	baz=337								
EWUT	**Wuta**	**0.19**	**347**		P		Pg	12 25 33.8	+0.1
	baz=347								
EWUT					S		Sb	12 25 37.4	-0.1
	baz=347								
ETL	**Fush Village**	**0.21**	**241**		P		Pg	12 25 34.1	0.0
	baz=243								
ETL					S		Sb	12 25 38.1	0.0
	baz=243								
NACB	**Ninganchiao**	**0.23**	**248**		P		Pg	12 25 34.2	-0.1
	baz=250								
NACB					S		Sb	12 25 38.3	-0.3
	baz=250								
TWD	**Chiawan**	**0.28**	**229**		*e*P		Pg	12 25 35.1	+0.1
	baz=234								
TWD					*e*S		Sb	12 25 39.8	-0.2
	baz=234								
ETLH	**Xiulin Townshi**	**0.32**	**260**		*e*P		Pg	12 25 36.0	+0.1
	baz=270								
ETLH					*e*S		Sb	12 25 41.1	-0.2
	baz=270								
HWA	**Hwalien**	**0.35**	**215**		*e*P		Pb	12 25 37.7	+0.9
	baz=223								
TWC	**Suao**	**0.35**	**4**		P		Pg	12 25 36.6	+0.2
	baz=10.0								
TWC					S		Sb	12 25 41.8	-0.3
	baz=10.0								
NDS	**Dongshan**	**0.38**	**345**		P		Pb	12 25 37.3	-0.2
	baz=345								
NDS					S		Sg	12 25 42.6	+0.3
	baz=345								
NNSB	**Datong**	**0.44**	**293**		*e*P		Pb	12 25 38.3	-0.1
	baz=293								
NDT	**Datong Townshi**	**0.44**	**320**		P		Pb	12 25 38.6	+0.1
	baz=320								
ENTT	**Nioudou**	**0.45**	**328**		P		Pb	12 25 38.5	-0.1
	baz=328								
NNS	**Nan Shan**	**0.45**	**293**		*e*P		Pb	12 25 38.5	-0.1
	baz=294								
TWE	**Neicheng**	**0.48**	**343**		P		Pb	12 25 39.2	+0.1
	baz=343								
ILA	**Ilan**	**0.51**	**352**		*e*S		Sb	12 25 47.9	+1.2
	baz=346								
WHF	**Hehuan Shan**	**0.52**	**257**		*e*P		Pg	12 25 39.7	0.0
	baz=259								
WHF					*e*S		Sg	12 25 47.2	+0.4
	baz=259								
FUSS	**Fushou**	**0.53**	**269**		*e*P		Pb	12 25 40.2	+0.1
	baz=278								
FUSS					*e*S		Sg	12 25 47.1	+0.2
	baz=278								
ESL	**Shilin**	**0.57**	**219**		*e*P		Pb	12 25 40.6	-0.1
	baz=224								
ESL					*e*S		Sb	12 25 49.3	+0.8
	baz=224								
YHNB	**Yeheng**	**0.58**	**315**		*e*P		Pb	12 25 41.2	+0.4
	baz=315								
YHNB					*e*S		Sb	12 25 49.3	+0.5
	baz=315								
EGS	**Egs**	**0.59**	**9**		*e*P		Pn	12 25 42.3	-0.5
	baz=10.0								
NTC	**Toucheng**	**0.59**	**0**		*e*P		Pb	12 25 41.6	+0.6
	baz=1.0								
NTC					*e*S		Sb	12 25 49.5	+0.4
	baz=1.0								
NWLT	**Wulai**	**0.59**	**330**		*e*P		Pb	12 25 41.1	+0.1
	baz=330								
NWLT					*e*S		Sb	12 25 49.3	+0.1
	baz=330								
NSK	**Sanguang**	**0.59**	**314**		*e*P		Pb	12 25 41.1	0.0
	baz=314								
NSK					*e*S		Sb	12 25 49.6	+0.3
	baz=314								
TWT	**Tachien**	**0.59**	**269**		*e*P		Pb	12 25 41.9	+0.7
	baz=270								
TWT					*e*S		Sb	12 25 49.7	+0.4
	baz=270								
TDCB	**Techi**	**0.61**	**269**		*e*P		Pb	12 25 41.8	+0.4
	baz=271								
TDCB					*e*S		Sb	12 25 49.8	0.0
	baz=271								
CHGB	**Renai**	**0.63**	**252**		*e*P		Pb	12 25 42.0	+0.3
	baz=248								
CHGB					*e*S		Sb	12 25 50.5	+0.2
	baz=248								
OWD	**Renai**	**0.67**	**243**		*e*S		Sb	12 25 52.4	+1.0
	baz=244								
EGFH	**Guangfu**	**0.69**	**212**		*e*P		Pb	12 25 43.2	+0.5
	baz=226								
EGFH					*e*S		Sn	12 25 54.1	-0.4
	baz=226								
TIPB	**Shuangxi**	**0.71**	**0**		*e*P		Pb	12 25 43.7	+0.6
	baz=360								
TIPB					*e*S		Sb	12 25 53.0	+0.5
	baz=360								
TWA	**Mucha**	**0.75**	**343**		*e*P		Pn	12 25 45.4	+0.5
	baz=343								
TWA					*e*S		Sn	12 25 55.8	-0.2
	baz=343								
NHDH	**Xindian Distri**	**0.75**	**339**		*e*P		Pn	12 25 45.8	+0.9
	baz=338								
NHDH					*e*S		Sg	12 25 54.4	+0.7
	baz=338								
TWB1	**Santiao Chiao**	**0.76**	**11**		*e*P		Pb	12 25 42.9	-0.9
	baz=12								
TWB1					*e*S		Sg	12 25 55.0	+1.0
	baz=12								
WHP	**Taichung City**	**0.80**	**271**		*e*P		Pn	12 25 45.6	-0.1
	baz=273								
WHP					*e*S		Sg	12 25 56.0	+0.7
	baz=273								
NWF	**Wu-fen Shan**	**0.81**	**357**		*e*P		Pn	12 25 46.1	+0.3
	baz=349								
NWF					*e*S		Sn	12 25 56.8	-0.7
	baz=349								
LIOB	**Emei**	**0.83**	**298**		*e*P		Pn	12 25 46.3	+0.2
	baz=298								
LIOB					*e*S		Sn	12 25 57.5	-0.5
	baz=298								
NSTT	**Nanjuang**	**0.84**	**296**		*e*P		Pn	12 25 45.8	-0.3
	baz=297								
NSTT					*e*S		Sn	12 25 57.5	-0.6
	baz=297								
HGSD	**Ruisui**	**0.85**	**206**		*e*P		Pn	12 25 46.3	+0.1
	baz=196								
HGSD					*e*S		Sn	12 26 01.7	+3.3
	baz=196								
WCS	**Beigang Elemen**	**0.86**	**257**		*e*P		Pn	12 25 46.4	0.0
	baz=258								
WCS					*e*S		Sn	12 25 58.5	0.0
	baz=258								
EHY	**Hungye**	**0.88**	**212**		*e*P		Pn	12 25 47.2	+0.4
	baz=223								
EHY					*e*S		Sn	12 25 59.8	+0.6
	baz=223								
YM01	**YM01**	**0.91**	**345**		*e*P		Pn	12 25 47.5	+0.3
	baz=328								
YM01					*e*S		Sn	12 26 01.6	+1.6
	baz=328								
NCUH	**Zhongli**	**0.91**	**321**		*e*P		Pn	12 25 49.0	+1.8
	baz=319								
TWS1	**Kuangyinshan**	**0.92**	**336**		*e*S		Sg	12 25 59.0	+0.1
	baz=335								
SSLB	**Suanglung**	**0.93**	**240**		*e*P		Pn	12 25 47.4	0.0
	baz=250								
SSLB					*e*S		Sb	12 25 58.6	-0.2
	baz=250								
SMLT	**Sun Moon Lake**	**0.93**	**246**		*e*P		Pn	12 25 47.4	-0.1
	baz=248								
SMLT					*e*S		Sn	12 26 01.4	+1.0
	baz=248								
ANP	**Anpu**	**0.96**	**343**		*e*P		Pn	12 25 48.3	+0.3
	baz=343								
TWQ1	**Liyutan**	**0.96**	**275**		*e*P		Pn	12 25 48.6	+0.8
	baz=277								
NMLH	**Miaoli**	**0.98**	**286**		*e*P		Pn	12 25 49.0	+0.9
	baz=288								
NSY	**Sanyi**	**0.98**	**279**		*e*P		Pn	12 25 48.4	+0.2
	baz=281								
YULB	**Yu-li**	**0.99**	**209**		*e*P		Pb	12 25 47.6	-0.2
	baz=220								
YULB					*e*S		Sn	12 26 01.9	+0.1
	baz=220								
EYUL	**Yuli**	**1.02**	**207**		*e*P		Pb	12 25 47.6	-0.7
	baz=208								
EYUL					*e*S		Sn	12 26 04.7	+2.1
	baz=208								
WHYT	**Xinyi Township**	**1.05**	**238**		*e*P		Pg	12 25 49.6	+0.1
	baz=240								
YUS	**Yu-Shan**	**1.11**	**226**		*e*P		Pb	12 25 49.9	-0.2
	baz=229								
YUS					*e*S		Sn	12 26 06.0	+0.6
	baz=229								
WNT	**Mingjian**	**1.11**	**250**		*e*S		Sg	12 26 08.3	+3.2
	baz=250								
ALS	**Alishan**	**1.20**	**232**		*e*P		Pg	12 25 52.8	+0.6
	baz=234								
ALS					*e*S		Sg	12 26 11.5	+3.6
	baz=234								
CHKT	**Chengkung**	**1.23**	**200**		*e*S		Sg	12 26 09.1	+0.2
	baz=217								
CHN5	**Tsauling**	**1.24**	**238**		*e*P		Pg	12 25 54.6	+1.5

MASBT				*e*S		Sb	12 26 28.5	-0.4
	baz=214								

TAP 16 12:25:36.1,24.28N×121.78E,h18km,ML2.7,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.05**	**311**	*i*	P		Pg	12 25 39.7	+0.3
	baz=314								
EHP				*i*	S		Sg	12 25 42.4	+0.7
	baz=314								
ENA	**Nanau**	**0.15**	**346**		P		Pg	12 25 40.9	+0.5
	baz=348								
ENA					S		Sg	12 25 44.3	+0.9
	baz=348								
EWUT	**Wuta**	**0.17**	**359**		P		Pg	12 25 41.1	+0.5
	baz=358								
EWUT					S		Sg	12 25 44.8	+1.1
	baz=358								
ETL	**Fush Village**	**0.19**	**231**		P		Pg	12 25 41.5	+0.6
	baz=230								
ETL					S		Sg	12 25 45.3	+1.2
	baz=230								
NACB	**Ninganchiao**	**0.20**	**239**		P		Pg	12 25 41.8	+0.8
	baz=238								
NACB					S		Sg	12 25 45.5	+1.1
	baz=238								
TWD	**Chiawan**	**0.26**	**221**	*e*	P		Pb	12 25 42.3	+0.2
	baz=219								
TWD					S		Sb	12 25 46.5	+0.4
	baz=219								
ETLH	**Xiulin Townshi**	**0.28**	**256**	*e*	P		Pb	12 25 43.0	+0.4
	baz=255								
ETLH					S		Sb	12 25 48.0	+1.1
	baz=255								
TWC	**Suao**	**0.34**	**10**	*e*	P		Pb	12 25 43.6	0.0
	baz=12								
TWC					S		Sb	12 25 49.6	+1.0
	baz=12								
HWA	**Hwalien**	**0.34**	**208**	*e*	P		Pb	12 25 44.0	+0.4
	baz=207								
HWA					S		Sb	12 25 49.8	+1.1
	baz=207								
HWA	**Hwalien**	**0.34**	**208**	*e*	S		Pb	12 25 44.0	+0.4
	baz=223								
NDS	**Dongshan**	**0.36**	**350**	*e*	P		Pb	12 25 44.4	+0.4
	baz=350								
NDS					S		Sb	12 25 50.4	+1.0
	baz=350								
NNSB	**Datong**	**0.39**	**293**	*e*	P		Pg	12 25 44.5	+0.1
	baz=292								
NNSB					S		Sb	12 25 51.2	+0.8
	baz=292								
NNSB	**Datong**	**0.39**	**293**	*e*	S		Pg	12 25 44.5	+0.1
	baz=293								
NDT	**Datong Townshi**	**0.41**	**323**	*e*	P		Pb	12 25 45.1	+0.3
	baz=322								
NDT					S		Sb	12 25 51.7	+1.0
	baz=322								
NDT	**Datong Townshi**	**0.41**	**323**		S		Pb	12 25 45.0	+0.2
	baz=320								
NNS	**Nan Shan**	**0.41**	**294**	*e*	P		Pb	12 25 44.7	-0.2
	baz=293								
NNS					S		Sb	12 25 51.6	+0.8
	baz=293								
NNS	**Nan Shan**	**0.41**	**294**	*e*	S		Pg	12 25 44.7	+0.2
	baz=294								
ENTT	**Nioudou**	**0.41**	**331**	*e*	P		Pb	12 25 45.0	+0.1
	baz=332								
ENTT					S		Sb	12 25 51.7	+0.9
	baz=332								
ENTT	**Nioudou**	**0.41**	**331**		S		Pb	12 25 44.7	-0.2
	baz=328								
TWE	**Neicheng**	**0.45**	**347**	*e*	P		Pb	12 25 46.0	+0.4
	baz=348								
TWE					S		Sb	12 25 53.0	+0.9
	baz=348								
TWE	**Neicheng**	**0.45**	**347**		S		Pb	12 25 46.0	+0.4
	baz=343								
WHF	**Hehuan Shan**	**0.49**	**255**	*e*	S		Sb	12 25 55.0	+1.6
	baz=254								
FUSS	**Fushou**	**0.49**	**267**	*e*	P		Pg	12 25 46.2	+0.1
	baz=266								
FUSS					S		Sb	12 25 54.2	+0.9
	baz=266								
YHNB	**Yeheng**	**0.54**	**317**	*e*	P		Pb	12 25 47.5	+0.6
	baz=316								
YHNB					S		Sn	12 25 56.5	-1.0
	baz=316								
NSK	**Sanguang**	**0.55**	**316**	*e*	S		Sb	12 25 56.2	+1.4
	baz=316								
TWT	**Tachien**	**0.55**	**268**	*e*	S		Sn	12 25 56.6	-1.4
	baz=267								
NWLT	**Wulai**	**0.56**	**333**	*e*	P		Pb	12 25 47.6	+0.3
	baz=332								
NWLT					S		Sb	12 25 56.5	+1.5
	baz=332								
ESL	**Shilin**	**0.56**	**215**	*e*	S		Sb	12 25 56.3	+1.4
	baz=213								
TDCB	**Techi**	**0.57**	**268**	*e*	S		Sb	12 25 56.5	+1.1
	baz=267								
NTC	**Toucheng**	**0.58**	**4**	*e*	S		Sb	12 25 56.6	+1.2
	baz=4.0								
CHGB	**Renai**	**0.60**	**249**	*e*	S		Sb	12 25 57.6	+1.4
	baz=248								
TWB1	**Santiao Chiao**	**0.75**	**14**	*e*	S		Sg	12 26 01.6	+0.7
	baz=15								
WHP	**Taichung City**	**0.76**	**270**	*e*	S		Sg	12 26 02.2	+0.9
	baz=270								
LIOB	**Emei**	**0.79**	**298**	*e*	S		Sn	12 26 03.2	-0.4
	baz=297								
NSTT	**Nanjuang**	**0.79**	**297**	*e*	S		Sn	12 26 03.5	-0.3
	baz=296								
SSLB	**Suanglung**	**0.90**	**237**	*e*	S		Sn	12 26 06.4	0.0
	baz=237								
YUS	**Yu-Shan**	**1.09**	**224**	*e*	S		Sg	12 26 12.4	+0.6
	baz=223								

JMA 16 12:28:10.5±0.2,24.18N×123.79E,h14km±2km,M1.3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.12**	**174**		P		Pg	12 28 13.8	-0.1
HATJ					S		Sg	12 28 16.5	+0.3
IRIF	**Iriomote-Funau**	**0.16**	**340**		P		Pg	12 28 14.4	-0.1
IRIF					S		Sg	12 28 17.4	+0.2
JKRS	**Kuro-shima**	**0.21**	**74**		P		Pg	12 28 15.3	+0.1
JKRS					S		Sb	12 28 19.1	-0.7
JIJ	**Ishigaki jima**	**0.37**	**60**		P		Pg	12 28 17.8	-0.2
JIJ					S		Sg	12 28 23.0	-0.1
JISG	**Ishigakijimahi**	**0.62**	**49**		P		Sg	12 28 22.7	0.0
JISG					S		Sg	12 28 30.9	-0.1
JTJ	**Tarama**	**0.95**	**61**		P		Pb	12 28 28.7	0.0
JTJ					S		Sg	12 28 41.7	+0.4

TAP 16 12:28:24.3,24.26N×121.68E,h6km,ML1.6,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.07**	**51**	*e*	P		Pg	12 28 26.8	+0.6
	baz=55								
EHP				*e*	S		Sg	12 28 28.6	+1.1
	baz=55								
ETL	**Fush Village**	**0.11**	**206**	*i*	P		Pg	12 28 27.8	+1.0
	baz=205								
ETL				*i*	S		Sg	12 28 29.9	+1.5
	baz=205								
NACB	**Ninganchiao**	**0.12**	**221**	*i*	P		Pg	12 28 27.5	+0.7
	baz=220								
NACB				*i*	S		Sg	12 28 29.6	+1.2
	baz=220								
ENA	**Nanau**	**0.17**	**19**		P		Pg	12 28 28.8	+0.9
	baz=21								
ENA				*e*	S		Sg	12 28 32.0	+1.7
	baz=21								
ETLH	**Xiulin Townshi**	**0.19**	**253**		P		Pg	12 28 28.9	+0.8
	baz=252								
ETLH				*e*	S		Sg	12 28 33.5	+2.8
	baz=252								
TWD	**Chiawan**	**0.20**	**202**		P		Pg	12 28 29.3	+1.1
	baz=200								
TWD					S		Sg	12 28 32.4	+1.5
	baz=200								
EWUT	**Wuta**	**0.20**	**27**	*e*	P		Pg	12 28 29.4	+0.9
	baz=26								
EWUT				*e*	S		Sg	12 28 33.1	+1.9
	baz=26								
NNSB	**Datong**	**0.32**	**302**		P		Pb	12 28 31.6	-0.8
	baz=301								
NNSB				*e*	S		Sb	12 28 36.4	-1.5
	baz=301								
NNS	**Nan Shan**	**0.33**	**303**	*e*	P		Pb	12 28 32.4	-0.3
	baz=302								
NNS				*e*	S		Sb	12 28 37.2	-1.1
	baz=302								
NDT	**Datong Townshi**	**0.37**	**336**	*e*	P		Pb	12 28 33.0	-0.3
	baz=336								
NDT				*e*	S		Sb	12 28 39.3	0.0
	baz=336								
NDS	**Dongshan**	**0.37**	**5**	*e*	P		Pb	12 28 32.8	-0.6
	baz=5.0								
NDS				*e*	S		Sb	12 28 39.0	-0.4
	baz=5.0								
TWC	**Suao**	**0.38**	**24**	*e*	P		Pb	12 28 32.9	-0.6
	baz=25								
TWC				*e*	S		Sg	12 28 38.1	+1.4
	baz=25								
ENTT	**Nioudou**	**0.39**	**345**	*e*	P		Pb	12 28 33.2	-0.5
	baz=345								
ENTT				*e*	S		Sb	12 28 39.6	-0.3
	baz=345								
WHF	**Hehuan Shan**	**0.39**	**253**	*e*	P		Pb	12 28 33.0	-0.9
	baz=252								
WHF				*e*	S		Sb	12 28 39.9	-0.5
	baz=252								
FUSS	**Fushou**	**0.40**	**268**	*e*	S		Sb	12 28 39.7	-0.6
	baz=267								
TWE	**Neicheng**	**0.46**	**359**	*e*	P		Pb	12 28 34.5	-0.3
YHNB	**Yeheng**	**0.49**	**326**	*e*	P		Pb	12 28 35.2	-0.2
	baz=325								
YHNB				*e*	S		Sb	12 28 42.4	-0.5
	baz=325								
ESL	**Shilin**	**0.50**	**207**	*e*	S		Sg	12 28 41.7	+1.3
	baz=205								
CHGB	**Renai**	**0.50**	**246**	*e*	P		Pb	12 28 35.5	-0.2
	baz=246								
CHGB				*e*	S		Sb	12 28 43.1	-0.2
	baz=246								
NSK	**Sanguang**	**0.50**	**325**	*e*	P		Pb	12 28 35.6	-0.1
	baz=325								
NSK				*e*	S		Sb	12 28 43.0	-0.3
	baz=325								
NWLT	**Wulai**	**0.54**	**343**	*e*	P		Pb	12 28 36.5	+0.3
	baz=342								
NWLT				*e*	S		Sb	12 28 44.0	-0.2
	baz=342								
WHP	**Taichung City**	**0.67**	**271**	*e*	S		Sb	12 28 48.6	+0.6
	baz=271								
LIOB	**Emei**	**0.71**	**302**	*e*	P		Pn	12 28 40.3	-0.7
	baz=302								
LIOB				*e*	S		Sb	12 28 50.4	+1.1
	baz=302								
TIPB	**Shuangxi**	**0.72**	**11**	*e*	P		Pb	12 28 39.5	+0.2
	baz=10.0								
TIPB				*e*	S		Sb	12 28 49.0	-0.4
	baz=10.0								
SSLB	**Suanglung**	**0.81**	**235**	*e*	P		Pb	12 28 40.9	0.0
	baz=234								
SSLB				*e*	S		Sb	12 28 51.6	-0.5
	baz=234								
EHY	**Hungye**	**0.82**	**203**	*e*	S		Sb	12 28 52.7	+0.4
	baz=202								
YULB	**Yu-li**	**0.93**	**202**	*e*	P		Pb	12 28 42.7	-0.3
	baz=201								
YULB				*e*	S		Sb	12 28 55.5	-0.1
	baz=201								
YUS	**Yu-Shan**	**1.02**	**221**	*e*	P		Pn	12 28 45.1	-0.4
	baz=220								
YUS				*e*	S		Sn	12 28 59.5	-0.8
	baz=220								

KMA 16 12:41:15.5±0.2,35.05N×125.43E,h1km,Error ellipse: s-maj=3.5km s-min=0.9km az=298.0,South Korea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HUK2	**Heuksan-myeon**	**0.36**	**177**		P		Pg	12 41 22.6	+0.1
	SNR=33								
HUK2	**Heuksan-myeon**	**0.36**	**177**		P		Pg	12 41 22.6	+0.1
	SNR=33								
HUK2	**Heuksan-myeon**	**0.36**	**177**		P		Pg	12 41 22.6	+0.1
	SNR=33								
GOCB	**Gochang-gun**	**1.00**	**73**		P		Pg	12 41 35.0	+0.3
	SNR=12								
GOCB	**Gochang-gun**	**1.00**	**73**		P		Pg	12 41 35.0	+0.3
	SNR=12								
GOCB	**Gochang-gun**	**1.00**	**73**		P		Pg	12 41 35.0	+0.3
	SNR=12								
SMKB	**Mukjeong-gil**	**1.12**	**55**		P		Pg	12 41 36.5	-0.5
	SNR=9.3								
SMKB	**Mukjeong-gil**	**1.12**	**55**		P		Pg	12 41 36.5	-0.5
	SNR=9.3								
SMKB	**Mukjeong-gil**	**1.12**	**55**		P		Pg	12 41 36.5	-0.5
	SNR=9.3								
KSKWJ	**Gwangju**	**1.29**	**85**		P		Pg	12 41 39.8	-0.4
	SNR=20								
KSKWJ	**Gwangju**	**1.29**	**85**		P		Pg	12 41 39.8	-0.4
	SNR=20								
KSKWJ	**Gwangju**	**1.29**	**85**		P		Pg	12 41 39.8	-0.4
	SNR=20								
KSJEU	**Jeongeup**	**1.31**	**70**		P		Pg	12 41 40.4	-0.2
	SNR=12								
KSJEU	**Jeongeup**	**1.31**	**70**		P		Pg	12 41 40.4	-0.2
	SNR=12								
KSJEU	**Jeongeup**	**1.31**	**70**		P		Pg	12 41 40.4	-0.2
	SNR=12								
BOSB	**Boseong-gun**	**1.50**	**101**		P		Pn	12 41 43.4	-0.1
	SNR=21								
BOSB	**Boseong-gun**	**1.50**	**101**		P		Pn	12 41 43.4	-0.1
	SNR=21								
BOSB	**Boseong-gun**	**1.50**	**101**		P		Pn	12 41 43.4	-0.1
	SNR=21								
KOHB	**KOHEUNG**	**1.58**	**105**		P		Pn	12 41 44.8	+0.1
	SNR=8.9								
KOHB	**KOHEUNG**	**1.58**	**105**		P		Pn	12 41 44.8	+0.1
	SNR=8.9								
KSJEO	**Jeonju**	**1.76**	**59**		P		Pn	12 41 47.0	-0.2
	SNR=10								
KSJEO	**Jeonju**	**1.76**	**59**		P		Pn	12 41 47.0	-0.2
	SNR=10								

MEX 16 13:06:19.0±0.4,19.16N×103.86W,h46km±6km,MD3.5, Jalisco

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
COIG	**Colima**	**0.16**	**84**	*i*	P		Pn	13 06 25.3	-1.5
COIG				*i*	S		Sn	13 06 30.4	-1.9
EZ5V		**0.40**	**38**	*e*	P		Pn	13 06 27.6	-1.5
EZ5V				*e*	S		Sn	13 06 34.2	-2.1

*MOS **16** 13:08:56.9±0.9,24.30N×121.80E,h15km,mb5.4/96, MS4.9/21,Error ellipse: s-maj=6.1km s-min=3.9km az=116.8*

*IDC **16** 13:08:56.6±0.4,24.34N×121.85E,h0km,mb4.8/31, mb1 4.9/34,mb1mx4.8/42,mbtmp4.8/34,ML4.3/3,MS4.6/21, Ms1 4.6/21,ms1mx4.4/44,Error ellipse: s-maj=10.1km s-min=9.2km az=113.0*

*BJI **16** 13:08:57.1±0.0,24.25N×121.90E,h10km,mB5.3/62, mb4.9/78,ML5.4/12,Ms5.3/93,Ms7 5.2/87*

*NIED **16** 13:08:59.7,24.21N×121.77E,h25km,MW5.2,Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}5.06; $M_{\theta\theta}$-5.55; $M_{\phi\phi}$0.48; $M_{r\theta}$2.45; $M_{\theta\phi}$-3.21; $M_{\phi r}$4.57; Fault plane solution: M_o8.09000×10^{16} NP1:ϕ_s41.00000°, δ67.00000°,λ64.00000°. NP2:ϕ_s273.00000°,δ34.00000°, λ137.00000°.*

*TAP **16** 13:08:59.8,24.29N×121.83E,h20km,ML5.6,B*

*GCMT **16** 13:08:59.3±0.2,24.24N±0.01×121.85E±0.01,h24km±1km, MW5.2/105,Moment Tensor Solution. s63,c93; s105,c178; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.36±.21; $M_{\theta\theta}$-2.38±.14; $M_{\phi\phi}$-0.98±.12; $M_{r\theta}$2.71±.21; $M_{\theta\phi}$-2.94±.09; $M_{\phi r}$4.89±.29; Best double couple: M_o6.96200×10^{16} NP1:ϕ_s257.00000°,δ23.00000°, λ133.00000°. NP2:ϕ_s32.00000°,δ73.00000°,λ74.00000°. Principal axes: T 6.5990, Plg58.0000°, Azm280.0000°; N 0.7240, Plg15.0000°, Azm36.0000°; P -7.3240, Plg27.0000°, Azm134.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **16** 13:08:59.1±1.6,24.25N±0.05×121.83E±0.05,h17km±3km, mb5.2/248,Mww5.2,ML5.5(TAP) Error ellipse: s-maj=7.5km s-min=6.5km az=188.0*

*JMA **16** 13:08:59.6±0.1,24.21N×121.77E,h25km±1km,M5.4*

*ASIES **16** 13:09:00.5,24.31N×121.86E,h23km,MW5.0*

*NEIC **16** 13:09:03,24.22N×121.83E,h18km,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.39; $M_{\theta\theta}$-1.18; $M_{\phi\phi}$-0.21; $M_{r\theta}$2.79; $M_{\theta\phi}$-2.44; $M_{\phi r}$7.28; Fault plane solution: M_o8.27000×10^{16} NP1:ϕ_s270.00000°, δ16.00000°,λ158.00000°. NP2:ϕ_s21.00000°,δ84.00000°, λ75.00000°. Principal axes: T 7.9394, Plg49.0000°, Azm275.0000°; N 0.6265, Plg15.0000°, Azm22.0000°; P -8.5659, Plg37.0000°, Azm124.0000°;*

ISC 16 13:08:59.4±0.3,24.26N±0.01×121.87E±0.01,h19km±1km, h18km:pP-P,n1082,σ1$\hat{9}$47/1288,mb5.2/285,MS4.9/56, 214C-76D,Fault plane solution: NP1:ϕ_s31.22221°, δ80.59648°,λ94.02980°. NP2:ϕ_s187.89734°,δ10.22347°, λ67.00670°. Principal axes: T Plg54.2341°, Azm306.0994°; N Plg3.9756°, Azm210.5627°; P Plg35.4750°, Azm117.7239°; Fault plane solution: NP1:ϕ_s257.83264°,δ46.62549°,λ141.00171°. NP2: ϕ_s16.91093°,δ62.77901°,λ50.56060°. Principal axes: T Plg54.0045°, Azm237.0659°; N Plg34.3957°, Azm37.5302°; P Plg9.3328°, Azm133.9903°; Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.13**	**294**	*i*	P		**Pg**	**13 09 03.7**	**+0.2**
	baz=287								
EHP				*i*	S		**Sg**	**13 09 06.8**	**+0.6**
	baz=287								
EWUT	**Wuta**	**0.21**	**335**	⇓*i*	P		**Pg**	**13 09 04.5**	**+0.1**
	baz=344								
EWUT				*i*	S		**Sg**	**13 09 08.0**	**0.0**
	baz=344								
ENA	**Nanau**	**0.21**	**325**	⇓*i*	P		**Pg**	**13 09 04.5**	**0.0**
	baz=333								
ENA				*i*	S		**Sg**	**13 09 07.9**	**-0.1**
	baz=333								
ETL	**Fush Village**	**0.25**	**247**	⇓*i*	P		**Pg**	**13 09 05.3**	**+0.2**
	baz=236								
ETL				*i*	S		**Sg**	**13 09 10.2**	**+1.1**
	baz=236								
NACB	**Ninganchiao**	**0.27**	**252**	⇓*i*	P		**Pg**	**13 09 05.4**	**0.0**
	baz=243								
NACB					S		**Sg**	**13 09 10.1**	**+0.5**
	baz=243								
NACB	**Ninganchiao**	**0.27**	**252**				**Pg**	**13 09 05.2**	**-0.2**
NACB						Sg	**Sb**	**13 09 09.6**	**0.0**
TWD	**Chiawan**	**0.31**	**235**	⇑*i*	P		**Pb**	**13 09 06.5**	**+0.2**
	baz=225								
TWD					S		**Sb**	**13 09 11.9**	**+1.0**
	baz=225								
TWC	**Suao**	**0.35**	**356**	⇓*i*	P		**Pb**	**13 09 07.0**	**-0.1**
	baz=5.0								
TWC					S		**Sg**	**13 09 11.9**	**0.0**
	baz=5.0								
ETLH	**Xiulin Townshi**	**0.36**	**262**	⇓*i*	P		**Pg**	**13 09 06.9**	**-0.1**
	baz=256								
ETLH					S		**Sg**	**13 09 12.5**	**+0.3**
	baz=256								
HWA	**Hwalien**	**0.37**	**221**	⇑*i*	P		**Pb**	**13 09 08.3**	**+0.8**
	baz=213								
HWA				*e*	S		**Sn**	**13 09 15.6**	**-0.9**
	baz=213								
NDS	**Dongshan**	**0.40**	**339**	⇓*i*	P		**Pg**	**13 09 07.7**	**0.0**
	baz=344								
NDS				*i*	S		**Sg**	**13 09 13.2**	**-0.1**
	baz=344								
ETM	**Tongmen**	**0.45**	**230**	*e*	P		**Pg**	**13 09 08.8**	**+0.2**
	baz=224								
ETM				*e*	S		**Sb**	**13 09 16.1**	**+0.9**
	baz=224								
TEYL	**Yanliau Villag**	**0.46**	**213**	⇑*e*	P		**Pb**	**13 09 09.6**	**+0.6**
	baz=209								
TEYL				*e*	S		**Sn**	**13 09 17.9**	**-0.8**
	baz=209								
ENTT	**Nioudou**	**0.47**	**324**	⇓*i*	P		**Pg**	**13 09 08.8**	**-0.2**
	baz=327								
ENTT				*i*	S		**Sb**	**13 09 15.8**	**0.0**
	baz=327								
NDT	**Datong Townshi**	**0.48**	**316**	⇓*i*	P		**Pg**	**13 09 08.9**	**-0.1**
	baz=318								
NDT				*e*	S		**Sb**	**13 09 16.0**	**+0.2**
	baz=318								
NNSB	**Datong**	**0.48**	**291**	⇓*i*	P		**Pg**	**13 09 09.1**	**-0.1**
	baz=289								
NNSB				*i*	S		**Sg**	**13 09 15.5**	**-0.3**
	baz=289								
NNS	**Nan Shan**	**0.49**	**292**	⇓*i*	P		**Pg**	**13 09 09.3**	**-0.1**
	baz=290								
NNS					S		**Sg**	**13 09 16.1**	**0.0**
	baz=290								
TWE	**Neicheng**	**0.50**	**338**	⇓*i*	P		**Pg**	**13 09 09.5**	**0.0**
	baz=343								
TWE				*i*	S		**Sb**	**13 09 16.5**	**0.0**
	baz=343								
ILA	**Ilan**	**0.52**	**347**		P		**Pb**	**13 09 10.3**	**+0.4**
	baz=352								
ILA				*e*	S		**Sb**	**13 09 17.7**	**+0.7**
	baz=352								
WHF	**Hehuan Shan**	**0.57**	**259**	⇓*i*	P		**Pb**	**13 09 10.7**	**-0.1**
	baz=255								
WHF					S		**Sb**	**13 09 18.8**	**+0.1**
	baz=255								
FUSS	**Fushou**	**0.57**	**269**	⇑*i*	P		**Pb**	**13 09 10.9**	**0.0**
	baz=266								
FUSS					S		**Sb**	**13 09 18.7**	**0.0**
	baz=266								
EGS		**0.59**	**5**		P		**Pg**	**13 09 11.7**	**+0.5**
	baz=11								
EGS				*e*	S		**Sg**	**13 09 19.7**	**+0.7**
	baz=11								
NTC	**Toucheng**	**0.60**	**356**	⇓*i*	P		**Pg**	**13 09 11.4**	**+0.2**
NTC				*e*	S		**Sb**	**13 09 19.2**	**+0.1**
ESL	**Shilin**	**0.60**	**222**	⇑*i*	P		**Pb**	**13 09 11.2**	**+0.1**
	baz=217								
ESL				*e*	S		**Sg**	**13 09 20.6**	**+1.4**
	baz=217								
YHNB	**Yeheng**	**0.61**	**312**	⇓*i*	P		**Pb**	**13 09 11.3**	**-0.2**
	baz=313								
YHNB				*e*	S		**Sb**	**13 09 19.4**	**-0.2**
	baz=313								
YHNB	**Yeheng**	**0.61**	**312**				**Pb**	**13 09 11.2**	**-0.2**
YHNB						Sg	**Sb**	**13 09 18.2**	**-1.4**
NWLT	**Wulai**	**0.62**	**327**	⇓*i*	P		**Pb**	**13 09 11.3**	**-0.2**
	baz=329								
NWLT					S		**Sb**	**13 09 19.7**	**-0.1**
	baz=329								
TEGC	**Jichi Village**	**0.62**	**209**		P		**Pg**	**13 09 12.6**	**+0.8**
	baz=204								
TEGC				*e*	S		**Sn**	**13 09 23.6**	**+0.8**
	baz=204								
NSK	**Sanguang**	**0.63**	**312**	⇓*i*	P		**Pb**	**13 09 11.4**	**-0.3**
	baz=313								
NSK					S		**Sb**	**13 09 19.7**	**-0.4**
	baz=313								
TWT	**Tachien**	**0.64**	**270**	⇑*i*	P		**Pg**	**13 09 12.4**	**+0.3**
	baz=267								
TWT				*e*	S		**Sg**	**13 09 21.2**	**+0.6**
	baz=267								
TDCB	**Techi**	**0.65**	**270**	⇑*i*	P		**Pg**	**13 09 12.4**	**+0.1**
	baz=267								
TDCB				*e*	S		**Sb**	**13 09 20.9**	**0.0**
	baz=267								
CHGB	**Renai**	**0.67**	**253**	⇑*i*	P		**Pg**	**13 09 12.8**	**+0.1**
	baz=249								
CHGB				*e*	S		**Sg**	**13 09 22.1**	**+0.5**
	baz=249								
OWD	**Renai**	**0.70**	**245**	⇑*i*	P		**Pb**	**13 09 13.2**	**+0.1**
	baz=241								
OWD					S		**Sg**	**13 09 23.4**	**+0.7**
	baz=241								
EGFH	**Guangfu**	**0.71**	**215

TWB1	**Santiao Chiao**	**0.76**	**8**	⇓*i*P	**Pg**	**13 09 14.4**	**+0.2**
	baz=12								
TWB1				*e*S	**Sg**	**13 09 24.3**	**0.0**
	baz=12								
TWA	**Mucha**	**0.77**	**340**	⇓P	**Pb**	**13 09 14.3**	**+0.2**
	baz=343								
TWA				*e*S	**Sg**	**13 09 24.6**	**-0.1**
	baz=343								
NHDH	**Xindian Distri**	**0.77**	**336**	⇓*i*P	**Pb**	**13 09 14.3**	**+0.1**
	baz=338								
NHDH				*e*S	**Sg**	**13 09 24.7**	**-0.1**
	baz=338								
TATO	**Taipei**	**0.80**	**334**	⇓P	**Pb**	**13 09 14.8**	**+0.1**
	baz=336								
TATO				*e*S	**Sg**	**13 09 25.6**	**+0.1**
	baz=336								
TATO	**Taipei**	**0.80**	**334**	Pg	**Pb**	**13 09 14.6**	**-0.1**
TATO				Sg	**Sb**	**13 09 25.0**	**-0.1**
TATO	**Taipei**	**0.80**	**334**	P	**Pn**	**13 09 15.4**	**-0.2**
NWF	**Wu-fen Shan**	**0.81**	**354**	⇓*i*P	**Pg**	**13 09 15.7**	**+0.3**
	baz=357								
NWF				*e*S	**Sg**	**13 09 26.4**	**+0.2**
	baz=357								
WFSB	**Wu-fen Shan**	**0.81**	**354**	⇓P	**Pn**	**13 09 15.7**	**-0.2**
	baz=357								
WFSB				*e*S	**Sg**	**13 09 26.2**	**0.0**
	baz=357								
NHY	**Taipei**	**0.83**	**341**	*e*P	**Pg**	**13 09 15.8**	**+0.2**
	baz=343								
NHY				*e*S	**Sn**	**13 09 27.3**	**-0.5**
	baz=343								
BACT	**New Taipei Cit**	**0.83**	**332**	*e*P	**Pn**	**13 09 16.3**	**+0.1**
	baz=334								
BACT				*e*S	**Sn**	**13 09 27.9**	**-0.1**
	baz=334								
TAP1	**Taipei**	**0.84**	**338**	*e*P	**Pn**	**13 09 16.2**	**0.0**
	baz=339								
WHP	**Taichung City**	**0.85**	**272**	⇑*e*P	**Pb**	**13 09 15.8**	**+0.2**
	baz=268								
WHP				*e*S	**Sg**	**13 09 27.4**	**+0.3**
	baz=268								
TAP	**Taipei**	**0.85**	**337**	*e*P	**Pg**	**13 09 16.0**	**+0.1**
	baz=339								
TAP				*e*S	**Sg**	**13 09 27.6**	**+0.5**
	baz=339								
NJD	**Zhudong**	**0.86**	**304**	*e*P	**Pn**	**13 09 16.8**	**+0.4**
	baz=304								
NJD				*e*S	**Sn**	**13 09 28.6**	**+0.1**
	baz=304								
HGSD	**Ruisui**	**0.86**	**208**	⇑*e*P	**Pb**	**13 09 16.0**	**+0.2**
	baz=205								
LIOB	**Emei**	**0.87**	**297**	⇑P	**Pg**	**13 09 16.3**	**-0.1**
	baz=296								
LIOB				*e*S	**Sb**	**13 09 27.0**	**-0.2**
	baz=296								
WPL	**Puli Township**	**0.87**	**254**	⇑*e*P	**Pb**	**13 09 16.1**	**+0.2**
	baz=251								
WPL				*e*S	**Sg**	**13 09 27.8**	**-0.1**
	baz=251								
NSTT	**Nanjuang**	**0.88**	**295**	⇑P	**Pb**	**13 09 16.3**	**+0.3**
	baz=295								
NSTT				*e*S	**Sb**	**13 09 27.4**	**0.0**
	baz=295								
DPDB	**Guoxing**	**0.89**	**256**	⇑P	**Pb**	**13 09 16.5**	**+0.2**
	baz=253								
DPDB				*e*S	**Sg**	**13 09 28.9**	**+0.3**
	baz=253								
TNOU	**National Taiwa**	**0.89**	**354**	⇓*e*P	**Pb**	**13 09 14.5**	**-1.8**
	baz=357								
TNOU				*e*S	**Sb**	**13 09 25.9**	**-1.9**
	baz=357								
WCS	**Beigang Elemen**	**0.90**	**257**	⇑P	**Pb**	**13 09 16.5**	**+0.2**
	baz=255								
WCS				*e*S	**Sg**	**13 09 28.8**	**0.0**
	baz=255								
EHY	**Hungye**	**0.90**	**214**	⇑*e*P	**Pb**	**13 09 15.3**	**-1.1**
	baz=211								
EHY				*e*S	**Sn**	**13 09 29.9**	**+0.3**
	baz=211								
NTY	**Taoyuan**	**0.91**	**325**	*e*P	**Pn**	**13 09 17.4**	**+0.3**
	baz=326								
NTY				*e*S	**Sn**	**13 09 30.5**	**+0.8**
	baz=326								
YM01	**YM01**	**0.93**	**343**	⇑*e*P	**Pn**	**13 09 17.3**	**-0.2**
	baz=345								
YM01				*e*S	**Sn**	**13 09 30.1**	**-0.2**
	baz=345								
HSN1	**Hsinchu**	**0.94**	**304**	⇑*e*P	**Pg**	**13 09 18.1**	**+0.5**
	baz=304								
HSN1				*e*S	**Sn**	**13 09 31.0**	**+0.5**
	baz=304								
TWS1	**Kuangyinshan**	**0.94**	**334**	⇑*e*P	**Pb**	**13 09 16.5**	**-0.5**
	baz=336								
TWS1				*e*S	**Sn**	**13 09 30.4**	**0.0**
	baz=336								
NCU	**National Centr**	**0.94**	**319**	⇑*e*P	**Pg**	**13 09 17.9**	**+0.1**
	baz=320								
NCU				*e*S	**Sn**	**13 09 31.9**	**+1.3**
	baz=320								
NCUH	**Zhongli**	**0.94**	**319**	⇑*e*P	**Pg**	**13 09 17.8**	**0.0**
	baz=319								
NCUH				*e*S	**Sn**	**13 09 31.5**	**+0.8**
	baz=319								
SSLB	**Suanglung**	**0.96**	**241**	⇑P	**Pb**	**13 09 17.2**	**-0.2**
	baz=238								
SSLB				*e*S	**Sg**	**13 09 30.6**	**-0.2**
	baz=238								
SSLB	**Suanglung**	**0.96**	**241**		**Pb**	**13 09 17.2**	**-0.2**
NWRT	**Kuosheng**	**0.96**	**348**	*e*P	**Pn**	**13 09 17.9**	**0.0**
	baz=350								
NWRT				*e*S	**Sn**	**13 09 31.6**	**+0.6**
	baz=350								
YM08	**YM08**	**0.96**	**345**	⇑*e*P	**Pb**	**13 09 17.5**	**0.0**
	baz=346								
YM08				*e*S	**Sg**	**13 09 30.7**	**-0.2**
	baz=346								
SMLT	**Sun Moon Lake**	**0.96**	**247**	⇑P	**Pb**	**13 09 17.5**	**0.0**
	baz=244								
SMLT				*e*S	**Sg**	**13 09 31.1**	**+0.3**
	baz=244								
SBCB	**Hsinchu**	**0.97**	**304**	⇑*e*P	**Pg**	**13 09 18.4**	**+0.2**
	baz=303								
SBCB				*e*S	**Sn**	**13 09 32.6**	**+1.4**
	baz=303								
ANP	**Anpu**	**0.98**	**341**	⇑*e*P	**Pb**	**13 09 17.8**	**-0.1**
	baz=343								
ANP				*e*S	**Sg**	**13 09 31.0**	**-0.4**
	baz=343								
NTST	**Danshui**	**0.98**	**337**	⇑*e*P	**Pn**	**13 09 18.2**	**0.0**
	baz=339								
NTST				*e*S	**Sn**	**13 09 32.5**	**+0.9**
	baz=339								
HSN	**Hsinchu**	**0.99**	**304**	⇑*e*P	**Pg**	**13 09 18.4**	**-0.1**
	baz=306								
HSN				*e*S	**Sn**	**13 09 32.8**	**+1.2**
	baz=306								
TYC	**Yuchr**	**0.99**	**249**	⇑*e*P	**Pb**	**13 09 17.8**	**-0.1**
	baz=247								
TYC				*e*S	**Sg**	**13 09 32.1**	**+0.4**
	baz=247								
JYNG	**Yonagunijimaku**	**1.00**	**79**	P	**Pg**	**13 09 19.1**	**+0.4**
JYNG				*e*S	**Sn**	**13 09 33.9**	**+2.0**
NJN	**Zhunan**	**1.01**	**295**	*e*P	**Pg**	**13 09 19.5**	**+0.5**
	baz=294								
NJN				*e*S	**Sg**	**13 09 33.0**	**+0.8**
	baz=294								
TWQ1	**Liyutan**	**1.01**	**275**	⇑*e*P	**Pg**	**13 09 19.2**	**+0.3**
	baz=274								
TWQ1				*e*S	**Sg**	**13 09 33.6**	**+1.3**
	baz=274								
YULB	**Yu-li**	**1.01**	**212**	⇑*e*P	**Pb**	**13 09 16.9**	**-1.4**
	baz=209								
YULB				*e*S	**Sg**	**13 09 33.4**	**+1.2**
	baz=209								
YULB	**Yu-li**	**1.01**	**212**		**Pb**	**13 09 17.1**	**-1.1**
ECBN	**Changbin**	**1.01**	**203**	*e*P	**Pb**	**13 09 18.1**	**-0.2**
	baz=200								
ECBN				*e*S	**Sg**	**13 09 32.6**	**+0.2**
	baz=200								
NMLH	**Miaoli**	**1.02**	**286**	⇑*e*P	**Pg**	**13 09 19.7**	**+0.4**
	baz=285								
NMLH				*e*S	**Sn**	**13 09 32.5**	**-0.1**
	baz=285								
NSY	**Sanyi**	**1.03**	**279**	⇑*e*P	**Pg**	**13 09 19.9**	**+0.6**
	baz=278								
NSY				*e*S	**Sg**	**13 09 34.0**	**+1.1**
	baz=278								
EYUL	**Yuli**	**1.04**	**209**	*e*P	**Pb**	**13 09 17.6**	**-1.1**
	baz=207								
TWF1	**Yuli**	**1.04**	**210**	⇑*e*P	**Pb**	**13 09 17.4**	**-1.4**
	baz=207								
TWF1				*e*S	**Sg**	**13 09 34.1**	**+0.8**
	baz=207								
TWY	**Chenhua**	**1.04**	**346**	*e*P	**Pn**	**13 09 19.1**	**+0.1**
	baz=348								
TWY				*e*S	**Sg**	**13 09 34.8**	**+1.4**
	baz=348								
NSM	**Shimen**	**1.06**	**346**	*e*P	**Pg**	**13 09 20.9**	**+1.0**
	baz=348								
YOJ	**Yonaguni jima**	**1.06**	**79**	P	**Pg**	**13 09 20.2**	**+0.3**
YOJ				S	**Sg**	**13 09 36.4**	**+2.6**
YOJ	**Yonaguni jima**	**1.06**	**79**	⇓*i*P	**Pg**	**13 09 20.3**	**+0.3**
	baz=80								
YOJ				*e*S	**Sg**	**13 09 36.2**	**+2.3**
	baz=80								
YOJ	**Yonaguni jima**	**1.06**	**79**	P	**Pg**	**13 09 20.2**	**+0.3**
YOJ						13 09 33.5	
YOJ	**Yonaguni jima**	**1.06**	**79**		**Pg**	**13 09 20.2**	**+0.3**
YOJ				Sn	**Sn**	**13 09 33.5**	**0.0**
NHW	**Xinwu Township**	**1.06**	**315**	*e*P	**Pb**	**13 09 19.1**	**0.0**
	baz=315								
NHW				*e*S	**Sg**	**13 09 35.2**	**+1.3**
	baz=315								
WHYT	**Xinyi Township**	**1.09**	**239**	⇑*e*P	**Pb**	**13 09 19.6**	**0.0**
	baz=237								
WHYT				*e*S	**Sg**	**13 09 36.2**	**+1.4**
	baz=237								
WWF	**Wufeng**	**1.09**	**259**	⇑*e*P	**Pg**	**13 09 21.1**	**+0.5**
	baz=257								
WWF				*e*S	**Sg**	**13 09 37.6**	**+2.6**
	baz=257								
TCU	**Taichung**	**1.10**	**265**	⇑*e*P	**Pg**	**13 09 21.1**	**+0.4**
	baz=262								
TCU				*e*S	**Sg**	**13 09 37.6**	**+2.5**
	baz=262								
WDJ	**Dajia District**	**1.13**	**275**	⇑*e*P	**Pg**	**13 09 21.1**	**-0.1**
	baz=273								
WDJ				*e*S	**Sg**	**13 09 38.4**	**+2.3**
	baz=273								
WJS	**Zhushan**	**1.13**	**248**	⇑*e*P	**Pg**	**13 09 21.2**	**-0.2**
	baz=245								
WJS				*e*S	**Sg**	**13 09 38.4**	**+2.2**
	baz=245								
YUS	**Yu-Shan**	**1.14**	**228**	⇑*e*P	**Pn**	**13 09 20.5**	**-0.3**
	baz=225								
WNT1	**Nantou City**	**1.15**	**253**	*e*P	**Pg**	**13 09 21.7**	**+0.2**
	baz=250								
WNT1				*e*S	**Sg**	**13 09 37.2**	**+0.7**
	baz=250								
WNT	**Mingjian**	**1.15**	**251**	⇑*e*P	**Pg**	**13 09 21.6**	**0.0**
	baz=249								
WNT				*e*S	**Sg**	**13 09 36.7**	**-0.1**
	baz=249								
FULB	**Fuli**	**1.18**	**207**	⇑*e*P	**Pn**	**13 09 20.4**	**-0.5**
	baz=204								
FULB				*e*S	**Sg**	**13 09 39.4**	**+1.7**
	baz=204								
WCHH	**Zhanghua**	**1.21**	**262**	*e*P	**Pb**	**13 09 22.4**	**+0.7**
	baz=260								
WYL	**Yuanlin Townsh**	**1.22**	**256**	*e*P	**Pb**	**13 09 22.4**	**+0.6**
	baz=254								
ALS	**Alishan**	**1.23**	**233**	⇑*e*P	**Pn**	**13 09 22.0**	**+0.2**
	baz=230								
ALS				*e*S	**Sg**	**13 09 39.0**	**-0.3**
	baz=230								
CHKT	**Chengkung**	**1.24**	**202**	*e*P	**Pn**	**13 09 20.8**	**-0.9**
	baz=199								
CHKT				*e*S	**Sb**	**13 09 36.5**	**-1.4**
	baz=199								
CHN5	**Tsauling**	**1.28**	**239**	⇑*e*P	**Pb**	**13 09 23.1**	**+0.3**
	baz=237								
CHN5				*e*S	**Sg**	**13 09 42.3**	**+1.5**
	baz=237								
ECS	**Chishang**	**1.30**	**208**	*e*P	**Pn**	**13 09 22.3**	**-0.3**
	baz=205								
ELDTW	**Lidau**	**1.32**	**217**	⇑*e*P	**Pn**	**13 09 21.8**	**-1.1**
	baz=214								
ELDTW				*e*S	**Sb**	**13 09 40.5**	**+0.2**
	baz=214								
WGK	**Gukeng**	**1.33**	**245**	*e*P	**Pb**	**13 09 24.1**	**+0.5**
	baz=243								
WDLH	**Douliu**	**1.35**	**245**	⇑*e*P	**Pb**	**13 09 24.5**	**+0.5**
	baz=243								
WDLH				*e*S	**Sg**	**13 09 42.8**	**-0.1**
	baz=243								
PCYT	**Pengchaiyu**	**1.38**	**7**	⇑*e*P	**Pb**	**13 09 24.4**	**-0.1**
	baz=10.0								
PCYT				*e*S	**Sg**	**13 09 44.4**	**+0.4**
	baz=10.0								
EDH	**Donghe**	**1.38**	**202**	*e*P	**Pn**	**13 09 23.0**	**-0.6**
	baz=200								
EDH				*e*S	**Sb**	**13 09 42.3**	**+0.5**
	baz=200								
WRL	**Guolierlin Hig**	**1.41**	**256**	⇑*e*P	**Pb**	**13 09 25.0**	**-0.1**
	baz=254								
WRL				*e*S	**Sg**	**13 09 45.2**	**+0.1**
	baz=254								
CHN2	**Minshiung**	**1.47**	**241**	*e*P	**Pg**	**13 09 27.1**	**-0.6**
	baz=239								
CHN2				*e*S	**Sg**	**13 09 47.3**	**+0.4**
	baz=239								
WTK	**Tuku**	**1.47**	**248**	⇑*e*P	**Pb**	**13 09 26.2**	**+0.1**
	baz=246								
WTK				*e*S	**Sg**	**13 09 46.7**	**-0.3**
	baz=246								
STYH	**Taoyuan**	**1.48**	**223**	⇑*e*P	**Pn**	**13 09 25.5**	**+0.6**
	baz=221								
STYH				*e*S	**Sb**	**13 09 45.0**	**+0.4**
	baz=221								
CHN4	**Tsaushan**	**1.48**	**233**	⇑*e*P	**Pb**	**13 09 25.9**	**-0.4**
	baz=231								
CHN4				*e*S	**Sg**	**13 09 46.6**	**-0.6**
	baz=231								
TPUB	**Ta-pu**	**1.48**	**230**	⇑*e*P	**Pb**	**13 09 26.3**	**-0.1**
	baz=228								
TPUB				*e*S	**Sg**	**13 09 46.5**	**-0.8**
	baz=228								
TPUB	**Ta-pu**	**1.48**	**230**		**Pb**	**13 09 25.9**	**-0.5**
STYT	**Tauyuan**	**1.49**	**223**	⇑*e*P	**Pn**	**13 09 25.9**	**+0.6**
	baz=221								
STYT				*e*S	**Sb**	**13 09 46.1**	**+0.9**
	baz=221								
LONT	**Longtian**	**1.51**	**207**	⇑*e*P	**Pn**	**13 09 24.1**	**-1.3**
	baz=205								
WTCT	**Ta-ch'eng**	**1.51**	**255**	*e*P	**Pb**	**13 09 26.4**	**-0.3**
	baz=253								
WTCT				*e*S	**Sb**	**13 09 46.1**	**+0.6**
	baz=253								
CHY	**Chiayi**	**1.53**	**241**	⇑*e*P	**Pb**	**13 09 27.1**	**0.0**
	baz=238								
CHY				*e*S	**Sg**	**13 09 48.5**	**-0.2**
	baz=238								
WTP	**Ta-pu**	**1.53**	**229**	⇑*e*P	**Pb**	**13 09 27.0**	**-0.2**
	baz=227								
WTP				*e*S	**Sg**	**13 09 47.9**	**-1.0**
	baz=227								
TWG	**Pinlang**	**1.61**	**207**	*e*P	**Pn**	**13 09 25.5**	**-1.3**
	baz=205								
TWG	**Pinlang**	**1.61**	**207**		**Pn**	**13 09 25.6**	**-1.3**
TWGBT	**Beinan**	**1.61**	**207**	⇑*e*P	**Pn**	**13 09 25.3**	**-1.4**
	baz=205								
TWK	**Hsinying**	**1.61**	**232**	⇑*e*P	**Pb**	**13 09 28.1**	**-0.4**
	baz=230								
TWK				*e*S	**Sb**	**13 09 48.5**	**+0.1**
	baz=230								
LDUT	**Ludao**	**1.62**	**193**	*e*P	**Pn**	**13 09 25.8**	**-1.1**
	baz=192								
LDUT				*e*S	**Sn**	**13 09 45.4**	**-1.9**
	baz=192								
SNST	**Tainan City**	**1.63**	**231**	⇑*e*P	**Pb**	**13 09 28.5**	**-0.4**
	baz=229								
SNST				*e*S	**Sg**	**13 09 51.0**	**-1.0**
	baz=229								
CHN1	**Nanshi**	**1.63**	**229**	⇑*e*P	**Pb**	**13 09 28.5**	**-0.4**
	baz=227								
CHN1				*e*S	**Sb**	**13 09 50.2**	**+1.1**
	baz=227								
WSF	**Szhu**	**1.63**	**248**	⇑*e*P	**Pb**	**13 09 28.5**	**-0.4**
	baz=246								
WSF				*e*S	**Sg**	**13 09 50.9**	**-1.2**
	baz=246								
TTN	**Taitung**	**1.64**	**204**	*e*P	**Pn**	**13 09 27.4**	**+0.2**
	baz=202								
SGST	**Jiashian**	**1.66**	**226**	⇑*e*P	**Pn**	**13 09 28.2**	**+0.6**
	baz=223								
SGST				*e*S	**Sb**	**13 09 51.4**	**+1.4**
	baz=223								
SLGT	**Liugui**	**1.69**	**222**	⇑*e*P	**Pb**	**13 09 29.2**	**-0.6**
	baz=220								
SLGT				*e*S	**Sb**	**13 09 51.6**	**+0.9**
	baz=220								
IRIF	**Iriomote-Funau**	**1.70**	**87**	P	**Pn**	**13 09 28.8**	**+0.8**
IRIF				*e*S	**Sb**	**13 09 50.6**	**-0.3**
ICHU	**Yijhu**	**1.71**	**239**	⇑*e*P	**Pb**	**13 09 29.8**	**-0.4**
	baz=237								
ICHU				*e*S	**Sb**	**13 09 52.0**	**+0.7**
	baz=237								
CHN8	**Yiju**	**1.77**	**240**	⇑*e*P	**Pb**	**13 09 30.6**	**-0.7**
	baz=238								
CHN8				*e*S	**Sb**	**13 09 53.9**	**+0.7**
	baz=238								
HATJ	**Hateruma jima**	**1.78**	**96**	P	**Pb**	**13 09 30.6**	**-0.7**
CHN3	**Shinhua**	**1.81**	**230**	*e*P	**Pb**	**13 09 31.6**	**-0.4**
	baz=228								
SCST	**Cishan**	**1.86**	**223**	⇑*e*P	**Pb**	**13 09 32.5**	**-0.3**
	baz=221								
SCLT	**Jiali**	**1.88**	**235**	*e*P	**Pb**	**13 09 32.3**	**-0.8**
	baz=233								
SCLT				*e*S	**Sb**	**13 09 57.7**	**+1.5**
	baz=233								
SSD	**Sandimen**	**1.89**	**217**	*e*P	**Pn**	**13 09 31.2**	**+0.6**
	baz=215								
TSMG	**Majia**	**1.91**	**216**	*e*P	**Pn**	**13 09 31.4**	**+0.4**
	baz=215								
TAI1	**Yung-k'ang**	**1.93**	**232**	*e*P	**Pb**	**13 09 33.5**	**-0.5**
	baz=230								
JKRS	**Kuro-shima**	**1.95**	**90**	P	**Pb**	**13 09 35.0**	**+0.7**
JKRS				*e*S	**Sb**	**13 09 59.2**	**+0.9**
SGLT	**Jiouru**	**1.98**	**220**	*e*P	**Pb**	**13 09 34.5**	**-0.4**
	baz=218								
MASBT	**Mashibuluo**	**2.00**	**215**	*e*P	**Pn**	**13 09 32.5**	**+0.4**
	baz=213								
TSPT	**Pingtung City**	**2.02**	**219**	*e*P	**Pb**	**13 09 34.9**	**-0.6**
	baz=217								
SNJT	**Kaohsiung City**	**2.06**	**224**	⇑*e*P	**Pb**	**13 09 35.3**	**-0.8**
	baz=222								
JIJ	**Ishigaki jima**	**2.07**	**87**	P	**Pn**	**13 09 33.8**	**+0.6**
JIJ				*e*S	**Sb**	**13 10 00.2**	**-1.6**
EAST	**Anshuo**	**2.09**	**207**	*e*P	**Pn**	**13 09 32.5**	**-1.0**
	baz=205								
TAW	**Tawu**	**2.09**	**206**	*e*P	**Pn**	**13 09 34.7**	**+1.3**
	baz=204								
SSPT	**Xinbi**	**2.13**	**214**	*e*P	**Pb**	**13 09 36.0**	**-1.5**
	baz=213								
SCZT	**Fangliau**	**2.20**	**212**	*e*P	**Pb**	**13 09 36.9**	**-1.7**
	baz=210								
LAY	**Lan-yu**	**2.23**	**188**	*e*P	**Pn**	**13 09 34.4**	**-0.9**
	baz=186								
LAY				*e*S	**Sn**	**13 10 00.3**	**-2.1**
	baz=186								
PNG	**Penghu**	**2.23**	**253**	⇑*e*P	**Pn**	**13 09 35.5**	**+0.2**
	baz=251								
PNG				*e*S	**Sn**	**13 10 02.3**	**-0.1**
	baz=251								
PHUB	**P'eng-hu**	**2.23**	**251**	⇑*e*P	**Pn**	**13 09 35.5**	**+0.1**
	baz=250								
PHUB				*e*S	**Sn**	**13 10 03.5**	**+1.1**
	baz=250								
JISG	**Ishigakijimahi**	**2.25**	**81**	P	**Pn**	**13 09 36.2**	**+0.7**
JISG				*e*S	**Sn**	**13 10 04.3**	**+1.5**
WDGT	**Dungji**	**2.26**	**244**	⇑*e*P	**Pn**	**13 09 36.5**	**+0.8**
	baz=243								
WDGT				*e*S	**Sb**	**13 10 05.2**	**-1.9**
	baz=243								
SLIU	**Shizi**	**2.26**	**206**	*e*P	**Pn**	**13 09 36.5**	**+0.8**
	baz=205								
SLIU				*e*S	**Sb**	**13 10 05.7**	**-1.5**
	baz=205								
VWUC	**VWUC**	**2.32**	**289**	*e*P	**Pn**	**13 09 36.2**	**-0.4**
	baz=288								
WLCH	**Liuqiu**	**2.34**	**216**	*e*P	**Pb**	**13 09 39.6**	**-1.4**
	baz=215								
TWP	**Hsiaoliuchiu**	**2.35**	**216**	*e*P	**Pb**	**13 09 39.7**	**-1.5**
	baz=215								
VCHM	**Qimei**	**2.47**	**246**	*e*P	**Pn**	**13 09 39.0**	**+0.3**
	baz=244								
HEN	**Hengchun**	**2.47**	**205**	*e*P	**Pn**	**13 09 40.2**	**+1.5**
	baz=204								
TWK1	**Hengchun**	**2.50**	**203**	*e*P	**Pn**	**13 09 39.2**	**+0.1**
	baz=202								
TWKBT	**Hengchun**	**2.50**	**203**	*e*P	**Pn**	**13 09 39.8**	**+0.7**
	baz=202								
TSEB	**Hengchuen, Pin**	**2.51**	**201**	*e*P	**Pn**	**13 09 40.2**	**+1.0**
	baz=201								
MATB	**Ma-tsu**	**2.57**	**318**	*e*P	**Pn**	**13 09 39.0**	**-1.1**
	baz=317								
MSUT	**Lienchiang**	**2.60**	**318**	*e*P	**Pn**	**13 09 39.7**	**-0.7**
	baz=317								
JTJ	**Tarama**	**2.61**	**81**	P	**Pn**	**13 09 41.9**	**+1.4**
JTJ				S	**Sb**	**13 10 14.8**	**-2.4**
PTMZ	**Houxiangcun**	**2.62**	**288**	⇑*e*P	**Pn**	**13 09 40.3**	**-0.4**
	baz=287								
LYJJ	**Jianjiangzhen**	**2.98**	**321**	⇑*e*P	**Pn**	**13 09 44.4**	**-1.2**
	baz=320								
JIRB	**Irabujima**	**3.06**	**79**	P	**Pn**	**13 09 48.1**	**+1.4**
QZH	**Quanzhou**	**3.06**	**284**	⇑*i*Pn	**Pn**	**13 09 46.3**	**-0.5**
QZH				Sn	**Sn**	**13 10 22.0**	**-1.0**
QZH				smax	smax		
	comp=N,5μm,1.2s						
QZH				smax	smax		
	comp=E,3μm,1.2s						
QZH				LR	LR		
	comp=E,27μm,4.7s						
QZH				LR	LR		
	comp=Z,29μm,9.6s						
XPSS	**Dashiqiu**	**3.06**	**331**	⇑*e*P	**Pn**	**13 09 45.6**	**-1.2**
	baz=331								
KNM	**Kinmen**	**3.14**	**274**	⇑*e*P	**Pn**	**13 09 49.2**	**+1.4**
	baz=272								
JIKM	**Ikemajima**	**3.14**	**77**	P	**Pn**	**13 09 49.9**	**+2.0**
MHZQ	**Yeshan**	**3.16**	**306**	⇑*e*P	**Pn**	**13 09 47.1**	**-1.0**
	baz=305								
JMJ	**Miyako jima 2**	**3.16**	**79**	*e*P	**Pn**	**13 09 50.0**	**+1.9**
	baz=80								
JMJ2	**Miyako jima3**	**3.18**	**81**	P	**Pn**	**13 09 50.6**	**+2.1**
KNMB	**Chin-men Tao**	**3.18**	**274**	⇑*e*P	**Pn**	**13 09 48.0**	**-0.5**
	baz=273								
KNMB	**Chin-men Tao**	**3.18**	**274**	Pn	**Pn**	**13 09 47.8**	**-0.6**
JOGS	**Gusukube**	**3.26**	**80**	P	**Pn**	**13 09 52.1**	**+2.6**
AXDP	**Jialang**	**3.61**	**281**	⇑*e*P	**Pn**	**13 09 56.2**	**+1.9**
	baz=280								
ZPLA	**Ao Xicun**	**3.78**	**266**	⇑*e*P	**Pn**	**13 09 56.6**	**-0.1**
	baz=265								
BBP	**Basco**	**3.80**	**179**	⇑*e*P	**Pn**	**13 09 55.1**	**-1.8**
BBP				*i*S	**Sn**	**13 10 37.6**	**-3.5**
JKE	**Kume jima 2**	**4.90**	**64**	P	**Pn**	**13 10 14.1**	**+2.0**

WHN sP 13 11 18.1
WHN S **Sn** **13 12 54.0 +0.9**
WHN pmax pmax
comp=Z,68nm,0.7s
WHN LR LR
comp=N,31µm,8.3s
WHN LR LR
comp=E,33µm,7.4s
WHN LR LR
comp=Z,46µm,11.3s
JSU Suzuyama 10.47 45 Pn **Pn** **13 11 29.2 +0.6**
JNU Nakatsue 11.85 40 Pn **Pn** **13 11 50.8 +3.4**
0.8nm,0.3s,baz=220,slow=3.7,SNR=11
JNU Sn **Sn** **13 14 00.8 +1.6**
0.1nm,0.3s,baz=221,slow=19,SNR=0.6
JNU LR LR 13 16 29.8
comp=Z,1µm,20.6s,baz=222,slow=38
QIZ Qiongzhong 12.33 247 P **Pn** **13 11 54.8 +0.7**
QIZ S Sn 13 14 23.0 +12
QIZ pmax pmax
comp=Z,31nm,1.2s
QIZ pmax pmax
comp=Z,420nm,2.8s
QIZ LR LR
comp=N,5µm,18.7s
QIZ LR LR
comp=E,3µm,22.7s
QIZ LR LR
comp=Z,5µm,16.5s
ENH Enshi 12.54 301 **Pn** **13 11 56.7 -0.1**
TIA Tai'an 12.60 342 P **Pn** **13 12 02.0 +4.4**
TIA sP **P** **13 12 10.5 +1.5**
TIA S Sn 13 14 28.8 +11
TIA pmax pmax
comp=Z,14nm,0.8s
TIA pmax pmax
comp=Z,120nm,3.7s
TIA LR LR
comp=N,7µm,11.4s
TIA LR LR
comp=E,5µm,12.8s
TIA LR LR
comp=Z,11µm,12.8s
TJN Taejon 12.97 20⇑ *e*P **Pn** **13 12 04.4 +1.7**
GYA Guiyang 13.93 282 ⇑P **Pn** **13 12 16.1 +0.2**
GYA sP P 13 12 22.0 -2.0
GYA PP **PnPn** **13 12 26.8 +3.0**
GYA S **Sn** **13 14 51.1 +1.0**
GYA pmax pmax
comp=Z,51nm,1.0s
GYA pmax pmax
comp=Z,360nm,3.5s
GYA LR LR
comp=N,6µm,7.7s
GYA LR LR
comp=E,12µm,18.6s
GYA LR LR
comp=Z,15µm,12.4s
KSAR Wonju Array Be 14.12 20 P **Pn** **13 12 19.7 +1.4**
KSAR Wonju Array Be 14.12 20 Pn **Pn** **13 12 19.7 +1.4**
KSRS Korea Array 14.14 20 Pn **P** **13 12 22.6 -3.4**
0.9nm,0.3s,baz=200,slow=13,SNR=55
KSRS Sn **Sn** **13 15 03.5 +8.5**
0.1nm,0.3s,baz=198,slow=28,SNR=1.6
KSRS LR LR 13 18 10.2
comp=Z,1µm,19.7s,baz=204,slow=39
KS19 Wonju Array Si 14.16 20 **Pn** **13 12 18.9 -0.1**
JHS Saijyo 14.48 40 Pn **Pn** **13 12 21.8 -1.6**
DL2 Dalian 14.61 359⇑ *i*P **P** **13 12 28.3 -3.0**
DL2 S **Sn** **13 15 15.3 +8.9**
DL2 pmax pmax
comp=Z,89nm,0.8s
DL2 pmax pmax
comp=Z,600nm,4.4s
DL2 LR LR
comp=N,1µm,16.4s
DL2 LR LR
comp=E,5µm,13.7s
DL2 LR LR
comp=Z,6µm,13.8s
XAN Xi'an 14.92 314 P **Pn** **13 12 28.5 -0.9**
XAN sP P 13 12 36.3 +1.4
XAN S **Sn** **13 15 15.3 +1.1**
XAN SS **S** **13 15 32.1 +0.1**
XAN pmax pmax
comp=Z,23nm,1.0s
XAN pmax pmax
comp=Z,230nm,6.0s
XAN LR LR
comp=N,6µm,9.2s
XAN LR LR
comp=E,13µm,11.6s
XAN LR LR
comp=Z,16µm,12.1s
TIY Taiyuan 15.65 331 *e*P **P** **13 12 41.8 -1.2**
TIY pmax pmax
comp=Z,37nm,0.6s
TIY pmax pmax
comp=Z,620nm,3.6s
TIY LR LR
comp=N,7µm,12.9s
TIY LR LR
comp=E,4µm,13.3s
TIY LR LR
comp=Z,7µm,12.4s
BJT Baijiatuau 16.43 344 P **P** **13 12 51.4 -0.2**
BJT pmax pmax
comp=Z,58nm,1.1s
BJT Baijiatuau 16.43 344 P **P** **13 12 51.4 -0.2**
BJI Beijing 16.45 344 P **P** **13 12 51.1 -0.7**
BJI pP **pP** **13 12 55.9 -0.5**
BJI sP **sP** **13 12 58.5 +0.1**
BJI S **Sn** **13 15 53.3 +2.0**
BJI pmax pmax
comp=Z,45nm,1.7s
BJI pmax pmax
comp=Z,760nm,7.1s
BJI LR LR
comp=Z,6µm,12.7s
BJI LR LR
comp=Z,3µm,9.5s
BJI LR LR
comp=Z,7µm,13.9s
BUKP Musuan 16.57 169⇑ *i*P **P** **13 12 55.9 +2.6**
SLVN Son La 16.82 264 P **P** **13 12 55.2 -0.9**
CD2 Chengdu 17.36 296 P **Pn** **13 12 59.9 -0.9**
CD2 pP P 13 13 03.8 +1.8
CD2 S **Sn** **13 16 12.6 -1.0**
CD2 pmax pmax
comp=Z,210nm,1.1s
CD2 pmax pmax
comp=Z,820nm,5.7s
CD2 LR LR
comp=Z,9µm,10.9s
CD2 LR LR
comp=Z,12µm,11.9s
CD2 LR LR
comp=Z,14µm,13.7s
KMI Kunming 17.41 277 ⇑P **Pn** **13 13 01.8 +0.2**
KMI sP pP 13 13 07.5 -0.8
KMI PP **PnPn** **13 13 18.3 +6.5**
KMI S **Sn** **13 16 14.1 -1.0**
KMI SS **SnSn** **13 16 31.8 +3.3**
KMI pmax pmax
comp=Z,24nm,1.3s
KMI pmax pmax
comp=Z,360nm,3.5s
KMI LR LR
comp=Z,5µm,11.6s
KMI LR LR
comp=Z,12µm,11.8s
KMI LR LR
comp=Z,13µm,11.4s
JGF Kuroka 17.52 46 P **P** **13 13 04.7 +0.9**
SNY Shenyang 17.58 4 ⇓P **P** **13 13 06.8 +2.5**
SNY sP **pwP** **13 13 15.1 +3.9**
SNY S **S** **13 16 26.1 0.0**
SNY pmax pmax
comp=Z,44nm,1.9s
SNY LR LR
comp=Z,5µm,11.1s
SNY LR LR
comp=Z,2µm,11.1s
SNY LR LR
comp=Z,8µm,11.8s
JCJ Chichijima 18.52 77 P **P** **13 13 14.8 -0.1**
comp=Z,3.8nm,0.3s,baz=258,slow=9.3,SNR=2.7
JCJ Chichijima 18.52 77 P **Pn** **13 13 15.0 0.0**
JCJ IAmb IAmb 13 13 23.3
comp=Z,296nm,1.0s
MAJO Matsushiro 18.63 45⇑ *e*P **Pn** **13 13 19.7 +3.4**
MAJO pmax pmax
comp=Z,14nm,1.1s
MAJO Matsushiro 18.63 45 P **P** **13 13 14.4 -1.5**
MAT Matsushiro 18.63 45 P **P** **13 13 14.9 -1.1**
MAT S **S** **13 16 46.8 -0.8**
MJB9 Matsu-Tunnel 18.63 45 P **P** **13 13 15.4 -0.5**
MJAR Matsushiro Arr 18.64 45 P **P** **13 13 15.6 -0.4**
comp=Z,0.1nm,0.3s,baz=231,slow=9.4,SNR=5.3
MJAR S **Sn** **13 16 44.0 -0.3**
comp=Z,0.1nm,0.3s,baz=213,slow=9.0,SNR=4.5
MJAR LR LR 13 21 11.2
comp=Z,2µm,21.5s,baz=230,slow=40
MJAR Matsushiro Arr 18.64 45 P **P** **13 13 14.4 -1.6**
HHC Hu-ho-hao-te 18.66 335 *e*P **Pn** **13 13 18.1 +1.4**
HHC PP **PnPn** **13 13 29.4 +0.6**
HHC pmax pmax
comp=Z,48nm,0.9s
HHC pmax pmax
comp=Z,2µm,5.4s
HHC LR LR
comp=Z,6µm,13.4s
HHC LR LR
comp=Z,3µm,13.7s
HHC LR LR
comp=Z,7µm,13.3s
BTO Baotou 19.09 331 *e*P **Pn** **13 13 23.5 +1.5**
BTO LR LR
comp=Z,31µm,13.2s
BTO LR LR
comp=Z,14µm,16.8s
LZH Lanzhou 19.51 311 ⇑P **Pn** **13 13 28.0 +1.0**
LZH pP sP 13 13 31.9 -0.3
LZH sP pP 13 13 34.6 +3.7
LZH S **Sn** **13 17 10.3 +4.7**
LZH SS **SnSn** **13 17 31.8 +12**
LZH pmax pmax
comp=Z,61nm,1.0s
LZH pmax pmax
comp=Z,2µm,4.1s
LZH LR LR
comp=Z,6µm,14.1s
LZH LR LR
comp=Z,7µm,13.0s
LZH LR LR
comp=Z,10µm,14.2s
JSD Sado 19.59 42 Pn **Pn** **13 13 28.2 +0.4**
CN2 Changchun 19.72 8 *e*P **Pn** **13 13 29.0 -0.2**
CN2 *e*S **S** **13 17 06.3 -2.9**
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,2µm,13.0s
CN2 LR LR
comp=Z,1µm,13.0s
CN2 LR LR
comp=Z,1µm,16.0s
MSHR Mys Shultsa 19.83 21⇑ *e*P **Pn** **13 13 30.6 +0.1**
MSHR pmax pmax
comp=Z,60nm,1.2s
SPMM Sapulut 20.12 196 P Pn 13 13 37.0 +2.7
VLA Vladivostok 20.55 21 *d i*P Pn 13 13 40.0 +1.0
PBKT Sadao Pong 21.01 253 P **P** **13 13 45.2 +3.2**
MDJ Mudanjiang 21.27 15 P **P** **13 13 45.6 +1.1**
MDJ pP pP 13 13 48.6 -0.9
MDJ sP sP 13 13 49.8 -2.1
MDJ S **S** **13 17 40.4 +0.4**
MDJ sS Sn 13 17 43.8 -3.6
MDJ pmax pmax
comp=Z,16nm,1.2s
MDJ pmax pmax
comp=Z,88nm,3.5s
MDJ LR LR
comp=Z,2µm,15.2s
MDJ LR LR
comp=Z,2µm,14.3s
MDJ LR LR
comp=Z,3µm,15.1s
MDJ Mudanjiang 21.27 15 P **P** **13 13 44.9 +0.4**
USA0B Ussuriysk Arra 21.55 20 P **P** **13 13 48.0 +0.5**
USA0B pmax pmax
comp=Z,48nm,1.0s
USA0B Ussuriysk Arra 21.55 20 P **P** **13 13 48.0 +0.5**
USRK Ussuriysk Ar. 21.55 20 P **P** **13 13 47.8 +0.3**
comp=Z,2.6nm,0.5s,baz=218,slow=9.9,SNR=14
USRK Ussuriysk Ar. 21.55 20 P **P** **13 13 48.2 +0.7**
USRK Ussuriysk Ar. 21.55 20 P **P** **13 13 48.2 +0.7**
CHTO Chiang Mai 21.99 260 P **P** **13 13 53.5 +0.9**
CHTO pmax pmax
comp=Z,50nm,1.1s
CHTO Chiang Mai 21.99 260 P **P** **13 13 53.5 +0.9**
CHTO Chiang Mai 21.99 260 P **P** **13 13 54.5 +1.9**
CHTO Chiang Mai 21.99 260 P **P** **13 13 54.1 +1.5**
comp=Z,573nmcomp=Z,27nm,1.4s
CM31 Chiang Mai Arr 22.11 259 P **P** **13 13 54.1 +0.3**
CM31 IAmb IAmb 13 14 13.8
comp=Z,117nm,1.4s
CM31 Chiang Mai Arr 22.11 259 P **P** **13 13 56.1 +2.3**
SNR=14
CMAR Chiang Mai Arr 22.11 259 P **P** **13 13 55.0 +1.2**
comp=Z,19nm,1.0s,baz=59,slow=8.7,SNR=65
CMAR PcP **PcP** **13 17 52.2 +1.1**
comp=Z,0.9nm,0.3s,baz=343,slow=0.9,SNR=3.0
CMAR LR LR 13 23 22.0
comp=Z,3µm,19.1s,baz=112,slow=39
CMAR Chiang Mai Arr 22.11 259 P **P** **13 13 54.8 +1.0**
CMAR 13 17 50.0
CMAR Chiang Mai Arr 22.11 259 P **P** **13 13 54.8 +1.0**
CMAR **PcP** **13 17 50.0 -1.1**
MNI Manado 22.86 172 P **P** **13 14 06.6 +4.8**
GAMI Galela, Maluku 23.01 165 P **P** **13 14 07.3 +4.0**
comp=Z,2µmcomp=Z,184nm,1.4s
JTM Tenmabayashi 23.02 40 P **P** **13 13 58.8 -4.5**
TOLI2 Tolitoli 23.03 183 P **P** **13 14 02.0 -1.6**
GTOI Gorontalo 23.51 177 P **P** **13 14 09.8 +1.5**
comp=Z,510nmcomp=Z,40nm,1.0s
SBUM Sibu 23.60 205 P **P** **13 14 09.0 -0.3**
KMSI Cibinong 23.63 175 P **P** **13 14 13.5 +4.0**
comp=Z,2µmcomp=Z,96nm,0.5s
MRSI Marisa 23.64 180 P **P** **13 14 13.5 +3.9**
comp=Z,1µmcomp=Z,82nm,1.6s
MPSI Mapaga 23.86 185 P **P** **13 14 16.0 +4.3**
comp=Z,505nmcomp=Z,37nm,1.3s
TEY Ternei 23.94 26⇑ *e*P **P** **13 14 14.8 +2.6**
TEY pmax pmax
comp=Z,10.0nm,0.8s
TEY pmax pmax
comp=N,100nm,13.0s
TEY pmax pmax
comp=Z,100nm,13.0s
TNTI Ternate 23.95 166 P **P** **13 14 16.9 +4.4**
comp=Z,3µmcomp=Z,171nm,1.6s
GTA Gaotai 23.98 314 ⇑P **P** **13 14 12.6 -0.3**
GTA pP sP 13 14 19.3 -0.4
GTA sP pP 13 14 23.5 +5.3
GTA S **S** **13 18 30.0 +1.0**
GTA sS pS 13 18 35.8 +0.4
GTA pmax pmax
comp=Z,37nm,1.4s
GTA pmax pmax
comp=Z,470nm,4.6s
GTA LR LR
comp=Z,2µm,15.6s
GTA LR LR
comp=Z,5µm,13.8s
GTA LR LR
comp=Z,7µm,12.4s
GUMO Guam 24.16 112 P **P** **13 14 14.9 +0.3**
comp=Z,416nm,1.1s,baz=222,slow=4.0,SNR=10
GUMO Guam 24.16 112 P **P** **13 14 13.6 -1.0**
GUMO pmax pmax
comp=Z,665nm,1.2s
GUMO Guam 24.16 112 P **P** **13 14 13.6 -1.0**
JEW Eniwo 24.59 36 P **P** **13 14 17.8 -0.5**
JEW IAmb IAmb 13 14 44.2
comp=Z,64nm,0.9s
APSI Ampana 25.02 181 P **P** **13 14 25.9 +3.6**
comp=Z,970nmcomp=Z,102nm,1.3s
KSM Kuching 25.26 208 P **P** **13 14 26.0 +1.4**
MTKI Muara Teweh, K 25.95 196 P **P** **13 14 33.7 +2.9**
ASAJ Asahikawa 26.07 35 P **P** **13 14 31.8 +0.2**
comp=Z,5.5nm,0.5s,baz=243,slow=13,SNR=14
ASAJ Asahikawa 26.07 35 P **P** **13 14 31.8 +0.2**
ASAJ pmax pmax
comp=Z,16nm,0.8s
JKA Kamikawa-asahi 26.07 35 P **P** **13 14 31.8 +0.2**
STKI Sintang 26.07 204 P **P** **13 14 35.9 +3.9**
comp=Z,29nm,0.9s
KLR Kul'dur 26.11 15 P **P** **13 14 32.0 +0.1**
comp=Z,22nm,0.9s,baz=232,slow=7.6,SNR=22
KLR PcP **PcP** **13 17 59.0 -0.2**
comp=Z,3.0nm,0.5s,baz=209,slow=3.4,SNR=3.5
KLR Kul'dur 26.11 15 *c i*P **P** **13 14 32.1 +0.1**
KLR pmax pmax
comp=Z,34nm,0.9s
ULN Ulaanbaatar 26.34 337 *c i*P **P** **13 14 34.0 -0.2**
ULN pmax pmax
comp=Z,86nm,1.7s
ULN Ulaanbaatar 26.34 337 P **P** **13 14 33.5 -0.8**
ULN IAmb IAmb 13 14 49.4
comp=Z,69nm,1.2s
ULN Ulaanbaatar 26.34 337 P **P** **13 14 34.9 +0.6**
ULN Ulaanbaatar 26.34 337 P **P** **13 14 34.1 -0.2**
comp=Z,2µmcomp=Z,203nm,1.2s
SANI Sanana 26.45 171 P **P** **13 14 38.0 +2.6**
comp=Z,43nm,1.1s
SONM Songino Array 26.55 336 P **P** **13 14 35.9 -0.2**
comp=Z,29nm,0.9s,baz=157,slow=8.6,SNR=102
SONM LR LR 13 25 11.8
comp=Z,1µm,21.8s,baz=138,slow=37
SONM Songino Array 26.55 336 P **P** **13 14 35.7 -0.4**
SONM pmax pmax
comp=Z,136nm,1.3s
SONM Songino Array 26.55 336 P **P** **13 14 35.7 -0.4**
SWI Sorong 26.58 159 P **P** **13 14 42.1 +5.6**
comp=Z,954nmcomp=Z,56nm,1.0s
SIJI Sorong 26.59 159 P **P** **13 14 35.7 -0.9**
comp=Z,15nm,0.8s,baz=334,slow=11,SNR=3.6
SHL Shillong 27.21 279 P **P** **13 14 41.2 -1.2**
SHL pmax pmax
comp=Z,126nm,1.1s
SHL Shillong 27.21 279 P **P** **13 14 41.2 -1.2**
SHL Shillong 27.21 279 P **P** **13 14 43.8 +1.4**
SNR=25
TTSI Tana Toraja 27.21 184 P **P** **13 14 46.9 +4.7**
comp=Z,2µmcomp=Z,24nm,0.9s
PKKI Palangkaraya 27.44 197 P **P** **13 14 48.1 +3.9**
comp=Z,3µmcomp=Z,73nm,0.5s
JRMM Jerantut 27.56 226 P **P** **13 14 47.0 +1.6**
KULM Kulim 27.79 231 P **P** **13 14 49.0 +1.6**
LSA Lhasa 27.86 288 P **P** **13 14 49.6 +1.1**
LSA S **S** **13 19 30.8 -0.7**
LSA LR LR
comp=Z,4µm,15.0s
LSA LR LR
comp=Z,14µm,16.4s
LSA LR LR
comp=Z,21µm,16.4s
LSA Lhasa 27.86 288 P **P** **13 14 49.4 +0.9**
LSA Lhasa 27.86 288 P **P** **13 14 47.9 -0.7**
LSA pmax pmax
comp=Z,40nm,1.0s
LSA Lhasa 27.86 288 P **P** **13 14 47.9 -0.7**
LSA IAmb IAmb 13 14 57.0
comp=Z,40nm,1.0s
IPM Ipoh 28.10 229 P **P** **13 14 51.0 +0.8**
YSS Yuzh-Sakhalins 28.14 31 *e*P **P** **13 14 52.3 +2.1**
YSS *e**SP **sP** **13 14 57.2 -0.5**
YSS *e* 13 15 03.1
YSS *e* 13 15 43.0
YSS *e*S **S** **13 19 32.0 -2.5**
YSS *e*SS **SnSn** **13 21 00.6 +10**
YSS pmax pmax
comp=Z,20nm,1.2s
YSS MLR MLR
comp=Z,1µm,19.0s
YSS MLR MLR
comp=E,800nm,14.0s
YSS Yuzh-Sakhalins 28.14 31 P **P** **13 14 51.4 +1.2**
YSS IAmb IAmb 13 15 05.5
comp=Z,29nm,0.8s
BBKI Banjar Baru 28.39 195 P **P** **13 14 57.0 +4.3**
comp=Z,68nm,1.4s
CIT Chita 28.44 349 *e*P **P** **13 14 50.9 -2.1**
CIT *e* 13 15 41.4
BNSI Bone 28.54 184 P P 13 15 00.0 +6.0
comp=Z,33nm,1.5s
GRNR Gornyy 28.77 19 *e*P **P** **13 14 54.2 -1.6**
GRNR MLR MLR
comp=E,750nm,14.0s
GRNR MLR MLR
comp=N,550nm,17.0s
GRNR MLR MLR
comp=Z,730nm,13.0s
FAKI Fak Fak 28.84 158 P **P** **13 14 56.2 -0.5**
FAKI IAmb IAmb 13 15 11.3
comp=Z,70nm,1.1s
FAKI Fak Fak 28.84 158 P **P** **13 14 59.8 +3.1**
comp=Z,65nm,1.0s
KAPI Kappang 29.17 184 P **P** **13 15 00.6 +1.0**
comp=Z,4.6nm,0.3s,baz=57,slow=9.1,SNR=3.6
KAPI Kappang 29.17 184 P **P** **13 15 00.6 +1.0**
KAPI pmax pmax
comp=Z,25nm,1.1s
UGL Uglegorsk 29.42 28 *e*P P 13 15 09.2 +7.7
UGL *e*S **S** **13 20 01.6 +7.1**
UGL pmax pmax
comp=Z,50nm,0.7s
UGL MLR MLR
comp=E,710nm,15.0s
UGL MLR MLR
comp=N,980nm,14.0s
UGL MLR MLR
comp=Z,2µm,18.0s
ZEA Zeya 29.72 6 *e*P **P** **13 15 04.9 +0.7**
ZEA *e*S **S** **13 19 54.7 -4.5**
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=Z,30nm,1.0s
ZEA pmax pmax
comp=Z,100nm,2.4s
ZEA pmax pmax
comp=Z,100nm,5.4s
ZEA smax smax
comp=E,100nm,10.1s
ZEA pmax pmax
comp=N,1µm,13.0s
ZEA pmax pmax
comp=Z,1µm,12.0s
ZAK Zakamensk 29.81 336 *e*P **P** **13 15 03.9 -1.3**
ZAK pmax pmax
comp=Z,16nm,1.2s
TSI Tuntungan 30.52 231 P **P** **13 15 14.2 +2.6**
comp=Z,198nm,1.2s
PSI Prapat 30.76 230 P **P** **13 15 15.1 +1.2**
comp=Z,36nm,0.8s,baz=1,1,slow=5.1,SNR=17
PSI Prapat 30.76 230 P **P** **13 15 15.1 +1.2**
PSI pmax pmax
comp=Z,83nm,1.1s
PSI Prapat 30.76 230 P **P** **13 15 15.3 +1.3**
comp=Z,89nm,1.5s
PSI P P **13 15 15.2 +1.3**
comp=Z,89nm,1.5s
RPSI Rantau Prapat 30.83 229 P **P** **13 15 14.3 -0.1**
RPSI Rantau Prapat 30.83 229 P **P** **13 15 15.1 +0.6**
TAPN Taplejung 30.86 283 *e*P **P** **13 15 16.1 +1.2**
comp=Z,370nm,1.4s
IRK Irkutsk 31.00 339 *e*P **P** **13 15 14.6 -1.0**
IRK pmax pmax
comp=Z,85nm,1.6s
TYV Tymovskoe 31.04 26 *e*P P 13 15 25.8 +10
TYV pmax pmax
comp=Z,10.0nm,0.9s
TYV pmax pmax
comp=Z,100nm,4.7s
TYV MLR MLR
comp=E,2µm,16.0s
TYV MLR MLR
comp=Z,1µm,16.0s
ODAN Odare 31.16 282 *e*P **P** **13 15 18.4 +0.8**
comp=Z,189nm,1.1s
MOY Mondy 31.71 335 *e*P **P** **13 15 21.0 -0.9**
MOY pmax pmax
comp=Z,59nm,1.8s
MNSI Mandailing Nat 31.78 226 P **P** **13 15 23.5 +0.7**
RAMN Ramite 31.86 282 *e*P **P** **13 15 25.1 +1.4**

GENI	**Genyem**	**32.07**	**144**	P		**P**	**13 15 28.5**	**+3.2**	
	comp=Z,36nm,1.1s								
JIRN	**Jiri**	**32.19**	**284**	*e*P		**P**	**13 15 27.4**	**+0.6**	
	comp=Z,253nm,1.4s								
GUN	**Gumba**	**32.46**	**284**	*e*P		**P**	**13 15 29.7**	**+0.6**	
	comp=Z,301nm,1.4s								
MMRI	**Maumere**	**32.69**	**179**	P		**P**	**13 15 35.1**	**+4.4**	
	comp=Z,7µmcomp=Z,92nm,1.1s								
GSI	**Gunungsitoli**	**32.76**	**229**	P		**P**	**13 15 31.0**	**-0.4**	
GSI				IAmb		IAmb	13 15 34.2		
	comp=Z,19nm,0.7s								
EDFI	**Ende, Flores**	**32.81**	**180**	P		**P**	**13 15 31.3**	**-0.5**	
	comp=Z,398nmcomp=Z,36nm,1.1s								
KRJI	**Kerinci**	**32.85**	**220**	P		P	13 15 37.2	+4.9	
	comp=Z,149nm,1.3s								
PKI	**Pulchoki**	**32.89**	**284**	*e*P		**P**	**13 15 33.2**	**+0.3**	
	comp=Z,174nm,1.4s								
PKIN	**Phulchoki**	**32.90**	**284**	*e*P		**P**	**13 15 33.1**	**+0.2**	
	comp=Z,143nm,1.3s								
KLNI	**Mataram**	**32.97**	**191**	P		**P**	**13 15 36.4**	**+3.3**	
	comp=Z,33nm,1.0s								
KKN	**Kakani**	**32.99**	**284**	*e*P		**P**	**13 15 34.1**	**+0.5**	
	comp=Z,112nm,1.0s								
PLAI	**Plampang**	**33.12**	**187**	P		**P**	**13 15 37.8**	**+3.3**	
	comp=Z,40nm,1.2s								
LHSI	**Lahat**	**33.14**	**215**	P		P	13 15 45.3	+11	
TWSI	**Taliwang, Sumb**	**33.15**	**189**	P		**P**	**13 15 38.2**	**+3.4**	
	comp=Z,22nm,1.1s								
DMN	**Daman**	**33.16**	**284**	*e*P		**P**	**13 15 36.0**	**+0.9**	
	comp=Z,111nm,0.9s								
MASI	**Maura Aman, Be**	**33.26**	**218**	P		P	13 15 42.7	+6.9	
	comp=Z,96nm,1.0s								
SJI	**Sawahan**	**33.29**	**198**	P		**P**	**13 15 38.8**	**+2.7**	
	comp=Z,2µmcomp=Z,64nm,1.1s								
MDSI	**Maura Dua**	**33.36**	**213**	P		**P**	**13 15 38.7**	**+2.1**	
	comp=Z,793nmcomp=Z,24nm,0.8s								
CTJI	**Waduk Cacaban**	**33.45**	**203**	P		**P**	**13 15 42.1**	**+4.7**	
	comp=Z,45nm,1.2s								
GKN	**Gorkha**	**33.55**	**285**	*e*P		**P**	**13 15 38.5**	**0.0**	
	comp=Z,174nm,1.1s								
PWJI	**Pagerwojo**	**33.55**	**198**	P		**P**	**13 15 40.0**	**+1.7**	
	comp=Z,96nm,1.0s								
KPJI	**Karang Pucung**	**33.84**	**204**	P		**P**	**13 15 44.0**	**+3.2**	
	comp=Z,44nm,1.5s								
LEM	**Lembang**	**33.88**	**206**	P		**P**	**13 15 43.1**	**+1.8**	
	comp=Z,33nm,0.8s,baz=90,slow=10,SNR=4.0								
LEM	**Lembang**	**33.88**	**206**	P		**P**	**13 15 43.7**	**+2.4**	
	comp=Z,31nm,1.2s								
LWLI	**Liwa**	**33.88**	**213**	P		P	13 15 54.8	+14	
SOEI	**Soe**	**33.88**	**176**	P		**P**	**13 15 40.1**	**-1.2**	
SOEI				IAmb		IAmb	13 15 57.5		
	comp=Z,31nm,0.8s								
SOEI	**Soe**	**33.88**	**176**	P		**P**	**13 15 43.1**	**+1.8**	
	comp=Z,40nm,0.8s								
DBJI	**Dramaga**	**33.99**	**208**	P		**P**	**13 15 45.4**	**+3.3**	
	comp=Z,35nm,1.4s								
WMQ	**Urumqi**	**34.06**	**313**	*e*P		**P**	**13 15 43.6**	**+1.0**	
WMQ				sP		sP	13 15 52.8	+3.4	
WMQ				pmax		pmax			
	comp=Z,40nm,1.7s								
WMQ				pmax		pmax			
	comp=Z,380nm,4.5s								
WMQ				LR		LR			
	comp=Z,3µm,11.3s								
WMQ				LR		LR			
	comp=Z,4µm,10.7s								
WMQ				LR		LR			
	comp=Z,1µm,13.3s								
BATI	**Baumata**	**34.30**	**177**	P		**P**	**13 15 47.6**	**+2.9**	
	comp=Z,37nm,1.1s								
DANN	**Dangsing**	**34.31**	**285**	*e*P		**P**	**13 15 45.7**	**+0.5**	
	comp=Z,247nm,1.3s								
CISI	**Cisompet, Garu**	**34.47**	**205**	P		**P**	**13 15 49.3**	**+3.0**	
	comp=Z,22nm,1.1s								
KOLN	**Koldanda**	**34.48**	**284**	*e*P		**P**	**13 15 47.0**	**+0.4**	
	comp=Z,136nm,1.0s								
PYUN	**Piuthan**	**35.00**	**285**	*e*P		**P**	**13 15 51.6**	**+0.5**	
	comp=Z,149nm,1.0s								
DGZ	**Jazzator, Alta**	**36.92**	**322**	*c i*P		**P**	**13 16 06.6**	**-0.6**	
DGZ				pmax		pmax			
	comp=Z,15nm,1.0s								
SKR	**Severo-Kuril's**	**37.33**	**36**	*e*P		**P**	**13 16 10.5**	**+0.1**	
SKR				*e*			13 18 03.7		
SKR				*e*SSS		SSS	13 26 21.0		
SKR				pmax		pmax			
	comp=Z,24nm,1.1s								
SKR				pmax		pmax			
	comp=Z,100nm,4.2s								
SKR				pmax		pmax			
	comp=Z,200nm,5.4s								
SKR				MLR		MLR			
	comp=Z,300nm,16.0s								
SKR				MLR		MLR			
	comp=Z,300nm,15.0s								
ZSN	**Zaisan**	**37.37**	**318**	*e*P		**P**	**13 16 08.7**	**-2.2**	
	baz=318								
ZSN	**Zaisan**	**37.37**	**318**	*e*P		**P**	**13 16 08.6**	**-2.2**	
MTN	**Manton Dam**	**37.97**	**165**	P		**P**	**13 16 14.2**	**-1.9**	
MTN				IAmb		IAmb	13 16 18.2		
	comp=Z,28nm,0.8s								
YAK	**Yakutsk**	**38.13**	**6**	*e*P		**P**	**13 16 15.6**	**-1.4**	
YAK				*e**PP		**sP**	**13 16 23.7**	**-0.4**	
YAK				*e*			13 17 47.9		
YAK				*e*			13 18 32.4		
YAK				*e*S		**S**	**13 22 06.4**	**-2.6**	
YAK				*e**SS		**sS**	**13 22 16.7**	**-0.2**	
YAK				*e*SS		**SnSn**	**13 24 48.3**	**-4.4**	
YAK				*e*			13 26 19.4		
YAK				pmax		pmax			
	comp=Z,27nm,0.9s								
YAK				pmax		pmax			
	comp=N,12nm,1.1s								
YAK				pmax		pmax			
	comp=E,4.0nm,1.2s								
YAK				pmax		pmax			
	comp=Z,65nm,1.8s								
YAK				pmax		pmax			
	comp=N,54nm,1.7s								
YAK				pmax		pmax			
	comp=E,26nm,1.6s								
YAK				smax		smax			
	comp=E,26nm,2.5s								
YAK				smax		smax			
	comp=N,29nm,1.9s								
YAK				MLR		MLR			
	comp=Z,1µm,14.0s								
YAK				MLR		MLR			
	comp=N,870nm,13.0s								
YAK	**Yakutsk**	**38.13**	**6**	P		**P**	**13 16 15.6**	**-1.4**	
YAK				IAmb		IAmb	13 16 34.2		
	comp=Z,34nm,0.9s								
JBP	**Jabalpur**	**38.27**	**277**	*e*P		**P**	**13 16 20.0**	**+1.3**	
JBP				*e*S		S	13 22 28.6	+17	
MK31	**Makanchi Array**	**38.72**	**316**	P		**P**	**13 16 21.9**	**-0.4**	
MK31				pmax		pmax			
	comp=Z,34nm,1.0s								
MK31	**Makanchi Array**	**38.72**	**316**	P		**P**	**13 16 21.9**	**-0.4**	
MKAR	**Makanchi Array**	**38.72**	**316**	P		**P**	**13 16 22.2**	**-0.1**	
	comp=Z,14nm,0.8s,baz=104,slow=10,SNR=40								
MKAR				PcP		**PcP**	**13 18 33.7**	**-0.2**	
	comp=Z,5.3nm,0.9s,baz=104,slow=6.1,SNR=3.2								
MKAR				S		**S**	**13 22 18.0**	**-0.5**	
	comp=Z,0.4nm,0.3s,baz=136,slow=14,SNR=6.4								
MKAR				LR		LR	13 33 33.1		
	comp=Z,2µm,18.7s,baz=98,slow=38								
MKAR	**Makanchi Array**	**38.72**	**316**	P		**P**	**13 16 21.8**	**-0.5**	
MKAR	**Makanchi Array**	**38.72**	**316**	P		**P**	**13 16 21.8**	**-0.5**	
MAKZ	**Makanchi**	**38.93**	**315**	P		**P**	**13 16 23.0**	**-1.0**	
MAKZ	**Makanchi**	**38.93**	**315**	P		**P**	**13 16 23.7**	**-0.3**	
MAKZ				IAmb		IAmb	13 16 32.9		
	comp=Z,60nm,1.1s								
PEA0B	**Petropavlovsk-**	**39.46**	**34**	P		**P**	**13 16 28.7**	**+0.4**	
PEA0B				pmax		pmax			
	comp=Z,14nm,1.2s								
PEA0B	**Petropavlovsk-**	**39.46**	**34**	P		**P**	**13 16 28.7**	**+0.4**	
PETK	**Petropavlovsk-**	**39.46**	**34**	P		**P**	**13 16 28.5**	**+0.2**	
	comp=Z,2.1nm,0.6s,baz=288,slow=2.3,SNR=8.9								
PETK				LR		LR	13 32 44.7		
	comp=Z,680nm,21.4s,baz=222,slow=36								
SHLS	**Shalkode**	**39.50**	**309**	⇑*i*P		**P**	**13 16 26.8**	**-2.2**	
	comp=Z,38nm,1.4s,baz=309								
SHLS				*e*S		**S**	**13 22 23.8**	**-6.7**	
	baz=309								
SHLS	**Shalkode**	**39.50**	**309**	*c i*P		**P**	**13 16 26.8**	**-2.2**	
SHLS				*e*S		**S**	**13 22 23.8**	**-6.7**	
SHLS				pmax		pmax			
	comp=Z,38nm,1.4s								
PDGK	**Podgornoye**	**39.53**	**309**	P		**P**	**13 16 28.6**	**-0.6**	
UZB	**Uzynbulak**	**39.81**	**309**	⇑*i*P		**P**	**13 16 32.0**	**+0.3**	
	comp=Z,52nm,1.9s,baz=309								
UZB				*e*S		**S**	**13 22 37.2**	**+2.0**	
	baz=309								
UZB	**Uzynbulak**	**39.81**	**309**	*c i*P		**P**	**13 16 31.9**	**+0.3**	
UZB				*e*S		**S**	**13 22 37.2**	**+2.0**	
UZB				pmax		pmax			
	comp=Z,52nm,1.9s								
PET	**Petropavlovsk**	**39.90**	**34**	*e*P		**P**	**13 16 33.5**	**+1.6**	
PET				*e*S		**S**	**13 22 33.8**	**-2.0**	
PET				*e*SS		**SS**	**13 25 28.3**	**-4.1**	
PET				pmax		pmax			
	comp=Z,24nm,1.4s								
PET				MLR		MLR			
	comp=Z,1µm,18.0s								
PET				MLR		MLR			
	comp=Z,1µm,19.0s								
PET	**Petropavlovsk**	**39.90**	**34**	P		**P**	**13 16 32.2**	**+0.2**	
KPKS	**Kokpek**	**40.13**	**309**	⇑*i*P		**P**	**13 16 34.1**	**-0.1**	
	comp=Z,54nm,2.0s,baz=309								
KPKS	**Kokpek**	**40.13**	**309**	*c i*P		**P**	**13 16 34.1**	**-0.1**	
KPKS				pmax		pmax			
	comp=Z,54nm,2.0s								
SATY	**Saty**	**40.23**	**309**	⇑*i*P		**P**	**13 16 35.7**	**+0.6**	
	comp=Z,42nm,2.0s,baz=309								
SATY				*e*S		**S**	**13 22 43.6**	**+2.2**	
	baz=309								
SATY	**Saty**	**40.23**	**309**	*c i*P		**P**	**13 16 35.6**	**+0.6**	
SATY				*e*S		**S**	**13 22 43.6**	**+2.2**	
SATY				pmax		pmax			
	comp=Z,42nm,2.0s								
KNRA	**Kununurra**	**40.26**	**170**	P		**P**	**13 16 33.9**	**-1.3**	
ZAA0	**Zalesovo Array**	**40.53**	**327**	P		**P**	**13 16 35.6**	**-1.6**	
ZAA0				IAmb		IAmb	13 16 48.2		
	comp=Z,34nm,0.8s								
ZALV	**Zalesovo Beam**	**40.53**	**327**	P		**P**	**13 16 36.3**	**-0.9**	
	comp=Z,30nm,0.9s,baz=116,slow=6.8,SNR=38								
ZALV				LR		LR	13 34 41.5		
	comp=Z,2µm,18.4s,baz=135,slow=38								
ZALV	**Zalesovo Beam**	**40.53**	**327**	P		**P**	**13 16 35.5**	**-1.6**	
ZALV	**Zalesovo Beam**	**40.53**	**327**	P		**P**	**13 16 35.5**	**-1.6**	
BHK	**Bhakra**	**40.60**	**291**	*e*P		**P**	**13 16 38.4**	**+0.3**	
MA2	**Magadan**	**40.68**	**22**	⇑*e*P		**P**	**13 16 39.5**	**+1.2**	
MA2				pmax		pmax			
	comp=Z,21nm,2.2s								
MA2	**Magadan**	**40.68**	**22**	P		**P**	**13 16 37.9**	**-0.4**	
RABL	**Rabaul**	**40.85**	**130**	P		**P**	**13 16 38.8**	**-1.5**	
KDJ	**Kajisay**	**40.91**	**307**	P		**P**	**13 16 39.7**	**-1.1**	
KDJ				pmax		pmax			
	comp=Z,38nm,1.2s								
KDJ	**Kajisay**	**40.91**	**307**	P		**P**	**13 16 39.7**	**-1.1**	
HYB	**Hyderabad**	**40.93**	**269**	*i* P		**P**	**13 16 41.0**	**0.0**	
HYB				*e*sP		**sP**	**13 16 49.0**	**+1.2**	
MDOK	**Medeo**	**41.22**	**308**	*e*P		**P**	**13 16 43.1**	**-0.2**	
	baz=308								
MDOK				*e*S		**S**	**13 22 59.8**	**+3.5**	
	baz=308								
MDOK	**Medeo**	**41.22**	**308**	*e*P		**P**	**13 16 43.1**	**-0.2**	
MDOK				*e*S		**S**	**13 22 59.7**	**+3.5**	
TNSS	**Tian-Shan**	**41.27**	**308**	*e*P		**P**	**13 16 44.7**	**+0.8**	
	baz=308								
AAA	**Alma-Ata**	**41.33**	**309**	*e*P		**P**	**13 16 44.4**	**+0.3**	
	baz=309								
AAA				*e*S		**S**	**13 22 59.0**	**+1.3**	
	baz=309								
AAA	**Alma-Ata**	**41.33**	**309**	*e*P		**P**	**13 16 44.3**	**+0.3**	
AAA				*e*S		**S**	**13 22 58.9**	**+1.3**	
KSH	**Kashi**	**41.39**	**303**	P		**P**	**13 16 48.1**	**+3.5**	
KSH				pP		sP	13 16 53.1	+1.5	
KSH				PP		**PnPn**	**13 18 26.8**	**+1.9**	
KSH				S		**S**	**13 23 05.1**	**+6.4**	
KSH				ScS		**ScS**	**13 26 48.1**	**+0.1**	
KSH				pmax		pmax			
	comp=Z,42nm,1.3s								
KSH				pmax		pmax			
	comp=Z,200nm,5.2s								
KSH				LR		LR			
	comp=Z,2µm,13.0s								
KSH				LR		LR			
	comp=Z,2µm,15.9s								
KSH				LR		LR			
	comp=Z,3µm,16.6s								
CHKK	**Chushkaly**	**41.42**	**309**	*e*P		**P**	**13 16 43.3**	**-1.4**	
	baz=310								
ULHL	**Ulahol**	**41.62**	**307**	P		**P**	**13 16 47.5**	**+0.9**	
	SNR=19								
MTBS	**Maitube**	**41.66**	**308**	*e*P		**P**	**13 16 45.6**	**-1.1**	
	baz=308								
MTBS				*e*S		**S**	**13 23 02.0**	**-0.5**	
	baz=308								
H11N1	**WAKE ISLAND Hy**	**41.85**	**87**	T		T	14 02 13.5		
	baz=282								
H11N2	**WAKE ISLAND Hy**	**41.86**	**87**	T		T	14 02 18.5		
	baz=282,slow=74,SNR=19								
H11N3	**WAKE ISLAND Hy**	**41.87**	**87**	T		T	14 02 08.9		
	baz=282,slow=74,SNR=17								
BOOM	**Boomskoye usch**	**41.88**	**307**	P		**P**	**13 16 48.5**	**-0.2**	
BOOM				pmax		pmax			
	comp=Z,27nm,1.5s								
BOOM	**Boomskoye usch**	**41.88**	**307**	P		**P**	**13 16 48.5**	**-0.2**	
KUU	**Kurty**	**41.88**	**309**	⇑*i*P		**P**	**13 16 48.7**	**+0.1**	
	comp=Z,100nm,1.7s,baz=309								
KUU	**Kurty**	**41.88**	**309**	*c i*P		**P**	**13 16 48.6**	**+0.1**	
KUU				pmax		pmax			
	comp=Z,101nm,1.7s								
H11S3	**WAKE ISLAND Hy**	**41.99**	**89**	T		T	14 02 14.0		
	baz=284,slow=74,SNR=48								
H11S1	**WAKE ISLAND Hy**	**42.00**	**89**	T		T	14 02 14.6		
	baz=284,slow=74,SNR=22								
H11S2	**WAKE ISLAND Hy**	**42.01**	**89**	T		T	14 02 15.5		
	baz=284,slow=74,SNR=26								
TKM2	**Tokmak 2**	**42.22**	**308**	P		**P**	**13 16 52.4**	**+0.9**	
	SNR=36								
TKM2	**Tokmak 2**	**42.22**	**308**	*i* P		**P**	**13 16 51.7**	**+0.2**	
TKM2				pmax		pmax			
	comp=Z,57nm,1.2s								
FITZ	**Fitzroy Crossi**	**42.26**	**175**	P		**P**	**13 16 50.6**	**-1.0**	
KZA	**Kyzart**	**42.32**	**307**	P		**P**	**13 16 54.1**	**+1.6**	
	SNR=24								
KURBB	**Kurchatov Arra**	**42.46**	**320**	P		**P**	**13 16 51.6**	**-1.4**	
KBK	**Karagaybulak**	**42.64**	**307**	P		**P**	**13 16 56.1**	**+1.2**	
	SNR=13								
CHMS	**Chumysh**	**42.84**	**308**	P		**P**	**13 16 57.6**	**+1.2**	
	SNR=9.0								
PALK	**Pallekele**	**42.86**	**254**	P		**P**	**13 16 57.8**	**+1.0**	
	comp=Z,40nm,1.3s								
UCH	**Uchtor**	**42.88**	**307**	P		**P**	**13 16 58.7**	**+1.5**	
	SNR=58								
AAK	**Ala-Archa**	**42.96**	**307**	P		**P**	**13 16 58.4**	**+0.9**	
	SNR=8.3								
AAK	**Ala-Archa**	**42.96**	**307**	*ce*P		**P**	**13 16 58.0**	**+0.5**	
AAK				pmax		pmax			
	comp=Z,91nm,1.7s								
AAK	**Ala-Archa**	**42.96**	**307**	P		**P**	**13 16 56.5**	**-1.0**	
SGDS	**Sogindy**	**43.01**	**308**	⇑*i*P		**P**	**13 16 56.8**	**-0.9**	
	baz=308								
SGDS				*e*S		**S**	**13 23 22.3**	**-0.1**	
	baz=308								
SGDS	**Sogindy**	**43.01**	**308**	*e*P		**P**	**13 16 58.2**	**+0.4**	
USP	**Ospenovka**	**43.07**	**308**	P		**P**	**13 16 59.4**	**+1.1**	
	SNR=8.7								
NIL	**Nilore**	**43.23**	**294**	P		**P**	**13 16 59.1**	**-0.5**	
NIL				pmax		pmax			
	comp=Z,96nm,1.5s								
NIL	**Nilore**	**43.23**	**294**	P		**P**	**13 16 59.1**	**-0.5**	
NIL				IAmb		IAmb	13 17 01.2		
	comp=Z,96nm,1.4s								
COEN	**Coen**	**43.31**	**149**	P		**P**	**13 17 00.8**	**+0.6**	
AML	**Almayashu**	**43.47**	**306**	P		**P**	**13 17 03.1**	**+1.2**	
	SNR=28								
AML	**Almayashu**	**43.47**	**306**	P		**P**	**13 17 02.5**	**+0.6**	
EKS2	**Erkin-Say**	**43.49**	**307**	P		**P**	**13 17 02.7**	**+1.0**	
	SNR=14								
BTLS	**Baital**	**43.73**	**311**	⇑*i*P		**P**	**13 17 03.2**	**-0.2**	
	comp=Z,38nm,1.9s,baz=311								
BTLS				*e*S		**S**	**13 23 32.3**	**-0.6**	
	baz=311								
BTLS	**Baital**	**43.73**	**311**	*c i*P		**P**	**13 17 03.2**	**-0.2**	
BTLS				*e*S		**S**	**13 23 32.2**	**-0.6**	
BTLS				pmax		pmax			
	comp=Z,38nm,1.9s								
POO	**Poona**	**44.91**	**272**	*e*P		**P**	**13 17 12.0**	**-1.3**	
DZA	**Taraz**	**45.30**	**307**	*e*P		**P**	**13 17 15.9**	**-0.2**	
	baz=307								
DZA	**Taraz**	**45.30**	**307**	*e*P		**P**	**13 17 15.9**	**-0.2**	
BTK	**Batken**	**45.39**	**303**	P		**P**	**13 17 16.7**	**-0.2**	
BTK				pmax		pmax			
	comp=Z,90nm,1.5s								
BTK	**Batken**	**45.39**	**303**	P		**P**	**13 17 16.7**	**-0.2**	
WRAB	**Tennant Creek**	**45.57**	**163**	*c i*P		**P**	**13 17 19.5**	**+1.2**	
WRAB	**Tennant Creek**	**45.57**	**163**	P		**P**	**13 17 17.9**	**-0.4**	
WRAB				IAmb		IAmb	13 17 33.3		
	comp=Z,35nm,0.9s								
WRA	**Warramunga Arr**	**45.58**	**163**	P		**P**	**13 17 18.2**	**-0.2**	
	comp=Z,9.8nm,0.8s,baz=344,slow=8.1,SNR=46								
WRA				S		**S**	**13 23 57.0**	**-3.0**	
	comp=Z,1.0nm,1.1s,baz=344,slow=12,SNR=2.3								
WRA	**Warramunga Arr**	**45.58**	**163**	P		**P**	**13 17 18.0**	**-0.4**	
WRA				S		**S**	**13 23 57.0**	**-3.0**	
WRA				pmax		pmax			
	comp=Z,3.0nm,1.2s								
WRA	**Warramunga Arr**	**45.58**	**163**	P		**P**	**13 17 18.0**	**-0.4**	
WB2	**Warramunga Arr**	**45.58**	**163**	P		**P**	**13 17 17.3**	**-1.1**	
WB2				IAmb		IAmb	13 17 33.3		
	comp=Z,36nm,0.9s								
OTUK	**Ortayu**	**45.59**	**315**	P		**P**	**13 17 17.6**	**-0.7**	
PSA00	**Pilbara Seismi**	**45.60**	**183**	P		**P**	**13 17 16.9**	**-1.6**	
PSA00	**Pilbara Seismi**	**45.60**	**183**	P		**P**	**13 17 16.7**	**-1.7**	
PSA00				IAmb		IAmb	13 17 21.7		
	comp=Z,29nm,1.1s								
WR0	**Warramunga Arr**	**45.65**	**163**	P		**P**	**13 17 18.2**	**-0.7**	
WR0				IAmb		IAmb	13 17 37.3		
	comp=Z,30nm,0.8s								
GAR	**Garm**	**45.71**	**302**	P		**P**	**13 17 19.1**	**-0.4**	
BRZS	**Berezniki**	**45.81**	**317**	⇑*i*P		**P**	**13 17 19.5**	**-0.4**	
	comp=Z,21nm,1.7s,baz=317								
BRZS	**Berezniki**	**45.81**	**317**	*c i*P		**P**	**13 17 19.5**	**-0.4**	
BRZS				pmax		pmax			
	comp=Z,21nm,1.7s								
KK31	**Karatay Array**	**45.93**	**307**	*i* P		**P**	**13 17 21.2**	**+0.2**	
KK31	**Karatay Array**	**45.93**	**307**	P		**P**	**13 17 20.9**	**-0.2**	
KK31				IAmb		IAmb	13 17 22.9		
	comp=Z,40nm,1.2s								
KKAR	**Karatay Array**	**45.93**	**307**	P		**P**	**13 17 20.9**	**-0.1**	
KKAR				pmax		pmax			
	comp=Z,40nm,1.3s								
KKAR	**Karatay Array**	**45.93**	**307**	P		**P**	**13 17 20.9**	**-0.1**	
KKAR				IAmb		IAmb	13 17 22.9		
	comp=Z,40nm,1.2s								
IUG	**Iuzhnay**	**46.17**	**306**	⇑*i*P		**P**	**13 17 23.6**	**+0.5**	
	baz=306								
IUG	**Iuzhnay**	**46.17**	**306**	*c i*P		**P**	**13 17 23.5**	**+0.5**	
CHGR	**Chuyangaron**	**46.60**	**301**	P		**P**	**13 17 25.8**	**-0.7**	
KBL	**Kabul**	**46.70**	**295**	P		**P**	**13 17 27.2**	**-0.2**	
KBL				pmax		pmax			
	comp=Z,172nm,1.3s								
KBL	**Kabul**	**46.70**	**295**	P		**P**	**13 17 27.2**	**-0.2**	
KBL	**Kabul**	**46.70**	**295**	P		**P**	**13 17 29.0**	**+1.5**	
	SNR=55								
GIRL	**Giralia**	**47.21**	**190**	P		**P**	**13 17 30.8**	**-0.3**	
TIXI	**Tiksi**	**47.59**	**3**	*d i*P		**P**	**13 17 32.6**	**-0.9**	
TIXI	**Tiksi**	**47.59**	**3**	P		**P**	**13 17 32.9**	**-0.6**	
BRVK	**Borovoye**	**48.09**	**321**	*c i*P		**P**	**13 17 37.2**	**-0.5**	
BRVK				pmax		pmax			
	comp=Z,23nm,0.8s								
BRVK	**Borovoye**	**48.09**	**321**	P		**P**	**13 17 37.1**	**-0.5**	
BRVK				IAmb		IAmb	13 17 47.3		
	comp=Z,25nm,0.9s								
AS31	**Alice Springs**	**49.05**	**165**	P		**P**	**13 17 45.1**	**-0.3**	
ASAR	**Alice Springs**	**49.05**	**165**	P		**P**	**13 17 45.5**	**+0.1**	
	comp=Z,5.8nm,0.8s,baz=341,slow=6.2,SNR=25								
ASAR				S		**S**	**13 24 49.6**	**+0.2**	
	comp=Z,0.7nm,1.1s,baz=348,slow=18,SNR=1.7								
ASAR				LR		LR	13 38 51.3		
	comp=Z,208nm,21.1s,baz=357,slow=36								
ASAR	**Alice Springs**	**49.05**	**165**	P		**P**	**13 17 45.0**	**-0.4**	
CTAO	**Charters Tower**	**50.07**	**150**	P		**P**	**13 17 53.7**	**+0.5**	
CTAO				pmax		pmax			
	comp=Z,30nm,1.0s								
CTAO	**Charters Tower**	**50.07**	**150**	P		**P**	**13 17 53.7**	**+0.5**	
CTAO				IAmb		IAmb	13 17 59.5		
	comp=Z,30nm,1.0s								
AMKA	**Amchitka**	**51.22**	**43**	P		**P**	**13 17 59.6**	**-2.0**	
BILL	**Bilibino**	**51.40**	**20**	⇑*e*P		**P**	**13 18 03.7**	**+1.0**	
BILL				*e*			13 19 20.9		
BILL				*e*			13 20 04.5		
BILL				pmax		pmax			
	comp=Z,8.0nm,0.5s								
BILL				MLR		MLR			
	comp=Z,492nm,17.0s								
BILL	**Bilibino**	**51.40**	**20**	P		**P**	**13 18 03.6**	**+0.9**	
HRA	**Herat**	**52.31**	**296**	P		**P**	**13 18 09.8**	**-0.5**	
HRA				IAmb		IAmb	13 18 12.0		
	comp=Z,53nm,1.2s								
MORW	**Morawa**	**53.31**	**186**	P		**P**	**13 18 16.3**	**-1.0**	
AB31	**Akbulak array**	**53.84**	**314**	P		**P**	**13 18 20.7**	**-0.3**	
ABKAR	**Akbulak array**	**53.84**	**314**	P		**P**	**13 18 20.6**	**-0.4**	
SVE	**Sverdlovsk**	**54.36**	**324**	⇓*e*P		**P**	**13 18 24.0**	**-0.7**	
SVE				pmax		pmax			
	com

comp=Z,64nm,1.2s
DZM Mont Dzumac 63.22 133 *e*P **P 13 19 27.6 +0.7**
comp=Z,62nm,1.2s
DZM *e*S **S 13 27 56.5 -1.4**
comp=Z,369nm,28.3s
DZM Mont Dzumac 63.22 133 *e*LR LR 13 38 09.9
comp=Z,1µm,24.9s
SDPT Sand Point 63.46 39 P **P 13 19 27.9 0.0**
baz=275
OUENC Ouen Island, N 63.73 133 P **P 13 19 30.2 +0.1**
OUENC IAmb IAmb 13 19 36.2
comp=Z,23nm,0.9s
CHNA Chernabura Isl 64.01 39 P **P 13 19 31.3 -0.2**
baz=276
CNBA Chernabura Isl 64.02 39 P **P 13 19 31.7 +0.1**
CHGN Chignik 64.53 37 P **P 13 19 35.4 +0.5**
CHGN IAmb IAmb 13 19 58.8
comp=Z,31nm,1.1s
CAN Canberra 64.59 156 P **P 13 19 35.8 +0.3**
CAN pmax pmax
comp=Z,21nm,1.1s
CAN Canberra 64.59 156 P **P 13 19 35.8 +0.3**
CAN IAmb IAmb 13 19 52.0
comp=Z,21nm,1.1s
GNI Garni 65.28 305 P **P 13 19 41.5 +1.2**
GNI Garni 65.28 305 *e*P **P 13 19 40.8 +0.5**
GNI Garni 65.28 305 *c i*P **P 13 19 40.8 +0.5**
GNI pmax pmax
comp=Z,115nm,1.7s
GNI Garni 65.28 305 P **P 13 19 39.0 -1.4**
UMR Umm Al-Rimmam 65.32 293 *e*P **P 13 19 40.0 -0.6**
QRN Al-Qurain 65.36 292 *e*P **P 13 19 40.4 -0.4**
ZEI Tsey 65.38 308 *e*P **P 13 19 38.9 -2.1**
ZEI pmax pmax
comp=Z,30nm,1.4s
TOO Toolangi 65.39 160 P **P 13 19 40.4 -0.3**
TOO pmax pmax
comp=Z,39nm,1.3s
TOO Toolangi 65.39 160 P **P 13 19 40.4 -0.3**
TOO IAmb IAmb 13 20 01.2
comp=Z,39nm,1.3s
VRH Novokhopyorsk 65.43 317 *e*P **P 13 19 39.8 -1.1**
VRH pmax pmax
comp=Z,70nm,1.1s
KBD Kabd 65.43 292 *e*P **P 13 19 40.7 -0.6**
KLMR Klimovskoe 65.44 328 *c i*P **P 13 19 39.3 -1.4**
KLMR S **S 13 28 27.5 +3.4**
KLMR pmax pmax
comp=Z,65nm,1.2s
KLMR MLR MLR
comp=Z,1µm,16.0s
KLMR Klimovskoe 65.44 328 ⇑ *i*P **P 13 19 39.4 -1.3**
KLMR *e*P **P 13 19 39.4 -1.3**
KLMR *e*P **P 13 19 39.4 -1.3**
KLMR AMP 13 19 46.7
comp=Z,65nm,1.2s
KLMR S **S 13 28 27.6 +3.4**
KLMR S **S 13 28 27.6 +3.4**
KLMR LR LR 13 44 26.4
KLMR AMP 13 51 03.2
comp=Z,1µm,15.6s
SVW2 Sparrevohn 65.50 32 P **P 13 19 41.5 +0.3**
GOF Gofitskoye 65.57 310 ⇑ *e*P **P 13 19 42.7 +0.8**
GOF *e*S **S 13 28 29.6 +3.2**
GOF pmax pmax
comp=Z,63nm,0.8s
RDF Al-Radifah 65.62 292 *e*P **P 13 19 42.0 -0.6**
L19K White Mountain 65.73 31 P **P 13 19 42.7 -0.1**
L19K IAmb IAmb 13 19 47.8
comp=Z,15nm,0.9s
L19K White Mountain 65.73 31 P **P 13 19 41.7 -1.0**
baz=276,SNR=8.5
ONI Oni 65.75 307 P **P 13 19 42.6 -0.6**
ONI pmax pmax
comp=Z,76nm,1.1s
ONI Oni 65.75 307 P **P 13 19 42.6 -0.6**
O18K Koktuh Hills 65.83 33 P **P 13 19 43.0 -0.3**
O18K IAmb IAmb 13 19 48.3
comp=Z,22nm,0.8s
O18K Koktuh Hills 65.83 33 P **P 13 19 42.3 -1.1**
baz=277
IMAR Indian Mountai 65.84 27 P **P 13 19 43.1 -0.2**
J20K Nowinta River 65.85 29 P **P 13 19 43.1 -0.2**
J20K Nowinta River 65.85 29 P **P 13 19 42.6 -0.7**
baz=276,SNR=8.7
KBZ Khabaz 65.92 309 P **P 13 19 44.4 +0.2**
comp=Z,32nm,1.0s,baz=77,slow=7.6,SNR=43
KBZ LR LR 13 53 33.8
comp=Z,683nm,18.0s,baz=77,slow=41
KBZ Khabaz 65.92 309 *c i*P **P 13 19 44.0 -0.2**
KBZ pmax pmax
comp=Z,64nm,1.1s
RST Umm Al-Ruwaisa 65.94 293 *e*P **P 13 19 43.2 -1.3**
AKH Akhalkalaki 65.95 306 ⇑P **P 13 19 46.2 +1.5**
K20K Telida 65.97 29 P **P 13 19 44.0 -0.1**
K20K IAmb IAmb 13 19 52.3
comp=Z,15nm,0.9s
K20K Telida 65.97 29 P **P 13 19 43.4 -0.8**
baz=276
M19K Big River Lodg 65.98 31 P **P 13 19 44.5 +0.3**
M19K IAmb IAmb 13 19 57.1
comp=Z,15nm,1.1s
KIV Kislovodsk 66.03 309 *e*P **P 13 19 45.3 +0.3**
KIV *e*S **S 13 28 32.2 0.0**
KIV *e*SS **SS 13 32 48.4 +1.1**
KIV pmax pmax
comp=Z,89nm,1.0s
KIV pmax pmax
comp=Z,13nm,3.0s
KIV MLR MLR
comp=Z,352nm,17.0s
KIV Kislovodsk 66.03 309 P **P 13 19 44.4 -0.6**
N19K Bonanza Creek 66.07 32 P **P 13 19 44.2 -0.7**
N19K Bonanza Creek 66.07 32 P **P 13 19 43.8 -1.1**
baz=277
CHIR Chirikof Islan 66.14 38 P **P 13 19 44.4 -0.9**
baz=278
NEY Neytrino 66.14 308 ⇑ *e*P **P 13 19 46.6 +0.7**
NEY pmax pmax
comp=Z,6.0nm,0.8s
L20K Farewell, AK 66.15 30 P **P 13 19 44.5 -0.9**
baz=277
O19K Port Alsworth 66.23 33 P **P 13 19 46.2 +0.3**
H21K Melozitna Rive 66.26 27 P **P 13 19 45.7 -0.3**
H21K IAmb IAmb 13 19 50.4
comp=Z,19nm,0.9s
H21K Melozitna Rive 66.26 27 P **P 13 19 45.4 -0.6**
baz=276,SNR=20
I21K Tanana 66.66 27 P **P 13 19 48.8 +0.3**
I21K IAmb IAmb 13 19 56.6
comp=Z,20nm,1.1s
I21K Tanana 66.66 27 P **P 13 19 47.9 -0.6**
baz=277,SNR=10
CHUM Lake Minchumin 66.68 29 P **P 13 19 48.4 -0.3**
baz=278
CHVG Ch'k'valeri 66.71 308 ⇑P **P 13 19 50.6 +1.3**
LVZ Lovozero 66.74 336 *ce*P **P 13 19 47.6 -1.5**
LVZ pmax pmax
comp=Z,29nm,2.5s
LVZ Lovozero 66.74 336 P **P 13 19 49.4 +0.3**
LVZ IAmb IAmb 13 20 02.6
comp=Z,13nm,0.8s
SII Sitkinak Islan 66.83 37 P **P 13 19 49.2 -0.5**
baz=279
CAST Castle Rocks 66.85 29 P **P 13 19 49.4 -0.4**
CAST IAmb IAmb 13 19 57.5
comp=Z,22nm,1.2s
P19K Oil Pt 66.85 33 P **P 13 19 49.4 -0.5**
baz=279
RSO Redoubt South 66.96 32 P **P 13 19 52.5 +1.7**
VORD Divnogorie 66.98 317 *e*P **P 13 19 49.6 -1.2**
VORD pmax pmax
comp=Z,20nm,1.1s
COLD Coldfoot 67.10 25 P **P 13 19 51.7 +0.4**
COLD Coldfoot 67.10 25 P **P 13 19 50.8 -0.5**
baz=278
SPCR Spurr Chakacha 67.11 32 P **P 13 19 51.0 -0.6**
baz=279
MOS Moscow 67.13 322 *e*P **P 13 19 49.5 -2.2**
MOS *e* 13 20 17.5
MOS *e* 13 22 16.1
MOS *e*S **S 13 28 42.5 -2.4**
MOS pmax pmax
comp=Z,64nm,1.2s
MOS MLR MLR
comp=Z,900nm,17.0s
TOLK Toolik Lake Re 67.13 23 P **P 13 19 51.4 -0.2**
TOLK IAmb IAmb 13 20 00.1
comp=Z,11nm,0.7s
TOLK Toolik Lake Re 67.13 23 P **P 13 19 51.5 -0.1**
baz=278
SPU Mount Spurr 67.19 32 P **P 13 19 51.6 -0.5**
MLY Manley 67.20 27 P **P 13 19 51.4 -0.6**
MLY IAmb IAmb 13 19 59.8
comp=Z,16nm,1.0s
MLY Manley 67.20 27 P **P 13 19 51.9 -0.2**
baz=278,SNR=18
OHAK Old Harbor 67.20 36 P **P 13 19 51.4 -0.7**
OHAK IAmb IAmb 13 19 57.2
comp=Z,26nm,1.0s
OHAK Old Harbor 67.20 36 P **P 13 19 51.7 -0.4**
baz=280
BPAW Bear Paw Mtn. 67.23 28 P **P 13 19 51.7 -0.6**
BPAW IAmb IAmb 13 19 55.8
comp=Z,20nm,1.3s
BPAW Bear Paw Mtn. 67.23 28 P **P 13 19 52.1 -0.1**
baz=279
BATM Batumi 67.23 307 ⇑P **P 13 19 53.8 +1.2**
APA Apatity 67.25 335 ⇓ *i*P **P 13 19 48.8 -3.5**
APA pmax pmax
comp=Z,10.0nm,0.9s
APA MLR MLR
comp=Z,1µm,15.0s
SKT Skwentna 67.31 31 P **P 13 19 51.6 -1.2**
SKT Skwentna 67.31 31 P **P 13 19 52.4 -0.4**
baz=279
BCA Borcka 67.32 307 ⇑P **P 13 19 53.7 +0.5**
KTH Kantishna Hill 67.34 29 P **P 13 19 52.6 -0.4**
KDAK Kodiak Island 67.48 35 P **P 13 19 53.1 -0.8**
KDAK pmax pmax
comp=Z,21nm,0.9s
KDAK Kodiak Island 67.48 35 P **P 13 19 53.0 -0.8**
KDAK IAmb IAmb 13 20 00.8
comp=Z,21nm,0.8s
H23K Yukon River 67.57 26 P **P 13 19 54.6 +0.2**
H23K Yukon River 67.57 26 P **P 13 19 54.4 0.0**
baz=279,SNR=24
HOM Homer 67.64 33 P **P 13 19 54.0 -0.8**
baz=280
GURO Guroymak-BITLI 67.68 303 P **P 13 19 55.6 -0.1**
GURO IAmb IAmb 13 19 57.7
comp=Z,38nm,1.2s
I23K Minto, Yukon-K 67.75 27 P **P 13 19 55.7 +0.2**
I23K IAmb IAmb 13 19 59.7
comp=Z,22nm,1.4s
I23K Minto, Yukon-K 67.75 27 P **P 13 19 55.9 +0.4**
baz=280,SNR=6.4
SUA Susitna One 67.77 31 P **P 13 19 54.7 -1.1**
SUA IAmb IAmb 13 20 14.2
comp=Z,29nm,1.0s
SUA Susitna One 67.77 31 P **P 13 19 54.9 -0.9**
baz=280,SNR=5.7
CUT Chulitna 67.83 30 P **P 13 19 55.2 -0.8**
baz=280
OBN Obninsk 67.83 322 *c i*P **P 13 19 54.9 -1.2**
OBN *e* 13 20 22.9
OBN *e* 13 22 22.9
OBN *i*S **S 13 28 59.2 +5.9**
OBN pmax pmax
comp=Z,76nm,1.7s
OBN MLR MLR
comp=Z,730nm,18.0s
CNPM China Poot 67.87 33 P **P 13 19 55.6 -0.8**
CNPM IAmb IAmb 13 20 01.1
comp=Z,16nm,0.9s
NEA2 Nenana 67.97 28 P **P 13 19 56.5 -0.4**
NEA2 IAmb IAmb 13 20 04.2
comp=Z,36nm,1.3s
NEA2 Nenana 67.97 28 P **P 13 19 55.8 -1.1**
baz=280,SNR=21
BRLK Bradley Lake 68.00 33 P **P 13 19 56.8 -0.4**
BRLK IAmb IAmb 13 20 10.0
comp=Z,21nm,0.8s
CHOM Cayeli-Rize 68.03 306 *e*P **P 13 19 57.3 -0.4**
BRSE Bradley Lake S 68.08 33 P **P 13 19 56.8 -0.9**
baz=281
MCK McKinley 68.19 29 P **P 13 19 57.4 -0.9**
MCK pmax pmax
comp=Z,20nm,1.0s
MCK McKinley 68.19 29 P **P 13 19 57.4 -0.9**
MCK IAmb IAmb 13 20 10.6
comp=Z,20nm,1.0s
MCK McKinley 68.19 29 P **P 13 19 57.1 -1.2**
baz=281,SNR=6.7
SOC Sochi 68.21 309 *c i*P **P 13 19 56.9 -1.9**
SOC *e* 13 22 23.1
SOC *e*PPP PPP 13 24 02.5
SOC *e*S **S 13 28 56.3 -2.0**
SOC *e*SS **SS 13 33 14.7 -6.2**
SOC pmax pmax
comp=Z,28nm,1.0s
SOC MLR MLR
comp=Z,469nm,18.0s
H24K Noodor Dome 68.24 26 P **P 13 19 58.3 -0.3**
H24K IAmb IAmb 13 20 15.4
comp=Z,17nm,0.9s
H24K Noodor Dome 68.24 26 P **P 13 19 57.4 -1.2**
baz=281,SNR=10
MDM Murphy Dome 68.26 27 P **P 13 19 58.0 -0.8**
RND Reindeer 68.28 29 P **P 13 19 57.7 -1.3**
RND pmax pmax
comp=Z,32nm,1.0s
RND Reindeer 68.28 29 P **P 13 19 57.7 -1.3**
RND IAmb IAmb 13 20 05.5
comp=Z,32nm,1.0s
RC01 Rabbit Creek A 68.31 32 P **P 13 19 58.4 -0.7**
RC01 Rabbit Creek A 68.31 32 P **P 13 19 58.5 -0.6**
baz=281
WRH Wood River Hil 68.41 28 P **P 13 19 58.7 -1.0**
WRH IAmb IAmb 13 20 08.2
comp=Z,18nm,1.2s
TCOL CIGO_UAF Yank 68.43 27 P **P 13 19 59.0 -0.8**
baz=281
COLA College 68.44 27 P **P 13 19 59.2 -0.5**
baz=281
O22K Cooper Landing 68.44 32 P **P 13 19 59.3 -0.5**
O22K Cooper Landing 68.44 32 P **P 13 19 58.7 -1.1**
baz=281
CCB Clear Creek Bu 68.50 28 P **P 13 19 59.2 -1.0**
PMR Palmer 68.50 31 P **P 13 19 59.1 -1.1**
PMR pmax pmax
comp=Z,10.0nm,0.8s
PMR Palmer 68.50 31 P **P 13 19 59.1 -1.1**
PMR Palmer 68.50 31 P **P 13 19 59.2 -1.0**
baz=281
POKR Poker Plat Res 68.56 27 P **P 13 19 59.3 -1.3**
baz=281
BNGB Bingl 68.60 304 *e*P **P 13 20 02.1 +0.7**
SEW Seward 68.64 33 P **P 13 20 00.2 -0.9**
SEW Seward 68.64 33 P **P 13 20 00.2 -0.9**
baz=282
SML Sawmill 68.83 31 P **P 13 20 01.5 -0.9**
SML IAmb IAmb 13 20 13.3
comp=Z,14nm,0.8s
SML Sawmill 68.83 31 P **P 13 20 01.7 -0.7**
baz=282
KNK Knik Glacier 68.86 31 P **P 13 20 01.4 -1.1**
KNK IAmb IAmb 13 20 14.7
comp=Z,32nm,1.2s
KNK Knik Glacier 68.86 31 P **P 13 20 01.5 -1.0**
baz=282
IL31 68.86 27 P **P 13 20 02.6 +0.3**
ILAR Eielson Array 68.86 27 P **P 13 20 02.8 +0.4**
comp=Z,2.3nm,0.5s,baz=282,slow=6.7,SNR=26
ILAR LR LR 13 53 32.8
comp=Z,147nm,18.1s,baz=286,slow=39
ILAR Eielson Array 68.86 27 P **P 13 20 01.7 -0.8**
ILAR Eielson Array 68.86 27 P **P 13 20 01.7 -0.8**
MSVF Nonsavu 68.87 122 P **P 13 20 04.4 +1.1**
comp=Z,14nm,1.0s,baz=249,slow=8.6,SNR=2.9
HDA Harding Lake 68.91 28 P **P 13 20 01.2 -1.5**
HDA IAmb IAmb 13 20 14.2
comp=Z,14nm,1.0s
HDA Harding Lake 68.91 28 P **P 13 20 01.6 -1.2**
baz=282,SNR=10
WAT6 Susitna Watana 68.94 30 P **P 13 20 01.6 -1.6**
baz=282
DHY Denali Highway 69.00 29 P **P 13 20 01.4 -2.1**
DHY Denali Highway 69.00 29 P **P 13 20 01.9 -1.7**
baz=282
PWL Port Wells 69.03 32 P **P 13 20 01.7 -1.9**
PWL IAmb IAmb 13 20 10.0
comp=Z,38nm,1.2s
KEV Kevo 69.14 338 P **P 13 20 04.0 -0.1**
KEV pmax pmax
comp=Z,21nm,0.9s
KEV Kevo 69.14 338 P **P 13 20 04.0 -0.1**
KEV IAmb IAmb 13 20 16.3
comp=Z,21nm,0.9s
BMAR Burnt Mountain 69.20 24 P **P 13 20 04.7 +0.1**
SCM Sheep Creek Mo 69.29 30 P **P 13 20 04.5 -0.8**
SCM pmax pmax
comp=Z,33nm,0.9s
SCM Sheep Creek Mo 69.29 30 P **P 13 20 04.5 -0.8**
ANN Anapa 69.52 311 *e*P **P 13 20 06.1 -0.8**
ANN *e**PP **pP 13 20 12.2 -0.7**
ANN *e*S **S 13 29 13.0 -0.7**
ANN pmax pmax
comp=Z,124nm,1.1s
ANN MLR MLR
comp=Z,586nm,18.0s
J25K Salcha River, 69.53 27 P **P 13 20 05.4 -1.2**
baz=283
SPB2 Spitsbergen Ar 69.55 348 P **P 13 20 05.9 -0.6**
SPITS Spitsbergen Ar 69.55 348 P **P 13 20 05.5 -1.0**
SPITS pmax pmax
comp=Z,40nm,1.2s
PTK Pertek 69.59 304 *e*P P 13 20 19.3 +12
GLI Glacier Island 69.62 31 P **P 13 20 06.3 -0.9**
ARCES ARCESS Array B 69.71 338 P **P 13 20 07.7 0.0**
comp=Z,5.1nm,1.0s,baz=55,slow=5.7,SNR=9.0
ARCES LR LR 13 54 14.3
comp=Z,406nm,18.2s,baz=35,slow=39
ARCES ARCESS Array B 69.71 338 P **P 13 20 06.7 -0.9**
ARCES pmax pmax
comp=Z,13nm,1.0s
ARCES ARCESS Array B 69.71 338 P **P 13 20 06.7 -0.9**
M24K Tolsona, Glenn 69.76 30 P **P 13 20 08.1 -0.1**
M24K Tolsona, Glenn 69.76 30 P **P 13 20 06.8 -1.4**
baz=284
SVRC Sivrice-ELAZID 69.79 304 *e*P **P 13 20 09.4 +0.5**
PAX Paxson 69.88 29 P **P 13 20 08.7 -0.1**
PAX pmax pmax
comp=Z,12nm,1.0s
PAX Paxson 69.88 29 P **P 13 20 08.7 -0.1**
PAX Paxson 69.88 29 P **P 13 20 08.1 -0.7**
baz=284
FID Port Fidalgo 69.94 32 P **P 13 20 09.3 +0.1**
RIDG Independent Ri 69.96 28 P **P 13 20 08.2 -1.1**
RIDG IAmb IAmb 13 20 15.8
comp=Z,36nm,1.4s
RIDG Independent Ri 69.96 28 P **P 13 20 08.1 -1.3**
baz=284,SNR=7.9
HIN Hinchinbrook I 70.02 32 P **P 13 20 08.4 -1.3**
KLU Klutina 70.03 31 P **P 13 20 08.4 -1.4**
KLU IAmb IAmb 13 20 34.6
comp=Z,16nm,1.0s
KLU Klutina 70.03 31 P **P 13 20 08.7 -1.1**
baz=284
HARP HAARP 70.15 30 P **P 13 20 09.2 -1.3**
baz=284
DIV Divide 70.18 31 P **P 13 20 10.5 -0.3**
DIV IAmb IAmb 13 20 17.9
comp=Z,18nm,1.0s
SCRK Sand Creek 70.27 28 P **P 13 20 10.2 -1.1**
SCRK Sand Creek 70.27 28 P **P 13 20 10.5 -0.8**
baz=285
DOT Dot Lake 70.32 28 P **P 13 20 10.4 -1.1**
DOT IAmb IAmb 13 20 17.9
comp=Z,23nm,1.3s
ARPR Arapgir-MALATY 70.33 305 *e*P **P 13 20 12.7 +0.5**
URFA Urfa 70.42 303 *e*P **P 13 20 13.1 +0.5**
N25K Chitina, Valde 70.61 30 P **P 13 20 13.3 -0.1**
N25K IAmb IAmb 13 20 22.6
comp=Z,19nm,1.2s
N25K Chitina, Valde 70.61 30 P **P 13 20 12.6 -0.8**
baz=285
MENT Mentasta 70.66 29 P **P 13 20 13.5 -0.1**
MENT IAmb IAmb 13 20 22.4
comp=Z,21nm,1.0s
BMRM Bremner River 70.78 31 P **P 13 20 13.6 -0.8**
BMRM IAmb IAmb 13 20 24.6
comp=Z,18nm,0.9s
BMRM Bremner River 70.78 31 P **P 13 20 13.5 -0.8**
baz=285
L26K Log Cabin Wild 70.80 29 P **P 13 20 14.7 +0.3**
L26K Log Cabin Wild 70.80 29 P **P 13 20 13.6 -0.8**
baz=286
GLB Gilahina Butte 71.02 30 P **P 13 20 15.4 -0.5**
GLB IAmb IAmb 13 20 23.1
comp=Z,18nm,0.9s
SVSK Karacayir 71.11 306 *e*P **P 13 20 17.3 +0.7**
DARE Darende-Malaty 71.12 304 *e*P **P 13 20 17.4 +0.5**
M26K Nabesna, AK 71.12 29 P **P 13 20 15.9 -0.6**
M26K IAmb IAmb 13 20 24.3
comp=Z,22nm,0.8s
M26K Nabesna, AK 71.12 29 P **P 13 20 15.5 -1.0**
baz=286,SNR=18
EGAK Eagle 71.23 27 P **P 13 20 16.3 -0.7**
EGAK IAmb IAmb 13 20 26.2
comp=Z,14nm,0.9s
EGAK Eagle 71.23 27 P **P 13 20 15.8 -1.2**
baz=287
VRDI Verde Repeater 71.24 31 P **P 13 20 17.5 +0.1**
VRDI IAmb IAmb 13 20 24.4
comp=Z,15nm,1.0s
TOKT Tokat 71.33 306 *e*P **P 13 20 17.1 -1.0**
BERG Berg Lake 71.36 32 P **P 13 20 17.6 -0.2**
BERG IAmb IAmb 13 20 42.3
comp=Z,36nm,1.1s
MCARA McCarthy VSAT 71.40 30 P **P 13 20 17.1 -1.0**
baz=286
L27K Beaver Creek, 71.45 29 P **P 13 20 18.5 +0.1**
L27K IAmb IAmb 13 20 26.9
comp=Z,15nm,0.9s
L27K Beaver Creek, 71.45 29 P **P 13 20 17.3 -1.2**
baz=287,SNR=13
BCAR Beaver Creek A 71.47 29 P **P 13 20 18.7 +0.2**
KVT Kavak 71.48 307 *e*P **P 13 20 19.2 +0.2**
CRQM Cirque 71.52 31 P **P 13 20 18.9 -0.2**
CRQM IAmb IAmb 13 20 33.2
comp=Z,21nm,0.9s
CRQE Cirque 71.55 31 P **P 13 20 18.3 -0.8**
baz=287
M27K Edge Creek, AK 71.64 29 P **P 13 20 19.1 -0.6**
M27K Edge Creek, AK 71.64 29 P **P 13 20 18.8 -0.8**
baz=287
TGL Tana Glacier 71.67 31 P **P 13 20 18.9 -1.0**
TGL IAmb IAmb 13 20 27.3
comp=Z,21nm,1.0s
FIA1 FINESS Array S 71.70 330 P **P 13 20 19.2 -0.6**
FIA1 IAmb IAmb 13 20 26.0
comp=Z,26nm,0.9s
FINES FINESS Array B 71.70 330 P **P 13 20 19.3 -0.6**
comp=Z,8.8nm,0.7s,baz=72,slow=6.4,SNR=16
FINES LR LR 13 54 56.8
comp=Z,2µm,18.2s,baz=74,slow=38
FINES FINESS Array B 71.70 330 P **P 13 20 19.0 -0.8**
FINES FINESS Array B 71.70 330 P **P 13 20 19.0 -0.8**
GAZ Gaziantep 71.72 303 P **P 13 20 19.1 -1.5**
WAX Waxell Ridge 71.75 31 P **P 13 20 20.8 +0.5**
WAX IAmb IAmb 13 20 23.4
comp=Z,26nm,1.2s
SIM Simferopol' 71.76 312 *e*P **P 13 20 19.8 -0.7**
SIM *e* 13 20 32.0
SIM pmax pmax
comp=Z,58nm,1.0s
ISLE Juniper Island 71.94 31 P **P 13 20 21.9 +0.3**
ISLE IAmb IAmb 13 20 25.5
comp=Z,35nm,1.3s
SARI SarD1z-Kayseri 71.97 305 *e*P **P 13 20 22.2 +0.1**
BVCY Beaver Creek 72.07 29 P **P 13 20 21.9 -0.3**
baz=288
BARN Barnard Glacie 72.12 31 P **P 13 20 22.7 0.0**
BARN IAmb IAmb 13 20 28.2
comp=Z,15nm,0.8s
GRNC Granite Creek 72.18 31 P **P 13 20 22.5 -0.6**
DAWY Dawson 72.18 27 P **P 13 20 22.3 -0.5**
DAWY Dawson 72.18 27 P **P 13 20 22.1 -0.7**
baz=289
MESA MESA 72.26 31 P **P 13 20 24.2 +0.8**
MESA MESA 72.26 31 P **P 13 20 22.5 -0.9**
baz=288
BNN Bunyan 72.27 305 *e*P **P 13 20 23.9 0.0**
BNN Bunyan 72.27 305 P **P 13 20 23.2 -0.6**
VSU Vasula 72.27 327 *e*P **P 13 20 23.6 +0.3**

VSU Vasula 72.27 327*c* *i*P P 13 20 22.4 -0.9
VSU pmax pmax
comp=Z,86nm,1.2s
YAH Yahtse 72.30 31 P P 13 20 24.0 +0.3
YAH IAmb IAmb 13 20 40.3
comp=Z,27nm,1.4s
CTG Chitna Glacier 72.30 31 P P 13 20 23.4 -0.3
baz=288,SNR=10
CTGM Chitina Glacie 72.31 31 P P 13 20 24.0 +0.3
CTGM IAmb IAmb 13 20 33.2
comp=Z,31nm,0.9s
NOR Nord 72.33 354 *i*P P 13 20 26.9 +3.5
NOR IAmb IAmb 13 20 28.3
comp=Z,11nm,0.8s
YOZ Yozgat 72.42 306 *e*P P 13 20 24.6 -0.2
YUK3 Moose Creek 72.45 30 P P 13 20 23.8 -0.8
baz=288
EPYK Eagle Plains 72.48 24 P P 13 20 23.4 -1.1
EPYK IAmb IAmb 13 20 29.3
comp=Z,20nm,0.8s
EPYK Eagle Plains 72.48 24 P P 13 20 24.0 -0.5
baz=290
LOGN Logan Glacier 72.50 31 P P 13 20 24.9 0.0
LOGN IAmb IAmb 13 20 34.3
comp=Z,59nm,1.5s
TABL Table Mountain 72.56 31 P P 13 20 25.6 +0.3
TABL IAmb IAmb 13 20 48.5
comp=Z,33nm,1.2s
CORM Corum 72.77 307 *e*P P 13 20 27.1 +0.2
MNK Minsk 72.85 322 *i*P P 13 20 25.0 -1.9
MNK *i* 13 20 42.0
MNK *i* 13 23 06.7
MNK *i* PPP PPP 13 24 51.0
MNK *i* S S 13 29 50.4 -1.6
MNK *i* 13 30 30.1
MNK *i* SS SS 13 34 29.8 -1.8
MNK pmax pmax
comp=Z,31nm,1.2s
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=N,18nm,0.9s
MNK MLR MLR
comp=Z,764nm,14.0s
MNK MLR MLR
comp=E,112nm,19.0s
MNK MLR MLR
comp=N,297nm,15.0s
MNK Minsk 72.85 322 *i*P P 13 20 25.1 -1.8
comp=E,3.0nm,0.9s
MNK *i*P P 13 20 25.1 -1.8
comp=N,18nm,0.9s
MNK *i*P P 13 20 25.1 -1.8
comp=Z,31nm,1.2s,baz=72
MNK *i* PcP PcP 13 20 42.0 -1.9
MNK *i* PP PP 13 23 06.8 -1.9
MNK *i* PPP PPP 13 24 51.1
MNK *i* S S 13 29 50.5 -1.6
MNK *i* ScS SKSac 13 30 30.1 -1.2
MNK *i* SS SS 13 34 29.9 -1.7
MNK *i* SSS SSS 13 37 50.6
MNK *i* LQ LQ 13 47 29.5
MNK *i* LR LR 13 51 41.3
MNK *i* LRM MLR 13 55 03.9
comp=E,112nm,18.5s
MNK *i* LRM MLR 13 55 03.9
comp=Z,764nm,14.1s
MNK *i* LRM MLR 13 55 23.0
comp=N,297nm,14.7s
MEF Metsahovi 72.86 329 *e*P P 13 20 27.1 +0.3
INK Inuvik 72.92 22 P P 13 20 25.6 -1.4
INK pmax pmax
comp=Z,13nm,0.8s
INK Inuvik 72.92 22 P P 13 20 25.6 -1.4
INK IAmb IAmb 13 20 32.0
comp=Z,13nm,0.8s
INK Inuvik 72.92 22 P P 13 20 26.6 -0.3
baz=292
PCA Pinnacle 73.09 31 P P 13 20 28.2 0.0
PINM Pinnacle 73.09 31 P P 13 20 28.0 -0.2
baz=289
AKASG Malin Array Be 73.23 318 P P 13 20 28.5 -0.7
comp=Z,11nm,0.9s,baz=59,slow=5.7,SNR=45
AKASG Malin Array Be 73.23 318 P P 13 20 27.7 -1.5
AKASG pmax pmax
comp=Z,31nm,1.4s
AKASG Malin Array Be 73.23 318 P P 13 20 27.7 -1.5
AKASG IAmb IAmb 13 20 29.6
comp=Z,31nm,1.4s
AKBB Malin Array Si 73.23 318*c* *i*P P 13 20 27.7 -1.5
AKBB pmax pmax
comp=Z,41nm,1.5s
AKBB Malin Array Si 73.23 318 P P 13 20 27.2 -1.9
AKBB IAmb IAmb 13 20 29.1
comp=Z,43nm,1.4s
CMRD Camardi-Nigde 73.26 304 *e*P P 13 20 30.4 +0.6
NACGM Naroch 73.34 323 *i*P P 13 20 29.5 -0.2
YUK4 Talbot Arm 73.41 30 P P 13 20 30.3 -0.1
baz=290
BR131 Keskin Array S 73.64 307 P P 13 20 31.4 -0.6
BR131 pmax pmax
comp=Z,85nm,1.1s
BR131 Keskin Array S 73.64 307 P P 13 20 31.4 -0.6
BR131 Keskin Array S 73.64 307 P P 13 20 32.4 +0.4
SNR=16
BRTR Keskin Array B 73.64 307 P P 13 20 32.1 +0.1
comp=Z,32nm,1.0s,baz=111,slow=5.4,SNR=77
BRTR LR LR 13 59 00.5
comp=Z,230nm,18.4s,baz=80,slow=41
BRTR Keskin Array B 73.64 307 *e*P P 13 20 31.6 -0.4
BRTR Keskin Array B 73.64 307 *i*P P 13 20 32.0 +0.1
BRTR pmax pmax
comp=Z,31nm,1.0s
BRTR Keskin Array B 73.64 307 P P 13 20 31.2 -0.8
MTSE Matsula 73.64 327 *e*P P 13 20 31.4 +0.1
MAYO Mayo, Yukon 73.80 27 P P 13 20 31.3 -1.0
baz=292
MERS Mersin 73.87 303 *e*P P 13 20 32.7 -0.6
A36M Sachs Harbour 73.87 17 P P 13 20 32.2 -0.3
baz=299
HYT Haines Junctio 74.12 30 P P 13 20 34.7 +0.3
HYT Haines Junctio 74.12 30 P P 13 20 34.1 -0.3
baz=291
ANTO Ankara 74.21 307 P P 13 20 34.5 -0.7
ANTO pmax pmax
comp=Z,57nm,0.9s
ANTO Ankara 74.21 307 P P 13 20 34.5 -0.7
BR231 Keskin MP Arra 74.23 307 P P 13 20 35.5 +0.1
PABE Paberze 74.66 324 *e*P P 13 20 37.6 +0.1
PABE Paberze 74.66 324 P P 13 20 36.5 -1.0
YUVA Yuva-Kibriscik 74.84 308 *e*P P 13 20 38.6 -0.4
BERE Bereket-Mersin 75.02 303 *e*P P 13 20 40.0 -0.1
LADK Ladik-KONYA 75.06 305 *e*P P 13 20 39.0 -1.3
MDUB Mudurnu 75.17 308 *e*P P 13 20 40.0 -0.9
MDUB Mudurnu 75.17 308 P P 13 20 39.6 -1.2
TEKE Tekeli-Mersin 75.17 303 *e*P P 13 20 39.9 -0.9
SVRH Sivrihisar-ESK 75.27 307 *e*P P 13 20 40.9 -0.5
WHY Whitehorse 75.37 30 P P 13 20 41.9 +0.2
WHY Whitehorse 75.37 30 P P 13 20 40.6 -1.0
baz=293
CSS Mathiatis 75.40 302 *e*P P 13 20 41.7 -0.4
CSS Mathiatis 75.40 302 P P 13 20 41.0 -1.1
FARO Faro, Yukon 75.41 28 P P 13 20 41.2 -0.6
baz=294
SUW Suwalki 75.62 323 *e*P P 13 20 42.7 -0.3
SUW Suwalki 75.62 323 P P 13 20 41.8 -1.2
SUW pmax pmax
comp=Z,98nm,0.8s
SUW Suwalki 75.62 323 P P 13 20 41.8 -1.2
TPGR Topolog 75.64 313 ⇑P P 13 20 43.8 +0.5
CIFT Cifteler, Eski 75.64 307 *e*P P 13 20 41.9 -1.6
SKAG Skagway 75.64 31 P P 13 20 42.8 -0.2
SKAG IAmb IAmb 13 20 52.2
comp=Z,19nm,0.9s
SKAG Skagway 75.64 31 P P 13 20 43.0 0.0
baz=293
HRFI Mount Harif 75.69 297 *e*P P 13 20 43.5 -0.4
CFR Carcaliu 75.72 313 ⇑P P 13 20 43.9 +0.1
TIRR Tirgusor 75.78 312 ⇑P P 13 20 44.6 +0.5
HARR Harsova 76.02 313 ⇓P P 13 20 46.2 +0.7
MMPY Sheldon Lake, 76.12 27 P P 13 20 44.8 -1.0
baz=296
UPP Uppsala 76.15 330 *e*P P 13 20 46.4 +0.5
TESR Tescani 76.23 315 ⇑P P 13 20 46.9 +0.3

SHUT Suhut-Afyon 76.29 306 *e*P P 13 20 46.7 -0.6
ICOR Ion Corvin 76.31 312 ⇑P P 13 20 47.4 +0.3
VRI Vrincioaia 76.41 314 ⇓P P 13 20 48.2 +0.5
VRI Vrincioaia 76.41 314 *e*P P 13 20 47.9 +0.2
BIZ Bicaz 76.43 315 ⇑P P 13 20 48.1 +0.4
YLV Yalova 76.45 308 *e*P P 13 20 47.2 -0.9
PLOR Plostina 76.46 314 ⇓P P 13 20 48.5 +0.4
BISRR Bisoca 76.53 314 ⇑P P 13 20 49.3 +0.8
ISP Isparta 76.56 306 *e*P P 13 20 47.8 -1.0
ISP Isparta 76.56 306 P P 13 20 46.7 -2.1
ISP pmax pmax
comp=Z,68nm,1.0s
ISP Isparta 76.56 306 P P 13 20 46.7 -2.1
SIT Sitka 76.61 33 P P 13 20 47.1 -1.4
baz=294
LVV L'vov 76.67 319 *e*P P 13 20 48.4 -0.7
BUR08 Bucovina Ar. S 76.75 316 P P 13 20 48.8 -0.9
BUR08 IAmb IAmb 13 20 50.5
comp=Z,22nm,1.3s
BURAR Bucovina Array 76.75 316 ⇓P P 13 20 49.7 0.0
BURAR Bucovina Array 76.75 316 P P 13 20 49.0 -0.7
TVSB Tavsanli 76.77 307 *e*P P 13 20 49.6 -0.4
MLR Muntele Rosu 77.05 314 ⇓P P 13 20 51.9 +0.4
MLR Muntele Rosu 77.05 314 P P 13 20 50.7 -0.8
MLR pmax pmax
comp=Z,29nm,1.2s
MLR Muntele Rosu 77.05 314 P P 13 20 50.7 -0.8
MLR IAmb IAmb 13 21 15.0
comp=Z,29nm,1.2s
DOPR Dopca 77.24 315 ⇑P P 13 20 53.4 +1.0
ELL Elmali 77.39 305 P P 13 20 52.6 -1.0
ELL pmax pmax
comp=Z,175nm,1.1s
ELL Elmali 77.39 305 P P 13 20 52.6 -1.0
KWP Kalwaria Pacla 77.53 319 *e*P P 13 20 53.8 -0.2
KWP Kalwaria Pacla 77.53 319 P P 13 20 53.1 -0.9
KWP pmax pmax
comp=Z,402nm,1.0s
KWP Kalwaria Pacla 77.53 319 P P 13 20 53.1 -0.9
VOIR 77.66 314 ⇑P P 13 20 54.9 0.0
BALB Balikesir 77.85 308 P P 13 20 55.5 -0.4
TGTN Hyland Airport 77.88 27 P P 13 20 54.3 -1.4
baz=299
ARR Arges 77.95 314 ⇓P P 13 20 56.7 +0.2
KOLS Kolonicke sedl 78.07 318 *e*P P 13 20 57.4 +0.4
KOLS Kolonicke sedl 78.07 318 *e*P P 13 20 57.4 +0.4
UZH Uzhgorod 78.17 318 *e*P P 13 20 56.3 -1.2
UZH *e* 13 21 00.0
NC405 NORSAR Array S 78.20 332 P P 13 20 55.7 -1.8
NC303 NORSAR Array S 78.30 332 P P 13 20 56.0 -2.0
NC303 IAmb IAmb 13 21 10.9
comp=Z,21nm,1.1s
NB201 NORSAR Array S 78.42 332 P P 13 20 58.2 -0.5
NEEM North Greenlan 78.44 358 *i*P P 13 20 58.0 -0.8
NEEM IAmb IAmb 13 21 01.3
comp=Z,16nm,0.8s
NB2 NORSAR Subarra 78.45 332 P P 13 20 57.9 -1.0
comp=Z,21nm,1.1s,baz=60,slow=5.9
NB2 NORSAR Subarra 78.45 332 P P 13 20 57.9 -1.0
baz=60,slow=5.9
NOA NORSAR Array B 78.45 332 P P 13 20 58.0 -0.9
comp=Z,3.3nm,0.8s,baz=59,slow=5.7,SNR=8.9
NOA LR LR 13 59 00.0
comp=Z,2µm,18.1s,baz=65,slow=38
AYDB Zeytinkoy-Aydi 78.46 306 *e*P P 13 20 58.3 -1.2
YER Yerkesik 78.47 306 *e*P P 13 20 58.9 -0.6
LOT Lotru 78.49 315 ⇑P P 13 21 00.1 +0.6
NC204 NORSAR Array S 78.53 333 P P 13 20 58.2 -1.1
NC204 IAmb IAmb 13 21 18.7
comp=Z,45nm,1.1s
DLBC Dease Lake 78.56 31 LR LR 13 55 16.6
comp=Z,158nm,19.6s,baz=303,slow=35
DLBC Dease Lake 78.56 31 P P 13 20 59.6 0.0
CRVS Cervenica-Dubn 78.57 319 *e*P P 13 20 59.4 -0.4
CRVS Cervenica-Dubn 78.57 319 *e*P P 13 20 59.4 -0.4
ALN Alexandroupoli 78.69 310 P P 13 20 59.9 -0.6
ALN pmax pmax
comp=Z,30nm,1.2s
ALN Alexandroupoli 78.69 310 P P 13 20 59.9 -0.6
ALN IAmb IAmb 13 21 01.0
comp=Z,30nm,1.2s
RDO Rodhopi 78.95 310 *e*P P 13 21 01.2 -0.7
OJC Ojcow 79.02 320 *e*P P 13 21 01.8 -0.4
OJC Ojcow 79.02 320 P P 13 21 01.2 -1.0
OJC pmax pmax
comp=Z,22nm,1.0s
OJC Ojcow 79.02 320 P P 13 21 01.2 -1.0
OJC IAmb IAmb 13 21 28.4
comp=Z,22nm,1.0s
GZR Gura Zlata 79.15 315 ⇑P P 13 21 03.5 +0.5
KECS Kecovo 79.33 318 *e*P P 13 21 04.0 +0.1
KECS pmax pmax
comp=Z,9.0nm,1.2s
KECS Kecovo 79.33 318 *e*P P 13 21 04.0 +0.1
HERR Herculane 79.59 315 ⇑P P 13 21 05.7 +0.3
LANS Liptovska Anna 79.67 319 *e*P P 13 21 06.8 +1.0
LANS pmax pmax
comp=Z,13nm,1.7s
LANS Liptovska Anna 79.67 319 *e*P P 13 21 06.8 +1.0
BZS Buzias 79.81 315 ⇑P P 13 21 06.6 0.0
KARP Karpathos 79.90 304 P P 13 21 06.4 -1.0
PSZ Piszkesteto 79.93 318 ⇑P P 13 21 07.8 +0.5
PSZ Piszkesteto 79.93 318 *e*P P 13 21 06.5 -0.7
PSZ Piszkesteto 79.93 318 P P 13 21 06.4 -0.9
PSZ pmax pmax
comp=Z,27nm,1.3s
PSZ Piszkesteto 79.93 318 P P 13 21 06.4 -0.9
PSZ IAmb IAmb 13 21 32.7
comp=Z,27nm,1.3s
VTS Vitosha 79.95 312 ⇑P P 13 21 07.5 -0.2
VTS Vitosha 79.95 312 P P 13 21 06.6 -1.0
VTS pmax pmax
comp=Z,56nm,1.3s
VTS Vitosha 79.95 312 P P 13 21 06.6 -1.0
VTS IAmb IAmb 13 21 09.7
comp=Z,56nm,1.3s
MDVR Moldovita 80.09 315 ⇑P P 13 21 07.7 -0.5
OKC Ostrava-Krasne 80.15 320 AMS AMS 14 00 10.0
comp=Z,500nm,16.5s
VYHS Vyhne 80.32 319 *e*P P 13 21 09.1 -0.2
VYHS pmax pmax
comp=Z,45nm,1.5s
VYHS Vyhne 80.32 319 *e*P P 13 21 09.1 -0.2
MORC Moravsky Berou 80.53 320 ⇓P P 13 21 11.5 +1.1
MORC Moravsky Berou 80.53 320 P P 13 21 09.8 -0.6
MORC pmax pmax
comp=Z,14nm,1.3s
MORC Moravsky Berou 80.53 320 P P 13 21 09.8 -0.6
MORC Moravsky Berou 80.53 320 *e*P P 13 21 09.2 -1.2
BOVS Bovan 80.56 314 ⇑P P 13 21 10.4 -0.2
JAVC Velka Javorina 80.86 320 *e*P P 13 21 12.7 +0.5
VAY Valandovo 80.93 311 *i*P P 13 21 12.1 -0.6
DPC Dobruska-Polom 80.97 321 *e*P P 13 21 14.7 +1.9
DPC MLR MLR
comp=Z,700nm,15.4s
DPC Dobruska-Polom 80.97 321 *e*P P 13 21 14.7 +1.9
DPC AMS AMS 14 00 00.0
comp=Z,700nm,15.4s
CHVC Chvalec 81.01 322 AMS AMS 14 00 10.0
comp=Z,700nm,17.5s
STIP Stip 81.04 312 *i*P P 13 21 10.8 -2.5
UPC Upice 81.08 322 AMS AMS 14 01 50.0
comp=Z,700nm,14.4s
FRGS Fruska Gora 81.16 316 ⇑P P 13 21 14.1 +0.2
SMOL Smolenice 81.16 319 *e*P P 13 21 13.9 +0.2
SMOL pmax pmax
comp=Z,17nm,1.7s
SMOL Smolenice 81.16 319 *e*P P 13 21 13.8 +0.1
GRG Griva 81.20 311 *e*P P 13 21 12.3 -1.9
VRAC Vranov 81.29 320 *e*P P 13 21 14.3 -0.2
MODS Modra-Piesok 81.31 319 *e*P P 13 21 13.7 -0.9
MODS pmax pmax
comp=Z,31nm,1.7s
MODS Modra-Piesok 81.31 319 *e*P P 13 21 13.7 -0.9
SKO Skopje 81.43 312 *i*P P 13 21 15.4 +0.1
ZST Bratislava 81.49 319 *e*P P 13 21 16.1 +0.6
ZST Bratislava 81.49 319 *e*P P 13 21 16.1 +0.6
DIVS Divibare 81.49 315 P P 13 21 14.6 -1.1
KRUC Moravsky 81.52 320 *e*P P 13 21 15.0 -0.6
PVCC Panska Ves 81.88 322 AMS AMS 14 02 00.0
comp=Z,800nm,18.6s
FNA Florina 81.98 311 P P 13 21 16.6 -1.7
FNA pmax pmax
comp=Z,23nm,1.4s
FNA Florina 81.98 311 P P 13 21 16.6 -1.7
BRG Berggiesshubel 82.07 323 *e*P P 13 21 19.0 +0.5
BRG Amp 13 21 22.8
comp=Z,5.0nm,1.1s
PRU Pruhonice 82.15 322 AMS AMS 14 02 40.0
comp=Z,700nm,15.1s
CONA Conrad Observa 82.36 319 *e*P P 13 21 20.6 +0.4
comp=Z,18nm,1.6s
CLL Collm 82.37 323 *e*P P 13 21 19.0 -1.1
comp=Z,38nm,2.0s
CLL *e*(pP) PcP 13 21 23.0 -2.3
CLL *i* sP sP 13 21 26.8 -0.8
CLL *e*S S 13 31 39.0 +3.8
CLL *e* 13 38 18.0
CLL *e*SSS SSS 13 40 30.0
CLL Lm MLR 14 02 00.0
comp=N,600nm,18.2s
CLL Lm MLR 14 02 00.0
comp=E,500nm,18.1s
CLL Lm MLR 14 02 00.0
comp=Z,1µm,18.7s
CLL Collm 82.37 323 *e*P P 13 21 19.0 -1.1
CLL *i* *SP sP 13 21 26.8 -0.8
CLL *e*S S 13 31 39.0 +3.8
CLL pmax pmax
comp=Z,38nm,2.0s
CLL MLR MLR
comp=Z,1µm,18.7s
PUK Puka 82.45 313 P P 13 21 18.6 -2.2
KBN Korca 82.45 311 P P 13 21 18.9 -1.9
KBN pmax pmax
comp=Z,47nm,1.2s
KBN Korca 82.45 311 P P 13 21 18.9 -1.9
KBN IAmb IAmb 13 21 21.1
comp=Z,47nm,1.2s
SUMG Summit 82.49 354 *i*P P 13 21 23.0 +2.2
SUMG IAmb IAmb 13 21 25.9
comp=Z,10nm,0.9s
BBB Bella Bella 82.55 36 LR LR 13 56 20.3
comp=Z,92nm,21.4s,baz=298,slow=34
YKA Yellowknife Ar 82.66 23 P P 13 21 21.1 -0.2
comp=Z,9.7nm,0.9s,baz=320,slow=4.1,SNR=7.1
YKA LR LR 14 01 39.1
comp=Z,154nm,18.1s,baz=0.0,slow=38
YKA Yellowknife Ar 82.66 23 *i*P P 13 21 20.8 -0.5
YKA pmax pmax
comp=Z,10.0nm,0.9s
CKRC Cesky Krumlov 82.84 321 *e*P P 13 21 22.2 -0.4
CKRC *e*S S 13 31 40.7 +0.5
CKRC AMS AMS 14 01 00.0
comp=Z,600nm,16.4s
ARSA Arzberg 82.88 319 *e*P P 13 21 23.2 +0.3
comp=Z,6.7nm,1.2s
ITM Ithomi 83.11 308 P P 13 21 22.6 -1.7
KHC Kasperske Hory 83.12 321 *e*P P 13 21 24.7 +0.6
KHC *e*S S 13 31 38.9 -4.1
KHC MLR MLR
comp=Z,800nm,15.6s
KHC Kasperske Hory 83.12 321 *e*P P 13 21 24.7 +0.6
KHC *e*S S 13 31 38.9 -4.1
KHC AMS AMS 14 01 20.0
comp=Z,800nm,15.6s
GEC2 GERESS Array S 83.19 321 P P 13 21 22.8 -1.8
GERES GERESS Array B 83.19 321 P P 13 21 23.8 -0.7
comp=Z,3.0nm,0.8s,baz=63,slow=3.6,SNR=14
GERES GERESS Array B 83.19 321 P P 13 21 22.7 -1.8
GERES GERESS Array B 83.19 321 P P 13 21 22.7 -1.8
MOA Molln 83.34 320 *e*P P 13 21 25.4 +0.2
comp=Z,17nm,1.7s
SOKA Soboth 83.44 318 *e*P P 13 21 25.1 -0.8
comp=Z,14nm,1.4s
OBKA Obir 83.82 318 *e*P P 13 21 26.1 -1.7
comp=Z,7.8nm,1.0s
MYKA Terra Mystica 84.30 319 *e*P P 13 21 29.2 -1.0
comp=Z,7.8nm,1.2s
ABPO Ambohimpanom 84.47 246 P P 13 21 30.7 -0.9
ABPO pmax pmax
comp=Z,25nm,1.2s
ABPO Ambohimpanom 84.47 246 P P 13 21 30.7 -0.9
ABPO IAmb IAmb 13 21 32.7
comp=Z,25nm,1.1s
ABTA Abfaltersbach 84.92 319 *e*P P 13 21 32.3 -1.1
comp=Z,6.1nm,1.0s
WATA Walderalm 85.17 320 *e*P P 13 21 34.4 -0.3
comp=Z,14nm,1.4s
WTTA Wattenberg 85.17 320 *e*P P 13 21 34.5 -0.3
comp=Z,10nm,0.8s
KIBK Kibwezi 85.33 265 P P 13 21 34.9 -1.1
KIBK IAmb IAmb 13 21 56.2
comp=Z,24nm,1.2s
LODK Lodwar 85.43 272 P P 13 21 34.2 -2.2
LODK IAmb IAmb 13 21 56.9
comp=Z,18nm,1.4s
MOTA Moosalm 85.44 320 *e*P P 13 21 34.5 -1.6
comp=Z,6.8nm,0.7s
SQTA Sankt Quirin 85.45 320 *e*P P 13 21 35.7 -0.4
comp=Z,16nm,1.1s
KMBO Kilima Mbogo 85.55 267 P P 13 21 37.5 +0.2
comp=Z,6.0nm,0.8s,baz=73,slow=6.2,SNR=14
KMBO LR LR 13 59 32.1
comp=Z,201nm,20.9s,baz=96,slow=36
FETA Feichten 85.83 320 *e*P P 13 21 37.7 -0.3
comp=Z,7.9nm,1.2s
TIP Timpagrande 85.87 311 ⇑P P 13 21 38.6 +0.3
TIP Timpagrande 85.87 311 P P 13 21 36.9 -1.4
TIP IAmb IAmb 13 21 39.1
comp=Z,36nm,1.5s
ICESG Greenland Ices 85.96 353 *i*P P 13 21 38.6 +0.2
DAVA Damuels 86.18 321 *e*P P 13 21 40.4 +0.7
comp=Z,6.1nm,0.8s
NRCA Norcia 86.51 316 P P 13 21 40.2 -1.2
NRCA IAmb IAmb 13 21 59.8
comp=Z,27nm,1.1s
LLLB Lillooet 86.69 35 P P 13 21 41.9 -0.1
LLLB IAmb IAmb 13 21 54.5
comp=Z,13nm,0.9s
CEL Celeste 86.90 311 P P 13 21 42.6 -0.7
PGC Sidney 86.96 37 P P 13 21 43.2 -0.1
PGC IAmb IAmb 13 21 49.5
comp=Z,16nm,1.0s
B05A Bryant 87.92 37 P P 13 21 47.0 -0.9
baz=305
B06A Marblemount 88.11 36 P P 13 21 49.2 +0.4
D04E Lakebay 88.16 38 P P 13 21 47.9 -1.2
baz=304
D05A Enumclaw 88.59 38 P P 13 21 50.9 -0.3
E04D Cinebar 88.63 39 P P 13 21 49.8 -1.6
baz=305
LON Longmire 88.95 38 P P 13 21 53.1 +0.1
LON pmax pmax
comp=Z,18nm,1.0s
LON Longmire 88.95 38 P P 13 21 53.0 +0.1
LON IAmb IAmb 13 21 58.2
comp=Z,18nm,0.9s
G03D McMinnville, O 88.99 40 P P 13 21 51.4 -1.7
baz=304
F04A Amboy 89.07 39 P P 13 21 52.9 -0.5
DY2G Dye2 89.11 355 *e*P P 13 21 55.2 +1.7
I02D Swisshome 89.26 41 P P 13 21 53.3 -1.0
baz=304
LTY Liberty 89.29 37 P P 13 21 54.0 -0.5
LTY IAmb IAmb 13 22 02.4
comp=Z,16nm,0.9s
B08A Colville Reser 89.36 36 P P 13 21 54.6 -0.2
F05D White Salmon 89.64 39 P P 13 21 54.9 -1.3
baz=305
H04D Lebanon 89.68 40 P P 13 21 55.3 -1.0
baz=305
G05D Wamic, OR 90.10 39 P P 13 21 57.1 -1.2
baz=306
E07A Sunnyside 90.15 37 P P 13 21 58.9 +0.4
E07A IAmb IAmb 13 22 05.2
comp=Z,20nm,0.8s
C09A Chrisman Ranch 90.26 36 P P 13 21 59.0 0.0
C09A IAmb IAmb 13 22 04.2
comp=Z,28nm,1.3s
I04A Tendick Farm, 90.29 41 P P 13 21 58.6 -0.7
baz=305
D08A Wollman Farm, 90.37 37 P P 13 21 59.8 +0.4
D08A IAmb IAmb 13 22 05.9
comp=Z,18nm,0.9s
HAWA Hanford 90.43 37 P P 13 21 59.8 0.0
HAWA IAmb IAmb 13 22 05.1
comp=Z,17nm,0.9s
L02E Cave Junction 90.49 43 P P 13 21 59.1 -1.1

baz=304
NEW Newport 90.58 35 P P 13 22 00.4 -0.2
NEW pmax pmax
comp=Z,14nm,0.9s
NEW Newport 90.58 35 P P 13 22 00.3 -0.2
NEW lAmb lAmb 13 22 06.1
comp=Z,14nm,0.8s
NEW Newport 90.58 35 P P 13 21 59.2 -1.3
baz=309
I05D Terrebonne, OR 90.61 40 P P 13 22 00.4 -0.3
baz=306
E08A Dider Farm, El 90.63 37 P P 13 22 00.3 -0.4
E08A lAmb lAmb 13 22 06.0
comp=Z,19nm,1.2s
CASY Casey 90.66 185 P P 13 21 59.6 -0.5
J04D Umpqua Nationa 90.79 41 P P 13 22 01.0 -0.8
baz=305
E09A Wood Farm, Sta 91.12 37 P P 13 22 03.3 +0.3
E09A lAmb lAmb 13 22 11.7
comp=Z,16nm,1.0s
L04D Klamath Falls 91.25 42 P P 13 22 03.4 -0.5
baz=305
YBH Yreka Blue Hor 91.28 43 P P 13 22 04.5 +0.5
comp=Z,5.6nm,0.9s,baz=297,slow=5.6,SNR=3.8
YBH Yreka Blue Hor 91.28 43 P P 13 22 04.2 +0.2
YBH pmax pmax
comp=Z,8.0nm,1.1s
YBH Yreka Blue Hor 91.28 43 P P 13 22 04.2 +0.2
J05D Fort Rock, OR 91.28 41 P P 13 22 03.8 -0.3
baz=306
K04D Chiloquin, OR 91.35 41 P P 13 22 04.4 +0.1
baz=305
M02C Callahan 91.38 43 P P 13 22 04.6 +0.2
baz=304
G08A Pilot Rock 91.41 38 P P 13 22 05.0 +0.4
WALA Waterton Lakes 91.71 33 P P 13 22 06.2 +0.4
WALA lAmb lAmb 13 22 14.8
comp=Z,19nm,0.9s
M04C Macdoel 91.78 42 P P 13 22 05.9 -0.5
baz=305
I07A Izee 91.83 39 P P 13 22 06.1 -0.4
I07A lAmb lAmb 13 22 17.7
comp=Z,13nm,1.1s
WDC Whiskeytown Da 92.03 43 P P 13 22 07.5 +0.1
WDC pmax pmax
comp=Z,7.0nm,1.0s
WDC Whiskeytown Da 92.03 43 P P 13 22 07.5 +0.1
O02D Mt. Diablo Mer 92.11 44 P P 13 22 08.1 +0.3
baz=304
O03E Paynes Creek 92.66 43 P P 13 22 10.0 -0.3
baz=305
KEST Kesra 92.69 311 P P 13 22 10.4 -0.1
comp=Z,2.1nm,0.7s,baz=37,slow=5.1,SNR=2.4
FFC Flin Flon 92.81 24 P P 13 22 10.3 -0.3
FFC pmax pmax
comp=Z,17nm,0.9s
FFC Flin Flon 92.81 24 P P 13 22 10.3 -0.3
MSO Missoula 93.16 35 P P 13 22 12.5 -0.1
MSO lAmb lAmb 13 22 17.5
comp=Z,9.6nm,1.1s
MSO Missoula 93.16 35 P P 13 22 12.4 -0.1
baz=311
WVOR Wild Horse Val 93.32 40 P P 13 22 12.8 -0.7
WVOR pmax pmax
comp=Z,9.0nm,1.1s
WVOR Wild Horse Val 93.32 40 P P 13 22 12.8 -0.7
WVOR lAmb lAmb 13 22 24.6
comp=Z,8.5nm,1.1s
BEKR Beckworth 93.81 43 P P 13 22 15.2 -0.6
BEKR lAmb lAmb 13 22 27.1
comp=Z,14nm,1.3s
HRY Holter Researc 94.32 34 P P 13 22 18.1 +0.2
MFID Camas Ranch 94.34 38 P P 13 22 18.0 -0.1
EGMT Eagleton 94.45 32 P P 13 22 18.2 -0.2
EGMT lAmb lAmb 13 22 33.3
comp=Z,12nm,1.0s
EGMT Eagleton 94.45 32 P P 13 22 18.5 +0.1
baz=314
LRM Limekiln Ridge 94.60 35 P P 13 22 18.9 -0.5
DLMT Dillon 94.83 35 P P 13 22 20.0 -0.3
DLMT lAmb lAmb 13 22 29.5
comp=Z,9.7nm,0.9s
CMB Columbia Colle 94.86 45 P P 13 22 20.5 0.0
CMB pmax pmax
comp=Z,12nm,1.3s
CMB Columbia Colle 94.86 45 P P 13 22 20.5 0.0
CMB lAmb lAmb 13 22 30.7
comp=Z,12nm,1.2s
HLID Hailey 95.03 37 P P 13 22 21.1 -0.2
HLID lAmb lAmb 13 22 27.7
comp=Z,7.8nm,0.9s
HLID Hailey 95.03 37 P P 13 22 21.5 +0.1
baz=310
BOZ Bozeman (W) 95.18 35 P P 13 22 21.9 -0.1
baz=313
KVN Kaiserville 95.70 43 P P 13 22 25.1 +0.6
KVN pmax pmax
comp=Z,9.0nm,1.2s
KVN Kaiserville 95.70 43 P P 13 22 25.1 +0.6
KVN lAmb lAmb 13 22 36.3
comp=Z,9.0nm,1.2s
PPT2 Papeete2 95.78 107 *e*S **S 13 33 41.1 -1.2**
comp=Z,159nm,25.8s
PPT2 Papeete2 95.78 107 *e*LR LR 13 53 18.2
comp=Z,825nm,23.2s,baz=289
NVAR Mina Array Bea 95.95 43 P P 13 22 26.6 +1.0
comp=Z,2.5nm,0.8s,baz=289,slow=4.9,SNR=13
NVAR Mina Array Bea 95.95 43 P P 13 22 24.6 -1.1
DGMT Dagmar 96.69 29 P P 13 22 28.6 0.0
baz=319
SMMC Simmler 96.71 47 P P 13 22 29.8 +0.8
baz=306
RLMT Red Lodge 96.71 34 P P 13 22 28.8 -0.2
RLMT lAmb lAmb 13 22 37.6
comp=Z,13nm,1.5s
RLMT Red Lodge 96.71 34 P P 13 22 28.7 -0.3
baz=314
VES Vestal, Richgr 97.00 46 P P 13 22 30.9 +0.7
baz=307
LAO LASA Array 97.08 31 P Pdif 13 22 30.5 0.0
baz=317
CWC Cottonwood Cre 97.29 45 P Pdif 13 22 31.8 0.0
baz=307
TBI Tubuai 98.13 112 *e*S **S 13 34 00.3 -1.8**
comp=Z,126nm,28.0s
TBI Tubuai 98.13 112 *e*LR LR 13 54 26.2
comp=Z,339nm,23.8s,baz=296
PDAR Pinedale Array 98.20 36 P Pdif 13 22 36.4 +0.6
comp=Z,0.6nm,0.7s,baz=333,slow=1.7,SNR=4.3
TAOE Nuku Hiva Isla 100.82 95 *e*LR LR 13 55 40.4
comp=Z,302nm,22.2s
VNDA Vanda 104.28 172 PP **PKiKP 13 27 20.4 +2.5**
comp=Z,1.3nm,1.0s,baz=243,slow=7.5,SNR=4.2
SYO Syowa Base 109.69 202⇑ *e*Pdiff **Pdif 13 23 27.2 +1.5**
TORD Torodi Ar. Bea 110.77 296 PKiKP **PKiKP 13 27 32.0 +0.1**
comp=Z,0.7nm,0.7s,baz=22,slow=3.0,SNR=2.0
TORD PP **PP 13 28 06.7 -2.0**
comp=Z,3.4nm,1.2s,baz=67,slow=7.7,SNR=3.9
TXAR Lajitas Array 111.05 42 Pdiff **Pdif 13 23 31.9 -1.2**
comp=Z,0.3nm,0.8s,baz=298,slow=1.9,SNR=3.4
TXAR PKiKP **PKiKP 13 27 33.3 +1.0**
comp=Z,1.1nm,0.9s,baz=186,slow=1.3,SNR=5.6
JTS Las Juntas de 136.81 40 PP PP 13 31 03.3 0.0
comp=Z,8.4nm,0.9s,baz=230,slow=7.9,SNR=3.7
CRJC Cerrejon, Guaj 142.09 24 *e*P **PKPdf 13 28 26.3 -5.1**
SJCC San Jacinto, C 142.19 28 *e*P **PKPdf 13 28 24.4 -7.1**
DBBC Dabeiba 144.26 32 *e*P PKPbc 13 28 33.9 +0.6
OCAC Ocana 144.46 27 *e*P **PKPab 13 28 32.9 -0.8**
ZARC Zaragoza, Cauc 144.47 29 *e*P PKPbc 13 28 33.9 0.0
SDV Santo Domingo 144.87 22 PKP PKPbc 13 28 35.4 0.0
comp=Z,57nm,0.8s,baz=336,slow=3.8,SNR=16
SDV Santo Domingo 144.87 22 PKPab 13 28 34.9 -0.4
SDV Santo Domingo 144.87 22 *e*P **PKPdf 13 28 36.8 +0.4**
PCRV Puerto La Cruz 145.19 11 PKPbc **PKPbc 13 28 34.5 -1.7**
comp=Z,24nm,0.7s,baz=90,slow=3.4,SNR=5.0
CBOC Ciudad Bolivar 145.35 33 *e*P **PKPbc 13 28 35.8 -1.2**
PTBC PUERTO BERRIO 145.50 30⇑ *e*P **PKPbc 13 28 36.8 -0.4**
PAMC Pamplona, Colo 145.53 26 *e*P **PKPab 13 28 38.7 +0.6**
BARC Barichara 146.00 27 *e*P **PKPab 13 28 40.6 +1.0**
NORC Norcasia 146.16 31 *e*P **PKPdf 13 28 38.7 +0.2**
GUY2C Guyana, Caldas 146.22 32 *e*P **PKPdf 13 28 36.8 -2.3**
SPBC San Pablo de B 146.45 30 *e*P **PKPdf 13 28 38.7 -0.3**
RUSC La Rusia 146.67 28 PKPdf **PKPdf 13 28 38.0 -1.8**
YOTC Yotoco, Valle 146.80 35 *e*P **PKPbc 13 28 40.6 -0.7**
ROSC El Rosal 147.06 31 PKPbc **PKPbc 13 28 42.9 +0.5**
comp=Z,23nm,0.5s,baz=102,slow=9.6,SNR=6.3
ROSC El Rosal 147.06 31 PKIKP **PKPdf 13 28 37.3 -3.0**
ROSC El Rosal 147.06 31 PKPdf **PKPdf 13 28 37.3 -3.0**
ORTC Ortega, Tolima 147.42 33 *e*P **PKPbc 13 28 42.5 -0.5**
CHIC Chingaza 147.51 30 *e*P **PKPbc 13 28 42.5 -1.2**
PRAC Prado 147.77 33 *e*P **PKPdf 13 28 42.5 +1.4**
POPC Popayan, Colom 147.83 37 *e*P **PKiKP 13 28 45.3 -1.0**
BBAC Balboa, Cauca 147.95 38 *e*P **PKiKP 13 28 46.3 -0.2**
MARP Paez Belalcaza 147.97 35 *e*P **PKPbc 13 28 43.4 -1.3**
VILC Villavicencio, 147.99 30 *e*P **PKPbc 13 28 43.4 -1.2**
PCON Cinco Dias 148.16 36 *e*P **PKPab 13 28 50.1 +1.7**
SOTA Rioblanco 148.21 37 *e*P **PKPbc 13 28 45.3 -0.3**
BETC Betania 148.37 35 *e*P **PKPdf 13 28 42.5 +0.4**
PAC1 Pacto, Paraso 148.44 42 *e*P PKPdf 13 28 31.0 -11
USHA Ushuaia 148.51 169 PKPbc **PKPbc 13 28 44.8 +0.3**
comp=Z,26nm,1.0s,baz=136,slow=5.0,SNR=4.1
GCUF Volcan Galeras 148.54 39 *e*P **PKPab 13 28 49.2 -0.7**
GARC Garzon, Huila 148.76 35 *e*P **PKiKP 13 28 48.2 0.0**
FLOC Florencia 149.19 36 PKPdf **PKPdf 13 28 42.2 -1.2**
FLOC Florencia 149.19 36 *e*P **PKPbc 13 28 46.3 -1.3**
PTLC Puerto Leguiza 150.83 36 *e*P **PKPbc 13 28 51.1 -0.5**
PTGA Pitinga 156.54 5 PKP **PKPdf 13 28 52.9 -1.2**
comp=Z,2.5nm,0.9s,baz=210,slow=5.1,SNR=5.5
PTGA PKPab **PKPab 13 29 22.4 -0.2**
comp=Z,8.5nm,0.9s,baz=74,slow=5.0,SNR=6.1
PLCA Paso Flores 160.55 151 PKPab **PKPab 13 29 40.8 +1.3**
comp=Z,1.3nm,0.8s,baz=249,slow=8.6,SNR=1.5
SAML Samuel 164.03 18 PKIKP **PKPdf 13 29 00.2 -2.1**
SAML 13 29 54.0
SAML Samuel 164.03 18 PKPdf **PKPdf 13 29 00.2 -2.1**
SAML **PKPab 13 29 54.0 -1.1**
LPAZ La Paz 167.72 52 PKP **PKPdf 13 29 06.8 +0.8**
comp=Z,2.0nm,0.9s,baz=284,slow=3.8,SNR=3.9
LPAZ La Paz 167.72 52 *e*P **PKPdf 13 29 06.3 +0.3**
SIV San Ignacio 171.32 19 PKP **PKPdf 13 29 07.3 -0.1**
comp=Z,1.9nm,0.7s,baz=28,slow=1.2,SNR=7.2
SIV PKPab **PKPab 13 30 27.2 -0.2**
comp=Z,2.6nm,0.9s,baz=321,slow=1.6,SNR=2.1
SIV PP **PP 13 34 16.7 -0.2**
comp=Z,0.8nm,0.4s,baz=346,slow=5.5,SNR=2.4
CPUP Villa Florida 177.81 199 PKPab PKPab 13 30 57.0 +1.1
comp=Z,1.9nm,0.8s,baz=214,slow=3.6,SNR=3.1

TAP 16 13:10:30.5, 24.27N×121.83E, h22km, ML3.8, 1C-2D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.09**	**293**	*i*	P	Pb	13 10 34.8	0.0
EHP	baz=294			*i*	S	Sb	13 10 38.2	+0.7
ENA	**Nanau**	**0.17**	**332**⇓	*i*	P	Pb	13 10 35.6	-0.4
ENA	baz=333				S	Sb	13 10 39.4	-0.4
EWUT	**Wuta**	**0.18**	**344**⇓	*i*	P	Pb	13 10 35.7	-0.3
EWUT	baz=344			*i*	S	Sb	13 10 39.5	-0.2
ETL	**Fush Village**	**0.22**	**239**	*i*	P	Pb	13 10 36.4	0.0
ETL	baz=239				S	Sb	13 10 41.0	+0.6
NACB	**Ninganchiao**	**0.24**	**245**		P	Pb	13 10 36.4	-0.1
NACB	baz=245				*e*S	Sb	13 10 40.9	+0.3
TWD	**Chiawan**	**0.29**	**228**	*e*	P	Pb	13 10 37.6	+0.5
TWD	baz=227				*e*S	Sb	13 10 42.7	+1.0
ETLH	**Xiulin Townshi**	**0.33**	**258**		P	Pb	13 10 38.2	+0.4
ETLH	baz=258				*e*S	Sb	13 10 43.2	+0.5
TWC	**Suao**	**0.33**	**3**	*i*	P	Pb	13 10 38.0	+0.2
TWC	baz=4.0				*e*S	Sb	13 10 43.2	+0.4
HWA	**Hwalien**	**0.36**	**215**	*e*	P	Pn	13 10 39.7	-0.7
NDS	baz=214 **Dongshan**	**0.37**	**344**	*i*	P	Pb	13 10 38.9	+0.4
NDS	baz=343				*e*S	Sb	13 10 44.7	+0.8
ETM	**Tongmen**	**0.44**	**225**	*e*	P	Pb	13 10 40.0	+0.5
ETM	baz=225				*e*S	Sb	13 10 46.6	+1.0
ENTT	**Nioudou**	**0.44**	**326**	*i*	P	Pb	13 10 40.2	+0.6
ENTT	baz=327				*e*S	Sb	13 10 46.6	+0.9
NDT	**Datong Townshi**	**0.44**	**318**	*i*	P	Pb	13 10 40.1	+0.5
NDT	baz=318				S	Sb	13 10 46.7	+1.0
NNSB	**Datong**	**0.44**	**291**⇑	*i*	P	Pb	13 10 40.0	+0.4
NNSB	baz=291				*e*S	Sb	13 10 46.5	+0.7
NNS	**Nan Shan**	**0.45**	**292**		P	Pb	13 10 40.1	+0.3
NNS	baz=292				*e*S	Sb	13 10 46.8	+0.7
TEYL	**Yanliau Villag**	**0.46**	**208**	*e*	P	Pb	13 10 40.2	+0.4
TEYL	baz=210				*e*S	Sn	13 10 48.9	-0.3
TWE	**Neicheng**	**0.47**	**341**	*i*	P	Pb	13 10 40.6	+0.5
TWE	baz=343				S	Sb	13 10 47.8	+1.2
WHF	**Hehuan Shan**	**0.53**	**256**	*e*	P	Pb	13 10 41.6	+0.1
WHF	baz=256				*e*S	Sb	13 10 50.3	+1.4
FUSS	**Fushou**	**0.54**	**267**	*e*	P	Pb	13 10 41.9	+0.5
YHNB	baz=267 **Yeheng**	**0.57**	**314**	*e*	P	Pb	13 10 42.5	+0.5
NWLT	baz=313 **Wulai**	**0.58**	**329**	*e*	P	Pb	13 10 42.8	+0.7
ESL	baz=329 **Shilin**	**0.58**	**219**	*e*	P	Pb	13 10 42.3	+0.2
ESL	baz=218				*e*S	Sn	13 10 52.1	-0.3
NSK	baz=218 **Sanguang**	**0.59**	**313**	*e*	P	Pb	13 10 42.6	+0.3
NSK	baz=313				*e*S	Sb	13 10 50.6	+0.4
TDCB	baz=313 **Techi**	**0.61**	**268**	*e*	P	Pb	13 10 43.2	+0.5
CHGB	baz=268 **Renai**	**0.64**	**251**	*e*	P	Pb	13 10 43.8	+0.6
TIPB	baz=250 **Shuangxi**	**0.69**	**360**	*e*	P	Pn	13 10 45.3	+0.2
	baz=360							

TAP 16 13:25:30.1, 24.29N×121.81E, h18km, ML2.4, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.07**	**288**	*e*S		Sg	13 25 36.6	+0.8
ENA	baz=288 **Nanau**	**0.15**	**334**	*i*	P	Pg	13 25 34.9	+0.5
ENA	baz=336				S	Sg	13 25 38.7	+1.3
EWUT	**Wuta**	**0.16**	**348**	*i*	P	Pg	13 25 35.0	+0.5
EWUT	baz=348			*i*	S	Sg	13 25 38.5	+1.1
ETL	baz=348 **Fush Village**	**0.22**	**234**		P	Pg	13 25 35.8	+0.5
ETL	baz=233				S	Sg	13 25 40.4	+1.5
NACB	baz=233 **Ninganchiao**	**0.23**	**240**		P	Pg	13 25 35.7	+0.2
NACB	baz=240				S	Sg	13 25 40.0	+0.9
TWD	baz=240 **Chiawan**	**0.29**	**224**		P	Pb	13 25 36.8	+0.2
TWD	baz=222				S	Sb	13 25 41.9	+0.8
ETLH	**Xiulin Townshi**	**0.31**	**255**		P	Pb	13 25 37.4	+0.2
ETLH	baz=255				S	Sb	13 25 42.4	+0.5
TWC	**Suao**	**0.32**	**6**		P	Pb	13 25 37.4	+0.1
TWC	baz=7.0				S	Sb	13 25 42.6	+0.4
NDS	baz=7.0 **Dongshan**	**0.35**	**345**		P	Pb	13 25 38.2	+0.3
NDS	baz=345				S	Sb	13 25 43.7	+0.5
NDT	baz=345 **Datong Townshi**	**0.42**	**319**		P	Pb	13 25 39.5	+0.6
NDT	baz=318				S	Sb	13 25 46.2	+1.2
ENTT	baz=318 **Nioudou**	**0.42**	**327**		P	Pb	13 25 39.4	+0.4
ENTT	baz=327				*e*S	Sb	13 25 46.1	+1.1
NNSB	baz=327 **Datong**	**0.42**	**290**		P	Pb	13 25 39.4	+0.4
NNSB	baz=289				S	Sb	13 25 45.7	+0.6
NNS	baz=289 **Nan Shan**	**0.43**	**291**		P	Pb	13 25 39.5	+0.3
NNS	baz=290				S	Sb	13 25 46.2	+0.7
ETM	baz=290 **Tongmen**	**0.43**	**222**	*e*	P	Pb	13 25 39.4	+0.2
ETM	baz=222				*e*S	Sb	13 25 46.0	+0.5
TWE	baz=222 **Neicheng**	**0.45**	**343**		P	Pb	13 25 40.0	+0.5
TWE	baz=344				S	Sb	13 25 47.0	+1.1
TEYL	baz=344 **Yanliau Villag**	**0.46**	**205**	*e*	S	Sn	13 25 48.3	-1.2
WHF	baz=206 **Hehuan Shan**	**0.52**	**254**		P	Pb	13 25 41.0	+0.1
WHF	baz=253				*e*S	Sb	13 25 49.3	+1.1
FUSS	baz=253 **Fushou**	**0.52**	**266**	*e*	P	Pb	13 25 41.2	+0.4
FUSS	baz=265				*e*S	Sb	13 25 49.0	+0.9
YHNB	baz=265 **Yeheng**	**0.55**	**314**		P	Pb	13 25 41.6	+0.4
YHNB	baz=313				S	Sb	13 25 49.8	+1.1
NTC	baz=313 **Toucheng**	**0.56**	**1**	*e*	P	Pb	13 25 41.5	+0.2
NTC	baz=1.0				*e*S	Sb	13 25 50.2	+1.2
NWLT	baz=1.0 **Wulai**	**0.56**	**330**		P	Pb	13 25 41.6	+0.3
NWLT	baz=329				S	Sb	13 25 50.0	+0.9
NSK	baz=329 **Sanguang**	**0.57**	**313**	*e*	P	Pb	13 25 42.0	+0.5
NSK	baz=313				S	Sb	13 25 50.2	+1.0
TWT	baz=313 **Tachien**	**0.58**	**267**	*e*	S	Sn	13 25 51.3	-1.5
ESL	baz=266 **Shilin**	**0.59**	**217**	*e*	P	Pb	13 25 41.7	0.0
ESL	baz=215				*e*S	Sb	13 25 51.0	+1.3
TDCB	baz=215 **Techi**	**0.60**	**267**	*e*	P	Pg	13 25 42.6	+0.5
TDCB	baz=266				*e*S	Sb	13 25 51.2	+1.0
CHGB	baz=266 **Renai**	**0.63**	**249**	*e*	P	Pg	13 25 42.8	+0.2
CHGB	baz=248				*e*S	Sb	13 25 51.9	+0.9
OWD	baz=248 **Renai**	**0.67**	**240**	*e*	P	Pg	13 25 43.4	+0.1
OWD	baz=240				*e*S	Sn	13 25 53.9	-0.9
TIPB	baz=240 **Shuangxi**	**0.68**	**1**	*e*	P	Pg	13 25 44.0	+0.5
TIPB					*e*S	Sg	13 25 53.3	+0.7
TWB1	**Santiao Chiao**	**0.73**	**12**		*e*S	Sg	13 25 54.8	+0.5
TATO	baz=13 **Taipei**	**0.75**	**337**		*e*S	Sn	13 25 55.6	-0.9
NWF	baz=337 **Wu-fen Shan**	**0.78**	**358**	*e*	P	Pn	13 25 46.2	0.0
NWF	baz=357				*e*S	Sn	13 25 56.8	-0.7
WFSB	baz=357 **Wu-fen Shan**	**0.78**	**358**	*e*	P	Pn	13 25 46.0	-0.1
WFSB	baz=357				*e*S	Sn	13 25 56.9	-0.5
WHP	baz=357 **Taichung City**	**0.79**	**269**	*e*	P	Pg	13 25 45.8	+0.2
WHP	baz=269				*e*S	Sn	13 25 57.1	-0.7
LIOB	baz=269 **Emei**	**0.81**	**296**	*e*	P	Pn	13 25 46.7	+0.2
LIOB	baz=296				*e*S	Sn	13 25 58.3	+0.1
NSTT	baz=296 **Nanjuang**	**0.82**	**295**	*e*	P	Pn	13 25 46.9	+0.2
NSTT	baz=294				*e*S	Sn	13 25 58.2	0.0
HGSD	baz=294 **Ruisui**	**0.87**	**204**	*e*	P	Pn	13 25 47.3	0.0
HGSD	baz=204				*e*S	Sn	13 26 00.1	+0.6
YM01	baz=204 **YM01**	**0.88**	**345**	*e*	P	Pn	13 25 48.1	+0.5
YM01	baz=345				*e*S	Sn	13 26 00.2	+0.3
SSLB	baz=345 **Suanglung**	**0.93**	**238**	*e*	P	Pg	13 25 48.1	-0.1
SSLB	baz=237				*e*S	Sn	13 26 01.3	+0.2
YULB	baz=237 **Yu-li**	**1.01**	**208**	*e*	S	Sn	13 26 03.5	+0.5
YUS	baz=207 **Yu-Shan**	**1.12**	**225**	*e*	P	Pb	13 25 51.0	-0.2
YUS	baz=224				*e*S	Sg	13 26 06.7	0.0
	baz=224							

JMA 16 13:26:05.1, 24.23N×121.83E, h23km±1km, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JIJ	**Ishigaki jima**	**2.12**	**86**		P	Pn	13 26 38.9	-0.2
JISG	**Ishigakijimahi**	**2.29**	**81**		P	Pn	13 26 42.7	+1.2
JTJ	**Tarama**	**2.65**	**81**		P	Pn	13 26 47.5	+1.1

TAP 16 13:26:05.1, 24.27N×121.82E, h20km, ML2.9, 4C-4D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.09**	**298**		P	Pb	13 26 08.8	-0.1
EHP	baz=299				*e*S	Sb	13 26 12.4	+0.8
ENA	baz=299 **Nanau**	**0.17**	**335**⇓	*i*	P	Pb	13 26 09.9	0.0
ENA	baz=337			*i*	S	Sb	13 26 13.7	+0.5
EWUT	**Wuta**	**0.18**	**347**⇓	*i*	P	Pb	13 26 10.0	0.0
EWUT	baz=347			*i*	S	Sb	13 26 13.6	+0.3
ETL	**Fush Village**	**0.21**	**239**	*i*	P	Pb	13 26 10.7	+0.2
ETL	baz=238				S	Sb	13 26 15.0	+0.8
NACB	baz=238 **Ninganchiao**	**0.23**	**245**		P	Pb	13 26 10.7	0.0
NACB	baz=245				*e*S	Sb	13 26 15.0	+0.6
TWD	baz=245 **Chiawan**	**0.28**	**228**	*i*	P	Pb	13 26 11.5	+0.1
TWD	baz=227				S	Sb	13 26 16.8	+1.0
ETLH	baz=227 **Xiulin Townshi**	**0.32**	**259**⇑	*i*	P	Pb	13 26 12.1	0.0
ETLH	baz=258				*e*S	Sb	13 26 17.3	+0.4
TWC	baz=258 **Suao**	**0.34**	**4**	*e*	P	Pb	13 26 12.3	-0.2
TWC	baz=6.0				*e*S	Sb	13 26 17.7	+0.3

	baz=6.0								
HWA	**Hwalien**	**0.35**	**214**	*e*P	Pb	13 26 13.8	+1.2		
	baz=213								
NDS	**Dongshan**	**0.38**	**345**	⇓*i*P	Pb	13 26 13.2	+0.1		
	baz=345								
NDS				*e*S	Sb	13 26 18.8	+0.3		
	baz=345								
ETM	**Tongmen**	**0.43**	**225**	*e*P	Pb	13 26 14.1	+0.2		
	baz=225								
ETM				*e*S	Sb	13 26 20.9	+1.0		
	baz=225								
NNSB	**Datong**	**0.43**	**292**	P	Pb	13 26 14.4	+0.3		
	baz=291								
NNSB				S	Sb	13 26 20.7	+0.5		
	baz=291								
NDT	**Datong Townshi**	**0.43**	**320**	P	Pb	13 26 14.5	+0.4		
	baz=320								
NDT				*e*S	Sb	13 26 21.1	+0.9		
	baz=320								
ENTT	**Nioudou**	**0.44**	**328**	*i* P	Pb	13 26 14.2	+0.1		
	baz=328								
ENTT				*i* S	Sb	13 26 21.3	+1.0		
	baz=328								
NNS	**Nan Shan**	**0.44**	**293**	P	Pb	13 26 14.6	+0.3		
	baz=292								
NNS				*e*S	Sb	13 26 21.1	+0.5		
	baz=292								
TEYL	**Yanliau Villag**	**0.45**	**207**	*e*P	Pb	13 26 13.2	-1.1		
	baz=209								
TWE	**Neicheng**	**0.47**	**342**	⇓*i*P	Pb	13 26 14.9	+0.2		
	baz=344								
TWE				*e*S	Sb	13 26 22.0	+0.8		
	baz=344								
WHF	**Hehuan Shan**	**0.52**	**256**	⇑P	Pb	13 26 15.8	0.0		
	baz=256								
WHF				*e*S	Sb	13 26 23.7	+0.5		
	baz=256								
FUSS	**Fushou**	**0.53**	**268**	⇑*e*P	Pb	13 26 16.1	+0.3		
	baz=268								
FUSS				*e*S	Sb	13 26 23.8	+0.7		
	baz=268								
YHNB	**Yeheng**	**0.57**	**314**	*e*P	Pb	13 26 16.8	+0.3		
	baz=314								
YHNB				*e*S	Sb	13 26 24.8	+0.5		
	baz=314								
ESL	**Shilin**	**0.58**	**218**	*e*P	Pb	13 26 16.4	-0.1		
	baz=217								
ESL				*e*S	Sn	13 26 26.5	-0.6		
	baz=217								
NTC	**Toucheng**	**0.58**	**1**	*e*P	Pb	13 26 16.9	+0.3		
	baz=1.0								
NWLT	**Wulai**	**0.58**	**330**	P	Pb	13 26 16.8	+0.1		
	baz=330								
NWLT				*e*S	Sb	13 26 25.1	+0.6		
	baz=330								
NSK	**Sanguang**	**0.59**	**314**	*e*P	Pb	13 26 17.0	+0.2		
	baz=314								
NSK				*e*S	Sb	13 26 25.0	+0.4		
	baz=314								
TWT	**Tachien**	**0.59**	**269**	*e*P	Pb	13 26 17.2	+0.3		
	baz=268								
TDCB	**Techi**	**0.61**	**269**	*e*P	Pb	13 26 17.6	+0.5		
	baz=268								
TDCB				*e*S	Sb	13 26 26.3	+0.9		
	baz=268								
CHGB	**Renai**	**0.63**	**251**	⇑*e*P	Pb	13 26 17.8	+0.2		
	baz=251								
CHGB				*e*S	Sb	13 26 26.8	+0.8		
	baz=251								
OWD	**Renai**	**0.67**	**242**	*e*P	Pb	13 26 18.3	+0.1		
	baz=242								
TIPB	**Shuangxi**	**0.70**	**0**	*e*P	Pb	13 26 19.1	+0.5		
TIPB				*e*S	Sb	13 26 28.4	+0.5		
TWB1	**Santiao Chiao**	**0.75**	**12**	*e*P	Pb	13 26 20.0	+0.5		
	baz=12								
TWB1				*e*S	Sb	13 26 29.9	+0.6		
	baz=12								
NWF	**Wu-fen Shan**	**0.80**	**357**	*e*P	Pn	13 26 21.1	-0.2		
	baz=357								
NWF				*e*S	Sn	13 26 32.0	-0.6		
	baz=357								
WFSB	**Wu-fen Shan**	**0.80**	**357**	*e*P	Pn	13 26 21.1	-0.1		
	baz=357								
WFSB				*e*S	Sn	13 26 32.0	-0.5		
	baz=357								
LIOB	**Emei**	**0.82**	**297**	*e*P	Pn	13 26 21.7	+0.1		
	baz=297								
LIOB				*e*S	Sn	13 26 33.4	+0.2		
	baz=297								
NSTT	**Nanjuang**	**0.83**	**296**	*e*P	Pn	13 26 21.8	+0.2		
	baz=296								

TAP **16** *13:26:25.8,24˚.27N×121˚.82E,h21km,ML3.6,C*
JMA **16** *13:26:26.1±0.1,24˚.24N×121˚.84E,h18km±3km*
ISC 16 13:26:26.1±1.0,**24˚.26N**±0˚.02×**121˚.83E**±0˚.03,**h19**km±2km,
n48,σ0**944**/80,**1C-8D**,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.09**	**299**	*i* P	**Pg**	**13 26 29.8**	**-0.1**
	baz=297						
EHP				*i* S	**Sg**	**13 26 33.2**	**+0.7**
	baz=297						
ENA	**Nanau**	**0.18**	**333**	⇓*i*P	**Pg**	**13 26 30.8**	**-0.1**
	baz=336						
ENA				S	**Sg**	**13 26 34.6**	**+0.4**
	baz=336						
EWUT	**Wuta**	**0.19**	**345**	⇓*i*P	**Pg**	**13 26 30.8**	**-0.1**
	baz=346						
EWUT				*i* S	**Sg**	**13 26 34.5**	**+0.3**
	baz=346						
ETL	**Fush Village**	**0.22**	**241**	*i* P	**Pg**	**13 26 31.5**	**0.0**
	baz=238						
ETL				S	**Sg**	**13 26 35.9**	**+0.8**
	baz=238						
NACB	**Ninganchiao**	**0.23**	**247**	*e*P	**Pb**	**13 26 31.4**	**+0.1**
	baz=245						
NACB				S	**Sg**	**13 26 36.0**	**+0.5**
	baz=245						
TWD	**Chiawan**	**0.28**	**230**	*i* P	**Pb**	**13 26 32.5**	**+0.1**
	baz=226						
TWD				S	**Sg**	**13 26 37.7**	**+0.9**
	baz=226						
ETLH	**Xiulin Townshi**	**0.32**	**260**	⇓*i*P	**Pg**	**13 26 32.9**	**-0.2**
	baz=258						
ETLH				*e*S	**Sb**	**13 26 38.1**	**0.0**
	baz=258						
TWC	**Suao**	**0.34**	**3**	*i* P	**Pg**	**13 26 33.3**	**-0.2**
	baz=6.0						
TWC				*e*S	**Sg**	**13 26 38.5**	**0.0**
	baz=6.0						
HWA	**Hwalien**	**0.35**	**216**	*e*P	**Pb**	**13 26 34.7**	**+0.9**
	baz=213						
NDS	**Dongshan**	**0.38**	**344**	⇓*i*P	**Pg**	**13 26 34.0**	**-0.1**
	baz=345						
NDS				*i* S	**Sg**	**13 26 39.7**	**+0.1**
	baz=345						
ETM	**Tongmen**	**0.43**	**226**	*e*P	**Pb**	**13 26 35.0**	**-0.1**
	baz=225						
ETM				*e*S	**Sb**	**13 26 41.7**	**+0.5**
	baz=225						
NNSB	**Datong**	**0.44**	**292**	⇓*i*P	**Pg**	**13 26 35.2**	**0.0**
	baz=291						
NNSB				S	**Sg**	**13 26 41.5**	**+0.2**
	baz=291						
NDT	**Datong Townshi**	**0.44**	**319**	P	**Pg**	**13 26 35.2**	**0.0**
	baz=319						
NDT				*e*S	**Sb**	**13 26 42.2**	**+0.5**
	baz=319						
ENTT	**Nioudou**	**0.45**	**327**	*i* P	**Pg**	**13 26 35.2**	**-0.1**
	baz=328						
ENTT				S	**Sb**	**13 26 42.0**	**+0.4**
	baz=328						
TEYL	**Yanliau Villag**	**0.45**	**208**	*e*P	**Pb**	**13 26 35.5**	**+0.1**
	baz=209						
TEYL				*e*S	**Sn**	**13 26 43.4**	**-1.6**
	baz=209						
NNS	**Nan Shan**	**0.45**	**293**	⇓*i*P	**Pg**	**13 26 35.4**	**-0.1**
	baz=292						
NNS				S	**Sg**	**13 26 41.9**	**+0.2**
	baz=292						
TWE	**Neicheng**	**0.48**	**342**	⇓*i*P	**Pg**	**13 26 35.7**	**-0.1**
	baz=344						
TWE				*e*S	**Sb**	**13 26 42.9**	**+0.3**
	baz=344						
ILA	**Ilan**	**0.51**	**351**	*e*P	**Pg**	**13 26 36.5**	**+0.2**
	baz=353						
ILA				*e*S	**Sb**	**13 26 44.5**	**+1.2**
	baz=353						
WHF	**Hehuan Shan**	**0.53**	**257**	P	**Pb**	**13 26 36.7**	**-0.2**
	baz=256						
WHF				*e*S	**Sb**	**13 26 44.3**	**0.0**
	baz=256						
FUSS	**Fushou**	**0.54**	**268**	*e*P	**Pg**	**13 26 37.0**	**0.0**
	baz=267						
FUSS				*e*S	**Sb**	**13 26 44.9**	**+0.6**
	baz=267						
ESL	**Shilin**	**0.58**	**219**	*e*P	**Pb**	**13 26 37.4**	**-0.1**
	baz=217						
ESL				*e*S	**Sn**	**13 26 47.0**	**-1.2**
	baz=217						
YHNB	**Yeheng**	**0.58**	**314**	P	**Pb**	**13 26 37.7**	**+0.1**
	baz=314						
YHNB				*e*S	**Sb**	**13 26 45.5**	**+0.1**
	baz=314						
NTC	**Toucheng**	**0.59**	**360**	⇓*i*P	**Pb**	**13 26 37.7**	**+0.1**
	baz=1.0						
NTC				*e*S	**Sg**	**13 26 46.1**	**+0.4**
	baz=1.0						
NWLT	**Wulai**	**0.59**	**330**	⇑*i*P	**Pb**	**13 26 37.7**	**0.0**
	baz=330						
NWLT				*e*S	**Sg**	**13 26 46.0**	**+0.1**
	baz=330						
NSK	**Sanguang**	**0.59**	**314**	*e*P	**Pb**	**13 26 37.7**	**-0.1**
	baz=314						
NSK				*e*S	**Sg**	**13 26 46.1**	**+0.1**
	baz=314						
TWT	**Tachien**	**0.60**	**269**	*e*P	**Pg**	**13 26 38.6**	**+0.5**
	baz=268						
TWT				*e*S	**Sg**	**13 26 46.9**	**+0.7**
	baz=268						
TDCB	**Techi**	**0.61**	**269**	*e*P	**Pg**	**13 26 38.4**	**0.0**
	baz=268						
TDCB				*e*S	**Sg**	**13 26 46.6**	**-0.1**
	baz=268						
CHGB	**Renai**	**0.63**	**251**	*e*P	**Pg**	**13 26 38.8**	**0.0**
	baz=250						
CHGB				*e*S	**Sg**	**13 26 47.5**	**+0.2**
	baz=250						
OWD	**Renai**	**0.67**	**243**	*e*P	**Pb**	**13 26 39.1**	**-0.1**
	baz=242						
TIPB	**Shuangxi**	**0.70**	**360**	*e*P	**Pb**	**13 26 40.0**	**+0.2**
TIPB				*e*S	**Sb**	**13 26 49.3**	**+0.2**
TWA	**Mucha**	**0.75**	**343**	*e*P	**Pg**	**13 26 41.0**	**+0.3**
	baz=343						
TWA				*e*S	**Sg**	**13 26 51.2**	**+0.5**
	baz=343						
NHDH	**Xindian Distri**	**0.75**	**338**	*e*P	**Pg**	**13 26 41.1**	**+0.3**
	baz=338						
NHDH				*e*S	**Sg**	**13 26 50.9**	**+0.1**
	baz=338						
TWB1	**Santiao Chiao**	**0.75**	**11**	*e*P	**Pb**	**13 26 40.7**	**+0.2**
	baz=12						
TWB1				*e*S	**Sb**	**13 26 50.7**	**+0.3**
	baz=12						
NWF	**Wu-fen Shan**	**0.80**	**357**	*e*P	**Pg**	**13 26 42.2**	**+0.3**
	baz=357						
WFSB	**Wu-fen Shan**	**0.80**	**357**	*e*P	**Pn**	**13 26 42.2**	**-0.1**
	baz=357						
LIOB	**Emei**	**0.83**	**297**	*e*P	**Pn**	**13 26 42.9**	**+0.1**
	baz=297						
NSTT	**Nanjuang**	**0.84**	**296**	*e*P	**Pg**	**13 26 42.7**	**+0.2**
	baz=296						
NSTT				*e*S	**Sg**	**13 26 53.6**	**-0.1**
	baz=296						
YM01	**YM01**	**0.91**	**345**	*e*P	**Pn**	**13 26 43.8**	**0.0**
	baz=345						
TWS1	**Kuangyinshan**	**0.91**	**336**	*e*P	**Pb**	**13 26 43.0**	**-0.3**
	baz=336						
NCUH	**Zhongli**	**0.92**	**320**	*e*P	**Pg**	**13 26 44.1**	**+0.2**
	baz=320						
ANP	**Anpu**	**0.96**	**343**	*e*P	**Pn**	**13 26 44.7**	**+0.1**
	baz=344						
JYNG	**Yonagunijimaku**	**1.03**	**79**	P	**Pn**	**13 26 45.4**	**-0.1**
YOJ	**Yonaguni jima**	**1.09**	**79**	P	**Pn**	**13 26 46.1**	**-0.2**
IRIF	**Iriomote-Funau**	**1.73**	**87**	P	**Pn**	**13 26 54.8**	**-0.3**
JKRS	**Kuro-shima**	**1.99**	**90**	P	**Pn**	**13 26 59.4**	**+0.8**
JIJ	**Ishigaki jima**	**2.11**	**87**	P	**Pn**	**13 27 00.2**	**-0.1**
JISG	**Ishigakijimahi**	**2.28**	**81**	P	**Pn**	**13 27 02.9**	**+0.2**
JTJ	**Tarama**	**2.64**	**81**	P	**Pn**	**13 27 06.5**	**-1.1**

IDC **16** *13:26:26.2±3.3,14˚.35N×93˚.38W,h0km,mb3.6/3,*
mb1 4.0/5,mb1mx3.8/30,mbtmp3.6/5,ML3.6/2,Error
ellipse: s-maj=98.4km s-min=34.7km az=39.0
NEIC **16** *13:26:27.2±4.2,14˚.34N±0˚.03×93˚.46W±0˚.04,h10km±2km,*
mb3.8/3,Md4.1/19(MEX),Error ellipse: s-maj=7.7km
s-min=4.2km az=295.0
MEX **16** *13:26:27.0±0.8,14˚.27N×93˚.47W,h5km±204km,MD4.1*
ISC 16 13:26:27.8±0.9,**14˚.43N**±0˚.06×**93˚.35W**±0˚.05,**h10**km,**n29**,
σ1**933**/37,**mb3.6/3**,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.15**	**66**	*i* P	**Pb**	**13 26 48.5**	**-1.3**
THIG				*e*S	**Sn**	**13 27 06.3**	**+0.4**
THIG		**1.15**	**66**		**Pb**	**13 26 48.5**	**-1.3**
THIG					**Sn**	**13 27 06.3**	**+0.4**
PCIG		**1.27**	**6**	*i* P	**Pn**	**13 26 50.6**	**-1.1**
PCIG				*i* S	**Sg**	**13 27 07.9**	**-1.0**
PCIG		**1.27**	**6**		**Pn**	**13 26 50.6**	**-1.1**
PCIG					**Sg**	**13 27 07.9**	**-1.0**
CCIG	**Comitan**	**2.18**	**32**	*i* P	**Pb**	**13 27 06.2**	**-1.4**
CCIG				*i* S	**Sg**	**13 27 37.4**	**-0.7**
CCIG	**Comitan**	**2.18**	**32**		**Pb**	**13 27 06.2**	**-1.4**
CCIG					**Sg**	**13 27 37.4**	**-0.7**
TGIG		**2.34**	**5**	*i* P	**Pb**	**13 27 08.3**	**-2.0**
TGIG				*i* S	**Sb**	**13 27 39.6**	**+0.3**
TGIG		**2.34**	**5**		**Pb**	**13 27 08.3**	**-2.0**
TGIG					**Sb**	**13 27 39.6**	**+0.3**
CMIG	**Matias Romero**	**3.03**	**331**	Pn	**Pn**	**13 27 15.6**	**-0.3**
	1.6nm,0.3s,baz=158,slow=12,SNR=17						
CMIG				Sn	**Sn**	**13 27 53.5**	**+1.3**
	18nm,0.3s,baz=162,slow=20,SNR=7.9						
CMIG	**Matias Romero**	**3.03**	**331**	*e*P	**Pn**	**13 27 15.4**	**-0.5**
CMIG	**Matias Romero**	**3.03**	**331**		**Pn**	**13 27 15.4**	**-0.5**
MTO3	**Montecristo**	**3.87**	**90**		**Pn**	**13 27 27.6**	**0.0**
PNIG	**Pinotepa**	**5.00**	**294**	*e*P	**Pn**	**13 27 40.4**	**-2.6**
PNIG	**Pinotepa**	**5.00**	**294**		**Pn**	**13 27 40.4**	**-2.6**
TOIG	**Toxpalan**	**5.10**	**316**	*e*P	**Pn**	**13 27 47.6**	**+3.1**
MGIG	**Malinaltepec**	**5.80**	**299**	*e*P	**Pn**	**13 27 55.9**	**+1.7**
TGUH	**Tegucigalpa,Un**	**5.91**	**93**	Pn	**Pn**	**13 27 57.6**	**+2.1**
ACON	**Acoyapa**	**8.33**	**106**	Pn	**Pn**	**13 28 29.5**	**+0.7**
ORTG	**Ortega, Santa**	**8.71**	**117**	Pn	**Pn**	**13 28 33.1**	**-0.9**
TXAR	**Lajitas Array**	**17.63**	**329**	P	**P**	**13 30 35.8**	**+1.0**
	0.1nm,0.3s,baz=155,slow=15,SNR=9.4						
TX31	**Lajitas Ar. Si**	**17.64**	**329**		**Pn**	**13 30 33.5**	**-0.3**
TX31				IAmb	IAmb	13 30 39.7	
	comp=Z,26nm,1.4s						
TX32	**Lajitas Array**	**17.64**	**329**		**Pn**	**13 30 33.8**	**0.0**
TX32				IAmb	IAmb	13 30 39.7	
	comp=Z,8.9nm,1.4s						
MNTX	**Cornudas Mount**	**20.41**	**329**		Pn	13 31 07.8	+0.5
MNTX				IAmb	IAmb	13 31 10.1	
	comp=Z,2.8nm,0.8s						
NVAR	**Mina Array Bea**	**32.52**	**322**	P	**P**	**13 33 00.5**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=138,slow=8.5,SNR=5.4						
MCMT	**McKenzie Canyo**	**34.52**	**335**	P	**P**	**13 33 17.5**	**+0.9**
LRM	**Limekiln Ridge**	**35.19**	**337**	P	**P**	**13 33 23.2**	**+0.9**
HRY	**Holter Researc**	**35.71**	**338**	P	**P**	**13 33 27.1**	**+0.5**
ILAR	**Eielson Array**	**61.93**	**337**	P	**P**	**13 36 46.9**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=146,slow=5.7,SNR=4.9						
ESDC	**Sonseca Array**	**80.48**	**51**	P	**P**	**13 38 41.0**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=282,slow=6.4,SNR=1.5						

IDC **16** *13:26:41.9±1.1,24˚.19N×121˚.84E,h0km,mb3.5/6,*
mb1 3.6/7,mb1mx3.5/41,mbtmp3.6/7,ML3.2/1,Error
ellipse: s-maj=27.1km s-min=21.4km az=57.0
JMA **16** *13:26:45.6±0.1,24˚.25N×121˚.82E,h24km±2km,M3.7*
ASIES **16** *13:26:45.6,24˚.29N×121˚.82E,h21km,MW3.7*
TAP **16** *13:26:45.3,24˚.29N×121˚.83E,h22km,ML4.3,B*
ISC 16 13:26:45.0±0.8,**24˚.27N**±0˚.01×**121˚.84E**±0˚.02,**h18**km±1km,
n144,σ0**990**/210,**mb3.4**/6,**8C-10D**,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.10**	**297**	⇓*i*P	**Pb**	**13 26 49.5**	**+0.7**
	baz=287						
EHP				*i* S	**Sb**	**13 26 52.8**	**+1.7**
	baz=287						
ENA	**Nanau**	**0.18**	**331**	⇓*i*P	**Pb**	**13 26 50.2**	**+1.0**
	baz=333						
ENA				*i* S	**Sb**	**13 26 54.0**	**+2.1**
	baz=333						
EWUT	**Wuta**	**0.19**	**343**	⇓*i*P	**Pb**	**13 26 50.3**	**+1.0**
	baz=344						
EWUT				*i* S	**Sb**	**13 26 53.8**	**+1.8**
	baz=344						
ETL	**Fush Village**	**0.22**	**242**	*i* P	**Pb**	**13 26 51.2**	**+1.0**
	baz=236						
ETL				S	**Sb**	**13 26 55.9**	**+2.3**
	baz=236						
NACB	**Ninganchiao**	**0.24**	**248**	*i* P	**Pb**	**13 26 51.2**	**+0.6**
	baz=243						
NACB				*e*S	**Sb**	**13 26 55.9**	**+1.6**
	baz=243						
TWD	**Chiawan**	**0.29**	**230**	*i* P	**Pb**	**13 26 52.1**	**+0.5**
	baz=225						
TWD				S	**Sb**	**13 26 57.5**	**+1.6**
	baz=225						
ETLH	**Xiulin Townshi**	**0.33**	**260**	P	**Pb**	**13 26 52.6**	**+0.2**
	baz=256						
ETLH				*e*S	**Sb**	**13 26 58.0**	**+0.6**
	baz=256						
TWC	**Suao**	**0.34**	**2**	*i* P	**Pb**	**13 26 52.7**	**0.0**
	baz=5.0						
TWC				S	**Sb**	**13 26 57.8**	**0.0**
	baz=5.0						
HWA	**Hwalien**	**0.36**	**217**	*e*P	**Pb**	**13 26 54.3**	**+1.4**
	baz=212						
HWA				*e*S	**Sn**	**13 27 01.1**	**-0.7**
	baz=212						
NDS	**Dongshan**	**0.38**	**343**	⇓*i*P	**Pb**	**13 26 53.4**	**0.0**
	baz=344						
NDS				*i* S	**Sb**	**13 26 59.0**	**0.0**
	baz=344						
ETM	**Tongmen**	**0.43**	**227**	*e*P	**Pb**	**13 26 54.5**	**+0.4**
	baz=224						
ETM				*e*S	**Sb**	**13 27 01.5**	**+1.1**
	baz=224						
NNSB	**Datong**	**0.45**	**292**	*i* P	**Pb**	**13 26 54.8**	**+0.3**
	baz=289						
NNSB				S	**Sb**	**13 27 01.1**	**+0.2**
	baz=289						
ENTT	**Nioudou**	**0.45**	**326**	*i* P	**Pb**	**13 26 54.4**	**0.0**
	baz=326						
ENTT				S	**Sb**	**13 27 01.4**	**+0.6**
	baz=326						
NDT	**Datong Townshi**	**0.45**	**319**	P	**Pb**	**13 26 54.6**	**+0.1**
	baz=318						
NDT				*e*S	**Sb**	**13 27 01.4**	**+0.6**
	baz=318						
TEYL	**Yanliau Villag**	**0.45**	**209**	*e*P	**Pb**	**13 26 54.9**	**+0.5**
	baz=209						
TEYL				*e*S	**Sn**	**13 27 03.5**	**-0.7**
	baz=209						
NNS	**Nan Shan**	**0.46**	**292**	⇓*i*P	**Pb**	**13 26 55.0**	**+0.3**
	baz=290						
NNS				S	**Sb**	**13 27 01.4**	**+0.2**
	baz=290						
TWE	**Neicheng**	**0.48**	**341**	⇓*i*P	**Pb**	**13 26 55.1**	**+0.2**
	baz=343						
TWE				S	**Sb**	**13 27 02.2**	**+0.5**
	baz=343						
ILA	**Ilan**	**0.51**	**351**	⇓*i*P	**Pb**	**13 26 55.9**	**+0.5**
	baz=352						
ILA				*e*S	**Sb**	**13 27 03.4**	**+1.1**
	baz=352						
WHF	**Hehuan Shan**	**0.54**	**257**	⇑*i*P	**Pb**	**13 26 56.3**	**+0.3**
	baz=254						
WHF				*e*S	**Sb**	**13 27 04.3**	**+0.7**
	baz=254						
FUSS	**Fushou**	**0.54**	**268**	⇑*i*P	**Pb**	**13 26 56.6**	**+0.5**
	baz=266						
FUSS				*e*S	**Sb**	**13 27 04.4**	**+0.8**
	baz=266						
ESL	**Shilin**	**0.58**	**220**	P	**Pb**	**13 26 57.0**	**+0.5**
	baz=217						
ESL				*e*S	**Sb**	**13 27 06.2**	**+1.8**
	baz=217						
YHNB	**Yeheng**	**0.58**	**314**	P	**Pb**	**13 26 56.9**	**+0.3**
	baz=313						
YHNB				*e*S	**Sb**	**13 27 04.8**	**+0.2**
	baz=313						
EGS		**0.58**	**8**	P	**Pb**	**13 26 57.4**	**+0.8**
	baz=11						
EGS				*e*S	**Sb**	**13 27 05.7**	**+1.1**
	baz=11						
NTC	**Toucheng**	**0.59**	**359**	*e*P	**Pb**	**13 26 57.3**	**+0.6**
NWLT	**Wulai**	**0.59**	**329**	*e*P	**Pb**	**13 26 56.8**	**-0.1**
	baz=329						
NWLT				*e*S	**Sb**	**13 27 05.0**	**+0.2**
	baz=329						
NSK	**Sanguang**	**0.60**	**313**	⇓*i*P	**Pb**	**13 26 57.1**	**+0.2**
	baz=313						
NSK				*i* S	**Sb**	**13 27 05.3**	**+0.3**
	baz=313						
TWT	**Tachien**	**0.60**	**269**	⇑P	**Pb**	**13 26 58.0**	**+0.9**
	baz=267						
TWT				*e*S	**Sb**	**13 27 06.4**	**+1.2**
	baz=267						
TEGC	**Jichi Village**	**0.62**	**206**	P	**Pb**	**13 26 58.1**	**+0.9**
	baz=204						
TEGC				*e*S	**Sn**	**13 27 08.1**	**-0.1**
	baz=204						
TDCB	**Techi**	**0.62**	**269**	⇑P	**Pb**	**13 26 57.9**	**+0.6**
	baz=267						
TDCB				S	**Sb**	**13 27 06.3**	**+0.6**
	baz=267						
CHGB	**Renai**	**0.64**	**252**	⇑P	**Pb**	**13 26 58.2**	**+0.5**
	baz=249						
CHGB				*e*S	**Sb**	**13 27 07.5**	**+1.2**
	baz=249						
OWD	**Renai**	**0.68**	**243**	*i* P	**Pb**	**13 26 58.8**	**+0.4**
	baz=241						
OWD				*e*S	**Sb**	**13 27 08.9**	**+1.5**
	baz=241						
EGFH	**Guangfu**	**0.70**	**212**	*e*P	**Pb**	**13 26 59.1**	**+0.5**
	baz=211						
EGFH				*e*S	**Sn**	**13 27 09.6**	**-0.8**
	baz=211						
TIPB	**Shuangxi**	**0.70**	**359**	⇓*i*P	**Pb**	**13 26 59.1**	**+0.4**
	baz=360						
TIPB				S	**Sb**	**13 27 08.4**	**+0.3**
	baz=360						
TWA	**Mucha**	**0.75**	**342**	*e*P	**Pb**	**13 27 00.1**	**+0.6**
	baz=343						
TWA				*e*S	**Sb**	**13 27 10.4**	**+1.0**
	baz=343						
NHDH	**Xindian Distri**	**0.75**	**338**	*e*P	**Pb**	**13 26 60.0**	**+0.4**
	baz=338						
NHDH				*e*S	**Sb**	**13 27 10.2**	**+0.7**
	baz=338						
TWB1	**Santiao Chiao**	**0.75**	**10**	P	**Pb**	**13 27 00.0**	**+0.5**
	baz=12						
TWB1				*e*S	**Sb**	**13 27 09.8**	**+0.4**
	baz=12						
NWF	**Wu-fen Shan**	**0.81**	**356**	*e*P	**Pb**	**13 27 01.2**	**+0.7**
	baz=357						
NWF				*e*S	**Sb**	**13 27 12.0**	**+0.9**
	baz=357						
WFSB	**Wu-fen Shan**	**0.81**	**356**	*e*P	**Pn**	**13 27 01.2**	**-0.2**
	baz=357						
WFSB				*e*S	**Sb**	**13 27 12.0**	**+1.0**
	baz=357						
WHP	**Taichung City**	**0.81**	**271**	*e*P	**Pb**	**13 27 01.3**	**+0.7**
	baz=269						
WHP				*e*S	**Sn**	**13 27 12.6**	**-0.7**
	baz=269						
TAP	**Taipei**	**0.83**	**339**	*e*P	**Pb**	**13 27 01.3**	**+0.

	baz=253								
WCS	**Beigang Elemen**	**0.87**	**256**	*eP*		**Pb**	**13 27 02.0**	**+0.5**
	baz=255								
WCS				*eS*		**Sn**	**13 27 14.1**	**-0.4**
	baz=255								
TNOU	**National Taiwa**	**0.88**	**356**	*eP*		**Pb**	**13 27 00.1**	**-1.7**
	baz=357								
TNOU				*eS*		**Sb**	**13 27 11.8**	**-1.4**
	baz=357								
EHY	**Hungye**	**0.89**	**212**	*eP*		**Pb**	**13 27 02.5**	**+0.6**
	baz=210								
HSN1	**Hsinchu**	**0.91**	**305**	*eP*		**Pn**	**13 27 03.6**	**+0.8**
	baz=304								
YM01	**YM01**	**0.91**	**345**	*eP*		**Pn**	**13 27 03.0**	**+0.1**
	baz=345								
TWS1	**Kuangyinshan**	**0.92**	**335**	*eP*		**Pb**	**13 27 02.5**	**+0.1**
	baz=336								
TWS1				*eS*		**Sn**	**13 27 15.7**	**0.0**
	baz=336								
NCU	**National Centr**	**0.92**	**320**	*eP*		**Pn**	**13 27 03.6**	**+0.6**
	baz=320								
NCU				*eS*		**Sn**	**13 27 17.0**	**+1.2**
	baz=320								
NCUH	**Zhongli**	**0.92**	**320**	*eP*		**Pn**	**13 27 03.3**	**+0.3**
	baz=319								
SBCB	**Hsinchu**	**0.94**	**304**	*eP*		**Pn**	**13 27 04.0**	**+0.8**
	baz=303								
SBCB				*eS*		**Sn**	**13 27 17.7**	**+1.5**
	baz=303								
SMLT	**Sun Moon Lake**	**0.94**	**246**	*eP*		**Pb**	**13 27 03.1**	**+0.3**
	baz=244								
SMLT				*eS*		**Sn**	**13 27 16.4**	**+0.1**
	baz=244								
SSLB	**Suanglung**	**0.94**	**240**	*eP*		**Pb**	**13 27 03.2**	**+0.4**
	baz=238								
SSLB				*eS*		**Sn**	**13 27 16.3**	**+0.1**
	baz=238								
YM08	**YM08**	**0.95**	**346**	*eP*		**Pn**	**13 27 03.6**	**+0.2**
	baz=346								
HSN	**Hsinchu**	**0.95**	**304**	*eP*		**Pn**	**13 27 03.9**	**+0.4**
	baz=306								
HSN				*eS*		**Sn**	**13 27 17.8**	**+1.2**
	baz=306								
ANP	**Anpu**	**0.96**	**343**	*eP*		**Pn**	**13 27 03.8**	**+0.1**
	baz=343								
TYC	**Yuchr**	**0.97**	**248**	*eP*		**Pb**	**13 27 03.5**	**+0.3**
	baz=247								
TWQ1	**Liyutan**	**0.97**	**275**	*eP*		**Pn**	**13 27 04.7**	**+0.9**
	baz=274								
NMLH	**Miaoli**	**0.99**	**286**	*eP*		**Pn**	**13 27 04.7**	**+0.6**
	baz=285								
NSY	**Sanyi**	**0.99**	**279**	*eP*		**Pn**	**13 27 05.2**	**+1.2**
	baz=278								
YULB	**Yu-li**	**1.00**	**210**	*eP*		**Pb**	**13 27 04.2**	**+0.4**
	baz=209								
ECBN	**Changbin**	**1.01**	**201**	*eP*		**Pn**	**13 27 04.5**	**+0.2**
	baz=200								
JYNG	**Yonagunijimaku**	**1.03**	**79**	P		**Pb**	**13 27 04.6**	**+0.4**
JYNG				*eS*		**Sn**	**13 27 18.9**	**+0.5**
EYUL	**Yuli**	**1.03**	**208**	*eP*		**Pb**	**13 27 04.3**	**+0.1**
	baz=207								
TWY	**Chenhua**	**1.03**	**348**	*eP*		**Pn**	**13 27 05.6**	**+1.1**
	baz=348								
NHW	**Xinwu Township**	**1.03**	**316**	*eP*		**Pn**	**13 27 05.1**	**+0.5**
	baz=315								
NHW				*eS*		**Sn**	**13 27 20.2**	**+1.7**
	baz=315								
TWF1	**Yuli**	**1.03**	**209**	*eP*		**Pb**	**13 27 04.2**	**-0.2**
	baz=207								
WHYT	**Xinyi Township**	**1.06**	**238**	*eP*		**Pb**	**13 27 05.2**	**+0.3**
	baz=237								
WWF	**Wufeng**	**1.06**	**258**	*eP*		**Pn**	**13 27 06.8**	**+1.8**
	baz=257								
YOJ	**Yonaguni jima**	**1.09**	**79**	P		**Pn**	**13 27 05.6**	**+0.3**
YOJ				*eS*		**Sn**	**13 27 21.3**	**+1.4**
YOJ	**Yonaguni jima**	**1.09**	**79**	P		**Pn**	**13 27 05.6**	**+0.3**
	baz=80								
YOJ				*eS*		**Sn**	**13 27 21.5**	**+1.7**
	baz=80								
WDJ	**Dajia District**	**1.10**	**275**	*eP*		**Pb**	**13 27 06.8**	**+1.4**
	baz=273								
WJS	**Zhushan**	**1.11**	**247**	*eP*		**Pb**	**13 27 06.7**	**+1.1**
	baz=245								
WNT1	**Nantou City**	**1.12**	**252**	*eP*		**Pb**	**13 27 07.4**	**+1.7**
	baz=250								
YUS	**Yu-Shan**	**1.12**	**227**	*eP*		**Pb**	**13 27 06.0**	**-0.1**
	baz=225								
WNT	**Mingjian**	**1.12**	**250**	*eP*		**Pb**	**13 27 07.1**	**+1.2**
	baz=249								
FULB	**Fuli**	**1.17**	**205**	*eP*		**Pn**	**13 27 06.5**	**0.0**
	baz=204								
WCHH	**Zhanghua**	**1.18**	**261**	*eP*		**Pb**	**13 27 08.1**	**+1.2**
	baz=260								
ALS	**Alishan**	**1.21**	**232**	*eP*		**Pn**	**13 27 07.7**	**+0.4**
	baz=230								
CHKT	**Chengkung**	**1.24**	**201**	*eP*		**Pn**	**13 27 07.5**	**+0.1**
	baz=199								
CHN5	**Tsauling**	**1.25**	**238**	*eP*		**Pb**	**13 27 09.0**	**+0.8**
	baz=237								
ECS	**Chishang**	**1.29**	**206**	*eP*		**Pn**	**13 27 08.6**	**+0.4**
	baz=205								
WGK	**Gukeng**	**1.30**	**244**	*eP*		**Pb**	**13 27 10.1**	**+1.2**
	baz=243								
ELDTW	**Lidau**	**1.31**	**215**	*eP*		**Pn**	**13 27 08.5**	**+0.1**
	baz=214								
WDLH	**Douliu**	**1.32**	**245**	*eP*		**Pb**	**13 27 10.0**	**+0.8**
	baz=243								
PCYT	**Pengchaiyu**	**1.38**	**9**	*eP*		**Pn**	**13 27 09.9**	**+0.6**
	baz=10.0								
EDH	**Donghe**	**1.38**	**201**	*eP*		**Pn**	**13 27 09.1**	**-0.2**
	baz=200								
WRL	**Guolierlin Hig**	**1.38**	**255**	*eP*		**Pb**	**13 27 10.5**	**+0.2**
	baz=254								
CHN2	**Minshiung**	**1.45**	**240**	*eP*		**Pb**	**13 27 12.3**	**+1.0**
	baz=239								
WTK	**Tuku**	**1.45**	**247**	*eP*		**Pb**	**13 27 11.7**	**+0.4**
	baz=246								
CHN4	**Tsaushan**	**1.46**	**232**	*eP*		**Pb**	**13 27 12.1**	**+0.5**
	baz=231								
STYH	**Taoyuan**	**1.46**	**222**	*eP*		**Pn**	**13 27 11.0**	**+0.6**
	baz=221								
TPUB	**Ta-pu**	**1.47**	**229**	*eP*		**Pb**	**13 27 11.9**	**+0.1**
	baz=228								
STYT	**Tauyuan**	**1.48**	**222**	*eP*		**Pn**	**13 27 11.4**	**+0.7**
	baz=221								
WTCT	**Ta-ch'eng**	**1.48**	**255**	*eP*		**Pb**	**13 27 11.9**	**0.0**
	baz=253								
LONT	**Longtian**	**1.50**	**206**	*eP*		**Pn**	**13 27 10.2**	**-0.8**
	baz=205								
CHY	**Chiayi**	**1.50**	**240⇑**	*eP*		**Pb**	**13 27 13.1**	**+0.7**
	baz=238								
CHY				*eS*		**Sb**	**13 27 34.2**	**+3.2**
	baz=238								
WTP	**Ta-pu**	**1.51**	**228**	*eP*		**Pb**	**13 27 12.5**	**-0.1**
	baz=227								
TWK	**Hsinying**	**1.59**	**232**	*eP*		**Pb**	**13 27 14.0**	**+0.2**
	baz=230								
TWG	**Pinlang**	**1.60**	**206**	*eP*		**Pn**	**13 27 12.2**	**-0.1**
	baz=205								
TWGBT	**Beinan**	**1.60**	**206**	*eP*		**Pn**	**13 27 12.2**	**-0.2**
	baz=205								
WSF	**Szhu**	**1.60**	**247**	*eP*		**Pb**	**13 27 14.1**	**0.0**
	baz=246								
SNST	**Tainan City**	**1.61**	**230**	*eP*		**Pb**	**13 27 14.5**	**+0.3**
	baz=229								
CHN1	**Nanshi**	**1.61**	**228**	*eP*		**Pb**	**13 27 14.4**	**+0.2**
	baz=227								
LDUT	**Ludao**	**1.62**	**192**	*eP*		**Pn**	**13 27 12.8**	**+0.1**
	baz=192								
SGST	**Jiashian**	**1.65**	**225**	*eP*		**Pn**	**13 27 13.7**	**+0.7**
	baz=223								
SGST				*eS*		**Sb**	**13 27 36.3**	**+1.0**
	baz=223								
SLGT	**Liugui**	**1.67**	**221**	*eP*		**Pb**	**13 27 15.1**	**-0.2**
	baz=220								
ICHU	**Yijhu**	**1.69**	**238⇑**	*eP*		**Pb**	**13 27 15.2**	**-0.3**
	baz=237								
ICHU				*eS*		**Sb**	**13 27 37.8**	**+1.4**
	baz=237								
IRIF	**Iriomote-Funau**	**1.73**	**87**	P		**Pn**	**13 27 14.1**	**0.0**
IRIF				*eS*		**Sn**	**13 27 36.4**	**+0.7**
CHN8	**Yiju**	**1.75**	**239**	*eP*		**Pb**	**13 27 16.0**	**-0.5**
	baz=238								
CHN3	**Shinhua**	**1.80**	**229**	*eP*		**Pb**	**13 27 17.9**	**+0.5**
	baz=228								
HATJ	**Hateruma jima**	**1.81**	**96**	P		**Pn**	**13 27 16.0**	**+0.8**
SCST	**Cishan**	**1.84**	**222**	*eP*		**Pb**	**13 27 18.0**	**-0.2**
	baz=221								
SSD	**Sandimen**	**1.87**	**216**	*eP*		**Pb**	**13 27 18.0**	**-0.7**
	baz=215								
TSMG	**Majia**	**1.90**	**215**	*eP*		**Pb**	**13 27 18.4**	**-0.7**
	baz=215								
JKRS	**Kuro-shima**	**1.98**	**90**	P		**Pn**	**13 27 18.5**	**+0.9**
JKRS				*eS*		**Sn**	**13 27 43.3**	**+1.4**
MASBT	**Mashibuluo**	**1.98**	**214**	*eP*		**Pb**	**13 27 19.6**	**-0.9**
	baz=213								
EAST	**Anshuo**	**2.08**	**206**	*eP*		**Pn**	**13 27 19.9**	**+0.9**
	baz=205								
JIJ	**Ishigaki jima**	**2.10**	**87**	P		**Pn**	**13 27 19.5**	**+0.2**
JIJ				*eS*		**Sn**	**13 27 45.9**	**+0.9**
SCZT	**Fangliau**	**2.19**	**211**	*eP*		**Pn**	**13 27 22.6**	**+2.1**
	baz=210								
PNG	**Penghu**	**2.20**	**252**	*eP*		**Pn**	**13 27 21.0**	**+0.4**
	baz=251								
PHUB	**P'eng-hu**	**2.21**	**251**	*eP*		**Pn**	**13 27 20.9**	**+0.2**
	baz=250								
PHUB				*eS*		**Sn**	**13 27 48.4**	**+0.9**
	baz=250								
LAY	**Lan-yu**	**2.23**	**187**	*eP*		**Pn**	**13 27 20.2**	**-0.9**
	baz=186								
LAY				*eS*		**Sn**	**13 27 47.2**	**-0.9**
	baz=186								
WDGT	**Dungji**	**2.23**	**244**	*eP*		**Pn**	**13 27 22.4**	**+1.4**
	baz=243								
SLIU	**Shizi**	**2.25**	**205**	*eP*		**Pn**	**13 27 22.6**	**+1.3**
	baz=205								
JISG	**Ishigakijimahi**	**2.28**	**81**	P		**Pn**	**13 27 21.3**	**-0.3**
JISG				*eS*		**Sn**	**13 27 48.7**	**-0.5**
JTJ	**Tarama**	**2.64**	**81**	P		**Pn**	**13 27 27.4**	**+0.8**
JTJ				*eS*		**Sn**	**13 27 59.2**	**+1.1**
QZH	**Quanzhou**	**3.03**	**284⇑**	*iPn*		**Pn**	**13 27 31.6**	**-0.4**
QZH				Sn		**Sn**	**13 28 06.8**	**-1.1**
QZH				smax	smax			
	comp=N,110nm,0.7s								
QZH				smax	smax			
	comp=E,73nm,0.6s								
JIRB	**Irabujima**	**3.09**	**79**	P		**Pn**	**13 27 33.5**	**+0.7**
JIKM	**Ikemajima**	**3.17**	**77**	P		**Pn**	**13 27 35.0**	**+1.0**
JMJ2	**Miyako jima3**	**3.21**	**81**	P		**Pn**	**13 27 36.2**	**+1.6**
JOGS	**Gusukube**	**3.29**	**81**	P		**Pn**	**13 27 38.2**	**+2.6**
JOW	**Kunigami**	**6.35**	**65**	Pn		**Pn**	**13 28 17.4**	**-0.2**
	comp=E,1.3nm,0.3s,baz=255,slow=16,SNR=12								
JOW				Sn		**Sn**	**13 29 32.3**	**+2.6**
	baz=135,slow=16,SNR=1.2								
APYP	**Conner**	**6.39**	**185⇓**	*eP*		**Pn**	**13 28 21.0**	**+2.7**
KSRS	**Korea Array**	**14.14**	**20**	Pn		**P**	**13 30 10.6**	**-1.2**
	comp=E,0.1nm,0.3s,baz=202,slow=11,SNR=3.1								
CMAR	**Chiang Mai Arr**	**22.08**	**259**	P		**P**	**13 31 39.0**	**-0.2**
	comp=E,1.6nm,1.0s,baz=61,slow=9.1,SNR=5.1								
SONM	**Songino Array**	**26.53**	**336**	P		**P**	**13 32 21.9**	**+0.2**
	comp=E,0.7nm,0.8s,baz=157,slow=7.7,SNR=1.7								
MKAR	**Makanchi Array**	**38.70**	**316**	P		**P**	**13 34 07.6**	**-0.2**
	comp=E,0.4nm,0.5s,baz=105,slow=9.3,SNR=3.7								
ZALV	**Zalesovo Beam**	**40.50**	**327**	P		**P**	**13 34 23.0**	**+0.3**
	comp=E,0.5nm,0.4s,baz=126,slow=7.3,SNR=1.9								
WRA	**Warramunga Arr**	**45.60**	**163**	P		**P**	**13 35 03.2**	**-1.0**
	comp=E,0.5nm,0.6s,baz=344,slow=8.8,SNR=5.1								
ASAR	**Alice Springs**	**49.06**	**165**	P		**P**	**13 35 30.3**	**-0.9**
	comp=E,0.1nm,0.3s,baz=344,slow=7.0,SNR=5.1								

IDC ***16*** *13:30:23.0±0.9,24˚.19N×121˚.85E,h0km,mb3.8/11, mb1 4.0/12,mb1mx3.8/44,mbtmp3.8/12,ML3.5/1,MS3.3/1, Ms1 3.3/1,ms1mx2.8/51,Error ellipse: s-maj=21.8km s-min=19.2km az=65.0*

BJI ***16*** *13:30:24.7±0.0,24˚.30N×121˚.93E,h16km,mB4.4/4, mb4.2/18,ML4.1/5,Ms3.9/6,Ms7 3.8/6*

ASIES ***16*** *13:30:26.9,24˚.29N×121˚.81E,h27km,MW4.1*

NEIC ***16*** *13:30:26.3±1.4,24˚.26N±0˚.03×121˚.83E±0˚.04,h22km±3km, mb4.5/25,ML4.3(TAP),Error ellipse: s-maj=5.8km s-min=4.8km az=80.0*

TAP ***16*** *13:30:26.1,24˚.28N×121˚.83E,h22km,ML4.5,B*

NIED ***16*** *13:30:26.3,24˚.22N×121˚.78E,h25km,MW4.2,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr0.90; Mθθ-1.21; Mφφ0.31; Mrθ0.45; Mθφ-0.89; Mφr1.36; Fault plane solution: Mo2.00000×10¹⁵ NP1:φs31.00000°, δ74.00000°,λ56.00000°. NP2:φs279.00000°,δ38.00000°, λ152.00000°.*

JMA ***16*** *13:30:26.3±0.1,24˚.22N×121˚.78E,h25km±1km,M4.3*

ISC 16 13:30:25.7±0.9,24˚24N±0˚.01×121˚86E±0˚.01,h17km±6km, n197,σ1s07/304,mb4.3/25,27C-18D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.13**	**305**	P	**Pb**	**13 30 30.5**	**+0.8**
	baz=290						
EHP				S	**Sb**	**13 30 33.8**	**+1.5**
	baz=290						
ENA	**Nanau**	**0.22**	**331⇓**	*iP*	**Pb**	**13 30 31.2**	**0.0**
	baz=331						
ENA				*i* S	**Sb**	**13 30 35.1**	**+0.2**
	baz=331						
EWUT	**Wuta**	**0.22**	**341⇓**	*iP*	**Pb**	**13 30 31.4**	**+0.2**
	baz=342						
EWUT				*i* S	**Sb**	**13 30 35.0**	**+0.1**
	baz=342						
ETL	**Fush Village**	**0.23**	**250**	P	**Pb**	**13 30 32.1**	**+0.7**
	baz=244						
ETL				S	**Sb**	**13 30 36.3**	**+1.2**
	baz=244						
NACB	**Ninganchiao**	**0.25**	**255**	⇓P	**Pb**	**13 30 32.0**	**+0.4**
	baz=245						
NACB				S	**Sb**	**13 30 36.5**	**+0.8**
	baz=245						
NACB	**Ninganchiao**	**0.25**	**255**		**Pb**	**13 30 31.8**	**+0.2**
TWD	**Chiawan**	**0.28**	**237⇑**	*iP*	**Pb**	**13 30 33.0**	**+0.7**
	baz=232						
TWD				*i* S	**Sb**	**13 30 38.4**	**+1.6**
	baz=232						
ETLH	**Xiulin Townshi**	**0.34**	**265**	P	**Pb**	**13 30 33.5**	**+0.2**
	baz=257						
ETLH				S	**Sb**	**13 30 38.8**	**+0.3**
	baz=257						
HWA	**Hwalien**	**0.34**	**222**	P	**Pn**	**13 30 35.1**	**-0.8**
	baz=215						
HWA				S	**Sn**	**13 30 42.2**	**-0.1**
	baz=215						
TWC	**Suao**	**0.37**	**359⇓**	*iP*	**Pb**	**13 30 33.7**	**-0.1**
	baz=8.0						
TWC				*i* S	**Sg**	**13 30 38.9**	**+0.2**
	baz=8.0						
NDS	**Dongshan**	**0.42**	**342⇓**	*iP*	**Pb**	**13 30 34.5**	**-0.1**
	baz=346						
NDS				*i* S	**Sg**	**13 30 40.1**	**+0.1**
	baz=346						
ETM	**Tongmen**	**0.43**	**231**	P	**Pb**	**13 30 35.5**	**+0.7**
	baz=234						
ETM				*e*S	**Sb**	**13 30 42.4**	**+1.5**
	baz=234						
TEYL	**Yanliau Villag**	**0.43**	**213**	P	**Pb**	**13 30 35.9**	**+1.0**
	baz=211						
TEYL				*e*S	**Sn**	**13 30 44.7**	**+0.1**
	baz=211						
NNSB	**Datong**	**0.47**	**294⇑**	*iP*	**Pb**	**13 30 35.6**	**0.0**
	baz=289						
NNSB				*i* S	**Sg**	**13 30 41.9**	**+0.2**
	baz=289						
NDT	**Datong Townshi**	**0.48**	**320⇓**	*iP*	**Pg**	**13 30 35.5**	**+0.1**
	baz=316						
NDT				S	**Sb**	**13 30 42.4**	**0.0**
	baz=316						
ENTT	**Nioudou**	**0.48**	**327⇓**	*iP*	**Pg**	**13 30 35.5**	**0.0**
	baz=319						
ENTT				*i* S	**Sg**	**13 30 42.2**	**+0.3**
	baz=319						
NNS	**Nan Shan**	**0.48**	**295⇑**	*iP*	**Pg**	**13 30 35.7**	**+0.2**
	baz=290						
NNS				*i* S	**Sg**	**13 30 42.5**	**+0.4**
	baz=290						
TWE	**Neicheng**	**0.51**	**341⇓**	*iP*	**Pg**	**13 30 36.1**	**+0.2**
	baz=341						
TWE				*i* S	**Sb**	**13 30 43.4**	**+0.1**
	baz=341						
ILA	**Ilan**	**0.54**	**350⇓**	*iP*	**Pb**	**13 30 36.9**	**+0.2**
	baz=350						
ILA				*i* S	**Sb**	**13 30 44.4**	**+0.4**
	baz=350						
WHF	**Hehuan Shan**	**0.55**	**261⇑**	*iP*	**Pb**	**13 30 37.2**	**+0.2**
	baz=255						
WHF				*i* S	**Sb**	**13 30 45.8**	**+1.0**
	baz=255						
FUSS	**Fushou**	**0.56**	**271⇑**	*iP*	**Pb**	**13 30 37.4**	**+0.3**
	baz=266						
FUSS				*i* S	**Sb**	**13 30 44.9**	**0.0**
	baz=266						
ESL	**Shilin**	**0.57**	**223⇑**	*iP*	**Pb**	**13 30 37.6**	**+0.4**
	baz=223						
ESL				*e*S	**Sb**	**13 30 46.3**	**+1.3**
	baz=223						
EGS		**0.61**	**7**	P	**Pb**	**13 30 38.3**	**+0.4**
	baz=12						
EGS				*e*S	**Sb**	**13 30 46.7**	**+0.5**
	baz=12						
YHNB	**Yeheng**	**0.61**	**315⇑**	*iP*	**Pg**	**13 30 37.9**	**0.0**
	baz=312						
YHNB				*i* S	**Sg**	**13 30 45.7**	**-0.4**
	baz=312						
YHNB	**Yeheng**	**0.61**	**315**		**Pg**	**13 30 37.5**	**-0.4**
YHNB				Sg	**Sg**	**13 30 45.3**	**-0.8**
NTC	**Toucheng**	**0.62**	**358**	P	**Pg**	**13 30 37.8**	**-0.1**
	baz=358						
NTC				S	**Sg**	**13 30 46.0**	**-0.2**
	baz=358						
TWT	**Tachien**	**0.62**	**272⇑**	*iP*	**Pb**	**13 30 38.8**	**+0.7**
	baz=267						
TWT				S	**Sb**	**13 30 47.0**	**+0.3**
	baz=267						
NWLT	**Wulai**	**0.63**	**329**	P	**Pg**	**13 30 38.0**	**-0.2**
	baz=325						
NWLT				S	**Sg**	**13 30 45.8**	**-0.7**
	baz=325						
NSK	**Sanguang**	**0.63**	**314⇑**	*iP*	**Pg**	**13 30 38.0**	**-0.2**
	baz=312						
NSK				*i* S	**Sg**	**13 30 46.1**	**-0.5**
	baz=312						
TDCB	**Techi**	**0.64**	**272⇑**	*iP*	**Pb**	**13 30 38.8**	**+0.4**
	baz=262						
TDCB				S	**Sg**	**13 30 47.1**	**+0.2**
	baz=262						
CHGB	**Renai**	**0.65**	**254⇑**	*iP*	**Pb**	**13 30 39.2**	**+0.5**
	baz=241						
CHGB				S	**Sb**	**13 30 47.9**	**+0.5**
	baz=241						
OWD	**Renai**	**0.68**	**246⇑**	*iP*	**Pb**	**13 30 39.5**	**+0.4**
	baz=242						
OWD				*e*S	**Sb**	**13 30 49.1**	**+0.7**
	baz=242						
EGFH	**Guangfu**	**0.69**	**215**	*eP*	**Pb**	**13 30 39.9**	**+0.7**
	baz=225						
EGFH				*e*S	**Sn**	**13 30 51.2**	**+0.4**
	baz=225						
TIPB	**Shuangxi**	**0.73**	**358⇓**	*iP*	**Pb**	**13 30 40.2**	**+0.2**
	baz=358						
TIPB				*i* S	**Sg**	**13 30 49.5**	**-0.3**
	baz=358						
TWB1	**Santiao Chiao**	**0.78**	**9⇓**	*iP*	**Pb**	**13 30 41.0**	**+0.2**
	baz=4.0						
TWB1				*i* S	**Sg**	**13 30 50.7**	**-0.5**
	baz=4.0						
TWA	**Mucha**	**0.78**	**342⇓**	*iP*	**Pb**	**13 30 40.8**	**-0.2**
	baz=333						
TWA				S	**Sg**	**13 30 51.2**	**-0.1**
	baz=333						
NHDH	**Xindian Distri**	**0.78**	**338**	P	**Pg**	**13 30 41.0**	**-0.1**
	baz=336						
NHDH				S	**Sg**	**13 30 51.2**	**-0.2**
	baz=336						
TATO	**Taipei**	**0.81**	**336**		**Pg**	**13 30 41.1**	**-0.4**
TATO				Sn	**Sg**	**13 30 50.9**	**-1.4**
WHP	**Taichung City**	**0.83**	**273**	⇑P	**Pb**	**13 30 42.3**	**+0.6**
	baz=269						
WHP				S	**Sb**	**13 30 53.4**	**+0.8**
	baz=269						
NWF	**Wu-fen Shan**	**0.83**	**355⇓**	*iP*	**Pb**	**13 30 42.3**	**+0.5**
	baz=348						
NWF				*i* S	**Sb**	**13 30 53.1**	**+0.4**
	baz=348						
HGSD	**Ruisui**	**0.84**	**208**	P	**Pn**	**13 30 42.8**	**+0.1**
	baz=199						
HGSD				S	**Sn**	**13 30 56.8**	**+2.2**
	baz=199						
TAP	**Taipei**	**0.86**	**338**	P	**Pn**	**13 30 43.0**	**+0.1**
	baz=338						
TAP				S	**Sg**	**13 30 54.5**	**+0.6**
	baz=338						
LIOB	**Emei**	**0.87**	**298**	P	**Pg**	**13 30 42.7**	**+0.1**
	baz=288						
LIOB				S	**Sb**	**13 30 53.3**	**-0.3**
	baz=288						
NSTT	**Nanjuang**	**0.87**	**297⇑**	*iP*	**Pb**	**13 30 42.6**	**+0.3**
	baz=294						
NSTT				*i* S	**Sb**	**13 30 53.0**	**-0.7**
	baz=294						
EHY	**Hungye**	**0.88**	**214**	P	**Pb**	**13 30 42.0**	**-0.4**
	baz=211						
WCS	**Beigang Elemen**	**0.88**	**259⇑**	*iP*	**Pg**	**13 30 42.9**	**+0.1**
	baz=250						
WCS				S	**Sg**	**13 30 54.6**	**+0.2**
	baz=250						
SSLB	**Suanglung**	**0.94**	**242⇑**	*iP*	**Pb**	**13 30 43.5**	**+0.1**
	baz=239						
SSLB				S	**Sg**	**13 30 56.3**	**0.0**
	baz=239						
SSLB	**Suanglung**	**0.94**	**242**		**Pb**	**13 30 43.4**	**-0.1**
SMLT	**Sun Moon Lake**	**0.94**	**248⇑**	*iP*	**Pg**	**13 30 43.9**	**-0.1**
	baz=238						
SMLT				S	**Sn**	**13 30 59.7**	**+2.4**
	baz=238						
YM01	**YM01**	**0.94**	**344**	⇓P	**Pg**	**13 30 44.0**	**0.0**
	baz=327						
YM01				*e*S	**Sg**	**13 30 56.9**	**+0.4**
	baz=327						
TWS1	**Kuangyinshan**	**0.95**	**335**	P	**Pb**	**13 30 43.3**	**-0.3**
	baz=333						
TWS1				S	**Sg**	**13 30 56.6**	**0.0**
	baz=333						
NCUH	**Zhongli**	**0.95**	**320**	*eP*	**Pg**	**13 30 44.2**	**+0.1**
	baz=317						
NCUH				*e*S	**Sn**	**13 30 57.7**	**+0.3**
	baz=317						
NCU	**National Centr**	**0.95**	**320**	P	**Pg**	**13 30 44.2**	**0.0**
	baz=317						
NCU				S	**Sn**	**13 30 57.8**	**+0.4**
	baz=317						
SBCB	**Hsinchu**	**0.97**	**305⇑**	*iP*	**Pn**	**13 30 44.8**	**+0.4**
	baz=296						
SBCB				S	**Sn**	**13 30 58.8**	**+1.0**
	baz=296						
TYC	**Yuchr**	**0.97**	**250⇑**	*iP*	**Pb**	**13 30 44.2**	**+0.2**
	baz=240						
TYC				*e*S	**Sn**	**13 30 59.4**	**+1.6**
	baz=240						
YULB	**Yu-li**	**0.98**	**211**	*eP*	**Pb**	**13 30 43.6**	**-0.6**
	baz=211						
YULB	**Yu-li**	**0.98**	**211**		**Pb**	**13 30 44.1**	**-0.2**
HSN	**Hsinchu**	**0.98**	**305**	P	**P

YOJ	**Yonaguni jima**	**1.08**	**78**	⇓P		**Pg**	**13 30 46.5**	**-0.1**
	baz=71								
YOJ				S		**Sn**	**13 31 02.2**	**+1.7**
	baz=71								
YOJ	**Yonaguni jima**	**1.08**	**78**			**Pn**	**13 30 46.1**	**+0.1**
TCU	**Taichung**	**1.08**	**266**	P		**Pg**	**13 30 47.4**	**+0.8**
	baz=261								
TCU					*e*S	**Sn**	**13 31 03.6**	**+3.0**
	baz=261								
WJS	**Zhushan**	**1.11**	**248**		*e*P	**Pg**	**13 30 47.5**	**+0.3**
	baz=243								
WJS					*e*S	**Sn**	**13 31 03.1**	**+1.8**
	baz=243								
WDJ	**Dajia District**	**1.11**	**276**		*e*P	**Pg**	**13 30 47.8**	**+0.5**
	baz=272								
WDJ					*e*S	**Sn**	**13 31 03.8**	**+2.4**
	baz=272								
WNT	**Mingjian**	**1.13**	**252**		*e*P	**Pg**	**13 30 47.9**	**+0.4**
	baz=247								
WNT					*e*S	**Sn**	**13 31 04.2**	**+2.5**
	baz=247								
FULB	**Fuli**	**1.15**	**207**		*e*P	**Pn**	**13 30 47.2**	**+0.1**
	baz=219								
FULB					*e*S	**Sg**	**13 31 04.5**	**+1.4**
	baz=219								
WCHH	**Zhanghua**	**1.20**	**263**		*e*P	**Pg**	**13 30 49.1**	**+0.3**
	baz=258								
ALS	**Alishan**	**1.20**	**233**	⇑	*i*P	**Pb**	**13 30 48.5**	**+0.4**
	baz=230								
ALS					*e*S	**Sg**	**13 31 07.3**	**+2.5**
	baz=230								
CHKT	**Chengkung**	**1.22**	**202**		*e*P	**Pn**	**13 30 46.9**	**-1.0**
	baz=216								
CHKT					*e*S	**Sg**	**13 31 05.6**	**+0.5**
	baz=216								
CHN5	**Tsauling**	**1.25**	**240**	⇓	*i*P	**Pg**	**13 30 49.8**	**-0.1**
	baz=223								
CHN5				S		**Sg**	**13 31 08.1**	**+1.8**
	baz=223								
ELDTW	**Lidau**	**1.29**	**217**		*e*P	**Pn**	**13 30 48.5**	**-0.6**
	baz=205								
WDLH	**Douliu**	**1.32**	**246**		*e*P	**Pg**	**13 30 51.1**	**-0.1**
	baz=242								
WDLH					*e*S	**Sg**	**13 31 09.2**	**+0.7**
	baz=242								
EDH	**Donghe**	**1.35**	**202**		*e*P	**Pn**	**13 30 49.3**	**-0.5**
	baz=192								
EDH					*e*S	**Sn**	**13 31 07.5**	**+0.1**
	baz=192								
WRL	**Guolierlin Hig**	**1.39**	**256**		*e*P	**Pb**	**13 30 51.1**	**-0.1**
	baz=252								
WRL					*e*S	**Sg**	**13 31 10.5**	**-0.2**
	baz=252								
PCYT	**Pengchaiyu**	**1.40**	**8**		*e*P	**Pn**	**13 30 50.7**	**+0.2**
	baz=8.0								
CHN2	**Minshiung**	**1.45**	**241**		*e*P	**Pg**	**13 30 53.6**	**+0.1**
	baz=238								
CHN2					*e*S	**Sg**	**13 31 14.2**	**+1.8**
	baz=238								
WTK	**Tuku**	**1.45**	**248**		*e*P	**Pb**	**13 30 52.4**	**+0.3**
	baz=244								
WTK					*e*S	**Sg**	**13 31 12.7**	**+0.2**
	baz=244								
STYH	**Taoyuan**	**1.45**	**223**		*e*P	**Pb**	**13 30 52.1**	**-0.1**
	baz=222								
STYH					*e*S	**Sg**	**13 31 13.0**	**+0.4**
	baz=222								
CHN4	**Tsaushan**	**1.45**	**233**	⇓	P	**Pb**	**13 30 52.8**	**+0.5**
	baz=230								
CHN4					S	**Sg**	**13 31 13.3**	**+0.7**
	baz=230								
TPUB	**Ta-pu**	**1.46**	**231**	⇑	P	**Pb**	**13 30 52.6**	**+0.2**
	baz=228								
TPUB					S	**Sg**	**13 31 12.2**	**-0.7**
	baz=228								
TPUB	**Ta-pu**	**1.46**	**231**			**Pn**	**13 30 51.3**	**0.0**
LONT	**Longtian**	**1.48**	**207**		*e*P	**Pn**	**13 30 50.7**	**-0.9**
	baz=209								
WTCT	**Ta-ch'eng**	**1.49**	**256**		*e*P	**Pb**	**13 30 53.2**	**+0.4**
	baz=252								
WTCT					*e*S	**Sg**	**13 31 13.8**	**+0.1**
	baz=252								
CHY	**Chiayi**	**1.50**	**241**		*e*P	**Pb**	**13 30 53.7**	**+0.6**
	baz=237								
CHY					*e*S	**Sg**	**13 31 14.3**	**+0.1**
	baz=237								
WTP	**Ta-pu**	**1.50**	**229**	⇑	P	**Pb**	**13 30 53.4**	**+0.2**
	baz=226								
WTP					S	**Sg**	**13 31 14.8**	**+0.5**
	baz=226								
TWG	**Pinlang**	**1.58**	**207**		*e*P	**Pn**	**13 30 52.0**	**-1.0**
	baz=197								
TWG	**Pinlang**	**1.58**	**207**			**Pn**	**13 30 51.7**	**-1.2**
TWGBT	**Beinan**	**1.58**	**207**		*e*P	**Pn**	**13 30 51.7**	**-1.2**
	baz=197								
TWK	**Hsinying**	**1.58**	**233**	⇑	P	**Pb**	**13 30 54.6**	**+0.1**
	baz=229								
TWK					S	**Sg**	**13 31 15.7**	**-1.1**
	baz=229								
LDUT	**Ludao**	**1.59**	**193**		*e*P	**Pn**	**13 30 51.6**	**-1.5**
	baz=187								
LDUT					*e*S	**Sn**	**13 31 12.0**	**-1.2**
	baz=187								
CHN1	**Nanshi**	**1.60**	**230**	⇓	P	**Pb**	**13 30 55.1**	**+0.2**
	baz=227								
CHN1					*e*S	**Sg**	**13 31 17.8**	**+0.3**
	baz=227								
SNST	**Tainan City**	**1.60**	**231**		*e*P	**Pg**	**13 30 55.8**	**-0.8**
	baz=228								
SNST					*e*S	**Sg**	**13 31 17.0**	**-0.5**
	baz=228								
WSF	**Szhu**	**1.61**	**249**		*e*P	**Pb**	**13 30 54.9**	**0.0**
	baz=244								
WSF					*e*S	**Sg**	**13 31 17.0**	**-0.6**
	baz=244								
SGST	**Jiashian**	**1.64**	**226**		*e*P	**Pb**	**13 30 54.9**	**-0.5**
	baz=223								
SGST					*e*S	**Sb**	**13 31 16.5**	**+0.7**
	baz=223								
ICHU	**Yijhu**	**1.69**	**239**		*e*P	**Pb**	**13 30 56.8**	**+0.5**
	baz=235								
IRIF	**Iriomote-Funau**	**1.71**	**86**	P		**Pn**	**13 30 55.0**	**+0.3**
IRIF					*e*S	**Sb**	**13 31 17.7**	**-0.2**
CHN8	**Yiju**	**1.75**	**240**		*e*P	**Pb**	**13 30 57.1**	**-0.2**
	baz=222								
CHN8					*e*S	**Sg**	**13 31 21.1**	**-1.0**
	baz=222								
CHN3	**Shinhua**	**1.79**	**230**		*e*P	**Pb**	**13 30 59.0**	**+1.0**
	baz=227								
CHN3					*e*S	**Sg**	**13 31 23.4**	**+0.1**
	baz=227								
HATJ	**Hateruma jima**	**1.79**	**95**	P		**Pn**	**13 30 56.9**	**+1.1**
HATJ					*e*S	**Sb**	**13 31 20.1**	**-0.1**
SCST	**Cishan**	**1.83**	**223**		*e*P	**Pb**	**13 30 58.9**	**+0.2**
	baz=220								
SCST					*e*S	**Sg**	**13 31 24.4**	**-0.5**
	baz=220								
SCLT	**Jiali**	**1.85**	**236**		*e*P	**Pb**	**13 30 58.7**	**-0.4**
	baz=232								
SCLT					*e*S	**Sb**	**13 31 23.4**	**+1.4**
	baz=232								
SSD	**Sandimen**	**1.86**	**217**		*e*P	**Pb**	**13 30 58.2**	**-1.1**
	baz=225								
SSD					*e*S	**Sb**	**13 31 23.2**	**+1.1**
	baz=225								
TSMG	**Majia**	**1.89**	**216**		*e*P	**Pb**	**13 30 59.3**	**-0.4**
	baz=216								
TSMG					*e*S	**Sb**	**13 31 23.1**	**+0.2**
	baz=216								
SGLT	**Jiouru**	**1.96**	**220**		*e*P	**Pb**	**13 31 01.5**	**+0.7**
	baz=218								
JKRS	**Kuro-shima**	**1.97**	**90**	P		**Pn**	**13 30 59.4**	**+1.2**
JKRS					*e*S	**Sb**	**13 31 24.2**	**-1.0**
MASBT	**Mashibuluo**	**1.97**	**215**		*e*P	**Pn**	**13 30 59.7**	**+1.5**
	baz=214								
MASBT					*e*S	**Sb**	**13 31 24.7**	**-0.6**
	baz=214								
EAST	**Anshuo**	**2.06**	**207**		*e*P	**Pn**	**13 31 00.3**	**+0.7**
	baz=201								
JIJ	**Ishigaki jima**	**2.09**	**86**	P		**Pn**	**13 31 00.5**	**+0.6**
JIJ					S	**Sn**	**13 31 26.3**	**+0.8**
SSPT	**Xinbi**	**2.11**	**214**		*e*P	**Pb**	**13 31 03.1**	**-0.3**
	baz=204								
SCZT	**Fangliau**	**2.17**	**212**		*e*P	**Pb**	**13 31 03.3**	**-1.3**
	baz=213								
SCZT					*e*S	**Sb**	**13 31 31.4**	**+0.1**
	baz=213								
LAY	**Lan-yu**	**2.21**	**187**		*e*P	**Pn**	**13 31 00.7**	**-0.8**
	baz=193								
PNG	**Penghu**	**2.21**	**253**		*e*P	**Pn**	**13 31 01.6**	**+0.1**
	baz=247								
PNG					*e*S	**Sn**	**13 31 29.2**	**+0.8**
	baz=247								
PHUB	**P'eng-hu**	**2.21**	**251**		*e*P	**Pn**	**13 31 01.9**	**+0.4**
	baz=246								
PHUB					*e*S	**Sn**	**13 31 29.5**	**+1.0**
	baz=246								
SLIU	**Shizi**	**2.23**	**206**		*e*P	**Pn**	**13 31 02.7**	**+0.8**
	baz=202								
WDGT	**Dungji**	**2.23**	**245**		*e*P	**Pn**	**13 31 03.6**	**+1.8**
	baz=240								
JISG	**Ishigakijimahi**	**2.27**	**81**	P		**Pn**	**13 31 02.5**	**+0.2**
JISG					*e*S	**Sn**	**13 31 31.6**	**+1.8**
HEN	**Hengchun**	**2.45**	**205**		*e*P	**Pb**	**13 31 07.9**	**-1.3**
	baz=202								
VCHM	**Qimei**	**2.45**	**246**		*e*P	**Pn**	**13 31 05.6**	**+0.8**
	baz=228								
TWK1	**Hengchun**	**2.48**	**203**		*e*P	**Pn**	**13 31 06.9**	**+1.7**
	baz=197								
TWKBT	**Hengchun**	**2.48**	**203**		*e*P	**Pn**	**13 31 05.5**	**+0.3**
	baz=197								
TSEB	**Hengchuen, Pin**	**2.49**	**201**		*e*P	**Pn**	**13 31 06.9**	**+1.6**
	baz=198								
MATB	**Ma-tsu**	**2.58**	**318**		*e*P	**Pn**	**13 31 05.8**	**-0.7**
	baz=313								
PTMZ	**Houxiangcun**	**2.61**	**288**		*e*P	**Pn**	**13 31 06.3**	**-0.8**
	baz=283								
JTJ	**Tarama**	**2.63**	**81**	P		**Pn**	**13 31 08.2**	**+0.9**
JTJ					*e*S	**Sn**	**13 31 41.4**	**+2.7**
LYJJ	**Jianjiangzhen**	**2.98**	**321**		*e*P	**Pn**	**13 31 10.8**	**-1.4**
	baz=316								
QZH	**Quanzhou**	**3.05**	**284**	⇑	*i*Pn	**Pn**	**13 31 12.6**	**-0.5**
QZH					Sn	**Sn**	**13 31 47.3**	**-2.0**
QZH					smax	smax		
	comp=N,210nm,0.7s							
QZH					smax	smax		
	comp=E,140nm,0.5s							
QZH					LR	LR		
	comp=N,1μm,6.4s							
QZH					LR	LR		
	comp=Z,930nm,9.9s							
XPSS	**Dashiqiu**	**3.08**	**331**		*e*P	**Pn**	**13 31 12.6**	**-0.9**
	baz=326								
JIRB	**Irabujima**	**3.08**	**78**	P		**Pn**	**13 31 14.3**	**+0.8**
JIRB					*e*S	**Sn**	**13 31 51.8**	**+1.9**
KNM	**Kinmen**	**3.13**	**274**		*e*P	**Pn**	**13 31 15.5**	**+1.3**
	baz=268								
MHZQ	**Yeshan**	**3.16**	**307**		*e*P	**Pn**	**13 31 13.6**	**-1.0**
	baz=301								
JIKM	**Ikemajima**	**3.16**	**77**	P		**Pn**	**13 31 15.6**	**+0.9**
JIKM					*e*S	**Sn**	**13 31 54.8**	**+2.8**
KNMB	**Chin-men Tao**	**3.17**	**275**		*e*P	**Pn**	**13 31 13.9**	**-0.8**
	baz=269								
KNMB	**Chin-men Tao**	**3.17**	**275**			**Pn**	**13 31 14.3**	**-0.5**
JMJ2	**Miyako jima3**	**3.20**	**80**	P		**Pn**	**13 31 17.5**	**+2.3**
JMJ2					*e*S	**Sn**	**13 31 55.6**	**+2.6**
JOGS	**Gusukube**	**3.28**	**80**	P		**Pn**	**13 31 18.7**	**+2.5**
JOGS					*e*S	**Sn**	**13 31 58.0**	**+3.2**
AXDP	**Jialang**	**3.60**	**281**		*e*P	**Pn**	**13 31 22.4**	**+1.8**
	baz=276								
ZPLA	**Ao Xicun**	**3.76**	**266**		*e*P	**Pn**	**13 31 23.2**	**+0.3**
	baz=261								
JOW	**Kunigami**	**6.35**	**65**		Pn	**Pn**	**13 31 58.5**	**0.0**
	2.6nm,0.3s,baz=224,slow=12,SNR=12								
JOW					Sn	**Sn**	**13 33 11.1**	**+0.5**
	baz=113,slow=18,SNR=1.1								
JOW	**Kunigami**	**6.35**	**65**			**Pn**	**13 31 58.1**	**-0.4**
SSE	**Sheshan**	**6.86**	**355**		Pn	Pn	13 32 11.4	+6.0
SSE					Sn	**Sn**	**13 33 31.4**	**+8.3**
SSE					smax	smax		
	comp=N,21nm,0.8s							
SSE					smax	smax		
	comp=E,15nm,0.8s							
SSE					LR	LR		
	comp=N,650nm,14.3s							
SSE					LR	LR		
	comp=E,510nm,13.9s							
NJ2	**Nanjing**	**8.22**	**342**		*e*P	Pn	13 32 29.6	+5.4
NJ2					pmax	pmax		
	comp=E,13nm,0.5s							
NJ2					LR	LR		
	comp=E,690nm,13.7s							
NJ2					LR	LR		
	comp=E,480nm,12.8s							
NJ2					LR	LR		
	comp=E,940nm,14.8s							
KSRS	**Korea Array**	**14.16**	**20**		Pn	**P**	**13 33 50.4**	**-2.5**
	comp=E,0.2nm,0.3s,baz=199,slow=12,SNR=11								
XAN	**Xi'an**	**14.92**	**314**		P	**Pn**	**13 33 55.1**	**-0.8**
XAN					pP	P	13 33 59.4	-2.1
XAN					S	**Sn**	**13 36 39.4**	**-1.5**
XAN					pmax	pmax		
	comp=E,3.0nm,0.6s							
XAN					LR	LR		
	comp=E,440nm,12.5s							
XAN					LR	LR		
	comp=E,440nm,10.8s							
XAN					LR	LR		
	comp=E,430nm,12.7s							
CD2	**Chengdu**	**17.36**	**297**		P	**P**	**13 34 30.5**	**+2.0**
CD2					pmax	pmax		
	comp=E,20nm,0.9s							
CMAR	**Chiang Mai Arr**	**22.09**	**259**		P	**P**	**13 35 20.9**	**+0.7**
	comp=E,1.3nm,0.8s,baz=73,slow=8.6,SNR=7.8								
GTA	**Gaotai**	**23.98**	**314**	⇑	P	**P**	**13 35 43.4**	**+3.9**
GTA					pmax	pmax		
	comp=E,3.0nm,1.5s							
GUMO	**Guam**	**24.17**	**112**		LR	LR	13 43 05.1	
	comp=E,75nm,21.9s,baz=274,slow=32								
JEW	**Eniwo**	**24.61**	**36**		P	**P**	**13 35 43.4**	**-1.6**
KLR	**Kul'dur**	**26.13**	**15**		P	**P**	**13 35 59.4**	**+0.7**
	comp=E,1.2nm,0.5s,baz=204,slow=6.9,SNR=5.0								
SONM	**Songino Array**	**26.56**	**336**		P	**P**	**13 36 02.8**	**0.0**
	comp=E,2.6nm,1.0s,baz=154,slow=9.2,SNR=8.6								
SONM	**Songino Array**	**26.56**	**336**		P	**P**	**13 36 02.0**	**-0.8**
WMQ	**Urumqi**	**34.06**	**313**		*e*P	**P**	**13 37 10.8**	**+1.7**
YAK	**Yakutsk**	**38.15**	**6**		P	**P**	**13 37 43.6**	**-0.2**
YAK					IAmb	IAmb	13 37 57.1	
	comp=Z,6.7nm,0.7s							
MK31	**Makanchi Array**	**38.73**	**316**		P	**P**	**13 37 48.4**	**-0.5**
MKAR	**Makanchi Array**	**38.73**	**316**		P	**P**	**13 37 48.7**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=98,slow=10,SNR=8.1								
MKAR	**Makanchi Array**	**38.73**	**316**		P	**P**	**13 37 47.9**	**-1.0**
MAKZ	**Makanchi**	**38.93**	**316**		P	**P**	**13 37 49.8**	**-0.8**
ZALV	**Zalesovo Beam**	**40.53**	**327**		P	**P**	**13 38 02.6**	**-1.1**
	comp=Z,1.2nm,0.5s,baz=91,slow=7.4,SNR=4.4								
ZALV	**Zalesovo Beam**	**40.53**	**327**		P	**P**	**13 38 02.4**	**-1.4**
KSH	**Kashi**	**41.38**	**303**		P	**P**	13 38 17.0	+5.8
WRA	**Warramunga Arr**	**45.56**	**163**		P	**P**	**13 38 43.7**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=345,slow=8.3,SNR=4.8								
WB2	**Warramunga Arr**	**45.57**	**163**		P	**P**	**13 38 44.4**	**-0.4**
WB2					IAmb	IAmb	13 39 00.6	
	comp=Z,7.4nm,1.4s							
PSA00	**Pilbara Seismi**	**45.58**	**183**		P	**P**	**13 38 43.2**	**-1.7**
PSA00					IAmb	IAmb	13 38 44.8	
	comp=Z,5.0nm,1.2s							
WR0	**Warramunga Arr**	**45.63**	**163**		P	**P**	**13 38 44.3**	**-1.0**
WR0					IAmb	IAmb	13 39 00.2	
	comp=Z,3.9nm,0.9s							
ASAR	**Alice Springs**	**49.03**	**165**		P	**P**	**13 39 11.5**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=335,slow=6.6,SNR=5.3								
ABKAR	**Akbulak array**	**53.84**	**314**		P	**P**	**13 39 47.0**	**-0.5**
J20K	**Nowinta River**	**65.87**	**29**		P	**P**	**13 41 10.8**	**+0.8**
J20K					IAmb	IAmb	13 41 31.8	
	comp=Z,3.8nm,1.1s							
KBZ	**Khabaz**	**65.92**	**309**		P	**P**	**13 41 10.9**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=74,slow=7.4,SNR=5.1								
K20K	**Telida**	**65.99**	**29**		P	**P**	**13 41 10.9**	**0.0**
K20K					IAmb	IAmb	13 41 20.4	
	comp=Z,4.6nm,1.2s							
H21K	**Melozitna Rive**	**66.28**	**27**		P	**P**	**13 41 13.9**	**+1.2**
H21K					IAmb	IAmb	13 41 16.4	
	comp=Z,5.1nm,1.5s							
CAST	**Castle Rocks**	**66.87**	**29**		P	**P**	**13 41 17.1**	**+0.6**
CAST					IAmb	IAmb	13 41 40.2	
	comp=Z,3.7nm,1.3s							
TOLK	**Toolik Lake Re**	**67.16**	**23**		P	**P**	**13 41 18.1**	**-0.2**
MLY	**Manley**	**67.22**	**27**		P	**P**	**13 41 18.5**	**-0.3**
MLY					IAmb	IAmb	13 41 37.4	
	comp=Z,3.8nm,1.2s							
BPAW	**Bear Paw Mtn.**	**67.26**	**28**		P	**P**	**13 41 19.7**	**+0.8**
SKT	**Skwentna**	**67.34**	**31**		P	**P**	**13 41 19.8**	**+0.3**
SKT					IAmb	IAmb	13 41 21.8	
	comp=Z,6.0nm,1.3s							
H23K	**Yukon River**	**67.59**	**26**		P	**P**	**13 41 21.1**	**0.0**
H23K					IAmb	IAmb	13 41 26.6	
	comp=Z,5.0nm,1.2s							
OBN	**Obninsk**	**67.84**	**322**		P	**P**	**13 41 21.4**	**-1.3**
RND	**Reindeer**	**68.31**	**29**		P	**P**	**13 41 24.7**	**-0.9**
RC01	**Rabbit Creek A**	**68.34**	**32**		P	**P**	**13 41 24.8**	**-1.0**
ILAR	**Eielson Array**	**68.89**	**27**		P	**P**	**13 41 30.2**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=289,slow=6.4,SNR=4.6								
BMAR	**Burnt Mountain**	**69.23**	**24**		P	**P**	**13 41 32.5**	**+1.2**
EGAK	**Eagle**	**71.26**	**27**		P	**P**	**13 41 43.6**	**-0.1**
EGAK					IAmb	IAmb	13 41 46.2	
	comp=Z,4.1nm,1.1s							
L27K	**Beaver Creek,**	**71.48**	**29**		P	**P**	**13 41 45.1**	**-0.1**
BCAR	**Beaver Creek A**	**71.50**	**29**		P	**P**	**13 41 44.4**	**-0.8**
TGL	**Tana Glacier**	**71.69**	**31**		P	**P**	**13 41 45.8**	**-0.8**
FINES	**FINESS Array B**	**71.71**	**330**		P	**P**	**13 41 47.9**	**+1.5**
	comp=Z,1.6nm,0.9s,baz=34,slow=8.4,SNR=1.9								
DAWY	**Dawson**	**72.21**	**27**		P	**P**	**13 41 48.6**	**-0.9**
DAWY					IAmb	IAmb	13 42 10.3	
	comp=Z,7.1nm,1.4s							
BRTR	**Keskin Array B**	**73.63**	**307**		P	**P**	**13 41 58.8**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=116,slow=5.6,SNR=6.6								

TAP ***16*** *13:32:55.3,24.26N×121.85E,h19km,ML3.4,B*
JMA ***16*** *13:32:56.3,24.22N×121.78E,h18km±1km,M2.5*
ISC 16 13:32:55.8±0.9,24.25N±0.01×121.83E±0.02,h18km±3km,
n104,σ0°68/158,8C-8D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.10**	**307**		*e*P		**Pg**	**13 32 59.4**	**-0.1**
	baz=299								
EHP					*e*S		**Sg**	**13 33 02.6**	**+0.6**
	baz=299								
ENA	**Nanau**	**0.20**	**336**	⇓	*i*P		**Pb**	**13 33 00.5**	**-0.2**
	baz=332								
ENA					*i* S		**Sg**	**13 33 04.2**	**+0.1**
	baz=332								
EWUT	**Wuta**	**0.20**	**346**	⇓	*i*P		**Pb**	**13 33 00.6**	**-0.1**
	baz=342								
EWUT					*i* S		**Sg**	**13 33 04.4**	**+0.2**
	baz=342								
ETL	**Fush Village**	**0.21**	**245**	⇑	*i*P		**Pg**	**13 33 01.1**	**+0.2**
	baz=244								
ETL					S		**Sg**	**13 33 05.4**	**+1.0**
	baz=244								
NACB	**Ninganchiao**	**0.23**	**251**		P		**Pg**	**13 33 01.2**	**0.0**
	baz=250								
NACB					*i* S		**Sg**	**13 33 05.7**	**+0.9**
	baz=250								
TWD	**Chiawan**	**0.27**	**232**	⇑	*i*P		**Pg**	**13 33 02.0**	**+0.1**
	baz=236								
TWD					*e*S		**Sg**	**13 33 07.4**	**+1.5**
	baz=236								
ETLH	**Xiulin Townshi**	**0.32**	**263**		*i* P		**Pb**	**13 33 02.7**	**-0.4**
	baz=262								
ETLH					*e*S		**Sb**	**13 33 07.7**	**-0.2**
	baz=262								
HWA	**Hwalien**	**0.34**	**218**		*e*P		**Pb**	**13 33 04.0**	**+0.7**
	baz=228								
HWA					*e*S		**Sn**	**13 33 10.8**	**-1.4**
	baz=228								
TWC	**Suao**	**0.36**	**3**	⇓	*i*P		**Pg**	**13 33 03.0**	**-0.4**
	baz=6.0								
TWC					*e*S		**Sg**	**13 33 08.3**	**-0.2**
	baz=6.0								
NDS	**Dongshan**	**0.40**	**345**	⇓	*i*P		**Pg**	**13 33 03.9**	**-0.1**
	baz=342								
NDS					*e*S		**Sg**	**13 33 09.4**	**-0.3**
	baz=342								
ETM	**Tongmen**	**0.42**	**228**		P		**Pb**	**13 33 04.5**	**-0.1**
	baz=229								
ETM					*e*S		**Sn**	**13 33 12.0**	**-2.2**
	baz=229								
TEYL	**Yanliau Villag**	**0.43**	**210**		P		**Pb**	**13 33 04.8**	**-0.1**
	baz=213								
TEYL					*e*S		**Sb**	**13 33 11.7**	**+0.6**
	baz=213								
NNSB	**Datong**	**0.45**	**294**	⇓	*i*P		**Pb**	**13 33 05.1**	**-0.1**
	baz=292								
NNSB					*i* S		**Sb**	**13 33 11.4**	**-0.3**
	baz=292								
NDT	**Datong Townshi**	**0.46**	**321**		P		**Pg**	**13 33 05.0**	**-0.1**
	baz=318								
NDT					*e*S		**Sb**	**13 33 12.3**	**+0.5**
	baz=318								
ENTT	**Nioudou**	**0.46**	**328**		P		**Pg**	**13 33 04.9**	**-0.2**
	baz=326								
ENTT					*e*S		**Sg**	**13 33 11.6**	**+0.1**
	baz=326								
NNS	**Nan Shan**	**0.46**	**295**	⇓	*i*P		**Pb**	**13 33 05.2**	**-0.2**
	baz=293								
NNS					*i* S		**Sb**	**13 33 11.9**	**-0.1**
	baz=293								
TWE	**Neicheng**	**0.50**	**342**	⇓	*i*P		**Pg**	**13 33 05.5**	**-0.2**
	baz=341								
TWE					*e*S		**Sb**	**13 33 12.8**	**-0.1**
	baz=341								
ILA	**Ilan**	**0.52**	**352**		*e*P		**Pb**	**13 33 05.0**	**-1.4**
	baz=350								
ILA					*e*S		**Sb**	**13 33 14.3**	**+0.7**
	baz=350								
WHF	**Hehuan Shan**	**0.53**	**259**	⇑	*i*P		**Pb**	**13 33 06.5**	**-0.2**
	baz=258								
WHF					*e*S		**Sb**	**13 33 14.3**	**+0.1**
	baz=258								
FUSS	**Fushou**	**0.54**	**270**		*i* P		**Pb**	**13 33 06.8**	**0.0**
	baz=269								
FUSS					*e*S		**Sb**	**13 33 14.6**	**+0.3**
	baz=269								
ESL	**Shilin**	**0.56**	**220**	⇑	*i*P		**Pg**	**13 33 06.8**	**-0.2**
	baz=225								
ESL					*e*S		**Sb**	**13 33 15.7**	**+0.9**
	baz=225								
YHNB	**Yeheng**	**0.59**	**316**	⇓	*i*P		**Pg**	**13 33 07.5**	**-0.1**

baz=2.0
WHP Taichung City 0.81 272 *e*P **Pg 13 33 11.6 0.0**
baz=272
WHP *e*S **Sn 13 33 22.8 -1.1**
baz=272
NWF Wu-fen Shan 0.82 357 P **Pb 13 33 11.7 +0.1**
baz=348
NWF *e*S **Sb 13 33 22.5 +0.2**
baz=348
WFSB Wu-fen Shan 0.82 357 P **Pg 13 33 11.9 +0.1**
baz=354
WPL Puli Township 0.83 254 P **Pg 13 33 12.0 0.0**
baz=254
WPL *e*S **Sb 13 33 22.0 -0.5**
baz=254
NJD Zhudong 0.83 306 *e*P **Pb 13 33 11.7 0.0**
baz=308
NJD *e*S **Sn 13 33 23.6 -0.9**
baz=308
HGSD Ruisui 0.84 206 *e*P **Pg 13 33 11.8 -0.3**
baz=199
HGSD *e*S **Sn 13 33 26.0 +1.5**
baz=199
LIOB Emei 0.84 298 *e*P **Pn 13 33 12.8 0.0**
baz=297
LIOB *e*S **Sn 13 33 24.3 -0.4**
baz=297
NSTT Nanjuang 0.85 297 *e*P **Pg 13 33 12.3 -0.1**
baz=296
NSTT *e*S **Sg 13 33 23.8 +0.2**
baz=296
WCS Beigang Elemen 0.86 258 *e*P **Pg 13 33 12.2 -0.3**
baz=257
WCS *e*S **Sn 13 33 24.1 -1.0**
baz=257
EHY Hungye 0.87 212 *e*P **Pb 13 33 12.0 -0.4**
baz=213
TNOU National Taiwa 0.90 357 *e*P **Pb 13 33 12.9 0.0**
baz=354
SSLB Suanglung 0.92 241 *e*P **Pb 13 33 13.0 -0.3**
baz=241
SMLT Sun Moon Lake 0.93 247 *e*P **Pb 13 33 12.8 -0.6**
baz=247
YM01 YM01 0.93 345 *e*P **Pn 13 33 13.8 -0.1**
baz=325
NCUH Zhongli 0.93 321 *e*P **Pg 13 33 14.5 +0.6**
baz=318
NCUH *e*S **Sn 13 33 28.3 +1.5**
baz=318
NCU National Centr 0.93 321 *e*P **Pn 13 33 13.8 -0.2**
baz=317
TWS1 Kuangyinshan 0.93 336 *e*P **Pb 13 33 12.8 -0.6**
baz=332
TYC Yuchr 0.95 249 *e*P **Pb 13 33 13.6 -0.2**
baz=241
TWQ1 Liyutan 0.97 276 *e*P **Pg 13 33 15.3 +0.7**
baz=275
TWQ1 *e*S **Sn 13 33 28.6 +0.8**
baz=275
ANP Anpu 0.98 343 *e*P **Pb 13 33 14.4 +0.1**
baz=328
ANP *e*S **Sg 13 33 27.6 -0.1**
baz=328
NTST Danshui 0.98 339 *e*P **Pn 13 33 14.7 +0.1**
baz=335
YULB Yu-li 0.98 210 *e*P **Pb 13 33 12.1 -2.1**
baz=213
NSY Sanyi 0.99 280 *e*P **Pg 13 33 15.2 +0.2**
baz=277
NMLH Miaoli 0.99 287 *e*P **Pg 13 33 16.0 +1.0**
baz=284
EYUL Yuli 1.01 208 *e*P **Pg 13 33 15.6 +0.2**
baz=225
JYNG Yonagunijimaku 1.04 78 P **Pg 13 33 16.1 +0.2**
JYNG *e*S **Sg 13 33 30.8 +1.3**
TWY Chenhua 1.05 348 *e*P **Pg 13 33 16.0 -0.1**
baz=328
WHYT Xinyi Township 1.05 239 *e*P **Pb 13 33 15.1 -0.3**
baz=232
WDJ Dajia District 1.09 276 *e*P **Pg 13 33 17.4 +0.4**
baz=273
WJS Zhushan 1.09 247 P **Pg 13 33 17.2 +0.2**
baz=245
WJS *e*S **Sg 13 33 33.8 +2.4**
baz=245
YOJ Yonaguni jima 1.10 79 P **Pg 13 33 17.3 +0.3**
YOJ *e*S **Sg 13 33 32.1 +0.7**
YOJ Yonaguni jima 1.10 79 *e*P **Pn 13 33 15.7 -0.6**
baz=70
YUS Yu-Shan 1.10 227 *e*P **Pb 13 33 16.2 -0.5**
baz=229
WNT Mingjian 1.11 251 *e*P **Pg 13 33 17.4 +0.1**
baz=250
FULB Fuli 1.15 205 *e*P **Pn 13 33 16.5 -0.5**
baz=224
ALS Alishan 1.19 232 *e*P **Pn 13 33 17.5 -0.3**
baz=233
ALS *e*S **Sg 13 33 35.0 +0.4**
baz=233
CHKT Chengkung 1.22 201 *e*P **Pn 13 33 16.7 -1.2**
baz=190
CHN5 Tsauling 1.24 239 *e*P **Pb 13 33 18.7 0.0**
baz=239
ELDTW Lidau 1.29 215 *e*P **Pn 13 33 18.4 -0.7**
baz=207
WDLH Douliu 1.31 245 *e*P **Pg 13 33 20.5 -0.5**
baz=244
EDH Donghe 1.36 201 *e*P **Pn 13 33 19.5 -0.3**
baz=193
WRL Guolierlin Hig 1.37 256 *e*P **Pb 13 33 20.6 -0.4**
baz=254
WTK Tuku 1.43 247 P **Pb 13 33 22.2 +0.3**
baz=247
WTK *e*S **Sg 13 33 41.2 -0.9**
baz=247
CHN4 Tsaushan 1.44 232 *e*P **Pb 13 33 22.2 +0.1**
baz=233
STYH Taoyuan 1.44 222 *e*P **Pn 13 33 21.0 0.0**
baz=225
TPUB Ta-pu 1.45 230 *e*P **Pb 13 33 22.3 0.0**
baz=231
CHY Chiayi 1.49 240 *e*P **Pb 13 33 23.3 +0.4**
baz=229
WTP Ta-pu 1.50 228 *e*P **Pb 13 33 22.8 -0.3**
baz=230
TWK Hsinying 1.57 232 *e*P **Pb 13 33 24.2 -0.2**
baz=232
TWG Pinlang 1.58 206 *e*P **Pb 13 33 23.8 -0.7**
baz=211
TWGBT Beinan 1.58 206 *e*P **Pb 13 33 23.8 -0.7**
baz=211
CHN1 Nanshi 1.59 229 *e*P **Pb 13 33 25.0 +0.2**
baz=231
SGST Jiashian 1.63 225 *e*P **Pn 13 33 24.1 +0.5**
baz=216
SLGT Liugui 1.66 221 *e*P **Pb 13 33 25.0 -0.8**
baz=225
ICHU Yihu 1.67 238 *e*P **Pb 13 33 25.3 -0.7**
baz=239
IRIF Iriomote-Funau 1.73 87 P **Pb 13 33 26.4 -0.7**
IRIF *e*S **Sb 13 33 48.9 +0.3**
SCST Cishan 1.83 222 *e*P **Pb 13 33 28.6 0.0**
baz=226
SSD Sandimen 1.86 217 *e*P **Pb 13 33 28.2 -0.9**
baz=221
TSMG Majia 1.88 216 *e*P **Pn 13 33 28.0 +1.0**
baz=221
MASBT Mashibuluo 1.96 214 *e*P **Pb 13 33 29.6 -1.4**
baz=220
JKRS Kuro-shima 1.99 90 P **Pb 13 33 30.3 -1.1**
JKRS *e*S **Sb 13 33 55.9 +0.1**
EAST Anshuo 2.06 206 *e*P **Pn 13 33 29.9 +0.3**
baz=202
SSPT Xinbi 2.10 214 *e*P **Pb 13 33 32.5 -0.8**
baz=220
JIJ Ishigaki jima 2.11 86 P **Pn 13 33 29.9 -0.3**
JIJ *e*S **Sn 13 33 56.2 +0.2**
SCZT Fangliau 2.17 211 *e*P **Pb 13 33 32.7 -1.9**
baz=217
PNG Penghu 2.19 252 *e*P **Pn 13 33 31.4 +0.1**
baz=249
PHUB P'eng-hu 2.19 251 *e*P **Pb 13 33 33.0 -1.9**
baz=248
WDGT Dungji 2.22 244 *e*P **Pn 13 33 32.5 +0.8**
baz=242
JTJ Tarama 2.65 81 P **Pn 13 33 38.6 +1.1**
JTJ S **Sn 13 34 10.3 +1.1**

NEIC ***16*** *13:45:39.7±2.0,28°.24S±0°.06×67°.52W±0°.09,h126km±6km, mb4.5/20,Md4.2(SJA),Error ellipse: s-maj=11.5km s-min=8.5km az=84.0*

SJA ***16*** *13:45:39±2.9,28°.25S±0°.06×67°.52W±0°.10,h142km±5km, Error ellipse: s-maj=0.0km s-min=0.0km az=176.0*

IDC ***16*** *13:45:40.6±0.8,28°.18S×67°.54W,h133km±6km,mb3.9/6, mb1 3.8/11,mb1mx3.6/33,mbtmp4.1/11, Error ellipse: s-maj=24.0km s-min=12.3km az=77.0*

ISC 16 13:45:39.6±0.5,28°.22S±0°.05×67°.62W±0°.08,h135km,n73, σ1§32/78,mb4.4/12,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
AC02	**Maricunga**	**1.93**	**316**				**Pn**	**13 46 15.9**	**+2.4**
AC02					Sn		**Sn**	**13 46 37.5**	**-1.8**
GO03	**Copiap**	**2.40**	**285**				**Pn**	**13 46 20.3**	**+1.5**
AC04	**Llanos de Chal**	**3.05**	**270**				**Pn**	**13 46 27.8**	**+0.8**
GO04	**Tololo Observa**	**3.39**	**234**				**Pn**	**13 46 32.7**	**+1.1**
ZON	**Zonda**	**3.44**	**195**				**Pn**	**13 46 32.9**	**+0.8**
CO03	**El Pedregal**	**3.73**	**225**	Pn			**Pn**	**13 46 36.8**	**+0.8**
CO02	**Combarbal**	**4.18**	**224**				**Pn**	**13 46 42.1**	**+0.2**
CO06	**Fray Jorge**	**4.27**	**234**				**Pn**	**13 46 42.0**	**-1.0**
PB14	**IPOC Station P**	**4.37**	**325**	Pn			**Pn**	**13 46 45.3**	**+0.6**
VA03	**San Esteban**	**5.18**	**208**				**Pn**	**13 46 55.6**	**+0.3**
PB15	**IPOC Station P**	**5.27**	**341**				**Pn**	**13 46 57.5**	**+0.9**
AF01	**San Pedro de A**	**5.27**	**354**	Pn			**Pn**	**13 46 57.8**	**+1.0**
PB10	**IPOC Station P**	**5.38**	**330**				**Pn**	**13 46 58.9**	**+1.0**
LVC	**Limon Verde**	**5.71**	**348**	P			**Pn**	**13 47 03.8**	**+1.1**
	4.5nm,0.3s,baz=170,slow=8.7,SNR=28								
LVC				S			**Sn**	**13 48 06.0**	**-1.4**
	4.9nm,0.3s,baz=166,slow=14,SNR=9.2								
LVC	**Limon Verde**	**5.71**	**348**	Pn			**Pn**	**13 47 03.5**	**+0.9**
PB06	**IPOC Station P**	**5.77**	**342**	Pn			**Pn**	**13 47 03.5**	**+0.2**
MT05	**Renca**	**5.81**	**207**	Pn			**Pn**	**13 47 03.6**	**0.0**
VA01	**Torpederas**	**5.91**	**215**	Pn			**Pn**	**13 47 02.9**	**-2.0**
MT09	**Talagante**	**6.24**	**207**				**Pn**	**13 47 08.0**	**-1.5**
PB04	**IPOC Station P**	**6.30**	**338**	Pn			**Pn**	**13 47 09.6**	**-0.8**
VA05	**Santo Domingo**	**6.41**	**211**	Pn			**Pn**	**13 47 08.3**	**-3.3**
MT01	**Popeta**	**6.43**	**208**				**Pn**	**13 47 10.3**	**-1.5**
PB09	**IPOC Station P**	**6.57**	**347**				**Pn**	**13 47 14.7**	**+0.8**
PB07	**IPOC Station P**	**6.79**	**342**				**Pn**	**13 47 16.3**	**-0.6**
BO01	**Tunca**	**6.83**	**205**				**Pn**	**13 47 15.8**	**-1.4**
BO02	**Sierra Bellavi**	**7.08**	**202**	Pn			**Pn**	**13 47 19.0**	**-1.7**
PB01	**IPOC Station P**	**7.35**	**346**				**Pn**	**13 47 23.7**	**-0.7**
GO05	**Huala**	**7.70**	**207**	Pn			**Pn**	**13 47 27.9**	**-1.1**
TA01	**Diego Aracena**	**7.97**	**342**	Pn			**Pn**	**13 47 31.4**	**-1.4**
PB08	**IPOC Station P**	**8.17**	**350**	Pn			**Pn**	**13 47 35.0**	**-0.7**
ML02	**Panimavida**	**8.18**	**202**	Pn			**Pn**	**13 47 32.4**	**-3.0**
PB11	**IPOC Station P**	**8.63**	**347**	Pn			**Pn**	**13 47 40.0**	**-1.7**
PSGCX	**Pisagua**	**8.89**	**345**	Pn			**Pn**	**13 47 42.5**	**-2.6**
CPUP	**Villa Florida**	**9.35**	**81**	P			**Pn**	**13 47 49.6**	**-1.4**
	0.4nm,0.3s,baz=258,slow=13,SNR=4.1								
CPUP	**Villa Florida**	**9.35**	**81**	Pn			**Pn**	**13 47 48.2**	**-2.9**
ITQB	**Itaqui**	**9.74**	**101**	Pn			**Pn**	**13 47 54.3**	**-2.0**
TRQA	**Tornquist**	**10.88**	**156**	Pn			**Pn**	**13 48 11.3**	**-0.2**
LPAZ	**La Paz**	**11.89**	**358**	P			**Pn**	**13 48 26.2**	**+0.7**
	0.2nm,0.3s,baz=155,slow=7.1,SNR=3.1								
LPAZ	**La Paz**	**11.89**	**358**	Pn			**Pn**	**13 48 26.1**	**+0.6**
LR03	**Panguipulli**	**12.03**	**198**	Pn			**Pn**	**13 48 24.8**	**-1.9**
PLTB	**Pedras Altas**	**12.65**	**110**	Pn			**Pn**	**13 48 32.8**	**-1.9**
PLCA	**Paso Flores**	**12.71**	**190**	P			**Pn**	**13 48 35.6**	**+0.1**
	0.1nm,0.3s,baz=32,slow=10,SNR=3.2								
PLCA	**Paso Flores**	**12.71**	**190**	Pn			**Pn**	**13 48 34.2**	**-1.3**
AQDB	**Aquidauana**	**13.32**	**57**				**Pn**	**13 48 40.5**	**-3.0**
SIV	**San Ignacio**	**13.60**	**28**	P			**Pn**	**13 48 46.2**	**-0.8**
	0.3nm,0.3s,baz=235,slow=11,SNR=5.6								
LL05	**Los Muermos**	**14.00**	**198**	P			**P**	**13 48 54.4**	**-1.2**
SAML	**Samuel**	**19.62**	**13**	P			**P**	**13 49 56.2**	**-1.4**
PTGA	**Pitinga**	**28.30**	**16**	P			**P**	**13 51 21.2**	**+0.6**
	1.1nm,0.4s,baz=217,slow=9.2,SNR=4.2								
RUSC	**La Rusia**	**34.33**	**350**	P			**P**	**13 52 12.7**	**-1.2**
RUSC				IAmb	IAmb		IAmb	13 52 16.8	
	comp=Z,9.8nm,1.4s								
SDV	**Santo Domingo**	**37.01**	**355**	P			**P**	**13 52 36.6**	**+0.1**
ASCN	**Ascension**	**54.03**	**79**	P			**P**	**13 54 50.2**	**-0.1**
SNAA	**Sanae**	**55.58**	**160**	P			**P**	**13 55 01.8**	**+1.1**
	comp=Z,1.9nm,0.5s,baz=277,slow=8.7,SNR=24								
SNAA	**Sanae**	**55.58**	**160**	P			**P**	**13 55 01.4**	**+0.7**
SNAA				IAmb	IAmb		IAmb	13 55 02.6	
	comp=Z,5.9nm,1.3s								
QSPA	**South Pole Qui**	**62.00**	**180**	P			**P**	**13 55 46.6**	**+1.4**
CPCT	**Cooper Cave**	**65.31**	**345**	P			**P**	**13 56 07.5**	**+0.4**
CPCT				IAmb	IAmb		IAmb	13 56 34.1	
	comp=Z,11nm,1.4s								
TKL	**Tuckaleechee C**	**65.34**	**346**	P			**P**	**13 56 07.9**	**+0.6**
	comp=Z,3.5nm,0.8s,baz=159,slow=8.6,SNR=2.7								
TKL	**Tuckaleechee C**	**65.34**	**346**	P			**P**	**13 56 07.9**	**+0.6**
TKL				IAmb	IAmb		IAmb	13 56 08.5	
	comp=Z,8.2nm,1.1s								
U54A	**Nelsons Funny**	**65.77**	**347**	P			**P**	**13 56 10.9**	**+0.8**
JCT	**Junction City**	**65.97**	**330**	P			**P**	**13 56 11.6**	**+0.2**
JCT				IAmb	IAmb		IAmb	13 56 14.0	
	comp=Z,3.1nm,0.6s								
WVT	**Waverly**	**66.78**	**342**	P			**P**	**13 56 16.9**	**+0.4**
TXAR	**Lajitas Array**	**66.82**	**326**	P			**P**	**13 56 18.7**	**+1.8**
	comp=Z,0.1nm,0.6s,baz=153,slow=8.0,SNR=2.2								
CCM	**Cathedral Cave**	**69.55**	**340**	P			**P**	**13 56 34.7**	**+1.0**
CCM				IAmb	IAmb		IAmb	13 56 35.5	
	comp=Z,4.7nm,0.6s								
S39A	**Bolivar**	**69.86**	**339**	P			**P**	**13 56 36.8**	**+1.2**
S39A				IAmb	IAmb		IAmb	13 56 37.8	
	comp=Z,5.3nm,0.6s								
G45A	**Suttons Bay**	**74.75**	**347**	P			**P**	**13 57 05.5**	**+1.1**
TORD	**Torodi Ar. Bea**	**78.62**	**68**	P			**P**	**13 57 27.8**	**+0.9**
	comp=Z,8.8nm,0.6s,baz=263,slow=5.3,SNR=38								
TORD	**Torodi Ar. Bea**	**78.62**	**68**	P			**P**	**13 57 27.1**	**+0.2**
TORD				IAmb	IAmb		IAmb	13 57 28.5	
	comp=Z,6.7nm,0.7s								
BOSA	**Boshof**	**79.33**	**117**	P			**P**	**13 57 31.6**	**+0.9**
	comp=Z,2.3nm,0.5s,baz=260,slow=5.3,SNR=6.3								
BOSA	**Boshof**	**79.33**	**117**	IAmb	IAmb		IAmb	13 57 36.2	
	comp=Z,7.4nm,1.1s								
PDAR	**Pinedale Array**	**80.50**	**330**	P			**P**	**13 57 38.4**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=129,slow=8.7,SNR=3.8								
ASAR	**Alice Springs**	**124.39**	**204**	PKP			**PKiKP**	**14 04 23.8**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=134,slow=1.8,SNR=18								
ASAR				pPKP			**pPKPdf**	**14 04 59.3**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=141,slow=1.4,SNR=2.3								
WRA	**Warramunga Arr**	**127.62**	**206**	PKP			**PKiKP**	**14 04 30.4**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=132,slow=1.4,SNR=12								
WRA				pPKP			**pPKPdf**	**14 05 05.7**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=132,slow=1.4,SNR=1.9								
ZALV	**Zalesovo Beam**	**147.34**	**30**	PKPbc			**PKPbc**	**14 05 07.6**	**+0.7**
	comp=Z,6.4nm,0.5s,baz=291,slow=4.1,SNR=19								
ZALV				pPKPbc			**pPKPbc**	**14 05 43.3**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=304,slow=4.9,SNR=2.7								
MKAR	**Makanchi Array**	**150.04**	**44**	PKPbc			**PKiKP**	**14 05 15.4**	**+0.5**
	comp=Z,5.2nm,0.7s,baz=306,slow=2.5,SNR=45								
MKAR				pPKPbc			**pPKPbc**	**14 05 50.7**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=321,slow=1.9,SNR=2.3								

MEX 16 13:46:13.3±1.3,17°.75N×96°.58W,h56km,MD3.9,Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
CMIG	**Matias Romero**	**1.74**	**112**	*e*P			Pn	13 46 38.5	-2.7
CMIG				*e*S			Sn	13 47 00.8	-1.6
PEIG	**Puerto Escondi**	**1.82**	**197**	*e*P			Pn	13 46 41.1	-1.2
TUIG	**Tuzandepetl**	**2.07**	**82**	*e*P			Pn	13 46 44.8	-0.9

NEIC ***16*** *13:49:55.7±0.5,5°.3S±0°.1×151°.03E±0°.07,h167km±10km, mb4.3/12,Error ellipse: s-maj=18.9km s-min=6.3km az=203.0*

IDC ***16*** *13:49:55.9±6.2,5°.19S×151°.06E,h182km±38km,mb3.7/3, mb1 3.9/3,mb1mx3.1/34,mbtmp4.2/3,Error ellipse: s-maj=88.7km s-min=44.9km az=117.0*

ISC 16 13:49:53.9±0.8,5°.4S±0°.1×151°.0E±0°.1,h150km,n20, σ1§53/22,mb4.1/8,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
RABL	**Rabaul**	**1.67**	**45**				**Pn**	**13 50 27.0**	**+1.7**
RABL					Sn		**Sn**	**13 50 49.8**	**+0.4**
MTN	**Manton Dam**	**20.93**	**248**	P			**P**	**13 54 25.7**	**+0.7**
MTN				IAmb	IAmb		IAmb	13 54 34.5	
	comp=Z,8.9nm,0.8s								
WR0	**Warramunga Arr**	**21.58**	**226**	P			**P**	**13 54 33.0**	**+1.1**
WRAB	**Tennant Creek**	**21.70**	**227**	P			**P**	**13 54 34.5**	**+1.3**
WRAB				IAmb	IAmb		IAmb	13 54 36.4	
	comp=Z,5.9nm,0.8s								
WB2	**Warramunga Arr**	**21.71**	**227**	P			**P**	**13 54 34.5**	**+1.2**
WB2				IAmb	IAmb		IAmb	13 54 35.2	
	comp=Z,7.9nm,1.1s								
WRA	**Warramunga Arr**	**21.72**	**227**	P			**P**	**13 54 34.7**	**+1.3**
	comp=Z,3.2nm,0.3s,baz=52,slow=9.8,SNR=76								
WRA	**Warramunga Arr**	**21.72**	**227**	P			**P**	**13 54 33.6**	**+0.3**
DZM	**Mont Dzumac**	**22.36**	**139**	P			**P**	**13 54 40.1**	**+0.2**
DZM				IAmb	IAmb		IAmb	13 55 05.7	
	comp=Z,22nm,1.4s								
KNRA	**Kununurra**	**24.09**	**243**	P			**P**	**13 54 56.7**	**+1.0**
KNRA				IAmb	IAmb		IAmb	13 55 20.8	
	comp=Z,18nm,1.2s								
AS31	**Alice Springs**	**24.52**	**220**				**P**	**13 55 00.5**	**+0.9**
ASAR	**Alice Springs**	**24.52**	**220**	P			**P**	**13 55 00.9**	**+1.2**
	comp=Z,2.1nm,0.6s,baz=55,slow=8.9,SNR=77								
ASAR				ScP			**ScP**	**14 01 54.1**	**-5.0**
	comp=Z,0.2nm,0.7s,baz=55,slow=3.5,SNR=4.3								
ASAR	**Alice Springs**	**24.52**	**220**	P			**P**	**13 55 00.3**	**+0.7**
FITZ	**Fitzroy Crossi**	**27.79**	**241**	P			**P**	**13 55 29.6**	**+0.5**
	comp=Z,1.1nm,0.4s,baz=53,slow=6.0,SNR=23								
FITZ	**Fitzroy Crossi**	**27.79**	**241**	P			**P**	**13 55 29.3**	**+0.3**
SMRI	**Semarang**	**40.32**	**265**	P			**P**	**13 57 16.8**	**-0.2**
MORW	**Morawa**	**40.58**	**230**	P			**P**	**13 57 18.5**	**-0.4**
MORW				IAmb	IAmb		IAmb	13 57 29.1	
	comp=Z,8.7nm,1.1s								
BKZ	**Black Stump Fm**	**40.80**	**149**	P			**P**	**13 57 20.9**	**+0.2**
TUWZ	**Tuamarina**	**41.35**	**154**	P			**P**	**13 57 25.5**	**+0.5**
HMH	**Humu'ula Sheep**	**58.22**	**63**	P			**P**	**13 59 31.1**	**-2.1**
TORD	**Torodi Ar. Bea**	**148.74**	**286**	PKPbc			**PKPdf**	**14 09 21.8**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=75,slow=1.3,SNR=5.1								

TAP 16 13:50:20.2,24°.27N×121°.79E,h17km,ML1.6,2C,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
ENA	**Nanau**	**0.16**	**343**	P			Pb	13 50 24.9	+0.2
	baz=345								
ENA				S			Sb	13 50 28.5	+0.8
	baz=345								
EWUT	**Wuta**	**0.17**	**356**	⇑*i*P			Pb	13 50 25.0	+0.1
	baz=356								
EWUT				*i*S			Sb	13 50 28.8	+0.8
	baz=356								
ETL	**Fush Village**	**0.19**	**233**	*e*P			Pb	13 50 25.6	+0.4
	baz=233								
ETL				S			Sb	13 50 29.3	+0.7
	baz=233								
NACB	**Ninganchiao**	**0.20**	**241**	P			Pb	13 50 25.4	0.0
	baz=240								
NACB				S			Sb	13 50 29.8	+0.8
	baz=240								
TWD	**Chiawan**	**0.26**	**223**	*e*P			Pb	13 50 26.6	+0.2
	baz=221								
TWD				S			Sb	13 50 31.1	+0.5
	baz=221								
ETLH	**Xiulin Townshi**	**0.29**	**257**	*e*P			Pb	13 50 27.2	+0.3
	baz=256								
ETLH				S			Sb	13 50 32.2	+0.7
	baz=256								
TWC	**Suao**	**0.34**	**9**	*e*P			Pb	13 50 27.9	+0.1
	baz=10.0								
TWC				S			Sb	13 50 33.6	+0.8
	baz=10.0								
NDS	**Dongshan**	**0.36**	**349**	P			Pb	13 50 29.2	+1.0
	baz=349								
NDS				S			Sb	13 50 34.1	+0.5
	baz=349								
NNSB	**Datong**	**0.40**	**293**	⇑P			Pb	13 50 29.2	+0.3
	baz=292								
NNSB				S			Sb	13 50 35.5	+0.7
	baz=292								
NDT	**Datong Townshi**	**0.41**	**322**	*e*P			Pb	13 50 29.4	+0.4
	baz=322								
NDT				S			Sb	13 50 35.8	+0.7
	baz=322								
NNS	**Nan Shan**	**0.42**	**294**	P			Pb	13 50 29.3	+0.2
	baz=293								
NNS				S			Sb	13 50 36.1	+0.9
	baz=293								
ENTT	**Nioudou**	**0.42**	**331**	P			Pb	13 50 29.4	+0.3
	baz=331								
ENTT				S			Sb	13 50 36.0	+0.9
	baz=331								
TWE	**Neicheng**	**0.46**	**346**	*e*P			Pb	13 50 29.8	0.0
	baz=347								
TWE				*e*S			Sb	13 50 37.0	+0.7
	baz=347								
ILA	**Ilan**	**0.49**	**355**	*e*P			Pb	13 50 30.6	+0.3
	baz=356								
ILA				*e*S			Sb	13 50 38.2	+1.0
	baz=356								
WHF	**Hehuan Shan**	**0.50**	**255**	*e*P			Pb	13 50 30.7	0.0
	baz=254								
WHF				*e*S			Sb	13 50 38.1	+0.3
	baz=254								
FUSS	**Fushou**	**0.50**	**267**	*e*P			Pb	13 50 31.0	+0.4
	baz=266								
FUSS				S			Sb	13 50 38.6	+0.8
	baz=266								
YHNB	**Yeheng**	**0.55**	**316**	P			Pb	13 50 31.8	+0.4
	baz=316								
NSK	**Sanguang**	**0.56**	**315**	*e*P			Pb	13 50 32.1	+0.5
	baz=315								
NWLT	**Wulai**	**0.57**	**332**	*e*P			Pb	13 50 31.8	+0.2
	baz=332								
CHGB	**Renai**	**0.60**	**249**	*e*P			Pb	13 50 32.6	+0.2
	baz=249								
TIPB	**Shuangxi**	**0.70**	**3**	*e*P			Pg	13 50 34.2	+0.4
	baz=2.0								
TIPB				S			Sb	13 50 43.6	+0.5
	baz=2.0								
WHP	**Taichung City**	**0.77**	**270**	*e*P			Pg	13 50 35.5	+0.2
	baz=270								
WHP				S			Sg	13 50 46.4	+0.8
	baz=270								
YOJ	**Yonaguni jima**	**1.13**	**80**	*e*P			Pb	13 50 41.3	+0.1
	baz=80								
YOJ				*e*S			Sg	13 50 57.3	+0.5
	baz=80								

TAP 16 13:50:28.7,24°.30N×121°.80E,h19km,ML1.6,1D,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
ENA	**Nanau**	**0.14**	**337**	P			Pg	13 50 33.4	+0.4
	baz=339								
ENA				*i*S			Sg	13 50 37.0	+1.1
	baz=339								
EWUT	**Wuta**	**0.15**	**351**	⇓P			Pg	13 50 33.4	+0.4
	baz=351								
EWUT				S			Sg	13 50 37.0	+1.0
	baz=351								
ETL	**Fush Village**	**0.21**	**231**	*e*P			Pg	13 50 34.4	+0.4
	baz=230								
ETL				S			Sg	13 50 38.6	+1.1
	baz=230								
NACB	**Ninganchiao**	**0.23**	**238**	*e*P			Pg	13 50 34.6	+0.5
	baz=237								
NACB				S			Sg	13 50 38.9	+1.1
	baz=237								
TWD	**Chiawan**	**0.29**	**221**	*e*P			Pb	13 50 35.6	+0.4
	baz=220								
TWD				S			Sb	13 50 40.7	+1.1
	baz=220								
ETLH	**Xiulin Townshi**	**0.31**	**253**	P			Pb	13 50 36.1	+0.4
	baz=253								
ETLH				S			Sb	13 50 40.9	+0.6
	baz=253								
TWC	**Suao**	**0.32**	**8**	*e*P			Pb	13 50 36.0	+0.2
	baz=9.0								
TWC				*e*S			Sb	13 50 41.0	+0.4
	baz=9.0								
NDS	**Dongshan**	**0.35**	**347**	P		

NNSB	**Datong** baz=289	**0.41**	**289**	P	Pb	13 50 37.9 +0.3
NNSB				S	Sb	13 50 44.0 +0.6
NNS	**Nan Shan** baz=290	**0.42**	**290**	P	Pb	13 50 37.8 +0.1
NNS				S	Sb	13 50 44.5 +0.8
TWE	**Neicheng** baz=345	**0.44**	**344**	*e*P	Pb	13 50 38.3 +0.3
TWE				*e*S	Sb	13 50 45.2 +0.8
FUSS	**Fushou** baz=264	**0.51**	**265**	*e*P	Pb	13 50 39.6 +0.3
FUSS				*e*S	Sb	13 50 47.7 +1.2
WHF	**Hehuan Shan** baz=252	**0.51**	**253**	*e*P	Pb	13 50 39.6 +0.2
WHF				S	Sb	13 50 47.3 +0.6
YHNB	**Yeheng** baz=313	**0.54**	**314**	P	Pb	13 50 39.9 +0.3
YHNB				S	Sb	13 50 48.3 +1.3
YHNB	**Yeheng** baz=316	**0.54**	**314**	S	Pb	13 50 39.8 +0.2
NWLT	**Wulai** baz=330	**0.55**	**330**	*e*P	Pg	13 50 40.3 +0.5
NWLT				S	Sb	13 50 48.6 +1.2
NWLT	**Wulai** baz=332	**0.55**	**330**	*e*S	Pn	13 50 40.3 -1.4
NSK	**Sanguang** baz=313	**0.56**	**313**	P	Pg	13 50 40.4 +0.5
NSK				S	Sb	13 50 48.6 +1.2
NSK	**Sanguang** baz=315	**0.56**	**313**	S	Pg	13 50 40.3 +0.4
CHGB	**Renai** baz=247	**0.62**	**248**	*e*P	Pg	13 50 41.5 +0.4
CHGB				*e*S	Sg	13 50 50.8 +1.3
CHGB	**Renai** baz=249	**0.62**	**248**	*e*S	Pg	13 50 41.6 +0.5
TIPB	**Shuangxi** baz=1.0	**0.67**	**2**	*e*P	Pg	13 50 42.3 +0.2
TIPB				*e*S	Sg	13 50 52.2 +1.0
WHP	**Taichung City** baz=268	**0.78**	**269**	*e*P	Pg	13 50 44.2 +0.2
WHP				*e*S	Sn	13 50 55.5 -0.7
YOJ	**Yonaguni jima** baz=80	**1.11**	**81**	*e*P	Pn	13 50 49.1 -0.3
YOJ				*e*S	Sb	13 51 03.8 +0.2

IDC ***16*** *14:03:21.0±0.3,5.˙98S×151.˙45E,h0km,mb5.3/30, mb1 5.4/32,mb1mx5.3/35,mbtmp5.3/32,ML3.7/2, MS5.6/33, Ms1 5.6/33,ms1mx5.5/43,Error ellipse: s-maj=10.9km s-min=8.8km az=109.0*

MOS ***16*** *14:03:21.0±1.3,5.˙86S×151.˙32E,h11km,mb5.9/72, MS5.8/43,Error ellipse: s-maj=7.1km s-min=4.9km az=105.4*

BJI ***16*** *14:03:21.7±0.0,6.˙03S×151.˙48E,h20km,mB6.1/86, mb5.3/78,Ms6.0/99,Ms7 5.8/93*

SVSA ***16*** *14:03:22.1,6.˙01S×151.˙48E,h6km,MW6.1(NEIC)*

NEIC ***16*** *14:03:22.1±1.9,6.˙01S±0.˙05×151.˙48E±0.˙05,h6km±1km, mb5.8/304,Ms_20 6.1/827,Mwb6.0/29,Mww6.1, Mwc6.0(GCMT),Error ellipse: s-maj=10.8km s-min=5.0km az=130.0*

NEIC ***16*** *14:03:24.6,6.˙00S×151.˙47E,h7km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=0.85; Mθθ=0.60; Mφφ=0.24; Mrθ=-0.88; Mθφ=0.47; Mφr=-0.32; Fault plane solution: M₀1.29000×10¹⁸ NP1:φ₁=66.31000°, δ=68.58000°,λ=-81.33000°. NP2:φ₂=223.64000°,δ=23.03000°, λ=-111.03000°. Principal axes: T 1.3107, Plg23.0000°, Azm150.0000°; N -0.0420, Plg8.0000°, Azm243.0000°; P -1.2687, Plg65.0000°, Azm351.0000°;*

NEIC ***16*** *14:03:27.6˙10S×151.˙45E,h16km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=1.12; Mθθ=0.99; Mφφ=0.12; Mrθ=-0.86; Mθφ=0.34; Mφr=-0.64; Fault plane solution: M₀1.55000×10¹⁸ NP1:φ₁=262.00000°, δ=24.00000°,λ=-69.00000°. NP2:φ₂=59.00000°,δ=67.00000°, λ=-99.00000°. Principal axes: T 1.5227, Plg22.0000°, Azm156.0000°; N 0.0522, Plg9.0000°, Azm63.0000°; P -1.5749, Plg67.0000°, Azm312.0000°;*

DJA ***16*** *14:03:27.8±0.4,6.˚S±2.˚×15.˚1E±.˚,h49km±4km,M5.9/95, mB6.3/94, mb5.7/95,MLv6.4/2,Mw(mB)6.0/94, MwMwp5.7/67,Mwp5.8/67*

NEIC ***16*** *14:03:28,6.˙20S×151.˙61E,h13km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=0.93; Mθθ=0.83; Mφφ=0.10; Mrθ=-0.98; Mθφ=0.34; Mφr=-0.59; Fault plane solution: M₀1.49000×10¹⁸ NP1:φ₁=256.00000°, δ=20.00000°,λ=-76.00000°. NP2:φ₂=61.00000°,δ=70.00000°, λ=-95.00000°. Principal axes: T 1.4943, Plg25.0000°, Azm155.0000°; N -0.0183, Plg5.0000°, Azm63.0000°; P -1.4759, Plg64.0000°, Azm323.0000°;*

GCMT ***16*** *14:03:28.1±0.1,6.˙20S×151.˙53E,h13km,MW6.0/159, Moment Tensor Solution. s159,c352; s157,c533; Duration: 2≥5 Moment tensor: Scale 10¹⁸Nm; Mrr=-0.96±.01; Mθθ=0.82±.01; Mφφ=0.13±.01; Mrθ=-0.87±.02; Mθφ=0.34±.01; Mφr=-0.33±.01; Best double couple: M₀1.33600×10¹⁸ NP1:φ₁=246.00000°,δ=23.00000°, λ=-92.00000°. NP2:φ₂=69.00000°,δ=67.00000°,λ=-89.00000°. Principal axes: T 1.3400, Plg22.0000°, Azm158.0000°; N -0.0080, Plg1.0000°, Azm248.0000°; P -1.3330, Plg68.0000°, Azm340.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC **16** **14:03:23.6**±0.3,**6.˙03S**±.0˙03×**151.˙41E**±0.˙03,**h20**km±1km, **h20**km:**pP-P,n1983,σ1977**/1955,**mb5.7**/314,**MS6.0**/504, **114C-233D,Fault plane solution: NP1:**φ₁=63.13412°, δ=46.13292°,λ=-75.30901°. **NP2:**φ₂=222.41106°,δ=45.78284°, λ=-104.78004°. **Principal axes:** T Plg0.1779°, Azm142.8035°**;** N Plg10.5350°, Azm232.8366°**;** P Plg79.4634°, Azm51.8468°**; Fault plane solution: NP1:**φ₁=278.99185°,δ=48.35276°,λ=-76.06125°. **NP2:** φ₂=78.51222°,δ=43.51062°,λ=-105.15574°. **Principal axes:** T Plg2.4601°, Azm359.1756°; N Plg10.3698°, Azm89.6261°**;** P Plg79.3360°, Azm255.9865°**; New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.97**	**22**			**Pn**	**14 03 56.2**	**+0.3**
RABL	**Rabaul**	**1.97**	**22**	⇓P		**Pn**	**14 03 55.7**	**-0.3**
RABL	**Rabaul**	**1.97**	**22**	P		**Pb**	**14 03 57.6**	**-1.3**
MANU	**Manus Island**	**5.65**	**314**			**Pn**	**14 04 50.7**	**+4.1**
MANU	**Manus Island**	**5.65**	**314**	⇓P		Pn	14 04 52.0	+5.4
HNR	**Honiara** 41nm,0.3s,baz=236,slow=3.8,SNR=22	**9.11**	**112**	Pn		**Pn**	**14 05 34.9**	**+0.9**
HNR				LR		LR	14 08 58.8	
	comp=Z,48μm,18.4s,baz=278,slow=37							
HNR	**Honiara**	**9.11**	**112**	P		**Pn**	**14 05 33.4**	**-0.7**
HNR	**Honiara**	**9.11**	**112**	Pn		**Pn**	**14 05 33.4**	**-0.7**
HNR	**Honiara**	**9.11**	**112**	⇑P		**Pn**	**14 05 34.7**	**+0.6**
HNR	**Honiara**	**9.11**	**112**	P		**Pn**	**14 05 37.1**	**+3.0**
JAY	**Jayapura** 0.2nm,0.3s,baz=164,slow=23,SNR=2.0	**11.23**	**288**	Pn		**Pn**	**14 06 05.3**	**+2.1**
JAY	**Jayapura**	**11.23**	**288**	P		**Pn**	**14 06 06.3**	**+3.1**
COEN	**Coen**	**11.31**	**225**	Pn		**Pn**	**14 06 05.8**	**+1.6**
COEN	**Coen**	**11.31**	**225**	⇑P		**Pn**	**14 06 06.2**	**+1.9**
GENI	**Genyem**	**11.72**	**286**	P		Pn	14 06 18.6	+8.8
MTSU	**Mount Surprise** baz=14,SNR=30	**13.88**	**209**	P		**Pn**	**14 06 42.0**	**+2.5**
PATS	**Pohnpei** baz=15,SNR=3.8	**14.52**	**28**	P		**Pn**	**14 06 49.6**	**+1.5**
PATS	**Pohnpei**	**14.52**	**28**			**Pn**	**14 06 47.2**	**-0.9**
CTA	**Charters Tower** 0.4nm,0.3s,baz=23,slow=14,SNR=27	**14.85**	**199**	Pn		**Pn**	**14 06 53.8**	**+1.1**
CTA				LR		LR	14 11 52.0	
	comp=Z,40μm,20.1s,baz=18,slow=34							
CTAO	**Charters Tower**	**14.85**	**199**	P		**Pn**	**14 06 53.5**	**+0.9**
CTAO	**Charters Tower**	**14.85**	**199**	Pn		**Pn**	**14 06 53.5**	**+0.9**
CTAO	**Charters Tower**	**14.85**	**199**	⇑P		**Pn**	**14 06 53.5**	**+0.9**
SRPI	**Serui, Papua**	**15.69**	**285**	P		P	14 07 15.5	+7.9
BAKI	**Biak** 230nm,2.1s	**16.01**	**287**	P		**Pn**	**14 07 09.2**	**+1.4**
QIS	**Mount Isa** baz=18,SNR=114	**18.44**	**217**	P		**Pn**	**14 07 39.3**	**+1.1**
KOUNC	**Koumac, New Ca**	**19.09**	**140**	⇑P		**Pn**	**14 07 45.8**	**-0.3**
KOUNC	**Koumac, New Ca**	**19.09**	**140**	P		**Pn**	**14 07 48.3**	**+2.2**
EIDS	**Eidsvold** baz=19,SNR=56	**19.24**	**181**	P		**Pn**	**14 07 48.1**	**+0.3**
EIDS	**Eidsvold**	**19.24**	**181**	P		**Pn**	**14 07 47.4**	**-0.4**
EIDS	**Eidsvold**	**19.24**	**181**	⇑P		**Pn**	**14 07 48.1**	**+0.3**
FAKI	**Fak Fak**	**19.35**	**278**	P		**P**	**14 07 46.3**	**-1.8**
FAKI	**Fak Fak**	**19.35**	**278**	⇓P		**P**	**14 07 44.8**	**-3.3**
FAKI	**Fak Fak** 25μm6μm92nm,0.9s	**19.35**	**278**	P		**P**	**14 07 45.7**	**-2.4**
KDU	**Kakadu** baz=20,SNR=76	**19.81**	**249**	P		**Pn**	**14 07 54.1**	**-0.7**
KDU	**Kakadu**	**19.81**	**249**	⇑P		**P**	**14 07 53.8**	**+0.6**
KDU				⇑S		**S**	**14 11 36.4**	**+0.6**
KDU				⇑S		**ScP**	**14 15 41.4**	**-4.9**
SAUI	**Saumlaki**	**20.05**	**263**			**P**	**14 07 56.4**	**+0.6**
SAUI				IAmb		IAmb	14 08 20.7	
	comp=Z,565nm,1.0s							
SAUI	**Saumlaki** comp=Z,46μmcomp=Z,27μmcomp=Z,600nm,0.8s	**20.05**	**263**	P		Pn	14 07 57.2	-0.5
DVP	**Devils Point** comp=Z,534μm,1.1s	**20.09**	**127**	P		Pn	14 08 00.3	+2.2
RTV	**Rentapao** comp=Z,282μm,1.9s	**20.32**	**127**	P		Pn	14 08 03.0	+2.3
RMQ	**Roma** baz=21,SNR=512	**20.50**	**187**	P		Pn	14 08 02.2	-0.6
GUMO	**Guam** comp=Z,529nm,1.0s,baz=181,slow=5.1,SNR=18	**20.54**	**342**	P		**P**	**14 08 01.9**	**+0.8**
GUMO				LR		LR	14 15 41.8	
	comp=Z,11μm,20.5s,baz=179,slow=36							
GUMO	**Guam**	**20.54**	**342**	P		**P**	**14 08 01.2**	**+0.1**
GUMO				pmax		pmax		
	comp=Z,2μm,1.2s							
GUMO	**Guam**	**20.54**	**342**	P		**P**	**14 08 01.2**	**+0.1**
GUMO	**Guam**	**20.54**	**342**	⇓P		**P**	**14 08 02.0**	**+0.9**
GUMO	**Guam**	**20.54**	**342**	P		Pn	14 08 03.8	+0.5
SIJI	**Sorong** comp=Z,136nm,1.2s,baz=90,slow=8.1,SNR=13	**20.74**	**284**	P		Pn	14 08 05.2	-0.6
SIJI	**Sorong** comp=Z,14μmcomp=Z,3μmcomp=Z,68nm,1.3s	**20.74**	**284**	P		**P**	**14 08 01.8**	**-1.6**
SWI	**Sorong** comp=Z,28μmcomp=Z,6μmcomp=Z,133nm,1.3s	**20.75**	**284**	P		**P**	**14 08 02.6**	**-0.8**
MTN	**Manton Dam** baz=21,SNR=58	**21.11**	**250**	P		**P**	**14 08 08.4**	**+1.1**
MTN	**Manton Dam**	**21.11**	**250**	P		**P**	**14 08 08.1**	**+0.8**
MTN				IAmb		IAmb	14 08 21.6	
	comp=Z,1μm,1.5s							
MTN				IAMs_20		IAMs_20	14 17 26.0	
	comp=Z,58μm,18.0s							
MTN	**Manton Dam**	**21.11**	**250**	⇓P		**P**	**14 08 07.7**	**+0.5**
LIFNC	**LIFOU**	**21.23**	**135**	P		**P**	**14 08 08.1**	**-0.3**
LIFNC				IAmb		IAmb	14 08 23.7	
	comp=Z,320nm,1.1s							
LIFNC	**LIFOU**	**21.23**	**135**	P		**P**	**14 08 10.5**	**+2.0**
WR0	**Warramunga Arr**	**21.46**	**228**	P		**P**	**14 08 11.8**	**+0.8**
WR0				IAmb		IAmb	14 08 33.0	
	comp=Z,785nm,1.3s							
BNDI	**Bandanaira**	**21.47**	**273**	⇓P		**P**	**14 08 10.3**	**-0.8**
BNDI	**Bandanaira**	**21.47**	**273**	P		**P**	**14 08 13.4**	**+2.3**
	comp=Z,24μmcomp=Z,21μmcomp=Z,699nm,1.6s							
NOUC	**Port Laguerre**	**21.51**	**139**	P		**P**	**14 08 13.6**	**+2.1**
QLP	**Quilpie** baz=22,SNR=106	**21.56**	**198**	P		**P**	**14 08 13.6**	**+1.6**
QLP	**Quilpie**	**21.56**	**198**	⇓P		**P**	**14 08 13.2**	**+1.2**
DZM	**Mont Dzumac** comp=Z,587nm,1.4s	**21.58**	**139**	*e*P		**P**	**14 08 12.5**	**+0.2**
DZM				*e*S		**S**	**14 12 07.0**	**-3.8**
	comp=Z,6μm,21.1s							
DZM				eLQ		LQ	14 12 26.1	
	comp=Z,33μm,26.2s							
DZM				eLR		LR	14 13 22.8	
	comp=Z,81μm,22.9s							
DZM	**Mont Dzumac** comp=Z,139nm,1.1s,baz=303,slow=9.7,SNR=24	**21.58**	**139**	P		**P**	**14 08 12.5**	**+0.2**
DZM				LR		LR	14 15 13.2	
	comp=Z,55μm,21.3s,baz=318,slow=33							
DZM	**Mont Dzumac**	**21.58**	**139**	P		**P**	**14 08 11.8**	**-0.6**
DZM	**Mont Dzumac**	**21.58**	**139**	⇑P		**P**	**14 08 12.4**	**+0.2**
DZM	**Mont Dzumac**	**21.58**	**139**	P		**P**	**14 08 12.6**	**+0.2**
WRAB	**Tennant Creek**	**21.59**	**229**	*d*P		**P**	**14 08 12.8**	**+0.4**
WRAB				pmax		pmax		
	comp=Z,630nm,1.7s							
WRAB				MLR		MLR		
	comp=Z,35μm,14.0s							
WRAB	**Tennant Creek**	**21.59**	**229**	P		**P**	**14 08 12.5**	**+0.1**
WRAB				IAmb		IAmb	14 08 23.7	
	comp=Z,412nm,1.1s							
WB2	**Warramunga Arr**	**21.59**	**229**	P		**P**	**14 08 13.0**	**+0.5**
WB2				IAmb		IAmb	14 08 34.5	
	comp=Z,1μm,1.5s							
WRA	**Warramunga Arr** comp=Z,108nm,0.7s,baz=56,slow=9.8,SNR=152	**21.60**	**229**	P		**P**	**14 08 13.8**	**+1.3**
WRA				S		**S**	**14 12 13.7**	**+2.5**
	comp=Z,38nm,1.1s,baz=53,slow=17,SNR=6.3							
WRA				ScP		**ScP**	**14 15 56.3**	**+5.7**
	comp=Z,23nm,1.0s,baz=38,slow=2.7,SNR=6.9							
WRA				LR		LR	14 17 24.9	
	comp=Z,6μm,19.4s,baz=35,slow=39							
WRA	**Warramunga Arr**	**21.60**	**229**	P		**P**	**14 08 13.1**	**+0.6**
WRA							14 12 13.7	
WRA				pmax		pmax		
	comp=Z,41nm,1.0s							
WRA	**Warramunga Arr**	**21.60**	**229**	P		**P**	**14 08 13.1**	**+0.6**
ONTNC	**Ouen Toro**	**21.75**	**140**	P		**P**	**14 08 13.3**	**-0.7**
ONTNC				IAMs_20		IAMs_20	14 14 57.3	
	comp=Z,50μm,21.0s							
ONTNC	**Ouen Toro**	**21.75**	**140**	P		**P**	**14 08 16.7**	**+2.6**
KWAJ	**Kwajalein Atol** comp=Z,54μm,20.0s	**21.86**	**48**	IAMs_20		IAMs_20	14 17 12.9	
YATNC	**Mamie plateau,**	**21.86**	**138**	P		**P**	**14 08 16.6**	**+1.3**
OUENC	**Ouen Island, N**	**22.08**	**139**	P		**P**	**14 08 15.7**	**-1.9**
OUENC				IAMs_20		IAMs_20	14 15 05.1	
	comp=Z,59μm,21.0s							
OUENC	**Ouen Island, N**	**22.08**	**139**	P		**P**	**14 08 20.1**	**+2.5**
MARNC	**Mare, Loyalty**	**22.25**	**135**	P		**P**	**14 08 18.3**	**-1.1**
MARNC	**Mare, Loyalty**	**22.25**	**135**	⇑P		**P**	**14 08 19.1**	**-0.3**
MARNC	**Mare, Loyalty**	**22.25**	**135**	P		**P**	**14 08 23.7**	**+4.3**
MSAI	**Masohi**	**22.56**	**276**	P		P	14 08 42.0	+19
TARA	**Tarawa**	**22.70**	**72**	P		**P**	**14 08 22.4**	**-1.9**
TARA	**Tarawa**	**22.70**	**72**	⇑P		**P**	**14 08 24.6**	**+0.2**
TARA	**Tarawa**	**22.70**	**72**	P		**P**	**14 08 27.1**	**+2.8**
ANA2	**Anatahan**	**22.93**	**346**	P		**P**	**14 08 25.2**	**-1.4**
ANA2	**Anatahan**	**22.93**	**346**	P		**P**	**14 08 29.4**	**+2.7**
KRAI	**Karang Ratu**	**23.09**	**276**	P		**P**	**14 08 31.5**	**+3.0**
SARN	**Sarigan**	**23.26**	**346**	P		**P**	**14 08 31.4**	**+1.3**
KNRA	**Kununurra** baz=24,SNR=153	**24.20**	**245**	P		**P**	**14 08 39.7**	**+0.6**
KNRA	**Kununurra**	**24.20**	**245**	P		**P**	**14 08 38.3**	**-0.8**
ARMA	**Armidale** baz=24,SNR=23	**24.27**	**180**	P		**P**	**14 08 40.3**	**+0.6**
ARMA	**Armidale**	**24.27**	**180**	P		**P**	**14 08 39.5**	**-0.2**
ARMA				IAmb		IAmb	14 09 01.9	
	comp=Z,185nm,1.3s							
ARMA				IAMs_20		IAMs_20	14 18 31.9	
	comp=Z,67μm,18.0s							
ARMA	**Armidale**	**24.27**	**180**	⇑P		**P**	**14 08 40.4**	**+0.6**
AS31	**Alice Springs**	**24.32**	**222**	P		**P**	**14 08 40.5**	**+0.3**
ASAR	**Alice Springs** comp=Z,192nm,0.9s,baz=55,slow=9.1,SNR=566	**24.32**	**222**	P		**P**	**14 08 41.7**	**+1.5**
ASAR				S		**S**	**14 13 02.5**	**+3.9**
	comp=Z,3.5nm,0.9s,baz=36,slow=18,SNR=1.5							
ASAR				ScP		**ScP**	**14 16 02.4**	**+4.7**
	comp=Z,13nm,0.9s,baz=53,slow=3.6,SNR=8.5							
ASAR				LR		LR	14 19 27.6	
	comp=Z,25μm,18.5s,baz=50,slow=40							
ASAR				PKP2ab			14 45 54.4	
	comp=Z,0.3nm,0.9s,baz=304,slow=2.9,SNR=4.2							
ASAR	**Alice Springs**	**24.32**	**222**	P		**P**	**14 08 40.5**	**+0.3**
GAMI	**Galela, Maluku** comp=Z,8μmcomp=Z,88nm,0.9s	**24.85**	**288**	P		**P**	**14 08 43.3**	**-1.8**
TNTI	**Ternate** comp=Z,8μmcomp=Z,4μmcomp=Z,46nm,0.9s	**24.94**	**285**	P		**P**	**14 08 45.6**	**-0.3**
SANI	**Sanana**	**25.66**	**278**	⇓P		**P**	**14 08 50.2**	**-2.3**
SANI	**Sanana** comp=Z,12μmcomp=Z,6μmcomp=Z,95nm,1.6s	**25.66**	**278**	P		**P**	**14 08 50.2**	**-2.3**
CMSA	**Cobar Meteorol** baz=26,SNR=102	**25.94**	**191**	P		**P**	**14 08 54.8**	**0.0**
LHI	**Lord Howe Isla** baz=26,SNR=5.6	**26.36**	**165**	P		**P**	**14 08 58.4**	**-0.2**
LHI	**Lord Howe Isla**	**26.36**	**165**	P		**P**	**14 08 58.3**	**-0.2**
LHI	**Lord Howe Isla**	**26.36**	**165**	⇑P		**P**	**14 08 59.3**	**+0.7**
LHI	**Lord Howe Isla**	**26.36**	**165**	P		**P**	**14 08 58.5**	**0.0**
MGCD	**Mangrove Creek** baz=27,SNR=7.3	**27.05**	**181**	P		**P**	**14 09 05.4**	**+0.6**
SOEI	**Soe**	**27.14**	**260**	P		**P**	**14 09 06.6**	**+0.7**
SOEI	**Soe**	**27.14**	**260**	⇓P		**P**	**14 09 07.2**	**+1.3**
SOEI	**Soe** comp=Z,18μmcomp=Z,19μmcomp=Z,650nm,1.0s	**27.14**	**260**	P		**P**	**14 09 04.8**	**-1.1**
STKA	**Stephens Creek** baz=27,SNR=81	**27.31**	**198**	P		**P**	**14 09 07.0**	**-0.2**
STKA	**Stephens Creek** comp=Z,111nm,1.0s,baz=31,slow=13,SNR=39	**27.31**	**198**	P		**P**	**14 09 07.1**	**0.0**
STKA				LR		LR	14 19 44.8	
	comp=Z,21μm,20.1s,baz=21,slow=36							
STKA	**Stephens Creek**	**27.31**	**198**	P		**P**	**14 09 06.7**	**-0.4**
STKA				pmax		pmax		
	comp=Z,75nm,1.4s							
STKA				MLR		MLR		
	comp=Z,5μm,20.0s							
STKA	**Stephens Creek**	**27.31**	**198**	P		**P**	**14 09 06.7**	**-0.4**
FUNA	**Funafuti**	**27.67**	**97**	P		**P**	**14 09 10.5**	**-0.1**
BATI	**Baumata** comp=Z,172nm,0.6s,baz=143,slow=2.3,SNR=32	**27.77**	**260**	P		**P**	**14 09 14.1**	**+2.5**
BATI				LR		LR	14 22 32.8	
	comp=Z,36μm,19.8s,baz=108,slow=41							
BATI	**Baumata** comp=Z,8μmcomp=Z,6μmcomp=Z,314nm,0.9s	**27.77**	**260**	P		**P**	**14 09 14.1**	**+2.5**
FITZ	**Fitzroy Crossi** baz=28,SNR=216	**27.86**	**242**	P		**P**	**14 09 12.7**	**+0.4**
FITZ	**Fitzroy Crossi** comp=Z,116nm,0.5s,baz=66,slow=7.8,SNR=325	**27.86**	**242**	P		**P**	**14 09 12.6**	**+0.4**
FITZ				LR		LR	14 22 11.6	
	comp=Z,24μm,18.1s,baz=68,slow=40							
FITZ	**Fitzroy Crossi**	**27.86**	**242**	P		**P**	**14 09 12.4**	**+0.2**
FITZ	**Fitzroy Crossi**	**27.86**	**242**	⇓P		**P**	**14 09 12.6**	**+0.4**
KMSI	**Cibinong** comp=Z,2μmcomp=Z,185nm,0.9s	**28.16**	**283**	P		**P**	**14 09 17.4**	**+2.5**
YNG	**Young** baz=28,SNR=7.4	**28.27**	**185**	P		**P**	**14 09 15.8**	**+0.1**
MSVF	**Nonsavu** comp=Z,27nm,0.9s,baz=231,slow=11,SNR=8.7	**28.50**	**116**	P		**P**	**14 09 21.2**	**+3.2**
MSVF				LR		LR	14 19 27.5	
	comp=Z,9μm,18.8s,baz=312,slow=34							
MSVF	**Nonsavu**	**28.50**	**116**	*c*P	*i*P	**P**	**14 09 18.7**	**+0.7**
MSVF				pmax		pmax		
	comp=Z,232nm,1.5s							
MSVF				MLR		MLR		
	comp=Z,24μm,15.0s							
MSVF	**Nonsavu**	**28.50**	**116**	P		**P**	**14 09 17.8**	**-0.2**
MSVF				IAmb		IAmb	14 09 44.2	
	comp=Z,265nm,1.4s							
DAV	**Davao City (W)** comp=Z,31μmcomp=Z,13μmcomp=Z,195nm,0.4s	**28.87**	**296**	P		**P**	**14 09 21.0**	**-0.3**
MMRI	**Maumere**	**29.05**	**263**	P		**P**	**14 09 22.5**	**-0.4**
MMRI	**Maumere**	**29.05**	**263**	⇓P		**P**	**14 09 21.5**	**-1.3**
MMRI	**Maumere** comp=Z,8μmcomp=Z,7μmcomp=Z,562nm,1.1s	**29.05**	**263**	P		**P**	**14 09 23.5**	**+0.6**
WRKA	**Warakurna** baz=29,SNR=92	**29.12**	**227**	P		**P**	**14 09 23.6**	**+0.2**
WRKA	**Warakurna**	**29.12**	**227**	⇑P		**P**	**14 09 23.4**	**-0.1**
CAN	**Canberra**	**29.24**	**184**	⇑P		**P**	**14 09 26.1**	**+1.8**
EDFI	**Ende, Flores** comp=Z,4μmcomp=Z,4μmcomp=Z,229nm,1.0s	**29.59**	**263**	P		**P**	**14 09 27.3**	**-0.5**
HTT	**Hallett** baz=30,SNR=28	**29.64**	**201**	P		**P**	**14 09 28.4**	**+0.5**
HTT	**Hallett**	**29.64**	**201**	⇑P		**P**	**14 09 28.4**	**+0.5**
BUKP	**Musuan**	**29.69**	**297**	⇑*e*P		**P**	**14 09 29.0**	**+0.4**
KKSI	**Kolaka, Sulawe** comp=Z,3μmcomp=Z,64nm,0.5s	**29.70**	**272**	P		**P**	**14 09 28.7**	**+0.1**
MRSI	**Marisa** comp=Z,12μmcomp=Z,1μmcomp=Z,38nm,0.8s	**30.12**	**281**	P		**P**	**14 09 32.5**	**+0.1**
APSI	**Ampana** comp=Z,5μmcomp=Z,2μmcomp=Z,73nm,1.3s	**30.13**	**279**	P		**P**	**14 09 30.2**	**-2.3**
BBOO	**Buckleboo** baz=30,SNR=10	**30.25**	**206**	P		**P**	**14 09 33.6**	**+0.3**
BBOO	**Buckleboo**	**30.25**	**206**	P		**P**	**14 09 33.3**	**+0.1**
BBOO				IAmb		IAmb	14 09 49.6	
	comp=Z,232nm,1.2s							
BBOO				IAMs_20		IAMs_20	14 23 37.4	
	comp=Z,30μm,18.0s							
BSSI	**Bau Bau, Buton** comp=Z,5μmcomp=Z,6μmcomp=Z,154nm,1.1s	**30.75**	**268**	P		**P**	**14 09 37.1**	**-0.8**
MSLP	**Maasin**	**30.94**	**301**	⇑*i*P		**P**	**14 09 43.6**	**+4.1**
BKSI	**Bulukumba** comp=Z,8μmcomp=Z,2μmcomp=Z,35nm,1.1s	**31.14**	**270**	P		**P**	**14 09 39.4**	**-2.0**
BNSI	**Bone** comp=Z,3μmcomp=Z,72nm,0.8s	**31.21**	**271**	P		**P**	**14 09 40.9**	**-1.1**
TOLI2	**Tolitoli**	**31.39**	**282**	P		**P**	**14 09 42.3**	**-1.3**
KAPI	**Kappang** comp=Z,8μm,18.2s,baz=117,slow=43	**31.53**	**270**	LR		LR	14 26 09.7	
KAPI	**Kappang**	**31.53**	**270**	P		**P**	**14 09 43.7**	**-1.1**
KAPI				pmax		pmax		
	comp=Z,108nm,1.5s							
KAPI				MLR		MLR		
	comp=Z,10μm,21.0s							
KAPI	**Kappang**	**31.53**	**270**	P		**P**	**14 09 43.7**	**-1.1**
KAPI				IAmb		IAmb	14 10 11.1	
	comp=Z,108nm,1.4s							
KAPI	**Kappang**	**31.53**	**270**	P		**P**	**14 09 43.3**	**-1.5**
KAPI	**Kappang** comp=Z,9μmcomp=Z,2μmcomp=Z,43nm,1.0s	**31.53**	**270**	P		**P**	**14 09 44.8**	**0.0**
TTSI	**Tana Toraja** comp=Z,5μmcomp=Z,2μmcomp=Z,70nm,1.0s	**31.63**	**274**	P		**P**	**14 09 44.8**	**-0.9**
MKS	**Makassar** comp=Z,4μmcomp=Z,86nm,1.0s	**31.80**	**270**	P		**P**	**14 09 47.9**	**+0.7**
ARPS	**Mount Arapiles** baz=32,SNR=23	**31.83**	**195**	P		**P**	**14 09 48.0**	**+0.8**
TOO	**Toolangi** baz=32,SNR=6.8	**31.86**	**189**	P		**P**	**14 09 48.2**	**+0.7**
TOO	**Toolangi**	**31.86**	**189**	P		**P**	**14 09 47.5**	**0.0**
TOO				pmax		pmax		
	comp=

OUZ	**Omahuta**	**35.52 148**	⇑P		**P**		**14 10 20.4**	**+1.1**	
PGP	**Puerto Galera**	**35.93 303**	⇓*e*P		**P**		**14 10 22.3**	**-0.9**	
SRBI	**Singaraja**	**35.98 265**	P		**P**		**14 10 25.0**	**+1.5**	
	comp=Z,6µmcomp=Z,6µmcomp=Z,234nm,1.1s								
DNP	**Denpasar**	**35.99 264**	P		**P**		**14 10 24.7**	**+1.1**	
SPMM	**Sapulut**	**36.49 286**	P		**P**		**14 10 29.0**	**+1.1**	
BBKI	**Banjar Baru**	**36.53 272**	P		**P**		**14 10 29.4**	**+1.1**	
	comp=Z,68nm,1.2s								
BYJI	**Banyuwangi**	**36.83 264**	P		**P**		**14 10 34.1**	**+3.3**	
TAU	**Tasmania Unive**	**36.91 185**	P		**P**		**14 10 32.0**	**+0.9**	
TAU			pmax	pmax					
	comp=Z,128nm,1.4s								
TAU			MLR	MLR					
	comp=Z,24µm,21.0s								
TAU	**Tasmania Unive**	**36.91 185**	P		**P**		**14 10 32.0**	**+0.9**	
TAU	**Tasmania Unive**	**36.91 185**	IAMs_20	IAMs_20			14 24 47.5		
	comp=Z,24µm,21.0s								
ABJI	**Asem Bagus**	**36.94 265**	P		**P**		**14 10 34.0**	**+2.2**	
	comp=Z,7µmcomp=Z,8µmcomp=Z,352nm,1.2s								
JAGI	**Jajag, Banyuwa**	**37.03 264**	P		**P**		**14 10 31.1**	**-1.4**	
JAGI	**Jajag, Banyuwa**	**37.03 264**	⇓P		**P**		**14 10 30.6**	**-1.9**	
JAGI	**Jajag, Banyuwa**	**37.03 264**	P		**P**		**14 10 31.7**	**-0.8**	
	comp=Z,5µmcomp=Z,7µmcomp=Z,505nm,1.3s								
RAO	**Raoul Island**	**37.04 132**	P		**P**		**14 10 32.2**	**-0.2**	
	comp=Z,136nm,0.4s,baz=82,slow=23,SNR=2.1								
RAO			LR	LR			14 24 14.7		
	comp=Z,11µm,18.1s,baz=342,slow=34								
RAO	**Raoul Island**	**37.04 132**	P		**P**		**14 10 31.7**	**-0.7**	
RAO			pmax	pmax					
	comp=Z,391nm,1.2s								
RAO			MLR	MLR					
	comp=Z,13µm,18.0s								
RAO	**Raoul Island**	**37.04 132**	P		**P**		**14 10 31.7**	**-0.7**	
AFI	**Afiamalu**	**37.05 105**	P		**P**		**14 10 33.6**	**+0.8**	
	comp=Z,56nm,0.9s,baz=328,slow=23,SNR=2.2								
AFI			LR	LR			14 23 55.9		
	comp=Z,5µm,19.2s,baz=273,slow=33								
KMMI	**Kalianget**	**37.21 266**	P		**P**		**14 10 35.2**	**+1.2**	
	comp=Z,7µmcomp=Z,6µmcomp=Z,141nm,1.8s								
JMZ	**Minamidaito 2**	**37.24 329**	⇓P		**P**		**14 10 34.0**	**0.0**	
MEEK	**Meekatharra**	**37.37 233**	P		**P**		**14 10 35.8**	**+0.5**	
	baz=38,SNR=88								
PKKI	**Palangkaraya**	**37.52 274**	P		**P**		**14 10 38.6**	**+1.9**	
	comp=Z,3µmcomp=Z,70nm,1.1s								
CVP	**Callao Caves**	**37.54 309**	⇓*i*P		**P**		**14 10 35.0**	**-1.7**	
GMJI	**Gumukmas**	**37.73 264**	P		**P**		**14 10 37.8**	**-0.6**	
	comp=Z,4µmcomp=Z,3µmcomp=Z,177nm,1.0s								
BWJI	**Bawean**	**38.54 268**	P		**P**		**14 10 46.3**	**+1.0**	
	comp=Z,7µmcomp=Z,468nm,1.5s								
GRJI	**Gresik**	**38.69 266**	P		**P**		**14 10 50.5**	**+4.0**	
	comp=Z,2µmcomp=Z,176nm,0.9s								
HIZ	**Hauiti**	**38.70 150**	P		**P**		**14 10 46.5**	**+0.2**	
HIZ			IAmb	IAmb			14 11 14.3		
	comp=Z,202nm,1.5s								
KRKI	**Karangkates**	**38.71 265**	P		**P**		**14 10 48.7**	**+2.0**	
PWJI	**Pagerwojo**	**39.35 265**	P		**P**		**14 10 52.3**	**+0.2**	
	comp=Z,5µmcomp=Z,398nm,1.1s								
SJI	**Sawahan**	**39.39 265**	P		**P**		**14 10 53.1**	**+0.6**	
	comp=Z,6µmcomp=Z,210nm,0.8s								
GIRL	**Giralia**	**39.47 241**	P		**P**		**14 10 55.0**	**+2.0**	
	baz=40,SNR=14								
GIRL	**Giralia**	**39.47 241**	P		**P**		**14 10 52.0**	**-0.9**	
GIRL			IAMs_20	IAMs_20			14 29 10.1		
	comp=Z,28µm,18.0s								
GIRL	**Giralia**	**39.47 241**	⇓P		**P**		**14 10 54.4**	**+1.4**	
QRZ	**Quartz Range**	**39.47 155**	P		**P**		**14 10 52.4**	**-0.3**	
QRZ			IAMs_20	IAMs_20			14 27 16.8		
	comp=Z,21µm,18.0s								
JOW	**Kunigami**	**39.61 327**	P		**P**		**14 10 53.3**	**-0.8**	
JOW			IAmb	IAmb			14 11 09.5		
	comp=Z,185nm,0.9s								
JOW	**Kunigami**	**39.61 327**	⇓P		**P**		**14 10 54.6**	**+0.6**	
URZ	**Urewera**	**39.66 148**	P		**P**		**14 10 54.9**	**+0.6**	
	comp=Z,44nm,1.1s,baz=359,slow=3.1,SNR=9.3								
URZ	**Urewera**	**39.66 148**	P		**P**		**14 10 53.8**	**-0.6**	
URZ	**Urewera**	**39.66 148**	P		**P**		**14 10 55.1**	**+0.8**	
URZ	**Urewera**	**39.66 148**	⇑P		**P**		**14 10 54.5**	**+0.1**	
PBKI	**Pangkalan Bun**	**39.75 273**	P		**P**		**14 10 55.1**	**-0.4**	
	comp=Z,4µmcomp=Z,260nm,1.3s								
MXZ	**Matakaoa Point**	**39.81 146**	IAMs_20	IAMs_20			14 26 01.7		
	comp=Z,16µm,18.0s								
RTZ	**Ruatahuna**	**39.86 148**	P		**P**		**14 10 58.5**	**+2.4**	
PKGZ	**Pakihiroa**	**39.92 146**	P		**P**		**14 10 59.1**	**+2.5**	
MWZ	**Matawai**	**39.94 147**	P		**P**		**14 10 58.9**	**+2.2**	
PCJI	**Pacitan**	**39.97 264**	P		**P**		**14 10 57.8**	**+0.5**	
	comp=Z,9µmcomp=Z,865nm,0.8s								
BKZ	**Black Stump Fm**	**40.02 149**	P		**P**		**14 10 56.9**	**-0.5**	
BKZ	**Black Stump Fm**	**40.02 149**	P		**P**		**14 11 00.5**	**+3.2**	
SBUM	**Sibu**	**40.03 281**	P		**P**		**14 10 59.0**	**+1.2**	
WMGZ	**Waiomatatini S**	**40.05 146**	P		**P**		**14 11 00.4**	**+2.8**	
TWGZ	**Tauwhareparae**	**40.07 147**	P		**P**		**14 11 00.2**	**+2.3**	
PUZ	**Puketiti**	**40.15 146**	P		**P**		**14 11 00.3**	**+1.8**	
NNZ	**Nelson**	**40.16 154**	P		**P**		**14 10 58.6**	**+0.2**	
NNZ			IAMs_20	IAMs_20			14 27 30.0		
	comp=Z,20µm,18.0s								
SNGZ	**Shannon Statio**	**40.17 148**	P		**P**		**14 11 00.5**	**+1.9**	
TKGZ	**Te Karaka**	**40.19 147**	P		**P**		**14 11 00.1**	**+1.4**	
STKI	**Sintang**	**40.32 277**	P		**P**		**14 11 05.3**	**+5.2**	
KRHZ	**Kereru**	**40.32 150**	P		**P**		**14 11 02.3**	**+2.5**	
THZ	**Tophouse**	**40.40 155**	P		**P**		**14 11 01.2**	**+0.7**	
THZ			IAMs_20	IAMs_20			14 28 03.5		
	comp=Z,20µm,18.0s								
MORW	**Morawa**	**40.50 231**	P		**P**		**14 11 02.3**	**+0.8**	
	baz=41,SNR=36								
MORW	**Morawa**	**40.50 231**	P		**P**		**14 11 00.1**	**-1.4**	
MORW			IAmb	IAmb			14 11 05.1		
	comp=Z,153nm,1.0s								
MORW			IAMs_20	IAMs_20			14 30 40.5		
	comp=Z,25µm,18.0s								
MORW	**Morawa**	**40.50 231**	⇑P		**P**		**14 11 01.6**	**+0.1**	
UGM	**Wanagama**	**40.62 265**	P		**P**		**14 11 01.7**	**-0.9**	
UGM	**Wanagama**	**40.62 265**	P		**P**		**14 11 06.8**	**+4.1**	
	comp=Z,8µmcomp=Z,12µmcomp=Z,284nm,1.5s								
KAHZ	**Kahuranaki**	**40.69 149**	P		**P**		**14 11 06.2**	**+3.3**	
SMRI	**Semarang**	**40.71 266**	P		**P**		**14 11 03.5**	**+0.1**	
SMRI			IAmb	IAmb			14 11 12.3		
	comp=Z,291nm,1.0s								
SMRI	**Semarang**	**40.71 266**	P		**P**		**14 11 05.9**	**+2.5**	
	comp=Z,9µmcomp=Z,12µmcomp=Z,338nm,2.1s								
BLDU	**Balludu**	**40.73 229**	P		**P**		**14 11 03.9**	**+0.5**	
	baz=41,SNR=14								
BSWZ	**Blackbirch Sta**	**40.78 154**	P		**P**		**14 11 03.6**	**0.0**	
SNZO	**South Karori**	**40.82 153**	IAMs_20	IAMs_20			14 27 35.5		
	comp=Z,18µm,19.0s								
YOGI	**Yogyakarta**	**40.84 265**	P		**P**		**14 11 03.2**	**-1.3**	
	comp=Z,9µmcomp=Z,336nm,0.8s								
LTZ	**Lake Taylor**	**40.99 156**	P		**P**		**14 11 05.3**	**-0.1**	
LTZ			IAmb	IAmb			14 11 24.3		
	comp=Z,159nm,1.3s								
LTZ			IAMs_20	IAMs_20			14 28 19.1		
	comp=Z,31µm,18.0s								
YOJ	**Yonaguni jima**	**41.04 319**	P		**P**		**14 11 06.4**	**+0.5**	
YOJ			pmax	pmax					
	comp=Z,303nm,1.2s								
YOJ	**Yonaguni jima**	**41.04 319**	P		**P**		**14 11 06.3**	**+0.5**	
YOJ			IAmb	IAmb			14 11 28.3		
	comp=Z,303nm,1.2s								
YOJ	**Yonaguni jima**	**41.04 319**	⇓P		**P**		**14 11 05.9**	**0.0**	
BFZ	**Birch Farm**	**41.05 151**	IAMs_20	IAMs_20			14 28 52.5		
	comp=Z,16µm,18.0s								
MSWZ	**Moikau Station**	**41.15 152**	P		**P**		**14 11 07.3**	**+0.6**	
KHZ	**Kahutara**	**41.21 155**	P		**P**		**14 11 06.8**	**-0.2**	
KHZ			IAMs_20	IAMs_20			14 28 23.8		
	comp=Z,23µm,18.0s								
KHZ	**Kahutara**	**41.21 155**	⇑P		**P**		**14 11 07.2**	**+0.2**	
TWG	**Pinlang**	**41.26 315**	P		**P**		**14 11 07.6**	**-0.1**	
PLWZ	**Palliser**	**41.28 153**	P		**P**		**14 11 07.6**	**-0.1**	
RPZ	**Rata Peaks**	**41.32 158**	P		**P**		**14 11 07.8**	**-0.2**	
RPZ			IAMs_20	IAMs_20			14 24 43.9		
	comp=Z,30µm,22.0s								
OXZ	**Oxford**	**41.36 157**	P		**P**		**14 11 08.0**	**-0.4**	
OXZ			IAMs_20	IAMs_20			14 26 26.9		
	comp=Z,20µm,20.0s								
YULB	**Yu-li**	**41.47 316**	P		**P**		**14 11 08.7**	**-0.9**	
YULB			IAmb	IAmb			14 11 25.6		
	comp=Z,374nm,1.5s								
NWAO	**Narrogin (SRO)**	**41.55 225**	P		**P**		**14 11 10.3**	**+0.2**	
	baz=42,SNR=6.1								
NWAO	**Narrogin (SRO)**	**41.55 225**	P		**P**		**14 11 09.1**	**-1.0**	
NWAO			pmax	pmax					
	comp=Z,44nm,1.1s								
NWAO			MLR	MLR					
	comp=Z,16µm,18.0s								
NWAO	**Narrogin (SRO)**	**41.55 225**	P		**P**		**14 11 09.1**	**-1.0**	
NWAO			IAMs_20	IAMs_20			14 29 50.0		
	comp=Z,16µm,18.0s								
NWAO	**Narrogin (SRO)**	**41.55 225**	P		**P**		**14 11 09.5**	**-0.5**	
LBZ	**Lake Benmore**	**41.60 160**	P		**P**		**14 11 10.1**	**-0.2**	
LBZ			IAMs_20	IAMs_20			14 28 31.1		
	comp=Z,15µm,19.0s								
WKZ	**Wanaka**	**41.60 161**	P		**P**		**14 11 10.7**	**+0.4**	
WKZ			IAmb	IAmb			14 11 29.0		
	comp=Z,172nm,1.3s								
WKZ			IAMs_20	IAMs_20			14 26 39.1		
	comp=Z,17µm,20.0s								
KSM	**Kuching**	**41.71 279**	P		**P**		**14 11 13.0**	**+1.4**	
MUN	**Mundaring**	**41.79 227**	P		**P**		**14 11 12.7**	**+0.7**	
	baz=42,SNR=23								
MLZ	**Mavora Lakes**	**41.80 162**	P		**P**		**14 11 10.9**	**-1.0**	
MLZ			IAmb	IAmb			14 11 15.8		
	comp=Z,219nm,1.3s								
TPUB	**Ta-pu**	**41.88 315**	P		**P**		**14 11 11.9**	**-0.9**	
TPUB			IAmb	IAmb			14 11 28.1		
	comp=Z,162nm,1.0s								
MQZ	**McQueen's Vall**	**41.92 157**	P		**P**		**14 11 13.7**	**+0.8**	
MQZ			IAmb	IAmb			14 11 16.4		
	comp=Z,268nm,1.5s								
MQZ			IAMs_20	IAMs_20			14 26 10.7		
	comp=Z,15µm,20.0s								
CTJI	**Waduk Cacaban**	**41.96 266**	P		**P**		**14 11 16.7**	**+3.1**	
	comp=Z,6µmcomp=Z,161nm,1.8s								
SSLB	**Suanglung**	**41.97 316**	IAMs_20	IAMs_20			14 29 22.5		
	comp=Z,20µm,19.0s								
KPJI	**Karang Pucung**	**42.20 266**	P		**P**		**14 11 16.8**	**+1.2**	
	comp=Z,12µmcomp=Z,604nm,0.9s								
WHZ	**Wether Hill Ro**	**42.23 163**	P		**P**		**14 11 15.3**	**-0.1**	
PTKI	**Pontianak**	**42.33 276**	P		**P**		**14 11 19.3**	**+2.6**	
ODZ	**Otahua Downs**	**42.33 160**	P		**P**		**14 11 15.9**	**-0.3**	
ODZ			IAMs_20	IAMs_20			14 29 23.6		
	comp=Z,16µm,18.0s								
ODZ	**Otahua Downs**	**42.33 160**	⇑P		**P**		**14 11 16.8**	**+0.5**	
JSU	**Suzuyama**	**42.35 333**	P		**P**		**14 11 15.9**	**-0.6**	
JSU			IAmb	IAmb			14 11 33.8		
	comp=Z,135nm,1.2s								
JSU	**Suzuyama**	**42.35 333**	⇓P		**P**		**14 11 15.2**	**-1.4**	
TATO	**Taipei**	**42.40 318**	IAMs_20	IAMs_20			14 29 52.6		
	comp=Z,17µm,18.0s								
TATO	**Taipei**	**42.40 318**	P		**P**		**14 11 17.7**	**+0.7**	
CMJI	**Cimerak**	**42.67 265**	P		**P**		**14 11 19.9**	**+0.4**	
	comp=Z,4µmcomp=Z,5µmcomp=Z,495nm,0.9s								
JCJI	**Jatiwangi**	**42.88 267**	P		**P**		**14 11 23.6**	**+2.5**	
	comp=Z,9µmcomp=Z,15µmcomp=Z,655nm,1.0s								
JMN	**Monobe**	**42.88 338**	P		**P**		**14 11 20.8**	**-0.1**	
JMN			IAmb	IAmb			14 11 39.1		
	comp=Z,145nm,1.1s								
JMN			IAMs_20	IAMs_20			14 31 13.3		
	comp=Z,15µm,18.0s								
JMN	**Monobe**	**42.88 338**	⇑P		P		14 11 26.9	+6.0	
CISI	**Cisompet, Garu**	**43.30 265**	P		**P**		**14 11 23.9**	**-0.8**	
CISI	**Cisompet, Garu**	**43.30 265**	⇓P		**P**		**14 11 23.5**	**-1.2**	
CISI	**Cisompet, Garu**	**43.30 265**	P		**P**		**14 11 24.8**	**+0.1**	
	comp=Z,3µmcomp=Z,6µmcomp=Z,497nm,1.3s								
INU	**Inuyama**	**43.33 343**	P		**P**		**14 11 24.7**	**+0.3**	
INU	**Inuyama**	**43.33 343**	⇓P		**P**		**14 11 22.9**	**-1.5**	
JGF	**Kuroka**	**43.47 343**	P		**P**		**14 11 25.3**	**-0.3**	
JGF	**Kuroka**	**43.47 343**	⇑P		P		14 11 31.6	+6.1	
JNU	**Nakatsue**	**43.54 335**	P		**P**		**14 11 25.1**	**-1.2**	
	comp=Z,20nm,0.7s,baz=169,slow=7.3,SNR=4.5								
JNU	**Nakatsue**	**43.54 335**	P		**P**		**14 11 25.6**	**-0.6**	
JNU			IAmb	IAmb			14 11 40.2		
	comp=Z,92nm,0.8s								
JNU	**Nakatsue**	**43.54 335**	⇓P		**P**		**14 11 26.1**	**-0.1**	
TPI	**Tanjungpandan**	**43.74 272**	P		**P**		**14 11 32.5**	**+4.4**	
	comp=Z,3µmcomp=Z,75nm,1.1s								
JWT	**Wachi**	**43.77 341**	P		**P**		**14 11 27.5**	**-0.4**	
JWT	**Wachi**	**43.77 341**	⇓P		**P**		**14 11 26.7**	**-1.3**	
CNJI	**Cibinong**	**43.99 266**	P		**P**		**14 11 30.8**	**+0.7**	
	comp=Z,11µmcomp=Z,1µm,1.0s								
MJAR	**Matsushiro Arr**	**44.12 345**	P		**P**		**14 11 29.3**	**-1.4**	
	comp=Z,8.5nm,0.8s,baz=175,slow=8.6,SNR=7.3								
MJAR			PcP	PcP			**14 13 16.3**	**+0.6**	
	comp=Z,6.8nm,0.7s,baz=174,slow=2.7,SNR=4.9								
MJAR			ScP	ScP			**14 17 09.4**	**+2.6**	
	comp=Z,9.4nm,1.0s,baz=162,slow=4.8,SNR=8.2								
MJAR			LR	LR			14 28 40.3		
	comp=Z,6µm,18.6s,baz=175,slow=34								
MJAR	**Matsushiro Arr**	**44.12 345**	ScP		**ScP**		**14 17 08.3**	**+1.6**	
MAJO	**Matsushiro**	**44.12 345**	*d*iP		**P**		**14 11 28.1**	**-2.6**	
MAJO			pmax	pmax					
	comp=Z,51nm,1.0s								
MAJO			MLR	MLR					
	comp=Z,10µm,17.0s								
MAJO	**Matsushiro**	**44.12 345**	P		**P**		**14 11 29.3**	**-1.4**	
MAJO	**Matsushiro**	**44.12 345**			**P**		**14 11 29.4**	**-1.3**	
MAJO	**Matsushiro**	**44.12 345**	⇓P		**P**		**14 11 28.2**	**-2.6**	
MAT	**Matsushiro**	**44.12 345**	P		**P**		**14 11 27.4**	**-3.4**	
MAT			S		**S**		**14 18 00.6**	**-2.0**	
MJB9	**Matsu-Tunnel**	**44.12 345**	IAMs_20	IAMs_20			14 29 20.7		
	comp=Z,12µm,18.0s								
CBJI	**Citeko**	**44.29 267**	P		**P**		**14 11 34.2**	**+1.7**	
	comp=Z,8µmcomp=Z,12µmcomp=Z,495nm,0.8s								
JHS	**Saijyo**	**44.30 338**	P		**P**		**14 11 30.9**	**-1.4**	
JHS	**Saijyo**	**44.30 338**	⇓P		**P**		**14 11 30.9**	**-1.4**	
QZH	**Quanzhou**	**44.36 315**	*i*P		**P**		**14 11 33.3**	**+0.5**	
QZH			S		**S**		**14 18 06.1**	**-0.3**	
QZH			sS	pS			14 18 25.0	+12	
QZH			pmax	pmax					
	comp=Z,98nm,1.0s								
QZH			pmax	pmax					
	comp=Z,3µm,7.7s								
QZH			LR	LR					
	comp=Z,5µm,14.2s								
QZH			LR	LR					
	comp=Z,4µm,17.1s								
QZH			LR	LR					
	comp=Z,6µm,15.6s								
DBJI	**Dramaga**	**44.38 267**	P		**P**		**14 11 34.7**	**+1.4**	
SKJI	**Sukabumi**	**44.56 266**	P		**P**		**14 11 35.6**	**+0.9**	
	comp=Z,5µmcomp=Z,492nm,0.6s								
JOHN	**Johnston Islan**	**44.76 59**	IAMs_20	IAMs_20			14 30 01.6		
	comp=Z,14µm,19.0s								
JMM	**Marumori**	**44.77 348**	P		**P**		**14 11 34.4**	**-1.5**	
JMM	**Marumori**	**44.77 348**	⇓P		**P**		**14 11 34.2**	**-1.7**	
JSD	**Sado**	**45.52 345**	P		**P**		**14 11 41.3**	**-0.5**	
JSD			IAmb	IAmb			14 11 53.4		
	comp=Z,72nm,1.1s								
JSD	**Sado**	**45.52 345**	⇓P		**P**		**14 11 39.8**	**-2.1**	
SSE	**Sheshan**	**46.88 324**	P		**P**		**14 11 52.8**	**+0.1**	
SSE			S		**S**		**14 18 45.8**	**+3.2**	
SSE			pmax	pmax					
	comp=Z,23nm,0.7s								
SSE			pmax	pmax					
	comp=Z,1µm,5.2s								
SSE			LR	LR					
	comp=Z,4µm,19.1s								
MDSI	**Maura Dua**	**47.05 269**	P		**P**		**14 11 54.3**	**-0.1**	
	comp=Z,3µmcomp=Z,2µmcomp=Z,106nm,1.1s								
GZH	**Guangzhou**	**47.13 309**	P		**P**		**14 11 55.9**	**+1.1**	
GZH			S		**S**		**14 18 50.3**	**+3.9**	
GZH			LR	LR					
	comp=Z,9µm,16.1s								
GZH			LR	LR					
	comp=Z,5µm,15.1s								
LWLI	**Liwa**	**47.13 269**	P		**P**		**14 11 57.1**	**+1.9**	
	comp=Z,4µmcomp=Z,421nm,0.9s								
JTM	**Tenmabayashi**	**47.54 349**	P		**P**		**14 11 56.3**	**-1.4**	
JTM			IAmb	IAmb			14 12 21.9		
	comp=Z,129nm,1.2s								
JTM	**Tenmabayashi**	**47.54 349**	⇓P		**P**		**14 11 55.6**	**-2.1**	
LHSI	**Lahat**	**47.75 270**	P		**P**		**14 12 01.7**	**+1.9**	
	comp=Z,4µmcomp=Z,114nm,1.7s								
TJN	**Taejon**	**47.83 334**	*d*iP		**P**		**14 12 00.2**	**+0.2**	
QIZ	**Qiongzhong**	**47.92 302**	P		**P**		**14 11 59.8**	**-1.3**	
QIZ			PP		**PP**		**14 13 52.3**	**-0.9**	
QIZ			S		**S**		**14 18 57.8**	**-0.1**	
QIZ			pmax	pmax					
	comp=Z,2µm,8.0s								
QIZ			LR	LR					
	comp=Z,6µm,18.6s								
QIZ			LR	LR					
	comp=Z,7µm,20.1s								
QIZ			LR	LR					
	comp=Z,11µm,23.5s								
QIZ	**Qiongzhong**	**47.92 302**	P		**P**		**14 12 01.2**	**+0.1**	
QIZ			IAmb	IAmb			14 12 25.4		
	comp=Z,52nm,1.0s								
KSRS	**Korea Array**	**48.49 335**	P		**P**		**14 12 05.5**	**+0.3**	
	comp=Z,5.9nm,0.8s,baz=150,slow=7.2,SNR=18								
KSRS			PcP	PcP			**14 13 32.4**	**+1.4**	
	comp=Z,3.7nm,0.6s,baz=164,slow=3.4,SNR=7.0								
KSRS			ScP	ScP			**14 17 28.3**	**+3.3**	
	comp=Z,2.9nm,0.9s,baz=149,slow=6.3,SNR=5.5								
KSRS			LR	LR			14 30 47.2		
	comp=Z,4µm,21.5s,baz=144,slow=34								
KSAR	**Wonju Array Be**	**48.50 335**	P		**P**		**14 12 04.9**	**-0.3**	
KSAR	**Wonju Array Be**	**48.50 335**	P		**P**		**14 12 04.9**	**-0.3**	
KS19	**Wonju Array Si**	**48.55 335**	P		**P**		**14 12 05.8**	**+0.1**	
EGSI	**Enggano, Bengk**	**48.88 268**	P		**P**		**14 12 10.2**	**+1.6**	
	comp=Z,2µmcomp=Z,129nm,0.8s								
NJ2	**Nanjing**	**48.95 323**	*e*P		**P**		**14 12 09.5**	**+0.8**	
NJ2			pP		**pP**		**14 12 13.4**	**-0.6**	
NJ2			sP		**sP**		**14 12 16.3**	**+0.9**	
NJ2			PP		**PP**		**14 14 03.6**	**+1.2**	
NJ2			S		**S**		**14 19 14.1**	**+2.1**	
NJ2			pmax	pmax					
	comp=Z,38nm,1.0s								
NJ2			pmax	pmax					
	comp=Z,4µm,8.4s								
NJ2			LR	LR					
	comp=Z,5µm,16.2s								
NJ2			LR	LR					
	comp=Z,4µm,17.6s								
NJ2			LR	LR					
	comp=Z,9µm,17.6s								
INCN	**Inchon**	**49.07 334**	P		**P**		**14 12 09.9**	**+0.3**	
INCN			pmax	pmax					
	comp=Z,126nm,1.2s								
INCN	**Inchon**	**49.07 334**	P		**P**		**14 12 09.9**	**+0.3**	
INCN			IAmb	IAmb			14 12 27.4		
	comp=Z,126nm,1.1s								
MASI	**Maura Aman, Be**	**49.09 271**	P		**P**		**14 12 10.5**	**+0.3**	
	comp=Z,3µmcomp=Z,245nm,0.6s								
JEW	**Eniwo**	**49.47 350**	P		**P**		**14 12 10.4**	**-2.2**	
JEW			IAmb	IAmb			14 12 29.5		
	comp=Z,88nm,0.9s								
JEW	**Eniwo**	**49.47 350**	⇓P		**P**		**14 12 10.8**	**-1.8**	
RAR	**Rarotonga**	**49.57 113**	P		**P**		**14 12 12.9**	**-0.8**	
	comp=Z,7.9nm,0.6s,baz=88,slow=18,SNR=1.4								
RAR			LR	LR			14 29 18.2		
	comp=Z,2µm,20.5s,baz=269,slow=31								
RAR	**Rarotonga**	**49.57 113**	P		**P**		**14 12 12.9**	**-0.8**	
RAR			pmax	pmax					
	comp=Z,45nm,1.1s								
JRMM	**Jerantut**	**49.85 280**	P		**P**		**14 12 20.0**	**+4.0**	
YUK	**Yuzh-Kuril'sk**	**50.08 355**	*d*iP		**P**		**14 12 16.6**	**-0.5**	
YUK			*i*				14 13 36.4		
YUK			*i*	PPP	PPP		14 15 00.1		
YUK			*i*	S	**S**		**14 19 25.1**	**-2.3**	
YUK			*i*				14 22 12.0		
YUK			*e*	SSS	SSS		14 24 24.1		
YUK			pmax	pmax					
	comp=N,221nm,0.9s								
YUK			pmax	pmax					
	comp=Z,245nm,0.9s								
YUK			pmax	pmax					
	comp=E,259nm,0.7s								
JKA	**Kamikawa-asahi**	**50.54 352**	P		**P**		**14 12 20.7**	**0.0**	
ASAJ	**Asahikawa**	**50.54 352**	P		**P**		**14 12 21.3**	**+0.6**	
	comp=E,21nm,0.8s,baz=245,slow=5.1,SNR=9.1								
ASAJ			LR	LR			14 32 12.1		
	comp=E,3µm,20.9s,baz=192,slow=34								
ASAJ	**Asahikawa**	**50.54 352**	P		**P**		**14 12 20.7**	**+0.1**	
ASAJ			pmax	pmax					
	comp=Z,39nm,0.8s								
WHN	**Wuhan**	**50.80 318**	*i*P		**P**		**14 12 23.8**	**+0.9**	
WHN			pP		**sP**		**14 12 30.6**	**+1.0**	
WHN			sP		**pwP**		**14 12 34.1**	**+1.7**	
WHN			S		**S**		**14 19 38.0**	**0.0**	
WHN			pmax	pmax					
	comp=Z,240nm,1.4s								
WHN			pmax	pmax					
	comp=Z,4µm,5.6s								
WHN			LR	LR					
	comp=Z,12µm,15.4s								
WHN			LR	LR					
	comp=Z,8µm,15.7s								
WHN			LR	LR					
	comp=Z,14µm,16.2s								
PDSI	**Padang**	**51.09 274**	P		**P**		**14 12 22.3**	**-3.1**	

comp=Z,17µmcomp=Z,74nm,1.9s
YSS Yuzh-Sakhalins 53.30 353 *e*P **P** **14 12 37.4 -3.8**
YSS *e* 14 14 38.3
YSS *e*S **S** **14 20 04.8 -6.9**
YSS *e*PS **PKiKP** **14 20 19.5 -6.5**
YSS *e*SS **SKiKP** **14 23 55.2 -2.4**
YSS pmax pmax
comp=Z,1µm,8.4s
YSS pmax pmax
comp=Z,20nm,1.3s
YSS MLR MLR
comp=N,4µm,16.0s
YSS MLR MLR
comp=Z,4µm,16.0s
CHAI Chaiyaphum 53.55 295 P **P** **14 12 46.8 +3.2**
comp=Z,31nm,0.9s
SLVN Son La 53.94 302 P **P** **14 12 45.4 -1.0**
SNY Shenyang 53.98 334 ⇓P **P** **14 12 45.3 -1.0**
SNY sP **pwP** **14 12 58.5 +2.8**
SNY S **S** **14 20 23.8 +2.7**
SNY sS **pS** **14 20 34.3 +5.7**
SNY SS **SS** **14 24 03.1 +0.2**
SNY pmax pmax
comp=Z,3µm,7.8s
SNY LR LR
comp=Z,4µm,17.5s
SNY LR LR
comp=Z,3µm,17.8s
SNY LR LR
comp=Z,8µm,17.8s
ENH Enshi 53.99 314 P **P** **14 12 46.3 -0.4**
GYA Guiyang 54.06 309 ⇓*i*P **P** **14 12 47.9 +0.6**
GYA sP sP 14 12 53.8 -0.2
GYA PP **PP** **14 14 48.3 -0.7**
GYA S **S** **14 20 25.8 +2.9**
GYA pmax pmax
comp=Z,30nm,1.5s
GYA pmax pmax
comp=Z,2µm,5.2s
GYA LR LR
comp=Z,3µm,15.6s
GYA LR LR
comp=Z,3µm,17.9s
GYA LR LR
comp=Z,3µm,18.1s
MDJ Mudanjiang 54.10 341 P **P** **14 12 44.8 -2.3**
MDJ pmax pmax
comp=Z,2µm,10.1s
MDJ LR LR
comp=Z,3µm,20.8s
MDJ LR LR
comp=Z,5µm,16.3s
MDJ LR LR
comp=Z,4µm,23.8s
MDJ Mudanjiang 54.10 341 P **P** **14 12 46.4 -0.6**
GSI Gunungsitoli 54.24 276 P **P** **14 12 47.5 -1.2**
GSI IAmb IAmb 14 12 53.6
comp=Z,106nm,0.9s
GSI Gunungsitoli 54.24 276 ⇓P **P** **14 12 47.3 -1.4**
GSI Gunungsitoli 54.24 276 P **P** **14 12 49.7 +1.0**
comp=Z,3µmcomp=Z,138nm,0.8s
CN2 Changchun 54.87 337 *e*P **P** **14 12 52.1 -0.6**
CN2 PP **PP** **14 14 56.8 +1.0**
CN2 *e*S **S** **14 20 31.3 -1.7**
CN2 pmax pmax
comp=Z,10.0nm,1.5s
CN2 pmax pmax
comp=Z,2µm,12.0s
CN2 LR LR
comp=Z,4µm,18.0s
CN2 LR LR
comp=Z,3µm,18.0s
CN2 LR LR
comp=Z,3µm,18.0s
TPTI 54.94 278 P **P** **14 12 52.3 -1.4**
comp=Z,566nmcomp=Z,13nm,1.1s
KEKH Kekaha 55.37 58 IAMs_20 IAMs_20 14 33 37.1
comp=Z,11µm,20.0s
PHIT Phitsanulok 55.41 296 P P 14 13 04.7 +7.6
comp=Z,78nm,0.8s
UTTA Uttaradit 55.48 296 P P 14 13 04.1 +6.6
comp=Z,549nmcomp=Z,36nm,0.9s
UGL Uglegorsk 55.48 353 *e*P **P** **14 12 54.6 -2.4**
UGL *i* 14 16 12.2
UGL *e*S **S** **14 20 40.2 -0.7**
UGL *i* 14 22 48.9
UGL pmax pmax
comp=Z,1µm,9.0s
UGL pmax pmax
comp=Z,50nm,0.7s
UGL smax smax
comp=E,950nm,13.0s
UGL smax smax
comp=N,6µm,21.0s
UGL MLR MLR
comp=N,4µm,13.0s
UGL MLR MLR
comp=E,4µm,13.0s
UGL MLR MLR
comp=Z,5µm,18.0s
UTHA Uthaitani 55.75 293 P P 14 13 04.9 +5.4
comp=Z,407nmcomp=Z,36nm,0.8s
BJT Baijiatuau 56.15 328 IAMs_20 IAMs_20 14 38 23.8
comp=Z,9µm,18.0s
BJI Beijing 56.16 328 P **P** **14 13 02.0 -0.1**
BJI S **S** **14 20 52.3 +1.9**
BJI pmax pmax
comp=Z,15nm,2.0s
BJI pmax pmax
comp=Z,3µm,5.4s
BJI LR LR
comp=Z,5µm,13.9s
BJI LR LR
comp=Z,4µm,16.8s
BJI LR LR
comp=Z,10µm,17.5s
KHLT Khaolaem Dam 56.30 292 P P 14 13 13.2 +10
KMI Kunming 56.54 305 ⇓P **P** **14 13 06.3 +0.9**
KMI pP pP 14 13 09.8 -0.9
KMI sP sP 14 13 12.1 0.0
KMI S **S** **14 20 56.6 +0.1**
KMI pmax pmax
comp=Z,15nm,0.6s
KMI pmax pmax
comp=Z,2µm,5.6s
KMI LR LR
comp=Z,5µm,18.1s
KMI LR LR
comp=Z,3µm,18.6s
KMI LR LR
comp=Z,5µm,26.1s
LAMP Lampang 56.57 297 P P 14 13 13.3 +7.9
LAMP Lampang 56.57 297 P P 14 13 13.3 +7.9
XAN Xi'an 56.57 318 P **P** **14 13 04.4 -0.8**
XAN pP pP 14 13 10.5 -0.1
XAN sP pwP 14 13 13.8 -0.9
XAN PP **PP** **14 15 12.6 +1.3**
XAN S **S** **14 20 54.9 -1.3**
XAN sS pS 14 21 08.8 +5.0
XAN pmax pmax
comp=Z,29nm,1.6s
XAN pmax pmax
comp=Z,3µm,7.2s
XAN LR LR
comp=Z,5µm,19.1s
XAN LR LR
comp=Z,4µm,16.3s
XAN LR LR
comp=Z,9µm,18.5s
KIP Kipapa 56.59 60 ⇓*e*P **P** **14 13 07.1 +1.6**
SKR Severo-Kuril's 56.63 4 *e*P **P** **14 13 02.7 -2.4**
SKR *e*S **S** **14 20 55.6 -0.5**
SKR *e*SSS SSS 14 26 52.1
SKR pmax pmax
comp=Z,53nm,0.6s
SKR pmax pmax
comp=Z,700nm,5.6s
SKR pmax pmax
comp=Z,500nm,5.5s
SKR MLR MLR
comp=Z,2µm,15.0s
SKR MLR MLR
comp=Z,2µm,17.0s
TIY Taiyuan 56.66 323 ⇓P **P** **14 13 05.8 0.0**
TIY S **S** **14 21 00.3 +3.0**
TIY pmax pmax
comp=Z,1µm,5.9s
TIY LR LR
comp=Z,1µm,12.7s
TIY LR LR
comp=Z,2µm,14.0s
TIY LR LR
comp=Z,6µm,29.0s
CM36 Chiang Mai Arr 57.05 297 P **P** **14 13 11.0 +2.2**
CM35 Chiang Mai Arr 57.05 297 P **P** **14 13 10.0 +1.2**
CM04 Chiang Mai Arr 57.11 296 P P 14 13 14.2 +5.0
comp=Z,274nmcomp=Z,23nm,0.9s
CM04 Chiang Mai Arr 57.11 296 P P 14 13 14.2 +5.0
CM34 Chiang Mai Arr 57.11 297 P **P** **14 13 13.0 +3.7**
CM09 Chiang Mai Arr 57.11 296 P P 14 13 14.8 +5.5
comp=Z,322nmcomp=Z,24nm,1.0s
CM09 Chiang Mai Arr 57.11 296 P P 14 13 14.0 +4.7
CM01 Chiang Mai Arr 57.13 296 P P 14 13 14.2 +4.8
comp=Z,284nmcomp=Z,28nm,1.0s
CM01 Chiang Mai Arr 57.13 296 P **P** **14 13 14.0 +4.6**
CM05 Chiang Mai Arr 57.14 296 P **P** **14 13 12.6 +3.1**
comp=Z,231nmcomp=Z,12nm,1.1s
CM05 Chiang Mai Arr 57.14 296 P **P** **14 13 12.0 +2.5**
CM02 Chiang Mai Arr 57.15 296 P **P** **14 13 13.3 +3.8**
comp=Z,256nmcomp=Z,19nm,1.0s
CM02 Chiang Mai Arr 57.15 296 P **P** **14 13 13.3 +3.8**
CM31 Chiang Mai Arr 57.16 296 P **P** **14 13 13.2 +3.6**
CM31 Chiang Mai Arr 57.16 296 P **P** **14 13 10.4 +0.8**
CM31 Chiang Mai Arr 57.16 296 P **P** **14 13 10.4 +0.8**
CMAR Chiang Mai Arr 57.16 296 P **P** **14 13 11.2 +1.7**
comp=Z,3.7nm,0.6s,baz=121,slow=5.3,SNR=18
CMAR LR LR 14 36 31.6
comp=Z,3µm,21.1s,baz=150,slow=35
CMAR PKPPKP **P'P'df** **14 42 57.8 -2.6**
comp=Z,1.9nm,1.1s,baz=286,slow=3.3,SNR=5.4
CMAR Chiang Mai Arr 57.16 296 P **P** **14 13 09.7 +0.1**
CMAR Chiang Mai Arr 57.16 296 P **P** **14 13 09.7 +0.1**
TYV Tymovskoe 57.16 353 *e*P **P** **14 13 08.3 -0.7**
TYV *e*S **S** **14 21 05.1 +1.8**
TYV pmax pmax
comp=Z,10.0nm,1.4s
TYV pmax pmax
comp=Z,800nm,4.3s
TYV smax smax
comp=N,7.0nm,1.4s
TYV smax smax
comp=E,6.0nm,1.4s
TYV smax smax
comp=N,1µm,7.5s
TYV smax smax
comp=E,900nm,7.5s
TYV MLR MLR
comp=N,4µm,17.0s
TYV MLR MLR
comp=Z,4µm,17.0s
CM15 Chiang Mai Arr 57.18 296 P **P** **14 13 12.7 +3.0**
comp=Z,214nmcomp=Z,25nm,1.0s
CM15 Chiang Mai Arr 57.18 296 P **P** **14 13 12.8 +3.0**
CM13 Chiang Mai Arr 57.18 296 P **P** **14 13 14.1 +4.3**
comp=Z,187nmcomp=Z,20nm,1.0s
CM13 Chiang Mai Arr 57.18 296 P **P** **14 13 14.0 +4.3**
CMMT Chiang Mai 57.28 297 P **P** **14 13 12.7 +2.3**
comp=Z,2µmcomp=Z,22nm,1.0s
CMMT Chiang Mai 57.28 297 P **P** **14 13 12.7 +2.3**
CMMT Chiang Mai 57.28 297 P **P** **14 13 11.5 +1.1**
comp=Z,2µmcomp=Z,21nm,1.0s
CM33 Chiang Mai Arr 57.28 297 P **P** **14 13 12.0 +1.5**
CHTO Chiang Mai 57.28 297 P **P** **14 13 10.5 0.0**
CHTO pmax pmax
comp=Z,23nm,1.0s
CHTO MLR MLR
comp=Z,4µm,18.0s
CHTO Chiang Mai 57.28 297 P **P** **14 13 12.8 +2.3**
comp=Z,2µmcomp=Z,22nm,1.1s
CHTO Chiang Mai 57.28 297 P **P** **14 13 10.5 0.0**
CHTO Chiang Mai 57.28 297 P **P** **14 13 11.1 +0.7**
CHTO Chiang Mai 57.28 297 ⇓P **P** **14 13 10.1 -0.4**
CHTO Chiang Mai 57.28 297 P **P** **14 13 12.8 +2.3**
comp=Z,4µmcomp=Z,1µmcomp=Z,12nm,1.1s
CM32 Chiang Mai Arr 57.31 297 P **P** **14 13 15.0 +4.3**
KLR Kul'dur 57.64 345 LR LR 14 37 07.6
comp=Z,3µm,19.0s,baz=176,slow=35
KLR PKPPKP 14 42 58.5
comp=Z,0.9nm,0.6s,baz=314,slow=5.0,SNR=3.5
KLR Kul'dur 57.64 345*d i*P **P** **14 13 10.8 -1.6**
KLR pmax pmax
comp=Z,118nm,2.5s
KHLH Kahului Airpor 57.76 61 IAMs_20 IAMs_20 14 36 27.5
comp=Z,10µm,18.0s
GRNR Gornyy 58.03 349 ⇓*i*P **P** **14 13 13.8 -1.3**
GRNR *e*S **S** **14 21 16.7 +2.0**
GRNR pmax pmax
comp=Z,4.0nm,1.2s
GRNR smax smax
comp=N,2.0nm,1.0s
GRNR MLR MLR
comp=E,1µm,15.0s
GRNR MLR MLR
comp=N,1µm,17.0s
GRNR MLR MLR
comp=Z,3µm,16.0s
HPAH Hawaii Prepara 58.08 62 IAMs_20 IAMs_20 14 38 10.0
comp=Z,8µm,18.0s
HMH Humu'ula Sheep 58.12 63 P **P** **14 13 16.1 -0.6**
HMH IAMs_20 IAMs_20 14 34 57.1
comp=Z,7µm,18.0s
CD2 Chengdu 58.50 312 P **P** **14 13 18.1 -0.8**
CD2 S **S** **14 21 21.5 -0.2**
CD2 ScS **ScS** **14 23 08.8 +0.8**
CD2 SS **SS** **14 25 17.4 +2.8**
CD2 pmax pmax
comp=Z,100nm,1.3s
CD2 pmax pmax
comp=Z,3µm,9.2s
CD2 LR LR
comp=Z,7µm,20.7s
CD2 LR LR
comp=Z,8µm,19.8s
CD2 LR LR
comp=Z,7µm,19.8s
PPT Papeete 58.69 107 LR LR 14 33 19.9
comp=Z,2µm,20.9s,baz=272,slow=31
PPT2 Papeete2 58.69 107 *e*P **P** **14 13 21.9 +1.5**
PPT2 comp=Z,41nm,1.4s *e*S **S** **14 21 25.0 +0.4**
PPT2 comp=Z,2µm,24.8s *e*LQ LQ 14 28 05.8
PPT2 comp=Z,11µm,26.8s *e*LR LR 14 30 27.3
PAE Paea 58.69 107 *e*P **P** **14 13 21.4 +1.1**
comp=Z,8.9nm,0.8s
TIAR Tiarei 58.90 107 *e*P **P** **14 13 23.3 +1.4**
comp=Z,34nm,1.6s
PET Petropavlovsk 59.15 5 *e*P **P** **14 13 27.0 +4.2**
PET *e* 14 14 14.6
PET *e* 14 15 39.7
PET *e*S **S** **14 21 31.2 +2.1**
PET *e*SS **SS** **14 25 29.3 +5.6**
PET pmax pmax
comp=Z,2µm,11.2s
PET pmax pmax
comp=Z,2µm,14.9s
PET MLR MLR
comp=Z,4µm,17.0s
PET MLR MLR
comp=Z,4µm,14.0s
PEA0B Petropavlovsk- 59.15 4*de*P **P** **14 13 19.9 -3.0**
PETK Petropavlovsk- 59.15 4 P **P** **14 13 22.0 -0.9**
comp=Z,19nm,0.8s,baz=167,slow=7.2,SNR=6.7
PETK LR LR 14 36 18.6
comp=Z,2µm,18.9s,baz=187,slow=34
HHC Hu-ho-hao-te 59.25 326 *e*P **P** **14 13 23.4 -0.5**
HHC ScP **ScP** **14 18 12.5 +0.5**
HHC S **S** **14 21 33.3 +2.1**
HHC ScS **ScS** **14 23 14.9 +1.6**
HHC pmax pmax
comp=Z,27nm,1.2s
HHC pmax pmax
comp=Z,2µm,6.1s
HHC LR LR
comp=Z,7µm,12.9s
HHC LR LR
comp=Z,6µm,12.6s
HHC LR LR
comp=Z,9µm,13.7s
TBI Tubuai 59.33 113 *e*P **P** **14 13 25.6 +0.9**
comp=Z,54nm,1.0s
TBI *e*S **S** **14 21 33.6 +1.0**
comp=Z,8µm,26.2s
TBI *e*LQ LQ 14 28 22.9
comp=Z,12µm,32.2s
TBI *e*LR LR 14 30 57.4
comp=Z,12µm,35.5s
NKL Nikolayevsk 59.65 353 *e*P **P** **14 13 23.4 -2.8**
NKL *e*S **S** **14 21 38.7 +3.1**
NKL pmax pmax
comp=E,5.0nm,0.7s
NKL pmax pmax
comp=N,450nm,1.7s
NKL pmax pmax
comp=Z,33nm,1.0s
BTO Baotou 59.97 324 *e*P **P** **14 13 27.3 -1.6**
BTO S **S** **14 21 39.8 -0.7**
BTO LR LR
comp=Z,18µm,19.6s
BTO LR LR
comp=Z,17µm,16.7s
MEH Mehetia 60.14 107 *e*P **P** **14 13 31.5 +1.1**
comp=Z,24nm,1.0s
PMOR Pomariorio Ree 60.18 104 *e*P **P** **14 13 32.1 +1.4**
comp=Z,268nm,1.4s
VAH Vaihoa 60.45 104 *e*P **P** **14 13 33.5 +1.0**
comp=Z,64nm,1.1s
LZH Lanzhou 61.16 317 ⇑P **P** **14 13 38.8 +1.6**
LZH pP pP 14 13 41.8 -0.8
LZH sP sP 14 13 44.8 +0.8
LZH S **S** **14 21 55.4 -0.6**
LZH pmax pmax
comp=Z,23nm,1.0s
LZH pmax pmax
comp=Z,2µm,4.9s
LZH LR LR
comp=Z,4µm,16.8s
LZH LR LR
comp=Z,4µm,17.3s
LZH LR LR
comp=Z,4µm,17.4s
SMY Shemya 61.62 15 IAMs_20 IAMs_20 14 39 18.3
comp=Z,7µm,19.0s
AMKA Amchitka 61.99 19 P **P** **14 13 42.2 0.0**
ZEA Zeya 62.92 344*de*P **P** **14 13 48.0 -0.5**
ZEA *e* 14 16 10.6
ZEA *e*S **S** **14 22 19.0 +1.8**
ZEA *e*PS 14 22 44.6
ZEA *e* 14 23 41.2
ZEA pmax pmax
comp=E,200nm,7.0s
ZEA pmax pmax
comp=N,400nm,8.5s
ZEA pmax pmax
comp=Z,900nm,8.3s
ZEA pmax pmax
comp=Z,40nm,0.8s
ZEA pmax pmax
comp=E,200nm,8.7s
ZEA pmax pmax
comp=N,600nm,5.8s
ZEA pmax pmax
comp=Z,800nm,7.8s
KIWB Kanaga Island 63.61 21 P **P** **14 13 53.1 0.0**
MOKO MOKOCHONG 63.80 303 *e*P **P** **14 13 53.6 -1.4**
ADK Adak 63.80 21 P **P** **14 13 54.2 -0.1**
ADK pmax pmax
comp=Z,65nm,1.1s
ADK Adak 63.80 21 P **P** **14 13 54.1 -0.1**
ADK IAmb IAmb 14 14 02.6
comp=Z,65nm,1.1s
ADK Adak 63.80 21 ⇓P **P** **14 13 54.1 -0.1**
KOHI KOHIMA 63.92 302 *ex* **P** **14 13 52.3 -3.5**
JORH JORHAT 64.17 303 *e*P **P** **14 13 56.4 -0.9**
SILR SILCHAR 64.70 301 *e*P **P** **14 13 59.6 -1.1**
MA2 Magadan 65.39 360 P **P** **14 14 03.7 -0.9**
comp=Z,14nm,0.7s,baz=156,slow=7.7,SNR=15
MA2 Magadan 65.39 360 P **P** **14 14 02.5 -2.1**
MA2 pmax pmax
comp=Z,34nm,0.9s
MA2 Magadan 65.39 360 P **P** **14 14 02.5 -2.1**
MA2 Magadan 65.39 360 ⇑P **P** **14 14 02.7 -1.9**
GTA Gaotai 65.63 318 ⇓P **P** **14 14 07.1 +0.4**
GTA pP pP 14 14 11.6 -0.6
GTA sP sP 14 14 14.5 +1.0
GTA S **S** **14 22 52.6 +1.0**
GTA SS **SS** **14 27 09.5 +3.5**
GTA pmax pmax
comp=Z,14nm,2.0s
GTA pmax pmax
comp=Z,2µm,6.2s
GTA LR LR
comp=Z,2µm,17.8s
GTA LR LR
comp=Z,4µm,19.3s
GTA LR LR
comp=Z,4µm,17.4s
SHL Shillong 65.75 301 P **P** **14 14 06.9 -0.9**
SHL pmax pmax
comp=Z,47nm,0.8s
SHL Shillong 65.75 301 P **P** **14 14 06.9 -0.9**
SHL IAmb IAmb 14 14 19.1
comp=Z,47nm,0.8s
SHL Shillong 65.75 301 *e*P **P** **14 14 06.2 -1.6**
SHL IAmb IAmb 14 14 19.1
comp=Z,31nm,0.6s
CIT Chita 66.22 336 *e*P **P** **14 14 10.7 +0.6**
CIT *e* 14 14 40.3
CIT *e* 14 16 39.0
ULN Ulaanbaatar 66.31 329*d i*P **P** **14 14 10.7 -0.2**
ULN pmax pmax
comp=Z,31nm,1.3s
ULN MLR MLR
comp=Z,6µm,17.0s
ULN Ulaanbaatar 66.31 329 P **P** **14 14 10.8 -0.2**
ULN IAmb IAmb 14 14 33.9
comp=Z,57nm,1.4s
ULN Ulaanbaatar 66.31 329 ⇓P **P** **14 14 10.9 -0.1**
ULN Ulaanbaatar 66.31 329 P **P** **14 14 12.3 +1.3**
comp=Z,30µmcomp=Z,10µmcomp=Z,132nm,1.8s
CASY Casey 66.45 197 P **P** **14 14 11.9 +0.6**
CASY IAmb IAmb 14 14 26.7
comp=Z,103nm,1.4s
CASY Casey 66.45 197 IAMs_20 IAMs_20 14 39 54.0
comp=Z,11µm,21.0s
CASY Casey 66.45 197 ⇑P **P** **14 14 11.8 +0.5**
SONM Songino Array 66.63 329 P **P** **14 14 13.5 +0.5**
comp=Z,13nm,0.9s,baz=146,slow=3.1,SNR=49
SONM LR LR 14 42 40.8
comp=Z,7µm,21.0s,baz=140,slow=35
SONM PKPPKP **P'P'df** **14 42 45.2 +2.4**
comp=Z,3.0nm,1.1s,baz=217,slow=1.1,SNR=8.2
SONM Songino Array 66.63 329 P **P** **14 14 12.3 -0.7**
SONM pmax pmax
comp=Z,33nm,1.0s
SONM Songino Array 66.63 329 P **P** **14 14 12.3 -0.7**
NIKH Nikolski High 67.70 25 P **P** **14 14 19.6 +0.2**
NIKH IAmb IAmb 14 14 23.4
comp=Z,71nm,0.9s
NIKH Nikolski High 67.70 25 P **P** **14 14 18.2 -1.2**
baz=223
NIKH S **S** **14 23 14.6 -1.2**
baz=223
LSA Lhasa 67.80 305 P **P** **14 14 20.8 -0.4**
LSA S **S** **14 23 21.0 +2.1**
LSA LR LR
comp=Z,5µm,11.4s
LSA LR LR
comp=Z,9µm,22.8s
LSA LR LR
comp=Z,7µm,14.9s
LSA Lhasa 67.80 305 P **P** **14 14 18.8 -2.3**
LSA Lhasa 67.80 305 P **P** **14 14 19.6 -1.6**
LSA pmax pmax
comp=Z,18nm,0.7s
LSA Lhasa 67.80 305 P **P** **14 14 19.6 -1.6**
GTK Tadong 69.10 302 *e*P **P** **14 14 28.7 -0.3**
GTK IAmb IAmb 14 14 30.6
UNV Unalaska Valle 69.31 25 P **P** **14 14 28.7 -0.7**
UNV IAmb IAmb 14 14 42.9
comp=Z,43nm,0.8s
UNV IAMs_20 IAMs_20 14 40 07.5
comp=Z,6µm,20.0s
UNV Unalaska Valle 69.31 25 P **P** **14 14 27.5 -2.0**
baz=225

UNV S **S** **14 23 34.0 -0.9**
baz=225
AKUT **Akutan** **69.82 25** P **P** **14 14 32.1 -0.5**
AKUT IAmb IAmb 14 14 36.0
comp=Z,82nm,0.7s
AKUT **Akutan** **69.82 25** ⇓P **P** **14 14 32.7 +0.1**
ZAK **Zakamensk** **69.83 329** *e*P **P** **14 14 31.9 -1.0**
ZAK pmax pmax
comp=Z,94nm,1.1s
YAK **Yakutsk** **69.90 349** P **P** **14 14 32.1 -0.8**
YAK IAmb IAmb 14 14 54.6
comp=Z,63nm,0.9s
SPIA **Saint Paul Isl** **70.28 21** P **P** **14 14 36.3 +0.9**
SPIA **Saint Paul Isl** **70.28 21** P **P** **14 14 34.0 -1.4**
baz=221
BOK **Bokaro** **70.39 298** *e*P **P** **14 14 35.9 -0.9**
BOK IAmb IAmb 14 14 40.3
comp=Z,105nm,1.7s
BOD **Bodaibo** **70.45 340** *e*P **P** **14 14 35.5 -0.9**
BOD pmax pmax
comp=Z,65nm,1.5s
IRK **Irkutsk** **70.50 331** *e*P **P** **14 14 35.6 -1.3**
IRK pmax pmax
comp=Z,193nm,3.4s
VIS **Vishakhapatnam** **71.20 291** *e*P **P** **14 14 42.0 +0.2**
JIRN **Jiri** **71.24 302** *e*P **P** **14 14 42.7 +0.3**
FALS **False Pass** **71.32 26** P **P** **14 14 41.7 0.0**
FALS **False Pass** **71.32 26** P **P** **14 14 39.7 -2.0**
baz=228
FALS S **S** **14 23 57.1 -1.2**
baz=228
VNDA **Vanda** **71.67 178** P **P** **14 14 44.1 +0.6**
comp=Z,6.5nm,0.5s,baz=332,slow=6.8,SNR=53
VNDA LR LR 14 44 13.2
comp=Z,1μm,18.1s,baz=352,slow=34
VNDA **Vanda** **71.67 178** P **P** **14 14 43.7 +0.2**
VNDA pmax pmax
comp=Z,54nm,1.1s
VNDA **Vanda** **71.67 178** P **P** **14 14 43.7 +0.2**
VNDA IAmb IAmb 14 14 54.9
comp=Z,54nm,1.1s
MOY **Mondy** **71.75 330** *e*P **P** **14 14 44.3 -0.3**
MOY pmax pmax
comp=Z,176nm,3.0s
PKI **Pulchoki** **71.88 301** *e*P **P** **14 14 46.6 +0.4**
PKIN **Phulchoki** **71.89 301** *e*P **P** **14 14 45.9 -0.3**
KKN **Kakani** **72.05 302** *e*P **P** **14 14 47.4 +0.3**
DMN **Daman** **72.15 301** *e*P **P** **14 14 47.8 +0.1**
SBA **Scott Base** **72.24 177** P **P** **14 14 47.7 +0.8**
SBA IAmb IAmb 14 15 05.3
comp=Z,154nm,1.5s
SBA **Scott Base** **72.24 177** **P** **14 14 48.3 +1.4**
RKT **Rikitea** **72.60 112** *e*P **P** **14 14 50.6 +0.4**
comp=Z,86nm,1.1s
GKN **Gorkha** **72.66 302** *e*P **P** **14 14 50.2 -0.4**
SDPT **Sand Point** **72.92 26** P **P** **14 14 51.9 +0.6**
SDPT **Sand Point** **72.92 26** P **P** **14 14 50.0 -1.3**
baz=231
SDPT S **S** **14 24 14.3 -2.5**
baz=231
CNBA **Chernabura Isl** **72.99 27** P **P** **14 14 51.9 +0.2**
CNBA IAmb IAmb 14 14 54.2
comp=Z,173nm,1.4s
CHNA **Chernabura Isl** **73.00 27** P **P** **14 14 50.7 -1.1**
baz=232
CHNA S **S** **14 24 16.6 -1.0**
baz=232
MDRS **Chennai** **73.17 286** *e*P **P** **14 14 53.0 -0.7**
KOLN **Koldanda** **73.47 301** *e*P **P** **14 14 54.9 -0.6**
comp=Z,100nm,0.8s
DANN **Dangsing** **73.50 302** *e*P **P** **14 14 55.0 -0.7**
comp=Z,52nm,0.5s
PYUN **Piuthan** **74.08 301** *e*P **P** **14 14 58.3 -0.8**
comp=Z,110nm,0.8s
CHGN **Chignik** **74.43 26** P **P** **14 14 60.0 -0.2**
CHGN IAmb IAmb 14 15 15.2
comp=Z,79nm,0.9s
CHGN **Chignik** **74.43 26** P **P** **14 14 59.3 -0.8**
baz=232
CHGN S **S** **14 24 32.7 -1.1**
baz=232
BILL **Bilibino** **74.64 6** *de*P **P** **14 15 02.6 +1.4**
BILL *e* 14 15 18.8
BILL *e* 14 17 42.8
BILL pmax pmax
comp=Z,50nm,0.8s
BILL **Bilibino** **74.64 6** P **P** **14 15 01.0 -0.1**
BILL IAmb IAmb 14 15 06.3
comp=Z,51nm,0.9s
GAMB **Gambell** **74.93 16** P **P** **14 15 02.9 0.0**
baz=218
GAMB S **S** **14 24 41.6 +2.5**
baz=218
CHIR **Chirikof Islan** **75.41 28** P **P** **14 15 05.4 -0.4**
CHIR **Chirikof Islan** **75.41 28** P **P** **14 15 04.7 -1.1**
baz=235
CHIR S **S** **14 24 44.4 -0.3**
baz=235
JBP **Jabalpur** **75.48 296** *e*P **P** **14 15 04.5 -2.5**
JBP *e*S **S** **14 24 46.9 +0.2**
HYB **Hyderabad** **75.59 290** *i* P **P** **14 15 08.0 +0.2**
HYB *e*S **S** **14 24 52.0 +3.7**
WMQ **Urumqi** **75.71 318** P **P** **14 15 08.5 +0.5**
WMQ S **S** **14 24 49.3 +0.6**
WMQ ScS **ScS** **14 25 20.8 -0.3**
WMQ SS **SS** **14 29 44.8 +4.1**
WMQ pmax pmax
comp=Z,52nm,1.3s
WMQ pmax pmax
comp=Z,3μm,5.7s
WMQ LR LR
comp=Z,3μm,14.7s
WMQ LR LR
comp=Z,2μm,18.1s
WMQ LR LR
comp=Z,2μm,22.3s
SII **Sitkinak Islan** **76.49 28** P **P** **14 15 12.2 +0.2**
SII **Sitkinak Islan** **76.49 28** P **P** **14 15 11.9 -0.2**
baz=236
SII S **S** **14 24 56.6 -0.1**
baz=236
OHAK **Old Harbor** **77.26 27** P **P** **14 15 17.1 +0.7**
OHAK **Old Harbor** **77.26 27** P **P** **14 15 16.2 -0.1**
baz=237
OHAK S **S** **14 25 06.0 +1.0**
baz=237
TNA **Tin City** **77.35 16** P **P** **14 15 15.5 -1.1**
baz=222
TNA S **S** **14 25 07.2 +1.6**
baz=222
ANM **Nome** **77.35 18** P **P** **14 15 17.4 +0.7**
ANM pmax pmax
comp=Z,37nm,1.0s
ANM **Nome** **77.35 18** P **P** **14 15 17.4 +0.7**
ANM **Nome** **77.35 18** P **P** **14 15 16.6 -0.1**
baz=224
ANM S **S** **14 25 08.5 +2.8**
baz=224
BHPL **Bhopal** **77.79 295** *e*P **P** **14 15 19.2 -0.9**
BHPL IAmb IAmb 14 15 20.6
comp=Z,22nm,0.6s
KDAK **Kodiak Island** **77.89 27** P **P** **14 15 20.7 +0.9**
comp=Z,46nm,0.8s,baz=271,slow=4.8,SNR=19
KDAK **Kodiak Island** **77.89 27** P **P** **14 15 20.0 +0.2**
KDAK pmax pmax
comp=Z,121nm,1.1s
KDAK **Kodiak Island** **77.89 27** P **P** **14 15 20.0 +0.2**
KDAK IAmb IAmb 14 15 40.7
comp=Z,120nm,1.1s
O18K **Koktuh Hills** **77.91 24** P **P** **14 15 19.7 -0.2**
O18K IAmb IAmb 14 15 23.6
comp=Z,49nm,0.8s
O18K **Koktuh Hills** **77.91 24** P **P** **14 15 19.0 -1.0**
baz=235,SNR=13
O18K S **S** **14 25 12.0 -0.1**
baz=235
Q19K **Cape Douglas,** **78.05 26** P **P** **14 15 20.7 0.0**
Q19K **Cape Douglas,** **78.05 26** P **P** **14 15 19.6 -1.2**
baz=236
Q19K S **S** **14 25 14.0 +0.5**
baz=236
N18K **Kilae Creek** **78.12 24** P **P** **14 15 21.5 +0.4**
N18K IAmb IAmb 14 15 38.2
comp=Z,184nm,1.3s
N18K IAMs_20 IAMs_20 14 45 16.2
comp=Z,7μm,21.0s

DGZ **Jazzator, Alta** **78.23 323** *d* iP **P** **14 15 20.9 -1.2**
DGZ pmax pmax
comp=Z,46nm,1.2s
DGZ MLR MLR
comp=Z,4μm,17.0s
O19K **Port Alsworth** **78.47 24** P **P** **14 15 22.7 -0.3**
O19K IAmb IAmb 14 15 26.5
comp=Z,57nm,0.8s
O19K **Port Alsworth** **78.47 24** P **P** **14 15 22.0 -1.0**
baz=235,SNR=11
O19K S **S** **14 25 17.3 -0.7**
baz=235
SVW2 **Sparrevohn** **78.49 23** P **P** **14 15 23.7 +0.6**
SVW2 IAmb IAmb 14 15 28.2
comp=Z,95nm,0.8s
P19K **Oil Pt** **78.62 25** P **P** **14 15 23.6 -0.3**
P19K **Oil Pt** **78.62 25** P **P** **14 15 23.1 -0.8**
baz=236,SNR=22
P19K S **S** **14 25 18.3 -1.4**
baz=236
N19K **Bonanza Creek** **78.76 24** P **P** **14 15 23.9 -0.8**
N19K IAmb IAmb 14 15 29.0
comp=Z,52nm,0.8s
N19K IAMs_20 IAMs_20 14 45 46.1
comp=Z,6μm,21.0s
N19K **Bonanza Creek** **78.76 24** P **P** **14 15 24.5 -0.2**
baz=235,SNR=22
N19K S **S** **14 25 22.1 +0.8**
baz=235
DDI **Dehra Dun** **78.82 302** *e*P **P** **14 15 23.4 -2.3**
ZSN **Zaisan** **78.93 321** ⇓*i*P **P** **14 15 25.0 -0.9**
comp=Z,208nm,3.4s,baz=321
ZSN *i* S **S** **14 25 26.3 +2.8**
comp=Z,655nm,6.1s,baz=321
ZSN **Zaisan** **78.93 321** *d i*P **P** **14 15 24.9 -0.9**
ZSN *i* S **S** **14 25 26.2 +2.8**
ZSN pmax pmax
comp=Z,208nm,3.4s
ZSN smax smax
comp=N,655nm,6.1s
TIXI **Tiksi** **78.93 353** *d* iP **P** **14 15 23.2 -2.1**
TIXI **Tiksi** **78.93 353** P **P** **14 15 25.1 -0.2**
O20K **Slope Mountain** **79.12 25** P **P** **14 15 25.8 -0.9**
baz=237,SNR=16
O20K S **S** **14 25 23.8 -1.2**
baz=237
RSO **Redoubt South** **79.27 25** P **P** **14 15 27.2 -0.5**
HOM **Homer** **79.31 26** P **P** **14 15 28.1 +0.5**
HOM **Homer** **79.31 26** P **P** **14 15 27.1 -0.5**
baz=238,SNR=11
HOM S **S** **14 25 27.0 +0.1**
baz=238
L19K **White Mountain** **79.40 23** P **P** **14 15 28.3 +0.1**
L19K IAmb IAmb 14 15 42.9
comp=Z,115nm,0.9s
L19K IAMs_20 IAMs_20 14 45 48.1
comp=Z,6μm,19.0s
L19K **White Mountain** **79.40 23** P **P** **14 15 28.5 +0.3**
baz=235,SNR=78
L19K S **S** **14 25 30.0 +2.0**
baz=235
TTA **Tatalina** **79.41 22** S **S** **14 25 29.6 +1.5**
baz=233
CNPM **China Poot** **79.41 26** P **P** **14 15 28.0 -0.3**
M19K **Big River Lodg** **79.42 23** P **P** **14 15 29.0 +0.8**
M19K IAmb IAmb 14 15 33.2
comp=Z,83nm,0.9s
M19K **Big River Lodg** **79.42 23** P **P** **14 15 28.7 +0.5**
baz=235,SNR=34
M19K S **S** **14 25 30.3 +2.2**
baz=235
KAD **Karad** **79.68 289** ⇑*i*P **P** **14 15 30.8 +0.2**
BRLK **Bradley Lake** **79.69 26** P **P** **14 15 29.9 +0.2**
BRLK IAmb IAmb 14 15 33.6
comp=Z,121nm,0.8s
GOA **Goa** **79.72 287** *e*P **P** **14 15 27.8 -3.0**
BRSE **Bradley Lake S** **79.74 26** P **P** **14 15 29.7 -0.3**
baz=239,SNR=18
BRSE S **S** **14 25 31.5 0.0**
baz=239
SMLA **Simla** **79.75 303** *e*P **P** **14 15 29.4 -1.3**
SMLA IAmb IAmb 14 15 31.5
comp=Z,47nm,0.3s
SPCR **Spurr Chakacha** **79.90 24** P **P** **14 15 29.9 -1.0**
baz=237
SPCR S **S** **14 25 30.9 -2.4**
baz=237
L20K **Farewell, AK** **79.95 23** P **P** **14 15 31.4 +0.3**
baz=236,SNR=34
L20K S **S** **14 25 35.9 +2.3**
baz=236
CAPN **Captain Cook N** **80.10 25** IAMs_20 IAMs_20 14 51 27.0
comp=Z,5μm,20.0s
CAPN **Captain Cook N** **80.10 25** P **P** **14 15 31.5 -0.3**
baz=238
CAPN S **S** **14 25 35.7 +0.5**
baz=238
POO **Poona** **80.19 290** *e*P **P** **14 15 30.3 -3.1**
POO *e*P **pP** **14 15 32.0 -6.4**
MK31 **Makanchi Array** **80.34 319** *d i*P **P** **14 15 32.7 -0.9**
MK31 **Makanchi Array** **80.34 319** P **P** **14 15 33.1 -0.4**
MKAR **Makanchi Array** **80.34 319** P **P** **14 15 33.5 -0.1**
comp=Z,4.6nm,0.7s,baz=98,slow=5.4,SNR=28
MKAR PP **PP** **14 18 37.3 +0.6**
comp=Z,3.7nm,1.0s,baz=92,slow=7.6,SNR=2.5
MKAR PKiKP **PKiKP** **14 21 03.0 +0.5**
comp=Z,1.2nm,0.9s,baz=88,slow=0.3,SNR=4.2
MKAR PKKPbc **PKKPbc** **14 34 17.4 -0.5**
comp=Z,1.2nm,0.7s,baz=295,slow=2.0,SNR=9.8
MKAR PKPPKP **P'P'df** **14 42 17.0 -2.4**
comp=Z,0.4nm,0.8s,baz=288,slow=2.3,SNR=2.5
MKAR LR LR 14 53 23.1
comp=Z,3μm,18.2s,baz=106,slow=37
MKAR **Makanchi Array** **80.34 319** P **P** **14 15 32.4 -1.2**
MKAR **Makanchi Array** **80.34 319** P **P** **14 15 32.4 -1.2**
K20K **Telida** **80.38 22** P **P** **14 15 33.8 +0.4**
K20K IAmb IAmb 14 15 38.2
comp=Z,76nm,0.8s
K20K **Telida** **80.38 22** P **P** **14 15 33.7 +0.4**
baz=235,SNR=61
K20K S **S** **14 25 39.8 +1.6**
baz=235
SEW **Seward** **80.48 26** P **P** **14 15 34.5 +0.5**
SEW IAmb IAmb 14 15 38.1
comp=Z,125nm,0.8s
SEW **Seward** **80.48 26** P **P** **14 15 33.6 -0.4**
baz=240,SNR=31
SEW S **S** **14 25 40.1 +0.8**
baz=240
RDOG **Red Dog Mine** **80.53 16** P **P** **14 15 35.4 +1.3**
baz=226
RDOG S **S** **14 25 42.4 +2.8**
baz=226
MAKZ **Makanchi** **80.55 319** P **P** **14 15 31.7 -3.0**
MAKZ **Makanchi** **80.55 319** P **P** **14 15 33.1 -1.6**
MAKZ **Makanchi** **80.55 319** ⇓P **P** **14 15 33.7 -1.0**
MAKZ ⇓P **pP** **14 15 36.8 -3.6**
O22K **Cooper Landing** **80.56 25** P **P** **14 15 34.7 +0.3**
O22K **Cooper Landing** **80.56 25** P **P** **14 15 33.8 -0.6**
baz=240,SNR=21
O22K S **S** **14 25 40.5 +0.5**
baz=240
SKT **Skwentna** **80.59 24** P **P** **14 15 33.5 -1.1**
SKT IAMs_20 IAMs_20 14 47 03.5
comp=Z,7μm,20.0s
SKT **Skwentna** **80.59 24** P **P** **14 15 32.6 -2.0**
baz=238,SNR=11
SKT S **S** **14 25 39.5 -1.0**
baz=238
SUA **Susitna One** **80.64 24** P **P** **14 15 33.7 -1.2**
baz=238,SNR=31
SUA S **S** **14 25 40.9 -0.2**
baz=238
DHRM **DHARAMSHALA** **80.73 304** *e*P **P** **14 15 35.0 -1.2**
J20K **Nowinta River** **80.82 21** P **P** **14 15 35.2 -0.5**
J20K IAmb IAmb 14 15 52.4
comp=Z,140nm,1.2s
J20K **Nowinta River** **80.82 21** P **P** **14 15 35.9 +0.2**
baz=235,SNR=64
J20K S **S** **14 25 45.7 +3.0**
baz=235
RC01 **Rabbit Creek A** **80.86 25** P **P** **14 15 35.1 -0.9**
RC01 IAmb IAmb 14 15 46.5
comp=Z,123nm,1.1s
RC01 **Rabbit Creek A** **80.86 25** P **P** **14 15 35.5 -0.5**
baz=240,SNR=28

RC01 S **S** **14 25 43.0 -0.3**
baz=240
SHLS **Shalkode** **81.12 315** ⇓*i*P **P** **14 15 35.5 -2.4**
comp=Z,232nm,3.7s,baz=315
SHLS *i* S **S** **14 25 40.4 -6.5**
comp=Z,662nm,6.8s,baz=315
SHLS **Shalkode** **81.12 315** *d i*P **P** **14 15 35.5 -2.4**
SHLS *i* S **S** **14 25 40.4 -6.5**
SHLS pmax pmax
comp=Z,232nm,3.7s
SHLS smax smax
comp=N,663nm,6.8s
PDGK **Podgornoye** **81.15 315** P **P** **14 15 36.1 -2.0**
CAST **Castle Rocks** **81.15 22** P **P** **14 15 36.5 -1.1**
CAST IAmb IAmb 14 15 53.0
comp=Z,72nm,0.9s
CAST IAMs_20 IAMs_20 14 45 59.5
comp=Z,6μm,20.0s
CUT **Chulitna** **81.32 24** P **P** **14 15 37.3 -1.0**
CUT IAmb IAmb 14 15 50.5
comp=Z,85nm,1.0s
CUT IAMs_20 IAMs_20 14 47 17.2
comp=Z,5μm,19.0s
CUT **Chulitna** **81.32 24** P **P** **14 15 36.5 -1.9**
baz=239
CUT S **S** **14 25 45.0 -2.9**
baz=239
CHUM **Lake Minchumin** **81.32 22** P **P** **14 15 38.1 -0.3**
baz=237,SNR=82
CHUM S **S** **14 25 48.7 +0.8**
baz=237
PWL **Port Wells** **81.34 25** P **P** **14 15 38.0 -0.6**
PMR **Palmer** **81.37 25** P **P** **14 15 38.6 0.0**
PMR pmax pmax
comp=Z,59nm,0.9s
PMR **Palmer** **81.37 25** P **P** **14 15 38.6 0.0**
PMR IAmb IAmb 14 15 47.4
comp=Z,59nm,0.9s
PMR **Palmer** **81.37 25** P **P** **14 15 38.1 -0.6**
baz=240,SNR=18
PMR S **S** **14 25 48.5 +0.1**
baz=240
ZAA0 **Zalesovo Array** **81.41 327** P **P** **14 15 37.4 -1.6**
ZAA0 IAMs_20 IAMs_20 14 54 40.0
comp=Z,5μm,18.0s
ZALV **Zalesovo Beam** **81.41 327** P **P** **14 15 38.4 -0.6**
comp=Z,11nm,0.6s,baz=115,slow=6.8,SNR=14
ZALV PKKPbc **PKKPbc** **14 34 16.3 +0.4**
comp=Z,1.9nm,0.6s,baz=302,slow=2.8,SNR=6.8
ZALV PKPPKP **P'P'df** **14 42 20.2 +3.4**
comp=Z,1.5nm,0.7s,baz=329,slow=5.2,SNR=5.7
ZALV LR LR 14 54 41.8
comp=Z,4μm,18.1s,baz=124,slow=38
ZALV **Zalesovo Beam** **81.41 327** P **P** **14 15 36.9 -2.1**
ZALV **Zalesovo Beam** **81.41 327** P **P** **14 15 36.9 -2.1**
UZB **Uzynbulak** **81.42 315** ⇓*i*P **P** **14 15 38.9 -0.8**
comp=Z,130nm,3.3s,baz=315
UZB *e*S **S** **14 25 47.6 -2.6**
baz=315
UZB **Uzynbulak** **81.42 315** *d i*P **P** **14 15 38.8 -0.8**
UZB *e*S **S** **14 25 47.5 -2.6**
UZB pmax pmax
comp=Z,131nm,3.3s
Q23K **Middleton Isla** **81.54 27** P **P** **14 15 40.2 +0.6**
baz=243
Q23K S **S** **14 25 54.4 +4.1**
baz=243
KNK **Knik Glacier** **81.56 25** P **P** **14 15 39.5 -0.3**
KNK IAmb IAmb 14 15 53.1
comp=Z,85nm,0.9s
KNK **Knik Glacier** **81.56 25** P **P** **14 15 39.4 -0.3**
baz=241,SNR=20
KNK S **S** **14 25 50.0 -0.6**
baz=241
KTH **Kantishna Hill** **81.67 22** P **P** **14 15 39.3 -1.0**
KTH IAmb IAmb 14 15 46.8
comp=Z,76nm,0.9s
KTH IAMs_20 IAMs_20 14 46 47.7
comp=Z,8μm,21.0s
KPKS **Kokpek** **81.75 315** ⇓*i*P **P** **14 15 40.2 -1.0**
comp=Z,248nm,3.2s,baz=315
KPKS *e*S **S** **14 25 52.2 -1.3**
comp=Z,970nm,6.1s,baz=315
KPKS **Kokpek** **81.75 315** *d i*P **P** **14 15 40.2 -1.0**
KPKS *e*S **S** **14 25 52.1 -1.3**
KPKS pmax pmax
comp=Z,248nm,3.2s
KPKS smax smax
comp=E,970nm,6.1s
SML **Sawmill** **81.81 25** P **P** **14 15 40.3 -0.7**
baz=241,SNR=48
SML S **S** **14 25 53.7 +0.6**
baz=241
SATY **Saty** **81.83 315** ⇓*i*P **P** **14 15 40.5 -1.2**
comp=E,156nm,3.4s,baz=315
SATY *e*S **S** **14 25 53.7 -0.7**
comp=E,779nm,4.9s,baz=315
SATY **Saty** **81.83 315** *d i*P **P** **14 15 40.5 -1.2**
SATY *e*S **S** **14 25 53.6 -0.7**
SATY pmax pmax
comp=Z,156nm,3.4s
SATY smax smax
comp=E,779nm,4.9s
TRF **Thorofare Moun** **81.85 23** IAMs_20 IAMs_20 14 46 42.9
comp=Z,7μm,21.0s
GLI **Glacier Island** **81.88 26** P **P** **14 15 41.7 +0.2**
GLI IAmb IAmb 14 15 45.4
comp=Z,100nm,0.7s
GLI **Glacier Island** **81.88 26** P **P** **14 15 41.0 -0.5**
baz=242,SNR=17
GLI S **S** **14 25 54.5 +0.7**
baz=242
HIN **Hinchinbrook I** **81.92 26** P **P** **14 15 41.4 -0.2**
HIN IAmb IAmb 14 15 52.6
comp=Z,140nm,1.0s
BPAW **Bear Paw Mtn.** **81.93 22** P **P** **14 15 40.2 -1.4**
BPAW **Bear Paw Mtn.** **81.93 22** P **P** **14 15 40.2 -1.4**
baz=238,SNR=36
BPAW S **S** **14 25 51.9 -2.4**
baz=238
IMAR **Indian Mountai** **82.00 20** P **P** **14 15 41.1 -0.9**
FID **Port Fidalgo** **82.09 26** P **P** **14 15 41.6 -0.9**
H21K **Melozitna Rive** **82.13 20** P **P** **14 15 42.6 0.0**
H21K **Melozitna Rive** **82.13 20** P **P** **14 15 42.7 0.0**
baz=236,SNR=35
H21K S **S** **14 25 58.0 +1.7**
baz=236
I21K **Tanana** **82.15 21** P **P** **14 15 42.9 +0.1**
I21K IAmb IAmb 14 15 59.3
comp=Z,132nm,1.1s
I21K **Tanana** **82.15 21** P **P** **14 15 42.9 +0.1**
baz=237,SNR=41
I21K S **S** **14 25 57.2 +0.8**
baz=237
SCM **Sheep Creek Mo** **82.23 25** P **P** **14 15 43.7 +0.3**
SCM pmax pmax
comp=Z,175nm,1.1s
SCM **Sheep Creek Mo** **82.23 25** P **P** **14 15 43.7 +0.3**
EYAK **Cordova Ski Ar** **82.32 26** P **P** **14 15 44.1 +0.5**
EYAK IAmb IAmb 14 15 59.8
comp=Z,108nm,1.2s
EYAK **Cordova Ski Ar** **82.32 26** P **P** **14 15 43.6 -0.1**
baz=243,SNR=6.9
EYAK S **S** **14 25 58.9 +0.6**
baz=243
TDK **Taldyqorghan** **82.37 317** *i* P **P** **14 15 42.6 -1.9**
baz=317
TDK *e*S **S** **14 25 56.3 -3.4**
baz=317
TDK *e*LR LR 14 55 50.2
comp=Z,2μm,16.5s,baz=317
TDK **Taldyqorghan** **82.37 317** *i* P **P** **14 15 42.5 -1.9**
TDK *e*S **S** **14 25 56.2 -3.4**
TDK MLR MLR
comp=Z,2μm,17.0s
RND **Reindeer** **82.39 23** P **P** **14 15 43.0 -1.1**
RND pmax pmax
comp=Z,105nm,0.8s
RND **Reindeer** **82.39 23** P **P** **14 15 43.0 -1.1**
RND IAmb IAmb 14 15 47.3
comp=Z,105nm,0.8s
RND IAMs_20 IAMs_20 14 47 41.3
comp=Z,6μm,20.0s
WAT6 **Susitna Watana** **82.42 24** P **P** **14 15 43.6 -0.9**
baz=241,SNR=42
WAT6 S **S** **14 25 58.2 -1.5**
baz=241

KDJ Kajisay 82.45 314 P **P** 14 15 43.7 -1.4
KDJ pmax pmax
comp=Z,53nm,1.2s
KDJ Kajisay 82.45 314 P **P** 14 15 43.7 -1.4
KDJ IAmb IAmb 14 15 58.3
comp=Z,54nm,1.2s
MLY Manley 82.52 21 P **P** 14 15 43.9 -0.9
MLY IAmb IAmb 14 15 48.5
comp=Z,82nm,0.7s
MLY Manley 82.52 21 P **P** 14 15 44.2 -0.6
baz=236,SNR=132
MLY S **S** 14 25 59.9 -0.4
baz=238
MCK McKinley 82.52 23 P **P** 14 15 43.1 -1.6
MCK pmax pmax
comp=Z,136nm,0.8s
MCK McKinley 82.52 23 P **P** 14 15 43.1 -1.6
MCK IAMs_20 IAMs_20 14 47 24.8
comp=Z,7µm,20.0s
MCK McKinley 82.52 23 P **P** 14 15 43.7 -1.0
baz=240,SNR=86
MCK S **S** 14 25 58.3 -2.1
baz=240
BWN Browne 82.54 22 P **P** 14 15 44.3 -0.5
BWN IAMs_20 IAMs_20 14 47 17.1
comp=Z,5µm,19.0s
DIV Divide 82.57 26 P **P** 14 15 44.5 -0.6
DIV IAmb IAmb 14 15 53.5
comp=Z,81nm,0.9s
KLU Klutina 82.67 25 P **P** 14 15 45.5 -0.2
KLU Klutina 82.67 25 P **P** 14 15 45.7 +0.1
baz=243,SNR=40
KLU S **S** 14 26 02.8 +0.7
baz=243
KSH Kashi 82.68 311 P **P** 14 15 47.0 +0.7
KSH PcP **sP** 14 15 53.3 +0.1
KSH S **S** 14 26 05.0 +1.8
KSH pmax pmax
comp=Z,32nm,2.5s
KSH pmax pmax
comp=Z,3µm,8.8s
KSH LR LR
comp=Z,3µm,20.1s
KSH LR LR
comp=Z,3µm,17.8s
KSH LR LR
comp=Z,5µm,17.5s
DHY Denali Highway 82.81 24 P **P** 14 15 45.8 -0.6
DHY IAmb IAmb 14 15 57.1
comp=Z,85nm,1.0s
DHY Denali Highway 82.81 24 P **P** 14 15 45.8 -0.6
baz=241,SNR=49
DHY S **S** 14 26 02.3 -1.3
baz=241
MDOK Medeo 82.82 315 *i* P **P** 14 15 46.3 -0.6
baz=315
MDOK *e*S **S** 14 26 01.7 -2.8
baz=315
MDOK *e*LR LR 14 55 17.9
comp=Z,1µm,15.4s,baz=315
MDOK Medeo 82.82 315 P **P** 14 15 44.8 -2.1
M24K Tolsona, Glenn 82.84 25 P **P** 14 15 46.7 +0.2
M24K Tolsona, Glenn 82.84 25 P **P** 14 15 46.9 +0.4
baz=243,SNR=30
M24K S **S** 14 26 04.9 +1.1
baz=243
TNSS Tian-Shan 82.85 315 *i* P **P** 14 15 46.3 -1.2
baz=315
HMT Hamilton 82.89 27 P **P** 14 15 46.3 -0.4
NEA2 Nenana 82.90 22 P **P** 14 15 44.9 -1.8
NEA2 IAmb IAmb 14 15 49.7
comp=Z,68nm,0.8s
NEA2 Nenana 82.90 22 P **P** 14 15 45.2 -1.5
baz=240,SNR=82
NEA2 S **S** 14 26 01.9 -2.2
baz=240
AAA Alma-Ata 82.92 315 *e*P **P** 14 15 46.4 -1.0
baz=315
AAA *e*S **S** 14 26 04.5 -0.9
baz=315
AAA Alma-Ata 82.92 315 *e*P **P** 14 15 46.4 -1.0
AAA *e*S **S** 14 26 04.5 -0.9
BMRM Bremner River 83.01 26 P **P** 14 15 46.7 -0.7
BMRM Bremner River 83.01 26 P **P** 14 15 47.3 -0.1
baz=244,SNR=20
BMRM S **S** 14 26 06.2 +0.7
baz=244
CHKK Chushkaly 83.04 315 *e*P **P** 14 15 46.1 -1.8
baz=315
I23K Minto, Yukon-K 83.08 21 P **P** 14 15 46.6 -1.0
I23K IAmb IAmb 14 15 55.1
comp=Z,32nm,0.8s
I23K Minto, Yukon-K 83.08 21 P **P** 14 15 47.0 -0.6
baz=239,SNR=45
I23K S **S** 14 26 03.7 -2.2
baz=239
BERG Berg Lake 83.16 27 P **P** 14 15 48.4 +0.3
WRH Wood River Hil 83.21 22 P **P** 14 15 46.0 -2.3
BGLC Bering Glacier 83.24 27 P **P** 14 15 48.7 +0.3
baz=245
MTBS Maitube 83.25 315 ⇓ *i* P **P** 14 15 48.5 -0.5
baz=315
MTBS *i* S **S** 14 26 08.8 +0.1
baz=315
N25K Chitina, Valde 83.29 26 P **P** 14 15 48.8 -0.1
N25K IAmb IAmb 14 16 05.4
comp=Z,94nm,1.1s
N25K Chitina, Valde 83.29 26 P **P** 14 15 49.0 +0.2
baz=244,SNR=19
N25K S **S** 14 26 08.9 +0.5
baz=244
H23K Yukon River 83.36 21 P **P** 14 15 48.5 -0.6
H23K IAmb IAmb 14 16 04.5
comp=Z,112nm,1.3s
H23K Yukon River 83.36 21 P **P** 14 15 48.9 -0.2
baz=239,SNR=42
H23K S **S** 14 26 08.8 0.0
baz=239
MDM Murphy Dome 83.40 22 P **P** 14 15 47.8 -1.5
MDM IAmb IAmb 14 16 00.6
comp=Z,67nm,1.2s
HARP HAARP 83.40 25 P **P** 14 15 49.7 +0.4
baz=244,SNR=18
HARP S **S** 14 26 10.7 +1.3
baz=244
CCB Clear Creek Bu 83.40 22 P **P** 14 15 47.4 -1.9
CCB IAmb IAmb 14 15 52.0
comp=Z,71nm,0.7s
BOOM Boomskoye usch 83.43 314 P **P** 14 15 49.2 -0.9
BOOM pmax pmax
comp=Z,77nm,1.4s
BOOM Boomskoye usch 83.43 314 P **P** 14 15 49.2 -0.9
BOOM IAmb IAmb 14 16 02.8
comp=Z,77nm,1.4s
TCOL CIGO, UAF Yank 83.49 22 P **P** 14 15 48.2 -1.5
TCOL CIGO, UAF Yank 83.49 22 P **P** 14 15 48.2 -1.5
baz=241,SNR=63
TCOL S **S** 14 26 06.6 -3.5
baz=241
COLA College 83.50 22 P **P** 14 15 48.3 -1.4
COLA pmax pmax
comp=Z,159nm,0.8s
COLA MLR MLR
comp=Z,4µm,18.0s
COLA College 83.50 22 P **P** 14 15 48.3 -1.4
COLA College 83.50 22 ⇓P **P** 14 15 48.3 -1.4
COLA College 83.50 22 P **P** 14 15 48.0 -1.7
baz=241
COLA S **S** 14 26 07.4 -2.7
baz=241
KUU Kurty 83.50 315 ⇓ *i* P **P** 14 15 49.3 -1.0
comp=Z,663nm,3.0s,baz=315
KUU *i* S **S** 14 26 08.4 -2.8
baz=315
KUU Kurty 83.50 315 *d i* P **P** 14 15 49.3 -1.0
KUU *i* S **S** 14 26 08.3 -2.8
KUU pmax pmax
comp=Z,663nm,3.0s
NIL Nilore 83.53 305 P **P** 14 15 49.9 -0.8
NIL pmax pmax
comp=Z,179nm,1.4s
NIL Nilore 83.53 305 P **P** 14 15 49.9 -0.8
PAX Paxson 83.53 24 P **P** 14 15 49.0 -1.1
PAX pmax pmax
comp=Z,34nm,1.0s
PAX Paxson 83.53 24 P **P** 14 15 49.0 -1.1
baz=243,SNR=23
PAX S **S** 14 26 10.9 +0.1
baz=243
GLB Gilahina Butte 83.56 26 P **P** 14 15 50.0 -0.2
CRQM Cirque 83.57 27 P **P** 14 15 50.5 0.0
WAX Waxell Ridge 83.57 27 P **P** 14 15 50.2 -0.1
CRQE Cirque 83.58 27 P **P** 14 15 50.3 -0.1
baz=246,SNR=19
CRQE S **S** 14 26 11.6 +0.1
baz=246
HDA Harding Lake 83.61 23 P **P** 14 15 49.2 -1.1
HDA IAmb IAmb 14 15 59.6
comp=Z,53nm,0.7s
HDA IAMs_20 IAMs_20 14 48 19.8
comp=Z,6µm,20.0s
HDA Harding Lake 83.61 23 P **P** 14 15 49.0 -1.3
baz=242,SNR=54
HDA S **S** 14 26 09.3 -2.1
baz=242
HDA S **S** 14 26 09.3 -2.1
baz=242
VRDI Verde Repeater 83.62 26 P **P** 14 15 50.7 0.0
VRDI IAmb IAmb 14 16 06.8
comp=Z,95nm,1.0s
TGL Tana Glacier 83.70 27 P **P** 14 15 51.3 +0.2
POKR Poker Plat Res 83.77 22 P **P** 14 15 49.5 -1.6
POKR IAmb IAmb 14 15 53.9
comp=Z,38nm,0.7s
POKR Poker Plat Res 83.77 22 P **P** 14 15 49.2 -2.0
baz=241
POKR S **S** 14 26 10.9 -2.0
baz=241
TKM2 Tokmak 2 83.78 314 P **P** 14 15 52.1 +0.1
SNR=19
IL31 83.81 22 P **P** 14 15 49.1 -2.1
ILAR Eielson Array 83.81 22 P **P** 14 15 50.3 -1.0
comp=Z,76nm,0.7s,baz=246,slow=4.9,SNR=163
ILAR PKKPbc **PKKPbc** 14 34 09.3 -1.4
comp=Z,0.8nm,0.6s,baz=337,slow=1.5,SNR=8.0
ILAR LR LR 14 48 36.5
comp=Z,4µm,21.2s,baz=258,slow=32
ILAR Eielson Array 83.81 22 P **P** 14 15 49.4 -1.9
ILAR Eielson Array 83.81 22 P **P** 14 15 49.4 -1.9
KZA Kyzart 83.83 313 P **P** 14 15 53.8 +1.3
SNR=15
ISLE Juniper Island 83.86 27 P **P** 14 15 51.5 -0.4
COLD Coldfoot 83.86 19 P **P** 14 15 51.6 0.0
COLD IAmb IAmb 14 16 02.9
comp=Z,44nm,0.8s
COLD Coldfoot 83.86 19 P **P** 14 15 51.7 +0.1
baz=238
COLD S **S** 14 26 13.9 +0.1
baz=238
MESA MESA 83.87 27 P **P** 14 15 52.4 +0.4
MESA MESA 83.87 27 P **P** 14 15 52.3 +0.4
baz=247,SNR=5.4
MESA S **S** 14 26 14.7 +0.2
baz=247
MCARA McCarthy VSAT 83.88 26 P **P** 14 15 52.2 +0.4
baz=246,SNR=16
MCARA S **S** 14 26 15.6 +1.4
baz=246
KURK Kurchatov 83.88 322 P'P'df 14 42 13.2 +0.5
KURBB Kurchatov Arra 83.91 322 PKKPbc PKKPbc 14 34 08.6 -1.3
comp=Z,0.4nm,0.3s,baz=293,slow=2.7,SNR=7.6
KURBB PKPPKP 14 42 13.2
comp=Z,0.9nm,0.8s,baz=283,slow=2.9,SNR=7.7
KURBB Kurchatov Arra 83.91 322 P **P** 14 15 49.8 -2.4
MAW Mawson 83.91 203 P **P** 14 15 52.6 +0.7
baz=243,SNR=43
MAW Mawson 83.91 203 P **P** 14 15 52.9 +1.1
comp=Z,21nm,0.6s,baz=99,slow=5.7,SNR=59
MAW LR LR 14 49 56.0
comp=Z,7µm,21.7s,baz=85,slow=33
MAW Mawson 83.91 203 P **P** 14 15 51.9 0.0
MAW pmax pmax
comp=Z,17nm,1.3s
MAW Mawson 83.91 203 P **P** 14 15 51.9 0.0
QSPA South Pole Qui 83.94 180 P **P** 14 15 52.0 -0.2
H24K Noodor Dome 83.96 21 P **P** 14 15 51.7 -0.4
H24K IAmb IAmb 14 15 56.0
comp=Z,31nm,0.7s
H24K Noodor Dome 83.96 21 P **P** 14 15 51.0 -1.2
baz=241,SNR=46
H24K S **S** 14 26 15.2 +0.3
baz=241
YAH Yahtse 84.04 27 IAMs_20 IAMs_20 14 51 28.0
comp=Z,5µm,19.0s
RIDG Independent Ri 84.13 24 P **P** 14 15 52.7 -0.4
RIDG Independent Ri 84.13 24 P **P** 14 15 52.4 -0.7
baz=244,SNR=45
RIDG S **S** 14 26 16.0 -0.7
baz=244
GRNC Granite Creek 84.18 27 P **P** 14 15 52.8 -0.8
GRNC IAmb IAmb 14 16 09.1
comp=Z,57nm,0.9s
MENT Mentasta 84.23 25 P **P** 14 15 53.2 -0.4
MENT IAmb IAmb 14 15 57.8
comp=Z,61nm,0.8s
M26K Nabesna, AK 84.31 25 P **P** 14 15 54.3 +0.2
M26K IAmb IAmb 14 16 11.5
comp=Z,34nm,0.9s
M26K Nabesna, AK 84.31 25 P **P** 14 15 53.9 -0.1
baz=246,SNR=11
M26K S **S** 14 26 18.6 0.0
baz=246
J25K Salcha River, 84.31 23 P **P** 14 15 53.2 -0.8
baz=243,SNR=252
J25K S **S** 14 26 16.6 -2.0
baz=243
A21K Barrow 84.34 15 IAMs_20 IAMs_20 14 51 24.8
comp=Z,5µm,19.0s
A21K Barrow 84.34 15 P **P** 14 15 52.6 -1.3
baz=232
A21K S **S** 14 26 17.2 -1.2
baz=232
TABL Table Mountain 84.34 27 P **P** 14 15 53.5 -1.0
BARN Barnard Glacie 84.35 27 P **P** 14 15 54.3 -0.2
UCH Uchtor 84.40 313 P **P** 14 15 56.5 +1.1
SNR=6
DOT Dot Lake 84.40 24 P **P** 14 15 53.6 -0.8
DOT IAMs_20 IAMs_20 15 00 53.5
comp=Z,4µm,18.0s
CHMS Chumysh 84.41 314 P **P** 14 15 55.5 +0.5
SNR=6.3
L26K Log Cabin Wild 84.43 25 P **P** 14 15 54.1 -0.4
L26K Log Cabin Wild 84.43 25 P **P** 14 15 54.6 0.0
baz=245,SNR=99
L26K S **S** 14 26 21.3 +1.6
baz=245
CTG Chitna Glacier 84.46 27 P **P** 14 15 55.5 +0.6
baz=247,SNR=32
CTG S **S** 14 26 22.6 +2.4
baz=247
CTGM Chitina Glacie 84.46 27 P **P** 14 15 55.2 +0.3
AAK Ala-Archa 84.51 314 P **P** 14 15 56.3 +0.7
SNR=11
AAK Ala-Archa 84.51 314 *d i* P **P** 14 15 55.1 -0.5
AAK pmax pmax
comp=Z,138nm,1.7s
AAK Ala-Archa 84.51 314 P **P** 14 15 54.7 -0.9
LOGN Logan Glacier 84.55 27 P **P** 14 15 55.5 0.0
SCRK Sand Creek 84.57 24 P **P** 14 15 54.7 -0.7
SCRK IAmb IAmb 14 15 59.2
comp=Z,56nm,0.8s
SCRK Sand Creek 84.57 24 P **P** 14 15 55.1 -0.3
baz=244,SNR=45
SCRK S **S** 14 26 20.7 -0.5
baz=244
SGDS Sogindy 84.60 315 ⇓ *i* P **P** 14 15 54.7 -1.2
comp=Z,266nm,3.7s,baz=315
SGDS *i* S **S** 14 26 13.8 -8.4
baz=315
SGDS Sogindy 84.60 315 *e*P **P** 14 15 55.3 -0.6
PCA Pinnacle 84.62 28 P **P** 14 15 56.1 +0.4
PINM Pinnacle 84.62 28 P **P** 14 15 56.0 +0.3
baz=248
PINM S **S** 14 26 21.8 0.0
baz=248
USP Ospenovka 84.65 314 P **P** 14 15 56.5 +0.3
SNR=18
PRP Porcupine Dome 84.67 22 P **P** 14 15 54.8 -1.1
PRP Porcupine Dome 84.67 22 P **P** 14 15 53.4 -2.4
baz=243
PRP S **S** 14 26 20.4 -1.8
baz=243
M27K Edge Creek, AK 84.77 25 P **P** 14 15 56.4 -0.1
M27K Edge Creek, AK 84.77 25 P **P** 14 15 56.8 +0.3
baz=246,SNR=135
M27K S **S** 14 26 24.6 +1.3
baz=246
TOLK Toolik Lake Re 84.81 18 P **P** 14 15 56.8 +0.4
TOLK IAmb IAmb 14 16 00.7
comp=Z,59nm,0.7s
TOLK IAMs_20 IAMs_20 14 51 38.2
comp=Z,5µm,20.0s
TOLK Toolik Lake Re 84.81 18 P **P** 14 15 56.5 +0.1
baz=239
TOLK S **S** 14 26 20.7 -2.6
baz=239
AML Almayashu 84.97 313 P **P** 14 15 59.3 +1.1
SNR=32
AML Almayashu 84.97 313 P **P** 14 15 57.3 -1.0
EKS2 Erkin-Say 85.03 314 P **P** 14 15 59.1 +0.9
SNR=12
L27K Beaver Creek, 85.07 25 P **P** 14 15 57.9 +0.1
L27K IAmb IAmb 14 16 02.3
comp=Z,44nm,0.8s
L27K Beaver Creek, 85.07 25 P **P** 14 15 57.9 +0.1
baz=246,SNR=62
L27K S **S** 14 26 24.9 -1.2
baz=246
BCAR Beaver Creek A 85.09 25 P **P** 14 15 57.9 0.0
YUK3 Moose Creek 85.16 26 P **P** 14 15 58.6 +0.1
baz=248,SNR=31
BVCY Beaver Creek 85.23 26 P **P** 14 15 59.2 +0.5
baz=247,SNR=33
FYU Fort Yukon 85.25 21 P **P** 14 15 58.9 +0.4
FYU IAmb IAmb 14 16 14.9
comp=Z,80nm,1.0s
BTLS Baital 85.37 316 ⇓ *i* P **P** 14 15 58.6 -1.1
comp=Z,251nm,3.0s,baz=316
BTLS *i* S S 14 26 20.3 -9.4
baz=316
BTLS Baital 85.37 316 *d i* P **P** 14 15 58.6 -1.1
BTLS *i* S S 14 26 20.2 -10
BTLS pmax pmax
comp=Z,251nm,3.0s
YUK6 Outpost Mounta 85.80 27 P **P** 14 16 02.2 +0.4
baz=250,SNR=14
YUK4 Talbot Arm 85.81 27 P **P** 14 16 03.0 +1.2
baz=250,SNR=32
BMAR Burnt Mountain 85.87 20 P **P** 14 16 02.0 +0.2
EGAK Eagle 86.03 23 P **P** 14 16 02.4 0.0
EGAK IAMs_20 IAMs_20 14 49 34.5
comp=Z,5µm,20.0s
EGAK Eagle 86.03 23 P **P** 14 16 02.4 0.0
baz=247,SNR=59
EGAK S **S** 14 26 38.3 +3.0
baz=247
SIT Sitka 86.04 32 P **P** 14 16 02.3 -0.3
SIT pmax pmax
comp=Z,136nm,1.1s
SIT Sitka 86.04 32 P **P** 14 16 02.3 -0.3
SIT IAmb IAmb 14 16 14.2
comp=Z,136nm,1.1s
SIT IAMs_20 IAMs_20 14 46 58.1
comp=Z,6µm,20.0s
SIT Sitka 86.04 32 P **P** 14 16 03.5 +0.8
baz=253
HYT Haines Junctio 86.16 28 P **P** 14 16 04.2 +0.8
baz=250,SNR=63
HYT S **S** 14 26 40.1 +3.1
baz=250
DAWY Dawson 86.47 24 P **P** 14 16 04.9 +0.1
baz=249
DIB Dawson Inlet, 86.54 36 P **P** 14 16 05.2 -0.1
DIB IAmb IAmb 14 16 23.4
comp=Z,153nm,1.3s
DIB IAMs_20 IAMs_20 14 47 08.7
comp=Z,5µm,20.0s
BTK Batken 86.68 311 P **P** 14 16 05.4 -1.0
BTK pmax pmax
comp=Z,44nm,1.1s
BTK Batken 86.68 311 P **P** 14 16 05.4 -1.0
BTK IAmb IAmb 14 16 18.2
comp=Z,44nm,1.1s
BESE Bessie Mountai 86.73 30 P **P** 14 16 06.5 +0.3
BESE IAMs_20 IAMs_20 14 47 23.3
comp=Z,6µm,20.0s
SKAG Skagway 86.75 29 P **P** 14 16 06.2 0.0
SKAG IAMs_20 IAMs_20 14 49 58.0
comp=Z,5µm,20.0s
SKAG Skagway 86.75 29 ⇑P **P** 14 16 07.0 +0.8
SKAG ⇑P **P** 14 16 07.5 +1.4
SKAG Skagway 86.75 29 P **P** 14 16 06.7 +0.6
baz=252,SNR=20
SKAG S **S** 14 26 47.6 +5.0
baz=252
CRAG Craig 86.77 34 IAMs_20 IAMs_20 14 50 54.5
comp=Z,5µm,20.0s
CRAG Craig 86.77 34 P **P** 14 16 07.3 +1.0
baz=255
CRAG S **S** 14 26 46.4 +3.6
baz=255
DZA Taraz 86.84 314 *e*P **P** 14 16 05.6 -1.5
baz=314
DZA *e*S **SKSac** 14 26 29.6 -3.6
baz=314
DZA Taraz 86.84 314 *e*P **P** 14 16 05.5 -1.5
DZA *e*S **SKSac** 14 26 29.6 -3.6
GAR Garm 86.87 310 P **P** 14 16 06.1 -1.3
GAR IAmb IAmb 14 16 24.5
comp=Z,62nm,1.2s
GAR IAMs_20 IAMs_20 14 55 10.8
comp=Z,8µm,21.0s
JIS Juneau Island 86.88 31 P **P** 14 16 07.1 +0.4
JIS IAmb IAmb 14 16 19.1
comp=Z,86nm,1.0s
JIS IAMs_20 IAMs_20 14 47 47.3
comp=Z,7µm,20.0s
KBL Kabul 87.12 305 P **P** 14 16 08.5 -0.3
SNR=9.9
OTUK Ortayu 87.22 319 P **P** 14 16 04.5 -4.3
WHY Whitehorse 87.33 28 P **P** 14 16 09.4 +0.3
baz=253,SNR=42
WHY S **S** 14 26 53.3 +4.9
baz=253
BRZS Berezniki 87.38 321 ⇓ *i* P **P** 14 16 07.1 -2.4
comp=Z,110nm,3.1s,baz=321
BRZS *e*S **SKSac** 14 26 32.7 -3.4
baz=321
BRZS Berezniki 87.38 321 *d i* P **P** 14 16 07.0 -2.4
BRZS *e*S **SKSac** 14 26 32.6 -3.5
BRZS pmax pmax
comp=Z,110nm,3.1s
WRAK Wrangell Islan 87.44 33 P **P** 14 16 10.3 +0.7
WRAK Wrangell Islan 87.44 33 IAMs_20 IAMs_20 14 46 46.2
comp=Z,5µm,20.0s
WRAK Wrangell Islan 87.44 33 P **P** 14 16 09.5 0.0
baz=255
WRAK S **S** 14 26 53.8 +4.5
baz=255
KK31 Karatay Array 87.47 314 P **P** 14 16 09.5 -0.6
KK31 pmax pmax
comp=Z,45nm,1.2s
KK31 Karatay Array 87.47 314 P **P** 14 16 09.4 -0.6
KK31 IAmb IAmb 14 16 22.0
comp=Z,45nm,1.1s
KKAR Karatay Array 87.47 314 P **P** 14 16 08.7 -1.4
KKAR Karatay Array 87.47 314 P **P** 14 16 08.7 -1.4
KKAR Karatay Array 87.47 314 ⇓P **P** 14 16 08.8 -1.2
IUG luzhnay 87.64 313 ⇓ *i* P **P** 14 16 10.3 -0.8
baz=313
IUG *e*S **SKSac** 14 26 36.3 -2.0
baz=313
IUG luzhnay 87.64 313 *d i* P **P** 14 16 10.2 -0.8
IUG *e*S **SKSac** 14 26 36.3 -2.0
CHGR Chuyangaron 87.70 309 P **P** 14 16 10.1 -1.3
CHGR IAmb IAmb 14 16 21.8
comp=Z,75nm,1.1s
MAYO Mayo, Yukon 87.77 25 P **P** 14 16 11.7 +0.7
baz=252,SNR=6.0
CHM Chimkent 87.99 313 *e*S **SKSac** 14 26 37.5 -2.7
baz=313
RUBB Prince Rupert 88.09 35 P **P** 14 16 14.0 +1.3
RUBB IAMs_20 IAMs_20 14 52 06.7
comp=Z,6µm,18.0s
EPYK Eagle Plains 88.32 23 P **P** 14 16 13.7 +0.1
EPYK Eagle Plains 88.32 23 P **P** 14 16 13.2 -0.4
baz=251

EPYK S **S** **14 26 59.7 +2.2**
baz=251
FARO **Faro, Yukon** **88.48 27** P **P** **14 16 14.5 0.0**
FARO baz=254,SNR=55 S **S** **14 27 02.0 +2.9**
baz=254
BBB **Bella Bella** **88.90 37** IAMs_20 IAMs_20 14 54 31.2
comp=Z,4µm,18.0s
DLBC **Dease Lake** **89.14 31** P **P** **14 16 18.3 +0.6**
DLBC IAmb IAmb 14 16 21.7
comp=Z,106nm,1.3s
DLBC IAMs_20 IAMs_20 14 48 56.1
comp=Z,9µm,20.0s
BRVK **Borovoye** **89.46 323** *de*P **P** **14 16 16.8 -2.4**
BRVK pmax pmax
comp=Z,25nm,2.5s
BRVK MLR MLR
comp=Z,2µm,17.0s
BRVK **Borovoye** **89.46 323** P **P** **14 16 17.5 -1.7**
MMPY **Sheldon Lake,** **89.52 27** P **P** **14 16 19.7 +0.3**
baz=256,SNR=31
MMPY S **S** **14 27 11.9 +2.9**
baz=256
INK **Inuvik** **90.09 21** P **P** **14 16 22.1 +0.3**
comp=Z,30nm,0.8s,baz=254,slow=6.3,SNR=25
INK **Inuvik** **90.09 21** P **P** **14 16 21.0 -0.8**
INK pmax pmax
comp=Z,170nm,1.3s
INK MLR MLR
comp=Z,3µm,20.0s
INK **Inuvik** **90.09 21** P **P** **14 16 21.0 -0.8**
INK **Inuvik** **90.09 21** P **P** **14 16 20.7 -1.1**
baz=254
INK S **S** **14 27 12.9 -0.9**
baz=254
WTLY **Watson Lake, Y** **90.11 30** P **P** **14 16 23.1 +0.9**
baz=258
WTLY S **S** **14 27 18.7 +4.2**
baz=258
J01E **Myrtle Point** **90.19 47** P **P** **14 16 23.1 +0.3**
baz=262
J01E S **S** **14 27 19.8 +4.0**
baz=262
L02E **Cave Junction** **90.29 48** P **P** **14 16 24.3 +0.9**
baz=262
L02E S **S** **14 27 20.7 +3.8**
baz=262
K02D **Willamette Mer** **90.32 47** P **P** **14 16 24.0 +0.3**
baz=262
K02D S **S** **14 27 21.7 +4.4**
baz=262
I02D **Swisshome** **90.38 46** P **P** **14 16 24.3 +0.5**
baz=262
I02D S **S** **14 27 21.1 +3.6**
baz=262
O02D **Mt. Diablo Mer** **90.64 50** P **P** **14 16 26.0 +0.8**
baz=263
O02D S **S** **14 27 22.7 +2.4**
baz=263
TGTN **Hyland Airport** **90.65 28** P **P** **14 16 25.3 +0.6**
baz=259,SNR=17
TGTN S **S** **14 27 23.3 +3.8**
baz=259
I03D **Drain, OR** **90.68 46** P **P** **14 16 26.2 +1.0**
baz=262
I03D S **S** **14 27 23.8 +3.4**
baz=262
M02C **Callahan** **90.75 49** P **P** **14 16 26.4 +0.8**
baz=263,SNR=9.2
M02C S **S** **14 27 23.6 +2.4**
baz=263
N02D **Trinity Center** **90.81 49** P **P** **14 16 26.2 +0.3**
baz=263
N02D S **S** **14 27 24.3 +2.5**
baz=263
NLWA **Neilton Lookou** **90.82 43** IAMs_20 IAMs_20 14 49 16.2
comp=Z,5µm,20.0s
NLWA **Neilton Lookou** **90.82 43** ⇓P **P** **14 16 26.8 +1.0**
NLWA ⇓p **pP** **14 16 30.0 -1.2**
HUMO **Hull Mountain** **90.83 47** P **P** **14 16 25.4 -0.5**
HUMO IAmb IAmb 14 16 38.3
comp=Z,77nm,1.1s
HUMO IAMs_20 IAMs_20 14 53 18.6
comp=Z,9µm,19.0s
WDC **Whiskeytown Da** **90.88 49** P **P** **14 16 25.6 -0.5**
WDC pmax pmax
comp=Z,37nm,1.5s
WDC **Whiskeytown Da** **90.88 49** P **P** **14 16 25.6 -0.5**
YBH **Yreka Blue Hor** **90.90 48** P **P** **14 16 26.3 -0.1**
YBH pmax pmax
comp=Z,82nm,1.5s
YBH **Yreka Blue Hor** **90.90 48** P **P** **14 16 26.3 -0.1**
YBH IAmb IAmb 14 16 41.6
comp=Z,82nm,1.4s
E03A **Lebam** **90.91 43** IAMs_20 IAMs_20 14 52 46.7
comp=Z,8µm,19.0s
G03D **McMinnville, O** **90.94 45** P **P** **14 16 25.3 -1.0**
baz=262
G03D S **S** **14 27 25.0 +2.3**
baz=262
BUCK **Buck Mountain** **91.01 46** IAMs_20 IAMs_20 14 52 14.3
comp=Z,8µm,20.0s
H04D **Lebanon** **91.23 46** P **P** **14 16 27.7 0.0**
baz=263
H04D S **S** **14 27 27.1 +1.8**
baz=263
F04D **Rainier, OR** **91.23 44** P **P** **14 16 26.9 -0.7**
baz=263
F04D S **S** **14 27 26.7 +1.5**
baz=263
L04D **Klamath Falls** **91.26 48** P **P** **14 16 28.3 +0.2**
baz=263
L04D S **S** **14 27 30.6 +4.6**
baz=263
PGC **Sidney** **91.27 41** P **P** **14 16 27.6 -0.1**
PGC IAMs_20 IAMs_20 14 54 22.0
comp=Z,8µm,20.0s
SAO **San Andreas Ge** **91.28 53** IAMs_20 IAMs_20 14 54 50.9
comp=Z,9µm,19.0s
I04A **Tendick Farm,** **91.37 46** P **P** **14 16 27.8 -0.6**
baz=263
I04A S **S** **14 27 29.4 +2.7**
baz=263
O03E **Paynes Creek** **91.41 50** P **P** **14 16 28.5 -0.3**
baz=263
O03E S **S** **14 27 28.3 +1.0**
baz=263
J04D **Umpqua Nationa** **91.52 47** P **P** **14 16 29.0 -0.3**
baz=263
J04D S **S** **14 27 32.2 +3.7**
baz=263
D04E **Lakebay** **91.53 43** P **P** **14 16 30.1 +1.1**
baz=263
D04E S **S** **14 27 32.7 +4.8**
baz=263
M04C **Macdoel** **91.55 48** P **P** **14 16 29.6 +0.2**
baz=263
M04C S **S** **14 27 31.9 +3.2**
baz=263
ORV **Oroville** **91.55 51** P **P** **14 16 29.2 -0.1**
ORV pmax pmax
comp=Z,33nm,1.4s
ORV **Oroville** **91.55 51** P **P** **14 16 29.2 -0.1**
ORV IAMs_20 IAMs_20 14 53 32.0
comp=Z,8µm,19.0s
E04D **Cinebar** **91.60 44** P **P** **14 16 30.1 +0.8**
baz=263
E04D S **S** **14 27 32.6 +4.0**
baz=263
F04A **Amboy** **91.62 44** P **P** **14 16 29.4 -0.1**
F04A IAmb IAmb 14 16 45.7
comp=Z,109nm,1.5s
F04A IAMs_20 IAMs_20 14 52 56.5
comp=Z,9µm,19.0s
H04A **Detroit Lake** **91.64 45** P **P** **14 16 29.9 +0.3**
H04A IAmb IAmb 14 16 41.0
comp=Z,109nm,1.5s
H04A IAMs_20 IAMs_20 14 52 45.0
comp=Z,9µm,20.0s
K04D **Chiloquin, OR** **91.71 47** P **P** **14 16 30.6 +0.5**
baz=263
K04D S **S** **14 27 34.3 +4.2**
baz=263
A04D **Lummi Island** **91.77 41** P **P** **14 16 30.4 +0.4**
baz=263
A04D S **S** **14 27 34.2 +4.2**
baz=263

SYO **Syowa Base** **92.06 200** ⇓*e*P **P** **14 16 31.0 0.0**
SYO **Syowa Base** **92.06 200** ⇓*ep*P pP 14 16 34.0 -2.4
D05A **Enumclaw** **92.06 43** P **P** **14 16 32.0 +0.5**
D05A IAmb IAmb 14 16 48.6
comp=Z,75nm,1.2s
D05A IAMs_20 IAMs_20 14 49 34.1
comp=Z,5µm,20.0s
B05A **Bryant** **92.12 42** P **P** **14 16 31.5 -0.2**
baz=263
B05A S **S** **14 27 35.0 +1.8**
baz=263
PAGB **Antelope Grade** **92.13 54** P **P** **14 16 32.3 +0.2**
PAGB IAmb IAmb 14 17 00.9
comp=Z,67nm,1.5s
PAGB IAMs_20 IAMs_20 14 55 03.6
comp=Z,5µm,19.0s
LON **Longmire** **92.14 43** P **P** **14 16 32.0 +0.1**
LON pmax pmax
comp=Z,27nm,1.5s
LON **Longmire** **92.14 43** P **P** **14 16 32.0 +0.1**
LON IAMs_20 IAMs_20 14 53 26.1
comp=Z,5µm,20.0s
J05D **Fort Rock, OR** **92.16 47** P **P** **14 16 32.7 +0.5**
baz=264,SNR=21
J05D S **S** **14 27 38.0 +3.9**
baz=264
I05D **Terrebonne, OR** **92.20 46** P **P** **14 16 32.4 +0.1**
baz=264
I05D S **S** **14 27 37.4 +3.1**
baz=264
CMB **Columbia Colle** **92.25 52** P **P** **14 16 31.9 -0.8**
CMB pmax pmax
comp=Z,42nm,1.4s
CMB **Columbia Colle** **92.25 52** P **P** **14 16 31.9 -0.8**
CMB IAmb IAmb 14 16 57.3
comp=Z,42nm,1.4s
F05D **White Salmon** **92.28 44** P **P** **14 16 32.3 -0.3**
baz=264
F05D S **S** **14 27 37.0 +2.1**
baz=264
SMMC **Simmler** **92.30 55** P **P** **14 16 33.0 +0.1**
baz=264
SMMC S **S** **14 27 38.2 +2.8**
baz=264
G05D **Wamic, OR** **92.31 45** P **P** **14 16 32.1 -0.6**
baz=264
G05D S **S** **14 27 37.5 +2.3**
baz=264
K05A **Summer Lake** **92.35 47** P **P** **14 16 32.5 -0.7**
PKM **Mcpherson Peak** **92.40 55** P **P** **14 16 34.6 +1.0**
baz=264
PKM S **S** **14 27 39.9 +3.2**
baz=264
PINE **Pine Mountain** **92.43 46** P **P** **14 16 32.9 -0.6**
PINE IAmb IAmb 14 16 45.7
comp=Z,85nm,1.1s
PINE IAMs_20 IAMs_20 14 53 01.9
comp=Z,7µm,20.0s
SBC **Santa Barbara** **92.44 56** P **P** **14 16 34.2 +0.7**
baz=264
SBC S **S** **14 27 36.0 -0.7**
baz=264
BEKR **Beckworth** **92.46 50** P **P** **14 16 33.3 -0.5**
BEKR IAmb IAmb 14 16 45.7
comp=Z,49nm,1.2s
LLLB **Lillooet** **92.52 40** P **P** **14 16 33.3 -0.3**
LLLB IAmb IAmb 14 16 48.7
comp=Z,43nm,1.3s
B06A **Marblemount** **92.55 42** IAMs_20 IAMs_20 14 56 06.9
comp=Z,6µm,18.0s
HRA **Herat** **92.67 304** P **P** **14 16 33.6 -1.2**
C06D **Leavenworth** **92.88 42** P **P** **14 16 34.0 -1.3**
baz=264
C06D S **S** **14 27 42.2 +2.1**
baz=264
VOG **Valley Oaks Go** **92.89 54** P **P** **14 16 34.7 -0.8**
baz=265
VCNR **Virginia City** **92.95 51** P **P** **14 16 35.0 -1.0**
VCNR IAmb IAmb 14 16 48.4
comp=Z,40nm,1.1s
LTY **Liberty** **92.97 43** P **P** **14 16 34.9 -0.9**
LTY IAmb IAmb 14 16 50.5
comp=Z,45nm,1.4s
LTY IAMs_20 IAMs_20 14 49 41.0
comp=Z,4µm,21.0s
PNTR **Pine Nut** **92.97 51** P **P** **14 16 35.1 -1.1**
PNTR IAmb IAmb 14 16 48.6
comp=Z,53nm,0.9s
VES **Vestal, Richgr** **93.08 54** P **P** **14 16 36.2 -0.3**
baz=265
WRGLY **Wrigley** **93.14 27** P **P** **14 16 36.3 +0.2**
baz=263
WRGLY S **S** **14 27 45.1 +3.5**
baz=263
PAHR **Pah Rah Range** **93.19 51** P **P** **14 16 36.5 -0.6**
PAHR IAmb IAmb 14 16 49.2
comp=Z,50nm,1.3s
ARVC **Arvin** **93.23 55** P **P** **14 16 37.8 +0.7**
baz=265
ARVC S **S** **14 27 45.8 +2.1**
baz=265
YERR **Yerington** **93.24 51** P **P** **14 16 37.5 +0.2**
YERR IAmb IAmb 14 16 49.5
comp=Z,69nm,1.4s
MDPB **Devils Postpil** **93.25 53** P **P** **14 16 37.7 +0.2**
MDPB IAmb IAmb 14 16 49.7
comp=Z,47nm,1.3s
MDPB IAMs_20 IAMs_20 14 55 29.0
comp=Z,8µm,19.0s
OSI **Osito Audit: C** **93.27 56** IAMs_20 IAMs_20 14 54 57.8
comp=Z,5µm,18.0s
OSI **Osito Audit: C** **93.27 56** P **P** **14 16 36.5 -0.9**
baz=265
OSI S **S** **14 27 47.2 +3.0**
baz=265
SCI2 **San Clemente I** **93.27 57** P **P** **14 16 37.3 -0.1**
baz=265
SCI2 S **S** **14 27 49.3 +5.2**
baz=265
F07A **Phinny Hill Vi** **93.35 44** P **P** **14 16 38.0 +0.6**
CIS **Catalina Islan** **93.42 57** P **P** **14 16 37.7 -0.4**
baz=265
CIS S **S** **14 27 50.8 +5.3**
baz=265
MLAC **Mammoth, Mammo** **93.44 53** P **P** **14 16 38.0 -0.3**
baz=265
MLAC S **S** **14 27 48.4 +2.5**
baz=265
E07A **Sunnyside** **93.46 44** P **P** **14 16 37.8 -0.2**
E07A IAmb IAmb 14 17 02.4
comp=Z,38nm,1.2s
I07A **Izee** **93.49 46** P **P** **14 16 38.0 -0.3**
I07A IAmb IAmb 14 16 50.2
comp=Z,88nm,1.3s
I07A IAMs_20 IAMs_20 14 53 37.0
comp=Z,8µm,20.0s
FMP **Fort Macarthur** **93.55 57** P **P** **14 16 37.5 -1.1**
baz=265
FMP S **S** **14 27 52.2 +5.7**
baz=265
DECC **Green Verdugo** **93.56 56** P **P** **14 16 39.6 +0.9**
baz=265
DECC S **S** **14 27 50.6 +3.9**
baz=265
ISA **Isabella, Lake** **93.56 55** P **P** **14 16 38.2 -0.6**
ISA pmax pmax
comp=Z,46nm,1.5s
ISA **Isabella, Lake** **93.56 55** P **P** **14 16 38.2 -0.6**
ISA IAmb IAmb 14 16 50.9
comp=Z,46nm,1.5s
ISA IAMs_20 IAMs_20 14 53 05.5
comp=Z,4µm,19.0s
ISA **Isabella, Lake** **93.56 55** P **P** **14 16 38.1 -0.7**
baz=265
ISA S **S** **14 27 51.5 +4.7**
baz=265
A36M **Sachs Harbour** **93.62 18** P **P** **14 16 38.5 +0.3**
A36M **Sachs Harbour** **93.62 18** P **P** **14 16 36.7 -1.4**
baz=262
HAWA **Hanford** **93.67 44** P **P** **14 16 38.8 -0.1**
HAWA IAmb IAmb 14 17 04.1
comp=Z,38nm,1.4s
HAWA **Hanford** **93.67 44** ⇓P **P** **14 16 39.3 +0.4**
PASC **Pasadena Art C** **93.68 56** P **P** **14 16 39.8 +0.5**
PASC IAmb IAmb 14 17 05.8
comp=Z,93nm,1.5s
PASC **Pasadena Art C** **93.68 56** IAMs_20 IAMs_20 14 54 52.3

comp=Z,4µm,18.0s
LHV **Little Huntoon** **93.75 52** P **P** **14 16 40.2 +0.7**
LHV IAmb IAmb 14 16 52.2
comp=Z,61nm,1.1s
RYN **Ryan** **93.77 52** P **P** **14 16 40.0 +0.2**
RYN IAmb IAmb 14 16 52.0
comp=Z,65nm,1.3s
RYN IAMs_20 IAMs_20 14 56 04.8
comp=Z,9µm,19.0s
MWC **Mount Wilson** **93.78 56** P **P** **14 16 39.9 -0.1**
MWC pmax pmax
comp=Z,95nm,1.3s
MWC **Mount Wilson** **93.78 56** P **P** **14 16 39.9 -0.1**
MWC IAmb IAmb 14 16 55.4
comp=Z,95nm,1.3s
MWC IAMs_20 IAMs_20 14 54 56.5
comp=Z,5µm,18.0s
PNT **Penticton** **93.85 41** P **P** **14 16 35.1 -4.6**
PNT pmax pmax
comp=Z,53nm,0.9s
TIN **Tinemaha, Big** **93.87 53** P **P** **14 16 40.3 0.0**
baz=265
TIN S **S** **14 27 53.3 +3.8**
baz=265
EDW2 **Edwards Air Fo** **93.89 55** P **P** **14 16 41.3 +1.0**
baz=265,SNR=11
EDW2 S **S** **14 27 51.7 +2.1**
baz=265
NVAR **Mina Array Bea** **93.92 52** P **P** **14 16 41.9 +1.3**
comp=Z,8.1nm,0.7s,baz=254,slow=6.0,SNR=48
NVAR PP **PP** **14 20 25.7 -0.9**
comp=Z,2.3nm,1.0s,baz=266,slow=10.0,SNR=3.8
NVAR LR LR 14 55 38.7
comp=Z,9µm,18.6s,baz=268,slow=33
NVAR **Mina Array Bea** **93.92 52** P **P** **14 16 40.7 +0.1**
CWC **Cottonwood Cre** **93.94 54** P **P** **14 16 40.6 0.0**
baz=266
CWC S **S** **14 27 53.2 +2.9**
baz=266
B08A **Colville Reser** **93.96 42** P **P** **14 16 40.2 -0.1**
B08A IAMs_20 IAMs_20 14 51 16.2
comp=Z,5µm,20.0s
G08A **Pilot Rock** **93.97 45** P **P** **14 16 40.5 0.0**
G08A IAmb IAmb 14 16 52.2
comp=Z,96nm,1.5s
WVOR **Wild Horse Val** **93.98 48** P **P** **14 16 40.4 -0.2**
WVOR pmax pmax
comp=Z,14nm,0.9s
WVOR **Wild Horse Val** **93.98 48** P **P** **14 16 40.4 -0.2**
WVOR **Wild Horse Val** **93.98 48** ⇑P **P** **14 16 40.7 +0.1**
WVOR ⇑P **PcP** **14 16 41.7 +0.6**
NV11 **Mina Array Sit** **94.04 52** P **P** **14 16 40.8 -0.2**
NV11 IAmb IAmb 14 17 05.0
comp=Z,66nm,1.4s
KVN **Kaiserville** **94.13 51** P **P** **14 16 41.4 -0.1**
KVN pmax pmax
comp=Z,65nm,1.3s
KVN **Kaiserville** **94.13 51** P **P** **14 16 41.4 -0.1**
KVN IAmb IAmb 14 16 53.5
comp=Z,65nm,1.3s
D08A **Wollman Farm,** **94.14 43** P **P** **14 16 41.2 +0.1**
D08A IAMs_20 IAMs_20 14 54 30.0
comp=Z,7µm,19.0s
J08A **Circle Bar Ran** **94.17 47** P **P** **14 16 41.1 -0.4**
J08A IAmb IAmb 14 16 53.3
comp=Z,85nm,1.4s
J08A IAMs_20 IAMs_20 14 55 56.2
comp=Z,8µm,19.0s
LRMC **Laurel Mtn Rad** **94.19 55** P **P** **14 16 42.2 +0.5**
baz=266
LRMC S **S** **14 27 54.8 +2.3**
baz=266
LCH **Last Change Ra** **94.35 53** P **P** **14 16 42.2 -0.3**
MPMC **Manual Prospec** **94.39 54** P **P** **14 16 43.3 +0.5**
baz=266,SNR=20
MPMC S **S** **14 27 55.3 +1.0**
baz=266
MURC **Murrieta** **94.45 57** P **P** **14 16 42.1 -0.7**
baz=266
MURC S **S** **14 27 58.8 +4.3**
baz=266
109C **Camp Elliot, M** **94.47 58** P **P** **14 16 43.8 +0.9**
baz=266
109C S **S** **14 27 58.5 +3.9**
baz=266
GRAC **Grapevine Rang** **94.56 53** P **P** **14 16 44.2 +0.9**
baz=266
GRAC S **S** **14 27 56.8 +1.5**
baz=266
C09A **Chrisman Ranch** **94.63 43** P **P** **14 16 43.4 0.0**
C09A IAMs_20 IAMs_20 14 50 44.0
comp=Z,5µm,20.0s
E09A **Wood Farm, Sta** **94.63 44** P **P** **14 16 43.1 -0.3**
RRX **Edison Barstow** **94.71 56** P **P** **14 16 44.9 +0.9**
baz=266
BBRC **Big Bear Solar** **94.73 56** P **P** **14 16 45.2 +0.8**
baz=266
BBRC S **S** **14 28 00.9 +3.6**
baz=266
TPH **Tonopah** **94.75 52** P **P** **14 16 44.2 -0.1**
TPH pmax pmax
comp=Z,183nm,1.2s
TPH **Tonopah** **94.75 52** P **P** **14 16 44.2 -0.1**
CCX **Cicese** **94.77 59** IAMs_20 IAMs_20 14 54 19.8
comp=Z,5µm,20.0s
BAR **Barrett** **94.82 58** P **P** **14 16 45.0 +0.4**
QSM **Queen of Sheba** **94.89 54** P **P** **14 16 45.1 +0.3**
QSM IAmb IAmb 14 17 08.8
comp=Z,82nm,1.4s
WSAR **Wadi Sarin** **94.89 293** LR LR 15 04 56.5
comp=Z,546nm,18.1s,baz=104,slow=39
GSC **Goldstone, Bar** **94.89 55** P **P** **14 16 44.8 -0.1**
GSC pmax pmax
comp=Z,56nm,1.5s
GSC **Goldstone, Bar** **94.89 55** P **P** **14 16 44.8 -0.1**
GSC IAmb IAmb 14 16 57.4
comp=Z,56nm,1.4s
GSC IAMs_20 IAMs_20 14 56 00.8
comp=Z,3µm,18.0s
GSC **Goldstone, Bar** **94.89 55** P **P** **14 16 45.7 +0.8**
baz=266
GSC S **S** **14 28 05.4 +7.0**
baz=266
BMN **Battle Mountai** **94.90 50** P **P** **14 16 44.5 -0.4**
BMN pmax pmax
comp=Z,52nm,1.3s
BMN **Battle Mountai** **94.90 50** P **P** **14 16 44.5 -0.4**
BMN IAmb IAmb 14 16 59.3
comp=Z,52nm,1.3s
FURC **Furnace Creek,** **94.92 54** P **P** **14 16 45.6 +0.7**
baz=266,SNR=8.5
FURC S **S** **14 28 03.5 +5.1**
baz=266
MONP2 **Monument Peak** **95.05 58** P **P** **14 16 45.1 -0.7**
baz=266
MONP2 S **S** **14 28 03.2 +3.1**
baz=266
GWY **Greenwater Val** **95.06 54** P **P** **14 16 45.7 -0.1**
PFO **Pinyon Flats O** **95.07 57** *d*P **P** **14 16 46.7 +0.9**
PFO pmax pmax
comp=Z,114nm,2.5s
PFO MLR MLR
comp=Z,5µm,17.0s
PFO **Pinyon Flats O** **95.07 57** IAMs_20 IAMs_20 14 55 40.5
comp=Z,8µm,18.0s
PFO **Pinyon Flats O** **95.07 57** P **P** **14 16 46.5 +0.7**
baz=266
PFO S **S** **14 28 02.9 +2.8**
baz=266
TPFO **Pinon Flats** **95.07 57** P **P** **14 16 46.7 +0.9**
baz=266
TPFO S **S** **14 28 04.1 +4.0**
baz=266
BMO **Blue Mountains** **95.11 46** P **P** **14 16 45.5 -0.2**
BMO pmax pmax
comp=Z,48nm,1.3s
BMO **Blue Mountains** **95.11 46** P **P** **14 16 45.5 -0.2**
BMO IAmb IAmb 14 17 09.9
comp=Z,48nm,1.2s
BMO IAMs_20 IAMs_20 14 55 06.0
comp=Z,9µm,20.0s
F10A **Beach Ranch, E** **95.23 44** IAMs_20 IAMs_20 14 55 19.1
comp=Z,9µm,20.0s
HEC **Hector,Ludlow** **95.25 56** P **P** **14 16 47.3 +0.7**
baz=266,SNR=8.0
HEC S **S** **14 28 03.3 +1.8**
baz=266

IKP	**In-Ko-Pah, Jac**	**95.30**	**58**	P	**P**	**14 16 47.8**	**+1.0**
	baz=266									
IKP				S	**S**	**14 28 04.7**	**+2.7**
	baz=266									
MHTO	**MHTO**	**95.33**	**290**	P	**P**	**14 16 47.2**	**+0.1**
SHOC	**Shoshone, Teco**	**95.36**	**55**	P	**P**	**14 16 47.1**	**+0.1**
	baz=266									
BIDO	**Bidbid**	**95.38**	**293**	P	**P**	**14 16 47.5**	**+0.2**
	SNR=7.3									
SVE	**Sverdlovsk**	**95.42**	**326**	*e*P	**P**	**14 16 45.1**	**-1.6**
SVE				*e*		14 20 34.7				
SVE				*e*S	**SKSac**	**14 27 19.7**	**-1.9**
SVE				*e*		14 29 16.0				
SVE				*e*SS	**SS**	**14 34 23.3**	**-6.3**
SVE				*e*SSS	SSS	14 38 18.1				
SVE				pmax	pmax					
	comp=Z,44nm,1.8s									
SVE				MLR	MLR					
	comp=Z,3µm,21.0s									
NEW	**Newport**	**95.43**	**42**	P	**P**	**14 16 46.4**	**-0.6**
NEW	**Newport**	**95.43**	**42**	P	**P**	**14 16 46.4**	**-0.6**
NEW				IAmb	IAmb	14 17 07.1				
	comp=Z,66nm,1.4s									
NEW	**Newport**	**95.43**	**42**	IAMs_20	IAMs_20	14 57 55.1				
	comp=Z,5µm,18.0s									
NEW	**Newport**	**95.43**	**42**	P	**P**	**14 16 46.1**	**-0.9**
	baz=267									
NEW				S	**S**	**14 28 02.9**	**+0.5**
	baz=267									
TPNV	**Topopah Spring**	**95.45**	**54**	P	**P**	**14 16 46.6**	**-0.9**
TPNV				pmax	pmax					
	comp=Z,90nm,1.4s									
TPNV	**Topopah Spring**	**95.45**	**54**	P	**P**	**14 16 46.6**	**-0.9**
TPNV				IAMs_20	IAMs_20	14 57 22.3				
	comp=Z,6µm,18.0s									
TPNV	**Topopah Spring**	**95.45**	**54**	⇑P	**P**	**14 16 47.8**	**+0.3**
TPNV	**Topopah Spring**	**95.45**	**54**	P	**P**	**14 16 47.8**	**+0.3**
	baz=267,SNR=21									
TPNV				S	**S**	**14 28 04.6**	**+1.2**
	baz=267									
BELC	**Belle Mtn. Jos**	**95.47**	**56**	P	**P**	**14 16 48.2**	**+0.5**
	baz=266,SNR=10									
BELC				S	**S**	**14 28 07.2**	**+3.5**
	baz=266									
AB31	**Akbulak array**	**95.48**	**319**	*i* P	**P**	**14 16 46.0**	**-1.1**
ABKAR	**Akbulak array**	**95.48**	**319**	P	**P**	**14 16 44.4**	**-2.7**
SWSC	**Sam W. Stewart**	**95.57**	**58**	P	**P**	**14 16 49.0**	**+1.1**
	baz=266									
SWSC				S	**S**	**14 28 08.5**	**+4.2**
	baz=266									
TUQ	**Turquoise Moun**	**95.62**	**55**	P	**P**	**14 16 48.7**	**+0.4**
	baz=267									
TUQ				S	**S**	**14 28 06.6**	**+1.8**
	baz=267									
UABX	**UABC, Campus M**	**95.86**	**58**	IAMs_20	IAMs_20	14 55 52.3				
	comp=Z,8µm,19.0s									
BC3	**Big Chuckawall**	**95.91**	**57**	P	**P**	**14 16 50.6**	**+1.0**
	baz=267,SNR=8.3									
BC3				S	**S**	**14 28 12.9**	**+5.5**
	baz=267									
CPBX	**Cerro Prieto**	**95.96**	**58**	IAMs_20	IAMs_20	14 55 42.1				
	comp=Z,6µm,19.0s									
R11A	**Troy Canyon, C**	**96.05**	**52**	P	**P**	**14 16 49.2**	**-1.0**
R11A				IAmb	IAmb	14 17 05.8				
	comp=Z,36nm,1.4s									
R11A	**Troy Canyon, C**	**96.05**	**52**	P	**P**	**14 16 50.6**	**+0.3**
	baz=267,SNR=9.1									
R11A				S	**S**	**14 28 10.2**	**+1.7**
	baz=267									
PLID	**Pearl Lake**	**96.05**	**45**	P	**P**	**14 16 49.2**	**-1.0**
MFID	**Camas Ranch**	**96.10**	**47**	P	**P**	**14 16 50.3**	**0.0**
MFID				IAMs_20	IAMs_20	14 55 45.3				
	comp=Z,5µm,20.0s									
GUVIX	**Guadalupe Vict**	**96.15**	**58**	IAMs_20	IAMs_20	14 56 06.1				
	comp=Z,7µm,19.0s									
IRM	**Iron Mountain**	**96.19**	**56**	P	**P**	**14 16 51.9**	**+1.0**
	baz=267,SNR=13									
IRM				S	**S**	**14 28 11.7**	**+2.0**
	baz=267									
GEYT	**Alibeck**	**96.26**	**307**	P	**P**	**14 16 51.8**	**+0.8**
	comp=Z,85nm,0.8s,baz=27,slow=15,SNR=3.9									
GEYT				LR	LR	15 02 10.0				
	comp=Z,3µm,20.8s,baz=65,slow=37									
SFX	**San Felipe**	**96.27**	**60**	IAMs_20	IAMs_20	14 55 50.4				
	comp=Z,6µm,20.0s									
SHPR	**Sheep Range**	**96.30**	**54**	P	**P**	**14 16 51.2**	**-0.2**
SHPR				IAMs_20	IAMs_20	14 57 48.9				
	comp=Z,5µm,19.0s									
GLA	**Glamis**	**96.40**	**57**	P	**P**	**14 16 53.3**	**+1.5**
	baz=267									
GLA				S	**S**	**14 28 13.0**	**+1.5**
	baz=267									
ELK	**Elko**	**96.43**	**50**	P	**P**	**14 16 51.6**	**-0.4**
ELK				pmax	pmax					
	comp=Z,55nm,1.4s									
ELK	**Elko**	**96.43**	**50**	P	**P**	**14 16 51.5**	**-0.4**
ELK				IAmb	IAmb	14 17 06.3				
	comp=Z,54nm,1.4s									
PRN	**Pahroc Range**	**96.43**	**53**	P	**P**	**14 16 52.0**	**0.0**
PRN				IAmb	IAmb	14 17 04.6				
	comp=Z,61nm,1.4s									
PRN				IAMs_20	IAMs_20	14 53 38.2				
	comp=Z,6µm,20.0s									
ARU	**Arti**	**96.56**	**326**	*c* iP	**P**	**14 16 48.8**	**-3.1**
ARU						14 20 43.4				
ARU				PPP	PPP	14 22 49.3				
ARU				S	**SKSac**	**14 27 25.5**	**-2.0**
ARU				SP	SP	14 29 32.5	+1.2
ARU				SS	**SS**	**14 34 42.7**	**-2.9**
ARU				pmax	pmax					
	comp=Z,18nm,2.0s									
ARU	**Arti**	**96.56**	**326**	P	**P**	**14 16 49.5**	**-2.4**
ARU				IAMs_20	IAMs_20	14 58 31.7				
	comp=Z,4µm,21.0s									
NEE2	**Needles Airpor**	**96.66**	**56**	P	**P**	**14 16 53.6**	**+0.8**
	baz=267									
NEE2				S	**S**	**14 28 16.2**	**+2.7**
	baz=267									
SOHO	**SOHO**	**96.87**	**294**	P	**P**	**14 16 52.4**	**-1.6**
PDMCI	**Parker Dam,Lak**	**97.03**	**56**	P	**P**	**14 16 54.5**	**0.0**
	baz=268									
SPR3	**Spring Creek 3**	**97.06**	**52**	P	**P**	**14 16 54.3**	**-0.7**
SPR3				IAmb	IAmb	14 17 07.2				
	comp=Z,35nm,1.3s									
HLID	**Hailey**	**97.14**	**47**	P	**P**	**14 16 53.4**	**-1.7**
HLID				IAmb	IAmb	14 17 06.8				
	comp=Z,29nm,1.4s									
HLID				IAMs_20	IAMs_20	14 57 52.6				
	comp=Z,6µm,19.0s									
HLID	**Hailey**	**97.14**	**47**	P	**P**	**14 16 54.8**	**-0.3**
	baz=268									
HLID				S	**S**	**14 28 19.2**	**+1.6**
	baz=268									
YKA	**Yellowknife Ar**	**97.15**	**28**	P	Pdif	14 16 55.4	+0.9
	comp=Z,11nm,0.7s,baz=270,slow=4.0,SNR=13									
YKA				LR	LR	14 58 51.0				
	comp=Z,3µm,19.3s,baz=0.0,slow=34									
YKA	**Yellowknife Ar**	**97.15**	**28**	P	**P**	**14 16 53.7**	**-0.7**
YKA	**Yellowknife Ar**	**97.15**	**28**	P	**P**	**14 16 53.7**	**-0.7**
MDH	**Madha**	**97.16**	**295**	P	**P**	**14 16 53.1**	**-2.2**
BANOM	**Banah**	**97.19**	**295**	P	**P**	**14 16 53.3**	**-2.2**
W13A	**Hualapai Mount**	**97.27**	**55**	P	**P**	**14 16 54.3**	**-1.6**
W13A				IAmb	IAmb	14 17 01.9				
	comp=Z,21nm,1.4s									
W13A				IAMs_20	IAMs_20	14 57 06.7				
	comp=Z,4µm,18.0s									
HATD	**Hatta, Dubai**	**97.28**	**294**	P	**P**	**14 16 53.6**	**-2.3**
MSFE	**Esma-Masafi**	**97.28**	**295**	P	**P**	**14 16 53.8**	**-2.1**
JTMT	**Jette**	**97.32**	**43**	IAMs_20	IAMs_20	14 56 48.1				
	comp=Z,6µm,19.0s									
SHME	**Shamm**	**97.34**	**295**	P	**P**	**14 16 54.1**	**-2.0**
PSUT	**Pine Spring**	**97.42**	**52**	P	**P**	**14 16 55.3**	**-1.2**
MSO	**Missoula**	**97.54**	**44**	P	**P**	**14 16 55.0**	**-1.7**
	baz=269									
MSO				S	**S**	**14 28 22.3**	**+1.5**
	baz=269									
WALA	**Waterton Lakes**	**97.58**	**41**	P	Pdif	14 16 57.6	+0.7
WALA				IAmb	IAmb	14 17 18.8				
	comp=Z,39nm,1.3s									
WALA				IAMs_20	IAMs_20	14 59 33.9				
	comp=Z,7µm,18.0s									
ALNE	**Al Ain**	**97.58**	**293**	P	**P**	**14 16 55.4**	**-1.9**
NAZ	**Nazwa, Dubai**	**97.71**	**294**	P	**P**	**14 16 56.9**	**-1.0**
FAQ	**Al Faqa, Dubai**	**97.76**	**294**	P	**P**	**14 16 55.1**	**-3.0**
CCUT	**Cedar City**	**97.78**	**53**	P	**P**	**14 16 57.4**	**-0.8**
CCUT				IAmb	IAmb	14 17 17.6				
	comp=Z,14nm,1.0s									
LCMT	**Little Creek M**	**97.86**	**54**	P	**P**	**14 16 57.7**	**-0.7**
LCMT				IAmb	IAmb	14 17 11.1				
	comp=Z,41nm,1.4s									
EDM	**Edmonton**	**97.93**	**37**	P	**P**	**14 16 58.0**	**-0.2**
EDM				pmax	pmax					
	comp=Z,48nm,1.1s									
EDM	**Edmonton**	**97.93**	**37**	P	**P**	**14 16 58.0**	**-0.2**
Y14A	**Wickenburg**	**97.96**	**57**	IAMs_20	IAMs_20	14 58 42.9				
	comp=Z,5µm,19.0s									
ASUD	**Al Ashush, Dub**	**98.00**	**294**	P	**P**	**14 16 57.6**	**-1.5**
214A	**Organ Pipe Nat**	**98.05**	**59**	IAMs_20	IAMs_20	14 56 55.5				
	comp=Z,8µm,19.0s									
214A	**Organ Pipe Nat**	**98.05**	**59**	P	Pdif	14 17 00.6	+1.3			
	baz=268									
214A				S	**S**	**14 28 25.4**	**-0.3**
	baz=268									
KNB	**Kanab**	**98.19**	**54**	P	Pdif	14 17 00.3	+0.3
KNB				pmax	pmax					
	comp=Z,63nm,1.4s									
KNB	**Kanab**	**98.19**	**54**	P	Pdif	14 17 00.3	+0.3
DUG	**Dugway, Tooele**	**98.26**	**50**	IAMs_20	IAMs_20	14 59 37.6				
	comp=Z,8µm,19.0s									
DUG	**Dugway, Tooele**	**98.26**	**50**	P	**P**	**14 16 58.3**	**-1.9**
	baz=269									
DUG				S	**S**	**14 28 29.6**	**+2.3**
	baz=269									
HVU	**Hansel Valley**	**98.31**	**49**	P	**P**	**14 16 59.4**	**-1.0**
HVU				pmax	pmax					
	comp=Z,35nm,1.1s									
HVU	**Hansel Valley**	**98.31**	**49**	P	**P**	**14 16 59.4**	**-1.0**
HVU				IAmb	IAmb	14 17 16.0				
	comp=Z,35nm,1.1s									
SRIG	**Santa Rosalia**	**98.36**	**63**	IAMs_20	IAMs_20	14 57 28.1				
	comp=Z,7µm,19.0s									
DLMT	**Dillon**	**98.46**	**45**	P	**P**	**14 17 00.5**	**-0.5**
DLMT				IAmb	IAmb	14 17 25.2				
	comp=Z,36nm,1.4s									
DLMT				IAMs_20	IAMs_20	14 57 13.5				
	comp=Z,7µm,19.0s									
HRY	**Holter Researc**	**98.99**	**44**	P	**P**	**14 17 02.4**	**-0.9**
BOZ	**Bozeman (W)**	**99.14**	**45**	P	**Pdif**	**14 17 03.0**	**-1.0**
BOZ				pmax	pmax					
	comp=Z,8.0nm,0.9s									
BOZ	**Bozeman (W)**	**99.14**	**45**	P	**Pdif**	**14 17 03.0**	**-1.0**
BOZ				IAMs_20	IAMs_20	14 57 53.5				
	comp=Z,7µm,19.0s									
BOZ	**Bozeman (W)**	**99.14**	**45**	Pdiff	**Pdif**	**14 17 04.0**	**0.0**
	baz=271									
BOZ				S	**S**	**14 28 33.9**	**-0.6**
	baz=271									
HWUT	**Hardware Ranch**	**99.22**	**49**	IAMs_20	IAMs_20	14 59 17.8				
	comp=Z,8µm,19.0s									
X16A	**Lo Mia Camp, P**	**99.26**	**56**	IAMs_20	IAMs_20	14 58 15.5				
	comp=Z,5µm,18.0s									
WUAZ	**Wupatki**	**99.33**	**55**	IAMs_20	IAMs_20	14 58 34.3				
	comp=Z,5µm,18.0s									
WUAZ	**Wupatki**	**99.33**	**55**	Pdiff	**Pdif**	**14 17 05.3**	**+0.2**
	baz=269									
TMUT	**Trail Mountain**	**99.49**	**51**	P	**Pdif**	**14 17 05.3**	**-0.6**
TMUT				IAmb	IAmb	14 17 24.1				
	comp=Z,24nm,1.1s									
HSIG		**99.56**	**62**	IAMs_20	IAMs_20	14 58 46.8				
	comp=Z,7µm,19.0s									
FXWY	**Fox Creek**	**99.60**	**47**		**Pdif**	**14 17 06.8**	**+0.6**
FXWY				IAmb	IAmb	14 17 20.3				
	comp=Z,23nm,1.4s									
FXWY				IAMs_20	IAMs_20	14 59 04.7				
	comp=Z,8µm,19.0s									
TPAW	**Teton Pass**	**99.66**	**47**	P	**Pdif**	**14 17 06.0**	**-0.5**
IMW	**Indian Meadow**	**99.66**	**47**	IAMs_20	IAMs_20	14 59 52.3				
	comp=Z,4µm,18.0s									
TUC	**Tucson**	**99.78**	**58**	Pdiff	**Pdif**	**14 17 07.3**	**+0.2**
	baz=269									
MOOW	**Moose Ponds**	**99.80**	**47**	IAMs_20	IAMs_20	14 59 20.1				
	comp=Z,6µm,18.0s									
LOHW	**Long Hollow**	**99.91**	**47**	IAMs_20	IAMs_20	14 59 24.9				
	comp=Z,8µm,19.0s									
H17A	**Grant Village**	**99.91**	**46**	Pdiff	**Pdif**	**14 17 06.3**	**-1.3**
	baz=271									
SLBS	**Sierra La Lagu**	**100.29**	**67**	IAMs_20	IAMs_20	15 02 34.5				
	comp=Z,5µm,18.0s									
EGMT	**Eagleton**	**100.36**	**42**	IAMs_20	IAMs_20	14 59 32.5				
	comp=Z,4µm,19.0s									
EGMT	**Eagleton**	**100.36**	**42**	Pdiff	**Pdif**	**14 17 08.8**	**-0.4**
	baz=272									
X18A	**Snowflake**	**100.50**	**56**	IAMs_20	IAMs_20	14 58 55.2				
	comp=Z,5µm,18.0s									
SNAA	**Sanae**	**100.63**	**188**	P	**Pdif**	**14 17 10.6**	**+0.6**
SNAA	**Sanae**	**100.63**	**188**	*e*P	**Pdif**	**14 17 10.3**	**+0.3**
SNAA				pmax	pmax					
	comp=Z,14nm,1.5s									
SNAA				MLR	MLR					
	comp=Z,6µm,18.0s									
SNAA	**Sanae**	**100.63**	**188**	IAMs_20	IAMs_20	15 05 03.7				
	comp=Z,7µm,19.0s									
W18A	**Petrified Fore**	**100.67**	**56**	IAMs_20	IAMs_20	14 59 04.8				
	comp=Z,5µm,18.0s									
W18A	**Petrified Fore**	**100.67**	**56**	Pdiff	**Pdif**	**14 17 12.3**	**+1.2**
	baz=270									
BW06	**Boulder Array**	**100.69**	**48**	Pdiff	**Pdif**	**14 17 10.3**	**-0.8**
	baz=272									
PDAR	**Pinedale Array**	**100.69**	**48**	P	**Pdif**	**14 17 11.7**	**+0.6**
	comp=Z,2.3nm,0.6s,baz=230,slow=1.6,SNR=17									
PDAR				PP	**PP**	**14 21 18.6**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=268,slow=4.5,SNR=1.8									
RLMT	**Red Lodge**	**100.82**	**45**	IAMs_20	IAMs_20	14 58 29.9				
	comp=Z,5µm,20.0s									
RLMT	**Red Lodge**	**100.82**	**45**	Pdiff	**Pdif**	**14 17 12.1**	**+0.6**
	baz=272									
319A	**Douglas**	**101.05**	**59**	IAMs_20	IAMs_20	14 57 44.9				
	comp=Z,6µm,20.0s									
KIRV	**Kirov**	**101.37**	**328**	*d* iP	**Pdif**	**14 17 10.6**	**-2.7**
MVCO	**Mesa Verde**	**101.65**	**53**	Pdiff	**Pdif**	**14 17 14.5**	**-0.9**
	baz=271									
O20A	**White River Ci**	**101.77**	**50**	Pdiff	**Pdif**	**14 17 15.6**	**-0.3**
	baz=272									
VNA3	**Neumayer Olymp**	**101.87**	**186**	P	**Pdif**	**14 17 16.7**	**+1.3**
VNA1	**Neumayer--Stat**	**102.27**	**187**	P	**Pdif**	**14 17 18.1**	**+0.9**
121A	**Cookes Peak, D**	**102.31**	**58**	Pdiff	**Pdif**	**14 17 17.5**	**-1.0**
	baz=271									
RWWY	**Rawlins**	**102.48**	**49**	IAMs_20	IAMs_20	15 01 22.1				
	comp=Z,5µm,19.0s									
LAO	**LASA Array**	**102.84**	**44**	Pdiff	**Pdif**	**14 17 21.1**	**+0.8**
	baz=275									
K22A	**Casper**	**102.93**	**48**	Pdiff	**Pdif**	**14 17 19.7**	**-1.2**
	baz=274									
S22A	**4UR Ranch, Cre**	**102.96**	**53**	Pdiff	**Pdif**	**14 17 21.4**	**0.0**
	baz=272									
Y22D	**IRIS PASSCAL I**	**103.01**	**57**	IAMs_20	IAMs_20	15 00 34.7				
	comp=Z,6µm,18.0s									
Y22D	**IRIS PASSCAL I**	**103.01**	**57**	Pdiff	**Pdif**	**14 17 20.8**	**-0.6**
	baz=272									
ANMO	**Albuquerque**	**103.37**	**56**	*e*P	**Pdif**	**14 17 25.4**	**+2.3**
ANMO				MLR	MLR					
	comp=Z,3µm,17.0s									
ANMO	**Albuquerque**	**103.37**	**56**	IAMs_20	IAMs_20	15 00 41.1				
	comp=Z,3µm,18.0s									
ANMO	**Albuquerque**	**103.37**	**56**	Pdiff	**Pdif**	**14 17 23.7**	**+0.6**
	baz=272									
N23A	**Red Feather La**	**103.48**	**50**	Pdiff	**Pdif**	**14 17 23.7**	**+0.1**
	baz=274									
ISCO	**Idaho Springs**	**103.80**	**51**	IAMs_20	IAMs_20	15 01 10.2				
	comp=Z,7µm,20.0s									
ISCO	**Idaho Springs**	**103.80**	**51**	Pdiff	**Pdif**	**14 17 26.1**	**+1.1**
	baz=274									
PHWY	**Pilot Hill**	**103.82**	**49**	IAMs_20	IAMs_20	15 02 52.5				
	comp=Z,5µm,19.0s									
SDCO	**Great Sand Dun**	**104.01**	**53**	IAMs_20	IAMs_20	15 02 48.9				
	comp=Z,6µm,18.0s									
SDCO	**Great Sand Dun**	**104.01**	**53**	Pdiff	**Pdif**	**14 17 23.7**	**-2.3**
	baz=273									
DGMT	**Dagmar**	**104.03**	**42**	IAMs_20	IAMs_20	15 09 56.5				
	comp=Z,4µm,18.0s									
DGMT	**Dagmar**	**104.03**	**42**	Pdiff	**Pdif**	**14 17 24.3**	**-1.2**
	baz=277									
Q24A	**Divide**	**104.21**	**51**	Pdiff	**Pdif**	**14 17 27.7**	**+0.8**
	baz=274									
HPIG		**104.22**	**64**	IAMs_20	IAMs_20	15 01 54.2				
	comp=Z,7µm,19.0s									
MAK	**Makhachkala**	**104.26**	**313**	*e*P	**Pdif**	**14 17 19.8**	**-6.8**
MAK				*e*		14 28 06.3				
MAK				*e*PS	PS	14 30 55.7	-1.7			
MAK				pmax	pmax					
	comp=Z,338nm,1.5s									
MNTX	**Cornudas Mount**	**104.37**	**59**	Pdiff	**Pdif**	**14 17 28.1**	**+0.7**
	baz=272									
FFC	**Flin Flon**	**104.47**	**35**	IAMs_20	IAMs_20	15 09 03.7				
	comp=Z,4µm,18.0s									
RSSD	**Black Hills**	**104.62**	**46**	IAMs_20	IAMs_20	15 02 04.4				
	comp=Z,4µm,19.0s									
RSSD	**Black Hills**	**104.62**	**46**	Pdiff	**Pdif**	**14 17 30.0**	**+1.5**
	baz=276									
PMSA	**Palmer Station**	**104.65**	**165**	Pdiff	**Pdif**	**14 17 28.6**	**+0.8**
	comp=Z,15nm,1.0s,baz=3.0,slow=11,SNR=2.9									
T25A	**Trinidad**	**104.91**	**53**	IAMs_20	IAMs_20	15 01 30.9				
	comp=Z,6µm,20.0s									
T25A	**Trinidad**	**104.91**	**53**	Pdiff	**Pdif**	**14 17 30.5**	**+0.6**
	baz=274									
KLMR	**Klimovskoe**	**105.81**	**332**	*e*P	**Pdif**	**14 17 22.2**	**-11**
KLMR						14 28 10.8				
KLMR				pmax	pmax					
	comp=Z,9.0nm,1.3s									
KLMR	**Klimovskoe**	**105.81**	**332**	*e*Pdif	**Pdif**	**14 17 22.2**	**-11**
KLMR				AMP		14 17 33.9				
	comp=Z,9.0nm,1.3s									
KLMR				*e*PP	PKiKP	14 21 35.9	-10			
KLMR				SKSac	**SKSac**	**14 28 10.9**	**-1.1**			
KLMR				SKSac	**SKSac**	**14 28 10.9**	**-1.1**			
KLMR				PS	PS	14 30 48.2	-25			
KLMR				PS	PS	14 30 48.2	-25			
KLMR				*e*PKKP	**PKKPab**	**14 33 26.1**	**+0.2**			
KLMR				PKKS		14 37 14.8				
KLMR				PKKS		14 37 14.8				
KLMR				LR	LR	14 55 42.1				
KLMR				AMP		15 10 23.7				
	comp=Z,3µm,18.1s									
TXAR	**Lajitas Array**	**105.93**	**61**	PKiKP	**PKiKP**	**14 21 47.0**	**0.0**
	comp=Z,0.6nm,0.8s,baz=316,slow=3.5,SNR=4.1									
TXAR				PKKPbc	**PKKPbc**	**14 33 10.4**	**+0.2**
	comp=Z,0.8nm,1.0s,baz=94,slow=5.0,SNR=4.0									
APA	**Apatity**	**105.99**	**339**	*i* P	**Pdif**	**14 17 30.3**	**-3.4**
APA				pmax	pmax					
	comp=Z,2.0nm,1.0s									
APA				MLR	MLR					
	comp=Z,2µm,22.0s									
OGNE	**Ogallala**	**106.42**	**49**	IAMs_20	IAMs_20	15 06 18.6				
	comp=Z,5µm,18.0s									
OGNE	**Ogallala**	**106.42**	**49**	PKiKP	**PKiKP**	**14 21 46.8**	**-0.8**
	baz=276									
MSTX	**Muleshoe**	**106.46**	**56**	IAMs_20	IAMs_20	15 02 36.0				
	comp=Z,5µm,18.0s									
MSTX	**Muleshoe**	**106.46**	**56**	PKiKP	**PKiKP**	**14 21 48.9**	**+1.0**
	baz=274									
ZAIG	**Zacatecas**	**107.07**	**68**	IAMs_20	IAMs_20	15 02 17.0				
	comp=Z,5µm,19.0s									
MDND	**Maddock**	**107.16**	**42**	PKiKP	**PKiKP**	**14 21 51.2**	**+2.6**
	baz=280									
AMTX	**Amarillo**	**107.29**	**55**	IAMs_20	IAMs_20	15 02 57.9				
	comp=Z,7µm,19.0s									
KIV	**Kislovodsk**	**107.62**	**314**	*e*P	**Pdif**	**14 17 39.2**	**-2.5**
KIV				*e*		14 22 06.8				
KIV				*e*		14 28 19.1				
KIV				*e*PS	PS	14 31 29.1	-3.4			
KIV				*e*SS	SS	14 37 17.1	-2.5			
KIV				*e*SSS	SSS	14 41 19.0				
KIV				pmax	pmax					
	comp=Z,6.0nm,1.1s									
ARCES	**ARCESS Array B**	**107.62**	**343**	Pdiff	**Pdif**	**14 17 42.2**	**+1.2**
	comp=Z,1.9nm,0.9s,baz=46,slow=3.9,SNR=1.6									
ARCES				PKiKP	**PKiKP**	**14 21 48.5**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=128,slow=2.1,SNR=15									
ARCES				PKKPbc	**PKKPbc**	**14 33 03.2**	**-2.7**
	comp=Z,1.3nm,0.7s,baz=242,slow=2.6,SNR=7.1									
FCC	**Fort Churchill**	**107.70**	**30**	IAMs_20	IAMs_20	14 59 48.7				
	comp=Z,5µm,21.0s									
MOS	**Moscow**	**108.23**	**327**	*e*P	**Pdif**	**14 17 41.6**	**-2.3**
MOS				*e*		14 22 10.0				
MOS				*i*		14 28 22.0				
MOS				*e*SS	SS	14 37 29.6	+2.8			
MOS				MLR	MLR					
	comp=Z,3µm,20.0s									
CBKS	**Cedar Bluff**	**108.43**	**51**	IAMs_20	IAMs_20	15 01 12.8				
	comp=Z,7µm,20.0s									
OBN	**Obninsk**	**108.99**	**327**	IAMs_20	IAMs_20	15 06 07.4				
	comp=Z,3µm,21.0s									
D32A	**Dogwood Acres,**	**109.02**	**42**	IAMs_20	IAMs_20	15 05 21.6				
	comp=Z,7µm,19.0s									
ULM	**Lac du Bonnet**	**109.06**	**39**	IAMs_20	IAMs_20	15 03 26.3				
	comp=Z,5µm,20.0s									
ABTX	**Abilene, Hawle**	**109.17**	**58**	IAMs_20	IAMs_20	15 01 49.0				
	comp=Z,3µm,19.0s									
BGNE	**Belgrade**

KMBO	**Kilima Mbogo**	**113.89**	**266**	PKiKP	**PKiKP**	**14 22 04.8**	**+2.3**			
	comp=Z,1.2nm,0.4s,baz=43,slow=22,SNR=1.9									
MNK	**Minsk**	**113.90**	**328**	*i* PKiKP	**PKiKP**	**14 21 56.8**	**-4.3**			
MNK				*i*		14 22 51.7				
MNK				*i* PPP	PPP	14 25 15.5				
MNK				*i*		14 29 10.6				
MNK				*i* SS	SS	14 38 42.0	-0.4			
MNK				*i* SSS	SSS	14 42 54.6				
MNK				pmax	pmax					
	comp=E,2.0nm,0.7s									
MNK				pmax	pmax					
	comp=N,14nm,1.0s									
MNK				pmax	pmax					
	comp=Z,14nm,0.8s									
MNK				MLR	MLR					
	comp=E,235nm,22.0s									
MNK				MLR	MLR					
	comp=Z,1μm,13.0s									
MNK				MLR	MLR					
	comp=N,2μm,21.0s									
MNK	**Minsk**	**113.90**	**328**	*i* PKP	**PKiKP**	**14 21 56.9**	**-4.2**			
	comp=E,2.0nm,0.7s									
MNK				*i* PKP	**PKiKP**	**14 21 56.9**	**-4.2**			
	comp=N,14nm,1.0s,baz=65									
MNK				*i* PKP	**PKiKP**	**14 21 59.5**	**-1.5**			
	comp=Z,14nm,0.8s									
MNK				*i* PP	**PP**	**14 22 51.8**	**-2.6**			
MNK				*i* PP	**PP**	**14 22 51.8**	**-2.6**			
MNK				*i* PP	**PP**	**14 22 51.8**	**-2.6**			
MNK				*i* PPP	PPP	14 25 15.6				
MNK				*i* SKP		14 25 33.0				
MNK				*i* PKS	**PKSdf**	**14 25 35.5**	**-2.0**			
MNK				*i* SKS	**SKSdf**	**14 29 10.7**	**-1.4**			
MNK				*i* SS	**SS**	**14 38 42.0**	**-0.3**			
MNK				*i* SSS	SSS	14 42 54.7				
MNK				*i* LQ	LQ	15 03 35.8				
MNK				*i* LR	LR	15 06 40.0				
MNK				*i* LRM	MLR	15 09 40.1				
	comp=E,235nm,22.4s									
MNK				*i* LRM	MLR	15 09 56.8				
	comp=Z,1μm,12.8s									
MNK				*i* LRM	MLR	15 10 02.5				
	comp=N,2μm,21.1s									
MIAR	**Mount Ida**	**113.95**	**55**	PKiKP	**PKiKP**	**14 21 59.7**	**-2.1**			
	baz=280									
G40A	**Rib Lake**	**114.06**	**43**	IAMs_20	IAMs_20	15 08 24.2				
	comp=Z,6μm,19.0s									
P40A	**Paris**	**114.19**	**49**	IAMs_20	IAMs_20	15 09 41.2				
	comp=Z,6μm,19.0s									
L40A	**Anamosa**	**114.21**	**46**	IAMs_20	IAMs_20	15 09 48.3				
	comp=Z,6μm,19.0s									
U40A	**Yellville**	**114.22**	**53**	IAMs_20	IAMs_20	15 05 17.1				
	comp=Z,3μm,19.0s									
R40A	**Maddies Statio**	**114.29**	**51**	IAMs_20	IAMs_20	15 09 05.9				
	comp=Z,6μm,18.0s									
NACGM	**Naroch**	**114.30**	**329**	*i* PKP	**PKiKP**	**14 22 03.1**	**+1.3**			
WLAR	**White Oak Lake**	**114.47**	**56**	IAMs_20	IAMs_20	15 10 39.2				
	comp=Z,4μm,19.0s									
X40A	**Basin Creek Fa**	**114.57**	**55**	IAMs_20	IAMs_20	15 07 29.6				
	comp=Z,6μm,19.0s									
D41A	**Chassel**	**114.60**	**41**	IAMs_20	IAMs_20	15 15 33.2				
	comp=Z,4μm,18.0s									
AKASG	**Malin Array Be**	**114.67**	**324**	PKiKP	PKPdf	14 22 02.9	+0.2			
	comp=Z,2.6nm,0.5s,baz=57,slow=3.8,SNR=14									
AKASG				PKKPbc	**PKKPbc**	**14 32 40.1**	**-2.2**			
	comp=Z,1.5nm,0.6s,baz=267,slow=3.8,SNR=6.4									
AKASG	**Malin Array Be**	**114.67**	**324**	*i* PKiKP	**PKiKP**	**14 22 02.2**	**-0.5**			
AKASG						14 32 40.1				
AKASG	**Malin Array Be**	**114.67**	**324**		**PKiKP**	**14 22 02.2**	**-0.5**			
AKBB	**Malin Array Si**	**114.67**	**324**	⇑ *i* PKiKP	PKPdf	14 22 02.7	0.0			
AKBB	**Malin Array Si**	**114.67**	**324**	IAMs_20	IAMs_20	15 12 37.9				
	comp=Z,3μm,19.0s									
441A	**DeRidder**	**114.85**	**59**	IAMs_20	IAMs_20	15 12 36.5				
	comp=Z,4μm,18.0s									
WHAR	**Wooly Hollow**	**114.86**	**54**	IAMs_20	IAMs_20	15 06 02.4				
	comp=Z,4μm,20.0s									
FCAR	**Ozark Folk Cen**	**114.88**	**53**	IAMs_20	IAMs_20	15 07 19.8				
	comp=Z,4μm,19.0s									
BRTR	**Keskin Array B**	**115.07**	**311**	PKP	**PKPdf**	**14 22 04.5**	**+0.4**			
	comp=Z,3.1nm,0.7s,baz=93,slow=6.2,SNR=8.7									
BRTR	**Keskin Array B**	**115.07**	**311**	*i* PKiKP	**PKiKP**	**14 22 02.7**	**-1.3**			
BRTR	**Keskin Array B**	**115.07**	**311**	PKiKP	**PKiKP**	**14 22 02.7**	**-1.3**			
CCM	**Cathedral Cave**	**115.13**	**51**	IAMs_20	IAMs_20	15 09 31.1				
	comp=Z,5μm,19.0s									
ILULI	**Ilulissat**	**115.18**	**9**	IAMs_20	IAMs_20	15 11 55.5				
	comp=Z,3μm,21.0s									
F42A	**Maple Grove Fa**	**115.30**	**42**	IAMs_20	IAMs_20	15 09 04.8				
	comp=Z,7μm,20.0s									
PABE	**Paberze**	**115.45**	**330**	IAMs_20	IAMs_20	15 14 52.9				
	comp=Z,3μm,19.0s									
342A	**Flagon Creek P**	**115.50**	**58**	IAMs_20	IAMs_20	15 08 10.5				
	comp=Z,6μm,19.0s									
CCAR	**Cane Creek**	**115.53**	**55**	IAMs_20	IAMs_20	15 07 49.2				
	comp=Z,3μm,20.0s									
LCAR	**Lake Charles**	**115.62**	**53**	IAMs_20	IAMs_20	15 05 58.2				
	comp=Z,4μm,20.0s									
ANTO	**Ankara**	**115.67**	**311**	PKiKP	**PKiKP**	**14 22 04.4**	**-0.6**			
ANTO	**Ankara**	**115.67**	**311**		**PKiKP**	**14 22 04.4**	**-0.6**			
H43A	**Windswept, Lux**	**115.95**	**43**	IAMs_20	IAMs_20	15 19 16.1				
	comp=Z,6μm,19.0s									
143A	**Socs Landing,**	**116.05**	**57**	IAMs_20	IAMs_20	15 09 08.0				
	comp=Z,6μm,18.0s									
P43A	**Skaggs, Pawnee**	**116.06**	**49**	IAMs_20	IAMs_20	15 12 27.6				
	comp=Z,4μm,19.0s									
HBAR	**Harrisburg**	**116.12**	**53**	IAMs_20	IAMs_20	15 11 10.5				
	comp=Z,4μm,18.0s									
SORM	**Soroca**	**116.16**	**321**	⇑P	**PKiKP**	**14 22 06.1**	**+0.5**			
SORM	**Soroca**	**116.16**	**321**	⇑PKiKP	**PKiKP**	**14 22 06.1**	**+0.5**			
LPAR	**Lepanto**	**116.39**	**53**	IAMs_20	IAMs_20	15 11 36.8				
	comp=Z,3μm,18.0s									
GNAR	**Gosnell**	**116.54**	**53**	IAMs_20	IAMs_20	15 06 35.7				
	comp=Z,5μm,20.0s									
SUW	**Suwalki**	**116.58**	**329**	*e*PKPdf	PKiKP	14 22 16.2	+10			
Q44A	**Meyer Farm, Va**	**116.63**	**49**	IAMs_20	IAMs_20	15 10 08.6				
	comp=Z,6μm,20.0s									
PEBM	**Pemiscott Bayo**	**116.63**	**53**	IAMs_20	IAMs_20	15 06 48.0				
	comp=Z,6μm,20.0s									
MDUB	**Mudurnu**	**116.69**	**312**	PKPdf	**PKPdf**	**14 22 06.8**	**-0.2**			
MDUB				IAMs_20	IAMs_20	15 14 37.9				
	comp=Z,3μm,21.0s									
S44A	**Carbondale**	**116.74**	**51**	IAMs_20	IAMs_20	15 06 00.8				
	comp=Z,6μm,21.0s									
SIUC	**Southern Illin**	**116.77**	**51**	IAMs_20	IAMs_20	15 05 51.0				
	comp=Z,6μm,20.0s									
MET	**Memphis--Engin**	**116.79**	**54**	IAMs_20	IAMs_20	15 09 12.3				
	comp=Z,5μm,19.0s									
344A	**Westbrook Farm**	**116.83**	**58**	IAMs_20	IAMs_20	15 09 47.7				
	comp=Z,6μm,18.0s									
VBMS	**Vicksburg**	**116.87**	**57**	IAMs_20	IAMs_20	15 15 22.9				
	comp=Z,3μm,18.0s									
LNXT	**Lenox**	**116.93**	**53**	IAMs_20	IAMs_20	15 06 55.9				
	comp=Z,5μm,20.0s									
CCIG	**Comitan**	**117.03**	**75**	IAMs_20	IAMs_20	15 06 11.4				
	comp=Z,3μm,19.0s									
HALT	**Halls**	**117.09**	**53**	IAMs_20	IAMs_20	15 06 52.2				
	comp=Z,5μm,20.0s									
I45A	**Fountain**	**117.14**	**43**	IAMs_20	IAMs_20	15 14 04.5				
	comp=Z,4μm,18.0s									
TPGR	**Topolog**	**117.29**	**318**	⇑P	**PKiKP**	**14 22 08.5**	**+0.5**			
OXF	**Oxford**	**117.34**	**54**	IAMs_20	IAMs_20	15 10 44.9				
	comp=Z,5μm,18.0s									
Y45A	**Yeager Farm, C**	**117.36**	**55**	IAMs_20	IAMs_20	15 11 18.6				
	comp=Z,3μm,20.0s									
CFR	**Carcaliu**	**117.36**	**318**	⇓P	**PKiKP**	**14 22 09.0**	**+1.0**			
CFR	**Carcaliu**	**117.36**	**318**	⇓PKiKP	**PKiKP**	**14 22 09.0**	**+1.0**			
OLIL	**Olney**	**117.36**	**49**	IAMs_20	IAMs_20	15 09 06.1				
	comp=Z,5μm,20.0s									
T45A	**Paducah**	**117.38**	**51**	IAMs_20	IAMs_20	15 10 49.7				
	comp=Z,5μm,18.0s									
W45A	**Hickory Valley**	**117.38**	**54**	IAMs_20	IAMs_20	15 09 56.9				
	comp=Z,5μm,19.0s									
TIRR	**Tirgusor**	**117.43**	**317**	IAMs_20	IAMs_20	15 12 03.7				
	comp=Z,4μm,20.0s									
NB2	**NORSAR Subarra**	**117.58**	**339**	PKPdf	**PKPdf**	**14 22 07.7**	**-0.3**			
	comp=Z,27nm,1.4s,baz=42,slow=1.9									
NB2	**NORSAR Subarra**	**117.58**	**339**	PKPdf	**PKPdf**	**14 22 07.7**	**-0.3**			
	baz=42,slow=1.9									
NOA	**NORSAR Array B**	**117.58**	**339**	PKP	**PKiKP**	**14 22 08.6**	**+0.5**			
	comp=Z,1.4nm,0.7s,baz=277,slow=3.3,SNR=6.1									
NOA				PKKPbc	**PKKPbc**	**14 32 32.5**	**+0.1**			
	comp=Z,1.1nm,0.8s,baz=51,slow=3.8,SNR=6.5									
E46A	**Sault Ste Mari**	**117.59**	**40**		**PKiKP**	**14 22 08.5**	**0.0**			
E46A				IAMs_20	IAMs_20	15 10 13.3				
	comp=Z,4μm,20.0s									
TLBR	**Topalu**	**117.65**	**318**	⇑P	**PKiKP**	**14 22 09.1**	**+0.5**			
SFIN	**Lafayette**	**117.66**	**47**	IAMs_20	IAMs_20	15 08 54.7				
	comp=Z,6μm,20.0s									
HARR	**Harsova**	**117.67**	**318**	⇑P	**PKPdf**	**14 22 08.6**	**0.0**			
HARR	**Harsova**	**117.67**	**318**	⇑PKiKP	**PKPdf**	**14 22 08.6**	**0.0**			
NC602	**NORSAR Array S**	**117.67**	**339**		**PKiKP**	**14 22 08.4**	**+0.3**			
BOSA	**Boshof**	**117.79**	**233**	PKP	**PKiKP**	**14 22 10.3**	**+0.7**			
	comp=Z,3.4nm,0.8s,baz=104,slow=2.6,SNR=6.6									
346A	**Big Creek Wild**	**117.91**	**58**	IAMs_20	IAMs_20	15 11 07.2				
	comp=Z,3μm,19.0s									
146A	**Union**	**118.01**	**56**	IAMs_20	IAMs_20	15 11 21.8				
	comp=Z,5μm,18.0s									
BIZ	**Bicaz**	**118.02**	**321**	⇑P	**PKiKP**	**14 22 10.3**	**+1.0**			
VRI	**Vrincioaia**	**118.04**	**319**	⇑P	**PKiKP**	**14 22 10.6**	**+1.2**			
VRI	**Vrincioaia**	**118.04**	**319**	⇑PKiKP	**PKiKP**	**14 22 10.6**	**+1.2**			
PAYG	**Puerto Ayora**	**118.05**	**94**	IAMs_20	IAMs_20	15 06 59.9				
	comp=Z,2μm,18.0s									
LVV	**L'vov**	**118.07**	**324**	*e*PKiKP	**PKPdf**	**14 22 08.4**	**-0.9**			
PLOR	**Plostina**	**118.09**	**319**	⇑P	**PKiKP**	**14 22 10.5**	**+1.0**			
PLOR	**Plostina**	**118.09**	**319**	⇑PKiKP	**PKiKP**	**14 22 10.5**	**+1.0**			
BISRR	**Bisoca**	**118.17**	**319**	⇑P	**PKiKP**	**14 22 11.1**	**+1.4**			
BUR08	**Bucovina Ar. S**	**118.30**	**322**		**PKiKP**	**14 22 10.7**	**+0.7**			
BURAR	**Bucovina Array**	**118.30**	**322**	⇑P	**PKiKP**	**14 22 11.5**	**+1.5**			
BURAR	**Bucovina Array**	**118.30**	**322**	⇑PKiKP	**PKiKP**	**14 22 11.5**	**+1.5**			
BURAR	**Bucovina Array**	**118.30**	**322**	PKPdf	**PKiKP**	**14 22 10.3**	**+0.3**			
PLAL	**Pickwick Lake**	**118.31**	**53**	IAMs_20	IAMs_20	15 10 51.4				
	comp=Z,5μm,19.0s									
BLO	**Bloomington**	**118.43**	**49**	IAMs_20	IAMs_20	15 10 07.2				
	comp=Z,6μm,19.0s									
ISR	**Istrita**	**118.44**	**319**	⇑P	**PKiKP**	**14 22 11.4**	**+1.2**			
ISR	**Istrita**	**118.44**	**319**	⇑PKiKP	**PKiKP**	**14 22 11.4**	**+1.2**			
T47A	**Sharon Grove**	**118.58**	**51**		**PKiKP**	**14 22 10.8**	**+0.1**			
ELL	**Elmali**	**118.66**	**309**	PKiKP	**PKiKP**	**14 22 11.1**	**+0.1**			
ELL	**Elmali**	**118.66**	**309**		**PKiKP**	**14 22 11.1**	**+0.1**			
MLR	**Muntele Rosu**	**118.69**	**319**	⇑P	**PKiKP**	**14 22 11.2**	**+0.4**			
MLR	**Muntele Rosu**	**118.69**	**319**	⇑PKiKP	**PKiKP**	**14 22 11.2**	**+0.4**			
MLR	**Muntele Rosu**	**118.69**	**319**	PKPdf	**PKPdf**	**14 22 10.5**	**-0.3**			
Z47A	**Carrollton**	**118.70**	**55**	IAMs_20	IAMs_20	15 11 25.2				
	comp=Z,5μm,19.0s									
BLEU	**Blekinge**	**118.86**	**334**	*i* P	**PKiKP**	**14 22 11.6**	**+1.0**			
BLEU				*i*		14 22 20.3				
DOPR	**Dopca**	**118.86**	**320**	⇑P	**PKiKP**	**14 22 12.1**	**+1.1**			
WCI	**Wyandotte Cave**	**118.86**	**49**	PKiKP	**PKPdf**	**14 22 10.7**	**-0.4**			
WCI				MLR	MLR					
	comp=Z,7μm,19.0s									
WCI	**Wyandotte Cave**	**118.86**	**49**		**PKPdf**	**14 22 10.7**	**-0.4**			
WCI	**Wyandotte Cave**	**118.86**	**49**	PKiKP	**PKiKP**	**14 22 12.4**	**+1.2**			
	baz=286									
KWP	**Kalwaria Pacla**	**118.92**	**325**	PKiKP	**PKiKP**	**14 22 11.3**	**+0.3**			
KWP	**Kalwaria Pacla**	**118.92**	**325**		**PKiKP**	**14 22 11.3**	**+0.3**			
LBTB	**Lobatse**	**118.96**	**237**	PKiKP	**PKiKP**	**14 22 11.4**	**-0.5**			
LBTB	**Lobatse**	**118.96**	**237**		**PKPdf**	**14 22 11.4**	**-0.5**			
L48A	**N Adams**	**119.08**	**45**		**PKPdf**	**14 22 10.8**	**-0.7**			
KONO	**Kongsberg**	**119.13**	**339**	IAMs_20	IAMs_20	15 21 03.3				
	comp=Z,3μm,19.0s									
X48A	**Hartselle**	**119.25**	**54**	IAMs_20	IAMs_20	15 10 52.6				
	comp=Z,6μm,19.0s									
VOIR		**119.29**	**319**	⇑P	**PKiKP**	**14 22 12.5**	**+0.6**			
VOIR		**119.29**	**319**	⇑PKiKP	**PKiKP**	**14 22 12.5**	**+0.6**			
CLTN	**Cedars of Leba**	**119.41**	**52**		**PKPdf**	**14 22 12.2**	**0.0**			
CLTN				IAMs_20	IAMs_20	15 12 11.6				
	comp=Z,5μm,19.0s									
I49A	**Point Hope**	**119.47**	**42**	IAMs_20	IAMs_20	15 12 06.2				
	comp=Z,4μm,18.0s									
SUR	**Sutherland**	**119.48**	**228**	IAMs_20	IAMs_20	15 07 09.8				
	comp=Z,4μm,21.0s									
KOLS	**Kolonicke sedl**	**119.50**	**324**	*e*PKiKP	**PKiKP**	**14 22 14.2**	**+2.1**			
KOLS	**Kolonicke sedl**	**119.50**	**324**	*e*PKP	**PKiKP**	**14 22 14.2**	**+2.1**			
HOPE	**Hope Point**	**119.55**	**175**	IAMs_20	IAMs_20	15 18 24.4				
	comp=Z,4μm,18.0s									
ARR	**Arges**	**119.58**	**320**	⇑P	**PKiKP**	**14 22 13.1**	**+0.6**			
N49A	**Columbus Grove**	**119.60**	**46**	PKPdf	**PKPdf**	**14 22 12.5**	**0.0**			
DEL	**Delary**	**119.60**	**334**	*i* P	**PKiKP**	**14 22 13.4**	**+1.4**			
PLCA	**Paso Flores**	**119.62**	**144**	PKP	**PKiKP**	**14 22 13.8**	**+1.1**			
	comp=Z,4.2nm,0.7s,baz=260,slow=1.6,SNR=20									
PLCA				PKKPbc	**PKKPbc**	**14 32 24.1**	**-0.6**			
	comp=Z,1.7nm,0.9s,baz=332,slow=6.8,SNR=3.3									
PLCA	**Paso Flores**	**119.62**	**144**	PKiKP	**PKiKP**	**14 22 12.8**	**+0.1**			
PLCA	**Paso Flores**	**119.62**	**144**	PKPdf	**PKiKP**	**14 22 12.8**	**+0.1**			
LRAL	**Lakeview Retre**	**119.62**	**55**	IAMs_20	IAMs_20	15 12 29.4				
	comp=Z,6μm,19.0s									
UZH	**Uzhgorod**	**119.62**	**324**	*i* PKiKP	**PKPdf**	**14 22 11.5**	**-0.8**			
UZH				*i*		14 22 15.5				
UZH				*i*		14 23 31.5				
UZH				*i*		14 29 11.0				
UZH				*i* PS	**PS**	**14 33 14.0**	**-10**			
UZH				*e*SS	SS	14 40 10.4	+13			
P49A	**Miami Univ. Ec**	**119.66**	**48**	IAMs_20	IAMs_20	15 10 34.6				
	comp=Z,6μm,20.0s									
HUMR	**Humele**	**119.69**	**319**	⇓P	**PKiKP**	**14 22 12.8**	**+0.2**			
R49A	**Shelbyville**	**119.69**	**49**	IAMs_20	IAMs_20	15 14 58.8				
	comp=Z,5μm,19.0s									
O49A	**Covington**	**119.73**	**47**		**PKPdf**	**14 22 12.0**	**-0.8**			
O49A				IAMs_20	IAMs_20	15 12 29.4				
	comp=Z,5μm,19.0s									
U49A	**Red Boiling Sp**	**119.73**	**51**	IAMs_20	IAMs_20	15 10 25.0				
	comp=Z,5μm,20.0s									
FABU	**Falkenberg**	**119.74**	**335**	*i*	PKiKP	14 22 22.0	+10			
MTO3	**Montecristo**	**119.76**	**77**	IAMs_20	IAMs_20	15 06 05.7				
	comp=Z,3μm,19.0s									
STHS	**Stebnicka Huta**	**119.86**	**325**	*e*PKiKP	PKiKP	14 22 22.9	+10			
STHS	**Stebnicka Huta**	**119.86**	**325**	*e*	PKiKP	14 22 22.8	+10			
SNET	**Serv Nac Est T**	**119.90**	**78**	IAMs_20	IAMs_20	15 07 08.4				
	comp=Z,5μm,19.0s									
Y49A	**Blount Mountai**	**119.91**	**54**	IAMs_20	IAMs_20	15 13 39.9				
	comp=Z,4μm,18.0s									
LSZ	**Lusaka**	**119.91**	**249**	PKiKP	**PKPdf**	**14 22 13.4**	**-0.5**			
LSZ	**Lusaka**	**119.91**	**249**		**PKPdf**	**14 22 13.4**	**-0.5**			
LSZ	**Lusaka**	**119.91**	**249**	IAMs_20	IAMs_20	15 08 16.4				
	comp=Z,4μm,21.0s									
SWET	**Sewanee**	**119.95**	**53**		**PKPdf**	**14 22 12.7**	**-0.7**			
BRAL	**Brewton**	**119.97**	**57**	IAMs_20	IAMs_20	15 13 55.0				
	comp=Z,2μm,20.0s									
LC01	**Cunco**	**119.98**	**142**		**PKPdf**	**14 22 12.9**	**-0.5**			
CRVS	**Cervenica-Dubn**	**119.98**	**324**	*e*PKiKP	**PKiKP**	**14 22 13.8**	**+0.7**			
CRVS	**Cervenica-Dubn**	**119.98**	**324**	*e*PKP	**PKiKP**	**14 22 13.8**	**+0.7**			
CRVS				*e*		14 22 23.1				
DRGR		**120.20**	**322**	⇑P	**PKiKP**	**14 22 15.0**	**+1.3**			
DRGR		**120.20**	**322**	⇑PKiKP	**PKiKP**	**14 22 15.0**	**+1.3**			
BJUU	**Bjuv**	**120.22**	**334**	*e*P	**PKiKP**	**14 22 15.2**	**+1.9**			
BJUU				*i*		14 22 23.4				
OJC	**Ojcow**	**120.28**	**326**	*e*PKPdf	**PKiKP**	**14 22 14.6**	**+1.0**			
OJC	**Ojcow**	**120.28**	**326**	PKiKP	**PKPdf**	**14 22 13.3**	**-0.2**			
OJC				MLR	MLR					
	comp=Z,3μm,18.0s									
OJC	**Ojcow**	**120.28**	**326**	PKPdf	**PKPdf**	**14 22 13.3**	**-0.2**			
OJC				IAMs_20	IAMs_20	15 15 02.0				
	comp=Z,3μm,18.0s									
ALN	**Alexandroupoli**	**120.29**	**314**	PKiKP	**PKPdf**	**14 22 13.2**	**-0.6**			
ALN	**Alexandroupoli**	**120.29**	**314**	PKPdf	**PKPdf**	**14 22 13.2**	**-0.6**			
T50A	**Nancy**	**120.31**	**50**	PKPdf	**PKiKP**	**14 22 14.2**	**+0.1**			
R50A	**Paris**	**120.33**	**49**	IAMs_20	IAMs_20	15 08 48.6				
	comp=Z,5μm,20.0s									
NIE	**Niedzica**	**120.40**	**325**	*e*PKPdf	**PKiKP**	**14 22 14.8**	**+0.9**			
W50A	**Signal Mountai**	**120.45**	**53**		**PKPdf**	**14 22 13.7**	**-0.6**			
250A	**Grady**	**120.45**	**56**	IAMs_20	IAMs_20	15 13 05.6				
	comp=Z,5μm,19.0s									
RDO	**Rodhopi**	**120.56**	**315**	P	**PKiKP**	**14 22 14.7**	**+0.3**			
ACSO	**Alum Creek Sta**	**120.69**	**46**		**PKPdf**	**14 22 14.0**	**-0.6**			
GZR	**Gura Zlata**	**120.77**	**320**	⇑P	**PKiKP**	**14 22 15.0**	**+0.2**			
GZR	**Gura Zlata**	**120.77**	**320**	⇑PKiKP	**PKiKP**	**14 22 15.0**	**+0.2**			
Q51A	**Peebles**	**120.83**	**48**	IAMs_20	IAMs_20	15 11 31.6				
	comp=Z,5μm,20.0s									
P51A	**Williamsport**	**120.89**	**47**	IAMs_20	IAMs_20	15 08 23.1				
	comp=Z,3μm,20.0s									
SNART	**Snartemo**	**120.94**	**339**	*i* P	**PKiKP**	**14 22 16.0**	**+1.4**			
X51A	**Calhoun**	**120.97**	**53**	IAMs_20	IAMs_20	15 09 11.1				
	comp=Z,5μm,20.0s									
CPCT	**Cooper Cave**	**121.00**	**52**	IAMs_20	IAMs_20	15 11 56.7				
	comp=Z,6μm,19.0s									
LANS	**Liptovska Anna**	**121.01**	**325**	*e*PKiKP	**PKiKP**	**14 22 15.5**	**+0.4**			
LANS	**Liptovska Anna**	**121.01**	**325**	*e*PKP	**PKiKP**	**14 22 15.5**	**+0.4**			
LANS				*e*		14 22 26.5				
V51A	**Loudon**	**121.04**	**52**	IAMs_20	IAMs_20	15 10 46.6				
	comp=Z,4μm,19.0s									
Z51A	**Franklin**	**121.04**	**55**	IAMs_20	IAMs_20	15 11 32.9				
	comp=Z,4μm,20.0s									
RGN	**Rugen**	**121.06**	**333**	IAMs_20	IAMs_20	15 19 54.9				
	comp=Z,3μm,18.0s									
SIRR	**Siria**	**121.08**	**321**	⇑P	**PKiKP**	**14 22 16.9**	**+1.5**			
451A	**Vernon**	**121.19**	**58**	IAMs_20	IAMs_20	15 10 08.2				
	comp=Z,3μm,20.0s									
HERR	**Herculane**	**121.22**	**320**	⇑P	**PKPdf**	**14 22 15.0**	**-0.4**			
PSZ	**Piszkesteto**	**121.37**	**324**	⇑P	**PKiKP**	**14 22 17.3**	**+1.3**			
PSZ	**Piszkesteto**	**121.37**	**324**	*e*PKPDF	**PKPdf**	**14 22 14.2**	**-1.6**			
PSZ	**Piszkesteto**	**121.37**	**324**	*e*P	**PKiKP**	**14 22 17.4**	**+1.5**			
PSZ	**Piszkesteto**	**121.37**	**324**	PKiKP	**PKPdf**	**14 22 15.4**	**-0.4**			
PSZ	**Piszkesteto**	**121.37**	**324**	PKPdf	**PKPdf**	**14 22 15.4**	**-0.4**			
PSZ				IAMs_20	IAMs_20	15 22 15.2				
	comp=Z,3μm,20.0s									
OKC	**Ostrava-Krasne**	**121.39**	**326**	*e*SKS	SKSdf	14 29 15.5	-11			
OKC				AMS	AMS	15 21 40.0				
	comp=Z,2μm,17.3s									
TZTN	**Tazewell**	**121.44**	**51**	PKiKP	**PKPdf**	**14 22 15.2**	**-1.0**			
	baz=288									
P52A	**Corning**	**121.51**	**47**	IAMs_20	IAMs_20	15 12 41.5				
	comp=Z,5μm,19.0s									
P52A	**Corning**	**121.51**	**47**	PKiKP	**PKPdf**	**14 22 14.8**	**-1.4**			
	baz=290									
TKL	**Tuckaleechee C**	**121.53**	**52**	PKiKP	**PKiKP**	**14 22 16.5**	**0.0**			
TKL				MLR	MLR					
	comp=Z,5μm,19.0s									
TKL	**Tuckaleechee C**	**121.53**	**52**		**PKiKP**	**14 22 16.5**	**0.0**			
TKL				IAMs_20	I

BRG Amp 14 22 21.3
comp=Z,35nm,1.2s
BRG Berggiesshubel 123.03 329 P PKiKP 14 22 29.5 +11
BRG Amp 14 22 30.6
comp=Z,41nm,0.9s
BRG Berggiesshubel 123.03 329 PP PP 14 24 02.0 +4.5
BRG Berggiesshubel 123.03 329 ⇑SKS **SKSdf 14 29 23.0 -6.7**
BRG Berggiesshubel 123.03 329 PS PS 14 33 46.0 -8.2
TIH Tihany 123.06 324 *e*PKPDF **PKPdf 14 22 12.0 -6.9**
J55A Hilton 123.07 41 IAMs_20 IAMs_20 15 13 22.3
comp=Z,6µm,20.0s
SKO Skopje 123.09 317 *e*P **PKPdf 14 22 19.1 -0.1**
SKO *e*S **SKSac 14 29 19.6 0.0**
DIVS Divibare 123.12 320 *e*P **PKPdf 14 22 18.8 -0.5**
DIVS Divibare 123.12 320 PKPdf **PKPdf 14 22 18.8 -0.5**
MPLH Magyarpolny 123.13 324 *e*PKPDF **PKPdf 14 22 16.4 -2.7**
MPLH Magyarpolny 123.13 324 *e*P **PKiKP 14 22 21.2 +2.0**
HODGE Hodges 123.13 53 PKPdf 14 22 19.6 +0.1
HODGE IAMs_20 IAMs_20 15 11 15.1
comp=Z,5µm,20.0s
TREC Trest 123.13 327 AMS AMS 15 23 00.0
comp=Z,3µm,19.0s
MCWV Mont Chateau 123.15 46 IAMs_20 IAMs_20 15 14 54.8
comp=Z,6µm,19.0s
BO02 Sierra Bellavi 123.17 139 PKPdf **PKPdf 14 22 19.0 -0.7**
M55A Ridgway 123.19 44 PKPdf 14 22 18.8 -0.6
TEKS Tekeris 123.20 320 *e*P **PKPdf 14 22 18.4 -0.9**
CLL Collm 123.23 330 *i* PKPdf **PKiKP 14 22 19.7 +0.3**
comp=Z,50nm,1.8s
CLL *i* 14 22 28.7
comp=Z,44nm,0.8s
CLL *e*PP **PP 14 23 55.0 -3.9**
CLL *e* 14 25 19.0
CLL *e*PPP PPP 14 26 34.0
CLL *e* 14 28 00.0
CLL *e*SKSac **SKSac 14 29 20.0 +0.4**
CLL *e*SKKSac **SKKSac 14 31 01.0 +3.7**
CLL *e*Sdif Sdif 14 31 54.0 -1.0
CLL *e*(PKKPbc) 14 32 12.0
CLL *e* 14 32 27.0
CLL *e*PS PKKPdf 14 33 49.0 +60
CLL *e*PPS PPS 14 35 18.0
CLL *e* 14 36 12.0
CLL *e* 14 40 24.0
CLL *e*SS **SS 14 40 48.0 +5.0**
CLL *e*PSPS 14 41 29.0
CLL *e*SSS SSS 14 45 12.0
CLL *e* 14 46 24.0
CLL *e*SSSS 14 49 06.0
CLL LmV 15 19 00.0
comp=Z,2µm,21.0s
CLL Collm 123.23 330 *i* PKiKP **PKiKP 14 22 19.7 +0.3**
CLL *e* 14 23 55.0
CLL *e* 14 29 20.0
CLL pmax pmax
comp=Z,50nm,1.8s
CLL MLR MLR
comp=Z,2µm,21.0s
CLL Collm 123.23 330 PKPdf 14 22 18.9 -0.3
CLL IAMs_20 IAMs_20 15 13 32.7
comp=Z,3µm,22.0s
CLL Collm 123.23 330 *e*L L 15 13 33.0
comp=Z,3µm,21.4s
PRU Pruhonice 123.24 328 *e*PKiKP **PKiKP 14 22 20.7 +1.3**
PRU *e* 14 22 29.1
PRU *e* 14 23 59.5
PRU MLR MLR
comp=Z,2µm,19.7s
PRU Pruhonice 123.24 328 *e*PKP **PKiKP 14 22 20.7 +1.3**
PRU *ex* x 14 22 29.1
PRU *e*PP **PP 14 23 59.5 +0.5**
PRU AMS AMS 15 16 10.0
comp=Z,2µm,19.7s
MMNY Mt. Morris Dam 123.24 42 PKPdf 14 22 19.2 -0.2
MMNY IAMs_20 IAMs_20 15 20 55.9
comp=Z,5µm,18.0s
PRA Prague 123.25 328 AMS AMS 15 18 50.0
comp=Z,2µm,17.2s
KOVH Kovagotottos 123.34 323 *e*PKPDF **PKPdf 14 22 18.2 -1.3**
KOVH Kovagotottos 123.34 323 *e*P **PKiKP 14 22 20.4 +0.7**
R55A Marlinton 123.45 48 PKPdf 14 22 19.5 -0.5
NRS Narsarsuaq 123.56 10 IAMs_20 IAMs_20 15 18 36.0
comp=Z,3µm,19.0s
KMSC Kings Mountain 123.58 52 PKPdf 14 22 20.2 -0.1
KMSC Kings Mountain 123.58 52 PKiKP **PKPdf 14 22 19.1 -1.3**
baz=288
255A Hazlehurst 123.59 56 IAMs_20 IAMs_20 15 15 32.6
comp=Z,4µm,19.0s
BBLS Lazići 123.60 320 *e*P **PKPdf 14 22 19.3 -0.9**
ORTG Ortega, Santa 123.60 82 IAMs_20 IAMs_20 15 08 56.7
comp=Z,3µm,19.0s
BLA Blacksburg 123.61 49 PKiKP **PKPdf 14 22 20.1 -0.3**
BLA MLR MLR
comp=Z,6µm,18.0s
BLA Blacksburg 123.61 49 PKPdf 14 22 20.1 -0.3
FNA Florina 123.62 316 P **PKPdf 14 22 19.1 -1.2**
FNA Florina 123.62 316 PKiKP **PKPdf 14 22 19.9 -0.4**
FNA Florina 123.62 316 PKPdf **PKPdf 14 22 19.9 -0.4**
IMMV Iera Moni Meta 123.62 309 P **PKiKP 14 22 20.9 +0.3**
AGG Agios Georgios 123.63 313 P **PKPdf 14 22 19.9 -0.5**
AGG Agios Georgios 123.63 313 PKiKP **PKPdf 14 22 19.8 -0.5**
AGG Agios Georgios 123.63 313 PKPdf **PKPdf 14 22 19.8 -0.5**
THL Kiokotos Trika 123.65 314 P **PKPdf 14 22 19.9 -0.4**
CONA Conrad Observa 123.69 326 *i* P **PKiKP 14 22 20.6 +0.1**
comp=Z,1.8nm,0.5s,SNR=9.6
CONA *e*P **sPKPdf 14 22 30.1 +2.7**
comp=Z,20nm,0.7s
L56A Greenwood 123.73 42 PKiKP 14 22 20.7 -0.1
L56A IAMs_20 IAMs_20 15 08 06.9
comp=Z,5µm,21.0s
RUDO Rudo 123.74 320 *e*P **PKPdf 14 22 20.4 0.0**
MAKR Makrakomi, Fth 123.77 313 P **PKPdf 14 22 19.5 -1.1**
HAPS Han Pijesak,BI 123.79 320 *e*P **PKiKP 14 22 21.2 +0.3**
O56A Blue Knob Stat 123.82 45 PKPdf 14 22 20.7 0.0
O56A Blue Knob Stat 123.82 45 PKiKP **PKPdf 14 22 18.4 -2.2**
baz=294
Q56A Snyder Ridge, 123.85 46 IAMs_20 IAMs_20 15 15 08.5
comp=Z,5µm,19.0s
OHR Ohrid 123.88 316 *e*P **PKPdf 14 22 20.5 -0.3**
OHR *i* S **SKSac 14 29 21.3 -1.1**
PHP Peshkopia 123.89 317 P **PKPdf 14 22 20.1 -0.7**
JSC Jenkinsville 123.91 52 PKiKP **PKPdf 14 22 20.9 0.0**
JSC MLR MLR
comp=Z,5µm,20.0s
JSC Jenkinsville 123.91 52 PKPdf 14 22 20.9 0.0
JSC IAMs_20 IAMs_20 15 13 23.6
comp=Z,5µm,20.0s
KNDR Palaiochora Ch 123.92 309 P **PKiKP 14 22 21.9 +0.7**
CAO2 Cobano, Puntar 123.94 82 IAMs_20 IAMs_20 15 09 11.8
comp=Z,3µm,19.0s
KPRO Kipourio 123.96 315 P **PKPdf 14 22 20.7 -0.3**
NEST Nestorio 124.00 315 P **PKPdf 14 22 20.6 -0.5**
CKRC Cesky Krumlov 124.04 327 *e*PKPDF **PKiKP 14 22 22.2 +1.1**
CKRC *ex* x 14 22 31.2
CKRC *e*PP **PP 14 24 02.2 -2.3**
CKRC *e*SKS **SKSdf 14 29 24.2 -7.6**
CKRC AMS AMS 15 27 50.0
comp=Z,2µm,17.5s
EVR Evrytania 124.04 313 P **PKiKP 14 22 21.8 +0.3**
SERG Sergoula 124.05 313 P **PKPdf 14 22 18.8 -2.4**
TRIZ Trizonia 124.06 313 P **PKPdf 14 22 20.3 -0.8**
ANX Ano Chora 124.08 313 P **PKPdf 14 22 20.2 -1.1**
PUK Puka 124.10 318 PKPdf 14 22 21.3 +0.1
JTS Las Juntas de 124.10 82 IAMs_20 IAMs_20 15 09 27.9
comp=Z,4µm,20.0s
KLV Kalavryta, Ach 124.12 312 P **PKPdf 14 22 20.4 -0.9**
SSPA Standing Stone 124.14 44 PKPdf **PKPdf 14 22 21.0 -0.2**
SSPA Standing Stone 124.14 44 PKiKP **PKPdf 14 22 19.8 -1.4**
baz=294
EFP Efpalio 124.16 313 P **PKiKP 14 22 22.0 +0.4**
K57A Scipio Center 124.16 41 IAMs_20 IAMs_20 15 15 02.2
comp=Z,6µm,20.0s
LAKA Lakka 124.17 313 P **PKPdf 14 22 21.0 -0.4**
656A Willston 124.18 59 IAMs_20 IAMs_20 15 14 56.5
comp=Z,4µm,19.0s
ARSA Arzberg 124.25 325 *e*P **PKiKP 14 22 22.4 +0.8**
comp=Z,1.3nm,0.3s
ARSA *e*P **sPKPdf 14 22 30.5 +2.1**
comp=Z,12nm,0.8s
KHC Kasperske Hory 124.25 328 *e*PKiKP **PKiKP 14 22 22.3 +0.8**
KHC *e* 14 22 26.0
KHC *e* 14 24 02.8
KHC *e* 14 29 22.7
KHC MLR MLR
comp=Z,2µm,17.3s
KHC Kasperske Hory 124.25 328 *e*PKPDF **PKiKP 14 22 22.3 +0.8**
KHC *ep*PKP **pPKPdf 14 22 26.0 -0.5**
KHC *ex* x 14 22 31.5
KHC *e*PP **PP 14 24 02.8 -3.1**
KHC *e*SKS **SKSdf 14 29 22.7 -10**
KHC AMS AMS 15 26 50.0
comp=Z,2µm,17.3s
456A Hilliard IAMs_20 IAMs_20 15 15 47.9
comp=Z,3µm,19.0s
BIGH Upper Bighouse 124.29 345 *e*P **PKiKP 14 22 21.7 +0.5**
KALN Kalnik 124.31 323 *i* P **PKPdf 14 22 20.6 -0.9**
MOX Moxa 124.33 330 *e*L L 15 16 33.2
comp=Z,2µm,22.0s
PDG Podgorica 124.35 318 ⇑P **PKiKP 14 22 21.7 -0.1**
PDG Podgorica 124.35 318 *e*P **PKiKP 14 22 22.0 +0.2**
PDG Podgorica 124.35 318 PKPdf **PKPdf 14 22 21.5 0.0**
GEC2 GERESS Array S 124.35 327 PKPdf **PKPdf 14 22 21.6 +0.1**
GEC2 IAMs_20 IAMs_20 15 12 53.6
comp=Z,3µm,21.0s
GEC2 GERESS Array S 124.35 327 *e*L L 15 16 20.0
comp=Z,2µm,21.9s
GERES GERESS Array B 124.35 327 PKP **PKiKP 14 22 22.0 +0.2**
comp=Z,9.2nm,0.7s,baz=52,slow=2.2,SNR=32
GERES GERESS Array B 124.35 327 PKIKP **PKPdf 14 22 21.0 -0.5**
GERES GERESS Array B 124.35 327 PKPdf 14 22 21.0 -0.5
JACO JACO, Garabito 124.39 82 IAMs_20 IAMs_20 15 08 10.7
comp=Z,4µm,20.0s
MOSL Moslavina 124.40 323 *i* P **PKPdf 14 22 21.1 -0.5**
LSK Leskovik 124.42 315 P **PKiKP 14 22 22.1 -0.1**
BIRD Birdtown, Kers 124.42 52 IAMs_20 IAMs_20 15 10 08.1
comp=Z,5µm,20.0s
DRO Drossia 124.48 312 P **PKiKP 14 22 22.6 +0.3**
LONY Lake Ozonia 124.50 39 PKPdf **PKiKP 14 22 22.2 +0.1**
LONY IAMs_20 IAMs_20 15 13 03.9
comp=Z,5µm,20.0s
DRME Dracevica, Mon 124.51 318 *e*P **PKPdf 14 22 21.2 -0.7**
P57A Homestead Farm 124.52 46 IAMs_20 IAMs_20 15 14 08.1
comp=Z,5µm,19.0s
BLY Banja Luka 124.57 322 *e*P **PKPdf 14 22 21.2 -0.7**
WET Wettzell 124.61 328 *e*L L 15 23 46.8
comp=Z,2µm,18.5s
MRAK Mrakovica 124.61 322 *e*P **PKiKP 14 22 22.4 0.0**
MOA Molln 124.62 326 *e*P **PKiKP 14 22 23.0 +0.8**
comp=Z,0.8nm,0.2s
MOA *e*P **sPKPdf 14 22 31.1 +2.0**
comp=Z,7.2nm,0.6s
J58A Remsen 124.67 40 PKPdf 14 22 22.0 -0.2
Y57A Sumter 124.67 53 IAMs_20 IAMs_20 15 09 45.9
comp=Z,4µm,20.0s
PTJ Puntijarka 124.71 323 P **PKPdf 14 22 21.0 -1.3**
BINY Binghamton 124.75 42 IAMs_20 IAMs_20 15 23 15.8
comp=Z,5µm,18.0s
BINY Binghamton 124.75 42 PKiKP **PKPdf 14 22 20.2 -2.2**
baz=297
257A Skidaway Islan 124.77 55 IAMs_20 IAMs_20 15 14 06.6
comp=Z,6µm,19.0s
PERS Pernice 124.82 325 *i* PKPdf **PKPdf 14 22 21.0 -1.5**
SOKA Soboth 124.84 325 *i* P **PKiKP 14 22 23.4 +0.6**
comp=Z,11nm,0.9s,SNR=12
SOKA *e*P **sPKPdf 14 22 32.2 +2.6**
comp=Z,26nm,0.8s
IGT Igoumenitsa 124.86 315 P **PKPdf 14 22 20.3 -2.3**
N58A Sunbury 124.86 44 PKPdf 14 22 22.5 0.0
MCD Coleburn Disti 124.89 344 *e*P **PKiKP 14 22 22.8 +0.3**
LKD2 Lefkada island 124.92 314 P **PKPdf 14 22 21.8 -1.0**
HDC Heredia 124.92 82 IAMs_20 IAMs_20 15 09 17.6
comp=Z,3µm,20.0s
FRNY Flat Rock 125.00 38 PKiKP 14 22 23.0 -0.1
FRNY IAMs_20 IAMs_20 15 12 52.1
comp=Z,5µm,20.0s
NCB Newcomb 125.05 39 PKPdf 14 22 23.0 +0.1
NCB IAMs_20 IAMs_20 15 14 14.4
comp=Z,3µm,19.0s
CRES Cresnjev 125.06 324 *e*P **PKPdf 14 22 22.2 -0.6**
J59A Piesco 125.12 40 PKPdf 14 22 22.8 -0.3
J59A IAMs_20 IAMs_20 15 14 40.3
comp=Z,6µm,19.0s
FSK Fiskardo 125.12 313 P **PKPdf 14 22 23.3 +0.2**
NHSC New Hope 125.12 54 IAMs_20 IAMs_20 15 15 31.9
comp=Z,5µm,18.0s
NHSC New Hope 125.12 54 PKiKP **PKPdf 14 22 22.5 -0.8**
baz=288
CO02 Combarbal 125.13 135 PKPdf 14 22 23.4 -0.2
GRA1 Grafenberg Arr 125.13 329 IAMs_20 IAMs_20 15 15 19.9
comp=Z,3µm,22.0s
GRF Grafenberg Arr 125.13 329 *e*PKPdf **PKiKP 14 22 23.5 +0.3**
baz=51,slow=1.5
GRF *e*L L 15 19 43.0
comp=Z,2µm,21.7s
GRFO Grafenberg 125.13 329 IAMs_20 IAMs_20 15 15 20.0
comp=Z,3µm,22.0s
KEK Kerkira 125.16 315 P **PKPdf 14 22 22.2 -1.0**
OZLJ Ozalj 125.17 323 *i* P **PKPdf 14 22 22.9 -0.1**
RIMA Rio Macho 125.17 82 IAMs_20 IAMs_20 15 08 56.3
comp=Z,3µm,20.0s
OBKA Obir 125.22 325 *e*P **PKiKP 14 22 23.7 +0.1**
comp=Z,1.3nm,0.4s
OBKA *e*P **sPKPdf 14 22 33.3 +3.0**
comp=Z,11nm,0.7s
RICI Ricice 125.23 320 *i* P **PKPdf 14 22 22.7 -0.5**
CVTR Volcan Turrial 125.28 82 IAMs_20 IAMs_20 15 09 48.0
comp=Z,4µm,20.0s
Y58A Scranton 125.28 52 IAMs_20 IAMs_20 15 10 02.9
comp=Z,4µm,21.0s
KEF4 Livadi, Kephal 125.30 313 P **PKPdf 14 22 23.6 +0.1**
JSRW J. Sargeant Re 125.31 47 PKPdf 14 22 23.7 +0.2
LEWI Lewis, Hebride 125.34 346 *e*P **PKiKP 14 22 23.9 +0.5**
PEZE Perez Zeledon, 125.35 83 IAMs_20 IAMs_20 15 09 10.1
comp=Z,3µm,19.0s
BOJS Bojanci 125.35 323 *e*P **PKPdf 14 22 22.8 -0.6**
BOJS Bojanci 125.35 323 *i* PKPdf **PKPdf 14 22 22.8 -0.6**
BOJS *i* 14 22 33.7
BOJS *e*PP **PP 14 24 13.1 -0.2**
BOJS *e* 14 25 37.5
BOJS *e* 14 26 54.1
BOJS *e*SKSac **SKSac 14 29 25.9 -0.8**
BOJS *e* 14 31 09.1
BOJS *e* 14 34 11.4
L59A Walton 125.38 41 PKPdf 14 22 23.1 -0.5
L59A IAMs_20 IAMs_20 15 15 58.4
comp=Z,5µm,19.0s
DWPF Disney Wildern 125.42 60 IAMs_20 IAMs_20 15 12 56.3
comp=Z,3µm,20.0s
KIJV Kijevo 125.43 321 *i* P **PKPdf 14 22 23.7 +0.1**
N59A State Game Lan 125.47 43 PKPdf 14 22 23.6 -0.2
N59A IAMs_20 IAMs_20 15 14 24.0
comp=Z,6µm,20.0s
N59A State Game Lan 125.47 43 PKiKP **PKPdf 14 22 22.6 -1.2**
baz=296
MVL Millersville 125.47 44 PKPdf **PKiKP 14 22 24.1 0.0**
CBN Corbin Frederi 125.48 47 PKiKP **PKPdf 14 22 20.6 -3.2**
baz=293
LJU Ljubljana 125.48 324 *e*P **PKPdf 14 22 23.1 -0.5**
LJU Ljubljana 125.48 324 *i* PKPdf **PKPdf 14 22 22.4 -1.2**
LJU *i* 14 22 33.6
LJU *e*SKSac **SKSac 14 29 27.2 +0.1**
KAC Achnashellach 125.52 345 *e*P **PKiKP 14 22 24.4 +0.7**
MOQ Mont Orford 125.56 37 PKiKP 14 22 24.4 +0.1
KBA Koelnbreinsper 125.58 326 *e*P **PKPdf 14 22 23.7 -0.3**
comp=Z,1.9nm,0.5s
KBA *e*P **sPKPdf 14 22 33.5 +2.4**
comp=Z,10.0nm,0.7s
BATAN Batan 125.65 82 IAMs_20 IAMs_20 15 10 09.1
comp=Z,3µm,19.0s
SRBA San Rafael, Bu 125.66 83 IAMs_20 IAMs_20 15 09 54.3
comp=Z,3µm,19.0s
MYKA Terra Mystica 125.67 325 *e*P PKiKP 14 22 33.7 +9.3
comp=Z,13nm,0.7s
ACCN Adirondack Com 125.69 39 IAMs_20 IAMs_20 15 14 12.4
comp=Z,4µm,20.0s
I60A Shoreham 125.69 39 PKiKP **PKPdf 14 22 23.3 -0.8**
baz=301
CEY Cerknica 125.71 324 *e*P **PKPdf 14 22 23.2 -0.9**
VT1 Waterbury 125.78 38 IAMs_20 IAMs_20 15 13 53.7
comp=Z,5µm,20.0s
T59A Double "B" Far 125.83 48 PKPdf 14 22 24.7 +0.1
Y59A Loris 125.88 52 IAMs_20 IAMs_20 15 10 41.7
comp=Z,5µm,21.0s
SCTE Santa Cesarea 125.93 316 PKPdf 14 22 24.4 -0.2
P60A Greenville 126.05 44 PKiKP **PKPdf 14 22 24.2 -0.7**
baz=296
FUR Furstenfeldbru 126.05 328 *e*L L 15 16 43.7
comp=Z,2µm,21.2s
SKDS Skadanscina 126.06 324 *e*P **PKPdf 14 22 23.9 -0.9**
ZIRJ Zirje 126.08 321 *i* P **PKPdf 14 22 23.1 -1.8**
ZOU Zoufplan 126.09 325 PKPdf 14 22 24.6 -0.5
ZOU IAMs_20 IAMs_20 15 16 26.7
comp=Z,3µm,22.0s
TRI Trieste 126.11 324 PKIKP **PKPdf 14 22 24.7 -0.1**
TRI MLR MLR
comp=Z,3µm,22.0s
TRI Trieste 126.11 324 PKPdf **PKPdf 14 22 24.7 -0.1**
TRI IAMs_20 IAMs_20 15 16 47.6
comp=Z,3µm,22.0s
ESY Stoneypath 126.12 342 *e*P **PKiKP 14 22 26.0 +1.1**
CDITO Canoas 126.13 84 IAMs_20 IAMs_20 15 10 58.8
comp=Z,2µm,18.0s
TNS Taunus Mts 126.15 331 *e*L L 15 19 50.5
comp=Z,3µm,21.1s
ODNJ Ogdensburg 126.18 42 PKPdf 14 22 25.2 +0.1
ODNJ IAMs_20 IAMs_20 15 16 19.8
comp=Z,5µm,19.0s
CNNC Cliffs of the 126.21 50 PKiKP **PKPdf 14 22 24.3 -1.0**
baz=291
ABTA Abfaltersbach 126.23 326 *i* P **PKPdf 14 22 25.1 0.0**
comp=Z,1.5nm,0.2s,SNR=11
ABTA *i* P **sPKPdf 14 22 35.1 +2.8**
comp=Z,26nm,0.6s,SNR=4.1
TRQA Tornquist 126.26 147 PKIKP **PKPdf 14 22 25.3 -0.2**
TRQA Tornquist 126.26 147 PKPdf 14 22 25.2 -0.2
TRQA Tornquist 126.26 147 IAMs_20 IAMs_20 15 07 19.4
comp=Z,2µm,21.0s
TRQA Tornquist 126.26 147 *e*P **PKiKP 14 22 27.5 +1.6**
DUGI Dugi Otok 126.27 322 *i* P **PKPdf 14 22 23.5 -1.7**
K61A Williamstown 126.30 40 PKiKP **PKiKP 14 22 25.7 0.0**
baz=300
LBNH Lisbon 126.33 38 PKIKP **PKiKP 14 22 25.7 -0.1**
LBNH MLR MLR
comp=Z,6µm,19.0s
LBNH Lisbon 126.33 38 PKiKP 14 22 25.7 -0.1
LBNH Lisbon 126.33 38 PKiKP **PKPdf 14 22 22.9 -2.4**
baz=302
061Z Ochoppi 126.37 62 IAMs_20 IAMs_20 15 24 29.7
comp=Z,2µm,18.0s
EBL Broad Law 126.38 342 *e*P **PKiKP 14 22 26.9 +1.4**
Y60A Bolivia 126.39 52 IAMs_20 IAMs_20 15 12 50.2
comp=Z,5µm,20.0s
D62A Allapoint, All 126.39 33 PKPdf 14 22 25.2 -0.1
HNH Hanover 126.39 38 IAMs_20 IAMs_20 15 17 01.8
comp=Z,6µm,19.0s
WATA Walderalm 126.40 327 *i* P **PKiKP 14 22 27.4 +1.4**
comp=Z,5.5nm,0.4s,SNR=7.9
WATA *e*P **sPKPdf 14 22 35.9 +3.2**
comp=Z,29nm,0.9s
EAB Aberfoyle 126.40 343 *e*P **PKiKP 14 22 25.8 +0.3**
STAL STALIGIAL 126.41 325 PKPdf 14 22 25.2 -0.3
WTTA Wattenberg 126.41 327 *i* P **PKiKP 14 22 26.4 +0.4**
comp=Z,6.2nm,0.5s,SNR=16
WTTA *e*P **sPKPdf 14 22 36.2 +3.5**
comp=Z,46nm,0.8s
J61A Chester 126.41 39 PKiKP **PKPdf 14 22 25.1 -0.3**
baz=301
TRNY Table Rock, Ra 126.41 42 PKPdf 14 22 25.6 +0.1
TRNY IAMs_20 IAMs_20 15 16 45.7
comp=Z,5µm,19.0s
LCO Las Campanas 126.58 133 IAMs_20 IAMs_20 15 16 17.1
comp=Z,2µm,18.0s
060A Indiantown 126.59 61 IAMs_20 IAMs_20 15 16 59.4
comp=Z,4µm,20.0s
H62A Milan 126.61 37 IAMs_20 IAMs_20 15 17 22.6
comp=Z,5µm,19.0s
MOTA Moosalm 126.65 327 *i* P **PKiKP 14 22 26.5 0.0**
comp=Z,2.1nm,0.2s,SNR=8.8
MOTA *e*P **sPKPdf 14 22 35.9 +2.8**
comp=Z,49nm,0.8s
SQTA Sankt Quirin 126.67 327 *i* P **PKiKP 14 22 27.5 +1.0**
comp=Z,7.3nm,0.4s,SNR=7.5
SQTA *e*P **sPKPdf 14 22 36.1 +3.0**
comp=Z,48nm,0.8s
Q61A Milford 126.67 45 PKiKP **PKPdf 14 22 25.4 -0.7**
baz=296
PAL Palisades 126.69 42 IAMs_20 IAMs_20 15 16 44.1
comp=Z,4µm,19.0s
PAL Palisades 126.69 42 PKiKP **PKPdf 14 22 25.2 -0.9**
baz=298
STU Stuttgart 126.74 330 IAMs_20 IAMs_20 15 11 32.5
comp=Z,5µm,20.0s
RETA Reutte 126.74 328 *i* P **PKiKP 14 22 27.4 +0.8**
comp=Z,0.7nm,0.2s,SNR=5.4
RETA *e*P **sPKPdf 14 22 36.3 +3.1**
comp=Z,9.8nm,0.7s
L61B Northampton 126.78 40 PKiKP **PKPdf 14 22 26.1 -0.1**
baz=300
ESK Eskdalemuir 126.81 342 *e*P **PKiKP 14 22 27.1 +0.7**
ESK Eskdalemuir 126.81 342 IAMs_20 IAMs_20 15 26 52.0
comp=Z,3µm,20.0s
EDMD Edmundbyers 126.83 341 *e*P **PKiKP 14 22 27.0 +0.6**
MATE Matera 126.87 317 ⇑P **PKiKP 14 22 27.0 +0.1**
I62A Tamworth 126.89 38 PKiKP **PKPdf 14 22 25.3 -1.1**
baz=302
R61A Willards 126.89 46 IAMs_20 IAMs_20 15 25 16.0
comp=Z,5µm,18.0s
FFD Franklin Falls 126.91 38 IAMs_20 IAMs_20 15 14 54.4
comp=Z,6µm,19.0s
K62A Royalston 126.96 40 PKiKP **PKPdf 14 22 25.2 -1.4**
baz=301
BTNL Ternell 126.97 333 *d*PKiKP **PKiKP 14 22 27.2 +0.3**
BTNL *dx* x 14 22 36.4
SGRT San Giovanni R 126.97 319 PKiKP 14 22 27.2 0.0
WSPT Westport, CT 126.99 42 IAMs_20 IAMs_20 15 21 08.0
comp=Z,3µm,18.0s
V61A Roper 127.00 49 IAMs_20 IAMs_20 15 17 02.2
comp=Z,5µm,19.0s
MEM Membach 127.01 333 *d*PKiKP **PKiKP 14 22 27.8 +0.9**
MEM *dx* x 14 22 36.7
N62A Caumsett State 127.02 42 IAMs_20 IAMs_20 15 16 54.7
comp=Z,3µm,18.0s
BEBN Eben Emael 127.03 333 *d*PKiKP **PKiKP 14 22 27.3 +0.4**
BEBN *dx* x 14 22 36.8
FETA Feichten 127.05 327 *i* P **PKiKP 14 22 27.6 +0.3**
comp=Z,7.9nm,0.8s,SNR=12
FETA *e*P **sPKPdf 14 22 36.4 +2.5**
comp=Z,31nm,0.8s
CTI Castel Tesino 127.13 326 PKIKP **PKPdf 14 22 26.7 -0.2**
CTI Castel Tesino 127.13 326 PKPdf **PKPdf 14 22 26.7 -0.2**
CTI IAMs_20 IAMs_20 15 23 11.2
comp=Z,2µm,18.0s
YLE Yale 127.18 41 IAMs_20 IAMs_20 15 29 58.1
comp=Z,5µm,18.0s
BHOU Houvegnez 127.19 333 *d*PKiKP **PKiKP 14 22 27.9 +0.6**
BHOU *dx* x 14 22 38.6
PQI Presque Isle 127.20 33 PKPdf **PKPdf 14 22 27.1 +0.2**
PQI IAMs_20 IAMs_20 15 15 07.8
comp=Z,4µm,19.0s
BSTI Sart Tilman 127.23 333 *d*PKiKP **PKiKP 14 22 27.9 +0.6**
BSTI *dx* x 14 22 38.4
I63A Otisfield 127.25 37 PKiKP **PKPdf 14 22 25.4 -1.6**
baz=303
PKME Peaks-Kenny Pk 127.32 35 IAMs_20 IAMs_20 15 14 14.2
comp=Z,5µm,20.0s
PKME Peaks-Kenny Pk 127.32 35 PKiKP **PKPdf 14 22 26.1 -1.1**
baz=305
DAVA Damuels 127.34 328 *i* P **PKiKP 14 22 28.6 +0.8**
comp=Z,1.4nm,0.2s,SNR=6.3
DAVA *e*P **sPKPdf 14 22 37.5 +3.0**
comp=Z,28nm,0.6s
J63A Strafford 127.36 38 PKiKP **PKPdf 14 22 26.2 -1.1**
baz=302
KESW Keswick, Cumbr 127.40 342 *e*P **PKiKP 14 22 29.2 +1.6**
BCLA Clavier 127.47 333 *d*PKiKP **PKiKP 14 22 28.3 +0.5**
BCLA *dx* x 14 22 37.5
BFO Black Forest 127.47 330 PKIKP **PKPdf 14 22 27.3 -0.1**
BFO Black Forest 127.47 330 PKPdf **PKPdf 14 22 27.3 -0.1**
BFO Black Forest 127.47 330 *e*L L 15 11 53.4
comp=Z,2µm,21.7s
TIP Timpagrande 127.51 316 ⇑P **PKPdf 14 22 27.7 -0.1**
TIP Timpagrande 127.51 316 PKPdf 14 22 27.3 -0.5
WVL Waterville 127.51 36 IAMs_20 IAMs_20 15 15 42.2
comp=Z,4µm,19.0s
TEOL Teolo 127.52 325 IAMs_20 IAMs_20 15 16 03.7
comp=Z,2µm,21.0s
BGES Gesves 127.59 333 *dx* x 14 22 38.2
UCC Uccle 127.61 334 IAMs_20 IAMs_20 15 24 22.9
comp=Z,4µm,19.0s
WLF Walferdange 127.61 332 *d*PKiKP **PKiKP 14 22 28.8 +0.6**
WLF *dx* x 14 22 38.4
WLF Walferdange 127.61 332 PKIKP **PKiKP 14 22 28.0 -0.1**
WLF Walferdange 127.61 332 PKPdf **PKiKP 14 22 28.0 -0.1**
WLF IAMs_20 IAMs_20 15 21 46.2

	comp=Z,3µm,20.0s								
RCHB	**Rochefort**	**127.69**	333	*d*PKiKP	**PKiKP**	**14 22 28.5**	**+0.3**		
RCHB				*dx*	x	14 22 39.5			
BMRD	**Maredsous**	**127.79**	334	*d*PKiKP	**PKiKP**	**14 22 28.6**	**+0.2**		
BMRD				*dx*	x	14 22 37.9			
SNF	**Seneffe**	**127.85**	334	*d*PKiKP	**PKiKP**	**14 22 28.6**	**+0.1**		
SNF				*dx*	x	14 22 38.4			
DOU	**Dourbes**	**128.01**	333	*dx*	x	14 22 39.7			
SALO	**Salr**	**128.01**	326	IAMs_20	IAMs_20	15 18 36.7			
	comp=Z,3µm,22.0s								
TSUM	**Tsumeb**	**128.08**	240	PKPdf	**PKPdf**	**14 22 27.4**	**-2.2**		
NRCA	**Norcia**	**128.09**	322		**PKPdf**	**14 22 28.6**	**-0.2**		
CACAO	**El Cacao, Vera**	**128.09**	85	*e*P	**PKPdf**	**14 22 27.5**	**-2.0**		
AQU	**L'Aquila**	**128.16**	321	*e*P	**PKiKP**	**14 22 29.4**	**-0.1**		
AQU	**L'Aquila**	**128.16**	321	IAMs_20	IAMs_20	15 21 31.3			
	comp=Z,2µm,19.0s								
M64A	**Tiverton**	**128.19**	40	PKiKP	**PKPdf**	**14 22 28.0**	**-0.9**		
	baz=301								
MURB	**Monte Urbino**	**128.21**	322		**PKPdf**	**14 22 28.2**	**-0.8**		
ZCCA	**Zocca**	**128.51**	324		**PKPdf**	**14 22 29.8**	**+0.2**		
CEL	**Celeste**	**128.53**	315	PKPdf	**PKPdf**	**14 22 29.4**	**-0.4**		
PRMA	**PARMA**	**128.65**	325	IAMs_20	IAMs_20	15 17 02.9			
	comp=Z,3µm,22.0s								
EMMW	**East Machias**	**128.70**	35	IAMs_20	IAMs_20	15 15 35.7			
	comp=Z,3µm,19.0s								
NNA	**Nana**	**128.79**	111	PKP	**PKiKP**	**14 22 32.3**	**+0.8**		
	comp=Z,5.3nm,0.3s,baz=261,slow=3.5,SNR=7.9								
OSSC	**Osservatorio P**	**128.84**	323		**PKPdf**	**14 22 29.1**	**-1.0**		
AC02	**Maricunga**	**128.94**	132	PKPdf	**PKPdf**	**14 22 29.6**	**-1.8**		
HLM1	**Long Mynd**	**129.06**	340	*e*P	**PKiKP**	**14 22 30.6**	**-0.3**		
BCIP	**Isla Barro Col**	**129.14**	83	*e*P	**PKPdf**	**14 22 30.3**	**-1.1**		
PB14	**IPOC Station P**	**129.15**	129	PKPdf	**PKPdf**	**14 22 29.7**	**-2.0**		
SENIN	**Lac Senin/Sane**	**129.29**	328	PKPdf	**PKPdf**	**14 22 31.2**	**0.0**		
SENIN				IAMs_20	IAMs_20	15 25 49.1			
	comp=Z,2µm,19.0s								
MSSA	**Maissana**	**129.37**	325		**PKPdf**	**14 22 30.9**	**-0.3**		
UPA	**Univ. de Panam**	**129.44**	83	*e*P	**PKPdf**	**14 22 31.0**	**-1.1**		
PB10	**IPOC Station P**	**129.60**	127	IAMs_20	IAMs_20	15 09 23.8			
	comp=Z,2µm,20.0s								
OTAV	**Otavalo**	**129.91**	95	IAMs_20	IAMs_20	15 13 21.9			
	comp=Z,3µm,19.0s								
OTAV	**Otavalo**	**129.91**	95	*e*P	**PKiKP**	**14 22 34.1**	**-0.2**		
VAE	**Valguarnera**	**129.93**	315	SKPbc	SKPbc	14 25 56.6	+2.5		
	comp=Z,6.0nm,0.4s,baz=139,slow=2.8,SNR=6.0								
RAFF	**Raffo Rosso**	**130.08**	315		**PKPdf**	**14 22 32.6**	**-0.1**		
BNI	**Bardonecchia**	**130.48**	327	PKiKP	**PKPdf**	**14 22 33.3**	**-0.1**		
BNI				MLR	MLR				
	comp=Z,3µm,19.0s								
BNI	**Bardonecchia**	**130.48**	327	PKPdf	**PKPdf**	**14 22 33.3**	**-0.1**		
BNI				IAMs_20	IAMs_20	15 22 01.0			
	comp=Z,3µm,19.0s								
PB04	**IPOC Station P**	**130.51**	126	IAMs_20	IAMs_20	15 09 22.0			
	comp=Z,2µm,21.0s								
CLF	**Chambon-Foret**	**130.58**	333	IAMs_20	IAMs_20	15 22 53.7			
	comp=Z,3µm,20.0s								
PB15	**IPOC Station P**	**130.61**	128	IAMs_20	IAMs_20	15 08 28.5			
	comp=Z,2µm,21.0s								
CLTB	**Caltabellotta**	**130.72**	316	PKPdf	**PKPdf**	**14 22 33.9**	**-0.1**		
LPA	**La Plata**	**130.78**	148	PKiKP	**PKPdf**	**14 22 33.8**	**-0.3**		
LPA				PP	**PP**	**14 24 42.4**	**-6.3**		
LPA				SKP		14 25 56.4			
LPA				PPP	PPP	14 27 32.7			
LPA				SKS	**SKSdf**	**14 29 42.6**	**-2.2**		
LPA				SKIKS		14 29 49.3			
LPA				SDIFF	**Sdif**	**14 32 53.8**	**-4.9**		
LPA				PS	**PS**	**14 35 04.8**	**+2.8**		
LPA				PSP	PSP	14 36 34.8			
LPA				SS	**SS**	**14 42 23.8**	**+6.8**		
LPA				SSS	SSS	14 47 15.1			
MTDJ	**Mount Denham**	**130.79**	71	IAMs_20	IAMs_20	15 19 37.5			
	comp=Z,2µm,18.0s								
MTDJ	**Mount Denham**	**130.79**	71	*e*P	PKiKP	14 22 43.7	+8.2		
PB06	**IPOC Station P**	**130.79**	127	IAMs_20	IAMs_20	15 10 03.2			
	comp=Z,2µm,21.0s								
PB07	**IPOC Station P**	**131.02**	126		**PKPdf**	**14 22 34.2**	**-0.9**		
PB07				IAMs_20	IAMs_20	15 10 39.6			
	comp=Z,2µm,21.0s								
PTAC	**Punta Ardita,**	**131.11**	86	*e*P	**PKPdf**	**14 22 34.1**	**-1.1**		
GCUF	**Volcan Galeras**	**131.13**	94	*e*P	**PKPdf**	**14 22 34.1**	**-1.8**		
LVC	**Limon Verde**	**131.36**	127	SKPbc	**SKPab**	**14 26 03.8**	**+3.2**		
	comp=Z,0.9nm,0.4s,baz=168,slow=5.5,SNR=4.6								
LVC	**Limon Verde**	**131.36**	127	PKiKP	**PKPdf**	**14 22 34.7**	**-1.3**		
LVC	**Limon Verde**	**131.36**	127	PKPdf	**PKPdf**	**14 22 34.7**	**-1.3**		
LVC	**Limon Verde**	**131.36**	127	*e*P	**PKiKP**	**14 22 37.0**	**+0.1**		
PIZC	**Pizarro, Choco**	**131.45**	89	*e*P	**PKiKP**	**14 22 37.0**	**+0.1**		
PSGCX	**Pisagua**	**131.84**	123		**PKPdf**	**14 22 35.5**	**-1.1**		
POPC	**Popayan, Colom**	**131.94**	92	*e*P	**PKPdf**	**14 22 36.1**	**-1.1**		
SOTA	**Rioblanco**	**131.96**	93	*e*P	**PKPdf**	**14 22 36.3**	**-1.2**		
PCON	**Cinco Dias**	**132.19**	92	*e*P	**PKPdf**	**14 22 38.0**	**-0.1**		
VSL	**Villasalto**	**132.28**	320	PKPdf	**PKPdf**	**14 22 36.7**	**-0.1**		
PB08	**IPOC Station P**	**132.39**	124		**PKPdf**	**14 22 36.9**	**-1.1**		
YOTC	**Yotoco, Valle**	**132.39**	90	*e*P	**PKPdf**	**14 22 37.3**	**-0.6**		
MARP	**Paez Belalcaza**	**132.68**	92	*e*P	**PKPdf**	**14 22 37.0**	**-1.6**		
DBBC	**Dabeiba**	**132.69**	86	*e*P	**PKiKP**	**14 22 38.9**	**-0.6**		
CBOC	**Ciudad Bolivar**	**132.84**	88	*e*P	**PKPdf**	**14 22 34.1**	**-4.6**		
FLOC	**Florencia**	**132.85**	93		**PKPdf**	**14 22 37.3**	**-1.3**		
FLOC	**Florencia**	**132.85**	93	*e*P	**PKPdf**	**14 22 38.0**	**-0.6**		
HELC	**Santa Helena**	**133.34**	87	*e*P	**PKPdf**	**14 22 38.9**	**-1.0**		
UREC	**San Jos de Ur**	**133.38**	85	*e*P	**PKPdf**	**14 22 38.1**	**-1.5**		
GUY2C	**Guyana, Caldas**	**133.45**	89	*e*P	**PKPdf**	**14 22 38.9**	**-1.4**		
ORTC	**Ortega, Tolima**	**133.48**	90	*e*P	**PKPdf**	**14 22 38.9**	**-0.9**		
SJCC	**San Jacinto, C**	**133.73**	82	PKPdf	**PKPdf**	**14 22 39.6**	**-0.7**		
SJCC	**San Jacinto, C**	**133.73**	82	*e*P	**PKPdf**	**14 22 38.1**	**-2.1**		
PRAC	**Prado**	**133.82**	91	*e*P	**PKPdf**	**14 22 40.9**	**+0.4**		
CZSB	**Cruzeiro do Su**	**133.92**	107	*e*P	**PKiKP**	**14 22 41.7**	**-0.2**		
NORC	**Norcasia**	**133.96**	88	*e*P	**PKPdf**	**14 22 39.9**	**-0.8**		
ZARC	**Zaragoza, Cauc**	**134.04**	85	*e*P	**PKPdf**	**14 22 37.3**	**-3.5**		
KEST	**Kesra**	**134.33**	316	PKP	**PKiKP**	**14 22 42.8**	**+0.6**		
	comp=Z,11nm,0.8s,baz=181,slow=4.3,SNR=8.4								
KEST				SKPbc	**SKPab**	**14 26 11.6**	**-1.1**		
	comp=Z,10nm,0.9s,baz=300,slow=7.8,SNR=5.0								
PTBC	**PUERTO BERRIO**	**134.42**	87	*e*P	**PKPdf**	**14 22 41.8**	**+0.3**		
ROSC	**El Rosal**	**134.47**	89	PKP	**PKiKP**	**14 22 43.5**	**0.0**		
	comp=Z,35nm,0.7s,baz=78,slow=5.2,SNR=10.0								
ROSC	**El Rosal**	**134.47**	89	PKiKP	**PKPdf**	**14 22 41.0**	**-1.1**		
ROSC	**El Rosal**	**134.47**	89	PKPdf	**PKPdf**	**14 22 41.0**	**-1.1**		
ROSC	**El Rosal**	**134.47**	89	*e*P	**PKPdf**	**14 22 41.6**	**-0.5**		
SMRC	**Santa Marta, M**	**134.63**	80	*e*P	**PKPdf**	**14 22 42.2**	**+0.4**		
MACC	**Macarena, Meta**	**134.71**	93	*e*P	**PKPdf**	**14 22 41.8**	**-0.3**		
SPBC	**San Pablo de B**	**134.76**	88	*i* P	**PKPdf**	**14 22 40.6**	**-1.7**		
SPBC				*e*P	**PKPdf**	**14 22 40.6**	**-1.7**		
SMLC	**San Martn de**	**134.83**	84	*e*P	**PKPdf**	**14 22 42.2**	**0.0**		
LPAZ	**La Paz**	**135.03**	120	PKhKP	PKPpre	14 22 33.0			
	comp=Z,1.8nm,0.7s,baz=252,slow=3.4,SNR=4.0								
LPAZ				PKP	**PKiKP**	**14 22 45.6**	**+0.8**		
	comp=Z,7.6nm,0.8s,baz=317,slow=1.0,SNR=13								
LPAZ				SKPbc	**SKPab**	**14 26 15.1**	**-1.8**		
	comp=Z,1.1nm,0.8s,baz=115,slow=16,SNR=1.6								
LPAZ	**La Paz**	**135.03**	120	PKPdf	**PKPdf**	**14 22 41.8**	**-1.5**		
LPAZ	**La Paz**	**135.03**	120	*e*P	**PKiKP**	**14 22 44.7**	**-0.1**		
CHIC	**Chingaza**	**135.04**	89	*e*P	**PKPdf**	**14 22 41.8**	**-1.4**		
BRRC	**Barranca, Sant**	**135.17**	86	*e*P	**PKPdf**	**14 22 39.9**	**-3.0**		
LL1C	**La Loma 1 Cana**	**135.34**	83	*e*P	**PKiKP**	**14 22 44.7**	**0.0**		
ITQB	**Itaqui**	**135.45**	144	*e*P	**PKPdf**	**14 22 43.4**	**+0.4**		
LL2C	**La Loma 2 Cana**	**135.45**	83	*e*P	**PKiKP**	**14 22 44.7**	**-0.3**		
OCAC	**Ocana**	**135.58**	84	*e*P	**PKPdf**	**14 22 40.9**	**-3.0**		
RUSC	**La Rusia**	**135.75**	88	*e*P	**PKPdf**	**14 22 44.7**	**+0.1**		
CRJC	**Cerrejon, Guaj**	**135.95**	80	*e*P	**PKPdf**	**14 22 41.8**	**-2.6**		
GRTK	**Grand Turk**	**136.08**	65	IAMs_20	IAMs_20	15 25 00.3			
	comp=Z,3µm,20.0s								
CPSB	**Cacapava Do Su**	**136.65**	148	*e*P	**PKiKP**	**14 22 47.7**	**+0.7**		
URIC	**Uribia, Colomb**	**136.78**	79	*e*P	**PKPdf**	**14 22 41.4**	**-4.4**		
SC01	**Santiago de lo**	**136.93**	68	IAMs_20	IAMs_20	15 32 50.0			
	comp=Z,3µm,18.0s								
TAMC	**Tame, Arauca**	**137.06**	87	*e*P	PKPpre	14 22 36.5			
BBSR	**BB Station**	**137.35**	47	IAMs_20	IAMs_20	15 22 21.0			
	comp=Z,5µm,19.0s								
CPUP	**Villa Florida**	**137.44**	140	PKhKP	PKPpre	14 22 39.5			
	comp=Z,1.6nm,0.7s,baz=208,slow=5.4,SNR=3.2								
CPUP				PKP	**PKiKP**	**14 22 48.2**	**-0.5**		
	comp=Z,6.2nm,0.7s,baz=327,slow=1.8,SNR=11								
CPUP	**Villa Florida**	**137.44**	140	*e*P	**PKPdf**	**14 22 47.5**	**+0.7**		
TBTG	**Tabatinga, AM**	**137.51**	103	*e*P	**PKPdf**	**14 22 46.4**	**-0.9**		
TBTG	**Tabatinga, AM**	**137.51**	103	*e*P	**PKiKP**	**14 22 49.3**	**+0.1**		
SDD	**Santo Domingo**	**137.88**	69	IAMs_20	IAMs_20	15 23 12.2			
	comp=Z,2µm,19.0s								
SDV	**Santo Domingo**	**138.23**	83	PKP	**PKPdf**	**14 22 49.1**	**+0.3**		
	comp=Z,50nm,0.7s,baz=271,slow=4.2,SNR=16								
SDV				SKP		14 26 25.0			
	comp=Z,5.5nm,0.4s,baz=184,slow=20,SNR=8.1								
SDV	**Santo Domingo**	**138.23**	83	PKPdf	**PKPdf**	**14 22 48.2**	**-0.6**		
SDV	**Santo Domingo**	**138.23**	83	IAMs_20	IAMs_20	15 31 11.4			
	comp=Z,2µm,18.0s								
SDV	**Santo Domingo**	**138.23**	83	*e*P	**PKPdf**	**14 22 48.5**	**-0.3**		
SDV	**Santo Domingo**	**138.23**	83	*e*P	**PKiKP**	**14 22 49.9**	**-1.0**		
CNLB	**Canela**	**138.85**	150	*e*P	**PKiKP**	**14 22 51.0**	**-0.6**		
UCM	**Universidad Co**	**138.99**	330	PKP	**PKPdf**	**14 22 46.7**	**-2.6**		
ETMB	**Extrema**	**139.35**	113	*e*P	**PKiKP**	**14 22 52.8**	**-0.1**		
ELOV	**Elorza**	**139.37**	86	*e*P	**PKPdf**	**14 22 47.5**	**-3.1**		
HATO	**Hato, Curacao**	**139.71**	78	IAMs_20	IAMs_20	15 29 30.4			
	comp=Z,2µm,19.0s								
CART	**Cartagena**	**139.78**	325	PKP	**PKPdf**	**14 22 47.3**	**-3.4**		
ES17	**SONSECA Array**	**139.81**	330	IAMs_20	IAMs_20	15 32 42.3			
	comp=Z,2µm,19.0s								
ESDC	**Sonseca Array**	**139.82**	330	PKP	**PKPdf**	**14 22 51.1**	**+0.2**		
	comp=Z,2.6nm,1.1s,baz=27,slow=7.0,SNR=7.8								
ESDC	**Sonseca Array**	**139.82**	330	PKPdf	**PKPdf**	**14 22 50.6**	**-0.3**		
ES16	**SONSECA Array**	**139.83**	330	IAMs_20	IAMs_20	15 31 26.8			
	comp=Z,2µm,18.0s								
ES15	**SONSECA Array**	**139.85**	330	IAMs_20	IAMs_20	15 31 36.4			
	comp=Z,2µm,19.0s								
PGAV	**Gavieira, Arco**	**139.91**	336	*e*LR	LR	15 12 31.4			
	comp=Z,2µm,18.0s								
MVO	**Moncorvo**	**140.06**	334	*e*PKP	**PKiKP**	**14 22 53.2**	**-0.5**		
MVO	**Moncorvo**	**140.06**	334	*e*LR	LR	15 11 39.0			
	comp=Z,2µm,20.0s								
TER01	**Tubaro-SC**	**140.35**	151	*e*P	**PKPdf**	**14 22 53.3**	**+1.2**		
BAUV	**El Baul**	**140.79**	83	*e*P	**PKPdf**	**14 22 46.1**	**-7.1**		
PVIS	**Viseu**	**140.80**	335	*e*PKP	**PKPdf**	**14 22 52.9**	**+0.3**		
AOPR	**Arecibo Observ**	**140.83**	68	*e*P	**PKiKP**	**14 22 54.8**	**-1.1**		
MTE	**Manteigas**	**140.91**	334	*e*PKP	**PKPdf**	**14 22 52.5**	**-0.3**		
MTE	**Manteigas**	**140.91**	334	*e*LR	LR	15 12 13.4			
	comp=Z,2µm,20.0s								
OBIP	**Obispado Ponce**	**141.04**	69		**PKPdf**	**14 22 52.9**	**-0.6**		
SIV	**San Ignacio**	**141.11**	125	PKhKP	PKPpre	14 22 48.5			
	comp=Z,2.5nm,0.5s,baz=232,slow=2.8,SNR=14								
SJG	**San Juan**	**141.45**	68	PKP	**PKPdf**	**14 22 54.0**	**-0.3**		
	comp=Z,10nm,0.4s,baz=50,slow=4.7,SNR=3.6								
SJG	**San Juan**	**141.45**	68	PKiKP	**PKPdf**	**14 22 53.6**	**-0.6**		
SJG				MLR	MLR				
	comp=Z,2µm,19.0s								
SJG	**San Juan**	**141.45**	68		**PKPdf**	**14 22 53.6**	**-0.6**		
SJG	**San Juan**	**141.45**	68	*e*P	**PKPdf**	**14 22 52.6**	**-1.7**		
PDPR	**Patillas Dam,**	**141.59**	69		**PKPdf**	**14 22 53.8**	**-0.7**		
PCAS	**Casmilo, Conde**	**141.61**	335	*e*PKP	**PKiKP**	**14 22 56.0**	**-0.8**		
PMRV	**Marv??o**	**141.64**	333	*e*LR	LR	15 14 03.0			
	comp=Z,2µm,18.0s								
PTGB	**Pitanga**	**141.84**	144	*e*P	**PKiKP**	**14 22 56.6**	**-1.3**		
PESTR	**Estremoz**	**142.19**	333	*e*PKP	**PKPdf**	**14 22 55.8**	**+0.7**		
EMAL	**Malaga-Limoner**	**142.27**	328	PKP	PKPdf	14 22 44.1	-11		
PMTG	**Montargil**	**142.31**	334	*e*PKP	**PKPdf**	**14 22 54.5**	**-0.8**		
SAML	**Samuel**	**142.44**	113	IAMs_20	IAMs_20	15 39 49.8			
	comp=Z,2µm,19.0s								
SAML	**Samuel**	**142.44**	113	*e*P	**PKPdf**	**14 22 49.6**	**-6.6**		
MELI	**Melilla**	**142.50**	324	PKP	PKPdf	14 22 47.8	-7.9		
AQDB	**Aquidauana**	**142.54**	135	PKPdf	**PKPdf**	**14 22 55.2**	**-1.0**		
AQDB	**Aquidauana**	**142.54**	135	*e*P	**PKPdf**	**14 22 57.6**	**+1.4**		
EVO	**Evora**	**142.65**	333	PKP	**PKPdf**	**14 22 53.3**	**-2.6**		
EVO	**Evora**	**142.65**	333	*e*PKP	**PKPdf**	**14 22 57.4**	**+1.5**		
CDVI	**St. Croix**	**142.81**	69	*e*P	**PKPdf**	**14 22 49.4**	**-7.3**		
TRCB	**Terra Rica**	**142.94**	141	*e*P	**PKiKP**	**14 22 58.5**	**-1.6**		
JBK	**JBK**	**142.95**	323	P	**PKiKP**	**14 22 59.1**	**-0.9**		
LIS	**Lisbon**	**143.00**	334	*e*PKPdf	**PKPdf**	**14 22 56.2**	**-0.3**		
LIS				*e*PP	**PP**	**14 26 10.2**	**+1.2**		
TIJ01	**Guaruva-PR**	**143.05**	148	*e*P	**PKPdf**	**14 22 58.5**	**+1.4**		
ARNO	**Arenosillo**	**143.19**	330	PKP	PKPab	14 22 52.8	+0.3		
MESJ	**Messejana**	**143.31**	333	*e*PKPdf	**PKPdf**	**14 22 56.9**	**-0.2**		
MESJ				*e*PP	**PP**	**14 26 08.1**	**+1.1**		
MESJ	**Messejana**	**143.31**	333	*e*PKP	**PKPdf**	**14 22 55.6**	**-1.5**		
PVLZ	**Peæn de**	**143.37**	326	PKP	PKPab	14 22 50.7	-2.5		
VILB	**Vilhena**	**143.37**	121	*e*P	**PKiKP**	**14 22 59.9**	**-1.2**		
PCVE	**Castro Verde**	**143.39**	332	*e*PKP	**PKPdf**	**14 22 58.5**	**+1.3**		
CEU	**Ceuta**	**143.42**	328	PKP	PKPab	14 22 53.8	+0.4		
SFS	**San Fernando**	**143.42**	329	PKP	PKPbc	14 22 54.2	-0.2		
SFS	**San Fernando**	**143.42**	329	IAMs_20	IAMs_20	15 39 29.0			
	comp=Z,4µm,19.0s								
PVAQ	**Vaqueiros**	**143.43**	332	*e*PKP	**PKPdf**	**14 22 57.5**	**+0.2**		
PVAQ	**Vaqueiros**	**143.43**	332	*e*LR	LR	15 13 19.9			
	comp=Z,2µm,18.0s								
FIGM	**Figuig**	**143.59**	319	P	**PKiKP**	**14 23 01.0**	**-0.3**		
PBDV	**Barranco-do-Ve**	**143.66**	332	*e*PKP	**PKPdf**	**14 22 57.5**	**-0.3**		
MORF	**Marmelete**	**143.94**	332	*e*PKPdf	**PKPdf**	**14 22 57.8**	**-0.5**		
MORF				*e*PP	**PP**	**14 26 11.9**	**+1.0**		
MORF	**Marmelete**	**143.94**	332	*e*PKP	**PKPdf**	**14 22 57.9**	**-0.4**		
CHEFC	**Chefchaouen**	**143.99**	327	P	**PKPdf**	**14 22 59.1**	**+0.6**		
PCRV	**Puerto La Cruz**	**144.09**	81	PKhKP	PKPpre	14 22 56.4			
	comp=Z,13nm,0.7s,baz=358,slow=6.7,SNR=8.6								
PLCV	**Puerto La Cruz**	**144.14**	81		**PKPab**	**14 22 56.4**	**-0.4**		
PFVI	**Vila Bisbo**	**144.16**	333	*e*PKP	**PKPdf**	**14 22 59.9**	**+1.3**		
SMRT	**St. Maarten**	**144.30**	67	*e*P	**PKPab**	**14 22 53.9**	**-3.3**		
SMRT	**St. Maarten**	**144.30**	67		PKPbc	14 22 57.6	-0.1		
SMRT				IAMs_20	IAMs_20	15 24 28.2			
	comp=Z,2µm,20.0s								
FRTB	**Fartura**	**144.34**	146	*e*P	**PKiKP**	**14 23 01.2**	**-1.8**		
SEUS	**St. Eustatius**	**144.52**	68	*e*P	**PKPab**	**14 22 56.7**	**-1.4**		
SEUS	**St. Eustatius**	**144.52**	68	IAMs_20	IAMs_20	15 24 04.4			
	comp=Z,2µm,20.0s								
PCMB	**Pacaembu**	**144.67**	142	*e*P	**PKiKP**	**14 23 01.9**	**-1.8**		
SKI	**Saint Kitts**	**144.79**	68	*e*P	**PKPdf**	**14 23 01.0**	**+0.8**		
PET01	**Itanhaem-SP**	**144.79**	150	*e*P	**PKPdf**	**14 23 01.6**	**+1.6**		
PP1B	**Ponte de Pedra**	**145.00**	133	*e*P	**PKPdf**	**14 23 02.5**	**+1.9**		
IFR	**Ifrane**	**145.03**	325	PKP	**PKPbc**	**14 22 58.1**	**-1.7**		
MDT	**Midelt**	**145.23**	323	P	**PKPdf**	**14 23 02.2**	**+1.5**		
SPB	**Sao Paulo**	**145.28**	149	IAMs_20	IAMs_20	15 31 59.2			
	comp=Z,2µm,18.0s								
CZD	**Col de Zad**	**145.33**	324	P	**PKPdf**	**14 23 03.0**	**+1.8**		
SALV	**Santo Antonio**	**145.43**	129	*e*P	**PKiKP**	**14 23 03.8**	**-1.5**		
ANWB	**Willy Bob**	**145.58**	67	*e*P	**PKPdf**	**14 23 00.2**	**-1.3**		
ANWB	**Willy Bob**	**145.58**	67	PKPdf	**PKPdf**	**14 23 00.7**	**-0.8**		
ANWB				IAMs_20	IAMs_20	15 24 18.3			
	comp=Z,2µm,20.0s								
ANBD	**Bethesda, Anti**	**145.76**	68	*e*P	**PKPdf**	**14 23 01.1**	**-0.7**		
ZHG	**ZHG**	**145.94**	326	P	**PKPab**	**14 23 04.0**	**+1.0**		
VAO	**Valinhos**	**146.01**	149	*e*P	**PKPdf**	**14 23 02.4**	**+0.1**		
PARB	**Paraibuna**	**146.40**	151	*e*P	**PKPbc**	**14 23 04.0**	**-0.2**		
H07N1	**FLORES T-PHASB**	**146.41**	4	*e*PKP	**PKPab**	**14 23 04.2**	**-0.3**		
MDVC	**Dominica, Viel**	**146.44**	71	*e*P	**PKPdf**	**14 23 03.3**	**+0.3**		
DSLB	**Salisbury**	**146.46**	71	*e*P	**PKPbc**	**14 23 04.4**	**-0.1**		
AVE	**Averroes**	**146.48**	327	PKP	**PKPbc**	**14 23 03.7**	**-0.4**		
AVE	**Averroes**	**146.48**	327	P	**PKPab**	**14 23 04.7**	**-0.3**		
ITRB	**Iturama**	**146.64**	141	*e*P	**PKPbc**	**14 23 04.6**	**-0.3**		
DLPL	**La Plaine**	**146.65**	71	*e*P	**PKPdf**	**14 23 02.9**	**-0.5**		
MACA	**Manacapuru-AM**	**146.68**	105	*e*P	**PKPbc**	**14 23 05.3**	**+0.1**		
H07S1	**FLORES T-PHASB**	**146.71**	4	*e*PKP	**PKPbc**	**14 23 04.4**	**-0.2**		
BB19B	**Bebedouro**	**146.71**	145	*e*P	**PKPbc**	**14 23 04.6**	**-0.5**		
GRGR	**Grenville**	**146.81**	77	*e*P	**PKPdf**	**14 23 01.8**	**-2.0**		
FDF	**Fort de France**	**146.86**	72	IAMs_20	IAMs_20	15 33 16.4			
	comp=Z,2µm,19.0s								
GCMP	**Grenada, Carri**	**146.99**	76	*e*P	**PKPdf**	**14 23 00.4**	**-3.6**		
SVB	**Belmont**	**147.03**	75	*e*P	**PKPbc**	**14 23 05.4**	**-0.8**		
SVB	**Belmont**	**147.03**	75		**PKPbc**	**14 23 05.3**	**-0.8**		
PGRA	**Graciosa**	**147.14**	359	*e*PKP	**PKPdf**	**14 23 02.4**	**-1.2**		
SLBI	**Saint Lucia, B**	**147.17**	73	*e*P	**PKPdf**	**14 23 05.1**	**+0.8**		
TPP	**Pointe-a-Pierr**	**147.21**	80	*e*P	**PKPab**	**14 23 08.4**	**+0.1**		
TRN	**Trinidad (W)**	**147.22**	80	*e*P	**PKPdf**	**14 23 05.4**	**+1.0**		
TZRR	**Tazzarine**	**147.23**	322	P	**PKPbc**	**14 23 07.0**	**+0.6**		
MCLT	**Moule a Chique**	**147.26**	74	*e*P	**PKPdf**	**14 23 03.3**	**-1.1**		
PAGU	**Agualva, Azore**	**147.38**	358	*e*PKP	**PKPdf**	**14 23 03.8**	**-0.2**		
PSCM	**Serra do Cume**	**147.45**	358	*e*PKP	**PKPbc**	**14 23 06.7**	**+0.1**		
ROSA	**Rosais**	**147.45**	359	*e*PKP	**PKPdf**	**14 23 01.3**	**-2.9**		
ADH	**Angra Heroismo**	**147.50**	358	*e*PKP	**PKPbc**	**14 23 07.1**	**+0.4**		
PMAN	**Manadas**	**147.54**	359	*e*PKP	**PKPdf**	**14 23 02.0**	**-2.3**		
PCED	**Cedros**	**147.54**	0	*e*PKP	**PKPdf**	**14 23 04.8**	**+0.5**		
CALA	**Caldeira**	**147.59**	0	*e*PKP	**PKPbc**	**14 23 06.2**	**-0.9**		
PPNO	**Prainha do Nor**	**147.70**	360	*e*PKP	**PKPdf**	**14 23 05.0**	**+0.3**		
PCAN	**Candelaria**	**147.71**	360	*e*PKP	**PKPdf**	**14 23 03.4**	**-1.2**		
PID	**Ribeirinha**	**147.73**	359	*e*PKP	**PKPdf**	**14 23 03.6**	**-1.1**		
BOAV	**Boa Vista**	**147.96**	95	*e*P	**PKPbc**	**14 23 08.1**	**-0.7**		
PTGA	**Pitinga**	**147.96**	101	PKPbc	**PKPdf**	**14 23 07.0**	**+1.3**		
	comp=Z,36nm,0.7s,baz=260,slow=3.8,SNR=24								
PTGA	**Pitinga**	**147.96**	101	IAMs_20	IAMs_20	15 34 24.2			
	comp=Z,2µm,18.0s								
TOSP	**Speyside**	**148.00**	78	*e*P	**PKPbc**	**14 23 08.5**	**-0.3**		
CLDB	**Colider**	**148.13**	122	*e*P	**PKPdf**	**14 23 07.4**	**+1.4**		
PSET	**Sete Cidades**	**148.24**	356	*e*PKP	**PKPdf**	**14 23 02.4**	**-3.1**		
BART	**Pico Bartolome**	**148.24**	355	*e*PKP

ILAR	Eielson Array	83.51	22	P	P	14 23 02.3	-0.9
	0.7nm,0.8s,baz=233,slow=4.7,SNR=2.2						
TORD	Torodi Ar. Bea	149.01	286	PKPbc	PKiKP	14 30 25.6	-0.6
	1.4nm,0.6s,baz=66,slow=3.5,SNR=2.6						

IDC ***16*** *14:11:06.6±0.5,5.94S×151.55E,h0km,mb4.6/21, mb1 4.7/23,mb1mx4.6/38,mbtmp4.6/23,ML4.3/2, Error ellipse: s-maj=18.1km s-min=13.2km az=93.0*
NEIC ***16*** *14:11:08.6±1.9,5.97S±0.06×151.58E±0.04,h10km±1km, mb5.0/99, Error ellipse: s-maj=11.5km s-min=4.2km az=155.0*

ISC 16 14:11:12.2±0.4,6.01S±0.06×151.58E±0.07,h41km,n142, σ1900/138,mb4.9/69,1C,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	Rabaul	1.90	18	Pn	Pn	14 11 39.9	-2.3
RABL	Rabaul	1.90	18	⇑P	Pn	14 11 46.1	+4.0
MANU	Manus Island	5.76	313	Pn	Pn	14 12 37.9	+2.7
HNR	Honiara	8.96	113	Pn	Pn	14 13 18.8	-0.3
	12nm,0.3s,baz=285,slow=20,SNR=3.0						
COEN	Coen	11.43	226	Pn	Pn	14 13 52.8	-0.2
CTA	Charters Tower	14.91	200	Pn	Pn	14 14 41.6	+1.2
	0.3nm,0.3s,baz=45,slow=16,SNR=1.1						
CTAO	Charters Tower	14.91	200	P	P	14 14 44.6	-0.7
EIDS	Eidsvold	19.25	181		Pn	14 15 33.2	-1.3
FAKI	Fak Fak	19.51	278	P	Pn	14 15 36.0	-1.6
GUMO	Guam	20.58	341	P	Pn	14 15 48.3	-1.9
	103nm,0.9s,baz=167,slow=8.9,SNR=4.2						
SIJI	Sorong	20.90	283	P	Pn	14 15 54.8	+0.7
	9.8nm,0.6s,baz=146,slow=20,SNR=4.7						
MTN	Manton Dam	21.27	250	P	P	14 15 54.4	-0.8
MTN				IAmb	IAmb	14 16 15.0	
	comp=Z,51nm,0.8s						
DZM	Mont Dzumac	21.48	139	P	P	14 15 59.4	+1.9
	comp=Z,7.8nm,0.9s,baz=29,slow=15,SNR=2.6						
DZM	Mont Dzumac	21.48	139		P	14 15 54.9	-2.7
WR0	Warramunga Arr	21.59	228	P	P	14 15 57.7	-1.0
WR0				IAmb	IAmb	14 16 11.2	
	comp=Z,95nm,1.1s						
WRAB	Tennant Creek	21.72	229	P	P	14 16 00.2	+0.2
WRAB				IAmb	IAmb	14 16 21.5	
	comp=Z,39nm,0.8s						
WB2	Warramunga Arr	21.72	229	P	P	14 15 59.8	-0.2
WB2				IAmb	IAmb	14 16 16.7	
	comp=Z,58nm,1.1s						
WRA	Warramunga Arr	21.73	229	P	P	14 16 00.1	0.0
	comp=Z,14nm,0.8s,baz=54,slow=10,SNR=6.1						
ANA2	Anatahan	22.96	345	P	P	14 16 11.3	-1.8
KNRA	Kununurra	24.35	245	P	P	14 16 25.6	-0.8
AS31	Alice Springs	24.43	222	P	P	14 16 27.2	-0.1
ASAR	Alice Springs	24.44	222	P	P	14 16 27.6	+0.3
	comp=Z,16nm,0.7s,baz=47,slow=9.1,SNR=15						
ASAR	Alice Springs	24.44	222	P	P	14 16 26.3	-1.0
STKA	Stephens Creek	27.37	199	P	P	14 16 54.7	+1.0
	comp=Z,10nm,1.0s,baz=38,slow=14,SNR=4.0						
STKA	Stephens Creek	27.37	199	P	P	14 16 53.5	-0.2
BATI	Baumata	27.94	260	P	P	14 16 59.7	+0.7
	comp=Z,31nm,0.5s,baz=316,slow=1.4,SNR=5.7						
FITZ	Fitzroy Crossi	28.01	242	P	P	14 16 59.7	+0.1
	comp=Z,20nm,0.6s,baz=67,slow=7.5,SNR=16						
FITZ	Fitzroy Crossi	28.01	242	P	P	14 16 59.1	-0.4
BBOO	Buckleboo	30.33	206	P	P	14 17 18.8	-1.2
BBOO				IAmb	IAmb	14 17 34.6	
	comp=Z,33nm,1.2s						
TOLI2	Tolitoli	31.55	282	P	P	14 17 30.2	-0.7
TOLI2				IAmb	IAmb	14 17 31.7	
	comp=Z,14nm,1.0s						
FORT	Forrest	33.08	219	P	P	14 17 43.8	-0.4
FORT				IAmb	IAmb	14 17 59.9	
	comp=Z,28nm,0.8s						
PSA00	Pilbara Seismi	34.37	240	P	P	14 17 54.6	-1.0
BKB	Balikpapan	34.92	276	P	P	14 17 59.7	-0.6
JAGI	Jajag, Banyuwa	37.19	264	P	P	14 18 17.5	-2.3
URZ	Urewera	39.59	148	P	P	14 18 40.4	+0.8
GIRL	Giralia	39.62	241	P	P	14 18 41.0	+0.9
JOW	Kunigami	39.69	326	P	P	14 18 40.8	+0.2
MORW	Morawa	40.64	231	P	P	14 18 48.4	-0.1
MORW				IAmb	IAmb	14 19 01.1	
	comp=Z,59nm,1.4s						
UGM	Wanagama	40.78	265	P	P	14 18 49.2	-0.7
YULB	Yu-li	41.58	316	P	P	14 18 55.4	-0.9
MLZ	Mavora Lakes	41.76	162	P	P	14 18 58.1	+0.6
MLZ				IAmb	IAmb	14 19 16.4	
	comp=Z,60nm,1.5s						
TPUB	Ta-pu	41.98	315	P	P	14 18 58.8	-0.8
SSLB	Suanglung	42.07	316	P	P	14 19 00.5	+0.2
SSLB				IAmb	IAmb	14 19 11.0	
	comp=Z,62nm,1.5s						
YHNB	Yeheng	42.37	317	P	P	14 19 03.1	+0.4
YHNB				IAmb	IAmb	14 19 26.7	
	comp=Z,36nm,0.9s						
CISI	Cisompet, Garu	43.47	265	P	P	14 19 10.7	-1.2
JNU	Nakatsue	43.60	335	P	P	14 19 13.4	+0.8
	comp=Z,14nm,0.7s,baz=108,slow=1.3,SNR=1.8						
JNU	Nakatsue	43.60	335	P	P	14 19 13.4	+0.8
JNU				IAmb	IAmb	14 19 20.1	
	comp=Z,21nm,0.8s						
LEM	Lembang	43.68	266	P	P	14 19 13.8	+0.1
	comp=Z,26nm,0.6s,baz=187,slow=0.8,SNR=3.6						
JWT	Wachi	43.81	341	P	P	14 19 15.0	+0.9
JWT				IAmb	IAmb	14 19 21.3	
	comp=Z,19nm,1.0s						
MJAR	Matsushiro Arr	44.15	344	P	P	14 19 17.7	+0.9
	comp=Z,2.2nm,0.7s,baz=176,slow=8.6,SNR=4.8						
MAJO	Matsushiro	44.15	344	P	P	14 19 17.5	+0.6
JHS	Saijyo	44.35	338	P	P	14 19 20.1	+1.6
JHS				IAmb	IAmb	14 19 40.8	
	comp=Z,28nm,1.3s						
JTU	Tsushima	45.44	334	P	P	14 19 28.1	+1.0
JSD	Sado	45.54	345	P	P	14 19 29.8	+1.8
JSD				IAmb	IAmb	14 19 45.2	
	comp=Z,18nm,0.9s						
KSRS	Korea Array	48.55	335	P	P	14 19 52.4	+1.0
	comp=Z,1.6nm,0.8s,baz=150,slow=7.4,SNR=2.3						
RPSI	Rantau Prapat	53.28	278	P	P	14 20 26.3	-1.1
RPSI				IAmb	IAmb	14 20 37.8	
	comp=Z,25nm,1.5s						
GSI	Gunungsitoli	54.40	276	P	P	14 20 35.1	-0.6
GSI				IAmb	IAmb	14 20 36.5	
	comp=Z,23nm,0.8s						
CMAR	Chiang Mai Arr	57.30	296	P	P	14 20 56.5	+0.1
	comp=Z,1.0nm,0.5s,baz=118,slow=5.6,SNR=5.2						
PEA0B	Petropavlovsk-	59.13	4	P	P	14 21 10.4	+2.0
PEA0B				IAmb	IAmb	14 21 29.7	
	comp=Z,11nm,1.0s						
PETK	Petropavlovsk-	59.13	4	P	P	14 21 07.6	-0.8
	comp=Z,1.5nm,0.7s,baz=154,slow=6.3,SNR=7.3						
PETK	Petropavlovsk-	59.13	4	P	P	14 21 10.4	+1.9
CASY	Casey	66.50	197	P	P	14 21 57.7	+0.4
SONM	Songino Array	66.71	329	P	P	14 21 58.6	-0.5
	comp=Z,1.1nm,0.5s,baz=133,slow=3.2,SNR=4.4						
SONM	Songino Array	66.71	329	P	P	14 21 59.6	+0.5
UNV	Unalaska Valle	69.23	25	P	P	14 22 15.8	+1.1
AKUT	Akutan	69.74	25	P	P	14 22 19.1	+1.3
SPIA	Saint Paul Isl	70.21	21	P	P	14 22 22.2	+1.6
VNDA	Vanda	71.67	178	P	P	14 22 30.4	+1.2
	comp=Z,4.9nm,1.2s,baz=332,slow=6.0,SNR=6.8						
VNDA	Vanda	71.67	178	P	P	14 22 29.9	+0.6
SII	Sitkinak Islan	76.40	28	P	P	14 22 58.9	+1.7
OHAK	Old Harbor	77.18	27	P	P	14 23 02.4	+0.9
TNA	Tin City	77.29	16	P	P	14 23 02.4	+0.4
KDAK	Kodiak Island	77.80	27	P	P	14 23 06.1	+1.1
Q19K	Cape Douglas,	77.97	26	P	P	14 23 06.3	+0.4
N18K	Kilae Creek	78.04	24	P	P	14 23 07.8	+1.5
N18K				IAmb	IAmb	14 23 12.4	
	comp=Z,9.3nm,0.8s						
SVW2	Sparrevohn	78.41	23	P	P	14 23 10.0	+1.7
SVW2				IAmb	IAmb	14 23 10.8	
	comp=Z,10nm,0.8s						
P19K	Oil Pt	78.54	25	P	P	14 23 09.9	+0.8
N19K	Bonanza Creek	78.68	24	P	P	14 23 10.4	+0.4
L19K	White Mountain	79.33	23	P	P	14 23 13.9	+0.5
L19K				IAmb	IAmb	14 23 15.7	
	comp=Z,13nm,0.8s						
CNPM	China Poot	79.33	26	P	P	14 23 14.1	+0.6
M19K	Big River Lodg	79.35	23	P	P	14 23 14.1	+0.6
BRLK	Bradley Lake	79.61	26	P	P	14 23 15.7	+0.8
BRLK				IAmb	IAmb	14 23 19.3	
	comp=Z,14nm,0.9s						
K20K	Telida	80.31	22	P	P	14 23 19.7	+1.1
MKAR	Makanchi Array	80.44	319	P	P	14 23 18.8	-1.0
	comp=Z,0.9nm,0.7s,baz=81,slow=7.9,SNR=4.2						
J20K	Nowinta River	80.75	21	P	P	14 23 22.0	+1.1
J20K				IAmb	IAmb	14 23 23.2	
	comp=Z,12nm,0.9s						
CAST	Castle Rocks	81.08	22	P	P	14 23 22.6	-0.1
PWL	Port Wells	81.26	25	P	P	14 23 24.4	+0.6
GHO	Glory Hole Cre	81.46	24	P	P	14 23 24.9	0.0
GHO				IAmb	IAmb	14 23 51.7	
	comp=Z,17nm,1.2s						
ZALV	Zalesovo Beam	81.48	327	P	P	14 23 23.6	-1.5
	comp=Z,2.2nm,0.5s,baz=107,slow=6.1,SNR=5.0						
ZALV	Zalesovo Beam	81.48	327	P	P	14 23 22.8	-2.3
KTH	Kantishna Hill	81.59	22	P	P	14 23 25.0	-0.6
KTH				IAmb	IAmb	14 23 27.8	
	comp=Z,20nm,1.4s						
SML	Sawmill	81.73	25	P	P	14 23 26.3	0.0
SML				IAmb	IAmb	14 23 28.1	
	comp=Z,16nm,0.8s						
H21K	Melozitna Rive	82.06	20	P	P	14 23 28.2	+0.3
RND	Reindeer	82.31	23	P	P	14 23 29.0	-0.4
RND				IAmb	IAmb	14 23 30.0	
	comp=Z,12nm,0.8s						
MCK	McKinley	82.45	23	P	P	14 23 29.4	-0.6
MCK				IAmb	IAmb	14 23 30.6	
	comp=Z,19nm,0.8s						
MLY	Manley	82.45	21	P	P	14 23 30.2	+0.2
MLY				IAmb	IAmb	14 23 31.3	
	comp=Z,10.0nm,0.7s						
DHY	Denali Highway	82.73	24	P	P	14 23 31.7	0.0
DHY				IAmb	IAmb	14 23 51.4	
	comp=Z,14nm,1.2s						
NEA2	Nenana	82.83	22	P	P	14 23 31.1	-0.9
NEA2				IAmb	IAmb	14 23 32.5	
	comp=Z,12nm,0.8s						
I23K	Minto, Yukon-K	83.01	21	P	P	14 23 32.9	+0.1
WRH	Wood River Hil	83.14	22	P	P	14 23 32.9	-0.6
WRH				IAmb	IAmb	14 23 34.0	
	comp=Z,7.8nm,0.8s						
H23K	Yukon River	83.29	21	P	P	14 23 34.1	-0.2
H23K				IAmb	IAmb	14 23 58.0	
	comp=Z,11nm,1.2s						
MDM	Murphy Dome	83.33	22	P	P	14 23 34.4	-0.1
MDM				IAmb	IAmb	14 23 37.4	
	comp=Z,23nm,1.5s						
CCB	Clear Creek Bu	83.33	22	P	P	14 23 33.2	-1.3
CCB				IAmb	IAmb	14 23 34.8	
	comp=Z,9.4nm,0.8s						
TCOL	CIGO, UAF Yank	83.42	22	P	P	14 23 34.2	-0.8
COLA	College	83.42	22	P	P	14 23 34.0	-1.0
GLB	Gilahina Butte	83.48	26	P	P	14 23 35.8	+0.4
GLB				IAmb	IAmb	14 23 36.7	
	comp=Z,14nm,1.0s						
HDA	Harding Lake	83.54	23	P	P	14 23 35.9	+0.3
HDA				IAmb	IAmb	14 23 42.8	
	comp=Z,7.2nm,1.0s						
IL31		83.74	22	P	P	14 23 35.4	-1.2
IL31				IAmb	IAmb	14 23 38.2	
	comp=Z,9.6nm,0.8s						
ILAR	Eielson Array	83.74	22	P	P	14 23 35.6	-1.0
	comp=Z,7.3nm,0.7s,baz=247,slow=5.3,SNR=35						
QSPA	South Pole Qui	83.95	180	P	P	14 23 38.4	+0.5
	comp=Z,8.2nm,0.8s,baz=344,slow=0.6,SNR=20						
QSPA	South Pole Qui	83.95	180	P	P	14 23 38.0	+0.1
QSPA				IAmb	IAmb	14 23 55.9	
	comp=Z,18nm,1.1s						
MAW	Mawson	83.99	203	P	P	14 23 38.2	+0.3
	comp=Z,3.4nm,0.6s,baz=93,slow=6.5,SNR=18						
MAW	Mawson	83.99	203	P	P	14 23 38.0	+0.2
RIDG	Independent Ri	84.05	24	P	P	14 23 38.7	+0.4
RIDG				IAmb	IAmb	14 23 41.4	
	comp=Z,24nm,1.3s						
MENT	Mentasta	84.16	25	P	P	14 23 39.5	+0.7
MENT				IAmb	IAmb	14 24 04.3	
	comp=Z,6.5nm,0.8s						
BARN	Barnard Glacie	84.27	27	P	P	14 23 40.2	+0.6
BARN				IAmb	IAmb	14 23 41.8	
	comp=Z,15nm,0.8s						
DOT	Dot Lake	84.32	24	P	P	14 23 39.8	+0.2
DOT				IAmb	IAmb	14 23 41.1	
	comp=Z,9.7nm,0.8s						
CTGM	Chitina Glacie	84.38	27	P	P	14 23 41.0	+0.8
CTGM				IAmb	IAmb	14 23 42.2	
	comp=Z,13nm,0.8s						
SCRK	Sand Creek	84.50	24	P	P	14 23 41.2	+0.5
M27K	Edge Creek, AK	84.69	25	P	P	14 23 42.8	+1.1
M27K				IAmb	IAmb	14 23 48.4	
	comp=Z,13nm,0.8s						
L27K	Beaver Creek,	84.99	25	P	P	14 23 43.6	+0.6
L27K				IAmb	IAmb	14 23 46.4	
	comp=Z,4.9nm,0.7s						
K27K	Chicken	85.28	24	P	P	14 23 45.3	+0.8
EGAK	Eagle	85.95	23	P	P	14 23 48.5	+0.9
EGAK				IAmb	IAmb	14 23 55.7	
	comp=Z,11nm,0.9s						
HYT	Haines Junctio	86.07	28	P	P	14 23 50.0	+1.4
HYT				IAmb	IAmb	14 23 51.2	
	comp=Z,16nm,1.0s						
DAWY	Dawson	86.39	24	P	P	14 23 51.2	+1.2
DAWY				IAmb	IAmb	14 24 13.0	
	comp=Z,18nm,1.5s						
WHY	Whitehorse	87.24	28	P	P	14 23 55.7	+1.4
WHY				IAmb	IAmb	14 23 58.2	
	comp=Z,14nm,1.2s						
KKAR	Karatay Array	87.58	314	P	P	14 23 55.8	-0.4
EPYK	Eagle Plains	88.25	23	P	P	14 23 59.5	+0.6
INK	Inuvik	90.02	21	P	P	14 24 07.8	+0.7
INK				IAmb	IAmb	14 24 14.2	
	comp=Z,11nm,1.1s						
NVAR	Mina Array Bea	93.79	52	P	P	14 24 27.2	+1.7
	comp=Z,1.5nm,0.7s,baz=250,slow=6.2,SNR=6.3						
AKASG	Main Array Be	114.75	324	PKP	PKPdf	14 29 47.7	-0.6
	comp=Z,0.3nm,0.3s,baz=57,slow=2.2,SNR=2.4						
NB2	NORSAR Subarra	117.62	339	PKPdf	PKiKP	14 29 54.5	+0.8
	comp=Z,1.5nm,0.8s,baz=40,slow=1.7						
NOA	NORSAR Array B	117.62	339	PKP	PKiKP	14 29 54.4	+0.8
	comp=Z,0.5nm,0.8s,baz=46,slow=1.8,SNR=1.5						
PLCA	Paso Flores	119.53	144	PKP	PKiKP	14 29 59.0	+0.9
	comp=Z,0.8nm,0.7s,baz=180,slow=4.0,SNR=3.7						
PLCA	Paso Flores	119.53	144		PKiKP	14 29 57.8	-0.3
IDI	Anoyia	123.09	308	PKP	PKiKP	14 30 05.6	+0.4
	comp=Z,4.9nm,0.6s,baz=55,slow=12,SNR=1.6						
GERES	GERESS Array B	124.43	328	PKP	PKiKP	14 30 08.2	+0.8
	comp=Z,1.2nm,0.6s,baz=22,slow=0.7,SNR=5.8						
GERES	GERESS Array B	124.43	328		PKiKP	14 30 07.5	+0.1
PTGA	Pitinga	147.81	101	PKPbc	PKiKP	14 30 54.9	-0.9
	comp=Z,2.2nm,0.6s,baz=271,slow=3.7,SNR=6.8						
PTGA	Pitinga	147.81	101		PKPbc	14 30 53.3	-0.6
TORD	Torodi Ar. Bea	149.49	286	PKPbc	PKiKP	14 30 58.0	-1.2
	comp=Z,10nm,0.6s,baz=63,slow=3.1,SNR=18						
TORD	Torodi Ar. Bea	149.49	286		PKiKP	14 30 57.9	-1.2

KRSC 16 14:11:41.0±2.7,49.73N×157.12E,h50km±26km,ML4.1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	1.15	326	*i* P	Pn	14 12 00.3	-0.4
SKR				*e*S	Sn	14 12 15.0	-0.3
ALID	Alaid	1.52	319	*e*P	Pn	14 12 05.9	0.0
PAU	Pauzhetka	1.75	354	*e*P	Pn	14 12 11.1	+2.3
PAU				*e*S	Sn	14 12 33.7	+3.8
KDTR	Khodutka, Kamc	2.17	16	*e*P	Pn	14 12 17.3	+2.8
KDTR				*e*S	Sn	14 12 44.4	+4.3
ASAK	Asacha	2.70	10	*e*P	Pn	14 12 25.9	+4.0
MTVR	Mutnovka	2.83	13	*e*P	Pn	14 12 27.4	+3.6
MTVR				*e*S	Sn	14 13 01.3	+4.5
RUS	Russkaya	2.84	17	*e*P	Pn	14 12 26.7	+2.9
RUS				*e*S	Sn	14 13 00.0	+3.2
GRL	Gorelyy	2.88	12	*e*P	Pn	14 12 28.3	+3.8
KRMR	Karymshinskiy	3.17	11	*e*P	Pn	14 12 34.4	+6.2
APC	Apacha	3.20	0	*e*P	Pn	14 12 31.4	+2.8
PET	Petropavlovsk	3.43	16	*e*P	Pn	14 12 35.5	+3.6
PET				*e*S	Sn	14 13 14.8	+3.6
DALK	Dalny	3.46	17	*e*P	Pn	14 12 35.8	+3.6
UGLR	Uglovaya	3.64	16	*e*P	Pn	14 12 39.7	+4.9
AVH	Avacha	3.68	15	*e*P	Pn	14 12 40.0	+4.7
KOK	Koryaka	3.69	14	*e*P	Pn	14 12 40.6	+5.1
SMAR	Somma	3.69	16	*e*P	Pn	14 12 40.0	+4.4
SDLR	Sedlovina	3.72	17	*e*P	Pn	14 12 39.4	+3.5
KRER	Koryakskii	3.72	15	*e*P	Pn	14 12 40.5	+4.5
KRX	Arik	3.75	14	*e*P	Pn	14 12 41.0	+4.6
SPN	Mys Shipunski	3.83	27	*e*P	Pn	14 12 41.2	+3.9
SPN				*e*S	Sn	14 13 26.4	+5.4
GNL	Ganaly	4.00	7	*e*P	Pn	14 12 44.3	+4.5
KII	Karymskiy	4.54	18	*e*P	Pn	14 12 52.6	+5.4
MKZ	Mys Kozlova	5.60	29	*e*P	Pn	14 13 04.5	+2.9
MKZ				*e*S	Sn	14 14 07.5	+3.0
KZV	Kizimen	5.73	19	*e*P	Pn	14 13 08.4	+4.9
TUMD	Tumrok D	5.83	19	*e*P	Pn	14 13 09.0	+4.2
TUMR	Tumrok	5.86	17	*e*P	Pn	14 13 09.8	+4.6
KBTR	Krutoberegovo	7.34	26	*e*P	Pn	14 13 28.9	+3.5
BKI	Bering	7.69	41	*e*P	Pn	14 13 33.3	+3.1
BKI				*e*S	Sn	14 14 55.3	-0.6

IDC 16 14:14:31.1±2.6,5.68S×151.28E,h0km,mb3.7/3, mb1 4.1/3,mb1mx3.6/40,mbtmp3.8/3,Error ellipse: s-maj=178.0km s-min=33.1km az=126.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	21.74	228	P	P	14 19 24.3	0.0
	1.6nm,0.6s,baz=55,slow=10,SNR=1.8						
ASAR	Alice Springs	24.49	221	P	P	14 19 52.1	-0.1
	1.4nm,0.6s,baz=50,slow=9.0,SNR=4.2						
ILAR	Eielson Array	83.54	22	P	P	14 27 00.3	-0.4
	0.6nm,0.8s,baz=242,slow=5.5,SNR=2.5						
TORD	Torodi Ar. Bea	149.12	286	PKPbc	PKPbc	14 34 22.6	+0.1
	1.0nm,0.7s,baz=69,slow=3.3,SNR=3.0						

IDC ***16*** *14:16:09.7±6.4,5.44S×147.83E,h142km±52km,mb3.5/4, mb1 3.8/6,mb1mx3.4/41,mbtmp4.0/6,Error ellipse: s-maj=57.2km s-min=24.4km az=105.0*

ISC 16 14:16:10.6±1.3,5.45S±0.2×147.8E±0.2,h150km,n8, σ058/8,mb3.6/4,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	Jayapura	7.61	292	P	Pn	14 17 59.2	+0.4
	0.6nm,0.3s,baz=359,slow=17,SNR=1.9						
WRA	Warramunga Arr	19.48	221	P	P	14 20 25.6	-0.4
	1.0nm,0.3s,baz=49,slow=11,SNR=14						
ASAR	Alice Springs	22.54	215	P	P	14 20 58.5	+0.3
	2.1nm,0.6s,baz=47,slow=8.4,SNR=6.6						
FITZ	Fitzroy Crossi	25.02	238	P	P	14 21 21.1	+0.2
	5.3nm,0.4s,baz=55,slow=11,SNR=9.9						
MKAR	Makanchi Array	77.53	320	P	P	14 27 49.4	-0.4
	0.1nm,0.4s,baz=96,slow=6.9,SNR=1.3						
ILAR	Eielson Array	84.64	23	P	P	14 28 27.2	+0.2
	0.6nm,0.7s,baz=248,slow=4.3,SNR=4.1						
SIV	San Ignacio	144.41	127	PKP	PKPdf	14 35 30.6	+0.5
	0.4nm,0.3s,baz=233,slow=6.0,SNR=7.1						
TORD	Torodi Ar. Bea	145.68	285	PKPbc	PKPab	14 35 32.5	-0.9
	0.6nm,0.6s,baz=66,slow=3.3,SNR=2.0						

IDC ***16*** *14:17:39.1±1.2,6.00S×151.60E,h0km,mb4.1/9, mb1 4.3/9,mb1mx4.0/41,mbtmp4.1/9,Error ellipse: s-maj=47.2km s-min=20.1km az=120.0*
NEIC ***16*** *14:17:42.0±1.6,5.99S±0.07×151.49E±0.05,h10km±1km, mb4.6/23,Error ellipse: s-maj=11.9km s-min=8.9km az=177.0*

ISC 16 14:17:41.1±0.5,5.98S±0.08×151.46E±0.10,h10km,n37, σ086/36,mb4.5/21,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	Rabaul	1.92	22	Pn	Pn	14 18 15.1	+1.3
RABL				Sn	Sn	14 18 36.3	-1.6
HNR	Honiara	9.09	113	Pn	Pn	14 19 52.8	+0.4
EIDS	Eidsvold	19.28	181	P	P	14 22 07.0	+0.9
MTN	Manton Dam	21.16	250	P	P	14 22 28.0	+1.3
WR0	Warramunga Arr	21.52	228	P	P	14 22 31.4	+0.8
WR0				IAmb	IAmb	14 22 43.1	
	comp=Z,18nm,1.1s						
WB2	Warramunga Arr	21.65	229	P	P	14 22 32.4	+0.5
WB2				IAmb	IAmb	14 22 44.3	
	comp=Z,38nm,1.4s						
WRA	Warramunga Arr	21.66	229	P	P	14 22 32.5	+0.4
	comp=Z,6.2nm,0.8s,baz=56,slow=10,SNR=8.1						
WRA	Warramunga Arr	21.66	229	IAmb	IAmb	14 22 35.0	
	comp=Z,11nm,0.8s						
KNRA	Kununurra	24.25	245	P	P	14 22 59.2	+0.6
KNRA				IAmb	IAmb	14 23 18.2	
	comp=Z,13nm,1.0s						
AS31	Alice Springs	24.38	222	P	P	14 22 59.9	+0.2
ASAR	Alice Springs	24.38	222	P	P	14 23 00.3	+0.6
	comp=Z,6.9nm,0.7s,baz=53,slow=9.6,SNR=18						
STKA	Stephens Creek	27.36	198	P	P	14 23 26.4	-0.2
	comp=Z,3.6nm,0.9s,baz=51,slow=11,SNR=3.4						
STKA	Stephens Creek	27.36	198	IAmb	IAmb	14 23 30.5	
	comp=Z,2.7nm,1.2s						
FITZ	Fitzroy Crossi	27.92	242	P	P	14 23 32.0	+0.3
	comp=Z,5.6nm,0.6s,baz=68,slow=6.3,SNR=8.9						
FITZ	Fitzroy Crossi	27.92	242	P	P	14 23 32.2	+0.5
FITZ				IAmb	IAmb	14 23 35.2	
	comp=Z,6.9nm,0.8s						
FORT	Forrest	33.03	219	P	P	14 24 16.3	-0.4
FORT				IAmb	IAmb	14 24 21.2	
	comp=Z,14nm,0.9s					

σ0$96/44, **mb4.7**/20, **1C, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.92**	**22**		**Pn**	**14 22 43.3**	**-0.2**
COEN	**Coen**	**11.36**	**225**	Pn	**Pn**	**14 24 52.9**	**-0.3**
CTA	**Charters Tower**	**14.90**	**199**	Pn	**Pn**	**14 25 43.8**	**+2.1**
	0.1nm,0.3s,baz=11,slow=16,SNR=1.9						
SAUI	**Saumlaki**	**20.09**	**263**		**P**	**14 26 46.3**	**+1.6**
MTN	**Manton Dam**	**21.15**	**250**		**P**	**14 26 56.8**	**+0.6**
MTN				IAmb	IAmb	14 27 15.3	
	comp=Z,36nm,1.2s						
WR0	**Warramunga Arr**	**21.51**	**228**	P	**P**	**14 26 59.6**	**-0.5**
WB2	**Warramunga Arr**	**21.64**	**229**	P	**P**	**14 27 00.1**	**-1.3**
WRA	**Warramunga Arr**	**21.65**	**229**	P	**P**	**14 27 01.8**	**+0.2**
	comp=Z,6.9nm,0.7s,baz=56,slow=10,SNR=16						
KNRA	**Kununurra**	**24.24**	**245**	P	**P**	**14 27 27.9**	**-0.2**
KNRA				IAmb	IAmb	14 27 45.1	
	comp=Z,24nm,0.9s						
AS31	**Alice Springs**	**24.37**	**222**	P	**P**	**14 27 28.9**	**-0.4**
ASAR	**Alice Springs**	**24.37**	**222**	P	**P**	**14 27 29.5**	**+0.2**
	comp=Z,16nm,0.8s,baz=55,slow=9.4,SNR=58						
ASAR	**Alice Springs**	**24.37**	**222**	P	**P**	**14 27 29.0**	**-0.3**
SOEI	**Soe**	**27.17**	**260**	P	**P**	**14 27 52.8**	**-2.0**
STKA	**Stephens Creek**	**27.36**	**198**	P	**P**	**14 27 57.4**	**+1.2**
	comp=Z,3.5nm,0.8s,baz=7.7,slow=12,SNR=6.1						
STKA	**Stephens Creek**	**27.36**	**198**	P	**P**	**14 27 53.8**	**-2.5**
BATI	**Baumata**	**27.81**	**260**	P	**P**	**14 28 01.4**	**+0.9**
	comp=Z,9.4nm,0.5s,baz=320,slow=7.9,SNR=1.1						
FITZ	**Fitzroy Crossi**	**27.91**	**242**	P	**P**	**14 28 01.3**	**0.0**
	comp=Z,7.6nm,0.7s,baz=65,slow=7.6,SNR=23						
FITZ	**Fitzroy Crossi**	**27.91**	**242**	P	**P**	**14 28 00.9**	**-0.3**
FITZ				IAmb	IAmb	14 28 11.2	
	comp=Z,9.8nm,0.6s						
FORT	**Forrest**	**33.02**	**219**	P	**P**	**14 28 45.6**	**-0.8**
PSA00	**Pilbara Seismi**	**34.27**	**240**	P	**P**	**14 28 56.7**	**-0.6**
GIRL	**Giralia**	**39.51**	**241**	P	**P**	**14 29 41.0**	**-0.9**
JOW	**Kunigami**	**39.58**	**327**	P	**P**	**14 29 43.2**	**+0.8**
	comp=Z,5.9nm,0.8s,baz=142,slow=8.3,SNR=3.9						
CISI	**Cisompet, Garu**	**43.33**	**265**	P	**P**	**14 30 14.3**	**+0.8**
SONM	**Songino Array**	**66.60**	**329**	P	**P**	**14 33 01.3**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=134,slow=6.4,SNR=5.9						
SONM	**Songino Array**	**66.60**	**329**	P	**P**	**14 33 02.2**	**+0.8**
L19K	**White Mountain**	**79.35**	**23**	P	**P**	**14 34 17.3**	**+0.7**
L19K				IAmb	IAmb	14 34 19.2	
	comp=Z,7.3nm,1.2s						
CNPM	**China Poot**	**79.36**	**26**	P	**P**	**14 34 16.8**	**+0.2**
MLY	**Manley**	**82.46**	**21**	P	**P**	**14 34 32.7**	**-0.4**
MLY				IAmb	IAmb	14 34 34.4	
	comp=Z,4.0nm,0.6s						
NEA2	**Nenana**	**82.85**	**22**	P	**P**	**14 34 34.5**	**-0.6**
NEA2				IAmb	IAmb	14 34 35.5	
	comp=Z,3.6nm,0.8s						
IL31		**83.75**	**22**	P	**P**	**14 34 39.3**	**-0.5**
IL31				IAmb	IAmb	14 34 40.2	
	comp=Z,3.7nm,0.7s						
ILAR	**Eielson Array**	**83.75**	**22**	P	**P**	**14 34 38.8**	**-1.1**
	comp=Z,3.5nm,0.7s,baz=249,slow=5.5,SNR=25						
MENT	**Mentasta**	**84.18**	**25**	P	**P**	**14 34 42.1**	**0.0**
MENT				IAmb	IAmb	14 34 47.0	
	comp=Z,10.0nm,1.3s						
DOT	**Dot Lake**	**84.35**	**24**	P	**P**	**14 34 43.2**	**+0.3**
DOT				IAmb	IAmb	14 34 44.6	
	comp=Z,5.2nm,0.9s						
M27K	**Edge Creek, AK**	**84.72**	**25**	P	**P**	**14 34 46.0**	**+1.1**
M27K				IAmb	IAmb	14 34 47.1	
	comp=Z,5.3nm,0.8s						
L27K	**Beaver Creek,**	**85.02**	**25**	P	**P**	**14 34 47.0**	**+0.7**
L27K				IAmb	IAmb	14 34 47.9	
	comp=Z,4.0nm,1.1s						
DAWY	**Dawson**	**86.41**	**24**	P	**P**	**14 34 54.2**	**+0.9**
DAWY				IAmb	IAmb	14 35 06.1	
	comp=Z,7.5nm,1.4s						
SYO	**Syowa Base**	**92.11**	**200⇑**	*e*P	**P**	**14 35 19.4**	**-0.6**
NVAR	**Mina Array Bea**	**93.88**	**52**	P	**P**	**14 35 30.5**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=256,slow=4.5,SNR=4.3						
NVAR	**Mina Array Bea**	**93.88**	**52**	P	**P**	**14 35 27.7**	**-1.4**
GERES	**GERESS Array B**	**124.33**	**327**	PKP	**PKiKP**	**14 41 10.8**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=90,slow=2.7,SNR=8.6						
GERES	**GERESS Array B**	**124.33**	**327**		**PKPdf**	**14 41 09.8**	**-0.5**
TORD	**Torodi Ar. Bea**	**149.35**	**286**	PKPbc	**PKPbc**	**14 42 01.0**	**0.0**
	comp=Z,8.6nm,0.7s,baz=65,slow=2.8,SNR=36						
TORD	**Torodi Ar. Bea**	**149.35**	**286**		**PKPbc**	**14 41 59.7**	**-1.4**
BDFB	**Brasilia**	**151.15**	**138**	PKPbc	**PKPbc**	**14 42 05.1**	**-0.4**
	comp=Z,2.9nm,0.7s,baz=254,slow=4.0,SNR=3.9						

IDC ***16*** *14:23:34.7±1.6,6.06S×151.71E,h0km,mb4.0/5, mb1 4.3/5,mb1mx3.7/44,mbtmp4.0/5, Error ellipse: s-maj=85.3km s-min=30.7km az=128.0*
NEIC ***16*** *14:23:39.9±1.0,6.2S±0.1×151.6E±0.1,h10km±2km, mb4.3/6, Error ellipse: s-maj=25.4km s-min=12.7km az=138.0*

ISC 16 14:23:37.7±1.2,6.4S±0.2×151.9E±0.3,h10km,n16, σ1$62/16, **mb4.1/8, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.18**	**6**	Pn	**Pn**	**14 24 14.1**	**+0.1**
COEN	**Coen**	**11.45**	**228**	Pn	**Pn**	**14 26 22.2**	**+0.8**
PATS	**Pohnpei**	**14.58**	**26**		**P**	**14 27 12.1**	**+1.3**
MTN	**Manton Dam**	**21.48**	**251**	P	**P**	**14 28 25.6**	**-1.2**
WR0	**Warramunga Arr**	**21.63**	**230**	P	**P**	**14 28 30.0**	**+1.7**
WR0				IAmb	IAmb	14 28 38.5	
	comp=Z,22nm,1.4s						
WB2	**Warramunga Arr**	**21.77**	**230**	P	**P**	**14 28 30.5**	**+0.7**
WB2				IAmb	IAmb	14 28 58.2	
	comp=Z,6.2nm,0.8s						
WRA	**Warramunga Arr**	**21.77**	**230**	P	**P**	**14 28 28.4**	**-1.5**
	comp=Z,1.3nm,0.4s,baz=55,slow=10,SNR=0.9						
AS31	**Alice Springs**	**24.42**	**223**	P	**P**	**14 28 57.1**	**+0.4**
ASAR	**Alice Springs**	**24.42**	**223**	P	**P**	**14 28 56.5**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=56,slow=8.7,SNR=4.4						
ASAR	**Alice Springs**	**24.42**	**223**	P	**P**	**14 28 57.2**	**+0.4**
KNRA	**Kununurra**	**24.53**	**246**	P	**P**	**14 28 57.1**	**-0.6**
KNRA				IAmb	IAmb	14 29 07.2	
	comp=Z,13nm,1.0s						
FITZ	**Fitzroy Crossi**	**28.17**	**243**	P	**P**	**14 29 28.2**	**-2.4**
	comp=Z,2.5nm,0.5s,baz=54,slow=7.6,SNR=1.9						
FITZ	**Fitzroy Crossi**	**28.17**	**243**	P	**P**	**14 29 28.2**	**-2.4**
FITZ				IAmb	IAmb	14 29 34.3	
	comp=Z,3.6nm,0.8s						
MAW	**Mawson**	**83.80**	**203**	P	**P**	**14 36 06.5**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=63,slow=2.3,SNR=1.5						
ILAR	**Eielson Array**	**83.93**	**22**	P	**P**	**14 36 05.2**	**-2.5**
	comp=Z,0.5nm,0.6s,baz=254,slow=4.9,SNR=2.3						
TORD	**Torodi Ar. Bea**	**149.93**	**285**	PKPbc	**PKPdf**	**14 43 27.1**	**+2.5**
	comp=Z,0.5nm,0.3s,baz=76,slow=2.3,SNR=7.4						

ISC 16 14:26:57.6±0.9,45.21N±0.03×14.51E±0.04,h15km±7km,
n19,σ0$81/25, 3D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIY	**Rijeka**	**0.12**	**352**	Sg	**Sg**	**14 27 03.9**	**+0.5**
RIY	**Rijeka**	**0.12**	**352**	*e*Pg	**Pg**	**14 27 01.0**	**-0.1**
KNDS	**Knezji Dol**	**0.34**	**345**	⇓*i*Pg	**Pb**	**14 27 05.0**	**-0.3**
KNDS				*i* Sg	**Sb**	**14 27 11.5**	**+0.9**
KNDS				IAML		14 27 11.7	
	comp=Z,18nm,0.1s						
GBRS	**Gornja Briga**	**0.39**	**33**	⇓*i*Pg	**Pg**	**14 27 05.1**	**-0.4**
GBRS				*i* Sg	**Sb**	**14 27 12.0**	**-0.1**
GBRS				IAML		14 27 12.2	
	comp=Z,13nm,0.1s						
SKDS	**Skadanscina**	**0.49**	**315**	⇓*i*Pg	**Pb**	**14 27 07.7**	**-0.2**
SKDS				*e*Sg	**Sb**	**14 27 16.7**	**+1.8**
SKDS				IAML		14 27 17.4	
	comp=Z,1.6nm,0.0s						
BRJN	**Brijuni**	**0.61**	**241**	*e*Pg	**Pn**	**14 27 11.5**	**-0.3**
BRJN				Sg	**Sn**	**14 27 20.4**	**-1.0**
VISS	**Visnje**	**0.64**	**21**	*i*Pg	**Pg**	**14 27 09.4**	**-0.7**
VISS				IAML		14 27 21.6	
	comp=Z,11nm,0.2s						
NVLJ	**Novalja**	**0.69**	**158**	Sg	**Sg**	**14 27 19.2**	**-1.0**
OZLJ	**Ozalj**	**0.79**	**58**	*e*Pg	**Pg**	**14 27 12.6**	**-0.4**
OZLJ				Sg	**Sg**	**14 27 21.5**	**-1.8**
PTJ	**Puntijarka**	**1.24**	**55**	Sg	**Sb**	**14 27 37.4**	**+0.7**
PTJ	**Puntijarka**	**1.24**	**55**	*e*Pg	**Pb**	**14 27 21.3**	**+0.5**
DUGI	**Dugi Otok**	**1.27**	**162**	*e*Pg	**Pb**	**14 27 21.6**	**+0.3**
DUGI				Sg	**Sg**	**14 27 38.8**	**+0.1**
MORI	**Morici**	**1.59**	**147**	Sn	**Sg**	**14 27 49.6**	**+0.8**
MORI	**Morici**	**1.59**	**147**	*e*Pn	**Pn**	**14 27 25.7**	**+0.5**
MOSL	**Moslavina**	**1.63**	**75**	*e*Pn	**Pn**	**14 27 26.8**	**+1.0**
ZIRJ	**Zirje**	**1.75**	**152**	Sn	**Sg**	**14 27 53.9**	**0.0**
ZIRJ	**Zirje**	**1.75**	**152**	*e*Pn	**Pb**	**14 27 29.1**	**-0.3**
KIJV	**Kijevo**	**1.81**	**131**	Sn	**Sg**	**14 27 55.5**	**-0.3**
KIJV	**Kijevo**	**1.81**	**131**	*e*Pn	**Pb**	**14 27 30.1**	**-0.3**

IDC 16 14:28:25.4±2.4,5.77S×151.11E,h0km,mb3.5/4, mb1 3.8/4,mb1mx3.5/39,mbtmp3.6/4, Error ellipse: s-maj=150.0km s-min=29.5km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.54**	**228**	P	P	14 33 16.6	+0.1
	0.8nm,0.8s,baz=54,slow=11,SNR=1.8						
ASAR	**Alice Springs**	**24.30**	**221**	P	P	14 33 44.7	-0.2
	0.4nm,0.5s,baz=53,slow=8.7,SNR=4.2						
FITZ	**Fitzroy Crossi**	**27.71**	**242**	P	P	14 34 16.0	+0.3
	2.5nm,1.0s,baz=73,slow=11,SNR=2.7						
ILAR	**Eielson Array**	**83.69**	**22**	P	P	14 40 56.1	+0.3
	0.3nm,0.7s,baz=244,slow=5.8,SNR=4.6						
TORD	**Torodi Ar. Bea**	**148.98**	**286**	PKPbc	PKPbc	14 48 15.3	-1.2
	0.3nm,0.6s,baz=54,slow=2.5,SNR=1.9						

IDC 16 14:29:08.9±2.1,5.74S×151.13E,h0km,mb3.8/4, mb1 4.1/4,mb1mx3.6/39,mbtmp3.8/4, Error ellipse: s-maj=115.9km s-min=30.4km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.59**	**228**	P	P	14 34 00.5	0.0
	2.0nm,0.8s,baz=54,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**24.35**	**221**	P	P	14 34 28.9	+0.1
	2.8nm,0.8s,baz=56,slow=9.0,SNR=7.7						
FITZ	**Fitzroy Crossi**	**27.75**	**242**	P	P	14 34 59.3	-0.3
	1.5nm,0.7s,baz=77,slow=10,SNR=1.8						
ILAR	**Eielson Array**	**83.65**	**22**	P	P	14 41 38.9	-0.2
	0.4nm,0.7s,baz=250,slow=5.4,SNR=2.4						
TORD	**Torodi Ar. Bea**	**148.99**	**286**	PKPbc	PKPbc	14 48 59.9	-0.2
	1.1nm,0.7s,baz=63,slow=2.8,SNR=4.1						

IDC ***16*** *14:29:54.9±0.7,24.15N×121.73E,h0km,mb3.8/15, mb1 4.0/17,mb1mx3.8/54,mbtmp3.9/17,ML3.7/2, Error ellipse: s-maj=19.7km s-min=14.1km az=66.0*
BJI ***16*** *14:29:57.1±0.0,24.32N×121.87E,h11km,mb4.1/24, ML4.1/6*
NEIC ***16*** *14:29:58.3±1.3,24.23N±0.04×121.79E±0.05,h20km±2km, mb4.6/52,ML4.5(TAP), Error ellipse: s-maj=7.2km s-min=4.5km az=128.0*
JMA ***16*** *14:29:58.3±0.2,24.25N×121.66E,h30km±2km,M4.3*
TAP ***16*** *14:29:58.4,24.28N×121.80E,h19km,ML4.6,B*

ISC 16 14:29:58.2±0.7, 24.25N±0.01×121.82E±0.01, h18km±3km, n226,σ1$10/333, mb4.5/42, 34C-17D, Fault plane solution: NP1:ϕ$194.11937°, δ78.94748°, λ-98.59706°. **NP2:**ϕ$52.37901°, δ13.96951°, λ-52.57369°. **Principal axes:** T Plg33.4106°, Azm291.3941°; N Plg8.4364°, Azm195.7795°; P Plg55.2606°, Azm93.4296°; **Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.09**	**312**	⇑*i*P	**Pg**	**14 30 02.2**	**+0.4**
	baz=301						
EHP				*i* S	**Sg**	**14 30 05.1**	**+0.8**
	baz=301						
ENA	**Nanau**	**0.19**	**339**	⇓*i*P	**Pg**	**14 30 03.1**	**+0.1**
	baz=340						
ENA				*i* S	**Sg**	**14 30 06.4**	**+0.1**
	baz=340						
ETL	**Fush Village**	**0.20**	**244**	P	**Pg**	**14 30 03.6**	**+0.5**
	baz=243						
ETL				S	**Sg**	**14 30 07.9**	**+1.4**
	baz=243						
EWUT	**Wuta**	**0.20**	**350**	⇓*i*P	**Pg**	**14 30 03.4**	**+0.2**
	baz=350						
EWUT				*i* S	**Sg**	**14 30 06.5**	**0.0**
	baz=350						
NACB	**Ninganchiao**	**0.21**	**250**	⇓*i*P	**Pg**	**14 30 03.6**	**+0.3**
	baz=244						
NACB				S	**Sg**	**14 30 07.8**	**+0.9**
	baz=244						
NACB	**Ninganchiao**	**0.21**	**250**	Pg	**Pg**	**14 30 03.4**	**0.0**
NACB				Sg	**Sg**	**14 30 06.5**	**-0.4**
TWD	**Chiawan**	**0.26**	**230**	⇓*i*P	**Pb**	**14 30 04.7**	**+0.5**
	baz=229						
TWD				*i* S	**Sg**	**14 30 09.5**	**+1.4**
	baz=229						
ETLH	**Xiulin Townshi**	**0.31**	**263**	P	**Pb**	**14 30 05.1**	**-0.1**
	baz=257						
ETLH				S	**Sb**	**14 30 09.7**	**-0.2**
	baz=257						
TWC	**Suao**	**0.36**	**5**	⇓*i*P	**Pg**	**14 30 05.9**	**+0.1**
	baz=13						
TWC				*i* S	**Sg**	**14 30 10.8**	**-0.2**
	baz=13						
NDS	**Dongshan**	**0.40**	**347**	⇓*i*P	**Pg**	**14 30 06.6**	**+0.2**
	baz=346						
NDS				*i* S	**Sg**	**14 30 11.9**	**-0.1**
	baz=346						
ETM	**Tongmen**	**0.41**	**227**	*e*P	**Pb**	**14 30 07.2**	**+0.3**
	baz=230						
ETM				*e*S	**Sb**	**14 30 13.5**	**+0.7**
	baz=230						
TEYL	**Yanliau Villag**	**0.43**	**208**	P	**Pb**	**14 30 08.2**	**+1.0**
	baz=196						
TEYL				S	**Sn**	**14 30 16.2**	**-0.6**
	baz=196						
NNSB	**Datong**	**0.43**	**295**	⇓*i*P	**Pb**	**14 30 07.3**	**-0.1**
	baz=291						
NNSB				S	**Sg**	**14 30 13.2**	**0.0**
	baz=291						
NNS	**Nan Shan**	**0.45**	**295**	⇓*i*P	**Pb**	**14 30 07.5**	**-0.2**
	baz=292						
NNS				*i* S	**Sb**	**14 30 13.7**	**-0.4**
	baz=292						
NDT	**Datong Townshi**	**0.45**	**322**	P	**Pb**	**14 30 07.5**	**-0.1**
	baz=320						
NDT				S	**Sb**	**14 30 14.0**	**0.0**
	baz=320						
ENTT	**Nioudou**	**0.45**	**330**	⇑*i*P	**Pg**	**14 30 07.4**	**0.0**
	baz=328						
ENTT				*i* S	**Sb**	**14 30 13.9**	**-0.2**
	baz=328						
TWE	**Neicheng**	**0.49**	**344**	⇓*i*P	**Pg**	**14 30 08.2**	**+0.1**
	baz=344						
TWE				*i* S	**Sb**	**14 30 15.0**	**-0.2**
	baz=344						
WHF	**Hehuan Shan**	**0.51**	**259**	⇓*i*P	**Pb**	**14 30 08.9**	**0.0**
	baz=255						
WHF				*i* S	**Sb**	**14 30 16.2**	**0.0**
	baz=255						
ILA	**Ilan**	**0.52**	**353**	⇑*i*P	**Pb**	**14 30 09.0**	**+0.3**
	baz=348						
ILA				*i* S	**Sb**	**14 30 16.7**	**+0.8**
	baz=348						
FUSS	**Fushou**	**0.52**	**270**	P	**Pb**	**14 30 09.1**	**+0.1**
	baz=267						
FUSS				S	**Sb**	**14 30 16.2**	**0.0**
	baz=267						
ESL	**Shilin**	**0.56**	**219**	⇑*i*P	**Pb**	**14 30 09.6**	**+0.3**
	baz=222						
ESL				S	**Sn**	**14 30 18.9**	**-1.1**
	baz=222						
YHNB	**Yeheng**	**0.58**	**316**	⇑*i*P	**Pb**	**14 30 09.7**	**-0.1**
	baz=314						
YHNB				S	**Sg**	**14 30 17.3**	**-0.4**
	baz=314						
YHNB	**Yeheng**	**0.58**	**316**	Pg	**Pb**	**14 30 09.4**	**-0.4**
YHNB				Sg	**Sg**	**14 30 16.9**	**-0.8**
TWT	**Tachien**	**0.58**	**271**	P	**Pg**	**14 30 10.6**	**+0.7**
	baz=268						
TWT				*e*S	**Sb**	**14 30 18.6**	**+0.6**
	baz=268						
NSK	**Sanguang**	**0.60**	**316**	⇑*i*P	**Pb**	**14 30 09.9**	**-0.2**
	baz=314						
NSK				*i* S	**Sb**	**14 30 17.8**	**-0.4**
	baz=314						
NWLT	**Wulai**	**0.60**	**332**	P	**Pb**	**14 30 09.9**	**-0.2**
	baz=330						
NWLT				S	**Sb**	**14 30 17.9**	**-0.4**
	baz=330						
TDCB	**Techi**	**0.60**	**271**	⇑P	**Pg**	**14 30 10.5**	**+0.4**
	baz=268						
TDCB				S	**Sg**	**14 30 18.1**	**-0.1**
	baz=268						
EGS		**0.60**	**10**	*e*P	**Pg**	**14 30 10.7**	**+0.5**
	baz=17						
NTC	**Toucheng**	**0.60**	**1**	*e*P	**Pg**	**14 30 10.3**	**+0.1**
	baz=1.0						
NTC				*e*S	**Sb**	**14 30 18.2**	**-0.1**
	baz=1.0						
CHGB	**Renai**	**0.62**	**253**	⇓*i*P	**Pg**	**14 30 11.0**	**+0.5**
	baz=250						
CHGB				S	**Sg**	**14 30 18.9**	**+0.1**
	baz=250						
OWD	**Renai**	**0.65**	**244**	⇑*i*P	**Pg**	**14 30 11.5**	**+0.4**
	baz=242						
OWD				S	**Sn**	**14 30 21.3**	**-1.3**
	baz=242						
EGFH	**Guangfu**	**0.68**	**212**	*e*P	**Pg**	**14 30 12.1**	**+0.5**
	baz=224						
EGFH				*e*S	**Sn**	**14 30 22.9**	**-0.1**
	baz=224						
TIPB	**Shuangxi**	**0.72**	**1**	⇑*i*P	**Pg**	**14 30 12.4**	**0.0**
TIPB				*i* S	**Sb**	**14 30 21.4**	**-0.4**
NHDH	**Xindian Distri**	**0.76**	**340**	P	**Pb**	**14 30 13.0**	**+0.1**
	baz=339						
NHDH				*e*S	**Sg**	**14 30 23.1**	**-0.1**
	baz=339						
TWA	**Mucha**	**0.76**	**344**	⇑*i*P	**Pb**	**14 30 13.0**	**+0.1**
	baz=343						
TWA				*i* S	**Sg**	**14 30 23.1**	**-0.1**
	baz=343						
TWB1	**Santiao Chiao**	**0.77**	**12**	⇑*i*P	**Pg**	**14 30 13.4**	**0.0**
	baz=12						
TWB1				S	**Sg**	**14 30 23.9**	**+0.2**
	baz=12						
TATO	**Taipei**	**0.78**	**338**		**Pb**	**14 30 13.2**	**-0.1**
TATO				Sg	**Sb**	**14 30 23.4**	**-0.2**
WHP	**Taichung City**	**0.80**	**272**	*e*P	**Pn**	**14 30 14.2**	**-0.4**
	baz=270						
WHP				*e*S	**Sg**	**14 30 24.0**	**-0.4**
	baz=270						
NWF	**Wu-fen Shan**	**0.82**	**358**	⇑*i*P	**Pg**	**14 30 14.4**	**+0.1**
	baz=350						
NWF				*i* S	**Sg**	**14 30 25.4**	**+0.2**
	baz=350						
LIOB	**Emei**	**0.83**	**299**	⇑P	**Pg**	**14 30 14.6**	**+0.2**
	baz=297						
LIOB				S	**Sg**	**14 30 25.6**	**+0.1**
	baz=297						
HGSD	**Ruisui**	**0.83**	**206**	P	**Pn**	**14 30 15.4**	**+0.4**
	baz=195						
HGSD				S	**Sn**	**14 30 29.9**	**+3.0**
	baz=195						
NSTT	**Nanjuang**	**0.84**	**297**	⇑*i*P	**Pg**	**14 30 14.6**	**+0.1**
	baz=295						
NSTT				*i* S	**Sg**	**14 30 25.5**	**-0.1**
	baz=295						
TAP	**Taipei**	**0.84**	**340**	P	**Pg**	**14 30 14.6**	**0.0**
	baz=340						
TAP				S	**Sg**	**14 30 26.0**	**+0.4**
	baz=340						
WCS	**Beigang Elemen**	**0.85**	**257**	*e*P	**Pg**	**14 30 14.7**	**0.0**
	baz=256						
WCS				*e*S	**Sg**	**14 30 26.0**	**0.0**
	baz=256						
EHY	**Hungye**	**0.87**	**212**	*e*P	**Pg**	**14 30 14.9**	**-0.2**
	baz=221						
SSLB	**Suanglung**	**0.91**	**240**	⇑P	**Pb**	**14 30 15.5**	**0.0**
	baz=239						
SSLB				S	**Sb**	**14 30 27.4**	**+0.1**
	baz=239						
SSLB	**Suanglung**	**0.91**	**240**		**Pb**	**14 30 15.4**	**-0.1**
SSLB				Sg	**Sb**	**14 30 26.5**	**-0.8**
SMLT	**Sun Moon Lake**	**0.91**	**247**	⇑P	**Pg**	**14 30 15.8**	**-0.2**
	baz=239						
SMLT				*e*S	**Sn**	**14 30 28.6**	**-0.3**
	baz=239						
NCUH	**Zhongli**	**0.92**	**321**	⇑P	**Pn**	**14 30 16.5**	**+0.3**
	baz=319						
NCUH				S	**Sn**	**14 30 29.2**	**+0.2**
	baz=319						
NCU	**National Centr**	**0.92**	**322**	⇑*i*P	**Pn**	**14 30 16.3**	**+0.1**
	baz=320						
NCU				S	**Sn**	**14 30 29.1**	**+0.1**
	baz=320						
YM01	**YM01**	**0.92**	**346**	⇑*i*P	**Pb**	**14 30 15.9**	**+0.2**
	baz=329						
YM01				*e*S	**Sg**	**14 30 28.6**	**+0.2**
	baz=329						
TWS1	**Kuangyinshan**	**0.92**	**337**	P	**Pb**	**14 30 15.1**	**-0.6**
	baz=336						
TWS1				S	**Sg**	**14 30 28.5**	**+0.2**
	baz=336						
SBCB	**Hsinchu**	**0.93**	**306**	⇑*i*P	**Pn**	**14 30 16.9**	**+0.5**
	baz=297						
SBCB				S	**Sn**	**14 30 30.8**	**+1.6**
	baz=297						
TYC	**Yuchr**	**0.94**	**249**	⇑*i*P	**Pn**	**14 30 16.2**	**-0.2**
	baz=241						
TYC				S	**Sg**	**14 30 28.7**	**-0.2**
	baz=241						
HSN	**Hsinchu**	**0.95**	**306**	P	**Pg**	**14 30 16.8**	**+0.1**
	baz=306						
HSN				S	**Sn**	**14 30 30.6**	**+0.9**
	baz=306						
TWQ1	**Liyutan**	**0.96**	**276**	⇑*i*P	**Pg**	**14 30 17.5**	**+0.7**
	baz=274						
TWQ1				S	**Sn**	**14 30 29.9**	**0.0**
	baz=274						
NTST	**Danshui**	**0.97**	**340**	P	**Pg**	**14 30 17.1**	**0.0**
	baz=345						
NTST				S	**Sn**	**14 30 31.3**	**+1.0**
	baz=345						
ANP	**Anpu**	**0.97**	**344**	*e*P	**Pn**	**14 30 17.0**	**0.0**
	baz=343						
ANP				*e*S	**Sg**	**14 30 30.1**	**+0.1**
	baz=343						
YULB	**Yu-li**	**0.97**	**209**	*e*P	**Pn**	**14 30 16.9**	**-0.1**
	baz=208						
YULB	**Yu-li**	**0.97**	**209**		**Pb**	**14 30 15.5**	**-1.0**
NSY	**Sanyi**	**0.98**	**280**	⇑*i*P	**Pg**	**14 30 18.1**	**+0.9**
	baz=278						
NSY				*e*S	**Sn**	**14 30 31.4**	**+1.0**
	baz=278						
NMLH	**Miaoli**	**0.98**	**287**	⇓*i*P	**Pg**	**14 30 18.3**	**+1.1**
	baz=291				

	baz=259									
ALS	**Alishan**	**1.18**	**232**		P		**Pg**	**14 30 20.8**	**-0.3**
	baz=218									
ALS					*e*S		**Sg**	**14 30 38.8**	**+2.2**
	baz=218									
CHKT	**Chengkung**	**1.22**	**200**		*e*P		**Pn**	**14 30 20.2**	**-0.1**
	baz=214									
CHKT					*e*S		**Sg**	**14 30 38.8**	**+1.2**
	baz=214									
CHN5	**Tsauling**	**1.23**	**238**	⇓	*i*P		**Pg**	**14 30 22.0**	**+0.1**
	baz=222									
CHN5					S		**Sg**	**14 30 41.5**	**+3.5**
	baz=222									
ELDTW	**Lidau**	**1.28**	**215**		*e*P		**Pb**	**14 30 21.9**	**0.0**
	baz=200									
ELDTW					*e*S		**Sg**	**14 30 39.4**	**-0.5**
	baz=200									
WDLH	**Douliu**	**1.29**	**245**		*e*P		**Pg**	**14 30 23.2**	**+0.1**
	baz=243									
WDLH					*e*S		**Sg**	**14 30 42.3**	**+2.1**
	baz=243									
EDH	**Donghe**	**1.35**	**200**		*e*P		**Pn**	**14 30 22.0**	**-0.2**
	baz=188									
WRL	**Guolierlin Hig**	**1.36**	**256**		*e*P		**Pb**	**14 30 23.6**	**+0.5**
	baz=253									
WRL					*e*S		**Sg**	**14 30 42.5**	**+0.3**
	baz=253									
PCYT	**Pengchaiyu**	**1.40**	**9**		P		**Pb**	**14 30 23.3**	**-0.4**
	baz=7.0									
CHN2	**Minshiung**	**1.42**	**240**		*e*P		**Pg**	**14 30 26.0**	**+0.4**
	baz=238									
CHN2					*e*S		**Sg**	**14 30 46.9**	**+2.8**
	baz=238									
WTK	**Tuku**	**1.42**	**247**		*e*P		**Pg**	**14 30 24.8**	**-0.8**
	baz=245									
WTK					*e*S		**Sg**	**14 30 45.0**	**+0.9**
	baz=245									
CHN4	**Tsaushan**	**1.43**	**232**		P		**Pb**	**14 30 24.9**	**+0.6**
	baz=231									
CHN4					*e*S		**Sg**	**14 30 45.8**	**+1.3**
	baz=231									
STYH	**Taoyuan**	**1.44**	**222**		*e*P		**Pb**	**14 30 23.9**	**-0.5**
	baz=221									
TPUB	**Ta-pu**	**1.44**	**229**		*e*P		**Pb**	**14 30 24.8**	**+0.3**
	baz=228									
TPUB					*e*S		**Sg**	**14 30 44.6**	**-0.2**
	baz=228									
TPUB	**Ta-pu**	**1.44**	**229**				**Pb**	**14 30 24.2**	**-0.3**
WTCT	**Ta-ch'eng**	**1.46**	**255**		*e*P		**Pg**	**14 30 25.7**	**-0.5**
	baz=252									
WTCT					*e*S		**Sg**	**14 30 45.2**	**0.0**
	baz=252									
LONT	**Longtian**	**1.48**	**205**		*e*P		**Pn**	**14 30 23.6**	**-0.3**
	baz=205									
CHY	**Chiayi**	**1.48**	**240**		*e*P		**Pg**	**14 30 26.0**	**-0.7**
	baz=238									
CHY					*e*S		**Sg**	**14 30 46.1**	**+0.2**
	baz=238									
WTP	**Ta-pu**	**1.49**	**228**	⇑	P		**Pb**	**14 30 25.4**	**+0.1**
	baz=227									
WTP					*e*S		**Sg**	**14 30 47.4**	**+1.2**
	baz=227									
TWK	**Hsinying**	**1.56**	**232**	⇑	P		**Pb**	**14 30 26.9**	**+0.4**
	baz=229									
TWK					*e*S		**Sg**	**14 30 47.9**	**-0.7**
	baz=229									
TWG	**Pinlang**	**1.58**	**206**		*e*P		**Pn**	**14 30 25.9**	**+0.7**
	baz=192									
TWG	**Pinlang**	**1.58**	**206**				**Pn**	**14 30 23.6**	**-1.6**
TWGBT	**Beinan**	**1.58**	**206**		*e*P		**Pn**	**14 30 25.6**	**+0.3**
	baz=192									
WSF	**Szhu**	**1.58**	**248**		*e*P		**Pb**	**14 30 27.2**	**+0.4**
	baz=255									
WSF					*e*S		**Sg**	**14 30 49.6**	**+0.4**
	baz=255									
SNST	**Tainan City**	**1.58**	**230**		*e*P		**Pg**	**14 30 27.8**	**-0.9**
	baz=228									
SNST					*e*S		**Sg**	**14 30 49.9**	**+0.5**
	baz=228									
CHN1	**Nanshi**	**1.58**	**228**		P		**Pg**	**14 30 27.9**	**-0.8**
	baz=227									
CHN1					S		**Sg**	**14 30 49.7**	**+0.3**
	baz=227									
LDUT	**Ludao**	**1.60**	**192**		*e*P		**Pn**	**14 30 25.2**	**-0.3**
	baz=192									
SGST	**Jiashian**	**1.62**	**225**	⇓	P		**Pb**	**14 30 27.0**	**-0.5**
	baz=223									
SGST					S		**Sg**	**14 30 49.8**	**-0.7**
	baz=223									
ICHU	**Yijhu**	**1.66**	**238**		*e*P		**Pb**	**14 30 28.5**	**+0.2**
	baz=221									
ICHU					*e*S		**Sg**	**14 30 50.4**	**-1.4**
	baz=221									
CHN8	**Yiju**	**1.72**	**239**		*e*P		**Pb**	**14 30 29.1**	**-0.2**
	baz=223									
CHN8					*e*S		**Sg**	**14 30 52.9**	**-0.9**
	baz=223									
IRIF	**Iriomote-Funau**	**1.75**	**87**		P		**Pn**	**14 30 28.0**	**+0.4**
IRIF					*e*S		**Sn**	**14 30 49.6**	**+0.2**
CHN3	**Shinhua**	**1.77**	**229**		*e*P		**Pg**	**14 30 31.4**	**-0.8**
	baz=226									
CHN3					*e*S		**Sg**	**14 30 55.9**	**+0.6**
	baz=226									
SCST	**Cishan**	**1.82**	**222**		*e*P		**Pb**	**14 30 31.2**	**+0.3**
	baz=220									
HATJ	**Hateruma jima**	**1.83**	**96**		P		**Pn**	**14 30 29.8**	**+1.1**
HATJ					*e*S		**Sb**	**14 30 53.1**	**-0.5**
SCLT	**Jiali**	**1.83**	**235**		*e*P		**Pb**	**14 30 32.1**	**+1.0**
	baz=232									
SCLT					*e*S		**Sg**	**14 30 56.0**	**-1.2**
	baz=232									
SSD	**Sandimen**	**1.85**	**216**		*e*P		**Pb**	**14 30 31.3**	**-0.1**
	baz=225									
TSMG	**Majia**	**1.87**	**215**		*e*P		**Pb**	**14 30 31.8**	**-0.1**
	baz=224									
SGLT	**Jiouru**	**1.94**	**219**		*e*P		**Pn**	**14 30 31.0**	**+0.7**
	baz=216									
MASBT	**Mashibuluo**	**1.96**	**214**		*e*P		**Pb**	**14 30 32.6**	**-0.7**
	baz=212									
JKRS	**Kuro-shima**	**2.00**	**90**		P		**Pn**	**14 30 32.4**	**+1.3**
JKRS					*e*S		**Sb**	**14 30 58.2**	**-0.4**
SNJT	**Kaohsiung City**	**2.02**	**223**		*e*P		**Pb**	**14 30 34.2**	**0.0**
	baz=220									
EAST	**Anshuo**	**2.06**	**206**		*e*P		**Pb**	**14 30 34.3**	**-0.7**
	baz=195									
TAW	**Tawu**	**2.06**	**204**		*e*P		**Pb**	**14 30 34.7**	**-0.4**
	baz=193									
JIJ	**Ishigaki jima**	**2.13**	**86**		P		**Pn**	**14 30 33.1**	**+0.3**
JIJ					*e*S		**Sn**	**14 30 59.7**	**+1.0**
SCZT	**Fangliau**	**2.17**	**211**		*e*P		**Pb**	**14 30 35.7**	**-1.2**
	baz=194									
PNG	**Penghu**	**2.18**	**252**		*e*P		**Pn**	**14 30 34.2**	**+0.7**
	baz=249									
PNG					*e*S		**Sn**	**14 31 00.4**	**+0.4**
	baz=249									
PHUB	**P'eng-hu**	**2.18**	**251**		*e*P		**Pn**	**14 30 33.6**	**+0.1**
	baz=247									
PHUB					*e*S		**Sn**	**14 31 01.3**	**+1.3**
	baz=247									
LAY	**Lan-yu**	**2.21**	**186**		*e*P		**Pn**	**14 30 33.3**	**-0.7**
	baz=189									
JISG	**Ishigakijimahi**	**2.30**	**81**		P		**Pn**	**14 30 35.4**	**+0.2**
JISG					*e*S		**Sb**	**14 31 05.4**	**-1.8**
VCHM	**Qimei**	**2.42**	**245**		*e*P		**Pn**	**14 30 37.7**	**+0.9**
	baz=227									
TWKBT	**Hengchun**	**2.48**	**202**		*e*P		**Pb**	**14 30 40.2**	**-1.9**
	baz=191									
MATB	**Ma-tsu**	**2.54**	**319**		*e*P		**Pn**	**14 30 37.6**	**-0.9**
	baz=312									
PTMZ	**Houxiangcun**	**2.58**	**288**		*e*P		**Pn**	**14 30 38.6**	**-0.4**
	baz=283									
JTJ	**Tarama**	**2.66**	**81**		P		**Pn**	**14 30 42.0**	**+1.9**
JTJ					*e*S		**Sb**	**14 31 15.5**	**-2.1**
LYJJ	**Jianjiangzhen**	**2.95**	**321**		*e*P		**Pn**	**14 30 43.6**	**-0.5**
	baz=315									
QZH	**Quanzhou**	**3.02**	**284**	⇑	*i*Pn		**Pn**	**14 30 44.8**	**-0.2**
QZH					Sn		**Sn**	**14 31 19.0**	**-1.7**
QZH					smax	smax			
	comp=N,500nm,0.7s								
QZH					smax	smax			
	comp=E,270nm,0.8s								
KNM	**Kinmen**	**3.09**	**274**		*e*P		**Pn**	**14 30 47.9**	**+1.8**
	baz=268									
JIRB	**Irabujima**	**3.11**	**79**		P		**Pn**	**14 30 47.3**	**+1.0**
JIRB					*e*S		**Sn**	**14 31 26.2**	**+3.2**
KNMB	**Chin-men Tao**	**3.13**	**275**		*e*P		**Pn**	**14 30 46.2**	**-0.4**
	baz=269									
KNMB	**Chin-men Tao**	**3.13**	**275**				**Pn**	**14 30 46.3**	**-0.3**
JIKM	**Ikemajima**	**3.19**	**77**		P		**Pn**	**14 30 49.0**	**+1.5**
JIKM					*e*S		**Sn**	**14 31 28.9**	**+3.8**
JMJ2	**Miyako jima3**	**3.24**	**81**		P		**Pn**	**14 30 49.6**	**+1.5**
JMJ2					*e*S		**Sn**	**14 31 29.3**	**+3.2**
JOGS	**Gusukube**	**3.31**	**80**		P		**Pn**	**14 30 51.6**	**+2.5**
JOGS					*e*S		**Sn**	**14 31 31.7**	**+3.7**
AXDP	**Jialang**	**3.56**	**281**		*e*P		**Pn**	**14 30 54.5**	**+1.9**
	baz=275									
ZPLA	**Ao Xicun**	**3.73**	**266**		*e*P		**Pn**	**14 30 55.1**	**+0.2**
	baz=261									
JOW	**Kunigami**	**6.38**	**65**		Pn		**Pn**	**14 31 31.3**	**+0.1**
	4.8nm,0.3s,baz=352,slow=29,SNR=37									
JOW					Sn		**Sn**	**14 32 46.6**	**+3.0**
	baz=36,slow=28,SNR=0.7									
JOW	**Kunigami**	**6.38**	**65**				**Pn**	**14 31 30.8**	**-0.4**
APYP	**Conner**	**6.38**	**185**	⇑	*e*P		**Pn**	**14 31 35.3**	**+4.0**
NJ2	**Nanjing**	**8.20**	**342**		*e*P		**Pn**	**14 31 55.4**	**-0.9**
NJ2					S		**Sn**	**14 33 29.3**	**+0.8**
NJ2					pmax	pmax			
	comp=Z,33nm,0.6s								
NJ2					smax	smax			
	comp=N,100nm,1.0s								
NJ2					smax	smax			
	comp=E,97nm,0.9s								
WHN	**Wuhan**	**9.13**	**315**		P		**Pn**	**14 32 12.8**	**+3.8**
WHN					S		**Sn**	**14 33 54.5**	**+3.2**
GYA	**Guiyang**	**13.88**	**282**	⇑	P		**Pn**	**14 33 17.1**	**+3.0**
GYA					S		**Sn**	**14 35 51.1**	**+3.2**
GYA					pmax	pmax			
	comp=Z,17nm,0.7s								
KSAR	**Wonju Array Be**	**14.14**	**20**		Pn		**Pn**	**14 33 17.3**	**-0.3**
KSRS	**Korea Array**	**14.16**	**20**		Pn		**Pn**	**14 33 19.2**	**+1.3**
	0.2nm,0.3s,baz=204,slow=14,SNR=5.4									
KS19	**Wonju Array Si**	**14.19**	**20**		Pn		**Pn**	**14 33 18.5**	**+0.3**
XAN	**Xi'an**	**14.89**	**314**		P		**P**	**14 33 31.1**	**-2.4**
XAN					pP		Pn	14 33 36.4	+8.5
XAN					pmax	pmax			
	comp=Z,8.0nm,1.2s								
JSD	**Sado**	**19.63**	**42**		P		**P**	**14 34 25.1**	**-0.7**
CN2	**Changchun**	**19.73**	**8**		*e*P		**Pn**	**14 34 28.5**	**+0.2**
CN2					pmax	pmax			
	comp=Z,10.0nm,0.6s								
JMM	**Marumori**	**21.12**	**46**		P		**P**	**14 34 41.6**	**-0.4**
USA0B	**Ussuriysk Arra**	**21.57**	**20**		P		**P**	**14 34 45.9**	**-0.8**
USRK	**Ussuriysk Ar.**	**21.57**	**20**		P		**P**	**14 34 46.1**	**-0.6**
	0.6nm,0.5s,baz=194,slow=7.6,SNR=2.2									
CMAR	**Chiang Mai Arr**	**22.06**	**259**		P		**P**	**14 34 48.6**	**-3.5**
	0.3nm,0.4s,baz=69,slow=8.8,SNR=1.8									
GTA	**Gaotai**	**23.95**	**314**		*e*P		**P**	**14 35 11.8**	**+0.3**
GTA					pP		sP	14 35 22.8	+4.5
GTA					pmax	pmax			
	comp=Z,3.0nm,1.1s								
KLR	**Kul'dur**	**26.13**	**15**		P		**P**	**14 35 32.0**	**+1.0**
	1.8nm,0.6s,baz=180,slow=5.9,SNR=8.1									
ULN	**Ulaanbaatar**	**26.33**	**337**		P		**P**	**14 35 33.1**	**+0.1**
SONM	**Songino Array**	**26.54**	**336**		P		**P**	**14 35 34.7**	**-0.2**
	2.0nm,0.6s,baz=153,slow=8.4,SNR=9.7									
SONM	**Songino Array**	**26.54**	**336**		P		**P**	**14 35 35.3**	**+0.3**
WMQ	**Urumqi**	**34.03**	**313**		*e*P		**P**	**14 36 43.6**	**+2.4**
MTN	**Manton Dam**	**37.97**	**165**		P		**P**	**14 37 14.3**	**-0.7**
MTN					IAmb		IAmb	14 37 26.4	
	comp=Z,9.6nm,0.9s								
MK31	**Makanchi Array**	**38.70**	**316**		P		**P**	**14 37 20.9**	**0.0**
MKAR	**Makanchi Array**	**38.70**	**316**		P		**P**	**14 37 20.9**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=103,slow=9.6,SNR=13									
MKAR	**Makanchi Array**	**38.70**	**316**		P		**P**	**14 37 20.3**	**-0.7**
MAKZ	**Makanchi**	**38.90**	**316**		P		**P**	**14 37 22.3**	**-0.4**
KNRA	**Kununurra**	**40.26**	**170**		P		**P**	**14 37 33.8**	**-0.4**
KNRA					IAmb		IAmb	14 37 48.8	
	comp=Z,30nm,1.5s								
ZALV	**Zalesovo Beam**	**40.51**	**327**		P		**P**	**14 37 34.6**	**-1.3**
	comp=Z,1.7nm,0.6s,baz=112,slow=10,SNR=6.4									
KSH	**Kashi**	**41.35**	**303**		P		**P**	**14 37 47.3**	**+4.1**
KURBB	**Kurchatov Arra**	**42.43**	**320**		P		**P**	**14 37 51.4**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=112,slow=9.1,SNR=5.1									
WRA	**Warramunga Arr**	**45.59**	**163**		P		**P**	**14 38 16.0**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=345,slow=8.5,SNR=8.8									
WB2	**Warramunga Arr**	**45.59**	**163**		P		**P**	**14 38 15.0**	**-2.3**
WR0	**Warramunga Arr**	**45.66**	**163**		P		**P**	**14 38 16.0**	**-1.9**
WR0					IAmb		IAmb	14 38 20.1	
	comp=Z,5.7nm,1.2s								
BVAR	**Borovoye Array**	**47.99**	**321**		P		**P**	**14 38 35.8**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=134,slow=8.5,SNR=6.4									
ASAR	**Alice Springs**	**49.05**	**165**		P		**P**	**14 38 43.7**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=23,slow=9.8,SNR=7.5									
CTA	**Charters Tower**	**50.09**	**150**		P		**P**	**14 38 51.2**	**-1.0**
	comp=Z,2.2nm,0.8s,baz=334,slow=8.6,SNR=2.6									
CTAO	**Charters Tower**	**50.09**	**150**		P		**P**	**14 38 52.4**	**+0.1**
CTAO					IAmb		IAmb	14 39 07.1	
	comp=Z,7.2nm,1.3s								
MORW	**Morawa**	**53.30**	**186**		P		**P**	**14 39 15.3**	**-0.8**
MORW					IAmb		IAmb	14 39 25.4	
	comp=Z,17nm,1.3s								
ABKAR	**Akbulak array**	**53.81**	**314**		P		**P**	**14 39 19.4**	**-0.3**
GEYT	**Alibeck**	**55.26**	**300**		P		**P**	**14 39 31.3**	**+0.7**
	comp=Z,3.8nm,0.8s,baz=95,slow=5.1,SNR=5.5									
STKA	**Stephens Creek**	**58.93**	**160**		P		**P**	**14 39 55.4**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=350,slow=16,SNR=1.5									
CAN	**Canberra**	**64.60**	**156**		P		**P**	**14 40 33.6**	**-0.9**
N18K	**Kilae Creek**	**65.43**	**32**		P		**P**	**14 40 40.1**	**+0.4**
N18K					IAmb		IAmb	14 40 42.0	
	comp=Z,10nm,1.4s								
L19K	**White Mountain**	**65.77**	**31**		P		**P**	**14 40 41.2**	**-0.6**
L19K					IAmb		IAmb	14 41 02.3	
	comp=Z,6.2nm,1.4s								
IMAR	**Indian Mountai**	**65.87**	**27**		P		**P**	**14 40 43.1**	**+0.7**
J20K	**Nowinta River**	**65.88**	**29**		P		**P**	**14 40 42.4**	**-0.1**
J20K					IAmb		IAmb	14 40 56.2	
	comp=Z,5.3nm,1.4s								
KBZ	**Khabaz**	**65.89**	**309**		P		**P**	**14 40 43.0**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=94,slow=3.0,SNR=5.2									
K20K	**Telida**	**66.00**	**29**		P		**P**	**14 40 42.9**	**-0.4**
K20K					IAmb		IAmb	14 40 58.5	
	comp=Z,6.0nm,1.4s								
M19K	**Big River Lodg**	**66.02**	**31**		P		**P**	**14 40 43.7**	**+0.3**
H21K	**Melozitna Rive**	**66.29**	**27**		P		**P**	**14 40 45.0**	**-0.1**
H21K					IAmb		IAmb	14 40 50.4	
	comp=Z,5.3nm,1.1s								
I21K	**Tanana**	**66.69**	**27**		P		**P**	**14 40 47.6**	**0.0**
I21K					IAmb		IAmb	14 40 53.6	
	comp=Z,4.2nm,1.0s								
CAST	**Castle Rocks**	**66.88**	**29**		P		**P**	**14 40 48.3**	**-0.6**
CAST					IAmb		IAmb	14 40 54.8	
	comp=Z,3.3nm,0.8s								
PPLA	**Purkeypile**	**66.91**	**30**		P		**P**	**14 40 48.5**	**-0.8**
PPLA					IAmb		IAmb	14 40 54.6	
	comp=Z,6.5nm,1.1s								
MLY	**Manley**	**67.23**	**27**		P		**P**	**14 40 51.1**	**-0.1**
BPAW	**Bear Paw Mtn.**	**67.26**	**28**		P		**P**	**14 40 51.1**	**-0.3**
BPAW					IAmb		IAmb	14 41 09.9	
	comp=Z,9.4nm,1.4s								
SKT	**Skwentna**	**67.35**	**31**		P		**P**	**14 40 50.9**	**-1.1**
SKT					IAmb		IAmb	14 41 19.9	
	comp=Z,7.8nm,1.3s								
KTH	**Kantishna Hill**	**67.38**	**29**		P		**P**	**14 40 52.8**	**+0.7**
KTH					IAmb		IAmb	14 41 00.9	
	comp=Z,7.5nm,1.4s								
SIRT	**Sirnak**	**67.58**	**302**		P		**P**	**14 40 52.9**	**-1.0**
H23K	**Yukon River**	**67.60**	**26**		P		**P**	**14 40 53.8**	**+0.3**
H23K					IAmb		IAmb	14 40 59.5	
	comp=Z,3.3nm,0.8s								
TRF	**Thorofare Moun**	**67.67**	**29**		P		**P**	**14 40 53.4**	**-0.7**
TRF					IAmb		IAmb	14 40 57.4	
	comp=Z,12nm,1.5s								
SUA	**Susitna One**	**67.80**	**31**		P		**P**	**14 40 54.1**	**-0.8**
NEA2	**Nenana**	**68.00**	**28**		P		**P**	**14 40 56.0**	**-0.1**
NEA2					IAmb		IAmb	14 40 59.0	
	comp=Z,3.2nm,0.7s								
RND	**Reindeer**	**68.32**	**29**		P		**P**	**14 40 56.7**	**-1.4**
RND					IAmb		IAmb	14 41 00.4	
	comp=Z,5.2nm,0.7s								
WRH	**Wood River Hil**	**68.44**	**28**		P		**P**	**14 40 59.2**	**+0.4**
SEW	**Seward**	**68.68**	**33**		P		**P**	**14 40 59.6**	**-0.6**
SML	**Sawmill**	**68.87**	**31**		P		**P**	**14 41 00.8**	**-0.8**
SML					IAmb		IAmb	14 41 28.0	
	comp=Z,6.4nm,1.0s								
ILAR	**Eielson Array**	**68.89**	**27**		P		**P**	**14 41 02.1**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=290,slow=7.3,SNR=6.1									
PWL	**Port Wells**	**69.06**	**32**		P		**P**	**14 41 03.4**	**+0.6**
FYU	**Fort Yukon**	**69.18**	**25**		P		**P**	**14 41 02.7**	**-0.5**
BMAR	**Burnt Mountain**	**69.23**	**24**		P		**P**	**14 41 03.2**	**-0.5**
SCM	**Sheep Creek Mo**	**69.33**	**30**		P		**P**	**14 41 03.6**	**-0.8**
M24K	**Tolsona, Glenn**	**69.80**	**30**		P		**P**	**14 41 06.3**	**-1.0**
FID	**Port Fidalgo**	**69.98**	**31**		P		**P**	**14 41 07.9**	**-0.5**
N25K	**Chitina, Valde**	**70.64**	**30**		P		**P**	**14 41 12.6**	**+0.1**
N25K					IAmb		IAmb	14 41 20.3	
	comp=Z,7.1nm,1.1s								
MENT	**Mentasta**	**70.69**	**29**		P		**P**	**14 41 12.4**	**-0.3**
MENT					IAmb		IAmb	14 41 18.3	
	comp=Z,4.1nm,1.0s								
K27K	**Chicken**	**71.10**	**28**		P		**P**	**14 41 16.2**	**+1.1**
EGAK	**Eagle**	**71.27**	**27**		P		**P**	**14 41 17.1**	**+1.0**
VRDI	**Verde Repeater**	**71.28**	**31**		P		**P**	**14 41 17.1**	**+0.6**
BCAR	**Beaver Creek A**	**71.50**	**29**		P		**P**	**14 41 17.6**	**-0.1**
FINES	**FINESS Array B**	**71.68**	**330**		P		**P**	**14 41 17.9**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=51,slow=4.8,SNR=6.2									
DAWY	**Dawson**	**72.22**	**27**		P		**P**	**14 41 20.7**	**-1.2**
DAWY					IAmb		IAmb	14 41 35.7	
	comp=Z,8.8nm,1.5s								
MESA	**MESA**	**72.29**	**31**		P		**P**	**14 41 20.9**	**-1.7**
EPYK	**Eagle Plains**	**72.51**	**24**		P		**P**	**14 41 22.9**	**-0.7**
EPYK					IAmb		IAmb	14 41 31.0	
	comp=Z,9.2nm,1.4s								
LOGN	**Logan Glacier**	**72.54**	**31**		P		**P**	**14 41 24.3**	**+0.3**
LOGN					IAmb		IAmb	14 41 25.8	
	comp=Z,7.7nm,0.8s								
A36M	**Sachs Harbour**	**73.89**	**17**		P		**P**	**14 41 31.3**	**-0.3**

IDC 16 14:30:01.1±2.1,5°96S×151°66E,h0km,mb3.9/4, mb1 4.2/4,mb1mx3.6/40,mbtmp3.9/4 Error ellipse: s-maj=123.6km s-min=28.3km az=130.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.83**	**229**	P	P	14 34 56.2	+0.9
	1.6nm,0.8s,baz=55,slow=10.0,SNR=1.9						
ASAR	**Alice Springs**	**24.53**	**222**	P	P	14 35 23.0	+0.3
	1.1nm,0.7s,baz=60,slow=9.1,SNR=2.7						
FITZ	**Fitzroy Crossi**	**28.11**	**242**	P	P	14 35 54.0	-1.0
	1.7nm,0.5s,baz=62,slow=8.9,SNR=1.9						
ILAR	**Eielson Array**	**83.65**	**22**	P	P	14 42 31.4	0.0
	1.1nm,0.7s,baz=250,slow=5.2,SNR=8.1						
TORD	**Torodi Ar. Bea**	**149.56**	**286**	PKPbc	PKPbc	14 49 53.2	-0.4
	1.7nm,0.6s,baz=67,slow=3.5,SNR=5.6						

*IDC **16** 14:45:23.4±0.7, 18°.62N×145°.64E, h207km±6km, mb3.8/28, mb1 3.9/32, mb1mx3.8/53, mbtmp4.4/32, Error ellipse: s-maj=11.9km s-min=6.4km az=89.0*
*NEIC **16** 14:45:23.4±1.4, 18°.58N±0°.07×145°.6E±0°.1, h197km±6km, mb4.5/124, Error ellipse: s-maj=15.6km s-min=9.8km az=86.0*

ISC 16 14:45:22.7±0.6,18°.62N±0°.04×145°.60E±0°.07,h198km±5km, n182,σ1°02/196,mb4.4/84,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**2.27**	**177**	Pn	**Pn**	**14 46 03.6**	**-0.4**
ANA2				Sn	**S**	**14 46 34.9**	**-1.4**
GUMO	**Guam**	**5.05**	**188**	P	**Pn**	**14 46 38.8**	**+1.0**
	15nm,0.3s,baz=154,slow=9.7,SNR=20						
GUMO				S	**S**	**14 47 37.8**	**+0.8**
	33nm,0.3s,baz=360,slow=22,SNR=2.9						
GUMO	**Guam**	**5.05**	**188**	Pn	**Pn**	**14 46 37.8**	**0.0**
GUMO	**Guam**	**5.05**	**188**	P	**Pn**	**14 46 39.7**	**+1.9**
JCJ	**Chichijima**	**9.00**	**340**	P	**Pn**	**14 47 28.9**	**-0.1**
	3.4nm,0.3s,baz=196,slow=18,SNR=1.5						
JCJ				S	**S**	**14 49 05.6**	**-4.3**
	6.8nm,0.3s,baz=256,slow=23,SNR=1.8						
JSG	**Sagara**	**17.30**	**339**	P	**Pn**	**14 49 12.5**	**0.0**
JOW	**Kunigami**	**17.94**	**300**	P	**P**	**14 49 19.2**	**+1.2**
	2.7nm,0.3s,baz=132,slow=11,SNR=26						
JOW	**Kunigami**	**17.94**	**300**	P	**Pn**	**14 49 19.4**	**-0.7**
JGF	**Kuroka**	**18.42**	**338**	P	**Pn**	**14 49 24.8**	**-1.0**
MJAR	**Matsushiro Arr**	**19.00**	**341**	P	**P**	**14 49 30.0**	**+0.5**
	0.1nm,0.3s,baz=130,slow=12,SNR=6.8						
MJAR	**Matsushiro Arr**	**19.00**	**341**	P	**P**	**14 49 30.6**	**+1.1**
MAJO	**

CTAO	**Charters Tower**	**38.48**	**179**		P	**P**	**14 52 25.5**	**-0.3**
CTAO					IAmb	IAmb	14 52 37.5	
	comp=Z,16nm,1.4s							
WR0	**Warramunga Arr**	**39.85**	**196**		P	**P**	**14 52 36.9**	**-0.2**
WR0					IAmb	IAmb	14 52 38.3	
	comp=Z,13nm,1.4s							
WRAB	**Tennant Creek**	**39.87**	**197**		P	**P**	**14 52 37.2**	**-0.2**
WRAB					IAmb	IAmb	14 52 38.9	
	comp=Z,9.8nm,0.5s							
WB2	**Warramunga Arr**	**39.88**	**197**		P	**P**	**14 52 37.5**	**+0.1**
WB2					IAmb	IAmb	14 52 41.5	
	comp=Z,8.7nm,0.6s							
WRA	**Warramunga Arr**	**39.89**	**197**		P	**P**	**14 52 37.9**	**+0.4**
	comp=Z,6.7nm,0.4s,baz=18,slow=8.7,SNR=204							
WRA					PcP	**PcP**	**14 54 38.5**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=17,slow=3.1,SNR=1.7							
WRA	**Warramunga Arr**	**39.89**	**197**		P	**P**	**14 52 37.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**41.43**	**209**		P	**P**	**14 52 50.6**	**+0.6**
	comp=Z,5.0nm,0.3s,baz=34,slow=7.6,SNR=105							
FITZ	**Fitzroy Crossi**	**41.43**	**209**		P	**P**	**14 52 50.6**	**+0.6**
FITZ					IAmb	IAmb	14 52 51.0	
	comp=Z,6.3nm,0.7s							
SONM	**Songino Array**	**43.15**	**321**		P	**P**	**14 53 03.7**	**0.0**
	comp=Z,0.9nm,0.5s,baz=140,slow=9.7,SNR=5.7							
SONM					PcP	**PP**	**14 54 48.1**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=114,slow=3.6,SNR=2.1							
SONM	**Songino Array**	**43.15**	**321**		P	**P**	**14 53 04.0**	**+0.2**
UGM	**Wanagama**	**43.50**	**236**		P	**P**	**14 53 07.2**	**+0.3**
AS31	**Alice Springs**	**43.55**	**196**		P	**P**	**14 53 06.5**	**-0.6**
ASAR	**Alice Springs**	**43.55**	**196**		P	**P**	**14 53 07.5**	**+0.4**
	comp=Z,1.8nm,0.4s,baz=12,slow=6.6,SNR=80							
EIDS	**Eidsvold**	**44.05**	**173**		P	**P**	**14 53 09.9**	**-1.1**
CMAR	**Chiang Mai Arr**	**44.14**	**278**		P	**P**	**14 53 12.7**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=73,slow=7.0,SNR=9.1							
ADK	**Adak**	**44.43**	**33**		P	**P**	**14 53 15.5**	**+1.8**
ADK					IAmb	IAmb	14 53 19.7	
	comp=Z,33nm,1.2s							
SEY	**Seymchan**	**44.52**	**4**		P	**P**	**14 53 13.8**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=220,slow=7.9,SNR=1.7							
DZM	**Mont Dzumac**	**45.29**	**152**		P	**P**	**14 53 20.9**	**0.0**
	comp=Z,8.8nm,0.7s,baz=176,slow=4.1,SNR=14							
CISI	**Cisompet, Garu**	**45.45**	**238**		P	**P**	**14 53 20.5**	**-1.8**
CISI					IAmb	IAmb	14 53 21.8	
	comp=Z,12nm,0.7s							
OUENC	**Ouen Island, N**	**45.77**	**152**		P	**P**	**14 53 23.5**	**-1.1**
OUENC					IAmb	IAmb	14 53 35.8	
	comp=Z,39nm,1.5s							
ATKA	**Atka Island**	**45.90**	**34**		P	**P**	**14 53 26.4**	**+1.1**
PINNC	**Pines Island,**	**46.21**	**152**		P	**P**	**14 53 28.2**	**+0.2**
PSA00	**Pilbara Seismi**	**47.24**	**213**		P	**P**	**14 53 36.5**	**+0.5**
PSA00	**Pilbara Seismi**	**47.24**	**213**		P	**P**	**14 53 36.1**	**0.0**
PSA00					IAmb	IAmb	14 53 37.6	
	comp=Z,4.3nm,1.1s							
NIKH	**Nikolski High**	**49.12**	**35**		P	**P**	**14 53 50.4**	**+0.3**
GSI	**Gunungsitoli**	**50.12**	**256**		P	**P**	**14 53 59.1**	**+0.9**
STKA	**Stephens Creek**	**50.36**	**184**		P	**P**	**14 53 58.6**	**-1.0**
	comp=Z,1.4nm,0.4s,baz=329,slow=20,SNR=6.6							
STKA	**Stephens Creek**	**50.36**	**184**		P	**P**	**14 53 58.5**	**-1.1**
AKUT	**Akutan**	**51.28**	**34**		P	**P**	**14 54 06.6**	**+0.4**
FORT	**Forrest**	**51.93**	**199**		P	**P**	**14 54 11.6**	**+0.2**
FORT					IAmb	IAmb	14 54 16.3	
	comp=Z,14nm,0.8s							
BBOO	**Buckleboo**	**51.95**	**190**		P	**P**	**14 54 11.2**	**-0.2**
WMQ	**Urumqi**	**54.29**	**311**	*eP*	P	**P**	**14 54 31.5**	**+2.9**
SDPT	**Sand Point**	**54.59**	**34**		P	**P**	**14 54 31.3**	**+1.0**
CNBA	**Chernabura Isl**	**54.89**	**35**		P	**P**	**14 54 33.7**	**+1.1**
CNBA					IAmb	IAmb	14 55 01.4	
	comp=Z,16nm,0.9s							
MORW	**Morawa**	**55.34**	**212**		P	**P**	**14 54 36.0**	**-0.2**
MORW					IAmb	IAmb	14 54 37.6	
	comp=Z,7.1nm,1.0s							
TOO	**Toolangi**	**55.89**	**180**		P	**P**	**14 54 40.1**	**+0.2**
CHGN	**Chignik**	**56.00**	**34**		P	**P**	**14 54 40.7**	**+0.3**
CHIR	**Chirikof Islan**	**57.35**	**35**		P	**P**	**14 54 51.7**	**+1.7**
NWAO	**Narrogin (SPO)**	**57.99**	**208**		P	**P**	**14 54 55.0**	**+0.3**
NWAO					IAmb	IAmb	14 55 19.6	
	comp=Z,16nm,1.4s							
ZAA0	**Zalesovo Array**	**58.02**	**323**		P	**P**	**14 54 53.4**	**-1.3**
ZALV	**Zalesovo Beam**	**58.02**	**323**		P	**P**	**14 54 53.7**	**-1.0**
	comp=Z,1.4nm,0.4s,baz=117,slow=6.8,SNR=8.6							
ZALV					pP	**pwP**	**14 55 42.2**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=106,slow=6.0,SNR=2.3							
ZALV	**Zalesovo Beam**	**58.02**	**323**		P	**P**	**14 54 53.3**	**-1.4**
SII	**Sitkinak Islan**	**58.32**	**34**		P	**P**	**14 54 57.7**	**+0.9**
MK31	**Makanchi Array**	**58.45**	**314**		P	**P**	**14 54 57.3**	**-0.5**
MKAR	**Makanchi Array**	**58.45**	**314**		P	**P**	**14 54 57.8**	**0.0**
	comp=Z,2.1nm,0.6s,baz=89,slow=8.9,SNR=30							
MKAR					pP	**PcP**	**14 55 45.4**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=83,slow=5.3,SNR=3.6							
MKAR	**Makanchi Array**	**58.45**	**314**		P	**P**	**14 54 57.2**	**-0.7**
MKAR					PcP	**PcP**	**14 55 45.5**	**-0.8**
N18K	**Kilae Creek**	**58.66**	**29**		P	**P**	**14 55 00.1**	**+1.0**
N18K					IAmb	IAmb	14 55 02.4	
	comp=Z,4.8nm,0.8s							
MAKZ	**Makanchi**	**58.67**	**314**		P	**P**	**14 54 59.3**	**0.0**
MAKZ					IAmb	IAmb	14 55 00.8	
	comp=Z,3.8nm,0.7s							
O18K	**Koktuh Hills**	**58.72**	**30**		P	**P**	**14 55 01.1**	**+1.6**
O18K					IAmb	IAmb	14 55 18.6	
	comp=Z,15nm,1.4s							
SVW2	**Sparrevohn**	**58.94**	**29**		P	**P**	**14 55 02.1**	**+1.2**
OHAK	**Old Harbor**	**58.97**	**34**		P	**P**	**14 55 01.8**	**+0.7**
OHAK					PcP	**PcP**	**14 55 48.3**	**+0.3**
KDAK	**Kodiak Island**	**59.47**	**33**		P	**P**	**14 55 05.3**	**+0.8**
	comp=Z,5.2nm,0.8s,baz=203,slow=2.2,SNR=11							
KDAK	**Kodiak Island**	**59.47**	**33**		P	**P**	**14 55 05.4**	**+0.8**
KDAK					IAmb	IAmb	14 55 10.2	
	comp=Z,20nm,1.4s							
L19K	**White Mountain**	**59.62**	**28**		P	**P**	**14 55 06.8**	**+1.2**
L19K					IAmb	IAmb	14 55 29.4	
	comp=Z,9.7nm,1.4s							
K20K	**Telida**	**60.33**	**27**		P	**P**	**14 55 12.0**	**+1.6**
J20K	**Nowinta River**	**60.57**	**26**		P	**P**	**14 55 12.5**	**+0.6**
J20K					IAmb	IAmb	14 55 16.2	
	comp=Z,11nm,1.5s							
CNPM	**China Poot**	**60.58**	**31**		P	**P**	**14 55 12.5**	**+0.4**
BRLK	**Bradley Lake**	**60.80**	**31**		P	**P**	**14 55 13.9**	**+0.2**
PPLA	**Purkeypile**	**61.01**	**28**		P	**P**	**14 55 16.2**	**+1.1**
PPLA					IAmb	IAmb	14 55 37.7	
	comp=Z,16nm,1.4s							
SKT	**Skwentna**	**61.05**	**29**		P	**P**	**14 55 15.5**	**+0.3**
CAST	**Castle Rocks**	**61.20**	**27**		P	**P**	**14 55 17.4**	**+1.1**
CAST					IAmb	IAmb	14 55 19.1	
	comp=Z,3.8nm,0.5s							
KURK	**Kurchatov**	**61.27**	**318**		P	**P**	**14 55 16.6**	**-0.3**
KURK					PcP	**PcP**	**14 55 56.6**	**-0.8**
SUA	**Susitna One**	**61.28**	**29**		P	**P**	**14 55 16.9**	**0.0**
SUA					IAmb	IAmb	14 55 43.3	
	comp=Z,6.2nm,1.0s							
KURBB	**Kurchatov Arra**	**61.32**	**318**		P	**P**	**14 55 16.6**	**-0.7**
	comp=Z,2.7nm,0.4s,baz=93,slow=7.5,SNR=35							
KURBB					PcP	**PcP**	**14 55 56.6**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=97,slow=4.3,SNR=4.4							
IMAR	**Indian Mountai**	**61.33**	**24**		P	**P**	**14 55 18.6**	**+1.6**
O22K	**Cooper Landing**	**61.53**	**31**		P	**P**	**14 55 19.1**	**+0.6**
H21K	**Melozitna Rive**	**61.59**	**24**		P	**P**	**14 55 19.9**	**+1.1**
RC01	**Rabbit Creek A**	**61.66**	**30**		P	**P**	**14 55 19.8**	**+0.4**
RC01					IAmb	IAmb	14 55 44.7	
	comp=Z,13nm,1.1s							
KTH	**Kantishna Hill**	**61.74**	**27**		P	**P**	**14 55 21.1**	**+1.1**
KTH					IAmb	IAmb	14 55 22.9	
	comp=Z,11nm,1.5s							
I21K	**Tanana**	**61.77**	**25**		P	**P**	**14 55 21.0**	**+1.1**
BPAW	**Bear Paw Mtn.**	**61.86**	**26**		P	**P**	**14 55 21.9**	**+1.2**
BPAW					IAmb	IAmb	14 55 23.4	
	comp=Z,3.6nm,0.7s							
PMR	**Palmer**	**62.06**	**29**		P	**P**	**14 55 23.0**	**+1.0**
PMR					IAmb	IAmb	14 55 39.0	
	comp=Z,3.0nm,0.6s							
MLY	**Manley**	**62.23**	**25**		P	**P**	**14 55 23.8**	**+0.7**
MLY					IAmb	IAmb	14 55 25.9	
	comp=Z,2.7nm,0.6s							
MLY					PcP	**PcP**	**14 56 01.5**	**+0.4**
PWL	**Port Wells**	**62.28**	**30**		P	**P**	**14 55 24.2**	**+0.7**
PWL					IAmb	IAmb	14 55 30.5	
	comp=Z,16nm,1.2s							
PWL					PcP	**PcP**	**14 56 01.5**	**+0.1**
SML	**Sawmill**	**62.48**	**29**		P	**P**	**14 55 26.0**	**+1.1**
SML					IAmb	IAmb	14 55 33.8	
	comp=Z,8.7nm,1.0s							
SML					PcP	**PcP**	**14 56 02.1**	**-0.1**
BWN	**Browne**	**62.53**	**27**		P	**P**	**14 55 26.8**	**+1.8**
BWN					IAmb	IAmb	14 55 52.8	
	comp=Z,14nm,1.3s							
BOOM	**Boomskoye usch**	**62.78**	**309**		P	**P**	**14 55 28.2**	**+0.9**
BOOM					IAmb	IAmb	14 55 29.1	
	comp=Z,2.9nm,0.6s							
I23K	**Minto, Yukon-K**	**62.82**	**26**		P	**P**	**14 55 28.3**	**+1.3**
I23K					IAmb	IAmb	14 55 29.6	
	comp=Z,7.7nm,1.4s							
KSH	**Kashi**	**62.84**	**305**		P	**P**	**14 55 31.4**	**+3.7**
KSH					pmax	pmax		
	comp=Z,5.0nm,0.8s							
H23K	**Yukon River**	**62.92**	**25**		P	**P**	**14 55 28.9**	**+1.2**
H23K					IAmb	IAmb	14 55 56.9	
	comp=Z,7.4nm,1.5s							
SCM	**Sheep Creek Mo**	**62.95**	**29**		P	**P**	**14 55 28.3**	**+0.3**
SCM					IAmb	IAmb	14 55 28.4	
	comp=Z,15nm,1.3s							
COLD	**Coldfoot**	**63.06**	**23**		P	**P**	**14 55 29.7**	**+1.2**
FID	**Port Fidalgo**	**63.16**	**31**		P	**P**	**14 55 29.9**	**+0.7**
WRH	**Wood River Hil**	**63.18**	**26**		P	**P**	**14 55 29.5**	**+0.1**
DHY	**Denali Highway**	**63.18**	**28**		P	**P**	**14 55 30.2**	**+0.6**
DHY					PcP	**PcP**	**14 56 05.1**	**-0.1**
MDM	**Murphy Dome**	**63.24**	**26**		P	**P**	**14 55 31.3**	**+1.5**
MDM					IAmb	IAmb	14 55 52.1	
	comp=Z,6.8nm,1.5s							
CCB	**Clear Creek Bu**	**63.34**	**26**		P	**P**	**14 55 30.5**	**+0.1**
CCB					IAmb	IAmb	14 55 51.3	
	comp=Z,6.8nm,1.5s							
CCB					PcP	**PcP**	**14 56 05.1**	**-0.5**
H24K	**Noodor Dome**	**63.59**	**25**		P	**P**	**14 55 33.1**	**+1.0**
HDA	**Harding Lake**	**63.65**	**27**		P	**P**	**14 55 32.0**	**-0.4**
TOLK	**Toolik Lake Re**	**63.70**	**22**		P	**P**	**14 55 33.7**	**+0.9**
TOLK					IAmb	IAmb	14 55 41.8	
	comp=Z,11nm,1.3s							
IL31		**63.75**	**26**		P	**P**	**14 55 32.9**	**-0.2**
ILAR	**Eielson Array**	**63.75**	**26**		P	**P**	**14 55 32.9**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=248,slow=6.2,SNR=16							
ILAR	**Eielson Array**	**63.75**	**26**		P	**P**	**14 55 32.4**	**-0.7**
AAK	**Ala-Archa**	**63.85**	**309**		P	**P**	**14 55 34.5**	**+0.2**
	comp=Z,1.2nm,0.4s,baz=153,slow=9.0,SNR=2.4							
URZ	**Urewera**	**63.85**	**153**		P	**P**	**14 55 33.1**	**-0.9**
	comp=Z,2.9nm,0.4s,baz=119,slow=23,SNR=1.3							
PAX	**Paxson**	**64.02**	**28**		P	**P**	**14 55 35.5**	**+0.5**
PAX					IAmb	IAmb	14 55 37.4	
	comp=Z,2.8nm,0.6s							
QRZ	**Quartz Range**	**64.22**	**158**		P	**P**	**14 55 36.3**	**-0.1**
BKZ	**Black Stump Fm**	**64.34**	**154**		P	**P**	**14 55 36.6**	**-0.7**
BKZ					IAmb	IAmb	14 55 46.5	
	comp=Z,11nm,1.2s							
RIDG	**Independent Ri**	**64.43**	**28**		P	**P**	**14 55 38.4**	**+0.8**
RIDG					IAmb	IAmb	14 55 39.9	
	comp=Z,11nm,1.1s							
VRDI	**Verde Repeater**	**64.69**	**30**		P	**P**	**14 55 40.4**	**+0.9**
VRDI					IAmb	IAmb	14 55 58.4	
	comp=Z,15nm,1.4s							
DOT	**Dot Lake**	**64.76**	**28**		P	**P**	**14 55 40.1**	**+0.5**
CRQM	**Cirque**	**64.78**	**31**		P	**P**	**14 55 40.7**	**+0.6**
CRQM					IAmb	IAmb	14 55 41.8	
	comp=Z,18nm,1.2s							
SCRK	**Sand Creek**	**64.84**	**27**		P	**P**	**14 55 41.1**	**+0.7**
NNZ	**Nelson**	**64.87**	**157**		P	**P**	**14 55 39.9**	**-0.7**
ISLE	**Juniper Island**	**65.15**	**31**		P	**P**	**14 55 43.5**	**+1.1**
BMAR	**Burnt Mountain**	**65.22**	**24**		P	**P**	**14 55 44.1**	**+1.5**
BMAR					PcP	**PcP**	**14 56 14.8**	**+1.5**
CMWZ	**Cape Campbell**	**65.64**	**157**		P	**P**	**14 55 46.1**	**+0.6**
L27K	**Beaver Creek,**	**65.67**	**28**		P	**P**	**14 55 46.4**	**+0.8**
BCAR	**Beaver Creek A**	**65.69**	**28**		P	**P**	**14 55 46.8**	**+1.1**
EGAK	**Eagle**	**66.17**	**27**		P	**P**	**14 55 50.4**	**+1.7**
BVAR	**Borovoye Array**	**66.48**	**320**		P	**P**	**14 55 50.4**	**-0.5**
	comp=Z,7.7nm,0.7s,baz=131,slow=6.7,SNR=38							
BRVK	**Borovoye**	**66.54**	**320**		P	**P**	**14 55 50.9**	**-0.3**
BRVK					IAmb	IAmb	14 55 52.4	
	comp=Z,5.7nm,0.8s							
RAR	**Rarotonga**	**66.54**	**124**		P	**P**	**14 55 49.5**	**-2.2**
KK31	**Karatay Array**	**66.75**	**310**		P	**P**	**14 55 52.6**	**-0.2**
KKAR	**Karatay Array**	**66.75**	**310**		P	**P**	**14 55 52.7**	**-0.1**
KKAR	**Karatay Array**	**66.75**	**310**		P	**P**	**14 55 52.8**	**0.0**
CHGR	**Chuyangaron**	**68.19**	**305**		P	**P**	**14 56 02.0**	**0.0**
CHGR					PcP	**PcP**	**14 56 24.9**	**-1.5**
CHGR					IAmb	IAmb	14 56 25.2	
	comp=Z,9.1nm,0.6s							
INK	**Inuvik**	**69.48**	**23**		P	**P**	**14 56 07.9**	**-1.3**
	comp=Z,3.1nm,0.6s,baz=14,slow=6.6,SNR=4.0							
A36M	**Sachs Harbour**	**72.18**	**19**		P	**P**	**14 56 26.0**	**+0.6**
ABKAR	**Akbulak array**	**73.33**	**317**		P	**P**	**14 56 31.5**	**-1.1**
HRA	**Herat**	**74.39**	**301**		P	**P**	**14 56 40.3**	**+1.0**
SPB2	**Spitsbergen Ar**	**79.23**	**351**		P	**P**	**14 57 06.0**	**+0.6**
PINE	**Pine Mountain**	**79.78**	**47**		P	**P**	**14 57 09.9**	**+0.8**
PINE					IAmb	IAmb	14 57 20.6	
	comp=Z,12nm,1.4s							
ARCES	**ARCESS Array B**	**82.54**	**342**		P	**P**	**14 57 22.1**	**-0.8**
	comp=Z,3.0nm,0.6s,baz=64,slow=8.2,SNR=14							
ARCES					pP	**pP**	**14 58 12.1**	**+1.9**
	comp=Z,2.3nm,0.9s,baz=350,slow=14,SNR=1.9							
ARCES	**ARCESS Array B**	**82.54**	**342**		IAmb	IAmb	14 57 45.5	
	comp=Z,15nm,1.4s							
NVAR	**Mina Array Nea**	**83.26**	**52**		P	**P**	**14 57 28.8**	**+1.2**
	comp=Z,1.7nm,0.8s,baz=265,slow=6.4,SNR=8.1							
NVAR					pP	**pP**	**14 58 15.8**	**+1.1**
	comp=Z,2.8nm,0.8s,baz=269,slow=5.5,SNR=6.6							
LRM	**Limekiln Ridge**	**84.86**	**43**		P	**P**	**14 57 35.9**	**+0.3**
HRY	**Holter Researc**	**84.93**	**42**		P	**P**	**14 57 36.0**	**+0.3**
FINES	**FINESS Array B**	**86.92**	**335**		P	**P**	**14 57 43.0**	**-1.9**
	comp=Z,2.3nm,0.4s,baz=61,slow=4.7,SNR=20							
PDAR	**Pinedale Array**	**87.94**	**45**		P	**P**	**14 57 49.1**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=262,slow=2.6,SNR=1.9							
LPAZ	**La Paz**	**147.76**	**91**		PKPbc	**PKPdf**	**15 04 42.7**	**+0.1**
	comp=Z,3.9nm,0.7s,baz=314,slow=3.0,SNR=9.5							
LPAZ	**La Paz**	**147.76**	**91**		PKPbc	**PKPbc**	**15 04 45.6**	**-0.1**

*IDC **16** 14:48:39.0±1.9, 5°.71S×151°.16E, h0km, mb4.1/4, mb1 4.4/4, mb1mx3.7/40, mbtmp4.2/4, MS4.4/1, Ms1 4.6/1, ms1mx3.7/35, Error ellipse: s-maj=116.7km s-min=25.5km az=128.0*

*NEIC **16** 14:48:40.6±1.7, 6°.03S±0°.09×151°.5E±0°.1, h7km±5km, mb4.7/10, Error ellipse: s-maj=20.6km s-min=10.7km az=115.0*

ISC 16 14:48:40.5±0.7, 6°.0S±0°.1×151°.5E±0°.2, h10km, n23,
σ0s 94/21, mb4.5/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.91**	**21**		**Pn**	**14 49 14.5**	**+1.3**
COEN	**Coen**	**11.37**	**225**	Pn	**Pn**	**14 51 24.5**	**+1.3**
PAYS	**Pohnpei**	**14.45**	**28**	Pn	**Pn**	**14 52 04.5**	**-0.8**
CTAO	**Charters Tower**	**14.91**	**199**	P	**P**	**14 52 17.4**	**+0.1**
WRA	**Warramunga Arr**	**21.67**	**229**	P	**P**	**14 53 29.9**	**-1.7**
	1.6nm,0.4s,baz=53,slow=10,SNR=6.4						
WRA	**Warramunga Arr**	**21.67**	**229**	IAmb	IAmb	14 53 33.6	
	comp=Z,0.7nm,1.4s						
KNRA	**Kununurra**	**24.26**	**245**	P	**P**	**14 53 57.6**	**-0.5**
KNRA				IAmb	IAmb	14 54 10.0	
	comp=Z,28nm,1.5s						
AS31	**Alice Springs**	**24.38**	**222**	P	**P**	**14 53 59.0**	**-0.2**
ASAR	**Alice Springs**	**24.39**	**222**	P	**P**	**14 53 59.4**	**+0.1**
	comp=Z,5.2nm,0.8s,baz=55,slow=9.4,SNR=18						
ASAR	**Alice Springs**	**24.39**	**222**	P	**P**	**14 53 58.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**27.93**	**242**	P	**P**	**14 54 30.4**	**-0.8**
	comp=Z,1.9nm,0.5s,baz=61,slow=8.1,SNR=3.2						
TOO	**Toolangi**	**31.91**	**189**	P	**P**	**14 55 05.2**	**-1.1**
MORW	**Morawa**	**40.57**	**231**	P	**P**	**14 56 19.5**	**-1.0**
MORW					IAmb	IAmb	14 56 47.5	
	comp=Z,25nm,1.5s						
QIZ	**Qiongzhong**	**47.94**	**302**	P	**P**	**14 57 19.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**57.19**	**296**	LR	LR	15 23 28.8	
	comp=Z,306nm,18.6s,baz=182,slow=37						
CASY	**Casey**	**66.50**	**197**	P	**P**	**14 59 32.0**	**+1.9**
CASY				IAmb	IAmb	14 59 42.1	
	comp=Z,9.4nm,1.3s						
L19K	**White Mountain**	**79.34**	**23**	P	**P**	**15 00 46.5**	**+0.2**
L19K				IAmb	IAmb	15 00 55.1	
	comp=Z,12nm,1.4s						
TTA	**Tatalina**	**79.35**	**22**	P	**P**	**15 00 46.0**	**-0.4**
CNPM	**China Poot**	**79.35**	**26**	P	**P**	**15 00 46.7**	**+0.3**
ILAR	**Eielson Array**	**83.75**	**22**	P	**P**	**15 01 08.5**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=250,slow=5.4,SNR=16						
ILAR	**Eielson Array**	**83.75**	**22**	P	**P**	**15 01 09.1**	**-0.4**
MSU	**Marysvale**	**98.66**	**52**	P	**P**	**15 02 20.3**	**-0.3**
TORD	**Torodi Ar. Bea**	**149.37**	**286**	PKPbc	**PKPbc**	**15 08 30.4**	**-0.5**
	comp=Z,2.5nm,0.7s,baz=63,slow=3.0,SNR=9.5						

*IDC **16** 14:52:11.0±1.6, 27°.60N×86°.42E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.5/46, mbtmp3.6/8, ML3.8/1, Error ellipse: s-maj=52.8km s-min=19.8km az=65.0*

*NEIC **16** 14:52:12.1±1.2, 27°.59N±0°.08×86°.19E±0°.03, h7km±4km, mb4.2/7, Error ellipse: s-maj=12.4km s-min=2.1km az=168.0*

*NDI **16** 14:52:16.2±2.3, 28°.08N×86°.28E, h10km, ML3.5, mb4.2(NEIC)*

ISC 16 14:52:15.0±0.7, 28°.03N±0°.07×86°.32E±0°.05, h10km, n26,
σ2s 47/22, mb3.7/9, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTK	**Tadong**	**2.15**	**109**	*eP*	**Pn**	**14 52 51.2**	**+0.2**
GTK				*eS*	**Sn**	**14 53 19.4**	**+1.5**
BOK	**Bokaro**	**4.24**	**185**	*eP*	**Pn**	**14 53 21.4**	**+1.7**
BOK				*eS*	**Sn**	**14 54 09.3**	**+0.1**
BOK				IAML		14 54 15.8	
	comp=E,119nm,0.8s						
BOK				IAML		14 54 18.7	
	comp=N,93nm,0.5s						
SHL	**Shillong**	**5.55**	**115**	Pn	Pn	14 53 33.5	-4.3
SHL	**Shillong**	**5.55**	**115**	*ex*	**Sn**	**14 54 36.1**	**-5.7**
KOHI	**KOHIMA**	**7.33**	**107**	*ex*	**Sn**	**14 55 25.2**	**-0.5**
MOKO	**MOKOCHONG**	**7.50**	**101**	*eP*	**Pn**	**14 54 06.4**	**+1.8**
MOKO				*eS*	**Sn**	**14 55 27.7**	**-2.2**
SMLA	**Simla**	**8.54**	**293**	*eP*	**Pn**	**14 54 18.6**	**-0.2**
SMLA				*eS*	**Sn**	**14 55 48.9**	**-6.3**
SMLA				IAML		14 55 57.5	
	comp=E,40nm,0.4s						
SMLA				IAML		14 55 58.4	
	comp=N,29nm,0.1s						
BHPL	**Bhopal**	**9.33**	**241**	*eP*	Pn	14 54 21.4	-8.3
BHPL				*eS*	Sn	14 55 52.4	-22
NIL	**Nilore**	**12.54**	**300**	Pn	**Pn**	**14 55 14.2**	**+0.7**
TARG	**Taragay, Kyrgy**	**15.33**	**335**	Pn	**Pn**	**14 55 54.2**	**+2.3**
TARG				IAmb	IAmb	14 55 57.6	
	comp=Z,3.9nm,1.2s						
MK31	**Makanchi Array**	**18.99**	**351**	P	**Pn**	**14 56 38.3**	**+0.9**
MK31				IAmb	IAmb	14 56 40.8	
	comp=Z,1.5nm,0.9s						
MKAR	**Makanchi Array**	**18.99**	**351**	P	**Pn**	**14 56 39.5**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=172,slow=13,SNR=8.6						
MKAR	**Makanchi Array**	**18.99**	**351**	P	**Pn**	**14 56 37.7**	**+0.3**
KURBB	**Kurchatov Arra**	**23.32**	**347**	P	**P**	**14 57 24.9**	**+1.8**
	comp=Z,1.8nm,0.7s,baz=168,slow=9.2,SNR=7.3						
SONM	**Songino Array**	**25.20**	**33**	P	**P**	**14 57 41.9**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=223,slow=10,SNR=2.7						
ZALV	**Zalesovo Beam**	**25.91**	**358**	P	**P**	**14 57 49.0**	**+1.9**
	comp=Z,0.6nm,0.5s,baz=181,slow=10,SNR=2.5						
KSAR	**Wonju Array Be**	**35.96**	**64**	P	**P**	**14 59 14.2**	**-1.7**
KSRS	**Korea Array**	**35.99**	**64**	P	**P**	**14 59 13.5**	**-2.7**
	comp=Z,0.8nm,0.6s,baz=255,slow=9.3,SNR=3.3						
ARCES	**ARCESS Array B**	**53.89**	**338**	P	**P**	**15 01 38.3**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=108,slow=8.6,SNR=1.2						
ARCES	**ARCESS Array B**	**53.89**	**338**	IAmb	IAmb	15 01 45.7	
	comp=Z,9.5nm,1.3s						
WRA	**Warramunga Arr**	**66.57**	**130**	P	P	15 03 01.1	-4.5
	comp=Z,0.3nm,0.3s,

	baz=32								
SLGT	**Liugui**	**0.74**	**357**	*eP*		Pn	14 57 35.7	0.0
	baz=357								
SLGT				*eS*		Sn	14 57 46.4	+0.3
	baz=357								
LONT	**Longtian**	**0.77**	**32**	*eP*		Pb	14 57 35.5	-0.5
	baz=32								
LONT				*eS*		Sn	14 57 46.8	0.0
	baz=32								
LAY	**Lan-yu**	**0.83**	**105**	*eP*		Pn	14 57 36.0	-0.9
	baz=104								
LAY				*eS*		Sb	14 57 47.3	-0.5
	baz=104								
SGST	**Jiashian**	**0.83**	**353**	*eP*		Pb	14 57 37.3	+0.2
	baz=353								
SGST				*eS*		Sn	14 57 48.7	+0.4
	baz=353								
LDUT	**Ludao**	**0.84**	**60**	*eP*		Pn	14 57 36.7	-0.3
	baz=59								
LDUT				*eS*		Sn	14 57 49.5	+1.2
	baz=59								
EDH	**Donghe**	**0.92**	**38**	*eP*		Pb	14 57 38.8	+0.3
	baz=38								
EDH				*eS*		Sn	14 57 51.9	+1.5
	baz=38								
STYH	**Taoyuan**	**0.92**	**5**	*eP*		Pn	14 57 38.0	-0.1
	baz=5.0								
STYH				*eS*		Sn	14 57 51.1	+0.7
	baz=5.0								
CHN1	**Nanshi**	**0.94**	**351**	*eP*		Pb	14 57 39.6	+0.6
	baz=351								
CHN1				*eS*		Sb	14 57 52.2	+1.2
	baz=351								
ELDTW	**Lidau**	**0.98**	**18**	*eP*		Pb	14 57 40.1	+0.4
	baz=18								
ELDTW				*eS*		Sn	14 57 51.9	-0.3
	baz=18								
WTP	**Ta-pu**	**0.99**	**356**	*eP*		Pb	14 57 40.4	+0.6
	baz=356								
WTP				*eS*		Sb	14 57 52.9	+0.4
	baz=356								
TPUB	**Ta-pu**	**1.05**	**357**	*eP*		Pb	14 57 41.4	+0.7
	baz=357								
TPUB				*eS*		Sb	14 57 54.9	+0.9
	baz=357								
FULB	**Fuli**	**1.10**	**31**	*eP*		Pn	14 57 41.0	+0.4
	baz=30								
FULB				*eS*		Sn	14 57 55.1	+0.3
	baz=30								
CHN4	**Tsaushan**	**1.10**	**355**	*eP*		Pn	14 57 41.0	+0.3
	baz=355								
CHN4				*eS*		Sn	14 57 55.0	+0.1
	baz=355								
YUS	**Yu-Shan**	**1.26**	**11**	*eP*		Pb	14 57 45.7	+1.2
	baz=11								
YUS				*eS*		Sn	14 57 59.3	-0.2
	baz=11								
ALS	**Alishan**	**1.26**	**5**	*eP*		Pb	14 57 45.8	+1.3
	baz=5.0								
ALS				*eS*		Sb	14 58 00.4	0.0
	baz=5.0								
YULB	**Yu-li**	**1.27**	**26**	*eP*		Pn	14 57 43.1	+0.1
	baz=26								
YULB				*eS*		Sb	14 58 00.4	0.0
	baz=26								
CHN2	**Minshiung**	**1.29**	**351**	*eS*		Sn	14 57 59.5	-0.2
	baz=351								
CHN5	**Tsauling**	**1.34**	**360**	*eP*		Pb	14 57 45.3	-0.4
	baz=359								
CHN5				*eS*		Sn	14 58 00.3	-0.7
	baz=359								
EHY	**Hungye**	**1.38**	**25**	*eS*		Sn	14 58 02.4	+0.6
	baz=25								
HGSD	**Ruisui**	**1.41**	**29**	*eP*		Pn	14 57 45.8	+0.9
	baz=28								
HGSD				*eS*		Sb	14 58 04.2	-0.2
	baz=28								
WHYT	**Xinyi Township**	**1.45**	**6**	*eP*		Pn	14 57 46.0	+0.5
	baz=6.0								
SSLB	**Suanglung**	**1.55**	**9**	*eP*		Pn	14 57 47.6	+0.7
	baz=9.0								
SSLB				*eS*		Sn	14 58 05.4	-0.7
	baz=9.0								

TAP 16 14:57:40.0, 24.30N×121.75E, h20km±1km, ML1.9, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.01**	**314**	*eP*	Pg	14 57 43.1	-0.4
	baz=343						
EHP				*eS*	Sg	14 57 45.9	0.0
	baz=343						
ENA	**Nanau**	**0.13**	**356**	P	Pb	14 57 44.0	+0.3
	baz=359						
ENA				S	Sg	14 57 47.4	+0.2
	baz=359						
EWUT	**Wuta**	**0.15**	**10**	P	Pb	14 57 44.2	+0.1
	baz=9.0						
EWUT				S	Sg	14 57 47.4	-0.1
	baz=9.0						
ETL	**Fush Village**	**0.18**	**220**	P	Pb	14 57 44.7	-0.1
	baz=219						
ETL				S	Sg	14 57 48.6	+0.2
	baz=219						
NACB	**Ninganchiao**	**0.19**	**228**	*eP*	Pb	14 57 44.8	-0.1
	baz=228						
NACB				S	Sg	14 57 48.4	-0.1
	baz=228						
TWD	**Chiawan**	**0.26**	**213**	P	Pb	14 57 45.7	-0.4
	baz=211						
ETLH	**Xiulin Townshi**	**0.26**	**249**	*eP*	Pb	14 57 46.0	-0.2
	baz=249						
TWC	**Suao**	**0.32**	**16**	*eP*	Pg	14 57 47.0	-0.1
	baz=17						
NDS	**Dongshan**	**0.33**	**354**	*eP*	Pb	14 57 47.3	0.0
	baz=354						
NNSB	**Datong**	**0.36**	**291**	P	Pb	14 57 48.1	+0.3
	baz=290						
NNSB				*eS*	Sg	14 57 52.7	-0.4
	baz=290						
NDT	**Datong Townshi**	**0.37**	**324**	P	Pb	14 57 48.3	+0.3
	baz=324						
NNS	**Nan Shan**	**0.37**	**292**	P	Pb	14 57 48.2	+0.2
	baz=291						
ENTT	**Nioudou**	**0.38**	**333**	P	Pb	14 57 48.3	+0.2
	baz=334						
TWE	**Neicheng**	**0.42**	**350**	*eP*	Pg	14 57 48.9	0.0
	baz=351						
TWE				*eS*	Sg	14 57 53.4	-1.5
	baz=351						
FUSS	**Fushou**	**0.47**	**264**	*eP*	Pg	14 57 50.0	+0.3
	baz=263						
WHF	**Hehuan Shan**	**0.47**	**251**	*eP*	Pg	14 57 49.7	-0.2
	baz=250						
WHF				*eS*	Sg	14 57 56.0	-0.5
	baz=250						
YHNB	**Yeheng**	**0.50**	**317**	P	Pg	14 57 50.4	+0.1
	baz=317						
YHNB				*eS*	Sg	14 57 57.6	+0.4
	baz=317						
NSK	**Sanguang**	**0.52**	**316**	*eP*	Pg	14 57 50.7	+0.1
	baz=316						
NWLT	**Wulai**	**0.53**	**335**	*eP*	Pb	14 57 49.1	-1.5
	baz=334						
NWLT				*eS*	Sg	14 57 58.1	+0.2
	baz=334						
TWT	**Tachien**	**0.53**	**265**	*eP*	Pb	14 57 50.3	-0.4
	baz=264						
TWT				*eS*	Sb	14 57 57.9	-0.1
	baz=264						
TDCB	**Techi**	**0.54**	**265**	*eS*	Sb	14 57 57.6	-0.8
	baz=264						
NTC	**Toucheng**	**0.56**	**7**	*eP*	Pb	14 57 50.2	-0.9
	baz=7.0						
NTC				*eS*	Sb	14 57 56.8	-1.9
	baz=7.0						
ESL	**Shilin**	**0.56**	**211**	*eP*	Pb	14 57 50.5	-0.8
	baz=210						
ESL				*eS*	Sb	14 57 58.3	-0.6
	baz=210						
CHGB	**Renai**	**0.58**	**246**	*eP*	Pb	14 57 51.1	-0.5
	baz=245						
TIPB	**Shuangxi**	**0.67**	**6**	*eP*	Pb	14 57 52.9	-0.2
	baz=5.0						
TIPB				*eS*	Sb	14 57 59.6	-2.4
	baz=5.0						
WHP	**Taichung City**	**0.73**	**268**	*eP*	Pb	14 57 53.5	-0.8
	baz=268						
LIOB	**Emei**	**0.75**	**297**	*eP*	Pn	14 57 55.8	+0.2
	baz=297						
LIOB				*eS*	Sb	14 58 02.0	-2.4
	baz=297						
YM01	**YM01**	**0.86**	**349**	*eP*	Pb	14 57 54.9	-1.5
	baz=348						
YM01				*eS*	Sb	14 58 06.3	-1.1
	baz=348						
HGSD	**Ruisui**	**0.86**	**200**	*eP*	Pb	14 57 55.8	-0.5
	baz=200						
HGSD				*eS*	Sb	14 58 05.2	-2.2
	baz=200						
SSLB	**Suanglung**	**0.89**	**235**	*eP*	Pb	14 57 56.7	-0.1
	baz=234						
SSLB				*eS*	Sb	14 58 07.7	-0.6
	baz=234						

TAP 16 14:57:43.7, 24.31N×121.81E, h18km, ML1.9, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.06**	**275**	*eP*	Pg	14 57 47.3	+0.2
	baz=272						
EHP				*eS*	Sg	14 57 50.2	+0.8
	baz=272						
ENA	**Nanau**	**0.14**	**334**	*eP*	Pg	14 57 48.4	+0.5
	baz=336						
ENA				S	Sg	14 57 51.5	+0.9
	baz=336						
EWUT	**Wuta**	**0.14**	**349**	*eP*	Pg	14 57 48.6	+0.7
	baz=349						
EWUT				S	Sg	14 57 51.6	+0.9
	baz=349						
ETL	**Fush Village**	**0.22**	**229**	*eP*	Pb	14 57 49.5	+0.4
	baz=228						
ETL				*eS*	Sg	14 57 54.0	+1.4
	baz=228						
NACB	**Ninganchiao**	**0.23**	**236**	*eP*	Pb	14 57 50.2	+1.0
	baz=235						
TWD	**Chiawan**	**0.29**	**221**	*eP*	Pg	14 57 50.2	0.0
	baz=219						
TWD				*eS*	Sb	14 57 55.8	+0.8
	baz=219						
TWD	**Chiawan**	**0.29**	**221**	S	Pg	14 57 50.3	+0.1
	baz=211						
TWC	**Suao**	**0.30**	**7**	*eP*	Pb	14 57 51.4	+0.7
	baz=9.0						
TWC				*eS*	Sb	14 57 55.7	+0.4
	baz=9.0						
TWC	**Suao**	**0.30**	**7**	*eS*	Pb	14 57 51.2	+0.6
	baz=17						
ETLH	**Xiulin Townshi**	**0.31**	**252**	*eP*	Pb	14 57 50.8	-0.1
	baz=251						
ETLH				*eS*	Sb	14 57 56.4	+0.8
	baz=251						
ETLH	**Xiulin Townshi**	**0.31**	**252**	*eS*	Pb	14 57 50.3	-0.5
	baz=249						
NDS	**Dongshan**	**0.34**	**346**	*eP*	Pb	14 57 51.7	+0.4
	baz=345						
NDS				*eS*	Sb	14 57 57.0	+0.7
	baz=345						
NDS	**Dongshan**	**0.34**	**346**	*eS*	Pb	14 57 51.7	+0.5
	baz=354						
ENTT	**Nioudou**	**0.40**	**327**	*eP*	Pb	14 57 53.0	+0.7
	baz=327						
ENTT				*eS*	Sb	14 57 59.5	+1.3
	baz=327						
ENTT	**Nioudou**	**0.40**	**327**	*eS*	Pb	14 57 53.1	+0.7
	baz=334						
NDT	**Datong Townshi**	**0.40**	**318**	*eP*	Pb	14 57 53.0	+0.7
	baz=317						
NDT				*eS*	Sb	14 57 59.2	+1.0
	baz=317						
NDT	**Datong Townshi**	**0.40**	**318**	*eS*	Pb	14 57 52.9	+0.5
	baz=324						
NNSB	**Datong**	**0.41**	**288**	P	Pb	14 57 53.6	+1.1
	baz=287						
NNSB				S	Sb	14 57 59.1	+0.7
	baz=287						
NNS	**Nan Shan**	**0.42**	**289**	*eP*	Pb	14 57 52.8	+0.1
	baz=288						
NNS				*eS*	Sb	14 57 59.5	+0.8
	baz=288						
NNS	**Nan Shan**	**0.42**	**289**	*eS*	Pb	14 57 53.1	+0.4
	baz=291						
TWE	**Neicheng**	**0.43**	**343**	*eP*	Pb	14 57 52.8	-0.1
	baz=344						
TWE				*eS*	Sb	14 57 59.2	+0.1
	baz=344						
ILA	**Ilan**	**0.46**	**353**	*eP*	Pb	14 57 54.0	+0.7
	baz=354						
ILA				*eS*	Sb	14 58 00.7	+0.8
	baz=354						
FUSS	**Fushou**	**0.52**	**264**	*eP*	Pb	14 57 54.8	+0.4
	baz=263						
FUSS				*eS*	Sb	14 58 02.6	+1.0
	baz=263						
FUSS	**Fushou**	**0.52**	**264**	*eS*	Pb	14 57 55.0	+0.5
	baz=263						
WHF	**Hehuan Shan**	**0.52**	**252**	*eP*	Pb	14 57 55.2	+0.6
	baz=251						
WHF				*eS*	Sb	14 58 02.5	+0.5
	baz=251						
YHNB	**Yeheng**	**0.54**	**313**	*eP*	Pb	14 57 55.4	+0.8
	baz=312						
YHNB				*eS*	Sb	14 58 03.0	+1.0
	baz=312						
NWLT	**Wulai**	**0.55**	**330**	*eP*	Pb	14 57 55.3	+0.5
	baz=329						
NWLT				*eS*	Sb	14 58 03.5	+1.2
	baz=329						
NTC	**Toucheng**	**0.55**	**2**	*eS*	Sb	14 58 03.4	+1.1
	baz=2.0						
NSK	**Sanguang**	**0.55**	**312**	*eP*	Pb	14 57 55.6	+0.7
	baz=312						
NSK				*eS*	Sb	14 58 03.6	+1.1
	baz=312						
NSK	**Sanguang**	**0.55**	**312**	*eS*	Pb	14 57 55.4	+0.6
	baz=316						
TWT	**Tachien**	**0.58**	**265**	*eP*	Pb	14 57 55.6	+0.2
	baz=264						
TWT				*eS*	Sb	14 58 04.5	+1.2
	baz=264						
TDCB	**Techi**	**0.59**	**265**	*eP*	Pb	14 57 56.2	+0.6
	baz=264						
TDCB				*eS*	Sb	14 58 04.4	+0.7
	baz=264						
ESL	**Shilin**	**0.60**	**215**	*eP*	Pg	14 57 56.2	+0.6
	baz=214						
ESL				*eS*	Sb	14 58 03.8	+0.1
	baz=214						
CHGB	**Renai**	**0.63**	**247**	*eP*	Pn	14 57 57.1	-0.8
	baz=247						
CHGB				*eS*	Sb	14 58 05.5	+0.7
	baz=247						
CHGB	**Renai**	**0.63**	**247**	*eS*	Pn	14 57 57.6	-0.3
	baz=245						
TIPB	**Shuangxi**	**0.66**	**1**	*eP*	Pn	14 57 58.2	-0.1
	baz=1.0						
TIPB				*eS*	Sg	14 58 06.2	+0.4
	baz=1.0						
TWB1	**Santiao Chiao**	**0.72**	**13**	*eS*	Sg	14 58 07.9	+0.4
	baz=13						
WHP	**Taichung City**	**0.79**	**268**	*eP*	Pn	14 58 01.6	+1.6
	baz=268						
WHP				*eS*	Sn	14 58 10.8	-0.6
	baz=268						
WHP	**Taichung City**	**0.79**	**268**	*eS*	Pn	14 58 01.6	+1.6
	baz=268						
LIOB	**Emei**	**0.80**	**295**	*eP*	Pn	14 57 59.8	-0.3
	baz=295						
LIOB				*eS*	Sn	14 58 11.3	-0.2
	baz=295						
NSTT	**Nanjuang**	**0.80**	**294**	*eS*	Sg	14 58 10.8	+0.7
	baz=293						
WCS	**Beigang Elemen**	**0.85**	**253**	*eP*	Pg	14 58 00.3	-0.1
	baz=253						
WCS				*eS*	Sn	14 58 12.7	-0.2
	baz=253						
SSLB	**Suanglung**	**0.94**	**237**	*eP*	Pg	14 58 01.8	-0.2
	baz=236						
SSLB				*eS*	Sg	14 58 14.1	-0.2
	baz=236						
TWY	**Chenhua**	**0.98**	**349**	*eP*	Pb	14 58 02.1	-0.2
	baz=349						
YULB	**Yu-li**	**1.02**	**207**	*eS*	Sg	14 58 16.8	-0.2
	baz=207						
WHYT	**Xinyi Township**	**1.06**	**235**	*eP*	Pg	14 58 04.2	-0.2
	baz=235						
WHYT				*eS*	Sg	14 58 18.6	+0.2
	baz=235						

JMA 16 14:58:45.9±0.1, 24.88N×123.39E, h25km, M1.1, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.54**	**220**	P	Pb	14 58 56.5	-0.3
YOJ				*eS*	Sb	14 59 03.9	-0.3
JYNG	**Yonagunijimaku**	**0.59**	**224**	P	Pb	14 58 57.3	-0.3
JYNG				S	Sb	14 59 05.4	-0.1
IRIF	**Iriomote-Funau**	**0.62**	**150**	P	Pb	14 58 57.9	-0.3
IRIF				*eS*	Sb	14 59 06.4	-0.2
JKRS	**Kuro-shima**	**0.85**	**138**	P	Pb	14 59 02.0	-0.1
JKRS				*eS*	Sb	14 59 13.1	0.0
JIJ	**Ishigaki jima**	**0.86**	**127**	P	Pb	14 59 01.3	-0.8
JIJ				*eS*	Sb	14 59 11.9	-1.3
JISG	**Ishigakijimahi**	**0.89**	**109**	P	Pb	14 59 02.2	-0.4
JISG				*eS*	Sb	14 59 13.1	-1.0
HATJ	**Hateruma jima**	**0.90**	**155**	P	Pb	14 59 02.3	-0.6
HATJ				*eS*	Sb	14 59 14.5	0.0

TAP 16 14:59:06.7, 24.29N×121.75E, h16km, ML1.5, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.14**	**355**	P	Pb	14 59 11.0	0.0
	baz=358						
ENA				S	Sb	14 59 14.1	+0.3
	baz=358						
EWUT	**Wuta**	**0.15**	**9**	P	Pb	14 59 11.2	-0.1
	baz=8.0						
EWUT				*eS*	Sb	14 59 14.7	+0.3
	baz=8.0						
ETL	**Fush Village**	**0.18**	**222**	*eP*	Pb	14 59 11.6	-0.1
	baz=221						
ETL				*eS*	Sb	14 59 15.7	+0.6
	baz=221						
NACB	**Ninganchiao**	**0.19**	**231**	P	Pb	14 59 11.5	-0.3
	baz=230						
NACB				*eS*	Sb	14 59 15.8	+0.5
	baz=230						
TWD	**Chiawan**	**0.26**	**214**	*eP*	Pb	14 59 12.7	-0.3
	baz=212						
TWD				S	Sb	14 59 17.5	+0.3
	baz=212						
ETLH	**Xiulin Townshi**	**0.26**	**251**	P	Pb	14 59 13.1	-0.1
	baz=251						
ETLH				*eS*	Sb	14 59 17.6	+0.1
	baz=251						
NDS	**Dongshan**	**0.34**	**354**	*eP*	Pb	14 59 14.4	-0.1
	baz=354						
NDS				*eS*	Sb	14 59 19.8	+0.1
	baz=354						
NNSB	**Datong**	**0.36**	**292**	*eP*	Pb	14 59 15.1	+0.2
	baz=291						
NNSB				*eS*	Sb	14 59 20.5	0.0
	baz=291						
NNS	**Nan Shan**	**0.38**	**293**	*eP*	Pb	14 59 15.3	+0.1
	baz=293						
NNS				*eS*	Sb	14 59 21.5	+0.7
	baz=293						
ENTT	**Nioudou**	**0.39**	**334**	*eP*	Pb	14 59 15.4	+0.1
	baz=334						
ENTT				*eS*	Sb	14 59 21.5	+0.4
	baz=334						
FUSS	**Fushou**	**0.47**	**265**	*eP*	Pg	14 59 16.4	+0.3
	baz=264						
FUSS				*eS*	Sb	14 59 24.0	+0.4
	baz=264						
WHF	**Hehuan Shan**	**0.47**	**252**	*eP*	Pb	14 59 16.7	-0.2
	baz=251						
WHF				*eS*	Sb	14 59 23.9	+0.1
	baz=251						
YHNB	**Yeheng**	**0.51**	**318**	*eP*	Pb	14 59 17.8	+0.4
	baz=317						
YHNB				*eS*	Sb	14 59 25.3	+0.6
	baz=317						
NSK	**Sanguang**	**0.53**	**317**	*eP*	Pg	14 59 17.4	+0.2
	baz=317						
NSK				*eS*	Sb	14 59 25.4	+0.3
	baz=317						
TWT	**Tachien**	**0.53**	**266**	*eP*	Pb	14 59 18.4	+0.6
	baz=265						
TWT				*eS*	Sb	14 59 26.4	+1.1
	baz=265						
NWLT	**Wulai**	**0.53**	**335**	*eP*	Pb	14 59 18.0	+0.2
	baz=334						
NWLT				*eS*	Sb	14 59 25.7	+0.4
	baz=334						
CHGB	**Renai**	**0.58**	**247**	*eP*	Pb	14 59 18.6	-0.1
	baz=246						
CHGB				*eS*	Sb	14 59 27.4	+0.7
	baz=246						

IDC 16 15:03:31.9±2.3, 5.53S×151.09E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.4/36, mbtmp3.3/4, Error ellipse: s-maj=125.2km s-min=32.0km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.69**	**227**	P	P	15 08 24.6	0.0
	0.2nm,0.4s,baz=52,slow=10,SNR=1.7						
ASAR	**Alice Springs**	**24.48**	**221**	P	P	15 08 52.2	-0.7
	0.2nm,0.5s,baz=56,slow=8.8,SNR=6.8						
FITZ	**Fitzroy Crossi**	**27.81**	**241**	P	P	15 09 24.1	+1.0
	0.6nm,0.6s,baz=49,slow=10.0,SNR=1.3						
ILAR	**Eielson Array**	**83.47**	**22**	P	P	15 16 01.2	0.0
	0.2nm,0.5s,baz=252,slow=4.5,SNR=1.9						

*IDC **16** 15:04:32.2±1.5, 5.96S×151.62E, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.8/38, mbtmp4.1/5, Error ellipse: s-maj=82.2km s-min=26.6km az=129.0*
*NEIC **16** 15:04:35.8±2.3, 6.3S±0.1×152.0E±0.1, h10km±1km, mb4.1/8, Error ellipse: s-maj=21.6km s-min=15.4km az=151.0*

ISC 16 15:04:35.4±0.8, 6.21S±0.10×151.9E±0.2, h10km, n20, σ2.03/20, mb4.2/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.02**	**7**	Pn	**Pn**	**15 05 10.5**	**+0.9**
MANU	**Manus Island**	**6.13**	**312**	Pn	**Pn**	**15 06 08.2**	**+2.1**
CTAO	**Charters Tower**	**14.85**	**201**		**P**	**15 08 12.7**	**+1.3**
EIDS	**Eidsvold**	**19.07**	**182**	P	**Pn**	**15 09 01.2**	**+2.3**
EIDS				IAmb	IAmb	15 09 23.8	
	comp=Z,14nm,1.4s						
WR0	**Warramunga Arr**	**21.71**	**229**	P	**P**	**15 09 24.1**	**-2.7**
WRAB	**Tennant Creek**	**21.84**	**230**	P	**P**	**15 09 29.2**	**+1.0**
WRAB				IAmb	IAmb	15 09 42.4	
	comp=Z,7.7nm,0.7s						
WB2	**Warramunga Arr**	**21.84**	**230**	P	**P**	**15 09 25.8**	**-2.5**
WB2				IAmb	IAmb	15 09 33.1	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**21.85**	**230**	P	**P**	**15 09 25.9**	**-2.4**
	comp=Z,2.1nm,0.6s,baz=55,slow=9.9,SNR=13						
AS31	**Alice Springs**	**24.51**	**223**	P	**P**	**15 09 54.0**	**-1.2**
ASAR	**Alice Springs**	**24.51**	**223**	P	**P**	**15 09 53.8**	**-1.5**
	comp=Z,4.7nm,0.8s,baz=55,slow=8.6,SNR=20						
ASAR	**Alice Springs**	**24.51**	**223**	P	**P**	**15 09 54.1**	**-1.1**
FITZ	**Fitzroy Crossi**	**28.21**	**243**	P	**P**	**15 10 25.6**	**-3.1**
	comp=Z,3.2nm,0.5s,baz=55,slow=8.2,SNR=18						
FITZ	**Fitzroy Crossi**	**28.21**	**243**	P	**P**	**15 10 25.8**	**-2.8**
MKAR	**Makanchi Array**	**80.80**	**319**	P	**P**	**15 16 49.9**	**+0.5**
QSPA	**South Pole Qui**	**83.76**	**180**	P	**P**	**15 17 04.9**	**+0.2**
ILAR	**Eielson Array**	**83.79**	**22**	P	**P**	**15 17 02.5**	**-2.2**
	comp=Z,0.7nm,0.8s,baz=247,slow=5.1,SNR=6.5						
MAW	**Mawson**	**83.93**	**203**	P	**P**	**15 17 04.8**	**-0.5**
	comp=Z,1.7nm,0.9s,baz=102,slow=9.3,SNR=1.9						
MAW	**Mawson**	**83.93**	**203**	P	**P**	**15 17 05.1**	**-0.2**
MAW				IAmb	IAmb	15 17 09.3	
	comp=Z,1.7nm,1.5s						
TORD	**Torodi Ar. Bea**	**149.85**	**285**	PKPbc	**PKPdf**	**15 24 24.2**	**+2.1**
	comp=Z,0.8nm,0.7s,baz=84,slow=3.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**149.85**	**285**		**PKPdf**	**15 24 24.5**	**+2.4**

*IDC **16** 15:05:21.6±1.6, 5.83S×151.49E, h0km, mb4.1/6,*

mb1 4.3/6,mb1mx3.8/39,mbtmp4.1/6,Error ellipse: s-maj=75.2km s-min=24.6km az=124.0
*NEIC **16** 15:05:25.6±1.0,5°.9S±0°.1×151°.4E±0°.1,h10km±2km, mb4.1/7,Error ellipse: s-maj=25.9km s-min=16.6km az=141.0*

ISC 16 15:05:24.6±0.9,**5°.9S**±0°.2×**151°.4E**±0°.3,**h10**km,**n17,** σ1§**36**/**17**,**mb4.1**/10,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.89**	**25**	Pn	**Pb**	**15 06 00.4**	**+1.2**
WR0	**Warramunga Arr**	**21.50**	**228**	P	**P**	**15 10 16.6**	**+2.9**
WR0	comp=Z,8.1nm,1.0s			IAmb	IAmb	15 10 29.6	
WB2	**Warramunga Arr**	**21.62**	**228**	P	**P**	**15 10 15.5**	**+0.4**
WB2	comp=Z,8.3nm,1.1s			IAmb	IAmb	15 10 35.2	
WRA	**Warramunga Arr**	**21.63**	**228**	P	**P**	**15 10 15.2**	**-0.1**
WRA	comp=Z,2.1nm,0.4s,baz=56,slow=9.9,SNR=7.9 **Warramunga Arr**	**21.63**	**228**	P	**P**	**15 10 15.5**	**+0.3**
KNRA	**Kununurra**	**24.19**	**245**	P	**P**	**15 10 42.0**	**+0.4**
AS31	**Alice Springs**	**24.36**	**222**	P	**P**	**15 10 42.8**	**-0.3**
AS31	comp=Z,1.6nm,0.5s			IAmb	IAmb	15 10 44.7	
ASAR	**Alice Springs**	**24.36**	**222**	P	**P**	**15 10 43.0**	**0.0**
ASAR	comp=Z,5.7nm,0.8s,baz=54,slow=8.7,SNR=9.4 **Alice Springs**	**24.36**	**222**	P	**P**	**15 10 43.4**	**+0.3**
ARMA	**Armidale**	**24.38**	**179**	P	**P**	**15 10 43.5**	**+0.3**
ARMA	comp=Z,6.5nm,1.1s			IAmb	IAmb	15 10 49.1	
FITZ	**Fitzroy Crossi**	**27.86**	**242**	P	**P**	**15 11 14.5**	**-0.1**
FITZ	comp=Z,4.2nm,0.5s,baz=48,slow=8.6,SNR=14 **Fitzroy Crossi**	**27.86**	**242**	P	**P**	**15 11 14.6**	**-0.1**
FITZ	comp=Z,6.9nm,1.1s			IAmb	IAmb	15 11 36.6	
ZALV	**Zalesovo Beam**	**81.28**	**327**	P	**P**	**15 17 39.7**	**-1.3**
ILAR	comp=Z,0.3nm,0.3s,baz=102,slow=6.1,SNR=2.0 **Eielson Array**	**83.73**	**22**	P	**P**	**15 17 51.5**	**-2.1**
MAW	comp=Z,0.6nm,0.6s,baz=248,slow=5.1,SNR=8.0 **Mawson**	**84.00**	**203**	P	**P**	**15 17 54.1**	**-0.7**
TORD	comp=Z,0.7nm,0.5s,baz=94,slow=5.4,SNR=1.5 **Torodi Ar. Bea**	**149.25**	**286**	PKPbc	**PKPdf**	**15 25 13.3**	**+2.9**
TORD	comp=Z,2.1nm,0.6s,baz=59,slow=3.2,SNR=7.5 **Torodi Ar. Bea**	**149.25**	**286**		**PKPdf**	**15 25 11.2**	**+0.9**

*IDC **16** 15:10:22.0±7.8,13°.16S×167°.02E,h238km±81km, mb3.1/5, mb1 3.3/6,mb1mx3.1/43,mbtmp3.7/6,Error ellipse: s-maj=66.7km s-min=30.1km az=164.0*

ISC 16 15:10:16.7±1.2,**12°.83S**±0°.10×**166°.9E**±0°.3,**h180**km,**n8,** σ1§**31**/**9**,**mb3.3**/5,**Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.20**	**183**	P	**Pn**	**15 12 27.2**	**+1.3**
DZM	0.2nm,0.3s,baz=36,slow=19,SNR=1.7			S	**Sn**	**15 14 07.6**	**-1.0**
WRA	0.1nm,0.3s,baz=319,slow=20,SNR=1.2 **Warramunga Arr**	**32.02**	**253**	P	**P**	**15 16 25.5**	**-1.0**
ASAR	0.5nm,1.0s,baz=85,slow=8.6,SNR=1.6 **Alice Springs**	**33.09**	**246**	P	**P**	**15 16 34.8**	**-1.0**
CMAR	0.3nm,0.7s,baz=74,slow=9.6,SNR=5.2 **Chiang Mai Arr**	**73.89**	**294**	P	**P**	**15 21 34.2**	**+1.7**
ILAR	0.6nm,0.9s,baz=124,slow=4.6,SNR=2.2 **Eielson Array**	**84.83**	**18**	P	**P**	**15 22 29.9**	**-0.6**
MKAR	0.7nm,0.6s,baz=237,slow=5.5,SNR=13 **Makanchi Array**	**95.61**	**317**	P	**P**	**15 23 22.1**	**+0.4**
ARCES	0.2nm,0.5s,baz=99,slow=4.5,SNR=2.0 **ARCESS Array B**	**118.34**	**346**	PKP	**PKPdf**	**15 28 41.0**	**-1.1**
FINES	0.5nm,0.3s,baz=48,slow=1.3,SNR=10 **FINESS Array B**	**123.85**	**339**	PKP	**PKPdf**	**15 28 52.0**	**-0.8**
	0.4nm,0.4s,baz=85,slow=2.9,SNR=3.9						

IDC 16 15:11:50.4±3.6,**6°.29S**×**151°.81E**,**h0**km,**mb3.7**/3, **mb1 4.0**/3,**mb1mx3.5**/39,**mbtmp3.8**/3,**Error ellipse: s-maj=127.7km s-min=50.5km az=124.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.73**	**230**	P	P	15 16 43.7	+0.2
ASAR	1.2nm,0.8s,baz=58,slow=9.8,SNR=5.3 **Alice Springs**	**24.39**	**223**	P	P	15 17 11.7	+0.9
FITZ	2.2nm,0.8s,baz=55,slow=9.7,SNR=16 **Fitzroy Crossi**	**28.09**	**243**	P	P	15 17 43.3	-0.8
TORD	1.2nm,0.9s,baz=56,slow=7.8,SNR=5.7 **Torodi Ar. Bea**	**149.79**	**285**	PKPbc	PKPbc	15 31 42.7	-0.8
	0.9nm,0.8s,baz=71,slow=3.9,SNR=4.5						

*IDC **16** 15:17:35.3±2.1,36°.41N×96°.68W,h0km,mb1 3.8/2, mb1mx3.4/40,mbtmp3.6/2,ML3.0/2,Error ellipse: s-maj=34.1km s-min=13.3km az=107.0*
*NEIC **16** 15:17:36.7±1.5,36°.327N±0°.007×96°.81W±0°.05,h5km±2km, Error ellipse: s-maj=6.4km s-min=3.0km az=82.0*
*ANF **16** 15:17:36.6±0.2,36°.34N×96°.80W,h5km,ML4.0/16,Error ellipse: s-maj=2.4km s-min=2.0km az=155.0*
*TUL **16** 15:17:36.3±1.7,36°.33N±0°.02×96°.79W±0°.05,h5km±7km, ML3.3,mb_Lg3.4/81(NEIC),Error ellipse: s-maj=5.5km s-min=2.0km az=76.0*

ISC 16 15:17:36.3±1.1,**36°.33N**±0°.02×**96°.81W**±0°.02,**h1**km±10km, **n123,**σ0§**58**/**118**,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.18**	**154**	Pg	**Pg**	**15 17 40.2**	**+0.5**
QUOK				Sg	**Sg**	**15 17 42.7**	**+0.7**
OK031	**S. Brethren Rd**	**0.38**	**184**		**Pg**	**15 17 44.0**	**+0.5**
BLOK	**Blackwell**	**0.54**	**322**		**Pg**	**15 17 46.9**	**+0.2**
T35A	**Sooner Cattle**	**0.63**	**22**		**Pg**	**15 17 48.4**	**0.0**
T35A				Sg	**Sg**	**15 17 56.4**	**-0.1**
T35B	**Sooner Cattle** baz=201,SNR=77	**0.63**	**22**	P	**Pg**	**15 17 48.3**	**0.0**
T35B	baz=201			S	**Sg**	**15 17 56.5**	**0.0**
OK005	**Luther M Schoo**	**0.74**	**205**	Pg	**Pg**	**15 17 50.8**	**+0.3**
OK029	**Liberty Lake**	**0.75**	**225**		**Pg**	**15 17 50.9**	**+0.3**
OK011	**Prague**	**0.85**	**173**	Pg	**Pg**	**15 17 52.6**	**0.0**
OK001	**Jones High Sch**	**0.86**	**207**	Pg	**Pg**	**15 17 53.1**	**+0.3**
OK025	**Westminster Rd**	**0.86**	**210**	Pg	**Pg**	**15 17 52.9**	**+0.1**
KAN13	**South Haven SW**	**0.87**	**322**	Pg	**Pg**	**15 17 52.8**	**-0.1**
KAN13				Sg	**Sg**	**15 18 04.9**	**+0.7**
OK009	**Oakdale Elemen**	**0.90**	**214**	Pg	**Pg**	**15 17 53.7**	**+0.2**
TUL1	**Leonard** baz=298,SNR=105	**0.92**	**117**	P	**Pg**	**15 17 53.9**	**0.0**
TUL1	baz=298			S	**Sg**	**15 18 05.4**	**-0.5**
TUL1	**Leonard** baz=298	**0.92**	**117**	P	**Pg**	**15 17 53.9**	**0.0**
TUL1	baz=298			S	**Sg**	**15 18 05.8**	**-0.1**
CROK	**Carrier**	**0.97**	**281**	Pg	**Pg**	**15 17 54.8**	**0.0**
CROK				Sg	**Sg**	**15 18 08.1**	**+0.8**
GC02	**Grant County #**	**0.99**	**302**	Pg	**Pg**	**15 17 55.2**	**-0.1**
KAN09	**Caldwell North**	**1.03**	**321**	Pg	**Pg**	**15 17 55.9**	**-0.2**
KAN17	**Caldwell West**	**1.05**	**313**	Pg	**Pg**	**15 17 56.2**	**-0.2**
KAN17				Sg	**Sg**	**15 18 10.0**	**0.0**
OKCFA	**Oklahoma City**	**1.05**	**210**	Pg	**Pg**	**15 17 56.1**	**-0.4**
OKCFA	**Oklahoma City** baz=30,SNR=13	**1.05**	**210**	P	**Pg**	**15 17 56.0**	**-0.4**
OKCFA	baz=30			S	**Sb**	**15 18 11.0**	**-0.6**
OKCSW	**OKLAHOMA CITY**	**1.06**	**209**	Pg	**Pg**	**15 17 56.0**	**-0.5**
KS20	**Mayfield South**	**1.08**	**326**	Pg	**Pg**	**15 17 56.6**	**-0.3**
FNO	**Franklin**	**1.18**	**204**	Pg	**Pg**	**15 17 58.1**	**-0.7**
OK032	**Salt Plains WL**	**1.23**	**293**	Pg	**Pb**	**15 17 59.6**	**-0.6**
KAN08	**Anthony NE Sta**	**1.29**	**314**	Pn	**Pn**	**15 18 00.8**	**-0.7**
KAN16	**Harper SW Stat**	**1.35**	**312**	Pn	**Pn**	**15 18 01.7**	**-0.5**
KAN12	**Harper NE Stat**	**1.36**	**316**	Pn	**Pn**	**15 18 01.9**	**-0.4**
U32A	**Winter Ranch,** baz=91,SNR=14	**1.77**	**272**	P	**Pb**	**15 18 08.8**	**-0.7**
U32A	baz=91			Sb	**Sb**	**15 18 32.6**	**+0.3**
X34A	**Smith Ranch, M** comp=Z,180nm,0.8s	**1.92**	**206**	IAmb_Lg		15 18 40.6	
U38A	**Gravette** comp=Z,118nm,0.7s	**1.96**	**86**	IAmb_Lg		15 18 42.7	
U38A	**Gravette** baz=268,SNR=54	**1.96**	**86**	P	**Pn**	**15 18 11.0**	**+0.5**
X37A	**Clayton** baz=327,SNR=73	**2.10**	**146**	P	**Pn**	**15 18 12.8**	**+0.4**
X37A	baz=327			S	**Sb**	**15 18 40.6**	**-1.0**
WMOK	**Wichita Mounta** baz=45,SNR=67	**2.26**	**226**	P	**Pn**	**15 18 15.3**	**+0.5**
WMOK	baz=45			S	**Sb**	**15 18 45.0**	**-1.5**
WMOK	**Wichita Mounta** baz=45	**2.26**	**226**	P	**Pn**	**15 18 15.4**	**+0.5**
WMOK	baz=45			S	**Sb**	**15 18 44.9**	**-1.5**
HHAR	**Hobbs** baz=272	**2.31**	**90**	P	**Pn**	**15 18 16.2**	**+0.7**
LOOK	**Love County** comp=Z,187nm,0.8s	**2.35**	**188**	IAmb_Lg		15 18 56.8	
R32A	**Long Quarter,**	**2.58**	**325**	Pn	**Pn**	**15 18 20.1**	**+0.9**
R32A	comp=Z,102nm,0.7s			IAmb_Lg		15 19 00.6	
R32A	**Long Quarter,** baz=143	**2.58**	**325**	S	**Sn**	**15 18 52.3**	**+1.0**
W39A	**Magazine**	**2.71**	**114**	Pn	**Pn**	**15 18 20.8**	**0.0**
W39A	**Magazine** baz=296	**2.71**	**114**	P	**Pn**	**15 18 21.0**	**+0.1**
KSU1	**Kansas State U**	**2.77**	**3**	Pn	**Pn**	**15 18 22.0**	**+0.3**
KSU1	comp=Z,70nm,0.8s			IAmb_Lg		15 19 04.6	
Z35A	**Perchaven, San**	**3.02**	**187**	Pn	**Pn**	**15 18 24.9**	**-0.2**
S39A	**Bolivar**	**3.10**	**63**	Pn	**Pn**	**15 18 26.7**	**+0.4**
S39A	**Bolivar** baz=245,SNR=38	**3.10**	**63**	P	**Pn**	**15 18 26.9**	**+0.6**
MIAR	**Mount Ida**	**3.18**	**123**	Pn	**Pn**	**15 18 27.8**	**+0.4**
MIAR	**Mount Ida** baz=305,SNR=32	**3.18**	**123**	P	**Pn**	**15 18 27.6**	**+0.2**
MIAR	baz=305			S	**Sn**	**15 19 06.2**	**+0.2**
MIAR	**Mount Ida** baz=305	**3.18**	**123**	P	**Pn**	**15 18 27.8**	**+0.4**
MIAR	baz=305			S	**Sn**	**15 19 06.3**	**+0.3**
U40A	**Yellville**	**3.19**	**88**	Pn	**Pn**	**15 18 27.8**	**+0.2**
U40A	**Yellville** baz=271,SNR=69	**3.19**	**88**	P	**Pn**	**15 18 27.7**	**+0.2**
U40A	baz=271			S	**Sn**	**15 19 06.7**	**+0.4**
U40A	baz=271			S	**Sn**	**15 19 06.7**	**+0.4**
U40A	**Yellville** baz=271	**3.19**	**88**	P	**Pn**	**15 18 27.8**	**+0.2**
CBKS	**Cedar Bluff**	**3.40**	**318**	Pn	**Pn**	**15 18 30.6**	**+0.2**
CBKS	comp=Z,118nm,0.9s			IAmb_Lg		15 19 32.5	
Z38A	**Mt. Pleasant**	**3.41**	**153**	Pn	**Pn**	**15 18 31.4**	**+0.9**
Z38A	comp=Z,114nm,0.7s			IAmb_Lg		15 19 31.1	
X40A	**Basin Creek Fa**	**3.73**	**118**	Pn	**Pn**	**15 18 35.7**	**+0.8**
X40A	comp=Z,82nm,0.7s			IAmb_Lg		15 19 36.4	
X40A	**Basin Creek Fa** baz=301,SNR=15	**3.73**	**118**	P	**Pn**	**15 18 35.4**	**+0.5**
X40A	baz=301			S	**Sn**	**15 19 20.0**	**+0.5**
X40A	baz=301			S	**Sn**	**15 19 20.0**	**+0.5**
X40A	**Basin Creek Fa** baz=301	**3.73**	**118**	P	**Pn**	**15 18 35.8**	**+0.9**
X40A	baz=301			S	**Sn**	**15 19 20.0**	**+0.5**
MGMO	**Mountain Grove**	**3.73**	**76**		**Pn**	**15 18 35.6**	**+0.6**
FCAR	**Ozark Folk Cen**	**3.81**	**95**	Pn	**Pn**	**15 18 36.1**	**0.0**
FCAR	comp=Z,47nm,0.7s			IAmb_Lg		15 19 44.7	
WHAR	**Wooly Hollow**	**3.81**	**104**	Pn	**Pn**	**15 18 35.7**	**-0.5**
WHAR	comp=Z,87nm,0.8s			IAmb_Lg		15 19 38.7	
W41B	**Gary Mavity, V** baz=289	**3.88**	**106**	S	**Sn**	**15 19 23.4**	**+0.1**
W41B	**Gary Mavity, V** baz=289	**3.88**	**106**	S	**Sn**	**15 19 23.2**	**-0.1**
WLAR	**White Oak Lake**	**4.02**	**130**	Pn	**Pn**	**15 18 38.8**	**-0.1**
WLAR	comp=Z,56nm,0.7s			IAmb_Lg		15 19 44.5	
R40A	**Maddies Statio**	**4.11**	**60**		**Pn**	**15 18 40.3**	**+0.1**
R40A	**Maddies Statio** baz=243,SNR=43	**4.11**	**60**	P	**Pn**	**15 18 40.2**	**0.0**
P38A	**Dawn**	**4.18**	**37**	Pn	**Pn**	**15 18 41.4**	**+0.2**
P38A	**Dawn** baz=219	**4.18**	**37**	S	**Sn**	**15 19 30.0**	**-0.6**
AMTX	**Amarillo** comp=Z,53nm,0.9s	**4.23**	**251**	IAmb_Lg		15 19 55.6	
WHTX	**Lake Whitney,**	**4.36**	**187**	Pn	**Pn**	**15 18 43.9**	**+0.3**
WHTX	**Lake Whitney,** baz=7.0	**4.36**	**187**	P	**Pn**	**15 18 43.5**	**-0.2**
237A	**Washetta, Mont**	**4.40**	**169**	Pn	**Pn**	**15 18 44.5**	**+0.4**
LCAR	**Lake Charles**	**4.58**	**92**	Pn	**Pn**	**15 18 46.0**	**-0.6**
LCAR	comp=Z,79nm,1.2s			IAmb_Lg		15 19 58.9	
LCAR	**Lake Charles** baz=275,SNR=9.3	**4.58**	**92**	P	**Pn**	**15 18 46.0**	**-0.6**
N35A	**Tabor**	**4.61**	**11**	Pn	**Pn**	**15 18 47.1**	**0.0**
T42A	**Van Buren**	**4.64**	**80**		**Pn**	**15 18 47.7**	**+0.2**
T42A	comp=Z,44nm,0.8s			IAmb_Lg		15 20 03.5	
CCM	**Cathedral Cave**	**4.76**	**67**	Pn	**Pn**	**15 18 49.2**	**+0.1**
CCAR	**Cane Creek**	**4.78**	**119**	Pn	**Pn**	**15 18 50.0**	**+0.6**
CCAR	comp=Z,76nm,0.9s			IAmb_Lg		15 20 19.8	
P40A	**Paris**	**4.93**	**48**	Pn	**Pn**	**15 18 51.5**	**0.0**
P40A	comp=Z,76nm,0.8s			IAmb_Lg		15 20 09.0	
PBMO	**Poplar Bluff** comp=Z,69nm,0.7s	**5.15**	**83**	IAmb_Lg		15 20 24.8	
N38A	**Joes South For**	**5.26**	**31**	Pn	**Pn**	**15 18 55.9**	**-0.1**
KSCO	**Kaye Shedlock'**	**5.34**	**302**	Pn	**Pn**	**15 18 58.5**	**+1.3**
435B	**Jarrell** comp=Z,36nm,0.8s	**5.57**	**187**	IAmb_Lg		15 20 48.2	
SLM	**Saint Louis** comp=Z,64nm,0.7s	**5.71**	**64**	IAmb_Lg		15 20 36.4	
HALT	**Halls** comp=Z,57nm,0.7s	**6.06**	**92**	IAmb_Lg		15 21 02.8	
OGNE	**Ogallala**	**6.16**	**320**	Pn	**Pn**	**15 19 08.8**	**+0.4**
T25A	**Trinidad**	**6.16**	**280**	Pn	**Pn**	**15 19 09.4**	**+0.8**
T25A	comp=Z,38nm,0.8s			IAmb_Lg		15 21 07.5	
S44A	**Carbondale**	**6.19**	**75**	Pn	**Pn**	**15 19 08.8**	**0.0**
S44A	comp=Z,52nm,0.9s			IAmb_Lg		15 20 52.5	
SIUC	**Southern Illin** comp=Z,67nm,0.9s	**6.22**	**75**	IAmb_Lg		15 20 52.9	
SCIA	**State Center**	**6.23**	**26**	Pn	**Pn**	**15 19 10.3**	**+1.0**
OXF	**Oxford** comp=Z,45nm,0.8s	**6.30**	**105**	IAmb_Lg		15 20 59.6	
W45A	**Hickory Valley** comp=Z,59nm,0.8s	**6.31**	**98**	IAmb_Lg		15 21 02.3	
JCT	**Junction City** comp=Z,52nm,0.9s	**6.35**	**204**	Pn	**Pn**	**15 19 10.7**	**-0.3**
JCT				IAmb_Lg		15 21 05.2	
Y45A	**Yeager Farm, C** comp=Z,39nm,0.7s	**6.44**	**110**	IAmb_Lg		15 21 13.5	
K31A	**O'Neill**	**6.46**	**347**	Pn	**Pn**	**15 19 13.4**	**+0.9**
T45A	**Paducah** comp=Z,63nm,0.8s	**6.59**	**82**	IAmb_Lg		15 21 08.7	
P43A	**Skaggs, Pawnee**	**6.63**	**58**	Pn	**Pn**	**15 19 14.7**	**-0.2**
Q44A	**Meyer Farm, Va** comp=Z,47nm,0.8s	**6.69**	**65**	Pn	**Pn**	**15 19 15.4**	**-0.3**
Q44A				IAmb_Lg		15 21 17.2	
K38A	**Parkersburg** comp=Z,60nm,0.7s	**7.04**	**25**	Pn	**Pn**	**15 19 20.4**	**+0.1**
K38A				IAmb_Lg		15 21 26.2	
L40A	**Anamosa** comp=Z,49nm,0.9s	**7.18**	**35**	IAmb_Lg		15 21 21.1	
HDIL	**Hopedale**	**7.25**	**52**	Pn	**Pn**	**15 19 22.2**	**-1.0**
HDIL	**Hopedale** baz=237	**7.25**	**52**	P	**Pn**	**15 19 22.3**	**-1.0**
WVT	**Waverly**	**7.26**	**89**	Pn	**Pn**	**15 19 22.1**	**-1.3**
ECSD	**EROS Data Cent**	**7.39**	**1**	Pn	**Pn**	**15 19 26.1**	**+0.7**
T47A	**Sharon Grove**	**7.82**	**82**	Pn	**Pn**	**15 19 30.9**	**-0.3**
T47A	comp=Z,48nm,1.1s			IAmb_Lg		15 21 53.1	
T47A	**Sharon Grove** baz=268,SNR=7.4	**7.82**	**82**	P	**Pn**	**15 19 30.7**	**-0.5**
Z47A	**Carrollton** comp=Z,33nm,0.9s	**7.84**	**111**	IAmb_Lg		15 22 00.7	
L42A	**Oliver, Polo** comp=Z,42nm,0.8s	**7.92**	**42**	IAmb_Lg		15 21 52.6	
ANMO	**Albuquerque** comp=Z,0.5nm,0.3s,baz=83,slow=16,SNR=8.4	**7.98**	**263**	Pg	Pb	15 20 01.9	+6.5
ANMO	comp=Z,0.9nm,0.3s,baz=42,slow=12,SNR=5.0			Lg	Lg	15 21 46.3	
MNTX	**Cornudas Mount**	**8.49**	**239**	Pn	**Pn**	**15 19 41.2**	**+0.9**
Y22D	**IRIS PASSCAL I** comp=Z,25nm,0.7s	**8.58**	**258**	IAmb_Lg		15 22 18.4	
WCI	**Wyandotte Cave** comp=Z,24nm,0.8s	**8.59**	**74**	IAmb_Lg		15 22 14.3	
SFIN	**Lafayette**	**8.63**	**59**	Pn	**Pn**	**15 19 43.8**	**+1.6**
SFIN	comp=Z,29nm,0.8s			IAmb_Lg		15 22 09.9	
U49A	**Red Boiling Sp**	**8.89**	**86**	Pn	**Pn**	**15 19 46.3**	**+0.5**
I40A	**Norwalk** comp=Z,20nm,0.7s	**8.91**	**30**	IAmb_Lg		15 22 20.3	
TX31	**Lajitas Ar. Si**	**9.05**	**222**	Pn	**Pn**	**15 19 49.0**	**+0.9**
TX32	**Lajitas Array**	**9.05**	**222**	Pn	**Pn**	**15 19 48.6**	**+0.4**
TXAR	**Lajitas Array** comp=Z,0.3nm,0.3s,baz=42,slow=13,SNR=13	**9.05**	**222**	Pn	**Pn**	**15 19 47.3**	**-0.9**
TXAR	comp=Z,0.6nm,0.3s,baz=47,slow=27,SNR=4.0			Lg	Lg	15 22 18.0	
TXAR	**Lajitas Array**	**9.05**	**222**	Pn	**Pn**	**15 19 49.1**	**+0.9**
W50A	**Signal Mountai** comp=Z,19nm,0.8s	**9.41**	**94**	IAmb_Lg		15 22 42.2	
RSSD	**Black Hills** comp=Z,35nm,1.3s	**9.54**	**327**	IAmb_Lg		15 22 43.6	
CPCT	**Cooper Cave**	**10.01**	**91**	Pn	**Pn**	**15 20 01.4**	**+0.3**
V51A	**Loudon**	**10.10**	**89**	Pn	**Pn**	**15 20 03.1**	**+0.7**
TKL	**Tuckaleechee C** comp=Z,1.0nm,0.3s,baz=176,slow=19,SNR=2.7	**10.58**	**90**	Lg	Lg	15 23 01.1	
PDAR	**Pinedale Array** comp=Z,0.3nm,0.3s,baz=116,slow=14,SNR=2.0	**11.75**	**307**	Pg	Pn	15 21 10.1	+45
PDAR				Lg	Lg	15 23 41.3	
ULM	**Lac du Bonnet** comp=Z,0.3nm,0.3s,baz=184,slow=12,SNR=1.8	**13.93**	**2**	Pn	Pn	15 20 47.0	-7.7
ULM	comp=Z,0.5nm,0.3s,baz=266,slow=19,SNR=1.9			Sn	Sn	15 23 16.9	-13
ULM	comp=Z,0.1nm,0.3s,baz=140,slow=5.9,SNR=3.1			Lg	Lg	15 24 47.2	

*IDC **16** 15:22:21.8±0.5,5°.96S×151°.50E,h0km,mb4.5/22, mb1 4.6/24,mb1mx4.5/39,mbtmp4.5/24,ML4.4/2,MS4.3/8, Ms1 4.3/8,ms1mx3.9/38,Error ellipse: s-maj=17.6km s-min=12.3km az=80.0*
*MOS **16** 15:22:24.3±1.1,5°.91S×151°.25E,h23km,mb5.2/23,Error ellipse: s-maj=11.7km s-min=7.0km az=96.8*
*NEIC **16** 15:22:24.1±1.9,6°.06S±0°.06×151°.54E±0°.07,h10km±1km, mb5.3/134,Error ellipse: s-maj=11.2km s-min=10.5km az=106.0*
*DJA **16** 15:22:28.6±0.5,6°.3S±3°×15°.2E±°,h44km±5km,M5.2/36, mB5.5/10,mb5.2/36,MLv5.6/2,Mw(mB)5.0/10*

ISC 16 15:22:23.7±0.3,**6°.03S**±0°.05×**151°.47E**±0°.06,**h10**km,**n436,** σ1§**19**/435,**mb5.2**/127,**MS4.4**/11,**7C-7D**,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.95**	**21**	Pn	**Pn**	**15 22 57.8**	**+0.9**
MANU	**Manus Island**	**5.69**	**314**	Pn	Pn	15 23 55.1	+6.7
HNR	**Honiara** 15nm,0.3s,baz=217,slow=20,SNR=2.8	**9.05**	**112**	Pn	**Pn**	**15 24 34.8**	**+0.2**
HNR	comp=Z,1μm,19.0s,baz=268,slow=37			LR	LR	15 28 00.3	
HNR	**Honiara**	**9.05**	**112**	P	**Pn**	**15 24 32.5**	**-2.1**
HNR	**Honiara**	**9.05**	**112**	Pn	**Pn**	**15 24 32.5**	**-2.1**
JAY	**Jayapura** comp=Z,1μm,19.5s,baz=87,slow=34	**11.29**	**288**	LR	LR	15 28 51.2	
JAY	**Jayapura**	**11.29**	**288**	P	Pn	15 25 15.8	+11
COEN	**Coen**	**11.35**	**225**	Pn	**Pn**	**15 25 05.8**	**-0.2**
MTSU	**Mount Surprise** baz=14,SNR=4.4	**13.91**	**210**	P	**Pn**	**15 25 43.0**	**+1.9**
CTA	**Charters Tower** 0.4nm,0.3s,baz=23,slow=13,SNR=8.8	**14.87**	**199**	Pn	**Pn**	**15 25 56.0**	**+1.8**
CTAO	**Charters Tower**	**14.87**	**199**	P	**Pn**	**15 25 54.9**	**+0.7**
CTAO	**Charters Tower**	**14.87**	**199**	Pn	**Pn**	**15 25 54.9**	**+0.7**
QIS	**Mount Isa** baz=19,SNR=11	**18.48**	**217**	P	**Pn**	**15 26 41.6**	**+1.5**
EIDS	**Eidsvold** baz=19,SNR=3.9	**19.24**	**181**	P	**Pn**	**15 26 49.0**	**-0.3**
EIDS	**Eidsvold**	**19.24**	**181**		**P**	**15 26 48.6**	**+0.3**
KDU	**Kakadu** baz=20,SNR=12	**19.87**	**249**	P	**P**	**15 26 56.0**	**+0.8**
RMQ	**Roma** baz=21,SNR=10	**20.51**	**187**	P	Pn	15 27 03.4	-0.9
GUMO	**Guam** 104nm,1.0s,baz=191,slow=11,SNR=4.2	**20.56**	**341**	P	Pn	15 27 04.9	0.0
GUMO	**Guam**	**20.56**	**341**	P	**P**	**15 27 03.2**	**+0.4**
GUMO	comp=Z,447nm,1.1s			pmax	pmax		
GUMO	**Guam**	**20.56**	**341**	P	**P**	**15 27 03.2**	**+0.4**
SIJI	**Sorong** comp=Z,14nm,0.8s,baz=62,slow=13,SNR=5.0	**20.80**	**283**	P	Pn	15 27 08.6	+0.7
SIJI	**Sorong** comp=Z,544nmcomp=Z,16nm,0.8s	**20.80**	**283**	P	**P**	**15 27 07.6**	**+2.1**
SWI	**Sorong** comp=Z,1μmcomp=Z,27nm,0.8s	**20.81**	**284**	P	**P**	**15 27 07.3**	**+1.8**
MTN	**Manton Dam** baz=21,SNR=10	**21.17**	**250**	P	**P**	**15 27 10.0**	**+0.7**
MTN	comp=Z,166nm,1.2s			IAmb	IAmb	15 27 20.8	
WR0	**Warramunga Arr**	**21.51**	**228**	P	**P**	**15 27 13.1**	**+0.1**
WR0	comp=Z,148nm,1.2s			IAmb	IAmb	15 27 34.1	
DZM	**Mont Dzumac** comp=Z,133nm,1.7s	**21.54**	**139**	*e*P	**P**	**15 27 13.9**	**+0.5**
DZM	comp=Z,2μm,23.6s			*e*LR	LR	15 32 17.7	
DZM	**Mont Dzumac** comp=Z,10nm,0.6s,baz=293,slow=7.5,SNR=11	**21.54**	**139**	P	**P**	**15 27 13.6**	**+0.2**
DZM	comp=Z,1μm,18.7s,baz=284,slow=34			LR	LR	15 34 37.7	
QLP	**Quilpie** baz=22,SNR=37	**21.58**	**198**	P	**P**	**15 27 15.0**	**+1.4**
WRAB	**Tennant Creek**	**21.63**	**229***c*	*i*P	**P**	**15 27 14.8**	**+0.4**
WRAB	comp=Z,61nm,1.2s			pmax	pmax		
WRAB	**Tennant Creek**	**21.63**	**229**	P	**P**	**15 27 14.4**	**+0.1**
WB2	**Warramunga Arr**	**21.64**	**229**	P	**P**	**15 27 14.6**	**+0.2**
WRA	**Warramunga Arr** comp=Z,18nm,0.8s,baz=53,slow=10.0,SNR=111	**21.65**	**229**	P	**P**	**15 27 14.6**	**0.0**
WRA	comp=Z,10nm,1.1s,baz=52,slow=20,SNR=8.3			S	**S**	**15 31 12.0**	**-2.4**
WRA	comp=Z,8.4nm,1.1s,baz=60,slow=2.3,SNR=9.3			ScP	**ScP**	**15 34 53.9**	**+0.3**
WRA	**Warramunga Arr**	**21.65**	**229**	P	**P**	**15 27 14.2**	**-0.3**
WRA	comp=Z,8.0nm,1.5s			pmax	pmax		
**

BATI Baumata 27.83 260 P **P** **15 28 15.4 +1.7**
comp=Z,45nm,0.8s
FITZ Fitzroy Crossi 27.92 242 P **P** **15 28 14.3 0.0**
baz=28,SNR=64
FITZ Fitzroy Crossi 27.92 242 P **P** **15 28 13.9 -0.4**
comp=Z,14nm,0.6s,baz=53,slow=8.4,SNR=118
FITZ LR LR 15 40 52.3
comp=Z,502nm,19.4s,baz=72,slow=40
FITZ Fitzroy Crossi 27.92 242 P **P** **15 28 13.7 -0.6**
FITZ lAmb lAmb 15 28 25.0
comp=Z,44nm,0.9s
MMRI Maumere 29.11 263 P **P** **15 28 25.8 +0.8**
comp=Z,8µmcomp=Z,77nm,0.8s
WRKA Warakurna 29.16 227 P **P** **15 28 24.9 -0.5**
baz=29,SNR=21
EDFI Ende, Flores 29.65 263 P **P** **15 28 29.3 -0.6**
comp=Z,609nmcomp=Z,60nm,1.2s
HTT Hallett 29.66 202 P **P** **15 28 29.8 +0.1**
baz=30,SNR=6.2
BBOO Buckleboo 30.27 206 P **P** **15 28 34.7 -0.4**
BBOO lAmb lAmb 15 28 36.1
comp=Z,45nm,1.2s
ARPS Mount Arapiles 31.84 195 P **P** **15 28 49.3 +0.4**
baz=32,SNR=8.4
WBSI Waikabubak, Su 31.97 261 P **P** **15 28 51.2 +0.8**
comp=Z,2µmcomp=Z,148nm,0.8s
MPSI Mapaga 32.15 280 P P 15 28 58.4 +6.6
FORT Forrest 33.01 219 P **P** **15 28 59.1 -0.1**
baz=33,SNR=15
FORT Forrest 33.01 219 P **P** **15 28 59.1 -0.1**
FORT lAmb lAmb 15 29 16.1
comp=Z,39nm,0.8s
PLAI Plampang 33.52 263 P **P** **15 29 02.9 -1.0**
comp=Z,111nm,0.7s
PSA00 Pilbara Seismi 34.27 240 P **P** **15 29 10.5 +0.2**
PSA00 lAmb lAmb 15 29 21.6
comp=Z,28nm,1.2s
PSA00 Pilbara Seismi 34.27 240 P **P** **15 29 09.6 -0.8**
PSA00 lAmb lAmb 15 29 21.6
comp=Z,58nm,1.2s
TWSI Taliwang, Sumb 34.40 263 P **P** **15 29 11.2 -0.3**
comp=Z,33nm,1.2s
KLNI Mataram 35.17 264 P **P** **15 29 17.7 -0.5**
comp=Z,55nm,0.8s
JAGI Jajag, Banyuwa 37.09 264 P **P** **15 29 32.7 -2.0**
JAGI Jajag, Banyuwa 37.09 264 P **P** **15 29 33.7 -1.0**
comp=Z,143nm,1.1s
MEEK Meekatharra 37.41 233 P **P** **15 29 37.7 +0.4**
baz=38,SNR=17
KRKI Karangkates 38.77 265 P P 15 29 58.7 +10
PWJI Pagerwojo 39.41 265 P **P** **15 29 54.6 +0.4**
comp=Z,66nm,1.3s
SJI Sawahan 39.45 265 P **P** **15 29 56.2 +1.6**
comp=Z,59nm,1.5s
URZ Urewera 39.63 148 P **P** **15 29 56.1 +0.4**
comp=Z,4.1nm,0.6s,baz=308,slow=20,SNR=6.1
JOW Kunigami 39.64 327 P **P** **15 29 56.8 +0.8**
comp=Z,11nm,0.8s,baz=142,slow=8.4,SNR=11
JOW LR LR 15 43 16.5
comp=Z,293nm,20.3s,baz=166,slow=32
JOW Kunigami 39.64 327 P **P** **15 29 56.4 +0.4**
JOW lAmb lAmb 15 30 07.7
comp=Z,104nm,1.3s
BKZ Black Stump Fm 39.99 149 P **P** **15 29 58.9 +0.2**
PCJI Pacitan 40.03 264 P **P** **15 30 00.1 +0.7**
comp=Z,128nm,0.9s
MORW Morawa 40.55 231 P **P** **15 30 03.6 +0.1**
baz=41,SNR=5.3
MORW Morawa 40.55 231 P **P** **15 30 03.5 +0.1**
LTZ Lake Taylor 40.97 157 P **P** **15 30 07.6 +0.8**
KHZ Kahutara 41.18 155 P **P** **15 30 08.1 -0.3**
RPZ Rata Peaks 41.30 158 P **P** **15 30 10.2 +0.7**
YULB Yu-li 41.51 316 P **P** **15 30 11.4 -0.1**
YULB lAmb lAmb 15 30 22.7
comp=Z,33nm,0.8s
LBZ Lake Benmore 41.58 160 P **P** **15 30 11.6 -0.1**
WKZ Wanaka 41.58 161 P **P** **15 30 11.2 -0.5**
WKZ lAmb lAmb 15 30 26.2
comp=Z,72nm,1.3s
MLZ Mavora Lakes 41.78 162 P **P** **15 30 13.7 +0.3**
MLZ lAmb lAmb 15 30 16.0
comp=Z,72nm,1.3s
MUN Mundaring 41.84 227 P **P** **15 30 14.6 +0.6**
baz=42,SNR=3.8
TPUB Ta-pu 41.92 315 P **P** **15 30 14.4 -0.4**
TPUB lAmb lAmb 15 30 24.5
comp=Z,40nm,0.9s
WHZ Wether Hill Ro 42.21 163 P **P** **15 30 16.9 +0.1**
WHZ lAmb lAmb 15 30 29.7
comp=Z,46nm,1.3s
KPJI Karang Pucung 42.26 266 P **P** **15 30 17.9 +0.2**
comp=Z,94nm,1.0s
CMJI Cimerak 42.73 265 P **P** **15 30 24.7 +3.1**
comp=Z,109nm,1.2s
CISI Cisompet, Garu 43.36 265 P **P** **15 30 24.1 -2.7**
CISI lAmb lAmb 15 30 36.7
comp=Z,68nm,0.8s
CISI Cisompet, Garu 43.36 265 P **P** **15 30 25.8 -1.0**
comp=Z,1µmcomp=Z,116nm,1.6s
JNU Nakatsue 43.57 335 LR LR 15 46 55.1
comp=Z,206nm,18.3s,baz=96,slow=34
LEM Lembang 43.58 266 LR LR 15 52 55.5
comp=Z,237nm,18.1s,baz=102,slow=42
CNJI Cibinong 44.05 266 P P 15 30 41.4 +9.2
MJAR Matsushiro Arr 44.13 345 P **P** **15 30 34.1 +1.6**
comp=Z,2.1nm,0.7s,baz=178,slow=8.9,SNR=5.5
MJAR Matsushiro Arr 44.13 345 P **P** **15 30 33.5 +1.0**
MJAR pmax pmax
comp=Z,2.0nm,0.9s
MJAR Matsushiro Arr 44.13 345 P **P** **15 30 33.5 +1.0**
MAJO Matsushiro 44.13 345 P **P** **15 30 35.3 +2.8**
MAJO pmax pmax
comp=Z,11nm,1.0s
MAJO Matsushiro 44.13 345 P **P** **15 30 35.3 +2.8**
MAT Matsushiro 44.13 345 P **P** **15 30 35.3 +2.8**
CBJI Citeko 44.35 267 P P 15 30 42.3 +7.7
QZH Quanzhou 44.40 315⇑ *i*P P 15 30 45.0 +10
MDSI Maura Dua 47.11 269 P **P** **15 30 56.5 0.0**
comp=Z,794nmcomp=Z,23nm,1.5s
TJN Taejon 47.85 334‖ *e*P **P** **15 31 00.4 -1.4**
KSRS Korea Array 48.52 335 P **P** **15 31 06.3 -0.6**
comp=Z,1.6nm,0.9s,baz=154,slow=8.1,SNR=4.8
NJ2 Nanjing 48.98 323 *e*P **P** **15 31 12.1 +1.5**
NJ2 pmax pmax
comp=Z,12nm,0.5s
WHN Wuhan 50.84 318 ‖P P 15 31 30.9 +6.1
TIA Tai'an 52.93 325 P P 15 31 45.3 +5.0
TIA pmax pmax
comp=Z,9.0nm,0.6s
USRK Ussuriysk Ar. 52.99 343 P **P** **15 31 40.4 -0.2**
comp=Z,1.7nm,0.7s,baz=178,slow=8.2,SNR=3.5
USRK Ussuriysk Ar. 52.99 343 P **P** **15 31 39.8 -0.8**
USRK Ussuriysk Ar. 52.99 343 P **P** **15 31 39.8 -0.8**
ENH Enshi 54.04 314 P **P** **15 31 48.1 -0.5**
ENH lAmb lAmb 15 32 00.3
comp=Z,60nm,1.3s
GSI Gunungsitoli 54.30 276 P **P** **15 31 49.4 -1.4**
GSI lAmb lAmb 15 32 09.1
comp=Z,73nm,1.5s
CN2 Changchun 54.89 337 *e*P **P** **15 31 56.0 +1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.2s
BJI Beijing 56.20 328 P **P** **15 32 08.5 +4.6**
BJI pmax pmax
comp=Z,3.0nm,0.5s
KMI Kunming 56.59 305⇑P **P** **15 32 09.8 +2.4**
KMI pP sP 15 32 12.9 +3.3
KMI sP pwP 15 32 14.5 -1.1
KMI pmax pmax
comp=Z,6.0nm,0.5s
KMI LR LR
comp=Z,360nm,15.1s
KMI LR LR
comp=Z,340nm,13.9s
KMI LR LR
comp=Z,440nm,18.2s
XAN Xi'an 56.61 318 P **P** **15 32 06.3 -0.8**
XAN sP sP 15 32 13.3 +3.4
XAN S **S** **15 39 58.6 -0.8**
XAN pmax pmax
comp=Z,8.0nm,1.1s
XAN LR LR
comp=Z,350nm,16.9s
XAN LR LR
comp=Z,490nm,14.7s
XAN LR LR
comp=Z,580nm,15.7s
CMAR Chiang Mai Arr 57.21 296 P **P** **15 32 12.1 +0.5**
comp=Z,1.0nm,0.7s,baz=111,slow=5.2,SNR=6.3
CMAR PKP2ab 16 02 30.3
comp=Z,0.8nm,0.8s,baz=293,slow=4.7,SNR=5.6
CMAR Chiang Mai Arr 57.21 296 P **P** **15 32 11.5 -0.1**
CMAR Chiang Mai Arr 57.21 296 P **P** **15 32 11.5 -0.1**
CMMT Chiang Mai 57.33 297 P P 15 32 18.9 +6.4
comp=Z,8.5nm,2.1s
CHTO Chiang Mai 57.34 297 P P 15 32 19.1 +6.6
comp=Z,8.8nm,0.5s
CHTO Chiang Mai 57.34 297 P P 15 32 19.1 +6.6
KLR Kul'dur 57.66 345⇑ *e*P **P** **15 32 13.3 -0.9**
KLR pmax pmax
comp=Z,3.0nm,0.9s
CD2 Chengdu 58.54 312 P **P** **15 32 19.5 -1.3**
CD2 pmax pmax
comp=Z,40nm,1.1s
PEA0B Petropavlovsk- 59.15 4 P **P** **15 32 23.2 -1.3**
PEA0B pmax pmax
comp=Z,17nm,1.1s
PEA0B Petropavlovsk- 59.15 4 P **P** **15 32 23.2 -1.3**
PEA0B lAmb lAmb 15 32 37.8
comp=Z,17nm,1.1s
PETK Petropavlovsk- 59.15 4 P **P** **15 32 22.9 -1.6**
comp=Z,1.4nm,0.6s,baz=158,slow=8.7,SNR=2.7
PETK Petropavlovsk- 59.15 4 P **P** **15 32 23.1 -1.4**
PETK Petropavlovsk- 59.15 4 P **P** **15 32 23.1 -1.4**
HHC Hu-ho-hao-te 59.28 326 *e*P **P** **15 32 25.3 -0.5**
HHC sP pwP 15 32 35.0 +2.3
HHC pmax pmax
comp=Z,12nm,1.0s
HHC pmax pmax
comp=Z,950nm,6.0s
HHC LR LR
comp=Z,330nm,16.8s
HHC LR LR
comp=Z,300nm,17.6s
HHC LR LR
comp=Z,590nm,16.8s
LZH Lanzhou 61.20 317 *e*P P 15 32 48.5 +9.4
LZH sP pwP 15 32 58.3 +11
LZH pmax pmax
comp=Z,28nm,1.0s
ZEA Zeya 62.94 344 *e*P **P** **15 32 49.5 -0.7**
ZEA *e* 15 33 21.7
KIWB Kanaga Island 63.59 21 P **P** **15 32 54.9 +0.3**
MA2 Magadan 65.39 360 P **P** **15 33 05.0 -1.3**
MA2 pmax pmax
comp=Z,9.0nm,0.8s
MA2 Magadan 65.39 360 P **P** **15 33 05.0 -1.3**
GTA Gaotai 65.67 318 *e*P **P** **15 33 11.3 +2.7**
GTA pP pwP 15 33 15.9 -1.0
GTA sP sP 15 33 18.0 +7.2
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA LR LR
comp=Z,440nm,16.7s
GTA LR LR
comp=Z,340nm,17.4s
GTA LR LR
comp=Z,440nm,16.7s
SHL Shillong 65.80 301 P **P** **15 33 08.6 -1.2**
SHL pmax pmax
comp=Z,13nm,1.0s
SHL Shillong 65.80 301 P **P** **15 33 08.6 -1.2**
SHL lAmb lAmb 15 33 10.5
comp=Z,13nm,1.0s
CIT Chita 66.24 335 *e*P P 15 33 21.4 +9.4
ULN Ulaanbaatar 66.34 329 P **P** **15 33 12.2 -0.6**
ULN pmax pmax
comp=Z,15nm,1.2s
ULN Ulaanbaatar 66.34 329 P **P** **15 33 12.2 -0.6**
ULN lAmb lAmb 15 33 23.1
comp=Z,15nm,1.2s
ULN Ulaanbaatar 66.34 329 P **P** **15 33 13.6 +0.8**
comp=Z,43nm,1.3s
CASY Casey 66.47 197 P **P** **15 33 13.3 +0.2**
CASY lAmb lAmb 15 33 29.9
comp=Z,16nm,1.1s
SONM Songino Array 66.66 329 P **P** **15 33 14.9 +0.1**
comp=Z,5.2nm,1.1s,baz=132,slow=6.2,SNR=13
SONM PKP2bc 16 01 47.4
comp=Z,0.3nm,0.4s,baz=319,slow=5.7,SNR=1.9
SONM Songino Array 66.66 329 P **P** **15 33 15.1 +0.2**
SONM pmax pmax
comp=Z,20nm,1.3s
SONM Songino Array 66.66 329 P **P** **15 33 15.1 +0.2**
SONM lAmb lAmb 15 33 25.6
comp=Z,20nm,1.3s
NIKH Nikolski High 67.67 25 P **P** **15 33 21.1 +0.1**
baz=223
UNV Unalaska Valle 69.28 25 P **P** **15 33 30.7 -0.3**
UNV Unalaska Valle 69.28 25 P **P** **15 33 31.2 +0.2**
baz=225
AKUT Akutan 69.79 25 P **P** **15 33 34.5 +0.4**
ZAK Zakamensk 69.86 329 *e*P **P** **15 33 34.3 -0.5**
ZAK pmax pmax
comp=Z,25nm,1.4s
YAK Yakutsk 69.91 349 *e*P P 15 33 40.6 +5.9
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK Yakutsk 69.91 349 P **P** **15 33 36.5 +1.8**
YAK lAmb lAmb 15 33 44.2
comp=Z,21nm,1.1s
SPIA Saint Paul Isl 70.26 21 P **P** **15 33 36.6 -0.4**
baz=221
VNDA Vanda 71.67 178 P **P** **15 33 45.6 +0.4**
comp=Z,3.2nm,0.9s,baz=331,slow=6.8,SNR=24
VNDA Vanda 71.67 178 P **P** **15 33 45.7 +0.4**
VNDA pmax pmax
comp=Z,11nm,1.2s
VNDA Vanda 71.67 178 P **P** **15 33 45.7 +0.4**
SDPT Sand Point 72.89 26 P **P** **15 33 52.9 0.0**
baz=231
CHNA Chernabura Isl 72.97 27 P **P** **15 33 53.3 0.0**
baz=232
BILL Bilibino 74.63 6‖ *e*P **P** **15 34 03.8 +1.0**
BILL *e* 15 36 51.6
BILL *e*PPP PPP 15 38 36.9
BILL *e*S **SKiKP** **15 43 27.7 -1.2**
BILL pmax pmax
comp=Z,37nm,2.0s
WMQ Urumqi 75.75 318 *e*P **P** **15 34 08.6 -1.3**
WMQ pP pwP 15 34 16.8 -1.4
WMQ pmax pmax
comp=Z,63nm,1.1s
WMQ pmax pmax
comp=Z,260nm,6.7s
SII Sitkinak Islan 76.46 28 P **P** **15 34 13.7 +0.1**
SII Sitkinak Islan 76.46 28 P **P** **15 34 13.6 +0.1**
baz=236
OHAK Old Harbor 77.24 27 P **P** **15 34 18.2 +0.3**
OHAK lAmb lAmb 15 34 28.4
comp=Z,19nm,0.7s
OHAK Old Harbor 77.24 27 P **P** **15 34 18.1 +0.3**
baz=237
O18K Koktuh Hills 77.89 24 P **P** **15 34 21.7 +0.2**
baz=234
Q19K Cape Douglas, 78.02 26 P **P** **15 34 21.0 -1.3**
Q19K Cape Douglas, 78.02 26 P **P** **15 34 22.1 -0.2**
baz=236
N18K Kilae Creek 78.09 24 P **P** **15 34 23.2 +0.6**
N18K lAmb lAmb 15 34 34.2
comp=Z,24nm,1.0s
DGZ Jazzator, Alta 78.27 323 *de*P **P** **15 34 22.0 -2.0**
DGZ pmax pmax
comp=Z,11nm,1.3s
O19K Port Alsworth 78.45 24 P **P** **15 34 24.8 +0.2**
baz=235
SVW2 Sparrevohn 78.46 23 P **P** **15 34 25.8 +1.1**
SVW2 lAmb lAmb 15 34 36.1
comp=Z,18nm,0.9s
P19K Oil Pt 78.60 25 P **P** **15 34 24.8 -0.7**
N19K Bonanza Creek 78.73 24 P **P** **15 34 27.2 +0.9**
N19K Bonanza Creek 78.73 24 P **P** **15 34 26.7 +0.3**
baz=235
ZSN Zaisan 78.96 321 *e*P **P** **15 34 29.1 +1.3**
baz=321
ZSN Zaisan 78.96 321 *e*P **P** **15 34 29.0 +1.3**
O20K Slope Mountain 79.09 25 P **P** **15 34 28.2 0.0**
baz=237
L19K White Mountain 79.38 23 P **P** **15 34 30.6 +0.9**
L19K lAmb lAmb 15 34 40.9
comp=Z,26nm,0.9s
L19K White Mountain 79.38 23 P **P** **15 34 30.1 +0.3**
baz=234
CNPM China Poot 79.39 26 P **P** **15 34 30.0 +0.2**
M19K Big River Lodg 79.40 23 P **P** **15 34 30.3 +0.5**
M19K Big River Lodg 79.40 23 P **P** **15 34 30.3 +0.5**
baz=235
BRLK Bradley Lake 79.66 26 P **P** **15 34 32.6 +1.3**
BRLK lAmb lAmb 15 34 42.1
comp=Z,26nm,0.8s
BRSE Bradley Lake S 79.71 26 P **P** **15 34 32.1 +0.5**
baz=239
L20K Farewell, AK 79.92 23 P **P** **15 34 33.2 +0.5**
baz=235,SNR=6.1
K20K Telida 80.35 22 P **P** **15 34 35.0 0.0**
K20K lAmb lAmb 15 34 46.1
comp=Z,18nm,0.9s
K20K Telida 80.35 22 P **P** **15 34 35.6 +0.7**
baz=235,SNR=7.1
MK31 Makanchi Array 80.38 319‖ *e*P **P** **15 34 33.6 -1.9**
MK31 Makanchi Array 80.38 319 P **P** **15 34 34.8 -0.7**
MKAR Makanchi Array 80.38 319 P **P** **15 34 34.5 -1.0**
comp=Z,1.5nm,0.9s,baz=108,slow=4.0,SNR=8.9
MKAR Makanchi Array 80.38 319 P **P** **15 34 35.5 0.0**
MKAR Makanchi Array 80.38 319 P **P** **15 34 35.5 0.0**
SEW Seward 80.46 26 P **P** **15 34 35.9 +0.4**
SEW lAmb lAmb 15 34 46.1
comp=Z,41nm,0.9s
SEW Seward 80.46 26 P **P** **15 34 35.9 +0.4**
baz=240
O22K Cooper Landing 80.53 25 P **P** **15 34 36.1 +0.2**
baz=240
SKT Skwentna 80.57 24 P **P** **15 34 35.7 -0.4**
baz=238
MAKZ Makanchi 80.59 319 P **P** **15 34 36.1 -0.5**
MAKZ pmax pmax
comp=Z,18nm,1.5s
MAKZ Makanchi 80.59 319 P **P** **15 34 36.1 -0.5**
SUA Susitna One 80.61 24 P **P** **15 34 36.5 0.0**
SUA Susitna One 80.61 24 P **P** **15 34 36.2 -0.3**
baz=238
J20K Nowinta River 80.80 21 P **P** **15 34 37.7 +0.4**
J20K lAmb lAmb 15 34 49.9
comp=Z,26nm,1.1s
J20K Nowinta River 80.80 21 P **P** **15 34 37.6 +0.3**
baz=235,SNR=10
PPLA Purkeypile 80.80 23 P **P** **15 34 39.0 +1.4**
RC01 Rabbit Creek A 80.83 25 P **P** **15 34 37.3 -0.2**
RC01 lAmb lAmb 15 34 48.3
comp=Z,49nm,1.1s
RC01 Rabbit Creek A 80.83 25 P **P** **15 34 37.8 +0.2**
baz=239
CAST Castle Rocks 81.13 22 P **P** **15 34 38.2 -0.9**
CAST lAmb lAmb 15 34 49.0
comp=Z,18nm,0.9s
SHLS Shalkode 81.16 315 *e*P **P** **15 34 36.8 -3.1**
baz=315
SHLS *e*S **S** **15 44 47.6 -2.6**
baz=315
SHLS Shalkode 81.16 315 *e*P **P** **15 34 36.7 -3.1**
SHLS *e*S **S** **15 44 47.5 -2.6**
CUT Chulitna 81.29 24 P **P** **15 34 39.3 -0.6**
baz=239
PWL Port Wells 81.31 25 P **P** **15 34 40.3 +0.1**
PMR Palmer 81.34 25 P **P** **15 34 40.0 -0.2**
baz=240
ZALV Zalesovo Beam 81.44 327 P **P** **15 34 39.2 -1.7**
comp=Z,2.0nm,0.6s,baz=118,slow=7.4,SNR=6.2
ZALV Zalesovo Beam 81.44 327 P **P** **15 34 38.7 -2.2**
ZALV Zalesovo Beam 81.44 327 P **P** **15 34 38.7 -2.2**
UZB Uzynbulak 81.46 315 *e*P **P** **15 34 39.9 -1.6**
baz=315
UZB *e*S **S** **15 44 55.9 +2.5**
baz=315
UZB Uzynbulak 81.46 315 *e*P **P** **15 34 39.8 -1.7**
UZB *e*S **S** **15 44 55.8 +2.5**
Q23K Middleton Isla 81.51 27 P **P** **15 34 41.4 +0.3**
baz=243
KNK Knik Glacier 81.53 25 P **P** **15 34 41.1 -0.2**
baz=240
KTH Kantishna Hill 81.64 22 P **P** **15 34 40.8 -1.1**
KTH lAmb lAmb 15 34 51.9
comp=Z,64nm,1.5s
SML Sawmill 81.78 25 P **P** **15 34 42.8 +0.1**
SML Sawmill 81.78 25 P **P** **15 34 42.8 +0.1**
baz=241,SNR=7.0
TRF Thorofare Moun 81.83 23 P **P** **15 34 42.4 -0.7**
GLI Glacier Island 81.85 26 P **P** **15 34 44.1 +1.1**
GLI lAmb lAmb 15 34 54.7
comp=Z,29nm,0.8s
GLI Glacier Island 81.85 26 P **P** **15 34 43.3 +0.3**
baz=242
SATY Saty 81.87 315 *e*P **P** **15 34 40.3 -3.3**
baz=315
SATY Saty 81.87 315 *e*P **P** **15 34 40.3 -3.3**
BPAW Bear Paw Mtn. 81.91 22 P **P** **15 34 42.8 -0.5**
BPAW Bear Paw Mtn. 81.91 22 P **P** **15 34 43.3 0.0**
baz=238,SNR=5.5
IMAR Indian Mountai 81.97 20 P **P** **15 34 43.0 -0.5**
H21K Melozitna Rive 82.11 20 P **P** **15 34 44.0 -0.3**
H21K Melozitna Rive 82.11 20 P **P** **15 34 44.8 +0.6**
baz=236,SNR=5.5
SCM Sheep Creek Mo 82.21 25 P **P** **15 34 45.3 +0.4**
SCM pmax pmax
comp=Z,24nm,1.0s
SCM Sheep Creek Mo 82.21 25 P **P** **15 34 45.3 +0.4**
SCM lAmb lAmb 15 34 55.5
comp=Z,24nm,1.0s
RND Reindeer 82.36 23 P **P** **15 34 45.1 -0.6**
RND pmax pmax
comp=Z,40nm,1.0s
RND Reindeer 82.36 23 P **P** **15 34 45.1 -0.6**
WAT6 Susitna Watana 82.40 24 P **P** **15 34 45.8 -0.2**
baz=241,SNR=5.9
MLY Manley 82.50 21 P **P** **15 34 46.2 -0.1**
MLY lAmb lAmb 15 34 56.5
comp=Z,22nm,0.8s
MLY Manley 82.50 21 P **P** **15 34 46.0 -0.4**
baz=238,SNR=23
MCK McKinley 82.50 23 P **P** **15 34 46.1 -0.2**
MCK pmax pmax
comp=Z,64nm,1.0s
MCK McKinley 82.50 23 P **P** **15 34 46.1 -0.2**
MCK McKinley 82.50 23 P **P** **15 34 46.2 -0.2**
baz=240,SNR=7.0
BWN Browne 82.52 22 P **P** **15 34 46.3 -0.1**
DIV Divide 82.54 26 P **P** **15 34 46.9 +0.2**
DIV lAmb lAmb 15 34 58.1
comp=Z,38nm,1.1s
KLU Klutina 82.64 25 P **P** **15 34 47.8 +0.6**
KLU Klutina 82.64 25 P **P** **15 34 47.5 +0.2**
baz=243,SNR=8.7
KSH Kashi 82.73 311 P **P** **15 34 51.0 +2.8**
KSH pP PcP 15 34 55.0 +1.9
KSH sP pwP 15 34 58.4 +1.9
KSH pmax pmax
comp=Z,9.0nm,1.3s
KSH LR LR
comp=Z,230nm,17.5s
KSH LR LR
comp=Z,210nm,14.2s
DHY Denali Highway 82.78 24 P **P** **15 34 48.2 +0.1**
DHY lAmb lAmb 15 34 58.8
comp=Z,18nm,0.9s
DHY Denali Highway 82.78 24 P **P** **15 34 47.5 -0.5**
baz=241,SNR=7.7
M24K Tolsona, Glenn 82.82 25 P **P** **15 34 49.2 +1.1**
M24K Tolsona, Glenn 82.82 25 P **P** **15 34 48.1 0.0**
baz=242
MDOK Medeo 82.86 315 *e*P **P** **15 34 45.5 -3.4**
baz=315
MDOK *e*S **S** **15 45 05.1 -2.6**
baz=315
MDOK Medeo 82.86 315 *e*P **P** **15 34 45.4 -3.4**
MDOK *e*S **S** **15 45 05.1 -2.6**
HMT Hamilton 82.86 27 P **P** **15 34 48.8 +0.5**
NEA2 Nenana 82.88 22 P **P** **15 34 48.0 -0.3**
NEA2 lAmb lAmb 15 34 57.7
comp=Z,22nm,0.8s
NEA2 Nenana 82.88 22 P **P** **15 34 48.0 -0.3**
baz=240
TNSS Tian-Shan 82.90 315 *e*P **P** **15 34 48.5 -0.9**
baz=315
BMRM Bremner River 82.98 26 P **P** **15 34 49.0 +0.1**

BMRM	**Bremner River**	**82.98**	**26**	P		**P**	**15 34 48.7**	**-0.3**
	baz=244								
I23K	**Minto, Yukon-K**	**83.06**	**21**	P		**P**	**15 34 49.0**	**-0.1**
I23K	**Minto, Yukon-K**	**83.06**	**21**	P		**P**	**15 34 48.9**	**-0.3**
	baz=239								
CHKK	**Chushkaly**	**83.08**	**315**	*e*P		**P**	**15 34 47.8**	**-2.0**
	baz=315								
BERG	**Berg Lake**	**83.13**	**27**	P		**P**	**15 34 50.7**	**+1.0**
WRH	**Wood River Hil**	**83.19**	**22**	P		**P**	**15 34 48.9**	**-1.0**
N25K	**Chitina, Valde**	**83.26**	**26**	P		**P**	**15 34 49.7**	**-0.8**
N25K				IAmb		IAmb	15 35 02.0		
	comp=Z,20nm,1.1s								
N25K	**Chitina, Valde**	**83.26**	**26**	P		**P**	**15 34 50.7**	**+0.3**
	baz=244								
MTBS	**Maitube**	**83.29**	**315**	*e*P		**P**	**15 34 49.8**	**-1.2**
	baz=315								
MTBS				*e*S		**S**	**15 45 11.8**	**-0.1**	
	baz=315								
H23K	**Yukon River**	**83.34**	**21**	P		**P**	**15 34 51.0**	**+0.4**
H23K				IAmb		IAmb	15 35 01.2		
	comp=Z,14nm,0.8s								
MDM	**Murphy Dome**	**83.38**	**22**	P		**P**	**15 34 51.5**	**+0.6**
MDM				IAmb		IAmb	15 35 00.8		
	comp=Z,37nm,1.5s								
HARP	**HAARP**	**83.38**	**25**	P		**P**	**15 34 51.8**	**+0.9**
	baz=243								
CCB	**Clear Creek Bu**	**83.38**	**22**	P		**P**	**15 34 49.7**	**-1.1**
CCB				IAmb		IAmb	15 35 00.0		
	comp=Z,19nm,0.8s								
COLA	**College**	**83.47**	**22**	*ce*P		**P**	**15 34 51.5**	**+0.2**
COLA				pmax		pmax			
	comp=Z,24nm,1.3s								
BOOM	**Boomskoye usch**	**83.48**	**314**	P		**P**	**15 34 51.0**	**-1.1**
BOOM				pmax		pmax			
	comp=Z,14nm,1.4s								
BOOM	**Boomskoye usch**	**83.48**	**314**	P		**P**	**15 34 51.0**	**-1.1**
PAX	**Paxson**	**83.50**	**24**	P		**P**	**15 34 52.7**	**+1.0**
PAX				pmax		pmax			
	comp=Z,16nm,1.3s								
PAX	**Paxson**	**83.50**	**24**	P		**P**	**15 34 52.7**	**+1.0**
PAX				IAmb		IAmb	15 35 01.8		
	comp=Z,16nm,1.3s								
PAX	**Paxson**	**83.50**	**24**	P		**P**	**15 34 51.8**	**+0.1**
	baz=243								
GLB	**Gilahina Butte**	**83.53**	**26**	P		**P**	**15 34 52.2**	**+0.4**
GLB				IAmb		IAmb	15 35 02.4		
	comp=Z,25nm,1.0s								
CRQM	**Cirque**	**83.54**	**27**	P		**P**	**15 34 52.3**	**+0.3**
KUU	**Kurty**	**83.54**	**315**	*e*P		**P**	**15 34 49.8**	**-2.4**
	baz=315								
KUU				*e*S		**S**	**15 45 12.3**	**-2.1**	
	baz=315								
KUU	**Kurty**	**83.54**	**315**	*e*P		**P**	**15 34 49.8**	**-2.4**
KUU				*e*S		**S**	**15 45 12.2**	**-2.1**	
CRQE	**Cirque**	**83.56**	**27**	P		**P**	**15 34 52.9**	**+0.9**
	baz=245								
HDA	**Harding Lake**	**83.59**	**23**	P		**P**	**15 34 51.3**	**-0.7**
HDA				IAmb		IAmb	15 35 02.1		
	comp=Z,12nm,0.7s								
HDA	**Harding Lake**	**83.59**	**23**	P		**P**	**15 34 52.2**	**+0.2**
	baz=242,SNR=8.4								
VRDI	**Verde Repeater**	**83.60**	**26**	P		**P**	**15 34 52.8**	**+0.5**
VRDI				IAmb		IAmb	15 35 02.9		
	comp=Z,18nm,1.0s								
POKR	**Poker Plat Res**	**83.75**	**22**	P		**P**	**15 34 52.1**	**-0.7**
	baz=241								
IL31		**83.79**	**22**	P		**P**	**15 34 51.7**	**-1.2**
IL31				IAmb		IAmb	15 35 01.9		
	comp=Z,21nm,0.8s								
ILAR	**Eielson Array**	**83.79**	**22**	P		**P**	**15 34 51.5**	**-1.4**
	comp=Z,11nm,0.7s,baz=249,slow=5.4,SNR=97								
ILAR	**Eielson Array**	**83.79**	**22**	P		**P**	**15 34 51.0**	**-1.9**
ILAR	**Eielson Array**	**83.79**	**22**	P		**P**	**15 34 51.0**	**-1.9**
MESA	**MESA**	**83.84**	**27**	P		**P**	**15 34 53.9**	**+0.3**
	baz=246								
COLD	**Coldfoot**	**83.84**	**19**	P		**P**	**15 34 53.9**	**+0.7**
COLD				IAmb		IAmb	15 35 04.9		
	comp=Z,20nm,1.4s								
COLD	**Coldfoot**	**83.84**	**19**	P		**P**	**15 34 53.8**	**+0.6**
	baz=238								
MCARA	**McCarthy VSAT**	**83.85**	**26**	P		**P**	**15 34 53.6**	**+0.2**
	baz=245								
KURK	**Kurchatov**	**83.92**	**322**	P		**P**	**15 34 52.8**	**-1.1**
KURK	**Kurchatov**	**83.92**	**322**	P		**P**	**15 34 52.8**	**-1.1**
H24K	**Noodor Dome**	**83.94**	**21**	P		**P**	**15 34 53.6**	**-0.2**
H24K				IAmb		IAmb	15 35 04.3		
	comp=Z,7.5nm,0.7s								
H24K	**Noodor Dome**	**83.94**	**21**	P		**P**	**15 34 53.9**	**+0.2**
	baz=241,SNR=7.3								
MAW	**Mawson**	**83.94**	**203**	P		**P**	**15 34 54.1**	**+0.4**
	baz=84,SNR=11								
MAW	**Mawson**	**83.94**	**203**	P		**P**	**15 34 53.7**	**0.0**
	comp=Z,3.5nm,0.8s,baz=106,slow=5.8,SNR=19								
MAW	**Mawson**	**83.94**	**203**	P		**P**	**15 34 53.4**	**-0.3**
MAW				pmax		pmax			
	comp=Z,3.0nm,1.2s								
MAW	**Mawson**	**83.94**	**203**	P		**P**	**15 34 53.4**	**-0.3**
QSPA	**South Pole Qui**	**83.94**	**180**	P		**P**	**15 34 54.0**	**+0.1**
KURBB	**Kurchatov Arra**	**83.95**	**322**	P		**P**	**15 34 52.8**	**-1.2**
KURBB	comp=Z,3.4nm,0.8s,baz=110,slow=4.0,SNR=16			PP		**PP**	**15 38 11.5**	**+3.7**	
	comp=Z,0.9nm,0.9s,baz=116,slow=8.3,SNR=4.3								
RIDG	**Independent Ri**	**84.10**	**24**	P		**P**	**15 34 54.3**	**-0.4**
RIDG				IAmb		IAmb	15 35 04.8		
	comp=Z,18nm,0.9s								
RIDG	**Independent Ri**	**84.10**	**24**	P		**P**	**15 34 54.7**	**0.0**
	baz=244,SNR=7.1								
GRNC	**Granite Creek**	**84.15**	**27**	P		**P**	**15 34 55.2**	**0.0**
GRNC				IAmb		IAmb	15 35 23.2		
	comp=Z,14nm,0.9s								
MENT	**Mentasta**	**84.21**	**25**	P		**P**	**15 34 55.4**	**+0.2**
MENT				IAmb		IAmb	15 35 05.8		
	comp=Z,13nm,0.8s								
J25K	**Salcha River,**	**84.29**	**23**	P		**P**	**15 34 55.8**	**+0.2**
	baz=243								
TABL	**Table Mountain**	**84.31**	**27**	P		**P**	**15 34 56.7**	**+0.7**
BARN	**Barnard Glacie**	**84.32**	**27**	P		**P**	**15 34 56.6**	**+0.6**
BARN				IAmb		IAmb	15 35 07.0		
	comp=Z,22nm,0.7s								
DOT	**Dot Lake**	**84.38**	**24**	P		**P**	**15 34 55.8**	**-0.3**
L26K	**Log Cabin Wild**	**84.40**	**25**	P		**P**	**15 34 56.5**	**+0.3**
	baz=245								
CTG	**Chitna Glacier**	**84.43**	**27**	P		**P**	**15 34 56.3**	**-0.2**
	baz=247,SNR=5.2								
CTGM	**Chitina Glacie**	**84.43**	**27**	P		**P**	**15 34 56.6**	**+0.1**
AAK	**Ala-Archa**	**84.55**	**314**	P		**P**	**15 34 57.1**	**-0.5**
	comp=Z,2.1nm,0.5s,baz=154,slow=6.2,SNR=6.8								
AAK	**Ala-Archa**	**84.55**	**314**⇑	*e*P		**P**	**15 34 57.5**	**0.0**
AAK				pmax		pmax			
	comp=Z,56nm,1.6s								
AAK	**Ala-Archa**	**84.55**	**314**	P		**P**	**15 34 56.8**	**-0.7**
AAK				IAmb		IAmb	15 35 12.6		
	comp=Z,22nm,1.5s								
SCRK	**Sand Creek**	**84.55**	**24**	P		**P**	**15 34 57.1**	**+0.1**
SCRK				IAmb		IAmb	15 35 07.2		
	comp=Z,12nm,0.8s								
SCRK	**Sand Creek**	**84.55**	**24**	P		**P**	**15 34 57.6**	**+0.6**
	baz=244								
PCA	**Pinnacle**	**84.59**	**28**	P		**P**	**15 34 57.6**	**+0.3**
PINM	**Pinnacle**	**84.59**	**28**	P		**P**	**15 34 57.9**	**+0.7**
	baz=248								
SGDS	**Sogindy**	**84.64**	**315**	*e*P		**P**	**15 34 56.6**	**-1.2**
	baz=315								
M27K	**Edge Creek, AK**	**84.74**	**25**	P		**P**	**15 34 58.2**	**+0.1**
M27K	**Edge Creek, AK**	**84.74**	**25**	P		**P**	**15 34 58.2**	**+0.1**
	baz=246,SNR=18								
TOLK	**Toolik Lake Re**	**84.79**	**18**	P		**P**	**15 34 56.9**	**-1.1**
TOLK				IAmb		IAmb	15 35 00.1		
	comp=Z,12nm,0.8s								
TOLK	**Toolik Lake Re**	**84.79**	**18**	P		**P**	**15 34 58.5**	**+0.5**
	baz=239								
L27K	**Beaver Creek,**	**85.05**	**25**	P		**P**	**15 34 59.7**	**+0.3**
L27K				IAmb		IAmb	15 35 10.4		
	comp=Z,13nm,0.8s								
L27K	**Beaver Creek,**	**85.05**	**25**	P		**P**	**15 34 59.8**	**+0.4**
	baz=246,SNR=10								
BCAR	**Beaver Creek A**	**85.07**	**25**	P		**P**	**15 35 00.2**	**+0.7**
YUK3	**Moose Creek**	**85.13**	**26**	P		**P**	**15 35 00.4**	**+0.2**
	baz=248,SNR=6.2								
BVCY	**Beaver Creek**	**85.20**	**26**	P		**P**	**15 35 01.3**	**+1.1**
	baz=247,SNR=5.4								
ARSB	**Arslanbob**	**85.36**	**312**	P		**P**	**15 35 02.0**	**+0.4**
ARSB				pmax		pmax			
	comp=Z,27nm,1.0s								
ARSB	**Arslanbob**	**85.36**	**312**	P		**P**	**15 35 02.0**	**+0.4**
ARSB				IAmb		IAmb	15 35 05.5		
	comp=Z,27nm,0.9s								
BTLS	**Baital**	**85.41**	**316**	*e*P		**P**	**15 34 59.9**	**-1.8**
	baz=316								
BTLS				*e*S		**SKSac**	**15 45 23.9**	**-3.1**	
	baz=316								
BTLS	**Baital**	**85.41**	**316**	*e*P		**P**	**15 34 59.8**	**-1.8**
BTLS				*e*S		**SKSac**	**15 45 23.9**	**-3.1**	
YUK4	**Talbot Arm**	**85.78**	**27**	P		**P**	**15 35 04.4**	**+1.0**
	baz=249,SNR=5.3								
BMAR	**Burnt Mountain**	**85.85**	**20**	P		**P**	**15 35 03.7**	**+0.4**
EGAK	**Eagle**	**86.00**	**23**	P		**P**	**15 35 03.2**	**-0.8**
EGAK				IAmb		IAmb	15 35 14.8		
	comp=Z,23nm,0.9s								
EGAK	**Eagle**	**86.00**	**23**	P		**P**	**15 35 04.7**	**+0.6**
	baz=247								
SIT	**Sitka**	**86.00**	**32**	P		**P**	**15 35 05.3**	**+1.1**
	baz=252								
HYT	**Haines Junctio**	**86.13**	**28**	P		**P**	**15 35 05.9**	**+0.9**
HYT	**Haines Junctio**	**86.13**	**28**	P		**P**	**15 35 05.7**	**+0.7**
	baz=250,SNR=9.4								
DAWY	**Dawson**	**86.44**	**24**	P		**P**	**15 35 07.3**	**+1.0**
DAWY				IAmb		IAmb	15 35 17.5		
	comp=Z,26nm,1.0s								
DAWY	**Dawson**	**86.44**	**24**	P		**P**	**15 35 07.1**	**+0.8**
	baz=248,SNR=12								
SKAG	**Skagway**	**86.72**	**29**	P		**P**	**15 35 08.7**	**+1.0**
SKAG				IAmb		IAmb	15 35 19.1		
	comp=Z,24nm,1.0s								
SKAG	**Skagway**	**86.72**	**29**	P		**P**	**15 35 09.1**	**+1.4**
	baz=252								
WHY	**Whitehorse**	**87.30**	**28**	P		**P**	**15 35 11.8**	**+1.1**
WHY	**Whitehorse**	**87.30**	**28**	P		**P**	**15 35 11.4**	**+0.7**
	baz=253,SNR=5.8								
KK31	**Karatay Array**	**87.51**	**314**	P		**P**	**15 35 10.9**	**-1.1**
KK31				pmax		pmax			
	comp=Z,20nm,1.5s								
KK31	**Karatay Array**	**87.51**	**314**	P		**P**	**15 35 10.9**	**-1.1**
KK31				IAmb		IAmb	15 35 21.5		
	comp=Z,20nm,1.5s								
KKAR	**Karatay Array**	**87.51**	**314**	P		**P**	**15 35 10.7**	**-1.3**
KKAR				pmax		pmax			
	comp=Z,20nm,1.5s								
KKAR	**Karatay Array**	**87.51**	**314**	P		**P**	**15 35 10.7**	**-1.3**
KKAR	**Karatay Array**	**87.51**	**314**	P		**P**	**15 35 10.8**	**-1.3**
KKAR				IAmb		IAmb	15 35 21.5		
	comp=Z,20nm,1.5s								
IUG	**luzhnay**	**87.69**	**313**	*e*P		**P**	**15 35 11.5**	**-1.5**
	baz=313								
IUG				*e*S		**SKSac**	**15 45 37.2**	**-4.2**	
	baz=313								
IUG	**luzhnay**	**87.69**	**313**	*e*P		**P**	**15 35 11.5**	**-1.5**
IUG				*e*S		**SKSac**	**15 45 37.2**	**-4.2**	
MAYO	**Mayo, Yukon**	**87.74**	**25**	P		**P**	**15 35 13.7**	**+1.1**
	baz=252								
RUBB	**Prince Rupert**	**88.06**	**35**	P		**P**	**15 35 14.7**	**+0.5**
EPYK	**Eagle Plains**	**88.30**	**23**	P		**P**	**15 35 14.2**	**-1.0**
EPYK	**Eagle Plains**	**88.30**	**23**	P		**P**	**15 35 16.2**	**+1.0**
	baz=251								
FARO	**Faro, Yukon**	**88.45**	**27**	P		**P**	**15 35 17.4**	**+1.3**
	baz=254								
DLBC	**Dease Lake**	**89.11**	**31**	P		**P**	**15 35 20.1**	**+0.8**
BVAR	**Borovoye Array**	**89.43**	**323**	P		**P**	**15 35 19.2**	**-1.6**
	comp=Z,17nm,0.7s,baz=145,slow=5.4,SNR=10								
MMPY	**Sheldon Lake,**	**89.49**	**27**	P		**P**	**15 35 22.2**	**+1.3**
	baz=256								
BRVK	**Borovoye**	**89.50**	**323**⇑	*e*P		**P**	**15 35 19.4**	**-1.7**
BRVK				pmax		pmax			
	comp=Z,2.0nm,0.9s								
INK	**Inuvik**	**90.06**	**21**	P		**P**	**15 35 22.8**	**-0.6**
INK				pmax		pmax			
	comp=Z,48nm,1.5s								
INK	**Inuvik**	**90.06**	**21**	P		**P**	**15 35 22.8**	**-0.6**
INK	**Inuvik**	**90.06**	**21**	P		**P**	**15 35 23.7**	**+0.3**
	baz=254								
TGTN	**Hyland Airport**	**90.62**	**28**	P		**P**	**15 35 27.5**	**+1.2**
	baz=258								
I07A	**Izee**	**93.44**	**46**	P		**P**	**15 35 38.6**	**-1.2**
I07A				IAmb		IAmb	15 35 51.9		
	comp=Z,13nm,1.3s								
NVAR	**Mina Array Bea**	**93.88**	**52**	P		**P**	**15 35 42.9**	**+0.8**
	comp=Z,2.1nm,0.8s,baz=256,slow=5.7,SNR=11								
NVAR	**Mina Array Bea**	**93.88**	**52**	P		**P**	**15 35 41.5**	**-0.6**
NV11	**Mina Array Sit**	**93.99**	**52**	P		**P**	**15 35 41.2**	**-1.3**
PFO	**Pinyon Flats O**	**95.02**	**57**⇓	*e*P		**P**	**15 35 48.7**	**+1.4**
PFO				pmax		pmax			
	comp=Z,10.0nm,1.4s								
BMO	**Blue Mountains**	**95.07**	**46**	P		**P**	**15 35 47.8**	**+0.6**
BMO				pmax		pmax			
	comp=Z,10.0nm,1.4s								
BMO	**Blue Mountains**	**95.07**	**46**	P		**P**	**15 35 47.8**	**+0.6**
BMO				IAmb		IAmb	15 36 08.6		
	comp=Z,9.8nm,1.4s								
PRN	**Pahroc Range**	**96.38**	**53**	P		**P**	**15 35 53.1**	**-0.4**
ARU	**Arti**	**96.59**	**326**	P		**P**	**15 35 54.7**	**+1.0**
ARU							15 39 50.0		
ARU				S		**SKSac**	**15 46 31.4**	**+0.8**	
ARU				SS		**SS**	**15 53 49.6**	**+0.9**	
SNAA	**Sanae**	**100.64**	**188**	P		**Pdif**	**15 36 10.8**	**-0.9**
SNAA	**Sanae**	**100.64**	**188**⇓	*e*P		**Pdif**	**15 36 12.4**	**+0.6**
SNAA				pmax		pmax			
	comp=Z,5.0nm,1.6s								
VNA3	**Neumayer Olymp**	**101.88**	**186**	P		**Pdif**	**15 36 17.1**	**-0.1**
VNA2	**Neumayer--Watz**	**101.92**	**187**	P		**Pdif**	**15 36 15.5**	**-1.9**
VNA1	**Neumayer--Stat**	**102.28**	**187**	P		**Pdif**	**15 36 16.8**	**-2.1**
TXAR	**Lajitas Array**	**105.88**	**61**	PP		PKiKP	15 40 56.7	+8.1	
	comp=Z,0.2nm,0.8s,baz=255,slow=6.5,SNR=3.4								
AKASG	**Malin Array Be**	**114.70**	**324**	PKP		**PKiKP**	**15 41 03.5**	**-1.0**	
	comp=Z,0.5nm,0.4s,baz=62,slow=2.3,SNR=2.6								
PLCA	**Paso Flores**	**119.58**	**144**	PKP		**PKPdf**	**15 41 13.6**	**-0.8**	
	comp=Z,2.3nm,1.0s,baz=234,slow=3.3,SNR=3.1								
PLCA	**Paso Flores**	**119.58**	**144**	PKIKP		**PKPdf**	**15 41 12.3**	**-2.1**	
PLCA	**Paso Flores**	**119.58**	**144**			**PKPdf**	**15 41 12.3**	**-2.1**	
MORC	**Moravsky Berou**	**121.78**	**327**	*e*PKP		**PKiKP**	**15 41 19.3**	**+0.9**	
MORC				*e*			15 41 27.7		
JAVC	**Velka Javorina**	**122.20**	**326**	*e*PKP		**PKiKP**	**15 41 21.3**	**+2.0**	
JAVC				*e*			15 41 29.4		
VRAC	**Vranov**	**122.56**	**327**	*e*PKP		**PKiKP**	**15 41 20.4**	**+0.5**	
VRAC				*e*			15 41 28.6		
KRUC	**Moravsky**	**122.80**	**326**	*e*PKP		**PKPdf**	**15 41 20.6**	**+0.4**	
KRUC				*e*			15 41 29.2		
BRG	**Berggiesshubel**	**123.06**	**329**	*e*PKP		PKiKP	15 41 30.2	+9.4	
BRG				Amp			15 41 32.3		
	comp=Z,9.4nm,1.1s								
DIVS	**Divibare**	**123.16**	**320**	PKPdf		**PKPdf**	**15 41 20.8**	**-0.4**	
CLL	**Collm**	**123.26**	**330**	*e*PKPdf		**PKPdf**	**15 41 21.0**	**0.0**	
CLL				*e*			15 41 30.0		
CLL	**Collm**	**123.26**	**330**	*e*PKIKP		**PKPdf**	**15 41 21.0**	**0.0**	
CLL				*e*			15 41 30.0		
FNA	**Florina**	**123.66**	**316**	PKIKP		**PKPdf**	**15 41 20.8**	**-1.3**	
FNA	**Florina**	**123.66**	**316**			**PKPdf**	**15 41 20.8**	**-1.3**	
CONA	**Conrad Observa**	**123.72**	**326**	*e*P		**PKiKP**	**15 41 25.9**	**+3.6**	
	comp=Z,16nm,1.8s								
CKRC	**Cesky Krumlov**	**124.07**	**327**	*e*PKPDF		**PKPdf**	**15 41 23.1**	**+0.5**	
CKRC				*ex*		x	15 41 31.7		
ARSA	**Arzberg**	**124.28**	**325**	*e*P		**PKPdf**	**15 41 22.7**	**-0.4**	
	comp=Z,0.9nm,0.4s								
KHC	**Kasperske Hory**	**124.28**	**328**	*e*PKIKP		**PKPdf**	**15 41 23.3**	**+0.2**	
KHC				*e*			15 41 31.7		
KHC	**Kasperske Hory**	**124.28**	**328**	*e*PKPDF		**PKPdf**	**15 41 23.3**	**+0.2**	
KHC				*ex*		x	15 41 31.7		
GERES	**GERESS Array B**	**124.39**	**327**	PKP		**PKPdf**	**15 41 23.6**	**+0.3**	
	comp=Z,1.0nm,0.6s,baz=67,slow=1.7,SNR=8.2								
GERES	**GERESS Array B**	**124.39**	**327**	PKIKP		**PKPdf**	**15 41 23.3**	**-0.1**	
GERES	**GERESS Array B**	**124.39**	**327**	PKPdf		**PKPdf**	**15 41 23.2**	**-0.1**	
MOA	**Molln**	**124.65**	**326**	*e*P		**PKPdf**	**15 41 22.9**	**-0.9**	
	comp=Z,2.9nm,1.0s								
SOKA	**Soboth**	**124.88**	**325**	*e*P		**PKPdf**	**15 41 24.3**	**0.0**	
	comp=Z,15nm,1.7s								
OBKA	**Obir**	**125.25**	**325**	*e*P		**PKPdf**	**15 41 24.1**	**-1.0**	
	comp=Z,5.8nm,0.9s								
KBA	**Koelnbreinsper**	**125.61**	**326**	*e*P		**PKPdf**	**15 41 24.4**	**-1.5**	
	comp=Z,7.3nm,1.1s								
ABTA	**Abfaltersbach**	**126.27**	**326**	*e*P		**PKPdf**	**15 41 26.4**	**-0.6**	
	comp=Z,18nm,1.4s								
WATA	**Walderalm**	**126.43**	**327**	*e*P		**PKPdf**	**15 41 27.3**	**-0.1**	
	comp=Z,15nm,1.3s								
WTTA	**Wattenberg**	**126.44**	**327**	*e*P		**PKPdf**	**15 41 28.1**	**+0.6**	
	comp=Z,31nm,1.6s								
MOTA	**Moosalm**	**126.68**	**327**	*e*P		**PKPdf**	**15 41 28.4**	**+0.5**	
	comp=Z,8.0nm,1.0s								
SQTA	**Sankt Quirin**	**126.70**	**327**	*e*P		**PKiKP**	**15 41 29.1**	**+0.8**	
	comp=Z,13nm,1.2s								
RETA	**Reutte**	**126.77**	**328**	*e*P		**PKPdf**	**15 41 28.7**	**+0.8**	
	comp=Z,8.3nm,1.1s								
FETA	**Feichten**	**127.08**	**327**	*e*P		**PKiKP**	**15 41 29.6**	**+0.4**	
	comp=Z,12nm,1.1s								
DAVA	**Damuels**	**127.37**	**328**	*e*P		**PKiKP**	**15 41 30.7**	**+1.0**	
	comp=Z,10nm,1.0s								
LPAZ	**La Paz**	**134.98**	**120**	PKIKP		**PKPdf**	**15 41 45.8**	**+0.8**	
LPAZ	**La Paz**	**134.98**	**120**	PKPdf		**PKPdf**	**15 41 45.8**	**+0.8**	
TORD	**Torodi Ar. Bea**	**149.39**	**286**	PKPbc		**PKPbc**	**15 42 13.6**	**-0.6**	
	comp=Z,17nm,0.7s,baz=56,slow=2.6,SNR=77								
BDFB	**Brasilia**	**151.09**	**138**	PKPbc		**PKPbc**	**15 42 18.3**	**-0.1**	
	comp=Z,4.9nm,0.4s,baz=180,slow=7.1,SNR=8.5								
BDFB	**Brasilia**	**151.09**	**138**	PKIKP		**PKPbc**	**15 42 17.2**	**-1.1**	
BDFB	**Brasilia**	**151.09**	**138**	PKPbc		**PKPbc**	**15 42 17.2**	**-1.1**	
DBIC	**Dimbokro**	**156.46**	**273**	PKPab		**PKPab**	**15 42 48.1**	**-0.6**	
	comp=Z,5.7nm,0.8s,baz=64,slow=2.6,SNR=3.9								
DBIC	**Dimbokro**	**156.46**	**273**	PKP2		**PKPab**	**15 42 49.1**	**+0.4**	
DBIC	**Dimbokro**	**156.46**	**273**			**PKPab**	**15 42 49.1**	**+0.4**	

NNC 16 15:23:43.3±5.1, 37.08N×70.92E, h0km, mb 3.8, mpv 3.5, 3C-2D, Error ellipse: s-maj=47.5km s-min=34.5km az=144.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AML	**Almayashu**	**5.48**	**22**	P		Pn	15 25 07.3	+0.7
	SNR=45							
UCH	**Uchtor**	**5.84**	**27**	P		Pn	15 25 11.7	+0.1
	SNR=8.7							
EKS2	**Erkin-Say**	**5.99**	**21**	P		Pn	15 25 14.6	+1.2
	SNR=9.1							
KK31	**Karatay Array**	**6.03**	**357**⇑	P		Pn	15 25 14.6	+0.9
	0.9nm,0.3s,baz=173,slow=13,SNR=38							
KK31				S		Sn	15 26 24.1	+0.6
	3.0nm,0.3s,baz=181,slow=21,SNR=7.3							
AAK	**Ala-Archa**	**6.20**	**25**	P		Pn	15 25 16.7	+0.6
	SNR=5.8							
AAK	**Ala-Archa**	**6.20**	**25**⇓	P		Pn	15 25 16.2	0.0
	1.7nm,0.3s							
AAK				⇑S		Sn	15 26 29.1	+1.3
	5.5nm,0.7s							
TKM2	**Tokmak 2**	**6.85**	**30**	P		Pn	15 25 24.8	-0.4
	SNR=6.3							
TKM2	**Tokmak 2**	**6.85**	**30**	⇑P		Pn	15 25 24.3	-0.9
	1.8nm,0.5s							
TKM2				⇓S		Sn	15 26 45.2	+1.3
	0.4nm,0.5s							

IDC ***16*** *15:27:51.1±1.9, 5.39S×150.95E, h0km, mb 3.9/5, mb1 4.2/5, mb1mx3.6/41, mbtmp3.9/5, Error ellipse: s-maj=69.2km s-min=24.4km az=119.0*
NEIC ***16*** *15:27:53.8±2.2, 5.9S±0.1×151.3E±0.2, h10km±1km, mb4.1/7, Error ellipse: s-maj=40.3km s-min=7.0km az=113.0*

ISC 16 15:27:52.8±0.9, 5.9S±0.2×151.3E±0.2, h10km, n17, σ1s18/16, mb4.0/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**1.89**	**26**	Pn		**Pn**	**15 28 25.8**	**+0.7**
WR0	**Warramunga Arr**	**21.48**	**228**	P		**P**	**15 32 41.1**	**-0.7**
WR0				IAmb		IAmb	15 33 03.7	
	comp=Z,9.6nm,1.1s							
WB2	**Warramunga Arr**	**21.61**	**228**	P		**P**	**15 32 43.8**	**+0.7**
WB2				IAmb		IAmb	15 32 53.3	
	comp=Z,5.9nm,0.9s							
WRA	**Warramunga Arr**	**21.62**	**228**	P		**P**	**15 32 43.6**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=52,slow=11,SNR=5.5							
AS31	**Alice Springs**	**24.35**	**222**	P		**P**	**15 33 11.9**	**+0.7**
ASAR	**Alice Springs**	**24.36**	**222**	P		**P**	**15 33 11.2**	**0.0**
	comp=Z,1.8nm,0.5s,baz=55,slow=8.6,SNR=16							
ASAR	**Alice Springs**	**24.36**	**222**	P		**P**	**15 33 11.4**	**+0.2**
STKA	**Stephens Creek**	**27.41**	**198**			**P**	**15

comp=Z,0.1nm,0.5s,baz=37,slow=2.3,SNR=1.4

ASAR	**Alice Springs**	**24.37**	**222**	P	**P**	**15 38 45.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**27.88**	**242**	P	**P**	**15 39 17.1**	**+0.3**
	comp=Z,3.3nm,0.5s,baz=58,slow=8.0,SNR=28						
FITZ	**Fitzroy Crossi**	**27.88**	**242**	P	**P**	**15 39 17.0**	**+0.3**
FITZ				IAmb	IAmb	15 39 35.1	
	comp=Z,4.1nm,0.8s						
FORT	**Forrest**	**33.03**	**219**	P	**P**	**15 40 02.1**	**0.0**
JAGI	**Jajag, Banyuwa**	**37.01**	**264**	P	**P**	**15 40 35.7**	**-1.0**
MKAR	**Makanchi Array**	**80.25**	**319**	P	**P**	**15 45 36.6**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=112,slow=3.9,SNR=2.7						
PWL	**Port Wells**	**81.26**	**25**	P	**P**	**15 45 43.2**	**+0.6**
ZALV	**Zalesovo Beam**	**81.31**	**327**	P	**P**	**15 45 41.5**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=112,slow=4.8,SNR=1.9						
IMAR	**Indian Mountai**	**81.91**	**20**	P	**P**	**15 45 47.5**	**+1.6**
MLY	**Manley**	**82.44**	**21**	P	**P**	**15 45 48.6**	**-0.2**
MLY				IAmb	IAmb	15 46 00.2	
	comp=Z,4.6nm,1.4s						
ILAR	**Eielson Array**	**83.73**	**22**	P	**P**	**15 45 53.5**	**-1.8**
	comp=Z,1.0nm,0.7s,baz=247,slow=5.3,SNR=8.6						
KURBB	**Kurchatov Arra**	**83.82**	**322**	P	**P**	**15 45 56.9**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=90,slow=4.6,SNR=2.4						
MAW	**Mawson**	**83.99**	**203**	P	**P**	**15 45 56.4**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=127,slow=5.1,SNR=1.7						
MAW	**Mawson**	**83.99**	**203**	P	**P**	**15 45 56.9**	**+0.2**
QSPA	**South Pole Qui**	**84.04**	**180**	P	**P**	**15 45 56.5**	**-0.7**
QSPA				IAmb	IAmb	15 46 09.0	
	comp=Z,4.7nm,1.2s						
DOT	**Dot Lake**	**84.32**	**24**	P	P	**15 45 58.4**	**-0.1**
DOT				IAmb	IAmb	15 46 06.9	
	comp=Z,5.4nm,1.4s						
TORD	**Torodi Ar. Bea**	**149.28**	**286**	PKPbc	**PKPbc**	**15 53 15.7**	**-0.9**
	comp=Z,2.4nm,0.7s,baz=65,slow=3.0,SNR=10						
TORD	**Torodi Ar. Bea**	**149.28**	**286**		**PKPbc**	**15 53 16.2**	**-0.4**

IDC 16 15:34:27.6±5.2, 26.64N×96.30E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.2/51, mbtmp3.3/4, Error ellipse: s-maj=664.9km s-min=23.6km az=58.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**22.97**	**335**	P	P	15 39 33.1	-0.6
	0.2nm,0.5s,baz=148,slow=8.5,SNR=3.2						
KURBB	**Kurchatov Arra**	**27.53**	**335**	P	P	15 40 16.4	+0.5
	0.3nm,0.7s,baz=148,slow=9.5,SNR=2.9						
WRA	**Warramunga Arr**	**59.21**	**138**	P	P	15 44 30.6	-0.2
	0.2nm,0.4s,baz=315,slow=6.2,SNR=6.3						
ASAR	**Alice Springs**	**61.83**	**141**	P	P	15 44 48.8	+0.1
	0.1nm,0.5s,baz=324,slow=6.9,SNR=5.6						

*GRAL **16** 15:38:17.7±0.3, 33.57N×35.41E, h20km±2km, MD3.0*
*GII **16** 15:38:17.2±0.3, 33.58N×35.47E, h10km, MD1.7/5, Mm2.1/4*
ISC 16 15:38:17.4±1.0, 33.58N±0.03×35.44E±0.04, h16km±8km, n14, σ0.37/25, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DQRL	**Deir Qamar**	**0.17**	**41**	*eP*	**Pb**	**15 38 22.4**	**+0.1**
DQRL				*eS*	**Sb**	**15 38 25.8**	**+0.3**
QRWL	**Qaraoun**	**0.21**	**98**	*eP*	**Pb**	**15 38 22.8**	**-0.1**
QRWL				*eS*	**Sb**	**15 38 26.7**	**+0.1**
BEYL	**Beirut**	**0.30**	**9**	*eP*	**Pg**	**15 38 23.9**	**+0.1**
RCY	**Rachaya**	**0.34**	**103**	*eP*	**Pg**	**15 38 24.9**	**+0.2**
RCY				*eS*	**Sb**	**15 38 30.2**	**-0.4**
BHL	**Bhannes**	**0.37**	**29**	*eP*	**Pg**	**15 38 25.1**	**-0.1**
BHL				*eS*	**Sg**	**15 38 30.9**	**+0.4**
NATI	**Neve Ativ**	**0.40**	**141**	Pg	**Pg**	**15 38 25.7**	**+0.1**
NATI				Sg	**Sg**	**15 38 31.2**	**0.0**
GEM	**Giv'at Ha'Em**	**0.41**	**152**	Pg	**Pg**	**15 38 26.0**	**+0.2**
GEM				Sg	**Sg**	**15 38 30.8**	**-0.7**
HNTI	**Hanita**	**0.54**	**204**	Pg	**Pg**	**15 38 28.1**	**0.0**
HNTI				Sg	**Sb**	**15 38 36.3**	**+0.3**
MMC7	**Mount Meron ar**	**0.56**	**184**	Pg	**Pg**	**15 38 28.6**	**+0.1**
HWQ	**Hawqa**	**0.82**	**31**	*eP*	**Pg**	**15 38 32.5**	**-0.9**
OFRI	**`Ofer**	**1.03**	**202**	Pg	**Pb**	**15 38 36.4**	**-0.4**
OFRI				Sg	**Sg**	**15 38 51.0**	**+0.3**
MMLI	**Mount Malkishu**	**1.14**	**181**	Pg	**Pb**	**15 38 38.2**	**-0.5**
MMLI				Sg	**Sn**	**15 38 54.6**	**+0.7**
HMDT	**Nahal Hemdat**	**1.32**	**177**	Pn	**Pn**	**15 38 41.2**	**0.0**
HMDT				Sn	**Sg**	**15 39 00.0**	**-0.2**
SLTI	**Sal'it**	**1.37**	**194**	Pn	**Pn**	**15 38 42.0**	**+0.1**
SLTI				Sn	**Sg**	**15 39 01.7**	**-0.1**

IDC 16 15:41:40.6±4.2, 5.44S×150.58E, h0km, mb3.0/2, mb1 3.4/2, mb1mx3.2/32, mbtmp3.1/2, Error ellipse: s-maj=161.5km s-min=55.1km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.38**	**226**	P	P	15 46 30.8	+0.8
	0.5nm,1.0s,baz=52,slow=11,SNR=1.8						
ASAR	**Alice Springs**	**24.21**	**220**	P	P	15 46 58.4	-0.9
	0.3nm,0.9s,baz=53,slow=8.6,SNR=2.5						
TORD	**Torodi Ar. Bea**	**148.38**	**286**	PKPbc	PKPbc	16 01 29.8	-0.4
	0.6nm,0.9s,baz=67,slow=3.7,SNR=2.2						

IDC 16 15:46:26.3±2.0, 2.44N×125.52E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/34, mbtmp3.3/4, Error ellipse: s-maj=118.2km s-min=26.5km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.41**	**180**	P	P	15 51 05.3	+0.3
	0.5nm,0.3s,baz=359,slow=11,SNR=6.2						
WRA	**Warramunga Arr**	**23.87**	**159**	P	P	15 51 41.9	+0.3
	1.1nm,0.6s,baz=337,slow=11,SNR=15						
ASAR	**Alice Springs**	**27.20**	**163**	P	P	15 52 11.9	0.0
	0.1nm,0.5s,baz=345,slow=7.7,SNR=6.2						
MKAR	**Makanchi Array**	**57.94**	**326**	P	P	15 56 20.0	-0.5
	0.1nm,0.4s,baz=120,slow=8.5,SNR=1.8						

*IDC **16** 15:46:22.6±2.4, 21.48S×68.21W, h0km, mb4.0/1, mb1 3.9/2, mb1mx3.6/16, mbtmp3.8/2, ML3.6/1, MS3.8/1, Ms1 3.9/1, ms1mx3.6/21, Error ellipse: s-maj=78.6km s-min=49.1km az=89.0*
*GUC **16** 15:46:37.3±0.7, 20.50S×68.89W, h106km±4km, ML3.7*
ISC 16 15:46:36.1±1.1, 20.49S±0.05×68.9W±0.1, h116km±8km, n16, σ0.85/27, 8C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.40**	**330**	⇑*iP*	**Pn**	**15 46 53.5**	**-0.1**
PB08				*i* S	**Sn**	**15 47 06.1**	**-0.6**
PB08				IAML		15 47 06.7	
	comp=N,7μm,0.2s						
PB01	**IPOC Station P**	**0.75**	**223**	⇑*iP*	**Pn**	**15 46 55.6**	**0.0**
PB01				*i* S	**Sn**	**15 47 10.0**	**-0.3**
PB01				IAML		15 47 12.0	
	comp=N,4μm,0.6s						
PB11	**IPOC Station P**	**0.99**	**317**	⇑*iP*	**Pn**	**15 46 58.0**	**+0.1**
PB11				*i* S	**Sn**	**15 47 14.4**	**0.0**
TA02	**Huaiquique**	**1.14**	**281**	*eP*	**Pn**	**15 46 59.6**	**+0.3**
TA02				*i* S	**Sn**	**15 47 18.0**	**+1.2**
TA02				IAML		15 47 22.2	
	comp=N,3μm,0.1s						
TA01	**Diego Aracena**	**1.16**	**266**	⇑*iP*	**Pn**	**15 46 59.5**	**0.0**
TA01				*i* S	**Sn**	**15 47 16.7**	**-0.6**
TA01				IAML		15 47 17.8	
	comp=N,738nm,0.3s						
PB02	**IPOC Station P**	**1.21**	**227**	⇑*iP*	**Pn**	**15 47 00.5**	**+0.3**
PB02				*i* S	**Sn**	**15 47 18.5**	**+0.1**
PB02				IAML		15 47 21.5	
	comp=E,3μm,0.5s						
PB09	**IPOC Station P**	**1.33**	**192**	*eP*	**Pn**	**15 47 02.2**	**+0.7**
PB09				*i* S	**Sn**	**15 47 22.0**	**+1.2**
PB09				IAML		15 47 24.3	
	comp=N,523nm,0.6s						
PSGC	**Pisagua**	**1.43**	**309**	⇑*iP*	**Pn**	**15 47 02.5**	**-0.1**
PSGC				*i* S	**Sn**	**15 47 22.6**	**0.0**
PSGC				IAML		15 47 24.7	
	comp=N,1μm,0.3s						
PB07	**IPOC Station P**	**1.51**	**216**	⇑*iP*	**Pn**	**15 47 03.9**	**+0.3**
PB07				*i* S	**Sn**	**15 47 24.2**	**-0.4**
PB07				IAML		15 47 28.7	
PB03	**IPOC Station P**	**1.72**	**206**	*eP*	**Pn**	**15 47 06.4**	**+0.3**
PB03				*i* S	**Sn**	**15 47 28.7**	**-0.3**
PB03				IAML		15 47 29.7	
	comp=E,541nm,0.4s						
PB04	**IPOC Station P**	**2.15**	**211**	⇑*iP*	**Pn**	**15 47 12.1**	**+0.6**
PB04				IAML		15 47 47.2	
	comp=N,814nm,0.9s						
PB06	**IPOC Station P**	**2.28**	**195**	*eP*	**Pn**	**15 47 13.8**	**+0.7**
PB06				*i* S	**Sn**	**15 47 40.8**	**-0.6**
PB06				IAML		15 47 46.8	
	comp=E,245nm,0.2s						
PB05	**IPOC Station P**	**2.62**	**206**	*eP*	**Pn**	**15 47 17.7**	**+0.2**
PB05				*i* S	**Sn**	**15 47 46.2**	**-3.1**
PB05				IAML		15 47 57.8	
	comp=E,177nm,0.7s						
LPAZ	**La Paz**	**4.25**	**11**	Pn	Pn	15 47 41.8	+2.2
LPAZ	comp=E,1.4nm,0.3s,baz=176,slow=8.6,SNR=13			LR	LR	15 49 58.5	
	comp=E,990nm,20.8s,baz=26,slow=42						
TORD	**Torodi Ar. Bea**	**77.05**	**71**	P	**P**	**15 58 16.5**	**-0.4**
	comp=E,0.8nm,0.6s,baz=258,slow=4.9,SNR=6.4						
ASAR	**Alice Springs**	**130.78**	**208**	PKP	**PKPdf**	**16 05 35.3**	**+0.8**
	comp=E,0.2nm,0.9s,baz=129,slow=1.9,SNR=1.2						

IDC 16 15:50:13.3±2.3, 5.95S×151.61E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/30, mbtmp3.5/4, MS4.0/2, Ms1 4.0/2, ms1mx3.3/19, Error ellipse: s-maj=132.1km s-min=30.4km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.80**	**229**	P	P	15 55 07.2	0.0
	0.4nm,0.6s,baz=54,slow=10.0,SNR=3.1						
ASAR	**Alice Springs**	**24.51**	**222**	P	P	15 55 34.6	-0.1
	0.6nm,0.7s,baz=54,slow=8.7,SNR=14						
FITZ	**Fitzroy Crossi**	**28.07**	**242**	P	P	15 56 06.5	-0.4
	1.1nm,0.8s,baz=72,slow=11,SNR=1.3						
AFI	**Afiamalu**	**36.88**	**105**	LR	LR	16 09 15.7	
	comp=Z,157nm,19.9s,baz=172,slow=31						
RAO	**Raoul Island**	**36.94**	**132**	LR	LR	16 10 11.1	
	comp=Z,237nm,18.3s,baz=122,slow=32						
ILAR	**Eielson Array**	**83.66**	**22**	P	P	16 02 43.1	-0.5
	0.3nm,0.6s,baz=253,slow=5.6,SNR=2.7						
TORD	**Torodi Ar. Bea**	**149.51**	**286**	PKPbc	PKPbc	16 10 06.2	+0.5
	0.2nm,0.3s,baz=72,slow=3.6,SNR=2.2						

MEX 16 15:53:00.3±0.4, 14.43N×94.06W, h20km±263km, MD4.2, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.50**	**32**	*i* P	Pn	15 53 22.9	-3.2
PCIG				*e*S	Sn	15 53 40.2	-4.9
TGIG		**2.50**	**21**	*eP*	Pn	15 53 38.2	-1.8
CMIG	**Matias Romero**	**2.76**	**343**	*i* P	Pn	15 53 40.4	-3.0
CMIG				*i* S	Sn	15 54 12.0	-4.3

JMA 16 15:56:26.1±0.1, 24.25N×123.75E, h16km±1km, M0.8, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.09**	**348**	P	Pg	15 56 29.3	-0.1
IRIF				S	Sg	15 56 31.8	+0.3
HATJ	**Hateruma jima**	**0.20**	**165**	P	Pg	15 56 30.7	-0.1
HATJ				S	Sg	15 56 34.2	+0.2
JKRS	**Kuro-shima**	**0.24**	**93**	P	Pg	15 56 31.5	+0.1
JKRS				S	Sb	15 56 35.6	-0.4
JIJ	**Ishigaki jima**	**0.38**	**72**	P	Pg	15 56 33.7	-0.1
JIJ				S	Sg	15 56 38.9	-0.2
JISG	**Ishigakijimahi**	**0.61**	**57**	P	Pg	15 56 37.9	-0.3
JISG				*e*S	Sg	15 56 46.4	+0.1
JTJ	**Tarama**	**0.95**	**66**	P	Pb	15 56 44.1	-0.1
JTJ				S	Sg	15 56 57.1	+0.1

TAP 16 15:57:22.3, 24.28N×121.80E, h16km, ML1.8, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.16**	**341**	*eP*	Pb	15 57 26.8	-0.1
	baz=343						
ENA				*e*S	Sb	15 57 30.5	+0.5
	baz=343						
NACB	**Ninganchiao**	**0.21**	**240**	*eP*	Pb	15 57 27.6	-0.3
	baz=240						
NACB				*e*S	Sb	15 57 31.7	+0.2
	baz=240						
TWD	**Chiawan**	**0.27**	**223**	*eP*	Pb	15 57 28.7	-0.1
	baz=221						
TWD				*e*S	Sb	15 57 33.7	+0.5
	baz=221						
ETLH	**Xiulin Townshi**	**0.30**	**256**	*eP*	Pb	15 57 29.2	-0.1
	baz=255						
ETLH				*e*S	Sb	15 57 34.5	+0.4
	baz=255						
NDS	**Dongshan**	**0.36**	**348**	*eP*	Pb	15 57 30.2	-0.2
	baz=348						
NDS				*e*S	Sb	15 57 36.6	+0.8
	baz=348						
NNSB	**Datong**	**0.41**	**292**	*eP*	Pb	15 57 31.2	0.0
	baz=291						
NNSB				*e*S	Sb	15 57 37.6	+0.4
	baz=291						
NDT	**Datong Townshi**	**0.41**	**321**	*eP*	Pb	15 57 31.5	+0.2
	baz=321						
NDT				*e*S	Sb	15 57 37.1	-0.3
	baz=321						
ENTT	**Nioudou**	**0.42**	**330**	*eP*	Pb	15 57 31.4	+0.1
	baz=330						
ENTT				*e*S	Sb	15 57 38.2	+0.7
	baz=330						
ETM	**Tongmen**	**0.42**	**222**	*eP*	Pb	15 57 31.1	-0.2
	baz=221						
ETM				*e*S	Sb	15 57 38.2	+0.8
	baz=221						
NNS	**Nan Shan**	**0.42**	**293**	*eP*	Pb	15 57 31.5	+0.1
	baz=292						
NNS				*e*S	Sb	15 57 38.0	+0.4
	baz=292						
FUSS	**Fushou**	**0.51**	**267**	*eP*	Pb	15 57 33.1	+0.1
	baz=266						
FUSS				*e*S	Sb	15 57 41.1	+0.9
	baz=266						
YHNB	**Yeheng**	**0.55**	**316**	*eP*	Pb	15 57 33.8	+0.2
	baz=315						
YHNB				*e*S	Sb	15 57 41.8	+0.6
	baz=315						
NSK	**Sanguang**	**0.56**	**315**	*eP*	Pb	15 57 34.1	+0.2
	baz=315						
NSK				*e*S	Sb	15 57 42.2	+0.5
	baz=315						
NWLT	**Wulai**	**0.56**	**332**	*eP*	Pb	15 57 33.8	-0.1
	baz=331						
NWLT				*e*S	Sb	15 57 41.9	+0.1
	baz=331						
TDCB	**Techi**	**0.58**	**267**	*eP*	Pb	15 57 34.6	+0.3
	baz=267						
TDCB				*e*S	Sb	15 57 42.6	+0.2
	baz=267						
CHGB	**Renai**	**0.61**	**249**	*eP*	Pb	15 57 34.8	0.0
	baz=249						
CHGB				*e*S	Sb	15 57 43.5	+0.4
	baz=249						
TIPB	**Shuangxi**	**0.69**	**2**	*eP*	Pb	15 57 36.2	+0.1
	baz=2.0						
TIPB				*e*S	Sb	15 57 45.3	-0.1
	baz=2.0						

TAP 16 16:00:40.9, 24.31N×121.73E, h16km, ML1.6, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.12**	**6**	P	Pg	16 00 44.2	-0.3
	baz=10.0						
ENA				S	Sb	16 00 47.9	+0.6
	baz=10.0						
EWUT	**Wuta**	**0.14**	**20**	*eP*	Pb	16 00 45.5	+0.3
	baz=19						
EWUT				*e*S	Sb	16 00 48.3	+0.3
	baz=19						
ETLH	**Xiulin Townshi**	**0.25**	**245**	*eP*	Pb	16 00 47.2	+0.2
	baz=244						
ETLH				*e*S	Sb	16 00 51.1	0.0
	baz=244						
TWC	**Suao**	**0.32**	**21**	*eP*	Pb	16 00 48.5	+0.4
	baz=22						
NDS	**Dongshan**	**0.32**	**358**	*eP*	Pg	16 00 47.7	+0.1
	baz=358						
NDS				*e*S	Sb	16 00 53.8	+0.6
	baz=358						
NNSB	**Datong**	**0.33**	**290**	*eP*	Pb	16 00 48.6	+0.1
	baz=290						
NNSB				*e*S	Sb	16 00 54.3	+0.6
	baz=290						
NNS	**Nan Shan**	**0.35**	**291**	*eP*	Pb	16 00 48.7	0.0
	baz=291						
NNS				*e*S	Sb	16 00 54.5	+0.4
	baz=291						
NDT	**Datong Townshi**	**0.35**	**326**	*eP*	Pb	16 00 48.7	0.0
	baz=325						
NDT				*e*S	Sb	16 00 54.5	+0.5
	baz=325						
ENTT	**Nioudou**	**0.36**	**336**	P	Pb	16 00 48.9	0.0
	baz=336						
ENTT				*e*S	Sb	16 00 54.8	+0.6
	baz=336						
TWE	**Neicheng**	**0.41**	**352**	*eP*	Pb	16 00 49.7	-0.1
	baz=354						
FUSS	**Fushou**	**0.45**	**262**	*eP*	Pb	16 00 50.3	-0.2
	baz=261						
FUSS				*e*S	Sb	16 00 57.8	+0.7
	baz=261						
WHF	**Hehuan Shan**	**0.45**	**248**	*eP*	Pg	16 00 49.8	-0.4
	baz=247						
YHNB	**Yeheng**	**0.48**	**318**	*eP*	Pb	16 00 51.3	+0.3
	baz=318						
NSK	**Sanguang**	**0.49**	**317**	*eP*	Pb	16 00 51.6	+0.4
	baz=317						
NWLT	**Wulai**	**0.51**	**336**	*eP*	Pb	16 00 51.3	-0.1
	baz=336						
TDCB	**Techi**	**0.52**	**264**	*eP*	Pb	16 00 51.8	+0.1
	baz=263						
TDCB				*e*S	Sb	16 00 59.8	+0.7
	baz=263						
CHGB	**Renai**	**0.56**	**244**	*eP*	Pb	16 00 52.8	+0.3
	baz=243						
CHGB				*e*S	Sb	16 01 00.9	+0.5
	baz=243						
TIPB	**Shuangxi**	**0.66**	**8**	*eP*	Pb	16 00 54.1	0.0
	baz=7.0						
TIPB				*e*S	Sb	16 01 04.1	+1.1
	baz=7.0						
WHP	**Taichung City**	**0.71**	**267**	*eP*	Pb	16 00 55.3	+0.3
	baz=267						
WHP				*e*S	Sg	16 01 04.1	-0.3
	baz=267						

TAP 16 16:00:46.5, 24.28N×121.80E, h15km, ML1.8, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.16**	**341**	P	Pb	16 00 51.0	-0.1
	baz=343						
ENA				*e*S	Sb	16 00 54.7	+0.5
	baz=343						
EWUT	**Wuta**	**0.17**	**354**	P	Pb	16 00 51.1	-0.2
	baz=353						
EWUT				*e*S	Sb	16 00 54.6	+0.1
	baz=353						
ETL	**Fush Village**	**0.20**	**234**	*eP*	Pb	16 00 51.5	-0.3
	baz=233						
ETL				*e*S	Sb	16 00 55.2	-0.1
	baz=233						
NACB	**Ninganchiao**	**0.21**	**241**	*eP*	Pb	16 00 52.1	0.0
	baz=241						
NACB				*e*S	Sb	16 00 55.9	+0.2
	baz=241						
TWD	**Chiawan**	**0.27**	**223**	*eP*	Pb	16 00 52.8	-0.2
	baz=222						
TWD				*e*S	Sb	16 00 57.5	+0.1
	baz=222						
ETLH	**Xiulin Townshi**	**0.30**	**256**	*eP*	Pb	16 00 53.3	-0.2
	baz=256						
ETLH				*e*S	Sb	16 00 58.7	+0.4
	baz=256						
TWC	**Suao**	**0.33**	**8**	*eP*	Pb	16 00 54.1	0.0
	baz=9.0						
TWC				*e*S	Sb	16 00 59.1	-0.1
	baz=9.0						
TWC	**Suao**	**0.33**	**8**	*eS*	Pb	16 00 53.9	-0.2
	baz=22						
NDS	**Dongshan**	**0.36**	**348**	*eP*	Pb	16 00 54.6	0.0
	baz=348						
NDS				*e*S	Sb	16 01 00.5	+0.4
	baz=348						
NNSB	**Datong**	**0.41**	**292**	*eP*	Pg	16 00 55.0	+0.2
	baz=291						
NNSB				*e*S	Sb	16 01 01.8	+0.3
	baz=291						
NDT	**Datong Townshi**	**0.41**	**321**	*eP*	Pb	16 00 55.7	+0.2
	baz=321						
NDT				*e*S	Sb	16 01 02.4	+0.8
	baz=321						
ENTT	**Nioudou**	**0.42**	**330**	*eP*	Pb	16 00 55.6	0.0
	baz=330						
ENTT				*e*S	Sb	16 01 02.3	+0.6
	baz=330						
NNS	**Nan Shan**	**0.42**	**293**	P	Pb	16 00 55.5	-0.2
	baz=292						
NNS				*e*S	Sb	16 01 02.1	+0.2
	baz=292						
TWE	**Neicheng**	**0.46**	**345**	*eP*	Pb	16 00 56.5	+0.3
	baz=346						
TWE				*e*S	Sb	16 01 03.7	+0.8
	baz=346						
TWE	**Neicheng**	**0.46**	**345**	*eS*	Pb	16 00 56.1	-0.1
	baz=354						
WHF	**Hehuan Shan**	**0.50**	**255**	P	Pg	16 00 56.9	+0.3
	baz=254						
WHF				*e*S	Sb	16 01 04.9	+0.4
	baz=254						
WHF	**Hehuan Shan**	**0.50**	**255**	*eS*	Pg	16 00 57.4	+0.8
	baz=247						
YHNB	**Yeheng**	**0.55**	**316**	*eP*	Pb	16 00 58.0	+0.2
	baz=315						
YHNB				*e*S	Sb	16 01 06.2	+0.6
	baz=315						
YHNB	**Yeheng**	**0.55**	**316**	*eS*	Pb	16 00 58.0	+0.2
	baz=318						
NSK	**Sanguang**	**0.56**	**315**	*eP*	Pb	16 00 58.2	+0.2
	baz=315						
NSK				*e*S	Sb	16 01 06.3	+0.3
	baz=315						
NSK	**Sanguang**	**0.56**	**315**	*eS*	Pb	16 00 58.2	+0.1
	baz=317						
NWLT	**Wulai**	**0.57**	**332**	*eP*	Pb	16 00 58.2	+0.1
	baz=331						
NWLT				*e*S	Sb	16 01 06.3	+0.4
	baz=331						
NWLT	**Wulai**	**0.57**	**332**	*eS*	Pb	16 00 58.6	+0.5
	baz=336						
TDCB	**Techi**	**0.58**	**268**	*eP*	Pb	16 00 58.6	+0.2
	baz=267						
TDCB				*e*S	Sb	16 01 07.0	+0.3
	baz=267						
CHGB	**Renai**	**0.61**	**249**	*eP*	Pb	16 00 59.0	+0.1
	baz=249						
CHGB				*e*S	Sb	16 01 07.8	+0.4
	baz=249						
TIPB	**Shuangxi**	**0.69**	**2**	*eP*	Pb	16 01 00.8	+0.5
	baz=2.0						
TIPB				*e*S	Sb	16 01 09.7	+0.1
	baz=2.0						

*IDC **16** 16:10:46.5±0.9, 34.12N×116.80W, h0km, mb3.6/1, mb1 3.8/6, mb1mx3.6/36, mbtmp3.5/6, ML3.7/5, Error ellipse: s-maj=17.0km s-min=5.6km az=71.0*
*ANF **16** 16:10:46.3±0.1, 34.13N×116.84W, h14km±1km, ML4.5/38, Error ellipse: s-maj=1.0km s-min=0.8km az=59.0*
*NEIC **16** 16:10

NEIC ***16*** *16:10:47.3,34.14N×116.86W,h14km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_n=0.16; M_{ww}-0.86; M_{pp} 1.02; M_{rr}0.64; M_{tw}-0.60; M_{rp}0.15; Fault plane solution: $M_0$1.29000×10^{15} NP1:ϕ_s205.00000°, δ69.00000°, λ-20.00000°. NP2:ϕ_s302.00000°, δ72.00000°, λ-158.00000°. Principal axes: T 1.1957, Plg1.0000°, Azm73.0000°; N 0.1857, Plg62.0000°, Azm341.0000°; P -1.3814, Plg28.0000°, Azm164.0000°;*

PAS ***16*** *16:10:47.3±2.0,34.14N±0.02×116.86W±0.02,h11km±3km, Mwr4.0/8,mb3.8/1(NEIC), ML4.1/85(NEIC), Mwr3.9/27(NEIC) Error ellipse: s-maj=3.0km s-min=1.9km az=47.0*

ISC 16 16:10:46.9±0.8,34.12N±0.02×116.86W±0.02,h13km±6km, n141,σ1§06/167,mb5.4/3,51C-38D,Fault plane solution: NP1:ϕ_s193.84078°,δ66.50417°,λ-24.72133°. NP2: ϕ_s294.24182°,δ67.44740°,λ-154.42482°. **Principal axes:** T Plg0.6138°, Azm63.8743°; N Plg56.4123°, Azm332.9499°; P Plg33.5805°, Azm154.2819°; **Southern California**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
BBRC	**Big Bear Solar**	**0.15**	**340**	**P**		**Pg**	**16 10 50.5**	**-0.4**
	baz=158,SNR=1000							
BBRC				S		**Sg**	**16 10 53.1**	**-0.5**
	baz=158							
CFSC	**Central Fire S**	**0.35**	**268**			**Pg**	**16 10 54.4**	**+0.3**
CFSC						**Sb**	**16 11 00.0**	**-0.6**
RSBC	**Riverside Bore**	**0.41**	**250**			**Pg**	**16 10 55.3**	**+0.1**
RSBC						**Sg**	**16 11 01.3**	**+0.5**
GVDA	**Garner Valley**	**0.47**	**161**			**Pg**	**16 10 56.5**	**+0.1**
GVDA						**Sg**	**16 11 03.2**	**+0.5**
MURC	**Murrieta**	**0.59**	**209**	P		**Pg**	**16 10 58.4**	**0.0**
	baz=27,SNR=1000							
MURC				S		**Sg**	**16 11 06.5**	**+0.3**
	baz=27							
PFO	**Pinyon Flats O**	**0.60**	**147**	Pg		**Pg**	**16 10 58.6**	**-0.2**
	425nm,0.3s,baz=316,slow=14,SNR=1555							
PFO				Lg		Lg	16 11 06.2	
	2μm,0.3s,baz=252,slow=20,SNR=67							
PFO	**Pinyon Flats O**	**0.60**	**147**	**Pg**		**Pg**	**16 10 58.6**	**-0.2**
PFO				Sg		**Sg**	**16 11 06.8**	**+0.1**
PFO				IAML			16 11 07.8	
	6μm,0.3s							
PFO	**Pinyon Flats O**	**0.60**	**147**	**P**		**Pg**	**16 10 58.7**	**-0.1**
	baz=328,SNR=678							
PFO				S		**Sg**	**16 11 06.6**	**-0.2**
	baz=328							
BELC	**Belle Mtn. Jos**	**0.72**	**99**	**P**		**Pg**	**16 11 00.7**	**-0.4**
	baz=281,SNR=1000							
BELC				S		**Sg**	**16 11 10.5**	**-0.1**
	baz=281							
RRX	**Edison Barstow**	**0.76**	**351**	P		**Pg**	**16 11 01.2**	**-0.5**
	baz=171,SNR=231							
RRX				S		**Sg**	**16 11 11.5**	**-0.4**
	baz=171							
HEC	**Hector,Ludlow**	**0.83**	**31**	P		**Pg**	**16 11 02.3**	**-0.7**
	baz=212,SNR=1000							
HEC				S		**Sg**	**16 11 13.5**	**-0.5**
	baz=212							
MWC	**Mount Wilson**	**1.00**	**276**			**Pb**	**16 11 05.4**	**-0.9**
MWC						**Sb**	**16 11 18.8**	**-0.6**
GVRC	**Garvey Reservo**	**1.05**	**267**			**Pb**	**16 11 06.5**	**-0.5**
PASC	**Pasadena Art C**	**1.10**	**273**			**Pb**	**16 11 06.7**	**-1.2**
PASC				Sg		**Sb**	**16 11 21.4**	**-0.7**
PASC				IAML			16 11 24.4	
	comp=N,7μm,0.6s							
GSC	**Goldstone, Bar**	**1.18**	**2**			**Pn**	**16 11 08.5**	**-0.8**
GSC				Sg		**Sb**	**16 11 23.9**	**-0.7**
GSC				IAML			16 11 31.9	
	comp=N,6μm,0.7s							
GSC	**Goldstone, Bar**	**1.18**	**2**	P		**Pn**	**16 11 08.6**	**-0.7**
	baz=182,SNR=495							
GSC				S		**Sb**	**16 11 24.1**	**-0.5**
	baz=182							
EDW2	**Edwards Air Fo**	**1.21**	**309**	P		**Pn**	**16 11 09.1**	**-0.6**
	baz=128,SNR=960							
EDW2				S		**Sb**	**16 11 24.5**	**-0.8**
	baz=128							
DECC	**Green Verdugo**	**1.23**	**277**	P		**Pn**	**16 11 09.5**	**-0.4**
	baz=95,SNR=249							
DECC				S		**Sb**	**16 11 26.0**	**+0.1**
	baz=95							
109C	**Camp Elliot, M**	**1.24**	**190**			**Pn**	**16 11 09.1**	**-0.9**
109C				IAML			16 11 26.8	
	comp=E,6μm,0.2s							
109C	**Camp Elliot, M**	**1.24**	**190**	P		**Pn**	**16 11 09.3**	**-0.7**
	baz=9.3,SNR=107							
109C				S		**Sb**	**16 11 25.4**	**-0.8**
	baz=9.3							
BC3	**Big Chuckawall**	**1.26**	**111**	P		**Pn**	**16 11 09.5**	**-0.8**
	baz=293,SNR=583							
BC3				S		**Sb**	**16 11 26.3**	**-0.5**
	baz=293							
FMP	**Fort Macarthur**	**1.26**	**252**	P		**Pn**	**16 11 09.7**	**-0.6**
	baz=70,SNR=78							
FMP				S		**Sn**	**16 11 26.9**	**-0.1**
	baz=70							
MONP2	**Monument Peak**	**1.28**	**163**	Pb		**Pn**	**16 11 10.6**	**-0.1**
	baz=344,SNR=1000							
MONP2				S		**Sb**	**16 11 26.9**	**-0.5**
	baz=344							
IRM	**Iron Mountain**	**1.42**	**88**	P		**Pn**	**16 11 11.4**	**-1.2**
	baz=270,SNR=1000							
IRM				Sg		**Sg**	**16 11 32.8**	**+0.1**
	baz=270							
BAR	**Barrett**	**1.44**	**174**			**Pn**	**16 11 12.7**	**-0.1**
SWSC	**Sam W. Stewart**	**1.47**	**143**	P		**Pn**	**16 11 12.1**	**-1.0**
	baz=324,SNR=250							
CIS	**Catalina Islan**	**1.48**	**242**	P		**Pn**	**16 11 12.6**	**-0.7**
	baz=60,SNR=486							
CIS				Sb		**Sb**	**16 11 33.4**	**+0.3**
	baz=60							
LRMC	**Laurel Mtn Rad**	**1.52**	**334**	P		**Pn**	**16 11 13.2**	**-0.8**
	baz=153							
TUQ	**Turquoise Moun**	**1.52**	**30**	P		**Pn**	**16 11 13.2**	**-0.9**
	baz=211,SNR=590							
TUQ				Sb		**Sb**	**16 11 34.6**	**+0.1**
	baz=211							
TKX	**Tecate**	**1.56**	**172**			**Pn**	**16 11 14.2**	**-0.2**
TKX				IAML			16 11 36.6	
	comp=N,4μm,0.2s							
IKP	**In-Ko-Pah, Jac**	**1.59**	**157**	P		**Pn**	**16 11 14.6**	**-0.3**
	baz=337,SNR=388							
TJX	**Tijuana**	**1.61**	**186**	Pn		**Pn**	**16 11 15.6**	**+0.4**
OSI	**Osito Audit: C**	**1.62**	**288**			**Pn**	**16 11 15.6**	**+0.3**
OSI				IAML			16 11 42.1	
	comp=E,3μm,0.8s							
OSI	**Osito Audit: C**	**1.62**	**288**	P		**Pn**	**16 11 15.3**	**0.0**
	baz=107,SNR=161							
OSI				Sb		**Sg**	**16 11 38.3**	**-0.8**
	baz=107							
RMX	**La Rumorosa**	**1.65**	**156**			**Pn**	**16 11 15.9**	**+0.2**
RMX				IAML			16 11 41.9	
	comp=N,1μm,0.2s							
RMX				IAML			16 11 42.0	
	comp=E,3μm,0.4s							
CBX	**Cerro Bola**	**1.81**	**175**			**Pn**	**16 11 18.3**	**+0.4**
SCI2	**San Clemente I**	**1.81**	**232**	P		**Pn**	**16 11 17.7**	**-0.2**
	baz=50,SNR=104							
SHOC	**Shoshone, Teco**	**1.84**	**15**	P		**Pn**	**16 11 17.5**	**-0.8**
	baz=195,SNR=281							
SHOC				Sb		**Sb**	**16 11 44.5**	**+1.0**
	baz=195							
QSM	**Queen of Sheba**	**1.84**	**360**			**Pb**	**16 11 20.3**	**-0.3**
ARVC	**Arvin**	**1.91**	**302**	P		**Pn**	**16 11 18.7**	**-0.5**
	baz=121,SNR=166							
ARVC				Sb		**Sb**	**16 11 46.5**	**+1.0**
	baz=121							
NEE2	**Needles Airpor**	**1.96**	**70**	P		**Pn**	**16 11 18.7**	**-1.2**
	baz=252,SNR=405							
GLA	**Glamis**	**2.00**	**122**	Pn		**Pn**	**16 11 19.2**	**-1.3**
GLA				IAML			16 11 52.9	
	comp=N,2μm,0.6s							
GLA	**Glamis**	**2.00**	**122**	P		**Pn**	**16 11 19.0**	**-1.5**
	baz=303,SNR=77							
MPMC	**Manual Prospec**	**2.00**	**345**	P		**Pn**	**16 11 20.1**	**-0.7**
	baz=165,SNR=405							
ISA	**Isabella, Lake**	**2.03**	**320**	Pn		**Pn**	**16 11 20.3**	**-0.7**
ISA				IAML			16 11 53.1	
	comp=E,963nm,0.6s							
ISA				IAML			16 11 54.1	
	comp=N,919nm,0.7s							
ISA	**Isabella, Lake**	**2.03**	**320**	P		**Pn**	**16 11 20.3**	**-0.7**
	baz=139,SNR=368							
GWY	**Greenwater Val**	**2.07**	**4**			**Pn**	**16 11 21.0**	**-0.6**
GWY				IAML			16 11 55.8	
	comp=N,2μm,0.7s							
CCX	**Cicese**	**2.25**	**176**			**Pn**	**16 11 24.6**	**+0.7**
CCX				IAML			16 11 59.7	
	comp=N,2μm,0.6s							
CCX				IAML			16 12 01.1	
	comp=E,2μm,0.6s							
PDMCI	**Parker Dam,Lak**	**2.26**	**85**	P		**Pn**	**16 11 23.1**	**-1.0**
	baz=266,SNR=617							
FURC	**Furnace Creek,**	**2.34**	**360**	Pg		**Pb**	**16 11 30.3**	**+1.3**
	baz=180,SNR=75							
SBC	**Santa Barbara**	**2.39**	**279**	P		**Pn**	**16 11 24.9**	**-0.8**
	baz=96							
VES	**Vestal, Richgr**	**2.51**	**314**	Pb		**Pb**	**16 11 31.0**	**-0.9**
	baz=132,SNR=34							
CWC	**Cottonwood Cre**	**2.52**	**337**	P		**Pn**	**16 11 27.6**	**-0.2**
	baz=156							
PKM	**Mcpherson Peak**	**2.56**	**288**	P		**Pn**	**16 11 28.8**	**+0.4**
	baz=106,SNR=62							
W13A	**Hualapai Mount**	**2.64**	**67**	Pn		**Pn**	**16 11 28.6**	**-0.9**
SHPR	**Sheep Range**	**2.76**	**30**			**Pn**	**16 11 30.9**	**-0.2**
SHPR				IAML			16 12 22.4	
	comp=E,486nm,0.8s							
SMMC	**Simmler**	**2.85**	**296**	P		**Pn**	**16 11 32.1**	**-0.1**
	baz=114							
TPNV	**Topopah Spring**	**2.87**	**10**			**Pn**	**16 11 32.4**	**-0.2**
TPNV				IAML			16 12 18.5	
	comp=E,989nm,0.5s							
TPNV	**Topopah Spring**	**2.87**	**10**	P		**Pn**	**16 11 32.2**	**-0.3**
	baz=190,SNR=34							
113A	**Mohawk Valley,**	**2.91**	**117**	Pn		**Pn**	**16 11 31.7**	**-1.4**
LCH	**Last Change Ra**	**3.17**	**349**			**Pn**	**16 11 36.7**	**0.0**
Y14A	**Wickenburg**	**3.21**	**92**			**Pn**	**16 11 36.6**	**-0.5**
Y14A				IAML			16 12 30.5	
	comp=E,605nm,0.5s							
Y14A				IAML			16 12 31.6	
	comp=N,786nm,0.5s							
PAGB	**Antelope Grade**	**3.22**	**301**			**Pn**	**16 11 37.1**	**-0.2**
PAGB				IAML			16 12 45.2	
	comp=E,349nm,0.9s							
PAGB				IAML			16 12 45.3	
	comp=N,399nm,0.9s							
SFX	**San Felipe**	**3.51**	**151**	Pn		**Pn**	**16 11 41.1**	**-0.1**
SFX				IAML			16 12 46.9	
	comp=N,231nm,0.7s							
PRN	**Pahroc Range**	**3.60**	**24**			**Pn**	**16 11 42.5**	**-0.1**
PRN				IAML			16 12 48.2	
	comp=N,664nm,0.9s							
PMPB	**Monarch Peak**	**3.85**	**304**			**Pn**	**16 11 45.9**	**0.0**
PMPB				IAML			16 13 09.5	
	comp=E,296nm,0.8s							
PMPB				IAML			16 13 10.0	
	comp=N,338nm,0.8s							
214A	**Organ Pipe Nat**	**4.03**	**121**			**Pn**	**16 11 47.6**	**-0.7**
214A				IAML			16 13 01.2	
	comp=E,166nm,0.5s							
214A				IAML			16 13 14.7	
	comp=N,182nm,1.1s							
214A	**Organ Pipe Nat**	**4.03**	**121**	P		**Pn**	**16 11 47.7**	**-0.7**
	baz=304							
LCMT	**Little Creek M**	**4.12**	**45**			**Pn**	**16 11 50.0**	**+0.2**
LCMT				IAML			16 12 56.0	
	comp=E,159nm,0.7s							
LHV	**Little Huntoon**	**4.33**	**343**	Pn		**Pn**	**16 11 53.6**	**+1.1**
LHV				IAML			16 13 20.9	
	comp=N,120nm,1.3s							
LHV				IAML			16 13 31.0	
	comp=E,168nm,1.5s							
R11A	**Troy Canyon, C**	**4.35**	**13**	Pn		**Pn**	**16 11 52.4**	**-0.5**
R11A	**Troy Canyon, C**	**4.35**	**13**	P		**Pn**	**16 11 52.1**	**-0.8**
	baz=194							
KNB	**Kanab**	**4.38**	**48**			**Pn**	**16 11 53.9**	**+0.5**
KNB				IAML			16 13 08.5	
	comp=N,296nm,1.0s							
NV11	**Mina Array Sit**	**4.43**	**347**	Pn		**Pn**	**16 11 54.8**	**+0.8**
CCUT	**Cedar City**	**4.45**	**39**	Pn		**Pn**	**16 11 55.1**	**+0.7**
CCUT				IAML			16 13 13.6	
	comp=E,130nm,0.8s							
NVAR	**Mina Array Bea**	**4.46**	**345**	Pn		**Pn**	**16 11 55.8**	**+1.3**
	comp=E,0.8nm,0.3s,baz=169,slow=15,SNR=17							
NVAR				Lg		Lg	16 13 08.9	
	comp=E,2.4nm,0.3s,baz=171,slow=25,SNR=1.9							
NVAR	**Mina Array Bea**	**4.46**	**345**	Pn		**Pn**	**16 11 56.4**	**+1.9**
X16A	**Lo Mia Camp, P**	**4.50**	**85**			**Pn**	**16 11 54.3**	**-0.6**
X16A				IAML			16 13 17.1	
	comp=N,143nm,0.9s							
SAO	**San Andreas Ge**	**4.58**	**306**			**Pn**	**16 11 56.1**	**+0.1**
SZCU	**Shurtz Canyon**	**4.63**	**40**			**Pn**	**16 11 56.9**	**+0.1**
SZCU				IAML			16 13 12.2	
	comp=N,110nm,0.4s							
SZCU				IAML			16 13 13.8	
	comp=E,102nm,0.3s							
WUAZ	**Wupatki**	**4.72**	**71**			**Pn**	**16 11 58.5**	**+0.5**
WUAZ				IAML			16 13 22.2	
	comp=E,128nm,0.8s							
WUAZ				IAML			16 13 30.2	
	comp=E,119nm,0.8s							
WUAZ	**Wupatki**	**4.72**	**71**	P		**Pn**	**16 11 58.1**	**0.0**
	baz=254,SNR=17							
CMB	**Columbia Colle**	**4.84**	**325**	Pn		**Pn**	**16 12 01.1**	**+1.5**
PKCU	**Pink Cliffs**	**4.97**	**47**	Pn		**Pn**	**16 12 02.8**	**+1.2**
KVN	**Kaiserville**	**5.02**	**349**			**Pn**	**16 12 03.6**	**+1.4**
PSUT	**Pine Spring**	**5.03**	**28**			**Pn**	**16 12 03.2**	**+0.9**
PSUT				IAML			16 13 29.5	
	comp=N,133nm,0.8s							
PSUT				IAML			16 13 32.5	
	comp=E,150nm,1.4s							
YERR	**Yerington**	**5.22**	**339**	Pn		**Pn**	**16 12 06.9**	**+2.0**
YERR				IAML			16 13 49.0	
	comp=E,72nm,0.8s							
SPR3	**Spring Creek 3**	**5.28**	**22**	Pn		**Pn**	**16 12 05.2**	**-0.6**
SPR3				IAML			16 13 35.0	
	comp=E,90nm,0.5s							
SPR3				IAML			16 13 39.6	
	comp=N,104nm,1.6s							
TUC	**Tucson**	**5.40**	**108**			**Pn**	**16 12 05.8**	**-1.5**
TUC	**Tucson**	**5.40**	**108**	P		**Pn**	**16 12 06.1**	**-1.2**
	baz=291							
TCRU	**Three Creeks R**	**5.72**	**37**			**Pn**	**16 12 11.4**	**-0.5**
X18A	**Snowflake**	**5.73**	**84**			**Pn**	**16 12 12.8**	**+0.8**
MVU	**Marysvale**	**5.76**	**39**	Pn		**Pn**	**16 12 13.7**	**+1.3**
MSU	**Marysvale**	**5.79**	**39**	Pn		**Pn**	**16 12 14.2**	**+1.4**
PAHR	**Pah Rah Range**	**5.93**	**341**	Pn		**Pn**	**16 12 16.5**	**+1.8**
W18A	**Petrified Fore**	**5.96**	**78**	Pn		**Pn**	**16 12 16.1**	**+1.1**
W18A	**Petrified Fore**	**5.96**	**78**	P		**Pn**	**16 12 15.5**	**+0.4**
	baz=262,SNR=7.3							
BMN	**Battle Mountai**	**6.31**	**357**	Pn		**Pn**	**16 12 20.9**	**+1.0**
ELK	**Elko**	**6.74**	**11**	Pn		**Pn**	**16 12 26.0**	**+0.2**
	comp=N,0.5nm,0.3s,baz=191,slow=13,SNR=3.0							
ELK				Lg		Lg	16 14 16.2	
	comp=N,2.4nm,0.3s,baz=13,slow=1.0,SNR=5.0							
ELK	**Elko**	**6.74**	**11**	Pn		**Pn**	**16 12 26.9**	**+1.1**
DUG	**Dugway, Tooele**	**6.87**	**27**	Pn		**Pn**	**16 12 28.3**	**+0.8**
319A	**Douglas**	**6.94**	**111**	Pn		**Pn**	**16 12 28.9**	**+0.3**
BGU	**Big Grassy Mou**	**7.44**	**23**	Pn		**Pn**	**16 12 36.5**	**+1.1**
MVCO	**Mesa Verde**	**7.47**	**63**	Pn		**Pn**	**16 12 37.5**	**+1.6**
PV10	**Paradox Valley**	**7.61**	**54**	Pn		**Pn**	**16 12 39.1**	**+1.2**
PV19	**Morning Glory**	**7.62**	**54**	Pn		**Pn**	**16 12 38.8**	**+0.9**
PV14	**Lion Creek, Pa**	**7.62**	**54**	Pn		**Pn**	**16 12 39.4**	**+1.4**
PV18	**Skein Mesa, Pa**	**7.63**	**55**	Pn		**Pn**	**16 12 37.9**	**-0.2**
PV20	**West Nyswonger**	**7.64**	**54**			**Pn**	**16 12 40.9**	**+2.7**
PV13	**Radium Mtn., P**	**7.65**	**56**	Pn		**Pn**	**16 12 41.0**	**+2.7**
PV23	**Carpenter Ridg**	**7.67**	**53**	Pn		**Pn**	**16 12 40.1**	**+1.4**
PV11	**David Mesa, Pa**	**7.69**	**55**	Pn		**Pn**	**16 12 41.2**	**+2.5**
PV02	**Paradox Valley**	**7.73**	**56**	Pn		**Pn**	**16 12 41.8**	**+2.3**
121A	**Cookes Peak, D**	**7.76**	**99**	Pn		**Pn**	**16 12 40.1**	**+0.3**
121A	**Cookes Peak, D**	**7.76**	**99**	P		**Pn**	**16 12 40.1**	**+0.3**
	baz=284,SNR=21							
PV01	**Paradox Valley**	**7.81**	**57**			**Pn**	**16 12 41.9**	**+1.3**
PV22	**Blue Mesa, Par**	**7.86**	**54**	Pn		**Pn**	**16 12 42.6**	**+1.3**
PV07	**Paradox Valley**	**7.91**	**55**	Pn		**Pn**	**16 12 43.4**	**+1.5**
SPUT	**South Promonto**	**7.98**	**25**	Pn		**Pn**	**16 12 43.3**	**+0.5**
LENM	**Lemitar**	**8.20**	**87**	Pn		**Pn**	**16 12 45.0**	**-0.8**
BNM	**Barren Site**	**8.48**	**87**	Pn		**Pn**	**16 12 50.8**	**+1.0**
ANMO	**Albuquerque**	**8.62**	**82**	Pn		**Pn**	**16 12 51.5**	**-0.2**
ANMO	comp=N,0.3nm,0.3s,baz=269,slow=15,SNR=2.4						16 15 17.1	
	comp=N,0.4nm,0.3s,baz=174,slow=18,SNR=3.5							
MNTX	**Cornudas Mount**	**9.95**	**101**			**Pn**	**16 13 09.9**	**+0.3**
MNTX	**Cornudas Mount**	**9.95**	**101**	P		**Pn**	**16 13 10.2**	**+0.6**
	baz=287,SNR=13							
PD31	**Pinedale Array**	**10.36**	**31**			**Pn**	**16 13 13.8**	**-1.6**
PDAR	**Pinedale Array**	**10.36**	**31**	Pn		**Pn**	**16 13 19.4**	**+4.0**
	comp=N,0.1nm,0.3s,baz=207,slow=13,SNR=7.1							
PDAR				Pg			16 13 59.4	
	comp=N,0.1nm,0.3s,baz=198,slow=14,SNR=2.8							
PDAR				Lg		Lg	16 16 12.2	
	comp=N,0.1nm,0.3s,baz=212,slow=24,SNR=2.0							
PDAR	**Pinedale Array**	**10.36**	**31**			**Pn**	**16 13 14.2**	**-1.2**
T25A	**Trinidad**	**10.57**	**70**	P		**Pn**	**16 13 16.0**	**-2.3**
	baz=257							
TX31	**Lajitas Ar. Si**	**12.20**	**109**	Pn		**Pn**	**16 13 42.9**	**+2.3**
TX32	**Lajitas Array**	**12.20**	**109**	Pn		**Pn**	**16 13 42.6**	**+2.1**
TXAR	**Lajitas Array**	**12.20**	**109**	Pn		**Pn**	**16 13 42.7**	**+2.1**
	comp=N,0.6nm,0.3s,baz=290,slow=12,SNR=35							
TXAR				Lg		Lg	16 17 10.1	
	comp=N,0.1nm,0.3s,baz=291,slow=31,SNR=1.9							
TXAR	**Lajitas Array**	**12.20**	**109**	Pn		**Pn**	**16 13 41.9**	**+1.4**
WMOK	**Wichita Mounta**	**14.94**	**83**	P		**P**	**16 14 24.9**	**+1.5**
T35A	**Sooner Cattle**	**16.80**	**75**	P		**P**	**16 14 43.9**	**-0.2**
T35A				IAmb		IAmb	16 14 44.3	
	comp=Z,6.7nm,0.8s							
ILAR	**Eielson Array**	**35.68**	**338**	P		**P**	**16 17 47.5**	**+2.9**
	comp=Z,0.7nm,0.6s,baz=155,slow=8.7,SNR=6.2							
HHC	**Hu-ho-hao-te**	**93.09**	**325**	*eP*		**P**	**16 23 57.5**	**-3.3**
HHC				pmax		pmax		
	comp=Z,22nm,1.5s							
HHC				pmax		pmax		
	comp=Z,170nm,7.8s							
NJ2	**Nanjing**	**95.86**	**315**	*eP*		**P**	**16 24 12.5**	**-1.0**
NJ2				pmax		pmax		
	comp=Z,11nm,0.5s							
ASAR	**Alice Springs**	**118.26**	**259**	PKP		**PKPdf**	**16 29 34.0**	**-0.4**
	comp=Z,0.3nm,0.9s,baz=80,slow=2.8,SNR=1.4							
ASAR	**Alice Springs**	**118.26**	**259**			**PKPdf**	**16 29 33.7**	**-0.7**
MAW	**Mawson**	**146.47**	**180**	PKPbc		**PKPab**	**16 30 27.7**	**-0.2**
	comp=Z,2.1nm,1.0s,baz=196,slow=7.4,SNR=3.0							
MAW	**Mawson**	**146.47**	**180**			**PKPab**	**16 30 28.2**	**+0.3**

JMA ***16*** *16:12:36.6±0.1,24.21N×121.79E,h27km±2km,M2.4*

TAP ***16*** *16:12:37.0,24.28N×121.81E,h14km,ML3.2,B*

ISC 16 16:12:35.8±0.9,24.22N±0.01×121.94E±0.02,h14km±6km, n95,σ0§96/183,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
EHP	**Heping Village**	**0.20**	**297**	*eP*		**Pg**	**16 12 41.2**	**+0.8**
	baz=294							
EHP				*eS*		**Sg**	**16 12 44.2**	**+0.7**
	baz=294							
EWUT	**Wuta**	**0.27**	**327**	*eP*		**Pb**	**16 12 41.7**	**-0.7**
	baz=348							
EWUT				*eS*		**Sg**	**16 12 45.4**	**-0.1**
	baz=348							
ENA	**Nanau**	**0.28**	**319**	P		**Pb**	**16 12 41.7**	**-0.9**
	baz=337							
ENA				S		**Sg**	**16 12 45.5**	**-0.1**
	baz=337							
ETL	**Fush Village**	**0.29**	**259**	P		**Pb**	**16 12 42.5**	**-0.4**
	baz=234							
ETL				*eS*		**Sg**	**16 12 46.1**	**-0.1**
	baz=234							
NACB	**Ninganchiao**	**0.32**	**262**	P		**Pb**	**16 12 42.4**	**-0.8**
	baz=241							
NACB				*eS*		**Sg**	**16 12 46.9**	**+0.1**
	baz=241							
TWD	**Chiawan**	**0.34**	**246**	P		**Pb**	**16 12 43.4**	**-0.3**
	baz=223							
TWD				*eS*		**Sb**	**16 12 48.7**	**-0.3**
	baz=223							
TWC	**Suao**	**0.40**	**348**	P		**Pb**	**16 12 44.2**	**-0.4**
	baz=7.0							
TWC				*eS*		**Sb**	**16 12 49.6**	**-1.0**
	baz=7.0							
ETLH	**Xiulin Townshi**	**0.42**	**269**	P		**Pg**	**16 12 44.1**	**-0.1**
	baz=256							
ETLH				*eS*		**Sg**	**16 12 49.2**	**-0.6**
	baz=256							
NDS	**Dongshan**	**0.46**	**334**	P		**Pb**	**16 12 45.0**	**-0.7**
	baz=345							
NDS				*eS*		**Sg**	**16 12 50.8**	**-0.4**
	baz=345							
TEYL	**Yanliau Villag**	**0.47**	**222**	*eP*		**Pb**	**16 12 46.5**	**+0.7**
	baz=207							
TEYL				*eS*		**Sb**	**16 12 54.9**	**+2.3**
	baz=207							
ETM	**Tongmen**	**0.48**	**238**	*eP*		**Pb**	**16 12 45.8**	**-0.2**
	baz=223							
ETM				*eS*		**Sb**	**16 12 53.0**	**+0.1**
	baz=223							
ENTT	**Nioudou**	**0.54**	**321**	P		**Pg**	**16 12 45.9**	**-0.5**
	baz=328							
ENTT				S		**Sg**	**16 12 53.0**	**-0.7**
	baz=328							
NDT	**Datong Townshi**	**0.55**	**315**	*eP*		**Pg**	**16 12 46.3**	**-0.3**
	baz=319							
NDT				*eS*		**Sg**	**16 12 53.1**	**-0.7**
	baz=319							
NNSB	**Datong**	**0.55**	**293**	P		**Pg**	**16 12 46.0**	**-0.6**
	baz=290							
NNSB				S		**Sg**	**16 12 52.6**	**-1.4**
	baz=290							
TWE	**Neicheng**	**0.56**	**334**	P		**Pb**	**16 12 46.7**	**-0.7**
	baz=344							
TWE				S		**Sg**	**16 12 54.3**	**+0.1**
	baz=344							
NNS	**Nan Shan**	**0.56**	**293**	P		**Pg**	**16 12 46.2**	**-0.7**
	baz=291							
NNS				S		**Sg**	**16 12 52.

	baz=343							
NHDH	**Xindian Distri**	**0.83**	**333**	*e*P	**Pb**	**16 12 52.1**	**+0.1**
	baz=338							
NHDH				*e*S	**Sg**	**16 13 02.1**	**-0.8**
	baz=338							
TATO	**Taipei**	**0.86**	**332**	*e*P	**Pb**	**16 12 52.1**	**-0.4**
	baz=337							
TATO				*e*S	**Sg**	**16 13 02.7**	**-1.1**
	baz=337							
NWF	**Wu-fen Shan**	**0.86**	**351**	*e*P	**Pb**	**16 12 52.8**	**+0.2**
	baz=357							
NWF				*e*S	**Sb**	**16 13 03.9**	**-0.2**
	baz=357							
WFSB	**Wu-fen Shan**	**0.86**	**351**	*e*P	**Pb**	**16 12 52.9**	**+0.3**
	baz=357							
WFSB				*e*S	**Sb**	**16 13 03.9**	**-0.1**
	baz=357							
HGSD	**Ruisui**	**0.86**	**213**	*e*P	**Pn**	**16 12 53.2**	**-0.3**
	baz=204							
HGSD				*e*S	**Sn**	**16 13 05.8**	**-0.1**
	baz=204							
EHY	**Hungye**	**0.91**	**219**	*e*P	**Pn**	**16 12 53.8**	**-0.3**
	baz=209							
EHY				*e*S	**Sb**	**16 13 06.6**	**+1.4**
	baz=209							
TAP	**Taipei**	**0.91**	**334**	*e*P	**Pb**	**16 12 53.1**	**-0.2**
	baz=340							
TAP				*e*S	**Sg**	**16 13 05.0**	**-0.3**
	baz=340							
WHP	**Taichung City**	**0.91**	**274**	*e*P	**Pg**	**16 12 52.9**	**-0.5**
	baz=269							
WHP				*e*S	**Sg**	**16 13 04.1**	**-1.3**
	baz=269							
LIOB	**Emei**	**0.94**	**297**	*e*P	**Pb**	**16 12 53.7**	**-0.2**
	baz=296							
LIOB				*e*S	**Sg**	**16 13 05.6**	**-0.8**
	baz=296							
JYNG	**Yonagunijimaku**	**0.95**	**76**	P	**Pn**	**16 12 56.2**	**+1.5**
JYNG				*e*S	**Sn**	**16 13 11.1**	**+3.1**
NSTT	**Nanjuang**	**0.95**	**296**	*e*P	**Pg**	**16 12 53.4**	**-0.8**
	baz=295							
NSTT				*e*S	**Sg**	**16 13 05.4**	**-1.2**
	baz=295							
WCS	**Beigang Elemen**	**0.95**	**261**	*e*P	**Pg**	**16 12 53.5**	**-0.7**
	baz=254							
WCS				*e*S	**Sg**	**16 13 05.4**	**-1.2**
	baz=254							
YM01	**YM01**	**0.98**	**340**	*e*P	**Pb**	**16 12 55.0**	**+0.3**
	baz=345							
YM01				*e*S	**Sg**	**16 13 07.1**	**-0.6**
	baz=345							
SSLB	**Suanglung**	**1.00**	**245**	*e*P	**Pg**	**16 12 54.0**	**-1.1**
	baz=237							
SSLB				*e*S	**Sb**	**16 13 08.8**	**+1.0**
	baz=237							
TWS1	**Kuangyinshan**	**1.00**	**332**	*e*P	**Pb**	**16 12 54.7**	**-0.2**
	baz=336							
TWS1				*e*S	**Sg**	**16 13 07.5**	**-0.7**
	baz=336							
SMLT	**Sun Moon Lake**	**1.01**	**251**	*e*P	**Pb**	**16 12 54.8**	**-0.3**
	baz=244							
SMLT				*e*S	**Sb**	**16 13 09.3**	**+1.1**
	baz=244							
YOJ	**Yonaguni jima**	**1.01**	**76**	P	**Pn**	**16 12 57.0**	**+1.5**
YOJ				S	**Sn**	**16 13 12.5**	**+3.0**
YOJ	**Yonaguni jima**	**1.01**	**76**	*e*P	**Pn**	**16 12 57.1**	**+1.5**
	baz=80							
YOJ				*e*S	**Sn**	**16 13 13.9**	**+4.4**
	baz=80							
YULB	**Yu-li**	**1.01**	**216**	*e*P	**Pg**	**16 12 54.0**	**-1.4**
	baz=208							
YULB				*e*S	**Sg**	**16 13 08.0**	**-0.6**
	baz=208							
NCUH	**Zhongli**	**1.01**	**318**	*e*P	**Pb**	**16 12 55.5**	**+0.4**
	baz=320							
NCUH				*e*S	**Sb**	**16 13 08.7**	**+0.4**
	baz=320							
ANP	**Anpu**	**1.04**	**339**	*e*P	**Pb**	**16 12 55.7**	**+0.1**
	baz=343							
ANP				*e*S	**Sg**	**16 13 08.7**	**-0.8**
	baz=343							
TYC	**Yuchr**	**1.04**	**253**	*e*P	**Pg**	**16 12 55.1**	**-0.7**
	baz=246							
TYC				*e*S	**Sg**	**16 13 08.5**	**-0.9**
	baz=246							
NTST	**Danshui**	**1.04**	**335**	*e*P	**Pn**	**16 12 56.0**	**0.0**
	baz=339							
NTST				*e*S	**Sb**	**16 13 10.0**	**+0.8**
	baz=339							
TWQ1	**Liyutan**	**1.07**	**277**	*e*P	**Pb**	**16 12 56.2**	**+0.1**
	baz=273							
TWQ1				*e*S	**Sg**	**16 13 09.5**	**-1.0**
	baz=273							
NMLH	**Miaoli**	**1.09**	**287**	*e*P	**Pg**	**16 12 56.1**	**-0.9**
	baz=285							
NMLH				*e*S	**Sg**	**16 13 10.5**	**-0.7**
	baz=285							
TWY	**Chenhua**	**1.10**	**344**	*e*P	**Pn**	**16 12 57.1**	**+0.4**
	baz=349							
WHYT	**Xinyi Township**	**1.12**	**243**	*e*P	**Pb**	**16 12 56.9**	**0.0**
	baz=236							
WHYT				*e*S	**Sb**	**16 13 12.2**	**+0.8**
	baz=236							
YUS	**Yu-Shan**	**1.16**	**231**	*e*P	**Pg**	**16 12 57.4**	**-0.8**
	baz=224							
YUS				*e*S	**Sb**	**16 13 14.1**	**+1.1**
	baz=224							
FULB	**Fuli**	**1.17**	**210**	*e*P	**Pn**	**16 12 58.3**	**+0.5**
	baz=203							
FULB				*e*S	**Sn**	**16 13 15.8**	**+2.1**
	baz=203							
WJS	**Zhushan**	**1.17**	**251**	*e*P	**Pn**	**16 12 58.2**	**+0.4**
	baz=245							
WJS				*e*S	**Sn**	**16 13 14.3**	**+0.7**
	baz=245							
WDJ	**Dajia District**	**1.19**	**276**	*e*P	**Pg**	**16 12 57.7**	**-1.1**
	baz=273							
WDJ				*e*S	**Sb**	**16 13 14.4**	**+1.0**
	baz=273							
WNT	**Mingjian**	**1.20**	**254**	*e*P	**Pn**	**16 12 58.5**	**+0.4**
	baz=248							
WNT				*e*S	**Sb**	**16 13 14.4**	**+0.8**
	baz=248							
CHKT	**Chengkung**	**1.23**	**205**	*e*P	**Pn**	**16 12 59.8**	**+1.2**
	baz=198							
CHKT				*e*S	**Sn**	**16 13 16.7**	**+1.7**
	baz=198							
ALS	**Alishan**	**1.25**	**236**	*e*P	**Pn**	**16 13 01.0**	**+1.8**
	baz=229							
ALS				*e*S	**Sb**	**16 13 16.2**	**+0.7**
	baz=229							
CHN5	**Tsauling**	**1.31**	**242**	*e*P	**Pb**	**16 13 00.3**	**+0.1**
	baz=236							
CHN5				*e*S	**Sb**	**16 13 17.8**	**+0.9**
	baz=236							
ELDTW	**Lidau**	**1.33**	**220**	*e*P	**Pn**	**16 13 00.1**	**0.0**
	baz=213							
ELDTW				*e*S	**Sn**	**16 13 18.7**	**+1.2**
	baz=213							
EDH	**Donghe**	**1.37**	**205**	*e*P	**Pn**	**16 13 00.5**	**0.0**
	baz=199							
EDH				*e*S	**Sg**	**16 13 18.0**	**-2.0**
	baz=199							
WDLH	**Douliu**	**1.38**	**248**	*e*P	**Pg**	**16 13 01.7**	**-0.8**
	baz=243							
WDLH				*e*S	**Sn**	**16 13 20.5**	**+1.7**
	baz=243							
WRL	**Guolierlin Hig**	**1.46**	**258**	*e*P	**Pn**	**16 13 01.9**	**+0.2**
	baz=253							
WRL				*e*S	**Sn**	**16 13 20.7**	**+0.1**
	baz=253							
STYH	**Taoyuan**	**1.49**	**226**	*e*P	**Pb**	**16 13 03.0**	**-0.3**
	baz=220							
STYH				*e*S	**Sn**	**16 13 22.0**	**+0.7**
	baz=220							
CHN4	**Tsaushan**	**1.50**	**235**	*e*P	**Pg**	**16 13 03.7**	**-1.1**
	baz=230							
CHN4				*e*S	**Sg**	**16 13 23.9**	**-0.4**
	baz=230							
TPUB	**Ta-pu**	**1.51**	**233**	*e*P	**Pb**	**16 13 03.6**	**0.0**
	baz=228							
TPUB				*e*S	**Sg**	**16 13 23.5**	**-0.9**
	baz=228							
WTK	**Tuku**	**1.51**	**250**	*e*P	**Pn**	**16 13 02.6**	**+0.2**
	baz=245							
WTK				*e*S	**Sn**	**16 13 22.2**	**+0.3**
	baz=245							
WTP	**Ta-pu**	**1.55**	**232**	*e*P	**Pb**	**16 13 04.1**	**-0.2**
	baz=226							
WTP				*e*S	**Sb**	**16 13 24.5**	**+0.6**
	baz=226							
CHY	**Chiayi**	**1.56**	**243**	*e*P	**Pb**	**16 13 03.9**	**-0.5**
	baz=238							
CHY				*e*S	**Sn**	**16 13 23.0**	**-0.2**
	baz=238							
TWG	**Pinlang**	**1.60**	**210**	*e*P	**Pg**	**16 13 05.9**	**-0.7**
	baz=204							
TWG				*e*S	**Sg**	**16 13 27.2**	**-0.2**
	baz=204							
TWK	**Hsinying**	**1.63**	**235**	*e*P	**Pb**	**16 13 05.4**	**-0.3**
	baz=229							
TWK				*e*S	**Sn**	**16 13 25.9**	**+1.0**
	baz=229							
IRIF	**Iriomote-Funau**	**1.64**	**86**	P	**Pg**	**16 13 05.5**	**-1.8**
CHN1	**Nanshi**	**1.65**	**232**	*e*P	**Pb**	**16 13 06.0**	**0.0**
	baz=227							
CHN1				*e*S	**Sg**	**16 13 27.9**	**-1.2**
	baz=227							
SNST	**Tainan City**	**1.65**	**233**	*e*P	**Pb**	**16 13 05.5**	**-0.5**
	baz=228							
SNST				*e*S	**Sb**	**16 13 27.8**	**+1.0**
	baz=228							
WSF	**Szhu**	**1.67**	**250**	*e*P	**Pn**	**16 13 05.4**	**+0.8**
	baz=246							
WSF				*e*S	**Sn**	**16 13 25.9**	**+0.1**
	baz=246							
SGST	**Jiashian**	**1.68**	**228**	*e*P	**Pn**	**16 13 05.3**	**+0.6**
	baz=223							
SGST				*e*S	**Sn**	**16 13 27.3**	**+1.2**
	baz=223							
HATJ	**Hateruma jima**	**1.71**	**95**	*e*S	**Sg**	**16 13 30.3**	**-0.7**
ICHU	**Yijhu**	**1.74**	**241**	*e*P	**Pb**	**16 13 06.8**	**-0.8**
	baz=236							
ICHU				*e*S	**Sn**	**16 13 28.7**	**+1.1**
	baz=236							
SCST	**Cishan**	**1.88**	**225**	*e*P	**Pb**	**16 13 08.9**	**-0.9**
	baz=221							
SCST				*e*S	**Sn**	**16 13 31.9**	**+1.0**
	baz=221							
JKRS	**Kuro-shima**	**1.89**	**89**	*e*S	**Sg**	**16 13 34.1**	**-2.6**
SSD	**Sandimen**	**1.89**	**220**	*e*P	**Pb**	**16 13 09.8**	**-0.4**
	baz=215							
SSD				*e*S	**Sb**	**16 13 33.6**	**-0.1**
	baz=215							
TSMG	**Majia**	**1.92**	**219**	*e*P	**Pb**	**16 13 09.9**	**-0.6**
	baz=214							
TSMG				*e*S	**Sb**	**16 13 34.1**	**-0.3**
	baz=214							
MASBT	**Mashibuluo**	**2.00**	**217**	*e*P	**Pb**	**16 13 11.1**	**-0.9**
	baz=213							
MASBT				*e*S	**Sb**	**16 13 36.1**	**-0.6**
	baz=213							
JIJ	**Ishigaki jima**	**2.02**	**85**	*e*S	**Sb**	**16 13 37.0**	**-0.2**
JISG	**Ishigakijimahi**	**2.19**	**80**	P	**Pb**	**16 13 13.4**	**-1.9**
PNG	**Penghu**	**2.27**	**254**	*e*P	**Pn**	**16 13 12.7**	**-0.3**
	baz=250							
PNG				*e*S	**Sn**	**16 13 40.4**	**-0.4**
	baz=250							
JTJ	**Tarama**	**2.56**	**80**	*e*S	**Sb**	**16 13 51.2**	**-1.5**

*JMA **16** 16:16:57.7±0.1, 24°.20N×121°.84E, h18km±2km, M2.4*
*TAP **16** 16:16:58.1, 24°.24N×121°.80E, h15km, ML3.3, B*
ISC 16 16:16:58.0±0.8, 24°.22N±0°.02×121°.82E±0°.02, h17km±2km, n52, σ0°.54/100, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
EHP	**Heping Village**	**0.11**	**320**	*i* P		**Pb**	**16 17 01.9**	**+0.1**
	baz=322							
EHP				S		**Sb**	**16 17 04.9**	**+0.7**
	baz=322							
ETL	**Fush Village**	**0.19**	**250**	*i* P		**Pb**	**16 17 03.1**	**0.0**
	baz=242							
ETL				S		**Sb**	**16 17 07.3**	**+0.8**
	baz=242							
NACB	**Ninganchiao**	**0.21**	**256**	P		**Pb**	**16 17 03.2**	**-0.2**
	baz=249							
NACB				*i* S		**Sb**	**16 17 07.4**	**+0.4**
	baz=249							
ENA	**Nanau**	**0.21**	**340**	*i* P		**Pg**	**16 17 03.0**	**-0.1**
	baz=344							
ENA				*i* S		**Sb**	**16 17 06.8**	**-0.3**
	baz=344							
EWUT	**Wuta**	**0.22**	**350**	*i* P		**Pg**	**16 17 03.3**	**+0.1**
	baz=353							
EWUT				S		**Sg**	**16 17 07.0**	**+0.2**
	baz=353							
TWD	**Chiawan**	**0.25**	**235**	*i* P		**Pb**	**16 17 04.0**	**-0.1**
	baz=227							
TWD				*i* S		**Sb**	**16 17 08.7**	**+0.5**
	baz=227							
ETLH	**Xiulin Townshi**	**0.31**	**267**	P		**Pg**	**16 17 04.8**	**+0.1**
	baz=262							
ETLH				S		**Sb**	**16 17 09.8**	**-0.1**
	baz=262							
HWA	**Hwalien**	**0.32**	**219**	*i* P		**Pb**	**16 17 06.1**	**+1.0**
	baz=212							
HWA				*e*S		**Sn**	**16 17 13.8**	**-0.2**
	baz=212							
TWC	**Suao**	**0.38**	**4**	P		**Pg**	**16 17 05.8**	**-0.1**
	baz=8.0							
TWC				*e*S		**Sg**	**16 17 11.6**	**+0.3**
	baz=8.0							
ETM	**Tongmen**	**0.40**	**229**	P		**Pb**	**16 17 06.5**	**0.0**
	baz=225							
ETM				S		**Sb**	**16 17 12.9**	**+0.6**
	baz=225							
TEYL	**Yanliau Villag**	**0.41**	**210**	P		**Pb**	**16 17 07.0**	**+0.3**
	baz=208							
TEYL				*e*S		**Sn**	**16 17 14.8**	**-1.5**
	baz=208							
NDS	**Dongshan**	**0.42**	**347**	P		**Pg**	**16 17 06.7**	**+0.1**
	baz=348							
NDS				*e*S		**Sg**	**16 17 12.5**	**+0.2**
	baz=348							
NNSB	**Datong**	**0.45**	**297**	P		**Pg**	**16 17 07.2**	**+0.1**
	baz=295							
NNSB				S		**Sb**	**16 17 14.0**	**0.0**
	baz=295							
NNS	**Nan Shan**	**0.46**	**298**	*i* P		**Pg**	**16 17 07.5**	**+0.1**
	baz=296							
NNS				*i* S		**Sb**	**16 17 14.2**	**-0.1**
	baz=296							
NDT	**Datong Townshi**	**0.47**	**323**	P		**Pb**	**16 17 07.7**	**-0.2**
	baz=323							
NDT				S		**Sb**	**16 17 15.0**	**+0.5**
	baz=323							
ENTT	**Nioudou**	**0.47**	**331**	P		**Pb**	**16 17 07.7**	**-0.2**
	baz=331							
ENTT				S		**Sb**	**16 17 14.7**	**+0.1**
	baz=331							
TWE	**Neicheng**	**0.51**	**344**	P		**Pg**	**16 17 08.3**	**+0.1**
	baz=347							
TWE				S		**Sb**	**16 17 16.0**	**+0.3**
	baz=347							
WHF	**Hehuan Shan**	**0.51**	**261**	*i* P		**Pg**	**16 17 08.5**	**0.0**
	baz=258							
WHF				*i* S		**Sb**	**16 17 16.3**	**+0.1**
	baz=258							
FUSS	**Fushou**	**0.53**	**273**	*i* P		**Pb**	**16 17 08.8**	**-0.1**
	baz=270							
FUSS				S		**Sb**	**16 17 16.6**	**+0.2**
	baz=270							
ESL	**Shilin**	**0.54**	**221**	*i* P		**Pb**	**16 17 08.9**	**-0.1**
	baz=217							
ESL				S		**Sn**	**16 17 18.1**	**-1.5**
	baz=217							
ILA	**Ilan**	**0.54**	**353**	P		**Pb**	**16 17 09.6**	**+0.5**
	baz=355							
ILA				*e*S		**Sb**	**16 17 17.6**	**+1.1**
	baz=355							
TEGC	**Jichi Village**	**0.57**	**207**	P		**Pb**	**16 17 10.0**	**+0.4**
	baz=203							
TEGC				*e*S		**Sn**	**16 17 20.0**	**-0.4**
	baz=203							
TWT	**Tachien**	**0.59**	**273**	P		**Pb**	**16 17 10.3**	**+0.4**
	baz=270							
TWT				S		**Sb**	**16 17 18.7**	**+0.6**
	baz=270							
YHNB	**Yeheng**	**0.60**	**318**	P		**Pg**	**16 17 09.9**	**0.0**
	baz=317							
YHNB				S		**Sb**	**16 17 18.6**	**+0.2**
	baz=317							
TDCB	**Techi**	**0.60**	**273**	P		**Pb**	**16 17 10.5**	**+0.3**
	baz=270							
TDCB				S		**Sb**	**16 17 18.6**	**+0.1**
	baz=270							
CHGB	**Renai**	**0.61**	**255**	P		**Pb**	**16 17 10.6**	**+0.2**
	baz=252							
CHGB				S		**Sb**	**16 17 19.5**	**+0.7**
	baz=252							
NSK	**Sanguang**	**0.62**	**317**	P		**Pg**	**16 17 10.0**	**-0.2**
	baz=317							
NSK				S		**Sb**	**16 17 19.1**	**+0.3**
	baz=317							
NWLT	**Wulai**	**0.62**	**332**	*i* P		**Pg**	**16 17 10.2**	**-0.1**
	baz=332							
NWLT				*i* S		**Sb**	**16 17 18.8**	**-0.1**
	baz=332							
EGS		**0.63**	**9**	P		**Pb**	**16 17 11.0**	**+0.5**
	baz=12							
EGS				S		**Sb**	**16 17 20.1**	**+1.1**
	baz=12							
NTC	**Toucheng**	**0.63**	**1**	*i* P		**Pb**	**16 17 10.6**	**+0.1**
	baz=2.0							
NTC				*i* S		**Sb**	**16 17 19.2**	**+0.2**
	baz=2.0							
OWD	**Renai**	**0.65**	**246**	*i* P		**Pb**	**16 17 11.1**	**+0.1**
	baz=243							
OWD				S		**Sb**	**16 17 20.8**	**+1.1**
	baz=243							
EGFH	**Guangfu**	**0.66**	**213**	P		**Pg**	**16 17 10.8**	**-0.2**
	baz=210							
EGFH				S		**Sb**	**16 17 21.0**	**+1.1**
	baz=210							
TIPB	**Shuangxi**	**0.74**	**0**	P		**Pg**	**16 17 12.6**	**0.0**
	baz=1.0							
TIPB				*e*S		**Sg**	**16 17 22.5**	**0.0**
	baz=1.0							
NHDH	**Xindian Distri**	**0.78**	**340**	P		**Pn**	**16 17 14.1**	**-0.1**
	baz=340							
NHDH				S		**Sg**	**16 17 24.0**	**+0.3**
	baz=340							
TWA	**Mucha**	**0.78**	**344**	*e*P		**Pn**	**16 17 14.3**	**0.0**
	baz=345							
TWA				S		**Sg**	**16 17 24.4**	**+0.7**
	baz=345							
TWB1	**Santiao Chiao**	**0.80**	**11**	P		**Pg**	**16 17 13.6**	**0.0**
	baz=13							
TWB1				*e*S		**Sb**	**16 17 24.0**	**+0.1**
	baz=13							
WHP	**Taichung City**	**0.80**	**274**	*e*P		**Pn**	**16 17 14.4**	**-0.2**
	baz=272							
WHP				S		**Sn**	**16 17 25.4**	**-0.7**
	baz=272							
TATO	**Taipei**	**0.81**	**338**	P		**Pb**	**16 17 13.6**	**0.0**
	baz=339							
TATO				S		**Sg**	**16 17 24.5**	**+0.1**
	baz=339							
HGSD	**Ruisui**	**0.81**	**207**	P		**Pg**	**16 17 14.2**	**+0.3**
	baz=204							
NWF	**Wu-fen Shan**	**0.84**	**358**	*i* P		**Pg**	**16 17 14.8**	**+0.3**
	baz=358							
NWF				*i* S		**Sn**	**16 17 26.6**	**-0.6**
	baz=358							
WFSB	**Wu-fen Shan**	**0.84**	**358**	*i* P		**Pg**	**16 17 14.8**	**+0.3**
	baz=358							
WFSB				S		**Sn**	**16 17 26.6**	**-0.5**
	baz=358							
LIOB	**Emei**	**0.84**	**300**	P		**Pg**	**16 17 14.8**	**+0.3**
	baz=299							
LIOB				S		**Sg**	**16 17 26.2**	**+0.6**
	baz=299							
NSTT	**Nanjuang**	**0.85**	**299**	*e*P		**Pg**	**16 17 14.8**	**+0.3**
	baz=297							
NSTT				S		**Sg**	**16 17 26.4**	**+0.6**
	baz=297							
JYNG	**Yonagunijimaku**	**1.05**	**77**	P		**Pb**	**16 17 16.6**	**-1.1**
JYNG				*e*S		**Sb**	**16 17 31.4**	**+0.2**
YOJ	**Yonaguni jima**	**1.11**	**77**	P		**Pb**	**16 17 18.5**	**-0.2**
YOJ				*e*S		**Sn**	**16 17 33.5**	**-0.2**
YOJ	**Yonaguni jima**	**1.11**	**77**	*e*P		**Pb**	**16 17 18.7**	**-0.1**
	baz=78							
YOJ				*e*S		**Sg**	**16 17 34.8**	**+0.7**
	baz=78							
IRIF	**Iriomote-Funau**	**1.75**	**86**	P		**Pn**	**16 17 27.9**	**+0.4**
IRIF				*e*S		**Sn**	**16 17 50.1**	**+0.8**
HATJ	**Hateruma jima**	**1.82**	**95**	*e*S		**Sn**	**16 17 51.3**	**+0.1**
JKRS	**Kuro-shima**	**2.00**	**89**	P		**Pn**	**16 17 31.6**	**+0.7**
JIJ	**Ishigaki jima**	**2.12**	**86**	P		**Pn**	**16 17 32.3**	**-0.4**
JIJ				*e*S		**Sn**	**16 17 58.0**	**-0.7**
JISG	**Ishigakijimahi**	**2.30**	**80**	P		**Pn**	**16 17 35.8**	**+0.7**
JISG				*e*S		**Sn**	**16 18 00.8**	**-2.2**
JTJ	**Tarama**	**2.66**	**80**	*e*S		**Sn**	**16 18 12.2**	**+0.3**

TAP 16 16:20:45.5, 24°.29N×121°.83E, h20km±1km, ML1.4, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
EHP	**Heping Village**	**0.08**	**282**	*e*P		Pb	16 20 49.9	+0.5
	baz=281							
ENA	**Nanau**	**0.16**	**329**	*i* P		Pb	16 20 50.5	+0.2
	baz=331							
ENA				S		Sb	16 20 54.2	+0.6
	baz=331							
EWUT	**Wuta**	**0.16**	**343**	*i* P		Pb	16 20 50.5	+0.2
	baz=342							
EWUT				S		Sb	16 20 54.1	+0.5
	baz=342							
ETL	**Fush Village**	**0.23**	**235**	P		Pb	16 20 51.8	+0.6
	baz=234							
ETL				S		Sb	16 20 56.3	+1.3
	baz=234							
NACB	**Ninganchiao**	**0.24**	**241**	P		Pb	16 20 51.7	+0.4
	baz=241							
NACB				S		Sb	16 20 56.4	+1.0
	baz=241							
TWD	**Chiawan**	**0.30**	**225**	*i* P		Pb	16 20 52.4	+0.2
	baz=224							
TWD				S		Sb	16 20 58.0	+1.3
	baz=224							
ETLH	**Xiulin Townshi**	**0.33**	**255**	P		Pb	16 20 53.1	+0.4
	baz=255							
ETLH				S		Sb	16 20 58.5	+0.9
	baz=255							
NNSB	**Datong**	**0.43**	**289**	*e*P		Pb	16 20 55.3	+0.8
	baz=288							
NNS	**Nan Shan**	**0.44**	**290**	*e*P		Pb	16 20 55.4	+0.7
	baz=289							
NNS				S		Sb	16 21 02.1	+1.2
	baz=289							
YOJ	**Yonaguni jima**	**1.09**	**81**	*e*S		Sb	16 21 19.4	-0.1
	baz=80							

TAP 16 16:20:47.1, 24°.85N×121°.94E, h10km, ML1.8, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
EGS		**0.01**	**250**	*i* P		Pg	16 20 49.3	+0.5
	baz=182							
EGS				*i* S		Sg	16 20 50.7	+0.7
	baz=182							
NTC	**Toucheng**	**0.10**	**273**	*i* P		Pg	16 20 50.5	+0.7
	baz=273							
NTC				*i* S		Sg	16 20 52.6	+1.0
	baz=273							
TIPB	**Shuangxi**	**0.16**	**319**	*i* P		Pg	16 20 51.4	+0.8
	baz=318							
TIPB				*i* S		Sg	16 20 54.4	+1.2
	baz=318							
TWB1	**Santiao Chiao**	**0.16**	**14**	P		Pg	16 20 50.9	+0.2
	baz=17							
TWB1				*e*S		Sg	16 20 53.2	+0.1
	baz=17							
ILA	**Ilan**	**0.20**	**245**	P		Pb	16 20 52.5	-0.3
	baz=243							
ILA				S		Sg	16 20 56.0	+2.0
	baz=243							
TWC	**Suao**	**0.25**	**200**	*i* P		Pb	16 20 53.1	-0.7
	baz=4.0							
TWC				S		Sb	16 20 58.2	0.0
	baz=4.0							
TWC	**Suao**	**0.25**	**200**	P		Pg	16 20 53.0	+0.7
	baz=197							
TWC				S		Sb	16 20 58.3	+0.1
	baz=197							
NWF	**Wu-fen Shan**	**0.27**	**326**	*i* P		Pb	16 20 53.7	-0.4
	baz=326							
NWF				S		Sb	16 20 58.1	-0.5
	baz=326							

WFSB	**Wu-fen Shan**	**0.27 326**	P	Pb	16 20 53.5	-0.5
	baz=326					
WFSB			S	Sb	16 20 58.0	-0.6
	baz=326					
TWE	**Neicheng**	**0.28 243**	P	Pb	16 20 53.5	-0.7
	baz=241					
TWE			S	Sb	16 20 57.8	-1.2
	baz=241					
NDS	**Dongshan**	**0.30 224**	P	Pg	16 20 53.6	+0.5
	baz=343					
NDS			S	Sb	16 20 59.7	+0.2
	baz=343					
NDS	**Dongshan**	**0.30 224**	P	Pb	16 20 53.9	-0.7
	baz=224					
NDS			S	Sb	16 20 59.9	+0.4
	baz=224					
TWA	**Mucha**	**0.35 292**	P	Pb	16 20 55.2	-0.2
	baz=291					
TWA			S	Sb	16 21 00.8	-0.3
	baz=291					
ENTT	**Nioudou**	**0.40 239**	P	Pg	16 20 55.3	+0.3
	baz=238					
ENTT			*e*S	Sg	16 21 01.2	+0.8
	baz=238					
NWLT	**Wulai**	**0.41 260**	*i* P	Pb	16 20 55.8	-0.6
	baz=259					
NWLT			*e*S	Sg	16 21 01.0	+0.5
	baz=259					
EWUT	**Wuta**	**0.43 201**	*e*S	Sb	16 21 03.5	+0.2
	baz=200					
YM01	**YM01**	**0.45 311**	P	Pb	16 20 57.3	+0.1
	baz=311					
YM01			S	Sb	16 21 04.2	+0.3
	baz=311					
ENA	**Nanau**	**0.46 204**	P	Pb	16 20 57.7	+0.5
	baz=202					
ENA			*e*S	Sg	16 21 03.0	+0.9
	baz=202					
NDT	**Datong Townshi**	**0.46 238**	P	Pb	16 20 56.9	-0.5
	baz=237					
YM08	**YM08**	**0.47 316**	P	Pb	16 20 57.4	0.0
	baz=316					
TWS1	**Kuangyinshan**	**0.54 298**	P	Pb	16 20 58.4	-0.2
	baz=298					
TWS1			S	Sb	16 21 06.7	+0.2
	baz=298					
YHNB	**Yeheng**	**0.55 251**	P	Pg	16 20 58.2	+0.5
	baz=250					
YHNB			*e*S	Sg	16 21 04.8	-0.1
	baz=250					
NSK	**Sanguang**	**0.56 252**	P	Pg	16 20 58.3	+0.3
	baz=251					
NSK			*e*S	Sg	16 21 05.0	-0.4
	baz=251					
NNS	**Nan Shan**	**0.66 232**	P	Pb	16 21 00.5	-0.3
	baz=231					
NNS			S	Sb	16 21 10.3	+0.3
	baz=231					
NNSB	**Datong**	**0.66 231**	P	Pb	16 21 00.8	0.0
	baz=230					
NNSB			S	Sb	16 21 09.9	-0.2
	baz=230					
NNSB	**Datong**	**0.66 231**	*e*S	Pb	16 21 00.9	+0.1
	baz=288					
NACB	**Ninganchiao**	**0.74 205**	P	Pb	16 21 02.4	+0.3
	baz=205					
NACB			S	Sb	16 21 12.4	+0.1
	baz=205					
FUSS	**Fushou**	**0.88 227**	*i* P	Pb	16 21 04.8	+0.2
	baz=226					
FUSS			S	Sb	16 21 17.2	+0.9
	baz=226					
YOJ	**Yonaguni jima**	**1.04 111**	*e*P	Pb	16 21 07.2	0.0
	baz=111					

IDC 16 16:20:52.7±3.5, 5°99'S×151°51'E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/25, mbtmp3.7/3, Error ellipse: s-maj=106.3km s-min=50.4km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.70**	**229**	P	P	16 25 45.3	-0.2
	0.4nm,0.4s,baz=55,slow=10.0,SNR=8.4						
ASAR	**Alice Springs**	**24.41**	**222**	P	P	16 26 13.5	+0.3
	0.9nm,0.5s,baz=56,slow=8.8,SNR=20						
FITZ	**Fitzroy Crossi**	**27.97**	**242**	P	P	16 26 45.1	-0.2
	1.4nm,0.5s,baz=63,slow=7.7,SNR=11						
TORD	**Torodi Ar. Bea**	**149.42**	**286**	PKPbc	PKPbc	16 40 44.4	-0.5
	0.9nm,0.9s,baz=67,slow=2.7,SNR=4.2						

IDC 16 16:25:18.0±2.0, 5°90'S×151°59'E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/25, mbtmp3.8/4, Error ellipse: s-maj=115.2km s-min=27.7km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.81**	**229**	P	P	16 30 12.0	0.0
	1.3nm,0.8s,baz=54,slow=9.8,SNR=5.4						
ASAR	**Alice Springs**	**24.53**	**222**	P	P	16 30 39.8	+0.2
	1.7nm,0.8s,baz=57,slow=8.6,SNR=23						
FITZ	**Fitzroy Crossi**	**28.07**	**242**	P	P	16 31 11.3	-0.2
	1.9nm,0.8s,baz=60,slow=8.7,SNR=8.2						
ILAR	**Eielson Array**	**83.63**	**22**	P	P	16 37 48.2	+0.1
	0.6nm,0.7s,baz=246,slow=5.2,SNR=5.1						
TORD	**Torodi Ar. Bea**	**149.47**	**286**	PKPbc	PKPbc	16 45 09.7	-0.7
	0.9nm,0.7s,baz=77,slow=2.3,SNR=4.3						

*IDC **16** 16:34:00.9±1.6, 10°48'N×126°60'E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/31, mbtmp3.8/6, Error ellipse: s-maj=73.7km s-min=23.5km az=70.0*
*MAN **16** 16:34:02.1, 10°49'N×126°63'E, h18km, mb4.4, ML3.2, MS3.0*
ISC 16 16:34:07.0±1.1, 10°4'N±0°1'×126°56'E±0°10, h44km, n10, σ1°21/13, mb3.7/6, 2C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.20**	**242**↑	*e*P	**Pn**	**16 34 25.0**	**-2.3**
SCPH				*e*S	**Sn**	**16 34 43.1**	**+0.8**
MSLP	**Maasin**	**1.68**	**263**↓	*e*P	**Pn**	**16 34 32.2**	**-1.8**
MSLP				*i* S	**Sn**	**16 34 55.2**	**+0.9**
LLP	**Lapu-Lapu**	**2.55**	**269**↓	*i* P	**Pn**	**16 34 45.8**	**0.0**
LLP				*i* S	**Sn**	**16 35 17.1**	**+1.4**
RCP	**Roxas**	**3.93**	**288**↑	*e*P	**Pn**	**16 35 04.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**27.90**	**290**	P	**P**	**16 39 53.0**	**-0.1**
	0.6nm,0.4s,baz=100,slow=8.4,SNR=2.0						
FITZ	**Fitzroy Crossi**	**28.29**	**182**	P	**P**	**16 39 57.5**	**+1.1**
	1.0nm,0.9s,baz=6.9,slow=10,SNR=1.3						
ASAR	**Alice Springs**	**34.57**	**168**	P	**P**	**16 40 52.2**	**+0.5**
	0.3nm,0.9s,baz=344,slow=6.8,SNR=1.8						
MKAR	**Makanchi Array**	**52.13**	**323**	P	**P**	**16 43 12.4**	**-0.6**
	0.3nm,0.3s,baz=116,slow=7.5,SNR=6.4						
ZALV	**Zalesovo Beam**	**54.69**	**331**	P	**P**	**16 43 30.6**	**-0.9**
	0.3nm,0.3s,baz=116,slow=6.6,SNR=1.9						
ARCES	**ARCESS Array B**	**84.21**	**340**	P	**P**	**16 46 33.8**	**+0.3**
	2.7nm,1.0s,baz=74,slow=6.7,SNR=4.6						

IDC 16 16:34:51.2±2.0, 5°56'S×151°03'E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.6/24, mbtmp3.8/4, Error ellipse: s-maj=102.8km s-min=29.3km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.64**	**227**	P	P	16 39 43.1	-0.3
	0.6nm,0.4s,baz=52,slow=11,SNR=10						
ASAR	**Alice Springs**	**24.42**	**221**	P	P	16 40 10.8	-1.0
	0.9nm,0.5s,baz=55,slow=8.7,SNR=35						
FITZ	**Fitzroy Crossi**	**27.75**	**241**	P	P	16 40 42.7	+0.8
	1.9nm,0.6s,baz=62,slow=7.1,SNR=8.0						
ILAR	**Eielson Array**	**83.52**	**22**	P	P	16 47 20.2	-0.5
	0.5nm,0.4s,baz=250,slow=5.4,SNR=2.4						
TORD	**Torodi Ar. Bea**	**148.85**	**286**	PKPbc	PKPbc	16 54 42.5	+0.5
	0.2nm,0.4s,baz=74,slow=2.9,SNR=2.7						

IDC 16 16:42:35.1±3.5, 6°31'S×150°12'E, h0km, mb3.3/3, mb1 3.7/3, mb1mx3.3/30, mbtmp3.4/3, Error ellipse: s-maj=111.3km s-min=47.9km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.46**	**227**	P	Pn	16 47 15.8	-0.8
	0.3nm,0.5s,baz=52,slow=11,SNR=2.8						
ASAR	**Alice Springs**	**23.26**	**220**	P	P	16 47 43.4	-1.1
	1.0nm,0.8s,baz=54,slow=8.8,SNR=14						
FITZ	**Fitzroy Crossi**	**26.59**	**242**	P	P	16 48 15.1	-0.3
	1.1nm,0.6s,baz=83,slow=8.1,SNR=7.0						
TORD	**Torodi Ar. Bea**	**148.17**	**285**	PKPbc	PKPbc	17 02 24.1	0.0
	0.9nm,0.6s,baz=77,slow=3.2,SNR=5.3						

NEIC 16 16:43:09.1±1.2, 35°99'N±0°01', 96°82'W±0°02, h1km, 62km, mb_Lg2.2/14, Error ellipse: s-maj=2.3km s-min=1.7km az=119.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.04**	**207**	Pg	Pg	16 43 10.1	+0.1
OK031					Sg	16 43 11.0	+0.5
QUOK	**Quay**	**0.20**	**26**	Pg	Pg	16 43 13.2	+0.2
QUOK					Sg	16 43 16.2	+0.6
OK029	**Liberty Lake**	**0.56**	**250**	Pg	Pg	16 43 19.8	0.0
OK029					Sg	16 43 27.4	+0.5
OK025	**Westminster Rd**	**0.59**	**226**	Pg	Pg	16 43 20.2	-0.2
OK025					Sg	16 43 28.7	+0.6
OKCFA	**Oklahoma City**	**0.77**	**222**	Pg	Pg	16 43 22.9	-1.0
BLOK	**Blackwell**	**0.83**	**337**	Pg	Pg	16 43 24.7	-0.4
BLOK					Sg	16 43 36.2	+0.3
FNO	**Franklin**	**0.87**	**213**	Pg	Pg	16 43 25.0	-0.9
FNO					Sg	16 43 37.5	+0.3
T35A	**Sooner Cattle**	**0.95**	**15**	Pg	Pg	16 43 26.9	-0.6
T35A					Sg	16 43 39.4	-0.4
CROK	**Carrier**	**1.07**	**299**	Pg	Pg	16 43 29.2	-0.5
GC02	**Grant County #**	**1.20**	**316**		Pg	16 43 31.5	-0.7
GC02					Sb	16 43 48.2	-0.5
X34A	**Smith Ranch, M**	**1.62**	**211**	Pn	Pn	16 43 38.4	-0.4
X34A				lAmb_Lg		16 44 01.0	
	comp=Z,13nm,1.0s						
U32A	**Winter Ranch,**	**1.81**	**283**	Pn	Pn	16 43 41.4	0.0
U32A				lAmb_Lg		16 44 05.7	
	comp=Z,12nm,1.1s						
X37A	**Clayton**	**1.83**	**139**	lAmb_Lg		16 44 09.3	
	comp=Z,14nm,1.1s						
LOOK	**Love County**	**2.02**	**189**	Pn	Pn	16 43 44.8	+0.6
WMOK	**Wichita Mounta**	**2.04**	**233**	Pn	Pn	16 43 45.0	+0.5
WMOK				lAmb_Lg		16 44 13.0	
	comp=Z,8.8nm,0.8s						
HHAR	**Hobbs**	**2.34**	**82**	Pn	Pn	16 43 48.8	+0.1
W39A	**Magazine**	**2.59**	**107**	Pn	Pn	16 43 52.1	0.0
MIAR	**Mount Ida**	**3.02**	**118**	Pn	Pn	16 43 58.1	+0.1
KSU1	**Kansas State U**	**3.11**	**3**	lAmb_Lg		16 44 53.5	
	comp=Z,5.9nm,0.8s						
X40A	**Basin Creek Fa**	**3.59**	**114**	Pn	Pn	16 44 06.2	+0.4
WHAR	**Wooly Hollow**	**3.75**	**99**	Pn	Pn	16 44 07.8	-0.3
FCAR	**Ozark Folk Cen**	**3.81**	**90**	lAmb_Lg		16 45 11.6	
	comp=Z,12nm,0.7s						
MGMO	**Mountain Grove**	**3.84**	**71**	lAmb_Lg		16 45 17.9	
	comp=Z,6.2nm,0.9s						
AMTX	**Amarillo**	**4.12**	**256**	lAmb_Lg		16 45 31.8	
	comp=Z,6.6nm,0.8s						
R40A	**Maddies Statio**	**4.30**	**56**	Pn	Pn	16 44 16.6	+1.0

IDC 16 16:44:26.4±3.7, 6°20'S×151°75'E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/32, mbtmp3.7/3, Error ellipse: s-maj=119.6km s-min=53.0km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.74**	**229**	P	P	16 49 20.0	+0.3
	0.7nm,0.4s,baz=56,slow=9.8,SNR=7.6						
ASAR	**Alice Springs**	**24.42**	**223**	P	P	16 49 47.4	+0.5
	0.9nm,0.5s,baz=55,slow=8.7,SNR=21						
FITZ	**Fitzroy Crossi**	**28.08**	**243**	P	P	16 50 19.1	-0.9
	1.1nm,0.6s,baz=70,slow=11,SNR=6.8						
TORD	**Torodi Ar. Bea**	**149.70**	**285**	PKPbc	PKPbc	17 04 19.0	-0.4
	0.4nm,0.6s,baz=66,slow=2.7,SNR=2.7						

TAP 16 16:53:16.2, 24°70'N×121°73'E, h10km, ML1.2, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWE	**Neicheng**	**0.06**	**290**	P	Pg	16 53 18.2	-0.1
	baz=292						
TWE				*e*S	Sg	16 53 19.7	-0.2
	baz=292						
NDS	**Dongshan**	**0.07**	**190**	*e*P	Pg	16 53 18.5	+0.1
	baz=190						
NDS				*e*S	Sg	16 53 19.9	-0.1
	baz=190						
ILA	**Ilan**	**0.07**	**15**	*e*P	Pg	16 53 18.4	-0.1
	baz=21						
TWC	**Suao**	**0.14**	**130**	P	Pg	16 53 19.5	+0.1
	baz=127						
ENTT	**Nioudou**	**0.16**	**248**	P	Pg	16 53 19.9	+0.2
	baz=246						
NDT	**Datong Townshi**	**0.22**	**244**	*e*S	Sg	16 53 24.0	+0.2
	baz=243						
NWLT	**Wulai**	**0.22**	**291**	*e*P	Pg	16 53 20.9	+0.1
	baz=290						
EWUT	**Wuta**	**0.26**	**170**	P	Pg	16 53 21.7	+0.3
	baz=169						
EWUT				*e*S	Sg	16 53 24.9	0.0
	baz=169						
EWUT	**Wuta**	**0.26**	**170**	*e*P	Pg	16 53 21.7	+0.2
	baz=354						
ENA	**Nanau**	**0.27**	**178**	P	Pg	16 53 21.8	+0.1
	baz=176						
ENA				*e*S	Sg	16 53 25.1	-0.2
	baz=176						
TIPB	**Shuangxi**	**0.28**	**18**	*e*P	Pg	16 53 21.9	0.0
	baz=18						
TIPB				*e*S	Sg	16 53 25.6	-0.3
	baz=18						
YHNB	**Yeheng**	**0.32**	**265**	*e*P	Pg	16 53 22.7	0.0
	baz=264						
YHNB				*e*S	Sg	16 53 26.6	-0.4
	baz=264						
NSK	**Sanguang**	**0.34**	**266**	P	Pg	16 53 22.9	-0.1
	baz=265						
NSK				*e*S	Sg	16 53 26.9	-0.6
	baz=265						

TAP 16 16:53:18.5, 24°30'N×121°79'E, h8km, ML1.1, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.22**	**235**	*e*S	Sg	16 53 26.2	+0.2
	baz=234						
ETLH	**Xiulin Townshi**	**0.30**	**252**	*e*P	Pg	16 53 24.3	-0.1
	baz=251						
NNSB	**Datong**	**0.39**	**289**	*e*P	Pg	16 53 26.1	-0.2
	baz=288						
NNSB				*e*S	Sg	16 53 31.8	+0.3
	baz=288						
NNS	**Nan Shan**	**0.41**	**290**	*e*P	Pg	16 53 26.3	-0.2
	baz=289						
NNS				*e*S	Sg	16 53 32.0	+0.1
	baz=289						
TWE	**Neicheng**	**0.43**	**345**	*e*P	Pg	16 53 26.6	-0.3
	baz=346						
WHF	**Hehuan Shan**	**0.51**	**252**	*e*S	Sg	16 53 35.4	+0.3
	baz=251						
YHNB	**Yeheng**	**0.53**	**314**	*e*S	Sg	16 53 36.0	+0.3
	baz=314						

*IDC **16** 16:54:17.4±0.9, 51°52'N×174°40'W, h0km, mb3.7/14, mb1 3.9/17, mb1mx3.8/56, mbtmp3.7/17, ML3.5/3, Error ellipse: s-maj=29.1km s-min=16.9km az=162.0*
*NEIC **16** 16:54:23.3±2.0, 51°43'N±0°05', 174°37'W±0°08, h44km±9km, mb3.9/35, ML3.5/23(AEIC), Error ellipse: s-maj=10.2km s-min=2.9km az=135.0*
*AEIC **16** 16:54:23.7±2.5, 51°50'N±0°08', 174°45'W±0°08, h26km±6km, Error ellipse: s-maj=12.6km s-min=4.7km az=150.0*
ISC 16 16:54:23.3±1.6, 51°4'N±0°1'×174°36'W±0°05, h43km±13km, n93, σ0°97/94, mb3.7/16, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.78**	**7**		**Pn**	**16 54 36.9**	**-0.9**
ATKA					Sn	**16 54 47.1**	**-1.3**

KOFP	**Korovin Flat P**	**0.86**	**11**		**Pn**	**16 54 38.8**	**-0.3**
KOKL	**Mount Kliuchef**	**0.90**	**6**		**Pn**	**16 54 39.3**	**-0.3**
KOKL					Sn	**16 54 52.1**	**+0.7**
KOSE	**Korovin Southe**	**0.94**	**12**		**Pn**	**16 54 40.2**	**+0.1**
KOSE					Sn	**16 54 53.0**	**+0.7**
KONE	**Korovin Northe**	**0.98**	**9**		**Pn**	**16 54 40.8**	**+0.2**
GSIG	**Igitkin Island**	**1.12**	**300**		**Pn**	**16 54 42.0**	**-0.6**
GSMY	**Great Sitkin M**	**1.22**	**301**		**Pn**	**16 54 43.6**	**-0.4**
GSMY					Sn	**16 54 58.0**	**-1.2**
GSTR	**Great Sitkin T**	**1.25**	**303**		**Pn**	**16 54 44.1**	**-0.2**
GSTD	**Great Sitkin T**	**1.28**	**300**		**Pn**	**16 54 44.3**	**-0.5**
GSTD					Sn	**16 54 59.4**	**-1.3**
ETKA	**Kagalaska Isla**	**1.35**	**290**		**Pn**	**16 54 45.3**	**-0.3**
ADK	**Adak**	**1.52**	**288**		**Pn**	**16 54 47.4**	**-0.6**
KIWB	**Kanaga Island**	**1.79**	**285**		**Pn**	**16 54 51.9**	**+0.1**
KIKV	**Kanaga Island**	**1.81**	**285**		**Pn**	**16 54 52.3**	**+0.3**
KIMD	**Kanaga Island**	**1.82**	**282**		**Pn**	**16 54 52.2**	**+0.1**
KICM	**Kanaga Island**	**1.83**	**287**		**Pn**	**16 54 52.9**	**+0.6**
KICM					Sn	**16 55 14.6**	**+0.4**
TAFP	**Tanaga Falls P**	**2.31**	**283**		**Pn**	**16 54 59.4**	**+0.6**
TASE	**Tanaga Southea**	**2.33**	**281**		**Pn**	**16 54 59.9**	**+0.8**
NIKH	**Nikolski High**	**3.72**	**63**	Pn	**Pn**	**16 55 16.8**	**-1.4**
AMKA	**Amchitka**	**3.97**	**272**	Pn	**Pn**	**16 55 21.4**	**-0.2**
UNV	**Unalaska Valle**	**5.36**	**60**	Pn	**Pn**	**16 55 42.5**	**+1.9**
SDPT	**Sand Point**	**9.17**	**59**	Pn	**Pn**	**16 56 33.9**	**+1.0**
CNBA	**Chernabura Isl**	**9.50**	**63**	Pn	**Pn**	**16 56 36.6**	**-0.8**
CHGN	**Chignik**	**10.60**	**56**	Pn	**Pn**	**16 56 52.1**	**-0.2**
O18K	**Koktuh Hills**	**13.67**	**44**	Pn	**Pn**	**16 57 37.7**	**+3.3**
Q19K	**Cape Douglas,**	**13.97**	**49**	P	**P**	**16 57 45.0**	**-0.6**
KDAK	**Kodiak Island**	**14.09**	**55**	Pn	**Pn**	**16 57 39.1**	**-1.0**
	0.3nm,0.3s,baz=228,slow=14,SNR=2.2						
KDAK	**Kodiak Island**	**14.09**	**55**	P	**P**	**16 57 46.7**	**-0.2**
SVW2	**Sparrevohn**	**14.18**	**40**	P	**P**	**16 57 46.7**	**-1.1**
RSO	**Redoubt South**	**15.04**	**45**	P	**P**	**16 57 58.0**	**+0.5**
L19K	**White Mountain**	**15.09**	**37**	P	**P**	**16 57 59.1**	**+1.1**
M19K	**Big River Lodg**	**15.11**	**38**	P	**P**	**16 57 58.0**	**-0.1**
M19K				lAmb	lAmb	16 58 05.2	
	comp=Z,12nm,1.4s						
CNPM	**China Poot**	**15.34**	**49**		**Pn**	**16 57 56.6**	**0.0**
K20K	**Telida**	**16.10**	**34**	P	**P**	**16 58 09.3**	**+0.2**
SKT	**Skwentna**	**16.29**	**41**		**Pn**	**16 58 10.1**	**+1.4**
SUA	**Susitna One**	**16.37**	**43**		**Pn**	**16 58 10.7**	**+0.8**
O22K	**Cooper Landing**	**16.41**	**47**		**P**	**16 58 11.7**	**-0.8**
J20K	**Nowinta River**	**16.60**	**32**	P	**P**	**16 58 15.8**	**+1.3**
RC01	**Rabbit Creek A**	**16.65**	**45**		**Pn**	**16 58 14.2**	**+0.9**
RC01				lAmb	lAmb	16 58 21.8	
	comp=Z,9.7nm,1.2s						
PETK	**Petropavlovsk-**	**17.14**	**287**	P	**Pn**	**16 58 17.7**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=75,slow=9.1,SNR=6.8						
PETK	**Petropavlovsk-**	**17.14**	**287**	P	**P**	**16 58 21.6**	**+0.9**
GHO	**Glory Hole Cre**	**17.29**	**43**		**Pn**	**16 58 21.0**	**-0.3**
GHO				lAmb	lAmb	16 58 24.9	
	comp=Z,7.5nm,1.0s						
KNK	**Knik Glacier**	**17.34**	**45**		**Pn**	**16 58 21.4**	**-0.6**
SML	**Sawmill**	**17.56**	**44**	Pn	**Pn**	**16 58 23.3**	**-1.3**
SML				lAmb	lAmb	16 58 48.2	
	comp=Z,12nm,1.3s						
BPAW	**Bear Paw Mtn.**	**17.64**	**35**		**P**	**16 58 27.5**	**+1.3**
BPAW				lAmb	lAmb	16 58 46.2	
	comp=Z,11nm,1.4s						
IMAR	**Indian Mountai**	**17.95**	**28**	P	**P**	**16 58 30.2**	**+0.7**
SCM	**Sheep Creek Mo**	**18.00**	**44**	P	**Pn**	**16 58 28.0**	**-2.1**
SCM				lAmb	lAmb	16 58 43.4	
	comp=Z,19nm,1.3s						
H21K	**Melozitna Rive**	**18.01**	**30**	P	**P**	**16 58 32.7**	**+2.5**
MLY	**Manley**	**18.28**	**33**	P	**Pn**	**16 58 34.1**	**+0.7**
MLY				lAmb	lAmb	16 58 51.4	
	comp=Z,8.5nm,1.2s						
KLU	**Klutina**	**18.50**	**46**	P	**P**	**16 58 34.6**	**-1.1**
KLU				lAmb	lAmb	16 58 55.1	
	comp=Z,9.3nm,1.2s						
DHY	**Denali Highway**	**18.51**	**41**	P	**P**	**16 58 35.4**	**-0.4**
DHY				lAmb	lAmb	16 58 41.5	
	comp=Z,9.4nm,1.4s						
M24K	**Tolsona, Glenn**	**18.61**	**44**	P	**Pn**	**16 58 38.2**	**+0.7**
I23K	**Minto, Yukon-K**	**18.82**	**34**	P	**P**	**16 58 38.9**	**-0.1**
I23K				lAmb	lAmb	16 59 06.6	
	comp=Z,9.8nm,1.1s						
BMRM	**Bremner River**	**18.94**	**48**	P	**Pn**	**16 58 42.1**	**+0.7**
BMRM				lAmb	lAmb	16 58 53.0	
	comp=Z,10nm,1.1s						
CCB	**Clear Creek Bu**	**19.10**	**36**	P	**P**	**16 58 41.1**	**-1.0**
CCB				lAmb	lAmb	16 58 44.4	
	comp=Z,12nm,1.5s						
N25K	**Chitina, Valde**	**19.14**	**46**		**P**	**16 58 41.2**	**-1.5**
PAX	**Paxson**	**19.25**	**42**	P	**P**	**16 58 43.4**	**-0.5**
GLB	**Gilahina Butte**	**19.45**	**47**	P	**P**	**16 58 45.3**	**-0.8**
GLB				lAmb	lAmb	16 58 48.7	
	comp=Z,11nm,1.3s						
IL31		**19.51**	**36**	P	**P**	**16 58 46.5**	**0.0**
IL31				lAmb	lAmb	16 59 03.8	
	comp=Z,11nm,1.5s						
ILAR	**Eielson Array**	**19.51**	**36**	P	**P**	**16 58 45.6**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=232,slow=8.6,SNR=24						
ILAR	**Eielson Array**	**19.51**	**36**	P	**P**	**16 58 46.4**	**-0.2**
H24K	**Noodor Dome**	**19.72**	**33**	P	**P**	**16 58 49.7**	**+0.7**
H24K				lAmb	lAmb	16 59 05.8	
	comp=Z,12nm,1.4s						
RIDG	**Independent Ri**	**19.82**	**40**	P	**P**	**16 58 49.3**	**-0.8**
RIDG				lAmb	lAmb	16 59 18.5	
	comp=Z,6.3nm,1.1s						
DOT	**Dot Lake**	**20.10**	**41**	P	**P**	**16 58 52.2**	**-0.9**
DOT				lAmb	lAmb	16 58 59.6	
	comp=Z,3.4nm,0.7s						
SCRK	**Sand Creek**	**20.27**	**40**	P	**P**	**16 58 53.9**	**-1.1**
LOGN	**Logan Glacier**	**20.61**	**50**	P	**P**	**16 58 59.8**	**+1.0**
LOGN				lAmb	lAmb	16 59 17.9	
	comp=Z,8.3nm,1.0s						
BCAR	**Beaver Creek A**	**20.85**	**44**	P	**P**	**16 59 01.5**	**+0.3**
TOLK	**Toolik Lake Re**	**20.96**	**25**	P	**P**	**16 59 02.1**	**-0.3**
K27K	**Chicken**	**21.06**	**41**	P	**P**	**16 59 02.7**	**-0.7**
K27K				lAmb	lAmb	16 59 29.1	
	comp=Z,3.4nm,0.8s						
SEY	**Seymchan**	**21.11**	**316**	P	**P**	**16 59 06.3**	**+2.4**
	comp=Z,1.4nm,0.7s,baz=102,slow=14,SNR=2.6						
EGAK	**Eagle**	**21.71**	**39**	P	**P**	**16 59 09.9**	**-0.4**
H11N2	**WAKE ISLAND Hy**	**34.90**	**212**	T	T	17 38 58.7	
	baz=21						
H11N3	**WAKE ISLAND Hy**	**34.91**	**212**	T	T	17 39 13.7	
	baz=21						
H11N1	**WAKE ISLAND Hy**	**34.92**	**212**	T	T	17 38 55.0	
	baz=21						
USA0B	**Ussuriysk Arra**	**36.04**	**280**	P	**P**	**17 01 19.7**	**-0.5**
USRK	**Ussuriysk Ar.**	**36.04**	**280**	P	**P

mb1 4.0/3,**mb1mx3.5**/30,**mbtmp3.8**/3,**MS3.5**/1,**Ms1 3.5**/1,
ms1mx2.9/38,**Error ellipse: s-maj=142.2km**
s-min=32.1km az=130.0,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**20.47**	**341**	LR	LR	17 09 15.2	
	comp=Z,151nm,20.5s,baz=80,slow=34						
ASAR	**Alice Springs**	**24.49**	**222**	P	P	17 03 11.1	-0.1
	1.2nm,0.8s,baz=55,slow=8.6,SNR=24						
FITZ	**Fitzroy Crossi**	**28.03**	**242**	P	P	17 03 42.9	-0.2
	1.5nm,0.5s,baz=55,slow=9.1,SNR=11						
ILAR	**Eielson Array**	**83.65**	**22**	P	P	17 10 19.9	-0.3
	0.3nm,0.5s,baz=256,slow=3.6,SNR=2.7						
TORD	**Torodi Ar. Bea**	**149.42**	**286**	PKPbc	PKPbc	17 17 42.3	+0.1
	0.9nm,0.7s,baz=69,slow=3.2,SNR=4.4						

TAP 16 17:03:22.6,24°29N×121°76E,h18km±1km,ML1.8,D,
Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.14**	**354**	P	Pg	17 03 27.3	+0.6
	baz=356						
ENA				S	Sg	17 03 30.6	+1.0
	baz=356						
EWUT	**Wuta**	**0.16**	**7**	P	Pg	17 03 27.5	+0.5
	baz=6.0						
EWUT				S	Sg	17 03 30.9	+1.0
	baz=6.0						
ETL	**Fush Village**	**0.18**	**224**	*e*P	Pg	17 03 27.7	+0.5
	baz=223						
ETL				*e*S	Sg	17 03 31.8	+1.4
	baz=223						
NACB	**Ninganchiao**	**0.19**	**233**	P	Pg	17 03 27.7	+0.4
	baz=232						
NACB				S	Sg	17 03 31.5	+0.9
	baz=232						
TWD	**Chiawan**	**0.25**	**216**	*e*P	Pb	17 03 28.9	+0.4
	baz=214						
TWD				*e*S	Sb	17 03 33.3	+0.9
	baz=214						
ETLH	**Xiulin Townshi**	**0.26**	**252**	*e*P	Pb	17 03 29.1	+0.4
	baz=252						
ETLH				*e*S	Sb	17 03 33.7	+0.9
	baz=252						
TWC	**Suao**	**0.33**	**15**	*e*P	Pb	17 03 30.2	+0.3
	baz=16						
TWC				*e*S	Sb	17 03 35.2	+0.3
	baz=16						
NDS	**Dongshan**	**0.35**	**354**	*e*P	Pb	17 03 30.5	+0.2
	baz=353						
NDS				*e*S	Sb	17 03 35.6	+0.2
	baz=353						
NNSB	**Datong**	**0.37**	**292**	*e*P	Pb	17 03 31.4	+0.7
	baz=292						
NNSB				*e*S	Sb	17 03 37.1	+0.9
	baz=292						
NNS	**Nan Shan**	**0.38**	**294**	*e*P	Pb	17 03 31.5	+0.6
	baz=293						
NNS				*e*S	Sb	17 03 37.3	+0.7
	baz=293						
NDT	**Datong Townshi**	**0.39**	**325**	*e*P	Pb	17 03 31.4	+0.5
	baz=324						
NDT				*e*S	Sb	17 03 38.0	+1.4
	baz=324						
ENTT	**Nioudou**	**0.39**	**334**	*e*P	Pb	17 03 31.5	+0.5
	baz=334						
ENTT				*e*S	Sb	17 03 37.6	+0.8
	baz=334						
ETM	**Tongmen**	**0.40**	**217**	*e*S	Sb	17 03 37.6	+0.6
	baz=217						
TWE	**Neicheng**	**0.44**	**349**	*e*P	Pb	17 03 32.3	+0.5
	baz=350						
TWE				*e*S	Sb	17 03 38.9	+0.8
	baz=350						
FUSS	**Fushou**	**0.47**	**265**	*e*P	Pb	17 03 33.2	+0.8
	baz=265						
FUSS				*e*S	Sb	17 03 39.6	+0.4
	baz=265						
WHF	**Hehuan Shan**	**0.47**	**253**	*e*P	Pb	17 03 33.0	+0.5
	baz=252						
WHF				*e*S	Sb	17 03 40.1	+0.8
	baz=252						
ILA	**Ilan**	**0.48**	**359**	*e*P	Pg	17 03 31.8	-0.4
	baz=359						
YHNB	**Yeheng**	**0.52**	**318**	*e*P	Pb	17 03 33.5	+0.4
	baz=317						
YHNB				*e*S	Sb	17 03 41.1	+0.8
	baz=317						
NSK	**Sanguang**	**0.53**	**317**	*e*P	Pb	17 03 34.0	+0.6
	baz=317						
NSK				*e*S	Sb	17 03 41.5	+0.8
	baz=317						
NWLT	**Wulai**	**0.54**	**335**	*e*P	Pb	17 03 34.3	+0.8
	baz=334						
NWLT				*e*S	Sb	17 03 41.5	+0.6
	baz=334						
TDCB	**Techi**	**0.55**	**267**	*e*P	Pb	17 03 34.4	+0.7
	baz=266						
TDCB				*e*S	Sg	17 03 40.9	-0.1
	baz=266						
ESL	**Shilin**	**0.56**	**212**	*e*P	Pb	17 03 34.2	+0.4
	baz=211						
ESL				*e*S	Sb	17 03 42.0	+0.7
	baz=211						
CHGB	**Renai**	**0.58**	**247**	*e*P	Pb	17 03 34.4	+0.2
	baz=247						
CHGB				*e*S	Sb	17 03 42.2	0.0
	baz=247						
TIPB	**Shuangxi**	**0.69**	**5**	*e*P	Pg	17 03 36.0	-0.1
	baz=5.0						
TIPB				*e*S	Sg	17 03 45.4	+0.2
	baz=5.0						

TAP ***16*** *17:03:48.6,24°83N×121°95E,h6km,ML3.0,B*
JMA ***16*** *17:03:49.4±0.2,24°86N×121°87E,h43km±4km,M2.2*
ISC 16 17:03:49.0±0.8,24°83N±0°02×121°96E±0°02,h12km±5km,
n75,σ0961/124,1C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.03**	**297**	P	**Pg**	**17 03 50.1**	**-1.0**
	baz=334						
NTC	**Toucheng**	**0.12**	**280**	P	**Pg**	**17 03 52.2**	**+0.1**
	baz=283						
NTC				*e*S	**Sg**	**17 03 54.8**	**+0.6**
	baz=283						
TWB1	**Santiao Chiao**	**0.18**	**9**	*i* P	**Pg**	**17 03 53.0**	**0.0**
	baz=13						
TWB1				S	**Sg**	**17 03 56.1**	**+0.4**
	baz=13						
TIPB	**Shuangxi**	**0.18**	**319**	⇑*i* P	**Pg**	**17 03 53.5**	**+0.4**
	baz=321						
TIPB				*i* S	**Sg**	**17 03 56.4**	**+0.5**
	baz=321						
ILA	**Ilan**	**0.20**	**251**	*e*P	**Pg**	**17 03 53.8**	**+0.4**
	baz=250						
ILA				*e*S	**Sg**	**17 03 56.7**	**+0.3**
	baz=250						
TWC	**Suao**	**0.24**	**204**	P	**Pg**	**17 03 54.3**	**+0.2**
	baz=200						
TWC				*e*S	**Sg**	**17 03 57.3**	**-0.2**
	baz=200						
NWF	**Wu-fen Shan**	**0.29**	**326**	P	**Pb**	**17 03 55.5**	**-0.6**
	baz=327						
NWF				S	**Sb**	**17 03 59.9**	**-1.1**
	baz=327						
WFSB	**Wu-fen Shan**	**0.29**	**326**	P	**Pb**	**17 03 55.6**	**-0.5**
	baz=327						
WFSB				*e*S	**Sb**	**17 03 60.0**	**-0.9**
	baz=327						
TWE	**Neicheng**	**0.29**	**247**	*e*P	**Pb**	**17 03 55.2**	**-0.9**
	baz=245						
TWE				*e*S	**Sb**	**17 03 59.4**	**-1.5**
	baz=245						
NDS	**Dongshan**	**0.30**	**228**	*e*P	**Pb**	**17 03 55.5**	**-0.8**
	baz=227						
NDS				*e*S	**Sg**	**17 03 57.9**	**-1.2**
	baz=227						
TNOU	**National Taiwa**	**0.36**	**332**	*e*P	**Pg**	**17 03 54.6**	**-1.6**
	baz=332						
TNOU				*e*S	**Sg**	**17 03 59.4**	**-1.6**
	baz=332						
TWA	**Mucha**	**0.37**	**293**	P	**Pb**	**17 03 57.0**	**-0.5**
	baz=294						
TWA				*e*S	**Sb**	**17 04 02.6**	**-0.7**
	baz=294						
ENTT	**Nioudou**	**0.41**	**242**	*e*P	**Pb**	**17 03 57.4**	**-0.7**
	baz=241						
ENTT				*e*S	**Sb**	**17 04 03.8**	**-0.5**
	baz=241						
NHDH	**Xindian Distri**	**0.41**	**288**	*e*P	**Pb**	**17 03 58.1**	**-0.2**
	baz=289						
NHDH				*e*S	**Sb**	**17 04 04.0**	**-0.5**
	baz=289						
NWLT	**Wulai**	**0.42**	**262**	*e*P	**Pb**	**17 03 57.5**	**-0.8**
	baz=262						
NWLT				*e*S	**Sg**	**17 04 03.3**	**+0.4**
	baz=262						
EWUT	**Wuta**	**0.42**	**203**	*e*P	**Pb**	**17 03 58.0**	**-0.3**
	baz=202						
EWUT				*e*S	**Sb**	**17 04 04.1**	**-0.6**
	baz=202						
ENA	**Nanau**	**0.45**	**206**	*e*P	**Pb**	**17 03 58.4**	**-0.5**
	baz=204						
ENA				*e*S	**Sb**	**17 04 04.6**	**-0.9**
	baz=204						
TAP	**Taipei**	**0.46**	**297**	*e*P	**Pb**	**17 03 59.0**	**-0.1**
	baz=297						
TAP				*e*S	**Sb**	**17 04 05.7**	**-0.2**
	baz=297						
NDT	**Datong Townshi**	**0.47**	**241**	*e*P	**Pb**	**17 03 58.5**	**-0.6**
	baz=240						
NDT				*e*S	**Sb**	**17 04 05.8**	**-0.2**
	baz=240						
YM01	**YM01**	**0.47**	**312**	P	**Pb**	**17 03 59.5**	**+0.2**
	baz=312						
YM01				*e*S	**Sb**	**17 04 05.7**	**-0.6**
	baz=312						
YM08	**YM08**	**0.49**	**317**	*e*P	**Pb**	**17 03 59.5**	**0.0**
	baz=317						
YM08				*e*S	**Sg**	**17 04 05.5**	**+0.4**
	baz=317						
ANP	**Anpu**	**0.53**	**312**	*e*P	**Pb**	**17 04 00.1**	**-0.2**
	baz=312						
ANP				*e*S	**Sb**	**17 04 08.0**	**0.0**
	baz=312						
TWY	**Chenhua**	**0.55**	**324**	*e*P	**Pb**	**17 04 00.9**	**+0.4**
	baz=324						
TWY				*e*S	**Sb**	**17 04 08.3**	**-0.1**
	baz=324						
YHNB	**Yeheng**	**0.55**	**253**	*e*P	**Pb**	**17 03 60.0**	**-0.7**
	baz=253						
YHNB				*e*S	**Sb**	**17 04 09.0**	**+0.3**
	baz=253						
TWS1	**Kuangyinshan**	**0.56**	**299**	*e*P	**Pb**	**17 04 00.4**	**-0.3**
	baz=299						
TWS1				*e*S	**Sb**	**17 04 08.6**	**-0.1**
	baz=299						
NSK	**Sanguang**	**0.57**	**254**	*e*P	**Pg**	**17 04 00.0**	**-0.1**
	baz=253						
NSK				*e*S	**Sb**	**17 04 09.3**	**+0.2**
	baz=253						
NTST	**Danshui**	**0.57**	**306**	*e*P	**Pb**	**17 04 01.6**	**+0.7**
	baz=306						
NNSB	**Datong**	**0.66**	**233**	*e*P	**Pb**	**17 04 01.8**	**-0.7**
	baz=232						
NNSB				*e*S	**Sb**	**17 04 12.0**	**+0.2**
	baz=232						
NNS	**Nan Shan**	**0.66**	**234**	*e*P	**Pb**	**17 04 02.1**	**-0.4**
	baz=233						
NNS				*e*S	**Sb**	**17 04 11.9**	**+0.1**
	baz=233						
NCU	**National Centr**	**0.71**	**281**	*e*P	**Pb**	**17 04 03.6**	**+0.2**
	baz=281						
NCU				*e*S	**Sb**	**17 04 14.4**	**+1.3**
	baz=281						
NCUH	**Zhongli**	**0.71**	**281**	*e*P	**Pb**	**17 04 03.9**	**+0.5**
	baz=281						
NCUH				*e*S	**Sb**	**17 04 14.7**	**+1.5**
	baz=281						
NACB	**Ninganchiao**	**0.73**	**207**	*e*P	**Pb**	**17 04 03.5**	**-0.2**
	baz=206						
NACB				S	**Sb**	**17 04 13.9**	**+0.1**
	baz=206						
ETLH	**Xiulin Townshi**	**0.76**	**215**	*e*P	**Pb**	**17 04 03.7**	**-0.5**
	baz=214						
ETLH				*e*S	**Sb**	**17 04 15.0**	**+0.5**
	baz=214						
NJD	**Zhudong**	**0.80**	**263**	*e*P	**Pn**	**17 04 05.7**	**-0.4**
	baz=263						
PCYT	**Pengchaiyu**	**0.80**	**7**	*e*P	**Pb**	**17 04 05.2**	**+0.4**
	baz=8.0						
PCYT				*e*S	**Sb**	**17 04 16.1**	**+0.4**
	baz=8.0						
TWD	**Chiawan**	**0.82**	**204**	*e*P	**Pb**	**17 04 04.8**	**-0.3**
	baz=202						
TWD				*e*S	**Sb**	**17 04 15.6**	**-0.6**
	baz=202						
NHW	**Xinwu Township**	**0.84**	**282**	*e*P	**Pn**	**17 04 07.0**	**+0.2**
	baz=282						
NHW				*e*S	**Sn**	**17 04 19.3**	**+0.2**
	baz=282						
FUSS	**Fushou**	**0.87**	**228**	*e*P	**Pb**	**17 04 05.7**	**-0.6**
	baz=228						
FUSS				*e*S	**Sb**	**17 04 19.2**	**+1.2**
	baz=228						
LIOB	**Emei**	**0.88**	**258**	*e*P	**Pb**	**17 04 06.5**	**+0.3**
	baz=257						
LIOB				*e*S	**Sn**	**17 04 20.0**	**+0.1**
	baz=257						
SBCB	**Hsinchu**	**0.89**	**268**	*e*P	**Pb**	**17 04 06.5**	**+0.1**
	baz=267						
SBCB				*e*S	**Sn**	**17 04 20.0**	**-0.1**
	baz=267						
NSTT	**Nanjuang**	**0.89**	**257**	*e*P	**Pb**	**17 04 06.9**	**+0.4**
	baz=256						
NSTT				*e*S	**Sb**	**17 04 19.5**	**+1.1**
	baz=256						
TWT	**Tachien**	**0.92**	**231**	*e*P	**Pb**	**17 04 07.3**	**+0.3**
	baz=231						
TWT				*e*S	**Sn**	**17 04 20.8**	**-0.4**
	baz=231						
TDCB	**Techi**	**0.93**	**232**	*e*P	**Pb**	**17 04 07.0**	**-0.2**
	baz=231						
TDCB				*e*S	**Sb**	**17 04 20.6**	**+1.1**
	baz=231						
WHF	**Hehuan Shan**	**0.93**	**223**	*e*P	**Pb**	**17 04 06.9**	**-0.5**
	baz=222						
WHF				*e*S	**Sb**	**17 04 19.4**	**-0.5**
	baz=222						
JYNG	**Yonaguniijimaku**	**0.97**	**113**	P	**Pb**	**17 04 08.1**	**+0.3**
JYNG				S	**Sb**	**17 04 20.9**	**+0.2**
YOJ	**Yonaguni jima**	**1.03**	**111**	P	**Pb**	**17 04 08.9**	**+0.2**
YOJ				*e*S	**Sb**	**17 04 22.4**	**+0.2**
YOJ	**Yonaguni jima**	**1.03**	**111**	*e*P	**Pb**	**17 04 09.1**	**+0.4**
	baz=110						
YOJ				*e*S	**Sb**	**17 04 22.7**	**+0.5**
	baz=110						
CHGB	**Renai**	**1.05**	**223**	*e*P	**Pb**	**17 04 09.0**	**-0.3**
	baz=222						
CHGB				*e*S	**Sn**	**17 04 24.3**	**-0.1**
	baz=222						
WHP	**Taichung City**	**1.07**	**239**	*e*P	**Pb**	**17 04 09.8**	**+0.2**
	baz=239						
WHP				*e*S	**Sn**	**17 04 25.5**	**+0.6**
	baz=239						
NMLH	**Miaoli**	**1.10**	**255**	*e*P	**Pn**	**17 04 10.6**	**+0.3**
	baz=254						
NMLH				*e*S	**Sn**	**17 04 26.1**	**+0.6**
	baz=254						
ESL	**Shilin**	**1.12**	**205**	*e*P	**Pn**	**17 04 11.0**	**+0.4**
	baz=204						
OWD	**Renai**	**1.13**	**219**	*e*P	**Pb**	**17 04 10.6**	**+0.1**
	baz=219						
TWQ1	**Liyutan**	**1.18**	**246**	*e*P	**Pn**	**17 04 11.6**	**+0.2**
	baz=245						
TWQ1				*e*S	**Sn**	**17 04 29.1**	**+1.6**
	baz=245						
WCS	**Beigang Elemen**	**1.23**	**231**	*e*P	**Pn**	**17 04 12.9**	**+0.9**
	baz=230						
DPDB	**Guoxing**	**1.23**	**230**	*e*P	**Pn**	**17 04 13.2**	**+1.0**
	baz=229						
WDJ	**Dajia District**	**1.29**	**248**	*e*P	**Pg**	**17 04 13.5**	**-0.4**
	baz=248						
SMLT	**Sun Moon Lake**	**1.35**	**226**	*e*P	**Pg**	**17 04 14.8**	**-0.2**
	baz=225						
TYC	**Yuchr**	**1.36**	**228**	*e*P	**Pg**	**17 04 14.7**	**-0.5**
	baz=227						
SSLB	**Suanglung**	**1.39**	**222**	*e*P	**Pn**	**17 04 14.5**	**+0.3**
	baz=221						
HGSD	**Ruisui**	**1.42**	**200**	*e*P	**Pg**	**17 04 16.2**	**-0.1**
	baz=199						
EHY	**Hungye**	**1.44**	**204**	*e*P	**Pb**	**17 04 15.8**	**-0.1**
	baz=203						
WJS	**Zhushan**	**1.51**	**228**	*e*P	**Pb**	**17 04 16.7**	**-0.3**
	baz=228						
WHYT	**Xinyi Township**	**1.52**	**222**	*e*P	**Pg**	**17 04 19.0**	**+0.9**
	baz=221						
YULB	**Yu-li**	**1.56**	**203**	*e*P	**Pb**	**17 04 17.9**	**+0.2**
	baz=202						
TWF1	**Yuli**	**1.59**	**202**	*e*P	**Pg**	**17 04 19.2**	**-0.4**
	baz=201						
ALS	**Alishan**	**1.69**	**219**	*e*P	**Pg**	**17 04 21.6**	**+0.2**
	baz=218						
IRIF	**Iriomote-Funau**	**1.69**	**107**	P	**Pn**	**17 04 17.9**	**-0.4**
CHN5	**Tsauling**	**1.70**	**224**	*e*P	**Pg**	**17 04 21.0**	**-0.6**
	baz=223						
FULB	**Fuli**	**1.74**	**201**	*e*P	**Pb**	**17 04 20.3**	**-0.5**
	baz=200						
ELDTW	**Lidau**	**1.85**	**208**	*e*P	**Pb**	**17 04 22.1**	**-0.7**
	baz=207						
CHN4	**Tsaushan**	**1.93**	**220**	*e*P	**Pb**	**17 04 23.8**	**-0.4**
	baz=220						
TPUB	**Ta-pu**	**1.95**	**219**	*e*P	**Pb**	**17 04 24.6**	**0.0**
	baz=218						
JKRS	**Kuro-shima**	**1.96**	**107**	P	**Pn**	**17 04 22.0**	**-0.1**
JKRS				*e*S	**Sn**	**17 04 46.1**	**-0.5**
JIJ	**Ishigaki jima**	**2.04**	**103**	*e*S	**Sn**	**17 04 48.8**	**+0.1**
CHN1	**Nanshi**	**2.10**	**219**	*e*P	**Pb**	**17 04 25.9**	**-1.1**
	baz=218						

JMA ***16*** *17:04:19.9±0.1,24°23N×121°80E,h21km±2km,M2.2*
TAP ***16*** *17:04:19.7,24°29N×121°82E,h20km,ML3.2,B*
ISC 16 17:04:20.0±0.9,24°27N±0°02×121°84E±0°02,h18km±2km,
n54,σ0946/95,2C-5D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.10**	**296**	*i* P	**Pg**	**17 04 23.7**	**0.0**
	baz=286						
EHP				*i* S	**Sg**	**17 04 26.8**	**+0.7**
	baz=286						
ENA	**Nanau**	**0.18**	**332**	⇓*i* P	**Pb**	**17 04 24.4**	**+0.2**
	baz=334						
ENA				*i* S	**Sg**	**17 04 27.9**	**0.0**
	baz=334						
EWUT	**Wuta**	**0.18**	**344**	⇓*i* P	**Pb**	**17 04 24.5**	**+0.2**
	baz=346						
EWUT				*i* S	**Sg**	**17 04 27.9**	**0.0**
	baz=346						
ETL	**Fush Village**	**0.22**	**241**	*i* P	**Pg**	**17 04 25.4**	**+0.1**
	baz=234						
ETL				S	**Sg**	**17 04 30.1**	**+1.2**
	baz=234						
NACB	**Ninganchiao**	**0.24**	**247**	*i* P	**Pb**	**17 04 25.4**	**-0.2**
	baz=241						
NACB				*i* S	**Sg**	**17 04 30.1**	**+0.9**
	baz=241						
TWD	**Chiawan**	**0.29**	**229**	*i* P	**Pg**	**17 04 26.5**	**+0.2**
	baz=224						
TWD				*i* S	**Sg**	**17 04 31.7**	**+1.1**
	baz=224						
ETLH	**Xiulin Townshi**	**0.33**	**259**	*i* P	**Pg**	**17 04 26.9**	**-0.2**
	baz=255						
ETLH				*i* S	**Sb**	**17 04 32.2**	**-0.1**
	baz=255						
TWC	**Suao**	**0.34**	**2**	⇑*i* P	**Pg**	**17 04 26.9**	**-0.3**
	baz=6.0						
TWC				*i* S	**Sg**	**17 04 32.0**	**-0.1**
	baz=6.0						
HWA	**Hwalien**	**0.36**	**216**	*e*P	**Pb**	**17 04 28.2**	**+0.4**
	baz=211						
HWA				*e*S	**Sn**	**17 04 35.6**	**-1.2**
	baz=211						
NDS	**Dongshan**	**0.38**	**343**	⇓*i* P	**Pg**	**17 04 27.7**	**-0.3**
	baz=344						
NDS				*i* S	**Sg**	**17 04 33.1**	**-0.2**
	baz=344						
ETM	**Tongmen**	**0.43**	**226**	*e*P	**Pg**	**17 04 29.0**	**+0.1**
	baz=223						
ETM				*e*S	**Sb**	**17 04 35.9**	**+0.5**
	baz=223						
NNSB	**Datong**	**0.44**	**291**	⇓*i* P	**Pg**	**17 04 29.0**	**-0.1**
	baz=289						
NNSB				*i* S	**Sg**	**17 04 35.4**	**+0.2**
	baz=289						
ENTT	**Nioudou**	**0.44**	**327**	*i* P	**Pg**	**17 04 28.8**	**-0.2**
	baz=327						
ENTT				*e*S	**Sg**	**17 04 35.3**	**+0.1**
	baz=327						
NDT	**Datong Townshi**	**0.44**	**319**	P	**Pg**	**17 04 28.8**	**-0.2**
	baz=318						
NDT				*e*S	**Sg**	**17 04 35.3**	**+0.1**
	baz=318						
TEYL	**Yanliau Villag**	**0.45**	**209**	*e*P	**Pb**	**17 04 29.6**	**+0.1**
	baz=208						
TEYL				*e*S	**Sn**	**17 04 37.7**	**-1.5**
	baz=208						
NNS	**Nan Shan**	**0.46**	**292**	⇓*i* P	**Pg**	**17 04 29.1**	**-0.2**
	baz=290						
NNS				*i* S	**Sg**	**17 04 35.6**	**+0.1**
	baz=290						
TWE	**Neicheng**	**0.48**	**341**	*i* P	**Pg**	**17 04 29.5**	**-0.2**
	baz=344						
TWE				*e*S	**Sg**	**17 04 36.2**	**+0.1**
	baz=344						
ILA	**Ilan**	**0.50**	**351**	*i* P	**Pb**	**17 04 30.2**	**-0.1**
	baz=353						
ILA				*e*S	**Sb**	**17 04 37.8**	**+0.6**
	baz=353						
WHF	**Hehuan Shan**	**0.53**	**257**	*i* P	**Pb**	**17 04 30.6**	**-0.4**
	baz=254						
WHF				*e*S	**Sb**	**17 04 38.6**	**+0.1**
	baz=254						
FUSS	**Fushou**	**0.54**	**268**	*e*P	**Pb**	**17 04 30.9**	**-0.1**
	baz=266						
FUSS				*e*S	**Sg**	**17 04 38.7**	**+0.5**
	baz=266						
YHNB	**Yeheng**	**0.58**	**314**	P	**Pb**	**17 04 31.3**	**-0.2**
	baz=313						
YHNB				S	**Sb**	**17 04 39.2**	**-0.3**
	baz=313						
ESL	**Shilin**	**0.58**	**219**	*e*P	**Pb**	**17 04 31.4**	**-0.2**
	baz=216						
ESL				*e*S	**Sn**	**17 04 41.0**	**-1.4**
	baz=216						
NTC	**Toucheng**	**0.58**	**360**	*e*P	**Pb**	**17 04 31.4**	**-0.2**
	baz=1.0						
NTC				*e*S	**Sb**	**17 04 39.3**	**-0.2**
	baz=1.0						
NWLT	**Wulai**	**0.59**	**329**	P	**Pb**	**17 04 31.3**	**-0.4**
	baz=329						
NWLT				*e*S	**Sb**	**17 04 39.5**	**-0.2**
	baz=329						
NSK	**Sanguang**	**0.59**	**313**	⇑P	**Pb**	**17 04 31.5**	**-0.3**
	baz=313						
NSK				S	**Sb**	**17 04 39.5**	**-0.4**
	baz=313						
TWT	**Tachien**	**0.60**	**269**	*e*P	**Pb**	**17 04 32.0**	**0.0**
	baz=266						
TWT				*e*S	**Sg**	**17 04 40.8**	**+0.7**
	baz=266						
TDCB	**Techi**	**0.62**	**269**	*e*P	**Pb**	**17 04 32.4**	**+0.1**
	baz=267						
TDCB				*e*S	**Sb**	**17 04 40.4**	**-0.3**
	baz=267						
CHGB	**Renai**	**0.64**	**251**	*e*P	**Pb**	**17 04 32.8**	**+0.1**
	baz=249						
CHGB				*e*S	**Sg**	**17 04 41.6**	**+0.4**
	baz=249						
OWD	**Renai**	**0.68**	**243**	*e*P	**Pb**	**17 04 33.2**	**-0.1**
	baz=241						
TIPB	**Shuangxi**	**0.70**	**359**	P	**Pb**	**17 04 33.5**	**-0.2**
TIPB				*e*S	**Sb**	**17 04 42.6**	**-0.4**
EGFH	**Guangfu**	**0.70**	**212**	*e*P	**Pb**	**17 04 33.6**	**0.0**
	baz=210						
TWA	**Mucha**	**0.74**	**342**	*e*P	**Pg**	**17 04 35.0**	**+0.4**
	baz=343						
TWA				*e*S	**Sg**	**17 04 44.9**	**+0.3**
	baz=343						
NHDH	**Xindian Distri**	**0.75**	**338**	*e*P	**Pg**	**17 04 34.9**	**+0.2**
	baz=338						
NHDH				*e*S	**Sg**	**17 04 44.9**	**+0.3**
	baz=338						
TWB1	**Santiao Chiao**	**0.75**	**11**	*e*P	**Pb**	**17 04 34.5**	**0.0**
	baz=13						
TWB1				*e*S	**Sb**	**17 04 44.1**	**-0.2**
	baz=13						
NWF	**Wu-fen Shan**	**0.80**	**357**	*e*P	**Pb**	**17 04 35.8**	**+0.4**
	baz=357						

NWF					*e*S		**Sb**	**17 04 46.2**	**+0.3**
	baz=357										
WFSB	**Wu-fen Shan**	**0.80**	**357**	*e*P			**Pg**	**17 04 35.8**	**+0.2**
	baz=357										
WHP	**Taichung City**	**0.81**	**271**	*e*P			**Pg**	**17 04 35.9**	**0.0**
	baz=269										
WHP					*e*S		**Sg**	**17 04 46.8**	**+0.1**
	baz=269										
LIOB	**Emei**	**0.84**	**297**	*e*P			**Pn**	**17 04 36.8**	**-0.1**
	baz=296										
LIOB					*e*S		**Sn**	**17 04 48.4**	**-0.3**
	baz=296										
WPL	**Puli Township**	**0.84**	**253**	*e*P			**Pb**	**17 04 35.7**	**-0.3**
	baz=251										
NSTT	**Nanjuang**	**0.84**	**296**	*e*P			**Pn**	**17 04 36.9**	**0.0**
	baz=295										
NSTT					*e*S		**Sg**	**17 04 47.6**	**0.0**
	baz=295										
HGSD	**Ruisui**	**0.86**	**206**	*e*P			**Pn**	**17 04 37.4**	**+0.3**
	baz=205										
DPDB	**Guoxing**	**0.86**	**254**	*e*P			**Pb**	**17 04 36.6**	**+0.2**
	baz=253										
YM01	**YM01**	**0.91**	**345**	*e*P			**Pg**	**17 04 37.9**	**+0.2**
	baz=345										
YM01					*e*S		**Sg**	**17 04 50.0**	**+0.3**
	baz=345										
TWS1	**Kuangyinshan**	**0.91**	**336**	*e*P			**Pb**	**17 04 36.8**	**-0.4**
	baz=336										
TWS1					*e*S		**Sg**	**17 04 50.1**	**+0.3**
	baz=336										
NCUH	**Zhongli**	**0.91**	**320**	*e*P			**Pn**	**17 04 37.9**	**0.0**
	baz=319										
NCUH					*e*S		**Sn**	**17 04 51.6**	**+1.0**
	baz=319										
NCU	**National Centr**	**0.92**	**320**	*e*P			**Pg**	**17 04 38.1**	**+0.3**
	baz=320										
NCU					*e*S		**Sn**	**17 04 51.9**	**+1.3**
	baz=320										
SSLB	**Suanglung**	**0.94**	**239**	*e*P			**Pb**	**17 04 37.5**	**-0.2**
	baz=238										
ANP	**Anpu**	**0.96**	**343**	*e*P			**Pb**	**17 04 38.4**	**+0.3**
	baz=343										
YOJ	**Yonaguni jima**	**1.09**	**80**	P			**Pn**	**17 04 40.0**	**-0.3**
YOJ					*e*S		**Sg**	**17 04 56.1**	**+0.7**
YOJ	**Yonaguni jima**	**1.09**	**80**	P			**Pn**	**17 04 40.1**	**-0.3**
	baz=81										
IRIF	**Iriomote-Funau**	**1.73**	**87**	*e*S			**Sb**	**17 05 12.4**	**-0.2**
JKRS	**Kuro-shima**	**1.98**	**90**	*e*S			**Sb**	**17 05 19.3**	**-0.6**
JIJ	**Ishigaki jima**	**2.11**	**87**	*e*S			**Sn**	**17 05 19.9**	**-0.2**
JISG	**Ishigakijimahi**	**2.28**	**81**	*e*S			**Sn**	**17 05 25.2**	**+0.9**

IDC 16 17:06:04.4±1.9, 6.14S×151.84E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/38, mbtmp3.7/4, Error ellipse: s-maj=105.2km s-min=26.5km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.85**	**229**	P	P	17 10 58.5	-0.4
	0.4nm,0.6s,baz=56,slow=10,SNR=6.8						
ASAR	**Alice Springs**	**24.52**	**223**	P	P	17 11 26.8	+0.9
	0.7nm,0.6s,baz=58,slow=8.5,SNR=25						
FITZ	**Fitzroy Crossi**	**28.19**	**243**	P	P	17 11 58.5	-0.5
	1.3nm,0.5s,baz=54,slow=8.5,SNR=15						
ILAR	**Eielson Array**	**83.75**	**22**	P	P	17 18 35.4	+0.2
	0.6nm,0.6s,baz=245,slow=5.5,SNR=7.4						
TORD	**Torodi Ar. Bea**	**149.78**	**286**	PKPbc	PKPbc	17 25 56.8	-0.8
	0.9nm,0.6s,baz=69,slow=3.5,SNR=5.8						

IDC 16 17:16:16.3±4.8, 5.12S×146.16E, h0km, mb3.1/2, mb1 3.5/4, mb1mx3.3/33, mbtmp3.3/4, ML3.2/2, MS3.4/1, Ms1 3.4/1, ms1mx2.8/20, Error ellipse: s-maj=82.1km s-min=33.5km az=72.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**6.03**	**295**	Pn	Pn	17 17 47.1	+0.4
	0.3nm,0.3s,baz=107,slow=14,SNR=1.7						
JAY				Sn	Sn	17 18 56.3	-0.3
	0.2nm,0.3s,baz=301,slow=6.8,SNR=1.8						
WRA	**Warramunga Arr**	**18.69**	**217**	P	P	17 20 35.9	-0.4
	0.1nm,0.3s,baz=41,slow=11,SNR=6.1						
ASAR	**Alice Springs**	**21.89**	**211**	P	P	17 21 11.2	0.0
	0.8nm,1.2s,baz=44,slow=8.4,SNR=1.9						
KAPI	**Kappang**	**26.30**	**269**	LR	LR	17 34 23.5	
	comp=Z,70nm,18.4s,baz=101,slow=4.1						
CMAR	**Chiang Mai Arr**	**52.10**	**298**	P	P	17 25 28.7	+0.1
	0.4nm,0.8s,baz=119,slow=6.9,SNR=1.6						

*IDC **16** 17:16:44.7±1.1, 23.06N×120.35E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.4/43, mbtmp3.5/6, MS3.3/1, Ms1 3.3/1, ms1mx2.7/32, Error ellipse: s-maj=54.5km s-min=19.5km az=61.0*

*TAP **16** 17:16:46.9, 23.01N×120.10E, h18km, ML4.2, B*

*JMA **16** 17:16:46.0±0.2, 23.08N×120.06E, h0km, M3.9*

*NEIC **16** 17:16:47.2±2.2, 22.99N±0.08×120.06E±0.06, h25km±7km, mb4.2/8, ML4.5(TAP), Error ellipse: s-maj=12.2km s-min=7.0km az=207.0*

ISC 16 17:16:47.3±0.8, 23.02N±0.02×120.06E±0.02, h24km±5km, n166, σ1s11/233, mb3.6/9, 42C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAI	**Tainan**	**0.13**	**102**	⇓*i*P	**Pb**	**17 16 51.1**	**-0.8**
	baz=96						
TAI				*i* S	**Sb**	**17 16 54.6**	**-0.5**
	baz=96						
TAI1	**Yung-k'ang**	**0.15**	**83**	⇓*i*P	**Pb**	**17 16 51.7**	**-0.5**
	baz=75						
TAI1				*i* S	**Sb**	**17 16 55.9**	**+0.4**
	baz=75						
SCLT	**Jiali**	**0.20**	**38**	⇓*i*P	**Pb**	**17 16 52.8**	**0.0**
	baz=30						
SCLT				S	**Sb**	**17 16 57.7**	**+1.3**
	baz=30						
CHN3	**Shinhua**	**0.28**	**79**	*i* P	**Pb**	**17 16 54.0**	**0.0**
	baz=74						
CHN3				*i* S	**Sn**	**17 16 59.7**	**-1.8**
	baz=74						
CHN8	**Yiju**	**0.35**	**23**	*i* P	**Pb**	**17 16 55.5**	**+0.5**
	baz=19						
CHN8				S	**Sn**	**17 17 02.4**	**-0.8**
	baz=19						
SNJT	**Kaohsiung City**	**0.37**	**137**	⇑*i*P	**Pb**	**17 16 55.2**	**0.0**
	baz=139						
SNJT				*e*S	**Sb**	**17 17 01.3**	**+0.6**
	baz=139						
ICHU	**Yijhu**	**0.39**	**31**	⇑*i*P	**Pb**	**17 16 55.9**	**+0.2**
	baz=25						
ICHU				S	**Sn**	**17 17 02.4**	**-1.8**
	baz=25						
SCST	**Cishan**	**0.42**	**109**	⇑*i*P	**Pb**	**17 16 56.6**	**+0.5**
	baz=108						
WDGT	**Dungji**	**0.44**	**303**	⇑*i*P	**Pb**	**17 16 57.0**	**+0.6**
	baz=302						
WDGT				*i* S	**Sn**	**17 17 04.3**	**-1.0**
	baz=302						
SNST	**Tainan City**	**0.45**	**64**	*i* P	**Pb**	**17 16 56.9**	**+0.3**
	baz=60						
CHN1	**Nanshi**	**0.46**	**69**	*e*P	**Pb**	**17 16 56.8**	**0.0**
	baz=66						
TWK	**Hsinying**	**0.46**	**58**	⇓*i*P	**Pn**	**17 16 57.4**	**-1.1**
	baz=55						
TWK				S	**Sn**	**17 17 04.4**	**-1.6**
	baz=55						
SGST	**Jiashian**	**0.48**	**83**	⇑*e*P	**Pb**	**17 16 56.5**	**-0.6**
	baz=81						
SGST				*e*S	**Sn**	**17 17 05.4**	**-1.1**
	baz=81						
SGLT	**Jiouru**	**0.49**	**127**	⇑P	**Pb**	**17 16 58.0**	**+0.7**
	baz=127						
KAU	**Kaohsiung**	**0.51**	**153**	⇑P	**Pb**	**17 16 58.0**	**+0.5**
	baz=155						
TSPT	**Pingtung City**	**0.53**	**131**	⇑*e*P	**Pb**	**17 16 58.4**	**+0.5**
	baz=132						
SLGT	**Liugui**	**0.54**	**93**	⇑*i*P	**Pb**	**17 16 58.3**	**+0.2**
	baz=91						
SLGT				*e*S	**Sn**	**17 17 06.5**	**-1.3**
	baz=91						
WTP	**Ta-pu**	**0.56**	**66**	*e*P	**Pb**	**17 16 58.4**	**-0.1**
	baz=64						
CHY	**Chiayi**	**0.58**	**35**	⇑P	**Pn**	**17 16 59.4**	**-0.6**
	baz=32						
CHY				*e*S	**Sn**	**17 17 08.7**	**-0.1**
	baz=32						
CHN4	**Tsaushan**	**0.59**	**56**	*i* P	**Pb**	**17 16 59.1**	**+0.1**
	baz=53						
CHN4				*e*S	**Sn**	**17 17 08.2**	**-0.8**
	baz=53						
TPUB	**Ta-pu**	**0.59**	**62**	⇑P	**Pb**	**17 16 58.8**	**-0.2**
	baz=59						
TPUB				*e*S	**Sn**	**17 17 07.9**	**-1.3**
	baz=59						
TPUB	**Ta-pu**	**0.59**	**62**		**Pb**	**17 16 58.8**	**-0.2**
SSD	**Sandimen**	**0.59**	**117**	⇑*i*P	**Pb**	**17 16 59.1**	**+0.1**
	baz=117						
SSD				*e*S	**Sn**	**17 17 09.3**	**+0.2**
	baz=117						
VCHM	**Qimei**	**0.61**	**288**	⇑*i*P	**Pb**	**17 16 59.7**	**+0.4**
	baz=288						
VCHM				S	**Sn**	**17 17 09.4**	**-0.2**
	baz=288						
TSMG	**Majia**	**0.62**	**120**	⇑*i*P	**Pb**	**17 16 59.5**	**0.0**
	baz=121						
TSMG				*e*S	**Sn**	**17 17 09.7**	**-0.2**
	baz=121						
WSF	**Szhu**	**0.63**	**13**	⇑*i*P	**Pn**	**17 17 00.4**	**-0.3**
	baz=11						
WSF				*e*S	**Sn**	**17 17 10.6**	**+0.5**
	baz=11						
CHN2	**Minshiung**	**0.63**	**37**	*e*P	**Pn**	**17 17 00.7**	**-0.1**
	baz=33						
CHN2				*e*S	**Sn**	**17 17 11.2**	**+1.1**
	baz=33						
STYT	**Tauyuan**	**0.66**	**77**	P	**Pb**	**17 17 00.2**	**+0.1**
	baz=76						
STYT				*e*S	**Sn**	**17 17 10.3**	**-0.5**
	baz=76						
PHUB	**P'eng-hu**	**0.67**	**317**	⇑*i*P	**Pb**	**17 17 00.5**	**+0.2**
	baz=316						
PHUB				S	**Sn**	**17 17 10.6**	**-0.3**
	baz=316						
MASBT	**Mashibuluo**	**0.67**	**128**	⇑*i*P	**Pb**	**17 17 00.6**	**+0.3**
	baz=128						
MASBT				*e*S	**Sn**	**17 17 11.3**	**+0.3**
	baz=128						
STYH	**Taoyuan**	**0.67**	**77**	⇑P	**Pn**	**17 17 00.7**	**-0.6**
	baz=75						
STYH				*e*S	**Sn**	**17 17 11.4**	**+0.3**
	baz=75						
SSPT	**Xinbi**	**0.71**	**139**	⇑P	**Pn**	**17 17 01.8**	**0.0**
	baz=140						
SSPT				*e*S	**Sn**	**17 17 13.4**	**+1.4**
	baz=140						
PNG	**Penghu**	**0.72**	**319**	⇑*i*P	**Pb**	**17 17 01.3**	**+0.3**
	baz=319						
PNG				S	**Sn**	**17 17 12.0**	**-0.1**
	baz=319						
TWP	**Hsiaoliuchiu**	**0.73**	**158**	⇑P	**Pn**	**17 17 02.4**	**+0.3**
	baz=159						
TWP				*e*S	**Sn**	**17 17 14.8**	**+2.4**
	baz=159						
WTK	**Tuku**	**0.73**	**24**	⇑*i*P	**Pn**	**17 17 01.8**	**-0.3**
	baz=21						
WTK				S	**Sn**	**17 17 12.6**	**+0.1**
	baz=21						
WLCH	**Liuqiu**	**0.73**	**156**	⇑P	**Pn**	**17 17 02.4**	**+0.3**
	baz=158						
WLCH				*e*S	**Sn**	**17 17 13.9**	**+1.4**
	baz=158						
WDLH	**Douliu**	**0.80**	**33**	P	**Pn**	**17 17 03.1**	**+0.1**
	baz=31						
WDLH				*e*S	**Sn**	**17 17 14.8**	**+0.7**
	baz=31						
CHN5	**Tsauling**	**0.81**	**45**	P	**Pn**	**17 17 02.9**	**-0.4**
	baz=42						
CHN5				*e*S	**Sn**	**17 17 15.2**	**+0.6**
	baz=42						
WGK	**Gukeng**	**0.81**	**35**	*e*P	**Pn**	**17 17 03.3**	**+0.2**
	baz=33						
WGK				*e*S	**Sn**	**17 17 15.8**	**+1.4**
	baz=33						
SCZT	**Fangliau**	**0.83**	**141**	⇑*i*P	**Pb**	**17 17 03.3**	**+0.4**
	baz=142						
SCZT				*e*S	**Sn**	**17 17 15.2**	**+0.3**
	baz=142						
ALS	**Alishan**	**0.84**	**54**	⇑P	**Pn**	**17 17 03.6**	**-0.3**
	baz=53						
ALS				*e*S	**Sn**	**17 17 16.2**	**+0.5**
	baz=53						
WTCT	**Ta-ch'eng**	**0.86**	**13**	*e*P	**Pn**	**17 17 04.4**	**+0.5**
	baz=12						
WTCT				*e*S	**Sn**	**17 17 17.4**	**+1.6**
	baz=12						
ELDTW	**Lidau**	**0.90**	**79**	⇑*i*P	**Pn**	**17 17 04.5**	**0.0**
	baz=78						
ELDTW				*e*S	**Sn**	**17 17 17.4**	**+0.6**
	baz=78						
WRL	**Guolierlin Hig**	**0.92**	**18**	*e*P	**Pn**	**17 17 04.8**	**+0.1**
	baz=16						
WRL				*e*S	**Sn**	**17 17 17.9**	**+0.6**
	baz=16						
TWG	**Pinlang**	**0.95**	**102**	P	**Pn**	**17 17 05.1**	**0.0**
	baz=102						
TWG				*e*S	**Sn**	**17 17 18.4**	**+0.4**
	baz=102						
TWG	**Pinlang**	**0.95**	**102**	Pn	**Pb**	**17 17 04.8**	**-0.3**
TWGBT	**Beinan**	**0.96**	**102**	*e*P	**Pn**	**17 17 05.2**	**-0.1**
	baz=102						
TWGBT				*e*S	**Sn**	**17 17 18.3**	**+0.1**
	baz=102						
EAST	**Anshuo**	**0.96**	**131**	⇑*i*P	**Pn**	**17 17 05.5**	**+0.1**
	baz=131						
EAST				*e*S	**Sn**	**17 17 19.7**	**+1.3**
	baz=131						
WHYT	**Xinyi Township**	**0.99**	**47**	P	**Pn**	**17 17 05.6**	**-0.1**
	baz=45						
WHYT				*e*S	**Sn**	**17 17 20.1**	**+1.1**
	baz=45						
LONT	**Longtian**	**0.99**	**96**	⇑P	**Pn**	**17 17 05.9**	**+0.2**
	baz=96						
LONT				*e*S	**Sn**	**17 17 19.3**	**+0.3**
	baz=96						
WJS	**Zhushan**	**1.00**	**37**	⇓P	**Pn**	**17 17 06.1**	**+0.2**
	baz=35						
WJS				*e*S	**Sn**	**17 17 20.3**	**+0.9**
	baz=35						
TAW	**Tawu**	**1.01**	**130**	⇑*i*P	**Pn**	**17 17 06.1**	**+0.1**
	baz=131						
TAW				*e*S	**Sn**	**17 17 20.1**	**+0.6**
	baz=131						
WNT	**Mingjian**	**1.03**	**34**	⇓*e*P	**Pn**	**17 17 06.5**	**+0.3**
	baz=32						
WNT				*e*S	**Sn**	**17 17 21.3**	**+1.5**
	baz=32						
TTN	**Taitung**	**1.03**	**105**	⇑*e*P	**Pb**	**17 17 07.6**	**+1.1**
	baz=104						
TTN				*e*S	**Sn**	**17 17 23.6**	**+3.6**
	baz=104						
SLIU	**Shizi**	**1.05**	**140**	⇑*i*P	**Pn**	**17 17 06.4**	**-0.1**
	baz=140						
SLIU				*e*S	**Sb**	**17 17 20.4**	**+0.3**
	baz=140						
SSLB	**Suanglung**	**1.12**	**47**	P	**Pb**	**17 17 07.6**	**-0.4**
	baz=45						
SSLB				*e*S	**Sn**	**17 17 22.2**	**0.0**
	baz=45						
SSLB	**Suanglung**	**1.12**	**47**	Pn	**Pn**	**17 17 07.3**	**-0.2**
TYC	**Yuchr**	**1.14**	**40**	⇓P	**Pb**	**17 17 08.3**	**0.0**
	baz=38						
TYC				*e*S	**Sn**	**17 17 24.4**	**+1.7**
	baz=38						
EDH	**Donghe**	**1.15**	**92**	⇑P	**Pb**	**17 17 08.3**	**-0.1**
	baz=92						
EDH				*e*S	**Sn**	**17 17 24.0**	**+1.2**
	baz=92						
WCHH	**Zhanghua**	**1.15**	**23**	*e*P	**Pb**	**17 17 08.6**	**+0.2**
	baz=22						
FULB	**Fuli**	**1.15**	**81**	⇑*e*P	**Pb**	**17 17 09.1**	**+0.6**
	baz=80						
FULB				*e*S	**Sn**	**17 17 25.0**	**+2.1**
	baz=80						
SMLT	**Sun Moon Lake**	**1.15**	**42**	⇓*e*P	**Pb**	**17 17 08.5**	**-0.1**
	baz=40						
SMLT				*e*S	**Sn**	**17 17 25.1**	**+2.0**
	baz=40						
WWF	**Wufeng**	**1.17**	**30**	*e*P	**Pb**	**17 17 09.0**	**+0.1**
	baz=28						
WWF				*e*S	**Sn**	**17 17 25.2**	**+1.7**
	baz=28						
TWF1	**Yuli**	**1.18**	**74**	⇑*e*P	**Pb**	**17 17 09.1**	**+0.1**
	baz=73						
TWF1				*e*S	**Sn**	**17 17 24.8**	**+1.0**
	baz=73						
HEN	**Hengchun**	**1.19**	**148**	P	**Pn**	**17 17 08.4**	**0.0**
	baz=149						
HEN				*e*S	**Sn**	**17 17 23.4**	**-0.4**
	baz=149						
YULB	**Yu-li**	**1.20**	**72**	⇑*e*P	**Pb**	**17 17 09.0**	**-0.3**
	baz=71						
YULB				*e*S	**Sb**	**17 17 25.0**	**+0.7**
	baz=71						
YULB	**Yu-li**	**1.20**	**72**	Pn	**Pb**	**17 17 08.9**	**-0.3**
EYUL	**Yuli**	**1.20**	**74**	⇑*e*P	**Pb**	**17 17 09.4**	**+0.1**
	baz=73						
EYUL				*e*S	**Sb**	**17 17 24.9**	**+0.4**
	baz=73						
CHKT	**Chengkung**	**1.20**	**86**	*e*P	**Pb**	**17 17 09.5**	**+0.1**
	baz=85						
CHKT				*e*S	**Sb**	**17 17 26.7**	**+2.2**
	baz=85						
TCU	**Taichung**	**1.25**	**27**	*e*P	**Pb**	**17 17 10.4**	**+0.2**
	baz=25						
TCU				*e*S	**Sb**	**17 17 28.5**	**+2.5**
	baz=25						
EHY	**Hungye**	**1.25**	**67**	*e*P	**Pb**	**17 17 10.3**	**+0.1**
	baz=66						
EHY				*e*S	**Sb**	**17 17 26.6**	**+0.6**
	baz=66						
TWK1	**Hengchun**	**1.27**	**147**	⇑*e*P	**Pn**	**17 17 09.6**	**0.0**
	baz=148						
TWK1				*e*S	**Sn**	**17 17 25.5**	**-0.5**
	baz=148						
TWKBT	**Hengchun**	**1.28**	**147**	⇑P	**Pn**	**17 17 09.6**	**-0.1**
	baz=148						
TWKBT				*e*S	**Sn**	**17 17 25.9**	**-0.2**
	baz=148						
DPDB	**Guoxing**	**1.28**	**38**	*e*P	**Pb**	**17 17 10.6**	**-0.2**
	baz=37						
DPDB				*e*S	**Sb**	**17 17 27.4**	**+0.5**
	baz=37						
WPL	**Puli Township**	**1.28**	**40**	*e*P	**Pb**	**17 17 10.3**	**-0.5**
	baz=38						
WPL				*e*S	**Sb**	**17 17 26.9**	**+0.1**
	baz=38						
WCS	**Beigang Elemen**	**1.29**	**37**	*e*P	**Pb**	**17 17 10.4**	**-0.5**
	baz=36						
HGSD	**Ruisui**	**1.34**	**69**	⇑*e*P	**Pb**	**17 17 12.1**	**+0.4**
	baz=68						
LDUT	**Ludao**	**1.34**	**105**	*e*P	**Pn**	**17 17 10.7**	**+0.2**
	baz=105						
LDUT				*e*S	**Sb**	**17 17 29.0**	**+0.5**
	baz=105						
TSEB	**Hengchuen, Pin**	**1.36**	**145**	⇑*e*P	**Pn**	**17 17 10.5**	**-0.2**
	baz=147						
TSEB				*e*S	**Sn**	**17 17 27.9**	**-0.2**
	baz=147						
OWD	**Renai**	**1.38**	**48**	*e*P	**Pb**	**17 17 12.2**	**-0.3**
	baz=46						
EGFH	**Guangfu**	**1.41**	**63**	⇑*e*P	**Pb**	**17 17 12.7**	**-0.2**
	baz=62						
EGFH				*e*S	**Sb**	**17 17 30.8**	**+0.3**
	baz=62						
WDJ	**Dajia District**	**1.42**	**22**	*e*P	**Pb**	**17 17 13.6**	**+0.5**
	baz=20						
CHGB	**Renai**	**1.45**	**44**	*e*P	**Pb**	**17 17 13.2**	**-0.6**
	baz=43						
CHGB				*e*S	**Sb**	**17 17 32.2**	**+0.3**
	baz=43						
TWQ1	**Liyutan**	**1.47**	**26**	*e*P	**Pb**	**17 17 14.1**	**+0.1**
	baz=25						
ESL	**Shilin**	**1.49**	**58**	*e*P	**Pb**	**17 17 13.7**	**-0.5**
	baz=57						
ESL				*e*S	**Sb**	**17 17 33.6**	**+1.0**
	baz=57						
WHP	**Taichung City**	**1.49**	**33**	*e*P	**Pb**	**17 17 13.7**	**-0.6**
	baz=29						
WHP				*e*S	**Sb**	**17 17 33.7**	**+0.8**
	baz=29						
NSY	**Sanyi**	**1.53**	**25**	*e*P	**Pb**	**17 17 15.5**	**+0.6**
	baz=24						
WHF	**Hehuan Shan**	**1.57**	**44**	*e*P	**Pb**	**17 17 16.1**	**+0.2**
	baz=44						
TDCB	**Techi**	**1.58**	**39**	*e*P	**Pb**	**17 17 15.2**	**-0.7**
	baz=38						
TWT	**Tachien**	**1.60**	**40**	*e*P	**Pb**	**17 17 15.3**	**-0.8**
	baz=38						
FUSS	**Fushou**	**1.63**	**41**	*e*P	**Pb**	**17 17 15.8**	**-1.1**
	baz=40						
NMLH	**Miaoli**	**1.65**	**24**	*e*P	**Pb**	**17 17 17.1**	**+0.1**
	baz=23						
LAY	**Lan-yu**	**1.69**	**125**	*e*P	**Pn**	**17 17 14.6**	**-0.7**
	baz=125						
LAY				*e*S	**Sn**	**17 17 35.2**	**-1.0**
	baz=125						
ETLH	**Xiulin Townshi**	**1.76**	**48**	*e*P	**Pb**	**17 17 18.1**	**-0.7**
	baz=47						
TWD	**Chiawan**	**1.76**	**53**	*e*P	**Pb**	**17 17 17.9**	**-1.0**
	baz=52						
NACB	**Ninganchiao**	**1.81**	**50**	*e*P	**Pb**	**17 17 18.3**	**-1.5**
	baz=50						
NACB	**Ninganchiao**	**1.81**	**50**	Pn	**Pb**	**17 17 18.3**	**-1.5**
NSTT	**Nanjuang**	**1.82**	**28**	*e*P	**Pb**	**17 17 18.4**	**-1.4**
	baz=27						
LIOB	**Emei**	**1.84**	**28**	*e*P	**Pn**	**17 17 18.2**	**+0.8**
	baz=27						
NNSB	**Datong**	**1.85**	**41**	*e*P	**Pb**	**17 17 19.0**	**-1.5**
	baz=40						
NNS	**Nan Shan**	**1.85**	**40**	*e*P	**Pb**	**17 17 19.1**	**-1.4**
	baz=40						
NSK	**Sanguang**	**2.03**	**36**	*e*P	**Pn**	**17 17 21.5**	**+1.4**
	baz=35						
YHNB	**Yeheng**	**2.03**	**36**	⇑*e*P	**Pn**	**17 17 21.5**	**+1.3**
	baz=35						
YHNB				*e*S	**Sb**	**17 17 47.8**	**-0.7**
	baz=35						
YHNB	**Yeheng**	**2.03**	**36**	Pn	**Pn**	**17 17 21.4**	**+1.3**
KNM	**Kinmen**	**2.04**	**313**	*e*P	**Pb**	**17 17 22.3**	**-1.3**
	baz=310						
NDT	**Datong Townshi**	**2.06**	**40**	*e*P	**Pb**	**17 17 22.2**	**-1.8**
	baz=39						
ENA	**Nanau**	**2.08**	**47**	*e*P	**Pn**	**17 17 21.8**	**+1.1**
	baz=47						
KNMB	**Chin-men Tao**	**2.10**	**313**	*e*P	**Pn**	**17 17 21.3**	**+0.3**
	baz=313						
KNMB	**Chin-men Tao**	**2.10**	**313**	Pn	**Pn**	**17 17 21.2**	**+0.3**
EWUT	**Wuta**	**2.12**	**48**	*e*P	**Pb**	**17 17 23.4**	**-1.5**
	baz=47						
ENTT	**Nioudou**	**2.12**	**40**	*e*P	**Pb**	**17 17 23.4**	**-1.6**
	baz=40						
PTMZ	**Houxiangcun**	**2.19**	**337**	*e*P	**Pn**	**17 17 22.6**	**+0.5**
	baz=336						
NWLT	**Wulai**	**2.19**	**37**	*e*P	**Pn**	**17 17 23.4**	**+1.2**
	baz=36						
NDS	**Dongshan**	**2.21**	**43**	*e*P	**Pb**	**17 17 25.1**	**-1.4**
	baz=42						
TWE	**Neicheng**	**2.24**	**41**	*e*P	**Pb**	**17 17 25.1**	**-2.0**
	baz=40						
TWC	**Suao**	**2.27**	**46**	*e*P	**Pn**	**17 17 24.5**	**+1.1**
	baz=45						
ZPLA	**Ao Xicun**	**2.31**	**294**	*e*P	**Pn**	**17 17 24.4**	**+0.6**
	baz=293						
QZH	**Quanzhou**	**2.34**	**325**	*e*Pn	**Pn**	**17 17 25.9**	**+1.7**
QZH				Sn	**Sn**	**17 17 54.4**	**+2.2**
QZH				smax	smax		
	comp=N,330nm,0.3s						
QZH				smax	smax		
	comp=E,340nm,0.4s						
QZH				LR	LR		
	comp=Z,450nm,10.3s						
TATO	**Taipei**	**2.34**	**34**	Pn	**Pn**	**17 17 24.4**	**+0.1**
TWA	**Mucha**	**2.40**	**35**	*e*P	**

	baz=357							
MHZQ	**Yeshan**	**3.21**	**343**	*e*P		**Pn**	**17 17 37.6**	**+1.4**
	baz=342							
LYJJ	**Jianjiangzhen**	**3.52**	**356**	*e*P		**Pn**	**17 17 41.9**	**+1.4**
	baz=355							
HATJ	**Hateruma jima**	**3.59**	**73**	P		**Pn**	**17 17 44.3**	**+2.9**
HATJ				*e*S		**Sn**	**17 18 24.1**	**+1.1**
IRIF	**Iriomote-Funau**	**3.61**	**68**	P		**Pn**	**17 17 43.9**	**+2.2**
IRIF				*e*S		**Sn**	**17 18 26.9**	**+3.3**
JKRS	**Kuro-shima**	**3.82**	**71**	P		**Pn**	**17 17 47.4**	**+2.8**
XPSS	**Dashiqiu**	**3.89**	**2**	*e*P		**Pn**	**17 17 46.1**	**+0.5**
	baz=1.0							
JIJ	**Ishigaki jima**	**3.97**	**70**	P		**Pn**	**17 17 49.1**	**+2.4**
JIJ				*e*S		**Sn**	**17 18 34.2**	**+1.6**
JISG	**Ishigakijimahi**	**4.19**	**67**	P		**Pn**	**17 17 51.5**	**+1.8**
JTJ	**Tarama**	**4.54**	**68**	S		**Sn**	**17 18 48.4**	**+1.7**
JOW	**Kunigami**	**8.36**	**61**	Pn		**Pn**	**17 18 47.3**	**+0.3**
NJ2	**Nanjing**	**9.06**	**353**	*e*P		Pn	17 19 12.0	+15
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.5s							
NJ2				smax		smax		
	comp=N,53nm,0.8s							
NJ2				smax		smax		
	comp=E,28nm,0.7s							
WHN	**Wuhan**	**9.06**	**327**	⇓P		Pn	17 19 02.0	+5.4
XAN	**Xi'an**	**14.70**	**321**	P		P	17 20 28.4	+8.7
XAN				pmax		pmax		
	comp=Z,6.0nm,1.1s							
CMAR	**Chiang Mai Arr**	**20.26**	**261**	P		Pn	17 21 24.9	+1.7
	comp=Z,0.3nm,0.5s,baz=83,slow=7.6,SNR=2.6							
MJAR	**Matsushiro Arr**	**20.68**	**45**	LR		LR	17 30 44.7	
	comp=Z,77nm,19.3s,baz=320,slow=41							
SONM	**Songino Array**	**27.06**	**340**	P		**P**	**17 22 30.1**	**+2.1**
	comp=Z,0.5nm,0.6s,baz=157,slow=7.8,SNR=2.0							
MK31	**Makanchi Array**	**38.47**	**317**	P		**P**	**17 24 05.6**	**-1.8**
MKAR	**Makanchi Array**	**38.47**	**317**	P		**P**	**17 24 09.8**	**+2.4**
	comp=Z,0.8nm,0.6s,baz=118,slow=9.7,SNR=10							
MKAR	**Makanchi Array**	**38.47**	**317**	P		**P**	**17 24 05.9**	**-1.6**
MAKZ	**Makanchi**	**38.67**	**317**	P		**P**	**17 24 09.6**	**+0.5**
MAKZ				IAmb		IAmb	17 24 16.6	
	comp=Z,2.3nm,1.1s							
YAK	**Yakutsk**	**39.54**	**7**	P		**P**	**17 24 14.5**	**-1.5**
YAK				IAmb		IAmb	17 24 20.3	
	comp=Z,4.0nm,0.4s							
TARG	**Taragay, Kyrgy**	**39.80**	**308**	P		**P**	**17 24 16.6**	**-2.4**
ZALV	**Zalesovo Beam**	**40.67**	**328**	P		**P**	**17 24 26.5**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=130,slow=8.3,SNR=2.3							
KSH	**Kashi**	**40.68**	**304**	P		**P**	**17 24 26.3**	**+0.2**
MA2	**Magadan**	**42.45**	**23**	P		**P**	**17 24 37.2**	**-2.8**
H11N1	**WAKE ISLAND Hy**	**43.59**	**85**	T		T	18 10 32.3	
	baz=280							
H11N2	**WAKE ISLAND Hy**	**43.60**	**85**	T		T	18 10 28.6	
	baz=280							
H11N3	**WAKE ISLAND Hy**	**43.61**	**85**	T		T	18 10 33.6	
	baz=280							
H11S3	**WAKE ISLAND Hy**	**43.69**	**87**	T		T	18 10 46.0	
	baz=283							
H11S1	**WAKE ISLAND Hy**	**43.70**	**87**	T		T	18 10 44.7	
	baz=283							
H11S2	**WAKE ISLAND Hy**	**43.71**	**87**	T		T	18 10 48.0	
	baz=283							
WRA	**Warramunga Arr**	**44.92**	**161**	P		**P**	**17 24 59.9**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=343,slow=8.6,SNR=2.3							
WRA				PcP		**PcP**	**17 26 42.9**	**+1.2**
	comp=Z,0.5nm,1.1s,baz=342,slow=2.4,SNR=1.4							
WB2	**Warramunga Arr**	**44.92**	**161**	P		**P**	**17 24 58.6**	**-1.8**
WB2				IAmb		IAmb	17 25 19.6	
	comp=Z,8.4nm,1.4s							
WR0	**Warramunga Arr**	**45.00**	**161**	P		**P**	**17 25 00.2**	**-0.8**
WR0				IAmb		IAmb	17 25 03.3	
	comp=Z,3.0nm,1.1s							
KKAR	**Karatay Array**	**45.37**	**308**	P		**P**	**17 25 01.2**	**-2.6**
ASAR	**Alice Springs**	**48.32**	**163**	P		**P**	**17 25 28.1**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=342,slow=6.9,SNR=12							
ASAR				PcP		**PcP**	**17 26 54.5**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=352,slow=3.3,SNR=4.5							
ARU	**Arti**	**55.42**	**324**	P		**P**	**17 26 19.5**	**-0.1**

IDC 16 17:19:21.8±2.9, 6.71N×126.63E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/36, mbtmp3.4/3, Error ellipse: s-maj=230.7km s-min=29.8km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.55**	**164**	P	P	17 25 10.9	+0.3
	0.4nm,0.7s,baz=345,slow=9.8,SNR=4.7						
ASAR	**Alice Springs**	**31.01**	**167**	P	P	17 25 41.0	-0.3
	0.2nm,0.4s,baz=346,slow=8.0,SNR=6.3						
MKAR	**Makanchi Array**	**55.09**	**324**	P	P	17 28 55.5	-0.1
	0.1nm,0.5s,baz=121,slow=5.3,SNR=2.3						

IDC 16 17:22:34.6±3.5, 5.69S×151.21E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.5/31, mbtmp3.9/3, Error ellipse: s-maj=122.9km s-min=47.9km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.68**	**228**	P	P	17 27 26.0	-1.2
	1.7nm,0.8s,baz=53,slow=10,SNR=7.8						
ASAR	**Alice Springs**	**24.44**	**221**	P	P	17 27 55.5	+0.2
	3.0nm,0.8s,baz=56,slow=9.4,SNR=24						
FITZ	**Fitzroy Crossi**	**27.85**	**242**	P	P	17 28 27.1	+0.9
	1.3nm,0.6s,baz=60,slow=8.5,SNR=6.0						
TORD	**Torodi Ar. Bea**	**149.05**	**286**	PKPbc	PKPbc	17 42 25.1	-0.9
	1.3nm,0.7s,baz=50,slow=2.6,SNR=7.2						

IDC 16 17:22:34.0±1.8, 3.14S×145.49E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/29, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=113.3km s-min=28.5km az=121.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.94**	**212**	P	P	17 27 07.9	+0.1
	0.1nm,0.3s,baz=34,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**23.28**	**208**	P	P	17 27 43.7	+0.2
	0.4nm,0.8s,baz=38,slow=10,SNR=7.8						
FITZ	**Fitzroy Crossi**	**24.48**	**231**	P	P	17 27 54.7	-0.4
	1.0nm,0.8s,baz=31,slow=10,SNR=1.3						
ILAR	**Eielson Array**	**83.47**	**24**	P	P	17 35 03.4	+0.1
	0.6nm,0.8s,baz=266,slow=5.1,SNR=4.7						

TAP 16 17:26:06.7, 24.28N×121.84E, h18km, ML2.0, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.17**	**329**	P	Pg	17 26 11.8	+0.5
	baz=330						
ENA				*e*S	Sg	17 26 15.4	+1.1
	baz=330						
EWUT	**Wuta**	**0.17**	**342**	P	Pg	17 26 11.9	+0.6
	baz=341						
EWUT				S	Sg	17 26 15.4	+1.0
	baz=341						
ETL	**Fush Village**	**0.23**	**238**	P	Pb	17 26 12.7	+0.4
	baz=238						
ETL				*e*S	Sb	17 26 17.3	+1.3
	baz=238						
NACB	**Ninganchiao**	**0.25**	**244**	P	Pb	17 26 12.8	+0.2
	baz=244						
NACB				*e*S	Sb	17 26 17.4	+0.8
	baz=244						
TWD	**Chiawan**	**0.30**	**228**	*e*P	Pb	17 26 13.9	+0.4
	baz=227						
TWD				*e*S	Sb	17 26 19.0	+0.9
	baz=227						
TWC	**Suao**	**0.33**	**2**	*e*P	Pb	17 26 14.1	+0.1
	baz=3.0						
TWC				*e*S	Sb	17 26 19.2	+0.2
	baz=3.0						
ETLH	**Xiulin Townshi**	**0.33**	**257**	*e*P	Pb	17 26 14.4	+0.2
	baz=257						
ETLH				*e*S	Sb	17 26 20.0	+0.7
	baz=257						
NDS	**Dongshan**	**0.37**	**342**	*e*P	Pb	17 26 15.1	+0.2
	baz=342						
NDS				*e*S	Sb	17 26 20.4	+0.1
	baz=342						
ENTT	**Nioudou**	**0.43**	**325**	*e*P	Pb	17 26 16.5	+0.5
	baz=325						
ENTT				*e*S	Sb	17 26 23.1	+0.9
	baz=325						
NDT	**Datong Townshi**	**0.44**	**317**	*e*P	Pb	17 26 16.5	+0.6
	baz=317						
NDT				*e*S	Sb	17 26 23.4	+1.2
	baz=317						
NNSB	**Datong**	**0.44**	**290**	*e*P	Pb	17 26 16.7	+0.6
	baz=289						
NNSB				*e*S	Sb	17 26 23.1	+0.7
	baz=289						
ETM	**Tongmen**	**0.45**	**225**	*e*P	Pb	17 26 16.3	+0.2
	baz=225						
ETM				*e*S	Sb	17 26 23.1	+0.7
	baz=225						
NNS	**Nan Shan**	**0.45**	**291**	*e*P	Pb	17 26 16.7	+0.4
	baz=290						
NNS				*e*S	Sb	17 26 23.4	+0.6
	baz=290						
TWE	**Neicheng**	**0.47**	**340**	*e*P	Pb	17 26 16.8	+0.4
	baz=341						
TWE				*e*S	Sb	17 26 23.6	+0.6
	baz=341						
WHF	**Hehuan Shan**	**0.54**	**256**	*e*P	Pb	17 26 18.0	0.0
	baz=255						
WHF				*e*S	Sb	17 26 25.9	+0.4
	baz=255						
FUSS	**Fushou**	**0.54**	**267**	*e*P	Pb	17 26 18.2	+0.3
	baz=266						
FUSS				*e*S	Sb	17 26 26.3	+0.8
	baz=266						
YHNB	**Yeheng**	**0.57**	**313**	*e*P	Pb	17 26 18.8	+0.5
	baz=312						
YHNB				*e*S	Sb	17 26 26.9	+0.8
	baz=312						
NWLT	**Wulai**	**0.58**	**328**	*e*P	Pb	17 26 18.8	+0.4
	baz=328						
NWLT				*e*S	Sb	17 26 27.8	+1.4
	baz=328						
NSK	**Sanguang**	**0.59**	**312**	*e*P	Pb	17 26 19.2	+0.7
	baz=312						
NSK				*e*S	Sb	17 26 27.4	+0.9
	baz=312						
ESL	**Shilin**	**0.59**	**219**	*e*P	Pb	17 26 18.9	+0.3
	baz=217						
ESL				*e*S	Sb	17 26 27.7	+1.0
	baz=217						
TWT	**Tachien**	**0.60**	**268**	*e*P	Pb	17 26 19.6	+0.7
	baz=267						
TWT				*e*S	Sb	17 26 28.4	+1.3
	baz=267						
TDCB	**Techi**	**0.62**	**268**	*e*P	Pb	17 26 19.8	+0.7
	baz=267						
TDCB				*e*S	Sb	17 26 28.7	+1.1
	baz=267						
CHGB	**Renai**	**0.65**	**250**	*e*P	Pb	17 26 20.1	+0.5
	baz=250						
CHGB				*e*S	Sb	17 26 29.4	+1.1
	baz=250						
OWD	**Renai**	**0.69**	**242**	*e*P	Pb	17 26 19.6	-0.7
	baz=241						
TIPB	**Shuangxi**	**0.69**	**359**	*e*P	Pg	17 26 20.4	+0.1
	baz=359						
TIPB				*e*S	Sg	17 26 30.4	+0.9
	baz=359						
EGFH	**Guangfu**	**0.72**	**212**	*e*P	Pg	17 26 20.9	+0.1
	baz=211						
EGFH				*e*S	Sg	17 26 31.4	+1.0
	baz=211						
NWF	**Wu-fen Shan**	**0.79**	**356**	*e*P	Pn	17 26 23.3	+0.2
	baz=356						
NWF				*e*S	Sg	17 26 32.9	+0.2
	baz=356						
WFSB	**Wu-fen Shan**	**0.79**	**356**	*e*P	Pn	17 26 22.6	-0.4
	baz=356						
WFSB				*e*S	Sg	17 26 33.1	+0.5
	baz=356						
WHP	**Taichung City**	**0.81**	**270**	*e*P	Pn	17 26 23.2	-0.2
	baz=269						
WHP				*e*S	Sn	17 26 34.8	-0.3
	baz=269						
LIOB	**Emei**	**0.83**	**296**	*e*P	Pn	17 26 23.6	0.0
	baz=295						
LIOB				*e*S	Sn	17 26 35.6	+0.2
	baz=295						
NSTT	**Nanjuang**	**0.84**	**295**	*e*P	Pn	17 26 24.0	+0.3
	baz=294						
NSTT				*e*S	Sn	17 26 35.3	-0.3
	baz=294						

JMA 16 17:26:48.9±0.1, 24.18N×123.80E, h13km±2km, M1.6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.12**	**178**	P	Pg	17 26 52.1	-0.1
HATJ				S	Sg	17 26 54.8	+0.3
IRIF	**Iriomote-Funau**	**0.17**	**337**	P	Pg	17 26 52.8	0.0
IRIF				S	Sg	17 26 55.9	+0.4
JKRS	**Kuro-shima**	**0.20**	**73**	P	Pg	17 26 53.7	+0.4
JKRS				S	Sb	17 26 57.5	-0.6
JIJ	**Ishigaki jima**	**0.36**	**60**	P	Pg	17 26 56.1	-0.1
JIJ				S	Sg	17 27 01.3	+0.2
JISG	**Ishigakijimahi**	**0.62**	**49**	P	Pg	17 27 00.9	-0.1
JISG				S	Sg	17 27 09.6	+0.4
YOJ	**Yonaguni jima**	**0.77**	**291**	P	Pb	17 27 04.2	0.0
JTJ	**Tarama**	**0.94**	**61**	P	Pg	17 27 07.3	+0.2
JTJ				S	Sb	17 27 19.9	+0.4

IDC 16 17:27:35.1±2.1, 6.34S×151.96E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/31, mbtmp3.8/4, MS4.2/1, Ms1 4.2/1, ms1mx2.8/32, Error ellipse: s-maj=119.5km s-min=27.3km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.81**	**230**	P	P	17 32 29.3	+0.2
	0.8nm,0.7s,baz=58,slow=10.0,SNR=6.1						
ASAR	**Alice Springs**	**24.46**	**223**	P	P	17 32 56.9	+0.9
	1.7nm,0.8s,baz=55,slow=8.8,SNR=17						
FITZ	**Fitzroy Crossi**	**28.20**	**243**	P	P	17 33 28.6	-1.2
	2.1nm,0.7s,baz=44,slow=8.2,SNR=6.4						
RAR	**Rarotonga**	**48.94**	**113**	LR	LR	17 53 34.8	
	comp=Z,259nm,21.9s,baz=108,slow=32						
ILAR	**Eielson Array**	**83.89**	**22**	P	P	17 40 06.5	0.0
	0.6nm,0.7s,baz=238,slow=5.4,SNR=6.0						
TORD	**Torodi Ar. Bea**	**149.94**	**285**	PKPbc	PKPbc	17 47 28.2	-0.4
	1.0nm,0.7s,baz=54,slow=2.1,SNR=5.4						

MEX 16 17:43:53.4±0.3, 19.24N×103.40W, h21km±19km, MD3.5, Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COIG	**Colima**	**0.28**	**258**	*i* P	Pb	17 43 58.8	-1.2
COIG				*i* S	Sb	17 44 03.2	-1.4
EZ5V		**0.31**	**320**	*e*P	Pb	17 43 59.2	-1.3
EZ5V				*i* S	Sb	17 44 04.1	-1.3
R15V		**0.56**	**263**	*e*P	Pb	17 44 02.7	-1.9
R15V				*i* S	Sb	17 44 09.4	-2.9

IDC 16 17:44:11.0±15.0, 3.28S×151.86E, h380km±176km, mb3.2/4, mb1 3.3/5, mb1mx2.9/32, mbtmp3.9/5, Error ellipse: s-maj=72.6km s-min=29.9km az=175.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**17.58**	**198**	P	P	17 47 52.3	+0.3
	0.2nm,0.3s,baz=18,slow=11,SNR=3.8						
DZM	**Mont Dzumac**	**23.44**	**144**	P	P	17 48 47.9	-0.3
	2.3nm,0.5s,baz=301,slow=12,SNR=1.3						
WRA	**Warramunga Arr**	**23.80**	**225**	P	P	17 48 51.4	0.0
	1.4nm,0.5s,baz=49,slow=9.0,SNR=28						
ASAR	**Alice Springs**	**26.68**	**219**	P	P	17 49 17.1	-0.1
	0.8nm,0.6s,baz=50,slow=8.7,SNR=26						
ILAR	**Eielson Array**	**81.12**	**22**	P	P	17 55 44.8	+0.1
	0.5nm,0.7s,baz=243,slow=5.5,SNR=5.0						

IDC 16 17:56:08.3±2.0, 5.96S×151.56E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/31, mbtmp3.7/4, Error ellipse: s-maj=112.3km s-min=28.5km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.76**	**229**	P	P	18 01 03.3	+1.5
	1.3nm,0.9s,baz=54,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**24.47**	**222**	P	P	18 01 28.4	-0.9
	1.6nm,0.9s,baz=54,slow=8.3,SNR=6.4						
FITZ	**Fitzroy Crossi**	**28.02**	**242**	P	P	18 02 01.0	-0.5
	1.4nm,0.7s,baz=48,slow=8.5,SNR=5.5						
ILAR	**Eielson Array**	**83.69**	**22**	P	P	18 08 38.8	+0.1
	0.5nm,0.6s,baz=248,slow=4.6,SNR=4.9						
TORD	**Torodi Ar. Bea**	**149.46**	**286**	PKPbc	PKPbc	18 16 00.4	-0.3
	0.6nm,0.5s,baz=60,slow=3.8,SNR=4.1						

IDC 16 18:01:29.6±1.9, 5.92S×151.50E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.6/31, mbtmp3.9/4, MS3.9/2, Ms1 3.9/2, ms1mx2.8/44, Error ellipse: s-maj=111.1km s-min=26.6km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.73**	**229**	P	P	18 06 23.1	+0.2
	1.7nm,0.9s,baz=56,slow=10,SNR=6.9						
ASAR	**Alice Springs**	**24.45**	**222**	P	P	18 06 51.3	+0.8
	3.0nm,0.9s,baz=54,slow=9.4,SNR=19						
FITZ	**Fitzroy Crossi**	**27.99**	**242**	P	P	18 07 21.4	-1.0
	1.7nm,0.9s,baz=59,slow=9.1,SNR=6.9						
MSVF	**Nonsavu**	**28.46**	**117**	LR	LR	18 17 28.7	
	comp=Z,111nm,21.9s,baz=56,slow=34						
MA2	**Magadan**	**65.29**	**360**	LR	LR	18 40 28.8	
	comp=Z,232nm,19.1s,baz=354,slow=36						
ILAR	**Eielson Array**	**83.68**	**22**	P	P	18 13 59.9	-0.1
	0.9nm,0.6s,baz=248,slow=5.2,SNR=7.5						
TORD	**Torodi Ar. Bea**	**149.39**	**286**	PKPbc	PKPbc	18 21 21.4	-0.4
	0.8nm,0.6s,baz=70,slow=3.4,SNR=4.8						

*JMA **16** 18:14:25.8±0.1, 24.26N×121.82E, h23km±2km, M2.3*
*TAP **16** 18:14:25.7, 24.30N×121.83E, h22km, ML3.2, B*
ISC 16 18:14:25.9±0.9, 24.28N±0.02×121.85E±0.02, h19km±2km, n84, σ0.49/123, 3C-13D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.10**	**288**	*i* P	Pg	18 14 29.9	+0.2
	baz=279						
EHP				*i* S	Sg	18 14 33.2	+0.9
	baz=279						
ENA	**Nanau**	**0.18**	**327**	⇓*i* P	Pg	18 14 30.5	-0.1
	baz=332						
ENA				*i* S	Sg	18 14 34.1	+0.3
	baz=332						
EWUT	**Wuta**	**0.18**	**340**	⇓*i* P	Pg	18 14 30.6	0.0
	baz=344						
EWUT				*i* S	Sg	18 14 34.0	+0.2
	baz=344						
ETL	**Fush Village**	**0.24**	**240**	*i* P	Pg	18 14 31.7	+0.3
	baz=233						
ETL				S	Sg	18 14 36.5	+1.2
	baz=233						
NACB	**Ninganchiao**	**0.25**	**246**	⇓*i* P	Pb	18 14 31.6	0.0
	baz=240						
NACB				*e*S	Sg	18 14 36.2	+0.5
	baz=240						
TWD	**Chiawan**	**0.30**	**229**	*i* P	Pg	18 14 32.6	+0.1
	baz=223						
TWD				S	Sb	18 14 38.0	+0.8
	baz=223						
TWC	**Suao**	**0.33**	**0**	*i* P	Pg	18 14 32.8	-0.1
	baz=6.0						
TWC				*i* S	Sg	18 14 37.9	0.0
	baz=6.0						
ETLH	**Xiulin Townshi**	**0.34**	**258**	⇓*i* P	Pg	18 14 33.0	-0.2
	baz=254						
ETLH				*i* S	Sg	18 14 38.6	+0.4
	baz=254						
HWA	**Hwalien**	**0.37**	**216**	*e*P	Pb	18 14 34.7	+0.7
	baz=211						
NDS	**Dongshan**	**0.37**	**341**	⇓*i* P	Pg	18 14 33.6	-0.2
	baz=343						
NDS				*i* S	Sg	18 14 39.1	0.0
	baz=343						
ENTT	**Nioudou**	**0.44**	**325**	⇓*i* P	Pg	18 14 34.6	-0.3
	baz=326						
ENTT				*i* S	Sb	18 14 41.5	+0.1
	baz=326						
NDT	**Datong Townshi**	**0.44**	**317**	*i* P	Pg	18 14 34.9	-0.1
	baz=317						
NDT				*e*S	Sb	18 14 41.6	+0.1
	baz=317						
ETM	**Tongmen**	**0.45**	**226**	*e*P	Pg	18 14 35.1	0.0
	baz=223						
NNSB	**Datong**	**0.45**	**290**	⇓*i* P	Pg	18 14 35.1	-0.1
	baz=288						
NNSB				*i* S	Sg	18 14 41.3	0.0
	baz=288						
NNS	**Nan Shan**	**0.46**	**291**	⇓*i* P	Pg	18 14 35.2	-0.2
	baz=289						
NNS				S	Sg	18 14 41.6	-0.1
	baz=289						
TEYL	**Yanliau Villag**	**0.47**	**209**	*e*P	Pb	18 14 35.8	+0.3
	baz=207						
TWE	**Neicheng**	**0.47**	**340**	⇓*i* P	Pg	18 14 35.3	-0.1
	baz=343						
TWE				S	Sg	18 14 42.2	+0.3
	baz=343						
ILA	**Ilan**	**0.49**	**350**	⇓P	Pg	18 14 36.1	+0.2
	baz=352						
ILA				*e*S	Sb	18 14 43.5	+0.7
	baz=352						
WHF	**Hehuan Shan**	**0.55**	**256**	⇑*i* P	Pb	18 14 36.8	-0.2
	baz=253						
WHF				S	Sb	18 14 44.7	+0.1
	baz=253						
FUSS	**Fushou**	**0.55**	**267**	P	Pb	18 14 37.0	0.0
	baz=265						
FUSS				*e*S	Sg	18 14 44.9	+0.3
	baz=265						
NTC	**Toucheng**	**0.57**	**358**	⇓P	Pb	18 14 37.3	0.0
NTC				*e*S	Sb	18 14 45.2	+0.2
YHNB	**Yeheng**	**0.58**	**312**	⇓*i* P	Pb	18 14 37.1	-0.3
	baz=312						
YHNB				*e*S	Sb	18 14 45.1	-0.2
	baz=312						
NWLT	**Wulai**	**0.59**	**328**	P	Pb	18 14 37.1	-0.3
	baz=328						
NWLT				*e*S	Sb	18 14 45.1	-0.3
	baz=328						
NSK	**Sanguang**	**0.60**	**312**	⇓*i* P	Pb	18 14 37.3	-0.3
	baz=312						
NSK				*e*S	Sb	18 14 45.3	-0.4
	baz=312						
ESL	**Shilin**	**0.60**	**219**	*e*P	Pb	18 14 37.3	-0.3
	baz=216						
ESL				*e*S	Sg	18 14 46.7	+0.9
	baz=216						
TWT	**Tachien**	**0.61**	**268**	*e*P	Pg	18 14 38.4	+0.3
	baz=266						
TWT				*e*S	Sg	18 14 46.8	+0.4
	baz=266						
TDCB	**Techi**	**0.63**	**268**	⇑P	Pb	18 14 38.3	+0.1
	baz=266						
TDCB				*e*S	Sb	18 14 46.6	0.0
	baz=266						
CHGB	**Renai**	**0.65**	**251**	⇑P	Pb	18 14 38.7	0.0
	baz=248						
CHGB				*e*S	Sg	18 14 48.0	+0.4
	baz=248						
TIPB	**Shuangxi**	**0.69**	**358**	P	Pb	18 14 39.4	+0.1
TIPB				*e*S	Sb	18 14 48.5	+0.1
OWD	**Renai**	**0.69**	**242**	P	Pb	18 14 39.2	-0.2
	baz=240						
OWD				*e*S	Sg	18 14 49.3	+0.4
	baz=240						
EGFH	**Guangfu**	**0.72**	**212**	*e*P	Pb	18 14 39.4	-0.4
	baz=210						
TWB1	**Santiao Chiao**	**0.74**	**10**	*e*P	Pg	18 14 40.7	+0.3
	baz=13

NWF					*e*S		**Sg**	18 14 52.1	+0.1
	baz=357								
WFSB	**Wu-fen Shan**	**0.79**	**356**		*e*P		**Pb**	18 14 41.4	+0.3
	baz=357								
WFSB					*e*S		**Sg**	18 14 52.2	+0.3
	baz=357								
WHP	**Taichung City**	**0.82**	**270**	P			**Pb**	18 14 41.7	+0.1
	baz=269								
WHP					*e*S		**Sg**	18 14 53.0	+0.1
	baz=269								
LIOB	**Emei**	**0.84**	**296**		*e*P		**Pg**	18 14 42.5	+0.2
	baz=295								
NSTT	**Nanjuang**	**0.85**	**295**		*e*P		**Pg**	18 14 42.8	+0.4
	baz=294								
WPL	**Puli Township**	**0.85**	**252**		*e*P		**Pb**	18 14 42.2	+0.1
	baz=250								
WPL					*e*S		**Sg**	18 14 54.1	+0.2
	baz=250								
TNOU	**National Taiwa**	**0.87**	**356**		*e*P		**Pb**	18 14 40.8	-1.5
	baz=357								
HGSD	**Ruisui**	**0.87**	**206**		*e*P		**Pb**	18 14 42.8	+0.4
	baz=205								
DPDB	**Guoxing**	**0.88**	**254**		*e*P		**Pb**	18 14 42.6	+0.1
	baz=252								
WCS	**Beigang Elemen**	**0.88**	**256**		*e*P		**Pb**	18 14 42.5	0.0
	baz=254								
WCS					*e*S		**Sg**	18 14 54.6	-0.1
	baz=254								
YM01	**YM01**	**0.90**	**344**		*e*P		**Pb**	18 14 43.4	+0.5
	baz=345								
EHY	**Hungye**	**0.91**	**212**		*e*P		**Pb**	18 14 42.5	-0.5
	baz=210								
TWS1	**Kuangyinshan**	**0.91**	**335**		*e*P		**Pb**	18 14 42.6	-0.4
	baz=335								
YM08	**YM08**	**0.94**	**346**		*e*P		**Pn**	18 14 44.0	0.0
	baz=346								
SMLT	**Sun Moon Lake**	**0.95**	**246**		*e*P		**Pb**	18 14 43.8	0.0
	baz=244								
SMLT					*e*S		**Sg**	18 14 57.2	+0.2
	baz=244								
SSLB	**Suanglung**	**0.95**	**239**		*e*P		**Pb**	18 14 43.3	-0.5
	baz=238								
ANP	**Anpu**	**0.95**	**342**		*e*P		**Pb**	18 14 44.1	+0.2
	baz=343								
TYC	**Yuchr**	**0.98**	**248**		*e*P		**Pb**	18 14 44.0	-0.2
	baz=246								
TWQ1	**Liyutan**	**0.98**	**274**		*e*P		**Pg**	18 14 45.8	+0.9
	baz=273								
NMLH	**Miaoli**	**1.00**	**285**		*e*P		**Pg**	18 14 45.7	+0.5
	baz=284								
YULB	**Yu-li**	**1.01**	**210**		*e*P		**Pb**	18 14 43.1	-1.7
	baz=208								
JYNG	**Yonagunijimaku**	**1.02**	**80**	P			**Pb**	18 14 44.9	0.0
JYNG					*e*S		**Sg**	18 14 59.7	+0.7
EYUL	**Yuli**	**1.04**	**208**		*e*P		**Pg**	18 14 46.6	+0.4
	baz=206								
YOJ	**Yonaguni jima**	**1.08**	**80**	P			**Pb**	18 14 45.9	0.0
YOJ					*e*S		**Sg**	18 15 01.2	+0.3
YOJ	**Yonaguni jima**	**1.08**	**80**		*e*P		**Pb**	18 14 45.8	-0.1
	baz=81								
YOJ					*e*S		**Sg**	18 15 02.3	+1.4
	baz=81								
WHYT	**Xinyi Township**	**1.08**	**238**		*e*P		**Pb**	18 14 45.8	-0.1
	baz=236								
WDJ	**Dajia District**	**1.10**	**274**		*e*P		**Pg**	18 14 47.0	-0.2
	baz=273								
WJS	**Zhushan**	**1.12**	**246**		*e*P		**Pb**	18 14 47.2	+0.6
	baz=245								
WNT	**Mingjian**	**1.14**	**250**		*e*P		**Pg**	18 14 47.8	-0.1
	baz=248								
YUS	**Yu-Shan**	**1.14**	**226**		*e*P		**Pn**	18 14 46.5	-0.7
	baz=225								
FULB	**Fuli**	**1.19**	**205**		*e*P		**Pn**	18 14 47.1	-0.4
	baz=204								
ALS	**Alishan**	**1.22**	**231**		*e*P		**Pn**	18 14 48.2	0.0
	baz=230								
CHKT	**Chengkung**	**1.25**	**201**		*e*P		**Pn**	18 14 47.7	-0.7
	baz=199								
CHN5	**Tsauling**	**1.27**	**238**		*e*P		**Pb**	18 14 49.3	+0.1
	baz=236								
ELDTW	**Lidau**	**1.32**	**215**		*e*P		**Pn**	18 14 47.9	-1.6
	baz=214								
WDLH	**Douliu**	**1.33**	**244**		*e*P		**Pb**	18 14 50.3	+0.1
	baz=243								
EDH	**Donghe**	**1.39**	**201**		*e*P		**Pn**	18 14 49.8	-0.4
	baz=200								
WRL	**Guolierlin Hig**	**1.39**	**255**		*e*P		**Pn**	18 14 51.0	+0.7
	baz=253								
WTK	**Tuku**	**1.46**	**247**		*e*P		**Pb**	18 14 52.5	+0.2
	baz=245								
TPUB	**Ta-pu**	**1.48**	**229**		*e*P		**Pb**	18 14 52.7	-0.1
	baz=228								
WTP	**Ta-pu**	**1.53**	**228**		*e*P		**Pb**	18 14 53.4	-0.2
	baz=226								
TWK	**Hsinying**	**1.60**	**231**		*e*P		**Pb**	18 14 54.6	-0.3
	baz=230								
LDUT	**Ludao**	**1.64**	**192**		*e*P		**Pn**	18 14 52.4	-1.2
	baz=191								
SGST	**Jiashian**	**1.66**	**224**		*e*P		**Pn**	18 14 54.6	+0.6
	baz=223								
SLGT	**Liugui**	**1.69**	**221**		*e*P		**Pb**	18 14 55.7	-0.6
	baz=220								
IRIF	**Iriomote-Funau**	**1.72**	**88**	P			**Pn**	18 14 54.5	-0.3
SSD	**Sandimen**	**1.89**	**216**		*e*P		**Pb**	18 14 58.9	-0.9
	baz=215								
JKRS	**Kuro-shima**	**1.97**	**91**	P			**Pn**	18 14 58.8	+0.5
JIJ	**Ishigaki jima**	**2.10**	**87**	P			**Pn**	18 15 00.0	0.0
JIJ					*e*S		**Sn**	18 15 25.9	+0.3
JISG	**Ishigakijimahi**	**2.27**	**82**		*e*S		**Sb**	18 15 32.5	-1.4

*IDC **16** 18:19:11.5±0.8, 19°.89S×70°.74W, h0km, mb3.9/6, mb1 4.2/9, mb1mx4.0/37, mbtmp4.1/9, ML4.4/3, MS3.2/1, Ms1 3.3/1, ms1mx2.8/26, Error ellipse: s-maj=25.2km s-min=15.3km az=61.0*

*NEIC **16** 18:19:12.9±1.6, 19°.98S±0°.04×70°.99W±0°.05, h16km±4km, mb4.5/12, ML4.3(GUC), Error ellipse: s-maj=7.5km s-min=5.4km az=63.0*

*GUC **16** 18:19:14.3±0.7, 19°.90S×70°.97W, h35km±3km, ML4.3*

ISC 16 18:19:11.1±2.0, **19°.97S**±0°.03×**71°.00W**±0°.05, **h8**km±12km, **n76**, σ1**s23**/84, **mb4.3**/7, **8C-3D, Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.87**	**110**	⇓	*i*P		**Pb**	**18 19 29.0**	**+0.5**
TA02					*i*	S	**Sb**	**18 19 40.4**	**0.0**
TA02						IAML		18 19 42.1	
	comp=N,25μm,0.3s								
TA02	**Huaiquique**	**0.87**	**110**				**Pb**	**18 19 29.0**	**+0.5**
PSGC	**Pisagua**	**0.91**	**66**	⇓	*i*P		**Pb**	**18 19 29.1**	**-0.1**
PSGC					*i*	S	**Sb**	**18 19 40.0**	**-1.4**
PSGCX	**Pisagua**	**0.91**	**66**				**Pb**	**18 19 29.0**	**-0.2**
TA01	**Diego Aracena**	**0.97**	**128**	⇑	*i*P		**Pb**	**18 19 31.1**	**+0.9**
TA01					*i*	S	**Sb**	**18 19 43.9**	**+0.6**
TA01						IAML		18 19 44.9	
	comp=E,10μm,0.5s								
TA01	**Diego Aracena**	**0.97**	**128**				**Pb**	**18 19 31.1**	**+0.9**
PB11	**IPOC Station P**	**1.28**	**81**	⇓	*i*P		**Pn**	**18 19 35.5**	**0.0**
PB11					*i*	S	**Sb**	**18 19 51.6**	**-0.7**
PB11						IAML		18 19 53.2	
	comp=E,6μm,0.3s								
PB11	**IPOC Station P**	**1.28**	**81**		Pn		**Pn**	**18 19 35.6**	**0.0**
PB02	**IPOC Station P**	**1.70**	**143**	⇑	*i*P		**Pn**	**18 19 41.9**	**+0.7**
PB02					*i*	S	**Sb**	**18 20 04.5**	**+0.2**
PB02						IAML		18 20 12.9	
	comp=N,10μm,0.6s								
AP01	**Chacalluta**	**1.71**	**22**	⇑	*i*P		**Pn**	**18 19 42.0**	**+0.8**
AP01					*i*	S	**Sb**	**18 20 05.3**	**+1.0**
AP01						IAML		18 20 08.6	
	comp=E,12μm,0.4s								
AP01	**Chacalluta**	**1.71**	**22**				**Pn**	**18 19 41.9**	**+0.7**
PB08	**IPOC Station P**	**1.75**	**96**	⇑	*i*P		**Pn**	**18 19 42.7**	**+0.6**
PB08					*i*	S	**Sb**	**18 20 04.8**	**-1.1**
PB08						IAML		18 20 11.7	
	comp=N,4μm,0.6s								
PB08	**IPOC Station P**	**1.75**	**96**				**Pn**	**18 19 42.7**	**+0.6**
PB01	**IPOC Station P**	**1.78**	**127**	⇑	*i*P		**Pn**	**18 19 43.2**	**+0.9**
PB01					*i*	S	**Sn**	**18 20 05.5**	**+0.3**
PB01						IAML		18 20 11.4	
	comp=N,4μm,0.6s								
PB01	**IPOC Station P**	**1.78**	**127**				**Pn**	**18 19 43.0**	**+0.8**
PB07	**IPOC Station P**	**2.04**	**149**	⇑	*i*P		**Pn**	**18 19 46.5**	**+0.6**
PB07					*i*	S	**Sn**	**18 20 12.5**	**+0.8**
PB07	**IPOC Station P**	**2.04**	**149**				**Pn**	**18 19 45.7**	**-0.2**
PB03	**IPOC Station P**	**2.38**	**151**	⇑	*i*P		**Pn**	**18 19 51.1**	**+0.6**
PB03					*i*	S	**Sg**	**18 20 27.4**	**-0.2**
PB09	**IPOC Station P**	**2.45**	**138**	⇑	*i*P		**Pn**	**18 19 53.5**	**+1.8**
PB09					*i*	S	**Sn**	**18 20 24.0**	**+2.1**
PB09						IAML		18 20 35.1	
	comp=E,3μm,0.4s								
PB09	**IPOC Station P**	**2.45**	**138**				**Pn**	**18 19 53.5**	**+1.8**
PB04	**IPOC Station P**	**2.49**	**161**				**Pn**	**18 19 52.3**	**+0.2**
PB06	**IPOC Station P**	**3.03**	**154**				**Pn**	**18 19 59.9**	**+0.2**
LVC	**Limon Verde**	**3.27**	**144**		Pn		**Pn**	**18 20 05.1**	**+2.0**
	comp=E,28nm,0.3s,baz=338,slow=8.6,SNR=76								
LVC						Sn	**Sn**	**18 20 44.0**	**+1.5**
	comp=E,47nm,0.3s,baz=275,slow=15,SNR=8.4								
LVC						Lg	Lg	18 20 52.0	
	comp=E,91nm,0.3s,baz=44,slow=22,SNR=3.4								
LVC	**Limon Verde**	**3.27**	**144**		Pn		**Pn**	**18 20 04.8**	**+1.7**
PB15	**IPOC Station P**	**3.53**	**156**				**Pn**	**18 20 06.6**	**+0.2**
PB10	**IPOC Station P**	**3.55**	**173**		Pn		**Pn**	**18 20 06.2**	**-0.4**
AF01	**San Pedro de A**	**3.97**	**139**				**Pn**	**18 20 12.8**	**+0.2**
LPAZ	**La Paz**	**4.56**	**37**		Pn		**Pn**	**18 20 25.1**	**+4.0**
	comp=E,1.7nm,0.3s,baz=208,slow=5.5,SNR=22								
LPAZ						LR	LR	18 22 15.5	
	comp=E,253nm,18.2s,baz=280,slow=42								
LPAZ	**La Paz**	**4.56**	**37**		Pn		**Pn**	**18 20 21.7**	**+0.6**
PB14	**IPOC Station P**	**4.67**	**173**		Pn		**Pn**	**18 20 21.9**	**-0.4**
AC02	**Maricunga**	**7.05**	**166**		Pn		**Pn**	**18 20 55.8**	**+0.7**
GO03	**Copiap**	**7.62**	**175**		Pn		**Pn**	**18 21 01.4**	**-1.2**
GO04	**Tololo Observa**	**10.16**	**179**		Pn		**Pn**	**18 21 37.1**	**-0.5**
SIV	**San Ignacio**	**10.24**	**69**		Pn		**Pn**	**18 21 37.2**	**-1.3**
	comp=E,2.1nm,0.3s,baz=267,slow=9.1,SNR=24								
SAML	**Samuel**	**13.31**	**36**		Pn		**Pn**	**18 22 21.1**	**+0.6**
CPUP	**Villa Florida**	**14.08**	**119**		Pn		**Pn**	**18 22 29.6**	**-1.3**
	comp=E,1.0nm,0.3s,baz=281,slow=2.9,SNR=4.9								
H03N1	**Juan Fernandez**	**15.16**	**206**		Pn		**Pn**	**18 22 45.1**	**-0.3**
	baz=108,slow=14,SNR=21								
H03N1						T	T	18 38 27.6	
	baz=32,slow=72,SNR=78								
H03N2	**Juan Fernandez**	**15.17**	**206**		Pn		**Pn**	**18 22 45.2**	**-0.2**
	baz=108,slow=14,SNR=14								
H03N2						T	T	18 38 30.5	
	baz=32,slow=72,SNR=83								
H03N3	**Juan Fernandez**	**15.18**	**206**		Pn		**Pn**	**18 22 44.9**	**-0.8**
	baz=108,slow=14,SNR=17								
H03N3						T	T	18 38 29.8	
	baz=32,slow=72,SNR=79								
H03S3	**Juan Fernandez**	**15.49**	**205**		Pn		**Pn**	**18 22 48.5**	**-1.3**
	baz=314,slow=75,SNR=14								
H03S3						T	T	18 38 55.9	
	baz=317,slow=78,SNR=3.0								
H03S1	**Juan Fernandez**	**15.51**	**205**		Pn		**Pn**	**18 22 48.5**	**-1.4**
	baz=314,slow=75,SNR=14								
H03S1						T	T	18 38 52.6	
	baz=317,slow=78,SNR=4.0								
H03S2	**Juan Fernandez**	**15.51**	**205**		Pn		**Pn**	**18 22 48.8**	**-1.1**
	baz=314,slow=75,SNR=22								
H03S2						T	T	18 38 49.0	
	baz=317,slow=78,SNR=3.1								
LPA	**La Plata**	**18.84**	**145**		*e*P		**Pn**	**18 23 34.5**	**+2.5**
LPA						PPP	PPP	18 24 46.3	
LPA						pPP		18 25 11.5	
LPA						S	**Sn**	**18 27 01.8**	**-1.2**
LPA						SSS	SSS	18 27 29.9	
LPA						SCS	**ScS**	**18 35 15.6**	**-0.2**
LPA						PKIKP	**PKiKP**	**18 35 44.4**	**-4.5**
PLTB	**Pedras Altas**	**19.54**	**130**			P	**P**	**18 23 39.9**	**+0.7**
PLTB						IAmb	IAmb	18 23 41.9	
	comp=Z,30nm,1.3s								
TRQA	**Tornquist**	**19.66**	**158**			P	**P**	**18 23 40.9**	**+0.5**
PLCA	**Paso Flores**	**20.70**	**179**			P	Pn	18 23 54.0	-0.2
	comp=Z,2.7nm,0.8s,baz=346,slow=17,SNR=4.0								
PLCA	**Paso Flores**	**20.70**	**179**			P	**P**	**18 23 52.2**	**+0.3**
PTGA	**Pitinga**	**21.96**	**31**			P	**P**	**18 24 04.3**	**-1.2**
	comp=Z,6.1nm,0.4s,baz=204,slow=13,SNR=9.5								
PTGA	**Pitinga**	**21.96**	**31**			P	**P**	**18 24 04.0**	**-1.5**
PTGA						IAmb	IAmb	18 24 07.8	
	comp=Z,8.9nm,1.0s								
BDFB	**Brasilia**	**22.30**	**83**			P	**P**	**18 24 09.5**	**+0.2**
	comp=Z,4.9nm,0.7s,baz=200,slow=10,SNR=4.6								
RUSC	**La Rusia**	**25.78**	**355**			P	**P**	**18 24 43.1**	**-0.1**
RUSC						IAmb	IAmb	18 24 59.1	
	comp=Z,11nm,0.9s								
GO10	**Punta Arenas**	**33.13**	**180**			P	**P**	**18 25 45.6**	**-2.1**
TXAR	**Lajitas Array**	**58.27**	**326**			P	**P**	**18 29 08.5**	**+2.0**
	comp=Z,0.6nm,0.7s,baz=149,slow=8.5,SNR=4.9								
TXAR	**Lajitas Array**	**58.27**	**326**			P	**P**	**18 29 06.0**	**-0.5**
MIAR	**Mount Ida**	**58.31**	**338**			P	**P**	**18 29 07.2**	**+0.6**
MIAR						IAmb	IAmb	18 29 08.4	
	comp=Z,3.9nm,0.7s								
X37A	**Clayton**	**59.00**	**337**			P	**P**	**18 29 11.7**	**+0.3**
M55A	**Ridgway**	**61.54**	**353**			P	**P**	**18 29 29.4**	**+0.7**
VNA3	**Neumayer Olymp**	**62.15**	**161**			P	**P**	**18 29 32.0**	**-0.5**
VNA2	**Neumayer--Watz**	**62.74**	**161**			P	**P**	**18 29 36.8**	**+0.4**
SNAA	**Sanae**	**64.36**	**161**			P	**P**	**18 29 49.0**	**+1.8**
PDAR	**Pinedale Array**	**71.82**	**331**			P	**P**	**18 30 36.9**	**+2.3**
	comp=Z,0.2nm,0.5s,baz=148,slow=7.4,SNR=2.9								
TORD	**Torodi Ar. Bea**	**78.71**	**72**			P	**P**	**18 31 13.9**	**-0.7**
	comp=Z,4.0nm,0.6s,baz=254,slow=5.1,SNR=19								
TORD	**Torodi Ar. Bea**	**78.71**	**72**			P	**P**	**18 31 13.4**	**-1.2**
TORD						IAmb	IAmb	18 31 14.7	
	comp=Z,5.1nm,0.9s								
H11S2	**WAKE ISLAND Hyl**	**25.73**	**279**			T	T	20 57 41.3	
	baz=102,slow=75,SNR=54								
H11S1	**WAKE ISLAND Hyl**	**25.73**	**279**			T	T	20 56 41.9	
	baz=102,SNR=35								
H11S3	**WAKE ISLAND Hyl**	**25.74**	**279**			T	T	20 57 43.6	
	baz=102,slow=75,SNR=35								
H11N3	**WAKE ISLAND Hyl**	**25.77**	**280**			T	T	20 57 39.2	
	baz=98,slow=74,SNR=24								
H11N2	**WAKE ISLAND Hyl**	**25.79**	**280**			T	T	20 56 56.6	
	baz=98,SNR=37								
H11N1	**WAKE ISLAND Hyl**	**25.79**	**280**			T	T	20 57 46.2	
	baz=98,slow=74,SNR=15								
ASAR	**Alice Springs**	**130.30**	**210**			PKP	**PKiKP**	**18 38 23.9**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=128,slow=1.7,SNR=9.0								
WRA	**Warramunga Arr**	**133.21**	**214**			PKP	**PKiKP**	**18 38 30.0**	**+0.3**
	comp=Z,1.0nm,1.1s,baz=140,slow=1.0,SNR=4.7								
ZALV	**Zalesovo Beam**	**141.35**	**23**			PKP	**PKiKP**	**18 38 44.0**	**-1.1**
	comp=Z,1.7nm,0.6s,baz=287,slow=2.4,SNR=6.4								
MKAR	**Makanchi Array**	**145.48**	**33**			PKPbc	**PKPab**	**18 38 51.0**	**+0.8**
	comp=Z,3.2nm,0.8s,baz=326,slow=4.9,SNR=22								
KSH	**Kashi**	**145.61**	**48**			PKPbc	**PKiKP**	**18 38 52.8**	**-1.7**
USRK	**Ussuriysk Ar.**	**149.16**	**327**			PKPbc	**PKiKP**	**18 39 02.5**	**+1.0**
	comp=Z,1.4nm,0.6s,baz=145,slow=3.5,SNR=4.2								
SONM	**Songino Array**	**152.12**	**4**			PKPbc	**PKiKP**	**18 39 08.9**	**+1.2**
	comp=Z,2.0nm,0.6s,baz=309,slow=1.2,SNR=15								

*IDC **16** 18:23:17.9±1.4, 34°.28N×25°.06E, h0km, mb3.8/3, mb1 3.7/7, mb1mx3.5/50, mbtmp3.7/7, ML3.8/4, MS4.6/1, Ms1 4.6/1, ms1mx2.4/51, Error ellipse: s-maj=24.8km s-min=19.0km az=75.0*

*THE **16** 18:23:20.5, 34°.18N×24°.95E, h0km±2km, ML2.9/3, Error ellipse: s-maj=7.1km s-min=2.1km az=179.0*

*ATH **16** 18:23:21.9, 34°.33N×25°.03E, h32km±15km, ML3.0/7, Error ellipse: s-maj=16.6km s-min=1.6km az=353.0*

ISC 16 18:23:23.4±1.5, **34°.31N**±0°.09×**25°.00E**±0°.05, **h41**km±18km, **n28**, σ1**s97**/33, **mb3.8**/3, **Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.72**	**348**			P	**Pn**	**18 23 36.2**	**-1.0**
SIVA						S	**Sn**	**18 23 45.3**	**-1.8**
SIVA						AML	AML	18 23 55.0	
	comp=E,7260μm,0.8s								
SIVA						AML	AML	18 23 57.2	
	comp=N,6327μm,0.6s								
TMBK	**Timbaki Herakl**	**0.79**	**346**			P	**Pn**	**18 23 37.1**	**-0.9**
GVD	**Gavdhos**	**0.92**	**305**			P	**Pn**	**18 23 39.0**	**-0.9**
GVD						S	**Sn**	**18 23 54.7**	**+2.8**
	comp=N,2μm,0.4s								
GVD	**Gavdhos**	**0.92**	**305**			P	**Pn**	**18 23 39.0**	**-0.9**
GVD						S	**Sn**	**18 23 51.2**	**-0.7**
GVD						AML	AML	18 23 57.1	
	comp=E,4380μm,0.4s								
GVD						AML	AML	18 23 58.1	
	comp=N,3109μm,0.3s								
IDI	**Anoyia**	**0.98**	**355**		Pn		**Pn**	**18 23 39.4**	**-1.4**
	comp=N,15nm,0.3s,baz=233,slow=9.5,SNR=73								
IDI						Sn	**Sn**	**18 23 54.1**	**+0.6**
	comp=N,36nm,0.3s,baz=304,slow=19,SNR=7.6								
IDI						LR	LR	18 24 07.3	
	comp=N,42nm,20.7s,baz=98,slow=48								
IDI	**Anoyia**	**0.98**	**355**			P	**Pn**	**18 23 39.6**	**-1.2**
IDI						AML	AML	18 24 05.0	
	comp=E,788μm,0.7s								
IDI						AML	AML	18 24 07.7	
	comp=N,766μm,0.3s								
KSTL	**Kastelli Herak**	**0.99**	**3**		P		**Pn**	**18 23 40.3**	**-0.6**
KSTL					S		**Sn**	**18 23 56.8**	**+3.1**
NPS	**Neapolis**	**1.08**	**28**		P		**Pn**	**18 23 42.4**	**+0.3**
NPS	**Neapolis**	**1.08**	**28**		P		**Pn**	**18 23 41.1**	**-1.0**
NPS						AML	AML	18 24 05.2	
	comp=E,1094μm,0.5s								
NPS						AML	AML	18 24 08.4	
	comp=N,809μm,0.6s								
VAM	**Vamos**	**1.28**	**329**		P		**Pn**	**18 23 45.0**	**+0.2**
VAM	**Vamos**	**1.28**	**329**		P		**Pn**	**18 23 45.0**	**+0.2**
VAM						AML	AML	18 24 11.3	
	comp=E,891μm,0.3s								
VAM						AML	AML	18 24 11.3	
	comp=N,1019μm,0.3s								
ZKR	**Zakros**	**1.28**	**51**		P		**Pn**	**18 23 45.4**	**+0.5**
ZKR					S		**Sn**	**18 24 07.1**	**+6.2**
	comp=N,335nm,0.6s								
ZKR	**Zakros**	**1.28**	**51**		P		**Pn**	**18 23 44.6**	**-0.3**
ZKR					S		**Sn**	**18 24 00.9**	**0.0**
ZKR						AML	AML	18 24 12.4	
	comp=N,367μm,3.6s								
ZKR						AML	AML	18 24 21.4	
	comp=E,894μm,0.6s								
IMMV	**Iera Moni Meta**	**1.42**	**324**		P		**Pn**	**18 23 47.8**	**+1.0**
IMMV	**Iera Moni Meta**	**1.42**	**324**		P		**Pn**	**18 23 47.0**	**+0.3**
IMMV						AML	AML	18 24 21.1	
	comp=E,971μm,0.6s								
IMMV						AML	AML	18 24 26.6	
	comp=N,860μm,0.5s								
KNDR	**Palaiochora Ch**	**1.42**	**311**		P		**Pn**	**18 23 48.6**	**+1.8**
ANKY	**Antikythira Is**	**2.09**	**319**		P		Pn	18 23 59.9	+4.0
KARP	**Karpathos**	**2.16**	**55**		P		**Pn**	**18 23 59.0**	**+2.0**
KARP	**Karpathos**	**2.16**	**55**		P		**Pn**	**18 23 59.0**	**+2.0**
KTHA	**Kythira Island**	**2.51**	**321**		P		**Pn**	**18 24 04.8**	**+3.1**
MMAI	**Mount Meron Ar**	**8.77**	**96**		Pn		**Pn**	**18 25 24.5**	**-3.2**
	comp=N,0.8nm,0.3s,baz=278,slow=9.8,SNR=2.6								
EIL	**Elat**	**9.63**	**116**		Pn		**Pn**	**18 25 36.5**	**-3.0**
	comp=N,0.9nm,0.3s,baz=228,slow=2.5,SNR=6.7								
AKASG	**Malin Array Be**	**16.67**	**9**		Pn		**P**	**18 27 14.4**	**-1.4**
	comp=N,0.3nm,0.3s,baz=198,slow=10,SNR=2.8								
GERES	**GERESS Array B**	**16.77**	**333**		Pn		**P**	**18 27 16.4**	**-0.7**
	comp=N,0.1nm,0.3s,baz=145,slow=15,SNR=7.9								
TORD	**Torodi Ar. Bea**	**29.85**	**231**		P		**P**	**18 29 27.1**	**+0.1**
	comp=N,0.8nm,0.5s,baz=32,slow=8.5,SNR=6.8								
MKAR	**Makanchi Array**	**44.36**	**56**		P		**P**	**18 31 29.9**	**+0.3**
	comp=N,0.6nm,0.6s,baz=278,slow=6.8,SNR=10								
ZALV	**Zalesovo Beam**	**45.69**	**46**		P		**P**	**18 31 39.7**	**-0.4**
	comp=N,0.7nm,0.4s,baz=256,slow=8.4,SNR=2.9								
SDV	**Santo Domingo**	**89.67**	**280**		LR		LR	19 12 19.9	
	comp=N,282nm,20.6s,baz=212,slow=33								

*IDC **16** 18:24:20.1±0.6, 19°.81S×70°.55W, h0km, mb4.2/11, mb1 4.3/14, mb1mx4.2/36, mbtmp4.2/14, ML4.2/3, MS4.2/10, Ms1 4.1/10, ms1mx3.8/29, Error ellipse: s-maj=22.5km s-min=12.7km az=62.0*

*NEIC **16** 18:24:20.9, 19°.97S×70°.96W, h19km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.60; $M_{\theta\theta}$-0.10; $M_{\phi\phi}$-1.50; $M_{r\theta}$0.56; $M_{r\phi}$0.35; $M_{\theta\phi}$-0.86; Fault plane solution: $M_0$1.89000×10^{16} NP1:φs156.50000°, δ61.41000°, λ80.18000°. NP2:φs356.38000°, δ30.09000°, λ107.38000°. Principal axes: T 1.9281, Plg72.0000°, Azm44.0000°; N -0.0744, Plg9.0000°, Azm161.0000°; P -1.8537, Plg16.0000°, Azm254.0000°;*

*SJA **16** 18:24:21.4±0.9, 19°.94S×70°.88W, h32km±5km, ML4.8, MW4.4*

*NEIC **16** 18:24:21.3±2.7, 19°.971S±0°.008×70°.94W±0°.04, h13km±3km, mb4.8/53, Mwr4.8/45, Mww4.9, ML5.0(GUC), Error ellipse: s-maj=6.1km s-min=1.0km az=95.0*

*

PB08 **IPOC Station P** 1.70 97 *i* P Pn 18 24 51.0 +0.5
PB08 *e*S Sb 18 25 13.7 0.0
PB08 IAML 18 25 14.8
comp=Z,20µm,1.5s
PB01 **IPOC Station P** 1.76 129⇑ *i* P Pn 18 24 51.4 +0.5
PB01 *i* S Sn 18 25 13.2 +0.5
PB01 IAML 18 25 21.0
comp=N,14µm,0.4s
PB01 **IPOC Station P** 1.76 129 Pn Pn 18 24 51.2 +0.2
PB01 **IPOC Station P** 1.76 129 *i* P Pn 18 24 51.5 +0.5
PB01 *e*S Sn 18 25 14.5 +1.8
PB01 IAML 18 25 20.6
comp=Z,11µm,0.7s
PB07 **IPOC Station P** 2.04 151⇑ *i* P Pn 18 24 54.8 -0.1
PB07 *i* S Sn 18 25 20.4 +0.6
PB07 IAML 18 25 32.5
comp=E,17µm,0.8s
PB07 **IPOC Station P** 2.04 151 Pn Pn 18 24 54.5 -0.4
PB07 **IPOC Station P** 2.04 151 *i* P Pn 18 24 55.0 +0.1
PB07 *e*S Sn 18 25 20.9 +1.1
PB07 IAML 18 25 30.2
comp=Z,12µm,0.6s
PB03 **IPOC Station P** 2.38 152⇑ *i* P Pn 18 24 59.4 -0.1
PB03 *i* S Sn 18 25 28.7 +0.6
PB03 IAML 18 25 43.4
comp=E,6µm,0.4s
PB09 **IPOC Station P** 2.44 139⇑ *i* P Pn 18 25 01.8 +1.3
PB09 *i* S Sn 18 25 31.2 +1.4
PB09 IAML 18 25 43.5
comp=E,15µm,0.8s
PB09 **IPOC Station P** 2.44 139 Pn Pn 18 25 01.6 +1.2
PB09 **IPOC Station P** 2.44 139 *i* P Pn 18 25 01.8 +1.3
PB09 *e*S Sn 18 25 30.7 +0.9
PB09 IAML 18 25 44.6
comp=Z,11µm,1.3s
PB04 **IPOC Station P** 2.50 163⇑ *i* P Pn 18 25 00.7 -0.6
PB04 *i* S Sn 18 25 28.6 -2.5
PB04 IAML 18 25 48.9
comp=E,9µm,0.6s
PB04 **IPOC Station P** 2.50 163 Pn 18 25 00.4 -0.9
PB05 **IPOC Station P** 2.98 167⇑ *i* P Pn 18 25 06.8 -1.0
PB05 IAML 18 26 05.1
comp=E,6µm,0.8s
PB05 **IPOC Station P** 2.98 167 *i* P Pn 18 25 07.0 -0.8
PB05 IAML 18 26 13.0
comp=Z,2µm,0.7s
PB06 **IPOC Station P** 3.04 155⇑ *i* P Pn 18 25 08.2 -0.4
PB06 IAML 18 26 08.1
comp=N,4µm,0.4s
PB06 **IPOC Station P** 3.04 155 Pn 18 25 07.8 -0.9
LVC **Limon Verde** 3.27 145 Pn Pn 18 25 13.4 +1.4
comp=N,42nm,0.3s,baz=325,slow=9.3,SNR=51
LVC Sn Sn 18 25 50.9 +0.5
comp=N,103nm,0.3s,baz=29,slow=8.7,SNR=3.8
LVC Lg Lg 18 26 01.2
comp=N,220nm,0.3s,baz=84,slow=9.3,SNR=15
LVC **Limon Verde** 3.27 145 Pn Pn 18 25 13.0 +1.0
LVC **Limon Verde** 3.27 145 *i* P Pn 18 25 13.3 +1.4
LVC *e*S Sn 18 25 52.0 +1.6
LVC IAML 18 26 08.4
comp=Z,1µm,0.6s
PB15 **IPOC Station P** 3.53 157 Pn 18 25 14.6 -0.9
PB10 **IPOC Station P** 3.57 174 Pn Pn 18 25 14.6 -1.3
PB10 **IPOC Station P** 3.57 174 *i* P Pn 18 25 15.0 -0.9
PB10 IAML 18 26 35.0
comp=Z,1µm,0.9s
AF01 **San Pedro de A** 3.96 140 *e*P Pn 18 25 23.4 +2.0
LPAZ **La Paz** 4.52 37 Pn Pn 18 25 32.7 +3.3
comp=Z,0.6nm,0.3s,baz=210,slow=7.9,SNR=6.8
LPAZ **La Paz** 4.52 37 Pn Pn 18 25 29.7 +0.3
PB14 **IPOC Station P** 4.69 174 Pn Pn 18 25 29.4 -2.1
PB14 **IPOC Station P** 4.69 174 *i* P Pn 18 25 31.0 -0.5
PB14 IAML 18 27 02.5
comp=Z,557nm,1.0s
AC02 **Maricunga** 7.06 167 Pn Pn 18 26 03.6 -0.7
AC02 **Maricunga** 7.06 167 *i* P Pn 18 26 05.0 +0.7
AC02 IAML 18 28 04.5
comp=Z,292nm,0.7s
GO03 **Copiap** 7.65 175 Pn Pn 18 26 10.9 -1.0
GO03 **Copiap** 7.65 175 *i* P Pn 18 26 12.1 +0.2
AC04 **Llanos de Chal** 8.23 181 Pn Pn 18 26 18.0 -1.8
NNA **Nana** 9.73 324 Pn Pn 18 26 45.3 +4.8
comp=Z,1.2nm,0.3s,baz=155,slow=17,SNR=1.4
NNA LR LR 18 30 18.6
comp=Z,434nm,18.4s,baz=156,slow=36
SIV **San Ignacio** 10.19 69 Pn Pn 18 26 45.2 -1.6
comp=Z,4.4nm,0.3s,baz=274,slow=9.1,SNR=31
AVFE **Valle Fertil** 11.13 164 *i* P Pn 18 26 60.0 +0.3
CPUP **Villa Florida** 14.05 119 Pn Pn 18 27 37.9 -1.6
comp=Z,0.3nm,0.3s,baz=342,slow=9.6,SNR=1.4
CPUP LR LR 18 34 03.0
comp=Z,816nm,19.4s,baz=297,slow=42
BO02 **Sierra Bellavi** 14.79 179 P P 18 27 57.5 +2.0
H03N1 **Juan Fernandez** 15.20 206 Pn Pn 18 27 53.8 -1.1
baz=107,slow=14,SNR=15
H03N1 T T 18 43 45.9
baz=32,slow=72,SNR=68
H03N2 **Juan Fernandez** 15.21 206 Pn Pn 18 27 53.9 -1.0
baz=107,slow=14,SNR=17
H03N2 T T 18 43 29.9
baz=32,slow=72,SNR=56
H03N3 **Juan Fernandez** 15.22 206 Pn Pn 18 27 53.4 -1.8
baz=107,slow=14,SNR=22
H03N3 T T 18 43 35.1
baz=32,slow=72,SNR=45
H03S3 **Juan Fernandez** 15.54 205 Pn Pn 18 27 56.7 -2.5
baz=105,slow=77,SNR=12
H03S3 T T 18 43 58.0
baz=204,slow=73,SNR=7.0
H03S1 **Juan Fernandez** 15.55 205 Pn Pn 18 27 56.6 -2.8
baz=105,slow=77,SNR=14
H03S1 T T 18 43 55.0
baz=204,slow=73,SNR=8.2
H03S2 **Juan Fernandez** 15.55 206 Pn Pn 18 27 57.4 -2.0
baz=105,slow=77,SNR=23
H03S2 T T 18 43 51.2
baz=204,slow=73,SNR=9.0
TRQA **Tornquist** 19.66 159 P 18 28 49.7 +0.5
PLCA **Paso Flores** 20.73 179 P Pn 18 29 03.0 -0.3
comp=Z,5.1nm,0.8s,baz=351,slow=12,SNR=11
PLCA **Paso Flores** 20.73 179 P P 18 28 58.6 -2.2
LL04 **Puerto Octay** 20.94 183 P P 18 29 02.2 -0.8
OTAV **Otavalo** 21.36 339 P P 18 29 04.7 -3.5
LL05 **Los Muermos** 21.50 185 P P 18 29 08.1 -1.0
FLOC **Florencia** 21.88 347 P P 18 29 11.5 -1.8
FLOC IAmb IAmb 18 29 30.3
comp=Z,22nm,0.8s
PTGA **Pitinga** 21.91 31 P P 18 29 10.1 -3.6
comp=Z,14nm,0.6s,baz=208,slow=12,SNR=15
PTGA LR LR 18 38 25.7
comp=Z,1µm,18.1s,baz=208,slow=39
BDFB **Brasilia** 22.25 83 P P 18 29 15.1 -2.3
comp=Z,3.0nm,0.4s,baz=281,slow=7.3,SNR=3.9
BDFB LR LR 18 39 24.0
comp=Z,838nm,19.8s,baz=296,slow=41
BDFB **Brasilia** 22.25 83 P P 18 29 16.9 -0.6
ROSC **El Rosal** 24.85 352 LR LR 18 40 26.8
comp=Z,638nm,20.0s,baz=202,slow=39
RUSC **La Rusia** 25.76 355 P P 18 29 48.7 -2.8
RUSC IAmb IAmb 18 30 12.0
comp=Z,21nm,0.9s
SDV **Santo Domingo** 28.65 1 LR LR 18 41 05.3
comp=Z,375nm,19.2s,baz=187,slow=35
SJCC **San Jacinto, C** 29.94 352 P P 18 30 28.2 -0.4
SJCC IAmb IAmb 18 30 30.4
comp=Z,20nm,1.0s
PDPR **Patillas Dam,** 38.03 8 P P 18 31 37.7 -0.8
PDPR IAmb IAmb 18 31 44.6
comp=Z,15nm,0.9s
SJG **San Juan** 38.11 7 LR LR 18 48 44.5
comp=Z,240nm,18.7s,baz=253,slow=39
T59A **Double "B" Far** 56.95 354 P P 18 34 05.6 +0.3
T59A IAmb IAmb 18 34 07.8
comp=Z,9.8nm,0.8s
U49A **Red Boiling Sp** 57.87 346 P P 18 34 11.6 -0.3
U49A IAmb IAmb 18 34 12.7
comp=Z,19nm,1.4s
R58B **Mineral** 57.96 354 P P 18 34 11.4 -1.0
R58B IAmb IAmb 18 34 20.7
comp=Z,15nm,1.4s
TX32 **Lajitas Array** 58.27 326 P P 18 34 16.9 +1.9
TXAR **Lajitas Array** 58.27 326 P P 18 34 16.9 +1.9
comp=Z,1.1nm,0.7s,baz=151,slow=8.4,SNR=15
TX31 **Lajitas Ar. Si** 58.27 326 P P 18 34 16.7 +1.7
MIAR **Mount Ida** 58.30 338 P P 18 34 16.5 +1.5
MIAR IAmb IAmb 18 34 17.2
comp=Z,7.6nm,0.7s
R55A **Marlinton** 58.55 352 P P 18 34 18.6 +1.9
R55A IAmb IAmb 18 34 29.0
comp=Z,7.1nm,1.1s
X37A **Clayton** 58.99 337 P P 18 34 21.3 +1.6
Q56A **Snyder Ridge,** 59.18 353 P P 18 34 23.4 +2.5
Q56A IAmb IAmb 18 34 24.0
comp=Z,11nm,0.8s
MGMO **Mountain Grove** 60.24 340 P P 18 34 26.8 -1.6
MNTX **Cornudas Mount** 61.04 327 P P 18 34 34.9 +0.9
S39A **Bolivar** 61.07 340 P P 18 34 35.0 +1.1
R40A **Maddies Statio** 61.29 341 P P 18 34 35.9 +0.5
L63A **North Scituate** 61.49 359 P P 18 34 37.1 +0.4
M55A **Ridgway** 61.52 353 P P 18 34 37.4 +0.4
BRYW **Bryant College** 61.55 360 P P 18 34 36.9 -0.2
MSTX **Muleshoe** 61.59 330 P P 18 34 38.4 +0.7
MSTX IAmb IAmb 18 34 40.5
comp=Z,7.7nm,1.1s
M54A **Oil Creek Stat** 61.67 353 P P 18 34 38.2 +0.3
N49A **Columbus Grove** 61.79 349 P P 18 34 38.3 -0.4
N49A IAmb IAmb 18 34 40.1
comp=Z,10nm,0.8s
KAN13 **South Haven SW** 61.93 336 P P 18 34 38.6 -1.2
L59A **Walton** 61.93 357 P P 18 34 41.0 +1.3
VNA3 **Neumayer Olymp** 62.16 161 P P 18 34 41.1 +0.2
VNA1 **Neumayer--Stat** 62.38 160 P P 18 34 42.5 +0.1
VNA2 **Neumayer--Watz** 62.75 161 P P 18 34 45.0 +0.2
J56A **Wolcott** 63.14 355 P P 18 34 48.1 +0.4
NCB **Newcomb** 63.67 357 P P 18 34 53.0 +1.8
NCB IAmb IAmb 18 35 17.5
comp=Z,16nm,1.5s
SNAA **Sanae** 64.37 161 P P 18 34 57.2 +1.6
SNAA **Sanae** 64.37 161 P P 18 34 57.2 +1.6
SNAA IAmb IAmb 18 35 19.3
comp=Z,4.6nm,0.9s
FRNY **Flat Rock** 64.51 358 P P 18 34 58.2 +1.5
FRNY IAmb IAmb 18 35 06.8
comp=Z,7.8nm,1.1s
SADO **Sadowa** 64.83 354 P P 18 34 59.5 +0.8
SADO IAmb IAmb 18 35 00.1
comp=Z,8.3nm,0.7s
PV04 **Paradox Valley** 68.09 329 P P 18 35 22.0 +1.9
DBIC **Dimbokro** 70.15 75 P P 18 35 32.5 -0.6
comp=Z,4.2nm,0.8s,baz=270,slow=5.9,SNR=4.2
DBIC LR LR 19 05 04.0
comp=Z,278nm,19.1s,baz=254,slow=35
QSPA **South Pole Qui** 70.24 180 P P 18 35 34.5 +1.5
QSPA IAmb IAmb 18 35 36.1
comp=Z,3.6nm,0.7s
GWY **Greenwater Val** 70.61 322 P P 18 35 37.7 +2.0
GWY IAmb IAmb 18 35 39.6
comp=Z,3.7nm,0.8s
R11A **Troy Canyon, C** 71.53 324 P P 18 35 43.9 +2.6
PDAR **Pinedale Array** 71.82 331 P P 18 35 44.8 +1.8
comp=Z,0.6nm,0.6s,baz=144,slow=6.0,SNR=7.2
HWUT **Hardware Ranch** 71.86 329 P P 18 35 42.6 -0.6
TBI **Tubuai** 72.19 251 *e*S S 18 45 06.7 -0.5
comp=Z,94nm,27.2s
TBI **Tubuai** 72.19 251 *e*LR LR 18 57 47.5
comp=Z,230nm,26.8s
HVU **Hansel Valley** 72.58 328 P P 18 35 49.4 +1.9
NVAR **Mina Array Bea** 73.10 323 P P 18 35 54.1 +3.4
comp=Z,1.5nm,0.8s,baz=161,slow=7.9,SNR=10
ULM **Lac du Bonnet** 73.28 344 LR LR 19 10 31.9
comp=Z,123nm,20.2s,baz=152,slow=38
KVN **Kaiserville** 73.41 323 P P 18 35 54.4 +1.9
YNE **Yellowstone No** 73.78 332 P P 18 35 57.0 +2.3
YNE IAmb IAmb 18 35 58.1
comp=Z,9.5nm,0.7s
PPT2 **Papeete2** 73.81 257 *e*S S 18 45 23.6 -2.3
comp=Z,100nm,24.0s
PPT2 **Papeete2** 73.81 257 *e*LR LR 18 58 30.5
comp=Z,180nm,24.5s
YHH **Holmes Hill** 73.98 332 P P 18 35 58.1 +2.3
SCHQ **Schefferville** 74.55 2 LR LR 19 10 48.9
comp=Z,61nm,19.6s,baz=196,slow=38
PAHR **Pah Rah Range** 74.59 323 P P 18 35 59.4 +0.1
PAHR IAmb IAmb 18 36 03.7
comp=Z,6.6nm,0.8s
HLID **Hailey** 74.72 329 P P 18 36 02.6 +2.6
HLID IAmb IAmb 18 36 03.6
comp=Z,7.3nm,1.3s
MCMT **McKenzie Canyo** 74.92 331 P P 18 36 03.3 +2.0
VNDA **Vanda** 78.04 190 P P 18 36 20.5 +2.3
comp=Z,0.7nm,0.8s,baz=122,slow=1.5,SNR=4.3
TORD **Torodi Ar. Bea** 78.66 71 P P 18 36 22.1 -0.5
comp=Z,8.3nm,0.6s,baz=251,slow=5.1,SNR=42
TORD **Torodi Ar. Bea** 78.66 71 P P 18 36 22.1 -0.5
TORD IAmb IAmb 18 36 22.7
comp=Z,8.3nm,0.8s
EDM **Edmonton** 81.56 336 P P 18 36 37.6 +0.1
EDM IAmb IAmb 18 36 39.0
comp=Z,7.1nm,0.7s
ESDC **Sonseca Array** 86.09 45 P P 18 37 02.0 +1.0
comp=Z,0.9nm,0.8s,baz=270,slow=5.1,SNR=2.8
MAW **Mawson** 86.36 164 P P 18 37 03.6 +1.7
comp=Z,2.4nm,0.6s,baz=191,slow=7.1,SNR=9.6
DZM **Mont Dzumac** 110.09 236 *e*LR LR 19 15 19.6
comp=Z,104nm,22.7s
H11S2 **WAKE ISLAND Hyl** 25.77 279 T T 21 02 44.6
baz=102,slow=74,SNR=111
H11S1 **WAKE ISLAND Hyl** 25.78 279 T T 21 02 54.6
baz=102,slow=74,SNR=105
H11S3 **WAKE ISLAND Hyl** 25.79 279 T T 21 02 52.3
baz=102,slow=74,SNR=81
H11N3 **WAKE ISLAND Hyl** 25.82 280 T T 21 03 02.6
baz=101,slow=74,SNR=63
H11N2 **WAKE ISLAND Hyl** 25.83 280 T T 21 03 01.7
baz=101,slow=74,SNR=78
H11N1 **WAKE ISLAND Hyl** 25.83 280 T T 21 03 01.8
baz=101,slow=74,SNR=32
SEY **Seymchan** 127.92 337 PKP **PKiKP** 18 43 27.5 +1.6
comp=Z,2.6nm,0.7s,baz=101,slow=6.9,SNR=9.4
ASAR **Alice Springs** 130.34 210 PKhKP PKPpre 18 43 32.5
comp=Z,0.6nm,0.6s,baz=145,slow=2.0,SNR=8.3
ZALV **Zalesovo Beam** 141.31 23 PKP **PKPdf** 18 43 49.9 -0.7
comp=Z,3.6nm,0.6s,baz=288,slow=2.3,SNR=15
ZALV **Zalesovo Beam** 141.31 23 **PKPdf** 18 43 49.6 -0.9
MKAR **Makanchi Array** 145.44 33 PKPbc **PKPab** 18 43 59.3 +1.0
comp=Z,5.7nm,0.7s,baz=322,slow=4.9,SNR=52
MKAR **Makanchi Array** 145.44 33 **PKPab** 18 43 59.1 +0.8
KSH **Kashi** 145.55 48 PKPbc **PKiKP** 18 44 00.5 -2.2
KLR **Kul'dur** 145.59 333 PKPbc **PKiKP** 18 44 00.0 -2.2
comp=Z,3.8nm,0.6s,baz=59,slow=2.7,SNR=20
USRK **Ussuriysk Ar.** 149.17 327 PKPbc **PKPab** 18 44 10.7 -2.3
comp=Z,3.6nm,0.7s,baz=312,slow=1.0,SNR=8.2
USRK **Ussuriysk Ar.** 149.17 327 **PKiKP** 18 44 10.3 +0.6
MJAR **Matsushiro Arr** 149.61 309 PKPbc **PKiKP** 18 44 12.0 +1.0
comp=Z,3.1nm,0.7s,baz=115,slow=0.9,SNR=7.0
MJAR **Matsushiro Arr** 149.61 309 **PKiKP** 18 44 11.9 +1.0
MAT **Matsushiro** 149.61 309 PKP **PKiKP** 18 44 11.7 +0.7
WMQ **Urumqi** 150.24 32 *e*P **PKPdf** 18 44 06.5 +0.3
WMQ pmax pmax
comp=Z,66nm,4.5s
SONM **Songino Array** 152.09 4 PKPbc **PKiKP** 18 44 17.3 +1.4
comp=Z,4.4nm,0.6s,baz=321,slow=1.5,SNR=30
GTA **Gaotai** 159.03 20 *e*P **PKPdf** 18 44 20.8 +2.3
GTA pP pPKPdf 18 44 26.1 +1.1
GTA pmax pmax
comp=Z,2.0nm,1.2s
HHC **Hu-ho-hao-te** 159.05 355 *e*P **PKPdf** 18 44 14.1 -4.4
NJ2 **Nanjing** 165.07 326 *e*P **PKPdf** 18 44 25.5 +0.8
NJ2 pmax pmax
comp=Z,9.0nm,0.6s

*STR **16** 18:32:03.0±0.4,49˚N±2˚×±˚,h7km±3km,MLv2.2/11, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/haslach_taup-2.11 preliminary*
*BGR **16** 18:32:02.2±0.5,48˚.60N×6˚.83E,h10km,ML2.5/7,Error ellipse: s-maj=4.4km s-min=2.2km az=63.0*
*LDG **16** 18:32:02.3±0.0,48˚.59N×6˚.83E,h5km,Md2.8/3,Ml2.7/21, Error ellipse: s-maj=0.6km s-min=0.6km az=4.0*
ISC 16 18:32:01.3±1.0, 48˚58N±0˚02×6˚82E±0˚01, h18km±4km, n76, σ0 85/117, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDF	**Champ du Feu**	**0.35**	**119**	*e*Pg	**Pb**	**18 32 08.9**	**-0.2**
CDF				*e*Sg	**Sg**	**18 32 13.2**	**-0.6**
	80nm,0.2s						
WLS	**Welschbruch**	**0.40**	**115**	Pg	**Pb**	**18 32 09.7**	**-0.1**
WLS				Sg	**Sg**	**18 32 14.8**	**-0.3**

ECH **Echery** 0.43 148 Pg Pb 18 32 10.6 +0.1
ECH Sg Sg 18 32 16.2 +0.1
ECH **Echery** 0.43 148 Pg Pb 18 32 10.5 +0.1
ECH Sg Sg 18 32 16.2 +0.1
ECH **Echery** 0.43 148 Pg Pb 18 32 10.6 +0.1
ECH Sg Sg 18 32 16.2 +0.1
HAU **Haudompre** 0.65 209 *e*Pg Pg 18 32 14.8 +0.5
HAU **Haudompre** 0.65 209 *e*Pn Pn 18 32 16.5 +0.8
HAU *e*Sg Sb 18 32 23.3 +0.4
199nm,0.3s
PAGF **Fort de Pagny** 0.72 268 *e*Pg Pn 18 32 16.5 -0.1
PAGF **Fort de Pagny** 0.72 268 *e*P Pn 18 32 17.9 +1.3
PAGF *e*Sg Sg 18 32 25.7 +0.5
PAGF *e*Sn Sn 18 32 28.7 +1.4
32nm,0.2s,baz=85
MOF **Molkenrain** 0.76 164 Pg Pg 18 32 16.8 +0.6
SUBF **Surbourg** 0.76 63 Pg Pg 18 32 16.2 0.0
HINF **Hinteralfeld** 0.77 178 *e*Pg Pg 18 32 16.8 +0.5
HINF *e*Sg Sb 18 32 26.6 +0.5
68nm,0.2s
OPP **Oppenau** 0.92 95 Pg Pn 18 32 19.1 -0.1
OPP Sg Sg 18 32 30.7 -0.5
KIZ **Kirchzarten** 0.97 130 Pg Pn 18 32 20.0 0.0
KIZ **Kirchzarten** 0.97 130 Sg Sb 18 32 32.1 +0.2
BFO **Black Forest** 1.04 103 *e*Pg Pg 18 32 21.9 +0.4
SNR=8.3
BFO *e*Sg Sn 18 32 34.8 -0.3
SNR=8.9
FELD **Feldberg im Sc** 1.06 131 Pg Pn 18 32 21.4 -0.1
KTD **Kalmit** 1.12 48 *e*Pg Pg 18 32 23.2 +0.2
SNR=2.2
KTD *e*Sg Sg 18 32 38.1 +0.5
SNR=1.9
SAVF **Savonnieres en** 1.12 272 *e*Pn Pg 18 32 23.1 0.0
baz=93
SAVF **Savonnieres en** 1.12 272 *e*Pg Pg 18 32 23.5 +0.4
SAVF **Savonnieres en** 1.12 272 *e*P Pg 18 32 24.8 +1.7
baz=92
SAVF *e*Sg Sg 18 32 38.1 +0.3
23nm,0.2s,baz=92
RIVT **Riveris** 1.13 358 *e*Pg Pg 18 32 23.2 0.0
SNR=8.1
RIVT *e*Sg Sn 18 32 36.9 -0.3
SNR=5.4
BERGE **Lenzkirch (DE)** 1.16 127 *e*Pg Pg 18 32 24.0 +0.4
SNR=5.6
BERGE *e*Sg Sg 18 32 38.6 -0.3
SNR=12
WLF **Walferdange** 1.17 338 *e*Pg Pg 18 32 24.4 +0.4
SNR=7.9
WLF *e*Sg Sg 18 32 39.7 +0.5
SNR=5.4
MEZF **Maizieres J'vi** 1.18 267 *e*Pn Pg 18 32 24.0 0.0
baz=87
MEZF **Maizieres J'vi** 1.18 267 *e*P Pg 18 32 25.6 +1.6
baz=84
MEZF *e*Sg Sg 18 32 39.9 +0.5
24nm,0.2s,baz=86
BOURR **Bourrignon** 1.22 167 Pg Pg 18 32 25.5 +0.6
SFTF **Sexfontaines** 1.24 253 *e*Pn Pb 18 32 24.9 +0.7
baz=73
SFTF *e*Sn Sn 18 32 41.0 +1.0
SFTF *e*Sg Sg 18 32 42.1 +0.5
29nm,0.2s,baz=68
METMA **Mettma DE** 1.30 132 *e*Pg Pg 18 32 26.7 +0.4
SNR=7.3
METMA *e*Sg Sg 18 32 43.3 0.0
SNR=17
SULZ **Cheisacher** 1.37 140 Pn Pb 18 32 26.6 +0.3
SULZ **Cheisacher** 1.37 140 Pg Pg 18 32 28.2 +0.5
SULZ **Cheisacher** 1.37 140 Pn Pb 18 32 26.6 +0.3
BALST **Balsthal** 1.38 154 Pn Pb 18 32 26.8 +0.3
BALST **Balsthal** 1.38 154 Pg Pg 18 32 27.9 0.0
BALST **Balsthal** 1.38 154 Pn Pb 18 32 26.8 +0.3
ABH **Alteburg** 1.39 20 Pn Pg 18 32 27.6 -0.5
ABH **Alteburg** 1.39 20 *e*Pg Pg 18 32 27.7 -0.5
SNR=3.8
ABH *e*Sg Sg 18 32 45.8 -0.4
SNR=7.2
SLE **Schleitheim** 1.39 125 Pn Pn 18 32 26.1 +0.3
SLE **Schleitheim** 1.39 125 Pg Pg 18 32 28.3 +0.2
SLE **Schleitheim** 1.39 125 Pn Pn 18 32 26.1 +0.3
EMING **Emmingen-Lipti** 1.52 116 *e*Sg Sg 18 32 50.3 -0.1
SNR=6.9
GUT **Gutenstein** 1.62 108 Pg Pb 18 32 31.1 +0.5
BODE **Bodenheim** 1.65 36 *e*Sg Sg 18 32 53.6 -0.8
SNR=2.1
WALHA **Walhausen, DE** 1.75 117 *e*Sg Sg 18 32 58.2 +0.4
SNR=3.9
TORNY **Torny/Romont** 1.81 177 Pg Pg 18 32 36.4 +0.3
TNS **Taunus Mts** 1.96 32 *e*Pn Pn 18 32 33.6 -0.1
TNS *e*Sg Sg 18 33 02.5 -1.9
SNR=3.3
AHRW **Bad Neuenahr-A** 1.97 5 *e*Sg Sg 18 33 03.9 -0.8
SNR=2.8
GIVF **Givet** 2.00 320 *e*Pn Pn 18 32 35.4 +1.2
GIVF **Givet** 2.00 320 *e*Pg Pg 18 32 39.6 -0.2
GIVF *e*Sn Sn 18 32 58.6 -0.2
0.8nm,0.1s
GIVF *e*Sg Sg 18 33 05.4 -0.4
9.6nm,0.3s
CABF **La Chapelle** 2.03 194 *e*Pn Pn 18 32 35.7 +1.0
CABF **La Chapelle** 2.03 194 *e*Pg Pg 18 32 40.1 -0.2
CABF *e*Sn Sn 18 32 59.6 0.0
CABF *e*Sg Sg 18 33 06.5 -0.2
8.5nm,0.3s
MILB **Miltenberg** 2.05 52 *e*Pg Pg 18 32 40.1 -0.6
SNR=3.2
MILB *e*Sg Sg 18 33 07.1 -0.2
SNR=3.6
BAIF **Baives** 2.26 312 *e*Pn Pn 18 32 39.0 +1.3
BAIF **Baives** 2.26 312 *e*Pg Pg 18 32 44.2 -0.5
BAIF *e*Sn Sn 18 33 05.2 +0.1
4.1nm,0.2s
BAIF *e*Sg Sg 18 33 13.7 -0.3
2.3nm,0.2s
UBR **Ueberruh** 2.38 111 *e*Sg Sg 18 33 17.6 -0.3
SNR=3.5
LOR **Lormes** 2.38 238 *e*Pn Pn 18 32 39.8 +0.4
baz=58
LOR **Lormes** 2.38 238 *e*Pg Pg 18 32 46.7 -0.3
baz=62
LOR *e*Sg Sg 18 33 17.5 -0.4
7.4nm,0.2s,baz=64
OBER **Oberstdorf** 2.61 115 *e*Sg Sg 18 33 26.3 +1.0
SNR=4.3
SSF **Saint Saulge** 2.70 237 *e*Pn Pn 18 32 44.4 +0.6
SSF **Saint Saulge** 2.70 237 *e*Pg Pg 18 32 52.4 -0.6
SSF *e*Sn Sn 18 33 15.8 -0.1
SSF *e*Sg Sg 18 33 27.3 -0.7
5.4nm,0.2s
SMF **Signal de Mont** 2.79 227 *e*Pn Pn 18 32 46.1 +1.0
SMF **Signal de Mont** 2.79 227 *e*Pg Pg 18 32 54.0 -0.8
SMF *e*Sn Sn 18 33 18.7 +0.4
SMF *e*Sg Sg 18 33 30.2 -0.8
8.4nm,0.2s
KASTN **Kahler Asten** 2.82 21 *e*Sg Sg 18 33 30.4 -1.6
SNR=2.4
AVF **Avril sur Loir** 2.95 234 *e*Pn Pn 18 32 47.7 +0.5
AVF **Avril sur Loir** 2.95 234 *e*Pg Pg 18 32 56.9 -0.9
AVF *e*Sn Sn 18 33 21.5 -0.5
AVF *e*Sg Sg 18 33 35.1 -0.8
3.1nm,0.2s
HYF **Humbligny** 3.10 247 *e*Pn Pn 18 32 50.0 +0.7
HYF **Humbligny** 3.10 247 *e*Pg Pg 18 33 00.3 -0.4
HYF *e*Sg Sg 18 33 40.1 -0.8
BGF **Bois d'Agland** 3.36 234 *e*Pn Pn 18 32 53.9 +1.0
BGF **Bois d'Agland** 3.36 234 *e*Pg Pg 18 33 04.1 -1.7
BGF *e*Sg Sg 18 33 48.2 -1.1
16nm,0.4s
ORIF **Oris-en-Rattie** 3.72 190 *e*Sg Sg 18 33 58.9 -1.8
3.4nm,0.3s
TCF **Toulx Ste Croi** 3.88 235 *e*Pn Pn 18 33 00.8 +0.8
TCF **Toulx Ste Croi** 3.88 235 *e*Pg Pg 18 33 13.9 -1.7
TCF *e*Sg Sg 18 34 04.4 -1.4
2.3nm,0.2s
VIVF **Saint-Julien-l** 4.01 202 *e*Pg Pg 18 33 17.2 -0.8
VIVF *e*Sg Sg 18 34 07.8 -2.1
3.3nm,0.4s
LDF **La Druitiere** 4.61 273 *e*Sg Sg 18 34 26.7 -2.4
1.9nm,0.3s
RJF **Les Rejaudoux** 4.89 230 *e*Sg Sg 18 34 35.7 -2.5
1.4nm,0.3s
CAF **Calviac** 4.90 224 *e*Pg Pg 18 33 32.9 -2.2
CAF *e*Sg Sg 18 34 36.1 -2.5

0.8nm,0.2s

NEIC ***16*** *18:38:33.9±2.1,6.°07S±0.°07×151.°53E±0.°09,h13km±4km, mb4.8/52,Error ellipse: s-maj=13.4km s-min=10.1km az=100.0*

IDC ***16*** *18:38:39.4±3.4,6.°09S×151.°48E,h59km±31km,mb4.1/21, mb1 4.2/22,mb1mx4.0/53,mbtmp4.4/22,ML4.7/1,MS3.4/7, Ms1 3.4/7,ms1mx3.1/31,Error ellipse: s-maj=16.6km s-min=13.9km az=96.0*

ISC 16 18:38:37.6±0.4,6.11S±0.°06×151.49E±0.°08,h41km,n100, σ1§16/93,mb4.7/50,MS3.2/8,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.03**	**20**		**Pn**	**18 39 06.8**	**-2.5**
MANU	**Manus Island**	**5.76**	**314**	Pn	Pn	18 40 05.7	+5.0
HNR	**Honiara**	**9.01**	**112**	P	**Pn**	**18 40 48.1**	**+2.9**
	8.5nm,0.3s,baz=228,slow=1.9,SNR=5.3						
HNR	**Honiara**	**9.01**	**112**	Pn	**Pn**	**18 40 43.9**	**-1.3**
COEN	**Coen**	**11.30**	**226**	Pn	**Pn**	**18 41 16.1**	**-0.4**
CTA	**Charters Tower**	**14.79**	**200**	P	**P**	**18 42 11.5**	**+2.1**
	0.2nm,0.3s,baz=51,slow=17,SNR=4.9						
CTAO	**Charters Tower**	**14.79**	**200**	P	**P**	**18 42 08.4**	**-1.0**
EIDS	**Eidsvold**	**19.15**	**181**		**P**	**18 42 56.5**	**-1.1**
GUMO	**Guam**	**20.65**	**341**	LR	LR	18 49 37.4	
	comp=Z,88nm,21.6s,baz=127,slow=32						
WR0	**Warramunga Arr**	**21.46**	**229**	P	**P**	**18 43 22.8**	**+0.2**
WR0				IAmb	IAmb	18 43 42.6	
	comp=Z,34nm,1.1s						
DZM	**Mont Dzumac**	**21.46**	**139**	P	**P**	**18 43 22.1**	**-0.6**
	comp=Z,3.0nm,0.7s,baz=342,slow=16,SNR=1.7						
DZM				LR	LR	18 50 39.4	
	comp=Z,320nm,18.2s,baz=322,slow=34						
WRAB	**Tennant Creek**	**21.59**	**229**	P	**P**	**18 43 22.5**	**-1.5**
WRAB				IAmb	IAmb	18 43 36.5	
	comp=Z,28nm,0.9s						
WB2	**Warramunga Arr**	**21.59**	**229**	P	**P**	**18 43 23.6**	**-0.5**
WB2				IAmb	IAmb	18 43 44.0	
	comp=Z,42nm,1.2s						
WRA	**Warramunga Arr**	**21.60**	**229**	P	**P**	**18 43 24.3**	**+0.1**
	comp=Z,21nm,0.9s,baz=52,slow=11,SNR=35						
WRA	**Warramunga Arr**	**21.60**	**229**	P	**P**	**18 43 22.8**	**-1.3**
AS31	**Alice Springs**	**24.30**	**222**	P	**P**	**18 43 51.9**	**+0.4**
ASAR	**Alice Springs**	**24.30**	**222**	P	**P**	**18 43 51.9**	**+0.4**
	comp=Z,26nm,0.8s,baz=54,slow=9.3,SNR=166						
ASAR				LR	LR	18 53 04.4	
	comp=Z,61nm,19.0s,baz=20,slow=36						
SOEI	**Soe**	**27.19**	**261**	P	**P**	**18 44 18.2**	**+0.4**
SOEI				IAmb	IAmb	18 44 47.4	
	comp=Z,27nm,0.8s						
STKA	**Stephens Creek**	**27.25**	**199**	P	**P**	**18 44 18.4**	**+0.4**
	comp=Z,11nm,0.9s,baz=7.6,slow=9.5,SNR=16						
STKA				LR	LR	18 55 13.7	
	comp=Z,164nm,18.3s,baz=25,slow=36						
STKA	**Stephens Creek**	**27.25**	**199**	P	**P**	**18 44 20.2**	**+2.2**
BATI	**Baumata**	**27.83**	**260**	P	**P**	**18 44 24.4**	**+1.0**
	comp=Z,20nm,0.8s,baz=208,slow=5.5,SNR=3.8						
FITZ	**Fitzroy Crossi**	**27.89**	**242**	P	**P**	**18 44 23.9**	**+0.1**
	comp=Z,8.6nm,0.7s,baz=71,slow=7.5,SNR=6.9						
FITZ	**Fitzroy Crossi**	**27.89**	**242**	P	**P**	**18 44 23.8**	**0.0**
FITZ				IAmb	IAmb	18 44 34.9	
	comp=Z,14nm,0.7s						
MMRI	**Maumere**	**29.11**	**263**	P	**P**	**18 44 32.7**	**-2.1**
FORT	**Forrest**	**32.95**	**219**	P	**P**	**18 45 06.8**	**-1.6**
PSA00	**Pilbara Seismi**	**34.24**	**240**	P	**P**	**18 45 19.9**	**0.0**
JAGI	**Jajag, Banyuwa**	**37.10**	**264**	P	**P**	**18 45 42.8**	**-1.6**
JOW	**Kunigami**	**39.73**	**327**	P	**P**	**18 46 06.3**	**0.0**
	comp=Z,2.5nm,0.6s,baz=115,slow=19,SNR=1.9						
JOW	**Kunigami**	**39.73**	**327**	P	**P**	**18 46 05.7**	**-0.6**
JOW				IAmb	IAmb	18 46 17.4	
	comp=Z,21nm,1.2s						
CISI	**Cisompet, Garu**	**43.37**	**265**	P	**P**	**18 46 34.5**	**-2.0**
CISI				IAmb	IAmb	18 47 01.0	
	comp=Z,24nm,1.0s						
LEM	**Lembang**	**43.58**	**267**	P	**P**	**18 46 37.4**	**-1.0**
	comp=Z,13nm,0.5s,baz=152,slow=8.5,SNR=4.7						
JNU	**Nakatsue**	**43.65**	**335**	P	**P**	**18 46 38.2**	**-0.2**
	comp=Z,14nm,1.1s,baz=197,slow=11,SNR=2.5						
MJAR	**Matsushiro Arr**	**44.22**	**345**	LR	LR	19 04 20.9	
	comp=Z,27nm,19.5s,baz=130,slow=35						
KSRS	**Korea Array**	**48.60**	**335**	P	**P**	**18 47 16.4**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=159,slow=9.2,SNR=3.3						
KSRS				LR	LR	19 08 20.8	
	comp=Z,16nm,18.4s,baz=125,slow=37						
NJ2	**Nanjing**	**49.06**	**323**	*e*P	**P**	**18 47 22.0**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BJI	**Beijing**	**56.28**	**328**	P	**P**	**18 48 18.4**	**+4.3**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
XAN	**Xi'an**	**56.69**	**318**	P	P	18 48 22.3	+5.1
XAN				pP	pP	18 48 28.3	+0.1
XAN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**57.27**	**296**	P	**P**	**18 48 22.5**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=130,slow=6.2,SNR=4.8						
CD2	**Chengdu**	**58.61**	**312**	*e*P	**P**	**18 48 32.5**	**+1.7**
PETK	**Petropavlovsk-**	**59.23**	**4**	LR	LR	19 10 19.8	
	comp=Z,22nm,20.1s,baz=173,slow=32						
HHC	**Hu-ho-hao-te**	**59.36**	**326**	*e*P	**P**	**18 48 38.6**	**+2.7**
HHC				pmax	pmax		
	comp=Z,17nm,1.1s						
HHC				pmax	pmax		
	comp=Z,50nm,6.0s						
HHC				LR	LR		
	comp=N,78nm,16.4s						
HHC				LR	LR		
	comp=E,85nm,16.3s						
HHC				LR	LR		
	comp=Z,86nm,16.5s						
MA2	**Magadan**	**65.48**	**360**	P	**P**	**18 49 16.7**	**+0.5**
	comp=Z,3.1nm,0.7s,baz=153,slow=18,SNR=2.4						
MA2	**Magadan**	**65.48**	**360**	IAmb	IAmb	18 49 21.5	
	comp=Z,3.4nm,0.7s						
GTA	**Gaotai**	**65.74**	**318**	*e*P	P	18 49 28.8	+10
GTA				pP	sP	18 49 36.5	+3.2
GTA				sP	pwP	18 49 41.0	+5.7
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
CASY	**Casey**	**66.39**	**197**	P	**P**	**18 49 22.2**	**+0.2**
CASY				IAmb	IAmb	18 49 22.5	
	comp=Z,12nm,1.4s						
ULN	**Ulaanbaatar**	**66.43**	**329**	P	**P**	**18 49 22.4**	**-0.4**
SONM	**Songino Array**	**66.75**	**329**	P	**P**	**18 49 24.3**	**-0.5**
	comp=Z,1.2nm,0.9s,baz=138,slow=7.3,SNR=5.5						
SONM	**Songino Array**	**66.75**	**329**	P	**P**	**18 49 24.9**	**+0.1**
SEY	**Seymchan**	**68.85**	**0**	P	**P**	**18 49 38.9**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=288,slow=20,SNR=2.1						
VNDA	**Vanda**	**71.58**	**178**	P	**P**	**18 49 54.1**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=336,slow=8.0,SNR=9.3						
VNDA	**Vanda**	**71.58**	**178**	P	**P**	**18 49 54.5**	**+0.4**
WMQ	**Urumqi**	**75.83**	**318**	*e*P	**P**	**18 50 20.8**	**+1.1**
WMQ				pmax	pmax		
	comp=Z,21nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,99nm,4.5s						
SII	**Sitkinak Islan**	**76.53**	**28**	P	**P**	**18 50 24.0**	**+0.6**
OHAK	**Old Harbor**	**77.31**	**27**	P	**P**	**18 50 27.1**	**-0.5**
Q19K	**Cape Douglas,**	**78.09**	**26**	P	**P**	**18 50 32.1**	**0.0**
SVW2	**Sparrevohn**	**78.54**	**23**	P	**P**	**18 50 35.1**	**+0.6**
SVW2				IAmb	IAmb	18 50 37.5	
	comp=Z,7.2nm,0.8s						
L19K	**White Mountain**	**79.46**	**23**	P	**P**	**18 50 40.1**	**+0.6**
L19K				IAmb	IAmb	18 50 41.6	
	comp=Z,10nm,1.0s						
CNPM	**China Poot**	**79.46**	**26**	P	**P**	**18 50 39.8**	**+0.3**
BRLK	**Bradley Lake**	**79.74**	**26**	P	**P**	**18 50 41.1**	**+0.1**
BRLK				IAmb	IAmb	18 50 52.2	
	comp=Z,14nm,0.9s						
MKAR	**Makanchi Array**	**80.46**	**319**	P	**P**	**18 50 44.4**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=116,slow=4.2,SNR=3.7						
J20K	**Nowinta River**	**80.87**	**21**	P	**P**	**18 50 47.5**	**+0.5**
J20K				IAmb	IAmb	18 50 48.8	
	comp=Z,9.7nm,1.1s						
PWL	**Port Wells**	**81.39**	**25**	P	**P**	**18 50 49.1**	**-0.8**
ZAA0	**Zalesovo Array**	**81.52**	**327**	P	**P**	**18 50 51.4**	**+0.7**
ZALV	**Zalesovo Beam**	**81.52**	**327**	P	**P**	**18 50 48.6**	**-2.1**
	comp=Z,0.6nm,0.5s,baz=101,slow=4.6,SNR=2.5						
SML	**Sawmill**	**81.85**	**25**	P	**P**	**18 50 51.9**	**-0.5**
SML				IAmb	IAmb	18 50 53.6	
	comp=Z,11nm,0.8s						
IMAR	**Indian Mountai**	**82.05**	**20**	P	**P**	**18 50 53.0**	**-0.3**
I21K	**Tanana**	**82.21**	**21**	P	**P**	**18 50 53.9**	**-0.1**
I21K				IAmb	IAmb	18 50 55.5	
	comp=Z,6.7nm,0.9s						
MLY	**Manley**	**82.57**	**21**	P	**P**	**18 50 55.0**	**-1.1**
MLY				IAmb	IAmb	18 50 56.7	
	comp=Z,9.0nm,1.0s						
KLU	**Klutina**	**82.72**	**25**	P	**P**	**18 50 56.5**	**-0.4**
KSH	**Kashi**	**82.80**	**311**	P	**P**	**18 50 59.3**	**+1.4**
KSH				pP	pP	18 51 07.0	-1.9
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
DHY	**Denali Highway**	**82.86**	**24**	P	**P**	**18 50 57.3**	**-0.4**
DHY				IAmb	IAmb	18 51 20.3	
	comp=Z,7.9nm,1.1s						
NEA2	**Nenana**	**82.96**	**22**	P	**P**	**18 50 56.6**	**-1.4**
NEA2				IAmb	IAmb	18 50 57.9	
	comp=Z,8.7nm,1.0s						
WRH	**Wood River Hil**	**83.26**	**22**	P	**P**	**18 50 58.3**	**-1.3**
WRH				IAmb	IAmb	18 51 09.1	
	comp=Z,8.9nm,1.0s						
N25K	**Chitina, Valde**	**83.33**	**26**	P	**P**	**18 50 59.9**	**-0.3**
CCB	**Clear Creek Bu**	**83.46**	**22**	P	**P**	**18 50 58.7**	**-1.8**
CCB				IAmb	IAmb	18 51 00.2	
	comp=Z,6.7nm,0.9s						
QSPA	**South Pole Qui**	**83.86**	**180**	P	**P**	**18 51 02.7**	**-0.1**
MAW	**Mawson**	**83.86**	**203**	P	**P**	**18 51 01.5**	**-1.1**
	comp=Z,2.0nm,0.6s,baz=127,slow=6.2,SNR=13						
IL31		**83.86**	**22**	P	**P**	**18 51 00.8**	**-1.7**
IL31				IAmb	IAmb	18 51 02.1	
	comp=Z,6.2nm,0.8s						
ILAR	**Eielson Array**	**83.86**	**22**	P	**P**	**18 51 00.7**	**-2.0**
	comp=Z,4.4nm,0.8s,baz=253,slow=5.3,SNR=21						
ILAR	**Eielson Array**	**83.86**	**22**	P	**P**	**18 51 00.8**	**-1.8**
RIDG	**Independent Ri**	**84.18**	**24**	P	**P**	**18 51 03.6**	**-0.7**
RIDG				IAmb	IAmb	18 51 17.4	
	comp=Z,8.1nm,1.0s						
DOT	**Dot Lake**	**84.45**	**24**	P	**P**	**18 51 05.6**	**-0.1**
DOT				IAmb	IAmb	18 51 06.5	
	comp=Z,8.8nm,0.9s						
AAK	**Ala-Archa**	**84.62**	**314**	P	**P**	**18 51 07.8**	**+0.6**
M27K	**Edge Creek, AK**	**84.82**	**25**	P	**P**	**18 51 08.4**	**+0.7**
BMAR	**Burnt Mountain**	**85.92**	**20**	P	**P**	**18 51 13.7**	**+0.7**
EGAK	**Eagle**	**86.08**	**23**	P	**P**	**18 51 14.0**	**+0.3**
EGAK				IAmb	IAmb	18 51 15.1	
	comp=Z,9.9nm,1.1s						
HYT	**Haines Junctio**	**86.20**	**28**	P	**P**	**18 51 15.6**	**+1.0**
WHY	**Whitehorse**	**87.37**	**28**	P	**P**	**18 51 20.1**	**-0.2**
WHY				IAmb	IAmb	18 51 21.8	
	comp=Z,7.7nm,1.0s						
KK31	**Karatay Array**	**87.58**	**314**	P	**P**	**18 51 21.1**	**-0.5**
KKAR	**Karatay Array**	**87.58**	**314**	P	**P**	**18 51 20.9**	**-0.7**
INK	**Inuvik**	**90.14**	**21**	P	**P**	**18 51 32.1**	**-0.9**
	comp=Z,5.4nm,1.0s,baz=206,slow=9.8,SNR=3.8						
INK	**Inuvik**	**90.14**	**21**	P	**P**	**18 51 32.1**	**-0.9**
INK				IAmb	IAmb	18 51 33.6	
	comp=Z,9.2nm,1.1s						
NVAR	**Mina Array Bea**	**93.92**	**52**	P	**P**	**18 51 51.6**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=244,slow=8.8,SNR=5.9						
SNAA	**Sanae**	**100.56**	**188**	P	**Pdif**	**18 52 20.1**	**-0.5**
GERES	**GERESS Array B**	**124.47**	**327**	PKP	**PKPdf**	**18 57 32.2**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=79,slow=2.0,SNR=5.4						
PTGA	**Pitinga**	**147.87**	**101**	PKPbc	**PKPbc**	**18 58 19.6**	**+0.1**
	comp=Z,3.8nm,0.7s,baz=219,slow=2.4,SNR=8.9						
PTGA	**Pitinga**	**147.87**	**101**		**PKPdf**	**18 58 17.1**	**+0.7**
TORD	**Torodi Ar. Bea**	**149.43**	**285**	PKPbc	**PKPbc**	**18 58 22.9**	**-0.4**
	comp=Z,4.3nm,0.7s,baz=52,slow=2.8,SNR=17						
TORD	**Torodi Ar. Bea**	**149.43**	**285**		**PKPbc**	**18 58 22.8**	**-0.6**
BDFB	**Brasilia**	**151.01**	**138**	PKPbc	**PKPbc**	**18 58 27.4**	**+0.1**
	comp=Z,4.7nm,0.6s,baz=78,slow=1.7,SNR=5.6						

IDC ***16*** *18:38:52.7±4.5,9.°32S×124.°13E,h73km±54km,mb3.2/1, mb1 3.3/4,mb1mx3.1/44,mbtmp3.4/4,ML3.3/3,Error ellipse: s-maj=78.3km s-min=31.1km az=41.0*

DJA ***16*** *18:38:55.8±0.7,9.°5S±4.°12×12.°4E±.°,h37km±23km,M3.6/6, mb3.9/2,MLv3.4/6*

ISC 16 18:38:52.6±1.2,9.26S±0.°09×123.92E±0.°10,h66km,n12, σ1§70/16,Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.60**	**145**	P	**Pn**	**18 39 09.8**	**+3.6**
BATI	**Baumata**	**0.97**	**195**	P	**Pn**	**18 39 12.4**	**+1.8**
	16nm,0.3s,baz=36,slow=4.2,SNR=18						
BATI				S	**Sn**	**18 39 25.4**	**+1.4**
	33nm,0.3s,baz=3.4,slow=9.3,SNR=7.1						
BATI	**Baumata**	**0.97**	**195**	P	**Pn**	**18 39 12.2**	**+1.6**
BATI				S	**Sn**	**18 39 24.4**	**+0.5**
MMRI	**Maumere**	**1.77**	**290**	P	**Pn**	**18 39 22.4**	**+1.3**
MMRI				S	**Sn**	**18 39 43.5**	**+0.8**
EDFI	**Ende, Flores**	**2.26**	**283**	P	**Pn**	**18 39 28.5**	**+0.8**
EDFI				S	**Sn**	**18 39 54.5**	**-0.1**
WBSI	**Waikabubak, Su**	**4.48**	**265**	P	**Pn**	**18 39 58.5**	**+0.4**
PLAI	**Plampang**	**6.08**	**274**	P	**Pn**	**18 40 20.4**	**+0.5**
	0.1nm18nm,1.0s						
TWSI	**Taliwang, Sumb**	**6.97**	**274**	P	**Pn**	**18 40 32.6**	**+0.5**
FITZ	**Fitzroy Crossi**	**8.94**	**169**	P	**Pn**	**18 40 56.5**	**-2.6**
	0.4nm,0.3s,baz=356,slow=10.0,SNR=17						
FITZ				S	Sn	18 42 28.4	-10
	1.5nm,0.3s,baz=176,slow=5.3,SNR=14						
WRA	**Warramunga Arr**	**14.64**	**138**	P	**Pn**	**18 42 13.8**	**-2.3**
	0.1nm,0.3s,baz=319,slow=14,SNR=5.7						
WRA				S	Sn	18 44 46.0	-11
	0.4nm,0.3s,baz=25,slow=23,SNR=5.0						
ASAR	**Alice Springs**	**17.22**	**148**	P	**Pn**	**18 42 48.0**	**-0.8**
	0.1nm,0.3s,baz=318,slow=12,SNR=8.6						
ASAR				S	Sn	18 45 47.8	-12
	baz=311,slow=21,SNR=3.4						
MKAR	**Makanchi Array**	**67.00**	**330**	P	**P**	**18 49 38.6**	**+0.1**
	0.3nm,0.5s,baz=122,slow=5.8,SNR=3.0						

JMA ***16*** *18:41:10.3±0.1,24.°17N×121.°80E,h25km±2km,M2.7*
TAP ***16*** *18:41:10.5,24.°24N×121.°83E,h19km,ML3.4,B*

ISC 16 18:41:10.4±0.8,24.21N±0.°02×121.88E±0.°02,h16km±5km, n108,σ0§75/172,3C-17D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.16**	**307**	P	**Pg**	**18 41 14.6**	**0.0**
	baz=314						
EHP				S	**Sg**	**18 41 17.5**	**+0.3**
	baz=314						
ETL	**Fush Village**	**0.24**	**257**	⇓*i*P	**Pg**	**18 41 15.9**	**+0.1**
	baz=248						
ETL				S	**Sg**	**18 41 20.1**	**+0.6**
	baz=248						
ENA	**Nanau**	**0.25**	**330**	⇓*i*P	**Pg**	**18 41 15.8**	**-0.2**
	baz=339						
ENA				*i* S	**Sg**	**18 41 19.6**	**-0.1**
	baz=339						
EWUT	**Wuta**	**0.25**	**338**	⇓*i*P	**Pg**	**18 41 16.0**	**+0.1**
	baz=348						
EWUT				*i* S	**Sg**	**18 41 19.6**	**-0.1**
	baz=348						
NACB	**Ninganchiao**	**0.26**	**261**	⇓*i*P	**Pg**	**18 41 16.0**	**-0.2**
	baz=254						
NACB				*i* S	**Sg**	**18 41 20.1**	**+0.1**
	baz=254						
TWD	**Chiawan**	**0.29**	**243**	⇓*i*P	**Pg**	**18 41 16.8**	**+0.1**
	baz=237						
TWD				*i* S	**Sg**	**18 41 21.4**	**+0.6**
	baz=237						
HWA	**Hwalien**	**0.34**	**227**	*e*P	**Pb**	**18 41 18.7**	**+0.5**
	baz=228						
HWA				*e*S	**Sb**	**18 41 25.4**	**+2.0**
	baz=228						
ETLH	**Xiulin Townshi**	**0.36**	**269**	⇓P	**Pg**	**18 41 17.5**	**-0.4**
	baz=264						
ETLH				S	**Sg**	**18 41 22.6**	**-0.5**
	baz=264						
TWC	**Suao**	**0.39**	**356**	⇑*i*P	**Pg**	**18 41 18.6**	**+0.1**
	baz=8.0						
TWC				*i* S	**Sb**	**18 41 24.2**	**-0.7**
	baz=8.0						
TEYL	**Yanliau Villag**	**0.43**	**217**	*e*P	**Pb**	**18 41 19.7**	**0.0**
	baz=213						
ETM	**Tongmen**	**0.43**	**235**	P	**Pg**	**18 41 19.3**	**+0.2**
	baz=229						
ETM				*e*S	**Sb**	**18 41 25.8**	**-0.1**
	baz=229						
NDS	**Dongshan**	**0.44**	**341**	⇓*i*P	**Pg**	**18 41 19.4**	**0.0**
	baz=345						
NDS				S	**Sg**	**18 41 25.3**	**-0.2**
	baz=345						
NNSB	**Datong**	**0.50**	**295**	⇓*i*P	**Pg**	**18 41 20.1**	**-0.4**
	baz=295						
NNSB				*i* S	**Sg**	**18 41 26.6**	**-0.6**
	baz=295						
ENTT	**Nioudou**	**0.51**	**326**	⇓*i*P	**Pg**	**18 41 20.2**	**-0.4**
	baz=321						
ENTT				*i* S	**Sg**	**18 41 27.2**	**-0.3**
	baz=321						
NDT	**Datong Townshi**	**0.51**	**319**	⇓P	**Pg**	**18 41 20.4**	**-0.2**
	baz=321						
NDT				S	**Sg**	**18 41 27.4**	**-0.1**
	baz=321						
NNS	**Nan Shan**	**0.51**	**296**	⇓*i*P	**Pg**	**18 41 20.3**	**-0.4**
	baz=296						
NNS				*i* S	**Sg**	**18 41 27.0**	**-0.6**
	baz=296						
TWE	**Neicheng**	**0.54**	**339**	⇓*i*P	**Pg**	**18 41 21.0**	**-0.2**
	baz=341						
TWE				*i* S	**Sg**	**18 41 28.2**	**-0.2**
	baz=341						
ILA	**Ilan**	**0.56**	**348**	*e*P	**Pb**	**18 41 21.8**	**-0.2**
	baz=347						
ILA				S	**Sb**	**18 41 30.6**	**+0.8**
	baz=347						
WHF	**Hehuan Shan**	**0.56**	**263**	⇓*i*P	**Pg**	**18 41 21.3**	**-0.4**
	baz=260						
WHF				*i* S	**Sg**	**18 41 28.8**	**-0.6**
	baz=260						
ESL	**Shilin**	**0.57**	**226**	⇑*i*P	**Pg**	**18 41 21.6**	**-0.1**
	baz=225						
ESL				S	**Sb**	**18 41 30.8**	**+0.9**
	baz=225						
FUSS	**Fushou**	**0.58**	**273**	P	**Pg**	**18 41 21.6**	**-0.4**
	baz=272						
FUSS				*e*S	**Sg**	**18 41 29.1**	**-0.6**
	baz=272						
EGS		**0.63**	**4**	*e*P	**Pn**	**18 41 24.5**	**-0.3**
	baz=15						
EGS				*e*S	**Sb**	**18 41 32.9**	**+1.2**
	baz=15						
NTC	**Toucheng**	**0.64**	**356**	*e*P	**Pb**	**18 41 23.3**	**0.0**
	baz=360						
NTC				*e*S	**Sb**	**18 41 31.8**	**-0.2**
	baz=360						
TWT	**Tachien**	**0.64**	**274**	*e*P	**Pg**	**18 41 23.0**	**-0.1**
	baz=271						
TWT				*e*S	**Sg**	**18 41 31.4**	**-0.3**
	baz=271						
YHNB	**Yeheng**	**0.64**	**315**	⇓*i*P	**Pg**	**18 41 22.6**	**-0.5**
	baz=316						
YHNB				S	**Sg**	**18 41 30.6**	**-1.1**
	baz=316						
NWLT	**Wulai**	**0.66**	**329**	*e*P	**Pg**	**18 41 23.1**	**-0.2**
	baz=326						
NWLT				S	**Sg**	**18 41 31.4**	**-0.7**
	baz=326						
TDCB	**Techi**	**0.66**	**274**	*e*P	**Pg**	**18 41 23.1**	**-0.3**
	baz=271						
TDCB				*e*S	**Sg**	**18 41 31.3**	**-0.9**
	baz=271						
NSK	**Sanguang**	**0.66**	**314**	⇓*i*P	**Pg**	**18 41 22.8**	**-0.7**
	baz=316						
NSK				S	**Sg**	**18 41 31.4**	**-0.8**
	baz=316						
CHGB	**Renai**	**0.66**	**257**	⇓P	**Pg**	**18 41 23.2**	**-0.2**
	baz=254						
CHGB				S	**Sg**	**18 41 31.9**	**-0.4**
	baz=254						
EGFH	**Guangfu**	**0.68**	**217**	*e*P	**Pg**	**18 41 23.8**	**0.0**
	baz=227						
EGFH				*e*S	**Sb**	**18 41 34.6**	**+1.4**
	baz=227						
OWD	**Renai**	**0.69**	**248**	⇑*i*P	**Pg**	**18 41 23.8**	**-0.3**
	baz=245						
OWD				S	**Sg**	**18 41 33.0**	**-0.3**
	baz=245						
TIPB	**Shuangxi**	**0.76**	**356**	*e*P	**Pb**	**18 41 25.2**	**-0.1**
	baz=359						
TIPB				*e*S	**Sg**	**18 41 34.8**	**-0.4**
	baz=359						
TWB1	**Santiao Chiao**	**0.80**	**7**	*e*P	**Pn**	**18 41 26.4**	**-0.7**
	baz=3.0						
TWB1				*e*S	**Sb**	**18 41 37.1**	**+0.5**
	baz=3.0						
TWA	**Mucha**	**0.81**	**341**	P	**Pb**	**18 41 26.3**	**+0.1**
	baz=343						
TWA				S	**Sg**	**18 41 36.3**	**-0.6**
	baz=343						
NHDH	**Xindian Distri**	**0.81**	**337**	*e*P	**Pn**	**18 41 26.9**	**-0.4**
	baz=338						
NHDH				*e*S	**Sg**	**18 41 36.5**	**-0.5**
	baz=338						
HGSD	**Ruisui**	**0.83**	**210**	*e*P	**Pn**	**18 41 27.1**	**-0.4**
	baz=198						
HGSD				*e*S	**Sn**	**18 41 41.2**	**+1.7**
	baz=198						
WHP	**Taichung City**	**0.85**	**274**	*e*P	**Pb**	**18 41 26.9**	**-0.1**
	baz=273						
WHP				*e*S	**Sg**	**18 41 37.7**	**-0.6**
	baz=273						
NWF	**Wu-fen Shan**	**0.86**	**354**	⇓P	**Pg**	**18 41 27.3**	**+0.2**
	baz=349						
NWF				S	**Sb**	**18 41 38.8**	**+0.4**
	baz=349						
EHY	**Hungye**	**0.87**	**216**	*e*P	**Pb**	**18 41 25.9**	**-1.4**
	baz=214						
TAP	**Taipei**	**0.89**	**338**	*e*S	**Sg**	**18 41 39.2**	**-0.2**
	baz=340						
LIOB	**Emei**	**0.90**	**299**	*e*P	**Pg**	**18 41 27.8**	**0.0**
	baz=299						
LIOB				*e*S	**Sb**	**18 41 38.8**	**-0.7**
	baz=299						
WCS	**Beigang Elemen**	**0.90**	**260**	*e*P	**Pb**	**18 41 27.6**	**-0.1**
	baz=251						
WCS				*e*S	**Sb**	**18 41 39.2**	**-0.1**
	baz=251						
NSTT	**Nanjuang**	**0.90**	**298**	*e*P	**Pb**	**18 41 27.5**	**-0.2**
	baz

YOJ	**Yonaguni jima**	**1.06**	**76**	P	**Pg**	18 41 30.8	-0.2
YOJ				*e*S	**Sn**	18 41 46.2	+1.0
YOJ	**Yonaguni jima**	**1.06**	**76**	*e*P	**Pb**	18 41 30.2	-0.2
	baz=68						
WHYT	**Xinyi Township**	**1.07**	**241**	*e*P	**Pb**	18 41 30.3	-0.3
	baz=233						
TWY	**Chenhua**	**1.09**	**347**	*e*P	**Pg**	18 41 31.7	+0.2
	baz=330						
TCU	**Taichung**	**1.10**	**267**	*e*P	**Pg**	18 41 31.7	0.0
	baz=264						
YUS	**Yu-Shan**	**1.11**	**230**	*e*P	**Pb**	18 41 31.0	-0.6
	baz=229						
WJS	**Zhushan**	**1.12**	**250**	*e*P	**Pn**	18 41 31.6	+0.1
	baz=246						
WJS				*e*S	**Sg**	18 41 47.9	+1.1
	baz=246						
WDJ	**Dajia District**	**1.14**	**277**	*e*P	**Pb**	18 41 31.9	+0.1
	baz=275						
WDJ				*e*S	**Sg**	18 41 48.2	+0.9
	baz=275						
WNT	**Mingjian**	**1.14**	**253**	*e*P	**Pb**	18 41 32.2	+0.4
	baz=242						
FULB	**Fuli**	**1.14**	**208**	*e*P	**Pn**	18 41 31.4	-0.5
	baz=224						
CHKT	**Chengkung**	**1.21**	**203**	*e*P	**Pn**	18 41 31.1	-1.6
	baz=190						
ALS	**Alishan**	**1.21**	**235**	*e*P	**Pn**	18 41 32.5	-0.4
	baz=225						
WCHH	**Zhanghua**	**1.21**	**264**	*e*P	**Pb**	18 41 33.3	+0.2
	baz=261						
CHN5	**Tsauling**	**1.26**	**241**	*e*P	**Pb**	18 41 33.8	-0.1
	baz=239						
CHN5				*e*S	**Sg**	18 41 52.8	+1.6
	baz=239						
ELDTW	**Lidau**	**1.29**	**218**	*e*P	**Pn**	18 41 32.4	-1.5
	baz=207						
WDLH	**Douliu**	**1.33**	**247**	*e*P	**Pb**	18 41 35.3	+0.2
	baz=245						
EDH	**Donghe**	**1.34**	**203**	*e*P	**Pn**	18 41 33.0	-1.6
	baz=192						
WRL	**Guolierlin Hig**	**1.41**	**258**	*e*P	**Pn**	18 41 35.8	+0.3
	baz=256						
WRL				*e*S	**Sg**	18 41 55.5	-0.4
	baz=256						
STYH	**Taoyuan**	**1.45**	**224**	*e*P	**Pn**	18 41 36.2	+0.2
	baz=214						
CHN2	**Minshiung**	**1.45**	**242**	*e*P	**Pb**	18 41 36.7	-0.4
	baz=229						
CHN4	**Tsaushan**	**1.46**	**234**	*e*P	**Pb**	18 41 37.0	-0.2
	baz=233						
CHN4				*e*S	**Sg**	18 41 59.3	+1.8
	baz=233						
WTK	**Tuku**	**1.46**	**249**	*e*P	**Pn**	18 41 36.8	+0.6
	baz=247						
WTK				*e*S	**Sg**	18 41 57.2	-0.4
	baz=247						
TPUB	**Ta-pu**	**1.46**	**232**	*e*P	**Pn**	18 41 36.8	+0.5
	baz=218						
LONT	**Longtian**	**1.47**	**208**	*e*P	**Pn**	18 41 34.0	-2.3
	baz=211						
WTP	**Ta-pu**	**1.51**	**230**	*e*P	**Pb**	18 41 37.7	-0.4
	baz=229						
CHY	**Chiayi**	**1.51**	**242**	*e*P	**Pb**	18 41 37.9	-0.2
	baz=241						
CHY				*e*S	**Sg**	18 41 59.0	-0.1
	baz=241						
TWGBT	**Beinan**	**1.57**	**208**	*e*P	**Pn**	18 41 37.2	-0.5
	baz=211						
TWG	**Pinlang**	**1.57**	**208**	*e*P	**Pn**	18 41 37.7	-0.1
	baz=211						
LDUT	**Ludao**	**1.58**	**194**	*e*P	**Pn**	18 41 35.4	-2.5
	baz=185						
LDUT				*e*S	**Sn**	18 41 55.3	-2.6
	baz=185						
TWK	**Hsinying**	**1.58**	**234**	*e*P	**Pb**	18 41 39.0	-0.4
	baz=232						
TWK				*e*S	**Sg**	18 42 00.9	-0.7
	baz=232						
CHN1	**Nanshi**	**1.61**	**231**	*e*P	**Pb**	18 41 39.5	-0.3
	baz=229						
CHN1				*e*S	**Sg**	18 42 01.7	-0.5
	baz=229						
WSF	**Szhu**	**1.62**	**250**	*e*P	**Pn**	18 41 37.3	-1.1
	baz=248						
WSF				*e*S	**Sb**	18 42 01.4	+1.2
	baz=248						
SGST	**Jiashian**	**1.64**	**227**	*e*P	**Pn**	18 41 38.9	+0.3
	baz=213						
SGST				*e*S	**Sb**	18 42 01.6	+0.9
	baz=213						
ICHU	**Yijhu**	**1.69**	**240**	*e*P	**Pn**	18 41 40.2	+0.8
	baz=239						
IRIF	**Iriomote-Funau**	**1.69**	**86**	P	**Pn**	18 41 39.7	+0.3
CHN8	**Yiju**	**1.75**	**241**	*e*P	**Pn**	18 41 41.0	+0.8
	baz=238						
HATJ	**Hateruma jima**	**1.77**	**95**	*e*S	**Sb**	18 42 04.1	-0.4
SCST	**Cishan**	**1.83**	**224**	*e*P	**Pb**	18 41 42.8	-0.8
	baz=224						
SSD	**Sandimen**	**1.86**	**218**	*e*P	**Pn**	18 41 42.1	+0.4
	baz=220						
TSMG	**Majia**	**1.88**	**217**	*e*P	**Pn**	18 41 43.3	+1.3
	baz=220						
JKRS	**Kuro-shima**	**1.95**	**89**	P	**Pb**	18 41 44.0	-1.6
MASBT	**Mashibuluo**	**1.96**	**216**	*e*P	**Pn**	18 41 43.0	-0.1
	baz=219						
JIJ	**Ishigaki jima**	**2.07**	**85**	P	**Pn**	18 41 45.1	+0.5
JIJ				*e*S	**Sn**	18 42 10.7	+0.6
SCZT	**Fangliau**	**2.17**	**212**	*e*P	**Pn**	18 41 46.7	+0.7
	baz=217						
PHUB	**P'eng-hu**	**2.22**	**252**	*e*P	**Pn**	18 41 46.0	-0.7
	baz=249						
JISG	**Ishigakijimahi**	**2.25**	**80**	P	**Pn**	18 41 47.5	+0.5
JISG				*e*S	**Sn**	18 42 15.2	+0.7
PTMZ	**Houxiangcun**	**2.64**	**289**	*e*P	**Pn**	18 41 51.5	-1.0
	baz=283						
JIRB	**Irabujima**	**3.06**	**78**	S	**Sn**	18 42 36.7	+2.1

IDC 16 18:41:22.5±2.0, 5°55.55S×151°19.19E, h0km, mb4.1/4, mb1 4.4/4, mb1mx3.7/47, mbtmp4.1/4, Error ellipse: s-maj=108.4km s-min=28.6km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.75**	**227**	P	P	18 46 15.0	-0.8
	1.4nm,0.4s,baz=52,slow=11,SNR=2.4						
ASAR	**Alice Springs**	**24.52**	**221**	P	P	18 46 43.3	-0.7
	3.9nm,0.8s,baz=53,slow=8.5,SNR=5.8						
FITZ	**Fitzroy Crossi**	**27.89**	**241**	P	P	18 47 15.1	+0.6
	3.2nm,0.5s,baz=59,slow=6.8,SNR=8.0						
ILAR	**Eielson Array**	**83.46**	**22**	P	P	18 53 51.3	-0.4
	0.8nm,0.7s,baz=253,slow=5.2,SNR=4.5						
TORD	**Torodi Ar. Bea**	**148.99**	**286**	PKPbc	PKPbc	19 01 13.8	+0.1
	1.9nm,0.7s,baz=86,slow=2.5,SNR=10						

*KRSC **16** 18:43:54.6±2.0, 50°.84N×157°.24E, h114km±21km, ML4.5*
*MOS **16** 18:43:55.6±1.0, 51°.14N×156°.50E, h127km, mb4.3/4, Error ellipse: s-maj=13.9km s-min=6.7km az=75.3*
MOS Felt (II) at Severo-Kuril'sk.
*NEIC **16** 18:43:57.5±1.2, 51°.3N±0°.1×156°.6E±0°.3, h135km±9km, mb4.2/22, Error ellipse: s-maj=25.5km s-min=14.9km az=104.0*
*IDC **16** 18:43:59.1±1.2, 51°.31N×156°.49E, h148km±11km, mb3.6/12, mb1 3.7/19, mb1mx3.5/53, mbtmp4.0/19, MS2.8/2, Ms1 2.8/2, ms1mx2.4/61, Error ellipse: s-maj=18.1km s-min=12.1km az=125.0*

ISC 16 18:43:55.6±0.7, 50°.99N±0°.06×156°.83E±0°.06, h129km±5km, n123, σ1§65/136, mb4.1/21, 1C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**0.47**	**359**	PN	**Pn**	**18 44 14.0**	**-0.4**
PAU	**Pauzhetka**	**0.47**	**359**	*i* P	**Pn**	**18 44 14.0**	**-0.4**
SKR	**Severo-Kuril's**	**0.55**	**236**	⇑*i* PN	**Pn**	**18 44 14.7**	**-0.1**
SKR				*i* S	**Sn**	**18 44 28.5**	**-0.8**
SKR				pmax	pmax		
	comp=Z,874nm,0.4s						
SKR				smax	smax		
	comp=E,6μm,0.6s						
SKR				smax	smax		
	comp=N,4μm,0.6s						
SKR	**Severo-Kuril's**	**0.55**	**236**	*i* P	**Pn**	**18 44 14.7**	**-0.1**
SKR				*e*S	**Sn**	**18 44 28.4**	**-0.8**
ALID	**Alaid**	**0.82**	**262**	*i* P	**Pn**	**18 44 16.7**	**-0.3**
KDTR	**Khodutka, Kamc**	**1.13**	**43**	PN	**Pn**	**18 44 19.5**	**-0.1**
KDTR				S	**Sn**	**18 44 36.5**	**-1.4**
KDTR	**Khodutka, Kamc**	**1.13**	**43**	*i* P	**Pn**	**18 44 19.5**	**-0.1**
KDTR				*e*S	**Sn**	**18 44 36.5**	**-1.4**
MIPR	**Malaya Ipel'ka**	**1.29**	**358**	PN	**Pn**	**18 44 21.2**	**-0.1**
MIPR				S	**Sn**	**18 44 39.9**	**-0.9**
MIPR	**Malaya Ipel'ka**	**1.29**	**358**	*e*P	**Pn**	**18 44 21.2**	**-0.1**
MIPR				*e*S	**Sn**	**18 44 39.9**	**-0.9**
ASAK	**Asacha**	**1.54**	**25**	PN	**Pn**	**18 44 24.8**	**+0.6**
ASAK	**Asacha**	**1.54**	**25**	*e*P	**Pn**	**18 44 24.8**	**+0.6**
MTVR	**Mutnovka**	**1.71**	**29**	PN	**Pn**	**18 44 26.9**	**+0.7**
MTVR				S	**Sn**	**18 44 49.9**	**+0.3**
MTVR	**Mutnovka**	**1.71**	**29**	*e*P	**Pn**	**18 44 26.9**	**+0.7**
MTVR				*e*S	**Sn**	**18 44 49.9**	**+0.3**
GRL	**Gorelyy**	**1.74**	**26**	*e*P	**Pn**	**18 44 27.3**	**+0.8**
GRL				*e*S	**Sn**	**18 44 51.9**	**+1.7**
RUS	**Russkaya**	**1.78**	**35**	PN	**Pn**	**18 44 26.8**	**0.0**
RUS				S	**Sn**	**18 44 49.4**	**-1.3**
RUS	**Russkaya**	**1.78**	**35**	*e*P	**Pn**	**18 44 26.8**	**0.0**
RUS				*e*S	**Sn**	**18 44 49.4**	**-1.3**
APC	**Apacha**	**1.95**	**6**	PN	**Pn**	**18 44 29.3**	**+0.5**
APC	**Apacha**	**1.95**	**6**	*e*P	**Pn**	**18 44 29.3**	**+0.5**
KRMR	**Karymshinskiy**	**2.01**	**23**	*e*P	**Pn**	**18 44 31.9**	**+2.4**
KRMR				*e*S	**Sn**	**18 44 58.9**	**+3.3**
PEA0B	**Petropavlovsk-**	**2.19**	**14**	*d i* PN	**Pn**	**18 44 32.4**	**+0.6**
PEA0B	**Petropavlovsk-**	**2.19**	**14**		**Pn**	**18 44 32.3**	**+0.5**
PETK	**Petropavlovsk-**	**2.19**	**14**	P	**Pn**	**18 44 31.5**	**-0.2**
	comp=N,11nm,0.3s,baz=182,slow=12,SNR=288						
PETK				S	**Sn**	**18 45 00.9**	**+1.4**
	comp=N,4.9nm,0.3s,baz=128,slow=13,SNR=2.4						
PETK	**Petropavlovsk-**	**2.19**	**14**		**Pn**	**18 44 31.3**	**-0.5**
PET	**Petropavlovsk**	**2.33**	**28**	⇓*i* PN	**Pn**	**18 44 34.0**	**+0.6**
PET				*e*S	**Sn**	**18 45 03.2**	**+0.6**
PET				pmax	pmax		
	comp=Z,71nm,0.4s						
PET				smax	smax		
	comp=N,635nm,0.6s						
PET				smax	smax		
	comp=E,410nm,0.7s						
PET				MLR	MLR		
	comp=Z,200nm,12.0s						
PET	**Petropavlovsk**	**2.33**	**28**	*e*P	**Pn**	**18 44 34.1**	**+0.6**
PET				*e*S	**Sn**	**18 45 02.2**	**-0.4**
PET	**Petropavlovsk**	**2.33**	**28**		**Pn**	**18 44 34.0**	**+0.6**
DALK	**Dalny**	**2.36**	**29**	*e*P	**Pn**	**18 44 34.6**	**+0.7**
DALK				*e*S	**Sn**	**18 45 04.2**	**+0.8**
UGLR	**Uglovaya**	**2.54**	**28**	PN	**Pn**	**18 44 37.8**	**+1.5**
UGLR	**Uglovaya**	**2.54**	**28**	*e*P	**Pn**	**18 44 37.8**	**+1.5**
KOK	**Koryaka**	**2.56**	**25**	*e*P	**Pn**	**18 44 38.4**	**+1.9**
AVH	**Avacha**	**2.56**	**27**	*e*P	**Pn**	**18 44 38.3**	**+1.7**
SMAR	**Somma**	**2.58**	**27**	*e*P	**Pn**	**18 44 38.4**	**+1.5**
KRER	**Koryakskii**	**2.60**	**26**	*e*P	**Pn**	**18 44 38.9**	**+1.7**
SDLR	**Sedlovina**	**2.62**	**28**	*e*P	**Pn**	**18 44 38.4**	**+1.1**
SDLR				*e*S	**Sn**	**18 45 08.0**	**-1.4**
KRX	**Arik**	**2.62**	**25**	PN	**Pn**	**18 44 38.9**	**+1.5**
KRX	**Arik**	**2.62**	**25**	*e*P	**Pn**	**18 44 38.9**	**+1.5**
NLC	**Nalytchevo**	**2.68**	**34**	*e*P	**Pn**	**18 44 37.8**	**-0.1**
NLC				*e*S	**Sn**	**18 45 08.3**	**-2.2**
GNL	**Ganaly**	**2.79**	**14**	*e*P	**Pn**	**18 44 40.5**	**+1.0**
SPN	**Mys Shipunski**	**2.89**	**42**	*e*P	**Pn**	**18 44 41.0**	**+0.4**
SPN				*e*S	**Sn**	**18 45 13.5**	**-1.9**
KII	**Karymskiy**	**3.44**	**27**	P	**Pn**	**18 44 47.6**	**-0.4**
KZV	**Kizimen**	**4.63**	**26**	*e*P	**Pn**	**18 45 04.7**	**+1.0**
MKZ	**Mys Kozlova**	**4.65**	**38**	*e*P	**Pn**	**18 45 03.7**	**-0.1**
MKZ				*e*S	**Sn**	**18 45 53.9**	**-3.0**
TUMD	**Tumrok D**	**4.73**	**26**	*e*P	**Pn**	**18 45 06.6**	**+1.6**
TUMR	**Tumrok**	**4.74**	**24**	*e*P	**Pn**	**18 45 07.2**	**+2.0**
KMNR	**Kamenistaya**	**5.19**	**22**	*e*P	**Pn**	**18 45 12.8**	**+1.6**
SRKR	**Sorokina**	**6.23**	**23**	*e*P	**Pn**	**18 45 28.4**	**+3.3**
SMKR	**Semkarok**	**6.24**	**24**	*e*P	**Pn**	**18 45 28.0**	**+2.8**
KBTR	**Krutoberegovo**	**6.32**	**32**	*e*P	**Pn**	**18 45 25.8**	**-0.5**
BKI	**Bering**	**6.93**	**49**	*e*P	**Pn**	**18 45 34.0**	**-0.5**
BKI				*e*S	**Sn**	**18 46 44.8**	**-7.1**
MA2	**Magadan**	**9.27**	**341**	P	**Pn**	**18 46 04.9**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=142,slow=7.3,SNR=4.3						
MA2				LR	LR	18 50 07.2	
	comp=Z,25nm,19.1s,baz=198,slow=41						
ASAJ	**Asahikawa**	**11.81**	**240**	P	**Pn**	**18 46 41.7**	**+1.8**
	comp=Z,0.7nm,0.3s,baz=58,slow=13,SNR=7.2						
SEY	**Seymchan**	**12.21**	**350**	P	**Pn**	**18 46 44.9**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=168,slow=15,SNR=4.8						
ERM	**Erimo**	**12.99**	**232**	PN	**Pn**	**18 46 51.5**	**-3.8**
ERM	**Erimo**	**12.99**	**232**	Pn	**Pn**	**18 46 51.5**	**-3.8**
KLR	**Kul'dur**	**16.16**	**274**	P	**P**	**18 47 36.6**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=64,slow=12,SNR=6.8						
KLR	**Kul'dur**	**16.16**	**274**	⇓*e*P	**P**	**18 47 37.0**	**+1.1**
KLR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
JMM	**Marumori**	**17.37**	**227**	P	**P**	**18 47 48.9**	**-0.4**
JMM				IAmb	IAmb	18 48 07.5	
	comp=Z,16nm,1.1s						
USRK	**Ussuriysk Ar.**	**18.02**	**258**	P	**P**	**18 47 56.0**	**-0.4**
	baz=97,slow=7.9,SNR=7.3						
USRK	**Ussuriysk Ar.**	**18.02**	**258**	P	**P**	**18 47 56.8**	**+0.4**
USRK	**Ussuriysk Ar.**	**18.02**	**258**	P	**P**	**18 47 56.8**	**+0.4**
ZEA	**Zeya**	**18.21**	**290**	*e*P	**P**	**18 47 58.7**	**+0.4**
YAK	**Yakutsk**	**18.45**	**317**	P	**P**	**18 48 00.1**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=275,slow=1.3,SNR=32						
YAK	**Yakutsk**	**18.45**	**317**	P	**P**	**18 47 59.6**	**-1.3**
JSD	**Sado**	**18.45**	**233**	P	**P**	**18 48 02.2**	**+1.0**
JSD				IAmb	IAmb	18 48 06.2	
	comp=Z,19nm,1.1s						
MAJO	**Matsushiro**	**19.65**	**230**	P	**P**	**18 48 16.0**	**+1.8**
MAJO				pmax	pmax		
	comp=Z,12nm,0.5s						
MAJO	**Matsushiro**	**19.65**	**230**	P	**P**	**18 48 16.0**	**+1.8**
MAT	**Matsushiro**	**19.65**	**230**	P	**P**	**18 48 15.6**	**+1.4**
MJAR	**Matsushiro Arr**	**19.65**	**230**	P	**Pn**	**18 48 16.6**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=313,slow=34,SNR=6.5						
MJAR	**Matsushiro Arr**	**19.65**	**230**	IAmb	IAmb	18 48 27.1	
	comp=Z,8.8nm,1.4s						
JGF	**Kuroka**	**20.82**	**230**	P	**P**	**18 48 26.1**	**-0.7**
JGF				IAmb	IAmb	18 48 28.6	
	comp=Z,29nm,1.4s						
JWT	**Wachi**	**22.04**	**233**	P	**P**	**18 48 40.0**	**+0.3**
JWT				IAmb	IAmb	18 48 58.0	
	comp=Z,14nm,1.4s						
KSRS	**Korea Array**	**24.55**	**248**	P	**P**	**18 49 05.4**	**+2.3**
	comp=Z,1.7nm,0.7s,baz=44,slow=9.6,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**32.20**	**162**	T	T	19 24 38.7	
	baz=349,slow=76,SNR=58						
H11N1	**WAKE ISLAND Hy**	**32.21**	**162**	T	T	19 24 32.1	
	baz=349,slow=76,SNR=47						
H11N3	**WAKE ISLAND Hy**	**32.21**	**162**	T	T	19 24 10.6	
	baz=349,slow=76,SNR=97						
H11S1	**WAKE ISLAND Hy**	**33.35**	**163**	T	T	19 25 34.2	
	baz=348,slow=76,SNR=105						
H11S3	**WAKE ISLAND Hy**	**33.36**	**163**	T	T	19 25 37.6	
	baz=348,slow=76,SNR=135						
H11S2	**WAKE ISLAND Hy**	**33.37**	**163**	T	T	19 25 38.1	
	baz=348,slow=76,SNR=44						
ZALV	**Zalesovo Beam**	**42.23**	**303**	PcP	**PcP**	**18 53 25.8**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=21,slow=5.1,SNR=3.6						
EUNU	**Eureka**	**44.46**	**13**	P	**P**	**18 51 53.9**	**+0.8**
MK31	**Makanchi Array**	**47.24**	**296**	⇓*e*P	**P**	**18 52 14.4**	**-1.0**
MK31	**Makanchi Array**	**47.24**	**296**	P	**P**	**18 52 13.9**	**-1.4**
MKAR	**Makanchi Array**	**47.24**	**296**	P	**P**	**18 52 14.5**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=64,slow=7.3,SNR=20						
MKAR				PcP	**PcP**	**18 53 45.3**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=74,slow=5.1,SNR=2.0						
BRVK	**Borovoye**	**50.14**	**308**	P	**P**	**18 52 36.2**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	**Borovoye**	**50.14**	**308**	P	**P**	**18 52 36.2**	**-1.1**
BRVK				IAmb	IAmb	18 52 38.2	
	comp=Z,1.6nm,0.8s						
KDJ	**Kajisay**	**52.96**	**294**	P	**P**	**18 52 58.2**	**-0.5**
KDJ				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KDJ	**Kajisay**	**52.96**	**294**	P	**P**	**18 52 58.2**	**-0.5**
KDJ				IAmb	IAmb	18 52 59.0	
	comp=Z,6.2nm,1.1s						
ARU	**Arti**	**53.56**	**317**	*d i* P	**P**	**18 53 00.9**	**-1.7**
ARU						18 54 04.8	
ARU				S	**S**	**19 00 23.9**	**-1.6**
ARU				SS	**SKiKP**	**19 03 59.1**	**-4.3**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ARU	**Arti**	**53.56**	**317**	P	**P**	**18 53 00.7**	**-1.9**
ARU				IAmb	IAmb	18 53 01.8	
	comp=Z,4.8nm,1.1s						
CHTO	**Chiang Mai**	**55.48**	**257**	P	**P**	**18 53 18.2**	**+1.2**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.6s						
CHTO	**Chiang Mai**	**55.48**	**257**	P	**P**	**18 53 18.1**	**+1.2**
CM31	**Chiang Mai Arr**	**55.75**	**257**	P	**P**	**18 53 20.7**	**+1.8**
CMAR	**Chiang Mai Arr**	**55.75**	**257**	P	**P**	**18 53 21.0**	**+2.1**
	comp=Z,4.7nm,0.8s,baz=35,slow=7.1,SNR=28						
CMAR	**Chiang Mai Arr**	**55.75**	**257**	P	**P**	**18 53 20.6**	**+1.7**
KKAR	**Karatay Array**	**56.12**	**298**	P	**P**	**18 53 20.4**	**-0.9**
KKAR	**Karatay Array**	**56.12**	**298**	P	**P**	**18 53 20.4**	**-0.9**
ABKAR	**Akbulak array**	**57.60**	**310**	P	**P**	**18 53 30.4**	**-1.1**
ABKAR	**Akbulak array**	**57.60**	**310**	P	**P**	**18 53 30.5**	**-1.1**
ABKAR				IAmb	IAmb	18 53 30.9	
	comp=Z,3.2nm,1.3s						
NVAR	**Mina Array Bea**	**58.39**	**67**	P	**P**	**18 53 41.2**	**+3.6**
	comp=Z,0.3nm,0.5s,baz=305,slow=8.7,SNR=2.1						
GAR	**Garm**	**58.96**	**295**	P	**P**	**18 53 40.4**	**-0.9**
GAR				IAmb	IAmb	18 53 52.2	
	comp=Z,5.9nm,1.2s						
FINES	**FINESS Array B**	**61.22**	**335**	P	**P**	**18 53 53.6**	**-2.5**
	comp=Z,0.5nm,0.3s,baz=45,slow=7.0,SNR=7.1						
FINES	**FINESS Array B**	**61.22**	**335**	P	**P**	**18 53 54.1**	**-2.1**
FINES	**FINESS Array B**	**61.22**	**335**	P	**P**	**18 53 54.1**	**-2.1**
OBN	**Obninsk**	**63.17**	**326**	LR	LR	19 24 10.9	
	comp=Z,17nm,20.7s,baz=187,slow=38						
NOA	**NORSAR Array B**	**64.96**	**342**	P	**P**	**18 54 19.3**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=23,slow=5.4,SNR=1.8						
AKASG	**Malin Array Be**	**69.34**	**327**	P	**P**	**18 54 46.1**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=32,slow=6.8,SNR=4.1						
AKASG	**Malin Array Be**	**69.34**	**327**	*e*P	**P**	**18 54 49.2**	**+0.5**
BUR08	**Bucovina Ar. S**	**73.32**	**328**	P	**P**	**18 55 12.7**	**-0.1**
WR0	**Warramunga Arr**	**73.32**	**202**	P	**P**	**18 55 14.8**	**+1.9**
WR0				IAmb	IAmb	18 55 14.9	
	comp=Z,3.9nm,1.1s						
BURAR	**Bucovina Array**	**73.34**	**328**	P	**P**	**18 55 12.7**	**-0.2**
TXAR	**Lajitas Array**	**73.34**	**64**	P	**P**	**18 55 16.0**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=303,slow=5.0,SNR=2.2						
WB2	**Warramunga Arr**	**73.35**	**202**	P	**P**	**18 55 15.0**	**+1.9**
WB2				IAmb	IAmb	18 55 33.9	
	comp=Z,5.8nm,1.2s						
WRA	**Warramunga Arr**	**73.35**	**202**	P	**P**	**18 55 14.7**	**+1.7**
	comp=Z,1.8nm,0.5s,baz=18,slow=5.6,SNR=28						
WRA	**Warramunga Arr**	**73.35**	**202**	P	**P**	**18 55 14.7**	**+1.7**
AS31	**Alice Springs**	**77.03**	**201**	P	**P**	**18 55 36.9**	**+2.7**
ASAR	**Alice Springs**	**77.04**	**201**	P	**P**	**18 55 37.0**	**+2.9**
	comp=Z,1.5nm,0.5s,baz=14,slow=5.2,SNR=63						
ASAR	**Alice Springs**	**77.04**	**201**	P	**P**	**18 55 37.0**	**+2.9**
ASAR	**Alice Springs**	**77.04**	**201**	P	**P**	**18 55 36.6**	**+2.5**
ESDC	**Sonseca Array**	**88.15**	**345**	P	**P**	**18 56 31.1**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=347,slow=3.9,SNR=7.9						
KEST	**Kesra**	**89.03**	**334**	P	**P**	**18 56 36.0**	**+0.1**
	comp=Z,2.0nm,0.5s,baz=347,slow=4.6,SNR=8.0						
H03N2	**Juan Fernandez**	**136.25**	**89**	T	T	21 34 04.0	
	baz=314,slow=77,SNR=30						
H03N1	**Juan Fernandez**	**136.27**	**88**	T	T	21 34 04.5	
	baz=314,slow=77,SNR=31						
H03N3	**Juan Fernandez**	**136.27**	**89**	T	T	21 34 08.0	
	baz=314,slow=77,SNR=39						

*SJA **16** 18:56:00.4±0.7, 19°.77S×71°.39W, h7km±7km, ML4.7, MW4.5*
*IDC **16** 18:56:08.7±0.5, 19°.82S×70°.64W, h0km, mb4.4/13, mb1 4.6/15, mb1mx4.5/27, mbtmp4.5/15, ML4.3/2, MS4.2/18, Ms1 4.1/18, ms1mx4.0/28, Error ellipse: s-maj=20.6km s-min=12.9km az=65.0*
*NEIC **16** 18:56:09.8±2.1, 19°.96S±0°.04×70°.88W±0°.05, h9km±3km, mb5.1/267, Mwr4.8/47, Mww4.9, ML4.5(GUC), Error ellipse: s-maj=7.2km s-min=6.1km az=54.0*
*GUC **16** 18:56:10.5±0.8, 19°.92S×70°.90W, h40km±2km, ML4.5, MW5.1*
*VAO **16** 18:56:10.7±0.3, 19°.87S×70°.74W, h12km, mb4.7*
*NEIC **16** 18:56:11, 20°.03S×70°.80W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.56; $M_{\theta\theta}$-0.30; $M_{\phi\phi}$-1.26; $M_{r\theta}$0.51; $M_{\theta\phi}$0.56; $M_{\phi r}$-1.53; Fault plane solution: $M_0$2.23000×10^{16} NP1:ϕ_s159.79000°, δ68.22000°, λ93.17000°. NP2:ϕ_s331.31000°, δ22.00000°, λ82.13000°. Principal axes: T 2.2513, Plg67.0000°, Azm75.0000°; N -0.0523, Plg3.0000°, Azm339.0000°; P -2.1990, Plg23.0000°, Azm247.0000°;*
*NEIC **16** 18:56:13, 19°.76S×70°.97W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.71; $M_{\theta\theta}$0.23; $M_{\phi\phi}

PB01 *i* S **Sn** 18 57 01.9 +0.9
PB01 IAML 18 57 09.7
comp=N,6µm,0.3s
PB01 IPOC Station P 1.72 130 Pn 18 56 39.3 -0.5
PB01 IPOC Station P 1.72 130 *e*P **Pn 18 56 39.0 -0.8**
PB01 IAML 18 57 12.0
comp=Z,5µm,1.5s
PB07 IPOC Station P 2.01 152 *e*P **Pn 18 56 44.5 +0.5**
PB07 *e*S **Sn 18 57 09.9 +1.5**
PB07 IAML 18 57 21.4
comp=E,5µm,0.6s
PB07 IPOC Station P 2.01 152 Pn 18 56 42.8 -1.1
PB07 IPOC Station P 2.01 152 *e*P **Pn 18 56 43.0 -0.9**
PB07 IAML 18 57 24.2
comp=Z,4µm,0.5s
PB03 IPOC Station P 2.35 153 *i* P **Pn 18 56 47.4 -1.2**
PB03 *e*S **Sb 18 57 21.4 -0.5**
PB03 IAML 18 57 31.7
comp=E,2µm,0.6s
PB03 IPOC Station P 2.35 153 *e*P **Pn 18 56 47.0 -1.6**
PB03 *e*S **Sn 18 57 20.0 +3.3**
PB03 IAML 18 57 31.3
comp=Z,3µm,0.8s
PB09 IPOC Station P 2.41 140 *e*P **Pn 18 56 49.4 0.0**
PB09 IPOC Station P 2.41 140 Pn 18 56 49.8 +0.4
PB09 IPOC Station P 2.41 140 *e*P **Pn 18 56 49.0 -0.4**
PB09 IAML 18 57 33.0
comp=Z,5µm,0.7s
PB04 IPOC Station P 2.48 164 IAML 18 57 36.5
comp=N,3µm,0.3s
PB04 IPOC Station P 2.48 164 Pn 18 56 48.6 -1.8
PB04 IPOC Station P 2.48 164 *e*P **Pn 18 56 48.7 -1.6**
PB04 *e*P 18 56 49.0
PB04 *e*S **Sb 18 57 24.2 -1.3**
PB04 IAML 18 57 37.1
comp=Z,2µm,0.6s
PB05 IPOC Station P 2.97 167 *e*P **Pn 18 56 55.0 -2.0**
PB05 IPOC Station P 2.97 167 *e*P **Pn 18 56 55.0 -2.0**
PB05 *e*P 18 56 57.7
PB05 *e*S **Sb 18 57 40.7 +1.2**
PB06 IPOC Station P 3.01 156 Pn 18 56 56.3 -1.5
PB06 IPOC Station P 3.01 156 *e*P **Pn 18 56 56.2 -1.5**
PB06 *e*S **Sb 18 57 39.2 -1.7**
PB06 IAML 18 57 58.5
comp=Z,2µm,1.2s
LVC Limon Verde 3.24 145 Pn **Pn 18 57 01.4 +0.5**
comp=Z,24nm,0.3s,baz=352,slow=7.9,SNR=115
LVC Sn **Sn 18 57 41.1 +2.2**
comp=Z,64nm,0.3s,baz=74,slow=13,SNR=5.8
LVC LR LR 18 57 44.8
comp=Z,630nm,20.5s,baz=322,slow=30
LVC Lg Lg 18 57 51.9
comp=Z,129nm,0.3s,baz=66,slow=22,SNR=12
LVC Limon Verde 3.24 145 *e*P **Pn 18 57 01.5 +0.5**
LVC *e*S **Sn 18 57 39.5 +0.7**
LVC Limon Verde 3.24 145 *e*P Pn 18 56 56.2 -4.7
LVC *e*P 18 57 01.0
LVC *e*S **Sb 18 57 45.2 -2.4**
LVC IAML 18 57 56.3
comp=Z,814nm,0.7s
PB15 IPOC Station P 3.51 158 Pn 18 57 02.9 -1.7
PB15 IPOC Station P 3.51 158 *e*P Pn 18 56 57.7 -6.8
PB15 *e*P 18 57 03.2
PB15 *e*S **Sb 18 57 57.7 +2.5**
PB15 IAML 18 58 24.5
comp=Z,2µm,0.7s
PB10 IPOC Station P 3.56 175 *e*P **Pn 18 57 03.2 -2.0**
PB10 IPOC Station P 3.56 175 Pn **Pn 18 57 03.1 -2.1**
PB10 IPOC Station P 3.56 175 *e*P **Pn 18 57 02.9 -2.2**
AF01 San Pedro de A 3.92 140 Pn 18 57 09.6 -0.7
LPAZ La Paz 4.49 36 Pn **Pn 18 57 22.0 +3.5**
comp=Z,11nm,0.3s,baz=188,slow=4.4,SNR=34
LPAZ LR LR 18 59 12.1
comp=Z,3µm,20.8s,baz=244,slow=43
LPAZ La Paz 4.49 36 Pn 18 57 21.3 +2.9
LPAZ La Paz 4.49 36 *e*P **Pn 18 57 16.7 -1.7**
PB14 IPOC Station P 4.68 174 Pn **Pn 18 57 17.0 -3.8**
PB14 IPOC Station P 4.68 174 *e*P **Pn 18 57 19.0 -1.8**
PB14 *e*S **Sn 18 58 11.1 -3.3**
PB14 IAML 18 58 51.9
comp=Z,311nm,1.6s
AZAP Zapla 6.89 129 *e*P **Pn 18 57 51.0 0.0**
AZAP *e*S Sn 18 58 52.3 -16
AZAP IAML 18 59 57.0
comp=Z,91nm,2.2s
AC02 Maricunga 7.05 167 Pn **Pn 18 57 52.1 -1.4**
GO03 Copiap 7.64 176 Pn 18 58 00.6 -0.6
AC04 Llanos de Chal 8.22 181 Pn 18 58 07.4 -1.8
NNA Nana 9.76 323 Pn **Pn 18 58 34.4 +4.2**
comp=Z,1.4nm,0.3s,baz=258,slow=14,SNR=1.7
NNA Sn **Sn 19 00 17.0 -2.1**
comp=Z,3.4nm,0.3s,baz=203,slow=12,SNR=2.4
NNA LR LR 19 02 06.1
comp=Z,547nm,18.7s,baz=150,slow=36
NNA Nana 9.76 323 Pn **Pn 18 58 29.8 -0.5**
SIV San Ignacio 10.15 69 Pn **Pn 18 58 33.8 -1.8**
comp=Z,3.9nm,0.3s,baz=271,slow=8.8,SNR=30
GO04 Tololo Observa 10.18 179 Pn Pn 18 58 32.4 -3.8
CO06 Fray Jorge 10.70 183 Pn Pn 18 58 40.7 -2.4
CO03 El Pedregal 10.85 179 Pn Pn 18 58 42.1 -3.1
ETMB Extrema 11.04 25 *e*P **Pn 18 58 47.3 -0.5**
PTLB Pontes e Lacer 12.07 70 *e*P **Pn 18 59 00.6 -1.3**
CZSB Cruzeiro do Su 12.27 352 *e*P **Pn 18 59 03.6 -1.1**
VILB Vilhena 12.39 58 *e*P **Pn 18 59 06.3 0.0**
SAML Samuel 13.24 35 Pn Pn 18 59 14.7 -3.2
SAML Samuel 13.24 35 *e*P **Pn 18 59 14.7 -3.2**
CPUP Villa Florida 14.01 120 Pn Pn 18 59 28.9 +0.6
comp=Z,0.1nm,0.3s,baz=308,slow=17,SNR=2.1
CPUP LR LR 19 05 51.4
comp=Z,994nm,19.6s,baz=298,slow=42
CPUP Villa Florida 14.01 120 *e*P **Pn 18 59 28.5 +0.2**
AQDB Aquidauana 14.28 95 Pn Pn 18 59 30.4 -1.7
AQDB Aquidauana 14.28 95 *e*P **Pn 18 59 32.3 +0.2**
BO02 Sierra Bellavi 14.79 180 P Pn 18 59 37.4 -1.6
SALV Santo Antonio 15.02 77 *e*P **Pn 18 59 42.1 0.0**
H03N1 Juan Fernandez 15.22 206 Pn Pn 18 59 41.8 -2.6
baz=108,slow=14,SNR=15
H03N1 T T 19 15 32.7
baz=32,slow=72,SNR=487
H03N2 Juan Fernandez 15.23 206 Pn Pn 18 59 41.7 -2.7
baz=108,slow=14,SNR=11
H03N2 T T 19 15 41.8
baz=32,slow=72,SNR=298
H03N3 Juan Fernandez 15.24 206 Pn Pn 18 59 42.4 -2.3
baz=108,slow=14,SNR=18
H03N3 T T 19 15 41.6
baz=32,slow=72,SNR=352
PP1B Ponte de Pedra 15.35 84 *e*P **Pn 18 59 45.7 -0.9**
H03S3 Juan Fernandez 15.55 206 Pn Pn 18 59 44.8 -3.9
baz=314,slow=76,SNR=15
H03S3 T T 19 15 49.7
baz=114,SNR=5.7
H03S1 Juan Fernandez 15.56 206 Pn Pn 18 59 45.9 -3.1
baz=314,slow=76,SNR=17
H03S1 T T 19 15 51.4
baz=114,SNR=4.9
H03S2 Juan Fernandez 15.57 206 Pn Pn 18 59 44.4 -4.6
baz=314,slow=76,SNR=24
H03S2 T T 19 16 09.1
baz=114,SNR=4.8
TBTG Tabatinga, AM 15.69 4 *e*P **Pn 18 59 51.5 +0.5**
ML02 Panimavida 15.76 182 P **Pn 18 59 51.5 -0.3**
ML02 IAmb IAmb 19 00 03.5
comp=Z,134nm,1.2s
CLDB Colider 17.12 60 *e*P **Pn 19 00 08.5 -0.6**
TRCB Terra Rica 17.25 103 Pn Pn 19 00 06.9 -3.8
TRCB Terra Rica 17.25 103 *e*P **Pn 19 00 10.8 0.0**
LPA La Plata 18.80 145 *e*P P 19 00 19.4 -10
LPA PPP PPP 19 01 36.1
LPA pPP 19 02 06.8
LPA S **Sn 19 03 54.3 -5.1**
LPA sS sS 19 04 08.6 -3.3
LPA SS **SnSn 19 04 18.1 +4.5**
LPA SSS SSS 19 04 30.4
LPA PCP **PcP 19 04 59.9 +4.2**
LPA SSS SSS 19 05 39.5
LPA SSS SSS 19 06 30.9
LPA PKIKP **PKiKP 19 12 49.7 +3.4**
LPA SKIKP 19 16 16.4
LPA SKIKS 19 19 50.2
LC01 Cunco 18.91 182 P P 19 00 26.9 -3.3
ITRB Iturama 19.33 93 *e*P **P 19 00 34.9 -0.1**
MACA Manacapuru-AM 19.44 32 *e*P **P 19 00 35.4 -0.8**

TRQA Tornquist 19.64 159 P 19 00 36.8 -1.5
TRQA Tornquist 19.64 159 *e*P **P 19 00 38.5 +0.2**
SNDB Serra Nova Dou 20.44 70 *e*P **P 19 00 45.1 -2.0**
PLCA Paso Flores 20.72 179 P Pn 19 00 51.8 -0.7
comp=Z,7.5nm,0.9s,baz=356,slow=12,SNR=7.3
PLCA LR LR 19 09 14.5
comp=Z,386nm,18.6s,baz=358,slow=38
PLCA Paso Flores 20.72 179 P 19 00 48.7 -1.3
PLCA Paso Flores 20.72 179 *e*P **P 19 00 50.0 0.0**
LL04 Puerto Octay 20.94 183 P **P 19 00 51.5 -0.7**
LL03 Petrohue 21.16 183 P **P 19 00 51.5 -3.2**
LL03 IAmb IAmb 19 01 19.4
comp=Z,42nm,0.6s
OTAV Otavalo 21.38 339 P **P 19 00 56.8 -0.8**
OTAV Otavalo 21.38 339 *e*P **P 19 00 58.6 +0.9**
ITTB Itaituba 21.41 46 *e*P **P 19 00 55.4 -2.1**
IPMB Ipameri, GO 21.55 89 *e*P **P 19 00 57.7 -1.4**
PTGA Pitinga 21.89 31 P **P 19 01 00.8 -1.9**
comp=Z,17nm,0.3s,baz=202,slow=11,SNR=16
PTGA Pitinga 21.89 31 P **P 19 01 00.7 -2.0**
FLOC Florencia 21.90 347 P **P 19 01 03.2 +0.4**
FLOC IAmb IAmb 19 01 18.8
comp=Z,122nm,1.1s
FLOC Florencia 21.90 347 *e*P **P 19 01 03.8 +1.0**
RCLB Rio Claro- Sao 21.93 101 *e*P **P 19 01 03.8 +0.6**
BDFB Brasilia 22.20 83 P **P 19 01 04.4 -1.9**
comp=Z,3.3nm,0.4s,baz=248,slow=11,SNR=3.6
BDFB LR LR 19 11 12.0
comp=Z,1µm,19.2s,baz=283,slow=41
VAO Valinhos 22.48 102 *e*P **P 19 01 09.2 +0.1**
SOTA Rioblanco 22.65 345 *e*P **P 19 01 12.4 +1.1**
BBAC Balboa, Cauca 22.70 343 *e*P **P 19 01 10.5 -1.1**
PCON Cinco Dias 22.78 346 *e*P **P 19 01 17.1 +4.3**
POPC Popayan, Colom 23.05 345 *e*P **P 19 01 18.1 +2.8**
PEXB Peixe 23.06 74 *e*P **P 19 01 12.9 -2.2**
MARP Paez Belalcaza 23.18 347 *e*P **P 19 01 17.1 +0.5**
PRAC Prado 23.84 350 *e*P **P 19 01 23.8 +1.1**
ORTC Ortega, Tolima 24.09 349 *e*P **P 19 01 26.7 +1.6**
YOTC Yotoco, Valle 24.37 347 *e*P **P 19 01 30.5 +2.7**
BOAV Boa Vista 24.43 26 *e*P **P 19 01 27.7 -0.5**
BSCB Bom Sucesso 24.50 97 *e*P **P 19 01 29.2 +0.3**
CHIC Chingaza 24.58 353 *e*P **P 19 01 26.7 -3.3**
PRPB Parauapebas 24.64 59 *e*P **P 19 01 30.1 -0.1**
ROSC El Rosal 24.86 352 LR LR 19 12 47.4
comp=Z,1µm,18.4s,baz=202,slow=40
SMTB Santa Maria do 25.09 67 *e*P **P 19 01 33.9 -0.4**
GUY2C Guyana, Caldas 25.39 350 *e*P **P 19 01 39.1 +1.6**
SPBC San Pablo de B 25.63 353 *e*P **P 19 01 36.2 -2.9**
NORC Norcasia 25.65 351 *e*P **P 19 01 40.1 +0.8**
VAS01 Vassouras-RJ 25.71 100 *e*P **P 19 01 39.8 0.0**
RUSC La Rusia 25.77 355 P **P 19 01 39.8 -1.0**
RUSC La Rusia 25.77 355 *e*P **P 19 01 41.0 +0.2**
DIAM Diamantina, MG 25.77 91 *e*P **P 19 01 40.6 +0.1**
MC01 Montes Claros 25.78 87 *e*P **P 19 01 40.7 +0.1**
JANB Januaria 25.81 83 *e*P **P 19 01 38.8 -2.1**
SDBA SAO DESIDERIO 26.05 77 *e*P **P 19 01 42.0 -1.0**
CBOC Ciudad Bolivar 26.14 348 *e*P **P 19 01 43.9 0.0**
HELC Santa Helena 26.37 350 *e*P **P 19 01 46.8 +0.6**
BARC Barichara 26.47 355 *e*P **P 19 01 45.8 -1.1**
PTBC PUERTO BERRIO, 26.55 352 *e*P **P 19 01 45.8 -1.6**
DUB01 Friburgo-RJ 26.70 100 *e*P **P 19 01 48.9 0.0**
MCPB Macapa, AP 26.82 46 *e*P **P 19 01 49.5 -0.4**
PAMC Pamplona, Colo 27.17 356 *e*P **P 19 01 53.4 -0.1**
DBBC Dabeiba 27.30 348 *e*P **P 19 01 56.3 +2.1**
CAM01 Campos-RJ 27.37 99 *e*P **P 19 01 55.1 +0.3**
ZARC Zaragoza, Cauc 27.54 351 *e*P **P 19 01 51.5 -4.8**
TMAB Tom-Au,PA,Br 28.31 55 *e*P **P 19 02 03.5 +0.2**
BSFB Barra de Sao F 28.36 93 *e*P **P 19 02 02.6 -1.0**
SDV Santo Domingo 28.65 1 P **P 19 02 07.0 +0.6**
comp=Z,4.6nm,0.3s,baz=241,slow=2.7,SNR=6.7
SDV Santo Domingo 28.65 1 P **P 19 02 02.9 -3.6**
SDV Santo Domingo 28.65 1 *e*P **P 19 02 07.5 +1.0**
RIB01 Linhares ES 28.73 94 *e*P **P 19 02 07.0 +0.1**
SMLC San Martn de 28.73 353 *e*P P 19 02 02.0 -5.0
GUA01 Guaratinga, BA 29.70 89 *e*P **P 19 02 15.4 -0.2**
SJCC San Jacinto, C 29.95 352 P **P 19 02 16.6 -1.2**
SJCC IAmb IAmb 19 02 19.4
comp=Z,61nm,1.2s
SJCC San Jacinto, C 29.95 352 *e*P **P 19 02 17.3 -0.5**
CMC01 Camacan, BA 30.23 86 *e*P **P 19 02 20.4 +0.2**
NBIT Itapeh - BA 30.41 86 *e*P **P 19 02 20.6 -1.3**
PCRV Puerto La Cruz 30.56 12 LR LR 19 16 06.4
comp=Z,2µm,18.2s,baz=39
GDU01 Guandu, BA 30.59 83 *e*P **P 19 02 21.3 -2.2**
NBPN Ponto Novo - B 30.91 78 *e*P **P 19 02 25.9 -0.4**
ROSB Rosrio 31.15 60 *e*P **P 19 02 28.4 0.0**
NBLA Lagarto - SE 33.08 79 *e*P **P 19 02 45.5 +0.1**
NBMA Muriti-CE 33.56 73 *e*P **P 19 02 48.9 -0.7**
NBPB Pedra_Branca-C 33.64 69 *e*P **P 19 02 49.8 -0.5**
NBMO Morrinhos-CE 34.34 65 *e*P **P 19 02 55.8 -0.6**
NBAN Anadia - AL 34.93 78 *e*P **P 19 03 00.1 -1.5**
NBCL Cascavel-CE 35.40 68 *e*P **P 19 03 03.8 -1.7**
RPN Rapa Nui 35.85 251 LR LR 19 14 07.9
comp=Z,692nm,18.4s,baz=84,slow=30
NBRF Rio Formoso - 36.35 77 *e*P **P 19 03 13.8 +0.1**
PDPR Patillas Dam, 38.03 8 P **P 19 03 26.0 -1.7**
PDPR IAmb IAmb 19 03 27.0
comp=Z,27nm,1.0s
SJG San Juan 38.11 7 LR LR 19 20 32.0
comp=Z,277nm,18.5s,baz=249,slow=39
HUMP Col San Antoni 38.17 8 P **P 19 03 27.2 -1.8**
HUMP IAmb IAmb 19 03 29.1
comp=Z,48nm,1.5s
CBYP Canovanas 38.30 8 P **P 19 03 26.7 -3.4**
CBYP IAmb IAmb 19 03 29.2
comp=Z,34nm,1.1s
MTO3 Montecristo 38.66 331 P **P 19 03 34.3 +1.0**
ZAIG Zacatecas 52.52 322 P **P 19 05 24.4 +1.3**
JSC Jenkinsville 54.82 350 P **P 19 05 38.8 -0.5**
JSC IAmb IAmb 19 05 40.7
comp=Z,18nm,1.1s
HODGE Hodges 54.95 349 P **P 19 05 41.0 +0.7**
342A Flagon Creek P 55.01 338 P **P 19 05 41.8 +1.0**
BIRD Birdtown, Kers 55.04 350 P **P 19 05 41.6 +0.7**
BIRD IAmb IAmb 19 05 42.5
comp=Z,21nm,0.9s
HKT Hockley 55.11 334 P **P 19 05 42.5 +1.0**
HKT IAmb IAmb 19 05 43.9
comp=Z,23nm,1.4s
CNNC Cliffs of the 55.28 353 P **P 19 05 43.5 +0.9**
PAUL Pauline 55.44 349 P **P 19 05 44.3 +0.4**
PAULI IAmb IAmb 19 05 46.6
comp=Z,21nm,1.2s
BG3 Lake Jocassee 55.82 348 P **P 19 05 46.3 -0.3**
BG3 IAmb IAmb 19 05 48.5
comp=Z,20nm,1.4s
V58A Windy Hill, Pi 55.98 352 P **P 19 05 47.8 +0.2**
V58A IAmb IAmb 19 05 49.2
comp=Z,17nm,0.9s
NATX Nacogdoches 56.23 336 P **P 19 05 50.7 +1.1**
NATX IAmb IAmb 19 05 52.1
comp=Z,30nm,1.1s
X48A Hartselle 56.23 344 P **P 19 05 49.8 +0.3**
X48A IAmb IAmb 19 05 50.3
comp=Z,24nm,1.4s
V55A Taylorsville 56.35 350 P **P 19 05 50.5 +0.2**
V55A IAmb IAmb 19 05 52.0
comp=Z,22nm,1.1s
U59A Littleton 56.37 353 P **P 19 05 50.7 +0.3**
U59A IAmb IAmb 19 05 52.2
comp=Z,33nm,1.2s
Y45A Yeager Farm, C 56.38 341 P **P 19 05 51.3 +0.7**
Y45A IAmb IAmb 19 06 10.9
comp=Z,19nm,0.7s
V53A Saluda 56.45 348 P **P 19 05 51.1 0.0**
V53A IAmb IAmb 19 05 52.3
comp=Z,22nm,1.4s
W50A Signal Mountai 56.52 346 P **P 19 05 51.5 -0.2**
W50A IAmb IAmb 19 05 52.5
comp=Z,26nm,1.3s
CPCT Cooper Cave 56.59 347 P **P 19 05 52.5 +0.5**
CPCT IAmb IAmb 19 05 53.0
comp=Z,24nm,1.3s
TKL Tuckaleechee C 56.63 347 P **P 19 05 52.5 +0.2**
TKL IAmb IAmb 19 05 53.1
comp=Z,21nm,1.1s
SWET Sewanee 56.68 345 P **P 19 05 52.6 -0.1**
SWET IAmb IAmb 19 05 53.4
comp=Z,24nm,1.2s
U56A King 56.70 351 P **P 19 05 53.9 +1.1**
U56A IAmb IAmb 19 05 54.8
comp=Z,37nm,1.2s
V52A Sevierville 56.77 348 P **P 19 05 52.7 -0.7**

V51A Loudon 56.89 347 P **P 19 05 54.5 +0.3**
V51A IAmb IAmb 19 05 55.0
comp=Z,22nm,1.2s
237A Washetta, Mont 56.90 335 P **P 19 05 54.6 +0.3**
T59A Double "B" Far 56.96 354 P **P 19 05 54.6 0.0**
PLAL Pickwick Lake 57.01 343 P **P 19 05 54.1 -0.9**
PLAL IAmb IAmb 19 05 55.2
comp=Z,13nm,1.1s
T60A Surry 57.04 354 P **P 19 05 56.2 +1.0**
U54A Nelsons Funny 57.10 350 P **P 19 05 56.2 +0.5**
U54A IAmb IAmb 19 05 57.0
comp=Z,27nm,1.1s
T57A Hurt 57.18 352 P **P 19 05 56.6 +0.4**
T57A IAmb IAmb 19 05 57.9
comp=Z,25nm,1.1s
JCT Junction City 57.33 330 P **P 19 05 57.5 +0.1**
WLAR White Oak Lake 57.39 338 P **P 19 05 58.7 +1.0**
V48A Smith Brothers 57.40 345 P **P 19 05 57.4 -0.4**
V48A IAmb IAmb 19 05 59.2
comp=Z,34nm,1.4s
W45A Hickory Valley 57.48 342 P **P 19 05 58.3 -0.1**
Z38A Mt. Pleasant 57.69 336 P **P 19 06 00.3 +0.5**
U49A Red Boiling Sp 57.89 346 P **P 19 06 00.4 -0.8**
U49A IAmb IAmb 19 06 01.8
comp=Z,28nm,1.4s
S57A Dark Hollow, R 57.90 352 P **P 19 06 01.8 +0.6**
S57A IAmb IAmb 19 06 03.1
comp=Z,24nm,1.1s
R58B Mineral 57.97 353 P **P 19 06 02.5 +0.7**
R58B IAmb IAmb 19 06 03.7
comp=Z,36nm,1.2s
WVT Waverly 58.03 344 P **P 19 06 01.0 -1.2**
WVT IAmb IAmb 19 06 02.2
comp=Z,12nm,0.9s
T50A Nancy 58.16 347 P **P 19 06 02.6 -0.5**
T50A IAmb IAmb 19 06 03.8
comp=Z,21nm,1.4s
LPIG La Paz 58.23 317 LR LR 19 25 13.7
comp=Z,47nm,20.1s,baz=110,slow=30
S54A Dingess, Beckl 58.27 350 P **P 19 06 04.4 +0.5**
S54A IAmb IAmb 19 06 05.1
comp=Z,27nm,1.1s
TX32 Lajitas Array 58.30 326 P **P 19 06 04.8 +0.4**
TXAR Lajitas Array 58.30 326 P **P 19 06 05.4 +1.0**
comp=Z,1.7nm,0.8s,baz=148,slow=8.3,SNR=15
TXAR LR LR 19 30 06.8
comp=Z,103nm,18.5s,baz=0.0,slow=35
TXAR Lajitas Array 58.30 326 P **P 19 06 04.8 +0.4**
TX31 Lajitas Ar. Si 58.30 326 P **P 19 06 05.5 +1.1**
TX31 IAmb IAmb 19 06 06.3
comp=Z,12nm,1.0s
MIAR Mount Ida 58.33 338 P **P 19 06 04.8 +0.5**
MIAR IAmb IAmb 19 06 05.8
comp=Z,13nm,0.8s
Z35A Perchaven, San 58.65 334 P **P 19 06 07.6 +1.0**
T47A Sharon Grove 58.66 345 P **P 19 06 06.1 -0.5**
LCAR Lake Charles 58.92 341 P **P 19 06 08.5 +0.1**
W39A Magazine 58.98 338 P **P 19 06 09.2 +0.4**
W39A IAmb IAmb 19 06 10.9
comp=Z,19nm,1.0s
X37A Clayton 59.02 337 P **P 19 06 09.8 +0.8**
X37A IAmb IAmb 19 06 11.1
comp=Z,21nm,0.8s
FCAR Ozark Folk Cen 59.06 340 P **P 19 06 09.3 -0.1**
FCAR IAmb IAmb 19 06 10.1
comp=Z,12nm,1.3s
ABTX Abilene, Hawle 59.06 332 P **P 19 06 09.6 +0.1**
ABTX IAmb IAmb 19 06 11.1
comp=Z,12nm,0.7s
Q56A Snyder Ridge, 59.19 352 P **P 19 06 10.7 +0.4**
Q56A IAmb IAmb 19 06 12.6
comp=Z,22nm,0.9s
LOOK Love County 59.19 335 P **P 19 06 10.0 -0.4**
LOOK IAmb IAmb 19 06 12.2
comp=Z,20nm,1.0s
PBMO Poplar Bluff 59.36 342 P **P 19 06 10.2 -1.1**
PBMO IAmb IAmb 19 06 13.6
comp=Z,32nm,1.5s
P57A Homestead Farm 59.49 354 P **P 19 06 13.3 +1.0**
P57A IAmb IAmb 19 06 14.8
comp=Z,25nm,1.1s
Q52A Bidwell 59.56 350 P **P 19 06 13.0 +0.2**
Q52A IAmb IAmb 19 06 23.5
comp=Z,16nm,1.1s
WCI Wyandotte Cave 59.65 346 P **P 19 06 13.1 -0.3**
WCI IAmb IAmb 19 06 14.6
comp=Z,19nm,1.2s
U40A Yellville 59.72 340 P **P 19 06 13.7 -0.2**
U40A IAmb IAmb 19 06 15.0
comp=Z,10nm,0.9s
WUPA West Chester U 59.73 356 P **P 19 06 14.5 +0.6**
T42A Van Buren 59.79 341 P **P 19 06 14.0 -0.3**
T42A IAmb IAmb 19 06 14.6
comp=Z,20nm,1.5s
MVL Millersville 59.85 355 P **P 19 06 15.6 +0.9**
MVL IAmb IAmb 19 06 16.6
comp=Z,12nm,1.0s
MCWV Mont Chateau 59.88 352 P **P 19 06 13.9 -1.0**
MCWV IAmb IAmb 19 06 16.8
comp=Z,18nm,0.9s
S44A Carbondale 59.88 343 P **P 19 06 14.2 -0.7**
S44A IAmb IAmb 19 06 15.8
comp=Z,27nm,1.1s
SIUC Southern Illin 59.89 343 P **P 19 06 15.0 0.0**
HHAR Hobbs 60.02 339 P **P 19 06 16.3 +0.3**
HHAR IAmb IAmb 19 06 17.3
comp=Z,28nm,1.3s
PAGS Pennsylvania G 60.11 355 P **P 19 06 15.3 -1.1**
PAGS IAmb IAmb 19 06 18.3
comp=Z,26nm,1.5s
P51A Williamsport 60.20 349 P **P 19 06 16.8 -0.3**
MGMO Mountain Grove 60.26 340 P **P 19 06 17.3 -0.4**
MGMO IAmb IAmb 19 06 19.5
comp=Z,29nm,1.3s
U38A Gravette 60.31 338 P **P 19 06 17.4 -0.6**
U38A IAmb IAmb 19 06 19.3
comp=Z,11nm,1.1s
O56A Blue Knob Stat 60.33 353 P **P 19 06 18.5 +0.4**
LUPA Lehigh Univers 60.38 356 P **P 19 06 17.6 -0.8**
LUPA IAmb IAmb 19 06 21.8
comp=Z,15nm,1.2s
FVM French Village 60.48 342 P **P 19 06 19.2 +0.1**
P49A Miami Univ. Ec 60.56 348 P **P 19 06 18.9 -0.7**
P49A IAmb IAmb 19 06 19.8
comp=Z,18nm,1.1s
SSPA Standing Stone 60.62 354 P **P 19 06 20.5 +0.5**
SSPA IAmb IAmb 19 06 22.1
comp=Z,33nm,1.3s
PAL Palisades 60.70 357 P **P 19 06 20.9 +0.4**
PAL IAmb IAmb 19 06 23.4
comp=Z,36nm,1.5s
N58A Sunbury 60.71 355 P **P 19 06 21.1 +0.5**
N58A IAmb IAmb 19 06 22.5
comp=Z,24nm,1.1s
N59A State Game Lan 60.72 356 P **P 19 06 21.3 +0.6**
CCM Cathedral Cave 60.78 342 P **P 19 06 21.5 +0.4**
CCM IAmb IAmb 19 06 22.7
comp=Z,24nm,1.4s
ODNJ Ogdensburg 60.81 357 P **P 19 06 21.8 +0.5**
ODNJ IAmb IAmb 19 06 23.6
comp=Z,20nm,1.4s
WSPT Westport, CT 60.84 358 P **P 19 06 22.3 +0.8**
WSPT IAmb IAmb 19 06 23.1
comp=Z,18nm,0.9s
TRNY Table Rock, Ra 60.85 357 P **P 19 06 22.5 +0.9**
ACSO Alum Creek Sta 60.92 349 P **P 19 06 22.0 0.0**
ACSO IAmb IAmb 19 06 22.7
comp=Z,20nm,1.0s
QUOK Quay 60.92 336 P **P 19 06 22.0 -0.2**
SLM Saint Louis 61.03 343 P **P 19 06 22.5 -0.3**
MNTX Cornudas Mount 61.07 327 P **P 19 06 23.0 -0.3**
S39A Bolivar 61.09 340 P **P 19 06 23.1 -0.2**
S39A IAmb IAmb 19 06 24.4
comp=Z,13nm,0.8s
O49A Covington 61.12 348 P **P 19 06 23.1 -0.3**
O49A IAmb IAmb 19 06 23.7
comp=Z,29nm,1.4s
N54A Moraine State 61.18 352 P **P 19 06 24.4 +0.6**
M57A Sunshine Farm, 61.24 355 P **P 19 06 25.0 +0.8**
M57A IAmb IAmb 19 06 26.4
comp=Z,26nm,1.1s
R40A Maddies Statio 61.31 341 P **P 19 06 24.3 -0.4**
R40A IAmb IAmb 19 06 26.3
comp=Z,30nm,1.4s

KSCT	**Kent School, K**	**61.40**	**358**	P	**P**	**19 06 25.5 +0.2**
KSCT				IAmb	IAmb	19 06 27.6
	comp=Z,20nm,1.4s					
L63A	**North Scituate**	**61.50**	**359**	P	**P**	**19 06 26.6 +0.6**
T35A	**Sooner Cattle**	**61.51**	**337**	P	**P**	**19 06 26.5 +0.3**
M55A	**Ridgway**	**61.53**	**353**	P	**P**	**19 06 26.3 +0.1**
BRYW	**Bryant College**	**61.55**	**359**	P	**P**	**19 06 26.5 +0.2**
MSTX	**Muleshoe**	**61.62**	**330**	P	**P**	**19 06 27.4 +0.3**
MSTX				IAmb	IAmb	19 06 28.4
	comp=Z,17nm,1.1s					
M54A	**Oil Creek Stat**	**61.68**	**353**	P	**P**	**19 06 27.8 +0.6**
P43A	**Skaggs, Pawnee**	**61.78**	**344**	P	**P**	**19 06 26.8 -1.1**
N49A	**Columbus Grove**	**61.80**	**349**	P	**P**	**19 06 27.7 -0.3**
L59A	**Walton**	**61.94**	**357**	P	**P**	**19 06 29.6 +0.6**
BINY	**Binghamton**	**62.01**	**356**	P	**P**	**19 06 30.1 +0.7**
WES	**Weston**	**62.02**	**360**	P	**P**	**19 06 29.4 0.0**
WES				IAmb	IAmb	19 06 31.0
	comp=Z,11nm,1.0s					
N47A	**Urbana**	**62.06**	**347**	P	**P**	**19 06 29.2 -0.6**
N47A				IAmb	IAmb	19 06 30.6
	comp=Z,18nm,1.1s					
M50A	**Fremont**	**62.07**	**350**	P	**P**	**19 06 29.8 0.0**
L56A	**Greenwood**	**62.07**	**354**	P	**P**	**19 06 30.7 +0.9**
L56A				IAmb	IAmb	19 06 31.6
	comp=Z,20nm,0.9s					
VNA3	**Neumayer Olymp**	**62.14**	**161**	P	**P**	**19 06 31.7 +1.7**
HRV	**Adam Dziewonsk**	**62.14**	**359**	P	**P**	**19 06 31.0 +0.8**
ERPA	**Erie**	**62.32**	**352**	P	**P**	**19 06 31.1 -0.3**
VNA1	**Neumayer--Stat**	**62.37**	**160**	P	**P**	**19 06 31.5 +0.1**
P40A	**Paris**	**62.38**	**342**	P	**P**	**19 06 31.6 -0.3**
P40A				IAmb	IAmb	19 06 32.7
	comp=Z,14nm,1.1s					
TRY	**Troy**	**62.41**	**358**	P	**P**	**19 06 33.7 +1.6**
K57A	**Scipio Center**	**62.58**	**355**	P	**P**	**19 06 33.3 +0.1**
HDIL	**Hopedale**	**62.58**	**344**	P	**P**	**19 06 32.7 -0.5**
MMNY	**Mt. Morris Dam**	**62.70**	**354**	P	**P**	**19 06 34.4 +0.4**
L48A	**N Adams**	**62.84**	**349**	P	**P**	**19 06 33.5 -1.4**
L48A				IAmb	IAmb	19 06 35.3
	comp=Z,17nm,1.0s					
P38A	**Dawn**	**62.92**	**341**	P	**P**	**19 06 34.7 -0.8**
P38A				IAmb	IAmb	19 06 35.8
	comp=Z,10nm,1.1s					
319A	**Douglas**	**62.93**	**323**	P	**P**	**19 06 36.6 +0.7**
319A				IAmb	IAmb	19 06 38.7
	comp=Z,15nm,1.1s					
121A	**Cookes Peak, D**	**62.99**	**325**	P	**P**	**19 06 37.8 +1.4**
ACCN	**Adirondack Com**	**63.07**	**358**	P	**P**	**19 06 37.5 +1.1**
J58A	**Remsen**	**63.12**	**356**	P	**P**	**19 06 37.6 +0.8**
J58A				IAmb	IAmb	19 06 44.2
	comp=Z,18nm,1.4s					
N41A	**Harden Midland**	**63.13**	**343**	P	**P**	**19 06 36.8 -0.1**
N41A				IAmb	IAmb	19 06 37.9
	comp=Z,23nm,1.1s					
J56A	**Wolcott**	**63.15**	**355**	P	**P**	**19 06 37.6 +0.7**
MEDO	**Medina**	**63.18**	**354**	P	**P**	**19 06 36.5 -0.7**
MEDO				IAmb	IAmb	19 06 38.9
	comp=Z,20nm,1.0s					
J59A	**Piesco**	**63.18**	**357**	P	**P**	**19 06 38.0 +0.8**
J57A	**Williamstown**	**63.21**	**356**	P	**P**	**19 06 37.4 0.0**
J57A				IAmb	IAmb	19 06 38.9
	comp=Z,21nm,1.0s					
J55A	**Hilton**	**63.22**	**354**	P	**P**	**19 06 37.8 +0.4**
L46A	**Eue Claire**	**63.27**	**347**	P	**P**	**19 06 36.8 -0.9**
J54A	**Appleton**	**63.30**	**354**	P	**P**	**19 06 37.9 -0.1**
K50A	**Casco**	**63.34**	**350**	P	**P**	**19 06 37.7 -0.5**
HNH	**Hanover**	**63.35**	**359**	P	**P**	**19 06 39.9 +1.6**
BNM	**Barren Site**	**63.65**	**327**	P	**P**	**19 06 42.0 +1.3**
R32A	**Long Quarter,**	**63.66**	**336**	P	**P**	**19 06 41.1 +0.6**
R32A				IAmb	IAmb	19 06 42.1
	comp=Z,15nm,0.8s					
NCB	**Newcomb**	**63.67**	**357**	P	**P**	**19 06 41.0 +0.5**
NCB				IAmb	IAmb	19 06 43.0
	comp=Z,13nm,1.1s					
I63A	**Otisfield**	**63.68**	**0**	P	**P**	**19 06 42.1 +1.6**
I63A				IAmb	IAmb	19 06 42.8
	comp=Z,23nm,1.1s					
PECO	**Prince Edward**	**63.81**	**355**	P	**P**	**19 06 42.4 +1.1**
LBNH	**Lisbon**	**63.88**	**359**	P	**P**	**19 06 43.4 +1.6**
N38A	**Joes South Fer**	**63.90**	**341**	P	**P**	**19 06 41.8 -0.1**
J47A	**Sunmer**	**64.16**	**349**	P	**P**	**19 06 43.1 -0.5**
ANMO	**Albuquerque**	**64.19**	**328**	P	**P**	**19 06 45.3 +1.0**
WVL	**Waterville**	**64.20**	**1**	P	**P**	**19 06 42.8 -1.1**
WVL				IAmb	IAmb	19 06 50.9
	comp=Z,22nm,1.2s					
LONY	**Lake Ozonia**	**64.34**	**357**	P	**P**	**19 06 45.6 +0.8**
LONY				IAmb	IAmb	19 06 46.7
	comp=Z,14nm,1.1s					
SNAA	**Sanae**	**64.35**	**161**	P	**P**	**19 06 46.4 +1.8**
SNAA	**Sanae**	**64.35**	**161**	P	**P**	**19 06 46.5 +1.8**
SNAA				IAmb	IAmb	19 06 47.0
	comp=Z,19nm,1.5s					
K43A	**Burlington**	**64.38**	**346**	P	**P**	**19 06 45.0 -0.1**
CBKS	**Cedar Bluff**	**64.40**	**335**	P	**P**	**19 06 46.5 +1.1**
EMMW	**East Machias**	**64.42**	**3**	P	**P**	**19 06 45.8 +0.5**
EMMW				IAmb	IAmb	19 06 48.3
	comp=Z,21nm,1.2s					
DELO	**Deloro Mine**	**64.44**	**355**	P	**P**	**19 06 46.0 +0.6**
L40A	**Anamosa**	**64.50**	**343**	P	**P**	**19 06 45.6 -0.2**
FRNY	**Flat Rock**	**64.51**	**358**	P	**P**	**19 06 46.7 +0.8**
SADO	**Sadowa**	**64.84**	**354**	P	**P**	**19 06 47.4 -0.7**
SADO				IAmb	IAmb	19 06 49.0
	comp=Z,19nm,0.9s					
G65A	**Princeton**	**64.90**	**3**	P	**P**	**19 06 49.9 +1.5**
G65A				IAmb	IAmb	19 06 59.6
	comp=Z,16nm,1.1s					
PKME	**Peaks-Kenny Pk**	**64.91**	**1**	P	**P**	**19 06 48.8 +0.3**
PKME				IAmb	IAmb	19 06 50.4
	comp=Z,13nm,0.8s					
PLVO	**Plevna**	**64.92**	**355**	P	**P**	**19 06 47.4 -1.1**
PLVO				IAmb	IAmb	19 06 50.1
	comp=Z,22nm,1.3s					
MOQ	**Mont Orford**	**64.95**	**359**	P	**P**	**19 06 50.3 +1.4**
T25A	**Trinidad**	**64.98**	**331**	P	**P**	**19 06 50.7 +1.3**
T25A				IAmb	IAmb	19 06 57.3
	comp=Z,9.8nm,1.1s					
214A	**Organ Pipe Nat**	**65.39**	**321**	P	**P**	**19 06 53.5 +1.6**
214A				IAmb	IAmb	19 06 55.3
	comp=Z,12nm,1.1s					
K38A	**Parkersburg**	**65.47**	**342**	P	**P**	**19 06 51.6 -0.5**
F64A	**Sherman**	**65.53**	**2**	P	**P**	**19 06 53.5 +1.0**
X18A	**Snowflake**	**65.68**	**325**	P	**P**	**19 06 54.5 +0.5**
KSCO	**Kaye Shedlock'**	**65.74**	**333**	P	**P**	**19 06 54.7 +0.5**
SDCO	**Great Sand Dun**	**65.97**	**330**	P	**P**	**19 06 55.7 -0.3**
SDCO				IAmb	IAmb	19 06 58.5
	comp=Z,15nm,1.2s					
W18A	**Petrified Fore**	**66.01**	**326**	P	**P**	**19 06 57.7 +1.6**
W18A				IAmb	IAmb	19 07 04.5
	comp=Z,10nm,1.1s					
BGNE	**Belgrade**	**66.07**	**338**	P	**P**	**19 06 56.5 +0.4**
X16A	**Lo Mia Camp, P**	**66.41**	**324**	P	**P**	**19 06 59.5 +0.9**
X16A				IAmb	IAmb	19 07 02.0
	comp=Z,14nm,1.4s					
D62A	**Allapoint, All**	**66.73**	**1**	P	**P**	**19 07 01.2 +1.0**
I37A	**Lemond, Waseca**	**66.90**	**343**	P	**P**	**19 07 00.7 -0.7**
I37A				IAmb	IAmb	19 07 02.5
	comp=Z,16nm,0.8s					
Y14A	**Wickenburg**	**66.93**	**323**	P	**P**	**19 07 03.2 +1.3**
MVCO	**Mesa Verde**	**66.99**	**328**	P	**P**	**19 07 03.5 +1.2**
K31A	**O'Neill**	**67.35**	**338**	P	**P**	**19 07 03.9 -0.4**
ECSD	**EROS Data Cent**	**67.62**	**340**	P	**P**	**19 07 05.7 -0.3**
ECSD				IAmb	IAmb	19 07 07.2
	comp=Z,26nm,1.4s					
ISCO	**Idaho Springs**	**67.69**	**332**	P	**P**	**19 07 07.3 +0.4**
PV03	**Paradox Valley**	**67.98**	**329**	P	**P**	**19 07 09.8 +1.2**
PV03				IAmb	IAmb	19 07 11.3
	comp=Z,13nm,1.1s					
BAR	**Barrett**	**68.21**	**319**	P	**P**	**19 07 11.7 +1.7**
BAR				IAmb	IAmb	19 07 13.3
	comp=Z,13nm,1.1s					
W13A	**Hualapai Mount**	**68.27**	**323**	P	**P**	**19 07 10.8 +0.3**
F36A	**Milaca**	**68.64**	**343**	P	**P**	**19 07 12.2 -0.1**
F36A				IAmb	IAmb	19 07 13.6
	comp=Z,11nm,1.1s					
PFO	**Pinyon Flats O**	**68.72**	**320**	P	**P**	**19 07 13.1 -0.2**
SUSD	**Miller**	**69.02**	**339**	P	**P**	**19 07 15.3 +0.6**
KNB	**Kanab**	**69.08**	**325**	P	**P**	**19 07 17.9 +2.4**
KNB				IAmb	IAmb	19 07 19.3
	comp=Z,17nm,1.1s					
LCMT	**Little Creek M**	**69.31**	**325**	P	**P**	**19 07 18.6 +1.8**
SRU	**San Rafael Swe**	**69.47**	**328**	P	**P**	**19 07 19.1 +1.2**
SRU				IAmb	IAmb	19 07 20.4
	comp=Z,9.9nm,0.9s					
MTPU	**Mount Pierson**	**69.51**	**326**	P	**P**	**19 07 20.6 +2.2**
Q16A	**Castle Valley**	**69.65**	**327**	P	**P**	**19 07 20.2 +1.2**
CCUT	**Cedar City**	**69.77**	**325**	P	**P**	**19 07 21.8 +2.0**
CCUT				IAmb	IAmb	19 07 23.8
	comp=Z,12nm,0.9s					
P17A	**Butcher Ranch,**	**69.85**	**328**	P	**P**	**19 07 21.4 +1.3**
P17A				IAmb	IAmb	19 07 22.9
	comp=Z,12nm,1.0s					
MSU	**Marysvale**	**69.86**	**327**	P	**P**	**19 07 21.7 +1.4**
MVU	**Marysvale**	**69.87**	**327**	P	**P**	**19 07 22.4 +2.0**
SHPR	**Sheep Range**	**70.00**	**323**	P	**P**	**19 07 23.4 +2.3**
DBIC	**Dimbokro**	**70.11**	**75**	P	**P**	**19 07 20.9 -1.2**
	comp=Z,6.8nm,0.9s,baz=280,slow=2.1,SNR=4.3					
DBIC				LR	LR	19 36 42.2
	comp=Z,366nm,19.5s,baz=246,slow=35					
DBIC	**Dimbokro**	**70.11**	**75**	IAmb	IAmb	19 07 47.4
	comp=Z,19nm,1.2s					
PASC	**Pasadena Art C**	**70.15**	**320**	P	**P**	**19 07 23.6 +1.6**
PASC				IAmb	IAmb	19 07 25.6
	comp=Z,31nm,1.5s					
QSPA	**South Pole Qui**	**70.24**	**180**	P	**P**	**19 07 23.3 +1.1**
PRN	**Pahroc Range**	**70.58**	**324**	P	**P**	**19 07 26.9 +2.2**
QSM	**Queen of Sheba**	**70.60**	**322**	P	**P**	**19 07 27.1 +2.5**
RSSD	**Black Hills**	**70.60**	**335**	P	**P**	**19 07 25.9 +1.1**
GWY	**Greenwater Val**	**70.64**	**322**	P	**P**	**19 07 26.8 +1.8**
GWY				IAmb	IAmb	19 07 28.2
	comp=Z,10nm,1.0s					
MPU	**Maple Canyon**	**70.71**	**328**	P	**P**	**19 07 25.7 +0.3**
MPU				IAmb	IAmb	19 07 28.4
	comp=Z,16nm,1.2s					
PSUT	**Pine Spring**	**70.75**	**326**	P	**P**	**19 07 27.6 +1.9**
NLU	**North Lily Min**	**70.89**	**328**	P	**P**	**19 07 28.0 +1.5**
NLU				IAmb	IAmb	19 07 29.7
	comp=Z,14nm,1.3s					
TPNV	**Topopah Spring**	**70.93**	**323**	P	**P**	**19 07 28.7 +1.9**
TPNV				IAmb	IAmb	19 07 30.6
	comp=Z,11nm,1.1s					
B35A	**Bob, Littlefor**	**71.00**	**344**	P	**P**	**19 07 26.6 -0.2**
B35A				IAmb	IAmb	19 07 27.4
	comp=Z,34nm,1.4s					
JLU	**Jordanelle**	**71.07**	**328**	P	**P**	**19 07 29.1 +1.5**
JLU				IAmb	IAmb	19 07 30.7
	comp=Z,13nm,1.1s					
ISA	**Isabella, Lake**	**71.34**	**321**	P	**P**	**19 07 30.9 +1.7**
SPR3	**Spring Creek 3**	**71.35**	**326**	P	**P**	**19 07 31.1 +1.6**
DUG	**Dugway, Tooele**	**71.44**	**327**	P	**P**	**19 07 31.8 +2.0**
DUG				IAmb	IAmb	19 07 33.1
	comp=Z,13nm,1.1s					
E28A	**Huff**	**71.48**	**339**	P	**P**	**19 07 31.1 +1.4**
R11A	**Troy Canyon, C**	**71.56**	**324**	P	**P**	**19 07 32.4 +1.8**
PDAR	**Pinedale Array**	**71.85**	**331**	P	**P**	**19 07 33.4 +1.1**
	comp=Z,0.7nm,0.6s,baz=154,slow=7.8,SNR=5.7					
PDAR				LR	LR	19 41 42.4
	comp=Z,85nm,18.0s,baz=123,slow=38					
PDAR	**Pinedale Array**	**71.85**	**331**	P	**P**	**19 07 33.1 +0.8**
LCH	**Last Change Ra**	**71.93**	**322**	P	**P**	**19 07 34.7 +1.9**
BGU	**Big Grassy Mou**	**72.10**	**328**	P	**P**	**19 07 35.2 +1.4**
MDND	**Maddock**	**72.23**	**340**	P	**P**	**19 07 35.8 +1.6**
TBI	**Tubuai**	**72.23**	**251**	*e*S	**S**	**19 16 50.6 -5.8**
	comp=Z,126nm,27.2s					
TBI	**Tubuai**	**72.23**	**251**	*e*LR	LR	19 29 32.7
	comp=Z,326nm,28.5s					
TPH	**Tonopah**	**72.27**	**323**	P	**P**	**19 07 37.2 +2.3**
AHID	**Auburn Hatcher**	**72.56**	**330**	P	**P**	**19 07 37.7 +1.1**
AHID				IAmb	IAmb	19 07 38.9
	comp=Z,9.8nm,0.9s					
HVU	**Hansel Valley**	**72.61**	**328**	P	**P**	**19 07 37.6 +0.8**
LOHW	**Long Hollow**	**72.98**	**331**	P	**P**	**19 07 40.5 +1.4**
NV11	**Mina Array Sit**	**73.05**	**323**	P	**P**	**19 07 41.3 +1.8**
TPAW	**Teton Pass**	**73.05**	**331**	P	**P**	**19 07 40.6 +1.1**
TPAW				IAmb	IAmb	19 07 41.9
	comp=Z,18nm,1.5s					
ELK	**Elko**	**73.10**	**326**	P	**P**	**19 07 41.3 +1.5**
LHV	**Little Huntoon**	**73.12**	**323**	P	**P**	**19 07 41.6 +1.9**
NVAR	**Mina Array Bea**	**73.13**	**323**	P	**P**	**19 07 42.5 +2.4**
	comp=Z,3.3nm,0.9s,baz=150,slow=6.6,SNR=16					
NVAR	**Mina Array Bea**	**73.13**	**323**	P	**P**	**19 07 41.8 +1.7**
MOOW	**Moose Ponds**	**73.15**	**331**	P	**P**	**19 07 41.0 +1.0**
FXWY	**Fox Creek**	**73.20**	**331**	P	**P**	**19 07 41.9 +1.5**
ULM	**Lac du Bonnet**	**73.29**	**344**	LR	LR	19 41 58.6
	comp=Z,159nm,21.0s,baz=166,slow=38					
IMW	**Indian Meadow**	**73.36**	**331**	P	**P**	**19 07 42.2 +0.9**
RYN	**Ryan**	**73.39**	**323**	P	**P**	**19 07 43.3 +1.8**
FLWY	**Flagg Ranch**	**73.39**	**331**	P	**P**	**19 07 43.3 +1.8**
FLWY				IAmb	IAmb	19 07 44.6
	comp=Z,16nm,1.1s					
KVN	**Kaiserville**	**73.44**	**323**	P	**P**	**19 07 43.0 +1.2**
RLMT	**Red Lodge**	**73.58**	**333**	P	**P**	**19 07 43.5 +1.0**
LAO	**LASA Array**	**73.59**	**335**	P	**P**	**19 07 42.9 +0.6**
LAO				IAmb	IAmb	19 07 44.7
	comp=Z,33nm,1.4s					
YNE	**Yellowstone No**	**73.81**	**332**	P	**P**	**19 07 45.4 +1.5**
YNE				IAmb	IAmb	19 07 46.6
	comp=Z,20nm,0.9s					
PPT2	**Papeete2**	**73.85**	**257**	*e*S	**SKiKP**	**19 17 07.8 -4.6**
	comp=Z,156nm,25.0s					
PPT2	**Papeete2**	**73.85**	**257**	*e*LR	LR	19 30 14.4
	comp=Z,205nm,24.8s					
YMR	**Madison River**	**73.97**	**331**	P	**P**	**19 07 45.0 +0.2**
YMR				IAmb	IAmb	19 07 48.3
	comp=Z,20nm,1.0s					
YHH	**Holmes Hill**	**74.01**	**332**	P	**P**	**19 07 47.0 +1.9**
YHH				IAmb	IAmb	19 07 49.3
	comp=Z,18nm,1.2s					
YERR	**Yerington**	**74.04**	**323**	P	**P**	**19 07 47.8 +2.4**
GCMT	**Greycliff**	**74.28**	**333**	P	**P**	**19 07 44.3 -2.2**
DGMT	**Dagmar**	**74.32**	**338**	P	**P**	**19 07 47.6 +1.0**
DGMT				IAmb	IAmb	19 07 49.2
	comp=Z,39nm,1.3s					
SCHQ	**Schefferville**	**74.56**	**2**	LR	LR	19 42 46.1
	comp=Z,93nm,19.2s,baz=198,slow=38					
PAHR	**Pah Rah Range**	**74.62**	**323**	P	**P**	**19 07 50.8 +2.1**
PAHR				IAmb	IAmb	19 07 52.2
	comp=Z,13nm,0.9s					
HLID	**Hailey**	**74.75**	**329**	P	**P**	**19 07 51.0 +1.7**
MCMT	**McKenzie Canyo**	**74.95**	**330**	P	**P**	**19 07 52.0 +1.4**
BOZ	**Bozeman (W)**	**74.96**	**332**	P	**P**	**19 07 51.7 +1.1**
DLMT	**Dillon**	**75.24**	**331**	P	**P**	**19 07 53.2 +1.1**
BEKR	**Beckworth**	**75.28**	**323**	P	**P**	**19 07 54.7 +2.2**
MFID	**Camas Ranch**	**75.34**	**328**	P	**P**	**19 07 54.9 +2.2**
MFID				IAmb	IAmb	19 07 56.7
	comp=Z,26nm,1.5s					
LRM	**Limekiln Ridge**	**75.53**	**331**	P	**P**	**19 07 55.3 +1.4**
ORV	**Oroville**	**75.72**	**322**	P	**P**	**19 07 57.0 +2.1**
ORV				IAmb	IAmb	19 07 58.3
	comp=Z,19nm,1.1s					
HRY	**Holter Researc**	**75.94**	**332**	P	**P**	**19 07 57.9 +1.9**
EGMT	**Eagleton**	**76.09**	**334**	P	**P**	**19 07 57.9 +1.1**
EGMT				IAmb	IAmb	19 07 59.5
	comp=Z,16nm,1.2s					
PLID	**Pearl Lake**	**76.64**	**329**	P	**P**	**19 08 02.1 +1.9**
PLID				IAmb	IAmb	19 08 02.9
	comp=Z,14nm,1.3s					
BMO	**Blue Mountains**	**77.11**	**328**	P	**P**	**19 08 04.3 +1.6**
VNDA	**Vanda**	**78.05**	**190**	P	**P**	**19 08 09.9 +2.5**
	comp=Z,1.3nm,1.0s,baz=147,slow=2.6,SNR=3.8					
VNDA	**Vanda**	**78.05**	**190**	IAmb	IAmb	19 08 10.6
	comp=Z,2.3nm,1.2s					
G08A	**Pilot Rock**	**78.25**	**328**	P	**P**	**19 08 11.3 +2.2**
SYO	**Syowa Base**	**78.60**	**160**⇑	*e*pP	**P**	**19 08 11.4 +0.9**
SYO	**Syowa Base**	**78.60**	**160**⇑	*e*PcP	**PcP**	**19 08 17.7 -1.8**
TORD	**Torodi Ar. Bea**	**78.61**	**71**	P	**P**	**19 08 10.2 -1.4**
	comp=Z,16nm,0.8s,baz=256,slow=5.0,SNR=51					
TORD	**Torodi Ar. Bea**	**78.61**	**71**	P	**P**	**19 08 09.5 -2.1**
TORD				IAmb	IAmb	19 08 11.7
	comp=Z,22nm,0.9s					
WALA	**Waterton Lakes**	**78.63**	**333**	P	**P**	**19 08 12.0 +0.9**
E09A	**Wood Farm, Sta**	**78.71**	**329**	P	**P**	**19 08 13.7 +2.3**
LTY	**Liberty**	**80.47**	**328**	P	**P**	**19 08 22.0 +0.9**
EDM	**Edmonton**	**81.58**	**336**	P	**P**	**19 08 26.7 -0.1**
BOSA	**Boshof**	**85.82**	**119**	LR	LR	19 45 45.1
	comp=Z,123nm,18.9s,baz=258,slow=35					
ESDC	**Sonseca Array**	**86.06**	**45**	P	**P**	**19 08 50.7 +0.7**
	comp=Z,5.4nm,1.2s,baz=247,slow=4.2,SNR=7.1					
ESDC	**Sonseca Array**	**86.06**	**45**	P	**P**	**19 08 50.4 +0.3**
MAW	**Mawson**	**86.34**	**164**	P	**P**	**19 08 52.8 +1.8**
	comp=Z,1.9nm,0.7s,baz=205,slow=9.0,SNR=4.7					
YKA	**Yellowknife Ar**	**89.12**	**341**	P	**P**	**19 09 05.2 +1.1**
	comp=Z,3.7nm,0.9s,baz=140,slow=5.5,SNR=5.2					
YKA				LR	LR	19 52 29.0
	comp=Z,169nm,20.3s,baz=0.0,slow=38					
BELG	**Belogornoye**	**122.91**	**40**	PKP	**PKiKP**	**19 15 06.0 +0.7**
	comp=Z,4.9nm,0.8s,baz=143,slow=6.6,SNR=3.7					
H11S2	**WAKE ISLAND Hyl**	**25.81**	**279**	T	T	21 34 37.8
	baz=102,slow=74,SNR=107					
H11S1	**WAKE ISLAND Hyl**	**25.82**	**279**	T	T	21 34 34.1
	baz=102,slow=74,SNR=55					
H11S3	**WAKE ISLAND Hyl**	**25.83**	**279**	T	T	21 34 40.3
	baz=102,slow=74,SNR=42					
H11N3	**WAKE ISLAND Hyl**	**25.86**	**280**	T	T	21 34 35.4
	baz=100,slow=75,SNR=63					
H11N2	**WAKE ISLAND Hyl**	**25.88**	**280**	T	T	21 34 36.3
	baz=100,slow=75,SNR=72					
H11N1	**WAKE ISLAND Hyl**	**25.88**	**280**	T	T	21 34 42.1
	baz=100,slow=75,SNR=37					
AKTO	**Aktyubinsk**	**129.69**	**40**	PKP	**PKiKP**	**19 15 19.6 +0.7**
	comp=Z,2.3nm,0.9s,baz=300,slow=0.3,SNR=6.2					
ASAR	**Alice Springs**	**130.36**	**210**	PKP	**PKiKP**	**19 15 20.8 -0.5**
	comp=Z,1.1nm,0.8s,baz=162,slow=1.7,SNR=8.1					
WRA	**Warramunga Arr**	**133.28**	**213**	PKP	**PKiKP**	**19 15 26.5 -0.7**
	comp=Z,0.4nm,0.5s,baz=156,slow=2.3,SNR=6.8					
WRA	**Warramunga Arr**	**133.28**	**213**		**PKiKP**	**19 15 26.7 -0.5**
KURK	**Kurchatov**	**141.00**	**31**		**PKPdf**	**19 15 40.3 +1.1**
KURBB	**Kurchatov Arra**	**141.02**	**31**	PKP	**PKPdf**	**19 15 40.3 +1.0**
	comp=Z,0.9nm,0.3s,baz=308,slow=2.8,SNR=5.7					
ZALV	**Zalesovo Beam**	**141.30**	**23**	PKP	**PKiKP**	**19 15 41.1 -1.3**
	comp=Z,4.5nm,0.7s,baz=301,slow=3.1,SNR=13					
ZALV	**Zalesovo Beam**	**141.30**	**23**	PKPdf	**PKPdf**	**19 15 38.9 -0.8**
AAK	**Ala-Archa**	**143.16**	**44**	PKP	**PKPdf**	**19 15 44.1 +0.6**
	comp=Z,2.5nm,0.8s,baz=216,slow=5.5,SNR=5.8					
AAK	**Ala-Archa**	**143.16**	**44**	PKPdf	**PKPdf**	**19 15 43.3 -0.3**
MKAR	**Makanchi Array**	**145.41**	**33**	PKPbc	**PKPab**	**19 15 47.4 +0.1**
	comp=Z,6.0nm,0.7s,baz=320,slow=4.1,SNR=49					
MKAR	**Makanchi Array**	**145.41**	**33**		**PKPab**	**19 15 47.3 -0.1**
KSH	**Kashi**	**145.52**	**48**	PKPbc	**PKPab**	**19 15 49.3 +1.2**
KSH				pPKP	sPKPdf	19 15 59.4 +1.1
KSH				LR	LR	
	comp=N,320nm,22.7s					
KSH				LR	LR	
	comp=E,160nm,26.5s					
USRK	**Ussuriysk Ar.**	**149.20**	**327**	PKPbc	**PKiKP**	**19 15 58.8 -0.1**
	comp=E,9.1nm,1.0s,baz=22,slow=1.5,SNR=15					
MJAR	**Matsushiro Arr**	**149.65**	**309**	PKPbc	**PKiKP**	**19 16 00.0 -0.2**
	comp=E,7.3nm,1.0s,baz=118,slow=2.2,SNR=12					
MJAR	**Matsushiro Arr**	**149.65**	**309**		**PKiKP**	**19 16 00.2 0.0**
MAT	**Matsushiro**	**149.65**	**309**	PKP	**PKiKP**	**19 16 00.5 +0.3**
WMQ	**Urumqi**	**150.22**	**32**	*e*P	**PKPdf**	**19 15 55.8 +0.5**
WMQ				pmax	pmax	
	comp=Z,130nm,4.7s					
WMQ				LR	LR	
	comp=N,180nm,17.1s					
WMQ				LR	LR	
	comp=E,240nm,21.7s					
WMQ				LR	LR	
	comp=Z,300nm,21.7s					
SONM	**Songino Array**	**152.09**	**4**	PKP	**PKPdf**	**19 15 59.7 +1.6**
	comp=Z,1.2nm,1.0s,baz=270,slow=1.5,SNR=6.4					
SONM				PKPbc	**pPKPdf**	**19 16 06.1 +0.1**
	comp=Z,4.5nm,0.7s,baz=314,slow=1.2,SNR=26					
GTA	**Gaotai**	**159.02**	**20**	⇑PKP	**PKPdf**	**19 16 09.8 +2.2**
GTA				PKPab	**PKPab**	**19 16 46.3 +2.3**
GTA				LR	LR	
	comp=N,210nm,21.4s					
GTA				LR	LR	
	comp=E,130nm,20.4s					
GTA				LR	LR	
	comp=Z,190nm,20.4s					
HHC	**Hu-ho-hao-te**	**159.06**	**355**	*e*PKP	**PKPdf**	**19 16 07.3 -0.3**
HHC				PP	**PP**	**19 20 24.8 +0.9**
NJ2	**Nanjing**	**165.10**	**326**	*e*P	**PKPdf**	**19 16 13.8 0.0**
NJ2				pmax	pmax	
	comp=Z,6.0nm,0.5s					

IDC ***16*** *19:04:49.1±1.8, 6.05S×151.69E, h0km, mb4.0/5, mb1 4.3/5, mb1mx3.8/42, mbtmp4.0/5, Error ellipse: s-maj=75.4km s-min=23.8km az=124.0*
NEIC ***16*** *19:04:52.4±1.0, 6.05S±0.1×151.6E±0.1, h10km±1km, mb4.0/6, Error ellipse: s-maj=28.7km s-min=5.6km az=134.0*

ISC 16 19:04:51.5±1.2, 6.1S±0.2×151.6E±0.2, h10km, n13, σ1.9s03/13, mb4.0/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.93**	**17**		**Pn**	**19 05 25.0 +0.6**
MANU	**Manus Island**	**5.80**	**313**	P	**Pn**	**19 06 18.2 +0.4**
WR0	**Warramunga Arr**

mb1 3.7/16,mb1mx3.6/51,mbtmp3.7/16,ML3.4/5,MS3.5/14, Ms1 3.5/14,ms1mx3.3/44,Error ellipse: s-maj=15.7km s-min=11.8km az=163.0
MOS ***16*** *19:12:18.4±1.6,38°.61N×44°.58E,h10km,mb4.6/6,Error ellipse: s-maj=7.7km s-min=5.6km az=88.5*
THR ***16*** *19:12:18.8±0.3,38°.69N×44°.60E,h14km±9km, ML4.1*
NEIC ***16*** *19:12:20.1±1.6,38°.70N±0°.04×44°.6E±0°.1,h6km±5km, Error ellipse: s-maj=12.8km s-min=5.1km az=109.0*

ISC 16 19:12:19.6±0.4,38°.59N±0°.02×44°.64E±0°.01,h10km,n242, σ2≥11/286,mb4.3/21,MS3.4/7,20C-2D,Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MAKU	**Maku**	**0.76**	**3**	*e*Pg			**Pg**	**19 12 31.7**	**-2.7**
MAKU	comp=N,15μm,0.3s			IAML				19 12 45.3	
MAKU	comp=E,6μm,0.4s			IAML				19 12 45.9	
MAKU	**Maku**	**0.76**	**3**	*e*Pg			**Pg**	**19 12 31.7**	**-2.7**
CLDR	**Caldiran**	**0.79**	**315**	*i* P			**Pg**	**19 12 31.2**	**-3.7**
CLDR				*i* S			**Sg**	**19 12 42.1**	**-3.0**
NAX	**Nakhchivan** SNR=182	**0.89**	**49**	P			**Pg**	**19 12 35.5**	**-1.3**
NAX				S			**Sn**	**19 12 50.2**	**-1.0**
NAX	**Nakhchivan**	**0.89**	**49**	*e*Pg			**Pg**	**19 12 35.4**	**-1.3**
VMUR	**Van-Muradiye**	**0.92**	**296**	*i* P			**Pg**	**19 12 34.1**	**-3.3**
VMUR				*i* S			**Sg**	**19 12 47.4**	**-2.0**
TVAN	**Van**	**0.97**	**267**	*i* P			**Pg**	**19 12 35.1**	**-3.1**
TVAN				*i* S			**Sb**	**19 12 49.9**	**-1.6**
VANB	**Van**	**0.98**	**271**	PG			**Pg**	**19 12 34.9**	**-3.5**
YOVA	**Hakkari_Yksek**	**1.04**	**195**	*i* P			**Pg**	**19 12 37.7**	**-2.0**
YOVA				*i* S			**Sg**	**19 12 51.3**	**-1.9**
YOVA	**Hakkari_Yksek**	**1.04**	**195**	*e*Pg			**Pg**	**19 12 37.6**	**-2.0**
SBZ	**Shahbuz** SNR=268	**1.08**	**41**	P			**Pg**	**19 12 38.6**	**-1.7**
SBZ				S			**Sn**	**19 12 55.2**	**-0.7**
SBZ	**Shahbuz**	**1.08**	**41**	*e*Pg			**Pg**	**19 12 38.6**	**-1.7**
ORD	**Ordubad** SNR=280	**1.11**	**72**	P			**Pb**	**19 12 39.5**	**-1.5**
ORD				S			**Sn**	**19 12 56.1**	**-0.7**
ORD	**Ordubad**	**1.11**	**72**	*e*Pg			**Pb**	**19 12 39.5**	**-1.5**
HYR	**Heyderabad** SNR=165	**1.14**	**8**	P			**Pb**	**19 12 39.4**	**-2.1**
HYR				S			**Sn**	**19 12 55.9**	**-1.5**
HYR	**Heyderabad**	**1.14**	**8**	*e*Pg			**Pb**	**19 12 39.3**	**-2.1**
DYDN	**Diyadin**	**1.20**	**322**	*i* P			**Pb**	**19 12 38.6**	**-4.1**
DYDN				*i* S			**Sg**	**19 12 57.1**	**-1.4**
ITBZ	**Tabriz**	**1.24**	**106**	*e*Pg			**Pn**	**19 12 40.5**	**-2.7**
ITBZ	comp=Z,21μm,0.4s			*e*				19 13 00.9	
HAKT	**HAKKARI**	**1.27**	**216**	*i* P			**Pn**	**19 12 41.9**	**-1.7**
HAKT				*i* S			**Sn**	**19 13 00.7**	**-0.1**
HAKT	**HAKKARI**	**1.27**	**216**	*e*Pg			**Pn**	**19 12 41.9**	**-1.7**
IGDI	**IGDIR**	**1.35**	**341**	*i* P			**Pn**	**19 12 42.1**	**-2.5**
IGDI				*i* S			**Sg**	**19 13 01.8**	**-1.2**
IAZR	**Azarshahr**	**1.40**	**130**	*e*Pn			**Pn**	**19 12 44.6**	**-0.8**
NRKZ	**NAREK**	**1.41**	**1**	*i* P			**Pg**	**19 12 45.2**	**-1.1**
NRKZ				*i* S			**Sg**	**19 13 08.0**	**+3.1**
TASB	**TASBURUN-IGDIR**	**1.43**	**348**	PN			**Pb**	**19 12 45.0**	**-1.3**
TASB				SN			**Sg**	**19 13 05.8**	**+0.3**
TASB	**TASBURUN-IGDIR**	**1.43**	**348**	*e*Pn			**Pg**	**19 12 45.4**	**-1.6**
TABZ	**Tabriz**	**1.43**	**111**	*e*Pn			**Pg**	**19 12 46.2**	**-0.9**
TABZ	comp=Z,43μm,0.4s			*e*				19 13 16.7	
ADCV	**BITLIS_Adilcev**	**1.51**	**279**	*i* P			**Pb**	**19 12 46.2**	**-1.7**
ADCV				*i* S			**Sb**	**19 13 05.3**	**-1.9**
ADCV	**BITLIS_Adilcev**	**1.51**	**279**	*e*Pn			**Pb**	**19 12 46.2**	**-1.7**
GNI	**Garni** comp=Z,55nm,0.3s,baz=262,slow=2.0,SNR=191	**1.56**	**3**	Pg			**Pg**	**19 12 48.0**	**-1.5**
GNI	comp=Z,86nm,0.3s,baz=230,slow=22,SNR=7.7			Lg				19 13 11.2	
GNI	comp=Z,840nm,18.6s,baz=192,slow=54			LR			LR	19 13 39.6	
GNI	**Garni**	**1.56**	**3**	*i* P			**Pg**	**19 12 47.7**	**-1.8**
GNI				*i* S			**Sg**	**19 13 12.0**	**+2.2**
GNI	**Garni**	**1.56**	**3**	PG			**Pb**	**19 12 47.5**	**-1.2**
GNI								19 13 06.5	
GNI	**Garni**	**1.56**	**3**	PN			**Pb**	**19 12 47.4**	**-1.2**
GNI				SN			**Sg**	**19 13 09.9**	**+0.1**
GNI	**Garni**	**1.56**	**3**				**Pb**	**19 12 47.5**	**-1.2**
GNI				Sn			**Sn**	**19 13 06.5**	**-1.4**
GNI	**Garni**	**1.56**	**3**	*e*Pn			**Pb**	**19 12 47.5**	**-1.2**
CUKT	**Cukurca**	**1.57**	**212**	*i* P			**Pn**	**19 12 46.4**	**-1.3**
CUKT				*i* S			**Sg**	**19 13 11.2**	**+1.1**
CUKT	**Cukurca**	**1.57**	**212**	PN			**Pn**	**19 12 46.4**	**-1.3**
CUKT	**Cukurca**	**1.57**	**212**	*e*Pn			**Pb**	**19 12 47.6**	**-1.2**
AGRB	**Hanur-Agry**	**1.61**	**308**	PN			**Pn**	**19 12 46.2**	**-2.1**
AGRB	**Hanur-Agry**	**1.61**	**308**	*e*Pn			**Pn**	**19 12 47.4**	**-0.9**
METS	**Metsamor**	**1.62**	**345**	*i* P			**Pb**	**19 12 47.8**	**-1.7**
METS				*i* S			**Sg**	**19 13 13.4**	**+1.8**
VNNZ	**Vanand**	**1.64**	**338**	*i* P			**Pb**	**19 12 48.5**	**-1.5**
VNNZ				*i* S			**Sg**	**19 13 13.4**	**+1.1**
MLAZ	**Malazgirt-MUS**	**1.72**	**289**	PN			**Pn**	**19 12 48.6**	**-1.2**
KAPZ	**Kaputan**	**1.73**	**2**	*i* P			**Pb**	**19 12 50.3**	**-1.3**
KAPZ				*i* S			**Sg**	**19 13 16.7**	**+1.5**
PERV	**Siirt/Pervari-**	**1.77**	**249**	*i* P			**Pg**	**19 12 51.6**	**-2.0**
PERV				*i* S			**Sg**	**19 13 15.3**	**-1.3**
IHRS	**Heris**	**1.91**	**97**	*e*Pn			**Pb**	**19 12 53.2**	**-1.4**
IHRS	comp=Z,15μm,0.3s			*e*				19 12 58.1	
BLIS	**Bitlis-Merkez**	**1.99**	**266**	*i* P			**Pn**	**19 12 51.9**	**-1.5**
BLIS				*i* S			**Sn**	**19 13 17.1**	**-1.4**
BLIS	**Bitlis-Merkez**	**1.99**	**266**	*e*Pn			**Pn**	**19 12 51.9**	**-1.5**
IBST	**Bostanabad**	**1.99**	**116**	*e*Pn			**Pb**	**19 12 54.1**	**-1.9**
IBST	comp=Z,6μm,0.5s			*e*				19 13 27.6	
MAHB	**Mahabad**	**2.01**	**155**	*e*Pn			**Pb**	**19 12 54.6**	**-1.7**
MAHB	comp=Z,6μm,0.7s			*e*				19 13 38.6	
GURO	**Guroymak-BITLI**	**2.04**	**270**	PN			**Pn**	**19 12 53.0**	**-1.2**
GURO	**Guroymak-BITLI**	**2.04**	**270**	Pn			**Pn**	**19 12 53.7**	**-0.5**
SIRT	**Sirnak**	**2.05**	**239**	PN			**Pn**	**19 12 53.1**	**-1.1**
SIRT	**Sirnak**	**2.05**	**239**	Pn			**Pb**	**19 12 55.3**	**-1.6**
SIRT	**Sirnak**	**2.05**	**239**	*e*Pn			**Pb**	**19 12 54.4**	**-2.6**
DIGO	**Kars**	**2.07**	**332**	*i* P			**Pb**	**19 12 54.2**	**-0.4**
DIGO				*i* S			**Sb**	**19 13 22.9**	**-0.3**
SIRN	**Sırnak**	**2.07**	**239**	*i* P			**Pb**	**19 12 54.8**	**-2.5**
SIRN				*i* S			**Sb**	**19 13 21.4**	**-1.6**
EATA	**Eleskirt**	**2.10**	**308**	*i* P			**Pn**	**19 12 54.3**	**-0.8**
EKAR	**Karacoban**	**2.11**	**289**	*i* P			**Pb**	**19 12 57.4**	**-0.8**
EKAR				*i* S			**Sg**	**19 13 30.4**	**+2.9**
SRTM	**Siirt_Merkez**	**2.22**	**255**	*i* P			**Pb**	**19 12 57.2**	**-2.6**
SRTM				*i* S			**Sb**	**19 13 26.3**	**-1.1**
EAK	**Akyaka**	**2.24**	**340**	*i* P			**Pb**	**19 12 57.5**	**-2.8**
EAK				*i* S			**Sb**	**19 13 27.7**	**-0.4**
QRD	**Qoradiz** SNR=43	**2.26**	**67**	P			**Pb**	**19 12 58.7**	**-1.9**
QRD				S			**Sg**	**19 13 31.2**	**-1.1**
GDB	**GEDABAY** SNR=49	**2.29**	**22**	P			**Pb**	**19 12 58.8**	**-2.4**
GDB				S			**Sg**	**19 13 31.0**	**-2.4**
KARS	**Kars**	**2.36**	**330**	PN			**Pn**	**19 12 57.7**	**-0.9**
KARS	**Kars**	**2.36**	**330**	PN			**Pn**	**19 12 58.1**	**-0.5**
KARS	**Kars**	**2.36**	**330**				**Pn**	**19 12 57.7**	**-0.9**
STE	**Stepanavan**	**2.42**	**355**	*e*P			**Pb**	**19 13 01.0**	**-2.2**
STE				*e*S			**Sg**	**19 13 43.5**	**+6.3**
GANJ	**Ganja** SNR=217	**2.43**	**32**	P			**Pb**	**19 13 00.9**	**-2.5**
GANJ				S			**Sg**	**19 13 35.3**	**-2.4**
IHSH	**Hashtrud**	**2.44**	**121**	*e*Pn			**Pb**	**19 13 01.8**	**-2.0**
IHSH	comp=Z,11μm,1.0s			*e*				19 13 55.4	
AGDM	**Agdam** SNR=156	**2.44**	**51**	P			**Pb**	**19 13 01.7**	**-1.9**
AGDM				S			**Sg**	**19 13 35.7**	**-2.4**
MUSM	**Mu-Merkez**	**2.45**	**274**	*i* P			**Pb**	**19 13 01.7**	**-2.1**
MUSM				*i* S			**Sb**	**19 13 31.4**	**-2.7**
ISRB	**Sarab** comp=Z,4μm,0.4s	**2.51**	**107**	*e*				19 13 11.9	
ISRB				*e*Pn			**Pb**	**19 13 02.2**	**-2.6**
QZX	**Qazax, Azerbai** SNR=28	**2.53**	**13**	P			**Pb**	**19 13 02.4**	**-2.7**
QZX				S			**Sb**	**19 13 36.3**	**0.0**
BLQ	**Beylaqan** SNR=46	**2.54**	**63**	P			**Pb**	**19 13 03.0**	**-2.3**
BLQ				S			**Sb**	**19 13 35.9**	**-0.6**
VRTB	**Varto-Mus**	**2.55**	**284**	*i* P			**Pg**	**19 13 05.8**	**-2.7**
VRTB				*i* S			**Sg**	**19 13 40.2**	**-1.3**
VRTB	**Varto-Mus**	**2.55**	**284**	PN			**Pn**	**19 13 00.3**	**-0.8**
GRMI	**Germi**	**2.56**	**84**	*e*Pn			**Pn**	**19 13 02.2**	**+0.9**
GRMI				*e*Sg			**Sg**	**19 13 39.5**	**-2.3**
GRMI	**Germi**	**2.56**	**84**	*e*Pn			**Pn**	**19 13 02.2**	**+0.9**
HOMI	**Horasan**	**2.57**	**305**	*i* P			**Pb**	**19 13 04.6**	**-1.3**
HOMI				*i* S			**Sg**	**19 13 48.9**	**+6.7**
KOPR	**Koprukoy-ERZUR**	**2.57**	**304**	PN			**Pn**	**19 13 01.1**	**-0.4**
BRDA	**Brd** SNR=28	**2.58**	**49**	P			**Pb**	**19 13 04.6**	**-1.3**
BRDA				S			**Sb**	**19 13 38.9**	**+1.2**
SENK	**Senkaya-Erzuru**	**2.65**	**319**	PN			**Pn**	**19 13 02.4**	**-0.1**
BTMN	**Batman**	**2.74**	**256**	*i* P			**Pb**	**19 13 04.9**	**-3.9**
BTMN				*i* S			**Sb**	**19 13 41.6**	**-0.9**
YRD	**Yardimli** SNR=170	**2.84**	**82**	P			**Pb**	**19 13 06.8**	**-3.6**
YRD				S			**Sb**	**19 13 45.0**	**-0.4**
SLHN	**Bingol, Solhan**	**2.85**	**278**	*i* P			**Pb**	**19 13 09.2**	**-1.4**
SLHN				*i* S			**Sb**	**19 13 45.4**	**-0.2**
ERZM	**Erzurum**	**2.86**	**298**	*i* P			**Pb**	**19 13 10.0**	**-0.8**
EJDE	**Erzurum, Palan**	**2.87**	**297**	*i* P			**Pb**	**19 13 09.5**	**-1.7**
EJDE				*i* S			**Sg**	**19 13 51.9**	**0.0**
MNGR	**Mingechevir, A** SNR=12	**2.88**	**40**	P			**Pb**	**19 13 08.8**	**-2.3**
MNGR				S			**Sb**	**19 13 45.8**	**-0.6**
KARO	**Karliova-Bingo**	**2.89**	**285**	PN			**Pn**	**19 13 04.8**	**-1.1**
ZRD	**Zardab** SNR=19	**2.90**	**54**	P			**Pb**	**19 13 09.7**	**-1.7**
ZRD				S			**Sb**	**19 13 48.1**	**+1.2**
LRK	**Lerik** SNR=167	**2.90**	**88**	P			**Pb**	**19 13 07.9**	**-3.6**
LRK				S			**Sb**	**19 13 48.0**	**+0.9**
DGRG	**David-gareji**	**2.91**	**11**	*i* P			**Pb**	**19 13 10.3**	**-1.3**
DGRG				*i* S			**Sg**	**19 13 50.3**	**-2.9**
AKH	**Akhalkalaki**	**2.95**	**343**	PN			**Pn**	**19 13 06.9**	**+0.2**
GLBA	**Clilabad** SNR=42	**3.00**	**76**	P			**Pb**	**19 13 09.4**	**-3.7**
GLBA				S			**Sb**	**19 13 50.7**	**+0.9**
ECAT	**Cat-ERZURUM**	**3.02**	**291**	*i* P			**Pb**	**19 13 12.3**	**-1.4**
ECAT				*i* S			**Sg**	**19 13 55.1**	**-1.6**
DDFL	**Dedoflistskaro**	**3.07**	**21**	*i* P			**Pg**	**19 13 16.3**	**-2.1**
BNGB	**Bingl**	**3.12**	**279**	PN			**Pn**	**19 13 08.4**	**-0.6**
SAAT	**Saatly** SNR=7.7	**3.20**	**65**	P			**Pb**	**19 13 12.9**	**-3.6**
SAAT				S			**Sb**	**19 13 55.8**	**+0.2**
LKRN	**Lenkeran, Azer** SNR=11	**3.25**	**87**	P			**Pb**	**19 13 13.0**	**-4.3**
LKRN				S			**Sb**	**19 13 57.3**	**+0.4**
ASTR	**Astara** SNR=21	**3.26**	**89**	P			**Pn**	**19 13 12.9**	**+2.2**
ASTR				S			**Sb**	**19 13 57.2**	**+0.1**
EPOS	**Posof**	**3.26**	**334**	*i* P			**Pb**	**19 13 17.4**	**-0.2**
EPOS				*i* S			**Sg**	**19 14 03.4**	**-0.8**
KDMR	**Kurdemir**	**3.27**	**56**	P			**Pb**	**19 13 13.3**	**-4.4**
KDMR				S			**Sb**	**19 13 55.8**	**-1.8**
SEKA	**Sheki** SNR=16	**3.27**	**36**	P			**Pn**	**19 13 13.0**	**+2.0**
SEKA				S			**Sb**	**19 13 57.4**	**-0.4**
YEDI	**Yedisu-Bingol**	**3.30**	**286**	PN			**Pn**	**19 13 11.1**	**-0.4**
MARD	**Mardin**	**3.31**	**249**	*i* P			**Pn**	**19 13 12.9**	**+1.3**
MARD	**Mardin**	**3.31**	**249**	Pn			**Pn**	**19 13 12.4**	**+0.9**
DBAD	**Bademkaya**	**3.32**	**318**	*i* P			**Pb**	**19 13 17.8**	**-0.8**
HANI	**Diyarbakir_Han**	**3.33**	**268**	*i* P			**Pb**	**19 13 14.7**	**-4.1**
ZKTA	**Zakatala** SNR=19	**3.40**	**26**	P			**Pb**	**19 13 15.9**	**-4.1**
ZKTA				S			**Sb**	**19 14 00.5**	**-0.9**
QBL	**Gabala** SNR=17	**3.41**	**45**	P			**Pn**	**19 13 14.9**	**+2.1**
QBL				S			**Sb**	**19 13 58.8**	**-2.8**
IML	**Ismayilli** SNR=9.0	**3.51**	**50**	P			**Pn**	**19 13 16.5**	**+2.2**
IML				S			**Sb**	**19 14 01.3**	**-3.2**
KOPT	**Kop Dagi**	**3.51**	**295**	*i* P			**Pb**	**19 13 21.7**	**-0.3**
KOPT				*i* S			**Sg**	**19 14 07.7**	**-4.8**
KOPT	**Kop Dagi**	**3.51**	**295**				**Pb**	**19 13 21.4**	**-0.7**
DBOC	**Borcka**	**3.57**	**321**	*i* P			**Pb**	**19 13 22.5**	**-0.4**
DIYA	**Diyarbakir**	**3.62**	**261**	*i* P			**Pn**	**19 13 17.6**	**+1.9**
DIYA				*i* S			**Sb**	**19 14 09.4**	**+1.8**
ALIB	**Äli-Bayra**	**3.66**	**67**	P			**Pn**	**19 13 17.8**	**+1.6**
ALIB				S			**Sb**	**19 14 04.5**	**-4.1**
XNQ	**Khinaliq** SNR=7.9	**3.73**	**45**	P			**Pn**	**19 13 19.3**	**+1.9**
XNQ				S			**Sb**	**19 14 05.3**	**-5.8**
AKT	**Akhty**	**3.74**	**38**	*e*PN			Pb	19 13 20.6	-5.1
AKT				*e*				19 13 29.1	
AKT				*e*				19 13 31.4	
AKT				*e*S			**Sb**	**19 14 06.6**	**-4.5**
AKT				*e*				19 14 18.1	
AKT	comp=Z,69nm,0.7s			pmax	pmax				
AKT	comp=N,87nm,0.6s			smax	smax				
AKT	comp=N,88nm,0.6s			smax	smax				
AKT	comp=E,77nm,0.7s			smax	smax				
AKT	comp=Z,314nm,2.0s			MLR	MLR				
ZNJK	**Zanjan**	**3.74**	**120**	*e*Pn			**Pn**	**19 13 19.4**	**+1.7**
ZNJK	**Zanjan**	**3.74**	**120**	*e*Pn			**Pn**	**19 13 19.4**	**+1.7**
PQL	**Pirkuli** SNR=4.7	**3.76**	**53**	P			**Pn**	**19 13 20.1**	**+2.3**
PQL				S			**Sb**	**19 14 07.5**	**-4.3**
BAYB	**BAYBURT**	**3.78**	**298**	*i* P			**Pb**	**19 13 26.1**	**-0.5**
KOVA	**Elazig, Kovanc**	**3.78**	**273**	*i* P			**Pb**	**19 13 21.9**	**-4.6**
GBS	**Qobustan** SNR=7.6	**3.85**	**58**	P			**Pg**	**19 13 30.1**	**-3.3**
GBS				S			**Sb**	**19 14 08.3**	**-6.1**
ATGJ	**Altiaghaj** SNR=6.3	**4.02**	**54**	P			**Pn**	**19 13 24.1**	**+2.8**
ATGJ				S			**Sb**	**19 14 16.3**	**-2.9**
QSAR	**Qusar** SNR=3.7	**4.03**	**42**	P			Pb	19 13 24.9	-5.8
QSAR				S			**Sb**	**19 14 15.4**	**-4.2**
QUBA	**Quba, Azerbaij** SNR=3.6	**4.05**	**46**	P			Pb	19 13 25.8	-5.2
QUBA				S			**Sn**	**19 14 13.3**	**+4.2**
ONI	**Oni**	**4.09**	**348**	PN			**Pn**	**19 13 21.5**	**-0.8**
ONI	**Oni**	**4.09**	**348**				**Pn**	**19 13 21.5**	**-0.8**
SIZA	**Siyzn** SNR=3.7	**4.11**	**52**	P			Pb	19 13 26.7	-5.5
SIZA				S			**Sn**	**19 14 15.0**	**+4.1**
IDHR	**Dehrash**	**4.13**	**160**	*e*Pn			**Pn**	**19 13 25.7**	**+2.7**
ZEI	**Tsey**	**4.23**	**353**	*e*PN			**Pb**	**19 13 34.1**	**-0.1**
ZEI	comp=Z,16nm,1.5s			pmax	pmax				
KELT	**Kelkit**	**4.45**	**292**	*i* P			**Pb**	**19 13 35.0**	**-3.0**
GROC	**Groznyy**	**4.69**	**10**	*e*PN			**Pg**	**19 13 46.4**	**-3.0**
GROC				*e*				19 14 26.6	
GROC				*e*				19 14 55.4	
GROC	comp=Z,33nm,0.3s			pmax	pmax				
GROC	comp=N,43nm,0.6s			smax	smax				
GROC	comp=E,123nm,2.0s			smax	smax				
GROC	comp=E,42nm,0.7s			smax	smax				
GROC	comp=Z,265nm,7.0s			MLR	MLR				
MAK	**Makhachkala**	**4.88**	**26**	*e*PN			**Pn**	**19 13 32.2**	**-0.8**
MAK				*e*S			**Sn**	**19 14 27.9**	**-1.6**
MAK	comp=Z,204nm,1.3s			pmax	pmax				
MAK	comp=Z,746nm,10.0s			MLR	MLR				
KBZ	**Khabaz** comp=Z,0.1nm,0.3s,baz=153,slow=6.8,SNR=2.2	**5.30**	**346**	Pn			**Pn**	**19 13 41.3**	**+2.6**
KBZ	baz=244,slow=6.1,SNR=1.7			Lg	Lg			19 15 02.0	
KVAR	**Kislovodsk Arr** comp=Z,1μm,20.2s,baz=278,slow=40	**5.56**	**345**	LR	LR			19 15 56.2	
KIV	**Kislovodsk**	**5.56**	**345**	*e*P			**Pn**	**19 13 41.2**	**-1.2**
KIV	comp=Z,4.0nm,1.1s			pmax	pmax				
KIV	comp=Z,148nm,8.0s			MLR	MLR				
KIV	**Kislovodsk**	**5.56**	**345**	Pn			**Pn**	**19 13 41.3**	**-1.1**
IDOB	**Doab**	**5.58**	**148**	*e*Pn			**Pn**	**19 13 43.6**	**+0.7**
IKFM	**Kafar-mosalman**	**5.69**	**152**	*e*Pn			**Pn**	**19 13 47.3**	**+3.2**
GAZ	**Gaziantep**	**6.04**	**259**	Pn			**Pn**	**19 13 50.0**	**+0.9**
SOC	**Sochi**	**6.22**	**325**	*e*P			**Pn**	**19 13 49.1**	**-2.3**
SOC				*e*				19 14 59.8	
SOC	comp=Z,646nm,13.0s			MLR	MLR				
BNN	**Bunyan**	**6.88**	**275**	Pn			**Pn**	**19 13 59.0**	**-1.6**
IGLO	**Ghaloghah**	**7.59**	**103**	*e*Pn			**Pn**	**19 14 12.2**	**+1.7**
ANN	**Anapa**	**8.21**	**321**	*e*P			**Pn**	**19 14 20.0**	**+1.2**
ANN	comp=Z,578nm,12.0s			MLR	MLR				
ANN	comp=N,530nm,13.0s			MLR	MLR				
BRTR	**Keskin Array B** baz=102,slow=12,SNR=8.7	**8.62**	**281**	Pn	Pn			19 14 28.3	+3.8
BRTR	comp=N,0.2nm,0.3s,baz=95,slow=24,SNR=1.4			Lg	Lg			19 16 59.9	
BRTR	**Keskin Array B**	**8.62**	**281**	P			**Pn**	**19 14 25.7**	**+1.1**
BRTR	**Keskin Array B**	**8.62**	**281**	Pn			**Pn**	**19 14 25.6**	**+1.1**
ASF	**Jabal al Asfar** comp=N,0.2nm,0.3s,baz=76,slow=8.3,SNR=3.4	**8.99**	**227**	Pn			**Pn**	**19 14 31.3**	**+1.6**
ASF	comp=N,0.3nm,0.3s,baz=135,slow=17,SNR=2.1			Lg	Lg			19 17 10.4	
MMAI	**Mount Meron Ar** comp=N,0.5nm,0.3s,baz=63,slow=14,SNR=3.1	**9.34**	**236**	Pn			**Pn**	**19 14 36.5**	**+2.2**
MMAI	comp=N,302nm,20.8s,baz=65,slow=39			LR	LR			19 18 26.3	
SIM	**Simferopol'**	**10.10**	**312**	P			**Pn**	**19 14 41.9**	**-2.7**
SIM	comp=Z,18nm,1.0s			pmax	pmax				
GEYT	**Alibeck** comp=Z,0.3nm,0.3s,baz=272,slow=14,SNR=2.1	**10.62**	**89**	Pn			**Pn**	**19 14 54.2**	**+2.3**
GEYT	comp=Z,83nm,19.1s,baz=220,slow=44			LR	LR			19 20 03.7	
EIL	**Elat** comp=Z,233nm,19.8s,baz=84,slow=40	**11.97**	**225**	LR	LR			19 20 18.2	
HARR	**Harsova**	**13.89**	**301**	⇑P			**P**	**19 15 45.8**	**+1.1**
HARR	**Harsova**	**13.89**	**301**	⇑P			**P**	**19 15 45.8**	**+1.1**
BELG	**Belogornoye** comp=Z,155nm,18.8s,baz=272,slow=44	**13.96**	**8**	LR	LR			19 22 28.4	
PLOR	**Plostina**	**15.15**	**304**	⇑P			**P**	**19 15 59.8**	**+1.0**
PLOR	**Plostina**	**15.15**	**304**	⇑P			**P**	**19 15 59.8**	**+1.0**
AKTO	**Aktyubinsk** comp=Z,0.1nm,0.3s,baz=228,slow=11,SNR=6.5	**15.18**	**34**	Pn			**Pn**	**19 15 52.3**	**-1.7**
AKTO	comp=Z,140nm,21.6s,baz=236,slow=41			LR	LR			19 22 42.1	
APE	**Apeiranthos**	**15.18**	**270**	⇑*e*P			**Pn**	**19 15 53.8**	**-0.2**
SORM	**Soroca**	**15.18**	**314**	⇑P			**Pn**	**19 15 54.4**	**+0.5**
SORM	**Soroca**	**15.18**	**314**	⇑P			**Pn**	**19 15 54.4**	**+0.5**
ABKAR	**Akbulak array**	**15.31**	**41**	Pn			**Pn**	**19 15 55.5**	**-0.1**
ABKAR	**Akbulak array**	**15.31**	**41**	Pn			**Pn**	**19 15 55.0**	**-0.6**
ABKAR	comp=Z,4.6nm,0.9s			IAmb	IAmb			19 16 04.7	
TESR	**Tescani**	**15.42**	**307**	⇑P			**P**	**19 16 00.6**	**-1.1**
MLR	**Muntele Rosu**	**15.49**	**302**	⇑P			**P**	**19 16 05.9**	**+3.3**
MLR	**Muntele Rosu**	**15.49**	**302**	⇑P			**P**	**19 16 05.9**	**+3.3**
DOPR	**Dopca**	**16.02**	**304**	⇑P			**P**	**19 16 09.9**	**+1.5**
VOIR		**16.06**	**301**	⇑P			**P**	**19 16 11.1**	**+2.1**
VOIR		**16.06**	**301**	⇑P			**P**	**19 16 11.1**	**+2.1**
IDI	**Anoyia** comp=Z,135nm,21.8s,baz=244,slow=40	**16.13**	**264**	LR	LR			19 22 54.9	
AKASG	**Malin Array Be** comp=Z,0.3nm,0.3s,baz=131,slow=12,SNR=9.3	**16.30**	**323**	Pn			**Pn**	**19 16 07.4**	**-1.0**
AKASG	**Malin Array Be**	**16.30**	**323**	*i* P			**P**	**19 16 10.1**	**-1.3**
AKASG	comp=Z,1.0nm,0.5s			pmax	pmax				
AKBB	**Malin Array Si**	**16.30**	**323**	*e*P			**P**	**19 16 10.2**	**-1.2**
AKBB	comp=Z,9.0nm,1.6s			pmax	pmax				
ARR	**Arges**	**16.32**	**301**	⇑P			**P**	**19 16 14.5**	**+2.7**
VTS	**Vitosha**	**16.73**	**291**	P			**P**	**19 16 15.9**	**-0.6**
VTS	comp=Z,8.0nm,1.3s			pmax	pmax				
VTS	**Vitosha**	**16.73**	**291**	P			**P**	**19 16 15.9**	**-0.6**
UOSS	**Minazif**	**16.77**	**141**	P			**P**	**19 16 17.8**	**+1.0**
UOSS	comp=Z,24nm,1.4s			IAmb	IAmb			19 16 26.6	
BURAR	**Bucovina Array**	**16.77**	**309**	⇑P			**P**	**19 16 18.6**	**+1.8**
BURAR	**Bucovina Array**	**16.77**	**309**	⇑P			**P**	**19 16 18.6**	**+1.8**
BURAR	**Bucovina Array**	**16.77**	**309**				**P**	**19 16 17.3**	**+0.5**
BUR08	**Bucovina Ar. S**	**16.79**	**309**	P			**P**	**19 16 17.4**	**+0.3**
LOT	**Lotru**	**16.93**	**301**	⇑P			**P**	**19 16 19.1**	**+0.5**

comp=Z,0.8nm,0.7s,baz=97,slow=7.3,SNR=7.1
GERES GERESS Array B 24.44 305 P **P** **19 17 38.8 +0.3**
KHC Kasperske Hory 24.59 305 *e*P P 19 17 31.5 -8.2
KHC Kasperske Hory 24.59 305 *e*P P 19 17 31.5 -8.2
KHC *ex* x 19 17 40.5
KDJ Kajisay 24.96 71 P **P** **19 17 44.3 +0.9**
KDJ pmax pmax
comp=Z,7.0nm,0.9s
KDJ Kajisay 24.96 71 P **P** **19 17 44.3 +0.9**
FINES FINESS Array B 25.61 339 P **P** **19 17 49.0 +0.2**
comp=Z,1.5nm,0.7s,baz=139,slow=13,SNR=3.9
FINES FINESS Array B 25.61 339 P **P** **19 17 49.0 +0.2**
DAVOX Davos/Dischmat 26.66 299 LR LR 19 29 35.4
comp=Z,130nm,18.7s,baz=84,slow=39
KURBB Kurchatov Arra 26.72 52 P **P** **19 17 59.8 +0.9**
comp=Z,0.9nm,0.3s,baz=263,slow=9.2,SNR=8.9
KURK Kurchatov 26.80 52 P **P** **19 17 59.8 +0.1**
MKAR Makanchi Array 28.64 61 P **P** **19 18 17.5 +1.2**
comp=Z,1.2nm,0.7s,baz=259,slow=9.8,SNR=4.0
MKAR LR LR 19 32 00.1
comp=Z,94nm,18.6s,baz=262,slow=41
MKAR Makanchi Array 28.64 61 P **P** **19 18 17.7 +1.4**
NOA NORSAR Array B 30.57 328 LR LR 19 31 19.0
comp=Z,59nm,18.4s,baz=255,slow=37
ZALV Zalesovo Beam 31.25 47 LR LR 19 33 04.3
comp=Z,102nm,19.4s,baz=268,slow=40
DGZ Jazzator, Alta 32.24 56⇑ *e*P **P** **19 18 48.1 -0.1**
DGZ pmax pmax
comp=Z,4.0nm,1.0s
WMQ Urumqi 32.53 67 *e*P **P** **19 18 53.5 +2.8**
SONM Songjino Array 44.86 57 P **P** **19 20 34.6 +0.6**
comp=Z,0.4nm,0.6s,baz=282,slow=7.2,SNR=2.7
ULN Ulaanbaatar 45.28 57 P **P** **19 20 38.9 +1.4**
ULN pmax pmax
comp=Z,9.0nm,1.4s
ULN Ulaanbaatar 45.28 57 P **P** **19 20 38.9 +1.4**
TORD Torodi Ar. Bea 45.63 248 P **P** **19 20 39.4 -1.1**
comp=Z,0.3nm,0.4s,baz=39,slow=8.1,SNR=3.4
HHC Hu-ho-hao-te 50.38 65 *e*P **P** **19 21 16.3 -0.7**
HHC pmax pmax
comp=Z,14nm,1.0s
HHC pmax pmax
comp=Z,33nm,5.5s
CMAR Chiang Mai Arr 50.99 97 P **P** **19 21 22.3 +0.6**
comp=Z,1.2nm,0.9s,baz=294,slow=9.0,SNR=5.6
KSRS Korea Array 63.31 62 P **P** **19 22 49.6 +0.9**
comp=Z,1.0nm,0.7s,baz=276,slow=6.4,SNR=3.7

IDC 16 19:12:21.9±2.0, 5.73S×151.51E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.5/34, mbtmp3.7/4, Error ellipse: s-maj=104.4km s-min=28.7km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.87**	**228**	P		P	P	19 17 15.7	-0.8
	0.8nm,0.5s,baz=54,slow=10,SNR=8.3								
ASAR	**Alice Springs**	**24.60**	**222**	P		P	P	19 17 44.5	+0.5
	1.4nm,0.8s,baz=55,slow=8.4,SNR=13								
FITZ	**Fitzroy Crossi**	**28.09**	**242**	P		P	P	19 18 15.2	-0.2
	1.2nm,0.5s,baz=79,slow=9.4,SNR=14								
ILAR	**Eielson Array**	**83.50**	**22**	P		P	P	19 24 50.9	-0.4
	0.4nm,0.8s,baz=243,slow=6.0,SNR=3.5								
TORD	**Torodi Ar. Bea**	**149.35**	**286**	PKPbc		PKPbc	PKPbc	19 32 14.1	+0.2
	0.6nm,0.5s,baz=79,slow=3.1,SNR=4.0								

TAP 16 19:18:26.6, 24.25N×121.82E, h16km, ML2.5, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.19**	**339**	*i* P			Pb	19 18 31.7	0.0
	baz=341								
ENA				*i* S			Sb	19 18 35.6	+0.4
	baz=341								
ETL	**Fush Village**	**0.20**	**243**	P			Pb	19 18 31.7	-0.1
	baz=242								
ETL				S			Sb	19 18 35.8	+0.5
	baz=242								
EWUT	**Wuta**	**0.20**	**350**	*i* P			Pb	19 18 31.8	0.0
	baz=350								
EWUT				*i* S			Sb	19 18 35.5	+0.2
	baz=350								
NACB	**Ninganchiao**	**0.21**	**249**	*i* P			Pb	19 18 31.8	-0.3
	baz=249								
NACB				*i* S			Sb	19 18 36.3	+0.4
	baz=249								
TWD	**Chiawan**	**0.26**	**230**	*i* P			Pb	19 18 32.7	-0.2
	baz=228								
TWD				*i* S			Sb	19 18 37.5	+0.3
	baz=228								
HWA	**Hwalien**	**0.33**	**215**	*e*S			Sb	19 18 39.6	+0.4
	baz=214								
TWC	**Suao**	**0.36**	**5**	*i* P			Pb	19 18 34.5	0.0
	baz=6.0								
TWC				S			Sb	19 18 40.1	+0.1
	baz=6.0								
NDS	**Dongshan**	**0.39**	**347**	*i* P			Pb	19 18 35.3	+0.1
	baz=346								
NDS				S			Sb	19 18 41.3	+0.3
	baz=346								
NNSB	**Datong**	**0.43**	**294**	*i* P			Pb	19 18 36.0	+0.1
	baz=294								
NNSB				S			Sb	19 18 42.6	+0.3
	baz=294								
NNS	**Nan Shan**	**0.45**	**295**	P			Pb	19 18 36.1	0.0
	baz=295								
NNS				S			Sb	19 18 43.0	+0.4
	baz=295								
NDT	**Datong Townshi**	**0.45**	**322**	S			Sb	19 18 43.3	+0.7
	baz=321								
ENTT	**Nioudou**	**0.45**	**330**	*i* P			Pb	19 18 36.3	+0.2
	baz=330								
ENTT				S			Sb	19 18 43.0	+0.4
	baz=330								
TWE	**Neicheng**	**0.49**	**344**	P			Pb	19 18 36.6	-0.1
	baz=345								
TWE				S			Sb	19 18 44.5	+0.8
	baz=345								
WHF	**Hehuan Shan**	**0.51**	**258**	P			Pb	19 18 37.2	-0.2
	baz=257								
WHF				*e*S			Sb	19 18 44.8	0.0
	baz=257								
WHF	**Hehuan Shan**	**0.51**	**258**	P			Pb	19 18 37.3	-0.2
	baz=342								
FUSS	**Fushou**	**0.52**	**270**	S			Sb	19 18 45.2	+0.3
	baz=269								
YHNB	**Yeheng**	**0.58**	**316**	P			Pb	19 18 38.6	+0.2
	baz=316								
YHNB				S			Sb	19 18 47.0	+0.6
	baz=316								
TWT	**Tachien**	**0.58**	**270**	P			Pb	19 18 39.1	+0.6
	baz=269								
TWT				S			Sb	19 18 47.7	+1.0
	baz=269								
TWT	**Tachien**	**0.58**	**270**	P			Pb	19 18 39.2	+0.7
	baz=335								
TWT				*e*S			Sb	19 18 47.7	+1.1
	baz=335								
NSK	**Sanguang**	**0.59**	**316**	P			Pb	19 18 38.7	+0.1
	baz=315								
NSK				*e*S			Sb	19 18 47.2	+0.4
	baz=315								
NWLT	**Wulai**	**0.60**	**332**	S			Sb	19 18 47.4	+0.5
	baz=331								
TDCB	**Techi**	**0.60**	**270**	P			Pb	19 18 39.1	+0.3
	baz=270								
TDCB				S			Sb	19 18 47.1	0.0
	baz=270								
TDCB	**Techi**	**0.60**	**270**	P			Pb	19 18 39.1	+0.4
	baz=334								
TDCB				S			Sb	19 18 47.3	+0.3
	baz=334								
CHGB	**Renai**	**0.61**	**252**	*e*S			Sb	19 18 48.4	+0.8
	baz=252								
OWD	**Renai**	**0.65**	**243**	*e*S			Sb	19 18 49.3	+0.7
	baz=243								
TIPB	**Shuangxi**	**0.72**	**1**	P			Pb	19 18 41.3	+0.5
TIPB				S			Sb	19 18 50.9	+0.5
WHP	**Taichung City**	**0.79**	**272**	*e*S			Sb	19 18 53.6	+1.0
	baz=272								
NWF	**Wu-fen Shan**	**0.82**	**358**	*e*P			Pg	19 18 42.6	+0.1
	baz=357								
NWF				*e*S			Sn	19 18 54.6	-0.8
	baz=357								
LIOB	**Emei**	**0.83**	**299**	*e*P			Pn	19 18 43.3	-0.3
	baz=298								
LIOB				*e*S			Sn	19 18 54.6	-0.9
	baz=298								
NSTT	**Nanjuang**	**0.83**	**297**	*e*P			Pg	19 18 42.9	+0.1
	baz=297								
NSTT				*e*S			Sg	19 18 54.6	+0.8
	baz=297								
SSLB	**Suanglung**	**0.91**	**240**	*e*S			Sg	19 18 56.3	0.0
	baz=239								
YM01	**YM01**	**0.92**	**346**	*e*P			Pg	19 18 44.6	+0.2
	baz=345								
YM01				*e*S			Sn	19 18 57.3	-0.5
	baz=345								

TAP 16 19:18:28.6, 23.77N×121.40E, h24km, ML1.9, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ESL	**Shilin**	**0.05**	**33**	*i* P			Pb	19 18 33.4	+0.5
	baz=41								
ESL				*i* S			Sb	19 18 36.5	+0.9
	baz=41								
EHY	**Hungye**	**0.27**	**196**	*i* P			Pb	19 18 35.5	+0.3
	baz=194								
EHY				S			Sb	19 18 40.5	+0.8
	baz=194								
HWA	**Hwalien**	**0.28**	**42**	P			Pb	19 18 35.9	+0.7
	baz=43								
HWA				*e*S			Sb	19 18 41.2	+1.5
	baz=43								
OWD	**Renai**	**0.28**	**311**	*i* P			Pb	19 18 35.8	+0.4
	baz=311								
OWD				S			Sb	19 18 40.4	+0.5
	baz=311								
HGSD	**Ruisui**	**0.28**	**176**	P			Pb	19 18 35.6	+0.4
	baz=176								
CHGB	**Renai**	**0.36**	**324**	P			Pb	19 18 37.1	+0.5
	baz=323								
CHGB				*e*S			Sb	19 18 43.0	+1.0
	baz=323								
YULB	**Yu-li**	**0.39**	**194**	*i* P			Pb	19 18 37.5	+0.5
	baz=194								
YULB				S			Sb	19 18 43.6	+1.0
	baz=194								
WHF	**Hehuan Shan**	**0.39**	**341**	S			Sb	19 18 44.2	+0.9
	baz=342								
SSLB	**Suanglung**	**0.41**	**272**	P			Pb	19 18 38.0	+0.6
	baz=272								
SSLB				S			Sb	19 18 44.6	+1.3
	baz=272								
SMLT	**Sun Moon Lake**	**0.47**	**284**	P			Pb	19 18 38.9	+0.5
	baz=283								
SMLT				S			Sb	19 18 46.4	+1.3
	baz=283								
YUS	**Yu-Shan**	**0.50**	**236**	*i* P			Pn	19 18 40.0	-0.8
	baz=235								
YUS				S			Sb	19 18 47.6	+1.3
	baz=235								
WHYT	**Xinyi Township**	**0.51**	**262**	*e*S			Sn	19 18 47.6	-0.9
	baz=261								
TYC	**Yuchr**	**0.52**	**285**	P			Pb	19 18 39.5	+0.4
	baz=285								
TYC				*e*S			Sn	19 18 47.5	-1.1
	baz=285								
WCS	**Beigang Elemen**	**0.53**	**302**	P			Pb	19 18 39.9	+0.5
	baz=302								
WCS				S			Sb	19 18 47.4	+0.7
	baz=302								
ALS	**Alishan**	**0.61**	**245**	P			Pn	19 18 41.7	-0.4
	baz=244								
ALS				*e*S			Sb	19 18 50.1	+1.1
	baz=244								
WHP	**Taichung City**	**0.66**	**320**	*e*S			Sn	19 18 51.9	-0.3
	baz=320								
ELDTW	**Lidau**	**0.68**	**212**	P			Pb	19 18 41.8	-0.2
	baz=210								
ELDTW				*e*S			Sn	19 18 52.0	-0.8
	baz=210								
CHN5	**Tsauling**	**0.69**	**256**	P			Pn	19 18 43.4	+0.4
	baz=255								

RSNC 16 19:20:57.1±0.9, 6.82N×73.16W, h145km±3km, ML3.1, Mw3.5, 2C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**186**⇓	*i* P			Pn	19 21 16.7	-0.5
BARC				*e*S			Sn	19 21 31.5	-0.9
BARC				*i*				19 21 34.2	
	comp=Z,247nm,0.4s								
BRRC	**Barranca, Sant**	**0.62**	**298**⇑	*i* P			Pn	19 21 18.6	0.0
BRRC				*e*S			Sn	19 21 35.2	+0.2
BRRC				*i*				19 21 39.1	
	comp=Z,160nm,0.1s								
PAMC	**Pamplona, Colo**	**0.69**	**41**⇑	*e*P			Pn	19 21 19.4	-0.2
PAMC				*e*S			Sn	19 21 36.5	-0.2
PAMC				*i*				19 21 39.1	
	comp=Z,103nm,0.4s								
RUSC	**La Rusia**	**0.92**	**175**	*e*P			Pn	19 21 20.6	-0.8
RUSC				*e*S			Sn	19 21 39.7	0.0
RUSC				*i*				19 21 42.1	
	comp=Z,120nm,0.4s								
PTBC	**PUERTO BERRIO,**	**1.32**	**258**	*e*P			Pn	19 21 23.3	-1.2
PTBC				*e*S			Sn	19 21 44.6	-0.7
PTBC				*i*				19 21 51.8	
	comp=Z,298nm,0.4s								
TAMC	**Tame, Arauca**	**1.41**	**105**	*e*P			Pn	19 21 24.9	-0.5
TAMC				*e*S			Sn	19 21 46.3	-0.7
TAMC				*i*				19 21 47.1	
	comp=Z,80nm,0.3s								
OCAC	**Ocana**	**1.42**	**354**	*e*P			Pn	19 21 25.5	-0.2
OCAC				*e*S			Sn	19 21 46.6	-1.0
OCAC				*i*				19 21 54.3	
	comp=Z,330nm,0.3s								
SPBC	**San Pablo de B**	**1.47**	**218**	*e*P			Pn	19 21 25.5	-0.6
SPBC				*e*S			Sn	19 21 47.4	-0.8
SPBC				*i*				19 21 51.6	
	comp=Z,168nm,0.4s								
ZARC	**Zaragoza, Cauc**	**1.82**	**292**	*e*P			Pn	19 21 29.4	-0.5
ZARC				*e*S			Sn	19 21 54.7	-0.2
ZARC				*i*				19 22 00.7	
	comp=Z,171nm,0.3s								
NORC	**Norcasia**	**2.11**	**234**	*e*P			Pn	19 21 32.5	-0.8
NORC				*e*S			Sn	19 22 00.5	-0.6
NORC				*i*				19 22 04.3	
	comp=Z,139nm,0.2s								
SMLC	**San Martn de**	**2.17**	**335**	*e*P			Pn	19 21 32.8	-1.2
SMLC				*e*S			Sn	19 22 01.3	-1.1
SMLC				*i*				19 22 12.0	
	comp=Z,140nm,0.1s								
CHIC	**Chingaza**	**2.25**	**195**	*e*P			Pn	19 21 34.6	-0.7
CHIC				*e*S			Sn	19 22 04.1	-0.5
CHIC				*i*				19 22 13.7	
	comp=Z,48nm,0.3s								
ROSC	**El Rosal**	**2.28**	**211**	*e*P			Pn	19 21 35.8	+0.2
ROSC				*e*S			Sn	19 22 05.8	+0.5
ROSC				*i*				19 22 14.1	
	comp=Z,116nm,0.5s								
HELC	**Santa Helena**	**2.44**	**255**	*e*P			Pn	19 21 38.1	+0.5
HELC				*e*S			Sn	19 22 07.9	-0.8
HELC				*i*				19 22 15.6	
	comp=Z,108nm,0.3s								
UREC	**San Jos de Ur**	**2.53**	**292**	*e*P			Pn	19 21 36.6	-1.9
UREC				*e*S			Sn	19 22 06.1	-4.2
UREC				*i*				19 22 20.1	
	comp=Z,100nm,0.2s								
GUY2C	**Guyana, Caldas**	**2.71**	**234**	*e*P			Pn	19 21 40.9	-0.1
GUY2C				*e*S			Sn	19 22 14.8	0.0
GUY2C				*i*				19 22 22.0	
	comp=Z,83nm,0.3s								
LL2C	**La Loma 2 Cana**	**2.74**	**354**	*e*P			Pn	19 21 41.1	+0.2
LL2C				*e*S			Sn	19 22 14.1	-0.7
LL2C				*i*				19 22 19.1	
	comp=Z,157nm,0.5s								
LL1C	**La Loma 1 Cana**	**2.74**	**352**	*e*P			Pn	19 21 43.0	+2.1
VILC	**Villavicencio,**	**2.74**	**191**	*e*P			Pn	19 21 40.5	-0.6
VILC				*e*S			Sn	19 22 15.0	-0.1
VILC				*i*				19 22 30.0	
	comp=Z,76nm,0.4s								
PTGC	**Puerto Gaitan,**	**2.79**	**159**	*e*P			Pn	19 21 39.5	-2.1
PTGC				*e*S			Sn	19 22 12.6	-3.5
PTGC				*i*				19 22 13.5	
	comp=Z,48nm,0.3s								
ARGC	**Ariguani, Magd**	**3.21**	**340**	*e*P			Pn	19 21 46.8	-0.2
ARGC				*e*S			Sn	19 22 25.2	-0.4
ARGC				*i*				19 22 29.0	
	comp=Z,26nm,0.3s								
PRAC	**Prado**	**3.53**	**209**	*e*P			Pn	19 21 50.2	-0.9
PRAC				*e*S			Sn	19 22 32.1	-1.0
PRAC				*i*				19 22 36.6	
	comp=Z,56nm,0.5s								
ORTC	**Ortega, Tolima**	**3.56**	**216**	*e*P			Pn	19 21 51.1	-0.5
ORTC				*e*S			Sn	19 22 32.8	-0.9
ORTC				*i*				19 22 40.5	
	comp=Z,36nm,0.4s								
SJCC	**San Jacinto, C**	**3.66**	**327**	*e*P			Pn	19 21 50.5	-2.4
SJCC				*e*S			Sn	19 22 31.9	-4.1
SJCC				*i*				19 22 36.2	
	comp=Z,24nm,0.4s								
CRJC	**Cerrejon, Guaj**	**4.19**	**4**	*e*P			Pn	19 21 57.6	-2.2
CRJC				*e*S			Sn	19 22 42.3	-6.3
CRJC				*i*				19 22 48.7	
	comp=Z,33nm,0.6s								
SMRC	**Santa Marta, M**	**4.45**	**346**	*e*P			Pn	19 22 01.8	-1.4
SMRC				*e*S			Sn	19 22 49.5	-5.1

BJI ***16*** *19:21:10.0±0.0, 6.22S×152.28E, h32km, mB5.1/42, mb4.7/54, Ms4.8/43, Ms7 4.6/41*
IDC ***16*** *19:21:10.2±0.5, 5.92S×151.53E, h0km, mb4.5/24, mb1 4.6/26, mb1mx4.6/37, mbtmp4.5/26, ML4.1/2, MS4.3/21, Ms1 4.3/21, ms1mx4.2/35, Error ellipse: s-maj=16.9km s-min=12.1km az=96.0*
NEIC ***16*** *19:21:13.3±1.9, 6.07S±0.06×151.50E±0.07, h16km±3km, mb5.1/98, Error ellipse: s-maj=10.3km s-min=9.4km az=81.0*
MOS ***16*** *19:21:13.8±1.5, 6.15S×151.51E, h34km, mb5.0/8, MS4.5/5, Error ellipse: s-maj=10.7km s-min=8.0km az=114.3*
DJA ***16*** *19:21:17.4±0.6, 6.2°S±2.2°×15.1°E±1.1°, h36km±6km, M5.1/37, mb5.1/37, mB5.4/11, MLv5.5/2, Mw(mB)4.9/11, MwMwp4.4/2, Mwp4.8/2*
GCMT ***16*** *19:21:17.3±0.2, 6.20S±0.01×151.56E±0.02, h18km, MW5.2/114, Moment Tensor Solution. s83, c118; s114, c179; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-5.64±.19; Mθθ 3.99±.12; Mϕϕ 1.66±.12; Mrθ-3.58±.30; Mθϕ 2.17±.08; Mϕr-2.47±.33; Best double couple: M=6.98300×10^16 NP1=ϕs241.00000°, δ26.00000°, λ-86.00000°. NP2=ϕs57.00000°, δ64.00000°, λ-92.00000°. Principal axes: T 6.8030, Plg19.0000°, Azm148.0000°; N 0.3700, Plg2.0000°, Azm58.0000°; P -7.1630, Plg71.0000°, Azm323.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 19:21:15.1±0.3, 6.15S±0.04×151.58E±0.05, h35km, n378, σ1§70/356, mb5.0/110, MS4.5/42, 10C-4D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.04**	**17**	Pn			**Pn**	**19 21 46.4**	**-0.5**
RABL	**Rabaul**	**2.04**	**17**	P			**Pn**	**19 21 46.7**	**-0.2**
MANU	**Manus Island**	**5.86**	**314**	Pn			**Pn**	**19 22 38.9**	**-0.6**
HNR	**Honiara**	**8.91**	**112**	Pn			**Pn**	**19 23 22.7**	**+1.2**
	13nm,0.3s,baz=203,slow=9.2,SNR=2.1								
HNR				LR			LR	19 26 41.6	
	comp=Z,2μm,19.5s,baz=274,slow=37								
HNR	**Honiara**	**8.91**	**112**	P			**Pn**	**19 23 22.8**	**+1.4**
HNR	**Honiara**	**8.91**	**112**	Pn			**Pn**	**19 23 22.8**	**+1.4**
COEN	**Coen**	**11.33**	**226**	Pn			**Pn**	**19 23 54.4**	**-0.3**
JAY	**Jayapura**	**11.43**	**288**	Pn			Pn	19 23 58.2	+2.3
	0.4nm,0.3s,baz=79,slow=11,SNR=1.9								
JAY	**Jayapura**	**11.43**	**288**	P			Pn	19 24 09.1	+13
GENI	**Genyem**	**11.91**	**287**	P			Pn	19 24 14.4	+12
MTSU	**Mount Surprise**	**13.86**	**210**	P			**Pn**	**19 24 30.3**	**+1.2**
	baz=14,SNR=9.5								
CTA	**Charters Tower**	**14.79**	**200**	Pn			**P**	**19 24 43.9**	**-3.4**
	0.2nm,0.3s,baz=16,slow=13,SNR=2.4								
CTA				LR			LR	19 29 43.0	
	comp=Z,2μm,21.8s,baz=24,slow=34								
CTAO	**Charters Tower**	**14.79**	**200**	P			**Pn**	**19 24 40.5**	**-1.3**
CTAO	**Charters Tower**	**14.79**	**200**	Pn			**Pn**	**19 24 40.5**	**-1.3**
QIS	**Mount Isa**	**18.44**	**218**	P			**Pn**	**19 25 28.5**	**+0.5**
	baz=18,SNR=17								
EIDS	**Eidsvold**	**19.11**	**181**	P			**Pn**	**19 25 37.6**	**+1.5**
	baz=19,SNR=10.0								
EIDS	**Eidsvold**	**19.11**	**181**	P			**Pn**	**19 25 35.7**	**-0.4**
FAKI	**Fak Fak**	**19.53**	**279**	Pn			**Pn**	**19 25 40.0**	**-1.3**
KDU	**Kakadu**	**19.92**	**250**	P			**Pn**	**19 25 43.8**	**-2.0**
	baz=20,SNR=34								
RMQ	**Roma**	**20.40**	**187**	P			Pn	19 25 52.3	+1.0
	baz=21,SNR=15								
GUMO	**Guam**	**20.71**	**341**	P			**P**	**19 25 49.2**	**-3.4**
	32nm,0.7s,baz=241,slow=11,SNR=1.7								
GUMO				LR			LR	19 34 01.3	
	comp=Z,560nm,18.6s,baz=158,slow=38								
GUMO	**Guam**	**20.71**	**341**	P			Pn	19 25 52.6	-2.5
GUMO				pmax			pmax		
	comp=Z,311nm,1.2s								
GUMO	**Guam**	**20.71**	**341**	P			Pn	19 25 52.6	-2.5
SIJI	**Sorong**	**20.93**	**284**	P			Pn	19 25 53.9	-3.8
	comp=Z,2.0nm,0.3s,baz=248,slow=22,SNR=2.9								
SIJI				LR			LR	19 35 18.8	
	comp=Z,858nm,18.1s,baz=79,slow=41								
SIJI	**Sorong**	**20.93**	**284**	P			Pn	19 26 10.1	+12
SWI	**Sorong**	**20.94**	**284**	P			Pn	19 26 11.2	+13
MTN	**Manton Dam**	**21.22**	**250**	P			**P**	**19 25 57.9**	**-0.2**
	baz=21,SNR=15								
MTN	**Manton Dam**	**21.22**	**250**	P			**P**	**19 25 57.1**	**-1.0**
MTN				IAmb			IAmb	19 26 15.1	
	comp=Z,163nm,1.4s								
DZM	**Mont Dzumac**	**21.37**	**139**	*e*P			**P**	**19 26 02.9**	**+3.1**
	comp=Z,64nm,1.2s								
DZM				*e*S			**S**	**19 29 53.9**	**-1.5**
	comp=Z,570nm,21.8s								
DZM				*e*LR			LR	19 31 08.4	
	comp=Z,4μm,23.6s								
DZM	**Mont Dzumac**	**21.37**	**139**	P			**P**	**19 26 02.4**	**+2.6**
	comp=Z,6.7nm,0.6s,baz=350,slow=16,SNR=7.5								
DZM				LR			LR	19 33 04.7	
	comp=Z,2μm,21.6s,baz=309,slow=33								
DZM	**Mont Dzumac**	**21.37**	**139**	P			**P**	**19 26 00.2**	**+0.5**
QLP	**Quilpie**	**21.49**	**198**	P			**P**	**19 26 03.3**	**+2.5**
	baz=22,SNR=15								
WR0	**Warramunga Arr**	**21.50**	**229**	P			**P**	**19 25 59.6**	**-1.5**
WR0				IAmb			IAmb	19 26 14.2	
	comp=Z,66nm,0.8s								
WRAB	**Tennant Creek**	**21.63**	**229**	*c*eP			**P**	**19 26 02.3**	**-0.1**
WRAB				pmax			pmax		
	comp=Z,67nm,1.3s								
WRAB	**Tennant Creek**	**21.63**	**229**	P			**P**	**19 25 59.7**	**-2.7**
WRAB				IAmb			IAmb	19 26 20.3	
	comp=Z,72nm,0.9s								
WB2	**Warramunga Arr**	**21.63**	**229**	P			**P**	**19 26 01.9**	**-0.6**
WB2				IAmb			IAmb	19 26 20.0	
	comp=Z,58nm,0.8s								
WRA	**Warramunga Arr**	**21.64**	**229**	P			**P**	**19 26 02.9**	**+0.3**
	comp=Z,52nm,1.1s,baz=57,slow=9.8,SNR=63								
WRA				ScP			**ScP**	**19 33 42.8**	**+4.6**
	comp=Z,1.0nm,1.0s,baz=60,slow=2.5,SNR=2.2								
WRA				LR			LR	19 35 49.3	
	comp=Z,1μm,18.7s,baz=35,slow=40								
WRA	**Warramunga Arr**	**21.64**	**229**	P			**P**	**19 26 01.2**	**-1.4**
ANA2	**Anatahan**

SOEI IAmb IAmb 19 27 10.4
comp=Z,51nm,0.8s
SOEI Soe 27.27 261 P **P** **19 26 59.3 +2.6**
comp=Z,1μmcomp=Z,73nm,0.8s
BATI Baumata 27.91 260 P **P** **19 27 03.8 +1.5**
comp=Z,31nm,0.6s,baz=275,slow=1.6,SNR=12
BATI LR LR 19 40 50.2
comp=Z,2μm,18.4s,baz=104,slow=42
BATI Baumata 27.91 260 P **P** **19 27 03.8 +1.5**
comp=Z,48nm,0.8s
FITZ Fitzroy Crossi 27.95 243 P **P** **19 27 02.4 -0.1**
baz=28,SNR=127
FITZ Fitzroy Crossi 27.95 243 P **P** **19 27 02.5 +0.1**
comp=Z,35nm,0.6s,baz=53,slow=8.4,SNR=82
FITZ LR LR 19 38 28.4
comp=Z,385nm,19.1s,baz=68,slow=37
FITZ Fitzroy Crossi 27.95 243 P **P** **19 27 02.2 -0.3**
MSVF Nonsavu 28.30 116 LR LR 19 37 18.2
comp=Z,410nm,18.7s,baz=174,slow=34
WRKA Warakurna 29.15 227 P **P** **19 27 13.3 +0.1**
baz=29,SNR=15
MMRI Maumere 29.19 263 P **P** **19 27 12.7 -0.9**
MMRI Maumere 29.19 263 P **P** **19 27 13.0 -0.6**
comp=Z,852nmcomp=Z,87nm,0.9s
HTT Hallett 29.58 202 P **P** **19 27 17.6 +0.7**
baz=30,SNR=5.1
EDFI Ende, Flores 29.74 263 P **P** **19 27 17.0 -1.6**
comp=Z,426nmcomp=Z,41nm,1.1s
WBSI Waikabubak, Su 32.06 262 P **P** **19 27 40.0 +1.0**
comp=Z,104nm,1.3s
MPSI Mapaga 32.27 280 P P 19 27 43.0 +2.2
comp=Z,8.8nm,1.0s
FORT Forrest 32.98 219 P **P** **19 27 47.0 +0.2**
baz=33,SNR=10
FORT Forrest 32.98 219 P **P** **19 27 46.8 0.0**
FORT IAmb IAmb 19 28 04.2
comp=Z,28nm,0.8s
PLAI Plampang 33.61 263 P **P** **19 27 51.7 -0.8**
comp=Z,602nmcomp=Z,80nm,0.8s
JCJ Chichijima 34.28 345 LR LR 19 40 04.1
comp=Z,414nm,21.4s,baz=170,slow=33
PSA00 Pilbara Seismi 34.30 240 P **P** **19 27 59.0 +0.5**
PSA00 IAmb IAmb 19 28 10.2
comp=Z,37nm,1.1s
PSA00 Pilbara Seismi 34.30 240 P **P** **19 27 58.5 +0.1**
PSA00 IAmb IAmb 19 28 02.3
comp=Z,22nm,1.2s
TWSI Taliwang, Sumb 34.49 264 P P 19 28 03.6 +3.5
comp=Z,18nm,0.8s
SRBI Singaraja 36.13 265 P P 19 28 28.9 +15
BYJI Banyuwangi 36.98 265 P P 19 28 24.9 +3.4
comp=Z,111nm,1.0s
JAGI Jajag, Banyuwa 37.18 264 P **P** **19 28 20.9 -2.4**
JAGI Jajag, Banyuwa 37.18 264 P **P** **19 28 21.6 -1.7**
comp=Z,121nm,1.0s
MEEK Meekatharra 37.42 233 P **P** **19 28 25.7 +0.6**
baz=37,SNR=20
PWJI Pagerwoio 39.50 265 P **P** **19 28 43.1 +0.3**
comp=Z,76nm,1.1s
SJI Sawahan 39.54 265 P **P** **19 28 44.9 +1.7**
comp=Z,32nm,1.0s
GIRL Giralia 39.55 242 P **P** **19 28 43.1 +0.1**
baz=40,SNR=5.0
GIRL Giralia 39.55 242 P **P** **19 28 41.8 -1.2**
JOW Kunigami 39.81 326 P **P** **19 28 45.0 -0.1**
JOW IAmb IAmb 19 28 58.3
comp=Z,70nm,1.3s
PCJI Pacitan 40.12 265 P **P** **19 28 48.7 +0.8**
comp=Z,119nm,1.1s
MORW Morawa 40.55 231 P **P** **19 28 52.1 +0.8**
baz=40,SNR=4.8
MORW Morawa 40.55 231 P **P** **19 28 51.8 +0.4**
MORW IAmb IAmb 19 28 54.8
comp=Z,53nm,1.1s
UGM Wanagama 40.77 265 P **P** **19 28 52.6 -0.7**
MLZ Mavora Lakes 41.63 162 P **P** **19 29 02.0 +2.1**
MLZ IAmb IAmb 19 29 17.7
comp=Z,55nm,1.3s
YULB Yu-li 41.68 316 P **P** **19 28 60.0 -0.7**
YULB IAmb IAmb 19 29 23.6
comp=Z,24nm,0.8s
MUN Mundaring 41.82 228 P **P** **19 29 02.6 +0.8**
baz=42,SNR=6.4
WHZ Wether Hill Ro 42.05 163 P **P** **19 29 02.8 -0.6**
WHZ IAmb IAmb 19 29 12.2
comp=Z,33nm,1.3s
TPUB Ta-pu 42.08 315 P **P** **19 29 03.0 -1.0**
TPUB IAmb IAmb 19 29 19.0
comp=Z,28nm,0.6s
SSLB Suanglung 42.17 316 P **P** **19 29 03.5 -1.2**
SSLB IAmb IAmb 19 29 22.9
comp=Z,49nm,1.4s
KPJI Karang Pucung 42.35 266 P P 19 29 09.4 +3.1
comp=Z,104nm,1.0s
YHNB Yeheng 42.47 317 P **P** **19 29 05.7 -1.5**
CISI Cisompet, Garu 43.46 266 P **P** **19 29 14.3 -1.0**
CISI Cisompet, Garu 43.46 266 P **P** **19 29 15.1 -0.2**
comp=Z,796nmcomp=Z,81nm,0.8s
JNU Nakatsue 43.73 335 P **P** **19 29 15.9 -1.2**
comp=Z,17nm,1.2s,baz=32,slow=5.3,SNR=2.7
CNJI Cibinong 44.14 266 P **P** **19 29 21.8 +1.1**
comp=Z,170nm,1.2s
MJAR Matsushiro Arr 44.28 345 P **P** **19 29 18.5 -3.0**
comp=Z,1.2nm,0.9s,baz=165,slow=10,SNR=1.6
MJAR LR LR 19 46 29.4
comp=Z,354nm,18.9s,baz=175,slow=34
MAT Matsushiro 44.28 345 P P 19 29 24.4 +2.9
MAT S **S** **19 35 53.4 +0.3**
QZH Quanzhou 44.56 315 *eP* **P** **19 29 24.1 +0.2**
QZH S S 19 36 03.6 +6.1
QZH sS sS 19 36 22.8 +11
QZH LR LR
comp=Z,400nm,14.2s
QZH LR LR
comp=Z,250nm,14.7s
QZH LR LR
comp=Z,410nm,15.1s
SSE Sheshan 47.08 324 P **P** **19 29 42.5 -1.1**
SSE S **S** **19 36 33.3 -0.2**
SSE pmax pmax
comp=Z,18nm,0.7s
SSE pmax pmax
comp=Z,81nm,6.3s
SSE LR LR
comp=Z,200nm,17.1s
SSE LR LR
comp=Z,220nm,17.7s
MDSI Maura Dua 47.21 270 P **P** **19 29 46.3 +1.3**
comp=Z,14nm,1.0s
QIZ Qiongzhong 48.13 302 P P 19 29 55.6 +3.6
QIZ S **S** **19 36 52.6 +3.7**
QIZ pmax pmax
comp=Z,23nm,1.3s
QIZ LR LR
comp=Z,430nm,19.0s
QIZ LR LR
comp=Z,510nm,16.5s
QIZ LR LR
comp=Z,580nm,18.8s
KSRS Korea Array 48.67 335 P **P** **19 29 54.8 -1.1**
comp=Z,0.6nm,0.6s,baz=151,slow=8.2,SNR=1.8
NJ2 Nanjing 49.15 323 *eP* **P** **19 29 59.5 -0.1**
NJ2 S **S** **19 37 04.0 +1.2**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,250nm,3.8s
NJ2 LR LR
comp=Z,460nm,16.9s
NJ2 LR LR
comp=Z,250nm,18.6s
NJ2 LR LR
comp=Z,600nm,19.0s
ASAJ Asahikawa 50.69 352 P **P** **19 30 09.6 -1.5**
comp=Z,5.5nm,0.9s,baz=124,slow=15,SNR=1.4
WHN Wuhan 51.01 318 P P 19 30 16.8 +3.0
MNSI Mandailing Nat 52.36 276 P **P** **19 30 25.6 +1.4**
USRK Ussuriysk Ar. 53.15 342 P **P** **19 30 27.7 -1.7**
comp=Z,1.1nm,0.7s,baz=148,slow=6.8,SNR=2.5
YSS Yuzh-Sakhalins 53.45 352 *eP* P 19 30 35.3 +3.7
YSS *e*PPP PPP 19 33 48.3
YSS *e*S **S** **19 38 03.3 +1.6**
YSS *e*SS **SKiKP** **19 41 41.7 -3.6**
YSS pmax pmax
comp=Z,300nm,4.8s
YSS MLR MLR
comp=Z,300nm,21.0s
ENH Enshi 54.20 314 P **P** **19 30 36.6 -0.9**
ENH IAmb IAmb 19 30 43.6
comp=Z,12nm,0.9s
BJI Beijing 56.36 328 P P 19 30 56.8 +4.0
BJI S **S** **19 38 45.8 +4.8**
BJI sS sS 19 38 56.6 -1.1
BJI pmax pmax
comp=Z,4.0nm,0.7s
BJI LR LR
comp=Z,410nm,17.1s
BJI LR LR
comp=Z,280nm,17.3s
BJI LR LR
comp=Z,660nm,17.5s
SKR Severo-Kuril's 56.74 3 *e*P P 19 31 06.1 +11
SKR *e*PPP PPP 19 34 16.5
SKR *e*S S 19 39 07.9 +22
SKR pmax pmax
comp=Z,100nm,7.7s
KMI Kunming 56.75 305 ⇑P P 19 31 01.0 +4.8
KMI pP sP 19 31 10.1 +1.1
KMI sP pwP 19 31 16.8 +5.6
KMI S **S** **19 38 52.1 +4.9**
KMI sS sS 19 39 09.0 +5.4
KMI SS **SS** **19 42 41.6 +5.9**
KMI pmax pmax
comp=Z,6.0nm,0.7s
KMI LR LR
comp=Z,260nm,17.9s
KMI LR LR
comp=Z,240nm,19.8s
KMI LR LR
comp=Z,280nm,21.8s
XAN Xi'an 56.78 318 P **P** **19 30 55.3 -0.7**
XAN PP **PP** **19 33 06.8 +4.2**
XAN S **S** **19 38 47.3 +0.4**
XAN ScS **ScS** **19 40 35.3 -7.6**
XAN SS SS 19 42 44.3 +8.8
XAN pmax pmax
comp=Z,9.0nm,0.7s
XAN pmax pmax
comp=Z,160nm,7.2s
XAN LR LR
comp=Z,330nm,16.3s
XAN LR LR
comp=Z,340nm,14.7s
XAN LR LR
comp=Z,510nm,17.7s
CMAR Chiang Mai Arr 57.36 296 P **P** **19 30 59.8 -0.6**
comp=Z,1.2nm,0.7s,baz=118,slow=5.2,SNR=12
CMAR LR LR 19 54 59.9
comp=Z,136nm,19.4s,baz=152,slow=36
CMAR Chiang Mai Arr 57.36 296 *ceP* **P** **19 31 00.5 +0.1**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
KLR Kul'dur 57.81 345 ⇑*e*P **P** **19 31 02.7 -0.2**
KLR pmax pmax
comp=Z,5.0nm,0.9s
PPT Papeete 58.49 107 LR LR 19 51 33.5
comp=Z,77nm,21.6s,baz=226,slow=31
PPT2 Papeete2 58.49 107 *e*S **S** **19 39 12.0 +2.0**
comp=Z,166nm,26.2s
PPT2 *e*LQ LQ 19 45 52.9
comp=Z,677nm,25.5s
PPT2 *e*LR LR 19 48 22.4
comp=Z,155nm,23.8s
CD2 Chengdu 58.71 312 P **P** **19 31 11.3 +1.7**
CD2 S **S** **19 39 13.3 +1.0**
CD2 SS **SS** **19 43 08.5 +2.5**
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 pmax pmax
comp=Z,150nm,4.1s
CD2 LR LR
comp=Z,370nm,15.5s
CD2 LR LR
comp=Z,470nm,15.9s
CD2 LR LR
comp=Z,520nm,18.6s
TBI Tubuai 59.13 113 *e*S **S** **19 39 18.0 +0.1**
comp=Z,113nm,27.5s
TBI *e*LQ LQ 19 46 15.2
comp=Z,555nm,33.0s
TBI *e*LR LR 19 48 38.0
comp=Z,654nm,35.0s
PET Petropavlovsk 59.26 5 *e*P P 19 31 17.3 +4.4
PET *e* 19 33 33.9
PET *e*S **S** **19 39 23.6 +5.2**
PET MLR MLR
comp=Z,300nm,17.0s
PETK Petropavlovsk- 59.27 4 P **P** **19 31 11.9 -1.1**
comp=Z,1.0nm,0.5s,baz=169,slow=7.3,SNR=8.7
PETK LR LR 19 58 31.3
comp=Z,140nm,18.0s,baz=182,slow=38
HHC Hu-ho-hao-te 59.45 326 *e*P P 19 31 17.4 +2.8
HHC S S 19 39 27.8 +6.1
HHC pmax pmax
comp=Z,19nm,1.1s
HHC pmax pmax
comp=Z,130nm,5.8s
HHC LR LR
comp=Z,260nm,14.8s
HHC LR LR
comp=Z,280nm,14.3s
HHC LR LR
comp=Z,370nm,13.8s
LZH Lanzhou 61.36 317 *e*P P 19 31 31.6 +3.7
LZH pP sP 19 31 41.8 +1.0
LZH sP pwP 19 31 46.6 +3.6
LZH S **S** **19 39 49.8 +3.3**
LZH sS sS 19 40 05.8 +3.6
LZH SS **SS** **19 43 54.3 +6.6**
LZH pmax pmax
comp=Z,24nm,1.0s
LZH pmax pmax
comp=Z,130nm,4.6s
LZH LR LR
comp=Z,210nm,16.3s
LZH LR LR
comp=Z,250nm,19.5s
LZH LR LR
comp=Z,200nm,16.3s
ZEA Zeya 63.09 344 *e*P **P** **19 31 37.7 -1.2**
ZEA *e* 19 32 19.0
ZEA *e*S **S** **19 40 06.7 -0.5**
ZEA *e* 19 40 38.2
MA2 Magadan 65.52 360 P **P** **19 31 53.5 -1.2**
comp=Z,2.2nm,0.6s,baz=139,slow=19,SNR=1.8
GTA Gaotai 65.83 318 ⇑P **P** **19 31 57.8 +0.5**
GTA pP sP 19 32 06.4 -3.9
GTA sP pwP 19 32 09.6 -2.8
GTA pmax pmax
comp=Z,3.0nm,2.0s
GTA pmax pmax
comp=Z,89nm,7.5s
GTA LR LR
comp=Z,180nm,21.4s
GTA LR LR
comp=Z,190nm,18.9s
GTA LR LR
comp=Z,200nm,21.8s
SHL Shillong 65.95 301 P **P** **19 31 56.9 -1.5**
SHL pmax pmax
comp=Z,11nm,0.8s
SHL Shillong 65.95 301 P **P** **19 31 56.9 -1.5**
SHL IAmb IAmb 19 32 10.5
comp=Z,11nm,0.8s
ULN Ulaanbaatar 66.51 329 *d* P **P** **19 32 02.0 +0.5**
ULN pmax pmax
comp=Z,10.0nm,1.7s
ULN Ulaanbaatar 66.51 329 P P 19 32 04.1 +2.6
comp=Z,16nm,1.1s
SONM Songino Array 66.83 329 P **P** **19 32 03.0 -0.5**
comp=Z,1.6nm,0.6s,baz=142,slow=4.6,SNR=13
SONM LR LR 20 00 29.1
comp=Z,365nm,20.7s,baz=127,slow=35
SONM Songino Array 66.83 329 P **P** **19 32 02.7 -0.8**
SONM pmax pmax
comp=Z,13nm,1.4s
SONM Songino Array 66.83 329 P **P** **19 32 02.7 -0.8**
SONM IAmb IAmb 19 32 06.2
comp=Z,13nm,1.4s
ZAK Zakamensk 70.02 329 *eP* **P** **19 32 20.3 -3.1**
ZAK pmax pmax
comp=Z,12nm,1.4s
YAK Yakutsk 70.06 349 *eP* P 19 32 26.9 +3.7
YAK pmax pmax
comp=Z,7.0nm,0.6s
YAK Yakutsk 70.06 349 P **P** **19 32 22.0 -1.2**
YAK IAmb IAmb 19 32 30.2
comp=Z,8.5nm,0.6s
TAPN Taplejung 70.07 302 *eP* **P** **19 32 23.9 -0.5**
ODAN Odare 70.19 301 *eP* **P** **19 32 24.4 -0.7**
comp=Z,10nm,0.5s
VNDA Vanda 71.53 178 P **P** **19 32 33.6 +1.6**
comp=Z,2.1nm,0.8s,baz=323,slow=8.0,SNR=9.3
VNDA LR LR 19 59 58.6
comp=Z,84nm,21.2s,baz=346,slow=32
VNDA Vanda 71.53 178 P **P** **19 32 32.2 +0.2**
VNDA pmax pmax
comp=Z,11nm,1.4s
VNDA Vanda 71.53 178 P **P** **19 32 32.2 +0.2**
PKI Pulchoki 72.08 301 *eP* **P** **19 32 35.4 -1.3**
PKIN Phulchoki 72.10 301 *eP* **P** **19 32 36.1 -0.6**
KKN Kakani 72.26 302 *eP* **P** **19 32 36.6 -1.0**
DMN Daman 72.35 301 *eP* **P** **19 32 37.5 -0.7**
comp=Z,19nm,0.8s
PYUN Piuthan 74.29 301 *eP* **P** **19 32 48.3 -1.2**
comp=Z,22nm,0.7s
BILL Bilibino 74.75 6⇑*e*P P 19 32 56.7 +5.6
BILL *e*PPP PPP 19 37 19.6
BILL *i* S **S** **19 42 18.7 -6.0**
BILL pmax pmax
comp=Z,53nm,2.8s
BILL MLR MLR
comp=Z,272nm,19.0s
WMQ Urumqi 75.92 318 *eP* **P** **19 33 00.0 +1.6**
OHAK Old Harbor 77.30 27 P **P** **19 33 06.4 +0.6**
OHAK IAmb IAmb 19 33 23.4
comp=Z,22nm,1.2s
Q19K Cape Douglas, 78.09 26 P **P** **19 33 10.8 +0.5**
N18K Kilae Creek 78.17 24 P P 19 33 15.2 +4.5
baz=234
DGZ Jazzator, Alta 78.43 323⇑*eP* **P** **19 33 13.8 +1.3**
DGZ pmax pmax
comp=Z,5.0nm,1.0s
SVW2 Sparrevohn 78.54 23 P **P** **19 33 12.2 -0.5**
SVW2 IAmb IAmb 19 33 17.7
comp=Z,24nm,1.2s
P19K Oil Pt 78.67 25 P **P** **19 33 12.6 -0.8**
N19K Bonanza Creek 78.81 24 P **P** **19 33 14.8 +0.5**
N19K IAmb IAmb 19 33 18.5
comp=Z,20nm,1.4s
N19K Bonanza Creek 78.81 24 P P 19 33 17.5 +3.2
baz=235
ZSN Zaisan 79.13 321 *eP* **P** **19 33 17.5 +1.2**
baz=321
ZSN Zaisan 79.13 321 *eP* **P** **19 33 17.4 +1.2**
CNPM China Poot 79.46 26 P **P** **19 33 18.3 +0.6**
L19K White Mountain 79.46 23 P **P** **19 33 18.3 +0.6**
L19K IAmb IAmb 19 33 22.4
comp=Z,14nm,0.9s
L19K White Mountain 79.46 23 P **P** **19 33 19.8 +2.1**
baz=234
M19K Big River Lodg 79.47 23 P **P** **19 33 19.2 +1.5**
L20K Farewell, AK 80.00 23 P **P** **19 33 22.6 +2.0**
baz=235
K20K Telida 80.43 22 P **P** **19 33 24.6 +1.7**
K20K Telida 80.43 22 P **P** **19 33 25.1 +2.2**
baz=235
MK31 Makanchi Array 80.55 319‖*eP* **P** **19 33 25.1 +1.2**
MK31 Makanchi Array 80.55 319 P **P** **19 33 24.4 +0.5**
MKAR Makanchi Array 80.55 319 P **P** **19 33 23.3 -0.6**
comp=Z,1.0nm,0.7s,baz=101,slow=7.3,SNR=10
MKAR PP **PP** **19 36 26.2 -1.6**
comp=Z,0.4nm,0.8s,baz=96,slow=8.8,SNR=1.8
MKAR Makanchi Array 80.55 319*ceP* **P** **19 33 25.2 +1.3**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 80.55 319 P **P** **19 33 22.9 -1.0**
SUA Susitna One 80.68 24 P **P** **19 33 26.8 +2.4**
baz=238
MAKZ Makanchi 80.75 319 P **P** **19 33 24.1 -0.9**
MAKZ pmax pmax
comp=Z,4.0nm,0.9s
MAKZ Makanchi 80.75 319 P **P** **19 33 24.1 -0.9**
J20K Nowinta River 80.88 21 P **P** **19 33 26.2 +1.0**
J20K IAmb IAmb 19 33 30.0
comp=Z,17nm,1.0s
J20K Nowinta River 80.88 21 P **P** **19 33 27.5 +2.2**
baz=235
RC01 Rabbit Creek A 80.91 25 P **P** **19 33 25.9 +0.4**
RC01 IAmb IAmb 19 33 30.0
comp=Z,31nm,1.2s
CAST Castle Rocks 81.21 22 P **P** **19 33 27.5 +0.4**
CAST Castle Rocks 81.21 22 P **P** **19 33 28.0 +0.9**
baz=237
SHLS Shalkode 81.32 315 *eP* **P** **19 33 26.9 -1.4**
baz=315
SHLS Shalkode 81.32 315 *eP* **P** **19 33 26.9 -1.4**
CHUM Lake Minchumin 81.38 22 P **P** **19 33 29.1 +1.2**
baz=237
PWL Port Wells 81.38 25 P **P** **19 33 28.3 +0.2**
PWL IAmb IAmb 19 33 32.1
comp=Z,23nm,0.8s
ZAA0 Zalesovo Array 81.60 327 P **P** **19 33 28.0 -1.3**
ZALV Zalesovo Beam 81.60 327 P **P** **19 33 27.7 -1.6**
comp=Z,1.2nm,0.5s,baz=113,slow=5.6,SNR=4.9
ZALV LR LR 20 12 39.4
comp=Z,178nm,18.0s,baz=162,slow=38
KNK Knik Glacier 81.61 25 P **P** **19 33 29.3 +0.1**
KNK IAmb IAmb 19 33 35.0
comp=Z,15nm,1.1s
UZB Uzynbulak 81.63 315 *eP* **P** **19 33 30.0 +0.1**
baz=315
UZB Uzynbulak 81.63 315 *eP* **P** **19 33 30.0 +0.1**
SML Sawmill 81.85 25 P **P** **19 33 32.4 +1.9**
baz=241
BPAW Bear Paw Mtn. 81.99 22 P **P** **19 33 30.8 -0.4**
BPAW Bear Paw Mtn. 81.99 22 P **P** **19 33 33.3 +2.1**
baz=238
SATY Saty 82.03 315 *eP* P 19 33 34.9 +2.9
baz=315
SATY Saty 82.03 315 *eP* P 19 33 34.9 +2.8
IMAR Indian Mountai 82.06 20 P **P** **19 33 32.4 +0.9**
H21K Melozitna Rive 82.19 20 P **P** **19 33 33.4 +1.1**
H21K Melozitna Rive 82.19 20 P **P** **19 33 34.0 +1.8**
baz=236
I21K Tanana 82.22 21 P **P** **19 33 34.0 +1.7**
I21K IAmb IAmb 19 33 36.8
comp=Z,10nm,1.0s
I21K Tanana 82.22 21 P **P** **19 33 34.7 +2.4**
baz=237
RND Reindeer 82.44 23 P **P** **19 33 33.3 -0.4**
RND pmax pmax
comp=Z,14nm,0.9s
RND Reindeer 82.44 23 P **P** **19 33 33.3 -0.4**
RND IAmb IAmb 19 33 36.8
comp=Z,14nm,0.9s
WAT6 Susitna Watana 82.47 24 P **P** **19 33 34.9 +1.0**
baz=241
MCK McKinley 82.57 23 P **P** **19 33 33.9 -0.4**
MCK pmax pmax
comp=Z,38nm,1.3s
MCK McKinley 82.57 23 P **P** **19 33 33.9 -0.4**
MLY Manley 82.58 21 P **P** **19 33 34.3 0.0**
MLY IAmb IAmb 19 33 38.1
comp=Z,12nm,0.6s
MLY Manley 82.58 21 P **P** **19 33 35.2 +0.9**
baz=238
BWN Browne 82.60 22 P **P** **19 33 35.7 +1.3**
KLU Klutina 82.71 25 P **P** **19 33 36.5 +1.4**
KLU IAmb IAmb 19 33 50.2
comp=Z,23nm,1.3s
DHY Denali Highway 82.86 24 P **P** **19 33 36.0 +0.1**
KSH Kashi 82.89 311 P **P** **19 33 38.3 +1.7**
KSH sP pwP 19 33 49.5 -4.8
KSH pmax pmax
comp=Z,4.0nm,0.6s
KSH pmax pmax
comp=Z,220nm,5.9s
KSH LR LR
comp=Z,370nm,14.9s
KSH LR LR
comp=Z,240nm,14.0s
KSH LR LR
comp=Z,290nm,17.1s
M24K Tolsona, Glenn 82.89 25 P **P** **19 33 38.1 +2.1**
baz=242
NEA2 Nenana 82.96 22 P **P** **19 33 35.6 -0.6**

NEA2					IAmb	IAmb	19 33 39.2		
	comp=Z,9.6nm,0.8s								
NEA2	**Nenana**	**82.96**	**22**	P	**P**	**P**	**19 33 36.9**	**+0.6**	
	baz=240								
MDOK	**Medeo**	**83.02**	**315**	*e*P	**P**	**P**	**19 33 36.5**	**-0.7**	
	baz=315								
MDOK	**Medeo**	**83.02**	**315**	*e*P	**P**		**19 33 36.5**	**-0.7**	
BMRM	**Bremner River**	**83.05**	**26**	P	**P**		**19 33 38.1**	**+1.2**	
I23K	**Minto, Yukon-K**	**83.14**	**21**	P	**P**		**19 33 37.7**	**+0.6**	
I23K	**Minto, Yukon-K**	**83.14**	**21**	P	**P**		**19 33 38.1**	**+1.0**	
	baz=239								
WRH	**Wood River Hil**	**83.27**	**22**	P	**P**		**19 33 38.0**	**+0.2**	
WRH					IAmb	IAmb	19 33 40.8		
	comp=Z,10nm,0.9s								
N25K	**Chitina, Valde**	**83.33**	**26**	P	**P**		**19 33 39.3**	**+1.0**	
N25K					IAmb	IAmb	19 33 42.9		
	comp=Z,21nm,1.3s								
H23K	**Yukon River**	**83.42**	**21**	P	**P**		**19 33 39.2**	**+0.6**	
H23K					IAmb	IAmb	19 33 43.7		
	comp=Z,14nm,1.3s								
H23K	**Yukon River**	**83.42**	**21**	P	**P**		**19 33 39.9**	**+1.3**	
	baz=239								
HARP	**HAARP**	**83.45**	**25**	P	**P**		**19 33 40.8**	**+2.0**	
	baz=243								
MTBS	**Maitube**	**83.45**	**315**	*e*P	**P**		**19 33 39.5**	**+0.1**	
	baz=315								
MDM	**Murphy Dome**	**83.45**	**22**	P	**P**		**19 33 38.7**	**-0.1**	
MDM					IAmb	IAmb	19 33 42.5		
	comp=Z,15nm,1.4s								
CCB	**Clear Creek Bu**	**83.46**	**22**	P	**P**		**19 33 37.8**	**-0.9**	
CCB					IAmb	IAmb	19 33 41.5		
	comp=Z,9.5nm,0.8s								
TCOL	**CIGO, UAF Yank**	**83.55**	**22**	P	**P**		**19 33 38.8**	**-0.5**	
TCOL	**CIGO, UAF Yank**	**83.55**	**22**	P	**P**		**19 33 40.2**	**+1.0**	
	baz=241								
GLB	**Gilahina Butte**	**83.60**	**26**	P	**P**		**19 33 39.3**	**-0.4**	
GLB					IAmb	IAmb	19 33 43.8		
	comp=Z,18nm,1.1s								
VRDI	**Verde Repeater**	**83.67**	**26**	P	**P**		**19 33 41.2**	**+1.0**	
HDA	**Harding Lake**	**83.67**	**23**	P	**P**		**19 33 40.5**	**+0.6**	
HDA					IAmb	IAmb	19 33 43.6		
	comp=Z,6.2nm,0.6s								
HDA	**Harding Lake**	**83.67**	**23**	P	**P**		**19 33 40.3**	**+0.5**	
	baz=242								
KUU	**Kurty**	**83.71**	**315**	*e*P	**P**		**19 33 39.2**	**-1.4**	
	baz=315								
KUU	**Kurty**	**83.71**	**315**	*e*P	**P**		**19 33 39.1**	**-1.4**	
NIL	**Nilore**	**83.73**	**305**	P	**P**		**19 33 38.7**	**-2.3**	
NIL					pmax	pmax			
	comp=Z,14nm,0.7s								
NIL	**Nilore**	**83.73**	**305**	P	**P**		**19 33 38.7**	**-2.3**	
QSPA	**South Pole Qui**	**83.81**	**180**	P	**P**		**19 33 42.4**	**+1.5**	
MAW	**Mawson**	**83.86**	**203**	P	**P**		**19 33 42.8**	**+2.0**	
	baz=84,SNR=6.1								
MAW	**Mawson**	**83.86**	**203**	P	**P**		**19 33 42.0**	**+1.2**	
	comp=Z,3.3nm,0.7s,baz=107,slow=9.2,SNR=11								
MAW					LR	LR	20 07 46.9		
	comp=Z,279nm,22.0s,baz=64,slow=33								
MAW	**Mawson**	**83.86**	**203**	P	**P**		**19 33 41.8**	**+1.0**	
MAW					pmax	pmax			
	comp=Z,2.0nm,1.0s								
MAW	**Mawson**	**83.86**	**203**	P	**P**		**19 33 41.8**	**+1.0**	
IL31		**83.86**	**22**	P	**P**		**19 33 40.9**	**0.0**	
IL31					IAmb	IAmb	19 33 43.4		
	comp=Z,10nm,0.7s								
ILAR	**Eielson Array**	**83.86**	**22**	P	**P**		**19 33 40.0**	**-0.9**	
	comp=Z,7.3nm,0.7s,baz=248,slow=5.5,SNR=24								
ILAR					LR	LR	20 07 00.5		
	comp=Z,223nm,21.0s,baz=272,slow=33								
ILAR	**Eielson Array**	**83.86**	**22**	P	**P**		**19 33 40.9**	**0.0**	
ILAR	**Eielson Array**	**83.86**	**22**	P	**P**		**19 33 40.9**	**0.0**	
COLD	**Coldfoot**	**83.93**	**19**	P	**P**		**19 33 42.4**	**+1.3**	
COLD					IAmb	IAmb	19 33 48.5		
	comp=Z,9.0nm,1.2s								
COLD	**Coldfoot**	**83.93**	**19**	P	**P**		**19 33 43.2**	**+2.0**	
	baz=238								
H24K	**Noodor Dome**	**84.02**	**21**	P	**P**		**19 33 42.0**	**+0.3**	
H24K	**Noodor Dome**	**84.02**	**21**	P	**P**		**19 33 43.5**	**+1.8**	
	baz=241								
RIDG	**Independent Ri**	**84.18**	**24**	P	**P**		**19 33 43.9**	**+1.3**	
	baz=244								
J25K	**Salcha River,**	**84.37**	**23**	P	**P**		**19 33 44.2**	**+0.7**	
	baz=243								
BARN	**Barnard Glacie**	**84.39**	**27**	P	**P**		**19 33 45.2**	**+1.3**	
BARN					IAmb	IAmb	19 33 48.5		
	comp=Z,12nm,0.7s								
DOT	**Dot Lake**	**84.45**	**24**	P	**P**		**19 33 44.8**	**+0.9**	
DOT					IAmb	IAmb	19 33 47.9		
	comp=Z,12nm,0.8s								
L26K	**Log Cabin Wild**	**84.47**	**25**	P	**P**		**19 33 45.5**	**+1.5**	
L26K					IAmb	IAmb	19 33 48.3		
	comp=Z,6.7nm,0.6s								
L26K	**Log Cabin Wild**	**84.47**	**25**	P	**P**		**19 33 45.9**	**+1.9**	
	baz=245								
SCRK	**Sand Creek**	**84.62**	**24**	P	**P**		**19 33 46.0**	**+1.1**	
	baz=244								
AAK	**Ala-Archa**	**84.71**	**314**	*ce*P	**P**		**19 33 46.8**	**+0.9**	
AAK					pmax	pmax			
	comp=Z,24nm,1.7s								
AAK	**Ala-Archa**	**84.71**	**314**	P	**P**		**19 33 45.8**	**-0.1**	
SGDS	**Sogindy**	**84.80**	**315**	*e*P	**P**		**19 33 44.4**	**-1.8**	
	baz=315								
M27K	**Edge Creek, AK**	**84.81**	**25**	P	**P**		**19 33 47.0**	**+1.0**	
M27K	**Edge Creek, AK**	**84.81**	**25**	P	**P**		**19 33 48.4**	**+2.5**	
	baz=246								
TOLK	**Toolik Lake Re**	**84.88**	**18**	P	P		19 33 50.0	+4.0	
	baz=239								
L27K	**Beaver Creek,**	**85.12**	**25**	P	**P**		**19 33 48.9**	**+1.6**	
L27K					IAmb	IAmb	19 33 51.9		
	comp=Z,7.3nm,0.8s								
L27K	**Beaver Creek,**	**85.12**	**25**	P	**P**		**19 33 49.4**	**+2.1**	
	baz=246								
BCAR	**Beaver Creek A**	**85.14**	**25**	P	**P**		**19 33 48.1**	**+0.7**	
YUK3	**Moose Creek**	**85.20**	**26**	P	**P**		**19 33 50.3**	**+2.3**	
	baz=248								
K27K	**Chicken**	**85.41**	**24**	P	**P**		**19 33 51.2**	**+2.5**	
	baz=246								
BTLS	**Baital**	**85.58**	**316**	*e*P	**P**		**19 33 48.8**	**-1.1**	
	baz=316								
BTLS	**Baital**	**85.58**	**316**	*e*P	**P**		**19 33 48.8**	**-1.1**	
YUK4	**Talbot Arm**	**85.85**	**27**	P	P		19 33 54.1	+2.9	
	baz=250								
BMAR	**Burnt Mountain**	**85.93**	**20**	P	**P**		**19 33 52.9**	**+1.6**	
EGAK	**Eagle**	**86.08**	**23**	P	**P**		**19 33 54.0**	**+2.1**	
	baz=247								
HYT	**Haines Junctio**	**86.19**	**28**	P	**P**		**19 33 54.3**	**+1.5**	
HYT	**Haines Junctio**	**86.19**	**28**	P	P		19 33 55.7	+2.9	
	baz=250								
DAWY	**Dawson**	**86.51**	**24**	P	**P**		**19 33 56.4**	**+2.2**	
	baz=249								
SKAG	**Skagway**	**86.78**	**29**	P	**P**		**19 33 55.4**	**-0.1**	
SKAG	**Skagway**	**86.78**	**29**	P	P		19 33 58.5	+3.0	
	baz=252								
WHY	**Whitehorse**	**87.36**	**28**	P	**P**		**19 33 58.3**	**-0.2**	
WHY					IAmb	IAmb	19 34 03.3		
	comp=Z,12nm,0.8s								
WHY	**Whitehorse**	**87.36**	**28**	P	**P**		**19 34 00.8**	**+2.3**	
	baz=253								
KK31	**Karatay Array**	**87.67**	**314**	P	**P**		**19 33 58.1**	**-2.2**	
KK31					pmax	pmax			
	comp=Z,4.0nm,0.9s								
KK31	**Karatay Array**	**87.67**	**314**	P	**P**		**19 33 58.1**	**-2.2**	
KKAR	**Karatay Array**	**87.67**	**314**	P	**P**		**19 33 58.2**	**-2.1**	
KKAR					pmax	pmax			
	comp=Z,4.0nm,0.9s								
KKAR	**Karatay Array**	**87.67**	**314**	P	**P**		**19 33 58.6**	**-1.7**	
KKAR	**Karatay Array**	**87.67**	**314**	P	**P**		**19 33 58.2**	**-2.1**	
KKAR					IAmb	IAmb	19 34 20.6		
	comp=Z,4.0nm,0.9s								
IUG	**Iuzhnay**	**87.85**	**313**	*e*P	**P**		**19 34 02.7**	**+1.4**	
	baz=313								
IUG	**Iuzhnay**	**87.85**	**313**	*e*P	**P**		**19 34 02.6**	**+1.4**	
EPYK	**Eagle Plains**	**88.38**	**23**	P	**P**		**19 34 02.9**	**-0.2**	
EPYK	**Eagle Plains**	**88.38**	**23**	P	**P**		**19 34 05.0**	**+1.9**	
	baz=251								
FARO	**Faro, Yukon**	**88.52**	**27**	P	**P**		**19 34 05.9**	**+2.1**	
	baz=254								
DLBC	**Dease Lake**	**89.16**	**31**	P	**P**		**19 34 06.1**	**-1.0**	
DLBC					IAmb	IAmb	19 34 12.4		
	comp=Z,12nm,1.3s								
MMPY	**Sheldon Lake,**	**89.56**	**27**	P	**P**		**19 34 10.9**	**+2.2**	
	baz=256								
INK	**Inuvik**	**90.15**	**21**	P	**P**		**19 34 11.6**	**+0.4**	
	comp=Z,10.0nm,1.0s,baz=204,slow=5.2,SNR=6.4								
INK	**Inuvik**	**90.15**	**21**	P	**P**		**19 34 10.9**	**-0.4**	
INK					pmax	pmax			
	comp=Z,22nm,1.3s								
INK	**Inuvik**	**90.15**	**21**	P	**P**		**19 34 10.9**	**-0.4**	
INK					IAmb	IAmb	19 34 14.8		
	comp=Z,22nm,1.3s								
SYO	**Syowa Base**	**91.99**	**200**	*e*P	**P**		**19 34 21.1**	**+1.2**	
NVAR	**Mina Array Bea**	**93.87**	**52**	P	**P**		**19 34 29.5**	**-0.1**	
	comp=Z,2.5nm,0.8s,baz=253,slow=6.2,SNR=14								
NVAR					PP	**PP**	**19 38 14.4**	**-1.2**	
	comp=Z,0.7nm,0.8s,baz=289,slow=6.6,SNR=2.4								
NVAR	**Mina Array Bea**	**93.87**	**52**	P	**P**		**19 34 29.9**	**+0.3**	
G08A	**Pilot Rock**	**93.95**	**45**	P	**P**		**19 34 28.8**	**-0.8**	
G08A					IAmb	IAmb	19 34 53.8		
	comp=Z,8.3nm,1.3s								
NV11	**Mina Array Sit**	**93.99**	**52**	P	**P**		**19 34 32.1**	**+2.1**	
KVN	**Kaiserville**	**94.08**	**51**	P	**P**		**19 34 31.3**	**+0.8**	
KVN					pmax	pmax			
	comp=Z,4.0nm,1.1s								
KVN	**Kaiserville**	**94.08**	**51**	P	**P**		**19 34 31.3**	**+0.8**	
ARU	**Arti**	**96.75**	**326**	LR	LR		20 18 10.5		
	comp=Z,183nm,19.9s,baz=100,slow=35								
SPR3	**Spring Creek 3**	**97.01**	**52**	P	Pdif		19 34 43.1	-1.0	
SPR3					IAmb	IAmb	19 35 08.8		
	comp=Z,3.5nm,0.9s								
PDAR	**Pinedale Array**	**100.66**	**48**	P	**Pdif**		**19 35 00.4**	**+0.3**	
	comp=Z,0.3nm,0.4s,baz=256,slow=3.6,SNR=2.0								
KIRV	**Kirov**	**101.56**	**328**	*d* iP	**Pdif**		**19 35 04.0**	**+0.6**	
TXAR	**Lajitas Array**	**105.85**	**61**	PKKPab	PKKPab		19 51 16.4	+0.8	
	comp=Z,0.2nm,0.6s,baz=108,slow=8.3,SNR=3.5								
AKASG	**Malin Array Be**	**114.87**	**324**	PKIKP	PKPdf		19 39 51.9	-0.3	
	comp=Z,0.5nm,0.4s,baz=72,slow=2.2,SNR=1.3								
AKASG	**Malin Array Be**	**114.87**	**324**	*c* iPKIKP	PKPdf		19 39 53.7	+1.5	
BRTR	**Keskin Array B**	**115.28**	**311**	PKP	**PKPdf**		**19 39 54.5**	**+0.9**	
	comp=Z,0.6nm,0.4s,baz=124,slow=1.9,SNR=2.0								
NOA	**NORSAR Array B**	**117.75**	**339**	PKP	**PKiKP**		**19 39 57.6**	**0.0**	
	comp=Z,0.8nm,0.9s,baz=45,slow=2.1,SNR=4.0								
CRVS	**Cervenica-Dubn**	**120.18**	**324**	*e*PKIKP	**PKiKP**		**19 40 02.7**	**+0.1**	
CRVS	**Cervenica-Dubn**	**120.18**	**324**	*e*PKP	**PKiKP**		**19 40 02.7**	**+0.1**	
LANS	**Liptovska Anna**	**121.20**	**325**	*e*PKIKP	**PKiKP**		**19 40 06.8**	**+2.2**	
LANS	**Liptovska Anna**	**121.20**	**325**	*e*PKP	**PKiKP**		**19 40 06.8**	**+2.2**	
VTS	**Vitosha**	**121.81**	**317**	PKIKP	**PKiKP**		**19 40 05.4**	**-0.8**	
VTS	**Vitosha**	**121.81**	**317**	PKPdf	**PKiKP**		**19 40 05.4**	**-0.8**	
MORC	**Moravsky Berou**	**121.95**	**327**	*e*PKP	**PKiKP**		**19 40 08.2**	**+2.1**	
KRLC	**Kraliky**	**122.20**	**327**	AMS	AMS		20 38 30.0		
	comp=Z,100nm,16.6s								
OSTC	**Ostas**	**122.23**	**328**	*e*PKPDF	**PKiKP**		**19 40 10.0**	**+3.4**	
DPC	**Dobruska-Polom**	**122.29**	**328**	*e*PKIKP	**PKiKP**		**19 40 09.9**	**+3.2**	
DPC					MLR	MLR			
	comp=Z,200nm,18.8s								
DPC	**Dobruska-Polom**	**122.29**	**328**	*e*PKPDF	**PKiKP**		**19 40 09.9**	**+3.2**	
DPC					AMS	AMS	20 39 40.0		
	comp=Z,200nm,18.8s								
JAVC	**Velka Javorina**	**122.37**	**326**	*e*PKP	**PKiKP**		**19 40 08.8**	**+1.8**	
VRAC	**Vranov**	**122.72**	**327**	*e*PKP	**PKiKP**		**19 40 09.7**	**+2.1**	
MODS	**Modra-Piesok**	**122.85**	**325**	*e*PKIKP	**PKiKP**		**19 40 07.0**	**-0.9**	
MODS	**Modra-Piesok**	**122.85**	**325**	*e*PKP	**PKiKP**		**19 40 07.0**	**-0.9**	
KRUC	**Moravsky**	**122.97**	**326**	*e*PKP	**PKiKP**		**19 40 09.0**	**+0.9**	
BRG	**Berggiesshubel**	**123.22**	**329**	*e*PKP	**PKiKP**		**19 40 11.5**	**+3.0**	
BRG					Amp		19 40 13.3		
	comp=Z,7.8nm,1.1s								
BRG	**Berggiesshubel**	**123.22**	**329**	P	PKiKP		19 40 20.0	+11	
BRG					Amp		19 40 22.0		
	comp=Z,6.2nm,0.9s								
DIVS	**Divibare**	**123.32**	**320**	PKPdf	**PKiKP**		**19 40 07.6**	**-1.5**	
TREC	**Trest**	**123.33**	**327**	AMS	AMS		20 40 40.0		
	comp=Z,200nm,20.6s								
CLL	**Collm**	**123.43**	**330**	*i* PKPdf	**PKiKP**		**19 40 09.9**	**+1.0**	
CLL				*i*			19 40 11.9		
CLL				*e*			19 40 20.0		
CLL				Lm	MLR		20 32 00.0		
	comp=Z,200nm,20.5s								
CLL	**Collm**	**123.43**	**330**	*i* PKIKP	**PKiKP**		**19 40 09.9**	**+1.0**	
PRU	**Pruhonice**	**123.43**	**328**	*e*PKIKP	**PKiKP**		**19 40 11.8**	**+2.9**	
PRU					MLR	MLR			
	comp=Z,200nm,18.0s								
PRU	**Pruhonice**	**123.43**	**328**	*e*PKPDF	**PKiKP**		**19 40 11.8**	**+2.9**	
PRU					AMS	AMS	20 41 40.0		
	comp=Z,200nm,18.0s								
FNA	**Florina**	**123.82**	**316**	PKIKP	**PKiKP**		**19 40 09.5**	**-0.6**	
FNA	**Florina**	**123.82**	**316**	PKPdf	**PKiKP**		**19 40 09.5**	**-0.6**	
CONA	**Conrad Observa**	**123.88**	**326**	*e*P	**PKiKP**		**19 40 10.5**	**+0.5**	
	comp=Z,6.1nm,1.0s								
CKRC	**Cesky Krumlov**	**124.24**	**327**	*e*PKPDF	**PKiKP**		**19 40 11.2**	**+0.6**	
CKRC					AMS	AMS	20 44 50.0		
	comp=Z,200nm,20.2s								
KHC	**Kasperske Hory**	**124.45**	**328**	*e*PKIKP	**PKiKP**		**19 40 11.4**	**+0.4**	
KHC	**Kasperske Hory**	**124.45**	**328**	*e*PKPDF	**PKiKP**		**19 40 11.4**	**+0.4**	
ARSA	**Arzberg**	**124.45**	**325**	*e*P	**PKiKP**		**19 40 14.2**	**+3.1**	
	comp=Z,3.2nm,1.0s								
GEC2	**GERESS Array S**	**124.55**	**327**	PKPdf	**PKiKP**		**19 40 10.6**	**-0.7**	
GERES	**GERESS Array B**	**124.55**	**327**	PKP	**PKiKP**		**19 40 11.5**	**+0.1**	
	comp=Z,4.0nm,0.8s,baz=85,slow=1.5,SNR=15								
GERES	**GERESS Array B**	**124.55**	**327**	PKIKP	**PKiKP**		**19 40 09.9**	**-1.4**	
GERES	**GERESS Array B**	**124.55**	**327**		**PKiKP**		**19 40 09.9**	**-1.4**	
MOA	**Molln**	**124.82**	**326**	*e*P	**PKiKP**		**19 40 14.2**	**+2.4**	
	comp=Z,3.9nm,1.1s								
SOKA	**Soboth**	**125.04**	**325**	*e*P	**PKiKP**		**19 40 13.4**	**+1.0**	
	comp=Z,7.8nm,1.1s								
OBKA	**Obir**	**125.41**	**325**	*e*P	**PKiKP**		**19 40 15.7**	**+2.6**	
	comp=Z,9.8nm,1.8s								
KBA	**Koelnbreinsper**	**125.77**	**326**	*e*P	**PKiKP**		**19 40 16.8**	**+2.8**	
	comp=Z,10nm,0.9s								
MYKA	**Terra Mystica**	**125.86**	**325**	*e*P	**PKiKP**		**19 40 14.9**	**+0.9**	
	comp=Z,5.4nm,1.0s								
ABTA	**Abfaltersbach**	**126.43**	**326**	*e*P	**PKiKP**		**19 40 14.9**	**-0.2**	
	comp=Z,12nm,1.2s								
WATA	**Walderalm**	**126.59**	**327**	*e*P	**PKiKP**		**19 40 17.9**	**+2.4**	
	comp=Z,11nm,1.4s								
STAL	**STALIGIAL**	**126.60**	**325**		**PKiKP**		**19 40 15.0**	**-0.5**	
WTTA	**Wattenberg**	**126.60**	**327**	*e*P	**PKiKP**		**19 40 17.1**	**+1.5**	
	comp=Z,22nm,1.4s								
MOTA	**Mosalm**	**126.84**	**327**	*e*P	**PKiKP**		**19 40 15.8**	**-0.2**	
	comp=Z,13nm,1.2s								
SQTA	**Sankt Quirin**	**126.86**	**327**	*e*P	**PKiKP**		**19 40 16.9**	**+0.9**	
	comp=Z,9.5nm,1.2s								
RETA	**Reutte**	**126.94**	**328**	*e*P	**PKiKP**		**19 40 18.1**	**+2.0**	
	comp=Z,7.8nm,1.2s								
FETA	**Feichten**	**127.24**	**327**	*e*P	**PKiKP**		**19 40 19.5**	**+2.6**	
	comp=Z,11nm,1.0s								
DAVA	**Damuels**	**127.53**	**328**	*e*P	**PKiKP**		**19 40 18.1**	**+0.7**	
	comp=Z,7.4nm,0.8s								
ZCCA	**Zocca**	**128.71**	**324**		**PKiKP**		**19 40 19.4**	**-0.4**	
KEST	**Kesra**	**134.54**	**316**	PKP	**PKiKP**		**19 40 30.7**	**-1.1**	
	comp=Z,5.7nm,1.1s,baz=56,slow=3.6,SNR=2.0								
LPAZ	**La Paz**	**134.83**	**120**	PKP	**PKiKP**		**19 40 32.8**	**-0.8**	
	comp=Z,0.7nm,0.4s,baz=97,slow=0.4,SNR=5.7								
LPAZ	**La Paz**	**134.83**	**120**	PKIKP	**PKPdf**		**19 40 31.1**	**-1.0**	
LPAZ	**La Paz**	**134.83**	**120**	PKPdf	**PKPdf**		**19 40 31.1**	**-1.0**	
SAML	**Samuel**	**142.24**	**113**	PKIKP	**PKPdf**		**19 40 43.6**	**-1.4**	
SAML	**Samuel**	**142.24**	**113**	PKPdf	**PKPdf**		**19 40 43.6**	**-1.4**	
TORD	**Torodi Ar. Bea**	**149.53**	**285**	PKPbc	**PKiKP**		**19 41 02.0**	**-0.9**	
	comp=Z,23nm,0.6s,baz=62,slow=3.0,SNR=73								
TORD	**Torodi Ar. Bea**	**149.53**	**285**		**PKiKP**		**19 41 01.4**	**-1.5**	
BDFB	**Brasilia**	**150.92**	**138**	PKPbc	**PKiKP**		**19 41 06.4**	**+0.5**	
	comp=Z,10.0nm,0.6s,baz=286,slow=2.4,SNR=8.4								
BDFB	**Brasilia**	**150.92**	**138**	PKIKP	**PKiKP**		**19 41 04.6**	**-1.3**	
BDFB	**Brasilia**	**150.92**	**138**		**PKiKP**		**19 41 04.6**	**-1.3**	
KOWA	**Kowa**	**154.62**	**291**		**PKPbc**		**19 41 08.9**	**-4.5**	
KIC	**Kosan Boka**	**156.46**	**272**	*e*PKP1	**PKPab**		**19 41 37.2**	**+1.1**	
	comp=Z,25nm,0.9s								
DBIC	**Dimbokro**	**156.57**	**273**	PKPab	**PKPab**		**19 41 37.5**	**+0.9**	
	comp=Z,4.0nm,0.8s,baz=103,slow=3.7,SNR=4.3								
TIC	**Toumodi**	**156.74**	**272**	*e*PKP1	**PKPab**		**19 41 38.2**	**+0.9**	
LIC	**Lamto**	**156.74**	**271**	*e*PKP1	**PKPab**		**19 41 38.2**	**+0.9**	
	comp=Z,70nm,1.4s								

*IDC **16** 19:24:44.1±2.3,5.°68S×151.°32E,h0km,mb4.1/4, mb1 4.4/4,mb1mx3.8/32,mbtmp4.1/4,Error ellipse: s-maj=137.3km s-min=29.9km az=128.0*

*NEIC **16** 19:24:47.5±1.2,6.°04S±0.°08×151.°5E±0.°2,h10km±2km, mb4.5/8,Error ellipse: s-maj=29.4km s-min=7.1km az=113.0*

ISC 16 19:24:45.2±1.3,6.°2S±0.°1×151.°7E±0.°2,h10km,n15, σ1°64/16,mb4.3/7,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.02**	**12**	Pn	**Pn**	**19 25 19.5**	**+0.1**
RABL				Sg	**Sb**	**19 25 47.5**	**+0.2**
MANU	**Manus Island**	**6.00**	**313**	Pn	**Pn**	**19 26 15.4**	**+1.3**
MTN	**Manton Dam**	**21.36**	**250**	P	**P**	**19 29 32.7**	**-0.2**
MTN				IAmb	IAmb	19 29 56.5	
	comp=Z,27nm,1.1s						
WR0	**Warramunga Arr**	**21.60**	**229**	P	**P**	**19 29 36.0**	**+0.5**
WR0				IAmb	IAmb	19 30 01.5	
	comp=Z,14nm,1.1s						
WRAB	**Tennant Creek**	**21.73**	**229**	P	**P**	**19 29 36.8**	**-0.1**
WB2	**Warramunga Arr**	**21.74**	**229**	P	**P**	**19 29 37.3**	**+0.4**
WB2				IAmb	IAmb	19 30 05.4	
	comp=Z,40nm,1.4s						
WRA	**Warramunga Arr**	**21.75**	**229**	P	**P**	**19 29 37.4**	**+0.4**
	comp=Z,3.1nm,0.8s,baz=54,slow=11,SNR=2.7						
AS31	**Alice Springs**	**24.42**	**223**	P	**P**	**19 30 06.1**	**+1.9**
ASAR	**Alice Springs**	**24.42**	**223**	P	**P**	**19 30 05.5**	**+1.3**
	comp=Z,4.9nm,0.8s,baz=56,slow=8.5,SNR=5.2						
ASAR	**Alice Springs**	**24.42**	**223**	P	**P**	**19 30 06.3**	**+2.1**
FITZ	**Fitzroy Crossi**	**28.08**	**243**	P	**P**	**19 30 36.5**	**-0.8**
	comp=Z,4.0nm,0.5s,baz=61,slow=10,SNR=2.0						
FITZ	**Fitzroy Crossi**	**28.08**	**243**	P	**P**		
FITZ				IAmb	IAmb	19 31 02.0	
	comp=Z,7.1nm,0.8s						
JAGI	**Jajag, Banyuwa**	**37.34**	**264**	P	**P**	**19 31 55.1**	**-3.1**
ILAR	**Eielson Array**	**83.83**	**22**	P	**P**	**19 37 13.7**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=252,slow=5.2,SNR=3.5						
TORD	**Torodi Ar. Bea**	**149.69**	**285**	PKPbc	**PKPdf**	**19 44 35.1**	**+3.4**
	comp=Z,1.7nm,0.6s,baz=82,slow=2.4,SNR=12						

MEX 16 19:27:28.4±0.7,16.°91N×91.°81W,h72km±235km,MD3.8, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.80**	**229**	*i* P	Pn	19 27 56.5	-1.0
PCIG				*i* S	Sn	19 28 17.8	-1.8
CMIG	**Matias Romero**	**2.94**	**274**	*i* P	Pn	19 28 11.1	-1.8
CMIG				*i* S	Sn	19 28 42.1	-5.1

IDC 16 19:30:19.6±3.8,5.°92S×151.°54E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.4/29,mbtmp3.5/3,Error ellipse: s-maj=122.4km s-min=54.8km az=121.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.76**	**229**	P	P	19 35 13.1	-0.1
	0.3nm,0.6s,baz=55,slow=10,SNR=1.5						
ASAR	**Alice Springs**	**24.48**	**222**	P	P	19 35 41.0	+0.2
	0.6nm,0.8s,baz=54,slow=8.7,SNR=8.2						
FITZ	**Fitzroy Crossi**	**28.02**	**242**	P	P	19 36 12.5	-0.2
	2.6nm,1.0s,baz=51,slow=10,SNR=2.2						
TORD	**Torodi Ar. Bea**	**149.43**	**286**	PKPbc	PKPbc	19 50 11.4	-0.5
	0.4nm,0.6s,baz=64,slow=2.8,SNR=2.9						

IDC 16 19:31:09.8±4.4,5.°69S×150.°90E,h0km,mb3.2/2, mb1 3.6/2,mb1mx3.2/30,mbtmp3.3/2,Error ellipse: s-maj=184.7km s-min=54.6km az=118.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.45**	**227**	P

	comp=Z,26nm,0.8s					
BGNE	**Belgrade**	**5.14**	**355**	IAmb_Lg		19 36 57.2
	comp=Z,48nm,0.8s					
T42A	**Van Buren**	**5.21**	**80**	IAmb_Lg		19 36 52.3
	comp=Z,29nm,1.1s					
CCM	**Cathedral Cave**	**5.30**	**69**	IAmb_Lg		19 36 48.1
	comp=Z,40nm,1.0s					
P40A	**Paris**	**5.40**	**51**	IAmb_Lg		19 36 57.8
	comp=Z,47nm,0.7s					
N38A	**Joes South For**	**5.61**	**35**	IAmb_Lg		19 37 09.1
	comp=Z,45nm,0.8s					
PBMO	**Poplar Bluff**	**5.72**	**83**	IAmb_Lg		19 37 04.7
	comp=Z,36nm,0.7s					
L34A	**Svendsen Farm,**	**5.74**	**8**	IAmb_Lg		19 37 17.8
	comp=Z,38nm,0.7s					
OGNE	**Ogallala**	**5.85**	**324**	IAmb_Lg		19 37 13.8
	comp=Z,26nm,0.7s					
FVM	**French Village**	**5.91**	**71**	IAmb_Lg		19 37 10.2
	comp=Z,19nm,0.8s					
JCT	**Junction City**	**6.10**	**199**	IAmb_Lg		19 37 16.7
	comp=Z,33nm,1.0s					
K31A	**O'Neill**	**6.40**	**352**	IAmb_Lg		19 37 33.2
	comp=Z,30nm,0.8s					
S44A	**Carbondale**	**6.75**	**76**	IAmb_Lg		19 37 35.8
	comp=Z,33nm,0.7s					
SIUC	**Southern Illin**	**6.79**	**75**	IAmb_Lg		19 37 35.9
	comp=Z,34nm,0.7s					
L40A	**Anamosa**	**7.56**	**38**	IAmb_Lg		19 38 23.5
	comp=Z,18nm,0.9s					
PHWY	**Pilot Hill**	**7.97**	**311**	IAmb_Lg		19 38 26.2
	comp=Z,16nm,0.9s					
O44A	**Mansfield**	**8.10**	**59**	IAmb_Lg		19 38 21.3
	comp=Z,27nm,0.7s					
T47A	**Sharon Grove**	**8.39**	**82**	IAmb_Lg		19 38 35.8
	comp=Z,24nm,1.1s					
JFWS	**Jewell Farm**	**8.67**	**38**	IAmb_Lg		19 38 37.5
	comp=Z,18nm,0.7s					
PV04	**Paradox Valley**	**9.32**	**286**	IAmb_Lg		19 39 11.8
	comp=Z,22nm,0.8s					

MEX 16 19:47:43.7±0.5, 16.45N×98.57W, h19km±303km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.43**	**98**	*i* P	Pg	19 47 51.2	-1.4
PNIG				*i* S	Sg	19 47 56.7	-1.8
MGIG	**Malinaltepec**	**0.78**	**355**	*i* P	Pb	19 47 56.4	-2.4
MGIG				*i* S	Sb	19 48 05.7	-3.3
PEIG	**Puerto Escondi**	**1.44**	**108**	*i* P	Pn	19 48 06.3	-2.5
HLIG	**Huajuapan de L**	**1.55**	**28**	*i* P	Pn	19 48 08.1	-2.4
HLIG				*i* S	Sn	19 48 26.8	-3.5

MOS ***16*** *19:52:09.6±1.2, 35.37N×27.71E, h16km, mb4.8/17, Error ellipse: s-maj=4.7km s-min=3.2km az=81.0*

NIC ***16*** *19:52:10.7±0.0, 35.28N×27.85E, h6km±2km, Ml5.1/3*

DDA ***16*** *19:52:11.0, 35.30N×27.72E, h12km±8km, MW4.8*

PDG ***16*** *19:52:11.1±1.1, 35.29N×27.86E, h14km±2km, ML4.7/12, Error ellipse: s-maj=1.2km s-min=1.0km az=90.0*

NEIC ***16*** *19:52:11.8±2.4, 35.42N±0.06×27.74E±0.06, h16km±4km, Error ellipse: s-maj=8.5km s-min=6.9km az=181.0*

ISK ***16*** *19:52:11.9, 35.39N×27.79E, h12km, ML4.9/36*

ATH ***16*** *19:52:11.9, 35.45N×27.73E, h46km±4km, ML4.8/12, Error ellipse: s-maj=4.6km s-min=1.5km az=337.0*

GCMT ***16*** *19:52:11.6±0.4, 35.17N±0.03×27.68E±0.02, h17km±2km, MW5.0/81, Moment Tensor Solution. s17,c20; s81,c109; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.29±.12; Mθθ=1.40±.07; Mϕϕ 1.69±.10; Mrθ 3.07±.55; Mϕθ 0.36±.07; Mϕr=1.20±.26; Best double couple: M 3.46900×10^16 NP1: ϕs 216.00000°, δ 21.00000°, λ 3.00000°. NP2: ϕs 123.00000°, δ 89.00000°, λ 111.00000°. Principal axes: T 2.7830, Plg 42.0000°, Azm 53.0000°; N 1.3700, Plg 21.0000°, Azm 303.0000°; P -4.1560, Plg 40.0000°, Azm 194.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***16*** *19:52:12.3±0.0, 35.20N×27.56E, h42km, mB5.1/25, mb4.8/51, Ms4.6/18, Ms7 4.3/18*

IDC ***16*** *19:52:13.2±1.8, 35.47N×27.72E, h27km±11km, mb4.5/34, mb1 4.5/47, mb1mx4.5/60, mbtmp4.6/47, ML4.4/11, MS4.0/30, Ms1 4.0/30, ms1mx3.9/65, Error ellipse: s-maj=10.2km s-min=8.2km az=153.0*

THE ***16*** *19:52:13.1, 35.41N×27.78E, h0km, ML4.8/7, Error ellipse: s-maj=1.8km s-min=0.6km az=137.0*

MED_RC ***16*** *19:52:14.0±0.4, 35.42N×27.73E, h28km±1km, MW4.8/23, Moment Tensor Solution. Mantle waves: s23,c42; Duration: 1s2 Moment tensor: Scale 10^16 Nm; Mrr=1.06±.18; Mθθ=1.56±.10; Mϕϕ 2.62±.12; Mrθ 0.77±.13; Mϕθ 0.07±.08; Mrϕ=0.38±.11; Best double couple: M 2.40000×10^16 NP1: ϕs 221.00000°, δ 61.00000°, λ -24.00000°. NP2: ϕs 323.00000°, δ 70.00000°, λ -148.00000°. Principal axes: T 2.6600, Plg 6.0000°, Azm 90.0000°; N -0.5200, Plg 53.0000°, Azm 352.0000°; P -2.1300, Plg 36.0000°, Azm 184.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

HLW ***16*** *19:52:14.8, 35.18N×27.88E, h21km±11km, Md4.5, Ml5.0*

BGR ***16*** *19:52:51.9±0.0, 38.05N×24.44E, h10km, mb4.3, Ms3.5*

ISC 16 19:52:11.4±0.5, 35.34N±0.02×27.77E±0.02, h16km±3km, h16km:pP-P, n994, σ1§83/1099, mb4.9/156, MS4.1/35, 100C-65D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.54**	**293**	P	**Pb**	**19 52 23.0**	**+0.6**
KARP				S	**Sn**	**19 52 32.2**	**-0.9**
	162μm,0.5s						
KARP	**Karpathos**	**0.54**	**293**	P	**Pb**	**19 52 22.4**	**-0.1**
KARP				S	**Sb**	**19 52 30.8**	**+0.9**
KARP				AML	AML	19 52 32.4	
KARP				AML	AML	19 52 34.1	
KARP	**Karpathos**	**0.54**	**293**	PG	**Pb**	**19 52 22.8**	**+0.4**
KARP				SG	**Sn**	**19 52 31.2**	**-1.9**
KARP	**Karpathos**	**0.54**	**293**	Pg	**Pb**	**19 52 22.3**	**-0.1**
KARP	**Karpathos**	**0.54**	**293**	P	**Pb**	**19 52 22.8**	**+0.4**
KARP				S	**Sn**	**19 52 31.4**	**-1.8**
KARP	**Karpathos**	**0.54**	**293**	⇓P	**Pb**	**19 52 22.2**	**-0.2**
ARG	**Arkhangelos**	**0.92**	**18**	P	**Pn**	**19 52 29.8**	**+0.2**
ARG				S	**Sn**	**19 52 43.2**	**+0.7**
	54μm,0.8s						
ARG	**Arkhangelos**	**0.92**	**18**	P	**Pg**	**19 52 29.0**	**-0.2**
ARG				S	**Sb**	**19 52 39.5**	**-1.4**
ARG				AML	AML	19 52 48.2	
ARG				AML	AML	19 52 51.7	
	comp=E,91930μm,0.7s						
ARG	**Arkhangelos**	**0.92**	**18**	PG	**Pb**	**19 52 28.9**	**0.0**
ARG				SG	**Sg**	**19 52 41.6**	**+0.3**
ARG	**Arkhangelos**	**0.92**	**18**	P	**Pb**	**19 52 28.9**	**0.0**
ARG				S	**Sn**	**19 52 42.7**	**+0.2**
ZKR	**Zakros**	**1.29**	**260**	P	**Pg**	**19 52 36.5**	**+0.2**
ZKR				S	**Sg**	**19 52 56.1**	**+3.0**
	comp=E,28μm,0.6s						
ZKR	**Zakros**	**1.29**	**260**	P	**Pb**	**19 52 35.7**	**+0.4**
ZKR				S	**Sg**	**19 52 53.1**	**0.0**
ZKR				AML	AML	19 53 02.2	
	comp=N,38274μm,0.7s						
ZKR				AML	AML	19 53 04.9	
	comp=E,74141μm,0.5s						
ZKR	**Zakros**	**1.29**	**260**	PN	**Pg**	**19 52 35.9**	**-0.4**
ZKR	**Zakros**	**1.29**	**260**	P	**Pg**	**19 52 35.9**	**-0.4**
ZKR				S	**Sg**	**19 52 55.5**	**+2.4**
NIS1	**Nisyros lsl.**	**1.34**	**339**	P	**Pg**	**19 52 37.1**	**-0.2**
NIS1				S	**Sg**	**19 52 55.5**	**+0.7**
	comp=E,92μm,0.8s						
NIS1	**Nisyros lsl.**	**1.34**	**339**	PN	**Pb**	**19 52 36.4**	**+0.2**
NIS1				SN	**Sg**	**19 52 54.8**	**0.0**
NISR	**Nisiros**	**1.37**	**338**	P	**Pg**	**19 52 37.1**	**-0.6**
NISR				S	**Sg**	**19 52 56.0**	**+0.4**
	comp=E,46μm,0.7s						
NISR	**Nisiros**	**1.37**	**338**	P	**Pn**	**19 52 35.9**	**+0.1**
NISR				AML	AML	19 53 06.7	
NISR				AML	AML	19 53 08.8	
	comp=N,74639μm,0.6s						
STIA	**Sitia Lasithi**	**1.38**	**265**	P	**Pg**	**19 52 38.0**	**0.0**
STIA				S	**Sg**	**19 52 58.2**	**+2.3**
DAT	**Datca**	**1.39**	**354**	P	**Pg**	**19 52 37.9**	**-0.3**
DAT				S	**Sg**	**19 52 56.4**	**0.0**
DAT	**Datca**	**1.39**	**354**	PN	**Pb**	**19 52 37.1**	**0.0**
MRSB	**Marmaris-Mugla**	**1.41**	**14**	PN	**Pg**	**19 52 38.2**	**-0.4**
TURN	**Turunc**	**1.48**	**15**	PN	**Pb**	**19 52 38.6**	**+0.1**
KOSK	**Kos Island**	**1.54**	**336**	P	**Pb**	**19 52 39.7**	**+0.1**
KOSK	**Kos Island**	**1.54**	**336**	PN	**Pb**	**19 52 39.1**	**-0.5**
DALY	**Dalyan (Mula)**	**1.64**	**26**	*i* P	**Pb**	**19 52 40.7**	**-0.5**
DALY				*i* S	**Sg**	**19 53 03.5**	**-0.6**
DALY	**Dalyan (Mula)**	**1.64**	**26**	PN	**Pb**	**19 52 41.0**	**-0.2**
FETY	**Fethiye**	**1.67**	**39**	P	**Pb**	**19 52 41.4**	**-0.4**
FETY	**Fethiye**	**1.67**	**39**	PN	**Pn**	**19 52 40.8**	**+0.8**
KSL	**Kastellorizon**	**1.68**	**61**	P	**Pb**	**19 52 41.4**	**-0.6**
KSL	**Kastellorizon**	**1.68**	**61**	P	**Pn**	**19 52 41.1**	**+1.0**
KSL				AML	AML	19 53 32.0	
	comp=N,10555μm,1.2s						
KSL				AML	AML	19 53 36.5	
	comp=E,24817μm,1.1s						
KSL	**Kastellorizon**	**1.68**	**61**	P	**Pb**	**19 52 41.3**	**-0.6**
KSL				S	**Sb**	**19 53 03.2**	**+0.4**
FRMA	**Ierapetra Chan**	**1.70**	**259**	P	**Pb**	**19 52 41.8**	**-0.4**
AKAS	**Kas**	**1.74**	**59**	*i* P	**Pb**	**19 52 42.2**	**-0.7**
AKAS	**Kas**	**1.74**	**59**	PN	**Pn**	**19 52 42.1**	**+1.1**
AKAS	**Kas**	**1.74**	**59**	Pn	**Pb**	**19 52 42.2**	**-0.7**
BDRM	**Kayabasi**	**1.74**	**351**	*i* P	**Pb**	**19 52 42.2**	**-0.7**
BDRM				*i* P	**Pn**	**19 52 42.6**	**+1.7**
BDRM				*i* S	**Sn**	**19 53 03.0**	**+0.2**
BODT	**Bodrum**	**1.75**	**348**	P	**Pb**	**19 52 42.6**	**-0.6**
BODT	**Bodrum**	**1.75**	**348**	PN	**Pb**	**19 52 42.3**	**-0.9**
NPS	**Neapolis**	**1.77**	**268**	P	**Pg**	**19 52 44.5**	**-0.8**
NPS				S	**Sg**	**19 53 07.8**	**-0.4**
	comp=E,22μm,0.8s						
NPS	**Neapolis**	**1.77**	**268**	P	**Pg**	**19 52 44.3**	**-1.0**
NPS				AML	AML	19 53 20.9	
	comp=E,46368μm,0.5s						
NPS				AML	AML	19 53 22.6	
	comp=N,43910μm,0.6s						
YKAV	**Yalikavak-Bodr**	**1.82**	**348**	PN	**Pb**	**19 52 43.7**	**-0.6**
YER	**Yerkesik**	**1.84**	**13**	P	**Pb**	**19 52 44.1**	**-0.5**
YER	**Yerkesik**	**1.84**	**13**	PN	**Pb**	**19 52 43.9**	**-0.7**
MLSB	**Milas**	**1.95**	**0**	PN	**Pn**	**19 52 44.7**	**+0.9**
MUGA	**Mugla, Merkez-**	**1.96**	**13**	*i* P	**Pb**	**19 52 47.0**	**+0.2**
MULA				*i* S	**Sg**	**19 53 12.5**	**-2.0**
CAME	**Cameli-Denizli**	**2.02**	**37**	PN	**Pn**	**19 52 46.2**	**+1.2**
SANT	**Santorini**	**2.14**	**299**	⇓P	**Pb**	**19 52 48.3**	**-1.5**
SANT	**Santorini**	**2.14**	**299**	P	**Pb**	**19 52 48.3**	**-1.5**
SANT				AML	AML	19 53 30.3	
	comp=N,15493μm,0.8s						
SANT				AML	AML	19 53 31.3	
	comp=E,38272μm,1.3s						
SANT	**Santorini**	**2.14**	**299**	PN	**Pn**	**19 52 47.9**	**+1.4**
SANT	**Santorini**	**2.14**	**299**	Pn	**Pn**	**19 52 47.7**	**+1.3**
SANT	**Santorini**	**2.14**	**299**	⇑P	**Pn**	**19 52 47.9**	**+1.4**
THR8	**Santorini-Mono**	**2.14**	**300**	P	**Pb**	**19 52 48.1**	**-1.7**
DDIM	**Aydin, Didim**	**2.15**	**349**	*i* P	**Pb**	**19 52 48.6**	**-1.4**
DDIM				*i* S	**Sb**	**19 53 16.5**	**+0.1**
CAEL	**Denizli, Camel**	**2.17**	**35**	*i* P	**Pb**	**19 52 49.0**	**-1.5**
HRKL	**Herakleio**	**2.18**	**270**	P	**Pb**	**19 52 49.7**	**-0.7**
HRKL	**Herakleio**	**2.18**	**270**	PN	**Pb**	**19 52 49.9**	**-0.5**
THR7	**Fira-Santorini**	**2.18**	**300**	P	**Pb**	**19 52 49.0**	**-1.5**
THT2	**Imerovigli**	**2.19**	**300**	P	**Pb**	**19 52 49.0**	**-1.7**
THT2	**Imerovigli**	**2.19**	**300**	PN	**Pb**	**19 52 48.8**	**-1.9**
THR3	**Thira Island,**	**2.20**	**300**	P	**Pb**	**19 52 48.9**	**-1.9**
THR9	**Santorini-Faro**	**2.21**	**298**	P	**Pb**	**19 52 49.2**	**-1.7**
IACM	**Heraklion**	**2.21**	**270**	P	**Pb**	**19 52 50.7**	**-0.2**
ELL	**Elmali**	**2.23**	**50**	P	**Pb**	**19 52 49.9**	**-1.5**
ELL	**Elmali**	**2.23**	**50**	PN	**Pb**	**19 52 49.7**	**-1.7**
ELL	**Elmali**	**2.23**	**50**		**Pb**	**19 52 49.9**	**-1.5**
ELL	**Elmali**	**2.23**	**50**	P	**Pb**	**19 52 50.1**	**-1.3**
THR5	**Thira Island,**	**2.24**	**299**	P	**Pn**	**19 52 49.4**	**+1.6**
SAP4	**Santorini-Oia**	**2.25**	**301**	P	**Pb**	**19 52 49.8**	**-1.8**
AKUM	**Antalya-Kumluc**	**2.31**	**64**	*i* P	**Pn**	**19 52 50.0**	**+1.2**
TAVA	**DENIZLI_Tavas**	**2.31**	**23**	*i* P	**Pn**	**19 52 50.5**	**+1.6**
AYDN	**Tasoluk**	**2.31**	**2**	*i* P	**Pn**	**19 52 50.5**	**+1.6**
AYDN				*i* S	**Sb**	**19 53 19.5**	**-1.7**
IDI	**Anoyia**	**2.35**	**269**	Pn	**Pb**	**19 52 51.6**	**-1.8**
	comp=E,133nm,0.3s,baz=71,slow=14,SNR=393						
IDI				Sn	**Sb**	**19 53 23.5**	**+1.2**
	comp=E,177nm,0.3s,baz=324,slow=7.5,SNR=6.4						
IDI	**Anoyia**	**2.35**	**269**	P	**Pb**	**19 52 52.1**	**-1.3**
IDI				S	**Sb**	**19 53 21.9**	**-0.4**
IDI	**Anoyia**	**2.35**	**269**	P	**Pb**	**19 52 52.2**	**-1.3**
IDI				AML	AML	19 53 37.2	
	comp=E,12052μm,0.6s						
IDI				AML	AML	19 53 48.2	
	comp=N,12175μm,0.9s						
IDI	**Anoyia**	**2.35**	**269**			**19 52 51.6**	**-1.8**
GOLH	**Golhisar**	**2.38**	**37**	*i* P	**Pn**	**19 52 51.2**	**+1.4**
GOLH				*i* S	**Sg**	**19 53 20.9**	**+1.0**
GCAM	**G?zelcaml?**	**2.39**	**350**	*i* P	**Pn**	**19 52 51.5**	**+1.6**
GCAM				*i* S	**Sn**	**19 53 19.7**	**+0.9**
GCAM	**G?zelcaml?**	**2.39**	**350**	PN	**Pn**	**19 52 51.5**	**+1.6**
SIVA	**Sivas**	**2.44**	**263**	P	**Pb**	**19 52 54.4**	**-0.6**
SIVA				AML	AML	19 53 48.5	
	comp=N,25573μm,0.7s						
SIVA				AML	AML	19 53 56.5	
	comp=E,34153μm,0.9s						
SMG	**Samos**	**2.48**	**343**	P	**Pn**	**19 52 52.7**	**+1.6**
SMG	**Samos**	**2.48**	**343**	P	**Pn**	**19 52 52.8**	**+1.6**
SMG				AML	AML	19 53 35.5	
	comp=N,13128μm,1.1s						
SMG				AML	AML	19 53 37.0	
	comp=E,14706μm,0.9s						
APE	**Apeiranthos**	**2.50**	**314**	⇑P	**Pn**	**19 52 53.4**	**+2.0**
APE	**Apeiranthos**	**2.50**	**314**	P	**Pn**	**19 52 53.4**	**+2.0**
APE				S	**Sb**	**19 53 24.1**	**-2.3**
	comp=E,5μm,0.7s						
APE	**Apeiranthos**	**2.50**	**314**	P	**Pb**	**19 52 53.7**	**-2.2**
APE	**Apeiranthos**	**2.50**	**314**	*c* P	**Pn**	**19 52 53.3**	**+2.0**
APE	**Apeiranthos**	**2.50**	**314**	PN	**Pn**	**19 52 53.4**	**+2.0**
APE	**Apeiranthos**	**2.50**	**314**	P	**Pn**	**19 52 53.4**	**+2.0**
APE				S	**Sn**	**19 53 20.6**	**-0.9**
APE	**Apeiranthos**	**2.50**	**314**	⇑P	**Pn**	**19 52 53.3**	**+2.0**
AYDB	**Zeytinkoy-Aydi**	**2.60**	**2**	PN	**Pn**	**19 52 54.1**	**+1.2**
KORT	**Korkueli**	**2.66**	**51**	*i* P	**Pn**	**19 52 56.1**	**+2.4**
KORT				*i* S	**Sb**	**19 53 30.3**	**-1.0**
KORT	**Korkueli**	**2.66**	**51**	PN	**Pn**	**19 52 55.7**	**+1.9**
PRNS	**Prines Rethymn**	**2.67**	**271**	P	**Pb**	**19 52 56.8**	**-2.0**
DGB	**zmir**	**2.80**	**346**	*i* P	**Pn**	**19 52 56.8**	**+1.4**
ANTB	**Antalya**	**2.81**	**56**	PN	**Pn**	**19 52 57.8**	**+2.2**
VAM	**Vamos**	**2.92**	**272**	P	**Pb**	**19 53 00.0**	**-3.0**
VAM	**Vamos**	**2.92**	**272**	P	**Pb**	**19 53 00.7**	**-2.3**
VAM				AML	AML	19 53 43.5	
	comp=E,10289μm,0.5s						
VAM				AML	AML	19 53 53.1	
	comp=N,8368μm,0.9s						
BRDR	**BURDUR-Merkez**	**2.99**	**38**	*i* P	**Pn**	**19 53 00.7**	**+2.5**
BUCA	**Burdur, Bucak-**	**3.00**	**48**	*i* P	**Pn**	**19 53 00.6**	**+2.2**
MHLO	**Agia Marina, M**	**3.04**	**297**	P	**Pb**	**19 53 02.7**	**-2.5**
GVD	**Gavdhos**	**3.06**	**262**	P	**Pn**	**19 53 01.9**	**+2.8**
GVD	**Gavdhos**	**3.06**	**262**	PN	**Pn**	**19 53 01.8**	**+2.7**
ZEYE	**Izmir, Urla-Ze**	**3.06**	**341**	*i* P	**Pn**	**19 53 00.6**	**+1.5**
BLCB	**Balcova**	**3.09**	**349**	P	**Pn**	**19 53 00.7**	**+1.2**
IMMV	**Iera Moni Meta**	**3.10**	**273**	P	**Pb**	**19 53 03.1**	**-2.9**
IMMV				AML	AML	19 53 58.3	
	comp=E,14496μm,0.8s						
IMMV				AML	AML	19 54 02.3	
	comp=N,12916μm,0.7s						
IMMV	**Iera Moni Meta**	**3.10**	**273**	PN	**Pn**	**19 53 02.7**	**+3.1**
BCK	**Bucak**	**3.10**	**46**	PN	**Pn**	**19 53 02.2**	**+2.4**
URLA	**Izmir**	**3.15**	**343**	*i* P	**Pn**	**19 53 02.0**	**+1.5**
URLA				*i* S	**Sn**	**19 53 41.0**	**+3.2**
URLA	**Izmir**	**3.15**	**343**	PN	**Pn**	**19 53 01.9**	**+1.5**
MANT	**Manisa**	**3.21**	**11**	*i* P	**Pn**	**19 53 00.9**	**-0.3**
MANT				*i* S	**Sb**	**19 53 43.7**	**-3.3**
MANT	**Manisa**	**3.21**	**11**		**Pn**	**19 53 00.4**	**-0.9**
KULA	**Kula-Manisa**	**3.25**	**12**	PN	**Pn**	**19 53 02.5**	**+0.8**
PASA	**Karahalli, USA**	**3.30**	**24**	*i* P	**Pn**	**19 53 03.1**	**+0.6**
PASA				*i* S	**Sb**	**19 53 51.3**	**+1.7**
ISP	**Isparta**	**3.32**	**41**	P	**Pn**	**19 53 04.1**	**+1.3**
ISP	**Isparta**	**3.32**	**41**	PN	**Pn**	**19 53 04.4**	**+1.6**
ISP	**Isparta**	**3.32**	**41**	Pn	**Pn**	**19 53 04.0**	**+1.3**
KNDR	**Palaiochora Ch**	**3.34**	**269**	PN	**Pb**	**19 53 06.6**	**-3.6**
OSC1	**CSNet OBS 1**	**3.43**	**121**	P	**Pn**	**19 53 04.0**	**-0.2**
OSC1				S	**Sn**	**19 53 45.2**	**+0.7**
KEPZ	**Antalya-Kepez**	**3.47**	**62**	*i* P	**Pn**	**19 53 06.9**	**+2.1**
KEPZ				*i* S	**Sn**	**19 53 46.2**	**+0.6**
KZIL	**AFYON_Kizioren**	**3.48**	**33**	*i* P	**Pn**	**19 53 05.9**	**+1.0**
AKHS	**Akhisar**	**3.53**	**1**	*i* P	**Pn**	**19 53 06.3**	**+0.8**
BAGO	**Egridir - ISPA**	**3.59**	**42**	*i* P	**Pn**	**19 53 09.0**	**+2.6**
BAGO				*i* S	**Sn**	**19 53 49.6**	**+1.1**
ZEDA	**zmir-Bergama**	**3.66**	**352**	*i* P	**Pn**	**19 53 08.5**	**+1.2**
AKMS	**Akamas**	**3.75**	**94**	P	**Pn**	**19 53 08.8**	**+0.1**
AKMS				S	**Sn**	**19 53 52.7**	**+0.1**
AKMS				AML	AML	19 53 56.9	
	comp=N,7.3nm,0.5s						
AKMS				AML	AML	19 53 56.9	
	comp=N,7.3nm,0.5s						
AKMS				AML	AML	19 53 58.3	
	comp=N,13nm,0.5s						
AKMS				AML	AML	19 53 58.3	
	comp=N,13nm,0.5s						
DEMI	**Demirci**	**3.77**	**11**	*i* P	**Pn**	**19 53 09.8**	**+0.9**
DEMI				*i* S	**Sn**	**19 53 50.7**	**-2.3**
GAZI	**Gazipasa**	**3.80**	**75**	*i* P	**Pn**	**19 53 09.4**	**+0.1**
SEDI	**Konya, Seydise**	**3.84**	**56**	*i* P	**Pn**	**19 53 12.9**	**+3.0**
SEDI				*i* S	**Sn**	**19 53 58.0**	**+3.1**
SIMA	**Simav-Kutahya**	**3.86**	**14**	PN	**Pn**	**19 53 11.4**	**+1.3**
SEYD	**Seydisehir-KON**	**3.88**	**57**	PN	**Pn**	**19 53 12.8**	**+2.4**
SHUT	**Suhut-Afyon**	**3.90**	**34**	PN	**Pn**	**19 53 12.3**	**+1.5**
GEDZ	**Gediz**	**3.92**	**19**	PN	**Pn**	**19 53 12.8**	**+1.8**
KTHA	**Kythira Island**	**3.93**	**285**	PN	**Pn**	**19 53 14.0**	**+2.9**
ALFC	**Alefka**	**3.96**	**91**	P	**Pn**	**19 53 11.4**	**0.0**
ALFC				S	**Sn**	**19 53 55.4**	**-2.2**
ALFC				AML	AML	19 53 59.7	
	comp=N,14nm,0.6s						
ALFC				AML	AML	19 53 59.7	
	comp=N,14nm,0.6s						
ALFC				AML	AML	19 54 01.9	
	comp=N,20nm,0.6s						
ALFC				AML	AML	19 54 01.9	
	comp=N,20nm,0.6s						
NATA	**Nata**	**3.98**	**97**	P	**Pn**	**19 53 12.0**	**+0.3**
NATA				S	**Sn**	**19 53 57.8**	**-0.3**
MATC	**Matruh**	**4.01**	**187**	P	**Pn**	**19 53 13.6**	**+1.4**
	baz=189						
STEP	**BALIKESIR_Sava**	**4.03**	**359**	*i* P	**Pn**	**19 53 13.3**	**+0.9**
YVAC	**Isparta, Yalva**	**4.04**	**43**	*i* P	**Pn**	**19 53 13.6**	**+1.0**
AYVA	**Ayvalik**	**4.05**	**348**	*i* P	**Pn**	**19 53 14.7**	**+2.0**
AYVA				*i* S	**Sb**	**19 54 11.6**	**+0.6**
AYVA				IAML		19 54 33.0	
	comp=E,816nm,0.8s						
AYVA				IAML		19 54 35.0	
	comp=N,801nm,1.1s						
SIGR	**SIGRI**	**4.15**	**339**	PN	**Pn**	**19 53 16.2**	**+2.1**
DOGA	**KONYA_Doganhis**	**4.17**	**48**	*i* P	**Pn**	**19 53 17.5**	**+3.0**
BUHA	**Balikesir, Bur**	**4.19**	**353**	*i* P	**Pn**	**19 53 16.0**	**+1.4**
BUHA				IAML		19 54 35.0	
	comp=E,893nm,1.4s						
BUHA				IAML		19 54 38.0	
	comp=N,592nm,1.0s						
LEF	**Lefka**	**4.20**	**92**	⇑P	**Pn**	**19 53 14.4**	**-0.4**
SZAC	**Souni**	**4.24**	**96**	P	**Pn**	**19 53 15.3**	**+0.1**
SZAC				S	**Sn**	**19 54 02.3**	**-2.1**
DURS	**Dursunbey**	**4.29**	**7**	*i* P	**Pn**	**19 53 17.0**	**+0.9**
BALB	**Balikesir**	**4.29**	**1**	PN	**Pn**	**19 53 17.8**	**+1.8**
BALB	**Balikesir**	**4.29**	**1**	Pn	**Pn**	**19 53 17.1**	**+1.1**
TVSB	**Tavsanli**	**4.32**	**18**	PN	**Pn**	**19 53 17.5**	**+1.1**
KOCA	**Canakkale, Ayv**	**4.35**	**343**	*i* P	**Pn**	**19 53 18.5**	**+1.7**
OSC2	**CSNet OBS 4**	**4.36**	**120**	P	**Pn**	**19 53 13.4**	**-3.6**
OSC2				S	Sn	19 53 57.6	-10
ERMK	**Ermenek**	**4.37**	**71**	*i* P	**Pn**	**19 53 18.9**	**+1.6**
ERMK				*i* S	**Sn**	**19 54 06.6**	**-1.4**
BALY	**Balya**	**4.39**	**358**	*i* P	**Pn**	**19 53 18.5**	**+1.1**
SLUM	**Salum**	**4.40**	**210**	P	**Pn**	**19 53 18.8**	**+1.4**
	baz=212						
SLUM				AMP		19 54 00.0	
	baz=212						
SLUM				S	**Sn**	**19 54 05.5**	**-2.8**
	baz=212						
KMER	**Konya-Meram**	**4.42**	**55**	*i* P	**Pn**	**19 53 20.9**	**+2.9**
KMER				*i* S	**Sn**	**19 54 12.6**	**+3.4**
AUKIR	**Kutahya, Merke**	**4.49**	**22**	*i* P	**Pn**	**19 53 19.9**	**+1.0**
AUKIR	**Kırka- Seyitga**	**4.50**	**28**	*i* P	**Pb**	**19 53 33.4**	**+3.4**
AUKIR				IAML		19 54 45.0	
	comp=N,385nm,1.0s						
AUKIR				IAML		19 55 02.0	
	comp=E,792nm,2.1s						
KONT	**Konya--Tatoy**	**4.51**	**54**	*i* P	**Pn**	**19 53 21.8**	**+2.7**
ASGA	**Asgata**	**4.53**	**95**	P	**Pn**	**19 53 19.0**	**-0.2**

KOT **Kottamia** 6.39 146 P Pn 19 53 45.5 +0.6
baz=146
KOT S Sn 19 54 51.6 -6.0
baz=146
BCAM Yenicaga 6.43 31 *i* P Pn 19 53 45.8 +0.3
BCAM *i* S Sg 19 55 35.9 -1.8
KIRK Kırklareli 6.45 356 *i* P Pn 19 53 45.2 -0.5
KIRK *i* S Sg 19 55 36.9 -1.4
HHAG Hagoal 6.50 145 P Pn 19 53 48.1 +1.8
baz=144
ARMN Kirklareli, Me 6.52 358 *i* P Pn 19 53 46.8 +0.2
BEYL Beirut 6.54 101 *e*P Pn 19 53 46.1 -0.8
HSAF As Saff 6.54 150 P Pn 19 53 47.3 +0.3
baz=149
RYAN Fayoum 6.59 161 P Pn 19 53 48.3 +0.7
baz=160
RYAN AMP 19 55 00.0
baz=160
KDZE Karadeniz Ereo 6.62 25 ⇑P Pn 19 53 50.8 +2.8
DQRL Deir Qamar 6.64 102 *e*P Pn 19 53 47.3 -1.1
GLL Jalalah 6.64 149 P Pn 19 53 48.5 +0.1
baz=148
BHL Bhannes 6.66 100 *e*P Pn 19 53 47.2 -1.5
MMAI Mount Meron Ar 6.74 108 Pn Pn 19 53 48.8 -0.9
comp=Z,53nm,0.3s,baz=302,slow=13,SNR=69
MMAI Sn Sn 19 55 04.9 -1.3
comp=Z,70nm,0.3s,baz=293,slow=19,SNR=5.3
MMAI Mount Meron Ar 6.74 108 Pn 19 53 48.9 -0.9
MMAI Sn 19 55 04.9 -1.3
QRWL Qaraoun 6.78 103 *e*P Pn 19 53 49.6 -0.7
HWQ Hawqa 6.81 97 *e*P Pn 19 53 49.7 -1.0
RCY Rachaya 6.92 103 *e*P Pn 19 53 51.5 -0.8
SUZ Suez 6.95 141 P Pn 19 53 53.6 +1.0
baz=140
MMLI Mount Malkishu 6.99 112 P Pn 19 53 52.0 -1.2
AMAZ Amatzia 7.08 120 P Pn 19 53 54.2 -0.2
KZIT Kziot 7.10 127 P Pn 19 53 53.8 -0.9
VAY Valandovo 7.23 327 *i* Pn Pn 19 54 01.0 +4.6
BNN Bunyan 7.34 59 Pn Pn 19 54 01.0 +2.9
ILGA Ilgaz 7.38 38 Pn Pn 19 53 59.7 +1.1
FNA Florina 7.41 319 P Pn 19 54 03.0 +4.1
FNA Florina 7.41 319 Pn Pn 19 54 03.0 +4.1
FNA Florina 7.41 319 ⇑P Pn 19 54 02.5 +3.7
KBN Korca 7.63 316 P Pn 19 54 06.9 +5.0
KBN Korca 7.63 316 Pn Pn 19 54 06.8 +5.0
GHAJ Ghor Haditha 7.67 119 Pn Pn 19 54 02.5 +0.1
KEK Kerkira 7.69 307 ⇑P Pn 19 54 03.8 +1.1
STIP Stip 7.70 327 *i* Pn Pn 19 54 05.7 +2.9
GAZ Gaziantep 7.84 74 Pn Pn 19 54 03.4 -1.5
OHR Ohrid 7.95 318 *i* Pn Pn 19 54 11.9 +5.6
VTS Vitosha 8.07 335 ⇑P Pn 19 54 11.9 +3.8
VTS Vitosha 8.07 335 P Pn 19 54 10.7 +2.6
VTS Vitosha 8.07 335 Pn Pn 19 54 10.7 +2.6
VTS Vitosha 8.07 335 ⇑P Pn 19 54 11.7 +3.6
HRDS Abu Rudays 8.11 143 P Pn 19 54 09.1 +0.7
baz=143
HFRF Wahat Farafira 8.18 177 P Pn 19 54 09.7 +0.2
baz=177
ASF Jabal al Asfar 8.23 110 Pn Pn 19 54 10.3 +0.1
comp=Z,3.6nm,0.3s,baz=95,slow=8.2,SNR=66
ASF Sn Sn 19 55 41.9 -1.1
comp=Z,2.0nm,0.3s,baz=114,slow=7.3,SNR=1.9
ASF Jabal al Asfar 8.23 110 Pn 19 54 10.3 +0.1
ASF Sn 19 55 41.9 -1.1
GRB Gharib 8.24 147 P Pn 19 54 10.9 +0.6
baz=147
SKO Skopje 8.26 325 *i* Pn Pn 19 54 15.3 +4.8
RAZG Razgrad 8.27 354 ⇑P Pn 19 54 13.5 +2.9
EIL Elat 8.29 131 Pn Pn 19 54 11.6 +0.6
comp=Z,7.1nm,0.3s,baz=243,slow=2.4,SNR=95
EIL Sn Sn 19 55 39.0 -5.3
comp=Z,17nm,0.3s,baz=70,slow=17,SNR=6.3
EIL Elat 8.29 131 19 54 11.6 +0.6
EIL Elat 8.29 131 ⇑P Pn 19 54 10.2 -0.8
VLO Vlora 8.30 311 P Pn 19 54 08.3 -2.7
VLO Vlora 8.30 311 19 54 08.3 -2.7
TR2 Tor 2 8.59 142 P Pn 19 54 14.9 -0.1
baz=142
HKAT Jabal Katrina 8.61 140 P Pn 19 54 15.5 0.0
baz=140
TIR Tirane 8.63 316 ⇑P Pn 19 54 17.4 +1.8
TIR Tirane 8.63 316 P Pn 19 54 13.5 -2.1
TIR Tirane 8.63 316 19 54 13.5 -2.1
TIR Tirane 8.63 316 ⇑P Pn 19 54 20.4 +4.8
SCTE Santa Cesarea 8.75 305 19 56 21.0 -1.0
MFTR Murfatlar 8.84 3 ⇑P Pn 19 54 22.4 +4.0
RASA Rasa 8.87 357 ⇓P Pn 19 54 22.2 +3.4
SGRR Singureni 8.97 352 ⇑P Pn 19 54 24.2 +3.9
PUK Puka 9.09 320 Pn Pn 19 54 20.8 -1.1
TIRR Tirgusor 9.12 3 ⇑P Pn 19 54 25.7 +3.5
TIRR Tirgusor 9.12 3 P Pn 19 54 22.4 +0.2
TIRR Tirgusor 9.12 3 Pn Pn 19 54 22.4 +0.2
TIRR Tirgusor 9.12 3 ⇑P Pn 19 54 24.1 +1.9
LEHL Lehliu 9.15 356 ⇑P Pn 19 54 26.0 +3.4
TLBR Topalu 9.19 1 ⇓P Pn 19 54 26.4 +3.2
HARR Harsova 9.34 1 ⇑P Pn 19 54 28.5 +3.3
ULC Ulcinj 9.38 317 ⇑*i* Pn Pn 19 54 29.0 +3.1
ULC *i* Sn Sn 19 56 09.6 -1.5
HUMR Humele 9.42 348 ⇑P Pn 19 54 29.1 +2.8
JURR Jurilovca 9.45 5 ⇑P Pn 19 54 29.5 +2.7
PVY Plav 9.45 322 ⇑*i* Pn Pn 19 54 30.3 +3.3
PVY *i* Sn Sn 19 56 11.4 -1.5
TPGR Topolog 9.52 3 ⇑P Pn 19 54 31.8 +4.2
DRME Dracevica, Mon 9.57 318 *e*Pn Pn 19 54 29.6 +1.2
DRME Dracevica, Mon 9.57 318 ⇓*i* Pn Pn 19 54 30.6 +2.2
DRME *i* Sn Sn 19 56 13.8 -1.8
TIP Timpagrande 9.57 297 ⇓P Pn 19 54 28.9 +0.3
TIP Timpagrande 9.57 297 Pn 19 54 25.9 -2.6
TIP Timpagrande 9.57 297 ⇓P Pn 19 54 28.0 -0.6
PUNG Punghina 9.67 339 ⇑P Pn 19 54 33.7 +4.0
IVA Berane 9.69 323 ⇑*i* Pn Pn 19 54 33.4 +3.2
IVA *i* Sn Sn 19 56 16.7 -2.0
PDG Podgorica 9.70 319 ⇑P Pn 19 54 32.5 +2.3
PDG Podgorica 9.70 319 *e*Pn Pn 19 54 31.5 +1.3
PDG Podgorica 9.70 319 Pn Pn 19 54 30.4 +0.2
PDG Podgorica 9.70 319 ⇑P Pn 19 54 31.5 +1.3
PDG ⇑S Sn 19 56 21.0 +2.3
TTG Podgorica 9.70 319 ⇑*i* Pn Pn 19 54 33.1 +2.9
TTG *i* Sn Sn 19 56 17.3 -1.4
SECR 9.77 353 ⇑P Pn 19 54 35.2 +4.1
BUM Brajici-Budva 9.80 318 ⇑*i* Pn Pn 19 54 33.7 +2.0
BUM *i* Sn Sn 19 56 20.0 -1.5
ISR Istrita 9.81 355 ⇑P Pn 19 54 35.8 +4.0
KOME Kolasin 9.86 322 ⇑*i* Pn Pn 19 54 36.3 +3.8
KOME *i* Sn Sn 19 56 21.2 -1.7
TLCR 9.86 4 ⇑P Pn 19 54 36.1 +3.7
SRE Strehaia 9.94 341 ⇑P Pn 19 54 37.5 +3.9
CEL Celeste 9.96 290 Pn Pn 19 54 33.3 -0.5
CEL Celeste 9.96 290 ⇑P Pn 19 54 34.1 +0.3
CEME Cevo 9.96 319 ⇓*i* Pn Pn 19 54 35.2 +1.4
CEME *i* Sn Sn 19 56 23.0 -2.3
GRER 10.04 357 ⇑P Pn 19 54 38.5 +3.6
MTUR Matau 10.09 349 ⇑P Pn 19 54 39.2 +3.6
NKME Niksic 10.09 320 ⇓*i* Pn Pn 19 54 37.9 +2.3
NKME *i* Sn Sn 19 56 26.4 -2.1
HCY Herceg Novi 10.12 317 *e*Pn Pn 19 54 37.3 +1.3
HCY Herceg Novi 10.12 317 ⇓*i* Pn Pn 19 54 37.8 +1.8
HCY *i* Sn Sn 19 56 26.2 -3.0
NEHR Nehoiu 10.13 354 ⇓P Pn 19 54 40.3 +4.1
DJES Djerdap 10.14 338 ⇑P Pn 19 54 39.8 +3.5
MATE Matera 10.21 305 ⇑P Pn 19 54 38.3 +1.1
MATE Matera 10.21 305 ⇑P Pn 19 54 37.0 -0.2
BISRR Bisoca 10.23 356 ⇑P Pn 19 54 41.1 +3.6
MLR Muntele Rosu 10.23 353 ⇑P Pn 19 54 42.1 +4.4
MLR Muntele Rosu 10.23 353 Pn Pn 19 54 39.3 +1.7
baz=142,slow=5.6
MLR LR LR 19 59 22.4
comp=Z,2µm,18.4s,baz=184,slow=42
MLR Muntele Rosu 10.23 353 Pn Pn 19 54 39.4 +1.7
PLE Pljevlja 10.28 323 ⇓*i* Pn Pn 19 54 41.5 +3.3
PLE *i* Sn Sn 19 56 30.9 -2.3
VOIR 10.29 349 ⇓P Pn 19 54 41.1 +2.7
ARR Arges 10.29 348 ⇑P Pn 19 54 42.0 +3.5
HERR Herculane 10.37 338 ⇑P Pn 19 54 41.8 +2.4
TREB Trebinje 10.38 318 *e*Pn Pn 19 54 39.9 +0.3
BRY Bratogost 10.40 319 *e*Pn Pn 19 54 41.4 +1.4
BRY Bratogost 10.40 319 *e*Pn Pn 19 54 41.7 +1.7
BRY *i* Sn Sn 19 56 33.6 -2.7
ODBI Odobesti 10.42 357 ⇓P Pn 19 54 44.2 +4.1
UPM Unac-Piva 10.43 321 *e*Pn Pn 19 54 43.7 +3.4
UPM Unac-Piva 10.43 321 ⇓*i* Pn Pn 19 54 43.6 +3.3

UPM *i* Sn Sn 19 56 34.5 -2.4
RUDO Rudo 10.50 324 *e*Pn Pn 19 54 42.4 +1.2
MDVR Moldovita 10.50 336 ⇑P Pn 19 54 43.7 +2.5
PLOR Plostina 10.53 356 ⇑P Pn 19 54 46.0 +4.3
LOT Lotru 10.54 344 ⇑P Pn 19 54 45.1 +3.2
VRI Vrincioaia 10.54 356 ⇑P Pn 19 54 45.7 +3.9
COVR Voineasa-Covas 10.56 354 ⇓P Pn 19 54 44.7 +2.7
DIVS Divibare 10.59 328 *e*Pn Pn 19 54 45.4 +2.9
DIVS Divibare 10.59 328 Pn Pn 19 54 44.6 +2.0
DIVS Divibare 10.59 328 ⇓P Pn 19 54 45.9 +3.3
BBLS Lazići 10.67 325 *e*Pn Pn 19 54 47.6 +4.0
MARD Mardin 10.68 76 Pn Pn 19 54 44.0 +0.2
GZR Gura Zlata 10.73 341 ⇑P Pn 19 54 47.1 +2.6
MRVN Minervino Murg 10.74 306 ⇑P Pn 19 54 43.0 -1.6
SIM Simferopol' 10.75 25 *e*P Pn 19 54 45.5 +0.9
SIM *e*S Sn 19 56 50.6 +6.1
SIM pmax pmax
comp=Z,17nm,1.1s
SIM smax smax
comp=E,104nm,1.1s
DOPR Dopca 10.77 351 ⇑P Pn 19 54 47.5 +2.7
STON Ston 10.84 317 *e*Pn Pn 19 54 46.0 +0.2
STON Sn Sn 19 56 43.2 -3.6
OZUR 10.85 353 ⇑P Pn 19 54 48.8 +2.8
VAE Valguarnera 10.97 285 Pn Pn 19 54 48.5 +0.7
comp=E,3.0nm,0.3s,baz=236,slow=12,SNR=11
VAE Sn Sn 19 56 42.4 -7.8
comp=E,6.3nm,0.3s,baz=341,slow=23,SNR=2.2
VAE Valguarnera 10.97 285 Pn 19 54 48.5 +0.7
RAFF Raffo Rosso 10.98 284 Pn Pn 19 54 46.9 -0.9
KTUT Trabzon 10.99 56 ⇓P Pn 19 54 48.8 +0.8
HAPS Han Pijesak,BI 11.05 325 *e*Pn Pn 19 54 51.5 +2.6
KOPT Kop Dagi 11.11 61 Pn 19 54 49.3 -0.5
TEKS Tekeris 11.15 328 *e*Pn Pn 19 54 53.2 +3.1
TESR Tescani 11.19 356 ⇑P Pn 19 54 53.7 +3.1
BZS Buzias 11.28 337 ⇑P Pn 19 54 55.5 +3.7
PURM Purcari 11.29 7 ⇓P Pn 19 54 55.4 +3.5
MAKA Makarska 11.49 317 *e*Pn Pn 19 54 54.3 -0.5
MAKA Sn Sn 19 56 56.9 -5.8
FRGS Fruska Gora 11.53 331 ⇑P Pn 19 54 58.5 +3.2
FRGS Fruska Gora 11.53 331 *e*Pn Pn 19 54 55.1 -0.2
RICI Ricice 11.56 318 *e*Pn Pn 19 54 56.0 +0.3
RICI Sn Sn 19 57 00.8 -3.7
BIZ Bicaz 11.65 354 ⇑P Pn 19 54 59.9 +2.9
KIS Kishinev 11.67 4 *e*P Pn 19 55 01.0 +3.8
KIS Kishinev 11.67 4 *e*PP Pn 19 55 06.0 +8.8
KIS *e*L L 19 59 05.0
KIS LRM MLR 20 00 05.0
comp=E,400nm,13.5s
HVAR Hvar 11.75 315 *e*Pn Pn 19 54 57.0 -1.3
HVAR Sn Sn 19 57 02.9 -6.0
PAOL Paolisi 11.83 303 Pn Pn 19 55 00.1 +0.6
GURO Guroymak-BITLI 11.85 70 Pn Pn 19 55 00.2 +0.3
CORL Corleone 11.90 287 Pn 19 55 02.4 +2.0
CLTB Caltabellotta 11.93 285 Pn Pn 19 55 02.0 +1.2
CLTB Caltabellotta 11.93 285 ⇑P Pn 19 55 04.6 +3.7
ANN Anapa 11.99 35 *e*P Pn 19 55 04.4 +2.9
ANN *e*S Sn 19 57 19.9 +5.0
ANN pmax pmax
comp=Z,79nm,1.5s
ARCR ARCALIA 12.01 349 ⇑P Pn 19 55 05.6 +3.8
MGRS Mrkonjic Grad 12.22 321 *e*Pn Pn 19 55 06.5 +1.8
KIJV Kijevo 12.30 318 *e*Pn Pn 19 55 06.1 +0.3
KIJV Sn Sn 19 57 20.1 -2.4
SOC Sochi 12.36 45 *e*P Pn 19 55 06.0 -0.6
SOC *e* 19 57 26.3
SOC MLR MLR
comp=Z,806nm,12.0s
BLY Banja Luka 12.40 322 *e*Pn Pn 19 55 07.6 +0.4
BLY Banja Luka 12.40 322 ⇑P Pn 19 55 12.7 +5.5
BURAR Bucovina Array 12.41 352 ⇓P Pn 19 55 11.6 +4.2
BURAR Bucovina Array 12.41 352 Pn Pn 19 55 08.7 +1.4
BUR08 Bucovina Ar. S 12.44 352 Pn Pn 19 55 09.6 +1.8
ZIRJ Zirje 12.50 315 *e*Pn Pn 19 55 08.8 +0.3
ZIRJ Sn Sn 19 57 21.8 -5.6
INTR Introdacqua 12.71 306 Pn Pn 19 55 11.3 -0.2
MRAK Mrakovica 12.73 323 *e*Pn Pn 19 55 12.4 +0.7
MORH Mrgy, Hungar 12.86 330 ⇑P Pn 19 55 15.4 +2.0
MORH Mrgy, Hungar 12.86 330 *e*PN Pn 19 55 16.1 +2.6
MORH Mrgy, Hungar 12.86 330 *e*Pn Pn 19 55 13.0 -0.5
KOVH Kovagotottos 12.99 329 *e*PN Pn 19 55 17.4 +2.2
DUGI Dugi Otok 13.04 315 *e*Pn Pn 19 55 15.0 -1.0
KARS Kars 13.17 62 P Pn 19 55 18.1 +0.2
KARS Kars 13.17 62 Pn Pn 19 55 18.1 +0.2
AQU L'Aquila 13.20 306 P Pn 19 55 16.7 -1.4
AQU L'Aquila 13.20 306 Pn Pn 19 55 16.7 -1.4
MOSL Moslavina 13.23 324 *e*Pn Pn 19 55 19.1 +0.5
CHVG Ch'k'valeri 13.33 52 ⇑P Pn 19 55 22.7 +2.8
NVLJ Novalja 13.50 317 *e*Pn Pn 19 55 21.2 -0.9
AKH Akhalkalaki 13.73 59 ⇑P Pn 19 55 27.9 +2.3
KALN Kalnik 13.76 325 *e*Pn Pn 19 55 27.8 +2.1
BEHE Becsehely 13.86 327 *e*P P 19 55 33.7 -1.7
BEHE Becsehely 13.86 327 *e*Pn Pn 19 55 26.1 -1.0
PSZ Piszkesteto 13.87 337 *e*PN Pn 19 55 30.0 +2.8
PSZ Piszkesteto 13.87 337 P Pn 19 55 26.7 -0.5
PSZ Piszkesteto 13.87 337 Pn Pn 19 55 26.7 -0.5
PSZ Piszkesteto 13.87 337 ⇑P Pn 19 55 30.9 +3.6
OZLJ Ozalj 13.87 321 *e*Pn Pn 19 55 28.3 +1.1
UZH Uzhgorod 13.88 345 *e*P Pn 19 55 29.3 +1.9
UZH *e*S Sn 19 58 03.2 +2.1
UZH MLR MLR
comp=N,300nm,13.0s
UZH MLR MLR
comp=E,200nm,13.0s
UZH MLR MLR
comp=Z,250nm,13.0s
BOJS Bojanci 13.91 321 *e*Pn Pn 19 55 27.3 -0.4
NEY Neytrino 14.00 51 ⇓*e*P Pn 19 55 31.8 +2.6
NEY pmax pmax
comp=Z,10.0nm,0.9s
CRES Cresnjev 14.02 322 *e*Pn Pn 19 55 29.2 -0.1
MPLH Magyarpolny 14.08 330 *e*P Pn 19 55 32.7 +2.6
KOLS Kolonicke sedl 14.17 345 *e*P P 19 55 39.3 +0.5
KOLS Kolonicke sedl 14.17 345 *e*P P 19 55 39.3 +0.5
ONI Oni 14.17 55 P Pn 19 55 31.4 -0.1
ONI Oni 14.17 55 Pn Pn 19 55 31.4 -0.1
MURB Monte Urbino 14.19 308 Pn Pn 19 55 31.7 -0.1
KECS Kecovo 14.20 340 *e*P P 19 55 40.6 +1.5
KECS Kecovo 14.20 340 *e*P P 19 55 40.6 +1.5
GNI Garni 14.26 65 Pn P 19 55 36.8 -3.2
comp=Z,0.4nm,0.3s,baz=22,slow=8.7,SNR=7.2
GNI LR LR 20 02 30.1
comp=Z,568nm,18.8s,baz=298,slow=43
GNI Garni 14.26 65 *ce*P Pn 19 55 35.8 +3.1
GNI pmax pmax
comp=Z,65nm,2.5s
GNI Garni 14.26 65 Pn Pn 19 55 30.6 -2.1
GNI Garni 14.26 65 ⇑P Pn 19 55 35.8 +3.1
MGAB Montegabbione 14.30 307 ⇓p P 19 55 40.9 +0.7
CRVS Cervenica-Dubn 14.33 343 *e*P P 19 55 40.1 -0.4
CRVS Cervenica-Dubn 14.33 343 *e*P P 19 55 40.1 -0.4
KIV Kislovodsk 14.34 49 *e*P P 19 55 37.9 -2.9
KIV *e*S Sn 19 58 19.1 +6.7
KIV pmax pmax
comp=Z,105nm,1.1s
KIV MLR MLR
comp=Z,297nm,12.0s
KIV Kislovodsk 14.34 49 Pn Pn 19 55 32.6 -1.1
KIV Kislovodsk 14.34 49 ⇓p P 19 55 42.8 +2.0
BRJN Brijuni 14.34 316 *e*Pn Pn 19 55 32.9 -0.8
KVAR Kislovodsk Arr 14.34 49 Pn P 19 55 39.8 -1.1
baz=269,slow=22,SNR=5.3
KBZ Knabaz 14.35 50 Pn P 19 55 37.6 -3.2
comp=Z,0.1nm,0.3s,baz=262,slow=7.7,SNR=10
KBZ LR LR 20 02 06.0
comp=Z,362nm,21.3s,baz=242,slow=41
KBZ Knabaz 14.35 50 ⇑*e*P Pn 19 55 35.3 +1.5
KBZ Knabaz 14.35 50 P P 19 55 37.6 -3.2
EGYH Egyhazaskeszo 14.37 330 *e*P P 19 55 40.1 -0.8
CEY Cerknica 14.50 320 *e*Pn Pn 19 55 35.2 -0.6
ZEI Tsey 14.56 54 *e*P Pn 19 55 35.8 -1.1
ZEI pmax pmax
comp=Z,20nm,1.0s
TATN Tataouine 14.57 264 ⇑P Pn 19 55 35.0 -1.9
SKDS Skadanscina 14.59 318 *e*Pn Pn 19 55 35.1 -2.0
LJU Ljubljana 14.65 321 *e*Pn Pn 19 55 37.4 -0.5
NCK Nalchik 14.68 52 ⇓*e*P Pn 19 55 40.4 +2.1
VYHS Vyhne 14.71 336 *e*P P 19 55 44.2 -0.6
VYHS Vyhne 14.71 336 *e*P P 19 55 44.2 -0.6
LVV L'vov 14.72 350 *e*P P 19 55 43.5 -1.4
LVV MLR MLR

comp=Z,1µm,16.0s
KWP Kalwaria Pacla 14.75 347 *e*P P 19 55 51.0 +5.7
KWP Kalwaria Pacla 14.75 347 P Pn 19 55 39.4 +0.1
KWP Kalwaria Pacla 14.75 347 Pn 19 55 39.4 +0.1
PERS Pernice 14.76 324 *i* Pn Pn 19 55 40.9 +1.4
CRNS Crni Vrh 14.81 320 *i* Pn Pn 19 55 40.5 +0.5
TRI Trieste 14.83 319 P Pn 19 55 36.4 -3.9
TRI Trieste 14.83 319 Pn 19 55 36.4 -3.9
TRI Trieste 14.83 319 ⇑P Pn 19 55 41.1 +0.8
SOKA Soboth 14.83 324 *i* P Pn 19 55 41.5 +1.1
comp=Z,43nm,1.2s,SNR=12
STHS Stebnicka Huta 14.86 343 *e*P P 19 55 49.1 +2.7
STHS Stebnicka Huta 14.86 343 *e*P P 19 55 49.1 +2.7
OBKA Obir 14.95 322 *e*P Pn 19 55 43.7 +1.6
comp=Z,36nm,1.4s
KEST Kesra 15.01 277 Pn Pn 19 55 43.1 +0.3
comp=Z,1.0nm,0.3s,baz=44,slow=4.1,SNR=7.9
KEST Sn Sn 19 58 23.7 -5.1
comp=Z,0.2nm,0.3s,baz=210,slow=13,SNR=1.5
KEST Kesra 15.01 277 Pn Pn 19 55 42.0 -0.9
KEST lAmb lAmb 19 55 50.9
comp=Z,55nm,0.8s
ARSA Arzberg 15.02 326 *i* P Pn 19 55 45.2 +2.3
comp=Z,12nm,1.1s,SNR=7.1
CASP Castiglione de 15.07 305 P Pn 19 55 40.1 -3.5
LANS Liptovska Anna 15.09 339 *e*P P 19 55 50.3 +1.3
LANS Liptovska Anna 15.09 339 *e*P P 19 55 50.3 +1.3
NIE Niedzica 15.10 341 *e*P P 19 55 51.2 +2.1
OSSC Osservatorio P 15.14 308 ⇑ P 19 55 41.1 -3.5
GOF Gofitskoye 15.15 46 ⇑*e*P P 19 55 48.0 -1.7
GOF pmax pmax
comp=Z,68nm,0.9s
MODS Modra-Piesok 15.16 332 *e*P P 19 55 50.4 +0.5
MODS Modra-Piesok 15.16 332 *e*P P 19 55 50.4 +0.5
SMOL Smolenice 15.22 333 *e*P P 19 55 52.9 +2.4
SMOL Smolenice 15.22 333 *e*P P 19 55 52.9 +2.4
CONA Conrad Observa 15.38 328 *e*P P 19 55 51.0 -1.3
comp=Z,8.3nm,1.1s
AKASG Malin Array Be 15.39 3 Pn Pn 19 55 47.8 +0.1
comp=Z,4.1nm,0.3s,baz=196,slow=11,SNR=15
AKASG LR LR 20 02 18.3
comp=Z,532nm,18.3s,baz=185,slow=40
AKASG Malin Array Be 15.39 3 *i* P P 19 55 51.2 -1.1
AKASG pmax pmax
comp=Z,6.0nm,0.5s
AKASG Malin Array Be 15.39 3 P Pn 19 55 48.6 +0.9
AKBB Malin Array Si 15.39 3 ⇓*e*P P 19 55 51.0 -1.3
AKBB pmax pmax
comp=Z,34nm,1.4s
AKBB Malin Array Si 15.39 3 Pn 19 55 45.1 -2.5
JAVC Velka Javorina 15.43 334 *e*PN P 19 55 50.8 -2.0
MYKA Terra Mystica 15.49 321 P Pn 19 55 49.4 +0.2
comp=Z,34nm,0.8s,SNR=6.2
PTCC Patocco-Chiusa 15.50 320 ⇓P Pn 19 55 48.0 -1.2
ZCCA Zocca 15.70 310 P Pn 19 55 48.0 -3.9
ZCCA lAmb lAmb 19 56 11.5
comp=Z,66nm,1.1s
STAL STALIGIAL 15.75 318 Pn 19 55 50.7 -1.7
ZOU Zoufplan 15.79 320 Pn 19 55 51.7 -1.5
TEOL Teolo 15.81 314 P Pn 19 55 50.7 -2.5
TEOL lAmb lAmb 19 56 07.8
comp=Z,51nm,0.7s
KBA Koelnbreinsper 15.95 322 *i* P P 19 55 57.2 -1.5
comp=Z,32nm,1.2s,SNR=12
OJC Ojcow 15.96 341 *e*P P 19 55 59.2 +0.5
OJC Ojcow 15.96 341 P Pn 19 55 55.8 +0.6
OJC pmax pmax
comp=Z,67nm,1.0s
OJC Ojcow 15.96 341 Pn 19 55 55.8 +0.6
OJC lAmb lAmb 19 56 12.5
comp=Z,67nm,1.0s
OJC Ojcow 15.96 341 ⇓P P 19 55 59.2 +0.5
VLC Villacollemand 15.98 309 Pn Pn 19 55 54.5 -1.0
GROC Groznyy 15.99 55 *e*P P 19 55 57.5 -1.6
GROC *e*S Sn 19 58 56.1 +3.5
GROC pmax pmax
comp=Z,198nm,0.9s
GROC MLR MLR
comp=Z,532nm,13.0s
MOA Molln 16.04 325 *i* P Pn 19 55 57.5 +1.3
comp=Z,16nm,1.3s,SNR=7.0
KRUC Moravsky 16.07 332 *e*PN Pn 19 55 57.6 +1.1
OKC Ostrava-Krasne 16.10 337 AMS AMS 20 03 10.0
comp=Z,1µm,9.8s
ABTA Abfaltersbach 16.16 319 P Pn 19 55 57.3 -0.5
comp=Z,22nm,0.7s,SNR=21
VRAC Vranov 16.19 333 Pn Pn 19 55 58.2 +0.1
comp=Z,1.3nm,0.3s,baz=157,slow=9.6,SNR=12
VRAC LR LR 20 02 55.4
comp=Z,687nm,18.5s,baz=145,slow=40
VRAC Vranov 16.19 333 Pn 19 55 58.2 +0.1
VRAC Vranov 16.19 333 *e*PN P 19 55 59.9 -1.3
CTI Castel Tesino 16.21 316 P Pn 19 55 57.2 -1.3
CTI pmax pmax
comp=Z,70nm,0.9s
CTI Castel Tesino 16.21 316 Pn 19 55 57.2 -1.3
CTI lAmb lAmb 19 56 06.5
comp=Z,70nm,0.9s
MORC Moravsky Berou 16.25 336 P Pn 19 55 58.5 -0.4
MORC pmax pmax
comp=Z,16nm,0.9s
MORC Moravsky Berou 16.25 336 Pn 19 55 58.5 -0.4
MORC Moravsky Berou 16.25 336 *e*PN P 19 56 00.4 -1.5
MORC Moravsky Berou 16.25 336 ⇑P P 19 56 00.7 -1.2
PGF Pioggiola 16.26 302 P P 19 56 01.3 -0.8
MSSA Maissana 16.61 308 P Pn 19 56 03.1 -0.5
SALO Salr 16.62 313 P Pn 19 56 02.5 -1.2
SALO lAmb lAmb 19 56 09.4
comp=Z,62nm,0.8s
SALO Salr 16.62 313 ⇑P P 19 56 07.0 +0.9
RJOB Jochberg 16.66 323 *e*P Pn 19 56 04.6 +0.4
baz=136,slow=12
CKRC Cesky Krumlov 16.73 328 *e*P Pn 19 56 05.9 +0.9
CKRC AMS AMS 20 03 20.0
comp=Z,800nm,11.7s
KRLC Kraliky 16.76 335 *e*P P 19 56 10.6 +3.0
KRLC MLR MLR
comp=Z,800nm,10.9s
KRLC Kraliky 16.76 335 *e*P P 19 56 10.6 +3.0
KRLC *e*S S 19 59 28.1 +6.1
KRLC AMS AMS 20 03 40.0
comp=Z,800nm,10.9s
AKT Akhty 16.79 63 *e*P P 19 56 09.5 +1.5
AKT pmax pmax
comp=Z,35nm,0.8s
BOB Bobbio (Coli) 16.86 309 ⇑P P 19 56 09.8 +1.0
WTTA Wattenberg 16.95 320 *i* P P 19 56 09.7 -0.2
comp=Z,54nm,1.1s,SNR=8.1
GEC2 GERESS Array S 17.02 327 Pn 19 56 07.5 -1.2
GEC2 GERESS Array S 17.02 327 *e*P Pn 19 56 09.3 +0.6
comp=Z,73nm,1.6s,baz=136,slow=12
GEC2 *e*L L 20 04 59.6
comp=Z,283nm,18.7s
GERES GERESS Array B 17.02 327 Pn Pn 19 56 09.1 +0.4
comp=Z,0.6nm,0.3s,baz=142,slow=13,SNR=87
GERES GERESS Array B 17.02 327 P Pn 19 56 08.5 -0.2
GERES GERESS Array B 17.02 327 Pn Pn 19 56 08.4 -0.2
WATA Walderalm 17.03 320 *i* P P 19 56 10.4 -0.2
comp=Z,68nm,1.0s,SNR=22
MAK Makhachkala 17.07 58 *e*P Pn 19 56 09.8 +0.5
MAK *e*S Sn 19 59 20.0 +1.3
MAK pmax pmax
comp=Z,287nm,1.0s
MAK MLR MLR
comp=Z,434nm,14.0s
SQTA Sankt Quirin 17.15 319 *i* P Pn 19 56 10.9 +0.5
comp=Z,53nm,1.0s,SNR=22
DPC Dobruska-Polom 17.16 334 *e*P P 19 56 11.5 -0.4
DPC MLR MLR
comp=Z,900nm,12.7s
DPC Dobruska-Polom 17.16 334 *e*P P 19 56 11.5 -0.4
DPC AMS AMS 20 03 30.0
comp=Z,900nm,12.7s
RST Umm Al-Ruwaisa 17.24 104 *e*P Pn 19 56 10.6 -0.9
KHC Kasperske Hory 17.29 327 *e*P P 19 56 12.6 -0.8
KHC MLR MLR
comp=Z,1µm,11.1s
KHC Kasperske Hory 17.29 327 *e*P P 19 56 12.6 -0.8
KHC *ex* x 19 56 23.0
KHC *e*S S 19 59 32.1 -0.6
KHC AMS AMS 20 03 40.0
comp=Z,1µm,11.1s
KHC Kasperske Hory 17.29 327 ⇑P Pn 19 56 12.4 +0.4
MOTA Moosalm 17.29 319 *i* P Pn 19 56 12.5 +0.4

comp=Z,35nm,1.3s,SNR=14
FETA Feichten 17.30 318 *i* P **P 19 56 13.1 -0.6**
comp=Z,95nm,1.0s,SNR=34
OSTC Ostas 17.36 335 *e*P **P 19 56 13.6 -0.6**
OSTC AMS AMS 20 03 00.0
comp=Z,700nm,16.4s
MIB Mutribah 17.39 103 *e*P **Pn 19 56 12.6 -0.8**
UPC Upice 17.40 334 AMS AMS 20 03 30.0
comp=Z,700nm,14.6s
CHVC Chvalec 17.45 334 *e*P **P 19 56 15.0 -0.1**
CHVC AMS AMS 20 03 40.0
comp=Z,600nm,14.1s
PBCC Pribram 17.52 329 *e*P **Pn 19 56 15.2 +0.3**
PRU Pruhonice 17.53 331 *e*P **Pn 19 56 15.3 +0.3**
PRU MLR MLR
comp=Z,700nm,11.9s
PRU Pruhonice 17.53 331 *e*P **Pn 19 56 15.3 +0.3**
PRU AMS AMS 20 03 50.0
comp=Z,700nm,11.9s
RETA Reutte 17.56 319 *i* P **Pn 19 56 15.5 +0.1**
comp=Z,25nm,1.1s,SNR=14
KSP Ksiaz 17.58 335 *e*P **P 19 56 17.0 +0.5**
KSP Ksiaz 17.58 335 ⇓P **P 19 56 16.7 +0.2**
WET Wettzell 17.61 326 *e*P **Pn 19 56 16.1 +0.1**
comp=Z,47nm,1.0s,baz=136,slow=12
WET *e*L L 20 03 15.4
comp=Z,267nm,21.8s
DAVOX Davos/Dischmat 17.63 316 P **Pn 19 56 15.6 -0.9**
comp=Z,0.6nm,0.3s,baz=96,slow=10,SNR=5.7
DAVOX Davos/Dischmat 17.63 316 P **Pn 19 56 15.6 -0.9**
PRA Prague 17.64 331 AMS AMS 20 03 50.0
comp=Z,700nm,11.5s
VORD Divnogorie 17.70 25 *e*P **P 19 56 18.7 +0.9**
VORD pmax pmax
comp=Z,50nm,1.0s
FUR Furstenfeldbru 17.71 321 *e*P **Pn 19 56 16.7 -0.6**
comp=Z,81nm,1.1s,baz=136,slow=12
FUR *e*L L 20 02 56.9
comp=Z,516nm,20.0s
UMR Umm Al-Rimmam 17.79 103 *e*P **Pn 19 56 17.2 -1.1**
DAVA Damuels 17.92 317 *i* P **Pn 19 56 20.1 +0.1**
comp=Z,36nm,1.2s,SNR=13
RDF Al-Radifah 17.92 105 *e*P **Pn 19 56 19.2 -0.8**
KBD Kabd 17.93 104 *e*P **Pn 19 56 18.8 -1.3**
PVCC Panska Ves 17.95 332 *e*P **P 19 56 20.7 +0.1**
PVCC MLR MLR
comp=Z,400nm,10.4s
PVCC Panska Ves 17.95 332 *e*P **P 19 56 20.7 +0.1**
PVCC AMS AMS 20 04 50.0
comp=Z,400nm,10.4s
UBR Ueberruh 18.03 319 *e*P **Pn 19 56 20.6 -0.6**
baz=136,slow=12
SET Setif 18.17 279 P **P 19 56 25.0 +1.7**
VORR Voronezh 18.27 23 *e*P **P 19 56 25.0 +0.8**
VORR pmax pmax
comp=Z,250nm,1.0s
QRN Al-Qurain 18.29 105 *e*P **Pn 19 56 22.3 -2.2**
ROTZ Rotzenmuhle 18.36 326 *e*P **Pn 19 56 24.8 -0.4**
comp=Z,62nm,2.0s,baz=136,slow=12
BRG Berggiesshubel 18.46 331 *e*P **Pn 19 56 26.4 0.0**
baz=136,slow=12
BRG Berggiesshubel 18.46 331 *e*P **Pn 19 56 27.2 +0.8**
BRG Amp 19 56 33.2
comp=Z,16nm,1.0s
BRG Amp 20 05 45.0
comp=E,0.5nm,12.6s
BRG Amp 20 05 50.0
comp=N,0.3nm,9.6s
BRG Amp 20 05 55.0
comp=Z,0.6nm,12.3s
MANZ Manzenberg 18.57 327 *e*P **P 19 56 27.2 -0.2**
comp=Z,24nm,1.0s,baz=136,slow=12
WERN Wernitzgruen 18.67 328 *e*P **P 19 56 28.6 0.0**
baz=136,slow=12
FBE Freiberg 18.74 331 *e*P **Pn 19 56 29.5 -0.2**
baz=136,slow=12
BNI Bardonecchia 18.76 308 P **P 19 56 28.9 -0.8**
BNI pmax pmax
comp=Z,22nm,0.9s
BNI Bardonecchia 18.76 308 P **P 19 56 28.9 -0.8**
BNI Bardonecchia 18.76 308 ⇑P **Pn 19 56 30.1 -0.1**
GRA1 Grafenberg Arr 18.76 325 P **P 19 56 26.1 -3.5**
GRA1 IAmb IAmb 19 56 34.6
comp=Z,54nm,0.9s
GRF Grafenberg Arr 18.76 325 P **P 19 56 26.1 -3.5**
GRF pmax pmax
comp=Z,54nm,0.9s
GRF Grafenberg Arr 18.76 325 *e*P **P 19 56 29.7 +0.1**
comp=Z,36nm,0.9s,baz=136,slow=12
GRF *e*L L 20 03 26.0
comp=Z,282nm,21.8s
GRFO Grafenberg 18.76 325 P **P 19 56 28.8 -0.8**
GRFO pmax pmax
comp=Z,49nm,0.9s
GRFO Grafenberg 18.76 325 P **P 19 56 28.8 -0.8**
GRFO IAmb IAmb 19 56 34.5
comp=Z,49nm,0.9s
VRH Novokhopyorsk 18.77 28 *e*P **Pn 19 56 30.0 -0.2**
VRH pmax pmax
comp=Z,30nm,0.7s
WERD Werda 18.81 328 *e*P **Pn 19 56 31.9 +1.2**
baz=136,slow=12
PLN Plauen 18.91 328 *e*P **Pn 19 56 32.8 +1.0**
baz=136,slow=12
SENIN Lac Senin/Sane 18.94 312 P **P 19 56 30.4 -1.4**
SENIN IAmb IAmb 19 56 34.1
comp=Z,46nm,0.8s
SUW Suwalki 18.94 352 *e*P **P 19 56 31.3 -0.2**
SUW Suwalki 18.94 352 *e*P **P 19 56 31.4 -0.2**
SUW Suwalki 18.94 352 P **P 19 56 29.7 -1.8**
SUW pmax pmax
comp=Z,90nm,1.1s
SUW Suwalki 18.94 352 P **P 19 56 29.7 -1.8**
SUW IAmb IAmb 19 56 39.7
comp=Z,90nm,1.1s
SUW Suwalki 18.94 352 ⇓P **P 19 56 31.6 +0.1**
MNK Minsk 19.16 0 *i* P **P 19 56 33.6 -0.3**
MNK *i* S **S 20 00 10.4 0.0**
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK pmax pmax
comp=N,36nm,1.2s
MNK pmax pmax
comp=Z,19nm,0.6s
MNK MLR MLR
comp=Z,349nm,14.0s
MNK MLR MLR
comp=N,182nm,11.0s
MNK MLR MLR
comp=E,68nm,16.0s
MNK Minsk 19.16 0 *i* P **P 19 56 33.6 -0.3**
comp=E,1.0nm,0.8s
MNK *i* P **P 19 56 33.6 -0.3**
comp=N,36nm,1.2s
MNK *i* P **P 19 56 33.6 -0.3**
comp=Z,19nm,0.6s,baz=180
MNK *i* PP **PnPn 19 56 47.4 -0.2**
MNK *i* PPP PPP 19 56 55.2
MNK *i* S **S 20 00 10.5 +0.1**
MNK *i* SS **SnSn 20 00 26.2 +3.1**
MNK *i* SSS SSS 20 00 39.2
MNK *i* LQ LQ 20 02 19.6
MNK *i* LR LR 20 03 42.9
MNK *i* LRM MLR 20 05 08.5
comp=Z,349nm,14.4s
MNK *i* LRM MLR 20 05 11.3
comp=N,182nm,10.6s
MNK *i* LRM MLR 20 05 12.6
comp=E,68nm,16.0s
STU Stuttgart 19.17 320 P **P 19 56 33.4 -0.7**
STU pmax pmax
comp=Z,30nm,0.8s
STU Stuttgart 19.17 320 P **P 19 56 33.4 -0.7**
CLL Collm 19.18 331 *i* P **P 19 56 32.8 -1.3**
CLL *i* Pmax 19 56 35.1
comp=Z,28nm,1.1s
CLL *i* sP **sP 19 56 39.5 -0.8**
CLL *i* PP **PnPn 19 56 49.5 +1.7**
CLL *e*S **S 20 00 18.0 +7.2**
CLL LmH 20 03 00.0
comp=N,700nm,21.8s
CLL LmH 20 03 00.0
comp=E,800nm,19.8s
CLL LmH 20 03 00.0
comp=Z,400nm,21.8s
CLL Collm 19.18 331 *i* P **P 19 56 32.8 -1.3**
CLL Collm 19.18 331 P **P 19 56 32.2 -1.9**
CLL Collm 19.18 331 *e*P **Pn 19 56 35.2 +0.2**
comp=Z,28nm,1.1s,baz=136,slow=12
CLL *e*L L 20 03 42.4
comp=Z,357nm,21.8s
MOX Moxa 19.26 328 *e*P **Pn 19 56 36.4 +0.4**
comp=Z,56nm,1.1s,baz=136,slow=12
MOX *e*L L 20 05 41.8
comp=Z,329nm,18.8s
BFO Black Forest 19.38 318 P **P 19 56 36.5 +0.1**
BFO pmax pmax
comp=Z,18nm,0.7s
BFO Black Forest 19.38 318 P **P 19 56 36.5 +0.1**
BFO Black Forest 19.38 318 *e*L L 20 04 32.5
comp=Z,506nm,19.5s
BFO Black Forest 19.38 318 P **Pn 19 56 37.4 -0.2**
GKP Gorka Klasztor 19.41 341 *e*P **P 19 56 36.3 -0.3**
GKP Gorka Klasztor 19.41 341 *e*P **P 19 56 36.9 +0.4**
NACGM Naroch 19.57 358 *i* P **P 19 56 35.2 -3.2**
MILB Miltenberg 19.79 323 *e*P **Pn 19 56 41.8 -0.6**
baz=136,slow=12
RUE Ruedersdorf 19.81 334 *e*P **Pn 19 56 43.2 +0.6**
RUE Ruedersdorf 19.81 334 *e*P **Pn 19 56 42.6 0.0**
baz=136,slow=12
KLNR Kaliningrad 19.97 347 *e*P **P 19 56 41.6 -1.1**
KLNR pmax pmax
comp=Z,102nm,0.6s
IIGN Ignalina 20.04 357 *e*P **P 19 56 44.0 +0.5**
ISAL Salakas 20.26 357 *e*P **P 19 56 46.3 +0.4**
PABE Paberze 20.33 354 *e*P **P 19 56 45.5 -1.2**
PABE Paberze 20.33 354 P **P 19 56 44.4 -2.2**
PABE IAmb IAmb 19 57 05.6
comp=Z,51nm,0.7s
TNS Taunus Mts 20.46 323 *e*P Pn 19 56 50.1 -0.2
comp=Z,83nm,1.1s,baz=136,slow=12
TNS *e*L L 20 05 53.9
comp=Z,337nm,18.2s
OBN Obninsk 20.69 14 P **P 19 56 49.2 -1.3**
comp=Z,4.3nm,0.4s,baz=145,slow=9.1,SNR=5.1
OBN Obninsk 20.69 14⇑ *e*P **P 19 56 49.2 -1.3**
OBN *e* 19 57 11.4
OBN *e*S **S 20 00 41.2 +0.3**
OBN pmax pmax
comp=Z,45nm,0.8s
OBN MLR MLR
comp=Z,481nm,17.0s
OBN Obninsk 20.69 14 P **P 19 56 48.6 -1.9**
OBN IAmb IAmb 19 57 13.4
comp=Z,48nm,0.8s
PBUR Paburge 21.07 351 *e*P **P 19 56 53.4 -1.2**
WLF Walferdange 21.31 319 *d*P **P 19 56 56.1 -1.3**
WLF Walferdange 21.31 319 P **P 19 56 56.0 -1.3**
WLF pmax pmax
comp=Z,39nm,1.1s
WLF Walferdange 21.31 319 P **P 19 56 56.0 -1.4**
WLF IAmb IAmb 19 57 08.8
comp=Z,39nm,1.1s
WLF Walferdange 21.31 319 ⇑P **P 19 56 56.9 -0.5**
MOS Moscow 21.49 15 *e*P **P 19 56 56.9 -2.3**
MOS *e* 19 57 07.8
MOS *e* 19 57 19.1
MOS *e*S Sn 20 01 01.3 -3.8
MOS *e*SS **SnSn 20 01 31.0 +11**
MOS pmax pmax
comp=Z,46nm,1.0s
BHOU Houvegnez 21.79 320 *d*P **P 19 57 04.4 +1.9**
BHOU *d*PP **PnPn 19 57 22.9 -0.7**
BUG Bochum--Univer 21.81 324 *e*P **P 19 57 07.1 +4.5**
baz=136,slow=12
BTNL Ternell 21.86 321 *d*P **P 19 57 03.0 -0.2**
MEM Membach 21.93 321 *d*P **P 19 57 03.1 -0.8**
comp=Z,29nm,0.9s
BELG Belogornoye 22.14 34 P **P 19 57 05.8 -0.3**
comp=Z,26nm,0.6s,baz=270,slow=5.1,SNR=15
BELG LR LR 20 08 03.6
comp=Z,209nm,18.2s,baz=266,slow=43
BSTI Sart Tilman 22.15 320 *d*P **P 19 57 06.8 +0.6**
BSTI *d*pP **sP 19 57 14.5 +2.1**
BSTI *d*sP pP 19 57 19.9 +9.3
BSTI *d*PP **PnPn 19 57 26.6 -1.9**
BCLA Clavier 22.19 320 *d*P **P 19 57 05.6 -1.2**
comp=Z,19nm,0.8s
BCLA *d*pP **sP 19 57 15.3 +2.4**
BCLA *d*sP pP 19 57 20.1 +9.0
BSEG Bad Segeberg 22.25 332 *e*L L 20 06 50.8
comp=Z,349nm,18.0s
BGES Gesves 22.29 319 *d*P **P 19 57 06.7 -1.0**
DOU Dourbes 22.39 318 *d*P **P 19 57 07.7 -1.2**
comp=Z,14nm,0.9s
DOU *d*pP **sP 19 57 17.7 +2.6**
DOU *d*PP **PnPn 19 57 30.4 -1.4**
BMRD Maredsous 22.41 319 *d*P **P 19 57 07.7 -1.4**
BMRD *d*pP **sP 19 57 17.4 +2.2**
BMRD *d*PP **PnPn 19 57 30.8 -1.4**
BLEU Blekinge 22.49 342 *i* P **P 19 57 07.0 -2.9**
LUNU Lund 22.55 339 *i* P **P 19 57 09.1 -1.5**
SNF Seneffe 22.79 319 *d*P **P 19 57 12.4 -0.6**
UCC Uccle 22.90 320 P **P 19 57 12.7 -1.6**
UCC pmax pmax
comp=Z,57nm,1.4s
UCC Uccle 22.90 320 P **P 19 57 12.7 -1.6**
UCC IAmb IAmb 19 57 39.2
comp=Z,57nm,1.4s
BJUU Bjuv 23.05 339 *i* P **P 19 57 14.1 -1.7**
VSU Vasula 23.14 359 *e*P **P 19 57 18.1 +1.5**
VSU Vasula 23.14 359⇓ *e*P **P 19 57 17.7 +1.1**
VSU pmax pmax
comp=Z,42nm,0.7s
DEL Delary 23.15 340 *i* P **P 19 57 14.7 -2.1**
DEL IAmb IAmb 19 57 17.7
comp=N,5.2nm,0.4s
MTSE Matsula 23.53 355 *e*P **P 19 57 20.0 -0.5**
FABU Falkenberg 23.93 339 *e*P **P 19 57 22.3 -2.2**
GEYT Alibeck 24.44 75 P **P 19 57 29.1 -0.3**
comp=N,51nm,0.9s,baz=269,slow=10,SNR=14
GEYT LR LR 20 09 33.7
comp=N,153nm,20.3s,baz=310,slow=43
GYA0B ALIBECK ARRAY 24.44 75 P **P 19 57 29.0 -0.4**
GYA0B IAmb IAmb 19 57 43.3
comp=Z,21nm,0.7s
BORU Boraas 24.46 340 *i* P **P 19 57 28.3 -1.0**
ONAU Onsala 24.50 339 *e*P **P 19 57 29.3 -0.4**
PUL Pulkovo 24.50 3⇓ *e*P **P 19 57 30.5 +0.9**
PUL pmax pmax
comp=Z,50nm,0.7s
MEF Metsahovi 24.98 356 *e*P **P 19 57 35.5 +1.6**
AAL Aland 25.36 351 *e*P **P 19 57 36.9 -0.5**
UPP Uppsala 25.40 348 *e*P **P 19 57 37.8 0.0**
ESBB Sonseca Array 25.46 289 P **P 19 57 38.2 -0.5**
ESDC Sonseca Array 25.47 289 P **P 19 57 38.4 -0.3**
comp=Z,36nm,0.7s,baz=80,slow=9.2,SNR=223
ESDC ScP **ScP 20 04 47.6 -1.3**
comp=Z,0.5nm,0.6s,baz=88,slow=3.7,SNR=4.3
ESDC Sonseca Array 25.47 289 P **P 19 57 37.3 -1.4**
ESDC Sonseca Array 25.47 289 **ScP 20 04 47.6 -1.3**
PAB San Pablo 25.77 289 P **P 19 57 41.2 -0.3**
PAB pmax pmax
comp=Z,36nm,0.8s
PAB San Pablo 25.77 289 P **P 19 57 41.1 -0.3**
PAB San Pablo 25.77 289 ⇑P **P 19 57 41.7 +0.3**
RAF Rauma 25.98 353 *e*P **P 19 57 42.8 -0.3**
FINES FINESS Array B 26.14 358 P **P 19 57 42.5 -2.0**
comp=Z,3.5nm,0.4s,baz=159,slow=12,SNR=29
FINES PcP **PcP 20 01 11.5 +0.2**
comp=Z,1.4nm,0.5s,baz=192,slow=1.6,SNR=5.0
FINES ScP **ScP 20 04 49.0 -1.4**
comp=Z,2.5nm,0.8s,baz=117,slow=6.6,SNR=5.2
FINES LR LR 20 08 46.8
comp=Z,405nm,18.2s,baz=176,slow=38
FINES FINESS Array B 26.14 358 *i* P **P 19 57 43.2 -1.3**
FINES pmax pmax
comp=Z,4.0nm,0.4s
FINES FINESS Array B 26.14 358 P **P 19 57 42.3 -2.2**
FINES FINESS Array B 26.14 358 **ScP 20 04 49.0 -1.4**
FIA1 FINESS Array S 26.14 358 P **P 19 57 42.5 -2.0**
HFS Hagfors 26.43 344 P **P 19 57 45.5 -1.7**
comp=Z,11nm,0.5s,baz=158,slow=9.6,SNR=57
HFS PcP **PcP 20 01 11.5 -0.6**
comp=Z,1.2nm,0.6s,baz=130,slow=6.0,SNR=1.4
HFS LR LR 20 08 51.5
comp=Z,480nm,18.4s,baz=165,slow=38
HFS Hagfors 26.43 344 P **P 19 57 45.5 -1.7**
HFS **PcP 20 01 11.5 -0.6**
AKTO Aktyubinsk 26.57 46 P **P 19 57 48.7 +0.2**
comp=Z,7.5nm,0.6s,baz=256,slow=9.9,SNR=28
AKTO Aktyubinsk 26.57 46 P **P 19 57 48.7 +0.2**
UOSS Minazif 26.60 105 P **P 19 57 49.1 +0.1**
KLMR Klimovskoe 26.62 13*c* *i*P **P 19 57 47.5 -1.3**
KLMR pmax pmax
comp=Z,55nm,1.0s
KLMR MLR MLR
comp=Z,443nm,15.0s
KLMR Klimovskoe 26.62 13⇑ *i*P **P 19 57 47.5 -1.3**
KLMR ⇓*i*P **P 19 57 47.5 -1.3**
KLMR *e*P **P 19 57 47.5 -1.3**
KLMR AMP 19 58 03.3
comp=Z,55nm,1.0s
KLMR LR LR 20 07 09.7
KLMR AMP 20 09 20.2
comp=Z,443nm,14.9s
KLMR LRM MLR 20 09 26.0
MDT Midelt 26.87 274 P **P 19 57 52.0 +0.4**
comp=Z,11nm,0.8s,baz=59,slow=1.7,SNR=16
MDT LR LR 20 10 47.2
comp=Z,52nm,20.5s,baz=359,slow=42
MDT Midelt 26.87 274 P **P 19 57 52.0 +0.4**
OSL Oslo 26.99 341 *e*P **P 19 57 50.2 -1.9**
KONO Kongsberg 27.06 340 *e*P **P 19 57 51.2 -1.6**
ABKAR Akbulak array 27.32 49 P **P 19 57 55.2 -0.1**
ABKAR Akbulak array 27.32 49 P **P 19 57 54.7 -0.6**
ABKAR Akbulak array 27.32 49 ⇓P **P 19 57 55.8 +0.5**
ATD Arta Tunnel 27.37 146 P **P 19 57 57.3 +1.2**
comp=Z,7.9nm,1.0s,baz=77,slow=11,SNR=2.1
ATD LR LR 20 09 13.6
comp=Z,129nm,18.8s,baz=318,slow=37
ATD Arta Tunnel 27.37 146 P **P 19 57 57.3 +1.2**
NC602 NORSAR Array S 27.47 343 *e*P **P 19 57 54.5 -2.0**
NC602 NORSAR Array S 27.47 343 P **P 19 57 54.2 -2.3**
NC602 IAmb IAmb 19 58 02.8
comp=Z,43nm,1.3s
PBRG Braganca 27.61 294 *e*P **P 19 57 57.9 -0.1**
comp=Z,64nm,1.8s
NAO01 NORSAR Array S 27.73 342 P **P 19 57 55.6 -3.2**
NC405 NORSAR Array S 27.76 343 P **P 19 57 55.6 -3.5**
NC405 IAmb IAmb 19 58 03.9
comp=Z,17nm,0.9s
NB201 NORSAR Array S 27.80 343 P **P 19 57 57.2 -2.3**
MVO Moncorvo 27.81 293 *e*P **P 19 57 59.6 -0.3**
comp=Z,55nm,1.8s
NB2 NORSAR Subarra 27.81 343 P **P 19 57 57.0 -2.6**
comp=Z,4.1nm,0.6s,baz=150,slow=9.3
NB2 NORSAR Subarra 27.81 343 P **P 19 57 57.0 -2.6**
baz=150,slow=9.3
NOA NORSAR Array B 27.81 343 P **P 19 57 57.0 -2.6**
comp=Z,5.6nm,0.7s,baz=139,slow=9.6,SNR=19
NOA LR LR 20 10 11.5
comp=Z,488nm,18.1s,baz=160,slow=39
NOA NORSAR Array B 27.81 343 P **P 19 57 57.0 -2.6**
NOA NORSAR Array B 27.81 343 P **P 19 57 57.0 -2.6**
BLS5 Blasjo 27.83 337 *e*P **P 19 58 00.3 +0.5**
NBO00 NORSAR Array S 27.91 342 P **P 19 57 57.5 -3.0**
PBAR Barrancos 27.93 286 *e*P **P 19 58 00.7 -0.2**
comp=Z,40nm,1.4s
NC303 NORSAR Array S 27.94 343 P **P 19 57 57.7 -3.0**
NC303 IAmb IAmb 19 58 10.1
comp=Z,22nm,1.4s
PMRV Marv??o 28.12 289 *e*P **P 19 58 02.4 -0.2**
comp=Z,62nm,1.6s
NC204 NORSAR Array S 28.13 343 P **P 19 58 01.5 -1.0**
NC204 IAmb IAmb 19 58 06.4
comp=Z,17nm,0.8s
PCBR Castelo Branco 28.17 290 *e*P **P 19 58 02.9 -0.1**
comp=Z,47nm,1.3s
MTE Manteigas 28.21 291 *e*P **P 19 58 03.5 +0.1**
comp=Z,74nm,1.8s
MTE Manteigas 28.21 291 P **P 19 58 02.0 -1.4**
HRA Herat 28.22 82 P **P 19 58 04.5 +0.7**
SKAR Skarslia 28.28 340 *e*P **P 19 58 02.7 -1.0**
PESTR Estremoz 28.31 288 *e*P **P 19 58 04.2 -0.1**
comp=Z,54nm,2.2s
PESTR Estremoz 28.31 288 P **P 19 58 03.6 -0.6**
PESTR IAmb IAmb 19 58 04.5
comp=Z,13nm,0.7s
PESTR Estremoz 28.31 288 ⇑P **P 19 58 04.2 -0.1**
PVRL Vila Real 28.33 293 *e*P **P 19 58 03.5 -1.0**
comp=Z,66nm,1.8s
POLO Lamas de Olo 28.39 293 *e*P **P 19 58 05.5 +0.4**
comp=Z,31nm,1.9s
PVIS Viseu 28.47 292 *e*P **P 19 58 05.7 0.0**
comp=Z,71nm,1.3s
PVAQ Vaqueiros 28.55 285 *e*P **P 19 58 06.3 -0.1**
comp=Z,48nm,2.5s
PVAQ Vaqueiros 28.55 285 P **P 19 58 05.2 -1.1**
PVAQ IAmb IAmb 19 58 06.8
comp=Z,23nm,0.8s
PCAB Cabril 28.57 294 *e*P **P 19 58 07.1 +0.5**
comp=Z,148nm,1.7s
PBEJ Beja 28.60 286 *e*P **P 19 58 06.9 +0.1**
comp=Z,38nm,1.8s
PRGR Permogore 28.65 18 *e*P **P 19 58 05.4 -1.6**
PRGR *e*S **S 20 02 51.2 -3.6**
PRGR pmax pmax
comp=Z,65nm,1.4s
EVO Evora 28.67 287 *e*P **P 19 58 07.6 +0.2**
comp=Z,59nm,2.0s
PBDV Barranco-do-Ve 28.73 284 *e*P **P 19 58 07.8 -0.3**
comp=Z,101nm,1.3s
PGAV Gavieira, Arco 28.76 294 *e*P **P 19 58 08.4 +0.1**
comp=Z,93nm,1.7s
COI Coimbra 28.88 291 P **P 19 58 09.1 -0.2**
COI pmax pmax
comp=Z,65nm,1.0s
COI Coimbra 28.88 291 *e*P **P 19 58 09.2 0.0**
comp=Z,100nm,1.4s
COI Coimbra 28.88 291 P **P 19 58 09.1 -0.2**
MESJ Messejana 28.89 286 *e*P **P 19 58 09.2 -0.3**
MESJ IAmb IAmb 19 58 12.4
comp=Z,30nm,1.1s
MESJ Messejana 28.89 286 *e*P **P 19 58 09.1 -0.3**
MESJ Messejana 28.89 286 *e*P **P 19 58 09.2 -0.3**
comp=Z,48nm,1.9s
PCAS Casmilo, Conde 28.95 290 *e*P **P 19 58 10.1 +0.2**
comp=Z,119nm,2.1s
PNCL Nicolau / Gran 29.11 286 *e*P **P 19 58 13.1 +1.8**
comp=Z,84nm,1.8s
EKA Eskdalemuir Ar 29.15 323 P **P 19 58 09.3 -2.2**
comp=Z,1.0nm,0.5s,baz=130,slow=11,SNR=10
ESK Eskdalemuir 29.17 323 P **P 19 58 09.9 -1.7**
ESK pmax pmax
comp=Z,17nm,1.3s
ESK Eskdalemuir 29.17 323 P **P 19 58 09.9 -1.7**
PFVI Vila Bisbo 29.46 284 P **P 19 58 12.1 -2.4**
PMST Lisbon--Monsan 29.56 288 *e*P **P 19 58 17.3 +2.0**
ARU Arti 29.66 35 P **P 19 58 15.7 -0.3**
comp=Z,0.8nm,0.3s,baz=259,slow=9.9,SNR=6.5
ARU Arti 29.66 35*d* *i*P **P 19 58 17.7 +1.7**
ARU 19 59 12.1
ARU PPP PPP 19 59 22.3
ARU S **S 20 03 15.8 +5.0**
ARU SS **SnSn 20 04 43.0 +3.3**
ARU pmax pmax
comp=Z,7.0nm,1.6s
ARU MLR MLR
comp=Z,323nm,19.0s
ARU Arti 29.66 35 P **P 19 58 14.5 -1.5**
AKN Aaknes 29.86 340 *e*P **P 19 58 19.0 +1.2**
MOL Molde 30.04 341 *e*P **P 19 58 18.9 -0.4**
NSS Namsos 30.75 347 *e*P **P 19 58 24.0 -1.5**
SVE Sverdlovsk 30.85 36 *e*P **P 19 58 27.2 +0.7**
SVE pmax pmax
comp=Z,11nm,0.6s
MOR8 Moi Rana 31.85 350 *e*P **P 19 58 34.2 -1.0**
STOK Stokkvaagen 32.22 349 *e*P **P 19 58 37.5 -0.9**
TORD Torodi Ar. Bea 32.28 233 P **P 19 58 39.9 +0.4**
comp=Z,40nm,0.6s,baz=38,slow=8.6,SNR=424
TORD PcP **PcP 20 01 27.1 -0.5**
comp=Z,2.3nm,0.7s,baz=42,slow=3.0,SNR=4.0
TORD ScP **ScP 20 05 09.4 -1.2**
comp=Z,1.1nm,0.8s,baz=40,slow=2.2,SNR=4.1
TORD LR LR 20 14 31.4
comp=Z,471nm,18.1s,baz=50,slow=41
TORD Torodi Ar. Bea 32.28 233 P **P 19 58 39.3 -0.2**
TORD Torodi Ar. Bea 32.28 233 **ScP 20 05 09.4 -1.2**
KONS Konsvik 32.36 349 *e*P **P 19 58 39.1 -0.5**
LODK Lodwar 32.53 166 P **P 19 58 43.1 +1.3**
LODK IAmb IAmb 19 58 45.3
comp=Z,20nm,1.2s
FAUS Fauske 32.88 351 *e*P **P 19 58 43.0 -1.2**
CHGR Chuyangaron 33.02 72 P **P 19 58 46.1 +0.2**

IUG luzhnay 33.39 65⇑*iP* P 19 58 49.1 0.0
baz=65
IUG luzhnay 33.39 65*c iP* P 19 58 49.1 0.0
STEI Steigen 33.41 351 *eP* P 19 58 47.0 -1.8
KK31 Karatay Array 33.71 64 P P 19 58 50.7 -1.1
KK31 pmax pmax
comp=Z,13nm,0.9s
KK31 Karatay Array 33.71 64 P P 19 58 50.7 -1.1
KK31 IAmb IAmb 19 58 53.9
comp=Z,13nm,0.9s
KKAR Karatay Array 33.71 64 P P 19 58 50.2 -1.7
KKAR pmax pmax
comp=Z,13nm,0.9s
KKAR Karatay Array 33.71 64 P P 19 58 51.9 +0.1
KKAR Karatay Array 33.71 64 P P 19 58 50.1 -1.7
KKAR IAmb IAmb 19 58 53.9
comp=Z,13nm,0.9s
KTK1 Kautokeino 33.82 357 *eP* P 19 58 50.8 -1.6
LOF Lofoten 33.82 350 *eP* P 19 58 52.6 +0.2
GAR Garm 33.88 71 P P 19 58 52.2 -1.2
BTK Batken 34.14 69 P P 19 58 55.0 -0.7
BTK pmax pmax
comp=Z,12nm,1.0s
BTK Batken 34.14 69 P P 19 58 55.0 -0.7
BTK IAmb IAmb 19 58 59.0
comp=Z,12nm,0.9s
ARA0 ARCESS Array S 34.27 359 *eP* P 19 58 54.2 -2.1
ARCES ARCESS Array B 34.27 359 P P 19 58 54.2 -2.1
comp=Z,3.7nm,0.5s,baz=168,slow=8.2,SNR=50
ARCES PcP PcP 20 01 31.9 -0.4
comp=Z,3.2nm,0.9s,baz=193,slow=3.7,SNR=1.5
ARCES ScP ScP 20 05 14.2 -2.5
comp=Z,1.6nm,0.9s,baz=177,slow=1.5,SNR=1.4
ARCES LR LR 20 13 37.0
comp=Z,411nm,18.3s,baz=175,slow=38
ARCES ARCESS Array B 34.27 359 P P 19 58 54.4 -1.9
DZA Taraz 34.32 64 *eP* P 19 58 57.3 +0.2
baz=64
DZA Taraz 34.32 64 *eP* P 19 58 57.3 +0.2
JETT Jettan, Norway 34.51 355 *eP* P 19 58 57.5 -0.9
BRVK Borovoye 34.63 46*deP* P 19 59 00.4 +0.8
BRVK pmax pmax
comp=Z,9.0nm,1.9s
BRVK Borovoye 34.63 46 P P 19 58 59.2 -0.4
BVAR Borovoye Array 34.68 46 P P 19 58 59.7 -0.4
comp=Z,2.2nm,0.7s,baz=235,slow=10,SNR=13
BVAR Borovoye Array 34.68 46 P P 19 58 59.7 -0.4
TRO Tromso 34.69 355 *eP* P 19 58 59.4 -0.5
DRK Karamyk 34.96 70 P P 19 59 02.5 -0.4
DRK IAmb IAmb 19 59 30.0
comp=Z,9.0nm,0.7s
KOWA Kowa 35.28 242 P P 19 59 06.1 +0.4
comp=Z,9.4nm,0.5s,baz=40,slow=9.7,SNR=29
KOWA Kowa 35.28 242 P P 19 59 06.0 +0.4
KOWA IAmb IAmb 19 59 08.1
comp=Z,10nm,0.7s
KOWA Kowa 35.28 242 ⇑P P 19 59 06.2 +0.6
HAMF Hammerfest 35.43 358 *eP* P 19 59 04.8 -1.5
BRZS Berezniki 35.55 52 *eP* P 19 59 07.0 -0.6
baz=52
BRZS Berezniki 35.55 52 *eP* P 19 59 07.0 -0.6
MBAR Mbarara 35.87 175 P P 19 59 11.3 +0.5
comp=Z,6.3nm,0.8s,baz=345,slow=6.1,SNR=8.5
MBAR Mbarara 35.87 175⇓*eP* P 19 59 12.7 +1.9
MBAR Mbarara 35.87 175 P P 19 59 12.4 +1.6
MBAR IAmb IAmb 19 59 14.7
comp=Z,14nm,1.1s
MBAR Mbarara 35.87 175 ⇓P P 19 59 12.9 +2.1
EKS2 Erkin-Say 36.13 64 P P 19 59 14.0 +1.1
SNR=13
BTLS Baital 36.22 60 *eP* P 19 59 13.3 -0.1
baz=60
BTLS Baital 36.22 60 *eP* P 19 59 13.3 -0.1
AAK Ala-Archa 36.66 64 P P 19 59 17.4 0.0
comp=Z,13nm,0.8s,baz=256,slow=5.8,SNR=42
AAK Ala-Archa 36.66 64 P P 19 59 18.6 +1.2
SNR=13
AAK Ala-Archa 36.66 64*c iP* P 19 59 18.5 +1.1
AAK pmax pmax
comp=Z,39nm,0.7s
AAK Ala-Archa 36.66 64 P P 19 59 18.3 +0.9
AAK IAmb IAmb 19 59 19.7
comp=Z,13nm,0.7s
AAK Ala-Archa 36.66 64 ⇑P P 19 59 18.8 +1.4
SGDS Sogindy 36.70 63 *eP* P 19 59 17.1 -0.6
baz=63
UCH Uchtor 36.71 65 P P 19 59 19.3 +1.1
SNR=12
FRU1 Bishkek 36.75 64 P P 19 59 18.7 +0.6
FRU1 pmax pmax
comp=Z,18nm,0.7s
FRU1 Bishkek 36.75 64 P P 19 59 18.7 +0.6
FRU1 IAmb IAmb 19 59 25.9
comp=Z,18nm,0.7s
CHMS Chumysh 36.82 64 P P 19 59 20.0 +1.4
SNR=8.8
KBK Karagaybulak 36.99 64 P P 19 59 22.1 +1.8
SNR=9.5
KZA Kyzart 37.27 65 P P 19 59 24.6 +1.8
SNR=6.1
NIL Nilore 37.27 79 P P 19 59 23.7 +1.1
NIL pmax pmax
comp=Z,29nm,0.8s
NIL Nilore 37.27 79 P P 19 59 23.7 +1.1
KMBO Kilima Mbogo 37.35 164 LR LR 20 16 52.6
comp=Z,206nm,20.0s,baz=296,slow=40
TKM2 Tokmak 2 37.45 64 P P 19 59 25.3 +1.2
SNR=17
BOOM Boomskoye usch 37.74 64 P P 19 59 27.9 +1.3
BOOM pmax pmax
comp=Z,8.0nm,0.9s
BOOM Boomskoye usch 37.74 64 P P 19 59 27.9 +1.3
KUU Kurty 37.91 62 *eP* P 19 59 27.5 -0.4
baz=62
KUU Kurty 37.91 62 *eP* P 19 59 27.4 -0.4
ULHL Ulahol 37.98 65 P P 19 59 30.4 +1.7
SNR=16
MTBS Maitube 38.04 63 *eP* P 19 59 28.6 -0.4
baz=63
MACI Morro de la Ar 38.04 272 P P 19 59 29.8 +0.5
KSH Kashi 38.15 69 P P 19 59 29.0 -1.0
KSH pP sP 19 59 40.0 +3.6
KSH pmax pmax
comp=Z,14nm,0.9s
KSH LR LR
comp=Z,210nm,23.2s
KSH LR LR
comp=Z,230nm,21.7s
CHKK Chushkaly 38.38 62 *eP* P 19 59 31.1 -0.7
baz=62
AAA Alma-Ata 38.38 63 *eP* P 19 59 32.1 +0.2
baz=63
AAA Alma-Ata 38.38 63 *eP* P 19 59 32.1 +0.2
MDOK Medeo 38.48 63 *eP* P 19 59 32.9 0.0
baz=63
MDOK Medeo 38.48 63 *eP* P 19 59 32.8 0.0
KDJ Kajisay 38.69 65 P P 19 59 36.0 +1.4
KDJ pmax pmax
comp=Z,15nm,0.9s
KDJ Kajisay 38.69 65 P P 19 59 36.0 +1.4
KIBK Kibwezi 38.70 163 P P 19 59 37.0 +2.2
KURBB Kurchatov Arra 39.35 51 P P 19 59 39.7 -0.1
comp=Z,6.1nm,0.7s,baz=275,slow=8.9,SNR=28
KURBB PP PnPn 20 01 13.3 +0.6
comp=Z,9.7nm,0.9s,baz=273,slow=11,SNR=9.6
KURK Kurchatov 39.41 51 P P 19 59 39.7 -0.6
KURK Kurchatov 39.41 51 P P 19 59 39.7 -0.6
BJO1 Bjornoya 39.47 356 *eP* P 19 59 37.8 -2.7
SATY Saty 39.48 63 *eP* P 19 59 40.8 -0.4
baz=63
SATY Saty 39.48 63 *eP* P 19 59 40.8 -0.4
UZB Uzynbulak 39.92 63 *eP* P 19 59 45.1 +0.2
baz=63
UZB Uzynbulak 39.92 63 *eP* P 19 59 45.0 +0.2
SHLS Shalkode 40.24 63 *eP* P 19 59 50.1 +2.6
baz=63
SHLS Shalkode 40.24 63 *eP* P 19 59 50.1 +2.6
DBIC Dimbokro 41.38 234 P P 19 59 57.1 +0.2
comp=Z,21nm,0.5s,baz=46,slow=8.1,SNR=49
DBIC LR LR 20 20 37.0
comp=Z,373nm,18.5s,baz=53,slow=41
DBIC Dimbokro 41.38 234 P P 19 59 56.3 -0.6
DBIC IAmb IAmb 19 59 57.6
comp=Z,27nm,0.8s
DBIC Dimbokro 41.38 234 ⇓P P 19 59 56.9 0.0

TIC Toumodi 41.50 234 *eP* P 19 59 57.7 -0.3
KIC Kosan Boka 41.53 234 *eP* P 19 59 58.1 -0.1
comp=Z,70nm,0.5s
MAKZ Makanchi 41.67 57 P P 19 59 58.9 -0.2
MAKZ pmax pmax
comp=Z,4.0nm,0.7s
MAKZ Makanchi 41.67 57 P P 19 59 58.9 -0.2
MAKZ Makanchi 41.67 57 ⇑P P 19 59 59.0 -0.2
LIC Lamto 41.82 234 *eP* P 20 00 00.2 -0.4
comp=Z,88nm,0.7s
MK31 Makanchi Array 41.89 57*c iP* P 20 00 01.4 +0.5
MK31 Makanchi Array 41.89 57 P P 20 00 00.7 -0.2
MKAR Makanchi Array 41.89 57 P P 20 00 01.4 +0.5
comp=Z,6.5nm,0.7s,baz=273,slow=7.1,SNR=56
MKAR ScP ScP 20 05 43.8 -2.2
comp=Z,0.9nm,0.9s,baz=282,slow=4.0,SNR=4.1
MKAR LR LR 20 18 36.6
comp=Z,222nm,21.7s,baz=277,slow=38
MKAR Makanchi Array 41.89 57 *i P* P 20 00 01.3 +0.4
MKAR pmax pmax
comp=Z,7.0nm,0.7s
MKAR Makanchi Array 41.89 57 P P 20 00 00.8 -0.1
SPB2 Spitsbergen Ar 43.21 357 P P 20 00 11.2 0.0
SPA0 Spitsbergen Ar 43.22 357 *eP* P 20 00 09.4 -1.9
SPITS Spitsbergen Ar 43.22 357 P P 20 00 10.2 -1.0
comp=Z,7.1nm,0.5s,baz=146,slow=12,SNR=21
SPITS PcP PcP 20 01 59.1 -1.1
comp=Z,2.1nm,0.5s,baz=164,slow=5.7,SNR=1.6
SPITS Spitsbergen Ar 43.22 357 P P 20 00 10.2 -1.0
ZAA0 Zalesovo Array 43.34 46 P P 20 00 11.8 -0.7
ZALV Zalesovo Beam 43.34 46 P P 20 00 12.1 -0.4
comp=Z,4.9nm,0.5s,baz=268,slow=8.1,SNR=16
ZALV Zalesovo Beam 43.34 46 P P 20 00 12.0 -0.4
ZSN Zaisan 43.59 56 *eP* P 20 00 14.4 -0.3
baz=56
ZSN Zaisan 43.59 56 *eP* P 20 00 14.3 -0.3
DGZ Jazzator, Alta 45.08 52*ceP* P 20 00 27.2 +0.5
DGZ pmax pmax
comp=Z,4.0nm,0.6s
DBG Daneborg 45.33 343 *eP* P 20 00 28.4 +0.3
WMQ Urumqi 46.06 60 *eP* P 20 00 35.9 +1.4
WMQ pP sP 20 00 48.5 +7.7
WMQ sP pP 20 00 51.5 +12
WMQ pmax pmax
comp=Z,22nm,0.9s
WMQ pmax pmax
comp=Z,130nm,3.7s
WMQ LR LR
comp=Z,270nm,16.5s
WMQ LR LR
comp=Z,420nm,21.9s
WMQ LR LR
comp=Z,310nm,23.1s
DAG Danmarks Havn 46.35 347 *eP* P 20 00 36.0 -0.2
PYUN Piuthan 47.02 83 *eP* P 20 00 43.7 +1.4
comp=Z,94nm,0.6s
DANN Dangsing 47.54 82 *eP* P 20 00 48.0 +1.5
comp=Z,203nm,0.7s
KOLN Koldanda 47.64 83 *eP* P 20 00 48.2 +1.0
comp=Z,48nm,0.7s
GKN Gorkha 48.39 82 *eP* P 20 00 53.7 +0.8
comp=Z,36nm,0.7s
ISOG Isortoq, Green 48.85 329 *i P* P 20 00 54.9 -0.8
DMN Daman 48.93 82 *eP* P 20 00 58.2 +1.0
comp=Z,51nm,0.8s
KKN Kakani 48.99 82 *eP* P 20 00 58.4 +0.8
comp=Z,36nm,0.7s
NOR Nord 49.05 352 *iP* P 20 00 55.5 -1.6
NOR IAmb IAmb 20 00 56.1
comp=Z,13nm,0.6s
NOR Nord 49.05 352 ⇓P P 20 00 55.5 -1.6
NOR ⇓P pP 20 00 55.6 -6.1
PKIN Phulchoki 49.18 82 *eP* P 20 00 59.7 +0.6
comp=Z,24nm,0.8s
PKI Pulchoki 49.19 82 *eP* P 20 00 59.9 +0.6
comp=Z,40nm,1.0s
ICESG Greenland Ices 49.44 334 *i* P P 20 01 00.7 0.0
SUMG Summit 49.58 339 *i* P P 20 01 01.1 -0.6
SUMG Summit 49.58 339 P P 20 01 00.8 -0.9
SUMG pmax pmax
comp=Z,7.0nm,0.8s
SUMG Summit 49.58 339 P P 20 01 00.8 -0.9
SUMG IAmb IAmb 20 01 06.8
comp=Z,6.9nm,0.8s
JIRN Jiri 49.78 82 *eP* P 20 01 04.6 +0.7
comp=Z,36nm,0.8s
LSZ Lusaka 50.34 179 P P 20 01 08.6 +0.9
LSZ pmax pmax
comp=Z,16nm,1.2s
LSZ Lusaka 50.34 179 P P 20 01 08.6 +0.9
LSZ IAmb IAmb 20 01 10.5
comp=Z,16nm,1.2s
TAPN Taplejung 51.14 81 *eP* P 20 01 15.3 +1.3
comp=Z,43nm,1.0s
NRS Narsarsuaq 51.81 324 P P 20 01 19.3 +1.2
NRS pmax pmax
comp=Z,37nm,0.8s
NRS Narsarsuaq 51.81 324 P P 20 01 19.3 +1.2
DY2G Dye2 51.85 331 *i* P P 20 01 17.6 -1.1
DY2G IAmb IAmb 20 01 21.0
comp=Z,8.6nm,0.7s
LSA Lhasa 52.95 77 P P 20 01 28.0 +0.4
LSA pmax pmax
comp=Z,23nm,0.6s
LSA Lhasa 52.95 77 P P 20 01 28.1 +0.4
LSA pmax pmax
comp=Z,7.0nm,0.8s
LSA Lhasa 52.95 77 P P 20 01 28.1 +0.5
MOY Mondy 53.31 48 *eP* P 20 01 31.2 +1.6
MOY pmax pmax
comp=Z,14nm,1.3s
ZAK Zakamensk 55.02 49 *eP* P 20 01 42.7 +0.7
ZAK pmax pmax
comp=Z,16nm,1.3s
TSUM Tsumeb 55.10 192 P P 20 01 43.6 +0.7
TSUM IAmb IAmb 20 01 45.5
comp=Z,17nm,1.2s
TSUM Tsumeb 55.10 192 ⇑P P 20 01 44.3 +1.4
SHL Shillong 55.28 81 P P 20 01 43.7 -0.7
SHL pmax pmax
comp=Z,10.0nm,0.9s
SHL Shillong 55.28 81 P P 20 01 43.7 -0.7
SHL IAmb IAmb 20 01 50.0
comp=Z,10nm,0.9s
MATP Matopo 55.47 179 LR LR 20 25 42.9
comp=Z,109nm,18.6s,baz=3.5,slow=36
GTA Gaotai 55.99 63 ⇑P P 20 01 49.9 +0.7
GTA pmax pmax
comp=Z,7.0nm,1.0s
GTA pmax pmax
comp=Z,110nm,6.0s
GTA LR LR
comp=Z,210nm,21.1s
GTA LR LR
comp=Z,130nm,18.9s
GTA LR LR
comp=Z,170nm,18.2s
SONM Songino Array 57.71 51 P P 20 02 01.9 +0.5
comp=Z,4.1nm,0.8s,baz=289,slow=7.6,SNR=17
SONM LR LR 20 30 33.7
comp=Z,190nm,20.2s,baz=296,slow=40
SONM Songino Array 57.71 51 P P 20 02 01.3 -0.1
SONM IAmb IAmb 20 02 14.1
comp=Z,17nm,1.5s
ULN Ulaanbaatar 58.12 51⇑*eP* P 20 02 06.7 +2.5
ULN pmax pmax
comp=Z,12nm,1.7s
ULN Ulaanbaatar 58.12 51 P P 20 02 04.4 +0.2
ULN IAmb IAmb 20 02 13.3
comp=Z,10nm,1.1s
ULN Ulaanbaatar 58.12 51 P P 20 02 04.9 +0.7
comp=Z,36nm,1.1s
LBTB Lobatse 60.06 182 P P 20 02 19.7 +2.0
LBTB pmax pmax
comp=Z,29nm,1.1s
LBTB Lobatse 60.06 182 P P 20 02 19.7 +2.0
TIXI Tiksi 60.24 21⇓*eP* P 20 02 17.9 -0.4
CD2 Chengdu 62.32 70 P P 20 02 35.0 +1.8
CD2 pP sP 20 02 45.0 +5.4
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 LR LR
comp=Z,210nm,16.2s
CD2 LR LR
comp=Z,270nm,11.2s
CD2 LR LR
comp=Z,160nm,16.7s
BTO Baotou 62.79 58 *eP* P 20 02 35.9 -0.3
BTO S S 20 10 57.0 -7.7
BTO LR LR
comp=Z,1μm,23.5s
BTO LR LR
comp=Z,670nm,17.9s
BOSA Boshof 63.66 182 P P 20 02 42.9 +1.0
comp=Z,11nm,0.6s,baz=359,slow=6.5,SNR=26
BOSA Boshof 63.66 182 P P 20 02 43.4 +1.5
BOSA pmax pmax
comp=Z,16nm,0.9s
BOSA Boshof 63.66 182 P P 20 02 43.4 +1.5
HHC Hu-ho-hao-te 63.75 57 *eP* P 20 02 44.6 +2.0
HHC S S 20 11 21.4 +4.6
HHC pmax pmax
comp=Z,22nm,1.2s
HHC pmax pmax
comp=Z,150nm,6.2s
HHC LR LR
comp=Z,210nm,17.7s
HHC LR LR
comp=Z,170nm,17.9s
HHC LR LR
comp=Z,170nm,16.7s
CHTO Chiang Mai 64.25 85 P P 20 02 47.9 +1.9
comp=Z,5.2nm,2.2s
CMMT Chiang Mai 64.25 85 P P 20 02 46.2 +0.2
comp=Z,8.6nm,2.3s
SCHQ Schefferville 64.42 320 P P 20 02 46.0 -0.6
comp=Z,8.8nm,0.5s,baz=49,slow=5.5,SNR=14
SCHQ LR LR 20 30 57.3
comp=Z,306nm,19.3s,baz=334,slow=36
SCHQ Schefferville 64.42 320 P P 20 02 45.5 -1.1
SCHQ IAmb IAmb 20 02 50.4
comp=Z,10nm,0.8s
CM31 Chiang Mai Arr 64.43 85 P P 20 02 47.3 +0.1
CM31 IAmb IAmb 20 02 54.4
comp=Z,6.4nm,0.9s
CMAR Chiang Mai Arr 64.43 85 P P 20 02 47.5 +0.4
comp=Z,2.2nm,0.8s,baz=295,slow=7.9,SNR=13
CMAR LR LR 20 36 14.4
comp=Z,75nm,20.0s,baz=290,slow=41
CMAR Chiang Mai Arr 64.43 85 P P 20 02 48.1 +1.0
CM02 Chiang Mai Arr 64.44 85 P P 20 02 58.1 +11
CM01 Chiang Mai Arr 64.46 85 P P 20 02 59.1 +12
YAK Yakutsk 64.64 31⇓*eP* P 20 02 49.9 +2.1
YAK pmax pmax
comp=Z,7.0nm,1.0s
XAN Xi'an 64.83 65 P P 20 02 50.8 +1.1
XAN pP sP 20 03 00.3 +4.1
XAN sP pP 20 03 05.0 +11
XAN pmax pmax
comp=Z,7.0nm,0.8s
XAN pmax pmax
comp=Z,120nm,4.0s
GYA Guiyang 66.65 73 ⇑P P 20 03 02.9 +1.3
GYA pmax pmax
comp=Z,8.0nm,1.2s
ENH Enshi 67.00 68 P P 20 03 03.9 +0.2
HAL Halifax 67.08 309 P P 20 03 04.3 +0.4
HAL pmax pmax
comp=Z,64nm,1.4s
HAL Halifax 67.08 309 P P 20 03 04.2 +0.4
BJI Beijing 67.27 56 P P 20 03 03.3 -1.8
BJI pmax pmax
comp=Z,5.0nm,0.6s
LMN Caledonia Moun 67.28 311 P P 20 03 04.7 -0.5
BATG Bathurst New B 67.38 313 P P 20 03 05.6 -0.2
ZEA Zeya 67.47 39 *eP* P 20 03 18.2 +12
ZEA *e* 20 03 40.8
SUR Sutherland 67.68 186 P P 20 03 09.9 +2.0
CHAI Chaiyaphum 68.24 86 P P 20 03 18.3 +6.7
PQI Presque Isle 68.85 313 P P 20 03 15.1 +0.1
PQI IAmb IAmb 20 03 15.5
comp=Z,9.2nm,0.8s
D62A Allapoint, All 69.26 313 P P 20 03 17.4 -0.2
G65A Princeton 69.30 311 P P 20 03 17.9 +0.1
G65A IAmb IAmb 20 03 18.8
comp=Z,11nm,1.0s
F64A Sherman 69.45 312 P P 20 03 18.0 -0.7
F64A IAmb IAmb 20 03 20.0
comp=Z,11nm,1.2s
EMMW East Machias 69.47 311 P P 20 03 18.8 0.0
TIA Tai'an 69.75 60 P P 20 03 21.8 +1.0
TIA pmax pmax
comp=Z,5.0nm,0.5s
F63A Nahmakanta, Br 69.98 312 P P 20 03 22.6 +0.6
MOQ Mont Orford 72.08 313 P P 20 03 35.2 +0.4
KLR Kul'dur 72.22 42*deP* P 20 03 36.1 +0.6
KLR pmax pmax
comp=Z,6.0nm,1.2s
LBNH Lisbon 72.46 312 P P 20 03 37.9 +0.9
LBNH pmax pmax
comp=Z,8.0nm,0.8s
LBNH Lisbon 72.46 312 P P 20 03 37.9 +0.9
LBNH IAmb IAmb 20 03 42.2
comp=Z,7.5nm,0.8s
HNH Hanover 72.96 312 P P 20 03 40.5 +0.5
BCX Boston College 73.01 310 P P 20 03 40.1 -0.2
PSI Prapat 73.04 99 LR LR 20 39 09.0
comp=Z,105nm,20.8s,baz=271,slow=38
WES Weston 73.08 310 P P 20 03 41.5 +0.8
WES pmax pmax
comp=Z,13nm,0.9s
WES Weston 73.08 310 P P 20 03 41.5 +0.8
WES IAmb IAmb 20 03 42.3
comp=Z,13nm,0.9s
NJ2 Nanjing 73.08 63 *eP* P 20 03 41.3 +0.4
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
FRNY Flat Rock 73.14 313 P P 20 03 41.0 -0.1
FRNY IAmb IAmb 20 03 42.6
comp=Z,19nm,1.4s
GRNR Gornyy 73.81 39⇑*iP* P 20 03 45.2 +0.3
GRNR pmax pmax
comp=Z,3.0nm,1.0s
LONY Lake Ozonia 73.84 313 P P 20 03 45.7 +0.5
LONY IAmb IAmb 20 03 47.3
comp=Z,10.0nm,1.1s
MA2 Magadan 74.39 26⇓*eP* P 20 03 48.4 +0.3
MA2 pmax pmax
comp=Z,4.0nm,0.7s
MA2 Magadan 74.39 26 P P 20 03 49.0 +0.9
MA2 IAmb IAmb 20 04 17.3
comp=Z,7.2nm,0.9s
J59A Piesco 74.44 312 P P 20 03 49.1 +0.3
J59A IAmb IAmb 20 03 51.2
comp=Z,9.0nm,1.1s
PLVO Plevna 75.07 315 P P 20 03 53.3 +0.9
PLVO IAmb IAmb 20 03 54.6
comp=Z,11nm,0.9s
USA0B Ussuriysk Arra 75.19 46 P P 20 03 53.3 +0.3
USA0B pmax pmax
comp=Z,8.0nm,0.8s
USA0B Ussuriysk Arra 75.19 46 P P 20 03 53.3 +0.3
USA0B IAmb IAmb 20 03 59.6
comp=Z,7.5nm,0.8s
USRK Ussuriysk Ar. 75.19 46 P P 20 03 53.2 +0.2
comp=Z,4.3nm,0.7s,baz=288,slow=6.2,SNR=22
USRK Ussuriysk Ar. 75.19 46 P P 20 03 53.0 0.0
L59A Walton 75.49 312 P P 20 03 56.0 +1.1
L59A IAmb IAmb 20 03 59.5
comp=Z,11nm,0.8s
J56A Wolcott 75.96 313 P P 20 03 58.3 +0.8
J56A IAmb IAmb 20 04 00.1
comp=Z,12nm,0.9s
KSRS Korea Array 76.47 54 P P 20 04 00.3 -0.1
comp=Z,2.3nm,0.8s,baz=301,slow=4.9,SNR=6.2
KSRS LR LR 20 40 54.7
comp=Z,174nm,21.6s,baz=310,slow=38
KSRS Korea Array 76.47 54 P P 20 04 00.3 -0.1
N59A State Game Lan 76.66 311 P P 20 04 01.8 +0.3
N59A IAmb IAmb 20 04 07.9
comp=Z,7.4nm,0.8s
L56A Greenwood 77.04 313 P P 20 04 03.7 0.0
L56A IAmb IAmb 20 04 09.8
comp=Z,12nm,0.8s
BMAR Burnt Mountain 77.38 357 P P 20 04 05.2 0.0
YKA Yellowknife Ar 77.91 343 LR LR 20 39 44.5
comp=Z,162nm,19.4s,baz=0.0,slow=37
M55A Ridgway 78.17 313 P P 20 04 10.0 0.0
M55A IAmb IAmb 20 04 16.0
comp=Z,13nm,0.9s

IMAR	**Indian Mountai**	**78.99**	**1**	P	**P**	**20 04 13.8**	**-0.2**
H23K	**Yukon River**	**79.14**	**359**	P	**P**	**20 04 15.3**	**+0.4**
H23K				IAmb	IAmb	20 04 38.4	
	comp=Z,11nm,1.1s						
H21K	**Melozitna Rive**	**79.33**	**0**	P	**P**	**20 04 16.3**	**+0.5**
H21K				IAmb	IAmb	20 04 30.7	
	comp=Z,9.1nm,1.0s						
YSS	**Yuzh-Sakhalins**	**79.46**	**39**	*e*P	**P**	**20 04 16.4**	**-0.5**
I21K	**Tanana**	**79.81**	**360**	P	**P**	**20 04 18.5**	**0.0**
Q56A	**Snyder Ridge,**	**79.89**	**311**	P	**P**	**20 04 19.2**	**-0.2**
Q56A				IAmb	IAmb	20 04 25.4	
	comp=Z,13nm,0.8s						
MLY	**Manley**	**79.95**	**359**	P	**P**	**20 04 19.1**	**-0.2**
MDM	**Murphy Dome**	**79.98**	**358**	P	**P**	**20 04 18.9**	**-0.6**
MDM				IAmb	IAmb	20 04 31.5	
	comp=Z,10nm,1.1s						
ILAR	**Eielson Array**	**80.13**	**358**	P	**P**	**20 04 19.1**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=350,slow=4.2,SNR=8.7						
ILAR	**Eielson Array**	**80.13**	**358**	P	**P**	**20 04 19.4**	**-0.8**
ILAR	**Eielson Array**	**80.13**	**358**	P	**P**	**20 04 19.4**	**-0.8**
CCB	**Clear Creek Bu**	**80.28**	**358**	P	**P**	**20 04 19.4**	**-1.7**
FFC	**Flin Flon**	**80.45**	**333**	P	**P**	**20 04 21.4**	**-0.7**
FFC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
FFC	**Flin Flon**	**80.45**	**333**	P	**P**	**20 04 21.4**	**-0.7**
FFC				IAmb	IAmb	20 04 32.4	
	comp=Z,9.6nm,0.8s						
WRH	**Wood River Hil**	**80.46**	**358**	P	**P**	**20 04 21.4**	**-0.7**
WRH				IAmb	IAmb	20 04 31.6	
	comp=Z,8.5nm,0.8s						
HDA	**Harding Lake**	**80.49**	**358**	P	**P**	**20 04 20.8**	**-1.4**
HDA				IAmb	IAmb	20 04 34.2	
	comp=Z,8.5nm,0.9s						
COCO	**West Island**	**80.52**	**112**	P	P	20 04 15.9	-7.1
SCRK	**Sand Creek**	**80.80**	**356**	P	**P**	**20 04 23.3**	**-0.7**
J20K	**Nowinta River**	**80.80**	**1**	P	**P**	**20 04 23.7**	**-0.1**
J20K				IAmb	IAmb	20 04 38.6	
	comp=Z,10nm,0.9s						
BPAW	**Bear Paw Mtn.**	**80.89**	**359**	P	**P**	**20 04 23.8**	**-0.6**
BPAW				IAmb	IAmb	20 04 38.1	
	comp=Z,8.8nm,1.0s						
DOT	**Dot Lake**	**81.13**	**356**	P	**P**	**20 04 25.2**	**-0.5**
ULM	**Lac du Bonnet**	**81.33**	**327**	P	**P**	**20 04 25.6**	**-1.3**
	comp=Z,5.0nm,0.7s,baz=29,slow=6.1,SNR=4.2						
BCAR	**Beaver Creek A**	**81.57**	**355**	P	**P**	**20 04 27.5**	**-0.5**
CAST	**Castle Rocks**	**81.57**	**360**	P	**P**	**20 04 26.7**	**-1.3**
CAST				IAmb	IAmb	20 04 42.4	
	comp=Z,7.7nm,1.0s						
L27K	**Beaver Creek,**	**81.58**	**355**	P	**P**	**20 04 27.1**	**-0.9**
L27K				IAmb	IAmb	20 04 41.3	
	comp=Z,12nm,1.5s						
K20K	**Telida**	**81.62**	**1**	P	**P**	**20 04 27.8**	**-0.4**
K20K				IAmb	IAmb	20 04 43.0	
	comp=Z,8.3nm,1.0s						
PETK	**Petropavlovsk-**	**81.77**	**28**	LR	LR	20 43 54.6	
	comp=Z,87nm,20.6s,baz=303,slow=38						
DHY	**Denali Highway**	**81.84**	**358**	P	**P**	**20 04 28.8**	**-0.8**
DHY				IAmb	IAmb	20 04 48.5	
	comp=Z,9.4nm,1.0s						
PPLA	**Purkeypile**	**82.10**	**360**	P	**P**	**20 04 30.6**	**-0.3**
SKT	**Skwentna**	**83.02**	**360**	P	**P**	**20 04 34.3**	**-1.3**
SKT				IAmb	IAmb	20 04 45.6	
	comp=Z,7.7nm,0.7s						
F36A	**Milaca**	**83.38**	**323**	P	**P**	**20 04 36.9**	**-0.9**
MJAR	**Matsushiro Arr**	**83.60**	**49**	P	**P**	**20 04 39.1**	**0.0**
	comp=Z,2.7nm,1.0s,baz=141,slow=13,SNR=4.6						
MJAR				LR	LR	20 45 16.6	
	comp=Z,90nm,20.2s,baz=205,slow=38						
MJAR	**Matsushiro Arr**	**83.60**	**49**	P	**P**	**20 04 39.5**	**+0.5**
MJAR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
MJAR	**Matsushiro Arr**	**83.60**	**49**	P	**P**	**20 04 39.5**	**+0.5**
MJAR				IAmb	IAmb	20 05 06.9	
	comp=Z,9.6nm,1.3s						
DLBC	**Dease Lake**	**84.74**	**348**	LR	LR	20 44 52.3	
	comp=Z,163nm,19.2s,baz=356,slow=37						
TKL	**Tuckaleechee C**	**84.85**	**310**	P	**P**	**20 04 45.2**	**-0.3**
	comp=Z,2.1nm,0.5s,baz=84,slow=9.2,SNR=2.2						
TKL				LR	LR	20 46 42.9	
	comp=Z,79nm,18.4s,baz=37,slow=39						
L40A	**Anamosa**	**84.88**	**319**	P	**P**	**20 04 44.5**	**-0.9**
CPCT	**Cooper Cave**	**85.45**	**311**	P	**P**	**20 04 48.6**	**+0.2**
U49A	**Red Boiling Sp**	**85.53**	**312**	P	**P**	**20 04 48.3**	**-0.5**
U49A				IAmb	IAmb	20 04 59.2	
	comp=Z,11nm,0.9s						
EDM	**Edmonton**	**85.56**	**338**	P	**P**	**20 04 47.7**	**-1.0**
EDM				pmax	pmax		
	comp=Z,11nm,0.8s						
EDM	**Edmonton**	**85.56**	**338**	P	**P**	**20 04 47.7**	**-1.0**
LEM	**Lembang**	**85.69**	**101**	LR	LR	20 44 35.2	
	comp=Z,73nm,19.9s,baz=341,slow=37						
152A	**Waverly Hall**	**87.38**	**309**	P	**P**	**20 04 57.6**	**-0.4**
BDFB	**Brasilia**	**87.76**	**249**	P	**P**	**20 05 00.6**	**+0.6**
	comp=Z,4.6nm,0.7s,baz=31,slow=3.1,SNR=6.2						
EGMT	**Eagleton**	**88.74**	**333**	P	**P**	**20 05 04.2**	**0.0**
DAV	**Davao City (W)**	**92.28**	**80**	LR	LR	20 53 49.0	
	comp=Z,47nm,18.9s,baz=338,slow=40						
NVAR	**Mina Array Bea**	**100.15**	**334**	LR	LR	20 55 12.5	
	comp=Z,72nm,18.0s,baz=74,slow=38						
TXAR	**Lajitas Array**	**101.05**	**318**	PP	**PP**	**20 10 14.7**	**+6.2**
	comp=Z,0.4nm,0.9s,baz=36,slow=3.2,SNR=3.4						
WRA	**Warramunga Arr**	**114.49**	**98**	PKP	PKPdf	20 10 50.5	-0.6
	comp=Z,0.2nm,0.5s,baz=297,slow=1.4,SNR=1.9						
ASAR	**Alice Springs**	**115.99**	**102**	PKP	**PKPdf**	**20 10 53.0**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=298,slow=1.7,SNR=7.1						
ASAR	**Alice Springs**	**115.99**	**102**	PKIKP	**PKPdf**	**20 10 53.0**	**-0.8**

MEX 16 19:55:27.4±0.3, 14°05'N×93°23'W, h10km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.64**	**0**	*i* P	Pn	19 55 52.8	-3.5
PCIG				*i* S	Sn	19 56 12.6	-5.0

MEX 16 19:58:54.8±0.4, 14°00'N×93°29'W, h28km, MD4.1, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.34**	**48**	*i* P	Pn	19 59 15.6	-2.1
THIG				*i* S	Sn	19 59 32.3	-2.4
PCIG		**1.70**	**2**	*i* P	Pn	19 59 20.5	-2.1
PCIG				*i* S	Sn	19 59 40.3	-3.1
CCIG	**Comitan**	**2.53**	**26**	*e*P	Pn	19 59 34.3	+0.1
CCIG				*i* S	Sn	20 00 05.9	+1.7
TGIG		**2.77**	**3**	*e*P	Pn	19 59 37.2	-0.2
TGIG				*i* S	Sn	20 00 09.4	-0.6
CMIG	**Matias Romero**	**3.44**	**334**	*e*P	Pn	19 59 47.1	+0.6
CMIG				*e*S	Sn	20 00 24.7	-1.7
PEIG	**Puerto Escondi**	**4.22**	**299**	*e*P	Pn	19 59 58.3	+0.9
PEIG				*i* S	Sn	20 00 40.6	-5.2

*TUL **16** 20:00:58.5±0.5, 36°48N±0°04×98°80W±0°03, h5km±7km, ML2.7, mb_Lg2.5/21(NEIC), Error ellipse: s-maj=6.3km s-min=2.2km az=146.0*

NEIC 16 20:00:58.6±0.5, 36°49N±0°04×98°78W±0°04, h9km±7km, Error ellipse: s-maj=6.7km s-min=2.4km az=145.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.20**	**239**	Pg	Pg	20 01 02.7	-0.2
U32A				Sg	Sg	20 01 05.4	-0.3
OK032	**Salt Plains WL**	**0.56**	**55**	Pg	Pg	20 01 09.5	+0.1
OK032				Sg	Sg	20 01 16.7	-0.1
GC02	**Grant County #**	**0.83**	**64**	Pg	Pg	20 01 14.4	-0.2
KAN12	**Harper NE Stat**	**1.03**	**38**	Pg	Pg	20 01 17.6	-0.8
OK029	**Liberty Lake**	**1.28**	**122**	Pn	Pn	20 01 22.1	-0.6
BLOK	**Blackwell**	**1.29**	**77**	Pn	Pn	20 01 22.7	-0.2
OK025	**Westminster Rd**	**1.48**	**127**	Pn	Pn	20 01 25.4	-0.1
OKCFA	**Oklahoma City**	**1.52**	**134**	Pn	Pn	20 01 26.1	0.0
OK031	**S. Brethren Rd**	**1.66**	**108**	Pn	Pn	20 01 28.1	+0.1
FNO	**Franklin**	**1.66**	**137**		Pn	20 01 27.5	-0.5
QUOK	**Quay**	**1.71**	**100**	Pn	Pn	20 01 28.4	-0.2
WMOK	**Wichita Mounta**	**1.74**	**180**	Pn	Pn	20 01 29.1	-0.1
T35A	**Sooner Cattle**	**1.88**	**76**		Pn	20 01 30.9	0.0
R32A	**Long Quarter,**	**1.93**	**2**		Pn	20 01 31.9	+0.2
X34A	**Smith Ranch, M**	**2.04**	**157**	Pn	Pn	20 01 33.3	+0.1
CBKS	**Cedar Bluff**	**2.44**	**342**	Pn	Pn	20 01 38.7	-0.1
LOOK	**Love County**	**2.81**	**152**	Pn	Pn	20 01 44.0	+0.2
AMTX	**Amarillo**	**2.85**	**237**		Pn	20 01 44.0	-0.4
AMTX				IAmb_Lg		20 02 32.4	
	comp=Z,17nm,0.9s						
X37A	**Clayton**	**3.37**	**123**		Pn	20 01 51.4	0.0
X37A				IAmb_Lg		20 02 52.1	
	comp=Z,14nm,0.8s						
U38A	**Gravette**	**3.55**	**89**	IAmb_Lg		20 02 56.6	
	comp=Z,11nm,0.7s						
S39A	**Bolivar**	**4.53**	**73**	IAmb_Lg		20 03 34.4	
	comp=Z,6.2nm,0.7s						
T25A	**Trinidad**	**4.56**	**280**	IAmb_Lg		20 03 24.9	
	comp=Z,9.2nm,0.9s						
U40A	**Yellville**	**4.78**	**90**	IAmb_Lg		20 03 41.1	
	comp=Z,8.3nm,0.8s						
WHAR	**Wooly Hollow**	**5.41**	**101**	IAmb_Lg		20 03 54.8	
	comp=Z,8.0nm,0.8s						
R40A	**Maddies Statio**	**5.49**	**69**	IAmb_Lg		20 03 59.3	
	comp=Z,6.2nm,0.9s						
JCT	**Junction City**	**6.05**	**188**	IAmb_Lg		20 04 13.5	
	comp=Z,7.0nm,0.8s						
P40A	**Paris**	**6.12**	**58**	IAmb_Lg		20 04 28.8	
	comp=Z,8.6nm,1.1s						
T42A	**Van Buren**	**6.20**	**83**	IAmb_Lg		20 04 22.5	
	comp=Z,4.0nm,1.0s						

MEX 16 20:11:15.6±0.4, 16°83N×100°99W, h13km±19km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.90**	**329**	*i* P	Pg	20 11 30.2	-2.8
ZIIG				*i* S	Sg	20 11 41.3	-3.5
DAIG	**Los Arroyos**	**1.29**	**81**	*e*P	Pn	20 11 35.5	-3.9
DAIG				*i* S	Sb	20 11 51.8	-4.5
MEIG	**Mezcala**	**1.70**	**50**	*e*P	Pn	20 11 41.9	-3.2
MEIG				*i* S	Sn	20 12 01.6	-5.2
PLIG	**Platanillo**	**2.10**	**42**	*i* P	Pn	20 11 47.7	-2.9
PLIG				*e*S	Sn	20 12 12.8	-3.9
MGIG	**Malinaltepec**	**2.29**	**79**	*e*P	Pn	20 11 49.5	-3.6
MGIG				*i* S	Sn	20 12 17.4	-4.0
FTIG	**Fresnillo de T**	**2.93**	**68**	*i* P	Pn	20 11 59.4	-2.6
FTIG				*i* S	Sn	20 12 32.2	-4.9

*IDC **16** 20:11:37.9±0.9, 4°90S×102°85E, h0km, mb4.2/16, mb1 4.4/16, mb1mx4.1/45, mbtmp4.2/16, Error ellipse: s-maj=40.3km s-min=12.5km az=52.0*

*DJA **16** 20:11:45.5±0.4, 5°S±3°×10°3E±°, h13km±4km, M4.2/9, ML4.2/9*

*NEIC **16** 20:11:46.1±2.0, 4°97S±0°09×102°89E±0°08, h61km±9km, mb4.4/23, Error ellipse: s-maj=13.8km s-min=10.6km az=218.0*

ISC 16 20:11:46.3±0.8, 4°95S±0°05×102°99E±0°04, h64km±8km, n70, σ1°15/71, mb4.4/28, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGSI	**Enggano, Bengk**	**0.82**	**241**	P	**Pn**	**20 12 02.2**	**0.0**
EGSI				S	**Sn**	**20 12 15.7**	**+1.7**
LWLI	**Liwa**	**1.06**	**94**	P	**Pn**	**20 12 04.6**	**-0.8**
LWLI				S	**Sn**	**20 12 18.6**	**-1.1**
LHSI	**Lahat**	**1.23**	**25**	P	**Pn**	**20 12 06.8**	**-0.7**
MDSI	**Maura Dua**	**1.27**	**69**	P	**Pn**	**20 12 07.3**	**-0.7**
MDSI				S	**Sn**	**20 12 24.1**	**-0.1**
KSI	**Kapahiang**	**1.35**	**343**	P	**Pn**	**20 12 09.8**	**+0.7**
KSI				S	**Sn**	**20 12 26.3**	**+0.1**
UBSI	**University, Be**	**1.38**	**329**	P	**Pn**	**20 12 09.9**	**+0.4**
KLI	**Kotabumi**	**1.86**	**88**	P	**Pn**	**20 12 16.3**	**+0.4**
MASI	**Maura Aman, Be**	**1.94**	**337**	P	**Pn**	**20 12 18.5**	**+1.4**
MASI				S	**Sn**	**20 12 43.0**	**+2.4**
BLSI	**Bandar Lampung**	**2.28**	**101**	P	**Pn**	**20 12 22.3**	**+0.6**
BLSI				S	**Sn**	**20 12 50.6**	**+1.9**
PMBI	**Palembang**	**2.68**	**42**	Pn	**Pn**	**20 12 27.6**	**+0.5**
PDSI	**Padang**	**4.74**	**328**	P	Pn	20 13 04.7	+9.4
PDSI				S	**Sn**	**20 13 52.5**	**+3.5**
LEM	**Lembang**	**4.96**	**112**	Pn	**Pn**	**20 13 02.6**	**+4.1**
	3.5nm,0.3s,baz=116,slow=23,SNR=2.4						
LEM				Sn	**Sn**	**20 13 56.8**	**+2.1**
	baz=331,slow=22,SNR=1.1						
CISI	**Cisompet, Garu**	**5.45**	**119**		**Pn**	**20 13 04.9**	**-0.1**
XMIS	**Christmas Isla**	**6.10**	**155**	Pn	Pn	20 13 07.9	-6.0
XMIS	**Christmas Isla**	**6.10**	**155**	P	Pn	20 13 08.4	-5.5
	74nm,1.6s						
UGM	**Wanagama**	**8.04**	**112**	Pn	**Pn**	**20 13 41.4**	**+0.9**
GSI	**Gunungsitoli**	**8.24**	**319**	Pn	**Pn**	**20 13 42.3**	**-0.9**
COCO	**West Island**	**9.43**	**220**	Pn	**Pn**	**20 13 57.2**	**-2.2**
JAGI	**Jajag, Banyuwa**	**11.62**	**108**	Pn	**Pn**	**20 14 28.8**	**-0.6**
TOLI2	**Tolitoli**	**18.76**	**72**	P	**Pn**	**20 16 02.3**	**+0.9**
BATI	**Baumata**	**21.14**	**106**	P	**P**	**20 16 25.6**	**-0.6**
	8.0nm,0.3s,baz=271,slow=3.2,SNR=9.0						
SOEI	**Soe**	**21.63**	**104**	P	**P**	**20 16 31.2**	**-0.3**
SOEI				IAmb	IAmb	20 16 53.6	
	comp=Z,6.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**23.60**	**350**	P	**P**	**20 16 50.0**	**-1.6**
	comp=Z,1.6nm,0.7s,baz=184,slow=8.4,SNR=12						
QIZ	**Qiongzhong**	**24.76**	**16**	P	**P**	**20 17 00.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**25.71**	**122**	P	**P**	**20 17 11.3**	**+0.6**
	comp=Z,2.4nm,0.4s,baz=324,slow=7.7,SNR=38						
KNRA	**Kununurra**	**27.46**	**115**	P	**P**	**20 17 26.4**	**-0.2**
KNRA				IAmb	IAmb	20 17 49.9	
	comp=Z,16nm,1.1s						
MTN	**Manton Dam**	**28.86**	**108**	P	**P**	**20 17 37.5**	**-1.6**
MTN				IAmb	IAmb	20 17 55.0	
	comp=Z,16nm,1.1s						
FAKI	**Fak Fak**	**29.25**	**87**	P	**P**	**20 17 42.1**	**-0.5**
H08S2	**Diego Garcia H**	**30.43**	**263**	T	T	20 50 03.1	
	baz=86,slow=75,SNR=4.9						
H08S3	**Diego Garcia H**	**30.44**	**263**	T	T	20 50 05.8	
	baz=86,slow=75,SNR=4.4						
H08S1	**Diego Garcia H**	**30.45**	**263**	T	T	20 50 02.0	
	baz=86,slow=75,SNR=5.3						
H01W3	**Cape Leeuwin H**	**31.52**	**162**	T	T	20 51 29.7	
	baz=340,slow=76,SNR=24						
H01W2	**Cape Leeuwin H**	**31.54**	**162**	T	T	20 51 29.6	
	baz=340,slow=76,SNR=28						
H01W1	**Cape Leeuwin H**	**31.54**	**162**	T	T	20 51 21.0	
	baz=340,slow=76,SNR=29						
WRA	**Warramunga Arr**	**33.95**	**119**	P	**P**	**20 18 24.3**	**+0.5**
	comp=Z,2.5nm,0.5s,baz=298,slow=8.7,SNR=43						
WRA				PcP	**PcP**	**20 21 01.4**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=301,slow=1.8,SNR=3.0						
WRA	**Warramunga Arr**	**33.95**	**119**	P	**P**	**20 18 23.6**	**-0.2**
WB2	**Warramunga Arr**	**33.96**	**119**	P	**P**	**20 18 23.6**	**-0.3**
WB2				IAmb	IAmb	20 18 25.7	
	comp=Z,3.1nm,0.6s						
WR0	**Warramunga Arr**	**34.13**	**119**	P	**P**	**20 18 25.8**	**+0.4**
WR0				IAmb	IAmb	20 18 26.4	
	comp=Z,2.9nm,0.6s						
AS31	**Alice Springs**	**35.12**	**125**	P	**P**	**20 18 34.6**	**+0.6**
AS31				IAmb	IAmb	20 18 36.5	
	comp=Z,1.6nm,0.4s						
ASAR	**Alice Springs**	**35.12**	**125**	P	**P**	**20 18 34.5**	**+0.6**
	comp=Z,1.8nm,0.3s,baz=306,slow=8.1,SNR=33						
ASAR				PcP	**PcP**	**20 21 05.2**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=308,slow=2.9,SNR=6.4						
ASAR	**Alice Springs**	**35.12**	**125**	P	**P**	**20 18 34.7**	**+0.8**
COEN	**Coen**	**40.58**	**106**	P	**P**	**20 19 20.2**	**+0.2**
CTAO	**Charters Tower**	**44.67**	**114**	P	**P**	**20 19 53.8**	**+0.7**
CTAO				IAmb	IAmb	20 19 54.8	
	comp=Z,5.1nm,0.7s						
STKA	**Stephens Creek**	**44.97**	**131**	P	**P**	**20 19 56.7**	**+1.3**
	comp=Z,3.1nm,0.6s,baz=316,slow=6.0,SNR=10						
STKA	**Stephens Creek**	**44.97**	**131**	P	**P**	**20 19 56.5**	**+1.1**
KSRS	**Korea Array**	**48.15**	**27**	P	**P**	**20 20 20.0**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=226,slow=7.4,SNR=2.9						
KDJ	**Kajisay**	**52.42**	**336**	P	**P**	**20 20 52.6**	**+0.1**
SONM	**Songino Array**	**52.64**	**3**	P	**P**	**20 20 54.5**	**+0.6**
	comp=Z,1.6nm,0.5s,baz=179,slow=8.7,SNR=15						
SONM				PcP	**PcP**	**20 22 03.3**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=196,slow=4.4,SNR=7.4						
SONM	**Songino Array**	**52.64**	**3**	IAmb	IAmb	20 20 55.2	
	comp=Z,1.7nm,0.7s						
MK31	**Makanchi Array**	**54.68**	**343**	P	**P**	**20 21 07.4**	**-1.5**
MK31				IAmb	IAmb	20 21 09.1	
	comp=Z,2.3nm,0.8s						
MKAR	**Makanchi Array**	**54.68**	**343**	P	**P**	**20 21 07.7**	**-1.2**
	comp=Z,1.7nm,0.6s,baz=144,slow=8.0,SNR=19						
MKAR	**Makanchi Array**	**54.68**	**343**	P	**P**	**20 21 08.3**	**-0.6**
USA0B	**Ussuriysk Arra**	**55.44**	**25**	P	**P**	**20 21 14.2**	**0.0**
USA0B				IAmb	IAmb	20 21 16.6	
	comp=Z,9.7nm,1.4s						
USRK	**Ussuriysk Ar.**	**55.44**	**25**	P	**P**	**20 21 14.0**	**-0.3**
	comp=Z,2.4nm,0.6s,baz=216,slow=3.4,SNR=12						
USRK	**Ussuriysk Ar.**	**55.44**	**25**	P	**P**	**20 21 14.0**	**-0.3**
KKAR	**Karatay Array**	**56.13**	**332**	P	**P**	**20 21 18.1**	**-1.3**
KURBB	**Kurchatov Arra**	**59.23**	**342**	P	**P**	**20 21 39.9**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=156,slow=6.6,SNR=8.3						
KURBB				PcP	**PcP**	**20 22 28.9**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=152,slow=3.0,SNR=6.0						
KURK	**Kurchatov**	**59.28**	**342**	P	**P**	**20 21 39.9**	**-1.4**
ZAA0	**Zalesovo Array**	**60.63**	**348**	P	**P**	**20 21 49.3**	**-1.1**
ZAA0				IAmb	IAmb	20 21 51.1	
	comp=Z,3.1nm,0.5s						
ZALV	**Zalesovo Beam**	**60.63**	**348**	P	**P**	**20 21 49.8**	**-0.6**
	comp=Z,2.7nm,0.4s,baz=157,slow=5.6,SNR=17						
ZALV	**Zalesovo Beam**	**60.63**	**348**	P	**P**	**20 21 49.0**	**-1.3**
BVAR	**Borovoye Array**	**63.98**	**339**	P	**P**	**20 22 12.2**	**-0.6**
	comp=Z,2.4nm,0.6s,baz=170,slow=11,SNR=22						
BRVK	**Borovoye**	**64.04**	**339**	P	**P**	**20 22 12.2**	**-1.0**
BRVK				IAmb	IAmb	20 22 13.1	
	comp=Z,2.0nm,0.7s						
ABKAR	**Akbulak array**	**65.65**	**331**	P	**P**	**20 22 22.9**	**-0.8**
ABKAR	**Akbulak array**	**65.65**	**331**	P	**P**	**20 22 22.5**	**-1.2**
ABKAR				IAmb	IAmb	20 22 24.7	
	comp=Z,3.0nm,0.9s						
KBZ	**Khabaz**	**72.48**	**319**	P	**P**	**20 23 05.8**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=115,slow=14,SNR=2.1						
FINES	**FINESS Array B**	**88.09**	**332**	P	**P**	**20 24 30.2**	**+0.6**
	comp=Z,1.6nm,0.5s,baz=106,slow=6.5,SNR=16						
ARCES	**ARCESS Array B**	**90.25**	**340**	P	**P**	**20 24 39.6**	**0.0**
	comp=Z,0.7nm,0.5s,baz=98,slow=5.1,SNR=6.2						
ARCES	**ARCESS Array B**	**90.25**	**340**	IAmb	IAmb	20 24 59.1	
	comp=Z,4.2nm,1.1s						
TXAR	**Lajitas Array**	**145.01**	**43**	PKPbc	**PKPdf**	**20 31 17.5**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=207,slow=1.1,SNR=8.1						

*TAP **16** 20:12:04.6, 24°24N×121°84E, h17km, ML3.6, B*

*JMA **16** 20:12:04.8±0.1, 24°19N×121°82E, h21km±2km, M2.8*

ISC 16 20:12:04.7±0.9, 24°22N±0°01×121°84E±0°02, h18km±3km, n112, σ0°80/182, 1C-14D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.13**	**314**	P	**Pg**	**20 12 08.4**	**-0.4**
	baz=310						
EHP				S	**Sg**	**20 12 11.3**	**-0.1**
	baz=310						
ETL	**Fush Village**	**0.21**	**254**	⇓*i* P	**Pg**	**20 12 09.9**	**+0.1**
	baz=249						
ETL				*e*S	**Sg**	**20 12 13.9**	**+0.6**
	baz=249						
ENA	**Nanau**	**0.23**	**336**	⇓*i* P	**Pb**	**20 12 09.8**	**-0.5**
	baz=336						
ENA				S	**Sb**	**20 12 13.5**	**-0.5**
	baz=336						
NACB	**Ninganchiao**	**0.23**	**259**	⇓*i* P	**Pg**	**20 12 10.1**	**0.0**
	baz=255						
NACB				*i* S	**Sg**	**20 12 14.3**	**+0.5**
	baz=255						
EWUT	**Wuta**	**0.23**	**345**	⇓*i* P	**Pb**	**20 12 10.0**	**-0.4**
	baz=345						
EWUT				*i* S	**Sb**	**20 12 13.4**	**-0.7**
	baz=345						
TWD	**Chiawan**	**0.27**	**239**	⇓*i* P	**Pg**	**20 12 10.8**	**+0.2**
	baz=239						
TWD				*i* S	**Sg**	**20 12 15.6**	**+0.9**
	baz=239						
HWA	**Hwalien**	**0.32**	**222**	*e*P	**Pb**	**20 12 12.8**	**+0.8**
	baz=229						
HWA				*e*S	**Sn**	**20 12 19.5**	**-1.3**
	baz=229						
ETLH	**Xiulin Townshi**	**0.33**	**268**	P	**Pb**	**20 12 11.8**	**-0.4**
	baz=273						
ETLH				S	**Sb**	**20 12 17.1**	**-0.2**
	baz=273						
TWC	**Suao**	**0.39**	**1**	⇓*i* P	**Pg**	**20 12 12.6**	**-0.3**
	baz=7.0						
TWC				S	**Sg**	**20 12 17.9**	**-0.4**
	baz=7.0						
ETM	**Tongmen**	**0.41**	**232**	⇑P	**Pb**	**20 12 13.4**	**0.0**
	baz=229						
ETM				*e*S	**Sb**	**20 12 19.5**	**+0.2**
	baz=229						
TEYL	**Yanliau Villag**	**0.41**	**213**	*e*P	**Pb**	**20 12 13.8**	**+0.3**
	baz=213						
TEYL				*e*S	**Sn**	**20 12 22.4**	**-0.7**
	baz=213						
NDS	**Dongshan**	**0.43**	**344**	⇓*i* P	**Pg**	**20 12 13.5**	**-0.1**
	baz=348						
NDS				*i* S	**Sg**	**20 12 19.2**	**-0.4**
	baz=348						
NNSB	**Datong**

	baz=359									
TIPB				S	Sb	20 12 28.7	-0.6			
	baz=359									
TWA	**Mucha**	**0.80**	**343**	P	Pb	20 12 20.0	-0.1			
	baz=343									
TWA				S	Sg	20 12 31.0	+0.1			
	baz=343									
NHDH	**Xindian Distri**	**0.80**	**339**	*eP*	Pg	20 12 20.5	+0.2			
	baz=339									
NHDH				*eS*	Sg	20 12 30.8	-0.2			
	baz=339									
TWB1	**Santiao Chiao**	**0.80**	**9**	P	Pb	20 12 19.9	-0.2			
	baz=11									
TWB1				S	Sb	20 12 30.7	+0.1			
	baz=11									
HGSD	**Ruisui**	**0.82**	**208**	*eP*	Pn	20 12 21.1	-0.3			
	baz=198									
HGSD				*eS*	Sn	20 12 35.1	+2.1			
	baz=198									
WHP	**Taichung City**	**0.82**	**274**	*eP*	Pn	20 12 21.1	-0.4			
	baz=274									
WHP				S	Sg	20 12 31.8	+0.1			
	baz=274									
NWF	**Wu-fen Shan**	**0.85**	**356**	P	Pg	20 12 21.4	0.0			
	baz=349									
NWF				S	Sb	20 12 32.4	+0.1			
	baz=349									
EHY	**Hungye**	**0.85**	**214**	*eP*	Pb	20 12 20.9	-0.2			
	baz=215									
LIOB	**Emei**	**0.87**	**300**	*eP*	Pn	20 12 22.0	-0.1			
	baz=299									
LIOB				*eS*	Sg	20 12 33.3	+0.2			
	baz=299									
WCS	**Beigang Elemen**	**0.87**	**260**	*eP*	Pn	20 12 21.6	-0.4			
	baz=260									
NSTT	**Nanjuang**	**0.87**	**298**	*eP*	Pg	20 12 21.6	-0.1			
	baz=298									
NSTT				*eS*	Sg	20 12 32.9	-0.4			
	baz=298									
TAP	**Taipei**	**0.87**	**339**	*eP*	Pn	20 12 22.2	0.0			
	baz=340									
TAP				S	Sg	20 12 33.2	-0.2			
	baz=340									
SSLB	**Suanglung**	**0.92**	**242**	*eP*	Pb	20 12 22.1	-0.1			
	baz=250									
SSLB				*eS*	Sg	20 12 34.1	-0.7			
	baz=250									
SMLT	**Sun Moon Lake**	**0.93**	**249**	P	Pg	20 12 22.4	-0.4			
	baz=248									
SMLT				S	Sn	20 12 35.8	-0.1			
	baz=248									
TYC	**Yuchr**	**0.95**	**251**	P	Pn	20 12 22.8	-0.5			
	baz=250									
TYC				S	Sn	20 12 36.2	-0.3			
	baz=250									
NCUH	**Zhongli**	**0.96**	**321**	*eP*	Pg	20 12 23.4	0.0			
	baz=320									
NCUH				*eS*	Sn	20 12 37.5	+1.0			
	baz=320									
YM01	**YM01**	**0.96**	**345**	P	Pg	20 12 23.5	+0.1			
	baz=328									
YM01				S	Sn	20 12 36.4	-0.2			
	baz=328									
NCU	**National Centr**	**0.96**	**322**	*eP*	Pg	20 12 23.7	+0.3			
	baz=321									
NCU				*eS*	Sn	20 12 37.7	+1.2			
	baz=321									
TWS1	**Kuangyinshan**	**0.96**	**336**	P	Pb	20 12 22.4	-0.5			
	baz=337									
TWS1				S	Sn	20 12 36.4	-0.2			
	baz=337									
YULB	**Yu-li**	**0.96**	**211**	*eP*	Pb	20 12 22.0	-0.9			
	baz=213									
SBCB	**Hsinchu**	**0.97**	**306**	*eP*	Pg	20 12 23.4	-0.2			
	baz=305									
SBCB				*eS*	Sn	20 12 38.5	+1.7			
	baz=305									
TWQ1	**Liyutan**	**0.99**	**278**	P	Pg	20 12 25.0	+1.1			
	baz=277									
TWQ1				*eS*	Sn	20 12 38.5	+1.3			
	baz=277									
HSN	**Hsinchu**	**0.99**	**306**	*eP*	Pg	20 12 23.8	-0.1			
	baz=308									
HSN				*eS*	Sn	20 12 38.6	+1.3			
	baz=308									
EYUL	**Yuli**	**0.99**	**209**	*eP*	Pb	20 12 23.1	-0.3			
	baz=227									
NSY	**Sanyi**	**1.01**	**282**	*eP*	Pg	20 12 24.9	+0.6			
	baz=281									
NSY				*eS*	Sg	20 12 39.5	+1.9			
	baz=281									
ANP	**Anpu**	**1.01**	**343**	*eP*	Pg	20 12 24.2	-0.2			
	baz=344									
ANP				*eS*	Sn	20 12 37.5	-0.4			
	baz=344									
NTST	**Danshui**	**1.01**	**339**	P	Pg	20 12 24.6	+0.2			
	baz=339									
NTST				S	Sg	20 12 39.1	+1.4			
	baz=339									
NMLH	**Miaoli**	**1.01**	**289**	*eP*	Pg	20 12 25.2	+0.8			
	baz=288									
JYNG	**Yonagunijimaku**	**1.03**	**77**	P	Pn	20 12 24.5	+0.2			
WHYT	**Xinyi Township**	**1.04**	**240**	*eP*	Pg	20 12 24.8	-0.2			
	baz=232									
TCU	**Taichung**	**1.07**	**267**	*eP*	Pg	20 12 26.3	+0.8			
	baz=266									
TCU				*eS*	Sg	20 12 42.3	+2.8			
	baz=266									
TWY	**Chenhua**	**1.08**	**348**	*eP*	Pg	20 12 25.6	0.0			
	baz=330									
YOJ	**Yonaguni jima**	**1.09**	**77**	P	Pb	20 12 25.3	+0.2			
YOJ				*eS*	Sn	20 12 40.1	+0.3			
YOJ	**Yonaguni jima**	**1.09**	**77**	*eP*	Pb	20 12 25.3	+0.2			
	baz=68									
YUS	**Yu-Shan**	**1.09**	**229**	*eP*	Pb	20 12 25.1	-0.3			
	baz=229									
WJS	**Zhushan**	**1.09**	**249**	*eP*	Pg	20 12 25.8	-0.2			
	baz=243									
WDJ	**Dajia District**	**1.11**	**277**	*eP*	Pg	20 12 26.3	+0.1			
	baz=277									
WDJ				*eS*	Sg	20 12 43.0	+2.3			
	baz=277									
WNT	**Mingjian**	**1.11**	**253**	*eP*	Pg	20 12 26.6	+0.2			
	baz=241									
WNT				*eS*	Sg	20 12 42.8	+1.8			
	baz=241									
FULB	**Fuli**	**1.13**	**207**	*eP*	Pb	20 12 25.5	-0.3			
	baz=225									
WCHH	**Zhanghua**	**1.18**	**264**	*eP*	Pg	20 12 27.6	0.0			
	baz=263									
ALS	**Alishan**	**1.18**	**234**	P	Pb	20 12 26.8	0.0			
	baz=225									
CHKT	**Chengkung**	**1.20**	**202**	*eP*	Pn	20 12 25.7	-0.9			
	baz=189									
CHN5	**Tsauling**	**1.23**	**240**	P	Pg	20 12 28.1	-0.5			
	baz=240									
CHN5				*eS*	Sg	20 12 46.4	+1.6			
	baz=240									
ELDTW	**Lidau**	**1.27**	**217**	*eP*	Pn	20 12 26.2	-1.6			
	baz=206									
WDLH	**Douliu**	**1.30**	**246**	*eP*	Pg	20 12 29.6	-0.4			
	baz=246									
WDLH				*eS*	Sg	20 12 48.0	+0.9			
	baz=246									
EDH	**Donghe**	**1.33**	**202**	*eP*	Pn	20 12 27.5	-1.0			
	baz=191									
WRL	**Guolierlin Hig**	**1.38**	**257**	*eP*	Pb	20 12 29.8	-0.2			
	baz=257									
PCYT	**Pengchaiyu**	**1.42**	**8**	*eP*	Pb	20 12 30.2	-0.6			
	baz=7.0									
CHN2	**Minshiung**	**1.43**	**242**	*eP*	Pg	20 12 31.6	-0.7			
	baz=243									
STYH	**Taoyuan**	**1.43**	**223**	*eP*	Pb	20 12 30.4	-0.4			
	baz=214									
WTK	**Tuku**	**1.43**	**249**	*eP*	Pb	20 12 31.1	+0.1			
	baz=249									
CHN4	**Tsaushan**	**1.43**	**233**	*eP*	Pb	20 12 31.2	+0.2			
	baz=233									
CHN4				*eS*	Sg	20 12 52.3	+1.2			
	baz=233									
TPUB	**Ta-pu**	**1.44**	**231**	*eP*	Pb	20 12 31.3	+0.3			
	baz=220									
LONT	**Longtian**	**1.46**	**207**	*eP*	Pn	20 12 28.8	-1.4			
	baz=211									
CHY	**Chiayi**	**1.48**	**241**	*eP*	Pg	20 12 32.4	-0.9			
	baz=241									
CHY				*eS*	Sg	20 12 52.8	0.0			
	baz=241									
WTP	**Ta-pu**	**1.48**	**230**	P	Pb	20 12 31.9	0.0			
	baz=232									
TWG	**Pinlang**	**1.56**	**207**	*eP*	Pn	20 12 30.4	-1.2			
	baz=211									
TWGBT	**Beinan**	**1.56**	**207**	*eP*	Pn	20 12 30.1	-1.5			
	baz=211									
TWK	**Hsinying**	**1.56**	**233**	*eP*	Pb	20 12 33.2	+0.1			
	baz=235									
LDUT	**Ludao**	**1.57**	**193**	*eP*	Pn	20 12 29.6	-2.2			
	baz=185									
SNST	**Tainan City**	**1.58**	**231**	*eP*	Pb	20 12 33.8	+0.3			
	baz=234									
CHN1	**Nanshi**	**1.58**	**230**	*eP*	Pb	20 12 33.4	-0.1			
	baz=230									
CHN1				*eS*	Sg	20 12 55.6	-0.3			
	baz=230									
WSF	**Szhu**	**1.59**	**249**	*eP*	Pb	20 12 33.4	-0.2			
	baz=249									
WSF				*eS*	Sg	20 12 55.7	-0.5			
	baz=249									
SGST	**Jiashian**	**1.62**	**226**	*eP*	Pb	20 12 33.0	-1.1			
	baz=216									
ICHU	**Yijhu**	**1.67**	**240**	*eP*	Pb	20 12 34.2	-0.7			
	baz=241									
IRIF	**Iriomote-Funau**	**1.73**	**86**	P	Pn	20 12 34.8	+0.9			
IRIF				S	Sb	20 12 56.5	-0.8			
SCST	**Cishan**	**1.81**	**223**	*eP*	Pb	20 12 36.7	-0.7			
	baz=228									
SSD	**Sandimen**	**1.84**	**217**	*eP*	Pb	20 12 36.8	-1.0			
	baz=223									
TSMG	**Majia**	**1.86**	**216**	*eP*	Pb	20 12 37.6	-0.7			
	baz=219									
TSMG				*eS*	Sb	20 13 02.0	+0.7			
	baz=219									
MASBT	**Mashibuluo**	**1.95**	**215**	*eP*	Pb	20 12 38.5	-1.2			
	baz=218									
MASBT				*eS*	Sb	20 13 03.8	+0.1			
	baz=218									
JKRS	**Kuro-shima**	**1.98**	**89**	P	Pn	20 12 38.5	+1.2			
JKRS				S	Sn	20 13 02.7	+1.0			
JIJ	**Ishigaki jima**	**2.10**	**86**	P	Pn	20 12 39.2	+0.1			
JIJ				S	Sn	20 13 03.9	-0.9			
SCZT	**Fangliau**	**2.15**	**212**	*eP*	Pb	20 12 41.3	-1.9			
	baz=205									
PHUB	**P'eng-hu**	**2.19**	**252**	*eP*	Pn	20 12 40.3	0.0			
	baz=251									
JISG	**Ishigakijimahi**	**2.28**	**80**	P	Pn	20 12 42.3	+0.8			
JISG				*eS*	Sn	20 13 10.4	+1.3			
PTMZ	**Houxiangcun**	**2.61**	**289**	*eP*	Pn	20 12 45.6	-0.5			
	baz=284									
JTJ	**Tarama**	**2.64**	**80**	S	Sn	20 13 20.0	+2.0			
XPSS	**Dashiqiu**	**3.09**	**331**	*eP*	Pn	20 12 51.6	-1.0			
	baz=324									
KNMB	**Chin-men Tao**	**3.16**	**275**	*eP*	Pn	20 12 53.1	-0.5			
	baz=271									
AXDP	**Jialang**	**3.59**	**282**	*eP*	Pn	20 13 01.4	+1.9			
	baz=277									

IDC ***16*** *20:16:51.8±13.0, 23.°03S×179.°99E, h617km±164km, mb2.7/4, mb1 3.0/4, mb1mx2.7/24, mbtmp3.6/4, Error ellipse: s-maj=81.9km s-min=28.7km az=58.0*

ISC 16 20:16:48.5±1.2, 23.°1S±0.°1×179.°6W±0.°3, h600km, n23, σ4s06/26, mb3.2/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WIAZ	**Waiheke Island**	**14.41**	**197**	P		**P**		**20 19 49.4**	**-1.8**
MKAZ	**Moumakai**	**14.70**	**197**	P		**P**		**20 19 52.0**	**-1.8**
WMGZ	**Waiomatatini S**	**14.80**	**186**	P		P		20 19 49.0	-5.6
WMGZ				S		S		**20 22 27.6**	**+1.1**
HAZ	**Te Kaha**	**14.81**	**188**	P		P		20 19 47.8	-6.9
HAZ				S		**S**		**20 22 28.1**	**+1.3**
PKGZ	**Pakihiroa**	**14.90**	**187**	P		**P**		**20 19 50.0**	**-5.7**
PKGZ				S		**S**		**20 22 24.5**	**-4.0**
PUZ	**Puketiti**	**15.06**	**187**	P		**P**		**20 19 52.1**	**-5.0**
TWGZ	**Tauwhareparae**	**15.20**	**187**	P		**P**		**20 19 54.4**	**-3.9**
TWGZ				S		**S**		**20 22 36.4**	**+3.1**
TOZ	**Tahuroa Road**	**15.21**	**195**	P		**P**		**20 19 57.4**	**-1.0**
URZ	**Urewera**	**15.40**	**190**	P		P		20 19 53.0	-7.1
URZ				S		**S**		**20 22 39.9**	**+3.5**
MUGZ	**Murupara**	**15.67**	**191**	P		**P**		**20 19 57.7**	**-5.0**
MUGZ				S		**S**		**20 22 51.2**	**+10**
BKZ	**Black Stump Fm**	**16.39**	**191**	P		**P**		**20 20 03.7**	**-5.6**
TMVZ	**Te Maari**	**16.49**	**193**	P		**P**		**20 20 06.7**	**-3.6**
TWVZ	**Taurewa**	**16.50**	**194**	P		**P**		**20 20 07.2**	**-3.2**
ETVZ	**East Tongariro**	**16.51**	**193**	P		**P**		**20 20 06.9**	**-3.5**
WTVZ	**West Tongariro**	**16.51**	**193**	P		**P**		**20 20 07.1**	**-3.4**
KWHZ	**Kaweka Forest**	**16.65**	**191**	P		**P**		**20 20 06.6**	**-5.1**
FWVZ	**Far West T-bar**	**16.65**	**193**	P		**P**		**20 20 08.5**	**-3.4**
ASAR	**Alice Springs**	**42.55**	**260**	P		**P**		**20 23 53.0**	**-0.3**
	0.3nm,0.6s,baz=106,slow=8.2,SNR=5.3								
WRA	**Warramunga Arr**	**42.84**	**265**	P		**P**		**20 23 54.3**	**-1.3**
	0.4nm,0.5s,baz=100,slow=8.7,SNR=4.8								
VNDA	**Vanda**	**55.23**	**185**	P		**P**		**20 25 27.8**	**+2.1**
	0.5nm,0.5s,baz=11,slow=7.4,SNR=9.4								
ILAR	**Eielson Array**	**91.14**	**13**	P		**P**		**20 28 51.8**	**+2.0**
	0.3nm,0.7s,baz=227,slow=6.1,SNR=2.5								
ARCES	**ARCESS Array B**	**131.16**	**349**	PKP		**PKiKP**		**20 34 53.5**	**0.0**
	2.0nm,1.0s,baz=5.3,slow=3.9,SNR=4.0								
AKASG	**Malin Array Be**	**144.48**	**328**	PKP		**PKPab**		**20 35 17.8**	**-0.3**
	0.5nm,0.2s,baz=41,slow=4.1,SNR=5.0								

IDC ***16*** *20:19:05.0±1.0, 10.°78N×72.°57W, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.6/25, mbtmp3.6/4, ML3.0/1, Error ellipse: s-maj=32.6km s-min=21.8km az=101.0*
FUNV ***16*** *20:19:09.1, 10.°65N×72.°69W, h5km, MW4.1*
RSNC ***16*** *20:19:09.2±0.9, 10.°62N×72.°73W, h6km±3km, ML3.8, Mw3.8, Fault plane solution: NP1:φs58.00000°, δ78.00000°, λ98.00000°.*

ISC 16 20:19:08.2±1.1, 10.°66N±0.°03×72.°70W±0.°02, h18km±7km, n63, σ1s76/112, mb3.4/3, 5C-8D, Venezuela

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CRJC	**Cerrejon, Guaj**	**0.40**	**333**	*i*P		**Pg**		**20 19 17.1**	**+0.5**
CRJC				*eS*		**Sb**		**20 19 23.4**	**+0.6**
CRJC				*i*				20 19 24.4	
	comp=Z,9μm,0.2s								
CVALL	**Valledupar, Ce**	**0.57**	**255**	*eP*		**Pg**		**20 19 18.7**	**-0.8**
CVALL				*eS*		**Sg**		**20 19 25.8**	**-1.4**
CVALL				*i*				20 19 33.1	
	comp=Z,2μm,0.2s								
MCQV	**Machiques**	**0.62**	**165**	*i*P		**Pg**		**20 19 20.5**	**-0.1**
MCQV				*eS*		**Sb**		**20 19 29.6**	**+0.5**
URIC	**Uribia, Colomb**	**1.25**	**34**	*eP*		**Pb**		**20 19 31.8**	**+0.6**
URIC				*eS*		**Sg**		**20 19 49.1**	**+0.5**
URIC				*i*				20 19 50.8	
	comp=Z,2μm,0.4s								
URIC	**Uribia, Colomb**	**1.25**	**34**	*eP*		**Pb**		**20 19 31.9**	**+0.6**
URIC				*eS*		**Sg**		**20 19 49.3**	**+0.6**
LL2C	**La Loma 2 Cana**	**1.32**	**214**	*eP*		**Pn**		**20 19 31.8**	**+0.1**
LL2C				*eS*		**Sn**		**20 19 48.5**	**-0.4**
LL2C				*i*				20 20 02.3	
	comp=Z,3μm,0.5s								
LL1C	**La Loma 1 Cana**	**1.39**	**217**	*eP*		**Pn**		**20 19 32.2**	**-0.6**
LL1C				*eS*		**Sn**		**20 19 50.0**	**-0.8**
SMRC	**Santa Marta, M**	**1.58**	**289**	*eP*		**Pn**		**20 19 35.2**	**-0.2**
SMRC				*eS*		**Sn**		**20 19 53.5**	**-1.9**
SMRC				*i*				20 19 57.3	
	comp=Z,885nm,0.5s								
ARGC	**Ariguani, Magd**	**1.72**	**243**	*eP*		**Pn**		**20 19 37.5**	**+0.2**
ARGC				*eS*		**Sn**		**20 19 59.5**	**+0.7**
ARGC				*i*				20 20 09.1	
	comp=Z,409nm,0.3s								
DABV	**Dabajuro**	**2.04**	**82**	*eP*		**Pn**		**20 19 43.3**	**+1.6**
DABV				*eS*		**Sb**		**20 20 10.3**	**+0.4**
DABV	**Dabajuro**	**2.04**	**82**	*eP*		**Pn**		**20 19 43.4**	**+1.6**
DABV				*eS*		**Sb**		**20 20 09.0**	**-1.0**
SMLC	**San Martn de**	**2.29**	**216**	*eP*		**Pn**		**20 19 44.5**	**-0.6**
SMLC				*i*				20 20 20.1	
	comp=Z,1μm,0.5s								
OCAC	**Ocana**	**2.48**	**194**	*eP*		**Pn**		**20 19 48.4**	**+0.5**
OCAC				*eS*		**Sn**		**20 20 20.6**	**+2.7**
SJCC	**San Jacinto, C**	**2.56**	**253**	*i*P		**Pn**		**20 19 50.8**	**+1.9**
SJCC				*eS*		**Sn**		**20 20 21.1**	**+1.5**
SJCC				*i*				20 20 39.9	
	comp=Z,222nm,0.5s								
SDV	**Santo Domingo**	**2.69**	**131**	*eP*		**Pn**		**20 19 51.3**	**+0.4**
SDV				*i*				20 20 02.6	
	comp=Z,313nm,0.5s								
SDV				*eS*		**Sn**		**20 20 25.0**	**+1.8**
SDV	**Santo Domingo**	**2.69**	**131**	*eP*		**Pn**		**20 19 51.4**	**+0.5**
SDV				*eS*		**Sn**		**20 20 24.3**	**+1.2**
CAPV	**Capacho**	**2.80**	**172**	*eP*		**Pn**		**20 19 54.7**	**+2.3**
CAPV				*eS*		**Sn**		**20 20 26.6**	**+0.7**
SIQV	**Siquisique**	**2.84**	**90**	*eP*		**Pn**		**20 19 54.0**	**+1.2**
SIQV				*eS*		**Sn**		**20 20 28.1**	**+1.5**
MONV	**Montecano**	**2.97**	**64**	*eP*		**Pn**		**20 19 55.9**	**+1.4**
MONV				*eS*		**Sn**		**20 20 31.2**	**+1.5**
SOCV	**Socops**	**2.98**	**142**	*eP*		**Pn**		**20 19 54.8**	**+0.1**
SOCV	**Socops**	**2.98**	**142**	*eP*		**Pn**		**20 19 55.4**	**+0.8**
SOCV				*eS*		**Sn**		**20 20 30.7**	**+0.7**
PAMC	**Pamplona, Colo**	**3.30**	**180**	*eP*		**Pn**		**20 20 00.7**	**+1.3**
PAMC				*eS*		**Sn**		**20 20 39.4**	**+0.9**
PAMC				*i*				20 20 51.6	
	comp=Z,278nm,0.2s								
BRRC	**Barranca, Sant**	**3.67**	**196**	*eP*		**Pn**		**20 20 04.8**	**+0.7**
BRRC				*eS*		**Sn**		**20 20 48.3**	**+1.3**
BRRC				*i*				20 21 08.2	
	comp=Z,149nm,0.6s								
BRRC	**Barranca, Sant**	**3.67**	**196**	*eP*		**Pn**		**20 20 05.0**	**+0.9**
BRRC				*eS*		**Sn**		**20 20 47.4**	**+0.5**
ZARC	**Zaragoza, Cauc**	**3.80**	**214**	*eP*		**Pn**		**20 20 05.5**	**-0.4**
ZARC				*eS*		**Sn**		**20 20 51.2**	**+0.9**
ZARC				*i*				20 21 13.9	
	comp=Z,230nm,0.6s								
JACV	**Jacura**	**3.82**	**83**	*eP*		**Pn**		**20 20 06.3**	**0.0**
JACV				*eS*		**Sn**		**20 20 49.4**	**-1.4**
HATO	**Hato, Curacao**	**3.97**	**67**	*eP*		**Pn**		**20 20 09.2**	**+1.0**
HATO				*eS*		**Sn**		**20 20 53.1**	**-1.2**
UREC	**San Jos de Ur**	**4.02**	**224**	*eP*		**Pn**		**20 20 10.3**	**+1.3**
UREC				*i*				20 20 59.3	
	comp=Z,81nm,0.4s								
BARC	**Barichara**	**4.07**	**187**	*eP*		**Pn**		**20 20 11.1**	**+1.2**
BARC				*eS*		**Sn**		**20 20 58.1**	**+0.9**
BARC				*i*				20 21 23.6	
	comp=Z,201nm,0.5s								
TAMC	**Tame, Arauca**	**4.29**	**168**	*eP*		**Pn**		**20 20 14.6**	**+1.9**
TAMC				*eS*		**Sn**		**20 21 03.7**	**+1.3**
TAMC	**Tame, Arauca**	**4.29**	**168**	*eP*		**Pn**		**20 20 13.3**	**+0.6**
TAMC				*eS*		**Sn**		**20 21 01.0**	**-1.4**
PTBC	**PUERTO BERRIO,**	**4.45**	**203**	*eP*		**Pn**		**20 20 14.3**	**-0.6**
PTBC				*eS*		**Sn**		**20 21 06.7**	**+0.5**
PTBC				*i*				20 21 13.2	
	comp=Z,131nm,0.6s								
RUSC	**La Rusia**	**4.75**	**185**	*eP*		**Pn**		**20 20 20.9**	**+1.5**
RUSC				*eS*		**Sn**		**20 21 16.7**	**+2.3**
RUSC				*i*				20 21 42.5	
	comp=Z,78nm,0.5s								
RUSC	**La Rusia**	**4.75**	**185**	*eP*		**Pn**		**20 20 20.2**	**+0.8**
RUSC				*eS*		**Sn**		**20 21 13.0**	**-1.4**
TURV	**Turiamo**	**4.78**	**92**	*eP*		**Pn**		**20 20 19.4**	**0.0**
TURV				*eS*		**Sn**		**20 21 12.8**	**-1.7**
ELOV	**Elorza**	**4.83**	**139**	*eP*		**Pn**		**20 20 20.4**	**+0.4**
ELOV				*eS*		**Sn**		**20 21 16.4**	**+0.8**
ELOV	**Elorza**	**4.83**	**139**	*eP*		**Pn**		**20 20 20.3**	**+0.3**
ELOV				*eS*		**Sn**		**20 21 12.8**	**-2.8**
BAUV	**El Baul**	**4.90**	**110**	*eP*		**Pn**		**20 20 21.4**	**+0.4**
BAUV				*eS*		**Sn**		**20 21 15.8**	**-1.5**
DBBC	**Dabeiba**	**5.01**	**224**	*eP*		**Pn**		**20 20 24.9**	**+2.3**
DBBC				*i*				20 21 49.6	
	comp=Z,259nm,0.5s								
BENV	**Beln**	**5.07**	**97**	*eP*		**Pn**		**20 20 24.4**	**+1.0**
BENV				*eS*		**Sn**		**20 21 20.1**	**-1.5**
SPBC	**San Pablo de B**	**5.16**	**195**	*eP*		**Pn**		**20 20 25.2**	**+0.6**
HELC	**Santa Helena**	**5.25**	**212**	*eP*		**Pn**		**20 20 27.4**	**+1.2**
HELC				*eS*		**Sn**		**20 21 27.2**	**+0.8**
HELC				*i*				20 21 53.3	
	comp=Z,135nm,0.9s								
HELC	**Santa Helena**	**5.25**	**212**	*eP*		**Pn**		**20 20 27.0**	**+0.8**
HELC				*eS*		**Sn**		**20 21 24.1**	**-2.4**
NORC	**Norcasia**	**5.50**	**203**	*eP*		**Pn**		**20 20 31.5**	**+2.1**
NORC				*eS*		**Sn**		**20 21 32.7**	**+0.5**
NORC				*i*				20 21 44.0	
	comp=Z,76nm,0.4s								
TACV	**Tcata**	**5.60**	**95**	*eP*		**Pn**		**20 20 31.5**	**+0.7**
TACV				*eS*		**Sn**		**20 21 31.6**	**-3.2**
CBOC	**Ciudad Bolivar**	**5.78**	**215**	*eP*		**Pn**		**20 20 36.4**	**+3.0**
CBOC				*i*				20 22 13.8	
	comp=Z,26nm,0.7s								
ROSC	**El Rosal**	**6.00**	**196**	Pn		**Pn**		**20 20 38.8**	**+2.3**
	comp=Z,8.3nm,0.3s,baz=131,slow=11,SNR=11								
ROSC				Sn		**Sn**		**20 21 49.2**	**+4.2**
	comp=Z,7.2nm,0.3s,baz=214,slow=23,SNR=7.4								
ROSC				Lg		Lg		20 22 20.9	
	comp=Z,8.1nm,0.3s,baz=345,slow=23,SNR=1.6								
ROSC	**El Rosal**	**6.00**	**196**	*eP*		**Pn**		**20 20 39.0**	**+2.4**
ROSC				*eS*		**Sn**		**20 21 46.1**	**+1.1**
ROSC				*i*				20 21 56.8	
	comp=Z,45nm,0.6s								
GUY2C	**Guyana, Caldas**	**6.01**	**206**	*eP*		**Pn**		**20 20 38.9**	**+2.2**
GUY2C				*eS*		**Sn**		**20 21 46.6**	**+1.1**
GUY2C				*i*				20

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.04**	**166**	Pn		Pn		20 36 58.8	0.0
	3.7nm,0.3s,baz=18,slow=20,SNR=1.3								
JCJ				Sn		Sn		20 37 44.1	-2.8
	8.1nm,0.3s,baz=281,slow=20,SNR=1.7								
MJAR	**Matsushiro Arr**	**6.00**	**337**	Pn		Pn		20 37 25.2	-0.4
	0.2nm,0.3s,baz=159,slow=10,SNR=7.6								
MJAR				Sn		Sn		20 38 37.0	+2.0
	0.1nm,0.3s,baz=184,slow=24,SNR=2.1								
MKAR	**Makanchi Array**	**47.31**	**307**	P		P		20 44 30.5	-0.4
	0.2nm,0.6s,baz=93,slow=9.5,SNR=2.6								
WRA	**Warramunga Arr**	**51.11**	**188**	P		P		20 45 00.5	+0.3
	0.2nm,0.3s,baz=7.1,slow=7.5,SNR=5.3								
ASAR	**Alice Springs**	**54.84**	**188**	P		P		20 45 27.4	-0.3
	0.3nm,0.4s,baz=11,slow=7.2,SNR=7.3								

IDC 16 20:38:41.3±4.7, 5.90S×149.29E, h0km, mb2.8/2, mb1 3.2/2, mb1mx3.0/36, mbtmp2.9/2, Error ellipse: s-maj=181.3km s-min=53.8km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.15**	**225**	P		P		20 43 18.4	-0.8
	0.3nm,0.7s,baz=50,slow=11,SNR=1.8								
ASAR	**Alice Springs**	**23.05**	**218**	P		P		20 43 47.7	-0.9
	0.3nm,0.8s,baz=40,slow=10,SNR=2.2								
TORD	**Torodi Ar. Bea**	**147.27**	**285**	PKPbc		PKPbc		20 58 27.2	-0.7
	0.6nm,0.6s,baz=68,slow=3.7,SNR=3.7								

JMA ***16*** *20:44:35.4,24.26N×121.78E,h21km±1km,M3.5*
TAP ***16*** *20:44:35.1,24.29N×121.82E,h13km,ML4.0,B*
NIED ***16*** *20:44:35.5,24.26N×121.78E,h21km,MW3.9,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; Mrr3.88; Mθθ-4.11; Mφφ0.23; Mrθ2.54; Mrφ-2.77; Mθφ4.06; Fault plane solution: M06.81000×10¹⁴ NP1:φs40.00000°, δ70.00000°, λ67.00000°. NP2:φs271.00000°, δ30.00000°, λ137.00000°.*

ISC 16 20:44:35.5±0.8, 24.29N±0.01×121.85E±0.02, h12km±4km, n120, σ1°08/193, 4C-29D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.10**	**282**	*i* P		**Pg**		**20 44 38.0**	**-0.5**
	baz=285								
EHP				*i* S		**Sg**		**20 44 40.4**	**-0.3**
	baz=285								
EWUT	**Wuta**	**0.17**	**337**	⇓*i* P		**Pg**		**20 44 39.1**	**-0.3**
	baz=346								
EWUT				*i* S		**Sg**		**20 44 41.6**	**-0.6**
	baz=346								
ENA	**Nanau**	**0.17**	**324**	⇓*i* P		**Pg**		**20 44 39.1**	**-0.4**
	baz=334								
ENA				*i* S		**Sg**		**20 44 41.6**	**-0.6**
	baz=334								
ETL	**Fush Village**	**0.24**	**238**	*i* P		**Pg**		**20 44 40.1**	**-0.6**
	baz=234								
ETL				S		**Sg**		**20 44 44.0**	**-0.2**
	baz=234								
NACB	**Ninganchiao**	**0.26**	**244**	⇓*i* P		**Pg**		**20 44 40.3**	**-0.7**
	baz=241								
NACB				*i* S		**Sg**		**20 44 44.2**	**-0.4**
	baz=241								
TWD	**Chiawan**	**0.31**	**228**	⇓*i* P		**Pg**		**20 44 41.2**	**-0.7**
	baz=224								
TWD				*e*S		**Sg**		**20 44 46.0**	**-0.1**
	baz=224								
TWC	**Suao**	**0.32**	**360**	*i* P		**Pg**		**20 44 41.8**	**-0.3**
	baz=6.0								
TWC				*i* S		**Sg**		**20 44 46.0**	**-0.4**
	baz=6.0								
ETLH	**Xiulin Townshi**	**0.35**	**256**	⇓*i* P		**Pg**		**20 44 41.8**	**-0.7**
	baz=255								
ETLH				S		**Sg**		**20 44 46.6**	**-0.7**
	baz=255								
NDS	**Dongshan**	**0.36**	**340**	⇓*i* P		**Pg**		**20 44 42.6**	**-0.3**
	baz=344								
NDS				*i* S		**Sg**		**20 44 47.4**	**-0.4**
	baz=344								
HWA	**Hwalien**	**0.38**	**216**	*i* P		**Pb**		**20 44 43.8**	**-0.4**
	baz=211								
HWA				*e*S		**Sn**		**20 44 52.8**	**+4.5**
	baz=211								
ENTT	**Nioudou**	**0.44**	**323**	⇓*i* P		**Pg**		**20 44 44.0**	**-0.2**
	baz=327								
ENTT				*i* S		**Sg**		**20 44 49.8**	**-0.2**
	baz=327								
NDT	**Datong Townshi**	**0.44**	**315**	⇓*i* P		**Pg**		**20 44 44.1**	**-0.1**
	baz=318								
NDT				*i* S		**Sg**		**20 44 50.0**	**-0.1**
	baz=318								
NNSB	**Datong**	**0.45**	**288**	⇓*i* P		**Pg**		**20 44 44.1**	**-0.4**
	baz=289								
NNSB				S		**Sg**		**20 44 49.8**	**-0.7**
	baz=289								
NNS	**Nan Shan**	**0.46**	**289**	⇓*i* P		**Pg**		**20 44 44.2**	**-0.4**
	baz=290								
NNS				*i* S		**Sg**		**20 44 50.3**	**-0.6**
	baz=290								
TWE	**Neicheng**	**0.46**	**339**	⇓*i* P		**Pg**		**20 44 44.5**	**-0.2**
	baz=344								
TWE				*i* S		**Sg**		**20 44 50.6**	**-0.3**
	baz=344								
ILA	**Ilan**	**0.48**	**349**	⇓*i* P		**Pg**		**20 44 45.2**	**+0.1**
	baz=353								
ILA				*e*S		**Sg**		**20 44 51.8**	**+0.3**
	baz=353								
WHF	**Hehuan Shan**	**0.55**	**255**	⇓*i* P		**Pg**		**20 44 45.8**	**-0.7**
	baz=254								
WHF				S		**Sg**		**20 44 53.7**	**-0.3**
	baz=254								
FUSS	**Fushou**	**0.56**	**266**	⇓*i* P		**Pg**		**20 44 46.0**	**-0.5**
	baz=265								
FUSS				S		**Sg**		**20 44 53.6**	**-0.3**
	baz=265								
EGS		**0.56**	**8**	P		**Pg**		**20 44 46.7**	**+0.2**
	baz=11								
NTC	**Toucheng**	**0.56**	**358**	⇓P		**Pg**		**20 44 46.4**	**-0.2**
	baz=1.0								
YHNB	**Yeheng**	**0.58**	**311**	⇓*i* P		**Pg**		**20 44 46.5**	**-0.3**
	baz=313								
YHNB				*e*S		**Sg**		**20 44 54.1**	**-0.4**
	baz=313								
NWLT	**Wulai**	**0.58**	**327**	⇓*i* P		**Pg**		**20 44 46.6**	**-0.3**
	baz=329								
NWLT				*i* S		**Sg**		**20 44 54.7**	**+0.1**
	baz=329								
NSK	**Sanguang**	**0.59**	**311**	⇓*i* P		**Pg**		**20 44 46.8**	**-0.4**
	baz=313								
NSK				S		**Sg**		**20 44 54.4**	**-0.6**
	baz=313								
ESL	**Shilin**	**0.61**	**219**	*i* P		**Pg**		**20 44 46.7**	**-0.7**
	baz=216								
ESL				*e*S		**Sn**		**20 44 57.6**	**-2.1**
	baz=216								
TWT	**Tachien**	**0.62**	**267**	⇓*i* P		**Pg**		**20 44 47.6**	**0.0**
	baz=266								
TWT				*e*S		**Sg**		**20 44 54.9**	**-1.0**
	baz=266								
TDCB	**Techi**	**0.63**	**267**	⇓*i* P		**Pg**		**20 44 47.6**	**-0.3**
	baz=267								
TDCB				*e*S		**Sg**		**20 44 55.0**	**-1.3**
	baz=267								
CHGB	**Renai**	**0.66**	**250**	⇓P		**Pg**		**20 44 47.8**	**-0.6**
	baz=249								
CHGB				*e*S		**Sb**		**20 44 58.0**	**-0.2**
	baz=249								
TIPB	**Shuangxi**	**0.68**	**358**	⇓*i* P		**Pg**		**20 44 48.6**	**-0.2**
TIPB				*e*S		**Sg**		**20 44 57.0**	**-0.8**
OWD	**Renai**	**0.70**	**242**	P		**Pg**		**20 44 48.6**	**-0.6**
	baz=241								
TWB1	**Santiao Chiao**	**0.73**	**10**	*e*P		**Pg**		**20 44 50.0**	**+0.3**
	baz=13								
TWB1				*e*S		**Sb**		**20 44 58.8**	**-1.2**
	baz=13								
EGFH	**Guangfu**	**0.73**	**212**	*e*P		**Pb**		**20 44 49.2**	**-0.9**
	baz=210								
TWA	**Mucha**	**0.73**	**341**	⇓*i* P		**Pb**		**20 44 49.6**	**-0.6**
	baz=343								
TWA				*e*S		**Sb**		**20 44 59.0**	**-1.1**
	baz=343								
NHDH	**Xindian Distri**	**0.73**	**336**	*e*P		**Pb**		**20 44 49.6**	**-0.6**
	baz=338								
NHDH				*e*S		**Sb**		**20 44 58.8**	**-1.4**
	baz=338								
NWF	**Wu-fen Shan**	**0.78**	**355**	⇓*i* P		**Pb**		**20 44 50.8**	**-0.3**
	baz=357								
NWF				*e*S		**Sb**		**20 45 00.7**	**-1.0**
	baz=357								
TAP	**Taipei**	**0.81**	**337**	*e*P		**Pg**		**20 44 51.5**	**+0.3**
	baz=339								
TAP				*e*S		**Sg**		**20 45 02.1**	**+0.2**
	baz=339								
WHP	**Taichung City**	**0.83**	**269**	⇓*i* P		**Pg**		**20 44 51.4**	**-0.2**
	baz=269								
WHP				S		**Sb**		**20 45 01.8**	**-1.1**
	baz=269								
LIOB	**Emei**	**0.84**	**295**	⇓P		**Pg**		**20 44 51.8**	**0.0**
	baz=296								
LIOB				*e*S		**Sg**		**20 45 02.8**	**0.0**
	baz=296								
NSTT	**Nanjuang**	**0.85**	**294**	⇓P		**Pg**		**20 44 51.8**	**-0.2**
	baz=295								
NSTT				*e*S		**Sb**		**20 45 02.2**	**-1.3**
	baz=295								
HGSD	**Ruisui**	**0.88**	**206**	*e*P		**Pn**		**20 44 52.8**	**-0.9**
	baz=205								
HGSD				*e*S		**Sn**		**20 45 08.3**	**+1.8**
	baz=205								
YM01	**YM01**	**0.89**	**343**	*e*P		**Pg**		**20 44 52.8**	**0.0**
	baz=345								
TWS1	**Kuangyinshan**	**0.90**	**334**	*e*P		**Pb**		**20 44 52.3**	**-0.7**
	baz=336								
TWS1				*e*S		**Sg**		**20 45 05.4**	**+0.7**
	baz=336								
NCU	**National Centr**	**0.91**	**318**	*e*P		**Pn**		**20 44 53.6**	**-0.5**
	baz=320								
NCUH	**Zhongli**	**0.91**	**318**	*e*P		**Pn**		**20 44 53.5**	**-0.6**
	baz=319								
EHY	**Hungye**	**0.92**	**212**	*e*P		**Pb**		**20 44 51.8**	**-1.5**
	baz=210								
SBCB	**Hsinchu**	**0.93**	**303**	⇑*e*P		**Pn**		**20 44 54.8**	**+0.4**
	baz=303								
SBCB				*e*S		**Sn**		**20 45 08.8**	**+1.0**
	baz=303								
ANP	**Anpu**	**0.94**	**341**	*e*P		**Pg**		**20 44 53.9**	**+0.1**
	baz=343								
NTST	**Danshui**	**0.94**	**337**	*e*P		**Pn**		**20 44 54.1**	**-0.4**
	baz=339								
HSN	**Hsinchu**	**0.95**	**303**	*e*P		**Pn**		**20 44 54.9**	**+0.3**
	baz=306								
HSN				*e*S		**Sn**		**20 45 09.9**	**+1.7**
	baz=306								
SMLT	**Sun Moon Lake**	**0.96**	**245**	*e*P		**Pb**		**20 44 53.4**	**-0.7**
	baz=244								
SSLB	**Suanglung**	**0.96**	**239**	*e*P		**Pb**		**20 44 53.1**	**-1.0**
	baz=238								
SSLB				*e*S		**Sb**		**20 45 06.0**	**-0.8**
	baz=238								
TWQ1	**Liyutan**	**0.98**	**274**	*e*P		**Pn**		**20 44 54.8**	**-0.4**
	baz=273								
TYC	**Yuchr**	**0.99**	**247**	*e*P		**Pb**		**20 44 53.9**	**-0.6**
	baz=246								
TYC				*e*S		**Sg**		**20 45 07.0**	**-0.4**
	baz=246								
NMLH	**Miaoli**	**1.00**	**285**	*e*P		**Pg**		**20 44 55.6**	**+0.8**
	baz=285								
NMLH				*e*S		**Sn**		**20 45 09.8**	**+0.5**
	baz=285								
NSY	**Sanyi**	**1.00**	**277**	*e*P		**Pg**		**20 44 55.4**	**+0.6**
	baz=277								
TWY	**Chenhua**	**1.01**	**347**	*e*P		**Pg**		**20 44 55.3**	**+0.3**
	baz=349								
JYNG	**Yonagunijimaku**	**1.01**	**81**	P		**Pn**		**20 44 55.0**	**-0.5**
JYNG				*e*S		**Sn**		**20 45 09.5**	**-0.1**
YULB	**Yu-li**	**1.03**	**210**	*e*P		**Pb**		**20 44 53.3**	**-2.0**
	baz=208								
YULB				*e*S		**Sn**		**20 45 08.9**	**-1.1**
	baz=208								
EYUL	**Yuli**	**1.06**	**208**	*e*P		**Pn**		**20 44 55.4**	**-0.7**
	baz=206								
EYUL				*e*S		**Sn**		**20 45 13.1**	**+2.4**
	baz=206								
YOJ	**Yonaguni jima**	**1.07**	**81**	P		**Pn**		**20 44 55.9**	**-0.4**
YOJ				*e*S		**Sg**		**20 45 11.5**	**+1.3**
YOJ	**Yonaguni jima**	**1.07**	**81**	P		**Pn**		**20 44 55.9**	**-0.4**
	baz=81								
YOJ				*e*S		**Sg**		**20 45 13.4**	**+3.2**
	baz=81								
TCU	**Taichung**	**1.08**	**263**	*e*P		**Pg**		**20 44 57.4**	**+1.0**
	baz=262								
TCU				*e*S		**Sg**		**20 45 12.1**	**+1.6**
	baz=262								
WHYT	**Xinyi Township**	**1.09**	**237**	*e*P		**Pg**		**20 44 56.3**	**-0.2**
	baz=236								
WHYT				*e*S		**Sg**		**20 45 13.4**	**+2.7**
	baz=236								
WDJ	**Dajia District**	**1.11**	**273**	*e*P		**Pg**		**20 44 57.7**	**+0.8**
	baz=273								
WDJ				*e*S		**Sg**		**20 45 12.7**	**+1.4**
	baz=273								
WJS	**Zhushan**	**1.13**	**246**	*e*P		**Pg**		**20 44 57.6**	**+0.3**
	baz=245								
WJS				*e*S		**Sg**		**20 45 15.6**	**+3.7**
	baz=245								
WNT	**Mingjian**	**1.14**	**249**	⇑*e*P		**Pg**		**20 44 58.0**	**+0.4**
	baz=248								
WNT				*e*S		**Sg**		**20 45 16.2**	**+3.8**
	baz=248								
FULB	**Fuli**	**1.20**	**205**	*e*P		**Pn**		**20 44 57.1**	**-1.0**
	baz=204								
WCHH	**Zhanghua**	**1.20**	**260**	*e*P		**Pg**		**20 44 59.1**	**+0.5**
	baz=260								
WCHH				*e*S		**Sg**		**20 45 17.4**	**+3.2**
	baz=260								
ALS	**Alishan**	**1.23**	**231**	⇑P		**Pb**		**20 44 58.5**	**-0.4**
	baz=230								
ALS				*e*S		**Sg**		**20 45 16.9**	**+1.6**
	baz=230								
CHKT	**Chengkung**	**1.27**	**201**	*e*P		**Pn**		**20 44 57.5**	**-1.5**
	baz=199								
CHKT				*e*S		**Sg**		**20 45 16.8**	**+0.5**
	baz=199								
CHN5	**Tsauling**	**1.27**	**238**	*e*P		**Pg**		**20 44 59.8**	**-0.3**
	baz=237								
CHN5				*e*S		**Sg**		**20 45 19.0**	**+2.3**
	baz=237								
ELDTW	**Lidau**	**1.33**	**215**	*e*P		**Pn**		**20 44 58.4**	**-1.6**
	baz=214								
WDLH	**Douliu**	**1.34**	**244**	*e*P		**Pg**		**20 45 01.1**	**-0.2**
	baz=243								
WDLH				*e*S		**Sg**		**20 45 20.6**	**+1.8**
	baz=243								
PCYT	**Pengchaiyu**	**1.35**	**8**	*e*P		**Pn**		**20 45 00.1**	**-0.1**
	baz=10.0								
WRL	**Guolierlin Hig**	**1.40**	**254**	⇑*e*P		**Pg**		**20 45 01.8**	**-0.7**
	baz=254								
WRL				*e*S		**Sg**		**20 45 22.1**	**+1.5**
	baz=254								
EDH	**Donghe**	**1.40**	**201**	*e*P		**Pn**		**20 44 59.4**	**-1.5**
	baz=200								
WTK	**Tuku**	**1.47**	**246**	*e*P		**Pg**		**20 45 02.8**	**-0.9**
	baz=245								
WTK				*e*S		**Sg**		**20 45 24.3**	**+1.5**
	baz=245								
CHN2	**Minshiung**	**1.47**	**239**	*e*P		**Pg**		**20 45 04.0**	**+0.2**
	baz=239								
CHN2				*e*S		**Sg**		**20 45 25.9**	**+3.1**
	baz=239								
CHN4	**Tsaushan**	**1.48**	**231**	*e*P		**Pb**		**20 45 03.0**	**0.0**
	baz=230								
CHN4				*e*S		**Sg**		**20 45 24.6**	**+1.3**
	baz=230								
STYH	**Taoyuan**	**1.49**	**222**	*e*P		**Pb**		**20 45 01.9**	**-1.2**
	baz=221								
STYH				*e*S		**Sg**		**20 45 22.7**	**-0.7**
	baz=221								
TPUB	**Ta-pu**	**1.49**	**229**	⇓*e*P		**Pb**		**20 45 03.2**	**0.0**
	baz=228								
TPUB				*e*S		**Sg**		**20 45 24.0**	**+0.5**
	baz=228								
WTCT	**Ta-ch'eng**	**1.50**	**254**	*e*P		**Pg**		**20 45 03.5**	**-0.8**
	baz=253								
WTCT				*e*S		**Sg**		**20 45 24.9**	**+1.2**
	baz=253								
CHY	**Chiayi**	**1.52**	**239**	*e*P		**Pg**		**20 45 04.4**	**-0.4**
	baz=238								
CHY				*e*S		**Sg**		**20 45 25.9**	**+1.3**
	baz=238								
LONT	**Longtian**	**1.53**	**206**	*e*P		**Pn**		**20 45 00.8**	**-1.8**
	baz=205								
WTP	**Ta-pu**	**1.54**	**228**	⇓*e*P		**Pb**		**20 45 03.8**	**-0.2**
	baz=227								
WTP				*e*S		**Sg**		**20 45 25.6**	**+0.6**
	baz=227								
TWK	**Hsinying**	**1.61**	**231**	*e*P		**Pb**		**20 45 05.1**	**-0.1**
	baz=230								
TWK				*e*S		**Sg**		**20 45 28.1**	**+0.7**
	baz=230								
WSF	**Szhu**	**1.62**	**247**	*e*P		**Pb**		**20 45 05.2**	**-0.3**
	baz=246								
WSF				*e*S		**Sg**		**20 45 28.7**	**+0.9**
	baz=246								
TWGBT	**Beinan**	**1.63**	**206**	*e*P		**Pn**		**20 45 03.2**	**-0.8**
	baz=205								
TWG	**Pinlang**	**1.63**	**206**	*e*P		**Pn**		**20 45 03.1**	**-0.9**
	baz=205								
SNST	**Tainan City**	**1.63**	**230**	*e*P		**Pb**		**20 45 05.2**	**-0.3**
	baz=229								
CHN1	**Nanshi**	**1.64**	**228**	*e*P		**Pb**		**20 45 05.1**	**-0.5**
	baz=227								
LDUT	**Ludao**	**1.65**	**192**	*e*P		**Pn**		**20 45 01.9**	**-2.3**
	baz=191								
SGST	**Jiashian**	**1.67**	**224**	*e*P		**Pb**		**20 45 05.0**	**-1.2**
	baz=223								
SGST				*e*S		**Sg**		**20 45 28.8**	**-0.5**
	baz=223								
SLGT	**Liugui**	**1.70**	**221**	*e*P		**Pb**		**20 45 06.0**	**-0.7**
	baz=220								
ICHU	**Yijhu**	**1.71**	**238**	*e*P		**Pb**		**20 45 06.4**	**-0.4**
	baz=237								
IRIF	**Iriomote-Funau**	**1.71**	**88**	P		**Pn**		**20 45 04.9**	**-0.3**
HATJ	**Hateruma jima**	**1.80**	**97**	P		**Pb**		**20 45 07.5**	**-0.9**
SCST	**Cishan**	**1.87**	**222**	*e*P		**Pb**		**20 45 09.4**	**-0.2**
	baz=221								
SSD	**Sandimen**	**1.90**	**216**	*e*P		**Pn**		**20 45 08.1**	**+0.4**
	baz=215								
SSD				*e*S		**Sg**		**20 45 34.6**	**-2.0**
	baz=215								
TSMG	**Majia**	**1.93**	**215**	*e*P		**Pb**		**20 45 09.7**	**-0.8**
	baz=214								
TSMG				*e*S		**Sb**		**20 45 35.3**	**+0.8**
	baz=214								
JKRS	**Kuro-shima**	**1.97**	**91**	P		**Pn**		**20 45 09.1**	**+0.4**
MASBT	**Mashibuluo**	**2.01**	**214**	*e*P		**Pn**		**20 45 09.3**	**+0.1**
	baz=213								
JIJ	**Ishigaki jima**	**2.09**	**87**	P		**Pn**		**20 45 10.2**	**-0.2**
JIJ				*e*S		**Sn**		**20 45 36.3**	**0.0**
EAST	**Anshuo**	**2.11**	**206**	*e*P		**Pb**		**20 45 13.3**	**-0.4**
	baz=205								
SSPT	**Xinbi**	**2.15**	**214**	*e*P		**Pb**		**20 45 13.5**	**-0.9**
	baz=213								
SCZT	**Fangliau**	**2.22**	**211**	*e*P		**Pn**		**20 45 13.1**	**+1.0**
	baz=210								
PHUB	**P'eng-hu**	**2.22**	**250**	*e*P		**Pn**		**20 45 12.4**	**+0.3**
	baz=249								
JISG	**Ishigakijimahi**	**2.26**	**82**	P		**Pn**		**20 45 12.5**	**-0.2**
JISG				*e*S		**Sn**		**20 45 41.5**	**+1.0**
MATB	**Ma-tsu**	**2.53**	**317**	*e*P		**Pn**		**20 45 16.7**	**+0.3**
	baz=317								
PTMZ	**Houxiangcun**	**2.59**	**287**	*e*P		**Pn**		**20 45 16.9**	**-0.4**
	baz=287								
JTJ	**Tarama**	**2.62**	**82**	P		**Pn**		**20 45 18.0**	**+0.4**
JTJ				S		**Sn**		**20 45 50.2**	**+0.8**
LYJJ	**Jianjiangzhen**	**2.94**	**320**	*e*P		**Pn**		**20 45 21.8**	**-0.2**
	baz=320								
XPSS	**Dashiqiu**	**3.03**	**331**	*e*P		**Pn**		**20 45 23.5**	**+0.2**
	baz=331								
JIRB	**Irabujima**	**3.07**	**79**	P		**Pn**		**20 45 24.5**	**+0.7**
KNM	**Kinmen**	**3.12**	**273**	*e*P		**Pn**		**20 45 26.1**	**+1.6**
	baz=272								
MHZQ	**Yeshan**	**3.13**	**306**	*e*P		**Pn**		**20 45 24.4**	**-0.2**
	baz=305								
JIKM	**Ikemajima**	**3.16**	**78**	P		**Pn**		**20 45 26.4**	**+1.4**
KNMB	**Chin-men Tao**	**3.16**	**274**	*e*P		**Pn**		**20 45 24.9**	**-0.2**
	baz=273								
JMJ2	**Miyako jima3**	**3.20**	**81**	P		**Pn**		**20 45 27.6**	**+2.0**
AXDP	**Jialang**	**3.58**	**281**	*e*P		**Pn**		**20 45 32.9**	**+2.0**
	baz=280								
ZPLA	**Ao Xicun**	**3.76**	**265**	*e*P		**Pn**		**20 45 33.6**	**+0.2**
	baz=265								

IDC 16 20:46:05.0±3.9, 5.34S×150.40E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.3/43, mbtmp3.5/2, Error ellipse: s-maj=134.3km s-min=53.3km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.32**	**226**	P		P		20 50 54.6	+0.9
	1.2nm,0.9s,baz=51,slow=11,SNR=4.8								
ASAR	**Alice Springs**	**24.18**	**219**	P		P		20 51 22.6	-0.7
	1.0nm,0.8s,baz=58,slow=8.8,SNR=7.5								
TORD	**Torodi Ar. Bea**	**148.18**	**286**	PKPbc		PKPbc		21 05 53.5	-0.6
	0.4nm,0.7s,baz=61,slow=1.9,SNR=2.6								

IDC 16 20:47:19.3±4.5, 6.05S×150.06E, h0km, mb3.0/2, mb1 3.4/2, mb1mx3.2/41, mbtmp3.1/2, MS3.1/1, Ms1 3.1/1, ms1mx2.8/7, Error ellipse: s-maj=179.5km s-min=55.0km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.60**	**226**	P		P		20 52 01.1	+0.9
	0.5nm,0.8s,baz=53,slow=11,SNR=1.4								
ASAR	**Alice Springs**	**23.42**	**220**	P		P		20 52 29.9	-0.4
	0.4nm,0.7s,baz=48,slow=9.8,SNR=2.2								
KSRS	**Korea Array**	**47.95**	**336**	LR		LR		21 15 45.9	
	comp=Z,18nm,18.8s,baz=45,slow=36								
TORD	**Torodi Ar. Bea**	**148.05**	**285**	PKPbc		PKPbc		21 07 07.1	-0.9
	0.4nm,0.8s,baz=85,slow=2.0,SNR=1.4								

MEX 16 20:53:13.7±0.4, 17.46N×95.04W, h16km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.40**	**158**	*i* P		Pg		20 53 20.5	-1.3
CMIG				*i* S		Sg		20 53 26.2	-1.2
TOIG	**Toxpalan**	**2.03**	**288**	*i* P		Pn		20 53 45.4	-2.0
TOIG				*i* S		Sn		20 54 12.5	+0.1

IDC ***16*** *20:54:47.7±47.0, 16.11S×178.44W, h0km, mb4.4/3, mb1 4.5/3, mb1mx3.7/37, mbtmp4.4/3, Error ellipse: s-maj=867.0km s-min=148.7km az=77.0*
NEIC ***16*** *20:55:26.1±0.8, 17.4S±0.2×179.0W±0.1, h299km±6km, mb4.0/12, Error ellipse: s-maj=24.2km s-min=15.2km az=176.0*

**ISC 16 20:55:25.5±0.9, 17.4S±0.2×179.0W±0.1,

KNRA	**Kununurra**	**50.00**	**264**	P	**P**	**21 03 49.8**	**-0.6**
KNRA				IAmb	IAmb	21 03 53.0	
	comp=Z,30nm,1.4s						

IDC ***16*** *20:59:25.7±3.0,20.86S×71.39W,h0km,mb4.2/1, mb1 3.9/2,mb1mx3.5/21,mbtmp3.9/2,ML3.7/1,Error ellipse: s-maj=124.2km s-min=46.8km az=119.0*
NEIC ***16*** *20:59:32.3±2.0,20.17S±0.04×70.89W±0.06,h12km±4km, mb4.1/3,ML3.8(GUC),Error ellipse: s-maj=7.9km s-min=5.6km az=97.0*
GUC ***16*** *20:59:34.0±0.7,20.16S×70.95W,h36km±4km,ML3.8*
ISC 16 20:59:31.0±1.8,20.17S±0.04×71.01W±0.07,h13km±10km, n43,σ1s09/42,8C-3D,Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TA02	**Huaiquique**	**0.83**	**97**	*eP*		**Pg**	**20 59 47.3**	**+0.2**
TA02				*i* S		**Sb**	**20 59 58.1**	**-0.3**
TA02				IAML			20 59 59.7	
	comp=E,15μm,0.2s							
TA02	**Huaiquique**	**0.83**	**97**			**Pg**	**20 59 47.2**	**+0.2**
TA01	**Diego Aracena**	**0.87**	**117**	⇓*i* P		**Pg**	**20 59 48.4**	**+0.5**
TA01				*i* S		**Sb**	**20 59 59.7**	**+0.1**
TA01				IAML			21 00 00.6	
	comp=N,4μm,0.5s							
TA01	**Diego Aracena**	**0.87**	**117**			**Pg**	**20 59 48.3**	**+0.5**
PSGC	**Pisagua**	**1.01**	**56**	⇓*i* P		**Pg**	**20 59 50.0**	**-0.5**
PSGC				*i* S		**Sg**	**21 00 02.9**	**-0.9**
PSGC				IAML			21 00 05.2	
	comp=N,4μm,0.3s							
PSGCX	**Pisagua**	**1.01**	**56**			**Pg**	**20 59 49.7**	**-0.8**
PB11	**IPOC Station P**	**1.33**	**72**	⇓*i* P		**Pn**	**20 59 55.3**	**-0.3**
PB11				*i* S		**Sb**	**21 00 12.0**	**-1.2**
PB11				IAML			21 00 14.2	
	comp=N,4μm,0.6s							
PB11	**IPOC Station P**	**1.33**	**72**	P	n	**Pn**	**20 59 55.2**	**-0.4**
PB02	**IPOC Station P**	**1.54**	**138**	⇑*i* P		**Pn**	**20 59 59.3**	**+0.9**
PB02				*i* S		**Sn**	**21 00 18.2**	**-0.2**
PB02				IAML			21 00 24.4	
	comp=E,3μm,0.3s							
PB01	**IPOC Station P**	**1.67**	**122**	⇑*i* P		**Pn**	**21 00 01.0**	**+0.9**
PB01				*i* S		**Sn**	**21 00 20.9**	**-0.6**
PB01				IAML			21 00 28.4	
	comp=E,2μm,0.5s							
PB01	**IPOC Station P**	**1.67**	**122**			**Pn**	**21 00 00.9**	**+0.8**
PB08	**IPOC Station P**	**1.74**	**89**	⇑*i* P		**Pn**	**21 00 01.9**	**+0.5**
PB08				*i* S		**Sn**	**21 00 23.7**	**+0.1**
PB08				IAML			21 00 29.1	
	comp=N,875nm,0.3s							
PB08	**IPOC Station P**	**1.74**	**89**			**Pn**	**21 00 01.9**	**+0.5**
PB07	**IPOC Station P**	**1.87**	**146**	⇑*i* P		**Pn**	**21 00 03.8**	**+0.8**
PB07				*i* S		**Sn**	**21 00 26.2**	**-0.3**
PB07				IAML			21 00 41.4	
	comp=E,716nm,0.2s							
PB07	**IPOC Station P**	**1.87**	**146**			**Pn**	**21 00 03.7**	**+0.8**
AP01	**Chacalluta**	**1.90**	**19**	Pn		**Pn**	**21 00 04.5**	**+1.3**
PB03	**IPOC Station P**	**2.20**	**148**	*eP*		**Pn**	**21 00 08.4**	**+0.9**
PB04	**IPOC Station P**	**2.29**	**160**	⇑*i* P		**Pn**	**21 00 09.5**	**+0.7**
PB04	**IPOC Station P**	**2.29**	**160**			**Pn**	**21 00 08.9**	**+0.1**
PB09	**IPOC Station P**	**2.31**	**135**	⇑*i* P		**Pn**	**21 00 11.1**	**+2.1**
PB09				*i* S		**Sg**	**21 00 45.1**	**-0.2**
PB09				IAML			21 00 49.8	
	comp=E,1μm,0.7s							
PB09	**IPOC Station P**	**2.31**	**135**			**Pn**	**21 00 11.1**	**+2.1**
PB05	**IPOC Station P**	**2.77**	**164**	⇑*i* P		**Pn**	**21 00 15.7**	**+0.4**
PB06	**IPOC Station P**	**2.85**	**152**	⇑*i* P		**Pn**	**21 00 17.2**	**+0.7**
PB06	**IPOC Station P**	**2.85**	**152**			**Pn**	**21 00 17.1**	**+0.6**
LVC	**Limon Verde**	**3.11**	**142**			**Pn**	**21 00 22.5**	**+2.2**
PB15	**IPOC Station P**	**3.34**	**155**			**Pn**	**21 00 23.9**	**+0.7**
PB10	**IPOC Station P**	**3.35**	**173**	Pn		**Pn**	**21 00 23.6**	**+0.5**
PB14	**IPOC Station P**	**4.47**	**173**			**Pn**	**21 00 38.4**	**-0.4**
LPAZ	**La Paz**	**4.73**	**36**	Pn		Pb	21 00 49.4	-4.9
	comp=E,1.3nm,0.3s,baz=205,slow=16,SNR=12							
LPAZ				Sn		**Sb**	**21 01 55.4**	**+3.9**
	baz=221,slow=19,SNR=0.8							
LPAZ	**La Paz**	**4.73**	**36**			**Pn**	**21 00 43.1**	**+0.4**
AC02	**Maricunga**	**6.85**	**166**	Pn		**Pn**	**21 01 10.9**	**-0.9**
H03N1	**Juan Fernandez**	**14.97**	**206**	T		T	21 18 38.1	
	baz=33,slow=72,SNR=36							
H03N2	**Juan Fernandez**	**14.98**	**206**	T		T	21 18 40.0	
	baz=33,slow=72,SNR=44							
H03N3	**Juan Fernandez**	**14.99**	**206**	T		T	21 18 39.1	
	baz=33,slow=72,SNR=27							
TORD	**Torodi Ar. Bea**	**78.78**	**71**	P		**P**	**21 11 33.7**	**-0.4**
	comp=E,1.4nm,0.7s,baz=253,slow=5.3,SNR=7.0							
TORD	**Torodi Ar. Bea**	**78.78**	**71**	IAmb		IAmb	21 11 34.8	
	comp=Z,1.5nm,0.8s							
H11S2	**WAKE ISLAND Hy**	**25.75**	**279**	T		T	23 38 04.5	
	baz=100,slow=74							
H11S1	**WAKE ISLAND Hy**	**25.76**	**279**	T		T	23 37 57.3	
	baz=100,slow=74							
H11S3	**WAKE ISLAND Hy**	**25.77**	**279**	T		T	23 38 05.3	
	baz=100							
H11N3	**WAKE ISLAND Hy**	**25.81**	**280**	T		T	23 38 10.3	
	baz=100,slow=74							
H11N2	**WAKE ISLAND Hy**	**25.82**	**280**	T		T	23 38 11.1	
	baz=100,slow=74							
H11N1	**WAKE ISLAND Hy**	**25.82**	**280**	T		T	23 38 05.9	
	baz=100							
MKAR	**Makanchi Array**	**145.66**	**33**	PKPbc		**PKPdf**	**21 19 08.2**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=340,slow=3.8,SNR=5.3							

IDC ***16*** *21:01:22.4±3.4,46.39N×152.63E,h69km±29km,mb3.4/6, mb1 3.6/9,mb1mx3.3/42,mbtmp3.7/9,ML2.9/3,MS3.0/6, Ms1 3.0/6,ms1mx2.7/42,Error ellipse: s-maj=28.6km s-min=23.0km az=125.0*
ISC 16 21:01:20.4±1.1,46.4N±0.2×152.8E±0.2,h50km,n21, σ0s88/11,mb3.7/6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PETK	**Petropavlovsk-**	**7.48**	**23**	P		**Pn**	**21 03 07.8**	**+1.1**
	0.5nm,0.3s,baz=176,slow=10,SNR=2.9							
ASAJ	**Asahikawa**	**7.53**	**256**	P		**Pn**	**21 03 08.9**	**+1.5**
	0.2nm,0.3s,baz=74,slow=18,SNR=1.8							
ASAJ				LR		LR	21 05 34.7	
	comp=Z,68nm,19.5s,baz=1.5,slow=34							
MA2	**Magadan**	**13.30**	**356**	LR		LR	21 09 33.1	
	comp=Z,45nm,18.0s,baz=172,slow=37							
KLR	**Kul'dur**	**14.42**	**289**	LR		LR	21 09 32.9	
	comp=Z,58nm,21.0s,baz=92,slow=34							
SEY	**Seymchan**	**16.62**	**359**	P		**P**	**21 05 11.3**	**-0.1**
	0.1nm,0.3s,baz=143,slow=5.7,SNR=5.3							
SEY				LR		LR	21 11 39.8	
	comp=Z,65nm,18.2s,baz=208,slow=37							
YAK	**Yakutsk**	**20.53**	**328**	LR		LR	21 13 39.0	
	comp=Z,47nm,18.0s,baz=88,slow=36							
TIXI	**Tiksi**	**27.78**	**344**	LR		LR	21 19 08.0	
	comp=Z,43nm,18.5s,baz=135,slow=38							
H11N2	**WAKE ISLAND Hy**	**28.98**	**152**	T		T	21 38 46.2	
	baz=340,slow=76							
H11N1	**WAKE ISLAND Hy**	**28.99**	**152**	T		T	21 38 48.2	
	baz=340,slow=76							
H11N3	**WAKE ISLAND Hy**	**28.99**	**152**	T		T	21 38 52.5	
	baz=340,slow=76							
H11S1	**WAKE ISLAND Hy**	**30.06**	**153**	T		T	21 40 13.3	
	baz=341,slow=74							
H11S3	**WAKE ISLAND Hy**	**30.07**	**153**	T		T	21 40 14.6	
	baz=341,slow=74							
H11S2	**WAKE ISLAND Hy**	**30.07**	**153**	T		T	21 40 11.9	
	baz=341							
MKAR	**Makanchi Array**	**46.92**	**298**	P		**P**	**21 09 44.6**	**-1.1**
	0.6nm,0.6s,baz=72,slow=9.3,SNR=5.5							
FINES	**FINESS Array B**	**64.30**	**335**	P		**P**	**21 11 49.1**	**-0.9**
	1.3nm,0.8s,baz=32,slow=8.2,SNR=4.3							
NB2	**NORSAR Subarra**	**68.53**	**341**	P		**P**	**21 12 17.1**	**0.0**
	comp=Z,1.9nm,0.9s,baz=30,slow=6.2							
NOA	**NORSAR Array B**	**68.53**	**341**	P		**P**	**21 12 17.2**	**0.0**
	comp=Z,0.2nm,0.4s,baz=27,slow=6.4,SNR=2.1							
AKASG	**Malin Array Be**	**71.75**	**326**	P		**P**	**21 12 36.3**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=36,slow=7.0,SNR=2.3							
ASAR	**Alice Springs**	**71.76**	**198**	P		**P**	**21 12 36.8**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=10,slow=5.2,SNR=7.5							
TXAR	**Lajitas Array**	**77.89**	**60**	P		**P**	**21 13 13.1**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=303,slow=5.0,SNR=8.8							
PLCA	**Paso Flores**	**148.40**	**96**	PKPbc		**PKPbc**	**21 21 01.1**	**+0.2**
	comp=Z,3.2nm,1.1s,baz=311,slow=2.9,SNR=4.4							

IDC 16 21:07:40.7±4.2,6.33S×152.28E,h0km,mb3.3/2, mb1 3.7/2,mb1mx3.3/27,mbtmp3.4/2,Error ellipse: s-maj=187.5km s-min=53.9km az=122.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.07**	**230**	P		P	21 12 36.7	-0.7
	0.6nm,0.5s,baz=57,slow=9.8,SNR=5.2							
ASAR	**Alice Springs**	**24.69**	**224**	P		P	21 13 04.2	+0.6
	0.9nm,0.8s,baz=56,slow=9.4,SNR=8.3							
TORD	**Torodi Ar. Bea**	**150.25**	**285**	PKPbc		PKPbc	21 27 34.3	-0.6
	0.4nm,0.5s,baz=96,slow=2.1,SNR=3.7							

NEIC ***16*** *21:13:56.4±1.9,43.82N±0.04×105.28W±0.06,h0km±2km, ML3.2/36,Error ellipse: s-maj=7.1km s-min=6.6km az=130.0*
IDC ***16*** *21:13:56.5±1.7,43.98N×105.64W,h0km,mb3.9/1, mb1 3.8/4,mb1mx3.5/37,mbtmp3.6/4,ML2.1/2,Error ellipse: s-maj=53.7km s-min=10.0km az=147.0*
ISC 16 21:13:56.2±1.1,43.84N±0.06×105.33W±0.06,h0km,n27, σ1s17/26,Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RSSD	**Black Hills**	**0.98**	**73**	Pg		**Pg**	**21 14 13.8**	**-1.0**
K22A	**Casper**	**1.47**	**217**			**Pn**	**21 14 22.1**	**-2.0**
K22A				IAML			21 14 45.5	
	comp=E,375nm,0.8s							
K22A				IAML			21 14 45.5	
	comp=N,260nm,0.8s							
PHWY	**Pilot Hill**	**2.54**	**182**			**Pn**	**21 14 37.3**	**-1.5**
LAO	**LASA Array**	**2.92**	**348**			**Pn**	**21 14 45.4**	**+1.5**
LAO				IAML			21 15 53.4	
	comp=N,159nm,1.0s							
RLMT	**Red Lodge**	**3.10**	**296**			**Pn**	**21 14 45.8**	**-0.7**
RLMT				IAML			21 15 40.6	
	comp=N,55nm,1.0s							
RLMT				IAML			21 15 44.5	
	comp=N,54nm,1.1s							
BW06	**Boulder Array**	**3.27**	**252**	Pn		**Pn**	**21 14 50.2**	**+1.4**
BW06				IAML			21 15 50.3	
	comp=N,40nm,0.9s							
BW06				IAML			21 15 54.1	
	comp=N,43nm,0.7s							
PD31	**Pinedale Array**	**3.27**	**252**	Pn		**Pn**	**21 14 49.3**	**+0.5**
PDAR	**Pinedale Array**	**3.27**	**252**	Pn		**Pn**	**21 14 49.7**	**+0.9**
	comp=N,2.2nm,0.3s,baz=75,slow=18,SNR=19							
PDAR				Lg		Lg	21 15 33.7	
	comp=N,2.6nm,0.3s,baz=68,slow=29,SNR=3.8							
YNE	**Yellowstone No**	**3.55**	**291**			**Pn**	**21 14 53.4**	**+0.7**
YNE				IAML			21 16 05.0	
	comp=N,44nm,0.7s							
YNE				IAML			21 16 10.7	
	comp=E,39nm,0.9s							
GCMT	**Greycliff**	**3.65**	**304**			**Pn**	**21 14 51.7**	**-2.4**
OGNE	**Ogallala**	**3.79**	**139**	Pn		**Pn**	**21 14 55.7**	**-0.2**
LOHW	**Long Hollow**	**3.83**	**268**			**Pn**	**21 14 56.5**	**-0.1**
LOHW				IAML			21 16 19.7	
	comp=E,30nm,1.0s							
FLWY	**Flagg Ranch**	**3.88**	**275**			**Pn**	**21 14 58.3**	**+1.0**
FLWY				IAML			21 16 13.6	
	comp=E,58nm,1.5s							
FLWY				IAML			21 16 14.7	
	comp=E,69nm,1.2s							
MOOW	**Moose Ponds**	**3.92**	**271**			**Pn**	**21 14 56.6**	**-1.2**
ISCO	**Idaho Springs**	**4.04**	**183**			**Pn**	**21 15 01.0**	**+1.5**
ISCO				IAML			21 16 06.3	
	comp=E,29nm,0.9s							
TPAW	**Teton Pass**	**4.09**	**267**	Pn		**Pn**	**21 15 00.8**	**+0.6**
TPAW				IAML			21 16 18.6	
	comp=E,27nm,0.8s							
TPAW				IAML			21 16 24.5	
	comp=E,40nm,0.9s							
FXWY	**Fox Creek**	**4.13**	**269**	Pn		**Pn**	**21 15 01.4**	**+0.6**
E28A	**Huff**	**4.27**	**49**			**Pn**	**21 15 04.4**	**+2.0**
O20A	**White River Ci**	**4.29**	**211**			**Pn**	**21 15 02.9**	**0.0**
O20A				IAML			21 16 57.5	
	comp=E,55nm,1.4s							
HWUT	**Hardware Ranch**	**5.10**	**246**	Pn		**Pn**	**21 15 14.4**	**+0.3**
EGMT	**Eagleton**	**5.20**	**325**			**Pn**	**21 15 15.1**	**-0.1**
TCUT	**Toone Canyon**	**5.25**	**241**			**Pn**	**21 15 15.6**	**-0.5**
PV07	**Paradox Valley**	**5.95**	**206**			**Pn**	**21 15 24.9**	**-0.7**
I10CA	**LAC DU BONNET**	**8.99**	**42**	*i*			22 09 40.0	
	baz=227,slow=308,SNR=2.4							
ULM	**Lac du Bonnet**	**9.10**	**42**	Pn		**Pn**	**21 16 08.1**	**-0.5**
	comp=E,0.3nm,0.3s,baz=235,slow=11,SNR=2.1							
ULM				Lg		Lg	21 18 36.0	
	comp=E,0.3nm,0.3s,baz=300,slow=20,SNR=1.7							
NVAR	**Mina Array Bea**	**11.17**	**246**	Pn		**Pn**	**21 16 38.5**	**+1.2**
	comp=E,0.0nm,0.8s,baz=56,slow=13,SNR=4.4							
MKAR	**Makanchi Array**	**89.50**	**355**	P		**P**	**21 26 54.9**	**-0.1**
	comp=E,0.7nm,1.0s,baz=15,slow=6.0,SNR=3.1							

IDC ***16*** *21:18:12.5±1.2,9.62S×155.06E,h0km,mb4.0/8, mb1 4.2/9,mb1mx4.0/34,mbtmp4.0/9,ML3.3/1,MS3.4/5, Ms1 3.4/5,ms1mx3.1/27,Error ellipse: s-maj=38.7km s-min=22.1km az=118.0*
NEIC ***16*** *21:18:15.1±0.9,9.65S±0.1×155.1E±0.1,h10km±1km, mb4.1/11,Error ellipse: s-maj=25.1km s-min=9.9km az=307.0*
ISC 16 21:18:18.0±0.7,9.65S±0.1×155.10E±0.1,h33km,n31, σ0s77/28,mb4.1/12,MS3.3/5,D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EIDS	**Eidsvold**	**16.08**	**193**	Pn		**Pn**	**21 22 02.5**	**+0.8**
EIDS				IAmb		IAmb	21 22 09.7	
	comp=Z,6.1nm,1.0s							
DZM	**Mont Dzumac**	**16.55**	**140**	*e*Pn		**P**	**21 22 12.0**	**+1.9**
	comp=Z,9.4nm,0.8s							
DZM				*e*LR		LR	21 25 58.7	
	comp=Z,456nm,24.7s							
DZM	**Mont Dzumac**	**16.55**	**140**	Pn		**Pn**	**21 22 07.5**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=223,slow=11,SNR=3.2							
DZM	**Mont Dzumac**	**16.55**	**140**			**Pn**	**21 22 06.7**	**-1.1**
DZM				IAmb		IAmb	21 22 13.3	
	comp=Z,30nm,1.5s							
ONTNC	**Ouen Toro**	**16.73**	**140**			**Pn**	**21 22 09.0**	**-0.9**
WR0	**Warramunga Arr**	**22.25**	**240**	P		**P**	**21 23 12.1**	**-0.1**
WR0				IAmb		IAmb	21 23 16.3	
	comp=E,8.8nm,1.1s							
WB2	**Warramunga Arr**	**22.40**	**240**	P		**P**	**21 23 15.0**	**+1.0**
WB2				IAmb		IAmb	21 23 17.3	
	comp=Z,6.9nm,0.8s							
WRA	**Warramunga Arr**	**22.41**	**240**	P		**P**	**21 23 14.4**	**+0.4**
	comp=Z,5.0nm,0.7s,baz=63,slow=9.7,SNR=30							
WRA	**Warramunga Arr**	**22.41**	**240**	P		**P**	**21 23 14.8**	**+0.7**
AS31	**Alice Springs**	**24.50**	**233**			**P**	**21 23 34.6**	**+0.1**
AS31				IAmb		IAmb	21 23 36.8	
	comp=Z,1.7nm,0.8s							
ASAR	**Alice Springs**	**24.50**	**233**	P		**P**	**21 23 34.0**	**-0.6**
	comp=Z,5.8nm,0.9s,baz=64,slow=9.7,SNR=41							
ASAR	**Alice Springs**	**24.50**	**233**			**P**	**21 23 34.8**	**+0.3**
SIJI	**Sorong**	**25.16**	**289**	LR		LR	21 35 03.9	
	comp=Z,43nm,19.5s,baz=90,slow=40							
GUMO	**Guam**	**25.17**	**336**	LR		LR	21 31 36.8	
	comp=Z,66nm,19.9s,baz=142,slow=32							
STKA	**Stephens Creek**	**25.38**	**207**	P		**P**	**21 23 41.5**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=7.1,slow=8.4,SNR=4.2							
STKA	**Stephens Creek**	**25.38**	**207**	P		**P**	**21 23 42.3**	**0.0**
FITZ	**Fitzroy Crossi**	**29.67**	**250**	P		**P**	**21 24 20.8**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=90,slow=8.1,SNR=2.1							
FITZ				LR		LR	21 35 33.2	
	comp=Z,79nm,19.7s,baz=90,slow=35							
USRK	**Ussuriysk Ar.**	**57.50**	**341**	P		**P**	**21 28 04.3**	**+0.4**
PETK	**Petropavlovsk-**	**62.54**	**2**	LR		LR	21 51 12.6	
	comp=Z,38nm,21.4s,baz=147,slow=32							
SONM	**Songino Array**	**71.55**	**328**	P		**P**	**21 29 36.9**	**+1.0**
	comp=Z,1.7nm,1.0s,baz=143,slow=5.0,SNR=7.1							
SONM	**Songino Array**	**71.55**	**328**	P		**P**	**21 29 36.3**	**+0.4**
SONM				IAmb		IAmb	21 29 38.8	
	comp=Z,2.6nm,1.2s							
QSPA	**South Pole Qui**	**80.36**	**180**	P		**P**	**21 30 25.1**	**-0.8**
QSPA				IAmb		IAmb	21 30 27.1	
	comp=Z,2.4nm,0.9s							
MK31	**Makanchi Array**	**85.37**	**319**	P		**P**	**21 30 52.2**	**+0.1**
MKAR	**Makanchi Array**	**85.37**	**319**	P		**P**	**21 30 51.5**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=96,slow=6.6,SNR=4.7							
MKAR	**Makanchi Array**	**85.37**	**319**	P		**P**	**21 30 52.5**	**+0.4**
ILAR	**Eielson Array**	**85.82**	**21**	P		**P**	**21 30 52.7**	**-1.2**
	comp=Z,1.0nm,1.0s,baz=260,slow=5.2,SNR=6.1							
ILAR				LR		LR	22 02 28.2	
	comp=Z,29nm,21.1s,baz=247,slow=31							
ZALV	**Zalesovo Beam**	**86.35**	**326**	P		**P**	**21 30 56.0**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=142,slow=3.5,SNR=2.7							
ZALV	**Zalesovo Beam**	**86.35**	**326**	P		**P**	**21 30 56.0**	**-0.7**
BCAR	**Beaver Creek A**	**86.89**	**24**	P		**P**	**21 31 00.1**	**+0.8**
GERES	**GERESS Array B**	**129.28**	**328**	PKP		**PKPdf**	**21 37 23.5**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=56,slow=3.7,SNR=1.5							
TORD	**Torodi Ar. Bea**	**153.59**	**280**	PKPbc		**PKPbc**	**21 38 14.1**	**-0.3**
	comp=Z,0.6nm,1.0s,baz=88,slow=3.4,SNR=2.6							

NEIC ***16*** *21:23:28.8±2.2,8.21S±0.08×119.76E±0.07,h192km±9km, mb4.0/11,Error ellipse: s-maj=14.3km s-min=4.9km az=220.0*
IDC ***16*** *21:23:28.8±2.0,8.14S×119.77E,h193km±16km,mb3.5/5, mb1 3.6/9,mb1mx3.3/41,mbtmp4.1/9,Error ellipse: s-maj=45.4km s-min=7.9km az=57.0*
DJA ***16*** *21:23:30.0±0.7,8°S±6°×12°0E±°,h145km±11km,M4.0/6, MLv4.0/6*
ISC 16 21:23:26.7±0.6,8.28S±0.05×119.69E±0.05,h170km,n43, σ1s77/48,mb4.0/7,Flores region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**1.38**	**192**	P		**Pn**	**21 23 58.5**	**+1.7**
WBSI				S		**Sn**	**21 24 20.2**	**+0.1**
PLAI	**Plampang**	**1.96**	**254**	P		**Pn**	**21 24 04.6**	**+1.9**
PLAI				S		**Sn**	**21 24 31.8**	**+1.3**
EDFI	**Ende, Flores**	**2.04**	**103**	P		**Pn**	**21 24 05.5**	**+1.8**
EDFI				S		**Sn**	**21 24 32.0**	**-0.2**
MMRI	**Maumere**	**2.55**	**98**			**Pn**	**21 24 12.2**	**+2.7**
MMRI	**Maumere**	**2.55**	**98**	P		**Pn**	**21 24 11.8**	**+2.3**
TWSI	**Taliwang, Sumb**	**2.81**	**261**	P		**Pn**	**21 24 14.9**	**+2.3**
TWSI				S		**Sn**	**21 24 51.1**	**+2.9**
BKSI	**Bulukumba**	**2.97**	**8**	P		**Pn**	**21 24 16.3**	**+1.7**
KAPI	**Kappang**	**3.25**	**1**	P		**Pn**	**21 24 20.6**	**+2.5**
	7.6nm,0.3s,baz=203,slow=8.2,SNR=12							
KAPI				S		**Sn**	**21 24 59.1**	**+1.1**
	1.9nm,0.3s,baz=182,slow=19,SNR=6.2							
KAPI	**Kappang**	**3.25**	**1**			**Pn**	**21 24 20.4**	**+2.3**
BATI	**Baumata**	**4.37**	**116**	P		**Pn**	**21 24 35.0**	**+2.7**
	52nm,0.3s,baz=290,slow=2.5,SNR=69							
BATI				S		**Sn**	**21 25 26.4**	**+2.8**
	20nm,0.3s,baz=196,slow=21,SNR=6.4							
BATI	**Baumata**	**4.37**	**116**	P		**Pn**	**21 24 34.3**	**+2.0**
SOEI	**Soe**	**4.76**	**108**			**Pn**	**21 24 40.2**	**+2.7**
SOEI	**Soe**	**4.76**	**108**	P		**Pn**	**21 24 39.8**	**+2.3**
JAGI	**Jajag, Banyuwa**	**5.48**	**268**			**Pn**	**21 24 48.0**	**+1.2**
PCI	**Palu**	**7.33**	**1**	P		Pn	21 25 20.1	+8.8
PWJI	**Pagerwojo**	**7.81**	**271**	P		Pn	21 25 28.3	+11
MTKI	**Muara Teweh, K**	**8.71**	**327**	P		Pn	21 25 36.5	+6.9
UGM	**Wanagama**	**9.08**	**272**	Pn		**Pn**	**21 25 35.4**	**+1.0**
FITZ	**Fitzroy Crossi**	**11.35**	**150**	P		**Pn**	**21 26 05.4**	**+1.4**
	0.4nm,0.3s,baz=331,slow=10,SNR=34							
FITZ				S		**Sn**	**21 28 06.8**	**-3.2**
	1.9nm,0.3s,baz=195,slow=17,SNR=9.1							
KNRA	**Kununurra**	**11.52**	**130**			**Pn**	**21 26 06.7**	**+0.3**
MTN	**Manton Dam**	**12.13**	**113**			**Pn**	**21 26 14.7**	**+0.5**
PSA00	**Pilbara Seismi**	**13.21**	**179**	Pn		**P**	**21 26 29.6**	**-2.2**
PSA00	**Pilbara Seismi**	**13.21**	**179**	Pn		**P**	**21 26 30.3**	**-1.5**
FAKI	**Fak Fak**	**13.59**	**68**	Pn		**Pn**	**21 26 32.2**	**-0.6**
WRA	**Warramunga Arr**	**18.32**	**131**	P		**Pn**	**21 27 29.0**	**-1.3**
	0.8nm,0.3s,baz=294,slow=12,SNR=31							
WRA				S		**S**	**21 30 49.2**	**+0.4**
	0.2nm,0.3s,baz=296,slow=25,SNR=4.6							
WRA	**Warramunga Arr**	**18.32**	**131**	P		**Pn**	**21 27 28.9**	**-1.3**
WB2	**Warramunga Arr**	**18.33**	**131**	P		**Pn**	**21 27 29.2**	**-1.2**
WB2				IAmb		IAmb	21 27 31.8	
	comp=Z,4.8nm,0.6s							
WR0	**Warramunga Arr**	**18.48**	**130**	P		**Pn**	**21 27 31.1**	**-1.0**
WR0				IAmb		IAmb	21 27 33.7	
	comp=Z,7.6nm,0.6s							
AS31	**Alice Springs**	**20.48**	**140**	P		**P**	**21 27 53.1**	**+1.6**
AS31				IAmb		IAmb	21 28 12.6	
	comp=Z,1.6nm,0.5s							
ASAR	**Alice Springs**	**20.48**	**140**	P		**P**	**21 27 52.9**	**+1.3**
	comp=Z,1.5nm,0.5s,baz=317,slow=10.0,SNR=29							
ASAR	**Alice Springs**

ULN					IAmb	IAmb	21 36 58.3		
	comp=Z,4.0nm,1.4s								
SONM	**Songino Array**	**71.73**	**328**	P		**P**	**21 36 54.8**	**+0.3**	
	comp=Z,1.2nm,1.0s,baz=140,slow=7.0,SNR=5.8								
SONM	**Songino Array**	**71.73**	**328**	IAmb		IAmb	21 36 57.4		
	comp=Z,2.9nm,1.2s								
YAK	**Yakutsk**	**74.30**	**348**	P		**P**	**21 37 09.1**	**-0.1**	
QSPA	**South Pole Qui**	**80.20**	**180**	P		**P**	**21 37 41.9**	**-0.6**	
QSPA				IAmb		IAmb	21 37 44.3		
	comp=Z,3.4nm,0.9s								
IMAR	**Indian Mountai**	**84.33**	**19**	P		**P**	**21 38 03.9**	**0.0**	
MK31	**Makanchi Array**	**85.56**	**319**	P		**P**	**21 38 08.7**	**-1.8**	
MK31				IAmb		IAmb	21 38 30.9		
	comp=Z,2.5nm,1.1s								
MKAR	**Makanchi Array**	**85.56**	**319**	P		**P**	**21 38 09.8**	**-0.6**	
	comp=Z,0.5nm,0.8s,baz=84,slow=7.1,SNR=3.8								
MKAR	**Makanchi Array**	**85.56**	**319**	P		**P**	**21 38 09.5**	**-0.9**	
IL31		**85.93**	**21**	P		**P**	**21 38 11.6**	**-0.2**	
ILAR	**Eielson Array**	**85.93**	**21**	P		**P**	**21 38 10.8**	**-1.0**	
	comp=Z,1.5nm,1.0s,baz=251,slow=4.9,SNR=9.3								
ILAR	**Eielson Array**	**85.93**	**21**	P		**P**	**21 38 10.5**	**-1.3**	
BCAR	**Beaver Creek A**	**87.00**	**24**	P		**P**	**21 38 17.4**	**+0.2**	
KDJ	**Kajisay**	**87.67**	**313**	P		**P**	**21 38 21.6**	**+0.4**	
BOOM	**Boomskoye usch**	**88.65**	**313**	P		**P**	**21 38 26.5**	**+0.7**	
BOOM				IAmb		IAmb	21 38 42.7		
	comp=Z,4.0nm,1.2s								
NVAR	**Mina Array Bea**	**93.38**	**52**	P		**P**	**21 38 49.5**	**+1.6**	
	comp=Z,0.3nm,0.3s,baz=239,slow=6.1,SNR=5.8								
GERES	**GERESS Array B**	**129.47**	**328**	PKP		**PKiKP**	**21 44 41.6**	**-0.1**	
	comp=Z,0.6nm,0.7s,baz=60,slow=2.4,SNR=4.3								
ESDC	**Sonseca Array**	**144.87**	**331**	PKP		**PKPab**	**21 45 08.1**	**-0.6**	
	comp=Z,1.7nm,1.1s,baz=42,slow=4.0,SNR=4.4								

*IDC **16** 21:30:25.0±2.9, 6°.34S×130°.31E, h86km±38km, mb3.5/2, mb1 3.6/6, mb1mx3.3/26, mbtmp3.8/6, Error ellipse: s-maj=85.0km s-min=22.1km az=90.0*
ISC 16 21:30:23.3±0.9, 6°.41S±0°.06×130°.5E±0°.2, h90km, n6, σ3°83/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.56**	**8**	P			**Pn**	**21 31 44.9**	**+1.2**
	4.1nm,0.3s,baz=32,slow=15,SNR=39								
SIJI				S			**Sn**	**21 32 40.5**	**-5.8**
	7.2nm,0.3s,baz=226,slow=22,SNR=18								
FITZ	**Fitzroy Crossi**	**12.54**	**202**	P			**Pn**	**21 33 20.1**	**+1.6**
	1.0nm,0.3s,baz=25,slow=14,SNR=29								
FITZ				S			**Sn**	**21 35 31.4**	**-5.0**
	0.8nm,0.3s,baz=97,slow=22,SNR=6.2								
WRA	**Warramunga Arr**	**13.96**	**165**	P			**Pn**	**21 33 39.9**	**+2.7**
	0.2nm,0.3s,baz=336,slow=13,SNR=2.0								
WRA				S			**Sn**	**21 36 07.7**	**-3.2**
	1.1nm,0.3s,baz=336,slow=21,SNR=9.5								
ASAR	**Alice Springs**	**17.47**	**170**	P			**Pn**	**21 34 25.1**	**+3.8**
	0.1nm,0.3s,baz=348,slow=13,SNR=3.3								
ASAR				S			**Sn**	**21 37 33.0**	**-2.6**
	0.3nm,0.3s,baz=266,slow=26,SNR=9.7								
SONM	**Songino Array**	**58.05**	**341**	P			**P**	**21 40 07.3**	**+0.2**
	0.2nm,0.3s,baz=146,slow=6.0,SNR=2.0								
MKAR	**Makanchi Array**	**68.01**	**326**	P			**P**	**21 41 14.4**	**+1.4**
	1.1nm,0.5s,baz=129,slow=8.0,SNR=18								

*TRN **16** 21:33:01.8, 9°.85N×63°.09W, h196km*
*FUNV **16** 21:33:03.9, 10°.03N×63°.14W, h12km, MW3.7*
ISC 16 21:33:03.7±1.3, 10°.03N±0°.04×63°.21W±0°.03, h23km±14km, n26, σ1°83/45, 1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.64**	**358**	↓P			**Pb**	**21 33 14.6**	**-1.6**
CRUV				eS			**Sb**	**21 33 23.8**	**-1.0**
CUMV	**Cumana_UDO**	**1.04**	**292**	eP			**Pb**	**21 33 23.8**	**+0.8**
CUMV				eS			**Sn**	**21 33 38.5**	**+1.7**
PCRV	**Puerto La Cruz**	**1.41**	**276**	eP			**Pn**	**21 33 28.3**	**+0.3**
PCRV				eS			**Sb**	**21 33 47.8**	**+1.0**
TRN	**Trinidad (W)**	**1.89**	**71**	eP			**Pb**	**21 33 36.8**	**-0.6**
TRN				eS			**Sb**	**21 34 05.1**	**+4.6**
TRN	**Trinidad (W)**	**1.89**	**71**	eP			**Pn**	**21 33 35.0**	**+0.5**
TRN				eS			**Sn**	**21 33 56.6**	**-1.0**
PRGV	**PARIAGUAN**	**1.89**	**228**	eP			**Pn**	**21 33 36.1**	**+1.4**
PRGV				eS			**Sb**	**21 34 00.4**	**-0.4**
RIOV	**Rio Grande**	**2.39**	**145**	eP			**Pn**	**21 33 41.5**	**+0.1**
RIOV				eS			**Sn**	**21 34 09.8**	**-0.3**
GRGR	**Grenville**	**2.59**	**36**	eP			**Pb**	**21 33 47.5**	**-2.0**
GRGR				eS			**Sb**	**21 34 21.3**	**+0.3**
GRGR	**Grenville**	**2.59**	**36**	eP			**Pn**	**21 33 44.2**	**-0.1**
GRGR				eS			**Sn**	**21 34 13.7**	**-1.4**
BOT	**Bacolet**	**2.70**	**65**	eP			**Pn**	**21 33 47.3**	**+1.5**
GRSS	**Sisters**	**2.75**	**35**	eP			**Pn**	**21 33 48.4**	**+2.0**
TOSP	**Speyside**	**2.92**	**64**	eP			**Pn**	**21 33 50.1**	**+1.3**
TOSP				eS			**Sn**	**21 34 25.4**	**+2.2**
TOSP	**Speyside**	**2.92**	**64**	eP			**Pn**	**21 33 49.0**	**+0.3**
TOSP				eS			**Sn**	**21 34 21.0**	**-2.1**
GCMP	**Grenada, Carri**	**3.01**	**36**	eP			**Pn**	**21 33 51.4**	**+1.4**
GCMP				eS			**Sn**	**21 34 28.1**	**+2.8**
BIRV	**Birongo**	**3.04**	**279**	eP			**Pn**	**21 33 52.3**	**+1.8**
BIRV				eS			**Sn**	**21 34 27.4**	**+1.2**
MERV	**Las Mercedes**	**3.14**	**256**	eP			**Pn**	**21 33 53.0**	**+1.2**
MERV				eS			**Sn**	**21 34 29.4**	**+0.8**
TACV	**Tcata**	**3.76**	**272**	eP			**Pn**	**21 34 01.9**	**+1.6**
TACV				eS			**Sn**	**21 34 45.5**	**+1.5**
CACV	**CAICARA DEL OR**	**4.10**	**234**	eP			Pn	21 33 59.9	-5.1
CACV				eS			Sn	21 34 43.0	-9.3
MCLT	**Moule a Chique**	**4.28**	**31**	eP			**Pn**	**21 34 07.9**	**+0.4**
BENV	**Beln**	**4.32**	**270**	eP			**Pn**	**21 34 09.4**	**+1.3**
BENV				eS			**Sn**	**21 34 57.4**	**-0.4**
TURV	**Turiamo**	**4.57**	**276**	eP			**Pn**	**21 34 13.6**	**+2.0**
TURV				eS			**Sn**	**21 35 02.9**	**-1.1**
BAUV	**El Baul**	**4.88**	**258**	eP			**Pn**	**21 34 16.4**	**+0.7**
BAUV	**El Baul**	**4.88**	**258**	eS			**Sn**	**21 35 08.6**	**-3.0**
BAUV	**El Baul**	**4.88**	**258**	eP			**Pn**	**21 34 16.3**	**+0.5**
BAUV				eS			**Sn**	**21 35 10.2**	**-1.5**
PAYV	**Puerto Ayacuch**	**6.35**	**224**	eP			**Pn**	**21 34 36.0**	**0.0**
PAYV				eS			**Sn**	**21 35 44.5**	**-3.3**
MONV	**Montecano**	**6.91**	**287**	eP			**Pn**	**21 34 43.8**	**+0.2**
MONV				eS			**Sn**	**21 35 56.2**	**-5.3**

*ISK **16** 21:46:39.2, 35°.36N×27°.79E, h12km, ML2.5/11*
*THE **16** 21:46:39.6, 35°.40N×27°.75E, h0km±2km, ML2.4/3, Error ellipse: s-maj=5.5km s-min=0.9km az=151.0*
*DDA **16** 21:46:39.2, 35°.39N×27°.53E, h7km±3km, ML2.2*
*ATH **16** 21:46:40.2, 35°.47N×27°.64E, h43km±7km, ML2.6/2, Error ellipse: s-maj=15.8km s-min=1.5km az=324.0*
ISC 16 21:46:39.2±1.6, 35°.37N±0°.06×27°.77E±0°.04, h13km±10km, n30, σ0°73/45, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.53**	**290**	P			**Pg**	**21 46 49.8**	**+0.2**
KARP				S			**Sb**	**21 46 58.7**	**+0.8**
	1µm,0.3s								
KARP	**Karpathos**	**0.53**	**290**	P			**Pg**	**21 46 49.7**	**+0.2**
KARP				S			**Sb**	**21 46 57.7**	**-0.2**
KARP				AML		AML	21 46 59.0		
	comp=E,1696µm,0.3s								
KARP				AML		AML	21 46 59.1		
	comp=N,3407µm,0.3s								
KARP	**Karpathos**	**0.53**	**290**	PG			**Pg**	**21 46 49.9**	**+0.3**
KARP				SG			**Sb**	**21 46 58.7**	**+0.8**
ARG	**Arkhangelos**	**0.90**	**19**	P			**Pb**	**21 46 56.8**	**+0.1**
ARG				S			**Sn**	**21 47 10.2**	**-0.2**
	comp=N,272nm,0.5s								
ARG	**Arkhangelos**	**0.90**	**19**	P			**Pb**	**21 46 56.5**	**-0.1**
ARG				S			**Sb**	**21 47 08.1**	**-0.4**
ARG				AML		AML	21 47 11.2		
	comp=E,663µm,0.4s								
ARG				AML		AML	21 47 11.4		
	comp=N,431µm,0.7s								
ARG	**Arkhangelos**	**0.90**	**19**	PG			**Pb**	**21 46 56.7**	**+0.1**
ARG				SG			**Sn**	**21 47 09.9**	**-0.5**
ZKR	**Zakros**	**1.29**	**259**	P			**Pn**	**21 47 03.3**	**+0.3**
ZKR	**Zakros**	**1.29**	**259**	P			**Pn**	**21 47 02.7**	**-0.3**
ZKR				S			**Sb**	**21 47 18.7**	**-1.2**
NIS1	**Nisyros Isl.**	**1.32**	**339**	PN			**Pb**	**21 47 03.9**	**0.0**
DAT	**Datca**	**1.37**	**354**	P			**Pb**	**21 47 04.6**	**-0.2**
DAT	**Datca**	**1.37**	**354**	*i* P			**Pb**	**21 47 04.5**	**-0.2**
DAT				*i* S			**Sg**	**21 47 22.9**	**-0.5**
DAT	**Datca**	**1.37**	**354**	PN			**Pb**	**21 47 04.7**	**-0.1**
DAT				SN			**Sg**	**21 47 23.4**	**0.0**
TURN	**Turunc**	**1.46**	**15**	*i* P			**Pb**	**21 47 06.2**	**0.0**
TURN				*i* S			**Sg**	**21 47 26.1**	**-0.1**
TURN				IAML				21 47 32.0	
	comp=N,58nm,0.6s								
TURN				IAML				21 47 33.0	
	comp=E,41nm,0.9s								
TURN	**Turunc**	**1.46**	**15**	PN			**Pb**	**21 47 06.4**	**+0.2**
DALY	**Dalyan (Mula)**	**1.62**	**26**	*i* P			**Pg**	**21 47 09.8**	**-0.5**
DALY				*i* S			**Sg**	**21 47 32.3**	**+1.0**
DALY				IAML				21 47 36.0	
	comp=E,34nm,0.2s								
DALY				IAML				21 47 37.0	
	comp=N,31nm,0.8s								
DALY	**Dalyan (Mula)**	**1.62**	**26**	PN			**Pb**	**21 47 08.6**	**-0.3**
FETY	**Fethiye**	**1.66**	**40**	*i* P			**Pg**	**21 47 11.0**	**-0.1**
FETY				*i* S			**Sg**	**21 47 33.5**	**+0.9**
FETY	**Fethiye**	**1.66**	**40**	PN			**Pn**	**21 47 08.9**	**+0.9**
BDRM	**Kayabasi**	**1.72**	**351**	*i* P			**Pn**	**21 47 08.7**	**-0.2**
BDRM				*i* S			**Sb**	**21 47 31.7**	**-0.4**
BDRM				IAML				21 47 39.0	
	comp=N,29nm,0.4s								
AKAS	**Kas**	**1.73**	**59**	*i* P			**Pn**	**21 47 09.3**	**+0.2**
AKAS				IAML				21 47 43.0	
	comp=N,18nm,1.0s								
AKAS	**Kas**	**1.73**	**59**	PN			**Pn**	**21 47 09.7**	**+0.6**
BODT	**Bodrum**	**1.73**	**348**	PN			**Pb**	**21 47 10.3**	**-0.6**
NPS	**Neapolis**	**1.77**	**267**	P			**Pn**	**21 47 10.0**	**+0.5**
YER	**Yerkesik**	**1.81**	**13**	PN			**Pb**	**21 47 11.4**	**-0.9**
MLSB	**Milas**	**1.93**	**0**	PN			**Pb**	**21 47 12.9**	**-1.3**
CAME	**Cameli-Denizli**	**2.00**	**38**	PN			**Pn**	**21 47 13.7**	**+0.8**
TAVA	**DENIZLI_Tavas**	**2.29**	**23**	*i* P			**Pn**	**21 47 17.7**	**+0.9**
TAVA				*i* S			**Sg**	**21 47 50.7**	**-2.2**
TAVA				IAML				21 47 56.0	
	comp=E,15nm,1.0s								
TAVA				IAML				21 47 56.0	
	comp=N,17nm,0.7s								
AYDN	**Tasoluk**	**2.29**	**2**	*i* P			**Pn**	**21 47 17.4**	**+0.7**
AYDN				*i* S			**Sb**	**21 47 49.1**	**+0.3**
GOLH	**Golhisar**	**2.36**	**37**	*i* P			**Pn**	**21 47 19.2**	**+1.4**
APE	**Apeiranthos**	**2.48**	**314**	PN			**Pn**	**21 47 21.0**	**+1.6**

IDC 16 21:47:46.0±14.0, 7°.27S×147°.82E, h250km±130km, mb3.0/2, mb1 3.1/3, mb1mx2.8/34, mbtmp3.5/3, Error ellipse: s-maj=87.9km s-min=84.5km az=122.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.16**	**225**	P			P	21 51 40.1	-0.4
	0.1nm,0.3s,baz=50,slow=11,SNR=2.2								
ASAR	**Alice Springs**	**21.08**	**218**	P			P	21 52 11.8	+0.2
	0.9nm,0.4s,baz=55,slow=8.8,SNR=21								
FITZ	**Fitzroy Crossi**	**24.14**	**241**	P			P	21 52 38.8	-0.8
	1.5nm,0.4s,baz=43,slow=9.7,SNR=2.0								
TORD	**Torodi Ar. Bea**	**146.18**	**283**	PKPbc			PKPbc	22 06 57.6	-0.4
	0.8nm,0.9s,baz=61,slow=3.9,SNR=4.1								

*JMA **16** 21:49:27.5±0.1, 24°.23N×121°.81E, h26km±3km*
*TAP **16** 21:49:27.6, 24°.29N×121°.81E, h19km, ML2.9, B*
ISC 16 21:49:27.8±0.9, 24°.27N±0°.01×121°.83E±0°.02, h18km±2km, n103, σ0°53/192, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.09**	**299**	S			**Sg**	**21 49 34.8**	**+0.9**
	baz=290								
ENA	**Nanau**	**0.18**	**334**	P			**Pb**	**21 49 32.4**	**+0.2**
	baz=338								
ENA				S			**Sg**	**21 49 36.0**	**+0.4**
	baz=338								
EWUT	**Wuta**	**0.18**	**346**	P			**Pb**	**21 49 32.5**	**+0.2**
	baz=350								
EWUT				S			**Sg**	**21 49 36.3**	**+0.5**
	baz=350								
ETL	**Fush Village**	**0.22**	**240**	P			**Pg**	**21 49 33.2**	**+0.2**
	baz=232								
ETL				S			**Sg**	**21 49 37.6**	**+1.1**
	baz=232								
NACB	**Ninganchiao**	**0.23**	**247**	P			**Pb**	**21 49 33.2**	**-0.1**
	baz=239								
NACB				S			**Sg**	**21 49 37.8**	**+0.9**
	baz=239								
TWD	**Chiawan**	**0.28**	**229**	P			**Pb**	**21 49 34.1**	**-0.2**
	baz=222								
TWD				S			**Sg**	**21 49 39.4**	**+1.1**
	baz=222								
ETLH	**Xiulin Townshi**	**0.32**	**260**	eP			**Pg**	**21 49 35.0**	**+0.2**
	baz=255								
ETLH				S			**Sb**	**21 49 40.1**	**+0.1**
	baz=255								
TWC	**Suao**	**0.34**	**3**	P			**Pg**	**21 49 34.9**	**-0.1**
	baz=8.0								
TWC				S			**Sg**	**21 49 40.1**	**+0.1**
	baz=8.0								
HWA	**Hwalien**	**0.35**	**215**	eP			**Pb**	**21 49 36.3**	**+0.7**
	baz=209								
HWA				eS			**Sb**	**21 49 42.3**	**+1.5**
	baz=209								
NDS	**Dongshan**	**0.38**	**344**	P			**Pg**	**21 49 35.7**	**0.0**
	baz=346								
NDS				S			**Sg**	**21 49 41.2**	**0.0**
	baz=346								
NNSB	**Datong**	**0.44**	**292**	P			**Pg**	**21 49 36.7**	**-0.1**
	baz=289								
NNSB				S			**Sg**	**21 49 43.0**	**+0.1**
	baz=289								
NDT	**Datong Townshi**	**0.44**	**319**	P			**Pg**	**21 49 37.1**	**+0.2**
	baz=319								
NDT				S			**Sb**	**21 49 44.0**	**+0.6**
	baz=319								
ENTT	**Nioudou**	**0.44**	**327**	P			**Pg**	**21 49 36.7**	**-0.2**
	baz=328								
ENTT				S			**Sb**	**21 49 43.5**	**0.0**
	baz=328								
NNS	**Nan Shan**	**0.45**	**293**	P			**Pg**	**21 49 37.0**	**0.0**
	baz=291								
NNS				S			**Sb**	**21 49 43.6**	**-0.1**
	baz=291								
TWE	**Neicheng**	**0.48**	**342**	P			**Pg**	**21 49 37.4**	**-0.1**
	baz=345								
TWE				S			**Sg**	**21 49 44.1**	**+0.1**
	baz=345								
ILA	**Ilan**	**0.50**	**352**	eS			**Sb**	**21 49 46.2**	**+1.1**
	baz=354								
WHF	**Hehuan Shan**	**0.53**	**257**	eP			**Pb**	**21 49 38.4**	**-0.4**
	baz=253								
WHF				S			**Sg**	**21 49 45.9**	**+0.1**
	baz=253								
FUSS	**Fushou**	**0.53**	**268**	eP			**Pb**	**21 49 38.7**	**0.0**
	baz=265								
FUSS				S			**Sg**	**21 49 46.9**	**+1.0**
	baz=265								
YHNB	**Yeheng**	**0.58**	**314**	P			**Pb**	**21 49 38.9**	**-0.4**
	baz=314								
YHNB				S			**Sb**	**21 49 47.0**	**-0.2**
	baz=314								
ESL	**Shilin**	**0.58**	**219**	eP			**Pb**	**21 49 39.2**	**-0.2**
	baz=215								
ESL				eS			**Sg**	**21 49 48.1**	**+1.0**
	baz=215								
EGS		**0.58**	**9**	eP			**Pg**	**21 49 39.7**	**+0.3**
	baz=12								
EGS				eS			**Sg**	**21 49 48.5**	**+1.2**
	baz=12								
NTC	**Toucheng**	**0.59**	**0**	eP			**Pb**	**21 49 39.3**	**-0.2**
	baz=1.0								
NTC				S			**Sb**	**21 49 47.5**	**+0.1**
	baz=1.0								
NWLT	**Wulai**	**0.59**	**330**	eP			**Pb**	**21 49 39.4**	**-0.2**
	baz=330								
NWLT				S			**Sb**	**21 49 47.3**	**-0.3**
	baz=330								
NSK	**Sanguang**	**0.59**	**314**	P			**Pb**	**21 49 39.4**	**-0.2**
	baz=313								
NSK				S			**Sb**	**21 49 47.5**	**-0.2**
	baz=313								
TWT	**Tachien**	**0.60**	**269**	eP			**Pg**	**21 49 40.3**	**+0.6**
	baz=266								
TWT				S			**Sg**	**21 49 48.6**	**+0.8**
	baz=266								
TDCB	**Techi**	**0.61**	**269**	eP			**Pg**	**21 49 40.4**	**+0.4**
	baz=266								
TDCB				S			**Sb**	**21 49 48.1**	**-0.2**
	baz=266								
CHGB	**Renai**	**0.63**	**251**	eP			**Pb**	**21 49 40.5**	**+0.1**
	baz=248								
CHGB				eS			**Sg**	**21 49 49.2**	**+0.3**
	baz=248								
OWD	**Renai**	**0.67**	**243**	eP			**Pb**	**21 49 40.7**	**-0.4**
	baz=240								
OWD				eS			**Sg**	**21 49 50.2**	**+0.1**
	baz=240								
EGFH	**Guangfu**	**0.70**	**212**	eP			**Pg**	**21 49 42.1**	**+0.5**
	baz=209								
EGFH				eS			**Sn**	**21 49 52.7**	**-0.5**
	baz=209								
TIPB	**Shuangxi**	**0.70**	**360**	eP			**Pb**	**21 49 41.4**	**-0.1**
	baz=1.0								
TIPB				S			**Sb**	**21 49 50.7**	**-0.2**
	baz=1.0								
TWA	**Mucha**	**0.74**	**343**	eP			**Pg**	**21 49 42.7**	**+0.3**
	baz=344								
TWA				S			**Sg**	**21 49 52.9**	**+0.5**
	baz=344								
NHDH	**Xindian Distri**	**0.75**	**338**	eP			**Pb**	**21 49 42.3**	**+0.1**
	baz=339								
NHDH				eS			**Sg**	**21 49 52.6**	**+0.2**
	baz=339								
TWB1	**Santiao Chiao**	**0.75**	**11**	eP			**Pg**	**21 49 43.1**	**+0.5**
	baz=13								
TWB1				eS			**Sb**	**21 49 52.3**	**0.0**
	baz=13								
NWF	**Wu-fen Shan**	**0.80**	**357**	eP			**Pb**	**21 49 43.6**	**+0.3**
	baz=358								
NWF				S			**Sg**	**21 49 54.4**	**+0.1**
	baz=358								
WHP	**Taichung City**	**0.81**	**271**	eP			**Pg**	**21 49 43.8**	**+0.2**
	baz=269								
WHP				eS			**Sg**	**21 49 54.7**	**+0.4**
	baz=269								
TAP	**Taipei**	**0.82**	**339**	eS			**Sg**	**21 49 55.2**	**+0.4**
	baz=340								
LIOB	**Emei**	**0.83**	**297**	eP			**Pg**	**21 49 44.3**	**+0.2**
	baz=296								
LIOB				eS			**Sg**	**21 49 55.7**	**+0.6**
	baz=296								
NSTT	**Nanjuang**	**0.84**	**296**	eP			**Pg**	**21 49 44.2**	**+0.1**
	baz=295								
NSTT				eS			**Sg**	**21 49 55.3**	**+0.1**
	baz=295								
HGSD	**Ruisui**	**0.85**	**206**	eP			**Pb**	**21 49 44.3**	**+0.2**
	baz=203								
HGSD				eS			**Sn**	**21 49 57.7**	**+0.7**
	baz=203								
WCS	**Beigang Elemen**	**0.86**	**256**	eP			**Pg**	**21 49 44.6**	**-0.1**
	baz=254								
WCS				eS			**Sn**	**21 49 57.3**	**+0.1**
	baz=254								
EHY	**Hungye**	**0.89**	**212**	eP			**Pb**	**21 49 44.8**	**+0.2**
	baz=209								
EHY				eS			**Sg**	**21 49 57.1**	**+0.3**
	baz=209								
YM01	**YM01**	**0.91**	**345**	eP			**Pn**	**21 49 45.5**	**-0.2**
	baz=345								
YM01				eS			**Sg**	**21 49 57.5**	**0.0**
	baz=345								
TWS1	**Kuangyinshan**	**0.91**	**336**	eP			**Pb**	**21 49 45.1**	**+0.1**
	baz=336								
TWS1				eS			**Sn**	**21 49 58.3**	**-0.1**
	baz=336								
NCU	**National Centr**	**0.91**	**320**	eP			**Pb**	**21 49 45.3**	**+0.2**
	baz=320								
NCU				eS			**Sg**	**21 49 57.8**	**+0.2**
	baz=320								
NCUH	**Zhongli**	**0.91**	**320**	eP			**Pg**	**21 49 45.8**	**+0.2**
	baz=320								
NCUH				eS			**Sg**	**21 49 57.9**	**+0.3**
	baz=320								
SMLT	**Sun Moon Lake**	**0.93**	**246**	eP			**Pn**	**21 49 45.9**	**-0.2**
	baz=243								
SMLT				eS			**Sn**	**21 49 58.8**	**-0.2**
	baz=243								
SSLB	**Suanglung**	**0.93**	**239**	eP			**Pb**	**21 49 45.3**	**-0.2**
	baz=237								
SSLB				eS			**Sg**	**21 49 58.0**	**-0.2**
	baz=237								
ANP	**Anpu**	**0.96**	**343**	eP			**Pn**	**21 49 46.4**	**0.0**
	baz=344								
TYC	**Yuchr**	**0.96**	**248**	eP			**Pn**	**21 49 46.4**	**+0.1**
	baz=246								
TYC				eS			**Sb**	**21 49 58.6**	**+0.4**
	baz=246								
NTST	**Danshui**	**0.96**	**339**	eP			**Pg**	**21 49 46.7**	**+0.3**
	baz=339								
NTST				eS			**Sn**	**21 49 59.5**	**0.0**
	baz=339								
TWQ1	**Liyutan**	**0.97**	**275**	eP			**Pg**	**21 49 46.6**	**0.0**
	baz=273								
TWQ1				eS			**Sg**	**21 49 59.2**	**-0.1**
	baz=273								
NMLH	**Miaoli**	**0.98**	**286**	eP			**Pb**	**21 49 46.4**	**+0.1**
	baz=285								
NMLH				eS			**Sg**	**21 50 00.3**	**+0.4**
	baz=285								
NSY	**Sanyi**	**0.98**	**279**	eP			**Pn**	**21 49 46.6**	**-0.2**
	baz=277								
NSY				eS			**Sg**	**21 50 00.7**	**+0.7**
	baz=277								
YULB	**Yu-li**	**1.00**	**209**	eP			**Pb**	**21 49 46.2**	**-0.3**
	baz=207								
YULB				eS			**Sn**	**21 49 59.9**	**-0.6**
	baz=207								
EYUL	**Yuli**	**1.03**	**207**	eP			**Pn**	**21 49 47.2**	**-0.1**
	baz=205								
TWY	**Chenhua**	**1.03**	**348**	eP			**Pn**	**21 49 47.4**	**+0.1**
	baz=349								
TWY				eS			**Sn**	**21 50 01.0**	**-0.3**
	baz=349								
JYNG	**Yonagunijimaku**	**1.03**	**80**	P			**Pb**	**21 49 47.0**	**-

WTK	**Tuku**	**1.44**	**247**	*e*S	**Sb**	**21 50 12.4**	**+0.4**
	baz=245							
CHN2	**Minshiung**	**1.44**	**240**	*e*S	**Sb**	**21 50 12.2**	**+0.2**
	baz=238							
CHN4	**Tsaushan**	**1.45**	**231**	*e*P	**Pb**	**21 49 54.0**	**-0.3**
CHN4	baz=230			*e*S	**Sb**	**21 50 12.4**	**0.0**
	baz=230							
STYH	**Taoyuan**	**1.46**	**222**	*e*P	**Pn**	**21 49 53.7**	**+0.5**
STYH	baz=220			*e*S	**Sn**	**21 50 11.9**	**0.0**
	baz=220							
TPUB	**Ta-pu**	**1.46**	**229**	*e*P	**Pn**	**21 49 53.7**	**+0.4**
TPUB	baz=227			*e*S	**Sb**	**21 50 12.7**	**0.0**
	baz=227							
CHY	**Chiayi**	**1.50**	**240**	*e*P	**Pb**	**21 49 54.6**	**-0.4**
CHY	baz=237			*e*S	**Sb**	**21 50 14.1**	**+0.4**
	baz=237							
LONT	**Longtian**	**1.50**	**205**	*e*S	**Sb**	**21 50 13.8**	**0.0**
	baz=204							
WTP	**Ta-pu**	**1.51**	**228**	*e*P	**Pn**	**21 49 54.5**	**+0.6**
WTP	baz=226			*e*S	**Sb**	**21 50 14.1**	**0.0**
	baz=226							
TWK	**Hsinying**	**1.58**	**231**	*e*P	**Pn**	**21 49 55.2**	**+0.2**
TWK	baz=229			*e*S	**Sb**	**21 50 16.0**	**-0.2**
	baz=229							
TWGBT	**Beinan**	**1.60**	**206**	*e*P	**Pb**	**21 49 56.4**	**-0.3**
TWGBT	baz=204			*e*S	**Sb**	**21 50 16.6**	**-0.1**
	baz=204							
SNST	**Tainan City**	**1.60**	**230**	*e*P	**Pb**	**21 49 56.1**	**-0.8**
SNST	baz=228			*e*S	**Sb**	**21 50 17.3**	**+0.5**
	baz=228							
CHN1	**Nanshi**	**1.61**	**228**	*e*P	**Pn**	**21 49 56.0**	**+0.7**
CHN1	baz=226			*e*S	**Sn**	**21 50 16.0**	**+0.4**
	baz=226							
LDUT	**Ludao**	**1.62**	**192**	*e*P	**Pn**	**21 49 55.2**	**-0.2**
LDUT	baz=190			*e*S	**Sn**	**21 50 15.3**	**-0.6**
	baz=190							
SGST	**Jiashian**	**1.64**	**224**	*e*P	**Pn**	**21 49 55.9**	**+0.1**
SGST	baz=222			*e*S	**Sb**	**21 50 17.5**	**-0.4**
	baz=222							
SLGT	**Liugui**	**1.67**	**221**	*e*P	**Pn**	**21 49 56.9**	**+0.8**
SLGT	baz=219			*e*S	**Sb**	**21 50 17.8**	**-0.9**
	baz=219							
ICHU	**Yijhu**	**1.68**	**238**	*e*P	**Pn**	**21 49 57.0**	**+0.7**
ICHU	baz=236			*e*S	**Sb**	**21 50 18.2**	**-0.8**
	baz=236							
IRIF	**Iriomote-Funau**	**1.74**	**87**	P	**Pn**	**21 49 57.4**	**+0.4**
IRIF				*e*S	**Sn**	**21 50 19.0**	**+0.3**
SCST	**Cishan**	**1.84**	**222**	*e*P	**Pn**	**21 49 59.2**	**+0.7**
SCST	baz=220			*e*S	**Sn**	**21 50 21.7**	**+0.3**
	baz=220							
SSD	**Sandimen**	**1.87**	**216**	*e*P	**Pn**	**21 49 59.7**	**+0.8**
SSD	baz=214			*e*S	**Sb**	**21 50 23.2**	**-1.3**
	baz=214							
TSMG	**Majia**	**1.90**	**215**	*e*P	**Pb**	**21 50 00.8**	**-1.1**
TSMG	baz=214			*e*S	**Sb**	**21 50 24.1**	**-1.1**
	baz=214							
MASBT	**Mashibuluo**	**1.98**	**214**	*e*P	**Pn**	**21 50 00.6**	**+0.1**
MASBT	baz=212			*e*S	**Sn**	**21 50 25.9**	**+1.1**
	baz=212							
EAST	**Anshuo**	**2.08**	**206**	*e*P	**Pb**	**21 50 03.5**	**-1.6**
EAST	baz=204			*e*S	**Sb**	**21 50 28.8**	**-1.8**
	baz=204							
PNG	**Penghu**	**2.19**	**252**	*e*P	**Pn**	**21 50 04.2**	**+0.9**
PNG	baz=250			*e*S	**Sn**	**21 50 30.7**	**+0.7**
	baz=250							
PHUB	**P'eng-hu**	**2.20**	**251**	*e*S	**Sn**	**21 50 30.1**	**-0.1**
	baz=249							
SLIU	**Shizi**	**2.25**	**205**	*e*P	**Pb**	**21 50 07.0**	**-0.9**
SLIU	baz=204			*e*S	**Sn**	**21 50 33.2**	**+1.7**
	baz=204							
MATB	**Ma-tsu**	**2.54**	**318**	*e*P	**Pn**	**21 50 07.1**	**-1.0**
MATB	baz=317			*e*S	**Sn**	**21 50 37.7**	**-0.8**
	baz=317							
PTMZ	**Houxiangcun**	**2.58**	**288**	*e*P	**Pn**	**21 50 07.9**	**-0.8**
PTMZ	baz=287			*e*S	**Sn**	**21 50 38.5**	**-1.2**
	baz=287							
LYJJ	**Jianjiangzhen**	**2.94**	**321**	*e*S	**Sn**	**21 50 48.5**	**-0.1**
	baz=320							
XPSS	**Dashiqiu**	**3.04**	**331**	*e*P	**Pn**	**21 50 14.6**	**-0.4**
XPSS	baz=330			*e*S	**Sn**	**21 50 50.8**	**0.0**
	baz=330							
MHZQ	**Yeshan**	**3.12**	**306**	*e*S	**Sn**	**21 50 52.4**	**-0.6**
	baz=305							
KNMB	**Chin-men Tao**	**3.14**	**274**	*e*P	**Pn**	**21 50 15.7**	**-0.7**
	baz=273							
AXDP	**Jialang**	**3.57**	**281**	*e*P	**Pn**	**21 50 23.4**	**+1.1**
	baz=279							

JMA ***16*** *21:50:52.8±0.1,24˚.23N×121˚.82E,h26km±2km,M2.1*
TAP ***16*** *21:50:52.8,24˚.28N×121˚.82E,h20km,ML3.0,B*
ISC 16 21:50:52.8±1.0,**24˚.26N**±0˚.02×**121˚.87E**±0˚.03,**h19**km±8km,
n41,σ**0°76**/81,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.12**	**294**	*i* P		**Pb**		**21 50 56.8**	**+1.9**
EHP	baz=291			S		**Sb**		**21 51 00.1**	**+3.9**
	baz=291								
EWUT	**Wuta**	**0.20**	**337**	*i* P		**Pb**		**21 50 58.1**	**+0.7**
EWUT	baz=347			*i* S		**Sb**		**21 51 01.5**	**+1.2**
	baz=347								
ENA	**Nanau**	**0.20**	**326**	*i* P		**Pb**		**21 50 57.8**	**+0.4**
ENA	baz=335			*i* S		**Sb**		**21 51 01.6**	**+1.2**
	baz=335								
ETL	**Fush Village**	**0.24**	**246**	*i* P		**Pb**		**21 50 58.6**	**+0.2**
ETL	baz=235			S		**Sb**		**21 51 03.2**	**+1.1**
	baz=235								
NACB	**Ninganchiao**	**0.26**	**251**	P		**Pg**		**21 50 58.5**	**-0.2**
NACB	baz=242			S		**Sb**		**21 51 03.2**	**+0.4**
	baz=242								
TWD	**Chiawan**	**0.30**	**234**	P		**Pb**		**21 50 59.8**	**+0.1**
TWD	baz=224			S		**Sb**		**21 51 04.8**	**+0.6**
	baz=224								
TWC	**Suao**	**0.35**	**357**	*i* P		**Pb**		**21 51 00.4**	**-0.1**
TWC	baz=6.0			S		**Sb**		**21 51 05.8**	**+0.1**
	baz=6.0								
ETLH	**Xiulin Townshi**	**0.35**	**262**	P		**Pg**		**21 51 00.2**	**-0.2**
ETLH	baz=256			S		**Sg**		**21 51 05.6**	**+0.1**
	baz=256								
HWA	**Hwalien**	**0.37**	**220**	P		**Pb**		**21 51 01.6**	**+0.8**
HWA	baz=211			*e*S		**Sn**		**21 51 08.8**	**-1.0**
	baz=211								
NDS	**Dongshan**	**0.40**	**340**	P		**Pb**		**21 51 01.2**	**-0.1**
NDS	baz=344			S		**Sg**		**21 51 06.9**	**+0.2**
	baz=344								
ETM	**Tongmen**	**0.45**	**230**	P		**Pb**		**21 51 02.3**	**+0.1**
ETM	baz=223			S		**Sb**		**21 51 09.4**	**+0.9**
	baz=223								
TEYL	**Yanliau Villag**	**0.46**	**212**	P		**Pb**		**21 51 02.3**	**-0.1**
TEYL	baz=207			*e*S		**Sn**		**21 51 10.8**	**-1.3**
	baz=207								
ENTT	**Nioudou**	**0.47**	**324**	P		**Pg**		**21 51 02.0**	**-0.3**
	baz=327								
ENTT				S		**Sg**		**21 51 08.9**	**+0.2**
	baz=327								
NDT	**Datong Townshi**	**0.47**	**317**	P		**Pg**		**21 51 02.4**	**0.0**
	baz=318								
NDT				S		**Sb**		**21 51 09.4**	**+0.3**
	baz=318								
NNSB	**Datong**	**0.47**	**291**	P		**Pg**		**21 51 02.3**	**-0.1**
NNSB	baz=290			S		**Sg**		**21 51 08.8**	**-0.2**
	baz=290								
NNS	**Nan Shan**	**0.48**	**292**	*i* P		**Pg**		**21 51 02.4**	**-0.2**
NNS	baz=291			*i* S		**Sg**		**21 51 09.2**	**-0.1**
	baz=291								
TWE	**Neicheng**	**0.49**	**339**	*i* P		**Pb**		**21 51 02.9**	**0.0**
TWE	baz=344			S		**Sg**		**21 51 09.9**	**+0.3**
	baz=344								
ILA	**Ilan**	**0.52**	**348**	P		**Pg**		**21 51 03.0**	**-0.2**
ILA	baz=353			S		**Sb**		**21 51 10.9**	**+0.6**
	baz=353								
WHF	**Hehuan Shan**	**0.56**	**258**	P		**Pg**		**21 51 03.9**	**-0.2**
WHF	baz=254			S		**Sg**		**21 51 11.9**	**+0.1**
	baz=254								
FUSS	**Fushou**	**0.57**	**269**	*i* P		**Pg**		**21 51 04.2**	**-0.1**
FUSS	baz=266			*i* S		**Sg**		**21 51 12.1**	**+0.1**
	baz=266								
ESL	**Shilin**	**0.59**	**222**	P		**Pb**		**21 51 04.5**	**-0.1**
ESL	baz=216			S		**Sb**		**21 51 13.7**	**+1.2**
	baz=216								
NTC	**Toucheng**	**0.59**	**357**	P		**Pb**		**21 51 04.8**	**+0.3**
NTC				S		**Sb**		**21 51 13.1**	**+0.6**
YHNB	**Yeheng**	**0.61**	**313**	P		**Pg**		**21 51 04.6**	**-0.3**
YHNB	baz=313			S		**Sg**		**21 51 12.9**	**-0.2**
	baz=313								
NWLT	**Wulai**	**0.61**	**327**	*i* P		**Pg**		**21 51 04.6**	**-0.4**
NWLT	baz=329			S		**Sg**		**21 51 12.7**	**-0.6**
	baz=329								
NSK	**Sanguang**	**0.62**	**312**	P		**Pg**		**21 51 04.9**	**-0.3**
NSK	baz=313			S		**Sg**		**21 51 13.0**	**-0.5**
	baz=313								
TWT	**Tachien**	**0.63**	**270**	P		**Pb**		**21 51 05.5**	**+0.3**
TWT	baz=266			S		**Sb**		**21 51 14.3**	**+0.6**
	baz=266								
TDCB	**Techi**	**0.65**	**270**	P		**Pb**		**21 51 05.6**	**+0.1**
TDCB	baz=267			S		**Sg**		**21 51 13.9**	**-0.4**
	baz=267								
CHGB	**Renai**	**0.66**	**253**	P		**Pb**		**21 51 06.1**	**+0.2**
CHGB	baz=249			S		**Sb**		**21 51 15.0**	**+0.2**
	baz=249								
OWD	**Renai**	**0.70**	**245**	*i* P		**Pg**		**21 51 06.3**	**-0.3**
OWD	baz=240			*i* S		**Sb**		**21 51 16.4**	**+0.7**
	baz=240								
EGFH	**Guangfu**	**0.71**	**214**	P		**Pb**		**21 51 06.5**	**0.0**
EGFH	baz=210			S		**Sb**		**21 51 17.2**	**+1.3**
	baz=210								
TIPB	**Shuangxi**	**0.71**	**357**	P		**Pb**		**21 51 07.1**	**+0.5**
TIPB				S		**Sb**		**21 51 16.6**	**+0.5**
TWB1	**Santiao Chiao**	**0.76**	**8**	P		**Pb**		**21 51 07.4**	**0.0**
TWB1	baz=12			S		**Sb**		**21 51 18.8**	**+1.5**
	baz=12								
NHDH	**Xindian Distri**	**0.77**	**336**	P		**Pg**		**21 51 07.2**	**-0.7**
NHDH	baz=338			S		**Sb**		**21 51 18.2**	**+0.5**
	baz=338								
TATO	**Taipei**	**0.79**	**334**	P		**Pg**		**21 51 07.5**	**-0.9**
TATO	baz=336			S		**Sg**		**21 51 18.6**	**-0.2**
	baz=336								
NWF	**Wu-fen Shan**	**0.81**	**355**	P		**Pn**		**21 51 09.1**	**-0.2**
NWF	baz=357			S		**Sb**		**21 51 20.4**	**+1.4**
	baz=357								
WFSB	**Wu-fen Shan**	**0.81**	**355**	P		**Pn**		**21 51 09.1**	**-0.2**
WFSB	baz=357			S		**Sb**		**21 51 20.0**	**+1.0**
	baz=357								
WHP	**Taichung City**	**0.84**	**271**	P		**Pb**		**21 51 09.3**	**+0.5**
WHP	baz=269			S		**Sb**		**21 51 20.5**	**+0.7**
	baz=269								
HGSD	**Ruisui**	**0.86**	**208**	P		**Pn**		**21 51 09.6**	**-0.4**
HGSD	baz=204			S		**Sn**		**21 51 22.1**	**0.0**
	baz=204								
YOJ	**Yonaguni jima**	**1.06**	**79**	P		**Pn**		**21 51 12.6**	**-0.1**
YOJ	**Yonaguni jima**	**1.06**	**79**	P		**Pn**		**21 51 12.8**	**+0.1**
YOJ	baz=80			*e*S		**Sn**		**21 51 28.2**	**+1.2**
	baz=80								
IRIF	**Iriomote-Funau**	**1.70**	**87**	P		**Pb**		**21 51 23.2**	**-0.3**
IRIF				*e*S		**Sb**		**21 51 44.1**	**-0.4**

TAP ***16*** *21:52:13.7,24˚.28N×121˚.82E,h21km,ML3.0,B*
JMA ***16*** *21:52:13.4±0.2,24˚.22N×121˚.78E,h28km±4km*
ISC 16 21:52:13.2±0.9,**24˚.25N**±0˚.02×**121˚.88E**±0˚.02,**h18**km±2km,
n50,σ**0°62**/80,**1C-13D**,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.14**	**296**	*i* P		**Pb**		**21 52 17.8**	**+1.6**
EHP	baz=293			*i* S		**Sb**		**21 52 20.9**	**+2.9**
	baz=293								
EWUT	**Wuta**	**0.22**	**335**	⇓*i* P		**Pb**		**21 52 18.7**	**+0.4**
EWUT	baz=347			*i* S		**Sb**		**21 52 22.2**	**+0.6**
	baz=347								
ENA	**Nanau**	**0.22**	**325**	⇓*i* P		**Pb**		**21 52 18.6**	**+0.3**
ENA	baz=336			*i* S		**Sb**		**21 52 22.2**	**+0.5**
	baz=336								
ETL	**Fush Village**	**0.25**	**250**	*i* P		**Pb**		**21 52 19.4**	**+0.3**
ETL	baz=236			S		**Sb**		**21 52 24.0**	**+1.1**
	baz=236								
NACB	**Ninganchiao**	**0.27**	**254**	⇓*i* P		**Pb**		**21 52 19.3**	**-0.1**
NACB	baz=243			S		**Sb**		**21 52 23.9**	**+0.4**
	baz=243								
TWD	**Chiawan**	**0.31**	**237**	*i* P		**Pb**		**21 52 20.3**	**+0.2**
TWD	baz=225			S		**Sb**		**21 52 25.7**	**+0.9**
	baz=225								
TWC	**Suao**	**0.36**	**356**	⇑*i* P		**Pb**		**21 52 21.1**	**-0.1**
TWC	baz=6.0			*i* S		**Sb**		**21 52 26.3**	**-0.2**
	baz=6.0								
ETLH	**Xiulin Townshi**	**0.37**	**264**	⇓*i* P		**Pb**		**21 52 20.8**	**-0.4**
ETLH	baz=257			*i* S		**Sb**		**21 52 26.2**	**-0.4**
	baz=257								
HWA	**Hwalien**	**0.37**	**223**	*e*P		**Pn**		**21 52 22.6**	**-0.9**
	baz=212								
NDS	**Dongshan**	**0.41**	**339**	⇓*i* P		**Pb**		**21 52 21.8**	**-0.3**
NDS	baz=345			S		**Sb**		**21 52 27.3**	**-0.6**
	baz=345								
ETM	**Tongmen**	**0.45**	**232**	*e*P		**Pb**		**21 52 23.0**	**+0.4**
	baz=224								
TEYL	**Yanliau Villag**	**0.46**	**214**	*e*P		**Pn**		**21 52 23.5**	**-1.3**
	baz=208								
ENTT	**Nioudou**	**0.48**	**324**	⇓*i* P		**Pb**		**21 52 22.9**	**-0.3**
ENTT	baz=328			*i* S		**Sb**		**21 52 29.8**	**-0.2**
	baz=328								
NDT	**Datong Townshi**	**0.49**	**317**	*i* P		**Pb**		**21 52 23.0**	**-0.3**
	baz=319								
NDT				*e*S		**Sb**		**21 52 29.6**	**-0.4**
	baz=319								
NNSB	**Datong**	**0.49**	**292**	⇓*i* P		**Pb**		**21 52 23.1**	**-0.2**
	baz=290								
NNSB				*i* S		**Sg**		**21 52 29.4**	**-0.4**
	baz=290								
NNS	**Nan Shan**	**0.50**	**293**	⇓*i* P		**Pb**		**21 52 23.2**	**-0.3**
	baz=291								
NNS				S		**Sg**		**21 52 29.8**	**-0.4**
	baz=291								
TWE	**Neicheng**	**0.51**	**338**	⇓*i* P		**Pb**		**21 52 23.5**	**-0.1**
	baz=344								
TWE				S		**Sb**		**21 52 30.5**	**-0.2**
	baz=344								
WHF	**Hehuan Shan**	**0.57**	**260**	⇓*i* P		**Pb**		**21 52 24.6**	**-0.2**
	baz=255								
WHF				S		**Sb**		**21 52 32.6**	**-0.1**
	baz=255								
FUSS	**Fushou**	**0.58**	**270**	*i* P		**Pb**		**21 52 24.9**	**0.0**
	baz=267								
FUSS				*e*S		**Sb**		**21 52 33.0**	**+0.2**
	baz=267								
ESL	**Shilin**	**0.59**	**224**	*e*P		**Pb**		**21 52 25.2**	**+0.3**
	baz=217								
NTC	**Toucheng**	**0.61**	**356**	*e*P		**Pb**		**21 52 25.5**	**+0.4**
	baz=1.0								
NTC				*e*S		**Sb**		**21 52 33.8**	**+0.4**
	baz=1.0								
YHNB	**Yeheng**	**0.62**	**313**	⇓*i* P		**Pb**		**21 52 25.3**	**-0.2**
	baz=314								
YHNB				*e*S		**Sg**		**21 52 33.5**	**-0.4**
	baz=314								
NWLT	**Wulai**	**0.63**	**327**	P		**Pb**		**21 52 25.3**	**-0.3**
	baz=330								
NWLT				*e*S		**Sb**		**21 52 33.8**	**-0.2**
	baz=330								
NSK	**Sanguang**	**0.64**	**312**	⇓*i* P		**Pb**		**21 52 25.5**	**-0.3**
	baz=314								
NSK				*e*S		**Sg**		**21 52 33.9**	**-0.5**
	baz=314								
TWT	**Tachien**	**0.64**	**271**	*e*P		**Pn**		**21 52 26.5**	**-1.0**
	baz=267								
TWT				*e*S		**Sb**		**21 52 34.8**	**+0.3**
	baz=267								
TDCB	**Techi**	**0.66**	**271**	P		**Pb**		**21 52 26.4**	**+0.2**
	baz=267								
TDCB				*e*S		**Sg**		**21 52 34.5**	**-0.6**
	baz=267								
CHGB	**Renai**	**0.67**	**254**	⇓*e*P		**Pb**		**21 52 26.7**	**+0.3**
	baz=250								
CHGB				*e*S		**Sb**		**21 52 35.6**	**+0.2**
	baz=250								
OWD	**Renai**	**0.71**	**246**	*e*P		**Pb**		**21 52 27.0**	**0.0**
	baz=241								
OWD				*e*S		**Sb**		**21 52 37.2**	**+0.8**
	baz=241								
EGFH	**Guangfu**	**0.71**	**216**	*e*P		**Pn**		**21 52 27.7**	**-0.6**
	baz=211								
TIPB	**Shuangxi**	**0.72**	**356**	P		**Pn**		**21 52 27.7**	**-0.8**
TIPB				*e*S		**Sb**		**21 52 37.1**	**+0.3**
TWB1	**Santiao Chiao**	**0.77**	**7**	*e*P		**Pn**		**21 52 28.9**	**-0.1**
	baz=13								
TWA	**Mucha**	**0.78**	**340**	*e*P		**Pn**		**21 52 28.9**	**-0.4**
	baz=343								
TWA				*e*S		**Sb**		**21 52 39.2**	**+0.8**
	baz=343								
NHDH	**Xindian Distri**	**0.78**	**336**	*e*P		**Pn**		**21 52 29.3**	**0.0**
	baz=339								
NHDH				*e*S		**Sb**		**21 52 38.8**	**+0.3**
	baz=339								
TATO	**Taipei**	**0.81**	**334**	*e*P		**Pn**		**21 52 29.0**	**-0.6**
	baz=336								
NWF	**Wu-fen Shan**	**0.82**	**354**	*e*P		**Pn**		**21 52 30.0**	**0.0**
	baz=357								
WFSB	**Wu-fen Shan**	**0.82**	**354**	*e*P		**Pn**		**21 52 30.0**	**+0.1**
	baz=357								
WFSB				*e*S		**Sg**		**21 52 40.5**	**+0.2**
	baz=357								
WHP	**Taichung City**	**0.85**	**272**	*e*P		**Pn**		**21 52 29.9**	**-0.4**
	baz=270								
WHP				*e*S		**Sg**		**21 52 40.8**	**-0.4**
	baz=270								
HGSD	**Ruisui**	**0.86**	**209**	*e*P		**Pn**		**21 52 30.3**	**0.0**
	baz=205								
LIOB	**Emei**	**0.88**	**297**	*e*P		**Pn**		**21 52 30.6**	**0.0**
	baz=297								
NSTT	**Nanjuang**	**0.89**	**296**	*e*P		**Pn**		**21 52 30.9**	**+0.2**
	baz=295								
WCS	**Beigang Elemen**	**0.90**	**258**	*e*P		**Pn**		**21 52 30.6**	**-0.3**
	baz=255								
YM01	**YM01**	**0.94**	**343**	*e*P		**Pn**		**21 52 31.8**	**+0.3**
	baz=345								
TWS1	**Kuangyinshan**	**0.95**	**334**	*e*P		**Pb**		**21 52 30.6**	**-0.4**
	baz=336								
SMLT	**Sun Moon Lake**	**0.97**	**248**	*e*P		**Pn**		**21 52 31.9**	**0.0**
	baz=245								
ANP	**Anpu**	**0.99**	**341**	*e*P		**Pn**		**21 52 32.9**	**+0.7**
	baz=344								
JYNG	**Yonagunijimaku**	**0.99**	**78**	P		**Pn**		**21 52 33.3**	**+1.1**
TWQ1	**Liyutan**	**1.01**	**276**	*e*P		**Pg**		**21 52 33.8**	**+0.9**
	baz=274								
NMLH	**Miaoli**	**1.03**	**286**	*e*P		**Pg**		**21 52 34.1**	**+0.8**
	baz=285								
YOJ	**Yonaguni jima**	**1.05**	**78**	*e*P		**Pg**		**21 52 34.0**	**+0.4**
	baz=80								
IRIF	**Iriomote-Funau**	**1.69**	**87**	P		**Pb**		**21 52 42.6**	**-1.1**
IRIF				*e*S		**Sb**		**21 53 05.0**	**+0.4**

NEIC ***16*** *21:52:46.5±2.2,9˚.27S±0˚.09×116˚.20E±0˚.07,h57km±8km,*
mb4.1/13,Error ellipse: s-maj=13.7km s-min=8.7km
az=199.0
DJA ***16*** *21:52:48.6±0.5,10˚S±6˚×11˚6E±˚,h54km±19km,M4.5/13,*
mb4.9/4,mB5.0/4,MLv4.4/13,Mw(mB)4.4/4,MwMwp4.5/1,
Mwp4.9/1
IDC ***16*** *21:52:51.2±3.5,9˚.38S×116˚.33E,h122km±30km,mb3.6/5,*
mb1 3.8/7,mb1mx3.5/33,mbtmp4.1/7,MS2.6/3,Ms1 2.6/3,
ms1mx2.5/19,Error ellipse: s-maj=31.4km s-min=12.4km
az=51.0
ISC 16 21:52:47.1±0.8,**9˚.57S**±0˚.06×**116˚.08E**±0˚.04,**h80**km±8km,
n64,σ**1°68**/70,**mb4.3**/16,**Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**1.15**	**44**	P		**Pn**		**21 53 08.3**	**+0.4**
TWSI				S		**Sn**		**21 53 23.6**	**0.0**
DNP	**Denpasar**	**1.23**	**316**	P		**Pn**		**21 53 10.5**	**+1.5**
DNP				S		**Sn**		**21 53 25.6**	**+0.2**
SRBI	**Singaraja**	**1.70**	**330**	P		**Pn**		**21 53 16.2**	**+1.1**
SRBI				S		**Sn**		**21 53 36.9**	**+0.6**
PLAI	**Plampang**	**1.83**	**66**	P		**Pn**		**21 53 18.9**	**+2.1**
PLAI				S		**Sn**		**21 53 41.8**	**+2.4**
BYJI	**Banyuwangi**	**2.17**	**308**	P		**Pn**		**21 53 23.4**	**+2.2**
BYJI				S		**Sn**		**21 53 49.5**	**+2.2**
JAGI	**Jajag, Banyuwa**	**2.19**	**300**			**Pn**		**21 53 21.7**	**+0.2**
JAGI				Sn		**Sn**		**21 53 46.5**	**-1.4**
JAGI	**Jajag, Banyuwa**	**2.19**	**300**	P		**Pn**		**21 53 22.1**	**+0.6**
JAGI				S		**Sn**		**21 53 45.1**	**-2.8**
ABJI	**Asem Bagus**	**2.53**	**314**	P		**Pn**		**21 53 27.9**	**+1.8**
ABJI				S		**Sn**		**21 53 56.4**	**+0.3**
GMJI	**Gumukmas**	**2.90**	**296**	P		**Pn**		**21 53 32.4**	**+1.3**
GMJI				S		**Sn**		**21 54 03.9**	**-1.1**
WBSI	**Waikabubak, Su**	**3.27**	**92**	P		**Pn**		**21 53 36.6**	**+0.5**
PWJI	**Pagerwojo**	**4.49**	**290**	P		**Pn**		**21 53 53.8**	**+1.1**
SJI	**Sawahan**	**4.63**	**293**	P		**Pn**		**21 53 55.2**	**+0.5**
BSSI	**Bau Bau, Buton**	**5.54**	**52**	P		**Pn**		**21 54 09.1**	**+2.0**
	0.9nm2µm4µm164nm,0.5s								
EDFI	**Ende, Flores**	**5.60**	**82**	P		**Pn**		**21 54 09.5**	**+1.5**
	0.1nm405nm13nm,0.5s								
UGM	**Wanagama**	**5.73**	**286**	Pn		**Pn**		**21 54 10.9**	**+1.2**
KAPI	**Kappang**	**5.81**	**39**	P		**Pn**		**21 54 11.5**	**+0.7**
	13nm,0.3s,baz=204,slow=4.4,SNR=23								
KAPI				S		**Sn**		**21 55 14.1**	**-1.9**
	7.8nm,0.3s,baz=253,slow=24,SNR=17								
KAPI				LR		LR		21 56 47.3	
	comp=Z,37nm,19.7s,baz=295,slow=43								
BKSI	**Bulukumba**	**5.82**	**44**	P		**Pn**		**21 54 12.7**	**+1.8**
	0.7nm3µm149nm,0.5s								
MMRI	**Maumere**	**6.16**	**82**	Pn		**Pn**		**21 54 15.5**	**0.0**
KBKI	**Kotabaru**	**6.23**	**1**	P		**Pn**		**21 54 18.5**	**+2.0**
BATI	**Baumata**	**7.50**	**95**	P		Pn		21 54 23.4	-11
	3.6nm,0.3s,baz=249,slow=23,SNR=6.2								
BATI				S		**Sn**		**21 55 56.0**	**-1.5**
	11nm,0.3s,baz=292,slow=22,SNR=4.4								

FITZ				S		**Sn**	**21 57 56.2**	**-4.9**
	1.8nm,0.3s,baz=40,slow=20,SNR=8.6							
FITZ				LR		LR	22 00 19.1	
	comp=Z,34nm,18.6s,baz=328,slow=36							
FITZ	**Fitzroy Crossi**	**12.57**	**133**			**Pn**	**21 55 43.7**	**+0.8**
GIRL	**Giralia**	**13.12**	**188**	Pn		**Pn**	**21 55 51.5**	**+1.3**
KNRA	**Kununurra**	**13.79**	**117**	Pn		**Pn**	**21 55 59.4**	**+0.4**
MTN	**Manton Dam**	**15.12**	**104**	Pn		**Pn**	**21 56 15.2**	**-1.2**
MTN				IAmb		IAmb	21 56 26.0	
	comp=Z,15nm,1.2s							
FAKI	**Fak Fak**	**17.37**	**69**			**Pn**	**21 56 41.5**	**-3.1**
DAV	**Davao City (W)**	**19.05**	**30**	LR		LR	22 05 48.5	
	comp=Z,24nm,20.0s,baz=154,slow=41							
MORW	**Morawa**	**19.40**	**180**	Pn		**Pn**	**21 57 13.7**	**+5.0**
MORW				IAmb		IAmb	21 57 34.1	
	comp=Z,6.2nm,1.1s							
WRA	**Warramunga Arr**	**20.43**	**122**	P		**P**	**21 57 17.7**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=287,slow=11,SNR=1.7							
WRA				S		**S**	**22 00 59.8**	**-2.8**
	comp=Z,0.7nm,0.6s,baz=288,slow=22,SNR=2.6							
WRA	**Warramunga Arr**	**20.43**	**122**	P		Pn	21 57 20.2	-0.6
WB2	**Warramunga Arr**	**20.44**	**122**	Pn		Pn	21 57 20.8	-0.2
ASAR	**Alice Springs**	**22.06**	**132**	P		**P**	**21 57 36.7**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=304,slow=8.8,SNR=1.9							
ASAR				S		**S**	**22 01 39.2**	**+4.9**
	comp=Z,1.9nm,0.8s,baz=300,slow=22,SNR=5.1							
ASAR	**Alice Springs**	**22.06**	**132**	P		**P**	**21 57 37.1**	**+1.6**
AS31	**Alice Springs**	**22.06**	**132**	P		**P**	**21 57 37.3**	**+1.7**
CMAR	**Chiang Mai Arr**	**32.58**	**329**	P		**P**	**21 59 11.2**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=165,slow=7.4,SNR=9.1							
CMAR	**Chiang Mai Arr**	**32.58**	**329**	P		**P**	**21 59 11.1**	**0.0**
H08S2	**Diego Garcia H**	**43.11**	**269**	T		T	22 46 52.2	
	baz=95,slow=74							
H08S3	**Diego Garcia H**	**43.12**	**269**	T		T	22 46 51.9	
	baz=95,slow=74							
H08S1	**Diego Carcia H**	**43.13**	**269**	T		T	22 46 56.9	
	baz=95							
ODAN	**Odare**	**45.68**	**323**	*e*P		**P**	**22 01 00.0**	**-0.4**
TAPN	**Taplejung**	**45.86**	**324**	*e*P		**P**	**22 01 01.9**	**0.0**
JIRN	**Jiri**	**46.98**	**323**	*e*P		**P**	**22 01 10.7**	**-0.1**
	comp=Z,36nm,0.4s							
PKI	**Pulchoki**	**47.39**	**322**	*e*P		**P**	**22 01 13.0**	**-0.9**
	comp=Z,11nm,0.7s							
PKIN	**Phulchoki**	**47.40**	**322**	*e*P		**P**	**22 01 13.0**	**-0.9**
	comp=Z,10nm,0.5s							
GKN	**Gorkha**	**48.17**	**322**	*e*P		**P**	**22 01 19.0**	**-0.7**
	comp=Z,24nm,0.4s							
KOLN	**Koldanda**	**48.65**	**321**	*e*P		**P**	**22 01 22.8**	**-0.6**
	comp=Z,17nm,0.4s							
DANN	**Dangsing**	**48.96**	**321**	*e*P		**P**	**22 01 25.2**	**-0.7**
	comp=Z,45nm,0.5s							
PYUN	**Piuthan**	**49.26**	**320**	*e*P		**P**	**22 01 27.8**	**-0.3**
	comp=Z,16nm,0.4s							
SONM	**Songino Array**	**57.79**	**352**	P		**P**	**22 02 28.7**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=171,slow=8.4,SNR=8.7							
SONM	**Songino Array**	**57.79**	**352**	IAmb		IAmb	22 02 29.9	
	comp=Z,2.8nm,1.2s							
MK31	**Makanchi Array**	**63.69**	**335**	P		**P**	**22 03 09.3**	**-0.7**
MK31				IAmb		IAmb	22 03 23.4	
	comp=Z,1.6nm,1.1s							
MKAR	**Makanchi Array**	**63.69**	**335**	P		**P**	**22 03 09.2**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=148,slow=6.7,SNR=27							
ZAA0	**Zalesovo Array**	**68.58**	**341**	P		**P**	**22 03 39.5**	**-1.7**
ZAA0				IAmb		IAmb	22 03 40.1	
	comp=Z,1.7nm,0.6s							
ZALV	**Zalesovo Beam**	**68.58**	**341**	P		**P**	**22 03 39.2**	**-2.0**
	comp=Z,1.6nm,0.5s,baz=143,slow=4.6,SNR=7.2							
BRVK	**Borovoye**	**73.54**	**333**	P		**P**	**22 04 10.9**	**-0.2**
BRVK				IAmb		IAmb	22 04 11.5	
	comp=Z,2.9nm,1.1s							
ABKAR	**Akbulak array**	**76.39**	**326**	P		**P**	**22 04 27.5**	**-0.2**
ABKAR	**Akbulak array**	**76.39**	**326**	P		**P**	**22 04 27.4**	**-0.2**
ABKAR				IAmb		IAmb	22 04 28.1	
	comp=Z,4.3nm,0.7s							
GURO	**Guroymak-BITLI**	**83.68**	**311**	P		**P**	**22 05 09.1**	**+1.7**
GURO				IAmb		IAmb	22 05 09.9	
	comp=Z,2.3nm,0.6s							
TORD	**Torodi Ar. Bea**	**115.72**	**280**	PKP		**PKiKP**	**22 11 22.5**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=73,slow=2.8,SNR=2.1							
TORD	**Torodi Ar. Bea**	**115.72**	**280**			**PKiKP**	**22 11 22.0**	**+0.8**

IDC ***16*** *22:03:07.7±0.9, 5.°91S×151.°47E, h0km, mb4.2/10, mb1 4.4/10, mb1mx4.1/32, mbtmp4.3/10, MS3.5/7, Ms1 3.5/7, ms1mx3.2/29, Error ellipse: s-maj=29.3km s-min=19.2km az=111.0*

NEIC ***16*** *22:03:10.8±1.7, 6.°01S±0.°09×151.°4E±0.°1, h10km±1km, mb4.6/26, Error ellipse: s-maj=22.6km s-min=12.6km az=120.0*

DJA ***16*** *22:03:16.5±0.8, 6.°5S±11.°×15.°2E±1.°1, h84km±19km, M4.9/6, mB4.5/1, mb4.4/6, MLv5.1/2, Mw(mB)3.6/1*

ISC 16 22:03:14.2±0.6, 6.°08S±0.°07×151.°50E±0.°09, h41km, n58, σ1°30/56, mb4.4/21, MS3.4/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
RABL	**Rabaul**	**1.99**	**19**			**Pn**	**22 03 44.5**		**-0.8**
MANU	**Manus Island**	**5.75**	**314**	Pn		**Pn**	**22 04 40.2**		**+3.1**
HNR	**Honiara**	**9.01**	**112**	LR		LR	22 08 33.9		
	comp=Z,206nm,21.2s,baz=266,slow=36								
COEN	**Coen**	**11.33**	**226**	Pn		**Pn**	**22 05 53.2**		**-0.5**
CTA	**Charters Tower**	**14.83**	**200**	Pn		**P**	**22 06 45.8**		**-0.6**
	0.4nm,0.3s,baz=25,slow=8.6,SNR=6.3								
CTAO	**Charters Tower**	**14.83**	**200**	P		**P**	**22 06 46.4**		**0.0**
EIDS	**Eidsvold**	**19.19**	**181**	P		**Pn**	**22 07 36.5**		**+0.8**
FAKI	**Fak Fak**	**19.44**	**278**	P		**Pn**	**22 07 39.0**		**+0.1**
	33nm,1.4s								
SIJI	**Sorong**	**20.84**	**284**	LR		LR	22 18 29.8		
	comp=Z,104nm,18.0s,baz=234,slow=44								
DZM	**Mont Dzumac**	**21.48**	**139**	P		**P**	**22 08 00.7**		**+1.2**
	3.1nm,0.8s,baz=323,slow=20,SNR=1.4								
DZM				LR		LR	22 15 32.4		
	comp=Z,165nm,18.7s,baz=219,slow=34								
DZM	**Mont Dzumac**	**21.48**	**139**	P			**22 08 00.3**		**+0.8**
DZM				IAmb		IAmb	22 08 08.7		
	comp=Z,24nm,1.5s								
WR0	**Warramunga Arr**	**21.50**	**228**	P		**P**	**22 07 59.6**		**0.0**
WB2	**Warramunga Arr**	**21.63**	**229**	P		**P**	**22 08 00.6**		**-0.4**
WB2				IAmb		IAmb	22 08 05.9		
	comp=Z,29nm,1.4s								
WRA	**Warramunga Arr**	**21.64**	**229**	P		**P**	**22 08 00.3**		**-0.8**
	comp=Z,6.0nm,0.5s,baz=54,slow=10,SNR=27								
WRA				S		**S**	**22 11 55.1**		**-3.6**
	comp=Z,1.5nm,1.0s,baz=60,slow=18,SNR=4.8								
WRA				LR		LR	22 17 38.0		
	comp=Z,119nm,18.1s,baz=340,slow=40								
WRA	**Warramunga Arr**	**21.64**	**229**	P		**P**	**22 08 00.4**		**-0.8**
KNRA	**Kununurra**	**24.25**	**245**	P		**P**	**22 08 27.1**		**-0.5**
AS31	**Alice Springs**	**24.34**	**222**	P		**P**	**22 08 28.8**		**+0.4**
ASAR	**Alice Springs**	**24.34**	**222**	P		**P**	**22 08 28.3**		**-0.1**
	comp=Z,7.5nm,0.7s,baz=58,slow=8.7,SNR=45								
ASAR				ScP		**ScP**	**22 15 48.5**		**+5.4**
	comp=Z,0.6nm,0.7s,baz=40,slow=3.9,SNR=4.5								
ASAR	**Alice Springs**	**24.34**	**222**	P		**P**	**22 08 28.9**		**+0.5**
SOEI	**Soe**	**27.21**	**261**	P		**P**	**22 08 55.1**		**+0.5**
	comp=Z,19nm,1.2s								
STKA	**Stephens Creek**	**27.29**	**199**	P		**P**	**22 08 54.8**		**-0.1**
	comp=Z,3.8nm,0.8s,baz=358,slow=11,SNR=7.6								
STKA				LR		LR	22 18 53.0		
	comp=Z,112nm,20.0s,baz=25,slow=34								
STKA	**Stephens Creek**	**27.29**	**199**	P		**P**	**22 08 54.9**		**0.0**
BATI	**Baumata**	**27.85**	**260**	P		**P**	**22 09 00.1**		**-0.1**
	comp=Z,12nm,0.4s,baz=327,slow=5.1,SNR=4.1								
FITZ	**Fitzroy Crossi**	**27.92**	**242**	P		**P**	**22 09 00.2**		**-0.4**
	comp=Z,5.3nm,0.5s,baz=63,slow=6.8,SNR=29								
FITZ	**Fitzroy Crossi**	**27.92**	**242**	P		**P**	**22 09 00.3**		**-0.4**
FITZ				IAmb		IAmb	22 09 03.8		
	comp=Z,6.1nm,0.6s								
PSA00	**Pilbara Seismi**	**34.27**	**240**	P		**P**	**22 09 57.9**		**+1.2**
PSA00				IAmb		IAmb	22 10 14.0		
	comp=Z,20nm,1.4s								
JAGI	**Jajag, Banyuwa**	**37.11**	**264**	P		**P**	**22 10 18.4**		**-2.8**
MORW	**Morawa**	**40.54**	**231**	P		**P**	**22 10 49.7**		**0.0**
MORW				IAmb		IAmb	22 11 00.4		
	comp=Z,24nm,1.5s								
UGM	**Wanagama**	**40.70**	**265**	P		**P**	**22 10 50.7**		**-0.6**
CISI	**Cisompet, Garu**	**43.39**	**265**	P		**P**	**22 11 11.4**		**-1.8**
MJAR	**Matsushiro Arr**	**44.19**	**345**	LR		LR	22 29 31.4		
	comp=Z,46nm,18.1s,baz=185,slow=36								
KSRS	**Korea Array**	**48.57**	**335**	LR		LR	22 30 42.2		
	comp=Z,38nm,19.9s,baz=146,slow=34								
SONM	**Songino Array**	**66.72**	**329**	P		**P**	**22 14 00.1**		**-1.1**
	comp=Z,0.7nm,0.6s,baz=136,slow=4.1,SNR=5.0								
SONM	**Songino Array**	**66.72**	**329**	P		**P**	**22 14 00.6**		**-0.6**
SONM				IAmb		IAmb	22 14 02.2		
	comp=Z,3.4nm,1.4s								
L19K	**White Mountain**	**79.42**	**23**	P		**P**	**22 15 16.3**		**+0.5**
L19K				IAmb		IAmb	22 15 27.0		
	comp=Z,9.9nm,1.4s								
CNPM	**China Poot**	**79.42**	**26**	P		**P**	**22 15 16.2**		**+0.3**
K20K	**Telida**	**80.39**	**22**	P		**P**	**22 15 21.6**		**+0.6**
K20K				IAmb		IAmb	22 15 44.0		
	comp=Z,3.5nm,1.1s								
MKAR	**Makanchi Array**	**80.44**	**319**	P		**P**	**22 15 21.2**		**-0.5**
	comp=Z,0.4nm,0.7s,baz=104,slow=6.7,SNR=4.9								
MKAR	**Makanchi Array**	**80.44**	**319**	P		**P**	**22 15 21.4**		**-0.3**
J20K	**Nowinta River**	**80.83**	**21**	P		**P**	**22 15 23.4**		**0.0**
J20K				IAmb		IAmb	22 15 26.4		
	comp=Z,6.9nm,1.2s								
ZALV	**Zalesovo Beam**	**81.50**	**327**	P		**P**	**22 15 24.9**		**-2.2**
	comp=Z,0.5nm,0.5s,baz=114,slow=6.2,SNR=2.4								
IMAR	**Indian Mountai**	**82.01**	**20**	P		**P**			
MLY	**Manley**	**82.53**	**21**	P		**P**	**22 15 29.5**		**-0.1**
MLY				IAmb		IAmb	**22 15 32.3**		**-0.1**
	comp=Z,4.4nm,0.6s						22 15 33.9		
IL31		**83.82**	**22**	P		**P**	**22 15 38.1**		**-0.9**
IL31				IAmb		IAmb	22 15 39.2		
	comp=Z,2.3nm,0.7s								
ILAR	**Eielson Array**	**83.82**	**22**	P		**P**	**22 15 37.5**		**-1.5**
	comp=Z,2.0nm,0.6s,baz=256,slow=5.0,SNR=13								
ILAR	**Eielson Array**	**83.82**	**22**	P		**P**	**22 15 38.0**		**-1.0**
QSPA	**South Pole Qui**	**83.89**	**180**	P		**P**	**22 15 39.8**		**+0.2**
QSPA				IAmb		IAmb	22 15 49.7		
	comp=Z,7.4nm,1.1s								
MAW	**Mawson**	**83.90**	**203**	P		**P**	**22 15 40.3**		**+0.9**
TOLK	**Toolik Lake Re**	**84.83**	**18**	P		**P**	**22 15 44.7**		**+0.6**
BCAR	**Beaver Creek A**	**85.10**	**25**	P		**P**	**22 15 46.8**		**+1.2**
BMAR	**Burnt Mountain**	**85.89**	**20**	P		**P**	**22 15 50.2**		**+0.8**
HYT	**Haines Junctio**	**86.16**	**28**	P		**P**	**22 15 52.6**		**+1.6**
HYT				IAmb		IAmb	22 15 53.8		
	comp=Z,5.4nm,1.0s								
KKAR	**Karatay Array**	**87.56**	**314**	P		**P**	**22 15 58.2**		**+0.1**
CKRC	**Cesky Krumlov**	**124.13**	**327**	*e*PKP		**PKiKP**	**22 22 09.1**		**+0.4**
KHC	**Kasperske Hory**	**124.34**	**328**	*e*PKP		**PKiKP**	**22 22 09.6**		**+0.4**
GERES	**GERESS Array B**	**124.44**	**327**	PKP		**PKPdf**	**22 22 09.1**		**0.0**
	comp=Z,1.4nm,0.6s,baz=35,slow=3.3,SNR=9.5								
GERES	**GERESS Array B**	**124.44**	**327**			**PKiKP**	**22 22 09.6**		**+0.1**
TORD	**Torodi Ar. Bea**	**149.44**	**286**	PKPbc		**PKPbc**	**22 22 59.5**		**-0.5**
	comp=Z,4.7nm,0.7s,baz=62,slow=2.7,SNR=41								

IDC ***16*** *22:05:50.1±1.2, 23.°38S×115.°60W, h0km, mb4.0/6, mb1 4.4/6, mb1mx4.0/27, mbtmp4.0/6, MS4.2/6, Ms1 4.2/6, ms1mx3.9/17, Error ellipse: s-maj=40.4km s-min=27.0km az=54.0*

NEIC ***16*** *22:05:53.9±0.9, 23.°4S±0.°1×115.°3W±0.°1, h10km±1km, mb4.8/52, Error ellipse: s-maj=22.4km s-min=20.9km az=271.0*

ISC 16 22:05:52.8±0.5, 23.°4S±0.°1×115.°3W±0.°1, h10km, n90, σ0°77/74, mb4.7/31, MS4.1/8, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
RPN	**Rapa Nui**	**6.56**	**126**	LR		LR	LR	22 09 23.3	
	comp=Z,4μm,18.2s,baz=324,slow=31								
PTCN	**Pitcairn Islan**	**13.59**	**260**	Pn		**Pn**		**22 09 06.3**	**+0.6**
TBI	**Tubuai**	**31.30**	**263**	*e*LQ		LQ		22 18 39.6	
	295nm,25.5s								
TBI				*e*LR		LR		22 19 58.8	
	comp=Z,396nm,25.8s								
PPT2	**Papeete2**	**32.56**	**274**	*e*LR		LR		22 20 28.2	
	comp=Z,520nm,27.5s								
PPT	**Papeete**	**32.56**	**274**	LR		LR		22 21 24.2	
	comp=Z,294nm,19.5s,baz=142,slow=29								
H03N2	**Juan Fernandez**	**33.38**	**116**	T		T		22 47 31.7	
	baz=282,slow=75								
H03N3	**Juan Fernandez**	**33.38**	**116**	T		T		22 47 32.5	
	baz=282,slow=75								
H03N1	**Juan Fernandez**	**33.39**	**116**	T		T		22 47 31.7	
	baz=282,slow=75								
VA04	**Juan Fernndez**	**33.49**	**116**	P		**P**		**22 12 32.6**	**+0.2**
NNA	**Nana**	**38.25**	**79**	P		**P**		**22 13 14.1**	**+0.6**
NNA				IAmb		IAmb		22 13 15.9	
	comp=Z,26nm,1.4s								
PLCA	**Paso Flores**	**41.20**	**126**	P		**P**		**22 13 38.5**	**+0.6**
	comp=Z,2.4nm,1.0s,baz=333,slow=22,SNR=2.9								
PLCA				LR		LR		22 26 24.4	
	comp=Z,375nm,18.6s,baz=268,slow=30								
PLCA	**Paso Flores**	**41.20**	**126**	IAmb		IAmb		22 13 44.4	
	comp=Z,21nm,1.6s								
ZON	**Zonda**	**41.91**	**112**	P		**P**		**22 13 43.6**	**-0.2**
LPAZ	**La Paz**	**44.79**	**90**	P		**P**		**22 14 09.1**	**+1.3**
	comp=Z,5.5nm,1.1s,baz=291,slow=6.9,SNR=9.0								
LPAZ				LR		LR		22 28 16.0	
	comp=Z,171nm,20.6s,baz=250,slow=30								
LPAZ	**La Paz**	**44.79**	**90**	P		**P**		**22 14 07.5**	**-0.4**
CMIG	**Matas Romero**	**44.93**	**28**	P		**P**		**22 14 07.0**	**-1.1**
	comp=Z,2.6nm,0.8s,baz=271,slow=2.7,SNR=4.8								
FLOC	**Florencia**	**45.88**	**63**	P		**P**		**22 14 15.8**	**0.0**
ZAIG	**Zacatecas**	**47.54**	**16**	P		**P**		**22 14 28.8**	**-0.1**
HPIG		**50.91**	**11**	P		**P**		**22 14 54.9**	**+0.4**
HPIG				IAmb		IAmb		22 15 06.7	
	comp=Z,12nm,1.3s								
HSIG		**52.29**	**5**	P		**P**		**22 15 05.3**	**+0.7**
CPUP	**Villa Florida**	**52.31**	**106**	LR		LR		22 34 33.2	
	comp=Z,157nm,18.2s,baz=236,slow=33								
TXAR	**Lajitas Array**	**53.62**	**13**	P		**P**		**22 15 13.8**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=193,slow=11,SNR=5.0								
TXAR	**Lajitas Array**	**53.62**	**13**	P		**P**		**22 15 14.3**	**-0.2**
319A	**Douglas**	**54.78**	**6**	P		**P**		**22 15 22.5**	**-0.4**
319A				IAmb		IAmb		22 15 25.3	
	comp=Z,7.7nm,0.9s								
214A	**Organ Pipe Nat**	**55.10**	**3**	P		**P**		**22 15 26.2**	**+1.0**
214A				IAmb		IAmb		22 15 27.7	
	comp=Z,8.3nm,1.1s								
TUC	**Tucson**	**55.57**	**5**	P		**P**		**22 15 29.3**	**+0.6**
JCT	**Junction City**	**55.61**	**16**	P		**P**		**22 15 28.8**	**0.0**
MNTX	**Cornudas Mount**	**55.61**	**10**	P		**P**		**22 15 28.9**	**+0.1**
MNTX				IAmb		IAmb		22 15 30.3	
	comp=Z,11nm,1.4s								
BAR	**Barrett**	**55.78**	**359**	P		**P**		**22 15 30.9**	**+0.8**
BAR				IAmb		IAmb		22 15 32.7	
	comp=Z,12nm,1.2s								
121A	**Cookes Peak, D**	**56.09**	**8**	P		**P**		**22 15 33.1**	**+0.7**
Y14A	**Wickenburg**	**57.07**	**2**	P		**P**		**22 15 39.8**	**+0.6**
Y22D	**IRIS PASSCAL I**	**57.72**	**8**	P		**P**		**22 15 45.1**	**+1.1**
X18A	**Snowflake**	**57.84**	**5**	P		**P**		**22 15 45.7**	**+0.9**
X18A				IAmb		IAmb		22 15 46.7	
	comp=Z,6.8nm,0.8s								
QSM	**Queen of Sheba**	**59.07**	**359**	P		**P**		**22 15 54.1**	**+0.9**
QSM				IAmb		IAmb		22 15 55.6	
	comp=Z,6.1nm,1.0s								
GWY	**Greenwater Val**	**59.28**	**359**	P		**P**		**22 15 55.5**	**+0.6**
SHPR	**Sheep Range**	**59.59**	**0**	P		**P**		**22 15 57.6**	**+0.6**
SHPR				IAmb		IAmb		22 15 59.4	
	comp=Z,7.3nm,0.9s								
KNB	**Kanab**	**60.14**	**2**	P		**P**		**22 16 00.6**	**-0.2**
KNB				IAmb		IAmb		22 16 01.9	
	comp=Z,4.5nm,0.8s								
PRN	**Pahroc Range**	**60.49**	**0**	P		**P**		**22 16 03.8**	**+0.7**
PRN				IAmb		IAmb		22 16 06.2	
	comp=Z,8.3nm,1.1s								
CCUT	**Cedar City**	**60.66**	**2**	P		**P**		**22 16 05.0**	**+0.6**
CCUT				IAmb		IAmb		22 16 07.3	
	comp=Z,10.0nm,1.2s								
CMB	**Columbia Colle**	**61.30**	**355**	P		**P**		**22 16 08.9**	**+0.4**
CMB				IAmb		IAmb		22 16 10.4	
	comp=Z,7.6nm,1.3s								
NV11	**Mina Array Sit**	**61.57**	**357**	P		**P**		**22 16 10.8**	**+0.4**
NV11				IAmb		IAmb		22 16 13.1	
	comp=Z,9.3nm,1.1s								
NVAR	**Mina Array Bea**	**61.57**	**357**	P		**P**		**22 16 10.1**	**-0.5**
	comp=Z,6.0nm,1.0s,baz=182,slow=9.6,SNR=23								
NVAR				LR		LR		22 37 03.1	
	comp=Z,109nm,18.5s,baz=234,slow=30								
NVAR	**Mina Array Bea**	**61.57**	**357**	P		**P**		**22 16 10.8**	**+0.3**
PSUT	**Pine Spring**	**61.63**	**1**	P		**P**		**22 16 11.7**	**+0.8**
MVU	**Marysvale**	**61.65**	**3**	P		**P**		**22 16 10.6**	**-0.5**
SPR3	**Spring Creek 3**	**62.08**	**1**	P		**P**		**22 16 14.2**	**+0.2**
SPR3				IAmb		IAmb		22 16 16.1	
	comp=Z,8.7nm,1.6s								
KVN	**Kaiserville**	**62.18**	**358**	P		**P**		**22 16 15.2**	**+0.6**
P17A	**Butcher Ranch,**	**62.70**	**4**	P		**P**		**22 16 18.0**	**0.0**
P17A				IAmb		IAmb		22 16 19.8	
	comp=Z,11nm,1.4s								
NLU	**North Lily Min**	**63.10**	**3**	P		**P**		**22 16 21.6**	**+0.9**
DUG	**Dugway, Tooele**	**63.31**	**2**	P		**P**		**22 16 23.0**	**+0.9**
DUG				IAmb		IAmb		22 16 24.6	
	comp=Z,6.9nm,1.2s								
ISCO	**Idaho Springs**	**63.52**	**8**	P		**P**		**22 16 24.2**	**+0.6**
ISCO				IAmb		IAmb		22 16 25.3	
	comp=Z,8.1nm,1.4s								
JLU	**Jordanelle**	**63.78**	**3**	P		**P**		**22 16 25.9**	**+0.6**
ELK	**Elko**	**63.82**	**0**	P		**P**		**22 16 26.7**	**+1.2**
RDMU	**Red Mountain**	**63.87**	**5**	P		**P**		**22 16 26.3**	**+0.4**
RDMU				IAmb		IAmb		22 16 27.4	
	comp=Z,8.6nm,1.1s								
MGMO	**Mountain Grove**	**64.03**	**20**	P		**P**		**22 16 26.6**	**-0.1**
BGU	**Big Grassy Mou**	**64.03**	**2**	P		**P**		**22 16 27.4**	**+0.6**
BGU				IAmb		IAmb		22 16 32.3	
	comp=Z,10nm,1.6s								
KSU1	**Kansas State U**	**64.60**	**16**	P		**P**		**22 16 30.6**	**+0.2**
MOD	**Modoc Plateau**	**65.14**	**356**	P		**P**		**22 16 34.4**	**+0.4**
WVOR	**Wild Horse Val**	**65.58**	**357**	P		**P**		**22 16 37.5**	**+0.7**
WVOR				IAmb		IAmb		22 16 39.6	
	comp=Z,7.9nm,1.1s								
PDAR	**Pinedale Array**	**66.05**	**5**	P		**P**		**22 16 38.4**	**-1.7**
	comp=Z,0.6nm,0.8s,baz=171,slow=6.4,SNR=5.3								
PDAR	**Pinedale Array**	**66.05**	**5**	P		**P**		**22 16 39.1**	**-0.9**
J08A	**Circle Bar Ran**	**66.50**	**357**	P		**P**		**22 16 42.9**	**+0.2**
HLID	**Hailey**	**66.64**	**1**	P		**P**		**22 16 44.4**	**+0.7**
HLID				IAmb		IAmb		22 16 46.2	
	comp=Z,11nm,1.4s								
QSPA	**South Pole Qui**	**66.75**	**180**	P		**P**		**22 16 43.8**	**-0.4**
FXWY	**Fox Creek**	**66.83**	**3**	P		**P**		**22 16 44.6**	**-0.3**
FXWY				IAmb		IAmb		22 17 07.9	
	comp=Z,8.4nm,1.6s								
G08A	**Pilot Rock**	**68.44**	**357**	P		**P**		**22 16 56.0**	**+1.0**
G08A				IAmb		IAmb		22 16 57.2	
	comp=Z,6.2nm,1.0s								
DZM	**Mont Dzumac**	**71.26**	**254**	*e*LR		LR		22 38 33.7	
	comp=Z,186nm,29.4s								
VNA3	**Neumayer Olymp**	**72.93**	**161**	P		**P**		**22 17 21.7**	**-0.3**
SNAA	**Sanae**	**74.72**	**162**	P		**P**		**22 17 32.1**	**-0.4**
SNAA	**Sanae**	**74.72**	**162**	P		**P**		**22 17 32.1**	**-0.4**
SNAA				IAmb		IAmb		22 17 32.8	
	comp=Z,11nm,1.3s								
H11S2	**WAKE ISLAND Hy**	**86.73**	**292**	T		T		23 54 41.0	
	baz=116,slow=75								
H11S1	**WAKE ISLAND Hy**	**86.74**	**292**	T		T		23 54 42.1	
	baz=116,slow=75								
H11S3	**WAKE ISLAND Hy**	**86.75**	**292**	T		T		23 54 38.2	
	baz=116,slow=75								
H11N3	**WAKE ISLAND Hy**	**87.09**	**293**	T		T		23 54 58.9	
	baz=117,slow=76								
H11N1	**WAKE ISLAND Hy**	**87.10**	**293**	T		T		23 55 07.2	
	baz=117,slow=76								
H11N2	**WAKE ISLAND Hy**	**87.11**	**293**	T		T		23 55 04.6	
	baz=117,slow=76								
BCAR	**Beaver Creek A**	**88.69**	**348**	P		**P**		**22 18 46.5**	**+0.5**
AKASG	**Malin Array Be**	**141.32**	**36**	PKPdf		**PKPdf**		**22 25 24.4**	**+0.8**
ZAA0	**Zalesovo Array**	**145.94**	**339**	PKPdf		**PKPab**		**22 25 32.9**	**+0.1**
ZALV	**Zalesovo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEIG	**Puerto Escondi**	**0.07**	**321**	*i* P	Pb	22 12 06.0	-1.2
PEIG				*i* S	Sb	22 12 08.8	-1.5
PNIG	**Pinotepa**	**1.08**	**295**	*i* P	Pn	22 12 19.4	-2.6
PNIG				*i* S	Sn	22 12 32.4	-3.7
TXIG	**Tlaxiaco**	**1.45**	**334**	*i* P	Pn	22 12 24.9	-2.4
TXIG				*i* S	Sn	22 12 42.2	-3.4

NEIC ***16*** *22:28:50.5±1.6, 10.01°S±0.07°×107.36°E±0.06, h10km±1km, mb4.3/18, Error ellipse: s-maj=13.2km s-min=8.5km az=146.0*

DJA ***16*** *22:28:50.5±2.3, 10.5°S±4°×10.7°E±°, h33km±36km, M4.8/21, mb4.7/7, mB5.6/2, MLv4.8/21, Mw(mB)5.1/2*

IDC ***16*** *22:28:56.7±3.6, 9.89°S×107.63°E, h58km±29km, mb3.7/9, mb1 3.9/12, mb1mx3.7/38, mbtmp4.1/12, ML4.3/3, MS3.3/6, Ms1 3.3/6, ms1mx3.0/50, Error ellipse: s-maj=38.7km s-min=12.8km az=59.0*

ISC 16 22:28:51.6±0.5, 10.04°S±0.05°×107.37°E±0.05, h23km, n77, σ1s64/73, mb4.2/16, MS3.2/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMI	**Christmas Isla**	**1.71**	**256**	P	**Pn**	**22 29 18.9**	**-1.1**
XMIS	**Christmas Isla**	**1.75**	**255**		**Pn**	**22 29 19.8**	**-0.8**
XMIS				Sn	**Sn**	**22 29 38.7**	**-3.5**
XMIS	**Christmas Isla**	**1.75**	**255**	P	**Pn**	**22 29 19.2**	**-1.4**
CMJI	**Cimerak**	**2.48**	**25**	P	**Pn**	**22 29 28.2**	**-2.4**
CISI	**Cisompet, Garu**	**2.51**	**10**		**Pn**	**22 29 28.7**	**-2.4**
CISI	**Cisompet, Garu**	**2.51**	**10**	P	**Pn**	**22 29 28.9**	**-2.2**
CNJI	**Cibinong**	**2.72**	**355**	P	**Pn**	**22 29 31.9**	**-2.1**
KPJI	**Karang Pucung**	**3.10**	**30**	P	**Pn**	**22 29 38.3**	**-0.9**
SKJI	**Sukabumi**	**3.12**	**345**	P	**Pn**	**22 29 38.3**	**-1.2**
LEM	**Lembang**	**3.20**	**4**	P	**Pn**	**22 29 41.5**	**+0.7**
	35nm,0.3s,baz=49,slow=10,SNR=58						
LEM				S	**Sn**	**22 30 18.8**	**+0.5**
	130nm,0.3s,baz=164,slow=22,SNR=13						
LEM				LR	LR	22 31 26.6	
	comp=Z,593nm,19.5s,baz=166,slow=49						
LEM	**Lembang**	**3.20**	**4**	P	**Pn**	**22 29 39.6**	**-1.1**
CTJI	**Waduk Cacaban**	**3.50**	**31**	P	**Pn**	**22 29 43.7**	**-1.1**
DBJI	**Dramaga**	**3.52**	**350**	P	**Pn**	**22 29 43.8**	**-1.1**
YOGI	**Yogyakarta**	**3.63**	**53**	P	**Pn**	**22 29 44.6**	**-2.0**
UGM	**Wanagama**	**3.76**	**56**		**Pn**	**22 29 46.4**	**-1.9**
UGM	**Wanagama**	**3.76**	**56**	P	**Pn**	**22 29 45.8**	**-2.5**
TNG	**Tangerang**	**3.91**	**349**	P	**Pn**	**22 29 47.6**	**-2.7**
SBJI	**Serang**	**4.08**	**342**	P	**Pn**	**22 29 50.1**	**-2.6**
PCJI	**Pacitan**	**4.18**	**64**	P	**Pn**	**22 29 52.8**	**-1.2**
SMRI	**Semarang**	**4.25**	**46**		**Pn**	**22 29 54.8**	**-0.2**
SMRI	**Semarang**	**4.25**	**46**	P	**Pn**	**22 29 54.5**	**-0.5**
PWJI	**Pagerwojo**	**4.81**	**66**	P	**Pn**	**22 30 01.4**	**-1.4**
SJI	**Sawahan**	**4.91**	**63**	P	**Pn**	**22 30 04.0**	**-0.1**
KLI	**Kotabumi**	**5.71**	**334**	P	**Pn**	**22 30 11.9**	**-3.3**
GRJI	**Gresik**	**5.93**	**59**	P	**Pn**	**22 30 18.4**	**+0.3**
	0.3nm50nm,0.7s						
LWLI	**Liwa**	**5.97**	**326**	P	**Pn**	**22 30 15.7**	**-3.1**
	2.0nm112nm,0.4s						
GMJI	**Gumukmas**	**6.25**	**74**	P	**Pn**	**22 30 22.0**	**-0.5**
	0.3nm43nm,1.1s						
MDSI	**Maura Dua**	**6.36**	**330**	P	**Pn**	**22 30 22.5**	**-1.5**
EGSI	**Enggano, Bengk**	**6.87**	**312**	P	**Pn**	**22 30 28.0**	**-3.0**
	0.4nm43nm,0.9s						
JAGI	**Jajag, Banyuwa**	**6.87**	**77**		**Pn**	**22 30 29.9**	**-1.2**
JAGI	**Jajag, Banyuwa**	**6.87**	**77**	P	**Pn**	**22 30 30.2**	**-0.9**
	0.8nm1µm69nm,0.8s						
BYJI	**Banyuwangi**	**7.13**	**76**	P	**Pn**	**22 30 32.3**	**-2.3**
	0.6nm10µm56nm,1.0s						
ABJI	**Asem Bagus**	**7.14**	**72**	P	**Pn**	**22 30 34.1**	**-0.6**
	0.4nm68nm,0.9s						
TWSI	**Taliwang, Sumb**	**9.47**	**83**	P	Pn	22 31 18.3	+12
PLAI	**Plampang**	**10.34**	**84**	P	**Pn**	**22 31 17.7**	**-0.9**
GIRL	**Giralia**	**14.15**	**153**	Pn	**Pn**	**22 32 07.4**	**-3.4**
PSI	**Prapat**	**15.28**	**326**	LR	LR	22 38 20.2	
	comp=Z,161nm,19.9s,baz=269,slow=37						
BATI	**Baumata**	**16.04**	**92**	P	**Pn**	**22 32 35.7**	**-0.2**
	2.2nm,0.3s,baz=281,slow=19,SNR=1.9						
BATI				S	Sn	22 35 18.6	-15
	2.0nm,0.3s,baz=237,slow=11,SNR=1.7						
PSA00	**Pilbara Seismi**	**16.59**	**135**	Pn	**Pn**	**22 32 39.6**	**-3.2**
PSA00				IAmb	IAmb	22 32 50.9	
	comp=Z,13nm,1.0s						
PSA00	**Pilbara Seismi**	**16.59**	**135**	Pn	**Pn**	**22 32 38.5**	**-4.3**
PSA00				IAmb	IAmb	22 32 40.4	
	comp=Z,3.5nm,0.8s						
TOLI2	**Tolitoli**	**17.35**	**51**		**Pn**	**22 32 51.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**19.43**	**116**	P	**Pn**	**22 33 17.6**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=286,slow=9.6,SNR=9.6						
FITZ				S	S	22 36 38.6	-16
	comp=Z,0.1nm,0.3s,baz=163,slow=18,SNR=1.2						
FITZ				LR	LR	22 40 21.7	
	comp=Z,75nm,19.8s,baz=272,slow=36						
FITZ	**Fitzroy Crossi**	**19.43**	**116**	P	**P**	**22 33 17.2**	**+0.5**
FITZ				IAmb	IAmb	22 33 20.8	
	comp=Z,13nm,1.3s						
KNRA	**Kununurra**	**21.59**	**107**	P	**P**	**22 33 40.3**	**+0.3**
KNRA				IAmb	IAmb	22 34 04.9	
	comp=Z,20nm,1.1s						
DAV	**Davao City (W)**	**24.85**	**48**	LR	LR	22 45 46.3	
	comp=Z,28nm,19.1s,baz=200,slow=41						
H01W3	**Cape Leeuwin H**	**25.49**	**167**	T	T	23 01 27.0	
	baz=341,slow=76						
H01W1	**Cape Leeuwin H**	**25.50**	**167**	T	T	23 01 29.1	
	baz=341,slow=76						
H01W2	**Cape Leeuwin H**	**25.50**	**167**	T	T	23 01 26.6	
	baz=341,slow=76						
WRA	**Warramunga Arr**	**27.81**	**114**	P	**P**	**22 34 38.2**	**-1.1**
	comp=Z,1.9nm,0.8s,baz=291,slow=11,SNR=10						
WRA	**Warramunga Arr**	**27.81**	**114**	P	**P**	**22 34 37.6**	**-1.8**
WB2	**Warramunga Arr**	**27.82**	**114**	P	**P**	**22 34 38.4**	**-1.1**
WB2				IAmb	IAmb	22 34 42.5	
	comp=Z,7.2nm,1.2s						
ASAR	**Alice Springs**	**28.71**	**122**	P	**P**	**22 34 47.7**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=297,slow=9.3,SNR=7.5						
ASAR				LR	LR	22 45 45.1	
	comp=Z,70nm,20.8s,baz=354,slow=35						
ASAR	**Alice Springs**	**28.71**	**122**	P	**P**	**22 34 47.2**	**-0.2**
CMAR	**Chiang Mai Arr**	**29.51**	**344**	P	**P**	**22 34 55.6**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=178,slow=8.8,SNR=1.4						
SSLB	**Suanglung**	**36.15**	**21**	P	**P**	**22 35 52.3**	**-0.1**
STKA	**Stephens Creek**	**38.39**	**130**	P	**P**	**22 36 12.0**	**+0.7**
	comp=Z,1.5nm,0.5s,baz=302,slow=6.4,SNR=4.5						
STKA				LR	LR	22 54 26.6	
	comp=Z,47nm,18.6s,baz=19,slow=40						
STKA	**Stephens Creek**	**38.39**	**130**	P	**P**	**22 36 12.0**	**+0.7**
SHL	**Shillong**	**38.47**	**337**	P	**P**	**22 36 12.7**	**+0.5**
SHL				IAmb	IAmb	22 36 23.8	
	comp=Z,4.7nm,0.5s						
SONM	**Songino Array**	**57.62**	**359**	P	**P**	**22 38 40.2**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=183,slow=8.6,SNR=4.9						
SONM	**Songino Array**	**57.62**	**359**	P	**P**	**22 38 40.2**	**+0.2**
SONM				IAmb	IAmb	22 38 59.6	
	comp=Z,2.1nm,1.1s						
USRK	**Ussuriysk Ar.**	**58.42**	**21**	P	**P**	**22 38 43.9**	**-1.6**
	comp=Z,1.1nm,0.6s,baz=198,slow=4.1,SNR=3.8						
USRK	**Ussuriysk Ar.**	**58.42**	**21**	P	**P**	**22 38 45.0**	**-0.4**
KDJ	**Kajisay**	**58.84**	**334**	P	**P**	**22 38 47.8**	**-0.8**
BOOM	**Boomskoye usch**	**59.67**	**333**	P	**P**	**22 38 54.8**	**+0.4**
BOOM				IAmb	IAmb	22 39 06.7	
	comp=Z,4.1nm,1.3s						
MK31	**Makanchi Array**	**60.85**	**341**	P	**P**	**22 39 02.3**	**+0.1**
MK31				IAmb	IAmb	22 39 14.7	
	comp=Z,3.6nm,1.2s						
MKAR	**Makanchi Array**	**60.85**	**341**	P	**P**	**22 39 02.6**	**+0.4**
	comp=Z,2.3nm,0.5s,baz=149,slow=7.7,SNR=26						
MKAR	**Makanchi Array**	**60.85**	**341**	P	**P**	**22 39 01.9**	**-0.3**
MAW	**Mawson**	**64.59**	**197**	P	**P**	**22 39 28.9**	**+2.1**
	comp=Z,1.0nm,0.6s,baz=67,slow=10,SNR=2.6						
MAW	**Mawson**	**64.59**	**197**	P	**P**	**22 39 28.2**	**+1.5**
ZALV	**Zalesovo Beam**	**66.55**	**346**	P	**P**	**22 39 39.4**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=151,slow=3.3,SNR=1.7						
ZALV	**Zalesovo Beam**	**66.55**	**346**	P	**P**	**22 39 41.1**	**+1.5**
BRVK	**Borovoye**	**70.36**	**337**	P	**P**	**22 40 04.8**	**+1.4**
BRVK				IAmb	IAmb	22 40 22.1	
	comp=Z,2.5nm,1.0s						
ABKAR	**Akbulak array**	**72.20**	**330**	P	**P**	**22 40 15.2**	**+0.6**
ABKAR	**Akbulak array**	**72.20**	**330**	P	**P**	**22 40 15.4**	**+0.7**
ABKAR				IAmb	IAmb	22 40 27.0	
	comp=Z,4.0nm,0.9s						
QSPA	**South Pole Qui**	**79.97**	**180**	P	**P**	**22 41 00.1**	**+1.2**
QSPA				IAmb	IAmb	22 41 01.6	
	comp=Z,3.4nm,1.2s						
SNAA	**Sanae**	**86.75**	**197**	P	**P**	**22 41 36.0**	**+2.3**
TXAR	**Lajitas Array**	**145.21**	**52**	PKP	**PKPdf**	**22 48 28.8**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=242,slow=1.9,SNR=2.8						

JMA 16 22:32:33.5±0.1, 24.58N×123.77E, h0km, M1.2, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.25**	**189**	P	Pg	22 32 38.7	+0.5
IRIF				S	Sg	22 32 42.5	+1.1
JIJ	**Ishigaki jima**	**0.40**	**122**	P	Pg	22 32 41.6	+0.4
JIJ				S	Sg	22 32 47.2	+0.8
JKRS	**Kuro-shima**	**0.41**	**147**	P	Pg	22 32 41.9	+0.6
JKRS				S	Sg	22 32 48.0	+1.5
JISG	**Ishigakijimahi**	**0.49**	**89**	P	Pg	22 32 43.8	+0.9
JISG				S	Sg	22 32 50.9	+1.6
HATJ	**Hateruma jima**	**0.52**	**176**	P	Pg	22 32 44.2	+0.7
HATJ				S	Sg	22 32 51.6	+1.3
JTJ	**Tarama**	**0.85**	**86**	P	Pb	22 32 50.5	-0.6
JTJ				S	Sb	22 33 02.0	-1.1

TAP 16 22:33:07.4, 24.24N×121.84E, h15km±1km, ML1.4, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.11**	**306**	*e*P	Pg	22 33 10.7	-0.2
	baz=307						
EHP				*e*S	Sb	22 33 14.6	+0.6
	baz=307						
ENA	**Nanau**	**0.21**	**333**	*e*P	Pb	22 33 12.7	-0.3
	baz=335						
ENA				*e*S	Sb	22 33 16.4	-0.2
	baz=335						
EWUT	**Wuta**	**0.21**	**344**	*e*P	Pb	22 33 13.4	+0.4
	baz=343						
EWUT				*e*S	Sb	22 33 17.0	+0.3
	baz=343						
ETL	**Fush Village**	**0.22**	**247**	*e*P	Pg	22 33 12.7	+0.3
	baz=247						
ETL				*e*S	Sb	22 33 17.7	+0.7
	baz=247						
NACB	**Ninganchiao**	**0.24**	**253**	P	Pb	22 33 13.4	0.0
	baz=253						
NACB				*e*S	Sb	22 33 17.6	+0.1
	baz=253						
ETLH	**Xiulin Townshi**	**0.33**	**264**	*e*P	Pg	22 33 14.6	+0.3
	baz=263						
ETLH				*e*S	Sb	22 33 19.9	-0.4
	baz=263						
TWC	**Suao**	**0.36**	**1**	*e*P	Pb	22 33 15.5	-0.2
	baz=2.0						
TWC				*e*S	Sb	22 33 21.2	0.0
	baz=2.0						
NDS	**Dongshan**	**0.41**	**344**	P	Pb	22 33 16.4	0.0
	baz=343						
NDS				*e*S	Sb	22 33 22.5	+0.1
	baz=343						
NNSB	**Datong**	**0.46**	**294**	P	Pb	22 33 17.9	+0.5
	baz=293						
NNSB				*e*S	Sb	22 33 24.2	+0.2
	baz=293						
NDT	**Datong Townshi**	**0.47**	**320**	*e*P	Pg	22 33 17.0	+0.2
	baz=320						
NDT				*e*S	Sb	22 33 24.0	-0.1
	baz=320						
ENTT	**Nioudou**	**0.47**	**328**	*e*P	Pb	22 33 17.7	+0.2
	baz=328						
ENTT				*e*S	Sb	22 33 24.9	+0.7
	baz=328						
NNS	**Nan Shan**	**0.47**	**295**	*e*P	Pb	22 33 18.0	+0.5
	baz=294						
NNS				*e*S	Sb	22 33 24.8	+0.5
	baz=294						
TWE	**Neicheng**	**0.50**	**342**	*e*P	Pg	22 33 17.4	0.0
	baz=342						
TWE				*e*S	Sb	22 33 26.2	+1.1
	baz=342						
WHF	**Hehuan Shan**	**0.54**	**260**	*e*P	Pb	22 33 19.0	+0.1
	baz=259						
WHF				*e*S	Sg	22 33 25.8	+0.4
	baz=259						
FUSS	**Fushou**	**0.55**	**271**	*e*P	Pb	22 33 18.7	-0.2
	baz=270						
FUSS				*e*S	Sb	22 33 26.9	+0.2
	baz=270						
YHNB	**Yeheng**	**0.60**	**315**	*e*P	Pb	22 33 20.2	+0.4
	baz=315						
YHNB				*e*S	Sb	22 33 29.2	+1.1
	baz=315						
NWLT	**Wulai**	**0.61**	**330**	*e*P	Pg	22 33 19.2	-0.3
	baz=329						
NWLT				*e*S	Sb	22 33 29.0	+0.5
	baz=329						
NSK	**Sanguang**	**0.62**	**314**	*e*P	Pb	22 33 20.2	+0.2
	baz=314						
NSK				*e*S	Sb	22 33 29.5	+0.9
	baz=314						
TDCB	**Techi**	**0.62**	**271**	*e*P	Pb	22 33 20.5	+0.3
	baz=270						
TDCB				*e*S	Sb	22 33 29.3	+0.5
	baz=270						

MEX 16 22:35:15.4±1.1, 14.20N×93.93W, h18km±113km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.65**	**25**	*i* P	Pn	22 35 37.0	-6.3
PCIG				*i* S	Sn	22 35 54.4	-10
TGIG		**2.68**	**17**	*i* P	Pn	22 35 56.4	-1.2
TGIG				*i* S	Sn	22 36 24.6	-5.1
CCIG	**Comitan**	**2.70**	**40**	*i* P	Pn	22 35 56.4	-1.7
CCIG				*i* S	Sn	22 36 29.4	-0.9
CMIG	**Matias Romero**	**3.02**	**342**	*i* P	Pn	22 35 59.0	-3.3
CMIG				*i* S	Sn	22 36 30.9	-7.0

IDC 16 22:49:08.3±2.3, 5.77°S×152.74E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/36, mbtmp3.8/4, Error ellipse: s-maj=142.4km s-min=27.9km az=131.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.77**	**230**	P	P	22 54 11.4	-1.1
	0.7nm,0.6s,baz=53,slow=9.9,SNR=6.1						
ASAR	**Alice Springs**	**25.40**	**224**	P	P	22 54 37.4	-0.4
	0.8nm,0.4s,baz=56,slow=9.1,SNR=5.8						
FITZ	**Fitzroy Crossi**	**29.15**	**243**	P	P	22 55 12.9	+1.5
	0.5nm,0.3s,baz=67,slow=12,SNR=1.8						
ILAR	**Eielson Array**	**83.08**	**22**	P	P	23 01 35.6	0.0
	1.1nm,0.7s,baz=245,slow=4.8,SNR=7.1						

TAP 16 22:49:17.5, 24.27N×121.81E, h20km, ML1.8, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.08**	**300**	P	Pg	22 49 21.4	+0.1
	baz=301						
EHP				*e*S	Sg	22 49 24.6	+0.8
	baz=301						
ENA	**Nanau**	**0.17**	**337**	*e*P	Pg	22 49 22.8	+0.6
	baz=339						
ENA				*e*S	Sg	22 49 26.5	+1.1
	baz=339						
ETL	**Fush Village**	**0.21**	**237**	*e*P	Pg	22 49 23.4	+0.7
	baz=237						
ETL				*e*S	Sg	22 49 27.7	+1.3
	baz=237						
NACB	**Ninganchiao**	**0.22**	**244**	P	Pg	22 49 23.4	+0.5
	baz=244						
NACB				*e*S	Sg	22 49 27.0	+0.3
	baz=244						
TWD	**Chiawan**	**0.28**	**226**	*e*P	Pg	22 49 24.6	+0.8
	baz=225						
TWD				*e*S	Sg	22 49 29.7	+1.6
	baz=225						
ETLH	**Xiulin Townshi**	**0.31**	**258**	P	Pb	22 49 25.0	+0.5
	baz=258						
ETLH				*e*S	Sg	22 49 29.9	+0.7
	baz=258						
TWC	**Suao**	**0.34**	**5**	P	Pb	22 49 25.4	+0.5
	baz=7.0						
TWC				*e*S	Sb	22 49 30.6	+0.7
	baz=7.0						
HWA	**Hwalien**	**0.35**	**213**	*e*P	Pg	22 49 25.0	0.0
	baz=211						
HWA				*e*S	Sb	22 49 31.2	+1.0
	baz=211						
NDS	**Dongshan**	**0.37**	**346**	*e*P	Pb	22 49 25.8	+0.3
	baz=346						
NDS				*e*S	Sb	22 49 31.7	+0.9
	baz=346						
NNSB	**Datong**	**0.42**	**292**	P	Pb	22 49 27.1	+0.8
	baz=291						
NNSB				*e*S	Sb	22 49 33.6	+1.2
	baz=291						
NDT	**Datong Townshi**	**0.43**	**320**	*e*P	Pg	22 49 27.3	+0.9
	baz=320						
NDT				*e*S	Sb	22 49 33.9	+1.5
	baz=320						
ENTT	**Nioudou**	**0.43**	**328**	P	Pg	22 49 27.1	+0.7
	baz=329						
ENTT				*e*S	Sb	22 49 33.7	+1.2
	baz=329						
NNS	**Nan Shan**	**0.44**	**293**	*e*P	Pb	22 49 27.4	+0.8
	baz=292						
NNS				*e*S	Sb	22 49 34.3	+1.5
	baz=292						
TEYL	**Yanliau Villag**	**0.45**	**206**	*e*P	Pb	22 49 26.6	-0.2
	baz=207						
TEYL				*e*S	Sg	22 49 32.4	-0.5
	baz=207						
TWE	**Neicheng**	**0.47**	**343**	*e*P	Pg	22 49 27.9	+0.8
	baz=345						
TWE				*e*S	Sb	22 49 34.5	+0.9
	baz=345						
ILA	**Ilan**	**0.50**	**353**	*e*P	Pn	22 49 28.8	-0.7
	baz=353						
ILA				*e*S	Sg	22 49 35.4	+1.0
	baz=353						
ILA	**Ilan**	**0.50**	**353**	*e*P	Pn	22 49 28.7	-0.7
	baz=233						
WHF	**Hehuan Shan**	**0.52**	**256**	*e*P	Pg	22 49 28.7	+0.5
	baz=255						
WHF				*e*S	Sb	22 49 36.3	+0.9
	baz=255						
FUSS	**Fushou**	**0.52**	**268**	*e*P	Pg	22 49 28.3	+0.1
	baz=267						
FUSS				*e*S	Sg	22 49 35.8	+0.4
	baz=267						
YHNB	**Yeheng**	**0.56**	**315**	*e*P	Pg	22 49 29.6	+0.7
	baz=314						
YHNB				*e*S	Sg	22 49 37.4	+0.8
	baz=314						
ESL	**Shilin**	**0.57**	**218**	*e*P	Pb	22 49 28.7	-0.1
	baz=216						
ESL				*e*S	Sn	22 49 38.5	-0.9
	baz=216						
NWLT	**Wulai**	**0.58**	**331**	*e*P	Pb	22 49 29.1	+0.1
	baz=330						
NWLT				*e*S	Sg	22 49 37.6	+0.6
	baz=330						
NSK	**Sanguang**	**0.58**	**314**	*e*P	Pg	22 49 29.4	+0.2
	baz=314						
NSK				*e*S	Sg	22 49 37.7	+0.7
	baz=314						
TWT	**Tachien**	**0.58**	**268**	*e*P	Pg	22 49 29.4	+0.2
	baz=267						
TWT				*e*S	Sn	22 49 38.8	-1.1
	baz=267						
TDCB	**Techi**	**0.60**	**268**	*e*P	Pg	22 49 30.1	+0.5
	baz=268						
TDCB				*e*S	Sg	22 49 38.8	+1.1
	baz=268						
CHGB	**Renai**	**0.62**	**250**	*e*P	Pn	22 49 30.9	-0.5
	baz=250						
CHGB				*e*S	Sg	22 49 38.7	+0.3
	baz=250						
OWD	**Renai**	**0.66**	**242**	*e*P	Pb	22 49 30.4	-0.1
	baz=241						
OWD				*e*S	Sg	22 49 40.7	+1.0
	baz=241						
TIPB	**Shuangxi**	**0.70**	**1**	*e*P	Pb	22 49 30.8	-0.2
TIPB				*e*S	Sg	22 49 41.1	+0.4
TIPB	**Shuangxi**	**0.70**	**1**	*e*S	Pb	22 49 30.5	-0.5
	baz=287						
WHP	**Taichung City**	**0.79**	**271**	*e*P	Pb	22 49 32.8	+0.1
	baz=270						
WHP				*e*S	Sn	22 49 44.9	0.0
	baz=270						
WFSB	**Wu-fen Shan**	**0.80**	**358**	*e*P	Pn	22 49 33.5	-0.1
	baz=357						
WFSB				*e*S	Sn	22 49 45.1	+0.1
	baz=357						
YULB	**Yu-li**	**0.99**	**209**	*e*P	Pb	22 49 35.8	-0.2
	baz=208						
YULB				*e*S	Sg	22 49 50.6	+0.6
	baz=208						

TAP 16 22:49:22.0, 24.92N×121.99E, h14km±1km, ML1.9, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.09**	**357**	P	Pg	22 49 25.5	+0.5
	baz=1.0						
TWB1				S	Sg	22 49 27.9	+0.9
	baz=1.0						
EGS		**0.10**	**216**	*e*P	Pg	22 49 24.7	-0.3
	baz=210						
EGS				*e*S	Sg	22 49 27.8	+0.7
	baz=210						
TIPB	**Shuangxi**	**0.16**	**288**	*e*P	Pb	22 49 27.3	+0.4
	baz=287						
NTC	**Toucheng**	**0.16**	**246**	*e*P	Pg	22 49 26.2	+0.3
	baz=245						
NTC				*e*S	Sb	22 49 30.0	-0.1
	baz=245						
NWF	**Wu-fen Shan**	**0.24**	**308**	P	Pb	22 49 28.1	-0.2
	baz=307						
NWF				*e*S	Sb	22 49 31.8	-0.7
	baz=307						
WFSB	**Wu-fen Shan**	**0.24**	**308**	*e*P	Pb	22 49 27.8	-0.5
	baz=307						
WFSB				*e*S	Sb	22 49 32.2	-0.3
	baz=307						
ILA	**Ilan**	**0.27**	**235**	*e*S	Sb	22 49 33.9	+0.7
	baz=233						

SJA ***16*** *22:54:25.5±2.8, 31.49°S×72.27W, h10km, MW8.4(GUC)*

IDC ***16*** *22:54:28.5±0.3, 31.52°S×71.57W, h0km, mb5.9/35, mb1 5.9/40, mb1mx5.9/40, mbtmp5.8/40, ML5.4/5, MS7.9/33, Ms1 7.9/33, ms1mx7.7/46, Error ellipse: s-maj=12.4km s-min=9.1km az=95.0*

BJI ***16*** *22:54:31.5±0.0, 31.59°S×71.62W, h20km, mB7.5/41, Ms8.3/72, Ms7 8.3/71*

GUC ***16*** *22:54:31.7±0.8, 31.64°S×71.74W, h23km±13km, MW8.4*

MOS ***16*** *22:54:31.5±1.1, 31.56°S×71.59W, h26km, mb6.5/13, MS8.0/64, Error ellipse: s-maj=10.2km s-min=6.0km az=92.3 Broadband fault plane solution: P waves. NP1: ϕs176.00000°, δ71.00000°, λ105.00000°. NP2: ϕs316.00000°, δ24.00000°, λ53.00000°. Principal axes: T Plg61.0000°, Azm108.0000°; N Plg14.0000°, Azm351.0000°; P Plg24.0000°, Azm254.0000°;*

SVSA ***16*** *22:54:32.8, 31.57°S×71.67W, h22km, MW8.3(NEIC)*

NEIC ***16*** *22:54:32.9±2.1, 31.57°S±0.03°×71.67W±0.06, h22km±3km, mb7.1/636, Ms_20 8.0/774, Mww8.3, M

couple: $M_0$3.22900×10^{21} NP1:ϕ_s7.00000°, δ19.00000°, λ109.00000°. NP2:ϕ_s166.00000°, δ72.00000°, λ83.00000°. Principal axes: T 3.2810, Plg63.0000°, Azm66.0000°; N -0.1070, Plg6.0000°, Azm168.0000°; P -3.1770, Plg27.0000°, Azm261.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=200s. Triangular moment-rate function

NEIC **16** *22:55:23, 31.38S×71.77W, h26^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}1.92; $M_{\theta\theta}$0.04; $M_{\phi\phi}$-1.95; $M_{r\theta}$-0.04; $M_{r\phi}$0.12; $M_{\theta\phi}$-2.54; Fault plane solution: $M_0$3.19000×10^{21} NP1:ϕ_s353.00000°, δ19.00000°, λ83.00000°. NP2:ϕ_s180.00000°, δ71.00000°, λ92.00000°. Principal axes: T 3.1731, Plg64.0000°, Azm93.0000°; N 0.0349, Plg2.0000°, Azm359.0000°; P -3.2080, Plg26.0000°, Azm268.0000°;*

ISC 16 22:54:30.6±0.5, **31.64S**±0.02×**71.69W**±0.03, **h12**^{km}±2^{km}, **h12**^{km}:**pP-P, n2352, σ2**.948/2106, **mb7.0**/418, **MS8.0**/511, **553C-62D, Fault plane solution: NP1:**ϕ_s0.04809°, δ38.30981°, λ89.57893°. **NP2:**ϕ_s180.58470°, δ51.69141°, λ90.33265°. **Principal axes:** T Plg83.3040°, Azm92.6024°; N Plg0.2610°, Azm0.3785°; P Plg6.6909°, Azm270.3479°; **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.73**	**54**	⇑*eP*			**Pb**	**22 54 45.8**	**+0.5**
CO02	**Combarbal**	**0.73**	**54**				**Pb**	**22 54 46.0**	**+0.7**
CO02	**Combarbal**	**0.73**	**54**	*i* P			**Pb**	**22 54 46.0**	**+0.7**
CO02	**Combarbal**	**0.73**	**54**	⇑*eP*			**Pb**	**22 54 45.8**	**+0.5**
CO06	**Fray Jorge**	**0.96**	**3**	⇑*eP*			**Pb**	**22 54 48.9**	**-0.4**
CO06				*eS*			**Sg**	**22 55 02.5**	**+0.7**
CO06	**Fray Jorge**	**0.96**	**3**				**Pb**	**22 54 49.1**	**-0.2**
CO06	**Fray Jorge**	**0.96**	**3**	*eP*			**Pb**	**22 54 48.8**	**-0.4**
CO06				⇑*eP*			**Pb**	**22 54 48.9**	**-0.4**
CO06				*eS*			**Sg**	**22 55 02.5**	**+0.7**
CO03	**El Pedregal**	**1.17**	**47**	⇓*eP*			**Pb**	**22 54 52.7**	**-0.1**
CO03				*eS*			**Sn**	**22 55 08.8**	**0.0**
CO03	**El Pedregal**	**1.17**	**47**				**Pb**	**22 54 52.7**	**-0.1**
CO03	**El Pedregal**	**1.17**	**47**	*i* P			**Pb**	**22 54 52.0**	**-0.8**
CO03	**El Pedregal**	**1.17**	**47**	⇓*eP*			**Pb**	**22 54 52.7**	**-0.1**
CO03				*eS*			**Sn**	**22 55 08.8**	**0.0**
VA01	**Torpederas**	**1.38**	**179**	⇑*eP*			**Pb**	**22 54 56.3**	**0.0**
VA01				*eS*			**Sn**	**22 55 13.4**	**-0.3**
VA01	**Torpederas**	**1.38**	**179**				**Pb**	**22 54 56.8**	**+0.5**
VA01	**Torpederas**	**1.38**	**179**	*i* P			**Pg**	**22 54 57.0**	**-0.1**
VA01	**Torpederas**	**1.38**	**179**	⇑*eP*			**Pb**	**22 54 56.3**	**0.0**
VA01				*eS*			**Sn**	**22 55 13.4**	**-0.3**
ROCH	**El Roble**	**1.45**	**157**	⇑*eP*			**Pn**	**22 54 57.2**	**+0.4**
ROCH				*eS*			**Sg**	**22 55 19.8**	**+2.5**
ROCH	**El Roble**	**1.45**	**157**	⇑*eP*			**Pn**	**22 54 57.2**	**+0.4**
ROCH				*eP*			**Pg**	**22 54 58.5**	**+0.1**
ROCH				*eS*			**Sg**	**22 55 19.8**	**+2.5**
VA03	**San Esteban**	**1.48**	**140**	*eP*			**Pg**	**22 54 58.8**	**-0.2**
VA03				⇓*eS*			**Sb**	**22 55 17.5**	**+0.7**
VA03	**San Esteban**	**1.48**	**140**				**Pg**	**22 54 58.8**	**-0.2**
VA03	**San Esteban**	**1.48**	**140**	*i* P			**Pg**	**22 54 59.0**	**0.0**
VA03	**San Esteban**	**1.48**	**140**	*eP*			**Pg**	**22 54 58.8**	**-0.2**
VA03				⇓*eS*			**Sb**	**22 55 17.5**	**+0.7**
GO04	**Tololo Observa**	**1.65**	**28**	⇑*eP*			**Pn**	**22 55 00.2**	**+0.6**
GO04				*eS*			**Sb**	**22 55 22.0**	**+0.1**
GO04	**Tololo Observa**	**1.65**	**28**				**Pn**	**22 55 00.2**	**+0.6**
GO04	**Tololo Observa**	**1.65**	**28**	*i* P			**Pn**	**22 55 00.0**	**+0.4**
GO04	**Tololo Observa**	**1.65**	**28**	⇑*eP*			**Pn**	**22 55 00.2**	**+0.6**
GO04				*eS*			**Sb**	**22 55 22.0**	**+0.1**
MT05	**Renca**	**1.92**	**156**	⇑*eP*			**Pb**	**22 55 05.3**	**-0.3**
MT05				*eS*			**Sb**	**22 55 30.0**	**+0.4**
MT05	**Renca**	**1.92**	**156**				**Pb**	**22 55 05.1**	**-0.6**
MT05	**Renca**	**1.92**	**156**	*i* P			**Pb**	**22 55 05.0**	**-0.6**
MT05	**Renca**	**1.92**	**156**	⇑*eP*			**Pb**	**22 55 05.3**	**-0.3**
MT05				*eS*			**Sb**	**22 55 30.0**	**+0.4**
VA05	**Santo Domingo**	**2.01**	**178**	⇑*eP*			**Pn**	**22 55 05.4**	**+1.0**
VA05				*eS*			**Sn**	**22 55 30.5**	**+1.1**
VA05	**Santo Domingo**	**2.01**	**178**				**Pn**	**22 55 05.3**	**+1.0**
VA05	**Santo Domingo**	**2.01**	**178**	⇑*eP*			**Pn**	**22 55 05.4**	**+1.0**
VA05				*eS*			**Sn**	**22 55 30.5**	**+1.1**
AUSP	**Uspallata**	**2.04**	**107**	*i* P			**Pg**	**22 55 09.0**	**-0.8**
RTLS	**Leoncito**	**2.04**	**95**	*i* P			**Pb**	**22 55 08.0**	**+0.2**
MT09	**Talagante**	**2.21**	**165**	⇑*eP*			**Pb**	**22 55 09.3**	**-1.3**
MT09				*eS*			**Sg**	**22 55 40.0**	**-1.7**
MT09	**Talagante**	**2.21**	**165**				**Pb**	**22 55 09.1**	**-1.5**
MT09	**Talagante**	**2.21**	**165**	⇑*eP*			**Pb**	**22 55 09.3**	**-1.3**
MT09				*eP*			**Pn**	**22 55 09.4**	**+2.2**
MT09				*eS*			**Sg**	**22 55 40.0**	**-1.7**
MT01	**Popeta**	**2.25**	**171**	⇑*eP*			**Pn**	**22 55 09.1**	**+1.4**
MT01	**Popeta**	**2.25**	**171**				**Pn**	**22 55 08.8**	**+1.2**
MT01	**Popeta**	**2.25**	**171**	*i* P			**Pn**	**22 55 09.0**	**+1.4**
MT01	**Popeta**	**2.25**	**171**	⇑*eP*			**Pn**	**22 55 09.1**	**+1.4**
AROD	**Rodeo**	**2.41**	**53**	*i* P			**Pb**	**22 55 14.0**	**0.0**
ACCO	**Cerro Coronel**	**2.48**	**66**	*i* P			**Pb**	**22 55 15.0**	**-0.3**
ZON	**Zonda**	**2.57**	**89**	P			**Pb**	**22 55 16.3**	**-0.4**
ZON	**Zonda**	**2.57**	**89**				**Pb**	**22 55 23.3**	**-0.4**
ZON	**Zonda**	**2.57**	**89**	*i* P			**Pb**	**22 55 17.0**	**+0.3**
ASAL	**Salagasta**	**2.60**	**112**	*i* P			**Pb**	**22 55 18.0**	**+0.8**
ARCO	**CERRO ARCO**	**2.62**	**118**	*i* P			**Pb**	**22 55 18.0**	**+0.3**
RTCV	**Cerro Valdivia**	**2.69**	**96**	*i* P			**Pb**	**22 55 18.0**	**-0.7**
LCO	**Las Campanas**	**2.76**	**18**	P			**Pn**	**22 55 15.3**	**+0.4**
LCO	**Las Campanas**	**2.76**	**18**	Pn			**Pn**	**22 55 15.3**	**+0.4**
LCO	**Las Campanas**	**2.76**	**18**	*i* P			**Pn**	**22 55 15.0**	**+0.1**
BO01	**Tunca**	**2.79**	**170**				**Pn**	**22 55 16.4**	**+1.3**
BO01	**Tunca**	**2.79**	**170**	*i* P			**Pn**	**22 55 16.0**	**+0.9**
AAGR	**Agrelo**	**2.82**	**122**	*i* P			**Pb**	**22 55 21.0**	**+0.1**
BO03	**Pichilemu**	**2.86**	**185**	*eP*			**Pn**	**22 55 16.2**	**+0.3**
BO02	**Sierra Bellavi**	**3.23**	**167**	Pn			**Pn**	**22 55 22.8**	**+1.5**
BO02	**Sierra Bellavi**	**3.23**	**167**	*i* P			**Pn**	**22 55 23.0**	**+1.8**
GO05	**Huala**	**3.37**	**183**	⇓*eP*			**Pn**	**22 55 23.2**	**+0.2**
GO05	**Huala**	**3.37**	**183**				**Pn**	**22 55 23.2**	**+0.2**
GO05	**Huala**	**3.37**	**183**	*i* P			**Pn**	**22 55 23.0**	**0.0**
GO05	**Huala**	**3.37**	**183**	⇓*eP*			**Pn**	**22 55 23.2**	**+0.2**
AC04	**Llanos de Chal**	**3.47**	**9**	⇑*eP*			**Pn**	**22 55 23.6**	**-0.8**
AC04	**Llanos de Chal**	**3.47**	**9**	Pn			**Pn**	**22 55 23.6**	**-0.8**
AC04	**Llanos de Chal**	**3.47**	**9**	*i* P			**Pn**	**22 55 24.0**	**-0.4**
AC04	**Llanos de Chal**	**3.47**	**9**	⇑*eP*			**Pn**	**22 55 23.6**	**-0.8**
AGUA	**GUANDACOL**	**3.50**	**53**	*i* P			**Pb**	**22 55 29.0**	**-3.5**
AVFE	**Valle Fertil**	**3.76**	**76**	*i* P			**Pn**	**22 55 31.0**	**+2.5**
COIS	**El Sosneado**	**3.88**	**154**	*i* P			**Pn**	**22 55 34.0**	**+4.0**
LAMA	**Las Malvinas**	**3.89**	**148**	*i* P			**Pb**	**22 55 36.0**	**-3.1**
ML02	**Panimavida**	**4.12**	**177**	⇑*eP*			**Pn**	**22 55 34.5**	**+1.2**
ML02	**Panimavida**	**4.12**	**177**				**Pn**	**22 55 34.5**	**+1.2**
ML02	**Panimavida**	**4.12**	**177**	⇑*eP*			**Pn**	**22 55 34.5**	**+1.2**
RFA	**San Rafael**	**4.13**	**140**	*i* P			**Pn**	**22 55 37.0**	**+3.5**
VCA	**Vinchina**	**4.18**	**47**	*i* P			**Pn**	**22 55 38.0**	**+3.7**
GO03	**Copiap**	**4.23**	**18**	⇑*eP*			**Pn**	**22 55 34.6**	**-0.3**
GO03					AMP			22 56 55.3	
GO03	**Copiap**	**4.23**	**18**	Pn			**Pn**	**22 55 34.6**	**-0.3**
GO03	**Copiap**	**4.23**	**18**	*i* P			**Pn**	**22 55 35.0**	**+0.1**
GO03	**Copiap**	**4.23**	**18**	⇑*eP*			**Pn**	**22 55 34.6**	**-0.3**
ACHE	**Chepes**	**4.32**	**85**	*i* P			**Pn**	**22 55 39.0**	**+2.7**
AC06	**Mina Casimiro**	**4.42**	**16**	⇑*eP*			**Pn**	**22 55 37.0**	**-0.6**
AC06	**Mina Casimiro**	**4.42**	**16**	⇑*eP*			**Pn**	**22 55 37.0**	**-0.6**
MRA	**San Martin**	**5.13**	**100**	*i* P			**Pn**	**22 55 50.0**	**+2.6**
AC02	**Maricunga**	**5.29**	**26**	⇑*eP*			**Pn**	**22 55 50.1**	**+0.2**
AC02	**Maricunga**	**5.29**	**26**	Pn			**Pn**	**22 55 50.2**	**+0.4**
AC02	**Maricunga**	**5.29**	**26**	*i* P			**Pn**	**22 55 50.0**	**+0.2**
AC02	**Maricunga**	**5.29**	**26**	⇑*eP*			**Pn**	**22 55 50.1**	**+0.2**
CYA	**Choya**	**6.02**	**60**	*i* P			**Pn**	**22 56 01.0**	**+1.5**
VA04	**Juan Fernndez**	**6.34**	**250**	⇓*eP*			**Pn**	**22 56 02.3**	**-1.6**
VA04	**Juan Fernndez**	**6.34**	**250**				**Pn**	**22 56 03.1**	**-0.8**
H03N1	**Juan Fernandez** baz=71,slow=72	**6.36**	**252**	T		T	T	23 03 28.1	
H03N3	**Juan Fernandez** baz=71,slow=72	**6.37**	**252**	T		T	T	23 03 34.1	
H03N2	**Juan Fernandez** baz=71,slow=72	**6.37**	**252**	T		T	T	23 03 34.8	
PB14	**IPOC Station P**	**7.08**	**10**				**Pn**	**22 56 12.8**	**-1.6**
PB14	**IPOC Station P**	**7.08**	**10**	*i* P			**Pn**	**22 56 12.0**	**-2.3**
LC01	**Cunco**	**7.24**	**181**				**Pn**	**22 56 16.6**	**+0.3**
LC01	**Cunco**	**7.24**	**181**	*i* P			**Pn**	**22 56 16.0**	**-0.2**
AHML	**Horco Molle**	**7.36**	**51**	*i* P			**Pn**	**22 56 17.0**	**-1.0**
FSA	**Cafayete**	**7.44**	**44**	*i* P			**Pn**	**22 56 20.0**	**+0.8**
LR03	**Panguipulli**	**7.99**	**184**				**Pn**	**22 56 26.7**	**+0.2**
PB10	**IPOC Station P**	**8.16**	**7**				**Pn**	**22 56 27.2**	**-1.7**
PB10	**IPOC Station P**	**8.16**	**7**	*i* P			**Pn**	**22 56 27.0**	**-1.9**
PB15	**IPOC Station P**	**8.63**	**14**				**Pn**	**22 56 32.9**	**-2.5**
PB15	**IPOC Station P**	**8.63**	**14**	*i* P			**Pn**	**22 56 33.0**	**-2.5**
SLA	**San Lorenzo**	**8.79**	**40**	*i* P			**Pn**	**22 56 41.0**	**+3.3**
PB05	**IPOC Station P**	**8.85**	**9**	*i* P			**Pn**	**22 56 34.0**	**-4.5**
PB06	**IPOC Station P**	**9.10**	**12**	*i* P			**Pn**	**22 56 38.0**	**-3.9**
PLCA	**Paso Flores**	**9.12**	**175**	Pn			**Pn**	**22 56 43.8**	**+1.7**
	25nm,0.3s,baz=336,slow=10,SNR=392								
PLCA					Pg			22 57 20.4	
	161nm,0.3s,baz=317,slow=9.0,SNR=8.3								
PLCA					Sn		**Sn**	**22 58 30.1**	**+5.4**
	58nm,0.3s,baz=8.0,slow=14,SNR=3.5								
PLCA					Lg		Lg	22 59 14.7	
	baz=282,slow=24,SNR=1.7								
PLCA	**Paso Flores**	**9.12**	**175**	*eP*			**Pn**	**22 56 43.0**	**+0.9**
PLCA	**Paso Flores**	**9.12**	**175**				**Pn**	**22 56 43.0**	**+0.9**
PLCA	**Paso Flores**	**9.12**	**175**	*eP*			**Pn**	**22 56 44.1**	**+2.0**
AF01	**San Pedro de A**	**9.20**	**21**				**Pn**	**22 56 41.5**	**-1.9**
LVC	**Limon Verde**	**9.33**	**16**	Pn			**Pn**	**22 56 43.9**	**-1.4**
	11nm,0.3s,baz=159,slow=7.5,SNR=58								
LVC					Pg			22 57 17.9	
	1μm,0.3s,baz=200,slow=10,SNR=13								
LVC					Sn		**Sn**	**22 58 32.2**	**+1.9**
	899nm,0.3s,baz=331,slow=11,SNR=2.0								
LVC	**Limon Verde**	**9.33**	**16**	P			**Pn**	**22 56 42.4**	**-2.9**
LVC	**Limon Verde**	**9.33**	**16**				**Pn**	**22 56 42.4**	**-2.9**
LVC	**Limon Verde**	**9.33**	**16**	*eP*			**Pn**	**22 56 42.8**	**-2.4**
LVC	**Limon Verde**	**9.33**	**16**	*i* P			**Pn**	**22 56 42.0**	**-3.2**
PB04	**IPOC Station P**	**9.37**	**9**	*i* P			**Pn**	**22 56 42.0**	**-3.7**
ASTB	**Santa Barbara**	**9.98**	**42**	*i* P			**Pn**	**22 56 57.0**	**+2.9**
PB07	**IPOC Station P**	**10.01**	**10**	*i* P			**Pn**	**22 56 50.0**	**-4.3**
PB09	**IPOC Station P**	**10.04**	**13**	*i* P			**Pn**	**22 56 51.0**	**-3.9**
TRQA	**Tornquist**	**10.22**	**131**	*eP*			**Pn**	**22 56 57.5**	**+0.3**
TRQA	**Tornquist**	**10.22**	**131**				**Pn**	**22 56 57.5**	**+0.3**
TRQA	**Tornquist**	**10.22**	**131**	*eP*			**Pn**	**22 56 58.4**	**+1.3**
ALOL	**LOMAS DE OLMED**	**10.36**	**43**	*i* P			**Pn**	**22 57 01.0**	**+1.9**
PB02	**IPOC Station P**	**10.40**	**9**	*i* P			Pn	22 56 55.0	-4.7
LL01	**San Ignacio de**	**10.73**	**183**				**Pn**	**22 57 04.6**	**+0.6**
PB01	**IPOC Station P**	**10.74**	**11**	*i* P			Pn	22 56 59.0	-5.3
TA01	**Diego Aracena**	**11.11**	**7**				**Pn**	**22 57 08.5**	**-0.8**
LL07	**Hotel Espejo d**	**11.26**	**187**				**Pn**	**22 57 11.1**	**-0.2**
TA02	**Huaiquique**	**11.41**	**7**				**Pn**	**22 57 11.7**	**-1.7**
LL02	**Futaleuf**	**11.53**	**181**				**Pn**	**22 57 15.6**	**+0.6**
GO07	**Milladeo Hill,**	**11.56**	**187**				**Pn**	**22 57 14.3**	**-1.0**
PB08	**IPOC Station P**	**11.68**	**12**				Pn	22 57 12.7	-4.8
PB08	**IPOC Station P**	**11.68**	**12**	*i* P			Pn	22 57 12.0	-5.4
PSGCX	**Pisagua**	**12.08**	**7**				Pn	22 57 17.9	-4.7
PSGCX	**Pisagua**	**12.08**	**7**	*i* P			Pn	22 57 17.0	-5.6
PSGCX				*i* P			Pn	22 57 17.0	-5.6
ITQB	**Itaqui**	**13.12**	**85**				**Pn**	**22 57 35.3**	**-1.5**
ITQB	**Itaqui**	**13.12**	**85**	*eP*			**Pn**	**22 57 35.8**	**-1.0**
CPUP	**Villa Florida**	**13.63**	**71**	Pn			**Pn**	**22 57 42.0**	**-1.8**
	5.1nm,0.3s,baz=247,slow=12,SNR=42								
CPUP					Pg		P	22 58 31.9	+39
	283nm,0.3s,baz=243,slow=14,SNR=6.9								
CPUP					Sn		**Sn**	**23 00 15.6**	**+0.4**
	253nm,0.3s,baz=278,slow=10.0,SNR=1.8								
CPUP					Lg		Lg	23 01 33.0	
	264nm,0.3s,baz=166,slow=14,SNR=2.1								
CPUP					LR		LR	23 02 49.1	
	comp=Z,598μm,21.5s,baz=258,slow=37								
CPUP	**Villa Florida**	**13.63**	**71**				**Pn**	**22 57 42.0**	**-1.8**
CPUP	**Villa Florida**	**13.63**	**71**	*eP*			**Pn**	**22 57 39.9**	**-3.9**
PLTB	**Pedras Altas**	**15.40**	**95**				**Pn**	**22 58 05.1**	**-2.6**
PLTB	**Pedras Altas**	**15.40**	**95**	*eP*			**Pn**	**22 58 05.1**	**-2.6**
LPAZ	**La Paz**	**15.62**	**13**	Pn			**Pn**	**22 58 10.8**	**-0.5**
	4.6nm,0.3s,baz=185,slow=8.8,SNR=149								
LPAZ					Sn		**Sn**	**23 01 06.1**	**+1.4**
	27nm,0.3s,baz=206,slow=23,SNR=1.2								
LPAZ					Lg		Lg	23 02 36.5	
	10nm,0.3s,baz=43,slow=19,SNR=2.0								
LPAZ	**La Paz**	**15.62**	**13**	P			**Pn**	**22 58 08.9**	**-2.4**
LPAZ					pmax		pmax		
	comp=Z,5μm,0.9s								
LPAZ	**La Paz**	**15.62**	**13**	Pn			**Pn**	**22 58 08.9**	**-2.4**
LPAZ	**La Paz**	**15.62**	**13**	⇑*eP*			**Pn**	**22 58 09.6**	**-1.7**
LPAZ	**La Paz**	**15.62**	**13**	*eP*			**Pn**	**22 58 10.5**	**-0.7**
I08BO	**LAS PENAS INFR**	**15.64**	**12**	*i*				23 51 50.0	
	baz=182,slow=327,SNR=3.1								
CPSB	**Cacapava Do Su**	**15.70**	**90**	*eP*			**Pn**	**22 58 08.6**	**-3.0**
CNLB	**Canela**	**18.11**	**88**	*eP*			**Pn**	**22 58 40.3**	**-1.8**
AQDB	**Aquidauana**	**18.14**	**56**				**Pn**	**22 58 40.1**	**-2.4**
AQDB	**Aquidauana**	**18.14**	**56**	*eP*			**Pn**	**22 58 40.3**	**-2.1**
SIV	**San Ignacio**	**18.34**	**34**	P			**Pn**	**22 58 42.7**	**-2.2**
	comp=Z,4.7nm,0.3s,baz=228,slow=12,SNR=158								
SIV					S		**S**	**23 02 14.7**	**+0.2**
	comp=Z,16nm,0.3s,baz=138,slow=21,SNR=1.1								
PTGB	**Pitanga**	**18.61**	**73**	*eP*			**P**	**22 58 47.2**	**-0.8**
TRCB	**Terra Rica**	**19.08**	**67**	P			**P**	**22 58 51.6**	**-1.5**
TRCB					lAmb		lAmb	22 59 49.9	
	comp=Z,21μm,1.4s								
TRCB	**Terra Rica**	**19.08**	**67**	*eP*			**P**	**22 58 52.2**	**-0.9**
TER01	**Tubaro-SC**	**19.76**	**87**	*eP*			**P**	**22 59 00.5**	**0.0**
PTLB	**Pontes e Lacer**	**19.77**	**38**	*eP*			**P**	**22 58 59.4**	**-1.3**
NNA	**Nana**	**20.13**	**345**	P			**P**	**22 59 04.5**	**-0.1**
	comp=Z,107nm,0.8s,baz=211,slow=7.9,SNR=37								
NNA					S		Sn	23 02 58.3	+5.3
	comp=Z,248nm,1.0s,baz=204,slow=20,SNR=1.0								
NNA					Lg		Lg	23 05 05.5	
	comp=Z,687nm,1.1s,baz=246,slow=22,SNR=8.1								
NNA					LR		LR	23 05 38.5	
	comp=Z,4966μm,18.9s,baz=176,slow=33								
NNA	**Nana**	**20.13**	**345**				**P**	**22 59 04.5**	**-0.1**
NNA					lAMs_20		lAMs_20	23 05 07.9	
	comp=Z,6566μm,22.0s								
PP1B	**Ponte de Pedra**	**20.67**	**51**	*eP*			**P**	**22 59 09.5**	**-0.9**
PCMB	**Pacaembu**	**20.79**	**66**	*eP*			**P**	**22 59 10.5**	**-1.2**
TIJ01	**Guaruva-PR**	**20.89**	**78**	*eP*			**P**	**22 59 09.8**	**-3.1**
MG02	**Cerro Sombrero**	**21.20**	**176**	P			**P**	**22 59 16.4**	**+0.6**
FRTB	**Fartura**	**21.27**	**73**	*eP*			**P**	**22 59 15.2**	**-1.8**
VILB	**Vilhena**	**21.39**	**32**	*eP*			**P**	**22 59 16.9**	**-1.4**
SALV	**Santo Antonio**	**21.40**	**47**	*eP*			**P**	**22 59 16.3**	**-2.0**
GO10	**Punta Arenas**	**21.51**	**179**	P			**P**	**22 59 20.4**	**+1.2**
ETMB	**Extrema**	**22.30**	**14**	*eP*			**P**	**22 59 28.0**	**0.0**
EFI	**East Falkland**	**22.39**	**157**	*ceP*			**P**	**22 59 27.9**	**-0.7**
EFI					pmax		pmax		
	comp=Z,5μm,1.1s								
EFI					MLR		MLR		
	comp=Z,7312μm,14.0s								
EFI	**East Falkland**	**22.39**	**157**	P			**P**	**22 59 29.1**	**+0.5**
EFI					lAmb		lAmb	23 00 37.4	
	comp=Z,6μm,1.0s								
ITRB	**Iturama**	**22.55**	**63**	*eP*			**P**	**22 59 28.7**	**-2.0**
PET01	**Itanhaem-SP**	**22.74**	**77**	*eP*			**P**	**22 59 30.7**	**-2.0**
SPB	**Sao Paulo**	**22.91**	**76**	P			**P**	**22 59 32.4**	**-2.0**
BB19B	**Bebedouro**	**23.23**	**69**	*eP*			**P**	**22 59 34.8**	**-3.0**
USHA	**Ushuaia**	**23.30**	**175**	P			**P**	**22 59 39.5**	**+1.4**
	comp=Z,382nm,0.9s,baz=64,slow=0.5,SNR=39								
USHA					S		Sn	23 04 04.0	-4.3
	comp=Z,178nm,0.9s,baz=218,slow=11,SNR=0.9								
RCLB	**Rio Claro- Sao**	**23.36**	**73**	*eP*			**P**	**22 59 36.5**	**-2.6**
MG01	**Puerto William**	**23.46**	**174**	P			**P**	**22 59 40.1**	**+0.5**
VAO	**Valinhos**	**23.55**	**75**	*eP*			**P**	**22 59 39.2**	**-1.9**
CZSB	**Cruzeiro do Su**	**23.81**	**358**	*eP*			**P**	**22 59 43.5**	**+0.1**
SAML	**Samuel**	**23.93**	**21**	P			**P**	**22 59 43.3**	**-1.2**
SAML					MLR		MLR		
	comp=Z,2216μm,20.0s								
SAML	**Samuel**	**23.93**	**21**	P			**P**	**22 59 43.3**	**-1.2**
SAML	**Samuel**	**23.93**	**21**	⇑*eP*			**P**	**22 59 43.3**	**-1.2**
SAML	**Samuel**	**23.93**	**21**	*eP*			**P**	**22 59 43.3**	**-1.2**
PARB	**Paranapanema**	**24.52**	**77**	*eP*			**P**	**22 59 48.5**	**-1.6**
IPMB	**Ipameri, GO**	**25.21**	**63**	*eP*			**P**	**22 59 54.3**	**-2.1**
CLDB	**Colider**	**25.36**	**39**	*eP*			**P**	**22 59 55.7**	**-2.0**
BSCB	**Bom Sucesso**	**26.29**	**73**	*eP*			**P**	**23 00 04.6**	**-1.6**
VAS01	**Vassouras-RJ**	**26.78**	**77**	*eP*			**P**	**23 00 09.8**	**-0.8**
BDFB	**Brasilia**	**26.82**	**59**	P			**P**	**23 00 09.4**	**-1.5**
	comp=Z,1μm,1.0s,baz=229,slow=8.1,SNR=236								
BDFB					S		**S**	**23 04 51.1**	**+3.9**
	comp=Z,746nm,1.0s,baz=74,slow=18,SNR=1.7								
BDFB	**Brasilia**	**26.82**	**59**	P			**P**	**23 00 09.3**	**-1.7**
BDFB					pmax		pmax		
	comp=Z,5μm,0.9s								
BDFB	**Brasilia**	**26.82**	**59**	P			**P**	**23 00 09.3**	**-1.7**
BDFB					lAmb		lAmb	23 01 02.1	
	comp=Z,5μm,0.9s								
I09BR	**BRASILIA INFRA**	**26.82**	**59**	P			**P**	**23 00 11.6**	**+0.6**
	baz=203,slow=20,SNR=6.6								
I09BR					*i*			01 02 40.0	
	baz=233,slow=310,SNR=2.2								
SNDB	**Serra Nova Dou**	**27.14**	**48**	*eP*			**P**	**23 00 12.5**	**-1.3**
TBTG	**Tabatinga, AM**	**27.36**	**4**	⇑*eP*			**P**	**23 00 15.4**	**-0.3**
TBTG	**Tabatinga, AM**	**27.36**	**4**	*eP*			**P**	**23 00 15.4**	**-0.3**
DUB01	**Friburgo-RJ**	**27.76**	**77**	*eP*			**P**	**23 00 18.3**	**-1.1**
CAM01	**Campos-RJ**	**28.47**	**77**	*eP*			**P**	**23 00 24.3**	**-1.3**
DIAM	**Diamantina, MG**	**28.57**	**69**	*eP*			**P**	**23 00 25.6**	**-1.1**
NPGB	**Novo Progresso**	**28.83**	**35**	*eP*			**P**	**23 00 26.2**	**-2.7**
PEXB	**Peixe**	**29.02**	**53**	*eP*			**P**	**23 00 29.1**	**-1.5**
MC01	**Montes Claros**	**29.25**	**66**	*eP*			**P**	**23 00 30.9**	**-1.8**
ALF01	**Guarapari-ES**	**29.79**	**76**	*eP*			**P**	**23 00 36.5**	**-0.9**
JANB	**Januaria**	**29.95**	**63**	*eP*			**P**	**23 00 37.2**	**-1.6**
MACA	**Manacapuru-AM**	**30.17**	**22**	*eP*			**P**	**23 00 39.3**	**-1.4**
SJMB	**Sao Joao De Ma**	**30.35**	**72**	*eP*			**P**	**23 00 41.1**	**-1.3**
BSFB	**Barra de Sao F**	**30.56**	**73**	*eP*			**P**	**23 00 43.0**	**-1.3**
RIB01	**Linhares ES**	**30.69**	**74**	*eP*			**P**	**23 00 44.1**	**-1.3**
ITTB	**Itaituba**	**31.00**	**32**	*eP*			**P**	**23 00 45.4**	**-2.6**
SDBA	**SAO DESIDERIO**	**31.21**	**58**	*eP*			**P**	**23 00 48.1**	**-1.9

LL2C La Loma 2 Cana 41.00 357 eP P 23 02 11.8 -1.8
UPA Univ. de Panam 41.08 348 eP P 23 02 15.1 +0.8
CCOL Caracol de Cor 41.26 343 eP P 23 02 17.5 +1.8
BCIP Isla Barro Col 41.32 348 P pmax pmax
BCIP
comp=Z,3µm,1.3s
BCIP MLR MLR
comp=Z,1213µm,22.0s
BCIP Isla Barro Col 41.32 348 eP P 23 02 16.8 +0.6
BCIP Isla Barro Col 41.32 348 P P **23 02 16.4 +0.2**
BCIP Isla Barro Col 41.32 348 eP P 23 02 17.0 +0.8
ARGC Ariguani, Magd 41.34 356 iP P 23 02 15.9 -0.5
NBPA Parau_RN 41.35 59 eP P 23 02 15.1 -1.4
CDITO Canoas 41.39 343 eP P 23 02 17.7 +0.9
CDITO Canoas 41.39 343 P P **23 02 17.0 +0.2**
SJCC San Jacinto, C 41.44 355 IAmb IAmb 23 03 56.0
comp=Z,5µm,1.1s
SJCC San Jacinto, C 41.44 355 eP P 23 02 16.8 -0.5
NBCL Cascavel-CE 41.55 56 eP P 23 02 17.1 -1.1
BRU2 Volcan 41.56 343 eP P 23 02 19.6 +1.2
BRU2 Volcan 41.56 343 P P **23 02 18.6 +0.2**
BRU2 IAmb IAmb 23 02 52.0
comp=Z,4µm,1.2s
EDPN Palmar Norte 41.91 342 eP P 23 02 22.7 +1.6
POTG Potrero Grande 41.92 343 eP P 23 02 22.4 +1.2
CVALL Valledupar, Ce 41.94 358 eP P 23 02 23.4 +2.1
PLCV Puerto La Cruz 42.12 10 P P **23 02 21.2 -1.5**
PCRV Puerto La Cruz 42.12 10 P P **23 02 21.2 -1.6**
comp=Z,125nm,0.9s,baz=186,slow=9.1,SNR=9.0
PCRV LR LR 23 22 07.9
comp=Z,3531µm,19.7s,slow=40
SRBA San Rafael, Bu 42.15 343 eP P 23 02 23.8 +0.7
SRBA San Rafael, Bu 42.15 343 P P **23 02 23.5 +0.4**
DRK0 Durika 42.15 343 eP P 23 02 23.9 +0.7
DRK0 Durika 42.15 343 P P **23 02 23.6 +0.4**
RCBR Riachuelo 42.18 60 P P **23 02 21.9 -1.5**
RCBR pmax pmax
comp=Z,3µm,1.3s
RCBR Riachuelo 42.18 60 P P **23 02 21.9 -1.5**
RCBR Riachuelo 42.18 60 eP P 23 02 22.3 -1.1
NBPV Pedro Velho 42.25 61 eP P 23 02 23.3 -0.6
RGM0 Gandoca 42.31 344 eP P 23 02 31.4 +7.0
DABV Dabajuro 42.33 2 eP P 23 02 21.7 -2.8
PEZE Perez Zeledon, 42.38 342 eP P 23 02 25.7 +0.7
PEZE Perez Zeledon, 42.38 342 P P **23 02 25.2 +0.2**
CRJC Cerrejon, Guaj 42.43 358 eP P 23 02 21.7 -3.7
SMRC Santa Marta, M 42.63 356 eP P 23 02 25.7 -1.2
RIMA Rio Macho 42.79 342 eP P 23 02 29.0 +0.5
LCR2 La Lucha 2 42.80 342 eP P 23 02 29.0 +0.4
TPP Pointe-a-Pierr 42.86 15 eP P 23 02 30.4 +1.6
JACO JACO, Garabito 42.91 341 eP P 23 02 29.6 +0.4
JACO JACO, Garabito 42.91 341 P P **23 02 29.2 +0.1**
OCM Ochomogo 42.94 342 eP P 23 02 30.9 +1.2
BATAN Batan 42.98 343 P P **23 02 30.2 +0.4**
BATAN IAmb IAmb 23 03 35.0
comp=Z,6µm,1.5s
VTRT Volcan Turrial 43.00 342 eP P 23 02 31.5 +1.1
CVTR Volcan Turrial 43.01 342 eP P 23 02 31.8 +1.3
CVTR Volcan Turrial 43.01 342 P P **23 02 29.2 -1.3**
CVTR IAmb IAmb 23 03 28.6
comp=Z,7µm,1.9s
CAO2 Cobano, Puntar 43.06 340 P P **23 02 30.2 -0.2**
HDC3 Heredia 3 43.08 342 eP P 23 02 32.3 +1.5
URIC Uribia, Colomb 43.10 360 eP P 23 02 26.8 -3.9
LAFE Finca La Fe, P 43.11 341 eP P 23 02 31.6 +0.7
TRN Trinidad (W) 43.19 15 eP P 23 02 29.9 -1.5
SRA1 San Ramn 43.26 341 eP P 23 02 33.5 +1.3
CRPO Crater poas 43.30 342 eP P 23 02 34.0 +1.3
RIFO Rio Frio, Sara 43.33 342 eP P 23 02 33.8 +1.2
INDI Punta indio, G 43.34 340 eP P 23 02 33.0 +0.3
GRZA Playa Garza 43.43 340 eP P 23 02 33.7 +0.3
DUNO Dulce Nombre, 43.54 340 P P **23 02 34.5 +0.2**
JTS Las Juntas de 43.59 341 LR LR 23 17 29.9
comp=Z,1062µm,20.4s,baz=228,slow=32
JTS Las Juntas de 43.59 341 *c iP* P **23 02 35.1 +0.3**
JTS pmax pmax
comp=Z,2µm,1.8s
JTS MLR MLR
comp=Z,972µm,15.0s
JTS Las Juntas de 43.59 341 eP P 23 02 35.6 +0.9
JTS Las Juntas de 43.59 341 P P **23 02 35.0 +0.3**
JTS Las Juntas de 43.59 341 eP P 23 02 35.4 +0.7
SAJU San Juanillo, 43.59 340 eP P 23 02 34.6 -0.1
HATO Hato, Curacao 43.65 4 P P **23 02 35.0 -0.2**
HATO IAmb IAmb 23 03 06.3
comp=Z,2µm,0.9s
HATO IAMs_20 IAMs_20 23 22 59.4
comp=Z,2188µm,19.0s
FORC Fortuna 43.68 341 eP P 23 02 35.9 +0.4
ARE1 Arenal 1 43.68 341 eP P 23 02 36.8 +1.2
CEDE Laguna Cedeo 43.70 341 eP P 23 02 37.0 +1.3
GUAI GUAI 43.73 340 eP P 23 02 35.9 +0.1
PLVR Palo Verde 43.75 340 eP P 23 02 36.4 +0.2
ORTG Ortega, Santa 43.80 340 eP P 23 02 37.3 +0.9
ORTG Ortega, Santa 43.80 340 P P **23 02 37.1 +0.7**
ORTG IAmb IAmb 23 03 58.0
comp=Z,5µm,1.9s
BOT Bacolet 43.84 16 eP P 23 02 35.9 -0.9
ACAL Aguas Claras 43.94 341 eP P 23 02 36.6 -1.0
CUI Cuipilapa 43.99 341 eP P 23 02 38.4 +0.4
COLC Colonia 44.01 341 eP P 23 02 37.7 -0.4
TOSP Speyside 44.01 16 eP P 23 02 37.0 -1.1
TOSP Speyside 44.01 16 P P **23 02 37.3 -0.7**
HORNC Hornillas 44.05 341 eP P 23 02 38.9 +0.3
LIM1 Limonal 44.06 341 eP P 23 02 39.6 +1.1
GUAB Guayabo de Bag 44.06 341 eP P 23 02 39.2 +0.7
GPS2 Hotel Rincn d 44.14 341 eP P 23 02 40.0 +0.8
HZTE Horizontes, Gu 44.17 340 P P **23 02 39.8 +0.4**
LAPC Finca la Perla 44.18 340 eP P 23 02 38.9 -0.6
VRLE La Escondida, 44.18 341 eP P 23 02 40.1 +0.6
GBS3 Finca Las Img 44.20 340 eP P 23 02 40.0 +0.4
BUEV Buena Vista 44.20 340 eP P 23 02 40.5 +0.8
GB1A Boringuen Arri 44.21 340 eP P 23 02 40.4 +0.5
BUAI Buenos Aires 44.25 341 eP P 23 02 39.2 -0.8
GRGR Grenville 44.57 14 eP P 23 02 39.6 -3.0
GRGR Grenville 44.57 14 P P **23 02 41.1 -1.5**
ACON Acoyapa 45.25 341 eP P 23 02 46.9 -1.1
ACON Acoyapa 45.25 341 P P **23 02 47.9 -0.1**
PRVC Isla de Provid 45.71 347 P P **23 02 51.7 +0.1**
PRVC Isla de Provid 45.71 347 eP P 23 02 51.4 -0.2
SVB Belmont 45.77 14 eP P 23 02 49.7 -2.4
SVB Belmont 45.77 14 P P **23 02 51.7 -0.4**
SVB IAmb IAmb 23 03 36.9
comp=Z,2µm,0.8s
SVB IAMs_20 IAMs_20 23 25 20.0
comp=Z,2180µm,19.0s
SVV Soufriere Volc 45.82 14 eP P 23 02 53.0 +0.5
SSV Crater Summit 45.83 14 eP P 23 02 53.5 +0.8
SFAN Fancy Village 45.89 14 eP P 23 02 45.8 -7.2
BBSP Saint Philip 46.01 17 eP P 23 02 54.1 +0.1
BBGH Gun Hill 46.02 17 eP P 23 02 57.4 +3.3
BBGH Gun Hill 46.02 17 P P **23 02 54.8 +0.7**
BBGH IAMs_20 IAMs_20 23 23 19.7
comp=Z,1916µm,21.0s
MCLT Moule a Chique 46.26 15 eP P 23 02 52.1 -3.8
MCLT Moule a Chique 46.26 15 IAMs_20 IAMs_20 23 26 05.2
comp=Z,1847µm,19.0s
MATN Matagalpa 46.37 341 P P **23 02 56.2 -0.7**
SLBI Saint Lucia, B 46.55 14 eP P 23 02 54.9 -3.3
FDF Fort de France 47.20 14 IAMs_20 IAMs_20 23 26 45.0
comp=Z,2391µm,20.0s
DLPL La Plaine 47.77 14 eP P 23 03 16.6 +8.9
DLPL La Plaine 47.77 14 P P **23 03 08.6 +0.9**
DLPL IAmb IAmb 23 04 05.1
comp=Z,2µm,1.1s
TGUH Tegucigalpa,Un 47.83 339 P P **23 03 07.9 -0.5**
TGUH IAmb IAmb 23 03 40.8
comp=Z,3µm,1.1s
TGUH Tegucigalpa,Un 47.83 339 eP P 23 03 08.1 -0.3
DSLB Salisbury 47.84 13 eP P 23 03 04.8 -3.4
MDCT Cottage Hill, 48.00 13 eP P 23 02 55.8 -14
MTO3 Montecristo, 48.82 337 IAmb IAmb 23 03 42.8
comp=Z,3µm,1.8s
ANBD Bethesda, Anti 49.34 13 eP P 23 03 14.8 -4.9
ANOC Antigua Open C 49.40 12 eP P 23 03 12.4 -7.8
SKOC St. Kitts, UWI 49.41 11 eP P 23 03 29.8 +9.5
SKI Saint Kitts 49.45 11 eP P 23 03 17.3 -3.4
ICMP Isla Caja de M 49.49 6 P P **23 03 19.5 -1.4**
MLPR Magueyes Islan 49.53 6 P P **23 03 19.6 -1.6**
CDVI St. Croix 49.56 9 P P **23 03 19.7 -1.7**
CDVI IAmb IAmb 23 04 01.4
comp=Z,2µm,0.9s

SEUS St. Eustatius 49.56 11 eP P 23 03 18.0 -3.5
SEUS St. Eustatius 49.56 11 P P **23 03 20.1 -1.4**
HOJ Hope 49.60 354 eP P 23 03 30.0 +8.2
MCJ Malvern 49.62 352 *i* P P 23 03 31.4 +9.4
OBIP Obispado Ponce 49.64 6 IAMs_20 IAMs_20 23 28 26.2
comp=Z,1838µm,18.0s
STH Stony Hill 49.68 354 eP P 23 03 26.1 +3.7
CMJ Castle Mountai 49.70 354 eP P 23 03 26.8 +4.3
SJG San Juan 49.75 7 P P **23 03 20.8 -2.1**
comp=Z,259nm,0.9s,baz=198,slow=2.9,SNR=44
SJG LR LR 23 25 11.5
comp=Z,555µm,21.7s,baz=186,slow=37
SJG San Juan 49.75 7 P P **23 03 20.6 -2.3**
SJG pmax pmax
comp=Z,4µm,1.1s
SJG MLR MLR
comp=Z,1283µm,20.0s
SJG San Juan 49.75 7 P P **23 03 20.6 -2.3**
SJG San Juan 49.75 7 IAMs_20 IAMs_20 23 26 23.2
comp=Z,1283µm,20.0s
SJG San Juan 49.75 7 *i eP* P **23 03 20.8 -2.1**
RTAL Retalhuleu 49.76 334 IAMs_20 IAMs_20 23 19 48.3
comp=Z,2076µm,22.0s
BANI BANI 49.76 2 P P **23 03 21.2 -2.0**
MTP Monte Pirata 49.80 8 IAmb IAmb 23 03 54.2
comp=Z,2µm,1.1s
HUMP Col San Antoni 49.81 7 P P **23 03 20.9 -2.5**
SDD Santo Domingo 49.84 2 IAMs_20 IAMs_20 23 26 17.6
comp=Z,1032µm,19.0s
MTDJ Mount Denham 49.90 353 P P **23 03 22.6 -1.6**
MTDJ IAmb IAmb 23 05 20.7
comp=Z,3µm,1.3s
MTDJ Mount Denham 49.90 353 eP P 23 03 23.6 -0.6
ANWB Willy Bob 49.94 12 eP P 23 03 19.9 -4.4
ANWB Willy Bob 49.94 12 IAMs_20 IAMs_20 23 28 20.5
comp=Z,1793µm,19.0s
PCDR Punta Cana, DR 49.97 4 P P **23 03 24.1 -0.5**
AGPR Aguadilla, PR 50.02 6 P P **23 03 24.7 -0.2**
BBJ Bamboo Saint A 50.02 353 eP P 23 03 26.1 +1.0
SMRT St. Maarten 50.09 11 eP P 23 03 22.2 -3.4
SMRT St. Maarten 50.09 11 P P **23 03 23.0 -2.5**
SMRT IAmb IAmb 23 04 23.6
comp=Z,4µm,1.4s
STVI Saint Thomas 50.12 8 P P **23 03 22.7 -3.1**
HUEH Huehuetenango 50.41 335 P P **23 03 27.8 -0.5**
HUEH IAmb IAmb 23 04 01.2
comp=Z,2µm,0.9s
SC01 Santiago de lo 50.78 1 P P **23 03 28.7 -2.1**
SC01 IAMs_20 IAMs_20 23 26 50.4
comp=Z,1097µm,21.0s
PETF Flores 51.34 338 P P **23 03 34.3 -0.6**
PETF IAmb IAmb 23 04 07.5
comp=Z,2µm,1.1s
GTBY Guantanamo Bay 51.38 356 P P **23 03 34.1 -1.0**
GTBY IAmb IAmb 23 04 37.2
comp=Z,2µm,1.1s
GTBY IAMs_20 IAMs_20 23 26 04.0
comp=Z,999µm,21.0s
GTBY Guantanamo Bay 51.38 356 eP P 23 03 34.7 -0.5
VNA3 Neumayer Olymp 51.43 159 P P **23 03 36.1 +0.9**
FSCY Frank Sound, G 51.48 349 P P **23 03 34.1 -1.8**
CCIG Comitan 51.53 335 IAmb IAmb 23 04 22.2
comp=Z,8µm,2.1s
LCCY Blossom Villag 51.65 350 P P **23 03 36.2 -1.0**
CBCY The Bluff, Cay 51.67 350 P P **23 03 35.8 -1.5**
CBCY IAmb IAmb 23 04 32.0
comp=Z,4µm,1.4s
VNA1 Neumayer--Stat 51.73 158 P P **23 03 38.2 +1.0**
VNA2 Neumayer--Watz 52.07 158 P P **23 03 40.6 +0.7**
baz=286,slow=8.6
GRTK Grand Turk 52.85 1 P P **23 03 45.8 -0.3**
CMIG Matias Romero 53.32 332 LR LR 23 21 43.0
comp=Z,1737µm,21.4s,baz=146,slow=31
SNAA Sanae 53.66 159 P P **23 03 52.2 +0.5**
SNAA Sanae 53.66 159 P P **23 03 52.2 +0.5**
comp=Z,255nm,1.0s,baz=268,slow=6.9
SNAA S S 23 11 35.7 +11
comp=Z,65nm,1.1s,baz=300,slow=11,SNR=1.7
SNAA LR LR 23 26 39.0
comp=Z,609µm,20.0s,baz=270,slow=36
SNAA Sanae 53.66 159 *i* P P **23 03 52.0 +0.3**
SNAA IAmb IAmb 23 04 36.1
comp=Z,221µm,1.3s
SNAA Sanae 53.66 159 *c iP* P **23 03 52.0 +0.3**
SNAA pmax pmax
comp=Z,3µm,1.1s
SNAA Sanae 53.66 159 P P **23 03 51.9 +0.3**
SOR Soroa 55.20 347 P P **23 04 02.5 -0.8**
SOR pmax pmax
comp=Z,1µm,0.9s
SOR MLR MLR
comp=Z,742µm,22.0s
SOR Soroa 55.20 347 P P **23 04 02.5 -0.8**
SOR IAmb IAmb 23 04 34.0
comp=Z,1µm,0.9s
RKT Rikitea 56.16 262 eP P 23 04 11.0 +0.6
comp=Z,544nm,1.2s
RKT Rikitea 56.16 262 *e*T T 00 04 50.0
comp=Z,236nm,0.2s
ASCN Ascension 58.15 79 P P **23 04 23.6 -1.0**
ASCN IAmb IAmb 23 05 16.3
comp=Z,3µm,1.1s
ASCN IAMs_20 IAMs_20 23 28 06.6
comp=Z,1607µm,20.0s
QSPA South Pole Qui 58.59 180 P P **23 04 27.6 +0.6**
comp=Z,407nm,1.0s,baz=151,slow=2.6,SNR=334
QSPA S S **23 12 37.9 +7.2**
comp=Z,35nm,0.9s,baz=181,slow=4.5,SNR=1.1
QSPA LR LR 23 30 30.8
comp=Z,778µm,19.5s,baz=160,slow=37
QSPA South Pole Qui 58.59 180 P P **23 04 27.4 +0.3**
QSPA IAmb IAmb 23 05 26.4
comp=Z,2µm,1.1s
QSPA South Pole Qui 58.59 180 IAMs_20 IAMs_20 23 28 21.3
comp=Z,854µm,22.0s
060A Indiantown 58.93 351 P P **23 04 29.0 -0.6**
060A IAmb IAmb 23 05 00.4
comp=Z,2µm,1.0s
060A IAMs_20 IAMs_20 23 34 37.1
comp=Z,867µm,19.0s
DWPF Disney Wildern 60.14 350 P P **23 04 37.1 -0.9**
DWPF IAmb IAmb 23 05 28.2
comp=Z,2µm,1.2s
DWPF Disney Wildern 60.14 350 P P **23 04 37.0 -0.9**
baz=170
DWPF S S **23 12 53.2 +2.1**
baz=170
SHEL Horse Pasture 61.50 92 P P **23 04 47.6 -0.1**
SHEL pmax pmax
comp=Z,2µm,1.0s
SHEL MLR MLR
comp=Z,519µm,21.0s
SHEL Horse Pasture 61.50 92 P P **23 04 47.6 -0.1**
SHEL IAmb IAmb 23 05 30.1
comp=Z,2µm,1.0s
656A Willston 61.54 349 P P **23 04 46.1 -1.4**
656A IAMs_20 IAMs_20 23 29 50.3
comp=Z,739µm,20.0s
553A Crawfordville 62.67 348 P P **23 04 54.6 -0.5**
456A Hilliard 62.80 350 P P **23 04 55.1 -0.7**
456A IAMs_20 IAMs_20 23 36 38.4
comp=Z,853µm,19.0s
451A Vernon 63.34 346 P P **23 04 59.0 -0.4**
451A IAmb IAmb 23 06 37.1
comp=Z,2µm,1.2s
TIGA Tifton 63.74 349 P P **23 05 01.3 -0.8**
TIGA IAmb IAmb 23 05 52.4
comp=Z,2µm,1.2s
TIGA IAMs_20 IAMs_20 23 38 04.5
comp=Z,837µm,18.0s
TIGA Tifton 63.74 349 P P **23 05 00.7 -1.4**
baz=169,SNR=14
TIGA S S **23 13 40.7 +4.2**
baz=169
257A Skidaway Islan 63.89 351 IAMs_20 IAMs_20 23 34 52.2
comp=Z,702µm,19.0s
545A Edgard 63.89 342 IAMs_20 IAMs_20 23 32 08.6
comp=Z,867µm,20.0s
KVTX Kingsville 63.94 334 P P **23 05 03.8 +0.3**
KVTX IAMs_20 IAMs_20 23 35 09.1
comp=Z,743µm,19.0s
BBSR BB Station 64.01 7 P P **23 05 02.7 -1.2**
BBSR IAmb IAmb 23 05 45.5
comp=Z,2µm,1.1s
352A Blakely 64.02 347 IAMs_20 IAMs_20 23 37 49.8
comp=Z,753µm,20.0s

255A Hazlehurst 64.04 350 IAmb IAmb 23 05 54.3
comp=Z,3µm,1.4s
255A IAMs_20 IAMs_20 23 37 36.4
comp=Z,816µm,19.0s
BRAL Brewton 64.14 345 IAmb IAmb 23 06 02.2
comp=Z,2µm,1.1s
BRAL Brewton 64.14 345 P P **23 05 03.8 -0.9**
baz=166,SNR=10.0
BRAL S S **23 13 46.5 +5.0**
baz=166
RGRS Roger Stewart 64.70 352 P P **23 05 08.1 -0.3**
CSU Charleston Sou 64.77 352 P P **23 05 08.6 -0.2**
154A Montrose 64.81 349 P P **23 05 08.2 -0.9**
154A IAmb IAmb 23 05 40.3
comp=Z,3µm,1.1s
154A IAMs_20 IAMs_20 23 38 01.8
comp=Z,763µm,20.0s
NHSC New Hope 64.90 352 P P **23 05 09.2 -0.4**
baz=172,SNR=29
NHSC S S **23 13 51.5 +0.8**
baz=172
735A Kenedy 65.09 335 P P **23 05 11.8 +0.7**
152A Waverly Hall 65.14 348 P P **23 05 09.8 -1.4**
152A IAMs_20 IAMs_20 23 39 01.5
comp=Z,870µm,18.0s
833A Chaparral WMA, 65.21 333 P P **23 05 11.9 +0.1**
baz=154,SNR=64
833A S S **23 13 58.0 +3.2**
baz=154
344A Westbrook Farm 65.29 342 P P **23 05 12.3 +0.1**
441A DeRidder 65.32 340 IAmb IAmb 23 05 49.8
comp=Z,1µm,0.8s
SACV Santiago Islan 65.37 52 P P **23 05 12.2 -1.0**
SACV IAmb IAmb 23 05 33.6
comp=Z,1µm,0.9s
SACV IAMs_20 IAMs_20 23 32 53.6
comp=Z,1169µm,20.0s
HKT Hockley 65.41 337 *c iP* P **23 05 10.8 -2.2**
HKT pmax pmax
comp=Z,2µm,1.7s
HKT MLR MLR
comp=Z,838µm,19.0s
HKT Hockley 65.41 337 P P **23 05 12.6 -0.3**
HKT IAmb IAmb 23 05 41.2
comp=Z,4µm,1.7s
HKT Hockley 65.41 337 IAMs_20 IAMs_20 23 34 43.2
comp=Z,840µm,19.0s
SBA Scott Base 65.44 191 P P **23 05 14.2 +1.5**
SBA MLR MLR
comp=Z,502µm,19.0s
SBA Scott Base 65.44 191 P P **23 05 14.2 +1.5**
Y60A Bolivia 65.58 354 IAMs_20 IAMs_20 23 37 58.2
comp=Z,629µm,20.0s
Y58A Scranton 65.63 353 IAmb IAmb 23 05 46.0
comp=Z,2µm,0.9s
Y59A Loris 65.63 353 IAMs_20 IAMs_20 23 32 08.4
comp=Z,889µm,22.0s
GOGA Godfrey 65.65 349 P P **23 05 13.2 -1.4**
GOGA pmax pmax
comp=Z,2µm,1.4s
GOGA MLR MLR
comp=Z,781µm,22.0s
GOGA Godfrey 65.65 349 P P **23 05 13.2 -1.4**
GOGA IAmb IAmb 23 06 02.2
comp=Z,2µm,1.4s
GOGA Godfrey 65.65 349 IAMs_20 IAMs_20 23 31 12.0
comp=Z,781µm,22.0s
GOGA Godfrey 65.65 349 P P **23 05 12.8 -1.7**
baz=169,SNR=35
GOGA S S **23 14 01.7 +1.7**
baz=169
342A Flagon Creek P 65.65 341 P P **23 05 15.0 +0.4**
Y57A Sumter 65.82 352 IAmb IAmb 23 05 47.1
comp=Z,1µm,0.9s
LRAL Lakeview Retre 65.93 346 P P **23 05 15.1 -1.3**
LRAL Lakeview Retre 65.93 346 P P **23 05 14.9 -1.5**
baz=166,SNR=38
LRAL S S **23 14 07.5 +4.0**
baz=166
VBMS Vicksburg 65.97 343 P P **23 05 16.4 -0.2**
VBMS Vicksburg 65.97 343 P P **23 05 16.3 -0.2**
baz=162,SNR=8.0
VBMS S S **23 14 08.2 +4.3**
baz=162
146A Union 66.01 344 P P **23 05 16.6 -0.2**
SLBS Sierra La Lagu 66.08 322 P P **23 05 17.9 +0.2**
SLBS IAmb IAmb 23 05 44.2
comp=Z,3µm,1.8s
SLBS Sierra La Lagu 66.08 322 IAMs_20 IAMs_20 23 29 03.2
comp=Z,696µm,20.0s
JSC Jenkinsville 66.19 351 IAMs_20 IAMs_20 23 35 52.2
comp=Z,719µm,20.0s
Y52A Lilburn 66.19 349 P P **23 05 16.7 -1.3**
Y52A IAmb IAmb 23 05 49.4
comp=Z,2µm,1.1s
Y52A IAMs_20 IAMs_20 23 39 15.4
comp=Z,664µm,18.0s
X58A Rowland 66.24 353 IAmb IAmb 23 05 60.0
comp=Z,936nm,0.8s
HODGE Hodges 66.27 350 IAMs_20 IAMs_20 23 36 18.5
comp=Z,784µm,19.0s
Z47A Carrollton 66.32 345 IAmb IAmb 23 06 07.1
comp=Z,2µm,1.3s
BIRD Birdtown, Kers 66.45 352 IAmb IAmb 23 06 26.5
comp=Z,2µm,1.3s
VNDA Vanda 66.47 191 P P **23 05 20.4 +1.1**
comp=Z,18nm,1.1s,baz=133,slow=5.6,SNR=32
VNDA S S 23 14 22.0 +13
comp=Z,19nm,1.0s,baz=330,slow=1.3,SNR=2.0
VNDA LR LR 23 33 12.6
comp=Z,610µm,18.0s,baz=135,slow=35
VNDA PKP2ab 23 33 59.2
comp=Z,16nm,0.9s,baz=285,slow=2.6,SNR=3.3
VNDA Vanda 66.47 191 P P **23 05 19.9 +0.6**
VNDA pmax pmax
comp=Z,3µm,2.0s
VNDA Vanda 66.47 191 P P **23 05 19.9 +0.6**
VNDA IAmb IAmb 23 06 11.5
comp=Z,3µm,2.0s
143A Socs Landing, 66.66 342 P P **23 05 21.1 +0.1**
HPIG 66.66 327 P P **23 05 21.3 -0.2**
HPIG IAmb IAmb 23 06 51.4
comp=Z,3µm,1.6s
NATX Nacogdoches 66.70 339 P P **23 05 21.2 -0.1**
baz=159,SNR=11
NATX S S **23 14 16.8 +3.9**
baz=159
435B Jarrell 66.77 336 IAmb IAmb 23 05 48.8
comp=Z,3µm,1.6s
435B Jarrell 66.77 336 P P **23 05 21.5 -0.2**
baz=156
435B S S **23 14 16.0 +2.3**
baz=156
CNNC Cliffs of the 66.78 354 IAmb IAmb 23 06 09.8
comp=Z,2µm,1.2s
CNNC IAMs_20 IAMs_20 23 38 49.9
comp=Z,762µm,18.0s
CNNC Cliffs of the 66.78 354 P P **23 05 21.1 -0.6**
baz=174,SNR=14
CNNC S S **23 14 17.0 +3.3**
baz=174
PAULI Pauline 66.79 351 P P **23 05 20.7 -1.1**
PAULI IAmb IAmb 23 05 53.5
comp=Z,1µm,1.2s
PAULI IAMs_20 IAMs_20 23 36 50.2
comp=Z,786µm,19.0s
X51A Calhoun 67.01 348 P P **23 05 22.3 -1.0**
X51A IAMs_20 IAMs_20 23 39 45.1
comp=Z,657µm,19.0s
KMSC Kings Mountain 67.05 351 P P **23 05 22.4 -1.1**
KMSC IAMs_20 IAMs_20 23 36 16.9
comp=Z,710µm,20.0s
KMSC Kings Mountain 67.05 351 P P **23 05 22.0 -1.5**
baz=171,SNR=73
KMSC S S **23 14 19.0 +2.1**
baz=171
TAOE Nuku Hiva Isla 67.09 274 *e*P P **23 05 24.9 +0.5**
comp=Z,3µm,1.5s
TAOE *e*S S **23 14 12.6 -6.0**
comp=Z,1961µm,38.8s
TAOE Nuku Hiva Isla 67.09 274 *e*LR LR 23 25 27.9
comp=Z,1821µm,33.2s,baz=128
BG3 Lake Jocassee 67.12 350 IAmb IAmb 23 06 12.0
comp=Z,2µm,1.3s
BG3 IAMs_20 IAMs_20 23 39 17.9
comp=Z,905µm,19.0s
FPAL Fort Paine 67.12 348 P P **23 05 22.8 -1.3**

V61A	**Roper**	**67.23**	**356**	P	**P**	**23 05 24.3**	**-0.3**
237A	**Washetta, Mont**	**67.29**	**338**	IAmb	IAmb	23 05 58.5	
	comp=Z,2µm,1.0s						
JCT	**Junction City**	**67.30**	**334**	P	**P**	**23 05 24.9**	**-0.3**
JCT				pmax	pmax		
	comp=Z,4µm,1.4s						
JCT				MLR	MLR		
	comp=Z,425µm,21.0s						
JCT	**Junction City**	**67.30**	**334**	P	**P**	**23 05 24.9**	**-0.3**
JCT	**Junction City**	**67.30**	**334**	P	**P**	**23 05 25.0**	**-0.3**
	baz=154,SNR=57						
JCT				S	**S**	**23 14 23.9**	**+3.7**
	baz=154						
Y45A	**Yeager Farm, C**	**67.30**	**344**	P	**P**	**23 05 24.9**	**-0.2**
Y45A				IAMs_20	IAMs_20	23 40 31.7	
	comp=Z,760µm,19.0s						
V58A	**Windy Hill, Pi**	**67.44**	**353**	P	**P**	**23 05 25.0**	**-1.0**
Z41A	**Richland Creek**	**67.56**	**341**	P	**P**	**23 05 26.6**	**-0.2**
	baz=161,SNR=9.3						
Z41A				S	**S**	**23 14 26.9**	**+3.7**
	baz=161						
W50A	**Signal Mountai**	**67.71**	**348**	P	**P**	**23 05 26.6**	**-1.1**
W50A				IAmb	IAmb	23 06 31.1	
	comp=Z,2µm,0.9s						
V55A	**Taylorsville**	**67.73**	**352**	IAmb	IAmb	23 05 59.5	
	comp=Z,2µm,1.2s						
V55A				IAMs_20	IAMs_20	23 36 48.0	
	comp=Z,628µm,20.0s						
V53A	**Saluda**	**67.77**	**350**	P	**P**	**23 05 27.0**	**-1.0**
V53A				IAmb	IAmb	23 05 59.5	
	comp=Z,2µm,1.1s						
V53A				IAMs_20	IAMs_20	23 33 54.0	
	comp=Z,745µm,21.0s						
CPCT	**Cooper Cave**	**67.82**	**349**	P	**P**	**23 05 27.4**	**-1.0**
CPCT				IAmb	IAmb	23 06 31.6	
	comp=Z,1µm,1.0s						
WHTX	**Lake Whitney,**	**67.82**	**336**	P	**P**	**23 05 28.1**	**-0.3**
WHTX	**Lake Whitney,**	**67.82**	**336**	P	**P**	**23 05 28.2**	**-0.3**
	baz=156,SNR=22						
WHTX				S	**S**	**23 14 29.0**	**+2.6**
	baz=156						
TXAR	**Lajitas Array**	**67.83**	**330**	P	**P**	**23 05 28.4**	**-0.3**
	comp=Z,15nm,0.6s,baz=146,slow=6.9,SNR=158						
TXAR				LR	LR	23 31 03.9	
	comp=Z,1808µm,18.7s,baz=0.0,slow=32						
TXAR	**Lajitas Array**	**67.83**	**330**	P	**P**	**23 05 28.1**	**-0.6**
TXAR	**Lajitas Array**	**67.83**	**330**	P	**P**	**23 05 28.1**	**-0.6**
SWET	**Sewanee**	**67.84**	**347**	P	**P**	**23 05 27.5**	**-1.0**
SWET				IAmb	IAmb	23 06 34.1	
	comp=Z,1µm,0.9s						
U59A	**Littleton**	**67.88**	**355**	P	**P**	**23 05 28.2**	**-0.5**
U59A				IAMs_20	IAMs_20	23 39 48.9	
	comp=Z,891µm,19.0s						
OXF	**Oxford**	**67.88**	**344**	P	**P**	**23 05 27.7**	**-1.1**
	baz=164,SNR=85						
OXF				S	**S**	**23 14 29.0**	**+2.0**
	baz=164						
TKL	**Tuckaleechee C**	**67.90**	**349**	IAmb	IAmb	23 06 00.1	
	comp=Z,1µm,1.0s						
TKL				IAMs_20	IAMs_20	23 39 45.6	
	comp=Z,940µm,20.0s						
SYO	**Syowa Base**	**67.95**	**159** ⇑	*i*P	**P**	**23 05 28.8**	**0.0**
SYO	**Syowa Base**	**67.95**	**159** ⇑	*i*pP	pP	23 05 31.6	-0.8
SYO	**Syowa Base**	**67.95**	**159** ⇓	*i*sP	sP	23 05 36.8	+2.9
SYO	**Syowa Base**	**67.95**	**159** ⇑	*i*PcP	**PcP**	**23 05 54.0**	**-1.1**
V52A	**Sevierville**	**68.05**	**350**	IAmb	IAmb	23 06 01.1	
	comp=Z,2µm,1.1s						
V52A				IAMs_20	IAMs_20	23 39 49.6	
	comp=Z,869µm,19.0s						
U56A	**King**	**68.12**	**352**	IAmb	IAmb	23 06 37.5	
	comp=Z,4µm,1.8s						
V51A	**Loudon**	**68.14**	**349**	IAmb	IAmb	23 06 01.6	
	comp=Z,1µm,0.9s						
V51A				IAMs_20	IAMs_20	23 39 56.8	
	comp=Z,745µm,20.0s						
TBI	**Tubuai**	**68.17**	**255**	*e*P	**P**	**23 05 31.7**	**+0.7**
	comp=Z,3µm,1.2s						
TBI				*e*S	**S**	**23 14 26.9**	**-4.4**
	comp=Z,728µm,29.2s						
TBI	**Tubuai**	**68.17**	**255**	*e*LR	LR	23 25 59.1	
	comp=Z,1442µm,28.8s,baz=113						
TBI	**Tubuai**	**68.17**	**255**	*e*T	T	00 19 52.0	
	comp=Z,618nm,0.2s						
Z38A	**Mt. Pleasant**	**68.20**	**339**	P	**P**	**23 05 30.2**	**-0.6**
Z38A				IAmb	IAmb	23 05 58.6	
	comp=Z,3µm,1.4s						
U54A	**Nelsons Funny**	**68.47**	**351**	IAmb	IAmb	23 06 03.8	
	comp=Z,2µm,1.1s						
U54A				IAMs_20	IAMs_20	23 39 55.5	
	comp=Z,652µm,19.0s						
T59A	**Double "B" Far**	**68.48**	**355**	IAMs_20	IAMs_20	23 40 03.7	
	comp=Z,861µm,18.0s						
V48A	**Smith Brothers**	**68.52**	**347**	IAmb	IAmb	23 06 06.6	
	comp=Z,3µm,1.2s						
V48A				IAMs_20	IAMs_20	23 41 11.9	
	comp=Z,532µm,18.0s						
T60A	**Surry**	**68.59**	**356**	IAmb	IAmb	23 06 18.4	
	comp=Z,2µm,1.1s						
T60A				IAMs_20	IAMs_20	23 40 10.6	
	comp=Z,560µm,18.0s						
T57A	**Hurt**	**68.65**	**354**	P	**P**	**23 05 32.4**	**-1.1**
T57A				IAmb	IAmb	23 06 32.9	
	comp=Z,5µm,2.1s						
T57A				IAMs_20	IAMs_20	23 40 41.3	
	comp=Z,598µm,20.0s						
X40A	**Basin Creek Fa**	**68.72**	**341**	P	**P**	**23 05 33.0**	**-1.1**
	baz=161,SNR=10						
X40A				S	**S**	**23 14 38.7**	**+1.7**
	baz=161						
TZTN	**Tazewell**	**68.73**	**350**	IAmb	IAmb	23 07 13.0	
	comp=Z,2µm,1.3s						
TZTN				IAMs_20	IAMs_20	23 40 08.6	
	comp=Z,731µm,19.0s						
TZTN	**Tazewell**	**68.73**	**350**	P	**P**	**23 05 32.8**	**-1.3**
	baz=169,SNR=34						
TZTN				S	**S**	**23 14 38.3**	**+1.2**
	baz=169						
CLTN	**Cedars of Leba**	**68.76**	**347**	P	**P**	**23 05 33.2**	**-1.1**
CLTN				IAmb	IAmb	23 06 39.9	
	comp=Z,1µm,1.1s						
CLTN				IAMs_20	IAMs_20	23 40 54.5	
	comp=Z,618µm,19.0s						
BLA	**Blacksburg**	**68.98**	**353**	P	**P**	**23 05 35.1**	**-0.6**
	baz=172,SNR=32						
BLA				S	**S**	**23 14 42.2**	**+2.1**
	baz=172						
Z35A	**Perchaven, San**	**68.98**	**337**	IAMs_20	IAMs_20	23 34 37.5	
	comp=Z,660µm,20.0s						
MIAR	**Mount Ida**	**68.98**	**341**	IAmb	IAmb	23 06 32.8	
	comp=Z,2µm,1.2s						
MIAR	**Mount Ida**	**68.98**	**341**	P	**P**	**23 05 34.8**	**-0.9**
	baz=160,SNR=32						
MIAR				S	**S**	**23 14 45.5**	**+5.3**
	baz=160						
U49A	**Red Boiling Sp**	**69.07**	**348**	IAmb	IAmb	23 06 46.7	
	comp=Z,2µm,1.3s						
WVT	**Waverly**	**69.09**	**346**	P	**P**	**23 05 35.1**	**-1.2**
WVT				pmax	pmax		
	comp=Z,3µm,1.3s						
WVT				MLR	MLR		
	comp=Z,516µm,19.0s						
WVT	**Waverly**	**69.09**	**346**	P	**P**	**23 05 35.1**	**-1.2**
WVT	**Waverly**	**69.09**	**346**	P	**P**	**23 05 35.2**	**-1.1**
	baz=165						
WVT				S	**S**	**23 14 42.8**	**+1.5**
	baz=165						
LPAR	**Lepanto**	**69.14**	**344**	P	**P**	**23 05 35.8**	**-0.8**
ABTX	**Abilene, Hawle**	**69.17**	**335**	P	**P**	**23 05 36.4**	**-0.5**
	baz=155,SNR=72						
ABTX				S	**S**	**23 14 45.9**	**+3.5**
	baz=155						
HBAR	**Harrisburg**	**69.18**	**344**	P	**P**	**23 05 36.3**	**-0.5**
W41B	**Gary Mavity, V**	**69.22**	**342**	P	**P**	**23 05 36.2**	**-0.9**
	baz=161,SNR=29						
W41B				S	**S**	**23 14 44.6**	**+1.8**
	baz=161						
S57A	**Dark Hollow, R**	**69.38**	**354**	IAMs_20	IAMs_20	23 40 38.5	
	comp=Z,1018µm,19.0s						
T50A	**Nancy**	**69.40**	**349**	IAMs_20	IAMs_20	23 40 55.4	
	comp=Z,745µm,19.0s						
GNAR	**Gosnell**	**69.42**	**344**	P	**P**	**23 05 37.7**	**-0.5**
LNXT	**Lenox**	**69.43**	**345**	P	**P**	**23 05 37.8**	**-0.6**
MEH	**Mehetia**	**69.48**	**261**	*e*P	**P**	**23 05 39.6**	**+0.3**
	comp=Z,408nm,1.2s						
MEH	**Mehetia**	**69.48**	**261**	*e*T	T	00 21 28.3	
	comp=Z,607nm,0.2s						
R58B	**Mineral**	**69.49**	**355**	IAMs_20	IAMs_20	23 40 53.4	
	comp=Z,825µm,19.0s						
PEBM	**Pemiscott Bayo**	**69.52**	**344**	P	**P**	**23 05 38.8**	**-0.2**
GLAT	**Glass**	**69.54**	**345**	P	**P**	**23 05 38.9**	**-0.2**
X37A	**Clayton**	**69.55**	**339**	IAmb	IAmb	23 06 06.5	
	comp=Z,3µm,1.6s						
W39A	**Magazine**	**69.65**	**341**	P	**P**	**23 05 39.5**	**-0.3**
	baz=160,SNR=111						
W39A				S	**S**	**23 14 51.3**	**+3.3**
	baz=160						
CBN	**Corbin Frederi**	**69.69**	**355**	P	**P**	**23 05 39.3**	**-0.7**
CBN				IAmb	IAmb	23 06 28.5	
	comp=Z,3µm,1.4s						
CBN				IAMs_20	IAMs_20	23 40 55.8	
	comp=Z,747µm,19.0s						
CBN	**Corbin Frederi**	**69.69**	**355**	P	**P**	**23 05 39.6**	**-0.3**
	baz=175						
CBN				S	**S**	**23 14 53.7**	**+5.4**
	baz=175						
R61A	**Willards**	**69.69**	**357**	P	**P**	**23 05 40.3**	**+0.4**
T47A	**Sharon Grove**	**69.78**	**347**	IAmb	IAmb	23 06 14.2	
	comp=Z,2µm,1.1s						
T47A				IAMs_20	IAMs_20	23 41 28.4	
	comp=Z,608µm,20.0s						
LCAR	**Lake Charles**	**69.79**	**343**	IAmb	IAmb	23 06 30.6	
	comp=Z,1µm,0.8s						
R55A	**Marlinton**	**70.01**	**353**	IAmb	IAmb	23 06 30.4	
	comp=Z,2µm,1.1s						
T45A	**Paducah**	**70.12**	**346**	P	**P**	**23 05 41.6**	**-1.0**
T45A				IAMs_20	IAMs_20	23 42 26.4	
	comp=Z,575µm,18.0s						
SRIG	**Santa Rosalia**	**70.23**	**322**	IAMs_20	IAMs_20	23 29 47.1	
	comp=Z,601µm,20.0s						
Q61A	**Milford**	**70.24**	**357**	P	**P**	**23 05 43.3**	**0.0**
	baz=177,SNR=19						
Q61A				S	**S**	**23 15 01.9**	**+7.2**
	baz=177						
PBMO	**Poplar Bluff**	**70.29**	**344**	IAmb	IAmb	23 07 02.7	
	comp=Z,1µm,0.8s						
X34A	**Smith Ranch, M**	**70.34**	**337**	IAMs_20	IAMs_20	23 35 05.4	
	comp=Z,726µm,22.0s						
VAH	**Vaihoa**	**70.34**	**264**	*e*P	**P**	**23 05 45.1**	**+0.5**
	comp=Z,730nm,1.1s						
U40A	**Yellville**	**70.49**	**342**	IAmb	IAmb	23 06 42.5	
	comp=Z,2µm,1.1s						
U40A	**Yellville**	**70.49**	**342**	P	**P**	**23 05 43.9**	**-1.1**
	baz=161,SNR=63						
U40A				S	**S**	**23 15 02.1**	**+4.3**
	baz=161						
R50A	**Paris**	**70.56**	**349**	IAMs_20	IAMs_20	23 39 12.8	
	comp=Z,647µm,20.0s						
MNTX	**Cornudas Mount**	**70.61**	**330**	P	**P**	**23 05 44.4**	**-1.4**
	baz=150,SNR=143						
MNTX				S	**S**	**23 15 02.1**	**+2.6**
	baz=150						
Q56A	**Snyder Ridge,**	**70.67**	**354**	IAmb	IAmb	23 06 34.7	
	comp=Z,2µm,1.2s						
PMOR	**Pomariorio Ree**	**70.68**	**264**	*e*P	**P**	**23 05 46.6**	**0.0**
	comp=Z,496nm,1.1s						
R49A	**Shelbyville**	**70.70**	**349**	IAmb	IAmb	23 06 52.6	
	comp=Z,2µm,1.4s						
R49A				IAMs_20	IAMs_20	23 41 43.7	
	comp=Z,809µm,19.0s						
TIAR	**Tiarei**	**70.70**	**261**	*e*P	**P**	**23 05 47.2**	**+0.4**
TIAR	**Tiarei**	**70.70**	**261**	*e*T	T	00 22 59.9	
	comp=Z,104nm,0.3s						
HHAR	**Hobbs**	**70.71**	**341**	IAmb	IAmb	23 06 22.2	
	comp=Z,1µm,1.0s						
Q54A	**Coxs Mills**	**70.78**	**352**	IAMs_20	IAMs_20	23 42 15.7	
	comp=Z,588µm,20.0s						
WMOK	**Wichita Mounta**	**70.78**	**337**	IAmb	IAmb	23 06 17.3	
	comp=Z,2µm,1.4s						
WMOK	**Wichita Mounta**	**70.78**	**337**	IAMs_20	IAMs_20	23 36 34.7	
	comp=Z,608µm,22.0s						
WMOK	**Wichita Mounta**	**70.78**	**337**	P	**P**	**23 05 45.5**	**-1.2**
	baz=156,SNR=40						
WMOK				S	**S**	**23 15 03.2**	**+1.9**
	baz=156						
FNO	**Franklin**	**70.80**	**338**	IAmb	IAmb	23 06 13.8	
	comp=Z,3µm,1.5s						
WCI	**Wyandotte Cave**	**70.83**	**348**	P	**P**	**23 05 45.2**	**-1.8**
WCI				pmax	pmax		
	comp=Z,1µm,1.1s						
WCI				MLR	MLR		
	comp=Z,661µm,19.0s						
WCI	**Wyandotte Cave**	**70.83**	**348**	P	**P**	**23 05 45.2**	**-1.8**
WCI				IAmb	IAmb	23 06 18.0	
	comp=Z,1µm,1.1s						
WCI	**Wyandotte Cave**	**70.83**	**348**	IAMs_20	IAMs_20	23 42 32.2	
	comp=Z,661µm,19.0s						
WCI	**Wyandotte Cave**	**70.83**	**348**	P	**P**	**23 05 45.4**	**-1.6**
	baz=167						
WCI				S	**S**	**23 15 02.6**	**+0.9**
	baz=167						
PAE	**Paea**	**70.85**	**261**	*e*P	**P**	**23 05 48.1**	**+0.5**
	comp=Z,415nm,1.1s						
PAE	**Paea**	**70.85**	**261**	*e*T	T	00 23 10.9	
	comp=Z,21nm,0.2s						
PPTF	**Pamatai, Papee**	**70.87**	**261**	P	**P**	**23 05 49.0**	**+1.1**
PPTF				IAmb	IAmb	23 06 51.0	
	comp=Z,2µm,1.1s						
PPT2	**Papeete2**	**70.88**	**261**	*e*P	**P**	**23 05 48.3**	**+0.4**
	comp=Z,1µm,1.1s						
PPT2				*e*S	**S**	**23 14 58.0**	**-5.5**
	comp=Z,585µm,26.0s						
PPT2	**Papeete2**	**70.88**	**261**	*e*LR	LR	23 27 14.8	
	comp=Z,1075µm,26.0s,baz=109						
PPT2	**Papeete2**	**70.88**	**261**	*e*T	T	00 23 12.7	
	comp=Z,40nm,0.2s						
PPT	**Papeete**	**70.89**	**261**	P	**P**	**23 05 48.8**	**+0.8**
	comp=Z,74nm,0.8s,baz=49,slow=18,SNR=6.6						
PPT				LR	LR	23 29 08.5	
	comp=Z,516µm,20.5s,baz=148,slow=29						
S44A	**Carbondale**	**70.90**	**345**	IAmb	IAmb	23 06 44.7	
	comp=Z,2µm,1.2s						
TUL1	**Leonard**	**70.90**	**339**	P	**P**	**23 05 46.2**	**-1.2**
	baz=158,SNR=44						
TUL1				S	**S**	**23 15 04.7**	**+2.1**
	baz=158						
SIUC	**Southern Illin**	**70.91**	**345**	IAmb	IAmb	23 06 44.8	
	comp=Z,2µm,0.9s						
Q52A	**Bidwell**	**70.93**	**351**	IAmb	IAmb	23 06 18.9	
	comp=Z,2µm,1.1s						
HSIG		**70.95**	**324**	IAmb	IAmb	23 06 14.2	
	comp=Z,4µm,2.0s						
OKCFA	**Oklahoma City**	**70.96**	**338**	IAmb	IAmb	23 06 14.6	
	comp=Z,3µm,1.4s						
U38A	**Gravette**	**70.99**	**341**	IAmb	IAmb	23 06 48.6	
	comp=Z,1µm,1.2s						
P57A	**Homestead Farm**	**71.01**	**355**	IAmb	IAmb	23 06 37.0	
	comp=Z,3µm,1.2s						
P57A				IAMs_20	IAMs_20	23 41 47.7	
	comp=Z,792µm,18.0s						
P61A	**Hammonton**	**71.01**	**357**	IAmb	IAmb	23 06 45.0	
	comp=Z,2µm,1.2s						
P61A				IAMs_20	IAMs_20	23 39 11.9	
	comp=Z,798µm,20.0s						
OK025	**Westminster Rd**	**71.07**	**338**	IAmb	IAmb	23 06 29.9	
	comp=Z,2µm,1.0s						
MGMO	**Mountain Grove**	**71.09**	**343**	P	**P**	**23 05 47.6**	**-1.0**
MGMO				IAmb	IAmb	23 06 46.2	
	comp=Z,2µm,1.2s						
Q51A	**Peebles**	**71.14**	**350**	IAmb	IAmb	23 06 20.2	
	comp=Z,1µm,1.0s						
Q51A				IAMs_20	IAMs_20	23 36 46.3	
	comp=Z,649µm,22.0s						
P60A	**Greenville**	**71.19**	**357**	IAmb	IAmb	23 06 34.5	
	comp=Z,2µm,1.2s						
P60A				IAMs_20	IAMs_20	23 39 13.5	
	comp=Z,701µm,20.0s						
P60A	**Greenville**	**71.19**	**357**	P	**P**	**23 05 48.8**	**-0.2**
	baz=176,SNR=32						
P60A				S	**S**	**23 15 09.9**	**+4.3**
	baz=176						
OK031	**S. Brethren Rd**	**71.26**	**339**	IAmb	IAmb	23 06 50.4	
	comp=Z,2µm,1.0s						
P53A	**Whipple**	**71.34**	**352**	IAmb	IAmb	23 06 37.9	
	comp=Z,2µm,1.2s						
P53A				IAMs_20	IAMs_20	23 39 52.5	
	comp=Z,637µm,19.0s						
MCWV	**Mont Chateau**	**71.34**	**353**	IAmb	IAmb	23 06 21.9	
	comp=Z,2µm,1.3s						
MCWV				IAMs_20	IAMs_20	23 41 42.6	
	comp=Z,859µm,19.0s						
MCWV	**Mont Chateau**	**71.34**	**353**	P	**P**	**23 05 49.3**	**-0.7**
	baz=173,SNR=42						
MCWV				S	**S**	**23 15 13.1**	**+5.6**
	baz=173						
MVL	**Millersville**	**71.41**	**356**	IAmb	IAmb	23 06 36.1	
	comp=Z,3µm,1.5s						
MVL				IAMs_20	IAMs_20	23 39 14.3	
	comp=Z,639µm,20.0s						
MSTX	**Muleshoe**	**71.54**	**333**	IAmb	IAmb	23 06 24.2	
	comp=Z,2µm,0.9s						
MSTX				IAMs_20	IAMs_20	23 34 14.3	
	comp=Z,844µm,21.0s						
MSTX	**Muleshoe**	**71.54**	**333**	P	**P**	**23 05 50.8**	**-0.6**
	baz=152,SNR=125						
MSTX				S	**S**	**23 15 12.8**	**+2.6**
	baz=152						
P51A	**Williamsport**	**71.55**	**351**	IAmb	IAmb	23 06 22.5	
	comp=Z,2µm,1.1s						
P51A				IAMs_20	IAMs_20	23 41 25.1	
	comp=Z,530µm,18.0s						
P52A	**Corning**	**71.57**	**352**	IAmb	IAmb	23 06 22.7	
	comp=Z,2µm,1.1s						
P52A				IAMs_20	IAMs_20	23 38 47.4	
	comp=Z,544µm,20.0s						
P52A	**Corning**	**71.57**	**352**	P	**P**	**23 05 50.1**	**-1.3**
	baz=171,SNR=83						
P52A				S	**S**	**23 15 09.4**	**-0.8**
	baz=171						
OLIL	**Olney**	**71.66**	**347**	IAmb	IAmb	23 06 47.0	
	comp=Z,2µm,1.1s						
CCM	**Cathedral Cave**	**71.70**	**344**	P	**P**	**23 05 51.2**	**-1.0**
CCM				pmax	pmax		
	comp=Z,2µm,1.1s						
CCM				MLR	MLR		
	comp=Z,475µm,20.0s						
CCM	**Cathedral Cave**	**71.70**	**344**	P	**P**	**23 05 51.2**	**-1.0**
CCM				IAmb	IAmb	23 06 22.9	
	comp=Z,2µm,1.1s						
CCM	**Cathedral Cave**	**71.70**	**344**	P	**P**	**23 05 51.3**	**-0.9**
	baz=162						
CCM				S	**S**	**23 15 12.9**	**+1.2**
	baz=162						
BLO	**Bloomington**	**71.79**	**348**	IAMs_20	IAMs_20	23 42 24.6	
	comp=Z,979µm,19.0s						
O56A	**Blue Knob Stat**	**71.83**	**354**	IAmb	IAmb	23 06 41.6	
	comp=Z,2µm,1.4s						
O56A				IAMs_20	IAMs_20	23 42 24.5	
	comp=Z,730µm,19.0s						
O56A	**Blue Knob Stat**	**71.83**	**354**	P	**P**	**23 05 52.6**	**-0.4**
	baz=174,SNR=54						
P49A	**Miami Univ. Ec**	**71.84**	**349**	IAMs_20	IAMs_20	23 35 04.1	
	comp=Z,693µm,21.0s						
P49A	**Miami Univ. Ec**	**71.84**	**349**	P	**P**	**23 05 51.5**	**-1.6**
	baz=168,SNR=79						
P49A				S	**S**	**23 15 14.4**	**+1.1**
	baz=168						
S39A	**Bolivar**	**71.87**	**342**	IAmb	IAmb	23 06 51.0	
	comp=Z,4µm,1.4s						
P48A	**Milroy**	**71.88**	**349**	IAmb	IAmb	23 06 48.0	
	comp=Z,3µm,1.5s						
P48A				IAMs_20	IAMs_20	23 34 56.0	
	comp=Z,794µm,22.0s						
O54A	**Avella**	**71.91**	**353**	IAmb	IAmb	23 07 20.9	
	comp=Z,5µm,2.4s						
O54A				IAMs_20	IAMs_20	23 42 12.7	
	comp=Z,776µm,19.0s						
AMTX	**Amarillo**	**71.94**	**334**	IAmb	IAmb	23 06 21.3	
	comp=Z,2µm,1.2s						
AMTX	**Amarillo**	**71.94**	**334**	P	**P**	**23 05 53.2**	**-0.7**
	baz=153						
AMTX				S	**S**	**23 15 14.7**	**-0.1**
	baz=153						
LUPA	**Lehigh Univers**	**71.96**	**357**	IAmb	IAmb	23 06 40.6	
	comp=Z,6µm,2.3s						
LUPA				IAMs_20	IAMs_20	23 41 25.9	
	comp=Z,570µm,19.0s						
O52A	**Adamsville**	**72.01**	**352**	IAMs_20	IAMs_20	23 40 03.4	
	comp=Z,654µm,20.0s						
Q44A	**Meyer Farm, Va**	**72.01**	**346**	IAMs_20	IAMs_20	23 43 11.5	
	comp=Z,740µm,20.0s						
SLM	**Saint Louis**	**72.02**	**345**	IAmb	IAmb	23 06 44.7	
	comp=Z,2µm,0.9s						
T35A	**Sooner Cattle**	**72.05**	**339**	IAmb	IAmb	23 06 21.7	
	comp=Z,3µm,1.4s						
O53A	**New Philadelph**	**72.07**	**352**	IAmb	IAmb	23 06 49.7	
	comp=Z,3µm,1.5s						
O53A				IAMs_20	IAMs_20	23 42 24.9	
	comp=Z,683µm,19.0s						
O53A	**New Philadelph**	**72.07**	**352**	P	**P**	**23 05 53.1**	**-1.3**
	baz=172,SNR=33						
O53A				S	**S**	**23 15 18.6**	**+2.7**
	baz=172						
319A	**Douglas**	**72.09**	**327**	IAmb	IAmb	23 06 40.1	
	comp=Z,3µm,1.5s						
CPNY	**Central Park**	**72.10**	**358**	IAmb	IAmb	23 06 39.9	
	comp=Z,2µm,1.6s						
CPNY				IAMs_20	IAMs_20	23 43 11.7	
	comp=Z,603µm,18.0s						
BLOK	**Blackwell**	**72.12**	**339**	IAmb	IAmb	23 06 52.8	
	comp=Z,5µm,1.6s						
CROK	**Carrier**	**72.13**	**338**	IAmb	IAmb	23 06 51.9	
	comp=Z,5µm,1.7s						
SSPA	**Standing Stone**	**72.14**	**355**	P	**P**	**23 05 54.2**	**-0.6**
SSPA	**Standing Stone**	**72.14**	**355**	IAMs_20	IAMs_20	23 42 36.8	
	comp=Z,538µm,18.0s						
SSPA	**Standing Stone**	**72.14**	**355**	P	**P**	**23 05 54.4**	**-0.4**
	baz=174						
SSPA				S	**S**	**23 15 19.7**	**+2.9**
	baz=174						
R40A	**Maddies Statio**	**72.17**	**343**	P	**P**	**23 05 54.1**	**-0.9**
N62A	**Caumsett State**	**72.23**	**359**	IAmb	IAmb	23 06 30.1	
	comp=Z,2µm,1.2s						
N62A				IAMs_20	IAMs_20	23 43 57.0	
	comp=Z,680µm,18.0s						
N58A	**Sunbury**	**72.27**	**356**	IAMs_20	IAMs_20	23 39 51.1	
	comp=Z,613µm,20.0s						
ACSO	**Alum Creek Sta**	**72.27**	**351**	IAmb	IAmb	23 06 27.0	
	comp=Z,2µm,1.0s						
ACSO	**Alum Creek Sta**	**72.27**	**351**	P	**P**	**23 05 54.3**	**-1.3**
	baz=170,SNR=202						
ACSO				S	**S**	**23 15 21.0**	**+2.7**
	baz=170						
N59A	**State Game Lan**	**72.29**	**357**	IAMs_20	IAMs_20	23 39 54.7	
	comp=Z,589µm,20.0s						
N59A	**State Game Lan**	**72.29**	**357**	P	**P**	**23 05 55.8**	**+0.1**
	baz=176,SNR=185						
N59A				S	**S**	**23 15 22.9**	**+4.3**
	baz=176						
PAL	**Palisades**	**72.31**	**358**	IAMs_20	IAMs_20	23 38 59.2	
	comp=Z,584µm,21.0s						
PAL	**Palisades**	**72.31**	**358**	P	**P**	**23 05 55.4**	**-0.4**
	baz=178,SNR=30						
PAL				S	**SKiKP**	**23 15 25.3**	**-6.3**
	baz=178						
U32A	**Winter Ranch,**	**72.34**	**337**	IAmb	IAmb	23 06 38.3	
	comp=Z,1µm,1.1s						
P46A	**Rosedale**	**72.35**

baz=173
KS20 Mayfield South 72.66 339 IAMs_20 IAMs_20 23 36 45.8
comp=Z,583µm,22.0s
M63A Gales Ferry 72.68 360 IAmb IAmb 23 06 43.6
comp=Z,5µm,2.1s
M57A Sunshine Farm, 72.79 356 IAmb IAmb 23 06 44.1
comp=Z,2µm,1.4s
M57A IAMs_20 IAMs_20 23 38 42.8
comp=Z,597µm,22.0s
P43A Skaggs, Pawnee 72.83 346 IAmb IAmb 23 06 49.3
comp=Z,2µm,0.9s
P43A IAMs_20 IAMs_20 23 43 38.1
comp=Z,593µm,20.0s
M64A Tiverton 72.83 0 IAMs_20 IAMs_20 23 44 03.9
comp=Z,555µm,20.0s
M64A Tiverton 72.83 0 P **P** **23 05 58.7 -0.1**
baz=180,SNR=18
M64A S **SKiKP** **23 15 30.0 -2.3**
baz=180
M65A Busby, Falmout 72.85 1 IAMs_20 IAMs_20 23 36 31.4
comp=Z,606µm,22.0s
M65A Busby, Falmout 72.85 1 P **P** **23 05 58.6 -0.4**
baz=181
M65A S **SKiKP** **23 15 30.7 -1.7**
baz=181
N51A Ashland 72.87 352 IAmb IAmb 23 06 30.4
comp=Z,2µm,1.1s
KSPA Keystone Colle 72.93 357 IAmb IAmb 23 06 45.0
comp=Z,2µm,1.4s
KSCT Kent School, K 73.02 359 IAMs_20 IAMs_20 23 44 28.2
comp=Z,580µm,18.0s
M55A Ridgway 73.04 354 IAMs_20 IAMs_20 23 43 09.5
comp=Z,577µm,18.0s
SFIN Lafayette 73.07 348 IAMs_20 IAMs_20 23 43 31.4
comp=Z,1038µm,19.0s
SFIN Lafayette 73.07 348 P **P** **23 05 58.5 -1.8**
baz=166,SNR=29
SFIN S **S** **23 15 29.1 +1.8**
baz=166
UCCT U. Connecticut 73.07 360 IAmb IAmb 23 06 45.7
comp=Z,4µm,2.2s
N49A Columbus Grove 73.12 350 IAMs_20 IAMs_20 23 36 25.7
comp=Z,692µm,22.0s
L63A North Scituate 73.14 0 IAMs_20 IAMs_20 23 37 14.1
comp=Z,626µm,22.0s
L63A North Scituate 73.14 0 P **P** **23 06 00.5 -0.2**
baz=180,SNR=105
L63A S **SKiKP** **23 15 32.4 -0.4**
baz=180
M54A Oil Creek Stat 73.16 354 IAMs_20 IAMs_20 23 43 10.6
comp=Z,863µm,19.0s
M54A Oil Creek Stat 73.16 354 P **P** **23 05 59.9 -0.9**
baz=173,SNR=48
M54A S **S** **23 15 30.2 +1.9**
baz=173
M53A WI Miller and 73.19 353 IAMs_20 IAMs_20 23 43 00.1
comp=Z,678µm,19.0s
M53A WI Miller and 73.19 353 P **P** **23 05 59.9 -1.2**
baz=172,SNR=69
M53A S **SKiKP** **23 15 31.0 -2.0**
baz=172
BRYW Bryant College 73.20 0 IAMs_20 IAMs_20 23 37 14.5
comp=Z,631µm,22.0s
L64A Middleborough 73.22 1 IAMs_20 IAMs_20 23 36 42.1
comp=Z,666µm,22.0s
L64A Middleborough 73.22 1 P **P** **23 06 01.1 0.0**
baz=181,SNR=38
L64A S **SKiKP** **23 15 34.0 +1.1**
baz=181
P40A Paris 73.29 344 IAmb IAmb 23 07 00.1
comp=Z,3µm,0.9s
N47A Urbana 73.31 349 IAmb IAmb 23 06 56.6
comp=Z,5µm,1.6s
Y22D IRIS PASSCAL I 73.31 330 P **P** **23 06 02.5 +0.4**
baz=149
Y22D S **SKiKP** **23 15 37.0 +3.4**
baz=149
L65A Cape Cod Natio 73.32 1 P **P** **23 06 01.7 0.0**
baz=181
L65A S **SKiKP** **23 15 35.8 +2.7**
baz=181
ALLY Alegheny Colle 73.34 353 IAMs_20 IAMs_20 23 43 19.6
comp=Z,826µm,19.0s
M52A Chesterland 73.36 352 IAmb IAmb 23 06 33.6
comp=Z,2µm,1.1s
M50A Fremont 73.43 351 IAmb IAmb 23 06 58.4
comp=Z,3µm,1.3s
M50A IAMs_20 IAMs_20 23 43 37.0
comp=Z,643µm,18.0s
L59A Walton 73.53 357 IAmb IAmb 23 07 03.4
comp=Z,2µm,1.1s
QUA2 Belchertown 73.56 359 IAMs_20 IAMs_20 23 42 49.2
comp=Z,563µm,19.0s
TUC Tucson 73.57 326 P **P** **23 06 03.3 -0.3**
TUC pmax pmax
comp=Z,4µm,2.5s
TUC MLR MLR
comp=Z,1187µm,20.0s
TUC Tucson 73.57 326 P **P** **23 06 03.3 -0.3**
TUC IAmb IAmb 23 06 54.0
comp=Z,4µm,2.5s
TUC Tucson 73.57 326 IAMs_20 IAMs_20 23 34 00.6
comp=Z,1187µm,20.0s
TUC Tucson 73.57 326 P **P** **23 06 03.8 +0.2**
baz=146
TUC S **S** **23 15 32.2 -1.4**
baz=146
BINY Binghamton 73.58 357 IAMs_20 IAMs_20 23 42 35.9
comp=Z,525µm,18.0s
BINY Binghamton 73.58 357 P **P** **23 06 02.8 -0.6**
baz=176,SNR=66
BINY S **SKiKP** **23 15 36.2 +2.6**
baz=176
L56A Greenwood 73.61 355 IAmb IAmb 23 06 52.1
comp=Z,3µm,1.2s
L56A IAMs_20 IAMs_20 23 41 07.7
comp=Z,555µm,20.0s
BCX Boston College 73.61 0 IAMs_20 IAMs_20 23 37 15.6
comp=Z,581µm,21.0s
HDIL Hopedale 73.66 346 IAmb IAmb 23 06 59.1
comp=Z,1µm,0.9s
HDIL Hopedale 73.66 346 P **P** **23 06 02.6 -1.2**
baz=164,SNR=21
HDIL S **S** **23 15 34.2 +0.2**
baz=164
WES Weston 73.66 0 P **P** **23 06 03.4 -0.4**
WES pmax pmax
comp=Z,620nm,1.0s
WES MLR MLR
comp=Z,586µm,21.0s
WES Weston 73.66 0 P **P** **23 06 03.4 -0.4**
WES IAMs_20 IAMs_20 23 37 05.9
comp=Z,586µm,21.0s
L61B Northampton 73.73 359 P **P** **23 06 03.9 -0.3**
baz=179,SNR=104
L61B S **SKiKP** **23 15 32.5 -1.2**
baz=179
P38A Dawn 73.75 343 P **P** **23 06 02.9 -1.4**
P38A IAmb IAmb 23 06 55.0
comp=Z,1µm,0.9s
LIC Lamto 73.76 72 *e*P **P** **23 06 02.9 -2.1**
comp=Z,1µm,0.7s
HRV Adam Dziewonsk 73.78 0 P **P** **23 06 04.3 -0.2**
HRV pmax pmax
comp=Z,918nm,1.0s
HRV MLR MLR
comp=Z,508µm,22.0s
HRV Adam Dziewonsk 73.78 0 P **P** **23 06 04.3 -0.2**
HRV Adam Dziewonsk 73.78 0 P **P** **23 06 04.7 +0.2**
baz=180
HRV S **S** **23 15 36.2 +0.9**
baz=180
ERPA Erie 73.79 354 IAmb IAmb 23 06 36.7
comp=Z,1µm,0.9s
ERPA IAMs_20 IAMs_20 23 43 31.4
comp=Z,846µm,19.0s
ERPA Erie 73.79 354 P **P** **23 06 03.4 -1.1**
baz=173,SNR=60
ERPA S **S** **23 15 35.7 +0.2**
baz=173
ANMO Albuquerque 73.86 331 *c i*P **P** **23 06 05.6 +0.2**
ANMO pmax pmax
comp=Z,1µm,1.4s
ANMO MLR MLR
comp=Z,439µm,15.0s
ANMO Albuquerque 73.86 331 P **P** **23 06 05.4 0.0**
ANMO Albuquerque 73.86 331 P **P** **23 06 05.6 +0.2**
baz=150
ANMO S **S** **23 15 39.1 +2.1**
baz=150
ELIM Elim 73.89 121 ⇑ *i*P **P** **23 06 07.0 +1.4**
ELIM IAmb IAmb 23 06 28.7
comp=Z,672nm,1.0s
K62A Royalston 73.94 360 IAmb IAmb 23 06 51.4
comp=Z,2µm,1.4s
K62A IAMs_20 IAMs_20 23 43 09.4
comp=Z,532µm,20.0s
K62A Royalston 73.94 360 P **P** **23 06 05.4 -0.1**
baz=180,SNR=60
K62A S **S** **23 15 41.7 +4.6**
baz=180
K61A Williamstown 73.96 359 P **P** **23 06 05.6 0.0**
baz=179,SNR=40
K61A S **S** **23 15 42.4 +5.0**
baz=179
TIC Toumodi 74.01 72 *e*P **P** **23 06 04.4 -2.1**
TRY Troy 74.03 358 IAmb IAmb 23 06 41.1
comp=Z,2µm,1.2s
TRY IAMs_20 IAMs_20 23 44 59.7
comp=Z,650µm,19.0s
KIC Kosan Boka 74.07 72 *e*P **P** **23 06 04.9 -2.0**
comp=Z,767nm,0.7s
KSU1 Kansas State U 74.10 340 P **P** **23 06 05.3 -1.2**
baz=158,SNR=15
KSU1 S **S** **23 15 38.4 -0.6**
baz=158
R32A Long Quarter, 74.11 338 IAmb IAmb 23 06 34.1
comp=Z,3µm,1.4s
CER Ceres 74.13 120 ⇑ *i*P **P** **23 06 06.3 -0.8**
CER IAmb IAmb 23 06 30.7
comp=Z,388nm,1.0s
N41A Harden Midland 74.14 345 IAmb IAmb 23 06 57.0
comp=Z,2µm,0.9s
N41A IAMs_20 IAMs_20 23 44 31.8
comp=Z,549µm,19.0s
K57A Scipio Center 74.14 356 IAmb IAmb 23 07 54.7
comp=Z,2µm,1.5s
K57A IAMs_20 IAMs_20 23 41 34.6
comp=Z,627µm,20.0s
DBIC Dimbokro 74.15 72 P **P** **23 06 06.8 -0.6**
comp=Z,586nm,0.7s,baz=231,slow=5.4,SNR=334
DBIC LR LR 23 36 13.8
comp=Z,2769µm,20.9s,baz=234,slow=34
DBIC Dimbokro 74.15 72 ⇑ *i*P **P** **23 06 07.0 -0.4**
L48A N Adams 74.16 350 IAmb IAmb 23 06 37.8
comp=Z,2µm,1.1s
L48A IAMs_20 IAMs_20 23 43 06.2
comp=Z,672µm,20.0s
M44A Midewin, Midew 74.22 347 IAMs_20 IAMs_20 23 44 19.9
comp=Z,956µm,19.0s
MMNY Mt. Morris Dam 74.23 355 IAmb IAmb 23 06 55.4
comp=Z,3µm,1.4s
214A Organ Pipe Nat 74.26 324 IAmb IAmb 23 06 59.8
comp=Z,5µm,1.9s
214A IAMs_20 IAMs_20 23 36 34.9
comp=Z,921µm,18.0s
214A Organ Pipe Nat 74.26 324 P **P** **23 06 08.4 +0.8**
baz=144,SNR=43
214A S **S** **23 15 41.3 0.0**
baz=144
AAM Ann Arbor 74.40 351 IAmb IAmb 23 07 03.4
comp=Z,4µm,1.8s
AAM IAMs_20 IAMs_20 23 44 08.2
comp=Z,770µm,18.0s
AAM Ann Arbor 74.40 351 P **P** **23 06 06.7 -1.4**
baz=169,SNR=13
AAM S **S** **23 15 42.6 +0.4**
baz=169
KOMG Komaggas 74.41 116 *e*P **P** **23 06 06.5 -2.2**
KOMG IAmb IAmb 23 07 24.2
comp=Z,183nm,1.0s
L46A Eue Claire 74.52 349 IAmb IAmb 23 06 39.6
comp=Z,1µm,1.1s
L46A IAMs_20 IAMs_20 23 38 55.7
comp=Z,571µm,20.0s
SFX San Felipe 74.56 322 IAmb IAmb 23 06 35.9
comp=Z,3µm,2.2s
SFX IAMs_20 IAMs_20 23 32 16.9
comp=Z,881µm,22.0s
HQIL Hanson Quary C 74.58 348 IAmb IAmb 23 06 42.0
comp=Z,3µm,1.1s
HQIL IAMs_20 IAMs_20 23 44 27.5
comp=Z,655µm,18.0s
J61A Chester 74.63 359 P **P** **23 06 09.7 +0.3**
baz=179,SNR=54
J61A S **S** **23 15 49.1 +4.3**
baz=179
ACCN Adirondack Com 74.68 359 IAmb IAmb 23 06 35.6
comp=Z,6µm,2.2s
ACCN IAMs_20 IAMs_20 23 45 27.9
comp=Z,661µm,18.0s
J56A Wolcott 74.70 356 IAMs_20 IAMs_20 23 41 32.7
comp=Z,562µm,20.0s
K50A Casco 74.73 352 IAmb IAmb 23 07 05.6
comp=Z,2µm,0.9s
K50A IAMs_20 IAMs_20 23 43 58.3
comp=Z,537µm,20.0s
FFD Franklin Falls 74.75 0 IAmb IAmb 23 06 45.5
comp=Z,2µm,1.1s
FFD IAMs_20 IAMs_20 23 37 49.6
comp=Z,537µm,20.0s
J55A Hilton 74.75 355 IAmb IAmb 23 06 35.2
comp=Z,5µm,1.9s
N38A Joes South For 74.78 343 IAmb IAmb 23 07 01.0
comp=Z,3µm,1.1s
J59A Piesco 74.79 358 IAMs_20 IAMs_20 23 40 34.6
comp=Z,553µm,21.0s
J57A Williamstown 74.79 357 IAMs_20 IAMs_20 23 44 53.8
comp=Z,461µm,18.0s
CBKS Cedar Bluff 74.80 338 IAmb IAmb 23 06 42.0
comp=Z,2µm,1.1s
CBKS Cedar Bluff 74.80 338 P **P** **23 06 10.4 -0.2**
baz=156,SNR=20
CBKS S **S** **23 15 45.3 -1.7**
baz=156
AUSN Aus 74.91 112 *i*P P 23 06 19.7 +7.8
T25A Trinidad 74.95 333 IAmb IAmb 23 06 40.1
comp=Z,3µm,1.3s
T25A IAMs_20 IAMs_20 23 36 13.8
comp=Z,878µm,19.0s
T25A Trinidad 74.95 333 P **P** **23 06 12.3 +0.5**
baz=152,SNR=118
T25A S **S** **23 15 49.5 +0.3**
baz=152
L44A Lake County Fo 74.96 348 IAmb IAmb 23 07 06.6
comp=Z,3µm,1.3s
L44A IAMs_20 IAMs_20 23 43 52.5
comp=Z,549µm,20.0s
L44A Lake County Fo 74.96 348 P **P** **23 06 09.7 -1.7**
baz=166,SNR=20
L44A S **S** **23 15 48.1 -0.4**
baz=166
X18A Snowflake 75.03 328 IAmb IAmb 23 07 04.5
comp=Z,6µm,2.5s
MATJ Matjiesfontein 75.13 120 ⇑ *i*P **P** **23 06 13.1 +0.2**
MATJ IAmb IAmb 23 07 08.8
comp=Z,4µm,1.4s
L42A Oliver, Polo 75.13 346 IAmb IAmb 23 06 45.5
comp=Z,2µm,1.1s
L42A IAMs_20 IAMs_20 23 45 07.0
comp=Z,792µm,18.0s
I60A Shoreham 75.14 359 P **P** **23 06 12.0 -0.3**
baz=179,SNR=101
I60A S **S** **23 15 54.3 +3.9**
baz=179
I62A Tamworth 75.15 0 IAMs_20 IAMs_20 23 37 51.3
comp=Z,720µm,21.0s
I62A Tamworth 75.15 0 P **P** **23 06 12.6 +0.2**
baz=180,SNR=44
I62A S **S** **23 15 56.1 +5.5**
baz=180
I63A Otisfield 75.33 1 IAmb IAmb 23 06 53.9
comp=Z,2µm,1.0s
I63A IAMs_20 IAMs_20 23 37 42.8
comp=Z,618µm,21.0s
I63A Otisfield 75.33 1 P **P** **23 06 14.2 +0.8**
baz=181,SNR=96
I63A S **S** **23 15 58.3 +5.7**
baz=181
MAW Mawson 75.35 164 P **P** **23 06 13.7 +0.3**
comp=Z,227nm,1.1s,baz=214,slow=6.8,SNR=118
MAW LR LR 23 39 49.4
comp=Z,1205µm,21.7s,baz=226,slow=36
MAW Mawson 75.35 164 P **P** **23 06 13.7 +0.3**
CVNA Calvinia 75.35 118 ⇑ *i*P **P** **23 06 14.2 -0.1**
CVNA IAmb IAmb 23 06 36.7
comp=Z,11µm,2.8s
PECO Prince Edward 75.37 356 IAMs_20 IAMs_20 23 41 51.3
comp=Z,534µm,20.0s
113A Mohawk Valley, 75.39 324 IAMs_20 IAMs_20 23 36 25.9
comp=Z,745µm,19.0s
W18A Petrified Fore 75.42 329 IAmb IAmb 23 07 19.1
comp=Z,3µm,1.4s
W18A Petrified Fore 75.42 329 P **P** **23 06 14.7 +0.3**
baz=147,SNR=11
W18A S **S** **23 15 57.2 +2.8**
baz=147
N35A Tabor 75.47 341 IAmb IAmb 23 07 04.9
comp=Z,3µm,0.8s
N35A IAMs_20 IAMs_20 23 38 52.0
comp=Z,502µm,20.0s
LBNH Lisbon 75.52 360 P **P** **23 06 14.4 -0.1**
baz=180,SNR=142
LBNH S **S** **23 15 59.3 +4.7**
baz=180
K43A Burlington 75.55 347 IAmb IAmb 23 06 57.5
comp=Z,1µm,1.1s
VT1 Waterbury 75.61 359 IAmb IAmb 23 07 00.6
comp=Z,5µm,2.5s
X16A Lo Mia Camp, P 75.62 327 IAMs_20 IAMs_20 23 35 25.7
comp=Z,1072µm,20.0s
GUVIX Guadalupe Vict 75.68 323 IAMs_20 IAMs_20 23 34 21.6
comp=Z,777µm,19.0s
SUR Sutherland 75.72 119 P **P** **23 06 17.0 +0.5**
comp=Z,79nm,0.5s,baz=234,slow=5.7,SNR=37
SUR Sutherland 75.72 119 P **P** **23 06 16.6 +0.1**
SUR IAmb IAmb 23 07 43.2
comp=Z,2µm,1.3s
SUR Sutherland 75.72 119 IAMs_20 IAMs_20 23 39 41.6
comp=Z,951µm,18.0s
SCIA State Center 75.83 344 IAmb IAmb 23 07 07.4
comp=Z,3µm,1.2s
SCIA State Center 75.83 344 P **P** **23 06 15.4 -1.0**
baz=161,SNR=15
SCIA S **S** **23 16 00.4 +2.2**
baz=161
H62A Milan 75.85 0 IAmb IAmb 23 07 14.2
comp=Z,8µm,2.8s
WVL Waterville 75.86 1 IAMs_20 IAMs_20 23 37 37.1
comp=Z,616µm,22.0s
I49A Point Hope 75.90 352 IAmb IAmb 23 07 15.6
comp=Z,2µm,1.2s
SDCO Great Sand Dun 75.90 333 P **P** **23 06 17.7 +0.4**
baz=151,SNR=34
SDCO S **S** **23 15 59.5 -0.3**
baz=151
LONY Lake Ozonia 75.94 358 IAMs_20 IAMs_20 23 46 11.2
comp=Z,567µm,19.0s
LONY Lake Ozonia 75.94 358 P **P** **23 06 16.5 -0.4**
baz=177,SNR=113
LONY S **S** **23 16 03.4 +4.1**
baz=177
KSCO Kaye Shedlock' 75.95 336 P **P** **23 06 17.3 0.0**
baz=153,SNR=12
KSCO S **S** **23 16 02.7 +2.7**
baz=153
Y14A Wickenburg 75.97 326 IAMs_20 IAMs_20 23 37 06.0
comp=Z,779µm,18.0s
DELO Deloro Mine 75.99 356 IAmb IAmb 23 06 42.4
comp=Z,5µm,2.1s
DELO IAMs_20 IAMs_20 23 42 35.7
comp=Z,507µm,19.0s
EMMW East Machias 76.08 3 IAMs_20 IAMs_20 23 44 22.2
comp=Z,598µm,20.0s
JFWS Jewell Farm 76.12 346 IAmb IAmb 23 07 05.0
comp=Z,2µm,1.1s
JFWS IAMs_20 IAMs_20 23 45 28.3
comp=Z,964µm,19.0s
JFWS Jewell Farm 76.12 346 P **P** **23 06 17.1 -0.9**
baz=164,SNR=41
JFWS S **S** **23 16 02.7 +1.3**
baz=164
FRNY Flat Rock 76.13 359 IAMs_20 IAMs_20 23 46 27.3
comp=Z,533µm,19.0s
UABX UABC, Campus M 76.13 323 IAMs_20 IAMs_20 23 34 33.5
comp=Z,739µm,20.0s
GLA Glamis 76.15 324 P **P** **23 06 18.9 +0.4**
baz=143,SNR=14
GLA S **S** **23 16 08.7 +6.4**
baz=143
CCX Cicese 76.17 322 P **P** **23 06 19.2 +0.7**
CCX IAMs_20 IAMs_20 23 34 44.4
comp=Z,621µm,19.0s
HAL Halifax 76.27 6 IAmb IAmb 23 06 58.3
comp=Z,2µm,1.0s
SADO Sadowa 76.35 355 IAMs_20 IAMs_20 23 42 34.2
comp=Z,671µm,20.0s
K38A Parkersburg 76.42 344 IAmb IAmb 23 07 10.2
comp=Z,1µm,0.9s
K38A IAMs_20 IAMs_20 23 46 06.2
comp=Z,522µm,19.0s
S22A 4UR Ranch, Cre 76.43 332 P **P** **23 06 20.3 0.0**
baz=150,SNR=20
S22A S **S** **23 16 13.2 +7.6**
baz=150
RMX La Rumorosa 76.44 323 IAmb IAmb 23 06 46.7
comp=Z,4µm,2.2s
PLVO Plevna 76.47 356 IAmb IAmb 23 07 20.8
comp=Z,4µm,1.8s
PLVO IAMs_20 IAMs_20 23 44 25.6
comp=Z,519µm,19.0s
I45A Fountain 76.48 349 IAMs_20 IAMs_20 23 44 39.6
comp=Z,642µm,19.0s
IKP In-Ko-Pah, Jac 76.49 323 P **P** **23 06 20.9 +0.4**
baz=142,SNR=25
IKP S **S** **23 16 10.0 +3.9**
baz=142
WUAZ Wupatki 76.49 328 IAmb IAmb 23 07 24.0
comp=Z,2µm,1.1s
WUAZ Wupatki 76.49 328 P **P** **23 06 21.0 +0.5**
baz=146,SNR=40
WUAZ S **S** **23 16 09.0 +2.8**
baz=146
SWSC Sam W. Stewart 76.56 323 P **P** **23 06 21.2 +0.5**
baz=142,SNR=19
SWSC S **S** **23 16 10.4 +3.7**
baz=142
G65A Princeton 76.57 3 IAmb IAmb 23 06 47.9
comp=Z,2µm,1.6s
G65A IAMs_20 IAMs_20 23 44 46.3
comp=Z,676µm,19.0s
PKME Peaks-Kenny Pk 76.57 2 IAMs_20 IAMs_20 23 46 16.3
comp=Z,506µm,19.0s
PKME Peaks-Kenny Pk 76.57 2 P **P** **23 06 20.6 +0.1**
baz=182,SNR=46
PKME S **S** **23 16 12.1 +6.0**
baz=182
MVCO Mesa Verde 76.65 331 IAmb IAmb 23 06 55.4
comp=Z,2µm,1.2s
MVCO Mesa Verde 76.65 331 P **P** **23 06 21.5 +0.1**
baz=148,SNR=58
MVCO S **S** **23 16 11.1 +3.1**
baz=148
BGNE Belgrade 76.68 340 IAMs_20 IAMs_20 23 39 15.3
comp=Z,512µm,20.0s
BGNE Belgrade 76.68 340 P **P** **23 06 20.7 -0.5**
baz=157,SNR=11
BGNE S **S** **23 16 08.0 +0.3**
baz=157
TKX Tecate 76.69 322 IAMs_20 IAMs_20 23 33 16.1
comp=Z,1105µm,22.0s
L34A Svendsen Farm, 76.69 341 IAmb IAmb 23 07 12.0
comp=Z,2µm,0.9s
GRAN Grantham 76.76 120 ⇑ *i*P **P** **23 06 21.8 -0.5**
GRAN IAmb IAmb 23 06 44.3
comp=Z,652nm,0.8s
I42A Draeger Farm, 76.80 347 IAmb IAmb 23 07 51.1
comp=Z,3µm,1.6s
PDMCI Parker Dam,Lak 76.81 325 P **P** **23 06 22.3 +0.2**
baz=144,SNR=10.0
PDMCI S **S** **23 16 14.1 +4.8**
baz=144
Q24A Divide 76.83 334 P **P** **23 06 22.8 +0.3**
baz=151,SNR=73
Q24A S **S** **23 16 12.1 +2.1**
baz=151
MONP2 Monument Peak 76.84 323 P **P** **23 06 23.0 +0.4**
baz=142,SNR=25
MONP2 S **S** **23 16 15.4 +5.2**
baz=142
TJX Tijuana 76.87 322 P **P** **23 06 23.1 +0.6**
TJX IAMs_20 IAMs_20 23 34 21.1
comp=Z,824µm,20.0s
BC3 Big Chuckawall 76.95 324 P **P** **23 06 23.5 +0.4**

baz=143,SNR=43
BC3 S **S** **23 16 11.4 +0.3**

baz=143
ARMS Ukamas **76.98 115** *i* P **P** **23 06 23.8 +0.2**
GLMI Grayling **77.01 351** IAmb IAmb 23 07 05.4
comp=Z,1µm,0.9s
GLMI IAMs_20 IAMs_20 23 45 46.2

comp=Z,741µm,19.0s
GLMI Grayling **77.01 351** P **P** **23 06 21.6 -1.4**
baz=169,SNR=13
GLMI S **S** **23 16 11.1 +0.1**

baz=169
I40A Norwalk **77.14 346** IAMs_20 IAMs_20 23 46 06.1
comp=Z,871µm,19.0s
H43A Windswept, Lux **77.16 348** IAmb IAmb 23 06 55.6
comp=Z,1µm,1.1s
H43A IAMs_20 IAMs_20 23 43 27.5

comp=Z,494µm,19.0s
AUGR Augrabies **77.17 116** *eP* **P** **23 06 25.2 +0.6**
IRM Iron Mountain **77.19 324** P **P** **23 06 24.8 +0.4**
baz=143,SNR=32
IRM S **S** **23 16 16.2 +2.7**

baz=143
109C Camp Elliot, M **77.20 322** IAMs_20 IAMs_20 23 34 32.7
comp=Z,758µm,20.0s
109C Camp Elliot, M **77.20 322** P **P** **23 06 24.5 +0.2**
baz=142
109C S **S** **23 16 19.6 +6.1**

baz=142
F64A Sherman **77.20 2** IAmb IAmb 23 07 03.6
comp=Z,2µm,0.9s
F64A IAMs_20 IAMs_20 23 44 50.0

comp=Z,808µm,19.0s
W13A Hualapai Mount **77.33 326** IAMs_20 IAMs_20 23 37 49.1
comp=Z,655µm,19.0s
G45A Suttons Bay **77.37 350** IAMs_20 IAMs_20 23 45 54.2
comp=Z,636µm,19.0s
LMN Caledonia Moun **77.38 5** IAmb IAmb 23 07 04.8
comp=Z,2µm,0.9s
LMN IAMs_20 IAMs_20 23 43 52.8

comp=Z,849µm,20.0s
TPFO Pinon Flats **77.42 323** P **P** **23 06 26.6 +0.9**
baz=142,SNR=44
TPFO S **S** **23 16 19.8 +3.5**

baz=142
NEE2 Needles Airpor **77.42 325** P **P** **23 06 25.7 +0.2**
baz=144
NEE2 S **S** **23 16 19.8 +3.9**

baz=144
PFO Pinon Flats O **77.43 323** LR LR 23 34 17.9
comp=Z,1196µm,20.7s,baz=144,slow=31
PFO Pinon Flats O **77.43 323** *c iP* **P** **23 06 26.3 +0.5**
PFO pmax pmax
comp=Z,3µm,2.0s
PFO Pinon Flats O **77.43 323** P **P** **23 06 25.9 +0.1**
PFO IAmb IAmb 23 06 52.7
comp=Z,5µm,2.1s
PFO Pinon Flats O **77.43 323** P **P** **23 06 26.5 +0.7**
baz=142,SNR=49
PFO S **S** **23 16 22.1 +5.7**

baz=142
PV01 Paradox Valley **77.47 331** P **P** **23 06 25.7 -0.3**
OGNE Ogallala **77.48 337** P **P** **23 06 25.7 -0.1**
OGNE IAmb IAmb 23 07 18.6
comp=Z,3µm,1.4s
OGNE Ogallala **77.48 337** P **P** **23 06 25.5 -0.3**
baz=154,SNR=7.2
OGNE S **S** **23 16 19.2 +2.7**

baz=154
BELC Belle Mtn. Jos **77.50 324** P **P** **23 06 26.7 +0.5**
baz=142,SNR=26
BELC S **S** **23 16 21.3 +4.2**

baz=142
WIN Windhoek **77.53 109** *i* P **P** **23 06 25.1 -1.8**
PV13 Radium Mtn., P **77.59 331** IAmb IAmb 23 07 27.5
comp=Z,1µm,1.1s
PV02 Paradox Valley **77.60 331** IAmb IAmb 23 07 27.6
comp=Z,2µm,1.5s
KEIM Keimoes **77.60 116** ⇑ *iP* **P** **23 06 27.0 0.0**
KEIM IAmb IAmb 23 06 45.9

comp=Z,245nm,0.8s
PV15 Paradox Valley **77.61 331** IAmb IAmb 23 06 54.6
comp=Z,5µm,2.0s
ROSN Rosenhof **77.61 122** ⇓ *iP* **P** **23 06 26.9 0.0**
ROSN IAmb IAmb 23 06 35.7

comp=Z,964nm,0.6s
RAR Rarotonga **77.62 253** LR LR 23 32 42.4
comp=Z,426µm,21.9s,baz=181,slow=30
SMCO Snowmass **77.72 333** IAmb IAmb 23 07 02.0
comp=Z,2µm,1.0s
ISCO Idaho Springs **77.74 334** IAmb IAmb 23 07 20.7
comp=Z,2µm,1.2s
ISCO IAMs_20 IAMs_20 23 37 30.5

comp=Z,773µm,19.0s
ISCO Idaho Springs **77.74 334** P **P** **23 06 27.8 +0.2**
baz=151,SNR=89
ISCO S **S** **23 16 24.0 +4.2**

baz=151
PV07 Paradox Valley **77.76 331** IAmb IAmb 23 07 19.8
comp=Z,8µm,2.6s
PV16 Nyswonger Mesa **77.76 331** IAmb IAmb 23 07 11.6
comp=Z,3µm,1.7s
PV19 Morning Glory **77.79 331** IAmb IAmb 23 07 22.6
comp=Z,3µm,1.8s
MURC Murrieta **77.80 322** P **P** **23 06 28.5 +0.7**
baz=142,SNR=27
MURC S **S** **23 16 23.0 +2.8**

baz=142
I37A Lemond, Waseca **77.86 344** IAmb IAmb 23 07 18.6
comp=Z,2µm,1.0s
UPI Upington **77.99 116** ⇑ *iP* **P** **23 06 28.6 -0.6**
UPI IAmb IAmb 23 07 14.7
comp=Z,2µm,1.5s
PQI Presque Isle **78.02 3** IAMs_20 IAMs_20 23 45 33.6
comp=Z,697µm,19.0s
SCI2 San Clemente I **78.03 321** P **P** **23 06 29.4 +0.4**
baz=141,SNR=5.5
SCI2 S **S** **23 16 26.5 +3.9**

baz=141
BBRC Big Bear Solar **78.17 323** P **P** **23 06 30.8 +0.7**
baz=142
BBRC S **S** **23 16 30.8 +6.2**

baz=142
CIS Catalina Islan **78.28 322** P **P** **23 06 30.9 +0.5**
baz=141,SNR=11
CIS S **S** **23 16 31.4 +6.0**

baz=141
HEC Hector,Ludlow **78.32 324** P **P** **23 06 31.5 +0.8**
baz=142,SNR=32
HEC S **S** **23 16 29.3 +3.5**

baz=142
G40A Rib Lake **78.37 347** IAMs_20 IAMs_20 23 46 20.9
comp=Z,530µm,19.0s
KNB Kanab **78.39 327** IAmb IAmb 23 07 26.8
comp=Z,2µm,1.3s
D62A Allapoint, All **78.39 2** IAmb IAmb 23 07 10.5
comp=Z,3µm,0.9s
D62A IAMs_20 IAMs_20 23 45 39.6

comp=Z,679µm,19.0s
ECSD EROS Data Cent **78.40 342** IAmb IAmb 23 07 21.9
comp=Z,2µm,0.9s
ECSD EROS Data Cent **78.40 342** IAMs_20 IAMs_20 23 39 59.9
comp=Z,491µm,21.0s
ECSD EROS Data Cent **78.40 342** P **P** **23 06 30.1 -0.7**
baz=158,SNR=148
ECSD S **S** **23 16 24.4 -1.8**

baz=158
FMP Fort Macarthur **78.46 322** P **P** **23 06 31.5 +0.2**
baz=141
FMP S **S** **23 16 27.8 +0.6**

baz=141
F42A Maple Grove Fa **78.47 348** IAMs_20 IAMs_20 23 45 46.3
comp=Z,536µm,20.0s
E46A Sault Ste Mari **78.48 351** IAmb IAmb 23 07 15.8
comp=Z,2µm,1.2s
E46A IAMs_20 IAMs_20 23 46 51.5

comp=Z,634µm,20.0s
PKA Prieska **78.49 118** ⇓ *iP* **P** **23 06 31.7 -0.3**
PKA IAmb IAmb 23 06 53.6

comp=Z,36nm,0.7s
PKCU Pink Cliffs **78.51 328** IAmb IAmb 23 07 24.6
comp=Z,6µm,2.2s
BFSC Mount Baldy Ra **78.54 323** P **P** **23 06 32.3 +0.4**
baz=141,SNR=54
BFSC S **S** **23 16 30.5 +2.2**

baz=141
TUQ Turquoise Moun **78.60 324** P **P** **23 06 32.8 +0.6**
baz=143,SNR=15
TUQ S **S** **23 16 32.0 +3.1**

baz=143
RRX Edison Barstow **78.69 323** P **P** **23 06 33.5 +0.9**
baz=142
RRX S **S** **23 16 33.7 +4.0**

baz=142
BATG Bathurst New B **78.72 4** IAmb IAmb 23 07 11.9
comp=Z,1µm,1.0s
BATG IAMs_20 IAMs_20 23 42 27.6

comp=Z,579µm,20.0s
MWC Mount Wilson **78.73 322** IAmb IAmb 23 07 17.8
comp=Z,3µm,1.8s
PASC Pasadena Art C **78.76 322** IAMs_20 IAMs_20 23 34 43.0
comp=Z,801µm,22.0s
N23A Red Feather La **78.81 334** P **P** **23 06 33.7 +0.2**
baz=151,SNR=42
N23A S **S** **23 16 34.5 +3.3**

baz=151
LMQ La Malbaie **78.83 1** IAmb IAmb 23 07 12.1
comp=Z,2µm,1.0s
LMQ IAMs_20 IAMs_20 23 39 29.7

comp=Z,567µm,22.0s
SPMN Marine on St. **78.88 345** IAMs_20 IAMs_20 23 47 27.2
comp=Z,722µm,19.0s
SPMN Marine on St. **78.88 345** P **P** **23 06 32.1 -1.3**
baz=162,SNR=24
SPMN S **S** **23 16 30.5 -0.6**

baz=162
E43A Lone Tree Farm **78.88 349** IAMs_20 IAMs_20 23 46 54.1
comp=Z,649µm,19.0s
DECC Green Verdugo **78.90 322** P **P** **23 06 34.3 +0.5**
baz=141,SNR=6.1
DECC S **S** **23 16 37.0 +5.1**

baz=141
GSC Goldstone, Bar **78.93 324** IAmb IAmb 23 07 18.9
comp=Z,3µm,1.9s
GSC IAMs_20 IAMs_20 23 34 38.5

comp=Z,928µm,20.0s
GSC Goldstone, Bar **78.93 324** P **P** **23 06 34.7 +0.7**
baz=142,SNR=11
GSC S **S** **23 16 36.1 +3.7**

baz=142
COWI Conover **78.98 348** IAMs_20 IAMs_20 23 44 26.7
comp=Z,521µm,19.0s
SZCU Shurtz Canyon **78.98 328** IAmb IAmb 23 07 19.2
comp=Z,5µm,2.1s
O20A White River Ci **79.04 332** IAmb IAmb 23 07 31.1
comp=Z,2µm,1.4s
O20A White River Ci **79.04 332** P **P** **23 06 34.8 +0.2**
baz=149,SNR=29
O20A S **S** **23 16 39.2 +5.6**

baz=149
SOE Somerset East **79.05 122** ⇓ *iP* **P** **23 06 34.6 -0.3**
SOE IAmb IAmb 23 07 09.6
comp=Z,2µm,1.3s
SHOC Shoshone, Teco **79.14 325** S **S** **23 16 39.5 +5.1**
baz=142
EDW2 Edwards Air Fo **79.21 323** P **P** **23 06 35.9 +0.4**
baz=141,SNR=41
EDW2 S **S** **23 16 38.7 +3.5**

baz=141
Q16A Castle Valley **79.23 330** IAmb IAmb 23 07 10.4
comp=Z,2µm,1.3s
OSI Osito Audit: C **79.38 322** IAMs_20 IAMs_20 23 35 00.5
comp=Z,784µm,22.0s
OSI Osito Audit: C **79.38 322** P **P** **23 06 36.9 +0.5**
baz=141
OSI S **S** **23 16 45.4 +8.2**

baz=141
KOWA Kowa **79.40 66** P **P** **23 06 36.3 -0.6**
comp=Z,250nm,0.7s,baz=236,slow=5.2,SNR=200
KOWA LR LR 23 42 48.3
comp=Z,2196µm,18.2s,baz=234,slow=37
KOWA Kowa **79.40 66** P **P** **23 06 36.2 -0.7**
KOWA IAmb IAmb 23 07 15.4
comp=Z,2µm,0.8s
KOWA Kowa **79.40 66** P **P** **23 06 36.7 -0.2**
MACI Morro de la Ar **79.41 47** P **P** **23 06 36.6 -0.3**
MACI IAmb IAmb 23 07 47.9

comp=Z,2µm,1.0s
QSM Queen of Sheba **79.48 324** IAmb IAmb 23 07 50.9
comp=Z,3µm,2.0s
LRMC Laurel Mtn Rad **79.52 323** P **P** **23 06 37.4 +0.2**
baz=142,SNR=24
LRMC S **S** **23 16 45.0 +6.3**

baz=142
TCRU Three Creeks R **79.53 329** IAmb IAmb 23 07 30.0
comp=Z,5µm,2.2s
TSUM Tsumeb **79.58 106** P **P** **23 06 37.8 -0.3**
comp=Z,103nm,0.9s,baz=214,slow=5.8,SNR=58
TSUM Tsumeb **79.58 106** ⇑ *iP* **P** **23 06 38.2 +0.1**
TSUM Tsumeb **79.58 106** P **P** **23 06 37.8 -0.3**
TSUM IAmb IAmb 23 07 23.7

comp=Z,2µm,1.1s
F36A Milaca **79.64 345** IAMs_20 IAMs_20 23 47 43.4
comp=Z,815µm,19.0s
SUSD Miller **79.70 341** IAmb IAmb 23 07 35.9
comp=Z,2µm,1.1s
SUSD Miller **79.70 341** P **P** **23 06 36.8 -1.1**
baz=157,SNR=7.2
SUSD S **S** **23 16 46.3 +6.3**

baz=157
PRN Pahroc Range **79.75 326** IAmb IAmb 23 07 42.9
comp=Z,2µm,1.2s
PRN IAMs_20 IAMs_20 23 40 09.0

comp=Z,739µm,18.0s
SBC Santa Barbara **79.77 321** P **P** **23 06 38.8 +0.3**
baz=140
SBC S **S** **23 16 46.3 +5.2**

baz=140
D41A Chassel **79.80 348** IAMs_20 IAMs_20 23 47 12.6
comp=Z,556µm,19.0s
ARVC Arvin **79.83 322** P **P** **23 06 39.4 +0.5**
baz=141
ARVC S **S** **23 16 47.8 +6.1**

baz=141
MPMC Manual Prospec **79.87 324** P **P** **23 06 39.5 +0.2**
baz=142,SNR=73
MPMC S **S** **23 16 45.8 +3.2**

baz=142
FURC Furnace Creek, **79.88 324** P **P** **23 06 39.8 +0.8**
baz=142,SNR=13
FURC S **S** **23 16 49.3 +7.2**

baz=142
E38A The Farm, Brul **79.93 346** IAMs_20 IAMs_20 23 43 41.9
comp=Z,490µm,19.0s
RDMU Red Mountain **79.94 332** IAmb IAmb 23 07 22.3
comp=Z,4µm,1.7s
TPNV Topopah Spring **79.96 325** IAMs_20 IAMs_20 23 37 18.7
comp=Z,900µm,19.0s
TPNV Topopah Spring **79.96 325** P **P** **23 06 40.4 +0.8**
baz=143,SNR=44
TPNV S **S** **23 16 46.3 +2.9**

baz=143
RWWY Rawlins **79.98 334** IAmb IAmb 23 07 32.9
comp=Z,2µm,1.1s
RWWY IAMs_20 IAMs_20 23 38 42.8

comp=Z,913µm,20.0s
H07S1 FLORES T-PHASE **80.04 31** *eP* **P** **23 06 40.4 +0.5**
comp=Z,3µm,1.5s
ISA Isabella, Lake **80.06 323** P **P** **23 06 40.6 +0.5**
baz=141,SNR=64
ISA S **S** **23 16 50.2 +5.9**

baz=141
HVD Gariep Dam **80.07 120** ⇑ *iP* **P** **23 06 40.6 0.0**
HVD IAmb IAmb 23 07 15.3

comp=Z,3µm,1.1s
PKM Mcpherson Peak **80.17 322** P **P** **23 06 41.7 +0.8**
baz=140,SNR=85
PKM S **S** **23 16 53.0 +7.3**

baz=140
F33A 5 Mile Ranch, **80.28 343** P **P** **23 06 39.5 -1.5**
F33A IAMs_20 IAMs_20 23 48 30.4

comp=Z,473µm,20.0s
H07N1 FLORES T-PHASE **80.34 31** *eP* **P** **23 06 41.6 +0.1**
comp=Z,742nm,1.3s
CWC Cottonwood Cre **80.47 324** P **P** **23 06 43.0 +0.6**
baz=141
CWC S **S** **23 16 53.5 +4.8**

baz=141
VES Vestal, Richgr **80.52 323** P **P** **23 06 43.2 +0.7**
baz=140,SNR=26
VES S S 23 16 58.3 +9.5

baz=140
CALA Caldeira **80.52 33** *eP* **P** **23 06 42.6 +0.1**
comp=Z,904nm,1.6s
PCAN Candelaria **80.52 33** *eP* **P** **23 06 45.2 +2.7**
comp=Z,990nm,2.4s

GRAC Grapevine Rang **80.54 325** P **P** **23 06 43.7 +1.0**
baz=142,SNR=9.3
GRAC S S 23 16 58.5 +9.3

baz=142
PCED Cedros **80.55 33** *eP* **P** **23 06 43.7 +1.1**
comp=Z,758nm,1.6s
K22A Casper **80.56 335** P **P** **23 06 42.7 -0.1**
baz=150,SNR=23
K22A S **S** **23 16 53.1 +3.7**

baz=150
PICO Pico **80.58 33** *eP* **P** **23 06 42.8 -0.1**
comp=Z,2µm,1.3s
SMMC Simmler **80.59 322** P **P** **23 06 43.9 +0.9**
baz=140,SNR=32
SMMC S S 23 16 59.8 +10

baz=140
PPNO Prainha do Nor **80.63 33** *eP* **P** **23 06 43.5 +0.4**
comp=Z,1µm,1.6s
PID Ribeirinha **80.67 33** *eP* **P** **23 06 43.2 -0.1**
comp=Z,1µm,1.2s
SPR3 Spring Creek 3 **80.69 328** IAmb IAmb 23 07 11.1
comp=Z,2µm,1.6s
JLU Jordanelle **80.75 330** IAmb IAmb 23 07 11.2
comp=Z,5µm,2.1s
R11A Troy Canyon, C **80.75 326** P **P** **23 06 44.7 +0.8**
baz=143,SNR=116
R11A S **S** **23 16 57.4 +5.7**

baz=143
ROSA Rosais **80.84 33** *eP* **P** **23 06 44.6 +0.4**
comp=Z,831nm,1.2s
ROSA Rosais **80.84 33** IAmb IAmb 23 07 28.3
comp=Z,2µm,1.1s
PMAN Manadas **80.84 33** *eP* **P** **23 06 44.6 +0.4**
comp=Z,452nm,1.3s
LCH Last Change Ra **80.87 324** IAmb IAmb 23 07 37.0
comp=Z,7µm,2.7s
BOSA Boshof **80.91 118** P **P** **23 06 44.4 -0.7**
comp=Z,156nm,0.9s,baz=238,slow=4.6,SNR=114
BOSA LR LR 23 41 06.7

comp=Z,1339µm,18.4s,baz=240,slow=35
BOSA Boshof **80.91 118** ⇑ *iP* **P** **23 06 43.9 -1.2**
BOSA IAmb IAmb 23 07 07.5

comp=Z,636nm,1.0s
BOSA Boshof **80.91 118** P **P** **23 06 44.4 -0.7**
BOSA IAmb IAmb 23 07 30.5

comp=Z,2µm,1.1s
RSSD Black Hills **80.98 337** P **P** **23 06 44.6 -0.5**
RSSD pmax pmax

comp=Z,877nm,1.1s
RSSD MLR MLR

comp=Z,464µm,22.0s
RSSD Black Hills **80.98 337** P **P** **23 06 44.6 -0.5**
RSSD Black Hills **80.98 337** P **P** **23 06 44.6 -0.5**
baz=152
RSSD S **S** **23 16 58.8 +4.9**

baz=152
PSMA Santa Maria **80.98 36** *eP* **P** **23 06 44.4 -0.5**
comp=Z,1µm,1.5s
DUG Dugway, Tooele **80.99 329** P **P** **23 06 45.2 +0.1**
DUG pmax pmax

comp=Z,2µm,1.3s
DUG MLR MLR

comp=Z,1782µm,21.0s
DUG Dugway, Tooele **80.99 329** P **P** **23 06 45.1 +0.1**
DUG IAmb IAmb 23 07 29.2

comp=Z,2µm,1.3s
DUG Dugway, Tooele **80.99 329** P **P** **23 06 45.3 +0.1**
baz=145,SNR=72
DUG S **S** **23 16 59.9 +5.8**

baz=145
TIN Tinemaha, Big **81.02 324** P **P** **23 06 46.0 +0.7**
baz=141,SNR=22
TIN S **S** **23 17 01.0 +6.7**

baz=141
PSMN Pico do Norte, **81.02 36** *eP* **P** **23 06 46.0 +0.8**
comp=Z,1µm,1.5s
VOG Valley Oaks Go **81.04 323** P **P** **23 06 44.6 -0.7**
baz=140
VOG S **S** **23 16 58.8 +4.5**

baz=140
PAGB Antelope Grade **81.04 322** P **P** **23 06 45.6 +0.3**
PAGB IAmb IAmb 23 07 12.4
comp=Z,5µm,2.1s
SRBC Serra Branca **81.19 33** *eP* **P** **23 06 46.5 +0.5**
comp=Z,903nm,1.5s
EYMN Ely **81.20 347** IAMs_20 IAMs_20 23 46 01.5
comp=Z,508µm,20.0s
EYMN Ely **81.20 347** P **P** **23 06 44.7 -1.2**
baz=163,SNR=42
EYMN S **S** **23 16 57.8 +2.3**

baz=163
PGRA Graciosa **81.21 33** *eP* **P** **23 06 45.8 -0.3**
comp=Z,1µm,1.5s
ADH Angra Heroismo **81.26 34** *eP* **P** **23 06 47.3 +0.9**
comp=Z,434nm,1.7s
PDA Ponta Delgada **81.30 35** *eP* **P** **23 06 47.0 +0.4**
comp=Z,320nm,1.6s
PSET Sete Cidades **81.33 35** *eP* **P** **23 06 47.4 +0.5**
comp=Z,835nm,1.3s
PSCM Serra do Cume **81.35 34** *eP* **P** **23 06 48.6 +1.7**
comp=Z,850nm,1.5s
PAGU Agualva, Azore **81.37 34** *eP* **P** **23 06 47.2 +0.2**
comp=Z,1µm,1.8s
GRON Grota Negra **81.38 35** *eP* **P** **23 06 48.9 +1.8**
comp=Z,1µm,1.7s
CMLA Cha da Macela **81.38 35** *eP* **P** **23 06 47.9 +0.8**
comp=Z,831nm,1.2s
CMLA Cha da Macela **81.38 35** IAMs_20 IAMs_20 23 41 58.8
comp=Z,806µm,21.0s
PCALD Caldeiras da R **81.43 35** *eP* **P** **23 06 50.3 +3.0**
comp=Z,822nm,1.5s
DRLN Deer Lake **81.52 9** IAmb IAmb 23 07 26.4
comp=Z,2µm,1.1s
BART Pico Bartolome **81.57 36** *eP* **P** **23 06 48.6 +0.4**
comp=Z,2µm,2.2s
D32A Dogwood Acres, **81.67 343** P **P** **23 06 47.5 -0.8**
D32A IAmb IAmb 23 07 20.8

comp=Z,1µm,0.8s
BGU Big Grassy Mou **81.69 330** IAmb IAmb 23 07 32.5
comp=Z,2µm,1.5s
PMPB Monarch Peak **81.70 322** P **P** **23 06 48.8 -0.1**
SWZ Schweizer **81.70 117** ⇓ *iP* **P** **23 06 48.6 -0.8**
SWZ IAmb IAmb 23 07 33.4

comp=Z,726nm,0.9s
SPUT South Promonto **81.75 330** IAmb IAmb 23 07 32.0
comp=Z,3µm,1.6s
MLAC Mammoth, Mammo **81.77 324** P **P** **23 06 49.8 +0.4**
baz=141
MLAC S **S** **23 17 06.2 +3.8**

baz=141
BW06 Boulder Array **81.80 333** P **P** **23 06 48.8 -0.7**
baz=148,SNR=45
BW06 S **S** **23 17 05.3 +2.9**

baz=148
PDAR Pinedale Array **81.80 333** P **P** **23 06 48.5 -1.0**
comp=Z,30nm,1.1s,baz=145,slow=5.4,SNR=75
PDAR LR LR 23 40 13.7

comp=Z,928µm,19.5s,baz=154,slow=34
MDPB Devils Postpil **81.89 324** IAMs_20 IAMs_20 23 37 02.9
comp=Z,934µm,21.0s
RUDU RUNDU **81.98 106** *i* P P 23 07 00.5 +10
B35A Bob, Littlefor **82.05 345** IAMs_20 IAMs_20 23 48 41.2
comp=Z,654µm,20.0s
NV11 Mina Array Sit **82.05 325** IAmb IAmb 23 07 29.9
comp=Z,5µm,2.5s
LHV Little Huntoon **82.08 325** IAmb IAmb 23 07 35.8
comp=Z,2µm,1.4s
NVAR Mina Array Bea **82.12 325** P **P** **23 06 51.4 +0.1**
comp=Z,51nm,1.0s,baz=149,slow=5.4,SNR=149
NVAR PKKPbc **PKKPbc** **23 25 22.1 +0.7**
comp=Z,7.7nm,0.8s,baz=270,slow=0.9,SNR=4.5
NVAR LR LR 23 36 46.0

comp=Z,694µm,21.1s,baz=145,slow=31
PMOZ Porto Moniz, M **82.21 44** *eP* **P** **23 06 51.6 -0.1**
comp=Z,2µm,1.4s
PMOZ *i* LQ LQ 23 07 13.1
PMOZ Porto Moniz, M **82.21 44** *eS* S 23 17 45.5 +39
PMOZ Porto Moniz, M **82.21 44** *eLQ* LQ 23 29 35.0
PMOZ *eLR* LR 23 34 34.6

comp=Z,1097µm,18.0s
PMOZ Porto Moniz, M **82.21 44** P **P** **23 06 51.3 -0.4**
FUL Funchal **82.27 44** *eP* **P** **23 06 53.0 +1.2**
comp=Z,2µm,1.6s
FUL *i* LQ LQ 23 07 12.8
PMAR Madeira **82.31 44** *eP* **P** **23 06 52.2 -0.1**
comp=Z,3µm,1.4s
PMAR *i* LQ LQ 23 07 13.9

CASY Casey 82.38 181 P **P** **23 06 52.4 +0.4**
CASY IAmb IAmb 23 07 39.6
comp=Z,1µm,0.9s
RYN Ryan 82.39 325 IAmb IAmb 23 07 31.5
comp=Z,5µm,2.3s
RYN IAMs_20 IAMs_20 23 36 43.0
comp=Z,1005µm,22.0s
AHID Auburn Hatcher 82.41 332 IAmb IAmb 23 07 36.0
comp=Z,3µm,1.6s
SAO San Andreas Ge 82.45 322 P **P** **23 06 52.2 -0.6**
SAO pmax pmax
comp=Z,757nm,1.3s
SAO MLR MLR
comp=Z,611µm,19.0s
SAO San Andreas Ge 82.45 322 P **P** **23 06 52.2 -0.6**
SAO IAMs_20 IAMs_20 23 36 30.8
comp=Z,611µm,19.0s
AGMN Agassiz Nation 82.47 344 IAMs_20 IAMs_20 23 49 42.1
comp=Z,773µm,18.0s
AGMN Agassiz Nation 82.47 344 P **P** **23 06 51.5 -1.0**
baz=159,SNR=42
AGMN S **S** **23 17 11.3 +2.7**
baz=159
ELK Elko 82.52 328 LR LR 23 40 25.4
comp=Z,922µm,19.7s,baz=148,slow=33
CMB Columbia Colle 82.86 323 IAMs_20 IAMs_20 23 37 27.7
comp=Z,498µm,21.0s
PMPS Porto Santo 82.89 44 *e*P **P** **23 06 55.7 +0.6**
PMPS *i* LQ LQ 23 07 16.4
PMPST Porto Santo, M 82.91 44 *e*P **P** **23 06 55.5 +0.3**
comp=Z,3µm,1.6s
PMPST *i* LQ LQ 23 07 16.9
MDND Maddock 83.00 341 IAMs_20 IAMs_20 23 50 22.1
comp=Z,475µm,19.0s
MDND Maddock 83.00 341 P **P** **23 06 54.6 -0.7**
baz=156,SNR=23
MDND S **S** **23 17 16.3 +2.2**
baz=156
YERR Yerington 83.02 325 IAMs_20 IAMs_20 23 37 47.7
comp=Z,1049µm,22.0s
LBTB Lobatse 83.03 115 P **P** **23 06 55.5 -0.8**
comp=Z,128nm,0.6s,baz=246,slow=5.5,SNR=114
LBTB Lobatse 83.03 115⇑ *i*P **P** **23 06 52.7 -3.6**
LBTB IAmb IAmb 23 07 30.1
comp=Z,1µm,1.1s
LBTB Lobatse 83.03 115 P **P** **23 06 55.6 -0.7**
MOOW Moose Ponds 83.09 333 IAmb IAmb 23 07 47.9
comp=Z,2µm,2.1s
TORD Torodi Ar. Bea 83.13 70 P **P** **23 06 55.8 -1.0**
comp=Z,393nm,0.9s,baz=258,slow=4.6,SNR=596
TORD LR LR 23 43 56.8
comp=Z,870µm,19.1s,baz=335,slow=36
TORD Torodi Ar. Bea 83.13 70 IAmb IAmb 23 07 17.6
comp=Z,2µm,0.9s
PNTR Pine Nut 83.28 324 IAmb IAmb 23 07 53.6
comp=Z,1µm,1.0s
PNTR IAMs_20 IAMs_20 23 37 53.5
comp=Z,1059µm,22.0s
RUBR Rubicon Trail 83.52 324 IAmb IAmb 23 08 30.7
comp=Z,2µm,1.3s
RUBR IAMs_20 IAMs_20 23 39 41.1
comp=Z,659µm,22.0s
H17A Grant Village 83.57 333 IAmb IAmb 23 08 00.8
comp=Z,2µm,2.0s
H17A Grant Village 83.57 333 P **P** **23 06 59.0 +0.3**
baz=147
H17A S **S** **23 17 25.9 +5.4**
baz=147
PAHR Pah Rah Range 83.64 325 IAmb IAmb 23 07 54.8
comp=Z,2µm,1.2s
PAHR IAMs_20 IAMs_20 23 37 14.4
comp=Z,750µm,21.0s
WDLM Western Deep L 83.69 117⇓ *i*P **P** **23 06 59.2 -0.7**
WDLM IAmb IAmb 23 07 22.4
comp=Z,561nm,1.0s
RLMT Red Lodge 83.69 334 IAMs_20 IAMs_20 23 42 16.2
comp=Z,745µm,18.0s
RLMT Red Lodge 83.69 334 P **P** **23 06 58.8 -0.4**
baz=148,SNR=34
RLMT S **S** **23 17 24.3 +2.6**
baz=148
KLOF Kloof 83.87 117⇓ *i*P **P** **23 06 59.7 -1.0**
KLOF IAmb IAmb 23 07 21.6
comp=Z,652nm,0.9s
YMR Madison River 83.95 333 IAmb IAmb 23 07 56.0
comp=Z,1µm,1.1s
LAO LASA Array 83.97 337 IAmb IAmb 23 08 33.4
comp=Z,2µm,1.4s
LAO IAMs_20 IAMs_20 23 41 43.3
comp=Z,646µm,21.0s
LAO LASA Array 83.97 337 P **P** **23 06 59.8 -0.6**
baz=151,SNR=13
LAO S **S** **23 17 25.7 +1.7**
baz=151
YHH Holmes Hill 84.01 333 IAmb IAmb 23 07 53.1
comp=Z,1µm,1.4s
HRAO HartRAO 84.17 117⇑ *i*P **P** **23 07 00.1 -2.2**
HRAO IAmb IAmb 23 07 57.1
comp=Z,1µm,0.9s
MCCM Marconi Confer 84.24 322 P **P** **23 07 03.1 +1.2**
MCCM IAmb IAmb 23 08 29.6
comp=Z,4µm,1.9s
MCCM IAMs_20 IAMs_20 23 36 49.1
comp=Z,556µm,18.0s
BEKR Beckworth 84.25 324 IAmb IAmb 23 07 46.5
comp=Z,1µm,1.3s
BEKR IAMs_20 IAMs_20 23 38 41.3
comp=Z,511µm,20.0s
ULM Lac du Bonnet 84.31 345 P **P** **23 07 00.4 -1.5**
comp=Z,79nm,1.0s,baz=162,slow=3.6,SNR=38
ULM S S 23 17 37.9 +11
comp=Z,69nm,1.2s,baz=256,slow=4.4,SNR=2.6
ULM Lac du Bonnet 84.31 345 IAmb IAmb 23 08 24.4
comp=Z,1µm,1.1s
ULM IAMs_20 IAMs_20 23 50 30.5
comp=Z,550µm,18.0s
HLID Hailey 84.43 330 P **P** **23 07 03.0 0.0**
baz=144,SNR=93
HLID S **S** **23 17 33.7 +4.6**
baz=144
BFZ Birch Farm 84.53 225 IAmb IAmb 23 07 58.6
comp=Z,1µm,1.4s
ORV Oroville 84.58 324 IAmb IAmb 23 07 31.5
comp=Z,3µm,1.7s
ORV IAMs_20 IAMs_20 23 38 20.2
comp=Z,637µm,20.0s
GDXM Geysers 84.69 322 IAmb IAmb 23 07 32.4
comp=Z,3µm,2.2s
SLR Silverton 84.71 117⇑ *i*P **P** **23 07 02.4 -2.6**
SLR IAmb IAmb 23 07 51.8
comp=Z,1µm,1.2s
MQZ McQueen's Vall 84.74 221 P **P** **23 07 06.0 +1.4**
MQZ IAMs_20 IAMs_20 23 36 43.9
comp=Z,661µm,20.0s
DGMT Dagmar 84.89 339 IAmb IAmb 23 07 52.8
comp=Z,2µm,0.8s
DGMT Dagmar 84.89 339 P **P** **23 07 04.8 -0.2**
baz=153,SNR=35
DGMT S **S** **23 17 36.1 +3.0**
baz=153
BHW Baring Head 84.91 224 P **P** **23 07 05.2 -0.3**
MFID Camas Ranch 84.92 329 IAmb IAmb 23 07 57.5
comp=Z,4µm,2.1s
HOPS Hopland Field 84.97 322 IAmb IAmb 23 07 45.2
comp=Z,3µm,1.8s
HOPS IAMs_20 IAMs_20 23 37 47.5
comp=Z,603µm,19.0s
ODZ Otahua Downs 84.98 219 P **P** **23 07 05.7 -0.1**
ODZ IAmb IAmb 23 08 08.0
comp=Z,3µm,2.1s
ODZ IAMs_20 IAMs_20 23 37 05.2
comp=Z,929µm,20.0s
BOZ Bozeman (W) 84.99 333 P **P** **23 07 05.1 -0.6**
baz=147,SNR=43
BOZ S **S** **23 17 36.5 +2.0**
baz=147
KHZ Kahutara 85.06 222 P **P** **23 07 06.9 +0.7**
KHZ IAMs_20 IAMs_20 23 37 11.3
comp=Z,617µm,22.0s
SNZO South Karori 85.07 224 P **P** **23 07 07.7 +1.4**
SNZO South Karori 85.07 224 IAMs_20 IAMs_20 23 38 13.7
comp=Z,533µm,20.0s
MXZ Matakaoa Point 85.12 229 P **P** **23 07 07.0 +0.4**
MXZ IAmb IAmb 23 08 25.2
comp=Z,1µm,1.3s
MXZ IAMs_20 IAMs_20 23 35 59.4
comp=Z,852µm,22.0s
DLMT Dillon 85.17 332 IAMs_20 IAMs_20 23 41 49.3
comp=Z,889µm,21.0s
CGR Cap Guir 85.26 50 P **P** **23 07 09.0 +1.7**
O03E Paynes Creek 85.29 324 P **P** **23 07 06.5 -0.8**
baz=139,SNR=24
O03E S **S** **23 17 41.3 +3.7**
baz=139
BKZ Black Stump Fm 85.30 226 P **P** **23 07 08.9 +1.3**
BKZ IAmb IAmb 23 08 13.2
comp=Z,2µm,1.9s
BSWZ Blackbirch Sta 85.30 223 P **P** **23 07 08.8 +1.3**
OXZ Oxford 85.33 221 P **P** **23 07 08.1 +0.5**
OXZ IAmb IAmb 23 08 02.2
comp=Z,2µm,1.7s
OXZ IAMs_20 IAMs_20 23 37 20.5
comp=Z,755µm,21.0s
WVOR Wild Horse Val 85.41 327 IAmb IAmb 23 07 59.9
comp=Z,2µm,1.7s
WVOR IAMs_20 IAMs_20 23 39 41.8
comp=Z,940µm,22.0s
TUWZ Tuamarina 85.44 223 P **P** **23 07 09.3 +1.2**
URZ Urewera 85.46 227 P **P** **23 07 09.1 +0.7**
comp=Z,27nm,0.9s,baz=123,slow=23,SNR=10
URZ S **S** **23 17 41.4 +1.8**
comp=Z,10nm,0.8s,baz=300,slow=22,SNR=1.2
URZ PKKPbc **PKKPbc** **23 25 10.5 -1.1**
comp=Z,15nm,0.9s,baz=120,slow=19,SNR=3.3
URZ LR LR 23 36 54.5
comp=Z,836µm,20.5s,baz=182,slow=30
URZ Urewera 85.46 227 P **P** **23 07 08.3 -0.1**
URZ IAmb IAmb 23 08 13.3
comp=Z,1µm,1.6s
LTZ Lake Taylor 85.55 222 P **P** **23 07 09.2 +0.4**
LTZ IAmb IAmb 23 07 57.1
comp=Z,2µm,1.4s
LTZ IAMs_20 IAMs_20 23 38 39.3
comp=Z,700µm,19.0s
RPZ Rata Peaks 85.63 220 P **P** **23 07 09.9 +0.8**
RPZ IAMs_20 IAMs_20 23 37 57.3
comp=Z,816µm,20.0s
LBZ Lake Benmore 85.66 219 P **P** **23 07 09.8 +0.6**
LBZ IAmb IAmb 23 08 23.1
comp=Z,4µm,2.2s
O02D Mt. Diablo Mer 85.70 323 P **P** **23 07 09.2 -0.2**
baz=138,SNR=12
O02D S **S** **23 17 46.7 +5.1**
baz=138
KCPM Cahto Peak 85.75 322 IAmb IAmb 23 08 42.4
comp=Z,1µm,1.3s
KCPM IAMs_20 IAMs_20 23 37 38.1
comp=Z,581µm,21.0s
MOD Modoc Plateau 85.78 326 IAMs_20 IAMs_20 23 40 13.8
comp=Z,840µm,22.0s
THZ Tophouse 85.83 223 P **P** **23 07 11.3 +1.1**
THZ IAMs_20 IAMs_20 23 37 37.9
comp=Z,620µm,22.0s
WDC Whiskeytown Da 85.88 324 IAMs_20 IAMs_20 23 38 58.5
comp=Z,585µm,21.0s
CRLN Carolina, Mapu 85.89 118⇑ *i*P **P** **23 07 08.9 -2.0**
NNZ Nelson 85.90 223 P **P** **23 07 11.0 +0.6**
NNZ IAmb IAmb 23 08 22.3
comp=Z,2µm,1.3s
NNZ IAMs_20 IAMs_20 23 36 20.8
comp=Z,542µm,22.0s
WKZ Wanaka 86.00 218 P **P** **23 07 11.2 +0.2**
J08A Circle Bar Ran 86.05 328 P **P** **23 07 11.3 +0.2**
J08A IAmb IAmb 23 07 49.9
comp=Z,3µm,1.6s
J08A IAMs_20 IAMs_20 23 40 29.8
comp=Z,961µm,21.0s
MLZ Mavora Lakes 86.11 218 P **P** **23 07 12.1 +0.7**
MLZ IAmb IAmb 23 08 15.7
comp=Z,3µm,1.9s
EAH EAH 86.11 49 P **P** **23 07 13.0 +1.5**
TTIG Tnine Tigouga, 86.15 51 P **P** **23 07 13.0 +1.1**
KMRM Mail Ridge 86.21 323 IAmb IAmb 23 08 05.1
comp=Z,3µm,1.5s
SCHQ Schefferville 86.22 3 P **P** **23 07 10.2 -1.2**
comp=Z,88nm,1.1s,baz=158,slow=3.3,SNR=29
SCHQ S **S** **23 17 49.8 +3.9**
comp=Z,27nm,1.1s,baz=276,slow=6.4,SNR=1.3
SCHQ Schefferville 86.22 3 IAmb IAmb 23 07 50.7
comp=Z,2µm,1.2s
N02D Trinity Center 86.26 324 P **P** **23 07 11.4 -0.6**
baz=138,SNR=14
N02D S **S** **23 17 49.4 +2.5**
baz=138
PYZ Puysegur Point 86.30 216 P **P** **23 07 13.1 +0.8**
PYZ IAMs_20 IAMs_20 23 36 33.1
comp=Z,631nm,21.0s
EGMT Eagleton 86.34 335 IAMs_20 IAMs_20 23 43 25.1
comp=Z,485µm,20.0s
EGMT Eagleton 86.34 335 P **P** **23 07 11.1 -1.2**
baz=148,SNR=26
EGMT S **S** **23 17 48.9 +1.4**
baz=148
POGA Pongola 86.40 120⇑ *i*P **P** **23 07 11.9 -1.3**
POGA IAmb IAmb 23 07 35.2
comp=Z,6µm,2.5s
FOZ Fox Glacier 86.43 220 P **P** **23 07 14.9 +1.9**
FOZ IAMs_20 IAMs_20 23 38 49.4
comp=Z,741µm,19.0s
M04C Macdoel 86.43 325 P **P** **23 07 12.8 -0.2**
baz=139,SNR=40
M04C S **S** **23 17 50.3 +1.5**
baz=139
M02C Callahan 86.64 324 P **P** **23 07 13.7 -0.3**
baz=138,SNR=14
M02C S **S** **23 17 53.6 +2.9**
baz=138
QRZ Quartz Range 86.65 223 IAMs_20 IAMs_20 23 38 18.6
comp=Z,431µm,21.0s
HAGI HAGI 86.70 119⇓ *i*P **P** **23 07 14.2 -0.7**
HAGI IAmb IAmb 23 07 38.5
comp=Z,614nm,1.1s
KHMM Horse Mountain 86.70 323 IAmb IAmb 23 08 10.3
comp=Z,2µm,1.4s
KHMM IAMs_20 IAMs_20 23 39 42.3
comp=Z,555µm,21.0s
BMO Blue Mountains 86.71 329 IAmb IAmb 23 08 06.1
comp=Z,4µm,2.2s
HIZ Hauiti 86.71 226 P **P** **23 07 15.3 +0.8**
HIZ IAmb IAmb 23 08 20.0
comp=Z,2µm,1.4s
MMAL MMAL 86.74 119⇓ *i*P **P** **23 07 14.8 -0.2**
MMAL IAmb IAmb 23 07 38.9
comp=Z,770nm,1.2s
JCC Jacoby Creek, 86.81 323 IAmb IAmb 23 07 47.6
comp=Z,3µm,1.8s
JCC IAMs_20 IAMs_20 23 39 28.3
comp=Z,652µm,22.0s
YBH Yreka Blue Hor 86.83 324 LR LR 23 40 00.9
comp=Z,590µm,20.5s,baz=151,slow=32
YBH Yreka Blue Hor 86.83 324 IAMs_20 IAMs_20 23 39 48.6
comp=Z,652µm,22.0s
MSO Missoula 86.91 332 IAmb IAmb 23 08 07.3
comp=Z,4µm,2.5s
MSO Missoula 86.91 332 P **P** **23 07 14.9 -0.3**
baz=145,SNR=10
MSO S **S** **23 17 58.4 +5.3**
baz=145
OUK Oukaimeden 86.95 50 P **P** **23 07 17.0 +1.0**
L04D Klamath Falls 86.99 325 P **P** **23 07 15.3 -0.4**
baz=139
L04D S **S** **23 17 57.6 +3.4**
baz=139
K04D Chiloquin, OR 87.03 325 P **P** **23 07 15.8 -0.1**
baz=139,SNR=24
K04D S **S** **23 18 01.2 +6.7**
baz=139
CRZF Crozet Islands 87.08 145 P **P** **23 07 17.7 +1.6**
CRZF IAmb IAmb 23 08 07.2
comp=Z,2µm,1.6s
I07A Izee 87.08 328 IAmb IAmb 23 07 54.9
comp=Z,2µm,1.5s
I07A IAMs_20 IAMs_20 23 41 02.1
comp=Z,883µm,22.0s
KRMB Red Mountain 87.27 324 IAmb IAmb 23 08 12.8
comp=Z,1µm,1.4s
J05D Fort Rock, OR 87.28 326 P **P** **23 07 17.0 -0.1**
baz=140,SNR=67
J05D S **S** **23 18 01.3 +4.3**
baz=140
CNG Changalane 87.34 119⇑ *i*P **P** **23 07 17.7 -0.1**
CNG IAmb IAmb 23 07 41.7
comp=Z,372nm,1.1s
RAO Raoul Island 87.39 237 P **P** **23 07 19.6 +1.6**
comp=Z,61nm,0.5s,baz=103,slow=14,SNR=0.9
RAO LR LR 23 37 13.4
comp=Z,636µm,21.8s,baz=134,slow=29
RAO Raoul Island 87.39 237 IAMs_20 IAMs_20 23 37 01.3
comp=Z,594µm,22.0s
XMAS Kiritimati 87.44 274 IAMs_20 IAMs_20 23 39 35.5
comp=Z,401µm,19.0s
PINE Pine Mountain 87.53 327 IAmb IAmb 23 07 57.4
comp=Z,2µm,1.4s
F10A Beach Ranch, E 87.56 330 IAmb IAmb 23 07 56.4
comp=Z,3µm,1.9s
L02E Cave Junction 87.59 324 P **P** **23 07 18.6 +0.1**
baz=138,SNR=12
L02E S **S** **23 18 05.0 +5.3**
baz=138
HUMO Hull Mountain 87.60 325 IAmb IAmb 23 08 32.3
comp=Z,2µm,2.0s
HUMO IAMs_20 IAMs_20 23 40 08.0
comp=Z,427µm,19.0s
J04D Umpqua Nationa 87.66 326 P **P** **23 07 18.8 -0.2**
baz=139,SNR=8.0
J04D S **S** **23 18 05.4 +4.6**
baz=139
MATP Matopo 87.73 113 P **P** **23 07 19.4 -0.5**
comp=Z,26nm,0.8s,baz=236,slow=9.5,SNR=24
MATP Matopo 87.73 113⇑ *i*P **P** **23 07 19.3 -0.6**
G08A Pilot Rock 87.78 329 IAmb IAmb 23 08 11.6
comp=Z,2µm,1.6s
M16D M16D 87.83 323 P P 23 07 31.8 +12
M16D S S 23 18 49.9 +48
MSNA Messina 87.88 115⇑ *i*P **P** **23 07 17.9 -2.6**
MSNA IAmb IAmb 23 07 56.2
comp=Z,679nm,1.0s
K02D Willamette Mer 88.02 324 P **P** **23 07 21.0 +0.5**
baz=138,SNR=23
K02D S **S** **23 18 08.2 +4.3**
baz=138
DBO Dodson Butte 88.12 325 IAMs_20 IAMs_20 23 40 23.8
comp=Z,467µm,20.0s
I05D Terrebonne, OR 88.13 327 P **P** **23 07 21.4 +0.4**
baz=140,SNR=44
I05D S **S** **23 18 09.9 +5.0**
baz=140
TZRR Tazzarine 88.21 52 P **P** **23 07 23.0 +1.2**
I04A Tendick Farm, 88.22 326 P **P** **23 07 20.8 -0.7**
baz=139,SNR=20
I04A S **S** **23 18 10.3 +4.6**
baz=139
MOPA Mopani 88.29 117⇑ *i*P **P** **23 07 21.5 -0.9**
MOPA IAmb IAmb 23 07 46.0
comp=Z,56nm,1.0s
J01E Myrtle Point 88.49 325 P **P** **23 07 23.1 +0.4**
baz=138
J01E S **S** **23 18 11.6 +3.4**
baz=138
AVE Averroes 88.58 49 P **P** **23 07 22.9 -0.5**
AVE S **S** **23 18 17.8 +8.3**
I03D Drain, OR 88.60 325 P **P** **23 07 23.0 -0.1**
baz=138,SNR=9.7
I03D S **S** **23 18 10.9 +1.8**
baz=138
E08A Dider Farm, El 88.76 329 IAmb IAmb 23 08 15.7
comp=Z,3µm,2.4s
H04A Detroit Lake 88.79 327 IAmb IAmb 23 08 02.2
comp=Z,884nm,1.2s
BUCK Buck Mountain 88.80 326 IAmb IAmb 23 09 06.1
comp=Z,1µm,1.1s
G05D Wamic, OR 88.80 327 P **P** **23 07 24.3 +0.2**
baz=140,SNR=27
G05D S **S** **23 18 15.3 +4.2**
baz=140
H04D Lebanon 88.93 326 P **P** **23 07 24.2 -0.5**
baz=138,SNR=9.5
H04D S **S** **23 18 11.3 -0.9**
baz=138
I02D Swisshome 89.15 325 P **P** **23 07 26.3 +0.6**
baz=138
I02D S **S** **23 18 14.6 +0.4**
baz=138
E07A Sunnyside 89.16 329 IAmb IAmb 23 08 19.2
comp=Z,3µm,2.1s
ZHG ZHG 89.17 49 P **P** **23 07 26.0 -0.2**
COR Corvallis 89.24 326 P **P** **23 07 27.0 +0.9**
COR MLR MLR
comp=Z,519µm,18.0s
COR Corvallis 89.24 326 P **P** **23 07 27.0 +0.9**
COR Corvallis 89.24 326 IAMs_20 IAMs_20 23 46 21.3
comp=Z,519µm,18.0s
NEW Newport 89.34 332 LR LR 23 44 03.9
comp=Z,96µm,19.6s,baz=142,slow=33
NEW Newport 89.34 332 IAmb IAmb 23 08 17.6
comp=Z,2µm,2.2s
NEW Newport 89.34 332 P **P** **23 07 25.3 -1.3**
baz=143,SNR=27
NEW S **S** **23 18 14.5 -1.6**
baz=143
F05D White Salmon 89.36 328 P **P** **23 07 26.6 -0.1**
baz=139
F05D S **S** **23 18 17.9 +1.7**
baz=139
OUZ Omahuta 89.56 228 P **P** **23 07 28.2 +0.1**
OUZ IAmb IAmb 23 08 32.6
comp=Z,4µm,2.3s
OUZ IAMs_20 IAMs_20 23 39 54.8
comp=Z,648µm,20.0s
G03D McMinnville, O 89.69 326 P **P** **23 07 28.2 0.0**
baz=138
G03D S **S** **23 18 21.7 +2.4**
baz=138
FFC Flin Flon 89.89 343 P **P** **23 07 27.7 -1.2**
FFC pmax pmax
comp=Z,718nm,1.4s
FFC MLR MLR
comp=Z,559µm,18.0s
FFC Flin Flon 89.89 343 P **P** **23 07 27.7 -1.2**
FFC Flin Flon 89.89 343 IAMs_20 IAMs_20 23 55 44.5
comp=Z,559µm,18.0s
CZD Col de Zad 89.96 50 P **P** **23 07 31.1 +0.9**
CZD Col de Zad 89.96 50 P **P** **23 07 33.0 +2.8**
MDT Midelt 90.11 51 P **P** **23 07 30.6 -0.1**
comp=Z,40nm,1.0s,baz=245,slow=6.7,SNR=16
MDT Midelt 90.11 51 P **P** **23 07 30.9 +0.2**
PFVI Vila Bisbo 90.17 45 *e*P **P** **23 07 32.2 +1.5**
comp=Z,1µm,1.6s
PFVI *i* LQ LQ 23 07 51.9
PFVI Vila Bisbo 90.17 45 *e*S S 23 18 35.8 +12
LON Longmire 90.17 328 P **P** **23 07 29.8 -0.7**
LON pmax pmax
comp=Z,4µm,2.5s
LON MLR MLR
comp=Z,676µm,20.0s
LON Longmire 90.17 328 P **P** **23 07 29.8 -0.7**
LON IAmb IAmb 23 08 41.2
comp=Z,4µm,2.5s
LON IAMs_20 IAMs_20 23 44 48.8
comp=Z,676µm,20.0s
IFR Ifrane 90.20 50 P **P** **23 07 30.1 -1.1**
IFR S **S** **23 18 28.2 +3.2**
F04D Rainier, OR 90.22 327 P **P** **23 07 31.0 +0.4**
baz=138
F04D S **S** **23 18 28.8 +4.6**
baz=138
LSZ Lusaka 90.26 108⇑ *i*P **P** **23 07 31.1 -0.8**
LSZ IAmb IAmb 23 08 22.9
comp=Z,9µm,1.0s
LSZ Lusaka 90.26 108 P **P** **23 07 32.3 +0.4**
LSZ pmax pmax
comp=Z,7µm,2.2s
LSZ MLR MLR
comp=Z,2003µm,18.0s
LSZ Lusaka 90.26 108 P **P** **23 07 32.2 +0.4**
E04D Cinebar 90.37 328 P **P** **23 07 30.5 -0.9**
baz=139,SNR=8.7
E04D S **S** **23 18 34.0 +8.5**
baz=139
MORF Marmelete 90.38 45 *e*P **P** **23 07 32.0 +0.2**
MORF IAMs_20 IAMs_20 23 47 48.0
comp=Z,1932µm,17.9s
MORF Marmelete 90.38 45 *e*P **P** **23 07 32.0 +0.2**
MORF Marmelete 90.38 45 *e*P **P** **23 07 31.5 -0.3**
comp=Z,719nm,1.5s
MORF *i* LQ LQ 23 07 52.9
LCRM LCR 90.48 50 P **P** **23 07 33.0 +0.5**
LCRM LCR 90.48 50 P **P** **23 07 35.0 +2.5**
LCRM LCR 90.48 50 P **P** **23 07 35.0 +2.5**
PTEO Sao Teotonio 90.50 45 *e*P **P** **23 07 32.7 +0.5**

	comp=Z,1µm,1.3s								
PTEO					*i* LQ	LQ	23 07 52.7		
D05A	**Enumclaw**	**90.58**	**328**		P	**P**	**23 07 32.1**	**-0.2**
D05A					IAmb	IAmb	23 08 15.7		
	comp=Z,2µm,1.4s								
RSA	**Sarsar**	**90.60**	**49**		P	**P**	**23 07 34.0**	**+1.1**
RSA	**Sarsar**	**90.60**	**49**		P	**P**	**23 07 36.0**	**+3.1**
C06D	**Leavenworth**	**90.66**	**329**		P	**P**	**23 07 31.6**	**-1.1**
	baz=140								
C06D					S	**S**	**23 18 30.8**	**+2.6**
	baz=140								
PBDV	**Barranco-do-Ve**	**90.78**	**46**	*e*P		**P**	**23 07 33.2**	**-0.4**
	comp=Z,1µm,1.3s								
PBDV					*i* LQ	LQ	23 07 54.9		
PBDV	**Barranco-do-Ve**	**90.78**	**46**	*e*S		**S**	**23 18 35.8**	**+5.9**
E03A	**Lebam**	**90.82**	**327**		IAMs_20	IAMs_20	23 49 18.1		
	comp=Z,528µm,18.0s								
D04E	**Lakebay**	**90.93**	**328**		P	**P**	**23 07 34.1**	**+0.2**
	baz=138								
PCVE	**Castro Verde**	**90.97**	**45**	*e*P		**P**	**23 07 34.2**	**-0.2**
	comp=Z,782nm,1.5s								
PCVE					*i* LQ	LQ	23 07 55.7		
PCVE	**Castro Verde**	**90.97**	**45**	*e*S		**S**	**23 18 31.9**	**+0.4**
PNCL	**Nicolau / Gran**	**90.98**	**45**	*e*P		**P**	**23 07 34.8**	**+0.4**
	comp=Z,742nm,1.5s								
PNCL					*i* LQ	LQ	23 07 55.6		
PNCL	**Nicolau / Gran**	**90.98**	**45**	*e*S		**S**	**23 18 32.3**	**+0.8**
MESJ	**Messejana**	**90.99**	**45**	*e*P		**P**	**23 07 34.8**	**+0.2**
MESJ					IAMs_20	IAMs_20	23 49 27.4		
	comp=Z,1307µm,16.6s								
MESJ	**Messejana**	**90.99**	**45**	*e*P		**P**	**23 07 34.7**	**+0.2**
MESJ	**Messejana**	**90.99**	**45**	*e*P		**P**	**23 07 34.2**	**-0.3**
	comp=Z,797nm,1.4s								
MESJ					*i* LQ	LQ	23 07 55.9		
PMST	**Lisbon--Monsan**	**91.00**	**44**	*i* LQ		LQ	23 07 55.8		
LIS	**Lisbon**	**91.00**	**44**	*e*P		**P**	**23 07 35.0**	**+0.5**
LIS					IAMs_20	IAMs_20	23 45 21.3		
	comp=Z,1367µm,24.2s								
LIS	**Lisbon**	**91.00**	**44**	*e*P		**P**	**23 07 35.0**	**+0.5**
PVAQ	**Vaqueiros**	**91.02**	**46**	*e*P		**P**	**23 07 34.6**	**0.0**
	comp=Z,1µm,1.8s								
PVAQ					*i* LQ	LQ	23 07 55.9		
PVAQ	**Vaqueiros**	**91.02**	**46**	*e*S		**S**	**23 18 29.9**	**-2.0**
PVAQ	**Vaqueiros**	**91.02**	**46**	*e*LQ		LQ	23 32 04.5		
PVAQ					eLR	LR	23 38 40.9		
	comp=Z,1992µm,20.0s								
PVAQ	**Vaqueiros**	**91.02**	**46**	P		**P**	**23 07 34.6**	**0.0**
PVAQ	**Vaqueiros**	**91.02**	**46**	P		**P**	**23 07 34.7**	**0.0**
CHEFC	**Chefchaouen**	**91.05**	**49**	P		**P**	**23 07 36.0**	**+1.0**
CHEFC	**Chefchaouen**	**91.05**	**49**	P		**P**	**23 07 38.0**	**+3.0**
CHEFC	**Chefchaouen**	**91.05**	**49**	P		**P**	**23 07 38.0**	**+3.0**
PMAFR	**Mafra**	**91.08**	**44**	*i* LQ		LQ	23 07 55.2		
PMAFR	**Mafra**	**91.08**	**44**	*e*S		**S**	**23 18 35.5**	**+3.0**
AFI	**Afiamalu**	**91.17**	**253**	P		**P**	**23 07 36.7**	**+0.7**
	comp=Z,14nm,0.2s,baz=214,slow=11,SNR=1.7								
AFI					LR	LR	23 40 36.1		
	comp=Z,904µm,19.5s,baz=124,slow=30								
PBEJ	**Beja**	**91.32**	**45**	*e*P		**P**	**23 07 36.0**	**-0.1**
	comp=Z,809nm,2.1s								
PBEJ					*i* LQ	LQ	23 07 56.7		
SFS	**San Fernando**	**91.35**	**47**	P		**P**	**23 07 36.6**	**+0.5**
SFS				S		**S**	**23 18 27.4**	**-7.6**
SMIR	**Smir Dam**	**91.38**	**48**	P		**P**	**23 07 38.0**	**+1.6**
SMIR	**Smir Dam**	**91.38**	**48**	P		**P**	**23 07 40.0**	**+3.7**
SMIR	**Smir Dam**	**91.38**	**48**	P		**P**	**23 07 40.0**	**+3.7**
CNIL	**Conil**	**91.39**	**47**	P		**P**	**23 07 36.0**	**-0.4**
ARNO	**Arenosillo**	**91.43**	**46**	P		**P**	**23 07 34.1**	**-2.4**
ARNO				S		S	23 18 23.3	-12	
B05A	**Bryant**	**91.44**	**329**	P		**P**	**23 07 35.3**	**-1.1**
	baz=139,SNR=19								
B05A					S	**S**	**23 18 39.0**	**+3.8**
	baz=139								
CEU	**Ceuta**	**91.52**	**48**	P		**P**	**23 07 36.4**	**-0.6**
CEU				S		S	23 18 26.6	-10	
EVO	**Evora**	**91.56**	**45**	P		**P**	**23 07 36.8**	**-0.3**
EVO				S		**S**	**23 18 35.5**	**-1.3**
EVO	**Evora**	**91.56**	**45**	*e*P		**P**	**23 07 36.3**	**-0.8**
	comp=Z,455nm,1.5s								
EVO					*i* LQ	LQ	23 07 58.1		
NLWA	**Neilton Lookou**	**91.59**	**328**		IAmb	IAmb	23 08 29.4		
	comp=Z,3µm,2.6s								
NLWA					IAMs_20	IAMs_20	23 42 32.3		
	comp=Z,632µm,22.0s								
PSBE	**So Bento**	**91.73**	**44**	*e*P		**P**	**23 07 37.8**	**-0.1**
	comp=Z,1µm,1.4s								
PSBE					*i* LQ	LQ	23 07 59.1		
PSBE	**So Bento**	**91.73**	**44**	*e*S		**S**	**23 18 39.9**	**+1.5**
PVLZ	**Peæn de**	**91.76**	**49**	P		**P**	**23 07 36.3**	**-1.8**
PVLZ				S		S	23 18 27.5	-11	
PMTG	**Montargil**	**91.78**	**44**	*e*P		**P**	**23 07 37.4**	**-0.7**
	comp=Z,1µm,1.6s								
PMTG					*i* LQ	LQ	23 07 59.1		
PMTG	**Montargil**	**91.78**	**44**	*e*S		**S**	**23 18 39.9**	**+1.1**
PBAR	**Barrancos**	**91.92**	**45**	*e*P		**P**	**23 07 38.4**	**-0.4**
	comp=Z,511nm,1.4s								
PBAR					*i* LQ	LQ	23 07 59.5		
FIGM	**Figuig**	**91.94**	**53**	P		**P**	**23 07 40.0**	**+0.7**
EDM	**Edmonton**	**91.95**	**336**		IAmb	IAmb	23 08 21.1		
	comp=Z,671nm,1.0s								
EDM					IAMs_20	IAMs_20	23 46 36.3		
	comp=Z,572µm,20.0s								
TDRA	**Tendrara**	**91.96**	**52**	P		**P**	**23 07 40.0**	**+0.6**
PESTR	**Estremoz**	**92.03**	**45**	*e*P		**P**	**23 07 39.4**	**+0.1**
	comp=Z,851nm,1.5s								
PESTR					*i* LQ	LQ	23 08 00.4		
PESTR	**Estremoz**	**92.03**	**45**	*e*S		**S**	**23 18 40.9**	**-0.2**
PESTR	**Estremoz**	**92.03**	**45**	P		**P**	**23 07 37.2**	**-2.1**
PESTR					IAMs_20	IAMs_20	23 45 34.5		
	comp=Z,549µm,22.0s								
PESTR	**Estremoz**	**92.03**	**45**	P		P	23 07 46.1	+6.8	
PESTR	**Estremoz**	**92.03**	**45**	P		P	23 07 46.1	+6.8	
A04D	**Lummi Island**	**92.05**	**329**	P		**P**	**23 07 38.0**	**-1.1**
	baz=138								
A04D					S	**S**	**23 18 43.0**	**+2.3**
	baz=138								
LIJA	**Lijar**	**92.13**	**47**	P		P	23 07 44.8	+4.8	
PCAS	**Casmilo, Conde**	**92.25**	**43**	*e*P		**P**	**23 07 40.1**	**-0.2**
	comp=Z,833nm,1.6s								
PCAS					*i* LQ	LQ	23 08 01.0		
PCAS	**Casmilo, Conde**	**92.25**	**43**	*e*S		**S**	**23 18 42.2**	**-0.8**
JBK	**JBK**	**92.38**	**51**	P		**P**	**23 07 42.0**	**+0.7**
JBK	**JBK**	**92.38**	**51**	P		P	23 07 57.0	+16	
COI	**Coimbra**	**92.41**	**43**	P		**P**	**23 07 39.7**	**-1.3**
COI					pmax	pmax			
	comp=Z,720nm,1.1s								
COI					MLR	MLR			
	comp=Z,1692µm,19.0s								
COI	**Coimbra**	**92.41**	**43**	*e*P		**P**	**23 07 41.5**	**+0.5**
	comp=Z,1µm,1.4s								
COI					*i* LQ	LQ	23 08 01.8		
COI	**Coimbra**	**92.41**	**43**	*e*S		**S**	**23 18 44.3**	**0.0**
COI	**Coimbra**	**92.41**	**43**	P		**P**	**23 07 39.7**	**-1.3**
COI					IAmb	IAmb	23 08 35.4		
	comp=Z,720nm,1.1s								
PMRV	**Marv??o**	**92.51**	**44**	*e*P		**P**	**23 07 40.6**	**-0.9**
	comp=Z,502nm,1.3s								
PMRV					*i* LQ	LQ	23 08 02.1		
PMRV	**Marv??o**	**92.51**	**44**	*e*S		**S**	**23 18 45.3**	**0.0**
PMRV	**Marv??o**	**92.51**	**44**	*e*LQ		LQ	23 34 26.2		
PMRV					eLR	LR	23 39 45.0		
	comp=Z,941µm,20.0s								
PAF	**Port-aux-Franc**	**92.52**	**156**		IAMs_20	IAMs_20	23 53 55.3		
	comp=Z,546µm,19.0s								
GOG	**Mont Gurugu**	**92.64**	**50**	P		P	23 07 59.0	+17	
EMAL	**Malaga-Limoner**	**92.66**	**48**	P		**P**	**23 07 41.6**	**-0.7**
EMAL				S		**S**	**23 18 39.9**	**-6.8**
PCBR	**Castelo Branco**	**92.72**	**44**	*e*P		**P**	**23 07 41.7**	**-0.7**
	comp=Z,537nm,1.5s								
PCBR					*i* LQ	LQ	23 08 02.8		
MELI	**Melilla**	**92.72**	**50**	P		**P**	**23 07 40.3**	**-2.3**
MELI				S		S	23 18 33.1	-14	
PVIS	**Viseu**	**93.03**	**43**	*e*P		**P**	**23 07 43.4**	**-0.6**
	comp=Z,489nm,2.2s								
PVIS					*i* LQ	LQ	23 08 01.7		
MTE	**Manteigas**	**93.04**	**43**	*e*P		**P**	**23 07 43.6**	**-0.4**
	comp=Z,734nm,1.2s								
MTE					*i* LQ	LQ	23 08 04.5		
MTE	**Manteigas**	**93.04**	**43**	*e*S		**S**	**23 18 46.8**	**-3.3**
MTE	**Manteigas**	**93.04**	**43**	*e*LQ		LQ	23 33 22.8		
MTE					eLR	LR	23 39 40.4		
	comp=Z,1353µm,22.0s								
MTE	**Manteigas**	**93.04**	**43**	P		**P**	**23 07 43.2**	**-0.8**
LLLB	**Lillooet**	**93.12**	**331**		IAmb	IAmb	23 08 21.4		
	comp=Z,880nm,1.6s								
PVRL	**Vila Real**	**93.50**	**43**	*e*P		**P**	**23 07 45.8**	**-0.3**
	comp=Z,742nm,1.6s								
PVRL					*i* LQ	LQ	23 08 05.0		
POLO	**Lamas de Olo**	**93.51**	**43**	*e*P		**P**	**23 07 45.3**	**-0.9**
	comp=Z,304nm,1.5s								
POLO					*i* LQ	LQ	23 08 06.9		
POLO	**Lamas de Olo**	**93.51**	**43**	*e*S		**S**	**23 18 54.3**	**-0.1**
PCAB	**Cabril**	**93.60**	**42**	*i* LQ		LQ	23 08 02.0		
PGAV	**Gavieira, Arco**	**93.62**	**42**	*i* LQ		LQ	23 08 07.0		
PGAV	**Gavieira, Arco**	**93.62**	**42**	*e*S		**S**	**23 19 00.5**	**+5.2**
PGAV	**Gavieira, Arco**	**93.62**	**42**	*e*LQ		LQ	23 32 44.5		
PGAV					eLR	LR	23 39 38.4		
	comp=Z,1476µm,20.0s								
MVO	**Moncorvo**	**93.83**	**43**	*e*P		**P**	**23 07 47.1**	**-0.5**
	comp=Z,819nm,2.4s								
MVO					*i* LQ	LQ	23 08 07.0		
MVO	**Moncorvo**	**93.83**	**43**	*e*S		**S**	**23 19 00.5**	**+3.5**
MVO	**Moncorvo**	**93.83**	**43**	*e*LQ		LQ	23 34 59.7		
MVO					eLR	LR	23 40 23.0		
	comp=Z,1489µm,18.0s								
PBRG	**Braganca**	**94.40**	**43**	*e*P		**P**	**23 07 49.5**	**-0.7**
	comp=Z,662nm,1.5s								
PBRG					*i* LQ	LQ	23 08 10.8		
PBRG	**Braganca**	**94.40**	**43**	*e*S		**S**	**23 19 01.3**	**-0.7**
PAB	**San Pablo**	**94.42**	**46**	P		**P**	**23 07 49.5**	**-0.9**
PAB					pmax	pmax			
	comp=Z,411nm,1.3s								
PAB					MLR	MLR			
	comp=Z,1577µm,19.0s								
PAB	**San Pablo**	**94.42**	**46**	P		**P**	**23 07 49.5**	**-0.9**
PAB	**San Pablo**	**94.42**	**46**	P		**P**	**23 07 49.9**	**-0.5**
USTO	**Oran**	**94.54**	**51**	P		P	23 08 14.0	+23	
ODJA	**Bouhanifia**	**94.57**	**51**	P		**P**	**23 07 53.0**	**+1.8**
ESDC	**Sonseca Array**	**94.73**	**46**	P		**P**	**23 07 50.7**	**-1.1**
	comp=Z,17nm,1.0s,baz=240,slow=3.9,SNR=28								
ESDC					LR	LR	23 51 04.9		
	comp=Z,1295µm,18.1s,baz=245,slow=36								
ESDC	**Sonseca Array**	**94.73**	**46**	P		**P**	**23 07 50.5**	**-1.3**
ESDC					IAmb	IAmb	23 08 13.3		
	comp=Z,2µm,2.7s								
ESBB	**Sonseca Array**	**94.73**	**46**	P		**P**	**23 07 51.2**	**-0.6**
NRS	**Narsarsuaq**	**94.92**	**12**	*i* P		P	23 08 05.8	+14	
NRS					IAMs_20	IAMs_20	23 54 05.5		
	comp=Z,930µm,17.1s								
NRS	**Narsarsuaq**	**94.92**	**12**	P		**P**	**23 07 50.8**	**-1.2**
NRS					pmax	pmax			
	comp=Z,852nm,1.5s								
NRS					MLR	MLR			
	comp=Z,915µm,18.0s								
NRS	**Narsarsuaq**	**94.92**	**12**	P		**P**	**23 07 50.8**	**-1.2**
NRS					IAmb	IAmb	23 08 37.8		
	comp=Z,852nm,1.5s								
CART	**Cartagena**	**95.34**	**49**	P		**P**	**23 07 51.3**	**-3.2**
CART				S		S	23 18 45.2	-25	
CART	**Cartagena**	**95.34**	**49**	IAMs_20		IAMs_20	23 55 53.6		
	comp=Z,472µm,18.0s								
UCM	**Universidad Co**	**95.55**	**46**	P		**P**	**23 07 58.0**	**+2.5**
UCM				S		S	23 18 49.5	-23	
EANR	**'Ain N'Sour**	**95.76**	**51**	P		P	23 08 08.0	+11	
ECHA	**Ech Chlef**	**96.05**	**51**	P		P	23 08 10.0	+12	
EBNR	**Beni Rached**	**96.24**	**51**	P		P	23 08 11.0	+12	
KHLH	**Kahului Airpor**	**96.43**	**290**	IAMs_20		IAMs_20	23 47 09.7		
	comp=Z,326µm,18.0s								
NUUK	**Nuuk**	**96.79**	**9**	IAMs_20		IAMs_20	23 56 18.5		
	comp=Z,484µm,18.7s								
NUUK	**Nuuk**	**96.79**	**9**	*i* P		P	23 08 14.5	+14	
BBB	**Bella Bella**	**96.95**	**329**	P		**P**	**23 07 59.9**	**-1.5**
KNTN	**Kanton**	**97.08**	**262**	IAMs_20		IAMs_20	23 44 18.7		
	comp=Z,528µm,20.0s								
MSVF	**Nonsavu**	**97.09**	**244**	LR		LR	23 45 56.2		
	comp=Z,329µm,18.6s,baz=102,slow=32								
MSVF	**Nonsavu**	**97.09**	**244**	*i* P		**P**	**23 08 02.4**	**-0.8**
MSVF					pmax	pmax			
	comp=Z,271nm,1.7s								
MSVF	**Nonsavu**	**97.09**	**244**	IAMs_20		IAMs_20	23 45 28.3		
	comp=Z,354µm,20.0s								
KIP	**Kipapa**	**97.97**	**290**	*i* P		**P**	**23 08 04.7**	**-2.2**
KIP					pmax	pmax			
	comp=Z,54nm,1.1s								
OPA	**Opana**	**98.10**	**290**	IAMs_20		IAMs_20	23 42 24.9		
	comp=Z,338µm,21.0s								
SET	**Setif**	**98.79**	**53**	P		Pdif	23 08 11.0	+0.6	
DFRA	**Djebel Bou Aff**	**99.30**	**53**	P		**Pdif**	**23 08 13.6**	**+0.9**
MOBC	**Moresby Island**	**99.32**	**328**	IAMs_20		IAMs_20	23 50 09.8		
	comp=Z,341µm,20.0s								
CASM	**Ain Smara**	**99.57**	**53**	P		**Pdif**	**23 08 17.9**	**+4.1**
SFJD	**Kangerlussuaq**	**99.63**	**8**	P		**Pdif**	**23 08 13.1**	**0.0**
	comp=Z,9.5nm,0.9s,baz=126,slow=1.8,SNR=4.3								
SFJD	**Kangerlussuaq**	**99.63**	**8**	*i* P		**Pdif**	**23 08 26.6**	**+13**
SFJD				IAMs_20		IAMs_20	23 56 38.7		
	comp=Z,279µm,18.3s								
SFJD	**Kangerlussuaq**	**99.63**	**8**	P		**Pdif**	**23 08 12.6**	**-0.6**
SFJD					pmax	pmax			
	comp=Z,312nm,1.6s								
SFJD					MLR	MLR			
	comp=Z,445µm,19.0s								
SFJD	**Kangerlussuaq**	**99.63**	**8**	P		**Pdif**	**23 08 12.6**	**-0.6**
SFJD	**Kangerlussuaq**	**99.63**	**8**	IAMs_20		IAMs_20	23 56 45.5		
	comp=Z,445µm,19.0s								
DY2G	**Dye2**	**99.72**	**10**	*e*P		**Pdif**	**23 08 30.7**	**+17**
DY2G				IAMs_20		IAMs_20	23 53 39.5		
	comp=Z,1091µm,20.1s								
CKFL	**Kef-Lekhel**	**99.80**	**53**	P		**Pdif**	**23 08 18.8**	**+3.9**
YKA	**Yellowknife Ar**	**99.92**	**341**	P		**Pdif**	**23 08 14.4**	**-0.1**
	comp=Z,1.9nm,0.5s,baz=97,slow=5.4,SNR=9.9								
YKA					PKKPbc	**PKKPbc**	**23 24 34.4**	**-1.6**
	comp=Z,3.1nm,0.8s,baz=330,slow=3.4,SNR=4.3								
YKA					LR	LR	23 52 41.8		
	comp=Z,416µm,19.8s,baz=0.0,slow=35								
ISOG	**Isortoq, Green**	**100.14**	**13**	*e*P		**Pdif**	**23 08 31.0**	**+16**
ISOG					IAMs_20	IAMs_20	23 53 02.7		
	comp=Z,647µm,20.2s								
MBAR	**Mbarara**	**100.26**	**97**	*c i*P		**Pdif**	**23 08 16.9**	**-0.7**
CMAH	**Djebel Manchou**	**100.40**	**53**	P		**Pdif**	**23 08 16.3**	**-1.2**
CCA1	**Carnmenellis**	**100.42**	**37**	*e*P		**Pdif**	**23 08 18.9**	**+1.8**
CCA1					IAMs_20	IAMs_20	23 53 42.1		
	comp=Z,1387µm,18.9s								
ANGG	**Ammassalik, Gr**	**100.46**	**14**	*i* P		**Pdif**	**23 08 33.6**	**+17**
ANGG				IAMs_20		IAMs_20	23 53 17.0		
	comp=Z,869µm,18.7s								
VOI	**Vohitsoka**	**100.61**	**124**	P		**Pdif**	**23 08 35.2**	**+16**
VOI	**Vohitsoka**	**100.61**	**124**	P		**Pdif**	**23 08 35.2**	**+16**
LHI	**Lord Howe Isla**	**100.91**	**222**	IAMs_20		IAMs_20	23 47 32.0		
	comp=Z,607µm,19.0s								
IWEX	**Carrickbyrne,**	**101.00**	**34**	*e*P		**Pdif**	**23 08 20.2**	**+0.6**
IWEX				IAMs_20		IAMs_20	23 54 00.4		
	comp=Z,1449µm,18.3s								
DYA	**Yadsworthy**	**101.24**	**37**	*e*P		**Pdif**	**23 08 21.8**	**+1.0**
DYA				IAMs_20		IAMs_20	23 54 42.2		
	comp=Z,1818µm,18.6s								
KEST	**Kesra**	**101.27**	**55**	P		**Pdif**	**23 08 21.6**	**+0.2**
	comp=Z,10nm,0.8s,baz=161,slow=0.6,SNR=10								
HTL	**Hartland**	**101.29**	**36**	*e*P		**Pdif**	**23 08 22.0**	**+1.1**
HTL				IAMs_20		IAMs_20	23 54 27.9		
	comp=Z,1155µm,18.4s								
CRAG	**Craig**	**101.36**	**329**	IAMs_20		IAMs_20	23 53 10.3		
	comp=Z,354µm,18.0s								
CRAG	**Craig**	**101.36**	**329**	Pdiff		**Pdif**	**23 08 20.5**	**-0.6**
	baz=130								
JSA	**Saint Aubin**	**101.43**	**39**	*e*P		**Pdif**	**23 08 22.5**	**+0.9**
JSA				IAMs_20		IAMs_20	23 55 16.9		
	comp=Z,1053µm,18.2s								
WRAK	**Wrangell Islan**	**101.64**	**330**	IAMs_20		IAMs_20	23 50 03.0		
	comp=Z,505µm,22.0s								
WRAK	**Wrangell Islan**	**101.64**	**330**	Pdiff		**Pdif**	**23 08 22.4**	**+0.1**
	baz=131								
ILULI	**Ilulissat**	**101.69**	**7**	*e*P		**Pdif**	**23 08 37.1**	**+15**
ILULI				IAMs_20		IAMs_20	23 58 14.0		
	comp=Z,621µm,18.3s								
ILULI	**Ilulissat**	**101.69**	**7**	IAMs_20		IAMs_20	23 58 21.0		
	comp=Z,616µm,19.0s								
RSBS	**Rosebush, Pemb**	**101.73**	**36**	*e*P		**Pdif**	**23 08 24.0**	**+1.1**
RSBS				IAMs_20		IAMs_20	23 53 33.6		
	comp=Z,792µm,19.5s								
ILTH	**Belurgan, Co L**	**102.22**	**33**	*e*P		**Pdif**	**23 08 25.6**	**+0.6**
MCH1	**Michaelchurch**	**102.63**	**36**	*e*P		**Pdif**	**23 08 27.3**	**+0.4**
MCH1				IAMs_20		IAMs_20	23 55 11.3		
	comp=Z,1131µm,18.9s								
OLDB	**Oldbury-Upon-S**	**102.66**	**37**	*e*P		**Pdif**	**23 08 27.6**	**+0.6**
OLDB				IAMs_20		IAMs_20	23 55 37.5		
	comp=Z,1196µm,18.7s								
WLF1	**Llynfaes**	**102.70**	**35**	*e*P		**Pdif**	**23 08 27.8**	**+0.7**
WLF1				IAMs_20		IAMs_20	23 55 22.9		
	comp=Z,2285µm,18.2s								
WTLY	**Watson Lake, Y**	**102.70**	**334**	Pdiff		**Pdif**	**23 08 26.4**	**-0.6**
	baz=133								
WPS	**Cemaes, Angles**	**102.72**	**34**	*e*P		**Pdif**	**23 08 27.1**	**-0.1**
WPS				IAMs_20		IAMs_20	23 55 24.0		
	comp=Z,1118µm,18.1s								
LLW	**Llanuwchllyn**	**102.80**	**35**	*e*P		**Pdif**	**23 08 27.6**	**0.0**
LLW				IAMs_20		IAMs_20	23 53 38.0		
	comp=Z,652µm,19.5s								
DZM	**Mont Dzumac**	**102.86**	**234**	*e*Pdif		**Pdif**	**23 08 32.0**	**+3.0**
DZM	**Mont Dzumac**	**102.86**	**234**	*e*SKSac		**SKSac**	**23 19 05.8**	**-3.3**
	comp=Z,78µm,26.5s								
DZM	**Mont Dzumac**	**102.86**	**234**	*e*PS		PS	23 21 52.0	+1.4	
	comp=Z,158µm,27.4s								
DZM				*e*SS		SS	23 27 19.4	-3.5	
	comp=Z,521µm,25.2s								
DZM	**Mont Dzumac**	**102.86**	**234**	*e*LQ		LQ	23 37 45.6		
	comp=Z,254µm,33.5s								
DZM				*e*LR		LR	23 42 09.0		
	comp=Z,1928µm,23.7s,baz=133								
DZM	**Mont Dzumac**	**102.86**	**234**	Pdiff		**Pdif**	**23 08 31.2**	**+2.3**
	comp=Z,2.6nm,0.8s,baz=102,slow=17,SNR=1.3								
DZM				PKiKP		**PKiKP**	**23 12 50.7**	**+1.3**
	comp=Z,15nm,1.1s,baz=152,slow=13,SNR=3.0								
STRD	**Stroud**	**102.93**	**37**	*e*P		**Pdif**	**23 08 28.1**	**-0.1**
STRD				IAMs_20		IAMs_20	23 55 26.8		
	comp=Z,1167µm,18.8s								
SWN1	**Swindon**	**102.96**	**37**	IAMs_20		IAMs_20	23 55 55.0		
	comp=Z,1723µm,18.8s								
CLGH	**Cloghs, Cushen**	**102.97**	**32**	*e*P		**Pdif**	**23 08 28.6**	**+0.3**
CLGH				IAMs_20		IAMs_20	23 57 59.2		
	comp=Z,955µm,18.3s								
HLM1	**Long Mynd**	**102.99**	**36**	*e*P		**Pdif**	**23 08 29.1**	**+0.6**
HLM1				IAMs_20		IAMs_20	23 54 29.2		
	comp=Z,721µm,19.5s								
OPO	**Ambohidratompo**	**103.03**	**122**	Pdiff		**Pdif**	**23 08 31.1**	**+1.3**
	comp=Z,1.4nm,0.8s,baz=176,slow=16,SNR=1.5								
FOEL	**Foel Wylfa**	**103.05**	**35**	*e*P		**Pdif**	**23 08 29.6**	**+0.8**
FOEL				IAMs_20		IAMs_20	23 53 55.6		
	comp=Z,1133µm,19.3s								
WIM	**Isle of Man**	**103.08**	**34**	*e*P		**Pdif**	**23 08 28.6**	**-0.2**
WRGLY	**Wrigley**	**103.09**	**339**	Pdiff		**Pdif**	**23 08 26.7**	**-1.9**
	baz=136								
WOL	**Wolverton**	**103.15**	**37**	*e*P		**Pdif**	**23 08 29.6**	**+0.4**
WOL				IAMs_20		IAMs_20	23 56 00.1		
	comp=Z,1522µm,18.5s								
IOMK	**Kirk Michael**	**103.19**	**34**	*e*P		**Pdif**	**23 08 30.4**	**+1.0**
IOMK				IAMs_20		IAMs_20	23 55 02.4		
	comp=Z,2207µm,19.0s								
CAN	**Canberra**	**103.20**	**213**	IAMs_20		IAMs_20	23 44 53.1		
	comp=Z,486µm,22.0s								
SIT	**Sitka**	**103.31**	**330**	Pdiff		**Pdif**	**23 08 29.8**	**+0.1**
	baz=128								
TGTN	**Hyland Airport**	**103.48**	**336**	Pdiff		**Pdif**	**23 08 28.5**	**-2.1**
	baz=133								
GAL1	**Galloway**	**103.48**	**33**	*e*P		**Pdif**	**23 08 31.6**	**+1.0**
GAL1				IAMs_20		IAMs_20	23 57 40.8		
	comp=Z,1207µm,18.2s								
STNC	**Stoke**	**103.66**	**36**	*e*P		**Pdif**	**23 08 32.6**	**+1.2**
STNC				IAMs_20		IAMs_20	23 55 00.5		
	comp=Z,1011µm,18.9s								
JIS	**Juneau Island**

BHOU dx x 23 08 59.5
BHOU dPKiKP **PKiKP** **23 12 57.1 +2.1**
BHOU Houvegnez 106.52 41 dPdif PKiKP 23 13 36.1 +41
BEBN Eben Emael 106.56 40 dPdif PKiKP 23 13 23.8 +29
YKU2 Yakutat 106.62 330 IAMs_20 IAMs_20 23 51 57.8
comp=Z,504µm,20.0s
MEM Membach 106.65 41 dx x 23 09 02.4
MEM Membach 106.65 41 dPdif PKiKP 23 13 31.2 +36
MEM Membach 106.65 41 dPdif PKiKP 23 13 24.9 +30
BTNL Ternell 106.71 41 dPdif **Pdif** **23 08 44.6 -0.5**
BTNL dx x 23 09 04.4
BTNL Ternell 106.71 41 dPdif PKiKP 23 13 25.8 +30
BCPM Bancas Point 106.86 331 IAMs_20 IAMs_20 23 56 59.0
comp=Z,362µm,18.0s
BFO Black Forest 106.87 43 eP **Pdif** **23 08 45.1 -0.8**
comp=Z,1µm,3.6s,baz=244,slow=4.8
BFO eL L 23 58 27.3
comp=Z,917µm,18.6s
YUK6 Outpost Mounta 106.90 332 Pdiff **Pdif** **23 08 44.6 -1.4**
baz=125
DAVOX Davos/Dischmat 107.06 45 Pdiff **Pdif** **23 08 46.5 -0.5**
comp=Z,2.5nm,0.5s,baz=218,slow=9.3,SNR=3.0
PINM Pinnacle 107.19 331 Pdiff **Pdif** **23 08 44.5 -2.6**
baz=124
YUK4 Talbot Arm 107.25 332 Pdiff **Pdif** **23 08 46.7 -0.8**
baz=125
DAVA Damuels 107.29 45 eP **Pdif** **23 08 47.3 -0.7**
comp=Z,40nm,1.4s
DAVA eP **PKiKP** **23 12 52.2 -4.6**
comp=Z,120nm,1.3s
DAVA eP **PKKPdf** **23 24 29.4 +2.3**
comp=Z,26nm,1.3s
MAYO Mayo, Yukon 107.52 335 Pdiff **Pdif** **23 08 49.3 +0.9**
baz=126
FETA Feichten 107.68 45 eP **Pdif** **23 08 50.0 +0.2**
comp=Z,15nm,1.1s
FETA eP **PKiKP** **23 12 58.0 +0.5**
comp=Z,86nm,1.3s
FETA eP **PKKPab** **23 24 24.9 +1.4**
comp=Z,36nm,1.3s
TABL Table Mountain 107.75 331 IAMs_20 IAMs_20 23 55 38.7
comp=Z,477µm,21.0s
TNS Taunus Mts 107.83 42 eL L 23 59 56.6
comp=Z,2012µm,18.1s
SCO Scoresbysund 107.84 16 *i* P **Pdif** **23 09 03.4 +14**
SCO IAMs_20 IAMs_20 23 55 33.2
comp=Z,443µm,20.3s
SCO Scoresbysund 107.84 16 IAMs_20 IAMs_20 23 55 49.9
comp=Z,433µm,20.0s
LOGN Logan Glacier 107.91 331 IAMs_20 IAMs_20 23 59 36.7
comp=Z,425µm,19.0s
RETA Reutte 107.92 45 eP **Pdif** **23 08 50.8 +0.2**
comp=Z,12nm,1.0s
RETA eP **PKiKP** **23 12 58.5 +0.7**
comp=Z,109nm,1.7s
TULEG Thule 107.93 1 IAMs_20 IAMs_20 00 00 03.7
comp=Z,569µm,21.0s
MESA MESA 107.95 330 Pdiff **Pdif** **23 08 46.6 -4.0**
baz=122
LRW Lerwick 108.03 30 IAMs_20 IAMs_20 23 55 50.0
comp=Z,700µm,20.0s
MOTA Moosalm 108.06 45 eP **Pdif** **23 08 51.3 -0.1**
comp=Z,12nm,1.0s
MOTA eP **PKiKP** **23 12 58.2 0.0**
comp=Z,128nm,1.4s
MOTA eP **PKKPab** **23 24 20.7 -1.1**
comp=Z,26nm,1.4s
SQTA Sankt Quirin 108.06 45 eP **Pdif** **23 08 51.2 -0.1**
comp=Z,15nm,0.8s
SQTA eP PKiKP 23 12 50.1 -8.0
comp=Z,93nm,1.2s
SQTA eP **PKKPdf** **23 24 25.1 -0.5**
comp=Z,14nm,1.0s
CTGM Chitina Glacie 108.12 331 IAMs_20 IAMs_20 23 59 43.4
comp=Z,367µm,20.0s
CTG Chitna Glacier 108.12 331 Pdiff **Pdif** **23 08 49.7 -1.6**
baz=123
GRNC Granite Creek 108.17 331 IAMs_20 IAMs_20 23 55 51.6
comp=Z,479µm,22.0s
YUK3 Moose Creek 108.21 332 Pdiff **Pdif** **23 08 52.7 +0.9**
baz=123
BARN Barnard Glacie 108.30 331 IAMs_20 IAMs_20 23 55 45.2
comp=Z,382µm,21.0s
ISLE Juniper Island 108.34 331 IAMs_20 IAMs_20 23 53 24.2
comp=Z,584µm,22.0s
WATA Walderalm 108.34 45 eP **Pdif** **23 08 54.1 +1.5**
comp=Z,11nm,1.0s
WATA eP **PKiKP** **23 12 53.0 -5.7**
comp=Z,114nm,1.4s
WATA eP **PKKPab** **23 24 22.0 +1.4**
comp=Z,25nm,1.3s
WTTA Wattenberg 108.34 45 eP **Pdif** **23 08 53.2 +0.5**
comp=Z,16nm,1.5s
WTTA eP **PKiKP** **23 13 05.9 +7.1**
comp=Z,73nm,1.1s
WTTA eP **PKKPdf** **23 24 23.1 -2.1**
comp=Z,21nm,1.2s
WAX Waxell Ridge 108.47 330 IAMs_20 IAMs_20 23 58 02.8
comp=Z,419µm,18.0s
BGLC Bering Glacier 108.48 330 Pdiff **Pdif** **23 08 53.2 +0.5**
baz=121
FUR Furstenfeldbru 108.53 44 eL L 23 56 03.7
comp=Z,687µm,21.5s
TGL Tana Glacier 108.63 331 IAMs_20 IAMs_20 23 53 42.8
comp=Z,640µm,22.0s
ABTA Abfaltersbach 108.65 46 eP **Pdif** **23 08 53.9 -0.1**
comp=Z,34nm,1.9s
ABTA eP **PKiKP** **23 12 54.5 -4.7**
comp=Z,91nm,1.3s
ABTA eP **PKKPbc** **23 24 06.7 -2.4**
comp=Z,24nm,1.7s
BVCY Beaver Creek 108.71 333 Pdiff **Pdif** **23 08 51.5 -2.2**
baz=123
CRQE Cirque 108.73 331 Pdiff **Pdif** **23 08 53.0 -1.1**
baz=121
CRQM Cirque 108.76 331 IAMs_20 IAMs_20 23 53 34.7
comp=Z,526µm,22.0s
BERG Berg Lake 108.81 330 IAMs_20 IAMs_20 23 53 20.5
comp=Z,672µm,22.0s
KAIM Kayak Island 108.87 329 IAMs_20 IAMs_20 00 08 03.0
comp=Z,456µm,18.0s
MCARA McCarthy VSAT 109.03 331 IAMs_20 IAMs_20 23 56 18.6
comp=Z,611µm,22.0s
MCARA McCarthy VSAT 109.03 331 Pdiff **Pdif** **23 08 54.9 -0.2**
baz=121
DAWY Dawson 109.06 335 Pdiff **Pdif** **23 08 54.3 -1.0**
baz=123
M27K Edge Creek, AK 109.08 332 IAMs_20 IAMs_20 23 59 30.8
comp=Z,405µm,18.0s
VRDI Verde Repeater 109.13 331 IAMs_20 IAMs_20 23 54 01.1
comp=Z,399µm,20.0s
GRF Grafenberg Arr 109.19 43 eP **Pdif** **23 08 55.8 -0.3**
comp=Z,513nm,2.4s,baz=244,slow=4.8
GRF eL L 23 57 33.6
comp=Z,702µm,20.5s
MYKA Terra Mystica 109.30 47 eP **Pdif** **23 08 57.1 +0.3**
comp=Z,8.5nm,1.2s
MYKA eP PKiKP 23 13 09.8 +9.4
comp=Z,65nm,1.2s
MYKA eP **PKKPab** **23 24 18.0 +1.7**
comp=Z,16nm,1.0s
KBA Koelnbreinsper 109.31 46 eP **Pdif** **23 08 57.6 +0.6**
comp=Z,21nm,1.1s
KBA eP PKiKP 23 13 09.5 +8.9
comp=Z,85nm,1.3s
KBA eP **PKKPdf** **23 24 20.2 -3.2**
comp=Z,50nm,2.5s
GLB Gilahina Butte 109.39 331 IAMs_20 IAMs_20 23 54 01.0
comp=Z,427µm,21.0s
STKA Stephens Creek 109.41 210 PKiKP **PKiKP** **23 13 03.1 +2.0**
comp=Z,7.8nm,1.0s,baz=147,slow=10,SNR=2.3
STKA PKKP **PKKPdf** **23 24 20.2 -0.4**
comp=Z,22nm,1.1s,baz=360,slow=7.7,SNR=3.9
EPYK Eagle Plains 109.43 337 Pdiff **Pdif** **23 08 56.4 -0.5**
baz=125
L27K Beaver Creek, 109.44 333 Pdiff **Pdif** **23 08 55.7 -1.3**
baz=122
BMRM Bremner River 109.48 330 IAMs_20 IAMs_20 23 53 43.4
comp=Z,490µm,22.0s
BMRM Bremner River 109.48 330 Pdiff **Pdif** **23 08 55.8 -1.5**
baz=120
M26K Nabesna, AK 109.55 332 IAMs_20 IAMs_20 23 55 44.2
comp=Z,582µm,22.0s
M26K Nabesna, AK 109.55 332 Pdiff **Pdif** **23 08 54.5 -3.0**
baz=121
INK Inuvik 109.57 340 Pdiff **Pdif** **23 09 01.6 +4.3**
comp=Z,6.5nm,1.1s,baz=140,slow=6.8,SNR=4.1
INK PKiKP **PKiKP** **23 13 00.9 +0.8**
comp=Z,26nm,1.1s,baz=107,slow=6.0,SNR=3.7
INK PKKP **PKKPdf** **23 24 22.9 -0.3**
comp=Z,16nm,0.9s,baz=273,slow=5.2,SNR=4.0
INK Inuvik 109.57 340 Pdiff **Pdif** **23 08 55.2 -2.1**
baz=127
EYAK Cordova Ski Ar 109.76 330 Pdiff **Pdif** **23 08 54.9 -3.5**
baz=119
A36M Sachs Harbour 109.79 345 Pdiff **Pdif** **23 08 57.0 -1.2**
baz=133
N25K Chitina, Valde 109.80 331 IAMs_20 IAMs_20 23 55 03.8
comp=Z,456µm,22.0s
N25K Chitina, Valde 109.80 331 Pdiff **Pdif** **23 08 56.4 -2.3**
baz=120
OBKA Obir 109.81 47 eP **Pdif** **23 08 60.0 +0.9**
comp=Z,8.7nm,1.2s
OBKA eP PKiKP 23 13 09.6 +8.2
comp=Z,77nm,1.6s
OBKA eP **PKKPab** **23 24 13.4 -0.7**
comp=Z,29nm,1.4s
MOX Moxa 109.83 42 eL L 23 59 18.9
comp=Z,1354µm,19.3s
WET Wettzell 109.92 44 eL L 00 01 22.6
comp=Z,1065µm,18.2s
L26K Log Cabin Wild 110.01 333 Pdiff **Pdif** **23 08 56.8 -2.8**
baz=120
HIN Hinchinbrook I 110.01 329 IAMs_20 IAMs_20 23 56 57.5
comp=Z,440µm,21.0s
K27K Chicken 110.04 334 Pdiff **Pdif** **23 08 57.5 -2.1**
baz=121
EGAK Eagle 110.09 335 IAMs_20 IAMs_20 00 00 49.3
comp=Z,533µm,18.0s
EGAK Eagle 110.09 335 Pdiff **Pdif** **23 08 58.3 -1.5**
baz=122
FID Port Fidalgo 110.17 330 IAMs_20 IAMs_20 23 59 25.8
comp=Z,376µm,19.0s
SOKA Soboth 110.18 47 eP **Pdif** **23 09 01.1 +0.3**
comp=Z,4.9nm,1.0s
SOKA eP **PKiKP** **23 13 02.8 +0.7**
comp=Z,26nm,0.8s
SOKA eP **PKKPab** **23 24 08.9 -3.5**
comp=Z,34nm,1.6s
MOA Molln 110.20 46 eP **Pdif** **23 09 01.5 +0.8**
comp=Z,19nm,1.5s
MOA eP **PKiKP** **23 13 03.3 +1.3**
comp=Z,41nm,1.1s
MOA eP **PKKPbc** **23 24 07.7 +3.6**
comp=Z,13nm,1.1s
GEC2 GERESS Array S 110.28 45 eL L 00 01 20.1
comp=Z,834µm,18.5s
GERES GERESS Array B 110.28 45 Pdiff **Pdif** **23 09 03.0 +1.8**
comp=Z,1.4nm,1.0s,baz=264,slow=2.7,SNR=5.6
GERES PKiKP **PKiKP** **23 13 03.0 +0.8**
comp=Z,16nm,1.0s,baz=207,slow=3.2,SNR=4.1
GERES PKKP **PKKPdf** **23 24 24.1 +2.6**
comp=Z,10nm,1.0s,baz=90,slow=2.7,SNR=4.8
GERES GERESS Array B 110.28 45 P **Pdif** **23 09 00.5 -0.6**
GERES GERESS Array B 110.28 45 **Pdif** **23 09 00.5 -0.6**
KLU Klutina 110.30 331 IAMs_20 IAMs_20 23 53 57.9
comp=Z,409µm,22.0s
KLU Klutina 110.30 331 Pdiff **Pdif** **23 08 59.4 -1.5**
baz=119
KHC Kasperske Hory 110.33 44 eP **Pdif** **23 09 01.1 -0.2**
KHC MLR MLR
comp=Z,688µm,18.4s
KHC Kasperske Hory 110.33 44 ePDIFF **Pdif** **23 09 01.1 -0.2**
KHC *ex* x 23 09 22.4
KHC *ep*PKP PKiKP 23 13 12.3 +10
KHC *ex* x 23 13 21.5
KHC *ex* x 23 13 53.0
KHC *ex* x 23 14 24.5
KHC *e*SKS SKSdf 23 20 01.0 -13
KHC AMS AMS 00 00 10.0
comp=Z,688µm,18.4s
KMY Karmoy 110.40 32 ePdif **Pdif** **23 09 01.8 +0.6**
KMY *e*PP **PP** **23 13 36.1 -1.6**
KMY *e*SP SP 23 23 03.5 -1.8
KMY *e*SS **SS** **23 28 57.6 -7.5**
HARP HAARP 110.42 332 Pdiff **Pdif** **23 09 01.0 -0.3**
baz=119
GLI Glacier Island 110.50 330 IAMs_20 IAMs_20 23 59 34.4
comp=Z,360µm,19.0s
GLI Glacier Island 110.50 330 Pdiff **Pdif** **23 08 59.1 -2.6**
baz=118
BSEG Bad Segeberg 110.54 39 eL L 23 58 42.5
comp=Z,840µm,20.6s
CKRC Cesky Krumlov 110.64 45 ePDIFF **Pdif** **23 09 01.6 -1.0**
CKRC AMS AMS 00 01 10.0
comp=Z,885µm,18.6s
M24K Tolsona, Glenn 110.70 331 IAMs_20 IAMs_20 23 57 09.5
comp=Z,281µm,20.0s
M24K Tolsona, Glenn 110.70 331 Pdiff **Pdif** **23 09 00.8 -1.8**
baz=118
ARSA Arzberg 110.73 47 eP **Pdif** **23 09 04.2 +1.1**
comp=Z,12nm,1.4s
ARSA eP **PKiKP** **23 13 04.3 +1.2**
comp=Z,29nm,1.2s
ARSA eP **PKKPab** **23 24 14.6 +4.7**
comp=Z,13nm,1.1s
SCRK Sand Creek 110.74 333 Pdiff **Pdif** **23 09 00.2 -2.6**
baz=120
BBOO Buckleboo 110.74 205 IAMs_20 IAMs_20 23 49 23.0
comp=Z,369µm,22.0s
PAX Paxson 110.83 332 Pdiff **Pdif** **23 09 00.4 -2.8**
baz=119
CLL Collm 110.91 42 ePdif **Pdif** **23 09 07.0 +3.3**
CLL e(sPdif) 23 09 19.0
CLL *e* 23 09 42.0
CLL *e*PKiKP **PKiKP** **23 13 04.0 +0.8**
CLL *es*PKiKP PP 23 13 16.0 -26
CLL *e* 23 13 22.0
CLL *e*PP PP 23 13 41.0 -0.7
CLL *i* PPmax 23 13 55.6
comp=Z,2µm,2.7s
CLL *e*PPlp 23 14 06.0
comp=Z,32µm,19.8s
CLL *e* 23 14 11.0
CLL *e* 23 14 43.0
CLL *e*PPP PPP 23 16 01.0
CLL *e* 23 16 48.0
CLL *e*PPPP 23 17 56.0
CLL *e*SKSmax 23 20 00.0
CLL *e*Sdif Sdif 23 21 19.0 -1.3
CLL *e*PS **PS** **23 23 22.0 +10**
CLL *e*PSmax 23 23 40.0
CLL *e*PPS PPS 23 24 21.0
CLL *es*PKKPdf 23 24 34.0
CLL *e*PPSmax 23 24 46.0
CLL *e*SSmax 23 30 12.0
CLL *e*SSS SSS 23 33 18.0
CLL *e*SSSS 23 37 00.0
CLL LmV 23 59 00.0
comp=Z,1449µm,19.4s
CLL LmH 23 59 00.0
comp=N,325µm,20.5s
CLL LmH 23 59 00.0
comp=E,1133µm,19.6s
CLL Collm 110.91 42 eP **Pdif** **23 09 07.0 +3.3**
CLL *e* 23 13 04.0
CLL *e* 23 13 16.0
CLL *e* 23 13 41.0
CLL MLR MLR
comp=Z,1449µm,19.4s
CLL Collm 110.91 42 eL L 23 59 22.3
comp=Z,1450µm,19.4s
SNART Snartemo 110.91 34 ePdif **Pdif** **23 09 04.0 +0.4**
SNART *e*PP **PP** **23 13 40.5 -0.9**
RIDG Independent Ri 110.95 333 Pdiff **Pdif** **23 09 01.3 -2.4**
baz=119
ASK Askoy 110.96 31 ePdif **Pdif** **23 09 02.0 -1.7**
ASK *e*PP **PP** **23 13 41.0 -0.8**
BER Bergen 110.97 31 ePdif **Pdif** **23 09 03.8 +0.1**
BER IVmB_BB 23 09 46.4
comp=Z,4µm,4.1s
BER *e*PP **PP** **23 13 41.4 -0.4**
BER *e*SKSac **SKSac** **23 19 39.8 -2.5**
BER *e*SP SP 23 23 10.0 -0.5
BER IVms_BB IVms_BB 23 55 43.6
comp=Z,141µm,21.0s
PWL Port Wells 111.03 329 IAMs_20 IAMs_20 23 57 27.3
comp=Z,495µm,22.0s
SUE Sulen 111.03 30 ePdif **Pdif** **23 09 07.4 +3.4**
SUE IVmBBB 23 09 51.4
comp=Z,6µm,4.4s
SUE *e*PP **PP** **23 13 44.2 +2.0**
SUE *e*SKSdf **SKSdf** **23 20 11.7 -2.9**
SUE *e*SP SP 23 23 08.6 -2.4
SUE *e*SS **SS** **23 29 10.6 -3.0**
SUE IVms_BB IVms_BB 23 57 08.5
comp=Z,163µm,20.3s
MUD Monsted U'grnd 111.04 36 *i* P **Pdif** **23 09 19.0 +15**
MUD IAms_20 IAms_20 00 01 59.2
comp=Z,1304µm,18.4s
BLS5 Blasjo 111.04 32 ePdif **Pdif** **23 09 07.0 +2.8**
BLS5 IVmBBB 23 09 51.3
comp=Z,6µm,5.9s
BLS5 *e*PP **PP** **23 13 41.6 -0.8**
BLS5 *e*SKSdf **SKSdf** **23 20 13.3 -1.4**
BLS5 *e*SS **SS** **23 29 13.8 -0.1**
BLS5 IVms_BB IVms_BB 23 57 27.0
comp=Z,169µm,21.3s
SCM Sheep Creek Mo 111.05 330 IAMs_20 IAMs_20 00 10 28.7
comp=Z,349µm,20.0s
SEW Seward 111.18 328 IAMs_20 IAMs_20 00 10 25.4
comp=Z,330µm,19.0s
SEW Seward 111.18 328 Pdiff **Pdif** **23 09 02.5 -2.2**
baz=117
CONA Conrad Observa 111.21 46 eP **Pdif** **23 09 05.9 +0.6**
comp=Z,24nm,1.7s
CONA eP **PKiKP** **23 13 00.5 -3.5**
comp=Z,75nm,2.0s
PRA Prague 111.22 44 eP **Pdif** **23 09 06.5 +1.3**
PRA MLR MLR
comp=Z,672µm,18.7s
PRA Prague 111.22 44 ePDIFF **Pdif** **23 09 06.5 +1.3**
PRA AMS AMS 00 00 40.0
comp=Z,672µm,18.7s
PRU Pruhonice 111.26 44 eP **Pdif** **23 09 06.1 +0.8**
PRU MLR MLR
comp=Z,625µm,18.5s
PRU Pruhonice 111.26 44 ePDIFF **Pdif** **23 09 06.1 +0.8**
PRU *ex* x 23 09 27.3
PRU AMS AMS 00 01 40.0
comp=Z,625µm,18.5s
BRG Berggiesshubel 111.27 43 P **PKiKP** **23 13 06.6 +2.8**
BRG Amp 23 13 09.4
comp=Z,56nm,1.4s
BRG Berggiesshubel 111.27 43 Amp 23 25 26.4
comp=Z,82nm,1.3s
BRG Berggiesshubel 111.27 43 PS PS 23 23 37.0 +21
BRG Berggiesshubel 111.27 43 PKKP 23 24 17.7
KNK Knik Glacier 111.33 330 IAMs_20 IAMs_20 00 10 39.9
comp=Z,407µm,19.0s
KNK Knik Glacier 111.33 330 Pdiff **Pdif** **23 09 03.5 -2.0**
baz=117
ODD1 Odda 111.34 32 ePdif **Pdif** **23 09 07.2 +1.7**
ODD1 *e*PP **PP** **23 13 41.7 -2.9**
ODD1 *e*SKSac **SKSac** **23 19 40.4 -3.6**
ODD1 *e*SP **SP** **23 23 10.7 -3.2**
ODD1 *e*SS **SS** **23 29 12.4 -5.5**
ODD1 IVMs_BB IVMs_BB 23 55 56.1
comp=Z,168µm,22.6s
FOO Floro 111.40 30 ePdif **Pdif** **23 09 05.6 0.0**
FOO *e*PP **PP** **23 13 39.7 -5.2**
FOO *e*SP SP 23 23 10.0 -4.3
SML Sawmill 111.46 330 IAMs_20 IAMs_20 23 55 58.7
comp=Z,359µm,21.0s
SML Sawmill 111.46 330 Pdiff **Pdif** **23 09 04.4 -1.6**
baz=117
O22K Cooper Landing 111.47 329 IAMs_20 IAMs_20 23 56 35.0
comp=Z,370µm,21.0s
O22K Cooper Landing 111.47 329 Pdiff **Pdif** **23 09 05.1 -0.9**
baz=116
PVCC Panska Ves 111.49 43 eP **Pdif** **23 09 06.8 +0.5**
PVCC MLR MLR
comp=Z,1001µm,19.3s
PVCC Panska Ves 111.49 43 ePDIFF **Pdif** **23 09 06.8 +0.5**
PVCC *ex* x 23 09 28.2
PVCC *ex* x 23 13 58.8
PVCC AMS AMS 23 59 40.0
comp=Z,1001µm,19.3s
HOMB Homborsund 111.50 34 ePdif **Pdif** **23 09 08.8 +2.6**
HOMB IVmBBB 23 09 53.5
comp=Z,6µm,6.7s
HOMB *e*PP **PP** **23 13 45.9 +0.2**
HOMB *e*SP SP 23 23 12.6 -2.7
HOMB *e*SS **SS** **23 29 12.6 -7.3**
HOMB IVMs_BB IVMs_BB 23 56 05.8
comp=Z,123µm,22.4s
JMIC Jan Mayen 111.54 18 ePdif **Pdif** **23 09 07.6 +1.6**
JMIC *e*PP **PP** **23 13 46.2 +0.6**
JMIC *e*SP SP 23 23 13.8 -1.3
JMIC IVMs_BB IVMs_BB 23 57 46.1
comp=Z,166µm,19.2s
TREC Trest 111.54 45 eP **Pdif** **23 09 06.9 +0.3**
TREC MLR MLR
comp=Z,1116µm,18.7s
TREC Trest 111.54 45 ePDIFF **Pdif** **23 09 06.9 +0.3**
TREC AMS AMS 00 01 10.0
comp=Z,1116µm,18.7s
WAT6 Susitna Watana 111.56 331 Pdiff **Pdif** **23 09 04.6 -2.0**
baz=117
J25K Salcha River, 111.58 334 Pdiff **Pdif** **23 09 04.6 -1.9**
baz=118
BRSE Bradley Lake S 111.60 328 Pdiff **Pdif** **23 09 06.8 +0.1**
baz=116
KDAK Kodiak Island 111.62 325 PKKPbc PKKPbc 23 24 00.0 +0.5
comp=Z,12nm,0.8s,baz=336,slow=0.7,SNR=4.1
KDAK PKKP **PKKPdf** **23 24 18.4 -0.6**
comp=Z,58nm,1.1s,baz=48,slow=3.1,SNR=4.9
KDAK Kodiak Island 111.62 325 IAMs_20 IAMs_20 23 56 17.4
comp=Z,359µm,21.0s
KDAK Kodiak Island 111.62 325 Pdiff **Pdif** **23 09 04.0 -2.7**
baz=115
DHY Denali Highway 111.64 332 IAMs_20 IAMs_20 00 09 08.9
comp=Z,308µm,19.0s
DHY Denali Highway 111.64 332 Pdiff **Pdif** **23 09 04.7 -2.2**
baz=117
BRLK Bradley Lake 111.67 328 IAMs_20 IAMs_20 23 51 26.7
comp=Z,390µm,21.0s
GHO Glory Hole Cre 111.69 330 IAMs_20 IAMs_20 23 55 55.0
comp=Z,439µm,22.0s
HYA Hoyanger 111.70 31 ePdif **Pdif** **23 09 11.2 +4.2**
HYA *e*PP **PP** **23 13 42.6 -4.4**
HYA *e*SP SP 23 23 14.3 -2.8
PMR Palmer 111.70 330 IAMs_20 IAMs_20 00 09 23.0
comp=Z,339µm,20.0s
PMR Palmer 111.70 330 Pdiff **Pdif** **23 09 06.3 -0.7**
baz=116
CNPM China Poot 111.73 327 IAMs_20 IAMs_20 23 52 51.1
comp=Z,363µm,21.0s
OHAK Old Harbor 111.73 325 Pdiff **Pdif** **23 09 03.5 -3.7**
baz=115
RC01 Rabbit Creek A 111.74 329 IAMs_20 IAMs_20 00 10 59.1
comp=Z,346µm,21.0s
RC01 Rabbit Creek A 111.74 329 Pdiff **Pdif** **23 09 05.6 -1.6**
baz=116
SII Sitkinak Islan 111.90 324 IAMs_20 IAMs_20 23 49 46.9
comp=Z,476µm,21.0s
SII Sitkinak Islan 111.90 324 Pdiff **Pdif** **23 09 04.5 -3.5**
baz=114
EGYH Egyhazaskeszo 111.92 47 eP **Pdif** **23 09 16.0 +7.7**
MPLH Magyarpolny 111.95 47 eP **Pdif** **23 09 16.9 +8.4**
FIS Fire Island 111.98 329 IAMs_20 IAMs_20 00 11 05.8
comp=Z,315µm,20.0s
HOM Homer 111.98 327 IAMs_20 IAMs_20 23 52 57.7
comp=Z,267µm,19.0s
HOM Homer 111.98 327 Pdiff **Pdif** **23 09 05.4 -2.9**
baz=115
KRUC Moravsky 111.99 45 ePDIFF **Pdif** **23 09 08.3 -0.3**
KRUC *e* 23 09 29.7
KRUC *e*PKIKP **PKiKP** **23 12 57.8 -7.5**
KRUC *e* 23 14 02.1
KRUC *e* 23 23 35.9
KRUC *e*SS SS 23 29 40.0 +13
PRP Porcupine Dome 112.06 334 IAMs_20 IAMs_20 23 57 58.3
comp=Z,560µm,20.0s
PRP Porcupine Dome 112.06 334 Pdiff **Pdif** **23 09 06.9 -1.8**
baz=118
TIH Tihany 112.07 48 eP **Pdif** **23 09 14.3 +5.3**
HDA Harding Lake 112.08 333 Pdiff **Pdif** **23 09 08.4 -0.3**
baz=117
TARA Tarawa 112.20 257 IAMs_20 IAMs_20 23 52 24.3
comp=Z,324µm,20.0s
VRAC Vranov 112.21 45 ePDIFF **Pdif** **23 09 09.3 -0.3**
VRAC *e* 23 09 30.6
VRAC *e*PKIKP **PKiKP** **23 13 00.8 -5.0**
VRAC *e* 23 14 04.0
VRAC *e* 23 23 39.0
VRAC *e*SS SS 23 29 42.3 +12
CAPN Captain Cook N 112.23 329 IAMs_20 IAMs_20 00 02 49.1

comp=Z,352µm,21.0s
CAPN Captain Cook N 112.23 329 Pdiff **Pdif** **23 09 11.5 +2.1**
baz=115
ILAR Eielson Array 112.23 333 Pdiff **Pdif** **23 09 07.5 -1.7**
comp=Z,1.1nm,1.0s,baz=160,slow=4.9,SNR=5.4
ILAR PKIKP **PKiKP** **23 13 05.8 +0.4**
comp=Z,12nm,1.1s,baz=135,slow=4.2,SNR=2.5
ILAR PKKPbc **PKKPbc** **23 23 56.5 -1.2**
comp=Z,3.5nm,0.8s,baz=310,slow=3.8,SNR=4.2
ILAR PKKPab **PKKPab** **23 24 03.0 +0.5**
comp=Z,8.3nm,1.0s,baz=312,slow=3.6,SNR=4.2
ILAR PKKP **PKKPdf** **23 24 16.3 -1.8**
comp=Z,18nm,1.0s,baz=306,slow=2.5,SNR=5.9
UPC Upice 112.33 44 *e*P **Pdif** **23 09 09.6 -0.5**
UPC MLR MLR
comp=Z,646µm,20.7s
UPC Upice 112.33 44 *e*PDIFF **Pdif** **23 09 09.6 -0.5**
UPC AMS AMS 23 59 20.0
comp=Z,646µm,20.7s
CHIR Chirikof Islan 112.34 323 Pdiff **Pdif** **23 09 09.6 -0.4**
baz=114
SUA Susitna One 112.34 329 IAMs_20 IAMs_20 00 10 07.6
comp=Z,297µm,20.0s
SUA Susitna One 112.34 329 Pdiff **Pdif** **23 09 10.3 +0.2**
baz=115
CHVC Chvalec 112.39 44 AMS AMS 23 59 20.0
comp=Z,543µm,20.9s
RND Reindeer 112.39 332 IAMs_20 IAMs_20 00 09 50.7
comp=Z,354µm,19.0s
SKAR Skarslia 112.43 32 *e*Pdif **Pdif** **23 09 16.9 +6.5**
SKAR IVmBBB 23 10 00.3
comp=Z,5µm,5.1s
SKAR *e*PP **PP** **23 13 52.5 +0.1**
SKAR *e*SP SP 23 23 20.6 -3.3
SKAR IVMs_BB IVMs_BB 23 56 29.0
comp=Z,172µm,21.8s
DPC Dobruska-Polom 112.45 44 *e*P **Pdif** **23 09 09.8 -0.9**
DPC MLR MLR
comp=Z,745µm,20.1s
DPC Dobruska-Polom 112.45 44 *e*PDIFF **Pdif** **23 09 09.8 -0.9**
DPC AMS AMS 23 59 10.0
comp=Z,745µm,20.1s
OSTC Ostas 112.47 44 *e*PDIFF **Pdif** **23 09 12.2 +1.5**
OSTC AMS AMS 23 59 30.0
comp=Z,601µm,20.5s
CSKK Cskako 112.48 47 *e*P **Pdif** **23 09 21.9 +11**
AKN Aaknes 112.49 30 *e*Pdif **Pdif** **23 09 20.8 +10**
AKN IVmB_BB 23 09 55.6
comp=Z,5µm,12.2s
AKN *e*PP **PP** **23 13 52.0 -0.8**
AKN *e*SKSac **SKSac** **23 19 45.7 -2.7**
AKN *e*SP **SP** **23 23 20.2 -4.1**
AKN *e*SS **SS** **23 29 30.6 -2.4**
AKN IVMs_BB IVMs_BB 23 57 32.1
comp=Z,121µm,19.4s
CUT Chulitna 112.54 330 IAMs_20 IAMs_20 23 55 06.2
comp=Z,367µm,21.0s
CUT Chulitna 112.54 330 Pdiff **Pdif** **23 09 07.8 -2.9**
baz=115
MCK McKinley 112.56 332 IAMs_20 IAMs_20 23 56 27.8
comp=Z,611µm,22.0s
MCK McKinley 112.56 332 Pdiff **Pdif** **23 09 08.6 -2.3**
baz=116
KONO Kongsberg 112.59 33 *i* PKIKP **PKiKP** **23 13 02.6 -3.5**
KONO Kongsberg 112.59 33 *e*Pdif **Pdif** **23 09 12.5 +1.6**
KONO IVmB_BB 23 09 58.2
comp=Z,5µm,5.5s
KONO *e*PP **PP** **23 13 52.5 -0.9**
KONO *e*SP SP 23 23 20.9 -4.4
KONO IVMs_BB IVMs_BB 23 57 33.6
comp=Z,137µm,20.1s
KONO Kongsberg 112.59 33 IAMs_20 IAMs_20 23 58 35.1
comp=Z,580µm,21.0s
POKR Poker Flat Res 112.59 334 Pdiff **Pdif** **23 09 09.3 -1.6**
baz=116
O20K Slope Mountain 112.60 328 Pdiff **Pdif** **23 09 08.0 -3.2**
baz=114
Q19K Cape Douglas, 112.61 326 IAMs_20 IAMs_20 23 56 47.4
comp=Z,330µm,20.0s
Q19K Cape Douglas, 112.61 326 Pdiff **Pdif** **23 09 10.8 -0.4**
baz=114
KRLC Kraliky 112.62 44 *e*P **Pdif** **23 09 10.8 -0.6**
KRLC MLR MLR
comp=Z,699µm,20.7s
KRLC Kraliky 112.62 44 *e*PDIFF **Pdif** **23 09 10.8 -0.6**
KRLC AMS AMS 23 59 10.0
comp=Z,699µm,20.7s
COLA College 112.64 333 Pdiff **Pdif** **23 09 08.0 -3.0**
baz=116
TCOL CIGO, UAF Yank 112.65 333 Pdiff **Pdif** **23 09 10.9 -0.3**
baz=116
JAVC Velka Javorina 112.69 46 *e*PDIFF **Pdif** **23 09 12.7 +0.9**
JAVC *e* 23 09 33.8
JAVC *e*PKIKP **PKiKP** **23 13 04.0 -2.7**
JAVC *e* 23 14 08.1
P19K Oil Pt 112.71 327 IAMs_20 IAMs_20 23 56 31.0
comp=Z,246µm,19.0s
P19K Oil Pt 112.71 327 Pdiff **Pdif** **23 09 09.6 -2.0**
baz=114
SPCR Spurr Chakacha 112.88 329 Pdiff **Pdif** **23 09 13.4 +1.0**
baz=114
MOL Molde 112.89 30 *e*Pdif **Pdif** **23 09 12.4 +0.2**
MOL *e*PP **PP** **23 13 52.3 -3.2**
MOL *e*SS SS 23 29 35.1 -3.1
MOL IVMs_BB IVMs_BB 23 50 49.9
comp=Z,92µm,47.4s
SKT Skwentna 112.90 330 IAMs_20 IAMs_20 00 10 37.3
comp=Z,249µm,19.0s
SKT Skwentna 112.90 330 Pdiff **Pdif** **23 09 08.5 -3.8**
baz=114
MORC Moravsky Berou 112.96 45 ⇑P **Pdif** **23 09 17.5 +4.5**
MORC Moravsky Berou 112.96 45 ⇑P **Pdif** **23 09 17.5 +4.5**
MORC Moravsky Berou 112.96 45 *e*PDIFF **Pdif** **23 09 13.2 +0.2**
MORC *e* 23 09 34.6
MORC *e*PKIKP **PKiKP** **23 13 03.5 -3.7**
MORC *e* 23 14 09.7
MORC *e* 23 23 44.6
MORC *e*SS SS 23 29 50.0 +10
NEA2 Nenana 112.99 333 Pdiff **Pdif** **23 09 10.1 -2.6**
baz=115
TRF Thorofare Moun 112.99 331 IAMs_20 IAMs_20 23 58 09.1
comp=Z,533µm,22.0s
TRF Thorofare Moun 112.99 331 Pdiff **Pdif** **23 09 08.7 -4.2**
baz=115
H24K Noodor Dome 113.08 334 Pdiff **Pdif** **23 09 09.6 -3.6**
baz=116
OSL Oslo 113.22 33 *e*Pdif **Pdif** **23 09 15.5 +1.7**
OSL *e*PP **PP** **23 13 57.0 -1.0**
OSL *e*SP SP 23 23 25.2 -5.9
OSL *e*SS **SS** **23 29 40.4 -2.4**
OSL IVMs_BB IVMs_BB 23 57 43.0
comp=Z,105µm,20.3s
KTH Kantishna Hill 113.29 331 IAMs_20 IAMs_20 23 58 07.1
comp=Z,578µm,22.0s
I23K Minto, Yukon-K 113.34 333 Pdiff **Pdif** **23 09 12.9 -1.3**
baz=115
OKC Ostrava-Krasne 113.34 45 *e*P **Pdif** **23 09 15.4 +0.8**
OKC MLR MLR
comp=Z,771µm,18.6s
OKC Ostrava-Krasne 113.34 45 *e*PDIFF **Pdif** **23 09 15.4 +0.8**
OKC *ep*PKP PKiKP 23 13 19.2 +11
OKC *ex* x 23 14 13.2
OKC AMS AMS 00 02 20.0
comp=Z,771µm,18.6s
O19K Port Alsworth 113.43 327 IAMs_20 IAMs_20 00 01 06.0
comp=Z,277µm,21.0s
O19K Port Alsworth 113.43 327 Pdiff **Pdif** **23 09 13.7 -0.9**
baz=113
RAC Raciborz 113.46 45 *e*PDIFF **Pdif** **23 09 16.7 +1.6**
RAC *e*PP **PP** **23 14 00.8 +0.8**
RAC *e*PS PKKPbc 23 23 37.1 -16
RAC LMZ LR 00 02 35.2
comp=Z,998nm,19.1s
RAC Raciborz 113.46 45 *e*P **Pdif** **23 09 16.7 +1.6**
RAC *e* 23 14 00.8
RAC *e*PS PKKPbc 23 23 37.1 -16
RAC MLR MLR
comp=Z,998µm,19.1s
APE Apeiranthos 113.52 60 *i* PKIKP **PKiKP** **23 13 06.6 -2.1**
BPAW Bear Paw Mtn. 113.54 332 IAMs_20 IAMs_20 23 57 55.7
comp=Z,462µm,22.0s
BPAW Bear Paw Mtn. 113.54 332 Pdiff **Pdif** **23 09 13.3 -1.9**
baz=114
PPLA Purkeypile 113.55 330 Pdiff **Pdif** **23 09 15.4 0.0**
baz=113
AMBH Ambrzfalva 113.67 49 ⇑P **Pdif** **23 09 31.0 +15**

H23K Yukon River 113.69 334 Pdiff **Pdif** **23 09 13.5 -2.3**
baz=114
CAST Castle Rocks 113.72 331 IAMs_20 IAMs_20 23 57 58.3
comp=Z,456µm,21.0s
CAST Castle Rocks 113.72 331 Pdiff **Pdif** **23 09 14.3 -1.7**
baz=113
N19K Bonanza Creek 113.74 328 IAMs_20 IAMs_20 00 11 31.6
comp=Z,405µm,19.0s
N19K Bonanza Creek 113.74 328 Pdiff **Pdif** **23 09 15.7 -0.5**
baz=112
MLY Manley 113.82 333 Pdiff **Pdif** **23 09 14.5 -2.0**
baz=114
NB2 NORSAR Subarra1 113.88 32 PKPdf **PKiKP** **23 13 07.4 -1.2**
comp=Z,295nm,2.0s,baz=248,slow=1.9
NB2 NORSAR Subarra1 113.88 32 PKPdf **PKiKP** **23 13 07.4 -1.2**
baz=248,slow=1.9
NOA NORSAR Array B 113.88 32 PKiKP **PKiKP** **23 13 09.0 +0.4**
comp=Z,0.7nm,0.6s,baz=246,slow=2.3,SNR=7.4
NOA PKKPab **PKKPab** **23 23 57.8 +2.3**
comp=Z,4.4nm,1.1s,baz=70,slow=4.6,SNR=3.5
NOA NORSAR Array B 113.88 32 *i* PKIKP **PKiKP** **23 13 09.0 +0.4**
NC602 NORSAR Array S 113.91 32 *e*Pdif **Pdif** **23 09 15.5 -1.4**
NC602 IVmB_BB 23 10 01.6
comp=Z,5µm,11.9s
NC602 *e*PKPdf **PKiKP** **23 13 08.4 -0.2**
NC602 *e*PP **PP** **23 13 59.9 -3.0**
NC602 *e*SP SP 23 23 35.4 -1.9
NC602 *e*SS **SS** **23 29 50.0 -1.8**
NC602 IVMs_BB IVMs_BB 23 57 35.5
comp=Z,146µm,21.4s
CHGN Chignik 113.97 322 IAMs_20 IAMs_20 23 51 19.6
comp=Z,541µm,22.0s
CHGN Chignik 113.97 322 Pdiff **Pdif** **23 09 15.5 -1.7**
baz=111
CHUM Lake Minchumin 113.99 331 Pdiff **Pdif** **23 09 14.8 -2.3**
baz=113
CHNA Chernabura Isl 114.06 321 Pdiff **Pdif** **23 09 17.1 -0.6**
baz=111
GKP Gorka Klasztor 114.07 41 *e*P PKiKP 23 13 17.4 +8.3
L20K Farewell, AK 114.11 330 Pdiff **Pdif** **23 09 16.4 -1.3**
baz=112
M19K Big River Lodg 114.11 329 IAMs_20 IAMs_20 23 58 20.0
comp=Z,345µm,21.0s
M19K Big River Lodg 114.11 329 Pdiff **Pdif** **23 09 13.6 -4.1**
baz=112
HERR Herculane 114.24 51 ⇑P **Pdif** **23 09 31.5 +13**
N18K Kilae Creek 114.33 327 IAMs_20 IAMs_20 00 11 53.0
comp=Z,334µm,19.0s
N18K Kilae Creek 114.33 327 Pdiff **Pdif** **23 09 16.2 -2.6**
baz=111
I21K Tanana 114.36 333 Pdiff **Pdif** **23 09 16.9 -1.8**
baz=113
L19K White Mountain 114.42 329 IAMs_20 IAMs_20 23 59 37.0
comp=Z,560µm,22.0s
L19K White Mountain 114.42 329 Pdiff **Pdif** **23 09 16.3 -2.8**
baz=112
COLD Coldfoot 114.50 335 Pdiff **Pdif** **23 09 17.2 -2.2**
baz=113
K20K Telida 114.52 331 IAMs_20 IAMs_20 23 59 12.6
comp=Z,409µm,21.0s
K20K Telida 114.52 331 Pdiff **Pdif** **23 09 17.2 -2.3**
baz=112
SDPT Sand Point 114.72 321 Pdiff **Pdif** **23 09 18.3 -2.2**
baz=110
TOLK Toolik Lake Re 114.84 337 Pdiff **Pdif** **23 09 18.5 -2.4**
baz=113
J20K Nowinta River 114.85 331 IAMs_20 IAMs_20 23 58 51.3
comp=Z,442µm,22.0s
J20K Nowinta River 114.85 331 Pdiff **Pdif** **23 09 17.9 -3.1**
baz=111
H21K Melozitna Rive 114.86 333 Pdiff **Pdif** **23 09 15.8 -5.2**
baz=112
NWAO Narrogin (SRO) 115.23 188 PKP **PKiKP** **23 13 11.6 -0.6**
comp=Z,9.5nm,0.8s,baz=193,slow=8.2,SNR=2.8
NWAO PKKPbc **PKKPbc** **23 23 47.5 +0.6**
comp=Z,22nm,1.0s,baz=32,slow=2.2,SNR=3.9
NWAO Narrogin (SRO) 115.23 188 PKiKP **PKPdf** **23 13 12.3 +0.1**
NWAO Narrogin (SRO) 115.23 188 IAMs_20 IAMs_20 23 59 00.8
comp=Z,474µm,21.0s
TRPA Tarpa 115.45 48 ⇑P **Pdif** **23 09 36.3 +12**
UZH Uzhgorod 115.46 47 *e*P **Pdif** **23 09 23.0 -1.0**
UZH *e* 23 19 54.0
UZH MLR MLR
comp=Z,210µm,18.0s
NSS Namsos 115.47 28 *e*Pdif **Pdif** **23 09 24.9 +1.3**
NSS IVmBBB 23 10 10.7
comp=Z,4µm,5.9s
NSS *e*PKPdf **PKPdf** **23 13 11.0 -0.5**
NSS *e*SP SP 23 23 48.4 -2.9
NSS *e*SS **SS** **23 30 10.4 -1.6**
NSS IVMs_BB IVMs_BB 23 52 05.7
comp=Z,76µm,52.6s
HNR Honiara 115.93 239 IAMs_20 IAMs_20 23 55 58.1
comp=Z,281µm,20.0s
FALS False Pass 116.16 320 Pdiff **Pdif** **23 09 27.4 +0.4**
baz=108
KLNR Kaliningrad 116.17 40 *d* PKIKP **PKPdf** **23 13 11.4 -1.7**
KLNR MLR MLR
comp=Z,347µm,20.0s
VOIR 116.18 51 ⇑P **Pdif** **23 09 41.4 +14**
UPP Uppsala 116.46 34 *e*P **PKiKP** **23 13 18.5 +5.0**
STOK Stokkvaagen 116.48 27 *e*Pdif **Pdif** **23 09 25.7 -2.4**
STOK *e*PKPdf **PKPdf** **23 13 13.0 -0.4**
STOK *e*PP **PP** **23 14 20.2 -0.5**
STOK *e*SKSac **SKSac** **23 20 00.8 -2.7**
N2RO R_st 116.52 25 *e*PKPdf **PKPdf** **23 13 13.1 -0.3**
NBB40 Tonnes 116.53 26 *e*PKPdf **PKPdf** **23 13 13.2 -0.3**
KONS Konsvik 116.57 27 *e*Pdif **Pdif** **23 09 25.4 -3.2**
KONS *e*PKPdf **PKPdf** **23 13 13.1 -0.5**
NBB13 Alf Garage 116.69 26 *e*PKPdf **PKPdf** **23 13 13.1 -0.6**
NBB15 Halsa Church 116.82 26 *e*PKPdf **PKPdf** **23 13 13.2 -0.8**
NBB30 Finnes 116.95 26 *e*PKPdf **PKPdf** **23 13 13.9 -0.3**
N2SV S_rvegen 116.96 25 *e*PKPdf **PKiKP** **23 13 14.3 +0.1**
MOR8 Moi Rana 116.98 27 *e*Pdif **Pdif** **23 09 32.1 +1.7**
MOR8 IVmB_BB 23 10 18.0
comp=Z,3µm,5.4s
MOR8 *e*PKPdf **PKiKP** **23 13 14.8 +0.4**
MOR8 *e*SP SP 23 24 03.0 -2.1
MOR8 *e*SS **SS** **23 30 33.1 +1.3**
MOR8 IVMs_BB IVMs_BB 23 53 17.3
comp=Z,73µm,48.6s
NBB17 Glomfjord BYr 116.98 26 *e*PKPdf **PKPdf** **23 13 12.9 -1.4**
BURAR Bucovina Array 116.99 49 ⇑P **Pdif** **23 09 42.0 +11**
CTA Charters Tower 117.00 220 PKP **PKPdf** **23 13 15.6 -0.3**
comp=Z,4.1nm,0.7s,baz=184,slow=3.1,SNR=1.7
CTA PKKPbc **PKKPbc** **23 23 38.7 -1.7**
comp=Z,12nm,1.0s,baz=233,slow=6.2,SNR=2.7
CTA PKKPab **PKKPab** **23 23 47.1 0.0**
comp=Z,20nm,0.9s,baz=347,slow=1.0,SNR=5.7
CTAO Charters Tower 117.00 220 IAMs_20 IAMs_20 23 54 50.9
comp=Z,354µm,20.0s
NBB05 Inndyr 117.08 26 *e*PKPdf **PKPdf** **23 13 14.1 -0.4**
LOF Lofoten 117.22 25 *e*Pdif **Pdif** **23 09 31.0 -0.4**
LOF IVmB_BB 23 10 18.5
comp=Z,3µm,5.8s
LOF *e*PKPdf **PKiKP** **23 13 15.0 +0.2**
LOF *e*PP **PP** **23 14 25.7 -0.2**
LOF *e*SKSac **SKSac** **23 20 04.0 -2.3**
LOF *e*SP SP 23 24 05.5 -1.6
LOF *e*SS **SS** **23 30 33.7 -1.1**
LOF IVMs_BB IVMs_BB 23 53 08.2
comp=Z,62µm,43.0s
NBB08 Skaug oppvekst 117.41 26 *e*PKPdf **PKPdf** **23 13 14.4 -0.7**
PBUR Paburge 117.53 39 *e*P **PKPdf** **23 13 11.1 -4.6**
UNV Unalaska Valle 117.58 318 Pdiff **Pdif** **23 09 30.8 -2.5**
baz=106
TESR Tescani 117.58 50 ⇑P **Pdif** **23 09 32.9 -0.6**
ICOR Ion Corvin 117.61 53 ⇑P **Pdif** **23 09 42.2 +8.5**
ODBI Odobesti 117.62 51 ⇑P **Pdif** **23 09 46.6 +13**
N2TV TVrnvik 117.64 26 *e*PKPdf **PKPdf** **23 13 14.8 -0.7**
FAUS Fauske 117.65 26 *e*Pdif **Pdif** **23 09 32.8 -0.5**
FAUS IVmB_BB 23 10 18.5
comp=Z,4µm,12.8s
FAUS *e*PKPdf **PKPdf** **23 13 14.6 -1.0**
FAUS *e*PP **PP** **23 14 27.0 -1.9**
FAUS *e*SKSdf **SKSdf** **23 20 25.1 -1.9**
FAUS *e*SP **SP** **23 24 07.6 -3.4**
FAUS *e*SS **SS** **23 30 38.6 -1.8**
FAUS IVMs_BB IVMs_BB 23 53 41.9
comp=Z,111µm,34.6s
SUW Suwalki 117.66 42 *e*P **PKiKP** **23 13 18.5 +2.5**
SUW Suwalki 117.66 42 PKIKP **PKPdf** **23 13 14.9 -1.1**
SUW MLR MLR
comp=Z,959µm,20.0s
SUW Suwalki 117.66 42 **PKPdf** **23 13 14.9 -1.1**

AAL Aland 117.69 34 *e*P **PKiKP** **23 13 20.1 +4.2**
N2ST Straumen 117.75 26 *e*PKPdf **PKPdf** **23 13 15.1 -0.7**
STEI Steigen 117.78 25 *e*Pdif **Pdif** **23 09 36.9 +3.0**
STEI IVmB_BB 23 10 20.7
comp=Z,3µm,6.1s
STEI *e*PKPdf **PKPdf** **23 13 15.2 -0.6**
STEI *e*PP **PP** **23 14 29.2 -0.6**
STEI *e*SP SP 23 24 10.9 -1.3
STEI *e*SS **SS** **23 30 41.6 -0.4**
STEI IVMs_BB IVMs_BB 23 53 46.4
comp=Z,94µm,32.3s
A21K Barrow 118.03 339 IAMs_20 IAMs_20 00 09 33.2
comp=Z,435µm,18.0s
A21K Barrow 118.03 339 Pdiff **Pdif** **23 09 34.4 -0.5**
baz=106
N2IH Innhavet 118.04 25 *e*PKPdf **PKPdf** **23 13 15.8 -0.6**
TIRR Tirgusor 118.13 53 PKIKP **PKPdf** **23 13 16.9 -0.3**
TIRR Tirgusor 118.13 53 PKPdf **PKPdf** **23 13 16.9 -0.3**
SLIT Slitere, Latvi 118.16 37 *e*P **PKPdf** **23 13 13.7 -3.1**
PABE Paberze 118.50 40 *e*P **PKPdf** **23 13 15.8 -1.7**
PABE Paberze 118.50 40 PKPdf **PKiKP** **23 13 18.0 +0.4**
CSS Mathiatis 118.64 65 PKPdf **PKPdf** **23 13 18.0 -0.6**
NIKH Nikolski High 118.69 317 Pdiff **Pdif** **23 09 37.8 -0.5**
baz=105
RAF Rauma 118.75 34 *e*P **PKiKP** **23 13 23.2 +5.3**
KIS Kishinev 119.15 50 *e*P **Pdif** **23 09 54.0 +14**
comp=Z,3µm,15.4s
KIS Kishinev 119.15 50 *e*PKP **PKiKP** **23 13 23.0 +3.8**
KIS Kishinev 119.15 50 *e*PP PP 23 14 45.0 +5.1
comp=Z,12µm,24.0s
MORW Morawa 119.18 188 PKPdf **PKPdf** **23 13 18.6 -1.3**
MTSE Matsula 119.21 37 *e*P **PKiKP** **23 13 19.0 +0.1**
RDOG Red Dog Mine 119.38 334 Pdiff **Pdif** **23 09 41.9 +0.9**
baz=102
TRO Tromso 119.49 24 *e*Pdif **Pdif** **23 09 41.6 +0.2**
TRO *e*PKPdf **PKPdf** **23 13 18.9 -0.2**
TRO *e*PP **PP** **23 14 42.8 +1.3**
TRO *e*SP SP 23 24 23.4 -4.0
TRO *e*SS **SS** **23 30 58.8 -5.3**
TRO IVMs_BB IVMs_BB 23 54 40.5
comp=Z,61µm,48.9s
KBS Kingsbay 119.60 13 *e*PKIKP **PKPdf** **23 13 18.2 -0.9**
KBS MLR MLR
comp=Z,331µm,18.0s
KBS Kingsbay 119.60 13 *e*Pdif **Pdif** **23 09 41.4 -0.4**
KBS IVmB_BB 23 10 27.8
comp=Z,2µm,8.2s
KBS *e*PKPdf **PKPdf** **23 13 18.5 -0.7**
KBS *e*PP **PP** **23 14 43.0 +0.9**
KBS *e*SP SP 23 24 26.6 -1.5
KBS *e*SS **SS** **23 31 04.0 -1.2**
KBS IVMs_BB IVMs_BB 23 56 14.4
comp=Z,78µm,27.4s
KBS Kingsbay 119.60 13 IAMs_20 IAMs_20 00 04 22.9
comp=Z,338µm,20.0s
ANM Nome 119.64 330 IAMs_20 IAMs_20 00 01 56.9
comp=Z,335µm,21.0s
ANM Nome 119.64 330 Pdiff **Pdif** **23 09 43.1 +0.9**
baz=102
ISAL Salakas 119.70 40 *e*P **PKPdf** **23 13 19.3 -0.6**
IIGN Ignalina 119.71 41 *e*P **PKiKP** **23 13 20.1 +0.1**
ASAR Alice Springs 119.80 207 PKP **PKPdf** **23 13 19.8 -1.6**
comp=Z,15nm,0.7s,baz=152,slow=1.5,SNR=14
ASAR PKKPbc **PKKPbc** **23 23 28.8 -1.8**
comp=Z,6.7nm,0.5s,baz=335,slow=3.1,SNR=1.3
ASAR PKKPab **PKKPab** **23 23 33.6 -1.6**
comp=Z,16nm,0.9s,baz=334,slow=3.1,SNR=15
ASAR Alice Springs 119.80 207 PKIKP **PKPdf** **23 13 19.5 -1.8**
ASAR Alice Springs 119.80 207 PKPdf **PKPdf** **23 13 19.5 -1.8**
AS31 Alice Springs 119.80 207 PKPdf **PKPdf** **23 13 20.0 -1.3**
MEF Metsahovi 119.83 35 *e*P **PKiKP** **23 13 25.8 +5.8**
ANTO Ankara 119.83 59 PKIKP **PKPdf** **23 13 20.6 -0.2**
ANTO Ankara 119.83 59 **PKPdf** **23 13 20.6 -0.2**
JETT Jettan, Norway 119.98 24 *e*Pdif **Pdif** **23 09 45.1 +1.4**
JETT *e*PKPdf **PKPdf** **23 13 18.7 -1.4**
JETT *e*PP **PP** **23 14 46.5 +1.5**
SPA0 Spitsbergen Ar 120.32 14 *e*Pdif **Pdif** **23 09 48.3 +3.2**
SPA0 *e*PKPdf **PKPdf** **23 13 19.7 -0.8**
SPITS Spitsbergen Ar 120.32 14 PKIKP **PKiKP** **23 13 21.1 +0.4**
SPB2 Spitsbergen Ar 120.33 14 **PKiKP** **23 13 21.3 +0.7**
BJO1 Bjornoya 120.37 18 *e*Pdif **Pdif** **23 09 45.4 +0.1**
BJO1 IVmB_BB 23 10 31.0
comp=Z,2µm,9.5s
BJO1 *e*PKPdf **PKPdf** **23 13 18.4 -2.3**
BJO1 *e*PP **PP** **23 14 47.0 -0.5**
BJO1 *e*SP SP 23 24 33.7 -1.4
BJO1 *e*SS **SS** **23 31 12.7 -2.5**
BJO1 IVMs_BB IVMs_BB 23 55 01.2
comp=Z,50µm,42.1s
AKASG Malin Array Be 120.37 46 PKP **PKPdf** **23 13 19.8 -1.5**
comp=Z,39nm,0.9s,baz=270,slow=2.4,SNR=11
AKBB Malin Array Si 120.37 46 *c* PKIKP **PKPdf** **23 13 18.2 -3.1**
AKBB MLR MLR
comp=Z,587µm,21.0s
BR131 Keskin Array S 120.41 60 PKIKP **PKPdf** **23 13 21.9 -0.1**
BR131 Keskin Array S 120.41 60 **PKPdf** **23 13 21.9 -0.1**
BRTR Keskin Array B 120.41 60 PKP **PKPdf** **23 13 21.9 -0.1**
comp=Z,28nm,0.8s,baz=187,slow=2.8,SNR=13
MNK Minsk 120.45 42 *i* PKIKP **PKPdf** **23 13 20.0 -1.4**
MNK *i* 23 14 47.5
MNK *i* PPP PPP 23 17 20.9
MNK *i* 23 20 28.9
MNK pmax pmax
comp=Z,49nm,0.7s
MNK pmax pmax
comp=N,5.0nm,0.7s
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK MLR MLR
comp=Z,239µm,26.0s
MNK Minsk 120.45 42 *i* PKP **PKPdf** **23 13 20.0 -1.4**
comp=E,2.0nm,0.7s
MNK *i* PKP **PKPdf** **23 13 20.0 -1.4**
comp=N,5.0nm,0.7s
MNK *i* PKP **PKPdf** **23 13 20.0 -1.4**
comp=Z,49nm,0.7s,baz=257
MNK *i* PP **PP** **23 14 47.5 -1.1**
MNK *i* SKP 23 16 52.4
MNK *i* PKS 23 16 56.3
MNK *i* PPP PPP 23 17 20.9
MNK *i* SKS **SKSdf** **23 20 29.0 -3.9**
MNK *i* SKKS SKKSdf 23 31 02.8 -12
MNK *i* SS **SS** **23 31 22.8 +5.5**
MNK *i* SSS SSS 23 35 58.6
MNK *i* LQ LQ 23 58 22.7
SPIA Saint Paul Isl 120.46 321 Pdiff **Pdif** **23 09 50.3 +4.3**
baz=102
KWAJ Kwajalein Atol 120.64 261 IAMs_20 IAMs_20 23 56 16.2
comp=Z,436µm,20.0s
VSU Vasula 120.65 37 *e*P **PKiKP** **23 13 24.0 +2.3**
VSU Vasula 120.65 37 *c* PKIKP **PKPdf** **23 13 19.9 -1.7**
VSU MLR MLR
comp=Z,945µm,20.0s
FINES FINESS Array B 120.88 34 PKP **PKPdf** **23 13 21.3 -0.7**
comp=Z,16nm,0.8s,baz=169,slow=0.8,SNR=12
FINES PKKPbc **PKKPbc** **23 23 29.6 +2.7**
comp=Z,4.9nm,0.6s,baz=69,slow=4.6,SNR=4.9
FINES FINESS Array B 120.88 34 PKIKP **PKPdf** **23 13 20.9 -1.1**
FINES FINESS Array B 120.88 34 PKPdf **PKPdf** **23 13 20.9 -1.1**
FIA1 FINESS Array S 120.88 34 PKPdf **PKPdf** **23 13 20.9 -1.1**
TNA Tin City 120.88 331 Pdiff **Pdif** **23 09 49.7 +2.0**
baz=99
KTK1 Kautokeino 120.89 25 *e*Pdif **Pdif** **23 09 46.9 -0.9**
KTK1 IVmB_BB 23 10 31.7
comp=Z,2µm,13.4s
KTK1 *e*PKPdf **PKPdf** **23 13 21.8 -0.1**
KTK1 *e*SP SP 23 24 38.4 -1.7
KTK1 *e*SS **SS** **23 31 22.0 -0.1**
KTK1 IVMs_BB IVMs_BB 23 57 12.2
comp=Z,60µm,27.2s
HAMF Hammerfest 121.25 23 *e*Pdif **Pdif** **23 09 49.3 0.0**
HAMF IVmBBB 23 10 36.5
comp=Z,2µm,4.5s
HAMF *e*PKPdf **PKPdf** **23 13 22.0 -0.5**
HAMF *e*PP **PP** **23 14 55.3 +1.7**
HAMF *e*PS **PS** **23 24 43.3 -2.4**
HAMF *e*SS SS 23 31 25.1 -1.6
HAMF IVMs_BB IVMs_BB 23 55 11.2
comp=Z,56µm,39.1s
ARA0 ARCESS Array S 121.75 24 *e*PKPdf **PKPdf** **23 13 22.8 -0.7**
ARCES ARCESS Array B 121.75 24 PKP **PKPdf** **23 13 22.2 -1.3**
comp=Z,8.3nm,0.5s,baz=253,slow=3.5,SNR=24
ARCES PKKPbc **PKKPbc** **23 23 23.6 -0.3**
comp=Z,14nm,0.8s,baz=74,slow=4.3,SNR=4.5

ARCES	ARCESS Array B	121.75	24		PKPdf	PKPdf	23 13 22.7	-0.8		
BNN	Bunyan	121.79	61		PKPdf	PKPdf	23 13 24.0	-0.7		
HOPEN	Hopen	122.06	16	e	Pdif	Pdif	23 09 52.8	+0.1		
HOPEN					IVmB_BB		23 09 59.3			
	comp=Z,706nm,2.3s									
HOPEN				e	PKPdf	PKiKP	23 13 24.2	+0.1		
HOPEN				e	PS	PS	23 24 52.1	-0.7		
HOPEN				e	SS	SS	23 31 37.2	+0.5		
HOPEN					IVMs_BB	IVMs_BB	23 57 25.6			
	comp=Z,54μm,26.3s									
GAMB	Gambell	122.25	329		IAMs_20	IAMs_20	00 04 27.0			
	comp=Z,294μm,19.0s									
GAMB	Gambell	122.25	329		Pdiff	Pdif	23 09 52.3	-1.5		
	baz=97									
KEV	Kevo	122.30	24		PKiKP	PKiKP	23 13 24.7	0.0		
KEV	Kevo	122.30	24		PKPdf	PKiKP	23 13 24.7	0.0		
KEV					IAMs_20	IAMs_20	00 02 23.1			
	comp=Z,517μm,21.0s									
PUL	Pulkovo	122.69	36	e	P	PKiKP	23 13 41.1	+15		
PUL	Pulkovo	122.69	36	i	PKiKP	PKPdf	23 13 25.3	-0.2		
PUL					MLR	MLR				
	comp=Z,680μm,19.0s									
WRA	Warramunga Arr	122.96	209		PKP	PKPdf	23 13 26.5	-0.9		
	comp=Z,46nm,0.9s,baz=132,slow=1.2,SNR=16									
WRAB	Tennant Creek	122.96	209	c	iPKiKP	PKiKP	23 13 25.4	-2.0		
WRAB					MLR	MLR				
	comp=Z,289μm,17.0s									
WRAB	Tennant Creek	122.96	209			PKPdf	23 13 25.8	-1.6		
ADK	Adak	123.12	314		PKiKP	PKPdf	23 13 25.9	-0.7		
ADK					MLR	MLR				
	comp=Z,540μm,22.0s									
ADK	Adak	123.12	314		PKPdf	PKPdf	23 13 25.9	-0.7		
ADK	Adak	123.12	314		IAMs_20	IAMs_20	23 55 32.4			
	comp=Z,540μm,22.0s									
KIWB	Kanaga Island	123.40	314		PKPdf	PKPdf	23 13 26.4	-0.8		
COEN	Coen	123.66	222		PKPdf	PKPdf	23 13 27.8	-1.0		
APA	Apatity	124.56	27	i	PKiKP	PKiKP	23 13 30.3	+1.1		
APA				i			23 20 39.0			
APA				i	SS	SS	23 32 28.0	+19		
APA					pmax	pmax				
	comp=Z,116nm,0.8s									
LVZ	Lovozero	125.03	26	c	iPKiKP	PKPdf	23 13 29.1	-0.8		
LVZ					MLR	MLR				
	comp=Z,353μm,19.0s									
LVZ	Lovozero	125.03	26		IAMs_20	IAMs_20	00 05 01.6			
	comp=Z,480μm,20.0s									
OBN	Obninsk	125.51	42	c	iPKiKP	PKPdf	23 13 29.5	-1.5		
OBN				e			23 15 20.2			
OBN				i	SS	SS	23 32 42.9	+22		
OBN					pmax	pmax				
	comp=Z,541nm,1.0s									
OBN					pmax	pmax				
	comp=Z,4μm,2.0s									
OBN					MLR	MLR				
	comp=Z,1021μm,21.0s									
AMKA	Amchitka	125.51	313		PKPdf	PKPdf	23 13 30.9	-0.3		
SOC	Sochi	125.79	57	e	P	Pdif	23 10 28.3	+18		
SOC				e			23 13 29.7			
SOC				e			23 15 21.3			
SOC				e	PPP	PPP	23 18 01.9			
SOC				e	SS	SS	23 32 23.8	-1.9		
SOC					pmax	pmax				
	comp=Z,15nm,0.8s									
SOC					pmax	pmax				
	comp=Z,55nm,0.8s									
SOC					MLR	MLR				
	comp=Z,242μm,20.0s									
PSA00	Pilbara Seismi	125.95	193		PKPdf	PKPdf	23 13 31.9	-1.1		
PSA00	Pilbara Seismi	125.95	193		PKPdf	PKPdf	23 13 32.0	-1.1		
H11S2	WAKE ISLAND Hyl	126.07	271		T	T	01 32 56.4			
	baz=116,slow=75									
H11S1	WAKE ISLAND Hyl	126.08	271		T	T	01 32 53.4			
	baz=116,slow=75									
H11S3	WAKE ISLAND Hyl	126.09	271		T	T	01 32 56.3			
	baz=116,slow=75									
MOS	Moscow	126.16	41	e	P	Pdif	23 10 17.5	+6.1		
MOS				i			23 13 30.6			
MOS				e			23 15 27.0			
MOS				e			23 20 42.0			
MOS				e	SS	SS	23 32 49.1	+20		
MOS					pmax	pmax				
	comp=Z,305nm,1.7s									
MOS					MLR	MLR				
	comp=N,335μm,18.0s									
MOS					MLR	MLR				
	comp=E,616μm,18.0s									
MOS					MLR	MLR				
	comp=Z,766μm,18.0s									
H11N3	WAKE ISLAND Hyl	126.42	272		T	T	01 33 17.4			
	baz=116,slow=75									
SIRT	Sirnak	126.42	64			PKiKP	23 13 33.8	-0.2		
H11N1	WAKE ISLAND Hyl	126.44	272		T	T	01 33 18.2			
	baz=116,slow=75									
H11N2	WAKE ISLAND Hyl	126.44	272		T	T	01 33 18.7			
	baz=116,slow=75									
WAKE	Wake Island	126.46	272		IAMs_20	IAMs_20	00 02 29.3			
	comp=Z,223μm,19.0s									
SOCY	Socotra	126.57	99		PKPdf	PKPdf	23 13 34.3	-0.1		
VORD	Divnogorie	126.69	47	e	PKiKP	PKPdf	23 13 32.6	-0.8		
VORD				e			23 15 33.8			
VORD					pmax	pmax				
	comp=Z,340nm,1.0s									
VORR	Voronezh	126.72	47	e	PKiKP	PKPdf	23 13 31.0	-2.5		
VORR					pmax	pmax				
	comp=Z,250nm,1.2s									
KLMR	Klimovskoe	127.32	35	e	PKiKP	PKPdf	23 13 33.1	-1.2		
KLMR							23 15 36.0			
KLMR				e	PPP	PPP	23 18 17.7			
KLMR					pmax	pmax				
	comp=Z,602nm,1.2s									
KARS	Kars	127.63	61		PKiKP	PKiKP	23 13 36.6	+0.2		
KARS	Kars	127.63	61		PKPdf	PKiKP	23 13 36.6	+0.2		
RST	Umm Al-Ruwaisa	127.78	75	e	P	PKPdf	23 13 35.1	-1.2		
FITZ	Fitzroy Crossi	127.82	201		PKP	PKPdf	23 13 36.0	-0.8		
	comp=Z,51nm,0.8s,baz=200,slow=4.6,SNR=27									
FITZ	Fitzroy Crossi	127.82	201		PKPdf	PKPdf	23 13 35.4	-1.3		
NEY	Neytrino	127.88	57	d	iPKiKP	PKPdf	23 13 36.4	+0.2		
SHA1	Shidzhatmaz	127.92	57	i	PKiKP	PKPdf	23 13 34.1	-2.3		
KIV	Kislovodsk	127.97	57		PKPdf	PKPdf	23 13 35.4	-0.8		
KIV	Kislovodsk	127.97	57	e	P	Pdif	23 10 19.5	-0.4		
KIV				i			23 13 34.8			
KIV				e			23 15 38.0			
KIV				e	PPP	PPP	23 18 22.5			
KIV				e	PS	PS	23 25 44.4	-1.8		
KIV				e	SS	SS	23 32 52.8	-0.3		
KIV					pmax	pmax				
	comp=Z,75nm,1.0s									
KIV	Kislovodsk	127.97	57		PKPdf	PKPdf	23 13 35.5	-0.8		
KIV					IAMs_20	IAMs_20	00 12 52.9			
	comp=Z,379μm,21.0s									
KBZ	Khabaz	128.09	57		PKP	PKPdf	23 13 35.7	-0.6		
	comp=Z,48nm,0.9s,baz=259,slow=3.5,SNR=9.1									
DGAR	Diego Garcia	128.22	132	i	PKiKP	PKPdf	23 13 34.8	-2.8		
DGAR	Diego Garcia	128.22	132		IAMs_20	IAMs_20	00 04 42.6			
	comp=Z,352μm,19.0s									
VRH	Novokhopyorsk	128.24	47	e	P	Pdif	23 10 19.8	-1.0		
VRH				e			23 13 34.0			
VRH				e			23 15 39.2			
VRH				e	PS	PS	23 25 43.1	-4.9		
VRH					pmax	pmax				
	comp=Z,1μm,5.8s									
VRH					pmax	pmax				
	comp=Z,2μm,2.3s									
PYA1	Pyatigorsk	128.28	56	i	PKiKP	PKPdf	23 13 34.8	-2.0		
ONI	Oni	128.29	58		PKiKP	PKPdf	23 13 36.3	-0.6		
ONI	Oni	128.29	58			PKPdf	23 13 36.3	-0.6		
UMR	Umm Al-Rimmam	128.39	76	e	P	PKPdf	23 13 36.6	-0.7		
NCK	Nalchik	128.55	57	d	iPKiKP	PKPdf	23 13 37.3	0.0		
ZEI	Tsey	128.65	58	i	PKiKP	PKPdf	23 13 35.7	-2.1		
ZEI					pmax	pmax				
	comp=Z,84nm,1.1s									
GNI	Garni	128.78	62		PKPdf	PKPdf	23 13 37.7	-0.3		
GNI	Garni	128.78	62	c	iPKiKP	PKPdf	23 13 37.9	-0.1		
GNI	Garni	128.78	62		PKPdf	PKiKP	23 13 38.6	-0.1		
GNI	Garni	128.78	62		PKPdf	PKPdf	23 13 33.7	-4.3		
KNRA	Kununurra	129.02	206		PKPdf	PKPdf	23 13 38.2	-0.9		
GROC	Groznyy	130.09	58	i	PKiKP	PKPdf	23 13 38.1	-2.1		
GROC				e			23 15 50.3			
GROC				e	PPP	PPP	23 18 35.9			
GROC				e			23 20 48.2			
GROC					pmax	pmax				
	comp=Z,431nm,1.1s									
GROC					MLR	MLR				
	comp=Z,190μm,17.0s									
PRGR	Permogore	130.21	34	e	PKiKP	PKPdf	23 13 40.1	+0.3		
PRGR					pmax	pmax				
	comp=Z,316nm,1.2s									
SHAO	Shalim	130.73	93		PKPdf	PKPdf	23 13 40.3	-1.9		
BILL	Bilibino	130.84	335	d	iPKiKP	PKPdf	23 13 40.3	-0.6		
BILL				e			23 15 58.4			
BILL					pmax	pmax				
	comp=Z,134nm,0.9s									
BILL					pmax	pmax				
	comp=Z,2μm,3.6s									
BILL					MLR	MLR				
	comp=Z,347μm,17.0s									
BILL	Bilibino	130.84	335			PKPdf	23 13 40.9	0.0		
BILL					IAMs_20	IAMs_20	00 12 49.0			
	comp=Z,364μm,18.0s									
AKT	Akhty	131.24	61	e	PKiKP	PKPdf	23 13 42.3	-0.3		
AKT				e			23 16 04.9			
AKT					pmax	pmax				
	comp=Z,461nm,1.0s									
KIRV	Kirov	132.49	37	c	iPKiKP	PKPdf	23 13 43.1	-1.1		
ASUD	Al Ashush, Dub	133.13	85	i	PKPdf	PKPdf	23 13 45.8	-0.7		
	SNR=5.4									
ALNE	Al Ain	133.28	86	i	PKPdf	PKPdf	23 13 46.3	-0.6		
	SNR=22									
FAQ	Al Faqa, Dubai	133.40	85	i	PKPdf	PKPdf	23 13 46.0	-1.0		
	SNR=19									
NAZ	Nazwa, Dubai	133.54	84	i	PKPdf	PKPdf	23 13 46.5	-0.8		
	SNR=21									
UMQ	Umm Al-Quwin	133.73	84	i	PKPdf	PKPdf	23 13 47.3	-0.3		
	SNR=19									
ASHO	Ashiyiah	133.77	85	i	PKPdf	PKPdf	23 13 46.4	-1.4		
	SNR=16									
HATD	Hatta, Dubai	133.88	85	i	PKPdf	PKPdf	23 13 46.6	-1.4		
	SNR=14									
SOHO	SOHO	133.98	86	i	PKPdf	PKPdf	23 13 46.6	-1.5		
	SNR=21									
UOSS	Minazif	133.99	85	i	PKPdf	PKPdf	23 13 45.4	-2.7		
	SNR=16									
UOSS	Minazif	133.99	85		PKPdf	PKPdf	23 13 47.1	-1.0		
MSFE	Esma-Masafi	134.09	84	i	PKPdf	PKPdf	23 13 47.1	-1.2		
	SNR=22									
JAY	Jayapura	134.17	228		PKP	PKPdf	23 13 39.6	-9.3		
MDH	Madha	134.19	84	i	PKPdf	PKPdf	23 13 46.9	-1.6		
	SNR=22									
SHME	Shamm	134.31	83	i	PKPdf	PKPdf	23 13 47.6	-1.1		
	SNR=7.8									
BANOM	Banah	134.41	83	i	PKPdf	PKPdf	23 13 47.1	-1.9		
	SNR=22									
BATI	Baumata	135.87	202		PKhKP	PKPpre	23 13 46.7			
	comp=Z,15nm,0.6s,baz=327,slow=3.3,SNR=4.0									
BATI	Baumata	135.87	202		PKP	PKPdf	23 13 43.2	-8.9		
SOEI	Soe	136.09	203			PKPdf	23 13 52.6	0.0		
SOEI	Soe	136.09	203		PKP	PKPdf	23 13 49.3	-3.3		
SOEI	Soe	136.09	203		PKP	PKPdf	23 13 43.9	-8.7		
WBSI	Waikabubak, Su	137.60	196		PKP	PKiKP	23 13 56.6	-0.6		
WBSI	Waikabubak, Su	137.60	196		PKP	PKPdf	23 13 46.6	-8.7		
ARU	Arti	137.75	39	c	iPKiKP	PKPdf	23 13 53.6	-0.5		
ARU					MLR	MLR				
	comp=Z,771μm,19.0s									
MMRI	Maumere	137.79	201			PKPdf	23 13 53.7	-1.9		
MMRI					IAMs_20	IAMs_20	00 11 50.4			
	comp=Z,323μm,19.0s									
MMRI	Maumere	137.79	201		PKP	PKPdf	23 13 47.6	-8.0		
MMRI	Maumere	137.79	201		PKP	PKPdf	23 13 47.2	-8.4		
EDFI	Ende, Flores	137.85	200		PKP	PKPdf	23 13 46.6	-9.2		
EDFI	Ende, Flores	137.85	200		PKP	PKPdf	23 13 46.9	-8.9		
BAKI	Biak	138.04	224		PKP	PKPdf	23 13 46.8	-9.3		
PET	Petropavlovsk	138.15	316	e	P	Pdif	23 11 17.2	+12		
PET				e	SSS	SSS	23 40 07.2			
PET					pmax	pmax				
	comp=Z,4μm,22.5s									
PET					pmax	pmax				
	comp=Z,2μm,18.9s									
PET					pmax	pmax				
	comp=Z,509nm,1.1s									
PET	Petropavlovsk	138.15	316			PKPdf	23 13 54.3	-0.6		
PET					IAMs_20	IAMs_20	00 03 25.7			
	comp=Z,323μm,22.0s									
TIXI	Tiksi	138.43	350	c	iPKiKP	PKPdf	23 13 53.2	-1.7		
TIXI	Tiksi	138.43	350			PKPdf	23 13 54.8	-0.1		
TIXI					IAMs_20	IAMs_20	00 19 24.9			
	comp=Z,253μm,19.0s									
PEA0B	Petropavlovsk-	138.70	316	c	iPKiKP	PKPdf	23 13 55.4	-0.6		
PEA0B	Petropavlovsk-	138.70	316		PKPdf	PKPdf	23 13 56.6	+0.6		
PEA0B					IAMs_20	IAMs_20	00 03 58.3			
	comp=Z,296μm,19.0s									
PETK	Petropavlovsk-	138.70	316		PKhKP	PKPpre	23 13 48.6			
	comp=Z,6.8nm,0.8s,baz=90,slow=6.1,SNR=6.7									
PETK					PKP	PKPdf	23 13 55.9	-0.1		
	comp=Z,66nm,0.9s,baz=79,slow=7.7,SNR=24									
PETK	Petropavlovsk-	138.70	316			PKPdf	23 13 56.2	+0.2		
GEYT	Alibeck	138.71	67		PKhKP	PKPpre	23 13 51.5			
	comp=Z,35nm,0.6s,baz=228,slow=17,SNR=1.5									
GYA0B	ALIBECK ARRAY	138.71	67		PKPdf	PKPdf	23 13 56.5	-0.1		
SVE	Sverdlovsk	138.75	38	d	iPKiKP	PKPdf	23 13 55.2	-0.8		
SVE				e			23 40 08.4			
SVE					pmax	pmax				
	comp=Z,680nm,1.7s									
SVE					pmax	pmax				
	comp=Z,28μm,13.0s									
SVE					MLR	MLR				
	comp=Z,627μm,19.0s									
SVE					MLR	MLR				
	comp=E,377μm,19.0s									
SVE					MLR	MLR				
	comp=N,361μm,18.0s									
PLAI	Plampang	138.75	194		PKP	PKPdf	23 13 49.0	-8.4		
TWSI	Taliwang, Sumb	139.02	193		PKP	PKPdf	23 13 50.0	-7.8		
TWSI	Taliwang, Sumb	139.02	193		PKP	PKPdf	23 13 49.0	-8.8		
DNP	Denpasar	139.37	191		PKP	PKiKP	23 14 10.8	+10		
KLNI	Mataram	139.47	192		PKP	PKiKP	23 14 00.5	-0.5		
KLNI	Mataram	139.47	192		PKP	PKPdf	23 13 50.3	-8.4		
JAGI	Jajag, Banyuwa	139.73	189		PKPdf	PKPdf	23 13 58.2	-1.0		
JAGI					IAMs_20	IAMs_20	00 14 59.1			
	comp=Z,266μm,20.0s									
JAGI	Jajag, Banyuwa	139.73	189		PKP	PKPdf	23 13 51.1	-8.1		
BJUI	Banyuwangi	139.95	189		PKP	PKiKP	23 14 13.2	+11		
SRBI	Singaraja	139.95	191		PKP	PKPdf	23 13 50.6	-8.9		
ABKAR	Akbulak array	139.96	50			PKPdf	23 13 57.9	-0.5		
GMJI	Gumukmas	140.01	188		PKP	PKiKP	23 14 01.7	-0.4		
GMJI	Gumukmas	140.01	188		PKP	PKPdf	23 13 51.1	-8.5		
MSAI	Masohi	140.06	213		PKP	PKiKP	23 14 10.1	+7.9		
SKR	Severo-Kuril's	140.10	313	i	PKiKP	PKPdf	23 13 55.0	-3.6		
SKR				e			23 17 03.9			
SKR				e	SS	SS	23 35 58.1	+39		
SKR					pmax	pmax				
	comp=Z,72nm,1.0s									
SKR					pmax	pmax				
	comp=Z,13μm,16.0s									
PCJI	Pacitan	140.29	184		PKP	PKPdf	23 13 57.3	-2.9		
PCJI	Pacitan	140.29	184		PKP	PKPdf	23 13 52.2	-8.0		
MA2	Magadan	140.32	327		PKhKP	PKPpre	23 13 54.7			
	comp=Z,12nm,0.4s,baz=114,slow=4.7,SNR=7.2									
MA2	Magadan	140.32	327	c	iPKiKP	PKPdf	23 13 58.2	-0.6		
MA2					MLR	MLR				
	comp=Z,285μm,23.0s									
MA2	Magadan	140.32	327		PKPdf	PKPdf	23 13 59.1	+0.4		
MA2					IAMs_20	IAMs_20	00 06 38.9			
	comp=Z,355μm,22.0s									
KRAI	Karang Ratu	140.33	212		PKP	PKPdf	23 13 54.0	-6.3		
ABJI	Asem Bagus	140.38	189		PKP	PKiKP	23 14 10.0	+7.2		
PWJI	Pagerwojo	140.42	185		PKP	PKPdf	23 13 56.4	-4.0		
PWJI	Pagerwojo	140.42	185		PKP	PKPdf	23 13 52.0	-8.4		
UGM	Wanagama	140.61	183		IAMs_20	IAMs_20	00 12 33.4			
	comp=Z,277μm,22.0s									
UGM	Wanagama	140.61	183		PKP	PKiKP	23 14 06.1	+2.7		
UGM	Wanagama	140.61	183		PKP	PKPdf	23 13 52.9	-7.9		
BSSI	Banda, Buton	140.67	199		PKP	PKiKP	23 14 05.5	+2.0		
YOGI	Yogyakarta	140.72	183		PKP	PKiKP	23 14 10.0	+6.4		
CMJI	Cimerak	140.80	180		PKP	PKiKP	23 14 05.7	+2.0		
CMJI	Cimerak	140.80	180		PKP	PKPdf	23 13 52.6	-8.5		
CISI	Cisompet, Garu	141.02	179		IAMs_20	IAMs_20	00 13 46.1			
	comp=Z,205μm,21.0s									
CISI	Cisompet, Garu	141.02	179		PKP	PKPdf	23 13 53.4	-8.2		
SIJI	Sorong	141.03	218		PKhKP	PKPpre	23 13 58.0			
	comp=Z,46nm,0.9s,baz=71,slow=3.3,SNR=10									
SIJI	Sorong	141.03	218		PKP	PKPdf	23 13 58.7	-2.8		
SIJI	Sorong	141.03	218		PKP	PKPdf	23 13 52.3	-9.2		
SWI	Sorong	141.03	218		PKP	PKPdf	23 13 59.8	-1.7		
KMMI	Kalianget	141.15	189		PKP	PKiKP	23 14 11.0	+6.6		
KMMI	Kalianget	141.15	189		PKP	PKPdf	23 13 53.1	-8.6		
KPJI	Karang Pucung	141.24	181		PKP	PKPdf	23 13 59.3	-2.6		
KPJI	Karang Pucung	141.24	181		PKP	PKPdf	23 13 53.9	-8.0		
CNJI	Cibinong	141.25	178		PKP	PKiKP	23 14 05.7	+1.1		
CNJI	Cibinong	141.25	178		PKP	PKPdf	23 13 54.0	-7.9		
GRJI	Gresik	141.46	187		PKP	PKiKP	23 14 10.4	+5.4		
SMRI	Semarang	141.47	183			PKPdf	23 14 01.7	-0.6		
SMRI					IAMs_20	IAMs_20	00 12 37.3			
	comp=Z,317μm,21.0s									
BKSI	Bulukumba	141.56	199		PKP	PKPdf	23 13 58.3	-4.1		
BKSI	Bulukumba	141.56	199		PKP	PKPdf	23 13 53.7	-8.7		
CTJI	Waduk Cacaban	141.56	181		PKP	PKPdf	23 14 03.1	+0.6		
CTJI	Waduk Cacaban	141.56	181		PKP	PKPdf	23 13 53.9	-8.6		
LEM	Lembang	141.74	179		PKP	PKPdf	23 13 54.8	-8.2		
KAPI	Kappang	141.95	199		PKhKP	PKPpre	23 13 58.6			
	comp=Z,59nm,0.8s,baz=162,slow=3.0,SNR=18									
KAPI	Kappang	141.95	199		PKIKP	PKPdf	23 13 59.9	-3.2		
KAPI	Kappang	141.95	199		PKPdf	PKPdf	23 13 59.9	-3.2		
KAPI	Kappang	141.95	199		PKP	PKPdf	23 14 00.0	-3.2		
KAPI	Kappang	141.95	199		PKP	PKPdf	23 13 54.3	-8.9		
DBJI	Dramaga	141.99	177		PKP	PKPdf	23 13 59.6	-3.7		
GUMO	Guam	142.00	250		PKhKP	PKPpre	23 13 58.4			
	comp=Z,20nm,0.3s,baz=42,slow=14,SNR=2.1									
GUMO	Guam	142.00	250		IAMs_20	IAMs_20	00 10 07.9			
	comp=Z,255μm,20.0s									
KKSI	Kolaka, Sulawe	142.19	202		PKP	PKiKP	23 14 10.8	+4.2		
BNSI	Bone	142.44	200		PKP	PKPdf	23 14 00.7	-3.3		
BNSI	Bone	142.44	200		PKP	PKPdf	23 13 55.0	-9.0		
SANI	Sanana	142.52	210		PKP	PKPdf	23 13 55.2	-9.0		
EGSI	Enggano, Bengk	142.77	170		PKP	PKiKP	23 14 09.4	+1.7		
EGSI	Enggano, Bengk	142.77	170		PKP	PKPdf	23 13 56.6	-8.0		
TRD	Trivandrum	142.86	122	ex		PKPdf	23 14 00.1	-4.7		
BLSI	Bandar Lampung	143.08	175		PKP	PKiKP	23 14 09.5	+1.1		
LWLI	Liwa	143.32	173		PKP	PKPbc	23 14 02.8	+0.1		
KLI	Kotabumi	143.55	174		PKP	PKPdf	23 14 06.2	+0.2		
PMSI	Majene	143.62	198		PKP	PKiKP	23 14 11.8	+2.2		
PMSI	Majene	143.62	198		PKP	PKPab	23 13 57.5	-5.2		
MDSI	Maura Dua	143.86	173		PKP	PKPab	23 14 03.1	-0.4		
MDSI	Maura Dua	143.86	173		PKP	PKPab	23 13 55.7	-7.8		
UBSI	University, Be	144.33	170		PKP	PKPbc	23 14 06.2	+0.6		
UBSI	University, Be	144.33	170		PKP	PKPab	23 13 57.8	-7.5		
TNTI	Ternate	144.40	214		PKP	PKPbc	23 14 06.0	+0.2		
LHSI	Lahat	144.44	172		PKP	PKPab	23 14 05.7	+0.1		
KBKI	Kotabaru	144.46	194		PKP	PKPbc	23 14 05.9	-0.1		
KBKI	Kotabaru	144.46	194		PKP	PKPab	23 13 57.2	-8.5		
KSI	Kapahiang	144.48	170		PKP	PKPab	23 13 58.2	-7.7		
PALK	Pallekele	144.63	127		PKIKP	PKPab	23 14 05.8	-0.7		
PALK					MLR	MLR				
	comp=Z,661μm,20.0s									
PALK	Pallekele	144.63	127		PKPdf	PKPab	23 14 05.8	-0.7		
PALK	Pallekele	144.63	127		PKP	PKPab	23 14 06.3	-0.2		
PALK	Pallekele	144.63	127		PKP	PKPab	23 14 01.1	-5.4		
GOA	Goa	144.72	109	e	P	PKPab	23 14 06.2	-0.5		
MASI	Maura Aman, Be	144.93	169		PKP	PKPbc	23 14 07.6	0.0		
MASI	Maura Aman, Be	144.93	169		PKP	PKPab	23 14 00.5	-7.0		
GAMI	Galela, Maluku	145.12	216		PKP	PKPbc	23 14 07.4	-0.7		
GAMI	Galela, Maluku	145.12	216		PKP	PKPbc	23 13 58.2	-10		
APSI	Ampana	145.24	204		PKP	PKPdf	23 14 09.0	+0.1		
APSI	Ampana	145.24	204		PKP	PKPbc	23 13 59.1	-9.4		
BRVK	Borovoye	145.26	41	c	iPKiKP	PKPbc	23 14 07.0	-0.4		
BRVK					MLR	MLR				
	comp=Z,879μm,20.0s									
BRVK	Borovoye	145.26	41			PKPbc	23 14 07.1	-0.4		
BRVK	Borovoye	145.26	41		PKPbc	PKPbc	23 14 07.5	0.0		
PMBI	Palembang	145.46	174			PKPbc	23 14 08.2	-1.0		
PMBI	Pal

SBSI	**Sibolga**	**148.78**	**162**		PKP	PKPdf	23 14 06.7	-8.2	
UGL	**Uglegorsk**	**149.27**	**314**		*e*PKHKP	PKPpre	23 14 14.3		
UGL					pmax	pmax			
	comp=Z,18μm,6.0s								
UGL					pmax	pmax			
	comp=Z,960nm,1.5s								
DRK	**Karamyk**	**149.44**	**65**			**PKPdf**	**23 14 15.2**	**-0.3**	
YSS	**Yuzh-Sakhalins**	**149.56**	**310**		*i* PKHKP	PKPpre	23 14 15.8		
YSS					*e*SS	SS	23 37 02.4	-4.6	
YSS					*e*SSS	SSS	23 42 41.2		
YSS					pmax	pmax			
	comp=Z,148μm,14.8s								
YSS					pmax	pmax			
	comp=Z,1μm,1.3s								
YSS	**Yuzh-Sakhalins**	**149.56**	**310**		PKPdf	**PKPdf**	**23 14 15.2**	**+0.2**	
YSS					IAMs_20	IAMs_20	00 32 27.1		
	comp=Z,296μm,21.0s								
HYB	**Hyderabad**	**149.57**	**111**	*i*	PKP	**PKPdf**	**23 14 15.0**	**-1.0**	
	comp=Z,900nm,1.0s								
BTDF	**Bukit Timah Da**	**149.58**	**171**		PKP	PKPdf	23 14 07.7	-8.4	
RPSI	**Rantau Prapat**	**149.88**	**161**			**PKPdf**	**23 14 15.1**	**-1.5**	
TPTI		**149.89**	**157**		PKP	**PKPbc**	**23 14 20.7**	**-0.7**	
JMP	**Maruseppu**	**149.91**	**304**		P	**PKPdf**	**23 14 16.7**	**+1.0**	
KSM	**Kuching**	**149.94**	**184**		P	**PKPbc**	**23 14 21.0**	**-0.6**	
PSI	**Prapat**	**149.98**	**161**		PKIKP	**PKPdf**	**23 14 15.1**	**-1.8**	
PSI	**Prapat**	**149.98**	**161**		PKP	**PKPdf**	**23 14 17.7**	**+0.8**	
PSI	**Prapat**	**149.98**	**161**		PKP	PKPdf	23 14 09.1	-7.8	
CBIJ	**Chichi jima**	**150.21**	**270**		P	**PKPab**	**23 14 33.7**	**+5.8**	
JCJ	**Chichijima**	**150.21**	**270**		PKPbc	**PKPbc**	**23 14 22.1**	**+0.3**	
	comp=Z,81nm,0.8s,baz=198,slow=19,SNR=2.2								
BTLS	**Baital**	**150.22**	**53**	*e*	PKP	**PKPdf**	**23 14 15.8**	**-0.4**	
	baz=54								
BTLS	**Baital**	**150.22**	**53**	*e*	PKIKP	**PKPdf**	**23 14 15.7**	**-0.4**	
JKA	**Kamikawa-asahi**	**150.42**	**305**			**PKPbc**	**23 14 20.7**	**-1.1**	
ASAJ	**Asahikawa**	**150.43**	**305**		PKPbc	**PKPbc**	**23 14 21.2**	**-0.6**	
	comp=Z,154nm,1.0s,baz=262,slow=9.2,SNR=15								
ASAJ	**Asahikawa**	**150.43**	**305**		P	**PKPbc**	**23 14 21.0**	**-0.8**	
ASAJ	**Asahikawa**	**150.43**	**305**		PKIKP	**PKPbc**	**23 14 20.7**	**-1.1**	
ERM	**Erimo**	**150.43**	**300**		PKIKP	**PKPbc**	**23 14 21.4**	**-0.4**	
ERM	**Erimo**	**150.43**	**300**			**PKPbc**	**23 14 21.4**	**-0.4**	
JEM	**Erimo**	**150.43**	**300**		P	**PKPbc**	**23 14 21.6**	**-0.2**	
JEM	**Erimo**	**150.43**	**300**			**PKPbc**	**23 14 21.8**	**0.0**	
NIL	**Nilore**	**150.49**	**77**		PKIKP	**PKPbc**	**23 14 21.1**	**-1.3**	
NIL	**Nilore**	**150.49**	**77**		PKPdf	**PKPdf**	**23 14 16.3**	**-0.7**	
NIL					PKPbc	**PKPbc**	**23 14 21.1**	**-1.3**	
TSI	**Tuntungan**	**150.54**	**160**		PKP	**PKPbc**	**23 14 22.2**	**-0.8**	
TSI	**Tuntungan**	**150.54**	**160**		PKP	PKPdf	23 14 09.6	-8.0	
EKS2	**Erkin-Say**	**150.55**	**58**		P	**PKPdf**	**23 14 16.9**	**0.0**	
	SNR=22								
AML	**Almayashu**	**150.58**	**59**		P	**PKPdf**	**23 14 17.3**	**-0.1**	
	SNR=25								
AML	**Almayashu**	**150.58**	**59**	*i*	PKPdf	**PKPdf**	**23 14 16.3**	**-1.1**	
	SNR=59								
JWK2	**Keihoku**	**150.61**	**307**		P	**PKPbc**	**23 14 21.4**	**-0.8**	
DAV	**Davao City (W)**	**150.72**	**217**		PKPbc	**PKiKP**	**23 14 23.9**	**-0.2**	
	comp=Z,188nm,0.4s,baz=56,slow=5.7,SNR=5.3								
DAV	**Davao City (W)**	**150.72**	**217**			**PKPbc**	**23 14 21.9**	**-1.5**	
DAV	**Davao City (W)**	**150.72**	**217**		IAMs_20	IAMs_20	00 18 50.2		
	comp=Z,239μm,20.0s								
SBUM	**Sibu**	**150.73**	**188**		P	**PKiKP**	**23 14 24.0**	**-0.1**	
USP	**Ospenovka**	**150.95**	**57**		P	**PKPdf**	**23 14 17.1**	**-0.4**	
	SNR=9.7								
SGDS	**Sogindy**	**151.00**	**56**	*e*	PKP	**PKPdf**	**23 14 17.0**	**-0.5**	
	baz=56								
AAK	**Ala-Archa**	**151.07**	**58**		P	**PKPdf**	**23 14 17.2**	**-0.6**	
	SNR=17								
AAK	**Ala-Archa**	**151.07**	**58**	*i*	PKPdf	**PKPdf**	**23 14 17.4**	**-0.4**	
	SNR=55								
AAK	**Ala-Archa**	**151.07**	**58**	*c*	*i*PKIKP	**PKPdf**	**23 14 17.7**	**-0.1**	
FRU1	**Bishkek**	**151.14**	**58**		PKIKP	**PKPdf**	**23 14 17.7**	**-0.1**	
FRU1	**Bishkek**	**151.14**	**58**			**PKPdf**	**23 14 17.6**	**-0.1**	
UCH	**Uchtor**	**151.16**	**59**		P	**PKPdf**	**23 14 18.4**	**0.0**	
	SNR=36								
CHMS	**Chumysh**	**151.19**	**57**		P	**PKPbc**	**23 14 23.7**	**0.0**	
	SNR=44								
KBK	**Karagaybulak**	**151.40**	**58**		P	**PKPdf**	**23 14 18.4**	**+0.1**	
	SNR=15								
BHPL	**Bhopal**	**151.41**	**99**	*e*	P	**PKPdf**	**23 14 16.8**	**-2.0**	
JEW	**Eniwo**	**151.52**	**303**		PKPdf	**PKPdf**	**23 14 18.0**	**-0.2**	
KZA	**Kyzart**	**151.73**	**59**		P	**PKiKP**	**23 14 25.8**	**-0.1**	
	SNR=16								
GRNR	**Gornyy**	**151.76**	**321**	⇑	*i*PKIKP	**PKPbc**	**23 14 24.5**	**-0.2**	
GRNR					pmax	pmax			
	comp=E,10.0nm,1.0s								
GRNR					pmax	pmax			
	comp=Z,60nm,1.3s								
TKM2	**Tokmak 2**	**151.81**	**57**		P	**PKPdf**	**23 14 18.0**	**-0.9**	
	SNR=26								
JRMM	**Jerantut**	**151.85**	**168**		P	**PKiKP**	**23 14 27.0**	**+0.6**	
CMBY	**CAMPBELL BAY**	**152.05**	**148**	*e*	P	**PKPdf**	**23 14 18.1**	**-1.8**	
ZAA0	**Zalesovo Array**	**152.06**	**30**		PKPdf	**PKPdf**	**23 14 17.5**	**-1.2**	
ZAA0					PKPbc	**sPKPdf**	**23 14 24.6**	**+0.6**	
ZALV	**Zalesovo Beam**	**152.06**	**30**		PKP	**PKPdf**	**23 14 17.7**	**-1.0**	
	comp=Z,37nm,0.7s,baz=298,slow=3.2,SNR=43								
ZALV					PKPbc	**PKPbc**	**23 14 25.2**	**-0.1**	
	comp=Z,528nm,0.5s,baz=318,slow=2.2,SNR=111								
ZALV	**Zalesovo Beam**	**152.06**	**30**		PKPdf	**PKPdf**	**23 14 17.9**	**-0.8**	
ZALV						**sPKPdf**	**23 14 24.9**	**+0.9**	
JOT	**Ohata**	**152.09**	**300**		P	**PKPbc**	**23 14 25.2**	**-0.5**	
KUU	**Kurty**	**152.10**	**55**	*e*	PKP	**PKPdf**	**23 14 17.8**	**-1.4**	
	baz=55								
KUU	**Kurty**	**152.10**	**55**	*e*	PKIKP	**PKPdf**	**23 14 17.7**	**-1.4**	
IPM	**Ipoh**	**152.13**	**164**		P	**PKiKP**	**23 14 27.0**	**0.0**	
SPMM	**Sapulut**	**152.13**	**198**		P	**PKPbc**	**23 14 26.0**	**-0.7**	
BOOM	**Boomskoye usch**	**152.15**	**58**		PKIKP	**PKPdf**	**23 14 18.8**	**-0.6**	
BOOM	**Boomskoye usch**	**152.15**	**58**			**PKPdf**	**23 14 18.8**	**-0.6**	
JOM	**Ohasama**	**152.17**	**296**		P	**PKPbc**	**23 14 25.3**	**-0.7**	
JTM	**Tenmabayashi**	**152.17**	**298**		P	**PKPbc**	**23 14 24.1**	**-1.8**	
JTM	**Tenmabayashi**	**152.17**	**298**		PKPdf	**PKPdf**	**23 14 18.4**	**-0.8**	
MTBS	**Maitube**	**152.35**	**56**	*e*	PKP	**PKPdf**	**23 14 18.1**	**-1.6**	
	baz=56								
THN	**Thein Dam**	**152.41**	**80**	*ex*		**PKPbc**	**23 14 27.0**	**+0.3**	
ULHL	**Ulahol**	**152.42**	**58**		P	**PKPdf**	**23 14 19.7**	**-0.2**	
	SNR=21								
CHKK	**Chushkaly**	**152.56**	**55**	*e*	PKP	**PKPdf**	**23 14 17.6**	**-2.2**	
	baz=55								
JSH	**Shimam**	**152.57**	**303**		P	**PKPbc**	**23 14 23.9**	**-2.9**	
KSH	**Kashi**	**152.66**	**64**		PKPbc	**PKPdf**	**23 14 19.8**	**-0.4**	
KSH					sPKP		23 14 34.8		
KSH					PP	**PP**	**23 18 14.3**	**+3.2**	
KSH					LR	LR			
	comp=N,556μm,20.4s								
KSH					LR	LR			
	comp=E,446μm,22.3s								
KSH					LR	LR			
	comp=Z,713μm,23.7s								
AAA	**Alma-Ata**	**152.68**	**56**	*e*	PKP	**PKPdf**	**23 14 19.1**	**-1.0**	
	baz=56								
AAA					eLR	LR	00 25 55.3		
	comp=Z,453μm,19.4s,baz=56								
AAA	**Alma-Ata**	**152.68**	**56**	*e*	PKIKP	**PKPdf**	**23 14 19.0**	**-1.0**	
JMM	**Marumori**	**152.69**	**292**		P	**PKPbc**	**23 14 24.7**	**-2.5**	
JMM	**Marumori**	**152.69**	**292**			**PKPdf**	**23 14 18.9**	**-1.2**	
JMM					IAMs_20	IAMs_20	00 18 49.2		
	comp=Z,249μm,21.0s								
TNSS	**Tian-Shan**	**152.75**	**56**	*e*	PKP	**PKPdf**	**23 14 19.6**	**-1.0**	
	baz=56								
MDOK	**Medeo**	**152.78**	**56**	*e*	PKP	**PKPdf**	**23 14 19.2**	**-1.1**	
	baz=56								
MDOK					eLR	LR	00 26 16.5		
	comp=Z,252μm,19.8s,baz=56								
MDOK	**Medeo**	**152.78**	**56**	*e*	PKIKP	**PKPdf**	**23 14 19.2**	**-1.1**	
BHK	**Bhakra**	**152.86**	**82**	*e*	P	**PKPdf**	**23 14 22.0**	**+1.4**	
DHRM	**DHARAMSHALA**	**152.88**	**80**	*e*	P	**PKPdf**	**23 14 20.7**	**-0.2**	
KDJ	**Kajisay**	**153.12**	**58**		PKIKP	**PKPdf**	**23 14 19.6**	**-1.3**	
KDJ	**Kajisay**	**153.12**	**58**		PKPdf	**PKPdf**	**23 14 19.6**	**-1.3**	
TDK	**Taldyqorghan**	**153.18**	**52**	*e*	PKP	**PKPdf**	**23 14 19.1**	**-1.6**	
	baz=52								
TDK					eLR	LR	00 27 48.0		
	comp=Z,386μm,18.4s,baz=52								
TDK	**Taldyqorghan**	**153.18**	**52**	*e*	PKIKP	**PKPdf**	**23 14 19.0**	**-1.6**	
JYT	**Yasato**	**153.22**	**289**		P	**PKiKP**	**23 14 28.9**	**+0.3**	
JYT	**Yasato**	**153.22**	**289**		PKPdf	**PKPdf**	**23 14 20.0**	**-1.0**	
JHJ2	**Mitsune**	**153.40**	**282**		IAMs_20	IAMs_20	00 22 10.9		
	comp=Z,255μm,19.0s								
SMLA	**Simla**	**153.45**	**83**	*e*	P	**PKPdf**	**23 14 21.3**	**-0.2**	
JYA	**Atsumi**	**153.48**	**294**		P	**PKPdf**	**23 14 20.3**	**-1.0**	
VIS	**Vishakhapatnam**	**153.49**	**116**	*e*	P	**PKPdf**	**23 14 19.8**	**-2.1**	
JBP	**Jabalpur**	**153.53**	**102**	*e*	P	**PKPdf**	**23 14 21.0**	**-0.8**	
BOD	**Bodaibo**	**153.53**	**353**	*e*	PKIKP	**PKPdf**	**23 14 18.3**	**-2.4**	
BOD					pmax	pmax			
	comp=Z,2μm,1.8s								
TARG	**Taragay, Kyrgy**	**153.67**	**59**			**PKPdf**	**23 14 21.2**	**-0.8**	
SATY	**Saty**	**153.77**	**56**	*e*	PKP	**PKPdf**	**23 14 20.0**	**-1.8**	
	baz=56								
SATY	**Saty**	**153.77**	**56**	*e*	PKIKP	**PKPdf**	**23 14 19.9**	**-1.8**	
KPKS	**Kokpek**	**153.85**	**55**	*e*	PKP	**PKPdf**	**23 14 21.0**	**-0.8**	
	baz=55								
KPKS	**Kokpek**	**153.85**	**55**	*e*	PKIKP	**PKPdf**	**23 14 21.0**	**-0.8**	
PRZ	**Przheval'sk**	**153.92**	**57**		PKIKP	**PKPdf**	**23 14 22.0**	**0.0**	
PRZ	**Przheval'sk**	**153.92**	**57**			**PKPdf**	**23 14 22.0**	**0.0**	
ZEA	**Zeya**	**154.05**	**334**	*i*	PKIKP	**PKPdf**	**23 14 20.8**	**-0.8**	
ZEA					pmax	pmax			
	comp=Z,90nm,1.2s								
ZEA					pmax	pmax			
	comp=N,12μm,10.4s								
ZEA					pmax	pmax			
	comp=Z,26μm,8.4s								
DDI	**Dehra Dun**	**154.06**	**85**	*e*	P	**PKPdf**	**23 14 22.5**	**0.0**	
JOD2	**Odawara 2**	**154.12**	**286**		P	**PKPbc**	**23 14 28.8**	**-1.7**	
UZB	**Uzyn bulak**	**154.18**	**55**	*e*	PKP	**PKPdf**	**23 14 20.8**	**-1.5**	
	baz=55								
UZB	**Uzyn bulak**	**154.18**	**55**	*e*	PKIKP	**PKPdf**	**23 14 20.8**	**-1.5**	
TEY	**Ternei**	**154.24**	**309**	⇑	*e*PKIKP	**PKPdf**	**23 14 21.0**	**-1.1**	
TEY					*e*		23 14 29.6		
TEY					pmax	pmax			
	comp=Z,10.0nm,2.9s								
JRY	**Ryogami san**	**154.27**	**288**		P	**PKPdf**	**23 14 20.7**	**-1.8**	
SHLS	**Shalkode**	**154.49**	**55**	*e*	PKP	**PKPdf**	**23 14 22.3**	**-0.5**	
	baz=55								
SHLS	**Shalkode**	**154.49**	**55**	*e*	PKIKP	**PKPdf**	**23 14 22.2**	**-0.5**	
PKDT	**Phuket**	**154.61**	**156**		PKP	**PKiKP**	**23 14 36.5**	**+4.4**	
JSD	**Sado**	**154.67**	**293**		P	**PKPdf**	**23 14 21.5**	**-1.5**	
JSD	**Sado**	**154.67**	**293**		PKPdf	**PKPdf**	**23 14 21.6**	**-1.3**	
JSD					IAMs_20	IAMs_20	00 37 45.8		
	comp=Z,300μm,21.0s								
MAKZ	**Makanchi**	**154.75**	**46**		PKIKP	**PKPdf**	**23 14 21.8**	**-1.1**	
MAKZ	**Makanchi**	**154.75**	**46**			**PKPdf**	**23 14 21.8**	**-1.1**	
MJAR	**Matsushiro Arr**	**154.82**	**289**		PKP	**PKPdf**	**23 14 21.4**	**-1.8**	
	comp=Z,26nm,1.2s,baz=121,slow=1.7,SNR=23								
MJAR					PKPbc	**PKiKP**	**23 14 32.6**	**+0.7**	
	comp=Z,50nm,1.0s,baz=126,slow=1.2,SNR=14								
MJAR	**Matsushiro Arr**	**154.82**	**289**		PKPdf	**PKPdf**	**23 14 22.1**	**-1.2**	
MJAR					PKPbc	**PKPbc**	**23 14 31.5**	**-0.4**	
MAJO	**Matsushiro**	**154.82**	**289**	*c*	*i*PKIKP	**PKPdf**	**23 14 21.1**	**-2.2**	
MAJO	**Matsushiro**	**154.82**	**289**		PKPdf	**PKPdf**	**23 14 21.8**	**-1.5**	
MAJO	**Matsushiro**	**154.82**	**289**		IAMs_20	IAMs_20	00 14 43.6		
	comp=Z,217μm,21.0s								
MAT	**Matsushiro**	**154.82**	**289**		PKP	**PKPdf**	**23 14 20.8**	**-2.5**	
MAT	**Matsushiro**	**154.82**	**289**		P	**PKPdf**	**23 14 20.9**	**-2.4**	
MJB9	**Matsu-Tunnel**	**154.82**	**289**		PKPdf	**PKPdf**	**23 14 22.3**	**-1.0**	
MJB9						**PKPab**	**23 14 45.1**	**-2.0**	
MJB9					IAMs_20	IAMs_20	00 14 44.8		
	comp=Z,254μm,22.0s								
JSG	**Sagara**	**154.85**	**285**		IAMs_20	IAMs_20	00 40 05.2		
	comp=Z,299μm,20.0s								
MK31	**Makanchi Array**	**154.95**	**45**	*c*	*i*PKIKP	**PKPdf**	**23 14 21.3**	**-1.8**	
MK31	**Makanchi Array**	**154.95**	**45**		PKPdf	**PKPdf**	**23 14 21.9**	**-1.2**	
MKAR	**Makanchi Array**	**154.95**	**45**		PKP	**PKPdf**	**23 14 21.9**	**-1.3**	
	comp=Z,15nm,0.9s,baz=355,slow=0.8,SNR=27								
MKAR					PKPbc	**PKPbc**	**23 14 31.6**	**-0.3**	
	comp=Z,82nm,0.9s,baz=275,slow=2.2,SNR=27								
MKAR					PKPab	**PKPab**	**23 14 45.3**	**-2.0**	
	comp=Z,161nm,0.7s,baz=321,slow=2.4,SNR=14								
MKAR	**Makanchi Array**	**154.95**	**45**		PKPdf	**PKPdf**	**23 14 21.8**	**-1.3**	
MKAR						**PKiKP**	**23 14 32.1**	**+0.3**	
TRTT	**Trang**	**154.99**	**159**		PKP	**PKiKP**	**23 14 34.7**	**+1.8**	
KLR	**Kul'dur**	**155.12**	**322**		PKP	**PKPdf**	**23 14 21.7**	**-1.5**	
	comp=Z,28nm,1.0s,baz=44,slow=1.9,SNR=42								
KLR	**Kul'dur**	**155.12**	**322**	*c*	*i*PKIKP	**PKPdf**	**23 14 19.9**	**-3.3**	
KRAB	**Krabi**	**155.20**	**158**		PKP	PKPdf	23 14 35.6	+11	
PBA	**Port Blair**	**155.46**	**141**	*e*	P	PKPdf	23 14 24.6	-0.1	
JGF	**Kuroka**	**155.53**	**287**		P	**PKPdf**	**23 14 30.8**	**+6.5**	
JGF	**Kuroka**	**155.53**	**287**			**PKPdf**	**23 14 23.4**	**-0.9**	
JGN	**Niukaw**	**155.55**	**289**		P	**PKPdf**	**23 14 23.2**	**-1.1**	
PTH	**Pithoragarh**	**155.75**	**88**	*ex*		**PKPdf**	**23 14 32.3**	**+7.3**	
JIE	**Ise**	**156.06**	**284**		P	**PKPdf**	**23 14 32.7**	**+7.7**	
DGZ	**Jazzator, Alta**	**156.13**	**35**	*c*	*i*PKIKP	**PKPdf**	**23 14 24.1**	**-0.7**	
ZSN	**Zaisan**	**156.13**	**42**	*e*	PKP	**PKPdf**	**23 14 23.7**	**-1.0**	
	baz=42								
ZSN	**Zaisan**	**156.13**	**42**	*e*	PKIKP	**PKPdf**	**23 14 23.6**	**-1.0**	
DGPR	**DIGLIPUR**	**156.82**	**139**	*e*	P	**PKPdf**	**23 14 25.8**	**-0.6**	
JWT	**Wachi**	**157.14**	**286**		P	**PKPdf**	**23 14 25.0**	**-1.3**	
JWT	**Wachi**	**157.14**	**286**		IAMs_20	IAMs_20	00 21 20.5		
	comp=Z,325μm,20.0s								
USA0B	**Ussuriysk Arra**	**157.59**	**311**		PKIKP	**PKPdf**	**23 14 24.8**	**-1.8**	
USA0B	**Ussuriysk Arra**	**157.59**	**311**		PKPdf	**PKPdf**	**23 14 24.8**	**-1.8**	
USA0B					IAMs_20	IAMs_20	00 11 16.8		
	comp=Z,322μm,22.0s								
USRK	**Ussuriysk Ar.**	**157.59**	**311**		PKP	**PKPdf**	**23 14 25.0**	**-1.6**	
	comp=Z,6.7nm,1.0s,baz=0.0,slow=0.4,SNR=19								
USRK					PKPab	**PKPab**	**23 14 57.2**	**-1.5**	
	comp=Z,121nm,1.1s,baz=53,slow=3.1,SNR=12								
USRK	**Ussuriysk Ar.**	**157.59**	**311**		PKIKP	**PKPdf**	**23 14 24.7**	**-1.9**	
USRK	**Ussuriysk Ar.**	**157.59**	**311**		PKPdf	**PKPdf**	**23 14 24.7**	**-1.9**	
VLA	**Vladivostok**	**158.12**	**308**	*c*	*i*PKIKP	**PKPdf**	**23 14 25.3**	**-2.0**	
JMN	**Monobe**	**158.39**	**282**		P	PKPdf	23 14 37.3	+9.3	
JMN	**Monobe**	**158.39**	**282**		IAMs_20	IAMs_20	00 41 27.6		
	comp=Z,265μm,20.0s								
BOK	**Bokaro**	**158.69**	**106**	*e*	P	**PKPdf**	**23 14 28.1**	**-0.5**	
MDJ	**Mudanjiang**	**158.91**	**314**		PKP	**PKPdf**	**23 14 26.9**	**-1.3**	
MDJ					pPKP	sPKPdf	23 14 35.0	+1.5	
MDJ					PP	**PP**	**23 18 47.6**	**+2.4**	
MDJ	**Mudanjiang**	**158.91**	**314**			**PKPdf**	**23 14 26.7**	**-1.5**	
JHS	**Saijyo**	**159.02**	**286**		P	**PKPdf**	**23 14 29.6**	**+0.9**	
JHS	**Saijyo**	**159.02**	**286**		IAMs_20	IAMs_20	00 24 28.3		
	comp=Z,271μm,20.0s								
JMZ	**Minamidaito 2**	**159.11**	**260**		P	PKPdf	23 14 38.5	+9.5	
JMZ	**Minamidaito 2**	**159.11**	**260**		IAMs_20	IAMs_20	00 30 43.5		
	comp=Z,161μm,19.0s								
IRK	**Irkutsk**	**159.20**	**7**	*e*	PKIKP	**PKPdf**	**23 14 27.6**	**-0.7**	
IRK					pmax	pmax			
	comp=Z,2μm,3.4s								
CIT	**Chita**	**159.28**	**351**	*e*	PKIKP	**PKPdf**	**23 14 27.4**	**-1.1**	
CIT					*e*		23 15 06.1		
CIT					*e*		23 18 50.6		
CIT					*e*		23 21 21.1		
CIT					*e*		23 22 29.6		
CIT					*e*		23 31 58.7		
MOY	**Mondy**	**159.28**	**13**	*e*	PKIKP	**PKPdf**	**23 14 28.6**	**0.0**	
MOY					pmax	pmax			
	comp=Z,2μm,3.0s								
PHET	**Kaeng Krachan**	**159.72**	**155**		PKP	PKPdf	23 14 41.7	+12	
WMQ	**Urumqi**	**159.72**	**47**		PKP	**PKPdf**	**23 14 28.8**	**-0.5**	
WMQ					pPKP	sPKPdf	23 14 37.3	+2.8	
WMQ					sPKP		23 14 48.1		
WMQ					PKPab	**pPKPab**	**23 15 11.3**	**-0.5**	
WMQ					PP	PP	23 18 59.8	+10	
WMQ					AMB	AMB			
	comp=Z,52μm,11.9s								
WMQ					LR	LR			
	comp=N,317μm,22.3s								
WMQ					LR	LR			
	comp=E,268μm,20.9s								
WMQ					LR	LR			
	comp=Z,203μm,20.1s								
JNU	**Nakatsue**	**160.88**	**280**		PKP	**PKPdf**	**23 14 31.8**	**+0.9**	
	comp=Z,5.4nm,0.8s,baz=248,slow=11,SNR=1.6								
JNU					PKPab	**PKPab**	**23 15 13.5**	**0.0**	
	comp=Z,44nm,0.9s,baz=114,slow=2.5,SNR=4.6								
JNU	**Nakatsue**	**160.88**	**280**		P	PKPdf	23 14 42.0	+11	
ZAK	**Zakamensk**	**160.91**	**10**	*e*	PKIKP	**PKPdf**	**23 14 29.6**	**-0.8**	
ZAK					pmax	pmax			
	comp=Z,157nm,1.9s								
KHLT	**Khaolaem Dam**	**161.02**	**150**		PKP	PKPdf	23 14 43.0	+12	
JAM	**Amami Oshima**	**161.28**	**266**		P	**PKPdf**	**23 14 30.8**	**-0.6**	
SRAK	**Srakaew**	**161.53**	**160**		PKP	PKPdf	23 14 44.1	+12	
CN2	**Changchun**	**161.84**	**317**	*e*	PKP	**PKPdf**	**23 14 28.9**	**-2.6**	
CN2					PP	**PP**	**23 18 58.8**	**-2.1**	
CN2	**Changchun**	**161.84**	**317**	*e*	PKP	**PKPdf**	**23 14 28.0**	**-3.5**	
CN2					PP	**PP**	**23 18 58.8**	**-2.1**	
CN2					SS	SS	23 39 16.9	-2.4	
CN2					AMB	AMB			
	comp=Z,15μm,12.4s								
CN2					LR	LR			
	comp=Z,149μm,18.0s								
CN2					LR	LR			
	comp=Z,202μm,18.0s								
CN2					LR	LR			
	comp=Z,112μm,20.0s								
JOW	**Kunigami**	**161.94**	**260**		PKP	**PKPdf**	**23 14 31.8**	**-0.4**	
	comp=Z,21nm,1.0s,baz=137,slow=6.9,SNR=4.3								
JOW					PKPab	**PKPab**	**23 15 18.1**	**-0.1**	
	comp=Z,81nm,0.9s,baz=82,slow=3.3,SNR=4.3								
JOW	**Kunigami**	**161.94**	**260**		P	**PKPdf**	**23 14 31.5**	**-0.6**	
JOW	**Kunigami**	**161.94**	**260**			**PKPdf**	**23 14 31.1**	**-1.0**	
UTHA	**Uthaitani**	**162.06**	**151**		PKP	**PKPdf**	**23 14 33.0**	**+0.5**	
GTK	**Tadong**	**162.31**	**99**	*e*	P	**PKPdf**	**23 14 32.0**	**-0.7**	
BRDH	**Bariadhala**	**162.70**	**117**		PKP	**PKPdf**	**23 14 33.1**	**+0.2**	
	comp=Z,85nm,0.4s,baz=76,slow=4.2,SNR=5.0								
KSRS	**Korea Array**	**162.84**	**295**		PKP	**PKPdf**	**23 14 32.1**	**-0.5**	
	comp=Z,9.5nm,0.8s,baz=127,slow=0.4,SNR=24								
KS19	**Wonju Array Si**	**162.88**	**295**			**PKPdf**	**23 14 32.0**	**-0.7**	
KSAR	**Wonju Array Be**	**162.88**	**295**		PKIKP	**PKPdf**	**23 14 31.1**	**-1.6**	
KSAR	**Wonju Array Be**	**162.88**	**295**			**PKPdf**	**23 14 31.1**	**-1.6**	
CHAI	**Chaiyaphum**	**163.31**	**158**		PKP	**PKPdf**	**23 14 36.9**	**+3.2**	
UBPT	**Khong Chiam**	**163.51**	**170**		PKP	**PKPdf**	**23 14 34.5**	**+0.6**	
UBPT	**Khong Chiam**	**163.51**	**170**			**PKPdf**	**23 14 32.9**	**-1.1**	
MHMT	**Maesarieng**	**163.63**	**143**		PKP	**PKPdf**	**23 14 34.3**	**+0.3**	
SONM	**Songino Array**	**163.76**	**5**		PKP	**PKPdf**	**23 14 32.7**	**-0.7**	
	comp=Z,17nm,1.0s,baz=210,slow=1.6,SNR=24								
SONM	**Songino Array**	**163.76**	**5**		PKIKP	**PKPdf**	**23 14 31.9**	**-1.5**	
SONM	**Songino Array**	**163.76**	**5**			**PKPdf**	**23 14 31.9**	**-1.5**	
ULN	**Ulaanbaatar**	**163.77**	**3**	*c*	*i*PKIKP	**PKPdf**	**23 14 31.8**	**-1.6**	
ULN	**Ulaanbaatar**	**163.77**	**3**			**PKPdf**	**23 14 31.9**	**-1.6**	
PHIT	**Phitsanulok**	**163.93**	**152**		PKP	**PKPdf**	**23 14 34.8**	**+0.5**	
KHON	**Khomkaen**	**163.97**	**161**		PKP	**PKPdf**	**23 14 35.0**	**+0.7**	
SNY	**Shenyang**	**164.11**	**314**	⇓	PKP	**PKPdf**	**23 14 40.5**	**+6.8**	
SN

TIA					LR	LR		
	comp=Z,235μm,20.6s							
TIA					LR	LR		
	comp=Z,392μm,17.8s							
KMI	**Kunming**	**171.86**	**142**	⇑PKP	**PKPdf**		**23 14 39.3**	**-0.6**
KMI				pPKP	sPKPdf		23 14 54.9	+10
KMI				sPKP			23 15 02.8	
KMI	**Kunming**	**171.86**	**142**	⇑PKP	**PKPdf**		**23 14 39.2**	**-0.6**
KMI				PP	**PP**		**23 19 56.0**	**+3.4**
KMI				SS	SS		23 40 59.7	-1.1
KMI				AMB	AMB			
	comp=Z,21μm,10.3s							
KMI				LR	LR			
	comp=Z,209μm,20.8s							
KMI				LR	LR			
	comp=Z,219μm,19.1s							
KMI				LR	LR			
	comp=Z,362μm,20.8s							
TIY	**Taiyuan**	**173.06**	**332**	*e*PKP	**PKPdf**		**23 14 38.6**	**-1.2**
TIY				PKPab	**PKPab**		**23 16 04.7**	**-2.2**
TIY				SS	SS		23 41 09.0	-2.6
TIY				AMB	AMB			
	comp=Z,52μm,9.7s							
TIY				LR	LR			
	comp=Z,523μm,18.6s							
TIY				LR	LR			
	comp=Z,236μm,18.0s							
TIY				LR	LR			
	comp=Z,552μm,22.9s							
LZH	**Lanzhou**	**174.22**	**39**	⇑PKP	**PKPdf**		**23 14 40.5**	**+0.1**
LZH				pPKP	sPKPdf		23 14 49.4	+3.7
LZH				sPKP			23 14 53.7	
LZH				PKPab	**PKPab**		**23 16 11.8**	**-0.4**
LZH				PKS	**PKSdf**		**23 18 15.6**	**+2.8**
LZH				SKS	**SKSdf**		**23 21 42.1**	**-1.4**
LZH				SKKS	**SKKSac**		**23 26 44.0**	**-6.8**
LZH				AMB	AMB			
	comp=Z,32μm,6.0s							
LZH				LR	LR			
	comp=Z,445μm,19.5s							
LZH				LR	LR			
	comp=Z,324μm,19.5s							
LZH				LR	LR			
	comp=Z,746μm,20.1s							
GYA	**Guiyang**	**174.64**	**164**	⇑PKP	**PKPdf**		**23 14 39.3**	**-1.5**
GYA				pPKP	sPKPdf		23 14 48.5	+2.4
GYA				sPKP			23 14 52.6	
GYA				PP	**PP**		**23 20 10.1**	**+4.6**
GYA	**Guiyang**	**174.64**	**164**	SKKS			23 27 29.3	
WHN	**Wuhan**	**174.71**	**260**	⇑*i*PKP	**PKPdf**		**23 14 40.1**	**-0.4**
WHN				pPKP	**sPKPdf**		**23 14 45.8**	**0.0**
WHN				LR	LR			
	comp=Z,594μm,19.7s							
WHN				LR	LR			
	comp=Z,450μm,18.1s							
WHN				LR	LR			
	comp=Z,843μm,21.0s							
CD2	**Chengdu**	**176.03**	**99**	PKP	**PKPdf**		**23 14 40.5**	**-0.5**
CD2				pPKP	sPKPdf		23 14 49.3	+3.1
CD2				PP	**PP**		**23 20 15.2**	**+1.3**
CD2				SKS	**SKSdf**		**23 21 41.3**	**-2.6**
CD2				AMB	AMB			
	comp=Z,284μm,12.0s							
CD2				LR	LR			
	comp=Z,549μm,21.2s							
CD2				LR	LR			
	comp=Z,283μm,21.0s							
CD2				LR	LR			
	comp=Z,515μm,20.7s							
XAN	**Xi'an**	**177.55**	**348**	PKPbc	**PKPdf**		**23 14 40.5**	**-0.6**
XAN				pPKP	sPKPdf		23 14 49.6	+3.2
XAN				PKPab	PKPab		23 16 08.9	-18
XAN				PKS	**PKSdf**		**23 18 17.6**	**+4.3**
XAN				PP	PP		23 20 42.3	+23
ENH	**Enshi**	**178.30**	**217**		**PKPdf**		**23 14 39.8**	**-1.5**

MEX 16 22:58:38.4±0.6, 17.15N×100.34W, h16km±103km, MD4.1, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DAIG	**Los Arroyos**	**0.67**	**101**	*e*P		Pg	22 58 49.0	-2.6
DAIG				*i* S		Sg	22 58 57.6	-2.9
MEIG	**Mezcala**	**1.03**	**42**	*i* P		Pb	22 58 54.3	-3.6
MEIG				*i* S		Sb	22 59 06.8	-4.5
ZIIG	**Zihuatanejo**	**1.17**	**293**	*e*P		Pn	22 58 58.0	-2.0
ZIIG				*e*S		Sb	22 59 13.8	-1.3
PLIG	**Platanillo**	**1.47**	**33**	*e*P		Pn	22 59 00.8	-3.5
PLIG				*e*S		Sn	22 59 19.6	-3.6
UON	**La Union**	**1.63**	**300**	*i* P		Pn	22 59 06.3	0.0
MGIG	**Malinaltepec**	**1.63**	**87**	*e*P		Pn	22 59 04.3	-2.3
MGIG				*i* S		Sn	22 59 24.8	-2.6
FTIG	**Fresnillo de T**	**2.23**	**70**	*e*P		Pn	22 59 12.3	-2.6
FTIG				*e*S		Sn	22 59 41.2	-1.1
PNIG	**Pinotepa**	**2.25**	**109**	*e*P		Pn	22 59 12.1	-2.9
PPM	**Popocatepetl**	**2.50**	**40**	*e*P		Pn	22 59 16.6	-2.4
PPM				*i* S		Sn	22 59 51.5	+2.1
HLIG	**Huajuapan de L**	**2.51**	**74**	*e*P		Pn	22 59 16.1	-2.7
TOIG	**Toxpalan**	**3.26**	**73**	*e*P		Pn	22 59 25.9	-3.1
TOIG				*e*S		Sb	23 00 11.6	-3.9
PEIG	**Puerto Escondi**	**3.27**	**110**	*e*P		Pb	22 59 34.5	-1.6
PEIG				*i* S		Sg	23 00 19.6	-3.9

*DJA **16** 22:58:35.0±1.3, 2.7N±8.7×12.7E±*, *h137km±14km, M3.4/5, MLv3.4/5*
*IDC **16** 22:58:36.8±2.4, 2.06N×126.82E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/41, mbtmp3.3/3, Error ellipse: s-maj=194.3km s-min=28.0km az=66.0*
ISC 16 22:58:39.3±1.4, 1.2N±0.2×126.51E±0.7, h35km, n7, σ1§14/5, mb3.2/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TNTI	**Ternate**	**0.98**	**119**	P		**Pn**	**22 58 57.0**	**+0.4**
GAMI	**Galela, Maluku**	**1.41**	**65**	P		**Pn**	**22 59 03.3**	**+0.8**
GAMI				S		**Sn**	**22 59 19.9**	**0.0**
MNI	**Manado**	**1.68**	**277**	P		**Pn**	**22 59 07.1**	**+0.8**
SGSI	**Sangihe**	**2.62**	**338**	P		Pn	22 59 10.2	-8.9
WRA	**Warramunga Arr**	**22.41**	**160**	P		P	23 03 43.7	+8.6
	0.8nm,0.8s,baz=341,slow=12,SNR=3.2							
ASAR	**Alice Springs**	**25.78**	**164**	P		P	23 04 17.0	+10
	0.2nm,0.6s,baz=351,slow=15,SNR=2.9							
MKAR	**Makanchi Array**	**59.47**	**326**	P		**P**	**23 08 37.9**	**-1.0**
	0.2nm,0.3s,baz=123,slow=8.6,SNR=4.5							

*IDC **16** 22:59:07.9±1.1, 31.69S×71.90W, h0km, mb6.0/9, mb1 6.1/9, mb1mx5.7/34, mbtmp6.0/9, Error ellipse: s-maj=43.5km s-min=26.9km az=60.0*
*NEIC **16** 22:59:12.4±1.7, 31.59S±0.04×71.79W±0.0, h13km±3km, Error ellipse: s-maj=11.5km s-min=5.1km az=99.0*
*GUC **16** 22:59:14.9±0.7, 31.63S×71.77W, h26km±5km, ML6.3*
ISC 16 22:59:12.0±1.1, 31.70S±0.02×71.80W±0.04, h17km±7km, n137, σ1§40/154, mb6.4/32, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**1.03**	**8**	*e*P		**Pg**	**22 59 32.1**	**+0.1**
CO06				*i* S		**Sg**	**22 59 44.8**	**-0.8**
CO06	**Fray Jorge**	**1.03**	**8**			**Pb**	**22 59 30.8**	**-0.6**
CO06	**Fray Jorge**	**1.03**	**8**	*e*P		**Pg**	**22 59 32.1**	**+0.1**
CO06				*i* S		**Sg**	**22 59 44.8**	**-0.8**
CO03	**El Pedregal**	**1.28**	**48**	*e*P		**Pb**	**22 59 35.8**	**+0.2**
CO03				*i* S		**Sg**	**22 59 52.5**	**-0.9**
CO03	**El Pedregal**	**1.28**	**48**			**Pb**	**22 59 35.2**	**-0.5**
CO03	**El Pedregal**	**1.28**	**48**	*i* P		**Pg**	**22 59 37.1**	**+0.4**
CO03				*e*S		**Sg**	**22 59 56.0**	**+2.6**
CO03				IAML			23 00 00.2	
	comp=Z,243μm,0.8s							
CO03	**El Pedregal**	**1.28**	**48**	*e*P		**Pb**	**22 59 35.8**	**+0.2**
CO03				*i* S		**Sg**	**22 59 52.5**	**-0.9**
VA01	**Torpederas**	**1.33**	**175**	*e*P		**Pn**	**22 59 33.8**	**-1.9**
VA01	**Torpederas**	**1.33**	**175**			**Pb**	**22 59 36.4**	**-0.1**
VA01	**Torpederas**	**1.33**	**175**	*e*P		**Pn**	**22 59 33.8**	**-1.9**
ROCH	**El Roble**	**1.43**	**153**	*e*P		**Pg**	**22 59 41.1**	**+1.4**
ROCH				*e*S		**Sg**	**22 59 59.7**	**+1.3**
ROCH	**El Roble**	**1.43**	**153**	*e*P		**Pg**	**22 59 41.1**	**+1.4**
ROCH				*e*S		**Sg**	**22 59 59.7**	**+1.3**
VA03	**San Esteban**	**1.50**	**136**	*e*P		**Pg**	**22 59 41.4**	**+0.5**
VA03				*i* S		**Sg**	**23 00 01.6**	**+1.2**
VA03				IAML			23 00 08.1	
	comp=E,720μm,0.5s							
VA03	**San Esteban**	**1.50**	**136**	*e*P		**Pb**	**22 59 40.0**	**+0.6**
VA03	**San Esteban**	**1.50**	**136**	*e*P		**Pg**	**22 59 41.4**	**+0.5**
VA03				*i* S		**Sg**	**23 00 01.6**	**+1.2**
VA03				IAML			23 00 08.1	
	comp=E,720μm,0.5s							
GO04	**Tololo Observa**	**1.75**	**30**	*e*P		**Pb**	**22 59 44.0**	**+0.2**
GO04				*e*S		**Sb**	**23 00 05.9**	**+0.5**
GO04	**Tololo Observa**	**1.75**	**30**	*i* P		**Pb**	**22 59 43.9**	**+0.2**
GO04				*e*S		**Sg**	**23 00 10.2**	**+1.8**
GO04	**Tololo Observa**	**1.75**	**30**	*e*P		**Pb**	**22 59 44.0**	**+0.2**
GO04				*e*S		**Sb**	**23 00 05.9**	**+0.5**
MT05	**Renca**	**1.91**	**152**	*e*P		**Pb**	**22 59 46.7**	**+0.2**
MT05				*e*S		**Sg**	**23 00 13.5**	**-0.1**
MT05				IAML			23 00 27.8	
	comp=E,398μm,0.5s							
MT05	**Renca**	**1.91**	**152**	Pn		**Pb**	**22 59 46.1**	**-0.3**
MT05	**Renca**	**1.91**	**152**	*e*P		**Pb**	**22 59 46.7**	**+0.2**
MT05				*e*S		**Sg**	**23 00 13.5**	**-0.1**
MT05				IAML			23 00 27.8	
	comp=E,398μm,0.5s							
VA05	**Santo Domingo**	**1.96**	**176**			**Pn**	**22 59 45.9**	**+1.5**
FSR	**Penalolen**	**2.07**	**149**	*e*P		**Pg**	**22 59 50.6**	**-1.2**
FSR				*e*S		**Sg**	**23 00 17.6**	**-1.2**
FSR	**Penalolen**	**2.07**	**149**	*e*P		**Pg**	**22 59 50.6**	**-1.2**
FSR				*e*S		**Sg**	**23 00 17.6**	**-1.2**
RTLS	**Leoncito**	**2.13**	**93**	*i* P		**Pg**	**22 59 52.1**	**-0.8**
RTLS				*e*S		**Sg**	**23 00 21.9**	**+1.2**
RTLS				IAML			23 00 28.8	
	comp=Z,233μm,1.4s							
RTLS				IAML			23 00 29.5	
	comp=Z,242μm,1.8s							
MT09	**Talagante**	**2.18**	**162**	*e*P		**Pb**	**22 59 51.7**	**+0.6**
MT09				*e*S		**Sg**	**23 00 20.2**	**-2.0**
MT09	**Talagante**	**2.18**	**162**	Pn		**Pb**	**22 59 51.5**	**+0.4**
MT09	**Talagante**	**2.18**	**162**	*e*P		**Pb**	**22 59 51.7**	**+0.6**
MT09				*e*S		**Sg**	**23 00 20.2**	**-2.0**
MT01	**Popeta**	**2.21**	**168**	IAML			23 00 33.9	
	comp=E,139μm,0.6s							
MT01	**Popeta**	**2.21**	**168**			**Pb**	**22 59 52.2**	**+0.8**
MT01	**Popeta**	**2.21**	**168**	IAML			23 00 33.9	
	comp=E,139μm,0.6s							
LMEL	**Las Melosas**	**2.53**	**148**	IAML			23 00 41.3	
	comp=N,73μm,0.5s							
LMEL	**Las Melosas**	**2.53**	**148**	IAML			23 00 41.3	
	comp=N,73μm,0.5s							
BO01	**Tunca**	**2.75**	**168**	*e*P		**Pb**	**22 59 58.5**	**-2.2**
BO01	**Tunca**	**2.75**	**168**	Pn		**Pn**	**22 59 57.6**	**+2.3**
BO01	**Tunca**	**2.75**	**168**	*e*P		**Pb**	**22 59 58.5**	**-2.2**
ACDV	**Cuesta del Vie**	**2.76**	**57**	*i* P		**Pb**	**23 00 02.0**	**+1.1**
ACDV				*e*S		**Sb**	**23 00 36.4**	**+1.9**
ACDV				IAML			23 00 46.9	
	comp=Z,83μm,2.4s							
ACDV				IAML			23 00 47.3	
	comp=Z,77μm,1.5s							
BO03	**Pichilemu**	**2.79**	**183**	*e*P		**Pg**	**23 00 06.7**	**+1.1**
BO03				IAML			23 00 58.2	
	comp=N,64μm,0.7s							
BO03	**Pichilemu**	**2.79**	**183**	*e*P		**Pg**	**23 00 06.7**	**+1.1**
BO03				IAML			23 00 58.2	
	comp=N,64μm,0.7s							
LCO	**Las Campanas**	**2.84**	**20**	Pn		**Pn**	**22 59 57.0**	**+0.2**
BO02	**Sierra Bellavi**	**3.20**	**165**	*e*P		**Pb**	**23 00 06.6**	**-1.9**
BO02				*e*S		**Sb**	**23 00 45.3**	**-1.9**
BO02				IAML			23 00 57.8	
	comp=N,97μm,0.5s							
BO02	**Sierra Bellavi**	**3.20**	**165**	Pn		**Pn**	**23 00 04.6**	**+3.1**
BO02	**Sierra Bellavi**	**3.20**	**165**	*e*P		**Pb**	**23 00 06.6**	**-1.9**
BO02				*e*S		**Sb**	**23 00 45.3**	**-1.9**
BO02				IAML			23 00 57.8	
	comp=N,97μm,0.5s							
AC04	**Llanos de Chal**	**3.54**	**10**	*e*P		**Pb**	**23 00 13.4**	**-0.7**
AC04				IAML			23 01 10.3	
	comp=N,56μm,0.6s							
AC04	**Llanos de Chal**	**3.54**	**10**	Pn		**Pn**	**23 00 04.9**	**-1.2**
AC04	**Llanos de Chal**	**3.54**	**10**	*e*P		**Pb**	**23 00 13.4**	**-0.7**
AC04				IAML			23 01 10.3	
	comp=N,56μm,0.6s							
AGUA	**GUANDACOL**	**3.60**	**53**	*i* P		**Pb**	**23 00 12.8**	**-2.5**
AGUA				IAML			23 01 15.3	
	comp=Z,139μm,2.4s							
AVFE	**Valle Fertil**	**3.86**	**76**	*i* P		**Pb**	**23 00 18.2**	**-1.5**
AVFE				IAML			23 01 25.5	
	comp=Z,33μm,1.6s							
RFA	**San Rafael**	**4.14**	**139**	*i* P		**Pb**	**23 00 21.5**	**-3.0**
RFA				IAML			23 01 33.3	
	comp=Z,18μm,1.7s							
MRA	**San Martin**	**5.21**	**100**	*i* P		Pn	23 00 34.7	+5.5
MRA				IAML			23 02 17.0	
	comp=Z,36μm,2.1s							
VA02	**Isla de Pascua**	**32.98**	**268**	P		**P**	**23 05 46.6**	**+0.5**
VA02				IAmb	IAmb		23 05 54.3	
	comp=Z,565nm,1.1s							
PMSA	**Palmer Station**	**33.45**	**174**	P		**P**	**23 05 52.1**	**+2.5**
PMSA				IAmb	IAmb		23 06 18.8	
	comp=Z,875nm,1.6s							
MDP	**Montagnes des**	**40.90**	**30**	P		**P**	**23 06 52.5**	**-0.9**
	comp=Z,180nm,0.8s,baz=206,slow=12,SNR=2.5							
TOSP	**Speyside**	**44.09**	**16**	P		**P**	**23 07 18.9**	**-0.5**
GRGR	**Grenville**	**44.65**	**14**	P		**P**	**23 07 23.6**	**-0.3**
SVB	**Belmont**	**45.84**	**14**	P		**P**	**23 07 34.0**	**+0.8**
ICMP	**Isla Caja de M**	**49.56**	**7**	P		**P**	**23 08 01.4**	**-0.6**
MLPR	**Magueyes Islan**	**49.59**	**6**	P		**P**	**23 08 01.1**	**-1.2**
CRPR	**Cabo Rojo, PR**	**49.62**	**6**	P		**P**	**23 08 01.8**	**-0.8**
PDPR	**Patillas Dam,**	**49.74**	**7**	P		**P**	**23 08 02.6**	**-0.8**
SJG	**San Juan**	**49.82**	**7**	P		**P**	**23 08 04.2**	**+0.1**
SJG				IAmb	IAmb		23 08 19.2	
	comp=Z,395nm,1.0s							
SDD	**Santo Domingo**	**49.90**	**2**	P		**P**	**23 08 04.1**	**-0.5**
SMRT	**St. Maarten**	**50.17**	**11**	P		**P**	**23 08 05.0**	**-1.7**
SMRT				IAmb	IAmb		23 08 16.8	
	comp=Z,415nm,1.2s							
SNAA	**Sanae**	**53.64**	**158**	P		**P**	**23 08 31.3**	**-0.8**
	comp=Z,312nm,0.8s,baz=242,slow=4.2,SNR=4.0							
SNAA	**Sanae**	**53.64**	**158**	P		**P**	**23 08 33.6**	**+1.5**
SNAA				IAmb	IAmb		23 08 34.7	
	comp=Z,526nm,1.0s							
346A	**Big Creek Wild**	**64.94**	**343**	P		**P**	**23 09 51.3**	**+0.7**
SLBS	**Sierra La Lagu**	**66.07**	**322**	P		**P**	**23 09 56.9**	**-1.2**
SLBS				IAmb	IAmb		23 10 20.6	
	comp=Z,337nm,1.4s							
X58A	**Rowland**	**66.28**	**353**	P		**P**	**23 09 58.1**	**-1.0**
X58A				IAmb	IAmb		23 10 07.8	
	comp=Z,217nm,0.8s							
HPIG		**66.66**	**327**	P		**P**	**23 10 01.0**	**-1.0**
HPIG				IAmb	IAmb		23 10 09.3	
	comp=Z,499nm,1.6s							
X48A	**Hartselle**	**67.35**	**346**	P		**P**	**23 10 05.8**	**-0.1**
X48A				IAmb	IAmb		23 10 55.2	
	comp=Z,337nm,1.2s							
V58A	**Windy Hill, Pi**	**67.49**	**354**	P		**P**	**23 10 05.3**	**-1.5**
V55A	**Taylorsville**	**67.78**	**352**	P		**P**	**23 10 07.8**	**-0.8**
V55A				IAmb	IAmb		23 10 25.9	
	comp=Z,399nm,1.2s							
V53A	**Saluda**	**67.81**	**350**	P		**P**	**23 10 09.4**	**+0.5**
TXAR	**Lajitas Array**	**67.84**	**330**	P		**P**	**23 10 09.5**	**+0.2**
	comp=Z,32nm,0.9s,baz=139,slow=7.2,SNR=1.7							
OXF	**Oxford**	**67.92**	**344**	P		**P**	**23 10 09.6**	**+0.1**
SYO	**Syowa Base**	**67.93**	**159**	⇓*i*P		**P**	**23 10 09.2**	**-0.1**
SYO	**Syowa Base**	**67.93**	**159**	⇓*i*pP		pP	23 10 16.0	+1.6
TKL	**Tuckaleechee C**	**67.94**	**349**	P		**P**	**23 10 09.9**	**+0.2**
TKL				IAmb	IAmb		23 11 00.9	
	comp=Z,462nm,1.4s							
V52A	**Sevierville**	**68.09**	**350**	P		**P**	**23 10 10.4**	**-0.2**
V52A				IAmb	IAmb		23 10 21.3	
	comp=Z,424nm,1.2s							
U56A	**King**	**68.17**	**353**	P		**P**	**23 10 10.7**	**-0.4**
U56A				IAmb	IAmb		23 10 19.9	
	comp=Z,387nm,1.2s							
T59A	**Double "B" Far**	**68.53**	**355**	P		**P**	**23 10 12.9**	**-0.3**
S57A	**Dark Hollow, R**	**69.42**	**354**	P		**P**	**23 10 18.3**	**-0.6**
LCAR	**Lake Charles**	**69.82**	**343**	P		**P**	**23 10 21.8**	**+0.4**
PBMO	**Poplar Bluff**	**70.32**	**344**	P		**P**	**23 10 24.0**	**-0.4**
PBMO				IAmb	IAmb		23 10 36.6	
	comp=Z,270nm,1.1s							
S44A	**Carbondale**	**70.93**	**345**	P		**P**	**23 10 28.9**	**+0.7**
S44A				IAmb	IAmb		23 10 57.9	
	comp=Z,371nm,1.2s							
PAGS	**Pennsylvania G**	**71.71**	**356**	P		**P**	**23 10 33.5**	**+0.7**
ACSO	**Alum Creek Sta**	**72.32**	**351**	P		**P**	**23 10 36.9**	**+0.5**
ACSO				IAmb	IAmb		23 10 52.3	
	comp=Z,766nm,1.6s							
KAN08	**Anthony NE Sta**	**72.81**	**338**	P		**P**	**23 10 40.2**	**+0.8**
KAN08				IAmb	IAmb		23 10 49.9	
	comp=Z,555nm,1.2s							
L63A	**North Scituate**	**73.20**	**0**	P		**P**	**23 10 42.1**	**+0.5**
DBIC	**Dimbokro**	**74.26**	**72**	P		**P**	**23 10 48.2**	**-0.3**
	comp=Z,316nm,0.9s,baz=249,slow=3.6,SNR=3.6							
DBIC	**Dimbokro**	**74.26**	**72**	P		**P**	**23 10 47.8**	**-0.7**
DBIC				IAmb	IAmb		23 10 56.1	
	comp=Z,411nm,1.0s							
K50A	**Casco**	**74.78**	**352**	P		**P**	**23 10 51.0**	**+0.2**
MAW	**Mawson**	**75.32**	**164**	P		**P**	**23 10 54.8**	**+1.0**
I63A	**Otisfield**	**75.39**	**1**	P		**P**	**23 10 56.0**	**+1.7**
I63A				IAmb	IAmb		23 11 06.4	
	comp=Z,568nm,1.4s							
L40A	**Anamosa**	**75.55**	**345**	P		**P**	**23 10 56.1**	**+0.8**
L40A				IAmb	IAmb		23 11 35.8	
	comp=Z,508nm,1.1s							
SUR	**Sutherland**	**75.77**	**119**	P		**P**	**23 10 57.9**	**+0.6**
	comp=Z,226nm,0.8s,baz=257,slow=6.0,SNR=4.5							
SUR	**Sutherland**	**75.77**	**119**	P		**P**	**23 10 57.7**	**+0.4**
EMMW	**East Machias**	**76.14**	**3**	P		**P**	**23 10 59.2**	**+0.7**
HAL	**Halifax**	**76.34**	**6**	P		**P**	**23 10 58.3**	**-1.4**
SADO	**Sadowa**	**76.40**	**355**	P		**P**	**23 10 59.7**	**-0.4**
SADO				IAmb	IAmb		23 11 08.9	
	comp=Z,1μm,1.9s							
LMN	**Caledonia Moun**	**77.45**	**5**	P		**P**	**23 11 04.7**	**-1.3**
LMN				IAmb	IAmb		23 11 26.7	
	comp=Z,508nm,1.2s							
D62A	**Allapoint, All**	**78.46**	**2**	P		**P**	**23 11 11.7**	**+0.2**
D62A				IAmb	IAmb		23 11 22.1	
	comp=Z,643nm,1.5s							
BATG	**Bathurst New B**	**78.78**	**4**	P		**P**	**23 11 12.4**	**-0.9**
BATG				IAmb	IAmb		23 11 24.2	
	comp=Z,622nm,1.6s							
KOWA	**Kowa**	**79.50**	**66**	P		**P**	**23 11 17.0**	**-1.1**
	comp=Z,173nm,0.7s,baz=211,slow=13,SNR=2.1							
KOWA	**Kowa**	**79.50**	**66**	P		**P**	**23 11 17.5**	**-0.5**
BOSA	**Boshof**	**80.96**	**118**	P		**P**	**23 11 24.6**	**-1.4**
	comp=Z,153nm,0.9s,baz=217,slow=8.4,SNR=2.9							
BOSA	**Boshof**	**80.96**	**118**	P		**P**	**23 11 25.4**	**-0.6**
BOSA				IAmb	IAmb		23 11 48.9	
	comp=Z,486nm,1.2s							
NVAR	**Mina Array Bea**	**82.12**	**325**	P		**P**	**23 11 29.4**	**-2.4**
	comp=Z,35nm,0.9s,baz=148,slow=5.3,SNR=2.1							
ELK	**Elko**	**82.52**	**328**	P		**P**	**23 11 34.1**	**+0.2**
CMB	**Columbia Colle**	**82.86**	**323**	P		**P**	**23 11 36.7**	**+1.3**
LBTB	**Lobatse**	**83.08**	**115**	P		**P**	**23 11 37.5**	**+0.3**
TORD	**Torodi Ar. Bea**	**83.24**	**70**	P		**P**	**23 11 36.8**	**-1.1**
	comp=Z,239nm,0.7s,baz=254,slow=4.8,SNR=3.5							
TORD	**Torodi Ar. Bea**	**83.24**	**70**	P		**P**	**23 11 37.0**	**-0.9**
TORD				IAmb	IAmb		23 11 39.4	
	comp=Z,266nm,0.8s							
ODZ	**Otahua Downs**	**84.88**	**219**	P		**P**	**23 11 47.3**	**+1.4**
KHZ	**Kahutara**	**84.95**	**222**	P		**P**	**23 11 47.9**	**+1.7**
LTZ	**Lake Taylor**	**85.44**	**222**	P		**P**	**23 11 48.5**	**-0.3**
LTZ				IAmb	IAmb		23 12 00.1	
	comp=Z,512nm,1.6s							
BUCK	**Buck Mountain**	**88.80**	**326**	P		**P**	**23 12 05.6**	**+0.8**
CLL	**Collm**	**111.01**	**42**	*e*PP		**PP**	**23 18 16.0**	**-7.0**
AKASG	**Malin Array Be**	**120.47**	**46**	PKP	**PKPdf**		**23 17 58.9**	**-3.2**
	comp=Z,31nm,0.9s,baz=258,slow=3.1,SNR=4.8							
YAK	**Yakutsk**	**146.63**	**342**	PKPdf	**PKPdf**		**23 18 50.8**	**+0.5**
GSI	**Gunungsitoli**	**148.14**	**160**	PKPbc	**PKPbc**		**23 18 57.1**	**-0.4**
KK31	**Karatay Array**	**148.22**	**58**	PKPbc	**PKiKP**		**23 18 58.0**	**-0.6**
KKAR	**Karatay Array**	**148.22**	**58**	PKPbc	**PKPbc**		**23 18 57.6**	**+0.7**
RPSI	**Rantau Prapat**	**149.85**	**161**	PKPbc	**PKPbc**		**23 19 00.3**	**-1.6**
NIL	**Nilore**	**150.59**	**77**	PKPbc	**PKiKP**		**23 19 04.1**	**+0.2**
KURBB	**Kurchatov Arra**	**151.03**	**41**	PKPbc	**PKPbc**		**23 19 02.1**	**-1.4**
	comp=Z,243nm,0.8s,baz=301,slow=3.0,SNR=6.3							
KURK	**Kurchatov**	**151.03**	**40**		**PKPbc**		**23 19 02.1**	**-1.4**
AAK	**Ala-Archa**	**151.18**	**58**	PKPbc	**PKiKP**		**23 19 05.7**	**+0.8**
FRU1	**Bishkek**	**151.24**	**58**	PKPbc	**PKiKP**		**23 19 05.6**	**+0.7**
ZAA0	**Zalesovo Array**	**152.16**	**30**	PKPbc	**PKPbc**		**23 19 04.5**	**-1.5**
ZALV	**Zalesovo Beam**	**152.16**	**30**	PKPbc	**PKPbc**		**23 19 04.5**	**-1.5**
	comp=Z,526nm,0.8s,baz=296,slow=3.0,SNR=5.1							
ZALV	**Zalesovo Beam**	**152.16**	**30**	PKPbc	**PKPbc**		**23 19 05.6**	**-0.4**
KSH	**Kashi**	**152.76**	**64**	PKPbc	**PKPdf**		**23 19 03.9**	**+3.0**
WMQ	**Urumqi**	**159.83**	**47**	*e*P	**PKPdf**		**23 19 10.3**	**+0.4**
WMQ				pmax	pmax			
	comp=Z,12μm,11.8s							
HHC	**Hu-ho-hao-te**	**170.47**	**344**	*e*PKP	**PKPdf**		**23 19 21.9**	**+2

VA01	**Torpederas**	**1.28**	**178**	*eP*	**Pg**	**23 04 19.9**	**-0.5**
VA01				*i S*	**Sb**	**23 04 34.2**	**-1.4**
VA01	**Torpederas**	**1.28**	**178**		**Pn**	**23 04 17.7**	**-1.1**
VA01				Sn	**Sb**	**23 04 34.9**	**-0.7**
VA01	**Torpederas**	**1.28**	**178**	*eP*	**Pg**	**23 04 21.6**	**+1.3**
VA01				*eS*	**Sg**	**23 04 36.9**	**-0.2**
ROCH	**El Roble**	**1.37**	**154**	*eP*	**Pg**	**23 04 21.8**	**-0.2**
ROCH				*eS*	**Sg**	**23 04 40.0**	**+0.2**
ROCH				IAML		23 04 44.5	
	comp=N,321µm,0.5s						
ROC1	**El Roble**	**1.37**	**155**	*eP*	**Pg**	**23 04 22.7**	**+0.7**
ROC1				*eS*	**Sg**	**23 04 41.3**	**+1.4**
VA03	**San Esteban**	**1.42**	**136**	*eP*	**Pg**	**23 04 22.6**	**-0.4**
VA03				*i S*	**Sg**	**23 04 41.9**	**+0.4**
VA03				IAML		23 04 46.8	
	comp=E,805µm,0.6s						
VA03	**San Esteban**	**1.42**	**136**		**Pn**	**23 04 19.0**	**-1.8**
GO04	**Tololo Observa**	**1.75**	**27**	*eP*	**Pb**	**23 04 27.2**	**-0.2**
GO04				*i S*	**Sg**	**23 04 51.9**	**0.0**
GO04	**Tololo Observa**	**1.75**	**27**	Pn	**Pn**	**23 04 22.8**	**-2.6**
GO04	**Tololo Observa**	**1.75**	**27**	*eP*	**Pg**	**23 04 32.4**	**+3.2**
GO04				*eS*	**Sg**	**23 04 53.6**	**+1.7**
MT05	**Renca**	**1.84**	**154**	*eP*	**Pb**	**23 04 29.1**	**+0.1**
MT05				*i S*	**Sg**	**23 04 53.6**	**-1.4**
MT05				IAML		23 05 00.3	
	comp=E,450µm,0.5s						
MT05	**Renca**	**1.84**	**154**	Pn	**Pn**	**23 04 24.1**	**-2.5**
MT05	**Renca**	**1.84**	**154**	*eP*	**Pg**	**23 04 31.0**	**0.0**
VA05	**Santo Domingo**	**1.92**	**178**	*eP*	**Pb**	**23 04 29.7**	**-0.4**
VA05				*eS*	**Sg**	**23 04 55.4**	**-1.9**
VA05				IAML		23 05 02.2	
	comp=E,253µm,0.5s						
VA05	**Santo Domingo**	**1.92**	**178**	Pn	**Pn**	**23 04 26.7**	**-0.8**
FSR	**Penalolen**	**2.00**	**150**	*eP*	**Pb**	**23 04 31.1**	**-0.5**
FSR				*i S*	**Sb**	**23 04 57.5**	**+1.1**
RTLS	**Leoncito**	**2.06**	**92**	*eP*	**Pg**	**23 04 36.2**	**+1.0**
RTLS				*eS*	**Sg**	**23 05 03.6**	**+1.7**
RTLS				IAML		23 05 05.4	
	comp=Z,91µm,2.2s						
MT09	**Talagante**	**2.12**	**163**	*eP*	**Pb**	**23 04 33.5**	**-0.3**
MT09				*i S*	**Sg**	**23 05 01.9**	**-2.1**
MT09				IAML		23 05 06.8	
	comp=N,192µm,0.5s						
MT09	**Talagante**	**2.12**	**163**	Pn	**Pn**	**23 04 30.3**	**-0.2**
MT01	**Popeta**	**2.16**	**170**	*eP*	**Pb**	**23 04 33.2**	**-1.1**
MT01				*i S*	**Sb**	**23 04 59.4**	**-1.3**
MT01				IAML		23 05 13.3	
	comp=N,141µm,0.7s						
MT01	**Popeta**	**2.16**	**170**		**Pn**	**23 04 31.4**	**+0.6**
MT01	**Popeta**	**2.16**	**170**	*eP*	**Pb**	**23 04 34.7**	**+0.4**
MT01				*eS*	**Sb**	**23 04 59.2**	**-1.6**
MT01				IAML		23 05 06.3	
	comp=Z,94µm,1.0s						
LMEL	**Las Melosas**	**2.46**	**149**	*eP*	**Pb**	**23 04 37.4**	**-2.1**
ZON	**Zonda**	**2.60**	**87**	P	**Pn**	**23 04 37.8**	**+0.9**
ZON	**Zonda**	**2.60**	**87**	Pn	**Pn**	**23 04 37.8**	**+0.9**
ZON	**Zonda**	**2.60**	**87**	*eP*	**Pg**	**23 04 44.0**	**-1.4**
ZON				*eS*	**Sg**	**23 05 20.4**	**+1.4**
ZON				IAML		23 05 33.6	
	comp=Z,72µm,1.6s						
ARCO	**CERRO ARCO**	**2.60**	**116**	*eP*	**Pb**	**23 04 41.4**	**-0.5**
ARCO				*eS*	**Sb**	**23 05 16.4**	**+2.8**
ARCO				*eS*	**Sg**	**23 05 20.4**	**+1.2**
ARCO				IAML		23 05 29.2	
	comp=Z,135µm,1.4s						
BO01	**Tunca**	**2.70**	**169**		**Pn**	**23 04 38.9**	**+0.6**
BO01	**Tunca**	**2.70**	**169**	*eP*	**Pb**	**23 04 41.4**	**-2.1**
BO01				*eS*	**Sn**	**23 05 12.5**	**+1.9**
BO01				IAML		23 05 25.7	
	comp=Z,58µm,0.8s						
ACDV	**Cuesta del Vie**	**2.72**	**56**	*eP*	**Pg**	**23 04 46.7**	**-1.1**
ACDV				*eS*	**Sg**	**23 05 20.4**	**-2.7**
ACDV				IAML		23 05 26.0	
	comp=Z,69µm,2.0s						
LCO	**Las Campanas**	**2.85**	**18**	P	**Pn**	**23 04 40.8**	**+0.2**
LCO	**Las Campanas**	**2.85**	**18**	Pn	**Pn**	**23 04 40.8**	**+0.2**
BO02	**Sierra Bellavi**	**3.15**	**166**	Pn	**Pn**	**23 04 44.3**	**-0.2**
GO05	**Huala**	**3.27**	**183**	Pn	**Pn**	**23 04 45.3**	**-0.9**
GO05	**Huala**	**3.27**	**183**	*eP*	**Pn**	**23 04 49.1**	**+3.0**
GO05				*eS*	**Sg**	**23 05 39.9**	**-0.7**
AC04	**Llanos de Chal**	**3.56**	**9**	*eS*	**Sb**	**23 05 38.9**	**-2.3**
AC04				IAML		23 05 56.9	
	comp=E,30µm,0.5s						
AC04	**Llanos de Chal**	**3.56**	**9**	Pn	**Pn**	**23 04 51.9**	**+1.7**
AGUA	**GUANDACOL**	**3.57**	**52**	*eP*	**Pb**	**23 04 58.0**	**-0.4**
AGUA				*eS*	**Sg**	**23 05 53.4**	**+3.1**
ML02	**Panimavida**	**4.02**	**177**	Pn	**Pn**	**23 04 56.2**	**-0.3**
GO03	**Copiap**	**4.33**	**18**	*eP*	**Pb**	**23 05 06.8**	**-4.4**
GO03	**Copiap**	**4.33**	**18**	Pn	**Pn**	**23 05 01.5**	**+0.8**
TINO	**Tinogasta**	**5.13**	**46**	*eP*	**Pb**	**23 05 21.0**	**-4.1**
MRA	**San Martin**	**5.13**	**99**	*eP*	Pb	23 05 19.4	-5.6
MRA				*eS*	**Sb**	**23 06 20.9**	**-5.6**
AC02	**Maricunga**	**5.38**	**25**	Pn	**Pn**	**23 05 17.2**	**+1.6**
H03N1	**Juan Fernandez**	**6.31**	**252**	T	T	23 12 05.5	
	baz=82,slow=72,SNR=19						
H03N3	**Juan Fernandez**	**6.32**	**252**	T	T	23 12 04.8	
	baz=82,slow=72,SNR=21						
H03N2	**Juan Fernandez**	**6.32**	**253**	T	T	23 12 06.0	
	baz=82,slow=72,SNR=22						
LC01	**Cunco**	**7.14**	**181**	Pn	**Pn**	**23 05 38.0**	**-1.4**
LR03	**Panguipulli**	**7.89**	**184**	Pn	**Pn**	**23 05 48.7**	**-0.9**
PB15	**IPOC Station P**	**8.73**	**14**	Pn	**Pn**	**23 06 03.6**	**+2.3**
LL04	**Puerto Octay**	**9.17**	**183**	Pn	**Pn**	**23 06 07.3**	**+0.2**
PB04	**IPOC Station P**	**9.47**	**9**	Pn	**Pn**	**23 06 14.0**	**+2.5**
LL05	**Los Muermos**	**9.75**	**188**	Pn	**Pn**	**23 06 15.7**	**+0.6**
PB07	**IPOC Station P**	**10.10**	**10**	Pn	**Pn**	**23 06 22.4**	**+2.3**
LL07	**Hotel Espejo d**	**11.16**	**187**	Pn	**Pn**	**23 06 33.1**	**-1.3**
NNA	**Nana**	**20.22**	**345**	P	Pn	23 08 31.4	-0.5
NNA				pmax	pmax		
	comp=Z,526nm,1.0s						
NNA	**Nana**	**20.22**	**345**	P	Pn	23 08 31.4	-0.5
MG02	**Cerro Sombrero**	**21.11**	**176**	P	**P**	**23 08 39.9**	**+0.7**
MG02				IAmb	IAmb	23 09 02.9	
	comp=Z,1µm,1.3s						
MG02	**Cerro Sombrero**	**21.11**	**176**	IAMs_20	IAMs_20	23 08 26.5	
	comp=E,8194µm,16.4s						
GO10	**Punta Arenas**	**21.41**	**179**	P	**P**	**23 08 43.0**	**+0.5**
EFI	**East Falkland**	**22.31**	**157**	*eP*	**P**	**23 08 52.7**	**+0.6**
EFI				pmax	pmax		
	comp=Z,1µm,6.4s						
EFI	**East Falkland**	**22.31**	**157**	P	**P**	**23 08 52.8**	**+0.7**
PTGA	**Pitinga**	**32.78**	**22**	P	**P**	**23 10 28.1**	**+0.1**
RPN	**Rapa Nui**	**32.98**	**268**	P	**P**	**23 10 29.4**	**-0.3**
	comp=Z,129nm,1.0s,baz=161,slow=7.0,SNR=3.9						
PMSA	**Palmer Station**	**33.40**	**174**	P	**P**	**23 10 33.6**	**+0.6**
PMSA				IAmb	IAmb	23 10 42.8	
	comp=Z,268nm,1.5s						
HOPE	**Hope Point**	**33.68**	**142**	P	**P**	**23 10 35.8**	**+0.3**
HOPE				pmax	pmax		
	comp=Z,188nm,0.8s						
HOPE	**Hope Point**	**33.68**	**142**	P	**P**	**23 10 35.8**	**+0.3**
HOPE				IAmb	IAmb	23 10 38.1	
	comp=Z,189nm,0.8s						
PAYG	**Puerto Ayora**	**35.54**	**327**	P	**P**	**23 10 52.1**	**+0.1**
ROSC	**El Rosal**	**36.46**	**356**	P	**P**	**23 11 02.2**	**+2.0**
ROSC				pmax	pmax		
	comp=Z,393nm,1.3s						
ROSC	**El Rosal**	**36.46**	**356**	P	**P**	**23 11 02.2**	**+2.0**
ROSC				IAmb	IAmb	23 11 22.8	
	comp=Z,393nm,1.2s						
RUSC	**La Rusia**	**37.44**	**358**	P	**P**	**23 11 10.3**	**+1.6**
MDP	**Montagnes des**	**40.90**	**30**	P	**P**	**23 11 35.5**	**-1.6**
	comp=Z,39nm,0.7s,baz=216,slow=6.6,SNR=5.5						
RIMA	**Rio Macho**	**42.88**	**342**	P	**P**	**23 11 54.8**	**+1.3**
ORTG	**Ortega, Santa**	**43.88**	**340**	P	**P**	**23 12 03.3**	**+1.9**
TOSP	**Speyside**	**44.11**	**16**	P	**P**	**23 12 03.8**	**+0.6**
TOSP				IAmb	IAmb	23 12 19.6	
	comp=Z,224nm,1.0s						
GRGR	**Grenville**	**44.67**	**14**	P	**P**	**23 12 06.4**	**-1.3**
SVB	**Belmont**	**45.86**	**14**	P	**P**	**23 12 17.8**	**+0.7**
SVB				IAmb	IAmb	23 12 29.8	
	comp=Z,202nm,1.1s						
MCLT	**Moule a Chique**	**46.35**	**15**	P	**P**	**23 12 21.2**	**+0.2**
FDF	**Fort de France**	**47.30**	**14**	P	**P**	**23 12 27.3**	**-1.2**
FDF				pmax	pmax		
	comp=Z,526nm,1.4s						
FDF	**Fort de France**	**47.30**	**14**	P	**P**	**23 12 27.3**	**-1.2**
ICMP	**Isla Caja de M**	**49.59**	**6**	P	**P**	**23 12 47.0**	**+1.0**
ICMP				IAmb	IAmb	23 12 57.2	
	comp=Z,275nm,1.0s						
MLPR	**Magueyes Islan**	**49.62**	**6**	P	**P**	**23 12 46.1**	**-0.2**
MLPR				IAmb	IAmb	23 13 02.4	
	comp=Z,248nm,1.0s						

SJG	**San Juan**	**49.85**	**7**	P	**P**	**23 12 47.7**	**-0.3**
	comp=Z,39nm,0.7s,baz=155,slow=9.7,SNR=3.7						
SJG	**San Juan**	**49.85**	**7**	P	**P**	**23 12 47.5**	**-0.4**
SJG				pmax	pmax		
	comp=Z,272nm,1.3s						
SJG	**San Juan**	**49.85**	**7**	P	**P**	**23 12 47.5**	**-0.4**
SJG				IAmb	IAmb	23 12 56.6	
	comp=Z,272nm,1.3s						
SMRT	**St. Maarten**	**50.19**	**11**	P	**P**	**23 12 50.3**	**-0.3**
SMRT				IAmb	IAmb	23 13 03.2	
	comp=Z,270nm,1.4s						
STVI	**Saint Thomas**	**50.22**	**8**	P	**P**	**23 12 50.8**	**0.0**
VNA3	**Neumayer Olymp**	**51.35**	**159**	P	**P**	**23 12 59.6**	**+0.8**
VNA1	**Neumayer--Stat**	**51.65**	**158**	P	**P**	**23 13 01.7**	**+0.8**
VNA2	**Neumayer--Watz**	**51.99**	**158**	P	**P**	**23 13 04.2**	**+0.7**
	baz=286,slow=8.2						
SNAA	**Sanae**	**53.58**	**158**	P	**P**	**23 13 16.3**	**+1.0**
SNAA	**Sanae**	**53.58**	**158**	P	**P**	**23 13 16.1**	**+0.7**
	comp=Z,189nm,0.8s,baz=284,slow=6.1,SNR=10						
SNAA	**Sanae**	**53.58**	**158**	*eP*	**P**	**23 13 15.9**	**+0.5**
SNAA				pmax	pmax		
	comp=Z,377nm,1.0s						
SNAA	**Sanae**	**53.58**	**158**	P	**P**	**23 13 15.5**	**+0.2**
SNAA				IAmb	IAmb	23 13 17.4	
	comp=Z,280nm,0.9s						
QSPA	**South Pole Qui**	**58.49**	**180**	P	**P**	**23 13 49.8**	**-0.9**
	comp=Z,163nm,0.8s,baz=286,slow=0.3,SNR=12						
QSPA	**South Pole Qui**	**58.49**	**180**	P	**P**	**23 13 49.8**	**-0.9**
QSPA				IAmb	IAmb	23 13 52.2	
	comp=Z,220nm,0.8s						
SHEL	**Horse Pasture**	**61.52**	**92**	P	**P**	**23 14 12.7**	**+0.6**
SHEL				pmax	pmax		
	comp=Z,284nm,1.1s						
SHEL	**Horse Pasture**	**61.52**	**92**	P	**P**	**23 14 12.7**	**+0.6**
553A	**Crawfordville**	**62.76**	**348**	P	**P**	**23 14 20.2**	**+0.3**
NHSC	**New Hope**	**64.99**	**352**	P	**P**	**23 14 33.9**	**-0.6**
	baz=172						
HKT	**Hockley**	**65.49**	**337**	*eP*	**P**	**23 14 37.7**	**0.0**
HKT				pmax	pmax		
	comp=Z,401nm,4.3s						
SLBS	**Sierra La Lagu**	**66.14**	**322**	P	**P**	**23 14 42.1**	**-0.3**
HPIG		**66.73**	**327**	P	**P**	**23 14 45.4**	**-0.7**
NATX	**Nacogdoches**	**66.79**	**339**	P	**P**	**23 14 46.9**	**+0.8**
	baz=159						
Z41A	**Richland Creek**	**67.64**	**341**	P	**P**	**23 14 51.7**	**+0.2**
	baz=161						
WHTX	**Lake Whitney,**	**67.90**	**337**	P	**P**	**23 14 53.0**	**-0.2**
WHTX				IAmb	IAmb	23 15 07.5	
	comp=Z,245nm,1.2s						
WHTX	**Lake Whitney,**	**67.90**	**337**	P	**P**	**23 14 53.2**	**0.0**
	baz=157						
TXAR	**Lajitas Array**	**67.91**	**330**	P	**P**	**23 14 53.0**	**-0.5**
	comp=Z,11nm,0.6s,baz=154,slow=7.8,SNR=9.0						
TXAR	**Lajitas Array**	**67.91**	**330**	P	**P**	**23 14 52.4**	**-1.0**
TXAR	**Lajitas Array**	**67.91**	**330**	P	**P**	**23 14 52.4**	**-1.0**
TX32	**Lajitas Array**	**67.91**	**330**	P	**P**	**23 14 52.2**	**-1.2**
CPCT	**Cooper Cave**	**67.91**	**349**	P	**P**	**23 14 52.7**	**-0.5**
CPCT				IAmb	IAmb	23 14 55.0	
	comp=Z,165nm,1.3s						
OXF	**Oxford**	**67.97**	**344**	P	**P**	**23 14 52.5**	**-1.1**
OXF				pmax	pmax		
	comp=Z,172nm,1.0s						
OXF	**Oxford**	**67.97**	**344**	P	**P**	**23 14 52.5**	**-1.1**
OXF				IAmb	IAmb	23 15 12.3	
	comp=Z,172nm,1.0s						
PLAL	**Pickwick Lake**	**68.13**	**346**	P	**P**	**23 14 53.7**	**-0.9**
PLAL				IAmb	IAmb	23 15 16.8	
	comp=Z,172nm,1.4s						
WVT	**Waverly**	**69.18**	**346**	P	**P**	**23 15 00.1**	**-1.0**
WVT				pmax	pmax		
	comp=Z,219nm,1.2s						
WVT	**Waverly**	**69.18**	**346**	P	**P**	**23 15 00.1**	**-1.0**
WVT				IAmb	IAmb	23 15 03.0	
	comp=Z,219nm,1.2s						
WVT	**Waverly**	**69.18**	**346**	P	**P**	**23 15 01.6**	**+0.5**
	baz=165						
ABTX	**Abilene, Hawle**	**69.24**	**335**	P	**P**	**23 15 01.7**	**0.0**
ABTX	**Abilene, Hawle**	**69.24**	**335**	P	**P**	**23 15 01.8**	**+0.2**
	baz=155						
MBO	**M'Bour**	**69.69**	**58**	P	**P**	**23 15 05.1**	**+0.4**
Q61A	**Milford**	**70.34**	**357**	P	**P**	**23 15 09.1**	**+1.0**
	baz=177						
MNTX	**Cornudas Mount**	**70.69**	**330**	P	**P**	**23 15 09.2**	**-1.3**
HHAR	**Hobbs**	**70.80**	**341**	P	**P**	**23 15 11.7**	**+0.6**
HHAR				IAmb	IAmb	23 15 25.4	
	comp=Z,122nm,1.1s						
HSIG		**71.01**	**324**	P	**P**	**23 15 12.3**	**-0.2**
P60A	**Greenville**	**71.28**	**357**	P	**P**	**23 15 14.6**	**+0.7**
	baz=176						
WUPA	**West Chester U**	**71.40**	**357**	P	**P**	**23 15 14.7**	**+0.1**
MSTX	**Muleshoe**	**71.61**	**333**	P	**P**	**23 15 15.6**	**-0.7**
PAGS	**Pennsylvania G**	**71.75**	**356**	P	**P**	**23 15 17.4**	**+0.7**
PAGS				IAmb	IAmb	23 15 17.8	
	comp=Z,206nm,1.4s						
CCM	**Cathedral Cave**	**71.78**	**344**	P	**P**	**23 15 18.0**	**+1.0**
CCM				pmax	pmax		
	comp=Z,140nm,1.1s						
CCM	**Cathedral Cave**	**71.78**	**344**	P	**P**	**23 15 18.0**	**+1.0**
CCM				IAmb	IAmb	23 15 31.5	
	comp=Z,140nm,1.1s						
SSPA	**Standing Stone**	**72.24**	**355**	P	**P**	**23 15 20.4**	**+0.8**
SSPA				IAmb	IAmb	23 15 30.6	
	comp=Z,200nm,1.4s						
N59A	**State Game Lan**	**72.39**	**357**	P	**P**	**23 15 20.8**	**+0.2**
	baz=176						
121A	**Cookes Peak, D**	**72.45**	**329**	P	**P**	**23 15 22.0**	**+0.6**
	baz=148						
KSCT	**Kent School, K**	**73.12**	**359**	P	**P**	**23 15 25.1**	**+0.3**
L63A	**North Scituate**	**73.24**	**0**	P	**P**	**23 15 26.1**	**+0.5**
	baz=180						
BRYW	**Bryant College**	**73.29**	**0**	P	**P**	**23 15 25.8**	**-0.1**
BRYW				IAmb	IAmb	23 15 37.4	
	comp=Z,183nm,1.2s						
LIC	**Lamto**	**73.81**	**72**	*eP*	**P**	**23 15 29.6**	**0.0**
	comp=Z,494nm,1.1s						
L61B	**Northampton**	**73.83**	**359**	P	**P**	**23 15 29.7**	**+0.6**
	baz=179						
HRV	**Adam Dziewonsk**	**73.88**	**0**	P	**P**	**23 15 31.0**	**+1.7**
	baz=180						
ERPA	**Erie**	**73.89**	**354**	P	**P**	**23 15 29.8**	**+0.5**
	baz=173						
ANMO	**Albuquerque**	**73.94**	**331**	*eP*	**P**	**23 15 31.3**	**+1.2**
ANMO				pmax	pmax		
	comp=Z,72nm,1.4s						
TIC	**Toumodi**	**74.06**	**72**	*eP*	**P**	**23 15 29.6**	**-1.5**
KIC	**Kosan Boka**	**74.12**	**72**	*eP*	**P**	**23 15 31.0**	**-0.4**
	comp=Z,751nm,1.3s						
DBIC	**Dimbokro**	**74.20**	**72**	P	**P**	**23 15 31.5**	**-0.4**
	comp=Z,119nm,0.8s,baz=246,slow=5.0,SNR=7.5						
DBIC	**Dimbokro**	**74.20**	**72**	P	**P**	**23 15 31.6**	**-0.4**
DBIC				IAmb	IAmb	23 15 33.0	
	comp=Z,218nm,1.0s						
FFD	**Franklin Falls**	**74.84**	**0**	IAmb	IAmb	23 15 37.5	
	comp=Z,134nm,0.8s						
MAW	**Mawson**	**75.27**	**164**	P	**P**	**23 15 37.1**	**-0.1**
	comp=Z,70nm,0.8s,baz=216,slow=7.3,SNR=8.6						
MAW	**Mawson**	**75.27**	**164**	P	**P**	**23 15 37.5**	**+0.3**
I63A	**Otisfield**	**75.43**	**1**	P	**P**	**23 15 39.2**	**+0.9**
I63A				IAmb	IAmb	23 15 50.3	
	comp=Z,264nm,1.1s						
I63A	**Otisfield**	**75.43**	**1**	P	**P**	**23 15 39.7**	**+1.5**
	baz=181						
PECO	**Prince Edward**	**75.46**	**356**	P	**P**	**23 15 38.0**	**-0.5**
PECO				IAmb	IAmb	23 15 40.9	
	comp=Z,226nm,1.4s						
W18A	**Petrified Fore**	**75.49**	**329**	P	**P**	**23 15 40.0**	**+0.9**
W18A				IAmb	IAmb	23 15 42.2	
	comp=Z,245nm,1.5s						
LBNH	**Lisbon**	**75.61**	**360**	P	**P**	**23 15 39.2**	**-0.1**
LBNH				pmax	pmax		
	comp=Z,116nm,1.1s						
LBNH	**Lisbon**	**75.61**	**360**	P	**P**	**23 15 39.2**	**-0.1**
LBNH	**Lisbon**	**75.61**	**360**	P	**P**	**23 15 40.4**	**+1.0**
	baz=180						
SUR	**Sutherland**	**75.69**	**119**	P	**P**	**23 15 41.2**	**+0.7**
SUR				IAmb	IAmb	23 15 42.8	
	comp=Z,140nm,0.8s						
X16A	**Lo Mia Camp, P**	**75.69**	**327**	P	**P**	**23 15 40.5**	**+0.2**
H62A	**Milan**	**75.95**	**0**	P	**P**	**23 15 41.5**	**+0.2**
H62A				IAmb	IAmb	23 15 43.0	
	comp=Z,179nm,1.3s						
SDCO	**Great Sand Dun**	**75.98**	**333**	P	**P**	**23 15 42.5**	**+0.5**
SDCO	**Great Sand Dun**	**75.98**	**333**	P	**P**	**23 15 43.6**	**+1.6**
	baz=151						
KSCO	**Kaye Shedlock'**	**76.03**	**336**	P	**P**	**23 15 42.4**	**+0.4**

KSCO	**Kaye Shedlock'**	**76.03**	**336**	P	**P**	**23 15 42.7**	**+0.6**
	baz=153						
LONY	**Lake Ozonia**	**76.04**	**358**	P	**P**	**23 15 41.6**	**-0.2**
EMMW	**East Machias**	**76.18**	**3**	P	**P**	**23 15 43.0**	**+0.5**
EMMW				IAmb	IAmb	23 15 55.9	
	comp=Z,189nm,1.4s						
HAL	**Halifax**	**76.37**	**6**	P	**P**	**23 15 44.1**	**+0.5**
HAL				pmax	pmax		
	comp=Z,187nm,1.3s						
HAL	**Halifax**	**76.37**	**6**	P	**P**	**23 15 44.1**	**+0.5**
HAL				IAmb	IAmb	23 15 56.9	
	comp=Z,187nm,1.3s						
PKME	**Peaks-Kenny Pk**	**76.67**	**2**	P	**P**	**23 15 45.1**	**-0.1**
PKME				IAmb	IAmb	23 15 56.7	
	comp=Z,259nm,1.5s						
PKME	**Peaks-Kenny Pk**	**76.67**	**2**	P	**P**	**23 15 45.7**	**+0.5**
	baz=182						
TKX	**Tecate**	**76.75**	**322**	P	**P**	**23 15 46.2**	**+0.1**
BC3	**Big Chuckawall**	**77.01**	**324**	P	**P**	**23 15 48.1**	**+0.4**
	baz=143						
F63A	**Nahmakanta, Br**	**77.11**	**2**	P	**P**	**23 15 48.5**	**+0.7**
F63A				IAmb	IAmb	23 15 50.2	
	comp=Z,189nm,1.3s						
IRM	**Iron Mountain**	**77.26**	**324**	P	**P**	**23 15 49.7**	**+0.7**
	baz=143						
LMN	**Caledonia Moun**	**77.48**	**5**	P	**P**	**23 15 50.3**	**+0.5**
LMN				IAmb	IAmb	23 16 03.6	
	comp=Z,305nm,1.4s						
TPFO	**Pinon Flats**	**77.48**	**323**	P	**P**	**23 15 51.6**	**+1.2**
	baz=142						
PFO	**Pinyon Flats O**	**77.49**	**323**	*d iP*	**P**	**23 15 51.0**	**+0.6**
PFO				pmax	pmax		
	comp=Z,224nm,1.7s						
PFO	**Pinyon Flats O**	**77.49**	**323**	P	**P**	**23 15 51.4**	**+1.0**
	baz=142						
MURC	**Murrieta**	**77.86**	**323**	P	**P**	**23 15 52.9**	**+0.6**
	baz=142						
SCI2	**San Clemente I**	**78.09**	**321**	P	**P**	**23 15 55.0**	**+1.4**
	baz=141						
HEC	**Hector,Ludlow**	**78.39**	**324**	P	**P**	**23 15 56.3**	**+1.0**
	baz=142						
ECSD	**EROS Data Cent**	**78.49**	**342**	P	**P**	**23 15 55.2**	**-0.3**
	baz=159						
BFSC	**Mount Baldy Ra**	**78.60**	**323**	P	**P**	**23 15 57.3**	**+0.8**
	baz=142						
TUQ	**Turquoise Moun**	**78.66**	**324**	P	**P**	**23 15 57.1**	**+0.2**
	baz=143						
EDW2	**Edwards Air Fo**	**79.27**	**323**	P	**P**	**23 16 00.5**	**+0.4**
	baz=141						
KOWA	**Kowa**	**79.46**	**66**	P	**P**	**23 16 01.8**	**+0.3**
	comp=Z,41nm,0.7s,baz=139,slow=3.9,SNR=3.7						
KOWA	**Kowa**	**79.46**	**66**	P	**P**	**23 16 01.6**	**+0.1**
KOWA				IAmb	IAmb	23 16 02.8	
	comp=Z,330nm,1.2s						
MACI	**Morro de la Ar**	**79.49**	**47**	P	**P**	**23 16 01.8**	**+0.1**
MACI				IAmb	IAmb	23 16 03.7	
	comp=Z,185nm,1.1s						
TSUM	**Tsumeb**	**79.57**	**106**	P	**P**	**23 16 03.0**	**+0.7**
	comp=Z,114nm,1.1s,baz=215,slow=4.9,SNR=6.1						
TSUM	**Tsumeb**	**79.57**	**106**	P	**P**	**23 16 02.9**	**+0.5**
TSUM				IAmb	IAmb	23 16 04.4	
	comp=Z,180nm,1.1s						
LRMC	**Laurel Mtn Rad**	**79.58**	**323**	P	**P**	**23 16 02.4**	**+0.6**
	baz=142						
FURC	**Furnace Creek,**	**79.94**	**325**	P	**P**	**23 16 04.2**	**+0.6**
	baz=142						
TPNV	**Topopah Spring**	**80.02**	**325**	P	**P**	**23 16 05.3**	**+1.0**
	baz=143						
ISA	**Isabella, Lake**	**80.13**	**323**	P	**P**	**23 16 05.4**	**+0.6**
	baz=141						
PKM	**Mcpherson Peak**	**80.23**	**322**	P	**P**	**23 16 06.2**	**+0.7**
	baz=140						
VES	**Vestal, Richgr**	**80.58**	**323**	P	**P**	**23 16 07.4**	**+0.3**
	baz=141						
GRAC	**Grapevine Rang**	**80.61**	**325**	P	**P**	**23 16 08.3**	**+1.0**
	baz=142						
K22A	**Casper**	**80.63**	**335**	P	**P**	**23 16 07.4**	**0.0**
	baz=151						
SMMC	**Simmler**	**80.65**	**322**	P	**P**	**23 16 08.2**	**+0.6**
	baz=140						
BOSA	**Boshof**	**80.88**	**118**	P	**P**	**23 16 10.0**	**+0.7**
	comp=Z,162nm,0.8s,baz=242,slow=4.5,SNR=15						
BOSA	**Boshof**	**80.88**	**118**	P	**P**	**23 16 09.4**	**+0.1**
BOSA				pmax	pmax		
	comp=Z,234nm,0.9s						
BOSA	**Boshof**	**80.88**	**118**	P	**P**	**23 16 09.4**	**+0.1**
BOSA				IAmb	IAmb

comp=Z,5.5nm,0.7s,baz=251,slow=2.5,SNR=5.2

ARCES	**ARCESS Array B**	121.85	24		PKPdf		23 22 47.6	-0.3
WRA	**Warramunga Arr**	122.86	209	PKP	PKPdf		23 22 50.3	-1.2
	comp=Z,15nm,0.5s,baz=132,slow=1.4,SNR=21							
WRA	**Warramunga Arr**	122.86	209	PKIKP	PKPdf		23 22 50.0	-1.5
WRA	**Warramunga Arr**	122.86	209		PKPdf		23 22 50.0	-1.5
WRAB	**Tennant Creek**	122.87	209	⇑*i*PKIKP	PKPdf		23 22 49.9	-1.6
ANN	**Anapa**	124.51	55	*i*PKIKP	PKPdf		23 22 50.0	-3.7
ANN				pmax	pmax			
	comp=Z,154nm,1.4s							
APA	**Apatity**	124.66	27	⇓*i*PKIKP	PKPdf		23 22 52.7	-0.6
APA				pmax	pmax			
	comp=Z,14nm,0.9s							
FITZ	**Fitzroy Crossi**	127.73	201	PKP	PKPdf		23 23 00.1	-0.6
	comp=Z,42nm,0.8s,baz=148,slow=5.2							
FITZ	**Fitzroy Crossi**	127.73	201		PKPdf		23 23 00.5	-0.2
KIV	**Kislovodsk**	128.04	57	*e*PKIKP	PKPdf		23 22 58.8	-1.9
KIV				pmax	pmax			
	comp=Z,48nm,1.1s							
MAK	**Makhachkala**	131.36	59	*i*PKIKP	PKiKP		23 23 07.9	+0.1
MAK				*e*			23 25 26.0	
MAK				pmax	pmax			
	comp=Z,471nm,2.0s							
KIRV	**Kirov**	132.58	38	⇑*i*PKIKP	PKPdf		23 23 08.7	+0.1
RUS	**Russkaya**	138.38	315	PKIKP	PKPdf		23 23 17.7	-1.9
RUS				pmax	pmax			
	comp=Z,1μm,1.7s							
SIJI	**Sorong**	140.94	218	PKP	PKPdf		23 23 23.6	-2.0
	comp=Z,28nm,0.7s,baz=213,slow=6.0,SNR=3.4							
LEM	**Lembang**	141.65	179	PKhKP	PKPpre		23 23 22.1	
	comp=Z,93nm,0.9s,baz=300,slow=1.4,SNR=3.6							
PALK	**Pallekele**	144.59	128	PKIKP	PKPbc		23 23 30.7	0.0
PALK	**Pallekele**	144.59	128		PKPbc		23 23 30.7	0.0
BRVK	**Borovoye**	145.35	41	⇓*i*PKIKP	PKPab		23 23 32.4	+0.3
BKB	**Balikpapan**	146.18	196		PKPdf		23 23 35.2	+0.4
YAK	**Yakutsk**	146.69	342	*e*PKP2	PKPdf		23 23 34.8	+0.8
YAK	**Yakutsk**	146.69	342		PKPdf		23 23 34.5	+0.4
YSS	**Yuzh-Sakhalins**	149.60	310	*e*PKP2	PKPab		23 23 48.3	-0.8
KURBB	**Kurchatov Arra**	151.01	41	PKPbc	PKPbc		23 23 47.0	-0.1
	comp=Z,48nm,0.8s,baz=302,slow=3.1,SNR=7.2							
KURK	**Kurchatov**	151.01	40	PKIKP	PKPbc		23 23 47.1	-0.1
KURK	**Kurchatov**	151.01	40		PKPbc		23 23 47.0	-0.1
AAK	**Ala-Archa**	151.14	58	⇑*i*PKIKP	PKPbc		23 23 47.3	-0.7
FRU1	**Bishkek**	151.21	58	PKIKP	PKiKP		23 23 49.0	+0.4
FRU1	**Bishkek**	151.21	58		PKiKP		23 23 49.0	+0.4
ZALV	**Zalesovo Beam**	152.16	30	PKPbc	PKPbc		23 23 49.0	-0.7
	comp=Z,120nm,0.6s,baz=320,slow=2.2,SNR=13							
ZALV	**Zalesovo Beam**	152.16	30	PKIKP	PKPbc		23 23 48.8	-0.9
ZALV	**Zalesovo Beam**	152.16	30		PKPbc		23 23 48.8	-0.9
KSH	**Kashi**	152.72	64	PKPbc	PKPbc		23 23 49.4	-2.3
KSH				sPKP			23 24 02.3	
MKAR	**Makanchi Array**	155.03	46	PKPab	PKPab		23 24 12.2	+0.3
	comp=Z,39nm,0.8s,baz=278,slow=1.2,SNR=3.9							
WMQ	**Urumqi**	159.80	48	*e*P	PKPdf		23 23 55.0	+1.4
HHC	**Hu-ho-hao-te**	170.53	345	*e*P	PKPdf		23 23 59.6	-3.2
HHC				LR	LR			
	comp=N,673μm,20.4s							
HHC				LR	LR			
	comp=E,494μm,19.5s							
HHC				LR	LR			
	comp=Z,784μm,20.0s							
BTO	**Baotou**	171.04	351	*e*PKP	PKPdf		23 23 50.3	-13
BTO				PP	PP		23 29 03.0	-8.9
GYA	**Guiyang**	174.55	164	⇑P	PKPdf		23 24 04.6	-0.4
GYA				pmax	pmax			
	comp=Z,190nm,1.4s							

IDC ***16*** *23:06:38.7±1.8,31°.43S×71°.61W,h0km,mb5.1/5, mb1 5.1/5,mb1mx4.8/30,mbtmp5.1/5, Error ellipse: s-maj=78.1km s-min=37.3km az=99.0*

ISC 16 23:06:42.5±2.1,31°.4S±0°.3×71°.6W±0°.6,h25km,n9,σ0s28/8, mb5.1/5,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO10	**Punta Arenas**	21.72	179	IAMs_20	IAMs_20	23 11 44.1	
	comp=E,12700μm,13.9s						
SNAA	**Sanae**	53.84	159	P	P	23 16 03.1	+0.1
	comp=E,11nm,0.7s,baz=270,slow=9.1,SNR=0.9						
DBIC	**Dimbokro**	74.03	72	P	P	23 18 16.5	-0.1
	comp=E,14nm,0.8s,baz=260,slow=6.7,SNR=1.1						
MAW	**Mawson**	75.55	164	P	P	23 18 24.4	-0.1
	comp=E,14nm,1.1s,baz=219,slow=11,SNR=1.0						
KOWA	**Kowa**	79.26	66	P	P	23 18 46.6	+0.5
	comp=E,30nm,1.0s,baz=225,slow=7.1,SNR=1.4						
TORD	**Torodi Ar. Bea**	83.01	70	P	P	23 19 06.1	0.0
	comp=E,51nm,1.3s,baz=276,slow=4.7,SNR=1.8						
KURBB	**Kurchatov Arra**	150.72	40	PKPbc	PKPbc	23 26 32.1	0.0
	comp=E,15nm,0.8s,baz=306,slow=3.5,SNR=4.6						
ZALV	**Zalesovo Beam**	151.84	30	PKPbc	PKiKP	23 26 35.1	+0.1
	comp=E,46nm,0.4s,baz=327,slow=2.6,SNR=9.8						
MKAR	**Makanchi Array**	154.76	45	PKPbc	PKPbc	23 26 41.0	-0.3
	comp=E,15nm,1.1s,baz=295,slow=2.2,SNR=0.9						

IDC 16 23:07:12.8±7.3,31°.62S×71°.70W,h0km,mb5.1/3, mb1 5.2/3,mb1mx4.7/30,mbtmp5.1/3,Error ellipse: s-maj=365.0km s-min=52.9km az=16.0,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	74.16	72	P	P	23 18 51.3	-0.2
	33nm,0.9s,baz=263,slow=6.8,SNR=2.8						
NVAR	**Mina Array Bea**	82.11	325	P	P	23 19 35.4	0.0
	3.8nm,0.8s,baz=158,slow=6.7,SNR=1.8						
TORD	**Torodi Ar. Bea**	83.13	70	P	P	23 19 41.3	+0.4
	24nm,0.8s,baz=286,slow=5.9,SNR=3.3						
KURBB	**Kurchatov Arra**	150.92	41	PKPbc	PKPbc	23 27 06.2	-0.7
	12nm,0.9s,baz=302,slow=2.9,SNR=2.1						
ZALV	**Zalesovo Beam**	152.05	30	PKPbc	PKPbc	23 27 09.6	+0.1
	10nm,0.5s,baz=323,slow=3.4,SNR=1.5						

IDC 16 23:07:38.4±12.0,31°.81S×71°.55W,h0km,mb5.3/2, mb1 5.1/2,mb1mx4.6/30,mbtmp5.3/2,Error ellipse: s-maj=988.3km s-min=97.1km az=0.0,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	74.09	72	P	P	23 19 16.9	+0.1
	14nm,0.6s,baz=209,slow=7.3,SNR=1.9						
TORD	**Torodi Ar. Bea**	83.08	70	P	P	23 20 06.2	0.0
	19nm,0.7s,baz=290,slow=5.8,SNR=2.9						
ZALV	**Zalesovo Beam**	152.15	30	PKPbc	PKPbc	23 27 35.2	0.0
	30nm,0.5s,baz=310,slow=3.0,SNR=4.2						
MKAR	**Makanchi Array**	154.98	46	PKPbc	PKPbc	23 27 41.6	-0.2
	9.0nm,0.9s,baz=276,slow=1.4,SNR=1.9						

IDC ***16*** *23:08:30.3±1.3,31°.33S×71°.59W,h0km,mb5.2/8, mb1 5.3/8,mb1mx4.9/33,mbtmp5.2/8,Error ellipse: s-maj=43.6km s-min=29.2km az=61.0*

ISC 16 23:08:34.3±1.2,31°.4S±0°.2×71°.6W±0°.3,h25km,n9,σ1s39/9, mb5.3/8,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCRV	**Puerto La Cruz**	41.82	10	P	P	23 16 21.0	-1.2
	55nm,0.9s,baz=159,slow=4.1,SNR=4.5						
SJG	**San Juan**	49.46	7	P	P	23 17 20.4	-2.0
	120nm,0.9s,baz=207,slow=2.9,SNR=11						
TXAR	**Lajitas Array**	67.65	330	P	P	23 19 30.1	+0.8
	1.9nm,0.7s,baz=159,slow=6.6,SNR=3.2						
DBIC	**Dimbokro**	73.94	72	P	P	23 20 07.8	0.0
	40nm,0.9s,baz=208,slow=3.4,SNR=5.0						
MAW	**Mawson**	75.59	164	P	P	23 20 15.3	-1.1
	11nm,0.5s,baz=170,slow=2.6,SNR=3.0						
KOWA	**Kowa**	79.11	66	P	P	23 20 38.8	+1.5
	30nm,0.8s,baz=232,slow=6.7,SNR=3.9						
NVAR	**Mina Array Bea**	81.97	325	P	P	23 20 52.8	+0.7
	5.5nm,0.9s,baz=140,slow=5.8,SNR=2.7						
TORD	**Torodi Ar. Bea**	82.91	70	P	P	23 20 58.5	+1.3
	45nm,0.8s,baz=257,slow=4.9,SNR=6.5						
ZALV	**Zalesovo Beam**	151.75	30	PKPbc	PKPbc	23 28 26.4	+0.3
	17nm,0.5s,baz=314,slow=2.9,SNR=2.8						

IDC ***16*** *23:09:00.1±0.6,31°.13S×71°.38W,h0km,mb5.4/16, mb1 5.5/19,mb1mx5.3/35,mbtmp5.5/19,ML5.5/3,Error ellipse: s-maj=23.1km s-min=16.1km az=75.0*

NEIC ***16*** *23:09:06.8±1.6,31°.11S±0°.04×71°.41W±0°.08,h38km±4km, mb5.6/72,Error ellipse: s-maj=9.6km s-min=5.8km az=96.0*

SJA ***16*** *23:09:07.2±0.8,31°.13S×71°.26W,h10km±5km,ML5.6, MW5.3*

ISC 16 23:09:05.8±0.3,31°.16S±0°.04×71°.50W±0°.05,h35km,n212, σ1s76/207,mb5.5/45,1C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	0.49	347	Pn	Pn	23 09 19.4	+3.0
CO03	**El Pedregal**	0.77	66	Pn	Pn	23 09 20.5	+0.3
GO04	**Tololo Observa**	1.15	32	Pn	Pn	23 09 25.8	+0.1
GO04	**Tololo Observa**	1.15	32	*e*P	Pn	23 09 27.3	+1.6
GO04				*e*S	Sn	23 09 40.4	0.0
VA03	**San Esteban**	1.80	153	Pn	Pn	23 09 35.1	+0.7
ROC1	**El Roble**	1.86	167	*e*P	Pn	23 09 41.3	+5.9
ROC1				*e*S	Sn	23 10 01.1	+3.2
VA01	**Torpederas**	1.87	184		Pn	23 09 37.4	+2.1
RTLS	**Leoncito**	1.99	109	*e*P	Pn	23 09 41.5	+4.2
RTLS				*e*S	Sn	23 10 05.4	+4.2
RTLS				IAML		23 10 32.0	
	comp=Z,42μm,0.5s						
ACDV	**Cuesta del Vie**	2.28	65	*e*P	Pn	23 09 44.9	+3.8
ACDV				*e*S	Sn	23 10 14.6	+6.6
ACDV				IAML		23 10 21.2	
	comp=Z,43μm,1.0s						
MT05	**Renca**	2.32	164	Pn	Pn	23 09 43.2	+1.6
ZON	**Zonda**	2.45	100	Pn	Pn	23 09 44.0	+0.7
ZON	**Zonda**	2.45	100	*e*P	Pn	23 09 47.8	+4.5
ZON				*e*S	Sn	23 10 16.0	+3.9
ZON				IAML		23 10 22.4	
	comp=Z,69μm,1.2s						
VA05	**Santo Domingo**	2.50	182	Pn	Pn	23 09 47.1	+3.1
MT01	**Popeta**	2.71	176	Pn	Pn	23 09 47.4	+0.5
ARCO	**CERRO ARCO**	2.76	128	*e*P	Pn	23 09 54.0	+6.3
ARCO				*e*S	Sn	23 10 14.6	-5.2
ARCO				IAML		23 11 02.5	
	comp=Z,18μm,0.7s						
AC04	**Llanos de Chal**	2.96	7		Pn	23 09 53.0	+2.6
AC04	**Llanos de Chal**	2.96	7	*e*P	Pn	23 09 56.5	+6.1
AC04				*e*S	Sn	23 10 37.6	+13
AC04				IAML		23 11 09.1	
	comp=Z,18μm,1.5s						
AGUA	**GUANDACOL**	3.09	58	*e*P	Pn	23 09 56.0	+3.7
AGUA				*e*S	Sn	23 10 30.6	+2.6
AGUA				IAML		23 11 20.1	
	comp=Z,17μm,0.9s						
AVFE	**Valle Fertil**	3.51	83	*e*P	Pn	23 10 01.5	+3.5
AVFE				*e*S	Sn	23 10 26.1	-12
AVFE				IAML		23 11 19.4	
	comp=Z,24μm,0.6s						
BO02	**Sierra Bellavi**	3.68	171	Pn	Pn	23 10 00.0	-0.2
GO03	**Copiap**	3.72	18		Pn	23 10 01.4	+0.6
GO03	**Copiap**	3.72	18	*e*P	Pn	23 10 05.4	+4.5
GO03				*e*P		23 10 06.0	
GO03				*e*S	Sn	23 10 50.6	+7.2
GO05	**Huala**	3.86	185	Pn	Pn	23 10 05.2	+2.5
COIS	**El Sosneado**	4.25	158	*e*P	Pn	23 10 14.1	+5.9
ML02	**Panimavida**	4.59	179	Pn	Pn	23 10 15.8	+3.0
TINO	**Tinogasta**	4.61	49	*e*P	Pn	23 10 17.0	+3.9
AC02	**Maricunga**	4.78	26	Pn	Pn	23 10 12.0	-3.8
AC02	**Maricunga**	4.78	26	*e*P	Pn	23 10 19.0	+3.2
AC02				IAML		23 12 24.6	
	comp=Z,8μm,1.2s						
MRA	**San Martin**	5.09	106	*e*P	Pn	23 10 24.0	+4.3
MRA				IAML		23 12 17.9	
	comp=Z,3μm,0.8s						
PB14	**IPOC Station P**	6.58	9	Pn	Pn	23 10 40.0	-0.4
H03N1	**Juan Fernandez**	6.67	248	T	T	23 17 39.0	
	baz=78,slow=72,SNR=29						
VA04	**Juan Fernndez**	6.67	246	Pn	Pn	23 10 43.9	+2.5
H03N3	**Juan Fernandez**	6.69	248	T	T	23 17 38.0	
	baz=78,slow=72,SNR=33						
H03N2	**Juan Fernandez**	6.69	248	T	T	23 17 42.1	
	baz=78,slow=72,SNR=25						
FSA	**Cafayete**	6.99	45	*e*P	Pn	23 10 50.0	+4.1
PB10	**IPOC Station P**	7.66	7	Pn	Pn	23 10 54.0	-1.0
PB15	**IPOC Station P**	8.12	13	Pn	Pn	23 11 01.9	+0.5
LR03	**Panguipulli**	8.49	184	Pn	Pn	23 11 06.3	+0.1
PB06	**IPOC Station P**	8.59	12	Pn	Pn	23 11 05.7	-2.2
LVC	**Limon Verde**	8.82	16	Pn	Pn	23 11 09.3	-1.9
	comp=Z,32nm,0.3s,baz=77,slow=19,SNR=1.3						
LVC	**Limon Verde**	8.82	16	Pn	Pn	23 11 10.9	-0.3
PB04	**IPOC Station P**	8.87	8	Pn	Pn	23 11 11.2	-0.5
LL04	**Puerto Octay**	9.76	184	Pn	Pn	23 11 23.8	+0.2
LL03	**Petrohue**	9.99	184	Pn	Pn	23 11 27.2	+0.4
LL05	**Los Muermos**	10.35	188	Pn	Pn	23 11 33.4	+1.6
TRQA	**Tornquist**	10.44	134	Pn	Pn	23 11 34.1	+1.1
GO07	**Milladeo Hill,**	12.06	188	Pn	Pn	23 11 54.8	-0.3
CPUP	**Villa Florida**	13.33	72	Pn	Pn	23 12 10.2	-2.4
	comp=Z,7.2nm,0.3s,baz=238,slow=9.5,SNR=1.3						
LPAZ	**La Paz**	15.12	13	Pn	Pn	23 12 38.0	+0.6
LPAZ				IAmb	IAmb	23 12 53.1	
	comp=Z,359nm,1.4s						
SIV	**San Ignacio**	17.85	35	P	Pn	23 13 10.7	-0.8
	comp=Z,21nm,0.3s,baz=228,slow=11,SNR=12						
TRCB	**Terra Rica**	18.75	68	P	P	23 13 21.4	-0.5
MG02	**Cerro Sombrero**	21.67	176	P	P	23 13 53.6	+0.4
SPB	**Sao Paulo**	22.64	76	P	P	23 14 03.4	-0.4
EFI	**East Falkland**	22.77	158	P	P	23 14 05.4	+0.4
MACC	**Macarena, Meta**	33.19	356	*e*P	P	23 15 36.0	-3.4
PMSA	**Palmer Station**	33.96	174	P	P	23 15 47.4	+1.9
	comp=Z,17nm,0.9s,baz=353,slow=9.3,SNR=2.1						
PMSA	**Palmer Station**	33.96	174	P	P	23 15 48.0	+2.5
HOPE	**Hope Point**	34.03	143	P	P	23 15 47.0	+0.7
HOPE				IAmb	IAmb	23 16 02.9	
	comp=Z,79nm,1.4s						
PRAC	**Prado**	34.82	354	*e*P	P	23 15 53.2	-0.3
ORTC	**Ortega, Tolima**	35.05	353	*e*P	P	23 15 54.8	-0.7
VILC	**Villavicencio,**	35.13	356	*e*P	P	23 15 58.2	+1.9
YOTC	**Yotoco, Valle**	35.25	352	*e*P	P	23 15 58.5	+1.2
ANIL	**Santa Ana**	35.64	353	*e*P	P	23 16 01.9	+1.0
CHIC	**Chingaza**	35.65	356	*e*P	P	23 15 59.7	-1.3
ROSC	**El Rosal**	35.89	355	*e*P	P	23 16 07.0	+3.9
GUY2C	**Guyana, Caldas**	36.36	354	*e*P	P	23 16 05.4	-1.9
NORC	**Norcasia**	36.65	354	*e*P	P	23 16 11.1	+1.9
RUSC	**La Rusia**	36.87	357	P	P	23 16 12.2	+0.7
PTBC	**PUERTO BERRIO,**	37.59	355	*e*P	P	23 16 15.6	-1.6
DBBC	**Dabeiba**	38.22	352	*e*P	P	23 16 24.6	+2.1
ZARC	**Zaragoza, Cauc**	38.56	355	*e*P	P	23 16 25.2	-0.1
CACAO	**El Cacao, Vera**	39.32	345	*e*P	P	23 16 32.9	+1.2
SMLC	**San Martn de**	39.80	356	*e*P	P	23 16 34.5	-1.3
CAP2	**Capurgana**	39.98	351	P	P	23 16 38.5	+1.3
CAP2				IAmb	IAmb	23 16 55.5	
	comp=Z,126nm,1.4s						
BCIP	**Isla Barro Col**	40.88	347	P	P	23 16 46.0	+1.4
DRK0	**Durika**	41.73	342	P	P	23 16 53.5	+1.7
DRK0				IAmb	IAmb	23 16 55.0	
	comp=Z,98nm,1.3s						
RIMA	**Rio Macho**	42.38	342	P	P	23 16 58.4	+1.2
ICMP	**Isla Caja de M**	48.99	6	P	P	23 17 48.1	-0.9
MLPR	**Magueyes Islan**	49.03	6	P	P	23 17 48.3	-1.0
SJG	**San Juan**	49.25	7	P	P	23 17 49.5	-1.5
	comp=Z,37nm,0.6s,baz=202,slow=4.9,SNR=2.0						
SJG	**San Juan**	49.25	7	P	P	23 17 50.0	-1.0
SJG				IAmb	IAmb	23 17 51.1	
	comp=Z,53nm,0.8s						
HUMP	**Col San Antoni**	49.31	7	P	P	23 17 51.3	-0.2
HUMP				IAmb	IAmb	23 17 53.1	
	comp=Z,35nm,0.9s						
GCPR	**Guaynabo City**	49.45	7	P	P	23 17 50.9	-1.7
GCPR				IAmb	IAmb	23 17 50.9	
	comp=Z,51nm,1.1s						
CUPR	**Culebra, Puert**	49.54	8	P	P	23 17 51.7	-1.5
GTBY	**Guantanamo Bay**	50.91	356	P	P	23 18 03.1	-0.4
GTBY				IAmb	IAmb	23 18 09.8	
	comp=Z,140nm,1.4s						
VNA3	**Neumayer Olymp**	51.83	159	P	P	23 18 10.6	+0.6
VNA1	**Neumayer--Stat**	52.12	158	P	P	23 18 12.9	+0.8
VNA2	**Neumayer--Watz**	52.46	158	P	P	23 18 15.3	+0.6
	baz=285,slow=8.4						
SNAA	**Sanae**	54.05	159	P	P	23 18 26.9	+0.5
SNAA	**Sanae**	54.05	159	P	P	23 18 25.8	-0.7
	comp=Z,60nm,0.7s,baz=245,slow=2.9,SNR=12						
SNAA	**Sanae**	54.05	159	P	P	23 18 26.5	+0.1
QSPA	**South Pole Qui**	59.07	180	P	P	23 19 03.2	+0.9
	comp=Z,22nm,0.5s,baz=270,slow=0.9,SNR=9.8						
QSPA	**South Pole Qui**	59.07	180	P	P	23 19 03.4	+1.0
QSPA				IAmb	IAmb	23 19 23.1	
	comp=Z,56nm,0.9s						
553A	**Crawfordville**	62.23	347	P	P	23 19 23.9	0.0
NHSC	**New Hope**	64.44	352		P	23 19 38.3	-0.2
NHSC				IAmb	IAmb	23 19 39.1	
	comp=Z,82nm,0.9s						
NHSC	**New Hope**	64.44	352	P	P	23 19 38.9	+0.4
	baz=172						
GOGA	**Godfrey**	65.21	349	P	P	23 19 42.7	-0.8
JSC	**Jenkinsville**	65.73	351	P	P	23 19 46.5	-0.4
BIRD	**Birdtown, Kers**	65.99	352	P	P	23 19 47.9	-0.6
X48A	**Hartselle**	66.88	346	P	P	23 19 53.9	-0.3
X48A				IAmb	IAmb	23 19 54.9	
	comp=Z,48nm,0.8s						
V58A	**Windy Hill, Pi**	66.98	353	P	P	23 19 54.3	-0.6
V58A				IAmb	IAmb	23 19 55.5	
	comp=Z,95nm,1.4s						
SWET	**Sewanee**	67.40	347	P	P	23 19 57.0	-0.6
SWET				IAmb	IAmb	23 19 58.1	
	comp=Z,44nm,0.9s						
WHTX	**Lake Whitney,**	67.44	336	P	P	23 19 58.0	+0.1
TKL	**Tuckaleechee C**	67.45	349	P	P	23 19 56.7	-1.2
TKL				IAmb	IAmb	23 19 58.5	
	comp=Z,62nm,1.2s						
OXF	**Oxford**	67.46	344	P	P	23 19 57.2	-0.7
OXF	**Oxford**	67.46	344	P	P	23 19 57.9	0.0
	baz=163						
TXAR	**Lajitas Array**	67.49	330	P	P	23 19 59.2	+0.9
	comp=Z,5.0nm,0.9s,baz=156,slow=8.9,SNR=2.1						
V52A	**Sevierville**	67.61	349	P	P	23 19 58.4	-0.5
V51A	**Loudon**	67.69	349	P	P	23 19 58.5	-0.8
V51A				IAmb	IAmb	23 20 00.6	
	comp=Z,32nm,0.8s						
CLTN	**Cedars of Leba**	68.33	347	P	P	23 20 03.5	+0.2
CLTN				IAmb	IAmb	23 20 04.0	
	comp=Z,37nm,0.7s						
SYO	**Syowa Base**	68.34	159	⇑*i*PcP	PcP	23 20 23.0	-5.5
WVT	**Waverly**	68.66	346	P	P	23 20 04.9	-0.6
WVT				IAmb	IAmb	23 20 06.0	
	comp=Z,60nm,0.9s						
WVT	**Waverly**	68.66	346	P	P	23 20 05.5	0.0
	baz=165						
MBO	**M'Bour**	69.23	58	P	P	23 20 08.7	-0.7
MBO				IAmb	IAmb	23 20 12.1	
	comp=Z,59nm,0.9s						
W39A	**Magazine**	69.25	341	P	P	23 20 10.1	+1.0
	baz=160						
Q61A	**Milford**	69.77	357	P	P	23 20 13.5	+1.3
	baz=176						
MNTX	**Cornudas Mount**	70.28	330	P	P	23 20 15.8	+0.3
MNTX	**Cornudas Mount**	70.28	330	P	P	23 20 16.2	+0.7
	baz=150						
HHAR	**Hobbs**	70.31	341	P	P	23 20 15.6	0.0
HHAR				IAmb	IAmb	23 20 31.4	
	comp=Z,94nm,1.3s						
CCM	**Cathedral Cave**	71.28	344	P	P	23 20 21.7	+0.3
	baz=162						
ACSO	**Alum Creek Sta**	71.82	351	P	P	23 20 24.3	-0.3
	baz=170						
ODNJ	**Ogdensburg**	71.94	358	P	P	23 20 25.7	+0.3
ODNJ				IAmb	IAmb	23 20 25.9	
	comp=Z,62nm,1.2s						
121A	**Cookes Peak, D**	72.05	328	P	P	23 20 28.8	+2.4
	baz=148						
BINY	**Binghamton**	73.11	357	P	P	23 20 32.2	-0.2
BINY				IAmb	IAmb	23 20 46.6	
	comp=Z,67nm,1.4s						
L56A	**Greenwood**	73.14	355	P	P	23 20 32.8	+0.2
L56A				IAmb	IAmb	23 20 48.8	
	comp=Z,49nm,1.1s						
L61B	**Northampton**	73.25	359	P	P	23 20 33.5	+0.3
	baz=179						
LIC	**Lamto**	73.46	72	*e*P	P	23 20 33.5	-1.6
	comp=Z,127nm,0.6s						
TIC	**Toumodi**	73.70	72	*e*P	P	23 20 34.9	-1.6
KIC	**Kosan Boka**	73.77	72	*e*P	P	23 20 35.5	-1.4
	comp=Z,153nm,0.7s						
DBIC	**Dimbokro**	73.85	72	P	P	23 20 36.1	-1.2
	comp=Z,66nm,0.5s,baz=229,slow=6.0,SNR=24						
DBIC	**Dimbokro**	73.85	72	P	P	23 20 36.1	-1.2
DBIC				IAmb	IAmb	23 20 36.8	
	comp=Z,69nm,0.7s						
214A	**Organ Pipe Nat**	73.96	324	P	P	23 20 40.1	+2.5
	baz=144						
HNH	**Hanover**	74.50	359	P	P	23 20 40.7	+0.3
HNH				IAmb	IAmb	23 20 56.7	
	comp=Z,68nm,1.4s						
L44A	**Lake County Fo**	74.52	347	P	P	23 20 40.5	-0.1
	baz=165						
PECO	**Prince Edward**	74.90	356	P	P	23 20 42.5	-0.2
LBNH	**Lisbon**	75.03	360	P	P	23 20 44.1	+0.5
	baz=180		

comp=Z,7.2nm,0.6s,baz=249,slow=7.3,SNR=9.4
I05D Terrebonne, OR 87.81 327 P P 23 21 52.7 +1.4
baz=139
AKASG **Malin Array Be** 119.92 46 PKP PKPdf 23 27 49.8 -2.3
comp=Z,4.2nm,0.5s,baz=267,slow=2.6,SNR=7.0
AKASG **Malin Array Be** 119.92 46 PKPdf PKPdf 23 27 50.7 -1.4
AKBB **Malin Array Si** 119.92 46 PKPdf PKPdf 23 27 50.1 -2.0
BRTR **Keskin Array B** 120.03 59 PKPdf PKPdf 23 27 52.1 -0.7
ASAR **Alice Springs** 120.30 207 PKP PKPdf 23 27 52.6 -1.3
comp=Z,32nm,1.1s,baz=126,slow=1.2,SNR=4.5
ADK **Adak** 122.90 315 PKPdf PKPdf 23 27 56.9 -0.9
WRA **Warramunga Arr** 123.46 209 PKP PKPdf 23 27 58.5 -1.5
comp=Z,9.7nm,0.5s,baz=166,slow=2.0,SNR=11
WRA **Warramunga Arr** 123.46 209 PKPdf PKPdf 23 27 59.3 -0.7
H11S2 **WAKE ISLAND Hyl** 126.22 271 T T 01 46 54.1
baz=116,slow=75,SNR=11
H11S1 **WAKE ISLAND Hyl** 126.23 271 T T 01 47 01.2
baz=116,slow=75,SNR=14
H11S3 **WAKE ISLAND Hyl** 126.24 271 T T 01 46 55.4
baz=116,slow=75,SNR=12
SOCY **Socotra** 126.49 98 PKPdf PKPdf 23 28 04.8 -1.1
H11N3 **WAKE ISLAND Hyl** 126.56 272 T T 01 47 33.9
baz=116,slow=75,SNR=7.7
H11N1 **WAKE ISLAND Hyl** 126.58 272 T T 01 47 38.6
baz=116,slow=75,SNR=3.8
H11N2 **WAKE ISLAND Hyl** 126.58 272 T T 01 47 37.3
baz=116,slow=75,SNR=7.6
KNRA **Kununurra** 129.53 206 PKPdf PKPdf 23 28 12.4 +0.8
UOSS **Minazif** 133.78 84 PKPdf PKPdf 23 28 17.9 -1.4
ABKAR **Akbulak array** 139.53 49 PKPdf PKPdf 23 28 28.5 -0.8
BRVK **Borovoye** 144.79 40 PKPdf PKPab 23 28 37.7 +0.2
PALK **Pallekele** 144.80 127 PKPdf PKPab 23 28 37.9 -0.8
KBL **Kabul** 146.83 73 PKPdf PKPdf 23 28 42.9 +0.1
CHGR **Chuyangaron** 147.08 66 PKPdf PKPdf 23 28 43.0 0.0
KK31 **Karatay Array** 147.72 58 PKPdf PKPdf 23 28 44.5 +0.7
KKAR **Karatay Array** 147.72 58 PKPdf 23 28 44.7 +0.9
TOLI2 **Tolitoli** 147.93 204 PKPbc PKPdf 23 28 47.1 +2.1
GAR **Garm** 147.97 65 PKPbc PKPbc 23 28 47.0 -0.6
BTK **Batken** 148.30 63 PKPdf 23 28 46.2 +1.2
GSI **Gunungsitoli** 148.56 159 PKPbc PKPbc 23 28 50.1 +0.4
ZAA0 **Zalesovo Array** 151.56 30 PKPbc 23 28 55.0 -0.7
ZALV **Zalesovo Beam** 151.56 30 PKPbc PKPbc 23 28 55.2 -0.5
comp=Z,84nm,0.6s,baz=314,slow=3.2,SNR=9.5
ZALV **Zalesovo Beam** 151.56 30 PKPbc 23 28 54.5 -1.3
MKAR **Makanchi Array** 154.49 45 PKPbc PKPbc 23 29 01.6 -0.9
comp=Z,13nm,0.8s,baz=274,slow=1.8,SNR=5.4
CMAR **Chiang Mai Arr** 164.68 143 PKPab PKPab 23 30 00.6 -1.3
comp=Z,3.3nm,0.9s,baz=235,slow=6.0,SNR=4.2

*IDC **16** 23:09:20.7±0.7,31°.50S×71°.71W,h0km,mb5.6/14,*
mb1 5.6/14,mb1mx5.3/33,mbtmp5.6/14,Error ellipse:
s-maj=29.5km s-min=17.4km az=74.0
*NEIC **16** 23:09:26.2±1.8,31°.57S±0°.05×71°.7W±0°.1,h35km±1km,*
mb5.7/67,Error ellipse: s-maj=16.4km s-min=8.7km
az=275.0

ISC 16 23:09:24.2±0.4,31°.58S±0°.06×71°.7W±0°.1,h25km,n166,
σ0§97/166,mb5.8/47,1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO04	**Tololo Observa**	**1.58**	**28**	Pn	**Pn**	**23 09 50.0**	**-0.8**
MT09	**Talagante**	**2.26**	**166**	Pn	**Pn**	**23 09 59.6**	**-0.6**
ZON	**Zonda**	**2.54**	**90**	Pn	**Pn**	**23 10 04.6**	**+0.7**
SPB	**Sao Paulo**	**22.86**	**76**	P	**P**	**23 14 23.6**	**-2.2**
PMSA	**Palmer Station**	**33.56**	**174**	P	**P**	**23 16 02.2**	**+0.5**
	92nm,1.1s,baz=46,slow=4.9,SNR=5.4						
PMSA	**Palmer Station**	**33.56**	**174**	P	**P**	**23 16 01.9**	**+0.1**
ROSC	**El Rosal**	**36.30**	**356**	P	**P**	**23 16 25.4**	**-1.0**
	60nm,0.4s,baz=200,slow=22,SNR=8.6						
CAP2	**Capurgana**	**40.37**	**351**	P	**P**	**23 16 57.6**	**-2.6**
TOSP	**Speyside**	**43.94**	**16**	P	**P**	**23 17 28.6**	**-0.6**
CRPR	**Cabo Rojo, PR**	**49.49**	**6**	P	**P**	**23 18 11.4**	**-1.2**
PDPR	**Patillas Dam,**	**49.60**	**7**	P	**P**	**23 18 12.0**	**-1.5**
SJG	**San Juan**	**49.68**	**7**	P	**P**	**23 18 12.2**	**-1.9**
SJG				IAmb	IAmb	23 18 14.6	
	comp=Z,123nm,1.1s						
CBYP	**Canovanas**	**49.87**	**7**	P	**P**	**23 18 14.5**	**-1.1**
PETF	**Flores**	**51.29**	**337**	P	**P**	**23 18 26.3**	**0.0**
CMIG	**Matias Romero**	**53.28**	**332**	P	**P**	**23 18 40.9**	**-0.2**
	comp=Z,21nm,1.1s,baz=200,slow=3.7,SNR=3.7						
SNAA	**Sanae**	**53.71**	**159**	P	**P**	**23 18 41.4**	**-2.3**
	comp=Z,41nm,0.7s,baz=278,slow=7.5,SNR=6.0						
SNAA	**Sanae**	**53.71**	**159**	P	**P**	**23 18 41.4**	**-2.3**
QSPA	**South Pole Qui**	**58.65**	**180**	P	**P**	**23 19 18.1**	**-1.1**
	comp=Z,68nm,1.0s,baz=153,slow=3.6,SNR=3.1						
QSPA	**South Pole Qui**	**58.65**	**180**	P	**P**	**23 19 19.1**	**-0.1**
TIGA	**Tifton**	**63.69**	**349**	P	**P**	**23 19 53.7**	**+0.3**
	baz=169						
NHSC	**New Hope**	**64.84**	**352**	P	**P**	**23 20 00.9**	**0.0**
	baz=172						
GOGA	**Godfrey**	**65.59**	**349**	P	**P**	**23 20 05.5**	**-0.3**
	baz=169						
VBMS	**Vicksburg**	**65.91**	**343**	P	**P**	**23 20 09.2**	**+1.3**
	baz=162						
CNNC	**Cliffs of the**	**66.72**	**354**	P	**P**	**23 20 13.5**	**+0.6**
	baz=174						
KMSC	**Kings Mountain**	**66.99**	**351**	P	**P**	**23 20 14.9**	**+0.2**
	baz=171						
JCT	**Junction City**	**67.25**	**334**	P	**P**	**23 20 17.8**	**+1.2**
	baz=154						
WHTX	**Lake Whitney,**	**67.78**	**336**	P	**P**	**23 20 20.4**	**+0.6**
	baz=156						
OXF	**Oxford**	**67.83**	**344**	P	**P**	**23 20 20.2**	**+0.1**
	baz=164						
SYO	**Syowa Base**	**68.00**	**159**	i PcP	**PcP**	**23 20 45.0**	**-1.9**
T59A	**Double "B" Far**	**68.42**	**355**	P	**P**	**23 20 23.3**	**-0.3**
T59A				IAmb	IAmb	23 20 25.2	
	comp=Z,91nm,1.1s						
CLTN	**Cedars of Leba**	**68.71**	**347**	P	**P**	**23 20 26.4**	**+0.9**
CLTN				IAmb	IAmb	23 20 34.8	
	comp=Z,90nm,1.3s						
WVT	**Waverly**	**69.04**	**346**	P	**P**	**23 20 27.9**	**+0.3**
WVT				IAmb	IAmb	23 20 28.4	
	comp=Z,114nm,1.1s						
WVT	**Waverly**	**69.04**	**346**	P	**P**	**23 20 27.6**	**0.0**
	baz=165						
ABTX	**Abilene, Hawle**	**69.12**	**335**	P	**P**	**23 20 29.2**	**+0.9**
	baz=155						
CBN	**Corbin Frederi**	**69.63**	**355**	P	**P**	**23 20 31.6**	**+0.4**
	baz=175						
LCAR	**Lake Charles**	**69.73**	**343**	P	**P**	**23 20 31.7**	**-0.2**
MNTX	**Cornudas Mount**	**70.58**	**330**	P	**P**	**23 20 37.2**	**0.0**
	baz=150						
WCI	**Wyandotte Cave**	**70.78**	**348**	P	**P**	**23 20 37.5**	**-0.7**
	baz=167						
Q51A	**Peebles**	**71.08**	**350**	P	**P**	**23 20 39.4**	**-0.7**
Q51A				IAmb	IAmb	23 20 40.7	
	comp=Z,80nm,1.1s						
WUPA	**West Chester U**	**71.24**	**357**	P	**P**	**23 20 41.5**	**+0.5**
MCWV	**Mont Chateau**	**71.28**	**353**	P	**P**	**23 20 41.4**	**+0.2**
	baz=173						
MSTX	**Muleshoe**	**71.49**	**333**	P	**P**	**23 20 43.4**	**+0.5**
	baz=152						
P52A	**Corning**	**71.52**	**351**	P	**P**	**23 20 42.8**	**+0.1**
	baz=171						
CCM	**Cathedral Cave**	**71.65**	**344**	P	**P**	**23 20 43.1**	**-0.4**
CCM				IAmb	IAmb	23 20 44.5	
	comp=Z,69nm,0.9s						
P49A	**Miami Univ. Ec**	**71.78**	**349**	P	**P**	**23 20 44.2**	**-0.1**
AMTX	**Amarillo**	**71.89**	**334**	P	**P**	**23 20 45.6**	**+0.5**
	baz=153						
SSPA	**Standing Stone**	**72.08**	**355**	P	**P**	**23 20 46.0**	**0.0**
	baz=174						
ACSO	**Alum Creek Sta**	**72.22**	**351**	P	**P**	**23 20 46.4**	**-0.5**
ACSO				IAmb	IAmb	23 20 47.6	
	comp=Z,108nm,1.0s						
ACSO	**Alum Creek Sta**	**72.22**	**351**	P	**P**	**23 20 46.4**	**-0.5**
	baz=170						
N59A	**State Game Lan**	**72.23**	**357**	P	**P**	**23 20 47.2**	**+0.2**
N59A				IAmb	IAmb	23 20 49.1	
	comp=Z,128nm,1.2s						
N59A	**State Game Lan**	**72.23**	**357**	P	**P**	**23 20 48.3**	**+1.3**
	baz=176						
121A	**Cookes Peak, D**	**72.34**	**328**	P	**P**	**23 20 47.0**	**-1.1**
121A				IAmb	IAmb	23 20 50.6	
	comp=Z,87nm,1.1s						
M55A	**Ridgway**	**72.98**	**354**	P	**P**	**23 20 50.5**	**-1.0**
M55A				IAmb	IAmb	23 20 52.6	
	comp=Z,124nm,1.1s						
N49A	**Columbus Grove**	**73.06**	**350**	P	**P**	**23 20 52.2**	**+0.4**
N49A				IAmb	IAmb	23 20 52.6	
	comp=Z,145nm,1.1s						
L63A	**North Scituate**	**73.08**	**0**	P	**P**	**23 20 52.6**	**+0.7**
	baz=180						
M53A	**WI Miller and**	**73.13**	**353**	P	**P**	**23 20 52.2**	**0.0**
M53A				IAmb	IAmb	23 20 53.1	
	comp=Z,106nm,1.1s						
M53A	**WI Miller and**	**73.13**	**353**	P	**P**	**23 20 52.2**	**0.0**
	baz=172						
L64A	**Middleborough**	**73.15**	**1**	P	**P**	**23 20 53.4**	**+1.0**
	baz=181						
L59A	**Walton**	**73.47**	**357**	P	**P**	**23 20 55.0**	**+0.7**
L59A				IAmb	IAmb	23 20 56.1	
	comp=Z,125nm,1.1s						
BINY	**Binghamton**	**73.52**	**357**	P	**P**	**23 20 55.5**	**+1.0**
BINY				IAmb	IAmb	23 20 56.1	
	comp=Z,85nm,1.1s						
BINY	**Binghamton**	**73.52**	**357**	P	**P**	**23 20 55.6**	**+1.0**
	baz=176						
L56A	**Greenwood**	**73.55**	**355**	P	**P**	**23 20 55.0**	**+0.2**
L61B	**Northampton**	**73.67**	**359**	P	**P**	**23 20 56.0**	**+0.6**
	baz=179						
HRV	**Adam Dziewonsk**	**73.72**	**0**	P	**P**	**23 20 56.8**	**+1.0**
	baz=180						
ERPA	**Erie**	**73.73**	**354**	P	**P**	**23 20 55.7**	**-0.1**
ERPA				IAmb	IAmb	23 20 56.7	
	comp=Z,82nm,0.9s						
ERPA	**Erie**	**73.73**	**354**	P	**P**	**23 20 55.9**	**+0.1**
	baz=173						
ANMO	**Albuquerque**	**73.83**	**331**	P	**P**	**23 20 58.0**	**+1.2**
	baz=150						
K62A	**Royalston**	**73.88**	**360**	P	**P**	**23 20 57.6**	**+1.0**
	baz=180						
DBIC	**Dimbokro**	**74.10**	**72**	P	**P**	**23 20 59.3**	**+0.7**
	comp=Z,83nm,0.6s,baz=224,slow=6.0,SNR=15						
DBIC	**Dimbokro**	**74.10**	**72**	P	**P**	**23 20 59.1**	**+0.5**
MMNY	**Mt. Morris Dam**	**74.17**	**355**	P	**P**	**23 20 59.0**	**+0.6**
214A	**Organ Pipe Nat**	**74.23**	**324**	P	**P**	**23 21 00.5**	**+1.5**
	baz=144						
J61A	**Chester**	**74.56**	**359**	P	**P**	**23 21 01.7**	**+1.0**
	baz=179						
J58A	**Remsen**	**74.65**	**357**	P	**P**	**23 21 01.3**	**+0.1**
J59A	**Piesco**	**74.72**	**358**	P	**P**	**23 21 01.4**	**-0.2**
J59A				IAmb	IAmb	23 21 03.0	
	comp=Z,114nm,1.2s						
T25A	**Trinidad**	**74.91**	**333**	P	**P**	**23 21 04.6**	**+1.5**
	baz=152						
I60A	**Shoreham**	**75.07**	**359**	P	**P**	**23 21 04.2**	**+0.6**
	baz=179						
I62A	**Tamworth**	**75.09**	**0**	P	**P**	**23 21 05.1**	**+1.5**
	baz=180						
I63A	**Otisfield**	**75.27**	**1**	P	**P**	**23 21 06.5**	**+1.8**
	baz=181						
PECO	**Prince Edward**	**75.31**	**356**	P	**P**	**23 21 05.0**	**+0.1**
PECO				IAmb	IAmb	23 21 05.6	
	comp=Z,93nm,1.2s						
W18A	**Petrified Fore**	**75.39**	**328**	P	**P**	**23 21 07.3**	**+1.4**
	baz=147						
MAW	**Mawson**	**75.41**	**164**	P	**P**	**23 21 06.8**	**+1.5**
	comp=Z,80nm,1.1s,baz=221,slow=6.5,SNR=7.9						
MAW	**Mawson**	**75.41**	**164**		**P**	**23 21 07.4**	**+2.1**
LBNH	**Lisbon**	**75.45**	**360**	P	**P**	**23 21 05.8**	**+0.1**
LBNH				IAmb	IAmb	23 21 07.7	
	comp=Z,75nm,1.1s						
LBNH	**Lisbon**	**75.45**	**360**	P	**P**	**23 21 07.0**	**+1.2**
	baz=180						
L40A	**Anamosa**	**75.46**	**345**	P	**P**	**23 21 04.9**	**-0.9**
L40A				IAmb	IAmb	23 21 06.5	
	comp=Z,98nm,0.9s						
SUR	**Sutherland**	**75.72**	**119**	P	**P**	**23 21 10.1**	**+2.0**
	comp=Z,77nm,1.1s,baz=105,slow=4.7,SNR=4.7						
SCIA	**State Center**	**75.77**	**344**	P	**P**	**23 21 08.5**	**+0.9**
	baz=161						
SDCO	**Great Sand Dun**	**75.86**	**333**	P	**P**	**23 21 09.8**	**+1.1**
	baz=151						
LONY	**Lake Ozonia**	**75.88**	**358**	P	**P**	**23 21 08.5**	**+0.3**
LONY				IAmb	IAmb	23 21 09.7	
	comp=Z,76nm,1.1s						
LONY	**Lake Ozonia**	**75.88**	**358**	P	**P**	**23 21 09.2**	**+1.0**
	baz=177						
FRNY	**Flat Rock**	**76.07**	**359**	P	**P**	**23 21 09.1**	**-0.1**
FRNY				IAmb	IAmb	23 21 10.8	
	comp=Z,71nm,1.0s						
JFWS	**Jewell Farm**	**76.07**	**346**	P	**P**	**23 21 09.8**	**+0.5**
	baz=164						
HAL	**Halifax**	**76.20**	**6**	P	**P**	**23 21 10.8**	**+0.8**
HAL				IAmb	IAmb	23 21 12.0	
	comp=Z,73nm,1.1s						
SADO	**Sadowa**	**76.29**	**355**	P	**P**	**23 21 10.6**	**+0.1**
SADO				IAmb	IAmb	23 21 11.4	
	comp=Z,88nm,1.1s						
PLVO	**Plevna**	**76.41**	**356**	P	**P**	**23 21 11.8**	**+0.6**
PLVO				IAmb	IAmb	23 21 12.5	
	comp=Z,80nm,1.1s						
G62A	**West of Eustis**	**76.44**	**1**	P	**P**	**23 21 11.4**	**+0.1**
G62A				IAmb	IAmb	23 21 13.5	
	comp=Z,129nm,1.1s						
WUAZ	**Wupatki**	**76.46**	**328**	P	**P**	**23 21 13.6**	**+1.7**
	baz=146						
PKME	**Peaks-Kenny Pk**	**76.51**	**2**	P	**P**	**23 21 13.0**	**+1.3**
	baz=182						
SWSC	**Sam W. Stewart**	**76.53**	**323**	P	**P**	**23 21 13.2**	**+1.0**
	baz=142						
MVCO	**Mesa Verde**	**76.61**	**331**	P	**P**	**23 21 13.0**	**+0.1**
MVCO	**Mesa Verde**	**76.61**	**331**	P	**P**	**23 21 14.6**	**+1.7**
	baz=148						
Q24A	**Divide**	**76.79**	**334**	P	**P**	**23 21 15.3**	**+1.4**
	baz=151						
F64A	**Sherman**	**77.13**	**2**	P	**P**	**23 21 16.0**	**+0.8**
LMN	**Caledonia Moun**	**77.31**	**5**	P	**P**	**23 21 16.7**	**+0.5**
LMN				IAmb	IAmb	23 21 17.9	
	comp=Z,95nm,1.1s						
PQI	**Presque Isle**	**77.95**	**3**	P	**P**	**23 21 20.8**	**+1.0**
PQI				IAmb	IAmb	23 21 21.6	
	comp=Z,77nm,1.0s						
G40A	**Rib Lake**	**78.32**	**347**	P	**P**	**23 21 22.4**	**+0.5**
D62A	**Allapoint, All**	**78.33**	**2**	P	**P**	**23 21 23.0**	**+1.1**
D62A				IAmb	IAmb	23 21 23.7	
	comp=Z,120nm,0.9s						
ECSD	**EROS Data Cent**	**78.35**	**342**	P	**P**	**23 21 22.1**	**0.0**
	baz=158						
E46A	**Sault Ste Mari**	**78.42**	**351**	P	**P**	**23 21 22.2**	**-0.2**
E46A				IAmb	IAmb	23 21 23.3	
	comp=Z,114nm,1.1s						
LMQ	**La Malbaie**	**78.77**	**1**	P	**P**	**23 21 24.6**	**+0.3**
LMQ				IAmb	IAmb	23 21 25.8	
	comp=Z,106nm,1.0s						
E43A	**Lone Tree Farm**	**78.82**	**349**	P	**P**	**23 21 25.1**	**+0.5**
O20A	**White River Ci**	**79.00**	**332**	P	**P**	**23 21 26.9**	**+0.9**
	baz=149						
SHPR	**Sheep Range**	**79.04**	**326**	P	**P**	**23 21 27.6**	**+1.3**
KOWA	**Kowa**	**79.34**	**66**	P	**P**	**23 21 28.0**	**-0.2**
	comp=Z,154nm,1.1s,baz=233,slow=3.9,SNR=6.7						
KOWA	**Kowa**	**79.34**	**66**	P	**P**	**23 21 28.1**	**-0.1**
KOWA				IAmb	IAmb	23 21 30.1	
	comp=Z,115nm,0.8s						
R11A	**Troy Canyon, C**	**80.72**	**326**	P	**P**	**23 21 36.9**	**+1.5**
BOSA	**Boshof**	**80.91**	**118**	P	**P**	**23 21 38.0**	**+1.2**
	comp=Z,77nm,1.0s,baz=244,slow=6.2,SNR=8.6						
BOSA	**Boshof**	**80.91**	**118**	P	**P**	**23 21 37.2**	**+0.5**
BOSA				IAmb	IAmb	23 21 39.2	
	comp=Z,140nm,1.1s						
EYMN	**Ely**	**81.14**	**347**	P	**P**	**23 21 37.0**	**-0.1**
	baz=163						
B35A	**Bob, Littlefor**	**82.00**	**345**	P	**P**	**23 21 41.7**	**+0.1**
CASY	**Casey**	**82.44**	**181**	P	**P**	**23 21 43.4**	**-0.5**
MDND	**Maddock**	**82.95**	**341**	P	**P**	**23 21 47.2**	**+0.6**
	baz=156						
LBTB	**Lobatse**	**83.02**	**115**	P	**P**	**23 21 48.8**	**+0.9**
	comp=Z,58nm,0.9s,baz=252,slow=5.5,SNR=6.8						
LBTB	**Lobatse**	**83.02**	**115**	P	**P**	**23 21 48.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**83.08**	**70**	P	**P**	**23 21 49.1**	**+1.0**
	comp=Z,124nm,0.9s,baz=259,slow=4.7,SNR=11						
TORD	**Torodi Ar. Bea**	**83.08**	**70**	P	**P**	**23 21 47.4**	**-0.7**
BMN	**Battle Mountai**	**83.14**	**327**	P	**P**	**23 21 47.8**	**-0.2**
YHH	**Holmes Hill**	**83.97**	**333**	P	**P**	**23 21 53.1**	**+0.8**
ULM	**Lac du Bonnet**	**84.25**	**345**	P	**P**	**23 21 53.1**	**-0.2**
	comp=Z,28nm,0.9s,baz=182,slow=5.1,SNR=4.1						
HLID	**Hailey**	**84.39**	**330**	P	**P**	**23 21 56.0**	**+1.6**
	baz=144						
DGMT	**Dagmar**	**84.84**	**339**	P	**P**	**23 21 57.7**	**+1.4**
	baz=153						
ODZ	**Otahua Downs**	**85.06**	**219**	P	**P**	**23 21 57.3**	**-0.5**
KHZ	**Kahutara**	**85.13**	**222**	P	**P**	**23 21 57.4**	**-0.7**
SCHQ	**Schefferville**	**86.16**	**3**	P	**P**	**23 22 02.8**	**+0.1**
	comp=Z,39nm,1.1s,baz=169,slow=5.3,SNR=4.0						
M04C	**Macdoel**	**86.40**	**325**	P	**P**	**23 22 05.5**	**+1.1**
	baz=139						
PINE	**Pine Mountain**	**87.49**	**327**	P	**P**	**23 22 12.0**	**+2.3**
PINE				IAmb	IAmb	23 22 12.3	
	comp=Z,57nm,1.1s						
I05D	**Terrebonne, OR**	**88.09**	**327**	P	**P**	**23 22 14.0**	**+1.6**
	baz=139						
H04A	**Detroit Lake**	**88.75**	**327**	P	**P**	**23 22 16.4**	**+0.9**
BUCK	**Buck Mountain**	**88.77**	**326**	P	**P**	**23 22 17.8**	**+2.1**
BUCK				IAmb	IAmb	23 22 25.4	
	comp=Z,42nm,1.3s						
ESDC	**Sonseca Array**	**94.66**	**46**	P	**P**	**23 22 44.1**	**+1.0**
	comp=Z,4.0nm,0.9s,baz=241,slow=3.9,SNR=4.2						
AKASG	**Malin Array Be**	**120.30**	**46**	PKP	**PKPdf**	**23 28 12.4**	**-0.3**
	comp=Z,17nm,0.9s,baz=262,slow=2.5,SNR=7.2						
AKASG	**Malin Array Be**	**120.30**	**46**		**PKiKP**	**23 28 12.9**	**+0.1**
BRTR	**Keskin Array B**	**120.35**	**60**	PKP	**PKiKP**	**23 28 13.8**	**+0.3**
	comp=Z,13nm,1.0s,baz=303,slow=37,SNR=2.6						
BRTR	**Keskin Array B**	**120.35**	**60**		**PKiKP**	**23 28 14.6**	**+1.1**
SEY	**Seymchan**	**138.08**	**332**	PKP	**PKiKP**	**23 28 47.0**	**-1.0**
	comp=Z,34nm,0.9s,baz=138,slow=1.3,SNR=4.8						
PETK	**Petropavlovsk-**	**138.67**	**316**	PKP	**PKiKP**	**23 28 48.6**	**-1.0**
	comp=Z,21nm,1.0s,baz=97,slow=3.4,SNR=4.8						
PETK	**Petropavlovsk-**	**138.67**	**316**		**PKPdf**	**23 28 48.3**	**+0.8**
PALK	**Pallekele**	**144.64**	**127**		PKPbc	23 28 58.8	+0.6
BRVK	**Borovoye**	**145.19**	**41**	PKPbc	**PKPdf**	**23 28 59.2**	**+0.1**
YAK	**Yakutsk**	**146.55**	**342**	PKPdf	**PKPbc**	**23 29 02.2**	**-0.4**
CHGR	**Chuyangaron**	**147.36**	**67**		**PKPdf**	**23 29 01.8**	**-1.6**
TOLI2	**Tolitoli**	**147.50**	**204**	PKPdf	**PKPdf**	**23 29 03.0**	**-1.2**
KK31	**Karatay Array**	**148.04**	**58**	PKPbc	**PKPbc**	**23 29 07.8**	**+0.4**
KKAR	**Karatay Array**	**148.04**	**58**	PKPbc	**PKPbc**	**23 29 07.7**	**+0.3**
GAR	**Garm**	**148.26**	**66**	PKPbc	**PKPbc**	**23 29 08.4**	**+0.1**
NIL	**Nilore**	**150.44**	**77**	PKPbc	**PKiKP**	**23 29 14.4**	**-0.1**
AAK	**Ala-Archa**	**151.01**	**58**	PKPbc	**PKiKP**	**23 29 16.2**	**+0.6**
FRU1	**Bishkek**	**151.07**	**58**	PKPbc	**PKiKP**	**23 29 16.6**	**+1.0**
ZAA0	**Zalesovo Array**	**151.99**	**30**	PKPbc	**PKiKP**	**23 29 16.9**	**0.0**
ZALV	**Zalesovo Beam**	**151.99**	**30**	PKPbc	**PKiKP**	**23 29 16.8**	**-0.2**
	comp=Z,100nm,0.5s,baz=298,slow=3.2,SNR=3.8						
ZALV	**Zalesovo Beam**	**151.99**	**30**	PKPbc	**PKiKP**	**23 29 17.1**	**+0.1**
MKAR	**Makanchi Array**	**154.88**	**45**	PKP	**PKPdf**	**23 29 15.9**	**+1.4**
	comp=Z,20nm,0.7s,baz=268,slow=4.2,SNR=9.9						
MKAR				PKPbc	**PKiKP**	**23 29 23.4**	**+0.1**
	comp=Z,29nm,1.0s,baz=259,slow=3.1,SNR=5.2						
KSRS	**Korea Array**	**162.85**	**295**	PKPab	**PKPab**	**23 30 14.9**	**+1.6**
	comp=Z,1.8nm,0.8s,baz=80,slow=4.4,SNR=4.0						
SONM	**Songino Array**	**163.69**	**5**	PKPab	**PKPab**	**23 30 15.9**	**-0.9**
	comp=Z,8.1nm,1.0s,baz=339,slow=4.2,SNR=2.7						
CMAR	**Chiang Mai Arr**	**164.41**	**145**	PKPab	**PKPab**	**23 30 21.7**	**+1.1**
	comp=Z,4.6nm,0.8s,baz=220,slow=6.6,SNR=2.8						

*IDC **16** 23:13:00.3±12.0,31°.66S×71°.75W,h0km,mb5.2/2,*
mb1 5.1/2,mb1mx4.4/38,mbtmp5.2/2,Error ellipse:
s-maj=933.6km s-min=91.1km az=1.0
*NEIC **16** 23:13:12.3±2.2,30°.23S±0°.07×71°.20W±0°.04,h29km±5km,*
mb5.2/19,Error ellipse: s-maj=9.8km s-min=5.0km
az=187.0

ISC 16 23:13:12.3±0.6,30°.24S±0°.07×71°.24W±0°.08,h35km,n32,
σ1§54/34,mb5.2/11,1C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.55**	**218**	Pn	**Pn**	**23 13 21.9**	**-1.8**
CO06				Sn	**Sn**	**23 13 33.5**	**+1.8**
CO03	**El Pedregal**	**0.77**	**142**		**Pn**	**23 13 26.0**	**-0.7**
CO03				Sn	**Sn**	**23 13 37.1**	**0.0**
VA03	**San Esteban**	**2.59**	**167**	Pn	**Pn**	**23 13 53.8**	**+2.1**
PLCA	**Paso Flores**	**10.49**	**177**	Pn	**Pn**	**23 15 39.2**	**-0.9**
SAML	**Samuel**	**22.48**	**21**	P	**P**	**23 18 07.8**	**-0.9**
SNAA	**Sanae**	**54.82**	**159**	P	**P**	**23 22 41.3**	**+2.8**
CLTN	**Cedars of Leba**	**67.49**	**347**	P	**P**	**23 24 06.2**	**+1.7**
U49A	**Red Boiling Sp**	**67.79**	**347**	P	**P**	**23 24 06.7**	**+0.2**
U49A				IAmb	IAmb	23 24 08.3	
	comp=Z,18nm,1.1s						
VNDA	**Vanda**	**67.91**	**191**	P	**P**	**23 24 07.7**	**+0.9**
SYO	**Syowa Base**	**69.11**	**159**	i PcP	**PcP**	**23 24 37.4**	**-0.8**
SIUC	**Southern Illin**	**69.66**	**345**	P	**P**	**23 24 18.4**	**+0.3**
SIUC				IAmb	IAmb	23 24 19.1	
	comp=Z,18nm,0.7s						
N47A	**Urbana**	**72.02**	**349**	P	**P**	**23 24 32.0**	**-0.3**
L56A	**Greenwood**	**72.25**	**355**	P	**P**	**23 24 35.1**	**+1.4**
ACCN	**Adirondack Com**	**73.30**	**358**	P	**P**	**23 24 41.6**	**+1.7**
ACCN				IAmb	IAmb	23 25 01.0	
	comp=Z,47nm,1.4s						
J56A	**Wolcott**	**73.34**	**356**	P	**P**	**23 24 40.9**	**+0.8**
DBIC	**Dimbokro**	**73.35**	**72**	P	**P**	**23 24 39.4**	**-1.5**
	comp=Z,20nm,0.8s,baz=230,slow=4.8

1.8nm,0.6s,baz=124,slow=6.6,SNR=4.4
NVAR Mina Array Bea 57.40 322 P **P** **23 23 35.3 +0.2**
8.1nm,0.8s,baz=130,slow=7.3,SNR=2.7
SCHQ Schefferville 59.38 6 P **P** **23 23 49.1 +1.0**
24nm,1.0s,baz=184,slow=5.9,SNR=6.3
FITZ Fitzroy Crossi 148.88 224 PKPbc **PKPbc** **23 33 34.1 +0.7**
3.7nm,0.7s,baz=190,slow=4.2,SNR=2.2

IDC 16 23:15:38.0±1.7, 32°16S×71°22W, h0km, mb4.8/2, mb1 4.7/2, mb1mx4.2/38, mbtmp4.8/2, Error ellipse: s-maj=157.1km s-min=65.7km az=156.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBIC	**Dimbokro**	**73.94**	**71**	P	P	23 27 15.0	-0.5
	5.2nm,0.6s,baz=221,slow=4.7,SNR=1.3						
TORD	**Torodi Ar. Bea**	**82.93**	**70**	P	P	23 28 05.8	+0.7
	5.1nm,0.7s,baz=273,slow=5.2,SNR=1.5						
WRA	**Warramunga Arr**	**122.70**	**209**	PKP	PKPdf	23 34 36.2	-0.2
	4.3nm,1.1s,baz=167,slow=2.1,SNR=2.3						
BVAR	**Borovoye Array**	**145.46**	**41**	PKPbc	PKPdf	23 35 17.5	0.0
	4.8nm,0.5s,baz=251,slow=4.4,SNR=2.8						
KURBB	**Kurchatov Array**	**151.05**	**42**	PKPbc	PKPbc	23 35 32.1	-0.4
	3.7nm,0.6s,baz=305,slow=3.1,SNR=3.8						
ZALV	**Zalesovo Beam**	**152.30**	**31**	PKPbc	PKPbc	23 35 34.6	-0.7
	14nm,0.5s,baz=314,slow=2.9,SNR=4.1						

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*MOS **16** 23:16:03.6±1.2, 31°61S×71°93W, h10km, mb5.9/8, Error ellipse: s-maj=18.7km s-min=7.3km az=100.4*
*IDC **16** 23:16:03.3±0.4, 31°60S×71°76W, h0km, mb5.3/21, mb1 5.4/25, mb1mx5.2/44, mbtmp5.3/25, ML5.2/3, MS7.2/1, Ms1 7.2/1, ms1mx5.8/37, Error ellipse: s-maj=19.8km s-min=11.9km az=78.0*
*NEIC **16** 23:16:09.4±1.5, 31°60S±0°04×71°92W±0°07, h35km±1km, mb6.1/146, Error ellipse: s-maj=10.2km s-min=6.3km az=272.0*
*SJA **16** 23:16:09.6±0.6, 31°75S×71°83W, h11km, ML6.1, MW6.0*
*GUC **16** 23:16:09.1±0.5, 31°91S×71°90W, h32km±3km, ML6.2*
ISC 16 23:16:07.5±1.0, 31°65S±0°02×71°93W±0°04, h27km±7km, n447, σ1°30/461, mb6.0/95, 6C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**1.01**	**15**	Pn	**Pn**	**23 16 26.0**	**+0.1**
CO06				Sn	**Sn**	**23 16 38.6**	**-0.6**
CO03	**El Pedregal**	**1.34**	**53**	*e*P	**Pb**	**23 16 36.1**	**+4.0**
CO03				*e*S	**Sn**	**23 16 47.2**	**-0.3**
CO03	**El Pedregal**	**1.34**	**53**	Pn	**Pn**	**23 16 29.9**	**-0.7**
CO03				Sn	**Sn**	**23 16 47.4**	**-0.1**
VA01	**Torpederas**	**1.39**	**170**	*e*P	**Pn**	**23 16 29.7**	**-1.5**
VA01				*i*S	**Sn**	**23 16 45.8**	**-2.9**
VA01	**Torpederas**	**1.39**	**170**	Pn	**Pn**	**23 16 30.1**	**-1.1**
VA01	**Torpederas**	**1.39**	**170**	*e*P	**Pb**	**23 16 34.0**	**+1.2**
VA01				*e*S	**Sb**	**23 16 51.4**	**+1.3**
ROCH	**El Roble**	**1.53**	**150**	*e*P	**Pn**	**23 16 32.9**	**-0.4**
ROCH				*e*S	**Sn**	**23 16 52.0**	**-0.5**
ROC1	**El Roble**	**1.53**	**150**	*e*P	**Pn**	**23 16 30.9**	**-2.5**
ROC1				*e*P	**Pb**	**23 16 34.1**	**-1.3**
ROC1				*e*S	**Sb**	**23 16 54.2**	**-0.4**
VA03	**San Esteban**	**1.61**	**134**	*e*P	**Pn**	**23 16 34.8**	**+0.4**
VA03				*e*S	**Sn**	**23 16 54.5**	**+0.1**
VA03				IAML		23 17 04.5	
	comp=N,493μm,0.4s						
VA03	**San Esteban**	**1.61**	**134**	Pn	**Pn**	**23 16 34.5**	**+0.2**
MT05	**Renca**	**2.01**	**150**	*e*P	**Pn**	**23 16 40.2**	**+0.4**
MT05				*e*S	**Sn**	**23 17 03.9**	**-0.1**
MT05				IAML		23 17 13.6	
	comp=E,244μm,0.2s						
MT05	**Renca**	**2.01**	**150**	Pn	**Pn**	**23 16 40.6**	**+0.9**
MT05	**Renca**	**2.01**	**150**	*e*P	**Pb**	**23 16 44.0**	**+0.6**
VA05	**Santo Domingo**	**2.02**	**172**	*e*P	**Pn**	**23 16 39.5**	**-0.3**
VA05				IAML		23 17 14.9	
	comp=N,481μm,0.6s						
VA05	**Santo Domingo**	**2.02**	**172**	Pn	**Pn**	**23 16 41.6**	**+1.8**
RTLS	**Leoncito**	**2.25**	**94**	*e*P	**Pb**	**23 16 47.4**	**-0.3**
RTLS				*e*S	**Sb**	**23 17 18.4**	**+3.1**
RTLS				IAML		23 17 22.3	
	comp=Z,121μm,1.3s						
MT09	**Talagante**	**2.26**	**160**	*e*P	**Pn**	**23 16 43.9**	**+0.6**
MT09				*i*S	**Sn**	**23 17 10.5**	**+0.1**
MT09	**Talagante**	**2.26**	**160**	Pn	**Pn**	**23 16 44.5**	**+1.1**
MT01	**Popeta**	**2.28**	**166**	*e*P	**Pn**	**23 16 43.6**	**+0.1**
MT01				*e*S	**Sn**	**23 17 10.2**	**-0.5**
MT01				IAML		23 17 24.4	
	comp=E,163μm,0.7s						
MT01	**Popeta**	**2.28**	**166**	Pn	**Pn**	**23 16 44.7**	**+1.3**
LMEL	**Las Melosas**	**2.63**	**147**	*e*P	**Pn**	**23 16 49.0**	**+0.5**
LMEL				IAML		23 17 32.3	
	comp=N,133μm,0.9s						
ZON	**Zonda**	**2.78**	**89**	Pn	**Pn**	**23 16 51.3**	**+1.0**
ZON	**Zonda**	**2.78**	**89**	*e*P	**Pb**	**23 16 56.1**	**-0.5**
ZON				*e*S	**Sn**	**23 17 26.4**	**+3.3**
ZON				IAML		23 17 38.7	
	comp=Z,72μm,2.3s						
ARCO	**CERRO ARCO**	**2.81**	**116**	*e*P	**Pb**	**23 16 58.0**	**+0.9**
ARCO				*e*S	**Sb**	**23 17 29.4**	**-1.7**
BO01	**Tunca**	**2.83**	**166**	*e*P	**Pn**	**23 16 51.3**	**+0.4**
BO01				IAML		23 17 39.1	
	comp=E,193μm,0.6s						
BO01	**Tunca**	**2.83**	**166**	Pn	**Pn**	**23 16 51.8**	**+0.9**
ACDV	**Cuesta del Vie**	**2.83**	**59**	*e*P	**Pb**	**23 16 57.0**	**-0.5**
ACDV				*e*P	Pn	23 16 57.2	+6.0
ACDV				*e*S	**Sb**	**23 17 31.9**	**+0.1**
BO03	**Pichilemu**	**2.84**	**180**	*e*P	**Pn**	**23 16 48.4**	**-2.7**
BO03				*e*S	**Sn**	**23 17 20.6**	**-3.8**
LCO	**Las Campanas**	**2.84**	**22**	*e*P	**Pb**	**23 16 59.0**	**+1.3**
LCO	**Las Campanas**	**2.84**	**22**	*e*P	**Pb**	**23 16 57.0**	**-0.7**
BO02	**Sierra Bellavi**	**3.28**	**163**	*e*P	**Pn**	**23 16 57.9**	**+0.7**
BO02				*e*S	**Sn**	**23 17 36.4**	**+1.0**
BO02				IAML		23 17 53.2	
	comp=N,135μm,0.6s						
BO02	**Sierra Bellavi**	**3.28**	**163**	Pn	**Pn**	**23 16 57.9**	**+0.7**
AC04	**Llanos de Chal**	**3.52**	**12**	*e*P	**Pb**	**23 17 07.1**	**-2.0**
AC04	**Llanos de Chal**	**3.52**	**12**	Pn	**Pn**	**23 16 58.9**	**-1.5**
AGUA	**GUANDACOL**	**3.67**	**55**	*e*P	**Pb**	**23 17 09.0**	**-2.7**
AGUA				*e*S	**Sb**	**23 17 53.4**	**-2.4**
AVFE	**Valle Fertil**	**3.96**	**77**	*e*P	**Pb**	**23 17 13.0**	**-3.7**
AVFE				*e*S	**Sb**	**23 17 59.4**	**-4.9**
GO03	**Copiap**	**4.30**	**21**	Pn	**Pn**	**23 17 11.5**	**+0.2**
VCA	**Vinchina**	**4.34**	**49**	*e*P	**Pb**	**23 17 19.1**	**-4.1**
VCA				*e*S	**Sb**	**23 18 23.2**	**+8.0**
MRA	**San Martin**	**5.33**	**100**	*e*P	Pn	23 17 32.0	+6.5
MRA				*e*S	**Sn**	**23 18 30.9**	**+4.8**
AC02	**Maricunga**	**5.39**	**28**	Pn	**Pn**	**23 17 26.4**	**-0.2**
H03N1	**Juan Fernandez**	**6.16**	**251**	T	T	23 24 19.9	
	baz=80,slow=72,SNR=29						
H03N3	**Juan Fernandez**	**6.17**	**251**	T	T	23 24 17.6	
	baz=80,slow=72,SNR=35						
H03N2	**Juan Fernandez**	**6.17**	**251**	T	T	23 24 18.4	
	baz=80,slow=72,SNR=38						
LC01	**Cunco**	**7.23**	**180**	Pn	**Pn**	**23 17 50.0**	**-1.5**
LC01	**Cunco**	**7.23**	**180**	*e*P	**Pn**	**23 17 52.0**	**+0.6**
FSA	**Cafayete**	**7.60**	**45**	*e*P	Pn	23 18 03.0	+6.3
LR03	**Panguipulli**	**7.97**	**182**	Pn	**Pn**	**23 18 01.6**	**0.0**
PLCA	**Paso Flores**	**9.13**	**173**	Pn	**Pn**	**23 18 17.0**	**-0.6**
	comp=N,8.7nm,0.3s,baz=333,slow=9.4,SNR=9.3						
PLCA	**Paso Flores**	**9.13**	**173**	Pn	**Pn**	**23 18 17.5**	**0.0**
LL04	**Puerto Octay**	**9.25**	**182**		**Pn**	**23 18 20.2**	**+1.1**
LVC	**Limon Verde**	**9.40**	**17**	Pn	**Pn**	**23 18 17.2**	**-4.3**
	baz=277,slow=22,SNR=1.1						
LVC				Sn	**Sn**	**23 20 09.6**	**+3.0**
	comp=N,27nm,0.3s,baz=190,slow=17,SNR=2.9						
LL05	**Los Muermos**	**9.81**	**187**	Pn	**Pn**	**23 18 25.9**	**-0.9**
TRQA	**Tornquist**	**10.38**	**131**	P	**Pn**	**23 18 35.1**	**+0.5**
TRQA	**Tornquist**	**10.38**	**131**	Pn	**Pn**	**23 18 35.1**	**+0.5**
LL07	**Hotel Espejo d**	**11.23**	**186**	Pn	**Pn**	**23 18 47.3**	**+1.1**
LL02	**Futaleuf**	**11.52**	**180**		**Pn**	**23 18 50.0**	**-0.2**
GO07	**Milladeo Hill,**	**11.53**	**186**	Pn	**Pn**	**23 18 52.0**	**+1.7**
LPAZ	**La Paz**	**15.68**	**14**	Pn	**Pn**	**23 19 46.0**	**-1.3**
	comp=N,3.2nm,0.3s,baz=177,slow=5.8,SNR=4.3						
LPAZ	**La Paz**	**15.68**	**14**	P	**Pn**	**23 19 46.0**	**-1.3**
LPAZ	**La Paz**	**15.68**	**14**	Pn	**Pn**	**23 19 46.6**	**-0.6**
LPAZ	**La Paz**	**15.68**	**14**	*e*P	**Pn**	**23 19 41.3**	**-6.0**
SIV	**San Ignacio**	**18.46**	**35**	P	**P**	**23 20 20.0**	**-1.4**
	comp=N,2.9nm,0.3s,baz=270,slow=11,SNR=2.5						
MG02	**Cerro Sombrero**	**21.21**	**175**	P	**P**	**23 20 51.7**	**+0.8**
MG02				IAmb	IAmb	23 20 56.1	
	comp=Z,1μm,1.5s						
GO10	**Punta Arenas**	**21.50**	**179**		**P**	**23 20 54.7**	**+0.5**
GO10				IAmb	IAmb	23 21 07.6	
	comp=Z,781nm,1.1s						
EFI	**East Falkland**	**22.46**	**157**	*e*P	**P**	**23 21 05.0**	**+0.6**
EFI				pmax	pmax		
	comp=Z,5μm,8.2s						
EFI	**East Falkland**	**22.46**	**157**	P	**P**	**23 21 04.0**	**-0.4**
SPB	**Sao Paulo**	**23.11**	**76**	P	**P**	**23 21 10.4**	**-1.0**
SPB				IAmb	IAmb	23 21 13.6	
	comp=Z,368nm,1.0s						
USHA	**Ushuaia**	**23.30**	**175**	P	**P**	**23 21 13.1**	**0.0**
	comp=Z,165nm,0.9s,baz=356,slow=2.0,SNR=6.6						
MG01	**Puerto William**	**23.47**	**174**	P	**P**	**23 21 15.4**	**+0.7**
MG01				IAmb	IAmb	23 21 43.4	
	comp=Z,387nm,1.0s						
SAML	**Samuel**	**24.01**	**22**	P	**P**	**23 21 19.2**	**-1.0**
SAML	**Samuel**	**24.01**	**22**	P	**P**	**23 21 19.2**	**-1.0**
PMSA	**Palmer Station**	**33.51**	**174**	P	**P**	**23 22 45.0**	**+0.7**
	comp=Z,25nm,0.9s,baz=4.9,slow=7.0,SNR=9.2						
PMSA	**Palmer Station**	**33.51**	**174**	P	**P**	**23 22 45.2**	**+0.8**
HOPE	**Hope Point**	**33.86**	**142**	P	**P**	**23 22 47.8**	**+0.2**
HOPE				pmax	pmax		
	comp=Z,125nm,0.9s						
HOPE	**Hope Point**	**33.86**	**142**	P	**P**	**23 22 47.8**	**+0.2**
HOPE				IAmb	IAmb	23 22 50.5	
	comp=Z,125nm,0.9s						
BBAC	**Balboa, Cauca**	**33.87**	**350**	*e*P	**P**	**23 22 50.8**	**+2.6**
SOTA	**Rioblanco**	**33.89**	**352**	*e*P	**P**	**23 22 53.0**	**+4.3**
GR1C	**Gorgona, Isla**	**34.97**	**349**	*e*P	**P**	**23 23 00.3**	**+2.8**
PRAC	**Prado**	**35.28**	**355**	*e*P	P	23 23 05.2	+4.9
PAYG	**Puerto Ayora**	**35.36**	**327**	P	**P**	**23 23 02.4**	**+1.5**
ORTC	**Ortega, Tolima**	**35.50**	**354**	*e*P	**P**	**23 23 00.6**	**-1.6**
YOTC	**Yotoco, Valle**	**35.68**	**352**	*e*P	**P**	**23 23 02.9**	**-0.9**
GUY2C	**Guyana, Caldas**	**36.81**	**354**	*e*P	**P**	**23 23 14.6**	**+0.7**
RUSC	**La Rusia**	**37.35**	**358**		**P**	**23 23 17.7**	**-0.7**
RUSC	**La Rusia**	**37.35**	**358**	*e*P	**P**	**23 23 19.6**	**+1.2**
CBOC	**Ciudad Bolivar**	**37.51**	**353**	*e*P	**P**	**23 23 19.3**	**-0.1**
HELC	**Santa Helena**	**37.78**	**354**	*e*P	**P**	**23 23 21.7**	**-0.3**
DBBC	**Dabeiba**	**38.67**	**353**	*e*P	**P**	**23 23 31.7**	**+2.6**
ZARC	**Zaragoza, Cauc**	**39.02**	**355**	*e*P	**P**	**23 23 29.8**	**-2.1**
CACAO	**El Cacao, Vera**	**39.70**	**346**	*e*P	**P**	**23 23 37.8**	**+0.2**
SMLC	**San Martn de**	**40.27**	**357**	*e*P	**P**	**23 23 41.6**	**-0.8**
BCIP	**Isla Barro Col**	**41.28**	**348**	P	**P**	**23 23 52.4**	**+1.7**
BCIP				pmax	pmax		
	comp=Z,270nm,1.8s						
BCIP	**Isla Barro Col**	**41.28**	**348**	P	**P**	**23 23 52.4**	**+1.7**
SJCC	**San Jacinto, C**	**41.43**	**355**	P	**P**	**23 23 53.6**	**+1.6**
SJCC				IAmb	IAmb	23 25 22.9	
	comp=Z,390nm,1.4s						
SJCC	**San Jacinto, C**	**41.43**	**355**	*e*P	**P**	**23 23 51.5**	**-0.5**
JTS	**Las Juntas de**	**43.53**	**341**	P	**P**	**23 24 07.9**	**-1.1**
	comp=Z,3.0nm,0.4s,baz=63,slow=16,SNR=2.3						
ORTG	**Ortega, Santa**	**43.74**	**341**		**P**	**23 24 11.8**	**+1.0**
TOSP	**Speyside**	**44.08**	**16**	P	**P**	**23 24 13.9**	**+0.5**
GRGR	**Grenville**	**44.63**	**14**	P	**P**	**23 24 17.8**	**-0.1**
GRGR				IAmb	IAmb	23 24 19.0	
	comp=Z,1μm,1.7s						
FDF	**Fort de France**	**47.27**	**14**	P	**P**	**23 24 39.2**	**+0.6**
FDF				pmax	pmax		
	comp=Z,331nm,1.5s						
FDF	**Fort de France**	**47.27**	**14**	P	**P**	**23 24 39.2**	**+0.6**
FDF				IAmb	IAmb	23 25 07.9	
	comp=Z,331nm,1.5s						
TGUH	**Tegucigalpa,Un**	**47.77**	**340**	P	**P**	**23 24 42.6**	**0.0**
TGUH				IAmb	IAmb	23 25 56.4	
	comp=Z,152nm,1.2s						
MTO3	**Montecristo**	**48.74**	**337**	P	**P**	**23 24 51.3**	**+1.0**
ICMP	**Isla Caja de M**	**49.53**	**7**	P	**P**	**23 24 55.9**	**-0.1**
ICMP				IAmb	IAmb	23 25 14.3	
	comp=Z,120nm,0.8s						
MLPR	**Magueyes Islan**	**49.56**	**6**	P	**P**	**23 24 54.9**	**-1.2**
MLPR				IAmb	IAmb	23 24 57.1	
	comp=Z,191nm,1.1s						
CRPR	**Cabo Rojo, PR**	**49.59**	**6**	P	**P**	**23 24 55.2**	**-1.2**
CRPR				IAmb	IAmb	23 25 14.0	
	comp=Z,349nm,1.6s						
OBIP	**Obispado Ponce**	**49.67**	**7**	P	**P**	**23 24 55.4**	**-1.7**
OBIP				IAmb	IAmb	23 25 46.1	
	comp=Z,98nm,1.0s						
PDPR	**Patillas Dam,**	**49.71**	**7**	P	**P**	**23 24 55.9**	**-1.4**
PDPR				IAmb	IAmb	23 25 14.0	
	comp=Z,230nm,1.6s						
SJG	**San Juan**	**49.79**	**7**	P	**P**	**23 24 56.3**	**-1.7**
	comp=Z,16nm,0.3s,baz=0.0,slow=24,SNR=3.5						
HUMP	**Col San Antoni**	**49.85**	**8**	P	**P**	**23 24 56.6**	**-1.9**
HUMP				IAmb	IAmb	23 25 16.6	
	comp=Z,239nm,1.7s						
VNA3	**Neumayer Olymp**	**51.50**	**159**	P	**P**	**23 25 10.4**	**+0.1**
VNA1	**Neumayer--Stat**	**51.80**	**158**	P	**P**	**23 25 13.2**	**+0.7**
VNA2	**Neumayer--Watz**	**52.14**	**158**	P	**P**	**23 25 15.5**	**+0.4**
	baz=290,slow=8.6						
CMIG	**Matias Romero**	**53.23**	**332**	P	**P**	**23 25 24.2**	**+0.4**
	comp=Z,5.6nm,0.8s,baz=87,slow=6.9,SNR=4.8						
CMIG				LR	LR	23 41 57.3	
	comp=Z,231μm,19.4s,baz=112,slow=29						
SNAA	**Sanae**	**53.73**	**158**	P	**P**	**23 25 26.9**	**0.0**
SNAA	**Sanae**	**53.73**	**158**	*i*P	**P**	**23 25 27.2**	**+0.3**
SNAA				pmax	pmax		
	comp=Z,171nm,1.0s						
SNAA	**Sanae**	**53.73**	**158**	P	**P**	**23 25 27.5**	**+0.6**
SOR	**Soroa**	**55.16**	**348**	P	**P**	**23 25 37.4**	**-0.3**
SOR				pmax	pmax		
	comp=Z,104nm,1.4s						
SOR	**Soroa**	**55.16**	**348**	P	**P**	**23 25 37.4**	**-0.3**
QSPA	**South Pole Qui**	**58.58**	**180**	P	**P**	**23 26 00.6**	**-1.1**
	comp=Z,122nm,0.9s,baz=277,slow=0.2,SNR=15						
QSPA	**South Pole Qui**	**58.58**	**180**	P	**P**	**23 26 01.1**	**-0.6**
346A	**Big Creek Wild**	**64.86**	**343**	P	**P**	**23 26 44.8**	**+0.7**
346A				IAmb	IAmb	23 27 01.3	
	comp=Z,79nm,0.9s						
735A	**Kenedy**	**65.01**	**335**	P	**P**	**23 26 46.1**	**+0.9**
735A				IAmb	IAmb	23 26 49.6	
	comp=Z,475nm,1.9s						
833A	**Chaparral WMA,**	**65.12**	**333**	P	**P**	**23 26 46.6**	**+0.7**
	baz=154						
HKT	**Hockley**	**65.33**	**337**	*e*P	**P**	**23 26 45.7**	**-1.5**
HKT				pmax	pmax		
	comp=Z,105nm,2.5s						
SACV	**Santiago Islan**	**65.54**	**52**	P	**P**	**23 26 47.9**	**-1.0**
SACV				IAmb	IAmb	23 26 49.9	
	comp=Z,98nm,1.1s						
GOGA	**Godfrey**	**65.62**	**349**	P	**P**	**23 26 50.5**	**+1.5**
	baz=169						
VBMS	**Vicksburg**	**65.91**	**343**	P	**P**	**23 26 52.1**	**+1.2**
VBMS				IAmb	IAmb	23 28 16.5	
	comp=Z,259nm,1.5s						
SLBS	**Sierra La Lagu**	**65.96**	**322**	P	**P**	**23 26 52.9**	**+1.4**
X58A	**Rowland**	**66.22**	**353**	P	**P**	**23 26 52.7**	**-0.2**
VNDA	**Vanda**	**66.42**	**191**	P	**P**	**23 26 54.9**	**+1.2**
	comp=Z,6.3nm,0.9s,baz=101,slow=5.4,SNR=4.8						
VNDA	**Vanda**	**66.42**	**191**	P	**P**	**23 26 55.3**	**+1.6**
VNDA				pmax	pmax		
	comp=Z,46nm,1.3s						
VNDA	**Vanda**	**66.42**	**191**	P	**P**	**23 26 55.3**	**+1.6**
HPIG		**66.55**	**327**	P	**P**	**23 26 55.0**	**-0.5**
CNNC	**Cliffs of the**	**66.77**	**355**	P	**P**	**23 26 55.5**	**-0.9**
W57A	**Gilead**	**66.88**	**353**	P	**P**	**23 26 57.0**	**-0.1**
X51A	**Calhoun**	**66.98**	**348**	P	**P**	**23 26 57.4**	**-0.3**
X51A				IAmb	IAmb	23 27 15.0	
	comp=Z,75nm,0.9s						
BG3	**Lake Jocassee**	**67.09**	**350**	P	**P**	**23 26 57.8**	**-0.6**
JCT	**Junction City**	**67.21**	**334**	P	**P**	**23 27 00.3**	**+1.0**
JCT				pmax	pmax		
	comp=Z,94nm,1.2s						
JCT	**Junction City**	**67.21**	**334**	P	**P**	**23 27 00.3**	**+1.0**
JCT	**Junction City**	**67.21**	**334**	P	**P**	**23 27 02.4**	**+3.1**
	baz=154						
X48A	**Hartselle**	**67.27**	**346**	P	**P**	**23 26 59.3**	**-0.3**
V58A	**Windy Hill, Pi**	**67.43**	**354**	P	**P**	**23 26 60.0**	**-0.6**
W50A	**Signal Mountai**	**67.68**	**348**	P	**P**	**23 27 01.9**	**-0.3**
W50A				IAmb	IAmb	23 27 16.6	
	comp=Z,212nm,1.8s						
V55A	**Taylorsville**	**67.71**	**352**	P	**P**	**23 27 01.5**	**-0.8**
V55A				IAmb	IAmb	23 27 21.4	
	comp=Z,172nm,1.8s						
TXAR	**Lajitas Array**	**67.74**	**330**	P	**P**	**23 27 02.2**	**-0.6**
	comp=Z,5.2nm,0.7s,baz=151,slow=6.2,SNR=3.3						
TXAR	**Lajitas Array**	**67.74**	**330**	P	**P**	**23 27 02.3**	**-0.4**
TX32	**Lajitas Array**	**67.74**	**330**	P	**P**	**23 27 01.8**	**-1.0**
V53A	**Saluda**	**67.74**	**350**	P	**P**	**23 27 02.3**	**-0.3**
CPCT	**Cooper Cave**	**67.79**	**349**	P	**P**	**23 27 02.2**	**-0.7**
SWET	**Sewanee**	**67.80**	**348**	P	**P**	**23 27 02.5**	**-0.5**
OXF	**Oxford**	**67.84**	**344**	P	**P**	**23 27 02.4**	**-0.7**
OXF				pmax	pmax		
	comp=Z,143nm,1.1s						
OXF	**Oxford**	**67.84**	**344**	P	**P**	**23 27 02.4**	**-0.7**
OXF				IAmb	IAmb	23 27 46.5	
	comp=Z,143nm,1.1s						
U59A	**Littleton**	**67.87**	**355**	P	**P**	**23 27 03.0**	**-0.3**
U59A				IAmb	IAmb	23 27 06.0	
	comp=Z,232nm,1.9s						
TKL	**Tuckaleechee C**	**67.87**	**350**	P	**P**	**23 27 02.6**	**-0.8**
TKL				pmax	pmax		
	comp=Z,33nm,0.9s						
TKL	**Tuckaleechee C**	**67.87**	**350**	P	**P**	**23 27 02.6**	**-0.8**
U56A	**King**	**68.11**	**353**	P	**P**	**23 27 04.1**	**-0.7**
V51A	**Loudon**	**68.11**	**349**	P	**P**	**23 27 04.4**	**-0.4**
U54A	**Nelsons Funny**	**68.45**	**351**	P	**P**	**23 27 07.1**	**+0.1**
T59A	**Double "B" Far**	**68.47**	**355**	P	**P**	**23 27 06.9**	**-0.1**
T59A				IAmb	IAmb	23 27 29.0	
	comp=Z,121nm,1.4s						
V48A	**Smith Brothers**	**68.48**	**347**	P	**P**	**23 27 07.4**	**+0.2**
V48A				IAmb	IAmb	23 27 58.6	
	comp=Z,129nm,1.4s						
X40A	**Basin Creek Fa**	**68.67**	**342**	P	**P**	**23 27 10.5**	**+2.1**
	baz=161						
CLTN	**Cedars of Leba**	**68.73**	**348**	P	**P**	**23 27 08.8**	**+0.2**
Z35A	**Perchaven, San**	**68.91**	**337**	P	**P**	**23 27 09.8**	**-0.1**
Z35A				IAmb	IAmb	23 27 39.5	
	comp=Z,99nm,0.9s						
U49A	**Red Boiling Sp**	**69.04**	**348**	P	**P**	**23 27 10.8**	**+0.1**
WVT	**Waverly**	**69.05**	**346**	P	**P**	**23 27 10.6**	**-0.1**
WVT				pmax	pmax		
	comp=Z,188nm,1.4s						
WVT	**Waverly**	**69.05**	**346**	P	**P**	**23 27 10.6**	**-0.1**
WVT				IAmb	IAmb	23 28 01.9	
	comp=Z,188nm,1.4s						
ABTX	**Abilene, Hawle**	**69.09**	**335**	P	**P**	**23 27 10.7**	**-0.3**
S57A	**Dark Hollow, R**	**69.36**	**354**	P	**P**	**23 27 12.7**	**+0.1**
T50A	**Nancy**	**69.37**	**349**	P	**P**	**23 27 13.5**	**+0.8**
R58B	**Mineral**	**69.48**	**355**	P	**P**	**23 27 14.2**	**+1.0**
R58B				IAmb	IAmb	23 27 16.5	
	comp=Z,208nm,1.8s						
W39A	**Magazine**	**69.59**	**341**	P	**P**	**23 27 14.6**	**+0.5**
W39A				IAmb	IAmb	23 27 38.7	
	comp=Z,118nm,1.2s						
W39A	**Magazine**	**69.59**	**341**	P	**P**	**23 27 17.6**	**+3.5**
	baz=160						
CBN	**Corbin Frederi**	**69.68**	**355**	P	**P**	**23 27 15.6**	**+1.1**
LCAR	**Lake Charles**	**69.74**	**343**	P	**P**	**23 27 16.2**	**+1.2**
LCAR				IAmb	IAmb	23 29 49.0	
	comp=Z,228nm,1.2s						
T47A	**Sharon Grove**	**69.74**	**347**	P	**P**	**23 27 15.9**	**+0.9**
T47A				IAmb	IAmb	23 29 48.8	
	comp=Z,286nm,1.2s						
MBO	**M'Bour**	**69.80**	**58**	P	**P**	**23 27 16.6**	**+0.9**
FCAR	**Ozark Folk Cen**	**69.81**	**343**		**P**	**23 27 16.6**	**+1.2**
FCAR				IAmb	IAmb	23 29 49.4	
	comp=Z,124nm,1.3s						
R55A	**Marlinton**	**69.99**	**353**	P	**P**	**23 27 17.1**	**+0.6**
R55A				IAmb	IAmb	23 29 50.9	
	comp=Z,185nm,1.1s						
PBMO	**Poplar Bluff**	**70.24**	**344**	P	**P**	**23 27 18.7**	**+0.7**
U40A	**Yellville**	**70.44**	**342**	P	**P**	**23 27 20.1**	**+0.8**
U40A				IAmb	IAmb	23 29 54.7	
	comp=Z,314nm,1.0s						
U40A	**Yellville**	**70.44**	**342**	P	**P**	**23 27 22.0**	**+2.7**
	baz=161						
MNTX	**Cornudas Mount**	**70.52**	**330**	P	**P**	**23 27 19.8**	**-0.1**
MNTX				IAmb	IAmb	23 29 55.3	
	comp=Z,151nm,1.1s						
MNTX	**Cornudas Mount**	**70.52**	**330**	P	**P**	**23 27 22.1**	**+2.2**
	baz=150						
Q56A	**Snyder Ridge,**	**70.66**	**354**	P	**P**	**23 27 21.3**	**+0.8**
Q56A				IAmb	IAmb	23 29 55.7	
	comp=Z,220nm,1.1s						
HHAR	**Hobbs**	**70.66**	**341**	P	**P**	**23 27 21.7**	**+1.

comp=Z,132nm,0.9s,baz=226,slow=5.9,SNR=21
DBIC Dimbokro 74.35 72 P P 23 27 42.4 -0.7
DBIC pmax pmax
comp=Z,975nm,0.8s
DBIC Dimbokro 74.35 72 P P 23 27 42.4 -0.7
J61A Chester 74.64 360 P P 23 27 45.2 +1.1
baz=179
J56A Wolcott 74.70 356 P P 23 27 44.3 -0.2
J56A IAmb IAmb 23 30 29.4
comp=Z,370nm,1.1s
K50A Casco 74.71 352 P P 23 27 43.6 -0.9
CBKS Cedar Bluff 74.73 338 P P 23 27 44.6 -0.2
CBKS pmax pmax
comp=Z,374nm,0.9s
CBKS Cedar Bluff 74.73 338 P P 23 27 44.5 -0.2
CBKS IAmb IAmb 23 30 24.8
comp=Z,374nm,0.9s
FFD Franklin Falls 74.76 0 P P 23 27 45.0 +0.3
J59A Piesco 74.79 358 P P 23 27 45.1 +0.1
J57A Williamstown 74.79 357 P P 23 27 45.1 +0.1
J57A IAmb IAmb 23 30 30.7
comp=Z,346nm,1.0s
I60A Shoreham 75.14 359 P P 23 27 47.7 +0.8
baz=179
I62A Tamworth 75.16 0 P P 23 27 47.4 +0.3
baz=180
I63A Otisfield 75.35 1 P P 23 27 49.0 +0.8
I63A IAmb IAmb 23 30 35.4
comp=Z,412nm,0.9s
I63A Otisfield 75.35 1 P P 23 27 50.2 +2.1
baz=181
MAW Mawson 75.40 164 P P 23 27 48.0 -0.3
comp=Z,50nm,0.9s,baz=236,slow=7.8,SNR=15
MAW Mawson 75.40 164 P P 23 27 48.2 -0.1
LBNH Lisbon 75.53 0 P P 23 27 49.6 +0.4
LBNH pmax pmax
comp=Z,283nm,0.9s
LBNH Lisbon 75.53 0 P P 23 27 49.6 +0.4
LBNH IAmb IAmb 23 30 36.0
comp=Z,283nm,0.8s
LBNH Lisbon 75.53 0 P P 23 27 50.4 +1.2
baz=180
WVL Waterville 75.88 2 P P 23 27 52.1 +0.9
WVL IAmb IAmb 23 30 40.8
comp=Z,288nm,1.2s
SUR Sutherland 75.89 119 P P 23 27 52.6 +0.5
comp=Z,122nm,0.9s,baz=242,slow=5.3,SNR=25
SUR Sutherland 75.89 119 P P 23 27 52.8 +0.7
LONY Lake Ozonia 75.94 358 P P 23 27 51.9 +0.3
baz=178
EMMW East Machias 76.10 3 P P 23 27 53.1 +0.7
EMMW IAmb IAmb 23 30 39.3
comp=Z,215nm,0.9s
HAL Halifax 76.31 6 P P 23 27 54.3 +0.7
HAL pmax pmax
comp=Z,290nm,1.0s
HAL Halifax 76.31 6 P P 23 27 54.3 +0.7
HAL IAmb IAmb 23 30 39.4
comp=Z,290nm,1.0s
PKME Peaks-Kenny Pk 76.59 2 P P 23 27 55.7 +0.5
PKME Peaks-Kenny Pk 76.59 2 P P 23 27 56.1 +0.9
baz=182
G65A Princeton 76.59 3 P P 23 27 56.0 +0.8
Q24A Divide 76.75 334 P P 23 27 57.4 +0.7
baz=151
F63A Nahmakanta, Br 77.03 2 P P 23 27 58.2 +0.5
F63A IAmb IAmb 23 30 47.2
comp=Z,285nm,1.0s
F64A Sherman 77.22 3 P P 23 27 59.5 +0.8
LMN Caledonia Moun 77.41 5 P P 23 27 59.8 -0.1
PQI Presque Isle 78.04 3 P P 23 28 03.4 +0.1
PQI IAmb IAmb 23 30 49.5
comp=Z,264nm,0.9s
D62A Allapoint, All 78.41 2 P P 23 28 05.8 +0.5
BATG Bathurst New B 78.74 4 P P 23 28 08.0 +0.8
BATG IAmb IAmb 23 31 05.1
comp=Z,224nm,1.0s
LMQ La Malbaie 78.85 1 P P 23 28 07.9 +0.1
MACI Morro de la Ar 79.57 48 P P 23 28 13.4 +1.0
KOWA Kowa 79.59 66 P P 23 28 12.2 -0.4
TSUM Tsumeb 79.78 106 P P 23 28 13.3 -0.5
comp=Z,50nm,0.9s,baz=230,slow=6.0,SNR=13
TSUM Tsumeb 79.78 106 P P 23 28 14.2 +0.3
ISA Isabella, Lake 79.94 323 P P 23 28 15.6 +1.5
baz=141
PKM Mcpherson Peak 80.05 322 P P 23 28 15.8 +0.9
baz=140
CWC Cottonwood Cre 80.35 324 P P 23 28 18.3 +1.9
baz=142
BOSA Boshof 81.09 118 P P 23 28 20.1 -0.7
comp=Z,150nm,0.9s,baz=238,slow=5.0,SNR=31
BOSA Boshof 81.09 118 P P 23 28 20.6 -0.1
BOSA pmax pmax
comp=Z,454nm,0.9s
BOSA Boshof 81.09 118 P P 23 28 20.6 -0.1
NVAR Mina Array Bea 82.01 325 P P 23 28 26.2 +0.9
comp=Z,12nm,0.8s,baz=162,slow=5.5,SNR=5.2
NVAR Mina Array Bea 82.01 325 P P 23 28 26.8 +1.5
CASY Casey 82.36 181 P P 23 28 27.2 +0.7
KVN Kaiserville 82.40 325 P P 23 28 27.5 +0.2
KVN pmax pmax
comp=Z,270nm,1.3s
KVN Kaiserville 82.40 325 P P 23 28 27.5 +0.2
KVN IAmb IAmb 23 31 23.5
comp=Z,270nm,1.3s
ELK Elko 82.41 328 P P 23 28 27.4 0.0
comp=Z,17nm,0.9s,baz=162,slow=2.3,SNR=5.4
ELK Elko 82.41 328 P P 23 28 28.2 +0.8
ELK pmax pmax
comp=Z,143nm,1.1s
ELK Elko 82.41 328 P P 23 28 28.2 +0.8
ELK IAmb IAmb 23 31 25.1
comp=Z,143nm,1.1s
LBTB Lobatse 83.21 115 P P 23 28 31.1 -0.8
comp=Z,112nm,0.9s,baz=247,slow=5.5,SNR=23
LBTB Lobatse 83.21 115 P P 23 28 31.8 -0.1
LBTB pmax pmax
comp=Z,453nm,0.8s
LBTB Lobatse 83.21 115 P P 23 28 31.8 -0.1
TORD Torodi Ar. Bea 83.33 70 P P 23 28 31.6 -0.7
comp=Z,106nm,0.9s,baz=254,slow=3.8,SNR=24
TORD Torodi Ar. Bea 83.33 70 P P 23 28 31.7 -0.7
MCMT McKenzie Canyo 84.74 332 P P 23 28 40.3 +1.1
KHZ Kahutara 84.91 223 P P 23 28 42.0 +2.0
MOD Modoc Plateau 85.67 326 P P 23 28 44.5 +0.7
MOD IAmb IAmb 23 31 48.7
comp=Z,207nm,1.1s
THZ Tophouse 85.69 223 P P 23 28 45.5 +1.5
WDC Whiskeytown Da 85.76 324 P P 23 28 43.9 -0.2
WDC pmax pmax
comp=Z,154nm,1.2s
WDC Whiskeytown Da 85.76 324 P P 23 28 43.9 -0.2
WDC IAmb IAmb 23 31 51.6
comp=Z,154nm,1.1s
SCHQ Schefferville 86.24 3 P P 23 28 45.9 -0.3
comp=Z,63nm,1.2s,baz=205,slow=3.2,SNR=7.2
SCHQ Schefferville 86.24 3 P P 23 28 45.8 -0.3
QRZ Quartz Range 86.50 223 P P 23 28 49.4 +1.3
YBH Yreka Blue Hor 86.71 324 P P 23 28 48.7 -0.2
comp=Z,6.1nm,0.8s,baz=66,slow=7.2,SNR=2.8
YBH Yreka Blue Hor 86.71 324 P P 23 28 48.9 0.0
YBH pmax pmax
comp=Z,255nm,1.6s
YBH Yreka Blue Hor 86.71 324 P P 23 28 48.9 0.0
YBH IAmb IAmb 23 32 09.2
comp=Z,255nm,1.6s
I07A Izee 86.98 328 P P 23 28 51.4 +1.2
KRMB Red Mountain 87.16 324 P P 23 28 51.7 +0.6
KRMB IAmb IAmb 23 31 44.1
comp=Z,294nm,1.3s
MATP Matopo 87.92 113 P P 23 28 54.9 -0.6
comp=Z,17nm,0.8s,baz=233,slow=12,SNR=9.9
LSZ Lusaka 90.45 108 P P 23 29 08.1 +0.7
LSZ pmax pmax
comp=Z,775nm,1.4s
LSZ Lusaka 90.45 108 P P 23 29 08.1 +0.7
ESDC Sonseca Array 94.89 46 P P 23 29 26.9 -0.2
comp=Z,1.9nm,0.9s,baz=248,slow=5.4,SNR=1.7
SUW Suwalki 117.80 42 PKIKP PKPdf 23 34 50.2 -0.6
SUW Suwalki 117.80 42 PKPdf 23 34 50.2 -0.6
ASAR Alice Springs 119.69 207 PKP PKPdf 23 34 55.6 0.0
comp=Z,6.7nm,0.8s,baz=146,slow=2.8,SNR=7.4
ASAR PKKPbc **PKKPbc 23 45 05.9 +0.4**
comp=Z,2.0nm,0.8s,baz=334,slow=3.1,SNR=5.2
ASAR Alice Springs 119.69 207 PKPdf PKiKP 23 34 55.7 0.0

AS31 Alice Springs 119.69 207 PKPdf PKiKP 23 34 55.9 +0.2
AKASG Malin Array Be 120.53 46 PKP PKPdf 23 34 55.6 -0.5
comp=Z,7.7nm,0.9s,baz=270,slow=2.7,SNR=7.8
AKASG Malin Array Be 120.53 46 PKIKP PKPdf 23 34 55.3 -0.8
AKASG Malin Array Be 120.53 46 PKPdf 23 34 55.3 -0.8
AKBB Malin Array Si 120.53 46 ⇑*i*PKIKP PKPdf 23 34 53.2 -3.0
BR131 Keskin Array S 120.60 60 PKIKP PKiKP 23 34 57.3 +0.3
BR131 Keskin Array S 120.60 60 PKPdf PKiKP 23 34 57.3 +0.3
BRTR Keskin Array B 120.60 60 PKP PKPdf 23 34 55.7 -1.2
comp=Z,4.0nm,0.9s,baz=225,slow=5.9,SNR=4.2
BRTR Keskin Array B 120.60 60 PKIKP PKPdf 23 34 56.3 -0.6
BRTR Keskin Array B 120.60 60 PKPdf 23 34 56.3 -0.6
VSU Vasula 120.78 37 ⇑*i*PKIKP PKPdf 23 34 55.0 -1.4
FINES FINESS Array B 121.00 34 PKP PKiKP 23 34 57.0 +0.2
comp=Z,3.4nm,0.9s,baz=338,slow=3.3,SNR=2.1
FINES FINESS Array B 121.00 34 PKiKP 23 34 57.3 +0.4
ARCES ARCESS Array B 121.85 24 PKP PKPdf 23 34 57.9 -0.3
comp=Z,1.4nm,0.5s,baz=226,slow=2.5,SNR=4.8
ARCES ARCESS Array B 121.85 24 PKiKP 23 34 58.8 +0.4
WR0 Warramunga Arr 122.75 210 PKPdf 23 35 01.6 0.0
WB2 Warramunga Arr 122.84 210 PKPdf PKPdf 23 35 01.6 -0.1
WRA Warramunga Arr 122.85 210 PKP PKPdf 23 35 01.4 -0.4
comp=Z,14nm,0.9s,baz=164,slow=1.9,SNR=11
WRA Warramunga Arr 122.85 210 PKIKP PKPdf 23 35 01.1 -0.7
WRA Warramunga Arr 122.85 210 PKPdf 23 35 01.1 -0.7
WRAB Tennant Creek 122.85 210 *e*PKIKP PKPdf 23 34 58.8 -2.9
APA Apatity 124.67 27 ⇓*i*PKIKP PKPdf 23 35 01.9 -1.7
APA pmax pmax
comp=Z,8.0nm,0.9s
LVZ Lovozero 125.13 26 PKIKP PKiKP 23 35 04.8 -0.1
LVZ Lovozero 125.13 26 PKPdf PKiKP 23 35 04.8 -0.1
OBN Obninsk 125.66 42 ⇑*i*PKIKP PKPdf 23 35 04.7 -1.1
OBN *e* 23 36 54.7
OBN pmax pmax
comp=Z,84nm,1.8s
PSA00 Pilbara Seismi 125.89 194 PKPdf PKPdf 23 35 06.8 -0.7
PSA00 Pilbara Seismi 125.89 194 PKPdf PKPdf 23 35 06.8 -0.7
H11N3 WAKE ISLAND Hyl 126.21 272 T T 01 54 20.9
baz=114,SNR=5.1
H11N1 WAKE ISLAND Hyl 126.23 272 T T 01 54 27.2
baz=114
H11N2 WAKE ISLAND Hyl 126.23 272 T T 01 54 28.2
baz=114
KLMR Klimovskoe 127.45 35 *e*PKIKP PKPdf 23 35 08.0 -1.1
KLMR pmax pmax
comp=Z,96nm,1.3s
KLMR Klimovskoe 127.45 35 *e*PKPdf PKPdf 23 35 08.0 -1.1
KLMR AMP 23 35 11.3
comp=Z,96nm,1.3s
FITZ Fitzroy Crossi 127.74 201 PKP PKPdf 23 35 10.5 -0.6
comp=Z,23nm,0.8s,baz=183,slow=4.2,SNR=14
FITZ Fitzroy Crossi 127.74 201 PKPdf PKPdf 23 35 11.0 -0.1
KIV Kislovodsk 128.15 57 *e*PKIKP PKPdf 23 35 10.2 -1.0
KIV pmax pmax
comp=Z,14nm,1.0s
KBZ Khabaz 128.27 57 PKP PKPdf 23 35 10.7 -0.6
comp=Z,8.6nm,1.1s,baz=300,slow=2.0,SNR=4.3
NCK Nalchik 128.73 57 *e*PKIKP PKPdf 23 35 09.4 -2.8
PRGR Permogore 130.33 34 *e*PKIKP PKPdf 23 35 14.8 +0.2
PRGR pmax pmax
comp=Z,209nm,1.5s
MTN Manton Dam 130.54 210 PKPdf PKiKP 23 35 18.2 +0.8
BILL Bilibino 130.76 335 ⇑*i*PKIKP PKPdf 23 35 15.1 -0.2
BILL pmax pmax
comp=Z,67nm,3.2s
KIRV Kirov 132.63 37 ⇑*i*PKIKP PKPdf 23 35 19.5 +0.5
BATI Baumata 135.78 202 PKP PKiKP 23 35 28.5 +0.5
comp=Z,25nm,0.6s,baz=206,slow=3.8,SNR=5.4
ARU Arti 137.89 39 PKP PKPdf 23 35 29.5 +0.6
comp=Z,6.7nm,0.9s,baz=296,slow=2.8
ARU Arti 137.89 39 *i* PKIKP PKPdf 23 35 29.8 +0.9
ARU 23 38 12.9
ARU Arti 137.89 39 PKPdf 23 35 29.8 +0.9
SEY Seymchan 138.03 331 PKP PKiKP 23 35 30.5 -0.5
comp=Z,7.0nm,0.8s,baz=38,slow=2.8,SNR=5.8
RUS Russkaya 138.19 315 PKIKP PKPdf 23 35 25.7 -3.9
RUS pmax pmax
comp=Z,452nm,1.5s
TIXI Tiksi 138.40 350 ⇑*i*PKIKP PKiKP 23 35 30.5 -1.0
SVE Sverdlovsk 138.88 38 *e*PKIKP PKiKP 23 35 33.1 +0.2
PALK Pallekele 144.79 128 PKIKP PKPab 23 35 41.3 -0.3
PALK Pallekele 144.79 128 PKPdf PKPab 23 35 41.3 -0.3
BRVK Borovoye 145.40 41 ⇓*i*PKIKP PKPab 23 35 43.2 +0.5
BRVK Borovoye 145.40 41 PKPab 23 35 42.6 -0.1
PMBI Palembang 145.47 174 PKPdf PKPbc 23 35 43.5 -0.3
BVAR Borovoye Array 145.47 41 PKPbc PKPbc 23 35 42.8 +0.1
comp=Z,72nm,0.7s,baz=240,slow=6.0,SNR=40
BKB Balikpapan 146.21 196 PKPdf PKPbc 23 35 46.0 -0.2
YAK Yakutsk 146.54 342 *e*PKP2 PKPdf 23 35 44.7 +0.6
YAK pmax pmax
comp=Z,215nm,1.4s
YAK pmax pmax
comp=N,12nm,1.3s
YAK pmax pmax
comp=E,30nm,1.5s
YAK Yakutsk 146.54 342 PKPdf PKPdf 23 35 44.3 +0.2
KBL Kabul 147.32 74 PKP2 PKPbc 23 35 49.2 +0.2
KBL Kabul 147.32 74 PKPbc 23 35 49.2 +0.2
TOLI2 Tolitoli 147.33 204 PKPdf 23 35 47.9 +0.9
TAS Tashkent 147.60 62 PKP2 PKPdf 23 35 47.9 +1.3
TAS Tashkent 147.60 62 PKPdf 23 35 47.9 +1.3
CHGR Chuyangaron 147.61 67 PKPbc 23 35 48.3 -1.3
BRZS Berezniki 147.96 45 *e*PKP PKPbc 23 35 49.7 -0.4
baz=45
BRZS Berezniki 147.96 45 *e*PKP2 PKPbc 23 35 49.6 -0.4
IUG Iuzhnay 148.06 60 *e*PKP PKPbc 23 35 50.2 -0.5
baz=60
IUG Iuzhnay 148.06 60 *e*PKP2 PKPbc 23 35 50.1 -0.6
GSI Gunungsitoli 148.23 160 PKPbc 23 35 52.0 +0.2
KK31 Karatay Array 148.29 58 PKP2 PKPbc 23 35 50.4 -0.7
KK31 Karatay Array 148.29 58 PKPbc 23 35 50.4 -0.7
KKAR Karatay Array 148.29 58 PKP2 PKPbc 23 35 50.2 -0.9
KKAR Karatay Array 148.29 58 PKPbc 23 35 50.0 -1.1
KKAR Karatay Array 148.29 58 PKPbc 23 35 50.2 -0.9
GAR Garm 148.51 66 PKPdf 23 35 49.1 +0.7
BTK Batken 148.85 64 PKP2 PKPbc 23 35 50.9 -1.8
BTK Batken 148.85 64 PKPbc 23 35 50.9 -1.8
DZA Taraz 148.92 58 *e*PKP PKPbc 23 35 51.0 -1.8
baz=58
DZA Taraz 148.92 58 *e*PKIKP PKPbc 23 35 50.9 -1.8
YSS Yuzh-Sakhalins 149.41 310 *e*PKP2 PKiKP 23 35 55.8 +0.9
DRK Karamyk 149.64 65 PKPbc 23 35 54.9 -0.1
HYB Hyderabad 149.76 111 *i* PKP PKPbc 23 35 55.0 -0.6
RPSI Rantau Prapat 149.94 162 PKPbc PKPbc 23 35 54.5 -1.6
PSI Prapat 150.04 161 PKHKP PKPpre 23 35 54.5
BTLS Baital 150.39 53 *e*PKP PKPbc 23 35 55.4 -0.9
baz=54
BTLS Baital 150.39 53 *e*PKIKP PKPbc 23 35 55.3 -0.9
NIL Nilore 150.70 77 PKIKP PKPbc 23 35 56.1 -1.3
NIL Nilore 150.70 77 PKPbc 23 35 56.1 -1.3
KURBB Kurchatov Arra 151.07 40 PKPbc PKPbc 23 35 57.1 -0.5
comp=E,45nm,0.9s,baz=310,slow=2.7,SNR=23
KURK Kurchatov 151.07 40 PKIKP PKPbc 23 35 57.1 -0.5
SGDS Sogindy 151.18 56 *e*PKP PKPbc 23 35 56.1 -2.1
baz=56
AAK Ala-Archa 151.25 58 PKIKP PKPbc 23 35 57.6 -1.0
AAK Ala-Archa 151.25 58 PKPbc 23 35 57.6 -1.0
FRU1 Bishkek 151.32 58 PKIKP PKPbc 23 35 57.7 -0.9
FRU1 Bishkek 151.32 58 PKPbc 23 35 57.7 -0.9
ZAA0 Zalesovo Array 152.18 30 PKPbc 23 35 59.7 -0.3
ZALV Zalesovo Beam 152.18 30 PKPbc PKPbc 23 35 59.9 -0.2
comp=E,135nm,0.9s,baz=298,slow=3.2,SNR=21
ZALV Zalesovo Beam 152.18 30 PKPbc 23 35 59.6 -0.4
KUU Kurty 152.28 55 *e*PKP PKPbc 23 35 59.3 -1.4
baz=55
KUU Kurty 152.28 55 *e*PKIKP PKPbc 23 35 59.2 -1.4
MTBS Matsubae 152.53 56 *e*PKP PKPbc 23 35 59.9 -1.5
baz=56
CHKK Chushkaly 152.74 55 *e*PKP PKPbc 23 35 59.6 -2.1
baz=55
KSH Kashi 152.85 64 PKPbc PKPdf 23 35 56.4 +1.4
AAA Alma-Ata 152.86 56 *e*PKP PKPbc 23 36 01.0 -1.1
baz=56
AAA Alma-Ata 152.86 56 *e*PKIKP PKPbc 23 36 01.0 -1.1
TNSS Tian-Shan 152.93 56 *e*PKP PKiKP 23 36 03.2 +0.3
baz=56
MDOK Medeo 152.96 56 *e*PKP PKiKP 23 36 02.9 +0.3
baz=56
MDOK Medeo 152.96 56 *e*PKIKP PKiKP 23 36 02.9 +0.3
KDJ Kajisay 153.31 58 PKIKP PKPbc 23 36 03.2 0.0
KDJ Kajisay 153.31 58 PKPbc PKPbc 23 36 03.2 0.0
KPKS Kokpek 154.03 55 *e*PKP PKPbc 23 36 03.2 -1.5
baz=55

KPKS Kokpek 154.03 55 *e*PKIKP PKPbc 23 36 03.1 -1.5
MJAR Matsushiro Arr 154.62 289 PKPab PKPab 23 36 22.4 +1.5
comp=E,2.7nm,0.6s,baz=138,slow=1.5,SNR=2.2
MAKZ Makanchi 154.91 45 PKIKP PKiKP 23 36 06.4 +0.1
MAKZ Makanchi 154.91 45 PKPbc PKiKP 23 36 06.4 +0.1
MK31 Makanchi Array 155.10 45 PKIKP PKPdf 23 36 06.1 +8.2
MK31 Makanchi Array 155.10 45 PKPdf 23 36 06.1 +8.3
MKAR Makanchi Array 155.10 45 PKP PKPdf 23 35 55.3 -2.5
comp=E,2.7nm,0.8s,baz=272,slow=3.9,SNR=2.8
MKAR PKPbc **pPKPdf 23 36 06.3 +0.5**
comp=E,14nm,1.0s,baz=298,slow=2.6,SNR=5.9
MKAR Makanchi Array 155.10 45 PKPdf 23 35 58.8 +0.9
USRK Ussuriysk Ar. 157.44 311 PKPab PKPab 23 36 34.9 +2.2
comp=E,2.5nm,0.8s,baz=29,slow=3.3,SNR=2.4
WMQ Urumqi 159.88 47 *e*P PKPdf 23 36 05.0 +1.0
WMQ pmax pmax
comp=Z,40μm,10.7s
WMQ LR LR
comp=N,62μm,14.7s
WMQ LR LR
comp=E,96μm,14.9s
WMQ LR LR
comp=Z,94μm,15.5s
KSRS Korea Array 162.66 295 PKP PKPdf 23 36 08.4 +1.4
comp=Z,1.3nm,0.7s,baz=141,slow=0.1,SNR=2.4
SONM Songino Array 163.79 4 PKP PKPdf 23 36 08.7 +0.7
comp=Z,2.1nm,0.9s,baz=276,slow=2.8,SNR=2.7
SONM PKPab **PKPab 23 37 00.3 +0.1**
comp=Z,8.4nm,0.9s,baz=339,slow=2.6,SNR=9.1
SONM Songino Array 163.79 4 PKP2 PKPab 23 36 59.9 -0.3
SONM Songino Array 163.79 4 PKPab 23 36 59.9 -0.3
ULN Ulaanbaatar 163.79 2 PKP2 PKPab 23 37 00.9 +0.6
ULN Ulaanbaatar 163.79 2 PKPab PKPab 23 37 00.9 +0.6
CMAR Chiang Mai Anr 164.49 146 PKP PKPdf 23 36 07.6 -1.6
comp=Z,2.0nm,0.7s,baz=251,slow=1.6,SNR=4.1
CMAR PKPab **PKPab 23 37 05.0 +1.1**
comp=Z,3.9nm,0.9s,baz=239,slow=6.8,SNR=5.0
CMAR Chiang Mai Arr 164.49 146 PKIKP PKPdf 23 36 06.8 -2.5
CMAR Chiang Mai Arr 164.49 146 PKPdf 23 36 06.8 -2.5
GTA Gaotai 169.75 39 *e*PKPbc PKPdf 23 36 14.5 +1.8
GTA pPKP sPKPdf 23 36 23.5 +0.1
GTA sPKP 23 36 28.3
HHC Hu-ho-hao-te 170.40 344 *e*P PKPdf 23 36 08.3 -4.7
HHC LR LR
comp=N,213μm,20.0s
HHC LR LR
comp=E,169μm,20.4s
HHC LR LR
comp=Z,260μm,19.9s
NJ2 Nanjing 170.81 275 *e*P PKPdf 23 36 12.8 -0.6
NJ2 pmax pmax
comp=Z,18nm,0.5s
KMI Kunming 171.98 143 PKP PKPdf 23 36 14.9 +0.4
KMI sPKP 23 36 23.9
KMI LR LR
comp=N,80μm,17.3s
KMI LR LR
comp=E,62μm,17.3s
KMI LR LR
comp=Z,84μm,19.6s

IDC ***16*** *23:18:36.6±0.3,31°.56S×71°.32W,h0km,mb5.8/24, mb1 5.9/26,mb1mx5.8/35,mbtmp5.8/26,ML5.9/2,MS7.2/13, Ms1 7.2/13,ms1mx6.7/41,Error ellipse: s-maj=15.9km s-min=10.5km az=75.0*

GUC ***16*** *23:18:38.9±0.8,31°.60S×71°.65W,h35km±6km,MW7.0*

VAO ***16*** *23:18:38.6±0.2,31°.53S×71°.53W,h10km,mb6.5*

SJA ***16*** *23:18:39.4±0.7,31°.60S×71°.73W,h11km±3km,ML6.6, MW6.6*

BJI ***16*** *23:18:40.3±0.0,31°.45S×71°.20W,h30km,mB7.0/2, Ms6.8/2,Ms7 6.8/2*

SVSA ***16*** *23:18:41.8,31°.56S×71°.43W,h28km,MW7.0(NEIC)*

NEIC ***16*** *23:18:41.9±1.9,31°.56S±0°.03×71°.43W±0°.06,h28km±3km, mb6.4/280,Mww7.0,Error ellipse: s-maj=7.8km s-min=4.0km az=73.0*

MOS ***16*** *23:18:41.3±1.1,31°.45S×71°.44W,h33km,mb6.6/27,Error ellipse: s-maj=9.8km s-min=5.8km az=95.1*

GCMT ***16*** *23:18:51.8±0.3,31°.79S±0°.02×71°.95W±0°.02,h36km, MW7.1/112,Moment Tensor Solution. s112,c189; Duration: 8s? Moment tensor: Scale 10¹⁹Nm; Mrr5.13±.29; Mθθ-0.64±.15; Mϕϕ-4.49±.16; Mrθ0.27±.11; Mθϕ0.64±.05; Mϕr-2.85±.13; Best double couple: Mc5.64200×10¹⁹ NP1:ϕs349.00000°,δ30.00000°, λ87.00000°. NP2:ϕs173.00000°,δ60.00000°,λ92.00000°. Principal axes: T 5.9120, Plg75.0000°, Azm87.0000°; N -0.5380, Plg1.0000°, Azm352.0000°; P -5.3710, Plg15.0000°, Azm261.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***16*** *23:18:57,31°.49S×71°.42W,h36km,Moment Tensor Solution. Moment tensor: Scale 10¹⁹Nm; Mrr3.36; Mθθ-0.14; Mϕϕ-3.22; Mrθ-0.11; Mθϕ0.12; Mϕr-1.04; Fault plane solution: Mo3.46000×10¹⁹ NP1:ϕs355.00000°, δ36.00000°,λ86.00000°. NP2:ϕs180.00000°,δ54.00000°, λ93.00000°. Principal axes: T 3.5295, Plg81.0000°, Azm103.0000°; N -0.1446, Plg2.0000°, Azm359.0000°; P -3.3849, Plg9.0000°, Azm268.0000°;*

ISC 16 23:18:41.3±0.6,31°.52S±0°.02×71°.53W±0°.03,h29km±3km, n1666,σ1♀33/1768,mb6.4/227,MS7.2/12,214C-121D, Fault plane solution: NP1:ϕs161.30623°,δ56.60305°, λ74.63653°. **NP2:ϕs7.83312°,δ36.38565°,λ111.89279°. Principal axes:** T Plg73.4292°, Azm30.2439°; N Plg12.7791°, Azm169.9063°; P Plg10.3717°, Azm262.2855°; **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time h m s	Res ISC
					Op		
CO06	**Fray Jorge**	**0.84**	**354**	*e*P	**Pn**	**23 18 56.7**	**-0.5**
CO06				*e*S	**Sb**	**23 19 09.6**	**+1.2**
CO06	**Fray Jorge**	**0.84**	**354**	Pn	**Pb**	**23 18 57.6**	**+0.2**
CO06	**Fray Jorge**	**0.84**	**354**	*e*P	**Pn**	**23 18 56.7**	**-0.5**
CO06				*e*S	**Sb**	**23 19 09.6**	**+1.2**
CO03	**El Pedregal**	**0.99**	**47**	*e*P	**Pn**	**23 19 15.9**	**+0.7**
CO03				*e*S	**Sb**	**23 19 16.0**	**+3.4**
CO03	**El Pedregal**	**0.99**	**47**	Pn	**Pn**	**23 19 00.0**	**+0.7**
CO03	**El Pedregal**	**0.99**	**47**	*e*P	**Pn**	**23 18 59.9**	**+0.7**
CO03				*e*S	**Sb**	**23 19 16.0**	**+3.4**
GO04	**Tololo Observa**	**1.48**	**25**	*e*P	**Pn**	**23 19 07.2**	**+1.0**
GO04				*e*S	**Sb**	**23 19 29.6**	**+2.8**
GO04	**Tololo Observa**	**1.48**	**25**	Pn	**Pb**	**23 19 08.1**	**-0.3**
GO04	**Tololo Observa**	**1.48**	**25**	*e*P	**Pb**	**23 19 10.1**	**+1.8**
GO04	**Tololo Observa**	**1.48**	**25**	*e*P	**Pn**	**23 19 07.2**	**+1.0**
GO04				*e*S	**Sb**	**23 19 29.6**	**+2.8**
VA03	**San Esteban**	**1.50**	**146**	*e*P	**Pn**	**23 19 05.8**	**-0.4**
VA03				*e*S	**Sn**	**23 19 25.7**	**+0.8**
VA03	**San Esteban**	**1.50**	**146**	Pn	**Pn**	**23 19 06.2**	**0.0**
VA03				Sg	**Sn**	**23 19 25.3**	**+0.4**
VA03	**San Esteban**	**1.50**	**146**	*e*P	**Pn**	**23 19 05.8**	**-0.4**
VA03				*e*S	**Sn**	**23 19 25.7**	**+0.8**
VA01	**Torpederas**	**1.51**	**184**	Pn	**Pn**	**23 19 06.3**	**0.0**
VA01	**Torpederas**	**1.51**	**184**	*e*P	**Pn**	**23 19 05.9**	**-0.4**
VA01				*e*S	**Sn**	**23 19 25.8**	**+0.9**
ROCH	**El Roble**	**1.52**	**163**	*e*P	**Pn**	**23 19 05.9**	**-0.8**
ROCH				*e*S	**Sn**	**23 19 25.8**	**+0.2**
ROCH	**El Roble**	**1.52**	**163**	*e*P	**Pn**	**23 19 05.9**	**-0.8**
ROCH				*e*S	**Sn**	**23 19 25.8**	**+0.2**
ROC1	**El Roble**	**1.52**	**163**	*e*P	**Pn**	**23 19 06.8**	**0.0**
ROC1				*e*S	**Sb**	**23 19 30.4**	**+2.4**
RTLS	**Leoncito**	**1.93**	**99**	*e*P	**Pn**	**23 19 13.9**	**+1.5**
RTLS				*e*P	**Pb**	**23 19 15.6**	**-0.3**
RTLS				*e*S	**Sn**	**23 19 37.4**	**+1.6**
RTLS				IAML		23 19 47.8	
comp=Z,484μm,0.8s							
MT05	**Renca**	**1.99**	**160**	Pn	**Pn**	**23 19 12.9**	**-0.1**
MT05	**Renca**	**1.99**	**160**	*e*P	**Pn**	**23 19 15.0**	**+2.0**
VA05	**Santo Domingo**	**2.14**	**182**	Pn	**Pn**	**23 19 15.0**	**+0.1**
MT01	**Popeta**	**2.35**	**174**	Pn	**Pn**	**23 19 19.0**	**+1.0**
MT01	**Popeta**	**2.35**	**174**	*e*P	**Pn**	**23 19 19.4**	**+1.4**
MT01				*e*S	**Sb**	**23 19 52.1**	**+0.5**
MT01				IAML		23 20 00.3	
comp=Z,288μm,0.6s							
ZON	**Zonda**	**2.44**	**91**	*e*P	**Pb**	**23 19 24.3**	**-0.2**
ZON				*e*S	**Sb**	**23 19 56.9**	**+2.8**
ZON				IAML		23 20 18.8	
comp=Z,261μm,1.1s							
ACDV	**Cuesta del Vie**	**2.47**	**58**	*e*P	**Pb**	**23 19 25.1**	**0.0**
ACDV				*e*S	**Sb**	**23 19 57.4**	**+2.2**

ACDV IAML 23 20 17.6
comp=Z,202µm,2.4s
ARCO CERRO ARCO 2.57 122 eP **Pn 23 19 23.4 +2.3**
ARCO eP **Pb 23 19 26.4 -0.4**
ARCO eS **Sb 23 19 57.9 -0.2**
ARCO IAML 23 20 12.4
comp=Z,239µm,1.2s
LCO Las Campanas 2.60 16 eP **Pn 23 19 23.6 +2.0**
LCO eS **Sb 23 19 58.7 -0.3**
LCO Las Campanas 2.60 16 eP **Pn 23 19 26.0 -1.3**
LCO Las Campanas 2.60 16 eP **Pn 23 19 23.6 +2.0**
LCO eS **Sb 23 19 58.7 -0.3**
BO01 Tunca 2.89 173 eP **Pn 23 19 27.9 +2.5**
BO01 eS **Sb 23 20 07.1 0.0**
AGUA GUANDACOL 3.31 53 eP **Pb 23 19 37.0 -2.4**
AGUA eS **Sb 23 20 23.4 +4.0**
AC04 Llanos de Chal 3.32 7 eP **Pn 23 19 32.3 +1.0**
AC04 eS **Sn 23 20 14.3 +4.5**
AC04 Llanos de Chal 3.32 7 Pn **Pn 23 19 32.6 +1.3**
AC04 Llanos de Chal 3.32 7 eP **Pn 23 19 35.7 +4.4**
AC04 eP **Pb 23 19 37.0 -2.5**
AC04 eS **Sb 23 20 17.4 -2.2**
AC04 Llanos de Chal 3.32 7 eP **Pn 23 19 32.3 +1.0**
AC04 eS **Sn 23 20 14.3 +4.5**
BO02 Sierra Bellavi 3.33 169 Pn **Pn 23 19 31.8 +0.4**
BO02 Sierra Bellavi 3.33 169 eP **Pn 23 19 33.4 +1.9**
BO02 eS **Sn 23 20 13.9 +3.8**
GO05 Huala 3.50 185 Pn **Pn 23 19 32.1 -1.7**
GO05 Huala 3.50 185 eP **Pn 23 19 32.9 -0.9**
GO05 eS Sn 23 20 00.4 -14
AVFE Valle Fertil 3.60 77 eP Pn 23 19 40.0 +4.8
AVFE eS **Sb 23 20 24.9 -2.7**
LAMA Las Malvinas 3.93 151 eP **Pn 23 19 43.9 +4.3**
LAMA eP **Pb 23 19 48.4 -1.4**
VCA Vinchina 4.00 47 eP **Pb 23 19 48.5 -2.6**
VCA Vinchina 4.00 47 eP **Pb 23 19 47.4 -3.7**
VCA eS **Sb 23 20 38.4 -0.7**
VCA Vinchina 4.00 47 eP **Pb 23 19 48.5 -2.6**
GO03 Copiap 4.07 16|| eP **Pn 23 19 43.0 +1.4**
GO03 eS **Sb 23 20 35.9 -5.1**
GO03 Copiap 4.07 16|| eP **Pn 23 19 43.0 +1.4**
GO03 eS **Sb 23 20 35.9 -5.1**
RFA San Rafael 4.14 142 eP **Pn 23 19 46.4 +3.8**
RFA eS **Sb 23 20 48.4 +5.3**
ML02 Panimavida 4.24 179 Pn **Pn 23 19 43.5 -0.4**
TINO Tinogasta 4.87 46 eP Pn 23 19 57.9 +5.2
TINO eP **Pb 23 19 59.0 -6.9**
TINO eS **Sb 23 20 57.4 -6.7**
MRA San Martin 5.02 102 eP **Pn 23 19 57.4 +2.6**
MRA eP **Pn 23 19 57.9 +3.1**
MRA eP **Pn 23 19 59.0 +4.2**
MRA eS **Sn 23 20 57.9 +6.0**
AC02 Maricunga 5.12 25 eP **Pn 23 19 58.2 +1.9**
AC02 Maricunga 5.12 25 eP **Pn 23 20 00.4 +4.0**
AC02 eP Pn 23 20 03.0 +6.6
AC02 Maricunga 5.12 25 eP **Pn 23 19 58.2 +1.9**
CYA Choya 5.84 60 eP **Pn 23 20 09.1 +3.2**
CYA Choya 5.84 60 eP **Pn 23 20 09.1 +3.2**
VA04 Juan Fernndez 6.51 249 Pn **Pn 23 20 13.9 -1.2**
H03N1 Juan Fernandez 6.52 251 T T 23 27 03.3
baz=80,slow=72,SNR=278
H03N3 Juan Fernandez 6.54 251 T T 23 26 59.6
baz=80,slow=72,SNR=310
H03N2 Juan Fernandez 6.54 251 T T 23 27 00.9
baz=80,slow=72,SNR=388
H03S3 Juan Fernandez 6.63 248 Pn **Pn 23 20 15.9 -0.6**
baz=239,slow=74,SNR=27
H03S3 T T 23 27 21.2
baz=85,slow=74,SNR=67
H03S1 Juan Fernandez 6.63 248 Pn **Pn 23 20 17.0 +0.5**
SNR=14
H03S1 T T 23 27 20.4
baz=85,slow=74,SNR=114
H03S2 Juan Fernandez 6.65 248 Pn **Pn 23 20 16.1 -0.6**
baz=61,slow=74,SNR=17
H03S2 T T 23 27 07.6
baz=85,slow=74,SNR=206
LC01 Cunco 7.37 182 Pn **Pn 23 20 25.2 -1.7**
LR03 Panguipulli 8.13 184 Pn **Pn 23 20 36.6 -0.6**
LVC Limon Verde 9.17 15 Pn **Pn 23 20 51.7 -0.3**
comp=Z,88nm,0.3s,baz=154,slow=22,SNR=3.7
LVC Sn **Sn 23 22 31.0 -3.5**
comp=Z,198nm,0.3s,baz=158,slow=20,SNR=3.7
LVC LR LR 23 24 57.7
comp=Z,599µm,18.9s,baz=212,slow=42
LVC Limon Verde 9.17 15 **Pn 23 20 53.2 +1.2**
LVC Limon Verde 9.17 15 eP **Pn 23 20 52.1 +0.1**
PLCA Paso Flores 9.23 175 Pn **Pn 23 20 52.4 -0.1**
comp=Z,36nm,0.3s,baz=327,slow=11,SNR=19
PLCA LR LR 23 24 31.1
comp=Z,1296µm,20.3s,baz=344,slow=39
PLCA Paso Flores 9.23 175 P **Pn 23 20 52.1 -0.4**
PLCA Paso Flores 9.23 175 Pn **Pn 23 20 52.1 -0.4**
PLCA Paso Flores 9.23 175 eP **Pn 23 20 51.6 -0.8**
LL04 Puerto Octay 9.40 184 Pn **Pn 23 20 53.6 -1.1**
LL03 Petrohue 9.63 184 **Pn 23 20 57.7 -0.1**
LL05 Los Muermos 9.99 188 Pn **Pn 23 21 02.9 +0.1**
TRQA Tornquist 10.21 132 P **Pn 23 21 06.0 +0.2**
TRQA Tornquist 10.21 132 **Pn 23 21 06.0 +0.2**
TRQA Tornquist 10.21 132 eP **Pn 23 21 07.4 +1.6**
PB01 IPOC Station P 10.59 10 Pn **Pn 23 21 12.3 +1.1**
LL07 Hotel Espejo d 11.40 187 Pn **Pn 23 21 20.9 -1.2**
LL02 Futaleuf 11.66 181 Pn **Pn 23 21 24.1 -1.4**
GO07 Milladeo Hill, 11.70 188 **Pn 23 21 23.6 -2.6**
PSGCX Pisagua 11.94 6 Pn **Pn 23 21 32.9 +3.3**
ITQB Itaqui 12.98 86 Pn **Pn 23 21 43.0 +3.0**
ITQB Itaqui 12.98 86 eP **Pn 23 21 43.1 -0.5**
CPUP Villa Florida 13.47 71 Pn **Pn 23 21 51.0 +0.6**
comp=Z,26nm,0.3s,baz=248,slow=11,SNR=9.1
CPUP Sn **Sn 23 24 21.2 +2.1**
comp=Z,28nm,0.3s,baz=247,slow=4.2,SNR=2.2
CPUP LR LR 23 27 33.1
comp=Z,542µm,18.6s,baz=231,slow=40
CPUP Villa Florida 13.47 71 P **Pn 23 21 50.6 +0.2**
CPUP Villa Florida 13.47 71 Pn **Pn 23 21 50.6 +0.2**
CPUP Villa Florida 13.47 71 eP **Pn 23 21 49.5 -0.9**
PLTB Pedras Altas 15.28 96 Pn **Pn 23 22 13.5 -1.4**
PLTB IAmb IAmb 23 22 44.3
comp=Z,3µm,1.3s
PLTB Pedras Altas 15.28 96 eP **Pn 23 22 13.9 -1.0**
LPAZ La Paz 15.47 12 Pn **Pn 23 22 19.8 +1.7**
comp=Z,15nm,0.3s,baz=186,slow=6.4,SNR=15
LPAZ La Paz 15.47 12 P **Pn 23 22 18.9 +0.8**
LPAZ pmax pmax
comp=Z,2µm,1.0s
LPAZ La Paz 15.47 12 Pn **Pn 23 22 18.9 +0.8**
LPAZ La Paz 15.47 12 eP **Pn 23 22 18.9 +0.8**
LPAZ La Paz 15.47 12 eP **Pn 23 22 17.5 -0.6**
CPSB Cacapava Do Su 15.56 91 eP **Pn 23 22 18.0 -0.6**
AQDB Aquidauana 17.96 56 **Pn 23 22 48.9 +0.1**
AQDB Aquidauana 17.96 56 eP **Pn 23 22 48.9 +0.1**
CNLB Canela 17.97 88 eP **Pn 23 22 48.8 -0.3**
SIV San Ignacio 18.16 34 P **P 23 22 52.3 +0.8**
comp=Z,43nm,0.3s,baz=209,slow=7.5,SNR=28
PTGB Pitanga 18.45 73 eP **P 23 22 55.1 +0.4**
TRCB Terra Rica 18.91 67 **P 23 23 00.0 +0.3**
TRCB IAmb IAmb 23 23 38.7
comp=Z,6µm,1.4s
TRCB Terra Rica 18.91 67 eP **P 23 22 59.6 -0.1**
PTLB Pontes e Lacer 19.59 38 eP **P 23 23 06.8 -0.4**
TER01 Tubaro-SC 19.62 87 eP **P 23 23 08.4 +1.0**
NNA Nana 20.04 345 P Pn 23 23 15.1 +1.0
comp=Z,283nm,0.8s,baz=192,slow=9.7,SNR=11
NNA LR LR 23 29 09.0
comp=Z,624µm,19.1s,baz=180,slow=31
NNA Nana 20.04 345 *ce*P Pn 23 23 16.1 +2.1
NNA pmax pmax
comp=Z,2µm,1.7s
NNA Nana 20.04 345 P Pn 23 23 14.3 +0.3
NNA IAmb IAmb 23 23 23.7
comp=Z,3µm,1.6s
PP1B Ponte de Pedra 20.49 51 eP **P 23 23 16.5 -0.4**
PCMB Pacaembu 20.61 66 eP **P 23 23 18.4 +0.1**
TIJ01 Guaruva-PR 20.73 78 eP **P 23 23 17.8 -1.9**
FRTB Fartura 21.11 73 eP **P 23 23 24.1 +0.4**
VILB Vilhena 21.21 32 eP **P 23 23 25.2 +0.8**
SALV Santo Antonio 21.22 47 eP **P 23 23 25.2 +0.4**
MG02 Cerro Sombrero 21.32 176 P **P 23 23 26.2 +0.7**
GO10 Punta Arenas 21.63 179 P **P 23 23 29.3 +0.4**
ETMB Extrema 22.15 14 eP **P 23 23 35.1 +0.3**
ITRB Iturama 22.38 63 eP **P 23 23 36.7 -0.6**
EFI East Falkland 22.45 158 P **P 23 23 37.7 0.0**
EFI pmax pmax
comp=Z,2µm,0.9s
EFI East Falkland 22.45 158 P **P 23 23 37.7 0.0**
EFI IAmb IAmb 23 23 45.6
comp=Z,2µm,0.9s
PET01 Itanhaem-SP 22.59 77 eP **P 23 23 39.0 -0.4**
SPB Sao Paulo 22.75 76 P **P 23 23 41.2 +0.1**
BB19B Bebedouro 23.06 69 eP **P 23 23 44.4 0.0**
RCLB Rio Claro- Sao 23.19 73 eP **P 23 23 46.3 +0.5**
VAO Valinhos 23.39 75 eP **P 23 23 47.9 +0.1**
USHA Ushuaia 23.41 175 P **P 23 23 47.3 -0.3**
comp=Z,703nm,1.0s,baz=358,slow=7.4,SNR=10.0
USHA LR LR 23 33 53.2
comp=Z,839µm,18.0s,baz=0.0,slow=39
MG01 Puerto William 23.57 174 P **P 23 23 48.9 -0.2**
CZSB Cruzeiro do Su 23.69 357 eP **P 23 23 51.0 +0.4**
SAML Samuel 23.76 21 P **P 23 23 51.4 +0.1**
SAML pmax pmax
comp=Z,2µm,1.5s
SAML Samuel 23.76 21 P **P 23 23 51.4 +0.1**
SAML IAmb IAmb 23 24 42.4
comp=Z,2µm,1.5s
PARB Paraibuna 24.36 77 eP **P 23 23 56.9 0.0**
IPMB Ipameri, GO 25.03 63 eP **P 23 24 03.1 +0.1**
CLDB Colider 25.18 39 eP **P 23 24 04.4 +0.1**
BSCB Bom Sucesso 26.12 73 eP **P 23 24 11.3 -1.6**
VAS01 Vassouras-RJ 26.62 77 eP **P 23 24 17.3 -0.1**
BDFB Brasilia 26.64 59 P **P 23 24 16.8 -0.9**
BDFB pmax pmax
comp=Z,2µm,1.0s
BDFB Brasilia 26.64 59 P **P 23 24 16.8 -0.9**
I09BR BRASILIA INFRA 26.64 59 P **P 23 24 21.2 +3.6**
baz=234,slow=8.3,SNR=5.0
SNDB Serra Nova Dou 26.96 48 eP **P 23 24 21.1 +0.7**
TBTG Tabatinga, AM 27.23 4 eP **P 23 24 21.1 -1.4**
TBTG Tabatinga, AM 27.23 4 eP **P 23 24 22.7 -0.1**
DUB01 Friburgo-RJ 27.60 77 eP **P 23 24 26.5 +0.3**
CAM01 Campos-RJ 28.31 77 eP **P 23 24 32.8 +0.4**
DIAM Diamantina, MG 28.40 69 eP **P 23 24 33.7 +0.3**
NPGB Novo Progresso 28.66 35 eP **P 23 24 35.2 -0.4**
PEXB Peixe 28.84 53 eP **P 23 24 38.2 +1.0**
MC01 Montes Claros 29.07 66 eP **P 23 24 39.3 -0.1**
ALF01 Guarapari-ES 29.63 76 eP **P 23 24 44.7 +0.5**
JANB Januaria 29.77 63 eP **P 23 24 45.7 +0.2**
MACA Manacapuru-AM 30.00 22 eP **P 23 24 48.0 +0.5**
SJMB Sao Joao De Ma 30.19 72 eP **P 23 24 48.9 -0.3**
BSFB Barra de Sao F 30.40 73 eP **P 23 24 50.5 -0.5**
RIB01 Linhares ES 30.53 74 eP **P 23 24 51.9 -0.3**
ITTB Itaituba 30.82 32 eP **P 23 24 54.4 -0.3**
SDBA SAO DESIDERIO 31.03 58 eP **P 23 24 56.1 -0.6**
NAN01 Guarapari, ES 31.49 72 eP **P 23 24 59.5 -1.1**
PTLC Puerto Leguiza 31.67 354 eP **P 23 24 59.7 -2.5**
SMTB Santa Maria do 31.68 50 eP **P 23 25 03.3 +0.9**
OTAV Otavalo 32.25 347 P **P 23 25 09.1 +1.3**
OTAV Otavalo 32.25 347 P **P 23 25 09.1 +1.3**
OTAV Otavalo 32.25 347 eP **P 23 25 07.7 -0.2**
OTAV Otavalo 32.25 347 eP **P 23 25 08.3 +0.5**
CUSE Cuicocha Este 32.31 347 eP **P 23 25 11.5 +3.2**
PRPB Parauapebas 32.39 43 eP **P 23 25 08.1 -0.5**
GUA01 Guaratinga, BA 32.42 70 eP **P 23 25 08.8 0.0**
PTGA Pitinga 32.52 22 P **P 23 25 10.0 +0.3**
TULM Tulcn-Chalpat 32.60 348 eP **P 23 25 13.7 +2.7**
GCUF Volcan Galeras 33.03 349 eP **P 23 25 14.2 -0.5**
PTGL Punta Galera 33.12 344 eP **P 23 25 13.3 -1.6**
RPN Rapa Nui 33.14 268 P **P 23 25 16.4 +1.3**
comp=Z,55nm,0.5s,baz=238,slow=13,SNR=6.8
RPN LR LR 23 34 50.9
comp=Z,531µm,19.1s,baz=112,slow=29
RPN Rapa Nui 33.14 268 P **P 23 25 16.3 +1.3**
RPN pmax pmax
comp=Z,2µm,1.7s
RPN Rapa Nui 33.14 268 P **P 23 25 16.2 +1.2**
FLOC Florencia 33.15 352 P **P 23 25 16.9 +1.7**
FLOC Florencia 33.15 352 eP **P 23 25 14.8 -0.4**
CMC01 Camacan, BA 33.33 69 eP **P 23 25 16.2 -0.5**
MACC Macarena, Meta 33.55 356 eP **P 23 25 16.8 -1.8**
PMSA Palmer Station 33.60 174 P **P 23 25 19.1 +0.5**
comp=Z,54nm,0.7s,baz=340,slow=4.1,SNR=10
PMSA LR LR 23 39 10.4
comp=Z,804µm,18.1s,baz=356,slow=37
PMSA Palmer Station 33.60 174 P **P 23 25 18.5 -0.1**
PMSA Palmer Station 33.60 174 eP **P 23 25 19.1 +0.5**
NBIT Itapeh - BA 33.64 68 eP **P 23 25 19.5 0.0**
MALB Monte Alegre 33.71 32 eP **P 23 25 20.3 +0.2**
GARC Garzon, Huila 33.73 353 eP **P 23 25 23.9 +3.4**
HOPE Hope Point 33.76 143 P **P 23 25 19.6 -0.5**
HOPE pmax pmax
comp=Z,1µm,1.0s
HOPE Hope Point 33.76 143 P **P 23 25 19.6 -0.5**
BBAC Balboa, Cauca 33.79 350 eP **P 23 25 22.0 +1.0**
SOTA Rioblanco 33.81 351 eP **P 23 25 25.1 +3.6**
TUMC Tumaco 33.85 347 P **P 23 25 22.2 +0.9**
TUMC Tumaco 33.85 347 eP **P 23 25 24.4 +3.1**
PCON Cinco Dias 33.97 351 eP **P 23 25 23.0 -0.9**
BETC Betania 34.21 353 eP **P 23 25 27.2 +2.8**
POPC Popayan, Colom 34.22 351 eP **P 23 25 28.4 +3.7**
GDU01 Guandu, BA 34.23 66 eP **P 23 25 24.2 -0.5**
MARP Paez Belalcaza 34.43 352 eP **P 23 25 28.7 +2.1**
GR1C Gorgona, Isla 34.90 348 eP **P 23 25 31.9 +1.5**
PRAC Prado 35.18 354 eP **P 23 25 33.4 +0.6**
BOAV Boa Vista 35.31 19 eP **P 23 25 34.4 +0.5**
ORTC Ortega, Tolima 35.41 354 eP **P 23 25 36.2 +1.5**
PAYG Puerto Ayora 35.44 326 P **P 23 25 36.9 +1.8**
PAYG Puerto Ayora 35.44 326 eP **P 23 25 38.3 +3.2**
VILC Villavicencio, 35.49 356 eP **P 23 25 37.6 +2.0**
PTGC Puerto Gaitan, 35.52 359 eP **P 23 25 34.6 -1.1**
NBPN Ponto Novo - B 35.52 62 eP **P 23 25 35.3 -0.5**
YOTC Yotoco, Valle 35.60 352 eP **P 23 25 33.5 -3.0**
MALC Bahia Malaga 35.76 350 eP **P 23 25 37.8 +0.1**
ANIL Santa Ana 35.99 353 eP **P 23 25 42.7 +2.5**
CHIC Chingaza 36.00 356 eP **P 23 25 41.6 +1.3**
MCPB Macapa, AP 36.06 35 eP **P 23 25 40.1 -0.3**
ROSC El Rosal 36.25 355 P **P** 23 25 47.7 +5.3
comp=Z,201nm,0.9s,baz=242,slow=4.6,SNR=6.9
ROSC El Rosal 36.25 355 eP **P** 23 25 47.5 +5.2
TMAB Tom-Au,PA,Br 36.46 42 eP **P 23 25 44.1 +0.4**
GUY2C Guyana, Caldas 36.72 354 eP **P 23 25 48.5 +2.0**
NORC Norcasia 37.01 354 eP **P 23 25 49.5 +1.0**
SPBC San Pablo de B 37.04 356 eP **P 23 25 52.2 +3.4**
RUSC La Rusia 37.23 357 P **P 23 25 52.4 +1.6**
RUSC La Rusia 37.23 357 eP **P 23 25 52.5 +1.7**
NBLA Lagarto - SE 37.26 64 eP **P 23 25 49.8 -0.8**
HELC Santa Helena 37.69 353 eP **P 23 25 55.4 +0.8**
TAMC Tame, Arauca 37.74 360 eP **P 23 25 54.5 -0.2**
BARC Barichara 37.93 357 eP **P 23 25 56.0 -0.5**
PTBC PUERTO BERRIO, 37.94 355 eP **P 23 25 55.5 -0.8**
SOLC Bahia Solano 37.95 350 eP **P** 23 26 02.2 +5.8
ELOV Eloroza 38.35 3 eP **P 23 25 57.9 -1.9**
ROSB Rosrio 38.43 48 eP **P 23 26 00.4 -0.1**
BRRC Barranca, Sant 38.46 357 eP **P 23 25 58.1 -2.6**
DBBC Dabeiba 38.58 353 eP **P 23 26 03.7 +2.0**
PAMC Pamplona, Colo 38.65 358 eP **P 23 26 02.6 -0.3**
NBMA Muriti-CE 38.87 59 eP **P 23 26 04.4 +0.1**
PTAC Punta Ardita, 38.91 350 eP **P 23 26 05.4 +1.0**
ZARC Zaragoza, Cauc 38.92 355 eP **P 23 26 03.9 -0.7**
NBPS Pedro II - PI 39.06 52 eP **P 23 26 05.9 0.0**
UREC San Jos de Ur 39.23 354 eP **P 23 26 07.1 -0.1**
NBAN Anadia - AL 39.25 64 eP **P 23 26 06.4 -1.0**
NBPB Pedra_Branca-C 39.53 56 eP **P 23 26 10.4 +0.7**
OCAC Ocana 39.57 357 eP **P 23 26 07.6 -2.5**
CACAO El Cacao, Vera 39.66 345 eP **P 23 26 11.4 +0.7**
AZU Azuero 39.97 346 eP **P 23 26 15.4 +2.2**
SMLC San Martn de 40.16 356 eP **P 23 26 14.2 -0.7**
SDV Santo Domingo 40.18 1 P **P 23 26 15.3 0.0**
SDV Santo Domingo 40.18 1 eP **P 23 26 14.7 -0.6**
SDV Santo Domingo 40.18 1 eP **P 23 26 15.3 0.0**
CAPC Capurgana 40.31 351 eP **P 23 26 18.1 +2.0**
UPD2 Meteti 40.32 350 eP **P 23 26 18.8 +2.6**
CAP2 Capurgana 40.33 351 P **P 23 26 17.7 +1.5**
CAP2 IAmb IAmb 23 26 34.6
comp=Z,2µm,1.9s
LCBC Los crdobas, 40.41 353 eP **P 23 26 19.2 +2.3**
PNME Penonome 40.66 347 eP **P 23 26 20.4 +1.4**
NBRF Rio Formoso - 40.75 64 eP **P 23 26 19.3 -0.5**
NBMO Morrinhos-CE 40.81 53 eP **P 23 26 20.0 -0.3**
LL1C La Loma 1 Cana 40.87 357 eP **P 23 26 19.1 -1.6**
LL2C La Loma 2 Cana 40.88 357 eP P 23 26 15.5 -5.3
UPA Univ. de Panam 40.99 348 eP **P 23 26 17.8 -3.9**
NBPA Parau_RN 41.17 59 eP **P 23 26 23.9 +0.6**
ARGC Ariguani, Magd 41.22 356 eP **P 23 26 22.5 -1.1**
BCIP Isla Barro Col 41.23 348 P **P 23 26 25.0 +1.4**
BCIP pmax pmax
comp=Z,1µm,1.5s
BCIP Isla Barro Col 41.23 348 P **P 23 26 25.0 +1.4**
BCIP IAmb IAmb 23 26 43.1
comp=Z,1µm,1.4s
BCIP Isla Barro Col 41.23 348 eP **P 23 26 23.8 +0.1**
CDITO Canoas 41.31 343 P **P 23 26 26.0 +1.6**
CDITO IAmb IAmb 23 26 49.0
comp=Z,2µm,1.6s
SJCC San Jacinto, C 41.32 355 P **P 23 26 25.5 +1.0**
SJCC IAmb IAmb 23 27 35.7
comp=Z,1µm,1.1s
SJCC San Jacinto, C 41.32 355 eP **P 23 26 28.0 +3.4**
NBCL Cascavel-CE 41.37 56 eP **P 23 26 25.4 +0.4**
BRU2 Volcan 41.48 343 P **P 23 26 27.8 +1.9**
BRU2 IAmb IAmb 23 26 44.2
comp=Z,2µm,1.4s
PCRV Puerto La Cruz 41.98 10 P **P 23 26 30.7 +0.8**
comp=Z,237nm,1.0s,baz=145,slow=1.7,SNR=3.6
RCBR Riachuelo 42.01 60 P **P 23 26 30.6 +0.4**
RCBR Riachuelo 42.01 60 P **P 23 26 30.6 +0.4**
RCBR Riachuelo 42.01 60 eP **P 23 26 31.2 +1.0**
DRK0 Durika 42.07 343 P **P 23 26 31.4 +0.6**
DRK0 IAmb IAmb 23 26 50.7
comp=Z,639nm,1.0s
SRBA San Rafael, Bu 42.07 342 P **P 23 26 31.5 +0.8**
NBPV Pedro Velho 42.07 61 eP **P 23 26 30.9 +0.2**
PEZE Perez Zeledon, 42.30 342 P **P 23 26 33.8 +1.2**
CRJC Cerrejon, Guaj 42.31 358 eP **P 23 26 30.8 -1.8**
SMRC Santa Marta, M 42.51 356 eP **P 23 26 34.0 -0.2**
RIMA Rio Macho 42.71 342 P **P 23 26 37.1 +1.1**
JACO JACO, Garabito 42.83 341 P **P 23 26 39.0 +2.2**
CVTR Volcan Turrial 42.93 342 P **P 23 26 38.9 +0.9**
URIC Uribia, Colomb 42.97 359 P **P 23 26 37.3 -0.6**
URIC Uribia, Colomb 42.97 359 eP **P 23 26 35.8 -2.1**
CAO2 Cobano, Puntar 42.98 340 P **P 23 26 38.9 +0.9**
HDC Heredia 43.01 342 P **P 23 26 40.4 +2.1**
HDC IAmb IAmb 23 27 15.5
comp=Z,725nm,1.3s
JTS Las Juntas de 43.51 341 P **P 23 26 43.9 +1.6**
comp=Z,29nm,0.8s,baz=244,slow=5.2,SNR=5.9
JTS Las Juntas de 43.51 341|| eP **P 23 26 44.7 +2.4**
JTS pmax pmax
comp=Z,406nm,1.5s
JTS Las Juntas de 43.51 341 P **P 23 26 43.8 +1.4**
JTS Las Juntas de 43.51 341 eP P 23 26 36.2 -6.1
HATO Hato, Curacao 43.52 4 P **P 23 26 42.4 +0.1**
TOSP Speyside 43.86 16 P **P 23 26 44.6 -0.4**
TOSP IAmb IAmb 23 26 52.0
comp=Z,960nm,0.9s
HZTE Horizontes, Gu 44.10 340 P **P 23 26 49.6 +2.6**
GRGR Grenville 44.42 14 P **P 23 26 49.2 -0.3**
ACON Acoyapa 45.17 341 P **P 23 26 56.2 +0.7**
SVB Belmont 45.61 14 P **P 23 26 57.8 -1.2**
PRVC Isla de Provid 45.62 347 P **P 23 27 00.0 +0.9**
PRVC Isla de Provid 45.62 347 eP **P 23 26 60.0 +0.9**
MCLT Moule a Chique 46.10 14 P **P 23 27 01.7 -1.2**
H05S1 Guadeloupe/Mar 46.82 14 P **P 23 27 06.7 -1.8**
SNR=87
TGUH Tegucigalpa,Un 47.77 339 P **P 23 27 16.9 +0.9**
TGUH IAmb IAmb 23 27 34.4
comp=Z,666nm,1.1s
TGUH Tegucigalpa,Un 47.77 339 eP **P 23 27 14.8 -1.2**
SNET Serv Nac Est T 48.05 337 P **P 23 27 18.9 +0.8**
H05N1 Guadeloupe/Mar 48.61 13 P **P 23 27 20.3 -2.1**
SNR=72
MTO3 Montecristo 48.76 337 P **P 23 27 24.6 +0.8**
ESQI Esquipulas 48.90 337 P **P 23 27 26.1 +1.4**
ESQI IAmb IAmb 23 28 00.5
comp=Z,742nm,1.2s
ICMP Isla Caja de M 49.35 6 P **P 23 27 27.9 -0.2**
MLPR Magueyes Islan 49.39 6 P **P 23 27 27.9 -0.5**
CDVI St. Croix 49.41 9 P **P 23 27 27.9 -0.6**
CDVI IAmb IAmb 23 28 31.2
comp=Z,380nm,0.9s
SEUS St. Eustatius 49.41 11 P **P 23 27 27.8 -0.7**
JAKH Jacmel 49.48 359 P **P 23 27 29.7 +0.7**
JAKH IAmb IAmb 23 28 55.6
comp=Z,485nm,1.1s
MCJ Malvern 49.51 352 *i* P **P 23 27 30.9 +1.6**
GWJ Greenwich 49.56 354 *i* P P 23 27 36.2 +6.4
STH Stony Hill 49.57 353 *i* P **P 23 27 31.9 +2.2**
CMJ Castle Mountai 49.59 354 *i* P **P 23 27 30.3 +0.5**
SJG San Juan 49.61 7 P **P 23 27 28.6 -1.4**
SJG San Juan 49.61 7 P **P 23 27 28.6 -1.4**
SJG San Juan 49.61 7 eP **P 23 27 26.4 -3.6**
BANI BANI 49.63 1 P **P 23 27 30.8 +0.5**
MTP Monte Pirata 49.66 7 P **P 23 27 29.6 -0.8**
MTP IAmb IAmb 23 27 48.9
comp=Z,497nm,1.2s
HUMP Col San Antoni 49.67 7 P **P 23 27 29.6 -0.9**
HUMP IAmb IAmb 23 27 45.2
comp=Z,583nm,1.3s
SDD Santo Domingo 49.71 2 P **P 23 27 30.6 -0.1**
ANWB Willy Bob 49.79 12 P **P 23 27 30.1 -1.3**
MTDJ Mount Denham 49.79 353 P **P 23 27 31.9 +0.4**
MTDJ IAmb IAmb 23 27 49.4
comp=Z,803nm,1.4s
MTDJ Mount Denham 49.79 353 eP **P 23 27 30.1 -1.4**
GCPR Guaynabo City 49.81 7 P **P 23 27 30.6 -0.9**
GCPR IAmb IAmb 23 28 03.0
comp=Z,300nm,0.8s
PCDR Punta Cana, DR 49.84 4 P **P 23 27 31.5 -0.1**
AGPR Aguadilla, PR 49.88 5 P **P 23 27 31.9 -0.2**
AGPR IAmb IAmb 23 28 58.2
comp=Z,540nm,1.1s
BBJ Bamboo Saint A 49.92 353 *i* P **P 23 27 31.9 -0.5**
EMPR Esperanza - Ma 49.94 6 P **P 23 27 31.5 -1.0**
SMRT St. Maarten 49.95 11 P **P 23 27 30.6 -2.0**
SMRT IAmb IAmb 23 27 50.9
comp=Z,801nm,1.3s
STVI Saint Thomas 49.98 8 P **P 23 27 31.6 -1.2**
STVI IAmb IAmb 23 27 55.4
comp=Z,287nm,1.0s
DR12 Loma Pena Alta 50.06 3 P **P 23 27 32.4 -1.1**
HUEH Huehuetenango 50.36 335 P **P 23 27 36.0 0.0**
HUEH IAmb IAmb 23 28 26.3
comp=Z,872nm,1.4s
ABVI Anegada Island 50.43 9 P **P 23 27 35.3 -0.9**
SC01 Santiago de lo 50.66 1 P **P 23 27 37.7 -0.2**
GTBY Guantanamo Bay 51.26 356 eP **P 23 27 42.8 +0.3**
PETF Flores 51.27 337 P **P 23 27 43.2 +0.6**
PETF IAmb IAmb 23 28 01.0
comp=Z,435nm,1.0s
CCIG Comitan 51.48 334 P **P 23 27 44.9 +0.6**
CCIG IAmb IAmb 23 28 13.2
comp=Z,413nm,1.0s
VNA3 Neumayer Olymp 51.50 159 P **P 23 27 44.0 +0.2**
VNA1 Neumayer--Stat 51.80 158 P **P 23 27 46.6 +0.7**
VNA2 Neumayer--Watz 52.14 158 P **P 23 27 48.4 -0.1**
baz=287,slow=8.6
CMIG Matias Romero 53.28 332 P **P 23 27 58.5 +1.0**
comp=Z,45nm,1.0s,baz=105,slow=7.1,SNR=9.8
CMIG PKPPKP **P'P'df** 23 58 24.7 +9.4
comp=Z,5.6nm,1.0s,baz=322,slow=3.4,SNR=3.8
SNAA Sanae 53.73 159 P **P 23 27 59.4 -0.9**
SNAA Sanae 53.73 159 P **P 23 27 58.3 -2.0**
comp=Z,380nm,0.8s,baz=282,slow=7.1,SNR=31
SNAA LR LR 23 49 37.1
comp=Z,124µm,20.2s,baz=294,slow=35
SNAA PKPPKP **P'P'df 23 58 24.6 -1.1**
comp=Z,14nm,1.0s,baz=306,slow=4.9,SNR=4.4
SNAA Sanae 53.73 159|| eP **P 23 28 00.0 -0.3**
SNAA pmax pmax
comp=Z,1µm,1.3s
SNAA Sanae 53.73 159 P **P 23 27 59.2 -1.1**
SOR Soroa 55.11 347 P **P 23 28 10.5 -0.3**
SOR pmax pmax
comp=Z,528nm,1.1s
SOR Soroa 55.11 347 P **P 23 28 10.5 -0.3**
SOR IAmb IAmb 23 28 29.0
comp=Z,528nm,1.1s
RKT Rikitea 56.31 262 eP **P 23 28 19.2 -0.4**
comp=Z,125nm,1.2s
RKT Rikitea 56.31 262 eT T 00 29 01.0
comp=Z,86nm,0.3s
061Z Ochoppi 57.76 350 P **P 23 28 30.2 +0.6**
H10N3 ASCENSION HYDR 57.93 79 P **P 23 28 31.2 +0.4**
baz=228,slow=5.2,SNR=5.6
H10N1 ASCENSION HYDR 57.94 79 P **P 23 28 31.7 +0.8**
baz=228,slow=5.2,SNR=7.8
H10N2 ASCENSION HYDR 57.95 79 P **P 23 28 31.8 +0.9**
baz=228,slow=5.2,SNR=7.0
ASCN Ascension 58.00 79 P **P 23 28 30.8 -0.8**

QSPA South Pole Qui 58.71 180 P P 23 28 35.1 -0.9
comp=Z,589nm,1.0s,baz=160,slow=3.6,SNR=9.9
QSPA LR LR 23 53 50.8
comp=Z,161µm,19.9s,baz=172,slow=36
QSPA South Pole Qui 58.71 180 P P 23 28 35.9 -0.2
DWPF Disney Wildern 60.04 350 P P 23 28 45.8 +0.4
DWPF IAmb IAmb 23 29 08.8
comp=Z,411nm,1.1s
DWPF Disney Wildern 60.04 350 P P 23 28 45.7 +0.4
baz=170
SHEL Horse Pasture 61.37 92 P P 23 28 55.3 +0.4
SHEL pmax pmax
comp=Z,445nm,0.8s
SHEL Horse Pasture 61.37 92 P P 23 28 55.2 +0.4
ZAIG Zacatecas 61.62 327 P P 23 28 57.8 +1.2
H06S1 SOCORRO T 62.67 317 T T 00 37 15.6
SNR=63
TIGA Tifton 63.65 349 P P 23 29 09.3 -0.3
TIGA IAmb IAmb 23 29 11.4
comp=Z,375nm,1.1s
TIGA Tifton 63.65 349 P P 23 29 08.6 -1.0
baz=168,SNR=16
BBSR BB Station 63.87 6 P P 23 29 10.6 -0.4
BBSR IAmb IAmb 23 29 18.1
comp=Z,214nm,0.8s
KVTX Kingsville 63.88 334 P P 23 29 13.3 +2.1
KVTX IAmb IAmb 23 30 10.0
comp=Z,502nm,1.0s
BRAL Brewton 64.06 345 P P 23 29 12.8 +0.5
BRAL Brewton 64.06 345 P P 23 29 13.0 +0.7
baz=165,SNR=13
CSU Charleston Sou 64.66 352 P P 23 29 16.6 +0.5
NHSC New Hope 64.79 352 P P 23 29 16.7 -0.3
NHSC New Hope 64.79 352 P P 23 29 17.7 +0.7
baz=172,SNR=25
735A Kenedy 65.04 335 P P 23 29 19.9 +1.2
833A Chaparral WMA, 65.16 333 P P 23 29 20.5 +0.9
baz=154,SNR=20
SACV Santiago Islan 65.19 52 P P 23 29 19.5 -0.5
HKT Hockley 65.34 337 e P P 23 29 21.8 +1.2
HKT Hockley 65.34 337 P P 23 29 21.6 +0.9
HKT IAmb IAmb 23 30 16.5
comp=Z,356nm,1.4s
GOGA Godfrey 65.56 349 P P 23 29 21.0 -1.0
GOGA pmax pmax
comp=Z,217nm,1.0s
GOGA Godfrey 65.56 349 P P 23 29 21.0 -1.0
GOGA Godfrey 65.56 349 P P 23 29 21.2 -0.8
baz=169,SNR=29
SBA Scott Base 65.59 191 P P 23 29 22.5 +0.7
SBA IAmb IAmb 23 29 58.6
comp=Z,328nm,1.2s
LRAL Lakeview Retre 65.85 346 P P 23 29 23.4 -0.5
LRAL Lakeview Retre 65.85 346 P P 23 29 24.4 +0.5
baz=166,SNR=18
VBMS Vicksburg 65.89 342 P P 23 29 24.6 +0.5
VBMS Vicksburg 65.89 342 P P 23 29 24.5 +0.4
baz=162,SNR=13
SLBS Sierra La Lagu 66.06 321 P P 23 29 25.9 +0.3
VNDA Vanda 66.61 191 P P 23 29 28.8 +0.4
comp=Z,34nm,0.9s,baz=139,slow=4.8,SNR=8.4
VNDA PKPPKP P'P'df 23 57 57.2 -7.9
comp=Z,16nm,1.0s,baz=289,slow=4.3,SNR=5.5
VNDA Vanda 66.61 191 P P 23 29 28.7 +0.4
VNDA pmax pmax
comp=Z,1µm,2.0s
VNDA Vanda 66.61 191 P P 23 29 28.7 +0.4
VNDA IAmb IAmb 23 29 43.4
comp=Z,1µm,2.0s
HPIG 66.63 327 P P 23 29 30.4 +1.1
HPIG IAmb IAmb 23 29 40.3
comp=Z,334nm,1.2s
NATX Nacogdoches 66.64 339 P P 23 29 29.9 +0.9
NATX IAmb IAmb 23 30 40.0
comp=Z,410nm,1.0s
NATX Nacogdoches 66.64 339 P P 23 29 30.2 +1.2
baz=159,SNR=12
CNNC Cliffs of the 66.67 354 P P 23 29 29.8 +0.8
CNNC IAmb IAmb 23 29 32.2
comp=Z,333nm,0.8s
CNNC Cliffs of the 66.67 354 P P 23 29 29.9 +0.8
baz=174,SNR=18
435B Jarrell 66.71 336 P P 23 29 30.2 +0.7
435B Jarrell 66.71 336 P P 23 29 30.4 +0.9
baz=156,SNR=9.7
KMSC Kings Mountain 66.94 351 P P 23 29 31.0 +0.1
baz=171,SNR=34
FPAL Fort Paine 67.03 347 P P 23 29 31.7 +0.2
FPAL IAmb IAmb 23 29 33.3
comp=Z,267nm,1.1s
JCT Junction City 67.24 334 P P 23 29 33.6 +0.7
JCT pmax pmax
comp=Z,541nm,1.1s
JCT Junction City 67.24 334 P P 23 29 33.6 +0.7
JCT IAmb IAmb 23 29 51.6
comp=Z,541nm,1.1s
JCT Junction City 67.24 334 P P 23 29 33.6 +0.7
baz=154,SNR=19
Z41A Richland Creek 67.48 341 P P 23 29 35.6 +1.2
baz=160,SNR=14
WHTX Lake Whitney, 67.76 336 P P 23 29 36.7 +0.5
WHTX Lake Whitney, 67.76 336 P P 23 29 36.9 +0.8
baz=156,SNR=16
TX32 Lajitas Array 67.79 330 P P 23 29 36.4 -0.1
TX32 IAmb IAmb 23 30 07.8
comp=Z,698nm,1.6s
TXAR Lajitas Array 67.79 330 P P 23 29 37.6 +1.1
comp=Z,38nm,1.0s,baz=154,slow=7.1,SNR=29
TXAR LR LR 23 54 24.7
comp=Z,175µm,19.0s,baz=0.0,slow=32
TXAR PKP2bc 23 57 55.7
comp=Z,6.1nm,1.0s,baz=301,slow=2.6,SNR=7.2
TXAR Lajitas Array 67.79 330 P P 23 29 36.9 +0.4
TXAR Lajitas Array 67.79 330 P P 23 29 36.9 +0.4
OXF Oxford 67.80 344 P P 23 29 35.1 -1.2
OXF pmax pmax
comp=Z,1µm,0.9s
OXF Oxford 67.80 344 P P 23 29 35.1 -1.2
OXF Oxford 67.80 344 P P 23 29 36.1 -0.2
baz=164,SNR=45
TKL Tuckaleechee C 67.80 349 P P 23 29 34.8 -1.5
TKL pmax pmax
comp=Z,462nm,1.1s
TKL Tuckaleechee C 67.80 349 P P 23 29 34.8 -1.5
TKL IAmb IAmb 23 29 38.1
comp=Z,462nm,1.1s
CCAR Cane Creek 67.83 342 P P 23 29 37.0 +0.5
CCAR IAmb IAmb 23 30 07.6
comp=Z,532nm,1.2s
TBI Tubuai 68.34 255 eP P 23 29 39.8 -0.3
comp=Z,794nm,1.3s
TBI Tubuai 68.34 255 eT T 00 44 03.0
comp=Z,82nm,0.2s
MET Memphis--Engin 68.51 344 P P 23 29 41.1 +0.4
T57A Hurt 68.54 353 P P 23 29 40.3 -0.6
TZTN Tazewell 68.64 350 P P 23 29 41.1 -0.4
TZTN IAmb IAmb 23 29 52.4
comp=Z,289nm,1.1s
TZTN Tazewell 68.64 350 P P 23 29 40.8 -0.7
baz=169,SNR=15
X40A Basin Creek Fa 68.65 341 P P 23 29 42.0 +0.3
baz=161
BLA Blacksburg 68.87 352 P P 23 29 43.4 +0.3
BLA pmax pmax
comp=Z,281nm,1.1s
BLA Blacksburg 68.87 352 P P 23 29 43.4 +0.3
BLA IAmb IAmb 23 30 22.5
comp=Z,281nm,1.1s
BLA Blacksburg 68.87 352 P P 23 29 43.3 +0.2
baz=172,SNR=12
MIAR Mount Ida 68.91 341 P P 23 29 43.7 +0.4
MIAR pmax pmax
comp=Z,361nm,1.1s
MIAR Mount Ida 68.91 341 P P 23 29 43.6 +0.4
MIAR IAmb IAmb 23 30 12.8
comp=Z,361nm,1.1s
MIAR Mount Ida 68.91 341 P P 23 29 43.9 +0.7
baz=160,SNR=12
WVT Waverly 69.01 346 P P 23 29 42.8 -1.0
WVT pmax pmax
comp=Z,829nm,1.0s
WVT Waverly 69.01 346 P P 23 29 42.8 -1.0
WVT Waverly 69.01 346 P P 23 29 43.8 -0.1
baz=165
HBAR Harrisburg 69.09 343 P P 23 29 44.8 +0.5
HBAR IAmb IAmb 23 30 09.0
comp=Z,485nm,1.1s
ABTX Abilene, Hawle 69.11 335 P P 23 29 44.8 +0.2
ABTX Abilene, Hawle 69.11 335 P P 23 29 44.9 +0.2
baz=154,SNR=26
W41B Gary Mavity, V 69.14 342 P P 23 29 44.7 0.0
baz=161,SNR=16
MBO M'Bour 69.44 57 P P 23 29 46.4 -0.6
X37A Clayton 69.48 339 P P 23 29 47.2 +0.4
X37A IAmb IAmb 23 31 24.9
comp=Z,308nm,1.2s
CBN Corbin Frederi 69.58 355 P P 23 29 48.2 +1.0
CBN IAmb IAmb 23 29 59.3
comp=Z,465nm,1.4s
CBN Corbin Frederi 69.58 355 P P 23 29 48.1 +0.8
baz=175,SNR=10
W39A Magazine 69.58 341 P P 23 29 48.1 +0.7
baz=160,SNR=40
MEH Mehetia 69.63 261 eP P 23 29 47.9 -0.3
comp=Z,117nm,1.3s
MEH Mehetia 69.63 261 eT T 00 45 39.0
comp=Z,296nm,0.2s
Q61A Milford 70.12 357 P P 23 29 51.6 +0.9
baz=176,SNR=8.9
PBMO Poplar Bluff 70.21 344 P P 23 29 50.9 -0.3
PBMO IAmb IAmb 23 30 19.2
comp=Z,354nm,0.9s
SRIG Santa Rosalia 70.21 322 P P 23 29 53.0 +1.5
U40A Yellville 70.41 342 P P 23 29 52.6 +0.1
baz=161,SNR=37
VAH Vaihoa 70.49 264 eP P 23 29 53.5 0.0
comp=Z,196nm,1.2s
MNTX Cornudas Mount 70.57 330 P P 23 29 53.6 0.0
MNTX Cornudas Mount 70.57 330 P P 23 29 53.3 -0.3
baz=150,SNR=34
WMOK Wichita Mounta 70.72 336 P P 23 29 54.2 -0.2
WMOK Wichita Mounta 70.72 336 P P 23 29 54.2 -0.2
WMOK Wichita Mounta 70.72 336 P P 23 29 54.4 0.0
baz=156,SNR=15
WCI Wyandotte Cave 70.74 348 P P 23 29 53.2 -1.2
WCI pmax pmax
comp=Z,277nm,1.0s
WCI Wyandotte Cave 70.74 348 P P 23 29 53.2 -1.2
WCI IAmb IAmb 23 29 59.0
comp=Z,277nm,0.9s
WCI Wyandotte Cave 70.74 348 P P 23 29 54.1 -0.4
baz=167
PMOR Pomariorio Ree 70.83 264 eP P 23 29 54.9 -0.7
comp=Z,276nm,1.4s
TUL1 Leonard 70.83 339 P P 23 29 55.5 +0.4
baz=158,SNR=21
TIAR Tiarei 70.86 261 eP P 23 29 55.5 -0.3
comp=Z,29nm,1.1s
TIAR Tiarei 70.86 261 eT T 00 47 11.2
comp=Z,24nm,0.3s
HSIG 70.92 324 P P 23 29 56.6 +0.9
PAE Paea 71.00 261 eP P 23 29 56.5 -0.1
comp=Z,118nm,1.3s
PAE Paea 71.00 261 eT T 00 47 22.1
comp=Z,5,9nm,0.2s
PPTF Pamatai, Papee 71.03 261 P P 23 29 58.2 +1.3
PPTF IAmb IAmb 23 31 09.7
comp=Z,644nm,1.3s
PPT2 Papeete2 71.03 261 eP P 23 29 56.4 -0.5
comp=Z,441nm,1.3s
PPT2 Papeete2 71.03 261 eT T 00 47 23.5
comp=Z,10nm,0.2s
PPT Papeete 71.04 261 P P 23 29 59.4 +2.5
comp=Z,51nm,0.7s,baz=49,slow=16,SNR=2.9
PPT LR LR 23 52 14.6
comp=Z,250µm,20.0s,baz=185,slow=28
P60A Greenville 71.07 357 P P 23 29 56.5 +0.1
P60A IAmb IAmb 23 30 12.9
comp=Z,329nm,1.1s
P60A Greenville 71.07 357 P P 23 29 57.2 +0.8
baz=176,SNR=18
WUPA West Chester U 71.19 357 P P 23 29 57.1 0.0
MCWV Mont Chateau 71.23 353 P P 23 29 56.9 -0.6
MCWV IAmb IAmb 23 30 02.9
comp=Z,292nm,1.1s
MCWV Mont Chateau 71.23 353 P P 23 29 57.5 +0.1
baz=172,SNR=22
MVL Millersville 71.30 356 P P 23 29 57.5 -0.2
MVL IAmb IAmb 23 30 05.5
comp=Z,354nm,1.2s
P52A Corning 71.47 351 P P 23 29 58.5 -0.4
baz=170,SNR=30
MSTX Muleshoe 71.48 333 P P 23 29 59.3 +0.1
MSTX IAmb IAmb 23 30 07.5
comp=Z,496nm,0.8s
MSTX Muleshoe 71.48 333 P P 23 29 59.4 +0.2
baz=152,SNR=38
PAGS Pennsylvania G 71.55 356 P P 23 29 59.0 -0.3
PAGS IAmb IAmb 23 30 15.0
comp=Z,371nm,1.0s
CCM Cathedral Cave 71.62 344 P P 23 29 59.2 -0.5
CCM pmax pmax
comp=Z,498nm,0.8s
CCM Cathedral Cave 71.62 344 P P 23 29 59.2 -0.5
CCM IAmb IAmb 23 30 05.8
comp=Z,498nm,0.8s
CCM Cathedral Cave 71.62 344 P P 23 30 00.0 +0.3
baz=162
O56A Blue Knob Stat 71.72 354 P P 23 30 00.5 +0.1
baz=174,SNR=20
P49A Miami Univ. Ec 71.74 349 P P 23 29 59.8 -0.7
baz=168,SNR=24
AMTX Amarillo 71.88 334 P P 23 30 01.9 +0.4
AMTX IAmb IAmb 23 30 34.8
comp=Z,785nm,1.3s
AMTX Amarillo 71.88 334 P P 23 30 02.2 +0.6
baz=153
O53A New Philadelph 71.97 352 P P 23 30 01.7 -0.1
O53A IAmb IAmb 23 30 36.9
comp=Z,424nm,1.3s
O53A New Philadelph 71.97 352 P P 23 30 01.7 -0.1
baz=171,SNR=13
CPNY Central Park 71.98 358 P P 23 30 02.2 +0.4
SSPA Standing Stone 72.03 355 P P 23 30 02.1 -0.1
SSPA IAmb IAmb 23 30 27.7
comp=Z,391nm,1.2s
SSPA Standing Stone 72.03 355 P P 23 30 03.2 +1.0
baz=174
319A Douglas 72.06 327 P P 23 30 04.1 +1.4
319A IAmb IAmb 23 31 19.7
comp=Z,438nm,1.2s
ACSO Alum Creek Sta 72.17 351 P P 23 30 02.1 -0.9
baz=170,SNR=54
N59A State Game Lan 72.18 357 P P 23 30 03.8 +0.7
baz=176,SNR=38
PAL Palisades 72.19 358 P P 23 30 03.4 +0.3
PAL pmax pmax
comp=Z,172nm,1.1s
PAL Palisades 72.19 358 P P 23 30 03.4 +0.3
PAL Palisades 72.19 358 P P 23 30 03.6 +0.4
baz=178,SNR=12
ODNJ Ogdensburg 72.29 358 P P 23 30 03.9 +0.1
121A Cookes Peak, D 72.34 328 P P 23 30 05.8 +1.3
121A IAmb IAmb 23 30 12.0
comp=Z,442nm,1.0s
121A Cookes Peak, D 72.34 328 P P 23 30 05.7 +1.3
baz=148,SNR=29
TRNY Table Rock, Ra 72.34 358 P P 23 30 03.9 -0.1
WSPT Westport, CT 72.34 359 P P 23 30 04.0 0.0
KAN13 South Haven SW 72.37 338 P P 23 30 04.8 +0.5
KAN13 IAmb IAmb 23 30 34.1
comp=Z,651nm,1.1s
KAN14 Manchester OK 72.47 338 P P 23 30 05.5 +0.6
N54A Moraine State 72.54 353 P P 23 30 04.8 -0.4
baz=172,SNR=30
M63A Gales Ferry 72.56 360 P P 23 30 06.0 +0.7
M57A Sunshine Farm, 72.67 356 P P 23 30 05.8 -0.2
M57A IAmb IAmb 23 30 21.8
comp=Z,326nm,1.1s
M64A Tiverton 72.70 0 P P 23 30 06.9 +0.7
M64A Tiverton 72.70 0 P P 23 30 07.1 +1.0
baz=180,SNR=11
M65A Busby, Falmout 72.72 1 P P 23 30 06.5 +0.3
SFIN Lafayette 72.97 348 P P 23 30 06.8 -0.9
baz=166,SNR=21
L63A North Scituate 73.02 360 P P 23 30 09.0 +1.0
baz=180,SNR=28
M54A Oil Creek Stat 73.05 354 P P 23 30 07.7 -0.5
baz=173,SNR=25
BRYW Bryant College 73.07 360 P P 23 30 08.8 +0.5
BRYW IAmb IAmb 23 30 25.1
comp=Z,483nm,1.1s
M53A WI Miller and 73.08 353 P P 23 30 08.2 -0.3
baz=172,SNR=36
L64A Middleborough 73.09 1 P P 23 30 09.4 +1.0
baz=180,SNR=13
BNM Barren Site 73.21 330 P P 23 30 10.3 +0.7
Y22D IRIS PASSCAL I 73.27 330 P P 23 30 12.5 +2.6
baz=149
BINY Binghamton 73.47 357 P P 23 30 10.7 0.0
BINY IAmb IAmb 23 30 23.5
comp=Z,380nm,1.1s
BINY Binghamton 73.47 357 P P 23 30 10.8 0.0
baz=176,SNR=21
BCX Boston College 73.49 0 P P 23 30 11.1 +0.3
TUC Tucson 73.54 326 P P 23 30 12.2 +0.7
TUC pmax pmax
comp=Z,594nm,2.0s
TUC Tucson 73.54 326 P P 23 30 12.2 +0.7
TUC IAmb IAmb 23 30 25.7
comp=Z,594nm,2.0s
TUC Tucson 73.54 326 P P 23 30 12.5 +1.1
baz=146
HDIL Hopedale 73.57 346 P P 23 30 11.3 -0.1
HDIL IAmb IAmb 23 30 16.8
comp=Z,354nm,0.8s
HDIL Hopedale 73.57 346 P P 23 30 11.3 -0.1
baz=164,SNR=23
L61B Northampton 73.61 359 P P 23 30 11.9 +0.4
baz=179,SNR=29
HRV Adam Dziewonsk 73.66 360 P P 23 30 12.1 +0.3
HRV pmax pmax
comp=Z,234nm,0.9s
HRV Adam Dziewonsk 73.66 360 P P 23 30 12.1 +0.3
HRV Adam Dziewonsk 73.66 360 P P 23 30 12.2 +0.3
baz=180
ERPA Erie 73.68 353 P P 23 30 12.0 +0.1
ERPA IAmb IAmb 23 30 14.0
comp=Z,586nm,1.1s
ERPA Erie 73.68 353 P P 23 30 11.5 -0.5
baz=172,SNR=26
K62A Royalston 73.82 359 P P 23 30 13.3 +0.5
K62A IAmb IAmb 23 30 29.7
comp=Z,365nm,1.1s
K62A Royalston 73.82 359 P P 23 30 13.5 +0.7
baz=179,SNR=24
ANMO Albuquerque 73.82 331 eP P 23 30 14.1 +0.9
ANMO pmax pmax
comp=Z,257nm,1.3s
ANMO Albuquerque 73.82 331 P P 23 30 13.5 +0.3
ANMO Albuquerque 73.82 331 P P 23 30 14.3 +1.1
baz=150
K61A Williamstown 73.84 359 P P 23 30 13.1 +0.3
baz=178,SNR=14
DBIC Dimbokro 73.99 72 P P 23 30 12.8 -1.6
comp=Z,1µm,0.9s,baz=235,slow=5.6,SNR=104
DBIC Dimbokro 73.99 72 P P 23 30 13.1 -1.3
DBIC pmax pmax
comp=Z,975nm,0.8s
DBIC Dimbokro 73.99 72 P P 23 30 13.1 -1.3
KSU1 Kansas State U 74.03 340 P P 23 30 14.5 +0.4
baz=158,SNR=10
214A Orgape Pipe Nat 74.24 324 P P 23 30 17.1 +1.6
baz=144,SNR=21
AAM Ann Arbor 74.30 351 P P 23 30 15.3 -0.2
AAM pmax pmax
comp=Z,309nm,1.2s
AAM Ann Arbor 74.30 351 P P 23 30 15.3 -0.2
AAM Ann Arbor 74.30 351 P P 23 30 15.5 0.0
baz=169,SNR=10
HQIL Hanson Quary C 74.49 347 P P 23 30 16.6 0.0
HQIL IAmb IAmb 23 30 18.2
comp=Z,657nm,1.0s
J61A Chester 74.50 359 P P 23 30 18.0 +1.3
baz=179,SNR=24
SFX San Felipe 74.55 322 P P 23 30 18.1 +0.8
MEDO Medina 74.59 355 P P 23 30 15.8 -1.4
MEDO IAmb IAmb 23 30 23.1
comp=Z,352nm,1.1s
CBKS Cedar Bluff 74.73 337 P P 23 30 18.8 +0.5
baz=155,SNR=14
L44A Lake County Fo 74.87 347 P P 23 30 18.6 -0.3
baz=166,SNR=16
T25A Trinidad 74.90 333 P P 23 30 19.6 +0.2
T25A IAmb IAmb 23 30 26.8
comp=Z,568nm,1.1s
T25A Trinidad 74.90 333 P P 23 30 20.3 +0.9
baz=151,SNR=28
X18A Snowflake 74.99 328 P P 23 30 20.7 +0.7
I60A Shoreham 75.01 359 P P 23 30 19.9 +0.3
baz=178,SNR=26
I62A Tamworth 75.03 0 P P 23 30 20.2 +0.5
I62A IAmb IAmb 23 30 32.5
comp=Z,728nm,1.7s
I62A Tamworth 75.03 0 P P 23 30 20.7 +1.0
baz=180,SNR=15
I63A Otisfield 75.21 1 P P 23 30 22.2 +1.4
baz=181,SNR=24
PECO Prince Edward 75.25 356 P P 23 30 20.4 -0.6
PECO IAmb IAmb 23 30 33.4
comp=Z,402nm,1.0s
W18A Petrified Fore 75.39 328 P P 23 30 23.7 +1.4
baz=147,SNR=19
LBNH Lisbon 75.39 360 P P 23 30 22.7 +0.8
baz=180,SNR=25
MAW Mawson 75.44 164 P P 23 30 20.6 -1.3
comp=Z,351nm,0.9s,baz=219,slow=6.5,SNR=39
MAW PKPPKP P'P'df 23 57 40.8 -8.8
comp=Z,7.2nm,1.0s,baz=316,slow=5.0,SNR=3.7
MAW LR LR 00 05 50.7
comp=Z,247µm,18.6s,baz=222,slow=38
MAW Mawson 75.44 164 P P 23 30 20.9 -1.0
MAW pmax pmax
comp=Z,177nm,1.4s
MAW Mawson 75.44 164 P P 23 30 20.9 -1.0
SUR Sutherland 75.66 119 P P 23 30 23.6 -0.5
baz=251,slow=5.5
SUR Sutherland 75.66 119 P P 23 30 23.4 -0.8
SUR IAmb IAmb 23 30 31.1
comp=Z,515nm,1.0s
H62A Milan 75.73 0 P P 23 30 24.4 +0.6
SCIA State Center 75.74 343 P P 23 30 23.9 -0.1
SCIA IAmb IAmb 23 30 52.8
comp=Z,825nm,1.2s
SCIA State Center 75.74 343 P P 23 30 24.1 +0.2
baz=161,SNR=22
LONY Lake Ozonia 75.82 358 P P 23 30 24.2 -0.1
LONY IAmb IAmb 23 30 40.4
comp=Z,340nm,1.1s
LONY Lake Ozonia 75.82 358 P P 23 30 24.7 +0.4
baz=177,SNR=31
SDCO Great Sand Dun 75.85 333 P P 23 30 25.5 +0.5
SDCO Great Sand Dun 75.85 333 P P 23 30 26.2 +1.2
baz=151,SNR=24
CPBX Cerro Prieto 75.87 323 P P 23 30 26.2 +1.3
CPBX IAmb IAmb 23 30 44.0
comp=Z,655nm,1.5s
KSCO Kaye Shedlock' 75.90 335 P P 23 30 25.9 +0.9
KSCO IAmb IAmb 23 30 59.7
comp=Z,778nm,1.3s
KSCO Kaye Shedlock' 75.90 335 P P 23 30 26.1 +1.0
baz=153,SNR=13
JFWS Jewell Farm 76.03 346 P P 23 30 24.9 -0.6
JFWS pmax pmax
comp=Z,1µm,1.6s
JFWS Jewell Farm 76.03 346 P P 23 30 24.9 -0.6
JFWS Jewell Farm 76.03 346 P P 23 30 25.1 -0.4
baz=164,SNR=31
GLA Glamis 76.13 324 P P 23 30 28.2 +1.8
baz=143,SNR=12
HAL Halifax 76.14 6 P P 23 30 25.7 -0.3
HAL pmax pmax
comp=Z,290nm,1.0s
HAL Halifax 76.14 6 P P 23 30 25.7 -0.3
PLVO Plevna 76.36 356 P P 23 30 26.6 -0.7
PLVO IAmb IAmb 23 30 39.8
comp=Z,332nm,1.1s
S22A 4UR Ranch, Cre 76.38 332 P P 23 30 29.5 +1.5
baz=150,SNR=13
G65A Princeton 76.44 3 P P 23 30 27.9 +0.2
G65A IAmb IAmb 23 30 40.4
comp=Z,816nm,1.7s
PKME Peaks-Kenny Pk 76.44 2 P P 23 30 27.5 -0.3
PKME IAmb IAmb 23 30 40.9
comp=Z,401nm,1.1s
PKME Peaks-Kenny Pk 76.44 2 P P 23 30 28.7 +1.0
baz=182,SNR=16
WUAZ Wupatki 76.46 327 P P 23 30 29.4 +1.1

WUAZ IAmb IAmb 23 30 48.0
comp=Z,492nm,1.2s
WUAZ Wupatki 76.46 327 P **P** **23 30 30.1 +1.8**
baz=146,SNR=16
IKP In-Ko-Pah, Jac 76.47 322 P **P** **23 30 29.7 +1.3**
baz=142,SNR=15
SWSC Sam W. Stewart 76.54 323 P **P** **23 30 29.8 +1.2**
baz=142,SNR=15
BGNE Belgrade 76.61 340 P **P** **23 30 29.4 +0.6**
BGNE Belgrade 76.61 340 P **P** **23 30 29.4 +0.6**
baz=157,SNR=12
MVCO Mesa Verde 76.61 330 P **P** **23 30 30.1 +0.8**
MVCO IAmb IAmb 23 31 23.4
comp=Z,345nm,1.1s
MVCO Mesa Verde 76.61 330 P **P** **23 30 30.5 +1.2**
baz=148,SNR=19
Q24A Divide 76.78 334 P **P** **23 30 31.1 +0.9**
baz=151,SNR=36
PDMCI Parker Dam,Lak 76.79 325 P **P** **23 30 31.3 +1.2**
baz=144
MONP2 Monument Peak 76.83 322 P **P** **23 30 31.9 +1.3**
baz=142,SNR=11
GLMI Grayling 76.91 350 P **P** **23 30 29.6 -0.8**
GLMI IAmb IAmb 23 30 44.9
comp=Z,465nm,0.8s
GLMI Grayling 76.91 350 P **P** **23 30 29.7 -0.8**
baz=168,SNR=8.9
BC3 Big Chuckawall 76.93 324 P **P** **23 30 32.4 +1.4**
baz=143,SNR=25
GBN Guysborough 77.10 7 P **P** **23 30 32.4 +1.0**
GBN IAmb IAmb 23 30 43.8
comp=Z,415nm,1.5s
IRM Iron Mountain 77.17 324 P **P** **23 30 33.5 +1.3**
baz=143,SNR=20
109C Camp Elliot, M 77.18 322 P **P** **23 30 33.7 +1.5**
baz=141
NEE2 Needles Airpor 77.40 325 P **P** **23 30 35.0 +1.6**
baz=143
TPFO Pinon Flats 77.40 323 P **P** **23 30 35.1 +1.4**
baz=142,SNR=20
PFO Pinyon Flats O 77.41 323 ⇑*i*P **P** **23 30 36.0 +2.3**
PFO pmax pmax
comp=Z,615nm,1.6s
PFO Pinyon Flats O 77.41 323 P **P** **23 30 34.5 +0.8**
PFO Pinyon Flats O 77.41 323 P **P** **23 30 35.4 +1.7**
baz=142,SNR=19
OGNE Ogallala 77.42 337 P **P** **23 30 34.2 +0.7**
OGNE IAmb IAmb 23 31 06.9
comp=Z,490nm,1.3s
OGNE Ogallala 77.42 337 P **P** **23 30 34.6 +1.1**
baz=154,SNR=7.9
BELC Belle Mtn. Jos 77.48 323 P **P** **23 30 35.6 +1.6**
baz=142,SNR=17
PV13 Radium Mtn., P 77.55 331 P **P** **23 30 35.5 +1.0**
SMCO Snowmass 77.67 333 P **P** **23 30 36.2 +0.9**
SMCO IAmb IAmb 23 30 55.0
comp=Z,672nm,1.1s
ISCO Idaho Springs 77.68 334 P **P** **23 30 36.1 +0.8**
ISCO pmax pmax
comp=Z,224nm,1.0s
ISCO Idaho Springs 77.68 334 P **P** **23 30 36.1 +0.8**
ISCO Idaho Springs 77.68 334 P **P** **23 30 36.5 +1.2**
baz=151,SNR=18
MURC Murrieta 77.78 322 P **P** **23 30 36.9 +1.2**
baz=141,SNR=21
RAR Rarotonga 77.78 253 P **P** **23 30 38.3 +2.3**
comp=Z,22nm,0.7s,baz=229,slow=15,SNR=3.7
RAR Rarotonga 77.78 253 P **P** **23 30 36.7 +0.7**
RAR Rarotonga 77.78 253 P **P** **23 30 36.7 +0.7**
SCI2 San Clemente I 78.02 321 P **P** **23 30 38.2 +1.3**
baz=140
BBRC Big Bear Solar 78.16 323 P **P** **23 30 39.8 +1.9**
baz=142
D62A Allapoint, All 78.27 2 P **P** **23 30 37.9 -0.1**
D62A IAmb IAmb 23 30 51.5
comp=Z,528nm,0.9s
CIS Catalina Islan 78.27 321 P **P** **23 30 40.0 +1.6**
baz=141,SNR=12
HEC Hector,Ludlow 78.30 324 P **P** **23 30 40.2 +1.6**
baz=142,SNR=22
ECSD EROS Data Cent 78.33 342 P **P** **23 30 38.0 -0.4**
ECSD IAmb IAmb 23 30 44.4
comp=Z,538nm,0.9s
ECSD EROS Data Cent 78.33 342 P **P** **23 30 38.5 +0.1**
baz=158,SNR=43
KNB Kanab 78.36 327 P **P** **23 30 40.1 +1.1**
KNB pmax pmax
comp=Z,576nm,1.2s
KNB Kanab 78.36 327 P **P** **23 30 40.1 +1.1**
KNB IAmb IAmb 23 30 57.9
comp=Z,576nm,1.2s
BFSC Mount Baldy Ra 78.52 322 P **P** **23 30 41.3 +1.4**
baz=141,SNR=29
TUQ Turquoise Moun 78.57 324 P **P** **23 30 41.7 +1.6**
baz=142,SNR=9.5
BATG Bathurst New B 78.58 4 P **P** **23 30 40.1 +0.4**
RRX Edison Barstow 78.67 323 P **P** **23 30 42.0 +1.5**
baz=142,SNR=11
LMQ La Malbaie 78.71 1 P **P** **23 30 40.9 +0.5**
LMQ IAmb IAmb 23 30 53.6
comp=Z,314nm,0.9s
PASC Pasadena Art C 78.74 322 P **P** **23 30 42.1 +1.1**
PASC IAmb IAmb 23 31 00.4
comp=Z,541nm,1.3s
N23A Red Feather La 78.76 334 P **P** **23 30 42.7 +1.5**
baz=151,SNR=12
SPMN Marine on St. 78.79 345 P **P** **23 30 40.6 -0.3**
baz=162,SNR=22
DECC Green Verdugo 78.88 322 P **P** **23 30 43.1 +1.4**
baz=141,SNR=14
GSC Goldstone, Bar 78.91 324 P **P** **23 30 43.4 +1.5**
baz=142,SNR=20
PHWY Pilot Hill 78.94 335 P **P** **23 30 43.0 +0.8**
PHWY IAmb IAmb 23 31 24.1
comp=Z,666nm,1.7s
O20A White River Ci 78.99 332 P **P** **23 30 43.2 +0.8**
O20A IAmb IAmb 23 31 24.6
comp=Z,632nm,1.4s
O20A White River Ci 78.99 332 P **P** **23 30 43.7 +1.3**
baz=149,SNR=11
SHPR Sheep Range 79.05 326 P **P** **23 30 43.6 +0.8**
SHPR IAmb IAmb 23 31 01.7
comp=Z,351nm,1.2s
SHOC Shoshone, Teco 79.11 324 P **P** **23 30 44.1 +1.1**
baz=142
EDW2 Edwards Air Fo 79.19 323 P **P** **23 30 44.6 +1.1**
baz=141,SNR=25
MACI Morro de la Ar 79.22 47 P **P** **23 30 44.0 +0.1**
KOWA Kowa 79.22 66 P **P** **23 30 43.0 -1.0**
KOWA Kowa 79.22 66 P **P** **23 30 44.4 +0.4**
KOWA Kowa 79.22 66 P **P** **23 30 42.9 -1.0**
KOWA Kowa 79.22 66 P **P** **23 30 44.4 +0.4**
KOWA Kowa 79.22 66 P **P** **23 30 45.2 +1.2**
MVU Marysvale 79.30 329 P **P** **23 30 44.8 +0.6**
OSI Osito Audit: C 79.37 322 P **P** **23 30 45.9 +1.5**
baz=140
TSUM Tsumeb 79.48 106 P **P** **23 30 44.5 -1.1**
TSUM IAmb IAmb 23 30 52.2
comp=Z,535nm,1.0s
LRMC Laurel Mtn Rad 79.50 323 P **P** **23 30 46.6 +1.4**
baz=141,SNR=13
SUSD Miller 79.63 340 P **P** **23 30 46.0 +0.4**
baz=156,SNR=10
SBC Santa Barbara 79.76 321 P **P** **23 30 48.2 +1.8**
baz=140
ARVC Arvin 79.82 322 P **P** **23 30 48.0 +1.2**
baz=140
MPMC Manual Prospec 79.85 324 P **P** **23 30 48.3 +1.1**
baz=142,SNR=16
FURC Furnace Creek, 79.85 324 P **P** **23 30 48.8 +1.9**
baz=142,SNR=15
H07S1 FLORES T-PHASE 79.87 31 P **P** **23 30 47.8 +0.8**
SNR=9.1
H07S1 FLORES T-PHASE 79.87 31 *e*P **P** **23 30 47.5 +0.5**
comp=Z,848nm,1.6s
TPNV Topopah Spring 79.93 325 P **P** **23 30 48.9 +1.3**
TPNV pmax pmax
comp=Z,401nm,1.2s
TPNV Topopah Spring 79.93 325 P **P** **23 30 48.9 +1.3**
TPNV IAmb IAmb 23 31 07.2
comp=Z,400nm,1.1s
TPNV Topopah Spring 79.93 325 P **P** **23 30 49.7 +2.1**
baz=142,SNR=19
ISA Isabella, Lake 80.04 323 P **P** **23 30 50.0 +1.9**
baz=141,SNR=49
PKM Mcpherson Peak 80.15 321 P **P** **23 30 50.7 +1.8**
baz=140,SNR=32

H07N1 FLORES T-PHASE 80.16 31 *e*P **P** **23 30 49.2 +0.6**
comp=Z,400nm,1.0s
PCAN Candelaria 80.34 33 *e*P **P** **23 30 49.7 +0.1**
comp=Z,234nm,1.2s
PCED Cedros 80.38 33 *e*P **P** **23 30 50.1 +0.4**
comp=Z,430nm,1.3s
PICO Pico 80.40 33 *e*P **P** **23 30 50.0 +0.1**
comp=Z,944nm,1.3s
CWC Cottonwood Cre 80.44 324 P **P** **23 30 51.7 +1.4**
baz=141
PPNO Prainha do Nor 80.45 33 *e*P **P** **23 30 50.4 +0.2**
comp=Z,938nm,1.4s
PID Ribeirinha 80.50 33 *e*P **P** **23 30 50.3 -0.1**
comp=Z,1μm,1.6s
VES Vestal, Richgr 80.50 323 P **P** **23 30 51.8 +1.4**
baz=140,SNR=24
K22A Casper 80.50 335 P **P** **23 30 51.8 +1.3**
baz=150,SNR=13
GRAC Grapevine Rang 80.52 324 P **P** **23 30 52.3 +1.8**
baz=142,SNR=8.5
SMMC Simmler 80.57 322 P **P** **23 30 52.8 +1.9**
baz=140,SNR=16
SPR3 Spring Creek 3 80.66 328 P **P** **23 30 51.8 +0.1**
SPR3 IAmb IAmb 23 31 10.6
comp=Z,627nm,1.4s
ROSA Rosais 80.66 33 *e*P **P** **23 30 51.7 +0.4**
comp=Z,663nm,1.8s
ROSA Rosais 80.66 33 P **P** **23 30 51.6 +0.4**
ROSA IAmb IAmb 23 30 54.1
comp=Z,356nm,1.0s
PMAN Manadas 80.66 33 *e*P **P** **23 30 51.7 +0.5**
comp=Z,1μm,1.3s
R11A Troy Canyon, C 80.72 326 P **P** **23 30 53.6 +1.8**
baz=143,SNR=14
PSMA Santa Maria 80.80 36 *e*P **P** **23 30 52.8 +0.8**
comp=Z,724nm,1.3s
PSMN Pico Norte, 80.84 36 *e*P **P** **23 30 52.8 +0.6**
comp=Z,966nm,1.5s
BOSA Boshof 80.85 118 P **P** **23 30 51.1 -1.8**
comp=Z,450nm,0.9s,baz=240,slow=4.5,SNR=49
BOSA Boshof 80.85 118 P **P** **23 30 51.4 -1.5**
BOSA IAmb IAmb 23 30 53.9
comp=Z,454nm,0.8s
RSSD Black Hills 80.92 337 P **P** **23 30 53.5 +0.8**
RSSD pmax pmax
comp=Z,149nm,0.9s
RSSD Black Hills 80.92 337 P **P** **23 30 53.5 +0.8**
RSSD Black Hills 80.92 337 P **P** **23 30 53.7 +1.0**
baz=152
DUG Dugway, Tooele 80.95 329 P **P** **23 30 53.9 +0.9**
DUG pmax pmax
comp=Z,335nm,1.3s
DUG Dugway, Tooele 80.95 329 P **P** **23 30 53.9 +0.9**
DUG Dugway, Tooele 80.95 329 P **P** **23 30 54.1 +1.1**
baz=145,SNR=12
TIN Tinemaha, Big 81.00 324 P **P** **23 30 54.0 +0.7**
baz=141,SNR=11
SRBC Serra Branca 81.01 33 *e*P **P** **23 30 53.2 +0.1**
comp=Z,1μm,1.4s
VOG Valley Oaks Go 81.02 323 P **P** **23 30 53.7 +0.5**
baz=140
ADH Angra Heroismo 81.08 34 *e*P **P** **23 30 54.2 +0.8**
comp=Z,281nm,1.1s
EYMN Ely 81.11 347 P **P** **23 30 53.3 -0.1**
baz=163,SNR=26
PSET Sete Cidades 81.16 35 *e*P **P** **23 30 52.1 -1.8**
comp=Z,741nm,1.5s
PSCM Serra do Cume 81.17 34 *e*P **P** **23 30 54.0 0.0**
comp=Z,540nm,1.2s
GRON Grota Negra 81.20 35 *e*P **P** **23 30 53.7 -0.5**
comp=Z,860nm,1.2s
CMLA Cha da Macela 81.20 35 P **P** **23 30 55.2 +1.1**
CMLA pmax pmax
comp=Z,1μm,1.8s
CMLA Cha da Macela 81.20 35 P **P** **23 30 55.2 +1.1**
DRLN Deer Lake 81.38 9 P **P** **23 30 55.1 +0.3**
BART Pico Bartolome 81.39 35 *e*P **P** **23 30 55.6 +0.4**
comp=Z,1μm,1.2s
HWUT Hardware Ranch 81.59 331 P **P** **23 30 56.6 +0.3**
HWUT IAmb IAmb 23 31 14.2
comp=Z,581nm,1.5s
BW06 Boulder Array 81.75 333 P **P** **23 30 57.3 0.0**
baz=148,SNR=7.5
PD31 Pinedale Array 81.75 333 P **P** **23 30 57.4 +0.1**
PDAR Pinedale Array 81.75 333 P **P** **23 30 56.9 -0.3**
comp=Z,20nm,0.9s,baz=155,slow=4.9,SNR=9.9
PDAR PKKPbc **PKKPbc** **23 49 27.2 -3.3**
comp=Z,5.3nm,0.6s,baz=121,slow=0.8,SNR=9.3
PDAR PKPPKP **P'P'df** **23 57 34.7 +6.0**
comp=Z,6.4nm,1.1s,baz=77,slow=2.0,SNR=3.7
PDAR Pinedale Array 81.75 333 P **P** **23 30 57.2 0.0**
B35A Bob, Littlefor 81.96 345 P **P** **23 30 57.2 -0.7**
B35A IAmb IAmb 23 31 17.3
comp=Z,405nm,1.1s
NV11 Mina Array Sit 82.03 325 P **P** **23 30 59.6 +0.9**
PMOZ Porto Moniz, M 82.03 44 *e*P **P** **23 31 00.1 +1.3**
comp=Z,634nm,2.0s
PMOZ Porto Moniz, M 82.03 44 P **P** **23 30 59.2 +0.5**
PMOZ Porto Moniz, M 82.03 44 P **P** **23 31 00.9 +2.1**
PMOZ Porto Moniz, M 82.03 44 P **P** **23 31 00.9 +2.1**
PMOZ Porto Moniz, M 82.03 44 P **P** **23 31 00.9 +2.1**
PMOZ Porto Moniz, M 82.03 44 P **P** **23 31 00.9 +2.1**
FUL Funchal 82.09 44 *e*P **P** **23 31 00.5 +1.6**
comp=Z,1μm,1.3s
NVAR Mina Array Bea 82.10 325 P **P** **23 30 59.4 +0.2**
comp=Z,65nm,0.8s,baz=155,slow=5.4,SNR=27
NVAR PKKPbc **PKKPbc** **23 49 29.1 -0.3**
comp=Z,9.7nm,0.8s,baz=284,slow=2.0,SNR=13
NVAR PKPPKP P'P'df 23 57 37.3 +8.6
comp=Z,8.3nm,0.9s,baz=179,slow=0.1,SNR=8.6
NVAR Mina Array Bea 82.10 325 P **P** **23 30 59.7 +0.5**
PMAR Madeira 82.13 44 *e*P **P** **23 31 00.6 +1.2**
comp=Z,1μm,1.3s
AHID Auburn Hatcher 82.36 332 P **P** **23 31 00.4 0.0**
AHID IAmb IAmb 23 31 30.9
comp=Z,381nm,1.4s
AGMN Agassiz Nation 82.39 344 P **P** **23 30 59.8 -0.3**
AGMN Agassiz Nation 82.39 344 P **P** **23 31 00.0 -0.1**
baz=159,SNR=23
ELK Elko 82.48 328 P **P** **23 31 00.4 -0.7**
comp=Z,62nm,0.9s,baz=150,slow=3.1,SNR=18
CASY Casey 82.50 181 P **P** **23 30 59.9 -0.8**
PMPS Porto Santo 82.71 44 *e*P **P** **23 31 04.3 +2.2**
comp=Z,526nm,1.7s
ECR Eagle Creek 82.71 332 P **P** **23 31 02.9 +0.6**
PMPST Porto Santo, M 82.72 44 *e*P **P** **23 31 04.4 +2.2**
comp=Z,766nm,1.4s
TANT Tantan 82.73 50 P **P** **23 31 04.0 +1.6**
TANT Tantan 82.73 50 P **P** **23 31 04.0 +1.6**
TANT Tantan 82.73 50 P **P** **23 31 04.0 +1.6**
TANT Tantan 82.73 50 P **P** **23 31 04.0 +1.6**
MDND Maddock 82.93 341 P **P** **23 31 03.2 +0.3**
baz=156,SNR=23
LBTB Lobatse 82.96 115 P **P** **23 31 02.3 -1.7**
LBTB pmax pmax
comp=Z,453nm,0.8s
LBTB Lobatse 82.96 115 P **P** **23 31 02.3 -1.7**
TORD Torodi Ar. Bea 82.96 70 P **P** **23 31 02.9 -1.0**
comp=Z,852nm,0.9s,baz=248,slow=3.3,SNR=71
TORD Torodi Ar. Bea 82.96 70 P **P** **23 31 02.7 -1.2**
MOOW Moose Ponds 83.04 333 P **P** **23 31 04.5 +0.5**
FLWY Flagg Ranch 83.31 333 P **P** **23 31 06.1 +0.8**
FLWY IAmb IAmb 23 32 17.0
comp=Z,333nm,1.2s
YPP Pitchstone Pla 83.50 333 P **P** **23 31 07.9 +1.5**
H17A Grant Village 83.52 333 P **P** **23 31 08.3 +1.9**
baz=147
RLMT Red Lodge 83.64 334 P **P** **23 31 07.2 +0.3**
baz=148,SNR=15
LAO LASA Array 83.91 337 P **P** **23 31 08.4 +0.2**
LAO IAmb IAmb 23 31 54.7
comp=Z,185nm,0.9s
LAO LASA Array 83.91 337 P **P** **23 31 08.7 +0.6**
baz=151,SNR=11
QLMT Earthquake Lak 84.22 333 P **P** **23 31 09.7 -0.2**
ULM Lac du Bonnet 84.22 345 P **P** **23 31 09.1 -0.4**
comp=Z,169nm,1.0s,baz=164,slow=3.8,SNR=21
ULM PKKPbc **PKKPbc** **23 49 21.9 -2.8**
comp=Z,13nm,0.8s,baz=125,slow=3.3,SNR=5.7
ULM Lac du Bonnet 84.22 345 P **P** **23 31 09.5 0.0**
ULM pmax pmax
comp=Z,416nm,1.2s
ULM Lac du Bonnet 84.22 345 P **P** **23 31 09.5 0.0**
ULM IAmb IAmb 23 31 28.1
comp=Z,416nm,1.2s
HLID Hailey 84.39 330 P **P** **23 31 11.4 +0.6**

HLID Hailey 84.39 330 P **P** **23 31 11.5 +0.6**
baz=144,SNR=14
BFZ Birch Farm 84.71 225 P **P** **23 31 12.2 -0.3**
BFZ IAmb IAmb 23 31 24.1
comp=Z,481nm,1.5s
DGMT Dagmar 84.82 339 P **P** **23 31 12.9 +0.2**
DGMT Dagmar 84.82 339 P **P** **23 31 13.5 +0.8**
baz=152,SNR=23
MSWZ Moikau Station 84.86 224 P **P** **23 31 13.3 0.0**
MQZ McQueen's Vall 84.92 221 P **P** **23 31 13.8 +0.3**
MQZ IAmb IAmb 23 31 28.6
comp=Z,470nm,1.9s
BOZ Bozeman (W) 84.94 333 P **P** **23 31 13.7 +0.3**
BOZ pmax pmax
comp=Z,79nm,1.1s
BOZ Bozeman (W) 84.94 333 P **P** **23 31 13.7 +0.3**
BOZ Bozeman (W) 84.94 333 P **P** **23 31 13.5 +0.1**
baz=146,SNR=9.6
CGR Cap Guir 85.08 50 P **P** **23 31 16.0 +1.7**
CGR Cap Guir 85.08 50 P **P** **23 31 16.0 +1.7**
CGR Cap Guir 85.08 50 P **P** **23 31 16.0 +1.7**
CGR Cap Guir 85.08 50 P **P** **23 31 16.0 +1.7**
BHW Baring Head 85.09 224 P **P** **23 31 15.7 +1.3**
ODZ Otahua Downs 85.17 219 P **P** **23 31 14.3 -0.5**
KHZ Kahutara 85.24 222 P **P** **23 31 15.5 +0.4**
CMWZ Cape Campbell 85.26 223 P **P** **23 31 15.8 +0.5**
O03E Paynes Creek 85.27 324 P **P** **23 31 15.1 -0.1**
baz=139,SNR=12
MXZ Matakaoa Point 85.30 228 P **P** **23 31 16.8 +1.2**
MXZ IAmb IAmb 23 31 37.9
comp=Z,354nm,1.2s
WVOR Wild Horse Val 85.37 327 P **P** **23 31 16.4 +0.7**
WVOR pmax pmax
comp=Z,211nm,1.3s
WVOR Wild Horse Val 85.37 327 P **P** **23 31 16.4 +0.7**
BKZ Black Stump Fm 85.48 226 P **P** **23 31 17.1 +0.6**
BKZ IAmb IAmb 23 31 37.4
comp=Z,448nm,1.4s
BSWZ Blackbirch Sta 85.48 223 P **P** **23 31 17.3 +0.9**
OXZ Oxford 85.51 221 P **P** **23 31 16.9 +0.4**
OXZ IAmb IAmb 23 31 20.6
comp=Z,196nm,1.0s
TUWZ Tuamarina 85.62 223 P **P** **23 31 18.1 +1.1**
URZ Urewera 85.65 227 P **P** **23 31 18.7 +1.4**
URZ IAmb IAmb 23 31 36.5
comp=Z,254nm,1.2s
O02D Mt. Diablo Mer 85.68 323 P **P** **23 31 18.2 +1.0**
baz=138
LTZ Lake Taylor 85.73 221 P **P** **23 31 18.6 +1.0**
KCPM Cahto Peak 85.73 322 P **P** **23 31 19.1 +1.6**
KCPM IAmb IAmb 23 31 36.7
comp=Z,509nm,1.3s
RPZ Rata Peaks 85.81 220 P **P** **23 31 18.4 +0.4**
LBZ Lake Benmore 85.84 219 P **P** **23 31 18.9 +0.8**
EAH EAH 85.93 49 P **P** **23 31 20.0 +1.4**
EAH EAH 85.93 49 P **P** **23 31 20.0 +1.4**
EAH EAH 85.93 49 P **P** **23 31 20.0 +1.4**
EAH EAH 85.93 49 P **P** **23 31 20.0 +1.4**
TTIG Tnine Tigouga, 85.96 50 P **P** **23 31 20.0 +1.1**
TTIG Tnine Tigouga, 85.96 50 P **P** **23 31 20.0 +1.1**
TTIG Tnine Tigouga, 85.96 50 P **P** **23 31 20.0 +1.1**
TTIG Tnine Tigouga, 85.96 50 P **P** **23 31 20.0 +1.1**
WHZ Wether Hill Ro 86.02 217 P **P** **23 31 19.9 +0.9**
WHZ IAmb IAmb 23 31 37.7
comp=Z,406nm,1.4s
NNZ Nelson 86.09 223 P **P** **23 31 20.3 +0.9**
SCHQ Schefferville 86.09 3 P **P** **23 31 18.6 -0.2**
comp=Z,192nm,1.1s,baz=167,slow=3.2,SNR=18
SCHQ PKKPbc **PKKPbc** **23 49 19.2 -1.2**
comp=Z,14nm,0.9s,baz=31,slow=3.2,SNR=5.4
SCHQ Schefferville 86.09 3 P **P** **23 31 18.2 -0.6**
WKZ Wanaka 86.18 218 P **P** **23 31 20.5 +0.7**
WKZ IAmb IAmb 23 31 43.9
comp=Z,559nm,1.5s
N02D Trinity Center 86.23 324 P **P** **23 31 20.4 +0.4**
baz=138,SNR=16
EGMT Eagleton 86.28 335 P **P** **23 31 19.8 -0.2**
EGMT IAmb IAmb 23 32 12.9
comp=Z,159nm,0.9s
EGMT Eagleton 86.28 335 P **P** **23 31 19.8 -0.2**
baz=148,SNR=7.9
MLZ Mavora Lakes 86.29 218 P **P** **23 31 20.4 +0.1**
MLZ IAmb IAmb 23 31 39.0
comp=Z,398nm,1.8s
M04C Macdoel 86.41 325 P **P** **23 31 21.5 +0.6**
baz=139,SNR=20
PYZ Puysegur Point 86.48 216 P **P** **23 31 21.6 +0.4**
PYZ IAmb IAmb 23 31 27.6
comp=Z,185nm,0.9s
M02C Callahan 86.62 324 P **P** **23 31 22.9 +1.1**
baz=138,SNR=14
OUK Oukaimeden 86.77 50 P **P** **23 31 24.0 +0.8**
OUK Oukaimeden 86.77 50 P **P** **23 31 24.0 +0.8**
OUK Oukaimeden 86.77 50 P **P** **23 31 24.0 +0.8**
OUK Oukaimeden 86.77 50 P **P** **23 31 24.1 +0.9**
YBH Yreka Blue Hor 86.80 324 P **P** **23 31 22.2 -0.5**
comp=Z,47nm,0.8s,baz=137,slow=5.2,SNR=19
QRZ Quartz Range 86.83 223 P **P** **23 31 23.5 +0.4**
QRZ IAmb IAmb 23 31 59.6
comp=Z,348nm,1.1s
MSO Missoula 86.86 332 P **P** **23 31 23.6 +0.7**
baz=145,SNR=9.1
HIZ Hauiti 86.89 226 P **P** **23 31 24.0 +0.6**
L04D Klamath Falls 86.96 325 P **P** **23 31 24.0 +0.5**
baz=139
K04D Chiloquin, OR 87.00 325 P **P** **23 31 24.4 +0.7**
baz=139,SNR=10
I07A Izee 87.05 328 P **P** **23 31 23.8 -0.1**
I07A IAmb IAmb 23 31 48.4
comp=Z,196nm,1.1s
J05D Fort Rock, OR 87.25 326 P **P** **23 31 25.9 +0.9**
baz=139,SNR=11
L02E Cave Junction 87.56 324 P **P** **23 31 27.3 +1.0**
baz=138,SNR=12
XMAS Kiritimati 87.57 274 P **P** **23 31 28.6 +1.6**
XMAS IAmb IAmb 23 32 43.8
comp=Z,251nm,1.2s
RAO Raoul Island 87.57 237 LR LR 00 00 32.7
comp=Z,89μm,21.9s,baz=127,slow=29
RAO Raoul Island 87.57 237 P **P** **23 31 27.2 +0.3**
RAO pmax pmax
comp=Z,594nm,1.2s
RAO Raoul Island 87.57 237 P **P** **23 31 27.2 +0.3**
HUMO Hull Mountain 87.58 325 P **P** **23 31 26.6 +0.3**
J04D Umpqua Nationa 87.64 326 P **P** **23 31 27.8 +0.9**
baz=139,SNR=11
K02D Willamette Mer 87.99 324 P **P** **23 31 29.6 +1.2**
baz=138,SNR=18
TZRR Tazzarine 88.03 52 P **P** **23 31 30.0 +1.1**
TZRR Tazzarine 88.03 52 P **P** **23 31 30.0 +1.1**
TZRR Tazzarine 88.03 52 P **P** **23 31 30.0 +1.1**
TZRR Tazzarine 88.03 52 P **P** **23 31 31.1 +2.2**
I05D Terrebonne, OR 88.10 327 P **P** **23 31 30.0 +1.2**
baz=139,SNR=26
I04A Tendick Farm, 88.20 326 P **P** **23 31 29.5 +0.2**
baz=138,SNR=12
AVE Averroes 88.40 49 P **P** **23 31 32.2 +1.7**
AVE Averroes 88.40 49 P **P** **23 31 32.2 +1.7**
AVE Averroes 88.40 49 P **P** **23 31 32.2 +1.7**
AVE Averroes 88.40 49 P **P** **23 31 32.2 +1.7**
J01E Myrtle Point 88.47 325 P **P** **23 31 32.1 +1.5**
baz=138
I03D Drain, OR 88.58 325 P **P** **23 31 32.0 +1.0**
baz=138,SNR=6.8
G05D Wamic, OR 88.77 327 P **P** **23 31 33.5 +1.5**
baz=139
BUCK Buck Mountain 88.77 326 P **P** **23 31 32.7 +0.7**
HAWA Hanford 88.85 329 P **P** **23 31 32.8 +0.5**
H04D Lebanon 88.90 326 P **P** **23 31 33.6 +1.1**
baz=138
ZHG ZHG 88.99 49 P **P** **23 31 34.0 +0.6**
ZHG ZHG 88.99 49 P **P** **23 31 34.0 +0.6**
ZHG ZHG 88.99 49 P **P** **23 31 34.0 +0.6**
ZHG ZHG 88.99 49 P **P** **23 31 34.0 +0.6**
I02D Swisshome 89.12 325 P **P** **23 31 34.4 +0.9**
baz=138
COR Corvallis 89.21 326 P **P** **23 31 35.1 +1.1**
COR pmax pmax
comp=Z,434nm,1.3s
COR Corvallis 89.21 326 P **P** **23 31 35.1 +1.1**
COR IAmb IAmb 23 31 53.5
comp=Z,434nm,1.3s
NEW Newport 89.29 331 P **P** **23 31 33.9 -0.4**
comp=Z,30nm,0.8s,baz=155,slow=6.8,SNR=14

NEW	**Newport**	**89.29**	**331**	P	**P**	**23 31 34.0**	**-0.4**
NEW				pmax	pmax		
	comp=Z,67nm,0.9s						
NEW	**Newport**	**89.29**	**331**	P	**P**	**23 31 34.0**	**-0.4**
NEW	**Newport**	**89.29**	**331**	P	**P**	**23 31 33.8**	**-0.5**
	baz=142,SNR=12						
F05D	**White Salmon**	**89.32**	**328**	P	**P**	**23 31 35.4**	**+0.9**
	baz=139,SNR=12						
G03D	**McMinnville, O**	**89.66**	**326**	P	**P**	**23 31 37.4**	**+1.3**
	baz=138						
OUZ	**Omahuta**	**89.74**	**228**	P	**P**	**23 31 37.2**	**+0.3**
CZD	**Col de Zad**	**89.77**	**50**	P	**P**	**23 31 39.0**	**+1.7**
CZD	**Col de Zad**	**89.77**	**50**	P	**P**	**23 31 39.0**	**+1.7**
CZD	**Col de Zad**	**89.77**	**50**	P	**P**	**23 31 39.0**	**+1.7**
CZD	**Col de Zad**	**89.77**	**50**	P	**P**	**23 31 39.0**	**+1.7**
CZD	**Col de Zad**	**89.77**	**50**	P	**P**	**23 31 39.0**	**+1.7**
FFC	**Flin Flon**	**89.81**	**343**	P	**P**	**23 31 36.3**	**-0.2**
FFC				pmax	pmax		
	comp=Z,159nm,1.2s						
FFC	**Flin Flon**	**89.81**	**343**	P	**P**	**23 31 36.3**	**-0.2**
MDT	**Midelt**	**89.92**	**51**	P	**P**	**23 31 38.6**	**+0.8**
MDT	**Midelt**	**89.92**	**51**	P	**P**	**23 31 38.6**	**+0.8**
MDT	**Midelt**	**89.92**	**51**	P	**P**	**23 31 38.6**	**+0.8**
MDT	**Midelt**	**89.92**	**51**	P	**P**	**23 31 40.7**	**+2.9**
PFVI	**Vila Bisbo**	**89.98**	**45**	*e*P	**P**	**23 31 38.3**	**+0.5**
	comp=Z,277nm,1.3s						
PFVI	**Vila Bisbo**	**89.98**	**45**	P	**P**	**23 31 37.9**	**+0.1**
PFVI	**Vila Bisbo**	**89.98**	**45**	P	**P**	**23 31 37.9**	**+0.1**
LTY	**Liberty**	**90.01**	**329**	P	**P**	**23 31 37.9**	**+0.1**
LSZ	**Lusaka**	**90.17**	**108**	P	**P**	**23 31 39.1**	**-0.3**
LSZ				pmax	pmax		
	comp=Z,775nm,1.4s						
LSZ	**Lusaka**	**90.17**	**108**	P	**P**	**23 31 39.1**	**-0.3**
F04D	**Rainier, OR**	**90.19**	**327**	P	**P**	**23 31 39.6**	**+1.1**
	baz=138						
MORF	**Marmelete**	**90.20**	**45**	*e*P	**P**	**23 31 39.6**	**+0.7**
MORF				IAmb	IAmb	23 31 42.7	
	comp=Z,216nm,1.3s						
MORF	**Marmelete**	**90.20**	**45**	*e*P	**P**	**23 31 39.6**	**+0.7**
MORF	**Marmelete**	**90.20**	**45**	*e*P	**P**	**23 31 39.9**	**+1.0**
	comp=Z,248nm,1.2s						
LCRM	**LCR**	**90.30**	**50**	P	**P**	**23 31 41.0**	**+1.4**
LCRM	**LCR**	**90.30**	**50**	P	**P**	**23 31 41.0**	**+1.4**
LCRM	**LCR**	**90.30**	**50**	P	**P**	**23 31 41.0**	**+1.4**
LCRM	**LCR**	**90.30**	**50**	P	**P**	**23 31 41.0**	**+1.4**
PTEO	**Sao Teotonio**	**90.31**	**45**	*e*P	**P**	**23 31 40.6**	**+1.3**
	comp=Z,539nm,1.2s						
E04D	**Cinebar**	**90.34**	**328**	P	**P**	**23 31 39.8**	**+0.6**
	baz=138						
RSA	**Sarsar**	**90.42**	**49**	P	**P**	**23 31 41.1**	**+1.1**
RSA	**Sarsar**	**90.42**	**49**	P	**P**	**23 31 41.1**	**+1.1**
RSA	**Sarsar**	**90.42**	**49**	P	**P**	**23 31 41.1**	**+1.1**
RSA	**Sarsar**	**90.42**	**49**	P	**P**	**23 31 41.1**	**+1.1**
PBDV	**Barranco-do-Ve**	**90.60**	**46**	*e*P	**P**	**23 31 41.7**	**+1.0**
	comp=Z,443nm,1.4s						
C06D	**Leavenworth**	**90.62**	**329**	P	**P**	**23 31 41.1**	**+0.6**
	baz=140						
PCVE	**Castro Verde**	**90.78**	**45**	*e*P	**P**	**23 31 42.6**	**+1.1**
	comp=Z,321nm,1.5s						
PNCL	**Nicolau / Gran**	**90.80**	**45**	*e*P	**P**	**23 31 42.2**	**+0.6**
	comp=Z,312nm,1.4s						
MESJ	**Messejana**	**90.81**	**45**	*e*P	**P**	**23 31 42.3**	**+0.7**
MESJ				IAmb	IAmb	23 31 46.4	
	comp=Z,399nm,1.4s						
MESJ	**Messejana**	**90.81**	**45**	*e*P	**P**	**23 31 42.3**	**+0.7**
MESJ	**Messejana**	**90.81**	**45**	*e*P	**P**	**23 31 42.3**	**+0.7**
	comp=Z,376nm,1.5s						
LIS	**Lisbon**	**90.82**	**44**	*e*P	**P**	**23 31 42.2**	**+0.6**
LIS				IAmb	IAmb	23 31 44.2	
	comp=Z,431nm,1.7s						
LIS	**Lisbon**	**90.82**	**44**	*e*P	**P**	**23 31 42.2**	**+0.6**
PVAQ	**Vaqueiros**	**90.83**	**46**	*e*P	**P**	**23 31 42.5**	**+0.7**
	comp=Z,452nm,1.5s						
PVAQ	**Vaqueiros**	**90.83**	**46**	P	**P**	**23 31 42.0**	**+0.3**
PVAQ				IAmb	IAmb	23 31 46.8	
	comp=Z,404nm,1.4s						
PVAQ	**Vaqueiros**	**90.83**	**46**	P	**P**	**23 31 42.2**	**+0.5**
PVAQ	**Vaqueiros**	**90.83**	**46**	P	**P**	**23 31 42.2**	**+0.5**
PVAQ	**Vaqueiros**	**90.83**	**46**	P	**P**	**23 31 43.1**	**+1.3**
CHEFC	**Chefchaouen**	**90.87**	**49**	P	**P**	**23 31 44.0**	**+1.9**
CHEFC	**Chefchaouen**	**90.87**	**49**	P	**P**	**23 31 44.0**	**+1.9**
CHEFC	**Chefchaouen**	**90.87**	**49**	P	**P**	**23 31 44.0**	**+1.9**
CHEFC	**Chefchaouen**	**90.87**	**49**	P	**P**	**23 31 44.0**	**+1.9**
D04E	**Lakebay**	**90.89**	**328**	P	**P**	**23 31 43.2**	**+1.4**
	baz=138						
PMAFR	**Mafra**	**90.90**	**44**	*e*P	**P**	**23 31 43.2**	**+1.2**
	comp=Z,412nm,1.4s						
PBEJ	**Beja**	**91.14**	**45**	*e*P	**P**	**23 31 43.8**	**+0.6**
	comp=Z,258nm,1.3s						
SMIR	**Smir Dam**	**91.20**	**48**	P	**P**	**23 31 45.0**	**+1.5**
SMIR	**Smir Dam**	**91.20**	**48**	P	**P**	**23 31 45.0**	**+1.5**
SMIR	**Smir Dam**	**91.20**	**48**	P	**P**	**23 31 45.0**	**+1.5**
EVO	**Evora**	**91.38**	**45**	*e*P	**P**	**23 31 45.0**	**+0.7**
	comp=Z,179nm,1.5s						
B05A	**Bryant**	**91.41**	**329**	P	**P**	**23 31 43.9**	**-0.2**
	baz=139,SNR=11						
PSBE	**So Bento**	**91.55**	**43**	*e*P	**P**	**23 31 45.8**	**+0.7**
	comp=Z,573nm,1.4s						
NLWA	**Neilton Lookou**	**91.55**	**327**	P	**P**	**23 31 45.6**	**+0.7**
PMTG	**Montargil**	**91.60**	**44**	*e*P	**P**	**23 31 46.2**	**+0.9**
	comp=Z,441nm,1.2s						
PBAR	**Barrancos**	**91.74**	**45**	*e*P	**P**	**23 31 46.3**	**+0.4**
	comp=Z,200nm,1.4s						
FIGM	**Figuig**	**91.76**	**53**	P	**P**	**23 31 48.0**	**+1.6**
FIGM	**Figuig**	**91.76**	**53**	P	**P**	**23 31 48.0**	**+1.6**
FIGM	**Figuig**	**91.76**	**53**	P	**P**	**23 31 48.0**	**+1.6**
FIGM	**Figuig**	**91.76**	**53**	P	**P**	**23 31 49.0**	**+2.6**
TDRA	**Tendrara**	**91.78**	**52**	P	**P**	**23 31 48.0**	**+1.4**
TDRA	**Tendrara**	**91.78**	**52**	P	**P**	**23 31 48.0**	**+1.4**
TDRA	**Tendrara**	**91.78**	**52**	P	**P**	**23 31 48.0**	**+1.4**
TDRA	**Tendrara**	**91.78**	**52**	P	**P**	**23 31 48.0**	**+1.4**
PESTR	**Estremoz**	**91.85**	**45**	*e*P	**P**	**23 31 47.1**	**+0.6**
	comp=Z,325nm,1.4s						
PESTR	**Estremoz**	**91.85**	**45**	P	**P**	**23 31 46.6**	**+0.1**
PESTR	**Estremoz**	**91.85**	**45**	P	**P**	**23 31 47.1**	**+0.6**
PESTR	**Estremoz**	**91.85**	**45**	P	**P**	**23 31 47.1**	**+0.6**
PESTR	**Estremoz**	**91.85**	**45**	P	**P**	**23 31 47.6**	**+1.1**
PESTR	**Estremoz**	**91.85**	**45**	P	**P**	**23 31 47.1**	**+0.6**
EDM	**Edmonton**	**91.89**	**336**	P	**P**	**23 31 45.7**	**-0.6**
EDM				pmax	pmax		
	comp=Z,151nm,1.0s						
EDM	**Edmonton**	**91.89**	**336**	P	**P**	**23 31 45.7**	**-0.6**
EDM				IAmb	IAmb	23 32 08.0	
	comp=Z,151nm,1.0s						
FCC	**Fort Churchill**	**91.89**	**348**	P	**P**	**23 31 46.6**	**+0.6**
FCC				pmax	pmax		
	comp=Z,189nm,1.1s						
FCC	**Fort Churchill**	**91.89**	**348**	P	**P**	**23 31 46.6**	**+0.6**
FCC				IAmb	IAmb	23 32 02.0	
	comp=Z,189nm,1.1s						
A04D	**Lummi Island**	**92.02**	**329**	P	**P**	**23 31 46.6**	**-0.3**
	baz=138,SNR=9.2						
PCAS	**Casmilo, Conde**	**92.07**	**43**	*e*P	**P**	**23 31 48.2**	**+0.7**
	comp=Z,224nm,1.6s						
JBK	**JBK**	**92.20**	**51**	P	**P**	**23 31 49.2**	**+0.7**
JBK	**JBK**	**92.20**	**51**	P	**P**	**23 31 50.0**	**+1.5**
JBK	**JBK**	**92.20**	**51**	P	**P**	**23 31 49.2**	**+0.7**
JBK	**JBK**	**92.20**	**51**	P	**P**	**23 31 49.2**	**+0.7**
COI	**Coimbra**	**92.22**	**43**	P	**P**	**23 31 48.5**	**+0.4**
COI				pmax	pmax		
	comp=Z,235nm,1.1s						
COI	**Coimbra**	**92.22**	**43**	*e*P	**P**	**23 31 49.1**	**+1.0**
	comp=Z,429nm,1.5s						
COI	**Coimbra**	**92.22**	**43**	P	**P**	**23 31 48.5**	**+0.4**
COI				IAmb	IAmb	23 31 51.4	
	comp=Z,235nm,1.1s						
PGC	**Sidney**	**92.29**	**329**	P	**P**	**23 31 48.7**	**+0.5**
PGC				IAmb	IAmb	23 31 57.4	
	comp=Z,318nm,1.9s						
PMRV	**Marv??o**	**92.32**	**44**	*e*P	**P**	**23 31 48.0**	**-0.7**
	comp=Z,193nm,1.4s						
GOG	**Mont Gurugu**	**92.45**	**50**	P	**P**	**23 31 51.0**	**+1.5**
GOG	**Mont Gurugu**	**92.45**	**50**	P	**P**	**23 31 51.0**	**+1.5**
GOG	**Mont Gurugu**	**92.45**	**50**	P	**P**	**23 31 51.0**	**+1.5**
GOG	**Mont Gurugu**	**92.45**	**50**	P	**P**	**23 31 51.0**	**+1.5**
PCBR	**Castelo Branco**	**92.54**	**44**	*e*P	**P**	**23 31 50.0**	**+0.4**
	comp=Z,232nm,1.3s						
TAF	**Taforalt**	**92.59**	**50**	P	**P**	**23 31 52.0**	**+1.9**
TAF	**Taforalt**	**92.59**	**50**	P	**P**	**23 31 52.0**	**+1.9**
TAF	**Taforalt**	**92.59**	**50**	P	**P**	**23 31 52.0**	**+1.9**
TAF	**Taforalt**	**92.59**	**50**	P	**P**	**23 31 52.0**	**+1.9**
PVIS	**Viseu**	**92.85**	**43**	*e*P	**P**	**23 31 51.3**	**+0.2**
	comp=Z,181nm,1.4s						
MTE	**Manteigas**	**92.85**	**43**	*e*P	**P**	**23 31 51.5**	**+0.4**
	comp=Z,283nm,1.4s						
MTE	**Manteigas**	**92.85**	**43**	P	**P**	**23 31 51.2**	**+0.1**
MTE				IAmb	IAmb	23 31 55.3	
	comp=Z,269nm,1.2s						
LLLB	**Lillooet**	**93.08**	**331**	P	**P**	**23 31 52.6**	**+0.7**
LLLB				IAmb	IAmb	23 33 11.9	
	comp=Z,218nm,1.7s						
PVRL	**Vila Real**	**93.31**	**43**	*e*P	**P**	**23 31 53.6**	**+0.4**
	comp=Z,285nm,1.4s						
POLO	**Lamas de Olo**	**93.33**	**43**	*e*P	**P**	**23 31 53.4**	**0.0**
	comp=Z,91nm,1.6s						
PCAB	**Cabril**	**93.41**	**42**	*e*P	**P**	**23 31 54.0**	**+0.3**
	comp=Z,184nm,1.7s						
MVO	**Moncorvo**	**93.64**	**43**	*e*P	**P**	**23 31 55.4**	**+0.6**
	comp=Z,285nm,1.4s						
PBRG	**Braganca**	**94.22**	**43**	*e*P	**P**	**23 31 57.5**	**+0.1**
	comp=Z,263nm,1.5s						
PAB	**San Pablo**	**94.23**	**46**	P	**P**	**23 31 57.6**	**0.0**
PAB				pmax	pmax		
	comp=Z,164nm,1.4s						
PAB	**San Pablo**	**94.23**	**46**	P	**P**	**23 31 57.5**	**0.0**
PAB				IAmb	IAmb	23 32 02.1	
	comp=Z,164nm,1.4s						
PAB	**San Pablo**	**94.23**	**46**	P	**P**	**23 31 57.9**	**+0.4**
PAB	**San Pablo**	**94.23**	**46**	P	**P**	**23 31 57.9**	**+0.4**
PAB	**San Pablo**	**94.23**	**46**	P	**P**	**23 31 59.3**	**+1.8**
ODJA	**Bouhanifia**	**94.39**	**51**	P	**P**	**23 32 01.0**	**+2.7**
ESDC	**Sonseca Array**	**94.55**	**46**	P	**P**	**23 31 58.8**	**-0.2**
	comp=Z,51nm,0.9s,baz=248,slow=4.2,SNR=42						
ESDC	**Sonseca Array**	**94.55**	**46**	P	**P**	**23 31 59.1**	**+0.1**
ESBB	**Sonseca Array**	**94.55**	**46**	P	**P**	**23 31 59.3**	**+0.3**
BBB	**Bella Bella**	**96.91**	**329**	P	**P**	**23 32 09.8**	**+0.5**
	comp=Z,22nm,0.9s,baz=209,slow=4.0,SNR=4.9						
BBB	**Bella Bella**	**96.91**	**329**	P	**P**	**23 32 10.1**	**+0.8**
SET	**Setif**	**98.61**	**53**	P	Pdif	23 32 19.0	+1.5
YKA	**Yellowknife Ar**	**99.85**	**341**	P	**Pdif**	**23 32 21.0**	**-1.2**
	comp=Z,10nm,0.8s,baz=134,slow=5.2,SNR=11						
YKA				PKKPbc	**PKKPbc**	**23 48 41.2**	**-3.0**
	comp=Z,7.2nm,1.0s,baz=332,slow=3.2,SNR=6.9						
YKA	**Yellowknife Ar**	**99.85**	**341**	Pdif	**Pdif**	**23 32 22.4**	**+0.2**
VOI	**Vohitsoka**	**100.57**	**124**	P	Pdif	23 32 43.7	+17
DYA	**Yadsworthy**	**101.06**	**37**	*e*P	**Pdif**	**23 32 26.1**	**-1.8**
KEST	**Kesra**	**101.09**	**55**	P	**Pdif**	**23 32 28.8**	**+0.3**
	comp=Z,20nm,0.8s,baz=225,slow=1.5,SNR=11						
KEST	**Kesra**	**101.09**	**55**	Pdif	**Pdif**	**23 32 29.8**	**+1.3**
HTL	**Hartland**	**101.11**	**36**	*e*P	**Pdif**	**23 32 27.4**	**-0.6**
RSBS	**Rosebush, Pemb**	**101.55**	**35**	*e*P	**Pdif**	**23 32 28.5**	**-1.6**
DLBC	**Dease Lake**	**101.98**	**333**	P	**Pdif**	**23 32 32.7**	**+0.8**
	comp=Z,11nm,0.8s,baz=200,slow=3.5,SNR=7.4						
DLBC	**Dease Lake**	**101.98**	**333**		**Pdif**	**23 32 34.2**	**+2.2**
MCH1	**Michaelchurch**	**102.45**	**36**	*e*P	**Pdif**	**23 32 32.7**	**-1.4**
LLW	**Llanuwychllyn**	**102.62**	**35**	*e*P	**Pdif**	**23 32 31.4**	**-3.4**
CLGH	**Cloghs, Cushen**	**102.79**	**32**	*e*P	**Pdif**	**23 32 34.4**	**-1.1**
HLM1	**Long Mynd**	**102.81**	**36**	*e*P	**Pdif**	**23 32 34.5**	**-1.2**
FOEL	**Foel Wyifa**	**102.87**	**35**	*e*P	**Pdif**	**23 32 34.7**	**-1.2**
DZM	**Oued Dzumac**	**103.05**	**234**	PKKPbc	PKKPbc	23 48 33.7	+0.4
	comp=Z,11nm,1.0s,baz=53,slow=14,SNR=4.5						
TGTN	**Hyland Airport**	**103.42**	**336**	Pdiff	**Pdif**	**23 32 39.0**	**+0.8**
	baz=133						
CWF	**Charnwood Fore**	**103.73**	**36**	*e*P	**Pdif**	**23 32 39.3**	**-0.4**
LBWR	**Ladybower, Pea**	**103.89**	**35**	*e*P	**Pdif**	**23 32 39.8**	**-0.7**
PGBU	**Glenifferbraes**	**103.97**	**32**	*e*P	**Pdif**	**23 32 39.4**	**-1.3**
HPK	**Haverah Park**	**104.26**	**35**	*e*P	**Pdif**	**23 32 41.7**	**-0.3**
KPL	**Plockton**	**104.35**	**31**	*e*P	**Pdif**	**23 32 41.6**	**-0.7**
INVG	**Invergeldie, C**	**104.53**	**32**	*e*P	**Pdif**	**23 32 42.0**	**-1.2**
ELMS	**Elmsett, Ipswi**	**104.55**	**37**	*e*P	**Pdif**	**23 32 41.6**	**-1.8**
EDMD	**Edmundbyers**	**104.58**	**34**	*e*P	**Pdif**	**23 32 42.1**	**-1.4**
ESY	**Stoneypath**	**104.89**	**33**	*e*P	**Pdif**	**23 32 45.6**	**+0.7**
EDU	**Tundee**	**105.06**	**32**	*e*P	**Pdif**	**23 32 45.1**	**-0.5**
KMBO	**Kilima Mbogo**	**105.36**	**101**	Pdiff	**Pdif**	**23 32 50.9**	**+2.5**
	comp=Z,3.7nm,1.2s,baz=23,slow=4.5,SNR=2.2						
SNF	**Seneffe**	**105.47**	**40**	*d*Pdif	**Pdif**	**23 32 48.1**	**+0.6**
BMRD	**Maredsous**	**105.63**	**40**	*d*Pdif	**Pdif**	**23 32 48.6**	**+0.4**
UCC	**Uccle**	**105.66**	**40**	*d*Pdif	**Pdif**	**23 32 48.3**	**-0.1**
UCC				*dp*PKiKP	**pPKiKP**	**23 37 11.4**	**+0.3**
BGES	**Gesves**	**105.85**	**40**	*d*Pdif	**Pdif**	**23 32 50.7**	**+1.5**
WLF	**Walferdange**	**106.08**	**41**	*d*Pdif	**Pdif**	**23 32 51.0**	**+0.7**
WLF				*d*PKiKP	**PKiKP**	**23 37 02.9**	**+0.7**
WLF				*dp*PKiKP	**pPKiKP**	**23 37 12.8**	**+0.9**
BSTI	**Sart Tilman**	**106.21**	**40**	*d*Pdif	**Pdif**	**23 32 51.4**	**+0.5**
MEM	**Membach**	**106.47**	**40**	*d*Pdif	**Pdif**	**23 32 54.9**	**+3.0**
MEM				*d*PKiKP	**PKiKP**	**23 37 09.6**	**+6.8**
BTNL	**Ternell**	**106.53**	**41**	*d*Pdif	**Pdif**	**23 32 52.9**	**+0.6**
BTNL				*d*PKiKP	**PKiKP**	**23 37 04.8**	**+1.8**
DAVOX	**Davos/Dischmat**	**106.87**	**45**	PKKPbc	PKKPbc	23 48 22.1	-0.7
	comp=Z,7.4nm,0.6s,baz=173,slow=6.3,SNR=5.6						
DAVA	**Damuels**	**107.11**	**45**	*e*P	**Pdif**	**23 32 57.1**	**+2.0**
	comp=Z,43nm,1.4s						
DAVA				*e*P	**PKiKP**	**23 37 05.7**	**+1.3**
	comp=Z,27nm,1.1s						
DAVA				*e*P	**PKKPbc**	**23 48 20.7**	**-1.4**
	comp=Z,12nm,0.9s						
FETA	**Feichten**	**107.50**	**45**	*e*P	**Pdif**	**23 32 56.8**	**-0.1**
	comp=Z,31nm,1.2s						
FETA				*e*P	**PKiKP**	**23 37 06.8**	**+1.7**
	comp=Z,36nm,1.2s						
FETA				*e*P	**PKKPbc**	**23 48 19.2**	**-1.6**
	comp=Z,14nm,1.3s						
RETA	**Reutte**	**107.73**	**45**	*e*P	**Pdif**	**23 32 58.5**	**+0.7**
	comp=Z,23nm,1.0s						
RETA				*e*P	**PKiKP**	**23 37 07.5**	**+2.1**
	comp=Z,23nm,1.2s						
RETA				*e*P	**PKKPbc**	**23 48 18.0**	**-2.0**
	comp=Z,19nm,1.3s						
MOTA	**Moosalm**	**107.88**	**45**	*e*P	**Pdif**	**23 32 58.8**	**+0.2**
	comp=Z,24nm,1.1s						
MOTA				*e*P	**PKiKP**	**23 37 06.9**	**+1.2**
	comp=Z,33nm,1.0s						
MOTA				*e*P	**PKKPbc**	**23 48 19.2**	**-0.4**
	comp=Z,13nm,1.3s						
SQTA	**Sankt Quirin**	**107.88**	**45**	*e*P	**Pdif**	**23 32 58.8**	**+0.3**
	comp=Z,35nm,0.9s						
SQTA				*e*P	**PKiKP**	**23 37 07.4**	**+1.7**
	comp=Z,0.7nm,0.3s						
SQTA				*e*P	**PKKPbc**	**23 48 18.8**	**-0.8**
	comp=Z,29nm,1.8s						
WATA	**Walderalm**	**108.16**	**45**	*e*P	**Pdif**	**23 33 01.1**	**+1.3**
	comp=Z,41nm,1.2s						
WATA				*e*P	**PKiKP**	**23 37 09.3**	**+3.0**
	comp=Z,34nm,1.3s						
WATA				*e*P	**PKKPbc**	**23 48 18.7**	**-0.1**
	comp=Z,12nm,1.2s						
WTTA	**Wattenberg**	**108.16**	**45**	*e*P	**Pdif**	**23 33 01.4**	**+1.5**
	comp=Z,46nm,2.0s						
WTTA				*e*P	**PKiKP**	**23 37 09.3**	**+3.0**
	comp=Z,32nm,1.0s						
WTTA				*e*P	**PKKPbc**	**23 48 18.6**	**-0.1**
	comp=Z,27nm,1.1s						
ABTA	**Abfaltersbach**	**108.47**	**46**	*e*P	**Pdif**	**23 33 02.5**	**+1.4**
	comp=Z,17nm,1.1s						
ABTA				*e*P	**PKiKP**	**23 37 08.7**	**+2.0**
	comp=Z,51nm,1.3s						
ABTA				*e*P	**PKKPbc**	**23 48 15.1**	**-2.5**
	comp=Z,11nm,1.2s						
MCARA	**McCarthy VSAT**	**108.99**	**331**	PKiKP	**PKiKP**	**23 37 08.7**	**+1.5**
	baz=121						
DAWY	**Dawson**	**109.00**	**334**	PKiKP	**PKiKP**	**23 37 08.6**	**+1.4**
	baz=123						
M27K	**Edge Creek, AK**	**109.04**	**332**	PKiKP	**PKiKP**	**23 37 08.7**	**+1.3**
	baz=122						
MYKA	**Terra Mystica**	**109.11**	**47**	*e*P	**Pdif**	**23 33 04.7**	**+0.7**
	comp=Z,9.8nm,1.1s						
MYKA				*e*P	**PKiKP**	**23 37 08.8**	**+0.9**
	comp=Z,67nm,1.3s						
MYKA				*e*P	**PKKPbc**	**23 48 13.7**	**-1.8**
	comp=Z,7.6nm,1.0s						
KBA	**Koelnbreinsper**	**109.12**	**46**	*e*P	**Pdif**	**23 33 02.7**	**-1.5**
	comp=Z,18nm,1.9s						
KBA				*e*P	**PKiKP**	**23 37 13.8**	**+5.7**
	comp=Z,24nm,1.2s						
KBA				*e*P	**PKKPbc**	**23 48 14.4**	**-1.2**
	comp=Z,5.7nm,0.9s						
L27K	**Beaver Creek,**	**109.39**	**333**	PKiKP	**PKiKP**	**23 37 09.4**	**+1.5**
	baz=122						
NEEM	**North Greenlan**	**109.42**	**5**	*i* P	**PKKPbc**	**23 48 12.9**	**-2.7**
INK	**Inuvik**	**109.50**	**340**	PKKPbc	PKKPbc	23 48 13.7	-1.1
	comp=Z,14nm,0.9s,baz=358,slow=4.4,SNR=7.2						
M26K	**Nabesna, AK**	**109.50**	**332**	PKiKP	**PKiKP**	**23 37 08.8**	**+0.6**
	baz=121						
STKA	**Stephens Creek**	**109.58**	**210**	PKiKP	**PKiKP**	**23 37 09.2**	**-0.2**
	comp=Z,5.4nm,0.8s,baz=149,slow=4.8,SNR=4.2						
STKA				PKKPbc	**PKKPbc**	**23 48 12.0**	**-1.5**
	comp=Z,5.7nm,0.7s,baz=341,slow=5.9,SNR=9.1						
OBKA	**Obir**	**109.62**	**47**	*e*P	**Pdif**	**23 33 06.8**	**+0.5**
	comp=Z,34nm,1.6s						
OBKA				*e*P	**PKiKP**	**23 37 14.5**	**+5.5**
	comp=Z,37nm,1.8s						
OBKA				*e*P	**PKKPab**	**23 48 24.2**	**+1.3**
	comp=Z,11nm,1.2s						
L26K	**Log Cabin Wild**	**109.96**	**333**	PKiKP	**PKiKP**	**23 37 09.7**	**+0.7**
	baz=120						
K27K	**Chicken**	**109.99**	**334**	PKiKP	**PKiKP**	**23 37 10.2**	**+1.2**
	baz=121						
SOKA	**Soboth**	**110.00**	**47**	*e*P	**Pdif**	**23 33 07.5**	**-0.4**
	comp=Z,21nm,1.5s						
SOKA				*e*P	**PKiKP**	**23 37 10.2**	**+0.5**
	comp=Z,25nm,1.7s						
SOKA				*e*P	**PKKPab**	**23 48 24.8**	**+3.6**
	comp=Z,4.3nm,0.7s						
MOA	**Molln**	**110.02**	**46**	*e*P	**Pdif**	**23 33 10.7**	**+2.8**
	comp=Z,10nm,1.3s						
MOA				*e*P	**PKiKP**	**23 37 11.7**	**+2.1**
	comp=Z,36nm,1.3s						
MOA				*e*P	**PKKPab**	**23 48 25.0**	**+4.1**
	comp=Z,7.1nm,0.9s						
EGAK	**Eagle**	**110.04**	**335**	PKiKP	**PKiKP**	**23 37 09.9**	**+0.9**
	baz=122						
GERES	**GERESS Array B**	**110.10**	**45**	PKiKP	**PKiKP**	**23 37 10.0**	**+0.2**
	comp=Z,14nm,0.9s,baz=191,slow=0.7,SNR=12						
GERES				PKKPbc	**PKKPbc**	**23 48 12.9**	**+0.5**
	comp=Z,5.3nm,0.9s,baz=48,slow=2.0,SNR=8.0						
KHC	**Kasperske Hory**	**110.15**	**44**	*e*PKiKP	**PKiKP**	**23 37 06.5**	**-3.3**
KHC				*e*		23 48 12.0	
KHC	**Kasperske Hory**	**110.15**	**44**	*e*PKP	**PKiKP**	**23 37 06.5**	**-3.3**
KHC				*e*PKKP	**PKKPbc**	**23 48 12.0**	**-0.2**
KLU	**Klutina**	**110.25**	**330**	PKiKP	**PKiKP**	**23 37 10.9**	**+1.2**
	baz=119						
ARSA	**Arzberg**	**110.54**	**47**	*e*P	**Pdif**	**23 33 14.0**	**+3.7**
	comp=Z,7.2nm,1.1s						
ARSA				*e*P	**PKiKP**	**23 37 11.8**	**+1.2**
	comp=Z,7.5nm,0.9s						
ARSA				*e*P	**PKKPab**	**23 48 21.2**	**+2.5**
	comp=Z,8.7nm,1.0s						
PBCC	**Pribram**	**110.63**	**44**	*e*PKP	**PKiKP**	**23 37 10.9**	**+0.3**
PBCC				*e*PKKP	**PKKPbc**	**23 48 11.1**	**+0.4**
M24K	**Tolsona, Glenn**	**110.65**	**331**	PKiKP	**PKiKP**	**23 37 11.3**	**+0.9**
	baz=118						
SCRK	**Sand Creek**	**110.69**	**333**	PKiKP	**PKiKP**	**23 37 11.3**	**+0.8**
	baz=120						
CLL	**Collm**	**110.72**	**42**	*e*Pdif	**Pdif**	**23 33 12.0**	**+1.1**
CLL				*e*PKiKP	**PKiKP**	**23 37 10.0**	**-0.7**
CLL				*e*PP	**PP**	**23 37 51.0**	**+2.5**
CLL	**Collm**	**110.72**	**42**	*e*P	**Pdif**	**23 33 12.0**	**+1.1**
CLL				*e*		23 37 10.0	
CLL				*e*		23 43 40.0	
SNART	**Snartemo**	**110.73**	**34**	*e*PP	**PP**	**23 37 47.4**	**-0.9**
ASK	**Askoy**	**110.78**	**31**	*e*PP	**PP**	**23 37 48.2**	**-0.4**
BER	**Bergen**	**110.80**	**31**	*e*Pdif	**Pdif**	**23 33 11.8**	**+0.8**
BER				*e*PP	**PP**	**23 37 48.8**	**+0.1**
BER				*e*		23 42 17.9	
BER	

NB2	**NORSAR Subarra**	**113.70**	**32**	PKPdf	**PKiKP**	**23 37 15.8**	**-0.4**		
	baz=248,slow=1.9								
NOA	**NORSAR Array B**	**113.70**	**32**	PKiKP	**PKiKP**	**23 37 16.2**	**0.0**		
	comp=Z,9.8nm,0.9s,baz=250,slow=1.8,SNR=15								
NOA				PKKPbc	**PKKPab**	**23 48 05.8**	**+1.6**		
	comp=Z,9.4nm,0.9s,baz=69,slow=4.4,SNR=16								
N19K	**Bonanza Creek**	**113.71**	**328**	PKiKP	**PKiKP**	**23 37 15.5**	**-0.7**		
	baz=112								
LANS	**Liptovska Anna**	**113.71**	**46**	*e*	**PKiKP**	**23 37 18.1**	**+1.5**		
NC602	**NORSAR Array S**	**113.73**	**32**	*e*PKPdf	**PKiKP**	**23 37 16.4**	**+0.3**		
VTS	**Vitosha**	**113.79**	**54**	⇓P	**PKiKP**	**23 37 17.5**	**+0.4**		
VTS	**Vitosha**	**113.79**	**54**	⇓PKiKP	**PKiKP**	**23 37 17.5**	**+0.4**		
BZS	**Buzias**	**113.80**	**50**	⇑P	**PKiKP**	**23 37 16.5**	**-0.3**		
BZS	**Buzias**	**113.80**	**50**	⇑PKiKP	**PKiKP**	**23 37 16.5**	**-0.3**		
GKP	**Gorka Klasztor**	**113.88**	**41**	*e*PKiKP	**PKiKP**	**23 37 17.2**	**+0.5**		
CHUM	**Lake Minchumin**	**113.95**	**331**	PKiKP	**PKiKP**	**23 37 16.6**	**+0.1**		
	baz=113								
HERR	**Herculane**	**114.06**	**51**	⇓P	**PKiKP**	**23 37 17.9**	**+0.6**		
HERR	**Herculane**	**114.06**	**51**	⇑P	**PKKPbc**	**23 47 58.1**	**-0.9**		
COLD	**Coldfoot**	**114.44**	**335**	PKiKP	**PKiKP**	**23 37 18.4**	**+1.0**		
	baz=113								
K20K	**Telida**	**114.48**	**331**	PKiKP	PKPdf	23 37 17.3	-0.2		
	baz=112								
GZR	**Gura Zlata**	**114.48**	**51**	⇑P	PKPdf	23 37 17.9	-0.3		
GZR	**Gura Zlata**	**114.48**	**51**	⇓P	**PKKPbc**	**23 47 58.7**	**+1.1**		
GZR	**Gura Zlata**	**114.48**	**51**	⇑PKiKP	PKPdf	23 37 17.9	-0.3		
LTVH	**Ltavrtes, Hu**	**114.61**	**48**	⇓P	**PKiKP**	**23 37 19.2**	**+1.0**		
TOLK	**Toolik Lake Re**	**114.78**	**337**	PKiKP	**PKiKP**	**23 37 18.6**	**+0.5**		
	baz=113								
J20K	**Nowinta River**	**114.81**	**331**	PKiKP	**PKiKP**	**23 37 19.4**	**+1.3**		
	baz=111								
H21K	**Melozitna Rive**	**114.81**	**333**	PKiKP	**PKiKP**	**23 37 19.0**	**+0.8**		
	baz=112								
CRVS	**Cervenica-Dubn**	**114.85**	**47**	*e*	PKPdf	23 37 18.4	-0.3		
DRGR		**114.92**	**49**	⇑P	**PKiKP**	**23 37 19.0**	**0.0**		
DRGR		**114.92**	**49**	⇑P	**PKKPbc**	**23 47 54.1**	**-2.1**		
DRGR		**114.92**	**49**	⇑PKiKP	PKPdf	23 37 19.0	0.0		
LOT	**Lotru**	**115.15**	**51**	⇑P	**PKKPbc**	**23 47 57.0**	**+1.6**		
UZH	**Uzhgorod**	**115.28**	**47**	*e*PKiKP	**PKPdf**	**23 37 18.3**	**-1.2**		
NSS	**Namsos**	**115.29**	**28**	*e*PKPdf	**PKPdf**	**23 37 18.8**	**-0.2**		
IMAR	**Indian Mountai**	**115.30**	**333**		**PKiKP**	**23 37 18.6**	**-0.5**		
FORT	**Forrest**	**115.32**	**199**		**PKiKP**	**23 37 19.2**	**-1.2**		
KOLS	**Kolonicke sedl**	**115.37**	**47**	*e*	**PKPdf**	**23 37 14.7**	**-5.0**		
NWAO	**Narrogin (SRO)**	**115.37**	**188**	PKKPbc	PKKPbc	23 47 54.0	-0.4		
	comp=Z,13nm,1.0s,baz=3.4,slow=4.6,SNR=4.4								
NWAO	**Narrogin (SRO)**	**115.37**	**188**	PKiKP	**PKiKP**	**23 37 19.7**	**-0.7**		
NWAO	**Narrogin (SRO)**	**115.37**	**188**	PKPdf	**PKiKP**	**23 37 19.6**	**-0.7**		
HUMR	**Humele**	**115.65**	**52**	⇑P	**PKPdf**	**23 37 20.1**	**-0.3**		
HUMR	**Humele**	**115.65**	**52**	⇓P	**PKKPbc**	**23 47 54.5**	**+1.1**		
ARR	**Arges**	**115.70**	**51**	⇑P	**PKKPbc**	**23 47 55.2**	**+1.8**		
BMR	**Baia Mare**	**115.72**	**48**	⇓P	**PKiKP**	**23 37 20.7**	**+0.3**		
BMR	**Baia Mare**	**115.72**	**48**	⇑P	**PKKPbc**	**23 47 59.1**	**+5.7**		
BMR	**Baia Mare**	**115.72**	**48**	⇓PKiKP	**PKiKP**	**23 37 20.7**	**+0.3**		
KWP	**Kalwaria Pacla**	**115.87**	**46**	PKiKP	**PKiKP**	**23 37 21.0**	**+0.3**		
KWP	**Kalwaria Pacla**	**115.87**	**46**		**PKiKP**	**23 37 21.0**	**+0.3**		
KLNR	**Kaliningrad**	**115.99**	**40**	⇑*i*PKiKP	**PKPdf**	**23 37 20.6**	**0.0**		
VOIR		**116.00**	**51**	⇓P	**PKPdf**	**23 37 21.0**	**-0.1**		
VOIR		**116.00**	**51**	⇓PKiKP	**PKPdf**	**23 37 21.0**	**-0.1**		
BALB	**Balikesir**	**116.00**	**58**		**PKPdf**	**23 37 21.0**	**-0.2**		
AKAS	**Kas**	**116.07**	**62**		**PKPdf**	**23 37 21.4**	**-0.3**		
ARCR	**ARCALIA**	**116.08**	**49**	⇓P	**PKiKP**	**23 37 21.3**	**+0.2**		
SGRR	**Singureni**	**116.22**	**53**	⇑P	**PKiKP**	**23 37 21.7**	**+0.2**		
NOR	**Nord**	**116.25**	**8**	*i* P	**PKiKP**	**23 37 21.0**	**+0.5**		
NOR				IAmb	IAmb	23 37 26.8			
	comp=Z,37nm,1.0s								
RAZG	**Razgrad**	**116.36**	**53**	⇓P	**PKPdf**	**23 37 21.5**	**-0.3**		
DOPR	**Dopca**	**116.39**	**51**	⇑P	**PKPdf**	**23 37 21.6**	**-0.2**		
KONS	**Konsvik**	**116.40**	**26**	*e*PKPdf	**PKiKP**	**23 37 22.2**	**+1.1**		
KONS				*e*SP	SP	23 48 02.1	-3.8		
ELL	**Elmali**	**116.48**	**62**	PKiKP	**PKiKP**	**23 37 22.7**	**+0.3**		
ELL	**Elmali**	**116.48**	**62**		**PKiKP**	**23 37 22.7**	**+0.3**		
SECR		**116.55**	**52**	⇑P	**PKiKP**	**23 37 22.4**	**+0.3**		
SECR		**116.55**	**52**	⇓P	**PKKPbc**	**23 47 52.3**	**+1.9**		
MLR	**Muntele Rosu**	**116.61**	**51**	⇑P	**PKPdf**	**23 37 21.9**	**-0.5**		
MLR	**Muntele Rosu**	**116.61**	**51**	⇑PKiKP	**PKPdf**	**23 37 21.9**	**-0.5**		
OZUR		**116.70**	**51**	⇑P	**PKKPbc**	**23 47 54.8**	**+4.9**		
LVV	**L'vov**	**116.74**	**46**	*e*PKiKP	**PKPdf**	**23 37 20.9**	**-1.4**		
BUR08	**Bucovina Ar. S**	**116.80**	**49**		**PKPdf**	**23 37 22.2**	**-0.4**		
BURAR	**Bucovina Array**	**116.81**	**49**	⇓P	**PKPdf**	**23 37 22.1**	**-0.5**		
BURAR	**Bucovina Array**	**116.81**	**49**	⇓P	**PKKPbc**	**23 47 53.3**	**+0.7**		
BURAR	**Bucovina Array**	**116.81**	**49**	⇓PKiKP	**PKPdf**	**23 37 22.1**	**-0.5**		
BURAR	**Bucovina Array**	**116.81**	**49**	PKPdf	**PKPdf**	**23 37 22.0**	**-0.6**		
MOR8	**Moi Rana**	**116.81**	**27**	*e*PKPdf	**PKPdf**	**23 37 22.4**	**+0.5**		
MOR8				*e*SKPdf	**SKiKP**	**23 40 55.8**	**+0.3**		
MOR8				*e*SKSac	**SKSac**	**23 44 10.5**	**-0.4**		
NEHR	**Nehoiu**	**116.82**	**51**	⇓P	**PKPdf**	**23 37 21.9**	**-0.8**		
NEHR	**Nehoiu**	**116.82**	**51**	⇑P	**PKKPab**	**23 47 51.5**	**+0.2**		
COVR	**Voineasa-Covas**	**116.89**	**51**	⇑P	**PKiKP**	**23 37 26.5**	**+3.7**		
COVR	**Voineasa-Covas**	**116.89**	**51**	⇑P	**PKKPab**	**23 47 54.7**	**+3.7**		
LOF	**Lofoten**	**117.05**	**25**	*e*Pdif	**Pdif**	**23 33 39.6**	**+1.0**		
LOF				*e*PKPdf	**PKPdf**	**23 37 21.7**	**-0.6**		
PGOR	**Pogoanele**	**117.12**	**52**	⇓P	**PKiKP**	**23 37 24.1**	**+0.9**		
BISRR	**Bisoca**	**117.14**	**51**	⇑P	**PKiKP**	**23 37 23.3**	**0.0**		
BISRR	**Bisoca**	**117.14**	**51**	⇑P	**PKKPab**	**23 47 50.0**	**0.0**		
BIZ	**Bicaz**	**117.17**	**50**	⇑P	**PKiKP**	**23 37 23.3**	**0.0**		
BIZ	**Bicaz**	**117.17**	**50**	⇑P	**PKKPab**	**23 47 48.3**	**-1.3**		
CTAO	**Charters Tower**	**117.18**	**220**	PKiKP	**PKPdf**	**23 37 23.5**	**-0.7**		
CTAO	**Charters Tower**	**117.18**	**220**	PKPdf	**PKPdf**	**23 37 23.5**	**-0.7**		
PLOR	**Plostina**	**117.19**	**51**	⇑P	**PKPdf**	**23 37 22.2**	**-1.2**		
PLOR	**Plostina**	**117.19**	**51**	⇑P	**PKKPab**	**23 47 51.4**	**+1.7**		
PLOR	**Plostina**	**117.19**	**51**	⇑PKiKP	**PKPdf**	**23 37 22.2**	**-1.2**		
VRI	**Vrincioaia**	**117.25**	**51**	⇓P	**PKPdf**	**23 37 22.7**	**-0.7**		
VRI	**Vrincioaia**	**117.25**	**51**	⇑P	**PKKPab**	**23 47 48.2**	**-1.2**		
VRI	**Vrincioaia**	**117.25**	**51**	⇓PKiKP	**PKPdf**	**23 37 22.7**	**-0.7**		
PBUR	**Paburge**	**117.35**	**39**	*e*P	**PKiKP**	**23 37 23.6**	**+0.3**		
PRAR	**RASCĂ**	**117.38**	**49**	⇓P	**PKKPab**	**23 47 52.1**	**+3.4**		
TESR	**Tescani**	**117.40**	**50**	⇑P	**PKPdf**	**23 37 23.2**	**-0.5**		
TESR	**Tescani**	**117.40**	**50**	⇑P	**PKKPab**	**23 47 52.3**	**+3.6**		
ODBI	**Odobesti**	**117.44**	**51**	⇓P	**PKiKP**	**23 37 23.9**	**+0.1**		
SUW	**Suwalki**	**117.47**	**42**	*e*PKiKP	**PKPdf**	**23 37 23.2**	**-0.3**		
SUW	**Suwalki**	**117.47**	**42**	*e*P	**PKiKP**	**23 37 23.8**	**+0.2**		
SUW	**Suwalki**	**117.47**	**42**	PKiKP	**PKPdf**	**23 37 22.9**	**-0.7**		
SUW	**Suwalki**	**117.47**	**42**		**PKPdf**	**23 37 22.9**	**-0.7**		
FAUS	**Fauske**	**117.48**	**26**	*e*PKPdf	**PKiKP**	**23 37 23.6**	**+0.4**		
AAL	**Aland**	**117.51**	**34**	*e*P	**PKPdf**	**23 37 23.0**	**-0.5**		
STEI	**Steigen**	**117.61**	**25**	*e*PKPdf	**PKiKP**	**23 37 23.7**	**+0.2**		
HARR	**Harsova**	**117.69**	**53**	⇓P	**PKiKP**	**23 37 24.4**	**+0.1**		
HARR	**Harsova**	**117.69**	**53**	⇓P	**PKKPab**	**23 47 47.3**	**-0.2**		
HARR	**Harsova**	**117.69**	**53**	⇓PKiKP	**PKiKP**	**23 37 24.4**	**+0.1**		
TLBR	**Topalu**	**117.73**	**53**	⇑P	**PKiKP**	**23 37 24.8**	**+0.5**		
GHRR		**117.76**	**51**	⇑P	**PKPdf**	**23 37 24.0**	**-0.4**		
GHRR		**117.76**	**51**	⇑P	**PKKPab**	**23 47 48.6**	**+1.5**		
MANR	**Mangalia**	**117.87**	**54**	⇓P	**PKiKP**	**23 37 25.0**	**+0.3**		
TIRR	**Tirgusor**	**117.95**	**53**	⇓P	**PKiKP**	**23 37 25.0**	**+0.2**		
TIRR	**Tirgusor**	**117.95**	**53**	⇑P	**PKKPab**	**23 47 48.0**	**+1.6**		
TIRR	**Tirgusor**	**117.95**	**53**	⇓PKiKP	**PKiKP**	**23 37 25.0**	**+0.2**		
SLIT	**Slitere, Latvi**	**117.98**	**37**	*e*P	**PKPdf**	**23 37 23.2**	**-1.2**		
CFR	**Carcaliu**	**117.98**	**52**	⇓P	**PKiKP**	**23 37 24.9**	**+0.1**		
CFR	**Carcaliu**	**117.98**	**52**	⇓PKiKP	**PKiKP**	**23 37 24.9**	**+0.1**		
SCTR	**Scanteiesti**	**118.04**	**52**	⇓P	**PKiKP**	**23 37 25.3**	**+0.4**		
TATR	**Tatarca**	**118.05**	**52**	⇑P	**PKPdf**	**23 37 24.9**	**-0.1**		
TPGR	**Topolog**	**118.08**	**53**	⇑P	**PKPdf**	**23 37 24.5**	**-0.6**		
TPGR	**Topolog**	**118.08**	**53**	⇑P	**PKKPab**	**23 47 46.8**	**+0.9**		
VLDR	**Vladesti**	**118.14**	**51**	⇑P	**PKKPbc**	**23 47 44.3**	**-0.3**		
LEF	**Lefka**	**118.18**	**64**	⇑P	**PKiKP**	**23 37 25.8**	**+0.3**		
VASR	**Vaslui**	**118.19**	**50**	⇓P	**PKPdf**	**23 37 25.0**	**-0.2**		
IAS	**Iasi**	**118.20**	**50**	⇓P	**PKPdf**	**23 37 25.1**	**-0.1**		
IAS	**Iasi**	**118.20**	**50**	⇓PKiKP	**PKPdf**	**23 37 25.1**	**-0.1**		
PABE	**Paberze**	**118.32**	**40**	*e*P	**PKiKP**	**23 37 25.4**	**+0.3**		
PABE	**Paberze**	**118.32**	**40**	PKPdf	**PKPdf**	**23 37 24.5**	**-0.6**		
JURR	**Jurilovca**	**118.36**	**53**	⇓P	**PKPdf**	**23 37 25.5**	**-0.1**		
TLCR		**118.44**	**52**	⇑P	**PKiKP**	**23 37 26.0**	**+0.3**		
TLCR		**118.44**	**52**	⇑PKiKP	**PKiKP**	**23 37 26.0**	**+0.3**		
CSS	**Mathiatis**	**118.47**	**65**	PKPdf	**PKPdf**	**23 37 25.8**	**-0.3**		
RAF	**Rauma**	**118.57**	**34**	*e*P	**PKPdf**	**23 37 25.0**	**-0.4**		
RAF	**Rauma**	**118.57**	**34**	*e*P	**PKKPbc**	**23 47 43.3**	**-0.2**		
MDUB	**Mudurnu**	**118.68**	**58**	PKPdf	**PKPdf**	**23 37 25.6**	**-0.8**		
NIKH	**Nikolski High**	**118.69**	**317**	PKiKP	**PKiKP**	**23 37 27.3**	**+1.3**		
	baz=105								
MILM	**Milestii Mici**	**118.94**	**50**	⇓P	**PKPdf**	**23 37 26.2**	**-0.4**		
SORM	**Soroca**	**118.97**	**49**	⇓P	**PKPdf**	**23 37 25.1**	**-1.5**		
SORM	**Soroca**	**118.97**	**49**	⇓PKiKP	**PKPdf**	**23 37 25.1**	**-1.5**		
MTSE	**Matsula**	**119.03**	**36**	*e*P	**PKiKP**	**23 37 26.6**	**+0.2**		
MTSE	**Matsula**	**119.03**	**36**	*e*P	**PKKPbc**	**23 47 42.7**	**+0.9**		
TRO	**Tromso**	**119.32**	**24**	*e*Pdif	**Pdif**	**23 33 49.4**	**+0.7**		
TRO				*e*PKPdf	**PKiKP**	**23 37 26.9**	**+0.2**		
TRO				*e*SKSac	**SKSac**	**23 44 15.7**	**-4.1**		
TRO				*e*SS	**SS**	**23 55 13.7**	**+5.4**		
MORW	**Morawa**	**119.32**	**188**	PKPdf	**PKPdf**	**23 37 26.6**	**-1.6**		
RDOG	**Red Dog Mine**	**119.32**	**334**		**PKiKP**	**23 37 27.6**	**+0.8**		
RDOG	**Red Dog Mine**	**119.32**	**334**	PKiKP	**PKiKP**	**23 37 28.4**	**+1.6**		
	baz=102								
KBS	**Kingsbay**	**119.45**	**13**	*i* P	**PKiKP**	**23 37 28.1**	**+1.3**		
KBS	**Kingsbay**	**119.45**	**13**	*e*PKPdf	**PKiKP**	**23 37 27.5**	**+0.7**		
ISAL	**Salakas**	**119.52**	**40**	*e*P	**PKiKP**	**23 37 28.1**	**+0.5**		
IIGN	**Ignalina**	**119.53**	**41**	*e*P	**PKPdf**	**23 37 27.4**	**0.0**		
PURM	**Purcari**	**119.53**	**51**	⇓P	**PKPdf**	**23 37 27.6**	**-0.2**		
PURM	**Purcari**	**119.53**	**51**	⇑P	**PKKPab**	**23 47 39.6**	**+0.3**		
BR231	**Keskin MP Arra**	**119.63**	**59**		**PKiKP**	**23 37 28.7**	**+0.3**		
MEF	**Metsahovi**	**119.65**	**35**	*e*P	**PKPdf**	**23 37 27.4**	**-0.1**		
MEF	**Metsahovi**	**119.65**	**35**	*e*P	**PKKPab**	**23 47 40.1**	**+2.0**		
ANTO	**Ankara**	**119.66**	**59**	PKiKP	**PKPdf**	**23 37 28.0**	**-0.3**		
ANTO	**Ankara**	**119.66**	**59**	PKPdf	**PKPdf**	**23 37 28.0**	**-0.3**		
NACGM	**Naroch**	**119.73**	**41**	*i* PKP	**PKPdf**	**23 37 24.1**	**-3.7**		
JETT	**Jettan, Norway**	**119.81**	**24**	*e*PKPdf	**PKiKP**	**23 37 28.8**	**+1.0**		
AS31	**Alice Springs**	**119.97**	**207**	PKPdf	**PKPdf**	**23 37 27.7**	**-1.8**		
ASAR	**Alice Springs**	**119.97**	**207**	PKP	**PKPdf**	**23 37 28.7**	**-0.8**		
	comp=Z,44nm,0.9s,baz=135,slow=2.0,SNR=33								
ASAR				PKKPbc	**PKKPbc**	**23 47 36.4**	**-1.5**		
	comp=Z,20nm,0.9s,baz=334,slow=3.1,SNR=24								
ASAR	**Alice Springs**	**119.97**	**207**	PKiKP	**PKPdf**	**23 37 27.8**	**-1.8**		
ASAR	**Alice Springs**	**119.97**	**207**	PKPdf	**PKPdf**	**23 37 27.8**	**-1.8**		
SPA0	**Spitsbergen Ar**	**120.17**	**14**	*e*PKPdf	**PKiKP**	**23 37 28.1**	**-0.1**		
SPITS	**Spitsbergen Ar**	**120.17**	**14**	PKKPbc	PKKPbc	23 47 35.5	-2.4		
	comp=Z,8.2nm,0.6s,baz=95,slow=10,SNR=7.5								
SPITS	**Spitsbergen Ar**	**120.17**	**14**	PKiKP	**PKiKP**	**23 37 28.2**	**-0.1**		
SPB2	**Spitsbergen Ar**	**120.17**	**14**		**PKiKP**	**23 37 28.5**	**+0.2**		
AKASG	**Malin Array Be**	**120.19**	**46**	PKP	**PKPdf**	**23 37 28.1**	**-0.8**		
	comp=Z,63nm,0.9s,baz=269,slow=2.4,SNR=37								
AKASG				PKKPbc	**PKKPbc**	**23 47 38.6**	**+1.4**		
	comp=Z,10nm,0.9s,baz=62,slow=4.1,SNR=9.5								
AKASG	**Malin Array Be**	**120.19**	**46**	PKiKP	**PKPdf**	**23 37 27.3**	**-1.6**		
AKASG	**Malin Array Be**	**120.19**	**46**	PKPdf	**PKPdf**	**23 37 27.3**	**-1.6**		
AKBB	**Malin Array Si**	**120.19**	**46**	⇓*i*PKiKP	**PKPdf**	**23 37 27.4**	**-1.5**		
BJO1	**Bjornoya**	**120.21**	**18**	*e*PKPdf	**PKiKP**	**23 37 28.9**	**+0.5**		
BR131	**Keskin Array S**	**120.23**	**59**	PKiKP	**PKPdf**	**23 37 28.4**	**-1.2**		
BR131	**Keskin Array S**	**120.23**	**59**		**PKPdf**	**23 37 28.4**	**-1.2**		
BRTR	**Keskin Array B**	**120.23**	**59**	PKP	**PKPdf**	**23 37 29.4**	**-0.2**		
	comp=Z,45nm,0.8s,baz=192,slow=3.1,SNR=38								
BRTR	**Keskin Array B**	**120.23**	**59**	PKiKP	**PKPdf**	**23 37 28.2**	**-1.4**		
BRTR	**Keskin Array B**	**120.23**	**59**	PKPdf	**PKPdf**	**23 37 28.2**	**-1.4**		
MNK	**Minsk**	**120.27**	**42**	*i* PKiKP	**PKPdf**	**23 37 28.4**	**-0.5**		
MNK				*i*		23 38 54.6			
MNK				*i* PPP	PPP	23 41 27.8			
MNK				*i*		23 44 37.8			
MNK				*i* PS	PKKPdf	23 48 45.3	+35		
MNK				*i* SS	SS	23 55 21.8	+0.4		
MNK				*i* SSS	SSS	23 59 49.0			
MNK				pmax	pmax				
	comp=Z,229nm,0.9s								
MNK				pmax	pmax				
	comp=E,5.0nm,0.9s								
MNK				pmax	pmax				
	comp=N,43nm,0.9s								
MNK				MLR	MLR				
	comp=E,23μm,23.0s								
MNK				MLR	MLR				
	comp=Z,159μm,25.0s								
MNK				MLR	MLR				
	comp=N,37μm,15.0s								
MNK	**Minsk**	**120.27**	**42**	*i* PKP	**PKPdf**	**23 37 28.5**	**-0.4**		
	comp=E,5.0nm,0.9s								
MNK				*i* PKP	**PKPdf**	**23 37 28.5**	**-0.4**		
	comp=N,43nm,0.9s								
MNK				*i* PKP	**PKPdf**	**23 37 28.5**	**-0.4**		
	comp=Z,229nm,0.9s,baz=257								
MNK				*i* PP	**PP**	**23 38 54.6**	**-0.8**		
MNK				*i* PPP	PPP	23 41 27.9			
MNK				*i* SKS	**SKSdf**	**23 44 37.8**	**-0.7**		
MNK				*i* PS	**PS**	**23 48 45.4**	**-0.4**		
MNK				*i* SS	**SS**	**23 55 21.8**	**+0.5**		
MNK				*i* SSS	SSS	23 59 49.0			
VSU	**Vasula**	**120.47**	**37**	*e*P	**PKiKP**	**23 37 29.3**	**0.0**		
VSU	**Vasula**	**120.47**	**37**	*e*P	**PKKPbc**	**23 47 37.2**	**+0.8**		
VSU	**Vasula**	**120.47**	**37**	*c* i PKiKP	**PKPdf**	**23 37 28.8**	**-0.4**		
ILGA	**Ilgaz**	**120.68**	**58**		**PKPdf**	**23 37 30.0**	**-0.5**		
FINES	**FINESS Array B**	**120.70**	**34**	PKP	**PKiKP**	**23 37 29.7**	**0.0**		
	comp=Z,34nm,0.9s,baz=108,slow=0.6,SNR=19								
FINES				PKKPbc	**PKKPbc**	**23 47 35.0**	**-0.6**		
	comp=Z,12nm,0.9s,baz=70,slow=3.6,SNR=7.1								
FINES	**FINESS Array B**	**120.70**	**34**	PKPdf	**PKPdf**	**23 37 29.6**	**0.0**		
FIA1	**FINESS Array S**	**120.70**	**34**	PKPdf	**PKiKP**	**23 37 29.8**	**+0.1**		
KTK1	**Kautokeino**	**120.72**	**25**	*e*PKPdf	**PKiKP**	**23 37 29.5**	**0.0**		
KTK1				*e*SKSac	**SKSac**	**23 44 24.3**	**-0.4**		
TNA	**Tin City**	**120.84**	**331**	PKiKP	**PKiKP**	**23 37 31.4**	**+1.6**		
	baz=99								
HAMF	**Hammerfest**	**121.08**	**23**	*e*PKPdf	**PKiKP**	**23 37 30.4**	**+0.2**		
HAMF				*e*SKSac	**SKSac**	**23 44 25.1**	**-0.8**		
ARCES	**ARCESS Array B**	**121.58**	**24**	PKP	**PKiKP**	**23 37 31.1**	**-0.1**		
	comp=Z,17nm,0.6s,baz=267,slow=2.4,SNR=18								
ARCES				PKKPbc	**PKKPab**	**23 47 30.7**	**+1.2**		
	comp=Z,15nm,0.8s,baz=56,slow=3.1,SNR=11								
ARCES	**ARCESS Array B**	**121.58**	**24**	PKiKP	**PKPdf**	**23 37 30.4**	**-0.7**		
ARCES	**ARCESS Array B**	**121.58**	**24**	PKPdf	**PKPdf**	**23 37 30.4**	**-0.7**		
BNN	**Bunyan**	**121.61**	**61**	PKPdf	**PKPdf**	**23 37 32.1**	**-0.2**		
ATKA	**Atka Island**	**121.68**	**315**	PKPdf	**PKiKP**	**23 37 30.8**	**-0.9**		
HOPEN	**Hopen**	**121.90**	**16**	*e*PKPdf	**PKiKP**	**23 37 31.6**	**0.0**		
DIKM	**Dikmen**	**121.96**	**58**	⇑P	**PKiKP**	**23 37 28.6**	**-4.0**		
SIM	**Simferopol'**	**122.00**	**54**	*c* i PKiKP	**PKPdf**	**23 37 31.1**	**-1.5**		
SIM				*e*		23 39 11.0			
SIM				pmax	pmax				
	comp=Z,140nm,1.3s								
SNOP	**Sinop**	**122.02**	**57**	PKPdf	**PKPdf**	**23 37 32.2**	**-0.5**		
KEV	**Kevo**	**122.13**	**24**	PKiKP	**PKPdf**	**23 37 31.9**	**-0.2**		
KEV	**Kevo**	**122.13**	**24**	PKPdf	**PKiKP**	**23 37 31.9**	**-0.2**		
GAZ	**Gaziantep**	**122.15**	**63**	PKPdf	**PKPdf**	**23 37 32.4**	**-0.8**		
PUL	**Pulkovo**	**122.51**	**36**	*e*P	**PKiKP**	**23 37 33.4**	**+0.1**		
PUL	**Pulkovo**	**122.51**	**36**	⇓*i*PKiKP	**PKPdf**	**23 37 32.5**	**-0.6**		
PUL				pmax	pmax				
	comp=Z,298nm,1.0s								
WR0	**Warramunga Arr**	**123.03**	**210**	PKPdf	**PKPdf**	**23 37 33.8**	**-1.6**		
ADK	**Adak**	**123.13**	**314**	PKiKP	**PKPdf**	**23 37 34.2**	**-0.3**		
ADK	**Adak**	**123.13**	**314**	PKPdf	**PKPdf**	**23 37 34.2**	**-0.3**		
WRA	**Warramunga Arr**	**123.13**	**209**	PKP	**PKPdf**	**23 37 34.4**	**-1.2**		
	comp=Z,103nm,0.9s,baz=132,slow=1.4,SNR=43								
WRA				PKKPbc	**PKKPbc**	**23 47 25.0**	**-0.8**		
	comp=Z,11nm,0.8s,baz=337,slow=4.4,SNR=11								
WRA				SKKPbc	SKKPbc	23 50 53.6	-17		
	comp=Z,12nm,0.9s,baz=348,slow=4.2,SNR=6.3								
WRA	**Warramunga Arr**	**123.13**	**209**	PKiKP	**PKPdf**	**23 37 33.8**	**-1.8**		
WRA	**Warramunga Arr**	**123.13**	**209**		**PKPdf**	**23 37 33.8**	**-1.8**		
WRAB	**Tennant Creek**	**123.14**	**209**	⇓*i*PKiKP	**PKPdf**	**23 37 34.3**	**-1.4**		
WRAB				pmax	pmax				
	comp=Z,126nm,1.0s								
WRAB	**Tennant Creek**	**123.14**	**209**		**PKPdf**	**23 37 34.6**	**-1.0**		
KIWB	**Kanaga Island**	**123.41**	**314**	PKPdf	**PKPdf**	**23 37 34.2**	**-0.9**		
COEN	**Coen**	**123.84**	**222**	PKPdf	**PKiKP**	**23 37 37.5**	**+0.2**		
ANN	**Anapa**	**124.26**	**55**	*i* PKiKP	**PKPdf**	**23 37 36.1**	**-0.8**		
ANN				pmax	pmax				
	comp=Z,221nm,1.6s								
APA	**Apatity**	**124.39**	**27**	⇓*i*PKiKP	**PKPdf**	**23 37 35.2**	**-1.3**		
APA				pmax	pmax				
	comp=Z,74nm,0.9s								
LVZ	**Lovozero**	**124.86**	**26**	⇑*i*PKiKP	**PKPdf**	**23 37 37.5**	**+0.1**		
LVZ				pmax	pmax				
	comp=Z,181nm,1.0s								
MARD	**Mardin**	**124.92**	**64**	PKPdf	**PKiKP**	**23 37 39.1**	**+0.1**		
KTUT	**Trabzon**	**125.08**	**60**	⇑P	**PKiKP**	**23 37 38.9**	**-0.1**		
OBN	**Obninsk**	**125.33**	**42**	⇑P	**PKPdf**	**23 37 38.6**	**0.0**		
OBN	**Obninsk**	**125.33**	**42**	⇓*i*PKiKP	**PKPdf**	**23 37 37.7**	**-0.9**		
OBN				*e*		23 39 34.0			
OBN				pmax	pmax				
	comp=Z,476nm,1.6s								
OBN	**Obninsk**	**125.33**	**42**	PKPdf	**PKPdf**	**23 37 37.4**	**-1.1**		
KOPT	**Kop Dagi**	**125.39**	**61**		**PKiKP**	**23 37 40.0**	**0.0**		
AMKA	**Amchitka**	**125.53**	**313**	PKPdf	**PKPdf**	**23 37 38.3**	**-0.8**		
SOC	**Sochi**	**125.61**	**56**	*e*P	**Pdif**	**23 34 17.0**	**-0.3**		
SOC				*e*		23 37 38.4			
SOC				*e*		23 39 28.6			
SOC				*e*SS	SS	23 56 24.7	-5.1		
SOC				MLR	MLR				
	comp=Z,114μm,21.0s								
GIRL	**Giralia**	**125.87**	**187**	PKPdf	**PKPdf**	**23 37 40.8**	**0.0**		
MOS	**Moscow**	**125.98**	**41**	*i* PKiKP	**PKPdf**	**23 37 38.7**	**-1.1**		
MOS				pmax	pmax				
	comp=Z,314nm,1.5s								
PSA00	**Pilbara Seismi**	**126.10**	**193**	PKPdf	**PKPdf**	**23 37 40.1**	**-1.2**		

MA2	**Magadan**	**140.29**	**328**	PKhKP	PKPpre	23 37 59.6		
	comp=Z,32nm,0.8s,baz=98,slow=4.0,SNR=11							
MA2	**Magadan**	**140.29**	**328**	*e*PKiKP	**PKiKP**	**23 38 08.1**	**-1.0**	
MA2	**Magadan**	**140.29**	**328**	PKPdf	**PKPdf**	**23 38 07.2**	**+0.6**	
CISI	**Cisompet, Garu**	**141.15**	**179**	PKPdf	**PKPdf**	**23 38 08.5**	**-1.2**	
SIJI	**Sorong**	**141.21**	**218**	PKhKP	PKPpre	23 38 03.4		
	comp=Z,78nm,0.8s,baz=43,slow=5.1,SNR=7.5							
HRA	**Herat**	**141.36**	**73**	PKPdf	**PKPdf**	**23 38 09.6**	**-0.1**	
GUMO	**Guam**	**142.17**	**250**	PKP	**PKPdf**	**23 38 10.3**	**-1.0**	
	comp=Z,283nm,0.9s,baz=198,slow=6.7,SNR=9.3							
GUMO	**Guam**	**142.17**	**250**	PKiKP	**PKPdf**	**23 38 10.9**	**-0.4**	
GUMO	**Guam**	**142.17**	**250**	PKPdf	**PKPdf**	**23 38 10.8**	**-0.4**	
TRD	**Trivandrum**	**142.81**	**121**	*e*P	**PKPdf**	**23 38 08.8**	**-3.7**	
TNTI	**Ternate**	**144.58**	**214**	PKPdf	**PKPab**	**23 38 13.2**	**-1.0**	
PALK	**Pallekele**	**144.60**	**127**	PKiKP	**PKPab**	**23 38 13.8**	**-0.5**	
PALK	**Pallekele**	**144.60**	**127**	PKPdf	**PKPab**	**23 38 13.8**	**-0.5**	
GOA	**Goa**	**144.64**	**109**	*e*P	**PKPab**	**23 38 13.1**	**-1.2**	
BRVK	**Borovoye**	**145.08**	**41**	*de*PKiKP	**PKPdf**	**23 38 15.6**	**+0.3**	
BRVK	**Borovoye**	**145.08**	**41**		**PKPbc**	**23 38 14.4**	**-0.4**	
BVAR	**Borovoye Array**	**145.15**	**41**	PKPbc	**PKPbc**	**23 38 14.4**	**-0.7**	
	comp=Z,436nm,0.7s,baz=253,slow=4.5,SNR=80							
PMBI	**Palembang**	**145.57**	**173**		**PKPdf**	**23 38 16.2**	**-1.2**	
POO	**Poona**	**146.22**	**104**	*e*P	**PKPdf**	**23 38 17.6**	**-0.7**	
YAK	**Yakutsk**	**146.52**	**342**	*e*PKiKP	**PKPdf**	**23 38 17.4**	**-0.1**	
YAK				*e*		23 41 41.4		
YAK				*e*		23 45 25.4		
YAK				pmax	pmax			
	comp=Z,651nm,1.4s							
YAK				pmax	pmax			
	comp=N,58nm,1.2s							
YAK				pmax	pmax			
	comp=E,118nm,1.1s							
YAK				pmax	pmax			
	comp=Z,5µm,4.6s							
YAK				pmax	pmax			
	comp=N,2µm,4.1s							
YAK				pmax	pmax			
	comp=E,2µm,4.3s							
YAK	**Yakutsk**	**146.52**	**342**	PKPdf	**PKPdf**	**23 38 17.4**	**-0.1**	
KUR	**Kuril'sk**	**146.56**	**306**	*de*PKP2	**PKPbc**	**23 38 19.4**	**-0.2**	
KBL	**Kabul**	**146.95**	**74**	PKiKP	**PKPdf**	**23 38 19.6**	**+0.2**	
KBL	**Kabul**	**146.95**	**74**		**PKPdf**	**23 38 19.6**	**+0.2**	
TAS	**Tashkent**	**147.23**	**62**	PKP2	**PKPdf**	**23 38 20.4**	**+1.0**	
TAS	**Tashkent**	**147.23**	**62**		**PKPdf**	**23 38 20.4**	**+1.0**	
CHGR	**Chuyangaron**	**147.24**	**66**		**PKPdf**	**23 38 20.0**	**+0.4**	
TOLI2	**Tolitoli**	**147.59**	**203**	PKPdf	**PKPdf**	**23 38 20.4**	**-0.5**	
BRZS	**Berezniki**	**147.62**	**45**	*e*PKP	**PKPdf**	**23 38 19.9**	**+0.1**	
	baz=45							
BRZS	**Berezniki**	**147.62**	**45**	*e*PKiKP	**PKPdf**	**23 38 19.8**	**+0.1**	
IUG	**luzhnay**	**147.70**	**60**	*e*PKiKP	**PKPdf**	**23 38 20.8**	**+0.5**	
	baz=60							
IUG	**luzhnay**	**147.70**	**60**	*e*PKiKP	**PKPdf**	**23 38 20.7**	**+0.5**	
KK31	**Karatay Array**	**147.93**	**58**	PKiKP	**PKPdf**	**23 38 21.0**	**+0.5**	
KK31	**Karatay Array**	**147.93**	**58**	PKPdf	**PKPdf**	**23 38 21.0**	**+0.5**	
KKAR	**Karatay Array**	**147.93**	**58**	PKiKP	**PKPdf**	**23 38 20.5**	**0.0**	
KKAR	**Karatay Array**	**147.93**	**58**		**PKPdf**	**23 38 20.6**	**0.0**	
KKAR	**Karatay Array**	**147.93**	**58**	PKPdf	**PKPdf**	**23 38 20.5**	**0.0**	
YUK	**Yuzh-Kuril'sk**	**148.18**	**304**	*c i*PKP2	**PKPbc**	**23 38 24.1**	**0.0**	
YUK				SSS	SSS	00 06 38.4		
MDRS	**Chennai**	**148.23**	**119**	*e*P	**PKPdf**	**23 38 22.6**	**+0.9**	
GSI	**Gunungsitoli**	**148.24**	**159**		**PKPdf**	**23 38 22.3**	**+0.4**	
BTK	**Batken**	**148.48**	**64**	PKiKP	**PKPdf**	**23 38 21.7**	**+0.1**	
BTK	**Batken**	**148.48**	**64**	PKPdf	**PKPdf**	**23 38 21.7**	**+0.1**	
DZA	**Taraz**	**148.55**	**58**	*e*PKP	**PKPdf**	**23 38 21.9**	**+0.4**	
	baz=58							
DZA	**Taraz**	**148.55**	**58**	*e*PKiKP	**PKPdf**	**23 38 21.8**	**+0.3**	
UGL	**Uglegorsk**	**149.28**	**315**	*e*PKHKP	PKPpre	23 38 25.7		
UGL				pmax	pmax			
	comp=Z,320nm,1.8s							
UGL				pmax	pmax			
	comp=Z,37µm,18.0s							
HYB	**Hyderabad**	**149.49**	**110**	*i* PKP	**PKPdf**	**23 38 22.0**	**-1.8**	
YSS	**Yuzh-Sakhalins**	**149.58**	**310**	*i* PKHKP	PKPpre	23 38 24.1		
YSS				*e*SS	SS	00 01 18.5	+5.0	
YSS				pmax	pmax			
	comp=Z,410nm,2.0s							
YSS	**Yuzh-Sakhalins**	**149.58**	**310**	PKPdf	**PKPdf**	**23 38 23.6**	**+0.6**	
YSS				PKPbc	**PKiKP**	**23 38 28.2**	**-0.4**	
RPSI	**Rantau Prapat**	**149.95**	**161**	PKPdf	**PKPdf**	**23 38 24.5**	**-0.1**	
RPSI				PKPbc	**PKPbc**	**23 38 29.1**	**-0.4**	
JMP	**Maruseppu**	**149.95**	**304**	P	**PKPbc**	**23 38 28.1**	**-0.5**	
BTLS	**Baital**	**150.03**	**53**	*e*PKP	**PKPbc**	**23 38 26.8**	**-2.0**	
	baz=54							
BTLS	**Baital**	**150.03**	**53**	*e*PKHKP	PKPpre	23 38 26.8		
PSI	**Prapat**	**150.05**	**161**	PKHKP	PKPpre	23 38 29.1		
NIL	**Nilore**	**150.33**	**76**	PKiKP	**PKPbc**	**23 38 29.9**	**0.0**	
NIL	**Nilore**	**150.33**	**76**	PKPdf	**PKPdf**	**23 38 24.7**	**0.0**	
NIL				PKPbc	**PKPbc**	**23 38 29.9**	**0.0**	
JCJ	**Chichijima**	**150.34**	**270**	PKPbc	**PKiKP**	**23 38 30.7**	**-0.1**	
	comp=Z,207nm,0.9s,baz=163,slow=10,SNR=2.4							
JCJ	**Chichijima**	**150.34**	**270**		**PKPbc**	**23 38 30.2**	**+0.2**	
EKS2	**Erkin-Šay**	**150.37**	**58**	P	**PKiKP**	**23 38 31.0**	**+0.4**	
	SNR=22							
AML	**Almayashu**	**150.40**	**59**	P	**PKiKP**	**23 38 31.4**	**+0.3**	
	SNR=6.3							
AML	**Almayashu**	**150.40**	**59**	*i* PKPdf	**PKPdf**	**23 38 26.7**	**+1.7**	
	SNR=21							
JKA	**Kamikawa-asahi**	**150.46**	**305**	PKPdf	**PKPdf**	**23 38 24.3**	**-0.2**	
JKA				PKPbc	**PKiKP**	**23 38 30.0**	**-0.5**	
ASAJ	**Asahikawa**	**150.47**	**305**	P	**PKPdf**	**23 38 25.2**	**+0.7**	
ASAJ	**Asahikawa**	**150.47**	**305**	PKiKP	**PKPdf**	**23 38 24.3**	**-0.2**	
ASAJ						23 38 30.0		
ERM	**Erimo**	**150.48**	**301**	PKiKP	**PKiKP**	**23 38 30.9**	**+0.3**	
ERM	**Erimo**	**150.48**	**301**		**PKPdf**	**23 38 26.1**	**+1.5**	
ERM				PKPbc	**PKiKP**	**23 38 30.9**	**+0.3**	
JEM	**Erimo**	**150.48**	**301**	P	**PKPdf**	**23 38 26.9**	**+2.4**	
JEM	**Erimo**	**150.48**	**301**		**PKiKP**	**23 38 30.8**	**+0.2**	
JWK2	**Keihoku**	**150.64**	**308**	P	**PKiKP**	**23 38 30.7**	**-0.1**	
KURBB	**Kurchatov Arra**	**150.74**	**41**	PKP	**PKPdf**	**23 38 25.1**	**+0.4**	
	comp=Z,472nm,0.9s,baz=300,slow=2.4,SNR=30							
KURBB				PKPbc	**PKiKP**	**23 38 30.8**	**-0.1**	
	comp=Z,472nm,0.9s,baz=300,slow=3.1,SNR=46							
KURK	**Kurchatov**	**150.75**	**40**	PKiKP	**PKPdf**	**23 38 25.1**	**+0.4**	
KURK						23 38 30.8		
KURK	**Kurchatov**	**150.75**	**40**		**PKPdf**	**23 38 25.1**	**+0.4**	
USP	**Ospenovka**	**150.77**	**57**	P	**PKiKP**	**23 38 31.7**	**+0.4**	
	SNR=30							
SGDS	**Sogindy**	**150.82**	**56**	*e*PKP	**PKPdf**	**23 38 25.2**	**0.0**	
	baz=56							
AAK	**Ala-Archa**	**150.89**	**58**	PKP	**PKPdf**	**23 38 26.5**	**+1.1**	
	comp=Z,568nm,0.8s,baz=220,slow=1.3,SNR=4.3							
AAK				PKPbc	**PKiKP**	**23 38 32.3**	**+0.6**	
	comp=Z,568nm,0.8s,baz=229,slow=2.4,SNR=40							
AAK	**Ala-Archa**	**150.89**	**58**	P	**PKiKP**	**23 38 32.5**	**+0.8**	
	SNR=8.0							
AAK	**Ala-Archa**	**150.89**	**58**	*i* PKPbc	**PKPbc**	**23 38 28.8**	**-2.3**	
	SNR=15							
AAK	**Ala-Archa**	**150.89**	**58**	PKiKP	**PKPdf**	**23 38 25.7**	**+0.3**	
AAK	**Ala-Archa**	**150.89**	**58**	PKPdf	**PKPdf**	**23 38 25.7**	**+0.3**	
DAV	**Davao City (W)**	**150.90**	**217**	PKPbc	**PKPbc**	**23 38 31.3**	**-0.4**	
	comp=Z,202nm,0.4s,baz=70,slow=7.6,SNR=8.0							
DAV	**Davao City (W)**	**150.90**	**217**	PKPdf	**PKPdf**	**23 38 25.2**	**-0.9**	
DAV					**PKPbc**	**23 38 30.8**	**-0.9**	
FRU1	**Bishkek**	**150.96**	**58**	PKiKP	**PKPdf**	**23 38 25.1**	**-0.3**	
FRU1	**Bishkek**	**150.96**	**58**		**PKPdf**	**23 38 25.1**	**-0.3**	
UCH	**Uchtor**	**150.98**	**59**	P	**PKiKP**	**23 38 33.2**	**+0.9**	
	SNR=20							
CHMS	**Chumysh**	**151.00**	**57**	P	**PKiKP**	**23 38 32.2**	**+0.4**	
	SNR=20							
KBK	**Karagaybulak**	**151.22**	**58**	P	**PKPdf**	**23 38 26.4**	**+0.4**	
	SNR=6.0							
BHPL	**Bhopal**	**151.30**	**99**	*e*P	**PKPdf**	**23 38 25.5**	**-1.0**	
KZA	**Kyzart**	**151.55**	**59**	P	**PKiKP**	**23 38 34.1**	**+0.7**	
	SNR=15							
JEW	**Eniwo**	**151.57**	**303**	P	**PKiKP**	**23 38 30.3**	**-2.1**	
JEW	**Eniwo**	**151.57**	**303**	PKPdf	**PKPdf**	**23 38 26.8**	**+0.6**	
TKM2	**Tokmak 2**	**151.63**	**57**	P	**PKiKP**	**23 38 33.8**	**+0.5**	
	SNR=5.7							
ZAA0	**Zalesovo Array**	**151.89**	**30**	PKPdf	**PKPdf**	**23 38 26.4**	**0.0**	
ZAA0				PKPbc	**PKiKP**	**23 38 33.3**	**+0.1**	
ZALV	**Zalesovo Beam**	**151.89**	**30**	PKPbc	**PKPbc**	**23 38 31.4**	**-1.4**	
	comp=Z,752nm,0.6s,baz=304,slow=2.3,SNR=56							
ZALV	**Zalesovo Beam**	**151.89**	**30**	PKiKP	**PKPdf**	**23 38 26.4**	**+0.1**	
ZALV						23 38 33.7		
ZALV	**Zalesovo Beam**	**151.89**	**30**	PKPdf	**PKPdf**	**23 38 26.4**	**+0.1**	
ZALV				PKPbc	**PKiKP**	**23 38 33.6**	**+0.5**	
KUU	**Kurty**	**151.92**	**55**	*e*PKP	**PKPdf**	**23 38 26.3**	**-0.5**	
	baz=55							
KUU	**Kurty**	**151.92**	**55**	*e*PKiKP	**PKPdf**	**23 38 26.3**	**-0.5**	
BOOM	**Boomskoye usch**	**151.97**	**58**	PKiKP	**PKPbc**	**23 38 31.5**	**-2.1**	
BOOM	**Boomskoye usch**	**151.97**	**58**		**PKPbc**	**23 38 31.5**	**-2.1**	
CMBY	**CAMPBELL BAY**	**152.09**	**148**	*e*P	**PKPdf**	**23 38 26.3**	**-1.6**	
MTBS	**Maitube**	**152.17**	**56**	*e*PKP	**PKPdf**	**23 38 26.6**	**-0.7**	
	baz=56							
JTM	**Tenmabayashi**	**152.23**	**299**	P	**PKPdf**	**23 38 26.1**	**-1.2**	
JTM	**Tenmabayashi**	**152.23**	**299**	PKPdf	**PKPdf**	**23 38 26.8**	**-0.4**	
JOM	**Ohasama**	**152.24**	**296**	P	**PKPdf**	**23 38 25.6**	**-1.7**	
ULHL	**Ulahol**	**152.24**	**58**	P	**PKiKP**	**23 38 35.4**	**+0.8**	
	SNR=11							
CHKK	**Chushkaly**	**152.38**	**55**	*e*PKP	**PKPdf**	**23 38 27.4**	**0.0**	
	baz=55							
KSH	**Kashi**	**152.48**	**64**	PKPbc	**PKPdf**	**23 38 28.0**	**+0.1**	
KSH				pPKP	pPKPdf	23 38 38.4	+0.8	
AAA	**Alma-Ata**	**152.50**	**56**	*e*PKP	**PKPdf**	**23 38 28.4**	**+0.7**	
	baz=56							
AAA	**Alma-Ata**	**152.50**	**56**	*e*PKiKP	**PKPdf**	**23 38 28.4**	**+0.7**	
MDOK	**Medeo**	**152.60**	**56**	*e*PKP	**PKPdf**	**23 38 30.8**	**+2.8**	
	baz=56							
MDOK	**Medeo**	**152.60**	**56**	*e*PKiKP	**PKPdf**	**23 38 30.8**	**+2.8**	
JSH	**Shimam**	**152.62**	**303**	P	**PKPdf**	**23 38 26.6**	**-1.2**	
DHRM	**DHARAMSHALA**	**152.73**	**80**	*e*P	**PKPdf**	**23 38 29.2**	**+0.6**	
JMM	**Marumori**	**152.76**	**292**	P	**PKPdf**	**23 38 26.8**	**-1.3**	
JMM	**Marumori**	**152.76**	**292**		**PKPdf**	**23 38 27.5**	**-0.7**	
KDJ	**Kajisay**	**152.94**	**58**	PKiKP	**PKPdf**	**23 38 27.9**	**-0.6**	
KDJ	**Kajisay**	**152.94**	**58**	PKPdf	**PKPdf**	**23 38 27.9**	**-0.6**	
TDK	**Taldyqorghan**	**153.00**	**52**	*e*PKP	**PKPdf**	**23 38 27.9**	**-0.4**	
	baz=52							
TDK	**Taldyqorghan**	**153.00**	**52**	*e*PKiKP	**PKPdf**	**23 38 27.9**	**-0.4**	
SMLA	**Simla**	**153.30**	**83**	*e*P	**PKPdf**	**23 38 29.6**	**+0.5**	
JYT	**Yasato**	**153.31**	**289**	P	**PKPdf**	**23 38 28.2**	**-0.8**	
JYT	**Yasato**	**153.31**	**289**	PKPdf	**PKPdf**	**23 38 28.0**	**-1.0**	
VIS	**Vishakhapatnam**	**153.42**	**115**	*e*P	**PKPdf**	**23 38 29.6**	**0.0**	
BOD	**Bodaibo**	**153.43**	**353**	*e*PKiKP	**PKPdf**	**23 38 28.1**	**-0.4**	
BOD				pmax	pmax			
	comp=Z,552nm,1.1s							
TARG	**Taragay, Kyrgy**	**153.49**	**59**		**PKPdf**	**23 38 29.2**	**-0.4**	
JYA	**Atsumi**	**153.55**	**294**	P	**PKPdf**	**23 38 29.3**	**0.0**	
KPKS	**Kokpek**	**153.67**	**55**	*e*PKP	**PKPdf**	**23 38 32.2**	**+2.8**	
	baz=55							
KPKS	**Kokpek**	**153.67**	**55**	*e*PKiKP	**PKPdf**	**23 38 32.2**	**+2.8**	
DDI	**Dehra Dun**	**153.92**	**85**	*e*P	**PKPdf**	**23 38 29.6**	**-0.5**	
ZEA	**Zeya**	**154.00**	**334**	*e*PKiKP	**PKPdf**	**23 38 28.6**	**-0.8**	
ZEA				pmax	pmax			
	comp=Z,120nm,1.2s							
UZB	**Uzynbulak**	**154.00**	**55**	*e*PKP	**PKPdf**	**23 38 31.2**	**+1.2**	
	baz=55							
UZB	**Uzynbulak**	**154.00**	**55**	*e*PKiKP	**PKPdf**	**23 38 31.2**	**+1.2**	
JOD2	**Odawara 2**	**154.21**	**287**	P	**PKPdf**	**23 38 29.6**	**-0.8**	
SHLS	**Shalkode**	**154.31**	**55**	*e*PKP	**PKPdf**	**23 38 32.1**	**+1.7**	
	baz=55							
SHLS	**Shalkode**	**154.31**	**55**	*e*PKiKP	**PKPdf**	**23 38 32.1**	**+1.7**	
JRY	**Ryogami san**	**154.36**	**288**	P	**PKPdf**	**23 38 29.4**	**-1.1**	
MAKZ	**Makanchi**	**154.57**	**46**	PKP2	**PKPab**	**23 38 52.8**	**-0.8**	
MAKZ	**Makanchi**	**154.57**	**46**		**PKPdf**	**23 38 29.9**	**-0.6**	
MAKZ				PKPbc	**PKPbc**	**23 38 38.7**	**-0.2**	
MAKZ				PKPab	**PKPab**	**23 38 52.8**	**-0.8**	
PKDT	**Phuket**	**154.67**	**156**	PKP	**PKiKP**	**23 38 40.3**	**+0.2**	
JSD	**Sado**	**154.75**	**293**	P	**PKPdf**	**23 38 29.7**	**-1.3**	
JSD	**Sado**	**154.75**	**293**	PKPdf	**PKPdf**	**23 38 29.5**	**-1.5**	
MK31	**Makanchi Array**	**154.76**	**45**	PKiKP	**PKPdf**	**23 38 30.3**	**-0.5**	
MK31						23 38 39.6		
MK31	**Makanchi Array**	**154.76**	**45**	PKPdf	**PKPdf**	**23 38 30.3**	**-0.5**	
MK31				PKPbc	**PKiKP**	**23 38 39.6**	**+0.2**	
MKAR	**Makanchi Array**	**154.76**	**45**	PKP	**PKPdf**	**23 38 30.6**	**-0.2**	
	comp=Z,24nm,0.9s,baz=321,slow=1.7,SNR=4.5							
MKAR				PKPbc	**PKiKP**	**23 38 40.0**	**+0.7**	
	comp=Z,106nm,0.9s,baz=349,slow=1.2,SNR=6.9							
MKAR				PKPab	**PKPab**	**23 38 55.8**	**+1.3**	
	comp=Z,216nm,0.8s,baz=285,slow=3.9,SNR=13							
MKAR	**Makanchi Array**	**154.76**	**45**	PKiKP	**PKPdf**	**23 38 30.1**	**-0.7**	
MKAR						23 38 53.4		
MKAR	**Makanchi Array**	**154.76**	**45**	PKPdf	**PKPdf**	**23 38 30.1**	**-0.7**	
MKAR				PKPbc	**PKiKP**	**23 38 39.8**	**+0.4**	
MKAR				PKPab	**sPKPbc**	**23 38 53.4**	**+0.9**	
MJAR	**Matsushiro Arr**	**154.90**	**290**	PKP	**PKPdf**	**23 38 30.9**	**-0.4**	
	comp=Z,50nm,1.0s,baz=124,slow=1.4,SNR=19							
MJAR	**Matsushiro Arr**	**154.90**	**290**	PKiKP	**PKPdf**	**23 38 29.8**	**-1.5**	
MJAR	**Matsushiro Arr**	**154.90**	**290**	PKPdf	**PKPdf**	**23 38 29.8**	**-1.5**	
MAJO	**Matsushiro**	**154.90**	**290**	PKiKP	**PKPdf**	**23 38 29.8**	**-1.5**	
MAJO	**Matsushiro**	**154.90**	**290**	PKPdf	**PKPdf**	**23 38 29.8**	**-1.5**	
MAT	**Matsushiro**	**154.90**	**290**	PKP	**PKPdf**	**23 38 30.0**	**-1.2**	
MAT	**Matsushiro**	**154.90**	**290**	P	**PKPdf**	**23 38 30.1**	**-1.2**	
TRTT	**Trang**	**155.06**	**159**	PKP	**PKPdf**	**23 38 39.7**	**+7.6**	
KRAB	**Krabi**	**155.26**	**158**	PKP	**PKPdf**	**23 38 40.0**	**+7.6**	
PBA	**Port Blair**	**155.47**	**140**	*e*P	PKPdf	23 38 32.1	-0.5	
JGF	**Kuroka**	**155.62**	**287**	P	**PKPdf**	**23 38 31.7**	**-0.6**	
JGF	**Kuroka**	**155.62**	**287**		**PKPdf**	**23 38 31.5**	**-0.8**	
JGN	**Niukaw**	**155.64**	**289**	P	**PKPdf**	**23 38 32.2**	**-0.1**	
ZSN	**Zaisan**	**155.95**	**42**	*i* PKP	**PKPdf**	**23 38 31.2**	**-1.1**	
	baz=42							
ZSN	**Zaisan**	**155.95**	**42**	*i* PKiKP	**PKPdf**	**23 38 31.2**	**-1.1**	
DGPR	**DIGLIPUR**	**156.82**	**138**	*e*P	**PKPdf**	**23 38 33.8**	**-0.6**	
JWK	**Wachi**	**157.23**	**287**	P	**PKPdf**	**23 38 37.2**	**+2.9**	
USA0B	**Ussuriysk Arra**	**157.61**	**311**	PKiKP	**PKPdf**	**23 38 33.3**	**-0.8**	
USA0B	**Ussuriysk Arra**	**157.61**	**311**	PKPdf	**PKPdf**	**23 38 33.8**	**-0.8**	
USRK	**Ussuriysk Ar.**	**157.61**	**311**	PKP	**PKPdf**	**23 38 34.7**	**+0.2**	
	comp=Z,14nm,0.8s,baz=246,slow=1.3,SNR=14							
USRK				PKPab	**PKPab**	**23 39 08.5**	**+1.7**	
	comp=Z,18nm,0.7s,baz=71,slow=4.5,SNR=7.8							
USRK	**Ussuriysk Ar.**	**157.61**	**311**	PKiKP	**PKPdf**	**23 38 33.5**	**-1.0**	
USRK	**Ussuriysk Ar.**	**157.61**	**311**	PKPdf	**PKPdf**	**23 38 33.5**	**-1.0**	
JAD	**Aida**	**158.25**	**286**	P	**PKPdf**	**23 38 36.8**	**+1.2**	
JMN	**Monobe**	**158.50**	**283**	P	**PKPdf**	**23 38 37.3**	**+1.3**	
BOK	**Bokaro**	**158.59**	**105**	*e*P	**PKPdf**	**23 38 34.6**	**-1.8**	
MDJ	**Mudanjiang**	**158.92**	**314**	PKP	**PKPdf**	**23 38 35.5**	**-0.6**	
MDJ	**Mudanjiang**	**158.92**	**314**		**PKPdf**	**23 38 34.8**	**-1.3**	
IRK	**Irkutsk**	**159.06**	**7**	*e*PKiKP	**PKPdf**	**23 38 37.1**	**+1.0**	
JHS	**Saijyo**	**159.11**	**286**	P	**PKPdf**	**23 38 36.3**	**-0.4**	
JHS	**Saijyo**	**159.11**	**286**	PKPdf	**PKPdf**	**23 38 36.0**	**-0.7**	
MOY	**Mondy**	**159.13**	**13**	*e*PKiKP	**PKPdf**	**23 38 37.0**	**+0.7**	
MOY				pmax	pmax			
	comp=Z,810nm,3.6s							
CIT	**Chita**	**159.17**	**351**	*e*PKiKP	**PKPdf**	**23 38 38.4**	**+2.2**	
CIT				*e*		23 39 13.7		
CIT				*e*		23 42 53.9		
JMZ	**Minamidaito 2**	**159.26**	**260**	P	**PKPdf**	**23 38 39.0**	**+1.9**	
WMQ	**Urumqi**	**159.54**	**47**	PKP	**PKPdf**	**23 38 37.8**	**+0.8**	
WMQ				PKPab	**PKPab**	**23 39 17.1**	**+1.9**	
WMQ				PP	**PP**	**23 42 59.8**	**+3.0**	
PHET	**Kaeng Krachan**	**159.77**	**154**	PKP	**PKPdf**	**23 38 38.9**	**+0.9**	
ZAK	**Zakamensk**	**160.76**	**10**	*e*PKiKP	**PKPdf**	**23 38 38.1**	**-0.1**	
ZAK				*e*		23 43 07.0		
ZAK				pmax	pmax			
	comp=Z,65nm,1.3s							
ZAK				pmax	pmax			
	comp=Z,70nm,1.4s							
KHLT	**Khaolaem Dam**	**161.06**	**149**	PKP	**PKPdf**	**23 38 41.0**	**+1.6**	
JSU	**Suzuyama**	**161.25**	**276**	PKPdf	**PKPdf**	**23 38 38.5**	**-0.7**	
SRAK	**Srakaew**	**161.61**	**160**	PKP	**PKPdf**	**23 38 43.4**	**+3.5**	
CN2	**Changchun**	**161.84**	**317**	*e*PKP	**PKPdf**	**23 38 38.0**	**-1.4**	
JOW	**Kunigami**	**162.09**	**260**	PKPdf	**PKPdf**	**23 38 39.2**	**-1.0**	
UTHA	**Uthaitani**	**162.11**	**151**	PKP	**PKPdf**	**23 38 41.1**	**+0.7**	
GTK	**Tadong**	**162.20**	**99**	*e*P	**PKPdf**	**23 38 41.2**	**+0.8**	
KSRS	**Korea Array**	**162.91**	**296**	PKP	**PKPdf**	**23 38 40.4**	**-0.3**	
	comp=Z,38nm,0.9s,baz=97,slow=0.6,SNR=29							
KSRS				PKPab	**PKPab**	**23 39 31.4**	**+1.3**	
	comp=Z,22nm,0.9s,baz=88,slow=2.2,SNR=4.7							
KS19	**Wonju Array Si**	**162.94**	**296**		**PKPdf**	**23 38 40.0**	**-0.6**	
KSAR	**Wonju Array Be**	**162.94**	**296**	PKiKP	**PKPdf**	**23 38 39.2**	**-1.4**	
KSAR	**Wonju Array Be**	**162.94**	**296**		**PKPdf**	**23 38 39.2**	**-1.4**	
CHAI	**Chaiyaphum**	**163.37**	**158**	PKP	**PKPdf**	**23 38 42.3**	**+0.6**	
UBPT	**Khong Chiam**	**163.61**	**170**	PKP	**PKPdf**	**23 38 42.9**	**+1.0**	
SONM	**Songino Array**	**163.62**	**5**	PKP	**PKPdf**	**23 38 41.0**	**-0.1**	
	comp=Z,29nm,1.0s,baz=75,slow=0.2,SNR=11							
SONM				PKPab	**PKPab**	**23 39 35.0**	**+2.1**	
	comp=Z,45nm,1.0s,baz=324,slow=1.3,SNR=6.2							
SONM				PP	**PP**	**23 43 19.5**	**+1.8**	
	comp=Z,12nm,0.9s,baz=328,slow=5.1,SNR=3.1							
SONM	**Songino Array**	**163.62**	**5**	PKiKP	**PKPdf**	**23 38 40.1**	**-1.1**	
SONM	**Songino Array**	**163.62**	**5**		**PKPdf**	**23 38 40.1**	**-1.1**	
PBKT	**Sadao Pong**	**163.63**	**154**	PKP	**PKPdf**	**23 38 44.0**	**+2.1**	
ULN	**Ulaanbaatar**	**163.63**	**3**	PKP2	**PKPab**	**23 39 34.0**	**+1.0**	
ULN						00 38 41.1		
ULN	**Ulaanbaatar**	**163.63**	**3**		**PKPdf**	**23 38 41.0**	**-0.2**	
ULN				PKPab	**PKPab**	**23 39 34.0**	**+1.0**	
MHMT	**Maesarieng**	**163.65**	**142**	PKP	**PKPdf**	**23 38 42.4**	**+0.5**	
PHIT	**Phitsanulok**	**163.97**	**151**	PKP	**PKPdf**	**23 38 43.3**	**+1.1**	
KHON	**Khomkaen**	**164.04**	**160**	PKP	**PKPdf**	**23 38 43.0**	**+0.7**	
SNY	**Shenyang**	**164.12**	**315**	⇑PKP	**PKPdf**	**23 38 40.6**	**-1.0**	
SHL	**Shillong**	**164.27**	**108**	PKiKP	**PKPdf**	**23 38 41.5**	**-1.0**	
SHL	**Shillong**	**164.27**	**108**		**PKPdf**	**23 38 41.5**	**-1.0**	
SHL	**Shillong**	**164.27**	**108**	*e*P	**PKPdf**	**23 38 40.8**	**-1.7**	
CM13	**Chiang Mai Arr**	**164.36**	**144**	PKP	**PKPdf**	**23 38 43.2**	**+0.7**	
CM05	**Chiang Mai Arr**	**164.36**	**144**	PKP	**PKPdf**	**23 38 43.3**	**+0.7**	
CM04	**Chiang Mai Arr**	**164.37**	**144**	PKP	**PKPdf**	**23 38 43.3**	**+0.7**	
CM01	**Chiang Mai Arr**	**164.38**	**144**	PKP	**PKPdf**	**23 38 43.2**	**+0.6**	
CM02	**Chiang Mai Arr**	**164.39**	**144**	PKP	**PKPdf**	**23 38 43.4**	**+0.8**	
CM15	**Chiang Mai Arr**	**164.39**	**144**	PKP	**PKPdf**	**23 38 43.3**	**+0.7**	
CM31	**Chiang Mai Arr**	**164.41**	**144**		**PKPdf**	**23 38 42.2**	**-0.4**	
CM31				PKPab	**PKPab**	**23 39 36.2**	**-0.7**	
CMAR	**Chiang Mai Arr**	**164.41**	**144

P40A IAmb IAmb 23 34 53.0
comp=Z,123nm,1.4s
DBIC Dimbokro 74.12 72 P **P** 23 34 57.4 **-0.9**
comp=Z,51nm,0.8s,baz=258,slow=5.3,SNR=3.0
DBIC Dimbokro 74.12 72 P **P** 23 34 57.7 **-0.6**
SUR Sutherland 76.03 119 P **P** 23 35 10.1 **+0.7**
LMN Caledonia Moun 76.95 5 P **P** 23 35 14.5 **+0.7**
LMN IAmb IAmb 23 35 23.8
comp=Z,47nm,1.2s
PV13 Radium Mtn., P 77.16 331 P **P** 23 35 16.4 **+1.0**
PV13 IAmb IAmb 23 35 22.6
comp=Z,83nm,1.4s
BOSA Boshof 81.21 118 P **P** 23 35 37.9 **0.0**
CASY Casey 82.82 181 P **P** 23 35 45.3 **-0.1**
TORD Torodi Ar. Bea 83.08 70 P **P** 23 35 47.6 **-0.1**
comp=Z,66nm,0.9s,baz=283,slow=6.3,SNR=4.2
TORD Torodi Ar. Bea 83.08 70 P **P** 23 35 47.5 **-0.1**
TORD IAmb IAmb 23 35 48.3
comp=Z,66nm,0.9s
LSZ Lusaka 90.50 108 P **P** 23 36 23.9 **-0.3**
LSZ IAmb IAmb 23 36 25.7
comp=Z,66nm,1.3s
WRA Warramunga Arr 123.28 210 PKP **PKPdf** 23 42 17.6 **-1.6**
comp=Z,8.1nm,1.0s,baz=132,slow=1.4,SNR=6.0
BRVK Borovoye 145.00 40 PKPbc **PKPab** 23 42 58.1 **+0.4**
BVAR Borovoye Array 145.07 40 PKPbc **PKPab** 23 42 58.4 **+0.4**
comp=Z,23nm,0.8s,baz=273,slow=2.8,SNR=5.2
KKAR Karatay Array 147.97 58 PKPbc **PKPbc** 23 43 06.5 **-0.3**
ZAA0 Zalesovo Array 151.74 30 PKPbc **PKPbc** 23 43 15.3 **-0.4**
ZALV Zalesovo Beam 151.74 30 PKPbc **PKPbc** 23 43 15.7 **+0.1**
comp=Z,76nm,0.8s,baz=305,slow=3.2,SNR=6.4
ZALV Zalesovo Beam 151.74 30 **PKPbc** 23 43 15.5 **-0.2**

*TUL **16** 23:27:07.7±1.0,36°28'N±0'.01×97°.51W±0'.02,h7km±7km, ML2.5,ML2.3/28(NEIC),Error ellipse: s-maj=2.3km s-min=1.6km az=75.0*
NEIC 16 23:27:07.7±0.8,**36°29'N**±0'.006×**97°.51W**±0'.02,**h5**km±7km, **Error ellipse: s-maj=2.2km s-min=0.4km az=70.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CROK	**Carrier**	**0.44**	**301**		Pg	23 27 16.5	+0.3
CROK				Sg	Sg	23 27 22.7	+0.7
CROK				IAML		23 27 30.0	
	comp=E,453nm,0.3s						
OK029	**Liberty Lake**	**0.48**	**174**		Pg	23 27 17.3	+0.3
OK029				Sg	Sg	23 27 24.0	+0.7
BLOK	**Blackwell**	**0.54**	**26**	Pg	Pg	23 27 18.1	+0.1
BLOK				Sg	Sg	23 27 25.9	+0.9
BLOK				IAML		23 27 28.1	
	comp=E,236nm,0.3s						
BLOK				IAML		23 27 29.0	
	comp=N,336nm,2.3s						
OK031	**S. Brethren Rd**	**0.64**	**121**	Pg	Pg	23 27 20.0	+0.1
OK031				Sg	Sg	23 27 28.6	+0.4
GC02	**Grant County #**	**0.64**	**334**	Pg	Pg	23 27 19.9	0.0
QUOK	**Quay**	**0.66**	**99**	Pg	Pg	23 27 20.3	-0.1
OK025	**Westminster Rd**	**0.71**	**168**		Pg	23 27 21.3	-0.1
OK025				IAML		23 27 45.5	
	comp=N,111nm,2.7s						
KAN13	**South Haven SW**	**0.73**	**2**	Pg	Pg	23 27 21.8	0.0
KAN13				IAML		23 27 45.3	
	comp=E,226nm,3.3s						
KAN13				IAML		23 27 48.5	
	comp=N,196nm,3.8s						
OK032	**Salt Plains WL**	**0.77**	**313**	Pg	Pg	23 27 22.2	-0.2
KAN09	**Caldwell North**	**0.86**	**354**	Pg	Pg	23 27 23.9	-0.3
KAN08	**Anthony NE Sta**	**1.01**	**339**	Pg	Pg	23 27 26.8	-0.4
KAN08				IAML		23 27 58.6	
	comp=N,84nm,1.7s						
FNO	**Franklin**	**1.02**	**175**	Pg	Pg	23 27 26.8	-0.6
FNO				IAML		23 27 45.5	
	comp=E,80nm,5.0s						
FNO				IAML		23 27 52.4	
	comp=N,58nm,2.9s						
T35A	**Sooner Cattle**	**1.03**	**51**	Pg	Pg	23 27 27.0	-0.4
T35A				IAML		23 27 49.1	
	comp=N,47nm,0.2s						
KAN16	**Harper SW Stat**	**1.04**	**335**	Pg	Pg	23 27 27.5	-0.2
KAN16				IAML		23 27 41.4	
	comp=N,47nm,1.8s						
KAN16				IAML		23 27 45.5	
	comp=E,99nm,2.2s						
U32A	**Winter Ranch,**	**1.21**	**275**		Pg	23 27 30.3	-0.6
X34A	**Smith Ranch, M**	**1.69**	**189**	Pn	Pn	23 27 38.1	+0.2
WMOK	**Wichita Mounta**	**1.85**	**214**	Pn	Pn	23 27 40.1	-0.1
X37A	**Clayton**	**2.43**	**133**	Pn	Pn	23 27 48.1	+0.1

*JMA **16** 23:28:09.7±0.1,43°.11N×146°.00E,h45km±1km,M3.5*
JMA Felt I J1.
*SKHL **16** 23:28:10.5±0.8,43°.20N×146°.10E,h35km±5km,mb4.3/4*
ISC 16 23:28:10.1±2.1,**43°.16N**±0°.09×**145°.99E**±0°.09,**h43**km±11km, **n13,**σ0**48**/23,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.28**	**319**	P	**Pn**	**23 28 18.5**	**+0.2**
NEM2				*e*S	**Sn**	**23 28 24.7**	**+0.7**
NMR	**Nemuro--Hokkai**	**0.28**	**318**	*i* P	**Pn**	**23 28 18.0**	**-0.4**
NMR				*i* S	**Sn**	**23 28 24.0**	**-0.2**
JKHN	**Kushirohamanak**	**0.61**	**263**	P	**Pn**	**23 28 22.2**	**-0.2**
JKHN				*e*S	**Sn**	**23 28 31.3**	**+0.1**
GLVR	**Golovnino**	**0.67**	**330**	*i* P	**Pn**	**23 28 23.0**	**-0.2**
GLVR				AMB	AMB	23 28 23.0	
	420nm,0.3s						
GLVR				*i* S	**Sn**	**23 28 33.0**	**+0.3**
GLVR				A	A	23 28 34.0	
	210nm,0.4s						
GLVR				A	A	23 28 34.0	
	820nm,0.4s						
GRPR	**Tuman**	**0.85**	**349**	*i* P	**Pn**	**23 28 25.0**	**-0.6**
GRPR				AMB	AMB	23 28 26.0	
	210nm,0.4s						
GRPR				*i* S	**Sn**	**23 28 36.0**	**-0.9**
GRPR				A	A	23 28 38.0	
	129nm,0.2s						
GRPR				A	A	23 28 38.0	
	765nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.88**	**354**	*i* P	**Pn**	**23 28 26.0**	**0.0**
YUK				AMB	AMB	23 28 29.7	
	200nm,0.3s						
YUK				*i* S	**Sn**	**23 28 37.0**	**-0.7**
YUK				A	A	23 28 38.0	
	1μm,0.5s						
YUK				A	A	23 28 38.0	
	1μm,0.5s						
JNSB	**Nemuroshibetsu**	**0.95**	**311**	P	**Pn**	**23 28 27.2**	**+0.3**
JAK	**Akkeshi**	**0.96**	**261**	P	**Pn**	**23 28 26.8**	**-0.3**
JAK				*e*S	**Sn**	**23 28 39.6**	**0.0**
JRA	**Rausu**	**1.00**	**321**	P	**Pn**	**23 28 28.4**	**+0.7**
JRA				*e*S	**Sn**	**23 28 41.2**	**+0.6**
JNK	**Nakash**	**1.02**	**295**	P	**Pn**	**23 28 27.9**	**-0.1**
JNK				*e*S	**Sn**	**23 28 40.7**	**-0.4**
JOB	**Onbets**	**1.60**	**262**	P	**Pn**	**23 28 35.7**	**-0.2**
JOB				*e*S	**Sn**	**23 28 55.2**	**-0.1**
JAR	**Ashorobuto**	**1.63**	**276**	P	**Pn**	**23 28 36.8**	**+0.5**
KUR	**Kuril'sk**	**2.48**	**32**	*e*P	**Pn**	**23 28 48.4**	**+0.5**
KUR				AMB	AMB	23 28 53.3	
	20nm,0.3s						

*IDC **16** 23:28:19.1±0.6,30°.75S×71°.74W,h0km,mb4.8/13, mb1 5.0/15,mb1mx4.8/40,mbtmp4.8/15,ML5.1/2,Error ellipse: s-maj=31.1km s-min=17.4km az=67.0*
*NEIC **16** 23:28:23.1±1.4,30°.72S±0'.04×71°.80W±0'.06,h21km±4km, mb5.5/35,Error ellipse: s-maj=7.7km s-min=6.4km az=93.0*
ISC 16 23:28:20.9±0.4,**30°.78S**±0'.04×**71°.90W**±0'.05,**h12**km,**n108,** σ0**93**/101,**mb5.3**/29,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.25**	**65**	Pg	**Pb**	**23 28 27.7**	**+0.3**
CO06					**Sb**	**23 28 32.2**	**+0.4**
CO03	**El Pedregal**	**1.04**	**93**	Pn	**Pb**	**23 28 39.9**	**-1.0**
CO03				Sn	**Sg**	**23 28 54.6**	**-0.1**
GO04	**Tololo Observa**	**1.13**	**58**		**Pg**	**23 28 42.0**	**-0.6**
LCO	**Las Campanas**	**2.05**	**31**	Pn	**Pn**	**23 28 55.1**	**-0.3**
VA01	**Torpederas**	**2.25**	**175**	Pn	**Pb**	**23 29 00.2**	**-1.2**
VA03	**San Esteban**	**2.29**	**150**	Pn	**Pb**	**23 29 00.3**	**-1.9**
AC04	**Llanos de Chal**	**2.67**	**16**	Pn	**Pn**	**23 29 02.5**	**-1.2**
MT05	**Renca**	**2.78**	**160**	Pn	**Pn**	**23 29 05.5**	**+0.1**
ZON	**Zonda**	**2.87**	**106**	Pn	**Pn**	**23 29 07.3**	**+0.8**
VA05	**Santo Domingo**	**2.88**	**175**	Pn	**Pn**	**23 29 08.8**	**+2.3**
MT09	**Talagante**	**3.08**	**166**	Pn	**Pn**	**23 29 11.7**	**+2.2**
MT01	**Popeta**	**3.12**	**170**	Pn	**Pn**	**23 29 11.6**	**+1.6**
BO01	**Tunca**	**3.67**	**169**	Pn	**Pn**	**23 29 19.6**	**+2.2**
GO05	**Huala**	**4.22**	**180**	Pn	**Pn**	**23 29 24.8**	**-0.2**
AC02	**Maricunga**	**4.62**	**32**	Pn	**Pn**	**23 29 30.0**	**-1.1**
H03N1	**Juan Fernandez**	**6.51**	**244**	T	T	23 36 46.1	
	baz=73,slow=72,SNR=38						
H03N3	**Juan Fernandez**	**6.53**	**244**	T	T	23 36 45.9	
	baz=73,slow=72,SNR=36						
H03N2	**Juan Fernandez**	**6.53**	**244**	T	T	23 36 46.8	
	baz=73,slow=72,SNR=39						
LC01	**Cunco**	**8.10**	**180**	Pn	**Pn**	**23 30 18.6**	**+0.3**
PB09	**IPOC Station P**	**9.26**	**16**	Pn	**Pn**	**23 30 34.7**	**+0.2**
PLCA	**Paso Flores**	**9.99**	**174**	Pn	**Pn**	**23 30 46.1**	**+1.8**
	7.2nm,0.3s,baz=348,slow=13,SNR=5.5						
PLCA	**Paso Flores**	**9.99**	**174**		**Pn**	**23 30 45.9**	**+1.6**
LL04	**Puerto Octay**	**10.12**	**182**	Pn	**Pn**	**23 30 46.5**	**+0.6**
TRQA	**Tornquist**	**10.94**	**134**	Pn	**Pn**	**23 30 58.3**	**+1.0**
LL07	**Hotel Espejo d**	**12.09**	**186**	Pn	**Pn**	**23 31 14.7**	**+1.7**
LPAZ	**La Paz**	**14.83**	**14**	Pn	**Pn**	**23 31 51.5**	**+0.3**
	1.7nm,0.3s,baz=186,slow=9.5,SNR=1.5						
LPAZ	**La Paz**	**14.83**	**14**		**Pn**	**23 31 50.8**	**-0.3**
NNA	**Nana**	**19.25**	**345**	Pn	**Pn**	**23 32 46.7**	**+0.3**
MG02	**Cerro Sombrero**	**22.07**	**176**	P	**P**	**23 33 16.5**	**+1.0**
GO10	**Punta Arenas**	**22.37**	**179**	P	**P**	**23 33 19.8**	**+1.0**
SAML	**Samuel**	**23.20**	**22**	P	**P**	**23 33 27.9**	**+0.2**
EFI	**East Falkland**	**23.25**	**158**	P	**P**	**23 33 29.3**	**+1.3**
EFI				IAmb	IAmb	23 33 42.2	
	comp=Z,200nm,0.9s						
USHA	**Ushuaia**	**24.17**	**175**	P	**P**	**23 33 37.4**	**+0.6**
	comp=Z,60nm,0.8s,baz=342,slow=6.2,SNR=3.4						
RUSC	**La Rusia**	**36.48**	**358**	P	**P**	**23 35 25.6**	**-0.9**
SVB	**Belmont**	**44.98**	**15**	P	**P**	**23 36 34.7**	**-1.5**
SVB				IAmb	IAmb	23 36 42.5	
	comp=Z,91nm,1.1s						
FDF	**Fort de France**	**46.42**	**14**	P	**P**	**23 36 45.8**	**-1.7**
FDF				IAmb	IAmb	23 36 48.8	
	comp=Z,53nm,0.8s						
ICMP	**Isla Caja de M**	**48.66**	**7**	P	**P**	**23 37 03.3**	**-1.6**
MLPR	**Magueyes Islan**	**48.69**	**6**	P	**P**	**23 37 04.8**	**-0.3**
CRPR	**Cabo Rojo, PR**	**48.72**	**6**	P	**P**	**23 37 04.8**	**-0.6**
CRPR				IAmb	IAmb	23 37 16.2	
	comp=Z,60nm,0.8s						
SJG	**San Juan**	**48.92**	**7**	P	**P**	**23 37 06.4**	**-0.5**
MTP	**Monte Pirata**	**48.98**	**8**	P	**P**	**23 37 06.6**	**-0.7**
MTP				IAmb	IAmb	23 37 07.3	
	comp=Z,28nm,0.9s						
CBYP	**Canovanas**	**49.12**	**8**	P	**P**	**23 37 08.2**	**-0.2**
GCPR	**Guaynabo City**	**49.13**	**7**	P	**P**	**23 37 08.9**	**+0.4**
GCPR				IAmb	IAmb	23 37 18.8	
	comp=Z,44nm,0.9s						
SNAA	**Sanae**	**54.52**	**159**	P	**P**	**23 37 48.6**	**+0.3**
SNAA				IAmb	IAmb	23 38 02.2	
	comp=Z,72nm,1.2s						
553A	**Crawfordville**	**61.79**	**348**	P	**P**	**23 38 40.0**	**+0.5**
H06S1	**SCORRO T**	**61.92**	**317**	T	T	00 45 58.4	
	SNR=6.6						
SLBS	**Sierra La Lagu**	**65.30**	**322**	P	**P**	**23 39 03.9**	**+1.0**
Y45A	**Yeager Farm, C**	**66.42**	**344**	P	**P**	**23 39 10.4**	**+0.6**
X48A	**Hartselle**	**66.44**	**346**	P	**P**	**23 39 09.8**	**-0.2**
X48A				IAmb	IAmb	23 39 16.4	
	comp=Z,25nm,1.1s						
V55A	**Taylorsville**	**66.86**	**352**	P	**P**	**23 39 12.9**	**+0.3**
V53A	**Saluda**	**66.89**	**350**	P	**P**	**23 39 13.0**	**+0.1**
V53A				IAmb	IAmb	23 39 18.7	
	comp=Z,33nm,1.2s						
SWET	**Sewanee**	**66.96**	**348**	P	**P**	**23 39 12.6**	**-0.7**
SWET				IAmb	IAmb	23 39 19.2	
	comp=Z,36nm,1.1s						
TXAR	**Lajitas Array**	**67.00**	**330**	P	**P**	**23 39 14.8**	**+1.1**
	comp=Z,3.0nm,0.7s,baz=156,slow=8.1,SNR=5.9						
TXAR	**Lajitas Array**	**67.00**	**330**	P	**P**	**23 39 14.6**	**+0.9**
TX32	**Lajitas Array**	**67.00**	**330**	P	**P**	**23 39 13.8**	**0.0**
TKL	**Tuckaleechee C**	**67.02**	**350**	P	**P**	**23 39 13.1**	**-0.6**
CLTN	**Cedars of Leba**	**67.89**	**347**	P	**P**	**23 39 19.0**	**-0.1**
CLTN				IAmb	IAmb	23 39 27.4	
	comp=Z,46nm,1.3s						
U40A	**Yellville**	**69.62**	**342**	P	**P**	**23 39 30.1**	**+0.2**
U40A				IAmb	IAmb	23 39 40.1	
	comp=Z,47nm,1.3s						
HHAR	**Hobbs**	**69.84**	**341**	P	**P**	**23 39 31.6**	**+0.2**
HHAR				IAmb	IAmb	23 39 43.8	
	comp=Z,69nm,1.4s						
MSTX	**Muleshoe**	**70.69**	**333**	P	**P**	**23 39 36.5**	**-0.2**
SSPA	**Standing Stone**	**71.27**	**355**	P	**P**	**23 39 40.0**	**+0.1**
SSPA				IAmb	IAmb	23 39 41.1	
	comp=Z,50nm,1.5s						
M55A	**Ridgway**	**72.17**	**355**	P	**P**	**23 39 44.3**	**-1.1**
M55A				IAmb	IAmb	23 39 46.4	
	comp=Z,24nm,0.9s						
DBIC	**Dimbokro**	**74.06**	**72**	P	**P**	**23 39 56.4**	**-0.7**
	comp=Z,8.0nm,0.5s,baz=248,slow=4.7,SNR=7.2						
DBIC	**Dimbokro**	**74.06**	**72**	P	**P**	**23 39 56.0**	**-1.1**
DBIC				IAmb	IAmb	23 40 09.3	
	comp=Z,42nm,0.9s						
EMMW	**East Machias**	**75.24**	**3**	P	**P**	**23 40 04.1**	**+0.9**
EMMW				IAmb	IAmb	23 40 14.6	
	comp=Z,34nm,1.3s						
HAL	**Halifax**	**75.44**	**6**	P	**P**	**23 40 05.0**	**+0.7**
MAW	**Mawson**	**76.23**	**164**	P	**P**	**23 40 09.3**	**+0.6**
	comp=Z,9.1nm,0.6s,baz=188,slow=5.9,SNR=9.8						
MAW	**Mawson**	**76.23**	**164**	P	**P**	**23 40 09.0**	**+0.2**
SUR	**Sutherland**	**76.29**	**120**	P	**P**	**23 40 09.5**	**-0.6**
F64A	**Sherman**	**76.35**	**3**	P	**P**	**23 40 09.9**	**+0.3**
PFO	**Pinyon Flats O**	**76.63**	**323**	P	**P**	**23 40 13.8**	**+2.2**
	comp=Z,4.8nm,1.0s,baz=48,slow=14,SNR=2.6						
KOWA	**Kowa**	**79.21**	**66**	P	**P**	**23 40 26.4**	**+0.2**
	comp=Z,15nm,0.7s,baz=212,slow=5.4,SNR=3.9						
KOWA	**Kowa**	**79.21**	**66**	P	**P**	**23 40 25.5**	**-0.7**
TSUM	**Tsumeb**	**79.99**	**106**	P	**P**	**23 40 31.8**	**+1.1**
PDAR	**Pinedale Array**	**80.95**	**333**	P	**P**	**23 40 35.1**	**-0.2**
	comp=Z,5.7nm,1.1s,baz=132,slow=8.9,SNR=2.3						
PDAR	**Pinedale Array**	**80.95**	**333**	P	**P**	**23 40 36.0**	**+0.6**
NVAR	**Mina Array Bea**	**81.32**	**325**	P	**P**	**23 40 38.1**	**+0.7**
	comp=Z,27nm,0.7s,baz=151,slow=5.2,SNR=3.2						
BOSA	**Boshof**	**81.47**	**118**	P	**P**	**23 40 38.5**	**+0.1**
	comp=Z,13nm,0.6s,baz=246,slow=3.6,SNR=15						
BOSA	**Boshof**	**81.47**	**118**	P	**P**	**23 40 38.1**	**-0.4**
ELK	**Elko**	**81.69**	**328**	P	**P**	**23 40 39.2**	**-0.1**
	comp=Z,4.4nm,0.8s,baz=135,slow=2.9,SNR=3.7						
ELK	**Elko**	**81.69**	**328**	P	**P**	**23 40 39.3**	**0.0**
ULM	**Lac du Bonnet**	**83.43**	**345**	P	**P**	**23 40 48.2**	**+0.4**
	comp=Z,11nm,1.1s,baz=173,slow=8.8,SNR=2.2						
LBTB	**Lobatse**	**83.56**	**115**	P	**P**	**23 40 49.1**	**-0.3**
SCHQ	**Scheiterville**	**85.37**	**3**	P	**P**	**23 40 57.1**	**-0.5**
	comp=Z,27nm,1.2s,baz=207,slow=9.7,SNR=3.9						
YBH	**Yreka Blue Hor**	**86.02**	**324**	P	**P**	**23 41 01.1**	**-0.2**
	comp=Z,5.2nm,1.0s,baz=90,slow=9.1,SNR=3.3						
WRA	**Warramunga Arr**	**123.61**	**210**	PKP	**PKPdf**	**23 47 17.5**	**-1.5**
	comp=Z,1.8nm,0.6s,baz=160,slow=2.1,SNR=6.4						
WRA	**Warramunga Arr**	**123.61**	**210**		**PKPdf**	**23 47 17.9**	**-1.1**
H11S2	**WAKE ISLAND Hyl**	**25.87**	**271**	T	T	02 06 07.5	
	baz=115,slow=75,SNR=19						
H11S1	**WAKE ISLAND Hyl**	**25.88**	**271**	T	T	02 06 06.3	
	baz=115,slow=75,SNR=21						
H11S3	**WAKE ISLAND Hyl**	**25.89**	**271**	T	T	02 06 02.4	
	baz=115,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hyl**	**26.20**	**273**	T	T	02 06 32.5	
	baz=118,slow=74,SNR=5.1						
H11N1	**WAKE ISLAND Hyl**	**26.22**	**273**	T	T	02 06 33.3	
	baz=118						
H11N2	**WAKE ISLAND Hyl**	**26.22**	**273**	T	T	02 06 31.7	
	baz=118,slow=74,SNR=9.5						
PSA00	**Pinto Seismi**	**126.74**	**194**		**PKiKP**	**23 47 25.9**	**+0.4**
KAPI	**Kappang**	**142.70**	**199**	PKP	**PKiKP**	**23 47 57.9**	**0.0**
	comp=Z,16nm,1.0s,baz=148,slow=10,SNR=4.2						
YAK	**Yakutsk**	**145.73**	**342**	PKPbc	**PKPab**	**23 47 59.3**	**0.0**
	comp=Z,28nm,0.7s,baz=167,slow=0.7,SNR=1.8						
YAK	**Yakutsk**	**145.73**	**342**		**PKPab**	**23 47 58.6**	**-0.7**
KKAR	**Karatay Array**	**147.80**	**57**	PKPdf	**PKPdf**	**23 48 03.4**	**+0.7**
TOLI2	**Tolitoli**	**148.13**	**205**	PKPdf	**PKPdf**	**23 48 03.1**	**-1.0**
KURBB	**Kurchatov Arra**	**150.38**	**39**	PKPbc	**PKPbc**	**23 48 11.4**	**-0.4**
	comp=Z,6.9nm,0.7s,baz=304,slow=3.1,SNR=3.8						
RPSI	**Rantau Prapat**	**150.75**	**161**	PKPdf	**PKPdf**	**23 48 08.7**	**+0.4**
AAK	**Ala-Archa**	**150.76**	**57**	PKPbc	**PKPbc**	**23 48 11.1**	**-2.1**
	comp=Z,8.9nm,1.0s,baz=197,slow=18,SNR=1.6						
AAK	**Ala-Archa**	**150.76**	**57**		**PKPdf**	**23 48 09.0**	**+1.3**
PSI	**Prapat**	**150.85**	**161**	PKPbc	**PKPbc**	**23 48 13.2**	**-1.0**
	comp=Z,28nm,0.9s,baz=360,slow=2.3,SNR=5.5						
ZAA0	**Zalesovo Array**	**151.41**	**29**	PKPbc	**PKiKP**	**23 48 13.8**	**-0.8**
ZALV	**Zalesovo Beam**	**151.41**	**29**	PKPbc	**PKPbc**	**23 48 13.3**	**-0.8**
	comp=Z,35nm,0.7s,baz=301,slow=2.9,SNR=8.8						
ZALV	**Zalesovo Beam**	**151.41**	**29**		**PKiKP**	**23 48 14.0**	**-0.6**
ZALV				PKPab	**PKPab**	**23 48 23.2**	**+0.9**
MKAR	**Makanchi Array**	**154.47**	**44**	PKPbc	**PKiKP**	**23 48 21.2**	**-0.1**
	comp=Z,5.2nm,0.8s,baz=270,slow=0.9,SNR=2.5						

*IDC **16** 23:31:28.5±0.9,31°.09S×71°.63W,h0km,mb4.5/8, mb1 4.7/11,mb1mx4.4/37,mbtmp4.7/11,ML4.3/3,Error ellipse: s-maj=37.6km s-min=21.9km az=76.0*
*NEIC **16** 23:31:32.8±1.5,31°.07S±0'.05×71°.69W±0'.08,h24km±5km, mb5.1/9,Error ellipse: s-maj=10.0km s-min=6.4km az=115.0*
ISC 16 23:31:30.6±0.6,**31°.10S**±0'.06×**71°.74W**±0'.08,**h10**km,**n48,** σ1**55**/50,**mb4.9**/13,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.43**	**12**	Pg	**Pb**	**23 31 41.4**	**+1.1**
CO06				Sg	**Sb**	**23 31 48.2**	**+1.4**
CO03	**El Pedregal**	**0.94**	**74**		**Pg**	**23 31 47.9**	**-0.8**
CO03					**Sb**	**23 32 02.5**	**+0.9**
VA01	**Torpederas**	**1.92**	**178**	Pn	**Pn**	**23 32 05.3**	**+1.9**
VA03	**San Esteban**	**1.95**	**149**	Pn	**Pn**	**23 32 05.7**	**+1.9**
LCO	**Las Campanas**	**2.27**	**24**		**Pb**	**23 32 12.5**	**+0.8**
MT05	**Renca**	**2.44**	**160**	Pn	**Pn**	**23 32 12.7**	**+2.0**
GO05	**Huala**	**3.91**	**182**	Pn	**Pn**	**23 32 30.4**	**-0.3**
AC02	**Maricunga**	**4.82**	**29**	Pn	**Pn**	**23 32 44.8**	**+1.1**
PB14	**IPOC Station P**	**6.55**	**11**	Pn	**Pn**	**23 33 07.4**	**0.0**
PB15	**IPOC Station P**	**8.11**	**15**	Pn	**Pn**	**23 33 29.1**	**+0.4**
LVC	**Limon Verde**	**8.82**	**17**	Pn	**Pn**	**23 33 37.3**	**-1.3**
	3.6nm,0.3s,baz=97,slow=7.5,SNR=1.1						
LPAZ	**La Paz**	**15.11**	**13**	Pn	**Pn**	**23 35 02.2**	**-2.5**
	0.4nm,0.3s,baz=204,slow=5.7,SNR=1.0						
SIV	**San Ignacio**	**17.92**	**35**	P	**Pn**	**23 35 39.6**	**-0.5**
	1.6nm,0.3s,baz=74,slow=20,SNR=1.9						
SAML	**Samuel**	**23.43**	**22**	P	**P**	**23 36 39.2**	**-0.9**
SAML				IAmb	IAmb	23 36 40.2	
	comp=Z,36nm,0.8s						
SJG	**San Juan**	**49.22**	**7**	P	**P**	**23 40 17.8**	**-1.4**
	comp=Z,9.9nm,0.5s,baz=164,slow=18,SNR=2.7						
SNAA	**Sanae**	**54.18**	**159**	P	**P**	**23 40 55.0**	**-0.9**
	comp=Z,6.6nm,0.8s,baz=305,slow=9.7,SNR=2.4						
SNAA	**Sanae**	**54.18**	**159**	P	**P**	**23 40 55.1**	**-0.8**
SLBS	**Sierra La Lagu**	**65.63**	**322**	P	**P**	**23 42 14.9**	**-0.2**
X48A	**Hartselle**	**66.78**	**346**	P	**P**	**23 42 21.1**	**-1.0**
X48A				IAmb	IAmb	23 42 30.4	
	comp=Z,8.1nm,0.7s						
W50A	**Signal Mountai**	**67.17**	**348**	P	**P**	**23 42 24.1**	**-0.6**
V55A	**Taylorsville**	**67.19**	**352**	P	**P**	**23 42 24.0**	**-0.7**
V53A	**Saluda**	**67.22**	**350**	P	**P**	**23 42 24.0**	**-1.0**
CPCT	**Cooper Cave**	**67.28**	**349**	P	**P**	**23 42 24.4**	**-1.0**
SWET	**Sewanee**	**67.30**	**347**	P	**P**	**23 42 24.5**	**-1.0**
TXAR	**Lajitas Array**	**67.34**	**330**	P	**P**	**23 42 25.8**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=154,slow=8.7,SNR=4.1						
TXAR	**Lajitas Array**	**67.34**	**330**	P	**P**	**23 42 25.5**	**-0.5**
TX31	**Lajitas Ar. Si**	**67.34**	**330**	P	**P**	**23 42 25.6**	**-0.4**
TX32	**Lajitas Array**	**67.34**	**330**	P	**P**	**23 42 25.1**	**-0.9**
PLAL	**Pickwick Lake**	**67.50**	**346**	P	**P**	**23 42 25.3**	**-1.5**
CLTN	**Cedars of Leba**	**68.22**	**347**	P	**P**	**23 42 30.8**	**-0.5**
CLTN				IAmb	IAmb	23 42 38.5	
	comp=Z,19nm,1.3s						
LCAR	**Lake Charles**	**69.25**	**343**	P	**P**	**23 42 36.8**	**-0.8**
LCAR				IAmb	IAmb	23 42 38.9	
	comp=Z,28nm,1.4s						
N49A	**Columbus Grove**	**72.58**	**350**	P	**P**	**23 42 56.7**	**-1.1**
N49A				IAmb	IAmb	23 43 06.4	
	comp=Z,22nm,0.7s						
DBIC	**Dimbokro**	**74.03**	**72**	P	**P**	**23 43 06.1**	**-0.9**
	comp=Z,5.8nm,0.5s,baz=228,slow=6.1,SNR=6.4						
DBIC	**Dimbokro**	**74.03**	**72**	P	**P**	**23 43 05.7**	**-1.2**
MAW	**Mawson**	**75.89**	**164**	P	**P**	**23 43 16.3**	**-0.6**
	comp=Z,2.3nm,0.7s,baz=217,slow=5.1,SNR=1.5						
MAW	**Mawson**	**75

SMCO	**Snowmass**	**76.22**	**333**	P	**P**	**23 43 35.6**	**+1.3**
K31A	**O'Neill**	**76.40**	**340**	P	**P**	**23 43 34.1**	**-0.7**
SUR	**Sutherland**	**76.62**	**120**	P	**P**	**23 43 37.4**	**+0.6**
ECSD	**EROS Data Cent**	**76.81**	**342**	P	**P**	**23 43 36.8**	**-0.3**
ECSD				IAmb	IAmb	23 43 39.8	
	comp=Z,39nm,0.9s						
E46A	**Sault Ste Mari**	**76.85**	**351**	P	**P**	**23 43 37.2**	**0.0**
E46A				IAmb	IAmb	23 43 38.3	
	comp=Z,27nm,0.8s						
ISA	**Isabella, Lake**	**78.69**	**323**	P	**P**	**23 43 48.7**	**+0.8**
KOWA	**Kowa**	**78.84**	**66**	P	**P**	**23 43 49.8**	**+0.9**
	comp=Z,7.1nm,0.6s,baz=240,slow=3.5,SNR=4.1						
KOWA	**Kowa**	**78.84**	**66**	P	**P**	**23 43 48.9**	**-0.1**
TSUM	**Tsumeb**	**80.14**	**106**	P	**P**	**23 43 57.9**	**+1.6**
	comp=Z,12nm,0.9s,baz=254,slow=2.9,SNR=4.7						
TSUM	**Tsumeb**	**80.14**	**106**	P	**P**	**23 43 55.6**	**-0.8**
TSUM				IAmb	IAmb	23 43 59.0	
	comp=Z,19nm,1.1s						
HWUT	**Hardware Ranch**	**80.15**	**331**	P	**P**	**23 43 56.3**	**+0.5**
PDAR	**Pinedale Array**	**80.29**	**333**	P	**P**	**23 43 57.4**	**+0.8**
	comp=Z,2.3nm,0.7s,baz=122,slow=5.4,SNR=4.0						
PDAR	**Pinedale Array**	**80.29**	**333**	P	**P**	**23 43 56.8**	**+0.2**
NVAR	**Mina Array Bea**	**80.72**	**325**	P	**P**	**23 44 00.3**	**+1.3**
	comp=Z,2.0nm,0.7s,baz=163,slow=5.4,SNR=4.1						
NVAR	**Mina Array Bea**	**80.72**	**325**	P	**P**	**23 43 59.5**	**+0.5**
AGMN	**Agassiz Nation**	**80.87**	**344**	P	**P**	**23 43 59.4**	**+0.2**
AGMN				IAmb	IAmb	23 44 00.3	
	comp=Z,12nm,0.7s						
BOSA	**Boshof**	**81.78**	**118**	P	**P**	**23 44 05.5**	**+0.5**
	comp=Z,6.7nm,0.8s,baz=246,slow=5.8,SNR=4.4						
BOSA	**Boshof**	**81.78**	**118**	P	**P**	**23 44 04.8**	**-0.2**
ULM	**Lac du Bonnet**	**82.70**	**345**	P	**P**	**23 44 08.4**	**-0.4**
	comp=Z,20nm,1.0s,baz=159,slow=4.0,SNR=5.5						
DGMT	**Dagmar**	**83.33**	**339**	P	**P**	**23 44 13.1**	**+0.9**
LBTB	**Lobatse**	**83.82**	**115**	P	**P**	**23 44 15.4**	**-0.2**
YBH	**Yreka Blue Hor**	**85.43**	**324**	P	**P**	**23 44 22.8**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=110,slow=4.4,SNR=4.9						
I07A	**Izee**	**85.64**	**328**	P	**P**	**23 44 24.7**	**+0.6**
H04A	**Detroit Lake**	**87.36**	**327**	P	**P**	**23 44 32.3**	**-0.1**
F04A	**Amboy**	**88.40**	**327**	P	**P**	**23 44 37.6**	**+0.3**
F04A				IAmb	IAmb	23 44 42.9	
	comp=Z,19nm,0.9s						
E03A	**Lebam**	**89.39**	**327**		**P**	**23 44 42.3**	**+0.4**
WRA	**Warramunga Arr**	**124.32**	**210**	PKP	**PKPdf**	**23 50 44.0**	**-1.1**
	comp=Z,5.2nm,1.0s,baz=164,slow=2.3,SNR=4.7						
YAK	**Yakutsk**	**145.01**	**342**	PKP	**PKPdf**	**23 51 22.0**	**0.0**
	comp=Z,24nm,0.5s,baz=172,slow=0.6,SNR=6.6						
YAK	**Yakutsk**	**145.01**	**342**		**PKPdf**	**23 51 21.8**	**-0.2**
AAK	**Ala-Archa**	**150.28**	**56**	PKPbc	**PKiKP**	**23 51 37.7**	**+0.1**
	comp=Z,15nm,1.0s,baz=187,slow=3.6,SNR=3.9						
AAK	**Ala-Archa**	**150.28**	**56**		**PKiKP**	**23 51 37.5**	**-0.1**
ZAA0	**Zalesovo Array**	**150.69**	**29**		**PKiKP**	**23 51 37.6**	**-0.2**
ZALV	**Zalesovo Beam**	**150.69**	**29**	PKPbc	**PKiKP**	**23 51 37.9**	**0.0**
	comp=Z,42nm,0.6s,baz=304,slow=3.3,SNR=17						
ZALV	**Zalesovo Beam**	**150.69**	**29**		**PKiKP**	**23 51 37.6**	**-0.3**

*IDC **16** 23:32:20.7±0.9,31°.36S×71°.79W,h0km,mb5.1/7, mb1 5.2/7,mb1mx4.7/35,mbtmp5.1/7,Error ellipse: s-maj=36.0km s-min=27.1km az=67.0*
*NEIC **16** 23:32:24.8±1.4,31°.42S±0°.03×71°.88W±0°.08,h19km±3km, mb5.2/33,Error ellipse: s-maj=9.8km s-min=4.8km az=89.0*

ISC 16 23:32:23.0±0.5,31°.45S±0°.05×71°.87W±0°.07,h14km,n64, σ0s73/64,mb5.3/21,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.80**	**14**		**Pn**	**23 32 40.4**	**+0.5**
CO06					**Sn**	**23 32 51.1**	**-0.4**
CO03	**El Pedregal**	**1.18**	**59**	Pn	**Pg**	**23 32 46.9**	**+1.1**
CO03				Sn	**Sg**	**23 33 01.8**	**+0.7**
VA03	**San Esteban**	**1.72**	**140**	Pn	**Pn**	**23 32 51.6**	**-1.0**
VA03				Sn	**Sb**	**23 33 16.2**	**+0.2**
MT09	**Talagante**	**2.43**	**163**	Pn	**Pn**	**23 33 03.5**	**+1.0**
BO01	**Tunca**	**3.00**	**168**	Pn	**Pn**	**23 33 11.6**	**+1.3**
H03N1	**Juan Fernandez**	**6.28**	**250**	T	T	23 40 37.5	
	baz=77,slow=72,SNR=67						
H03N3	**Juan Fernandez**	**6.29**	**250**	T	T	23 40 29.0	
	baz=77,slow=72,SNR=46						
H03N2	**Juan Fernandez**	**6.29**	**250**	T	T	23 40 38.3	
	baz=77,slow=72,SNR=41						
LPAZ	**La Paz**	**15.47**	**14**	Pn	**Pn**	**23 36 02.3**	**+0.8**
LPAZ				IAmb	IAmb	23 36 09.3	
	comp=Z,96nm,1.4s						
SPB	**Sao Paulo**	**23.01**	**76**	P	**P**	**23 37 28.1**	**+0.6**
SAML	**Samuel**	**23.80**	**22**	P	**P**	**23 37 34.7**	**-0.9**
PMSA	**Palmer Station**	**33.70**	**174**	P	**P**	**23 39 03.0**	**-0.4**
RUSC	**La Rusia**	**37.15**	**358**	P	**P**	**23 39 35.5**	**+1.4**
MDP	**Montagnes des**	**40.71**	**30**	P	**P**	**23 40 02.2**	**-1.3**
	comp=Z,37nm,0.8s,baz=208,slow=10,SNR=5.4						
SJCC	**San Jacinto, C**	**41.23**	**355**	P	**P**	**23 40 09.3**	**+1.5**
SRBA	**San Rafael, Bu**	**41.92**	**343**	P	**P**	**23 40 14.1**	**+0.6**
GRGR	**Grenville**	**44.43**	**14**	P	**P**	**23 40 32.1**	**-1.4**
CRPR	**Cabo Rojo, PR**	**49.38**	**6**	P	**P**	**23 41 12.2**	**-0.1**
V55A	**Taylorsville**	**67.52**	**352**	P	**P**	**23 43 18.2**	**-0.4**
V55A				IAmb	IAmb	23 43 18.9	
	comp=Z,7.9nm,0.7s						
TXAR	**Lajitas Array**	**67.59**	**330**	P	**P**	**23 43 18.9**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=159,slow=7.7,SNR=2.6						
TXAR	**Lajitas Array**	**67.59**	**330**	P	**P**	**23 43 19.6**	**+0.2**
V52A	**Sevierville**	**67.84**	**350**	P	**P**	**23 43 19.9**	**-0.8**
CLTN	**Cedars of Leba**	**68.55**	**347**	P	**P**	**23 43 25.1**	**+0.1**
CLTN				IAmb	IAmb	23 43 26.7	
	comp=Z,18nm,0.8s						
MSTX	**Muleshoe**	**71.30**	**333**	P	**P**	**23 43 42.0**	**-0.2**
MSTX				IAmb	IAmb	23 43 52.2	
	comp=Z,25nm,0.8s						
ACSO	**Alum Creek Sta**	**72.06**	**351**	P	**P**	**23 43 46.0**	**-0.5**
ACSO				IAmb	IAmb	23 43 46.7	
	comp=Z,18nm,0.7s						
M55A	**Ridgway**	**72.84**	**355**	P	**P**	**23 43 51.4**	**+0.3**
M55A				IAmb	IAmb	23 44 06.4	
	comp=Z,17nm,1.1s						
N49A	**Columbus Grove**	**72.91**	**350**	P	**P**	**23 43 51.4**	**-0.1**
N49A				IAmb	IAmb	23 43 51.8	
	comp=Z,21nm,0.7s						
LIC	**Lamto**	**73.84**	**72**	*eP*	**P**	**23 43 56.8**	**-0.9**
	comp=Z,157nm,0.9s						
TIC	**Toumodi**	**74.09**	**72**	*eP*	**P**	**23 43 58.3**	**-0.8**
KIC	**Kosan Boka**	**74.15**	**72**	*eP*	**P**	**23 43 58.8**	**-0.7**
	comp=Z,134nm,0.8s						
DBIC	**Dimbokro**	**74.24**	**72**	P	**P**	**23 43 59.4**	**-0.6**
	comp=Z,66nm,0.8s,baz=236,slow=6.3,SNR=16						
DBIC	**Dimbokro**	**74.24**	**72**	P	**P**	**23 43 59.6**	**-0.4**
LBNH	**Lisbon**	**75.33**	**360**	P	**P**	**23 44 06.0**	**+0.4**
LBNH				IAmb	IAmb	23 44 07.4	
	comp=Z,20nm,0.9s						
MAW	**Mawson**	**75.58**	**164**	P	**P**	**23 44 08.0**	**+1.1**
	comp=Z,22nm,1.2s,baz=239,slow=6.5,SNR=5.2						
MAW	**Mawson**	**75.58**	**164**	P	**P**	**23 44 07.0**	**+0.2**
EMMW	**East Machias**	**75.90**	**3**	P	**P**	**23 44 09.5**	**+0.7**
FRNY	**Flat Rock**	**75.94**	**359**	P	**P**	**23 44 09.3**	**+0.3**
SUR	**Sutherland**	**75.94**	**119**	P	**P**	**23 44 10.1**	**+0.2**
PKME	**Peaks-Kenny Pk**	**76.39**	**2**	P	**P**	**23 44 12.3**	**+0.7**
PKME				IAmb	IAmb	23 44 12.7	
	comp=Z,12nm,0.8s						
F64A	**Sherman**	**77.02**	**3**	P	**P**	**23 44 15.7**	**+0.5**
F64A				IAmb	IAmb	23 44 16.9	
	comp=Z,24nm,0.8s						
PQI	**Presque Isle**	**77.84**	**3**	P	**P**	**23 44 20.1**	**+0.4**
PQI				IAmb	IAmb	23 44 21.2	
	comp=Z,32nm,0.8s						
BATG	**Bathurst New B**	**78.54**	**4**	P	**P**	**23 44 24.4**	**+0.8**
BATG				IAmb	IAmb	23 44 25.1	
	comp=Z,23nm,0.8s						
KOWA	**Kowa**	**79.46**	**66**	P	**P**	**23 44 29.0**	**-0.4**
	comp=Z,42nm,0.7s,baz=243,slow=5.8,SNR=13						
KOWA	**Kowa**	**79.46**	**66**	P	**P**	**23 44 29.0**	**-0.4**
KOWA				IAmb	IAmb	23 44 29.8	
	comp=Z,19nm,0.6s						
BOSA	**Boshof**	**81.13**	**118**	P	**P**	**23 44 38.4**	**-0.1**
	comp=Z,14nm,0.7s,baz=253,slow=3.1,SNR=7.5						
BOSA	**Boshof**	**81.13**	**118**	P	**P**	**23 44 38.4**	**-0.1**
NVAR	**Mina Array Bea**	**81.88**	**325**	P	**P**	**23 44 42.2**	**0.0**
	comp=Z,2.6nm,0.7s,baz=161,slow=6.3,SNR=4.6						
CASY	**Casey**	**82.57**	**181**	P	**P**	**23 44 46.0**	**+0.9**
CASY				IAmb	IAmb	23 44 46.9	
	comp=Z,32nm,0.8s						
TORD	**Torodi Ar. Bea**	**83.21**	**70**	P	**P**	**23 44 49.2**	**-0.1**
LBTB	**Lobatse**	**83.24**	**115**	P	**P**	**23 44 49.0**	**-0.6**
AKASG	**Malin Array Be**	**120.35**	**46**	PKP	**PKPdf**	**23 51 12.0**	**-1.4**
	comp=Z,5.7nm,0.7s,baz=266,slow=2.5,SNR=13						
ARU	**Arti**	**137.70**	**39**	PKPdf	**PKPdf**	**23 51 46.7**	**+0.6**
PALK	**Pallekele**	**144.87**	**127**	PKP	**PKPab**	**23 51 59.2**	**-0.2**
	comp=Z,26nm,1.1s,baz=36,slow=7.0,SNR=4.0						
BRVK	**Borovoye**	**145.21**	**40**	PKPbc	**PKPbc**	**23 51 59.7**	**+0.3**
KKAR	**Karatay Array**	**148.13**	**58**	PKPbc	**PKPbc**	**23 52 07.2**	**-1.1**
KKAR	**Karatay Array**	**148.13**	**58**	PKPbc	**PKPbc**	**23 52 08.2**	**0.0**
PSI	**Prapat**	**150.21**	**161**	PKPbc	**PKPbc**	**23 52 12.9**	**-1.5**
	comp=Z,10nm,0.6s,baz=210,slow=0.7,SNR=3.6						
NIL	**Nilore**	**150.60**	**76**		**PKPbc**	**23 52 13.6**	**-1.1**
AAK	**Ala-Archa**	**151.10**	**58**	PKPbc	**PKiKP**	**23 52 16.5**	**+0.2**
	comp=Z,20nm,0.7s,baz=187,slow=2.9,SNR=7.9						
AAK	**Ala-Archa**	**151.10**	**58**	PKPbc	**PKPbc**	**23 52 16.0**	**+0.2**
ZALV	**Zalesovo Beam**	**151.97**	**30**	PKPbc	**PKPbc**	**23 52 17.2**	**0.0**
	comp=Z,115nm,0.7s,baz=299,slow=3.2,SNR=15						
MKAR	**Makanchi Array**	**154.92**	**45**	PKPbc	**PKPbc**	**23 52 23.4**	**-0.5**
	comp=Z,13nm,0.8s,baz=307,slow=2.4,SNR=6.8						
SONM	**Songino Array**	**163.58**	**4**	PKPab	**PKPab**	**23 53 16.7**	**-0.2**
	comp=Z,3.7nm,0.9s,baz=334,slow=2.9,SNR=4.2						
SONM	**Songino Array**	**163.58**	**4**		**PKPab**	**23 53 17.3**	**+0.4**

*IDC **16** 23:33:35.1±1.9,31°.59S×71°.78W,h0km,mb4.9/6, mb1 5.0/6,mb1mx4.5/34,mbtmp4.9/6,Error ellipse: s-maj=90.5km s-min=34.0km az=29.0*
*NEIC **16** 23:33:41.2±2.1,31°.38S±0°.03×71°.81W±0°.05,h28km±4km, mb5.1/14,Error ellipse: s-maj=6.8km s-min=3.2km az=49.0*

ISC 16 23:33:38.1±0.5,31°.49S±0°.04×71°.80W±0°.09,h14km,n41, σ0s70/43,mb5.1/12,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.82**	**10**	Pn	**Pg**	**23 33 54.0**	**-0.1**
CO06				Sn	**Sb**	**23 34 05.9**	**+0.8**
CO03	**El Pedregal**	**1.15**	**56**	Pn	**Pn**	**23 33 60.0**	**+0.1**
CO03				Sn	**Sn**	**23 34 15.8**	**+0.3**
VA01	**Torpederas**	**1.54**	**175**	Pn	**Pg**	**23 34 08.3**	**+0.6**
VA03	**San Esteban**	**1.66**	**141**	Pn	**Pg**	**23 34 09.6**	**-0.4**
VA05	**Santo Domingo**	**2.17**	**176**	Pn	**Pg**	**23 34 18.8**	**-1.0**
MT01	**Popeta**	**2.42**	**169**	Pn	**Pb**	**23 34 22.0**	**+0.6**
SAML	**Samuel**	**23.82**	**22**	P	**P**	**23 38 50.3**	**-0.4**
RUSC	**La Rusia**	**37.19**	**358**	P	**P**	**23 40 50.6**	**+1.1**
V58A	**Windy Hill, Pi**	**67.28**	**354**	P	**P**	**23 44 30.9**	**-1.2**
V53A	**Saluda**	**67.60**	**350**	P	**P**	**23 44 33.3**	**-0.9**
TX31	**Lajitas Ar. Si**	**67.65**	**330**	P	**P**	**23 44 34.5**	**-0.3**
TXAR	**Lajitas Array**	**67.65**	**330**	P	**P**	**23 44 34.7**	**-0.1**
	2.0nm,0.8s,baz=158,slow=6.3,SNR=1.1						
SWET	**Sewanee**	**67.67**	**348**	P	**P**	**23 44 33.8**	**-0.8**
SWET				IAmb	IAmb	23 44 34.2	
	comp=Z,24nm,1.3s						
TKL	**Tuckaleechee C**	**67.73**	**349**	P	**P**	**23 44 34.2**	**-0.8**
CLTN	**Cedars of Leba**	**68.59**	**347**	P	**P**	**23 44 40.2**	**-0.2**
CLTN				IAmb	IAmb	23 44 40.8	
	comp=Z,11nm,0.8s						
ACSO	**Alum Creek Sta**	**72.11**	**351**	P	**P**	**23 45 00.8**	**-1.0**
ACSO				IAmb	IAmb	23 45 10.0	
	comp=Z,15nm,1.1s						
DBIC	**Dimbokro**	**74.19**	**72**	P	**P**	**23 45 14.1**	**-0.7**
	comp=Z,24nm,0.8s,baz=238,slow=4.6,SNR=4.8						
DBIC	**Dimbokro**	**74.19**	**72**	P	**P**	**23 45 14.7**	**-0.1**
DBIC				IAmb	IAmb	23 45 15.1	
	comp=Z,15nm,0.7s						
LBNH	**Lisbon**	**75.36**	**360**	P	**P**	**23 45 21.1**	**+0.2**
LBNH				IAmb	IAmb	23 45 24.0	
	comp=Z,15nm,1.2s						
MAW	**Mawson**	**75.53**	**164**	P	**P**	**23 45 23.3**	**+1.7**
PKME	**Peaks-Kenny Pk**	**76.42**	**2**	P	**P**	**23 45 27.5**	**+0.7**
PKME				IAmb	IAmb	23 45 27.5	
	comp=Z,21nm,1.1s						
F64A	**Sherman**	**77.05**	**2**	P	**P**	**23 45 30.8**	**+0.5**
KOWA	**Kowa**	**79.42**	**66**	P	**P**	**23 45 44.2**	**-0.1**
	comp=Z,14nm,0.6s,baz=96,slow=9.1,SNR=2.9						
KOWA	**Kowa**	**79.42**	**66**	P	**P**	**23 45 43.9**	**-0.4**
BOSA	**Boshof**	**81.06**	**118**	P	**P**	**23 45 52.2**	**-1.0**
	comp=Z,12nm,0.9s,baz=232,slow=3.3,SNR=3.8						
BOSA	**Boshof**	**81.06**	**118**	P	**P**	**23 45 53.4**	**+0.2**
NVAR	**Mina Array Bea**	**81.94**	**325**	P	**P**	**23 45 57.4**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=154,slow=5.7,SNR=2.3						
NVAR	**Mina Array Bea**	**81.94**	**325**	P	**P**	**23 45 57.1**	**-0.5**
CASY	**Casey**	**82.53**	**181**	P	**P**	**23 46 00.7**	**+0.6**
CASY				IAmb	IAmb	23 46 02.4	
	comp=Z,15nm,0.8s						
TORD	**Torodi Ar. Bea**	**83.17**	**70**	P	**P**	**23 46 03.9**	**-0.3**
	comp=Z,25nm,0.7s,baz=274,slow=4.3,SNR=6.0						
TORD	**Torodi Ar. Bea**	**83.17**	**70**	P	**P**	**23 46 03.7**	**-0.5**
TORD				IAmb	IAmb	23 46 04.5	
	comp=Z,9.5nm,0.7s						
LBTB	**Lobatse**	**83.18**	**115**	P	**P**	**23 46 04.4**	**0.0**
AKASG	**Malin Array Be**	**120.33**	**46**	PKP	**PKPdf**	**23 52 26.8**	**-1.7**
	comp=Z,1.4nm,0.5s,baz=266,slow=2.4,SNR=4.3						
ARU	**Arti**	**137.69**	**39**	PKPdf	**PKPdf**	**23 53 01.6**	**+0.3**
BRVK	**Borovoye**	**145.20**	**41**	PKPbc	**PKPdf**	**23 53 14.9**	**+0.1**
KKAR	**Karatay Array**	**148.11**	**58**	PKPbc	**PKPbc**	**23 53 22.7**	**-0.6**
AAK	**Ala-Archa**	**151.07**	**58**	PKPbc	**PKPbc**	**23 53 30.3**	**-0.5**
ZAA0	**Zalesovo Array**	**151.97**	**30**	PKPbc	**PKPbc**	**23 53 32.0**	**-0.3**
ZALV	**Zalesovo Beam**	**151.97**	**30**	PKPbc	**PKPbc**	**23 53 32.2**	**-0.1**
	comp=Z,42nm,0.7s,baz=311,slow=2.9,SNR=6.4						
ZALV	**Zalesovo Beam**	**151.97**	**30**	PKPbc	**PKPbc**	**23 53 32.0**	**-0.3**
MKAR	**Makanchi Array**	**154.91**	**45**	PKPbc	**PKPbc**	**23 53 38.1**	**-0.9**
	comp=Z,3.9nm,0.6s,baz=269,slow=2.7,SNR=2.2						

*IDC **16** 23:36:27.5±0.7,31°.75S×72°.00W,h0km,mb5.0/10, mb1 5.0/12,mb1mx4.7/34,mbtmp4.9/12,ML4.7/2,Error ellipse: s-maj=29.9km s-min=17.9km az=85.0*
*NEIC **16** 23:36:29.6±2.0,31°.79S±0°.04×72°.24W±0°.08,h11km±3km, mb5.3/29,Error ellipse: s-maj=9.6km s-min=6.6km az=104.0*

ISC 16 23:36:30.0±0.4,31°.78S±0°.05×72°.11W±0°.07,h17km,n85, σ0s94/89,mb5.2/21,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**1.30**	**163**		**Pn**	**23 36 53.4**	**0.0**
VA01				Sn	**Sb**	**23 37 10.9**	**+0.5**
CO03	**El Pedregal**	**1.53**	**53**	Pn	**Pn**	**23 36 56.1**	**-0.6**
VA03	**San Esteban**	**1.64**	**127**	Pn	**Pb**	**23 36 59.1**	**-0.9**
VA03				Sn	**Sb**	**23 37 20.4**	**0.0**
VA05	**Santo Domingo**	**1.92**	**168**		**Pn**	**23 37 01.6**	**-0.3**
VA05				Sn	**Sn**	**23 37 24.6**	**-1.0**
MT05	**Renca**	**1.98**	**145**		**Pn**	**23 37 03.9**	**+1.0**
MT01	**Popeta**	**2.20**	**161**		**Pn**	**23 37 05.9**	**+0.1**
MT09	**Talagante**	**2.20**	**155**	Pn	**Pn**	**23 37 06.7**	**+0.7**
BO01	**Tunca**	**2.74**	**162**		**Pn**	**23 37 14.2**	**+0.9**
ZON	**Zonda**	**2.93**	**86**	Pn	**Pb**	**23 37 19.5**	**-2.4**
BO02	**Sierra Bellavi**	**3.20**	**160**		**Pn**	**23 37 20.2**	**+0.5**
GO05	**Huala**	**3.23**	**177**	Pn	**Pn**	**23 37 19.1**	**-0.9**
AC02	**Maricunga**	**5.57**	**29**	Pn	**Pn**	**23 37 52.3**	**-0.3**
LC01	**Cunco**	**7.11**	**179**	Pn	**Pn**	**23 38 12.6**	**-0.6**
LR03	**Panguipulli**	**7.84**	**181**	Pn	**Pn**	**23 38 23.0**	**-0.2**
PLCA	**Paso Flores**	**9.02**	**172**	Pn	**Pn**	**23 38 39.9**	**+0.3**
	5.0nm,0.3s,baz=333,slow=13,SNR=7.6						
PLCA	**Paso Flores**	**9.02**	**172**	Pn	**Pn**	**23 38 38.8**	**-0.8**
LL05	**Los Muermos**	**9.67**	**186**	Pn	**Pn**	**23 38 47.1**	**-1.3**
TRQA	**Tornquist**	**10.40**	**130**	Pn	**Pn**	**23 39 01.3**	**+2.8**
TA02	**Huaiquique**	**11.60**	**9**	Pn	**Pn**	**23 39 15.0**	**+0.2**
LPAZ	**La Paz**	**15.84**	**14**	Pn	**Pn**	**23 40 13.8**	**+0.9**
	0.3nm,0.3s,baz=171,slow=7.7,SNR=1.8						
LPAZ	**La Paz**	**15.84**	**14**		**Pn**	**23 40 12.6**	**-0.4**
AQDB	**Aquidauana**	**18.51**	**57**	P	**Pn**	**23 40 48.5**	**+2.7**
AQDB				IAmb	IAmb	23 41 00.3	
	comp=Z,163nm,1.3s						
MG02	**Cerro Sombrero**	**21.09**	**175**	P	**P**	**23 41 12.5**	**-1.0**
EFI	**East Falkland**	**22.40**	**157**	P	**P**	**23 41 27.9**	**+0.4**
EFI				IAmb	IAmb	23 41 39.5	
	comp=Z,70nm,0.6s						
SPB	**Sao Paulo**	**23.29**	**76**	P	**P**	**23 41 36.5**	**-0.5**
SAML	**Samuel**	**24.18**	**22**	P	**P**	**23 41 45.4**	**-0.3**
BDFB	**Brasilia**	**27.19**	**59**	P	**P**	**23 42 11.8**	**-1.2**
	comp=Z,64nm,1.0s,baz=192,slow=6.8,SNR=3.0						
BDFB	**Brasilia**	**27.19**	**59**	P	**P**	**23 42 12.2**	**-0.8**
HOPE	**Hope Point**	**33.85**	**142**	P	**P**	**23 43 11.3**	**0.0**
HOPE				IAmb	IAmb	23 43 25.3	
	comp=Z,70nm,1.1s						
RUSC	**La Rusia**	**37.47**	**358**	P	**P**	**23 43 44.2**	**+0.8**
RCBR	**Riachuelo**	**42.56**	**60**	P	**P**	**23 44 24.4**	**-0.8**
VNA3	**Neumayer Olymp**	**51.44**	**158**	P	**P**	**23 45 35.1**	**+1.3**
VNA1	**Neumayer--Stat**	**51.74**	**158**	P	**P**	**23 45 37.7**	**+1.6**
VNA2	**Neumayer--Watz**	**52.08**	**158**	P	**P**	**23 45 39.9**	**+1.3**
	baz=286,slow=8.3						
SNAA	**Sanae**	**53.66**	**158**	P	**P**	**23 45 51.3**	**+1.0**
SNAA	**Sanae**	**53.66**	**158**	P	**P**	**23 45 51.1**	**+0.7**
	comp=Z,41nm,0.7s,baz=281,slow=7.2,SNR=18						
SNAA	**Sanae**	**53.66**	**158**	P	**P**	**23 45 51.1**	**+0.7**
QSPA	**South Pole Qui**	**58.45**	**180**	P	**P**	**23 46 25.3**	**+0.6**
	comp=Z,37nm,0.9s,baz=106,slow=1.1,SNR=5.8						
QSPA	**South Pole Qui**	**58.45**	**180**	P	**P**	**23 46 25.1**	**+0.4**
QSPA				IAmb	IAmb	23 46 36.8	
	comp=Z,45nm,1.0s						
VNDA	**Vanda**	**66.26**	**191**	P	**P**	**23 47 19.3**	**+2.6**
TXAR	**Lajitas Array**	**67.78**	**330**	P	**P**	**23 47 27.7**	**+0.7**
	comp=Z,2.4nm,0.8s,baz=153,slow=7.6,SNR=4.7						
TXAR	**Lajitas Array**	**67.78**	**330**	P	**P**	**23 47 27.4**	**+0.4**
TX31	**Lajitas Ar. Si**	**67.78**	**330**	P	**P**	**23 47 28.1**	**+1.1**
TX31				IAmb	IAmb	23 47 29.2	
	comp=Z,19nm,1.0s						
V52A	**Sevierville**	**68.12**	**350**	P	**P**	**23 47 28.0**	**-0.9**
V52A				IAmb	IAmb	23 47 39.4	
	comp=Z,40nm,1.4s						
MNTX	**Cornudas Mount**	**70.56**	**330**	P	**P**	**23 47 44.6**	**+0.5**
MSTX	**Muleshoe**	**71.50**	**333**	P	**P**	**23 47 50.0**	**+0.1**
LENM	**Lemitar**	**73.36**	**330**	P	**P**	**23 48 02.1**	**+1.1**
DBIC	**Dimbokro**	**74.53**	**72**	P	**P**	**23 48 08.3**	**+0.1**
	comp=Z,24nm,0.8s,baz=234,slow=7.5,SNR=7.5						
DBIC	**Dimbokro**	**74.53**	**72**	P	**P**	**23 48 08.2**	**0.0**
DBIC				IAmb	IAmb	23 48 09.1	
	comp=Z,32nm,0.9s						
MAW	**Mawson**	**75.32**	**164**	P	**P**	**23 48 12.2**	**+0.3**
	comp=Z,6.7nm,1.0s,baz=201,slow=4.3,SNR=3.5						
MAW	**Mawson**	**75.32**	**164**	P	**P**	**23 48 12.4**	**+0.5**
SDCO	**Great Sand Dun**	**75.87**	**333**	P	**P**	**23 48 14.8**	**-0.9**
SUR	**Sutherland**	**75.96**	**119**	P	**P**	**23 48 17.5**	**+1.0**
SUR				IAmb	IAmb	23 48 19.3	
	comp=Z,18nm,0.8s						
FRNY	**Flat Rock**	**76.26**	**359**	P	**P**	**23 48 18.0**	**+0.6**
G62A	**West of Eustis**	**76.65**	**1**	P	**P**	**23 48 20.7**	**+1.1**
G62A				IAmb	IAmb	23 48 30.4	
	comp=Z,19nm,0.8s						
PKME	**Peaks-Kenny Pk**	**76.72**	**2**	P	**P**	**23 48 21.1**	**+1.1**
PKME				IAmb	IAmb	23 48 31.2	
	comp=Z,25nm,1.1s						
F64A	**Sherman**	**77.35**	**3**	P	**P**	**23 48 24.5**	**+1.0**
F64A				IAmb	IAmb	23 48 34.9	
	comp=Z,39nm,1.0s						
LMN	**Caledonia Moun**	**77.55**	**5**	P	**P**	**23 48 25.3**	**+0.7**
KOWA	**Kowa**	**79.78**	**66**	P	**P**	**23 48 37.1**	**-0.5**
KOWA				IAmb	IAmb	23 48 38.4	
	comp=Z,41nm,1.4s						
TPNV	**Topopah Spring**	**79.87**	**325**	P	**P**	**23 48 39.0**	**+1.2**
TSUM	**Tsumeb**	**79.88**	**106**	P	**P**	**23 48 37.7**	**-0.7**
LCH	**Last Change Ra**	**80.77**	**325**	P

comp=Z,9.1nm,1.1s
BOSA Boshof 81.21 118 P **P** **23 49 58.3 -0.9**
TORD Torodi Ar. Bea 83.16 70 P **P** **23 50 08.0 -1.4**
comp=Z,17nm,1.0s,baz=261,slow=4.6,SNR=4.0
ZALV Zalesovo Beam 151.84 30 PKPbc **PKiKP** **23 57 37.2 -0.4**
comp=Z,12nm,0.6s,baz=307,slow=3.1,SNR=2.8
MKAR Makanchi Array 154.82 45 PKPbc **PKiKP** **23 57 44.0 0.0**
comp=Z,4.1nm,0.9s,baz=336,slow=1.7,SNR=3.6

VAO ***16*** *23:37:58.8±0.4,32.°12S×72.°32W,h10km,mb5.9*
IDC ***16*** *23:37:58.7±0.3,31.°80S×71.°91W,h0km,mb5.3/26, mb1 5.3/30,mb1mx5.3/35,mbtmp5.3/30,ML5.2/4, Error ellipse: s-maj=16.5km s-min=10.1km az=86.0*
NEIC ***16*** *23:38:01.6±1.5,31.°78S±0.°04×72.°02W±0.°07,h12km±3km, mb5.9/238,ML5.6(GUC),Error ellipse: s-maj=8.3km s-min=5.4km az=94.0*
GUC ***16*** *23:38:02.8±0.5,31.°89S×71.°91W,h28km±6km,ML5.8*
MOS ***16*** *23:38:03.3±1.1,31.°72S×71.°91W,h34km,mb6.0/10,Error ellipse: s-maj=10.4km s-min=6.4km az=101.0*
SJA ***16*** *23:38:05.7±0.7,31.°92S×72.°10W,h25km±13km,ML6.1, MW5.9*
ISC 16 23:38:00.2±1.2,31.°88S±0.°02×71.°98W±0.°04,h10km±7km, n787,σ1°07/791,mb5.8/159,22C-11D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
VA01	**Torpederas**	**1.17**	**166**	*eP*		**Pn**	**23 38 22.9**	**+0.1**
VA01				*i* S		**Sn**	**23 38 38.6**	**-0.2**
VA01	**Torpederas**	**1.17**	**166**			**Pb**	**23 38 22.6**	**0.0**
CO06	**Fray Jorge**	**1.24**	**14**	*eS*		**Sg**	**23 38 40.9**	**+0.7**
CO06				IAML			23 38 46.7	
	comp=N,205μm,0.5s							
CO06				*e*			23 40 45.6	
CO06	**Fray Jorge**	**1.24**	**14**	Pn		**Pn**	**23 38 20.2**	**-3.6**
CO06				Sn		**Sg**	**23 38 40.6**	**+0.4**
ROCH	**El Roble**	**1.36**	**143**	*eP*		**Pb**	**23 38 26.0**	**+0.1**
ROCH				*i* S		**Sg**	**23 38 44.4**	**+0.4**
ROCH				IAML			23 38 52.3	
	comp=N,291μm,0.4s							
ROC1	**El Roble**	**1.36**	**143**	*eP*		**Sg**	**23 38 45.6**	**+1.5**
VA03	**San Esteban**	**1.49**	**126**	*eP*		**Pn**	**23 38 27.3**	**0.0**
VA03				*i* S		**Sb**	**23 38 47.1**	**-0.2**
VA03				IAML			23 38 55.4	
	comp=N,302μm,0.5s							
VA03	**San Esteban**	**1.49**	**126**			**Pg**	**23 38 28.9**	**0.0**
CO03	**El Pedregal**	**1.52**	**47**	*eP*		**Pb**	**23 38 28.2**	**-0.4**
CO03				*i* S		**Sg**	**23 38 48.0**	**-1.1**
CO03				IAML			23 38 52.0	
	comp=E,520μm,0.7s							
CO03	**El Pedregal**	**1.52**	**47**	Pn		**Pb**	**23 38 28.3**	**-0.3**
VA05	**Santo Domingo**	**1.79**	**170**			**Pb**	**23 38 33.4**	**+0.1**
MT05	**Renca**	**1.83**	**145**	Pn		**Pb**	**23 38 34.5**	**+0.6**
GO04	**Tololo Observa**	**1.98**	**31**	Pn		**Pn**	**23 38 31.9**	**-2.3**
MT09	**Talagante**	**2.06**	**156**			**Pb**	**23 38 37.0**	**-1.0**
MT01	**Popeta**	**2.07**	**163**			**Pb**	**23 38 38.0**	**+0.1**
MT01	**Popeta**	**2.07**	**163**	*eP*		**Pg**	**23 38 39.8**	**-0.1**
MT01				*eS*		**Sg**	**23 39 07.7**	**+1.0**
RTLS	**Leoncito**	**2.28**	**89**	*eP*		**Pg**	**23 38 43.8**	**-0.3**
RTLS				*eS*		**Sb**	**23 39 09.1**	**-1.1**
RTLS				IAML			23 39 20.7	
	comp=Z,52μm,0.9s							
BO01	**Tunca**	**2.61**	**164**	*eP*		**Pb**	**23 38 46.9**	**-0.2**
BO01				*eS*		**Sn**	**23 39 16.1**	**+1.7**
ARCO	**CERRO ARCO**	**2.75**	**111**	*eP*		**Pg**	**23 38 52.4**	**-0.6**
ARCO				*eS*		**Sg**	**23 39 27.8**	**-0.8**
ARCO				IAML			23 39 30.4	
	comp=Z,71μm,1.7s							
ZON	**Zonda**	**2.83**	**84**	P		**Pn**	**23 38 47.9**	**+2.2**
ZON	**Zonda**	**2.83**	**84**			**Pn**	**23 38 47.9**	**+2.2**
ACDV	**Cuesta del Vie**	**2.99**	**56**	*eP*		**Pb**	**23 38 54.8**	**+1.1**
ACDV				*eS*		**Sb**	**23 39 31.1**	**+0.7**
ACDV				IAML			23 39 36.4	
	comp=Z,77μm,1.2s							
BO02	**Sierra Bellavi**	**3.07**	**161**	Pn		**Pn**	**23 38 50.1**	**+1.2**
BO02	**Sierra Bellavi**	**3.07**	**161**	*eP*		**Pb**	**23 38 53.8**	**-1.2**
BO02				*eS*		**Sb**	**23 39 31.1**	**-1.5**
BO02				IAML			23 39 39.5	
	comp=Z,50μm,0.8s							
LCO	**Las Campanas**	**3.07**	**21**	*eP*		**Pb**	**23 38 56.5**	**+1.4**
LCO				*eS*		**Sb**	**23 39 32.2**	**-0.6**
GO05	**Huala**	**3.12**	**179**	Pn		**Pn**	**23 38 50.8**	**+1.2**
AC04	**Llanos de Chal**	**3.75**	**12**	*eP*		**Pn**	**23 38 59.7**	**+1.5**
AC04				*eS*		**Sn**	**23 39 44.1**	**+1.6**
AC04	**Llanos de Chal**	**3.75**	**12**	Pn		**Pn**	**23 38 58.9**	**+0.6**
COIS	**El Sosneado**	**3.78**	**149**	*eP*		**Pb**	**23 39 05.2**	**-1.9**
COIS				*eS*		**Sg**	**23 40 02.0**	**+0.3**
LAMA	**Las Malvinas**	**3.82**	**143**	*eP*		**Pb**	**23 39 05.1**	**-2.8**
LAMA				*eS*		**Sg**	**23 40 01.1**	**-2.0**
GO03	**Copiap**	**4.54**	**20**	*eP*		**Pn**	**23 39 10.4**	**+1.3**
GO03				*eS*		**Sn**	**23 40 04.1**	**+2.1**
GO03	**Copiap**	**4.54**	**20**	Pn		**Pn**	**23 39 10.1**	**+0.9**
AC02	**Maricunga**	**5.61**	**27**	*eP*		**Pn**	**23 39 26.1**	**+1.9**
AC02				*eS*		**Sn**	**23 40 32.5**	**+3.4**
VA04	**Juan Fernndez**	**6.03**	**251**	Pn		**Pn**	**23 39 29.5**	**-0.1**
H03N1	**Juan Fernandez**	**6.05**	**253**	T		T	23 46 21.9	
	baz=80,slow=73,SNR=53							
H03N3	**Juan Fernandez**	**6.06**	**253**	T		T	23 46 17.1	
	baz=80,slow=73,SNR=36							
H03N2	**Juan Fernandez**	**6.07**	**253**	T		T	23 46 16.6	
	baz=80,slow=73,SNR=27							
H03S3	**Juan Fernandez**	**6.14**	**250**	T		T	23 46 30.6	
	baz=84,slow=75,SNR=10							
H03S1	**Juan Fernandez**	**6.15**	**250**	T		T	23 46 31.4	
	baz=84,slow=75,SNR=20							
H03S2	**Juan Fernandez**	**6.16**	**250**	T		T	23 46 23.0	
	baz=84,slow=75,SNR=36							
CYA	**Choya**	**6.35**	**59**	*eP*		**Pn**	**23 39 37.8**	**+3.7**
CYA				*eS*		**Sn**	**23 40 50.6**	**+3.8**
LC01	**Cunco**	**7.00**	**179**	Pn		**Pn**	**23 39 43.2**	**+0.3**
PLCA	**Paso Flores**	**8.90**	**173**	Pn		**Pn**	**23 40 10.9**	**+1.9**
	comp=Z,10nm,0.3s,baz=334,slow=10,SNR=7.5							
PLCA	**Paso Flores**	**8.90**	**173**	P		**Pn**	**23 40 10.5**	**+1.4**
PLCA	**Paso Flores**	**8.90**	**173**	Pn		**Pn**	**23 40 10.5**	**+1.4**
LL04	**Puerto Octay**	**9.01**	**182**	Pn		**Pn**	**23 40 11.8**	**+1.3**
LL05	**Los Muermos**	**9.58**	**187**	Pn		**Pn**	**23 40 19.9**	**+1.7**
TRQA	**Tornquist**	**10.25**	**130**	P		**Pn**	**23 40 30.5**	**+3.0**
TRQA	**Tornquist**	**10.25**	**130**	Pn		**Pn**	**23 40 30.5**	**+3.0**
LL02	**Futaleuf**	**11.29**	**180**	Pn		**Pn**	**23 40 40.1**	**-1.6**
TA01	**Diego Aracena**	**11.39**	**9**	Pn		**Pn**	**23 40 40.3**	**-2.8**
TA02	**Huaiquique**	**11.68**	**9**	Pn		**Pn**	**23 40 44.5**	**-2.7**
PB08	**IPOC Station P**	**11.97**	**13**	Pn		**Pn**	**23 40 47.8**	**-3.5**
PSGCX	**Pisagua**	**12.35**	**8**	Pn		**Pn**	**23 40 54.7**	**-1.7**
ITQB	**Itaqui**	**13.39**	**85**	Pn		**Pn**	**23 41 09.0**	**-1.4**
CPUP	**Villa Florida**	**13.95**	**70**	Pn		**Pn**	**23 41 17.9**	**-0.1**
	comp=Z,2.2nm,0.3s,baz=218,slow=17,SNR=1.2							
CPUP	**Villa Florida**	**13.95**	**70**	P		**Pn**	**23 41 17.6**	**-0.4**
CPUP	**Villa Florida**	**13.95**	**70**	Pn		**Pn**	**23 41 17.6**	**-0.4**
PLTB	**Pedras Altas**	**15.62**	**94**	Pn		**Pn**	**23 41 41.7**	**+1.1**
LPAZ	**La Paz**	**15.92**	**14**	Pn		**Pn**	**23 41 45.1**	**+0.1**
	comp=Z,2.7nm,0.3s,baz=129,slow=3.5,SNR=4.1							
LPAZ	**La Paz**	**15.92**	**14**	P		**Pn**	**23 41 44.6**	**-0.5**
LPAZ				pmax		pmax		
	comp=Z,615nm,1.5s							
LPAZ	**La Paz**	**15.92**	**14**	Pn		**Pn**	**23 41 44.6**	**-0.5**
LPAZ	**La Paz**	**15.92**	**14**	*eP*		**P**	**23 41 47.4**	**-1.4**
LPAZ	**La Paz**	**15.92**	**14**	*eP*		**Pn**	**23 41 46.5**	**+1.5**
AQDB	**Aquidauana**	**18.48**	**56**	P		**P**	**23 42 16.2**	**-0.3**
SIV	**San Ignacio**	**18.68**	**35**	P		**P**	**23 42 17.9**	**-0.8**
	comp=Z,4.0nm,0.3s,baz=230,slow=11,SNR=8.6							
TRCB	**Terra Rica**	**19.40**	**67**	P		**P**	**23 42 26.4**	**-0.3**
TRCB				IAmb		IAmb	23 42 32.5	
	comp=Z,426nm,0.7s							
TRCB	**Terra Rica**	**19.40**	**67**	*eP*		**Pn**	**23 42 30.2**	**+2.4**
PTLB	**Pontes e Lacer**	**20.12**	**39**	*eP*		Pn	23 42 37.6	+1.3
NNA	**Nana**	**20.30**	**346**	P		**P**	**23 42 36.6**	**+0.1**
	comp=Z,43nm,0.9s,baz=175,slow=7.7,SNR=7.0							
NNA	**Nana**	**20.30**	**346**	P		**P**	**23 42 37.2**	**+0.7**
NNA				pmax		pmax		
	comp=Z,244nm,1.3s							
NNA	**Nana**	**20.30**	**346**	P		**P**	**23 42 37.2**	**+0.7**
MG02	**Cerro Sombrero**	**20.98**	**175**	P		Pn	23 42 45.4	-0.6
MG02				IAmb		IAmb	23 42 56.9	
	comp=Z,714nm,1.2s							
PCMB	**Pacaembu**	**21.11**	**66**	*eP*		**P**	**23 42 48.2**	**+3.0**
GO10	**Punta Arenas**	**21.27**	**178**	P		**P**	**23 42 48.2**	**+1.5**
GO10				IAmb		IAmb	23 43 03.9	
	comp=Z,742nm,1.1s							
EFI	**East Falkland**	**22.26**	**157**	*i* P		**P**	**23 42 58.6**	**+1.3**
EFI				pmax		pmax		
	comp=Z,379nm,0.9s							
EFI	**East Falkland**	**22.26**	**157**	P		**P**	**23 42 58.5**	**+1.3**
EFI				IAmb		IAmb	23 42 59.8	
	comp=Z,362nm,0.9s							
ETMB	**Extrema**	**22.60**	**15**	*eP*		**P**	**23 43 02.2**	**+1.0**
USHA	**Ushuaia**	**23.08**	**175**	P		**P**	**23 43 06.2**	**+0.3**
	comp=Z,72nm,0.8s,baz=346,slow=7.3,SNR=3.6							
SPB	**Sao Paulo**	**23.21**	**75**	P		**P**	**23 43 07.1**	**-0.4**
MG01	**Puerto William**	**23.25**	**174**	P		**P**	**23 43 08.8**	**+1.2**
MG01				IAmb		IAmb	23 43 31.8	
	comp=Z,344nm,0.9s							
VAO	**Valinhos**	**23.85**	**74**	*eP*		**P**	**23 43 13.6**	**-0.4**
CZSB	**Cruzeiro do Su**	**24.04**	**358**	*eP*		**P**	**23 43 16.8**	**+1.1**
SAML	**Samuel**	**24.24**	**22**	P		**P**	**23 43 16.5**	**-1.0**
SAML	**Samuel**	**24.24**	**22**	P		**P**	**23 43 16.5**	**-1.0**
BDFB	**Brasilia**	**27.15**	**59**	P		**P**	**23 43 43.0**	**-1.1**
	comp=Z,456nm,1.0s,baz=227,slow=7.8,SNR=18							
BDFB	**Brasilia**	**27.15**	**59**	P		**P**	**23 43 43.0**	**-1.1**
BDFB	**Brasilia**	**27.15**	**59**			**P**	**23 43 43.2**	**-0.9**
TBTG	**Tabatinga, AM**	**27.62**	**4**	*eP*		**P**	**23 43 46.8**	**-1.3**
TBTG	**Tabatinga, AM**	**27.62**	**4**	*eP*		**P**	**23 43 48.8**	**+0.7**
PTLC	**Puerto Leguiza**	**31.99**	**355**	*eP*		**P**	**23 44 24.4**	**-2.4**
OTAV	**Otavalo**	**32.53**	**348**	*eP*		**P**	**23 44 34.8**	**+2.7**
PTGA	**Pitinga**	**33.00**	**22**	P		**P**	**23 44 34.7**	**-1.0**
	comp=Z,104nm,1.0s,baz=201,slow=9.4,SNR=6.0							
PTGA	**Pitinga**	**33.00**	**22**	P		**P**	**23 44 34.8**	**-0.8**
PTGA				IAmb		IAmb	23 45 02.7	
	comp=Z,254nm,1.4s							
PMSA	**Palmer Station**	**33.28**	**174**	P		**P**	**23 44 37.9**	**+0.3**
	comp=Z,8.8nm,0.7s,baz=349,slow=9.4,SNR=2.2							
PMSA	**Palmer Station**	**33.28**	**174**	P		**P**	**23 44 39.4**	**+1.8**
PMSA				IAmb		IAmb	23 44 51.1	
	comp=Z,140nm,1.2s							
PMSA	**Palmer Station**	**33.28**	**174**	*eP*		**P**	**23 44 34.8**	**-2.8**
HOPE	**Hope Point**	**33.70**	**142**	P		**P**	**23 44 42.2**	**+0.8**
HOPE				pmax		pmax		
	comp=Z,116nm,0.8s							
HOPE	**Hope Point**	**33.70**	**142**	P		**P**	**23 44 42.2**	**+0.8**
HOPE				IAmb		IAmb	23 44 54.7	
	comp=Z,116nm,0.8s							
MACC	**Macarena, Meta**	**33.89**	**357**	*eP*		**P**	**23 44 43.8**	**+0.4**
GARC	**Garzon, Huila**	**34.05**	**354**	*eP*		**P**	**23 44 49.5**	**+4.4**
BBAC	**Balboa, Cauca**	**34.09**	**351**	*eP*		**P**	**23 44 45.7**	**+0.3**
SOTA	**Rioblanco**	**34.12**	**352**	*eP*		**P**	**23 44 49.3**	**+3.3**
PCON	**Cinco Dias**	**34.28**	**352**	*eP*		P	23 44 52.6	+5.1
POPC	**Popayan, Colom**	**34.52**	**352**	*eP*		**P**	**23 44 50.1**	**+0.9**
PRAC	**Prado**	**35.51**	**355**	*eP*		**P**	**23 44 58.0**	**+0.5**
PAYG	**Puerto Ayora**	**35.54**	**327**	P		**P**	**23 44 58.7**	**+1.0**
ORTC	**Ortega, Tolima**	**35.73**	**354**	*eP*		**P**	**23 45 00.0**	**+0.7**
VILC	**Villavicencio,**	**35.83**	**357**	*eP*		**P**	**23 45 01.7**	**+1.3**
YOTC	**Yotoco, Valle**	**35.91**	**353**	*eP*		**P**	**23 45 02.5**	**+1.5**
ANIL	**Santa Ana**	**36.32**	**354**	*eP*		**P**	**23 45 04.7**	**0.0**
CHIC	**Chingaza**	**36.35**	**357**	*eP*		**P**	**23 45 04.8**	**-0.3**
ROSC	**El Rosal**	**36.59**	**356**	P		**P**	**23 45 06.2**	**-0.9**
	comp=Z,26nm,0.8s,baz=200,slow=17,SNR=1.8							
ROSC	**El Rosal**	**36.59**	**356**	P		**P**	**23 45 06.2**	**-0.9**
ROSC	**El Rosal**	**36.59**	**356**	*eP*		**P**	**23 45 10.4**	**+3.3**
GUY2C	**Guyana, Caldas**	**37.04**	**354**	*eP*		**P**	**23 45 13.4**	**+2.3**
NORC	**Norcasia**	**37.34**	**355**	*eP*		**P**	**23 45 14.1**	**+1.0**
RUSC	**La Rusia**	**37.58**	**358**	P		**P**	**23 45 16.3**	**+0.7**
RUSC	**La Rusia**	**37.58**	**358**	*eP*		**P**	**23 45 17.0**	**+1.4**
CBOC	**Ciudad Bolivar**	**37.73**	**353**	*eP*		**P**	**23 45 16.6**	**+0.1**
HELC	**Santa Helena**	**38.01**	**354**	*eP*		**P**	**23 45 21.0**	**+1.8**
SOLC	**Bahia Solano**	**38.25**	**351**	*eP*		P	23 45 27.4	+6.6
PTBC	**PUERTO BERRIO,**	**38.28**	**356**	*eP*		**P**	**23 45 19.1**	**-1.9**
DBBC	**Dabeiba**	**38.89**	**353**	*eP*		**P**	**23 45 27.7**	**+1.4**
PTAC	**Punta Ardita,**	**39.21**	**351**	*eP*		**P**	**23 45 30.7**	**+1.9**
ZARC	**Zaragoza, Cauc**	**39.25**	**355**	*eP*		**P**	**23 45 27.4**	**-1.8**
CACAO	**El Cacao, Vera**	**39.92**	**346**	*eP*		**P**	**23 45 31.8**	**-2.9**
SMLC	**San Martn de**	**40.50**	**357**	*eP*		**P**	**23 45 36.9**	**-2.7**
SDV	**Santo Domingo**	**40.56**	**2**	P		**P**	**23 45 39.2**	**-1.0**
	comp=Z,34nm,0.8s,baz=230,slow=7.9,SNR=3.7							
SDV	**Santo Domingo**	**40.56**	**2**	*eP*		**P**	**23 45 37.7**	**-2.5**
MDP	**Montagnes des**	**41.14**	**30**	P		**P**	**23 45 43.9**	**-0.9**
	comp=Z,100nm,0.9s,baz=203,slow=8.2,SNR=13							
ARGC	**Ariguani, Magd**	**41.56**	**357**	*eP*		**P**	**23 45 49.0**	**+0.7**
SJCC	**San Jacinto, C**	**41.66**	**355**	P		**P**	**23 45 49.0**	**-0.2**
SJCC	**San Jacinto, C**	**41.66**	**355**	*eP*		**P**	**23 45 48.9**	**-0.2**
BRU2	**Volcan**	**41.73**	**344**	P		**P**	**23 45 50.6**	**+0.8**
SRBA	**San Rafael, Bu**	**42.31**	**343**	P		**P**	**23 45 55.1**	**+0.6**
DRK0	**Durika**	**42.31**	**343**	P		**P**	**23 45 54.2**	**-0.4**
PCRV	**Puerto La Cruz**	**42.41**	**11**	P		**P**	**23 45 54.1**	**-1.1**
	comp=Z,40nm,0.9s,baz=196,slow=2.8,SNR=4.9							
RCBR	**Riachuelo**	**42.52**	**60**	P		**P**	**23 45 55.2**	**-1.0**
RCBR	**Riachuelo**	**42.52**	**60**	P		**P**	**23 45 55.2**	**-1.0**
PEZE	**Perez Zeledon,**	**42.53**	**343**	P		**P**	**23 45 56.6**	**+0.3**
CRJC	**Cerrejon, Guaj**	**42.67**	**359**	*eP*		**P**	**23 45 54.6**	**-2.8**
RIMA	**Rio Macho**	**42.95**	**343**	P		**P**	**23 46 00.8**	**+1.0**
CVTR	**Volcan Turrial**	**43.16**	**343**	P		**P**	**23 46 01.9**	**+0.1**
URIC	**Uribia, Colomb**	**43.34**	**360**	P		**P**	**23 46 00.2**	**-2.5**
JTS	**Las Juntas de**	**43.74**	**341**	P		**P**	**23 46 06.0**	**0.0**
	comp=Z,7.1nm,0.8s,baz=209,slow=19,SNR=3.0							
JTS	**Las Juntas de**	**43.74**	**341**	*eP*		**P**	**23 46 07.0**	**+1.0**
JTS				pmax		pmax		
	comp=Z,55nm,1.8s							
JTS	**Las Juntas de**	**43.74**	**341**	P		**P**	**23 46 05.7**	**-0.3**
JTS	**Las Juntas de**	**43.74**	**341**	*eP*		**P**	**23 46 05.9**	**0.0**
ORTG	**Ortega, Santa**	**43.94**	**341**	P		**P**	**23 46 08.4**	**+0.6**
COVE	**Coope Vega, Sa**	**44.00**	**342**	P		**P**	**23 46 08.2**	**+0.1**
TOSP	**Speyside**	**44.31**	**16**	P		**P**	**23 46 10.3**	**-0.3**
SVB	**Belmont**	**46.06**	**15**	P		**P**	**23 46 23.3**	**-1.1**
SVB				IAmb		IAmb	23 46 24.5	
	comp=Z,106nm,0.8s							
MATN	**Matagalpa**	**46.52**	**341**	P		**P**	**23 46 27.9**	**-0.3**
MCLT	**Moule a Chique**	**46.55**	**15**	P		**P**	**23 46 26.0**	**-2.3**
FDF	**Fort de France**	**47.50**	**14**	P		**P**	**23 46 33.5**	**-2.2**
FDF				pmax		pmax		
	comp=Z,190nm,1.0s							
FDF	**Fort de France**	**47.50**	**14**	P		**P**	**23 46 33.5**	**-2.2**
TGUH	**Tegucigalpa,Un**	**47.98**	**340**	P		**P**	**23 46 38.2**	**-1.4**
TGUH				IAmb		IAmb	23 46 52.6	
	comp=Z,139nm,0.9s							
TGUH	**Tegucigalpa,Un**	**47.98**	**340**	*eP*		**P**	**23 46 39.5**	**0.0**
MTO3	**Montecristo**	**48.95**	**337**	P		**P**	**23 46 46.3**	**-0.8**
ESQI	**Esquipulas**	**49.09**	**338**	P		**P**	**23 46 48.4**	**+0.3**
ESQI				IAmb		IAmb	23 47 01.2	
	comp=Z,100nm,1.0s							
ICMP	**Isla Caja de M**	**49.76**	**7**	P		**P**	**23 46 52.0**	**-1.1**
MLPR	**Magueyes Islan**	**49.79**	**6**	P		**P**	**23 46 52.4**	**-0.9**
CRPR	**Cabo Rojo, PR**	**49.83**	**6**	P		**P**	**23 46 52.6**	**-0.9**
CDVI	**St. Croix**	**49.84**	**9**	P		**P**	**23 46 52.1**	**-1.5**
CDVI				IAmb		IAmb	23 46 54.3	
	comp=Z,131nm,0.8s							
SEUS	**St. Eustatius**	**49.85**	**11**	P		**P**	**23 46 52.6**	**-1.1**
OBIP	**Obispado Ponce**	**49.91**	**7**	P		**P**	**23 46 52.5**	**-1.6**
OBIP				IAmb		IAmb	23 46 56.0	
	comp=Z,180nm,0.9s							
PDPR	**Patillas Dam,**	**49.95**	**7**	P		**P**	**23 46 52.9**	**-1.5**
PDPR				IAmb		IAmb	23 46 55.9	
	comp=Z,179nm,1.1s							
BANI	**BANI**	**50.01**	**2**	P		**P**	**23 46 55.1**	**0.0**
SJG	**San Juan**	**50.02**	**7**	P		**P**	**23 46 54.0**	**-1.0**
	comp=Z,135nm,0.9s,baz=194,slow=3.1,SNR=16							
SJG	**San Juan**	**50.02**	**7**	P		**P**	**23 46 54.2**	**-0.9**
SJG				pmax		pmax		
	comp=Z,213nm,1.1s							
SJG	**San Juan**	**50.02**	**7**	P		**P**	**23 46 54.1**	**-0.9**
MTP	**Monte Pirata**	**50.08**	**8**	P		**P**	**23 46 54.0**	**-1.5**
SDD	**Santo Domingo**	**50.09**	**3**	P		**P**	**23 46 55.3**	**-0.3**
AOPR	**Arecibo Observ**	**50.19**	**6**	P		**P**	**23 46 54.7**	**-1.7**
AOPR				IAmb		IAmb	23 47 11.7	
	comp=Z,86nm,0.8s							
CBYP	**Canovanas**	**50.21**	**8**	P		**P**	**23 46 55.4**	**-1.1**
CBYP				IAmb		IAmb	23 46 57.3	
	comp=Z,214nm,1.1s							
GCPR	**Guaynabo City**	**50.23**	**7**	P		**P**	**23 46 55.4**	**-1.2**
GCPR				IAmb		IAmb	23 46 57.2	
	comp=Z,108nm,0.9s							
ANWB	**Willy Bob**	**50.23**	**13**	P		**P**	**23 46 54.2**	**-2.4**
ANWB				IAmb		IAmb	23 46 56.9	
	comp=Z,210nm,1.1s							
CUPR	**Culebra, Puert**	**50.32**	**8**	P		**P**	**23 46 55.6**	**-1.6**
SMRT	**St. Maarten**	**50.38**	**11**	P		**P**	**23 46 55.5**	**-2.3**
SMRT				IAmb		IAmb	23 46 58.2	
	comp=Z,139nm,1.2s							
DR12	**Loma Pena Alta**	**50.44**	**3**	P		**P**	**23 46 56.5**	**-1.8**
ABVI	**Anegada Island**	**50.86**	**9**	P		**P**	**23 46 59.9**	**-1.4**
SC01	**Santiago de lo**	**51.03**	**2**	P		**P**	**23 47 02.8**	**+0.1**
VNA3	**Neumayer Olymp**	**51.30**	**158**	P		**P**	**23 47 05.2**	**+1.0**
PETF	**Flores**	**51.47**	**338**	P		**P**	**23 47 05.7**	**-0.3**
VNA1	**Neumayer--Stat**	**51.60**	**158**	P		**P**	**23 47 07.8**	**+1.4**
CCIG	**Comitan**	**51.65**	**335**	P		**P**	**23 47 07.6**	**0.0**
VNA2	**Neumayer--Watz**	**51.94**	**158**	P		**P**	**23 47 09.9**	**+0.9**
	baz=286,slow=8.4							
SNAA	**Sanae**	**53.52**	**158**	P		**P**	**23 47 21.3**	**+0.5**
SNAA	**Sanae**	**53.52**	**158**	P		**P**	**23 47 21.4**	**+0.7**
	comp=Z,88nm,0.9s,baz=282,slow=6.0,SNR=17							
SNAA	**Sanae**	**53.52**	**158**	P		**P**	**23 47 21.4**	**+0.7**
SNAA				IAmb		IAmb	23 47 22.7	
	comp=Z,153nm,1.0s							
SOR	**Soroa**	**55.38**	**348**	P		**P**	**23 47 33.8**	**-0.9**
SOR				pmax		pmax		
	comp=Z,50nm,0.9s							
SOR	**Soroa**	**55.38**	**348**	P		**P**	**23 47 33.8**	**-0.9**
RKT	**Rikitea**	**55.88**	**262**	*eT*		T	00 48 08.8	
	comp=Z,11nm,0.3s							
QSPA	**South Pole Qui**	**58.35**	**180**	P		**P**	**23 47 56.3**	**+0.9**
	comp=Z,72nm,0.8s,baz=144,slow=2.8,SNR=11							
QSPA	**South Pole Qui**	**58.35**	**180**	P		**P**	**23 47 56.5**	**+1.1**
QSPA				IAmb		IAmb	23 48 07.8	
	comp=Z,116nm,1.0s							
SHEL	**Horse Pasture**	**61.74**	**92**	P		**P**	**23 48 19.7**	**+0.3**
SHEL				pmax		pmax		
	comp=Z,613nm,1.8s							
SHEL	**Horse Pasture**	**61.74**	**92**	P		**P**	**23 48 19.7**	**+0.3**
TIGA	**Tifton**	**63.93**	**349**	P		**P**	**23 48 32.3**	**-1.1**
	baz=169							
352A	**Blakely**	**64.20**	**348**	P		**P**	**23 48 35.0**	**-0.2**
BBSR	**BB Station**	**64.28**	**7**	P		**P**	**23 48 35.5**	**-0.2**
BBSR				IAmb		IAmb	23 48 38.6	
	comp=Z,66nm,0.9s							
BRAL	**Brewton**	**64.32**	**346**	P		**P**	**23 48 35.2**	**-0.8**
	baz=166							
250A	**Grady**	**64.94**	**347**	P		**P**	**23 48 40.1**	**+0.1**
250A				IAmb		IAmb	23 48 53.4	
	comp=Z,173nm,1.6s							
154A	**Montrose**	**65.01**	**350**	P		**P**	**23 48 39.9**	**-0.6**
346A	**Big Creek Wild**	**65.07**	**344**	P		**P**	**23 48 41.1**	**+0.3**
346A				IAmb		IAmb	23 48 52.5	
	comp=Z,90nm,0.8s							
NHSC	**New Hope**	**65.10**	**352**	P		**P**	**23 48 41.0**	**-0.1**
NHSC	**New Hope**	**65.10**	**352**	P		**P**	**23 48 40.8**	**-0.2**
	baz=172							
SBA	**Scott Base**	**65.15**	**192**	P		**P**	**23 48 41.9**	**+1.0**
SBA				pmax		pmax		
	comp=Z,160nm,1.5s							
SBA	**Sc

comp=Z,58nm,1.1s
BLA Blacksburg 69.19 353 P P 23 49 06.4 -0.6
baz=172
MEH Mehetia 69.20 261 *e*P P 23 49 09.8 +2.2
comp=Z,45nm,1.1s
MEH Mehetia 69.20 261 *e*T T 01 04 45.7
comp=Z,49nm,0.3s
WVT Waverly 69.27 346 P P 23 49 06.8 -0.7
WVT pmax pmax
comp=Z,163nm,0.9s
WVT Waverly 69.27 346 P P 23 49 06.8 -0.7
WVT Waverly 69.27 346 P P 23 49 07.0 -0.5
baz=166
ABTX Abilene, Hawle 69.28 335 P P 23 49 07.5 -0.2
ABTX Abilene, Hawle 69.28 335 P P 23 49 07.3 -0.4
baz=155,SNR=11
W41B Gary Mavity, V 69.37 342 P P 23 49 07.4 -0.7
baz=162
WHAR Wooly Hollow 69.49 342 P P 23 49 08.6 -0.3
GNAR Gosnell 69.58 344 P P 23 49 08.7 -0.7
LNXT Lenox 69.59 345 P P 23 49 09.4 -0.1
X37A Clayton 69.69 340 P P 23 49 09.7 -0.4
W39A Magazine 69.80 341 P P 23 49 10.7 -0.1
baz=160,SNR=13
CBN Corbin Frederi 69.91 355 P P 23 49 11.4 +0.1
CBN IAmb IAmb 23 49 22.8
comp=Z,84nm,1.1s
CBN Corbin Frederi 69.91 355 P P 23 49 11.4 +0.1
baz=175
LCAR Lake Charles 69.95 344 P P 23 49 11.1 -0.5
LCAR IAmb IAmb 23 49 23.9
comp=Z,65nm,0.9s
MBO M'Bour 69.96 58 P P 23 49 11.3 -0.8
FCAR Ozark Folk Cen 70.02 343 P P 23 49 10.9 -1.2
FCAR IAmb IAmb 23 49 13.9
comp=Z,88nm,1.5s
VAH Vaihoa 70.07 264 *e*P P 23 49 14.9 +1.9
comp=Z,98nm,1.0s
R55A Marlinton 70.22 353 P P 23 49 13.1 -0.2
R55A IAmb IAmb 23 49 31.2
comp=Z,75nm,0.9s
SRIG Santa Rosalia 70.27 322 P P 23 49 13.9 +0.1
TIAR Tiarei 70.42 261 *e*P P 23 49 17.2 +2.1
comp=Z,8.7nm,0.9s
TIAR Tiarei 70.42 261 *e*T T 01 06 14.0
comp=Z,4.2nm,0.2s
PAE Paea 70.57 261 *e*P P 23 49 18.3 +2.3
comp=Z,44nm,1.0s
PPTF Pamatai, Papee 70.59 261 P P 23 49 16.0 -0.2
PPT2 Papeete2 70.60 261 *e*P P 23 49 18.7 +2.4
comp=Z,153nm,1.0s
PPT Papeete 70.61 261 P P 23 49 17.4 +1.1
comp=Z,22nm,0.4s,baz=27,slow=13,SNR=3.8
U40A Yellville 70.65 342 P P 23 49 15.4 -0.6
U40A IAmb IAmb 23 49 28.5
comp=Z,104nm,1.0s
U40A Yellville 70.65 342 P P 23 49 15.4 -0.6
baz=161,SNR=11
MNTX Cornudas Mount 70.70 330 P P 23 49 15.4 -1.0
MNTX Cornudas Mount 70.70 330 P P 23 49 15.6 -0.9
baz=150,SNR=9.8
WMOK Wichita Mounta 70.90 337 P P 23 49 17.1 -0.5
WMOK pmax pmax
comp=Z,60nm,1.2s
WMOK Wichita Mounta 70.90 337 P P 23 49 17.1 -0.5
WMOK Wichita Mounta 70.90 337 P P 23 49 16.9 -0.7
baz=156,SNR=11
HSIG 71.00 324 P P 23 49 18.3 0.0
WCI Wyandotte Cave 71.02 348 P P 23 49 16.7 -1.4
WCI IAmb IAmb 23 49 28.4
comp=Z,53nm,0.8s
TUL1 Leonard 71.04 340 P P 23 49 18.1 -0.3
baz=159,SNR=9.2
P57A Homestead Farm 71.23 355 P P 23 49 19.9 +0.5
P57A IAmb IAmb 23 49 31.2
comp=Z,116nm,1.1s
P60A Greenville 71.42 357 P P 23 49 20.2 -0.3
baz=177,SNR=10
MCWV Mont Chateau 71.56 354 P P 23 49 21.2 -0.2
baz=173,SNR=6.2
FVM French Village 71.61 345 P P 23 49 21.3 -0.5
FVM pmax pmax
comp=Z,105nm,1.0s
FVM French Village 71.61 345 P P 23 49 21.2 -0.5
FVM IAmb IAmb 23 49 34.3
comp=Z,104nm,1.0s
MVL Millersville 71.64 356 P P 23 49 21.9 +0.1
MVL IAmb IAmb 23 49 36.1
comp=Z,136nm,1.5s
MSTX Muleshoe 71.64 333 P P 23 49 21.9 -0.3
MSTX IAmb IAmb 23 49 24.3
comp=Z,129nm,0.9s
MSTX Muleshoe 71.64 333 P P 23 49 21.6 -0.5
baz=153,SNR=16
P52A Corning 71.78 352 P P 23 49 21.8 -0.9
baz=171,SNR=13
CCM Cathedral Cave 71.86 344 P P 23 49 22.8 -0.4
CCM pmax pmax
comp=Z,137nm,1.1s
CCM Cathedral Cave 71.86 344 P P 23 49 22.8 -0.4
CCM IAmb IAmb 23 49 35.9
comp=Z,137nm,1.1s
CCM Cathedral Cave 71.86 344 P P 23 49 23.1 -0.2
baz=163
PAGS Pennsylvania G 71.88 356 P P 23 49 23.1 -0.2
PAGS IAmb IAmb 23 49 36.5
comp=Z,252nm,1.6s
P49A Miami Univ. Ec 72.03 350 P P 23 49 22.9 -1.4
baz=169,SNR=6.5
AMTX Amarillo 72.05 335 P P 23 49 24.6 0.0
AMTX Amarillo 72.05 335 P P 23 49 24.5 0.0
baz=154
O56A Blue Knob Stat 72.05 355 P P 23 49 24.5 +0.1
O56A IAmb IAmb 23 49 35.8
comp=Z,75nm,1.1s
O56A Blue Knob Stat 72.05 355 P P 23 49 24.0 -0.4
baz=174,SNR=9.4
319A Douglas 72.16 327 P P 23 49 25.6 +0.2
LUPA Lehigh Univers 72.19 357 P P 23 49 25.5 +0.4
LUPA IAmb IAmb 23 49 36.9
comp=Z,66nm,1.0s
O53A New Philadelph 72.28 353 P P 23 49 25.1 -0.7
baz=172
SSPA Standing Stone 72.36 355 P P 23 49 26.1 -0.1
SSPA IAmb IAmb 23 49 40.2
comp=Z,85nm,1.1s
SSPA Standing Stone 72.36 355 P P 23 49 26.1 -0.1
baz=175
121A Cookes Peak, D 72.45 329 P P 23 49 27.6 +0.5
121A Cookes Peak, D 72.45 329 P P 23 49 28.3 +1.1
baz=149,SNR=8.6
ACSO Alum Creek Sta 72.47 351 P P 23 49 26.1 -0.8
ACSO IAmb IAmb 23 49 37.5
comp=Z,85nm,0.8s
ACSO Alum Creek Sta 72.47 351 P P 23 49 25.8 -1.1
baz=170,SNR=8.9
N59A State Game Lan 72.52 357 P P 23 49 27.6 +0.5
baz=177,SNR=16
PAL Palisades 72.55 358 P P 23 49 26.9 -0.4
PAL pmax pmax
comp=Z,46nm,1.1s
PAL Palisades 72.55 358 P P 23 49 26.9 -0.4
PAL Palisades 72.55 358 P P 23 49 27.5 +0.2
baz=178
N54A Moraine State 72.86 354 P P 23 49 28.5 -0.6
N54A IAmb IAmb 23 49 40.2
comp=Z,62nm,0.9s
N54A Moraine State 72.86 354 P P 23 49 28.7 -0.4
baz=173,SNR=8.0
KAN12 Harper NE Stat 72.99 339 P P 23 49 30.2 +0.1
M64A Tiverton 73.08 1 P P 23 49 30.5 +0.1
M64A IAmb IAmb 23 49 33.8
comp=Z,164nm,1.6s
M64A Tiverton 73.08 1 P P 23 49 30.6 +0.2
baz=181,SNR=9.8
SFIN Lafayette 73.25 348 P P 23 49 30.2 -1.2
baz=167
KSCT Kent School, K 73.26 359 P P 23 49 31.8 +0.3
KSCT IAmb IAmb 23 49 34.4
comp=Z,167nm,1.6s
M54A Oil Creek Stat 73.37 354 P P 23 49 31.5 -0.7
baz=173,SNR=6.3
L63A North Scituate 73.38 0 P P 23 49 32.5 +0.3
L63A North Scituate 73.38 0 P P 23 49 32.6 +0.4
baz=180,SNR=20
M53A WI Miller and 73.40 353 P P 23 49 31.7 -0.6
baz=172,SNR=8.0
BRYW Bryant College 73.44 0 P P 23 49 33.0 +0.4
L64A Middleborough 73.46 1 P P 23 49 33.0 +0.3
baz=181,SNR=17
LENM Lemitar 73.50 330 P P 23 49 33.7 +0.4
TUC Tucson 73.64 326 P P 23 49 34.7 +0.6
TUC pmax pmax
comp=Z,20nm,1.2s
TUC Tucson 73.64 326 P P 23 49 34.7 +0.6
TUC Tucson 73.64 326 P P 23 49 34.5 +0.5
baz=146
QUA2 Belchertown 73.80 360 P P 23 49 34.9 +0.3
QUA2 IAmb IAmb 23 49 37.4
comp=Z,114nm,1.1s
BINY Binghamton 73.81 357 P P 23 49 34.6 -0.1
BINY IAmb IAmb 23 49 37.4
comp=Z,99nm,1.2s
BINY Binghamton 73.81 357 P P 23 49 34.7 -0.1
baz=176,SNR=8.2
HDIL Hopedale 73.84 346 P P 23 49 34.3 -0.6
baz=165
ANMO Albuquerque 73.96 331⇑ *e*P P 23 49 36.6 +0.6
ANMO Albuquerque 73.96 331 P P 23 49 36.0 0.0
ANMO Albuquerque 73.96 331 P P 23 49 36.6 +0.6
baz=150
L61B Northampton 73.97 359 P P 23 49 35.7 +0.1
baz=179,SNR=16
ERPA Erie 74.01 354 P P 23 49 35.2 -0.7
ERPA IAmb IAmb 23 49 49.2
comp=Z,68nm,0.9s
ERPA Erie 74.01 354 P P 23 49 35.2 -0.7
baz=173,SNR=7.7
HRV Adam Dziewonsk 74.03 0 P P 23 49 36.1 +0.1
HRV pmax pmax
comp=Z,120nm,1.1s
HRV Adam Dziewonsk 74.03 0 P P 23 49 36.1 +0.1
HRV IAmb IAmb 23 49 39.1
comp=Z,120nm,1.1s
HRV Adam Dziewonsk 74.03 0 P P 23 49 36.5 +0.5
baz=180
LIC Lamto 74.07 72 *e*P P 23 49 36.4 -0.5
comp=Z,581nm,1.5s
K62A Royalston 74.19 360 P P 23 49 37.1 +0.2
K62A IAmb IAmb 23 49 40.2
comp=Z,125nm,1.2s
K62A Royalston 74.19 360 P P 23 49 37.3 +0.4
baz=180,SNR=20
K61A Williamstown 74.20 359 P P 23 49 37.5 +0.5
baz=179,SNR=10
KSU1 Kansas State U 74.25 340 P P 23 49 36.7 -0.6
KSU1 IAmb IAmb 23 49 48.7
comp=Z,224nm,1.8s
KSU1 Kansas State U 74.25 340 P P 23 49 37.0 -0.3
baz=158
TIC Toumodi 74.32 72 *e*P P 23 49 37.9 -0.5
214A Organ Pipe Nat 74.32 325 P P 23 49 38.8 +0.8
baz=145,SNR=9.4
KIC Kosan Boka 74.38 72 *e*P P 23 49 38.4 -0.3
comp=Z,386nm,0.9s
DBIC Dimbokro 74.46 72 P P 23 49 39.1 -0.1
comp=Z,155nm,0.9s,baz=229,slow=6.2,SNR=30
DBIC Dimbokro 74.46 72 P P 23 49 38.8 -0.4
DBIC pmax pmax
comp=Z,228nm,1.0s
DBIC Dimbokro 74.46 72 P P 23 49 38.8 -0.4
AAM Ann Arbor 74.60 351 P P 23 49 38.7 -0.6
AAM pmax pmax
comp=Z,132nm,1.5s
AAM Ann Arbor 74.60 351 P P 23 49 38.7 -0.6
AAM IAmb IAmb 23 49 50.4
comp=Z,132nm,1.5s
AAM Ann Arbor 74.60 351 P P 23 49 39.1 -0.2
baz=170
HQIL Hanson Quary C 74.77 348 P P 23 49 39.3 -1.0
HQIL IAmb IAmb 23 49 53.8
comp=Z,107nm,0.8s
J61A Chester 74.87 360 P P 23 49 41.5 +0.6
baz=180,SNR=14
J56A Wolcott 74.93 356 P P 23 49 41.0 -0.1
J56A IAmb IAmb 23 49 52.0
comp=Z,71nm,0.9s
CBKS Cedar Bluff 74.93 338 P P 23 49 41.4 0.0
CBKS pmax pmax
comp=Z,106nm,1.0s
CBKS Cedar Bluff 74.93 338 P P 23 49 41.4 0.0
CBKS IAmb IAmb 23 49 52.6
comp=Z,106nm,1.0s
CBKS Cedar Bluff 74.93 338 P P 23 49 41.9 +0.5
baz=156
T25A Trinidad 75.06 334 P P 23 49 43.0 +0.6
T25A Trinidad 75.06 334 P P 23 49 43.2 +0.8
baz=152,SNR=11
L44A Lake County Fo 75.14 348 P P 23 49 41.5 -1.0
baz=166
MAW Mawson 75.19 164 P P 23 49 43.1 +0.5
comp=Z,46nm,0.8s,baz=203,slow=7.3,SNR=18
MAW Mawson 75.19 164 P P 23 49 42.9 +0.3
MAW Mawson 75.19 164 P P 23 49 42.9 +0.3
I60A Shoreham 75.37 359 P P 23 49 43.8 +0.1
baz=179,SNR=16
I62A Tamworth 75.40 0 P P 23 49 44.4 +0.5
baz=181,SNR=15
113A Mohawk Valley, 75.45 325 P P 23 49 44.7 +0.2
W18A Petrified Fore 75.50 329 P P 23 49 45.0 0.0
W18A Petrified Fore 75.50 329 P P 23 49 45.5 +0.5
baz=148
NCB Newcomb 75.52 358 P P 23 49 44.8 +0.1
I63A Otisfield 75.58 1 P P 23 49 45.8 +0.9
baz=181,SNR=22
LBNH Lisbon 75.76 0 P P 23 49 46.3 +0.3
LBNH pmax pmax
comp=Z,99nm,1.1s
LBNH Lisbon 75.76 0 P P 23 49 46.3 +0.3
LBNH IAmb IAmb 23 49 49.0
comp=Z,99nm,1.1s
LBNH Lisbon 75.76 0 P P 23 49 46.7 +0.7
baz=180,SNR=14
SUR Sutherland 75.81 119 P P 23 49 48.1 +1.0
comp=Z,38nm,0.8s,baz=244,slow=4.9,SNR=13
SUR Sutherland 75.81 119 P P 23 49 47.4 +0.3
SUR IAmb IAmb 23 49 51.6
comp=Z,104nm,1.1s
SCIA State Center 75.99 344 P P 23 49 47.1 -0.3
SCIA IAmb IAmb 23 50 01.7
comp=Z,77nm,0.8s
SCIA State Center 75.99 344 P P 23 49 48.1 +0.7
baz=162
SDCO Great Sand Dun 76.01 333 P P 23 49 48.4 +0.5
SDCO IAmb IAmb 23 50 02.7
comp=Z,192nm,1.8s
SDCO Great Sand Dun 76.01 333 P P 23 49 48.3 +0.4
baz=151,SNR=6.6
Y14A Wickenburg 76.03 326 P P 23 49 48.4 +0.6
KSCO Kaye Shedlock' 76.08 336 P P 23 49 48.5 +0.5
KSCO IAmb IAmb 23 50 01.8
comp=Z,171nm,1.1s
KSCO Kaye Shedlock' 76.08 336 P P 23 49 49.1 +1.0
baz=154
LONY Lake Ozonia 76.18 358 P P 23 49 48.6 +0.3
baz=178,SNR=13
GLA Glamis 76.20 324 P P 23 49 48.9 +0.1
GLA Glamis 76.20 324 P P 23 49 50.0 +1.1
baz=144
CCX Cicese 76.20 322 P P 23 49 49.3 +0.5
DELO Deloro Mine 76.21 356 P P 23 49 48.4 -0.1
DELO IAmb IAmb 23 50 01.4
comp=Z,144nm,1.5s
JFWS Jewell Farm 76.30 346 P P 23 49 48.8 -0.2
baz=164,SNR=8.6
EMMW East Machias 76.34 3 P P 23 49 50.0 +0.8
EMMW IAmb IAmb 23 49 52.5
comp=Z,138nm,1.0s
S22A 4UR Ranch, Cre 76.53 332 P P 23 49 50.3 -0.6
baz=150,SNR=6.6
IKP In-Ko-Pah, Jac 76.53 323 P P 23 49 51.5 +0.7
baz=143
HAL Halifax 76.54 6 P P 23 49 50.9 +0.5
HAL pmax pmax
comp=Z,178nm,1.0s
HAL Halifax 76.54 6 P P 23 49 50.9 +0.5
CBX Cerro Bola 76.56 322 P P 23 49 51.7 +0.8
SADO Sadowa 76.57 355 P P 23 49 49.9 -0.7
SADO IAmb IAmb 23 50 01.3
comp=Z,79nm,1.0s
WUAZ Wupatki 76.57 328 P P 23 49 51.4 +0.4
WUAZ IAmb IAmb 23 50 05.3
comp=Z,130nm,1.3s
WUAZ Wupatki 76.57 328 P P 23 49 51.9 +0.9
baz=146,SNR=7.9
SWSC Sam W. Stewart 76.61 323 P P 23 49 52.3 +1.2
baz=143
PLVO Plevna 76.70 356 P P 23 49 51.0 -0.3
TKX Tecate 76.73 322 P P 23 49 51.9 +0.1
MVCO Mesa Verde 76.74 331 P P 23 49 51.8 -0.2
MVCO Mesa Verde 76.74 331 P P 23 49 53.0 +1.0
baz=149,SNR=5.7
G62A West of Eustis 76.75 1 P P 23 49 51.7 +0.2
PKME Peaks-Kenny Pk 76.82 2 P P 23 49 52.7 +0.8
baz=182,SNR=18
BGNE Belgrade 76.82 340 P P 23 49 53.0 +0.9
baz=157
MOQ Mont Orford 76.83 360 P P 23 49 52.5 +0.3
PDMCI Parker Dam,Lak 76.87 325 P P 23 49 53.0 +0.4
baz=144
MONP2 Monument Peak 76.89 323 P P 23 49 53.7 +0.8
baz=142
Q24A Divide 76.94 334 P P 23 49 54.1 +0.8
baz=152,SNR=10
BC3 Big Chuckawall 77.00 324 P P 23 49 54.2 +0.8
baz=143,SNR=8.4
GLMI Grayling 77.21 351 P P 23 49 53.7 -0.4
baz=169
109C Camp Elliot, M 77.24 322 P P 23 49 56.0 +1.4
baz=142
IRM Iron Mountain 77.25 324 P P 23 49 55.7 +1.0
baz=144
F63A Nahmakanta, Br 77.27 2 P P 23 49 54.9 +0.5
F63A IAmb IAmb 23 49 57.7
comp=Z,123nm,1.1s
RAR Rarotonga 77.31 253 P P 23 49 55.4 -0.1
RAR pmax pmax
comp=Z,55nm,0.9s
RAR Rarotonga 77.31 253 P P 23 49 55.4 -0.1
F64A Sherman 77.45 3 P P 23 49 55.7 +0.2
TPFO Pinon Flats 77.47 323 P P 23 49 57.2 +1.1
baz=142,SNR=8.7
PFO Pinyon Flats O 77.47 323 P P 23 49 56.7 +0.6
PFO pmax pmax
comp=Z,55nm,1.0s
PFO Pinyon Flats O 77.47 323 P P 23 49 56.6 +0.6
PFO Pinyon Flats O 77.47 323 P P 23 49 56.9 +0.8
baz=142,SNR=7.9
BELC Belle Mtn. Jos 77.55 324 P P 23 49 57.3 +0.8
baz=143
PV01 Paradox Valley 77.56 331 P P 23 49 57.1 +0.5
PV01 IAmb IAmb 23 50 10.6
comp=Z,147nm,1.6s
LMN Caledonia Moun 77.64 5 P P 23 49 57.0 +0.4
MURC Murrieta 77.84 323 P P 23 49 58.8 +0.8
baz=142,SNR=7.5
ISCO Idaho Springs 77.85 334 P P 23 49 58.4 +0.1
ISCO pmax pmax
comp=Z,160nm,1.6s
ISCO Idaho Springs 77.85 334 P P 23 49 58.4 +0.1
ISCO IAmb IAmb 23 50 11.2
comp=Z,160nm,1.6s
ISCO Idaho Springs 77.85 334 P P 23 49 58.8 +0.5
baz=151,SNR=6.8
PQI Presque Isle 78.27 3 P P 23 50 00.4 +0.4
PQI IAmb IAmb 23 50 03.0
comp=Z,172nm,1.1s
CIS Catalina Islan 78.32 322 P P 23 50 01.9 +1.2
baz=141
HEC Hector,Ludlow 78.37 324 P P 23 50 02.2 +1.2
baz=143,SNR=9.0
KNB Kanab 78.46 328 P P 23 50 02.4 +0.8
KNB pmax pmax
comp=Z,110nm,1.0s
KNB Kanab 78.46 328 P P 23 50 02.4 +0.8
KNB IAmb IAmb 23 50 15.9
comp=Z,110nm,1.0s
ECSD EROS Data Cent 78.56 342 P P 23 50 01.1 -0.6
ECSD IAmb IAmb 23 50 14.3
comp=Z,80nm,0.8s
ECSD EROS Data Cent 78.56 342 P P 23 50 01.5 -0.2
baz=159,SNR=8.2
G40A Rib Lake 78.56 347 P P 23 50 01.5 -0.2
BFSC Mount Baldy Ra 78.58 323 P P 23 50 03.1 +0.9
baz=142,SNR=8.3
D62A Allapoint, All 78.65 2 P P 23 50 02.5 +0.4
TUQ Turquoise Moun 78.65 325 P P 23 50 03.8 +1.1
baz=143
N23A Red Feather La 78.93 334 P P 23 50 05.6 +1.4
baz=151
DECC Green Verdugo 78.94 322 P P 23 50 05.8 +1.7
baz=141
BATG Bathurst New B 78.98 4 P P 23 50 04.2 +0.3
BATG IAmb IAmb 23 50 06.9
comp=Z,128nm,1.1s
GSC Goldstone, Bar 78.98 324 P P 23 50 06.0 +1.6
baz=142
MTPU Mount Pierson 79.02 329 P P 23 50 05.3 +0.4
MTPU IAmb IAmb 23 50 17.9
comp=Z,117nm,1.6s
PHWY Pilot Hill 79.11 335 P P 23 50 05.5 +0.3
PHWY IAmb IAmb 23 50 18.5
comp=Z,95nm,1.3s
SHPR Sheep Range 79.14 326 P P 23 50 06.1 +0.8
SHPR IAmb IAmb 23 50 19.5
comp=Z,119nm,1.3s
O20A White River Ci 79.14 333 P P 23 50 05.8 +0.5
O20A IAmb IAmb 23 50 18.2
comp=Z,131nm,1.2s
O20A White River Ci 79.14 333 P P 23 50 07.0 +1.7
baz=149
SHOC Shoshone, Teco 79.19 325 P P 23 50 07.1 +1.6
baz=143
EDW2 Edwards Air Fo 79.25 323 P P 23 50 07.5 +1.6
baz=142
Q16A Castle Valley 79.31 330 P P 23 50 06.8 +0.6
Q16A IAmb IAmb 23 50 20.1
comp=Z,113nm,1.1s
MVU Marysvale 79.42 329 P P 23 50 07.1 +0.2
LRMC Laurel Mtn Rad 79.56 324 P P 23 50 09.0 +1.4
baz=142
KOWA Kowa 79.72 66 P P 23 50 08.2 -0.5
KOWA IAmb IAmb 23 50 11.1
comp=Z,199nm,1.1s
TSUM Tsumeb 79.75 106 P P 23 50 09.0 -0.2
TSUM IAmb IAmb 23 50 12.6
comp=Z,179nm,1.6s
MACI Morro de la Ar 79.75 48 P P 23 50 09.2 +0.3
MACI IAmb IAmb 23 50 31.8
comp=Z,167nm,1.1s
SBC Santa Barbara 79.81 322 P P 23 50 10.1 +1.4
baz=140
SUSD Miller 79.85 341 P P 23 50 09.8 +1.0
baz=157
ARVC Arvin 79.88 323 P P 23 50 10.6 +1.5
baz=141
MPMC Manual Prospec 79.92 324 P P 23 50 10.9 +1.3
baz=142
FURC Furnace Creek, 79.93 325 P P 23 50 10.9 +1.6
baz=142
D41A Chassel 79.99 349 P P 23 50 09.4 0.0
D41A IAmb IAmb 23 50 23.9
comp=Z,168nm,1.0s
TPNV Topopah Spring 80.02 325 P P 23 50 10.1 0.0
TPNV pmax pmax
comp=Z,66nm,1.0s
TPNV Topopah Spring 80.02 325 P P 23 50 10.1 0.0
TPNV Topopah Spring 80.02 325 P P 23 50 10.9 +0.9
baz=143,SNR=5.9
ISA Isabella, Lake 80.11 323 P P 23 50 10.7 +0.2
ISA pmax pmax
comp=Z,55nm,0.9s
ISA Isabella, Lake 80.11 323 P P 23 50 10.7 +0.2
ISA Isabella, Lake 80.11 323 P P 23 50 12.1 +1.6
baz=141,SNR=6.4
PKM Mcpherson Peak 80.20 322 P P 23 50 12.5 +1.3
baz=140,SNR=5.6
CWC Cottonwood Cre 80.52 324 P P 23 50 14.1 +1.3
baz=142
VES Vestal, Richgr 80.56 323 P P 23 50 14.2 +1.4
baz=141,SNR=6.1
GRAC Grapevine Rang 80.60 325 P P 23 50 14.9 +1.8
baz=142
SMMC Simmler 80.63 322 P P 23 50 15.0 +1.7
baz=140
K22A Casper 80.67 335 P P 23 50 13.8 +0.4
K22A IAmb IAmb 23 50 26.9
comp=Z,182nm,1.2s

K22A Casper 80.67 335 P P 23 50 14.8 +1.3
baz=151,SNR=7.3
R11A Troy Canyon, C 80.82 327 P P 23 50 15.5 +1.1
baz=144,SNR=5.2
BOSA Boshof 81.01 118 P P 23 50 15.5 -0.3
comp=Z,50nm,0.9s,baz=228,slow=5.1,SNR=14
BOSA Boshof 81.01 118 P P 23 50 15.4 -0.4
BOSA pmax pmax
comp=Z,118nm,1.1s
BOSA Boshof 81.01 118 P P 23 50 15.4 -0.4
BOSA IAmb IAmb 23 50 18.1
comp=Z,118nm,1.1s
TIN Tinemaha, Big 81.07 324 P P 23 50 16.9 +1.2
baz=142
DUG Dugway, Tooele 81.08 330 P P 23 50 17.0 +1.3
baz=146
PAGB Antelope Grade 81.08 322 P P 23 50 16.0 +0.3
PAGB IAmb IAmb 23 50 30.0
comp=Z,85nm,1.1s
RSSD Black Hills 81.11 337 P P 23 50 17.3 +1.4
baz=153
EYMN Ely 81.38 347 P P 23 50 15.6 -1.3
baz=163,SNR=6.2
TPH Tonopah 81.38 325 P P 23 50 17.7 +0.3
TPH pmax pmax
comp=Z,623nm,1.3s
TPH Tonopah 81.38 325 P P 23 50 17.7 +0.3
HWUT Hardware Ranch 81.72 331 P P 23 50 19.2 +0.1
HWUT IAmb IAmb 23 50 32.2
comp=Z,80nm,0.9s
DRLN Deer Lake 81.80 10 P P 23 50 19.2 +0.2
DRLN IAmb IAmb 23 50 21.4
comp=Z,139nm,1.1s
MLAC Mammoth, Mammo 81.82 324 P P 23 50 21.2 +1.4
baz=141
PDAR Pinedale Array 81.90 333 P P 23 50 20.5 +0.5
comp=Z,4.1nm,0.9s,baz=159,slow=2.8,SNR=1.9
PDAR PKKPbc PKKPbc 00 09 02.0 +10
comp=Z,1.0nm,0.8s,baz=251,slow=4.5,SNR=3.6
PDAR Pinedale Array 81.90 333 P P 23 50 19.6 -0.5
BW06 Boulder Array 81.90 333 P P 23 50 20.6 +0.5
baz=148
CASY Casey 82.13 181 P P 23 50 21.5 +0.7
CASY IAmb IAmb 23 50 34.1
comp=Z,130nm,1.3s
NVAR Mina Array Bea 82.18 325 P P 23 50 22.4 +0.7
comp=Z,13nm,0.8s,baz=154,slow=5.9,SNR=11
NVAR PKKPbc PKKPbc 00 09 02.4 +11
comp=Z,1.3nm,0.9s,baz=288,slow=2.3,SNR=3.8
NVAR PKPPKP P'P'df 00 17 03.9 +14
comp=Z,0.2nm,0.6s,baz=345,slow=1.7,SNR=3.7
NVAR Mina Array Bea 82.18 325 P P 23 50 21.6 0.0
SAO San Andreas Ge 82.49 322 P P 23 50 23.7 +0.7
SAO pmax pmax
comp=Z,63nm,1.5s
SAO San Andreas Ge 82.49 322 P P 23 50 23.7 +0.7
AHID Auburn Hatcher 82.51 332 P P 23 50 22.6 -0.6
AHID IAmb IAmb 23 50 25.7
comp=Z,190nm,1.8s
ELK Elko 82.59 328 P P 23 50 23.9 +0.2
ELK pmax pmax
comp=Z,58nm,1.0s
ELK Elko 82.59 328 P P 23 50 23.9 +0.2
ELK IAmb IAmb 23 50 36.3
comp=Z,58nm,0.9s
AGMN Agassiz Nation 82.64 344 P P 23 50 23.2 -0.3
AGMN Agassiz Nation 82.64 344 P P 23 50 22.8 -0.7
baz=160,SNR=6.9
ECR Eagle Creek 82.86 332 P P 23 50 25.1 +0.1
CMB Columbia Colle 82.91 323 P P 23 50 25.8 +0.6
CMB pmax pmax
comp=Z,106nm,1.6s
CMB Columbia Colle 82.91 323 P P 23 50 25.8 +0.6
CMB IAmb IAmb 23 50 39.0
comp=Z,106nm,1.6s
LBTB Lobatse 83.15 115 P P 23 50 26.6 -0.4
comp=Z,38nm,0.8s,baz=240,slow=6.5,SNR=4.9
LBTB Lobatse 83.15 115 P P 23 50 26.6 -0.4
LBTB pmax pmax
comp=Z,102nm,1.2s
LBTB Lobatse 83.15 115 P P 23 50 26.6 -0.4
LBTB IAmb IAmb 23 50 29.1
comp=Z,102nm,1.1s
MDND Maddock 83.16 342 P P 23 50 25.7 -0.5
baz=157,SNR=7.5
TORD Torodi Ar. Bea 83.44 70 P P 23 50 28.1 -0.4
comp=Z,2µm,0.3s,baz=272,slow=4.1,SNR=28
RLMT Red Lodge 83.80 334 P P 23 50 30.1 +0.2
RLMT Red Lodge 83.80 334 P P 23 50 30.9 +1.0
baz=149
LAO LASA Array 84.10 337 P P 23 50 32.2 +1.0
baz=151
YHH Holmes Hill 84.11 333 P P 23 50 31.7 +0.2
YHH IAmb IAmb 23 50 45.1
comp=Z,74nm,1.1s
BFZ Birch Farm 84.19 225 P P 23 50 32.8 +0.8
BFZ IAmb IAmb 23 53 30.7
comp=Z,127nm,1.5s
ULM Lac du Bonnet 84.47 345 P P 23 50 32.0 -0.9
comp=Z,34nm,1.0s,baz=164,slow=4.4,SNR=7.0
HLID Hailey 84.52 330 P P 23 50 33.6 +0.1
HLID Hailey 84.52 330 P P 23 50 34.5 +0.9
baz=145
ORV Oroville 84.63 324 P P 23 50 34.7 +0.7
ORV pmax pmax
comp=Z,219nm,1.6s
ORV Oroville 84.63 324 P P 23 50 34.7 +0.7
KHZ Kahutara 84.71 223 P P 23 50 35.6 +1.1
KHZ IAmb IAmb 23 50 48.6
comp=Z,82nm,1.2s
MCMT McKenzie Canyo 84.93 332 P P 23 50 36.0 +0.4
DGMT Dagmar 85.03 339 P P 23 50 35.9 +0.1
DGMT Dagmar 85.03 339 P P 23 50 35.8 +0.1
baz=153,SNR=7.3
BOZ Bozeman (W) 85.09 333 P P 23 50 36.8 +0.5
baz=147
URZ Urewera 85.12 228 P P 23 50 38.1 +1.4
URZ IAmb IAmb 23 50 53.9
comp=Z,179nm,1.6s
LTZ Lake Taylor 85.20 222 P P 23 50 38.3 +1.2
LTZ IAmb IAmb 23 50 51.8
comp=Z,66nm,1.0s
RPZ Rata Peaks 85.28 220 P P 23 50 38.6 +1.2
RPZ IAmb IAmb 23 50 51.4
comp=Z,88nm,1.1s
O03E Paynes Creek 85.34 324 P P 23 50 38.6 +1.0
baz=139
THZ Tophouse 85.49 223 P P 23 50 39.8 +1.2
THZ IAmb IAmb 23 50 53.0
comp=Z,112nm,1.0s
O02D Mt. Diablo Mer 85.75 323 P P 23 50 41.1 +1.4
baz=139
KMRM Mail Ridge 86.25 323 P P 23 50 41.9 -0.3
QRZ Quartz Range 86.30 223 P P 23 50 43.1 +0.5
QRZ IAmb IAmb 23 50 55.5
comp=Z,89nm,1.1s
N02D Trinity Center 86.31 324 P P 23 50 44.1 +1.8
baz=139
EGMT Eagleton 86.46 336 P P 23 50 43.7 +0.8
baz=149
SCHQ Schefferville 86.48 3 P P 23 50 42.1 -0.7
comp=Z,70nm,1.2s,baz=207,slow=3.9,SNR=13
SCHQ Schefferville 86.48 3 P P 23 50 42.3 -0.5
M04C Macdoel 86.49 325 P P 23 50 44.7 +1.4
baz=139
M02C Callahan 86.69 324 P P 23 50 45.4 +1.1
baz=139
BMO Blue Mountains 86.79 330 P P 23 50 45.0 +0.3
BMO pmax pmax
comp=Z,58nm,1.2s
BMO Blue Mountains 86.79 330 P P 23 50 45.0 +0.3
BMO IAmb IAmb 23 50 57.8
comp=Z,58nm,1.1s
YBH Yreka Blue Hor 86.88 325 P P 23 50 44.8 -0.4
comp=Z,6.2nm,0.9s,baz=110,slow=10,SNR=4.5
MSO Missoula 87.01 333 P P 23 50 47.0 +1.3
baz=145
L04D Klamath Falls 87.05 325 P P 23 50 46.7 +0.7
baz=139
K04D Chiloquin, OR 87.09 326 P P 23 50 47.3 +1.1
baz=140
J05D Fort Rock, OR 87.34 326 P P 23 50 48.6 +1.1
baz=140
L02E Cave Junction 87.64 324 P P 23 50 50.1 +1.4
baz=138
J04D Umpqua Nationa 87.72 326 P P 23 50 50.2 +0.8
baz=139
K02D Willamette Mer 88.07 325 P P 23 50 52.5 +1.6
baz=138
I05D Terrebonne, OR 88.20 327 P P 23 50 52.9 +1.5
baz=140
J01E Myrtle Point 88.55 325 P P 23 50 55.1 +2.1
baz=138
G05D Wamic, OR 88.88 328 P P 23 50 56.5 +2.0
baz=140
HAWA Hanford 88.97 329 P P 23 50 56.2 +1.2
I02D Swisshome 89.21 325 P P 23 50 57.8 +1.8
baz=138
F05D White Salmon 89.43 328 P P 23 50 58.9 +1.8
baz=140
NEW Newport 89.44 332 P P 23 50 59.1 +1.9
baz=143
G03D McMinnville, O 89.75 327 P P 23 51 00.5 +1.9
baz=138
LSZ Lusaka 90.42 108 P P 23 51 02.8 +0.1
LSZ pmax pmax
comp=Z,71nm,1.1s
LSZ Lusaka 90.42 108 P P 23 51 02.8 +0.1
LSZ IAmb IAmb 23 51 06.5
comp=Z,71nm,1.1s
D04E Lakebay 91.00 328 P P 23 51 07.2 +2.9
baz=139
B05A Bryant 91.52 329 P P 23 51 09.4 +2.7
baz=139
ESDC Sonseca Array 95.08 46 P P 23 51 22.3 -1.1
comp=Z,6.4nm,1.0s,baz=257,slow=3.1,SNR=7.1
YKA Yellowknife Ar 100.08 341 P Pdif 23 51 43.9 -1.4
comp=Z,1.5nm,0.8s,baz=133,slow=5.1,SNR=2.2
GERES GERESS Array B 110.63 45 PKiKP PKiKP 23 56 32.6 -0.4
comp=Z,3.4nm,0.9s,baz=149,slow=0.8,SNR=9.5
GERES PKKPbc PKKPab 00 07 39.9 -0.5
comp=Z,0.4nm,0.7s,baz=104,slow=3.1,SNR=2.3
CLL Collm 111.25 42 *e*PKiKP PKiKP 23 56 35.0 +1.1
BRG Berggiesshubel 111.61 43 *e*PKP PKiKP 23 56 35.0 +0.3
BRG Amp 23 56 37.8
comp=Z,10nm,1.1s
BRG Berggiesshubel 111.61 43 Amp 23 56 49.3
comp=Z,5.2nm,1.2s
BRG Amp 23 57 36.0
comp=N,388nm,20.7s
BRG Amp 23 57 40.0
comp=E,423nm,20.4s
BRG Amp 23 57 40.0
comp=Z,704nm,21.0s
ILAR Eielson Array 112.33 333 PP PP 23 57 28.9 +7.2
comp=Z,2.1nm,0.9s,baz=102,slow=4.1,SNR=4.6
NB2 NORSAR Subarra 114.21 32 PKPdf PKPdf 23 56 39.2 -0.1
comp=Z,2.9nm,1.1s,baz=248,slow=1.9
NOA NORSAR Array B 114.21 32 PKP PKPdf 23 56 38.2 -1.1
comp=Z,2.5nm,0.9s,baz=251,slow=1.7,SNR=6.9
BUR08 Bucovina Ar. S 117.33 49 **PKiKP** 23 56 46.3 +0.4
BURAR Bucovina Array 117.33 49 ⇑P **PKPdf** 23 56 44.6 -1.3
BURAR Bucovina Array 117.33 49 ⇑PKiKP **PKPdf** 23 56 44.6 -1.3
BISRR Bisoca 117.66 52 ⇑P **PKiKP** 23 56 47.1 +0.6
PLOR Plostina 117.72 51 ⇑P **PKPdf** 23 56 44.8 -1.8
PLOR Plostina 117.72 51 ⇑PKiKP **PKPdf** 23 56 44.8 -1.8
HARR Harsova 118.22 53 ⇑P **PKiKP** 23 56 47.6 +0.2
HARR Harsova 118.22 53 ⇑PKiKP **PKiKP** 23 56 47.7 +0.2
PABE Paberze 118.84 40 *e*P **PKiKP** 23 56 48.6 +0.2
TLCR 118.97 53 ⇓P **PKPdf** 23 56 48.8 -0.1
TLCR 118.97 53 ⇓PKiKP **PKPdf** 23 56 48.8 -0.1
MILM Milestii Mici 119.47 51 ⇑P **PKPdf** 23 56 49.5 -0.3
ASAR Alice Springs 119.47 207 PKP **PKPdf** 23 56 49.5 -1.2
comp=Z,3.6nm,0.7s,baz=138,slow=2.2,SNR=9.5
ASAR PKKPbc **PKKPbc** 00 07 01.6 -0.3
comp=Z,2.9nm,0.8s,baz=338,slow=3.3,SNR=14
MTSE Matsula 119.55 37 *e*P **PKPdf** 23 56 48.6 -1.0
IIGN Ignalina 120.05 41 *e*P **PKPdf** 23 56 50.3 -0.4
PURM Purcari 120.06 51 ⇑P **PKiKP** 23 56 51.0 -0.1
MEF Metsahovi 120.17 35 *e*P **PKPdf** 23 56 47.7 -3.0
NACGM Naroch 120.26 41 *i* PKP **PKPdf** 23 56 49.7 -1.4
AKASG Malin Array Be 120.72 47 PKP **PKPdf** 23 56 50.7 -1.4
comp=Z,9.6nm,0.8s,baz=268,slow=2.4,SNR=17
AKASG PKKPbc PKKPbc 00 07 06.9 +9.5
comp=Z,1.1nm,0.4s,baz=64,slow=4.2,SNR=5.1
BRTR Keskin Array B 120.75 60 PKP **PKPdf** 23 56 52.3 -0.4
comp=Z,6.6nm,0.9s,baz=180,slow=3.1,SNR=12
VSU Vasula 120.99 37 *e*P **PKPdf** 23 56 52.0 -0.3
VSU Vasula 120.99 37 ⇓*i*PKiKP **PKPdf** 23 56 51.8 -0.5
FINES FINESS Array B 121.22 34 PKP **PKPdf** 23 56 52.1 -0.6
comp=Z,4.5nm,0.8s,baz=48,slow=2.8,SNR=7.3
FINES PKKPbc **PKKPbc** 00 06 55.5 -0.2
comp=Z,2.4nm,0.8s,baz=86,slow=9.8,SNR=6.2
FINES FINESS Array B 121.22 34 PKiKP **PKPdf** 23 56 51.9 -0.8
FINES FINESS Array B 121.22 34 **PKPdf** 23 56 51.9 -0.8
ARCES ARCESS Array B 122.08 24 PKP **PKPdf** 23 56 54.1 -0.1
comp=Z,3.7nm,0.8s,baz=292,slow=1.9,SNR=5.5
BNN Bunyan 122.12 61 PKPdf **PKPdf** 23 56 54.7 -0.7
WR0 Warramunga Arr 122.52 210 **PKPdf** 23 56 55.8 -0.9
WB2 Warramunga Arr 122.62 210 PKPdf **PKPdf** 23 56 56.0 -0.8
WRA Warramunga Arr 122.62 210 PKP **PKPdf** 23 56 56.2 -0.7
comp=Z,9.0nm,0.8s,baz=169,slow=1.9,SNR=15
WRA PKKPbc **PKKPbc** 00 06 50.1 +0.2
comp=Z,2.9nm,0.8s,baz=347,slow=3.9,SNR=6.6
WRAB Tennant Creek 122.63 210 ⇑*i*PKiKP **PKPdf** 23 56 55.5 -1.4
PUL Pulkovo 123.03 36 ⇓*i*PKiKP **PKPdf** 23 56 55.9 -0.3
LVZ Lovozero 125.36 26 *d i*PKiKP **PKPdf** 23 57 00.6 0.0
PSA00 Pilbara Seismi 125.65 194 PKPdf **PKPdf** 23 57 01.8 -0.9
PSA00 Pilbara Seismi 125.65 194 PKPdf **PKPdf** 23 57 01.4 -1.2
H11S2 WAKE ISLAND Hyl 125.83 271 T T 02 16 02.2
baz=116,slow=75,SNR=6.3
H11S1 WAKE ISLAND Hyl 125.84 271 T T 02 15 54.3
baz=116,slow=75,SNR=4.3
H11S3 WAKE ISLAND Hyl 125.84 271 T T 02 15 55.6
baz=116,slow=75,SNR=5.7
OBN Obninsk 125.85 42 ⇓*e*PKiKP **PKPdf** 23 57 01.4 -0.4
OBN *e* 23 58 51.1
OBN pmax pmax
comp=Z,114nm,1.5s
H11N3 WAKE ISLAND Hyl 126.19 272 T T 02 16 23.9
baz=116,slow=76,SNR=4.7
H11N1 WAKE ISLAND Hyl 126.20 272 T T 02 16 24.6
baz=116,slow=76,SNR=3.2
H11N2 WAKE ISLAND Hyl 126.20 272 T T 02 16 30.3
baz=116,slow=76,SNR=4.7
MOS Moscow 126.51 42 *e*PKiKP **PKPdf** 23 57 02.0 -1.0
MOS *e* 23 57 10.9
MOS pmax pmax
comp=Z,54nm,1.4s
GURO Guroymak-BITLI 126.70 63 PKPdf **PKPdf** 23 57 04.3 +0.1
VORD Divnogorie 127.04 48 *e*PKiKP **PKPdf** 23 57 02.7 -1.5
VORD pmax pmax
comp=Z,10.0nm,1.1s
BCA Borcka 127.06 60 ⇑P **PKPdf** 23 57 04.8 +0.2
FITZ Fitzroy Crossi 127.51 201 PKP **PKPdf** 23 57 06.0 -0.2
comp=Z,12nm,0.9s,baz=206,slow=4.3,SNR=11
FITZ Fitzroy Crossi 127.51 201 PKPdf **PKPdf** 23 57 05.8 -0.4
KLMR Klimovskoe 127.66 35 *e*PKiKP **PKPdf** 23 57 03.9 -1.2
KLMR pmax pmax
comp=Z,127nm,1.6s
KLMR Klimovskoe 127.66 35 *e*PKPdf **PKPdf** 23 57 03.9 -1.2
KLMR AMP 23 57 07.9
comp=Z,127nm,1.6s
KARS Kars 127.96 61 PKiKP **PKiKP** 23 57 07.2 +0.1
KARS Kars 127.96 61 PKPdf **PKiKP** 23 57 07.2 +0.1
RST Umm Al-Ruwaisa 128.08 76 *e*P **PKPdf** 23 57 06.9 0.0
NEY Neytrino 128.22 58 *c i*PKiKP **PKiKP** 23 57 09.3 +1.7
KIV Kislovodsk 128.31 57 PKPdf **PKPdf** 23 57 07.0 0.0
KIV Kislovodsk 128.31 57 *e*PKiKP **PKiKP** 23 57 07.8 +0.2
KIV pmax pmax
comp=Z,23nm,1.1s
KIV Kislovodsk 128.31 57 PKPdf **PKPdf** 23 57 06.0 -1.0
RDF Al-Radifah 128.35 77 *e*P **PKPdf** 23 57 07.3 -0.2
KBZ Khabaz 128.43 57 PKP **PKiKP** 23 57 07.6 -0.1
comp=Z,11nm,0.9s,baz=152,slow=1.3,SNR=10
AKH Akhalkalaki 128.43 60 ⇑P **PKiKP** 23 57 08.6 +0.5
MIB Mutribah 128.46 75 *e*P **PKPdf** 23 57 07.8 +0.1
VRH Novokhopyorsk 128.59 47 *e*PKiKP **PKPdf** 23 57 06.1 -1.0
VRH pmax pmax
comp=Z,30nm,1.0s
QRN Al-Qurain 128.60 77 *e*P **PKPdf** 23 57 07.4 -0.5
ONI Oni 128.62 59 PKiKP **PKPdf** 23 57 07.0 -0.6
ONI Oni 128.62 59 **PKPdf** 23 57 07.0 -0.6
UMR Umm Al-Rimmam 128.69 76 *e*P **PKPdf** 23 57 08.1 0.0
GOF Gofitskoye 128.74 55 ⇑*e*PKiKP **PKiKP** 23 57 08.3 0.0
NCK Nalchik 128.89 57 ⇑*i*PKiKP **PKiKP** 23 57 08.8 +0.1
ZEI Tsey 128.99 58 *i* PKiKP **PKiKP** 23 57 09.6 +0.4
ZEI pmax pmax
comp=Z,7.0nm,1.4s
GNI Garni 129.11 62 PKP **PKiKP** 23 57 09.4 0.0
comp=Z,8.8nm,1.0s,baz=222,slow=7.7,SNR=4.5
GNI Garni 129.11 62 ⇑*i*PKiKP **PKiKP** 23 57 09.9 +0.4
GNI Garni 129.11 62 PKPdf **PKiKP** 23 57 09.7 +0.3
MTN Manton Dam 130.32 210 PKPdf **PKPdf** 23 57 11.0 -0.7
GROC Groznyy 130.42 58 *i* PKiKP **PKPdf** 23 57 10.7 -0.2
GROC *e* 23 59 23.5
GROC *e* 00 04 21.2
GROC pmax pmax
comp=Z,43nm,1.2s
PRGR Permogore 130.55 34 *e*PKiKP **PKiKP** 23 57 11.3 -0.1
PRGR pmax pmax
comp=Z,147nm,0.9s
BILL Bilibino 130.95 335 ⇓*i*PKiKP **PKiKP** 23 57 12.8 +0.7
BILL *e* 23 59 28.5
BILL *e* 00 04 23.9
BILL *e*SS SS 00 17 22.8 +24
BILL pmax pmax
comp=Z,48nm,1.9s
AKT Akhty 131.58 61 *e*PKiKP **PKiKP** 23 57 16.0 +1.7
AKT pmax pmax
comp=Z,40nm,1.0s
KIRV Kirov 132.84 38 ⇓*i*PKiKP **PKPdf** 23 57 15.4 +0.5
ASUD Al Ashush, Dub 133.40 85 PKPdf **PKPdf** 23 57 16.9 -0.3
ALNE Al Ain 133.55 86 *i* PKiKP **PKPdf** 23 57 17.6 +0.1
SNR=5.8
FAQ Al Faqa, Dubai 133.66 85 *i* PKiKP **PKPdf** 23 57 18.0 +0.3
SNR=9.2
ASHO Ashiyiah 134.04 85 PKPdf **PKPdf** 23 57 17.8 -0.6
HATD Hatta, Dubai 134.15 85 PKPdf **PKPdf** 23 57 18.3 -0.3
SOHO SOHO 134.24 86 *i* PKPdf **PKPdf** 23 57 18.0 -0.7
SNR=13
UOSS Minazif 134.26 85 PKPdf **PKPdf** 23 57 17.8 -1.0
UOSS Minazif 134.26 85 PKPdf **PKPdf** 23 57 17.7 -1.0
MSFE Esma-Masafi 134.36 84 *i* PKPdf **PKPdf** 23 57 18.6 -0.4
SNR=6.3
SHME Shamm 134.59 84 *i* PKPdf **PKPdf** 23 57 18.1 -1.2
SNR=7.9
BANOM Banah 134.68 84 PKPdf **PKPdf** 23 57 18.9 -0.6
WSAR Wadi Sarin 135.69 88 PKP **PKPdf** 23 57 21.3 -0.2
comp=Z,20nm,0.8s,baz=239,slow=3.8,SNR=11
ARU Arti 138.09 39 *i* PKiKP **PKPdf** 23 57 25.5 +0.6
ARU 00 00 12.3
ARU Arti 138.09 39 **PKPdf** 23 57 24.4 -0.4
SEY Seymchan 138.22 331 PKP **PKPdf** 23 57 25.6 +0.7
comp=Z,7.3nm,0.8s,baz=134,slow=2.7,SNR=7.5
TIXI Tiksi 138.62 350 PKP **PKiKP** 23 57 26.7 -0.9
comp=Z,5.7nm,0.9s,baz=344,slow=3.8,SNR=2.4
PETK Petropavlovsk- 138.70 316 PKP **PKPdf** 23 57 27.0 +0.8
comp=Z,4.2nm,0.8s,baz=152,slow=6.7,SNR=5.3
PETK Petropavlovsk- 138.70 316 PKiKP **PKPdf** 23 57 26.9 +0.8
PETK Petropavlovsk- 138.70 316 **PKPdf** 23 57 26.9 +0.7
GEYT Alibeck 139.03 67 PKhKP PKPpre 23 57 18.6
comp=Z,6.2nm,0.9s,baz=12,slow=7.9,SNR=3.6
SVE Sverdlovsk 139.09 38 *e*PKiKP **PKPdf** 23 57 27.4 +0.7
SVE pmax pmax
comp=Z,52nm,1.6s
ABKAR Akbulak array 140.31 50 PKPdf **PKPdf** 23 57 28.7 -0.4
ABKAR Akbulak array 140.31 50 **PKPdf** 23 57 29.5 +0.4
KAPI Kappang 141.64 199 *c i*PKiKP **PKiKP** 23 57 35.7 +0.2
PALK Pallekele 144.68 128 PKP **PKPab** 23 57 36.2 -0.5
comp=Z,37nm,0.9s,baz=304,slow=2.3,SNR=8.6
BRVK Borovoye 145.60 41 PKiKP **PKPbc** 23 57 38.5 -0.1
BRVK Borovoye 145.60 41 **PKPbc** 23 57 38.5 -0.1
YAK Yakutsk 146.75 341 PKPbc **PKPbc** 23 57 41.0 -0.7
comp=Z,15nm,0.5s,baz=138,slow=0.8,SNR=7.5
YAK Yakutsk 146.75 341 *e*PKP2 **PKPdf** 23 57 40.7 +0.7
YAK pmax pmax
comp=Z,116nm,1.3s
YAK pmax pmax
comp=N,23nm,1.4s
YAK pmax pmax
comp=E,16nm,1.3s
YAK Yakutsk 146.75 341 **PKPdf** 23 57 40.3 +0.3
TOLI2 Tolitoli 147.10 204 PKPdf **PKPdf** 23 57 42.5 +0.3
KBL Kabul 147.42 75 PKiKP **PKPdf** 23 57 42.2 -0.1
KBL Kabul 147.42 75 PKPdf **PKPdf** 23 57 42.2 -0.1
CHGR Chuyangaron 147.74 67 PKPdf **PKPdf** 23 57 43.0 +0.4
TAS Tashkent 147.74 62 PKP2 **PKPbc** 23 57 43.9 -1.3
TAS Tashkent 147.74 62 **PKPbc** 23 57 43.9 -1.3
GSI Gunungsitoli 148.02 160 PKPdf **PKPdf** 23 57 44.2 +0.5
KK31 Karatay Array 148.44 58 PKiKP **PKPdf** 23 57 43.7 +0.2
KK31 Karatay Array 148.44 58 PKPdf **PKPdf** 23 57 43.7 +0.2
KKAR Karatay Array 148.44 58 PKiKP **PKPdf** 23 57 42.6 -0.9
KKAR Karatay Array 148.44 58 PKPdf **PKPdf** 23 57 42.9 -0.6
KKAR Karatay Array 148.44 58 **PKPdf** 23 57 42.6 -0.9
GAR Garm 148.64 66 **PKPdf** 23 57 43.9 -0.2
BTK Batken 148.98 64 PKiKP **PKPdf** 23 57 43.4 -1.2
BTK Batken 148.98 64 PKPdf **PKPdf** 23 57 43.4 -1.2
YSS Yuzh-Sakhalins 149.53 310 ⇑*i*PKP2 **PKPbc** 23 57 49.3 -0.3
PSI Prapat 149.83 162 PKPbc **PKPbc** 23 57 50.4 -1.1
comp=E,39nm,0.8s,baz=358,slow=23,SNR=14
ASAJ Asahikawa 150.36 304 PKPbc **PKPbc** 23 57 51.4 -0.3
comp=E,14nm,0.8s,baz=104,slow=6.8,SNR=3.8
NIL Nilore 150.79 77 PKiKP **PKPdf** 23 57 47.4 -0.2
NIL 23 57 53.3
NIL Nilore 150.79 77 PKPdf **PKPdf** 23 57 47.4 -0.2
NIL PKPbc **PKPbc** 23 57 53.3 +0.1
EKS2 Erkin-Say 150.88 59 P **PKiKP** 23 57 54.2 +0.4
SNR=7.6
AML Almayashu 150.91 60 P **PKiKP** 23 57 54.6 +0.3
SNR=9.0
USP Ospenovka 151.29 57 P **PKPbc** 23 57 54.1 +0.1
SNR=11
AAK Ala-Archa 151.41 58 P **PKiKP** 23 57 55.6 +0.6
SNR=8.5
AAK Ala-Archa 151.41 58 *j* PKiKP **PKPbc** 23 57 54.5 0.0
AAK pmax pmax
comp=Z,511nm,1.7s
AAK Ala-Archa 151.41 58 **PKPbc** 23 57 54.1 -0.4
FRU1 Bishkek 151.47 58 **PKiKP** 23 57 54.9 -0.1
UCH Uchtor 151.50 59 P **PKiKP** 23 57 55.6 +0.1
SNR=10.0
CHMS Chumysh 151.52 58 P **PKiKP** 23 57 54.9 -0.1
SNR=9.9
JRMM Jerantut 151.67 168 P **PKPbc** 23 57 55.0 -0.7
IPM Ipoh 151.96 165 P **PKPbc** 23 57 56.0 -0.4
TKM2 Tokmak 2 152.15 57 P **PKPbc** 23 57 56.2 0.0
SNR=5.9
ZAA0 Zalesovo Array 152.40 30 PKPdf **PKPdf** 23 57 48.9 -0.4
ZAA0 **PKiKP** 23 57 56.3 -0.1
ZALV Zalesovo Beam 152.40 30 PKP **PKPdf** 23 57 48.8 -0.4
comp=Z,19nm,0.8s,baz=298,slow=2.3,SNR=4.1
ZALV PKPbc **PKiKP** 23 57 56.2 -0.1
comp=Z,140nm,0.8s,baz=300,slow=3.0,SNR=22
BOOM Boomskoye usch 152.49 58 PKiKP **PKPbc** 23 57 56.2 -0.8
BOOM Boomskoye usch 152.49 58 **PKPbc** 23 57 56.2 -0.8
KULM Kulim 152.66 164 P **PKPbc** 23 57 57.0 -0.9
ULHL Ulahol 152.75 59 P **PKiKP** 23 57 58.7 +0.9
SNR=6.1
KSH Kashi 152.99 65 PKPbc **PKPdf** 23 57 51.4 +0.6
KSH pPKP pPKPbc 23 58 01.4 +0.9
BHK Bhakra 153.14 83 *ex* x 23 58 09.0
KDJ Kajisay 153.46 59 PKiKP **PKPdf** 23 57 50.8 -0.7
KDJ Kajisay 153.46 59 PKPdf **PKPdf** 23 57 50.8 -0.7
TARG Taragay, Kyrgy 154.00 59 **PKPdf** 23 57 52.0 -0.6
MJAR Matsushiro Arr 154.66 289 PKP **PKPdf** 23 57 50.5 -2.7
comp=Z,1.1nm,0.4s,baz=148,slow=0.9,SNR=4.1
MJAR Matsushiro Arr 154.66 289 PKPdf **PKPdf** 23 57 53.5 +0.3
KLR Kul'dur 155.16 321 PKP **PKPdf** 23 57 51.6 -1.7
comp=Z,4.6nm,0.9s,baz=112,slow=3.1,SNR=5.8
MK31 Makanchi Array 155.29 46 PKiKP **PKPdf** 23 57 52.9 -0.8
MK31 Makanchi Array 155.29 46 **PKPdf** 23 57 52.9 -0.8
MKAR Makanchi Array 155.29 46 PKP **PKPdf** 23 57 52.3 -1.4
comp=Z,5.6nm,0.8s,baz=329,slow=0.9,SNR=5.6
MKAR PKPab **PKPab** 23 58 16.4 -2.4
comp=Z,25nm,0.9s,baz=309,slow=3.9,SNR=8.2
USRK Ussuriysk Ar. 157.56 310 PKP **PKPdf** 23 57 55.4 -1.3
comp=Z,1.6nm,0.8s,baz=130,slow=2.3,SNR=1.7
USRK PKPab **PKPab** 23 58 26.3 -2.3
comp=Z,0.7nm,0.3s,baz=165,slow=6.0,SNR=2.4
USRK Ussuriysk Ar. 157.56 310 **PKPdf** 23 57 56.1 -0.5
WMQ Urumqi 160.07 48 *e*P **PKPdf** 23 58 01.1 +1.3
WMQ pmax pmax
comp=Z,9µm,11.6s
ZAK Zakamensk 161.19 9 *e*PKiKP **PKPdf** 23 57 57.5 -3.3
ZAK pmax pmax
comp=Z,18nm,1.5s
JOW Kunigami 161.65 259 PKP **PKPdf** 23 58 01.7 -0.2
comp=Z,11nm,0.6s,baz=162,slow=7.9,SNR=4.2
JOW Kunigami 161.65 259 **PKPdf** 23 58 01.5 -0.4
KSRS Korea Array 162.72 294 PKP **PKPdf** 23 58 02.2 -0.4
comp=Z,5.1nm,0.8s,baz=103,slow=0.8,SNR=9.4
KSAR Wonju Array Be 162.75 294 PKiKP **PKPdf** 23 58 01.9 -0.8
KSAR Wonju Array Be 162.75 294 **PKPdf** 23 58 01.9 -0.8

SONM	**Songino Array**	**164.02**	**4**	PKP	**PKPdf**	**23 58 03.1**	**-0.6**
	comp=Z,4.6nm,1.0s,baz=326,slow=0.8,SNR=5.9						
SONM				PKPab	**PKPab**	**23 58 57.0**	**+0.3**
	comp=Z,16nm,0.9s,baz=329,slow=3.6,SNR=12						
ULN	**Ulaanbaatar**	**164.02**	**2**	PKIKP	**PKPdf**	**23 58 03.3**	**-0.5**
ULN	**Ulaanbaatar**	**164.02**	**2**	PKPdf	**PKPdf**	**23 58 03.2**	**-0.5**
ULN				PKPab	**PKPab**	**23 58 57.4**	**+0.6**
CMAR	**Chiang Mai Arr**	**164.32**	**146**	PKP	**PKPdf**	**23 58 05.0**	**+0.3**
	comp=Z,5.0nm,0.9s,baz=252,slow=2.4,SNR=9.7						
CMAR				PKPab	**PKPab**	**23 58 58.1**	**-0.6**
	comp=Z,2.1nm,0.4s,baz=241,slow=3.0,SNR=1.6						
CMAR	**Chiang Mai Arr**	**164.32**	**146**		**PKPdf**	**23 58 03.2**	**-1.5**
CHTO	**Chiang Mai**	**164.63**	**146**	PKIKP	**PKPdf**	**23 58 04.1**	**-0.9**
CHTO	**Chiang Mai**	**164.63**	**146**		**PKPdf**	**23 58 04.1**	**-0.9**
LSA	**Lhasa**	**165.34**	**94**	PKIKP	**PKPdf**	**23 58 05.0**	**-0.9**
LSA	**Lhasa**	**165.34**	**94**		**PKPdf**	**23 58 05.0**	**-0.9**
DL2	**Dalian**	**166.88**	**306**	*e*PKP	**PKPdf**	**23 58 06.5**	**+0.3**
SLVN	**Son La**	**168.87**	**160**		**PKPdf**	**23 58 08.3**	**+0.1**
HHC	**Hu-ho-hao-te**	**170.61**	**343**	*e*P	**PKPdf**	**23 58 08.6**	**-0.1**
HHC				LR	LR		
	comp=N,42μm,17.4s						
HHC				LR	LR		
	comp=E,44μm,18.0s						
HHC				LR	LR		
	comp=Z,48μm,18.5s						
NJ2	**Nanjing**	**170.79**	**274**	*e*P	**PKPdf**	**23 58 09.8**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
TIA	**Tai'an**	**171.30**	**302**	P	**PKPdf**	**23 58 08.6**	**-0.5**
TIA				pmax	pmax		
	comp=Z,34nm,1.1s						
TIY	**Taiyuan**	**173.15**	**329**	⇑PKP	**PKPdf**	**23 58 11.1**	**+1.1**
GYA	**Guiyang**	**174.47**	**167**	⇑P	**PKPdf**	**23 58 12.0**	**+1.2**
GYA				pmax	pmax		
	comp=Z,27nm,1.2s						
LZH	**Lanzhou**	**174.56**	**38**	⇓PKP	**PKPdf**	**23 58 11.6**	**+1.0**
LZH				pPKP	sPKPdf	23 58 22.3	+8.4
LZH				sPKP		23 58 27.3	
CD2	**Chengdu**	**176.23**	**104**	PKP	**PKPdf**	**23 58 11.1**	**0.0**
XAN	**Xi'an**	**177.72**	**341**	PKPbc	**PKPdf**	**23 58 11.4**	**+0.2**
XAN	**Xi'an**	**177.72**	**341**	pPKP	pPKPdf	23 58 20.1	+6.4
ENH	**Enshi**	**177.96**	**218**		**PKPdf**	**23 58 10.7**	**-0.6**

IDC 16 23:40:36.8±3.6, 5.58S×150.70E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.8/44, mbtmp3.8/3, Error ellipse: s-maj=129.2km s-min=49.1km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.38**	**227**	P	P	23 45 26.3	+0.2
	1.5nm,0.7s,baz=52,slow=11,SNR=2.1						
ASAR	**Alice Springs**	**24.18**	**220**	P	P	23 45 54.6	-0.5
	0.9nm,0.6s,baz=55,slow=8.8,SNR=5.3						
FITZ	**Fitzroy Crossi**	**27.45**	**241**	P	P	23 46 25.1	+0.4
	1.7nm,0.5s,baz=66,slow=8.1,SNR=1.7						
TORD	**Torodi Ar. Bea**	**148.53**	**286**	PKPbc	PKPbc	00 00 26.2	-0.6
	3.1nm,0.8s,baz=78,slow=2.6,SNR=6.5						

*IDC **16** 23:41:28.8±1.0, 30.41S×72.02W, h0km, mb4.7/6, mb1 5.0/8, mb1mx4.7/33, mbtmp4.8/8, ML4.4/2, Error ellipse: s-maj=46.2km s-min=24.4km az=77.0*
*NEIC **16** 23:41:31.5±1.7, 30.48S±0.08×72.12W±0.05, h16km±4km, mb5.3/18, Error ellipse: s-maj=12.3km s-min=4.5km az=201.0*

ISC 16 23:41:31.1±0.5, 30.45S±0.08×72.13W±0.06, h16km, n31, σ0.83/33, mb5.2/13, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.48**	**118**	Pg	**Pb**	**23 41 40.5**	**-0.7**
CO06				Sg	**Sb**	**23 41 47.4**	**-0.6**
CO03	**El Pedregal**	**1.30**	**108**	Pn	**Pb**	**23 41 54.7**	**-0.5**
CO03					**Sg**	**23 42 12.2**	**-0.9**
VA03	**San Esteban**	**2.67**	**150**	Pn	**Pn**	**23 42 14.4**	**+0.9**
VA04	**Juan Fernndez**	**6.52**	**239**	Pn	**Pn**	**23 43 04.8**	**-1.5**
PLCA	**Paso Flores**	**10.34**	**173**	Pn	**Pn**	**23 43 59.0**	**+0.2**
	0.7nm,0.3s,baz=335,slow=14,SNR=1.1						
SIV	**San Ignacio**	**17.60**	**38**	P	**Pn**	**23 45 35.3**	**-0.5**
	1.9nm,0.3s,baz=234,slow=10.0,SNR=3.8						
BDFB	**Brasilia**	**26.56**	**62**	P	**P**	**23 47 06.9**	**-1.7**
BDFB				IAmb	IAmb	23 47 24.6	
	comp=Z,128nm,1.2s						
SJG	**San Juan**	**48.62**	**8**	P	**P**	**23 50 12.8**	**-1.4**
	comp=Z,21nm,0.9s,baz=165,slow=3.3,SNR=1.8						
SJG	**San Juan**	**48.62**	**8**	P	**P**	**23 50 12.8**	**-1.4**
SJG				IAmb	IAmb	23 50 22.6	
	comp=Z,43nm,1.0s						
CBYP	**Canovanas**	**48.82**	**8**	P	**P**	**23 50 15.0**	**-0.7**
SNAA	**Sanae**	**54.90**	**159**	P	**P**	**23 51 00.5**	**-0.1**
	comp=Z,12nm,0.7s,baz=289,slow=8.2,SNR=5.1						
SNAA	**Sanae**	**54.90**	**159**	P	**P**	**23 51 01.0**	**+0.4**
SNAA				IAmb	IAmb	23 51 12.6	
	comp=Z,43nm,1.2s						
QSPA	**South Pole Qui**	**59.77**	**180**	P	**P**	**23 51 35.1**	**-0.1**
QSPA				IAmb	IAmb	23 51 37.5	
	comp=Z,22nm,1.1s						
V53A	**Saluda**	**66.54**	**351**	P	**P**	**23 52 20.0**	**-0.2**
V53A				IAmb	IAmb	23 52 21.0	
	comp=Z,26nm,0.9s						
CPCT	**Cooper Cave**	**66.58**	**349**	P	**P**	**23 52 20.5**	**+0.1**
CPCT				IAmb	IAmb	23 52 21.4	
	comp=Z,23nm,0.9s						
TXAR	**Lajitas Array**	**66.62**	**330**	P	**P**	**23 52 21.0**	**+0.1**
	comp=Z,3.2nm,0.8s,baz=153,slow=8.1,SNR=2.9						
TXAR	**Lajitas Array**	**66.62**	**330**	P	**P**	**23 52 21.6**	**+0.7**
T59A	**Double "B" Far**	**67.26**	**355**	P	**P**	**23 52 24.7**	**+0.1**
T59A				IAmb	IAmb	23 52 26.3	
	comp=Z,21nm,0.9s						
T60A	**Surry**	**67.38**	**356**	P	**P**	**23 52 25.8**	**+0.4**
L63A	**North Scituate**	**71.96**	**0**	P	**P**	**23 52 54.6**	**+1.1**
L63A				IAmb	IAmb	23 52 55.4	
	comp=Z,25nm,0.8s						
DBIC	**Dimbokro**	**74.14**	**72**	P	**P**	**23 53 07.8**	**+0.6**
MAW	**Mawson**	**76.59**	**164**	P	**P**	**23 53 21.6**	**+1.2**
E62A	**Clayton Lake**	**76.75**	**2**	P	**P**	**23 53 22.4**	**+1.1**
E62A				IAmb	IAmb	23 53 35.6	
	comp=Z,28nm,1.3s						
PDAR	**Pinedale Array**	**80.57**	**333**	P	**P**	**23 53 43.0**	**+0.2**
	comp=Z,5.5nm,1.0s,baz=134,slow=8.5,SNR=2.6						
PDAR	**Pinedale Array**	**80.57**	**333**	P	**P**	**23 53 43.4**	**+0.6**
NVAR	**Mina Array Bea**	**80.94**	**325**	P	**P**	**23 53 46.2**	**+1.3**
	comp=Z,1.4nm,0.7s,baz=142,slow=5.3,SNR=2.3						
TORD	**Torodi Ar. Bea**	**83.09**	**70**	P	**P**	**23 53 56.4**	**0.0**
	comp=Z,11nm,0.9s,baz=279,slow=5.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	**83.09**	**70**	P	**P**	**23 53 56.6**	**+0.2**
CASY	**Casey**	**83.56**	**181**	P	**P**	**23 53 58.8**	**+0.8**
CHGR	**Chuyangaron**	**147.27**	**65**		**PKPdf**	**00 01 11.2**	**-0.4**
ZALV	**Zalesovo Beam**	**151.22**	**29**	PKPbc	**PKiKP**	**00 01 23.8**	**0.0**
	comp=Z,48nm,0.7s,baz=298,slow=3.3,SNR=7.4						

*IDC **16** 23:42:37.7±1.1, 30.28S×71.45W, h0km, mb4.6/5, mb1 4.7/5, mb1mx4.4/30, mbtmp4.6/5, Error ellipse: s-maj=51.1km s-min=33.7km az=75.0*
*NEIC **16** 23:42:44.8±0.9, 31.05S±0.05×71.5W±0.1, h17km±4km, mb5.1/14, Error ellipse: s-maj=14.0km s-min=5.4km az=69.0*

ISC 16 23:42:43.5±0.6, 31.05S±0.09×71.4W±0.2, h10km, n28, σ0.81/26, mb5.0/12, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.44**	**328**	Pg	**Pg**	**23 42 52.9**	**+0.8**
CO06					**Sb**	**23 43 00.8**	**+0.9**
MT01	**Popeta**	**2.81**	**178**	Pn	**Pn**	**23 43 28.4**	**-0.1**
BO01	**Tunca**	**3.34**	**176**		**Pn**	**23 43 36.7**	**+0.8**
BDFB	**Brasilia**	**26.28**	**60**	P	**P**	**23 48 19.6**	**+0.3**
MLPR	**Magueyes Islan**	**48.91**	**5**	P	**P**	**23 51 29.3**	**-0.4**
CRPR	**Cabo Rojo, PR**	**48.94**	**5**	P	**P**	**23 51 29.8**	**-0.2**
PDPR	**Patillas Dam,**	**49.05**	**7**	P	**P**	**23 51 29.9**	**-0.9**
CBYP	**Canovanas**	**49.32**	**7**	P	**P**	**23 51 31.6**	**-1.4**
CBYP				IAmb	IAmb	23 51 33.1	
	comp=Z,14nm,0.8s						
SNAA	**Sanae**	**54.11**	**159**	P	**P**	**23 52 08.5**	**+0.2**
	comp=Z,13nm,1.0s,baz=245,slow=7.5,SNR=2.3						
SNAA	**Sanae**	**54.11**	**159**	P	**P**	**23 52 08.9**	**+0.6**
SNAA				IAmb	IAmb	23 52 23.8	
	comp=Z,13nm,0.9s						
X48A	**Hartselle**	**66.80**	**346**	P	**P**	**23 53 34.3**	**-0.9**
V55A	**Taylorsville**	**67.19**	**351**	P	**P**	**23 53 37.3**	**-0.3**
V55A				IAmb	IAmb	23 53 56.2	
	comp=Z,22nm,1.4s						
CPCT	**Cooper Cave**	**67.29**	**348**	P	**P**	**23 53 37.8**	**-0.5**
CPCT				IAmb	IAmb	23 53 38.5	
	comp=Z,11nm,0.9s						
TXAR	**Lajitas Array**	**67.46**	**330**	P	P	23 53 30.9	-8.8
	comp=Z,1.5nm,0.8s,baz=170,slow=5.5,SNR=1.6						
TXAR	**Lajitas Array**	**67.46**	**330**	P	**P**		
V51A	**Loudon**	**67.61**	**349**	P	**P**	**23 53 39.7**	**-0.6**
V51A				IAmb	IAmb	23 54 00.4	
	comp=Z,18nm,1.1s						
R55A	**Marlinton**	**69.45**	**353**	P	**P**	**23 53 52.1**	**+0.3**
R55A				IAmb	IAmb	23 54 02.7	
	comp=Z,18nm,1.1s						
DBIC	**Dimbokro**	**73.70**	**72**	P	P	23 54 13.1	-4.9
	comp=Z,10nm,0.8s,baz=218,slow=4.7,SNR=2.6						
DBIC	**Dimbokro**	**73.70**	**72**	P	**P**	**23 54 18.9**	**+1.0**
SUR	**Sutherland**	**75.76**	**119**		**P**	**23 54 29.8**	**-0.2**
MAW	**Mawson**	**75.84**	**164**	P	**P**	**23 54 30.0**	**+0.5**
	comp=Z,4.0nm,0.8s,baz=225,slow=10.0,SNR=1.4						
MAW	**Mawson**	**75.84**	**164**	P	**P**	**23 54 30.0**	**+0.5**
TORD	**Torodi Ar. Bea**	**82.67**	**70**	P	P	23 55 02.7	-5.0
	comp=Z,8.6nm,0.8s,baz=250,slow=5.0,SNR=3.1						
CASY	**Casey**	**82.98**	**181**	P	**P**	**23 55 08.3**	**-0.1**
CASY				IAmb	IAmb	23 55 23.4	
	comp=Z,14nm,1.1s						
LBTB	**Lobatse**	**83.03**	**115**	P	**P**	**23 55 10.3**	**+0.7**
LBTB				IAmb	IAmb	23 55 26.4	
	comp=Z,20nm,1.2s						
WRA	**Warramunga Arr**	**123.61**	**209**	PKP	**PKPdf**	**00 01 39.8**	**-2.2**
	comp=Z,1.6nm,0.7s,baz=158,slow=1.9,SNR=2.6						
ZALV	**Zalesovo Beam**	**151.41**	**30**	PKPbc	**PKPdf**	**00 02 30.4**	**-0.5**
	comp=Z,15nm,0.6s,baz=308,slow=2.8,SNR=3.3						
ZALV	**Zalesovo Beam**	**151.41**	**30**		**PKPdf**	**00 02 30.6**	**-0.4**

IDC 16 23:43:49.4±5.2, 31.38S×71.60W, h0km, mb4.5/3, mb1 4.6/3, mb1mx4.2/26, mbtmp4.5/3, Error ellipse: s-maj=236.0km s-min=49.0km az=23.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**67.65**	**330**	P	P	23 54 48.4	0.0
	1.0nm,0.8s,baz=152,slow=7.9,SNR=2.1						
DBIC	**Dimbokro**	**74.00**	**72**	P	P	23 55 27.4	+0.1
	7.5nm,0.8s,baz=207,slow=5.5,SNR=2.2						
TORD	**Torodi Ar. Bea**	**82.97**	**70**	P	P	23 56 16.7	-0.1
	4.5nm,0.8s,baz=270,slow=4.3,SNR=2.9						
KURBB	**Kurchatov Arra**	**150.68**	**40**	PKPbc	PKPbc	00 03 42.9	-0.1
	4.5nm,0.7s,baz=302,slow=3.1,SNR=4.8						
ZALV	**Zalesovo Beam**	**151.80**	**30**	PKPbc	PKPbc	00 03 45.2	-0.4
	18nm,0.6s,baz=311,slow=3.3,SNR=5.6						

*NEIC **16** 23:46:29.7±1.8, 30.44S±0.05×72.09W±0.06, h7km±5km, mb4.9/6, Error ellipse: s-maj=9.2km s-min=3.9km az=47.0*
*IDC **16** 23:46:29.2±1.2, 30.57S×71.79W, h0km, mb4.3/4, mb1 4.4/4, mb1mx4.2/26, mbtmp4.3/4, Error ellipse: s-maj=70.8km s-min=31.2km az=74.0*

ISC 16 23:46:31.3±0.8, 30.49S±0.07×71.98W±0.08, h16km, n21, σ1.11/23, mb4.6/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.35**	**122**		**Pb**	**23 46 39.0**	**-0.2**
CO06					**Sb**	**23 46 44.6**	**+0.2**
GO04	**Tololo Observa**	**1.07**	**73**		**Pg**	**23 46 51.8**	**-0.2**
GO04				Sn	**Sn**	**23 47 09.1**	**+2.7**
CO03	**El Pedregal**	**1.16**	**108**		**Pg**	**23 46 53.3**	**-0.5**
AC04	**Llanos de Chal**	**2.41**	**19**	Pn	**Pn**	**23 47 09.1**	**-1.0**
GO03	**Copiap**	**3.27**	**28**	Pn	**Pn**	**23 47 20.8**	**-1.1**
AC02	**Maricunga**	**4.42**	**35**	Pn	**Pn**	**23 47 35.7**	**-2.5**
PB10	**IPOC Station P**	**7.07**	**11**	Pn	**Pn**	**23 48 12.8**	**-1.3**
PB04	**IPOC Station P**	**8.29**	**12**	Pn	**Pn**	**23 48 29.8**	**-1.2**
LPAZ	**La Paz**	**14.57**	**15**	Pn	**Pn**	**23 49 57.9**	**+0.4**
CRPR	**Cabo Rojo, PR**	**48.45**	**6**	P	**P**	**23 55 12.6**	**-0.4**
SNAA	**Sanae**	**54.82**	**159**	P	**P**	**23 56 00.1**	**-0.1**
	6.5nm,0.9s,baz=274,slow=7.5,SNR=6.1						
SNAA	**Sanae**	**54.82**	**159**	P	**P**	**23 55 59.2**	**-1.0**
QSPA	**South Pole Qui**	**59.73**	**180**	P	**P**	**23 56 36.0**	**+0.9**
QSPA				IAmb	IAmb	23 56 55.7	
	comp=Z,25nm,0.9s						
TXAR	**Lajitas Array**	**66.72**	**330**	P	**P**	**23 57 23.1**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=158,slow=7.8,SNR=1.9						
DBIC	**Dimbokro**	**74.03**	**72**	P	**P**	**23 58 06.8**	**0.0**
DBIC				IAmb	IAmb	23 58 24.0	
	comp=Z,4.8nm,0.8s						
F63A	**Nahmakanta, Br**	**75.88**	**2**	P	**P**	**23 58 17.2**	**+0.5**
F63A				IAmb	IAmb	23 58 24.0	
	comp=Z,7.0nm,1.1s						
MAW	**Mawson**	**76.52**	**164**	P	**P**	**23 58 19.3**	**-0.9**
	comp=Z,4.3nm,0.9s,baz=244,slow=9.4,SNR=1.6						
MAW	**Mawson**	**76.52**	**164**	P	**P**	**23 58 20.3**	**+0.1**
TORD	**Torodi Ar. Bea**	**82.98**	**70**	P	**P**	**23 58 55.8**	**-0.2**
	comp=Z,4.2nm,0.8s,baz=261,slow=3.8,SNR=4.0						
KURBB	**Kurchatov Arra**	**150.20**	**39**	PKPbc	**PKPbc**	**00 06 20.7**	**-0.4**
	comp=Z,3.8nm,0.8s,baz=301,slow=3.2,SNR=6.6						
ZALV	**Zalesovo Beam**	**151.19**	**29**	PKPbc	**PKiKP**	**00 06 24.2**	**+0.4**
	comp=Z,15nm,0.6s,baz=303,slow=3.3,SNR=11						

*IDC **16** 23:47:57.7±1.1, 31.26S×71.83W, h0km, mb4.5/5, mb1 4.8/5, mb1mx4.3/30, mbtmp4.5/5, Error ellipse: s-maj=68.5km s-min=29.0km az=66.0*

ISC 16 23:47:59.3±1.0, 31.25S±0.3×71.7W±0.4, h10km, n9, σ1.20/9, mb4.7/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**49.33**	**7**	P	**P**	**23 56 47.8**	**-0.9**
	9.2nm,0.6s,baz=224,slow=2.6,SNR=4.2						
TXAR	**Lajitas Array**	**67.44**	**330**	P	**P**	**23 58 55.0**	**-0.3**
	4.5nm,0.8s,baz=159,slow=8.6,SNR=4.7						
MAW	**Mawson**	**75.78**	**164**	P	**P**	**23 59 44.0**	**-0.9**
	7.0nm,0.8s,baz=211,slow=6.8,SNR=4.8						
NVAR	**Mina Array Bea**	**81.75**	**325**	P	**P**	**00 00 18.7**	**+0.3**
	1.8nm,0.8s,baz=160,slow=5.8,SNR=4.1						
LBTB	**Lobatse**	**83.24**	**115**	P	**P**	**00 00 26.5**	**0.0**
	2.0nm,0.7s,baz=213,slow=7.1,SNR=1.7						
AKASG	**Malin Array Be**	**120.10**	**46**	PKP	**PKiKP**	**00 06 52.5**	**+2.5**
	0.7nm,0.3s,baz=248,slow=3.9,SNR=2.6						
KURBB	**Kurchatov Arra**	**150.62**	**40**	PKPbc	**PKiKP**	**00 07 51.5**	**-0.3**
	2.3nm,0.7s,baz=297,slow=3.0,SNR=6.3						
ZALV	**Zalesovo Beam**	**151.71**	**30**	PKPbc	**PKiKP**	**00 07 54.1**	**+0.2**
	9.5nm,0.8s,baz=280,slow=2.7,SNR=5.3						
MKAR	**Makanchi Array**	**154.67**	**45**	PKPbc	**PKiKP**	**00 08 00.9**	**+0.6**
	2.1nm,0.9s,baz=207,slow=1.9,SNR=3.6						

*IDC **16** 23:48:20.3±1.7, 31.42S×71.46W, h0km, mb4.8/6, mb1 4.7/8, mb1mx4.4/35, mbtmp4.7/8, ML4.5/2, Error ellipse: s-maj=65.1km s-min=26.3km az=98.0*
*NEIC **16** 23:48:21.0±2.9, 31.43S±0.04×71.81W±0.07, h10km±1km, mb5.0/14, Error ellipse: s-maj=10.3km s-min=5.4km az=289.0*

ISC 16 23:48:21.0±0.6, 31.44S±0.05×71.82W±0.08, h14km, n55, σ1.11/52, mb4.9/11, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO03	**El Pedregal**	**1.13**	**59**		**Pb**	**23 48 40.4**	**-2.0**
CO03				Sn	**Sn**	**23 48 59.9**	**+1.9**
VA01	**Torpederas**	**1.59**	**175**	Pn	**Pn**	**23 48 47.9**	**-0.8**
VA01				Sn	**Sb**	**23 49 10.5**	**+0.4**
VA03	**San Esteban**	**1.71**	**141**	Pn	**Pn**	**23 48 50.5**	**+0.1**
VA03				Sn	**Sb**	**23 49 13.8**	**+0.2**
MT05	**Renca**	**2.15**	**155**	Pn	**Pn**	**23 48 56.8**	**+0.2**
VA05	**Santo Domingo**	**2.22**	**176**	Pn	**Pn**	**23 48 56.0**	**-1.4**
MT09	**Talagante**	**2.44**	**164**		**Pn**	**23 48 58.5**	**-2.0**
ZON	**Zonda**	**2.68**	**93**	Pn	**Pn**	**23 49 02.3**	**-1.5**
H03N1	**Juan Fernandez**	**6.32**	**250**	T	T	23 56 38.2	
	baz=80,slow=72,SNR=16						
H03N3	**Juan Fernandez**	**6.34**	**250**	T	T	23 56 39.9	
	baz=80,slow=72,SNR=16						
H03N2	**Juan Fernandez**	**6.34**	**250**	T	T	23 56 39.0	
	baz=80,slow=72,SNR=21						
LC01	**Cunco**	**7.45**	**180**	Pn	**Pn**	**23 50 08.4**	**-0.7**
PB10	**IPOC Station P**	**7.97**	**8**	Pn	**Pn**	**23 50 15.0**	**-1.4**
PB15	**IPOC Station P**	**8.46**	**15**	Pn	**Pn**	**23 50 21.7**	**-1.5**
PLCA	**Paso Flores**	**9.34**	**174**	Pn	**Pn**	**23 50 35.8**	**+0.7**
	1.8nm,0.3s,baz=347,slow=14,SNR=1.5						
PLCA	**Paso Flores**	**9.34**	**174**		**Pn**	**23 50 34.8**	**-0.3**
LL04	**Puerto Octay**	**9.47**	**183**	Pn	**Pn**	**23 50 35.6**	**-1.3**
TRQA	**Tornquist**	**10.44**	**132**	Pn	**Pn**	**23 50 50.9**	**+0.6**
GO07	**Milladeo Hill,**	**11.75**	**187**	Pn	**Pn**	**23 51 07.1**	**-1.0**
PB11	**IPOC Station P**	**11.79**	**10**	Pn	**Pn**	**23 51 08.9**	**+0.1**
PSGCX	**Pisagua**	**11.89**	**8**	Pn	**Pn**	**23 51 08.7**	**-1.5**
SIV	**San Ignacio**	**18.23**	**35**	P	**Pn**	**23 52 30.9**	**-2.8**
	0.6nm,0.3s,baz=221,slow=10,SNR=2.1						
EFI	**East Falkland**	**22.62**	**157**	P	**P**	**23 53 21.2**	**+0.1**
EFI				IAmb	IAmb	23 53 35.4	
	comp=Z,114nm,1.2s						
RCBR	**Riachuelo**	**42.17**	**60**	P	**P**	**23 56 12.2**	**-1.2**
SNAA	**Sanae**	**53.89**	**159**	P	**P**	**23 57 43.8**	**+0.4**
	comp=Z,11nm,1.0s,baz=279,slow=6.1,SNR=4.5						
SNAA	**Sanae**	**53.89**	**159**	P	**P**	**23 57 43.8**	**+0.4**
SNAA				IAmb	IAmb	23 58 09.8	
	comp=Z,28nm,1.4s						
QSPA	**South Pole Qui**	**58.79**	**180**	P	**P**	**23 58 17.6**	**-1.0**
QSPA	**South Pole Qui**	**58.79**	**180**	PKPPKP	**P**	**23 58 17.6**	**-1.0**
	comp=Z,156nm,1.1s,baz=307,slow=2.9,SNR=12						
W50A	**Signal Mountai**	**67.49**	**348**	P	**P**	**23 59 16.7**	**+0.3**
W50A				IAmb	IAmb	23 59 24.1	
	comp=Z,13nm,1.4s						
SWET	**Sewanee**	**67.61**	**348**	P	**P**	**23 59 18.4**	**+1.2**
SWET				IAmb	IAmb	23 59 23.9	
	comp=Z,9.4nm,1.1s						
TKL	**Tuckaleechee C**	**67.68**	**349**	P	**P**	**23 59 18.2**	**+0.7**
V52A	**Sevierville**	**67.83**	**350**	P	**P**	**23 59 19.5**	**+1.0**
WVT	**Waverly**	**68.87**	**346**	P	**P**	**23 59 26.1**	**+1.1**
WVT				IAmb	IAmb	23 59 26.6	
	comp=Z,16nm,1.1s						
DBIC	**Dimbokro**	**74.19**	**72**	P	**P**	**23 59 58.1**	**+0.5**
	comp=Z,9.0nm,0.8s,baz=223,slow=6.6,SNR=4.8						
DBIC	**Dimbokro**	**74.19**	**72**	P	**P**	**23 59 58.0**	**+0.4**
MAW	**Mawson**	**75.58**	**164**	P	**P**	**00 00 06.4**	**+1.6**
	comp=Z,7.1nm,1.0s,baz=194,slow=5.8,SNR=3.5						
MAW	**Mawson**	**75.58**	**164**	P	**P**	**00 00 05.5**	**+0.7**
G62A	**West of Eustis**	**76.30**	**1**	P	**P**	**00 00 10.8**	**+1.7**
E62A	**Clayton Lake**	**77.72**	**2**	P	**P**	**00 00 19.1**	**+2.1**
BOSA	**Boshof**	**81.10**	**118**	P	**P**	**00 00 36.7**	**+0.5**
	comp=Z,7.1nm,0.9s,baz=211,slow=7.3,SNR=4.4						
BOSA	**Boshof**	**81.10**	**118**	P	**P**	**00 00 36.8**	**+0.5**
BOSA				IAmb	IAmb	00 00 45.8	
	comp=Z,15nm,1.3s						
TORD	**Torodi Ar. Bea**	**83.16**	**70**	P	**P**	**00 00 47.9**	**+0.9**
	comp=Z,11nm,0.8s,baz=265,slow=4.8,SNR=7.0						
TORD	**Torodi Ar. Bea**	**83.16**	**70**	P	**P**	**00 00 47.4**	**+0.4**
TORD				IAmb	IAmb	00 00 48.3	
	comp=Z,8.4nm,0.8s						
LBTB	**Lobatse**	**83.21**	**115**	P	**P**	**00 00 46.9**	**-0.5**
	comp=Z,4.1nm,0.7s,baz=228,slow=4.1,SNR=4.7						
LBTB	**Lobatse**	**83.21**	**115**	P	**P**	**00 00 47.3**	**-0.1**
H11N3	**WAKE ISLAND Hyl**	**26.31**	**272**	T	T	02 26 38.3	
	baz=116,slow=74,SNR=9.4						
H11N1	**WAKE ISLAND Hyl**	**26.32**	**272**	T	T	02 26 43.4	
	baz=116						
H11N2	**WAKE ISLAND Hyl**	**26.32**	**272**	T	T	02 26 46.0	
	baz=116,slow=74,SNR=7.4						
XMIS	**Christmas Isla**	**138.25**	**176**	PKPdf	**PKPdf**	**00 07 45.1**	**-1.4**
BRVK	**Borovoye**	**145.17**	**40**	PKPdf	**PKPdf**	**00 07 58.2**	**+0.6**
KURBB	**Kurchatov Arra**	**150.84**	**40**	PKPbc	**PKiKP**	**00 08 13.2**	**0.0**
	comp=Z,6.4nm,0.8s,baz=298,slow=3.1,SNR=6.1						
KURK	**Kurchatov**	**150.84**	**40**		**PKiKP**	**00 08 13.2**	**0.0**
ZAA0	**Zalesovo Array**	**151.94**	**30**	PKPbc	**PKiKP**	**00 08 15.6**	**+0.2**
ZALV	**Zalesovo Beam**	**151.94**	**30**	PKPbc	**PKiKP**	**00 08 16.4**	**+1.1**
	comp=Z,16nm,0.5s,baz=312,slow=3.1,SNR=11						
ZALV	**Zalesovo Beam**	**151.94**	**30**		**PKiKP**	**00 08 16.0**	**+0.6**
MKAR	**Makanchi Array**	**154.88**	**45**	PKPbc	**PKiKP**	**00 08 22.7**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=278,slow=1.5,SNR=2.7						

**IDC 16 23:

ZALV **Zalesovo Beam** 152.48 30 PKPbc PKPbc 00 13 13.8 -0.3
3.6nm,0.6s,baz=306,slow=3.4,SNR=4.7

*IDC **16** 23:54:28.5±1.0,31°.13S×71°.53W,h0km,mb4.7/9, mb1 4.7/11,mb1mx4.4/30,mbtmp4.6/11,ML3.8/2,Error ellipse: s-maj=35.3km s-min=21.2km az=85.0*
*NEIC **16** 23:54:34.0±1.5,31°.11S±0°.03×71°.71W±0°.07,h34km±5km, mb4.6/11,Error ellipse: s-maj=8.9km s-min=4.9km az=87.0*

ISC 16 23:54:33.5±0.6,**31°.10S**±0°.05×**71°.77W**±0°.08,**h35km,n44,** σ0**s99**/45,**mb4.6**/13,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.43**	**15**			**Pn**	**23 54 42.8**	**-0.5**
CO06						**Sn**	**23 54 49.6**	**-0.3**
CO03	**El Pedregal**	**0.96**	**75**	Pn		**Pn**	**23 54 49.8**	**-0.8**
CO03				Sn		**Sn**	**23 55 02.2**	**-0.9**
GO04	**Tololo Observa**	**1.24**	**42**	Pn		**Pn**	**23 54 54.9**	**+0.3**
GO04				Sn		**Sn**	**23 55 11.0**	**+0.8**
VA01	**Torpederas**	**1.93**	**177**	Pn		**Pn**	**23 55 04.0**	**+0.2**
VA03	**San Esteban**	**1.96**	**149**	Pn		**Pn**	**23 55 04.5**	**+0.2**
MT05	**Renca**	**2.45**	**159**	Pn		**Pn**	**23 55 11.7**	**+0.7**
VA05	**Santo Domingo**	**2.56**	**177**	Pn		**Pn**	**23 55 12.7**	**+0.2**
ZON	**Zonda**	**2.68**	**100**			**Pn**	**23 55 15.6**	**+1.4**
MT09	**Talagante**	**2.75**	**166**	Pn		**Pn**	**23 55 16.1**	**+0.7**
MT01	**Popeta**	**2.79**	**171**	Pn		**Pn**	**23 55 16.7**	**+0.9**
GO03	**Copiap**	**3.74**	**21**	Pn		**Pn**	**23 55 26.6**	**-2.1**
H03N1	**Juan Fernandez** baz=76,slow=72,SNR=10	**6.49**	**247**	T		T	00 02 50.1	
H03N3	**Juan Fernandez** baz=76,slow=72,SNR=12	**6.50**	**247**	T		T	00 02 54.3	
H03N2	**Juan Fernandez** baz=76,slow=72,SNR=11	**6.50**	**247**	T		T	00 02 55.7	
PB04	**IPOC Station P**	**8.84**	**10**			**Pn**	**23 56 39.9**	**+0.9**
PB07	**IPOC Station P**	**9.48**	**11**	Pn		**Pn**	**23 56 50.6**	**+2.8**
PB09	**IPOC Station P**	**9.53**	**14**	Pn		**Pn**	**23 56 49.8**	**+1.3**
TRQA	**Tornquist**	**10.64**	**133**	Pn		**Pn**	**23 57 06.1**	**+2.6**
LPAZ	**La Paz** 0.2nm,0.3s,baz=194,slow=8.3,SNR=2.2	**15.11**	**14**	Pn		**Pn**	**23 58 05.6**	**+0.6**
LPAZ	**La Paz**	**15.11**	**14**			**Pn**	**23 58 05.2**	**+0.2**
SIV	**San Ignacio** 0.3nm,0.3s,baz=249,slow=13,SNR=2.1	**17.93**	**35**	P		**Pn**	**23 58 39.2**	**-1.0**
SAML	**Samuel**	**23.44**	**22**	P		**P**	**23 59 40.2**	**+0.5**
BDFB	**Brasilia** 17nm,1.0s,baz=252,slow=5.6,SNR=3.0	**26.60**	**60**	P		**P**	**00 00 07.7**	**-1.1**
BDFB	**Brasilia**	**26.60**	**60**	P		**P**	**00 00 08.8**	**0.0**
BDFB				IAmb		IAmb	00 00 22.9	
	comp=Z,16nm,1.1s							
SJG	**San Juan** comp=Z,10nm,0.8s,baz=188,slow=4.4,SNR=4.1	**49.22**	**7**	P		**P**	**00 03 17.7**	**-0.8**
SNAA	**Sanae** comp=Z,2.8nm,0.7s,baz=279,slow=7.8,SNR=8.0	**54.19**	**159**	P		**P**	**00 03 55.1**	**-0.1**
SNAA	**Sanae**	**54.19**	**159**	P		**P**	**00 03 54.5**	**-0.7**
TX31	**Lajitas Ar. Si**	**67.33**	**330**	P		**P**	**00 05 25.6**	**+0.5**
TX31				IAmb		IAmb	00 05 47.8	
	comp=Z,6.0nm,1.3s							
TX32	**Lajitas Array**	**67.33**	**330**			**P**	**00 05 25.4**	**+0.4**
TX32				IAmb		IAmb	00 05 47.8	
	comp=Z,2.1nm,1.3s							
TXAR	**Lajitas Array** comp=Z,1.8nm,0.4s,baz=148,slow=5.3,SNR=2.0	**67.33**	**330**	P		**P**	**00 05 26.1**	**+1.0**
CCM	**Cathedral Cave**	**71.16**	**344**	P		**P**	**00 05 48.9**	**+0.4**
CCM				IAmb		IAmb	00 05 50.4	
	comp=Z,8.3nm,1.0s							
R40A	**Maddies Statio**	**71.63**	**343**	P		**P**	**00 05 51.9**	**+0.6**
R40A				IAmb		IAmb	00 06 17.5	
	comp=Z,12nm,0.9s							
DBIC	**Dimbokro** comp=Z,17nm,1.0s,baz=256,slow=6.4,SNR=9.2	**74.04**	**72**	P		**P**	**00 06 05.6**	**-0.6**
MAW	**Mawson** comp=Z,4.4nm,0.9s,baz=256,slow=8.5,SNR=7.0	**75.89**	**164**	P		**P**	**00 06 16.3**	**+0.3**
MAW	**Mawson**	**75.89**	**164**	P		**P**	**00 06 15.6**	**-0.4**
BOSA	**Boshof** comp=Z,3.1nm,0.9s,baz=191,slow=9.3,SNR=4.1	**81.22**	**118**	P		**P**	**00 06 45.0**	**-1.3**
BOSA	**Boshof**	**81.22**	**118**	P		**P**	**00 06 45.7**	**-0.6**
BOSA				IAmb		IAmb	00 06 57.3	
	comp=Z,5.8nm,1.1s							
TORD	**Torodi Ar. Bea** comp=Z,6.9nm,0.8s,baz=259,slow=4.7,SNR=8.7	**83.01**	**70**	P		**P**	**00 06 55.4**	**-0.2**
TORD	**Torodi Ar. Bea**	**83.01**	**70**	P		**P**	**00 06 54.9**	**-0.6**
TORD				IAmb		IAmb	00 06 56.0	
	comp=Z,6.8nm,0.8s							
LBTB	**Lobatse** comp=Z,4.3nm,0.8s,baz=211,slow=8.4,SNR=5.0	**83.32**	**115**	P		**P**	**00 06 55.9**	**-1.4**
LBTB	**Lobatse**	**83.32**	**115**	P		**P**	**00 06 56.3**	**-0.9**
YAK	**Yakutsk** comp=Z,13nm,0.4s,baz=51,slow=1.6,SNR=4.3	**146.06**	**342**	PKPbc		**PKPbc**	**00 14 09.8**	**+0.9**
ZALV	**Zalesovo Beam** comp=Z,9.1nm,0.9s,baz=286,slow=2.8,SNR=6.4	**151.62**	**30**	PKPbc		**PKPbc**	**00 14 23.5**	**-0.1**
MKAR	**Makanchi Array** comp=Z,0.9nm,0.8s,baz=343,slow=3.0,SNR=3.1	**154.61**	**45**	PKPbc		**PKPbc**	**00 14 30.8**	**+0.3**
MKAR				PKPab		**sPKPbc**	**00 14 46.2**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=299,slow=1.5,SNR=4.1							

*IDC **16** 23:56:10.8±1.0,30°.75S×72°.60W,h0km,mb4.2/7, mb1 4.3/7,mb1mx4.1/30,mbtmp4.2/7,Error ellipse: s-maj=56.0km s-min=25.6km az=61.0*
*NEIC **16** 23:56:18.2±1.1,31°.29S±0°.04×71°.1W±0°.2,h14km±5km, mb4.5/7,Error ellipse: s-maj=21.2km s-min=4.0km az=77.0*

ISC 16 23:56:17.6±0.8,**31°.27S**±0°.08×**71°.2W**±0°.2,**h10km,n26,** σ1**s07**/24,**mb4.4**/8,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VA03	**San Esteban**	**1.59**	**160**	Pn		**Pn**	**23 56 45.1**	**-0.8**
MT05	**Renca**	**2.15**	**170**	Pn		**Pn**	**23 56 53.1**	**-0.5**
VA05	**Santo Domingo**	**2.41**	**188**	Pn		**Pn**	**23 56 57.0**	**+0.1**
MT09	**Talagante**	**2.50**	**176**	Pn		**Pn**	**23 56 58.2**	**-0.3**
MT01	**Popeta**	**2.59**	**181**	Pn		**Pn**	**23 56 59.4**	**-0.2**
BO01	**Tunca**	**3.12**	**178**	Pn		**Pn**	**23 57 07.0**	**+0.2**
LR03	**Panguipulli**	**8.39**	**186**	Pn		**Pn**	**23 58 18.1**	**-1.1**
PB07	**IPOC Station P**	**9.58**	**7**	Pn		**Pn**	**23 58 34.3**	**-1.4**
TA01	**Diego Aracena**	**10.70**	**5**	Pn		**Pn**	**23 58 51.1**	**+0.2**
RUSC	**La Rusia**	**37.00**	**357**	P		**P**	**00 03 28.1**	**+0.2**
CMIG	**Matias Romero** 3.0nm,0.8s,baz=94,slow=5.4,SNR=4.2	**53.20**	**331**	P		P	00 05 21.9	-14
SNAA	**Sanae** 1.4nm,0.5s,baz=262,slow=12,SNR=1.4	**53.85**	**159**	P		**P**	**00 05 40.7**	**+0.3**
SNAA	**Sanae**	**53.85**	**159**	P		**P**	**00 05 40.8**	**+0.3**
SNAA				IAmb		IAmb	00 05 53.9	
	comp=Z,6.3nm,0.9s							
MAW	**Mawson** comp=Z,1.6nm,0.5s,baz=216,slow=6.6,SNR=9.0	**75.59**	**163**	P		**P**	**00 08 02.1**	**0.0**
MAW	**Mawson**	**75.59**	**163**	P		**P**	**00 08 01.6**	**-0.6**
MAW				IAmb		IAmb	00 08 23.3	
	comp=Z,1.7nm,1.4s							
E62A	**Clayton Lake**	**77.54**	**1**	P		**P**	**00 08 13.6**	**+0.3**
E62A				IAmb		IAmb	00 08 29.7	
	comp=Z,4.4nm,1.1s							
KOWA	**Kowa**	**78.87**	**65**	P		**P**	**00 08 20.1**	**-1.3**
BOSA	**Boshof** comp=Z,2.5nm,0.6s,baz=265,slow=6.2,SNR=6.4	**80.71**	**118**	P		**P**	**00 08 33.6**	**+2.2**
BOSA	**Boshof**	**80.71**	**118**	P		**P**	**00 08 32.9**	**+1.5**
BOSA				IAmb		IAmb	00 08 40.9	
	comp=Z,3.9nm,1.1s							
NVAR	**Mina Array Bea** comp=Z,0.4nm,0.8s,baz=155,slow=6.9,SNR=2.2	**82.06**	**324**	P		P	00 08 28.9	-9.4
TORD	**Torodi Ar. Bea** comp=Z,2.3nm,0.7s,baz=279,slow=5.2,SNR=5.6	**82.61**	**70**	P		**P**	**00 08 41.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**82.61**	**70**	P		**P**	**00 08 40.4**	**-1.1**
CASY	**Casey**	**82.75**	**181**	P		**P**	**00 08 40.1**	**-1.2**
LBTB	**Lobatse** comp=Z,2.3nm,0.7s,baz=239,slow=6.1,SNR=4.4	**82.81**	**115**	P		**P**	**00 08 44.5**	**+1.9**
LBTB	**Lobatse**	**82.81**	**115**	P		**P**	**00 08 43.9**	**+1.3**
ZALV	**Zalesovo Beam** comp=Z,5.8nm,0.5s,baz=325,slow=3.1,SNR=2.9	**151.53**	**30**	PKPbc		**PKPdf**	**00 16 06.7**	**+1.5**

*IDC **16** 23:57:28.1±0.9,31°.28S×71°.80W,h0km,mb4.8/7, mb1 4.7/9,mb1mx4.3/33,mbtmp4.7/9,ML4.3/2,Error ellipse: s-maj=32.2km s-min=21.8km az=92.0*
*NEIC **16** 23:57:33.4±1.5,31°.12S±0°.04×71°.76W±0°.08,h26km±4km, mb4.9/26,Error ellipse: s-maj=9.9km s-min=5.3km az=105.0*

ISC 16 23:57:30.2±0.5,**31°.18S**±0°.04×**71°.85W**±0°.07,**h12km,n69,** σ0**s89**/69,**mb4.9**/16,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.54**	**20**			**Pn**	**23 57 43.7**	**-0.1**
CO06						**Sb**	**23 57 49.2**	**-0.2**
CO03	**El Pedregal**	**1.05**	**71**	Pn		**Pn**	**23 57 51.0**	**+0.1**
CO03				Sn		**Sb**	**23 58 03.6**	**-0.5**
GO04	**Tololo Observa**	**1.35**	**42**	Pn		**Pg**	**23 57 56.2**	**-0.1**
VA03	**San Esteban**	**1.92**	**145**	Pn		**Pn**	**23 58 03.8**	**+0.9**
VA03				Sn		**Sb**	**23 58 28.9**	**-0.4**
MT05	**Renca**	**2.39**	**157**	Pn		**Pb**	**23 58 12.2**	**-1.2**
ZON	**Zonda**	**2.73**	**98**			**Pn**	**23 58 15.9**	**+1.9**
GO03	**Copiap**	**3.84**	**22**	Pn		**Pn**	**23 58 30.6**	**+1.4**
AC02	**Maricunga**	**4.94**	**29**	Pn		**Pn**	**23 58 46.3**	**+1.6**
H03N1	**Juan Fernandez** baz=76,slow=72,SNR=18	**6.39**	**248**	T		T	00 05 52.8	
H03N3	**Juan Fernandez** baz=76,slow=72,SNR=15	**6.41**	**247**	T		T	00 05 38.0	
H03N2	**Juan Fernandez** baz=76,slow=72,SNR=17	**6.41**	**248**	T		T	00 05 48.1	
PB14	**IPOC Station P**	**6.66**	**11**	Pn		**Pn**	**23 59 09.2**	**+1.0**
PLCA	**Paso Flores** 0.8nm,0.3s,baz=337,slow=14,SNR=1.7	**9.59**	**174**	Pn		**Pn**	**23 59 49.2**	**+1.1**
PLCA	**Paso Flores**	**9.59**	**174**			**Pn**	**23 59 49.6**	**+1.4**
TRQA	**Tornquist**	**10.63**	**133**	Pn		**Pn**	**00 00 04.2**	**+1.8**
PB11	**IPOC Station P**	**11.54**	**10**	Pn		**Pn**	**00 00 12.9**	**-2.2**
PSGCX	**Pisagua**	**11.64**	**8**	Pn		**Pn**	**00 00 14.8**	**-1.6**
LPAZ	**La Paz** 0.7nm,0.3s,baz=189,slow=10,SNR=6.3	**15.21**	**14**	Pn		**Pn**	**00 01 07.8**	**+2.3**
LPAZ	**La Paz**	**15.21**	**14**			**Pn**	**00 01 06.6**	**+1.1**
SIV	**San Ignacio** 0.7nm,0.3s,baz=220,slow=15,SNR=4.3	**18.04**	**35**	P		**Pn**	**00 01 41.1**	**+0.1**
SAML	**Samuel**	**23.55**	**22**	P		**P**	**00 02 40.2**	**-0.4**
BDFB	**Brasilia** 23nm,1.0s,baz=283,slow=8.8,SNR=4.8	**26.70**	**60**	P		**P**	**00 03 09.6**	**-0.1**
BDFB	**Brasilia**	**26.70**	**60**	P		**P**	**00 03 08.6**	**-1.1**
BDFB				IAmb		IAmb	00 03 09.6	
	comp=Z,37nm,1.2s							
RUSC	**La Rusia**	**36.88**	**358**	P		**P**	**00 04 40.0**	**+0.6**
FDF	**Fort de France**	**46.80**	**14**	P		**P**	**00 05 58.4**	**-1.5**
MLPR	**Magueyes Islan**	**49.09**	**6**			**P**	**00 06 17.2**	**-0.3**
CRPR	**Cabo Rojo, PR**	**49.12**	**6**	P		**P**	**00 06 17.5**	**-0.2**
PDPR	**Patillas Dam,**	**49.24**	**7**	P		**P**	**00 06 17.9**	**-0.8**
SJG	**San Juan** comp=Z,18nm,0.8s,baz=197,slow=7.3,SNR=4.6	**49.32**	**7**	P		**P**	**00 06 19.2**	**-0.1**
SJG	**San Juan**	**49.32**	**7**	P		**P**	**00 06 18.7**	**-0.5**
SNAA	**Sanae** comp=Z,2.9nm,0.6s,baz=264,slow=9.7,SNR=6.1	**54.13**	**159**	P		**P**	**00 06 53.9**	**-0.9**
SNAA	**Sanae**	**54.13**	**159**	P		**P**	**00 06 55.0**	**+0.1**
Y49A	**Blount Mountai**	**66.14**	**347**	P		**P**	**00 08 17.4**	**+0.1**
SWET	**Sewanee**	**67.36**	**348**	P		**P**	**00 08 25.6**	**+0.3**
SWET				IAmb		IAmb	00 08 35.1	
	comp=Z,6.9nm,0.9s							
TXAR	**Lajitas Array** comp=Z,54nm,0.3s,baz=135,slow=11,SNR=5.1	**67.37**	**330**	P		**P**	**00 08 26.4**	**+0.9**
WVT	**Waverly**	**68.62**	**346**	P		**P**	**00 08 32.9**	**-0.1**
WVT				IAmb		IAmb	00 08 34.2	
	comp=Z,11nm,0.9s							
LCAR	**Lake Charles**	**69.31**	**343**	P		**P**	**00 08 37.6**	**+0.3**
LCAR				IAmb		IAmb	00 08 38.5	
	comp=Z,8.8nm,0.9s							
CCM	**Cathedral Cave**	**71.22**	**344**	P		**P**	**00 08 49.7**	**+0.7**
CCM				IAmb		IAmb	00 08 50.6	
	comp=Z,11nm,0.9s							
R40A	**Maddies Statio**	**71.69**	**343**	P		**P**	**00 08 52.1**	**+0.3**
R40A				IAmb		IAmb	00 08 53.1	
	comp=Z,11nm,1.1s							
P40A	**Paris**	**72.82**	**344**	P		**P**	**00 08 58.9**	**+0.4**
P40A				IAmb		IAmb	00 08 59.5	
	comp=Z,8.8nm,0.8s							
DBIC	**Dimbokro** comp=Z,8.4nm,0.6s,baz=225,slow=5.5,SNR=8.5	**74.14**	**72**	P		**P**	**00 09 06.6**	**-0.3**
DBIC	**Dimbokro**	**74.14**	**72**	P		**P**	**00 09 06.5**	**-0.5**
DBIC				IAmb		IAmb	00 09 08.0	
	comp=Z,10nm,0.9s							
EMMW	**East Machias**	**75.63**	**3**	P		**P**	**00 09 15.2**	**+0.4**
EMMW				IAmb		IAmb	00 09 35.1	
	comp=Z,26nm,1.5s							
MAW	**Mawson** comp=Z,2.7nm,0.8s,baz=228,slow=8.1,SNR=3.8	**75.83**	**164**	P		**P**	**00 09 15.8**	**-0.1**
MAW	**Mawson**	**75.83**	**164**	P		**P**	**00 09 16.1**	**+0.3**
G62A	**West of Eustis**	**76.05**	**1**	P		**P**	**00 09 18.4**	**+1.2**
SUR	**Sutherland**	**76.06**	**119**	P		**P**	**00 09 18.6**	**+0.5**
E62A	**Clayton Lake**	**77.47**	**2**	P		**P**	**00 09 25.9**	**+0.7**
ECSD	**EROS Data Cent**	**77.93**	**342**	P		**P**	**00 09 28.1**	**+0.3**
ECSD				IAmb		IAmb	00 09 29.4	
	comp=Z,9.2nm,1.1s							
BOSA	**Boshof** comp=Z,4.9nm,0.9s,baz=236,slow=3.6,SNR=3.9	**81.24**	**118**	P		**P**	**00 09 46.1**	**-0.5**
BOSA	**Boshof**	**81.24**	**118**	P		**P**	**00 09 46.3**	**-0.3**
CASY	**Casey**	**82.83**	**181**	P		**P**	**00 09 55.0**	**+0.9**
TORD	**Torodi Ar. Bea** comp=Z,12nm,0.9s,baz=289,slow=5.6,SNR=12	**83.10**	**70**	P		**P**	**00 09 56.1**	**-0.2**
TORD	**Torodi Ar. Bea**	**83.10**	**70**			**P**	**00 09 55.7**	**-0.6**
TORD				IAmb		IAmb	00 09 56.7	
	comp=Z,10.0nm,0.8s							
LBTB	**Lobatse**	**83.34**	**115**	P		**P**	**00 09 57.1**	**-0.5**
ASAR	**Alice Springs** comp=Z,0.3nm,0.5s,baz=139,slow=2.2,SNR=2.2	**120.14**	**207**	PKP		**PKPdf**	**00 16 20.4**	**-1.2**
ASAR	**Alice Springs**	**120.14**	**207**			**PKPdf**	**00 16 20.6**	**-1.1**
WRA	**Warramunga Arr** comp=Z,0.5nm,0.3s,baz=159,slow=2.1,SNR=5.9	**123.29**	**210**	PKP		**PKPdf**	**00 16 27.1**	**-0.6**
ABKAR	**Akbulak array**	**139.77**	**49**	PKPdf		**PKPdf**	**00 16 57.4**	**-0.3**
CHGR	**Chuyangaron**	**147.36**	**66**	PKPbc		**PKPdf**	**00 17 12.8**	**+1.3**
TOLI2	**Tolitoli**	**147.79**	**204**	PKPbc		**PKPbc**	**00 17 14.9**	**-0.8**
KKAR	**Karatay Array**	**147.98**	**58**	PKPbc		**PKPbc**	**00 17 14.8**	**-0.6**
KKAR	**Karatay Array**	**147.98**	**58**			**PKPbc**	**00 17 14.4**	**-1.0**
GAR	**Garm**	**148.25**	**65**	PKPbc		**PKPbc**	**00 17 16.3**	**-0.1**
NIL	**Nilore**	**150.51**	**76**	PKPbc		**PKPbc**	**00 17 21.3**	**-0.8**
AAK	**Ala-Archa**	**150.94**	**57**	PKPbc		**PKPbc**	**00 17 23.1**	**+0.1**
ZAA0	**Zalesovo Array**	**151.73**	**30**	PKPbc		**PKPbc**	**00 17 23.9**	**-0.2**
ZALV	**Zalesovo Beam** comp=Z,13nm,0.8s,baz=299,slow=3.3,SNR=9.5	**151.73**	**30**	PKPbc		**PKPbc**	**00 17 24.3**	**+0.1**
MKAR	**Makanchi Array** comp=Z,1.5nm,0.7s,baz=318,slow=1.6,SNR=4.7	**154.72**	**45**	PKPbc		**PKPbc**	**00 17 30.4**	**-0.7**

*IDC **16** 23:59:13.9±1.5,30°.51S×71°.95W,h0km,mb4.4/4, mb1 4.4/4,mb1mx3.9/30,mbtmp4.4/4,Error ellipse: s-maj=67.3km s-min=40.6km az=110.0*
*NEIC **16** 23:59:18.9±1.2,31°.22S±0°.04×71°.56W±0°.06,h15km±6km, mb4.6/6,Error ellipse: s-maj=7.6km s-min=4.6km az=109.0*

ISC 16 23:59:18.2±0.7,**31°.22S**±0°.06×**71°.59W**±0°.10,**h10km,n23,** σ1**s52**/25,**mb4.5**/5,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.55**	**356**	Pg		**Pg**	**23 59 30.0**	**+1.1**
CO06				Sg		**Sg**	**23 59 35.8**	**-0.3**
CO03	**El Pedregal**	**0.86**	**64**			**Pb**	**23 59 35.6**	**+0.2**
CO03				Sn		**Sn**	**23 59 48.4**	**-0.9**
BO01	**Tunca**	**3.19**	**172**	Pn		**Pn**	**00 00 06.4**	**-2.0**
BO02	**Sierra Bellavi**	**3.62**	**169**	Pn		**Pn**	**00 00 13.8**	**-0.7**
LC01	**Cunco**	**7.66**	**182**	Pn		**Pn**	**00 01 10.1**	**+0.3**
PB10	**IPOC Station P**	**7.73**	**7**			**Pn**	**00 01 10.2**	**-0.7**
LPAZ	**La Paz**	**15.20**	**13**			**Pn**	**00 02 56.1**	**+2.6**
PLTB	**Pedras Altas**	**15.36**	**97**			**Pn**	**00 02 57.3**	**+2.2**
PLTB				IAmb		IAmb	00 02 57.6	
	comp=Z,30nm,0.9s							
SNAA	**Sanae** comp=Z,2.8nm,0.6s,baz=273,slow=7.9,SNR=2.8	**54.02**	**159**	P		**P**	**00 08 44.5**	**+2.2**
SNAA	**Sanae**	**54.02**	**159**	P		**P**	**00 08 43.9**	**+1.7**
SNAA				IAmb		IAmb	00 08 53.4	
	comp=Z,4.0nm,0.9s							
W50A	**Signal Mountai**	**67.32**	**348**	P		**P**	**00 10 13.3**	**+0.1**
W50A				IAmb		IAmb	00 10 26.5	
	comp=Z,7.3nm,1.1s							
DBIC	**Dimbokro** comp=Z,3.4nm,0.6s,baz=221,slow=9.8,SNR=2.1	**73.94**	**72**	P		**P**	**00 10 52.0**	**-2.0**
DBIC	**Dimbokro**	**73.94**	**72**	P		**P**	**00 10 52.5**	**-1.6**
MAW	**Mawson** comp=Z,2.9nm,0.9s,baz=209,slow=10,SNR=2.7	**75.73**	**164**	P		**P**	**00 11 05.3**	**+1.7**
MAW	**Mawson**	**75.73**	**164**	P		**P**	**00 11 04.8**	**+1.2**
KOWA	**Kowa**	**79.15**	**66**	P		**P**	**00 11 22.5**	**-1.0**
TORD	**Torodi Ar. Bea** comp=Z,2.5nm,0.8s,baz=259,slow=4.9,SNR=3.3	**82.91**	**70**	P		**P**	**00 11 42.3**	**-1.3**
TORD	**Torodi Ar. Bea**	**82.91**	**70**	P		**P**	**00 11 42.8**	**-0.8**
TORD				IAmb		IAmb	00 11 44.2	
	comp=Z,6.0nm,1.5s							
ASAR	**Alice Springs** comp=Z,0.3nm,0.7s,baz=182,slow=2.8,SNR=1.9	**120.20**	**207**	PKP		**PKPdf**	**00 18 09.2**	**-0.9**
WRA	**Warramunga Arr** comp=Z,0.7nm,0.7s,baz=174,slow=3.4,SNR=2.9	**123.36**	**210**	PKP		**PKPdf**	**00 18 15.1**	**-1.1**
ZAA0	**Zalesovo Array**	**151.66**	**30**	PKPbc		**PKPbc**	**00 19 10.2**	**-2.1**
ZALV	**Zalesovo Beam**	**151.66**	**30**	PKPbc		**PKPdf**	**00 19 06.8**	**+0.7**
	comp=Z,5.2nm,0.6s,baz=314,slow=3.4,SNR=4.5							
ZALV	**Zalesovo Beam**	**151.66**	**30**	PKPbc		**PKPbc**	**00 19 10.4**	**-1.9**

*NEIC **17** 00:00:14.5±1.3,31°.72S±0°.04×72°.02W±0°.10,h10km±1km, mb5.0/50,Error ellipse: s-maj=14.2km s-min=6.8km az=275.0*
*IDC **17** 00:00:16.5±0.9,31°.74S×72°.05W,h27km±5km,mb4.4/7, mb1 4.5/9,mb1mx4.1/34,mbtmp4.5/9,ML4.5/2,Error ellipse: s-maj=29.5km s-min=20.4km az=60.0*

ISC 17 00:00:14.7±0.5,**31°.70S**±0°.06×**72°.01W**±0°.10,**h14km,n81,** σ0**s70**/81,**mb4.8**/23,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**1.07**	**17**	Pn		**Pb**	**00 00 34.4**	**-0.7**
VA01	**Torpederas**	**1.35**	**167**	Pn		**Pn**	**00 00 38.5**	**-0.6**
CO03	**El Pedregal**	**1.42**	**53**			**Pb**	**00 00 41.1**	**0.0**
VA03	**San Esteban**	**1.63**	**131**	Pn		**Pn**	**00 00 42.4**	**-0.6**
BO02	**Sierra Bellavi**	**3.25**	**162**			**Pn**	**00 01 04.7**	**-0.6**
ML02	**Panimavida**	**4.08**	**173**	Pn		**Pn**	**00 01 16.5**	**-0.2**
H03N1	**Juan Fernandez** baz=78,slow=72,SNR=13	**6.08**	**252**	T		T	00 07 40.3	
H03N3	**Juan Fernandez** baz=78,slow=72,SNR=11	**6.09**	**252**	T		T	00 07 28.1	
H03N2	**Juan Fernandez** baz=78,slow=72,SNR=11	**6.10**	**252**	T		T	00 07 31.7	
LC01	**Cunco**	**7.18**	**179**	Pn		**Pn**	**00 01 58.9**	**-0.4**
PLCA	**Paso Flores** 1.7nm,0.3s,baz=345,slow=14,SNR=2.9	**9.09**	**173**	Pn		**Pn**	**00 02 24.7**	**-0.9**
PLCA	**Paso Flores**	**9.09**	**173**			**Pn**	**00 02 24.1**	**-1.5**
LL05	**Los Muermos**	**9.76**	**187**	Pn		**Pn**	**00 02 33.7**	**-0.9**
LPAZ	**La Paz** 0.3nm,0.3s,baz=185,slow=8.6,SNR=2.6	**15.75**	**14**	Pn		**Pn**	**00 03 57.5**	**+0.7**
LPAZ	**La Paz**	**15.75**	**14**			**Pn**	**00 03 57.5**	**+0.7**
EFI	**East Falkland**	**22.44**	**157**	P		**P**	**00 05 12.5**	**-0.5**
BDFB	**Brasilia** 14nm,0.9s,baz=253,slow=7.6,SNR=3.6	**27.08**	**59**	P		**P**	**00 05 56.9**	**-0.3**
BDFB	**Brasilia**	**27.08**	**59**	P		**P**	**00 05 56.6**	**-0.7**
VNA3	**Neumayer Olymp**	**51.48**	**159**	P		**P**	**00 09 19.8**	**+0.5**
VNA2	**Neumayer--Watz** baz=286,slow=8.5	**52.12**	**158**	P		**P**	**00 09 24.4**	**+0.3**
SNAA	**Sanae**	**53.70**	**158**	P		**P**	**00 09 35.6**	**-0.2**
SNAA	**Sanae** 8.2nm,0.6s,baz=275,slow=7.8,SNR=14	**53.70**	**158**	P		**P**	**00 09 35.7**	**-0.2**
SNAA	**Sanae**	**53.70**	**158**	P		**P**	**00 09 35.2**	**-0.7**
QSPA	**South Pole Qui**	**58.53**	**180**	P		**P**	**00 10 10.2**	**-0.3**
SLBS	**Sierra La Lagu**	**65.96**	**322**	P		**P**	**00 11 00.9**	**+0.2**
SLBS				IAmb		IAmb	00 12 07.3	
	comp=Z,9.6nm,1.0s							
VNDA	**Vanda**	**66.35**	**191**	P		**P**	**00 11 04.4**	**+2.0**
JCT	**Junction City**	**67.23**	**334**	P		**P**	**00 11 08.4**	**-0.2**
W50A	**Signal Mountai**	**67.72**	**348**	P		**P**	**00 11 10.9**	**-0.7**
W50A				IAmb		IAmb	00 12 17.0	
	comp=Z,21nm,1.4s							
TXAR	**Lajitas Array** comp=Z,53nm,0.4s,baz=152,slow=7.6,SNR=11	**67.75**	**330**	P		**P**	**00 11 11.9**	**-0.1**
TX31	**Lajitas Ar. Si**	**67.75**	**330**	P		**P**	**00 11 11.6**	**-0

VA05	Santo Domingo	1.97	168	Pn	Pn	00 01 53.2	+0.8
MT05	Renca	2.03	145	Pn	Pn	00 01 53.9	+0.6
MT01	Popeta	2.26	161	Pn	Pn	00 01 57.7	+1.4
VA04	Juan Fernndez	5.97	250	Pn	Pn	00 02 45.4	-2.0
LC01	Cunco	7.16	178	Pn	Pn	00 03 02.2	-1.5
LR03	Panguipulli	7.89	181	Pn	Pn	00 03 11.9	-1.8
PLCA	Paso Flores	9.08	172	Pn	Pn	00 03 29.6	-0.5
	4.5nm,0.3s,baz=337,slow=12,SNR=7.8						
PLCA	Paso Flores	9.08	172		Pn	00 03 29.2	-0.9
LL05	Los Muermos	9.72	186	Pn	Pn	00 03 38.1	-0.7
TRQA	Tornquist	10.45	130	Pn	Pn	00 03 50.6	+1.8
LL02	Futaleuf	11.45	179	Pn	Pn	00 03 59.4	-3.1
EFI	East Falkland	22.45	157	P	P	00 06 17.1	-0.8
SAML	Samuel	24.14	22	P	P	00 06 31.9	-3.2
BDFB	Brasilia	27.18	59	P	P	00 07 01.8	-1.0
	15nm,0.8s,baz=236,slow=12,SNR=4.2						
BDFB	Brasilia	27.18	59	P	P	00 07 01.9	-0.9
BDFB				IAmb	IAmb	00 07 03.6	
	comp=Z,23nm,1.0s						
OTAV	Otavalo	32.35	348	P	P	00 07 49.1	+0.1
VNA3	Neumayer Olymp	51.49	158	P	P	00 10 24.6	+0.5
VNA2	Neumayer--Watz	52.14	158	P	P	00 10 29.4	+0.5
	baz=287,slow=8.3						
SNAA	Sanae	53.72	158	P	P	00 10 40.9	+0.2
SNAA	Sanae	53.72	158	P	P	00 10 41.1	+0.5
	comp=Z,32nm,1.0s,baz=270,slow=7.8,SNR=14						
SNAA	Sanae	53.72	158	P	P	00 10 40.3	-0.3
833A	Chaparral WMA,	65.12	334	P	P	00 12 00.9	+1.2
	baz=155						
JCT	Junction City	67.21	334	P	P	00 12 11.5	-1.7
JCT				IAmb	IAmb	00 12 14.8	
	comp=Z,17nm,1.1s						
JCT	Junction City	67.21	334	P	P	00 12 13.5	+0.3
	baz=155						
237A	Washetta, Mont	67.23	338	P	P	00 12 12.4	-0.8
TXAR	Lajitas Array	67.72	330	P	P	00 12 17.1	+0.5
	comp=Z,53nm,0.3s,baz=145,slow=8.9,SNR=8.6						
TX31	Lajitas Ar. Si	67.72	330	P	P	00 12 15.9	-0.7
TX31				IAmb	IAmb	00 12 29.1	
	comp=Z,14nm,1.1s						
OXF	Oxford	67.87	345	P	P	00 12 17.5	+0.3
	baz=164						
MIAR	Mount Ida	68.94	341	P	P	00 12 24.4	+0.5
	baz=161						
ABTX	Abilene, Hawle	69.09	335	P	P	00 12 25.2	+0.2
	baz=155						
WVT	Waverly	69.09	346	P	P	00 12 23.7	-1.1
	baz=166						
W41B	Gary Mavity, V	69.18	342	P	P	00 12 25.1	-0.3
	baz=162						
W39A	Magazine	69.61	341	P	P	00 12 29.1	+1.1
	baz=160						
X34A	Smith Ranch, M	70.27	338	P	P	00 12 32.0	-0.1
U40A	Yellville	70.46	342	P	P	00 12 33.4	+0.1
	baz=161						
MNTX	Cornudas Mount	70.50	330	P	P	00 12 33.4	-0.2
	baz=150						
HHAR	Hobbs	70.67	341	P	P	00 12 33.9	-0.7
HHAR				IAmb	IAmb	00 12 35.8	
	comp=Z,17nm,1.1s						
WMOK	Wichita Mounta	70.71	337	P	P	00 12 34.5	-0.3
WMOK				IAmb	IAmb	00 12 35.7	
	comp=Z,11nm,1.2s						
WMOK	Wichita Mounta	70.71	337	P	P	00 12 34.8	0.0
	baz=156						
TUL1	Leonard	70.85	340	P	P	00 12 35.8	+0.2
	baz=159						
MSTX	Muleshoe	71.44	333	P	P	00 12 39.0	-0.4
MSTX	Muleshoe	71.44	333	P	P	00 12 39.7	+0.3
	baz=153						
P52A	Corning	71.60	352	P	P	00 12 39.6	-0.5
	baz=171						
CCM	Cathedral Cave	71.68	344	P	P	00 12 39.5	-1.1
CCM				IAmb	IAmb	00 12 51.4	
	comp=Z,9.4nm,0.8s						
CCM	Cathedral Cave	71.68	344	P	P	00 12 40.9	+0.3
	baz=163						
AMTX	Amarillo	71.85	335	P	P	00 12 41.9	+0.1
AMTX	Amarillo	71.85	335	P	P	00 12 42.4	+0.6
	baz=154						
O56A	Blue Knob Stat	71.88	355	P	P	00 12 42.1	+0.3
	baz=174						
319A	Douglas	71.95	327	P	P	00 12 42.8	+0.2
319A				IAmb	IAmb	00 12 44.7	
	comp=Z,12nm,1.0s						
T35A	Sooner Cattle	72.00	340	P	P	00 12 42.3	-0.3
T35A				IAmb	IAmb	00 12 44.2	
	comp=Z,17nm,1.1s						
R40A	Maddies Statio	72.14	343	P	P	00 12 42.2	-1.2
R40A				IAmb	IAmb	00 12 44.2	
	comp=Z,15nm,0.9s						
121A	Cookes Peak, D	72.26	329	P	P	00 12 46.1	+1.6
	baz=149						
N59A	State Game Lan	72.36	357	P	P	00 12 45.3	+0.7
	baz=177						
TUC	Tucson	73.44	327	P	P	00 12 52.1	+0.8
	baz=146						
ANMO	Albuquerque	73.76	331	P	P	00 12 54.5	+1.2
	baz=150						
L61B	Northampton	73.81	360	P	P	00 12 53.9	+0.7
	baz=180						
HRV	Adam Dziewonsk	73.87	0	P	P	00 12 54.7	+1.2
	baz=180						
214A	Organ Pipe Nat	74.12	325	P	P	00 12 55.7	+0.4
214A	Organ Pipe Nat	74.12	325	P	P	00 12 56.6	+1.3
	baz=145						
DBIC	Dimbokro	74.53	72	P	P	00 12 57.8	-0.2
	comp=Z,6.6nm,0.9s,baz=208,slow=8.3,SNR=3.1						
DBIC				pP	pwP	00 13 06.3	+0.2
	comp=Z,16nm,0.8s,baz=239,slow=6.5,SNR=6.7						
DBIC	Dimbokro	74.53	72	P	P	00 12 56.3	-1.7
DBIC				IAmb	IAmb	00 13 07.8	
	comp=Z,19nm,0.8s						
J61A	Chester	74.71	360	P	P	00 13 00.4	+2.0
	baz=180						
N38A	Joes South For	74.75	344	P	P	00 12 58.5	-0.2
N38A				IAmb	IAmb	00 12 59.4	
	comp=Z,27nm,1.1s						
T25A	Trinidad	74.86	334	P	P	00 13 00.3	+0.5
T25A				IAmb	IAmb	00 13 01.9	
	comp=Z,23nm,1.1s						
T25A	Trinidad	74.86	334	P	P	00 13 00.9	+1.2
	baz=152						
I60A	Shoreham	75.21	359	P	P	00 13 02.9	+1.6
	baz=179						
W18A	Petrified Fore	75.30	329	P	P	00 13 03.4	+1.1
	baz=148						
MAW	Mawson	75.38	164	P	P	00 13 03.1	+1.0
	comp=Z,2.8nm,0.6s,baz=205,slow=11,SNR=4.2						
MAW	Mawson	75.38	164	P	P	00 13 02.2	+0.1
I63A	Otisfield	75.42	1	P	P	00 13 03.3	+0.8
I63A				IAmb	IAmb	00 13 05.8	
	comp=Z,17nm,1.1s						
I63A	Otisfield	75.42	1	P	P	00 13 04.5	+2.0
	baz=181						
X16A	Lo Mia Camp, P	75.49	327	P	P	00 13 04.0	+0.6
X16A				IAmb	IAmb	00 13 06.2	
	comp=Z,8.9nm,1.0s						
L40A	Anamosa	75.50	345	P	P	00 13 02.4	-0.6
L40A				IAmb	IAmb	00 13 03.4	
	comp=Z,30nm,1.2s						
LBNH	Lisbon	75.60	0	P	P	00 13 04.7	+1.1
	baz=180						
SDCO	Great Sand Dun	75.81	333	P	P	00 13 06.8	+1.6
	baz=151						
SUR	Sutherland	76.00	119	P	P	00 13 06.8	+0.2
LONY	Lake Ozonia	76.01	358	P	P	00 13 06.4	+0.5
	baz=178						
S22A	4UR Ranch, Cre	76.33	332	P	P	00 13 09.4	+1.2
	baz=150						
IKP	In-Ko-Pah, Jac	76.33	323	P	P	00 13 09.6	+1.5
	baz=143						
WUAZ	Wupatki	76.37	328	P	P	00 13 09.0	+0.7
WUAZ				IAmb	IAmb	00 13 10.6	
	comp=Z,13nm,1.1s						
WUAZ	Wupatki	76.37	328	P	P	00 13 09.9	+1.6
	baz=146						
MVCO	Mesa Verde	76.55	331	P	P	00 13 10.4	+1.0
	baz=149						
G62A	West of Eustis	76.59	1	P	P	00 13 09.7	+0.5
G62A				IAmb	IAmb	00 13 11.1	
	comp=Z,20nm,1.1s						
PDMCI	Parker Dam,Lak	76.67	325	P	P	00 13 11.3	+1.4
	baz=144						
Q24A	Divide	76.75	334	P	P	00 13 11.9	+1.3
	baz=152						
BC3	Big Chuckawall	76.80	324	P	P	00 13 12.1	+1.4
	baz=143						
IRM	Iron Mountain	77.05	325	P	P	00 13 13.2	+1.2
	baz=144						
W13A	Hualapai Mount	77.19	326	P	P	00 13 13.8	+0.8
TPFO	Pinon Flats	77.27	323	P	P	00 13 15.1	+1.8
	baz=142						
PFO	Pinyon Flats O	77.27	323	P	P	00 13 15.2	+1.8
	baz=142						
F64A	Sherman	77.30	3	P	P	00 13 13.7	+0.7
F64A				IAmb	IAmb	00 13 33.0	
	comp=Z,11nm,1.1s						
BELC	Belle Mtn. Jos	77.35	324	P	P	00 13 15.7	+1.8
	baz=143						
LMN	Caledonia Moun	77.50	5	P	P	00 13 14.9	+0.7
MURC	Murrieta	77.64	323	P	P	00 13 17.1	+1.7
	baz=142						
ISCO	Idaho Springs	77.65	334	P	P	00 13 16.0	+0.4
ISCO				IAmb	IAmb	00 13 17.8	
	comp=Z,7.6nm,1.1s						
ISCO	Idaho Springs	77.65	334	P	P	00 13 16.7	+1.1
	baz=151						
K31A	O'Neill	77.93	340	P	P	00 13 17.5	+0.8
HEC	Hector,Ludlow	78.17	324	P	P	00 13 20.4	+2.0
	baz=143						
ECSD	EROS Data Cent	78.37	342	P	P	00 13 18.6	-0.6
ECSD				IAmb	IAmb	00 13 20.0	
	comp=Z,17nm,1.1s						
ECSD	EROS Data Cent	78.37	342	P	P	00 13 19.0	-0.2
	baz=159						
BFSC	Mount Baldy Ra	78.38	323	P	P	00 13 20.8	+1.2
	baz=142						
TUQ	Turquoise Moun	78.45	325	P	P	00 13 21.8	+1.9
	baz=143						
D62A	Allapoint, All	78.49	2	P	P	00 13 19.8	+0.1
D62A				IAmb	IAmb	00 13 21.3	
	comp=Z,21nm,1.1s						
GSC	Goldstone, Bar	78.78	324	P	P	00 13 23.6	+1.9
	baz=142						
SHPR	Sheep Range	78.94	326	P	P	00 13 22.9	+0.3
EDW2	Edwards Air Fo	79.05	323	P	P	00 13 24.4	+1.2
	baz=142						
MVU	Marysvale	79.22	329	P	P	00 13 24.2	-0.1
P17A	Butcher Ranch,	79.40	331	P	P	00 13 25.1	0.0
P17A				IAmb	IAmb	00 13 26.7	
	comp=Z,10nm,1.2s						
GWY	Greenwater Val	79.41	325	P	P	00 13 26.0	+0.7
MPMC	Manual Prospec	79.72	324	P	P	00 13 28.1	+1.1
	baz=142						
KOWA	Kowa	79.77	66	P	P	00 13 27.2	-0.3
KOWA				IAmb	IAmb	00 13 37.3	
	comp=Z,16nm,0.8s						
TPNV	Topopah Spring	79.81	325	P	P	00 13 29.0	+1.6
	baz=143						
ISA	Isabella, Lake	79.91	323	P	P	00 13 28.1	+0.3
ISA				IAmb	IAmb	00 13 30.3	
	comp=Z,13nm,1.1s						
ISA	Isabella, Lake	79.91	323	P	P	00 13 29.6	+1.8
	baz=141						
PKM	Mcpherson Peak	80.00	322	P	P	00 13 30.0	+1.5
	baz=140						
CWC	Cottonwood Cre	80.31	324	P	P	00 13 31.4	+1.2
	baz=142						
VES	Vestal, Richgr	80.36	323	P	P	00 13 31.6	+1.5
	baz=141						
K22A	Casper	80.47	335	P	P	00 13 31.7	+0.8
	baz=151						
SPR3	Spring Creek 3	80.57	328	P	P	00 13 31.5	-0.1
R11A	Troy Canyon, C	80.62	327	P	P	00 13 32.2	+0.5
R11A	Troy Canyon, C	80.62	327	P	P	00 13 33.0	+1.2
	baz=144						
DUG	Dugway, Tooele	80.88	330	P	P	00 13 33.3	+0.3
DUG	Dugway, Tooele	80.88	330	P	P	00 13 34.1	+1.0
	baz=146						
TPH	Tonopah	81.18	326	P	P	00 13 35.1	+0.3
BOSA	Boshof	81.19	118	P	P	00 13 35.1	-0.1
	comp=Z,6.3nm,1.0s,baz=226,slow=7.5,SNR=4.3						
BOSA	Boshof	81.19	118	P	P	00 13 34.6	-0.6
HWUT	Hardware Ranch	81.53	331	P	P	00 13 35.4	-1.1
PDAR	Pinedale Array	81.71	333	P	P	00 13 37.5	0.0
	comp=Z,1.0nm,0.7s,baz=156,slow=6.9,SNR=3.9						
PDAR	Pinedale Array	81.71	333	P	P	00 13 36.8	-0.7
LHV	Little Huntoon	81.94	325	P	P	00 13 39.6	+1.1
LHV				IAmb	IAmb	00 13 41.1	
	comp=Z,9.8nm,0.9s						
NVAR	Mina Array Bea	81.98	325	P	P	00 13 40.0	+1.0
	comp=Z,6.2nm,1.0s,baz=153,slow=5.9,SNR=12						
NVAR	Mina Array Bea	81.98	325	P	P	00 13 40.2	+1.2
ELK	Elko	82.39	328	P	P	00 13 41.6	+0.5
	comp=Z,4.5nm,0.9s,baz=159,slow=3.7,SNR=6.2						
ELK	Elko	82.39	328	P	P	00 13 41.3	+0.2
ELK				IAmb	IAmb	00 13 42.7	
	comp=Z,7.7nm,1.1s						
LBTB	Lobatse	83.33	115	P	P	00 13 45.4	-1.0
PAHR	Pah Rah Range	83.50	325	P	P	00 13 47.7	+0.9
PAHR				IAmb	IAmb	00 13 49.0	
	comp=Z,11nm,1.0s						
TORD	Torodi Ar. Bea	83.51	70	P	P	00 13 47.1	-0.1
	comp=Z,5.7nm,0.6s,baz=278,slow=4.8,SNR=7.0						
TORD				pP	pwP	00 13 56.4	+1.2
	comp=Z,11nm,0.8s,baz=262,slow=4.6,SNR=8.2						
TORD	Torodi Ar. Bea	83.51	70	P	P	00 13 46.6	-0.6
TORD				IAmb	IAmb	00 13 57.4	
	comp=Z,13nm,0.8s						
RLMT	Red Lodge	83.61	335	P	P	00 13 47.3	0.0
YHH	Holmes Hill	83.92	333	P	P	00 13 49.8	+0.8
HLID	Hailey	84.33	331	P	P	00 13 50.8	-0.2
HLID	Hailey	84.33	331	P	P	00 13 51.9	+1.0
	baz=145						
DGMT	Dagmar	84.84	339	P	P	00 13 54.0	+0.8
	baz=153						
BOZ	Bozeman (W)	84.89	333	P	P	00 13 53.8	0.0
	baz=147						
THZ	Tophouse	85.52	223	P	P	00 13 58.1	+0.9
MOD	Modoc Plateau	85.64	326	P	P	00 13 58.1	+0.6
M04C	Macdoel	86.29	325	P	P	00 14 01.6	+0.8
	baz=140						
YBH	Yreka Blue Hor	86.68	325	P	P	00 14 02.9	+0.2
	comp=Z,4.5nm,1.0s,baz=103,slow=8.5,SNR=4.5						
YBH	Yreka Blue Hor	86.68	325	P	P	00 14 02.5	-0.1
I07A	Izee	86.96	328	P	P	00 14 03.5	-0.4
J05D	Fort Rock, OR	87.14	326	P	P	00 14 05.9	+0.9
	baz=140						
ASAR	Alice Springs	119.55	208	PKP	PKPdf	00 20 08.3	-1.0
	comp=Z,0.5nm,0.9s,baz=134,slow=4.0,SNR=2.4						
ASAR				pPKP	sPKPdf	00 20 18.6	+4.3
	comp=Z,0.7nm,0.8s,baz=185,slow=3.1,SNR=4.2						
WRA	Warramunga Arr	122.70	210	PKP	PKiKP	00 20 16.5	+0.9
	comp=Z,1.0nm,1.0s,baz=160,slow=1.7,SNR=2.1						
WRA				pPKP	sPKPdf	00 20 24.4	+4.0
	comp=Z,0.7nm,0.5s,baz=169,slow=1.9,SNR=2.9						
ZALV	Zalesovo Beam	152.32	30	PKPbc	PKiKP	00 21 15.1	+0.4
	comp=Z,8.9nm,0.7s,baz=308,slow=3.5,SNR=4.3						
ZALV				pPKPbc	PKPab	00 21 23.5	-0.8
	comp=Z,16nm,0.6s,baz=308,slow=3.4,SNR=8.7						
MKAR	Makanchi Array	155.27	45	PKPab	PKPab	00 21 36.7	-0.5
	comp=Z,2.0nm,0.8s,baz=298,slow=3.1,SNR=3.2						
MKAR	Makanchi Array	155.27	45		PKPdf	00 21 11.7	-0.3
SONM	Songino Array	163.87	4	PKPab	PKPab	00 22 15.4	+0.9
	comp=Z,0.9nm,0.8s,baz=344,slow=3.6,SNR=4.7						
SONM	Songino Array	163.87	4	PKPdf	PKPdf	00 21 19.6	-2.4

IDC ***17*** *00:04:59.3±1.3, 30.78S×75.58W, h0km, mb4.3/4, mb1 4.3/6, mb1mx4.0/39, mbtmp4.3/6, ML4.4/2, Error ellipse: s-maj=46.4km s-min=27.0km az=85.0*
NEIC ***17*** *00:05:23.6±2.9, 31.51S±0.04×71.62W±0.07, h35km±2km, mb4.7/8, Error ellipse: s-maj=9.8km s-min=6.8km az=256.0*

ISC 17 00:05:22.3±0.7,**31.48S**±0.06×**71.53W**±0.09,**h25**km,**n31**, σ1s**22**/29,**mb4.5/7,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	Fray Jorge	0.81	354	Pn	Pb	00 05 37.9	+0.2
CO06				Sn	Sb	00 05 46.5	-1.8
CO03	El Pedregal	0.97	49		Pb	00 05 40.8	+0.4
CO03					Sb	00 05 51.3	-1.6
BO01	Tunca	2.92	173	Pn	Pn	00 06 05.6	-1.6
AC04	Llanos de Chal	3.29	7	Pn	Pn	00 06 13.4	+1.1
BO02	Sierra Bellavi	3.36	169	Pn	Pn	00 06 11.8	-1.5
GO03	Copiap	4.04	17	Pn	Pn	00 06 22.6	0.0
AC02	Maricunga	5.09	25	Pn	Pn	00 06 37.4	0.0
LC01	Cunco	7.40	182	Pn	Pn	00 07 06.2	-2.5
PLCA	Paso Flores	9.26	175	Pn	Pn	00 07 32.5	-1.9
	0.8nm,0.3s,baz=343,slow=13,SNR=1.2						
PLCA	Paso Flores	9.26	175		Pn	00 07 32.0	-2.4
PB08	IPOC Station P	11.50	11	Pn	Pn	00 08 05.5	+0.2
PSGCX	Pisagua	11.90	6	Pn	Pn	00 08 09.6	-1.0
SIV	San Ignacio	18.13	34	P	Pn	00 09 31.4	-1.2
	0.8nm,0.3s,baz=210,slow=11,SNR=3.7						
MG02	Cerro Sombrero	21.35	176	P	P	00 10 08.8	+1.4
RUSC	La Rusia	37.20	357	P	P	00 12 32.6	+0.5
SNAA	Sanae	53.76	159	P	P	00 14 35.8	-6.3
	2.4nm,0.8s,baz=300,slow=9.1,SNR=2.9						
DBIC	Dimbokro	73.98	72	P	P	00 16 56.2	+0.3
	4.7nm,0.5s,baz=220,slow=5.6,SNR=5.8						
DBIC	Dimbokro	73.98	72	P	P	00 16 56.3	+0.3
DBIC				IAmb	IAmb	00 17 04.5	
	comp=Z,28nm,1.4s						
MAW	Mawson	75.47	164	P	P	00 16 55.7	-8.0
	comp=Z,1.2nm,0.7s,baz=191,slow=10,SNR=2.2						
MAW	Mawson	75.47	164	P	P	00 17 04.5	+0.8
SADO	Sadowa	76.21	354	P	P	00 17 07.7	-0.5
SADO				IAmb	IAmb	00 17 13.8	
	comp=Z,9.4nm,1.2s						
G62A	West of Eustis	76.34	1	P	P	00 17 09.6	+0.7
D62A	Allapoint, All	78.23	2	P	P	00 17 20.2	+0.8
ECSD	EROS Data Cent	78.30	342	P	P	00 17 19.6	-0.2
ECSD				IAmb	IAmb	00 17 36.9	
	comp=Z,5.8nm,1.1s						
BOSA	Boshof	80.86	118	P	P	00 17 36.0	+1.4
BOSA				IAmb	IAmb	00 17 49.3	
	comp=Z,13nm,1.4s						
TORD	Torodi Ar. Bea	82.95	70	P	P	00 17 40.1	-5.4
	comp=Z,1.4nm,0.6s,baz=240,slow=4.9,SNR=2.3						
LBTB	Lobatse	82.97	115	P	P	00 17 47.4	+1.7
BRVK	Borovoye	145.05	41	PKPbc	PKPdf	00 24 57.5	+0.5
KKAR	Karatay Array	147.91	58	PKPbc	PKPbc	00 25 05.3	+0.1
ZALV	Zalesovo Beam	151.86	30	PKPbc	PKPdf	00 24 58.5	-9.5
	comp=Z,4.1nm,0.6s,baz=294,slow=2.3,SNR=4.6						
MKAR	Makanchi Array	154.74	45	PKPbc	PKiKP	00 25 21.2	+0.2

DDA ***17*** *00:05:53.9, 35.20N×27.51E, h4km±4km, ML3.5*
ISK ***17*** *00:05:58.2, 35.49N×27.73E, h7km, ML3.8/8*

ISC 17 00:05:58.8±1.6,**35.43N**±0.07×**27.74E**±0.05,**h12**km±12km, **n20**, σ1s**11**/26,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	Karpathos	0.49	284	PG	Pg	00 06 07.6	-0.8
KARP				SG	Sg	00 06 14.7	-0.3
ARG	Arkhangelos	0.85	22	PG	Pg	00 06 13.9	-1.3
ARG				SG	Sg	00 06 25.3	-1.0
NIS1	Nisyros Isl.	1.26	339	PN	Pn	00 06 21.4	-0.9
ZKR	Zakros	1.29	256	PN	Pn	00 06 23.2	+0.6
ZKR				SN	Sg	00 06 41.5	+1.2
TURN	Turunc	1.41	17	*i* P	Pn	00 06 24.6	+0.4
TURN				*i* S	Sg	00 06 47.1	+3.1
TURN	Turunc	1.41	17	PN	Pn	00 06 23.9	-0.3
DALY	Dalyan (Mula)	1.57	28	*i* P	Pn	00 06 26.5	0.0
DALY				*i* S	Sg	00 06 50.2	+0.9
DALY				IAML		00 07 39.0	
	comp=E,545nm,13.3s						
DALY	Dalyan (Mula)	1.57	28	PN	Pn	00 06 26.5	0.0
BDRM	Kayabasi	1.65	352	*i* P	Pn	00 06 27.6	-0.1
BDRM				*i* S	Sn	00 06 47.9	-0.9
BODT	Bodrum	1.67	348	PN	Pn	00 06 27.5	-0.4
AKAS	Kas	1.71	62	*i* P	Pn	00 06 28.0	-0.6
AKAS	Kas	1.71	62	PN	Pn	00 06 28.9	+0.3
YER	Yerkesik	1.76	14	PN	Pn	00 06 28.7	-0.5
MULA	Mugla, Merkez-	1.88	14	*i* P	Pg	00 06 35.9	+0.9
CAME	Cameli-Denizli	1.97	39	PN	Pn	00 06 32.0	-0.2
ELL	Elmali	2.19	52	PN	Pn	00 06 35.6	+0.4
AYDN	Tasoluk	2.23	3	*i* P	Pn	00 06 38.0	+2.3
TAVA	DENIZLI_Tavas	2.24	25	*i* P	Pn	00 06 34.2	-1.6
TAVA				IAML		00 07 04.0	
	comp=N,168nm,6.9s						
APE	Apeiranthos	2.42	313	PN	Pn	00 06 38.7	+0.4
AYDB	Zeytinkoy-Aydi	2.52	3	PN	Pn	00 06 39.7	0.0

VAO ***17*** *00:06:15.8±0.3, 30.88S×71.66W, h10km, mb5.3*
GUC ***17*** *00:06:16.9±0.7, 30.91S×71.73W, h28km±4km, ML5.3*
NEIC ***17*** *00:06:17.4±1.6, 30.88S±0.04×71.70W±0.06, h22km±2km, mb5.1/106, ML5.3(GUC), Error ellipse: s-maj=8.5km s-min=5.0km az=119.0*
IDC ***17*** *00:06:17.7±0.8, 30.87S×71.60W, h26km±5km, mb4.6/21, mb1 4.7/26, mb1mx4.6/42, mbtmp4.8/26, ML4.8/5, Error ellipse: s-maj=16.5km s-min=11.7km az=76.0*
MOS ***17*** *00:06:17.7±1.2, 30.84S×71.64W, h36km, mb5.2/20, Error ellipse: s-maj=12.4km s-min=6.8km az=99.1*

ISC 17 00:06:17.7±0.6,**30.89S**±0.03×**71.65W**±0.05,**h26**km±4km, **n462**, σ0s**98**/467,**mb5.1**/78,**7C-3D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	Fray Jorge	0.21	4	*i*P	Pb	00 06 23.8	0.0
CO06				*e*S	Sb	00 06 28.0	+0.2
CO06				IAML		00 06 28.6	
	comp=N,243µm,0.2s						
CO06	Fray Jorge	0.21	4		Pb	00 06 23.7	0.0
CO06				Sg	Sb	00 06 27.9	+0.2
CO03	El Pedregal	0.83	87	*i*eP	Pn	00 06 34.0	+0.2
CO03				*i* S	Sn	00 06 45.8	+0.5
CO03				IAML		00 06 47.8	
	comp=E,117µm,0.4s						
CO03	El Pedregal	0.83	87		Pb	00 06 33.6	+0.1
CO03				Sn	Sn	00 06 45.8	+0.5
GO04	Tololo Observa	1.03	46	*e*P	Pn	00 06 36.9	+0.2
GO04				*e*S	Sn	00 06 50.9	+0.7
GO04	Tololo Observa	1.03	46	Pn	Pb	00 06 37.4	+0.4
GO04				Sn	Sn	00 06 51.2	+0.9
LCO	Las Campanas	2.05	24	*e*P	Pn	00 06 52.0	+1.3
LCO				*e*S	Sb	00 07 17.9	-1.5
VA03	San Esteban	2.09	154	*e*P	Pn	00 06 51.

LVC Limon Verde 8.60 17 Pn Pn 00 08 22.1 +1.2
LVC Limon Verde 8.60 17 eP Pn 00 08 20.9 0.0
LR03 Panguipulli 8.74 184 Pn Pn 00 08 23.2 +0.9
PB09 IPOC Station P 9.31 14 Pn Pn 00 08 30.3 -0.1
PLCA Paso Flores 9.86 175 Pn Pn 00 08 38.5 +0.7
comp=E,1.7nm,0.3s,baz=340,slow=11,SNR=5.2
PLCA Paso Flores 9.86 175 Pn Pn 00 08 38.1 +0.3
PLCA Paso Flores 9.86 175 eP Pn 00 08 38.5 +0.7
LL04 Puerto Octay 10.02 183 Pn Pn 00 08 38.5 -1.4
TRQA Tornquist 10.71 134 P Pn 00 08 51.2 +1.8
TRQA Tornquist 10.71 134 Pn Pn 00 08 51.2 +1.8
TRQA Tornquist 10.71 134 eP Pn 00 08 49.4 0.0
GO07 Milladeo Hill, 12.31 187 Pn Pn 00 09 09.7 -1.4
ITQB Itaqui 13.05 88 Pn Pn 00 09 20.8 -0.6
ITQB Itaqui 13.05 88 eP Pn 00 09 21.6 +0.3
CPUP Villa Florida 13.38 74 Pn Pn 00 09 26.7 +0.9
comp=E,2.0nm,0.3s,baz=260,slow=17,SNR=1.5
CPUP Villa Florida 13.38 74 Pn 00 09 26.0 +0.1
COYC Coyhaique 14.66 181 Pn Pn 00 09 44.6 +1.3
LPAZ La Paz 14.89 13 Pn Pn 00 09 48.5 +1.4
comp=E,1.2nm,0.3s,baz=184,slow=8.9,SNR=9.4
LPAZ La Paz 14.89 13 P Pn 00 09 47.8 +0.7
LPAZ La Paz 14.89 13 Pn Pn 00 09 47.8 +0.7
LPAZ La Paz 14.89 13 eP Pn 00 09 47.1 +0.1
PLTB Pedras Altas 15.45 98 Pn Pn 00 09 54.4 +0.5
PLTB IAmb IAmb 00 09 55.3
comp=Z,210nm,1.2s
SIV San Ignacio 17.71 35 P P 00 10 23.1 -0.2
comp=Z,4.3nm,0.3s,baz=217,slow=9.3,SNR=22
AQDB Aquidauana 17.71 58 Pn 00 10 22.2 -0.3
CNLB Canela 18.07 90 eP P 00 10 29.7 +2.5
PTGB Pitanga 18.38 75 eP Pn 00 10 31.9 +1.0
TRCB Terra Rica 18.77 69 P P 00 10 35.2 +0.2
TRCB IAmb IAmb 00 10 54.1
comp=Z,87nm,0.8s
TRCB Terra Rica 18.77 69 eP Pn 00 10 35.4 -0.2
PTLB Pontes e Lacer 19.17 40 eP P 00 10 39.4 +0.1
NNA Nana 19.41 345 P P 00 10 42.4 +0.3
comp=Z,0.9nm,0.3s,baz=172,slow=13,SNR=5.9
NNA Nana 19.41 345 ceP Pn 00 10 44.3 +1.0
NNA pmax pmax
comp=Z,82nm,1.3s
NNA Nana 19.41 345 P Pn 00 10 42.7 -0.6
TER01 Tubaro-SC 19.70 89 eP P 00 10 45.5 +0.4
PP1B Ponte de Pedra 20.19 53 eP P 00 10 50.3 -0.2
PCMB Pacaembu 20.47 68 eP P 00 10 53.4 -0.1
TIJ01 Guaruva-PR 20.72 80 eP P 00 10 54.9 -1.4
VILB Vilhena 20.74 33 eP P 00 10 57.4 +0.9
SALV Santo Antonio 20.87 48 eP P 00 10 58.0 +0.2
FRTB Fartura 21.03 74 eP P 00 11 00.2 +0.6
ETMB Extrema 21.57 15 eP P 00 11 06.1 +0.7
ITRB Iturama 22.20 65 eP P 00 11 12.8 +0.7
PET01 Itanhaem-SP 22.56 79 eP P 00 11 16.8 +0.8
SPB Sao Paulo 22.70 77 P P 00 11 17.4 0.0
SPB IAmb IAmb 00 11 24.4
comp=Z,80nm,1.0s
SPB Sao Paulo 22.70 77 eP P 00 11 18.2 +0.8
BB19B Bebedouro 22.94 70 eP P 00 11 20.7 +0.7
CZSB Cruzeiro do Su 23.06 357 eP P 00 11 21.9 +0.7
EFI East Falkland 23.07 158 i P P 00 11 21.1 +0.1
EFI pmax pmax
comp=Z,81nm,1.2s
EFI East Falkland 23.07 158 P P 00 11 21.6 +0.6
RCLB Rio Claro- Sao 23.11 74 eP P 00 11 22.1 +0.3
SAML Samuel 23.21 22 P P 00 11 22.6 -0.1
SAML pmax pmax
comp=Z,18nm,1.1s
SAML Samuel 23.21 22 P P 00 11 22.6 -0.1
VAO Valinhos 23.33 76 eP P 00 11 23.5 -0.5
USHA Ushuaia 24.04 175 P P 00 11 31.0 +0.6
comp=Z,17nm,0.4s,baz=11,slow=5.4,SNR=2.6
PARB Paraibuna 24.32 78 eP P 00 11 34.0 +0.6
CLDB Colider 24.76 40 eP P 00 11 37.9 +0.6
IPMB Ipameri, GO 24.85 64 eP P 00 11 38.8 +0.6
BSCB Bom Sucesso 26.04 74 eP P 00 11 49.9 +0.8
BDFB Brasilia 26.41 60 P P 00 11 51.3 -1.1
comp=Z,23nm,0.5s,baz=232,slow=7.7,SNR=24
BDFB Brasilia 26.41 60 P P 00 11 51.3 -1.1
BDFB IAmb IAmb 00 12 05.2
comp=Z,49nm,0.9s
VAS01 Vassouras-RJ 26.59 78 eP P 00 11 53.9 0.0
TBTG Tabatinga, AM 26.61 4 eP P 00 11 47.5 -6.6
TBTG Tabatinga, AM 26.61 4 eP P 00 11 54.6 +0.5
SNDB Serra Nova Dou 26.62 49 eP P 00 11 53.5 -0.7
DUB01 Friburgo-RJ 27.57 79 eP P 00 12 03.4 +0.6
NPGB Novo Progresso 28.21 36 eP P 00 12 09.1 +0.7
DIAM Diamantina, MG 28.28 70 eP P 00 12 09.3 +0.1
CAM01 Campos-RJ 28.28 79 eP P 00 12 08.7 -0.3
PEXB Peixe 28.55 54 eP P 00 12 12.4 +0.9
MC01 Montes Claros 28.92 67 eP P 00 12 15.5 +0.6
MACA Manacapuru-AM 29.46 23 eP P 00 12 19.9 +0.4
JANB Januaria 29.58 64 eP P 00 12 21.6 +0.8
ALF01 Guarapari-ES 29.59 77 eP P 00 12 21.7 +1.1
SJMB Sao Joao De Ma 30.10 73 eP P 00 12 24.2 -0.5
BSFB Barra de Sao F 30.32 74 eP P 00 12 26.4 +0.8
ITTB Itaituba 30.35 33 eP P 00 12 27.9 +0.5
RIB01 Linhares ES 30.46 75 eP P 00 12 29.5 +1.1
SDBA SAO DESIDERIO 30.79 59 eP P 00 12 31.6 +0.2
PTLC Puerto Leguiza 31.03 354 eP P 00 12 30.8 -2.6
SMTB Santa Maria do 31.36 51 eP P 00 12 37.6 +1.2
NAN01 Guarapari, ES 31.40 73 eP P 00 12 37.4 +0.7
OTAV Otavalo 31.62 347 P P 00 12 37.9 -1.2
OTAV pmax pmax
comp=Z,10.0nm,1.5s
OTAV Otavalo 31.62 347 P P 00 12 37.9 -1.2
OTAV Otavalo 31.62 347 eP P 00 12 39.3 +0.2
PTGA Pitinga 31.98 22 P P 00 12 41.2 -0.5
comp=Z,22nm,1.1s,baz=200,slow=11,SNR=5.7
PRPB Parauapebas 32.01 44 eP P 00 12 43.3 +1.3
BBAC Balboa, Cauca 33.16 350 eP P 00 12 53.9 +1.6
SOTA Rioblanco 33.18 351 eP P 00 12 54.8 +2.0
POPC Popayan, Colom 33.59 351 eP P 00 12 57.4 +1.3
PMSA Palmer Station 34.24 174 P P 00 13 01.1 +0.2
PMSA IAmb IAmb 00 13 23.3
comp=Z,26nm,1.1s
PRAC Prado 34.55 354 eP P 00 13 05.6 +1.4
ORTC Ortega, Tolima 34.77 354 eP P 00 13 07.7 +1.6
NBPN Ponto Novo - B 35.32 62 eP P 00 13 10.0 -0.9
CHIC Chingaza 35.37 356 eP P 00 13 12.7 +1.0
MCPB Macapa, AP 35.60 35 eP P 00 13 12.5 -0.8
TMAB Tom-Àu,PA,Br 36.06 43 eP P 00 13 17.9 +0.7
GUY2C Guyana, Caldas 36.08 354 eP P 00 13 19.2 +1.3
NORC Norcasia 36.38 355 eP P 00 13 20.3 +0.4
RUSC La Rusia 36.60 358 P P 00 13 22.5 +0.2
RUSC La Rusia 36.60 358 eP P 00 13 23.4 +1.1
CBOC Ciudad Bolivar 36.78 353 eP P 00 13 24.4 +0.9
HELC Santa Helena 37.06 354 eP P 00 13 26.6 +0.5
NBLA Lagarto - SE 37.09 65 eP P 00 13 24.0 -2.0
PTBC PUERTO BERRIO, 37.31 355 eP P 00 13 24.3 -3.5
DBBC Dabeiba 37.94 353 eP P 00 13 34.4 +1.1
ROSB Rosrio 38.09 48 eP P 00 13 35.3 +0.8
ZARC Zaragoza, Cauc 38.29 355 eP P 00 13 36.1 +0.1
NBMA Muriti-CE 38.64 60 eP P 00 13 38.1 -1.1
NBPS Pedro II - PI 38.77 53 eP P 00 13 40.6 +0.3
SOCV Socops 38.96 1 eP P 00 13 39.9 -1.8
NBAN Anadia - AL 39.07 65 eP P 00 13 41.7 -1.0
NBPB Pedra_Branca-C 39.27 57 eP P 00 13 44.1 -0.3
SMLC San Martn de 39.53 356 eP P 00 13 44.2 -2.2
SDV Santo Domingo 39.56 2 eP P 00 13 46.2 -0.7
MDP Montagnes des 40.14 30 P P 00 13 50.7 -0.8
comp=Z,21nm,0.9s,baz=210,slow=9.6,SNR=6.6
NBRF Rio Formoso - 40.57 65 eP P 00 13 56.0 +0.8
BRU2 Volcan 40.85 343 P P 00 13 58.5 +0.9
BRU2 IAmb IAmb 00 14 24.2
comp=Z,63nm,1.3s
NBPV Pedro Velho 41.87 62 eP P 00 14 05.9 0.0
JTS Las Juntas de 42.89 341 P P 00 14 15.3 +1.2
comp=Z,4.3nm,0.8s,baz=206,slow=20,SNR=3.6
FDF Fort de France 46.47 14 P P 00 14 41.4 -1.2
FDF pmax pmax
comp=Z,46nm,1.1s
FDF Fort de France 46.47 14 P P 00 14 41.4 -1.2
ICMP Isla Caja de M 48.74 6 P P 00 14 59.9 -0.3
MLPR Magueyes Islan 48.78 6 P P 00 14 59.9 -0.5
CRPR Cabo Rojo, PR 48.81 6 P P 00 15 00.1 -0.6
OBIP Obispado Ponce 48.89 6 P P 00 14 59.8 -1.5
PDPR Patillas Dam, 48.93 7 P P 00 15 00.3 -1.3
SJG San Juan 49.01 7 P P 00 15 00.9 -1.3
comp=Z,30nm,0.9s,baz=181,slow=2.6,SNR=9.2
SJG San Juan 49.01 7 P P 00 15 00.9 -1.3
SJG IAmb IAmb 00 15 02.8
comp=Z,30nm,0.9s

HUMP Col San Antoni 49.07 7 P P 00 15 02.1 -0.6
HUMP IAmb IAmb 00 15 11.3
comp=Z,19nm,0.9s
CBYP Canovanas 49.19 7 P P 00 15 02.4 -1.4
CBYP IAmb IAmb 00 15 04.2
comp=Z,28nm,0.8s
GCPR Guaynabo City 49.21 7 P P 00 15 02.1 -1.7
GCPR IAmb IAmb 00 15 03.9
comp=Z,30nm,0.9s
VNA3 Neumayer Olymp 52.12 159 P P 00 15 24.2 -1.1
VNA1 Neumayer--Stat 52.41 158 P P 00 15 28.8 +1.4
CMIG Matias Romero 52.68 332 P P 00 15 30.1 +0.1
comp=Z,2.1nm,0.4s,baz=3.4,slow=20,SNR=7.6
VNA2 Neumayer--Watz 52.76 158 P P 00 15 28.6 -1.4
baz=285,slow=8.1
SNAA Sanae 54.35 159 P P 00 15 40.8 -0.9
SNAA Sanae 54.35 159 P P 00 15 40.8 -0.9
comp=Z,13nm,0.9s,baz=273,slow=7.5,SNR=8.8
SNAA Sanae 54.35 159 ceP P 00 15 42.9 +1.2
SNAA pmax pmax
comp=Z,24nm,1.3s
SNAA Sanae 54.35 159 P P 00 15 41.1 -0.5
SNAA IAmb IAmb 00 15 58.2
comp=Z,18nm,0.8s
QSPA South Pole Qui 59.34 180 P P 00 16 17.9 +0.6
QSPA IAmb IAmb 00 16 30.5
comp=Z,22nm,0.8s
ZAIG Zacatecas 61.04 327 P P 00 16 30.0 +0.4
553A Crawfordville 61.95 347 P P 00 16 34.9 -0.2
H06S1 SOCORRO T 62.14 317 T T 01 23 57.2
SNR=2.9
BRAL Brewton 63.43 345 P P 00 16 44.7 -0.3
baz=165
NHSC New Hope 64.16 352 P P 00 16 49.8 0.0
baz=172
152A Waverly Hall 64.41 348 P P 00 16 50.1 -1.4
152A IAmb IAmb 00 16 52.4
comp=Z,14nm,0.9s
735A Kenedy 64.43 335 P P 00 16 52.2 +0.6
833A Chaparral WMA, 64.55 333 P P 00 16 53.2 +0.7
baz=154,SNR=8.0
344A Westbrook Farm 64.59 342 P P 00 16 52.4 -0.2
HKT Hockley 64.73 337 i P P 00 16 52.5 -1.0
HKT pmax pmax
comp=Z,29nm,2.0s
HKT Hockley 64.73 337 P P 00 16 53.2 -0.3
HKT IAmb IAmb 00 16 56.8
comp=Z,13nm,1.1s
GOGA Godfrey 64.92 349 P P 00 16 53.7 -1.1
GOGA pmax pmax
comp=Z,22nm,1.3s
GOGA Godfrey 64.92 349 P P 00 16 53.7 -1.1
GOGA IAmb IAmb 00 16 55.7
comp=Z,22nm,1.2s
GOGA Godfrey 64.92 349 P P 00 16 53.7 -1.1
baz=169
Z51A Franklin 65.13 348 P P 00 16 55.3 -0.8
Z51A IAmb IAmb 00 16 56.3
comp=Z,9.4nm,0.8s
LRAL Lakeview Retre 65.21 346 P P 00 16 55.4 -1.3
baz=166
X58A Rowland 65.50 353 P P 00 16 58.0 -0.4
NATX Nacogdoches 66.02 339 P P 00 17 02.4 +0.5
baz=159
HPIG 66.05 327 P P 00 17 02.5 +0.1
HPIG IAmb IAmb 00 17 04.0
comp=Z,17nm,1.0s
W57A Gilead 66.16 353 P P 00 17 02.2 -0.5
W57A IAmb IAmb 00 17 03.0
comp=Z,10.0nm,0.8s
SBA Scott Base 66.18 191 P P 00 17 03.0 +0.6
SBA pmax pmax
comp=Z,15nm,1.4s
SBA Scott Base 66.18 191 P P 00 17 03.0 +0.6
SBA IAmb IAmb 00 17 08.8
comp=Z,15nm,1.4s
X51A Calhoun 66.28 348 P P 00 17 03.0 -0.6
KMSC Kings Mountain 66.31 351 P P 00 17 03.4 -0.4
baz=171
Y45A Yeager Farm, C 66.58 344 P P 00 17 04.8 -0.6
237A Washetta, Mont 66.61 338 P P 00 17 05.7 0.0
JCT Junction City 66.64 334 P P 00 17 05.6 -0.4
JCT pmax pmax
comp=Z,24nm,1.0s
JCT Junction City 66.64 334 P P 00 17 05.6 -0.4
JCT IAmb IAmb 00 17 07.1
comp=Z,24nm,0.9s
JCT Junction City 66.64 334 P P 00 17 05.8 -0.2
baz=154,SNR=7.8
CPCT Cooper Cave 67.09 349 P P 00 17 08.2 -0.5
CPCT IAmb IAmb 00 17 09.0
comp=Z,18nm,0.9s
WHTX Lake Whitney, 67.15 336 P P 00 17 08.9 -0.2
baz=156
TKL Tuckaleechee C 67.17 349 P P 00 17 08.4 -0.8
TKL pmax pmax
comp=Z,12nm,0.8s
TKL Tuckaleechee C 67.17 349 P P 00 17 08.4 -0.8
TKL IAmb IAmb 00 17 09.2
comp=Z,12nm,0.8s
OXF Oxford 67.17 344 P P 00 17 08.2 -1.0
baz=164,SNR=6.5
TXAR Lajitas Array 67.20 330 P P 00 17 09.6 0.0
comp=Z,45nm,0.3s,baz=153,slow=7.9,SNR=24
TX32 Lajitas Array 67.20 330 P P 00 17 09.6 -0.1
VNDA Vanda 67.21 191 P P 00 17 10.2 +1.2
comp=Z,1.7nm,0.8s,baz=132,slow=2.8,SNR=5.0
VNDA Vanda 67.21 191 P P 00 17 09.8 +0.8
VNDA pmax pmax
comp=Z,1.0nm,0.6s
VNDA Vanda 67.21 191 P P 00 17 09.8 +0.8
PLAL Pickwick Lake 67.32 345 P P 00 17 09.2 -0.9
PLAL IAmb IAmb 00 17 10.2
comp=Z,11nm,0.9s
WLAR White Oak Lake 67.35 341 P P 00 17 10.8 +0.4
WLAR IAmb IAmb 00 17 11.4
comp=Z,18nm,0.8s
T59A Double "B" Far 67.73 355 P P 00 17 12.8 +0.1
T59A IAmb IAmb 00 17 15.4
comp=Z,20nm,1.1s
TZTN Tazewell 68.00 350 P P 00 17 13.5 -0.9
baz=169
CLTN Cedars of Leba 68.04 347 P P 00 17 14.1 -0.5
MIAR Mount Ida 68.29 341 P P 00 17 15.6 -0.7
baz=160,SNR=5.1
WVT Waverly 68.38 346 P P 00 17 16.0 -0.8
WVT pmax pmax
comp=Z,20nm,0.9s
WVT Waverly 68.38 346 P P 00 17 16.0 -0.8
WVT IAmb IAmb 00 17 17.0
comp=Z,20nm,0.8s
WVT Waverly 68.38 346 P P 00 17 16.2 -0.5
baz=165
ABTX Abilene, Hawle 68.50 335 P 00 17 17.1 -0.6
ABTX IAmb IAmb 00 17 18.6
comp=Z,16nm,0.8s
ABTX Abilene, Hawle 68.50 335 P P 00 17 17.2 -0.4
baz=154
W41B Gary Mavity, V 68.51 342 P P 00 17 17.0 -0.6
baz=161,SNR=6.8
WHAR Wooly Hollow 68.63 342 P P 00 17 17.4 -0.9
WHAR IAmb IAmb 00 17 18.5
comp=Z,15nm,0.9s
W39A Magazine 68.96 341 P P 00 17 20.6 +0.2
baz=160,SNR=16
LCAR Lake Charles 69.08 343 P P 00 17 20.4 -0.7
U40A Yellville 69.79 342 P P 00 17 25.2 -0.4
baz=161,SNR=8.4
MNTX Cornudas Mount 69.98 330 P P 00 17 25.6 -1.2
MNTX Cornudas Mount 69.98 330 P P 00 17 26.1 -0.8
baz=150
WMOK Wichita Mounta 70.10 336 P P 00 17 26.7 -0.8
baz=156
WCI Wyandotte Cave 70.11 348 P P 00 17 26.2 -1.3
baz=167
TUL1 Leonard 70.21 339 P P 00 17 27.6 -0.6
baz=158,SNR=8.2
P60A Greenville 70.44 357 P P 00 17 30.0 +0.6
baz=176
MCWV Mont Chateau 70.60 353 P P 00 17 30.4 0.0
baz=173
MVL Millersville 70.66 356 P P 00 17 30.9 +0.1
MVL IAmb IAmb 00 17 36.7
comp=Z,22nm,1.3s
P52A Corning 70.84 351 P P 00 17 31.6 -0.3
baz=171

MSTX Muleshoe 70.88 333 P P 00 17 32.0 -0.5
baz=152,SNR=6.8
CCM Cathedral Cave 70.99 344 P P 00 17 32.2 -0.6
CCM pmax pmax
comp=Z,38nm,0.8s
CCM Cathedral Cave 70.99 344 P P 00 17 32.2 -0.6
CCM Cathedral Cave 70.99 344 P P 00 17 32.5 -0.3
baz=162
O56A Blue Knob Stat 71.09 354 P P 00 17 33.5 0.0
baz=174
P49A Miami Univ. Ec 71.11 349 P P 00 17 32.3 -1.2
baz=168
AMTX Amarillo 71.27 334 P P 00 17 35.1 +0.3
baz=153
O53A New Philadelph 71.33 352 P P 00 17 34.0 -0.9
baz=171
SSPA Standing Stone 71.40 355 P P 00 17 34.4 -0.8
baz=174
ACSO Alum Creek Sta 71.54 351 P P 00 17 35.5 -0.6
baz=170,SNR=6.4
N59A State Game Lan 71.55 357 P P 00 17 36.6 +0.4
baz=176,SNR=5.2
PAL Palisades 71.56 358 P P 00 17 38.1 +1.9
baz=178
ODNJ Ogdensburg 71.66 358 P P 00 17 36.9 +0.1
ODNJ IAmb IAmb 00 17 39.3
comp=Z,12nm,0.9s
TRNY Table Rock, Ra 71.71 358 P P 00 17 37.2 +0.1
TRNY IAmb IAmb 00 17 40.2
comp=Z,14nm,1.1s
121A Cookes Peak, D 71.75 328 P P 00 17 38.5 +0.7
baz=148,SNR=5.2
N54A Moraine State 71.91 353 P P 00 17 38.4 +0.1
baz=172
SFIN Lafayette 72.34 348 P P 00 17 39.6 -1.3
baz=166
L63A North Scituate 72.39 0 P P 00 17 41.5 +0.4
baz=180,SNR=6.8
M54A Oil Creek Stat 72.42 354 P P 00 17 40.9 -0.5
baz=173
M53A WI Miller and 72.45 353 P P 00 17 41.3 -0.3
baz=172
L64A Middleborough 72.47 1 P P 00 17 42.5 +0.9
baz=181
BINY Binghamton 72.84 357 P P 00 17 44.2 +0.3
baz=176
HDIL Hopedale 72.94 346 P P 00 17 43.5 -0.9
baz=164
TUC Tucson 72.97 326 P P 00 17 45.2 +0.2
baz=146
L61B Northampton 72.98 359 P P 00 17 45.4 +0.7
baz=179,SNR=6.4
HRV Adam Dziewonsk 73.03 0 P P 00 17 45.5 +0.5
HRV pmax pmax
comp=Z,9.0nm,0.7s
HRV Adam Dziewonsk 73.03 0 P P 00 17 45.5 +0.5
HRV Adam Dziewonsk 73.03 0 P P 00 17 45.2 +0.3
baz=180
ERPA Erie 73.05 354 P P 00 17 44.9 -0.3
baz=173
K62A Royalston 73.19 360 P P 00 17 47.1 +1.2
baz=180
K61A Williamstown 73.21 359 P P 00 17 47.0 +0.9
baz=179
ANMO Albuquerque 73.23 331 P P 00 17 47.4 +0.8
comp=Z,3.5nm,0.8s,baz=180,slow=7.0,SNR=4.3
ANMO Albuquerque 73.23 331 ceP P 00 17 48.0 +1.4
ANMO pmax pmax
comp=Z,70nm,2.5s
ANMO Albuquerque 73.23 331 P P 00 17 46.8 +0.2
ANMO Albuquerque 73.23 331 P P 00 17 47.0 +0.4
baz=149
LIC Lamto 73.50 72 eP P 00 17 47.9 -0.5
comp=Z,75nm,0.9s
AAM Ann Arbor 73.66 351 P P 00 17 50.2 +1.6
baz=169
214A Organ Pipe Nat 73.67 324 P P 00 17 49.9 +0.8
baz=144
TIC Toumodi 73.74 72 eP P 00 17 49.3 -0.6
KIC Kosan Boka 73.81 72 eP P 00 17 50.1 -0.2
comp=Z,64nm,0.8s
J61A Chester 73.88 359 P P 00 17 50.9 +0.9
baz=179
DBIC Dimbokro 73.89 72 P P 00 17 50.9 +0.1
comp=Z,15nm,0.8s,baz=221,slow=4.6,SNR=9.2
DBIC Dimbokro 73.89 72 P P 00 17 50.3 -0.4
CBKS Cedar Bluff 74.12 338 P P 00 17 51.8 +0.3
baz=155
HNH Hanover 74.23 360 P P 00 17 52.6 +0.6
T25A Trinidad 74.30 333 P P 00 17 53.6 +0.8
T25A IAmb IAmb 00 17 54.6
comp=Z,28nm,0.9s
T25A Trinidad 74.30 333 P P 00 17 53.4 +0.6
baz=151,SNR=9.9
I60A Shoreham 74.39 359 P P 00 17 52.8 -0.1
baz=179
I62A Tamworth 74.40 0 P P 00 17 53.7 +0.7
baz=180
I63A Otisfield 74.58 1 P P 00 17 56.2 +2.2
baz=181
LBNH Lisbon 74.77 360 P P 00 17 55.9 +0.8
baz=180
L40A Anamosa 74.80 345 P P 00 17 54.7 -0.6
W18A Petrified Fore 74.80 328 P P 00 17 56.1 +0.3
baz=147,SNR=5.1
SCIA State Center 75.11 344 P P 00 17 57.2 0.0
baz=161
LONY Lake Ozonia 75.19 358 P P 00 17 57.9 +0.3
LONY IAmb IAmb 00 17 59.6
comp=Z,17nm,1.1s
LONY Lake Ozonia 75.19 358 P P 00 17 57.7 +0.1
baz=177
SDCO Great Sand Dun 75.25 333 P P 00 17 59.0 +0.6
baz=150,SNR=5.2
EMMW East Machias 75.33 3 P P 00 17 58.5 +0.2
EMMW IAmb IAmb 00 18 00.1
comp=Z,13nm,0.9s
FRNY Flat Rock 75.38 359 P P 00 17 59.1 +0.5
FRNY IAmb IAmb 00 18 01.4
comp=Z,42nm,1.4s
JFWS Jewell Farm 75.40 346 P P 00 17 58.6 -0.3
baz=164
HAL Halifax 75.52 6 P P 00 18 00.3 +0.9
HAL pmax pmax
comp=Z,40nm,1.3s
HAL Halifax 75.52 6 P P 00 18 00.3 +0.9
HAL IAmb IAmb 00 18 09.9
comp=Z,40nm,1.3s
S22A 4UR Ranch, Cre 75.78 332 P P 00 18 02.4 +0.9
baz=149,SNR=5.4
G65A Princeton 75.82 3 P P 00 18 02.1 +1.0
G65A IAmb IAmb 00 18 09.2
comp=Z,30nm,1.3s
PKME Peaks-Kenny Pk 75.82 2 P P 00 18 02.4 +1.3
baz=182
WUAZ Wupatki 75.88 327 P P 00 18 02.7 +0.8
baz=146
IKP In-Ko-Pah, Jac 75.91 322 P P 00 18 03.0 +0.9
baz=142
SWSC Sam W. Stewart 75.98 323 P P 00 18 02.8 +0.5
baz=142
MVCO Mesa Verde 76.02 330 P P 00 18 02.2 -0.6
MVCO IAmb IAmb 00 18 04.4
comp=Z,22nm,1.1s
MVCO Mesa Verde 76.02 330 P P 00 18 03.2 +0.5
baz=148
SUR Sutherland 76.06 119 P P 00 18 03.4 +0.1
SUR IAmb IAmb 00 18 26.1
comp=Z,28nm,1.0s
MAW Mawson 76.06 164 P P 00 18 03.0 +0.6
comp=Z,5.1nm,0.7s,baz=192,slow=6.7,SNR=16
MAW Mawson 76.06 164 P P 00 18 02.7 +0.3
MAW pmax pmax
comp=Z,3.0nm,1.0s
MAW Mawson 76.06 164 P P 00 18 02.7 +0.3
Q24A Divide 76.17 334 P P 00 18 04.4 +0.7
baz=151,SNR=9.8
F63A Nahmakanta, Br 76.27 2 P P 00 18 04.5 +0.8
MONP2 Monument Peak 76.27 322 P P 00 18 04.9 +0.6
baz=142
BC3 Big Chuckawall 76.36 324 P P 00 18 05.5 +0.8
baz=142
F64A Sherman 76.45 2 P P 00 18 05.1 +0.4
F64A IAmb IAmb 00 18 07.4
comp=Z,18nm,1.0s
IRM Iron Mountain 76.60 324 P P 00 18 06.6 +0.7
baz=143

LMN	Caledonia Moun	76.63	5	P		P		00 18 06.1	+0.4
LMN				IAmb		IAmb		00 18 08.1	
	comp=Z,31nm,1.0s								
TPFO	Pinon Flats	76.84	323	P		P		00 18 08.3	+0.9
	baz=142								
PFO	Pinyon Flats O	76.85	323	P		P		00 18 08.3	+0.9
	comp=Z,5.4nm,0.9s,baz=144,slow=4.3,SNR=4.9								
PFO	Pinyon Flats O	76.85	323	P		P		00 18 07.8	+0.4
PFO				pmax		pmax			
	comp=Z,10.0nm,1.0s								
PFO	Pinyon Flats O	76.85	323	P		P		00 18 07.8	+0.4
PFO	Pinyon Flats O	76.85	323	P		P		00 18 08.3	+0.9
	baz=142								
BELC	Belle Mtn. Jos	76.92	323	P		P		00 18 08.6	+0.8
	baz=142								
ISCO	Idaho Springs	77.08	334	P		P		00 18 08.6	-0.2
ISCO				pmax		pmax			
	comp=Z,8.0nm,0.9s								
ISCO	Idaho Springs	77.08	334	P		P		00 18 08.6	-0.2
ISCO	Idaho Springs	77.08	334	P		P		00 18 09.4	+0.6
	baz=151								
MURC	Murrieta	77.22	322	P		P		00 18 09.8	+0.4
	baz=141								
D62A	Allapoint, All	77.64	2	P		P		00 18 11.9	+0.5
D62A				IAmb		IAmb		00 18 14.5	
	comp=Z,39nm,1.2s								
ECSD	EROS Data Cent	77.70	342	P		P		00 18 11.5	-0.3
	baz=158,SNR=9.8								
HEC	Hector,Ludlow	77.74	324	P		P		00 18 13.5	+1.2
	baz=142,SNR=5.7								
BFSC	Mount Baldy Ra	77.96	322	P		P		00 18 14.5	+0.9
	baz=141								
N23A	Red Feather La	78.15	334	P		P		00 18 15.6	+0.9
	baz=150								
SPMN	Marine on St.	78.16	345	P		P		00 18 13.7	-0.6
	baz=162								
GSC	Goldstone, Bar	78.35	324	P		P		00 18 16.9	+1.2
	baz=142								
O20A	White River Ci	78.39	332	P		P		00 18 16.8	+0.8
	baz=149								
SHPR	Sheep Range	78.47	326	P		P		00 18 16.8	+0.3
SHPR				IAmb		IAmb		00 18 18.4	
	comp=Z,19nm,1.2s								
EDW2	Edwards Air Fo	78.63	323	P		P		00 18 17.4	+0.2
	baz=141								
LRMC	Laurel Mtn Rad	78.93	323	P		P		00 18 17.5	-1.5
	baz=141								
KOWA	Kowa	79.06	66	P		P		00 18 19.9	-0.1
KOWA				IAmb		IAmb		00 18 30.7	
	comp=Z,28nm,1.2s								
D41A	Chassel	79.08	348	P		P		00 18 19.3	0.0
PRN	Pahroc Range	79.14	326	P		P		00 18 20.3	+0.2
SBC	Santa Barbara	79.21	321	P		P		00 18 19.2	-1.2
	baz=140								
MPMC	Manual Prospec	79.28	324	P		P		00 18 21.1	+0.1
	baz=141								
FURC	Furnace Creek,	79.29	324	P		P		00 18 21.7	+1.0
	baz=142								
TPNV	Topopah Spring	79.36	325	P		P		00 18 22.1	+0.8
TPNV				pmax		pmax			
	comp=Z,3.0nm,0.8s								
TPNV	Topopah Spring	79.36	325	P		P		00 18 22.1	+0.8
TPNV	Topopah Spring	79.36	325	P		P		00 18 22.1	+0.8
	baz=142,SNR=6.2								
ISA	Isabella, Lake	79.48	323	P		P		00 18 22.6	+0.7
	baz=140,SNR=5.4								
PKM	Mcpherson Peak	79.60	321	P		P		00 18 23.7	+1.0
	baz=140,SNR=5.2								
TSUM	Tsumeb	79.76	106	P		P		00 18 23.8	-0.2
CWC	Cottonwood Cre	79.88	324	P		P		00 18 24.8	+0.6
	baz=141								
K22A	Casper	79.89	335	P		P		00 18 24.5	+0.5
	baz=150,SNR=5.7								
VES	Vestal, Richgr	79.94	323	P		P		00 18 24.9	+0.6
	baz=140								
GRAC	Grapevine Rang	79.95	324	P		P		00 18 25.5	+1.1
	baz=142								
SMMC	Simmler	80.02	322	P		P		00 18 25.6	+0.8
	baz=139								
R11A	Troy Canyon, C	80.15	326	P		P		00 18 25.5	-0.1
R11A	Troy Canyon, C	80.15	326	P		P		00 18 26.2	+0.6
	baz=143,SNR=7.4								
RSSD	Black Hills	80.30	337	P		P		00 18 27.0	+0.7
	baz=152								
DUG	Dugway, Tooele	80.36	329	P		P		00 18 26.9	+0.2
DUG				pmax		pmax			
	comp=Z,14nm,1.2s								
DUG	Dugway, Tooele	80.36	329	P		P		00 18 26.9	+0.2
DUG	Dugway, Tooele	80.36	329	P		P		00 18 27.1	+0.4
	baz=145,SNR=5.9								
TIN	Tinemaha, Big	80.43	324	P		P		00 18 27.9	+0.8
	baz=141								
EYMN	Ely	80.47	347	P		P		00 18 26.5	-0.4
	baz=163								
BW06	Boulder Array	81.15	333	P		P		00 18 30.9	-0.1
	baz=148								
PDAR	Pinedale Array	81.15	333	P		P		00 18 30.3	-0.6
	comp=Z,2.4nm,0.6s,baz=138,slow=6.4,SNR=8.1								
BOSA	Boshof	81.23	118	P		P		00 18 31.4	-0.3
	comp=Z,11nm,0.9s,baz=224,slow=7.4,SNR=8.3								
BOSA	Boshof	81.23	118	P		P		00 18 31.3	-0.5
BOSA				IAmb		IAmb		00 18 33.5	
	comp=Z,15nm,1.1s								
NVAR	Mina Array Bea	81.53	325	P		P		00 18 33.4	+0.3
	comp=Z,3.8nm,0.7s,baz=156,slow=6.1,SNR=15								
AGMN	Agassiz Nation	81.76	344	P		P		00 18 33.2	-0.5
AGMN				IAmb		IAmb		00 18 34.0	
	comp=Z,19nm,0.7s								
AGMN	Agassiz Nation	81.76	344	P		P		00 18 33.0	-0.7
	baz=159,SNR=7.2								
ELK	Elko	81.89	328	P		P		00 18 35.2	+0.3
	comp=Z,7.1nm,0.8s,baz=148,slow=3.4,SNR=16								
ELK	Elko	81.89	328	P		P		00 18 34.9	0.0
MDND	Maddock	82.30	341	P		P		00 18 36.5	-0.1
	baz=156								
TORD	Torodi Ar. Bea	82.85	70	P		P		00 18 40.0	-0.1
	comp=Z,6.8nm,0.6s,baz=277,slow=6.2,SNR=19								
TORD			pP				**pP**	00 18 49.0	+0.1
	comp=Z,14nm,0.6s,baz=270,slow=4.5,SNR=14								
TORD	Torodi Ar. Bea	82.85	70	P		P		00 18 40.1	-0.1
TORD				IAmb		IAmb		00 18 53.8	
	comp=Z,10nm,0.9s								
RLMT	Red Lodge	83.03	334	P		P		00 18 40.4	-0.3
	baz=148								
PAHR	Pah Rah Range	83.05	325	P		P		00 18 41.1	+0.3
PAHR				IAmb		IAmb		00 18 42.1	
	comp=Z,11nm,0.9s								
CASY	Casey	83.13	181	P		P		00 18 40.9	+0.1
CASY				IAmb		IAmb		00 18 51.0	
	comp=Z,9.3nm,0.9s								
LBTB	Lobatse	83.32	115	P		P		00 18 42.4	-0.3
LBTB				pmax		pmax			
	comp=Z,4.0nm,0.7s								
LBTB	Lobatse	83.32	115	P		P		00 18 42.4	-0.3
ULM	Lac du Bonnet	83.59	345	P		P		00 18 42.5	-0.7
	comp=Z,16nm,0.8s,baz=158,slow=5.2,SNR=12								
HLID	Hailey	83.80	330	P		P		00 18 45.2	+0.6
	baz=144,SNR=5.0								
DGMT	Dagmar	84.20	339	P		P		00 18 47.0	+0.6
	baz=152								
BOZ	Bozeman (W)	84.33	333	P		P		00 18 46.9	-0.4
	baz=146								
O03E	Paynes Creek	84.71	324	P		P		00 18 48.9	-0.3
	baz=139								
SCHQ	Schefferville	85.47	3	P		P		00 18 52.2	-0.4
	comp=Z,4.5nm,0.5s,baz=138,slow=3.5,SNR=4.0								
PLID	Pearl Lake	85.70	330	P		P		00 18 54.1	-0.2
M04C	Macdoel	85.84	325	P		P		00 18 55.3	+0.4
	baz=139								
LTZ	Lake Taylor	86.13	222	P		P		00 18 57.2	+0.7
YBH	Yreka Blue Hor	86.23	324	P		P		00 18 56.1	-0.7
	comp=Z,3.5nm,0.9s,baz=74,slow=5.5,SNR=5.6								
THZ	Tophouse	86.41	223	P		P		00 18 58.8	+0.9
J05D	Fort Rock, OR	86.67	326	P		P		00 18 59.8	+0.8
	baz=139								
L02E	Cave Junction	87.00	324	P		P		00 19 01.5	+1.1
	baz=137								
J04D	Umpqua Nationa	87.06	326	P		P		00 19 01.2	+0.2
	baz=138								
K02D	Willamette Mer	87.42	324	P		P		00 19 03.4	+0.8
	baz=137								
I05D	Terrebonne, OR	87.52	327	P		P		00 19 03.6	+0.7
	baz=139								
LSZ	Lusaka	90.46	108	P		P		00 19 18.2	+0.5
LSZ				pmax		pmax			
	comp=Z,16nm,1.0s								
LSZ	Lusaka	90.46	108	P		P		00 19 18.2	+0.5
LSZ				IAmb		IAmb		00 19 28.5	
	comp=Z,16nm,1.0s								
KIP	Kipapa	97.74	290	*i* P		Pdif		00 19 52.4	+1.6
KIP				pmax		pmax			
	comp=Z,69nm,1.3s								
MBAR	Mbarara	100.32	97	*i* P		**Pdif**		**00 20 02.2**	**-0.5**
KBS	Kingsbay	118.86	13	*c i* PKIKP		**PKiKP**		**00 25 04.6**	**+2.0**
KBS				pmax		pmax			
	comp=Z,28nm,1.3s								
VSU	Vasula	120.03	37	*i* PKIKP		**PKiKP**		**00 25 06.5**	**+1.2**
ASAR	Alice Springs	120.48	207	PKP		**PKPdf**		**00 25 05.8**	**-1.7**
	comp=Z,1.2nm,0.9s,baz=150,slow=1.7,SNR=7.4								
ASAR				pPKP		**pPKPdf**		**00 25 14.9**	**-1.4**
	comp=Z,0.8nm,0.7s,baz=146,slow=1.6,SNR=4.0								
ASAR	Alice Springs	120.48	207	PKPdf		**PKPdf**		**00 25 05.5**	**-2.0**
WRA	Warramunga Arr	123.62	210	PKP		**PKPdf**		**00 25 12.2**	**-1.3**
	comp=Z,2.2nm,0.7s,baz=162,slow=1.7,SNR=8.7								
WRA				pPKP		**pPKPdf**		**00 25 21.9**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=170,slow=1.5,SNR=6.4								
WRAB	Tennant Creek	123.63	210	*i* PKIKP		**PKPdf**		**00 25 13.2**	**-0.3**
LVZ	Lovozero	124.34	26	*i* PKIKP		**PKiKP**		**00 25 16.1**	**+2.4**
LVZ				pmax		pmax			
	comp=Z,10.0nm,1.5s								
OBN	Obninsk	124.93	42	ǁ *e* PKIKP		**PKiKP**		**00 25 15.1**	**0.0**
OBN				pmax		pmax			
	comp=Z,3.0nm,0.9s								
H11S2	WAKE ISLAND Hyd	126.09	271	T		T		02 44 06.1	
	baz=115,slow=75,SNR=23								
H11S1	WAKE ISLAND Hyd	126.10	271	T		T		02 44 00.1	
	baz=115,slow=75,SNR=23								
H11S3	WAKE ISLAND Hyd	126.11	271	T		T		02 44 00.6	
	baz=115,slow=75,SNR=19								
H11N3	WAKE ISLAND Hyd	126.42	273	T		T		02 44 28.0	
	baz=120,slow=74,SNR=6.3								
H11N2	WAKE ISLAND Hyd	126.44	273	T		T		02 44 25.0	
	baz=154,slow=74,SNR=7.3								
PSA00	Pilbara Seismi	126.68	193	PKPdf		**PKPdf**		**00 25 18.2**	**-1.1**
GNI	Garni	128.39	61	*c i* PKIKP		**PKiKP**		**00 25 22.5**	**-0.2**
GNI				pmax		pmax			
	comp=Z,10.0nm,1.3s								
FITZ	Fitzroy Crossi	128.53	201	PKPdf		**PKPdf**		**00 25 21.9**	**-1.0**
ABKAR	Akbulak array	139.45	49	PKPdf		**PKPdf**		**00 25 40.2**	**-2.1**
SKR	Severo-Kuril's	139.62	313	*i* PKHKP		PKPpre		00 25 18.9	
SKR				*e*				00 28 42.1	
BRVK	Borovoye	144.67	40	PKIKP		**PKPdf**		**00 25 51.0**	**-0.5**
BRVK	Borovoye	144.67	40	PKPdf		**PKPdf**		**00 25 51.0**	**-0.5**
YAK	Yakutsk	145.90	342	*e* PKPdf		**PKPdf**		**00 25 53.3**	**0.0**
YAK				pmax		pmax			
	comp=Z,49nm,0.8s								
YAK				pmax		pmax			
	comp=N,4.0nm,0.6s								
YAK				pmax		pmax			
	comp=E,4.0nm,0.8s								
YAK	Yakutsk	145.90	342	PKPdf		**PKPdf**		**00 25 53.3**	**0.0**
CHGR	Chuyangaron	147.08	66			**PKPbc**		**00 25 58.8**	**+0.4**
KK31	Karatay Array	147.68	57	PKP2		**PKPbc**		**00 25 58.6**	**-1.2**
KK31	Karatay Array	147.68	57			**PKPbc**		**00 25 58.6**	**-1.2**
KKAR	Karatay Array	147.68	57	PKP2		**PKPdf**		**00 25 58.3**	**+1.3**
KKAR	Karatay Array	147.68	57			**PKPdf**		**00 25 58.3**	**+1.3**
TOLI2	Tolitoli	148.12	204			**PKPbc**		**00 26 00.3**	**-1.5**
NIL	Nilore	150.28	75	PKIKP		**PKPbc**		**00 26 06.3**	**-0.4**
NIL	Nilore	150.28	75			**PKPbc**		**00 26 06.3**	**-0.4**
AAK	Ala-Archa	150.64	57	*c i* PKIKP		**PKiKP**		**00 26 09.3**	**+1.2**
AAK				pmax		pmax			
	comp=Z,91nm,2.5s								
AAK	Ala-Archa	150.64	57			**PKiKP**		**00 26 08.0**	**-0.1**
FRU1	Bishkek	150.70	57	PKIKP		**PKiKP**		**00 26 08.7**	**+0.6**
FRU1	Bishkek	150.70	57	PKPbc		**PKiKP**		**00 26 08.7**	**+0.6**
ZAA0	Zalesovo Array	151.40	30			**PKPbc**		**00 26 07.4**	**-1.2**
ZALV	Zalesovo Beam	151.40	30	PKPbc		**PKPbc**		**00 26 08.3**	**-0.2**
	comp=Z,7.2nm,0.5s,baz=296,slow=2.9,SNR=7.7								
ZALV	Zalesovo Beam	151.40	30	PKIKP		**PKPbc**		**00 26 07.9**	**-0.7**
ZALV	Zalesovo Beam	151.40	30			**PKPbc**		**00 26 07.9**	**-0.7**
PRZ	Przheval'sk	153.48	56	PKIKP		**PKPdf**		**00 26 07.0**	**+0.8**
PRZ	Przheval'sk	153.48	56	PKPdf		**PKPdf**		**00 26 07.0**	**+0.8**
MKAR	Makanchi Array	154.40	44	PKPbc		**PKPbc**		**00 26 15.4**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=346,slow=2.5,SNR=3.7								
MKAR	Makanchi Array	154.40	44	PKIKP		**PKPbc**		**00 26 14.4**	**-1.1**
MKAR	Makanchi Array	154.40	44			**PKPbc**		**00 26 14.4**	**-1.1**
KLR	Kul'dur	154.55	323	*c i* PKIKP		**PKiKP**		**00 26 16.5**	**+0.8**
MJAR	Matsushiro Arr	154.59	291	PKPab		**PKPab**		**00 26 30.6**	**-0.4**
	comp=Z,6.5nm,0.7s,baz=108,slow=2.1,SNR=10								
USRK	Ussuriysk Ar.	157.12	312	PKPab		**PKPab**		**00 26 40.8**	**-0.7**
	comp=Z,3.3nm,0.9s,baz=234,slow=6.4,SNR=4.3								
WMQ	Urumqi	159.19	46	*e* P		**PKPdf**		**00 26 14.3**	**+0.8**
WMQ				LR		LR			
	comp=N,8μm,13.1s								
WMQ				LR		LR			
	comp=E,6μm,13.9s								
WMQ				LR		LR			
	comp=Z,1μm,17.1s								
KSRS	Korea Array	162.54	297	PKPab		**PKPab**		**00 27 06.0**	**+0.6**
	comp=Z,2.9nm,0.9s,baz=57,slow=3.0,SNR=8.9								
KSRS	Korea Array	162.54	297	PKP2		**PKPab**		**00 27 06.0**	**+0.6**
SONM	Songino Array	163.01	5	PKPab		**PKPab**		**00 27 08.1**	**+1.0**
	comp=Z,2.3nm,1.0s,baz=337,slow=2.3,SNR=6.5								
ULN	Ulaanbaatar	163.02	3	PKP2		**PKPab**		**00 27 07.8**	**+0.7**
ULN	Ulaanbaatar	163.02	3	PKPab		**PKPab**		**00 27 07.8**	**+0.7**
CMAR	Chiang Mai Arr	164.97	143	PKPab		**PKPab**		**00 27 16.6**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=201,slow=4.8,SNR=1.4								
CMAR	Chiang Mai Arr	164.97	143	PKP2		**PKPab**		**00 27 16.1**	**-0.2**
CMAR	Chiang Mai Arr	164.97	143			**PKPab**		**00 27 16.1**	**-0.2**
HHC	Hu-ho-hao-te	169.72	346	*e* P		**PKPdf**		**00 26 17.6**	**-5.3**
HHC				LR		LR			
	comp=N,14μm,18.8s								
HHC				LR		LR			
	comp=E,21μm,18.4s								
HHC				LR		LR			
	comp=Z,20μm,18.0s								
NJ2	Nanjing	170.95	280	*e* P		**PKPdf**		**00 26 24.3**	**+0.6**
NJ2				pmax		pmax			
	comp=Z,37nm,1.2s								
CD2	Chengdu	176.06	89	PKP		**PKPdf**		**00 26 27.0**	**+1.2**

IDC ***17*** *00:11:11.9±0.7, 31°.09S×72°.07W, h0km, mb4.3/7, mb1 4.4/8, mb1mx4.2/37, mbtmp4.3/8, ML4.1/1, Error ellipse: s-maj=39.1km s-min=21.2km az=63.0*
NEIC ***17*** *00:11:14.5±1.0, 31°.05S±0°.06×72°.00W±0°.07, h10km±1km, mb4.7/19, Error ellipse: s-maj=13.6km s-min=6.1km az=313.0*

ISC 17 00:11:13.8±0.6, **31°.06S**±0°.07×**72°.05W**±0°.08, **h12**km, **n45**, σ0**s72**/46, **mb4.5**/16, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.52	43	Pg	**Pg**	00 11 22.5	-1.5
CO03	El Pedregal	1.19	80	Pn	**Pg**	00 11 36.8	+0.1
CO03				Sn	**Sn**	00 11 52.7	+0.2
GO05	Huala	3.94	179	Pn	**Pn**	00 12 14.0	-0.2
AC02	Maricunga	4.92	32	Pn	**Pn**	00 12 29.1	+1.0
SIV	San Ignacio	18.04	36	P	**P**	00 15 25.0	+0.1
	0.6nm,0.3s,baz=239,slow=12,SNR=3.1						
SAML	Samuel	23.50	22	P	**P**	00 16 23.3	-0.3
SAML				IAmb	IAmb	00 16 39.4	
	comp=Z,9.1nm,1.1s						
BDFB	Brasilia	26.79	61	P	**P**	00 16 53.0	-1.0
SNAA	Sanae	54.31	159	P	**P**	00 20 40.0	+0.3
	comp=Z,5.5nm,0.9s,baz=299,slow=6.1,SNR=6.1						
SNAA	Sanae	54.31	159	P	**P**	00 20 40.1	+0.4
SNAA				IAmb	IAmb	00 20 42.1	
	comp=Z,6.1nm,0.9s						
QSPA	South Pole Qui	59.17	180	P	**P**	00 21 14.8	+0.5
JCT	Junction City	66.64	334	P	**P**	00 22 05.1	+0.8
JCT				IAmb	IAmb	00 22 06.1	
	comp=Z,7.2nm,0.8s						
TXAR	Lajitas Array	67.18	330	P	**P**	00 22 08.3	+0.4
	comp=Z,1.1nm,0.5s,baz=155,slow=8.7,SNR=10.0						
TX31	Lajitas Ar. Si	67.18	330	P	**P**	00 22 08.6	+0.7
MNTX	Cornudas Mount	69.96	330	P	**P**	00 22 24.6	-0.4
HHAR	Hobbs	70.07	341	P	**P**	00 22 25.6	0.0
HHAR				IAmb	IAmb	00 22 25.9	
	comp=Z,3.8nm,0.5s						
T25A	Trinidad	74.30	334	P	**P**	00 22 51.9	+0.7
SDCO	Great Sand Dun	75.25	333	P	**P**	00 22 57.9	+1.1
MAW	Mawson	76.00	164	P	**P**	00 23 00.7	+0.3
	comp=Z,2.2nm,0.7s,baz=163,slow=4.6,SNR=4.2						
MAW	Mawson	76.00	164	P	**P**	00 23 00.5	+0.1
LMN	Caledonia Moun	76.83	5	P	**P**	00 23 06.0	+0.8
ISCO	Idaho Springs	77.08	334	P	**P**	00 23 08.1	+0.9
BATG	Bathurst New B	78.16	4	P	**P**	00 23 13.0	+0.4
PHWY	Pilot Hill	78.33	335	P	**P**	00 23 14.7	+0.6
PHWY				IAmb	IAmb	00 23 15.4	
	comp=Z,3.7nm,0.8s						
RDMU	Red Mountain	79.29	332	P	**P**	00 23 20.0	+0.8
RDMU				IAmb	IAmb	00 23 20.3	
	comp=Z,4.3nm,0.9s						
KOWA	Kowa	79.44	66	P	**P**	00 23 20.7	+0.3
KOWA				IAmb	IAmb	00 23 46.4	
	comp=Z,6.0nm,1.1s						
R11A	Troy Canyon, C	80.10	327	P	**P**	00 23 24.7	+1.0
LCH	Last Change Ra	80.22	325	P	**P**	00 23 25.1	+0.8
DUG	Dugway, Tooele	80.34	330	P	**P**	00 23 25.9	+1.1
HWUT	Hardware Ranch	80.97	331	P	**P**	00 23 28.8	+0.5
HWUT				IAmb	IAmb	00 23 29.5	
	comp=Z,3.7nm,0.6s						
PDAR	Pinedale Array	81.14	333	P	**P**	00 23 29.3	0.0
	comp=Z,0.8nm,0.5s,baz=135,slow=7.3,SNR=6.4						
BOSA	Boshof	81.45	118	P	**P**	00 23 32.0	+0.7
	comp=Z,3.6nm,1.0s,baz=207,slow=4.4,SNR=3.9						
BOSA	Boshof	81.45	118	P	**P**	00 23 31.7	+0.4
BOSA				IAmb	IAmb	00 23 45.8	
	comp=Z,18nm,1.5s						
NVAR	Mina Array Bea	81.47	325	P	**P**	00 23 31.8	+0.7
	comp=Z,1.2nm,0.6s,baz=148,slow=5.5,SNR=9.3						
HVU	Hansel Valley	81.62	330	P	**P**	00 23 32.0	+0.3
ELK	Elko	81.86	328	P	**P**	00 23 33.7	+0.6
	comp=Z,1.2nm,0.6s,baz=198,slow=2.9,SNR=3.9						
TORD	Torodi Ar. Bea	83.22	70	P	**P**	00 23 40.2	-0.4
	comp=Z,1.8nm,0.6s,baz=285,slow=5.7,SNR=7.6						
LBTB	Lobatse	83.55	115	P	**P**	00 23 42.2	-0.1
LBTB				IAmb	IAmb	00 24 07.5	
	comp=Z,5.9nm,1.0s						
ASAR	Alice Springs	120.17	208	PKP	**PKPdf**	00 30 03.7	-1.6
	comp=Z,0.7nm,0.9s,baz=151,slow=2.1,SNR=2.9						
WRA	Warramunga Arr	123.31	210	PKP	**PKPdf**	00 30 10.4	-1.0
	comp=Z,0.9nm,0.6s,baz=112,slow=1.0,SNR=5.8						
TOLI2	Tolitoli	147.83	205	PKPbc	**PKPbc**	00 30 59.1	-0.3
KKAR	Karatay Array	148.06	57	PKPbc	**PKPbc**	00 30 58.4	-0.8
ZAA0	Zalesovo Array	151.71	29	PKPbc	**PKPbc**	00 31 07.6	-0.2
ZALV	Zalesovo Beam	151.71	29	PKPbc	**PKPbc**	00 31 07.4	-0.3
	comp=Z,5.2nm,0.6s,baz=305,slow=3.1,SNR=6.0						
ZALV	Zalesovo Beam	151.71	29		**PKiKP**	00 31 08.2	0.0
MKAR	Makanchi Array	154.75	44	PKPbc	**PKPbc**	00 31 13.2	-1.5

DDA ***17*** *00:13:12.4, 35°.19N×27°.63E, h7km±2km, ML3.6*
NIC ***17*** *00:13:13.9±0.0, 35°.31N×27°.83E, h11km±1km, MI3.0/3*
ISK ***17*** *00:13:14.6, 35°.36N×27°.80E, h8km, ML3.7/13*

ISC 17 00:13:13.6±1.4, **35°.29N**±0°.04×**27°.81E**±0°.03, **h5**km±11km, **n41**, σ0**s64**/59, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.59	296	PG	**Pb**	00 13 25.8	-0.7
KARP				SG	**Sb**	00 13 33.9	-1.3
KARP	Karpathos	0.59	296	P	**Pg**	00 13 25.2	+0.2
KARP				AML	AML	00 13 34.4	
	3.7nm,0.3s						
KARP				AML	AML	00 13 34.4	
	3.7nm,0.3s						
KARP				S	**Sb**	00 13 34.7	-0.4
KARP				AML	AML	00 13 36.2	
	2.2nm,0.2s						
KARP				AML	AML	00 13 36.2	
	2.2nm,0.2s						
ARG	Arkhangelos	0.96	15	PG	**Pg**	00 13 32.2	+0.2
ARG				SG	**Sb**	00 13 45.2	-0.5
ARG	Arkhangelos	0.96	15	P	**Pg**	00 13 32.0	0.0
ARG				S	**Sb**	00 13 45.2	-0.5
ZKR	Zakros	1.32	263	PN	**Pg**	00 13 39.9	+1.0
ZKR	Zakros	1.32	263	P	**Pg**	00 13 39.1	+0.2
NIS1	Nisyros Isl.	1.41	339	PN	**Pb**	00 13 40.2	-0.2
DAT	Datca	1.45	352	PN	**Pn**	00 13 40.5	-0.1
MRSB	Marmaris-Mugla	1.46	12	PN	**Pn**	00 13 40.6	0.0
TURN	Turunc	1.52	13	*i* P	**Pb**	00 13 42.0	-0.3
TURN				*i* S	**Sg**	00 14 01.9	-0.6
TURN				IAML		00 14 04.0	
	comp=N,571nm,1.9s						
TURN				IAML		00 14 43.0	
	comp=E,352nm,1.9s						
TURN	Turunc	1.52	13	PN	**Pb**	00 13 42.1	-0.3
TURN				SN	**Sb**	00 14 01.7	-0.2
KOSK	Kos Island	1

az=110.0
*IDC **17** 00:15:24.2±3.9,31°.12S×71°.69W,h44km±35km,mb4.1/6, mb1 4.2/8,mb1mx3.9/33,mbtmp4.3/8,ML4.2/2,Error ellipse: s-maj=31.9km s-min=20.6km az=88.0*
ISC 17 00:15:19.5±2.3,31°.08S±0°.04×71°.86W±0°.06,h13km±14km, n74,σ1°33/75,mb4.7/12,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.45**	**25**		**Pn**	**00 15 31.3**	**-0.3**
CO06					**Sb**	**00 15 37.2**	**+1.5**
CO03	**El Pedregal**	**1.03**	**77**		**Pn**	**00 15 39.6**	**-0.1**
GO04	**Tololo Observa**	**1.28**	**45**	Pn	**Pn**	**00 15 43.2**	**0.0**
VA01	**Torpederas**	**1.95**	**175**	Pn	**Pn**	**00 15 53.2**	**+1.0**
VA03	**San Esteban**	**2.01**	**147**	Pn	**Pb**	**00 15 55.5**	**-0.5**
ROC1	**El Roble**	**2.02**	**160**	*eP*	**Pn**	**00 15 50.5**	**-3.0**
ROC1				*eS*	**Sn**	**00 16 18.9**	**+0.2**
RTLS	**Leoncito**	**2.30**	**109**	*eP*	**Pb**	**00 16 01.4**	**+0.4**
RTLS				*eS*	**Sg**	**00 16 32.5**	**-1.0**
RTLS				IAML		00 16 34.1	
	comp=Z,1μm,0.4s						
AUSP	**Uspallata**	**2.39**	**119**	*eP*	**Pb**	**00 16 02.7**	**+0.1**
AUSP				*eS*	**Sg**	**00 16 34.9**	**-1.5**
MT05	**Renca**	**2.49**	**158**	Pn	**Pb**	**00 16 02.1**	**-2.0**
ZON	**Zonda**	**2.76**	**101**	Pn	**Pb**	**00 16 06.8**	**-1.9**
MT09	**Talagante**	**2.79**	**165**		**Pn**	**00 16 04.6**	**+0.7**
MT01	**Popeta**	**2.82**	**170**	Pn	**Pn**	**00 16 06.2**	**+1.9**
RTCV	**Cerro Valdivia**	**2.94**	**106**	*eP*	**Pb**	**00 16 10.6**	**-1.1**
RTCV				*eS*	**Sb**	**00 16 48.8**	**+1.3**
ARCO	**CERRO ARCO**	**3.04**	**126**	*eP*	**Pn**	**00 16 10.0**	**+2.6**
ARCO				*eS*	**Sg**	**00 17 00.9**	**+3.7**
AAGR	**Agrelo**	**3.26**	**129**	*eP*	**Pn**	**00 16 12.6**	**+2.3**
AAGR				*eS*	**Sg**	**00 17 04.9**	**+0.8**
AGUA	**GUANDACOL**	**3.31**	**62**	*eP*	**Pn**	**00 16 11.3**	**+0.2**
AGUA				*eP*	**Pb**	**00 16 15.2**	**-2.9**
AGUA				*eS*	**Sb**	**00 17 01.3**	**+2.9**
BO01	**Tunca**	**3.37**	**169**	Pn	**Pn**	**00 16 14.0**	**+2.3**
AVFE	**Valle Fertil**	**3.81**	**85**	*eP*	Pn	00 16 06.7	-11
AVFE				*eS*	**Sb**	**00 17 11.3**	**-1.2**
BO02	**Sierra Bellavi**	**3.81**	**167**	Pn	**Pn**	**00 16 19.5**	**+1.6**
GO05	**Huala**	**3.92**	**181**	Pn	**Pn**	**00 16 19.1**	**-0.3**
ACHE	**Chepes**	**4.45**	**92**	*eP*	Pn	00 16 37.8	+5.0
ACHE				*eS*	**Sb**	**00 17 26.8**	**-4.4**
ML02	**Panimavida**	**4.69**	**176**	Pn	**Pn**	**00 16 29.5**	**-0.3**
AC02	**Maricunga**	**4.86**	**30**	Pn	**Pn**	**00 16 34.2**	**+1.5**
H03N1	**Juan Fernandez** baz=76,slow=72,SNR=28	**6.42**	**247**	T	T	00 23 37.6	
H03N3	**Juan Fernandez** baz=76,slow=72,SNR=35	**6.44**	**247**	T	T	00 23 40.5	
H03N2	**Juan Fernandez** baz=76,slow=72,SNR=34	**6.44**	**247**	T	T	00 23 43.9	
LC01	**Cunco**	**7.80**	**180**	Pn	**Pn**	**00 17 12.0**	**-0.6**
LVC	**Limon Verde**	**8.84**	**18**	Pn	**Pn**	**00 17 26.9**	**-0.3**
PLCA	**Paso Flores** comp=Z,1.0nm,0.3s,baz=335,slow=10,SNR=5.2	**9.69**	**174**	P	**Pn**	**00 17 39.5**	**+0.9**
LL04	**Puerto Octay**	**9.82**	**182**	Pn	**Pn**	**00 17 40.2**	**-0.1**
TRQA	**Tornquist**	**10.71**	**133**	Pn	**Pn**	**00 17 53.8**	**+1.3**
LPAZ	**La Paz** comp=Z,0.2nm,0.3s,baz=197,slow=7.3,SNR=3.3	**15.11**	**14**	P	**Pn**	**00 18 55.3**	**+2.0**
LPAZ	**La Paz**	**15.11**	**14**	Pn	**Pn**	**00 18 54.8**	**+1.5**
EFI	**East Falkland**	**22.96**	**158**	P	**P**	**00 20 23.9**	**+0.6**
SAML	**Samuel**	**23.46**	**22**	P	**P**	**00 20 28.4**	**-0.3**
BDFB	**Brasilia** comp=Z,10nm,0.7s,baz=197,slow=8.1,SNR=4.5	**26.66**	**60**	P	**P**	**00 20 58.9**	**+0.7**
BDFB	**Brasilia** comp=Z,64nm,1.3s	**26.66**	**60**	P IAmb	**P** IAmb	**00 20 58.6** 00 21 16.6	**+0.3**
RUSC	**La Rusia**	**36.78**	**358**	P	**P**	**00 22 26.7**	**-0.8**
MLPR	**Magueyes Islan**	**48.98**	**6**	P	**P**	**00 24 05.3**	**-0.4**
CRPR	**Cabo Rojo, PR**	**49.02**	**6**	P	**P**	**00 24 05.8**	**-0.2**
PDPR	**Patillas Dam,**	**49.13**	**7**	P	**P**	**00 24 06.4**	**-0.5**
PDPR				IAmb	IAmb	00 24 07.0	
	comp=Z,11nm,0.7s						
SJG	**San Juan**	**49.21**	**7**	P	**P**	**00 24 07.0**	**-0.5**
VNA2	**Neumayer--Watz** baz=271,slow=6.8	**52.65**	**158**	P	**P**	**00 24 33.0**	**+0.1**
SNAA	**Sanae**	**54.23**	**159**	P	**P**	**00 24 44.7**	**+0.2**
SNAA	**Sanae** comp=Z,4.8nm,0.7s,baz=273,slow=8.8,SNR=16	**54.23**	**159**	P	**P**	**00 24 44.8**	**+0.2**
SNAA	**Sanae**	**54.23**	**159**	P	**P**	**00 24 44.6**	**+0.1**
SNAA				IAmb	IAmb	00 24 45.4	
	comp=Z,5.1nm,0.7s						
QSPA	**South Pole Qui**	**59.15**	**180**	P	**P**	**00 25 20.5**	**+0.8**
QSPA				IAmb	IAmb	00 25 21.4	
	comp=Z,11nm,0.9s						
346A	**Big Creek Wild**	**64.33**	**343**	P	**P**	**00 25 55.1**	**+0.4**
V53A	**Saluda**	**67.19**	**350**	P	**P**	**00 26 13.2**	**0.0**
V53A				IAmb	IAmb	00 26 14.2	
	comp=Z,5.7nm,1.1s						
TXAR	**Lajitas Array** comp=Z,0.4nm,0.7s,baz=150,slow=7.3,SNR=4.9	**67.28**	**330**	P	**P**	**00 26 15.3**	**+1.5**
MNTX	**Cornudas Mount**	**70.06**	**330**	P	**P**	**00 26 31.4**	**+0.3**
CCM	**Cathedral Cave**	**71.12**	**344**	P	**P**	**00 26 37.4**	**0.0**
CCM				IAmb	IAmb	00 26 39.5	
	comp=Z,12nm,1.2s						
DBIC	**Dimbokro** comp=Z,3.9nm,0.6s,baz=240,slow=5.6,SNR=6.3	**74.11**	**72**	P	**P**	**00 26 55.2**	**-0.6**
DBIC	**Dimbokro** comp=Z,23nm,1.3s	**74.11**	**72**	P IAmb	**P** IAmb	**00 26 55.0** 00 27 09.2	**-0.8**
MAW	**Mawson** comp=Z,1.2nm,0.4s,baz=206,slow=8.0,SNR=8.8	**75.93**	**164**	P	**P**	**00 27 05.6**	**+0.2**
MAW	**Mawson**	**75.93**	**164**	P	**P**	**00 27 05.6**	**+0.2**
PDAR	**Pinedale Array** comp=Z,0.2nm,0.3s,baz=138,slow=6.9,SNR=1.9	**81.24**	**333**	P	**P**	**00 27 36.0**	**+0.8**
BOSA	**Boshof**	**81.30**	**118**	P	**P**	**00 27 35.2**	**-0.7**
TORD	**Torodi Ar. Bea** comp=Z,3.1nm,0.7s,baz=282,slow=5.6,SNR=9.4	**83.07**	**70**	P	**P**	**00 27 44.3**	**-0.8**
TORD	**Torodi Ar. Bea**	**83.07**	**70**	P	**P**	**00 27 44.8**	**-0.4**
LBTB	**Lobatse**	**83.39**	**115**	P	**P**	**00 27 46.1**	**-0.9**
LBTB				IAmb	IAmb	00 27 46.5	
	comp=Z,6.0nm,0.9s						
WRA	**Warramunga Arr** comp=Z,0.7nm,0.6s,baz=151,slow=1.4,SNR=4.8	**123.37**	**210**	PKP	**PKPdf**	**00 34 16.2**	**-0.7**
H11S2	**WAKE ISLAND Hyl** baz=116,slow=75,SNR=12	**25.92**	**271**	T	T	02 53 06.7	
H11S1	**WAKE ISLAND Hyl** baz=116,slow=75,SNR=18	**25.93**	**271**	T	T	02 53 12.7	
H11S3	**WAKE ISLAND Hyl** baz=116,slow=75,SNR=17	**25.94**	**271**	T	T	02 53 08.1	
H11N3	**WAKE ISLAND Hyl** baz=154,slow=74,SNR=5.8	**26.26**	**273**	T	T	02 53 33.7	
H11N2	**WAKE ISLAND Hyl** baz=120,slow=74,SNR=7.3	**26.28**	**273**	T	T	02 53 39.3	
TOLI2	**Tolitoli**	**147.88**	**204**	PKPbc	**PKPbc**	**00 35 04.1**	**-0.9**
KKAR	**Karatay Array**	**147.93**	**57**	PKPbc	**PKPbc**	**00 35 04.3**	**0.0**
ZAA0	**Zalesovo Array**	**151.65**	**30**	PKPbc	**PKPbc**	**00 35 12.9**	**-0.1**
ZALV	**Zalesovo Beam** comp=Z,3.9nm,0.5s,baz=315,slow=3.0,SNR=9.8	**151.65**	**30**	PKPbc	**PKPbc**	**00 35 12.9**	**0.0**
ZALV	**Zalesovo Beam**	**151.65**	**30**	PKPbc	**PKPbc**	**00 35 13.1**	**+0.1**
MKAR	**Makanchi Array** comp=Z,0.6nm,0.7s,baz=310,slow=1.8,SNR=2.1	**154.65**	**44**	PKPbc	**PKiKP**	**00 35 20.1**	**+0.1**
MKAR	**Makanchi Array**	**154.65**	**44**	PKPbc	**PKPbc**	**00 35 19.5**	**-0.4**

*NEIC **17** 00:17:18.5±1.8,31°.09S±0°.05×72°.72W±0°.09,h10km±1km, mb4.7/33,Error ellipse: s-maj=15.4km s-min=3.6km az=301.0*
*IDC **17** 00:17:20.5±0.6,31°.05S×72°.59W,h27km±3km,mb4.3/10, mb1 4.5/13,mb1mx4.3/35,mbtmp4.6/13,ML4.6/3,Error ellipse: s-maj=22.4km s-min=15.9km az=82.0*
ISC 17 00:17:21.4±0.7,31°.06S±0°.06×72°.7W±0°.1,h35km±2km, h35km:pP-P,n74,σ0s82/84,mb4.5/22,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.96**	**67**		**Pn**	**00 17 39.2**	**+0.8**
CO03	**El Pedregal**	**1.70**	**83**	Pn	**Pn**	**00 17 50.1**	**+1.4**
GO04	**Tololo Observa**	**1.83**	**62**	Pn	**Pn**	**00 17 51.5**	**+1.0**
MT05	**Renca**	**2.84**	**146**	Pn	**Pn**	**00 18 04.0**	**-0.3**
LC01	**Cunco**	**7.85**	**176**	Pn	**Pn**	**00 19 11.3**	**-1.8**
PLCA	**Paso Flores** 1.4nm,0.3s,baz=336,slow=13,SNR=7.3	**9.81**	**171**	Pn	**Pn**	**00 19 38.6**	**-1.3**
PLCA	**Paso Flores**	**9.81**	**171**	Pn	**Pn**	**00 19 39.1**	**-0.8**
LL05	**Los Muermos**	**10.35**	**183**	Pn	**Pn**	**00 19 45.6**	**-1.7**
LPAZ	**La Paz** 0.5nm,0.3s,baz=182,slow=7.6,SNR=7.4	**15.27**	**17**	Pn	**Pn**	**00 20 54.0**	**-1.0**
LPAZ	**La Paz**	**15.27**	**17**		**Pn**	**00 20 54.2**	**-0.8**
SIV	**San Ignacio** 3.7nm,0.3s,baz=220,slow=9.7,SNR=43	**18.35**	**38**	P	**P**	**00 21 32.0**	**-1.1**
SIV				pP	**pP**	**00 21 41.0**	**+0.6**
	4.1nm,0.3s,baz=219,slow=11,SNR=12						
AQDB	**Aquidauana**	**18.53**	**59**	P	**P**	**00 21 32.2**	**-2.8**
TRCB	**Terra Rica**	**19.64**	**70**	P	**P**	**00 21 45.5**	**-1.6**
TRCB				IAmb	IAmb	00 21 51.7	
	comp=Z,47nm,0.8s						
EFI	**East Falkland**	**23.25**	**157**	P	**P**	**00 22 27.2**	**+1.8**
SPB	**Sao Paulo**	**23.58**	**78**	P	**P**	**00 22 28.4**	**-0.5**
SPB				IAmb	IAmb	00 22 30.7	
	comp=Z,57nm,1.0s						
SAML	**Samuel**	**23.70**	**24**	P	**P**	**00 22 29.9**	**-0.2**
SAML				IAmb	IAmb	00 22 47.9	
	comp=Z,7.3nm,0.9s						
BDFB	**Brasilia** comp=Z,21nm,0.8s,baz=260,slow=5.7,SNR=4.9	**27.25**	**61**	P	**P**	**00 23 01.7**	**-0.8**
BDFB	**Brasilia**	**27.25**	**61**	P	**P**	**00 23 00.9**	**-1.6**
BDFB				IAmb	IAmb	00 23 04.8	
	comp=Z,28nm,1.0s						
RUSC	**La Rusia**	**36.74**	**359**	P	**P**	**00 24 26.0**	**-0.1**
RUSC				IAmb	IAmb	00 24 36.4	
	comp=Z,34nm,1.3s						
VNA3	**Neumayer Olymp**	**52.28**	**159**	P	**P**	**00 26 29.2**	**+0.2**
VNA1	**Neumayer--Stat**	**52.58**	**158**	P	**P**	**00 26 31.3**	**+0.2**
VNA2	**Neumayer--Watz** baz=284,slow=8.0	**52.92**	**158**	P	**P**	**00 26 33.8**	**+0.1**
SNAA	**Sanae**	**54.50**	**159**	P	**P**	**00 26 45.3**	**0.0**
SNAA	**Sanae** comp=Z,12nm,0.7s,baz=289,slow=6.3,SNR=19	**54.50**	**159**	P	**P**	**00 26 45.1**	**-0.2**
SNAA	**Sanae**	**54.50**	**159**	P	**P**	**00 26 45.4**	**0.0**
QSPA	**South Pole Qui**	**59.17**	**180**	P	**P**	**00 27 18.9**	**+0.3**
VNDA	**Vanda** comp=Z,0.6nm,0.6s,baz=153,slow=4.7,SNR=3.9	**66.88**	**191**	P	**P**	**00 28 11.0**	**+1.6**
VNDA	**Vanda**	**66.88**	**191**	P	**P**	**00 28 10.8**	**+1.3**
TXAR	**Lajitas Array** comp=Z,2.2nm,0.8s,baz=150,slow=7.6,SNR=11	**66.92**	**331**	P	**P**	**00 28 10.3**	**0.0**
TXAR				pP	**pP**	**00 28 19.4**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=156,slow=7.7,SNR=9.9						
TX31	**Lajitas Ar. Si**	**66.92**	**331**	P	**P**	**00 28 10.8**	**+0.4**
TX31				IAmb	IAmb	00 28 33.7	
	comp=Z,6.5nm,0.9s						
TX32	**Lajitas Array**	**66.92**	**331**	P	**P**	**00 28 10.7**	**+0.4**
TX32				IAmb	IAmb	00 28 33.7	
	comp=Z,2.2nm,0.9s						
MNTX	**Cornudas Mount**	**69.70**	**331**	P	**P**	**00 28 27.0**	**-0.6**
MNTX				IAmb	IAmb	00 28 36.1	
	comp=Z,3.5nm,0.8s						
X16A	**Lo Mia Camp, P**	**74.68**	**328**	P	**P**	**00 28 58.7**	**+1.1**
DBIC	**Dimbokro** comp=Z,6.5nm,0.9s,baz=261,slow=4.8,SNR=4.0	**74.76**	**72**	P	**P**	**00 28 57.7**	**-0.6**
DBIC	**Dimbokro**	**74.76**	**72**	P	**P**	**00 28 57.8**	**-0.4**
DBIC				IAmb	IAmb	00 28 59.6	
	comp=Z,13nm,1.1s						
HAL	**Halifax**	**75.78**	**7**	P	**P**	**00 29 04.2**	**+0.8**
MAW	**Mawson** comp=Z,2.8nm,0.6s,baz=205,slow=5.7,SNR=10	**76.14**	**164**	P	**P**	**00 29 05.3**	**0.0**
MAW	**Mawson**	**76.14**	**164**	P	**P**	**00 29 05.4**	**0.0**
SUR	**Sutherland** comp=Z,3.7nm,0.5s,baz=230,slow=4.7,SNR=7.4	**76.72**	**120**	P	**P**	**00 29 10.1**	**+0.6**
SUR	**Sutherland**	**76.72**	**120**	P	**P**	**00 29 09.5**	**-0.1**
SMCO	**Snowmass**	**76.82**	**333**	P	**P**	**00 29 10.4**	**+0.4**
SMCO				IAmb	IAmb	00 29 13.0	
	comp=Z,6.1nm,1.1s						
LMN	**Caledonia Moun**	**76.88**	**6**	P	**P**	**00 29 10.2**	**+0.7**
LMN				IAmb	IAmb	00 29 19.5	
	comp=Z,12nm,0.9s						
K31A	**O'Neill**	**77.14**	**341**	P	**P**	**00 29 11.4**	**+0.2**
ECSD	**EROS Data Cent**	**77.59**	**342**	P	**P**	**00 29 14.0**	**+0.4**
ECSD				IAmb	IAmb	00 29 34.5	
	comp=Z,1.5nm,0.6s						
KOWA	**Kowa**	**79.92**	**66**	P	**P**	**00 29 26.8**	**-0.3**
KOWA				IAmb	IAmb	00 29 55.0	
	comp=Z,9.8nm,1.1s						
HWUT	**Hardware Ranch**	**80.72**	**331**		**P**	**00 29 31.2**	**+0.1**
PDAR	**Pinedale Array** comp=Z,0.2nm,0.3s,baz=134,slow=5.2,SNR=2.6	**80.91**	**333**	P	**P**	**00 29 31.6**	**-0.5**
NVAR	**Mina Array Bea** comp=Z,0.5nm,0.5s,baz=156,slow=7.7,SNR=4.3	**81.17**	**325**	P	**P**	**00 29 35.2**	**+1.6**
BOSA	**Boshof** comp=Z,9.5nm,0.9s,baz=282,slow=2.8,SNR=9.2	**81.91**	**118**	P	**P**	**00 29 37.6**	**-0.2**
BOSA	**Boshof**	**81.91**	**118**	P	**P**	**00 29 37.6**	**-0.2**
BOSA				IAmb	IAmb	00 29 38.0	
	comp=Z,15nm,1.0s						
CASY	**Casey**	**82.95**	**181**	P	**P**	**00 29 42.8**	**+0.4**
CASY				IAmb	IAmb	00 29 47.1	
	comp=Z,2.7nm,0.9s						
TORD	**Torodi Ar. Bea** comp=Z,2.5nm,0.7s,baz=272,slow=4.6,SNR=4.6	**83.71**	**71**	P	**P**	**00 29 46.5**	**-0.6**
TORD	**Torodi Ar. Bea**	**83.71**	**71**	P	**P**	**00 29 46.5**	**-0.6**
LBTB	**Lobatse**	**84.02**	**115**		**P**	**00 29 48.9**	**+0.1**
ASAR	**Alice Springs** comp=Z,0.5nm,0.6s,baz=130,slow=1.4,SNR=3.2	**119.93**	**208**	PKP	**PKPdf**	**00 36 07.7**	**-1.0**
WRA	**Warramunga Arr** comp=Z,1.9nm,0.7s,baz=139,slow=1.0,SNR=10	**123.05**	**211**	PKP	**PKPdf**	**00 36 14.1**	**-0.7**
WRA				pPKP	**pPKPdf**	**00 36 23.1**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=174,slow=2.0,SNR=3.4						
ABKAR	**Akbulak array**	**140.21**	**49**	PKPdf	**PKPdf**	**00 36 46.5**	**+0.4**
BRVK	**Borovoye**	**145.35**	**40**	PKPbc	**PKPdf**	**00 36 55.3**	**+0.3**
BVAR	**Borovoye Array** comp=Z,4.6nm,0.7s,baz=248,slow=7.6,SNR=13	**145.42**	**40**	PKPbc	**PKPab**	**00 36 55.6**	**+0.1**
BVAR				pPKPbc	**pPKPdf**	**00 37 04.6**	**+0.2**
	comp=Z,3.8nm,0.7s,baz=282,slow=7.4,SNR=5.2						
YAK	**Yakutsk**	**145.79**	**341**	PKPdf	**PKPdf**	**00 36 55.6**	**+0.1**
TOLI2	**Tolitoli**	**147.61**	**206**	PKPbc	**PKPbc**	**00 37 01.9**	**-1.0**
CHGR	**Chuyangaron**	**147.94**	**66**	PKPbc	**PKPbc**	**00 37 02.7**	**-0.4**
KKAR	**Karatay Array**	**148.49**	**57**	PKPbc	**PKPbc**	**00 37 04.0**	**-0.4**
KKAR	**Karatay Array**	**148.49**	**57**		**PKPbc**	**00 37 04.0**	**-0.4**
GAR	**Garm**	**148.83**	**65**	PKPbc	**PKPbc**	**00 37 04.9**	**-0.5**
DRK	**Karamyk**	**149.94**	**64**	PKPbc	**PKPbc**	**00 37 08.1**	**-0.3**
KURBB	**Kurchatov Arra** comp=Z,0.6nm,0.2s,baz=300,slow=2.9,SNR=5.2	**151.01**	**39**	PKP	**PKPdf**	**00 37 04.7**	**+0.3**
KURBB				PKPbc	**PKPbc**	**00 37 10.1**	**-0.1**
	comp=Z,4.6nm,0.6s,baz=300,slow=2.9,SNR=9.9						
KURBB				pPKPbc	**PKPab**	**00 37 18.5**	**+0.8**
	comp=Z,1.8nm,0.4s,baz=303,slow=3.3,SNR=4.3						
KURK	**Kurchatov**	**151.01**	**39**		**PKPdf**	**00 37 04.7**	**+0.3**
NIL	**Nilore**	**151.16**	**76**	PKPbc	**PKPbc**	**00 37 10.3**	**-0.8**
NIL				PKPab	**PKPab**	**00 37 19.9**	**+0.9**
AAK	**Ala-Archa**	**151.46**	**57**	PKPbc	**PKiKP**	**00 37 12.2**	**0.0**
FRU1	**Bishkek**	**151.51**	**56**	PKPbc	**PKiKP**	**00 37 12.3**	**+0.1**
ZAA0	**Zalesovo Array**	**151.96**	**29**		**PKPbc**	**00 37 12.0**	**-0.3**
ZAA0				PKPab	**pPKPbc**	**00 37 21.3**	**-0.1**
ZALV	**Zalesovo Beam** comp=Z,11nm,0.7s,baz=302,slow=3.2,SNR=11	**151.96**	**29**	PKPbc	**PKPbc**	**00 37 12.1**	**-0.2**
ZALV				pPKPbc	**pPKPbc**	**00 37 21.0**	**-0.5**
	comp=Z,6.1nm,0.6s,baz=303,slow=3.7,SNR=5.7						
ZALV	**Zalesovo Beam**	**151.96**	**29**	PKPbc	**PKPbc**	**00 37 11.9**	**-0.3**
ZALV				PKPab	**pPKPbc**	**00 37 21.4**	**-0.1**

*GUC **17** 00:18:23.9±0.8,31°.68S×71°.88W,h24km±9km,ML4.9*
*IDC **17** 00:18:26.7±0.7,31°.68S×71°.95W,h29km±4km,mb4.4/10, mb1 4.5/12,mb1mx4.3/34,mbtmp4.6/12,ML4.6/2,Error ellipse: s-maj=26.6km s-min=16.8km az=62.0*
*NEIC **17** 00:18:27.5±1.8,31°.71S±0°.04×71°.90W±0°.06,h35km±1km, mb4.8/81,ML4.9(GUC),Error ellipse: s-maj=10.1km s-min=3.4km az=306.0*
ISC 17 00:18:25.6±0.7,31°.68S±0°.03×71°.92W±0°.06,h25km±4km, n140,σ0s98/147,mb4.8/40,1C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**1.03**	**14**	*eP*	**Pn**	**00 18 43.5**	**-0.9**
CO06				*eS*	**Sb**	**00 18 57.2**	**-0.7**
CO06	**Fray Jorge**	**1.03**	**14**		**Pb**	**00 18 45.0**	**+0.2**
CO06				Sn	**Sn**	**00 18 58.9**	**+0.8**
CO03	**El Pedregal**	**1.34**	**52**	*iP*	**Pn**	**00 18 48.1**	**-0.8**
CO03				*eP*	**Pb**	**00 18 48.5**	**-1.6**
CO03				*eS*	**Sb**	**00 19 07.1**	**+0.1**
CO03				IAML		00 19 13.0	
	comp=E,49μm,0.9s						
CO03	**El Pedregal**	**1.34**	**52**	Pn	**Pn**	**00 18 48.8**	**0.0**
VA01	**Torpederas**	**1.36**	**170**	*eP*	**Pn**	**00 18 48.2**	**-0.8**
VA01				*eS*	**Sn**	**00 19 06.0**	**-0.3**
VA01	**Torpederas**	**1.36**	**170**		**Pn**	**00 18 48.2**	**-0.8**
ROCH	**El Roble**	**1.50**	**150**	*eP*	**Pn**	**00 18 51.3**	**+0.2**
ROCH				*eS*	**Sb**	**00 19 12.4**	**+0.8**
VA03	**San Esteban**	**1.59**	**133**	*eP*	**Pn**	**00 18 52.0**	**-0.3**
VA03				*eS*	**Sb**	**00 19 13.8**	**-0.1**
VA03				IAML		00 19 19.2	
	comp=N,21μm,0.3s						
VA03	**San Esteban**	**1.59**	**133**		**Pn**	**00 18 52.3**	**+0.1**
GO04	**Tololo Observa**	**1.78**	**33**	Pn	**Pb**	**00 18 56.9**	**-0.8**
MT05	**Renca**	**1.98**	**150**	*eP*	**Pn**	**00 18 58.1**	**+0.5**
MT05				IAML		00 19 32.4	
	comp=N,12μm,0.1s						
MT05	**Renca**	**1.98**	**150**		**Pn**	**00 18 56.2**	**-1.4**
VA05	**Santo Domingo**	**1.99**	**173**	*eP*	**Pn**	**00 18 58.8**	**+1.2**
VA05				*eS*	**Sb**	**00 19 24.9**	**-0.6**
VA05	**Santo Domingo**	**1.99**	**173**	Pn	**Pn**	**00 18 56.1**	**-1.6**
MT09	**Talagante**	**2.23**	**160**	*eS*	**Sb**	**00 19 35.6**	**+2.9**
MT09	**Talagante**	**2.23**	**160**		**Pn**	**00 19 00.0**	**-1.1**
MT01	**Popeta**	**2.25**	**166**		**Pn**	**00 19 01.4**	**+0.1**
BO01	**Tunca**	**2.80**	**166**		**Pn**	**00 19 09.0**	**+0.3**
LCO	**Las Campanas**	**2.86**	**22**	Pn	**Pn**	**00 19 09.3**	**-0.5**
GO05	**Huala**	**3.32**	**180**	Pn	**Pn**	**00 19 14.7**	**-1.3**
AC04	**Llanos de Chal**	**3.54**	**12**	Pn	**Pn**	**00 19 20.7**	**+1.8**
ML02	**Panimavida**	**4.10**	**174**	Pn	**Pn**	**00 19 26.2**	**-0.4**
AC02	**Maricunga**	**5.41**	**27**	Pn	**Pn**	**00 19 45.0**	**-0.1**
H03N1	**Juan Fernandez** baz=80,slow=72,SNR=22	**6.16**	**252**	T	T	00 26 47.9	
H03N3	**Juan Fernandez** baz=80,slow=72,SNR=23	**6.17**	**251**	T	T	00 26 40.9	
H03N2	**Juan Fernandez** baz=80,slow=72,SNR=26	**6.18**	**252**	T	T	00 26 22.0	
LC01	**Cunco**	**7.20**	**180**	Pn	**Pn**	**00 20 07.5**	**-1.8**
PLCA	**Paso Flores** comp=N,2.3nm,0.3s,baz=334,slow=11,SNR=9.1	**9.10**	**173**	Pn	**Pn**	**00 20 35.3**	**-0.1**
PLCA	**Paso Flores**	**9.10**	**173**	Pn	**Pn**	**00 20 34.5**	**-0.9**
LL05	**Los Muermos**	**9.79**	**187**	Pn	**Pn**	**00 20 43.2**	**-1.5**
ITQB	**Itaqui**	**13.32**	**85**	Pn	**Pn**	**00 21 33.8**	**+0.7**
PLTB	**Pedras Altas**	**15.59**	**95**	Pn	**Pn**	**00 22 04.5**	**+0.8**
PLTB				IAmb	IAmb	00 22 31.7	
	comp=E,61nm,1.2s						
LPAZ	**La Paz** comp=Z,0.4nm,0.3s,baz=173,slow=6.4,SNR=3.2	**15.70**	**14**	Pn	**Pn**	**00 22 06.0**	**+0.2**
LPAZ	**La Paz**	**15.70**	**14**		**Pn**	**00 22 05.6**	**-0.3**
NNA	**Nana** comp=Z,6.1nm,0.4s,baz=188,slow=7.0,SNR=4.9	**20.12**	**346**	P	**P**	**00 22 58.2**	**+0.5**
NNA	**Nana**	**20.12**	**346**	P	**P**	**00 22 58.9**	**+1.1**
SPB	**Sao Paulo**	**23.10**	**76**	P	**P**	**00 23 29.0**	**-0.7**
SAML	**Samuel**	**24.03**	**22**	P	**P**	**00 23 38.6**	**0.0**
BDFB	**Brasilia** comp=Z,36nm,1.1s,baz=202,slow=7.2,SNR=4.8	**27.00**	**59**	P	**P**	**00 24 05.5**	**-0.3**
BDFB	**Brasilia**	**27.00**	**59**	P	**P**	**00 24 04.8**	**-1.0**
OTAV	**Otavalo**	**32.34**	**348**	P	**P**	**00 24 54.6**	**+1.1**
OTAV				IAmb	IAmb	00 25 20.2	
	comp=Z,8.9nm,1.1s						
RUSC	**La Rusia**	**37.38**	**358**		**P**	**00 25 37.8**	**+0.8**
ORTG	**Ortega, Santa**	**43.77**	**341**	P	**P**	**00 26 29.3**	**0.0**
PETF	**Flores**	**51.30**	**338**	P	**P**	**00 27 27.2**	**-0.5**
PETF				IAmb	IAmb	00 27 28.6	
	comp=Z,12nm,0.8s						
VNA3	**Neumayer Olymp**	**51.47**	**159**	P	**P**	**00 27 29.1**	**+0.7**
VNA2	**Neumayer--Watz** baz=286,slow=8.1	**52.11**	**158**	P	**P**	**00 27 33.9**	**+0.6**
SNAA	**Sanae**	**53.70**	**158**	P	**P**	**00 27 45.8**	**+0.8**
SNAA	**Sanae** comp=Z,9.0nm,0.7s,baz=267,slow=7.6,SNR=10	**53.70**	**158**	P	**P**	**00 27 45.8**	**+0.8**
SNAA	**Sanae**	**53.70**	**158**	P	**P**	**00 27 45.5**	**+0.5**
SNAA				IAmb	IAmb	00 27 56.5	
	comp=Z,14nm,0.9s						

comp=Z,6.8nm,0.9s
ELK Elko 82.44 328 P **P** **00 30 46.1 +0.2**
LBTB Lobatse 83.19 115 P **P** **00 30 49.4 -0.7**
LBTB IAmb IAmb 00 30 57.6
comp=Z,12nm,1.1s
FLWY Flagg Ranch 83.30 333 P **P** **00 30 49.9 -0.3**
FLWY IAmb IAmb 00 31 09.1
comp=Z,9.6nm,1.2s
TORD Torodi Ar. Bea 83.33 70 P **P** **00 30 51.0 +0.2**
comp=Z,9.7nm,1.0s,baz=261,slow=4.8,SNR=8.1
TORD Torodi Ar. Bea 83.33 70 P **P** **00 30 50.9 +0.2**
TORD IAmb IAmb 00 31 01.7
comp=Z,10nm,0.8s
PAHR Pah Rah Range 83.56 325 P **P** **00 30 52.3 +0.8**
PAHR IAmb IAmb 00 31 03.5
comp=Z,9.0nm,1.0s
RLMT Red Lodge 83.64 334 P **P** **00 30 52.2 +0.2**
RLMT IAmb IAmb 00 31 18.6
comp=Z,9.0nm,1.4s
YHH Holmes Hill 83.95 333 P **P** **00 30 53.9 +0.2**
YHH IAmb IAmb 00 31 05.8
comp=Z,11nm,1.2s
HLID Hailey 84.37 330 P **P** **00 30 55.8 +0.1**
ORV Oroville 84.50 324 P **P** **00 30 56.8 +0.6**
ORV IAmb IAmb 00 31 07.9
comp=Z,11nm,1.1s
KHZ Kahutara 84.90 223 P **P** **00 30 59.1 +0.7**
LTZ Lake Taylor 85.39 222 P **P** **00 31 02.0 +1.0**
THZ Tophouse 85.67 223 **P** **00 31 03.5 +1.2**
J08A Circle Bar Ran 85.98 328 P **P** **00 31 04.1 +0.5**
K05A Summer Lake 86.61 326 P **P** **00 31 07.7 +0.8**
I07A Izee 87.01 328 P **P** **00 31 09.4 +0.7**
I07A IAmb IAmb 00 31 20.2
comp=Z,5.5nm,1.0s
KRMB Red Mountain 87.19 324 P **P** **00 31 10.2 +0.6**
HAWA Hanford 88.82 329 P **P** **00 31 17.7 +0.6**
ASAR Alice Springs 119.67 207 pPKP pPKPdf 00 37 22.3 +0.9
comp=Z,1.5nm,0.9s,baz=141,slow=2.6,SNR=6.4
WRA Warramunga Arr 122.83 210 PKP **PKPdf** **00 37 19.1 -1.0**
comp=Z,0.7nm,0.7s,baz=151,slow=1.9,SNR=3.1
WRA pPKP **pPKPdf** **00 37 28.5 +1.0**
comp=Z,3.4nm,0.9s,baz=164,slow=2.3,SNR=9.5
FITZ Fitzroy Crossi 127.72 201 PKP **PKPdf** **00 37 29.1 -0.4**
comp=Z,1.3nm,0.6s,baz=185,slow=5.3,SNR=4.3
FITZ Fitzroy Crossi 127.72 201 PKPdf **PKPdf** **00 37 28.9 -0.6**
BRVK Borovoye 145.41 41 PKPbc **PKPab** **00 38 01.7 +0.7**
BVAR Borovoye Array 145.49 41 PKPbc **PKPab** **00 38 02.5 +1.1**
comp=Z,6.8nm,0.6s,baz=269,slow=5.8,SNR=12
TOLI2 Tolitoli 147.31 204 PKPbc **PKPdf** **00 38 06.4 +1.1**
KK31 Karatay Array 148.29 58 PKPbc **PKPbc** **00 38 09.5 0.0**
KKAR Karatay Array 148.29 58 PKPbc **PKPbc** **00 38 08.6 -0.9**
KKAR Karatay Array 148.29 58 PKPbc **PKPbc** **00 38 09.7 +0.2**
GAR Garm 148.51 66 PKPbc **PKPbc** **00 38 10.1 -0.2**
PSI Prapat 150.01 161 PKPbc **PKPbc** **00 38 14.3 -0.5**
comp=Z,9.8nm,0.4s,baz=181,slow=4.7,SNR=4.8
KURBB Kurchatov Arra 151.08 41 PKPbc **PKPbc** **00 38 16.6 +0.6**
comp=Z,6.4nm,0.7s,baz=298,slow=2.9,SNR=4.2
KURBB pPKPbc **sPKPbc** **00 38 26.3 0.0**
comp=Z,11nm,0.8s,baz=294,slow=2.9,SNR=10
ZAA0 Zalesovo Array 152.19 30 PKPbc **PKPbc** **00 38 18.3 -0.2**
ZALV Zalesovo Beam 152.19 30 PKPbc **PKPbc** **00 38 18.7 +0.3**
comp=Z,12nm,0.6s,baz=298,slow=2.9,SNR=9.4
ZALV pPKPbc **sPKPbc** **00 38 27.9 -0.9**
comp=Z,22nm,0.7s,baz=308,slow=2.8,SNR=8.3
ZALV Zalesovo Beam 152.19 30 PKPbc **PKPbc** **00 38 18.5 +0.1**
MKAR Makanchi Array 155.11 45 PKPbc PKPdf 00 38 24.8 +8.6
comp=Z,0.6nm,0.6s,baz=321,slow=1.6,SNR=3.7
WMQ Urumqi 159.89 47 *eP* **PKPdf** **00 38 20.4 -2.0**
HHC Hu-ho-hao-te 170.43 344 *eP* **PKPdf** **00 38 26.0 -5.4**
HHC LR LR
comp=N,13μm,21.3s
HHC LR LR
comp=E,6μm,18.3s
HHC LR LR
comp=Z,16μm,20.0s
NJ2 Nanjing 170.83 275 *eP* **PKPdf** **00 38 27.6 -4.1**
NJ2 pmax pmax
comp=Z,25nm,0.5s

IDC 17 00:21:04.8±2.8, 31°54S×71°79W, h0km, mb4.2/1, mb1 4.3/2, mb1mx3.8/32, mbtmp4.2/2, ML4.1/1, Error ellipse: s-maj=138.1km s-min=46.8km az=94.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**9.23**	**174**	Pn	Pn	00 23 19.3	+0.1
	0.4nm,0.3s,baz=332,slow=13,SNR=1.7						
TORD	**Torodi Ar. Bea**	**83.18**	**70**	P	P	00 33 33.1	-0.1
	1.7nm,0.9s,baz=254,slow=5.2,SNR=2.1						
BVAR	**Borovoye Array**	**145.31**	**41**	PKPbc	PKPbc	00 40 43.8	-0.1
	2.3nm,0.5s,baz=268,slow=5.3,SNR=4.3						
ZALV	**Zalesovo Beam**	**152.02**	**30**	PKPbc	PKPbc	00 41 00.8	-0.7
	1.3nm,0.4s,baz=309,slow=1.7,SNR=4.1						

*GUC **17** 00:22:15.4±0.5, 31°49S×72°08W, h26km±2km, ML5.5*
*IDC **17** 00:22:17.7±0.5, 31°73S×71°56W, h0km, mb4.9/17, mb1 4.9/19, mb1mx4.8/30, mbtmp4.9/19, ML5.0/2, MS6.2/1, Ms1 6.2/1, ms1mx5.5/34, Error ellipse: s-maj=23.7km s-min=12.6km az=72.0*
*VAO **17** 00:22:19.6±0.3, 31°86S×71°93W, h10km, mb5.2*
*NEIC **17** 00:22:20.4±1.7, 31°80S±0°04×72°12W±0°07, h10km±1km, mb5.2/174, ML5.5(GUC), Error ellipse: s-maj=10.5km s-min=6.3km az=274.0*
*SJA **17** 00:22:24.0, 31°68S×72°05W, h10km, ML5.6*
ISC 17 00:22:21.1±1.0, 31°78S±0°02×71°93W±0°04, h18km±4km, n519, σ1°14/534, mb5.2/95, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**1.13**	**13**	Pn	**Pb**	**00 22 42.1**	**0.0**
CO06				Sn	**Sg**	**00 22 59.0**	**+1.1**
VA01	**Torpederas**	**1.26**	**169**	*eP*	**Pn**	**00 22 42.3**	**-1.5**
VA01				*eS*	**Sg**	**00 23 02.6**	**+0.6**
VA01	**Torpederas**	**1.26**	**169**	*eP*	**Pn**	**00 22 42.4**	**-1.5**
VA01				*i* S	**Sg**	**00 23 07.0**	**+4.9**
VA01				IAML		00 23 11.7	
	comp=N,8μm,0.4s						
VA01	**Torpederas**	**1.26**	**169**		**Pn**	**00 22 42.8**	**-1.0**
VA01	**Torpederas**	**1.26**	**169**	*i* P	**Pn**	**00 22 43.5**	**-0.3**
CO03	**El Pedregal**	**1.42**	**49**	Pn	**Pb**	**00 22 47.2**	**+0.1**
CO03				Sn	**Sg**	**00 23 08.4**	**+1.4**
ROCH	**El Roble**	**1.42**	**147**	*eP*	**Pn**	**00 22 45.6**	**-0.6**
ROCH				*eS*	**Sg**	**00 23 08.7**	**+1.5**
ROCH				IAML		00 23 15.9	
	comp=E,36μm,0.6s						
ROC1	**El Roble**	**1.42**	**147**	*i* P	**Pg**	**00 22 48.3**	**-0.3**
ROC1				*eS*	**Sg**	**00 23 09.0**	**+1.8**
VA03	**San Esteban**	**1.53**	**130**	*eP*	**Pn**	**00 22 46.1**	**-1.5**
VA03				*eS*	**Sg**	**00 23 10.0**	**-0.4**
VA03				IAML		00 23 16.7	
	comp=N,192μm,0.6s						
VA03	**San Esteban**	**1.53**	**130**	*eP*	**Pb**	**00 22 48.5**	**-0.5**
VA03				*i* S	**Sg**	**00 23 11.5**	**+1.0**
VA03				IAML		00 23 16.6	
	comp=N,95μm,0.5s						
VA03	**San Esteban**	**1.53**	**130**		**Pn**	**00 22 46.4**	**-1.2**
VA03	**San Esteban**	**1.53**	**130**	*i* P	**Pg**	**00 22 50.0**	**-0.5**
VA03				*eS*	**Sg**	**00 23 13.8**	**+3.4**
GO04	**Tololo Observa**	**1.87**	**32**	*eP*	Pn	00 22 44.9	-7.6
GO04	**Tololo Observa**	**1.87**	**32**	*eP*	Pn	00 22 46.5	-6.0
GO04	**Tololo Observa**	**1.87**	**32**		**Pn**	**00 22 53.0**	**+0.5**
GO04	**Tololo Observa**	**1.87**	**32**	*i* P	**Pg**	**00 22 56.5**	**-0.7**
GO04				*eS*	**Sg**	**00 23 21.5**	**-0.1**
VA05	**Santo Domingo**	**1.89**	**172**	*eP*	**Pn**	**00 22 51.5**	**-0.9**
VA05				*eS*	**Sb**	**00 23 19.3**	**+1.0**
VA05				IAML		00 23 34.1	
	comp=E,50μm,0.6s						
VA05	**Santo Domingo**	**1.89**	**172**	*eP*	**Pn**	**00 22 51.3**	**-1.2**
VA05				*i* S	**Sg**	**00 23 25.0**	**+3.0**
VA05				IAML		00 23 33.2	
	comp=E,24μm,0.5s						
VA05	**Santo Domingo**	**1.89**	**172**	Pn	**Pn**	**00 22 51.4**	**-1.0**
MT05	**Renca**	**1.90**	**148**	*eP*	**Pn**	**00 22 51.9**	**-0.7**
MT05				*eS*	**Sb**	**00 23 20.0**	**+1.4**
MT05				IAML		00 23 31.3	
	comp=E,73μm,0.5s						
MT05	**Renca**	**1.90**	**148**	*eP*	**Pb**	**00 22 54.3**	**-1.0**
MT05				*i* S	**Sg**	**00 23 22.2**	**-0.1**
MT05				IAML		00 23 31.3	
	comp=E,37μm,0.4s						
MT05	**Renca**	**1.90**	**148**		**Pn**	**00 22 53.8**	**+1.2**
MT05	**Renca**	**1.90**	**148**	*i* P	**Pb**	**00 22 56.0**	**+0.8**
FSR	**Penalolen**	**2.07**	**145**	*eP*	**Pb**	**00 22 57.5**	**-0.7**
FSR	**Penalolen**	**2.07**	**145**	*eP*	**Pb**	**00 22 58.7**	**+0.6**
FSR				*i* S	**Sg**	**00 23 27.9**	**+0.3**
MT09	**Talagante**	**2.14**	**159**	*eP*	**Pn**	**00 22 55.2**	**-0.9**
MT09				*eS*	**Sn**	**00 23 23.9**	**+1.5**
MT09				IAML		00 23 35.7	
	comp=N,27μm,0.7s						
MT09	**Talagante**	**2.14**	**159**		**Pn**	**00 22 56.4**	**+0.3**
MT01	**Popeta**	**2.15**	**165**	*eP*	**Pn**	**00 22 55.2**	**-1.0**
MT01				*eS*	**Sb**	**00 23 25.7**	**-0.3**
MT01				IAML		00 23 41.1	
	comp=N,14μm,0.6s						
MT01	**Popeta**	**2.15**	**165**		**Pn**	**00 22 55.5**	**-0.7**
MT01	**Popeta**	**2.15**	**165**	*i* P	**Pg**	**00 23 02.2**	**-0.3**
MT01				*eS*	**Sb**	**00 23 24.8**	**-1.2**
AUSP	**Uspallata**	**2.21**	**102**	*i* P	**Pb**	**00 23 00.0**	**-0.6**
RTLS	**Leoncito**	**2.24**	**91**	*i* P	**Pb**	**00 22 59.3**	**-2.0**
RTLS				*eS*	**Sg**	**00 23 35.3**	**+1.9**
LMEL	**Las Melosas**	**2.52**	**145**	*eP*	**Pn**	**00 23 01.9**	**+0.6**
LMEL				IAML		00 23 53.7	
	comp=E,8μm,0.5s						
BO01	**Tunca**	**2.70**	**165**	*eP*	**Pn**	**00 23 02.0**	**-1.6**
BO01	**Tunca**	**2.70**	**165**		**Pn**	**00 23 03.7**	**+0.1**
BO01	**Tunca**	**2.70**	**165**	*i* P	**Pb**	**00 23 08.1**	**-0.8**
BO01				*eS*	**Sg**	**00 23 46.3**	**-1.6**
BO03	**Pichilemu**	**2.71**	**181**	*eP*	**Pn**	**00 23 01.7**	**-2.1**
ASAL	**Salagasta**	**2.75**	**108**	*i* P	**Pb**	**00 23 09.4**	**-0.3**
ARCO	**CERRO ARCO**	**2.75**	**113**	*i* P	**Pb**	**00 23 11.2**	**+1.3**
ARCO				*eS*	**Sg**	**00 23 51.4**	**+1.8**
ZON	**Zonda**	**2.78**	**86**		**Pn**	**00 23 06.5**	**+1.6**
AAGR	**Agrelo**	**2.93**	**117**	*i* P	**Pb**	**00 23 13.8**	**+0.9**
LCO	**Las Campanas**	**2.96**	**21**		**Pb**	**00 23 14.4**	**+1.0**
BO02	**Sierra Bellavi**	**3.15**	**163**	*eP*	**Pn**	**00 23 10.4**	**+0.5**
BO02				*eS*	**Sn**	**00 23 50.2**	**+3.0**
BO02	**Sierra Bellavi**	**3.15**	**163**		**Pn**	**00 23 09.8**	**-0.2**
BO02	**Sierra Bellavi**	**3.15**	**163**	*i* P	**Pn**	**00 23 10.1**	**+0.1**
BO02				*eS*	**Sb**	**00 23 58.4**	**+3.6**
GO05	**Huala**	**3.22**	**180**	Pn	**Pn**	**00 23 09.2**	**-1.6**
GO05	**Huala**	**3.22**	**180**	*i* P	**Pn**	**00 23 10.1**	**-0.7**
GO05				*eS*	**Sg**	**00 24 07.3**	**+2.6**
AC04	**Llanos de Chal**	**3.64**	**12**	Pn	**Pn**	**00 23 15.8**	**-0.7**
COIS	**El Sosneado**	**3.85**	**150**	*i* P	**Pb**	**00 24 20.4**	**-4.5**
COIS				*eS*	**Sg**	**00 24 25.9**	**+1.1**
LAMA	**Las Malvinas**	**3.88**	**145**	*i* P	**Pb**	**00 23 26.0**	**-3.1**
AVFE	**Valle Fertil**	**3.99**	**75**	*i* P	**Pb**	**00 23 27.7**	**-3.3**
AVFE				*eS*	**Sb**	**00 24 20.1**	**+1.1**
ML02	**Panimavida**	**4.00**	**174**		**Pn**	**00 23 20.3**	**-1.1**
AC02	**Maricunga**	**5.50**	**27**		**Pn**	**00 23 41.2**	**-1.4**
H03N1	**Juan Fernandez**	**6.12**	**252**	T	T	00 30 36.2	
	baz=77,slow=72,SNR=35						
H03N3	**Juan Fernandez**	**6.13**	**252**	T	T	00 30 35.9	
	baz=77,slow=72,SNR=14						
H03N2	**Juan Fernandez**	**6.13**	**252**	T	T	00 30 43.1	
	baz=77,slow=72,SNR=14						
LC01	**Cunco**	**7.10**	**180**		**Pn**	**00 24 02.2**	**-1.9**
LR03	**Panguipulli**	**7.84**	**182**	Pn	**Pn**	**00 24 13.1**	**-1.2**
PLCA	**Paso Flores**	**9.00**	**173**	Pn	**Pn**	**00 24 29.0**	**-1.3**
	comp=E,5.1nm,0.3s,baz=339,slow=14,SNR=19						
PLCA	**Paso Flores**	**9.00**	**173**	Pn	**Pn**	**00 24 29.3**	**-1.0**
PLCA	**Paso Flores**	**9.00**	**173**	*eP*	**Pn**	**00 24 27.4**	**-2.8**
LL04	**Puerto Octay**	**9.12**	**182**		**Pn**	**00 24 30.1**	**-1.7**
LVC	**Limon Verde**	**9.52**	**17**	*eP*	**Pn**	**00 24 37.6**	**0.0**
TRQA	**Tornquist**	**10.29**	**130**	Pn	**Pn**	**00 24 49.1**	**+1.2**
TRQA	**Tornquist**	**10.29**	**130**	*eP*	**Pn**	**00 24 47.9**	**0.0**
LL02	**Futaleuf**	**11.39**	**180**	Pn	**Pn**	**00 25 01.7**	**-1.2**
PB08	**IPOC Station P**	**11.86**	**13**	Pn	**Pn**	**00 25 11.2**	**+1.6**
ITQB	**Itaqui**	**13.34**	**85**	*eP*	**Pn**	**00 25 28.5**	**-1.0**
COYC	**Coyhaique**	**13.77**	**180**		**Pn**	**00 25 34.7**	**-0.7**
PLTB	**Pedras Altas**	**15.59**	**95**	Pn	**Pn**	**00 26 00.5**	**+0.5**
PLTB				IAmb	IAmb	00 26 59.3	
	comp=Z,233nm,1.1s						
PLTB	**Pedras Altas**	**15.59**	**95**	*eP*	**Pn**	**00 25 59.0**	**-1.0**
LPAZ	**La Paz**	**15.81**	**14**	Pn	**Pn**	**00 26 02.2**	**-1.2**
	comp=Z,1.7nm,0.3s,baz=189,slow=5.4,SNR=18						
LPAZ	**La Paz**	**15.81**	**14**		**Pn**	**00 26 02.8**	**-0.7**
LPAZ	**La Paz**	**15.81**	**14**	*eP*	**Pn**	**00 26 02.1**	**-1.3**
CPSB	**Cacapava Do Su**	**15.90**	**90**	*eP*	**Pn**	**00 26 04.3**	**+0.3**
CNLB	**Canela**	**18.32**	**88**	*eP*	**P**	**00 26 35.0**	**+0.6**
AQDB	**Aquidauana**	**18.39**	**56**	P	**Pn**	**00 26 35.3**	**+0.1**
AQDB	**Aquidauana**	**18.39**	**56**	*eP*	**Pn**	**00 26 35.6**	**+0.4**
PTGB	**Pitanga**	**18.85**	**73**	*eP*	**Pn**	**00 26 40.5**	**-0.3**
TRCB	**Terra Rica**	**19.32**	**67**	P	**Pn**	**00 26 46.1**	**-0.5**
TRCB	**Terra Rica**	**19.32**	**67**	*eP*	**Pn**	**00 26 46.0**	**-0.6**
TER01	**Tubaro-SC**	**19.98**	**87**	*eP*	**P**	**00 26 51.8**	**-0.8**
PTLB	**Pontes e Lacer**	**20.01**	**39**	*eP*	**P**	**00 26 53.6**	**+0.7**
NNA	**Nana**	**20.21**	**346**	P	**Pn**	**00 26 55.8**	**+0.6**
	comp=Z,32nm,0.8s,baz=191,slow=10,SNR=13						
NNA	**Nana**	**20.21**	**346**	P	**P**	**00 26 54.5**	**-0.7**
PP1B	**Ponte de Pedra**	**20.92**	**52**	*eP*	**P**	**00 27 03.7**	**+0.9**
PCMB	**Pacaembu**	**21.03**	**66**	*eP*	**P**	**00 27 04.2**	**+0.2**
MG02	**Cerro Sombrero**	**21.08**	**175**	P	**P**	**00 27 04.2**	**0.0**
GO10	**Punta Arenas**	**21.37**	**179**	P	**P**	**00 27 07.2**	**-0.2**
FRTB	**Fartura**	**21.51**	**73**	*eP*	**P**	**00 27 09.2**	**0.0**
SALV	**Santo Antonio**	**21.64**	**47**	*eP*	**P**	**00 27 10.7**	**+0.1**
EFI	**East Falkland**	**22.34**	**157**	P	**P**	**00 27 17.6**	**-0.1**
ETMB	**Extrema**	**22.49**	**15**	*eP*	**P**	**00 27 20.8**	**+1.1**
ITRB	**Iturama**	**22.80**	**63**	*eP*	**P**	**00 27 22.3**	**-0.7**
PET01	**Itanhaem-SP**	**22.97**	**77**	*eP*	**P**	**00 27 25.3**	**+0.6**
SPB	**Sao Paulo**	**23.14**	**75**	P	**P**	**00 27 27.0**	**+0.6**
MG01	**Puerto William**	**23.34**	**174**	P	**P**	**00 27 28.2**	**+0.1**
BB19B	**Bebedouro**	**23.47**	**69**	*eP*	**P**	**00 27 28.4**	**-1.4**
RCLB	**Rio Claro- Sao**	**23.59**	**73**	*eP*	**P**	**00 27 30.7**	**-0.3**
VAO	**Valinhos**	**23.79**	**75**	*eP*	**P**	**00 27 32.5**	**-0.4**
CZSB	**Cruzeiro do Su**	**23.94**	**358**	*eP*	**P**	**00 27 35.4**	**+1.1**
SAML	**Samuel**	**24.13**	**22**	P	**P**	**00 27 36.5**	**+0.4**
PARB	**Paraibuna**	**24.75**	**77**	*eP*	**P**	**00 27 42.7**	**+0.9**
IPMB	**Ipameri, GO**	**25.45**	**63**	*eP*	**P**	**00 27 47.7**	**-0.5**
CLDB	**Colider**	**25.60**	**39**	*eP*	**P**	**00 27 49.8**	**+0.3**
BSCB	**Bom Sucesso**	**26.52**	**73**	*eP*	**P**	**00 27 57.5**	**-0.4**
VAS01	**Vassouras-RJ**	**27.02**	**77**	*eP*	**P**	**00 28 02.0**	**-0.3**
BDFB	**Brasilia**	**27.07**	**59**	P	**P**	**00 28 02.4**	**-0.4**
	comp=Z,22nm,0.5s,baz=236,slow=9.1,SNR=17						
BDFB	**Brasilia**	**27.07**	**59**	P	**P**	**00 28 02.2**	**-0.6**
BDFB				IAmb	IAmb	00 28 24.8	
	comp=Z,56nm,0.9s						
SNDB	**Serra Nova Dou**	**27.39**	**49**	*eP*	**P**	**00 28 05.5**	**-0.1**
TBTG	**Tabatinga, AM**	**27.52**	**4**	*eP*	**P**	**00 28 08.3**	**+1.6**
DUB01	**Friburgo-RJ**	**27.99**	**77**	*eP*	**P**	**00 28 10.4**	**-0.6**
CAM01	**Campos-RJ**	**28.70**	**77**	*eP*	**P**	**00 28 17.4**	**+0.1**
DIAM	**Diamantina, MG**	**28.81**	**69**	*eP*	**P**	**00 28 19.3**	**+0.8**
NPGB	**Novo Progresso**	**29.07**	**36**	*eP*	**P**	**00 28 20.4**	**-0.2**
PEXB	**Peixe**	**29.27**	**53**	*eP*	**P**	**00 28 22.9**	**+0.5**
MC01	**Montes Claros**	**29.49**	**66**	*eP*	**P**	**00 28 23.4**	**-1.0**
JANB	**Januaria**	**30.19**	**63**	*eP*	**P**	**00 28 30.3**	**-0.3**
MACA	**Manacapuru-AM**	**30.37**	**23**	*eP*	**P**	**00 28 32.0**	**-0.1**
SJMB	**Sao Joao De Ma**	**30.59**	**72**	*eP*	**P**	**00 28 34.0**	**-0.1**
BSFB	**Barra de Sao F**	**30.80**	**73**	*eP*	**P**	**00 28 35.7**	**-0.3**
RIB01	**Linhares ES**	**30.93**	**74**	*eP*	**P**	**00 28 38.2**	**+1.2**
ITTB	**Itaituba**	**31.22**	**32**	*eP*	**P**	**00 28 38.8**	**-0.8**
SDBA	**SAO DESIDERIO**	**31.45**	**58**	*eP*	**P**	**00 28 41.7**	**-0.1**
NAN01	**Guarapari, ES**	**31.89**	**72**	*eP*	**P**	**00 28 46.9**	**-0.5**
SMTB	**Santa Maria do**	**32.11**	**50**	*eP*	**P**	**00 28 47.9**	**+0.4**
OTAV	**Otavalo**	**32.44**	**348**	P	**P**	**00 28 51.3**	**+0.5**
OTAV	**Otavalo**	**32.44**	**348**	*eP*	**P**	**00 28 52.8**	**+2.0**
OTAV	**Otavalo**	**32.44**	**348**	*eP*	**P**	**00 28 52.1**	**+1.2**
PRPB	**Paraiuapebas**	**32.81**	**44**	*eP*	**P**	**00 28 53.2**	**-0.4**
GUA01	**Guaratinga, BA**	**32.83**	**70**	*eP*	**P**	**00 28 54.2**	**+0.4**
PMSA	**Palmer Station**	**33.38**	**174**	P	**P**	**00 28 59.3**	**+1.3**
PMSA				IAmb	IAmb	00 29 09.7	
	comp=Z,51nm,1.2s						
CMC01	**Camacan, BA**	**33.74**	**69**	*eP*	**P**	**00 29 01.4**	**-0.3**
HOPE	**Hope Point**	**33.76**	**142**	P	**P**	**00 29 02.3**	**+0.8**
BBAC	**Balboa, Cauca**	**33.99**	**350**	*eP*	**P**	**00 29 05.5**	**+1.4**
SOTA	**Rioblanco**	**34.02**	**352**	*eP*	**P**	**00 29 07.6**	**+2.9**
NBIT	**Itapeh - BA**	**34.05**	**68**	*eP*	**P**	**00 29 05.2**	**+0.8**
MALB	**Monte Alegre**	**34.12**	**33**	*eP*	**P**	**00 29 04.4**	**-0.5**
POPC	**Popayan, Colom**	**34.43**	**352**	*eP*	**P**	**00 29 10.0**	**+2.1**
GDU01	**Guandu, BA**	**34.65**	**66**	*eP*	**P**	**00 29 08.8**	**-0.8**
PRAC	**Prado**	**35.41**	**355**	*eP*	**P**	**00 29 18.2**	**+2.0**
ORTC	**Ortega, Tolima**	**35.63**	**354**	*eP*	**P**	**00 29 20.3**	**+2.2**
BOAV	**Boa Vista**	**35.67**	**20**	*eP*	**P**	**00 29 18.4**	**0.0**
VILC	**Villavicencio,**	**35.73**	**357**	*eP*	**P**	**00 29 20.7**	**+1.7**
YOTC	**Yotoco, Valle**	**35.81**	**352**	*eP*	**P**	**00 29 20.3**	**+0.6**
NBPN	**Ponto Novo - B**	**35.95**	**62**	*eP*	**P**	**00 29 20.4**	**-0.4**
CHIC	**Chingaza**	**36.25**	**357**	*eP*	**P**	**00 29 25.6**	**+1.8**
MCPB	**Macapa, AP**	**36.47**	**35**	*eP*	**P**	**00 29 25.1**	**-0.1**
ROSC	**El Rosal**	**36.49**	**356**	P	**P**	**00 29 26.6**	**+0.9**
	comp=Z,14nm,0.7s,baz=108,slow=20,SNR=3.2						
ROSC	**El Rosal**	**36.49**	**356**	P	**P**	**00 29 26.4**	**+0.6**
TMAB	**Tom-Au,PA,Br**	**36.88**	**42**	*eP*	**P**	**00 29 29.1**	**+0.4**
GUY2C	**Guyana, Caldas**	**36.94**	**354**	*eP*	**P**	**00 29 32.0**	**+2.2**
NORC	**Norcasia**	**37.24**	**355**	*eP*	**P**	**00 29 32.8**	**+1.0**
SPBC	**San Pablo de B**	**37.28**	**356**	*eP*	**P**	**00 29 32.9**	**+0.7**
RUSC	**La Rusia**	**37.48**	**358**	P	**P**	**00 29 34.5**	**+0.2**
RUSC	**La Rusia**	**37.48**	**358**	*eP*	**P**	**00 29 35.1**	**+0.8**
CBOC	**Ciudad Bolivar**	**37.63**	**353**	*eP*	**P**	**00 29 36.3**	**+1.0**
NBLA	**Lagarto - SE**	**37.68**	**64**	*eP*	**P**	**00 29 34.2**	**-1.4**
HELC	**Santa Helena**	**37.91**	**354**	*eP*	**P**	**00 29 39.3**	**+1.5**
PTBC	**PUERTO BERRIO,**	**38.18**	**356**	*eP*	**P**	**00 29 39.2**	**-0.5**
ELOV	**Elorza**	**38.63**	**4**	*eP*	**P**	**00 29 42.9**	**-0.6**
DBBC	**Dabeiba**	**38.80**	**353**	*eP*	**P**	**00 29 47.3**	**+2.3**
ROSB	**Rosrio**	**38.86**	**48**	*eP*	**P**	**00 29 44.1**	**-1.3**
ZARC	**Zaragoza, Cauc**	**39.15**	**355**	*eP*	**P**	**00 29 46.7**	**-1.2**
NBMA	**Muriti-CE**	**39.30**	**59**	*eP*	**P**	**00 29 49.4**	**+0.2**
NBPS	**Pedro II - PI**	**39.49**	**53**	*eP*	**P**	**00 29 51.2**	**+0.3**
NBAN	**Anadia - AL**	**39.67**	**64**	*eP*	**P**	**00 29 51.8**	**-0.5**
NBPB	**Pedra_Branca-C**	**39.96**	**56**	*eP*	**P**	**00 29 53.3**	**-1.4**
SMLC	**San Martn de**	**40.40**	**357**	*eP*	**P**	**00 29 57.0**	**-1.2**
SDV	**Santo Domingo**	**40.45**	**2**	P	**P**	**00 29 58.6**	**-0.3**
SDV	**Santo Domingo**	**40.45**	**2**	*eP*	**P**	**00 29 59.0**	**+0.1**
SDV	**Santo Domingo**	**40.45**	**2**	*eP*	**P**	**00 29 59.3**	**+0.4**
MDP	**Montagnes des**	**41.03**	**30**	P	**P**	**00 30 02.8**	**-0.7**
	comp=Z,14nm,0.6s,baz=201,slow=7.3,SNR=15						
NBRF	**Rio Formoso -**	**41.17**	**64**	*eP*	**P**	**00 30 04.7**	**0.0**
NBMO	**Morrinhos-CE**	**41.24**	**53**	*eP*	**P**	**00 30 06.0**	**+0.7**
SJCC	**San Jacinto, C**	**41.56**	**355**	P	**P**	**00 30 08.7**	**+0.9**
SJCC				IAmb	IAmb	00 31 00.9	
	comp=Z,64nm,1.2s						
SJCC	**San Jacinto, C**	**41.56**	**355**	*eP*	**P**	**00 30 09.6**	**+1.8**
NBCL	**Cascavel-CE**	**41.80**	**56**	*eP*	**P**	**00 30 09.6**	**-0.2**
SRBA	**San Rafael, Bu**	**42.22**	**343**	P	**P**	**00 30 14.1**	**+0.7**
DRK0	**Durika**	**42.22**	**343**	P	**P**	**00 30 13.9**	**+0.5**
DRK0				IAmb	IAmb	00 30 15.8	
	comp=Z,26nm,0.7s						
RCBR	**Riachuelo**	**42.43**	**60**	P	**P**	**00 30 14.7**	**-0.3**
RCBR	**Riachuelo**	**42.43**	**60**	*eP*	**P**	**00 30 15.3**	**+0.2**
NBPV	**Pedro Velho**	**42.49**	**61**	*eP*	**P**	**00 30 17.1**	**+1.5**
JTS	**Las Juntas de**	**43.65**	**341**	P	**P**	**00 30 26.5**	**+1.7**
	comp=Z,2.8nm,0.6s,baz=175,slow=12,SNR=4.1						
ORTG	**Ortega, Santa**	**43.86**	**341**	P	**P**	**00 30 27.5**	**+1.0**
TOSP	**Speyside**	**44.20**	**16**	P	**P**	**00 30 30.1**	**+0.9**
TGUH	**Tegucigalpa,Un**	**47.89**	**340**	P	**P**	**00 30 58.4**	**0.0**
MTO3	**Montecristo**	**48.87**	**337**	P	**P**	**00 31 06.3**	**+0.2**
MLPR	**Magueyes Islan**	**49.69**	**6**	P	**P**	**00 31 11.8**	**-0.1**
CRPR	**Cabo Rojo, PR**	**49.72**	**6**	P	**P**	**00

LCAR					IAmb	IAmb	00 33 31.6		
	comp=Z,25nm,1.0s								
T47A	**Sharon Grove**	**69.87**	**347**	P		**P**	**00 33 30.1**	**-0.5**
T47A				IAmb		IAmb	00 33 32.3		
	comp=Z,22nm,1.0s								
PBMO	**Poplar Bluff**	**70.37**	**344**	P		**P**	**00 33 33.2**	**-0.5**
PBMO				IAmb		IAmb	00 34 08.8		
	comp=Z,13nm,0.7s								
U40A	**Yellville**	**70.56**	**342**	P		**P**	**00 33 35.0**	**+0.1**
	baz=161								
MNTX	**Cornudas Mount**	**70.63**	**330**	P		**P**	**00 33 34.7**	**-0.8**
MNTX				IAmb		IAmb	00 33 36.0		
	comp=Z,18nm,0.8s								
MNTX	**Cornudas Mount**	**70.63**	**330**	P		**P**	**00 33 34.4**	**-1.0**
	baz=150,SNR=28								
HHAR	**Hobbs**	**70.78**	**341**	P		**P**	**00 33 35.8**	**-0.4**
WMOK	**Wichita Mounta**	**70.82**	**337**	P		**P**	**00 33 36.4**	**-0.1**
WMOK	**Wichita Mounta**	**70.82**	**337**	P		**P**	**00 33 36.5**	**-0.1**
	baz=156								
FNO	**Franklin**	**70.85**	**338**	P		**P**	**00 33 36.7**	**0.0**
WCI	**Wyandotte Cave**	**70.93**	**348**	P		**P**	**00 33 36.8**	**-0.3**
	baz=167								
HSIG		**70.94**	**324**	P		**P**	**00 33 37.6**	**+0.2**
HSIG				IAmb		IAmb	00 33 39.3		
	comp=Z,15nm,0.9s								
TUL1	**Leonard**	**70.96**	**340**	P		**P**	**00 33 37.0**	**-0.3**
	baz=159,SNR=10								
WUPA	**West Chester U**	**71.43**	**357**	P		**P**	**00 33 41.0**	**+0.9**
FVM	**French Village**	**71.52**	**345**	P		**P**	**00 33 41.1**	**+0.5**
FVM				IAmb		IAmb	00 33 42.0		
	comp=Z,20nm,0.9s								
MVL	**Millersville**	**71.54**	**356**	P		**P**	**00 33 41.6**	**+1.0**
MVL				IAmb		IAmb	00 34 02.1		
	comp=Z,36nm,1.5s								
MSTX	**Muleshoe**	**71.57**	**333**	P		**P**	**00 33 40.7**	**-0.5**
MSTX	**Muleshoe**	**71.57**	**333**	P		**P**	**00 33 40.7**	**-0.5**
	baz=153,SNR=25								
P52A	**Corning**	**71.68**	**352**	P		**P**	**00 33 41.6**	**0.0**
	baz=171,SNR=6.6								
CCM	**Cathedral Cave**	**71.78**	**344**	P		**P**	**00 33 41.9**	**-0.3**
CCM				IAmb		IAmb	00 33 43.5		
	comp=Z,29nm,0.9s								
CCM	**Cathedral Cave**	**71.78**	**344**	P		**P**	**00 33 42.5**	**+0.3**
	baz=163								
PAGS	**Pennsylvania G**	**71.78**	**356**	P		**P**	**00 33 42.9**	**+0.8**
PAGS				IAmb		IAmb	00 33 44.0		
	comp=Z,13nm,0.8s								
O56A	**Blue Knob Stat**	**71.95**	**355**	P		**P**	**00 33 44.4**	**+1.1**
	baz=174								
AMTX	**Amarillo**	**71.97**	**335**	P		**P**	**00 33 43.4**	**-0.2**
AMTX				IAmb		IAmb	00 33 45.7		
	comp=Z,31nm,0.9s								
AMTX	**Amarillo**	**71.97**	**335**	P		**P**	**00 33 43.8**	**+0.2**
	baz=154								
319A	**Douglas**	**72.09**	**327**	P		**P**	**00 33 45.0**	**+0.6**
319A				IAmb		IAmb	00 33 46.8		
	comp=Z,27nm,1.0s								
T35A	**Sooner Cattle**	**72.11**	**339**	P		**P**	**00 33 44.3**	**+0.1**
T35A				IAmb		IAmb	00 33 46.2		
	comp=Z,28nm,0.9s								
O53A	**New Philadelph**	**72.18**	**353**	P		**P**	**00 33 45.6**	**+1.0**
	baz=172								
SSPA	**Standing Stone**	**72.27**	**355**	P		**P**	**00 33 45.2**	**+0.2**
SSPA				IAmb		IAmb	00 34 06.8		
	comp=Z,21nm,1.2s								
SSPA	**Standing Stone**	**72.27**	**355**	P		**P**	**00 33 46.2**	**+1.1**
	baz=175								
ACSO	**Alum Creek Sta**	**72.38**	**351**	P		**P**	**00 33 45.3**	**-0.5**
ACSO				IAmb		IAmb	00 33 46.6		
	comp=Z,25nm,0.8s								
ACSO	**Alum Creek Sta**	**72.38**	**351**	P		**P**	**00 33 45.9**	**+0.1**
	baz=170								
121A	**Cookes Peak, D**	**72.39**	**329**	P		**P**	**00 33 47.0**	**+0.8**
121A	**Cookes Peak, D**	**72.39**	**329**	P		**P**	**00 33 46.7**	**+0.4**
	baz=149,SNR=20								
N59A	**State Game Lan**	**72.42**	**357**	P		**P**	**00 33 47.4**	**+1.4**
	baz=177,SNR=7.1								
N54A	**Moraine State**	**72.76**	**354**	P		**P**	**00 33 48.9**	**+0.8**
	baz=173								
M64A	**Tiverton**	**72.97**	**1**	P		**P**	**00 33 50.4**	**+1.2**
	baz=181								
M54A	**Oil Creek Stat**	**73.27**	**354**	P		**P**	**00 33 51.4**	**+0.4**
	baz=173								
L63A	**North Scituate**	**73.28**	**0**	P		**P**	**00 33 52.1**	**+1.0**
L63A				IAmb		IAmb	00 34 03.1		
	comp=Z,31nm,1.0s								
L63A	**North Scituate**	**73.28**	**0**	P		**P**	**00 33 52.4**	**+1.4**
	baz=180,SNR=8.7								
M53A	**WI Miller and**	**73.30**	**353**	P		**P**	**00 33 51.6**	**+0.4**
M53A				IAmb		IAmb	00 34 12.3		
	comp=Z,35nm,1.2s								
M53A	**WI Miller and**	**73.30**	**353**	P		**P**	**00 33 51.8**	**+0.6**
	baz=172								
L64A	**Middleborough**	**73.36**	**1**	P		**P**	**00 33 52.7**	**+1.2**
L64A				IAmb		IAmb	00 34 02.9		
	comp=Z,19nm,0.9s								
L64A	**Middleborough**	**73.36**	**1**	P		**P**	**00 33 52.9**	**+1.4**
	baz=181								
LENM	**Lemitar**	**73.43**	**330**	P		**P**	**00 33 52.9**	**+0.5**
TUC	**Tucson**	**73.57**	**326**	P		**P**	**00 33 53.4**	**+0.2**
TUC	**Tucson**	**73.57**	**326**	P		**P**	**00 33 53.8**	**+0.7**
	baz=146								
L59A	**Walton**	**73.66**	**358**	P		**P**	**00 33 54.2**	**+0.8**
L59A				IAmb		IAmb	00 34 05.3		
	comp=Z,27nm,0.9s								
BINY	**Binghamton**	**73.71**	**357**	P		**P**	**00 33 54.7**	**+1.1**
	baz=176								
L56A	**Greenwood**	**73.74**	**356**	P		**P**	**00 33 54.2**	**+0.4**
L61B	**Northampton**	**73.87**	**359**	P		**P**	**00 33 56.0**	**+1.5**
	baz=179,SNR=6.8								
ANMO	**Albuquerque**	**73.89**	**331**	P		**P**	**00 33 55.5**	**+0.4**
ANMO	**Albuquerque**	**73.89**	**331**	P		**P**	**00 33 55.8**	**+0.7**
	baz=150								
HRV	**Adam Dziewonsk**	**73.92**	**0**	P		**P**	**00 33 56.1**	**+1.3**
	baz=180								
LIC	**Lamto**	**74.00**	**72**	*e*P		**P**	**00 33 51.5**	**-4.5**
	comp=Z,62nm,0.8s								
K62A	**Royalston**	**74.08**	**360**	P		**P**	**00 33 57.0**	**+1.3**
	baz=180								
TIC	**Toumodi**	**74.25**	**72**	*e*P		P	00 33 52.6	-4.8
214A	**Organ Pipe Nat**	**74.26**	**325**	P		**P**	**00 33 57.5**	**+0.4**
214A				IAmb		IAmb	00 33 59.6		
	comp=Z,31nm,1.2s								
214A	**Organ Pipe Nat**	**74.26**	**325**	P		**P**	**00 33 58.1**	**+1.0**
	baz=145,SNR=9.7								
KIC	**Kosan Boka**	**74.31**	**72**	*e*P		**P**	**00 33 53.6**	**-4.2**
	comp=Z,56nm,0.8s								
DBIC	**Dimbokro**	**74.39**	**72**	P		**P**	**00 33 54.4**	**-3.8**
	comp=Z,7.6nm,0.6s,baz=240,slow=5.6,SNR=10								
DBIC	**Dimbokro**	**74.39**	**72**	P		**P**	**00 33 58.5**	**+0.3**
DBIC				IAmb		IAmb	00 34 08.6		
	comp=Z,27nm,0.8s								
J61A	**Chester**	**74.77**	**360**	P		**P**	**00 34 01.2**	**+1.5**
	baz=180								
CBKS	**Cedar Bluff**	**74.85**	**338**	P		**P**	**00 34 00.4**	**0.0**
CBKS				IAmb		IAmb	00 34 02.1		
	comp=Z,29nm,0.8s								
CBKS	**Cedar Bluff**	**74.85**	**338**	P		**P**	**00 34 01.6**	**+1.2**
	baz=156								
T25A	**Trinidad**	**74.99**	**334**	P		**P**	**00 34 02.3**	**+0.8**
T25A	**Trinidad**	**74.99**	**334**	P		**P**	**00 34 02.4**	**+0.9**
	baz=152,SNR=22								
I60A	**Shoreham**	**75.27**	**359**	P		**P**	**00 34 04.0**	**+1.4**
	baz=179,SNR=6.1								
MAW	**Mawson**	**75.28**	**164**	P		**P**	**00 34 02.5**	**0.0**
	comp=Z,13nm,1.1s,baz=216,slow=5.6,SNR=13								
MAW	**Mawson**	**75.28**	**164**	P		**P**	**00 34 02.1**	**-0.4**
I62A	**Tamworth**	**75.29**	**0**	P		**P**	**00 34 04.7**	**+1.9**
	baz=181								
W18A	**Petrified Fore**	**75.44**	**329**	P		**P**	**00 34 04.5**	**+0.4**
W18A				IAmb		IAmb	00 34 06.5		
	comp=Z,36nm,1.2s								
W18A	**Petrified Fore**	**75.44**	**329**	P		**P**	**00 34 04.7**	**+0.7**
	baz=148,SNR=7.9								
I63A	**Otisfield**	**75.48**	**1**	P		**P**	**00 34 05.3**	**+1.5**
I63A				IAmb		IAmb	00 34 16.4		
	comp=Z,35nm,0.9s								
I63A	**Otisfield**	**75.48**	**1**	P		**P**	**00 34 05.8**	**+2.0**
	baz=181,SNR=8.7								
PECO	**Prince Edward**	**75.49**	**356**	P		**P**	**00 34 04.2**	**+0.4**
PECO				IAmb		IAmb	00 34 14.7		
	comp=Z,19nm,1.0s								
LBNH	**Lisbon**	**75.66**	**0**	P		**P**	**00 34 06.7**	**+1.8**
	baz=180								
SUR	**Sutherland**	**75.83**	**119**	P		**P**	**00 34 06.1**	**-0.5**
	comp=Z,18nm,1.0s,baz=244,slow=4.6,SNR=8.2								
SUR	**Sutherland**	**75.83**	**119**	P		**P**	**00 34 07.1**	**+0.5**
SCIA	**State Center**	**75.90**	**344**	P		**P**	**00 34 07.4**	**+1.1**
	baz=162								
SDCO	**Great Sand Dun**	**75.94**	**333**	P		**P**	**00 34 07.5**	**+0.5**
SDCO	**Great Sand Dun**	**75.94**	**333**	P		**P**	**00 34 07.5**	**+0.5**
	baz=151,SNR=9.7								
LONY	**Lake Ozonia**	**76.07**	**358**	P		**P**	**00 34 08.1**	**+0.9**
LONY				IAmb		IAmb	00 34 19.0		
	comp=Z,20nm,0.9s								
LONY	**Lake Ozonia**	**76.07**	**358**	P		**P**	**00 34 08.2**	**+1.0**
	baz=178,SNR=6.4								
GLA	**Glamis**	**76.14**	**324**	P		**P**	**00 34 08.6**	**+0.6**
GLA	**Glamis**	**76.14**	**324**	P		**P**	**00 34 08.8**	**+0.9**
	baz=144								
JFWS	**Jewell Farm**	**76.21**	**346**	P		**P**	**00 34 08.4**	**+0.4**
	baz=164								
EMMW	**East Machias**	**76.23**	**3**	P		**P**	**00 34 08.7**	**+0.6**
EMMW				IAmb		IAmb	00 34 19.8		
	comp=Z,22nm,0.9s								
HAL	**Halifax**	**76.43**	**6**	P		**P**	**00 34 10.4**	**+1.2**
HAL				IAmb		IAmb	00 34 21.0		
	comp=Z,33nm,1.0s								
S22A	**4UR Ranch, Cre**	**76.45**	**332**	P		**P**	**00 34 11.3**	**+1.4**
	baz=150,SNR=7.3								
SADO	**Sadowa**	**76.47**	**355**	P		**P**	**00 34 09.2**	**-0.3**
	comp=Z,12nm,0.9s,baz=180,slow=6.5,SNR=8.0								
SADO	**Sadowa**	**76.47**	**355**	P		**P**	**00 34 08.8**	**-0.7**
SADO				IAmb		IAmb	00 34 20.5		
	comp=Z,23nm,1.0s								
IKP	**In-Ko-Pah, Jac**	**76.48**	**323**	P		**P**	**00 34 11.1**	**+1.2**
	baz=143,SNR=5.5								
CBX	**Cerro Bola**	**76.50**	**322**	P		**P**	**00 34 10.5**	**+0.4**
WUAZ	**Wupatki**	**76.50**	**328**	P		**P**	**00 34 10.6**	**+0.5**
WUAZ				IAmb		IAmb	00 34 12.8		
	comp=Z,25nm,1.0s								
WUAZ	**Wupatki**	**76.50**	**328**	P		**P**	**00 34 11.0**	**+0.9**
	baz=146,SNR=12								
SWSC	**Sam W. Stewart**	**76.55**	**323**	P		**P**	**00 34 11.6**	**+1.4**
	baz=143								
PLVO	**Plevna**	**76.60**	**356**	P		**P**	**00 34 10.8**	**+0.6**
MVCO	**Mesa Verde**	**76.67**	**331**	P		**P**	**00 34 11.3**	**+0.2**
MVCO				IAmb		IAmb	00 34 20.4		
	comp=Z,32nm,1.4s								
MVCO	**Mesa Verde**	**76.67**	**331**	P		**P**	**00 34 11.8**	**+0.7**
	baz=149,SNR=10								
PKME	**Peaks-Kenny Pk**	**76.72**	**2**	P		**P**	**00 34 12.8**	**+2.0**
	baz=182								
G65A	**Princeton**	**76.72**	**3**	P		**P**	**00 34 11.9**	**+1.1**
G65A				IAmb		IAmb	00 34 23.1		
	comp=Z,23nm,1.0s								
BAR	**Barrett**	**76.79**	**322**	P		**P**	**00 34 11.9**	**+0.3**
BAR				IAmb		IAmb	00 34 14.1		
	comp=Z,15nm,0.9s								
PDMCI	**Parker Dam,Lak**	**76.81**	**325**	P		**P**	**00 34 12.5**	**+0.9**
	baz=144								
MONP2	**Monument Peak**	**76.83**	**323**	P		**P**	**00 34 12.9**	**+0.9**
	baz=142,SNR=5.7								
Q24A	**Divide**	**76.87**	**334**	P		**P**	**00 34 13.1**	**+0.8**
	baz=152,SNR=18								
BC3	**Big Chuckawall**	**76.94**	**324**	P		**P**	**00 34 13.7**	**+1.1**
	baz=143,SNR=8.5								
F63A	**Nahmakanta, Br**	**77.16**	**2**	P		**P**	**00 34 14.5**	**+1.1**
F63A				IAmb		IAmb	00 34 27.3		
	comp=Z,20nm,0.9s								
IRM	**Iron Mountain**	**77.19**	**324**	P		**P**	**00 34 15.2**	**+1.4**
	baz=143,SNR=10.0								
F64A	**Sherman**	**77.35**	**3**	P		**P**	**00 34 15.2**	**+0.8**
TPFO	**Pinon Flats**	**77.41**	**323**	P		**P**	**00 34 16.3**	**+1.1**
	baz=142,SNR=12								
PFO	**Pinyon Flats O**	**77.42**	**323**	P		**P**	**00 34 15.8**	**+0.5**
PFO				IAmb		IAmb	00 34 18.0		
	comp=Z,22nm,1.0s								
PFO	**Pinyon Flats O**	**77.42**	**323**	P		**P**	**00 34 16.7**	**+1.4**
	baz=142,SNR=9.2								
BELC	**Belle Mtn. Jos**	**77.49**	**324**	P		**P**	**00 34 17.0**	**+1.3**
	baz=143,SNR=9.3								
LMN	**Caledonia Moun**	**77.54**	**5**	P		**P**	**00 34 16.4**	**+0.9**
PV18	**Skein Mesa, Pa**	**77.73**	**331**	P		**P**	**00 34 16.8**	**-0.2**
PV18				IAmb		IAmb	00 34 18.8		
	comp=Z,64nm,1.9s								
ISCO	**Idaho Springs**	**77.77**	**334**	P		**P**	**00 34 18.0**	**+0.7**
ISCO	**Idaho Springs**	**77.77**	**334**	P		**P**	**00 34 18.4**	**+1.1**
	baz=151,SNR=8.4								
MURC	**Murrieta**	**77.78**	**323**	P		**P**	**00 34 18.4**	**+1.2**
	baz=142,SNR=6.4								
PQI	**Presque Isle**	**78.17**	**3**	P		**P**	**00 34 19.6**	**+0.7**
PQI				IAmb		IAmb	00 34 32.6		
	comp=Z,27nm,0.9s								
CIS	**Catalina Islan**	**78.27**	**322**	P		**P**	**00 34 21.1**	**+1.3**
	baz=141								
HEC	**Hector,Ludlow**	**78.31**	**324**	P		**P**	**00 34 21.2**	**+1.1**
	baz=143,SNR=20								
KNB	**Kanab**	**78.40**	**328**	P		**P**	**00 34 21.5**	**+0.8**
KNB				IAmb		IAmb	00 34 23.4		
	comp=Z,23nm,0.9s								
ECSD	**EROS Data Cent**	**78.47**	**342**	P		**P**	**00 34 19.9**	**-0.9**
ECSD				IAmb		IAmb	00 34 21.9		
	comp=Z,30nm,0.8s								
ECSD	**EROS Data Cent**	**78.47**	**342**	P		**P**	**00 34 20.6**	**-0.1**
	baz=159,SNR=20								
BFSC	**Mount Baldy Ra**	**78.52**	**323**	P		**P**	**00 34 22.2**	**+0.8**
	baz=142,SNR=15								
LCMT	**Little Creek M**	**78.59**	**327**	P		**P**	**00 34 21.9**	**+0.3**
LCMT				IAmb		IAmb	00 34 24.4		
	comp=Z,34nm,1.7s								
TUQ	**Turquoise Moun**	**78.59**	**325**	P		**P**	**00 34 22.9**	**+1.1**
	baz=143,SNR=5.9								
PASC	**Pasadena Art C**	**78.74**	**322**	P		**P**	**00 34 22.7**	**+0.3**
PASC				IAmb		IAmb	00 34 25.1		
	comp=Z,21nm,1.0s								
N23A	**Red Feather La**	**78.85**	**334**	P		**P**	**00 34 24.2**	**+1.0**
	baz=151,SNR=6.1								
BATG	**Bathurst New B**	**78.87**	**4**	P		**P**	**00 34 23.6**	**+0.8**
BATG				IAmb		IAmb	00 34 34.4		
	comp=Z,22nm,0.9s								
GSC	**Goldstone, Bar**	**78.92**	**324**	P		**P**	**00 34 23.9**	**+0.4**
GSC	**Goldstone, Bar**	**78.92**	**324**	P		**P**	**00 34 24.7**	**+1.2**
	baz=142,SNR=11								
O20A	**White River Ci**	**79.07**	**332**	P		**P**	**00 34 25.4**	**+1.0**
	baz=149,SNR=5.4								
SHPR	**Sheep Range**	**79.08**	**326**	P		**P**	**00 34 24.9**	**+0.5**
SHPR				IAmb		IAmb	00 34 27.0		
	comp=Z,18nm,0.9s								
EDW2	**Edwards Air Fo**	**79.20**	**323**	P		**P**	**00 34 26.1**	**+1.2**
	baz=142,SNR=6.9								
MVU	**Marysvale**	**79.35**	**329**	P		**P**	**00 34 26.5**	**+0.6**
LRMC	**Laurel Mtn Rad**	**79.50**	**324**	P		**P**	**00 34 27.7**	**+1.0**
	baz=142								
GWY	**Greenwater Val**	**79.55**	**325**	P		**P**	**00 34 27.1**	**+0.1**
TMUT	**Trail Mountain**	**79.58**	**330**	P		**P**	**00 34 28.0**	**+0.7**
KOWA	**Kowa**	**79.64**	**66**	P		**P**	**00 34 27.6**	**-0.2**
KOWA				IAmb		IAmb	00 34 30.5		
	comp=Z,18nm,0.7s								
TSUM	**Tsumeb**	**79.74**	**106**	P		**P**	**00 34 27.8**	**-0.7**
	comp=Z,13nm,1.0s,baz=233,slow=4.8,SNR=5.7								
TSUM	**Tsumeb**	**79.74**	**106**	P		**P**	**00 34 28.0**	**-0.5**
FURC	**Furnace Creek,**	**79.87**	**325**	P		**P**	**00 34 30.0**	**+1.5**
	baz=142,SNR=5.6								
TPNV	**Topopah Spring**	**79.95**	**325**	P		**P**	**00 34 29.0**	**-0.2**
TPNV				IAmb		IAmb	00 34 38.8		
	comp=Z,24nm,1.1s								
TPNV	**Topopah Spring**	**79.95**	**325**	P		**P**	**00 34 30.4**	**+1.2**
	baz=143,SNR=11								
ISA	**Isabella, Lake**	**80.05**	**323**	P		**P**	**00 34 29.9**	**+0.2**
ISA				IAmb		IAmb	00 34 32.3		
	comp=Z,26nm,0.9s								
ISA	**Isabella, Lake**	**80.05**	**323**	P		**P**	**00 34 31.0**	**+1.4**
	baz=141,SNR=17								
PKM	**Mcpherson Peak**	**80.15**	**322**	P		**P**	**00 34 31.4**	**+1.1**
	baz=140,SNR=14								
MPU	**Maple Canyon**	**80.36**	**330**	P		**P**	**00 34 31.3**	**0.0**
CWC	**Cottonwood Cre**	**80.45**	**324**	P		**P**	**00 34 32.8**	**+0.9**
	baz=142								
VES	**Vestal, Richgr**	**80.50**	**323**	P		**P**	**00 34 32.9**	**+1.0**
	baz=141,SNR=8.7								
SMMC	**Simmler**	**80.57**	**322**	P		**P**	**00 34 34.0**	**+1.6**
	baz=140,SNR=5.3								
K22A	**Casper**	**80.59**	**335**	P		**P**	**00 34 32.7**	**+0.2**
K22A				IAmb		IAmb	00 34 34.6		
	comp=Z,30nm,1.2s								
K22A	**Casper**	**80.59**	**335**	P		**P**	**00 34 33.2**	**+0.7**
	baz=151,SNR=7.4								
R11A	**Troy Canyon, C**	**80.76**	**327**	P		**P**	**00 34 33.9**	**+0.4**
R11A	**Troy Canyon, C**	**80.76**	**327**	P		**P**	**00 34 34.5**	**+1.0**
	baz=144,SNR=20								
DUG	**Dugway, Tooele**	**81.01**	**329**	P		**P**	**00 34 34.9**	**+0.2**
DUG	**Dugway, Tooele**	**81.01**	**329**	P		**P**	**00 34 35.4**	**+0.6**
	baz=146,SNR=11								
TIN	**Tinemaha, Big**	**81.01**	**324**	P		**P**	**00 34 36.3**	**+1.5**
	baz=142								
PAGB	**Antelope Grade**	**81.02**	**322**	P		**P**	**00 34 35.2**	**+0.4**
PAGB				IAmb		IAmb	00 34 37.5		
	comp=Z,25nm,1.1s								
BOSA	**Boshof**	**81.02**	**118**	P		**P**	**00 34 33.3**	**-2.0**
	comp=Z,17nm,0.9s,baz=248,slow=4.7,SNR=10								
BOSA	**Boshof**	**81.02**	**118**	P		**P**	**00 34 34.1**	**-1.2**
BOSA				IAmb		IAmb	00 34 46.7		
	comp=Z,23nm,0.9s								
RSSD	**Black Hills**	**81.03**	**337**	P		**P**	**00 34 34.6**	**-0.3**
RSSD	**Black Hills**	**81.03**	**337**	P		**P**	**00 34 35.6**	**+0.8**
	baz=153								
EYMN	**Ely**	**81.28**	**347**	P		**P**	**00 34 35.1**	**-0.8**
EYMN				IAmb		IAmb	00 34 58.0		
	comp=Z,27nm,1.4s								
TPH	**Tonopah**	**81.32**	**325**	P		**P**	**00 34 36.5**	**0.0**
HWUT	**Hardware Ranch**	**81.65**	**331**	P		**P**	**00 34 37.9**	**-0.3**
HWUT				IAmb		IAmb	00 34 39.6		
	comp=Z,21nm,0.8s								
BGU	**Big Grassy Mou**	**81.70**	**330**	P		**P**	**00 34 38.5**	**0.0**
BW06	**Boulder Array**	**81.83**	**333**	P		**P**	**00 34 38.8**	**-0.3**
BW06	**Boulder Array**	**81.83**	**333**	P		**P**	**00 34 39.8**	**+0.6**
	baz=148,SNR=5.2								
PDAR	**Pinedale Array**	**81.83**	**333**	P		**P**	**00 34 38.5**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=142,slow=6.2,SNR=16								
NV11	**Mina Array Sit**	**82.05**	**325**	P		**P**	**00 34 39.9**	**-0.4**
NVAR	**Mina Array Bea**	**82.12**	**325**	P		**P**	**00 34 41.0**	**+0.3**
	comp=Z,12nm,0.8s,baz=155,slow=5.3,SNR=55								
CASY	**Casey**	**82.24**	**181**	P		**P**	**00 34 41.2**	**+0.4**
AHID	**Auburn Hatcher**	**82.44**	**332**	P		**P**	**00 34 42.2**	**-0.1**
AHID				IAmb		IAmb	00 35 17.1		
	comp=Z,29nm,1.8s								
ELK	**Elko**	**82.53**	**328**	P		**P**	**00 34 42.7**	**-0.1**
ELK				IAmb		IAmb	00 34 44.5		
	comp=Z,15nm,0.8s								
AGMN	**Agassiz Nation**	**82.55**	**344**	P		**P**	**00 34 42.5**	**0.0**
	baz=160,SNR=6.0								
TPAW	**Teton Pass**	**82.98**	**333**	P		**P**	**00 34 44.6**	**-0.6**
MDND	**Maddock**	**83.07**	**342**	P		**P**	**00 34 45.6**	**+0.4**
	baz=157								
LBTB	**Lobatse**	**83.16**	**115**	P		**P**	**00 34 44.2**	**-2.4**
LBTB				IAmb		IAmb	00 34 57.3		
	comp=Z,20nm,0.8s								
TORD	**Torodi Ar. Bea**	**83.37**	**70**	P		**P**	**00 34 43.8**	**-3.7**
	comp=Z,13nm,0.7s,baz=259,slow=4.5,SNR=12								
TORD	**Torodi Ar. Bea**	**83.37**	**70**	P		**P**	**00 34 47.4**	**-0.1**
TORD				IAmb		IAmb	00 34 50.2		
	comp=Z,16nm,0.8s								
FLWY	**Flagg Ranch**	**83.39**	**333**	P		**P**	**00 34 46.9**	**-0.3**
PAHR	**Pah Rah Range**	**83.64**	**325**	P		**P**	**00 34 49.1**	**+0.5**
PAHR				IAmb		IAmb	00 34 51.1		
	comp=Z,19nm,1.0s								
RLMT	**Red Lodge**	**83.73**	**334**	P		**P**	**00 34 48.9**	**-0.1**
RLMT	**Red Lodge**	**83.73**	**334**	P		**P**	**00 34 49.4**	**+0.4**
	baz=149,SNR=6.1								
ULM	**Lac du Bonnet**	**84.39**	**345**	P		**P**	**00 34 50.9**	**-0.9**
	comp=Z,14nm,0.9s,baz=159,slow=5.1,SNR=8.1								
ULM	**Lac du Bonnet**	**84.39**	**345**	P		**P**	**00 34 51.4**	**-0.4**
ULM				IAmb		IAmb	00 34 52.3		
	comp=Z,18nm,0.9s								
HLID	**Hailey**	**84.45**	**330**	P		**P**	**00 34 52.6**	**0.0**
HLID	**Hailey**	**84.45**	**330**	P		**P**	**00 34 53.2**	**+0.6**
	baz=145,SNR=12								
MCMT	**McKenzie Canyo**	**84.85**	**332**	P		**P**	**00 34 54.9**	**+0.2**
DGMT	**Dagmar**	**84.95**	**339**	P		**P**	**00 34 54.8**	**0.0**
DGMT	**Dagmar**	**84.95**	**339**	P		**P**	**00 34 55.2**	**+0.4**
	baz=153,SNR=6.2								
BOZ	**Bozeman (W)**	**85.02**	**333**	P		**P**	**00 34 56.1**	**+0.7**
	baz=147,SNR=5.8								
O03E	**Paynes Creek**	**85.28**	**324**	P		**P**	**00 34 57.3**	**+0.6**
	baz=139								
WVOR	**Wild Horse Val**	**85.41**	**327**	P		**P**	**00 34 57.4**	**0.0**
LRM	**Limekiln Ridge**	**85.52**	**333**	P		**P**	**00 34 58.4**	**+0.3**
O02D	**Mt. Diablo Mer**	**85.69**	**323**	P		**P**	**00 34 59.7**	**+0.9**

	SNR=7.1							
AAK	**Ala-Archa**	**151.32**	**58**			**PKPbc**	**00 42 11.8**	**-1.8**
UCH	**Uchtor**	**151.41**	**59**	P		**PKPab**	**00 42 24.3**	**+1.7**
	SNR=9.3							
ZAA0	**Zalesovo Array**	**152.28**	**30**			**PKPdf**	**00 42 10.3**	**+1.9**
ZALV	**Zalesovo Beam**	**152.28**	**30**	PKPbc		**PKPbc**	**00 42 12.1**	**-3.1**
	comp=Z,13nm,0.5s,baz=306,slow=2.9,SNR=7.0							
ZALV	**Zalesovo Beam**	**152.28**	**30**	PKPdf		**PKPdf**	**00 42 10.5**	**+2.0**
ZALV				PKPbc		**PKiKP**	**00 42 16.3**	**+0.8**
ZALV				PKPab		**PKPab**	**00 42 25.7**	**+0.5**
BOOM	**Boomskoye usch**	**152.40**	**58**			**PKPab**	**00 42 26.4**	**0.0**
ULHL	**Ulahol**	**152.67**	**59**	P		**PKPab**	**00 42 27.3**	**-0.2**
	SNR=6.8							
KSH	**Kashi**	**152.90**	**64**	PKPbc		**PKPbc**	**00 42 14.6**	**-2.7**
TARG	**Taragay, Kyrgy**	**153.91**	**59**	PKPbc		**PKPbc**	**00 42 19.0**	**-0.8**
MK31	**Makanchi Array**	**155.19**	**45**	PKPbc	PKPdf		00 42 23.0	+10
MKAR	**Makanchi Array**	**155.19**	**45**	PKPbc	PKPdf		00 42 21.6	+8.7
	comp=Z,2.3nm,0.8s,baz=326,slow=2.0,SNR=4.9							
MKAR	**Makanchi Array**	**155.19**	**45**			**PKPdf**	**00 42 13.6**	**+0.6**
USRK	**Ussuriysk Ar.**	**157.53**	**310**	PKPab		**PKPab**	**00 42 48.1**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=67,slow=5.0,SNR=4.6							
WMQ	**Urumqi**	**159.97**	**47**	*e*PKP		**PKPdf**	**00 42 19.3**	**+0.3**
WMQ				AMB	AMB			
	comp=Z,770nm,7.9s							
SONM	**Songino Array**	**163.91**	**4**	PKPab		**PKPab**	**00 43 16.9**	**+1.2**
	comp=Z,2.7nm,0.8s,baz=341,slow=3.6,SNR=8.7							
CMAR	**Chiang Mai Arr**	**164.38**	**146**	PKPab		**PKPab**	**00 43 17.8**	**-0.6**
	comp=Z,1.4nm,0.3s,baz=260,slow=5.4,SNR=1.1							
GTA	**Gaotai**	**169.85**	**39**	*e*PKPbc	PKPdf		00 42 38.3	+11
GTA				sPKP			00 42 51.0	
GTA				PKPab	sPKPab		00 43 52.9	+3.7
HHC	**Hu-ho-hao-te**	**170.52**	**344**	*e*PKP		**PKPdf**	**00 42 22.9**	**-5.2**
NJ2	**Nanjing**	**170.83**	**275**	*e*PKP		**PKPdf**	**00 42 28.3**	**0.0**
CD2	**Chengdu**	**176.21**	**102**	PKP		**PKPdf**	**00 42 31.0**	**+0.5**

TUL ***17*** *00:25:09.9±1.2,35.98N±0.02×96.79W±0.04,h4km±4km, ML2.6,ML2.2/19(NEIC),Error ellipse: s-maj=4.6km s-min=2.5km az=116.0*

NEIC 17 00:25:10.3±0.6,36.00N±0.02×96.82W±0.03,h1km±1km, Error ellipse: s-maj=3.6km s-min=2.3km az=118.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.05**	**198**	Pg	Pg	00 25 11.5	+0.3
OK031				Sg	Sg	00 25 12.5	+0.7
QUOK	**Quay**	**0.20**	**28**		Pg	00 25 14.2	+0.1
QUOK				IAML		00 25 18.9	
	comp=E,468nm,0.3s						
QUOK				IAML		00 25 20.3	
	comp=N,462nm,0.5s						
OK029	**Liberty Lake**	**0.55**	**249**		Pg	00 25 21.1	+0.2
OK029				IAML		00 25 36.8	
	comp=N,203nm,2.1s						
OK029				IAML		00 25 40.6	
	comp=N,154nm,3.8s						
OK025	**Westminster Rd**	**0.59**	**225**		Pg	00 25 21.7	+0.1
OKCFA	**Oklahoma City**	**0.77**	**222**	Pg	Pg	00 25 24.6	-0.6
OKCFA				IAML		00 25 39.3	
	comp=N,133nm,0.9s						
OKCFA				IAML		00 25 42.6	
	comp=E,85nm,0.6s						
FNO	**Franklin**	**0.88**	**213**		Pg	00 25 26.3	-0.8
FNO				IAML		00 25 41.2	
	comp=E,130nm,0.8s						
FNO				IAML		00 25 41.7	
	comp=N,93nm,0.3s						
T35A	**Sooner Cattle**	**0.95**	**15**		Pg	00 25 28.1	-0.4
T35A				IAML		00 25 54.3	
	comp=N,58nm,4.6s						
CROK	**Carrier**	**1.07**	**299**	Pg	Pg	00 25 30.7	-0.1
GC02	**Grant County #**	**1.20**	**316**		Pg	00 25 32.8	-0.4
OK032	**Salt Plains WL**	**1.38**	**306**		Pn	00 25 36.1	-0.6
X34A	**Smith Ranch, M**	**1.62**	**211**	Pn	Pn	00 25 39.9	-0.1
U32A	**Winter Ranch,**	**1.80**	**283**	Pn	Pn	00 25 42.6	+0.1
X37A	**Clayton**	**1.84**	**139**	Pn	Pn	00 25 42.5	-0.5
U38A	**Gravette**	**2.02**	**77**		Pn	00 25 45.5	0.0
LOOK	**Love County**	**2.02**	**188**		Pn	00 25 45.8	+0.3
WMOK	**Wichita Mounta**	**2.04**	**232**	Pn	Pn	00 25 45.9	+0.1
HHAR	**Hobbs**	**2.35**	**82**	Pn	Pn	00 25 50.2	+0.2
WHAR	**Wooly Hollow**	**3.76**	**99**	Pn	Pn	00 26 09.0	-0.4

IDC ***17*** *00:27:26.1±2.4,11.60N×127.43E,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.5/53,mbtmp3.8/4,Error ellipse: s-maj=205.6km s-min=24.2km az=69.0*

MAN ***17*** *00:27:30.3,10.98N×126.25E,h25km,mb4.5,ML3.4, MS3.3*

ISC 17 00:27:33.4±1.4,11.00N±0.1×126.2E±0.2,h37km,n10, σ1§18/7,mb3.9/4,2C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**1.56**	**238**	*e*P	**Pn**	**00 27 58.0**	**-0.6**
RCP	**Roxas**	**3.44**	**280**	*e*P	**Pn**	**00 28 25.6**	**+1.1**
CNOP	**Candoni, Negro**	**3.68**	**252**	*i*P	**Pn**	**00 28 27.8**	**-0.1**
WRA	**Warramunga Arr**	**31.75**	**165**	P	**P**	**00 33 54.4**	**+0.3**
	0.6nm,0.6s,baz=350,slow=9.3,SNR=4.6						
ASAR	**Alice Springs**	**35.24**	**168**	P	**P**	**00 34 26.1**	**+1.5**
	0.4nm,0.3s,baz=345,slow=7.1,SNR=5.7						
H11N1	**WAKE ISLAND Hy**	**40.10**	**72**	T	T	01 18 26.0	
	baz=265,slow=75,SNR=6.3						
H11N2	**WAKE ISLAND Hy**	**40.11**	**72**	T	T	01 18 37.0	
	baz=265,slow=75,SNR=5.7						
H11N3	**WAKE ISLAND Hy**	**40.12**	**72**	T	T	01 18 27.2	
	baz=265,slow=75,SNR=6.3						
MKAR	**Makanchi Array**	**51.43**	**322**	P	**P**	**00 36 34.7**	**-0.2**
	1.1nm,0.6s,baz=115,slow=7.5,SNR=6.5						
FINES	**FINESS Array B**	**85.25**	**332**	P	**P**	**00 40 04.8**	**-1.2**
	0.7nm,0.5s,baz=58,slow=4.0,SNR=7.6						

IDC ***17*** *00:29:56.2±0.8,31.32S×71.96W,h0km,mb4.4/8, mb1 4.5/9,mb1mx4.3/27,mbtmp4.4/9,ML4.7/1,Error ellipse: s-maj=39.1km s-min=20.5km az=67.0*

NEIC ***17*** *00:30:02.2±2.8,31.27S±0.04×71.90W±0.08,h35km±1km, mb4.8/36,Error ellipse: s-maj=11.9km s-min=5.7km az=287.0*

ISC 17 00:29:58.4±0.5,31.28S±0.05×71.91W±0.08,h14km,n77, σ0§94/77,mb4.8/22,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO03	**El Pedregal**	**1.14**	**67**	Pn	**Pb**	**00 30 20.4**	**+0.4**
CO03					**Sn**	**00 30 36.5**	**+1.1**
GO04	**Tololo Observa**	**1.46**	**41**	Pn	**Pn**	**00 30 25.8**	**+1.2**
GO04				Sn	**Sn**	**00 30 44.3**	**+0.6**
VA01	**Torpederas**	**1.75**	**173**	Pn	**Pn**	**00 30 28.4**	**0.0**
VA01				Sn	**Sb**	**00 30 52.5**	**+0.3**
VA03	**San Esteban**	**1.87**	**142**	Pn	**Pn**	**00 30 30.3**	**+0.1**
MT05	**Renca**	**2.32**	**155**		**Pn**	**00 30 36.4**	**0.0**
VA05	**Santo Domingo**	**2.38**	**174**		**Pn**	**00 30 38.0**	**+1.0**
MT09	**Talagante**	**2.60**	**163**	Pn	**Pn**	**00 30 39.0**	**-1.3**
MT01	**Popeta**	**2.63**	**168**		**Pn**	**00 30 40.6**	**+0.1**
GO03	**Copiap**	**3.96**	**22**	Pn	**Pn**	**00 30 58.0**	**-0.7**
AC02	**Maricunga**	**5.05**	**29**	Pn	**Pn**	**00 31 13.9**	**-0.4**
H03N1	**Juan Fernandez**	**6.30**	**248**	T	T	00 38 15.5	
	baz=77,slow=72,SNR=12						
H03N3	**Juan Fernandez**	**6.32**	**248**	T	T	00 38 11.7	
	baz=77,slow=72,SNR=9.2						
H03N2	**Juan Fernandez**	**6.32**	**248**	T	T	00 38 15.1	
	baz=77,slow=72,SNR=11						
PB15	**IPOC Station P**	**8.33**	**16**	Pn	**Pn**	**00 31 58.4**	**-0.6**
PB06	**IPOC Station P**	**8.79**	**14**	Pn	**Pn**	**00 32 04.4**	**-0.9**
LVC	**Limon Verde**	**9.04**	**18**	Pn	**Pn**	**00 32 09.2**	**+0.3**
PLCA	**Paso Flores**	**9.49**	**174**	Pn	**Pn**	**00 32 13.7**	**-1.1**
	1.9nm,0.3s,baz=353,slow=16,SNR=9.5						
PLCA	**Paso Flores**	**9.49**	**174**	Pn	**Pn**	**00 32 13.5**	**-1.3**
LL04	**Puerto Octay**	**9.62**	**182**	Pn	**Pn**	**00 32 17.8**	**+1.4**
PB07	**IPOC Station P**	**9.69**	**11**	Pn	**Pn**	**00 32 18.9**	**+1.2**
TA01	**Diego Aracena**	**10.79**	**9**	Pn	**Pn**	**00 32 33.6**	**+1.1**
TA02	**Huaiquique**	**11.08**	**9**	Pn	**Pn**	**00 32 36.4**	**-0.1**
BDFB	**Brasilia**	**26.80**	**60**	P	**P**	**00 35 38.7**	**+0.3**
MDP	**Montagnes des**	**40.59**	**30**	P	**P**	**00 37 34.1**	**-3.7**
	8.5nm,0.7s,baz=204,slow=7.3,SNR=4.7						
ORTG	**Ortega, Santa**	**43.40**	**340**	P	**P**	**00 37 58.5**	**-2.3**
ORTG				IAmb	IAmb	00 38 21.6	
	comp=Z,19nm,1.5s						
VNA3	**Neumayer Olymp**	**51.83**	**159**	P	**P**	**00 39 05.6**	**0.0**
VNA1	**Neumayer--Stat**	**52.13**	**158**	P	**P**	**00 39 06.6**	**-1.3**
SNAA	**Sanae**	**54.06**	**159**	P	**P**	**00 39 21.7**	**-0.5**
SNAA	**Sanae**	**54.06**	**159**	P	**P**	**00 39 21.8**	**-0.4**
	comp=Z,10nm,0.9s,baz=279,slow=5.7,SNR=12						
SNAA	**Sanae**	**54.06**	**159**	P	**P**	**00 39 21.7**	**-0.5**
QSPA	**South Pole Qui**	**58.95**	**180**	P	**P**	**00 39 57.0**	**-0.1**
QSPA				IAmb	IAmb	00 40 23.4	
	comp=Z,6.7nm,0.8s						
X48A	**Hartselle**	**66.92**	**346**	P	**P**	**00 40 51.7**	**+1.4**
X48A				IAmb	IAmb	00 41 05.7	
	comp=Z,9.3nm,0.9s						
TXAR	**Lajitas Array**	**67.43**	**330**	P	**P**	**00 40 53.0**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=153,slow=8.5,SNR=6.8						
TX31	**Lajitas Ar. Si**	**67.43**	**330**	P	**P**	**00 40 52.7**	**-1.0**
WVT	**Waverly**	**68.70**	**346**	P	**P**	**00 41 02.6**	**+1.2**
WVT				IAmb	IAmb	00 41 03.8	
	comp=Z,6.3nm,0.9s						
LCAR	**Lake Charles**	**69.39**	**343**	P	**P**	**00 41 07.1**	**+1.5**
LCAR				IAmb	IAmb	00 41 32.8	
	comp=Z,8.4nm,1.1s						
S44A	**Carbondale**	**70.51**	**345**	P	**P**	**00 41 12.4**	**-0.1**
S44A				IAmb	IAmb	00 41 15.2	
	comp=Z,7.1nm,0.7s						
P48A	**Milroy**	**71.50**	**349**	P	**P**	**00 41 19.2**	**+0.7**
L59A	**Walton**	**73.17**	**358**	P	**P**	**00 41 28.6**	**+0.2**
L59A				IAmb	IAmb	00 41 31.7	
	comp=Z,6.9nm,0.9s						
DBIC	**Dimbokro**	**74.22**	**72**	P	**P**	**00 41 35.5**	**+0.3**
	comp=Z,10nm,0.9s,baz=226,slow=7.0,SNR=5.1						
DBIC	**Dimbokro**	**74.22**	**72**	P	**P**	**00 41 35.6**	**+0.3**
LBNH	**Lisbon**	**75.16**	**360**	P	**P**	**00 41 41.8**	**+1.8**
EMMW	**East Machias**	**75.74**	**3**	P	**P**	**00 41 43.9**	**+0.7**
MAW	**Mawson**	**75.75**	**164**	P	**P**	**00 41 43.2**	**0.0**
	comp=Z,6.7nm,1.0s,baz=208,slow=6.0,SNR=7.8						
MAW	**Mawson**	**75.75**	**164**	P	**P**	**00 41 43.0**	**-0.2**
SUR	**Sutherland**	**76.05**	**119**	P	**P**	**00 41 44.7**	**-1.2**
SUR				IAmb	IAmb	00 42 09.9	
	comp=Z,18nm,1.2s						
G62A	**West of Eustis**	**76.15**	**1**	P	**P**	**00 41 45.3**	**-0.3**
G62A				IAmb	IAmb	00 41 49.2	
	comp=Z,12nm,1.0s						
G65A	**Princeton**	**76.22**	**3**	P	**P**	**00 41 46.9**	**+0.9**
G65A				IAmb	IAmb	00 41 50.7	
	comp=Z,8.6nm,1.1s						
F64A	**Sherman**	**76.85**	**3**	P	**P**	**00 41 50.4**	**+0.8**
SMCO	**Snowmass**	**77.32**	**333**	P	**P**	**00 41 53.9**	**+0.9**
SMCO				IAmb	IAmb	00 42 03.4	
	comp=Z,13nm,1.2s						
D62A	**Allapoint, All**	**78.05**	**2**	P	**P**	**00 41 57.3**	**+1.1**
LMQ	**La Malbaie**	**78.48**	**1**	P	**P**	**00 41 60.0**	**+1.3**
KOWA	**Kowa**	**79.42**	**66**	P	**P**	**00 42 05.4**	**+0.8**
KOWA				IAmb	IAmb	00 42 05.7	
	comp=Z,7.4nm,0.8s						
HWUT	**Hardware Ranch**	**81.23**	**331**	P	**P**	**00 42 14.5**	**+0.5**
BOSA	**Boshof**	**81.24**	**118**	P	**P**	**00 42 14.7**	**+0.2**
	comp=Z,3.6nm,0.9s,baz=248,slow=5.4,SNR=2.3						
BOSA	**Boshof**	**81.24**	**118**	P	**P**	**00 42 13.9**	**-0.6**
PD31	**Pinedale Array**	**81.40**	**333**	P	**P**	**00 42 15.3**	**+0.4**
PDAR	**Pinedale Array**	**81.40**	**333**	P	**P**	**00 42 14.8**	**0.0**
	comp=Z,0.7nm,0.6s,baz=139,slow=7.0,SNR=6.1						
PDAR	**Pinedale Array**	**81.40**	**333**	P	**P**	**00 42 15.3**	**+0.4**
NVAR	**Mina Array Bea**	**81.73**	**325**	P	**P**	**00 42 18.1**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=157,slow=3.7,SNR=3.7						
NVAR	**Mina Array Bea**	**81.73**	**325**	P	**P**	**00 42 17.7**	**+1.0**
CASY	**Casey**	**82.73**	**181**	P	**P**	**00 42 21.6**	**+0.2**
TORD	**Torodi Ar. Bea**	**83.19**	**70**	P	**P**	**00 42 24.8**	**+0.2**
	comp=Z,8.6nm,0.8s,baz=261,slow=4.7,SNR=15						
TORD	**Torodi Ar. Bea**	**83.19**	**70**	P	**P**	**00 42 24.8**	**+0.2**
TORD				IAmb	IAmb	00 42 25.9	
	comp=Z,9.8nm,0.8s						
LBTB	**Lobatse**	**83.35**	**115**	P	**P**	**00 42 24.6**	**-0.9**
LBTB				IAmb	IAmb	00 42 53.7	
	comp=Z,6.5nm,1.1s						
YHH	**Holmes Hill**	**83.61**	**333**	P	**P**	**00 42 27.0**	**+0.6**
HLID	**Hailey**	**84.03**	**330**	P	**P**	**00 42 29.6**	**+1.1**
ARU	**Arti**	**137.59**	**39**	PKPdf	**PKiKP**	**00 49 24.3**	**+1.0**
BRVK	**Borovoye**	**145.11**	**40**	PKPdf	**PKPdf**	**00 49 35.6**	**+0.6**
CHGR	**Chuyangaron**	**147.44**	**66**	PKPbc	**PKPbc**	**00 49 42.2**	**+0.1**
GAR	**Garm**	**148.34**	**65**	PKPbc	**PKPbc**	**00 49 45.0**	**+0.5**
NIL	**Nilore**	**150.59**	**76**	PKPbc	**PKPbc**	**00 49 49.9**	**-0.2**
ZAA0	**Zalesovo Array**	**151.84**	**30**		**PKPbc**	**00 49 52.6**	**+0.3**
ZALV	**Zalesovo Beam**	**151.84**	**30**	PKPbc	**PKiKP**	**00 49 53.3**	**+0.6**
	comp=Z,21nm,0.8s,baz=295,slow=3.3,SNR=17						
ZALV	**Zalesovo Beam**	**151.84**	**30**		**PKiKP**	**00 49 53.1**	**+0.5**
MKAR	**Makanchi Array**	**154.83**	**45**	PKPbc	**PKPbc**	**00 49 59.5**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=336,slow=1.5,SNR=7.2						
MKAR	**Makanchi Array**	**154.83**	**45**		**PKPbc**	**00 49 58.9**	**-0.2**

NEIC 17 00:31:16.9±1.3,35.99N±0.01×96.82W±0.04,h2km±4km, ML2.5/25,Error ellipse: s-maj=4.5km s-min=1.3km az=109.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.04**	**203**		Pg	00 31 17.9	+0.1
OK031				IAML		00 31 19.1	
	4μm,0.3s						
OK031				Sg	Sg	00 31 19.2	+0.8
QUOK	**Quay**	**0.20**	**27**		Pg	00 31 21.0	+0.2
QUOK				Sg	Sg	00 31 24.0	+0.5
QUOK				IAML		00 31 24.1	
	comp=E,660nm,0.2s						
OK029	**Liberty Lake**	**0.55**	**250**		Pg	00 31 27.8	+0.3
OK029				IAML		00 31 43.5	
	comp=E,188nm,1.7s						
OK025	**Westminster Rd**	**0.59**	**226**		Pg	00 31 28.2	0.0
OK025				IAML		00 31 37.1	
	comp=E,355nm,1.9s						
OK025				IAML		00 31 37.1	
	comp=E,409nm,0.3s						
OKCFA	**Oklahoma City**	**0.77**	**222**		Pg	00 31 31.5	-0.3
OKCFA				IAML		00 31 46.0	
	comp=N,135nm,0.2s						
OKCFA				IAML		00 31 47.7	
	comp=E,141nm,4.3s						
OKCSW	**OKLAHOMA CITY**	**0.77**	**221**	Pg	Pg	00 31 31.7	0.0
BLOK	**Blackwell**	**0.83**	**337**		Pg	00 31 32.7	-0.2
BLOK				IAML		00 31 47.4	
	comp=E,246nm,0.2s						
FNO	**Franklin**	**0.87**	**213**	Pg	Pg	00 31 33.0	-0.6
FNO				IAML		00 31 48.4	
	comp=N,113nm,0.4s						
FNO				IAML		00 31 48.4	
	comp=E,133nm,0.9s						
T35A	**Sooner Cattle**	**0.95**	**15**		Pg	00 31 34.8	-0.4
CROK	**Carrier**	**1.07**	**299**	Pg	Pg	00 31 37.3	-0.2
CROK				IAML		00 31 57.8	
	comp=N,188nm,3.8s						
CROK				IAML		00 31 58.8	
	comp=E,128nm,0.3s						
KAN13	**South Haven SW**	**1.15**	**333**	Pg	Pg	00 31 38.5	-0.5
GC02	**Grant County #**	**1.20**	**316**		Pg	00 31 39.3	-0.6
KAN09	**Caldwell North**	**1.31**	**331**	Pg	Pg	00 31 42.1	0.0
OK032	**Salt Plains WL**	**1.39**	**306**	Pn	Pn	00 31 43.1	-0.2
KAN12	**Harper NE Stat**	**1.61**	**324**	Pn	Pn	00 31 46.9	+0.5
X34A	**Smith Ranch, M**	**1.62**	**211**		Pn	00 31 45.9	-0.5
U32A	**Winter Ranch,**	**1.81**	**283**	Pn	Pn	00 31 49.6	+0.5
LOOK	**Love County**	**2.02**	**189**		Pn	00 31 52.3	+0.4
U38A	**Gravette**	**2.02**	**76**		Pn	00 31 52.1	+0.1
WMOK	**Wichita Mounta**	**2.03**	**233**		Pn	00 31 53.0	+0.8
HHAR	**Hobbs**	**2.35**	**82**		Pn	00 31 57.0	+0.4
MIAR	**Mount Ida**	**3.02**	**118**	Pn	Pn	00 32 06.3	+0.6
WHAR	**Wooly Hollow**	**3.75**	**99**		Pn	00 32 15.2	-0.7

NEIC ***17*** *00:32:29.5±1.4,31.82S±0.03×72.11W±0.07,h10km±1km, mb4.8/70,Error ellipse: s-maj=10.6km s-min=5.0km az=281.0*

IDC ***17*** *00:32:31.9±0.8,31.74S×71.98W,h27km±4km,mb4.3/9, mb1 4.4/11,mb1mx4.2/28,mbtmp4.5/11,ML4.5/2,Error ellipse: s-maj=29.4km s-min=15.2km az=91.0*

ISC 17 00:32:30.2±0.4,31.81S±0.04×72.06W±0.07,h17km,n113, σ0§85/118,mb4.8/35,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**1.19**	**18**		**Pb**	**00 32 52.3**	**0.0**
CO06				Sg	**Sb**	**00 33 05.7**	**-1.6**
VA01	**Torpederas**	**1.26**	**164**		**Pn**	**00 32 51.9**	**-1.1**
VA01					**Sb**	**00 33 09.9**	**+0.5**
CO03	**El Pedregal**	**1.52**	**51**		**Pn**	**00 32 57.2**	**+0.5**
CO03				Sn	**Sb**	**00 33 16.8**	**-0.2**
VA03	**San Esteban**	**1.59**	**127**		**Pn**	**00 32 58.2**	**+0.5**
VA05	**Santo Domingo**	**1.88**	**169**	Pn	**Pn**	**00 33 01.0**	**-0.5**
MT05	**Renca**	**1.93**	**145**		**Pn**	**00 33 02.2**	**-0.1**
MT09	**Talagante**	**2.16**	**156**		**Pn**	**00 33 05.7**	**+0.1**
MT01	**Popeta**	**2.16**	**162**		**Pn**	**00 33 04.8**	**-0.6**
BO01	**Tunca**	**2.70**	**163**	Pn	**Pn**	**00 33 14.0**	**+1.2**
ZON	**Zonda**	**2.90**	**86**	Pn	**Pb**	**00 33 19.3**	**-2.1**
LCO	**Las Campanas**	**3.03**	**23**	Pn	**Pn**	**00 33 17.9**	**+0.4**
BO02	**Sierra Bellavi**	**3.16**	**161**	Pn	**Pn**	**00 33 18.4**	**-0.9**
AC04	**Llanos de Chal**	**3.69**	**14**	Pn	**Pn**	**00 33 26.3**	**-0.1**
ML02	**Panimavida**	**3.98**	**172**	Pn	**Pn**	**00 33 29.4**	**-1.0**
GO03	**Copiap**	**4.49**	**21**		**Pn**	**00 33 40.2**	**+2.7**
AC02	**Maricunga**	**5.58**	**28**		**Pn**	**00 33 56.3**	**+3.4**
VA04	**Juan Fernndez**	**5.99**	**250**	Pn	**Pn**	**00 33 55.8**	**-2.2**
LC01	**Cunco**	**7.07**	**179**		**Pn**	**00 34 11.2**	**-1.7**
PLCA	**Paso Flores**	**8.99**	**173**	Pn	**Pn**	**00 34 39.2**	**0.0**
	2.2nm,0.3s,baz=338,slow=12,SNR=12						
PLCA	**Paso Flores**	**8.99**	**173**		**Pn**	**00 34 38.2**	**-1.0**
LL04	**Puerto Octay**	**9.09**	**182**		**Pn**	**00 34 39.5**	**-1.0**
LL05	**Los Muermos**	**9.64**	**186**		**Pn**	**00 34 46.6**	**-1.6**
TRQA	**Tornquist**	**10.36**	**130**	Pn	**Pn**	**00 34 59.1**	**+1.2**
LL07	**Hotel Espejo d**	**11.06**	**185**	Pn	**Pn**	**00 35 06.8**	**-0.7**
PLTB	**Pedras Altas**	**15.70**	**95**	Pn	**Pn**	**00 36 10.1**	**-0.4**
PLTB					IAmb	IAmb	00 36 33.9	
	comp=Z,40nm,0.9s						
LPAZ	**La Paz**	**15.86**	**14**	Pn	**Pn**	**00 36 13.4**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=197,slow=7.0,SNR=4.5						
LPAZ	**La Paz**	**15.86**	**14**		**Pn**	**00 36 12.7**	**-0.6**
AQDB	**Aquidauana**	**18.50**	**56**	P	**P**	**00 36 43.5**	**-2.1**
AQDB				IAmb	IAmb	00 36 45.2	
	comp=Z,45nm,1.2s						
TRCB	**Terra Rica**	**19.43**	**67**	P	**P**	**00 36 56.3**	**+0.4**
EFI	**East Falkland**	**22.36**	**157**	P	**P**	**00 37 27.1**	**0.0**
SPB	**Sao Paulo**	**23.25**	**76**	P	**P**	**00 37 36.7**	**-0.1**
SPB				IAmb	IAmb	00 37 41.1	
	comp=Z,50nm,1.1s						
SAML	**Samuel**	**24.20**	**22**	P	**P**	**00 37 45.1**	**-0.8**
SAML				IAmb	IAmb	00 38 13.3	
	comp=Z,19nm,1.4s						
BDFB	**Brasilia**	**27.18**	**59**	P	**P**	**00 38 11.2**	**-1.8**
RUSC	**La Rusia**	**37.50**	**358**	P	**P**	**00 39 44.5**	**+0.8**
MDP	**Montagnes des**	**41.11**	**30**	P	**P**	**00 40 12.3**	**-1.0**
	comp=Z,9.0nm,0.9s,baz=208,slow=8.1,SNR=4.2						
VNA3	**Neumayer Olymp**	**51.39**	**158**	P	**P**	**00 41 34.6**	**+0.9**
VNA1	**Neumayer--Stat**	**51.70**	**158**	P	**P**	**00 41 36.1**	**+0.2**
VNA2	**Neumayer--Watz**	**52.04**	**158**	P	**P**	**00 41 39.1**	**+0.7**
	baz=283,slow=7.3						
SNAA	**Sanae**	**53.62**	**158**	P	**P**	**00 41 50.5**	**+0.3**
SNAA	**Sanae**	**53.62**	**158**	P	**P**	**00 41 50.8**	**+0.6**
	comp=Z,10nm,0.8s,baz=270,slow=6.9,SNR=10						
SNAA				pP	**pwP**	**00 41 59.3**	**+0.7**
	comp=Z,15nm,0.9s,baz=273,slow=9.2,SNR=10.0						
SNAA	**Sanae**	**53.62**	**158**	P	**P**	**00 41 50.2**	**0.0**
QSPA	**South Pole Qui**	**58.42**	**180**	P	**P**	**00 42 25.4**	**+0.7**
	comp=Z,11nm,0.7s,baz=143,slow=2.6,SNR=8.8						
QSPA	**South Pole Qui**	**58.42**	**180**	P	**P**	**00 42 25.0**	**+0.3**
QSPA				IAmb	IAmb	00 42 36.7	
	comp=Z,13nm,0.9s						
SLBS	**Sierra La Lagu**	**66.02**	**322**	P	**P**	**00 43 16.8**	**+0.8**
SLBS				IAmb	IAmb	00 43 27.6	
	comp=Z,9.1nm,1.1s						
VNDA	**Vanda**	**66.24**	**191**	P	**P**	**00 43 18.4**	**+1.7**
	comp=Z,1.1nm,0.8s,baz=97,slow=4.7,SNR=3.3						
VNDA	**Vanda**	**66.24**	**191**	P	**P**	**00 43 17.5**	**+0.8**
VNDA				IAmb	IAmb	00 43 28.7	
	comp=Z,6.2nm,1.2s						
JCT	**Junction City**	**67.31**	**334**	P	**P**	**00 43 24.1**	**0.0**
JCT				IAmb	IAmb	00 43 25.3	
	comp=Z,8.2nm,0.9s						
237A	**Washetta, Mont**	**67.33**	**338**	P	**P**	**00 43 24.4**	**+0.3**
TXAR	**Lajitas Array**	**67.82**	**330**	P	**P**	**00 43 27.6**	**+0.

ELK					IAmb	IAmb	00 44 53.5		
	comp=Z,3.4nm,0.8s								
LBTB	**Lobatse**	**83.24**	**115**		P	**P**	**00 44 55.9**	**-0.3**	
TORD	**Torodi Ar. Bea**	**83.48**	**70**		P	**P**	**00 44 57.4**	**0.0**	
	comp=Z,3.6nm,0.6s,baz=281,slow=4.6,SNR=12								
TORD					pP	**pwP**	**00 45 05.7**	**-0.4**	
	comp=Z,7.8nm,0.8s,baz=262,slow=4.6,SNR=10								
TORD	**Torodi Ar. Bea**	**83.48**	**70**		P	**P**	**00 44 57.3**	**-0.1**	
TORD					IAmb	IAmb	00 45 06.7		
	comp=Z,8.2nm,0.8s								
YHH	**Holmes Hill**	**84.02**	**333**		P	**P**	**00 44 60.0**	**+0.2**	
YHH					IAmb	IAmb	00 45 02.9		
	comp=Z,6.9nm,1.4s								
HLID	**Hailey**	**84.42**	**331**		P	**P**	**00 45 02.1**	**+0.4**	
J08A	**Circle Bar Ran**	**86.03**	**328**		P	**P**	**00 45 10.2**	**+0.6**	
J08A					IAmb	IAmb	00 45 11.2		
	comp=Z,9.0nm,1.0s								
ASAR	**Alice Springs**	**119.50**	**207**		PKP	**PKPdf**	**00 51 18.4**	**-1.1**	
	comp=Z,0.4nm,0.8s,baz=307,slow=0.3,SNR=4.0								
ASAR	**Alice Springs**	**119.50**	**207**			**PKPdf**	**00 51 18.1**	**-1.4**	
WRA	**Warramunga Arr**	**122.66**	**210**		PKP	**PKPdf**	**00 51 24.6**	**-1.0**	
	comp=Z,1.2nm,0.6s,baz=163,slow=1.8,SNR=5.8								
BRVK	**Borovoye**	**145.59**	**41**		PKPdf	**PKPab**	**00 52 08.0**	**+0.5**	
GAR	**Garm**	**148.67**	**66**		PKPbc	**PKPbc**	**00 52 17.4**	**+0.8**	
AAK	**Ala-Archa**	**151.43**	**58**		PKPbc	**PKiKP**	**00 52 23.9**	**+0.3**	
ZAA0	**Zalesovo Array**	**152.37**	**30**		PKPbc	**PKPbc**	**00 52 24.8**	**+0.1**	
ZALV	**Zalesovo Beam**	**152.37**	**30**		PKPbc	**PKPbc**	**00 52 24.5**	**-0.2**	
	comp=Z,5.2nm,0.5s,baz=322,slow=3.6,SNR=4.3								
ZALV	**Zalesovo Beam**	**152.37**	**30**		PKPbc	**PKPbc**	**00 52 24.3**	**-0.4**	
MKAR	**Makanchi Array**	**155.29**	**45**		PKPbc	PKPdf	00 52 30.9	+8.6	

NEIC ***17*** *00:34:17.2±1.7,31.42S±0.03×71.88W±0.06,h12km±3km, mb5.0/50, Error ellipse: s-maj=7.5km s-min=3.8km az=102.0*

IDC ***17*** *00:34:18.8±0.8,31.38S×71.69W,h23km±5km, mb4.7/9, mb1 4.8/11, mb1mx4.4/27, mbtmp4.8/11, ML4.9/2, MS6.2/3, Ms1 6.2/3, ms1mx4.9/35, Error ellipse: s-maj=29.0km s-min=16.6km az=80.0*

ISC 17 00:34:17.3±0.4, 31.41S±0.05×71.85W±0.07, h14km, n92, σ0.83/93, mb5.0/31, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.76**	**14**		**Pb**	**00 34 32.1**	**-0.1**
CO06				Sn	**Sn**	**00 34 43.7**	**-1.1**
CO03	**El Pedregal**	**1.14**	**60**		**Pg**	**00 34 39.3**	**-0.1**
CO03				Sn	**Sn**	**00 34 54.7**	**+0.2**
VA01	**Torpederas**	**1.62**	**174**	Pn	**Pn**	**00 34 45.3**	**-0.1**
VA01				Sn	**Sn**	**00 35 04.3**	**-1.8**
VA03	**San Esteban**	**1.74**	**141**	Pn	**Pn**	**00 34 47.7**	**+0.5**
MT09	**Talagante**	**2.47**	**163**		**Pn**	**00 34 56.4**	**-0.9**
MT01	**Popeta**	**2.50**	**169**	Pn	**Pn**	**00 34 59.0**	**+1.5**
ZON	**Zonda**	**2.71**	**94**	Pn	**Pn**	**00 35 00.4**	**-0.1**
BO02	**Sierra Bellavi**	**3.49**	**165**		**Pn**	**00 35 12.2**	**+1.0**
GO05	**Huala**	**3.59**	**181**	Pn	**Pn**	**00 35 11.6**	**-1.0**
VA04	**Juan Fernndez**	**6.30**	**247**	Pn	**Pn**	**00 35 48.7**	**-1.1**
H03N1	**Juan Fernandez**	**6.31**	**249**	T	T	00 42 32.5	
	baz=78,slow=72,SNR=12						
H03N3	**Juan Fernandez**	**6.32**	**249**	T	T	00 42 30.3	
	baz=78,slow=72,SNR=17						
H03N2	**Juan Fernandez**	**6.32**	**249**	T	T	00 42 28.9	
	baz=78,slow=72,SNR=19						
LC01	**Cunco**	**7.47**	**180**	Pn	**Pn**	**00 36 05.2**	**-0.6**
PB06	**IPOC Station P**	**8.90**	**14**	Pn	**Pn**	**00 36 26.7**	**+1.0**
PLCA	**Paso Flores**	**9.36**	**174**	Pn	**Pn**	**00 36 32.5**	**+0.6**
	3.8nm,0.3s,baz=333,slow=10,SNR=16						
PLCA				LR	LR	00 40 50.5	
	comp=Z,30µm,18.2s,baz=104,slow=42						
PLCA	**Paso Flores**	**9.36**	**174**		**Pn**	**00 36 32.3**	**+0.4**
TRQA	**Tornquist**	**10.48**	**132**	Pn	**Pn**	**00 36 48.7**	**+1.6**
LPAZ	**La Paz**	**15.43**	**14**	Pn	**Pn**	**00 37 56.0**	**+0.7**
SIV	**San Ignacio**	**18.23**	**35**	P	**Pn**	**00 38 29.4**	**-0.6**
	1.3nm,0.3s,baz=248,slow=8.3,SNR=4.2						
SPB	**Sao Paulo**	**22.98**	**76**	P	**P**	**00 39 20.5**	**-1.1**
SAML	**Samuel**	**23.76**	**22**	P	**P**	**00 39 28.5**	**-0.9**
BDFB	**Brasilia**	**26.82**	**60**	P	**P**	**00 39 56.6**	**-0.8**
	46nm,1.0s,baz=288,slow=6.4,SNR=4.0						
BDFB				LR	LR	00 51 15.2	
	comp=Z,125µm,18.6s,baz=63,slow=38						
BDFB	**Brasilia**	**26.82**	**60**	P	**P**	**00 39 56.5**	**-0.8**
RUSC	**La Rusia**	**37.11**	**358**		**P**	**00 41 28.8**	**+0.8**
SDV	**Santo Domingo**	**40.08**	**2**	P	**P**	**00 41 51.8**	**-0.9**
	3.3nm,0.3s,baz=215,slow=9.9,SNR=2.0						
MDP	**Montagnes des**	**40.67**	**30**	P	**P**	**00 41 56.1**	**-1.2**
	18nm,0.9s,baz=190,slow=12,SNR=5.0						
SNAA	**Sanae**	**53.92**	**159**	P	**P**	**00 43 40.1**	**+0.1**
	11nm,0.9s,baz=276,slow=5.3,SNR=5.1						
SNAA	**Sanae**	**53.92**	**159**	P	**P**	**00 43 39.9**	**-0.1**
SNAA				IAmb	IAmb	00 43 41.2	
	comp=Z,21nm,1.1s						
QSPA	**South Pole Qui**	**58.82**	**180**	P	**P**	**00 44 16.7**	**+1.6**
QSPA				IAmb	IAmb	00 44 30.5	
	comp=Z,14nm,1.2s						
X48A	**Hartselle**	**67.06**	**346**	P	**P**	**00 45 10.1**	**+0.2**
X48A				IAmb	IAmb	00 45 10.9	
	comp=Z,8.6nm,0.8s						
V55A	**Taylorsville**	**67.48**	**352**	P	**P**	**00 45 12.4**	**-0.2**
V55A				IAmb	IAmb	00 45 13.7	
	comp=Z,16nm,1.1s						
V53A	**Saluda**	**67.52**	**350**	P	**P**	**00 45 13.1**	**+0.2**
V53A				IAmb	IAmb	00 45 27.7	
	comp=Z,9.2nm,1.2s						
CPCT	**Cooper Cave**	**67.57**	**349**	P	**P**	**00 45 12.9**	**-0.3**
CPCT				IAmb	IAmb	00 45 13.4	
	comp=Z,7.5nm,1.0s						
TXAR	**Lajitas Array**	**67.57**	**330**	P	**P**	**00 45 13.9**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=153,slow=8.1,SNR=2.7						
TXAR				pP	**sP**	**00 45 21.1**	**+2.2**
	comp=Z,1.1nm,0.7s,baz=149,slow=9.0,SNR=4.0						
TX32	**Lajitas Array**	**67.57**	**330**	P	**P**	**00 45 14.5**	**+1.0**
SWET	**Sewanee**	**67.58**	**348**	P	**P**	**00 45 13.4**	**+0.1**
SWET				IAmb	IAmb	00 45 31.3	
	comp=Z,15nm,1.3s						
OXF	**Oxford**	**67.63**	**344**	P	**P**	**00 45 13.2**	**-0.3**
TKL	**Tuckaleechee C**	**67.65**	**350**	P	**P**	**00 45 13.1**	**-0.5**
TKL				IAmb	IAmb	00 45 35.3	
	comp=Z,17nm,1.6s						
PLAL	**Pickwick Lake**	**67.78**	**346**	P	**P**	**00 45 14.0**	**-0.5**
V52A	**Sevierville**	**67.80**	**350**	P	**P**	**00 45 14.2**	**-0.4**
V52A				IAmb	IAmb	00 45 29.8	
	comp=Z,24nm,1.6s						
WVT	**Waverly**	**68.84**	**346**	P	**P**	**00 45 20.6**	**-0.5**
WVT				IAmb	IAmb	00 45 21.9	
	comp=Z,12nm,0.8s						
LCAR	**Lake Charles**	**69.53**	**343**	P	**P**	**00 45 24.9**	**-0.5**
LCAR				IAmb	IAmb	00 45 26.1	
	comp=Z,10nm,1.0s						
HHAR	**Hobbs**	**70.45**	**341**	P	**P**	**00 45 30.7**	**-0.4**
R40A	**Maddies Statio**	**71.91**	**343**	P	**P**	**00 45 39.6**	**-0.3**
R40A				IAmb	IAmb	00 45 58.2	
	comp=Z,10nm,0.9s						
LIC	**Lamto**	**73.81**	**72**	*e*P	**P**	**00 45 50.9**	**-0.9**
	comp=Z,52nm,1.0s						
TIC	**Toumodi**	**74.06**	**72**	*e*P	**P**	**00 45 52.3**	**-0.9**
KIC	**Kosan Boka**	**74.12**	**72**	*e*P	**P**	**00 45 52.8**	**-0.8**
	comp=Z,57nm,0.8s						
DBIC	**Dimbokro**	**74.21**	**72**	P	**P**	**00 45 53.7**	**-0.4**
	comp=Z,17nm,0.6s,baz=232,slow=5.4,SNR=11						
DBIC	**Dimbokro**	**74.21**	**72**	P	**P**	**00 45 53.6**	**-0.5**
L40A	**Anamosa**	**75.26**	**345**	P	**P**	**00 45 58.7**	**-0.7**
L40A				IAmb	IAmb	00 46 11.7	
	comp=Z,13nm,0.9s						
LBNH	**Lisbon**	**75.29**	**360**	P	**P**	**00 46 00.1**	**+0.6**
LBNH				IAmb	IAmb	00 46 02.1	
	comp=Z,7.7nm,0.8s						
MAW	**Mawson**	**75.61**	**164**	P	**P**	**00 46 01.6**	**+0.3**
	comp=Z,7.6nm,1.0s,baz=250,slow=5.7,SNR=4.8						
MAW				pP	**sP**	**00 46 08.7**	**+2.2**
	comp=Z,4.9nm,0.9s,baz=226,slow=10.0,SNR=3.0						
MAW	**Mawson**	**75.61**	**164**	P	**P**	**00 46 01.4**	**+0.1**
LONY	**Lake Ozonia**	**75.71**	**358**	P	**P**	**00 46 02.2**	**+0.2**
FRNY	**Flat Rock**	**75.90**	**359**	P	**P**	**00 46 03.2**	**+0.2**
FRNY				IAmb	IAmb	00 46 04.6	
	comp=Z,9.0nm,0.9s						
SUR	**Sutherland**	**75.94**	**119**	P	**P**	**00 46 04.3**	**+0.2**
G62A	**West of Eustis**	**76.28**	**1**	P	**P**	**00 46 06.0**	**+0.8**
F64A	**Sherman**	**76.97**	**3**	P	**P**	**00 46 09.5**	**+0.3**
LMN	**Caledonia Moun**	**77.16**	**5**	P	**P**	**00 46 10.4**	**+0.2**
E62A	**Clayton Lake**	**77.69**	**2**	P	**P**	**00 46 13.5**	**+0.3**
E62A				IAmb	IAmb	00 46 14.8	
	comp=Z,18nm,0.8s						
ECSD	**EROS Data Cent**	**78.14**	**342**	P	**P**	**00 46 15.4**	**-0.3**
D62A	**Allapoint, All**	**78.17**	**2**	P	**P**	**00 46 15.9**	**+0.1**
BATG	**Bathurst New B**	**78.50**	**4**	P	**P**	**00 46 18.2**	**+0.6**
KOWA	**Kowa**	**79.43**	**66**	P	**P**	**00 46 23.1**	**-0.4**
KOWA				IAmb	IAmb	00 46 23.6	
	comp=Z,17nm,0.8s						
TSUM	**Tsumeb**	**79.77**	**106**	P	**P**	**00 46 25.1**	**-0.5**
TSUM				IAmb	IAmb	00 46 26.4	
	comp=Z,16nm,1.2s						
BOSA	**Boshof**	**81.13**	**118**	P	**P**	**00 46 32.2**	**-0.5**
	comp=Z,5.3nm,0.9s,baz=205,slow=2.9,SNR=5.8						
BOSA	**Boshof**	**81.13**	**118**	IAmb	IAmb	00 46 32.7	
	comp=Z,16nm,1.1s						
PDAR	**Pinedale Array**	**81.53**	**333**	LR	LR	01 20 10.1	
	comp=Z,21µm,19.8s,baz=348,slow=34						
NVAR	**Mina Array Bea**	**81.86**	**325**	P	**P**	**00 46 36.9**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=173,slow=6.5,SNR=3.7						
NVAR				pP	**sP**	**00 46 44.2**	**+2.4**
	comp=Z,1.8nm,0.8s,baz=151,slow=6.4,SNR=4.8						
NVAR	**Mina Array Bea**	**81.86**	**325**	P	**P**	**00 46 36.7**	**+0.4**
CASY	**Casey**	**82.61**	**181**	P	**P**	**00 46 40.2**	**+0.6**
CASY				IAmb	IAmb	00 46 41.2	
	comp=Z,13nm,0.8s						
TORD	**Torodi Ar. Bea**	**83.18**	**70**	P	**P**	**00 46 42.8**	**-0.5**
	comp=Z,28nm,0.8s,baz=262,slow=4.8,SNR=21						
TORD	**Torodi Ar. Bea**	**83.18**	**70**		**P**	**00 46 42.9**	**-0.5**
LBTB	**Lobatse**	**83.25**	**115**	P	**P**	**00 46 43.1**	**-0.7**
LBTB				IAmb	IAmb	00 46 43.5	
	comp=Z,12nm,0.9s						
AKASG	**Malin Array Be**	**120.31**	**46**	PKP	**PKPdf**	**00 53 06.1**	**-1.5**
	comp=Z,0.9nm,0.5s,baz=260,slow=2.7,SNR=7.3						
AKASG	**Malin Array Be**	**120.31**	**46**		**PKPdf**	**00 53 05.9**	**-1.7**
H11N3	**WAKE ISLAND Hyl**	**126.28**	**272**	T	T	03 12 35.0	
	baz=117,slow=76,SNR=3.5						
H11N1	**WAKE ISLAND Hyl**	**126.29**	**272**	T	T	03 12 30.7	
	baz=117,slow=76,SNR=4.6						
H11N2	**WAKE ISLAND Hyl**	**126.30**	**272**	T	T	03 12 34.6	
	baz=117,slow=76,SNR=5.3						
ARU	**Arti**	**137.66**	**39**		**PKPdf**	**00 53 40.3**	**-0.1**
BRVK	**Borovoye**	**145.17**	**40**		**PKPbc**	**00 53 53.6**	**0.0**
CHGR	**Chuyangaron**	**147.45**	**66**		**PKPdf**	**00 53 59.8**	**+1.4**
KK31	**Karatay Array**	**148.10**	**58**		**PKPbc**	**00 54 02.0**	**-0.4**
KKAR	**Karatay Array**	**148.10**	**58**		**PKPbc**	**00 54 01.9**	**-0.6**
KKAR	**Karatay Array**	**148.10**	**58**		**PKPbc**	**00 54 01.9**	**-0.6**
GAR	**Garm**	**148.34**	**66**		**PKPbc**	**00 54 03.2**	**-0.1**
ZALV	**Zalesovo Beam**	**151.93**	**30**	PKPbc	**PKPbc**	**00 54 11.1**	**-0.3**
	comp=Z,37nm,0.7s,baz=294,slow=3.1,SNR=17						
MKAR	**Makanchi Array**	**154.88**	**45**	PKP	**PKPdf**	**00 54 08.9**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=255,slow=1.6,SNR=2.7						
MKAR				PKPbc	**PKPbc**	**00 54 17.3**	**-0.7**
	comp=Z,3.8nm,0.8s,baz=302,slow=1.9,SNR=7.8						
MKAR	**Makanchi Array**	**154.88**	**45**	PKPdf	**PKPdf**	**00 54 09.3**	**-0.1**
MKAR					**PKPbc**	**00 54 17.4**	**-0.7**
MKAR				PKPab	**PKPab**	**00 54 33.4**	**0.0**
SONM	**Songino Array**	**163.54**	**4**	PKPab	**PKPab**	**00 55 11.3**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=331,slow=3.5,SNR=3.7						
CMAR	**Chiang Mai Arr**	**164.65**	**145**	PKPab	**PKPab**	**00 55 15.5**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=233,slow=6.2,SNR=4.6						

IDC ***17*** *00:37:48.1±1.1,31.56S×71.90W,h0km,mb4.4/4, mb1 4.5/5,mb1mx4.0/30,mbtmp4.4/5,ML4.0/1, Error ellipse: s-maj=47.1km s-min=27.4km az=65.0*

NEIC ***17*** *00:37:51.6±0.9,31.72S±0.04×72.10W±0.1,h20km±3km, mb4.6/11, Error ellipse: s-maj=14.3km s-min=5.7km az=83.0*

ISC 17 00:37:50.2±0.6, 31.64S±0.07×72.0W±0.1, h14km, n30, σ0.64/28, mb4.5/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**1.00**	**16**		**Pb**	**00 38 10.8**	**+0.9**
CO03	**El Pedregal**	**1.35**	**54**		**Pg**	**00 38 16.2**	**0.0**
VA01	**Torpederas**	**1.40**	**169**	Pn	**Pn**	**00 38 14.2**	**-1.2**
VA03	**San Esteban**	**1.64**	**134**	Pn	**Pn**	**00 38 18.9**	**+0.2**
H03N1	**Juan Fernandez**	**6.14**	**251**	T	T	00 46 24.4	
	baz=77,slow=72,SNR=10						
H03N3	**Juan Fernandez**	**6.15**	**251**	T	T	00 46 19.3	
	baz=77,slow=72,SNR=11						
H03N2	**Juan Fernandez**	**6.16**	**251**	T	T	00 46 24.5	
	baz=77,slow=72,SNR=7.9						
LR03	**Panguipulli**	**7.98**	**182**	Pn	**Pn**	**00 39 46.2**	**+0.4**
PLCA	**Paso Flores**	**9.14**	**173**	Pn	**Pn**	**00 40 03.5**	**+1.7**
	0.4nm,0.3s,baz=328,slow=15,SNR=1.0						
LPAZ	**La Paz**	**15.68**	**14**		**P**	**00 41 35.9**	**+0.4**
SAML	**Samuel**	**24.01**	**22**	P	**P**	**00 43 04.8**	**+0.1**
RUSC	**La Rusia**	**37.34**	**358**	P	**P**	**00 45 03.7**	**+0.8**
RUSC				IAmb	IAmb	00 45 28.6	
	comp=Z,9.9nm,1.1s						
SNAA	**Sanae**	**53.74**	**158**	P	**P**	**00 47 11.7**	**0.0**
	comp=Z,3.3nm,0.7s,baz=287,slow=6.8,SNR=3.9						
SNAA	**Sanae**	**53.74**	**158**	P	**P**	**00 47 11.4**	**-0.2**
SNAA				IAmb	IAmb	00 47 22.8	
	comp=Z,4.5nm,0.9s						
QSPA	**South Pole Qui**	**58.59**	**180**	P	**P**	**00 47 46.4**	**0.0**
QSPA				IAmb	IAmb	00 48 11.0	
	comp=Z,12nm,1.1s						
V58A	**Windy Hill, Pi**	**67.42**	**354**	P	**P**	**00 48 44.4**	**-0.7**
TXAR	**Lajitas Array**	**67.72**	**330**	P	**P**	**00 48 47.1**	**-0.2**
	comp=Z,78nm,0.5s,baz=158,slow=9.7,SNR=3.9						
DBIC	**Dimbokro**	**74.37**	**72**	P	**P**	**00 49 28.4**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=250,slow=9.3,SNR=3.2						
DBIC	**Dimbokro**	**74.37**	**72**	P	**P**	**00 49 28.1**	**+0.2**
D62A	**Allapoint, All**	**78.40**	**2**	P	**P**	**00 49 50.8**	**+0.8**
KOWA	**Kowa**	**79.61**	**66**	P	**P**	**00 49 57.2**	**-0.2**
KOWA				IAmb	IAmb	00 49 57.9	
	comp=Z,7.0nm,0.9s						
NVAR	**Mina Array Bea**	**82.00**	**325**	P	**P**	**00 50 10.2**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=160,slow=5.9,SNR=6.4						
LBTB	**Lobatse**	**83.23**	**115**	P	**P**	**00 50 16.0**	**-0.8**
LBTB				IAmb	IAmb	00 50 26.4	
	comp=Z,2.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**83.35**	**70**	P	**P**	**00 50 16.9**	**-0.4**
	comp=Z,3.6nm,0.7s,baz=271,slow=4.4,SNR=5.8						
TORD	**Torodi Ar. Bea**	**83.35**	**70**	P	**P**	**00 50 16.8**	**-0.4**
TORD				IAmb	IAmb	00 50 29.2	
	comp=Z,4.6nm,0.8s						
BRVK	**Borovoye**	**145.41**	**41**		**PKPdf**	**00 57 27.3**	**0.0**
KKAR	**Karatay Array**	**148.30**	**58**		**PKiKP**	**00 57 37.9**	**+0.3**
ZAA0	**Zalesovo Array**	**152.18**	**30**	PKPbc	**PKPbc**	**00 57 44.3**	**-0.6**
ZALV	**Zalesovo Beam**	**152.18**	**30**	PKPbc	**PKPbc**	**00 57 44.5**	**-0.4**
	comp=Z,5.2nm,0.7s,baz=286,slow=3.1,SNR=4.5						
ZALV				pPKPbc	**PKPab**	**00 57 54.1**	**-0.5**
	comp=Z,6.2nm,0.7s,baz=313,slow=4.3,SNR=5.1						
ZALV	**Zalesovo Beam**	**152.18**	**30**		**PKPbc**	**00 57 44.2**	**-0.6**

IDC 17 00:39:32.9±1.6, 31.09S×72.77W, h0km, mb4.4/1, mb1 4.2/2, mb1mx3.8/30, mbtmp4.1/2, ML4.3/1, Error ellipse: s-maj=76.3km s-min=39.0km az=67.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**9.79**	**170**	Pn	Pn	00 41 55.3	+0.3
	0.6nm,0.3s,baz=343,slow=13,SNR=1.1						
TXAR	**Lajitas Array**	**66.90**	**331**	P	P	00 50 27.4	+0.3
	49nm,0.3s,baz=150,slow=7.3,SNR=4.0						
TORD	**Torodi Ar. Bea**	**83.82**	**71**	P	P	00 52 05.1	+0.4
	1.0nm,0.6s,baz=263,slow=4.0,SNR=2.3						
ZALV	**Zalesovo Beam**	**152.04**	**29**	PKPbc	PKPbc	00 59 28.7	-0.9
	4.6nm,0.8s,baz=294,slow=1.6,SNR=4.0						

NEIC ***17*** *00:42:54.6±1.3,30.91S±0.04×71.70W±0.07,h20km±4km, mb5.0/82, ML5.0(GUC), Error ellipse: s-maj=8.6km s-min=6.1km az=106.0*

IDC ***17*** *00:42:57.2±0.6,30.89S×71.62W,h45km±5km, mb4.5/18, mb1 4.5/21,mb1mx4.3/37,mbtmp4.7/21,ML4.2/3, Error ellipse: s-maj=18.7km s-min=11.3km az=87.0*

SJA ***17*** *00:42:59.8±1.3,30.92S×71.55W,h50km±38km, ML4.8, MW4.6*

GUC ***17*** *00:43:01.7±0.8,31.39S×71.85W,h35km±23km, ML5.0*

ISC 17 00:42:55.1±0.5, 30.94S±0.03×71.74W±0.05, h29km±2km, n222, σ1§23/224, mb5.0/52, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.28**	**20**		**Pb**	**00 43 01.6**	**-0.7**
CO06					**Sb**	**00 43 07.2**	**+0.2**
CO03	**El Pedregal**	**0.91**	**84**	Pn	**Pn**	**00 43 11.6**	**-0.5**
CO03				Sn	**Sb**	**00 43 23.2**	**-1.1**
GO04	**Tololo Observa**	**1.11**	**47**	Pn	**Pn**	**00 43 15.2**	**+0.1**
GO04	**Tololo Observa**	**1.11**	**47**	*e*P	**Sn**	**00 43 29.0**	**-0.5**
VA01	**Torpederas**	**2.08**	**178**	Pn	**Pn**	**00 43 29.5**	**+1.4**
VA01	**Torpederas**	**2.08**	**178**	*e*P	**Pn**	**00 43 30.1**	**+2.0**
VA03	**San Esteban**	**2.08**	**151**		**Pn**	**00 43 29.0**	**+0.7**
VA03	**San Esteban**	**2.08**	**151**	*e*P	Pb	00 43 38.1	+5.8
VA03				*e*S	**Sb**	**00 43 56.2**	**-1.7**
VA03				IAML		00 44 03.8	
	comp=E,23µm,0.5s						
AROD	**Rodeo**	**2.10**	**69**	*i* P	**Pb**	**00 43 32.0**	**-0.8**
AROD				*e*S	**Sn**	**00 43 53.5**	**-0.6**
LCO	**Las Campanas**	**2.12**	**26**	*i* P	**Pn**	**00 43 29.7**	**+0.8**
LCO				IAML		00 44 30.4	
	comp=Z,39µm,0.7s						
ROCH	**El Roble**	**2.12**	**163**	*e*P	**Pb**	**00 43 31.5**	**-1.6**
ROCH				IAML		00 44 20.6	
	comp=N,18µm,0.4s						
ACCO	**Cerro Coronel**	**2.33**	**82**	*i* P	**Pb**	**00 43 37.0**	**+0.3**
ACCO				IAML		00 44 10.9	
	comp=Z,1µm,1.4s						
AUSP	**Uspallata**	**2.38**	**123**	*i* P	**Pb**	**00 43 37.0**	**-0.6**
ACDV	**Cuesta del Vie**	**2.39**	**72**	*i* P	**Pb**	**00 43 36.0**	**-1.6**
ACDV				*e*S	**Sn**	**00 44 03.2**	**+2.3**
ACDV				IAML		00 44 31.9	
	comp=Z,5µm,0.6s						
MT05	**Renca**	**2.59**	**161**	*e*P	**Pn**	**00 43 36.8**	**+1.6**
MT05	**Renca**	**2.59**	**161**	Pn	**Pn**	**00 43 35.9**	**+0.7**
MT05	**Renca**	**2.59**	**161**	*e*P	**Pn**	**00 43 36.8**	**+1.6**
MT05				*e*S	**Sb**	**00 44 09.3**	**-3.1**
MT05				IAML		00 44 19.1	
	comp=N,17µm,0.4s						
ZON	**Zonda**	**2.69**	**104**	Pn	**Pn**	**00 43 36.9**	**+0.3**
VA05	**Santo Domingo**	**2.71**	**178**	Pn	**Pn**	**00 43 36.4**	**-0.4**
AC04	**Llanos de Chal**	**2.79**	**12**	Pn	**Pn**	**00 43 36.6**	**-1.2**
AC04	**Llanos de Chal**	**2.79**	**12**	*i* P	**Pn**	**00 43 40.0**	**+2.2**
AC04				IAML		00 44 51.1	
	comp=Z,3µm,0.9s						
RTCV	**Cerro Valdivia**	**2.89**	**109**	*i* P	**Pb**	**00 43 44.0**	**-2.0**
RTCV				IAML		00 44 48.8	
	comp=Z,2µm,2.9s						
MT09	**Talagante**	**2.90**	**167**		**Pn**	**00 43 41.3**	**+1.8**
MT09	**Talagante**	**2.90**	**167**	*e*P	**Pb**	**00 43 43.8**	**-2.5**
MT09				*e*S	**Sn**	**00 44 14.8**	**+1.3**
MT09				IAML		00 44 44.3	
	comp=E,8µm,0.6s						
MT01	**Popeta**	**2.95**	**172**		**Pn**	**00 43 41.9**	**+1.8**
MT01	**Popeta**	**2.95**	**172**	*e*P	**Pn**	**00 43 43.0**	**+3.0**
MT01	**Popeta**	**2.95**	**172**	*i* P	**Pb**	**00 43 46.3**	**-0.7**
MT01				IAML		00 44 45.9	
	comp=Z,4µm,0.6s						
MT01	**Popeta**	**2.95**	**172**	*e*P	**Pn**	**00 43 43.0**	**+3.0**
MT01				IAML		00 44 46.2	
	comp=E,11µm,0.5s						
ASAL	**Salagasta**	**2.98**	**124**	*i* P	**Pb**	**00 43 44.7**	**-2.9**
ASAL				*e*S	**Sb**	**00 44 27.6**	**+4.1**
ASAL				IAML		00 44 36.8	
	comp=Z,2µm,1.2s						
AGUA	**GUANDACOL**	**3.17**	**64**	*i* P	**Pb**	**00 43 48.0**	**-2.7**
AGUA				IAML		00 45 01.8	
	comp=Z,2µm,0.3s						
BO01	**Tunca**	**3.49**	**171**		**Pn**	**00 43 49.0**	**+1.5**
BO01	**Tunca**	**3.49**	**171**	*i* P	**Pb**	**00 43 54.1**	**-2.1**
BO01				IAML		00 45 03.1	
	comp=Z,2µm,1.2s						
GO03	**Copiap**	**3.58**	**22**	Pn	**Pn**	**00 43 47.9**	**-1.0**
GO03	**Copiap**	**3.58**	**22**	*i* P	**Pb**	**00 43 55.0**	**-2.9**
VCA	**Vinchina**	**3.78**	**55**	*i* P	**Pb**	**00 43 58.0**	**-3.2**
VCA				I

TKL Tuckaleechee C 67.20 349 P P 00 53 46.3 -0.2
TKL IAmb IAmb 00 54 08.2
comp=Z,17nm,1.1s
TXAR Lajitas Array 67.20 330 P P 00 53 47.7 +1.0
comp=Z,0.6nm,0.8s,baz=150,slow=6.6,SNR=4.8
TXAR pP **sP 00 53 59.0 +0.2**
comp=Z,0.8nm,0.7s,baz=156,slow=6.4,SNR=5.4
TX31 Lajitas Ar. Si 67.20 330 P P 00 53 46.7 0.0
V52A Sevierville 67.35 350 P P 00 53 47.5 +0.1
V52A IAmb IAmb 00 54 09.5
comp=Z,8.7nm,0.7s
WVT Waverly 68.40 346 P P 00 53 54.1 +0.1
WVT IAmb IAmb 00 53 54.9
comp=Z,14nm,1.0s
WVT Waverly 68.40 346 P P 00 53 53.8 -0.1
baz=165
ABTX Abilene, Hawle 68.51 335 P P 00 53 55.7 +0.9
baz=154
S57A Dark Hollow, R 68.67 354 P P 00 53 55.5 -0.1
W39A Magazine 68.97 341 P P 00 53 57.9 +0.3
W39A IAmb IAmb 00 53 59.5
comp=Z,16nm,1.0s
W39A Magazine 68.97 341 P P 00 53 58.7 +1.1
baz=160
T47A Sharon Grove 69.09 347 P P 00 53 58.6 +0.3
T47A IAmb IAmb 00 53 59.1
comp=Z,16nm,1.0s
LCAR Lake Charles 69.10 343 P P 00 53 58.2 -0.1
LCAR IAmb IAmb 00 53 59.2
comp=Z,11nm,0.9s
U40A Yellville 69.81 342 P P 00 54 03.1 +0.3
baz=161
HHAR Hobbs 70.03 341 P P 00 54 04.2 0.0
HHAR IAmb IAmb 00 54 05.3
comp=Z,10nm,0.9s
WCI Wyandotte Cave 70.14 348 P P 00 54 04.2 -0.4
baz=167
S44A Carbondale 70.21 345 P P 00 54 05.3 +0.1
SIUC Southern Illin 70.22 345 P P 00 54 05.5 +0.3
SIUC IAmb IAmb 00 54 06.1
comp=Z,12nm,0.8s
TUL1 Leonard 70.23 339 P P 00 54 05.6 +0.3
baz=158
MCWV Mont Chateau 70.64 353 P P 00 54 08.4 +0.7
baz=173
FVM French Village 70.75 344 P P 00 54 08.3 -0.2
FVM IAmb IAmb 00 54 09.6
comp=Z,16nm,1.1s
CCM Cathedral Cave 71.01 344 P P 00 54 10.1 +0.1
CCM IAmb IAmb 00 54 32.7
comp=Z,13nm,0.8s
CCM Cathedral Cave 71.01 344 P P 00 54 10.4 +0.3
baz=162
O56A Blue Knob Stat 71.13 354 P P 00 54 11.4 +0.6
baz=174
P49A Miami Univ. Ec 71.14 349 P P 00 54 10.6 -0.1
baz=168
S39A Bolivar 71.19 342 P P 00 54 11.5 +0.4
S39A IAmb IAmb 00 54 35.1
comp=Z,14nm,1.2s
SSPA Standing Stone 71.44 355 P P 00 54 13.2 +0.6
baz=174
R40A Maddies Statio 71.49 343 P P 00 54 13.1 +0.2
ACSO Alum Creek Sta 71.57 351 P P 00 54 13.2 -0.2
ACSO Alum Creek Sta 71.57 351 P P 00 54 13.7 +0.3
baz=170
N59A State Game Lan 71.59 357 P P 00 54 14.5 +1.0
baz=176
121A Cookes Peak, D 71.75 328 P P 00 54 16.9 +2.0
baz=148
N54A Moraine State 71.94 353 P P 00 54 16.0 +0.4
baz=172
L63A North Scituate 72.44 0 P P 00 54 19.7 +1.2
baz=180
M53A WI Miller and 72.49 353 P P 00 54 19.3 +0.4
baz=172
P40A Paris 72.61 344 P P 00 54 20.1 +0.5
L56A Greenwood 72.91 355 P P 00 54 21.9 +0.5
L56A IAmb IAmb 00 54 43.9
comp=Z,22nm,1.1s
TUC Tucson 72.96 326 P P 00 54 24.8 +2.8
baz=146
L61B Northampton 73.03 359 P P 00 54 22.8 +0.8
baz=179
P38A Dawn 73.07 343 P P 00 54 22.7 +0.4
P38A IAmb IAmb 00 54 23.5
comp=Z,8.4nm,0.8s
HRV Adam Dziewonsk 73.08 0 P P 00 54 23.9 +1.6
baz=180
LIC Lamto 73.59 72 *eP* **P 00 54 25.1 -0.9**
comp=Z,64nm,1.2s
TIC Toumodi 73.83 72 *eP* **P 00 54 26.5 -0.9**
KIC Kosan Boka 73.90 72 *eP* **P 00 54 26.9 -0.9**
comp=Z,48nm,0.8s
DBIC Dimbokro 73.98 72 P P 00 54 28.0 -0.3
comp=Z,13nm,0.7s,baz=241,slow=5.9,SNR=15
DBIC pP **sP 00 54 41.4 +0.4**
comp=Z,13nm,0.8s,baz=242,slow=6.0,SNR=5.8
DBIC Dimbokro 73.98 72 P P 00 54 27.6 -0.7
T25A Trinidad 74.31 333 P P 00 54 31.4 +1.4
T25A Trinidad 74.31 333 P P 00 54 31.6 +1.7
baz=151
I63A Otisfield 74.63 1 P P 00 54 32.5 +1.1
I63A IAmb IAmb 00 54 55.9
comp=Z,18nm,1.1s
I63A Otisfield 74.63 1 P P 00 54 33.4 +2.0
baz=181
LBNH Lisbon 74.81 360 P P 00 54 33.7 +1.3
baz=180
L40A Anamosa 74.83 345 P P 00 54 32.4 -0.1
L40A IAmb IAmb 00 54 33.3
comp=Z,20nm,0.8s
X16A Lo Mia Camp, P 75.00 327 P P 00 54 35.3 +1.2
EMMW East Machias 75.38 3 P P 00 54 37.1 +1.4
EMMW IAmb IAmb 00 54 37.3
comp=Z,14nm,1.2s
FRNY Flat Rock 75.43 359 P P 00 54 36.8 +0.9
FRNY IAmb IAmb 00 54 59.4
comp=Z,15nm,1.1s
SADO Sadowa 75.65 355 P P 00 54 37.0 -0.2
SADO IAmb IAmb 00 55 00.1
comp=Z,16nm,1.1s
G62A West of Eustis 75.80 1 P P 00 54 39.0 +0.9
G62A IAmb IAmb 00 55 01.6
comp=Z,13nm,0.9s
MVCO Mesa Verde 76.02 331 P P 00 54 41.1 +1.2
baz=148
MAW Mawson 76.04 164 P P 00 54 39.4 +0.1
comp=Z,8.3nm,0.8s,baz=210,slow=6.9,SNR=18
SUR Sutherland 76.10 119 P P 00 54 41.0 +0.4
Q24A Divide 76.18 334 P P 00 54 42.4 +1.6
baz=151
F64A Sherman 76.50 2 P P 00 54 43.1 +1.1
LMN Caledonia Moun 76.69 5 P P 00 54 43.2 +0.1
LMN IAmb IAmb 00 55 05.8
comp=Z,18nm,1.0s
PV13 Radium Mtn., P 76.96 331 P P 00 54 45.4 +0.3
E62A Clayton Lake 77.22 2 P P 00 54 47.2 +1.1
E62A IAmb IAmb 00 55 09.7
comp=Z,21nm,1.0s
D62A Allapoint, All 77.69 2 P P 00 54 49.3 +0.6
D62A IAmb IAmb 00 54 50.3
comp=Z,21nm,0.9s
ECSD EROS Data Cent 77.72 342 P P 00 54 49.2 +0.3
ECSD IAmb IAmb 00 54 50.1
comp=Z,12nm,0.9s
ECSD EROS Data Cent 77.72 342 P P 00 54 49.3 +0.3
baz=158
KNB Kanab 77.77 327 P P 00 54 49.2 -0.5
E46A Sault Ste Mari 77.78 351 P P 00 54 49.1 -0.1
E46A IAmb IAmb 00 55 11.8
comp=Z,14nm,0.9s
BATG Bathurst New B 78.02 4 P P 00 54 51.5 +1.0
BATG IAmb IAmb 00 54 52.2
comp=Z,17nm,1.0s
N23A Red Feather La 78.16 334 P P 00 54 53.1 +1.3
baz=150
E43A Lone Tree Farm 78.18 349 P P 00 54 51.5 +0.1
E43A IAmb IAmb 00 54 52.4
comp=Z,13nm,0.8s
GSC Goldstone, Bar 78.34 324 P P 00 54 54.8 +2.1
baz=142
CCUT Cedar City 78.46 327 P P 00 54 54.0 +0.4
F36A Milaca 78.95 345 P P 00 54 55.5 -0.2
D41A Chassel 79.11 348 P P 00 54 57.1 +0.6
KOWA Kowa 79.15 66 P P 00 54 57.6 +0.1
comp=Z,2.9nm,0.5s,baz=239,slow=4.1,SNR=5.8
KOWA pP **sP 00 55 11.0 +1.1**
comp=Z,9.5nm,0.8s,baz=266,slow=2.8,SNR=8.5
KOWA Kowa 79.15 66 P P 00 54 57.4 -0.2
KOWA IAmb IAmb 00 55 11.1
comp=Z,29nm,1.2s
ISA Isabella, Lake 79.47 323 P P 00 55 01.2 +2.3
baz=140
TSUM Tsumeb 79.82 106 P P 00 55 01.3 -0.1
comp=Z,7.7nm,0.9s,baz=187,slow=5.1,SNR=6.1
TSUM Tsumeb 79.82 106 P P 00 55 00.9 -0.5
TSUM IAmb IAmb 00 55 22.8
comp=Z,12nm,1.0s
CWC Cottonwood Cre 79.87 324 P P 00 55 02.8 +1.6
baz=141
K22A Casper 79.90 335 P P 00 55 02.7 +1.5
baz=150
JLU Jordanelle 80.11 330 P P 00 55 03.4 +0.9
R11A Troy Canyon, C 80.14 326 P P 00 55 04.6 +2.0
baz=143
RSSD Black Hills 80.31 337 P P 00 55 04.0 +0.6
baz=152
HWUT Hardware Ranch 81.00 331 P P 00 55 08.1 +0.9
PDAR Pinedale Array 81.15 333 P P 00 55 08.4 +0.4
comp=Z,0.9nm,0.8s,baz=132,slow=4.4,SNR=3.8
PDAR Pinedale Array 81.15 333 P P 00 55 08.2 +0.2
BOSA Boshof 81.28 118 P P 00 55 08.4 -0.7
comp=Z,3.6nm,0.8s,baz=240,slow=4.2,SNR=6.3
BOSA pP **sP 00 55 22.1 +0.6**
comp=Z,3.2nm,0.8s,baz=219,slow=7.4,SNR=3.3
BOSA Boshof 81.28 118 P P 00 55 08.8 -0.3
NVAR Mina Array Bea 81.53 325 P P 00 55 11.4 +1.4
comp=Z,1.3nm,0.8s,baz=155,slow=6.4,SNR=8.2
NVAR Mina Array Bea 81.53 325 P P 00 55 11.2 +1.2
HVU Hansel Valley 81.65 330 P P 00 55 11.3 +0.8
ELK Elko 81.89 328 P P 00 55 12.6 +0.6
TORD Torodi Ar. Bea 82.94 70 P P 00 55 16.7 -1.0
comp=Z,5.6nm,0.9s,baz=275,slow=6.6,SNR=14
TORD pP **sP 00 55 30.4 +0.3**
comp=Z,9.5nm,0.9s,baz=254,slow=5.2,SNR=11
TORD Torodi Ar. Bea 82.94 70 P P 00 55 17.3 -0.4
TORD IAmb IAmb 00 55 31.8
comp=Z,14nm,1.0s
CASY Casey 83.08 181 P P 00 55 18.6 +1.0
CASY IAmb IAmb 00 55 38.7
comp=Z,10nm,1.0s
YHH Holmes Hill 83.36 333 P P 00 55 20.1 +0.6
LBTB Lobatse 83.37 115 P P 00 55 19.6 -0.4
ULM Lac du Bonnet 83.62 345 P P 00 55 19.8 -0.6
comp=Z,8.2nm,0.8s,baz=298,slow=1.2,SNR=5.6
HLID Hailey 83.80 330 P P 00 55 21.9 +0.2
HLID Hailey 83.80 330 P P 00 55 22.8 +1.1
baz=144
DGMT Dagmar 84.22 339 P P 00 55 24.3 +0.8
baz=152
J08A Circle Bar Ran 85.43 328 P P 00 55 30.8 +0.9
WALA Waterton Lakes 88.07 334 P P 00 55 43.5 +0.8
WALA IAmb IAmb 00 55 53.9
comp=Z,15nm,1.5s
ASAR Alice Springs 120.40 207 PKP PKPdf 01 01 43.1 -1.2
comp=Z,8.8nm,0.7s,baz=152,slow=2.2,SNR=7.4
WRA Warramunga Arr 123.54 210 PKP PKPdf 01 01 49.5 -0.8
comp=Z,2.8nm,0.7s,baz=166,slow=2.0,SNR=16
H11S2 WAKE ISLAND Hyl 26.01 271 T T 03 20 44.3
baz=115,slow=75,SNR=36
H11S1 WAKE ISLAND Hyl 26.02 271 T T 03 20 43.6
baz=115,slow=75,SNR=46
H11S3 WAKE ISLAND Hyl 26.03 271 T T 03 20 45.7
baz=115,slow=75,SNR=36
H11N3 WAKE ISLAND Hyl 26.35 273 T T 03 21 25.0
baz=117,slow=75,SNR=19
H11N1 WAKE ISLAND Hyl 26.36 273 T T 03 21 33.3
baz=117,slow=75,SNR=9.5
H11N2 WAKE ISLAND Hyl 26.36 273 T T 03 21 13.4
baz=117,slow=75,SNR=48
BRVK Borovoye 144.75 40 PKPdf PKPbc 01 02 27.8 +0.1
PALK Pallekele 145.09 127 PKPbc **PKPbc 01 02 29.3 -0.7**
LUWI Luwuk 145.33 206 PKPdf 01 02 31.0 +0.1
YAK Yakutsk 145.92 342 PKPdf **PKPdf 01 02 30.3 0.0**
KKAR Karatay Array 147.77 57 PKPbc **PKPbc 01 02 36.4 -0.7**
KKAR Karatay Array 147.77 57 PKPbc **PKPbc 01 02 36.2 -0.8**
TOLI2 Tolitoli 148.05 204 PKPbc **PKPbc 01 02 37.6 -1.0**
HYB Hyderabad 149.85 110 *i* PKP PKPab 01 03 02.0 +13
AAK Ala-Archa 150.74 57 PKPbc **PKPbc 01 02 45.0 +0.3**
ZAA0 Zalesovo Array 151.48 29 PKPbc **PKPbc 01 02 45.2 -0.6**
ZALV Zalesovo Beam 151.48 29 PKPbc **PKPbc 01 02 45.4 -0.4**
comp=Z,6.4nm,0.8s,baz=302,slow=3.7,SNR=9.6
WMQ Urumqi 159.28 46 *eP* **PKPdf 01 02 50.5 -0.1**
WMQ pmax pmax
comp=Z,5μm,10.7s
CMAR Chiang Mai Arr 164.98 144 PKPab **PKPab 01 03 52.5 -0.9**
comp=Z,1.0nm,0.4s,baz=230,slow=7.1,SNR=5.5
HHC Hu-ho-hao-te 169.75 346 *eP* **PKPdf 01 02 57.6 -2.4**
HHC LR LR
comp=N,4μm,18.1s
HHC LR LR
comp=E,5μm,19.4s
HHC LR LR
comp=Z,11μm,19.3s
NJ2 Nanjing 170.88 280 *eP* **PKPdf 01 03 01.0 +0.3**
NJ2 pmax pmax
comp=Z,18nm,0.9s

IDC ***17*** *00:43:10.8±0.6, 31°.01′S×71°.75′W, h0km, mb5.0/17, mb1 5.0/18, mb1mx4.7/34, mbtmp5.0/18, ML5.0/1, Error ellipse: s-maj=23.3km s-min=13.2km az=86.0*
NEIC ***17*** *00:43:14.1±1.3, 31°.09S±0°.06×71°.76W±0°.07, h12km±4km, mb5.1/27, Error ellipse: s-maj=9.4km s-min=9.0km az=165.0*
GUC ***17*** *00:43:14.3±0.9, 31°.07S×71°.81W, h34km±5km, ML5.1*
ISC 17 00:43:16.0±0.9, 31°.08S±0°.04×71°.79W±0°.06, h34km±3km, n75, σ0°99/81, mb4.9/29, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.42**	**19**	*eS*	**Sb**	**00 43 29.7**	**-2.3**
CO03	**El Pedregal**	**0.97**	**76**	*eP*	**Pn**	**00 43 32.5**	**-1.0**
CO03				*eS*	**Sb**	**00 43 45.0**	**-2.2**
CO03				IAML		00 43 48.2	
	comp=E,55μm,0.2s						
CO03	**El Pedregal**	**0.97**	**76**	Pg	**Pn**	**00 43 32.6**	**-0.8**
CO03					**Sn**	**00 43 47.1**	**+0.9**
CO03	**El Pedregal**	**0.97**	**76**	*eP*	**Pn**	**00 43 37.3**	**+2.7**
GO04	**Tololo Observa**	**1.24**	**44**	*eP*	**Pn**	**00 43 37.4**	**+0.1**
GO04				*eS*	**Sb**	**00 43 53.5**	**-1.4**
GO04	**Tololo Observa**	**1.24**	**44**		**Sb**	**00 43 54.5**	**-0.4**
VA01	**Torpederas**	**1.95**	**176**	*eP*	**Pn**	**00 43 45.9**	**-0.8**
VA01				*eS*	**Sn**	**00 44 11.5**	**+1.5**
VA03	**San Esteban**	**1.99**	**148**	*eP*	**Pn**	**00 43 47.7**	**+0.3**
VA03	**San Esteban**	**1.99**	**148**	Pn	**Pn**	**00 43 47.5**	**+0.2**
ROCH	**El Roble**	**2.00**	**161**	*eP*	**Pn**	**00 43 48.0**	**+0.2**
ROCH				*eS*	**Sb**	**00 44 14.4**	**-2.3**
LCO	**Las Campanas**	**2.26**	**25**	*eS*	**Sn**	**00 44 19.9**	**+1.7**
BO02	**Sierra Bellavi**	**3.80**	**167**	Pn	**Pn**	**00 44 11.0**	**-1.3**
PLCA	**Paso Flores**	**9.69**	**174**	Pn	**Pn**	**00 45 33.2**	**+0.1**
	comp=E,3.0nm,0.3s,baz=339,slow=12,SNR=12						
TRQA	**Tornquist**	**10.67**	**133**	Pn	**Pn**	**00 45 47.0**	**+0.5**
SAML	**Samuel**	**23.43**	**22**	P	**P**	**00 48 20.5**	**-1.8**
USHA	**Ushuaia**	**23.87**	**175**	P	**P**	**00 48 27.3**	**+1.2**
	comp=E,64nm,0.8s,baz=26,slow=2.4,SNR=6.5						
BDFB	**Brasilia**	**26.61**	**60**	P	**P**	**00 48 50.8**	**-0.7**
	comp=E,33nm,0.8s,baz=255,slow=8.7,SNR=11						
BDFB	**Brasilia**	**26.61**	**60**	P	**P**	**00 48 50.1**	**-1.5**
BDFB				IAmb	IAmb	00 48 53.3	
	comp=Z,31nm,0.9s						
PTGA	**Pitinga**	**32.19**	**23**	P	**P**	**00 49 40.6**	**-0.4**
	comp=E,6.0nm,0.4s,baz=197,slow=11,SNR=5.6						
MDP	**Montagnes des**	**40.36**	**30**	P	**P**	**00 50 49.4**	**-1.3**
	comp=Z,2nm,1.0s,baz=214,slow=9.2,SNR=5.2						
PDPR	**Patillas Dam,**	**49.12**	**7**	P	**P**	**00 51 59.9**	**-0.6**
SJG	**San Juan**	**49.20**	**7**	P	**P**	**00 52 00.4**	**-0.7**
	comp=Z,27nm,0.7s,baz=206,slow=4.6,SNR=8.5						
SJG	**San Juan**	**49.20**	**7**	P	**P**	**00 52 00.9**	**-0.2**
CBYP	**Canovanas**	**49.39**	**7**	P	**P**	**00 52 01.5**	**-1.1**
SNAA	**Sanae**	**54.22**	**159**	P	**P**	**00 52 38.3**	**+0.2**
	comp=Z,14nm,0.6s,baz=268,slow=6.4,SNR=16						
SNAA	**Sanae**	**54.22**	**159**	P	**P**	**00 52 38.1**	**0.0**
SNAA				IAmb	IAmb	00 52 38.6	
	comp=Z,17nm,0.7s						
QSPA	**South Pole Qui**	**59.15**	**180**	P	**P**	**00 53 14.2**	**+0.9**
	comp=Z,18nm,0.9s,baz=161,slow=7.1,SNR=11						
QSPA	**South Pole Qui**	**59.15**	**180**	P	**P**	**00 53 13.7**	**+0.4**
QSPA				IAmb	IAmb	00 53 14.8	
V58A	**Windy Hill, Pi**	**66.87**	**354**	P	**P**	**00 54 04.7**	**+0.2**
V58A				IAmb	IAmb	00 54 06.4	
	comp=Z,23nm,1.2s						
W50A	**Signal Mountai**	**67.14**	**348**	P	**P**	**00 54 07.4**	**+1.1**
W50A				IAmb	IAmb	00 54 10.7	
	comp=Z,11nm,0.9s						
V55A	**Taylorsville**	**67.16**	**352**	P	**P**	**00 54 07.5**	**+1.1**
V55A				IAmb	IAmb	00 54 08.5	
	comp=Z,16nm,1.1s						
CPCT	**Cooper Cave**	**67.25**	**349**	P	**P**	**00 54 08.1**	**+1.1**
CPCT				IAmb	IAmb	00 54 35.3	
	comp=Z,15nm,1.3s						
SWET	**Sewanee**	**67.27**	**347**	P	**P**	**00 54 07.9**	**+0.7**
SWET				IAmb	IAmb	00 54 08.9	
	comp=Z,9.0nm,0.8s						
TXAR	**Lajitas Array**	**67.30**	**330**	P	**P**	**00 54 08.6**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=151,slow=8.3,SNR=6.1						
TX31	**Lajitas Ar. Si**	**67.30**	**330**	P	**P**	**00 54 09.0**	**+1.4**
OXF	**Oxford**	**67.32**	**344**	P	**P**	**00 54 08.1**	**+0.7**
TKL	**Tuckaleechee C**	**67.33**	**349**	P	**P**	**00 54 07.1**	**-0.4**
	comp=Z,9.9nm,0.9s,baz=150,slow=8.4,SNR=6.3						
TKL	**Tuckaleechee C**	**67.33**	**349**	P	**P**	**00 54 08.8**	**+1.3**
CLTN	**Cedars of Leba**	**68.19**	**347**	P	**P**	**00 54 14.2**	**+1.2**
CLTN				IAmb	IAmb	00 54 14.7	
	comp=Z,7.3nm,0.7s						
WVT	**Waverly**	**68.53**	**346**	P	**P**	**00 54 16.1**	**+1.1**
WVT				IAmb	IAmb	00 54 29.1	
	comp=Z,14nm,1.1s						
PBMO	**Poplar Bluff**	**69.72**	**344**	P	**P**	**00 54 23.8**	**+1.4**
PBMO				IAmb	IAmb	00 54 23.9	
	comp=Z,8.7nm,0.7s						
M55A	**Ridgway**	**72.47**	**355**	P	**P**	**00 54 39.8**	**+0.8**
M55A				IAmb	IAmb	00 54 40.5	
	comp=Z,12nm,1.1s						
DBIC	**Dimbokro**	**74.06**	**72**	P	**P**	**00 54 48.9**	**-0.1**
	comp=Z,27nm,0.9s,baz=237,slow=3.8,SNR=8.4						
DBIC	**Dimbokro**	**74.06**	**72**	P	**P**	**00 54 48.8**	**-0.1**
DBIC				IAmb	IAmb	00 54 49.6	
	comp=Z,24nm,0.8s						
MAW	**Mawson**	**75.92**	**164**	P	**P**	**00 54 59.1**	**+0.3**
	comp=Z,11nm,0.8s,baz=196,slow=7.1,SNR=13						
MAW	**Mawson**	**75.92**	**164**	P	**P**	**00 54 59.1**	**+0.3**
SUR	**Sutherland**	**76.07**	**119**	P	**P**	**00 55 01.3**	**+0.6**
	comp=Z,14nm,0.8s,baz=223,slow=4.6,SNR=3.8						
SUR	**Sutherland**	**76.07**	**119**	P	**P**	**00 55 00.9**	**+0.2**
KOWA	**Kowa**	**79.25**	**66**	P	**P**	**00 55 18.1**	**-0.1**
	comp=Z,6.9nm,0.8s,baz=253,slow=5.2,SNR=6.4						
TSUM	**Tsumeb**	**79.82**	**106**	P	**P**	**00 55 21.9**	**+0.3**
	comp=Z,18nm,1.2s,baz=245,slow=4.6,SNR=5.1						
BOSA	**Boshof**	**81.25**	**118**	P	**P**	**00 55 28.8**	**-0.3**
	comp=Z,15nm,1.0s,baz=237,slow=3.3,SNR=10						
BOSA	**Boshof**	**81.25**	**118**	P	**P**	**00 55 29.1**	**0.0**
BOSA				IAmb	IAmb	00 55 30.7	
	comp=Z,14nm,0.8s						
NVAR	**Mina Array Bea**	**81.61**	**325**	P	**P**	**00 55 30.1**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=147,slow=4.8,SNR=3.8						
TORD	**Torodi Ar. Bea**	**83.02**	**70**	P	**P**	**00 55 38.1**	**-0.2**
	comp=Z,16nm,0.9s,baz=271,slow=4.3,SNR=13						
TORD	**Torodi Ar. Bea**	**83.02**	**70**	P	**P**	**00 55 37.9**	**-0.5**
LBTB	**Lobatse**	**83.34**	**115**	P	**P**	**00 55 39.6**	**-0.5**
LBTB				IAmb	IAmb	00 55 40.1	
	comp=Z,13nm,0.8s						
ULM	**Lac du Bonnet**	**83.74**	**345**	P	**P**	**00 55 41.4**	**+0.2**
	comp=Z,6.2nm,0.8s,baz=202,slow=4.2,SNR=4.3						
SCHQ	**Schefferville**	**85.66**	**3**	P	**P**	**00 55 51.0**	**+0.2**
	comp=Z,7.2nm,1.0s,baz=221,slow=8.1,SNR=3.6						
ASAR	**Alice Springs**	**120.26**	**207**	PKP	**PKPdf**	**01 02 03.0**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=168,slow=1.8,SNR=6.2						
WRA	**Warramunga Arr**	**123.41**	**210**	PKP	**PKPdf**	**01 02 09.6**	**-0.7**
	comp=Z,2.5nm,0.8s,baz=162,slow=1.8,SNR=7.4						
BRVK	**Borovoye**	**144.89**	**40**	PKPdf	**PKPdf**	**01 02 49.2**	**+0.1**
PALK	**Pallekele**	**145.04**	**127**		**PKPbc**	**01 02 50.1**	**+0.1**
KK31	**Karatay Array**	**147.88**	**57**		**PKPbc**	**01 02 56.8**	**-0.7**
KKAR	**Karatay Array**	**147.88**	**57**	PKPbc	**PKPbc**	**01 02 57.0**	**-0.6**
TOLI2	**Tolitoli**	**147.91**	**204**	PKPbc	**PKPbc**	**01 02 57.3**	**-1.1**
GAR	**Garm**	**148.16**	**65**	PKPbc	**PKPbc**	**01 02 58.4**	**-0.2**
NIL	**Nilore**	**150.44**	**76**	PKPbc	**PKPbc**	**01 03 04.0**	**-0.3**
AAK	**Ala-Archa**	**150.84**	**57**	PKPbc	**PKPbc**	**01 03 05.5**	**+0.3**
FRU1	**Bishkek**	**150.90**	**57**	PKPbc	**PKiKP**	**01 03 06.2**	**+0.5**
ZAA0	**Zalesovo Array**	**151.62**	**30**	PKPbc	**PKPbc**	**01 03 06.5**	**+0.2**
ZALV	**Zalesovo Beam**	**151.62**	**30**	PKPbc	**PKPbc**	**01 03 05.9**	**-0.4**
	comp=Z,8.4nm,0.5s,baz=309,slow=3.3,SNR=11						
ZALV	**Zalesovo Beam**	**151.62**	**30**		**PKPbc**	**01 03 06.1**	**-0.1**
MKAR	**Makanchi Array**	**154.61**	**44**	PKPbc	**PKPbc**	**01 03 11.8**	**-1.3**
	comp=Z,2.5nm,0.8s,baz=278,slow=1.9,SNR=6.2						
CMAR	**Chiang Mai Arr**	**164.89**	**144**	PKPab	**PKPab**	**01 04 12.4**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=227,slow=6.1,SNR=6.6						
GTA	**Gaotai**	**169.22**	**37**	*eP*	**PKPbc**	**01 03 21.1**	**+1.2**
GTA				pPKP	pPKPdf	01 03 29.8	-0.9
GTA				sPKP		01 03 32.5	
GTA				PKPab	**sPKPab**	**01 04 47.1**	**+1.1**

IDC 17 00:45:38.0±1.6, 30°.97S×72°.72W, h0km, mb4.6/2, mb1 4.6/4, mb1mx4.1/36, mbtmp4.5/4, ML4.3/2, Error ellipse: s-maj=42.4km s-min=37.2km az=88.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H03N1	**Juan Fernandez**	**5.80**	**243**	T	T	00 52 59.0	
	baz=191,slow=74,SNR=9.4						
H03N2	**Juan Fernandez**	**5.81**	**243**	T	T	00 53 06.1	
	baz=71,slow=74,SNR=8.9						
PLCA	**Paso Flores**	**9.90**	**170**	Pn	Pn	00 48 01.1	-0.6
	0.9nm,0.3s,baz=342,slow=11,SNR=1.4						
SIV	**San Ignacio**	**18.32**	**38**	P	Pn	00 49 53.1	-0.6
	0.6nm,0.3s,baz=231,slow=14,SNR=3.7						
BDFB	**Brasilia**	**27.25**	**62**	P	P	00 51 24.3	+0.1
	7.5nm,0.6s,baz=216,slow=8.7,SNR=3.6						
TXAR	**Lajitas Array**	**66.82**	**331**	P	P	00 56 31.5	-0.2
	1.4nm,0.8s,baz=152,slow=7.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**83.74**	**71**	P	P	00 58 09.4	0.0
	3.9nm,1.0s,baz=253,slow=4.5,SNR=2.9						
ZALV	**Zalesovo Beam**	**151.91**	**29**	PKPbc	PKiKP	01 05 34.8	-0.1
	6.0nm,0.7s,baz=311,slow=2.9,SNR=4.4						

IDC ***17*** *00:45:44.8±6.1, 32°.82S×73°.25W, h0km, mb4.4/2, mb1 4.7/2, mb1mx3.9/35, mbtmp4.4/2, Error ellipse: s-maj=281.8km s-min=48.2km az=26.0*
NEIC ***17*** *00:45:49.2±1.6, 31°.67S±0°.06×72°.00W±0°.08, h10km±1km, Error ellipse: s-maj=14.9km s-min=3.0km az=308.0*
GUC ***17*** *00:45:51.1±0.8, 31°.66S×71°.93W, h32km±5km, ML4.5*
ISC 17 00:45:48.6±2.1, 31°.67S±0°.04×72°.05W±0°.08, h10km±13km, n33, σ0°69/39, mb4.6/8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA01	**Torpederas**	**1.40**	**166**	Pn	**Pn**	**00 46 13.4**	**-0.7**
CO03	**El Pedregal**	**1.42**	**55**	*eP*	**Pn**	**00 46 14.7**	**+0.1**
CO03				*i* S	**Sn**	**00 46 32.4**	**-1.1**
CO03				IAML		00 46 37.5	
	comp=N,10μm,0.4s						
CO03	**El Pedregal**	**1.42**	**55**		**Pn**	**00 46 13.6**	**-1.0**
ROCH	**El Roble**	**1.57**	**146**	*eP*	**Pb**	**00 46 17.6**	**-0.3**
ROCH				*eS*	**Sn**	**00 46 37.2**	**0.0**
VA03	**San Esteban**	**1.67**	**131**	*eP*	**Pn**	**00 46 18.7**	**+0.6**
VA03				*i* S	**Sn**	**00 46 40.1**	**+0.4**
VA03				IAML		00 46 45.7	
	comp=E,13μm,0.8s						
VA03	**San Esteban**	**1.67**	**131**	Pn	**Pn**	**00 46 17.6**	**-0.5**
GO04	**Tololo Observa**	**1.83**	**36**	*eP*	**Pn**	**00 46 20.6**	**+0.2**
GO04				*eS*	**Sn**	**00 46 44.1**	**+0.4**
VA05	**Santo Domingo**	**2.02**	**170**	*eP*	**Pg**	**00 46 27.1**	**-0.3**
VA05				*eS*	**Sb**	**00 46 50.6**	**0.0**
VA05				IAML		00 47 00.3	
	comp=E,5μm,0.5s						
VA05	**Santo Domingo**	**2.02**	**170**	Pn	**Pn**	**00 46 22.4**	**-0.3**
MT05	**Renca**	**2.04**	**148**	*eP*	**Pn**	**00 46 24.3**	**+1.2**
MT05				*eS*	**Sb**	**00 46 50.5**	**-0.9**
MT05				IAML		00 46 59.5	
	comp=E,6μm,0.4s						
MT05	**Renca**	**2.04**	**148**	Pn	**Pn**	**00 46 23.9**	**+0.8**
FSR	**Penalolen**	**2.

ML02	**Panimavida**	**4.12**	**173**		Pn		**Pn**	**00 46 52.3 +0.7**
PLCA	**Paso Flores**	**9.13**	**173**				**Pn**	**00 48 00.5 0.0**
SNAA	**Sanae**	**53.75**	**158**		P		**P**	**00 55 11.1 +0.4**
SNAA					IAmb		IAmb	00 55 19.7
	comp=Z,5.3nm,0.9s							
TXAR	**Lajitas Array**	**67.70**	**330**		P		**P**	**00 56 46.5 +0.3**
	comp=Z,45nm,0.3s,baz=153,slow=7.8,SNR=5.1							
TX31	**Lajitas Ar. Si**	**67.70**	**330**		P		**P**	**00 56 46.5 +0.2**
CPCT	**Cooper Cave**	**67.78**	**349**		P		**P**	**00 56 46.4 -0.1**
CPCT					IAmb		IAmb	00 56 59.8
	comp=Z,5.0nm,0.9s							
DBIC	**Dimbokro**	**74.45**	**72**		P		**P**	**00 57 27.4 0.0**
MAW	**Mawson**	**75.42**	**164**		P		**P**	**00 57 31.2 -1.0**
KOWA	**Kowa**	**79.69**	**66**		P		**P**	**00 57 55.4 -1.4**
KOWA					IAmb		IAmb	00 58 09.1
	comp=Z,18nm,1.5s							
NVAR	**Mina Array Bea**	**81.97**	**325**		P		**P**	**00 58 09.8 +0.9**
	comp=Z,2.1nm,0.8s,baz=159,slow=6.4,SNR=7.1							
KVN	**Kaiserville**	**82.36**	**326**		P		**P**	**00 58 11.5 +0.7**
ELK	**Elko**	**82.38**	**328**		P		**P**	**00 58 11.6 +0.7**
ELK					IAmb		IAmb	00 58 12.7
	comp=Z,1.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**83.42**	**70**		P		P	00 58 21.9 +5.3
	comp=Z,2.2nm,0.6s,baz=265,slow=4.7,SNR=4.4							
J08A	**Circle Bar Ran**	**85.91**	**328**		P		**P**	**00 58 30.0 +1.3**
J08A					IAmb		IAmb	00 58 30.3
	comp=Z,7.0nm,0.8s							
ZALV	**Zalesovo Beam**	**152.24**	**30**		PKPbc		**PKPbc**	**01 05 43.9 -0.1**
	comp=Z,5.0nm,0.5s,baz=307,slow=3.8,SNR=4.2							
ZALV	**Zalesovo Beam**	**152.24**	**30**				**PKPbc**	**01 05 43.7 -0.3**

ISK ***17*** *00:46:51.9, 35°.32N×27°.77E, h7km, ML2.7/6*
ATH ***17*** *00:46:52.2, 35°.31N×27°.81E, h12km±8km, ML2.2/2, Error ellipse: s-maj=10.5km s-min=1.5km az=332.0*
DDA ***17*** *00:46:53.6, 35°.37N×27°.68E, h13km±3km, ML3.0*

ISC 17 00:46:52.2±1.5, 35°.31N±0°.06×27°.76E±0°.04, h13km±10km, n21, σ0°.54/30, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.54**	**296**	P	**Pg**	**00 47 03.0**	**+0.1**
KARP				S	**Sb**	**00 47 11.4**	**+0.1**
KARP				AML	AML	00 47 12.2	
	comp=N,1012μm,0.3s						
KARP				AML	AML	00 47 13.5	
	comp=E,602μm,0.3s						
KARP	**Karpathos**	**0.54**	**296**	PG	**Pg**	**00 47 03.2**	**+0.3**
KARP				SG	**Sb**	**00 47 11.2**	**-0.2**
ARG	**Arkhangelos**	**0.95**	**18**	P	**Pg**	**00 47 10.0**	**-0.6**
ARG				S	**Sg**	**00 47 22.4**	**-0.6**
ARG				AML	AML	00 47 23.9	
	comp=N,184μm,0.6s						
ARG				AML	AML	00 47 27.9	
	comp=E,231μm,0.3s						
ARG	**Arkhangelos**	**0.95**	**18**	PG	**Pg**	**00 47 10.2**	**-0.4**
ARG				SG	**Sn**	**00 47 23.9**	**-0.7**
ZKR	**Zakros**	**1.28**	**262**	P	**Pg**	**00 47 17.0**	**+0.1**
ZKR	**Zakros**	**1.28**	**262**	PN	**Pg**	**00 47 16.9**	**0.0**
DAT	**Datca**	**1.42**	**354**	*i* P	**Pn**	**00 47 18.0**	**+0.1**
DAT				*i* S	**Sn**	**00 47 36.3**	**-0.2**
DAT	**Datca**	**1.42**	**354**	PN	**Pb**	**00 47 18.7**	**0.0**
DAT				SN	**Sg**	**00 47 38.3**	**+0.2**
TURN	**Turunc**	**1.51**	**15**	*i* P	**Pb**	**00 47 19.9**	**-0.2**
TURN				*i* S	**Sb**	**00 47 39.3**	**+0.1**
TURN				IAML		00 47 43.0	
	comp=E,197nm,0.4s						
TURN	**Turunc**	**1.51**	**15**	PN	**Pb**	**00 47 20.2**	**+0.1**
DALY	**Dalyan (Mula)**	**1.67**	**25**	*i* P	**Pb**	**00 47 22.8**	**0.0**
DALY				*i* S	**Sg**	**00 47 47.1**	**+1.2**
DALY				IAML		00 47 51.0	
	comp=N,118nm,1.1s						
DALY	**Dalyan (Mula)**	**1.67**	**25**	PN	**Pb**	**00 47 22.1**	**-0.6**
AKAS	**Kas**	**1.76**	**58**	*i* P	**Pb**	**00 47 23.7**	**-0.7**
AKAS				*i* S	**Sn**	**00 47 45.4**	**+0.6**
NPS	**Neapolis**	**1.76**	**269**	P	**Pb**	**00 47 24.0**	**-0.3**
BDRM	**Kayabasi**	**1.77**	**352**	*i* P	**Pn**	**00 47 22.7**	**+0.1**
BDRM				IAML		00 47 50.0	
	comp=E,171nm,0.4s						
BDRM				IAML		00 47 51.0	
	comp=N,293nm,1.3s						
BODT	**Bodrum**	**1.78**	**348**	PN	**Pb**	**00 47 24.3**	**-0.5**
CAME	**Cameli-Denizli**	**2.05**	**37**	PN	**Pn**	**00 47 27.8**	**+1.3**
CAEL	**Denizli, Camel**	**2.20**	**34**	*i* P	**Pb**	**00 47 32.0**	**0.0**
CAEL				IAML		00 48 14.0	
	comp=E,111nm,1.4s						
CAEL				IAML		00 48 16.0	
	comp=N,291nm,1.8s						
AYDN	**Tasoluk**	**2.35**	**2**	*i* P	**Pn**	**00 47 31.1**	**+0.6**
AYDN				IAML		00 48 07.0	
	comp=N,119nm,1.4s						
IDI	**Anoyia**	**2.35**	**270**	P	**Pb**	**00 47 33.6**	**-0.9**
GOLH	**Golhisar**	**2.41**	**37**	*i* P	**Pn**	**00 47 31.1**	**-0.3**

IDC ***17*** *00:50:04.3±1.3, 30°.70S×71°.64W, h0km, mb3.7/2, mb1 4.3/4, mb1mx4.0/33, mbtmp4.1/4, ML4.2/2, Error ellipse: s-maj=47.0km s-min=41.0km az=78.0*
NEIC ***17*** *00:50:05.1±2.9, 30°.98S±0°.04×71°.34W±0°.09, h17km±4km, mb4.8/22, Error ellipse: s-maj=11.8km s-min=5.1km az=68.0*

ISC 17 00:50:04.3±0.5, 31°.04S±0°.04×71°.7W±0°.1, h10km, n91, σ2s07/72, mb4.8/10, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.37**	**9**	Pg	**Pb**	**00 50 13.9**	**+0.9**
VA01	**Torpederas**	**1.98**	**179**	Pn	**Pn**	**00 50 36.8**	**-1.1**
VA01	**Torpederas**	**1.98**	**179**	*e*P	**Pn**	**00 50 36.6**	**-1.3**
VA03	**San Esteban**	**1.98**	**151**	Pn	**Pn**	**00 50 36.1**	**-1.8**
LCO	**Las Campanas**	**2.20**	**23**	*e*P	**Pn**	**00 50 39.0**	**-2.2**
MT05	**Renca**	**2.48**	**161**	Pn	**Pn**	**00 50 45.3**	**+0.4**
VA05	**Santo Domingo**	**2.61**	**178**	Pn	**Pn**	**00 50 45.6**	**-0.9**
MT09	**Talagante**	**2.79**	**168**	Pn	**Pn**	**00 50 49.8**	**+0.6**
MT01	**Popeta**	**2.84**	**172**	Pn	**Pn**	**00 50 49.4**	**-0.4**
AC04	**Llanos de Chal**	**2.88**	**11**	Pn	**Pn**	**00 50 46.6**	**-3.6**
BO01	**Tunca**	**3.38**	**171**	Pn	**Pn**	**00 50 58.3**	**+1.2**
BO02	**Sierra Bellavi**	**3.82**	**169**	Pn	**Pn**	**00 51 03.3**	**0.0**
GO05	**Huala**	**3.96**	**183**	Pn	**Pn**	**00 51 03.5**	**-1.7**
ML02	**Panimavida**	**4.71**	**177**	Pn	**Pn**	**00 51 14.6**	**-0.9**
AC02	**Maricunga**	**4.76**	**29**	Pn	**Pn**	**00 51 12.6**	**-4.0**
H03N1	**Juan Fernandez**	**6.56**	**247**	T	T	00 58 37.2	
	baz=71,slow=72,SNR=15						
H03N3	**Juan Fernandez**	**6.58**	**247**	T	T	00 58 37.2	
	baz=71,slow=72,SNR=16						
H03N2	**Juan Fernandez**	**6.58**	**247**	T	T	00 58 39.5	
	baz=71,slow=72,SNR=12						
PB10	**IPOC Station P**	**7.57**	**8**	Pn	Pn	00 51 50.4	-4.3
LC01	**Cunco**	**7.84**	**181**	Pn	**Pn**	**00 51 56.1**	**-2.3**
PB15	**IPOC Station P**	**8.05**	**15**	Pn	**Pn**	**00 51 59.8**	**-1.8**
PB06	**IPOC Station P**	**8.52**	**13**	Pn	Pn	00 52 01.5	-6.4
LR03	**Panguipulli**	**8.59**	**183**	Pn	**Pn**	**00 52 06.9**	**-1.8**
LVC	**Limon Verde**	**8.76**	**17**	Pn	**Pn**	**00 52 07.3**	**-4.1**
	3.4nm,0.3s,baz=278,slow=16,SNR=1.1						
PB04	**IPOC Station P**	**8.78**	**9**	Pn	Pn	00 52 06.1	-5.5
PB01	**IPOC Station P**	**10.15**	**12**	Pn	Pn	00 52 25.5	-4.8
TA02	**Huaiquique**	**10.82**	**8**	Pn	**Pn**	**00 52 36.7**	**-2.6**
LPAZ	**La Paz**	**15.04**	**13**	Pn	Pn	00 53 32.0	-5.7
	0.5nm,0.3s,baz=196,slow=7.1,SNR=2.8						
LPAZ	**La Paz**	**15.04**	**13**	Pn	Pn	00 53 31.4	-6.2
LPAZ	**La Paz**	**15.04**	**13**	*e*P	Pn	00 53 33.1	-4.6
PTLB	**Pontes e Lacer**	**19.32**	**39**	*e*P	**Pn**	**00 54 34.4**	**+3.7**
VILB	**Vilhena**	**20.89**	**33**	*e*P	Pn	00 54 49.1	-0.3
ETMB	**Extrema**	**21.73**	**15**	*e*P	**P**	**00 54 56.0**	**+0.1**
EFI	**East Falkland**	**22.94**	**158**	P	**P**	**00 55 06.5**	**-2.0**
CZSB	**Cruzeiro do Su**	**23.21**	**357**	*e*P	**P**	**00 55 10.8**	**-0.8**
SAML	**Samuel**	**23.37**	**22**	P	**P**	**00 55 10.5**	**-2.7**
SAML	**Samuel**	**23.37**	**22**	*e*P	**P**	**00 55 12.6**	**-0.6**
CLDB	**Colider**	**24.91**	**40**	*e*P	**P**	**00 55 32.0**	**+4.4**
TBTG	**Tabatinga, AM**	**26.77**	**4**	*e*P	**P**	**00 55 46.9**	**+2.5**
MACA	**Manacapuru-AM**	**29.62**	**23**	*e*P	**P**	**00 56 13.6**	**+3.7**
ITTB	**Itaituba**	**30.50**	**33**	*e*P	P	00 56 21.6	+3.9
OTAV	**Otavalo**	**31.76**	**347**		**P**	**00 56 29.1**	**-0.2**
BBAC	**Balboa, Cauca**	**33.30**	**350**	*e*P	**P**	**00 56 46.0**	**+3.4**
SOTA	**Rioblanco**	**33.32**	**351**	*e*P	**P**	**00 56 47.5**	**+4.5**
POPC	**Popayan, Colom**	**33.73**	**351**	*e*P	**P**	**00 56 51.0**	**+4.7**
PRAC	**Prado**	**34.70**	**354**	*e*P	**P**	**00 56 55.5**	**+1.0**
BOAV	**Boa Vista**	**34.91**	**20**	*e*P	**P**	**00 57 00.2**	**+3.8**
ORTC	**Ortega, Tolima**	**34.92**	**354**	*e*P	**P**	**00 56 57.2**	**+0.8**
VILC	**Villavicencio,**	**35.01**	**357**	*e*P	**P**	**00 56 59.4**	**+2.1**
CHIC	**Chingaza**	**35.52**	**357**	*e*P	**P**	**00 57 02.2**	**+0.2**
TMAB	**Tom-Àu,PA,Br**	**36.20**	**43**	*e*P	P	00 57 14.6	+7.2
GUY2C	**Guyana, Caldas**	**36.23**	**354**	*e*P	**P**	**00 57 09.2**	**+1.0**
NORC	**Norcasia**	**36.52**	**355**	*e*P	**P**	**00 57 14.3**	**+4.1**
SPBC	**San Pablo de B**	**36.56**	**356**	*e*P	**P**	**00 57 13.1**	**+2.6**
RUSC	**La Rusia**	**36.75**	**358**	P	**P**	**00 57 11.3**	**-1.3**
RUSC	**La Rusia**	**36.75**	**358**	*e*P	**P**	**00 57 12.7**	**+0.1**
CBOC	**Ciudad Bolivar**	**36.93**	**353**	*e*P	**P**	**00 57 14.1**	**+0.3**
PTBC	**PUERTO BERRIO,**	**37.46**	**355**	*e*P	**P**	**00 57 18.9**	**+0.8**
DBBC	**Dabeiba**	**38.09**	**353**	*e*P	**P**	**00 57 24.5**	**+1.0**
URCC	**San Jos de Ur**	**38.75**	**354**	*e*P	**P**	**00 57 31.4**	**+2.4**
SMLC	**San Martn de**	**39.68**	**356**	*e*P	**P**	**00 57 34.0**	**-2.8**
SDV	**Santo Domingo**	**39.71**	**2**	P	**P**	**00 57 36.4**	**-0.8**
SDV	**Santo Domingo**	**39.71**	**2**	*e*P	**P**	**00 57 40.4**	**+3.1**
SJCC	**San Jacinto, C**	**40.84**	**355**	P	**P**	**00 57 46.0**	**-0.4**
SJCC				IAmb	IAmb	00 57 52.2	
	comp=Z,14nm,0.9s						
SJCC	**San Jacinto, C**	**40.84**	**355**	*e*P	**P**	**00 57 46.2**	**-0.2**
MLPR	**Magueyes Islan**	**48.93**	**6**	P	**P**	**00 58 50.4**	**-0.4**
CRPR	**Cabo Rojo, PR**	**48.97**	**6**	P	**P**	**00 58 50.2**	**-0.7**
PDPR	**Patillas Dam,**	**49.08**	**7**	P	**P**	**00 58 49.6**	**-2.3**
PDPR				IAmb	IAmb	00 58 51.6	
	comp=Z,16nm,1.1s						
TXAR	**Lajitas Array**	**67.31**	**330**	P	**P**	**01 01 00.0**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=143,slow=9.1,SNR=3.2						
WVT	**Waverly**	**68.51**	**346**	P	**P**	**01 01 07.5**	**+0.8**
WVT				IAmb	IAmb	01 01 14.0	
	comp=Z,5.0nm,0.8s						
LCAR	**Lake Charles**	**69.21**	**343**	P	**P**	**01 01 11.7**	**+0.6**
LCAR				IAmb	IAmb	01 01 19.7	
	comp=Z,7.2nm,0.7s						
CCM	**Cathedral Cave**	**71.12**	**344**	P	**P**	**01 01 22.0**	**-0.9**
CCM				IAmb	IAmb	01 01 31.4	
	comp=Z,12nm,1.3s						
DBIC	**Dimbokro**	**73.97**	**72**	P	**P**	**01 01 38.7**	**-1.7**
DBIC				IAmb	IAmb	01 01 42.5	
	comp=Z,11nm,1.1s						
LMN	**Caledonia Moun**	**76.79**	**5**	P	**P**	**01 01 54.8**	**-1.0**
ECSD	**EROS Data Cent**	**77.83**	**342**	P	**P**	**01 02 01.3**	**-0.5**
ECSD				IAmb	IAmb	01 02 08.5	
	comp=Z,16nm,1.3s						
NVAR	**Mina Array Bea**	**81.63**	**325**	P	**P**	**01 02 22.7**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=124,slow=4.7,SNR=2.2						
TORD	**Torodi Ar. Bea**	**82.94**	**70**	P	**P**	**01 02 30.9**	**+1.0**
	comp=Z,1.1nm,0.5s,baz=281,slow=5.7,SNR=9.0						
WRA	**Warramunga Arr**	**123.47**	**210**	PKP	**PKPdf**	**01 09 03.8**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=132,slow=1.2,SNR=2.4						
H11S2	**WAKE ISLAND Hyd**	**126.05**	**271**	T	T	03 27 51.6	
	baz=115,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hyd**	**126.06**	**271**	T	T	03 27 52.3	
	baz=115,slow=75,SNR=11						
H11S3	**WAKE ISLAND Hyd**	**126.07**	**271**	T	T	03 27 53.0	
	baz=115,slow=75,SNR=10.0						
BRVK	**Borovoye**	**144.81**	**40**		**PKPab**	**01 09 39.1**	**-0.9**
ZAA0	**Zalesovo Array**	**151.55**	**30**	PKPbc	**PKPbc**	**01 09 58.1**	**-0.1**
ZALV	**Zalesovo Beam**	**151.55**	**30**	PKPbc	**PKiKP**	**01 09 58.9**	**+0.2**
	comp=Z,7.6nm,0.8s,baz=298,slow=3.2,SNR=9.6						
ZALV	**Zalesovo Beam**	**151.55**	**30**		**PKPbc**	**01 09 58.2**	**0.0**
MKAR	**Makanchi Array**	**154.53**	**44**	PKPbc	**PKiKP**	**01 10 06.1**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=270,slow=1.2,SNR=4.2						
SONM	**Songino Array**	**163.17**	**4**	PKPab	**PKPab**	**01 10 58.0**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=22,slow=1.6,SNR=2.3						
HHC	**Hu-ho-hao-te**	**169.86**	**346**	*e*P	**PKPdf**	**01 10 10.8**	**-1.5**
HHC	**Hu-ho-hao-te**	**169.86**	**346**	LR	LR		
	comp=E,4μm,20.4s						
HHC	**Hu-ho-hao-te**	**169.86**	**346**	LR	LR		
	comp=Z,9μm,19.2s						
HHC	**Hu-ho-hao-te**	**169.86**	**346**	LR	LR		
	comp=N,4μm,19.0s						

IDC ***17*** *00:50:09.1±0.7, 31°.56S×72°.71W, h0km, mb4.7/10, mb1 4.7/11, mb1mx4.5/32, mbtmp4.7/11, ML5.0/1, Error ellipse: s-maj=32.0km s-min=17.1km az=63.0*
NEIC ***17*** *00:50:12.9±3.0, 31°.67S±0°.08×72°.2W±0°.2, h10km±1km, mb5.0/36, ML5.3(GUC), Error ellipse: s-maj=22.5km s-min=12.4km az=281.0*
GUC ***17*** *00:50:14.2±0.8, 31°.86S×72°.08W, h22km±8km, ML5.3*
VAO ***17*** *00:50:20.0±0.6, 29°.58S×71°.69W, h10km, mb5.0*

ISC 17 00:50:12.4±2.1, 31°.66S±0°.05×72°.25W±0°.07, h15km±12km, n112, σ1s98/107, mb4.9/25, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**1.11**	**29**		**Pb**	**00 50 33.7**	**+0.3**
VA01	**Torpederas**	**1.46**	**160**	*i* S	**Sn**	**00 50 53.4**	**-3.6**
CO03	**El Pedregal**	**1.57**	**59**	*e*P	**Pg**	**00 50 42.1**	**-0.4**
CO03				*e*S	**Sn**	**00 51 00.6**	**+0.6**
ROCH	**El Roble**	**1.68**	**142**	*e*P	**Pn**	**00 50 41.3**	**-0.2**
ROCH				*e*S	**Sn**	**00 51 00.9**	**-2.0**
VA03	**San Esteban**	**1.82**	**128**	*e*P	**Pn**	**00 50 42.9**	**-0.4**
VA03				*e*S	**Sn**	**00 51 05.0**	**-1.1**
VA03				IAML		00 51 08.9	
	comp=N,89μm,0.4s						
VA05	**Santo Domingo**	**2.07**	**165**	*e*P	**Pn**	**00 50 46.4**	**-0.2**
VA05				*e*S	**Sn**	**00 51 11.3**	**-0.8**
VA05				IAML		00 51 21.7	
	comp=E,54μm,0.4s						
MT05	**Renca**	**2.15**	**144**	*e*P	**Pn**	**00 50 48.2**	**+0.3**
MT05				*e*S	**Sn**	**00 51 14.3**	**-0.1**
MT05				IAML		00 51 21.2	
	comp=E,61μm,0.5s						
MT01	**Popeta**	**2.36**	**159**	*e*P	**Pn**	**00 50 50.8**	**+0.2**
MT01				*e*S	**Sn**	**00 51 18.7**	**-0.6**
MT01				IAML		00 51 30.8	
	comp=E,21μm,0.5s						
MT09	**Talagante**	**2.37**	**154**	*e*P	**Pn**	**00 50 51.5**	**+0.6**
MT09				IAML		00 51 28.8	
	comp=E,26μm,0.6s						
LMEL	**Las Melosas**	**2.79**	**142**	*e*P	**Pn**	**00 50 56.8**	**+0.2**
LMEL				IAML		00 51 43.8	
	comp=N,18μm,0.9s						
AC04	**Llanos de Chal**	**3.59**	**17**	Pn	**Pn**	**00 51 09.4**	**+1.9**
PLCA	**Paso Flores**	**9.16**	**172**	Pn	**Pn**	**00 52 24.1**	**0.0**
	comp=N,3.2nm,0.3s,baz=337,slow=12,SNR=26						
COYC	**Coyhaique**	**13.90**	**179**	Pn	**Pn**	**00 53 28.4**	**-0.3**
PLTB	**Pedras Altas**	**15.88**	**95**	*e*P	**P**	**00 54 00.9**	**+1.9**
CPSB	**Cacapava Do Su**	**16.18**	**90**	*e*P	**P**	**00 54 02.2**	**-0.2**
AQDB	**Aquidauana**	**18.55**	**57**	P	**P**	**00 54 28.0**	**-0.7**
CNLB	**Canela**	**18.59**	**88**	*e*P	**Pn**	**00 54 31.9**	**+2.5**
TRCB	**Terra Rica**	**19.53**	**68**	P	**Pn**	**00 54 40.5**	**-0.2**
TRCB				IAmb	IAmb	00 54 48.0	
	comp=Z,47nm,0.6s						
TRCB	**Terra Rica**	**19.53**	**68**	*e*P	**P**	**00 54 34.6**	**-4.9**
TER01	**Tubaro-SC**	**20.24**	**87**	*e*P	Pn	00 54 52.0	+2.8
PP1B	**Ponte de Pedra**	**21.06**	**52**	*e*P	P	00 54 47.6	-8.4
PCMB	**Pacaembu**	**21.23**	**67**	*e*P	**P**	**00 54 54.9**	**-3.1**
TIJ01	**Guaruva-PR**	**21.36**	**79**	*e*P	**P**	**00 54 57.4**	**-2.0**
FRTB	**Fartura**	**21.73**	**73**	*e*P	**P**	**00 54 59.6**	**-3.7**
ITRB	**Iturama**	**22.99**	**64**	*e*P	**P**	**00 55 10.9**	**-5.9**
SPB	**Sao Paulo**	**23.38**	**76**	P	**P**	**00 55 21.1**	**+0.5**
SPB				IAmb	IAmb	00 55 21.9	
	comp=Z,46nm,0.8s						
SPB	**Sao Paulo**	**23.38**	**76**	*e*P	**P**	**00 55 20.4**	**-0.2**
BB19B	**Bebedouro**	**23.68**	**69**	*e*P	**P**	**00 55 20.9**	**-2.7**
RCLB	**Rio Claro- Sao**	**23.82**	**73**	*e*P	**P**	**00 55 23.5**	**-1.5**
VAO	**Valinhos**	**24.02**	**75**	*e*P	**P**	**00 55 24.8**	**-2.2**
IPMB	**Ipameri, GO**	**25.64**	**64**	*e*P	**P**	**00 55 38.1**	**-3.6**
BSCB	**Bom Sucesso**	**26.75**	**73**	*e*P	**P**	**00 55 51.4**	**-0.3**
VAS01	**Vassouras-RJ**	**27.25**	**77**	*e*P	**P**	**00 55 56.2**	**0.0**
SNDB	**Serra Nova Dou**	**27.51**	**49**	*e*P	P	00 55 51.3	-7.2
DUB01	**Friburgo-RJ**	**28.23**	**78**	*e*P	**P**	**00 56 05.5**	**+0.5**
CAM01	**Campos-RJ**	**28.94**	**78**	*e*P	**P**	**00 56 12.2**	**+1.0**
DIAM	**Diamantina, MG**	**29.02**	**70**	*e*P	**P**	**00 56 10.4**	**-1.8**
NPGB	**Novo Progresso**	**29.13**	**36**	*e*P	P	00 56 03.3	-10
PEXB	**Peixe**	**29.42**	**54**	*e*P	P	00 56 09.8	-5.7
MC01	**Montes Claros**	**29.69**	**67**	*e*P	**P**	**00 56 14.7**	**-3.3**
ALF01	**Guarapari-ES**	**30.26**	**76**	*e*P	**P**	**00 56 22.7**	**-0.2**
JANB	**Januaria**	**30.38**	**64**	*e*P	**P**	**00 56 20.3**	**-3.8**
SJMB	**Sao Joao De Ma**	**30.82**	**73**	*e*P	**P**	**00 56 26.5**	**-1.4**
BSFB	**Barra de Sao F**	**31.03**	**73**	*e*P	**P**	**00 56 28.3**	**-1.4**
SDBA	**SAO DESIDERIO**	**31.62**	**59**	*e*P	**P**	**00 56 30.5**	**-4.6**
SMTB	**Santa Maria do**	**32.24**	**51**	*e*P	P	00 56 35.0	-5.5
OTAV	**Otavalo**	**32.26**	**348**	*e*P	**P**	**00 56 33.7**	**-7.3**
PRPB	**Parauapebas**	**32.91**	**44**	*e*P	P	00 56 39.2	-7.2
MALB	**Monte Alegre**	**34.16**	**33**	*e*P	P	00 56 48.9	-8.2
NBIT	**Itapeh - BA**	**34.26**	**69**	*e*P	**P**	**00 56 56.9**	**-1.1**
GDU01	**Guandu, BA**	**34.85**	**67**	*e*P	**P**	**00 57 00.9**	**-2.3**
RUSC	**La Rusia**	**37.35**	**359**	P	**P**	**00 57 26.4**	**+1.4**
NBLA	**Lagarto - SE**	**37.88**	**65**	*e*P	**P**	**00 57 25.0**	**-4.1**
NBMA	**Muriti-CE**	**39.47**	**59**	*e*P	**P**	**00 57 39.1**	**-3.4**
SJCC	**San Jacinto, C**	**41.41**	**356**	P	**P**	**00 58 00.4**	**+2.0**
SJCC				IAmb	IAmb	00 58 32.6	
	comp=Z,19nm,1.1s						
NBPA	**Parau_RN**	**41.77**	**59**	*e*P	P	00 57 56.5	-4.9
RCBR	**Riachuelo**	**42.61**	**61**	*e*P	**P**	**00 58 07.7**	**-0.6**
CRPR	**Cabo Rojo, PR**	**49.62**	**6**	P	**P**	**00 59 01.5**	**-1.9**
OBIP	**Obispado Ponce**	**49.71**	**7**	P	**P**	**00 59 01.6**	**-2.4**
VNA3	**Neumayer Olymp**	**51.60**	**159**	P	**P**	**00 59 19.5**	**+1.8**
VNA2	**Neumayer--Watz**	**52.24**	**158**	P	**P**	**00 59 23.9**	**+1.4**
	baz=286,slow=6.3						
CMIG	**Matias Romero**	**53.11**	**333**	P	**P**	**00 59 25.3**	**-4.3**
	comp=Z,4.7nm,0.9s,baz=170,slow=5.2,SNR=6.8						
SNAA	**Sanae**	**53.82**	**158**	P	**P**	**00 59 34.6**	**+0.3**
SNAA	**Sanae**	**53.82**	**158**	P	**P**	**00 59 34.6**	**+0.3**
	comp=Z,8.6nm,0.8s,baz=288,slow=5.9,SNR=14						
SNAA	**Sanae**	**53.82**	**158**	P	**P**	**00 59 34.5**	**+0.2**
QSPA	**South Pole Qui**	**58.57**	**180**	P	**P**	**01 00 09.8**	**+1.4**
QSPA				IAmb	IAmb	01 00 31.2	
	comp=Z,17nm,1.0s						
TXAR	**Lajitas Array**	**67.61**	**331**	P	**P**	**01 01 05.1**	**-3.6**
	comp=Z,4.6nm,0.4s,baz=147,slow=9.0,SNR=6.5						
TX31	**Lajitas Ar. Si**	**67.61**	**331**	P	**P**	**01 01 10.5**	**+1.8**
TX31				IAmb	IAmb	01 01 14.1	
	comp=Z,14nm,0.8s						
121A	**Cookes Peak, D**	**72.14**	**329**	P	**P**	**01 01 39.1**	**+2.5**
121A				IAmb	IAmb	01 01 43.6	
	comp=Z,13nm,1.1s						
214A	**Organ Pipe Nat**	**74.00**	**325**		**P**	**01 01 50.3**	**+2.8**
214A				IAmb	IAmb	01 01 55.6	
	comp=Z,18nm,1.4s						
DBIC	**Dimbokro**	**74.61**	**72**	P	**P**	**01 01 52.5**	**+1.1**
	comp=Z,15nm,1.1s,baz=263,slow=5.0,SNR=6.0						
DBIC	**Dimbokro**	**74.61**	**72**	P	**P**	**01 01 52.5**	**+1.1**
X16A	**Lo Mia Camp, P**	**75.37**	**327**	P	**P**	**01 01 54.2**	**-1.4**
MAW	**Mawson**	**75.47**	**164**	P	**P**	**01 01 55.0**	**-0.5**
	comp=Z,2.6nm,0.5s,baz=210,slow=5.9,SNR=12						
MAW	**Mawson**	**75.47**	**164**	P	**P**	**01 01 55.1**	**-0.4**
SDCO	**Great Sand Dun**	**75.70**	**333**	P	**P**	**01 01 57.6**	**+0.2**
SUR	**Sutherland**	**76.13**	**120**	P	**P**	**01 02 00.3**	**+0.1**
FRNY	**Flat Rock**	**76.14**	**359**	P	**P**	**01 02 02.0**	**+2.6**
FRNY				IAmb	IAmb	01 02 12.3	
	comp=Z,9.3nm,1.0s						
LMN	**Caledonia Moun**	**77.44**	**5**	P	**P**	**01 02 09.3**	**+2.6**
KOWA	**Kowa**	**79.84**	**66**	P	**P**	**01 02 21.5**	**+0.8**
	comp=Z,12nm,0.8s,baz=258,slow=5.4,SNR=14						
KOWA	**Kowa**	**79.84**	**66**	P	**P**	**01 02 21.1**	**+0.4**
KOWA				IAmb	IAmb	01

ISC 17 01:00:44.5±0.8, 31°27S±0′06×71°76W±0′08, h35km, n16, σ1§10/20, mb4.6/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.60**	**10**		**Pn**	**01 00 56.0**	**-0.7**
CO06				Sn	**Sn**	**01 01 03.5**	**-1.7**
CO03	**El Pedregal**	**1.02**	**65**	*eP*	**Pn**	**01 01 01.7**	**-0.7**
CO03				*i* S	**Sn**	**01 01 15.0**	**-0.5**
CO03				IAML		01 01 16.9	
	comp=N,11μm,0.5s						
CO03	**El Pedregal**	**1.02**	**65**	Pn	**Pn**	**01 01 01.9**	**-0.5**
CO03					**Sn**	**01 01 13.6**	**-2.0**
GO04	**Tololo Observa**	**1.37**	**37**	Pn	**Pn**	**01 01 07.3**	**-0.2**
GO04					**Sn**	**01 01 25.3**	**+0.8**
BO02	**Sierra Bellavi**	**3.61**	**167**		**Pn**	**01 01 35.8**	**-2.2**
AC02	**Maricunga**	**4.99**	**28**	Pn	**Pn**	**01 01 56.6**	**-0.7**
VA04	**Juan Fernndez**	**6.42**	**247**	Pn	**Pn**	**01 02 16.7**	**+0.1**
PLCA	**Paso Flores**	**9.49**	**174**	Pn	**Pn**	**01 02 59.7**	**+0.9**
	comp=N,0.4nm,0.3s,baz=346,slow=14,SNR=1.1						
LPAZ	**La Paz**	**15.28**	**13**	Pn	**Pn**	**01 04 17.8**	**-0.4**
SIV	**San Ignacio**	**18.07**	**35**	P	**Pn**	**01 04 52.3**	**-0.7**
	comp=N,0.3nm,0.3s,baz=234,slow=12,SNR=3.2						
BDFB	**Brasilia**	**26.68**	**60**	P	**P**	**01 06 20.3**	**-0.3**
	comp=N,7.9nm,0.9s,baz=204,slow=9.5,SNR=3.0						
QSPA	**South Pole Qui**	**58.96**	**180**	P	**P**	**01 10 41.7**	**+1.5**
LCAR	**Lake Charles**	**69.42**	**343**	P	**P**	**01 11 50.1**	**+1.3**
LCAR				IAmb	IAmb	01 11 52.1	
	comp=Z,4.7nm,0.6s						
DBIC	**Dimbokro**	**74.10**	**72**	P	**P**	**01 12 16.7**	**-0.8**
	comp=Z,7.2nm,0.9s,baz=224,slow=8.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**83.06**	**70**	P	**P**	**01 13 07.1**	**+0.2**
	comp=Z,5.2nm,0.9s,baz=258,slow=5.0,SNR=10						
ZALV	**Zalesovo Beam**	**151.77**	**30**	PKPbc	**PKiKP**	**01 20 35.5**	**+0.1**
	comp=Z,5.8nm,0.7s,baz=318,slow=2.0,SNR=8.1						

TAP 17 01:02:17.3, 24°29N×121°81E, h18km, ML1.8, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.07**	**291**	*eP*	Pg	01 02 21.1	+0.3
	baz=290						
ENA	**Nanau**	**0.15**	**336**	P	Pg	01 02 22.0	+0.3
	baz=338						
ENA				*eS*	Sg	01 02 25.9	+1.3
	baz=338						
EWUT	**Wuta**	**0.16**	**350**	*eP*	Pg	01 02 22.0	+0.3
	baz=350						
EWUT				S	Sg	01 02 25.8	+1.1
	baz=350						
NACB	**Ninganchiao**	**0.23**	**240**	P	Pb	01 02 23.2	+0.5
	baz=239						
TWD	**Chiawan**	**0.28**	**223**	*eP*	Pb	01 02 24.2	+0.3
	baz=222						
ETLH	**Xiulin Townshi**	**0.31**	**255**	*eP*	Pb	01 02 24.8	+0.4
	baz=254						
NDS	**Dongshan**	**0.35**	**346**	P	Pb	01 02 25.4	+0.3
	baz=346						
NNSB	**Datong**	**0.41**	**290**	*eP*	Pb	01 02 26.6	+0.4
	baz=289						
NDT	**Datong Townshi**	**0.41**	**319**	*eP*	Pb	01 02 26.6	+0.4
	baz=319						
ENTT	**Nioudou**	**0.41**	**328**	*eP*	Pb	01 02 26.8	+0.6
	baz=328						
NNS	**Nan Shan**	**0.42**	**291**	*eP*	Pb	01 02 26.6	+0.2
	baz=291						
NNS				*eS*	Sb	01 02 33.3	+0.7
	baz=291						
FUSS	**Fushou**	**0.52**	**266**	*eP*	Pb	01 02 28.4	+0.4
	baz=265						
WHF	**Hehuan Shan**	**0.52**	**254**	*eP*	Pb	01 02 28.2	+0.1
	baz=253						
WHF				*eS*	Sb	01 02 35.7	+0.3
	baz=253						
YHNB	**Yeheng**	**0.55**	**314**	*eP*	Pb	01 02 29.2	+0.8
	baz=314						
NWLT	**Wulai**	**0.56**	**330**	*eP*	Pb	01 02 29.1	+0.5
	baz=330						
NWLT				*eS*	Sb	01 02 37.7	+1.4
	baz=330						

TAP 17 01:02:23.0, 24°28N×121°84E, h18km, ML1.9, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.10**	**287**	*eP*	Pg	01 02 26.9	+0.2
	baz=286						
ENA	**Nanau**	**0.17**	**328**	*i* P	Pg	01 02 28.0	+0.4
	baz=329						
ENA				*i* S	Sg	01 02 31.7	+1.0
	baz=329						
EWUT	**Wuta**	**0.17**	**341**	*i* P	Pg	01 02 28.0	+0.4
	baz=340						
EWUT				*eS*	Sg	01 02 31.4	+0.8
	baz=340						
ETL	**Fush Village**	**0.23**	**238**	*eS*	Sg	01 02 33.6	+1.3
	baz=238						
NACB	**Ninganchiao**	**0.25**	**244**	*eP*	Pb	01 02 29.3	+0.5
	baz=244						
NACB				*i* S	Sg	01 02 33.9	+1.3
	baz=244						
TWD	**Chiawan**	**0.30**	**228**	*eP*	Pb	01 02 29.9	+0.1
	baz=227						
ETLH	**Xiulin Townshi**	**0.34**	**257**	*eS*	Sb	01 02 36.1	+0.6
	baz=257						
NDS	**Dongshan**	**0.37**	**342**	*eP*	Pb	01 02 31.3	+0.2
	baz=341						
NDS				*i* S	Sb	01 02 37.4	+0.9
	baz=341						
NDS	**Dongshan**	**0.37**	**342**	S	Pb	01 02 31.3	+0.3
	baz=346						
HWA	**Hwalien**	**0.37**	**215**	*eP*	Pb	01 02 31.3	+0.2
	baz=214						
ENTT	**Nioudou**	**0.44**	**325**	*eP*	Pb	01 02 32.4	+0.2
	baz=325						
ENTT				*eS*	Sb	01 02 39.7	+1.3
	baz=325						
ENTT	**Nioudou**	**0.44**	**325**	*eS*	Pb	01 02 32.8	+0.6
	baz=328						
NDT	**Datong Townshi**	**0.44**	**317**	*eS*	Sb	01 02 39.8	+1.4
	baz=316						
NNSB	**Datong**	**0.44**	**289**	*eP*	Pb	01 02 32.6	+0.3
	baz=289						
NNSB				*eS*	Sb	01 02 39.3	+0.6
	baz=289						
NNSB	**Datong**	**0.44**	**289**	*eS*	Pb	01 02 33.0	+0.7
	baz=289						
NNS	**Nan Shan**	**0.46**	**290**	*eP*	Pb	01 02 32.7	+0.2
	baz=290						
NNS				*i* S	Sb	01 02 39.8	+0.8
	baz=290						
YHNB	**Yeheng**	**0.57**	**312**	*i* S	Sb	01 02 43.5	+1.3
	baz=312						

IDC 17 01:06:42.5±2.8, 32°55S×71°73W, h0km, mb4.3/1, mb1 4.2/4, mb1mx3.7/31, mbtmp4.1/4, ML3.8/3, Error ellipse: s-maj=113.9km s-min=33.3km az=98.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**8.22**	**174**	Pn	Pn	01 08 42.1	-1.1
	0.2nm,0.3s,baz=330,slow=14,SNR=1.5						
LPAZ	**La Paz**	**16.52**	**12**	Pn	Pn	01 10 36.3	0.0
	0.2nm,0.3s,baz=203,slow=9.3,SNR=6.2						
SIV	**San Ignacio**	**19.11**	**33**	P	P	01 11 05.9	-1.3
	0.4nm,0.3s,baz=221,slow=8.5,SNR=6.9						
TORD	**Torodi Ar. Bea**	**83.47**	**70**	P	P	01 19 13.1	+0.7
	1.9nm,0.7s,baz=258,slow=4.6,SNR=6.6						
ZALV	**Zalesovo Beam**	**152.86**	**31**	PKPbc	PKPbc	01 26 41.0	0.0
	2.8nm,0.5s,baz=314,slow=3.7,SNR=5.8						

ISK 17 01:06:47.7, 37°88N×27°57E, h4km, ML2.3/6
DDA 17 01:06:48.1, 37°86N×27°55E, h7km±4km, ML2.5
ISC 17 01:06:48.3±1.0, 37°87N±0°03×27°56E±0°03, h8km±11km, n14, σ0§49/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AYDB	**Zeytinkoy-Aydi**	**0.27**	**74**	PG	**Pg**	**01 06 53.4**	**-0.3**
AYDB				SG	**Sg**	**01 06 58.2**	**+0.9**
GCAM	**G?zelcaml?**	**0.31**	**237**	*i* P	**Pg**	**01 06 54.4**	**-0.1**
GCAM				*i* S	**Sg**	**01 06 58.6**	**-0.1**
GCAM	**G?zelcaml?**	**0.31**	**237**	PG	**Pg**	**01 06 54.4**	**-0.1**
AYDN	**Tasoluk**	**0.33**	**130**	*i* P	**Pg**	**01 06 54.8**	**0.0**
AYDN				*i* S	**Sg**	**01 06 59.1**	**0.0**
DDIM	**Aydin, Didim**	**0.49**	**212**	*i* P	**Pg**	**01 06 57.8**	**0.0**
DDIM				*i* S	**Sb**	**01 07 04.9**	**-1.5**
DDIM				IAML		01 07 06.0	
	comp=N,366nm,0.4s						
BDRM	**Kayabasi**	**0.81**	**187**	*i* P	**Pg**	**01 07 03.8**	**-0.1**
BDRM				*i* S	**Sb**	**01 07 16.2**	**+0.3**
BDRM				IAML		01 07 18.0	
	comp=E,152nm,0.3s						
BDRM				IAML		01 07 19.0	
	comp=N,297nm,1.3s						
BODT	**Bodrum**	**0.83**	**194**	PG	**Pb**	**01 07 04.9**	**-0.2**
BODT				SG	**Sb**	**01 07 16.8**	**+0.3**
MULA	**Mugla, Merkez-**	**0.86**	**135**	*i* P	**Pb**	**01 07 05.6**	**+0.1**
MULA				IAML		01 07 19.0	
	comp=E,170nm,0.3s						
MULA				IAML		01 07 19.0	
	comp=N,213nm,0.3s						
URLA	**Izmir**	**0.91**	**303**	*i* P	**Pb**	**01 07 06.4**	**+0.1**
URLA				*i* S	**Sb**	**01 07 19.0**	**+0.5**
URLA				IAML		01 07 21.0	
	comp=N,117nm,1.4s						
URLA	**Izmir**	**0.91**	**303**	PG	**Pb**	**01 07 06.0**	**-0.3**
URLA				SG	**Sb**	**01 07 19.0**	**+0.5**
ZEYE	**Izmir, Urla-Ze**	**0.91**	**294**	*i* P	**Pb**	**01 07 06.3**	**-0.1**
ZEYE				*i* S	**Sb**	**01 07 18.2**	**-0.5**
ZEYE				IAML		01 07 21.0	
	comp=N,146nm,0.3s						
YER	**Yerkesik**	**0.93**	**142**	PG	**Pb**	**01 07 06.5**	**-0.3**
MANT	**Manisa**	**1.00**	**51**	*i* P	**Pg**	**01 07 07.1**	**-0.4**
MANT				*i* S	**Sg**	**01 07 20.1**	**-0.4**
MANT				IAML		01 07 22.0	
	comp=E,262nm,1.2s						
TURN	**Turunc**	**1.22**	**153**	PN	**Pn**	**01 07 12.1**	**+0.4**

IDC 17 01:08:43.8±0.8, 30°96S×71°73W, h0km, mb4.2/9, mb1 4.3/12, mb1mx4.2/30, mbtmp4.2/12, ML4.2/3, Error ellipse: s-maj=28.3km s-min=18.1km az=86.0
NEIC 17 01:08:48.1±1.6, 31°01S±0°03×71°64W±0°07, h18km±4km, mb4.6/18, ML5.1(GUC), Error ellipse: s-maj=8.4km s-min=4.3km az=109.0
GUC 17 01:08:50.1±0.7, 31°11S×71°53W, h18km±7km, ML5.1
SJA 17 01:08:54.0, 30°99S×71°51W, h10km, ML5.0
ISC 17 01:08:47.5±0.5, 31°02S±0°03×71°74W±0°05, h22km±3km, n100, σ1§32/96, mb4.4/13, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.35**	**15**		**Pb**	**01 08 54.7**	**-0.4**
CO06				Sg	**Sb**	**01 08 59.6**	**-0.6**
CO03	**El Pedregal**	**0.92**	**79**	*eP*	**Pn**	**01 09 05.1**	**-0.2**
CO03				*i* S	**Sn**	**01 09 17.5**	**-0.4**
CO03	**El Pedregal**	**0.92**	**79**	Pg	**Pb**	**01 09 04.7**	**-0.2**
CO03					**Sn**	**01 09 17.1**	**-0.8**
GO04	**Tololo Observa**	**1.17**	**44**	*eP*	**Pb**	**01 09 12.2**	**+2.9**
GO04				*i* S	**Sb**	**01 09 23.7**	**-0.3**
GO04	**Tololo Observa**	**1.17**	**44**		**Pn**	**01 09 08.3**	**-0.5**
VA01	**Torpederas**	**2.00**	**178**	*eP*	**Pb**	**01 09 23.6**	**+0.4**
VA01				*eS*	**Sb**	**01 09 49.9**	**+2.1**
VA01				IAML		01 09 56.3	
	comp=E,8μm,0.6s						
VA01	**Torpederas**	**2.00**	**178**		**Pn**	**01 09 21.6**	**+1.5**
VA03	**San Esteban**	**2.02**	**150**	*eP*	**Pb**	**01 09 23.3**	**-0.2**
VA03				*eS*	**Sb**	**01 09 48.6**	**+0.3**
VA03				IAML		01 09 54.5	
	comp=N,29μm,0.7s						
VA03	**San Esteban**	**2.02**	**150**	Pn	**Pn**	**01 09 21.3**	**+0.9**
ROCH	**El Roble**	**2.05**	**163**	*eP*	**Pb**	**01 09 24.4**	**+0.3**
ROCH				*eS*	**Sb**	**01 09 51.2**	**+1.9**
ROCH				IAML		01 09 58.8	
	comp=N,13μm,0.8s						
AROD	**Rodeo**	**2.13**	**67**	*i* P	**Pb**	**01 09 26.0**	**+0.3**
LCO	**Las Campanas**	**2.19**	**25**	*eP*	**Pn**	**01 09 23.3**	**+0.3**
RTLS	**Leoncito**	**2.23**	**111**	*i* P	**Pb**	**01 09 29.0**	**+1.6**
ACCO	**Cerro Coronel**	**2.34**	**80**	*i* P	**Pb**	**01 09 30.0**	**+0.7**
AUSP	**Uspallata**	**2.34**	**122**	*i* P	**Pb**	**01 09 30.0**	**+0.8**
ACDV	**Cuesta del Vie**	**2.41**	**70**	*i* P	**Pb**	**01 09 31.0**	**+0.6**
MT05	**Renca**	**2.52**	**161**	*eP*	**Pb**	**01 09 30.9**	**-1.2**
MT05				*i* S	**Sb**	**01 10 02.5**	**-0.2**
MT05				IAML		01 10 08.2	
	comp=E,23μm,0.6s						
MT05	**Renca**	**2.52**	**161**	Pn	**Pn**	**01 09 28.0**	**+0.8**
VA05	**Santo Domingo**	**2.64**	**178**	*eP*	**Pb**	**01 09 33.1**	**-1.0**
VA05				*eS*	**Sb**	**01 10 05.5**	**-0.5**
VA05				IAML		01 10 16.6	
	comp=E,8μm,0.5s						
VA05	**Santo Domingo**	**2.64**	**178**	Pn	**Pn**	**01 09 30.0**	**+1.2**
ZON	**Zonda**	**2.68**	**102**	Pn	**Pn**	**01 09 29.1**	**-0.3**
ZON	**Zonda**	**2.68**	**102**	*i* P	**Pb**	**01 09 35.0**	**+0.2**
MT09	**Talagante**	**2.83**	**167**	*eP*	**Pb**	**01 09 35.3**	**-2.1**
MT09				*i* S	**Sb**	**01 10 11.2**	**-0.4**
MT09				IAML		01 10 19.4	
	comp=N,11μm,0.5s						
MT09	**Talagante**	**2.83**	**167**	Pn	**Pn**	**01 09 32.1**	**+0.6**
AC04	**Llanos de Chal**	**2.86**	**12**	Pn	**Pn**	**01 09 33.7**	**+1.8**
RTCV	**Cerro Valdivia**	**2.86**	**108**	*i* P	**Pb**	**01 09 39.0**	**+1.0**
MT01	**Popeta**	**2.87**	**172**	*eP*	**Pb**	**01 09 36.6**	**-1.4**
MT01				*eS*	**Sb**	**01 10 12.5**	**-0.3**
MT01				IAML		01 10 22.0	
	comp=E,5μm,0.6s						
MT01	**Popeta**	**2.87**	**172**	Pn	**Pn**	**01 09 33.1**	**+1.1**
MT01	**Popeta**	**2.87**	**172**	*i* P	**Pb**	**01 09 39.0**	**+0.9**
ASAL	**Salagasta**	**2.93**	**123**	*i* P	**Pb**	**01 09 40.0**	**+0.8**
ARCO	**CERRO ARCO**	**3.00**	**128**	*i* P	**Pb**	**01 09 41.0**	**+0.6**
LMEL	**Las Melosas**	**3.11**	**156**	*eP*	**Pb**	**01 09 39.0**	**-3.2**
LMEL				*eS*	**Sn**	**01 10 15.3**	**+3.3**
AAGR	**Agrelo**	**3.22**	**131**	*i* P	**Pb**	**01 09 43.0**	**-1.1**
BO01	**Tunca**	**3.41**	**171**	*i* P	**Pb**	**01 09 48.0**	**+0.7**
BO02	**Sierra Bellavi**	**3.85**	**168**	*i* P	**Pb**	**01 09 54.0**	**-0.8**
GO05	**Huala**	**3.99**	**182**	Pn	**Pn**	**01 09 47.9**	**+0.5**
LAMA	**Las Malvinas**	**4.45**	**152**	*i* P	**Pb**	**01 10 02.0**	**-3.0**
COIS	**El Sosneado**	**4.46**	**157**	*i* P	**Pb**	**01 10 02.0**	**-3.2**
TINO	**Tinogasta**	**4.68**	**52**	*i* P	**Pb**	**01 10 05.0**	**-3.9**
ML02	**Panimavida**	**4.74**	**177**	Pn	**Pn**	**01 09 59.9**	**+2.2**
MRA	**San Martin**	**5.32**	**107**	*i* P	Pn	01 10 12.0	+6.2
AHML	**Horco Molle**	**7.02**	**55**	*i* P	Pn	01 10 35.0	+5.9
PB10	**IPOC Station P**	**7.55**	**8**	Pn	**Pn**	**01 10 38.6**	**+2.3**
LC01	**Cunco**	**7.87**	**181**	Pn	**Pn**	**01 10 39.5**	**-1.1**
PLCA	**Paso Flores**	**9.74**	**175**	Pn	**Pn**	**01 11 07.0**	**+0.5**
	comp=E,0.9nm,0.3s,baz=343,slow=12,SNR=6.8						
PLCA	**Paso Flores**	**9.74**	**175**		**Pn**	**01 11 07.1**	**+0.7**
TRQA	**Tornquist**	**10.68**	**134**		**Pn**	**01 11 19.2**	**0.0**
TRQA	**Tornquist**	**10.68**	**134**	*i* P	**Pn**	**01 11 23.0**	**+3.8**
CPUP	**Villa Florida**	**13.48**	**73**	Pn	**Pn**	**01 11 57.8**	**+0.2**
LPAZ	**La Paz**	**15.03**	**13**	Pn	**Pn**	**01 12 19.1**	**-0.2**
	comp=E,0.2nm,0.3s,baz=182,slow=9.3,SNR=9.9						
LPAZ	**La Paz**	**15.03**	**13**		**Pn**	**01 12 19.9**	**+0.6**
PLTB	**Pedras Altas**	**15.51**	**97**	Pn	**Pn**	**01 12 23.0**	**-2.0**
PLTB				IAmb	IAmb	01 12 29.4	
	comp=Z,48nm,1.5s						
SIV	**San Ignacio**	**17.85**	**36**	P	**Pn**	**01 12 54.1**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=221,slow=12,SNR=5.5						
EFI	**East Falkland**	**22.98**	**158**	P	**P**	**01 13 50.5**	**0.0**
SAML	**Samuel**	**23.36**	**22**	P	**P**	**01 13 53.9**	**-0.7**
BDFB	**Brasilia**	**26.54**	**60**	P	**P**	**01 14 24.0**	**-0.1**
	comp=Z,6.4nm,0.7s,baz=227,slow=3.6,SNR=5.9						
BDFB	**Brasilia**	**26.54**	**60**	P	**P**	**01 14 22.6**	**-1.4**
BDFB				IAmb	IAmb	01 14 30.8	
	comp=Z,11nm,0.7s						
BBAC	**Balboa, Cauca**	**33.27**	**350**	*eP*	P	01 15 32.7	+8.9
PRAC	**Prado**	**34.66**	**354**	*eP*	P	01 15 45.1	+9.4
ORTC	**Ortega, Tolima**	**34.89**	**354**	*eP*	P	01 15 45.7	+8.1
NORC	**Norcasia**	**36.49**	**355**	*eP*	P	01 15 56.9	+5.5
RUSC	**La Rusia**	**36.72**	**358**	P	**P**	**01 15 55.2**	**+1.5**
RUSC				IAmb	IAmb	01 16 01.2	
	comp=Z,10.0nm,1.1s						
RUSC	**La Rusia**	**36.72**	**358**	*eP*	P	01 16 00.7	+6.9
CBOC	**Ciudad Bolivar**	**36.90**	**353**	*eP*	P	01 16 01.0	+6.1
PTBC	**PUERTO BERRIO,**	**37.43**	**356**	*eP*	**P**	**01 16 00.7**	**+1.4**
DBBC	**Dabeiba**	**38.06**	**353**	*eP*	P	01 16 12.8	+8.2
SMLC	**San Martn de**	**39.65**	**356**	*eP*	P	01 16 23.9	+6.0
SEUS	**St. Eustatius**	**48.96**	**11**	P	**P**	**01 17 33.1**	**+0.8**
VNA3	**Neumayer Olymp**	**52.03**	**159**	P	**P**	**01 17 55.5**	**+0.5**
VNA1	**Neumayer--Stat**	**52.33**	**158**	P	**P**	**01 17 57.3**	**+0.1**
VNA2	**Neumayer--Watz**	**52.67**	**158**	P	**P**	**01 18 00.0**	**+0.3**
SNAA	**Sanae**	**54.26**	**159**	P	**P**	**01 18 11.4**	**0.0**
SNAA	**Sanae**	**54.26**	**159**	P	**P**	**01 18 11.6**	**+0.1**
	comp=Z,4.2nm,0.6s,baz=287,slow=7.1,SNR=12						
SNAA	**Sanae**	**54.26**	**159**	P	**P**	**01 18 11.8**	**+0.3**
SNAA				IAmb	IAmb	01 18 20.1	
	comp=Z,5.9nm,0.7s						
QSPA	**South Pole Qui**	**59.21**	**180**	P	**P**	**01 18 47.4**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=186,slow=1.2,SNR=6.0						
QSPA	**South Pole Qui**	**59.21**	**180**	P	**P**	**01 18 47.4**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=148,slow=8.6,SNR=6.6						
DBIC	**Dimbokro**	**74.00**	**72**	P	**P**	**01 20 21.6**	**-0.3**
	comp=Z,7.1nm,1.0s,baz=246,slow=6.1,SNR=4.1						
DBIC	**Dimbokro**	**74.00**	**72**	P	**P**	**01 20 21.6**	**-0.3**
MAW	**Mawson**	**75.96**	**164**	P	**P**	**01 20 32.8**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=253,slow=15,SNR=3.5						
MAW	**Mawson**	**75.96**	**164**	P	**P**	**01 20 33.1**	**+0.8**
PV01	**Paradox Valley**	**76.90**	**331**	P	**P**	**01 20 38.0**	**-0.2**
PV01				IAmb	IAmb	01 20 38.0	
	comp=Z,2.6nm,0.9s						
TSUM	**Tsumeb**	**79.80**	**106**	P	**P**	**01 20 53.6**	**-1.1**
TSUM				IAmb	IAmb	01 20 55.7	
	comp=Z,11nm,1.1s						
HWUT	**Hardware Ranch**	**81.06**	**331**	P	**P**	**01 21 00.6**	**-0.3**
PDAR	**Pinedale Array**	**81.22**	**333**	P	**P**	**01 21 00.4**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=138,slow=8.4,SNR=2.9						
BOSA	**Boshof**	**81.24**	**118**	P	**P**	**01 21 00.9**	**-1.5**
	comp=Z,2.3nm,0.7s,baz=294,slow=3.6,SNR=3.7						
NVAR	**Mina Array Bea**	**81.59**	**325**	P	**P**	**01 21 04.0**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=154,slow=5.8,SNR=4.0						
NVAR	**Mina Array Bea**	**81.59**	**325**	P	**P**	**01 21 06.6**	**+2.7**
TORD	**Torodi Ar. Bea**	**82.96**	**70**	P	**P**	**01 21 10.5**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=276,slow=4.8,SNR=11						
TORD	**Torodi Ar. Bea**	**82.96**	**70**	P	**P**	**01 21 10.8**	**-0.5**
TORD				IAmb	IAmb	01 21 11.2	
	comp=Z,6.5nm,1.4s						
H11S2	**WAKE ISLAND Hyl**	**26.01**	**271**	T	T	03 46 31.0	
	baz=121						
H11S1	**WAKE ISLAND Hyl**	**26.03**	**271**	T	T	03 46 33.1	
	baz=121,slow=74,SNR=48						
H11S3	**WAKE ISLAND Hyl**	**26.03**	**271**	T	T	03 46 31.5	
	baz=121,slow=74,SNR=55						
H11N3	**WAKE ISLAND Hyl**	**26.35**	**273**	T	T	03 46 56.6	
	baz=113						
H11N1	**WAKE ISLAND Hyl**	**26.37**	**273**	T	T	03 46 58.2	
	baz=113,SNR=5.5						
H11N2	**WAKE ISLAND Hyl**	**26.37**	**273**	T	T	03 46 58.4	
	baz=113						
ZALV	**Zalesovo Beam**	**151.54**	**30**	PKPbc	**PKPbc**	**01 28 38.5**	**-0.9**
	comp=Z,4.2nm,0.8s,baz=302,slow=2.8,SNR=5.4						
ZALV	**Zalesovo Beam**	**151.54**	**30**		**PKPbc**	**01 28 38.3**	**-1.2**
MKAR	**Makanchi Array**	**154.54**	**44**	PKPab	**PKPab**	**01 29 00.5**	**-0.4**
	comp=Z,2.0nm,0.9s,baz=316,slow=5.1,SNR=5.6						
MKAR	**Makanchi Array**	**154.54**	**44**		**PKPab**	**01 29 00.7**	**-0.2**

NEIC 17 01:09:44.7±1.1, 31°55S±0°04×72°2W±0°2, h35km±2km, Error ellipse: s-maj=22.7km s-min=3.0km az=252.0
GUC 17 01:09:49.3±0.9, 31°72S×71°04W, h55km±10km, ML4.6
IDC 17 01:09:50.1±6.3, 31°51S×71°79W, h32km±45km, mb4.4/9, mb1 4.5/13, mb1mx4.3/30, mbtmp4.5/13, ML4.3/4, Error ellipse: s-maj=27.1km s-min=16.1km az=67.0
ISC 17 01:09:42.5±0.4, 31°55S±0°03×72°14W±0°08, h14km, n137, σ2§20/119, mb4.9/47, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO03	**El Pedregal**	**1.43**	**61**	*eP*	**Pn**	**01 10 09.4**	**+1.3**
CO03				*eS*	**Sn**	**01 10 21.6**	**-5.1**
CO03				IAML		01 10 32.7	
	comp=E,34μm,0.3s						
VA01	**Torpederas**	**1.53**	**164**	*eP*	**Pg**	**01 10 13.8**	**+1.9**
VA01				*eS*	**Sg**	**01 10 32.1**	**+0.3**
ROCH	**El Roble**	**1.71**	**146**	*eS*	**Sn**	**01 10 28.3**	**-5.7**
GO04	**Tololo Observa**	**1.79**	**40**	*eP*	**Pb**	**01 10 16.6**	**+1.4**
VA03	**San Esteban**	**1.81**	**132**	*eS*	Sn	01 10 26.6	-10
VA03				IAML		01 10 42.8	
	comp=N,16μm,0.4s						
VA05	**Santo Domingo**	**2.15**	**168**	*eS*	**Sb**	**01 10 48.0**	**+0.3**
MT05	**Renca**	**2.19**	**148**	*eS*	**Sn**	**01 10 39.9**	**-5.5**
MT05				IAML		01 11 00.1	
	comp=E,15μm,0.4s						
FSR	**Penalolen**	**2.36**	**145**	*eS*	**Sn**	**01 10 44.7**	**-5.0**
MT09	**Talagante**	**2.43**	**157**	*eS*	**Sb**	**01 10 56.0**	**+0.2**
MT09				IAML		01 11 06.5	
	comp=N,7μm,0.6s						
MT01	**Popeta**	**2.43**	**162**	*eS*	**Sg**	**01 11 00.4**	**-0.2**
MT01				IAML		01 11 09.4	
	comp=E,5μm,0.6s						
LCO	**Las Campanas**	**2.82**	**27**	*eS*	**Sb**	**01 11 07.0**	**-0.2**
BO01	**Tunca**	**2.97**	**163**		**Pn**	**01 10 29.1**	**-0.1**
BO01				Sn	**Sn**	**01 11 03.8**	**-0.9**

comp=Z,17nm,1.3s
WMOK Wichita Mounta 70.54 337 P **P** **01 20 54.8 -2.1**
WMOK IAmb IAmb 01 21 02.4
comp=Z,9.1nm,1.2s
MGMO Mountain Grove 70.89 343 P **P** **01 20 56.2 -2.8**
FVM French Village 71.25 345 P **P** **01 20 59.8 -1.2**
FVM IAmb IAmb 01 21 06.5
comp=Z,11nm,1.1s
MSTX Muleshoe 71.28 333 P **P** **01 20 59.9 -1.6**
CCM Cathedral Cave 71.50 344 P **P** **01 21 00.8 -1.7**
CCM IAmb IAmb 01 21 07.6
comp=Z,10nm,0.9s
S39A Bolivar 71.67 342 P **P** **01 21 02.6 -1.0**
S39A IAmb IAmb 01 21 09.2
comp=Z,9.4nm,0.9s
AMTX Amarillo 71.69 335 P **P** **01 21 02.0 -1.9**
121A Cookes Peak, D 72.10 329 P **P** **01 21 04.4 -2.1**
121A IAmb IAmb 01 21 13.9
comp=Z,14nm,1.1s
M55A Ridgway 72.91 355 P **P** **01 21 09.4 -1.6**
M55A IAmb IAmb 01 21 16.3
comp=Z,17nm,1.1s
N49A Columbus Grove 72.96 350 P **P** **01 21 09.9 -1.3**
N49A IAmb IAmb 01 21 16.1
comp=Z,15nm,0.8s
P40A Paris 73.09 344 P **P** **01 21 11.2 -0.9**
P40A IAmb IAmb 01 21 19.1
comp=Z,13nm,0.8s
LIC Lamto 74.10 72 *eP* **P** **01 21 21.1 +2.5**
comp=Z,63nm,1.3s
TIC Toumodi 74.34 72 *eP* **P** **01 21 23.5 +3.5**
KIC Kosan Boka 74.41 72 *eP* **P** **01 21 23.8 +3.4**
comp=Z,31nm,0.8s
DBIC Dimbokro 74.49 72 P **P** **01 21 24.2 +3.3**
comp=Z,14nm,0.8s,baz=232,slow=5.2,SNR=8.3
T25A Trinidad 74.70 334 P **P** **01 21 20.2 -1.6**
T25A IAmb IAmb 01 21 28.9
comp=Z,18nm,1.0s
I63A Otisfield 75.25 1 P **P** **01 21 23.8 -0.7**
I63A IAmb IAmb 01 21 31.3
comp=Z,15nm,0.9s
MAW Mawson 75.55 164 P P 01 21 31.0 +4.9
comp=Z,3.9nm,0.9s,baz=225,slow=8.6,SNR=4.5
MAW Mawson 75.55 164 P **P** **01 21 25.8 -0.4**
SDCO Great Sand Dun 75.65 333 P **P** **01 21 26.0 -1.4**
FRNY Flat Rock 76.03 359 P **P** **01 21 27.3 -1.7**
FRNY IAmb IAmb 01 21 35.2
comp=Z,14nm,1.1s
MVCO Mesa Verde 76.38 331 P **P** **01 21 30.1 -1.4**
MVCO IAmb IAmb 01 21 37.7
comp=Z,6.9nm,1.1s
W13A Hualapai Mount 77.04 326 P **P** **01 21 33.4 -1.8**
F64A Sherman 77.12 3 P **P** **01 21 34.2 -0.9**
F64A IAmb IAmb 01 21 41.4
comp=Z,20nm,1.0s
ISCO Idaho Springs 77.48 334 P **P** **01 21 36.3 -1.5**
ISCO IAmb IAmb 01 21 44.5
comp=Z,6.3nm,1.1s
PQI Presque Isle 77.94 3 P **P** **01 21 39.1 -0.6**
PQI IAmb IAmb 01 21 45.7
comp=Z,14nm,0.9s
KNB Kanab 78.11 328 P **P** **01 21 40.3 -0.8**
ECSD EROS Data Cent 78.19 342 P **P** **01 21 40.5 -0.7**
ECSD IAmb IAmb 01 21 46.7
comp=Z,8.3nm,0.9s
D62A Allapoint, All 78.31 2 P **P** **01 21 40.9 -0.9**
SHPR Sheep Range 78.78 326 P **P** **01 21 43.6 -1.2**
CCUT Cedar City 78.79 328 P **P** **01 21 43.4 -1.6**
MSU Marysvale 79.05 329 P **P** **01 21 44.1 -2.2**
MVU Marysvale 79.06 329 P **P** **01 21 45.2 -1.2**
P17A Butcher Ranch, 79.23 331 P **P** **01 21 46.3 -1.0**
P17A IAmb IAmb 01 21 55.3
comp=Z,13nm,1.4s
GWY Greenwater Val 79.26 325 P **P** **01 21 45.8 -1.7**
F36A Milaca 79.45 345 P **P** **01 21 47.4 -0.7**
PRN Pahroc Range 79.45 327 P **P** **01 21 47.1 -1.3**
PRN IAmb IAmb 01 21 56.0
comp=Z,9.2nm,1.1s
RDMU Red Mountain 79.68 332 P **P** **01 21 48.4 -1.3**
RDMU IAmb IAmb 01 21 56.1
comp=Z,7.1nm,0.9s
PSUT Pine Spring 79.81 328 P **P** **01 21 49.5 -1.0**
NLU North Lily Min 80.20 330 P **P** **01 21 51.7 -0.8**
SPR3 Spring Creek 3 80.41 328 P **P** **01 21 52.5 -1.3**
R11A Troy Canyon, C 80.46 327 P **P** **01 21 52.6 -1.4**
LCH Last Change Ra 80.57 325 P **P** **01 21 53.5 -1.0**
DUG Dugway, Tooele 80.72 330 P **P** **01 21 53.7 -1.5**
TPH Tonopah 81.02 326 P **P** **01 21 55.8 -1.2**
BOSA Boshof 81.29 118 P **P** **01 22 02.6 +3.8**
comp=Z,4.5nm,0.8s,baz=219,slow=6.4,SNR=3.9
PDAR Pinedale Array 81.54 333 P P 01 22 04.5 +4.8
comp=Z,1.0nm,0.8s,baz=151,slow=6.4,SNR=5.9
PDAR Pinedale Array 81.54 333 P **P** **01 21 58.5 -1.1**
NVAR Mina Array Bea 81.83 325 P P 01 22 07.3 +6.0
comp=Z,1.9nm,0.7s,baz=153,slow=6.0,SNR=12
NVAR Mina Array Bea 81.83 325 P **P** **01 21 59.9 -1.4**
KVN Kaiserville 82.22 326 P **P** **01 22 01.0 -2.3**
KVN IAmb IAmb 01 22 09.8
comp=Z,9.3nm,1.3s
ELK Elko 82.23 328 P **P** **01 22 00.7 -2.7**
CASY Casey 82.47 181 P **P** **01 22 03.4 -0.7**
CASY IAmb IAmb 01 22 10.9
comp=Z,16nm,0.9s
PAHR Pah Rah Range 83.35 325 P **P** **01 22 07.5 -1.5**
PAHR IAmb IAmb 01 22 16.4
comp=Z,16nm,1.5s
TORD Torodi Ar. Bea 83.46 70 P **P** **01 22 13.4 +3.4**
comp=Z,13nm,0.8s,baz=265,slow=4.8,SNR=20
TORD Torodi Ar. Bea 83.46 70 P **P** **01 22 08.6 -1.4**
YHH Holmes Hill 83.75 333 P **P** **01 22 09.2 -2.0**
MCMT McKenzie Canyo 84.56 332 P **P** **01 22 13.7 -1.5**
MFID Camas Ranch 84.64 330 P **P** **01 22 14.1 -1.4**
MFID IAmb IAmb 01 22 22.2
comp=Z,11nm,1.4s
J08A Circle Bar Ran 85.77 328 P **P** **01 22 20.1 -1.0**
PLID Pearl Lake 86.06 331 P **P** **01 22 22.0 -0.7**
PLID IAmb IAmb 01 22 29.8
comp=Z,7.0nm,1.1s
I07A Izee 86.80 328 P **P** **01 22 25.5 -0.8**
I07A IAmb IAmb 01 22 32.5
comp=Z,8.2nm,1.1s
G08A Pilot Rock 87.50 329 P **P** **01 22 28.0 -1.7**
G08A IAmb IAmb 01 22 35.8
comp=Z,8.9nm,1.5s
HAWA Hanford 88.61 329 P **P** **01 22 33.5 -1.2**
HAWA IAmb IAmb 01 22 41.2
comp=Z,15nm,1.4s
H11S2 WAKE ISLAND Hyl 25.68 271 T T 03 47 36.4
baz=116,slow=75,SNR=12
H11S1 WAKE ISLAND Hyl 25.69 271 T T 03 47 42.7
baz=116,slow=75,SNR=16
H11S3 WAKE ISLAND Hyl 25.70 271 T T 03 47 34.6
baz=116,slow=75,SNR=13
H11N3 WAKE ISLAND Hyl 26.03 272 T T 03 48 01.4
baz=117,slow=75,SNR=12
H11N1 WAKE ISLAND Hyl 26.05 272 T T 03 48 05.7
baz=117,slow=75,SNR=6.7
H11N2 WAKE ISLAND Hyl 26.05 272 T T 03 48 03.2
baz=117,slow=75,SNR=13
PSI Prapat 150.19 162 PKPbc **PKPab** **01 29 37.5 -2.2**
comp=Z,9.0nm,0.8s,baz=180,slow=18,SNR=3.5
ZALV Zalesovo Beam 152.17 30 PKPbc **PKPab** **01 29 41.6 -5.2**
comp=Z,32nm,0.6s,baz=296,slow=3.2,SNR=25
ZALV Zalesovo Beam 152.17 30 PKPdf **PKPdf** **01 29 30.0 -0.4**
KSH Kashi 152.97 64 PKPbc **PKPbc** **01 29 37.9 -1.6**
MJAR Matsushiro Arr 154.42 290 PKPab **PKPab** **01 30 02.3 +5.3**
comp=Z,2.8nm,0.9s,baz=138,slow=2.2,SNR=5.0
MKAR Makanchi Array 155.16 45 PKP **PKPdf** **01 29 39.2 +4.2**
comp=Z,1.6nm,0.8s,baz=321,slow=1.6,SNR=4.9
MKAR PKPbc sPKPbc 01 29 48.1 -0.8
comp=Z,2.7nm,0.8s,baz=315,slow=2.0,SNR=7.2
KSRS Korea Array 162.46 295 PKPab **PKPab** **01 30 37.7 +6.0**
comp=Z,3.6nm,1.1s,baz=87,slow=4.1,SNR=5.6
SONM Songino Array 163.69 4 PKPab **PKPab** **01 30 41.3 +4.5**
comp=Z,1.5nm,0.9s,baz=345,slow=3.7,SNR=6.4
GTA Gaotai 169.78 38 ⇑PKP **PKPdf** **01 29 54.8 +5.0**
GTA pPKP sPKPdf 01 30 00.9 +6.0
GTA PKPab **sPKPab** **01 31 09.0 0.0**

*SJA **17** 01:12:16.6±0.8,31.10S×71.69W,h40km±10km,ML4.2, MW4.5*
*NEIC **17** 01:12:17.4±2.0,31.22S±0.03×71.44W±0.05,h35km±2km, mb4.6/13,ML4.6(GUC),Error ellipse: s-maj=7.2km*

s-min=4.6km az=98.0
*IDC **17** 01:12:18.8±3.2,31.20S×71.33W,h55km±27km,mb4.1/6, mb1 4.2/9,mb1mx3.9/30,mbtmp4.4/9,ML4.4/4,Error ellipse: s-maj=33.2km s-min=20.3km az=88.0*
*GUC **17** 01:12:19.6±0.6,31.46S×71.53W,h41km±14km,ML4.6*
ISC 17 01:12:17.2±0.6,**31.19S**±0.03×**71.65W**±0.05,**h46**km±5km,
n71,σ1°**45**/**78**,**mb4.5**/10,**1C**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.51**	**2**	Pn	**Pn**	**01 12 29.7**	**+1.4**
CO06				Sn	**Sn**	**01 12 38.4**	**+2.1**
CO03	**El Pedregal**	**0.90**	**68**	*eP*	Pn	01 12 37.9	+4.4
CO03	**El Pedregal**	**0.90**	**68**		**Pn**	**01 12 32.3**	**-1.2**
CO03				Sn	**Sn**	**01 12 42.6**	**-2.8**
GO04	**Tololo Observa**	**1.25**	**36**	Pn	**Pn**	**01 12 38.3**	**-0.1**
GO04	**Tololo Observa**	**1.25**	**36**	*eP*	**Pn**	**01 12 38.4**	**0.0**
GO04				*eS*	**Sn**	**01 12 53.5**	**-0.8**
VA01	**Torpederas**	**1.83**	**180**	⇑*iP*	**Pn**	**01 12 46.7**	**+0.6**
VA01				*eS*	**Sn**	**01 13 07.8**	**-0.3**
VA01	**Torpederas**	**1.83**	**180**	Pn	**Pn**	**01 12 46.8**	**+0.6**
VA01	**Torpederas**	**1.83**	**180**	*iP*	**Pn**	**01 12 47.0**	**+0.8**
VA01				*eS*	**Sn**	**01 13 12.1**	**+4.0**
VA01				IAML		01 13 14.8	
	comp=Z,2μm,0.4s						
VA03	**San Esteban**	**1.83**	**150**	*eP*	**Pn**	**01 12 47.1**	**+0.8**
VA03				*iS*	**Sn**	**01 13 07.5**	**-0.8**
VA03				IAML		01 13 13.7	
	comp=E,13μm,0.2s						
VA03	**San Esteban**	**1.83**	**150**	Pn	**Pn**	**01 12 44.4**	**-1.8**
VA03				Sn	**Sn**	**01 13 07.1**	**-1.2**
ROCH	**El Roble**	**1.86**	**163**	*eP*	**Pn**	**01 12 47.5**	**+0.7**
ROCH				*eS*	**Sn**	**01 13 09.3**	**+0.1**
ROCH				IAML		01 13 14.7	
	comp=N,12μm,0.5s						
ROC1	**El Roble**	**1.86**	**163**	*eP*	**Pn**	**01 12 48.7**	**+1.9**
ROC1				*eS*	**Sn**	**01 13 12.0**	**+2.7**
RTLS	**Leoncito**	**2.10**	**107**	*eP*	**Pn**	**01 12 51.6**	**+1.4**
RTLS				*eS*	**Sn**	**01 13 17.6**	**+2.4**
RTLS				IAML		01 13 18.6	
	comp=Z,2μm,0.8s						
AROD	**Rodeo**	**2.13**	**62**	*eP*	**Pn**	**01 12 52.5**	**+1.9**
AROD				*eS*	**Sn**	**01 13 18.1**	**+2.0**
AUSP	**Uspallata**	**2.19**	**119**	*iP*	**Pn**	**01 12 54.0**	**+2.6**
AUSP				*eS*	**Sn**	**01 13 19.1**	**+1.6**
ACCO	**Cerro Coronel**	**2.30**	**76**	*iP*	**Pn**	**01 12 55.0**	**+2.1**
MT05	**Renca**	**2.33**	**161**	*eP*	**Pn**	**01 12 53.9**	**+0.8**
MT05				*eS*	**Sn**	**01 13 21.1**	**+0.5**
MT05				IAML		01 13 26.8	
	comp=E,11μm,0.4s						
MT05	**Renca**	**2.33**	**161**	Pn	**Pn**	**01 12 53.9**	**+0.8**
ACDV	**Cuesta del Vie**	**2.41**	**66**	*iP*	**Pn**	**01 12 57.0**	**+2.8**
ACDV				IAML		01 13 40.9	
	comp=Z,740nm,0.3s						
VA05	**Santo Domingo**	**2.46**	**179**	Pn	**Pn**	**01 12 55.0**	**+0.1**
VA05					**Sn**	**01 13 24.0**	**+0.3**
MT09	**Talagante**	**2.64**	**168**	*eP*	**Pn**	**01 12 58.8**	**+1.3**
MT09				*eS*	**Sn**	**01 13 29.0**	**+0.6**
MT09				IAML		01 13 39.1	
	comp=E,4μm,0.3s						
MT09	**Talagante**	**2.64**	**168**	Pn	**Pn**	**01 12 57.1**	**-0.4**
MT09					**Sn**	**01 13 26.8**	**-1.6**
MT01	**Popeta**	**2.69**	**173**	*eP*	**Pn**	**01 12 58.8**	**+0.8**
MT01				*iS*	**Sn**	**01 13 29.5**	**+0.1**
MT01				IAML		01 13 39.7	
	comp=N,3μm,0.2s						
MT01	**Popeta**	**2.69**	**173**	Pn	**Pn**	**01 12 57.8**	**-0.2**
RTLL	**Cerro Villicun**	**2.73**	**94**	*eP*	**Pn**	**01 13 00.4**	**+2.0**
RTCV	**Cerro Valdivia**	**2.74**	**105**	*iP*	Pn	01 13 02.0	+3.3
RTCV				IAML		01 13 55.1	
	comp=Z,350nm,0.9s						
ASAL	**Salagasta**	**2.78**	**121**	*iP*	Pn	01 13 02.8	+3.6
ASAL				*eS*	**Sn**	**01 13 35.8**	**+4.3**
ASAL				IAML		01 13 54.5	
	comp=Z,643nm,0.5s						
ARCO	**CERRO ARCO**	**2.84**	**126**	*iP*	Pn	01 13 05.0	+4.8
ARCO				IAML		01 13 47.0	
	comp=Z,1μm,0.7s						
AC04	**Llanos de Chal**	**3.01**	**10**	*eP*	Pn	01 13 08.7	+6.3
AC04	**Llanos de Chal**	**3.01**	**10**	*eP*	**Pn**	**01 13 06.0**	**+3.6**
AC04				IAML		01 13 51.0	
	comp=Z,1μm,0.8s						
AAGR	**Agrelo**	**3.05**	**129**	*eP*	Pn	01 13 06.5	+3.4
AAGR				IAML		01 14 01.7	
	comp=Z,696nm,1.3s						
BO01	**Tunca**	**3.23**	**172**	Pn	**Pn**	**01 13 04.9**	**-0.5**
BO02	**Sierra Bellavi**	**3.67**	**169**	*eP*	**Pn**	**01 13 12.4**	**+0.9**
BO02				*eS*	**Sn**	**01 13 53.0**	**-0.5**
GO05	**Huala**	**3.82**	**183**	*iP*	**Pn**	**01 13 14.0**	**+0.5**
H03N1	**Juan Fernandez**	**6.54**	**248**	T	T	01 20 35.3	
	baz=78,slow=72,SNR=26						
H03N3	**Juan Fernandez**	**6.56**	**248**	T	T	01 20 34.3	
	baz=78,slow=72,SNR=28						
H03N2	**Juan Fernandez**	**6.56**	**248**	T	T	01 20 35.6	
	baz=78,slow=72,SNR=29						
LC01	**Cunco**	**7.70**	**181**	*iP*	**Pn**	**01 14 06.0**	**-0.6**
LVC	**Limon Verde**	**8.88**	**17**	P	**Pn**	**01 14 23.9**	**+0.6**
	comp=Z,14nm,0.3s,baz=162,slow=20,SNR=2.3						
LVC	**Limon Verde**	**8.88**	**17**	Pn	**Pn**	**01 14 23.0**	**-0.4**
PLCA	**Paso Flores**	**9.57**	**175**	P	**Pn**	**01 14 32.9**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=322,slow=14,SNR=2.4						
PLCA	**Paso Flores**	**9.57**	**175**		**Pn**	**01 14 33.0**	**+0.6**
LPAZ	**La Paz**	**15.18**	**13**	P	**P**	**01 15 51.5**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=200,slow=5.9,SNR=2.1						
LPAZ	**La Paz**	**15.18**	**13**	Pn	**Pn**	**01 15 48.4**	**-0.7**
SIV	**San Ignacio**	**17.95**	**35**	P	**Pn**	**01 16 22.6**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=217,slow=15,SNR=2.2						
TRCB	**Terra Rica**	**18.88**	**68**		**P**	**01 16 32.5**	**-1.3**
TRCB				IAmb	IAmb	01 16 34.2	
	comp=Z,20nm,0.6s						
RUSC	**La Rusia**	**36.90**	**358**	P	**P**	**01 19 22.2**	**+0.2**
RUSC				IAmb	IAmb	01 19 25.0	
	comp=Z,17nm,0.6s						
MDP	**Montagnes des**	**40.40**	**30**	P	**P**	**01 19 49.5**	**-1.4**
	comp=Z,6.8nm,0.7s,baz=204,slow=6.2,SNR=5.5						
SNAA	**Sanae**	**54.07**	**159**	P	**P**	**01 21 36.8**	**0.0**
	comp=Z,2.3nm,0.8s,baz=267,slow=11,SNR=2.2						
SNAA	**Sanae**	**54.07**	**159**	P	**P**	**01 21 36.9**	**+0.2**
ASCN	**Ascension**	**58.04**	**79**	P	**P**	**01 22 04.5**	**-1.3**
QSPA	**South Pole Qui**	**59.04**	**180**	P	**P**	**01 22 13.2**	**+0.9**
QSPA				IAmb	IAmb	01 22 21.8	
	comp=Z,4.4nm,1.2s						
451A	**Vernon**	**62.90**	**346**	P	**P**	**01 22 38.8**	**+0.2**
TXAR	**Lajitas Array**	**67.46**	**330**	P	**P**	**01 23 10.1**	**+1.8**
	comp=Z,1.0nm,0.8s,baz=159,slow=7.8,SNR=3.9						
TXAR	**Lajitas Array**	**67.46**	**330**	P	**P**	**01 23 09.4**	**+1.1**
DBIC	**Dimbokro**	**73.98**	**72**	P	**P**	**01 23 47.1**	**-1.1**
	comp=Z,5.7nm,0.5s,baz=231,slow=5.7,SNR=7.1						
DBIC	**Dimbokro**	**73.98**	**72**	P	**P**	**01 23 47.4**	**-0.8**
DBIC				IAmb	IAmb	01 23 48.0	
	comp=Z,16nm,1.0s						
PV14	**Lion Creek, Pa**	**77.48**	**331**	P	**P**	**01 24 08.7**	**+0.8**
ECSD	**EROS Data Cent**	**77.98**	**342**	P	**P**	**01 24 11.5**	**+1.2**
ECSD				IAmb	IAmb	01 24 12.0	
	comp=Z,5.6nm,0.8s						
BOSA	**Boshof**	**81.09**	**118**	P	**P**	**01 24 27.7**	**-0.3**
	comp=Z,3.1nm,1.1s,baz=222,slow=5.8,SNR=1.7						
PDAR	**Pinedale Array**	**81.41**	**333**	P	**P**	**01 24 30.5**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=134,slow=5.2,SNR=2.4						
TORD	**Torodi Ar. Bea**	**82.95**	**70**	P	**P**	**01 24 37.2**	**-0.5**
	comp=Z,4.2nm,0.8s,baz=276,slow=5.7,SNR=15						
TORD				pP	**pP**	**01 24 50.7**	**-0.7**
	comp=Z,1.8nm,0.6s,baz=282,slow=5.9,SNR=2.8						
TORD				sP	**sP**	**01 24 56.3**	**-0.3**
	comp=Z,3.8nm,0.7s,baz=279,slow=5.6,SNR=4.2						
WRA	**Warramunga Arr**	**123.37**	**210**	PKP	**PKPdf**	**01 31 09.8**	**0.0**
	comp=Z,0.6nm,0.3s,baz=150,slow=1.8,SNR=6.6						
WRA				pPKP	**pPKPdf**	**01 31 23.5**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=163,slow=2.5,SNR=3.8						
H11S2	**WAKE ISLAND Hyl**	**26.09**	**271**	T	T	03 50 12.3	
	baz=116,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hyl**	**26.11**	**271**	T	T	03 50 07.4	
	baz=116,slow=75,SNR=19						
H11S3	**WAKE ISLAND Hyl**	**26.11**	**271**	T	T	03 50 17.3	
	baz=116,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hyl**	**26.44**	**272**	T	T	03 50 32.1	
	baz=117,slow=76,SNR=16						
H11N1	**WAKE ISLAND Hyl**	**26.45**	**272**	T	T	03 50 32.6	
	baz=117,slow=76,SNR=8.5						
H11N2	**WAKE ISLAND Hyl**	**26.45**	**272**	T	T	03 50 34.3	
	baz=117,slow=76,SNR=15						
ZALV	**Zalesovo Beam**	**151.65**	**30**	PKPbc	**PKiKP**	**01 32 06.2**	**-0.1**
	comp=Z,9.6nm,0.4s,baz=316,slow=2.8,SNR=13						
ZALV	**Zalesovo Beam**	**151.65**	**30**	PKPbc	**PKPbc**	**01 32 05.4**	**-0.5**

*GUC **17** 01:13:32.5±0.7,31.09S×71.64W,h45km±10km,ML4.9*
*IDC **17** 01:13:34.1±5.8,31.15S×71.68W,h40km±49km,mb4.4/5, mb1 4.4/6,mb1mx4.0/28,mbtmp4.6/6,ML4.8/1,Error ellipse: s-maj=41.2km s-min=26.3km az=84.0*
*NEIC **17** 01:13:34.0±1.1,31.09S±0.04×71.62W±0.06,h35km±2km, mb4.8/17,Error ellipse: s-maj=8.6km s-min=6.0km az=82.0*
ISC 17 01:13:33.9±0.7,**31.07S**±0.04×**71.73W**±0.07,**h39**km±2km,
n52,σ1°**03**/**58**,**mb4.8**/13,**1C**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.40**	**12**	Pn	**Pn**	**01 13 42.4**	**-0.7**
CO06				Sg	**Sn**	**01 13 49.1**	**-0.7**
CO03	**El Pedregal**	**0.93**	**76**	*eP*	**Pn**	**01 13 49.6**	**-0.9**
CO03				*iS*	**Sn**	**01 14 02.4**	**-0.3**
CO03	**El Pedregal**	**0.93**	**76**	Pn	**Pn**	**01 13 49.4**	**-1.1**
CO03				Sn	**Sn**	**01 14 02.4**	**-0.3**
GO04	**Tololo Observa**	**1.20**	**42**	*eP*	**Pn**	**01 13 54.7**	**+0.3**
GO04				*eS*	**Sn**	**01 14 11.2**	**+1.6**
GO04				IAML		01 14 13.8	
	comp=E,29μm,0.5s						
GO04	**Tololo Observa**	**1.20**	**42**	Pn	**Pn**	**01 13 54.7**	**+0.3**
GO04				Sn	**Sn**	**01 14 12.1**	**+2.5**
VA01	**Torpederas**	**1.95**	**178**	*eP*	**Pn**	**01 14 04.5**	**0.0**
VA01				*eS*	**Sn**	**01 14 29.4**	**+1.7**
VA01	**Torpederas**	**1.95**	**178**	Pn	**Pn**	**01 14 04.5**	**0.0**
VA03	**San Esteban**	**1.97**	**150**	*eP*	**Pn**	**01 14 04.9**	**0.0**
VA03				*iS*	**Sn**	**01 14 29.6**	**+1.2**
VA03				IAML		01 14 32.4	
	comp=E,19μm,0.4s						
VA03	**San Esteban**	**1.97**	**150**	Pn	**Pn**	**01 14 04.2**	**-0.6**
ROCH	**El Roble**	**2.00**	**162**	⇑*eP*	**Pn**	**01 14 06.2**	**+0.9**
ROCH				*eS*	**Sn**	**01 14 30.1**	**+0.9**
ROCH				IAML		01 14 35.4	
	comp=E,11μm,0.4s						
MT05	**Renca**	**2.47**	**160**	*eP*	**Pn**	**01 14 11.8**	**+0.1**
MT05				*eS*	**Sn**	**01 14 42.2**	**+1.6**
MT05				IAML		01 14 47.2	
	comp=E,11μm,0.2s						
MT05	**Renca**	**2.47**	**160**		**Pn**	**01 14 11.6**	**0.0**
VA05	**Santo Domingo**	**2.59**	**178**	*eS*	**Sn**	**01 14 45.2**	**+1.8**
VA05				IAML		01 15 00.7	
	comp=E,6μm,0.4s						
VA05	**Santo Domingo**	**2.59**	**178**	Pn	**Pn**	**01 14 13.1**	**-0.1**
MT09	**Talagante**	**2.78**	**167**	*eS*	**Sn**	**01 14 50.8**	**+2.5**
MT09				IAML		01 15 00.9	
	comp=N,4μm,0.4s						
MT09	**Talagante**	**2.78**	**167**	Pn	**Pn**	**01 14 15.3**	**-0.6**
MT01	**Popeta**	**2.82**	**172**	*eS*	**Sn**	**01 14 48.4**	**-0.8**
MT01				IAML		01 14 59.9	
	comp=N,3μm,0.6s						
MT01	**Popeta**	**2.82**	**172**	Pn	**Pn**	**01 14 16.4**	**-0.1**
LMEL	**Las Melosas**	**3.06**	**155**	*iS*	**Sn**	**01 14 56.7**	**+1.3**
LMEL				IAML		01 15 03.8	
	comp=N,3μm,0.3s						
H03N1	**Juan Fernandez**	**6.53**	**247**	T	T	01 21 49.2	
	baz=76,slow=72,SNR=25						
H03N3	**Juan Fernandez**	**6.54**	**247**	T	T	01 21 47.1	
	baz=76,slow=72,SNR=24						
H03N2	**Juan Fernandez**	**6.54**	**247**	T	T	01 21 49.9	
	baz=76,slow=72,SNR=29						
LC01	**Cunco**	**7.81**	**181**	Pn	**Pn**	**01 15 24.4**	**-0.6**
LR03	**Panguipulli**	**8.56**	**183**	Pn	**Pn**	**01 15 32.9**	**-2.3**
PLCA	**Paso Flores**	**9.70**	**175**	P	**Pn**	**01 15 49.3**	**-1.6**
	comp=N,2.1nm,0.3s,baz=338,slow=12,SNR=8.0						
PLCA	**Paso Flores**	**9.70**	**175**		**Pn**	**01 15 48.4**	**-2.5**
SNAA	**Sanae**	**54.21**	**159**	P	**P**	**01 22 54.7**	**-0.5**
SNAA	**Sanae**	**54.21**	**159**	P	**P**	**01 22 54.5**	**-0.8**
	comp=N,4.2nm,0.6s,baz=282,slow=10,SNR=6.2						
SNAA	**Sanae**	**54.21**	**159**	P	**P**	**01 22 54.9**	**-0.4**
SNAA				IAmb	IAmb	01 22 55.6	
	comp=Z,6.9nm,0.9s						
QSPA	**South Pole Qui**	**59.16**	**180**	P	**P**	**01 23 30.5**	**-0.2**
	comp=Z,7.6nm,0.8s,baz=125,slow=2.3,SNR=6.9						
QSPA	**South Pole Qui**	**59.16**	**180**	P	**P**	**01 23 30.8**	**+0.2**
QSPA				IAmb	IAmb	01 23 31.3	
	comp=Z,9.6nm,0.9s						
VNDA	**Vanda**	**67.02**	**191**	P	**P**	**01 24 23.4**	**+1.1**
TX31	**Lajitas Ar. Si**	**67.32**	**330**	P	**P**	**01 24 25.5**	**+0.5**
TXAR	**Lajitas Array**	**67.32**	**330**	P	**P**	**01 24 25.9**	**+0.9**
	comp=Z,44nm,0.3s,baz=152,slow=8.4,SNR=5.4						
OXF	**Oxford**	**67.32**	**344**	P	**P**	**01 24 25.3**	**+0.6**
TKL	**Tuckaleechee C**	**67.33**	**349**	P	**P**	**01 24 24.4**	**-0.4**
TKL				IAmb	IAmb	01 24 25.4	
	comp=Z,5.6nm,0.9s						
WVT	**Waverly**	**68.53**	**346**	P	**P**	**01 24 32.7**	**+0.4**
WVT				IAmb	IAmb	01 24 33.2	
	comp=Z,9.0nm,0.9s						
LCAR	**Lake Charles**	**69.23**	**343**	P	**P**	**01 24 37.1**	**+0.5**
LCAR				IAmb	IAmb	01 24 37.5	
	comp=Z,7.7nm,0.8s						
U40A	**Yellville**	**69.93**	**342**	P	**P**	**01 24 39.9**	**-1.1**
U40A				IAmb	IAmb	01 24 42.1	
	comp=Z,7.2nm,0.9s						
MNTX	**Cornudas Mount**	**70.10**	**330**	P	**P**	**01 24 42.2**	**+0.1**
HHAR	**Hobbs**	**70.16**	**341**	P	**P**	**01 24 42.4**	**0.0**
HHAR				IAmb	IAmb	01 24 43.9	
	comp=Z,5.2nm,0.8s						
MSTX	**Muleshoe**	**71.01**	**333**	P	**P**	**01 24 48.2**	**+0.5**
MSTX				IAmb	IAmb	01 24 49.4	
	comp=Z,9.6nm,0.8s						
CCM	**Cathedral Cave**	**71.14**	**344**	P	**P**	**01 24 49.0**	**+0.8**
CCM				IAmb	IAmb	01 24 49.5	
	comp=Z,8.1nm,0.8s						
P40A	**Paris**	**72.73**	**344**	P	**P**	**01 24 58.6**	**+0.8**
LENM	**Lemitar**	**72.90**	**330**	P	**P**	**01 24 59.7**	**+0.5**
DBIC	**Dimbokro**	**74.01**	**72**	P	**P**	**01 25 06.0**	**0.0**
	comp=Z,10nm,0.9s,baz=209,slow=8.3,SNR=4.1						
DBIC	**Dimbokro**	**74.01**	**72**	P	**P**	**01 25 06.1**	**+0.2**

IDC ***17*** *01:16:55.1±1.0,31°.15S×72°.53W,h0km,mb4.5/4, mb1 4.5/5,mb1mx4.1/26,mbtmp4.5/5,ML4.2/1,Error ellipse: s-maj=39.1km s-min=25.3km az=89.0*

ISC 17 01:17:00.7±1.0,31°.15S±0°.1×72°.5W±0°.3,h35km,n9,σ1s38/9, mb4.4/5,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**9.77**	**171**	**Pn**	**Pn**	**01 19 19.6**	**+0.9**
	0.8nm,0.3s,baz=345,slow=10,SNR=1.3						
LPAZ	**La Paz**	**15.26**	**16**	**Pn**	**Pn**	**01 20 34.7**	**+0.5**
	0.4nm,0.3s,baz=193,slow=7.5,SNR=4.8						
BDFB	**Brasilia**	**27.15**	**61**	**P**	**P**	**01 22 39.6**	**-1.4**
	9.0nm,0.8s,baz=232,slow=11,SNR=4.6						
SNAA	**Sanae**	**54.44**	**159**	**P**	**P**	**01 26 23.4**	**-0.7**
	2.6nm,0.6s,baz=277,slow=8.3,SNR=8.0						
TXAR	**Lajitas Array**	**67.00**	**331**	**P**	**P**	**01 27 50.8**	**+0.7**
	0.5nm,0.6s,baz=160,slow=7.7,SNR=5.2						
DBIC	**Dimbokro**	**74.65**	**72**	**P**	**P**	**01 28 38.7**	**+1.8**
	4.6nm,0.7s,baz=232,slow=8.0,SNR=3.6						
MAW	**Mawson**	**76.09**	**164**	**P**	**P**	**01 28 44.0**	**-0.3**
	2.1nm,0.5s,baz=212,slow=7.6,SNR=14						
WRA	**Warramunga Arr**	**123.09**	**210**	**PKP**	**PKPdf**	**01 35 53.3**	**-0.9**
	0.3nm,0.5s,baz=161,slow=2.3,SNR=2.0						
ZALV	**Zalesovo Beam**	**151.92**	**29**	**PKPbc**	**PKPbc**	**01 36 49.7**	**-1.8**
	2.3nm,0.5s,baz=316,slow=3.8,SNR=3.1						

NEIC ***17*** *01:20:29.4±1.8,31°.37S±0°.02×71°.83W±0°.09,h21km±6km, mb4.5/14,Error ellipse: s-maj=11.1km s-min=2.4km az=84.0*

IDC ***17*** *01:20:30.3±7.1,31°.40S×71°.73W,h32km±51km,mb4.3/7, mb1 4.3/9,mb1mx4.1/26,mbtmp4.4/9,ML4.4/2,Error ellipse: s-maj=29.6km s-min=21.2km az=87.0*

ISC 17 01:20:29.9±1.4,31°.40S±0°.03×71°.78W±0°.08,h28km±10km, n42,σ0s97/50,mb4.5/11,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.74**	**10**	Pn	**Pb**	**01 20 43.6**	**-0.6**
CO06				Sn	**Sn**	**01 20 54.6**	**-0.1**
CO03	**El Pedregal**	**1.09**	**59**	Pn	**Pb**	**01 20 50.7**	**+0.5**
CO03				Sn	**Sb**	**01 21 04.2**	**+0.1**
GO04	**Tololo Observa**	**1.49**	**35**	Pn	**Pn**	**01 20 54.2**	**-0.8**
VA01	**Torpederas**	**1.62**	**176**		**Pb**	**01 20 58.8**	**-0.3**
VA01				Sn	**Sb**	**01 21 18.4**	**-0.7**
VA03	**San Esteban**	**1.71**	**143**		**Pb**	**01 20 59.1**	**+1.1**
VA03				Sn	**Sb**	**01 21 21.5**	**-0.4**
MT05	**Renca**	**2.17**	**156**	Pn	**Pn**	**01 21 04.3**	**+0.1**
MT05				Sn	**Sn**	**01 21 31.3**	**+1.1**
VA05	**Santo Domingo**	**2.25**	**177**		**Pn**	**01 21 06.0**	**+0.7**
VA05				Sn	**Sn**	**01 21 32.5**	**+0.4**
MT09	**Talagante**	**2.46**	**164**	Pn	**Pn**	**01 21 08.7**	**+0.5**
MT09					**Sn**	**01 21 37.5**	**+0.1**
MT01	**Popeta**	**2.49**	**170**	Pn	**Pn**	**01 21 09.0**	**+0.4**
AC04	**Llanos de Chal**	**3.25**	**11**	Pn	**Pn**	**01 21 21.1**	**+2.1**
AC04					**Sn**	**01 21 56.2**	**-0.5**
BO02	**Sierra Bellavi**	**3.48**	**166**	Pn	**Pn**	**01 21 25.1**	**+2.8**
PLCA	**Paso Flores**	**9.36**	**174**	Pn	**Pn**	**01 22 42.4**	**-0.6**
	1.5nm,0.3s,baz=336,slow=12,SNR=11						
PLCA	**Paso Flores**	**9.36**	**174**	Pn	**Pn**	**01 22 42.5**	**-0.5**
LPAZ	**La Paz**	**15.41**	**13**	Pn	**Pn**	**01 24 05.8**	**-0.2**
SIV	**San Ignacio**	**18.19**	**35**	P	**Pn**	**01 24 40.1**	**-0.3**
	0.5nm,0.3s,baz=232,slow=7.1,SNR=3.6						
SAML	**Samuel**	**23.73**	**22**	P	**P**	**01 25 39.1**	**-0.6**
SAML				IAmb	IAmb	01 25 40.8	
	comp=Z,5.9nm,0.8s						
BDFB	**Brasilia**	**26.76**	**60**	P	**P**	**01 26 06.2**	**-1.3**
	comp=Z,10.0nm,0.8s,baz=161,slow=15,SNR=3.2						
PRAC	**Prado**	**35.05**	**355**	*eP*	**P**	**01 27 22.4**	**+1.9**
CHIC	**Chingaza**	**35.88**	**357**	*eP*	**P**	**01 27 28.9**	**+0.9**
RUSC	**La Rusia**	**37.11**	**358**	P	**P**	**01 27 39.6**	**+1.0**
CBOC	**Ciudad Bolivar**	**37.28**	**353**	*eP*	**P**	**01 27 39.4**	**-0.3**
PTBC	**PUERTO BERRIO,**	**37.81**	**356**	*eP*	**P**	**01 27 43.1**	**-0.9**
DBBC	**Dabeiba**	**38.44**	**353**	*eP*	**P**	**01 27 51.6**	**+2.3**
SMLC	**San Martn de**	**40.03**	**356**	*eP*	**P**	**01 28 01.2**	**-1.4**
SJCC	**San Jacinto, C**	**41.19**	**355**	P	**P**	**01 28 13.2**	**+1.0**
SJCC				IAmb	IAmb	01 28 13.3	
	comp=Z,7.8nm,1.0s						
SJCC	**San Jacinto, C**	**41.19**	**355**	*eP*	**P**	**01 28 11.1**	**-1.1**
SNAA	**Sanae**	**53.91**	**159**	P	**P**	**01 29 50.4**	**0.0**
	comp=Z,5.5nm,0.9s,baz=274,slow=5.3,SNR=7.8						
SNAA	**Sanae**	**53.91**	**159**	P	**P**	**01 29 50.5**	**+0.1**
SNAA				IAmb	IAmb	01 29 51.4	
	comp=Z,8.6nm,1.1s						
QSPA	**South Pole Qui**	**58.83**	**180**	P	**P**	**01 30 26.0**	**+0.4**
TXAR	**Lajitas Array**	**67.59**	**330**	P	**P**	**01 31 24.2**	**+0.2**
	comp=Z,71nm,0.4s,baz=148,slow=8.6,SNR=6.1						
DBIC	**Dimbokro**	**74.15**	**72**	P	**P**	**01 32 04.1**	**-0.1**
	comp=Z,5.1nm,0.5s,baz=243,slow=5.2,SNR=8.7						
MAW	**Mawson**	**75.60**	**164**	P	**P**	**01 32 11.6**	**0.0**
	comp=Z,2.4nm,0.8s,baz=217,slow=6.7,SNR=4.9						
MAW	**Mawson**	**75.60**	**164**	P	**P**	**01 32 11.9**	**+0.2**
BOSA	**Boshof**	**81.09**	**118**	P	**P**	**01 32 43.2**	**+0.3**
	comp=Z,4.2nm,0.9s,baz=168,slow=10,SNR=3.8						
NVAR	**Mina Array Bea**	**81.89**	**325**	P	**P**	**01 32 47.2**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=148,slow=4.8,SNR=5.2						
CASY	**Casey**	**82.61**	**181**	P	**P**	**01 32 50.8**	**+0.7**
CASY				IAmb	IAmb	01 32 51.5	
	comp=Z,11nm,0.9s						
TORD	**Torodi Ar. Bea**	**83.12**	**70**	P	**P**	**01 32 53.3**	**-0.2**
	comp=Z,7.6nm,0.7s,baz=264,slow=4.8,SNR=16						
TORD	**Torodi Ar. Bea**	**83.12**	**70**	P	**P**	**01 32 53.5**	**0.0**
TORD				IAmb	IAmb	01 32 54.2	
	comp=Z,7.8nm,0.8s						
AKASG	**Malin Array Be**	**120.26**	**46**	PKP	**PKPdf**	**01 39 16.2**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=266,slow=2.7,SNR=5.2						
WRA	**Warramunga Arr**	**123.13**	**210**	PKP	**PKPdf**	**01 39 23.0**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=151,slow=1.9,SNR=4.9						
ZALV	**Zalesovo Beam**	**151.90**	**30**	PKPbc	**PKPbc**	**01 40 21.4**	**-0.2**
	comp=Z,15nm,0.6s,baz=301,slow=3.1,SNR=20						
MKAR	**Makanchi Array**	**154.84**	**45**	PKPbc	**PKPbc**	**01 40 27.7**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=328,slow=1.3,SNR=7.2						

IDC ***17*** *01:20:56.2±2.8,6°.91S×130°.59E,h55km±38km,mb3.7/1, mb1 4.2/5,mb1mx3.6/32,mbtmp4.2/5,ML4.1/4,Error ellipse: s-maj=72.9km s-min=24.2km az=91.0*

ISC 17 01:20:53.5±1.0,6°.92S±0°.06×130°.7E±0°.2,h35km,n5, σ4s28/8,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.04**	**6**	P	**Pn**	**01 22 22.6**	**+2.1**
	5.7nm,0.3s,baz=180,slow=20,SNR=15						
SIJI				S	**Sn**	**01 23 23.3**	**-5.2**
	12nm,0.3s,baz=70,slow=23,SNR=9.6						
FITZ	**Fitzroy Crossi**	**12.14**	**203**	P	**Pn**	**01 23 45.8**	**+1.7**
	1.7nm,0.3s,baz=34,slow=13,SNR=58						
FITZ				S	**Sn**	**01 25 53.7**	**-4.7**
	1.3nm,0.3s,baz=185,slow=14,SNR=5.5						
WRA	**Warramunga Arr**	**13.42**	**165**	P	**Pn**	**01 24 03.2**	**+1.6**
	0.5nm,0.3s,baz=347,slow=13,SNR=16						
WRA				S	**Sn**	**01 26 25.0**	**-4.7**
	1.7nm,0.3s,baz=346,slow=25,SNR=11						
ASAR	**Alice Springs**	**16.93**	**170**	P	**Pn**	**01 24 51.3**	**+3.4**
	0.6nm,0.3s,baz=347,slow=9.9,SNR=46						
MKAR	**Makanchi Array**	**68.53**	**326**	P	**P**	**01 31 52.8**	**+0.3**
	0.7nm,0.4s,baz=121,slow=6.1,SNR=5.4						

NEIC ***17*** *01:21:12.9±1.1,31°.04S±0°.06×71°.75W±0°.08,h24km±5km, mb4.6/38,Error ellipse: s-maj=10.7km s-min=7.3km az=125.0*

IDC ***17*** *01:21:15.9±3.4,30°.99S×71°.67W,h43km±31km,mb4.1/8, mb1 4.3/12,mb1mx4.1/30,mbtmp4.4/12,ML4.4/4,Error ellipse: s-maj=28.2km s-min=18.3km az=78.0*

ISC 17 01:21:14.3±0.6,30°.98S±0°.06×71°.77W±0°.09,h35km,n57, σ0s98/59,mb4.6/20,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.33**	**21**	Pg	**Pn**	**01 21 20.9**	**-1.7**
CO06				Sg	**Sn**	**01 21 26.1**	**-2.2**
CO03	**El Pedregal**	**0.94**	**82**	Pn	**Pn**	**01 21 30.9**	**-0.2**
CO03				Sn	**Sn**	**01 21 43.1**	**-0.4**
ZON	**Zonda**	**2.71**	**103**		**Pn**	**01 21 54.4**	**-1.0**
BO02	**Sierra Bellavi**	**3.89**	**168**	Pn	**Pn**	**01 22 11.3**	**-0.4**
GO05	**Huala**	**4.02**	**182**	Pn	**Pn**	**01 22 10.2**	**-3.2**
AC02	**Maricunga**	**4.74**	**30**		**Pn**	**01 22 24.4**	**+0.7**
ML02	**Panimavida**	**4.78**	**177**	Pn	**Pn**	**01 22 22.6**	**-1.2**
PLCA	**Paso Flores**	**9.78**	**175**	P	**Pn**	**01 23 32.8**	**+0.2**
	0.9nm,0.3s,baz=335,slow=12,SNR=2.8						
PLCA	**Paso Flores**	**9.78**	**175**		**Pn**	**01 23 31.5**	**-1.1**
LPAZ	**La Paz**	**15.00**	**14**	P	**Pn**	**01 24 45.8**	**+1.4**
	0.6nm,0.3s,baz=182,slow=8.4,SNR=9.6						
LPAZ	**La Paz**	**15.00**	**14**	Pn	**Pn**	**01 24 43.8**	**-0.5**
LPAZ				IAmb	IAmb	01 24 49.3	
	comp=Z,14nm,0.8s						
SIV	**San Ignacio**	**17.84**	**36**	P	**P**	**01 25 19.9**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=240,slow=11,SNR=6.0						
NNA	**Nana**	**19.48**	**345**	P	**Pn**	**01 25 41.2**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=170,slow=10.0,SNR=3.7						
NNA	**Nana**	**19.48**	**345**	P	**Pn**	**01 25 38.9**	**-0.8**
SAML	**Samuel**	**23.34**	**22**	P	**P**	**01 26 19.7**	**+0.2**
BDFB	**Brasilia**	**26.55**	**60**	P	**P**	**01 26 48.2**	**-1.0**
	comp=Z,9.0nm,0.8s,baz=232,slow=8.2,SNR=4.4						
BDFB	**Brasilia**	**26.55**	**60**	P	**P**	**01 26 48.4**	**-0.8**
BDFB				IAmb	IAmb	01 26 56.4	
	comp=Z,37nm,1.3s						
SNAA	**Sanae**	**54.30**	**159**	P	**P**	**01 30 37.7**	**+0.9**
	comp=Z,3.4nm,0.7s,baz=272,slow=11,SNR=4.5						
SNAA	**Sanae**	**54.30**	**159**	P	**P**	**01 30 35.2**	**-1.5**
SNAA				IAmb	IAmb	01 30 37.8	
	comp=Z,11nm,1.5s						
QSPA	**South Pole Qui**	**59.25**	**180**	P	**P**	**01 31 12.1**	**+0.1**
QSPA				IAmb	IAmb	01 31 14.0	
	comp=Z,4.5nm,0.8s						
X48A	**Hartselle**	**66.66**	**346**	P	**P**	**01 32 01.9**	**+0.5**
X48A				IAmb	IAmb	01 32 02.6	
	comp=Z,5.9nm,0.8s						
TXAR	**Lajitas Array**	**67.23**	**330**	P	**P**	**01 32 06.2**	**+1.0**
	comp=Z,40nm,0.3s,baz=148,slow=8.6,SNR=4.6						
MIAR	**Mount Ida**	**68.34**	**341**		**P**	**01 32 13.3**	**+1.3**
LCAR	**Lake Charles**	**69.14**	**343**	P	**P**	**01 32 17.3**	**+0.4**
LCAR				IAmb	IAmb	01 32 17.9	
	comp=Z,5.7nm,0.8s						
CCM	**Cathedral Cave**	**71.05**	**344**		**P**	**01 32 29.2**	**+0.6**
ACSO	**Alum Creek Sta**	**71.61**	**351**	P	**P**	**01 32 32.4**	**+0.4**
N49A	**Columbus Grove**	**72.46**	**350**	P	**P**	**01 32 37.3**	**+0.3**
P40A	**Paris**	**72.64**	**344**	P	**P**	**01 32 39.0**	**+0.9**
DBIC	**Dimbokro**	**74.02**	**72**	P	**P**	**01 32 47.4**	**+0.6**
	comp=Z,4.4nm,0.6s,baz=231,slow=4.2,SNR=4.7						
DBIC	**Dimbokro**	**74.02**	**72**	P	**P**	**01 32 46.7**	**-0.1**
DBIC				IAmb	IAmb	01 32 49.0	
	comp=Z,10nm,1.1s						
T25A	**Trinidad**	**74.33**	**333**	P	**P**	**01 32 49.1**	**+0.7**
T25A				IAmb	IAmb	01 32 53.0	
	comp=Z,7.1nm,0.9s						
L40A	**Anamosa**	**74.86**	**345**	P	**P**	**01 32 52.0**	**+0.9**
MAW	**Mawson**	**76.00**	**164**	P	**P**	**01 32 58.4**	**+1.0**
	comp=Z,2.0nm,0.7s,baz=274,slow=5.4,SNR=4.4						
MAW	**Mawson**	**76.00**	**164**	P	**P**	**01 32 58.7**	**+1.3**
ECSD	**EROS Data Cent**	**77.75**	**342**		**P**	**01 33 07.9**	**+0.4**
ECSD				IAmb	IAmb	01 33 08.9	
	comp=Z,7.4nm,0.9s						
P17A	**Butcher Ranch,**	**78.90**	**330**	P	**P**	**01 33 14.6**	**+0.4**
P17A				IAmb	IAmb	01 33 16.4	
	comp=Z,13nm,1.4s						
PRN	**Pahroc Range**	**79.16**	**326**	P	**P**	**01 33 15.8**	**+0.2**
PRN				IAmb	IAmb	01 33 18.7	
	comp=Z,5.6nm,1.0s						
K22A	**Casper**	**79.93**	**335**	P	**P**	**01 33 19.7**	**0.0**
K22A				IAmb	IAmb	01 33 22.1	
	comp=Z,5.7nm,1.0s						
SPR3	**Spring Creek 3**	**80.10**	**328**	P	**P**	**01 33 20.0**	**-0.9**
SPR3				IAmb	IAmb	01 33 23.9	
	comp=Z,7.5nm,1.4s						
JLU	**Jordanelle**	**80.14**	**330**	P	**P**	**01 33 20.9**	**-0.1**
R11A	**Troy Canyon, C**	**80.17**	**326**	P	**P**	**01 33 21.7**	**+0.6**
DUG	**Dugway, Tooele**	**80.39**	**329**	P	**P**	**01 33 22.2**	**0.0**
TCUT	**Toone Canyon**	**80.55**	**331**	P	**P**	**01 33 23.5**	**+0.3**
TCUT				IAmb	IAmb	01 33 27.2	
	comp=Z,4.0nm,0.7s						
HWUT	**Hardware Ranch**	**81.02**	**331**	P	**P**	**01 33 24.7**	**-0.9**
HWUT				IAmb	IAmb	01 33 28.3	
	comp=Z,4.5nm,0.7s						
PDAR	**Pinedale Array**	**81.18**	**333**	P	**P**	**01 33 27.4**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=122,slow=4.5,SNR=2.3						
NVAR	**Mina Array Bea**	**81.55**	**325**	P	**P**	**01 33 29.9**	**+1.4**
	comp=Z,1.2nm,0.8s,baz=151,slow=7.4,SNR=7.6						
NVAR	**Mina Array Bea**	**81.55**	**325**	P	**P**	**01 33 28.1**	**-0.3**
HVU	**Hansel Valley**	**81.68**	**330**	P	**P**	**01 33 28.6**	**-0.4**
HVU				IAmb	IAmb	01 33 31.6	
	comp=Z,2.9nm,0.7s						
ELK	**Elko**	**81.92**	**328**	P	**P**	**01 33 29.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**82.97**	**70**	P	**P**	**01 33 37.6**	**+1.4**
	comp=Z,2.7nm,0.8s,baz=252,slow=4.7,SNR=4.1						
TORD	**Torodi Ar. Bea**	**82.97**	**70**	P	**P**	**01 33 35.3**	**-0.9**
ULM	**Lac du Bonnet**	**83.65**	**345**	P	**P**	**01 33 39.0**	**+0.1**
	comp=Z,3.7nm,0.7s,baz=130,slow=6.6,SNR=3.4						
ULM	**Lac du Bonnet**	**83.65**	**345**	P	**P**	**01 33 39.9**	**+1.1**
HLID	**Hailey**	**83.83**	**330**	P	**P**	**01 33 40.2**	**0.0**
ASAR	**Alice Springs**	**120.35**	**207**	PKP	**PKiKP**	**01 40 02.1**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=151,slow=2.1,SNR=3.0						
WRA	**Warramunga Arr**	**123.49**	**210**	PKP	**PKiKP**	**01 40 08.2**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=168,slow=2.1,SNR=5.6						
ZALV	**Zalesovo Beam**	**151.53**	**30**	PKPbc	**PKiKP**	**01 41 03.5**	**-1.2**
	comp=Z,4.5nm,0.7s,baz=298,slow=2.2,SNR=2.1						

IDC ***17*** *01:21:46.3±0.6,31°.70S×71°.90W,h0km,mb4.9/13, mb1 4.9/16,mb1mx4.7/29,mbtmp4.9/16,ML4.5/3,Error ellipse: s-maj=25.1km s-min=15.4km az=83.0*

NEIC ***17*** *01:21:48.7±2.0,31°.67S±0°.04×71°.9W±0°.1,h10km±1km, mb5.0/93,Mwr5.2(GUC),Error ellipse: s-maj=14.7km s-min=6.9km az=274.0*

GUC ***17*** *01:21:50.0±0.8,31°.73S×71°.68W,h9km±6km,ML5.1*

VAO ***17*** *01:21:53.5±0.3,31°.37S×71°.71W,h24km,mb5.1*

ISC 17 01:21:50.3±1.3,31°.71S±0°.03×71°.95W±0°.06,h27km±9km, n284,σ1s21/284,mb5.0/57,3C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**1.07**	**15**	Pn	**Pb**	**01 22 10.4**	**+0.3**
VA01	**Torpederas**	**1.33**	**169**	*eP*	**Pb**	**01 22 14.5**	**-0.2**
VA01				*eS*	**Sb**	**01 22 32.7**	**+1.4**
VA01	**Torpederas**	**1.33**	**169**	Pn	**Pn**	**01 22 12.1**	**-1.0**
CO03	**El Pedregal**	**1.39**	**52**	*eP*	**Pn**	**01 22 13.9**	**-0.1**
CO03				*i* S	**Sn**	**01 22 31.7**	**+0.2**
CO03				IAML		01 22 58.5	
	comp=E,68μm,0.4s						
CO03	**El Pedregal**	**1.39**	**52**	Pn	**Pn**	**01 22 14.1**	**+0.1**
ROCH	**El Roble**	**1.49**	**148**	*eP*	**Pn**	**01 22 15.8**	**+0.3**
ROCH				*i* S	**Sn**	**01 22 34.6**	**+0.4**
ROCH				IAML		01 22 38.8	
	comp=N,48μm,0.4s						
VA03	**San Esteban**	**1.58**	**132**	*eP*	**Pn**	**01 22 16.4**	**-0.4**
VA03				*eS*	**Sb**	**01 22 37.7**	**-0.9**
VA03				IAML		01 22 42.9	
	comp=N,45μm,0.4s						
VA03	**San Esteban**	**1.58**	**132**	Pn	**Pn**	**01 22 16.8**	**0.0**
GO04	**Tololo Observa**	**1.82**	**33**	*eP*	**Pb**	**01 22 22.2**	**-0.9**
GO04				*eS*	**Sb**	**01 22 46.9**	**+1.3**
VA05	**Santo Domingo**	**1.96**	**172**	*eP*	**Pb**	**01 22 24.7**	**-0.6**
VA05				*eS*	**Sb**	**01 22 51.5**	**+2.1**
VA05				IAML		01 22 56.0	
	comp=N,32μm,0.4s						
VA05	**Santo Domingo**	**1.96**	**172**	Pn	**Pn**	**01 22 23.9**	**+2.1**
MT05	**Renca**	**1.96**	**149**	*eP*	**Pn**	**01 22 23.5**	**+1.6**
MT05				*eS*	**Sb**	**01 22 49.1**	**-0.4**
MT05				IAML		01 22 55.3	
	comp=E,26μm,0.3s						
MT05	**Renca**	**1.96**	**149**	Pn	**Pn**	**01 22 22.2**	**+0.3**
FSR	**Penalolen**	**2.13**	**146**	*eP*	**Pb**	**01 22 27.2**	**-1.0**
FSR				*eS*	**Sb**	**01 22 55.1**	**+0.8**
MT09	**Talagante**	**2.21**	**159**	*eP*	**Pb**	**01 22 28.6**	**-1.1**
MT09				IAML		01 23 03.0	
	comp=N,14μm,0.4s						
MT01	**Popeta**	**2.23**	**165**	*eP*	**Pb**	**01 22 28.7**	**-1.2**
MT01				*eS*	**Sb**	**01 22 56.4**	**-0.6**
MT01	**Popeta**	**2.23**	**165**	Pn	**Pn**	**01 22 25.7**	**+0.2**
LMEL	**Las Melosas**	**2.59**	**146**	*eP*	**Pn**	**01 22 33.3**	**+2.7**
ZON	**Zonda**	**2.79**	**87**	Pn	**Pn**	**01 22 30.2**	**-3.1**
AC04	**Llanos de Chal**	**3.58**	**12**	*eP*	**Pn**	**01 22 40.0**	**-4.0**
AC04	**Llanos de Chal**	**3.58**	**12**	Pn	**Pn**	**01 22 39.8**	**-4.3**
GO03	**Copiap**	**4.37**	**20**	Pn	**Pn**	**01 22 56.0**	**+1.1**
AC02	**Maricunga**	**5.45**	**28**	Pn	**Pn**	**01 23 09.7**	**-0.5**
H03N1	**Juan Fernandez**	**6.12**	**252**	T	T	01 29 35.6	
	baz=72,slow=72,SNR=62						
H03N3	**Juan Fernandez**	**6.14**	**252**	T	T	01 29 36.0	
	baz=72,slow=72,SNR=104						
H03N2	**Juan Fernandez**	**6.14**	**252**	T	T	01 30 03.3	
	baz=72,slow=72,SNR=112						
PLCA	**Paso Flores**	**9.07**	**173**	Pn	**Pn**	**01 23 59.3**	**-0.3**
	comp=N,1.3nm,0.3s,baz=342,slow=12,SNR=5.3						
LVC	**Limon Verde**	**9.46**	**17**	Pn	**Pn**	**01 24 03.3**	**-1.9**
	comp=N,4.0nm,0.3s,baz=205,slow=18,SNR=1.4						
LVC	**Limon Verde**	**9.46**	**17**		**Pn**	**01 24 03.7**	**-1.5**
LVC	**Limon Verde**	**9.46**	**17**	*eP*	**Pn**	**01 24 04.4**	**-0.8**
TRQA	**Tornquist**	**10.35**	**130**	*eP*	**Pn**	**01 24 21.0**	**+4.1**
ITQB	**Itaqui**	**13.35**	**85**	*eP*	**Pn**	**01 24 59.1**	**+1.2**
PLTB	**Pedras Altas**	**15.61**	**95**	*eP*	**P**	**01 25 30.9**	**-1.7**
LPAZ	**La Paz**	**15.74**	**14**	Pn	**Pn**	**01 25 27.9**	**-3.0**
	comp=N,0.9nm,0.3s,baz=250,slow=9.9,SNR=2.1						
LPAZ	**La Paz**	**15.74**	**14**	Pn	**Pn**	**01 25 30.4**	**-0.5**
CPSB	**Cacapava Do Su**	**15.92**	**90**	*eP*	**P**	**01 25 34.5**	**-1.4**
CNLB	**Canela**	**18.33**	**88**	*eP*	**Pn**	**01 26 03.6**	**+0.9**
AQDB	**Aquidauana**	**18.36**	**56**	*eP*	**Pn**	**01 26 03.6**	**+0.5**
PTGB	**Pitanga**	**18.84**	**73**	*eP*	**Pn**	**01 26 09.4**	**+0.4**
TRCB	**Terra Rica**	**19.31**	**67**	*eP*	**Pn**	**01 26 14.8**	**+0.2**
PTLB	**Pontes e Lacer**	**19.97**	**39**	*eP*	**P**	**01 26 20.6**	**+0.1**
TER01	**Tubaro-SC**	**19.99**	**87**	*eP*	**Pn**	**01 26 22.7**	**+0.1**
NNA	**Nana**	**20.14**	**346**	P	Pn	01 26 25.0	+0.5
	comp=N,12nm,0.8s,baz=228,slow=6.3,SNR=3.9						
PP1B	**Ponte de Pedra**	**20.89**	**52**	*eP*	**P**	**01 26 30.3**	**-0.2**
PCMB	**Pacaembu**	**21.02**	**66**	*eP*	**P**	**01 26 33.0**	**+1.0**
TIJ01	**Guaruva-PR**	**21.12**	**78**	*eP*	**P**	**01 26 34.8**	**+1.6**
FRTB	**Fartura**	**21.50**	**73**	*eP*	**P**	**01 26 38.8**	**+1.6**
VILB	**Vilhena**	**21.57**	**33**	*eP*	**P**	**01 26 38.2**	**+0.2**
SALV	**Santo Antonio**	**21.61**	**47**	*eP*	**P**	**01 26 37.1**	**-1.2**
ETMB	**Extrema**	**22.43**	**15**	*eP*	**P**	**01 26 48.0**	**+0.9**
ITRB	**Iturama**	**22.79**	**64**	*eP*	**P**	**01 26 51.7**	**+0.8**
PET01	**Itanhaem-SP**	**22.97**	**77**	*eP*	**P**	**01 26 52.6**	**-0.3**
BB19B	**Bebedouro**	**23.46**	**69**	*eP*	**P**	**01 26 56.8**	**-1.0**
RCLB	**Rio Claro- Sao**	**23.59**	**73**	*eP*	**P**	**01 26 58.5**	**-0.5**
CZSB	**Cruzeiro do Su**	**23.87**	**358**	*eP*	**P**	**01 27 01.3**	**-0.3**
SAML	**Samuel**	**24.07**	**22**	P	**P**	**01 27 03.8**	**+0.3**
SAML				IAmb	IAmb	01 27 13.1	
	comp=Z,70nm,1.2s						
PARB	**Paraibuna**	**24.75**	**77**	*eP*	**P**	**01 27 10.9**	**+1.2**
IPMB	**Ipameri, GO**	**25.44**	**63**	*eP*	**P**	**01 27 16.4**	**+0.3**
CLDB	**Colider**	**25.55**	**39**	*eP*	**P**	**01 27 17.1**	**+0.1**
BSCB	**Bom Sucesso**	**26.52**	**73**	*eP*	**P**	**01 27 25.7**	**-0.2**
VASO1	**Vassouras-RJ**	**27.02**	**77**	*eP*	**P**	**01 27 30.3**	**0.0**
BDFB	**Brasilia**	**27.04**	**59**	P	**P**	**01 27 30.2**	**-0.4**
	comp=Z,42nm,0.9s,baz=241,slow=8.3,SNR=7.9						
BDFB	**Brasilia**	**27.04**	**59**	P	**P**	**01 27 29.4**	**-1.3**
SNDB	**Serra Nova Dou**	**27.35**	**49**	*eP*	**P**	**01 27 33.5**	**+0.2**
TBTG	**Tabatinga, AM**	**27.45**	**4**	*eP*	**P**	**01 27 35.5**	**+1.4**
DUB01	**Friburgo-RJ**	**27.99**	**77**	*eP*	**P**	**01 27 39.4**	**+0.3**
CAM01	**Campos-RJ**	**28.70**	**77**	*eP*	**P**	**01 27 45.0**	**-0.3**
DIAM	**Diamantina, MG**	**28.80**	**69**	*eP*	**P**	**01 27 46.4**	**0.0**
NPGB	**Nov

HSIG		**70.87**	**324**	P	**P**	**01 33 03.6**	**-1.3**
P60A	**Greenville**	**71.24**	**357**	P	**P**	**01 33 08.1**	**+1.3**
	baz=177						
FVM	**French Village**	**71.45**	**345**	P	**P**	**01 33 08.3**	**+0.1**
FVM				IAmb	IAmb	01 33 09.3	
	comp=Z,12nm,1.1s						
MVL	**Millersville**	**71.47**	**356**	P	**P**	**01 33 08.1**	**-0.1**
MVL				IAmb	IAmb	01 33 10.4	
	comp=Z,15nm,1.2s						
MSTX	**Muleshoe**	**71.50**	**333**	P	**P**	**01 33 08.6**	**-0.1**
MSTX	**Muleshoe**	**71.50**	**333**	P	**P**	**01 33 09.3**	**+0.6**
	baz=153						
CCM	**Cathedral Cave**	**71.70**	**344**	P	**P**	**01 33 08.9**	**-0.8**
CCM				IAmb	IAmb	01 33 10.8	
	comp=Z,11nm,0.9s						
CCM	**Cathedral Cave**	**71.70**	**344**	P	**P**	**01 33 10.4**	**+0.7**
	baz=163						
R40A	**Maddies Statio**	**72.17**	**343**	P	**P**	**01 33 12.6**	**+0.2**
R40A				IAmb	IAmb	01 33 13.5	
	comp=Z,14nm,0.7s						
121A	**Cookes Peak, D**	**72.32**	**329**	P	**P**	**01 33 14.2**	**+0.5**
121A				IAmb	IAmb	01 33 16.2	
	comp=Z,12nm,0.9s						
121A	**Cookes Peak, D**	**72.32**	**329**	P	**P**	**01 33 15.6**	**+1.9**
	baz=149						
N59A	**State Game Lan**	**72.35**	**357**	P	**P**	**01 33 15.5**	**+2.0**
	baz=177						
M64A	**Tiverton**	**72.90**	**1**	P	**P**	**01 33 17.7**	**+1.0**
	baz=181						
L63A	**North Scituate**	**73.21**	**0**	P	**P**	**01 33 18.6**	**+0.1**
L63A				IAmb	IAmb	01 33 20.7	
	comp=Z,20nm,0.8s						
L63A	**North Scituate**	**73.21**	**0**	P	**P**	**01 33 20.2**	**+1.6**
	baz=180						
L64A	**Middleborough**	**73.29**	**1**	P	**P**	**01 33 20.3**	**+1.3**
	baz=181						
P40A	**Paris**	**73.30**	**344**	P	**P**	**01 33 18.6**	**-0.5**
P40A				IAmb	IAmb	01 33 20.3	
	comp=Z,19nm,0.9s						
LENM	**Lemitar**	**73.36**	**330**	P	**P**	**01 33 21.3**	**+1.4**
TUC	**Tucson**	**73.50**	**326**	P	**P**	**01 33 21.5**	**+0.9**
	baz=146						
L59A	**Walton**	**73.59**	**358**	P	**P**	**01 33 21.6**	**+0.7**
L59A				IAmb	IAmb	01 33 22.3	
	comp=Z,22nm,1.1s						
P38A	**Dawn**	**73.75**	**343**		**P**	**01 33 21.3**	**-0.5**
L61B	**Northampton**	**73.80**	**359**	P	**P**	**01 33 23.5**	**+1.5**
	baz=179						
ANMO	**Albuquerque**	**73.82**	**331**	P	**P**	**01 33 23.1**	**+0.5**
ANMO	**Albuquerque**	**73.82**	**331**	P	**P**	**01 33 24.1**	**+1.5**
	baz=150						
HRV	**Adam Dziewonsk**	**73.85**	**0**	P	**P**	**01 33 23.9**	**+1.6**
	baz=180						
LIC	**Lamto**	**73.99**	**72**	*e*P	**P**	**01 33 23.7**	**-0.1**
	comp=Z,80nm,1.2s						
LIC	**Lamto**	**73.99**	**72**	*e*P	**P**	**01 33 23.7**	**-0.1**
	comp=Z,80nm,1.2s						
K62A	**Royalston**	**74.01**	**360**	P	**P**	**01 33 25.1**	**+1.9**
	baz=180						
TIC	**Toumodi**	**74.24**	**72**	*e*P	**P**	**01 33 25.2**	**-0.1**
TIC	**Toumodi**	**74.24**	**72**	*e*P	**P**	**01 33 25.2**	**-0.1**
KIC	**Kosan Boka**	**74.30**	**72**	*e*P	**P**	**01 33 25.6**	**-0.1**
	comp=Z,44nm,0.7s						
KIC	**Kosan Boka**	**74.30**	**72**	*e*P	**P**	**01 33 25.6**	**-0.1**
	comp=Z,69nm,0.9s						
DBIC	**Dimbokro**	**74.39**	**72**	P	**P**	**01 33 26.3**	**+0.2**
	comp=Z,19nm,0.7s,baz=232,slow=6.1,SNR=11						
DBIC	**Dimbokro**	**74.39**	**72**	P	**P**	**01 33 25.8**	**-0.3**
J61A	**Chester**	**74.69**	**360**	P	**P**	**01 33 29.0**	**+1.8**
	baz=180						
ACCN	**Adirondack Com**	**74.75**	**359**	P	**P**	**01 33 28.0**	**+0.5**
ACCN				IAmb	IAmb	01 33 29.5	
	comp=Z,13nm,1.1s						
J59A	**Piesco**	**74.85**	**358**	P	**P**	**01 33 27.9**	**-0.2**
J59A				IAmb	IAmb	01 33 30.2	
	comp=Z,11nm,1.1s						
T25A	**Trinidad**	**74.92**	**334**	P	**P**	**01 33 30.8**	**+1.9**
	baz=152						
I60A	**Shoreham**	**75.20**	**359**	P	**P**	**01 33 31.5**	**+1.4**
	baz=179						
I62A	**Tamworth**	**75.22**	**0**	P	**P**	**01 33 32.3**	**+2.1**
	baz=181						
MAW	**Mawson**	**75.35**	**164**	P	**P**	**01 33 31.5**	**+0.6**
	comp=Z,6.4nm,0.9s,baz=328,slow=7.5,SNR=6.6						
I63A	**Otisfield**	**75.41**	**1**	P	**P**	**01 33 32.8**	**+1.5**
I63A	**Otisfield**	**75.41**	**1**	P	**P**	**01 33 33.2**	**+1.9**
	baz=181						
PECO	**Prince Edward**	**75.42**	**356**	P	**P**	**01 33 31.4**	**0.0**
X16A	**Lo Mia Camp, P**	**75.56**	**327**	P	**P**	**01 33 33.0**	**+0.3**
LBNH	**Lisbon**	**75.59**	**0**	P	**P**	**01 33 34.3**	**+2.0**
	baz=180						
SDCO	**Great Sand Dun**	**75.86**	**333**	P	**P**	**01 33 35.8**	**+1.3**
	baz=151						
LONY	**Lake Ozonia**	**76.00**	**358**	P	**P**	**01 34 3.3**	**-0.4**
LONY				IAmb	IAmb	01 33 36.3	
	comp=Z,12nm,1.1s						
LONY	**Lake Ozonia**	**76.00**	**358**	P	**P**	**01 33 34.9**	**+0.2**
	baz=178						
FRNY	**Flat Rock**	**76.19**	**359**	P	**P**	**01 33 36.3**	**+0.6**
FRNY				IAmb	IAmb	01 33 38.0	
	comp=Z,12nm,0.9s						
WUAZ	**Wupatki**	**76.43**	**328**	P	**P**	**01 33 39.7**	**+2.1**
	baz=146						
SWSC	**Sam W. Stewart**	**76.48**	**323**	P	**P**	**01 33 39.6**	**+1.9**
	baz=143						
MVCO	**Mesa Verde**	**76.61**	**331**		**P**	**01 33 39.3**	**+0.7**
MVCO	**Mesa Verde**	**76.61**	**331**	P	**P**	**01 33 39.7**	**+1.0**
	baz=149						
PKME	**Peaks-Kenny Pk**	**76.65**	**2**	P	**P**	**01 33 39.7**	**+1.4**
PKME				IAmb	IAmb	01 33 40.5	
	comp=Z,15nm,0.8s						
PKME	**Peaks-Kenny Pk**	**76.65**	**2**	P	**P**	**01 33 39.7**	**+1.4**
	baz=182						
G65A	**Princeton**	**76.65**	**3**	P	**P**	**01 33 40.1**	**+1.8**
Q24A	**Divide**	**76.80**	**334**	P	**P**	**01 33 41.4**	**+1.6**
	baz=152						
BC3	**Big Chuckawall**	**76.87**	**324**	P	**P**	**01 33 42.0**	**+1.9**
	baz=143						
IRM	**Iron Mountain**	**77.12**	**324**	P	**P**	**01 33 43.5**	**+2.1**
	baz=143						
F64A	**Sherman**	**77.28**	**3**		**P**	**01 33 43.3**	**+1.5**
TPFO	**Pinon Flats**	**77.34**	**323**	P	**P**	**01 33 45.1**	**+2.4**
	baz=142						
PFO	**Pinyon Flats O**	**77.35**	**323**	P	**P**	**01 33 44.9**	**+2.2**
	baz=142						
BELC	**Belle Mtn. Jos**	**77.42**	**324**	P	**P**	**01 33 44.9**	**+1.7**
	baz=143						
LMN	**Caledonia Moun**	**77.47**	**5**	P	**P**	**01 33 44.1**	**+1.1**
ISCO	**Idaho Springs**	**77.70**	**334**	P	**P**	**01 33 46.1**	**+1.3**
ISCO	**Idaho Springs**	**77.70**	**334**	P	**P**	**01 33 46.2**	**+1.4**
	baz=151						
MURC	**Murrieta**	**77.72**	**323**	P	**P**	**01 33 46.8**	**+2.1**
	baz=142						
PQI	**Presque Isle**	**78.10**	**3**	P	**P**	**01 33 48.0**	**+1.5**
PQI				IAmb	IAmb	01 33 48.5	
	comp=Z,15nm,0.8s						
HEC	**Hector,Ludlow**	**78.25**	**324**	P	**P**	**01 33 49.6**	**+1.9**
	baz=143						
KNB	**Kanab**	**78.33**	**328**	P	**P**	**01 33 49.6**	**+1.4**
KNB				IAmb	IAmb	01 33 50.8	
	comp=Z,8.1nm,0.9s						
ECSD	**EROS Data Cent**	**78.40**	**342**		**P**	**01 33 48.3**	**+0.1**
ECSD				IAmb	IAmb	01 33 49.3	
	comp=Z,10nm,0.8s						
D62A	**Allapoint, All**	**78.47**	**2**	P	**P**	**01 33 49.8**	**+1.3**
MTPU	**Mount Pierson**	**78.89**	**329**	P	**P**	**01 33 53.1**	**+1.6**
SHPR	**Sheep Range**	**79.01**	**326**	P	**P**	**01 33 53.6**	**+1.7**
CCUT	**Cedar City**	**79.01**	**328**		**P**	**01 33 54.0**	**+2.0**
EDW2	**Edwards Air Fo**	**79.13**	**323**	P	**P**	**01 33 54.0**	**+1.5**
	baz=142						
GWY	**Greenwater Val**	**79.49**	**325**	P	**P**	**01 33 55.6**	**+1.0**
KOWA	**Kowa**	**79.63**	**66**	P	**P**	**01 33 55.9**	**+0.3**
PRN	**Pahroc Range**	**79.68**	**326**		**P**	**01 33 56.7**	**+1.2**
PRN				IAmb	IAmb	01 33 58.2	
	comp=Z,11nm,0.9s						
TSUM	**Tsumeb**	**79.77**	**106**	P	**P**	**01 33 56.6**	**0.0**
TSUM				IAmb	IAmb	01 33 58.1	
	comp=Z,12nm,0.8s						
MPMC	**Manual Prospec**	**79.79**	**324**	P	**P**	**01 33 58.0**	**+1.7**
	baz=142						
FURC	**Furnace Creek,**	**79.81**	**325**	P	**P**	**01 33 58.1**	**+2.1**
	baz=142						
TPNV	**Topopah Spring**	**79.89**	**325**	P	**P**	**01 33 58.6**	**+1.9**
	baz=143						
ISA	**Isabella, Lake**	**79.98**	**323**	P	**P**	**01 33 58.6**	**+1.5**
	baz=141						

CWC	**Cottonwood Cre**	**80.39**	**324**	P	**P**	**01 34 01.0**	**+1.5**
	baz=142						
VES	**Vestal, Richgr**	**80.44**	**323**	P	**P**	**01 34 01.5**	**+2.0**
	baz=141						
K22A	**Casper**	**80.52**	**335**	P	**P**	**01 34 01.4**	**+1.4**
	baz=151						
SPR3	**Spring Creek 3**	**80.63**	**328**		**P**	**01 34 02.3**	**+1.5**
R11A	**Troy Canyon, C**	**80.69**	**327**	P	**P**	**01 34 02.7**	**+1.7**
R11A	**Troy Canyon, C**	**80.69**	**327**	P	**P**	**01 34 02.5**	**+1.4**
	baz=144						
JLU	**Jordanelle**	**80.70**	**331**	P	**P**	**01 34 02.5**	**+1.4**
LCH	**Last Change Ra**	**80.79**	**325**	P	**P**	**01 34 03.2**	**+1.7**
DUG	**Dugway, Tooele**	**80.94**	**330**	P	**P**	**01 34 03.5**	**+1.2**
	baz=146						
TIN	**Tinemaha, Big**	**80.94**	**324**	P	**P**	**01 34 04.7**	**+2.4**
	baz=142						
BOSA	**Boshof**	**81.07**	**118**	P	**P**	**01 34 03.5**	**0.0**
	comp=Z,15nm,0.8s,baz=255,slow=4.3,SNR=12						
BOSA	**Boshof**	**81.07**	**118**	P	**P**	**01 34 03.1**	**-0.4**
BOSA				IAmb	IAmb	01 34 04.8	
	comp=Z,16nm,0.8s						
PDAR	**Pinedale Array**	**81.76**	**333**	P	**P**	**01 34 07.0**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=168,slow=4.6,SNR=2.4						
PDAR	**Pinedale Array**	**81.76**	**333**	P	**P**	**01 34 06.4**	**-0.3**
NV11	**Mina Array Sit**	**81.98**	**325**	P	**P**	**01 34 09.6**	**+1.8**
LHV	**Little Huntoon**	**82.01**	**325**	P	**P**	**01 34 10.0**	**+2.3**
LHV				IAmb	IAmb	01 34 10.4	
	comp=Z,10nm,0.9s						
NVAR	**Mina Array Bea**	**82.05**	**325**	P	**P**	**01 34 09.6**	**+1.3**
	comp=Z,4.4nm,0.8s,baz=155,slow=5.8,SNR=17						
NVAR	**Mina Array Bea**	**82.05**	**325**	P	**P**	**01 34 08.9**	**+0.6**
HVU	**Hansel Valley**	**82.23**	**330**		**P**	**01 34 09.3**	**+0.2**
HVU				IAmb	IAmb	01 34 11.4	
	comp=Z,6.6nm,0.8s						
RYN	**Ryan**	**82.32**	**325**	P	**P**	**01 34 11.3**	**+1.7**
KVN	**Kaiserville**	**82.44**	**325**	P	**P**	**01 34 11.1**	**+0.8**
ELK	**Elko**	**82.46**	**328**		**P**	**01 34 11.3**	**+0.9**
TORD	**Torodi Ar. Bea**	**83.36**	**70**	P	**P**	**01 34 15.4**	**0.0**
	comp=Z,21nm,0.8s,baz=258,slow=4.6,SNR=21						
TORD	**Torodi Ar. Bea**	**83.36**	**70**	P	**P**	**01 34 15.4**	**0.0**
PAHR	**Pah Rah Range**	**83.58**	**325**	P	**P**	**01 34 17.2**	**+1.1**
PAHR				IAmb	IAmb	01 34 18.4	
	comp=Z,7.6nm,1.0s						
YHH	**Holmes Hill**	**83.97**	**333**	P	**P**	**01 34 18.9**	**+0.7**
YHH				IAmb	IAmb	01 34 20.0	
	comp=Z,7.4nm,1.2s						
BEKR	**Beckworth**	**84.18**	**325**		**P**	**01 34 20.3**	**+1.1**
ULM	**Lac du Bonnet**	**84.31**	**345**	P	**P**	**01 34 19.3**	**0.0**
	comp=Z,3.1nm,0.6s,baz=144,slow=7.4,SNR=3.1						
HLID	**Hailey**	**84.38**	**330**		**P**	**01 34 21.6**	**+1.4**
HLID	**Hailey**	**84.38**	**330**	P	**P**	**01 34 21.3**	**+1.2**
	baz=145						
MCMT	**McKenzie Canyo**	**84.78**	**332**	P	**P**	**01 34 23.8**	**+1.6**
PLID	**Pearl Lake**	**86.29**	**330**	P	**P**	**01 34 30.4**	**+0.7**
SCHQ	**Schefferville**	**86.30**	**3**	P	**P**	**01 34 29.4**	**+0.2**
	comp=Z,7.9nm,0.9s,baz=180,slow=7.0,SNR=4.1						
M04C	**Macdoel**	**86.36**	**325**	P	**P**	**01 34 31.0**	**+1.0**
	baz=139						
I07A	**Izee**	**87.03**	**328**	P	**P**	**01 34 34.2**	**+1.0**
I07A				IAmb	IAmb	01 34 35.1	
	comp=Z,6.6nm,1.0s						
HAWA	**Hanford**	**88.83**	**329**	P	**P**	**01 34 42.2**	**+0.6**
HAWA				IAmb	IAmb	01 34 43.3	
	comp=Z,7.9nm,1.0s						
ASAR	**Alice Springs**	**119.63**	**207**	PKP	**PKPdf**	**01 40 37.1**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=150,slow=2.1,SNR=5.3						
AKASG	**Malin Array Be**	**120.58**	**46**	PKP	**PKPdf**	**01 40 38.0**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=258,slow=2.5,SNR=5.1						
WRA	**Warramunga Arr**	**122.79**	**210**	PKP	**PKPdf**	**01 40 43.2**	**-1.2**
	comp=Z,1.7nm,0.8s,baz=175,slow=3.4,SNR=7.1						
H11S2	**WAKE ISLAND Hyl**	**125.85**	**271**	T	T	03 58 54.6	
	baz=116,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hyl**	**125.86**	**271**	T	T	03 59 01.7	
	baz=116,slow=75,SNR=26						
H11S3	**WAKE ISLAND Hyl**	**125.86**	**271**	T	T	03 58 55.4	
	baz=116,slow=75,SNR=27						
H11N3	**WAKE ISLAND Hyl**	**126.20**	**272**	T	T	03 59 21.8	
	baz=117,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hyl**	**126.22**	**272**	T	T	03 59 24.0	
	baz=117,slow=75,SNR=8.7						
H11N2	**WAKE ISLAND Hyl**	**126.22**	**272**	T	T	03 59 23.3	
	baz=117,slow=75,SNR=10						
FITZ	**Fitzroy Crossi**	**127.68**	**201**	PKP	**PKPdf**	**01 40 53.8**	**0.0**
	comp=Z,3.5nm,0.8s,baz=254,slow=4.0,SNR=4.7						
FITZ	**Fitzroy Crossi**	**127.68**	**201**		**PKPdf**	**01 40 54.1**	**+0.3**
BRVK	**Borovoye**	**145.46**	**41**	PKPab	**PKPab**	**01 41 26.5**	**+0.9**
HYB	**Hyderabad**	**149.75**	**111**	*i* PKP	**PKPbc**	**01 41 37.0**	**-1.3**
NIL	**Nilore**	**150.73**	**77**	PKPdf	**PKPdf**	**01 41 35.6**	**+0.9**
ZALV	**Zalesovo Beam**	**152.23**	**30**	PKPbc	**PKiKP**	**01 41 43.2**	**0.0**
	comp=Z,26nm,0.8s,baz=300,slow=3.2,SNR=11						
ZALV	**Zalesovo Beam**	**152.23**	**30**		**PKPbc**	**01 41 43.1**	**+0.1**
KSH	**Kashi**	**152.89**	**64**	PKPbc	**PKPdf**	**01 41 35.6**	**-2.3**
MKAR	**Makanchi Array**	**155.16**	**45**	PKPbc	PKPdf	01 41 49.4	+8.7
	comp=Z,3.5nm,0.9s,baz=308,slow=1.9,SNR=4.5						
MKAR				PKPab	**PKPab**	**01 42 06.2**	**+0.7**
	comp=Z,4.1nm,0.8s,baz=276,slow=3.5,SNR=5.6						
WMQ	**Urumqi**	**159.93**	**47**	*e*P	**PKPdf**	**01 41 46.8**	**0.0**
WMQ				pmax	pmax		
	comp=Z,3μm,8.3s						
SONM	**Songino Array**	**163.85**	**4**	PKPab	**PKPab**	**01 42 44.5**	**+1.2**
	comp=Z,3.4nm,0.8s,baz=334,slow=4.0,SNR=10.0						
GTA	**Gaotai**	**169.81**	**39**	*e*PKPbc	**PKPdf**	**01 41 56.5**	**+0.9**
GTA				pPKP	sPKPdf	01 42 06.1	-0.2
GTA				PKPab	**PKPab**	**01 43 10.8**	**+0.9**
HHC	**Hu-ho-hao-te**	**170.45**	**344**	*e*P	**PKPdf**	**01 41 53.0**	**-2.8**
HHC				LR	LR		
	comp=N,3μm,18.9s						
HHC				LR	LR		
	comp=E,3μm,21.3s						
HHC				LR	LR		
	comp=Z,2μm,19.2s						
NJ2	**Nanjing**	**170.81**	**275**	*e*P	**PKPdf**	**01 41 56.3**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2	**Chengdu**	**176.24**	**101**	PKP	**PKPdf**	**01 41 58.0**	**-0.3**

*IDC **17** 01:22:09.1±1.2,30.°11S×71.°86W,h0km,mb5.2/4, mb1 5.1/5,mb1mx4.5/27,mbtmp5.1/5,ML4.9/1,Error ellipse: s-maj=49.2km s-min=26.0km az=75.0*
*NEIC **17** 01:22:11.9±1.6,30.°46S±0.°05×72.°09W±0.°08,h35km±1km, mb5.1/20,Error ellipse: s-maj=12.8km s-min=7.3km az=239.0*
ISC 17 01:22:12.0±0.7,**30.°42S**±0.°10×**72.°11W**±0.°10,**h35**km,**n33,** σ1**$43/34**,**mb5.1**/14,**1C**,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.48**	**122**		**Pn**	**01 22 20.8**	**-1.6**
CO06					**Sn**	**01 22 28.9**	**-0.8**
GO04	**Tololo Observa**	**1.16**	**78**	Pn	**Pn**	**01 22 30.8**	**-1.2**
GO04				Sn	**Sn**	**01 22 47.6**	**+0.9**
CO03	**El Pedregal**	**1.29**	**109**	Pn	**Pn**	**01 22 33.9**	**+0.2**
PLCA	**Paso Flores**	**10.37**	**173**	Pn	Pn	01 24 43.5	+5.1
	2.2nm,0.3s,baz=0.8,slow=8.7,SNR=3.3						
RUSC	**La Rusia**	**36.12**	**358**	P	**P**	**01 29 10.7**	**-0.7**
RUSC				IAmb	IAmb	01 29 12.7	
	comp=Z,101nm,1.3s						
SNAA	**Sanae**	**54.93**	**159**	P	**P**	**01 31 43.2**	**+4.2**
	comp=Z,25nm,0.9s,baz=277,slow=5.4,SNR=8.1						
SNAA	**Sanae**	**54.93**	**159**	P	**P**	**01 31 38.9**	**-0.1**
JSC	**Jenkinsville**	**64.93**	**352**	P	**P**	**01 32 48.8**	**+0.9**
JSC				IAmb	IAmb	01 32 49.4	
	comp=Z,14nm,1.1s						
JCT	**Junction City**	**66.04**	**334**	P	**P**	**01 32 53.2**	**-2.1**
JCT				IAmb	IAmb	01 32 54.1	
	comp=Z,13nm,0.9s						
V58A	**Windy Hill, Pi**	**66.19**	**354**	P	**P**	**01 32 55.0**	**-1.0**
V58A				IAmb	IAmb	01 32 57.9	
	comp=Z,15nm,1.1s						
CPCT	**Cooper Cave**	**66.55**	**349**	P	**P**	**01 32 58.3**	**-0.1**
SWET	**Sewanee**	**66.57**	**348**	P	**P**	**01 32 58.1**	**-0.4**
SWET				IAmb	IAmb	01 33 05.9	
	comp=Z,15nm,0.9s						
TXAR	**Lajitas Array**	**66.60**	**330**	P	**P**	**01 32 60.0**	**+1.1**
	comp=Z,50nm,0.3s,baz=152,slow=7.9,SNR=2.2						
TKL	**Tuckaleechee C**	**66.64**	**350**	P	**P**	**01 32 58.7**	**-0.2**
MIAR	**Mount Ida**	**67.71**	**341**	P	**P**	**01 33 03.9**	**-1.9**
U49A	**Red Boiling Sp**	**67.80**	**348**	P	**P**	**01 33 05.8**	**-0.5**
WVT	**Waverly**	**67.82**	**346**	P	**P**	**01 33 06.3**	**-0.1**
WVT				IAmb	IAmb	01 33 08.5	
	comp=Z,15nm,1.0s						
T50A	**Nancy**	**68.14**	**349**	P	**P**	**01 33 09.0**	**+0.6**
R58B	**Mineral**	**68.24**	**355**	P	**P**	**01 33 09.0**	**0.0**
R58B				IAmb	IAmb	01 33 10.3	
	comp=Z,35nm,1.5s						
CBN	**Corbin Frederi**	**68.44**	**356**	P	**P**	**01 33 10.2**	**-0.1**
CBN				IAmb	IAmb	01 33 11.4	
	comp=Z,33nm,1.4s						
R61A	**Willards**	**68.46**	**357**	P	**P**	**01 33 10.4**	**0.0**
SYO	**Syowa Base**	**69.22**	**159**‖	*eP*	**P**	**01 33 12.0**	**-2.8**
R50A	**Paris**	**69.29**	**350**	P	**P**	**01 33 14.2**	**-1.3**
SSPA	**Standing Stone**	**70.90**	**355**	P	**P**	**01 33 24.6**	**-0.7**
SSPA				IAmb	IAmb	01 33 26.9	
	comp=Z,14nm,1.1s						
DBIC	**Dimbokro**	**74.12**	**72**	P	**P**	**01 33 46.2**	**+1.1**
	comp=Z,34nm,0.9s,baz=231,slow=7.0,SNR=3.8						
BOSA	**Boshof**	**81.80**	**118**	P	**P**	**01 34 29.8**	**+2.0**
	comp=Z,6.4nm,1.0s,baz=238,slow=5.5,SNR=3.9						
TORD	**Torodi Ar. Bea**	**83.06**	**70**	P	**P**	**01 34 35.2**	**+0.9**
	comp=Z,24nm,0.9s,baz=253,slow=4.9,SNR=13						
TORD	**Torodi Ar. Bea**	**83.06**	**70**	P	**P**	**01 34 33.1**	**-1.3**
LBTB	**Lobatse**	**83.87**	**115**	P	**P**	**01 34 37.1**	**-1.6**
LBTB				IAmb	IAmb	01 34 41.6	
	comp=Z,14nm,0.8s						
ZALV	**Zalesovo Beam**	**151.18**	**29**	PKPbc	**PKiKP**	**01 42 02.8**	**+1.2**
	comp=Z,32nm,0.7s,baz=309,slow=3.1,SNR=9.7						
ZALV	**Zalesovo Beam**	**151.18**	**29**		**PKPbc**	**01 42 00.4**	**-0.7**
SONM	**Songino Array**	**162.57**	**3**	PKPab	**PKPab**	**01 42 59.8**	**+1.6**
	comp=Z,2.5nm,0.8s,baz=344,slow=3.1,SNR=5.3						
CMAR	**Chiang Mai Arr**	**165.58**	**144**	PKPab	**PKPab**	**01 43 14.0**	**+1.9**
	comp=Z,1.2nm,0.4s,baz=224,slow=3.8,SNR=4.3						

*IDC **17** 01:26:32.8±2.9,31.°40S×72.°06W,h0km,mb4.4/2, mb1 4.5/4,mb1mx3.9/34,mbtmp4.4/4,ML4.0/2,Error ellipse: s-maj=106.9km s-min=39.8km az=95.0*
*NEIC **17** 01:26:34.2±1.7,31.°33S±0.°04×72.°31W±0.°08,h10km±1km, mb4.4/5,Error ellipse: s-maj=11.7km s-min=5.1km az=109.0*
ISC 17 01:26:33.7±0.9,**31.°39S**±0.°06×**72.°22W**±0.°10,**h14**km,**n21,** σ1**$20/24**,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.87**	**35**		**Pn**	**01 26 51.3**	**-0.3**
CO03	**El Pedregal**	**1.42**	**68**	Pn	**Pg**	**01 27 00.8**	**-0.3**
GO04	**Tololo Observa**	**1.72**	**45**		**Pn**	**01 27 03.7**	**+0.2**
GO04				Sn	**Sn**	**01 27 25.0**	**-0.5**
VA03	**San Esteban**	**1.97**	**134**		**Pb**	**01 27 09.7**	**+0.3**
AC04	**Llanos de Chal**	**3.33**	**18**	Pn	**Pn**	**01 27 26.2**	**+0.8**
BO02	**Sierra Bellavi**	**3.60**	**161**	Pn	**Pn**	**01 27 28.5**	**-0.7**
GO05	**Huala**	**3.62**	**176**	Pn	**Pn**	**01 27 31.3**	**+1.9**
GO03	**Copiap**	**4.16**	**25**	Pn	**Pn**	**01 27 37.4**	**+0.4**
GO03					**Sn**	**01 28 26.1**	**+0.7**
AC02	**Maricunga**	**5.28**	**32**	Pn	**Pn**	**01 27 50.7**	**-2.1**
AC02					**Sn**	**01 28 54.8**	**+1.1**
VA04	**Juan Fernndez**	**6.02**	**246**	Pn	**Pn**	**01 28 00.4**	**-2.0**
LR03	**Panguipulli**	**8.22**	**181**	Pn	**Pn**	**01 28 33.9**	**+1.3**
PLCA	**Paso Flores**	**9.42**	**172**	Pn	**Pn**	**01 28 49.4**	**+0.3**
	0.3nm,0.3s,baz=340,slow=15,SNR=2.8						
PLCA	**Paso Flores**	**9.42**	**172**		**Pn**	**01 28 50.7**	**+1.6**
PB07	**IPOC Station P**	**9.85**	**13**	Pn	**Pn**	**01 28 54.1**	**-1.0**
LPAZ	**La Paz**	**15.49**	**15**	Pn	**Pn**	**01 30 12.7**	**+0.2**
	0.4nm,0.3s,baz=188,slow=6.2,SNR=2.0						
LPAZ	**La Paz**	**15.49**	**15**	Pn	**Pn**	**01 30 12.2**	**-0.3**
LPAZ				IAmb	IAmb	01 30 19.9	
	comp=Z,31nm,1.4s						
QSPA	**South Pole Qui**	**58.84**	**180**	P	**P**	**01 36 29.0**	**-2.6**
DBIC	**Dimbokro**	**74.50**	**72**	P	**P**	**01 38 12.8**	**+0.5**
	comp=Z,7.9nm,1.1s,baz=226,slow=2.8,SNR=1.8						
TORD	**Torodi Ar. Bea**	**83.47**	**70**	P	**P**	**01 39 02.3**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=228,slow=3.7,SNR=2.5						
TORD	**Torodi Ar. Bea**	**83.47**	**70**	P	**P**	**01 39 01.9**	**+0.5**
ZALV	**Zalesovo Beam**	**152.07**	**29**	PKPbc	**PKiKP**	**01 46 29.2**	**+0.8**
	comp=Z,2.1nm,0.6s,baz=294,slow=3.1,SNR=4.1						

*NEIC **17** 01:28:36.9±1.7,31.°83S±0.°03×72.°22W±0.°09,h10km±1km, mb4.4/14,ML4.7(GUC),Error ellipse

SNAA	Sanae	53.65	158		P		01 37 57.2 -1.8
QSPA	South Pole Qui	58.42	180		P		01 38 31.9 -1.4
TXAR	Lajitas Array	67.78	330	P	P		01 39 38.8 +3.0
	comp=Z,0.6nm,0.8s,baz=147,slow=7.5,SNR=4.2						
DBIC	Dimbokro	74.59	72	P	P		01 40 19.2 +2.0
	comp=Z,5.2nm,0.8s,baz=214,slow=7.0,SNR=2.5						
DBIC	Dimbokro	74.59	72	P	P		01 40 15.0 -2.2
MAW	Mawson	75.30	164	P	P		01 40 23.3 +2.8
	comp=Z,5.0nm,1.1s,baz=220,slow=6.5,SNR=4.3						
MAW	Mawson	75.30	164	P	P		01 40 19.1 -1.4
MAW				IAmb	IAmb	01 40 27.2	
	comp=Z,1.3nm,1.1s						
X16A	Lo Mia Camp, P	75.54	327	P	P		01 40 21.6 -0.9
X16A				IAmb	IAmb	01 40 28.9	
	comp=Z,2.2nm,0.9s						
ECSD	EROS Data Cent	78.44	342	P	P		01 40 36.7 -1.7
ECSD				IAmb	IAmb	01 40 42.5	
	comp=Z,4.6nm,1.0s						
SHPR	Sheep Range	78.99	326	P	P		01 40 40.2 -1.6
PRN	Pahroc Range	79.66	327	P	P		01 40 45.0 -0.4
PRN				IAmb	IAmb	01 40 52.8	
	comp=Z,3.8nm,1.0s						
LCH	Last Change Ra	80.77	325	P	P		01 40 50.9 -0.4
BOSA	Boshof	81.18	118	P	P		01 40 49.9 -4.0
BOSA				IAmb	IAmb	01 40 55.2	
	comp=Z,13nm,1.4s						
HWUT	Hardware Ranch	81.58	331	P	P		01 40 54.5 -1.2
HWUT				IAmb	IAmb	01 41 01.2	
	comp=Z,3.3nm,0.9s						
NVAR	Mina Array Bea	82.03	325	P	P		01 41 02.4 +4.3
	comp=Z,1.3nm,0.8s,baz=151,slow=5.4,SNR=7.0						
NVAR	Mina Array Bea	82.03	325	P	P		01 40 57.4 -0.8
TORD	Torodi Ar. Bea	83.57	70	P	P		01 41 08.2 +1.8
	comp=Z,5.0nm,0.8s,baz=263,slow=4.4,SNR=11						
KURBB	Kurchatov Arra	151.31	41	PKPbc	PKiKP		01 48 33.4 +1.9
	comp=Z,1.8nm,0.7s,baz=301,slow=3.1,SNR=6.3						
ZALV	Zalesovo Beam	152.41	30	PKPbc	PKiKP		01 48 36.0 +2.4
	comp=Z,2.1nm,0.6s,baz=276,slow=2.7,SNR=3.9						

TUL ***17*** *01:31:06.2±1.4, 36.59N±0.01×97.37W±0.02, $h^{2km}_{\pm 6km}$, ML2.8, mb_Lg3.1/3(NEIC), Error ellipse: s-maj=2.2km s-min=2.0km az=70.0*

NEIC 17 01:31:06.2±0.7, 36.565N±0.007×97.36W±0.02, h8km±7km, Error ellipse: s-maj=2.7km s-min=1.0km az=94.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLOK	Blackwell	0.23	31	Pg	Pg	01 31 11.0	+0.2
BLOK				Sg	Sg	01 31 14.2	+0.2
KAN13	South Haven SW	0.46	348	Pg	Pg	01 31 15.1	0.0
KAN13				Sg	Sg	01 31 21.2	+0.2
GC02	Grant County #	0.49	306		Pg	01 31 15.6	-0.1
GC02				Sg	Sg	01 31 22.2	0.0
CROK	Carrier	0.50	263	Pg	Pg	01 31 16.2	+0.2
CROK				Sg	Sg	01 31 23.0	+0.5
KAN17	Caldwell West	0.58	326	Pg	Pg	01 31 16.9	-0.4
KAN17				Sg	Sg	01 31 24.9	0.0
KAN09	Caldwell North	0.61	340	Pg	Pg	01 31 17.7	-0.2
KAN09				Sg	Sg	01 31 25.8	-0.1
KAN14	Manchester OK	0.62	309	Pg	Pg	01 31 18.1	-0.1
KAN14				Sg	Sg	01 31 26.2	-0.1
QUOK	Quay	0.66	126	Pg	Pg	01 31 19.3	+0.4
KS20	Mayfield South	0.68	347	Pg	Pg	01 31 18.8	-0.5
KS20				Sg	Sg	01 31 28.0	-0.2
OK032	Salt Plains WL	0.72	290	Pg	Pg	01 31 19.6	-0.5
OKCFA	Oklahoma City	1.15	184		Pb	01 31 28.4	0.0
OKCSW	OKLAHOMA CITY	1.16	183		Pg	01 31 28.3	-0.2
FNO	Franklin	1.30	181	Pn	Pn	01 31 30.9	+0.1
X34A	Smith Ranch, M	2.00	191	Pn	Pn	01 31 41.1	+0.8
X34A				IAmb_Lg		01 32 10.4	
	comp=Z,23nm,1.0s						
R32A	Long Quarter,	2.14	330	Pn	Pn	01 31 42.4	0.0
X37A	Clayton	2.55	140		Pn	01 31 48.6	+0.7
KSU1	Kansas State U	2.60	13		Pn	01 31 46.9	-1.7
W39A	Magazine	3.21	114		Pn	01 31 55.5	-1.4
U40A	Yellville	3.64	92		Pn	01 32 02.1	-0.8
X40A	Basin Creek Fa	4.24	118		Pn	01 32 12.6	+1.5
FCAR	Ozark Folk Cen	4.29	97		Pn	01 32 09.8	-2.0
WHAR	Wooly Hollow	4.31	106	Pn	Pn	01 32 12.3	+0.2
K31A	O'Neill	6.14	350	IAmb_Lg		01 34 15.1	
	comp=Z,84nm,1.1s						
SIUC	Southern Illin	6.61	78	IAmb_Lg		01 34 35.5	
	comp=Z,22nm,1.1s						
W45A	Hickory Valley	6.79	100	Pn	Pn	01 32 44.4	-1.7

IDC 17 01:31:17.7±1.5, 31.55S×71.55W, h0km, mb4.5/2, mb1 4.5/3, mb1mx3.9/42, mbtmp4.5/3, ML4.0/1, Error ellipse: s-maj=70.6km s-min=42.2km az=109.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H03N1	Juan Fernandez	6.50	251	T		01 39 27.1	
	baz=80,slow=73,SNR=18						
H03N3	Juan Fernandez	6.51	251	T		01 39 30.3	
	baz=80,slow=73,SNR=21						
H03N2	Juan Fernandez	6.51	251	T		01 39 31.4	
	baz=80,slow=73,SNR=28						
PLCA	Paso Flores	9.20	175	Pn	Pn	01 33 31.5	-0.3
	0.3nm,0.3s,baz=334,slow=12,SNR=2.1						
DBIC	Dimbokro	74.01	72	P	P	01 42 55.5	-0.2
	6.8nm,1.1s,baz=243,slow=6.8,SNR=5.1						
TORD	Torodi Ar. Bea	82.99	70	P	P	01 43 45.6	+0.4
	2.4nm,0.7s,baz=270,slow=2.9,SNR=5.0						
WRA	Warramunga Arr	123.10	209	PKP	PKiKP	01 50 17.2	+0.1
	0.4nm,0.4s,baz=172,slow=1.7,SNR=2.2						
H11S2	WAKE ISLAND Hyl	26.19	271	T	T	04 09 06.8	
	baz=116,slow=75,SNR=17						
H11S1	WAKE ISLAND Hyl	26.20	271	T	T	04 09 05.0	
	baz=116,slow=75,SNR=16						
H11S3	WAKE ISLAND Hyl	26.20	271	T	T	04 09 06.7	
	baz=116,slow=75,SNR=19						
H11N3	WAKE ISLAND Hyl	26.54	272	T	T	04 09 32.6	
	baz=117,slow=75,SNR=13						
H11N1	WAKE ISLAND Hyl	26.55	272	T	T	04 09 33.3	
	baz=117,slow=75,SNR=5.9						
H11N2	WAKE ISLAND Hyl	26.55	272	T	T	04 09 35.4	
	baz=117,slow=75,SNR=12						
BVAR	Borovoye Array	145.18	41	PKPbc	PKPab	01 50 56.5	0.0
	4.9nm,0.6s,baz=257,slow=5.9,SNR=9.6						
KURBB	Kurchatov Arra	150.78	41	PKPbc	PKPbc	01 51 10.9	-0.7
	2.5nm,0.8s,baz=305,slow=3.1,SNR=4.9						
ZALV	Zalesovo Beam	151.92	30	PKPbc	PKPbc	01 51 13.2	-1.0
	6.8nm,0.5s,baz=312,slow=3.0,SNR=8.8						

IDC ***17*** *01:32:09.7±1.1, 31.78S×71.98W, h0km, mb4.4/4, mb1 4.5/6, mb1mx4.0/43, mbtmp4.3/6, ML4.0/2, Error ellipse: s-maj=39.2km s-min=25.9km az=76.0*

NEIC ***17*** *01:32:10.7±1.3, 31.87S±0.04×72.04W±0.05, $h10^{km}_{\pm 1km}$, mb4.6/7, Error ellipse: s-maj=9.0km s-min=4.2km az=223.0*

ISC 17 01:32:11.5±0.7, 31.84S±0.06×72.0W±0.1, h17km, n23, σ0s87/25, mb4.5/8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	Fray Jorge	1.21	15	Pn	Pg	01 32 34.4	-0.4
CO06				Sn	Sg	01 32 50.7	+0.1
CO03	El Pedregal	1.50	49	Pn	Pn	01 32 38.0	+0.1
CO03					Sb	01 32 58.2	+0.3
VA03	San Esteban	1.54	127	Pn	Pn	01 32 38.7	+0.4
GO04	Tololo Observa	1.96	32	Pn	Pb	01 32 45.3	-1.6
BO01	Tunca	2.66	163	Pn	Pn	01 32 53.2	-0.4
PLCA	Paso Flores	8.95	173	Pn	Pn	01 34 20.6	+0.5
	0.3nm,0.3s,baz=334,slow=14,SNR=1.0						
PLCA	Paso Flores	8.95	173		Pn	01 34 18.0	-2.1
LPAZ	La Paz	15.88	14	Pn	Pn	01 35 55.6	+0.6
	0.3nm,0.3s,baz=200,slow=7.1,SNR=2.5						
BDFB	Brasilia	27.15	59	P	P	01 37 54.1	0.0
	14nm,0.9s,baz=255,slow=12,SNR=3.4						
SNAA	Sanae	53.57	158	P	P	01 41 32.5	+1.3
	3.1nm,0.7s,baz=274,slow=6.6,SNR=4.6						
SNAA	Sanae	53.57	158	P	P	01 41 32.5	+1.3
SNAA				IAmb	IAmb	01 41 41.5	
	comp=Z,7.5nm,0.8s						
QSPA	South Pole Qui	58.39	180	P	P	01 42 04.5	-1.4
TXAR	Lajitas Array	67.87	330	P	P	01 43 09.3	+0.2
	comp=Z,0.7nm,0.7s,baz=143,slow=7.6,SNR=4.9						
TXAR	Lajitas Array	67.87	330	P	P	01 43 08.9	-0.3
WHTX	Lake Whitney,	67.90	337	P	P	01 43 09.4	+0.3
V53A	Saluda	67.92	351	P	P	01 43 09.3	+0.1
V53A				IAmb	IAmb	01 43 14.8	
	comp=Z,7.4nm,1.5s						
MIAR	Mount Ida	69.09	341	P	P	01 43 15.5	-1.0
WVT	Waverly	69.22	346	P	P	01 43 17.3	0.0
WVT				IAmb	IAmb	01 43 19.8	
	comp=Z,3.2nm,1.1s						
WMOK	Wichita Mounta	70.86	337	P	P	01 43 27.7	+0.3
WMOK				IAmb	IAmb	01 43 32.7	
	comp=Z,3.0nm,0.7s						
NVAR	Mina Array Bea	82.14	325	P	P	01 44 32.4	+1.0
	comp=Z,0.5nm,0.7s,baz=160,slow=6.7,SNR=3.2						
TORD	Torodi Ar. Bea	83.45	70	P	P	01 44 39.0	+0.4
	comp=Z,3.1nm,0.6s,baz=279,slow=5.3,SNR=6.9						
TORD	Torodi Ar. Bea	83.45	70	P	P	01 44 38.9	+0.4
TORD				IAmb	IAmb	01 44 39.9	
	comp=Z,3.1nm,0.7s						
BVAR	Borovoye Array	145.66	41	PKPbc	PKPab	01 51 49.6	+0.4
	comp=Z,1.0nm,0.4s,baz=284,slow=4.2,SNR=4.1						

GUC ***17*** *01:33:01.5±0.6, 31.63S×72.13W, $h26^{km}_{\pm 2km}$, ML6.0*

NEIC ***17*** *01:33:02.6±1.8, 31.74S±0.02×72.03W±0.05, $h9^{km}_{\pm 2km}$, mb5.6/190, Mwr5.8/40, ML6.0(GUC), Error ellipse: s-maj=7.2km s-min=1.3km az=115.0*

NEIC ***17*** *01:33:03.2, 31.73S×72.05W, $h9^{km}$, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.57; $M_{\theta\theta}$0.71; $M_{\phi\phi}$-1.28; $M_{r\theta}$-0.25; $M_{r\phi}$0.59; $M_{\theta\phi}$-5.35; Fault plane solution: $M_0$5.50000×10^{17} NP1:ϕ_s305.60000°, δ8.71000°, λ32.47000°. NP2:ϕ_s183.43000°, δ85.34000°, λ97.36000°. Principal axes: T 5.1465, Plg49.0000°, Azm101.0000°; N 0.6493, Plg7.0000°, Azm3.0000°; P -5.7958, Plg40.0000°, Azm267.0000°;*

VAO ***17*** *01:33:03.3±0.4, 31.60S×71.88W, h10km, mb5.6*

MOS ***17*** *01:33:05.4±1.1, 31.55S×72.01W, h36km, mb5.8/35, Error ellipse: s-maj=11.4km s-min=7.6km az=96.6*

IDC ***17*** *01:33:05.4±0.4, 31.63S×71.99W, h28km±2km, mb5.1/34, mb1 5.1/38, mb1mx5.1/45, mbtmp5.3/38, ML5.2/4, Error ellipse: s-maj=12.8km s-min=8.4km az=79.0*

SJA ***17*** *01:33:07.1±1.1, 31.99S×71.79W, $h22^{km}_{\pm 10km}$, ML5.7, MW5.8*

ISC 17 01:33:05.3±0.4, 31.67S±0.02×71.97W±0.04, h31km±2km, h31km:pP-P, n828, σ1s44/812, mb5.5/126, 134C-120D, Fault plane solution: NP1:ϕ_s341.66278°, δ89.52300°, λ-112.02857°. **NP2:**ϕ_s250.48401°, δ22.03348°, λ-1.27160°. **Principal axes:** T Plg40.5097°, Azm92.0785°; N Plg22.0278°, Azm341.8558°; P Plg41.4029°, Azm230.9562°; **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	Fray Jorge	1.04	16	eP	Pn	01 33 19.9	-3.9
CO06				eS	Sn	01 33 33.9	-3.3
CO06	Fray Jorge	1.04	16	Pn	Pn	01 33 23.6	-0.1
CO06				Sn	Sb	01 33 37.7	-0.3
VA01	Torpederas	1.37	169	eP	Pn	01 33 26.5	-1.9
VA01				eS	Sn	01 33 45.2	-0.3
VA01	Torpederas	1.37	169		Pn	01 33 26.9	-1.4
VA01				Sn	Sn	01 33 44.3	-1.2
VA01	Torpederas	1.37	169	eP	Pn	01 33 27.0	-1.4
CO03	El Pedregal	1.38	53	eP	Pn	01 33 27.3	-1.2
CO03				eS	Sn	01 33 46.4	+0.7
CO03	El Pedregal	1.38	53	Pn	Pn	01 33 29.2	+0.7
CO03				Sn	Sb	01 33 47.6	-0.2
ROCH	El Roble	1.53	148	eP	Pn	01 33 30.0	-0.8
ROCH				*i* S	Sb	01 33 52.1	-0.2
VA03	San Esteban	1.62	132	eP	Pn	01 33 31.2	-0.7
VA03				eS	Sb	01 33 54.2	-0.6
VA03				IAML		01 34 01.4	
	comp=N,411μm,0.4s						
VA03	San Esteban	1.62	132		Pn	01 33 32.1	+0.2
GO04	Tololo Observa	1.80	34	eP	Pn	01 33 33.5	-1.0
GO04				eS	Sb	01 33 58.7	-1.5
GO04	Tololo Observa	1.80	34	Pn	Pb	01 33 36.9	-1.0
VA05	Santo Domingo	2.00	171	eP	Pn	01 33 35.6	-1.5
VA05				IAML		01 34 15.2	
	comp=E,218μm,0.5s						
VA05	Santo Domingo	2.00	171		Pn	01 33 35.2	-1.8
VA05				Sn	Sn	01 33 58.0	-3.1
MT05	Renca	2.01	149	eP	Pn	01 33 36.6	-0.5
MT05				eS	Sb	01 34 04.0	-1.8
MT05				IAML		01 34 15.3	
	comp=E,173μm,0.4s						
MT05	Renca	2.01	149	Pn	Pn	01 33 36.8	-0.3
MT05				Sn	Sn	01 33 55.9	-5.4
MT09	Renca	2.01	149	eP	Pn	01 33 39.0	+1.8
MT09	Talagante	2.25	159	eP	Pn	01 33 40.2	-0.5
MT09				eS	Sn	01 34 09.2	+1.6
MT09				IAML		01 34 23.7	
	comp=N,84μm,0.6s						
MT09	Talagante	2.25	159		Pn	01 33 40.0	-0.7
MT01	Popeta	2.27	165	eP	Pn	01 33 39.6	-1.1
MT01				eS	Sn	01 34 08.9	+1.3
MT01				IAML		01 34 23.5	
	comp=E,109μm,0.6s						
MT01	Popeta	2.27	165		Pn	01 33 39.6	-1.1
MT01				Sn	Sn	01 34 07.1	-0.5
MT01	Popeta	2.27	165	eP	Pn	01 33 40.3	-0.4
MT01				IAML		01 34 21.8	
	comp=Z,60μm,0.9s						
LMEL	Las Melosas	2.63	146	*i* P	Pn	01 33 46.8	+1.0
LMEL				IAML		01 34 38.9	
	comp=N,38μm,0.5s						
BO01	Tunca	2.81	165	eP	Pn	01 33 47.2	-1.0
BO01	Tunca	2.81	165	Pn	Pn	01 33 46.6	-1.5
BO01	Tunca	2.81	165	eP	Pn	01 33 49.0	+0.8
BO01				IAML		01 34 36.0	
	comp=Z,40μm,0.9s						
ZON	Zonda	2.81	88	P	Pn	01 33 47.9	-0.3
ZON	Zonda	2.81	88		Pn	01 33 47.9	-0.3
ZON	Zonda	2.81	88	eP	Pn	01 33 51.0	+2.8
ZON				IAML		01 34 47.0	
	comp=Z,48μm,1.8s						
ASAL	Salagasta	2.81	110	eP	Pn	01 33 44.4	-3.9
ASAL				IAML		01 35 02.9	
	comp=Z,2μm,1.9s						
BO03	Pichilemu	2.82	180	eP	Pn	01 33 45.4	-2.8
BO03				eS	Sn	01 34 17.5	-3.6
ARCO	CERRO ARCO	2.83	115	eP	Pb	01 33 53.8	-1.5
ARCO				IAML		01 34 40.8	
	comp=Z,40μm,1.0s						
RTCV	Cerro Valdivia	2.93	95	eP	Pb	01 33 53.6	-3.3
AAGR	Agrelo	3.01	119	eP	Pb	01 33 58.0	-0.3
AAGR				IAML		01 34 44.9	
	comp=Z,2μm,1.8s						
BO02	Sierra Bellavi	3.27	163	eP	Pn	01 33 53.4	-1.2
BO02				IAML		01 34 56.8	
	comp=N,33μm,0.6s						
BO02	Sierra Bellavi	3.27	163	Pn	Pn	01 33 53.4	-1.2
BO02	Sierra Bellavi	3.27	163	eP	Pn	01 33 55.0	+0.5
BO02				IAML		01 34 53.7	
	comp=Z,69μm,0.9s						
GO05	Huala	3.33	179	eP	Pn	01 33 52.5	-2.8
GO05	Huala	3.33	179		Pn	01 33 52.9	-2.4
GO05	Huala	3.33	179	eP	Pn	01 33 54.0	-1.3
AC04	Llanos de Chal	3.54	13	eP	Pb	01 34 04.4	-2.9
AC04	Llanos de Chal	3.54	13	Pn	Pn	01 33 57.7	-0.5
AC04	Llanos de Chal	3.54	13	eP	Pb	01 34 08.0	+0.7
AC04				IAML		01 35 09.2	
	comp=Z,9μm,0.6s						
ML02	Panimavida	4.11	174	eP	Pn	01 34 04.3	-1.6
ML02	Panimavida	4.11	174	Pn	Pn	01 34 04.3	-1.6
GO03	Copiap	4.34	21	eP	Pn	01 34 07.5	-1.7
GO03	Copiap	4.34	21	eP	Pb	01 34 19.0	-1.9
VCA	Vinchina	4.38	49	eP	Pb	01 34 17.4	-4.3
VCA				IAML		01 35 43.0	
	comp=Z,26μm,1.8s						
MRA	San Martin	5.36	100	eP	Pn	01 34 24.8	+1.5
MRA				IAML		01 36 03.0	
	comp=Z,4μm,0.9s						
AC02	Maricunga	5.42	28	Pn	Pn	01 34 25.3	+0.8
AC02	Maricunga	5.42	28	eP	Pn	01 34 32.0	+7.5
AC02				IAML		01 36 16.7	
	comp=Z,6μm,1.8s						
H03N1	Juan Fernandez	6.12	251	T	T	01 41 20.4	
	baz=80,slow=72,SNR=51						
H03N3	Juan Fernandez	6.13	251	T	T	01 41 14.8	
	baz=80,slow=72,SNR=85						
H03N2	Juan Fernandez	6.14	251	T	T	01 41 13.6	
	baz=80,slow=72,SNR=83						
LC01	Cunco	7.21	179	Pn	Pn	01 34 46.4	-2.2
LC01	Cunco	7.21	179	eP	Pn	01 34 46.0	-2.6
LC01				IAML		01 37 11.8	
	comp=Z,2μm,1.4s						
PLCA	Paso Flores	9.11	173	Pn	Pn	01 35 14.0	-0.8
	comp=Z,7.4nm,0.3s,baz=336,slow=11,SNR=35						
PLCA	Paso Flores	9.11	173	Pn	Pn	01 35 13.5	-1.3
LVC	Limon Verde	9.43	18	Pn	Pn	01 35 13.8	-5.7
	comp=Z,5.2nm,0.3s,baz=143,slow=10,SNR=1.1						
LL05	Los Muermos	9.79	187		Pn	01 35 20.6	-3.4
TRQA	Tornquist	10.38	131	P	Pn	01 35 30.5	-1.7
TRQA	Tornquist	10.38	131	Pn	Pn	01 35 30.5	-1.7
TRQA	Tornquist	10.38	131	eP	Pn	01 35 32.9	+0.8
LL02	Futaleuf	11.50	180		Pn	01 35 45.0	-2.4
GO07	Milladeo Hill,	11.50	186		Pn	01 35 45.5	-1.9
ITQB	Itaqui	13.36	85	Pn	Pn	01 36 11.8	-1.1
ITQB	Itaqui	13.36	85	eP	Pn	01 36 12.1	-0.7
CPUP	Villa Florida	13.87	71	Pn	Pn	01 36 21.7	+1.9
	comp=Z,3.9nm,0.3s,baz=255,slow=11,SNR=6.2						
CPUP	Villa Florida	13.87	71		Pn	01 36 19.4	-0.4
PLTB	Pedras Altas	15.63	95	eP	Pn	01 36 42.3	-1.2
LPAZ	La Paz	15.71	14	Pn	Pn	01 36 44.9	-0.2
	comp=Z,1.6nm,0.3s,baz=198,slow=8.3,SNR=12						
LPAZ	La Paz	15.71	14	P	Pn	01 36 44.7	-0.3
CPSB	Cacapava Do Su	15.94	90	eP	Pn	01 36 47.4	0.0
CNLB	Canela	18.35	88	eP	P	01 37 17.2	-0.2
AQDB	Aquidauana	18.36	57		Pn	01 37 17.8	+0.2
AQDB	Aquidauana	18.36	57	eP	P	01 37 17.5	0.0
SIV	San Ignacio	18.50	35	P	Pn	01 37 19.3	-0.1
	comp=Z,5.0nm,0.3s,baz=218,slow=8.6,SNR=14						
PTGB	Pitanga	18.85	73	eP	Pn	01 37 24.0	+0.3
TRCB	Terra Rica	19.31	68	eP	P	01 37 28.6	+0.5
PTLB	Pontes e Lacer	19.95	39	eP	P	01 37 35.0	0.0
TER01	Tubaro-SC	20.00	87	eP	P	01 37 36.3	+0.8
NNA	Nana	20.10	346	P	P	01 37 37.1	+0.5
	comp=Z,48nm,0.9s,baz=187,slow=11,SNR=12						
NNA	Nana	20.10	346	P	P	01 37 37.2	+0.6
NNA				pmax	pmax		
	comp=Z,58nm,0.9s						
NNA	Nana	20.10	346		P	01 37 37.2	+0.6
PP1B	Ponte de Pedra	20.88	52	eP	P	01 37 45.2	+0.2
PCMB	Pacaembu	21.02	67	eP	P	01 37 46.7	+0.2
TIJ01	Guaruva-PR	21.13	78	eP	P	01 37 45.4	-2.5
GO10	Punta Arenas	21.48	178	P	P	01 37 50.8	-0.4
FRTB	Fartura	21.51	73	eP	P	01 37 51.8	0.0
VILB	Vilhena	21.55	33	eP	P	01 37 51.9	-0.3
SALV	Santo Antonio	21.60	47	eP	P	01 37 52.3	-0.4
ETMB	Extrema	22.39	15	eP	P	01 38 01.0	-0.3
EFI	East Falkland	22.45	157	eP	P	01 38 02.6	+1.0
EFI				pmax	pmax		
	comp=Z,820nm,1.3s						
EFI	East Falkland	22.45	157	P	P	01 38 01.6	0.0
EFI				IAmb	IAmb	01 38 07.5	
	comp=Z,280nm,1.1s						
ITRB	Iturama	22.78	64	eP	P	01 38 04.4	-1.0
PET01	Itanhaem-SP	22.98	78	eP	P	01 38 06.2	-1.3
USHA	Ushuaia	23.29	175	P	P	01 38 11.2	+0.9
	comp=Z,173nm,1.1s,baz=354,slow=6.6,SNR=14						
BB19B	Bebedouro	23.46	69	eP	P	01 38 10.2	-2.2
RCLB	Rio Claro- Sao	23.60	73	eP	P	01 38 12.4	-1.2
VAO	Valinhos	23.79	75	eP	P	01 38 15.2	-0.3
CZSB	Cruzeiro do Su	23.83	358	eP	P	01 38 15.9	+0.1
PARB	Paraibuna	24.76	77	eP	P	01 38 23.6	-0.7
IPMB	Ipameri, GO	25.44	63	eP	P	01 38 30.3	-0.2
CLDB	Colider	25.54	39	eP	P	01 38 31.4	0.0
BSCB	Bom Sucesso	26.52	73	eP	P	01 38 40.3	-0.1
VAS01	Vassouras-RJ	27.02	77	eP	P	01 38 45.4	+0.5
BDFB	Brasilia	27.04	59	P	P	01 38 44.7	-0.4
	comp=Z,164nm,1.0s,baz=231,slow=9.9,SNR=22						
BDFB	Brasilia	27.04	59	P	P	01 38 45.6	+0.5
BDFB				pmax	pmax		
	comp=Z,480nm,1.1s						
BDFB	Brasilia	27.04	59	P	P	01 38 45.6	+0.5
SNDB	Serra Nova Dou	27.34	49	eP	P	01 38 48.0	+0.3
TBTG	Tabatinga, AM	27.41	4	eP	P	01 38 48.5	+0.2
DUBO1	Friburgo-RJ	28.00	77	eP	P	01 38 54.3	+0.7
CAM01	Campos-RJ	28.71	78	eP	P	01 39 00.5	+0.6
DIAM	Diamantina, MG	28.80	69	eP	P	01 39 01.5	+0.6
NPGB	Novo Progresso	29.00	36	eP	P	01 39 01.9	-0.6
PEXB	Peixe	29.23	54	eP	P	01 39 04.5	-0.1
MC01	Montes Claros	29.48	66	eP	P	01 39 06.5	-0.4
ALF01	Guarapari-ES	30.03	76	eP	P	01 39 11.3	-0.3
JANB	Januaria	30.18	63	eP	P	01 39 12.9	-0.1
MACA	Manacapuru-AM	30.29	23	eP	P	01 39 14.1	+0.2
SJMB	Sao Joao De Ma	30.59	72	eP	P	01 39 16.9	+0.3
BSFB	Barra de Sao F	30.80	73	eP	P	01 39 17.1	-1.3
RIB01	Linhares ES	30.93	74	eP	P	01 39 20.5	+0.9
ITTB	Itaituba	31.15	33	eP	P	01 39 20.7	-0.8
SDBA	SAO DESIDERIO	31.43	58	eP	P	01 39 23.7	-0.4
PTLC	Puerto Leguiza	31.78	355	eP	P	01 39 25.4	-1.7

NBMO **Morrinhos-CE** 41.20 53 *e*P P **P** 01 40 48.5 +1.1
SJCC **San Jacinto, C** 41.45 355 P **P** 01 40 49.9 +0.5
SJCC IAmb IAmb 01 40 52.1
comp=Z,117nm,1.1s
SJCC **San Jacinto, C** 41.45 355 *e*P **P** 01 40 49.6 +0.2
NBCL **Cascavel-CE** 41.77 56 *e*P **P** 01 40 51.9 -0.2
PCRV **Puerto La Cruz** 42.20 11 P **P** 01 40 55.7 +0.2
comp=Z,14nm,0.9s,baz=151,slow=7.7,SNR=4.0
RCBR **Riachuelo** 42.41 60 P **P** 01 40 57.6 +0.2
RCBR pmax pmax
comp=Z,122nm,1.2s
RCBR **Riachuelo** 42.41 60 P **P** 01 40 57.6 +0.2
RCBR IAmb IAmb 01 41 06.9
comp=Z,122nm,1.2s
RCBR **Riachuelo** 42.41 60 *e*P **P** 01 40 57.1 -0.2
CRJC **Cerrejon, Guaj** 42.46 359 *e*P **P** 01 40 57.4 -0.3
NBPV **Pedro Velho** 42.47 62 *e*P **P** 01 40 57.9 +0.1
SMRC **Santa Marta, M** 42.65 357 *e*P **P** 01 40 58.5 -0.6
JTS **Las Juntas de** 43.54 341 P **P** 01 41 06.8 +0.4
comp=Z,7,7nm,0.8s,baz=226,slow=7.1,SNR=9.8
JTS **Las Juntas de** 43.54 341 ||*e*P **P** 01 41 07.5 +1.1
JTS pmax pmax
comp=Z,122nm,2.0s
JTS **Las Juntas de** 43.54 341 P **P** 01 41 07.0 +0.7
ORTG **Ortega, Santa** 43.75 341 P **P** 01 41 08.8 +0.7
MTO3 **Montecristo** 48.75 337 IAmb IAmb 01 41 50.4
comp=Z,66nm,1.4s
MLPR **Magueyes Islan** 49.58 6 P **P** 01 41 53.5 -0.1
SJG **San Juan** 49.81 7 P **P** 01 41 54.7 -0.7
comp=Z,39nm,0.9s,baz=180,slow=3.2,SNR=12
SJG **San Juan** 49.81 7 P **P** 01 41 55.0 -0.4
SJG pmax pmax
comp=Z,59nm,1.0s
SJG **San Juan** 49.81 7 P **P** 01 41 55.0 -0.4
SJG IAmb IAmb 01 41 56.5
comp=Z,58nm,1.0s
VNA3 **Neumayer Olymp** 51.49 159 P **P** 01 42 08.6 +1.0
VNA1 **Neumayer--Stat** 51.79 158 P **P** 01 42 11.0 +1.2
VNA2 **Neumayer--Watz** 52.13 158 P **P** 01 42 13.4 +1.1
baz=280,slow=8.2
CMIG **Matias Romero** 53.24 332 P **P** 01 42 21.1 0.0
comp=Z,12nm,0.9s,baz=159,slow=5.5,SNR=16
SNAA **Sanae** 53.72 158 P **P** 01 42 25.0 +0.9
SNAA **Sanae** 53.72 158 P **P** 01 42 24.6 +0.5
comp=Z,109nm,0.7s,baz=277,slow=6.6,SNR=130
SNAA **Sanae** 53.72 158 *d*/*i*P **P** 01 42 24.2 +0.1
SNAA pmax pmax
comp=Z,544nm,1.2s
SNAA **Sanae** 53.72 158 P **P** 01 42 24.6 +0.5
SOR **Soroa** 55.18 348 P **P** 01 42 34.4 -0.7
SOR pmax pmax
comp=Z,99nm,1.2s
SOR **Soroa** 55.18 348 P **P** 01 42 34.4 -0.7
SOR IAmb IAmb 01 42 36.7
comp=Z,99nm,1.2s
QSPA **South Pole Qui** 58.56 180 P **P** 01 42 59.1 +0.3
comp=Z,81nm,0.8s,baz=150,slow=3.7,SNR=66
QSPA **South Pole Qui** 58.56 180 P **P** 01 42 59.2 +0.4
ZAIG **Zacatecas** 61.55 328 P **P** 01 43 20.6 +0.7
ZAIG IAmb IAmb 01 43 21.8
comp=Z,35nm,1.2s
TIGA **Tifton** 63.73 349 P **P** 01 43 33.5 -0.5
baz=169
352A **Blakely** 64.00 348 IAmb IAmb 01 43 35.4
comp=Z,61nm,1.1s
NHSC **New Hope** 64.90 352 P **P** 01 43 42.1 +0.6
baz=172
833A **Chaparral WMA,** 65.13 333 P **P** 01 43 43.8 +0.6
baz=155,SNR=30
344A **Westbrook Farm** 65.25 342 IAmb IAmb 01 43 45.0
comp=Z,63nm,1.2s
HKT **Hockley** 65.34 337 ||*e*P **P** 01 43 44.5 0.0
HKT pmax pmax
comp=Z,141nm,2.0s
HKT **Hockley** 65.34 337 P **P** 01 43 44.3 -0.2
HKT IAmb IAmb 01 43 49.4
comp=Z,42nm,1.4s
SBA **Scott Base** 65.36 191 P **P** 01 43 43.8 -0.3
SBA pmax pmax
comp=Z,86nm,1.5s
SBA **Scott Base** 65.36 191 P **P** 01 43 43.8 -0.3
SBA IAmb IAmb 01 43 46.3
comp=Z,86nm,1.4s
GOGA **Godfrey** 65.64 349 P **P** 01 43 45.5 -0.9
baz=169,SNR=5.6
LRAL **Lakeview Retre** 65.91 346 P **P** 01 43 47.6 -0.5
baz=166
VBMS **Vicksburg** 65.92 343 P **P** 01 43 48.5 +0.2
baz=163
SLBS **Sierra La Lagu** 65.95 322 P **P** 01 43 48.9 +0.1
Y52A **Lilburn** 66.18 349 IAmb IAmb 01 43 49.7
comp=Z,40nm,1.1s
VNDA **Vanda** 66.39 191 P **P** 01 43 52.3 +1.5
comp=Z,26nm,1.2s,baz=145,slow=5.6,SNR=26
VNDA **Vanda** 66.39 191 P **P** 01 43 50.9 +0.1
VNDA IAmb IAmb 01 43 52.8
comp=Z,51nm,1.4s
LPIG **La Paz** 66.49 322 P **P** 01 43 52.3 +0.3
comp=Z,12nm,0.3s,baz=0.2,slow=3.0,SNR=5.6
HPIG 66.55 327 IAmb IAmb 01 43 53.7
comp=Z,42nm,1.0s
NATX **Nacogdoches** 66.65 339 P **P** 01 43 53.5 +0.6
baz=159,SNR=5.6
PAULI **Pauline** 66.79 351 IAmb IAmb 01 43 53.8
comp=Z,32nm,1.2s
CNNC **Cliffs of the** 66.79 355 P **P** 01 43 54.2 +0.5
baz=175
KMSC **Kings Mountain** 67.04 352 P **P** 01 43 54.9 -0.5
baz=171,SNR=5.7
JCT **Junction City** 67.22 334 P **P** 01 43 56.9 +0.3
baz=155,SNR=18
X48A **Hartselle** 67.29 347 IAmb IAmb 01 44 06.0
comp=Z,36nm,0.8s
Z41A **Richland Creek** 67.51 341 P **P** 01 43 58.7 +0.3
baz=161,SNR=7.2
TXAR **Lajitas Array** 67.74 330 P **P** 01 43 59.9 -0.2
comp=Z,11nm,0.7s,baz=151,slow=7.8,SNR=64
TXAR PKPPKP **P'P'df** 02 12 22.8 +5.8
comp=Z,0.4nm,0.6s,baz=132,slow=1.3,SNR=2.7
WHTX **Lake Whitney,** 67.76 337 P **P** 01 44 00.2 +0.3
baz=157,SNR=9.5
OXF **Oxford** 67.85 345 P **P** 01 43 59.7 -0.7
baz=164,SNR=15
TKL **Tuckaleechee C** 67.89 350 P **P** 01 44 00.0 -0.7
comp=Z,14nm,0.8s,baz=174,slow=8.0,SNR=18
TKL **Tuckaleechee C** 67.89 350 IAmb IAmb 01 44 00.4
comp=Z,30nm,0.9s
SYO **Syowa Base** 68.01 159 ⇑*i*pP **P** 01 44 01.6 +0.5
PLAL **Pickwick Lake** 68.01 346 IAmb IAmb 01 44 01.2
comp=Z,29nm,1.0s
Z38A **Mt. Pleasant** 68.14 339 IAmb IAmb 01 44 03.2
comp=Z,75nm,1.2s
X40A **Basin Creek Fa** 68.68 342 P **P** 01 44 05.2 -0.5
baz=161
TZTN **Tazewell** 68.72 350 P **P** 01 44 05.1 -0.8
baz=170,SNR=5.3
MIAR **Mount Ida** 68.94 341 IAmb IAmb 01 44 07.5
comp=Z,49nm,1.3s
MIAR **Mount Ida** 68.94 341 P **P** 01 44 07.0 -0.3
baz=160,SNR=13
BLA **Blacksburg** 68.98 353 P **P** 01 44 07.2 -0.4
baz=172
WVT **Waverly** 69.07 346 P **P** 01 44 07.0 -1.0
WVT pmax pmax
comp=Z,72nm,1.1s
WVT **Waverly** 69.07 346 P **P** 01 44 07.0 -1.0
WVT **Waverly** 69.07 346 P **P** 01 44 07.6 -0.4
baz=166
ABTX **Abilene, Hawle** 69.09 335 P **P** 01 44 08.4 +0.1
baz=155,SNR=21
W41B **Gary Mavity, V** 69.17 342 P **P** 01 44 08.4 -0.3
baz=162,SNR=7.8
LOOK **Love County** 69.50 338 IAmb IAmb 01 44 17.1
comp=Z,58nm,1.0s
W39A **Magazine** 69.61 341 P **P** 01 44 11.8 +0.4
baz=160,SNR=24
CBN **Corbin Frederi** 69.70 355 P **P** 01 44 12.3 +0.5
baz=175
VAH **Vaihoa** 70.10 264 *e*P **P** 01 44 14.6 -0.4
comp=Z,146nm,1.5s
U40A **Yellville** 70.45 342 IAmb IAmb 01 44 16.7
comp=Z,57nm,1.1s
U40A **Yellville** 70.45 342 P **P** 01 44 16.5 -0.1
baz=161,SNR=14
TIAR **Tiarei** 70.46 261 *e*P **P** 01 44 16.8 -0.4
comp=Z,4.7nm,0.9s

MNTX **Cornudas Mount** 70.52 330 P **P** 01 44 16.7 -0.5
baz=150,SNR=35
PAE **Paea** 70.61 261 *e*P **P** 01 44 17.8 -0.3
comp=Z,23nm,1.2s
PPT2 **Papeete2** 70.64 261 *e*P **P** 01 44 18.3 -0.1
comp=Z,133nm,1.1s
PPT **Papeete** 70.65 261 P **P** 01 44 19.2 +0.9
comp=Z,86nm,0.9s,baz=170,slow=3.4,SNR=7.6
Q56A **Snyder Ridge,** 70.67 354 P **P** 01 44 17.7 -0.1
WMOK **Wichita Mounta** 70.71 337 P **P** 01 44 17.7 -0.5
baz=156,SNR=18
FNO **Franklin** 70.74 338 IAmb IAmb 01 44 18.4
comp=Z,67nm,1.2s
WCI **Wyandotte Cave** 70.81 348 P **P** 01 44 17.9 -0.8
WCI pmax pmax
comp=Z,30nm,1.0s
WCI **Wyandotte Cave** 70.81 348 P **P** 01 44 17.9 -0.8
WCI IAmb IAmb 01 44 19.2
comp=Z,30nm,0.9s
WCI **Wyandotte Cave** 70.81 348 P **P** 01 44 17.9 -0.8
baz=167
HSIG 70.83 324 IAmb IAmb 01 44 20.1
comp=Z,64nm,1.3s
TUL1 **Leonard** 70.85 340 P **P** 01 44 18.7 -0.3
baz=159,SNR=9.6
P60A **Greenville** 71.20 357 P **P** 01 44 21.5 +0.5
baz=177
MCWV **Mont Chateau** 71.35 354 P **P** 01 44 22.0 +0.1
baz=173
QUOK **Quay** 71.36 339 IAmb IAmb 01 44 22.3
comp=Z,91nm,1.2s
MVL **Millersville** 71.43 356 IAmb IAmb 01 44 25.5
comp=Z,64nm,1.4s
MSTX **Muleshoe** 71.46 333 P **P** 01 44 23.0 +0.1
baz=153,SNR=44
P52A **Corning** 71.57 352 P **P** 01 44 22.6 -0.6
baz=171,SNR=6.9
CCM **Cathedral Cave** 71.66 344 P **P** 01 44 23.2 -0.7
CCM pmax pmax
comp=Z,63nm,1.2s
CCM **Cathedral Cave** 71.66 344 P **P** 01 44 23.2 -0.7
CCM IAmb IAmb 01 44 24.1
comp=Z,63nm,1.1s
CCM **Cathedral Cave** 71.66 344 P **P** 01 44 24.0 +0.1
baz=163
P49A **Miami Univ. Ec** 71.83 350 P **P** 01 44 23.7 -1.1
baz=169,SNR=6.6
S39A **Bolivar** 71.83 342 IAmb IAmb 01 44 25.8
comp=Z,100nm,1.3s
O56A **Blue Knob Stat** 71.84 355 P **P** 01 44 25.3 +0.4
baz=174,SNR=7.1
AMTX **Amarillo** 71.86 335 P **P** 01 44 25.4 +0.1
baz=154
P48A **Milroy** 71.87 349 IAmb IAmb 01 44 26.2
comp=Z,88nm,1.4s
319A **Douglas** 71.98 327 IAmb IAmb 01 44 27.5
comp=Z,75nm,1.3s
O53A **New Philadelph** 72.07 353 P **P** 01 44 25.9 -0.4
baz=172
SSPA **Standing Stone** 72.16 355 P **P** 01 44 26.3 -0.5
SSPA **Standing Stone** 72.16 355 P **P** 01 44 26.9 +0.1
baz=175
ACSO **Alum Creek Sta** 72.27 351 P **P** 01 44 26.9 -0.5
baz=170,SNR=8.3
121A **Cookes Peak, D** 72.28 329 P **P** 01 44 29.2 +1.2
baz=149,SNR=34
N59A **State Game Lan** 72.31 357 P **P** 01 44 28.6 +0.9
baz=177,SNR=17
N54A **Moraine State** 72.65 354 P **P** 01 44 29.7 -0.1
baz=173
M63A **Gales Ferry** 72.71 360 P **P** 01 44 31.4 +1.4
M64A **Tiverton** 72.86 1 IAmb IAmb 01 44 33.9
comp=Z,45nm,1.2s
M64A **Tiverton** 72.86 1 P **P** 01 44 31.4 +0.4
baz=181
SFIN **Lafayette** 73.05 348 P **P** 01 44 30.6 -1.5
baz=167
N49A **Columbus Grove** 73.11 350 IAmb IAmb 01 44 32.3
comp=Z,56nm,1.0s
BNM **Barren Site** 73.16 330 P **P** 01 44 33.5 +0.3
M54A **Oil Creek Stat** 73.16 354 P **P** 01 44 31.9 -0.9
baz=173
L63A **North Scituate** 73.17 0 P **P** 01 44 33.7 +1.0
baz=180,SNR=9.4
M53A **Wt Miller and** 73.19 353 P **P** 01 44 32.5 -0.4
baz=172,SNR=6.1
L64A **Middleborough** 73.25 1 P **P** 01 44 34.1 +0.9
baz=181,SNR=7.8
TUC **Tucson** 73.46 326 P **P** 01 44 35.4 +0.5
TUC pmax pmax
comp=Z,46nm,1.4s
TUC **Tucson** 73.46 326 P **P** 01 44 35.4 +0.5
TUC **Tucson** 73.46 326 P **P** 01 44 34.9 0.0
baz=146
BINY **Binghamton** 73.60 357 P **P** 01 44 35.6 +0.2
BINY **Binghamton** 73.60 357 P **P** 01 44 35.6 +0.2
baz=176,SNR=7.7
HDIL **Hopedale** 73.64 346 P **P** 01 44 34.8 -0.8
HDIL IAmb IAmb 01 44 35.3
comp=Z,59nm,1.3s
HDIL **Hopedale** 73.64 346 P **P** 01 44 34.8 -0.8
baz=165
P38A **Dawn** 73.71 343 P **P** 01 44 35.4 -0.6
P38A IAmb IAmb 01 44 35.9
comp=Z,58nm,1.1s
L61B **Northampton** 73.76 359 P **P** 01 44 36.7 +0.5
baz=179,SNR=12
ANMO **Albuquerque** 73.78 331 P **P** 01 44 37.2 +0.4
comp=Z,11nm,1.0s,baz=151,slow=7.8,SNR=37
ANMO **Albuquerque** 73.78 331 ||*i*P **P** 01 44 36.8 0.0
ANMO pmax pmax
comp=Z,96nm,1.7s
ANMO **Albuquerque** 73.78 331 P **P** 01 44 37.3 +0.6
ANMO IAmb IAmb 01 44 38.1
comp=Z,62nm,1.4s
ANMO **Albuquerque** 73.78 331 P **P** 01 44 37.4 +0.6
baz=150
ERPA **Erie** 73.80 354 P **P** 01 44 35.9 -0.5
ERPA **Erie** 73.80 354 P **P** 01 44 36.0 -0.5
baz=173,SNR=6.2
HRV **Adam Dziewonsk** 73.82 0 P **P** 01 44 37.3 +0.7
baz=180
K62A **Royalston** 73.97 360 P **P** 01 44 38.7 +1.2
baz=180,SNR=9.4
K61A **Williamstown** 73.99 359 P **P** 01 44 38.5 +0.9
baz=179,SNR=6.2
LIC **Lanto** 74.00 72 *e*P **P** 01 44 38.9 +0.6
comp=Z,755nm,1.1s
KSU1 **Kansas State U** 74.05 340 P **P** 01 44 37.4 -0.6
baz=158
214A **Organ Pipe Nat** 74.15 325 P **P** 01 44 38.9 +0.1
214A IAmb IAmb 01 44 40.4
comp=Z,81nm,1.3s
214A **Organ Pipe Nat** 74.15 325 P **P** 01 44 39.6 +0.8
baz=145,SNR=29
TIC **Toumodi** 74.24 72 *e*P **P** 01 44 40.4 +0.6
KIC **Kosan Boka** 74.31 72 *e*P **P** 01 44 40.8 +0.7
comp=Z,614nm,1.0s
DBIC **Dimbokro** 74.39 72 P **P** 01 44 41.5 +0.9
comp=Z,73nm,0.9s,baz=230,slow=5.4,SNR=40
DBIC **Dimbokro** 74.39 72 P **P** 01 44 41.1 +0.5
AAM **Ann Arbor** 74.39 351 P **P** 01 44 40.3 +0.4
baz=170
J61A **Chester** 74.66 360 P **P** 01 44 42.6 +1.2
baz=180
ACCN **Adirondack Com** 74.71 359 P **P** 01 44 41.7 0.0
CBKS **Cedar Bluff** 74.74 338 P **P** 01 44 41.6 -0.5
CBKS pmax pmax
comp=Z,89nm,1.0s
CBKS **Cedar Bluff** 74.74 338 P **P** 01 44 41.6 -0.5
CBKS IAmb IAmb 01 44 43.4
comp=Z,89nm,0.9s
CBKS **Cedar Bluff** 74.74 338 P **P** 01 44 42.5 +0.4
baz=156,SNR=8.8
J57A **Williamstown** 74.81 357 P **P** 01 44 41.8 -0.5
J57A IAmb IAmb 01 44 44.7
comp=Z,72nm,1.2s
T25A **Trinidad** 74.88 334 P **P** 01 44 44.2 +1.1
baz=152,SNR=45
L44A **Lake County Fo** 74.94 348 P **P** 01 44 42.2 -0.9
baz=166
L42A **Oliver, Polo** 75.10 346 P **P** 01 44 43.1 -0.9
L42A IAmb IAmb 01 44 44.5
comp=Z,64nm,1.3s
I60A **Shoreham** 75.16 359 P **P** 01 44 45.0 +0.6
baz=179,SNR=12
I62A **Tamworth** 75.19 0 P **P** 01 44 45.6 +1.1
baz=181,SNR=6.3
113A **Mohawk Valley,** 75.28 325 P **P** 01 44 45.5 +0.2
W18A **Petrified Fore** 75.33 329 P **P** 01 44 46.0 +0.2
baz=148
I63A **Otisfield** 75.37 1 P **P** 01 44 46.5 +1.0
I63A IAmb IAmb 01 44 48.1
comp=Z,85nm,1.2s
I63A **Otisfield** 75.37 1 P **P** 01 44 47.0 +1.4
baz=181,SNR=10
MAW **Mawson** 75.39 164 P **P** 01 44 46.0 +0.5
comp=Z,30nm,0.9s,baz=212,slow=7.0,SNR=32
MAW **Mawson** 75.39 164 P **P** 01 44 46.2 +0.7
MAW pmax pmax
comp=Z,25nm,1.4s
MAW **Mawson** 75.39 164 P **P** 01 44 46.2 +0.7
X16A **Lo Mia Camp, P** 75.51 327 P **P** 01 44 47.4 +0.5
X16A IAmb IAmb 01 44 48.4
comp=Z,49nm,1.1s
LBNH **Lisbon** 75.55 0 P **P** 01 44 47.4 +0.8
baz=180,SNR=7.9
SCIA **State Center** 75.79 344 P **P** 01 44 48.3 +0.3
baz=162
SDCO **Great Sand Dun** 75.82 333 P **P** 01 44 49.6 +1.0
baz=151,SNR=43
SUR **Sutherland** 75.91 119 P **P** 01 44 50.6 +1.2
comp=Z,37nm,0.8s,baz=230,slow=4.9,SNR=26
SUR **Sutherland** 75.91 119 P **P** 01 44 49.3 -0.1
SUR IAmb IAmb 01 44 52.0
comp=Z,41nm,0.8s
LONY **Lake Ozonia** 75.97 358 P **P** 01 44 48.8 -0.2
LONY IAmb IAmb 01 44 51.5
comp=Z,42nm,1.1s
LONY **Lake Ozonia** 75.97 358 P **P** 01 44 49.2 +0.2
baz=178,SNR=12
GLA **Glamis** 76.04 324 P **P** 01 44 50.4 +0.8
baz=144,SNR=5.3
JFWS **Jewell Farm** 76.10 346 P **P** 01 44 49.6 -0.2
baz=164,SNR=9.8
EMMW **East Machias** 76.13 3 P **P** 01 44 50.8 +1.0
EMMW IAmb IAmb 01 44 53.3
comp=Z,88nm,1.3s
S22A **4UR Ranch, Cre** 76.34 332 P **P** 01 44 52.4 +0.8
baz=150,SNR=40
SADO **Sadowa** 76.36 355 P **P** 01 44 50.7 -0.5
comp=Z,18nm,0.9s,baz=193,slow=2.2,SNR=11
SADO **Sadowa** 76.36 355 IAmb IAmb 01 44 53.1
comp=Z,58nm,1.2s
IKP **In-Ko-Pah, Jac** 76.37 323 P **P** 01 44 52.5 +0.9
baz=143,SNR=8.4
CBX **Cerro Bola** 76.39 322 P **P** 01 44 52.4 +0.5
WUAZ **Wupatki** 76.39 328 P **P** 01 44 51.9 +0.1
WUAZ **Wupatki** 76.39 328 P **P** 01 44 52.9 +1.1
baz=146,SNR=19
SWSC **Sam W. Stewart** 76.44 323 P **P** 01 44 53.1 +1.1
baz=143,SNR=5.1
PLVO **Plevna** 76.49 356 P **P** 01 44 51.8 -0.1
MVCO **Mesa Verde** 76.56 331 P **P** 01 44 53.0 +0.1
MVCO IAmb IAmb 01 44 54.1
comp=Z,65nm,1.2s
MVCO **Mesa Verde** 76.56 331 P **P** 01 44 53.8 +0.9
baz=149,SNR=25
PKME **Peaks-Kenny Pk** 76.61 2 P **P** 01 44 53.5 +1.0
baz=182,SNR=8.4
BAR **Barrett** 76.69 322 P **P** 01 44 52.8 -0.5
BAR IAmb IAmb 01 44 54.8
comp=Z,57nm,1.2s
PDMCI **Parker Dam,Lak** 76.70 325 P **P** 01 44 54.0 +0.7
baz=144,SNR=7.7
MONP2 **Monument Peak** 76.72 323 P **P** 01 44 54.5 +0.7
baz=142,SNR=12
Q24A **Divide** 76.76 334 P **P** 01 44 54.9 +1.0
baz=152,SNR=47
I42A **Draeger Farm,** 76.78 348 IAmb IAmb 01 44 55.5
comp=Z,66nm,1.2s
BC3 **Big Chuckawall** 76.83 324 P **P** 01 44 55.3 +1.0
baz=143,SNR=17
F63A **Nahmakanta, Br** 77.06 2 P **P** 01 44 55.5 +0.4
F63A IAmb IAmb 01 44 57.4
comp=Z,83nm,1.4s
109C **Camp Elliot, M** 77.07 322 P **P** 01 44 55.3 -0.2
baz=142
IRM **Iron Mountain** 77.08 324 P **P** 01 44 56.6 +1.0
baz=143,SNR=21
F64A **Sherman** 77.24 3 P **P** 01 44 57.1 +1.0
TPFO **Pinon Flats** 77.30 323 P **P** 01 44 58.2 +1.3
baz=142,SNR=18
PFO **Pinyon Flats O** 77.31 323 P **P** 01 44 57.9 +0.9
comp=Z,23nm,1.0s,baz=129,slow=4.9,SNR=38
PFO **Pinyon Flats O** 77.31 323 *de*P **P** 01 44 57.7 +0.7
PFO pmax pmax
comp=Z,265nm,1.8s
PFO **Pinyon Flats O** 77.31 323 P **P** 01 44 58.1 +1.1
PFO IAmb IAmb 01 44 58.7
comp=Z,85nm,1.3s
PFO **Pinyon Flats O** 77.31 323 P **P** 01 44 58.2 +1.1
baz=142,SNR=17
NEE2 **Needles Airpor** 77.31 325 P **P** 01 44 57.5 +0.8
baz=144
BELC **Belle Mtn. Jos** 77.38 324 P **P** 01 44 58.4 +1.0
baz=143,SNR=15
RAR **Rarotonga** 77.38 253 P **P** 01 44 58.7 +1.1
comp=Z,21nm,0.7s,baz=200,slow=6.1,SNR=4.0
OGNE **Ogallala** 77.42 337 IAmb IAmb 01 44 58.3
comp=Z,58nm,1.3s
OGNE **Ogallala** 77.42 337 P **P** 01 44 57.9 +0.6
baz=154,SNR=5.0
LMN **Caledonia Moun** 77.43 5 P **P** 01 44 58.1 +0.9
ISCO **Idaho Springs** 77.66 334 IAmb IAmb 01 45 00.2
comp=Z,38nm,1.1s
ISCO **Idaho Springs** 77.66 334 P **P** 01 44 60.0 +1.0
baz=151,SNR=32
PV07 **Paradox Valley** 77.67 331 P **P** 01 44 59.4 +0.4
PV07 IAmb IAmb 01 45 00.2
comp=Z,50nm,1.4s
MURC **Murrieta** 77.68 323 P **P** 01 45 00.2 +1.3
baz=142,SNR=12
SCI2 **San Clemente I** 77.91 321 P **P** 01 45 00.7 +0.6
baz=141
PQI **Presque Isle** 78.06 3 P **P** 01 45 01.1 +0.4
PQI IAmb IAmb 01 45 03.8
comp=Z,84nm,1.2s
CIS **Catalina Islan** 78.16 322 P **P** 01 45 02.3 +0.7
baz=141
HEC **Hector,Ludlow** 78.21 324 P **P** 01 45 03.4 +1.5
baz=143,SNR=19
ECSD **EROS Data Cent** 78.36 342 IAmb IAmb 01 45 02.7
comp=Z,64nm,1.1s
ECSD **EROS Data Cent** 78.36 342 P **P** 01 45 02.2 -0.2
baz=159,SNR=30
BFSC **Mount Baldy Ra** 78.42 323 P **P** 01 45 03.9 +0.8
baz=142,SNR=23
E46A **Sault Ste Mari** 78.47 351 IAmb IAmb 01 45 02.8
comp=Z,70nm,1.2s
TUQ **Turquoise Moun** 78.48 325 P **P** 01 45 04.6 +1.1
baz=143,SNR=6.0
RRX **Edison Barstow** 78.58 324 P **P** 01 45 05.5 +1.7
baz=142
N23A **Red Feather La** 78.74 334 P **P** 01 45 05.9 +1.0
baz=151,SNR=15
BATG **Bathurst New B** 78.77 4 P **P** 01 45 04.8 +0.2
BATG IAmb IAmb 01 45 07.8
comp=Z,76nm,1.1s
DECC **Green Verdugo** 78.78 322 P **P** 01 45 06.0 +1.0
baz=141
GSC **Goldstone, Bar** 78.82 324 P **P** 01 45 06.3 +1.0
baz=142
SPMN **Marine on St.** 78.84 345 P **P** 01 45 04.0 -1.0
SPMN **Marine on St.** 78.84 345 P **P** 01 45 04.0 -1.0
baz=162,SNR=5.6
O20A **White River Ci** 78.96 332 P **P** 01 45 06.9 +0.8
baz=149,SNR=25
SHPR **Sheep Range** 78.97 326 P **P** 01 45 07.0 +0.8
SHPR IAmb IAmb 01 45 07.8
comp=Z,64nm,1.2s
CCUT **Cedar City** 78.97 328 P **P** 01 45 06.9 +0.6
CCUT IAmb IAmb 01 45 10.1
comp=Z,99nm,1.3s
SHOC **Shoshone, Teco** 79.03 325 P **P** 01 45 06.9 +0.6
baz=143
EDW2 **Edwards Air Fo** 79.09 323 P **P** 01 45 07.3 +0.6
baz=142,SNR=25
MSU **Marysvale** 79.23 329 P **P** 01 45 08.1 +0.5
MSU **Marysvale** 79.23 329 P **P** 01 45 08.1 +0.5
LRMC **Laurel Mtn Rad** 79.40 324 P **P** 01 45 09.2 +0.7
baz=142,SNR=5.4
MACI **Morro de la Ar** 79.61 48 P **P** 01 45 10.7 +0.9
MACI IAmb IAmb 01 45 17.4

KOWA **Kowa** 79.63 66 P P 01 45 10.7 +0.6
comp=Z,78nm,1.1s
KOWA **Kowa** 79.63 66 P P 01 45 10.8 +0.8
KOWA **Kowa** 79.63 66 P P 01 45 10.8 +0.8
PRN **Pahroc Range** 79.64 326 P P 01 45 10.5 +0.8
PRN IAmb IAmb 01 45 12.3
comp=Z,83nm,1.0s
SBC **Santa Barbara** 79.65 322 P P 01 45 10.9 +1.2
baz=140
SUSD **Miller** 79.65 341 P P 01 45 10.6 +1.1
baz=157
ARVC **Arvin** 79.71 323 P P 01 45 11.1 +1.1
baz=141
MPMC **Manual Prospec** 79.75 324 P P 01 45 11.2 +0.7
baz=142
FURC **Furnace Creek,** 79.76 325 P P 01 45 11.4 +1.1
baz=142,SNR=15
TSUM **Tsumeb** 79.80 106 P P 01 45 12.2 +1.1
comp=Z,36nm,1.1s,baz=233,slow=5.6,SNR=17
TSUM pP pP 01 45 20.9 +0.6
comp=Z,95nm,1.1s,baz=232,slow=6.6,SNR=23
TSUM **Tsumeb** 79.80 106 P P 01 45 11.0 -0.2
TSUM IAmb IAmb 01 45 13.1
comp=Z,56nm,1.1s
TPNV **Topopah Spring** 79.85 325 P P 01 45 12.0 +1.1
baz=143,SNR=34
ISA **Isabella, Lake** 79.94 323 P P 01 45 12.2 +0.8
ISA pmax pmax
comp=Z,72nm,1.2s
ISA **Isabella, Lake** 79.94 323 P P 01 45 12.2 +0.8
ISA IAmb IAmb 01 45 13.1
comp=Z,72nm,1.1s
ISA **Isabella, Lake** 79.94 323 P P 01 45 12.6 +1.2
baz=141,SNR=35
PKM **Mcpherson Peak** 80.04 322 P P 01 45 13.5 +1.4
baz=140,SNR=22
CWC **Cottonwood Cre** 80.35 324 P P 01 45 14.7 +1.0
baz=142
NLU **North Lily Min** 80.38 330 P P 01 45 14.0 +0.2
NLU IAmb IAmb 01 45 15.1
comp=Z,56nm,1.3s
VES **Vestal, Richgr** 80.39 323 P P 01 45 14.6 +0.9
baz=141,SNR=20
GRAC **Grapevine Rang** 80.43 325 P P 01 45 15.2 +1.2
baz=142,SNR=15
SMMC **Simmler** 80.46 322 P P 01 45 15.5 +1.3
baz=140,SNR=8.5
K22A **Casper** 80.48 335 P P 01 45 14.9 +0.7
baz=151,SNR=39
SPR3 **Spring Creek 3** 80.59 328 P P 01 45 15.2 0.0
SPR3 IAmb IAmb 01 45 16.1
comp=Z,75nm,1.3s
R11A **Troy Canyon, C** 80.65 327 P P 01 45 16.5 +1.3
baz=144,SNR=66
DUG **Dugway, Tooele** 80.90 330 P P 01 45 16.8 +0.3
DUG pmax pmax
comp=Z,49nm,1.2s
DUG **Dugway, Tooele** 80.90 330 P P 01 45 16.8 +0.3
DUG IAmb IAmb 01 45 17.7
comp=Z,50nm,1.1s
DUG **Dugway, Tooele** 80.90 330 P P 01 45 17.5 +1.0
baz=146,SNR=42
TIN **Tinemaha, Big** 80.90 324 P P 01 45 17.4 +0.9
baz=142
RSSD **Black Hills** 80.92 337 P P 01 45 16.4 -0.2
RSSD pmax pmax
comp=Z,33nm,1.2s
RSSD **Black Hills** 80.92 337 P P 01 45 16.4 -0.2
RSSD **Black Hills** 80.92 337 P P 01 45 16.7 +0.1
baz=153
BOSA **Boshof** 81.11 118 P P 01 45 18.6 +0.6
comp=Z,42nm,0.9s,baz=240,slow=4.7,SNR=30
BOSA **Boshof** 81.11 118 P P 01 45 18.5 +0.4
EYMN **Ely** 81.17 347 P P 01 45 16.9 -0.7
baz=163,SNR=7.1
HWUT **Hardware Ranch** 81.54 331 IAmb IAmb 01 45 21.6
comp=Z,52nm,0.8s
PMPB **Monarch Peak** 81.57 322 P P 01 45 20.5 +0.4
MLAC **Mammoth, Mammo** 81.65 324 P P 01 45 21.9 +1.2
baz=141,SNR=7.0
BW06 **Boulder Array** 81.72 333 P P 01 45 20.3 -0.6
baz=148,SNR=19
PDAR **Pinedale Array** 81.72 333 P P 01 45 20.5 -0.4
comp=Z,4.1nm,0.7s,baz=142,slow=5.1,SNR=24
PDAR PKKPbc PKKPbc 02 03 52.2 -2.2
comp=Z,1.4nm,0.7s,baz=210,slow=0.6,SNR=8.2
PDAR **Pinedale Array** 81.72 333 P P 01 45 20.4 -0.5
NVAR **Mina Array Bea** 82.01 325 P P 01 45 23.2 +0.7
comp=Z,23nm,0.7s,baz=155,slow=6.0,SNR=101
NVAR PKKPbc PKKPbc 02 03 53.3 -0.1
comp=Z,0.6nm,0.8s,baz=301,slow=2.3,SNR=4.2
HVU **Hansel Valley** 82.19 330 IAmb IAmb 01 45 25.4
comp=Z,35nm,0.8s
KVN **Kaiserville** 82.40 326 P P 01 45 24.9 +0.4
KVN pmax pmax
comp=Z,47nm,1.0s
KVN **Kaiserville** 82.40 326 P P 01 45 24.9 +0.4
KVN IAmb IAmb 01 45 25.4
comp=Z,47nm,1.0s
ELK **Elko** 82.42 328 P P 01 45 24.7 +0.1
ELK pmax pmax
comp=Z,27nm,0.8s
ELK **Elko** 82.42 328 P P 01 45 24.7 +0.1
ELK IAmb IAmb 01 45 26.5
comp=Z,26nm,0.8s
AGMN **Agassiz Nation** 82.44 344 P P 01 45 23.8 -0.4
baz=160,SNR=8.1
PMAR **Madeira** 82.50 44 *e*pP pP 01 45 36.0 +1.6
PMAR A A 01 45 39.6
comp=Z,408nm,1.5s
MDND **Maddock** 82.96 342 P P 01 45 26.9 -0.1
baz=157,SNR=11
FXWY **Fox Creek** 83.03 333 P P 01 45 27.5 -0.2
PNTR **Pine Nut** 83.16 325 P P 01 45 29.5 +1.0
LBTB **Lobatse** 83.23 115 P P 01 45 29.3 +0.1
LBTB pmax pmax
comp=Z,151nm,1.1s
LBTB **Lobatse** 83.23 115 P P 01 45 29.3 +0.1
TORD **Torodi Ar. Bea** 83.37 70 P P 01 45 30.4 +0.6
comp=Z,47nm,0.8s,baz=265,slow=4.3,SNR=66
TORD pP pP 01 45 39.0 +0.1
comp=Z,256nm,0.9s,baz=283,slow=5.4,SNR=54
TORD **Torodi Ar. Bea** 83.37 70 P P 01 45 30.5 +0.6
RLMT **Red Lodge** 83.62 334 P P 01 45 30.4 -0.2
RLMT IAmb IAmb 01 45 32.3
comp=Z,32nm,0.9s
RLMT **Red Lodge** 83.62 334 P P 01 45 30.7 0.0
baz=149,SNR=22
BEKR **Beckworth** 84.14 325 P P 01 45 34.0 +0.5
BEKR IAmb IAmb 01 45 34.6
comp=Z,42nm,1.1s
ULM **Lac du Bonnet** 84.27 345 P P 01 45 32.8 -0.8
comp=Z,18nm,0.8s,baz=166,slow=5.0,SNR=14
ULM **Lac du Bonnet** 84.27 345 IAmb IAmb 01 45 33.2
comp=Z,48nm,1.1s
HLID **Hailey** 84.34 330 IAmb IAmb 01 45 35.6
comp=Z,37nm,1.1s
HLID **Hailey** 84.34 330 P P 01 45 34.7 +0.3
baz=145,SNR=48
MFID **Camas Ranch** 84.83 330 P P 01 45 37.0 +0.3
MFID IAmb IAmb 01 45 37.6
comp=Z,55nm,1.4s
DGMT **Dagmar** 84.83 339 P P 01 45 36.9 +0.4
baz=153,SNR=12
KHZ **Kahutara** 84.87 223 P P 01 45 37.1 0.0
BOZ **Bozeman (W)** 84.91 333 P P 01 45 37.2 0.0
baz=147,SNR=15
O03E **Paynes Creek** 85.18 324 P P 01 45 38.2 -0.4
baz=139,SNR=21
URZ **Urewera** 85.26 228 P P 01 45 40.2 +1.1
comp=Z,16nm,0.7s,baz=135,slow=11,SNR=10
URZ **Urewera** 85.26 228 P P 01 45 39.5 +0.3
URZ IAmb IAmb 01 45 40.9
comp=Z,50nm,1.1s
LTZ **Lake Taylor** 85.36 222 P P 01 45 40.2 +0.5
RPZ **Rata Peaks** 85.45 220 P P 01 45 41.1 +1.1
CGR **Cap Guir** 85.46 50 P pP 01 45 52.0 +2.7
CGR **Cap Guir** 85.46 50 P pP 01 45 52.0 +2.7
O02D **Mt. Diablo Mer** 85.59 323 P P 01 45 40.6 +0.1
baz=139,SNR=6.8
THZ **Tophouse** 85.65 223 P P 01 45 41.9 +0.7
WHZ **Wether Hill Ro** 85.67 217 IAmb IAmb 01 45 51.6
comp=Z,40nm,1.1s
NNZ **Nelson** 85.72 223 P P 01 45 41.1 -0.3
WDC **Whiskeytown Da** 85.76 324 P P 01 45 41.1 -0.2
WDC pmax pmax
comp=Z,28nm,1.1s
WDC **Whiskeytown Da** 85.76 324 P P 01 45 41.1 -0.2
KMRM **Mail Ridge** 86.09 323 P P 01 45 43.9 +0.8
N02D **Trinity Center** 86.14 324 P P 01 45 43.3 0.0
baz=139,SNR=12
PLID **Pearl Lake** 86.25 330 IAmb IAmb 01 45 44.6
comp=Z,50nm,1.1s
SCHQ **Schefferville** 86.27 3 P P 01 45 43.5 0.0
comp=Z,30nm,1.1s,baz=167,slow=2.0,SNR=10
SCHQ pP pP 01 45 52.9 +0.5
comp=Z,54nm,1.1s,baz=149,slow=3.9,SNR=13
SCHQ **Schefferville** 86.27 3 IAmb IAmb 01 45 43.6
comp=Z,44nm,1.1s
EGMT **Eagleton** 86.27 336 P P 01 45 43.4 -0.4
baz=149,SNR=10
EAH **EAH** 86.32 49 P pP 01 45 55.0 +1.4
EAH **EAH** 86.32 49 P pP 01 45 55.0 +1.4
M04C **Macdoel** 86.32 325 P P 01 45 44.5 +0.3
baz=139,SNR=22
TTIG **Tnine Tigouga,** 86.35 51 P P 01 45 47.0 +2.3
M02C **Callahan** 86.53 324 P P 01 45 45.5 +0.3
baz=139,SNR=14
K05A **Summer Lake** 86.58 326 P P 01 45 46.1 +0.5
KHMM **Horse Mountain** 86.58 323 P P 01 45 46.3 +0.7
YBH **Yreka Blue Hor** 86.71 325 P P 01 45 45.2 -0.9
YBH pmax pmax
comp=Z,21nm,1.0s
YBH **Yreka Blue Hor** 86.71 325 P P 01 45 45.1 -0.9
MSO **Missoula** 86.83 333 P P 01 45 46.7 +0.1
MSO IAmb IAmb 01 45 48.3
comp=Z,54nm,1.5s
MSO **Missoula** 86.83 333 P P 01 45 46.7 +0.1
baz=145,SNR=11
L04D **Klamath Falls** 86.88 325 P P 01 45 46.7 -0.3
baz=139
I07A **Izee** 86.98 328 IAmb IAmb 01 45 48.6
comp=Z,43nm,1.0s
OUK **Oukaimeden** 87.15 51 P P 01 45 52.0 +3.1
OUK **Oukaimeden** 87.15 51 P pP 01 45 59.1 +1.1
J05D **Fort Rock, OR** 87.17 326 P P 01 45 49.0 +0.6
baz=140,SNR=22
PINE **Pine Mountain** 87.42 327 P P 01 45 50.2 +0.5
L02E **Cave Junction** 87.47 324 P P 01 45 50.5 +0.8
baz=138,SNR=6.8
J04D **Umpqua Nationa** 87.55 326 P P 01 45 50.7 +0.4
baz=139,SNR=6.6
G08A **Pilot Rock** 87.68 329 IAmb IAmb 01 45 51.5
comp=Z,27nm,1.1s
K02D **Willamette Mer** 87.90 325 P P 01 45 52.7 +0.8
baz=138,SNR=9.2
I05D **Terrebonne, OR** 88.02 327 P P 01 45 53.2 +0.9
baz=140,SNR=17
I04A **Tendick Farm,** 88.12 326 P P 01 45 52.7 -0.1
baz=139,SNR=7.9
J01E **Myrtle Point** 88.38 325 P P 01 45 54.4 +0.4
baz=138
I03D **Drain, OR** 88.49 325 P P 01 45 54.8 +0.3
baz=138
H04A **Detroit Lake** 88.68 327 P P 01 45 55.2 -0.2
H04A IAmb IAmb 01 45 55.8
comp=Z,47nm,1.2s
BUCK **Buck Mountain** 88.69 326 P P 01 45 56.2 +0.7
G05D **Wamic, OR** 88.70 328 P P 01 45 56.4 +0.9
baz=140,SNR=6.6
HAWA **Hanford** 88.79 329 P P 01 45 56.4 +0.5
H04D **Lebanon** 88.82 326 P P 01 45 56.6 +0.6
baz=139
D08A **Wollman Farm,** 89.05 330 P P 01 45 57.2 +0.2
D08A IAmb IAmb 01 45 57.5
comp=Z,28nm,1.0s
E07A **Sunnyside** 89.06 329 P P 01 45 56.8 -0.3
E07A IAmb IAmb 01 45 58.0
comp=Z,24nm,1.0s
NEW **Newport** 89.25 332 P P 01 45 57.1 -0.9
baz=143,SNR=12
F05D **White Salmon** 89.26 328 P P 01 45 58.3 +0.3
baz=140
OUZ **Omahuta** 89.36 228 P P 01 45 58.8 -0.2
C09A **Chrisman Ranch** 89.36 331 IAmb IAmb 01 45 59.4
comp=Z,38nm,1.0s
G03D **McMinnville, O** 89.58 327 P P 01 46 00.4 +0.8
baz=138
FFC **Flin Flon** 89.85 343 P P 01 45 59.2 -1.3
FFC pmax pmax
comp=Z,14nm,1.0s
FFC **Flin Flon** 89.85 343 P P 01 45 59.2 -1.3
CZD **Col de Zad** 90.16 51 P pP 01 46 15.0 +2.7
CZD **Col de Zad** 90.16 51 P pP 01 46 15.0 +2.7
E04D **Cinebar** 90.27 328 P P 01 46 02.4 -0.3
baz=139
MDT **Midelt** 90.31 51 P pP 01 46 13.4 +0.7
MDT **Midelt** 90.31 51 P pP 01 46 14.1 +1.3
MORF **Marmelete** 90.58 45 *e*pP pP 01 46 14.3 +0.5
LCRM **LCR** 90.69 50 P pP 01 46 17.0 +2.5
LCRM **LCR** 90.69 50 P pP 01 46 17.0 +2.5
D04E **Lakebay** 90.83 328 P P 01 46 05.7 +0.4
baz=139
PBDV **Barranco-do-Ve** 90.97 46 *e*pP pP 01 46 16.5 +0.9
PCVE **Castro Verde** 91.16 46 *e*P P 01 46 08.3 +1.2
comp=Z,98nm,1.7s
PCVE *e*pP pP 01 46 16.1 -0.3
PNCL **Nicolau / Gran** 91.17 45 *e*pP pP 01 46 16.2 -0.2
PNCL A A 01 46 18.3
comp=Z,295nm,1.8s
MESJ **Messejana** 91.18 45 *e*pP pP 01 46 17.0 +0.5
PVAQ **Vaqueiros** 91.21 46 *e*pP pP 01 46 16.8 +0.2
PVAQ A A 01 46 19.5
comp=Z,107nm,1.6s
B05A **Bryant** 91.35 329 P P 01 46 07.1 -0.6
baz=139,SNR=8.4
PBEJ **Beja** 91.52 45 *e*P P 01 46 09.3 +0.5
comp=Z,53nm,1.7s
PBEJ *e*pP PcP 01 46 13.7 +4.0
EVO **Evora** 91.75 45 *e*pP pP 01 46 18.8 -0.3
EVO A A 01 46 23.4
comp=Z,68nm,1.7s
EDM **Edmonton** 91.88 337 IAmb IAmb 01 46 09.4
comp=Z,27nm,0.9s
A04D **Lummi Island** 91.96 329 P P 01 46 10.6 +0.1
baz=139,SNR=7.0
PMTG **Montargil** 91.97 44 *e*pP pP 01 46 20.1 0.0
PMTG A A 01 46 24.4
comp=Z,134nm,1.7s
FIGM **Figuig** 92.16 53 P pP 01 46 23.0 +1.6
FIGM **Figuig** 92.16 53 P pP 01 46 23.0 +1.6
PESTR **Estremoz** 92.22 45 *e*P P 01 46 12.6 +0.6
comp=Z,81nm,1.7s
PESTR *e*pP pP 01 46 21.0 -0.3
JBK **JBK** 92.59 51 P pP 01 46 25.0 +1.6
JBK **JBK** 92.59 51 P pP 01 46 25.0 +1.6
COI **Coimbra** 92.59 43 *e*pP pP 01 46 23.0 0.0
COI A A 01 46 24.0
comp=Z,197nm,1.4s
MTE **Manteigas** 93.22 44 *e*P P 01 46 17.8 +1.1
comp=Z,76nm,1.4s
MTE *e*pP pP 01 46 25.3 -0.7
ESDC **Sonseca Array** 94.92 46 P P 01 46 24.7 +0.2
comp=Z,2.3nm,1.0s,baz=245,slow=5.6,SNR=6.8
ESDC pP pP 01 46 33.6 -0.2
comp=Z,8.9nm,1.1s,baz=235,slow=4.6,SNR=14
YKA **Yellowknife Ar** 99.88 341 P Pdif 01 46 45.2 -1.0
comp=Z,4.3nm,0.7s,baz=132,slow=5.3,SNR=11
DAVA **Damuels** 107.48 45 *e*P Pdif 01 47 24.3 +3.7
comp=Z,14nm,1.8s
DAVA *e*P PKiKP 01 51 30.5 +1.7
comp=Z,15nm,1.4s
FETA **Feichten** 107.88 45 *e*P PKiKP 01 51 31.9 +2.3
comp=Z,7.7nm,1.3s
RETA **Reutte** 108.11 45 *e*P Pdif 01 47 29.6 +6.3
comp=Z,11nm,1.5s
RETA *e*P PKiKP 01 51 31.9 +2.0
comp=Z,9.2nm,1.6s
MOTA **Moosalm** 108.25 45 *e*P Pdif 01 47 28.8 +4.7
comp=Z,11nm,1.4s
MOTA *e*P PKiKP 01 51 32.2 +1.9
comp=Z,9.3nm,1.2s
SQTA **Sankt Quirin** 108.26 45 *e*P Pdif 01 47 24.5 +0.5
comp=Z,6.4nm,1.0s
SQTA *e*P PKiKP 01 51 35.0 +4.7
comp=Z,11nm,1.4s
WATA **Walderalm** 108.53 45 *e*P Pdif 01 47 27.3 +2.0
comp=Z,9.1nm,1.3s
WATA *e*P PKiKP 01 51 32.7 +1.9
comp=Z,7.1nm,1.2s
WTTA **Wattenberg** 108.54 46 *e*P Pdif 01 47 28.4 +3.0
comp=Z,6.4nm,1.0s
WTTA *e*P PKiKP 01 51 33.1 +2.2
comp=Z,9.5nm,1.5s
ABTA **Abfaltersbach** 108.84 46 *e*P Pdif 01 47 30.1 +3.5
comp=Z,6.3nm,1.3s
ABTA *e*P PKiKP 01 51 33.0 +1.7
comp=Z,19nm,2.8s
MYKA **Terra Mystica** 109.49 47 *e*P PKiKP 01 51 34.3 +1.8
comp=Z,18nm,1.5s
KBA **Koelnbreinsper** 109.50 46 *e*P Pdif 01 47 36.0 +6.3
comp=Z,2.2nm,0.6s
KBA *e*P PKiKP 01 51 30.4 -2.2
comp=Z,2.5nm,0.8s
OBKA **Obir** 110.01 47 *e*P Pdif 01 47 33.9 +2.1
comp=Z,9.3nm,1.7s
SOKA **Soboth** 110.38 47 *e*P PKiKP 01 51 33.2 -0.9
comp=Z,6.4nm,1.0s
MOA **Molln** 110.40 46 *e*P Pdif 01 47 37.2 +3.8
comp=Z,5.4nm,1.5s
MOA *e*P PKiKP 01 51 31.4 -2.8
comp=Z,8.2nm,1.3s
GERES **GERESS Array B** 110.47 45 PKiKP PKiKP 01 51 34.0 -0.3
comp=Z,1.0nm,0.7s,baz=169,slow=1.4,SNR=7.3
GERES **GERESS Array B** 110.47 45 *i* PKiKP PKiKP 01 51 34.0 -0.3
KHC **Kasperske Hory** 110.52 44 *e*PKP PKiKP 01 51 24.9 -9.4
ARSA **Arzberg** 110.92 47 *e*P Pdif 01 47 37.3 +1.5
comp=Z,5.9nm,1.4s
ARSA *e*P PKiKP 01 51 33.4 -1.7
CLL **Collm** 111.09 42 *e*(PKiKP) 01 51 42.0
CLL **Collm** 111.09 42 *e*PKiKP PKiKP 01 51 42.0 +6.7
CONA **Conrad Observa** 111.41 46 *e*P Pdif 01 47 40.8 +2.8
comp=Z,3.0nm,1.2s
CONA *e*P PKiKP 01 51 35.2 -0.9
comp=Z,3.9nm,1.0s
PRA **Prague** 111.41 44 P Pdif 01 47 50.1 +12
PRA pmax pmax
comp=Z,257nm,1.4s
BRG **Berggiesshubel** 111.45 43 *e*PKP PKiKP 01 51 37.9 +2.0
BRG Amp 01 51 39.4
comp=Z,3.5nm,1.0s
BRG **Berggiesshubel** 111.45 43 P PKiKP 01 51 46.2 +10
BRG Amp 01 51 47.9
comp=Z,4.1nm,1.0s
ILAR **Eielson Array** 112.15 333 Pdiff Pdif 01 47 40.1 -0.7
comp=Z,0.4nm,0.8s,baz=148,slow=4.5,SNR=4.7
DPC **Dobruska-Polom** 112.64 44 *e*PKP PKiKP 01 51 37.9 -0.4
OSTC **Ostas** 112.66 44 *e*PKP PKiKP 01 51 38.5 +0.2
JAVC **Velka Javorina** 112.88 46 *e*PKiKP PKiKP 01 51 39.7 +0.9
MORC **Moravsky Berou** 113.15 45 *e*PKiKP PKiKP 01 51 39.8 +0.5
BZS **Buzias** 114.18 50 ⇑P PKiKP 01 51 41.6 +0.2
BZS **Buzias** 114.18 50 ⇑PKiKP PKiKP 01 51 41.6 +0.2
HERR **Herculane** 114.44 51 ⇓P PKiKP 01 51 42.4 +0.6
DRGR 115.31 49 ⇑P PKiKP 01 51 43.6 0.0
DRGR 115.31 49 ⇑PKiKP PKiKP 01 51 43.6 0.0
UZH **Uzhgorod** 115.66 47 *e*PKiKP PKiKP 01 51 46.0 +1.9
UZH *e* 01 51 52.7
UZH *i* 01 52 49.9
ARR **Arges** 116.09 51 ⇑P PKiKP 01 51 45.7 +0.6
VOIR 116.39 51 ⇑P PKPdf 01 51 45.2 -0.5
VOIR 116.39 51 ⇑PKiKP PKPdf 01 51 45.2 -0.5
MLR **Muntele Rosu** 117.00 51 ⇓P PKiKP 01 51 55.8 +8.8
MLR **Muntele Rosu** 117.00 51 PKP PKiKP 01 51 48.1 +1.2
comp=Z,1.8nm,0.7s,baz=143,slow=15,SNR=4.4
MLR **Muntele Rosu** 117.00 51 PKiKP PKiKP 01 51 47.2 +0.3
MLR **Muntele Rosu** 117.00 51 PKPdf PKiKP 01 51 47.2 +0.3
LVV **L'vov** 117.12 46 *e*PKiKP PKiKP 01 51 53.5 +6.6
BURAR **Bucovina Array** 117.19 49 ⇑P PKiKP 01 51 48.5 +1.3
BURAR **Bucovina Array** 117.19 49 ⇑PKiKP PKiKP 01 51 48.5 +1.3
BISRR **Bisoca** 117.53 52 ⇑P PKiKP 01 51 48.2 +0.3
PLOR **Plostina** 117.58 51 ⇑P PKPdf 01 51 46.8 -1.2
PLOR **Plostina** 117.58 51 ⇑PKiKP PKPdf 01 51 46.8 -1.2
VRI **Vrincioaia** 117.64 51 ⇑P PKPdf 01 51 47.5 -0.5
VRI **Vrincioaia** 117.64 51 ⇑PKiKP PKPdf 01 51 47.5 -0.5
TESR **Tescani** 117.78 51 ⇑P PKPdf 01 51 48.0 -0.2
SUW **Suwalki** 117.84 42 *e*P PKiKP 01 51 48.1 0.0
CFR **Carcaliu** 118.37 52 ⇑P PKiKP 01 51 49.4 0.0
CFR **Carcaliu** 118.37 52 ⇑PKiKP PKiKP 01 51 49.4 0.0
TLCR 118.83 52 ⇑P PKiKP 01 51 50.3 0.0
TLCR 118.83 52 ⇑PKiKP PKiKP 01 51 50.3 0.0
MILM **Milestii Mici** 119.33 51 ⇑P PKPdf 01 51 50.8 -0.4
SORM **Soroca** 119.36 49 ⇑P PKPdf 01 51 50.4 -0.8
SORM **Soroca** 119.36 49 ⇑PKiKP PKPdf 01 51 50.4 -0.8
ASAR **Alice Springs** 119.66 207 PKP PKPdf 01 51 51.8 -1.0
comp=Z,1.5nm,0.8s,baz=141,slow=1.9,SNR=6.5
ASAR pPKP pPKPdf 01 52 01.5 -0.6
comp=Z,5.8nm,1.0s,baz=144,slow=2.2,SNR=12
ASAR PKKPbc PKKPbc 02 02 03.2 +0.4
comp=Z,2.1nm,0.7s,baz=327,slow=2.9,SNR=5.6
ASAR **Alice Springs** 119.66 207 PKPdf 01 51 51.2 -1.6
IIGN **Ignalina** 119.89 41 *e*P PKiKP 01 51 52.5 +0.4
NACGM **Naroch** 120.10 41 *i* PKP PKPdf 01 51 52.4 0.0
HEL **Helsinki** 120.26 35 P Pdif 01 48 12.7 -4.2
HEL pmax pmax
comp=Z,130nm,1.3s
AKASG **Malin Array Be** 120.57 46 PKP PKPdf 01 51 52.6 -0.9
comp=Z,5.1nm,0.7s,baz=264,slow=2.6,SNR=31
AKASG pPKP pPKPdf 01 52 01.5 -1.2
comp=Z,7.7nm,0.8s,baz=275,slow=2.2,SNR=8.5
AKASG PP PP 01 53 22.3 +0.8
comp=Z,3.0nm,0.8s,baz=254,slow=6.8,SNR=6.7
AKBB **Malin Array Si** 120.57 46 ⇑*i*PKiKP PKPdf 01 51 52.6 -0.8
AKBB **Malin Array Si** 120.57 46 PKPdf PKPdf 01 51 52.9 -0.6
MNK **Minsk** 120.63 42 *i* PKiKP PKPdf 01 51 50.5 -2.9
MNK *i* 01 53 19.1
MNK *i* PPP PPP 01 55 51.9
MNK *i* 01 58 40.0
MNK *i* PS PS 02 03 04.6 -8.3
MNK *i* SS SS 02 09 49.2 -0.6
MNK *i* SSS SSS 02 14 17.4
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=Z,21nm,0.9s
MNK pmax pmax
comp=N,14nm,0.9s
MNK MLR MLR
comp=Z,3μm,18.0s
MNK MLR MLR
comp=N,2μm,18.0s
MNK MLR MLR
comp=E,401nm,16.0s
MNK **Minsk** 120.63 42 *i* PKP PKPdf 01 51 50.6 -2.9
comp=E,1.0nm,0.8s
MNK *i* PKP PKPdf 01 51 50.6 -2.9
comp=N,14nm,0.9s
MNK *i* PKP PKPdf 01 51 50.6 -2.9
comp=Z,21nm,0.9s,baz=257
MNK *i* PP PP 01 53 19.1 -2.7
MNK *i* PPP PPP 01 55 52.0
MNK *i* SKS SKSac 01 58 40.0 -8.6
MNK *i* PS PS 02 03 04.6 -8.2
MNK *i* SS SS 02 09 49.2 -0.5
MNK *i* SSS SSS 02 14 17.5
MNK *i* LQ LQ 02 37 35.9
MNK *i* LR LR 02 39 28.5
MNK *i* LRM MLR 02 42 15.4
comp=Z,3μm,17.6s
MNK *i* LRM MLR 02 42 49.4
comp=N,2μm,17.6s
MNK *i* LRM MLR 02 42 53.4
comp=E,401nm,16.3s
BRTR **Keskin Array B** 120.63 60 PKP PKPdf 01 51 54.0 -0.2
comp=E,2.8nm,0.8s,baz=132,slow=1.8,SNR=10.0
BRTR pPKP pPKPdf 01 52 03.4 0.0
comp=E,2.5nm,0.8s,baz=262,slow=32,SNR=2.9
BRTR PP PP 01 53 23.3 +0.8
comp=E,1.5nm,0.7s,baz=235,slow=5.1,SNR=1.4
BRTR **Keskin Array B** 120.63 60 PKPdf PKiKP 01 51 54.3 0.0
VSU **Vasula** 120.82 37 *e*P PKiKP 01 51 53.8 0.0
VSU **Vasula** 120.82 37 ⇑*i*PKiKP PKPdf 01 51 53.4 -0.3
FINES **FINESS Array B** 121.04 34 PKP PKPdf 01 51 53.5 -0.5
comp=E,3.2nm,0.9s,baz=90,slow=1.9,SNR=5.5
FINES pPKP pPKPdf 01 52 03.4 +0.2
comp=E,4.0nm,0.9s,baz=52,slow=3.1,SNR=4.9
FINES PKKPbc PKKPab 02 01 56.8 +0.9
comp=E,3.9nm,0.8s,baz=108,slow=4.2,SNR=4.7
ARCES **ARCESS Array B** 121.88 24 PKP PKPdf 01 51 54.9 -0.6
comp=E,1.4nm,0.7s,baz=29,slow=2.1,SNR=1.8
WR0 **Warramunga Arr** 122.71 210 PKPdf PKPdf 01 51 57.6 -1.1
WB2 **Warramunga Arr** 122.81 210 PKPdf PKPdf 01 51 58.1 -0.7
WRA **Warramunga Arr** 122.81 210 PKP PKPdf 01 51 57.7 -1.2
comp=E,3.5nm,0.7s,baz=161,slow=1.2,SNR=16
WRAB **Tennant Creek** 122.81 210 ⇑*i*PKiKP PKPdf 01 51 58.2 -0.7
ANN **Anapa** 124.65 55 *i* PKiKP PKPdf 01 52 01.0 -0.5
ANN *e* 01 58 59.7

ANN pmax pmax
comp=Z,52nm,0.9s
APA Apatity 124.70 27 ||i PKIKP **PKiKP** 01 52 02.3 +1.1
APA pmax pmax
comp=Z,9.0nm,0.8s
LVZ Lovozero 125.17 26⇑ i PKIKP **PKPdf** 01 52 01.9 +0.1
LVZ Lovozero 125.17 26 PKPdf **PKiKP** 01 52 03.0 +0.8
OBN Obninsk 125.69 42 PKP **PKPdf** 01 52 02.9 -0.2
comp=Z,2.5nm,0.4s,baz=184,slow=4.7,SNR=10
OBN Obninsk 125.69 42 *e*PKIKP **PKPdf** 01 52 03.2 +0.1
OBN *i* 01 52 12.2
OBN *e* 01 52 20.8
OBN pmax pmax
comp=Z,52nm,1.3s
OBN MLR MLR
comp=Z,4μm,19.0s
H11S2 WAKE ISLAND Hyl 125.83 271 T T 04 10 56.6
baz=116,slow=74,SNR=15
H11S1 WAKE ISLAND Hyl 125.84 271 T T 04 11 00.4
baz=116,slow=74,SNR=12
H11S3 WAKE ISLAND Hyl 125.85 271 T T 04 10 57.9
baz=116,slow=74,SNR=13
PSA00 Pilbara Seismi 125.86 194 PKPdf **PKPdf** 01 52 04.1 -0.6
H11N3 WAKE ISLAND Hyl 126.18 272 T T 04 11 29.9
baz=117,slow=75,SNR=6.5
H11N1 WAKE ISLAND Hyl 126.20 272 T T 04 11 21.3
baz=117,slow=75,SNR=6.4
H11N2 WAKE ISLAND Hyl 126.20 272 T T 04 11 31.2
baz=117,slow=75,SNR=11
MOS Moscow 126.34 41 *i* PKIKP **PKPdf** 01 52 01.7 -2.7
MOS *e* 01 52 12.9
MOS pmax pmax
comp=Z,24nm,0.8s
KLMR Klimovskoe 127.48 35 *e*PKIKP **PKPdf** 01 52 04.8 -1.6
KLMR *e* 01 54 06.5
KLMR pmax pmax
comp=Z,111nm,1.3s
KLMR Klimovskoe 127.48 35 *e*PKPdf **PKPdf** 01 52 04.8 -1.6
KLMR AMP 01 52 17.4
comp=Z,111nm,1.3s
FITZ Fitzroy Crossi 127.71 201 PKP **PKPdf** 01 52 07.9 -0.4
comp=Z,8.1nm,0.7s,baz=196,slow=4.1,SNR=22
FITZ pPKP **pPKPdf** 01 52 17.2 -0.4
comp=Z,17nm,0.8s,baz=197,slow=5.0,SNR=11
FITZ Fitzroy Crossi 127.71 201 PKPdf **PKPdf** 01 52 07.7 -0.5
KIV Kislovodsk 128.19 57 *e*PKIKP **PKiKP** 01 52 09.6 +0.6
KIV pmax pmax
comp=Z,19nm,1.1s
KBZ Khabaz 128.31 57 PKP **PKPdf** 01 52 08.7 +0.2
comp=Z,3.2nm,0.8s,baz=341,slow=3.5,SNR=5.8
KBZ Khabaz 128.31 57 ||i PKIKP **PKPdf** 01 52 08.1 -0.4
AKH Akhalkalaki 128.32 60 ⇑P **PKiKP** 01 52 10.4 +0.9
GOF Gofitskoye 128.62 55⇑ *e*PKIKP **PKPdf** 01 52 08.7 -0.4
GOF pmax pmax
comp=Z,14nm,0.7s
NCK Nalchik 128.77 57⇑ i PKIKP **PKPdf** 01 52 09.6 +0.1
ZEI Tsey 128.87 58 *i* PKIKP **PKPdf** 01 52 09.8 -0.1
ZEI pmax pmax
comp=Z,5.0nm,1.1s
GNI Garni 129.00 62 PKP **PKPdf** 01 52 10.3 +0.1
comp=Z,2.8nm,0.7s,baz=63,slow=4.7,SNR=4.5
GNI Garni 129.00 62 ||i PKIKP **PKPdf** 01 52 07.4 -2.8
GNI Garni 129.00 62 **PKiKP** 01 52 10.9 0.0
GROC Groznyy 130.31 58 *i* PKIKP **PKPdf** 01 52 12.5 +0.2
GROC *e* 01 54 27.5
GROC pmax pmax
comp=Z,40nm,1.5s
PRGR Permogore 130.37 34 *e*PKIKP **PKiKP** 01 52 12.5 -0.2
PRGR *e* 01 54 24.6
PRGR pmax pmax
comp=Z,25nm,1.1s
BILL Bilibino 130.76 335 ||i PKIKP **PKiKP** 01 52 14.0 +0.7
BILL *e* 01 52 23.4
BILL *e* 01 52 30.5
BILL pmax pmax
comp=Z,9.0nm,0.5s
BILL MLR MLR
comp=Z,4μm,17.0s
AKT Akhty 131.47 61 *e*PKIKP **PKiKP** 01 52 15.9 +0.2
AKT *e* 01 54 33.9
AKT pmax pmax
comp=Z,80nm,1.6s
MAK Makhachkala 131.51 59 *i* PKIKP **PKPdf** 01 52 14.6 0.0
MAK pmax pmax
comp=Z,269nm,1.6s
BELG Belogornoye 132.14 46 PKP **PKPdf** 01 52 15.6 +0.1
comp=Z,17nm,0.7s,baz=276,slow=2.1,SNR=9.2
KIRV Kirov 132.66 37 PKP **PKiKP** 01 52 16.9 -0.4
comp=Z,7.0nm,0.6s,baz=299,slow=1.3,SNR=12
KIRV Kirov 132.66 37 ||i PKIKP **PKPdf** 01 52 15.2 -1.1
ASUD Al Ashush, Dub 133.37 85 PKiKP **PKiKP** 01 52 20.9 +0.9
FAQ Al Faqa, Dubai 133.64 85 *i* PKPdf **PKPdf** 01 52 18.8 -0.5
SNR=12
HATD Hatta, Dubai 134.13 85 *i* PKPdf PKPpre 01 52 07.0
SNR=5.7
SOHO SOHO 134.22 86 *i* PKPdf PKPpre 01 52 15.9
SNR=12
UOSS Minazif 134.23 85 PKPdf **PKPdf** 01 52 18.1 -2.2
MSFE Esma-Masafi 134.34 84 *i* PKPdf **PKPdf** 01 52 17.6 -2.9
SNR=8.3
SHME Shamm 134.56 83 *i* PKPdf **PKPdf** 01 52 18.7 -2.2
SNR=17
BANOM Banah 134.65 84 PKPdf **PKPdf** 01 52 21.7 +0.5
ARU Arti 137.93 39 PKP **PKPdf** 01 52 26.8 +0.6
comp=Z,4.4nm,0.7s,baz=345,slow=1.9,SNR=17
ARU Arti 137.93 39 *i* PKIKP **PKPdf** 01 52 22.7 -3.5
ARU Arti 137.93 39 PKPdf **PKPdf** 01 52 24.4 -1.8
TIXI Tiksi 138.42 350 ⇑PKIKP **PKPdf** 01 52 26.3 -0.4
PETK Petropavlovsk- 138.55 316 PKP **PKPdf** 01 52 28.4 +0.9
comp=Z,3.4nm,0.8s,baz=132,slow=4.4,SNR=3.7
AKTO Aktyubinsk 138.77 48 PKhKP PKPpre 01 52 24.6
comp=Z,4.4nm,0.8s,baz=295,slow=7.9,SNR=11
AKTO PP **PP** 01 55 23.0 +3.0
comp=Z,7.8nm,1.1s,baz=280,slow=7.4,SNR=4.2
SVE Sverdlovsk 138.92 38 *e*PKIKP **PKPdf** 01 52 28.8 +0.8
SVE pmax pmax
comp=Z,29nm,1.5s
GEYT Allbeck 138.94 67 PKP **PKPdf** 01 52 28.1 -0.7
comp=Z,2.5nm,0.7s,baz=53,slow=10,SNR=3.6
SKR Severo-Kuril's 139.95 313 *i* PKIKP PKiKP 01 52 46.2 +14
AB31 Akbulak array 140.17 50 *i* PKHKP PKPpre 01 52 22.4
KAPI Kappang 141.84 199 PKHKP PKPpre 01 52 30.3
KAPI Kappang 141.84 199 PKPdf **PKPdf** 01 52 30.2 -4.4
PALK Pallekele 144.80 128 PKPbc 01 52 39.4 +0.5
comp=Z,49nm,0.8s,baz=28,slow=3.4,SNR=12
PALK pPKP pPKPdf 01 52 48.6 -0.6
comp=Z,140nm,1.1s,baz=287,slow=0.5,SNR=13
PALK Pallekele 144.80 128 PKPdf PKPbc 01 52 39.0 0.0
GOA Goa 144.94 109 *e*P **PKiKP** 01 52 42.2 -1.6
BHUJ Bhuj 145.07 94 *e*P **PKPdf** 01 52 41.4 +1.4
BRVK Borovoye 145.44 41 *d* PKIKP **PKPab** 01 52 40.4 +0.4
BRVK Borovoye 145.44 41 PKPdf **PKPab** 01 52 40.3 +0.4
BVAR Borovoye Array 145.51 41 PKPbc **PKPab** 01 52 40.3 0.0
comp=Z,60nm,0.7s,baz=233,slow=7.2,SNR=119
KAD Karad 146.20 107 ||i P **PKPbc** 01 52 43.3 +0.1
KUR Kuril'sk 146.34 305 *e*PKP2 **PKPdf** 01 52 42.0 +0.5
KUR pmax pmax
comp=Z,256nm,1.5s
POO Poona 146.54 105 *e*P **PKPbc** 01 52 44.6 +0.4
POO Poona 146.54 105 *e*P **PKPdf** 01 52 42.0 -0.7
YAK Yakutsk 146.56 342 PKPbc **PKPbc** 01 52 42.1 -0.7
comp=Z,61nm,0.7s,baz=172,slow=0.6,SNR=4.9
YAK Yakutsk 146.56 342 *e*PKP2 **PKPdf** 01 52 41.7 +0.4
YAK *e* 01 56 07.5
YAK pmax pmax
comp=Z,214nm,1.0s
YAK pmax pmax
comp=N,18nm,1.1s
YAK pmax pmax
comp=E,13nm,1.1s
YAK pmax pmax
comp=Z,2μm,8.9s
YAK pmax pmax
comp=N,1μm,8.3s
YAK pmax pmax
comp=E,367nm,6.6s
TOLI2 Tolitoli 147.30 204 PKPdf **PKPdf** 01 52 43.0 -1.2
KBL Kabul 147.35 74 PKIKP **PKPdf** 01 52 44.5 +0.6
KBL Kabul 147.35 74 PKPdf **PKPdf** 01 52 44.5 +0.6
TAS Tashkent 147.63 62 PKIKP **PKPdf** 01 52 44.6 +0.8
TAS Tashkent 147.63 62 PKPdf **PKPdf** 01 52 44.6 +0.8
GSI Gunungsitoli 148.22 160 **PKPdf** 01 52 45.6 0.0
OTUK Ortayu 148.38 48 PKIKP **PKPdf** 01 52 46.0 +1.1
MDRS Chennai 148.48 120 *e*P **PKPbc** 01 52 49.3 -0.2
UGL Uglegorsk 149.12 314 *e*PKP2 **PKPab** 01 52 54.5 -0.1
YSS Yuzh-Sakhalins 149.40 310 *e*PKP2 **PKPbc** 01 52 50.3 -0.6
HYB Hyderabad 149.78 111 *i* PKP **PKiKP** 01 52 53.5 -0.3
HYB *e*PP **PP** 01 56 26.0 -0.5
KSM Kuching 149.88 185 P **PKPbc** 01 52 53.0 -0.2
PSI Prapat 150.03 162 PKPbc **PKPbc** 01 52 53.1 -0.5
comp=E,93nm,0.8s,baz=180,slow=3.3,SNR=48
JKA Kamikawa-asahi 150.24 305 PKPdf **PKPdf** 01 52 49.3 +1.3
ASAJ Asahikawa 150.25 305 PKIKP **PKPdf** 01 52 49.3 +1.4
SBUM Sibu 150.66 189 P **PKiKP** 01 52 56.0 +0.3
NIL Nilore 150.74 77 PKIKP **PKPdf** 01 52 49.4 +0.3
NIL Nilore 150.74 77 PKPdf **PKPdf** 01 52 49.4 +0.3
EKS2 Erkin-Say 150.77 58 P **PKiKP** 01 52 55.6 +0.3
SNR=13
AML Almayashu 150.80 59 P **PKiKP** 01 52 56.1 +0.5
SNR=12
AML Almayashu 150.80 59 *i* PKPbc **PKPbc** 01 52 54.7 -0.3
SNR=24
KURBB Kurchatov Arra 151.10 40 PKP **PKPdf** 01 52 49.5 +0.5
comp=E,1.9nm,0.7s,baz=290,slow=2.0,SNR=13
KURBB PKPbc **PKiKP** 01 52 55.5 0.0
comp=E,32nm,0.7s,baz=299,slow=2.9,SNR=59
KURBB pPKPbc **pPKPbc** 01 53 05.3 +1.1
comp=E,62nm,0.8s,baz=304,slow=2.9,SNR=17
KURBB Kurchatov Arra 151.10 40 PKIKP **PKPdf** 01 52 48.3 -0.8
KURK Kurchatov 151.11 40 PKIKP **PKPdf** 01 52 49.5 +0.5
KURK 01 52 55.5
KURK 01 53 05.3
USP Ospenovka 151.17 57 P **PKiKP** 01 52 56.4 +0.5
SNR=13
AAK Ala-Archa 151.29 58 PKP **PKPdf** 01 52 50.9 +1.0
comp=E,3.4nm,0.6s,baz=342,slow=2.2,SNR=4.0
AAK PKPbc **PKiKP** 01 52 56.8 +0.4
comp=E,24nm,0.7s,baz=197,slow=2.3,SNR=34
AAK pPKPbc **pPKPbc** 01 53 06.5 +1.4
comp=E,52nm,0.9s,baz=204,slow=2.9,SNR=17
AAK Ala-Archa 151.29 58 P **PKiKP** 01 52 57.2 +0.8
SNR=18
AAK Ala-Archa 151.29 58 *i* PKPbc **PKiKP** 01 52 56.3 -0.1
SNR=21
AAK Ala-Archa 151.29 58 PKIKP **PKPdf** 01 52 50.7 +0.8
AAK Ala-Archa 151.29 58 PKPdf **PKPdf** 01 52 50.7 +0.8
UCH Uchtor 151.38 59 P **PKiKP** 01 52 57.9 +0.9
SNR=16
CHMS Chumysh 151.41 57 P **PKiKP** 01 52 57.0 +0.5
SNR=9.5
KBK Karagaybulak 151.62 58 P **PKPab** 01 53 05.7 +0.3
SNR=5.9
BHPL Bhopal 151.65 100 *e*P **PKPdf** 01 52 53.5 +2.7
JRMM Jerantut 151.87 168 P **PKPbc** 01 52 58.0 +0.2
TKM2 Tokmak 2 152.03 57 P **PKiKP** 01 52 58.4 +0.5
SNR=7.6
TKM2 Tokmak 2 152.03 57 PKIKP **PKPdf** 01 52 50.7 -0.3
SPMM Sapulut 152.03 198 P **PKiKP** 01 52 59.0 +0.4
IPM Ipoh 152.16 165 P **PKPbc** 01 52 58.0 -0.5
ZAA0 Zalesovo Array 152.21 30 PKPdf **PKPdf** 01 52 50.3 -0.3
ZALV Zalesovo Beam 152.21 30 PKP **PKPdf** 01 52 50.0 -0.6
comp=E,4.3nm,0.7s,baz=307,slow=3.7,SNR=5.0
ZALV PKPbc **PKiKP** 01 52 57.7 +0.1
comp=E,95nm,0.9s,baz=301,slow=3.2,SNR=39
ZALV pPKPbc **PKPab** 01 53 07.6 +0.4
comp=E,132nm,0.8s,baz=304,slow=3.1,SNR=18
ULHL Ulahol 152.64 58 P **PKiKP** 01 53 00.2 +1.0
SNR=7.3
KULM Kulim 152.86 164 P **PKPbc** 01 53 00.0 0.0
KSH Kashi 152.89 64 PKPbc **PKPdf** 01 52 53.1 +0.8
MDOK Medeo 153.00 56 PKIKP **PKPdf** 01 52 50.2 -2.2
DHRM DHARAMSHALA 153.12 80 *e*P **PKPbc** 01 52 57.1 -3.3
BOD Bodaibo 153.53 353 *e*PKIKP **PKPdf** 01 52 51.8 -0.6
BOD pmax pmax
comp=Z,110nm,1.9s
SMLA Simla 153.69 83 *ex* x 01 53 01.6
ZEA Zeya 153.97 334 *e*PKIKP **PKiKP** 01 53 02.1 +0.8
ZEA pmax pmax
comp=Z,20nm,1.1s
MJAR Matsushiro Arr 154.60 289 PKP **PKPdf** 01 52 53.5 -1.2
comp=Z,0.8nm,0.4s,baz=320,slow=23,SNR=1.5
MJAR PKPbc **pPKPdf** 01 53 03.7 -0.3
comp=Z,0.9nm,0.3s,baz=115,slow=2.2,SNR=4.9
PDGK Podgornoye 154.67 55 PKIKP **PKiKP** 01 53 07.0 +3.7
KLR Kul'dur 155.00 321 PKP **PKPdf** 01 52 53.3 -1.5
comp=Z,1.5nm,0.7s,baz=330,slow=2.6,SNR=5.3
KLR PKPbc **PKPbc** 01 53 02.7 -0.8
comp=Z,4.0nm,1.1s,baz=276,slow=5.4,SNR=4.3
MK31 Makanchi Array 155.14 45 *i* PKIKP **PKPdf** 01 52 54.5 -0.6
MKAR Makanchi Array 155.14 45 PKP **PKPdf** 01 52 54.9 -0.2
comp=Z,2.5nm,0.7s,baz=27,slow=1.0,SNR=7.6
MKAR PKPbc **pPKPdf** 01 53 04.1 -0.3
comp=Z,9.5nm,0.7s,baz=329,slow=1.7,SNR=20
MKAR PKPab **PKPab** 01 53 20.8 +0.9
comp=Z,9.0nm,0.8s,baz=310,slow=3.4,SNR=6.7
MKAR pPKPab **pPKPab** 01 53 29.2 -0.1
comp=Z,44nm,1.0s,baz=289,slow=3.7,SNR=9.0
USA0B Ussuriysk Arra 157.43 310 PKP2 **PKPab** 01 53 29.9 +0.1
USA0B Ussuriysk Arra 157.43 310 PKPab **PKPab** 01 53 29.9 +0.1
USRK Ussuriysk Ar. 157.43 310 PKP **PKPdf** 01 52 57.9 -0.2
comp=Z,0.3nm,0.3s,baz=223,slow=13,SNR=5.4
USRK PKPab **PKPab** 01 53 29.9 +0.1
comp=Z,8.9nm,0.8s,baz=70,slow=3.6,SNR=15
USRK pPKPab **pPKPab** 01 53 38.7 -0.1
comp=Z,10nm,0.9s,baz=49,slow=5.7,SNR=8.3
USRK Ussuriysk Ar. 157.43 310 **PKPdf** 01 52 58.9 +0.7
MDJ Mudanjiang 158.76 314 PKP **PKPdf** 01 53 01.8 +2.1
IRK Irkutsk 159.26 7 *e*PKP2 **PKPab** 01 53 35.0 -2.4
IRK pmax pmax
comp=Z,137nm,1.8s
CIT Chita 159.27 350 *e*PKP2 **PKPab** 01 53 38.2 +0.7
MOY Mondy 159.36 12 *e*PKIKP **PKPdf** 01 53 00.2 -0.2
MOY pmax pmax
comp=Z,134nm,3.2s
WMQ Urumqi 159.92 47 *e*PKP **PKPdf** 01 53 02.3 +1.1
ZAK Zakamensk 160.98 9 *e*PKIKP **PKPdf** 01 53 00.2 -2.0
ZAK pmax pmax
comp=Z,11nm,1.4s
CN2 Changchun 161.70 316 *e*PKP **PKPdf** 01 52 59.5 -3.5
UTHA Uthaitani 162.15 152 PKP PKPdf 01 53 14.4 +10
KSRS Korea Array 162.64 295 PKP **PKPdf** 01 53 03.1 -1.0
comp=Z,0.6nm,0.4s,baz=76,slow=18,SNR=1.9
KSRS PKPab **PKPab** 01 53 53.1 +0.4
comp=Z,9.0nm,1.0s,baz=84,slow=4.2,SNR=13
KSRS pPKPab **pPKPab** 01 54 02.4 +0.7
comp=Z,11nm,1.0s,baz=82,slow=3.1,SNR=5.4
UBPT Khong Chiam 163.51 171 PKP PKPdf 01 53 16.6 +11
MHMT Maesarieng 163.75 143 PKP PKPdf 01 53 16.7 +11
SONM Songino Array 163.81 4 PKP **PKPdf** 01 53 04.7 -0.5
comp=Z,1.9nm,1.1s,baz=184,slow=1.4,SNR=7.0
SONM PKPab **PKPab** 01 53 58.4 +0.8
comp=Z,7.2nm,0.9s,baz=337,slow=3.9,SNR=11
SONM pPKPab **pPKPab** 01 54 07.5 +0.9
comp=Z,9.4nm,0.9s,baz=333,slow=4.2,SNR=6.0
SONM PP **PP** 01 57 42.6 +0.1
comp=Z,2.6nm,1.1s,baz=298,slow=3.1,SNR=2.7
ULN Ulaanbaatar 163.81 2 PKP2 **PKPab** 01 53 58.5 +0.9
ULN Ulaanbaatar 163.81 2 PKPab **PKPab** 01 53 58.5 +0.9
PHIT Phitsanulok 164.01 153 PKP PKPdf 01 53 15.6 +10
CM13 Chiang Mai Arr 164.44 146 PKP PKPdf 01 53 17.1 +11
CM05 Chiang Mai Arr 164.44 146 PKP **PKPdf** 01 53 08.0 +1.5
CM04 Chiang Mai Arr 164.46 146 PKP **PKPdf** 01 53 08.2 +1.7
CM01 Chiang Mai Arr 164.47 146 PKP PKPdf 01 53 17.8 +11
CM02 Chiang Mai Arr 164.47 146 PKP PKPdf 01 53 17.0 +11
CM15 Chiang Mai Arr 164.48 146 PKP PKPdf 01 53 20.2 +14
CMAR Chiang Mai Arr 164.49 146 PKP **PKPdf** 01 53 06.5 0.0
comp=Z,1.5nm,0.3s,baz=233,slow=2.1,SNR=13
CMAR Chiang Mai Arr 164.49 146 PKIKP **PKPdf** 01 53 05.4 -1.1
CMAR Chiang Mai Arr 164.49 146 **PKPdf** 01 53 05.4 -1.1
CM09 Chiang Mai Arr 164.50 146 PKP PKPdf 01 53 17.7 +11
SHL Shillong 164.58 109 *e*P **PKPdf** 01 53 06.4 -0.2
CHTO Chiang Mai 164.80 145 PKP **PKPdf** 01 53 08.3 +1.6
NONG Nongkai 165.75 161 PKP **PKPdf** 01 53 07.9 +0.4
BJI Beijing 169.36 324 PKP **PKPdf** 01 53 09.6 +0.2
HHC Hu-ho-hao-te 170.41 344 *e*PKP **PKPdf** 01 53 10.1 -0.1
NJ2 Nanjing 170.78 275 *e*PKP **PKPdf** 01 53 13.3 +2.8
TIA Tai'an 171.19 303 PKP **PKPdf** 01 53 10.0 -0.7
KMI Kunming 171.99 143 ⇑PKP **PKPdf** 01 53 12.4 +0.7
LZH Lanzhou 174.39 37 *e*PKP **PKPdf** 01 53 07.0 -5.2
GYA Guiyang 174.67 167 PKP **PKPdf** 01 53 13.5 +1.0
CD2 Chengdu 176.27 101 PKP **PKPdf** 01 53 14.0 +1.3
XAN Xi'an 177.52 343 PKP **PKPdf** 01 53 13.0 +0.2
XAN PKPab PKPab 01 54 57.3 -1.2
XAN PP **PP** 01 58 48.9 -2.0

*NEIC **17** 01:37:19.8±1.9, 31.°11S±0.°03×72.°01W±0.°06, h6km±4km, mb4.9/7 Error ellipse: s-maj=8.3km s-min=3.9km az=109.0*

*IDC **17** 01:37:21.2±0.8, 31.°70S×74.°01W, h0km, mb4.7/5, mb1 5.0/6, mb1mx4.5/36, mbtmp4.8/6, ML4.9/1, Error ellipse: s-maj=54.0km s-min=22.6km az=67.0*

ISC 17 01:37:20.6±0.6, **31.°13S**±0.°05×**71.°95W**±0.°09, **h10**km, **n32**, σ**18.°76**/30, **mb4.9**/10, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.53**	**31**			**Pg**	**01 37 30.8**	**-0.1**
CO06					Sg	**Sg**	**01 37 36.9**	**-1.0**
CO03	**El Pedregal**	**1.12**	**76**		Pg	**Pn**	**01 37 42.6**	**+0.1**
CO03					Sn	**Sn**	**01 37 58.5**	**+0.4**
GO04	**Tololo Observa**	**1.38**	**47**		Pn	**Pb**	**01 37 45.9**	**-0.7**
VA01	**Torpederas**	**1.91**	**172**		Pn	**Pn**	**01 37 50.8**	**-2.4**
VA03	**San Esteban**	**2.02**	**144**		Pn	**Pb**	**01 37 56.1**	**-1.5**
VA05	**Santo Domingo**	**2.54**	**174**		Pn	**Pn**	**01 38 00.8**	**-1.1**
MT01	**Popeta**	**2.79**	**168**		Pn	**Pn**	**01 38 05.4**	**0.0**
LC01	**Cunco**	**7.75**	**180**		Pn	**Pn**	**01 39 11.6**	**-1.9**
PLCA	**Paso Flores**	**9.65**	**174**		Pn	**Pn**	**01 39 38.8**	**-0.9**
	2.9nm,0.3s,baz=330,slow=14,SNR=1.4							
PLCA	**Paso Flores**	**9.65**	**174**			**Pn**	**01 39 38.6**	**-1.0**
RUSC	**La Rusia**	**36.83**	**358**		P	**P**	**01 44 29.4**	**-0.2**
RUSC					IAmb	IAmb	01 44 38.7	
	comp=Z,49nm,1.0s							
SNAA	**Sanae**	**54.22**	**159**		P	**P**	**01 46 48.2**	**+2.0**
	comp=Z,19nm,1.1s,baz=266,slow=7.1,SNR=3.1							
SNAA	**Sanae**	**54.22**	**159**		P	**P**	**01 46 48.0**	**+1.8**
QSPA	**South Pole Qui**	**59.10**	**180**		P	**P**	**01 47 22.1**	**+1.0**
QSPA					IAmb	IAmb	01 47 29.7	
	comp=Z,38nm,1.4s							
TXAR	**Lajitas Array**	**67.28**	**330**		P	**P**	**01 48 15.1**	**-0.4**
	comp=Z,61nm,0.3s,baz=153,slow=8.1,SNR=11							
MAW	**Mawson**	**75.91**	**164**		P	**P**	**01 49 08.7**	**+1.7**
	comp=Z,6.0nm,0.7s,baz=225,slow=10,SNR=3.1							
MAW	**Mawson**	**75.91**	**164**		P	**P**	**01 49 06.0**	**-1.0**
PDAR	**Pinedale Array**	**81.24**	**333**		P	**P**	**01 49 36.1**	**-0.8**
	comp=Z,1.7nm,0.7s,baz=152,slow=6.1,SNR=4.1							
B35A	**Bob, Littlefor**	**81.50**	**346**		P	**P**	**01 49 36.6**	**-1.2**
B35A					IAmb	IAmb	01 49 37.0	
	comp=Z,2.9nm,0.6s							
NVAR	**Mina Array Bea**	**81.58**	**325**		P	**P**	**01 49 38.7**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=154,slow=4.9,SNR=4.5							
NVAR	**Mina Array Bea**	**81.58**	**325**		P	**P**	**01 49 38.5**	**-0.3**
HVU	**Hansel Valley**	**81.72**	**330**		P	**P**	**01 49 38.4**	**-1.0**
HVU					IAmb	IAmb	01 49 39.7	
	comp=Z,6.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**83.17**	**70**		P	P	01 49 57.8	+10
	comp=Z,23nm,0.8s,baz=261,slow=4.5,SNR=7.6							
AKASG	**Malin Array Be**	**120.18**	**46**		PKP	**PKiKP**	**01 56 17.5**	**+6.0**
	comp=Z,1.8nm,0.7s,baz=271,slow=2.5,SNR=5.2							
WRA	**Warramunga Arr**	**123.29**	**210**		PKP	**PKiKP**	**01 56 18.2**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=129,slow=1.4,SNR=6.1							
WRA	**Warramunga Arr**	**123.29**	**210**		PKPdf	**PKPdf**	**01 56 16.9**	**-1.6**
H11S2	**WAKE ISLAND Hyl**	**125.83**	**271**		T	T	04 13 43.7	
	baz=115,slow=75,SNR=20							
H11S1	**WAKE ISLAND Hyl**	**125.85**	**271**		T	T	04 13 40.7	
	baz=115,slow=75,SNR=22							
H11S3	**WAKE ISLAND Hyl**	**125.85**	**271**		T	T	04 13 45.0	
	baz=115,slow=75,SNR=20							
BVAR	**Borovoye Array**	**145.09**	**40**		PKPbc	**PKiKP**	**01 57 04.9**	**+3.2**
	comp=Z,9.1nm,0.7s,baz=258,slow=5.8,SNR=3.7							
ZALV	**Zalesovo Beam**	**151.73**	**29**		PKPbc	**PKPab**	**01 57 22.4**	**-1.4**
	comp=Z,13nm,0.6s,baz=293,slow=3.2,SNR=3.5							
ZALV	**Zalesovo Beam**	**151.73**	**29**		PKPbc	**PKiKP**	**01 57 14.6**	**-0.7**

*IDC **17** 01:39:16.9±1.1, 31.°52S×71.°60W, h0km, mb4.8/6, mb1 4.9/7, mb1mx4.4/38, mbtmp4.9/7, ML5.2/1, Error ellipse: s-maj=45.7km s-min=25.7km az=74.0*

*NEIC **17** 01:39:21.6±0.8, 31.°58S±0.°03×71.°80W±0.°09, h33km±4km, mb5.1/9, Error ellipse: s-maj=11.1km s-min=3.9km az=90.0*

ISC 17 01:39:18.6±2.4, **31.°57S**±0.°04×**71.°8W**±0.°1, **h14**km±14km, **n42**, σ**0.°60**/41, **mb5.0**/9, **1C**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.91**	**8**		Pn	**Pn**	**01 39 37.6**	**+0.6**
CO06					Sn	**Sn**	**01 39 50.0**	**+0.2**
CO03	**El Pedregal**	**1.19**	**52**		Pn	**Pg**	**01 39 42.0**	**+0.4**
CO03					Sn	**Sg**	**01 39 56.4**	**-0.6**
VA01	**Torpederas**	**1.45**	**176**		Pn	**Pn**	**01 39 44.4**	**0.0**
VA01					Sn	**Sn**	**01 40 02.1**	**-1.1**
VA03	**San Esteban**	**1.58**	**139**		Pn	**Pb**	**01 39 47.1**	**-0.6**
VA03					Sn	**Sb**	**01 40 06.9**	**-0.7**
MT05	**Renca**	**2.02**	**154**		Pn	**Pn**	**01 39 53.3**	**+1.0**
MT05					Sn	**Sn**	**01 40 18.1**	**+0.7**
VA05	**Santo Domingo**	**2.08**	**176**		Pn	**Pn**	**01 39 53.5**	**+0.4**
MT09	**Talagante**	**2.30**	**163**		Pn	**Pn**	**01 39 57.5**	**+1.3**
MT01	**Popeta**	**2.33**	**169**		Pn	**Pn**	**01 39 57.6**	**+1.0**
GO05	**Huala**	**3.43**	**182**		Pn	**Pn**	**01 40 11.4**	**-0.2**
ML02	**Panimavida**	**4.19**	**176**		Pn	**Pn**	**01 40 22.8**	**+0.7**
H03N1	**Juan Fernandez**	**6.30**	**251**		T	T	01 47 34.2	
	baz=80,slow=72,SNR=27							
H03N3	**Juan Fernandez**	**6.32**	**251**		T	T	01 47 33.4	
	baz=80,slow=72,SNR=28							
H03N2	**Juan Fernandez**	**6.32**	**251**		T	T	01 47 27.3	
	baz=80,slow=72,SNR=23							
LC01	**Cunco**	**7.31**	**181**		Pn	**Pn**	**01 41 04.5**	**-0.5**
PLCA	**Paso Flores**	**9.19**	**174**		Pn	**Pn**	**01 41 31.4**	**+0.5**
	5.7nm,0.3s,baz=334,slow=13,SNR=14							
PLCA	**Paso Flores**	**9.19**	**174**		Pn	**Pn**	**01 41 31.7**	**+0.8**
EFI	**East Falkland**	**22.48**	**157**		P	**P**	**01 44 17.7**	**+0.4**
SAML	**Samuel**	**23.89**	**21**		P	**P**	**01 44 32.0**	**0.0**
PMSA	**Palmer Station**	**33.57**	**174**		P	**P**	**01 45 58.6**	**+0.8**
PMSA					IAmb	IAmb	01 46 06.5	
	comp=Z,27nm,1.1s							
SNAA	**Sanae**	**53.75**	**159**		P	**P**	**01 48 40.5**	**+0.4**
	comp=Z,11nm,1.0s,baz=233,slow=4.4,SNR=6.2							
SNAA	**Sanae**	**53.75**	**159**		P	**P**	**01 48 40.3**	**+0.2**
SNAA					IAmb	IAmb	01 48 41.1	
	comp=Z,23nm,1.1s							
QSPA	**South Pole Qui**	**58.66**	**180**		P	**P**	**01 49 15.4**	**+0.1**
SYO	**Syowa Base**	**68.04**	**159**	⇑*i*	P	**P**	**01 50 17.0**	**-0.2**
LIC	**Lamto**	**73.81**	**72**	*eP*	P	**P**	**01 50 52.7**	**-0.4**
	comp=Z,66nm,1.5s							
TIC	**Toumodi**	**74.06**	**72**	*eP*	P	**P**	**01 50 54.7**	**+0.1**
KIC	**Kosan Boka**	**74.12**	**72**	*eP*	P	**P**	**01 50 55.0**	**+0.1**
	comp=Z,20nm,0.6s							
DBIC	**Dimbokro**	**74.21**	**72**		P	**P**	**01 50 55.0**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=226,slow=4.9,SNR=10							
SADO	**Sadowa**	**76.28**	**355**		P	**P**	**01 51 06.5**	**-0.1**
	comp=Z,8.4nm,0.9s,baz=167,slow=2.3,SNR=3.2							
SADO	**Sadowa**	**76.28**	**355**		P	**P**	**01 51 06

FITZ Fitzroy Crossi 25.83 243 P P 01 45 51.7 +0.3
0.8nm,0.4s,baz=63,slow=9.0,SNR=7.2
MKAR Makanchi Array 80.22 320 P P 01 52 22.6 -0.1
1.1nm,0.9s,baz=107,slow=5.0,SNR=3.7

GUC ***17*** *01:41:05.6±0.8,31°.11S×71°.65W,h49km±4km,MW6.5*
NEIC ***17*** *01:41:05.9±1.2,31°.10S±0°.04×71°.65W±0°.07,h42km±3km, mb5.5/564,Ms_20 6.4/92,Mwr6.1/44,Mww6.4, Mwr6.5(GUC),Error ellipse: s-maj=9.5km s-min=5.1km az=107.0*
MOS ***17*** *01:41:05.1±2.4,31°.02S×71°.60W,h33km, mb5.9/37, MS6.2/4, Error ellipse: s-maj=11.7km s-min=6.1km az=98.9*
SJA ***17*** *01:41:05.2±0.9,31°.05S×72°.09W,h40km±108km,ML6.0, MW5.9*
VAO ***17*** *01:41:06.2±0.3,31°.00S×71°.31W,h10km, mb5.9*
IDC ***17*** *01:41:07.5±0.5,31°.14S×71°.38W,h31km±3km,mb5.3/29, mb1 5.3/35,mb1mx5.3/38,mbtmp5.4/35,ML5.1/6,MS6.2/11, Ms1 6.2/11,ms1mx5.7/31,Error ellipse: s-maj=14.1km s-min=8.4km az=84.0*
NEIC ***17*** *01:41:09.3,31°.15S×71°.55W,h40km,Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.14; $M_{\theta\theta}$-0.77; $M_{\phi\phi}$-0.37; $M_{r\theta}$0.13; $M_{r\phi}$0.26; $M_{\theta r}$-1.43; Fault plane solution: $M_0$1.78000×10^{18} NP1:ϕ_s161.81000°, δ73.89000°,λ103.89000°. NP2:ϕ_s300.09000°,δ21.15000°, λ50.26000°. Principal axes: T 2.0085, Plg59.0000°, Azm91.0000°; N -0.6371, Plg13.0000°, Azm338.0000°; P -1.3714, Plg28.0000°, Azm241.0000°;*
BJI ***17*** *01:41:10.2±0.0,31°.10S×71°.45W,h40km,mB6.4/18, Ms6.4/41,Ms7 6.4/39*
NEIC ***17*** *01:41:15,31°.15S×71°.72W,h46km,Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}5.18; $M_{\theta\theta}$0.01; $M_{\phi\phi}$-5.19; $M_{r\theta}$0.14; $M_{r\phi}$0.96; $M_{\theta r}$-1.96; Fault plane solution: $M_0$5.62000×10^{18} NP1:ϕ_s348.00000°, δ35.00000°,λ86.00000°. NP2:ϕ_s172.00000°,δ55.00000°, λ92.00000°. Principal axes: T 5.5360, Plg80.0000°, Azm92.0000°; N 0.1719, Plg2.0000°, Azm351.0000°; P -5.7080, Plg10.0000°, Azm260.0000°;*
ISC 17 01:41:05.1±0.3,31°.15S±0°.02×71°.70W±0°.04,h27km±2km, h27km:pP-P,n1178,σ2s32/994,mb5.6/313,MS6.4/61, 52C-24D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
CO06	**Fray Jorge**	**0.48**	**6**	*eP*	**Pn**		**01 41 16.8**	**+0.5**
CO06				*i* S	**Sn**		**01 41 25.3**	**+1.5**
CO06	**Fray Jorge**	**0.48**	**6**	Pn	**Pn**		**01 41 14.4**	**-0.6**
CO06				Sn	**Sn**		**01 41 22.9**	**-0.9**
CO03	**El Pedregal**	**0.92**	**70**	*eP*	**Pb**		**01 41 23.0**	**+0.5**
CO03				*i* S	**Sn**		**01 41 35.9**	**+1.1**
CO03	**El Pedregal**	**0.92**	**70**	Pn	**Pn**		**01 41 21.2**	**-1.2**
CO03				Sn	**Sb**		**01 41 32.6**	**-1.7**
CO03	**El Pedregal**	**0.92**	**70**	*i* P	**Pb**		**01 41 23.0**	**+0.5**
CO03				IAML			01 41 37.5	
	comp=Z,427μm,1.7s							
GO04	**Tololo Observa**	**1.25**	**39**	*eP*	**Pb**		**01 41 28.1**	**0.0**
GO04				*i* S	**Sb**		**01 41 44.9**	**+1.0**
GO04	**Tololo Observa**	**1.25**	**39**		**Pn**		**01 41 27.1**	**+0.1**
VA01	**Torpederas**	**1.86**	**179**	*eP*	**Pn**		**01 41 36.1**	**+0.9**
VA01				*i* S	**Sb**		**01 42 00.9**	**-0.4**
VA01	**Torpederas**	**1.86**	**179**		**Pn**		**01 41 35.6**	**+0.4**
VA01				Sn	**Sn**		**01 41 58.4**	**+0.5**
VA03	**San Esteban**	**1.88**	**149**	*eP*	**Pb**		**01 41 37.9**	**-0.9**
VA03				*i* S	**Sb**		**01 42 02.9**	**+1.0**
VA03	**San Esteban**	**1.88**	**149**		**Pn**		**01 41 36.2**	**+0.6**
VA03				Sn	**Sn**		**01 41 58.1**	**-0.4**
ROCH	**El Roble**	**1.91**	**162**	*eP*	**Pb**		**01 41 38.2**	**-1.1**
ROCH				*i* S	**Sb**		**01 42 04.1**	**+1.4**
RTLS	**Leoncito**	**2.15**	**108**	*i* P	**Pb**		**01 41 45.0**	**+1.5**
RTLS				*e*S	**Sb**		**01 42 12.3**	**+2.4**
RTLS				IAML			01 42 14.9	
	comp=Z,41μm,0.6s							
AUSP	**Uspallata**	**2.24**	**119**	*i* P	**Pb**		**01 41 46.0**	**+1.0**
LCO	**Las Campanas**	**2.30**	**22**	*eP*	**Pn**		**01 41 42.9**	**+1.4**
LCO				*i* S	**Sb**		**01 42 12.4**	**-1.9**
LCO	**Las Campanas**	**2.30**	**22**	Pn	**Pn**		**01 41 41.6**	**+0.1**
LCO				Sn	**Sn**		**01 42 05.9**	**-3.3**
LCO	**Las Campanas**	**2.30**	**22**	*i* P	**Pb**		**01 41 43.9**	**-2.2**
LCO				*e*S	**Sb**		**01 42 13.4**	**-0.8**
LCO				IAML			01 42 20.6	
	comp=Z,535μm,0.9s							
MT05	**Renca**	**2.38**	**160**	*eP*	**Pb**		**01 41 44.9**	**-2.3**
MT05				*i* S	**Sb**		**01 42 17.4**	**+1.2**
MT05	**Renca**	**2.38**	**160**		**Pn**		**01 41 43.1**	**+0.8**
MT05	**Renca**	**2.38**	**160**	*i* P	**Pb**		**01 41 47.0**	**-0.2**
ACDV	**Cuesta del Vie**	**2.43**	**67**	*i* P	**Pb**		**01 41 48.7**	**+0.5**
ACDV				IAML			01 42 43.2	
	comp=Z,33μm,1.1s							
VA05	**Santo Domingo**	**2.50**	**178**	*eP*	**Pn**		**01 41 44.4**	**+0.4**
VA05				*i* S	**Sb**		**01 42 22.7**	**+3.2**
VA05	**Santo Domingo**	**2.50**	**178**		**Pn**		**01 41 45.3**	**+1.3**
FSR	**Penalolen**	**2.52**	**157**	*eP*	**Pn**		**01 41 46.0**	**+1.7**
ZON	**Zonda**	**2.61**	**99**	P	**Pn**		**01 41 47.4**	**+1.8**
ZON	**Zonda**	**2.61**	**99**		**Pn**		**01 41 47.4**	**+1.8**
ZON	**Zonda**	**2.61**	**99**	*i* P	**Pb**		**01 41 52.0**	**+0.8**
ZON				IAML			01 42 34.3	
	comp=Z,42μm,1.1s							
MT09	**Talagante**	**2.68**	**167**	*eP*	**Pn**		**01 41 48.7**	**+2.1**
MT09	**Talagante**	**2.68**	**167**		**Pn**		**01 41 49.4**	**+2.7**
MT01	**Popeta**	**2.73**	**172**	*eP*	**Pn**		**01 41 49.6**	**+2.4**
MT01				*i* S	**Sb**		**01 42 23.9**	**-2.3**
MT01	**Popeta**	**2.73**	**172**		**Pb**		**01 41 50.3**	**-2.9**
MT01	**Popeta**	**2.73**	**172**	*i* P	**Pb**		**01 41 53.0**	**-0.2**
MT01				*e*S	**Sb**		**01 42 28.5**	**+2.3**
MT01				IAML			01 42 34.1	
	comp=Z,29μm,1.0s							
RTCV	**Cerro Valdivia**	**2.79**	**105**	*i* P	**Pb**		**01 41 53.6**	**-0.6**
RTCV				IAML			01 44 11.9	
	comp=Z,2μm,3.3s							
ASAL	**Salagasta**	**2.83**	**121**	*i* P	**Pb**		**01 41 55.4**	**+0.5**
ASAL				IAML			01 44 05.0	
	comp=Z,3μm,1.7s							
ARCO	**CERRO ARCO**	**2.89**	**126**	*i* P	**Pb**		**01 41 55.7**	**-0.4**
ARCO				IAML			01 42 41.9	
	comp=Z,55μm,0.7s							
LMEL	**Las Melosas**	**2.97**	**155**	*eP*	**Pn**		**01 41 53.4**	**+2.8**
AC04	**Llanos de Chal**	**2.99**	**11**	*eP*	**Pn**		**01 41 51.7**	**+0.9**
AC04	**Llanos de Chal**	**2.99**	**11**	*i* P	**Pn**		**01 41 53.7**	**+0.9**
AC04				IAML			01 42 49.2	
	comp=Z,56μm,1.4s							
AAGR	**Agrelo**	**3.10**	**129**	*i* P	**Pb**		**01 41 59.0**	**-0.7**
AAGR				IAML			01 44 22.9	
	comp=Z,3μm,2.8s							
BO01	**Tunca**	**3.27**	**171**	*eP*	**Pn**		**01 41 56.8**	**+2.2**
BO01	**Tunca**	**3.27**	**171**	Pn	**Pn**		**01 41 57.9**	**+3.3**
BO01	**Tunca**	**3.27**	**171**	*i* P	**Pn**		**01 41 58.4**	**+3.8**
BO01				*e*S	**Sb**		**01 42 38.0**	**-3.8**
BO01				IAML			01 42 53.7	
	comp=Z,18μm,0.6s							
BO03	**Pichilemu**	**3.34**	**184**	*eP*	**Pn**		**01 41 56.2**	**+0.7**
BO02	**Sierra Bellavi**	**3.71**	**168**	*eP*	**Pn**		**01 42 02.8**	**+2.1**
BO02	**Sierra Bellavi**	**3.71**	**168**		**Pn**		**01 42 01.8**	**+1.1**
BO02	**Sierra Bellavi**	**3.71**	**168**	*i* P	**Pn**		**01 42 04.2**	**+3.5**
BO02				*e*S	**Sb**		**01 42 53.6**	**-0.9**
BO02				IAML			01 43 04.8	
	comp=Z,30μm,0.7s							
GO03	**Copiap**	**3.77**	**20**		**Pn**		**01 42 02.1**	**+0.6**
GO03	**Copiap**	**3.77**	**20**	*i* P	**Pn**		**01 42 03.0**	**+1.5**
GO03				*e*S	**Sb**		**01 42 53.0**	**-3.3**
GO05	**Huala**	**3.85**	**183**	Pn	**Pn**		**01 42 03.3**	**+0.7**
VCA	**Vinchina**	**3.87**	**52**	*i* P	**Pb**		**01 42 09.0**	**-3.8**
VCA				IAML			01 43 16.8	
	comp=Z,41μm,1.2s							
COIS	**El Sosneado**	**4.32**	**156**	*i* P	**Pb**		**01 42 16.0**	**-4.3**
RFA	**San Rafael**	**4.52**	**144**	*i* P	**Pb**		**01 42 19.0**	**-4.7**
RFA				IAML			01 43 34.8	
	comp=Z,8μm,1.5s							
TINO	**Tinogasta**	**4.73**	**50**	*i* P	Pn		01 42 20.2	+5.3
AC02	**Maricunga**	**4.86**	**28**	*eP*	**Pn**		**01 42 19.8**	**+3.0**
MRA	**San Martin**	**5.25**	**105**	*i* P	Pn		01 42 28.0	+6.1
MRA				IAML			01 43 34.4	
	comp=Z,13μm,0.8s							
CYA	**Choya**	**5.79**	**64**	*i* P	**Pn**		**01 42 32.0**	**+2.7**
CYA				IAML			01 43 47.1	
	comp=Z,24μm,1.6s							
H03N1	**Juan Fernandez**	**6.52**	**248**	T	T		01 49 16.2	
	baz=76,slow=72,SNR=851							
H03N3	**Juan Fernandez**	**6.53**	**248**	T	T		01 49 14.6	
	baz=76,slow=72,SNR=853							
H03N2	**Juan Fernandez**	**6.54**	**248**	T	T		01 49 17.2	
	baz=76,slow=72,SNR=778							
PB14	**IPOC Station P**	**6.60**	**10**	*i* P	**Pn**		**01 42 42.4**	**+1.7**
PB14				IAML			01 44 29.1	
	comp=Z,14μm,1.0s							
CANA	**Caviahue**	**6.74**	**176**	*eP*	**Pn**		**01 42 43.9**	**+1.5**
CANA				*i* P	**Pn**		**01 42 46.0**	**+3.6**
AHML	**Horco Molle**	**7.07**	**54**	*i* P	**Pn**		**01 42 49.0**	**+2.1**
AHML				IAML			01 44 55.0	
	comp=Z,7μm,1.0s							
FSA	**Cafayete**	**7.11**	**46**	*i* P	**Pn**		**01 42 52.0**	**+4.5**
PB15	**IPOC Station P**	**8.16**	**15**	*i* P	**Pn**		**01 43 02.6**	**+0.6**
LVC	**Limon Verde**	**8.87**	**17**	Pn	**Pn**		**01 43 10.5**	**-1.3**
	comp=Z,5.9nm,0.3s,baz=142,slow=6.2,SNR=11							
LVC				LR	LR		01 46 50.0	
	comp=Z,109μm,21.6s,baz=210,slow=39							
LVC	**Limon Verde**	**8.87**	**17**	*eP*	**Pn**		**01 43 11.9**	**+0.1**
LVC	**Limon Verde**	**8.87**	**17**	*i* P	**Pn**		**01 43 14.0**	**+2.2**
PB04	**IPOC Station P**	**8.89**	**9**	*i* P	**Pn**		**01 43 13.0**	**+1.0**
AZAP	**Zapla**	**9.06**	**42**	*i* P	Pn		01 43 21.0	+6.6
PLCA	**Paso Flores**	**9.60**	**175**	Pn	**Pn**		**01 43 23.4**	**+1.7**
	comp=Z,5.4nm,0.3s,baz=341,slow=12,SNR=12							
PLCA				LR	LR		01 47 48.5	
	comp=Z,85μm,18.7s,baz=334,slow=42							
PLCA	**Paso Flores**	**9.60**	**175**		**Pn**		**01 43 20.6**	**-1.0**
ASTB	**Santa Barbara**	**9.63**	**44**	*i* P	**Pn**		**01 43 25.6**	**+3.4**
HJA	**Humahuaca**	**9.69**	**37**	*i* P	Pn		01 43 29.0	+5.8
TRQA	**Tornquist**	**10.56**	**133**	P	**Pn**		**01 43 34.6**	**0.0**
TRQA	**Tornquist**	**10.56**	**133**	Pn	**Pn**		**01 43 34.6**	**0.0**
PSGCX	**Pisagua**	**11.60**	**7**	Pn	**Pn**		**01 43 47.9**	**-1.1**
GO07	**Milladeo Hill,**	**12.04**	**187**		**Pn**		**01 43 53.6**	**-1.3**
CPUP	**Villa Florida**	**13.49**	**73**	Pn	**Pn**		**01 44 14.6**	**-0.1**
	comp=Z,5.7nm,0.3s,baz=248,slow=16,SNR=8.7							
CPUP				LR	LR		01 49 48.0	
	comp=Z,97μm,21.9s,baz=256,slow=39							
CPUP	**Villa Florida**	**13.49**	**73**		**Pn**		**01 44 13.9**	**-0.9**
LPAZ	**La Paz**	**15.15**	**13**	Pn	**Pn**		**01 44 39.5**	**+1.5**
	comp=Z,4.4nm,0.3s,baz=189,slow=9.5,SNR=23							
LPAZ	**La Paz**	**15.15**	**13**	Pn	**Pn**		**01 44 35.4**	**-2.6**
LPAZ				IAmb	IAmb		01 44 42.4	
	comp=Z,198nm,1.1s							
SIV	**San Ignacio**	**17.94**	**35**	P	**P**		**01 45 13.2**	**-0.1**
	comp=Z,11nm,0.3s,baz=211,slow=8.2,SNR=21							
SIV				LR	LR		01 53 35.8	
	comp=Z,60μm,19.2s,baz=216,slow=42							
NNA	**Nana**	**19.66**	**345**	P	**Pn**		**01 45 36.3**	**+2.8**
	comp=Z,1.3nm,0.3s,baz=181,slow=13,SNR=8.9							
NNA	**Nana**	**19.66**	**345**	*ce*P	**Pn**		**01 45 37.4**	**+3.8**
NNA				pmax	pmax			
	comp=Z,329nm,1.7s							
NNA	**Nana**	**19.66**	**345**	P	**P**		**01 45 30.3**	**-1.7**
VILB	**Vilhena**	**20.99**	**33**	*eP*	**P**		**01 45 46.9**	**+0.4**
SALV	**Santo Antonio**	**21.07**	**48**	*eP*	**P**		**01 45 47.2**	**-0.1**
ETMB	**Extrema**	**21.84**	**15**	*eP*	**P**		**01 45 57.2**	**+1.7**
GO10	**Punta Arenas**	**21.99**	**179**	P	**P**		**01 45 53.9**	**-3.1**
GO10				IAmb	IAmb		01 46 02.6	
	comp=Z,128nm,1.1s							
ITRB	**Iturama**	**22.35**	**64**	*eP*	**P**		**01 46 02.5**	**+1.4**
PET01	**Itanhaem-SP**	**22.65**	**78**	*eP*	**P**		**01 46 04.8**	**+0.6**
EFI	**East Falkland**	**22.84**	**158**	*i* P	**P**		**01 46 08.7**	**+2.7**
EFI				pmax	pmax			
	comp=Z,475nm,1.3s							
EFI	**East Falkland**	**22.84**	**158**	P	**P**		**01 46 05.1**	**-0.8**
EFI				IAmb	IAmb		01 46 11.7	
	comp=Z,488nm,1.3s							
BB19B	**Bebedouro**	**23.06**	**70**	*eP*	**P**		**01 46 08.6**	**0.0**
RCLB	**Rio Claro- Sao**	**23.22**	**74**	*eP*	**P**		**01 46 08.0**	**-2.2**
CZSB	**Cruzeiro do Su**	**23.32**	**357**	*eP*	**P**		**01 46 14.1**	**+2.9**
VAO	**Valinhos**	**23.43**	**76**	*eP*	**P**		**01 46 12.7**	**+0.4**
SAML	**Samuel**	**23.48**	**22**	P	**P**		**01 46 09.9**	**-2.8**
SAML				pmax	pmax			
	comp=Z,136nm,0.8s							
SAML	**Samuel**	**23.48**	**22**	P	**P**		**01 46 09.9**	**-2.8**
SAML				IAmb	IAmb		01 46 18.6	
	comp=Z,136nm,0.8s							
USHA	**Ushuaia**	**23.78**	**175**	P	**P**		**01 46 17.4**	**+2.1**
	comp=Z,204nm,0.7s,baz=360,slow=8.1,SNR=28							
MG01	**Puerto William**	**23.94**	**174**	P	**P**		**01 46 14.9**	**-2.0**
MG01				IAmb	IAmb		01 46 22.9	
	comp=Z,314nm,1.1s							
PARB	**Paraibuna**	**24.41**	**78**	*eP*	**P**		**01 46 22.5**	**+0.9**
CLDB	**Colider**	**24.99**	**40**	*eP*	**P**		**01 46 27.8**	**+1.0**
IPMB	**Ipameri, GO**	**25.00**	**64**	*eP*	**P**		**01 46 27.2**	**+0.3**
BSCB	**Bom Sucesso**	**26.15**	**74**	*eP*	**P**		**01 46 38.0**	**+0.7**
BDFB	**Brasilia**	**26.58**	**60**	P	**P**		**01 46 41.1**	**-0.1**
	comp=Z,192nm,0.9s,baz=225,slow=7.4,SNR=17							
BDFB				LR	LR		01 58 25.6	
	comp=Z,148μm,18.3s,baz=238,slow=39							
BDFB	**Brasilia**	**26.58**	**60**	P	**P**		**01 46 38.6**	**-2.7**
BDFB				IAmb	IAmb		01 46 44.0	
	comp=Z,246nm,0.9s							
VAS01	**Vassouras-RJ**	**26.68**	**78**	*eP*	**P**		**01 46 43.0**	**+1.0**
SNDB	**Serra Nova Dou**	**26.82**	**49**	*eP*	**P**		**01 46 44.3**	**+0.9**
TBTG	**Tabatinga, AM**	**26.88**	**4**	*eP*	**P**		**01 46 45.9**	**+2.1**
TBTG	**Tabatinga, AM**	**26.88**	**4**	*eP*	**P**		**01 46 45.8**	**+2.1**
DUB01	**Friburgo-RJ**	**27.66**	**78**	*eP*	**P**		**01 46 51.7**	**+0.7**
CAM01	**Campos-RJ**	**28.37**	**78**	*eP*	**P**		**01 46 58.0**	**+0.9**
DIAM	**Diamantina, MG**	**28.40**	**70**	*eP*	**P**		**01 46 58.3**	**+0.7**
NPGB	**Novo Progresso**	**28.44**	**36**	*eP*	**P**		**01 46 59.0**	**+1.2**
PEXB	**Peixe**	**28.74**	**54**	*eP*	**P**		**01 47 01.2**	**+0.7**
MC01	**Montes Claros**	**29.06**	**67**	*eP*	**P**		**01 47 03.6**	**+0.2**
ALF01	**Guarapari-ES**	**29.68**	**77**	*eP*	**P**		**01 47 09.4**	**+0.6**
MACA	**Manacapuru-AM**	**29.72**	**23**	*eP*	**P**		**01 47 09.6**	**+0.4**
JANB	**Januaria**	**29.73**	**64**	*eP*	**P**		**01 47 09.6**	**+0.2**
SJMB	**Sao Joao De Ma**	**30.21**	**73**	*eP*	**P**		**01 47 13.3**	**-0.2**
BSFB	**Barra de Sao F**	**30.43**	**74**	*eP*	**P**		**01 47 15.6**	**+0.1**
RIB01	**Linhares ES**	**30.57**	**75**	*eP*	**P**		**01 47 16.8**	**+0.1**
ITTB	**Itaituba**	**30.59**	**33**	*eP*	**P**		**01 47 15.8**	**-1.0**
SDBA	**SAO DESIDERIO**	**30.96**	**59**	*eP*	**P**		**01 47 20.0**	**-0.2**
PTLC	**Puerto Leguiza**	**31.29**	**354**	*eP*	**P**		**01 47 21.5**	**-1.5**
SMTB	**Santa Maria do**	**31.56**	**50**	*eP*	**P**		**01 47 25.7**	**+0.2**
OTAV	**Otavalo**	**31.87**	**347**	P	**P**		**01 47 26.1**	**-2.5**
OTAV				pmax	pmax			
	comp=Z,2.0nm,1.1s							
OTAV	**Otavalo**	**31.87**	**347**	P	**P**		**01 47 26.1**	**-2.5**
OTAV	**Otavalo**	**31.87**	**347**	*eP*	P		01 47 34.0	+5.4
OTAV	**Otavalo**	**31.87**	**347**	*eP*	**P**		**01 47 31.6**	**+2.9**
PRPB	**Parauapebas**	**32.22**	**44**	*eP*	**P**		**01 47 30.4**	**-0.8**
PTGA	**Pitinga**	**32.23**	**22**	P	**P**		**01 47 32.7**	**+1.3**
	comp=Z,107nm,0.9s,baz=194,slow=10,SNR=12							
PTGA				LR	LR		02 02 42.2	
	comp=Z,40μm,18.3s,baz=199,slow=40							
PTGA	**Pitinga**	**32.23**	**22**	P	**P**		**01 47 33.5**	**+2.2**
GUA01	**Guaratinga, BA**	**32.43**	**71**	*eP*	**P**		**01 47 33.6**	**+0.5**
GCUF	**Volcan Galeras**	**32.65**	**349**	*eP*	P		01 47 46.4	+11
FLOC	**Florencia**	**32.77**	**353**	P	**P**		**01 47 34.2**	**-1.9**
RPN	**Rapa Nui**	**33.01**	**267**	LR	LR		01 57 23.0	
	comp=Z,28μm,20.8s,baz=31,slow=29							
CMC01	**Camacan, BA**	**33.33**	**69**	*eP*	**P**		**01 47 41.3**	**+0.3**
GARC	**Garzon, Huila**	**33.35**	**353**	*eP*	**P**		**01 47 45.6**	**+4.2**
BBAC	**Balboa, Cauca**	**33.41**	**350**	*eP*	P		01 47 47.5	+5.6
SOTA	**Rioblanco**	**33.43**	**351**	*eP*	**P**		**01 47 47.0**	**+4.6**
MALB	**Monte Alegre**	**33.48**	**33**	*eP*	**P**		**01 47 42.9**	**+0.7**
PCON	**Cinco Dias**	**33.59**	**351**	*eP*	**P**		**01 47 48.6**	**+4.8**
NBIT	**Itapeh - BA**	**33.63**	**69**	*eP*	**P**		**01 47 44.1**	**+0.4**
BETC	**Betania**	**33.84**	**353**	*eP*	P		01 47 51.5	+6.2
POPC	**Popayan, Colom**	**33.84**	**351**	*eP*	**P**		**01 47 50.1**	**+4.5**
PMSA	**Palmer Station**	**33.98**	**174**	P	**P**		**01 47 48.8**	**+2.8**
	comp=Z,66nm,1.2s,baz=356,slow=7.3,SNR=11							
PMSA				LR	LR		02 01 05.7	
	comp=Z,49μm,20.5s,baz=310,slow=35							
PMSA	**Palmer Station**	**33.98**	**174**	P	**P**		**01 47 44.7**	**-1.4**
PMSA				IAmb	IAmb		01 47 51.0	
	comp=Z,107nm,1.3s							
PMSA	**Palmer Station**	**33.98**	**174**	*eP*	**P**		**01 47 49.9**	**+3.9**
MARP	**Paez Belalcaza**	**34.05**	**352**	*eP*	**P**		**01 47 51.3**	**+3.8**
HOPE	**Hope Point**	**34.13**	**143**	P	**P**		**01 47 45.2**	**-2.3**
HOPE				pmax	pmax			
	comp=Z,87nm,0.9s							
HOPE	**Hope Point**	**34.13**	**143**	P	**P**		**01 47 45.2**	**-2.3**
HOPE				IAmb	IAmb		01 47 51.6	
	comp=Z,87nm,0.9s							
GDU01	**Guandu, BA**	**34.21**	**67**	*eP*	**P**		**01 47 48.5**	**-0.2**
PRAC	**Prado**	**34.80**	**354**	*eP*	**P**		**01 47 57.2**	**+3.5**
BOAV	**Boa Vista**	**35.02**	**20**	*eP*	**P**		**01 47 55.3**	**-0.3**
ORTC	**Ortega, Tolima**	**35.03**	**354**	*eP*	**P**		**01 47 59.9**	**+4.2**
VILC	**Villavicencio,**	**35.12**	**357**	*eP*	**P**		**01 48 00.8**	**+4.3**
PTGC	**Puerto Gaitan,**	**35.16**	**359**	*eP*	**P**		**01 47 58.5**	**+1.8**
YOTC	**Yotoco, Valle**	**35.22**	**352**	*eP*	**P**		**01 48 00.8**	**+3.4**
NBPN	**Ponto Novo - B**	**35.48**	**62**	*eP*	**P**		**01 47 58.8**	**-0.8**
ANIL	**Santa Ana**	**35.62**	**354**	*eP*	P		01 48 05.9	+4.8
CHIC	**Chingaza**	**35.63**	**357**	*eP*	**P**		**01 48 04.4**	**+3.1**
MCPB	**Macapa, AP**	**35.84**	**35**	*eP*	**P**		**01 48 01.4**	**-1.2**
ROSC	**El Rosal**	**35.88**	**356**	P	**P**		**01 48 06.7**	**+3.3**
	comp=Z,24nm,0.8s,baz=172,slow=3.6,SNR=10.0							
ROSC	**El Rosal**	**35.88**	**356**	P	**P**		**01 48 00.0**	**-3.4**
ROSC	**El Rosal**	**35.88**	**356**	*eP*	P		01 48 09.4	+6.0
TMAB	**Tom-Au,PA,Br**	**36.28**	**43**	*eP*	**P**		**01 48 07.5**	**+1.1**
GUY2C	**Guyana, Caldas**	**36.34**	**354**	*eP*	**P**		**01 48 11.5**	**+4.1**
NORC	**Norcasia**	**36.63**	**355**	*eP*	**P**		**01 48 12.2**	**+2.8**
RUSC	**La Rusia**	**36.86**	**358**	P	**P**		**01 48 08.9**	**-3.0**
RUSC	**La Rusia**	**36.86**	**358**	*eP*	**P**		**01 48 13.4**	**+1.5**
CBOC	**Ciudad Bolivar**	**37.04**	**353**	*eP*	**P**		**01 48 15.8**	**+2.6**
NBLA	**Lagarto - SE**	**37.24**	**65**	*eP*	**P**		**01 48 13.7**	**-0.9**
HELC	**Santa Helena**	**37.31**	**354**	*eP*	**P**		**01 48 18.2**	**+2.7**
TAMC	**Tame, Arauca**	**37.38**	**360**	*eP*	**P**		**01 48 16.8**	**+1.0**
TAMC	**Tame, Arauca**	**37.38**	**360**	*eP*	**P**		**01 48 18.3**	**+2.6**
SOLC	**Bahia Solano**	**37.57**	**351**	*eP*	P		01 48 26.6	+9.3
PTBC	**PUERTO BERRIO,**	**37.57**	**356**	*eP*	**P**		**01 48 18.7**	**+1.3**
BRRC	**Barranca, Sant**	**38.09**	**357**	*eP*	**P**		**01 48 24.2**	**+2.5**
DBBC	**Dabeiba**	**38.20**	**353**	*eP*	**P**		**01 48 26.9**	**+4.1**
PAMC	**Pamplona, Colo**	**38.29**	**358**	*eP*	**P**		**01 48 26.5**	**+2.6**
ROSB	**Rosrio**	**38.30**	**48**	*eP*	**P**		**01 48 24.2**	**+0.7**
PTAC	**Punta Ardita,**	**38.53**	**350**	*eP*	**P**		**01 48 28.0**	**+2.6**
ZARC	**Zaragoza, Cauc**	**38.55**	**355**	*eP*	**P**		**01 48 26.9**	**+1.3**
NBMA	**Muriti-CE**	**38.81**	**59**	*eP*	**P**		**01 48 27.7**	**-0.2**
UREC	**San Jos de Ur**	**38.86**	**354**	*eP*	**P**		**01 48 30.6**	**+2.4**
NBPS	**Pedro II - PI**	**38.96**	**53**	*eP*	**P**		**01 48 29.1**	**-0.1**
NBAN	**Anadia - AL**	**39.22**	**65**	*eP*	**P**		**01 48 30.3**	**-1.0**
CACAO	**El Cacao, Vera**	**39.27**	**346**	*eP*	**P**		**01 48 35.4**	**+3.8**
NBPB	**Pedra_Branca-C**	**39.45**	**56**	*eP*	**P**		**01 48 33.4**	**+0.1**
SMLC	**San Martn de**	**39.79**	**356**	*eP*	**P**		**01 48 36.8**	**+0.9**
SDV	**Santo Domingo**	**39.82**	**2**	P	**P**		**01 48 37.3**	**+0.8**
	comp=Z,46nm,0.8s,baz=195,slow=6.3,SNR=18							
SDV	**Santo Domingo**	**39.82**	**2**	P	P		01 48 31.6	-4.9
SDV				IAmb	IAmb		01 48 39.9	
	comp=Z,130nm,1.2s							
SDV	**Santo Domingo**	**39.82**	**2**	*eP*	**P**		**01 48 37.8**	**+1.4**
SDV	**Santo Domingo**	**39.82**	**2**	*eP*	**P**		**01 48 37.4**	**+0.9**
UPD2	**Meteti**	**39.94**	**350**	*eP*	**P

VNA3 Neumayer Olymp 51.89 159 P P 01 50 12.0 +1.1
VNA1 Neumayer--Stat 52.18 158 P P 01 50 14.5 +1.5
GRTK Grand Turk 52.37 1 P P 01 50 11.2 -3.7
VNA2 Neumayer--Watz 52.53 158 P P 01 50 16.8 +1.2
baz=284,slow=8.5
CMIG Matias Romero 52.89 332 P P 01 50 21.5 +2.7
comp=Z,15nm,0.8s,baz=164,slow=6.2,SNR=23
SNAA Sanae 54.12 159 P P 01 50 28.0 +0.6
SNAA Sanae 54.12 159 P P 01 50 27.6 +0.3
comp=Z,158nm,1.1s,baz=278,slow=7.1,SNR=46
SNAA LR LR 02 13 06.3
comp=Z,18µm,18.9s,baz=245,slow=36
SNAA Sanae 54.12 159⇑ eP P 01 50 27.5 +0.2
SNAA pmax pmax
comp=Z,308nm,1.7s
SNAA Sanae 54.12 159 P P 01 50 25.2 -2.2
SOR Soroa 54.72 347 P P 01 50 29.1 -3.1
SOR pmax pmax
comp=Z,287nm,1.3s
SOR Soroa 54.72 347 P P 01 50 29.1 -3.1
RKT Rikitea 56.23 262 eT T 02 51 19.2
comp=Z,26nm,0.2s
QSPA South Pole Qui 59.08 180 P P 01 51 03.7 +0.9
comp=Z,77nm,0.8s,baz=170,slow=1.9,SNR=36
QSPA PKPPKP P'P'df 02 20 42.2 0.0
comp=Z,5.4nm,1.0s,baz=52,slow=0.6,SNR=7.3
QSPA South Pole Qui 59.08 180 P P 01 50 59.0 -3.8
DWPF Disney Wildern 59.66 350 P P 01 51 09.1 +2.1
baz=170
656A Willston 61.06 349 P P 01 51 14.4 -2.1
ZAIG Zacatecas 61.24 327 P P 01 51 15.9 -2.3
ZAIG IAmb IAmb 01 51 25.4
comp=Z,31nm,1.1s
553A Crawfordville 62.19 348 P P 01 51 22.7 -1.4
H06S1 SOCORRO T 62.31 317 T T 02 58 56.6
SNR=29
456A Hilliard 62.32 350 P P 01 51 22.6 -2.3
TIGA Tifton 63.27 349 P P 01 51 29.3 -1.9
TIGA Tifton 63.27 349 P P 01 51 33.1 +1.9
baz=168,SNR=7.5
BBSR BB Station 63.53 7 P P 01 51 30.6 -2.3
352A Blakely 63.54 347 P P 01 51 30.7 -2.4
BRAL Brewton 63.67 345 P P 01 51 35.8 +1.8
baz=165,SNR=7.2
CSU Charleston Sou 64.28 352 P P 01 51 35.5 -2.5
NHSC New Hope 64.42 352 P P 01 51 37.4 -1.3
NHSC New Hope 64.42 352 P P 01 51 40.8 +2.0
baz=172,SNR=6.8
152A Waverly Hall 64.66 348 IAmb IAmb 01 51 45.1
comp=Z,57nm,0.9s
833A Chaparral WMA, 64.77 333 P P 01 51 44.2 +3.0
baz=154,SNR=41
HKT Hockley 64.96 337 ceP P 01 51 45.0 +2.7
HKT pmax pmax
comp=Z,292nm,1.8s
HKT Hockley 64.96 337 P P 01 51 40.0 -2.3
SACV Santiago Islan 65.08 52 P P 01 51 39.4 -4.2
SACV IAmb IAmb 01 51 48.4
comp=Z,99nm,1.1s
Y59A Loris 65.15 353 IAmb IAmb 01 51 48.7
comp=Z,130nm,1.3s
GOGA Godfrey 65.17 349 IAmb IAmb 01 51 47.2
comp=Z,125nm,1.3s
GOGA Godfrey 65.17 349 P P 01 51 45.2 +1.4
baz=169,SNR=11
Y57A Sumter 65.34 352 IAmb IAmb 01 51 50.0
comp=Z,111nm,1.3s
Z51A Franklin 65.38 348 IAmb IAmb 01 51 55.7
comp=Z,17nm,0.8s
LRAL Lakeview Retre 65.46 346 IAmb IAmb 01 51 50.6
comp=Z,90nm,1.4s
LRAL Lakeview Retre 65.46 346 P P 01 51 46.9 +1.3
baz=166,SNR=15
VBMS Vicksburg 65.50 343 P P 01 51 47.9 +2.1
baz=162,SNR=13
SLBS Sierra La Lagu 65.69 321 P P 01 51 44.1 -3.3
JSC Jenkinsville 65.71 351 IAmb IAmb 01 51 52.4
comp=Z,98nm,1.4s
Z47A Carrollton 65.85 345 IAmb IAmb 01 51 53.3
comp=Z,136nm,1.1s
SBA Scott Base 65.92 191 P P 01 51 44.9 -3.1
SBA pmax pmax
comp=Z,51nm,1.5s
SBA Scott Base 65.92 191 P P 01 51 44.9 -3.1
SBA IAmb IAmb 01 51 53.2
comp=Z,51nm,1.4s
Y49A Blount Mountai 66.14 347 IAmb IAmb 01 51 55.0
comp=Z,56nm,1.1s
LPIG La Paz 66.22 321 P P 01 51 54.1 +3.4
comp=Z,21nm,0.3s,baz=85,slow=3.2,SNR=5.2
HPIG 66.25 327 IAmb IAmb 01 52 01.9
comp=Z,23nm,0.9s
NATX Nacogdoches 66.25 339 P P 01 51 53.3 +2.6
baz=158,SNR=8.6
CNNC Cliffs of the 66.30 354 P P 01 51 53.0 +2.0
baz=174
435B Jarrell 66.32 336 IAmb IAmb 01 51 57.4
comp=Z,70nm,1.1s
435B Jarrell 66.32 336 P P 01 51 54.0 +2.8
baz=156
W57A Gilead 66.42 353 IAmb IAmb 01 51 56.8
comp=Z,80nm,1.3s
KMSC Kings Mountain 66.56 351 IAmb IAmb 01 51 56.5
comp=Z,133nm,1.3s
KMSC Kings Mountain 66.56 351 P P 01 51 54.3 +1.7
baz=171,SNR=11
FPAL Fort Paine 66.65 348 IAmb IAmb 01 51 56.9
comp=Z,127nm,1.2s
JCT Junction City 66.86 334 P P 01 51 57.3 +2.6
baz=154,SNR=19
VNDA Vanda 66.94 191 P P 01 51 57.3 +2.7
comp=Z,5.5nm,0.8s,baz=139,slow=4.1,SNR=11
VNDA PKPPKP P'P'df 02 20 24.3 -4.5
comp=Z,2.0nm,0.9s,baz=327,slow=3.7,SNR=4.1
VNDA Vanda 66.94 191 P P 01 51 54.1 -0.6
V58A Windy Hill, Pi 66.96 353 IAmb IAmb 01 51 59.0
comp=Z,78nm,1.1s
Z41A Richland Creek 67.10 341 P P 01 51 58.5 +2.4
baz=160,SNR=11
V53A Saluda 67.29 350 IAmb IAmb 01 52 01.1
comp=Z,127nm,1.2s
WHTX Lake Whitney, 67.38 336 IAmb IAmb 01 52 04.6
comp=Z,31nm,0.8s
WHTX Lake Whitney, 67.38 336 P P 01 52 00.3 +2.4
baz=156,SNR=13
U59A Littleton 67.39 355 IAmb IAmb 01 52 07.2
comp=Z,57nm,1.2s
TX32 Lajitas Array 67.41 330 IAmb IAmb 01 52 04.4
comp=Z,28nm,0.9s
TXAR Lajitas Array 67.41 330 P P 01 51 59.1 +0.8
comp=Z,11nm,0.7s,baz=153,slow=7.8,SNR=27
TXAR pP sP 01 52 10.4 +0.6
comp=Z,26nm,1.0s,baz=141,slow=8.1,SNR=9.9
TXAR PKPPKP P'P'df 02 20 25.4 +7.6
comp=Z,0.7nm,0.7s,baz=126,slow=2.2,SNR=5.4
TX31 Lajitas Ar. Si 67.41 330 IAmb IAmb 01 52 04.4
comp=Z,82nm,0.9s
OXF Oxford 67.41 344 P P 01 51 55.7 -2.4
OXF pmax pmax
comp=Z,373nm,1.3s
OXF Oxford 67.41 344 P P 01 51 55.7 -2.4
OXF Oxford 67.41 344 P P 01 51 59.6 +1.5
baz=164,SNR=28
TKL Tuckaleechee C 67.42 349 P P 01 51 58.2 +0.1
comp=Z,44nm,0.9s,baz=168,slow=6.7,SNR=28
TKL Tuckaleechee C 67.42 349 P P 01 51 55.6 -2.6
TKL IAmb IAmb 01 52 01.7
comp=Z,117nm,1.1s
PLAL Pickwick Lake 67.57 345 P P 01 51 57.9 -1.2
PLAL IAmb IAmb 01 52 06.0
comp=Z,36nm,1.2s
WLAR White Oak Lake 67.59 341 IAmb IAmb 01 52 06.3
comp=Z,52nm,0.9s
U56A King 67.64 352 IAmb IAmb 01 52 02.9
comp=Z,52nm,1.1s
V51A Loudon 67.66 349 IAmb IAmb 01 52 04.6
comp=Z,96nm,1.2s
Z38A Mt. Pleasant 67.74 339 IAmb IAmb 01 52 06.2
comp=Z,135nm,1.1s
U54A Nelsons Funny 67.99 351 IAmb IAmb 01 52 05.4
comp=Z,118nm,1.0s
T59A Double "B" Far 67.99 355 IAmb IAmb 01 52 08.3
comp=Z,99nm,1.4s
TZTN Tazewell 68.25 350 P P 01 52 04.5 +1.2
baz=169,SNR=11
X40A Basin Creek Fa 68.26 341 P P 01 52 05.1 +1.7
baz=160,SNR=8.1

TBI Tubuai 68.29 255 eLR LR 02 12 46.2
comp=Z,23µm,25.8s
TBI Tubuai 68.29 255 eT T 03 06 28.2
comp=Z,43nm,0.2s
SYO Syowa Base 68.41 159⇑ iX P 01 52 04.8 +0.8
SYO Syowa Base 68.41 159⇑ iSP sP 01 52 16.0 +0.7
SYO Syowa Base 68.41 159⇑ iPcP PcP 01 52 25.0 -4.2
BLA Blacksburg 68.50 353 IAmb IAmb 01 52 17.1
comp=Z,107nm,1.2s
BLA Blacksburg 68.50 353 P P 01 52 06.6 +1.7
baz=172,SNR=9.6
MIAR Mount Ida 68.52 341 IAmb IAmb 01 52 09.3
comp=Z,97nm,1.2s
MIAR Mount Ida 68.52 341 P P 01 52 06.9 +1.8
baz=160,SNR=19
S61A Accomac 68.58 357 IAmb IAmb 01 52 15.1
comp=Z,132nm,1.2s
WVT Waverly 68.62 346 P P 01 52 03.8 -1.8
WVT pmax pmax
comp=Z,363nm,1.4s
WVT Waverly 68.62 346 P P 01 52 03.8 -1.8
WVT Waverly 68.62 346 P P 01 52 07.5 +1.9
baz=165
ABTX Abilene, Hawle 68.72 335 P P 01 52 08.6 +2.2
baz=154,SNR=16
W41B Gary Mavity, V 68.75 342 P P 01 52 08.6 +2.2
baz=161,SNR=14
S57A Dark Hollow, R 68.89 354 IAmb IAmb 01 52 17.4
comp=Z,27nm,0.9s
LNXT Lenox 68.95 345 P P 01 52 06.2 -1.5
R58B Mineral 69.00 355 P P 01 52 06.3 -1.7
R58B IAmb IAmb 01 52 15.2
comp=Z,101nm,1.4s
UTMT University of 69.05 345 P P 01 52 06.7 -1.6
PEBM Pemiscott Bayo 69.05 344 P P 01 52 06.7 -1.6
GLAT Glass 69.07 345 P P 01 52 06.7 -1.7
X37A Clayton 69.09 339 P P 01 52 07.0 -1.6
LOOK Love County 69.11 338 P P 01 52 07.7 -1.0
LOOK IAmb IAmb 01 52 15.2
comp=Z,31nm,0.7s
S54A Dingess, Beckl 69.18 352 P P 01 52 07.4 -1.8
S54A IAmb IAmb 01 52 12.7
comp=Z,83nm,1.1s
W39A Magazine 69.19 341 P P 01 52 07.2 -2.0
W39A Magazine 69.19 341 P P 01 52 11.9 +2.7
baz=160,SNR=38
CBN Corbin Frederi 69.20 355 P P 01 52 07.6 -1.6
CBN IAmb IAmb 01 52 16.3
comp=Z,72nm,1.4s
CBN Corbin Frederi 69.20 355 P P 01 52 11.9 +2.7
baz=175
R61A Willards 69.21 357 P P 01 52 07.7 -1.5
R61A IAmb IAmb 01 52 11.3
comp=Z,34nm,1.1s
T47A Sharon Grove 69.31 347 P P 01 52 08.3 -1.6
HICK Hickman 69.32 345 P P 01 52 09.1 -0.8
LCAR Lake Charles 69.32 343 P P 01 52 08.3 -1.6
LCAR IAmb IAmb 01 52 13.8
comp=Z,142nm,1.2s
PENMO Penman 69.32 345 P P 01 52 08.5 -1.5
MBO M'Bour 69.36 58 P P 01 52 08.8 -1.9
FCAR Ozark Folk Cen 69.39 342 P P 01 52 08.7 -1.7
R55A Marlinton 69.52 353 P P 01 52 09.8 -1.5
HENM Henderson Moun 69.54 345 P P 01 52 09.6 -1.7
MEH Mehetia 69.55 261 eT T 03 08 01.4
comp=Z,142nm,0.2s
PARMO Parma 69.55 345 P P 01 52 10.7 -0.7
T45A Paducah 69.65 346 P P 01 52 11.7 -0.3
Q61A Milford 69.76 357 P P 01 52 15.4 +2.9
baz=177
R53A Hurricane 69.79 351 P P 01 52 11.3 -1.5
PBMO Poplar Bluff 69.82 344 P P 01 52 11.4 -1.6
PBMO IAmb IAmb 01 52 16.9
comp=Z,164nm,1.2s
SRIG Santa Rosalia 69.84 322 P P 01 52 11.8 -1.6
SRIG IAmb IAmb 01 52 17.7
comp=Z,54nm,1.4s
X34A Smith Ranch, M 69.89 337 P P 01 52 12.3 -1.2
X34A IAmb IAmb 01 52 18.0
comp=Z,136nm,1.2s
U40A Yellville 70.03 342 P P 01 52 13.0 -1.3
U40A IAmb IAmb 01 52 18.4
comp=Z,144nm,1.2s
U40A Yellville 70.03 342 P P 01 52 16.2 +1.8
baz=161,SNR=23
R50A Paris 70.08 349 P P 01 52 13.6 -1.0
Q56A Snyder Ridge, 70.18 354 P P 01 52 14.2 -1.1
Q56A IAmb IAmb 01 52 22.5
comp=Z,86nm,1.4s
MNTX Cornudas Mount 70.19 330 P P 01 52 13.7 -1.8
MNTX IAmb IAmb 01 52 19.9
comp=Z,32nm,0.8s
MNTX Cornudas Mount 70.19 330 P P 01 52 17.1 +1.7
baz=150,SNR=40
R49A Shelbyville 70.22 349 P P 01 52 14.1 -1.4
HHAR Hobbs 70.25 341 P P 01 52 14.4 -1.4
HHAR IAmb IAmb 01 52 19.7
comp=Z,152nm,1.2s
Q54A Coxs Mills 70.30 352 P P 01 52 14.6 -1.3
WMOK Wichita Mounta 70.33 337 P P 01 52 15.1 -1.2
WMOK pmax pmax
comp=Z,69nm,1.5s
WMOK Wichita Mounta 70.33 337 P P 01 52 15.1 -1.2
WMOK IAmb IAmb 01 52 19.2
comp=Z,69nm,1.5s
WMOK Wichita Mounta 70.33 337 P P 01 52 17.7 +1.5
baz=156,SNR=13
FNO Franklin 70.34 338 P P 01 52 15.3 -1.1
FNO IAmb IAmb 01 52 19.3
comp=Z,52nm,1.2s
WCI Wyandotte Cave 70.36 348 P P 01 52 14.1 -2.2
WCI pmax pmax
comp=Z,18nm,0.7s
WCI Wyandotte Cave 70.36 348 P P 01 52 14.1 -2.2
WCI IAmb IAmb 01 52 22.3
comp=Z,18nm,0.7s
WCI Wyandotte Cave 70.36 348 P P 01 52 17.4 +1.1
baz=167
VAH Vaihoa 70.39 264 eP P 01 52 21.6 +4.5
comp=Z,140nm,1.2s
S44A Carbondale 70.43 345 P P 01 52 15.2 -1.5
SIUC Southern Illin 70.44 345 P P 01 52 15.1 -1.7
SIUC IAmb IAmb 01 52 20.7
comp=Z,171nm,1.2s
TUL1 Leonard 70.44 339 P P 01 52 18.8 +1.9
baz=158,SNR=17
Q52A Bidwell 70.45 351 P P 01 52 14.9 -1.9
Q52A IAmb IAmb 01 52 20.5
comp=Z,171nm,1.3s
OKCFA Oklahoma City 70.50 338 P P 01 52 15.7 -1.6
OKCFA IAmb IAmb 01 52 25.2
comp=Z,85nm,1.4s
P57A Homestead Farm 70.52 355 P P 01 52 15.7 -1.6
P57A IAmb IAmb 01 52 24.8
comp=Z,81nm,1.4s
U38A Gravette 70.53 341 P P 01 52 16.1 -1.3
P61A Hammonton 70.53 357 P P 01 52 16.0 -1.3
P61A IAmb IAmb 01 52 22.9
comp=Z,162nm,1.4s
HSIG 70.55 324 P P 01 52 16.6 -1.1
HSIG IAmb IAmb 01 52 24.0
comp=Z,33nm,0.9s
OK025 Westminster Rd 70.62 338 P P 01 52 16.7 -1.3
MGMO Mountain Grove 70.63 343 P P 01 52 17.2 -0.9
MGMO IAmb IAmb 01 52 26.7
comp=Z,21nm,0.8s
Q51A Peebles 70.66 350 P P 01 52 16.6 -1.5
Q51A IAmb IAmb 01 52 21.7
comp=Z,110nm,1.1s
P60A Greenville 70.70 357 P P 01 52 16.4 -2.0
P60A IAmb IAmb 01 52 22.1
comp=Z,85nm,1.4s
P60A Greenville 70.70 357 P P 01 52 20.6 +2.3
baz=176,SNR=8.7
PMOR Pomariorio Ree 70.72 264 eP P 01 52 23.5 +4.4
comp=Z,114nm,1.1s
TIAR Tiarei 70.77 261 eP P 01 52 24.3 +4.8
comp=Z,13nm,1.1s
TIAR Tiarei 70.77 261 eT T 03 09 33.0
comp=Z,14nm,0.2s
OK031 S. Brethren Rd 70.81 339 P P 01 52 17.7 -1.4
OK031 IAmb IAmb 01 52 23.0
comp=Z,164nm,1.3s
WUPA West Chester U 70.82 357 P P 01 52 17.7 -1.4
OK029 Liberty Lake 70.86 338 P P 01 52 18.0 -1.5

OK029 IAmb IAmb 01 52 23.3
comp=Z,121nm,1.1s
P53A Whipple 70.86 352 P P 01 52 17.8 -1.6
MCWV Mont Chateau 70.86 353 P P 01 52 17.5 -1.8
MCWV Mont Chateau 70.86 353 P P 01 52 21.1 +1.8
baz=172,SNR=8.5
PAE Paea 70.92 261 eP P 01 52 25.2 +4.9
comp=Z,53nm,1.2s
PAE Paea 70.92 261 eT T 03 09 42.5
comp=Z,2.7nm,0.3s
MVL Millersville 70.92 356 P P 01 52 18.1 -1.6
PPT2 Papeete2 70.95 261 eP P 01 52 25.4 +4.8
comp=Z,71nm,1.2s
PPT2 Papeete2 70.95 261 eLR LR 02 13 57.8
comp=Z,15µm,24.2s
PPT2 Papeete2 70.95 261 eT T 03 09 44.2
comp=Z,5.4nm,0.2s
PPT Papeete 70.96 261 P P 01 52 24.2 +3.6
comp=Z,39nm,0.7s,baz=17,slow=16,SNR=4.1
PPT pP sP 01 52 34.0 +2.3
comp=Z,121nm,1.1s,baz=287,slow=18,SNR=6.3
QUOK Quay 70.97 339 P P 01 52 18.6 -1.5
QUOK IAmb IAmb 01 52 27.5
comp=Z,51nm,1.1s
FVM French Village 70.97 344 P P 01 52 18.4 -1.7
FVM pmax pmax
comp=Z,194nm,1.3s
FVM French Village 70.97 344 P P 01 52 18.4 -1.7
P51A Williamsport 71.07 351 P P 01 52 19.3 -1.3
P51A IAmb IAmb 01 52 24.1
comp=Z,139nm,1.2s
P52A Corning 71.09 351 P P 01 52 19.3 -1.5
P52A IAmb IAmb 01 52 24.2
comp=Z,167nm,1.3s
P52A Corning 71.09 351 P P 01 52 22.2 +1.5
baz=170,SNR=12
MSTX Muleshoe 71.10 333 P P 01 52 19.5 -1.6
MSTX Muleshoe 71.10 333 P P 01 52 23.2 +2.1
baz=152,SNR=47
PAGS Pennsylvania G 71.17 356 P P 01 52 19.5 -1.7
OLIL Olney 71.19 347 P P 01 52 20.2 -1.2
CCM Cathedral Cave 71.23 344 P P 01 52 19.8 -1.8
CCM pmax pmax
comp=Z,187nm,1.2s
CCM Cathedral Cave 71.23 344 P P 01 52 19.8 -1.8
CCM Cathedral Cave 71.23 344 P P 01 52 23.1 +1.5
baz=162
BLO Bloomington 71.31 348 P P 01 52 20.8 -1.3
BLO pmax pmax
comp=Z,25nm,0.8s
BLO Bloomington 71.31 348 P P 01 52 20.8 -1.3
BLO IAmb IAmb 01 52 28.0
comp=Z,25nm,0.8s
O56A Blue Knob Stat 71.35 354 P P 01 52 21.1 -1.3
O56A Blue Knob Stat 71.35 354 P P 01 52 24.2 +1.9
baz=174,SNR=12
P49A Miami Univ. Ec 71.36 349 P P 01 52 23.3 +0.9
baz=168,SNR=11
S39A Bolivar 71.41 342 P P 01 52 21.5 -1.2
S39A IAmb IAmb 01 52 26.8
comp=Z,187nm,1.4s
O54A Avella 71.43 353 P P 01 52 21.4 -1.4
LUPA Lehigh Univers 71.47 357 P P 01 52 21.4 -1.6
AMTX Amarillo 71.49 334 P P 01 52 21.7 -1.7
AMTX Amarillo 71.49 334 P P 01 52 25.7 +2.2
baz=153
O52A Adamsville 71.53 352 P P 01 52 22.3 -1.1
O52A IAmb IAmb 01 52 29.2
comp=Z,24nm,0.8s
Q44A Meyer Farm, Va 71.54 346 P P 01 52 21.4 -2.1
Q44A IAmb IAmb 01 52 27.9
comp=Z,43nm,1.1s
SLM Saint Louis 71.55 345 P P 01 52 22.2 -1.4
SLM pmax pmax
comp=Z,120nm,1.1s
SLM Saint Louis 71.55 345 P P 01 52 22.1 -1.4
SLM IAmb IAmb 01 52 28.7
comp=Z,120nm,1.1s
O53A New Philadelph 71.59 352 P P 01 52 22.4 -1.3
O53A IAmb IAmb 01 52 26.5
comp=Z,68nm,1.3s
O53A New Philadelph 71.59 352 P P 01 52 24.8 +1.0
baz=171,SNR=7.2
T35A Sooner Cattle 71.59 339 P P 01 52 22.3 -1.5
T35A IAmb IAmb 01 52 28.2
comp=Z,174nm,1.4s
CPNY Central Park 71.61 358 P P 01 52 22.3 -1.5
SSPA Standing Stone 71.66 355 P P 01 52 22.6 -1.5
SSPA Standing Stone 71.66 355 P P 01 52 26.1 +1.9
baz=174
BLOK Blackwell 71.67 339 P P 01 52 22.9 -1.4
BLOK IAmb IAmb 01 52 31.9
comp=Z,34nm,0.9s
CROK Carrier 71.67 338 P P 01 52 22.9 -1.5
CROK IAmb IAmb 01 52 28.4
comp=Z,120nm,1.2s
319A Douglas 71.68 327 P P 01 52 23.1 -1.6
319A IAmb IAmb 01 52 30.1
comp=Z,100nm,1.2s
R40A Maddies Statio 71.70 343 P P 01 52 23.0 -1.5
N62A Caumsett State 71.74 359 P P 01 52 23.3 -1.3
N62A IAmb IAmb 01 52 29.2
comp=Z,80nm,0.8s
N58A Sunbury 71.78 356 P P 01 52 23.4 -1.5
ACSO Alum Creek Sta 71.79 351 P P 01 52 23.4 -1.6
ACSO IAmb IAmb 01 52 28.6
comp=Z,120nm,1.0s
ACSO Alum Creek Sta 71.79 351 P P 01 52 26.7 +1.7
baz=170,SNR=14
N59A State Game Lan 71.81 357 P P 01 52 23.6 -1.5
N59A State Game Lan 71.81 357 P P 01 52 27.5 +2.5
baz=176,SNR=17
PAL Palisades 71.83 358 P P 01 52 23.7 -1.5
PAL pmax pmax
comp=Z,5.0nm,0.8s
PAL Palisades 71.83 358 P P 01 52 23.6 -1.5
PAL Palisades 71.83 358 P P 01 52 27.2 +2.1
baz=178,SNR=5.6
P46A Rosedale 71.87 347 P P 01 52 24.0 -1.5
P46A IAmb IAmb 01 52 28.5
comp=Z,92nm,1.0s
U32A Winter Ranch, 71.89 337 P P 01 52 24.1 -1.6
U32A IAmb IAmb 01 52 30.1
comp=Z,112nm,1.3s
ODNJ Ogdensburg 71.93 358 P P 01 52 24.1 -1.6
O49A Covington 71.94 350 IAmb IAmb 01 52 29.3
comp=Z,168nm,1.2s
121A Cookes Peak, D 71.96 328 IAmb IAmb 01 52 31.9
comp=Z,159nm,1.4s
121A Cookes Peak, D 71.96 328 P P 01 52 29.3 +2.9
baz=148,SNR=28
TRNY Table Rock, Ra 71.98 358 IAmb IAmb 01 52 35.6
comp=Z,80nm,1.5s
WSPT Westport, CT 71.98 359 IAmb IAmb 01 52 36.4
comp=Z,40nm,1.2s
OK032 Salt Plains WL 72.02 338 IAmb IAmb 01 52 36.4
comp=Z,48nm,1.2s
M66A Nantucket 72.07 1 P P 01 52 28.9 +2.4
baz=181
KAN14 Manchester OK 72.08 338 P P 01 52 24.3 -2.5
KAN14 IAmb IAmb 01 52 31.1
comp=Z,140nm,1.2s
N53A Lisbon 72.10 353 IAmb IAmb 01 52 36.9
comp=Z,37nm,1.4s
N54A Moraine State 72.16 353 P P 01 52 25.6 -1.6
N54A Moraine State 72.16 353 P P 01 52 28.8 +1.6
baz=172,SNR=10
KAN05 Bluff City Nor 72.19 338 P P 01 52 25.9 -1.5
M63A Gales Ferry 72.20 360 P P 01 52 25.8 -1.5
M63A IAmb IAmb 01 52 31.1
comp=Z,66nm,1.5s
KAN10 Anthony SW Sta 72.28 338 P P 01 52 26.0 -2.0
M57A Sunshine Farm, 72.30 356 P P 01 52 26.8 -1.2
M64A Tiverton 72.34 0 P P 01 52 30.0 +1.8
baz=180,SNR=6.2
P43A Skaggs, Pawnee 72.36 346 IAmb IAmb 01 52 31.9
comp=Z,186nm,1.2s
M65A Busby, Falmout 72.36 1 P P 01 52 30.6 +2.3
baz=181
N51A Ashland 72.39 352 IAmb IAmb 01 52 32.0
comp=Z,125nm,1.2s
SFIN Lafayette 72.59 348 IAmb IAmb 01 52 39.7
comp=Z,92nm,1.5s
SFIN Lafayette 72.59 348 P P 01 52 30.5 +0.8
baz=166,SNR=7.8
L63A North Scituate 72.66 0 IAmb IAmb 01 52 34.8

	comp=Z,156nm,1.2s								
L63A	North Scituate	72.66	0	P		P		01 52 32.6	+2.5
	baz=180,SNR=13								
M54A	Oil Creek Stat	72.67	354	IAmb		IAmb		01 52 33.2	
	comp=Z,35nm,1.0s								
M54A	Oil Creek Stat	72.67	354	P		P		01 52 32.2	+2.0
	baz=173,SNR=9.8								
M53A	WI Miller and	72.71	353	IAmb		IAmb		01 52 38.9	
	comp=Z,36nm,1.0s								
M53A	WI Miller and	72.71	353	P		P		01 52 32.3	+1.9
	baz=172,SNR=10								
BRYW	Bryant College	72.71	0	IAmb		IAmb		01 52 35.2	
	comp=Z,161nm,1.3s								
L64A	Middleborough	72.73	1	P		P		01 52 32.8	+2.3
	baz=181,SNR=7.6								
L65A	Cape Cod Natio	72.84	1	P		P		01 52 33.7	+2.6
	baz=181								
ALLY	Alegheny Colle	72.86	353	P		P		01 52 29.1	-2.2
M52A	Chesterland	72.88	352	IAmb		IAmb		01 52 39.9	
	comp=Z,50nm,0.9s								
Y22D	IRIS PASSCAL I	72.89	330	IAMs_20		IAMs_20		02 22 55.0	
	comp=Z,16µm,18.0s								
Y22D	IRIS PASSCAL I	72.89	330	P		P		01 52 34.5	+2.6
	baz=149								
M50A	Fremont	72.95	351	IAmb		IAmb		01 52 40.2	
	comp=Z,44nm,0.9s								
L59A	Walton	73.05	357	IAmb		IAmb		01 52 42.8	
	comp=Z,50nm,1.0s								
QUA2	Belchertown	73.07	359	IAmb		IAmb		01 52 37.1	
	comp=Z,116nm,1.4s								
BINY	Binghamton	73.10	357	P		P		01 52 34.5	+1.8
	baz=176,SNR=9.0								
BCX	Boston College	73.13	0	P		P		01 52 30.3	-2.6
TUC	Tucson	73.16	326	P		P		01 52 32.1	-1.3
TUC				pmax		pmax			
	comp=Z,13nm,1.3s								
TUC	Tucson	73.16	326	P		P		01 52 32.1	-1.3
TUC	Tucson	73.16	326	P		P		01 52 36.3	+2.8
	baz=146								
WES	Weston	73.18	0	P		P		01 52 31.8	-1.4
WES				pmax		pmax			
	comp=Z,101nm,1.5s								
WES	Weston	73.18	0	P		P		01 52 31.8	-1.4
WES				IAmb		IAmb		01 52 37.8	
	comp=Z,101nm,1.5s								
HDIL	Hopedale	73.19	346	IAmb		IAmb		01 52 36.0	
	comp=Z,101nm,1.4s								
HDIL	Hopedale	73.19	346	P		P		01 52 34.8	+1.6
	baz=164,SNR=7.9								
L61B	Northampton	73.25	359	P		P		01 52 36.2	+2.6
	baz=179,SNR=18								
P38A	Dawn	73.28	343	IAmb		IAmb		01 52 38.8	
	comp=Z,50nm,0.8s								
HRV	Adam Dziewonsk	73.30	0	P		P		01 52 32.5	-1.4
HRV				pmax		pmax			
	comp=Z,60nm,1.3s								
HRV	Adam Dziewonsk	73.30	0	P		P		01 52 32.5	-1.4
HRV				IAmb		IAmb		01 52 40.1	
	comp=Z,60nm,1.2s								
HRV	Adam Dziewonsk	73.30	0	P		P		01 52 36.8	+2.9
	baz=180								
ERPA	Erie	73.31	354	IAmb		IAmb		01 52 37.7	
	comp=Z,106nm,1.1s								
ERPA	Erie	73.31	354	P		P		01 52 35.8	+1.8
	baz=172,SNR=7.8								
ANMO	Albuquerque	73.44	331	*e*P		P		01 52 38.6	+3.4
ANMO				pmax		pmax			
	comp=Z,102nm,1.7s								
ANMO	Albuquerque	73.44	331	P		P		01 52 33.7	-1.4
ANMO	Albuquerque	73.44	331	P		P		01 52 38.5	+3.4
	baz=149								
K62A	Royalston	73.46	360	P		P		01 52 37.1	+2.2
	baz=179,SNR=10.0								
K61A	Williamstown	73.47	359	P		P		01 52 37.4	+2.5
	baz=178,SNR=7.2								
TRY	Troy	73.55	358	IAmb		IAmb		01 52 40.2	
	comp=Z,157nm,1.2s								
LIC	Lamto	73.61	72	*e*P		P		01 52 36.0	-0.4
	comp=Z,307nm,0.6s								
KSU1	Kansas State U	73.64	340	P		P		01 52 38.0	+2.0
	baz=158								
N41A	Harden Midland	73.67	345	IAmb		IAmb		01 52 39.6	
	comp=Z,170nm,1.1s								
L48A	N Adams	73.68	350	IAmb		IAmb		01 52 41.5	
	comp=Z,33nm,0.8s								
M44A	Midewin, Midew	73.74	347	IAmb		IAmb		01 52 39.8	
	comp=Z,153nm,1.2s								
TIC	Toumodi	73.86	72	*e*P		P		01 52 37.5	-0.4
214A	Organ Pipe Nat	73.86	324	P		P		01 52 41.0	+3.5
	baz=144,SNR=16								
AAM	Ann Arbor	73.92	351	P		P		01 52 39.3	+1.8
	baz=169								
KIC	Kosan Boka	73.93	72	*e*P		P		01 52 37.8	-0.5
	comp=Z,318nm,0.7s								
DBIC	Dimbokro	74.01	72	P		P		01 52 38.6	-0.1
	comp=Z,171nm,0.6s,baz=234,slow=5.5,SNR=107								
DBIC	Dimbokro	74.01	72	P		P		01 52 35.3	-3.5
L46A	Eue Claire	74.04	349	P		P		01 52 35.9	-2.3
L46A				IAmb		IAmb		01 52 41.1	
	comp=Z,110nm,1.1s								
HQIL	Hanson Quary C	74.11	348	P		P		01 52 36.6	-2.0
HQIL				IAmb		IAmb		01 52 42.0	
	comp=Z,97nm,0.9s								
J61A	Chester	74.14	359	P		P		01 52 41.9	+3.0
	baz=179,SNR=10								
ACCN	Adirondack Com	74.20	359	P		P		01 52 36.7	-2.4
MEDO	Medina	74.22	355	IAmb		IAmb		01 52 50.5	
	comp=Z,102nm,1.1s								
J58A	Remsen	74.22	357	P		P		01 52 37.0	-2.3
FFD	Franklin Falls	74.26	0	P		P		01 52 37.0	-2.5
J59A	Piesco	74.30	358	IAmb		IAmb		01 52 44.1	
	comp=Z,102nm,1.3s								
J57A	Williamstown	74.31	357	IAmb		IAmb		01 52 45.1	
	comp=Z,87nm,1.3s								
J54A	Appleton	74.34	355	P		P		01 52 37.5	-2.4
CBKS	Cedar Bluff	74.35	338	P		P		01 52 37.3	-2.9
CBKS				pmax		pmax			
	comp=Z,193nm,1.3s								
CBKS	Cedar Bluff	74.35	338	P		P		01 52 37.2	-2.9
CBKS				IAmb		IAmb		01 52 44.8	
	comp=Z,193nm,1.3s								
CBKS	Cedar Bluff	74.35	338	P		P		01 52 42.3	+2.1
	baz=155,SNR=6.5								
L44A	Lake County Fo	74.48	348	IAmb		IAmb		01 52 44.3	
	comp=Z,82nm,0.9s								
L44A	Lake County Fo	74.48	348	P		P		01 52 42.2	+1.3
	baz=166,SNR=6.5								
HNH	Hanover	74.50	360	P		P		01 52 40.0	-0.8
T25A	Trinidad	74.52	333	IAmb		IAmb		01 52 46.8	
	comp=Z,162nm,1.1s								
T25A	Trinidad	74.52	333	P		P		01 52 44.0	+2.5
	baz=151,SNR=27								
X18A	Snowflake	74.61	328	IAmb		IAmb		01 52 48.9	
	comp=Z,69nm,1.5s								
I60A	Shoreham	74.65	359	P		P		01 52 44.2	+2.5
	baz=178,SNR=9.5								
L42A	Oliver, Polo	74.66	346	IAmb		IAmb		01 52 48.4	
	comp=Z,35nm,0.8s								
I62A	Tamworth	74.67	0	P		P		01 52 40.0	-1.9
I62A	Tamworth	74.67	0	P		P		01 52 44.4	+2.6
	baz=180,SNR=8.3								
I63A	Otisfield	74.85	1	IAmb		IAmb		01 52 48.2	
	comp=Z,135nm,1.2s								
I63A	Otisfield	74.85	1	P		P		01 52 45.5	+2.6
	baz=181,SNR=13								
PECO	Prince Edward	74.88	356	IAmb		IAmb		01 52 46.3	
	comp=Z,53nm,1.0s								
113A	Mohawk Valley,	75.00	324	P		P		01 52 42.9	-1.2
J47A	Sunmer	75.00	350	IAmb		IAmb		01 52 48.2	
	comp=Z,72nm,0.9s								
W18A	Petrified Fore	75.00	328	IAmb		IAmb		01 52 49.6	
	comp=Z,165nm,1.3s								
W18A	Petrified Fore	75.00	328	P		P		01 52 46.8	+2.5
	baz=147,SNR=7.4								
LBNH	Lisbon	75.03	360	IAmb		IAmb		01 52 50.1	
	comp=Z,54nm,1.0s								
LBNH	Lisbon	75.03	360	P		P		01 52 47.0	+3.0
	baz=180,SNR=11								
K43A	Burlington	75.07	347	P		P		01 52 42.9	-1.3
VT1	Waterbury	75.13	359	P		P		01 52 43.0	-1.5
X16A	Lo Mia Camp, P	75.21	327	IAmb		IAmb		01 52 49.9	
	comp=Z,70nm,1.5s								
SCIA	State Center	75.36	344	IAmb		IAmb		01 52 51.4	
	comp=Z,181nm,1.3s								
SCIA	State Center	75.36	344	P		P		01 52 48.1	+2.2
	baz=161,SNR=8.5								
H62A	Milan	75.37	0	IAmb		IAmb		01 52 52.3	
	comp=Z,46nm,1.1s								
WVL	Waterville	75.38	2	IAmb		IAmb		01 52 55.9	
	comp=Z,68nm,1.5s								
I49A	Point Hope	75.42	352	IAmb		IAmb		01 52 49.4	
	comp=Z,183nm,1.4s								
LONY	Lake Ozonia	75.46	358	IAmb		IAmb		01 52 52.1	
	comp=Z,58nm,1.2s								
LONY	Lake Ozonia	75.46	358	P		P		01 52 48.9	+2.5
	baz=177,SNR=10								
SDCO	Great Sand Dun	75.47	333	IAmb		IAmb		01 52 53.4	
	comp=Z,32nm,0.9s								
SDCO	Great Sand Dun	75.47	333	P		P		01 52 49.8	+2.7
	baz=150,SNR=27								
KSCO	Kaye Shedlock'	75.51	336	P		P		01 52 50.1	+3.1
	baz=153								
EMMW	East Machias	75.60	3	IAmb		IAmb		01 52 57.0	
	comp=Z,76nm,1.4s								
FRNY	Flat Rock	75.64	359	IAmb		IAmb		01 52 53.1	
	comp=Z,58nm,1.1s								
JFWS	Jewell Farm	75.65	346	IAmb		IAmb		01 52 51.5	
	comp=Z,149nm,1.2s								
JFWS	Jewell Farm	75.65	346	P		P		01 52 49.4	+1.9
	baz=164,SNR=14								
GLA	Glamis	75.76	324	P		P		01 52 51.4	+2.9
	baz=143,SNR=8.7								
HAL	Halifax	75.79	6	IAmb		IAmb		01 52 53.1	
	comp=Z,123nm,1.3s								
MAW	Mawson	75.82	164	P		P		01 52 48.8	+0.5
	comp=Z,83nm,1.0s,baz=233,slow=7.2,SNR=33								
MAW	Mawson	75.82	164	P		P		01 52 47.2	-1.1
MAW				IAmb		IAmb		01 52 52.8	
	comp=Z,53nm,1.5s								
SADO	Sadowa	75.86	355	P		P		01 52 50.2	+1.5
	comp=Z,37nm,0.9s,baz=207,slow=6.1,SNR=19								
SADO	Sadowa	75.86	355	IAmb		IAmb		01 52 51.7	
	comp=Z,41nm,0.8s								
K38A	Parkersburg	75.95	344	IAmb		IAmb		01 52 53.4	
	comp=Z,62nm,0.9s								
SUR	Sutherland	75.96	119	P		P		01 52 50.8	+0.8
	comp=Z,56nm,0.8s,baz=235,slow=6.7,SNR=16								
SUR	Sutherland	75.96	119	P		P		01 52 48.8	-1.3
SUR				IAmb		IAmb		01 52 56.3	
	comp=Z,73nm,0.9s								
S22A	4UR Ranch, Cre	76.00	332	P		P		01 52 53.1	+3.1
	baz=149,SNR=23								
WUAZ	Wupatki	76.08	328	IAmb		IAmb		01 52 56.0	
	comp=Z,114nm,1.3s								
WUAZ	Wupatki	76.08	328	P		P		01 52 53.6	+3.2
	baz=146,SNR=24								
G65A	Princeton	76.08	3	IAmb		IAmb		01 52 54.9	
	comp=Z,129nm,1.4s								
PKME	Peaks-Kenny Pk	76.09	2	IAmb		IAmb		01 52 54.7	
	comp=Z,91nm,1.2s								
PKME	Peaks-Kenny Pk	76.09	2	P		P		01 52 52.3	+2.4
	baz=182,SNR=8.2								
IKP	In-Ko-Pah, Jac	76.10	323	P		P		01 52 54.0	+3.5
	baz=142,SNR=6.7								
SWSC	Sam W. Stewart	76.17	323	P		P		01 52 53.9	+3.2
	baz=142								
BGNE	Belgrade	76.22	340	IAmb		IAmb		01 53 02.4	
	comp=Z,124nm,1.3s								
BGNE	Belgrade	76.22	340	P		P		01 52 53.4	+2.5
	baz=157								
MVCO	Mesa Verde	76.23	331	IAmb		IAmb		01 52 57.8	
	comp=Z,27nm,0.8s								
MVCO	Mesa Verde	76.23	331	P		P		01 52 53.9	+2.6
	baz=148,SNR=20								
TKX	Tecate	76.30	322	IAmb		IAmb		01 53 05.0	
	comp=Z,32nm,0.9s								
I42A	Draeger Farm,	76.33	347	IAmb		IAmb		01 52 55.2	
	comp=Z,115nm,1.2s								
Q24A	Divide	76.39	334	P		P		01 52 55.1	+2.8
	baz=151,SNR=44								
PDMCI	Parker Dam,Lak	76.41	325	P		P		01 52 55.5	+3.4
	baz=144,SNR=5.7								
MONP2	Monument Peak	76.45	322	P		P		01 52 55.5	+2.9
	baz=142,SNR=12								
GLMI	Grayling	76.53	351	P		P		01 52 54.1	+1.6
	baz=168								
F63A	Nahmakanta, Br	76.53	2	IAmb		IAmb		01 52 57.4	
	comp=Z,118nm,1.4s								
BC3	Big Chuckawall	76.55	324	P		P		01 52 56.2	+3.2
	baz=142,SNR=13								
I40A	Norwalk	76.66	346	IAmb		IAmb		01 52 55.9	
	comp=Z,107nm,1.5s								
F64A	Sherman	76.71	2	IAmb		IAmb		01 52 58.4	
	comp=Z,147nm,1.2s								
IRM	Iron Mountain	76.80	324	P		P		01 52 57.3	+2.9
	baz=143,SNR=27								
109C	Camp Elliot, M	76.81	322	P		P		01 52 57.6	+3.3
	baz=141								
G45A	Suttons Bay	76.89	350	P		P		01 52 52.0	-2.6
G45A				IAmb		IAmb		01 53 00.3	
	comp=Z,38nm,1.1s								
NEE2	Needles Airpor	77.02	325	P		P		01 52 58.6	+3.1
	baz=143								
TPFO	Pinon Flats	77.03	323	P		P		01 52 59.1	+3.3
	baz=142,SNR=15								
OGNE	Ogallala	77.03	337	IAmb		IAmb		01 53 07.5	
	comp=Z,60nm,1.3s								
OGNE	Ogallala	77.03	337	P		P		01 52 58.3	+2.7
	baz=154								
PFO	Pinyon Flats O	77.03	323	*e*P		P		01 52 59.1	+3.3
PFO				pmax		pmax			
	comp=Z,361nm,2.0s								
PFO	Pinyon Flats O	77.03	323	P		P		01 52 53.9	-2.0
PFO	Pinyon Flats O	77.03	323	P		P		01 52 58.9	+3.1
	baz=142,SNR=15								
PV01	Paradox Valley	77.04	331	IAmb		IAmb		01 53 04.7	
	comp=Z,38nm,1.2s								
BELC	Belle Mtn. Jac	77.10	323	P		P		01 52 59.2	+3.0
	baz=142,SNR=11								
PV13	Radium Mtn., P	77.17	331	IAmb		IAmb		01 53 01.6	
	comp=Z,81nm,1.2s								
PV02	Paradox Valley	77.17	331	IAmb		IAmb		01 53 03.1	
	comp=Z,24nm,0.9s								
PV15	Paradox Valley	77.18	331	IAmb		IAmb		01 53 03.5	
	comp=Z,45nm,1.1s								
PV05	Paradox Valley	77.21	331	IAmb		IAmb		01 53 03.0	
	comp=Z,32nm,0.9s								
PV18	Skein Mesa, Pa	77.28	331	IAmb		IAmb		01 53 03.2	
	comp=Z,33nm,0.9s								
SMCO	Snowmass	77.28	333	IAmb		IAmb		01 53 03.0	
	comp=Z,78nm,1.4s								
PV12	Saucer Basin,	77.29	331	IAmb		IAmb		01 53 10.6	
	comp=Z,83nm,1.0s								
ISCO	Idaho Springs	77.30	334	P		P		01 53 00.8	+3.4
	baz=151,SNR=21								
PV17	East Wray Mesa	77.33	331	IAmb		IAmb		01 53 10.6	
	comp=Z,78nm,0.9s								
PV07	Paradox Valley	77.33	331	IAmb		IAmb		01 53 08.5	
	comp=Z,31nm,1.4s								
PV19	Morning Glory	77.36	331	IAmb		IAmb		01 53 03.7	
	comp=Z,20nm,0.9s								
PV04	Paradox Valley	77.40	331	IAmb		IAmb		01 53 06.2	
	comp=Z,51nm,1.3s								
MURC	Murrieta	77.41	322	P		P		01 53 01.3	+3.5
	baz=141,SNR=12								
PV10	Paradox Valley	77.44	331	IAmb		IAmb		01 53 03.9	
	comp=Z,42nm,0.8s								
PV23	Carpenter Ridg	77.49	331	IAmb		IAmb		01 53 09.0	
	comp=Z,20nm,0.9s								
PQI	Presque Isle	77.53	3	IAmb		IAmb		01 53 04.1	
	comp=Z,71nm,1.1s								
PV21	Cone Mtn., Par	77.57	331	IAmb		IAmb		01 53 08.4	
	comp=Z,47nm,1.4s								
SCI2	San Clemente I	77.65	321	P		P		01 53 02.4	+3.3
	baz=146								
RAR	Rarotonga	77.76	253	LR		LR		02 19 06.4	
	comp=Z,9µm,19.7s,baz=106,slow=29								
BBRC	Big Bear Solar	77.78	323	P		P		01 53 03.7	+3.5
	baz=142								
CIS	Catalina Islan	77.90	321	P		P		01 53 03.6	+3.1
	baz=140								
D62A	Allapoint, All	77.91	2	P		P		01 52 59.0	-1.1
HEC	Hector,Ludlow	77.93	324	P		P		01 53 03.9	+3.2
	baz=142,SNR=8.1								
ECSD	EROS Data Cent	77.94	342	P		P		01 53 02.5	+2.0
	baz=158,SNR=54								
KNB	Kanab	77.98	327	IAmb		IAmb		01 53 06.7	
	comp=Z,136nm,1.3s								
F42A	Maple Grove Fa	77.99	348	IAmb		IAmb		01 53 04.6	
	comp=Z,84nm,1.1s								
FMP	Fort Macarthur	78.07	322	P		P		01 53 04.6	+3.1
	baz=140								
BFSC	Mount Baldy Ra	78.15	323	P		P		01 53 05.1	+3.1
	baz=141,SNR=8.7								
TUQ	Turquoise Moun	78.20	324	P		P		01 53 05.9	+3.6
	baz=142								
RRX	Edison Barstow	78.30	323	P		P		01 53 06.0	+3.3
	baz=142								
MWC	Mount Wilson	78.34	322	IAmb		IAmb		01 53 13.6	
	comp=Z,34nm,1.4s								
LMQ	La Malbaie	78.35	1	IAmb		IAmb		01 53 06.9	
	comp=Z,124nm,1.2s								
N23A	Red Feather La	78.37	334	P		P		01 53 06.1	+2.8
	baz=150,SNR=10								
E43A	Lone Tree Farm	78.40	349	IAmb		IAmb		01 53 08.1	
	comp=Z,79nm,0.9s								
SPMN	Marine on St.	78.40	345	IAmb		IAmb		01 53 07.7	
	comp=Z,46nm,1.1s								
SPMN	Marine on St.	78.40	345	P		P		01 53 04.5	+1.5
	baz=162,SNR=8.0								
COWI	Conover	78.50	348	IAmb		IAmb		01 53 08.8	
	comp=Z,52nm,1.2s								
DECC	Green Verdugo	78.51	322	P		P		01 53 06.9	+3.0
	baz=140								
GSC	Goldstone, Bar	78.53	324	P		P		01 53 07.3	+3.2
	baz=142								
PHWY	Pilot Hill	78.55	335	IAmb		IAmb		01 53 10.4	
	comp=Z,28nm,0.9s								
SZCU	Shurtz Canyon	78.57	328	IAmb		IAmb		01 53 11.2	
	comp=Z,71nm,1.4s								
O20A	White River Ci	78.61	332	IAmb		IAmb		01 53 09.6	
	comp=Z,118nm,1.3s								
O20A	White River Ci	78.61	332	P		P		01 53 07.2	+2.7
	baz=149,SNR=28								
CCUT	Cedar City	78.66	327	IAmb		IAmb		01 53 12.1	
	comp=Z,35nm,1.0s								
SRU	San Rafael Swe	78.69	330	IAmb		IAmb		01 53 10.9	
	comp=Z,26nm,0.8s								
SHOC	Shoshone, Teco	78.74	324	P		P		01 53 08.3	+3.2
	baz=142								
Q16A	Castle Valley	78.80	330	IAmb		IAmb		01 53 10.8	
	comp=Z,154nm,1.5s								
EDW2	Edwards Air Fo	78.82	323	P		P		01 53 09.0	+3.4
	baz=141,SNR=10								
OSI	Osito Audit: C	78.99	322	P		P		01 53 09.7	+3.2
	baz=140								
P17A	Butcher Ranch,	79.08	330	IAmb		IAmb		01 53 11.9	
	comp=Z,118nm,1.4s								
MACI	Morro de la Ar	79.08	48	P		P		01 53 03.4	-4.0
MACI				IAmb		IAmb		01 53 13.0	
	comp=Z,113nm,1.2s								
LRMC	Laurel Mtn Rad	79.12	323	P		P		01 53 10.2	+2.9
	baz=141								
GWY	Greenwater Val	79.16	324	IAmb		IAmb		01 53 15.9	
	comp=Z,38nm,1.3s								
KOWA	Kowa	79.21	66	P		P		01 53 05.3	-2.8
SUSD	Miller	79.24	340	IAmb		IAmb		01 53 19.3	
	comp=Z,63nm,0.8s								
SUSD	Miller	79.24	340	P		P		01 53 09.7	+2.1
	baz=156								
PRN	Pahroc Range	79.34	326	IAmb		IAmb		01 53 17.6	
	comp=Z,82nm,1.5s								
SBC	Santa Barbara	79.39	321	P		P		01 53 11.5	+2.9
	baz=140								
ARVC	Arvin	79.44	322	P		P		01 53 12.4	+3.5
	baz=140								
MPMC	Manual Prospec	79.47	324	P		P		01 53 12.8	+3.5
	baz=141								
FURC	Furnace Creek,	79.48	324	P		P		01 53 12.9	+3.8
	baz=142,SNR=11								
RDMU	Red Mountain	79.51	332	IAmb		IAmb		01 53 14.1	
	comp=Z,93nm,1.2s								
RWWY	Rawlins	79.54	334	IAmb		IAmb		01 53 18.8	
	comp=Z,30nm,0.9s								
TPNV	Topopah Spring	79.55	325	IAmb		IAmb		01 53 19.2	
	comp=Z,31nm,1.2s								
TPNV	Topopah Spring	79.55	325	P		P		01 53 13.0	+3.3
	baz=142,SNR=15								
ISA	Isabella, Lake	79.67	323	P		P		01 53 13.5	+3.3
	baz=141,SNR=12								
PSUT	Pine Spring	79.69	328	IAmb		IAmb		01 53 17.1	
	comp=Z,50nm,1.4s								
TSUM	Tsumeb	79.72	106	P		P		01 53 08.5	-2.7
PKM	Mcpherson Peak	79.78	322	P		P		01 53 14.4	+3.4
	baz=140,SNR=9.8								
F33A	5 Mile Ranch,	79.81	343	IAmb		IAmb		01 53 14.1	
	comp=Z,65nm,1.4s								
MPU	Maple Canyon	79.91	330	IAmb		IAmb		01 53 16.5	
	comp=Z,65nm,1.3s								
CWC	Cottonwood Cre	80.07	324	P		P		01 53 15.6	+3.0
	baz=141								
K22A	Casper	80.11	335	IAmb		IAmb		01 53 17.6	
	comp=Z,184nm,1.4s								
K22A	Casper	80.11	335	P		P		01 53 15.7	+3.1
	baz=150,SNR=17								
VES	Vestal, Richgr	80.12	323	P		P		01 53 15.5	+2.9
	baz=140,SNR=8.0								
GRAC	Grapevine Rang	80.14	324	P		P		01 53 16.3	+3.6
	baz=142,SNR=6.4								
SMMC	Simmler	80.20	322	P		P		01 53 17.2	+4.1
	baz=140,SNR=7.2								
JLU	Jordanelle	80.32	330	IAmb		IAmb		01 53 19.8	
	comp=Z,27nm,0.9s								
R11A	Troy Canyon, C	80.34	326	P		P		01 53 17.4	+3.4
	baz=143,SNR=25								
CTU	Camp Tracy	80.52	330	IAmb		IAmb		01 53 27.6	
	comp=Z,23nm,0.8s								
RSSD	Black Hills	80.53	337	P		P		01 53 12.2	-2.7
RSSD				pmax		pmax			
	comp=Z,6.0nm,0.8s								
RSSD	Black Hills	80.53	337	P		P		01 53 12.2	-2.7
RSSD	Black Hills	80.53	337	P		P		01 53 17.4	+2.5
	baz=152								
DUG	Dugway, Tooele	80.57	329	P		P		01 53 17.8	+2.7
	baz=145,SNR=18								
TIN	Tinemaha, Big	80.62	324	P		P		01 53 18.1	+2.7
	baz=141								

FLWY Flagg Ranch 82.92 333 IAmb IAmb 01 53 35.6
comp=Z,64nm,1.5s
TORD Torodi Ar. Bea 82.97 70 P **P** **01 53 27.9 -0.3**
comp=Z,122nm,0.8s,baz=245,slow=3.9,SNR=62
EMB Emerald Bay 83.04 324 P **P** **01 53 24.9 -3.4**
RUBR Rubicon Trail 83.13 324 P **P** **01 53 26.6 -2.1**
RUBR IAmb IAmb 01 53 35.3
comp=Z,31nm,0.9s
H17A Grant Village 83.14 333 P **P** **01 53 25.2 -3.5**
LBTB Lobatse 83.24 115 IAmb IAmb 01 53 33.7
comp=Z,78nm,0.8s
PAHR Pah Rah Range 83.24 325 IAmb IAmb 01 53 38.4
comp=Z,23nm,1.1s
RLMT Red Lodge 83.25 334 P **P** **01 53 27.7 -1.5**
RLMT Red Lodge 83.25 334 P **P** **01 53 31.1 +1.9**
baz=148,SNR=11
YMP Mirror Lake Pl 83.26 333 P **P** **01 53 26.2 -3.2**
YMR Madison River 83.52 333 IAmb IAmb 01 53 43.0
comp=Z,27nm,0.8s
LAO LASA Array 83.52 337 P **P** **01 53 32.3 +2.0**
baz=151
YHH Holmes Hill 83.57 333 IAmb IAmb 01 53 34.8
comp=Z,42nm,1.4s
YHB Horse Butte 83.67 333 IAmb IAmb 01 53 42.0
comp=Z,28nm,1.3s
ULM Lac du Bonnet 83.83 345 P **P** **01 53 32.5 +0.8**
comp=Z,32nm,0.9s,baz=175,slow=3.7,SNR=17
ULM Lac du Bonnet 83.83 345 IAmb IAmb 01 53 36.5
comp=Z,56nm,1.1s
GCMT Greycliff 83.97 334 P **P** **01 53 29.0 -3.8**
HLID Hailey 84.01 330 P **P** **01 53 36.4 +3.4**
baz=144,SNR=14
DGMT Dagmar 84.44 339 P **P** **01 53 37.4 +2.5**
baz=152,SNR=17
BOZ Bozeman (W) 84.55 333 P **P** **01 53 37.9 +2.2**
baz=146,SNR=6.3
O03E Paynes Creek 84.90 324 P **P** **01 53 39.2 +1.7**
baz=139,SNR=7.6
WVOR Wild Horse Val 84.99 327 IAmb IAmb 01 53 46.0
comp=Z,29nm,1.5s
O02D Mt. Diablo Mer 85.31 323 P **P** **01 53 41.9 +2.3**
baz=138,SNR=7.6
KCPM Cahto Peak 85.36 322 P **P** **01 53 37.1 -2.8**
KCPM IAmb IAmb 01 53 37.5
comp=Z,34nm,1.4s
BKZ Black Stump Fm 85.63 226 P **P** **01 53 37.1 -4.3**
J08A Circle Bar Ran 85.64 328 IAmb IAmb 01 53 46.1
comp=Z,106km,1.3s
SCHQ Schefferville 85.74 3 P **P** **01 53 41.8 +0.5**
comp=Z,28nm,1.0s,baz=179,slow=2.1,SNR=11
SCHQ Schefferville 85.74 3 P **P** **01 53 37.5 -3.7**
N02D Trinity Center 85.86 324 P **P** **01 53 44.3 +2.0**
baz=138,SNR=8.0
EGMT Eagleton 85.89 335 P **P** **01 53 44.1 +1.9**
baz=148,SNR=7.2
LTZ Lake Taylor 85.91 222 P **P** **01 53 40.0 -2.7**
LTZ IAmb IAmb 01 53 49.1
comp=Z,15nm,0.8s
PLID Pearl Lake 85.91 330 IAmb IAmb 01 53 53.1
comp=Z,15nm,1.0s
RPZ Rata Peaks 85.99 220 P **P** **01 53 39.5 -3.6**
M04C Macdoel 86.03 325 P **P** **01 53 45.2 +2.0**
baz=139,SNR=8.8
M02C Callahan 86.25 324 P **P** **01 53 46.4 +2.2**
baz=138,SNR=9.4
K05A Summer Lake 86.28 326 IAmb IAmb 01 53 57.0
comp=Z,48nm,1.2s
KHMM Horse Mountain 86.31 323 IAmb IAmb 01 53 52.5
comp=Z,40nm,1.3s
MSO Missoula 86.47 332 P **P** **01 53 48.0 +2.8**
baz=145,SNR=8.2
L04D Klamath Falls 86.59 325 P **P** **01 53 48.1 +2.2**
baz=138
K04D Chiloquin, OR 86.62 325 P **P** **01 53 48.9 +2.8**
baz=139
J05D Fort Rock, OR 86.87 326 P **P** **01 53 50.1 +2.8**
baz=139,SNR=11
KRMB Red Mountain 86.88 324 IAmb IAmb 01 54 00.8
comp=Z,51nm,1.0s
PINE Pine Mountain 87.12 327 IAmb IAmb 01 53 54.9
comp=Z,37nm,0.9s
L02E Cave Junction 87.19 324 P **P** **01 53 51.2 +2.5**
baz=138
J04D Umpqua Nationa 87.26 326 P **P** **01 53 51.5 +2.2**
baz=139
JTMT Jette 87.36 333 IAmb IAmb 01 53 55.0
comp=Z,20nm,0.8s
K02D Willamette Mer 87.62 324 P **P** **01 53 53.8 +3.0**
baz=138,SNR=5.7
I05D Terrebonne, OR 87.72 327 P **P** **01 53 54.5 +3.2**
baz=139,SNR=8.6
I04A Tendick Farm, 87.82 326 P **P** **01 53 54.1 +2.4**
baz=138
J01E Myrtle Point 88.09 325 P **P** **01 53 55.8 +2.9**
baz=137
I03D Drain, OR 88.20 325 P **P** **01 53 56.2 +2.8**
baz=138
F07A Phinny Hill Vi 88.26 329 IAmb IAmb 01 54 03.0
comp=Z,12nm,1.0s
WALA Waterton Lakes 88.28 334 IAmb IAmb 01 53 59.3
comp=Z,46nm,1.1s
E08A Dider Farm, El 88.33 329 IAmb IAmb 01 53 59.6
comp=Z,27nm,1.4s
H04A Detroit Lake 88.38 327 IAmb IAmb 01 53 59.6
comp=Z,18nm,0.8s
G05D Wamic, OR 88.39 327 P **P** **01 53 57.1 +2.7**
baz=139,SNR=5.3
HAWA Hanford 88.47 329 IAmb IAmb 01 54 00.5
comp=Z,78nm,1.5s
H04D Lebanon 88.52 326 P **P** **01 53 57.2 +2.2**
baz=138
E07A Sunnyside 88.74 329 P **P** **01 53 54.3 -1.7**
I02D Swisshome 88.74 325 P **P** **01 53 59.3 +3.3**
baz=137
COR Corvallis 88.83 326 P **P** **01 53 53.0 -3.4**
COR pmax pmax
comp=Z,49nm,1.4s
COR Corvallis 88.83 326 P **P** **01 53 53.0 -3.4**
COR IAmb IAmb 01 53 57.5
comp=Z,49nm,1.4s
NEW Newport 88.91 332 P **P** **01 53 58.6 +1.8**
baz=142,SNR=6.3
F05D White Salmon 88.94 328 P **P** **01 53 59.8 +2.8**
baz=139
C09A Chrisman Ranch 89.02 331 IAmb IAmb 01 54 01.3
comp=Z,25nm,0.9s
G03D McMinnville, O 89.28 326 P **P** **01 54 01.0 +2.5**
baz=138
FFC Flin Flon 89.42 343 P **P** **01 53 55.4 -3.5**
FFC pmax pmax
comp=Z,40nm,1.3s
FFC Flin Flon 89.42 343 P **P** **01 53 55.4 -3.5**
FFC IAmb IAmb 01 54 02.3
comp=Z,40nm,1.3s
F04A Amboy 89.42 327 IAmb IAmb 01 54 01.8
comp=Z,12nm,0.7s
LTY Liberty 89.63 329 IAmb IAmb 01 54 05.4
comp=Z,49nm,1.5s
LON Longmire 89.75 328 IAmb IAmb 01 54 05.8
comp=Z,12nm,0.9s
MDT Midelt 89.81 51 P **P** **01 54 03.5 +2.1**
comp=Z,12nm,1.0s,baz=245,slow=3.3,SNR=7.8
F04D Rainier, OR 89.81 327 P **P** **01 54 03.4 +2.5**
baz=138
OUZ Omahuta 89.88 228 P **P** **01 53 57.6 -4.2**
E04D Cinebar 89.95 328 P **P** **01 54 03.9 +2.3**
baz=138
D05A Enumclaw 90.17 328 IAmb IAmb 01 54 06.7
comp=Z,38nm,1.2s
E03A Lebam 90.41 327 P **P** **01 54 00.3 -3.4**
LSZ Lusaka 90.42 108 P **P** **01 54 01.0 -3.8**
LSZ pmax pmax
comp=Z,125nm,1.2s
LSZ Lusaka 90.42 108 P **P** **01 54 01.0 -3.8**
PBDV Barranco-do-Ve 90.45 46 *e*P **P** **01 54 07.5 +3.3**
comp=Z,97nm,1.4s
D04E Lakebay 90.51 328 P **P** **01 54 07.5 +3.3**
baz=138
PCVE Castro Verde 90.63 45 *e*P **P** **01 54 07.9 +2.9**
comp=Z,68nm,1.7s
PNCL Nicolau / Gran 90.64 45 *e*P **P** **01 54 08.3 +3.3**
comp=Z,122nm,1.6s
PVAQ Vaqueiros 90.68 46 *e*P **P** **01 54 07.2 +1.9**
comp=Z,64nm,1.7s
B06A Marblemount 90.95 329 IAmb IAmb 01 54 10.8
comp=Z,20nm,1.1s

B05A Bryant 91.02 329 P **P** **01 54 08.9 +2.3**
baz=139
EDM Edmonton 91.50 336 IAmb IAmb 01 54 15.4
comp=Z,16nm,0.9s
A04D Lummi Island 91.63 329 P **P** **01 54 11.7 +2.3**
baz=138
PESTR Estremoz 91.69 45 *e*P **P** **01 54 11.4 +1.5**
comp=Z,46nm,2.5s
COI Coimbra 92.06 43 IAms_20 IAms_20 02 30 35.8
comp=Z,20µm,21.0s
PMRV Marv??o 92.16 44 *e*P **P** **01 54 14.9 +2.8**
comp=Z,45nm,1.7s
MTE Manteigas 92.69 43 IAms_20 IAms_20 02 31 53.6
comp=Z,16µm,21.0s
LLLB Lillooet 92.69 331 IAmb IAmb 01 54 18.8
comp=Z,23nm,1.5s
PAB San Pablo 94.08 46 IAms_20 IAms_20 02 36 09.5
comp=Z,18µm,19.0s
ESDC Sonseca Array 94.40 46 P **P** **01 54 22.9 +0.4**
comp=Z,3.9nm,0.9s,baz=252,slow=4.7,SNR=8.5
MBAR Mbarara 100.33 97 IAms_20 IAms_20 02 35 31.8
comp=Z,14µm,20.0s
CRAG Craig 100.93 329 P **Pdif** **01 54 54.3 +2.8**
baz=130
ICESG Greenland Ices 102.69 11 *i* P PKiKP 01 59 10.7 -9.3
ICESG IAmb IAmb 01 59 13.9
comp=Z,14nm,1.1s
CLF Chambon-Foret 102.86 41 IAms_20 IAms_20 02 38 03.6
comp=Z,16µm,21.0s
DZM Mont Dzumac 103.14 234 *e*LR LR 02 28 54.8
comp=Z,17µm,22.7s
KIBK Kibwezi 105.58 103 IAms_20 IAms_20 02 39 32.4
comp=Z,13µm,21.0s
BCLA Clavier 105.80 40 *d*Pdif **Pdif** **01 55 15.1 +1.9**
VLC Villacollemand 105.81 48 IAms_20 IAms_20 02 41 20.9
comp=Z,8µm,20.0s
WLF Walferdange 105.91 41 IAms_20 IAms_20 02 42 43.3
comp=Z,16µm,20.0s
SUMG Summit 105.95 10 *i* P **PKiKP** **01 59 27.0 +1.0**
DAVOX Davos/Dischmat 106.72 45 PKiKP **PKiKP** **01 59 29.1 +1.2**
comp=Z,2.2nm,0.5s,baz=221,slow=4.1,SNR=4.3
DAVA Damuels 106.95 45 *e*P **PKiKP** **01 59 28.4 +0.1**
DAVA *e*P PKKPdf 02 11 08.3 +8.3
comp=Z,7.9nm,1.3s
FETA Feichten 107.35 45 *e*P **PKiKP** **01 59 28.5 -0.5**
FETA *e*P **PKKPdf** **02 11 05.0 +5.8**
comp=Z,4.3nm,1.1s
comp=Z,6.7nm,1.2s
RETA Reutte 107.58 45 *e*P **PKiKP** **01 59 29.5 +0.2**
RETA *e*P PKKPdf 02 11 08.8 +10
comp=Z,7.9nm,1.3s
comp=Z,5.8nm,1.3s
MOTA Moosalm 107.72 45 *e*P **PKiKP** **01 59 32.0 +2.4**
MOTA *e*P PKKPdf 02 11 09.3 +11
comp=Z,7.2nm,0.9s
comp=Z,7.6nm,1.5s
SQTA Sankt Quirin 107.73 45 *e*P **PKiKP** **01 59 31.9 +2.2**
SQTA *e*P **PKKPdf** **02 11 01.5 +3.0**
comp=Z,14nm,1.6s
comp=Z,3.9nm,1.1s
WATA Walderalm 108.00 45 *e*P **PKiKP** **01 59 33.3 +3.1**
WATA *e*P PKKPdf 02 11 06.4 +8.4
comp=Z,8.0nm,1.3s
comp=Z,7.1nm,1.5s
WTTA Wattenberg 108.01 45 *e*P **PKiKP** **01 59 33.2 +2.9**
comp=Z,10nm,1.3s
ABTA Abfaltersbach 108.32 46 *e*P **PKiKP** **01 59 35.0 +4.2**
comp=Z,5.7nm,1.1s
ABTA *e*P PKKPdf 02 11 06.3 +9.0
comp=Z,6.0nm,1.5s
BERG Berg Lake 108.38 330 IAMs_20 IAMs_20 02 39 03.9
comp=Z,12µm,20.0s
MCARA McCarthy YSAT 108.61 331 IAMs_20 IAMs_20 02 47 53.9
comp=Z,9µm,20.0s
M27K Edge Creek, AK 108.65 332 IAMs_20 IAMs_20 02 40 05.0
comp=Z,8µm,19.0s
GRFO Grafenberg 108.83 43 IAMs_20 IAMs_20 02 42 16.8
comp=Z,9µm,22.0s
GRA1 Grafenberg Arr 108.83 43 IAMs_20 IAMs_20 02 42 17.8
comp=Z,9µm,21.0s
GRF Grafenberg Arr 108.83 43 *e*PP **PP** **02 00 04.1 +5.0**
GRF *e*L L 02 42 16.1
comp=Z,9µm,21.6s
MYKA Terra Mystica 108.97 47 *e*P **PKiKP** **01 59 32.7 +0.7**
comp=Z,3.0nm,0.5s
MYKA *e*P **PKKPdf** **02 11 03.2 +7.2**
comp=Z,4.0nm,1.0s
KBA Koelnbreinsper 108.98 46 *e*P **PKiKP** **01 59 37.2 +5.2**
comp=Z,12nm,1.2s
MOX Moxa 109.48 42 *e*L L 02 45 01.9
comp=Z,9µm,19.8s
OBKA Obir 109.48 47 *e*P **PKiKP** **01 59 34.9 +2.0**
comp=Z,3.5nm,0.8s
EGAK Eagle 109.65 335 IAMs_20 IAMs_20 02 41 49.2
comp=Z,12µm,21.0s
SOKA Soboth 109.86 47 *e*P **PKiKP** **01 59 37.0 +3.4**
comp=Z,6.4nm,1.1s
MOA Molln 109.87 46 *e*P **PKiKP** **01 59 33.2 -0.3**
comp=Z,6.9nm,1.5s
MOA *e*P **PKKPdf** **02 10 56.9 +2.7**
comp=Z,3.3nm,1.3s
GERES GERESS Array B 109.94 44 PKiKP **PKiKP** **01 59 35.1 +1.4**
comp=Z,2.6nm,0.8s,baz=173,slow=1.1,SNR=8.9
KHC Kasperske Hory 109.99 44 *e*PKP **PKiKP** **01 59 34.3 +0.6**
KHC *e*PP **PP** **02 00 00.0 -7.4**
ARSA Arzberg 110.40 47 *e*P **PKiKP** **01 59 33.4 -1.2**
comp=Z,8.3nm,1.2s
ARSA *e*P **PKKPdf** **02 10 54.5 +1.3**
comp=Z,4.7nm,1.2s
CLL Collm 110.55 42 *i* PKiKP **PKiKP** **01 59 37.3 +2.7**
comp=Z,19nm,1.5s
CLL *i* PP **PP** **02 00 08.9 -2.5**
comp=Z,58nm,1.9s
CLL *i* pPP 02 00 23.5
CLL Collm 110.55 42 *i* PKIKP **PKiKP** **01 59 37.3 +2.7**
CLL *i* 02 00 08.9
CLL pmax pmax
comp=Z,19nm,1.5s
CLL pmax pmax
comp=Z,58nm,1.9s
CLL MLR MLR
comp=Z,12µm,22.1s
CLL Collm 110.55 42 IAMs_20 IAMs_20 02 45 05.2
comp=Z,12µm,21.0s
TIR Tirane 110.88 54 IAMs_20 IAMs_20 02 46 58.4
comp=Z,17µm,21.0s
CONA Conrad Observa 110.88 46 *e*P **PKiKP** **01 59 37.8 +2.2**
comp=Z,3.7nm,0.7s
CONA *e*P **PKKPdf** **02 10 57.4 +5.0**
comp=Z,3.7nm,1.1s
BRG Berggiesshubel 110.92 43 *e*PKP **PKiKP** **01 59 38.5 +3.2**
BRG Amp 01 59 39.6
comp=Z,11nm,1.4s
BRG Berggiesshubel 110.92 43 P PKiKP 01 59 47.7 +12
BRG Amp 01 59 51.1
comp=Z,10nm,1.4s
KDAK Kodiak Island 111.22 325 IAMs_20 IAMs_20 02 35 04.3
comp=Z,13µm,20.0s
KRUC Moravsky 111.65 45 *e*PKIKP **PKiKP** **01 59 38.3 +1.5**
ILAR Eielson Array 111.79 333 PKiKP **PKiKP** **01 59 39.3 +2.6**
comp=Z,0.9nm,1.0s,baz=148,slow=1.8,SNR=3.1
ILAR PKKPbc **PKKPbc** **02 10 31.2 -0.3**
comp=Z,0.5nm,0.7s,baz=333,slow=3.4,SNR=4.2
VRAC Vranov 111.87 45 ⇑P **PKiKP** **01 59 38.5 +1.3**
VRAC Vranov 111.87 45 ⇑PKIKP **PKiKP** **01 59 38.5 +1.3**
VRAC Vranov 111.87 45 *e*PKIKP **PKiKP** **01 59 38.7 +1.5**
FURI Furi 111.97 93 IAMs_20 IAMs_20 02 45 00.5
comp=Z,15µm,20.0s
DIVS Divibare 112.04 51 IAMs_20 IAMs_20 02 47 14.9
comp=Z,8µm,21.0s
CHVC Chvalec 112.04 43 *e*PKP **PKiKP** **01 59 38.8 +1.3**
DPC Dobruska-Polom 112.11 44 *e*PKP **PKiKP** **01 59 38.1 +0.4**
OSTC Ostas 112.12 43 *e*PKP **PKiKP** **01 59 39.0 +1.3**
TARA Tarawa 112.30 257 IAMs_20 IAMs_20 02 37 43.8
comp=Z,9µm,21.0s
JAVC Velka Javorina 112.35 46 *e*PKIKP **PKiKP** **01 59 40.2 +2.0**
MORC Moravsky Berou 112.62 45 ⇓P **PKiKP** **01 59 40.7 +2.0**
MORC Moravsky Berou 112.62 45 ⇓PKIKP **PKiKP** **01 59 40.7 +2.0**
MORC Moravsky Berou 112.62 45 *e*PKIKP **PKiKP** **01 59 40.2 +1.5**
H23K Yukon River 113.25 334 IAMs_20 IAMs_20 02 40 25.5
comp=Z,14µm,20.0s
PSZ Piszkesteto 113.39 47 IAMs_20 IAMs_20 02 45 47.4
comp=Z,12µm,21.0s
VTS Vitosha 113.69 53 ⇑P **PKiKP** **01 59 41.1 0.0**
VTS Vitosha 113.69 53 ⇑PKIKP **PKiKP** **01 59 41.1 0.0**
KARP Karpathos 113.93 62 IAMs_20 IAMs_20 02 43 30.8
comp=Z,7µm,20.0s
HERR Herculane 113.94 51 ⇓P **PKiKP** **01 59 42.7 +1.4**
HFS Hagfors 114.28 33 PP **PP** **02 00 37.1 -0.7**
comp=Z,6.9nm,1.0s,baz=193,slow=6.1,SNR=4.5
TOLK Toolik Lake Re 114.39 337 IAMs_20 IAMs_20 02 42 23.5
comp=Z,13µm,19.0s
STHS Stebnicka Huta 114.75 46 *e*P **Pdif** **01 55 57.9 +4.8**
STHS Stebnicka Huta 114.75 46 *e*PDIFF **Pdif** **01 55 57.8 +4.7**
DRGR 114.79 49 ⇑P **PKiKP** **01 59 44.4 +1.4**
DRGR 114.79 49 ⇑PKIKP **PKiKP** **01 59 44.4 +1.4**
TRPA Tarpa 115.13 48 ⇑P **PKPdf** **01 59 42.2 -1.3**
UZH Uzhgorod 115.14 47 *e*PKIKP PKiKP 01 59 55.0 +12
UZH *i* 02 00 00.4
UZH *e* 02 00 51.0
ARR Arges 115.58 51 ⇑P **PKiKP** **01 59 45.7 +1.1**
KWP Kalwaria Pacla 115.72 46 *e*PKIKP **PKiKP** **01 59 46.9 +2.3**
ARCR ARCALIA 115.95 49 ⇑P **PKiKP** **01 59 46.2 +1.1**
DOPR Dopca 116.28 51 ⇓P **PKiKP** **01 59 48.8 +3.0**
MLR Muntele Rosu 116.49 51 ⇑P **PKiKP** **01 59 47.0 +0.6**
MLR Muntele Rosu 116.49 51 ⇑PKIKP **PKiKP** **01 59 47.0 +0.6**
MLR Muntele Rosu 116.49 51 PKPdf **PKPdf** **01 59 44.7 -1.7**
MLR IAMs_20 IAMs_20 02 51 37.9
comp=Z,9µm,18.0s
LVV L'vov 116.59 46 *e*PKIKP **PKiKP** **01 59 47.7 +1.4**
BURAR Bucovina Array 116.67 49 ⇑P **PKiKP** **01 59 48.1 +1.5**
BURAR Bucovina Array 116.67 49 ⇑PKIKP **PKiKP** **01 59 48.1 +1.5**
NEHR Nehoiu 116.71 51 ⇓P **PKiKP** **01 59 47.8 +1.1**
BISRR Bisoca 117.02 51 ⇑P **PKiKP** **01 59 48.3 +1.0**
BIZ Bicaz 117.05 50 ⇑P **PKiKP** **01 59 48.1 +0.9**
PLOR Plostina 117.08 51 ⇑P **PKPdf** **01 59 46.6 -0.8**
PLOR Plostina 117.08 51 ⇑PKIKP **PKPdf** **01 59 46.6 -0.8**
VRI Vrincioaia 117.13 51 ⇑P **PKPdf** **01 59 46.9 -0.6**
VRI Vrincioaia 117.13 51 ⇑PKIKP **PKPdf** **01 59 46.9 -0.6**
ISP Isparta 117.26 61 IAMs_20 IAMs_20 02 50 47.6
comp=Z,10µm,21.0s
TESR Tescani 117.27 50 ⇓P **PKPdf** **01 59 47.1 -0.5**
SUW Suwalki 117.30 41 *e*PKIKP **PKiKP** **01 59 48.5 +1.1**
SUW Suwalki 117.30 41 *e*P **PKiKP** **01 59 48.0 +0.5**
CTA Charters Tower 117.36 221 PKP **PKiKP** **01 59 50.6 +1.8**
comp=Z,3.2nm,0.9s,baz=344,slow=6.8,SNR=4.8
HARR Harsova 117.59 53 ⇑P **PKiKP** **01 59 50.1 +1.8**
HARR Harsova 117.59 53 ⇑PKIKP **PKiKP** **01 59 50.1 +1.8**
TLBR Topalu 117.62 53 ⇑P **PKiKP** **01 59 50.3 +1.9**
EIL Elat 117.86 71 PKP **PKiKP** **01 59 51.1 +1.7**
comp=Z,5.1nm,0.8s,baz=201,slow=6.1,SNR=5.3
CFR Carcaliu 117.87 52 ⇑P **PKPdf** **01 59 48.8 0.0**
CFR Carcaliu 117.87 52 ⇑PKIKP **PKPdf** **01 59 48.8 0.0**
VLDR Vladesti 118.03 51 ⇓P **PKiKP** **01 59 49.8 +0.6**
TLCR 118.33 52 ⇑P **PKiKP** **01 59 51.3 +1.5**
TLCR 118.33 52 ⇑PKIKP **PKiKP** **01 59 51.3 +1.5**
CSS Mathiatis 118.44 64 IAMs_20 IAMs_20 02 48 17.2
comp=Z,7µm,22.0s
MILM Milestii Mici 118.82 50 ⇑P **PKPdf** **01 59 50.3 -0.3**
SORM Soroca 118.84 49 ⇑P **PKiKP** **01 59 51.0 +0.3**
SORM Soroca 118.84 49 ⇑PKIKP **PKiKP** **01 59 51.0 +0.3**
GHAJ Ghor Haditha 118.94 69 IAMs_20 IAMs_20 02 55 51.6
comp=Z,10µm,20.0s
IIGN Ignalina 119.34 40 *e*P **PKiKP** **01 59 53.0 +1.6**
MMAI Mount Meron Ar 119.41 67 PKP **PKiKP** **01 59 53.1 +0.7**
comp=Z,4.8nm,0.5s,baz=60,slow=2.0,SNR=15
ANTO Ankara 119.59 59 IAMs_20 IAMs_20 02 53 27.2
comp=Z,10µm,21.0s
AKASG Malin Array Be 120.04 46 PKP **PKPdf** **01 59 52.3 -0.5**
comp=Z,8.5nm,0.6s,baz=265,slow=2.6,SNR=31
AKBB Malin Array Si 120.04 46 ⇑PKIKP **PKPdf** **01 59 52.2 -0.6**
AKBB Malin Array Si 120.04 46 PKPdf **PKPdf** **01 59 51.3 -1.5**
MNK Minsk 120.09 42 *i* PKIKP **PKiKP** **01 59 54.0 +1.1**
MNK *i* 02 01 19.7
MNK *i* PPP PPP 02 03 52.8
MNK *i* 02 06 59.7
MNK *i* SS SS 02 17 46.4 +2.9
MNK *i* SSS SSS 02 22 13.4
MNK pmax pmax
comp=N,8.0nm,0.8s
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=Z,48nm,1.1s
MNK MLR MLR
comp=N,4µm,20.0s
MNK MLR MLR
comp=Z,6µm,23.0s
MNK MLR MLR
comp=E,952nm,23.0s
MNK Minsk 120.09 42 *i* PKP **PKiKP** **01 59 54.0 +1.1**
comp=E,1.0nm,0.8s
MNK *i* PKP **PKiKP** **01 59 54.0 +1.1**
comp=N,8.0nm,0.8s
MNK *i* PKP **PKiKP** **01 59 54.0 +1.1**
comp=Z,48nm,1.1s,baz=259
MNK *i* PP **PP** **02 01 19.8 +1.3**
MNK *i* PPP PPP 02 03 52.8
MNK *i* SKS **SKSdf** **02 06 59.8 -3.0**
MNK *i* PS PS 02 11 26.1 +18
MNK *i* SS **SKKSdf** **02 17 46.4 +0.7**
MNK *i* SSS SSS 02 22 13.4
MNK *i* LQ LQ 02 45 49.7
MNK *i* LR LR 02 48 37.6
MNK *i* LRM MLR 02 51 11.0
comp=N,4µm,20.3s
MNK *i* LRM MLR 02 51 14.2
comp=Z,6µm,23.2s
MNK *i* LRM MLR 02 51 19.7
comp=E,952nm,23.1s
BRTR Keskin Array B 120.17 59 PKP **PKPdf** **01 59 53.3 -0.4**
comp=E,6.8nm,0.8s,baz=210,slow=4.1,SNR=16
BRTR PP **PP** **02 01 17.6 -2.0**
comp=E,3.7nm,1.0s,baz=233,slow=6.7,SNR=1.9
BRTR PKKP **PKKPdf** **02 10 32.8 -1.7**
comp=E,0.6nm,0.5s,baz=73,slow=1.7,SNR=4.1
BRTR Keskin Array B 120.17 59 PKPdf **PKPdf** **01 59 50.8 -2.8**
ASAR Alice Springs 120.22 207 PKP **PKPdf** **01 59 53.9 -0.3**
comp=E,6.0nm,0.7s,baz=133,slow=1.7,SNR=32
ASAR PKKPbc **PKKPbc** **02 10 02.4 +1.2**
comp=E,1.2nm,0.7s,baz=335,slow=3.2,SNR=11
ASAR Alice Springs 120.22 207 PKPdf **PKPdf** **01 59 50.9 -3.4**
AS31 Alice Springs 120.23 207 PKPdf **PKPdf** **01 59 49.1 -5.2**
VSU Vasula 120.27 37 *e*P **PKiKP** **01 59 54.1 +1.1**
VSU Vasula 120.27 37 *d*PKIKP **PKiKP** **01 59 54.2 +1.1**
ASF Jabal al Asfar 120.31 69 PKP **PKiKP** **01 59 54.8 +0.6**
comp=E,8.2nm,0.9s,baz=130,slow=1.6,SNR=10
FINES FINESS Array B 120.48 34 PKP **PKPdf** **01 59 53.0 -0.4**
comp=E,2.7nm,0.8s,baz=119,slow=2.4,SNR=5.6
FINES PKKPbc **PKKPbc** **02 10 02.4 +1.7**
comp=E,0.7nm,0.6s,baz=101,slow=9.9,SNR=5.3
FINES FINESS Array B 120.48 34*c* *i* PKIKP **PKiKP** **01 59 55.0 +1.6**
FINES pmax pmax
comp=Z,3.0nm,0.8s
KWAJ Kwajalein Atol 120.71 261 IAMs_20 IAMs_20 02 41 06.9
comp=Z,9µm,20.0s
ARCES ARCESS Array B 121.31 24 PKP **PKiKP** **01 59 56.8 +1.9**
comp=Z,2.3nm,0.7s,baz=204,slow=2.7,SNR=5.9
ARCES PKKPbc **PKKPbc** **02 09 57.8 +0.1**
comp=Z,4.1nm,0.8s,baz=57,slow=4.5,SNR=7.0
ARCES ARCESS Array B 121.31 24 PKIKP **PKPdf** **01 59 52.8 -2.0**
ARCES ARCESS Array B 121.31 24 **PKPdf** **01 59 52.8 -2.0**
BNN Bunyan 121.56 61 PKPdf **PKPdf** **01 59 53.3 -3.1**
GAZ Gaziantep 122.12 63 IAMs_20 IAMs_20 02 48 28.5
comp=Z,6µm,20.0s
PUL Pulkovo 122.30 36 ⇓*i* PKIKP **PKiKP** **01 59 59.3 +2.2**
WR0 Warramunga Arr 123.28 210 PKPdf **PKPdf** **01 59 55.2 -5.0**
WB2 Warramunga Arr 123.37 210 PKPdf **PKPdf** **01 59 57.1 -3.2**
WRA Warramunga Arr 123.38 210 PKP **PKPdf** **01 59 59.9 -0.5**
comp=Z,13nm,0.6s,baz=129,slow=1.4,SNR=51
WRA PKKPbc **PKKPbc** **02 09 50.2 +1.1**
comp=Z,1.4nm,0.8s,baz=326,slow=3.0,SNR=6.7
WRAB Tennant Creek 123.38 210 ⇓*i* PKIKP **PKiKP** **02 00 00.8 +0.2**
WRAB pmax pmax
comp=Z,34nm,1.7s
APA Apatity 124.13 27 ⇓*i* PKIKP **PKPdf** **02 00 00.3 +0.1**
APA pmax pmax
comp=Z,6.0nm,0.8s
LVZ Lovozero 124.60 26 ⇑*e*PKIKP **PKiKP** **02 00 02.5 +1.0**
OBN Obninsk 125.15 42 *e*PKIKP **PKiKP** **02 00 02.6 +0.1**
comp=Z,4.0nm,0.5s,baz=258,slow=2.0,SNR=11
OBN Obninsk 125.15 42 ⇑*e*PKIKP **PKPdf** **02 00 02.6 +0.1**
OBN *e* 02 00 13.9
OBN pmax pmax
comp=Z,8.0nm,0.5s
OBN pmax pmax
comp=Z,61nm,1.2s
OBN MLR MLR
comp=Z,4µm,18.0s
SOC Sochi 125.53 56 *e*PKIKP **PKiKP** **02 00 05.2 +1.2**

SOC *e*PS **PS** **02 11 54.7 -2.3**
SOC pmax pmax
comp=Z,32nm,0.9s
MOS Moscow 125.80 41 *i* PKIKP **PKiKP** **02 00 04.6 +0.5**
MOS *e* 02 00 14.1
MOS *e* 02 02 01.1
MOS pmax pmax
comp=Z,47nm,1.2s
H11S2 WAKE ISLAND Hyd 126.06 271 T T 04 18 56.2
baz=115,slow=75,SNR=295
H11S1 WAKE ISLAND Hyd 126.07 271 T T 04 18 57.2
baz=115,slow=75,SNR=455
H11S3 WAKE ISLAND Hyd 126.07 271 T T 04 18 53.9
baz=115,slow=75,SNR=401
VORD Divnogorie 126.37 47 *e*PKIKP **PKiKP** **02 00 05.7 +0.3**
VORD pmax pmax
comp=Z,20nm,0.8s
VORR Voronezh 126.39 46 PKIKP **PKiKP** **02 00 06.0 +0.6**
VORR pmax pmax
comp=Z,250nm,1.0s
H11N3 WAKE ISLAND Hyd 126.40 272 T T 04 19 09.8
baz=116,slow=75,SNR=13
H11N1 WAKE ISLAND Hyd 126.41 272 T T 04 19 16.3
baz=116,slow=75,SNR=10
H11N2 WAKE ISLAND Hyd 126.41 272 T T 04 19 22.4
baz=116,slow=75,SNR=295
PSA00 Pilbara Seismi 126.42 193 PKPdf **PKPdf** **02 00 03.1 -3.0**
PSA00 Pilbara Seismi 126.42 193 **PKPdf** **02 00 02.3 -3.9**
BCA Borcka 126.48 59 ⇑P **PKiKP** **02 00 07.8 +1.7**
KLMR Klimovskoe 126.92 35 *e*PKIKP **PKPdf** **02 00 04.7 -1.0**
KLMR pmax pmax
comp=Z,78nm,1.1s
KLMR Klimovskoe 126.92 35 *e*PKPdf **PKPdf** **02 00 04.7 -1.0**
KLMR AMP 02 00 09.8
comp=Z,78nm,1.1s
KIV Kislovodsk 127.71 56 *e*PKIKP **PKiKP** **02 00 10.5 +2.0**
KIV pmax pmax
comp=Z,23nm,1.1s
KBZ Khabaz 127.83 57 PKP **PKiKP** **02 00 09.2 +0.7**
comp=Z,13nm,0.9s,baz=190,slow=2.5,SNR=14
KBZ Khabaz 127.83 57 ⇓PKIKP **PKiKP** **02 00 10.9 +2.3**
AKH Akhalkalaki 127.86 60 ⇑P **PKiKP** **02 00 09.7 +0.7**
VRH Novokhopyorsk 127.92 47 *e*PKIKP **PKiKP** **02 00 08.3 -0.2**
VRH pmax pmax
comp=Z,30nm,1.0s
ONI Oni 128.04 58 PKIKP **PKPdf** **02 00 03.9 -4.7**
ONI Oni 128.04 58 **PKPdf** **02 00 03.9 -4.7**
GOF Gofitskoye 128.13 55 ⇑*e*PKIKP **PKiKP** **02 00 10.2 +1.0**
GOF pmax pmax
comp=Z,228nm,2.7s
FITZ Fitzroy Crossi 128.27 201 PKP **PKiKP** **02 00 10.1 -0.2**
comp=Z,14nm,0.9s,baz=183,slow=6.7,SNR=16
FITZ Fitzroy Crossi 128.27 201 PKPdf **PKPdf** **02 00 04.6 -5.1**
NCK Nalchik 128.29 57 ⇑*i* PKIKP **PKiKP** **02 00 12.4 +2.8**
ZEI Tsey 128.40 58 *i* PKIKP **PKiKP** **02 00 11.2 +1.1**
ZEI pmax pmax
comp=Z,4.0nm,1.2s
GNI Garni 128.55 61 ⇓*i* PKIKP **PKiKP** **02 00 12.7 +2.3**
PRGR Permogore 129.81 34 *e*PKIKP **PKiKP** **02 00 11.6 -0.4**
PRGR pmax pmax
comp=Z,81nm,1.1s
GROC Groznyy 129.83 58 *i* PKIKP **PKiKP** **02 00 14.5 +1.9**
GROC *e* 02 02 25.8
GROC pmax pmax
comp=Z,47nm,1.4s
BILL Bilibino 130.39 335 ⇑*i* PKIKP **PKiKP** **02 00 14.7 +1.7**
BILL *e* 02 00 25.4
BILL 02 02 31.0
BILL pmax pmax
comp=Z,35nm,1.2s
BILL MLR MLR
comp=Z,4μm,17.0s
AKT Akhty 131.01 60 *e*PKIKP **PKiKP** **02 00 16.4 +1.2**
AKT *e* 02 02 32.5
AKT pmax pmax
comp=Z,49nm,1.5s
MAK Makhachkala 131.04 58 *e*P **Pdif** **01 57 11.2 +5.6**
MAK *i* 02 00 15.6
MAK *e* 02 02 31.7
MAK pmax pmax
comp=Z,184nm,1.0s
BELG Belogornoye 131.61 46 PKP **PKiKP** **02 00 16.5 +0.6**
comp=Z,39nm,0.8s,baz=51,slow=1.9,SNR=15
KIRV Kirov 132.11 37 PKP **PKiKP** **02 00 16.6 0.0**
comp=Z,17nm,1.0s,baz=290,slow=1.9,SNR=8.4
KIRV Kirov 132.11 37 ⇑*e*PKIKP **PKiKP** **02 00 17.8 +1.1**
UOSS Minazif 133.95 84 PKPdf **PKPdf** **02 00 15.4 -4.9**
JAY Jayapura 134.48 229 PKP **PKiKP** **02 00 24.6 +1.5**
comp=Z,9.1nm,0.8s,baz=304,slow=3.7,SNR=5.1
WSAR Wadi Sarin 135.42 88 PKP **PKiKP** **02 00 24.7 +0.1**
comp=Z,23nm,0.8s,baz=233,slow=8.2,SNR=12
ARU Arti 137.38 39 PKP **PKiKP** **02 00 26.7 -0.8**
comp=Z,8.3nm,0.7s,baz=305,slow=2.6,SNR=20
ARU Arti 137.38 39 *i* PKIKP **PKPdf** **02 00 26.3 +0.7**
ARU *e* 02 03 09.3
ARU Arti 137.38 39 PKPdf **PKPdf** **02 00 22.9 -2.6**
ARU IAMs_20 IAMs_20 03 02 51.4
comp=Z,10μm,19.0s
SEY Seymchan 137.69 332 PKP **PKiKP** **02 00 27.8 -0.2**
comp=Z,11nm,0.7s,baz=90,slow=2.4,SNR=14
TIXI Tiksi 137.95 350 PKP **PKiKP** **02 00 28.5 +0.3**
comp=Z,7.2nm,0.9s,baz=34,slow=2.5,SNR=4.2
TIXI Tiksi 137.95 350 ⇑*i* PKIKP **PKiKP** **02 00 30.1 +1.9**
TIXI Tiksi 137.95 350 **PKPdf** **02 00 23.1 -3.1**
AKTO Aktyubinsk 138.25 48 PKP **PKiKP** **02 00 29.0 -0.5**
comp=Z,9.6nm,0.8s,baz=258,slow=4.1,SNR=10
AKTO Aktyubinsk 138.25 48 PKIKP **PKiKP** **02 00 29.0 -0.5**
PEA0B Petropavlovsk- 138.34 316*d* PKIKP **PKiKP** **02 00 30.6 +1.0**
PETK Petropavlovsk- 138.34 316 PKP **PKiKP** **02 00 30.1 +0.5**
comp=Z,15nm,1.0s,baz=93,slow=5.9,SNR=11
PETK Petropavlovsk- 138.34 316 **PKPdf** **02 00 24.2 -3.2**
SVE Sverdlovsk 138.37 38 *i* PKIKP **PKiKP** **02 00 30.6 +1.1**
SVE pmax pmax
comp=Z,33nm,1.4s
SVE MLR MLR
comp=Z,9μm,21.0s
GEYT Alibeck 138.52 66 PKP **PKPdf** **02 00 28.9 +0.5**
comp=Z,7.4nm,0.7s,baz=64,slow=3.4,SNR=6.3
SKR Severo-Kuril's 139.77 313 *i* PKHKP PKPpre 02 00 06.8
MA2 Magadan 139.91 328 PKP **PKiKP** **02 00 33.9 +1.4**
comp=Z,4.2nm,0.4s,baz=164,slow=6.4,SNR=4.3
MA2 Magadan 139.91 328 **PKPdf** **02 00 26.6 -3.6**
MA2 IAMs_20 IAMs_20 02 47 23.5
comp=Z,5μm,21.0s
MNCI Minicoy 140.05 117 IAMs_20 IAMs_20 02 55 44.2
comp=Z,11μm,22.0s
HRA Herat 141.39 73 PKPdf **PKPdf** **02 00 27.6 -6.4**
SMRI Semarang 141.96 183 IAMs_20 IAMs_20 02 55 34.6
comp=Z,5μm,22.0s
BRVK Borovoye 144.90 40 ⇓*e*PKIKP **PKPdf** **02 00 39.1 -0.1**
BRVK Borovoye 144.90 40 PKPdf **PKPab** **02 00 36.6 -1.8**
BRVK IAMs_20 IAMs_20 03 05 44.3
comp=Z,9μm,20.0s
PALK Pallekele 144.93 127 PKP PKPbc 02 00 40.0 +0.2
comp=Z,159nm,1.1s,baz=336,slow=5.3,SNR=17
PALK Pallekele 144.93 127 PKHKP PKPpre 02 00 37.3
PALK MLR MLR
comp=Z,6μm,20.0s
PALK Pallekele 144.93 127 PKPdf **PKPab** **02 00 37.3 -2.4**
PALK Pallekele 144.93 127 IAMs_20 IAMs_20 03 02 26.3
comp=Z,6μm,20.0s
BVAR Borovoye Array 144.97 40 PKP PKPbc 02 00 38.9 +0.2
comp=Z,33nm,0.5s,baz=256,slow=4.7,SNR=46
KAD Karad 146.12 106 ⇑*i*P **PKPbc** **02 00 43.0 -0.4**
YAK Yakutsk 146.14 342 PKPbc **PKPab** **02 00 42.9 +0.2**
comp=Z,55nm,0.7s,baz=274,slow=1.3,SNR=12
YAK Yakutsk 146.14 342 *e*PKP2 **PKPdf** **02 00 40.9 -0.1**
YAK *e* 02 04 05.4
YAK *e*SS SS 02 22 56.1 -1.5
YAK pmax pmax
comp=Z,70nm,0.8s
YAK pmax pmax
comp=N,18nm,1.0s
YAK pmax pmax
comp=E,11nm,0.9s
YAK pmax pmax
comp=Z,1μm,2.5s
YAK pmax pmax
comp=N,517nm,2.2s
YAK pmax pmax
comp=E,447nm,2.3s
YAK Yakutsk 146.14 342 PKPdf **PKPdf** **02 00 40.5 -0.5**
KUR Kuril'sk 146.23 306 *e*PKP2 **PKPab** **02 00 44.6 +1.0**
KUR pmax pmax
comp=Z,591nm,2.6s
KUR pmax pmax
comp=E,186nm,2.1s
KUR pmax pmax
comp=N,77nm,2.0s
POO Poona 146.44 104 *e*P **PKPdf** **02 00 42.0 -1.0**
KBL Kabul 146.99 73 PKHKP PKPpre 02 00 41.1
KBL Kabul 146.99 73 PKPdf **PKPdf** **02 00 41.1 -2.6**
TOLI2 Tolitoli 147.87 204 PKPdf **PKPdf** **02 00 41.9 -3.6**
GSI Gunungsitoli 148.62 159 PKPab **PKPbc** **02 00 50.6 +0.2**
UGL Uglegorsk 148.93 315 *e*PKP2 **PKiKP** **02 00 50.9 -0.5**
UGL pmax pmax
comp=Z,3μm,4.0s
UGL pmax pmax
comp=Z,130nm,2.0s
YSS Yuzh-Sakhalins 149.24 311 *e*PKP2 **PKPbc** **02 00 51.0 +0.1**
YSS pmax pmax
comp=Z,90nm,2.5s
HYB Hyderabad 149.74 110 *i* PKP **PKPbc** **02 00 51.0 -2.1**
HYB *e*pPKP **sPKPbc** **02 01 04.0 -0.8**
HYB *e*PP **PP** **02 04 24.0 -2.7**
JKA Kamikawa-asahi 150.14 305 **PKPdf** **02 00 50.1 +1.9**
ASAJ Asahikawa 150.14 305 PKP **PKPbc** **02 00 51.4 -1.8**
comp=Z,12nm,0.9s,baz=208,slow=6.5,SNR=2.9
ASAJ PKPbc **pPKPdf** **02 00 56.6 -0.4**
comp=Z,29nm,0.9s,baz=210,slow=1.0,SNR=8.1
ASAJ Asahikawa 150.14 305 PKIKP **PKPdf** **02 00 50.1 +1.9**
EKS2 Erkin-Say 150.30 58 P **PKPbc** **02 00 51.4 -2.5**
SNR=17
AML Almayashu 150.34 59 P **PKiKP** **02 00 55.6 +0.5**
SNR=12
NIL Nilore 150.38 76 PKIKP **PKPdf** **02 00 47.4 -1.6**
NIL Nilore 150.38 76 PKPdf **PKPdf** **02 00 47.4 -1.6**
NIL Nilore 150.38 76 IAMs_20 IAMs_20 03 04 40.7
comp=Z,5μm,21.0s
KSM Kuching 150.42 184 P **PKiKP** **02 00 56.0 +0.4**
KURBB Kurchatov Arra 150.56 40 PKP **PKPdf** **02 00 51.1 +2.5**
comp=Z,19nm,0.6s,baz=298,slow=2.9,SNR=19
KURBB PKPbc **PKiKP** **02 00 55.8 +1.1**
comp=Z,19nm,0.6s,baz=303,slow=2.8,SNR=17
KURK Kurchatov 150.56 40 PKIKP **PKPdf** **02 00 51.1 +2.5**
KURK 02 00 55.8
USP Ospenovka 150.69 56 P **PKiKP** **02 00 55.9 +0.6**
SNR=20
AAK Ala-Archa 150.82 57 PKP **PKPdf** **02 00 52.3 +2.8**
comp=Z,37nm,1.0s,baz=254,slow=2.4,SNR=30
AAK PKPbc **pPKPdf** **02 00 57.3 -1.0**
comp=Z,68nm,0.8s,baz=218,slow=1.9,SNR=30
AAK Ala-Archa 150.82 57 P **PKiKP** **02 00 57.8 +2.0**
SNR=22
AAK Ala-Archa 150.82 57 ⇓*e*PKIKP **PKPbc** **02 00 53.0 -2.2**
AAK Ala-Archa 150.82 57 **PKPdf** **02 00 51.6 +2.0**
AAK IAMs_20 IAMs_20 03 07 56.6
comp=Z,5μm,19.0s
UCH Uchtor 150.91 58 P **PKPdf** **02 00 51.1 +1.0**
SNR=11
CHMS Chumysh 150.93 57 P **PKiKP** **02 00 56.5 +0.7**
SNR=18
GRNR Gornyy 151.38 321 ⇑*i* PKIKP **PKiKP** **02 00 57.1 +0.6**
GRNR pmax pmax
comp=Z,30nm,1.0s
KZA Kyzart 151.48 58 P **PKiKP** **02 00 58.7 +1.2**
SNR=7.2
TKM2 Tokmak 2 151.55 56 P **PKPdf** **02 00 48.7 -2.0**
SNR=7.7
ZAA0 Zalesovo Array 151.64 30 **PKPdf** **02 00 52.2 +2.0**
ZALV Zalesovo Beam 151.64 30 PKP **PKPdf** **02 00 52.0 +1.8**
comp=Z,104nm,0.6s,baz=284,slow=2.5,SNR=9.5
ZALV PKPbc **pPKPdf** **02 00 58.0 -1.0**
comp=Z,106nm,0.7s,baz=308,slow=3.0,SNR=38
ZALV Zalesovo Beam 151.64 30 PKIKP **PKPdf** **02 00 52.0 +1.8**
ZALV 02 00 58.0
ZALV Zalesovo Beam 151.64 30 **PKPdf** **02 00 52.7 +2.5**
BOOM Boomskoye usch 151.89 57 PKIKP **PKPdf** **02 00 53.6 +2.4**
BOOM Boomskoye usch 151.89 57 **PKPdf** **02 00 53.6 +2.4**
ULHL Ulahol 152.17 58 P **PKiKP** **02 00 59.8 +1.1**
SNR=7.8
KSH Kashi 152.45 63 PKPbc **PKPdf** **02 00 55.1 +3.0**
KSH sPKP 02 01 10.3
KSH LR LR
comp=Z,4μm,23.7s
KSH LR LR
comp=Z,5μm,19.0s
KSH LR LR
comp=Z,6μm,26.0s
SPMM Sapulut 152.60 198 P **PKiKP** **02 01 04.0 +3.8**
BHK Bhakra 152.80 81 *ex* x 02 01 02.5
BOD Bodaibo 153.05 353 *e*PKIKP **PKPdf** **02 00 54.3 +2.2**
BOD pmax pmax
comp=Z,172nm,1.6s
ZEA Zeya 153.61 334 *e*PKIKP **PKPdf** **02 00 55.5 +2.4**
ZEA pmax pmax
comp=Z,30nm,1.9s
TEY Ternei 153.93 310 *e*PKIKP **PKPdf** **02 00 55.6 +1.8**
TEY *e* 02 01 04.2
MAKZ Makanchi 154.41 45 PKIKP **PKPdf** **02 00 51.1 -3.4**
MAKZ Makanchi 154.41 45 **PKPdf** **02 00 51.1 -3.4**
MAKZ IAMs_20 IAMs_20 03 14 28.6
comp=Z,7μm,21.0s
MKAR Makarichi Array 154.61 45 PKP **PKPdf** **02 00 55.2 +0.4**
comp=Z,6.8nm,0.8s,baz=335,slow=0.8,SNR=8.3
MKAR PKPbc **pPKPdf** **02 01 04.7 +1.1**
comp=Z,13nm,0.7s,baz=272,slow=2.1,SNR=19
MJAR Matsushiro Arr 154.64 290 PKP **PKPdf** **02 00 57.1 +2.0**
comp=Z,6.4nm,1.0s,baz=111,slow=2.1,SNR=8.5
MJAR PKPbc **sPKPdf** **02 01 06.2 -0.7**
comp=Z,20nm,1.2s,baz=168,slow=2.0,SNR=4.0
MJAR Matsushiro Arr 154.64 290 PKPdf **PKPdf** **02 00 50.0 -5.2**
MAJO Matsushiro 154.65 290 IAMs_20 IAMs_20 02 52 18.8
comp=Z,4μm,20.0s
MAT Matsushiro 154.65 290 PKP **PKPdf** **02 00 57.2 +2.0**
KLR Kul'dur 154.74 322 PKP **PKPdf** **02 00 55.9 +1.1**
comp=Z,8.6nm,0.9s,baz=9.9,slow=3.8,SNR=13
KLR PKPbc **sPKPdf** **02 01 06.0 -0.6**
comp=Z,25nm,1.2s,baz=60,slow=2.2,SNR=14
USA0B Ussuriysk Arra 157.27 312 PKIKP **PKPdf** **02 00 55.5 -2.8**
USA0B Ussuriysk Arra 157.27 312 PKPdf **PKPdf** **02 00 55.5 -2.8**
USRK Ussuriysk Ar. 157.27 312 PKP **PKPdf** **02 01 00.1 +1.7**
comp=Z,1.2nm,0.7s,baz=318,slow=2.6,SNR=7.5
USRK pPKP **sPKPdf** **02 01 09.2 -0.9**
comp=Z,2.8nm,0.9s,baz=354,slow=1.9,SNR=2.6
USRK Ussuriysk Ar. 157.27 312 PKPdf **PKPdf** **02 00 54.7 -3.7**
MDJ Mudanjiang 158.56 315 PKP **PKPdf** **02 01 01.6 +1.7**
MDJ PP **PP** **02 05 19.3 +3.8**
MDJ AMB AMB
comp=Z,3μm,12.0s
IRK Irkutsk 158.72 7 *e*PKIKP **PKPdf** **02 01 01.8 +1.9**
IRK *e* 02 05 16.8
IRK pmax pmax
comp=Z,280nm,2.7s
CIT Chita 158.79 351 *e*PKIKP PKPdf 02 01 11.8 +12
CIT *e* 02 01 38.4
CIT *e* 02 05 19.7
MOY Mondy 158.81 13 *e*PKIKP **PKPdf** **02 01 03.6 +3.5**
MOY pmax pmax
comp=Z,257nm,2.7s
WMQ Urumqi 159.40 46 PKP **PKPdf** **02 01 03.8 +2.8**
WMQ pPKP sPKPdf 02 01 12.9 +0.1
WMQ sPKP 02 01 16.9
WMQ *e*PP **PP** **02 05 23.8 +3.6**
WMQ AMB AMB
comp=Z,5μm,11.5s
WMQ LR LR
comp=Z,5μm,20.1s
WMQ LR LR
comp=Z,6μm,20.1s
WMQ LR LR
comp=Z,7μm,22.3s
ZAK Zakamensk 160.43 10 *e*PKP2 **PKPab** **02 01 45.2 +2.2**
ZAK pmax pmax
comp=Z,37nm,1.9s
CN2 Changchun 161.48 318 *e*PKP **PKPdf** **02 01 04.4 +1.2**
CN2 *e*pPKP sPKPdf 02 01 13.8 -1.2
UTHA Uthaitani 162.49 150 PKP **PKPdf** **02 01 09.0 +3.9**
KSRS Korea Array 162.63 297 PKP **PKPdf** **02 01 06.7 +2.1**
comp=Z,2.4nm,0.7s,baz=98,slow=1.3,SNR=7.8
KSRS pPKP **sPKPdf** **02 01 16.1 -0.3**
comp=Z,5.1nm,0.9s,baz=204,slow=1.2,SNR=5.1
KSAR Wonju Array Be 162.66 296 PKIKP **PKPdf** **02 01 00.9 -3.7**
KSAR Wonju Array Be 162.66 296 **PKPdf** **02 01 00.9 -3.7**
SONM Songino Array 163.28 4 PKP **PKPdf** **02 01 07.2 +2.1**
SONM pPKP **sPKPdf** **02 01 16.7 -0.2**
comp=Z,7.0nm,1.0s,baz=290,slow=0.6,SNR=8.0
comp=Z,2.2nm,0.7s,baz=206,slow=1.4,SNR=2.6
SONM PKPab **PKPab** **02 01 58.1 +2.5**
comp=Z,6.2nm,0.9s,baz=334,slow=3.7,SNR=5.0
SONM PP **PP** **02 05 43.0 +2.9**
comp=Z,5.5nm,1.1s,baz=5.3,slow=4.1,SNR=5.4
SONM Songino Array 163.28 4 **PKPdf** **02 01 00.5 -4.6**
SNY Shenyang 163.76 315 ⇓PKP **PKPdf** **02 01 07.5 +2.0**
SNY PP **PP** **02 05 46.3 +2.9**
UBPT Khong Chiam 163.99 170 PKP PKPdf 02 01 20.2 +14
MHMT Maesarieng 164.02 142 PKP **PKPdf** **02 01 10.4 +3.9**
PHIT Phitsanulok 164.36 151 PKP **PKPdf** **02 01 11.1 +4.3**
KHON Khomkaen 164.43 160 PKP PKPdf 02 01 21.5 +15
SHL Shillong 164.52 107 PKIKP **PKPdf** **02 01 02.8 -4.2**
SHL Shillong 164.52 107 **PKPdf** **02 01 02.8 -4.2**
CM13 Chiang Mai Arr 164.73 144 PKP PKPdf 02 01 20.9 +14
CM05 Chiang Mai Arr 164.73 144 PKP **PKPdf** **02 01 11.3 +4.2**
CM04 Chiang Mai Arr 164.75 144 PKP **PKPdf** **02 01 11.2 +4.1**
CM01 Chiang Mai Arr 164.76 144 PKP **PKPdf** **02 01 11.9 +4.8**
CM02 Chiang Mai Arr 164.76 144 PKP **PKPdf** **02 01 11.7 +4.6**
CM15 Chiang Mai Arr 164.77 144 PKP PKPdf 02 01 21.6 +14
CMAR Chiang Mai Arr 164.78 144 PKP **PKPdf** **02 01 10.2 +3.1**
comp=Z,3.2nm,0.7s,baz=257,slow=2.4,SNR=11
CMAR pPKP **sPKPdf** **02 01 19.3 +0.4**
comp=Z,15nm,1.1s,baz=278,slow=1.8,SNR=5.4
CMAR PKPab **PKPab** **02 02 04.4 +1.6**
comp=Z,11nm,1.0s,baz=223,slow=5.3,SNR=8.4
CMAR Chiang Mai Arr 164.78 144 PKPdf **PKPdf** **02 01 05.8 -1.4**
CM09 Chiang Mai Arr 164.79 144 PKP PKPdf 02 01 21.7 +15
LOEI Loei 164.99 153 PKP PKPdf 02 01 21.7 +14
CHTO Chiang Mai 165.08 143 PKIKP **PKPdf** **02 01 02.7 -4.7**
CHTO Chiang Mai 165.08 143 PKP PKPdf 02 01 19.7 +12
CHTO Chiang Mai 165.08 143 **PKPdf** **02 01 02.7 -4.7**
LSA Lhasa 165.13 91 PKIKP **PKPdf** **02 01 08.5 +0.7**
LSA Lhasa 165.13 91 **PKPdf** **02 01 08.5 +0.7**
SKNT Sakolnakorn 165.35 163 PKP **PKPdf** **02 01 10.9 +3.2**
NONG Nongkai 166.15 159 PKP **PKPdf** **02 01 11.8 +3.5**
DL2 Dalian 166.63 309 PKP **PKPdf** **02 01 10.3 +2.3**
DL2 PP PP 02 06 07.4 +8.9
DL2 AMB AMB
comp=Z,4μm,8.5s
DL2 LR LR
comp=Z,2μm,17.8s
DL2 LR LR
comp=Z,2μm,19.0s
DL2 LR LR
comp=Z,6μm,21.0s
QIZ Qiongzhong 167.85 187 PKP **PKPdf** **02 01 10.6 +1.1**
QIZ PP **PP** **02 06 07.8 +4.2**
QIZ SS SS 02 26 55.8 +5.9
QIZ LR LR
comp=Z,3μm,20.1s
QIZ LR LR
comp=Z,2μm,19.6s
BJI Beijing 169.06 326 PKP **PKPdf** **02 01 12.1 +2.4**
BJI pPKP **sPKPdf** **02 01 21.8 +0.3**
GTA Gaotai 169.24 38 ⇑PKP **PKPdf** **02 01 10.3 +0.3**
GTA PKPab **PKPab** **02 02 25.3 +3.1**
GTA PP **PP** **02 06 16.0 +4.4**
GTA LR LR
comp=Z,4μm,21.1s
GTA LR LR
comp=Z,4μm,20.4s
GTA LR LR
comp=Z,8μm,22.5s
HHC Hu-ho-hao-te 169.97 346 *e*PKP **PKPdf** **02 01 11.6 +1.2**
HHC pPKP sPKPdf 02 01 21.8 -0.4
HHC LR LR
comp=Z,4μm,20.9s
HHC LR LR
comp=Z,5μm,21.2s
HHC LR LR
comp=Z,8μm,20.2s
BTO Baotou 170.47 352 *e*PKP **PKPdf** **02 01 09.0 -1.7**
BTO SS SS 02 27 13.8 -2.4
NJ2 Nanjing 170.96 278 *e*PKP **PKPdf** **02 01 13.6 +2.6**
NJ2 pPKP **sPKPdf** **02 01 22.3 -0.6**
NJ2 PKPab **pPKPab** **02 02 34.8 -3.6**
NJ2 PP **PP** **02 06 23.6 +2.4**
NJ2 AMB AMB
comp=Z,3μm,9.5s
NJ2 LR LR
comp=Z,1μm,18.9s
NJ2 LR LR
comp=Z,3μm,23.7s
NJ2 LR LR
comp=Z,4μm,24.6s
TIA Tai'an 171.09 307 PKP **PKPdf** **02 01 13.8 +2.8**
KMI Kunming 172.24 139 ⇓PKP **PKPdf** **02 01 15.8 +3.6**
TIY Taiyuan 172.62 334 *e*PKP **PKPdf** **02 01 14.8 +3.0**
TIY pPKP **sPKPdf** **02 01 23.8 +0.2**
TIY LR LR
comp=Z,3μm,17.1s
TIY LR LR
comp=Z,3μm,19.0s
TIY LR LR
comp=Z,6μm,20.3s
LZH Lanzhou 173.83 36 ⇓PKP **PKPdf** **02 01 15.4 +3.0**
LZH pPKP sPKPdf 02 01 25.3 +1.1
LZH sPKP 02 01 32.8
LZH PP **PP** **02 06 35.6 +1.3**
WHN Wuhan 174.76 265 ⇓PKP **PKPdf** **02 01 15.8 +3.2**
WHN pPKP **sPKPdf** **02 01 25.0 +0.5**
WHN PP PP 02 06 51.0 +11
WHN AMB AMB
comp=Z,2μm,4.1s
GYA Guiyang 175.11 163 ⇓*i* PKP **PKPdf** **02 01 15.9 +2.8**
GYA pPKP sPKPdf 02 01 24.8 -0.1
GYA PP PP 02 06 48.3 +8.4
GYA SS SS 02 28 01.6 -0.1
GYA AMB AMB
comp=Z,7μm,16.8s
GYA LR LR
comp=Z,16μm,71.4s
CD2 Chengdu 176.09 92 PKP **PKPdf** **02 01 16.0 +2.9**
XAN Xi'an 177.07 350 PKP **PKPdf** **02 01 16.3 +3.1**
XAN pPKP sPKPdf 02 01 25.1 +0.1
XAN PP **PP** **02 06 50.6 +1.5**
XAN SS SS 02 28 19.8 -0.2
XAN AMB AMB
comp=Z,8μm,12.7s
XAN LR LR
comp=Z,3μm,21.9s
XAN LR LR
comp=Z,2μm,21.1s
XAN LR LR
comp=Z,7μm,24.1s
ENH Enshi 178.65 230 **PKPdf** **02 01 11.3 -2.2**

IDC ***17*** *01:46:24.6±1.1,31.89S×72.10W,h0km,mb4.7/4, mb1 4.8/5,mb1mx4.3/27,mbtmp4.8/5,Error ellipse: s-maj=46.8km s-min=29.2km az=75.0*
NEIC ***17*** *01:46:25.7±1.2,31.91S±0.04×72.08W±0.08,h10km±1km, mb5.0/17,ML4.6(GUC),Error ellipse: s-maj=11.6km s-min=6.3km az=272.0*
GUC ***17*** *01:46:26.5±0.5,31.48S×70.07W,h36km±6km,ML4.6*
ISC 17 01:46:26.7±1.5,31.85S±0.04×71.92W±0.08,h15km±9km, n46,σ1s64/47,mb5.0/14,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA01	**Torpederas**	**1.19**	**169**	Pn	**Pb**	**01 46 48.2**	**-0.8**
VA01				Sn	**Sb**	**01 47 04.3**	**+0.1**
CO06	**Fray Jorge**	**1.20**	**12**	Pn	**Pg**	**01 46 49.7**	**-0.1**
ROCH	**El Roble**	**1.36**	**146**	IAML		01 47 20.7	
	comp=E,15μm,0.6s						
CO03	**El Pedregal**	**1.46**	**47**	*e*P	Pn	01 46 42.8	-10
CO03				*i* S	Sn	01 46 55.8	-16
VA03	**San Esteban**	**1.48**	**128**	*e*P	**Pn**	**01 46 50.2**	**-2.6**
VA03				*e*S	**Sn**	**01 47 09.8**	**-2.2**
VA03				IAML		01 47 21.4	
	comp=E,9μm,0.5s						
VA03	**San Esteban**	**1.48**	**128**	Pn	**Pn**	**01 46 51.4**	**-1.4**
VA03				Sn	**Sg**	**01 47 14.9**	**+0.5**
VA05	**Santo Domingo**	**1.82**	**172**	Pn	**Pn**	**01 46 56.2**	**-1.2**
MT05	**Renca**	**1.83**	**147**	*e*P	**Pn**	**01 47 00.5**	**+0.5**
MT05				*i* S	**Sg**	**01 47 26.6**	**+0.8**
MT05				IAML		01 47 32.7	
	comp=E,9μm,0.3s						
MT05	**Renca**	**1.83**	**147**	Pn	**Pn**	**01 46 57.4**	**-0.3**
MT09	**Talagante**	**2.08**	**158**	*e*P	**Pn**	**01 47 01.6**	**+0.4**
MT09				*e*S	**Sb**	**01 47 28.8**	**-1.1**
MT09				IAML		01 47 43.7	
	comp=E,4μm,0.4s						
MT09	**Talagante**	**2.08**	**158**	Pn	**Pn**	**01 47 00.2**	**-0.9**
MT01	**Popeta**	**2.09**	**164**	*e*P	**Pn**	**01 47 01.2**	**0.0**

MT01					*e*S		**Sg**	**01 47 33.8 -0.1**
MT01	**Popeta**	**2.09**	**164**		Pn		**Pn**	**01 47 00.1 -1.1**
BO01	**Tunca**	**2.63**	**165**		Pn		**Pn**	**01 47 08.3 -0.3**
ZON	**Zonda**	**2.78**	**85**				**Pn**	**01 47 11.8 +1.1**
GO05	**Huala**	**3.15**	**180**		Pn		**Pn**	**01 47 14.5 -1.3**
LC01	**Cunco**	**7.03**	**180**		Pn		**Pn**	**01 48 07.8 -1.3**
PLCA	**Paso Flores**	**8.93**	**173**		Pn		**Pn**	**01 48 35.3 +0.1**
	baz=340,slow=18,SNR=0.8							
EFI	**East Falkland**	**22.27**	**157**		P		**P**	**01 51 25.0 +1.9**
EFI					IAmb		IAmb	01 51 28.8
	comp=Z,88nm,1.3s							
BDFB	**Brasilia**	**27.09**	**59**		P		**P**	**01 52 09.9 +0.7**
RUSC	**La Rusia**	**37.55**	**358**		P		**P**	**01 53 39.3 -1.6**
RUSC					IAmb		IAmb	01 53 43.4
	comp=Z,37nm,1.5s							
SNAA	**Sanae**	**53.54**	**158**		P		**P**	**01 55 46.9 +0.5**
	comp=Z,5.8nm,0.9s,baz=276,slow=12,SNR=3.0							
SNAA	**Sanae**	**53.54**	**158**		P		**P**	**01 55 46.9 +0.5**
SOR	**Soroa**	**55.36**	**348**		P		**P**	**01 56 00.1 +0.1**
QSPA	**South Pole Qui**	**58.38**	**180**		P		**P**	**01 56 21.8 +0.5**
W50A	**Signal Mountai**	**67.87**	**348**		P		**P**	**01 57 23.7 -0.6**
W50A					IAmb		IAmb	01 57 30.4
	comp=Z,12nm,1.2s							
TXAR	**Lajitas Array**	**67.92**	**330**		P		**P**	**01 57 25.1 +0.2**
	comp=Z,64nm,0.4s,baz=152,slow=6.1,SNR=3.1							
WHTX	**Lake Whitney,**	**67.94**	**337**		P		**P**	**01 57 24.7 -0.1**
SWET	**Sewanee**	**68.00**	**348**		P		**P**	**01 57 25.1 0.0**
TKL	**Tuckaleechee C**	**68.07**	**350**		P		**P**	**01 57 25.0 -0.5**
TKL					IAmb		IAmb	01 57 32.4
	comp=Z,11nm,1.2s							
V52A	**Sevierville**	**68.22**	**350**		P		**P**	**01 57 25.7 -0.8**
V52A					IAmb		IAmb	01 57 28.6
	comp=Z,15nm,1.2s							
CLTN	**Cedars of Leba**	**68.92**	**348**		P		**P**	**01 57 30.4 -0.4**
WVT	**Waverly**	**69.25**	**346**		P		**P**	**01 57 32.1 -0.7**
WVT					IAmb		IAmb	01 57 33.1
	comp=Z,12nm,1.1s							
LIC	**Lamto**	**74.01**	**72**	*e*P		P		01 58 11.7 +10
	comp=Z,58nm,1.5s							
TIC	**Toumodi**	**74.26**	**72**	*e*P		P		01 58 13.3 +10
KIC	**Kosan Boka**	**74.32**	**72**	*e*P		P		01 58 13.5 +10
	comp=Z,28nm,0.6s							
DBIC	**Dimbokro**	**74.41**	**72**		P		**P**	**01 58 05.1 +0.7**
	comp=Z,11nm,0.8s,baz=230,slow=3.8,SNR=4.1							
BOSA	**Boshof**	**80.99**	**118**		P		**P**	**01 58 42.5 +1.3**
	comp=Z,2.4nm,0.7s,baz=278,slow=7.1,SNR=1.7							
LBTB	**Lobatse**	**83.12**	**115**		P		**P**	**01 58 52.8 +0.3**
LBTB					IAmb		IAmb	01 58 55.2
	comp=Z,17nm,1.4s							
TORD	**Torodi Ar. Bea**	**83.39**	**70**		P		**P**	**01 58 55.0 +1.3**
	comp=Z,12nm,0.7s,baz=266,slow=4.4,SNR=9.1							
TORD	**Torodi Ar. Bea**	**83.39**	**70**		P		**P**	**01 58 54.8 +1.1**
BRG	**Berggiesshubel**	**111.56**	**43**		P		**Pdif**	**02 00 53.7 -8.5**
BRG					Amp			02 00 58.8
	comp=Z,13nm,1.6s							
WRA	**Warramunga Arr**	**122.68**	**210**		PKP		**PKPdf**	**02 05 21.7 -0.8**
	comp=Z,0.6nm,0.5s,baz=170,slow=1.9,SNR=2.0							
BVAR	**Borovoye Array**	**145.62**	**41**		PKPbc		**PKPab**	**02 06 06.0 +1.5**
	comp=Z,2.3nm,0.5s,baz=262,slow=5.2,SNR=6.7							
KURBB	**Kurchatov Arra**	**151.21**	**41**		PKPbc		**PKiKP**	**02 06 19.6 +0.1**
	comp=Z,6.0nm,0.8s,baz=303,slow=2.9,SNR=5.0							
ZALV	**Zalesovo Beam**	**152.34**	**30**		PKPbc		**PKPbc**	**02 06 21.5 +0.1**
	comp=Z,5.1nm,0.5s,baz=324,slow=2.5,SNR=5.1							

*IDC **17** 01:52:40.9±1.6,31°.04S×71°.52W,h0km,mb4.6/2, mb1 4.5/3,mb1mx4.0/26,mbtmp4.5/3,ML4.2/1,Error ellipse: s-maj=52.6km s-min=38.7km az=59.0*
*GUC **17** 01:52:45.6±0.6,31°.17S×71°.41W,h28km±8km,ML4.5*
*NEIC **17** 01:52:47.3±2.2,31°.18S±0°.03×71°.57W±0°.09,h26km±8km, mb4.6/3,ML4.4(GUC),Error ellipse: s-maj=11.1km s-min=4.6km az=99.0*

ISC 17 01:52:44.3±2.1,31°.19S±0°.03×71°.66W±0°.08,h17km±13km, n31,σ1s31/36,mb4.5/5,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO03	**El Pedregal**	**0.90**	**67**	Pn	**Pb**	**01 53 01.8**	**+0.2**
CO03				Sn	**Sb**	**01 53 13.7**	**+0.4**
GO04	**Tololo Observa**	**1.26**	**36**	*e*P	**Pn**	**01 53 07.2**	**0.0**
GO04				*i* S	**Sb**	**01 53 23.4**	**-0.2**
GO04	**Tololo Observa**	**1.26**	**36**	Pn	**Pb**	**01 53 07.8**	**+0.1**
GO04				Sn	**Sn**	**01 53 24.4**	**+0.4**
VA01	**Torpederas**	**1.82**	**180**	*e*P	**Pb**	**01 53 17.6**	**+0.5**
VA01				*i* S	**Sg**	**01 53 42.8**	**-0.3**
VA03	**San Esteban**	**1.83**	**149**	*e*P	**Pn**	**01 53 15.7**	**+0.7**
VA03				*i* S	**Sb**	**01 53 40.5**	**+0.6**
VA03				IAML		01 53 44.9	
	comp=N,6μm,0.4s						
ROCH	**El Roble**	**1.86**	**163**	*e*P	**Pb**	**01 53 18.3**	**+0.4**
ROCH				*e*S	**Sg**	**01 53 43.1**	**-1.1**
MT05	**Renca**	**2.33**	**161**	*e*P	**Pn**	**01 53 23.8**	**+2.0**
MT05				*e*S	**Sb**	**01 53 54.2**	**-0.1**
MT05				IAML		01 54 00.0	
	comp=E,6μm,0.4s						
MT05	**Renca**	**2.33**	**161**	Pn	**Pn**	**01 53 23.9**	**+2.1**
MT05					**Sn**	**01 53 52.2**	**+2.1**
VA05	**Santo Domingo**	**2.46**	**179**	*e*P	**Pb**	**01 53 28.0**	**0.0**
VA05				*e*S	**Sb**	**01 53 59.8**	**+1.8**
VA05				IAML		01 54 12.9	
	comp=E,3μm,0.4s						
ZON	**Zonda**	**2.57**	**99**	Pn	**Pn**	**01 53 26.5**	**+1.3**
MT09	**Talagante**	**2.64**	**168**	*e*P	**Pb**	**01 53 29.4**	**-1.7**
MT09				*i* S	**Sb**	**01 54 03.5**	**+0.1**
MT01	**Popeta**	**2.69**	**173**	*e*P	**Pb**	**01 53 30.0**	**-1.9**
MT01				*e*S	**Sb**	**01 54 03.8**	**-0.8**
MT01				IAML		01 54 12.6	
	comp=E,1μm,0.4s						
AC04	**Llanos de Chal**	**3.02**	**10**	Pn	**Pn**	**01 53 33.6**	**+2.2**
AC04					**Sn**	**01 54 08.9**	**+1.8**
GO03	**Copiap**	**3.79**	**19**	Pn	**Pn**	**01 53 44.4**	**+2.3**
GO03				Sn	**Sn**	**01 54 26.4**	**0.0**
H03N1	**Juan Fernandez**	**6.54**	**248**	T	T	02 01 03.0	
	baz=76,slow=72,SNR=0.7						
H03N3	**Juan Fernandez**	**6.55**	**248**	T	T	02 01 04.3	
	baz=76,slow=72,SNR=34						
H03N2	**Juan Fernandez**	**6.55**	**248**	T	T	02 01 04.9	
	baz=76,slow=72,SNR=36						
PLCA	**Paso Flores**	**9.56**	**175**	Pn	**Pn**	**01 55 02.0**	**+0.8**
	comp=E,0.5nm,0.3s,baz=340,slow=11,SNR=1.6						
PLCA	**Paso Flores**	**9.56**	**175**		**Pn**	**01 55 02.5**	**+1.3**
TRQA	**Tornquist**	**10.51**	**133**	Pn	**Pn**	**01 55 16.0**	**+1.9**
RUSC	**La Rusia**	**36.90**	**358**	P	**P**	**01 59 52.8**	**+0.1**
RUSC				IAmb	IAmb	01 59 53.9	
	comp=Z,7.7nm,1.1s						
QSPA	**South Pole Qui**	**59.04**	**180**	P	**P**	**02 02 43.5**	**+0.4**
QSPA				IAmb	IAmb	02 02 44.0	
	comp=Z,5.0nm,1.0s						
TXAR	**Lajitas Array**	**67.46**	**330**	P	**P**	**02 03 38.4**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=144,slow=7.8,SNR=3.9						
DBIC	**Dimbokro**	**73.99**	**72**	P	**P**	**02 04 18.0**	**-1.2**
	comp=Z,6.2nm,0.7s,baz=244,slow=5.7,SNR=5.6						
TORD	**Torodi Ar. Bea**	**82.95**	**70**	P	**P**	**02 05 07.3**	**-1.4**
	comp=Z,3.1nm,0.8s,baz=259,slow=5.1,SNR=7.9						
H11S2	**WAKE ISLAND Hyl**	**26.09**	**271**	T	T	04 30 34.8	
	baz=116,slow=74,SNR=0.2						
H11S1	**WAKE ISLAND Hyl**	**26.10**	**271**	T	T	04 30 36.5	
	baz=116,slow=74,SNR=19						
H11S3	**WAKE ISLAND Hyl**	**26.11**	**271**	T	T	04 30 36.3	
	baz=116,slow=74,SNR=0.2						
H11N3	**WAKE ISLAND Hyl**	**26.43**	**272**	T	T	04 30 55.7	
	baz=153,slow=74,SNR=5.4						
H11N2	**WAKE ISLAND Hyl**	**26.45**	**272**	T	T	04 31 01.4	
	baz=121,slow=74,SNR=12						
ZALV	**Zalesovo Beam**	**151.66**	**30**	PKPbc	**PKPbc**	**02 12 35.5**	**-1.7**
	comp=Z,2.7nm,0.5s,baz=306,slow=3.8,SNR=4.2						

IDC 17 01:52:53.5±2.2,5.73S×150.84E,h0km,mb3.7/4, mb1 4.0/4,mb1mx3.8/46,mbtmp3.7/4,Error ellipse: s-maj=107.8km s-min=30.8km az=129.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.38**	**227**	P	P	01 57 42.9	0.0
	0.7nm,0.4s,baz=52,slow=11,SNR=7.2						
ASAR	**Alice Springs**	**24.16**	**221**	P	P	01 58 11.2	-0.6
	1.3nm,0.8s,baz=56,slow=8.6,SNR=9.6						
FITZ	**Fitzroy Crossi**	**27.50**	**241**	P	P	01 58 42.5	+0.5
	1.4nm,0.5s,baz=56,slow=10,SNR=8.1						
ILAR	**Eielson Array**	**83.75**	**22**	P	P	02 05 24.3	0.0
	0.4nm,0.7s,baz=254,slow=5.6,SNR=2.3						

*IDC **17** 01:57:30.8±2.6,31°.12S×71°.43W,h0km,mb4.3/3, mb1 4.3/3,mb1mx3.8/35,mbtmp4.3/3,MS5.7/1,Ms1 5.7/1, ms1mx4.9/31,Error ellipse: s-maj=114.5km s-min=43.2km az=119.0*
*NEIC **17** 01:57:37.2±1.5,31°.15S±0°.04×71°.6W±0°.1,h35km±2km, mb4.6/2,Error ellipse: s-maj=18.1km s-min=4.9km az=74.0*

ISC 17 01:57:36.8±0.9,31°.15S±0°.06×71°.6W±0°.1,h35km,n13, σ1s09/12,mb4.4/4,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.48**	**357**		**Pn**	**01 57 47.6**	**+0.4**
CO06				Sn	**Sn**	**01 57 54.8**	**+0.5**
CO03	**El Pedregal**	**0.84**	**69**		**Pn**	**01 57 52.3**	**0.0**
CO03				Sn	**Sn**	**01 58 04.5**	**+0.9**
VA03	**San Esteban**	**1.84**	**151**	Pn	**Pn**	**01 58 06.4**	**+0.4**
VA03				Sn	**Sn**	**01 58 29.9**	**+1.7**
H03N1	**Juan Fernandez**	**6.60**	**248**	T	T	02 05 48.2	
	baz=76,slow=72,SNR=9.6						
H03N3	**Juan Fernandez**	**6.61**	**248**	T	T	02 05 52.5	
	baz=76,slow=72,SNR=6.8						
H03N2	**Juan Fernandez**	**6.61**	**248**	T	T	02 05 51.5	
	baz=76,slow=72,SNR=9.3						
TA01	**Diego Aracena**	**10.62**	**7**	Pn	**Pn**	**02 00 07.5**	**+0.9**
PTGA	**Pitinga**	**32.20**	**22**	LR	LR	02 18 57.2	
	comp=Z,14μm,20.3s,baz=137,slow=40						
RUSC	**La Rusia**	**36.86**	**358**	P	**P**	**02 04 43.7**	**+1.1**
RUSC				IAmb	IAmb	02 04 45.5	
	comp=Z,23nm,1.5s						
QSPA	**South Pole Qui**	**59.08**	**180**	P	**P**	**02 07 32.9**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=101,slow=3.4,SNR=2.0						
DBIC	**Dimbokro**	**73.93**	**72**	P	**P**	**02 09 07.4**	**-1.4**
	comp=Z,2.3nm,0.5s,baz=211,slow=5.1,SNR=5.5						
TORD	**Torodi Ar. Bea**	**82.89**	**70**	P	**P**	**02 09 57.1**	**-1.2**
	comp=Z,2.6nm,0.8s,baz=250,slow=4.4,SNR=5.5						
ZALV	**Zalesovo Beam**	**151.60**	**30**	PKPbc	**PKPbc**	**02 17 26.1**	**-0.7**
	comp=Z,3.0nm,0.4s,baz=318,slow=2.0,SNR=3.8						

*IDC **17** 01:59:27.1±0.6,31°.70S×72°.04W,h0km,mb4.8/15, mb1 4.8/18,mb1mx4.6/35,mbtmp4.8/18,ML4.3/3,Error ellipse: s-maj=22.3km s-min=13.7km az=88.0*
*NEIC **17** 01:59:28.8±1.4,31°.85S±0°.03×71°.97W±0°.07,h10km±1km, mb4.8/74,ML4.8(GUC),Error ellipse: s-maj=10.1km s-min=5.4km az=276.0*
*GUC **17** 01:59:32.3±0.6,31°.99S×72°.03W,h42km±3km,ML4.8*
*SJA **17** 01:59:36.0±0.5,32°.15S×72°.16W,h30km,ML4.7,MW5.0*

ISC 17 01:59:28.2±1.4,31°.81S±0°.02×72°.05W±0°.05,h8km±8km, n162,σ1s24/177,mb4.8/49,2C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**1.26**	**164**	*e*P	**Pg**	**01 59 52.4**	**+0.1**
VA01				*i* S	**Sb**	**02 00 07.7**	**-0.8**
VA01	**Torpederas**	**1.26**	**164**		**Pn**	**01 59 51.4**	**-0.7**
VA01				Sn	**Sb**	**02 00 07.4**	**-1.1**
ROCH	**El Roble**	**1.45**	**143**	↑*i* P	**Pg**	**01 59 56.2**	**+0.1**
ROCH				*i* S	**Sg**	**02 00 14.7**	**-0.3**
ROC1	**El Roble**	**1.46**	**143**	*i* P	**Pg**	**01 59 58.0**	**+1.9**
ROC1				*e*S	**Sg**	**02 00 17.4**	**+2.4**
CO03	**El Pedregal**	**1.51**	**51**		**Pn**	**01 59 55.7**	**+0.1**
CO03				Sn	**Sn**	**02 00 14.9**	**-0.7**
VA03	**San Esteban**	**1.59**	**127**	*e*P	**Pg**	**01 59 58.4**	**-0.2**
VA03				*i* S	**Sg**	**02 00 18.6**	**-0.6**
VA03				IAML		02 00 26.7	
	comp=N,33μm,0.6s						
VA03	**San Esteban**	**1.59**	**127**		**Pn**	**01 59 56.1**	**-0.5**
VA03				Sn	**Sn**	**02 00 14.5**	**-2.9**
VA05	**Santo Domingo**	**1.88**	**169**	*e*P	**Pn**	**02 00 01.3**	**+0.7**
VA05				*e*S	**Sn**	**02 00 23.6**	**-0.9**
VA05				IAML		02 00 40.8	
	comp=E,23μm,0.3s						
VA05	**Santo Domingo**	**1.88**	**169**		**Pn**	**02 00 00.4**	**-0.2**
MT05	**Renca**	**1.93**	**145**	*e*P	**Pb**	**02 00 03.0**	**-0.6**
MT05				*e*S	**Sb**	**02 00 26.6**	**-1.3**
MT05				IAML		02 00 46.2	
	comp=E,11μm,0.3s						
MT05	**Renca**	**1.93**	**145**		**Pn**	**02 00 01.1**	**-0.2**
GO04	**Tololo Observa**	**1.95**	**34**	*e*P	Pn	01 59 54.4	-7.5
GO04				*e*S	**Sn**	**02 00 21.7**	**-5.0**
FSR	**Penalolen**	**2.10**	**143**	*e*P	**Pg**	**02 00 09.5**	**+1.0**
FSR				*e*S	**Sg**	**02 00 35.4**	**-0.4**
MT09	**Talagante**	**2.15**	**156**	*e*P	**Pb**	**02 00 06.4**	**-1.2**
MT09				*i* S	**Sb**	**02 00 32.6**	**-1.8**
MT09	**Talagante**	**2.15**	**156**		**Pn**	**02 00 05.1**	**+0.6**
MT01	**Popeta**	**2.16**	**162**	*e*P	**Pb**	**02 00 05.7**	**-1.7**
MT01				*e*S	**Sn**	**02 00 31.5**	**+0.1**
MT01	**Popeta**	**2.16**	**162**		**Pn**	**02 00 04.8**	**+0.4**
MT01	**Popeta**	**2.16**	**162**	*i* P	**Pn**	**02 00 05.3**	**+0.9**
MT01				IAML		02 00 46.0	
	comp=Z,3μm,0.7s						
AUSP	**Uspallata**	**2.30**	**101**	*i* P	**Pg**	**02 00 12.0**	**-0.2**
RTLS	**Leoncito**	**2.34**	**90**	*i* P	**Pg**	**02 00 13.0**	**-0.1**
RTLS				*e*S	**Sg**	**02 00 45.3**	**+1.8**
LMEL	**Las Melosas**	**2.56**	**143**	↑*i* P	**Pb**	**02 00 12.3**	**-2.1**
LMEL				*e*S	**Sn**	**02 00 42.8**	**+1.3**
LMEL				IAML		02 01 01.9	
	comp=N,4μm,0.6s						
BO03	**Pichilemu**	**2.68**	**178**	*e*P	**Pn**	**02 00 11.5**	**-0.1**
BO03				*e*S	**Sn**	**02 00 41.3**	**-2.9**
BO01	**Tunca**	**2.70**	**163**	*e*P	**Pb**	**02 00 16.5**	**-0.2**
BO01				*e*S	**Sn**	**02 00 44.8**	**+0.1**
BO01	**Tunca**	**2.70**	**163**		**Pn**	**02 00 12.5**	**+0.6**
AROD	**Rodeo**	**2.75**	**54**	*e*P	**Pb**	**02 00 19.4**	**+1.5**
ACCO	**Cerro Coronel**	**2.83**	**65**	*i* P	**Pb**	**02 00 20.6**	**+1.4**
ACCO				IAML		02 01 06.4	
	comp=Z,2μm,2.4s						
ARCO	**CERRO ARCO**	**2.83**	**112**	*e*P	**Pg**	**02 00 21.7**	**-0.8**
ARCO				*e*S	**Sg**	**02 01 03.3**	**+4.1**
ARCO				IAML		02 01 05.9	
	comp=Z,4μm,0.7s						
ASAL	**Salagasta**	**2.83**	**107**	*e*P	**Pb**	**02 00 19.4**	**+0.3**
ASAL				IAML		02 01 17.1	
	comp=Z,2μm,1.4s						
ZON	**Zonda**	**2.89**	**86**		**Pn**	**02 00 15.3**	**+0.8**
ZON	**Zonda**	**2.89**	**86**	*i* P	**Pg**	**02 00 22.0**	**-1.5**
ZON				IAML		02 01 07.7	
	comp=Z,3μm,2.5s						
RTCV	**Cerro Valdivia**	**2.99**	**92**	*i* P	**Pg**	**02 00 24.0**	**-1.4**
RTCV				IAML		02 01 28.3	
	comp=Z,678nm,3.1s						
AAGR	**Agrelo**	**3.00**	**116**	*i* P	**Pg**	**02 00 24.3**	**-1.5**
AAGR				IAML		02 01 20.9	
	comp=Z,2μm,1.4s						
LCO	**Las Campanas**	**3.02**	**23**	*e*P	**Pb**	**02 00 23.2**	**+0.8**
BO02	**Sierra Bellavi**	**3.16**	**161**	*e*P	**Pn**	**02 00 20.4**	**+2.1**
BO02				*e*S	**Sn**	**02 00 56.1**	**0.0**
BO02				IAML		02 01 16.3	
	comp=N,2μm,0.5s						
BO02	**Sierra Bellavi**	**3.16**	**161**		**Pn**	**02 00 18.1**	**-0.2**
AC04	**Llanos de Chal**	**3.69**	**13**	Pn	**Pn**	**02 00 27.0**	**+1.5**
AC04					**Sn**	**02 01 10.6**	**+1.4**
AC04	**Llanos de Chal**	**3.69**	**13**	*i* P	**Pg**	**02 00 39.0**	**+0.1**
LAMA	**Las Malvinas**	**3.92**	**143**	*i* P	**Pb**	**02 00 34.5**	**-3.1**
ML02	**Panimavida**	**3.98**	**173**	Pn	**Pn**	**02 00 30.8**	**+1.3**
GO03	**Copiap**	**4.49**	**21**	*e*P	Pb	02 00 42.8	-4.5
GO03	**Copiap**	**4.49**	**21**	Pn	**Pn**	**02 00 37.6**	**+1.1**
GO03					**Sn**	**02 01 30.6**	**+1.6**
GO03	**Copiap**	**4.49**	**21**	*i* P	**Pb**	**02 00 43.6**	**-3.6**
AC02	**Maricunga**	**5.57**	**28**	↓*i* P	**Pb**	**02 01 03.0**	**-3.1**
AC02				IAML		02 02 31.7	
	comp=Z,1μm,0.9s						
LC01	**Cunco**	**7.07**	**179**	Pn	**Pn**	**02 01 11.5**	**-0.5**
PLCA	**Paso Flores**	**8.99**	**173**	Pn	**Pn**	**02 01 39.6**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=336,slow=12,SNR=11						
PLCA	**Paso Flores**	**8.99**	**173**		**Pn**	**02 01 38.5**	**+0.2**
LPAZ	**La Paz**	**15.86**	**14**	Pn	**Pn**	**02 03 12.5**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=180,slow=7.4,SNR=13						
LPAZ	**La Paz**	**15.86**	**14**	Pn	**Pn**	**02 03 12.4**	**-0.1**
SIV	**San Ignacio**	**18.65**	**35**	P	**P**	**02 03 46.2**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=240,slow=9.8,SNR=9.5						
TRCB	**Terra Rica**	**19.43**	**67**	P	**P**	**02 03 54.5**	**-0.6**
TRCB				IAmb	IAmb	02 04 01.3	
	comp=Z,41nm,0.6s						
EFI	**East Falkland**	**22.35**	**157**	P	**P**	**02 04 23.9**	**-2.5**
SPB	**Sao Paulo**	**23.25**	**76**	P	**P**	**02 04 37.0**	**+1.0**
BDFB	**Brasilia**	**27.17**	**59**	P	**P**	**02 05 11.4**	**-0.9**
	comp=Z,57nm,1.0s,baz=238,slow=6.9,SNR=12						
BDFB	**Brasilia**	**27.17**	**59**	P	**P**	**02 05 11.9**	**-0.4**
PTLC	**Puerto Leguiza**	**31.91**	**355**	*e*P	**P**	**02 05 51.0**	**-3.4**
OTAV	**Otavalo**	**32.45**	**348**	P	**P**	**02 05 59.3**	**-0.2**
OTAV				IAmb	IAmb	02 06 03.2	
	comp=Z,6.0nm,1.1s						
PMSA	**Palmer Station**	**33.36**	**174**	P	**P**	**02 06 06.3**	**-0.2**
	comp=Z,5.8nm,0.8s,baz=350,slow=6.1,SNR=5.0						
PMSA	**Palmer Station**	**33.36**	**174**	P	**P**	**02 06 06.2**	**-0.2**
PMSA				IAmb	IAmb	02 06 09.6	
	comp=Z,9.3nm,0.8s						
SOTA	**Rioblanco**	**34.03**	**352**	*e*P	P	02 06 19.5	+6.1
PRAC	**Prado**	**35.43**	**355**	*e*P	**P**	**02 06 26.2**	**+1.2**
ORTC	**Ortega, Tolima**	**35.65**	**355**	*e*P	**P**	**02 06 29.1**	**+2.2**
YOTC	**Yotoco, Valle**	**35.83**	**353**	*e*P	**P**	**02 06 29.1**	**+0.6**
CHIC	**Chingaza**	**36.27**	**357**	*e*P	**P**	**02 06 33.8**	**+1.2**
GUY2C	**Guyana, Caldas**	**36.96**	**355**	*e*P	**P**	**02 06 39.5**	**+1.0**
NORC	**Norcasia**	**37.26**	**355**	*e*P	**P**	**02 06 39.5**	**-1.1**
RUSC	**La Rusia**	**37.50**	**358**	P	**P**	**02 06 43.6**	**+0.5**
RUSC				IAmb	IAmb	02 06 49.6	
	comp=Z,19nm,0.9s						
RUSC	**La Rusia**	**37.50**	**358**	*e*P	**P**	**02 06 44.3**	**+1.1**
CBOC	**Ciudad Bolivar**	**37.65**	**354**	*e*P	**P**	**02 06 43.3**	**-0.7**
HELC	**Santa Helena**	**37.93**	**354**	*e*P	**P**	**02 06 46.2**	**-0.5**

PTBC	PUERTO BERRIO,	38.20	356	eP	P	02 06 46.2	-2.3
DBBC	Dabeiba	38.81	353	eP	P	02 06 53.8	+0.1
ZARC	Zaragoza, Cauc	39.17	356	eP	P	02 07 01.4	+4.8
SMLC	San Martn de	40.43	357	eP	P	02 07 05.2	-1.8
MDP	Montagnes des	41.10	30	P	P	02 07 11.8	-0.9
	comp=Z,21nm,0.8s,baz=206,slow=9.6,SNR=8.8						
SJCC	San Jacinto, C	41.58	355	P	P	02 07 16.8	+0.2
SJCC				IAmb	IAmb	02 07 18.9	
	comp=Z,12nm,0.9s						
SJCC	San Jacinto, C	41.58	355	eP	P	02 07 15.7	-0.9
CVTR	Volcan Turrial	43.08	343	P	P	02 07 28.0	-1.2
MTO3	Montecristo	48.85	337	P	P	02 08 14.2	-0.4
MTO3				IAmb	IAmb	02 08 21.4	
	comp=Z,6.9nm,0.5s						
VNA3	Neumayer Olymp	51.39	158	P	P	02 08 34.4	+1.4
VNA1	Neumayer--Stat	51.69	158	P	P	02 08 37.2	+2.0
VNA2	Neumayer--Watz	52.03	158	P	P	02 08 39.2	+1.4
	baz=289,slow=8.8						
SNAA	Sanae	53.62	158	P	P	02 08 50.6	+1.1
SNAA	Sanae	53.62	158	P	P	02 08 50.8	+1.2
	comp=Z,30nm,0.9s,baz=283,slow=5.5,SNR=51						
SNAA	Sanae	53.62	158	P	P	02 08 50.1	+0.5
QSPA	South Pole Qui	58.42	180	P	P	02 09 25.6	+1.5
	comp=Z,12nm,0.9s,baz=152,slow=3.9,SNR=18						
QSPA	South Pole Qui	58.42	180	P	P	02 09 23.5	-0.7
VNDA	Vanda	66.24	191	P	P	02 10 17.6	+1.4
	comp=Z,2.0nm,1.2s,baz=67,slow=6.0,SNR=3.7						
VNDA	Vanda	66.24	191	P	P	02 10 17.2	+1.1
TX31	Lajitas Ar. Si	67.83	330	P	P	02 10 24.9	-2.0
TX31				IAmb	IAmb	02 10 30.6	
	comp=Z,5.5nm,0.8s						
TX32	Lajitas Array	67.83	330	P	P	02 10 25.2	-1.7
TXAR	Lajitas Array	67.83	330	P	P	02 10 26.0	-0.9
	comp=Z,60nm,0.4s,baz=153,slow=8.1,SNR=6.5						
Z35A	Perchaven, San	69.02	338	P	P	02 10 34.0	-0.2
WVT	Waverly	69.19	346	P	P	02 10 34.5	-0.7
WVT				IAmb	IAmb	02 10 35.4	
	comp=Z,10.0nm,1.0s						
W39A	Magazine	69.71	341	P	P	02 10 38.5	+0.1
W39A				IAmb	IAmb	02 10 40.0	
	comp=Z,12nm,1.0s						
X34A	Smith Ranch, M	70.37	338	P	P	02 10 42.8	+0.2
X34A				IAmb	IAmb	02 10 43.3	
	comp=Z,12nm,0.9s						
U40A	Yellville	70.56	342	P	P	02 10 43.1	-0.5
HHAR	Hobbs	70.78	341	P	P	02 10 44.7	-0.2
HHAR				IAmb	IAmb	02 10 45.2	
	comp=Z,7.4nm,0.9s						
MSTX	Muleshoe	71.55	333	P	P	02 10 49.6	-0.1
S39A	Bolivar	71.94	342	P	P	02 10 51.7	-0.2
S39A				IAmb	IAmb	02 10 52.5	
	comp=Z,16nm,1.2s						
R40A	Maddies Statio	72.24	343	P	P	02 10 53.4	-0.3
R40A				IAmb	IAmb	02 10 54.2	
	comp=Z,13nm,1.1s						
P40A	Paris	73.37	344	P	P	02 11 00.4	0.0
LIC	Lamto	74.10	72	eP	P	02 11 05.2	-0.1
	comp=Z,69nm,1.0s						
TIC	Toumodi	74.35	72	eP	P	02 11 06.7	-0.1
KIC	Kosan Boka	74.41	72	eP	P	02 11 06.9	-0.2
	comp=Z,50nm,0.8s						
DBIC	Dimbokro	74.50	72	P	P	02 11 07.8	+0.2
	comp=Z,23nm,0.8s,baz=241,slow=4.8,SNR=18						
DBIC	Dimbokro	74.50	72	P	P	02 11 07.8	+0.2
T25A	Trinidad	74.97	334	P	P	02 11 09.4	-0.6
T25A				IAmb	IAmb	02 11 11.9	
	comp=Z,13nm,1.0s						
MAW	Mawson	75.28	164	P	P	02 11 11.9	+0.7
	comp=Z,2.9nm,0.8s,baz=245,slow=5.9,SNR=6.2						
MAW	Mawson	75.28	164	P	P	02 11 11.5	+0.3
X16A	Lo Mia Camp, P	75.59	327	P	P	02 11 14.3	+0.6
SUR	Sutherland	75.90	119	P	P	02 11 17.5	+1.8
	comp=Z,10nm,0.8s,baz=247,slow=12,SNR=3.9						
SDCO	Great Sand Dun	75.92	333	P	P	02 11 15.7	+0.1
FRNY	Flat Rock	76.29	359	P	P	02 11 17.6	+0.5
FRNY				IAmb	IAmb	02 11 24.3	
	comp=Z,4.2nm,0.8s						
W13A	Hualapai Mount	77.30	326	P	P	02 11 23.9	+0.5
LMN	Caledonia Moun	77.58	5	P	P	02 11 24.4	0.0
SMCO	Snowmass	77.73	333	P	P	02 11 25.9	-0.1
SMCO				IAmb	IAmb	02 11 27.9	
	comp=Z,8.8nm,1.1s						
KNB	Kanab	78.37	328	P	P	02 11 29.9	+0.7
KNB				IAmb	IAmb	02 11 30.7	
	comp=Z,5.4nm,0.9s						
ECSD	EROS Data Cent	78.47	342	P	P	02 11 29.4	0.0
ECSD				IAmb	IAmb	02 11 29.8	
	comp=Z,7.2nm,0.8s						
SHPR	Sheep Range	79.04	326	P	P	02 11 31.8	-1.2
CCUT	Cedar City	79.05	328	P	P	02 11 33.2	+0.1
CCUT				IAmb	IAmb	02 11 35.4	
	comp=Z,4.2nm,0.9s						
SRU	San Rafael Swe	79.11	330	P	P	02 11 33.2	-0.1
P17A	Butcher Ranch,	79.50	331	P	P	02 11 35.7	+0.3
PRN	Pahroc Range	79.72	326	P	P	02 11 37.1	+0.5
PRN				IAmb	IAmb	02 11 38.8	
	comp=Z,8.1nm,1.0s						
KOWA	Kowa	79.75	66	P	P	02 11 36.6	-0.4
TSUM	Tsumeb	79.83	106	P	P	02 11 38.0	+0.2
	comp=Z,7.8nm,1.0s,baz=275,slow=5.7,SNR=4.6						
TSUM	Tsumeb	79.83	106	P	P	02 11 37.8	+0.1
TSUM				IAmb	IAmb	02 11 39.6	
	comp=Z,13nm,1.1s						
TPNV	Topopah Spring	79.92	325	P	P	02 11 38.1	+0.4
ISA	Isabella, Lake	80.01	323	P	P	02 11 37.6	-0.5
PSUT	Pine Spring	80.08	328	P	P	02 11 38.7	+0.1
SPR3	Spring Creek 3	80.67	328	P	P	02 11 42.3	+0.4
R11A	Troy Canyon, C	80.72	327	P	P	02 11 42.5	+0.4
JLU	Jordanelle	80.74	331	P	P	02 11 42.3	+0.1
LCH	Last Change Ra	80.83	325	P	P	02 11 42.7	+0.1
DUG	Dugway, Tooele	80.98	330	P	P	02 11 44.3	+1.0
DUG				IAmb	IAmb	02 11 44.9	
	comp=Z,4.8nm,1.1s						
BOSA	Boshof	81.10	118	P	P	02 11 44.8	+0.4
	comp=Z,11nm,0.9s,baz=237,slow=4.7,SNR=13						
BOSA	Boshof	81.10	118	P	P	02 11 45.0	+0.6
BOSA				IAmb	IAmb	02 11 46.1	
	comp=Z,13nm,0.8s						
TCUT	Toone Canyon	81.16	331	P	P	02 11 44.1	-0.2
TCUT				IAmb	IAmb	02 11 47.8	
	comp=Z,6.3nm,1.0s						
HWUT	Hardware Ranch	81.63	331	P	P	02 11 46.6	-0.2
HWUT				IAmb	IAmb	02 11 47.6	
	comp=Z,6.4nm,0.8s						
PDAR	Pinedale Array	81.81	333	P	P	02 11 47.4	-0.3
	comp=Z,0.4nm,0.5s,baz=134,slow=5.1,SNR=5.2						
LHV	Little Huntoon	82.05	325	P	P	02 11 49.6	+0.8
LHV				IAmb	IAmb	02 11 50.9	
	comp=Z,6.1nm,0.9s						
NVAR	Mina Array Bea	82.09	325	P	P	02 11 49.8	+0.5
	comp=Z,2.5nm,0.8s,baz=154,slow=6.0,SNR=15						
RYN	Ryan	82.35	325	P	P	02 11 51.3	+0.7
RYN				IAmb	IAmb	02 11 52.1	
	comp=Z,4.2nm,1.0s						
KVN	Kaiserville	82.47	326	P	P	02 11 51.7	+0.4
KVN				IAmb	IAmb	02 11 52.5	
	comp=Z,5.0nm,0.9s						
ELK	Elko	82.50	328	P	P	02 11 52.0	+0.6
ELK				IAmb	IAmb	02 11 52.4	
	comp=Z,3.5nm,0.8s						
REDW	Red Top Meadow	82.82	333	P	P	02 11 53.2	+0.1
REDW				IAmb	IAmb	02 11 54.7	
	comp=Z,5.8nm,1.2s						
LBTB	Lobatse	83.23	115	P	P	02 11 55.7	+0.1
	comp=Z,7.4nm,0.8s,baz=222,slow=3.8,SNR=9.7						
LBTB	Lobatse	83.23	115	P	P	02 11 55.5	-0.2
LBTB				IAmb	IAmb	02 11 56.3	
	comp=Z,7.5nm,0.8s						
TORD	Torodi Ar. Bea	83.48	70	P	P	02 11 56.8	0.0
	comp=Z,16nm,0.8s,baz=261,slow=4.6,SNR=46						
TORD	Torodi Ar. Bea	83.48	70	P	P	02 11 57.0	+0.3
PAHR	Pah Rah Range	83.61	325	P	P	02 11 56.9	-0.2
PAHR				IAmb	IAmb	02 12 07.8	
	comp=Z,3.7nm,0.8s						
YHH	Holmes Hill	84.02	333	P	P	02 11 59.4	+0.1
YHH				IAmb	IAmb	02 12 00.6	
	comp=Z,6.8nm,1.2s						
ULM	Lac du Bonnet	84.39	345	P	P	02 11 59.7	-0.8
	comp=Z,2.6nm,0.6s,baz=193,slow=1.0,SNR=3.2						
ORV	Oroville	84.54	324	P	P	02 12 02.1	+0.4
ORV				IAmb	IAmb	02 12 03.4	
	comp=Z,5.7nm,1.1s						
J08A	Circle Bar Ran	86.03	328	P	P	02 12 09.8	+0.6
J08A				IAmb	IAmb	02 12 10.6	
	comp=Z,10nm,1.0s						

H11S2	WAKE ISLAND Hyl	25.77	271	T	T	04 37 44.7	
	baz=115,slow=75,SNR=12						
H11S1	WAKE ISLAND Hyl	25.78	271	T	T	04 37 43.7	
	baz=115,slow=75,SNR=15						
H11S3	WAKE ISLAND Hyl	25.78	271	T	T	04 37 41.5	
	baz=115,slow=75,SNR=14						
ZALV	Zalesovo Beam	152.36	30	PKPbc	PKPbc	02 19 23.8	-0.4
	comp=Z,5.3nm,0.6s,baz=300,slow=3.6,SNR=8.6						
KSH	Kashi	153.01	65	PKPbc	PKPdf	02 19 21.1	+2.1
KSH				sPKP		02 19 36.0	
MKAR	Makanchi Array	155.28	45	PKPbc	PKPdf	02 19 30.6	+8.7
	comp=Z,1.4nm,0.8s,baz=307,slow=2.4,SNR=4.5						
MKAR				PKPab	PKPab	02 19 47.0	+0.1
	comp=Z,3.9nm,0.8s,baz=298,slow=2.6,SNR=9.6						
SONM	Songino Array	163.95	4	PKPab	PKPab	02 20 24.8	+0.2
	comp=Z,1.3nm,0.7s,baz=343,slow=4.5,SNR=6.2						
GTA	Gaotai	169.94	39	ePKPbc	PKPab	02 20 52.3	+0.9
GTA				pPKP	sPKPab	02 21 00.6	+6.9

IDC 17 02:00:08.9±1.4, 31°52S×71°64W, h0km, mb4.9/2, mb1 4.7/3, mb1mx4.1/32, mbtmp4.7/3, ML4.7/1, Error ellipse: s-maj=51.2km s-min=34.0km az=53.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H03N1	Juan Fernandez	6.44	251	T	T	02 08 24.5	
	baz=84,slow=72,SNR=30						
H03N3	Juan Fernandez	6.45	251	T	T	02 08 20.9	
	baz=84,slow=72,SNR=25						
H03N2	Juan Fernandez	6.46	251	T	T	02 08 24.2	
	baz=84,slow=72,SNR=34						
PLCA	Paso Flores	9.24	175	Pn	Pn	02 02 23.7	+0.2
	1.9nm,0.3s,baz=337,slow=13,SNR=4.7						
TXAR	Lajitas Array	67.75	330	P	P	02 11 08.7	+0.2
	62nm,0.4s,baz=157,slow=9.6,SNR=22						
DBIC	Dimbokro	74.07	72	P	P	02 11 47.4	+0.2
	9.4nm,0.7s,baz=227,slow=4.5,SNR=5.0						
TORD	Torodi Ar. Bea	83.05	70	P	P	02 12 36.8	+0.2
	6.3nm,0.7s,baz=253,slow=4.5,SNR=4.5						
ZALV	Zalesovo Beam	151.93	30	PKPbc	PKPbc	02 20 04.8	-0.6
	20nm,0.5s,baz=316,slow=3.1,SNR=14						

IDC 17 02:02:02.5±1.6, 31°36S×71°81W, h0km, mb4.6/1, mb1 4.7/2, mb1mx4.0/29, mbtmp4.5/2, ML4.3/1, Error ellipse: s-maj=71.8km s-min=40.2km az=72.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	Paso Flores	9.41	174	Pn	Pn	02 04 19.5	+0.1
	0.6nm,0.3s,baz=335,slow=13,SNR=2.7						
TXAR	Lajitas Array	67.54	330	P	P	02 13 00.9	+0.2
	0.7nm,0.6s,baz=149,slow=9.3,SNR=1.8						
TORD	Torodi Ar. Bea	83.13	70	P	P	02 14 30.9	+0.2
	4.5nm,0.8s,baz=259,slow=5.4,SNR=3.4						
ZALV	Zalesovo Beam	151.87	30	PKPbc	PKPbc	02 21 58.3	-0.5
	8.2nm,0.6s,baz=312,slow=3.0,SNR=4.3						

IDC 17 02:03:33.1±1.1, 31°56S×71°71W, h0km, mb4.5/3, mb1 4.6/4, mb1mx4.1/30, mbtmp4.5/4, ML3.9/1, Error ellipse: s-maj=44.6km s-min=34.5km az=51.0

ISC 17 02:03:37.1±0.9, 31°65S±0°1×71°7W±0°3, h25km, n10, σ0°69/7, mb4.8/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H03N1	Juan Fernandez	6.35	251	T	T	02 11 52.2	
	baz=80,slow=72,SNR=10.0						
H03N3	Juan Fernandez	6.37	251	T	T	02 11 43.3	
	baz=80,slow=72,SNR=14						
H03N2	Juan Fernandez	6.37	251	T	T	02 11 53.4	
	baz=80,slow=72,SNR=12						
PLCA	Paso Flores	9.19	174	Pn	Pn	02 05 48.2	+0.2
	0.3nm,0.3s,baz=331,slow=15,SNR=1.2						
TXAR	Lajitas Array	67.77	330	P	P	02 14 32.5	-0.3
	52nm,0.3s,baz=158,slow=9.7,SNR=1.9						
DBIC	Dimbokro	74.16	72	P	P	02 15 11.8	0.0
	5.1nm,0.6s,baz=230,slow=5.4,SNR=4.9						
NVAR	Mina Array Bea	82.06	325	P	P	02 15 56.1	+0.7
	1.1nm,0.8s,baz=149,slow=6.0,SNR=4.4						
TORD	Torodi Ar. Bea	83.13	70	P	P	02 16 01.4	+0.1
	6.7nm,0.7s,baz=261,slow=4.7,SNR=9.1						
WRA	Warramunga Arr	123.00	210	PKP	PKPdf	02 22 30.8	-1.1
	0.4nm,0.8s,baz=170,slow=1.7,SNR=1.9						
ZALV	Zalesovo Beam	152.02	30	PKPbc	PKPbc	02 23 29.5	-0.1
	12nm,0.5s,baz=317,slow=3.5,SNR=9.9						

IDC 17 02:03:49.5±0.8, 52°.91N×163°.10E, h0km, mb4.0/9, mb1 4.2/10, mb1mx3.9/44, mbtmp4.0/10, ML3.3/1, Error ellipse: s-maj=27.7km s-min=18.2km az=163.0
KRSC 17 02:03:50.4±1.7, 53°.13N×162°.99E, h62km±33km, ML4.7
MOS 17 02:03:52.3±0.8, 52°.99N×163°.06E, h41km, mb4.5/3, Error ellipse: s-maj=14.4km s-min=9.3km az=172.4
NEIC 17 02:03:54.8±1.2, 53°.1N±0°.2×163°.0E±0°.1, h40km±7km, mb4.3/21, Error ellipse: s-maj=26.5km s-min=10.1km az=178.0

ISC 17 02:03:53.2±0.8, 53°.08N±0°.05×163°.09E±0°.05, h35km, n107, σ1°39/118, mb4.2/22, 2C-1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	Mys Kozlova	1.68	332	i P	Pn	02 04 18.9	-1.1
MKZ				eS	Sn	02 04 37.9	-2.4
SPN	Mys Shipunski	1.85	272	i P	Pn	02 04 21.3	-1.0
SPN				eS	Sn	02 04 42.2	-2.3
NLC	Nalytchevo	2.26	274	eP	Pn	02 04 27.1	-0.8
NLC				eS	Sn	02 04 52.4	-2.1
KII	Karymskiy	2.37	295	eP	Pn	02 04 28.7	-0.9
KII				eS	Sn	02 04 55.6	-1.9
SDLR	Sedlovina	2.54	276	eP	Pn	02 04 31.6	-0.3
SDLR				eS	Sn	02 05 00.1	-1.5
UGLR	Uglovaya	2.57	274	PN	Pn	02 04 32.4	0.0
UGLR				S	Sn	02 05 01.7	-0.8
UGLR	Uglovaya	2.57	274	eP	Pn	02 04 32.4	0.0
UGLR				eS	Sn	02 05 01.7	-0.8
SMAR	Somma	2.59	276	eP	Pn	02 04 32.2	-0.5
SMAR				eS	Sn	02 05 01.3	-1.7
KZV	Kizimen	2.62	322	i P	Pn	02 04 32.6	-0.4
KZV				eS	Sn	02 05 02.0	-1.6
DALK	Dalny	2.62	271	eP	Pn	02 04 32.3	-0.6
KRER	Koryakskii	2.62	277	eP	Pn	02 04 33.1	0.0
KRER				eS	Sn	02 05 03.0	-0.8
AVH	Avacha	2.62	276	eP	Pn	02 04 33.1	0.0
TUMD	Tumrok D	2.65	324	eP	Pn	02 04 32.6	-0.7
TUMD				eS	Sn	02 05 02.1	-2.1
PET	Petropavlovsk	2.68	270	ePN	Pn	02 04 33.9	+0.2
PET				eS	Sn	02 05 03.4	-1.5
PET				smax	smax		
	comp=E,1μm,0.4s						
PET				smax	smax		
	comp=N,681nm,0.4s						
PET	Petropavlovsk	2.68	270	eP	Pn	02 04 33.5	-0.2
PET				eS	Sn	02 05 03.3	-1.5
PET	Petropavlovsk	2.68	270		Pn	02 04 33.4	-0.2
PET				Sn	Sn	02 05 03.4	-1.5
KRX	Arik	2.68	278	PN	Pn	02 04 33.7	-0.2
KRX				S	Sn	02 05 03.9	-1.4
KRX	Arik	2.68	278	eP	Pn	02 04 33.7	-0.2
KRX				eS	Sn	02 05 03.9	-1.4
KOK	Koryaka	2.69	276	eP	Pn	02 04 33.7	-0.2
KOK				eS	Sn	02 05 04.0	-1.3
BKI	Bering	2.72	37	eP	Pn	02 04 32.8	-1.4
BKI				eS	Sn	02 05 01.9	-4.0
TUMR	Tumrok	2.80	323	eP	Pn	02 04 35.5	0.0
RUS	Russkaya	2.86	259	PN	Pn	02 04 35.5	-0.7
RUS				S	Sn	02 05 06.8	-2.5
RUS	Russkaya	2.86	259	eP	Pn	02 04 35.5	-0.7
RUS				eS	Sn	02 05 06.8	-2.5
KRMR	Karymshinskiy	3.01	267	eP	Pn	02 04 37.0	-1.3
KRMR				eS	Sn	02 05 10.5	-2.6
MTVR	Mutnovka	3.04	261	PN	Pn	02 04 38.4	-0.4
MTVR				S	Sn	02 05 11.7	-2.3
MTVR	Mutnovka	3.04	261	eP	Pn	02 04 38.4	-0.4
MTVR				eS	Sn	02 05 11.7	-2.3
GRL	Gorelyy	3.09	262	eP	Pn	02 04 39.4	-0.1
GRL				eS	Sn	02 05 13.7	-1.5
KBTR	Krutoberegovo	3.13	357	eP	Pn	02 04 38.7	-1.3
KBTR				eS	Sn	02 05 13.9	-2.3
GNL	Ganaly	3.14	283	eP	Pn	02 04 40.3	+0.1
GNL				eS	Sn	02 05 15.4	-1.1
KMNR	Kamenistaya	3.15	329	eP	Pn	02 04 40.7	+0.3
BZGR	Bezymyannyi-Gr	3.18	335	eP	Pn	02 04 40.6	-0.2
KBG	Krutoberegovo	3.19	356	eP	Pn	02 04 39.4	-1.3
KBG				eS	Sn	02 05 15.6	-1.8
ZLN	Zelenaya	3.23	337	eP	Pn	02 04 41.7	+0.3
ASAK	Asacha	3.23	260	PN	Pn	02 04 41.5	+0.1
ASAK	Asacha	3.23	260	eP	Pn	02 04 41.5	+0.1
PEA0B	Petropavlovsk-	3.25	273	d iPN	Pn	02 04 42.4	+0.8
PEA0B	Petropavlovsk-	3.25	273		Pn	02 04 42.0	+0.4
PETK	Petropavlovsk-	3.25	273	Pn	Pn	02 04 41.4	-0.1
	comp=N,16nm,0.3s,baz=104,slow=19,SNR=149						
PETK				Sn	Sn	02 05 19.2	+0.2
	comp=N,33nm,0.3s,baz=258,slow=17,SNR=16						
PETK	Petropavlovsk-	3.25	273		Pn	02 04 41.5	-0.1
PETK				Sn	Sn	02 05 17.1	-2.0
BZWR	Bezymyannyi-We	3.26	333	eP	Pn	02 04 41.6	-0.3
KIRR	Kirishev	3.29	332	eP	Pn	02 04 42.3	0.0
KDTR	Khodutka, Kamc	3.32	249	PN	Pn	02 04 41.8	-0.8
KDTR	Khodutka, Kamc	3.32	249	eP	Pn	02 04 41.8	-0.8
KDTR				eS	Sn	02 05 16.8	-3.9
CIRR	Tsirk	3.33	337	eP	Pn	02 04 43.8	+1.0
KPT	Kopyto	3.34	331	eP	Pn	02 04 43.5	+0.6
KRSR	Krestovskiy	3.46	336	eP	Pn	02 04 44.3	-0.3
KOZ	Kozyrevsk	3.52	329	eP	Pn	02 04 45.6	+0.3
KLY	Klyuchi	3.53	337	eP	Pn	02 04 44.6	-0.8
KLY				eS	Sn	02 05 23.2	-2.7
APC	Apacha	3.59	270	PN	Pn	02 04 47.5	+1.3
APC	Apacha	3.59	270	eP	Pn	02 04 47.5	+1.3
SMKR	Semkarok	3.63	346	eP	Pn	02 04 46.7	-0.2
BDR	Baidarnaya	3.66	343	eP	Pn	02 04 47.5	+0.2
SRKR	Sorokina	3.75	344	eP	Pn	02 04 48.4	-0.1
MIPR	Malaya Ipel'ka	3.94	261	PN	Pn	02 04 51.9	+0.9
MIPR	Malaya Ipel'ka	3.94	261	eP	Pn	02 04 51.9	+0.9
PAU	Pauzhetka	4.18	250	PN	Pn	02 04 54.3	-0.1
PAU	Pauzhetka	4.18	250	eP	Pn	02 04 54.3	-0.1
SKR	Severo-Kuril's	4.94	244	ePN	Pn	02 05 04.5	-0.3
SKR				pmax	pmax		
	comp=E,56nm,0.4s						
SKR				MLR	MLR		
	comp=Z,5μm,13.0s						
SKR				MLR	MLR		
	comp=Z,5μm,15.0s						
ALID	Alaid	5.16	248	eP	Pn	02 05 07.0	-1.0
SMY	Shemya	6.67	89	PN	Pn	02 05 29.6	+1.1
SMY	Shemya	6.67	89	Pn	Pn	02 05 29.6	+1.1
MA2	Magadan	9.43	318	ePN	Pn	02 06 08.1	+1.8
MA2				pmax	pmax		
	comp=Z,12nm,0.9s						
CNBA	Chernabura Isl	21.87	70	P	P	02 08 44.3	+1.8
N18K	Kilae Creek	23.32	55	P	P	02 08 59.6	+1.8
N18K				IAmb	IAmb	02 09 01.9	
	comp=Z,8.5nm,0.8s						
M19K	Big River Lodg	24.07	52	P	P	02 09 07.0	+2.1
M19K				IAmb	IAmb	02 09 08.9	
	comp=Z,5.3nm,0.9s						
K20K	Telida	24.31	48	P	P	02 09 09.0	+2.0
K20K				IAmb	IAmb	02 09 10.4	
	comp=Z,6.5nm,0.7s						
IMAR	Indian Mountai	24.80	42	P	P	02 09 13.2	+1.9
OHAK	Old Harbor	24.94	63	P	P	02 09 13.4	+0.7
H21K	Melozitna Rive	25.13	43	P	P	02 09 16.0	+1.6
H21K				IAmb	IAmb	02 09 18.1	
	comp=Z,6.4nm,1.1s						
PPLA	Purkeypile	25.14	49	P	P	02 09 17.3	+2.6
PPLA				IAmb	IAmb	02 09 30.9	
	comp=Z,11nm,1.1s						
KDAK	Kodiak Island	25.23	61	P	P	02 09 16.2	+0.9
	comp=Z,12nm,1.0s,baz=276,slow=3.6,SNR=6.6						
KDAK	Kodiak Island	25.23	61	P	P	02 09 16.8	+1.5
I21K	Tanana	25.40	44	P	P	02 09 19.2	+2.3
I21K				IAmb	IAmb	02 09 29.9	
	comp=Z,13nm,1.4s						
BPAW	Bear Paw Mtn.	25.73	47	P	P	02 09 21.4	+1.5
KTH	Kantishna Hill	25.73	48	P	P	02 09 22.3	+2.3
MLY	Manley	25.91	44	P	P	02 09 24.7	+3.1
MLY				IAmb	IAmb	02 09 36.3	
	comp=Z,6.5nm,1.3s						
TRF	Thorofare Moun	26.02	48	P	P	02 09 24.1	+1.5
NEA2	Nenana	26.59	46	P	P	02 09 29.2	+1.5
SML	Sawmill	26.95	52	P	P	02 09 32.0	+1.1
HDA	Harding Lake	27.51	46	P	P	02 09 37.4	+1.6
HDA				IAmb	IAmb	02 09 37.8	
	comp=Z,2.6nm,0.5s						
ILAR	Eielson Array	27.54	45	P	P	02 09 37.2	+1.1
	comp=Z,1.2nm,0.6s,baz=248,slow=7.7,SNR=10.0						
ILAR	Eielson Array	27.54	45	P	P	02 09 38.3	+2.2
BCR	Beaver Creek A	29.87	49	P	P	02 09 59.2	+2.2
MK31	Makanchi Array	49.77	297	P	P	02 12 42.0	0.0
MK31				pmax	pmax		
	comp=Z,6.0nm,1.4s						
MK31	Makanchi Array	49.77	297	P	P	02 12 42.0	0.0
MK31				IAmb	IAmb	02 12 51.2	
	comp=Z,6.4nm,1.4s						
MKAR	Makanchi Array	49.77	297	P	P	02 12 42.

SIV	**San Ignacio**	**17.60**	**38**	P		**P**	**02 08 51.3**	**+0.9**
	0.5nm,0.3s,baz=232,slow=11,SNR=4.7							
USHA	**Ushuaia**	**24.51**	**175**	LR		LR	02 20 26.7	
	comp=Z,26μm,19.0s,baz=352,slow=39							
BDFB	**Brasilia**	**26.56**	**62**	P		**P**	**02 10 22.2**	**0.0**
	4.3nm,0.6s,baz=252,slow=9.4,SNR=3.3							
BDFB	**Brasilia**	**26.56**	**62**	P		**P**	**02 10 21.4**	**-0.7**
BDFB				IAmb		IAmb	02 10 23.9	
	comp=Z,5.3nm,0.7s							
OTAV	**Otavalo**	**31.11**	**348**	P		**P**	**02 11 01.5**	**-1.5**
RUSC	**La Rusia**	**36.15**	**358**	P		**P**	**02 11 45.3**	**-1.6**
SNAA	**Sanae**	**54.90**	**159**	P		**P**	**02 14 14.5**	**+0.3**
	comp=Z,5.1nm,0.7s,baz=274,slow=7.9,SNR=8.9							
SNAA	**Sanae**	**54.90**	**159**	P		**P**	**02 14 14.7**	**+0.5**
SNAA				IAmb		IAmb	02 14 15.2	
	comp=Z,7.7nm,0.9s							
QSPA	**South Pole Qui**	**59.77**	**180**	P		**P**	**02 14 49.4**	**+0.7**
	comp=Z,4.7nm,0.7s,baz=118,slow=5.2,SNR=3.1							
QSPA	**South Pole Qui**	**59.77**	**180**	P		**P**	**02 14 49.4**	**+0.7**
TXAR	**Lajitas Array**	**66.62**	**330**	P		**P**	**02 15 36.2**	**+1.7**
	comp=Z,62nm,0.4s,baz=151,slow=8.7,SNR=3.9							
MAW	**Mawson**	**76.59**	**164**	P		**P**	**02 16 34.5**	**+0.6**
	comp=Z,4.2nm,0.8s,baz=231,slow=9.0,SNR=5.7							
MAW	**Mawson**	**76.59**	**164**	P		**P**	**02 16 34.5**	**+0.6**
TORD	**Torodi Ar. Bea**	**83.09**	**70**	P		**P**	**02 17 10.8**	**+0.8**
	comp=Z,3.3nm,0.6s,baz=264,slow=4.7,SNR=6.8							
TORD	**Torodi Ar. Bea**	**83.09**	**70**	P		**P**	**02 17 09.9**	**-0.1**
TORD				IAmb		IAmb	02 17 11.3	
	comp=Z,4.6nm,0.8s							
WRA	**Warramunga Arr**	**123.79**	**210**	PKP		**PKPdf**	**02 23 42.2**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=158,slow=0.9,SNR=3.1							
ZALV	**Zalesovo Beam**	**151.22**	**29**	PKPbc		**PKiKP**	**02 24 37.9**	**+0.6**
	comp=Z,20nm,0.8s,baz=301,slow=3.5,SNR=14							

*TUL **17** 02:05:44.1±1.7,35.98N±0.02×96.80W±0.02,h5km±3km, ML2.6,mb_Lg2.8/7(NEIC),Error ellipse: s-maj=2.4km s-min=2.2km az=189.0*

NEIC 17 02:05:44.3±1.3,36.004N±0.007×96.81W±0.03,h3km±5km, Error ellipse: s-maj=3.5km s-min=1.0km az=92.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OK031	**S. Brethren Rd**	**0.06**	**204**		Pg	02 05 45.5	0.0
OK031				Sg	Sg	02 05 46.4	+0.1
QUOK	**Quay**	**0.19**	**26**	Pg	Pg	02 05 48.5	+0.5
QUOK				Sg	Sg	02 05 51.5	+1.1
OK029	**Liberty Lake**	**0.56**	**249**	Pg	Pg	02 05 55.2	+0.1
OK029				Sg	Sg	02 06 02.9	+0.5
OK025	**Westminster Rd**	**0.60**	**226**	Pg	Pg	02 05 55.6	-0.3
OK025				Sg	Sg	02 06 04.2	+0.6
OKCFA	**Oklahoma City**	**0.79**	**222**	Pg	Pg	02 05 59.1	-0.3
OKCSW	**OKLAHOMA CITY**	**0.79**	**221**	Pg	Pg	02 05 59.1	-0.3
BLOK	**Blackwell**	**0.82**	**337**	Pg	Pg	02 06 00.4	+0.3
FNO	**Franklin**	**0.89**	**213**	Pg	Pg	02 06 00.4	-0.9
T35A	**Sooner Cattle**	**0.94**	**15**	Pg	Pg	02 06 02.4	-0.1
CROK	**Carrier**	**1.07**	**298**	Pg	Pg	02 06 04.7	-0.2
KAN13	**South Haven SW**	**1.14**	**332**	Pg	Pg	02 06 05.9	-0.3
GC02	**Grant County #**	**1.20**	**315**	Pg	Pg	02 06 06.9	-0.4
KAN17	**Caldwell West**	**1.29**	**324**		Pg	02 06 08.5	-0.6
KAN14	**Manchester OK**	**1.33**	**316**	Pn	Pn	02 06 09.1	-0.7
OK032	**Salt Plains WL**	**1.38**	**306**	Pn	Pn	02 06 09.9	-0.6
KAN05	**Bluff City Nor**	**1.40**	**323**	IAmb_Lg		02 06 30.3	
	comp=Z,84nm,0.8s						
X34A	**Smith Ranch, M**	**1.63**	**211**		Pn	02 06 13.9	0.0
U32A	**Winter Ranch,**	**1.81**	**283**	Pn	Pn	02 06 17.0	+0.5
X37A	**Clayton**	**1.84**	**140**	Pn	Pn	02 06 17.0	+0.3
X37A				IAmb_Lg		02 06 45.7	
	comp=Z,33nm,0.7s						
U38A	**Gravette**	**2.01**	**77**	Pn	Pn	02 06 19.9	+0.8
LOOK	**Love County**	**2.03**	**189**	Pn	Pn	02 06 19.9	+0.5
WMOK	**Wichita Mounta**	**2.05**	**232**		Pn	02 06 20.1	+0.5
Z35A	**Perchaven, San**	**2.69**	**188**	Pn	Pn	02 06 27.3	-1.2
MIAR	**Mount Ida**	**3.02**	**118**	Pn	Pn	02 06 33.5	+0.4
U40A	**Yellville**	**3.22**	**83**	Pn	Pn	02 06 34.0	-1.8
X40A	**Basin Creek Fa**	**3.59**	**114**	Pn	Pn	02 06 40.2	-0.7
WHAR	**Wooly Hollow**	**3.75**	**100**	Pn	Pn	02 06 42.7	-0.4
FCAR	**Ozark Folk Cen**	**3.80**	**90**	Pn	Pn	02 06 44.0	+0.2
MGMO	**Mountain Grove**	**3.83**	**71**	IAmb_Lg		02 07 47.2	
	comp=Z,17nm,0.8s						
P40A	**Paris**	**5.16**	**46**	IAmb_Lg		02 08 29.3	
	comp=Z,16nm,1.1s						
HDIL	**Hopedale**	**7.46**	**50**	IAmb_Lg		02 09 51.6	
	comp=Z,18nm,0.8s						

*IDC **17** 02:06:12.6±1.1,31.72S×72.30W,h0km,mb4.4/6, mb1 4.3/6,mb1mx4.1/24,mbtmp4.4/6,Error ellipse: s-maj=47.9km s-min=25.2km az=88.0*

*NEIC **17** 02:06:12.8±1.1,31.65S±0.06×72.25W±0.07,h10km±2km, mb4.5/5,Error ellipse: s-maj=11.7km s-min=9.1km az=322.0*

ISC 17 02:06:13.4±0.8,31.63S±0.09×72.2W±0.1,h10km,n28, σ1s23/19,mb4.4/7,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VA03	**San Esteban**	**1.77**	**130**	Pn	**Pn**	**02 06 43.8**	**-0.4**
VA03				Sn	**Sn**	**02 07 07.7**	**+0.8**
H03N1	**Juan Fernandez**	**5.98**	**251**	T	T	02 14 34.2	
	baz=74,slow=72,SNR=21						
H03N3	**Juan Fernandez**	**6.00**	**251**	T	T	02 14 29.0	
	baz=74,slow=72,SNR=18						
H03N2	**Juan Fernandez**	**6.00**	**251**	T	T	02 14 35.3	
	baz=74,slow=72,SNR=16						
PLCA	**Paso Flores**	**9.17**	**172**	Pn	Pn	02 08 30.6	+4.7
	0.8nm,0.3s,baz=333,slow=12,SNR=1.1						
AF01	**San Pedro de A**	**9.34**	**23**	Pn	**Pn**	**02 08 27.6**	**-0.8**
LVC	**Limon Verde**	**9.44**	**19**	Pn	**Pn**	**02 08 29.2**	**-0.7**
PB07	**IPOC Station P**	**10.07**	**12**	Pn	**Pn**	**02 08 38.1**	**-0.3**
TRQA	**Tornquist**	**10.53**	**130**	Pn	**Pn**	**02 08 43.9**	**-0.6**
USHA	**Ushuaia**	**23.34**	**175**	P	**P**	**02 11 22.2**	**+0.5**
	33nm,0.9s,baz=16,slow=4.0,SNR=2.5						
SNAA	**Sanae**	**53.81**	**158**	P	**P**	**02 15 35.8**	**-0.2**
	1.4nm,0.5s,baz=274,slow=11,SNR=2.1						
SNAA	**Sanae**	**53.81**	**158**	P	**P**	**02 15 35.7**	**-0.2**
SNAA				IAmb	IAmb	02 15 44.0	
	comp=Z,8.2nm,1.2s						
QSPA	**South Pole Qui**	**58.60**	**180**	P	**P**	**02 16 11.1**	**+0.8**
	comp=Z,2.3nm,0.8s,baz=119,slow=7.0,SNR=1.8						
QSPA	**South Pole Qui**	**58.60**	**180**	P	**P**	**02 16 08.6**	**-1.8**
QSPA				IAmb	IAmb	02 16 12.2	
	comp=Z,2.1nm,0.7s						
TXAR	**Lajitas Array**	**67.63**	**330**	P	**P**	**02 17 10.5**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=152,slow=7.9,SNR=3.8						
DBIC	**Dimbokro**	**74.53**	**72**	P	**P**	**02 17 53.1**	**+0.3**
	comp=Z,4.4nm,0.8s,baz=226,slow=6.8,SNR=4.5						
DBIC	**Dimbokro**	**74.53**	**72**	P	**P**	**02 17 51.7**	**-1.0**
MAW	**Mawson**	**75.47**	**164**	P	**P**	**02 17 56.5**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=203,slow=6.1,SNR=1.2						
MAW	**Mawson**	**75.47**	**164**	P	**P**	**02 17 56.7**	**-0.6**
TORD	**Torodi Ar. Bea**	**83.50**	**70**	P	**P**	**02 18 44.5**	**+2.6**
	comp=Z,4.0nm,0.9s,baz=266,slow=4.8,SNR=5.0						
TORD	**Torodi Ar. Bea**	**83.50**	**70**	P	**P**	**02 18 41.2**	**-0.7**
TORD				IAmb	IAmb	02 18 46.8	
	comp=Z,3.8nm,0.9s						
H11S2	**WAKE ISLAND Hyl**	**25.67**	**271**	T	T	04 43 54.7	
	baz=115,slow=75,SNR=33						
H11S1	**WAKE ISLAND Hyl**	**25.68**	**271**	T	T	04 43 55.9	
	baz=115,slow=75,SNR=23						
H11S3	**WAKE ISLAND Hyl**	**25.69**	**271**	T	T	04 43 56.1	
	baz=115,slow=75,SNR=27						
H11N3	**WAKE ISLAND Hyl**	**26.02**	**272**	T	T	04 44 21.1	
	baz=117,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hyl**	**26.04**	**272**	T	T	04 44 21.2	
	baz=117,slow=75,SNR=6.3						
H11N2	**WAKE ISLAND Hyl**	**26.04**	**272**	T	T	04 44 24.2	
	baz=117,slow=75,SNR=18						
ZALV	**Zalesovo Beam**	**152.25**	**30**	PKPbc	**PKiKP**	**02 26 12.1**	**+2.9**
	comp=Z,7.4nm,0.7s,baz=298,slow=3.6,SNR=6.3						

*IDC **17** 02:08:00.9±0.8,31.83S×72.01W,h0km,mb4.6/7, mb1 4.5/9,mb1mx4.3/25,mbtmp4.5/9,ML4.4/2,Error ellipse: s-maj=32.5km s-min=19.6km az=93.0*

*NEIC **17** 02:08:01.8±1.5,31.84S±0.03×71.90W±0.07,h10km±1km, mb4.8/6,ML4.8(GUC),Error ellipse: s-maj=9.6km s-min=4.6km az=273.0*

*GUC **17** 02:08:04.6±0.8,31.84S×71.88W,h23km±6km,ML4.8*

ISC 17 02:08:01.6±1.4,31.83S±0.02×71.97W±0.06,h10km±8km, n48,σ1s06/59,mb4.7/8,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**1.19**	**14**	Pn	**Pg**	**02 08 24.4**	**-0.1**
CO06				Sn	**Sb**	**02 08 40.0**	**+0.3**
VA01	**Torpederas**	**1.22**	**167**	*eP*	**Pg**	**02 08 25.7**	**+0.6**
VA01				*eS*	**Sn**	**02 08 41.2**	**-0.2**
VA01	**Torpederas**	**1.22**	**167**	Pn	**Pb**	**02 08 24.7**	**-0.1**
ROCH	**El Roble**	**1.40**	**145**	*eP*	**Pg**	**02 08 30.0**	**+1.5**
ROCH				*eS*	**Sn**	**02 08 47.3**	**+1.2**
ROCH				IAML		02 08 53.5	
	comp=N,23μm,0.5s						
CO03	**El Pedregal**	**1.48**	**48**	*eP*	**Pg**	**02 08 30.9**	**+0.9**
CO03				*eS*	**Sg**	**02 08 50.7**	**+1.5**
CO03	**El Pedregal**	**1.48**	**48**	Pn	**Pb**	**02 08 28.6**	**-0.7**
CO03				Sn	**Sg**	**02 08 47.5**	**-1.6**
VA03	**San Esteban**	**1.52**	**128**	*eP*	**Pg**	**02 08 30.8**	**-0.1**
VA03				*eS*	**Sg**	**02 08 51.9**	**+1.3**
VA03				IAML		02 09 06.1	
	comp=N,26μm,0.5s						
VA03	**San Esteban**	**1.52**	**128**		**Pb**	**02 08 29.5**	**-0.5**
VA03				Sn	**Sn**	**02 08 46.5**	**-2.5**
VA05	**Santo Domingo**	**1.85**	**171**	*eP*	**Pg**	**02 08 36.5**	**-0.5**
VA05				*eS*	**Sg**	**02 09 01.4**	**+0.4**
VA05				IAML		02 09 10.7	
	comp=E,21μm,0.4s						
VA05	**Santo Domingo**	**1.85**	**171**	Pn	**Pn**	**02 08 33.0**	**-0.3**
VA05				Sn	**Sn**	**02 08 55.0**	**-1.8**
MT05	**Renca**	**1.87**	**147**	*eP*	**Pg**	**02 08 37.3**	**-0.2**
MT05				*eS*	**Sg**	**02 09 01.8**	**-0.1**
MT05				IAML		02 09 06.7	
	comp=E,20μm,0.4s						
MT05	**Renca**	**1.87**	**147**	Pn	**Pn**	**02 08 33.1**	**-0.7**
GO04	**Tololo Observa**	**1.94**	**32**	*eP*	**Pg**	**02 08 38.8**	**+0.1**
GO04				*eS*	**Sg**	**02 09 03.1**	**-0.7**
FSR	**Penalolen**	**2.05**	**144**	*eP*	**Pg**	**02 08 40.5**	**-0.4**
FSR				*eS*	**Sg**	**02 09 07.7**	**+0.3**
MT09	**Talagante**	**2.11**	**157**	*eP*	**Pb**	**02 08 40.4**	**+0.3**
MT09				*eS*	**Sb**	**02 09 05.7**	**-0.7**
MT09				IAML		02 09 17.9	
	comp=E,12μm,0.3s						
MT01	**Popeta**	**2.12**	**164**	*eP*	**Pn**	**02 08 38.2**	**+1.1**
MT01				*eS*	**Sg**	**02 09 08.5**	**-1.2**
MT01				IAML		02 09 20.5	
	comp=E,7μm,0.4s						
MT01	**Popeta**	**2.12**	**164**	Pn	**Pn**	**02 08 37.4**	**+0.3**
MT01				Sn	**Sn**	**02 09 03.1**	**-0.4**
LMEL	**Las Melosas**	**2.50**	**144**	*eP*	**Pb**	**02 08 46.0**	**-0.8**
LMEL				*eS*	**Sb**	**02 09 17.5**	**-0.3**
LMEL				IAML		02 09 29.6	
	comp=N,5μm,0.3s						
BO01	**Tunca**	**2.66**	**164**	*eP*	**Pb**	**02 08 48.8**	**-0.6**
BO01				*eS*	**Sb**	**02 09 22.0**	**-0.1**
H03N1	**Juan Fernandez**	**6.07**	**253**	T	T	02 16 07.2	
	baz=85,slow=72,SNR=4.3						
H03N3	**Juan Fernandez**	**6.08**	**253**	T	T	02 16 21.2	
	baz=85,slow=72,SNR=4.6						
H02N2	**Juan Fernandez**	**6.09**	**253**	T	T	02 16 05.5	
	baz=85,slow=72,SNR=4.3						
H03S3	**Juan Fernandez**	**6.17**	**249**	T	T	02 16 32.0	
	baz=85,slow=74,SNR=8.2						
H03S1	**Juan Fernandez**	**6.17**	**249**	T	T	02 16 30.6	
	baz=85,slow=74,SNR=9.2						
H03S2	**Juan Fernandez**	**6.19**	**249**	T	T	02 16 31.4	
	baz=85,slow=74,SNR=8.9						
PLCA	**Paso Flores**	**8.96**	**173**	Pn	**Pn**	**02 10 09.7**	**-1.4**
	comp=N,1.1nm,0.3s,baz=335,slow=15,SNR=2.0						
LPAZ	**La Paz**	**15.86**	**14**	Pn	**P**	**02 11 48.0**	**-1.5**
	comp=N,0.4nm,0.3s,baz=206,slow=7.7,SNR=2.3						
BDFB	**Brasilia**	**27.12**	**59**	P	**P**	**02 13 46.2**	**+1.1**
	comp=N,38nm,1.1s,baz=227,slow=13,SNR=8.1						
BDFB	**Brasilia**	**27.12**	**59**	P	**P**	**02 13 44.4**	**-0.7**
VNA3	**Neumayer Olymp**	**51.35**	**158**	P	**P**	**02 17 07.1**	**+1.2**
VNA2	**Neumayer--Watz**	**51.99**	**158**	P	**P**	**02 17 11.7**	**+1.0**
	baz=280,slow=9.2						
SNAA	**Sanae**	**53.57**	**158**	P	**P**	**02 17 23.9**	**+1.5**
SNAA	**Sanae**	**53.57**	**158**	P	**P**	**02 17 23.6**	**+1.2**
	comp=N,7.5nm,0.7s,baz=275,slow=7.7,SNR=9.2						
SNAA	**Sanae**	**53.57**	**158**	P	**P**	**02 17 22.7**	**+0.2**
SNAA				IAmb	IAmb	02 17 25.8	
	comp=Z,11nm,0.8s						
QSPA	**South Pole Qui**	**58.40**	**180**	P	**P**	**02 17 58.8**	**+1.6**
	comp=Z,3.6nm,0.7s,baz=176,slow=1.5,SNR=6.4						
QSPA	**South Pole Qui**	**58.40**	**180**	P	**P**	**02 17 56.7**	**-0.5**
QSPA				IAmb	IAmb	02 18 11.1	
	comp=Z,7.6nm,0.9s						
TXAR	**Lajitas Array**	**67.88**	**330**	P	**P**	**02 19 01.4**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=151,slow=7.9,SNR=3.8						
DBIC	**Dimbokro**	**74.44**	**72**	P	**P**	**02 19 41.5**	**+1.1**
	comp=Z,6.2nm,0.8s,baz=232,slow=6.5,SNR=5.1						
MAW	**Mawson**	**75.24**	**164**	P	**P**	**02 19 45.3**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=210,slow=8.7,SNR=9.3						
MAW	**Mawson**	**75.24**	**164**	P	**P**	**02 19 44.1**	**-0.1**
PDAR	**Pinedale Array**	**81.86**	**333**	P	**P**	**02 20 21.8**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=144,slow=10,SNR=3.8						
TORD	**Torodi Ar. Bea**	**83.42**	**70**	P	**P**	**02 20 30.5**	**+0.8**
	comp=Z,4.8nm,0.6s,baz=273,slow=7.3,SNR=10						
TORD	**Torodi Ar. Bea**	**83.42**	**70**	P	**P**	**02 20 29.5**	**-0.1**
TORD				IAmb	IAmb	02 20 31.2	
	comp=Z,7.5nm,0.9s						
WRA	**Warramunga Arr**	**122.67**	**210**	PKP	**PKPdf**	**02 26 58.3**	**0.0**
	comp=Z,0.6nm,0.5s,baz=177,slow=1.7,SNR=5.8						
WRA	**Warramunga Arr**	**122.67**	**210**	PKPdf	**PKPdf**	**02 26 56.0**	**-2.3**
ZALV	**Zalesovo Beam**	**152.35**	**30**	PKPbc	**PKiKP**	**02 27 58.4**	**+0.7**
	comp=Z,3.0nm,0.5s,baz=307,slow=3.3,SNR=4.8						
ZALV	**Zalesovo Beam**	**152.35**	**30**	PKPdf	**PKPdf**	**02 27 49.3**	**-1.2**
KSH	**Kashi**	**152.96**	**65**	PKPbc	**PKPdf**	**02 27 49.5**	**-2.6**
KSH				sPKP		02 28 03.9	

*IDC **17** 02:13:20.9±1.2,31.73S×71.89W,h0km,mb3.9/4, mb1 4.2/5,mb1mx3.9/25,mbtmp4.0/5,ML4.0/1,Error ellipse: s-maj=62.6km s-min=28.4km az=82.0*

*NEIC **17** 02:13:25.4±1.3,31.90S±0.02×72.2W±0.1,h10km±1km, mb4.6/3,Error ellipse: s-maj=15.6km s-min=3.7km az=272.0*

ISC 17 02:13:24.4±0.8,31.89S±0.04×72.19W±0.09,h17km,n21, σ1s25/26,mb4.0/5,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VA01	**Torpederas**	**1.21**	**158**		**Pg**	**02 13 48.5**	**+0.6**
VA03	**San Esteban**	**1.63**	**122**	Pn	**Pb**	**02 13 53.9**	**-0.3**
VA03				Sn	**Sn**	**02 14 12.5**	**-0.7**
VA05	**Santo Domingo**	**1.82**	**165**		**Pb**	**02 13 56.9**	**-0.5**
VA05				Sn	**Sn**	**02 14 18.9**	**+1.2**
MT05	**Renca**	**1.93**	**141**	Pn	**Pb**	**02 13 59.1**	**0.0**
MT05				Sn	**Sb**	**02 14 22.8**	**-0.2**
GO04	**Tololo Observa**	**2.09**	**35**	Pn	**Pn**	**02 14 00.1**	**+1.2**
MT01	**Popeta**	**2.12**	**158**	Pn	**Pn**	**02 14 00.8**	**+1.7**
MT09	**Talagante**	**2.13**	**152**	Pn	**Pn**	**02 14 01.1**	**+1.7**
ZON	**Zonda**	**3.01**	**84**		**Pn**	**02 14 12.6**	**+1.2**
GO05	**Huala**	**3.12**	**176**	Pn	**Pn**	**02 14 13.4**	**+0.6**
BO02	**Sierra Bellavi**	**3.12**	**158**	Pn	**Pn**	**02 14 14.4**	**+1.5**
AC04	**Llanos de Chal**	**3.80**	**15**	Pn	**Pn**	**02 14 24.1**	**+1.9**
AC04					**Sn**	**02 15 07.7**	**+1.1**
AC02	**Maricunga**	**5.70**	**29**	Pn	**Pn**	**02 14 50.4**	**+1.6**
AC02				Sn	**Sn**	**02 15 55.3**	**+1.1**
PLCA	**Paso Flores**	**8.92**	**172**	Pn	**Pn**	**02 15 34.5**	**+2.0**
	0.4nm,0.3s,baz=342,slow=13,SNR=1.7						
BDFB	**Brasilia**	**27.31**	**59**	P	**P**	**02 19 08.4**	**-0.1**
BDFB				IAmb	IAmb	02 19 13.9	
	comp=Z,23nm,1.4s						
SNAA	**Sanae**	**53.58**	**158**	P	**P**	**02 22 44.2**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=241,slow=8.2,SNR=1.6						
SNAA	**Sanae**	**53.58**	**158**	P	**P**	**02 22 44.7**	**+0.6**
QSPA	**South Pole Qui**	**58.34**	**180**	P	**P**	**02 23 17.6**	**-0.7**
	comp=Z,2.2nm,0.8s,baz=174,slow=1.5,SNR=5.2						
QSPA	**South Pole Qui**	**58.34**	**180**	P	**P**	**02 23 17.7**	**-0.7**
QSPA				IAmb	IAmb	02 23 20.4	
	comp=Z,5.9nm,1.0s						
NVAR	**Mina Array Bea**	**82.09**	**325**	P	**P**	**02 25 44.0**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=143,slow=5.4,SNR=5.3						
TORD	**Torodi Ar. Bea**	**83.61**	**70**	P	**P**	**02 25 50.1**	**-2.2**
	comp=Z,0.7nm,0.7s,baz=268,slow=5.9,SNR=3.2						
ZALV	**Zalesovo Beam**	**152.49**	**30**	PKPbc	**PKiKP**	**02 33 17.4**	**-1.8**
	comp=Z,1.4nm,0.4s,baz=309,slow=3.5,SNR=4.8						

*IDC **17** 02:16:35.7±1.8,31.18S×71.18W,h49km±7km,mb4.0/6, mb1 4.0/8,mb1mx3.7/25,mbtmp4.2/8,Error ellipse: s-maj=64.1km s-min=20.0km az=106.0*

*NEIC **17** 02:16:37.5±1.9,31.08S±0.04×71.26W±0.07,h35km±2km, mb4.7/3,Error ellipse: s-maj=10.2km s-min=6.4km az=284.0*

ISC 17 02:16:35.6±0.7,31.11S±0.05×71.3W±0.1,h35km,n29, σ2s05/28,mb4.3/6,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO03	**El Pedregal**	**0.56**	**62**		**Pn**	**02 16 48.7**	**+1.5**
CO03					**Sn**	**02 16 58.5**	**+3.1**
GO04	**Tololo Observa**	**1.02**	**23**		**Pn**	**02 16 54.9**	**+1.3**
GO04				Sn	**Sn**	**02 17 09.2**	**+2.4**
VA03	**San Esteban**	**1.76**	**160**	Pn	**Pn**	**02 17 05.9**	**+2.2**
VA01	**Torpederas**	**1.94**	**190**		**Pn**	**02 17 08.2**	**+2.1**
VA05	**Santo Domingo**	**2.56**	**187**	Pn	**Pn**	**02 17 17.4**	**+2.8**
MT01	**Popeta**	**2.75**	**180**	Pn	**Pn**	**02 17 19.6**	**+2.4**
AC04	**Llanos de Chal**	**2.90**	**3**	Pn	**Pn**	**02 17 21.3**	**+2.0**
GO03	**Copiap**	**3.62**	**15**	Pn	**Pn**	**02 17 30.8**	**+1.5**
ML02	**Panimavida**	**4.64**	**182**	Pn	**Pn**	**02 17 46.1**	**+2.9**
H03N1	**Juan Fernandez**	**6.88**	**248**	T	T	02 24 51.4	
	baz=78,slow=72,SNR=5.8						
H03N3	**Juan Fernandez**	**6.89**	**248**	T	T	02 24 53.4	
	baz=78,slow=72,SNR=6.2						
H03N2	**Juan Fernandez**	**6.90**	**248**	T	T	02 24 55.0	
	baz=78,slow=72,SNR=6.9						
PSGCX	**Pisagua**	**11.51**	**5**	Pn	**Pn**	**02 19 18.1**	**+0.4**
LL02	**Futaleuf**	**12.07**	**182**	Pn	**Pn**	**02 19 25.3**	**+0.2**
LPAZ	**La Paz**	**15.03**	**12**	P	**P**	**02 20 08.0**	**+1.9**
	0.1nm,0.3s,baz=201,slow=8.0,SNR=4.5						
SIV	**San Ignacio**	**17.70**	**34**	P	**Pn**	**02 20 39.4**	**0.0**
	0.5nm,0.3s,baz=211,slow=10,SNR=7.1						
SNAA	**Sanae**	**54.02**	**159**	P	**P**	**02 25 54.0**	**-2.0**
	1.0nm,0.6s,baz=273,slow=7.2,SNR=13						
SNAA				pP	**pP**	**02 26 07.6**	**+0.7**
	0.6nm,0.5s,baz=281,slow=11,SNR=2.2						
QSPA	**South Pole Qui**	**59.12**	**180**	P	**P**	**02 26 30.6**	**-1.9**
	1.8nm,0.7s,baz=267,slow=4.3,SNR=4.3						
QSPA				pP	**pP**	**02 26 44.4**	**+1.0**
	1.7nm,0.7s,baz=187,slow=3.5,SNR=3.7						
DBIC	**Dimbokro**	**73.64**	**72**	P	**P**	**02 28 04.5**	**-1.5**
	5.6nm,0.9s,baz=213,slow=5.2,SNR=5.8						
DBIC	**Dimbokro**	**73.64**	**72**	P	**P**	**02 28 04.6**	**-1.3**
DBIC				IAmb	IAmb	02 28 10.2	
	comp=Z,12nm,1.2s						
MAW	**Mawson**	**75.76**	**164**	P	**P**	**02 28 15.1**	**-2.3**
	comp=Z,1.9nm,1.0s,baz=235,slow=6.7,SNR=2.3						
BOSA	**Boshof**	**80.83**	**118**	P	**P**	**02 28 44.2**	**-2.2**
	comp=Z,1.2nm,0.7s,baz=236,slow=11,SNR=1.6						
BOSA	**Boshof**	**80.83**	**118**	P	**P**	**02 28 45.8**	**-0.5**
BOSA				IAmb	IAmb	02 28 47.2	
	comp=Z,18nm,1.5s						
TORD	**Torodi Ar. Bea**	**82.61**	**70**	P	**P**	**02 28 54.0**	**-1.7**
	comp=Z,2.5nm,0.8s,baz=258,slow=5.0,SNR=8.9						
TORD				pP	**pP**	**02 29 07.5**	**+0.7**
	comp=Z,1.9nm,0.6s,baz=263,slow=4.9,SNR=7.6						
TORD	**Torodi Ar. Bea**	**82.61**	**70**	P	**P**	**02 28 53.9**	**-1.7**
TORD				IAmb	IAmb	02 28 54.1	
	comp=Z,2.5nm,0.9s						
H11S2	**WAKE ISLAND Hyl**	**26.43**	**271**	T	T	04 54 20.7	
	baz=116,slow=75,SNR=4.9						
H11S1	**WAKE ISLAND Hyl**	**26.44**	**271**	T	T	04 54 23.5	
	baz=116,slow=75,SNR=6.5						
H11S3	**WAKE ISLAND Hyl**	**26.44**	**271**	T	T	04 54 22.0	
	baz=116,slow=75,SNR=4.8						
ZALV	**Zalesovo Beam**	**151.42**	**30**	PKPbc	**PKPdf**	**02 36 23.0**	**+3.9**
	comp=Z,3

BO02	Sierra Bellavi	3.01	162	Pn		Pn	02 21 36.4	-1.2
GO05	Huala	3.07	180	Pn		Pn	02 21 36.9	-1.5
ML02	Panimavida	3.84	174	Pn		Pn	02 21 46.3	-2.7
GO03	Copiap	4.57	19	Pn		Pn	02 21 59.4	+0.4
AC02	Maricunga	5.64	26	Pn		Pn	02 22 14.3	+0.2
LC01	Cunco	6.95	180	Pn		Pn	02 22 30.5	-1.2
PB10	IPOC Station P	8.48	9	Pn		Pn	02 22 50.6	-2.1
PLCA	Paso Flores	8.85	173	Pn		Pn	02 22 57.7	-0.2
	comp=E,0.4nm,0.3s,baz=335,slow=7.1,SNR=3.2							
PLCA	Paso Flores	8.85	173	Pn		Pn	02 22 57.3	-0.5
PB15	IPOC Station P	8.96	15	Pn		Pn	02 22 58.5	-1.0
TRQA	Tornquist	10.20	130	Pn		Pn	02 23 17.9	+1.6
LPAZ	La Paz	15.96	13	Pn		Pn	02 24 33.0	-1.9
	comp=E,0.3nm,0.3s,baz=184,slow=6.8,SNR=9.1							
LPAZ	La Paz	15.96	13			Pn	02 24 34.1	-0.8
LPAZ	La Paz	15.96	13			Pn	02 24 34.0	-1.0
AQDB	Aquidauana	18.48	56	P		Pn	02 25 07.3	+1.4
SIV	San Ignacio	18.70	34	P		P	02 25 06.9	-1.3
	comp=E,0.5nm,0.3s,baz=217,slow=11,SNR=3.8							
SPB	Sao Paulo	23.19	75	P		P	02 25 56.7	+0.2
SPB				IAmb		IAmb	02 25 57.7	
	comp=Z,30nm,1.0s							
CZSB	Cruzeiro do Su	24.09	358	*eP*		P	02 26 11.2	+5.8
BDFB	Brasilia	27.15	59	P		P	02 26 32.2	-1.0
	comp=Z,16nm,0.9s,baz=232,slow=8.2,SNR=8.0							
BDFB	Brasilia	27.15	59	P		P	02 26 32.6	-0.7
TBTG	Tabatinga, AM	27.67	4	*eP*		P	02 26 45.6	+7.8
OTAV	Otavalo	32.58	348	*eP*		P	02 27 25.1	+3.4
RUSC	La Rusia	37.63	358	P		P	02 28 04.3	-0.9
RUSC				IAmb		IAmb	02 28 13.9	
	comp=Z,5.0nm,0.7s							
SDV	Santo Domingo	40.61	2	*eP*		P	02 28 36.4	+6.6
VNA3	Neumayer Olymp	51.24	158	P		P	02 29 53.0	+0.1
VNA2	Neumayer--Watz	51.89	158	P		P	02 29 57.8	+0.1
	baz=287,slow=8.4							
SNAA	Sanae	53.47	158	P		P	02 30 09.8	+0.3
SNAA	Sanae	53.47	158	P		P	02 30 09.6	+0.1
	comp=Z,6.2nm,1.0s,baz=277,slow=5.3,SNR=9.9							
SNAA	Sanae	53.47	158	P		P	02 30 09.0	-0.5
SNAA				IAmb		IAmb	02 30 10.8	
	comp=Z,8.8nm,1.1s							
QSPA	South Pole Qui	58.30	180	P		P	02 30 44.5	+0.2
QSPA				IAmb		IAmb	02 30 45.9	
	comp=Z,6.7nm,1.2s							
TXAR	Lajitas Array	67.98	330	P		P	02 31 47.8	-1.0
	comp=Z,54nm,0.3s,baz=151,slow=8.0,SNR=8.2							
DBIC	Dimbokro	74.45	72	P		P	02 32 27.9	-0.3
	comp=Z,9.2nm,0.8s,baz=230,slow=5.9,SNR=6.9							
DBIC	Dimbokro	74.45	72	P		P	02 32 27.9	-0.3
MAW	Mawson	75.14	164	P		P	02 32 31.4	+0.1
	comp=Z,1.6nm,0.6s,baz=221,slow=3.8,SNR=4.2							
MAW	Mawson	75.14	164	P		P	02 32 31.3	-0.1
KOWA	Kowa	79.71	66	P		P	02 32 57.4	-0.5
BOSA	Boshof	80.96	118	P		P	02 33 04.7	+0.1
	comp=Z,2.8nm,0.8s,baz=264,slow=5.6,SNR=3.2							
NVAR	Mina Array Bea	82.24	325	P		P	02 33 10.6	-0.5
	comp=Z,0.4nm,0.7s,baz=147,slow=5.4,SNR=2.8							
LBTB	Lobatse	83.10	115	P		P	02 33 15.7	-0.2
TORD	Torodi Ar. Bea	83.43	70	P		P	02 33 17.3	-0.2
	comp=Z,5.7nm,0.7s,baz=267,slow=4.8,SNR=20							
TORD	Torodi Ar. Bea	83.43	70	P		P	02 33 17.1	-0.4
H11S1	WAKE ISLAND Hyd	125.87	271	T		T	04 58 08.0	
	baz=116,slow=74,SNR=14							
H11S3	WAKE ISLAND Hyd	125.88	271	T		T	04 57 51.8	
	baz=330,slow=74,SNR=8.8							
ZALV	Zalesovo Beam	152.42	30	PKPbc		PKPbc	02 40 44.6	-0.6
	comp=Z,4.2nm,0.7s,baz=293,slow=3.5,SNR=8.3							

*IDC **17** 02:21:05.5±0.6,31°.75S×71°.97W,h0km,mb4.7/10,*
mb1 4.8/13,mb1mx4.6/25,mbtmp4.7/13,ML4.3/3,Error
ellipse: s-maj=23.5km s-min=16.1km az=84.0
*NEIC **17** 02:21:05.5±1.6,31°.98S±0°.05×72°.9W±0°.1,h10km±1km,*
mb5.0/50,ML5.5(GUC),Error ellipse: s-maj=15.0km
s-min=9.2km az=262.0
*GUC **17** 02:21:09.4±0.7,31°.82S×71°.79W,h12km±6km,ML4.9*

ISC 17 02:21:08.0±1.0,31°.79S±0°.03×71°.97W±0°.06,h16km±5km,
n168,σ1§70/157,mb5.0/34,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VA01	Torpederas	1.26	168	*eP*		Pn		02 21 31.8	+0.8
VA01				*eS*		Sb		02 21 47.3	-0.1
VA01				IAML				02 21 55.1	
	comp=E,27μm,0.9s								
VA01	Torpederas	1.26	168	Pn		Pn		02 21 32.0	+1.0
CO03	El Pedregal	1.45	49	*eP*		Pg		02 21 35.3	-0.6
CO03				*eS*		Sg		02 21 54.5	-0.3
CO03	El Pedregal	1.45	49	*eS*		Pn		02 21 34.9	+1.2
VA03	San Esteban	1.54	129	*eP*		Pb		02 21 36.0	-0.3
VA03				*eS*		Sg		02 21 56.0	-1.8
VA03				IAML				02 22 02.8	
	comp=N,42μm,0.4s								
VA03	San Esteban	1.54	129	IAML				02 22 02.8	
	comp=N,41μm,0.5s								
VA03	San Esteban	1.54	129	*eP*		Pb		02 21 35.8	-0.5
VA05	Santo Domingo	1.89	171	*eP*		Pb		02 21 42.5	+0.4
VA05				*eS*		Sg		02 22 07.8	-0.9
VA05				IAML				02 22 14.6	
	comp=E,12μm,0.3s								
VA05	Santo Domingo	1.89	171	Pn		Pn		02 21 38.7	-1.0
GO04	Tololo Observa	1.90	32	*eP*		Pb		02 21 43.0	+0.6
MT05	Renca	1.91	147	*eP*		Pb		02 21 42.6	+0.1
MT05				*eS*		Sg		02 22 07.5	-1.8
MT05				IAML				02 22 14.9	
	comp=E,25μm,0.5s								
MT05	Renca	1.91	147	Pn		Pg		02 21 43.5	-1.1
FSR	Penalolen	2.08	145	*eP*		Pb		02 21 44.6	-0.8
MT09	Talagante	2.15	158	*eP*		Pb		02 21 46.0	-0.6
MT09				IAML				02 22 29.7	
	comp=E,10μm,0.4s								
MT01	Popeta	2.15	164	*eP*		Pb		02 21 46.7	0.0
MT01				*eS*		Sg		02 22 15.1	-2.2
MT01	Popeta	2.15	164	Pn		Pn		02 21 43.4	0.0
BO01	Tunca	2.70	164	Pn		Pn		02 21 50.4	-0.4
BO03	Pichilemu	2.70	180	*eP*		Pb		02 21 57.3	+1.3
BO03				IAML				02 22 45.1	
	comp=N,3μm,0.5s								
BO02	Sierra Bellavi	3.15	162	Pn		Pn		02 21 57.6	+0.5
GO05	Huala	3.21	179	Pn		Pn		02 21 55.1	-2.8
AC04	Llanos de Chal	3.66	12	*eP*		Pb		02 22 10.6	-1.7
AC04				IAML				02 23 11.6	
	comp=N,2μm,0.5s								
AC04	Llanos de Chal	3.66	12	Pn		Pn		02 22 08.1	+4.1
ML02	Panimavida	3.99	174	Pn		Pn		02 22 06.3	-2.2
AC02	Maricunga	5.52	27	Pn		Pn		02 22 34.8	+4.7
H03N1	Juan Fernandez	6.09	252	T		T		02 29 24.0	
	baz=62,slow=73,SNR=110								
H03N3	Juan Fernandez	6.10	252	T		T		02 29 09.2	
	baz=62,slow=73,SNR=93								
H03N2	Juan Fernandez	6.10	253	T		T		02 29 20.5	
	baz=62,slow=73,SNR=7.6								
LC01	Cunco	7.09	179	Pn		Pn		02 22 46.1	-5.1
LR03	Panguipulli	7.83	182			Pn		02 22 56.8	-4.5
PLCA	Paso Flores	9.00	173	Pn		Pn		02 23 17.1	-0.2
	comp=N,0.8nm,0.3s,baz=334,slow=12,SNR=5.4								
PLCA	Paso Flores	9.00	173	Pn		Pn		02 23 13.2	-4.2
LVC	Limon Verde	9.54	17	*eP*		Pn		02 23 22.6	-2.6
PB07	IPOC Station P	10.19	11	Pn		Pn		02 23 36.9	+2.9
TRQA	Tornquist	10.31	130	Pn		Pn		02 23 39.0	+3.7
PB01	IPOC Station P	10.93	12	Pn		Pn		02 23 46.8	+2.8
PB08	IPOC Station P	11.87	13	Pn		Pn		02 24 01.5	+4.4
ITQB	Itaqui	13.37	85	*eP*		P		02 24 23.9	-2.7
CPUP	Villa Florida	13.91	71	*eP*		P		02 24 32.5	-0.1
PLTB	Pedras Altas	15.62	95			P		02 24 54.5	+2.8
PLTB	Pedras Altas	15.62	95	*eP*		P		02 24 53.1	+1.3
LPAZ	La Paz	15.82	14	Pn		Pn		02 24 50.4	-0.5
	comp=N,0.7nm,0.3s,baz=180,slow=12,SNR=5.9								
CPSB	Cacapava Do Su	15.93	90	*eP*		P		02 24 56.5	+1.3
CNLB	Canela	18.35	88	*eP*		P		02 25 24.5	+2.5
AQDB	Aquidauana	18.42	56	*eP*		P		02 25 25.3	+2.6
SIV	San Ignacio	18.59	35	P		P		02 25 24.4	-0.3
	comp=N,0.5nm,0.3s,baz=221,slow=9.4,SNR=10								
PTGB	Pitanga	18.88	73	*eP*		Pn		02 25 31.4	+2.9
TRCB	Terra Rica	19.35	67	P		Pn		02 25 38.5	+4.3
TRCB				IAmb		IAmb		02 25 39.3	
	comp=Z,57nm,0.6s								
TRCB	Terra Rica	19.35	67	*eP*		Pn		02 25 35.6	+1.4
TER01	Tubaro-SC	20.01	87	*eP*		P		02 25 40.4	+0.3
PTLB	Pontes e Lacer	20.04	39	*eP*		P		02 25 39.7	-0.8
PP1B	Ponte de Pedra	20.95	52	*eP*		P		02 25 50.6	+0.2
PCMB	Pacaembu	21.06	66	*eP*				02 25 55.5	
TIJ01	Guaruva-PR	21.15	78	*eP*		P		02 25 56.9	+4.3
FRTB	Fartura	21.54	73	*eP*		P		02 25 59.5	+2.8
VILB	Vilhena	21.64	33	*eP*		P		02 25 57.8	0.0
SALV	Santo Antonio	21.67	47	*eP*		P		02 25 59.7	+1.5
ETMB	Extrema	22.51	15	*eP*		P		02 26 02.1	-5.0
ITRB	Iturama	22.83	63	*eP*		P		02 26 11.7	+1.1
PET01	Itanhaem-SP	23.01	77	*eP*		P		02 26 13.0	+0.7
SPB	Sao Paulo	23.17	75	*eP*		P		02 26 15.2	+1.1
BB19B	Bebedouro	23.50	69	*eP*		P		02 26 17.4	-0.1
RCLB	Rio Claro- Sao	23.63	73	*eP*		P		02 26 18.0	-0.6
VAO	Valinhos	23.82	75	*eP*		P		02 26 20.6	0.0
SAML	Samuel	24.15	22	*eP*		P		02 26 18.6	-4.9
PARB	Paraibuna	24.78	77	*eP*		P		02 26 29.8	+0.5
IPMB	Ipameri, GO	25.49	63	*eP*		P		02 26 34.2	-1.6
CLDB	Colider	25.63	39	*eP*		P		02 26 34.9	-2.1
BSCB	Bom Sucesso	26.55	73	*eP*		P		02 26 44.9	-0.5
VAS01	Vassouras-RJ	27.05	77	*eP*		P		02 26 49.8	-0.1
BDFB	Brasilia	27.10	59	P		P		02 26 49.8	-0.6
	comp=Z,17nm,0.6s,baz=225,slow=4.0,SNR=9.6								
SNDB	Serra Nova Dou	27.41	49	*eP*		P		02 26 52.0	-1.1
DUB01	Friburgo-RJ	28.02	77	*eP*		P		02 26 57.9	-0.7
CAM01	Campos-RJ	28.73	77	*eP*		P		02 27 05.1	+0.2
DIAM	Diamantina, MG	28.84	69	*eP*		P		02 27 06.3	+0.3
NPGB	Novo Progresso	29.09	36	*eP*		P		02 27 06.8	-1.3
PEXB	Peixe	29.30	53	*eP*		P		02 27 09.0	-1.0
MC01	Montes Claros	29.52	66	*eP*		P		02 27 11.5	-0.5
ALF01	Guarapari-ES	30.06	76	*eP*		P		02 27 16.6	0.0
JANB	Januaria	30.23	63	*eP*		P		02 27 18.4	+0.1
MACA	Manacapuru-AM	30.39	23	*eP*		P		02 27 13.4	-6.2
SJMB	Sao Joao De Ma	30.62	72	*eP*		P		02 27 21.1	-0.6
BSFB	Barra de Sao F	30.83	73	*eP*		P		02 27 23.1	-0.4
RIB01	Linhares ES	30.96	74	*eP*		P		02 27 25.4	+0.8
ITTB	Itaituba	31.25	33	*eP*		P		02 27 24.0	-3.1
SDBA	SAO DESIDERIO	31.49	58	*eP*		P		02 27 28.3	-1.0
NAN01	Guarapari, ES	31.93	72	*eP*		P		02 27 32.6	-0.6
SMTB	Santa Maria do	32.14	50	*eP*		P		02 27 35.0	0.0
VA02	Isla de Pascua	32.84	268	P		P		02 27 30.2	-11
PRPB	Parauapebas	32.84	44	*eP*		P		02 27 40.1	-1.1
GUA01	Guaratinga, BA	32.86	70	*eP*		P		02 27 40.4	-0.9
CMC01	Camacan, BA	33.77	69	*eP*		P		02 27 48.8	-0.5
NBIT	Itapeh - BA	34.08	68	*eP*		P		02 27 52.2	+0.3
MALB	Monte Alegre	34.14	33	*eP*		P		02 27 48.9	-3.6
GDU01	Guandu, BA	34.68	66	*eP*		P		02 27 57.0	-0.1
BOAV	Boa Vista	35.69	20	*eP*		P		02 28 00.3	-5.6
NBPN	Ponto Novo - B	35.98	62	*eP*		P		02 28 06.9	-1.5
MCPB	Macapa, AP	36.49	35	*eP*		P		02 28 09.5	-3.2
TMAB	Tom-Àu,PA,Br	36.91	42	*eP*		P		02 28 14.0	-2.3
RUSC	La Rusia	37.49	358	P		P		02 28 19.6	-2.1
RUSC				IAmb		IAmb		02 28 27.4	
	comp=Z,23nm,0.9s								
NBLA	Lagarto - SE	37.72	64	*eP*		P		02 28 21.3	-1.9
ROSB	Rosrio	38.89	48	*eP*		P		02 28 32.1	-1.0
NBMA	Muriti-CE	39.33	59	*eP*		P		02 28 35.8	-1.0
NBPS	Pedro II - PI	39.52	53	*eP*		P		02 28 38.0	-0.5
NBAN	Anadia - AL	39.70	64	*eP*		P		02 28 38.1	-1.8
NBPB	Pedra_Branca-C	39.99	56	*eP*		P		02 28 43.0	+0.7
NBMO	Morrinhos-CE	41.27	53	*eP*		P		02 28 52.1	-0.7
NBPA	Parau_RN	41.62	59	*eP*		P		02 28 53.8	-1.9
BIRV	Birongo	42.38	8	P		P		02 29 01.5	-0.2
NBPV	Pedro Velho	42.53	61	*eP*		P		02 29 03.1	0.0
SNAA	Sanae	53.61	158	P		P		02 30 28.8	+0.6
	comp=Z,26nm,0.8s,baz=286,slow=6.5,SNR=22								
SNAA	Sanae	53.61	158	P		P		02 30 27.6	-0.5
QSPA	South Pole Qui	58.44	180	P		P		02 30 59.5	-3.4
QSPA				IAmb		IAmb		02 31 04.3	
	comp=Z,17nm,0.9s								
VNDA	Vanda	66.28	191	P		P		02 31 56.1	+1.2
	comp=Z,1.9nm,0.8s,baz=130,slow=4.4,SNR=6.7								
237A	Washetta, Mont	67.34	338	P		P		02 31 59.5	-2.7
X48A	Hartselle	67.40	347	P		P		02 32 00.7	-1.9
X48A				IAmb		IAmb		02 32 03.0	
	comp=Z,9.4nm,0.8s								
TX32	Lajitas Array	67.84	330	P		P		02 32 00.7	-5.0
TXAR	Lajitas Array	67.84	330	P		P		02 32 05.7	0.0
	comp=Z,17nm,0.7s,baz=151,slow=7.9,SNR=16								
TX31	Lajitas Ar. Si	67.85	330	P		P		02 32 01.7	-3.9
TX31				IAmb		IAmb		02 32 10.6	
	comp=Z,6.5nm,0.7s								
OXF	Oxford	67.96	345	P		P		02 32 02.6	-3.5
CLTN	Cedars of Leba	68.86	348	P		P		02 32 10.5	-1.2
CLTN				IAmb		IAmb		02 32 12.1	
	comp=Z,8.6nm,0.8s								
Z35A	Perchaven, San	69.03	337	P		P		02 32 10.6	-2.2
ABTX	Abilene, Hawle	69.20	335	P		P		02 32 10.2	-3.7
MSTX	Muleshoe	71.56	333	P		P		02 32 25.8	-2.7
OLIL	Olney	71.75	347	P		P		02 32 27.5	-1.8
OLIL				IAmb		IAmb		02 32 29.2	
	comp=Z,12nm,1.0s								
M55A	Ridgway	73.17	355	P		P		02 32 37.5	-0.3
M55A				IAmb		IAmb		02 32 38.5	
	comp=Z,9.6nm,0.9s								
L59A	Walton	73.67	358	P		P		02 32 39.8	-0.9
L56A	Greenwood	73.74	356	P		P		02 32 40.9	-0.2
L56A				IAmb		IAmb		02 32 42.2	
	comp=Z,18nm,1.1s								
WES	Weston	73.81	0	P		P		02 32 42.4	+0.9
WES				IAmb		IAmb		02 32 43.1	
	comp=Z,19nm,1.3s								
LIC	Lamto	74.03	72	*eP*		P		02 32 43.3	-0.2
	comp=Z,84nm,1.3s								
TIC	Toumodi	74.28	72	*eP*		P		02 32 44.5	-0.4
KIC	Kosan Boka	74.34	72	*eP*		P		02 32 45.3	0.0
	comp=Z,66nm,0.9s								
DBIC	Dimbokro	74.42	72	P		P		02 32 46.0	+0.2
	comp=Z,21nm,0.7s,baz=227,slow=5.4,SNR=12								
DBIC	Dimbokro	74.42	72	P		P		02 32 46.1	+0.3
MAW	Mawson	75.28	164	P		P		02 32 50.0	+0.2
	comp=Z,8.4nm,1.1s,baz=224,slow=8.4,SNR=10								
L40A	Anamosa	75.60	345	P		P		02 32 50.4	-1.5
L40A				IAmb		IAmb		02 32 51.9	
	comp=Z,15nm,0.9s								
EMMW	East Machias	76.24	3	P		P		02 32 56.4	+0.9
EMMW				IAmb		IAmb		02 32 56.9	
	comp=Z,9.2nm,0.8s								
FRNY	Flat Rock	76.28	359	P		P		02 32 55.0	-0.6
HAL	Halifax	76.44	6	P		P		02 32 56.1	-0.5
SADO	Sadowa	76.47	355	P		P		02 32 56.5	-0.3
G62A	West of Eustis	76.66	1	P		P		02 32 58.4	+0.6
PKME	Peaks-Kenny Pk	76.73	2	P		P		02 32 57.6	-0.6
PKME				IAmb		IAmb		02 32 59.9	
	comp=Z,12nm,1.0s								
G65A	Princeton	76.73	3	P		P		02 32 58.5	+0.3
F64A	Sherman	77.36	3	P		P		02 33 02.5	+0.8
F64A				IAmb		IAmb		02 33 03.6	
	comp=Z,16nm,0.9s								
LMN	Caledonia Moun	77.55	5	P		P		02 33 02.9	+0.1
E62A	Clayton Lake	78.08	2	P		P		02 33 06.4	+0.7
E62A				IAmb		IAmb		02 33 07.2	
	comp=Z,12nm,0.8s								
PQI	Presque Isle	78.18	3	P		P		02 33 06.6	+0.3
PQI				IAmb		IAmb		02 33 07.6	
	comp=Z,9.6nm,0.8s								
ECSD	EROS Data Cent	78.47	342	P		P		02 33 07.3	-0.7
ECSD				IAmb		IAmb		02 33 08.4	
	comp=Z,11nm,0.7s								
D62A	Allapoint, All	78.55	2	P		P		02 33 08.4	+0.1
D62A				IAmb		IAmb		02 33 09.8	
	comp=Z,16nm,0.9s								
E46A	Sault Ste Mari	78.59	351	P		P		02 33 07.9	-0.7
E46A				IAmb		IAmb		02 33 08.8	
	comp=Z,17nm,1.1s								
E43A	Lone Tree Farm	78.98	349	P		P		02 33 09.9	-0.8
E43A				IAmb		IAmb		02 33 11.1	
	comp=Z,18nm,0.9s								
KOWA	Kowa	79.67	66	P		P		02 33 15.7	+0.4
KOWA				IAmb		IAmb		02 33 16.4	
	comp=Z,18nm,0.8s								
F36A	Milaca	79.72	345	P		P		02 33 13.2	-1.6
BOSA	Boshof	81.05	118	P		P		02 33 22.9	+0.1
	comp=Z,8.7nm,0.9s,baz=228,slow=5.8,SNR=8.1								
BOSA	Boshof	81.05	118	P		P		02 33 23.0	+0.2
BOSA				IAmb		IAmb		02 33 23.7	
	comp=Z,12nm,1.0s								
PDAR	Pinedale Array	81.82	333	P		P		02 33 26.0	-0.4
	comp=Z,0.8nm,0.7s,baz=139,slow=7.0,SNR=6.5								
NVAR	Mina Array Bea	82.11	325	P		P		02 33 28.6	+0.6
	comp=Z,2.4nm,0.8s,baz=154,slow=6.5,SNR=11								
HVU	Hansel Valley	82.29	330	P		P		02 33 25.2	-3.6
PMOZ	Porto Moniz, M	82.48	44	P		P		02 33 31.2	+1.2
LBTB	Lobatse	83.18	115	P		P		02 33 34.1	+0.2
LBTB				IAmb		IAmb		02 33 34.5	
	comp=Z,7.7nm,0.9s								
TORD	Torodi Ar. Bea	83.40	70	P		P		02 33 35.0	-0.1
	comp=Z,17nm,0.8s,baz=263,slow=4.7,SNR=28								
TORD	Torodi Ar. Bea	83.40	70	P		P		02 33 34.9	-0.1
ULM	Lac du Bonnet	84.39	345	P		P		02 33 38.2	-0.9
	comp=Z,2.4nm,0.5s,baz=159,slow=6.2,SNR=4.0								
WRA	Warramunga Arr	122.71	210	PKP		PKPdf		02 40 02.6	-1.1
	comp=Z,1.2nm,0.6s,baz=159,slow=1.3,SNR=8.5								
WRA				pPKP		sPKPdf		02 40 12.3	+2.5
	comp=Z,0.9nm,0.5s,baz=157,slow=1.1,SNR=3.2								
FITZ	Fitzroy Crossi	127.60	201	PKP		PKPdf		02 40 12.5	-0.6
	comp=Z,2.3nm,0.7s,baz=209,slow=4.9,SNR=6.7								
HYB	Hyderabad	149.74	111	*i* PKP		PKPdf		02 40 57.0	+3.9
ZALV	Zalesovo Beam	152.31	30	PKPbc		PKPbc		02 41 02.3	-0.3
	comp=Z,15nm,0.6s,baz=304,slow=3.2,SNR=12								
ZALV				pPKPbc		PKPab		02 41 12.1	-0.5
	comp=Z,9.4nm,0.5s,baz=308,slow=3.3,SNR=6.0								
MKAR	Makanchi Array	155.22	45	PKPbc		PKPdf		02 41 07.6	+7.3
	comp=Z,1.6nm,0.8s,baz=311,slow=2.0,SNR=5.4								
MKAR				PKPab		PKPab		02 41 25.8	+0.5
	comp=Z,2.9nm,0.8s,baz=290,slow=3.5,SNR=7.0								
SONM	Songino Array	163.93	4	PKPab		PKPab		02 42 03.5	+0.5
	comp=Z,1.4nm,0.8s,baz=342,slow=3.8,SNR=6.1								

IDC 17 02:29:19.9±3.0,29°.70S×71°.47W,h0km,mb4.2/1,
mb1 4.1/2,mb1mx3.6/30,mbtmp4.0/2,ML4.0/1,Error
ellipse: s-maj=127.2km s-min=48.3km az=99.0,Near
coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	11.03	176	Pn		Pn		02 31 59.0	0.0
	0.3nm,0.3s,baz=336,slow=13,SNR=1.8								
TORD	Torodi Ar. Bea	82.29	70	P		P		02 41 43.8	0.0
	1.5nm,0.8s,baz=251,slow=4.9,SNR=6.5								
ZALV	Zalesovo Beam	150.28	29	PKPbc		PKPbc		02 49 12.2	-0.4
	2.9nm,0.5s,baz=316,slow=4.1,SNR=5.5								

*IDC **17** 02:29:53.2±1.1,30°.67S×72°.72W,h0km,mb3.9/3,*
mb1 4.2/5,mb1mx3.9/30,mbtmp4.1/5,ML3.9/2,Error
ellipse: s-maj=45.7km s-min=26.8km az=83.0

ISC 17 02:29:56.1±1.2,30°.7S±0°.1×72°.7W±0°.3,h19km,n10,
σ0§86/7,mb4.0/3,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	14.90	17	Pn		Pn		02 33 26.3	-0.1
	0.3nm,0.3s,baz=188,slow=7.7,SNR=8.1								
SIV	San Ignacio	18.06	39	P		P		02 34 06.9	+0.4
	0.3nm,0.3s,baz=222,slow=9.6,SNR=9.2								
SNAA	Sanae	54.89	159	P		P		02 39 25.8	+0.7
	1.2nm,0.6s,baz=285,slow=11,SNR=23								
TXAR	Lajitas Array	66.55	331	P		P		02 40 45.6	+0.6
	0.8nm,0.8s,baz=149,slow=7.6,SNR=7.9								
TORD	Torodi Ar. Bea	83.61	71	P		P	

MT05	**Renca**	**3.16**	**160**		Pn		**Pn**	**02 31 58.7**	**-0.1**
GO03	**Copiap**	**3.23**	**30**	*e*	P		**Pn**	**02 32 01.8**	**+2.2**
GO03					*e*S		**Sn**	**02 32 39.5**	**+1.4**
GO03					IAML			02 33 08.8	
	comp=N,2µm,0.7s								
GO03	**Copiap**	**3.23**	**30**	*e*	P		**Pn**	**02 32 01.3**	**+1.6**
GO03	**Copiap**	**3.23**	**30**		Pn		**Pn**	**02 31 59.3**	**-0.3**
GO03	**Copiap**	**3.23**	**30**	*i*	P		**Pb**	**02 32 05.8**	**-0.5**
GO03					*e*S		**Sg**	**02 32 56.3**	**+3.6**
VA05	**Santo Domingo**	**3.25**	**174**	*e*	P		**Pn**	**02 32 04.0**	**+4.1**
VA05					*e*S		**Sb**	**02 32 44.3**	**-1.9**
VA05	**Santo Domingo**	**3.25**	**174**		Pn		**Pn**	**02 32 01.0**	**+1.1**
FSR	**Penalolen**	**3.31**	**158**	*e*	P		**Pb**	**02 32 05.6**	**-2.1**
FSR					*e*S		**Sb**	**02 32 46.1**	**-1.9**
RTCV	**Cerro Valdivia**	**3.32**	**117**	*i*	P		**Pb**	**02 32 07.0**	**-1.0**
RTCV					IAML			02 33 04.2	
	comp=Z,597nm,2.1s								
MT09	**Talagante**	**3.46**	**165**	*e*	P		**Pn**	**02 32 06.7**	**+3.7**
MT09					*e*S		**Sn**	**02 32 45.7**	**+1.6**
MT09					IAML			02 33 06.6	
	comp=N,2µm,0.5s								
MT09	**Talagante**	**3.46**	**165**				**Pn**	**02 32 02.9**	**-0.1**
MT01	**Popeta**	**3.50**	**169**	*e*	P		**Pn**	**02 32 07.1**	**+3.7**
MT01					*e*S		**Sb**	**02 32 50.6**	**-2.8**
MT01					IAML			02 33 02.8	
	comp=E,2µm,0.4s								
MT01	**Popeta**	**3.50**	**169**		P		**Pn**	**02 32 04.6**	**+1.3**
VCA	**Vinchina**	**3.73**	**64**	*i*	P		**Pb**	**02 32 13.0**	**-2.0**
VCA					IAML			02 33 18.3	
	comp=Z,5µm,0.7s								
LMEL	**Las Melosas**	**3.75**	**156**	*e*	P		**Pn**	**02 32 07.8**	**+0.8**
LMEL					*e*S		**Sn**	**02 32 50.4**	**-0.9**
BO01	**Tunca**	**4.04**	**169**				**Pn**	**02 32 12.4**	**+1.5**
AC02	**Maricunga**	**4.39**	**36**	*e*	P		**Pn**	**02 32 19.4**	**+3.3**
AC02	**Maricunga**	**4.39**	**36**		Pn		**Pn**	**02 32 16.8**	**+0.8**
BO02	**Sierra Bellavi**	**4.49**	**167**		Pn		**Pn**	**02 32 17.5**	**+0.5**
MRA	**San Martin**	**5.75**	**112**	*i*	P		Pn	02 32 39.0	+4.5
MRA					IAML			02 34 15.0	
	comp=Z,286nm,0.6s								
H03N1	**Juan Fernandez**	**6.58**	**241**		T		T	02 39 42.1	
	baz=72,slow=72,SNR=69								
H03N2	**Juan Fernandez**	**6.59**	**241**		T		T	02 39 49.2	
	baz=72,slow=72,SNR=78								
H03N3	**Juan Fernandez**	**6.59**	**241**		T		T	02 39 42.2	
	baz=72,slow=72,SNR=106								
FSA	**Cafayete**	**6.85**	**53**	*i*	P		Pn	02 32 56.0	+6.4
AHML	**Horco Molle**	**6.91**	**60**	*i*	P		Pn	02 32 56.0	+5.7
AHML					IAML			02 34 51.9	
	comp=Z,274nm,0.9s								
PB10	**IPOC Station P**	**7.00**	**11**	*i*	P		**Pn**	**02 32 50.3**	**-1.3**
PB10					IAML			02 35 14.3	
	comp=Z,214nm,1.2s								
PB15	**IPOC Station P**	**7.54**	**18**				**Pn**	**02 32 59.0**	**-0.1**
PB15	**IPOC Station P**	**7.54**	**18**	*i*	P		**Pn**	**02 33 01.0**	**+1.9**
PB15					IAML			02 35 13.8	
	comp=Z,330nm,0.5s								
PB05	**IPOC Station P**	**7.71**	**13**	*i*	P		**Pn**	**02 33 00.0**	**-1.4**
PB05					IAML			02 35 26.5	
	comp=Z,342nm,0.8s								
PB04	**IPOC Station P**	**8.23**	**12**	*i*	P		**Pn**	**02 33 06.7**	**-1.8**
LVC	**Limon Verde**	**8.26**	**20**		Pn		**Pn**	**02 33 09.6**	**+0.4**
	comp=Z,2.6nm,0.3s,baz=194,slow=11,SNR=7.1								
LVC	**Limon Verde**	**8.26**	**20**				**Pn**	**02 33 08.4**	**-0.8**
LVC	**Limon Verde**	**8.26**	**20**	*i*	P		**Pn**	**02 33 11.0**	**+1.8**
LC01	**Cunco**	**8.46**	**179**	*i*	P		**Pn**	**02 33 11.0**	**-0.5**
LR03	**Panguipulli**	**9.20**	**182**				**Pn**	**02 33 20.4**	**-1.2**
PLCA	**Paso Flores**	**10.36**	**174**		Pn		**Pn**	**02 33 36.3**	**-1.3**
	comp=Z,0.9nm,0.3s,baz=334,slow=12,SNR=10								
PLCA	**Paso Flores**	**10.36**	**174**		Pn		**Pn**	**02 33 36.5**	**-1.2**
LL04	**Puerto Octay**	**10.47**	**182**				**Pn**	**02 33 37.8**	**-1.3**
TRQA	**Tornquist**	**11.27**	**135**		Pn		**Pn**	**02 33 51.7**	**+1.6**
ITQB	**Itaqui**	**13.37**	**91**		Pn		**Pn**	**02 34 17.7**	**-1.0**
LPAZ	**La Paz**	**14.51**	**15**		Pn		**P**	**02 34 38.8**	**-2.9**
	comp=Z,0.8nm,0.3s,baz=197,slow=6.6,SNR=13								
LPAZ	**La Paz**	**14.51**	**15**		Pn		**Pn**	**02 34 33.8**	**-1.2**
PLTB	**Pedras Altas**	**15.84**	**100**		Pn		**Pn**	**02 34 51.2**	**-0.9**
SIV	**San Ignacio**	**17.52**	**37**		P		**P**	**02 35 15.2**	**+0.6**
	comp=Z,2.6nm,0.3s,baz=227,slow=5.5,SNR=32								
AQDB	**Aquidauana**	**17.74**	**60**				**P**	**02 35 15.8**	**-1.2**
TRCB	**Terra Rica**	**18.92**	**71**		P		**Pn**	**02 35 31.1**	**+0.6**
TRCB					IAmb		IAmb	02 35 39.4	
	comp=Z,39nm,0.7s								
SAML	**Samuel**	**22.91**	**23**		P		**P**	**02 36 12.3**	**-0.6**
SAML					IAmb		IAmb	02 36 17.2	
	comp=Z,28nm,1.2s								
BDFB	**Brasilia**	**26.47**	**62**		P		**P**	**02 36 47.4**	**+0.9**
	comp=Z,29nm,0.7s,baz=231,slow=8.6,SNR=25								
BDFB	**Brasilia**	**26.47**	**62**		P		**P**	**02 36 44.0**	**-2.5**
BDFB					IAmb		IAmb	02 36 48.1	
	comp=Z,30nm,0.8s								
RPN	**Rapa Nui**	**32.77**	**266**		LR		LR	02 45 55.6	
	comp=Z,3µm,19.7s,baz=352,slow=27								
RUSC	**La Rusia**	**36.12**	**358**		P		**P**	**02 38 11.0**	**-0.7**
SDV	**Santo Domingo**	**39.10**	**2**		P		**P**	**02 38 38.7**	**+2.0**
	comp=Z,3.1nm,0.3s,baz=228,slow=5.4,SNR=5.2								
SDV	**Santo Domingo**	**39.10**	**2**		P		**P**	**02 38 35.2**	**-1.4**
SDV					IAmb		IAmb	02 38 43.5	
	comp=Z,14nm,1.0s								
MDP	**Montagnes des**	**39.90**	**31**		P		**P**	**02 38 44.7**	**+1.5**
	comp=Z,13nm,0.9s,baz=203,slow=9.8,SNR=4.8								
SJCC	**San Jacinto, C**	**40.20**	**355**		P		**P**	**02 38 45.0**	**-0.6**
SJCC					IAmb		IAmb	02 38 51.2	
	comp=Z,23nm,1.0s								
JTS	**Las Juntas de**	**42.34**	**341**		P		**P**	**02 39 07.5**	**+4.3**
	comp=Z,7.9nm,0.8s,baz=196,slow=9.2,SNR=5.5								
ICMP	**Isla Caja de M**	**48.32**	**7**		P		**P**	**02 39 49.4**	**-1.2**
MLPR	**Magueyes Islan**	**48.35**	**6**		P		**P**	**02 39 49.7**	**-1.0**
OBIP	**Obispado Ponce**	**48.46**	**7**		P		**P**	**02 39 49.6**	**-2.1**
PDPR	**Patillas Dam,**	**48.50**	**8**		P		**P**	**02 39 50.3**	**-1.7**
SJG	**San Juan**	**48.58**	**7**		P		**P**	**02 39 51.9**	**-0.6**
AOPR	**Arecibo Observ**	**48.75**	**7**		P		**P**	**02 39 52.0**	**-1.9**
CBYP	**Canovanas**	**48.77**	**8**		P		**P**	**02 39 52.3**	**-1.8**
GCPR	**Guaynabo City**	**48.78**	**8**		P		**P**	**02 39 53.1**	**-1.0**
VNA3	**Neumayer Olymp**	**52.67**	**159**		P		**P**	**02 40 23.4**	**+0.5**
VNA1	**Neumayer--Stat**	**52.97**	**158**		P		**P**	**02 40 25.0**	**-0.1**
VNA2	**Neumayer--Watz**	**53.31**	**158**		P		**P**	**02 40 28.1**	**+0.4**
	baz=289,slow=8.2								
SNAA	**Sanae**	**54.90**	**159**		P		**P**	**02 40 39.6**	**+0.2**
SNAA	**Sanae**	**54.90**	**159**		P		**P**	**02 40 39.5**	**+0.2**
	comp=Z,17nm,0.6s,baz=278,slow=7.8,SNR=81								
SNAA	**Sanae**	**54.90**	**159**		P		**P**	**02 40 39.1**	**-0.2**
QSPA	**South Pole Qui**	**59.81**	**180**		P		**P**	**02 41 13.6**	**-0.5**
X48A	**Hartselle**	**66.06**	**346**		P		**P**	**02 41 54.0**	**-1.8**
X48A					IAmb		IAmb	02 41 58.7	
	comp=Z,12nm,0.9s								
JCT	**Junction City**	**66.07**	**334**		P		**P**	**02 41 54.8**	**-1.3**
CPCT	**Cooper Cave**	**66.57**	**349**		P		**P**	**02 41 57.2**	**-1.8**
CPCT					IAmb		IAmb	02 42 01.9	
	comp=Z,16nm,1.3s								
SWET	**Sewanee**	**66.59**	**348**		P		**P**	**02 41 58.9**	**-0.3**
SWET					IAmb		IAmb	02 42 02.0	
	comp=Z,14nm,1.2s								
TXAR	**Lajitas Array**	**66.63**	**330**		P		**P**	**02 42 02.1**	**+2.4**
	comp=Z,1.8nm,0.8s,baz=141,slow=8.1,SNR=8.3								
TX31	**Lajitas Ar. Si**	**66.63**	**330**		P		**P**	**02 41 58.5**	**-1.2**
TX32	**Lajitas Array**	**66.63**	**330**		P		**P**	**02 41 58.0**	**-1.8**
V48A	**Smith Brothers**	**67.27**	**347**		P		**P**	**02 42 02.9**	**-0.6**
V48A					IAmb		IAmb	02 42 08.1	
	comp=Z,9.6nm,1.2s								
CLTN	**Cedars of Leba**	**67.51**	**347**		P		**P**	**02 42 03.9**	**-1.1**
CLTN					IAmb		IAmb	02 42 07.8	
	comp=Z,5.1nm,0.8s								
WVT	**Waverly**	**67.84**	**346**		P		**P**	**02 42 06.0**	**-1.1**
WVT					IAmb		IAmb	02 42 09.2	
	comp=Z,15nm,1.3s								
W39A	**Magazine**	**68.41**	**341**		P		**P**	**02 42 09.5**	**-1.2**
W39A					IAmb		IAmb	02 42 13.8	
	comp=Z,9.1nm,0.8s								
U40A	**Yellville**	**69.24**	**342**		P		**P**	**02 42 14.3**	**-1.6**
U40A					IAmb		IAmb	02 42 18.7	
	comp=Z,13nm,1.1s								
MNTX	**Cornudas Mount**	**69.42**	**330**		P		**P**	**02 42 16.0**	**-1.1**
HHAR	**Hobbs**	**69.47**	**341**		P		**P**	**02 42 15.9**	**-1.3**
HHAR					IAmb		IAmb	02 42 20.0	
	comp=Z,9.8nm,0.8s								
SIUC	**Southern Illin**	**69.66**	**346**		P		**P**	**02 42 16.8**	**-1.6**
MGMO	**Mountain Grove**	**69.84**	**343**		P		**P**	**02 42 18.0**	**-1.6**
MGMO					IAmb		IAmb	02 42 22.9	
	comp=Z,6.7nm,1.1s								
MSTX	**Muleshoe**	**70.32**	**333**		P		**P**	**02 42 22.2**	**-0.5**
MSTX					IAmb		IAmb	02 42 25.6	
	comp=Z,9.6nm,0.8s								
CCM	**Cathedral Cave**	**70.45**	**344**		P		**P**	**02 42 22.6**	**-0.6**
CCM					IAmb		IAmb	02 42 26.1	
	comp=Z,9.9nm,0.8s								
S39A	**Bolivar**	**70.62**	**342**		P		**P**	**02 42 23.2**	**-1.2**
S39A					IAmb		IAmb	02 42 27.1	
	comp=Z,12nm,1.1s								
R40A	**Maddies Statio**	**70.92**	**343**		P		**P**	**02 42 25.1**	**-1.0**
N49A	**Columbus Grove**	**71.87**	**350**		P		**P**	**02 42 31.7**	**-0.1**
N49A					IAmb		IAmb	02 42 34.3	
	comp=Z,9.3nm,0.9s								
P40A	**Paris**	**72.04**	**344**		P		**P**	**02 42 32.0**	**-0.9**
P38A	**Dawn**	**72.50**	**343**		P		**P**	**02 42 34.5**	**-1.1**
P38A					IAmb		IAmb	02 42 38.1	
	comp=Z,9.7nm,0.8s								
T25A	**Trinidad**	**73.73**	**334**		P		**P**	**02 42 42.7**	**-0.6**
T25A					IAmb		IAmb	02 42 47.3	
	comp=Z,6.3nm,0.9s								
DBIC	**Dimbokro**	**74.05**	**72**		P		**P**	**02 42 46.9**	**+1.6**
	comp=Z,7.1nm,0.9s,baz=236,slow=5.7,SNR=5.9								
X16A	**Lo Mia Camp, P**	**74.44**	**327**		P		**P**	**02 42 46.1**	**-1.2**
SDCO	**Great Sand Dun**	**74.69**	**333**		P		**P**	**02 42 47.4**	**-1.5**
MVCO	**Mesa Verde**	**75.45**	**331**		P		**P**	**02 42 52.4**	**-0.9**
PV01	**Paradox Valley**	**76.26**	**331**		P		**P**	**02 42 57.0**	**-0.9**
SMCO	**Snowmass**	**76.50**	**333**		P		**P**	**02 42 56.6**	**-2.8**
SMCO					IAmb		IAmb	02 43 03.6	
	comp=Z,8.6nm,1.0s								
ISCO	**Idaho Springs**	**76.52**	**334**		P		**P**	**02 42 57.2**	**-2.2**
MAW	**Mawson**	**76.60**	**164**		P		**P**	**02 42 59.6**	**+0.5**
	comp=Z,8.2nm,0.7s,baz=212,slow=6.4,SNR=28								
MAW	**Mawson**	**76.60**	**164**		P		**P**	**02 42 57.7**	**-1.5**
K31A	**O'Neill**	**76.73**	**340**		P		**P**	**02 42 59.6**	**-0.6**
ECSD	**EROS Data Cent**	**77.15**	**342**		P		**P**	**02 43 01.8**	**-0.7**
ECSD					IAmb		IAmb	02 43 05.2	
	comp=Z,9.1nm,0.8s								
KNB	**Kanab**	**77.21**	**328**		P		**P**	**02 43 02.6**	**-0.5**
KNB					IAmb		IAmb	02 43 07.5	
	comp=Z,10.0nm,1.2s								
LCMT	**Little Creek M**	**77.40**	**327**		P		**P**	**02 43 02.9**	**-1.3**
MTPU	**Mount Pierson**	**77.75**	**329**		P		**P**	**02 43 04.6**	**-1.8**
CCUT	**Cedar City**	**77.89**	**328**		P		**P**	**02 43 05.8**	**-1.3**
SHPR	**Sheep Range**	**77.91**	**326**		P		**P**	**02 43 06.3**	**-0.8**
P17A	**Butcher Ranch,**	**78.30**	**330**		P		**P**	**02 43 07.9**	**-1.3**
P17A					IAmb		IAmb	02 43 12.7	
	comp=Z,7.1nm,1.2s								
F36A	**Milaca**	**78.39**	**345**		P		**P**	**02 43 08.8**	**-0.5**
F36A					IAmb		IAmb	02 43 11.0	
	comp=Z,19nm,1.5s								
PRN	**Pahroc Range**	**78.57**	**326**		P		**P**	**02 43 10.2**	**-0.5**
RDMU	**Red Mountain**	**78.73**	**332**		P		**P**	**02 43 10.9**	**-0.7**
RDMU					IAmb		IAmb	02 43 14.9	
	comp=Z,6.6nm,0.8s								
KOWA	**Kowa**	**79.17**	**66**		P		**P**	**02 43 12.6**	**-1.7**
KOWA					IAmb		IAmb	02 43 16.7	
	comp=Z,9.9nm,0.7s								
K22A	**Casper**	**79.33**	**335**		P		**P**	**02 43 13.2**	**-1.5**
K22A					IAmb		IAmb	02 43 21.5	
	comp=Z,22nm,1.5s								
SPR3	**Spring Creek 3**	**79.51**	**328**		P		**P**	**02 43 14.4**	**-1.6**
JLU	**Jordanelle**	**79.54**	**331**		P		**P**	**02 43 14.6**	**-1.5**
JLU					IAmb		IAmb	02 43 19.4	
	comp=Z,5.2nm,0.8s								
DUG	**Dugway, Tooele**	**79.80**	**329**		P		**P**	**02 43 17.8**	**+0.4**
HWUT	**Hardware Ranch**	**80.43**	**331**		P		**P**	**02 43 20.7**	**0.0**
HWUT					IAmb		IAmb	02 43 23.8	
	comp=Z,10.0nm,0.8s								
PD31	**Pinedale Array**	**80.58**	**333**		P		**P**	**02 43 21.1**	**-0.6**
PDAR	**Pinedale Array**	**80.58**	**333**		P		**P**	**02 43 23.5**	**+1.9**
	comp=Z,1.1nm,0.6s,baz=139,slow=6.5,SNR=12								
PDAR	**Pinedale Array**	**80.58**	**333**		P		**P**	**02 43 21.4**	**-0.2**
NVAR	**Mina Array Bea**	**80.96**	**325**		P		**P**	**02 43 26.3**	**+2.6**
	comp=Z,0.8nm,0.6s,baz=151,slow=5.7,SNR=7.9								
HVU	**Hansel Valley**	**81.08**	**330**		P		**P**	**02 43 24.6**	**+0.4**
HVU					IAmb		IAmb	02 43 27.0	
	comp=Z,6.4nm,0.7s								
BOSA	**Boshof**	**81.74**	**118**		P		**P**	**02 43 29.6**	**+1.4**
	comp=Z,4.2nm,1.0s,baz=275,slow=4.0,SNR=6.4								
BOSA	**Boshof**	**81.74**	**118**		P		**P**	**02 43 26.7**	**-1.5**
BOSA					IAmb		IAmb	02 43 32.7	
	comp=Z,10nm,1.2s								
FLWY	**Flagg Ranch**	**82.14**	**333**		P		**P**	**02 43 29.7**	**-0.1**
PAHR	**Pah Rah Range**	**82.48**	**325**		P		**P**	**02 43 32.1**	**+0.5**
PAHR					IAmb		IAmb	02 43 35.4	
	comp=Z,6.1nm,1.1s								
TORD	**Torodi Ar. Bea**	**82.99**	**70**		P		**P**	**02 43 35.7**	**+1.1**
	comp=Z,13nm,0.7s,baz=259,slow=4.6,SNR=45								
TORD	**Torodi Ar. Bea**	**82.99**	**70**		P		**P**	**02 43 33.6**	**-1.0**
TORD					IAmb		IAmb	02 43 36.0	
	comp=Z,6.1nm,1.1s								
ULM	**Lac du Bonnet**	**83.05**	**345**		P		**P**	**02 43 35.0**	**+0.9**
	comp=Z,3.6nm,0.7s,baz=126,slow=5.2,SNR=3.2								
HLID	**Hailey**	**83.23**	**330**		P		**P**	**02 43 35.7**	**+0.2**
HLID					IAmb		IAmb	02 43 39.1	
	comp=Z,4.7nm,0.9s								
CASY	**Casey**	**83.59**	**181**		P		**P**	**02 43 37.3**	**+0.4**
MCMT	**McKenzie Canyo**	**83.61**	**332**		P		**P**	**02 43 37.6**	**+0.1**
DGMT	**Dagmar**	**83.65**	**339**		P		**P**	**02 43 36.2**	**-1.1**
MOD	**Modoc Plateau**	**84.61**	**326**		P		**P**	**02 43 42.5**	**0.0**
MOD					IAmb		IAmb	02 43 45.9	
	comp=Z,5.4nm,1.0s								
J08A	**Circle Bar Ran**	**84.87**	**328**		P		**P**	**02 43 43.8**	**+0.1**
J08A					IAmb		IAmb	02 43 47.2	
	comp=Z,9.3nm,0.8s								
PINE	**Pine Mountain**	**86.35**	**327**		P		**P**	**02 43 50.8**	**-0.4**
PINE					IAmb		IAmb	02 43 54.9	
	comp=Z,8.7nm,0.9s								
AKASG	**Malin Array Be**	**119.74**	**46**		PKP		**PKiKP**	**02 49 58.9**	**+0.1**
	comp=Z,2.7nm,0.7s,baz=267,slow=2.5,SNR=11								
H11S2	**WAKE ISLAND Hyl**	**25.75**	**272**		T		T	05 08 54.8	
	baz=115,slow=74,SNR=58								
H11S1	**WAKE ISLAND Hyl**	**25.76**	**272**		T		T	05 08 55.1	
	baz=115,slow=74,SNR=57								
H11S3	**WAKE ISLAND Hyl**	**25.77**	**272**		T		T	05 08 56.1	
	baz=115,slow=74,SNR=35								
EKS2	**Erkin-Say**	**150.14**	**56**		P		**PKiKP**	**02 51 02.0**	**+1.1**
	SNR=18								
AML	**Almayashu**	**150.19**	**57**		P		**PKiKP**	**02 51 02.3**	**+1.0**
	SNR=12								
USP	**Ospenovka**	**150.51**	**55**		P		**PKiKP**	**02 51 02.6**	**+1.1**
	SNR=12								
AAK	**Ala-Archa**	**150.66**	**56**		P		**PKiKP**	**02 51 03.4**	**+1.5**
	SNR=15								
UCH	**Uchtor**	**150.76**	**57**		P		**PKiKP**	**02 51 04.0**	**+1.4**
	SNR=25								
ZALV	**Zalesovo Beam**	**151.15**	**29**		PKPbc		**PKiKP**	**02 51 03.4**	**+1.1**
	comp=Z,67nm,0.6s,baz=305,slow=3.3,SNR=97								
ZALV	**Zalesovo Beam**	**151.15**	**29**		PKPdf		**PKPdf**	**02 50 56.3**	**+0.4**
TKM2	**Tokmak 2**	**151.37**	**55**		P		**PKiKP**	**02 51 04.6**	**+1.1**
	SNR=13								
ULHL	**Ulahol**	**152.01**	**56**		P		**PKiKP**	**02 51 06.5**	**+1.7**
	SNR=8.5								
MJAR	**Matsushiro Arr**	**154.12**	**292**		PKPab		**PKPab**	**02 51 24.7**	**+2.0**
	comp=Z,0.8nm,0.3s,baz=199,slow=1.5,SNR=4.9								
MKAR	**Makanchi Array**	**154.28**	**43**		PKP		**PKPdf**	**02 51 01.9**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=318,slow=1.6,SNR=4.2								
MKAR					PKPbc		**PKiKP**	**02 51 10.3**	**+1.1**
	comp=Z,4.0nm,0.8s,baz=283,slow=1.6,SNR=15								
MKAR					PKPab		**pPKPab**	**02 51 25.8**	**0.0**
	comp=Z,3.4nm,0.8s,baz=299,slow=2.8,SNR=6.0								
SONM	**Songino Array**	**162.57**	**4**		PKPab		**PKPab**	**02 52 01.8**	**+2.9**
	comp=Z,1.6nm,0.8s,baz=342,slow=4.4,SNR=6.0								

IDC ***17*** *02:33:20.6±2.5, 30°.59S×71°.88W, h0km, mb4.6/3, mb1 4.5/5, mb1mx4.1/30, mbtmp4.5/5, ML4.0/2, Error ellipse: s-maj=83.0km s-min=29.6km az=106.0*

NEIC ***17*** *02:33:23.6±1.3, 30°.69S±0°.05×72°.02W±0°.02, h20km±6km, mb4.6/6, Error ellipse: s-maj=6.9km s-min=2.5km az=179.0*

ISC 17 02:33:22.5±0.9, 30°.64S±0°.07×71°.99W±0°.08, h16km, n19, σ1§17/22, mb4.5/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
CO06	**Fray Jorge**	**0.31**	**96**	Pg		**Pb**	**02 33 30.4**	**+0.8**	
CO06				Sg		**Sn**	**02 33 36.1**	**-2.4**	
GO04	**Tololo Observa**	**1.13**	**66**	Pn		**Pg**	**02 33 45.0**	**+0.6**	
GO04						**Sn**	**02 34 00.1**	**+0.9**	
CO03	**El Pedregal**	**1.14**	**100**	Pn		**Pg**	**02 33 44.7**	**+0.2**	
CO03						**Sn**	**02 34 00.8**	**+1.6**	
AC04	**Llanos de Chal**	**2.56**	**18**	Pn		**Pn**	**02 34 05.4**	**+2.1**	
MT05	**Renca**	**2.94**	**159**	Pn		**Pn**	**02 34 08.5**	**-0.2**	
PB04	**IPOC Station P**	**8.44**	**12**			**Pn**	**02 35 23.3**	**-1.0**	
PLCA	**Paso Flores**	**10.14**	**174**	Pn		**Pn**	**02 35 48.1**	**+0.7**	
	0.3nm,0.3s,baz=338,slow=14,SNR=1.6								
PLCA	**Paso Flores**	**10.14**	**174**			**Pn**	**02 35 45.9**	**-1.6**	
CPUP	**Villa Florida**	**13.59**	**75**	Pn		**Pn**	**02 36 32.6**	**-2.0**	
SIV	**San Ignacio**	**17.68**	**37**		P	**P**	**02 37 28.6**	**-0.5**	
	0.3nm,0.3s,baz=238,slow=14,SNR=3.7								
SPB	**Sao Paulo**	**22.93**	**78**		P	**P**	**02 38 26.5**	**+0.5**	
SPB					IAmb	IAmb	02 38 27.4		
	comp=Z,30nm,1.3s								
BDFB	**Brasilia**	**26.54**	**61**		P	**P**	**02 38 58.9**	**-0.9**	
	comp=Z,6.3nm,0.7s,baz=222,slow=4.6,SNR=4.0								
BDFB	**Brasilia**	**26.54**	**61**		P	**P**	**02 38 59.1**	**-0.7**	
SNAA	**Sanae**	**54.68**	**159**		P	**P**	**02 42 51.4**	**+0.9**	
	comp=Z,3.1nm,0.6s,baz=289,slow=9.4,SNR=3.2								
SNAA	**Sanae**	**54.68**	**159**		P	**P**	**02 42 50.9**	**+0.5**	
SNAA					IAmb	IAmb	02 42 51.8		
	comp=Z,4.6nm,0.8s								
QSPA	**South Pole Qui**	**59.59**	**180**		P	**P**	**02 43 25.6**	**+0.3**	
QSPA					IAmb	IAmb	02 43 30.7		
	comp=Z,4.1nm,1.1s								
TORD	**Torodi Ar. Bea**	**83.04**	**70**		P	**P**	**02 45 47.8**	**+0.3**	
	comp=Z,3.6nm,0.8s,baz=260,slow=4.5,SNR=4.0								
ZALV	**Zalesovo Beam**	**151.32**	**29**		PKPbc	**PKPbc**	**02 53 15.2**	**+0.3**	
	comp=Z,13nm,0.7s,baz=298,slow=3.2,SNR=6.2								
ZALV	**Zalesovo Beam**	**151.32**	**29**			**PKiKP**	**02 53 15.4**	**+0.1**	

NEIC ***17*** *02:34:24.1±1.6, 31°.58S±0°.02×71°.68W±0°.07, h21km±5km, mb4.9/42, ML4.8(GUC), Error ellipse: s-maj=8.5km s-min=2.1km az=105.0*

IDC ***17*** *02:34:26.2±5.2, 31°.46S×71°.51W, h32km±37km, mb4.6/9, mb1 4.6/13, mb1mx4.3/33, mbtmp4.7/13, ML4.3/3, Error ellipse: s-maj=32.4km s-min=16.5km az=96.0*

GUC ***17*** *02:34:26.5±0.5, 31°.715×71°.75W, h33km±5km, ML4.8*

SJA ***17*** *02:34:27.4±1.0, 31°.67S×71°.57W, h10km, ML4.6, MW4.2*

ISC 17 02:34:22.2±1.3, 31°.55S±0°.03×71°.76W±0°.05, h10km±8km, n112, σ1§14/115, mb4.9/28, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
CO06	**Fray Jorge**	**0.88**	**7**	*e*P		**Pb**	**02 34 39.9**	**+0.5**	
CO06	**Fray Jorge**	**0.88**	**7**	Pn		**Pn**	**02 34 41.4**	**+0.9**	
CO06					Sn	**Sn**	**02 34 52.5**	**-0.8**	
CO03	**El Pedregal**	**1.16**	**53**	*e*P		**Pg**	**02 34 44.8**	**+0.4**	
CO03	**El Pedregal**	**1.16**	**53**	Pn		**Pg**	**02 34 44.6**	**+0.2**	
CO03						**Sn**	**02 35 00.1**	**-0.3**	
VA01

CLTN					P		P	02 45 26.3	+0.8
LCAR	**Lake Charles**	**69.68**	**343**		P		P	02 45 32.0	+0.3
LCAR					IAmb		IAmb	02 45 32.5	
	comp=Z,6.3nm,0.8s								
MNTX	**Cornudas Mount**	**70.50**	**330**		P		P	02 45 37.0	0.0
MSTX	**Muleshoe**	**71.42**	**333**		P		P	02 45 41.1	-1.5
MSTX					IAmb		IAmb	02 45 44.6	
	comp=Z,8.4nm,0.8s								
P51A	**Williamsport**	**71.44**	**351**		P		P	02 45 41.1	-1.3
P51A					IAmb		IAmb	02 45 42.5	
	comp=Z,7.4nm,0.8s								
CCM	**Cathedral Cave**	**71.59**	**344**		P		P	02 45 43.2	-0.2
CCM					IAmb		IAmb	02 45 44.7	
	comp=Z,11nm,0.9s								
ACSO	**Alum Creek Sta**	**72.17**	**351**		P		P	02 45 46.5	-0.3
N58A	**Sunbury**	**72.17**	**356**		P		P	02 45 45.8	-1.0
N58A					IAmb		IAmb	02 45 48.3	
	comp=Z,10nm,0.9s								
N59A	**State Game Lan**	**72.19**	**357**		P		P	02 45 46.7	-0.3
N59A					IAmb		IAmb	02 45 49.3	
	comp=Z,9.3nm,0.9s								
ODNJ	**Ogdensburg**	**72.31**	**358**		P		P	02 45 48.1	+0.5
ODNJ					IAmb		IAmb	02 45 49.6	
	comp=Z,6.6nm,0.8s								
KAN12	**Harper NE Stat**	**72.75**	**338**		P		P	02 45 51.0	+0.6
N49A	**Columbus Grove**	**73.02**	**350**		P		P	02 45 51.9	+0.1
L59A	**Walton**	**73.43**	**357**		P		P	02 45 55.4	+1.1
L59A					IAmb		IAmb	02 45 56.3	
	comp=Z,10nm,0.8s								
L56A	**Greenwood**	**73.51**	**356**		P		P	02 45 55.5	+0.7
P38A	**Dawn**	**73.64**	**343**		P		P	02 45 56.5	+0.9
LIC	**Lamto**	**73.78**	**72**	*eP*			P	02 45 56.1	-0.9
	comp=Z,47nm,1.2s								
TIC	**Toumodi**	**74.03**	**72**	*eP*			P	02 45 57.6	-0.9
L48A	**N Adams**	**74.05**	**350**		P		P	02 45 57.3	-0.6
KIC	**Kosan Boka**	**74.10**	**72**	*eP*			P	02 45 58.1	-0.8
	comp=Z,34nm,0.7s								
DBIC	**Dimbokro**	**74.18**	**72**		P		P	02 45 58.8	-0.5
	comp=Z,20nm,0.8s,baz=242,slow=5.6,SNR=12								
HNH	**Hanover**	**74.89**	**360**		P		P	02 46 03.8	+1.1
PECO	**Prince Edward**	**75.27**	**356**		P		P	02 46 05.0	+0.1
PECO					IAmb		IAmb	02 46 05.8	
	comp=Z,9.1nm,0.8s								
MAW	**Mawson**	**75.46**	**164**		P		P	02 46 06.6	+0.7
	comp=Z,6.9nm,0.8s,baz=227,slow=6.0,SNR=8.1								
MAW	**Mawson**	**75.46**	**164**		P		P	02 46 05.5	-0.4
LONY	**Lake Ozonia**	**75.84**	**358**		P		P	02 46 08.7	+0.4
LONY					IAmb		IAmb	02 46 09.9	
	comp=Z,7.3nm,0.8s								
FRNY	**Flat Rock**	**76.03**	**359**		P		P	02 46 10.2	+0.9
FRNY					IAmb		IAmb	02 46 10.5	
	comp=Z,9.6nm,0.8s								
K31A	**O'Neill**	**77.86**	**340**		P		P	02 46 20.4	+0.7
ECSD	**EROS Data Cent**	**78.29**	**342**		P		P	02 46 22.2	+0.2
ECSD					IAmb		IAmb	02 46 23.4	
	comp=Z,8.5nm,0.8s								
BOSA	**Boshof**	**81.01**	**118**		P		P	02 46 37.2	-0.3
	comp=Z,9.8nm,0.9s,baz=227,slow=6.1,SNR=8.4								
BOSA	**Boshof**	**81.01**	**118**		P		P	02 46 36.3	-1.2
BOSA					IAmb		IAmb	02 46 37.8	
	comp=Z,13nm,0.9s								
CASY	**Casey**	**82.47**	**181**		P		P	02 46 43.5	-0.8
CASY					IAmb		IAmb	02 46 47.0	
	comp=Z,7.7nm,0.8s								
TORD	**Torodi Ar. Bea**	**83.16**	**70**		P		P	02 46 48.3	-0.4
	comp=Z,20nm,0.8s,baz=259,slow=4.6,SNR=26								
TORD	**Torodi Ar. Bea**	**83.16**	**70**		P		P	02 46 48.7	0.0
DGMT	**Dagmar**	**84.78**	**339**		P		P	02 46 57.0	+0.7
AKASG	**Malin Array Be**	**120.35**	**46**		PKP		**PKPdf**	02 53 12.2	-1.0
	comp=Z,1.7nm,0.6s,baz=269,slow=2.8,SNR=8.6								
BRTR	**Keskin Array B**	**120.42**	**60**		PKP		**PKPdf**	02 53 13.3	-0.6
	comp=Z,0.6nm,0.4s,baz=178,slow=3.6,SNR=3.6								
ARCES	**ARCESS Array B**	**121.69**	**24**		PKP		**PKPdf**	02 53 14.6	-0.6
	comp=Z,1.7nm,0.8s,baz=276,slow=2.6,SNR=4.3								
H11S2	**WAKE ISLAND Hyl**	**126.01**	**271**		T		T	05 12 18.2	
	baz=117,slow=75,SNR=24								
H11S1	**WAKE ISLAND Hyl**	**126.02**	**271**		T		T	05 12 11.6	
	baz=117,slow=75,SNR=27								
H11S3	**WAKE ISLAND Hyl**	**126.03**	**271**		T		T	05 12 19.6	
	baz=117,slow=75,SNR=26								
H11N3	**WAKE ISLAND Hyl**	**126.36**	**272**		T		T	05 12 35.6	
	baz=117,slow=75,SNR=13								
H11N1	**WAKE ISLAND Hyl**	**126.37**	**272**		T		T	05 12 45.1	
	baz=117,slow=75,SNR=3.3								
H11N2	**WAKE ISLAND Hyl**	**126.38**	**272**		T		T	05 12 47.2	
	baz=117,slow=75,SNR=18								
PETK	**Petropavlovsk-**	**138.59**	**316**		PKP		**PKiKP**	02 53 50.1	+0.3
	comp=Z,3.2nm,0.9s,baz=199,slow=4.0,SNR=3.9								
EKS2	**Erkin-Say**	**150.55**	**58**		P		**PKiKP**	02 54 14.7	-0.2
	SNR=7.2								
AML	**Almayashu**	**150.58**	**59**		P		**PKiKP**	02 54 15.1	-0.2
	SNR=6.0								
USP	**Ospenovka**	**150.95**	**57**		P		**PKPbc**	02 54 14.8	-0.1
	SNR=5.3								
AAK	**Ala-Archa**	**151.07**	**58**		P		**PKiKP**	02 54 16.3	+0.3
	SNR=6.7								
UCH	**Uchtor**	**151.16**	**59**		P		**PKiKP**	02 54 16.7	+0.1
	SNR=9.5								
TKM2	**Tokmak 2**	**151.81**	**57**		P		**PKPbc**	02 54 17.2	0.0
	SNR=5.1								
ZALV	**Zalesovo Beam**	**152.01**	**30**		PKPbc		**PKPbc**	02 54 17.1	+0.1
	comp=Z,52nm,0.6s,baz=304,slow=3.2,SNR=30								
MKAR	**Makanchi Array**	**154.92**	**45**		PKPbc		**PKPbc**	02 54 23.3	-0.4
	comp=Z,3.6nm,0.7s,baz=304,slow=8.2,SNR=8.2								
MKAR					PKPab		**PKPab**	02 54 39.2	+0.2
	comp=Z,3.9nm,0.9s,baz=270,slow=4.6,SNR=5.5								

*NEIC **17** 02:36:12.7±1.6,31.44S±0.02×71.35W±0.05,h35km±2km, mb4.8/10, Error ellipse: s-maj=7.7km s-min=3.1km az=294.0*

*IDC **17** 02:36:14.1±0.9,31.28S×71.13W,h54km±6km, mb4.1/8, mb1 4.3/11,mb1mx4.1/30,mbtmp4.5/11, Error ellipse: s-maj=32.5km s-min=18.2km az=86.0*

*GUC **17** 02:36:14.7±0.8,31.31S×71.25W,h55km±7km, ML4.5*

ISC 17 02:36:14.3±0.7,31.29S±0.03×71.26W±0.06,h56km±6km, n42,σ0°89/57,mb4.6/10,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO03	**El Pedregal**	**0.66**	**48**	*eP*		**Pn**	**02 36 28.5**	**+0.5**
CO03				*eS*		**Sn**	**02 36 39.0**	**+1.1**
CO03				IAML			02 36 40.1	
	comp=N,37μm,0.1s							
CO03	**El Pedregal**	**0.66**	**48**			**Pn**	**02 36 28.5**	**+0.5**
CO03						**Sn**	**02 36 39.2**	**+1.3**
CO06	**Fray Jorge**	**0.69**	**332**	*eP*		**Pn**	**02 36 28.9**	**+0.6**
CO06				*eS*		**Sn**	**02 36 39.5**	**+1.0**
CO06				IAML			02 36 42.6	
	comp=E,23μm,0.4s							
CO06	**Fray Jorge**	**0.69**	**332**	Pn		**Pn**	**02 36 28.4**	**+0.1**
CO06				Sn		**Sn**	**02 36 38.3**	**-0.1**
GO04	**Tololo Observa**	**1.18**	**20**	*eP*		**Pn**	**02 36 35.5**	**+0.7**
GO04				*eS*		**Sn**	**02 36 51.1**	**+1.0**
GO04				IAML			02 36 57.7	
	comp=E,34μm,0.4s							
GO04	**Tololo Observa**	**1.18**	**20**	Pn		**Pn**	**02 36 33.7**	**-1.2**
GO04				Sn		**Sn**	**02 36 51.0**	**+1.0**
VA03	**San Esteban**	**1.59**	**158**	*eP*		**Pn**	**02 36 40.7**	**+0.4**
VA03				*eS*		**Sn**	**02 36 60.0**	**+0.1**
VA03				IAML			02 37 03.9	
	comp=E,11μm,0.4s							
ROCH	**El Roble**	**1.69**	**173**	*eS*		**Sn**	**02 37 03.5**	**+1.0**
ROCH				IAML			02 37 09.0	
	comp=N,7μm,0.4s							
VA01	**Torpederas**	**1.76**	**191**	*eP*		**Pn**	**02 36 40.5**	**-2.0**
VA01				*eS*		**Sn**	**02 37 04.7**	**+0.8**
VA01				IAML			02 37 10.4	
	comp=N,4μm,0.3s							
MT05	**Renca**	**2.15**	**168**	*eP*		**Pn**	**02 36 48.8**	**+0.9**
MT05				*eS*		**Sn**	**02 37 14.6**	**+1.3**
VA05	**Santo Domingo**	**2.38**	**187**	*eP*		**Pn**	**02 36 52.2**	**+1.2**
VA05				*i* S		**Sn**	**02 37 20.6**	**+1.6**
VA05				IAML			02 37 35.0	
	comp=N,7μm,0.4s							
MT09	**Talagante**	**2.49**	**175**	*eP*		**Pn**	**02 36 53.2**	**+0.6**
MT09				*eS*		**Sn**	**02 37 22.8**	**+0.8**
MT09				IAML			02 37 30.0	
	comp=N,4μm,0.3s							
MT01	**Popeta**	**2.57**	**180**	*eP*		**Pn**	**02 36 54.5**	**+0.9**
MT01				*eS*		**Sn**	**02 37 24.3**	**+0.6**
MT01				IAML			02 37 34.1	
	comp=E,3μm,0.2s							
BO01	**Tunca**	**3.10**	**177**	*eS*		**Sn**	**02 37 36.5**	**-0.1**
BO01				IAML			02 37 45.1	
	comp=E,1μm,0.3s							
BO02	**Sierra Bellavi**	**3.52**	**174**	*eS*		**Sn**	**02 37 46.7**	**-0.3**
LVC	**Limon Verde**	**8.89**	**14**	P		**Pn**	**02 38 17.7**	**-2.8**
	comp=E,4.1nm,0.3s,baz=231,slow=23,SNR=1.2							
PLCA	**Paso Flores**	**9.45**	**177**	P		**Pn**	**02 38 26.9**	**-0.8**
	comp=E,1.2nm,0.3s,baz=304,slow=4.1,SNR=1.8							
LPAZ	**La Paz**	**15.20**	**12**	Pn		**Pn**	**02 39 47.2**	**+1.0**
SIV	**San Ignacio**	**17.84**	**34**	P		**Pn**	**02 40 18.6**	**-0.1**
	comp=E,1.4nm,0.3s,baz=203,slow=8.8,SNR=5.9							
RUSC	**La Rusia**	**37.01**	**357**	P		**P**	**02 43 20.6**	**+1.4**
MDP	**Montagnes des**	**40.31**	**29**	P		**P**	**02 43 45.2**	**-1.2**
	comp=E,8.0nm,0.8s,baz=204,slow=9.7,SNR=3.1							
PEZE	**Perez Zeledon,**	**42.15**	**342**	P		**P**	**02 44 02.1**	**+0.5**
PEZE				IAmb		IAmb	02 44 04.5	
	comp=Z,27nm,1.1s							
EMPR	**Esperanza - Ma**	**49.69**	**6**	P		**P**	**02 45 01.4**	**+0.8**
VNA3	**Neumayer Olymp**	**51.63**	**159**	P		**P**	**02 45 14.6**	**-0.2**
VNA1	**Neumayer--Stat**	**51.92**	**158**	P		**P**	**02 45 17.2**	**+0.3**
VNA2	**Neumayer--Watz**	**52.26**	**158**	P		**P**	**02 45 18.8**	**-0.7**
	baz=288,slow=8.4							
SNAA	**Sanae**	**53.85**	**159**	P		**P**	**02 45 31.2**	**0.0**
SNAA	**Sanae**	**53.85**	**159**	P		**P**	**02 45 31.1**	**-0.2**
	comp=Z,5.8nm,0.6s,baz=286,slow=11,SNR=8.7							
SNAA	**Sanae**	**53.85**	**159**	P		**P**	**02 45 31.3**	**0.0**
SNAA				IAmb		IAmb	02 45 31.9	
	comp=Z,6.4nm,0.7s							
QSPA	**South Pole Qui**	**58.94**	**180**	P		**P**	**02 46 07.7**	**0.0**
QSPA				IAmb		IAmb	02 46 08.3	
	comp=Z,5.3nm,0.7s							
TXAR	**Lajitas Array**	**67.71**	**330**	P		**P**	**02 47 06.3**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=149,slow=7.7,SNR=3.8							
DBIC	**Dimbokro**	**73.69**	**72**	P		**P**	**02 47 42.2**	**-0.3**
	comp=Z,7.7nm,0.7s,baz=228,slow=5.9,SNR=5.8							
DBIC	**Dimbokro**	**73.69**	**72**	P		**P**	**02 47 42.0**	**-0.5**
DBIC				IAmb		IAmb	02 47 42.4	
	comp=Z,8.6nm,0.9s							
MAW	**Mawson**	**75.59**	**164**	P		**P**	**02 47 52.4**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=209,slow=7.2,SNR=6.2							
MAW	**Mawson**	**75.59**	**164**	P		**P**	**02 47 52.6**	**-0.1**
BOSA	**Boshof**	**80.75**	**118**	P		**P**	**02 48 21.8**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=251,slow=3.4,SNR=5.3							
BOSA	**Boshof**	**80.75**	**118**	P		**P**	**02 48 21.4**	**-0.7**
BOSA				IAmb		IAmb	02 48 22.9	
	comp=Z,13nm,1.4s							
NVAR	**Mina Array Bea**	**82.05**	**325**	P		**P**	**02 48 29.9**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=148,slow=5.3,SNR=3.5							
TORD	**Torodi Ar. Bea**	**82.66**	**70**	P		**P**	**02 48 31.6**	**-0.5**
	comp=Z,5.4nm,0.6s,baz=274,slow=6.1,SNR=10.0							
TORD				pP		**pP**	**02 48 48.4**	**-0.1**
	comp=Z,3.5nm,0.7s,baz=276,slow=6.1,SNR=3.0							
TORD	**Torodi Ar. Bea**	**82.66**	**70**	P		**P**	**02 48 32.1**	**-0.1**
TORD				IAmb		IAmb	02 48 32.5	
	comp=Z,4.9nm,0.7s							
ZALV	**Zalesovo Beam**	**151.57**	**30**	PKPbc		**PKPbc**	**02 56 01.5**	**-0.2**
	comp=Z,12nm,0.4s,baz=314,slow=2.7,SNR=12							
ZALV				pPKPbc		**sPKPdf**	**02 56 18.1**	**-0.6**
	comp=Z,14nm,0.8s,baz=274,slow=3.0,SNR=4.8							
MKAR	**Makanchi Array**	**154.44**	**45**	PKPbc		**PKPbc**	**02 56 07.5**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=287,slow=1.6,SNR=4.4							
MKAR				pPKPbc		**PKPab**	**02 56 23.0**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=264,slow=4.0,SNR=3.6							

*NEIC **17** 02:38:50.0±1.3,30.66S±0.05×72.53W±0.04,h10km±1km, mb4.9/94, Error ellipse: s-maj=9.0km s-min=6.3km az=179.0*

*IDC **17** 02:38:53.4±7.1,30.63S×72.48W,h30km±49km,mb4.5/11, mb1 4.6/14,mb1mx4.4/31,mbtmp4.7/14,ML4.5/3,Error ellipse: s-maj=24.7km s-min=15.4km az=87.0*

ISC 17 02:38:51.3±0.4,30.63S±0.05×72.51W±0.05,h19km,n130, σ0°66/138,mb4.9/58,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**0.76**	**94**	Pn		**Pb**	**02 39 05.9**	**0.0**
CO06						**Sg**	**02 39 16.6**	**+0.3**
GO04	**Tololo Observa**	**1.55**	**73**	Pn		**Pb**	**02 39 18.9**	**-0.6**
GO04				Sn		**Sn**	**02 39 37.7**	**-0.1**
GO04						**Sb**	**02 39 38.0**	**-0.8**
CO03	**El Pedregal**	**1.58**	**98**	Pn		**Pn**	**02 39 18.6**	**+0.2**
CO03				Sn		**Sn**	**02 39 38.3**	**-0.2**
CO03						**Sb**	**02 39 38.5**	**-1.2**
AC04	**Llanos de Chal**	**2.72**	**28**	Pn		**Pn**	**02 39 33.1**	**-0.9**
GO03	**Copiap**	**3.62**	**34**	Pn		**Pn**	**02 39 47.9**	**+1.4**
GO03						**Sn**	**02 40 29.6**	**+0.8**
GO05	**Huala**	**4.40**	**174**	Pn		**Pn**	**02 39 55.6**	**-1.5**
GO05						Lg	02 41 17.9	
PLCA	**Paso Flores**	**10.21**	**172**	Pn		**Pn**	**02 41 16.7**	**-0.2**
	1.0nm,0.3s,baz=331,slow=20,SNR=2.0							
PLCA	**Paso Flores**	**10.21**	**172**			**Pn**	**02 41 17.0**	**+0.2**
LPAZ	**La Paz**	**14.83**	**17**	Pn		**Pn**	**02 42 22.0**	**+1.4**
	0.9nm,0.3s,baz=198,slow=7.3,SNR=10							
LPAZ	**La Paz**	**14.83**	**17**			**Pn**	**02 42 21.6**	**+1.0**
SIV	**San Ignacio**	**17.94**	**38**	P		**P**	**02 43 00.8**	**+0.4**
	1.5nm,0.3s,baz=230,slow=11,SNR=14							
NNA	**Nana**	**18.98**	**347**	P		**Pn**	**02 43 12.4**	**-0.1**
SAML	**Samuel**	**23.26**	**24**	P		**P**	**02 43 58.1**	**+0.4**
BDFB	**Brasilia**	**26.93**	**62**	P		**P**	**02 44 32.0**	**+0.3**
	18nm,0.9s,baz=235,slow=3.6,SNR=7.0							
RUSC	**La Rusia**	**36.32**	**359**	P		**P**	**02 45 53.5**	**-1.0**
RUSC				IAmb		IAmb	02 45 57.1	
	comp=Z,25nm,0.8s							
SDV	**Santo Domingo**	**39.33**	**3**	P		**P**	**02 46 19.4**	**-0.2**
	comp=Z,10nm,0.7s,baz=213,slow=12,SNR=4.9							
SDV	**Santo Domingo**	**39.33**	**3**	P		**P**	**02 46 19.7**	**+0.1**
MDP	**Montagnes des**	**40.30**	**32**	P		**P**	**02 46 27.7**	**+0.2**
	comp=Z,14nm,0.8s,baz=194,slow=9.1,SNR=6.6							
SJCC	**San Jacinto, C**	**40.37**	**356**	P		**P**	**02 46 27.9**	**-0.2**
SJCC				IAmb		IAmb	02 46 32.0	
	comp=Z,14nm,0.9s							
ORTG	**Ortega, Santa**	**42.61**	**341**	P		**P**	**02 46 46.1**	**-0.4**
ORTG				IAmb		IAmb	02 46 50.6	
	comp=Z,14nm,1.0s							
ICMP	**Isla Caja de M**	**48.58**	**8**	P		**P**	**02 47 33.3**	**-0.2**
CRPR	**Cabo Rojo, PR**	**48.63**	**7**	P		**P**	**02 47 34.0**	**+0.1**
OBIP	**Obispado Ponce**	**48.72**	**7**	P		**P**	**02 47 33.0**	**-1.7**
PDPR	**Patillas Dam,**	**48.77**	**8**	P		**P**	**02 47 34.6**	**-0.4**
SJG	**San Juan**	**48.84**	**8**	P		**P**	**02 47 35.6**	**0.0**
CBYP	**Canovanas**	**49.04**	**8**	P		**P**	**02 47 36.5**	**-0.7**
GCPR	**Guaynabo City**	**49.05**	**8**	P		**P**	**02 47 36.3**	**-0.9**
VNA3	**Neumayer Olymp**	**52.63**	**159**	P		**P**	**02 48 04.2**	**+0.6**
VNA1	**Neumayer--Stat**	**52.93**	**158**	P		**P**	**02 48 06.7**	**+0.9**
VNA2	**Neumayer--Watz**	**53.27**	**158**	P		**P**	**02 48 09.0**	**+0.6**
	baz=287,slow=8.6							
SNAA	**Sanae**	**54.86**	**159**	P		**P**	**02 48 20.2**	**+0.3**
SNAA	**Sanae**	**54.86**	**159**	P		**P**	**02 48 20.3**	**+0.3**
	comp=Z,15nm,0.9s,baz=280,slow=6.7,SNR=21							
SNAA	**Sanae**	**54.86**	**159**	P		**P**	**02 48 20.4**	**+0.4**
QSPA	**South Pole Qui**	**59.60**	**180**	P		**P**	**02 48 54.0**	**+0.3**
QSPA				IAmb		IAmb	02 48 55.3	
	comp=Z,13nm,0.9s							
HPIG		**65.43**	**328**	P		**P**	**02 49 33.1**	**0.0**
HPIG				IAmb		IAmb	02 49 36.5	
	comp=Z,9.5nm,1.0s							
143A	**Socs Landing,**	**65.48**	**343**	P		**P**	**02 49 31.9**	**-1.1**
JCT	**Junction City**	**66.08**	**334**	P		**P**	**02 49 36.5**	**-0.5**
X48A	**Hartselle**	**66.17**	**347**	P		**P**	**02 49 36.7**	**-0.8**
X48A				IAmb		IAmb	02 49 39.8	
	comp=Z,8.1nm,0.8s							
TXAR	**Lajitas Array**	**66.61**	**331**	P		**P**	**02 49 41.3**	**+0.7**
	comp=Z,4.1nm,0.8s,baz=154,slow=8.1,SNR=24							
TX31	**Lajitas Ar. Si**	**66.61**	**331**	P		**P**	**02 49 41.1**	**+0.6**
TX32	**Lajitas Array**	**66.61**	**331**	P		**P**	**02 49 41.0**	**+0.4**
TX32				IAmb		IAmb	02 49 41.9	
	comp=Z,5.3nm,0.9s							
CPCT	**Cooper Cave**	**66.69**	**349**	P		**P**	**02 49 40.4**	**-0.4**
CPCT				IAmb		IAmb	02 49 46.6	
	comp=Z,16nm,1.4s							
SWET	**Sewanee**	**66.70**	**348**	P		**P**	**02 49 40.6**	**-0.4**
SWET				IAmb		IAmb	02 49 42.3	
	comp=Z,10nm,1.0s							
OXF	**Oxford**	**66.72**	**345**	P		**P**	**02 49 40.6**	**-0.4**
U59A	**Littleton**	**66.81**	**355**	P		**P**	**02 49 40.9**	**-0.7**
U59A				IAmb		IAmb	02 49 44.1	
	comp=Z,8.2nm,0.9s							
V52A	**Sevierville**	**66.94**	**350**	P		**P**	**02 49 41.9**	**-0.4**
V52A				IAmb		IAmb	02 49 42.3	
	comp=Z,8.5nm,0.8s							
VNDA	**Vanda**	**67.32**	**191**	P		**P**	**02 49 46.0**	**+1.6**
	comp=Z,1.8nm,0.8s,baz=150,slow=3.8,SNR=6.0							
VNDA	**Vanda**	**67.32**	**191**	P		**P**	**02 49 44.4**	**0.0**
T59A	**Double "B" Far**	**67.41**	**356**	P		**P**	**02 49 44.1**	**-1.3**
T59A				IAmb		IAmb	02 49 46.7	
	comp=Z,13nm,1.1s							
WVT	**Waverly**	**67.95**	**347**	P		**P**	**02 49 47.6**	**-1.2**
WVT				IAmb		IAmb	02 49 49.4	
	comp=Z,8.9nm,1.1s							
LCAR	**Lake Charles**	**68.62**	**344**	P		**P**	**02 49 52.1**	**-0.8**
LCAR				IAmb		IAmb	02 49 55.2	
	comp=Z,8.7nm,1.0s							
T47A	**Sharon Grove**	**68.64**	**347**	P		**P**	**02 49 52.0**	**-1.1**
T47A				IAmb		IAmb	02 49 55.4	
	comp=Z,15nm,1.0s							
X34A	**Smith Ranch, M**	**69.14**	**338**	P		**P**	**02 49 56.5**	**+0.3**
X34A				IAmb		IAmb	02 49 57.0	
	comp=Z,13nm,0.8s							
MNTX	**Cornudas Mount**	**69.39**	**330**	P		**P**	**02 49 57.2**	**-0.6**
MNTX				IAmb		IAmb	02 49 58.1	
	comp=Z,6.7nm,0.8s							
HHAR	**Hobbs**	**69.53**	**342**	P		**P**	**02 49 58.6**	**0.0**
HHAR				IAmb		IAmb	02 49 58.9	
	comp=Z,7.6nm,0.7s							
HSIG		**69.72**	**325**	P		**P**	**02 50 00.1**	**+0.1**
HSIG				IAmb		IAmb	02 50 03.3	
	comp=Z,6.8nm,0.9s							
SIUC	**Southern Illin**	**69.76**	**346**	P		**P**	**02 49 59.6**	**-0.4**
MSTX	**Muleshoe**	**70.32**	**334**	P		**P**	**02 50 02.9**	**-0.8**
MSTX				IAmb		IAmb	02 50 05.1	
	comp=Z,19nm,1.1s							
MVL	**Millersville**	**70.36**	**357**	P		**P**	**02 50 04.2**	**+0.6**
MVL				IAmb		IAmb	02 50 07.1	
	comp=Z,15nm,1.2s							
CCM	**Cathedral Cave**	**70.54**	**344**	P		**P**	**02 50 04.9**	**+0.1**
CCM				IAmb		IAmb	02 50 07.2	
	comp=Z,12nm,0.9s							
S39A	**Bolivar**	**70.70**	**343**	P		**P**	**02 50 04.6**	**-1.2**
S39A				IAmb		IAmb	02 50 08.8	
	comp=Z,22nm,1.5s							
319A	**Douglas**	**70.86**	**327**	P		**P**	**02 50 06.9**	**-0.1**
319A				IAmb		IAmb	02 50 09.0	
	comp=Z,8.4nm,1.0s							
R40A	**Maddies Statio**	**71.00**	**344**	P		**P**	**02 50 07.5**	**-0.1**
R40A				IAmb		IAmb	02 50 08.2	
	comp=Z,13nm,0.8s							
121A	**Cookes Peak, D**	**71.15**	**329**	P		**P**	**02 50 07.1**	**-1.7**
121A				IAmb		IAmb	02 50 12.6	
	comp=Z,14nm,1.3s							
ACSO	**Alum Creek Sta**	**71.17**	**352**	P		**P**	**02 50 08.0**	**-0.6**
N59A	**State Game Lan**	**71.25**	**357**	P		**P**	**02 50 07.9**	**-1.1**
N59A				IAmb		IAmb	02 50 11.7	
	comp=Z,22nm,1.4s							
KAN05	**Bluff City Nor**	**71.45**	**339**	P		**P**	**02 50 08.9**	**-1.4**
BNM	**Barren Site**	**72.03**	**331**	P		**P**	**02 50 14.3**	**+0.1**
P40A	**Paris**	**72.13**	**344**	P		**P**	**02 50 13.2**	**-1.2**
P40A				IAmb		IAmb	02 50 15.2	
	comp=Z,16nm,0.8s							
L63A	**North Scituate**	**72.14**	**1**	P		**P**	**02 50 14.1**	**-0.3**
LENM	**Lemitar**	**72.19**	**330**	P		**P**	**02 50 15.4**	**+0.3**
ANMO	**Albuquerque**	**72.64**	**331**	P		**P**	**02 50 17.3**	**-0.5**
MMNY	**Mt. Morris Dam**	**73.17**	**356**	P		**P**	**02 50 20.3**	**-0.1**
MMNY				IAmb		IAmb	02 50 23.2	
	comp=Z,13nm,1.0s							
LIC	**Lamto**	**74.12**	**73**	*eP*		**P**	**02 50 27.1**	**+0.3**
	comp=Z,87nm,1.7s							
TIC	**Toumodi**	**74.36**	**72**	*eP*		**P**	**02 50 28.3**	**+0.1**
X16A	**Lo Mia Camp, P**	**74.39**	**327**	P		**P**	**02 50

SNR=9.8
MKAR Makanchi Array 154.72 43 PKP **PKPdf** 02 58 42.0 -0.3
comp=Z,1.0nm,0.8s,baz=48,slow=2.1,SNR=3.0
MKAR PKPbc **PKiKP** 02 58 51.1 +0.2
comp=Z,2.7nm,0.7s,baz=327,slow=1.9,SNR=8.1
SONM Songino Array 162.80 2 PKPab **PKPab** 02 59 41.9 +1.1
comp=Z,1.9nm,0.8s,baz=333,slow=3.7,SNR=6.6

MEX 17 02:39:18.1±0.4, 14°95N×93°16W, h82km±10km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.75**	**355**	*i* P	Pn	02 39 33.1	-1.4
PCIG				*i* S	Sn	02 39 45.0	-1.6
THIG		**0.86**	**93**	*i* P	Pn	02 39 34.2	-1.4
THIG				*i* S	Sn	02 39 46.5	-2.2
CMIG	**Matias Romero**	**2.70**	**322**	*i* P	Pn	02 40 01.4	+1.9
CMIG				*i* S	Sn	02 40 31.2	0.0

*IDC **17** 02:41:11.3±2.6, 31°17S×71°64W, h0km, mb4.3/4, mb1 4.3/4, mb1mx3.9/27, mbtmp4.3/4, Error ellipse: s-maj=101.5km s-min=40.4km az=104.0*
*NEIC **17** 02:41:17.5±1.8, 31°20S±0°01×71°67W±0°05, h35km±2km, mb4.3/6, Error ellipse: s-maj=7.5km s-min=3.0km az=283.0*
ISC 17 02:41:16.2±0.9, 31°18S±0°05×71°8W±0°1, h35km, n23, σ1§23/21, mb4.4/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.53**	**19**		**Pn**	**02 41 28.0**	**+0.7**
CO06				Sn	**Sn**	**02 41 36.4**	**+1.4**
CO03	**El Pedregal**	**1.04**	**72**		**Pn**	**02 41 33.5**	**-0.9**
CO03				Sn	**Sn**	**02 41 46.0**	**-1.8**
GO04	**Tololo Observa**	**1.34**	**42**	Pn	**Pn**	**02 41 39.6**	**+0.9**
GO04				Sn	**Sn**	**02 41 56.7**	**+1.3**
MT05	**Renca**	**2.40**	**157**	Pn	**Pn**	**02 41 53.8**	**+0.7**
MT09	**Talagante**	**2.69**	**165**	Pn	**Pn**	**02 41 56.4**	**-0.7**
MT01	**Popeta**	**2.73**	**170**	Pn	**Pn**	**02 41 59.4**	**+1.9**
ZON	**Zonda**	**2.73**	**99**		**Pn**	**02 42 00.7**	**+3.1**
GO03	**Copiap**	**3.83**	**22**	Pn	**Pn**	**02 42 13.6**	**+0.7**
H03N1	**Juan Fernandez**	**6.40**	**247**	T	T	02 49 27.9	
	baz=186,slow=74,SNR=16						
H03N2	**Juan Fernandez**	**6.42**	**248**	T	T	02 49 28.7	
	baz=75,slow=74,SNR=15						
LPAZ	**La Paz**	**15.20**	**14**	Pn	**Pn**	**02 44 47.4**	**-1.5**
LPAZ				IAmb	IAmb	02 44 52.0	
	comp=Z,12nm,1.5s						
BDFB	**Brasilia**	**26.69**	**60**	P	**P**	**02 46 51.7**	**-0.6**
BDFB				IAmb	IAmb	02 46 54.8	
	comp=Z,14nm,1.1s						
SNAA	**Sanae**	**54.14**	**159**	P	**P**	**02 50 37.5**	**+0.1**
	comp=Z,2.3nm,0.9s,baz=275,slow=11,SNR=2.7						
SNAA	**Sanae**	**54.14**	**159**	P	**P**	**02 50 37.6**	**+0.1**
SNAA				IAmb	IAmb	02 50 38.2	
	comp=Z,5.9nm,1.2s						
QSPA	**South Pole Qui**	**59.05**	**180**	P	**P**	**02 51 12.9**	**+0.3**
QSPA				IAmb	IAmb	02 51 15.4	
	comp=Z,2.3nm,1.0s						
DBIC	**Dimbokro**	**74.13**	**72**	P	**P**	**02 52 49.0**	**-0.4**
	comp=Z,3.5nm,0.5s,baz=238,slow=5.0,SNR=4.2						
MAW	**Mawson**	**75.83**	**164**	P	**P**	**02 52 58.4**	**0.0**
	comp=Z,1.7nm,0.8s,baz=223,slow=9.5,SNR=2.6						
MAW	**Mawson**	**75.83**	**164**	P	**P**	**02 52 57.8**	**-0.6**
TORD	**Torodi Ar. Bea**	**83.09**	**70**	P	**P**	**02 53 38.4**	**-0.3**
	comp=Z,3.2nm,0.8s,baz=255,slow=4.7,SNR=4.3						
H11S2	**WAKE ISLAND Hyl**	**25.94**	**271**	T	T	05 19 03.0	
	baz=116,slow=75,SNR=4.3						
H11S1	**WAKE ISLAND Hyl**	**25.95**	**271**	T	T	05 19 04.7	
	baz=116,slow=75,SNR=6.3						
H11S3	**WAKE ISLAND Hyl**	**25.95**	**271**	T	T	05 19 01.5	
	baz=116,slow=75,SNR=4.0						
ZALV	**Zalesovo Beam**	**151.72**	**30**	PKPbc	**PKPbc**	**03 01 07.0**	**+0.5**
	comp=Z,4.1nm,0.4s,baz=315,slow=2.3,SNR=5.0						

IDC 17 02:43:31.9±1.9, 31°43S×71°65W, h0km, mb4.5/3, mb1 4.4/4, mb1mx3.9/28, mbtmp4.4/4, ML4.2/1, Error ellipse: s-maj=78.7km s-min=35.0km az=103.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**9.33**	**175**	Pn	Pn	02 45 47.9	+0.2
	0.6nm,0.3s,baz=340,slow=14,SNR=7.7						
DBIC	**Dimbokro**	**74.06**	**72**	P	P	02 55 10.1	+0.1
	5.6nm,0.5s,baz=221,slow=5.7,SNR=10.0						
MAW	**Mawson**	**75.55**	**164**	P	P	02 55 17.7	-0.1
	0.7nm,0.5s,baz=205,slow=8.6,SNR=1.2						
TORD	**Torodi Ar. Bea**	**83.03**	**70**	P	P	02 55 59.5	0.0
	5.5nm,0.7s,baz=269,slow=5.0,SNR=15						
ZALV	**Zalesovo Beam**	**151.86**	**30**	PKPbc	PKPbc	03 03 28.1	0.0
	10nm,0.5s,baz=314,slow=2.8,SNR=22						
MKAR	**Makanchi Array**	**154.78**	**45**	PKPbc	PKPbc	03 03 34.5	-0.3
	0.5nm,0.7s,baz=267,slow=1.5,SNR=4.2						

*NEIC **17** 02:44:25.1±1.7, 31°25S×71°03×71°77W±0°08, h25km±4km, Error ellipse: s-maj=9.6km s-min=4.9km az=91.0*
*GUC **17** 02:44:26.4±0.8, 31°25S×71°76W, h31km±4km, ML5.0*
*IDC **17** 02:44:29.6±3.9, 31°25S×71°67W, h39km±32km, mb4.4/11, mb1 4.5/14, mb1mx4.3/29, mbtmp4.6/14, ML4.6/3, Error ellipse: s-maj=24.2km s-min=17.0km az=82.0*
ISC 17 02:44:24.5±1.3, 31°29S±0°02×71°73W±0°06, h12km±8km, n101, σ1§96/101, mb4.7/26, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.62**	**8**	*eP*	**Pn**	**02 44 38.2**	**-0.9**
CO06				*eS*	**Sb**	**02 44 47.4**	**+1.3**
CO06	**Fray Jorge**	**0.62**	**8**	Pn	**Pb**	**02 44 37.5**	**+0.2**
CO06				Sn	**Sb**	**02 44 46.1**	**+0.1**
CO03	**El Pedregal**	**1.00**	**63**	*eP*	**Pn**	**02 44 46.4**	**+1.9**
CO03				*eS*	**Sn**	**02 45 00.5**	**+1.9**
CO03				IAML		02 45 03.5	
	comp=N,42μm,0.3s						
CO03	**El Pedregal**	**1.00**	**63**	Pn	**Pg**	**02 44 43.3**	**-0.6**
CO03				Sn	**Sn**	**02 45 00.2**	**+1.6**
GO04	**Tololo Observa**	**1.38**	**36**	*eP*	**Pg**	**02 44 51.7**	**+0.6**
GO04				*eS*	**Sg**	**02 45 10.5**	**+1.6**
GO04	**Tololo Observa**	**1.38**	**36**	Pn	**Pn**	**02 44 47.5**	**-2.3**
VA01	**Torpederas**	**1.73**	**178**	*eP*	**Pg**	**02 44 57.2**	**-0.4**
VA01				*eS*	**Sg**	**02 45 21.5**	**+1.4**
VA03	**San Esteban**	**1.78**	**146**	*eP*	**Pg**	**02 44 58.2**	**-0.5**
VA03				*eS*	**Sg**	**02 45 22.7**	**+1.0**
VA03				IAML		02 45 26.6	
	comp=E,30μm,0.4s						
VA03	**San Esteban**	**1.78**	**146**	Pn	**Pn**	**02 44 55.5**	**+0.3**
VA03					**Sb**	**02 45 18.9**	**-0.4**
ROCH	**El Roble**	**1.78**	**160**	*eP*	**Pg**	**02 44 58.7**	**0.0**
ROCH				*eS*	**Sg**	**02 45 23.9**	**+1.9**
ROCH				IAML		02 45 28.7	
	comp=E,19μm,0.7s						
MT05	**Renca**	**2.25**	**158**	*eS*	**Sg**	**02 45 35.0**	**-2.0**
MT05				IAML		02 45 44.6	
	comp=N,11μm,0.3s						
MT05	**Renca**	**2.25**	**158**	Pn	**Pn**	**02 45 01.6**	**-0.1**
VA05	**Santo Domingo**	**2.36**	**178**	*eS*	**Sn**	**02 45 32.8**	**+0.9**
VA05				IAML		02 45 46.4	
	comp=E,13μm,0.5s						
LCO	**Las Campanas**	**2.44**	**22**	*eS*	**Sb**	**02 45 38.5**	**-0.2**
MT09	**Talagante**	**2.55**	**166**	*eS*	**Sn**	**02 45 39.1**	**+2.2**
MT09				IAML		02 45 50.5	
	comp=E,6μm,0.3s						
MT01	**Popeta**	**2.59**	**171**	*eS*	**Sb**	**02 45 42.8**	**-0.1**
MT01				IAML		02 45 52.8	
	comp=N,6μm,0.7s						
LMEL	**Las Melosas**	**2.85**	**154**	*eS*	**Sb**	**02 45 47.8**	**-2.7**
LMEL				IAML		02 45 59.6	
	comp=N,6μm,0.3s						
AC04	**Llanos de Chal**	**3.13**	**11**	*eS*	**Sn**	**02 45 54.0**	**+3.0**
AC04				IAML		02 46 14.2	
	comp=N,4μm,0.5s						
AC04	**Llanos de Chal**	**3.13**	**11**		**Pn**	**02 45 12.2**	**-1.5**
H03N1	**Juan Fernandez**	**6.44**	**249**	T	T	02 52 40.5	
	baz=77,slow=72,SNR=26						
H03N3	**Juan Fernandez**	**6.45**	**249**	T	T	02 52 38.7	
	baz=77,slow=72,SNR=20						
H03N2	**Juan Fernandez**	**6.46**	**249**	T	T	02 52 40.4	
	baz=77,slow=72,SNR=43						

PLCA	**Paso Flores**	**9.47**	**175**	Pn	**Pn**	**02 46 43.2**	**+2.5**
	comp=N,1.9nm,0.3s,baz=337,slow=12,SNR=8.6						
TRQA	**Tornquist**	**10.48**	**133**	Pn	**Pn**	**02 46 53.1**	**-1.5**
LPAZ	**La Paz**	**15.30**	**13**	Pn	**Pn**	**02 48 02.2**	**+1.3**
	comp=N,0.9nm,0.3s,baz=203,slow=7.9,SNR=10						
LPAZ	**La Paz**	**15.30**	**13**		**Pn**	**02 47 58.0**	**-2.9**
SIV	**San Ignacio**	**18.07**	**35**	P	**P**	**02 48 36.7**	**+0.7**
	comp=N,1.6nm,0.3s,baz=231,slow=9.6,SNR=11						
SPB	**Sao Paulo**	**22.86**	**76**	P	**P**	**02 49 25.2**	**-2.6**
SAML	**Samuel**	**23.62**	**22**	P	**P**	**02 49 32.2**	**-3.3**
SAML				IAmb	IAmb	02 49 39.2	
	comp=Z,18nm,0.9s						
BDFB	**Brasilia**	**26.67**	**60**	P	**P**	**02 50 04.4**	**+0.8**
	comp=Z,56nm,1.0s,baz=226,slow=7.4,SNR=14						
BDFB	**Brasilia**	**26.67**	**60**	P	**P**	**02 50 01.6**	**-2.0**
PRAC	**Prado**	**34.94**	**354**	*eP*	**P**	**02 51 20.0**	**+3.5**
ORTC	**Ortega, Tolima**	**35.17**	**354**	*eP*	**P**	**02 51 22.8**	**+4.4**
GUY2C	**Guyana, Caldas**	**36.48**	**354**	*eP*	P	02 51 18.2	-12
RUSC	**La Rusia**	**37.00**	**358**	P	**P**	**02 51 32.5**	**-2.1**
RUSC				IAmb	IAmb	02 51 38.4	
	comp=Z,14nm,0.8s						
RUSC	**La Rusia**	**37.00**	**358**	*eP*	**P**	**02 51 36.0**	**+1.4**
DBBC	**Dabeiba**	**38.34**	**353**	*eP*	**P**	**02 51 49.3**	**+3.8**
ZARC	**Zaragoza, Cauc**	**38.68**	**355**	*eP*	**P**	**02 51 50.4**	**+2.1**
SMLC	**San Martn de**	**39.93**	**356**	*eP*	**P**	**02 51 58.7**	**0.0**
SDV	**Santo Domingo**	**39.97**	**2**	P	**P**	**02 52 00.3**	**+1.1**
	comp=Z,7.6nm,0.8s,baz=213,slow=4.4,SNR=5.3						
MDP	**Montagnes des**	**40.52**	**30**	P	**P**	**02 52 03.9**	**+0.3**
	comp=Z,16nm,0.9s,baz=190,slow=9.5,SNR=6.3						
MLPR	**Magueyes Islan**	**49.19**	**6**	P	**P**	**02 53 09.5**	**-3.0**
PDPR	**Patillas Dam,**	**49.34**	**7**	P	**P**	**02 53 11.6**	**-2.1**
SJG	**San Juan**	**49.41**	**7**	P	**P**	**02 53 11.7**	**-2.5**
VNA3	**Neumayer Olymp**	**51.77**	**159**	P	**P**	**02 53 34.7**	**+3.1**
VNA2	**Neumayer--Watz**	**52.41**	**158**	P	**P**	**02 53 39.3**	**+3.0**
	baz=285,slow=8.1						
SNAA	**Sanae**	**53.99**	**159**	P	**P**	**02 53 50.2**	**+2.1**
SNAA	**Sanae**	**53.99**	**159**	P	**P**	**02 53 50.1**	**+2.0**
	comp=Z,2.7nm,0.8s,baz=275,slow=5.4,SNR=4.6						
TX32	**Lajitas Array**	**67.52**	**330**	P	**P**	**02 55 18.9**	**-1.7**
TXAR	**Lajitas Array**	**67.52**	**330**	P	**P**	**02 55 21.9**	**+1.2**
	comp=Z,1.1nm,0.5s,baz=155,slow=8.6,SNR=24						
TX31	**Lajitas Ar. Si**	**67.52**	**330**		**P**	**02 55 17.9**	**-2.7**
TX31				IAmb	IAmb	02 55 23.1	
	comp=Z,12nm,1.4s						
LCAR	**Lake Charles**	**69.44**	**343**	P	**P**	**02 55 30.2**	**-2.2**
LCAR				IAmb	IAmb	02 55 34.0	
	comp=Z,5.4nm,0.5s						
MNTX	**Cornudas Mount**	**70.30**	**330**		**P**	**02 55 35.2**	**-2.6**
MNTX				IAmb	IAmb	02 55 39.5	
	comp=Z,3.0nm,0.8s						
CCM	**Cathedral Cave**	**71.36**	**344**	P	**P**	**02 55 41.9**	**-2.1**
CCM				IAmb	IAmb	02 55 46.4	
	comp=Z,11nm,1.2s						
R40A	**Maddies Statio**	**71.83**	**343**	P	**P**	**02 55 44.7**	**-2.2**
R40A				IAmb	IAmb	02 55 48.8	
	comp=Z,5.6nm,0.7s						
121A	**Cookes Peak, D**	**72.06**	**328**		**P**	**02 55 47.2**	**-1.5**
121A				IAmb	IAmb	02 55 51.9	
	comp=Z,6.7nm,1.1s						
P40A	**Paris**	**72.95**	**344**	P	**P**	**02 55 50.2**	**-3.3**
P40A				IAmb	IAmb	02 55 55.5	
	comp=Z,7.6nm,0.6s						
ANMO	**Albuquerque**	**73.55**	**331**		**P**	**02 55 60.0**	**+2.5**
ANMO				IAmb	IAmb	02 56 08.6	
	comp=Z,7.6nm,1.5s						
LIC	**Lamto**	**73.69**	**72**	*eP*	**P**	**02 55 59.3**	**+0.8**
	comp=Z,85nm,1.1s						
TIC	**Toumodi**	**73.93**	**72**	*eP*	**P**	**02 56 00.7**	**+0.7**
KIC	**Kosan Boka**	**74.00**	**72**	*eP*	**P**	**02 56 01.3**	**+0.9**
	comp=Z,54nm,0.9s						
DBIC	**Dimbokro**	**74.08**	**72**	P	**P**	**02 56 01.8**	**+1.0**
	comp=Z,26nm,0.9s,baz=233,slow=5.3,SNR=14						
DBIC	**Dimbokro**	**74.08**	**72**	P	**P**	**02 55 58.6**	**-2.2**
X16A	**Lo Mia Camp, P**	**75.31**	**327**	P	**P**	**02 56 09.9**	**+2.2**
X16A				IAmb	IAmb	02 56 19.1	
	comp=Z,8.3nm,1.2s						
SDCO	**Great Sand Dun**	**75.58**	**333**	P	**P**	**02 56 06.1**	**-3.2**
MAW	**Mawson**	**75.69**	**164**	P	**P**	**02 56 11.1**	**+1.8**
	comp=Z,2.4nm,0.8s,baz=241,slow=6.9,SNR=3.7						
MAW	**Mawson**	**75.69**	**164**	P	**P**	**02 56 07.7**	**-1.6**
MVCO	**Mesa Verde**	**76.33**	**331**	P	**P**	**02 56 11.8**	**-1.8**
MVCO				IAmb	IAmb	02 56 17.0	
	comp=Z,4.6nm,1.1s						
CCUT	**Cedar City**	**78.76**	**327**	P	**P**	**02 56 29.4**	**+2.3**
KOWA	**Kowa**	**79.29**	**66**		**P**	**02 56 28.7**	**-1.5**
BOSA	**Boshof**	**81.10**	**118**	P	**P**	**02 56 41.3**	**+1.2**
	comp=Z,3.8nm,0.8s,baz=256,slow=4.2,SNR=4.9						
BOSA	**Boshof**	**81.10**	**118**	P	**P**	**02 56 38.1**	**-2.0**
PDAR	**Pinedale Array**	**81.47**	**333**	P	**P**	**02 56 43.0**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=135,slow=7.4,SNR=3.9						
PDAR	**Pinedale Array**	**81.47**	**333**	P	**P**	**02 56 40.3**	**-1.4**
NVAR	**Mina Array Bea**	**81.82**	**325**	P	**P**	**02 56 45.2**	**+1.6**
	comp=Z,0.9nm,0.7s,baz=141,slow=6.4,SNR=6.6						
NVAR	**Mina Array Bea**	**81.82**	**325**	P	**P**	**02 56 41.0**	**-2.6**
TORD	**Torodi Ar. Bea**	**83.05**	**70**	P	**P**	**02 56 51.1**	**+0.8**
	comp=Z,24nm,0.9s,baz=263,slow=4.6,SNR=35						
TORD	**Torodi Ar. Bea**	**83.05**	**70**	P	**P**	**02 56 47.9**	**-2.4**
PAHR	**Pah Rah Range**	**83.34**	**325**	P	**P**	**02 56 49.0**	**-2.4**
PAHR				IAmb	IAmb	02 56 53.9	
	comp=Z,5.7nm,1.2s						
ASAR	**Alice Springs**	**120.09**	**207**	PKP	**PKPdf**	**03 03 15.4**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=143,slow=1.1,SNR=4.1						
ASAR	**Alice Springs**	**120.09**	**207**		**PKPdf**	**03 03 12.9**	**-2.9**
AKASG	**Malin Array Be**	**120.16**	**46**	PKP	**PKPdf**	**03 03 14.5**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=268,slow=2.5,SNR=7.1						
AKASG	**Malin Array Be**	**120.16**	**46**		**PKPdf**	**03 03 12.1**	**-2.7**
BRTR	**Keskin Array B**	**120.27**	**59**	PKP	**PKPdf**	**03 03 15.6**	**0.0**
	comp=Z,1.5nm,0.9s,baz=206,slow=5.1,SNR=5.8						
WRA	**Warramunga Arr**	**123.24**	**210**	PKP	**PKiKP**	**03 03 22.0**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=153,slow=2.1,SNR=14						
H11S2	**WAKE ISLAND Hyl**	**26.03**	**271**	T	T	05 22 20.6	
	baz=116,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hyl**	**26.04**	**271**	T	T	05 22 16.9	
	baz=116,slow=75,SNR=17						
H11S3	**WAKE ISLAND Hyl**	**26.05**	**271**	T	T	05 22 15.0	
	baz=116,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hyl**	**26.37**	**272**	T	T	05 22 36.1	
	baz=120,slow=74,SNR=5.1						
H11N2	**WAKE ISLAND Hyl**	**26.39**	**272**	T	T	05 22 34.7	
	baz=154,slow=74,SNR=17						
EKS2	**Erkin-Say**	**150.40**	**58**	P	**PKiKP**	**03 04 17.5**	**+0.8**
	SNR=8.4						
AML	**Almayashu**	**150.43**	**59**	P	**PKiKP**	**03 04 18.1**	**+0.9**
	SNR=5.5						
USP	**Ospenovka**	**150.79**	**56**	P	**PKiKP**	**03 04 18.2**	**+0.9**
	SNR=6.8						
UCH	**Uchtor**	**151.01**	**58**	P	**PKiKP**	**03 04 19.8**	**+1.4**
	SNR=11						
TKM2	**Tokmak 2**	**151.65**	**57**	P	**PKiKP**	**03 04 20.2**	**+0.8**
	SNR=6.5						
ZALV	**Zalesovo Beam**	**151.78**	**30**	PKPbc	**PKiKP**	**03 04 19.3**	**+0.3**
	comp=Z,24nm,0.7s,baz=299,slow=3.4,SNR=18						
MKAR	**Makanchi Array**	**154.73**	**45**	PKPbc	**PKiKP**	**03 04 26.2**	**+0.9**
	comp=Z,3.3nm,0.8s,baz=288,slow=1.0,SNR=10.0						
WMQ	**Urumqi**	**159.51**	**47**	*eP*	**PKPdf**	**03 04 25.8**	**+2.8**
GTA	**Gaotai**	**169.37**	**38**	*eP*	**PKPdf**	**03 04 34.1**	**+2.2**
GTA				pPKP	sPKPdf	03 04 44.8	+7.3
GTA				sPKP		03 04 48.8	
HHC	**Hu-ho-hao-te**	**170.10**	**345**	*eP*	**PKPdf**	**03 04 32.5**	**+0.2**
HHC				LR	LR		
	comp=N,1μm,19.7s						
HHC				LR	LR		
	comp=E,750nm,21.0s						
HHC				LR	LR		
	comp=Z,3μm,20.6s						
NJ2	**Nanjing**	**170.95**	**278**	*eP*	**PKPdf**	**03 04 36.4**	**+3.6**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						

*IDC **17** 02:44:53.4±1.0, 39°88S×142°57E, h0km, mb4.5/8, mb1 4.7/10, mb1mx4.4/27, mbtmp4.6/10, ML4.4/2, Error ellipse: s-maj=38.0km s-min=16.7km az=80.0*
*NOU **17** 02:44:54.6, 39°85S×142°42E, h0km, MLv5.3/31, Bass Strait, Australia*
*NEIC **17** 02:44:55.8±2.0, 39°84S±0°05×142°5E±0°1, h17km±3km, Error ellipse: s-maj=11.9km s-min=7.2km az=76.0*
*AUST **17** 02:44:55.3±0.5, 39°84S×142°42E, h10km, Error ellipse: s-maj=8.1km s-min=5.3km az=46.0*
ISC 17 02:44:54.4±0.5, 39°79S±0°05×142°44E±0°05, h10km, n76, σ1§98/80, mb4.6/10, Bass Strait

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

AUMTC	**Mt Clear Colle**	**2.45**	**28**	P	**Pn**	**02 45 36.4**	**+1.9**
	baz=2.5						
AUMTC				S	**Sn**	**02 46 04.2**	**-0.2**
	baz=2.5						
AUKSC	**Keysborough Se**	**2.79**	**50**	P	Pg	02 45 57.0	+9.0
	baz=2.8						
AUKSC				S	**Sg**	**02 46 27.9**	**+3.7**
	baz=2.8						
ARPS	**Mount Arapiles**	**3.05**	**351**	P	**Pn**	**02 45 44.4**	**+1.7**
	baz=3.1,SNR=1000						
ARPS				S	**Sn**	**02 46 19.5**	**+0.2**
	baz=3.1,SNR=11						
TOO	**Toolangi**	**3.26**	**48**	P	**Pn**	**02 45 46.9**	**+1.4**
	baz=3.3,SNR=283						
TOO				S	**Sn**	**02 46 23.2**	**-1.2**
	baz=3.3,SNR=6.3						
TOO	**Toolangi**	**3.26**	**48**		**Pn**	**02 45 46.2**	**+0.6**
TOO				Sn	**Sn**	**02 46 21.9**	**-2.5**
AULHS	**Lilydale High**	**3.93**	**113**	P	**Pn**	**02 45 55.2**	**+0.5**
	baz=3.9						
AULHS				S	**Sn**	**02 46 37.3**	**-3.6**
	baz=3.9						
MOO	**Moorlands**	**4.46**	**128**	P	**Pn**	**02 46 02.8**	**+0.6**
	baz=4.4,SNR=42						
MOO				S	**Sn**	**02 46 51.1**	**-3.0**
	baz=4.4,SNR=9.6						
TAU	**Tasmania Unive**	**4.82**	**132**	Pn	**Pn**	**02 46 07.1**	**0.0**
TAU				Sn	**Sn**	**02 46 59.5**	**-3.4**
AUTAR	**Taroona High S**	**4.86**	**132**	P	**Pn**	**02 46 08.5**	**+0.9**
	baz=4.8						
MILA	**Mila**	**5.94**	**65**	P	**Pn**	**02 46 24.3**	**+1.8**
	baz=6.0,SNR=107						
CAN	**Canberra**	**6.86**	**52**		**Pn**	**02 46 35.2**	**+0.1**
CAN				Sn	**Sn**	**02 47 49.0**	**-4.2**
HTT	**Hallett**	**6.94**	**335**	P	**Pn**	**02 46 38.2**	**+1.9**
	baz=7.0,SNR=52						
HTT				S	**Sn**	**02 47 54.7**	**-0.6**
	baz=7.0,SNR=6.9						
CNB	**Canberra Magne**	**7.08**	**53**	P	**Pn**	**02 46 40.2**	**+2.0**
	baz=7.1,SNR=14						
YNG	**Young**	**7.26**	**43**	P	**Pn**	**02 46 42.9**	**+2.3**
	baz=7.3,SNR=24						
STKA	**Stephens Creek**	**7.92**	**355**	P	**Pn**	**02 46 51.9**	**+2.2**
	baz=8.0,SNR=24						
STKA				S	**Sn**	**02 48 15.1**	**-4.2**
	baz=8.0,SNR=6.7						
STKA	**Stephens Creek**	**7.92**	**355**	Pn	**Pn**	**02 46 51.6**	**+1.9**
	3.0nm,0.3s,baz=158,slow=14,SNR=46						
STKA					**Sn**	**02 48 17.0**	**-2.4**
	44nm,0.3s,baz=246,slow=16,SNR=9.1						
STKA	**Stephens Creek**	**7.92**	**355**	Pn	**Pn**	**02 46 51.4**	**+1.8**
CMSA	**Cobar Meteorol**	**8.64**	**19**	P	**Pn**	**02 47 00.6**	**+1.0**
	baz=8.7						
CMSA				S	**Sn**	**02 48 32.9**	**-4.2**
	baz=8.7						
BBOO	**Buckleboo**	**8.66**	**322**	P	**Pn**	**02 47 01.3**	**+1.6**
	baz=8.7,SNR=370						
BBOO				S	**Sn**	**02 48 32.7**	**-4.7**
	baz=8.7,SNR=8.7						
BBOO	**Buckleboo**	**8.66**	**322**	Pn	**Pn**	**02 47 01.0**	**+1.3**
LCRK	**Leigh Creek**	**9.94**	**338**	P	**Pn**	**02 47 18.7**	**+1.4**
	baz=10.0,SNR=43						
LCRK				S	**Sn**	**02 49 03.6**	**-5.2**
	baz=10.0,SNR=8.1						
MULG	**Mulgathing**	**11.70**	**322**	P	**Pn**	**02 47 41.8**	**+0.3**
	baz=12,SNR=81						
MULG				S	**Sn**	**02 49 49.7**	**-2.4**
	baz=12,SNR=4.9						
INKA	**Innaminka**	**12.10**	**353**	S	**Sn**	**02 49 57.6**	**-4.2**
	baz=12,SNR=5.3						
OOD	**Oodnadatta**	**13.21**	**333**	P	**Pn**	**02 48 02.0**	**0.0**
	baz=13,SNR=37						
QLP	**Quilpie**	**13.25**	**7**	P	**Pn**	**02 48 03.6**	**+0.9**
	baz=13,SNR=10						
FORT	**Forrest**	**14.77**	**303**	P	**Pn**	**02 48 24.1**	**+0.7**
	baz=15,SNR=106						
FORT				S	**Sn**	**02 51 04.5**	**-2.6**
	baz=15,SNR=4.9						
FORT	**Forrest**	**14.77**	**303**		**Pn**	**02 48 23.8**	**+0.4**
ASAR	**Alice Springs**	**17.62**	**333**	P	**Pn**	**02 49 00.3**	**+0.2**
	1.5nm,0.3s,baz=175,slow=8.9,SNR=156						
ASAR				S	Sn	02 52 00.8	-16
	0.9nm,0.3s,baz=159,slow=23,SNR=5.5						
AS31	**Alice Springs**	**17.62**	**333**		**P**	**02 49 00.9**	**-0.2**
QIS	**Mount Isa**	**19.32**	**352**	P	**P**	**02 49 20.1**	**+0.3**
	baz=19,SNR=5.3						
QIS				S	Sn	02 52 44.6	-13
	baz=19,SNR=4.7						
CTA	**Charters Tower

MOTA	**Moosalm**	**144.43**	**299**	*i* P		PKPbc	03 04 29.6	**+0.5**
	comp=Z,15nm,1.2s,SNR=7.9								
FETA	**Feichten**	**144.65**	**298**	*e*P		PKPbc	03 04 30.3	**+0.5**
	comp=Z,15nm,1.1s								
RETA	**Reutte**	**144.67**	**299**	*i* P		PKPbc	03 04 30.2	**+0.4**
	comp=Z,9.0nm,0.6s,SNR=6.4								
DAVA	**Damuels**	**145.25**	**298**	*i* P		**PKPdf**	**03 04 32.5**	**+0.4**
	comp=Z,24nm,1.0s,SNR=9.1								
ESDC	**Sonseca Array**	**154.24**	**281**		PKPab	**PKPab**	**03 05 08.7**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=97,slow=2.1,SNR=4.9								
ESDC	**Sonseca Array**	**154.24**	**281**			**PKPab**	**03 05 08.4**	**-0.2**

MEX 17 02:45:21.1±0.4,**14°47N**×**92°69W**,**h23**km±163km,**MD3.7, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.33**	**338**	*i* P	Pn	02 45 41.6	-2.7
PCIG				*i* S	Sn	02 45 56.9	-4.4

IDC ***17*** *02:50:59.9*±*1.1,29°.85S*×*70°.73W,h0*km*,mb4.2/5, mb1 4.3/6,mb1mx4.1/25,mbtmp4.1/6,ML4.1/1,Error ellipse: s-maj=42.2km s-min=27.9km az=59.0*

NEIC ***17*** *02:51:01.2*±*2.1,30°.52S*±*0°.06*×*72°.35W*±*0°.02,h10*km±*1km, mb4.5/13,Error ellipse: s-maj=10.5km s-min=2.9km az=192.0*

ISC 17 02:51:01.0±0.8,**30°50S**±0°.07×**72°28W**±0°.07,**h10**km,**n23,** σ1§**23**/22,**mb4.4/9,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.58**	**108**		**Pb**	**02 51 14.6**	**+1.2**
CO06					**Sg**	**02 51 21.3**	**+1.1**
GO04	**Tololo Observa**	**1.32**	**76**		**Pn**	**02 51 26.4**	**+0.6**
GO04					Sn	**Sb**	**02 51 40.9**	**-2.3**
AC04	**Llanos de Chal**	**2.52**	**25**	Pn	**Pn**	**02 51 42.1**	**+0.1**
VA03	**San Esteban**	**2.70**	**147**	Pn	**Pn**	**02 51 43.5**	**-1.2**
LPAZ	**La Paz**	**14.64**	**16**	Pn	**Pn**	**02 54 27.5**	**-1.5**
SIV	**San Ignacio**	**17.72**	**38**	Pn	Pn	02 54 51.8	-16
	0.6nm,0.3s,baz=282,slow=8.2,SNR=5.7						
SAML	**Samuel**	**23.06**	**24**	P	**P**	**02 56 05.7**	**-1.1**
RUSC	**La Rusia**	**36.19**	**359**	P	**P**	**02 58 04.3**	**-0.3**
SNAA	**Sanae**	**54.91**	**159**	P	**P**	**03 00 33.0**	**+1.4**
	5.8nm,1.0s,baz=278,slow=6.9,SNR=8.2						
SNAA	**Sanae**	**54.91**	**159**	P	**P**	**03 00 32.1**	**+0.5**
SNAA				IAmb	IAmb	03 00 34.0	
	comp=Z,7.2nm,1.0s						
QSPA	**South Pole Qui**	**59.73**	**180**	P	**P**	**03 01 03.9**	**-1.9**
QSPA				IAmb	IAmb	03 01 08.4	
	comp=Z,10nm,1.3s						
TXAR	**Lajitas Array**	**66.59**	**330**	P	**P**	**03 01 53.0**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=150,slow=8.3,SNR=11						
HHAR	**Hobbs**	**69.47**	**341**	P	**P**	**03 02 10.6**	**+1.1**
HHAR				IAmb	IAmb	03 02 10.9	
	comp=Z,5.6nm,0.8s						
OK032	**Salt Plains WL**	**71.23**	**338**	P	**P**	**03 02 20.2**	**0.0**
P40A	**Paris**	**72.06**	**344**	P	**P**	**03 02 25.2**	**+0.1**
DBIC	**Dimbokro**	**74.28**	**72**	P	P	03 02 31.4	-7.5
	comp=Z,3.4nm,0.5s,baz=213,slow=4.2,SNR=5.2						
X16A	**Lo Mia Camp, P**	**74.38**	**327**		**P**	**03 02 39.7**	**+0.4**
X16A				IAmb	IAmb	03 02 42.3	
	comp=Z,3.2nm,1.1s						
SDCO	**Great Sand Dun**	**74.66**	**333**	P	**P**	**03 02 40.7**	**-0.2**
HWUT	**Hardware Ranch**	**80.39**	**331**	P	**P**	**03 03 12.7**	**0.0**
HWUT				IAmb	IAmb	03 03 14.8	
	comp=Z,3.4nm,0.8s						
PDAR	**Pinedale Array**	**80.55**	**333**	P	**P**	**03 03 15.6**	**+2.0**
	comp=Z,6.3nm,0.7s,baz=146,slow=9.7,SNR=2.7						
PDAR	**Pinedale Array**	**80.55**	**333**	P	**P**	**03 03 14.5**	**+0.8**
TORD	**Torodi Ar. Bea**	**83.22**	**71**	P	P	03 03 21.1	-7.0
	comp=Z,1.7nm,0.8s,baz=258,slow=4.2,SNR=5.2						
ZALV	**Zalesovo Beam**	**151.32**	**29**	PKPbc	**PKPdf**	**03 10 49.7**	**+1.3**
	comp=Z,3.8nm,0.4s,baz=311,slow=2.7,SNR=6.8						

IDC ***17*** *02:52:42.7*±*0.5,31°.04S*×*71°.36W,h46*km±*4km,mb4.4/12, mb1 4.5/15,mb1mx4.4/26,mbtmp4.6/15,Error ellipse: s-maj=19.8km s-min=13.2km az=79.0*

SJA ***17*** *02:52:42.3*±*1.3,30°.96S*×*71°.44W,h20*km±*7km,ML4.6, MW4.5*

GUC ***17*** *02:52:43.0*±*0.6,30°.92S*×*71°.35W,h45*km±*3km,ML4.8*

NEIC ***17*** *02:52:43.3*±*1.2,31°.00S*±*0°.04*×*71°.40W*±*0°.02,h50*km±*5km, Error ellipse: s-maj=5.8km s-min=2.4km az=198.0*

ISC 17 02:52:42.6±0.5,**31°02S**±0°.03×**71°52W**±0°.04,**h47**km±4km, **h47**km:**pP-P,n152,**σ1§**40**/160,**mb4.8**/33,**1C-4D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.35**	**344**	⇑*i*P	**Pn**	**02 52 52.8**	**+0.7**
CO06				*e*S	**Sn**	**02 52 59.9**	**+1.2**
CO06	**Fray Jorge**	**0.35**	**344**	Pn	**Pn**	**02 52 52.5**	**+0.5**
CO06				Sn	**Sn**	**02 53 00.2**	**+1.5**
CO03	**El Pedregal**	**0.74**	**76**	⇓*i*P	**Pn**	**02 52 56.1**	**-0.7**
CO03				*e*S	**Sn**	**02 53 05.4**	**-1.7**
CO03				IAML		02 53 06.1	
	comp=E,58μm,0.2s						
CO03	**El Pedregal**	**0.74**	**76**	Pn	**Pn**	**02 52 56.1**	**-0.7**
CO03				Sn	**Sn**	**02 53 05.7**	**-1.4**
CO03	**El Pedregal**	**0.74**	**76**	*i* P	**Pn**	**02 52 56.0**	**-0.7**
CO03				*e*S	**Sn**	**02 53 05.3**	**-1.7**
CO03				IAML		02 53 07.5	
	comp=Z,18μm,0.2s						
GO04	**Tololo Observa**	**1.05**	**37**	⇓*e*P	**Pn**	**02 53 01.1**	**0.0**
GO04				*e*S	**Sn**	**02 53 14.7**	**-0.1**
GO04	**Tololo Observa**	**1.05**	**37**		**Pn**	**02 53 00.8**	**-0.3**
GO04	**Tololo Observa**	**1.05**	**37**	*e*P	**Pn**	**02 53 00.8**	**-0.3**
GO04				⇓*e*S	**Sn**	**02 53 14.8**	**+0.1**
VA03	**San Esteban**	**1.93**	**155**	*e*P	**Pn**	**02 53 13.7**	**+0.7**
VA03				IAML		02 53 42.1	
	comp=E,16μm,0.4s						
VA03	**San Esteban**	**1.93**	**155**	Pn	**Pn**	**02 53 13.5**	**+0.5**
VA03				Sn	**Sn**	**02 53 36.7**	**+0.6**
AROD	**Rodeo**	**1.96**	**65**	⇓*e*P	**Pn**	**02 53 16.1**	**+2.5**
ROCH	**El Roble**	**2.00**	**168**	*e*P	**Pn**	**02 53 14.8**	**+0.7**
ROCH				IAML		02 53 44.4	
	comp=N,12μm,0.4s						
VA01	**Torpederas**	**2.00**	**183**	*e*P	**Pn**	**02 53 12.8**	**-1.2**
VA01				IAML		02 53 51.4	
	comp=E,5μm,0.6s						
VA01	**Torpederas**	**2.00**	**183**	Pn	**Pn**	**02 53 16.5**	**+2.5**
VA01	**Torpederas**	**2.00**	**183**	*i* P	**Pn**	**02 53 16.7**	**+2.8**
VA01				IAML		02 53 48.5	
	comp=Z,5μm,0.9s						
RTLS	**Leoncito**	**2.06**	**113**	*i* P	**Pn**	**02 53 16.7**	**+1.8**
RTLS				IAML		02 53 55.5	
	comp=Z,2μm,0.8s						
LCO	**Las Campanas**	**2.12**	**20**	*e*P	**Pn**	**02 53 16.8**	**+0.9**
LCO				*e*S	**Sn**	**02 53 41.8**	**+0.7**
LCO	**Las Campanas**	**2.12**	**20**	Pn	**Pn**	**02 53 16.4**	**+0.6**
LCO				Sn	**Sn**	**02 53 39.9**	**-1.2**
LCO	**Las Campanas**	**2.12**	**20**	*i* P	**Pn**	**02 53 17.0**	**+1.2**
LCO				*e*S	**Sn**	**02 53 42.3**	**+1.2**
LCO				IAML		02 53 55.9	
	comp=Z,23μm,0.7s						
ACCO	**Cerro Coronel**	**2.16**	**79**	*i* P	**Pn**	**02 53 19.0**	**+2.6**
ACCO				IAML		02 54 25.7	
	comp=Z,1μm,0.8s						
AUSP	**Uspallata**	**2.18**	**124**	*e*P	**Pn**	**02 53 18.8**	**+2.1**
ACDV	**Cuesta del Vie**	**2.24**	**68**	*i* P	**Pn**	**02 53 20.0**	**+2.7**
ACDV				IAML		02 53 50.1	
	comp=Z,2μm,0.4s						
MT05	**Renca**	**2.46**	**165**	*e*P	**Pn**	**02 53 20.4**	**+0.1**
MT05				IAML		02 53 57.8	
	comp=E,12μm,0.3s						
MT05	**Renca**	**2.46**	**165**	Pn	**Pn**	**02 53 21.1**	**+0.8**
ZON	**Zonda**	**2.49**	**103**		**Pn**	**02 53 20.7**	**0.0**
ZON	**Zonda**	**2.49**	**103**	*i* P	**Pn**	**02 53 24.0**	**+3.3**
ZON				IAML		02 54 11.1	
	comp=Z,10μm,0.7s						
RTLL	**Cerro Villicun**	**2.63**	**98**	*i* P	**Pn**	**02 53 24.4**	**+1.8**
VA05	**Santo Domingo**	**2.63**	**182**	Pn	**Pn**	**02 53 23.8**	**+1.2**
RTCV	**Cerro Valdivia**	**2.68**	**109**	*i* P	**Pn**	**02 53 26.0**	**+2.7**
RTCV				IAML		02 54 17.4	
	comp=Z,551nm,0.9s						
ASAL	**Salagasta**	**2.77**	**125**	*e*P	**Pn**	**02 53 27.2**	**+2.6**
ASAL				IAML		02 54 16.7	
	comp=Z,1μm,0.7s						
MT09	**Talagante**	**2.79**	**171**	*e*P	**Pn**	**02 53 28.6**	**+3.7**
MT09	**Talagante**	**2.79**	**171**		**Pn**	**02 53 25.7**	**+0.8**
AC04	**Llanos de Chal**	**2.83**	**8**	*e*P	**Pn**	**02 53 26.1**	**+0.8**
AC04				IAML		02 54 11.3	
	comp=E,4μm,0.4s						
AC04	**Llanos de Chal**	**2.83**	**8**	Pn	**Pn**	**02 53 24.9**	**-0.4**
AC04	**Llanos de Chal**	**2.83**	**8**	*e*P	**Pn**	**02 53 28.3**	**+3.0**
AC04				IAML		02 54 18.0	
	comp=Z,2μm,0.9s						
MT01	**Popeta**	**2.85**	**175**	*e*P	**Pn**	**02 53 25.1**	**-0.5**
MT01				IAML		02 54 10.4	
	comp=E,5μm,0.3s						
MT01	**Popeta**	**2.85**	**175**		**Pn**	**02 53 26.0**	**+0.4**
MT01	**Popeta**	**2.85**	**175**	*i* P	**Pn**	**02 53 30.0**	**+4.4**
MT01				IAML		02 54 16.9	
	comp=Z,2μm,0.6s						
ARCO	**CERRO ARCO**	**2.86**	**130**	*i* P	Pn	02 53 30.0	+4.2
ARCO				IAML		02 54 14.1	
	comp=Z,5μm,0.7s						
LMEL	**Las Melosas**	**3.04**	**159**	*e*P	**Pn**	**02 53 29.8**	**+1.5**
AAGR	**Agrelo**	**3.08**	**133**	*i* P	Pn	02 53 33.0	+4.2
AAGR				IAML		02 54 37.1	
	comp=Z,1μm,0.9s						
BO01	**Tunca**	**3.39**	**174**	*e*P	**Pn**	**02 53 36.5**	**+3.6**
BO01				*e*S	**Sn**	**02 54 11.0**	**-0.8**
BO01	**Tunca**	**3.39**	**174**	Pn	**Pn**	**02 53 33.7**	**+0.7**
BO01	**Tunca**	**3.39**	**174**	*i* P	**Pn**	**02 53 37.0**	**+4.1**
BO01				IAML		02 54 29.8	
	comp=Z,1μm,0.6s						
GO03	**Copiap**	**3.59**	**19**	Pn	**Pn**	**02 53 33.6**	**-2.2**
GO03	**Copiap**	**3.59**	**19**	*i* P	**Pn**	**02 53 37.3**	**+1.5**
VCA	**Vinchina**	**3.67**	**53**	*i* P	**Pn**	**02 53 40.6**	**+3.6**
VCA				IAML		02 54 34.8	
	comp=Z,6μm,0.6s						
BO02	**Sierra Bellavi**	**3.82**	**171**	Pn	**Pn**	**02 53 39.5**	**+0.6**
BO02	**Sierra Bellavi**	**3.82**	**171**	*i* P	Pn	02 53 44.0	+5.1
BO02				IAML		02 54 40.2	
	comp=Z,2μm,0.6s						
GO05	**Huala**	**4.00**	**185**	Pn	**Pn**	**02 53 40.3**	**-1.1**
RFA	**San Rafael**	**4.54**	**146**	*i* P	**Pn**	**02 53 52.0**	**+3.2**
RFA				IAML		02 54 49.1	
	comp=Z,472nm,0.7s						
ML02	**Panimavida**	**4.74**	**179**	Pn	**Pn**	**02 53 51.2**	**-0.2**
MRA	**San Martin**	**5.14**	**107**	*i* P	**Pn**	**02 54 00.0**	**+2.9**
MRA				IAML		02 55 04.3	
	comp=Z,715nm,0.8s						
H03N1	**Juan Fernandez**	**6.71**	**247**	T	T	03 01 43.4	
	baz=76,slow=72,SNR=88						
VA04	**Juan Fernndez**	**6.72**	**245**	Pn	**Pn**	**02 54 18.1**	**-0.5**
H03N3	**Juan Fernandez**	**6.73**	**247**	T	T	03 01 44.5	
	baz=76,slow=72,SNR=89						
H03N2	**Juan Fernandez**	**6.73**	**247**	T	T	03 01 38.2	
	baz=76,slow=72,SNR=70						
LC01	**Cunco**	**7.87**	**182**	Pn	**Pn**	**02 54 32.6**	**-1.8**
LR03	**Panguipulli**	**8.62**	**184**	Pn	**Pn**	**02 54 42.7**	**-2.0**
PB04	**IPOC Station P**	**8.73**	**8**	Pn	Pn	02 54 40.7	-5.8
PLCA	**Paso Flores**	**9.73**	**176**	P	**Pn**	**02 54 59.4**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=336,slow=15,SNR=2.2						
PLCA	**Paso Flores**	**9.73**	**176**	Pn	**Pn**	**02 54 59.0**	**-1.0**
TRQA	**Tornquist**	**10.54**	**134**	Pn	**Pn**	**02 55 11.0**	**0.0**
LPAZ	**La Paz**	**14.98**	**13**	P	**Pn**	**02 56 13.5**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=131,slow=3.4,SNR=7.5						
SIV	**San Ignacio**	**17.74**	**35**	P	**P**	**02 56 46.3**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=204,slow=9.0,SNR=11						
USHA	**Ushuaia**	**23.91**	**176**	P	**P**	**02 57 51.9**	**+0.1**
	comp=Z,39nm,0.7s,baz=16,slow=2.6,SNR=6.0						
BDFB	**Brasilia**	**26.38**	**60**	P	**P**	**02 58 13.6**	**-1.1**
	comp=Z,19nm,0.8s,baz=231,slow=8.9,SNR=8.7						
ORTC	**Ortega, Tolima**	**34.91**	**353**	*e*P	**P**	**02 59 32.7**	**+2.8**
CHIC	**Chingaza**	**35.51**	**356**	*e*P	**P**	**02 59 37.0**	**+1.5**
GUY2C	**Guyana, Caldas**	**36.22**	**354**	*e*P	**P**	**02 59 44.1**	**+2.5**
NORC	**Norcasia**	**36.51**	**354**	*e*P	**P**	**02 59 45.7**	**+2.1**
SPBC	**San Pablo de B**	**36.54**	**356**	*e*P	**P**	**02 59 44.8**	**+0.9**
RUSC	**La Rusia**	**36.73**	**357**	*e*P	**P**	**02 59 47.8**	**+1.8**
CBOC	**Ciudad Bolivar**	**36.92**	**353**	*e*P	**P**	**02 59 48.8**	**+1.5**
HELC	**Santa Helena**	**37.19**	**353**	*e*P	**P**	**02 59 51.5**	**+1.7**
DBBC	**Dabeiba**	**38.08**	**352**	*e*P	**P**	**02 59 59.6**	**+2.7**
ZARC	**Zaragoza, Cauc**	**38.42**	**355**	*e*P	**P**	**03 00 00.2**	**+0.5**
UREC	**San Jos de Ur**	**38.74**	**354**	*e*P	**P**	**03 00 03.5**	**+1.1**
SMLC	**San Martn de**	**39.66**	**356**	*e*P	**P**	**03 00 09.7**	**-0.4**
SDV	**Santo Domingo**	**39.68**	**1**	P	**P**	**03 00 10.6**	**+0.1**
	comp=Z,7.5nm,0.6s,baz=225,slow=4.7,SNR=2.9						
SJCC	**San Jacinto, C**	**40.83**	**354**	P	**P**	**03 00 19.6**	**-0.2**
SJCC				IAmb	IAmb	03 00 24.4	
	comp=Z,13nm,0.9s						
CRPR	**Cabo Rojo, PR**	**48.92**	**6**	P	**P**	**03 01 23.4**	**-0.6**
OBIP	**Obispado Ponce**	**49.01**	**6**	P	**P**	**03 01 23.3**	**-1.4**
OBIP				IAmb	IAmb	03 01 25.5	
	comp=Z,12nm,0.8s						
VNA3	**Neumayer Olymp**	**51.96**	**159**	P	**P**	**03 01 46.5**	**0.0**
VNA3	**Neumayer Olymp**	**51.96**	**159**	pP	pP	03 01 59.4	-0.4
VNA1	**Neumayer--Stat**	**52.25**	**158**	P	**P**	**03 01 48.2**	**-0.3**
VNA1	**Neumayer--Stat**	**52.25**	**158**	pP	pP	03 02 02.3	+0.5
VNA2	**Neumayer--Watz**	**52.60**	**158**	P	**P**	**03 01 51.0**	**-0.1**
	baz=286,slow=8.2						
VNA2	**Neumayer--Watz**	**52.60**	**158**	pP	pP	03 02 04.1	-0.4
SNAA	**Sanae**	**54.19**	**159**	P	**P**	**03 02 02.6**	**-0.3**
SNAA	**Sanae**	**54.19**	**159**	pP	pP	03 02 15.9	-0.3
SNAA	**Sanae**	**54.19**	**159**	P	**P**	**03 02 02.3**	**-0.6**
SNAA					**pP**	**03 02 15.7**	**-0.5**
QSPA	**South Pole Qui**	**59.21**	**180**	P	**P**	**03 02 39.3**	**+0.6**
VNDA	**Vanda**	**67.11**	**191**	P	**P**	**03 03 31.8**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=131,slow=4.1,SNR=5.3						
TX31	**Lajitas Ar. Si**	**67.37**	**330**	P	**P**	**03 03 33.6**	**+0.6**
TX31				IAmb	IAmb	03 03 35.2	
	comp=Z,5.4nm,0.9s						
TX32	**Lajitas Array**	**67.37**	**330**	P	**P**	**03 03 34.0**	**+1.0**
TXAR	**Lajitas Array**	**67.37**	**330**	P	**P**	**03 03 34.2**	**+1.2**
	comp=Z,1.4nm,0.7s,baz=149,slow=7.3,SNR=12						
TXAR				pP	**pP**	**03 03 47.1**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=150,slow=8.0,SNR=12						
WVT	**Waverly**	**68.53**	**346**	P	**P**	**03 03 39.7**	**-0.3**
WVT				IAmb	IAmb	03 03 41.1	
	comp=Z,14nm,0.9s						
LCAR	**Lake Charles**	**69.23**	**343**	P	**P**	**03 03 43.9**	**-0.5**
LCAR				IAmb	IAmb	03 03 45.4	
	comp=Z,9.2nm,0.6s						
S44A	**Carbondale**	**70.34**	**345**	P	**P**	**03 03 51.0**	**-0.2**
S44A				IAmb	IAmb	03 03 51.8	
	comp=Z,7.2nm,0.7s						
MSTX	**Muleshoe**	**71.05**	**333**	P	**P**	**03 03 55.9**	**+0.2**
MSTX				IAmb	IAmb	03 03 57.3	
	comp=Z,9.1nm,0.8s						
CCM	**Cathedral Cave**	**71.14**	**344**	P	**P**	**03 03 56.5**	**+0.4**
CCM				IAmb	IAmb	03 03 57.0	
	comp=Z,9.7nm,0.7s						
S39A	**Bolivar**	**71.33**	**342**	P	**P**	**03 03 57.5**	**+0.3**
S39A				IAmb	IAmb	03 03 58.6	
	comp=Z,11nm,1.2s						
R40A	**Maddies Statio**	**71.62**	**343**	P	**P**	**03 03 59.2**	**+0.3**
R40A				IAmb	IAmb	03 04 00.2	
	comp=Z,15nm,0.7s						
ACSO	**Alum Creek Sta**	**71.68**	**351**	P	**P**	**03 03 59.4**	**+0.1**
ACSO				IAmb	IAmb	03 04 00.1	
	comp=Z,12nm,0.8s						
N49A	**Columbus Grove**	**72.53**	**350**	P	**P**	**03 04 04.2**	**-0.1**
N49A				IAmb	IAmb	03 04 05.1	
	comp=Z,12nm,0.8s						
LIC	**Lamto**	**73.43**	**72**	*e*P	**P**	**03 04 09.5**	**-0.8**
	comp=Z,39nm,0.7s						
N41A	**Harden Midland**	**73.58**	**345**	P	**P**	**03 04 10.8**	**+0.3**
N41A				IAmb	IAmb	03 04 11.3	
	comp=Z,11nm,0.9s						
TIC	**Toumodi**	**73.67**	**72**	*e*P	**P**	**03 04 10.9**	**-0.8**
KIC	**Kosan Boka**	**73.74**	**72**	*e*P	**P**	**03 04 11.5**	**-0.6**
	comp=Z,46nm,0.8s						
DBIC	**Dimbokro**	**73.82**	**72**	P	**P**	**03 04 12.1**	**-0.5**
	comp=Z,20nm,0.6s,baz=231,slow=5.7,SNR=26						
T25A	**Trinidad**	**74.46**	**333**	P	**P**	**03 04 15.5**	**-0.6**
T25A				IAmb	IAmb	03 04 18.9	
	comp=Z,8.5nm,0.9s						
L40A	**Anamosa**	**74.95**	**345**	P	**P**	**03 04 18.4**	**0.0**
X16A	**Lo Mia Camp, P**	**75.17**	**327**	P	**P**	**03 04 22.1**	**+1.9**
MAW	**Mawson**	**75.91**	**164**	P	**P**	**03 04 23.7**	**0.0**
	comp=Z,4.3nm,0.6s,baz=200,slow=5.8,SNR=14						
MAW				pP	**pP**	**03 04 37.3**	**-0.4**
	comp=Z,12nm,0.9s,baz=226,slow=7.2,SNR=12						
MAW	**Mawson**	**75.91**	**164**	P	**P**	**03 04 23.7**	**0.0**
K31A	**O'Neill**	**77.44**	**340**	P	**P**	**03 04 33.0**	**+0.4**
ECSD	**EROS Data Cent**	**77.86**	**342**	P	**P**	**03 04 35.2**	**+0.3**
ECSD				IAmb	IAmb	03 04 36.3	
	comp=Z,14nm,0.8s						
CCUT	**Cedar City**	**78.63**	**327**	P	**P**	**03 04 38.4**	**-1.2**
KOWA	**Kowa**	**79.01**	**66**	P	**P**	**03 04 41.2**	**-0.8**
RDMU	**Red Mountain**	**79.47**	**331**	P	**P**	**03 04 44.6**	**+0.5**
RDMU				IAmb	IAmb	03 04 46.1	
	comp=Z,6.3nm,0.8s						
TPNV	**Topopah Spring**	**79.53**	**325**	P	**P**	**03 04 44.1**	**-0.4**
TSUM	**Tsumeb**	**79.61**	**106**	P	**P**	**03 04 43.9**	**-1.6**
TSUM				IAmb	IAmb	03 04 46.3	
	comp=Z,7.3nm,0.8s						
MPU	**Maple Canyon**	**79.87**	**330**	P	**P**	**03 04 47.7**	**+1.4**
BOSA	**Boshof**	**81.07**	**118**	P	**P**	**03 04 53.0**	**-0.1**
	comp=Z,8.7nm,0.8s,baz=216,slow=3.3,SNR=11						
BOSA	**Boshof**	**81.07**	**118**	P	**P**	**03 04 52.7**	**-0.5**
BOSA				IAmb	IAmb	03 04 53.2	
	comp=Z,10nm,0.8s						
HWUT	**Hardware Ranch**	**81.16**	**331**	P	**P**	**03 04 51.8**	**-1.4**
HWUT				IAmb	IAmb	03 04 54.8	
	comp=Z,5.5nm,0.8s						
PDAR	**Pinedale Array**	**81.31**	**333**	P	**P**	**03 04 54.5**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=136,slow=7.7,SNR=5.9						
PDAR				pP	**pP**	**03 05 08.1**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=150,slow=6.8,SNR=7.0						
NVAR	**Mina Array Bea**	**81.70**	**325**	P	**P**	**03 04 57.5**	**+1.4**
	comp=Z,1.7nm,0.9s,baz=151,slow=6.2,SNR=8.4						
NVAR				pP	**pP**	**03 05 10.8**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=154,slow=5.8,SNR=6.8						
HVU	**Hansel Valley**	**81.81**	**330**	P	**P**	**03 04 54.9**	**-1.7**
ELK	**Elko**	**82.06**	**328**	P	**P**	**03 04 57.7**	**-0.3**
KVN	**Kaiserville**	**82.08**	**325**	P	**P**	**03 04 58.5**	**+0.4**
TORD	**Torodi Ar. Bea**	**82.78**	**70**	P	**P**	**03 05 01.4**	**-0.7**
	comp=Z,16nm,0.7s,baz=278,slow=5.4,SNR=46						
TORD				pP	**pP**	**03 05 15.7**	**-0.4**
	comp=Z,5.8nm,0.6s,baz=276,slow=5.1,SNR=6.5						
TORD	**Torodi Ar. Bea**	**82.78**	**70**	P	**P**	**03 05 01.3**	**-0.8**
LBTB	**Lobatse**	**83.16**	**115**	P	**P**	**03 05 03.4**	**-0.8**
LBTB				IAmb	IAmb	03 05 04.1	
	comp=Z,11nm,0.7s						
ULM	**Lac du Bonnet**	**83.74**	**345**	P	**P**	**03 05 06.1**	**0.0**
	comp=Z,5.8nm,0.8s,baz=128,slow=2.6,SNR=4.9						
ULM				pP	**pP**	**03 05 19.6**	**-0.6**
	comp=Z,13nm,0.9s,baz=162,slow=6.4,SNR=8.0						
HLID	**Hailey**	**83.97**	**330**	P	**P**	**03 05 08.0**	**+0.2**
DGMT	**Dagmar**	**84.36**	**339**	P	**P**	**03 05 10.0**	**+0.6**
ASAR	**Alice Springs**	**120.42**	**207**	PKP	**PKPdf**	**03 11 28.2**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=155,slow=2.3,SNR=8.3						
WRA	**Warramunga Arr**	**123.57**	**210**	PKP	**PKPdf**	**03 11 34.6**	**-0.9**
	comp=Z,2.0nm,0.7s,baz=160,slow=1.3,SNR=23						
WRA				pPKP	**pPKPdf**	**03 11 48.6**	**-1.4**
	comp=Z,1.9nm,0.7s,baz=153,slow=2.1,SNR=8.6						
WRA	**Warramunga Arr**	**123.57**	**210**	PKPdf	**PKPdf**	**03 11 34.7**	**-0.7**
H11S2	**WAKE ISLAND Hyl**	**126.20**	**271**	T	T	05 30 28.9	
	baz=116,slow=75,SNR=60						
H11S1	**WAKE ISLAND Hyl**	**126.22**	**271**	T	T	05 30 30.1	
	baz=116,slow=75,SNR=76						
H11S3	**WAKE ISLAND Hyl**	**126.22**	**271**	T	T	05 30 31.4	
	baz=116,slow=75,SNR=50						
HYB	**Hyderabad**	**149.65**	**110**	*i* PKP	**PKPbc**	**03 12 28.0**	**+0.4**
ZALV	**Zalesovo Beam**	**151.45**	**30**	PKPbc	**PKPbc**	**03 12 30.5**	**-0.2**
	comp=Z,7.5nm,0.5s,baz=302,slow=3.6,SNR=9.3						
ZALV				pPKPbc	**pPKPbc**	**03 12 44.9**	**-0.4**
	comp=Z,5.6nm,0.5s,baz=298,slow=3.4,SNR=5.4						
ZALV	**Zalesovo Beam**	**151.45**	**30**	PKPbc	**PKPbc**	**03 12 30.7**	**-0.1**
MKAR	**Makanchi Array**	**154.41**	**45**	PKPbc	**PKPbc**	**03 12 37.1**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=293,slow=1.3,SNR=5.0						
MKAR

RTCV	**Cerro Valdivia**	**2.60**	**111**	*i*	P		**Pn**	**03 00 14.0**	**+4.3**
RTCV					IAML			03 01 13.5	
	comp=Z,562nm,0.9s								
VA05	**Santo Domingo**	**2.71**	**184**		Pn		**Pn**	**03 00 10.7**	**-0.5**
AC04	**Llanos de Chal**	**2.75**	**6**		Pn		**Pn**	**03 00 12.8**	**+1.0**
AC04	**Llanos de Chal**	**2.75**	**6**	*i*	P		**Pn**	**03 00 14.0**	**+2.3**
AC04				*e*	S		**Sn**	**03 00 48.8**	**+5.1**
AC04					IAML			03 00 55.7	
	comp=Z,5µm,0.5s								
MT09	**Talagante**	**2.84**	**173**	*e*	P		**Pn**	**03 00 13.2**	**+0.1**
MT09				*i*	S		**Sn**	**03 00 47.2**	**+1.0**
MT09					IAML			03 01 03.1	
	comp=E,14µm,0.5s								
MT09	**Talagante**	**2.84**	**173**				**Pn**	**03 00 12.4**	**-0.7**
MT01	**Popeta**	**2.91**	**178**	*e*	P		**Pn**	**03 00 13.8**	**-0.2**
MT01	**Popeta**	**2.91**	**178**		Pn		**Pn**	**03 00 13.4**	**-0.5**
MT01	**Popeta**	**2.91**	**178**	*i*	P		**Pn**	**03 00 15.0**	**+1.1**
MT01					IAML			03 01 10.4	
	comp=Z,3µm,0.6s								
AAGR	**Agrelo**	**3.04**	**135**	*i*	P		Pn	03 00 21.0	+5.1
AAGR					IAML			03 01 18.5	
	comp=Z,2µm,1.3s								
LMEL	**Las Melosas**	**3.06**	**161**	*e*	P		**Pn**	**03 00 17.5**	**+1.4**
LMEL					IAML			03 01 08.6	
	comp=N,4µm,0.4s								
BO01	**Tunca**	**3.44**	**176**	*i*	P		**Pn**	**03 00 21.1**	**-0.2**
BO01	**Tunca**	**3.44**	**176**		Pn		**Pn**	**03 00 20.6**	**-0.6**
BO01	**Tunca**	**3.44**	**176**	*i*	P		**Pn**	**03 00 25.0**	**+3.7**
BO01					IAML			03 01 22.2	
	comp=Z,2µm,0.8s								
GO03	**Copiap**	**3.49**	**17**		Pn		**Pn**	**03 00 22.2**	**+0.1**
GO03	**Copiap**	**3.49**	**17**	*i*	P		**Pn**	**03 00 24.0**	**+2.0**
VCA	**Vinchina**	**3.54**	**52**	*i*	P		**Pn**	**03 00 27.0**	**+4.3**
VCA					IAML			03 01 16.2	
	comp=Z,5µm,0.5s								
BO02	**Sierra Bellavi**	**3.87**	**173**		Pn		**Pn**	**03 00 26.4**	**-0.8**
BO02	**Sierra Bellavi**	**3.87**	**173**	*i*	P		**Pn**	**03 00 30.0**	**+2.8**
BO02					IAML			03 01 35.6	
	comp=Z,2µm,1.1s								
GO05	**Huala**	**4.08**	**186**				**Pn**	**03 00 28.1**	**-1.9**
TINO	**Tinogasta**	**4.40**	**50**	*i*	P		**Pn**	**03 00 39.0**	**+4.5**
AC02	**Maricunga**	**4.55**	**26**		Pn		**Pn**	**03 00 36.8**	**-0.2**
AC02	**Maricunga**	**4.55**	**26**	*i*	P		**Pn**	**03 00 40.0**	**+3.0**
AC02					IAML			03 01 52.7	
	comp=Z,2µm,1.3s								
ML02	**Panimavida**	**4.80**	**180**		Pn		**Pn**	**03 00 38.5**	**-1.4**
MRA	**San Martin**	**5.05**	**108**	*i*	P		**Pn**	**03 00 47.0**	**+3.6**
MRA					IAML			03 01 49.9	
	comp=Z,426nm,0.5s								
CYA	**Choya**	**5.46**	**64**	*i*	P		**Pn**	**03 00 50.0**	**+0.9**
CYA					IAML			03 01 59.5	
	comp=Z,1µm,1.0s								
PB14	**IPOC Station P**	**6.36**	**8**		Pn		**Pn**	**03 01 00.8**	**-0.9**
PB14	**IPOC Station P**	**6.36**	**8**	*i*	P		**Pn**	**03 01 01.0**	**-0.6**
PB14					IAML			03 02 44.7	
	comp=Z,1µm,0.8s								
AHML	**Horco Molle**	**6.74**	**53**	*i*	P		**Pn**	**03 01 08.0**	**+1.5**
AHML					IAML			03 03 08.0	
	comp=Z,240nm,0.8s								
FSA	**Cafayete**	**6.77**	**46**	*i*	P		**Pn**	**03 01 10.1**	**+3.0**
H03N1	**Juan Fernandez**	**6.84**	**247**		T		T	03 07 56.0	
	baz=75,slow=72,SNR=97								
H03N3	**Juan Fernandez**	**6.86**	**247**		T		T	03 07 59.1	
	baz=75,slow=72,SNR=91								
H03N2	**Juan Fernandez**	**6.86**	**247**		T		T	03 07 54.1	
	baz=75,slow=72,SNR=109								
PB15	**IPOC Station P**	**7.90**	**13**				**Pn**	**03 01 22.0**	**-0.6**
PB15	**IPOC Station P**	**7.90**	**13**	*i*	P		**Pn**	**03 01 23.0**	**+0.4**
PB15					IAML			03 03 26.9	
	comp=Z,1µm,0.7s								
LC01	**Cunco**	**7.94**	**183**		Pn		**Pn**	**03 01 20.9**	**-2.1**
PB05	**IPOC Station P**	**8.13**	**8**	*i*	P		**Pn**	**03 01 25.0**	**-0.8**
LVC	**Limon Verde**	**8.60**	**16**		P		**Pn**	**03 01 30.7**	**-1.6**
	comp=Z,7.6nm,0.3s,baz=165,slow=5.4,SNR=7.4								
LVC	**Limon Verde**	**8.60**	**16**	*i*	P		**Pn**	**03 01 32.0**	**-0.3**
LVC					IAML			03 03 53.2	
	comp=Z,325nm,0.7s								
LR03	**Panguipulli**	**8.70**	**185**				**Pn**	**03 01 31.7**	**-1.6**
ASTB	**Santa Barbara**	**9.30**	**43**	*i*	P		**Pn**	**03 01 46.0**	**+4.2**
ASTB					IAML			03 04 14.3	
	comp=Z,2.1nm,1.5s								
PLCA	**Paso Flores**	**9.79**	**176**		P		**Pn**	**03 01 49.5**	**+1.2**
	comp=Z,1.0nm,0.3s,baz=345,slow=12,SNR=5.1								
PLCA	**Paso Flores**	**9.79**	**176**				**Pn**	**03 01 47.4**	**-0.9**
LL04	**Puerto Octay**	**9.97**	**184**				**Pn**	**03 01 48.0**	**-2.8**
TRQA	**Tornquist**	**10.51**	**135**		Pn		**Pn**	**03 01 57.2**	**-1.0**
GO07	**Milladeo Hill,**	**12.28**	**188**				**Pn**	**03 02 17.6**	**-4.7**
ITQB	**Itaqui**	**12.82**	**88**		Pn		**Pn**	**03 02 27.0**	**-2.7**
LPAZ	**La Paz**	**14.89**	**12**		P		**Pn**	**03 02 59.5**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=196,slow=4.2,SNR=11								
LPAZ	**La Paz**	**14.89**	**12**		Pn		**Pn**	**03 02 57.9**	**-0.4**
SIV	**San Ignacio**	**17.62**	**35**		P		**P**	**03 03 32.9**	**0.0**
	comp=Z,2.5nm,0.3s,baz=215,slow=8.3,SNR=28								
SAML	**Samuel**	**23.19**	**21**		P		**P**	**03 04 32.3**	**-0.7**
USHA	**Ushuaia**	**23.96**	**176**		P		**P**	**03 04 40.2**	**+0.3**
	comp=Z,36nm,0.8s,baz=359,slow=4.1,SNR=3.7								
BDFB	**Brasilia**	**26.24**	**60**		P		**P**	**03 05 00.4**	**-0.7**
	comp=Z,16nm,0.6s,baz=231,slow=9.7,SNR=20								
BDFB	**Brasilia**	**26.24**	**60**		P		**P**	**03 05 00.3**	**-0.9**
BDFB					IAmb		IAmb	03 05 02.0	
	comp=Z,17nm,0.6s								
PMSA	**Palmer Station**	**34.16**	**174**		P		**P**	**03 06 09.9**	**-0.5**
PMSA					IAmb		IAmb	03 06 11.5	
	comp=Z,7.3nm,0.8s								
PRAC	**Prado**	**34.63**	**354**	*e*	P		**P**	**03 06 16.8**	**+1.8**
ORTC	**Ortega, Tolima**	**34.86**	**353**	*e*	P		**P**	**03 06 18.8**	**+1.8**
VILC	**Villavicencio,**	**34.93**	**356**	*e*	P		**P**	**03 06 19.5**	**+1.7**
PAYG	**Puerto Ayora**	**35.04**	**326**		P		**P**	**03 06 20.7**	**+2.1**
YOTC	**Yotoco, Valle**	**35.06**	**351**	*e*	P		**P**	**03 06 19.9**	**+1.1**
CHIC	**Chingaza**	**35.45**	**356**	*e*	P		**P**	**03 06 23.9**	**+1.4**
GUY2C	**Guyana, Caldas**	**36.17**	**353**	*e*	P		**P**	**03 06 30.1**	**+1.3**
NORC	**Norcasia**	**36.46**	**354**	*e*	P		**P**	**03 06 32.8**	**+2.0**
RUSC	**La Rusia**	**36.67**	**357**		P		**P**	**03 06 32.7**	**-0.4**
RUSC	**La Rusia**	**36.67**	**357**	*e*	P		**P**	**03 06 33.4**	**+0.4**
CBOC	**Ciudad Bolivar**	**36.87**	**352**	*e*	P		**P**	**03 06 36.2**	**+1.7**
HELC	**Santa Helena**	**37.14**	**353**	*e*	P		**P**	**03 06 38.0**	**+1.1**
PTBC	**PUERTO BERRIO,**	**37.39**	**355**	*e*	P		**P**	**03 06 37.5**	**-1.1**
ZARC	**Zaragoza, Cauc**	**38.37**	**354**	*e*	P		**P**	**03 06 45.6**	**-1.2**
UREC	**San Jos de Ur**	**38.68**	**353**	*e*	P		**P**	**03 06 49.4**	**-0.2**
SMLC	**San Martn de**	**39.61**	**356**	*e*	P		**P**	**03 06 54.8**	**-2.4**
SDV	**Santo Domingo**	**39.61**	**1**		P		**P**	**03 06 57.3**	**-0.2**
	comp=Z,12nm,0.8s,baz=194,slow=5.9,SNR=3.2								
SDV	**Santo Domingo**	**39.61**	**1**		P		**P**	**03 06 56.4**	**-1.1**
SJCC	**San Jacinto, C**	**40.77**	**354**		P		**P**	**03 07 06.6**	**-0.4**
SJCC					IAmb		IAmb	03 07 10.1	
	comp=Z,27nm,1.2s								
SRBA	**San Rafael, Bu**	**41.57**	**342**		P		**P**	**03 07 13.2**	**-0.3**
SRBA					IAmb		IAmb	03 07 16.4	
	comp=Z,27nm,1.4s								
JTS	**Las Juntas de**	**43.02**	**340**		P		**P**	**03 07 27.2**	**+1.9**
	comp=Z,6.4nm,0.6s,baz=275,slow=3.9,SNR=5.7								
ORTG	**Ortega, Santa**	**43.24**	**340**		P		**P**	**03 07 26.9**	**-0.2**
ORTG					IAmb		IAmb	03 07 29.9	
	comp=Z,16nm,0.8s								
TGUH	**Tegucigalpa,Un**	**47.28**	**339**		P		**P**	**03 07 57.2**	**-2.0**
MLPR	**Magueyes Islan**	**48.81**	**5**		P		**P**	**03 08 09.3**	**-1.5**
VNA3	**Neumayer Olymp**	**51.98**	**159**		P		**P**	**03 08 34.0**	**-0.2**
VNA3	**Neumayer Olymp**	**51.98**	**159**		pP		pP	03 08 47.7	+0.2
VNA1	**Neumayer--Stat**	**52.27**	**158**		P		**P**	**03 08 37.1**	**+0.8**
VNA1	**Neumayer--Stat**	**52.27**	**158**		pP		pP	03 08 50.2	+0.7
VNA2	**Neumayer--Watz**	**52.62**	**158**		P		**P**	**03 08 38.7**	**-0.2**
	baz=287,slow=8.1								
VNA2	**Neumayer--Watz**	**52.62**	**158**		pP		pP	03 08 52.1	0.0
	baz=286,slow=8.6								
CMIG	**Matias Romero**	**52.84**	**331**		P		**P**	**03 08 41.8**	**+0.7**
	comp=Z,8.1nm,0.9s,baz=144,slow=3.9,SNR=13								
SNAA	**Sanae**	**54.21**	**159**		P		**P**	**03 08 50.1**	**-0.5**
SNAA	**Sanae**	**54.21**	**159**		pP		pP	03 09 03.8	-0.2
SNAA	**Sanae**	**54.21**	**159**		P		**P**	**03 08 50.1**	**-0.5**
	comp=Z,13nm,0.6s,baz=279,slow=7.2,SNR=47								
SNAA					pP		**pP**	**03 09 03.6**	**-0.4**
	comp=Z,31nm,0.9s,baz=284,slow=5.7,SNR=27								
SNAA	**Sanae**	**54.21**	**159**		P		**P**	**03 08 49.8**	**-0.8**
SNAA					IAmb		IAmb	03 08 51.1	
	comp=Z,14nm,0.7s								
SNAA							**pP**	**03 09 03.5**	**-0.4**
QSPA	**South Pole Qui**	**59.28**	**180**		P		**P**	**03 09 26.8**	**0.0**
QSPA					IAmb		IAmb	03 09 27.7	
	comp=Z,12nm,0.8s								
BRAL	**Brewton**	**63.54**	**345**		P		**P**	**03 09 56.0**	**+0.3**
	baz=165								
NHSC	**New Hope**	**64.25**	**352**		P		**P**	**03 10 00.9**	**+0.6**
	baz=172								
152A	**Waverly Hall**	**64.52**	**348**		P		**P**	**03 10 01.7**	**-0.4**
152A					IAmb		IAmb	03 10 01.9	
	comp=Z,9.8nm,0.8s								
833A	**Chaparral WMA,**	**64.71**	**333**		P		**P**	**03 10 04.5**	**+1.0**
	baz=154								
GOGA	**Godfrey**	**65.02**	**349**		P		**P**	**03 10 04.7**	**-0.6**
GOGA	**Godfrey**	**65.02**	**349**		P		**P**	**03 10 04.8**	**-0.6**
	baz=169								
LRAL	**Lakeview Retre**	**65.33**	**346**		P		**P**	**03 10 06.6**	**-0.8**
	baz=165								
VBMS	**Vicksburg**	**65.39**	**342**		P		**P**	**03 10 08.1**	**+0.4**
	baz=162								
X58A	**Rowland**	**65.58**	**353**		P		**P**	**03 10 09.2**	**+0.3**
SLBS	**Sierra La Lagu**	**65.70**	**321**		P		**P**	**03 10 09.5**	**-0.6**
SLBS					IAmb		IAmb	03 10 13.6	
	comp=Z,24nm,1.5s								
CNNC	**Cliffs of the**	**66.12**	**354**		P		**P**	**03 10 12.9**	**+0.5**
	baz=174								
NATX	**Nacogdoches**	**66.16**	**338**		P		**P**	**03 10 13.3**	**+0.6**
	baz=158								
HPIG		**66.22**	**327**		P		**P**	**03 10 13.3**	**-0.2**
HPIG					IAmb		IAmb	03 10 14.9	
	comp=Z,6.8nm,0.7s								
X51A	**Calhoun**	**66.39**	**348**		P		**P**	**03 10 14.3**	**+0.2**
KMSC	**Kings Mountain**	**66.40**	**351**		P		**P**	**03 10 14.3**	**+0.1**
	baz=171								
W52A	**Murphy**	**66.74**	**349**		P		**P**	**03 10 15.9**	**-0.5**
W52A					IAmb		IAmb	03 10 17.2	
	comp=Z,16nm,1.0s								
JCT	**Junction City**	**66.79**	**333**		P		**P**	**03 10 16.7**	**-0.2**
JCT					IAmb		IAmb	03 10 17.9	
	comp=Z,8.7nm,0.7s								
JCT	**Junction City**	**66.79**	**333**		P		**P**	**03 10 17.6**	**+0.7**
	baz=154								
Z41A	**Richland Creek**	**66.99**	**341**		P		**P**	**03 10 18.6**	**+0.6**
	baz=160								
W50A	**Signal Mountai**	**67.09**	**348**		P		**P**	**03 10 18.5**	**-0.2**
CPCT	**Cooper Cave**	**67.19**	**348**		P		**P**	**03 10 18.8**	**-0.4**
VNDA	**Vanda**	**67.19**	**191**		P		**P**	**03 10 19.6**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=141,slow=6.5,SNR=6.7								
VNDA					PcP		**PcP**	**03 10 46.5**	**+0.1**
	comp=Z,2.9nm,0.8s,baz=137,slow=5.2,SNR=7.1								
VNDA	**Vanda**	**67.19**	**191**		P		**P**	**03 10 19.5**	**+0.7**
SWET	**Sewanee**	**67.22**	**347**		P		**P**	**03 10 19.2**	**-0.3**
TKL	**Tuckaleechee C**	**67.27**	**349**		P		**P**	**03 10 19.6**	**-0.2**
TKL					IAmb		IAmb	03 10 19.6	
	comp=Z,11nm,0.7s								
OXF	**Oxford**	**67.29**	**344**		P		**P**	**03 10 19.7**	**-0.2**
OXF	**Oxford**	**67.29**	**344**		P		**P**	**03 10 19.0**	**-0.9**
	baz=163,SNR=7.4								
WHTX	**Lake Whitney,**	**67.30**	**336**		P		**P**	**03 10 20.4**	**+0.4**
	baz=156								
TX32	**Lajitas Array**	**67.37**	**330**		P		**P**	**03 10 20.4**	**-0.2**
TXAR	**Lajitas Array**	**67.37**	**330**		P		**P**	**03 10 21.2**	**+0.6**
	comp=Z,3.3nm,0.7s,baz=154,slow=8.3,SNR=28								
TXAR					pP		**pP**	**03 10 35.3**	**+1.2**
	comp=Z,1.4nm,0.6s,baz=161,slow=8.3,SNR=5.4								
TXAR					sP		**sP**	**03 10 40.7**	**+1.3**
	comp=Z,1.6nm,0.7s,baz=152,slow=7.9,SNR=5.3								
TX31	**Lajitas Ar. Si**	**67.37**	**330**		P		**P**	**03 10 20.2**	**-0.4**
TX31					IAmb		IAmb	03 10 21.8	
	comp=Z,11nm,0.7s								
V52A	**Sevierville**	**67.42**	**349**		P		**P**	**03 10 19.9**	**-0.8**
PLAL	**Pickwick Lake**	**67.44**	**345**		P		**P**	**03 10 19.5**	**-1.3**
PLAL					IAmb		IAmb	03 10 20.7	
	comp=Z,8.1nm,0.9s								
U54A	**Nelsons Funny**	**67.83**	**351**		P		**P**	**03 10 22.2**	**-1.1**
V48A	**Smith Brothers**	**67.91**	**346**		P		**P**	**03 10 23.1**	**-0.7**
TZTN	**Tazewell**	**68.10**	**349**		P		**P**	**03 10 24.4**	**-0.6**
	baz=169								
CLTN	**Cedars of Leba**	**68.15**	**347**		P		**P**	**03 10 24.7**	**-0.6**
BLA	**Blacksburg**	**68.33**	**352**		P		**P**	**03 10 26.5**	**0.0**
	baz=172								
MIAR	**Mount Ida**	**68.42**	**340**		P		**P**	**03 10 26.8**	**-0.1**
MIAR					IAmb		IAmb	03 10 28.2	
	comp=Z,11nm,1.2s								
MIAR	**Mount Ida**	**68.42**	**340**		P		**P**	**03 10 26.7**	**-0.3**
	baz=160,SNR=5.2								
Z35A	**Perchaven, San**	**68.45**	**337**		P		**P**	**03 10 27.1**	**0.0**
WVT	**Waverly**	**68.49**	**346**		P		**P**	**03 10 27.3**	**0.0**
	baz=165								
W41B	**Gary Mavity, V**	**68.64**	**342**		P		**P**	**03 10 28.5**	**+0.2**
	baz=161								
ABTX	**Abilene, Hawle**	**68.65**	**335**		P		**P**	**03 10 28.5**	**0.0**
	baz=154								
WHAR	**Wooly Hollow**	**68.76**	**342**		P		**P**	**03 10 27.0**	**-2.1**
WHAR					IAmb		IAmb	03 10 30.1	
	comp=Z,17nm,1.2s								
W39A	**Magazine**	**69.09**	**340**		P		**P**	**03 10 30.5**	**-0.6**
W39A	**Magazine**	**69.09**	**340**		P		**P**	**03 10 31.5**	**+0.4**
	baz=160,SNR=13								
FCAR	**Ozark Folk Cen**	**69.28**	**342**		P		**P**	**03 10 32.1**	**-0.2**
FCAR					IAmb		IAmb	03 10 32.4	
	comp=Z,6.6nm,0.8s								
R55A	**Marlinton**	**69.36**	**353**		P		**P**	**03 10 32.4**	**-0.4**
R55A					IAmb		IAmb	03 10 34.1	
	comp=Z,12nm,0.8s								
PBMO	**Poplar Bluff**	**69.70**	**344**		P		**P**	**03 10 34.1**	**-0.7**
U40A	**Yellville**	**69.92**	**342**		P		**P**	**03 10 36.2**	**0.0**
U40A	**Yellville**	**69.92**	**342**		P		**P**	**03 10 36.1**	**-0.2**
	baz=161,SNR=8.8								
HHAR	**Hobbs**	**70.15**	**341**		P		**P**	**03 10 36.5**	**-1.2**
MNTX	**Cornudas Mount**	**70.15**	**330**		P		**P**	**03 10 36.5**	**-1.2**
MNTX					IAmb		IAmb	03 10 38.1	
	comp=Z,8.1nm,0.8s								
MNTX	**Cornudas Mount**	**70.15**	**330**		P		**P**	**03 10 37.6**	**-0.2**
	baz=150								
WCI	**Wyandotte Cave**	**70.21**	**348**		P		**P**	**03 10 37.5**	**-0.5**
WCI					IAmb		IAmb	03 10 38.1	
	comp=Z,10nm,0.8s								
WCI	**Wyandotte Cave**	**70.21**	**348**		P		**P**	**03 10 37.5**	**-0.5**
	baz=167								
WMOK	**Wichita Mounta**	**70.25**	**336**		P		**P**	**03 10 38.3**	**0.0**
	baz=155								
S44A	**Carbondale**	**70.30**	**345**		P		**P**	**03 10 37.2**	**-1.3**
SIUC	**Southern Illin**	**70.31**	**345**		P		**P**	**03 10 38.2**	**-0.4**
P57A	**Homestead Farm**	**70.34**	**355**		P		**P**	**03 10 37.9**	**-0.9**
P57A					IAmb		IAmb	03 10 40.6	
	comp=Z,13nm,1.0s								
TUL1	**Leonard**	**70.35**	**339**		P		**P**	**03 10 38.7**	**-0.2**
	baz=158,SNR=6.7								
U38A	**Gravette**	**70.42**	**340**		P		**P**	**03 10 39.0**	**-0.3**
U38A					IAmb		IAmb	03 10 40.1	
	comp=Z,9.0nm,1.1s								
P60A	**Greenville**	**70.51**	**357**		P		**P**	**03 10 40.0**	**+0.2**
	baz=176								
MGMO	**Mountain Grove**	**70.51**	**342**		P		**P**	**03 10 39.7**	**-0.2**
MGMO					IAmb		IAmb	03 10 40.7	
	comp=Z,11nm,1.0s								
OK025	**Westminster Rd**	**70.53**	**338**		P		**P**	**03 10 39.1**	**-1.0**
HSIG		**70.54**	**324**		P		**P**	**03 10 40.4**	**+0.2**
HSIG					IAmb		IAmb	03 10 41.6	
	comp=Z,6.3nm,0.7s								
P52A	**Corning**	**70.93**	**351**		P		**P**	**03 10 41.6**	**-0.8**
P52A					IAmb		IAmb	03 10 42.6	
	comp=Z,17nm,1.0s								
P52A	**Corning**	**70.93**	**351**		P		**P**	**03 10 42.0**	**-0.3**
	baz=170								
MSTX	**Muleshoe**	**71.04**	**333**		P		**P**	**03 10 43.5**	**+0.2**
MSTX					IAmb		IAmb	03 10 44.2	
	comp=Z,19nm,1.0s								
MSTX	**Muleshoe**	**71.04**	**333**		P		**P**	**03 10 43.2**	**0.0**
	baz=152								
CCM	**Cathedral Cave**	**71.11**	**344**		P		**P**	**03 10 43.6**	**+0.2**
CCM	**Cathedral Cave**	**71.11**	**344**		P		**P**	**03 10 43.8**	**+0.4**
	baz=162								
P49A	**Miami Univ. Ec**	**71.21**	**349**		P		**P**	**03 10 43.3**	**-0.7**
	baz=168								
O53A	**New Philadelph**	**71.42**	**352**		P		**P**	**03 10 45.2**	**-0.1**
	baz=171								
SSPA	**Standing Stone**	**71.48**	**355**		P		**P**	**03 10 45.6**	**0.0**
	baz=174								
T35A	**Sooner Cattle**	**71.50**	**339**		P		**P**	**03 10 45.6**	**-0.2**
T35A					IAmb		IAmb	03 10 47.0	
	comp=Z,10nm,0.9s								
N59A	**State Game Lan**	**71.62**	**357**		P		**P**	**03 10 47.3**	**+0.7**
	baz=176								
ACSO	**Alum Creek Sta**	**71.63**	**351**		P		**P**	**03 10 46.2**	**-0.3**
	baz=170								
319A	**Douglas**	**71.65**	**326**		IAmb		IAmb	03 10 49.2	
	comp=Z,11nm,0.8s								
P46A	**Rosedale**	**71.73**	**347**		IAmb		IAmb	03 10 47.2	
	comp=Z,14nm,0.8s								
121A	**Cookes Peak, D**	**71.92**	**328**		IAmb		IAmb	03 10 51.0	
	comp=Z,17nm,0.9s								
121A	**Cookes Peak, D**	**71.92**	**328**		P		**P**	**03 10 50.0**	**+1.3**
	baz=148								
N54A	**Moraine State**	**71.99**	**353**		P		**P**	**03 10 48.9**	**+0.1**
	baz=172								
SFIN	**Lafayette**	**72.45**	**347**		P		**P**	**03 10 50.5**	**-1.0**
	baz=166								
L63A	**North Scituate**	**72.45**	**360**		P		**P**	**03 10 51.7**	**+0.3**
	baz=180								
M54A	**Oil Creek Stat**	**72.50**	**353**		P		**P**	**03 10 51.4**	**-0.3**
	baz=173								
L64A	**Middleborough**	**72.53**	**0**		P		**P**	**03 10 52.5**	**+0.6**
	baz=181								
M53A	**WI Miller and**	**72.54**	**353**		P		**P**	**03 10 52.0**	**0.0**
	baz=172								
L59A	**Walton**	**72.86**	**357**		IAmb		IAmb	03 10 55.4	
	comp=Z,12nm,0.8s								
BINY	**Binghamton**	**72.91**	**356**		P		**P**	**03 10 54.5**	**+0.3**
	baz=176								
L61B	**Northampton**	**73.05**	**359**		P		**P**	**03 10 55.0**	**0.0**
	baz=179								
HRV	**Adam Dziewonsk**	**73.09**	**360**		P		**P**	**03 10 55.6**	**+0.4**
	baz=180								
ERPA	**Erie**	**73.14**	**353**		IAmb		IAmb	03 10 56.1	
	comp=Z,16nm,1.1s								
ERPA	**Erie**	**73.14**	**353**		P		**P**	**03 10 55.4**	**-0.1**
	baz=172								
K62A	**Royalston**	**73.26**	**359**		P		**P**	**03 10 57.0**	**+0.8**
	baz=179								
LIC	**Lamto**	**73.30**	**72**	*e*	P		**P**	**03 10 56.3**	**-0.8**
	comp=Z,29nm,0.6s								
ANMO	**Albuquerque**	**73.39**	**330**		P		**P**	**03 10 57.2**	**-0.2**
ANMO	**Albuquerque**	**73.39**	**330**		P		**P**	**03 10 57.9**	**+0.5**
	baz=149								
L48A	**N Adams**	**73.52**	**350**		IAmb		IAmb	03 10 57.7	
	comp=Z,14nm,0.8s								
TIC	**Toumodi**	**73.54**	**72**	*e*	P		**P**	**03 10 57.8**	**-0.8**
KIC	**Kosan Boka**	**73.61**	**72**	*e*	P		**P**	**03 10 58.4**	**-0.6**
	comp=Z,30nm,0.7s								
DBIC	**Dimbo**	**73.69**	**72**		P		**P**	**03 10 59.0**	**-0.4**
	comp=Z,14nm,0.6s,baz=230,slow=4.7,SNR=24								
DBIC	**Dimbokro**	**73.69**	**72**		P		**P**	**03 10 59.2**	**-0.2**
DBIC					IAmb		IAmb	03 10 59.7	
	comp=Z,15nm,0.7s								
214A	**Organ Pipe Nat**	**73.86**	**324**		IAmb		IAmb	03 11 02.3	
	comp=Z,9.6nm,1.0s								
214A	**Organ Pipe Nat**	**73.86**	**324**		P		**P**	**03 11 00.8**	**+0.8**
	baz=144								
J61A	**Chester**	**73.94**	**359**		P		**P**	**03 11 00.7**	**+0.5**
	baz=179								
I60A	**Shoreham**	**74.45**	**359**		P		**P**	**03 11 03.7**	**+0.6**
	baz=178								
T25A	**Trinidad**	**74.45**	**333**		IAmb		IAmb	03 11 05.8	
	comp=Z,19nm,1.0s								
T25A	**Trinidad**	**74.45**	**333**		P		**P**	**03 11 04.4**	**+0.8**
	baz=151,SNR=10								
I62A	**Tamworth**	**74.46**	**0**		P		**P**	**03 11 04.3**	**+1.1**
	baz=180								
I63A	**Otisfield**	**74.64**	**1**		P		**P**	**03 11 05.9**	**+1.6**
	baz=181								
PECO	**Prince Edward**	**74.70**	**356**		IAmb

ISA	**Isabella, Lake**	**79.67**	**323**	P		**P**	**03 11 34.1**	**+1.3**
	baz=140							
F33A	**5 Mile Ranch,**	**79.70**	**343**	IAmb		IAmb	03 11 32.8	
	comp=Z,7.5nm,0.8s							
PKM	**Mcpherson Peak**	**79.79**	**321**	P		**P**	**03 11 34.6**	**+1.0**
	baz=139							
K22A	**Casper**	**80.04**	**334**	P		**P**	**03 11 35.8**	**+1.0**
	baz=150							
CWC	**Cottonwood Cre**	**80.06**	**323**	P		**P**	**03 11 36.2**	**+1.1**
	baz=141							
VES	**Vestal, Richgr**	**80.12**	**322**	P		**P**	**03 11 36.0**	**+0.9**
	baz=140,SNR=6.0							
GRAC	**Grapevine Rang**	**80.13**	**324**	P		**P**	**03 11 36.8**	**+1.6**
	baz=141							
SMMC	**Simmler**	**80.21**	**321**	P		**P**	**03 11 37.1**	**+1.4**
	baz=139							
JLU	**Jordanelle**	**80.28**	**330**	IAmb		IAmb	03 11 37.5	
	comp=Z,7.6nm,0.8s							
R11A	**Troy Canyon, C**	**80.32**	**326**	P		**P**	**03 11 37.3**	**+0.9**
	baz=143,SNR=10.0							
RSSD	**Black Hills**	**80.45**	**337**	P		**P**	**03 11 37.4**	**+0.5**
	baz=152							
DUG	**Dugway, Tooele**	**80.53**	**329**	P		**P**	**03 11 38.0**	**+0.6**
	baz=145,SNR=5.8							
EYMN	**Ely**	**80.58**	**346**	P		**P**	**03 11 37.1**	**-0.2**
	baz=163							
BOSA	**Boshof**	**81.00**	**118**	P		**P**	**03 11 40.2**	**-0.2**
	comp=Z,4.4nm,0.6s,baz=254,slow=4.3,SNR=9.0							
BOSA	**Boshof**	**81.00**	**118**	P		**P**	**03 11 40.1**	**-0.3**
BOSA				IAmb		IAmb	03 11 40.4	
	comp=Z,7.1nm,0.8s							
HWUT	**Hardware Ranch**	**81.16**	**331**	IAmb		IAmb	03 11 41.8	
	comp=Z,11nm,0.8s							
BW06	**Boulder Array**	**81.31**	**333**	P		**P**	**03 11 41.8**	**+0.2**
	baz=148							
PDAR	**Pinedale Array**	**81.31**	**333**	P		**P**	**03 11 41.3**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=139,slow=7.4,SNR=16							
PDAR				pP		**pP**	**03 11 56.2**	**+0.8**
	comp=Z,1.7nm,0.9s,baz=131,slow=8.1,SNR=5.3							
MLAC	**Mammoth, Mammo**	**81.36**	**324**	P		**P**	**03 11 43.4**	**+1.4**
	baz=140							
B35A	**Bob, Littlefor**	**81.45**	**345**	IAmb		IAmb	03 11 42.2	
	comp=Z,12nm,0.8s							
LHV	**Little Huntoon**	**81.67**	**324**	IAmb		IAmb	03 11 45.7	
	comp=Z,7.8nm,1.0s							
NVAR	**Mina Array Bea**	**81.71**	**325**	P		**P**	**03 11 44.5**	**+0.7**
	comp=Z,3.1nm,0.8s,baz=152,slow=6.4,SNR=20							
NVAR				pP		**pP**	**03 11 58.8**	**+1.0**
	comp=Z,2.0nm,0.8s,baz=146,slow=6.4,SNR=7.2							
HVU	**Hansel Valley**	**81.81**	**330**	IAmb		IAmb	03 11 45.0	
	comp=Z,6.1nm,0.8s							
AGMN	**Agassiz Nation**	**81.88**	**344**	IAmb		IAmb	03 11 44.2	
	comp=Z,7.6nm,0.8s							
AGMN	**Agassiz Nation**	**81.88**	**344**	P		**P**	**03 11 43.9**	**-0.3**
	baz=159							
MDND	**Maddock**	**82.43**	**341**	P		**P**	**03 11 47.7**	**+0.6**
	baz=156							
TORD	**Torodi Ar. Bea**	**82.65**	**70**	P		**P**	**03 11 48.4**	**-0.6**
	comp=Z,12nm,0.6s,baz=280,slow=5.5,SNR=62							
TORD				pP		**pP**	**03 12 02.3**	**-0.7**
	comp=Z,20nm,1.0s,baz=251,slow=5.2,SNR=18							
TORD	**Torodi Ar. Bea**	**82.65**	**70**	P		**P**	**03 11 48.6**	**-0.4**
TORD				IAmb		IAmb	03 11 49.3	
	comp=Z,11nm,0.7s							
CASY	**Casey**	**83.07**	**181**	P		**P**	**03 11 50.5**	**+0.1**
CASY				IAmb		IAmb	03 11 51.4	
	comp=Z,14nm,0.8s							
LBTB	**Lobatse**	**83.08**	**115**	P		**P**	**03 11 50.6**	**-0.7**
LBTB				IAmb		IAmb	03 11 50.9	
	comp=Z,12nm,0.8s							
RLMT	**Red Lodge**	**83.18**	**334**	P		**P**	**03 11 51.3**	**0.0**
	baz=148							
PAHR	**Pah Rah Range**	**83.23**	**325**	IAmb		IAmb	03 11 53.7	
	comp=Z,9nm,1.4s							
ULM	**Lac du Bonnet**	**83.71**	**344**	P		**P**	**03 11 52.8**	**-0.8**
	comp=Z,7.4nm,0.7s,baz=148,slow=3.2,SNR=6.3							
ULM				pP		**pP**	**03 12 06.8**	**-0.7**
	comp=Z,13nm,1.0s,baz=147,slow=7.7,SNR=5.8							
ULM	**Lac du Bonnet**	**83.71**	**344**	IAmb		IAmb	03 11 53.7	
	comp=Z,9.4nm,0.8s							
HLID	**Hailey**	**83.96**	**330**	IAmb		IAmb	03 11 57.0	
	comp=Z,5.8nm,1.0s							
HLID	**Hailey**	**83.96**	**330**	P		**P**	**03 11 56.0**	**+0.7**
	baz=144							
ORV	**Oroville**	**84.18**	**323**	IAmb		IAmb	03 11 58.3	
	comp=Z,8.7nm,1.2s							
DGMT	**Dagmar**	**84.34**	**339**	P		**P**	**03 11 57.3**	**+0.4**
	baz=152							
BOZ	**Bozeman (W)**	**84.49**	**333**	P		**P**	**03 11 57.8**	**-0.1**
	baz=146							
O02D	**Mt. Diablo Mer**	**85.31**	**323**	P		**P**	**03 12 02.5**	**+0.4**
	baz=138							
EGMT	**Eagleton**	**85.82**	**335**	P		**P**	**03 12 03.6**	**-0.9**
	baz=148							
PLID	**Pearl Lake**	**85.87**	**330**	IAmb		IAmb	03 12 05.9	
	comp=Z,5.5nm,0.8s							
M04C	**Macdoel**	**86.02**	**325**	P		**P**	**03 12 06.2**	**+0.6**
	baz=139							
M02C	**Callahan**	**86.24**	**324**	P		**P**	**03 12 06.8**	**+0.2**
	baz=138							
BMO	**Blue Mountains**	**86.25**	**329**	IAmb		IAmb	03 12 07.7	
	comp=Z,7.4nm,1.4s							
I07A	**Izee**	**86.64**	**327**	IAmb		IAmb	03 12 10.2	
	comp=Z,7.0nm,0.9s							
J05D	**Fort Rock, OR**	**86.85**	**326**	P		**P**	**03 12 10.4**	**+0.7**
	baz=139							
I05D	**Terrebonne, OR**	**87.69**	**327**	P		**P**	**03 12 14.5**	**+0.9**
	baz=139							
I04A	**Tendick Farm,**	**87.80**	**326**	P		**P**	**03 12 14.7**	**+0.6**
	baz=138							
HAWA	**Hanford**	**88.43**	**329**	IAmb		IAmb	03 12 18.3	
	comp=Z,11nm,1.2s							
C09A	**Chrisman Ranch**	**88.97**	**331**	IAmb		IAmb	03 12 20.3	
	comp=Z,7.0nm,0.9s							
ASAR	**Alice Springs**	**120.53**	**207**	PKP		**PKPdf**	**03 18 15.6**	**-1.7**
	comp=Z,1.8nm,0.7s,baz=125,slow=1.6,SNR=5.4							
ASAR	**Alice Springs**	**120.53**	**207**			**PKPdf**	**03 18 15.7**	**-1.5**
WRA	**Warramunga Arr**	**123.69**	**209**	PKP		**PKPdf**	**03 18 22.1**	**-1.2**
	comp=Z,4.9nm,0.5s,baz=129,slow=1.4,SNR=21							
WRA				pPKP		**pPKPdf**	**03 18 36.3**	**-1.5**
	comp=Z,1.9nm,0.5s,baz=160,slow=1.8,SNR=5.4							
H11S2	**WAKE ISLAND Hy**	**126.32**	**271**	T		T	05 37 24.8	
	baz=116,slow=75,SNR=103							
H11S1	**WAKE ISLAND Hy**	**126.33**	**271**	T		T	05 37 17.3	
	baz=116,slow=75,SNR=82							
H11S3	**WAKE ISLAND Hy**	**126.33**	**271**	T		T	05 37 26.1	
	baz=116,slow=75,SNR=79							
H11N3	**WAKE ISLAND Hy**	**126.65**	**272**	T		T	05 37 50.7	
	baz=117,slow=75,SNR=19							
H11N1	**WAKE ISLAND Hy**	**126.67**	**272**	T		T	05 37 48.3	
	baz=117,slow=75,SNR=8.5							
H11N2	**WAKE ISLAND Hy**	**126.67**	**272**	T		T	05 37 47.7	
	baz=117,slow=75,SNR=41							
ZALV	**Zalesovo Beam**	**151.34**	**30**	PKPbc		**PKPbc**	**03 19 17.4**	**-0.7**
	comp=Z,12nm,0.5s,baz=301,slow=3.2,SNR=21							
ZALV				pPKPbc		**sPKPdf**	**03 19 31.7**	**0.0**
	comp=Z,15nm,0.7s,baz=300,slow=3.2,SNR=7.8							
MKAR	**Makanchi Array**	**154.28**	**45**	PKPbc		**PKPbc**	**03 19 24.1**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=318,slow=3.4,SNR=4.5							
MKAR				pPKPbc		**PKPab**	**03 19 39.1**	**0.0**
	comp=Z,3.0nm,0.8s,baz=301,slow=3.5,SNR=7.9							
WMQ	**Urumqi**	**159.06**	**46**	*eP*		**PKPdf**	**03 19 24.1**	**+1.1**
WMQ				pmax		pmax		
	comp=Z,430nm,10.3s							
GTA	**Gaotai**	**168.91**	**38**	PKPbc		**PKPdf**	**03 19 32.3**	**+0.1**
GTA				pPKP		pPKPdf	03 19 39.5	-7.3
GTA				PKPab		**PKPab**	**03 20 45.6**	**+2.4**
NJ2	**Nanjing**	**171.19**	**280**	*eP*		**PKPdf**	**03 19 35.0**	**+1.5**
NJ2				pmax		pmax		
	comp=Z,11nm,0.6s							

KMA 17 03:01:30.9±4.9, 37°35N×129°28E, h6km±36km, Error ellipse: s-maj=73.4km s-min=2.7km az=310.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSDGY	**Daegwallycong**	**0.59**	**306**	P	Pg	03 01 41.4	-0.9
	SNR=13						
KSDGY	**Daegwallycong**	**0.59**	**306**	P	Pg	03 01 41.4	-0.9
	SNR=13						
KSDGY				S	Sg	03 01 50.5	+0.5
KSJMJ	**Jumunjin**	**0.67**	**322**	P	Pg	03 01 43.5	-0.4
	SNR=12						
KSJMJ	**Jumunjin**	**0.67**	**322**	P	Pg	03 01 43.5	-0.4
	SNR=12						
KSSKC	**Sokcho**	**1.11**	**328**	P	Pg	03 01 52.3	0.0
	SNR=7.7						
KSSKC	**Sokcho**	**1.11**	**328**	P	Pg	03 01 52.3	0.0
	SNR=7.7						
KSCHC	**Chuncheon**	**1.24**	**291**	P	Pn	03 01 55.0	+0.2
	SNR=9.4						
KSJEO	**Jeonju**	**2.13**	**229**	P	Pn	03 02 06.8	-0.3
	SNR=13						

IDC 17 03:02:28.2±0.6, 40°21N×143°30E, h0km, mb4.1/17, mb1 4.2/21, mb1mx4.1/48, mbtmp4.1/21, ML3.4/4, MS4.9/1, Ms1 5.1/1, ms1mx3.7/52, Error ellipse: s-maj=19.4km s-min=13.6km az=110.0
JMA 17 03:02:29.3±0.3, 40°24N×143°18E, h8km±3km, M4.0
NEIC 17 03:02:31.4±1.5, 40°07N±0°05×143°5E±0°1, h30km±7km, mb4.4/9, Error ellipse: s-maj=16.6km s-min=6.6km az=104.0

ISC 17 03:02:28.7±0.6, 40°20N±0°04×143°30E±0°07, h6km, n64, σ1§41/64, mb4.2/22, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.13**	**257**	P	**Pg**	**03 02 49.3**	**-1.0**
MIYJ	**Miyakonagasawa**	**1.29**	**242**	P	**Pn**	**03 02 52.4**	**-0.9**
MIYJ				*eS*	**Sb**	**03 03 08.6**	**-1.6**
JOM	**Ohasama**	**1.70**	**246**	P	**Pn**	**03 02 58.6**	**-0.3**
JTM	**Tenmabayashi**	**1.80**	**290**	P	**Pn**	**03 02 59.9**	**-0.3**
ERM	**Erimo**	**1.82**	**357**		**Pn**	**03 03 01.2**	**+0.7**
ERM				Sn	**Sg**	**03 03 26.6**	**-0.5**
JEM	**Erimo**	**1.82**	**357**	P	**Pn**	**03 03 00.3**	**-0.2**
JEM	**Erimo**	**1.82**	**357**	Pn	**Pg**	**03 03 03.5**	**0.0**
JMK	**Ichinoseki**	**2.03**	**233**	P	**Pn**	**03 03 04.7**	**+1.3**
JOT	**Ohata**	**2.08**	**305**	P	**Pn**	**03 03 03.8**	**-0.2**
JNBK	**Urakawa-nobuka**	**2.12**	**349**	P	**Pn**	**03 03 05.1**	**+0.4**
JRG	**Rokugo**	**2.20**	**250**	P	**Pn**	**03 03 07.7**	**+1.9**
JEW	**Eniwo**	**2.98**	**333**		**Pb**	**03 03 19.6**	**-2.5**
JMM	**Marumori**	**3.04**	**221**		**Pn**	**03 03 17.2**	**0.0**
JMM				Sn	**Sn**	**03 03 53.0**	**-0.9**
JKA	**Kamikawa-asahi**	**3.95**	**353**	Pn	**Pn**	**03 03 31.2**	**+1.4**
ASAJ	**Asahikawa**	**3.95**	**353**	Pn	**Pn**	**03 03 31.9**	**+2.0**
	3.2nm,0.3s,baz=208,slow=19,SNR=10						
ASAJ				Sn	**Sn**	**03 04 15.1**	**-1.3**
	3.8nm,0.3s,baz=206,slow=33,SNR=5.8						
JSD	**Sado**	**4.47**	**243**		**Pn**	**03 03 38.6**	**+1.6**
JYT	**Yasato**	**4.66**	**213**		**Pn**	**03 03 39.7**	**+0.2**
MJAR	**Matsushiro Arr**	**5.41**	**229**	Pn	**Pn**	**03 03 51.3**	**+1.3**
	0.6nm,0.3s,baz=48,slow=14,SNR=31						
MAJO	**Matsushiro**	**5.41**	**229**		**Pn**	**03 03 51.1**	**+1.2**
MAT	**Matsushiro**	**5.41**	**229**	P	**Pn**	**03 03 52.4**	**+2.5**
MAT				*eS*	**Sn**	**03 04 56.2**	**+3.7**
JGF	**Kuroka**	**6.56**	**228**		**Pn**	**03 04 05.8**	**0.0**
JHJ	**Hachijo jima 2**	**7.61**	**203**	Pn	**Pn**	**03 04 18.9**	**-1.1**
	8.4nm,0.3s,baz=29,slow=14,SNR=2.0						
JHJ				Sn	**Sn**	**03 05 41.0**	**-5.5**
	3.3nm,0.3s,baz=72,slow=19,SNR=2.6						
USRK	**Ussuriysk Ar.**	**9.29**	**299**	Pn	**Pn**	**03 04 46.9**	**+3.7**
	baz=90,slow=14,SNR=8.7						
USRK	**Ussuriysk Ar.**	**9.29**	**299**		**Pn**	**03 04 45.9**	**+2.7**
JNU	**Nakatsue**	**12.21**	**239**	Pn	**Pn**	**03 05 22.5**	**-0.7**
	0.1nm,0.3s,baz=287,slow=19,SNR=1.3						
SEY	**Seymchan**	**23.41**	**10**	P	**P**	**03 07 36.9**	**-1.2**
	2.9nm,0.6s,baz=195,slow=4.8,SNR=8.6						
SONM	**Songino Array**	**27.41**	**298**	P	**P**	**03 08 15.7**	**+0.7**
	2.0nm,0.5s,baz=87,slow=8.8,SNR=13						
H11N2	**WAKE ISLAND Hy**	**28.73**	**128**	T	T	03 38 34.6	
	baz=321,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy**	**28.73**	**128**	T	T	03 38 35.4	
	baz=321,slow=75,SNR=57						
H11N3	**WAKE ISLAND Hy**	**28.74**	**128**	T	T	03 38 36.3	
	baz=321,slow=75,SNR=42						
H11S1	**WAKE ISLAND Hy**	**29.55**	**130**	T	T	03 39 34.6	
	baz=322,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**29.56**	**130**	T	T	03 39 39.4	
	baz=322,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**29.57**	**130**	T	T	03 39 37.5	
	baz=322,slow=76,SNR=8.1						
ZALV	**Zalesovo Beam**	**40.95**	**310**	P	**P**	**03 10 12.6**	**+0.8**
	2.0nm,0.4s,baz=98,slow=10,SNR=3.3						
ZALV	**Zalesovo Beam**	**40.95**	**310**	P	**P**	**03 10 12.9**	**+1.1**
MK31	**Makanchi Array**	**43.76**	**300**	P	**P**	**03 10 34.9**	**0.0**
MKAR	**Makanchi Array**	**43.76**	**300**	P	**P**	**03 10 35.0**	**+0.2**
	2.1nm,0.6s,baz=84,slow=9.7,SNR=12						
CMAR	**Chiang Mai Arr**	**43.77**	**254**	LR	LR	03 30 49.3	
	comp=Z,1μm,18.9s,baz=15,slow=39						
KDAK	**Kodiak Island**	**43.78**	**44**	P	**P**	**03 10 34.6**	**-0.2**
	4.3nm,0.6s,baz=269,slow=3.4,SNR=7.2						
IL31		**46.04**	**34**	P	**P**	**03 10 53.0**	**+0.3**
IL31				IAmb	IAmb	03 10 59.1	
	comp=Z,2.0nm,0.8s						
ILAR	**Eielson Array**	**46.04**	**34**	P	**P**	**03 10 54.1**	**+1.3**
	comp=Z,1.6nm,0.8s,baz=262,slow=6.1,SNR=31						
BOOM	**Boomskoye usch**	**49.40**	**296**	P	**P**	**03 11 19.9**	**+0.6**
BOOM				IAmb	IAmb	03 11 20.9	
	comp=Z,3.8nm,0.8s						
INK	**Inuvik**	**50.90**	**28**	P	**P**	**03 11 29.8**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=272,slow=7.6,SNR=5.6						
ABKAR	**Akbulak array**	**57.06**	**309**	P	**P**	**03 12 15.2**	**-0.1**
ABKAR	**Akbulak array**	**57.06**	**309**	P	**P**	**03 12 14.9**	**-0.4**
ABKAR				IAmb	IAmb	03 12 16.4	
	comp=Z,4.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**60.28**	**199**	P	**P**	**03 12 39.0**	**+1.0**
	comp=Z,2.2nm,0.8s,baz=35,slow=7.9,SNR=2.6						
WB2	**Warramunga Arr**	**60.41**	**190**	P	**P**	**03 12 38.7**	**-0.2**
WB2				IAmb	IAmb	03 12 39.9	
	comp=Z,2.8nm,0.8s						
WRA	**Warramunga Arr**	**60.41**	**190**	P	**P**	**03 12 39.2**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=7.8,slow=7.7,SNR=15						
WRA	**Warramunga Arr**	**60.41**	**190**	P	**P**	**03 12 38.6**	**-0.3**
KEV	**Kevo**	**61.01**	**339**	P	**P**	**03 12 41.9**	**-0.5**
ASAR	**Alice Springs**	**64.13**	**190**	P	**P**	**03 13 04.7**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=5.3,slow=6.4,SNR=9.4						
FINES	**FINESS Array B**	**66.70**	**332**	P	**P**	**03 13 20.5**	**+0.5**
	comp=Z,2.5nm,0.7s,baz=40,slow=7.9,SNR=9.3						
FINES	**FINESS Array B**	**66.70**	**332**	P	**P**	**03 13 20.0**	**0.0**
KBZ	**Khabaz**	**69.96**	**311**	P	**P**	**03 13 42.0**	**+1.2**
	comp=Z,2.3nm,0.7s,baz=38,slow=13,SNR=6.4						
NB2	**NORSAR Subarra**	**71.83**	**338**	P	**P**	**03 13 52.0**	**+0.1**
	comp=Z,4.3nm,0.9s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**71.83**	**338**	P	**P**	**03 13 52.5**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=38,slow=6.0,SNR=4.1						
AKASG	**Malin Array Be**	**72.69**	**323**	P	**P**	**03 13 57.2**	**0.0**
	comp=Z,0.7nm,0.5s,baz=43,slow=6.3,SNR=6.1						
PDAR	**Pinedale Array**	**74.42**	**47**	P	**P**	**03 14 08.3**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=289,slow=2.8,SNR=2.6						
CLL	**Collm**	**79.07**	**331**	*eP*	**P**	**03 14 34.0**	**+0.4**
	comp=Z,4.0nm,0.7s						
CLL				*ep*	**PcP**	**03 14 41.0**	**-1.1**
PRU	**Pruhonice**	**79.54**	**329**	*eP*	**P**	**03 14 37.4**	**+1.2**
CKRC	**Cesky Krumlov**	**80.56**	**329**	*eP*	**P**	**03 14 42.9**	**+1.1**
KHC	**Kasperske Hory**	**80.60**	**329**	*eP*	**P**	**03 14 42.5**	**+0.5**
KHC				*ex*	x	03 14 48.0	
GERES	**GERESS Array B**	**80.78**	**329**	P	**P**	**03 14 42.5**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=17,slow=4.3,SNR=4.3						
TXAR	**Lajitas Array**	**87.04**	**54**	P	**P**	**03 15 16.4**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=303,slow=2.9,SNR=5.5						

IDC 17 03:05:29.1±1.1, 30°47S×72°55W, h0km, mb4.0/4, mb1 4.3/8, mb1mx4.0/31, mbtmp4.1/8, ML4.0/4, Error ellipse: s-maj=40.2km s-min=24.2km az=103.0

ISC 17 03:05:32.2±1.0, 30°45S±0°09×72°4W±0°2, h19km, n13, σ1§59/13, mb4.1/4, Off coast of Central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**8.42**	**23**	Pn	**Pn**	**03 07 31.2**	**-2.4**
	0.7nm,0.3s,baz=170,slow=7.5,SNR=6.6						
PLCA	**Paso Flores**	**10.38**	**172**	Pn	**Pn**	**03 07 58.1**	**-1.9**
	0.3nm,0.3s,baz=310,slow=17,SNR=1.5						
LPAZ	**La Paz**	**14.64**	**17**	Pn	**Pn**	**03 08 60.0**	**+1.0**
	0.2nm,0.3s,baz=204,slow=7.3,SNR=4.2						
SIV	**San Ignacio**	**17.76**	**38**	P	**P**	**03 09 38.9**	**-0.4**
	0.8nm,0.3s,baz=215,slow=8.8,SNR=10						
BDFB	**Brasilia**	**26.80**	**62**	P	**P**	**03 11 11.6**	**+0.2**
	6.2nm,0.8s,baz=251,slow=7.4,SNR=3.8						
VNA3	**Neumayer Olymp**	**52.77**	**159**	P	**P**	**03 14 46.8**	**+1.2**
VNA2	**Neumayer--Watz**	**53.42**	**158**	P	**P**	**03 14 51.9**	**+1.6**
	baz=287,slow=7.9						
SNAA	**Sanae**	**55.00**	**159**	P	**P**	**03 15 03.1**	**+1.1**
TXAR	**Lajitas Array**	**66.48**	**330**	P	**P**	**03 16 20.9**	**+0.3**
	0.6nm,0.8s,baz=157,slow=4.9,SNR=3.5						
MAW	**Mawson**	**76.67**	**164**	P	**P**	**03 17 22.6**	**+1.1**
	1.2nm,0.7s,baz=142,slow=12,SNR=2.6						
TORD	**Torodi Ar. Bea**	**83.34**	**71**	P	**P**	**03 17 59.5**	**+1.2**
	0.7nm,0.6s,baz=282,slow=4.9,SNR=5.2						
WRA	**Warramunga Arr**	**123.66**	**211**	PKP	**PKPdf**	**03 24 26.7**	**-2.6**
	0.5nm,0.9s,baz=153,slow=1.9,SNR=1.7						
ZALV	**Zalesovo Beam**	**151.34**	**28**	PKPbc	**PKiKP**	**03 25 24.7**	**+0.1**
	2.1nm,0.5s,baz=310,slow=4.9,SNR=4.4						

IDC 17 03:05:58.8±0.9, 30°67S×72°04W, h0km, mb4.1/6, mb1 4.3/8, mb1mx4.1/30, mbtmp4.2/8, ML4.2/2, Error ellipse: s-maj=33.7km s-min=21.9km az=82.0
NEIC 17 03:06:03.3±1.9, 30°59S±0°05×71°85W±0°06, h27km±2km, mb4.3/10, Error ellipse: s-maj=8.3km s-min=6.5km az=108.0

ISC 17 03:06:01.1±2.9, 30°66S±0°05×71°93W±0°09, h14km±17km, n27, σ0§69/32, mb4.3/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.25**	**94**	Pg	**Pn**	**03 06 09.8**	**-0.7**
CO06				Sg	**Sn**	**03 06 16.0**	**-0.2**
CO03	**El Pedregal**	**1.08**	**100**		**Pb**	**03 06 22.0**	**+0.3**
CO03				Sn	**Sg**	**03 06 36.4**	**+0.3**
GO04	**Tololo Observa**	**1.09**	**64**		**Pb**	**03 06 21.1**	**-0.8**
LCO	**Las Campanas**	**1.96**	**33**	Pn	**Pn**	**03 06 33.5**	**-0.6**
LCO				Sn	**Sb**	**03 07 00.9**	**-0.2**
VA01	**Torpederas**	**2.37**	**174**	Pn	**Pn**	**03 06 41.0**	**+1.4**
VA01				Sn	**Sb**	**03 07 11.7**	**-1.1**
VA03	**San Esteban**	**2.41**	**151**	Pn	**Pn**	**03 06 41.0**	**+0.8**
VA03				Sn	**Sn**	**03 07 08.9**	**-0.6**
MT05	**Renca**	**2.91**	**160**	Pn	**Pn**	**03 06 47.4**	**+0.4**
PLCA	**Paso Flores**	**10.12**	**174**	Pn	**Pn**	**03 08 24.8**	**-1.2**
	0.6nm,0.3s,baz=57,slow=11,SNR=1.1						
SIV	**San Ignacio**	**17.66**	**37**	P	**P**	**03 10 07.7**	**0.0**
	0.4nm,0.3s,baz=228,slow=10,SNR=7.1						
SAML	**Samuel**	**23.09**	**23**	P	**P**	**03 11 06.1**	**-0.5**
BDFB	**Brasilia**	**26.50**	**61**	P	**P**	**03 11 38.6**	**+0.2**
	4.5nm,0.7s,baz=248,slow=11,SNR=4.5						
RUSC	**La Rusia**	**36.36**	**358**	P	**P**	**03 13 05.1**	**-0.3**
SNAA	**Sanae**	**54.65**	**159**	P	**P**	**03 15 29.2**	**+0.1**
	3.5nm,0.8s,baz=166,slow=4.2						
SNAA	**Sanae**	**54.65**	**159**	P	**P**	**03 15 29.2**	**+0.1**
SNAA				IAmb	IAmb	03 15 33.9	
	comp=Z,3.4nm,0.9s						
QSPA	**South Pole Qui**	**59.57**	**180**	P	**P**	**03 16 04.6**	**+0.4**
QSPA				IAmb	IAmb	03 16 10.0	
	comp=Z,2.6nm,0.8s						
TXAR	**Lajitas Array**	**66.88**	**330**	P	**P**	**03 16 53.2**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=151,slow=9.4,SNR=10						
MAW	**Mawson**	**76.35**	**164**	P	**P**	**03 17 49.8**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=213,slow=6.7,SNR=4.5						
MAW	**Mawson**	**76.35**	**164**	P	**P**	**03 17 49.8**	**+0.5**
CCUT	**Cedar City**	**78.14**	**327**	P	**P**	**03 18 00.4**	**+0.4**
CCUT				IAmb	IAmb	03 18 02.4	
	comp=Z,3.1nm,1.0s						
PDAR	**Pinedale Array**	**80.83**	**333**	P	**P**	**03 18 13.3**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=187,slow=3.9,SNR=3.7						
PDAR	**Pinedale Array**	**80.83**	**333**	P	**P**	**03 18 13.7**	**-0.9**
HVU	**Hansel Valley**	**81.33**	**330**	P	**P**	**03 18 17.1**	**0.0**
HVU				IAmb	IAmb	03 18 27.1	
	comp=Z,3.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**82.99**	**70**	P	**P**	**03 18 26.8**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=263,slow=4.6,SNR=6.1						
HLID	**Hailey**	**83.48**	**330**	P	**P**	**03 18 28.7**	**+0.3**
WRA	**Warramunga Arr**	**123.71**	**210**	PKP	**PKPdf**	**03 24 58.0**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=168,slow=4.6,SNR=1.7						
ZALV	**Zales

QIS	**Mount Isa**	18.40	217	P		Pn	03 13 59.8	+0.7
	baz=18,SNR=15							
EIDS	**Eidsvold**	19.17	181	P		P	03 14 07.6	+0.4
	baz=19,SNR=7.4							
EIDS	**Eidsvold**	19.17	181	P		Pn	03 14 08.2	-0.1
KDU	**Kakadu**	19.81	249	P		P	03 14 14.2	0.0
	baz=20,SNR=12							
RMQ	**Roma**	20.44	187	P		P	03 14 21.8	+0.8
	baz=20,SNR=72							
GUMO	**Guam**	20.61	342	P		P	03 14 21.2	-1.7
	45nm,0.8s,baz=54,slow=18,SNR=2.2							
MTN	**Manton Dam**	21.11	250	P		P	03 14 28.3	0.0
	baz=21,SNR=6.6							
MTN	**Manton Dam**	21.11	250	P		P	03 14 27.2	-1.1
MTN				IAmb		IAmb	03 14 34.1	
	comp=Z,51nm,0.9s							
WR0	**Warramunga Arr**	21.43	228	P		P	03 14 32.1	+0.3
QLP	**Quilpie**	21.50	198	P		P	03 14 34.0	+1.6
	baz=22,SNR=11							
DZM	**Mont Dzumac**	21.51	139	P		P	03 14 33.2	+0.5
	comp=Z,9.7nm,1.1s,baz=324,slow=19,SNR=3.1							
DZM	**Mont Dzumac**	21.51	139	P		P	03 14 32.5	-0.2
WRAB	**Tennant Creek**	21.56	229	P		P	03 14 32.2	-1.0
WRAB				IAmb		IAmb	03 14 44.9	
	comp=Z,56nm,1.1s							
WB2	**Warramunga Arr**	21.57	229	P		P	03 14 31.2	-2.0
WB2				IAmb		IAmb	03 14 45.0	
	comp=Z,59nm,1.1s							
WRA	**Warramunga Arr**	21.57	229	P		P	03 14 33.3	0.0
	comp=Z,27nm,0.9s,baz=52,slow=9.8,SNR=59							
WRA				ScP		ScP	03 22 12.9	+4.3
	comp=Z,6.0nm,1.2s,baz=46,slow=2.4,SNR=9.3							
WRA	**Warramunga Arr**	21.57	229	P		P	03 14 32.4	-0.9
WRA						ScP	03 22 07.2	-1.4
KNRA	**Kununurra**	24.19	245	P		P	03 14 59.8	0.0
	baz=24,SNR=10							
KNRA	**Kununurra**	24.19	245	P		P	03 14 59.8	0.0
AS31	**Alice Springs**	24.28	222	P		P	03 15 00.6	-0.1
ASAR	**Alice Springs**	24.29	222	P		P	03 15 01.1	+0.3
	comp=Z,45nm,0.9s,baz=54,slow=9.4,SNR=207							
ASAR				ScP		ScP	03 22 21.4	+5.6
	comp=Z,2.0nm,1.1s,baz=31,slow=2.6,SNR=5.3							
ASAR	**Alice Springs**	24.29	222	P		P	03 15 01.5	+0.8
CMSA	**Cobar Meteorol**	25.88	191	P		P	03 15 14.4	-0.7
	baz=26,SNR=6.7							
SOEI	**Soe**	27.14	261	P		P	03 15 28.3	+1.5
	comp=Z,98nm,0.8s							
STKA	**Stephens Creek**	27.25	199	P		P	03 15 27.2	-0.2
	baz=27,SNR=15							
STKA	**Stephens Creek**	27.25	199	P		P	03 15 27.6	+0.1
	comp=Z,14nm,0.9s,baz=4.6,slow=10,SNR=19							
STKA	**Stephens Creek**	27.25	199	P		P	03 15 28.0	+0.5
BATI	**Baumata**	27.78	260	P		P	03 15 32.1	-0.3
	comp=Z,44nm,0.7s,baz=133,slow=0.8,SNR=5.5							
BATI	**Baumata**	27.78	260	P		P	03 15 33.4	+1.0
	comp=Z,36nm,0.7s							
FITZ	**Fitzroy Crossi**	27.85	242	P		P	03 15 32.5	-0.5
	baz=28,SNR=31							
FITZ	**Fitzroy Crossi**	27.85	242	P		P	03 15 32.5	-0.5
	comp=Z,15nm,0.7s,baz=71,slow=8.4,SNR=57							
FITZ	**Fitzroy Crossi**	27.85	242	P		P	03 15 32.8	-0.2
FITZ				IAmb		IAmb	03 15 44.8	
	comp=Z,26nm,0.8s							
WRKA	**Warakurna**	29.09	227	P		P	03 15 43.6	-0.3
	baz=29,SNR=9.4							
HTT	**Hallett**	29.58	202	P		P	03 15 48.5	+0.3
	baz=30,SNR=4.5							
EDFI	**Ende, Flores**	29.61	263	P		P	03 15 47.3	-1.4
	comp=Z,1μmcomp=Z,37nm,1.1s							
WBSI	**Waikabubak, Su**	31.93	262	P		P	03 16 09.0	-0.1
	comp=Z,114nm,0.8s							
FORT	**Forrest**	32.93	219	P		P	03 16 17.6	-0.1
PLAI	**Plampang**	33.47	263	P		P	03 16 22.0	-0.7
	comp=Z,107nm,0.8s							
PSA00	**Pilbara Seismi**	34.21	240	P		P	03 16 26.7	-2.2
PSA00				IAmb		IAmb	03 16 32.9	
	comp=Z,25nm,1.3s							
TWSI	**Taliwang, Sumb**	34.35	263	P		P	03 16 28.2	-2.1
	comp=Z,22nm,1.0s							
JAGI	**Jajag, Banyuwa**	37.05	264	P		P	03 16 51.3	-2.1
MEEK	**Meekatharra**	37.34	233	P		P	03 16 54.6	-1.3
	baz=37,SNR=7.6							
PWJI	**Pagerwojo**	39.37	265	P		P	03 17 11.5	-1.4
	comp=Z,96nm,1.0s							
SJI	**Sawahan**	39.40	265	P		P	03 17 14.5	+1.2
	comp=Z,43nm,0.6s							
PCJI	**Pacitan**	39.99	265	P		P	03 17 17.4	-0.7
	comp=Z,188nm,1.0s							
MORW	**Morawa**	40.48	231	P		P	03 17 21.0	-1.0
	baz=40,SNR=5.4							
KPJI	**Karang Pucung**	42.22	266	P		P	03 17 36.6	+0.1
	comp=Z,86nm,0.9s							
CMJI	**Cimerak**	42.69	265	P		P	03 17 39.7	-0.6
	comp=Z,159nm,0.9s							
CISI	**Cisompet, Garu**	43.32	265	P		P	03 17 44.1	-1.4
CISI	**Cisompet, Garu**	43.32	265	P		P	03 17 44.6	-0.9
	comp=Z,3μmcomp=Z,88nm,1.0s							
CNJI	**Cibinong**	44.01	266	P		P	03 17 50.8	-0.1
	comp=Z,3μmcomp=Z,29nm,1.1s							
CBJI	**Citeko**	44.31	267	P		P	03 17 54.1	+0.7
	comp=Z,87nm,0.8s							
MDSI	**Maura Dua**	47.07	270	P		P	03 18 14.0	-1.2
	comp=Z,18nm,1.4s							
KSRS	**Korea Array**	48.56	335	P		P	03 18 25.9	-0.4
	comp=Z,0.7nm,0.4s,baz=147,slow=7.1,SNR=4.1							
NJ2	**Nanjing**	49.01	323	*e*P		P	03 18 30.1	+0.2
NJ2				pmax		pmax		
	comp=Z,12nm,0.7s							
KMI	**Kunming**	56.60	305	⇓P		P	03 19 28.3	+2.0
KMI				pmax		pmax		
	comp=Z,10.0nm,0.8s							
XAN	**Xi'an**	56.63	318	P		P	03 19 25.4	-0.8
XAN				pmax		pmax		
	comp=Z,9.0nm,0.9s							
CMAR	**Chiang Mai Arr**	57.21	296	P		P	03 19 30.8	+0.2
	comp=Z,1.4nm,0.3s,baz=91,slow=8.2,SNR=1.8							
CMAR	**Chiang Mai Arr**	57.21	296	P		P	03 19 29.4	-1.1
CD2	**Chengdu**	58.56	312	P		P	03 19 40.0	+0.2
PETK	**Petropavlovsk-**	59.21	4	P		P	03 19 43.2	-0.6
	comp=Z,3.1nm,0.9s,baz=204,slow=9.5,SNR=3.7							
PETK	**Petropavlovsk-**	59.21	4	P		P	03 19 43.4	-0.5
HHC	**Hu-ho-hao-te**	59.31	326	*e*P		P	03 19 48.8	+3.8
HHC				pmax		pmax		
	comp=Z,14nm,1.1s							
HHC				pmax		pmax		
	comp=Z,300nm,6.0s							
HHC				LR		LR		
	comp=Z,2μm,17.2s							
HHC				LR		LR		
	comp=Z,1μm,15.7s							
HHC				LR		LR		
	comp=Z,3μm,16.9s							
GTA	**Gaotai**	65.69	318	*e*P		P	03 20 33.4	+5.8
GTA				pP		sP	03 20 41.3	-2.6
GTA				pmax		pmax		
	comp=Z,4.0nm,1.1s							
SHL	**Shillong**	65.80	301	P		P	03 20 27.5	-1.2
SONM	**Songino Array**	66.70	329	P		P	03 20 33.4	-0.5
	comp=Z,3.0nm,1.0s,baz=138,slow=7.3,SNR=12							
SONM	**Songino Array**	66.70	329	P		P	03 20 32.9	-1.0
SONM				IAmb		IAmb	03 20 43.2	
	comp=Z,10nm,1.5s							
VNDA	**Vanda**	71.60	178	P		P	03 21 04.0	+0.3
	comp=Z,1.3nm,0.8s,baz=310,slow=6.5,SNR=5.3							
VNDA	**Vanda**	71.60	178	P		P	03 21 06.6	+3.0
WMQ	**Urumqi**	75.77	318	*e*P		P	03 21 30.3	+1.5
Q19K	**Cape Douglas,**	78.10	26	P		P	03 21 42.1	+0.6
	baz=236							
P19K	**Oil Pt**	78.67	25	P		P	03 21 44.9	+0.2
	baz=237							
L19K	**White Mountain**	79.45	23	P		P	03 21 49.2	+0.3
	baz=235							
CNPM	**China Poot**	79.46	26	P		P	03 21 48.5	-0.5
MKAR	**Makanchi Array**	80.41	319	P		P	03 21 54.1	-0.3
	comp=Z,1.9nm,0.9s,baz=111,slow=4.0,SNR=2.0							
K20K	**Telida**	80.43	22	P		P	03 21 55.5	+1.4
	baz=235							
J20K	**Nowinta River**	80.87	21	P		P	03 21 57.0	+0.6
	baz=235							
RC01	**Rabbit Creek A**	80.91	25	P		P	03 21 56.4	-0.3
RC01				IAmb		IAmb	03 22 00.3	
	comp=Z,11nm,1.1s							
RC01	**Rabbit Creek A**	80.91	25	P		P	03 21 57.1	+0.4
	baz=240							
PWL	**Port Wells**	81.39	25	P		P	03 21 59.0	-0.3
SML	**Sawmill**	81.86	25	P		P	03 22 02.4	+0.6
	baz=241							

I21K	**Tanana**	82.21	21	P		P	03 22 03.9	+0.5
I21K				IAmb		IAmb	03 22 07.4	
	comp=Z,8.5nm,1.1s							
I21K	**Tanana**	82.21	21	P		P	03 22 05.0	+1.5
	baz=237							
MLY	**Manley**	82.57	21	P		P	03 22 05.6	+0.2
MLY				IAmb		IAmb	03 22 06.2	
	comp=Z,5.3nm,0.7s							
MLY	**Manley**	82.57	21	P		P	03 22 06.2	+0.8
	baz=238							
MCK	**McKinley**	82.57	23	P		P	03 22 05.5	0.0
MCK				IAmb		IAmb	03 22 21.3	
	comp=Z,15nm,1.0s							
MCK	**McKinley**	82.57	23	P		P	03 22 05.4	0.0
	baz=240							
NEA2	**Nenana**	82.95	22	P		P	03 22 07.5	+0.1
NEA2				IAmb		IAmb	03 22 18.0	
	comp=Z,8.4nm,1.2s							
NEA2	**Nenana**	82.95	22	P		P	03 22 06.4	-1.0
	baz=240							
WRH	**Wood River Hil**	83.26	22	P		P	03 22 07.8	-1.2
WRH				IAmb		IAmb	03 22 09.3	
	comp=Z,7.1nm,1.0s							
CCB	**Clear Creek Bu**	83.45	22	P		P	03 22 08.6	-1.4
IL31		83.86	22	P		P	03 22 11.4	-0.5
IL31				IAmb		IAmb	03 22 11.5	
	comp=Z,4.9nm,0.8s							
ILAR	**Eielson Array**	83.86	22	P		P	03 22 10.6	-1.5
	comp=Z,3.9nm,0.8s,baz=251,slow=5.5,SNR=49							
ILAR	**Eielson Array**	83.86	22	P		P	03 22 10.4	-1.6
MAW	**Mawson**	83.86	203	P		P	03 22 12.5	+0.5
	baz=84,SNR=4.6							
MAW	**Mawson**	83.86	203	P		P	03 22 12.8	+0.8
	comp=Z,4.6nm,1.1s,baz=85,slow=9.7,SNR=5.1							
MAW	**Mawson**	83.86	203	P		P	03 22 13.0	+1.0
QSPA	**South Pole Qui**	83.88	180			P	03 22 13.0	+0.7
J25K	**Salcha River,**	84.36	23	P		P	03 22 14.3	-0.4
	baz=243							
DOT	**Dot Lake**	84.45	24	P		P	03 22 14.9	-0.2
DOT				IAmb		IAmb	03 22 26.7	
	comp=Z,13nm,1.2s							
L26K	**Log Cabin Wild**	84.48	25	P		P	03 22 15.4	+0.2
	baz=245							
M27K	**Edge Creek, AK**	84.82	25	P		P	03 22 17.1	0.0
M27K				IAmb		IAmb	03 22 20.7	
	comp=Z,7.4nm,0.8s							
M27K	**Edge Creek, AK**	84.82	25	P		P	03 22 18.5	+1.4
	baz=247							
J26L	**Joseph Creek**	85.02	23	P		P	03 22 18.6	+0.6
	baz=245							
L27K	**Beaver Creek,**	85.12	25	P		P	03 22 19.5	+1.0
	baz=247							
K27K	**Chicken**	85.41	24	P		P	03 22 21.3	+1.4
	baz=246							
EGAK	**Eagle**	86.08	23	P		P	03 22 23.8	+0.6
EGAK				IAmb		IAmb	03 22 25.1	
	comp=Z,6.7nm,0.9s							
EGAK	**Eagle**	86.08	23	P		P	03 22 24.2	+1.1
	baz=247							
HYT	**Haines Junctio**	86.20	28	P		P	03 22 25.8	+1.8
	baz=251							
DAWY	**Dawson**	86.52	24	P		P	03 22 24.8	-0.6
DAWY				IAmb		IAmb	03 22 27.1	
	comp=Z,10.0nm,1.2s							
DAWY	**Dawson**	86.52	24	P		P	03 22 26.7	+1.3
	baz=249							
WHY	**Whitehorse**	87.37	28	P		P	03 22 31.1	+1.3
	baz=253							
KKAR	**Karatay Array**	87.53	314			P	03 22 30.2	-0.6
EPYK	**Eagle Plains**	88.37	23	P		P	03 22 35.2	+0.9
	baz=251							
FARO	**Faro, Yukon**	88.53	27	P		P	03 22 36.1	+1.0
	baz=254							
DLBC	**Dease Lake**	89.18	31	P		P	03 22 38.8	+0.5
	comp=Z,2.9nm,1.0s,baz=278,slow=6.3,SNR=3.3							
NVAR	**Mina Array Bea**	93.95	52	P		P	03 23 02.5	+1.5
	comp=Z,1.4nm,0.8s,baz=257,slow=6.9,SNR=8.5							
NVAR	**Mina Array Bea**	93.95	52	P		P	03 23 01.2	+0.1
NV11	**Mina Array Sit**	94.06	52	P		P	03 23 00.1	-1.4
NV11				IAmb		IAmb	03 23 14.5	
	comp=Z,7.6nm,1.4s							
AKASG	**Malin Array Be**	114.73	324	PKP		PKiKP	03 28 22.6	-0.4
	comp=Z,0.3nm,0.2s,baz=68,slow=2.6,SNR=1.5							
MLR	**Muntele Rosu**	118.75	319			PKPdf	03 28 29.7	-1.5
KOLS	**Kolonicke sedl**	119.56	324	*e*PKP		PKiKP	03 28 33.7	+1.2
CRVS	**Cervenica-Dubn**	120.05	324	*e*PKP		PKiKP	03 28 34.6	+1.1
LANS	**Liptovska Anna**	121.07	325	*e*PKP		PKiKP	03 28 37.0	+1.5
VTS	**Vitosha**	121.67	317			PKPdf	03 28 35.9	-1.1
VYHS	**Vyhne**	121.76	325	*e*PKP		PKiKP	03 28 38.2	+1.3
MORC	**Moravsky Berou**	121.82	327	*e*PKP		PKiKP	03 28 37.3	+0.3
MORC				*e*			03 28 47.5	
OSTC	**Ostas**	122.10	328	*e*PKPDF		PKiKP	03 28 38.3	+0.8
DPC	**Dobruska-Polom**	122.16	328	*e*PKPDF		PKiKP	03 28 38.5	+0.9
DPC				*ex*		x	03 28 47.9	
JAVC	**Velka Javorina**	122.23	326	*e*PKP		PKiKP	03 28 39.2	+1.3
JAVC				*e*			03 28 49.1	
VRAC	**Vranov**	122.59	327	*e*		PKiKP	03 28 47.6	+9.1
MODS	**Modra-Piesok**	122.71	325	*e*PKP		PKiKP	03 28 39.0	+0.2
KRUC	**Moravsky**	122.83	326	*e*PKP		PKPdf	03 28 38.7	0.0
KRUC				*e*			03 28 47.9	
BRG	**Berggiesshubel**	123.09	329	*e*PKP		PKiKP	03 28 40.0	+0.6
BRG				Amp			03 28 40.9	
	comp=Z,4.3nm,0.9s							
BRG	**Berggiesshubel**	123.09	329	P		PKiKP	03 28 50.1	+11
BRG				Amp			03 28 51.5	
	comp=Z,9.0nm,1.1s							
CLL	**Collm**	123.30	330	*i* PKPdf		PKiKP	03 28 40.1	+0.3
	comp=Z,6.0nm,1.0s							
PRU	**Pruhonice**	123.31	328	*e*PKPDF		PKiKP	03 28 39.8	0.0
PRU				*ex*		x	03 28 48.2	
FNA	**Florina**	123.68	316			PKPdf	03 28 39.8	-0.9
CONA	**Conrad Observa**	123.75	326	*e*P		PKPdf	03 28 40.4	-0.3
	comp=Z,3.2nm,0.9s							
CKRC	**Cesky Krumlov**	124.11	327	*e*PKPDF		PKPdf	03 28 41.2	0.0
CKRC				*ex*		x	03 28 50.3	
ARSA	**Arzberg**	124.31	325	*e*P		PKPdf	03 28 41.4	-0.3
	comp=Z,2.2nm,0.8s							
KHC	**Kasperske Hory**	124.32	328	*e*PKPDF		PKPdf	03 28 40.7	-0.9
KHC				epPKP		pPKPdf	03 28 50.5	-2.8
GERES	**GERESS Array B**	124.42	327	PKP		PKPdf	03 28 42.0	+0.1
	comp=Z,2.9nm,0.8s,baz=54,slow=2.3,SNR=18							
GERES	**GERESS Array B**	124.42	327			PKPdf	03 28 41.4	-0.5
MOA	**Molln**	124.69	326	*e*P		PKiKP	03 28 42.5	-0.2
	comp=Z,5.0nm,1.4s							
SOKA	**Soboth**	124.91	325	*e*P		PKiKP	03 28 43.3	+0.1
	comp=Z,4.9nm,0.8s							
KBA	**Koelnbreinsper**	125.64	326	*e*P		PKPdf	03 28 42.9	-1.5
	comp=Z,2.3nm,0.5s							
ABTA	**Abfaltersbach**	126.30	326	*e*P		PKPdf	03 28 44.8	-0.7
	comp=Z,5.8nm,0.9s							
WATA	**Walderalm**	126.46	327	*e*P		PKiKP	03 28 54.5	+8.1
	comp=Z,3.3nm,0.5s							
STAL	**STALIGIAL**	126.47	325			PKPdf	03 28 45.6	-0.3
WTTA	**Wattenberg**	126.47	327	*e*P		PKPdf	03 28 44.0	-2.1
	comp=Z,10nm,1.0s							
MOTA	**Moosalm**	126.71	327	*e*P		PKPdf	03 28 46.4	-0.1
	comp=Z,9.1nm,1.0s							
SQTA	**Sankt Quirin**	126.73	327	*e*P		PKiKP	03 28 46.9	0.0
	comp=Z,5.9nm,0.9s							
RETA	**Reutte**	126.81	328	*e*P		PKPdf	03 28 44.8	-1.7
	comp=Z,8.0nm,1.4s							
FETA	**Feichten**	127.11	327	*e*P		PKiKP	03 28 47.7	0.0
	comp=Z,10nm,1.0s							
DAVA	**Damuels**	127.40	328	*e*P		PKPdf	03 28 47.9	+0.2
	comp=Z,11nm,1.3s							
SDV	**Santo Domingo**	138.22	84	PKP		PKiKP	03 29 10.1	-1.0
	comp=Z,3.4nm,0.4s,baz=246,slow=5.8,SNR=4.8							
TORD	**Torodi Ar. Bea**	149.38	285	PKPbc		PKPbc	03 29 32.5	-0.2
	comp=Z,17nm,0.8s,baz=67,slow=2.8,SNR=48							
TORD	**Torodi Ar. Bea**	149.38	285			PKPbc	03 29 31.9	-0.7
BDFB	**Brasilia**	151.06	138	PKPbc		PKPbc	03 29 36.7	-0.1
	comp=Z,7.6nm,0.8s,baz=175,slow=4.4,SNR=3.4							
BDFB				PKPab		sPKPdf	03 29 46.1	+0.2
	comp=Z,19nm,1.1s,baz=207,slow=2.3,SNR=4.5							
BDFB	**Brasilia**	151.06	138			PKPbc	03 29 36.4	-0.4

IDC ***17*** *03:10:37.8±2.5, 31°.47S×71°.58W, h0km, mb4.4/2, mb1 4.2/4, mb1mx3.8/34, mbtmp4.2/4, ML3.8/2, Error ellipse: s-maj=93.3km s-min=38.8km az=104.0*
NEIC ***17*** *03:10:43.0±1.4, 31°.53S±0°.03×71°.76W±0°.06, h37km±9km, mb4.4/4, Error ellipse: s-maj=8.0km s-min=4.3km az=78.0*
ISC 17 03:10:41.1±2.7, 31°.51S±0°.05×71°.8W±0°.2, h26km±17km**, n20, σ0°.84/25, mb4.5/3, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	0.84	10	Pn	Pn	03 10 59.0	+1.7
CO06				Sn	Sn	03 11 09.9	+1.0
CO03	**El Pedregal**	1.16	55	Pn	Pb	03 11 02.6	0.0
CO03				Sn	Sb	03 11 17.1	-0.1
VA01	**Torpederas**	1.51	175		Pn	03 11 06.9	+0.5
VA01				Sn	Sn	03 11 26.3	+1.0
VA03	**San Esteban**	1.64	140		Pn	03 11 08.6	+0.3
MT05	**Renca**	2.08	155	Pn	Pn	03 11 14.8	+0.5
MT05					Sn	03 11 40.2	+0.8
VA05	**Santo Domingo**	2.15	176		Pn	03 11 15.1	-0.1
MT09	**Talagante**	2.36	163	Pn	Pn	03 11 19.4	+1.2
MT09					Sn	03 11 46.8	+0.3
MT01	**Popeta**	2.39	169		Pn	03 11 19.0	+0.4
BO02	**Sierra Bellavi**	3.38	166		Pn	03 11 33.6	+1.4
PLCA	**Paso Flores**	9.26	174	Pn	Pn	03 12 52.9	0.0
	0.3nm,0.3s,baz=337,slow=15,SNR=2.4						
PLCA	**Paso Flores**	9.26	174		Pn	03 12 52.5	-0.4
SIV	**San Ignacio**	18.28	35	P	Pn	03 14 51.3	-1.7
	0.2nm,0.3s,baz=220,slow=7.9,SNR=2.3						
SNAA	**Sanae**	53.81	159	P	P	03 20 01.4	+0.2
QSPA	**South Pole Qui**	58.72	180	P	P	03 20 35.5	-0.8
QSPA				IAmb	IAmb	03 20 40.4	
	comp=Z,5.9nm,1.5s						
DBIC	**Dimbokro**	74.20	72	P	P	03 22 15.6	-0.3
	comp=Z,5.8nm,1.0s,baz=257,slow=4.0,SNR=4.6						
DBIC	**Dimbokro**	74.20	72	P	P	03 22 16.0	+0.1
TORD	**Torodi Ar. Bea**	83.17	70	P	P	03 23 05.5	+0.3
	comp=Z,0.6nm,0.6s,baz=255,slow=5.1,SNR=6.8						
TORD	**Torodi Ar. Bea**	83.17	70	P	P	03 23 04.6	-0.6
TORD				IAmb	IAmb	03 23 06.0	
	comp=Z,2.1nm,0.9s						
ZALV	**Zalesovo Beam**	152.00	30	PKPbc	PKiKP	03 30 33.9	+0.3
	comp=Z,6.1nm,0.5s,baz=294,slow=3.3,SNR=11						
ZALV	**Zalesovo Beam**	152.00	30		PKiKP	03 30 34.1	+0.5

IDC ***17*** *03:12:31.8±0.5, 30°.75S×72°.05W, h0km, mb4.6/21, mb1 4.7/25, mb1mx4.6/37, mbtmp4.6/25, ML4.8/4, MS4.5/1, Ms1 4.5/1, ms1mx3.9/29, Error ellipse: s-maj=19.3km s-min=11.4km az=84.0*
VAO ***17*** *03:12:35.6±0.3, 30°.83S×71°.54W, h10km, mb5.0*
SJA ***17*** *03:12:38.0±1.1, 30°.92S×71°.65W, h27km±6km, ML5.0, MW4.7*
NEIC ***17*** *03:12:41.8±2.2, 30°.96S±0°.03×71°.40W±0°.07, h51km±4km, Error ellipse: s-maj=9.2km s-min=4.7km az=98.0*
GUC ***17*** *03:12:42.6±0.7, 30°.95S×71°.27W, h48km±5km, ML5.4, MW5.2*
ISC 17 03:12:40.5±0.6, 30°.90S±0°.03×71°.52W±0°.04, h55km±5km**, n245, σ1°63/251, mb4.8/36, 12C-7D, Fault plane solution: NP1:**ϕ_b351.18808°, δ53.74369°, λ62.56150°. **NP2:** ϕ_b212.46880°, δ44.30215°, λ122.14122°. **Principal axes:** T Plg67.5532°, Azm202.6097°; N Plg21.8129°, Azm8.2575°; P Plg5.0411°, Azm100.2808°; **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	0.25	337	*e*P	Pn	03 12 52.8	+3.0
CO06				*e*S	Sn	03 13 00.8	+4.4
CO06	**Fray Jorge**	0.25	337		Pn	03 12 50.5	+0.7
CO06				Sn	Sn	03 13 00.3	+4.0
CO03	**El Pedregal**	0.72	85	⇓*i*P	Pn	03 12 54.3	-0.5
CO03				*e*S	Sn	03 13 03.5	-1.9
CO03				IAML		03 13 04.0	
	comp=E,288μm,0.1s						
CO03	**El Pedregal**	0.72	85		Pn	03 12 54.3	-0.5
CO03				Sn	Sn	03 13 03.4	-1.9
CO03	**El Pedregal**	0.72	85	*i* P	Pn	03 12 54.4	-0.5
GO04	**Tololo Observa**	0.96	41	*e*P	Pn	03 12 59.5	+1.4
GO04				*e*S	Sn	03 13 12.5	+1.5
GO04	**Tololo Observa**	0.96	41	Pn	Pn	03 12 59.5	+1.4
GO04				Sn	Sn	03 13 10.9	0.0
AROD	**Rodeo**	1.91	68	*i* P	Pn	03 13 14.0	+3.0
LCO	**Las Campanas**	2.01	21	*e*P	Pn	03 13 14.9	+2.6
LCO				*e*S	Sn	03 13 39.7	+3.1
LCO	**Las Campanas**	2.01	21		Pn	03 13 13.1	+0.7
LCO				Sn	Sn	03 13 37.1	+0.6
LCO	**Las Campanas**	2.01	21	*i* P	Pn	03 13 13.0	+0.7
LCO				*e*S	Sn	03 13 40.2	+3.7
VA03	**San Esteban**	2.03	156	*e*P	Pn	03 13 12.8	+0.4
VA03				*e*S	Sn

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BO03	Pichilemu	3.60	186	eP	Pn	03 13 31.3	-2.6
BO03				IAML		03 14 33.0	
	comp=E,3μm,0.5s						
BO02	Sierra Bellavi	3.93	171	eP	Pn	03 13 38.9	+0.5
BO02	Sierra Bellavi	3.93	171	Pn	Pn	03 13 38.8	+0.4
BO02	Sierra Bellavi	3.93	171	i P	Pn	03 13 40.0	+1.6
BO02				IAML		03 14 32.3	
	comp=Z,8μm,0.9s						
GO05	Huala	4.11	185		Pn	03 13 39.9	-0.9
GO05	Huala	4.11	185	i P	Pn	03 13 40.0	-0.9
TINO	Tinogasta	4.46	52	i P	Pn	03 13 49.0	+3.3
LAMA	Las Malvinas	4.47	155	i P	Pn	03 13 48.0	+2.3
COIS	El Sosneado	4.50	159	i P	Pn	03 13 48.0	+1.9
AC02	Maricunga	4.56	28		Pn	03 13 45.9	-1.5
AC02	Maricunga	4.56	28	i P	Pn	03 13 48.0	+0.5
AC02				IAML		03 15 03.7	
	comp=Z,4μm,1.2s						
RFA	San Rafael	4.64	147	i P	Pn	03 13 49.0	+0.9
RFA				IAML		03 15 05.0	
	comp=Z,938nm,1.8s						
ML02	Panimavida	4.85	179		Pn	03 13 50.6	-0.3
CYA	Choya	5.55	65	i P	Pn	03 14 01.0	+0.4
CYA				IAML		03 15 09.1	
	comp=Z,2μm,0.9s						
PB14	IPOC Station P	6.33	9	Pn	Pn	03 14 12.4	+0.8
H03N1	Juan Fernandez	6.76	246	T	T	03 21 12.2	
	baz=73,slow=72,SNR=130						
VA04	Juan Fernndez	6.76	244	Pn	Pn	03 14 18.8	+1.6
H03N3	Juan Fernandez	6.77	246	T	T	03 21 12.3	
	baz=73,slow=72,SNR=208						
H03N2	Juan Fernandez	6.77	246	T	T	03 21 10.5	
	baz=73,slow=72,SNR=193						
AHML	Horco Molle	6.80	54	i P	Pn	03 14 18.0	+0.2
AHML				IAML		03 16 17.2	
	comp=Z,435nm,0.8s						
FSA	Cafayete	6.82	47	i P	Pn	03 14 20.0	+1.8
H03S3	Juan Fernandez	6.90	243	T	T	03 21 23.9	
	baz=84,slow=75,SNR=42						
H03S1	Juan Fernandez	6.90	243	T	T	03 21 23.4	
	baz=84,slow=75,SNR=60						
H03S2	Juan Fernandez	6.91	243	T	T	03 21 23.0	
	baz=84,slow=75,SNR=61						
CANA	Caviahue	6.98	177	i P	Pn	03 14 23.0	+2.7
PB10	IPOC Station P	7.41	7	Pn	Pn	03 14 27.1	+1.0
PB06	IPOC Station P	8.35	13		Pn	03 14 38.2	-0.8
LVC	Limon Verde	8.58	16	Pn	Pn	03 14 36.9	-5.6
	comp=Z,3.8nm,0.3s,baz=162,slow=5.1,SNR=8.6						
LVC				Sn	Sn	03 16 28.8	+11
	comp=Z,15nm,0.3s,baz=142,slow=15,SNR=3.9						
LVC	Limon Verde	8.58	16	Pn	Pn	03 14 42.5	0.0
LVC	Limon Verde	8.58	16	eP	Pn	03 14 37.7	-4.7
AZAP	Zapla	8.78	42	i P	Pn	03 14 47.0	+2.0
ASTB	Santa Barbara	9.35	44	i P	Pn	03 14 54.0	+1.3
HJA	Humahuaca	9.40	37	i P	Pn	03 14 56.0	+2.3
PLCA	Paso Flores	9.84	176	Pn	Pn	03 14 59.2	-0.2
	comp=Z,3.0nm,0.3s,baz=342,slow=11,SNR=26						
PLCA	Paso Flores	9.84	176	Pn	Pn	03 14 59.1	-0.3
PLCA	Paso Flores	9.84	176	eP	Pn	03 14 58.1	-1.3
TA01	Diego Aracena	10.36	7	Pn	Pn	03 15 05.1	-1.4
TRQA	Tornquist	10.62	135	Pn	Pn	03 15 08.2	-1.8
TRQA	Tornquist	10.62	135	eP	Pn	03 15 09.2	-0.8
ITQB	Itaqui	12.94	88	Pn	Pn	03 15 38.5	-3.0
ITQB	Itaqui	12.94	88	eP	Pn	03 15 38.5	-3.0
CPUP	Villa Florida	13.27	73	Pn	Pn	03 15 43.1	-3.1
	comp=Z,1.9nm,0.3s,baz=248,slow=12,SNR=9.2						
CPUP				Sn	Sn	03 18 14.7	+2.6
	comp=Z,3.8nm,0.3s,baz=281,slow=16,SNR=2.9						
CPUP	Villa Florida	13.27	73	eP	Pn	03 15 44.6	-1.6
LPAZ	La Paz	14.87	13	Pn	Pn	03 16 06.8	-1.4
	comp=Z,1.7nm,0.3s,baz=192,slow=7.9,SNR=54						
LPAZ	La Paz	14.87	13		Pn	03 16 07.1	-1.1
PLTB	Pedras Altas	15.34	98	eP	Pn	03 16 13.4	-0.1
CPSB	Cacapava Do Su	15.57	93	eP	Pn	03 16 15.8	-0.8
AQDB	Aquidauana	17.62	58		Pn	03 16 41.3	-0.9
AQDB				IAmb	IAmb	03 16 52.6	
	comp=Z,88nm,1.3s						
AQDB	Aquidauana	17.62	58	eP	Pn	03 16 40.9	-1.3
SIV	San Ignacio	17.65	35	P	Pn	03 16 40.6	-2.0
	comp=Z,8.6nm,0.3s,baz=218,slow=9.4,SNR=84						
CNLB	Canela	17.95	90	eP	P	03 16 46.1	-0.2
PTGB	Pitanga	18.27	75	eP	Pn	03 16 49.8	-0.4
TRCB	Terra Rica	18.67	69	eP	Pn	03 16 55.0	-0.1
PTLB	Pontes e Lacer	19.11	39	eP	P	03 16 59.1	+0.2
NNA	Nana	19.46	344	P	P	03 16 57.7	-5.0
	comp=Z,1.0nm,0.3s,baz=221,slow=13,SNR=3.9						
TER01	Tubaro-SC	19.59	89	eP	P	03 17 03.9	-0.3
PP1B	Ponte de Pedra	20.11	53	eP	P	03 17 10.2	+0.4
PCMB	Pacaembu	20.37	68	eP	P	03 17 12.8	+0.1
TIJ01	Guaruva-PR	20.61	80	eP	P	03 17 13.4	-2.0
VILB	Vilhena	20.69	33	eP	P	03 17 16.3	+0.1
SALV	Santo Antonio	20.79	48	eP	P	03 17 17.5	+0.3
FRTB	Fartura	20.92	74	eP	P	03 17 18.9	+0.2
ETMB	Extrema	21.55	14	eP	P	03 17 25.6	+0.2
ITRB	Iturama	22.10	65	eP	P	03 17 30.4	-1.0
PET01	Itanhaem-SP	22.45	79	eP	P	03 17 33.9	-1.1
SPB	Sao Paulo	22.59	77	eP	P	03 17 34.5	-2.0
BB19B	Bebedouro	22.83	70	eP	P	03 17 37.1	-2.0
RCLB	Rio Claro- Sao	23.01	74	eP	P	03 17 40.8	-0.1
CZSB	Cruzeiro do Su	23.08	357	eP	P	03 17 39.6	-2.0
SAML	Samuel	23.19	21	eP	P	03 17 43.2	+0.6
VAO	Valinhos	23.23	76	eP	P	03 17 41.8	-1.3
USHA	Ushuaia	24.02	176	P	P	03 17 50.5	+0.5
	comp=Z,20nm,0.7s,baz=29,slow=2.1,SNR=2.0						
PARB	Paraibuna	24.22	78	eP	P	03 17 51.5	-0.7
CLDB	Colider	24.70	40	eP	P	03 17 56.6	0.0
IPMB	Ipameri, GO	24.75	64	eP	P	03 17 56.9	-0.2
BSCB	Bom Sucesso	25.94	74	eP	P	03 18 07.4	-0.5
BDFB	Brasilia	26.32	60	P	P	03 18 11.4	0.0
	comp=Z,62nm,1.0s,baz=234,slow=7.7,SNR=31						
BDFB	Brasilia	26.32	60	P	P	03 18 11.3	-0.2
BDFB				IAmb	IAmb	03 18 13.3	
	comp=Z,52nm,0.9s						
VAS01	Vassouras-RJ	26.48	78	eP	P	03 18 12.8	+0.1
SNDB	Serra Nova Dou	26.55	49	eP	P	03 18 13.6	+0.2
TBTG	Tabatinga, AM	26.62	4	eP	P	03 18 12.4	-1.5
DUB01	Friburgo-RJ	27.46	78	eP	P	03 18 21.8	+0.2
NPGB	Novo Progresso	28.15	36	eP	P	03 18 27.3	-0.4
CAM01	Campos-RJ	28.17	79	eP	P	03 18 29.3	+1.5
DIAM	Diamantina, MG	28.17	70	eP	P	03 18 28.4	+0.3
PEXB	Peixe	28.47	54	eP	P	03 18 30.9	+0.4
MC01	Montes Claros	28.82	67	eP	P	03 18 33.1	-0.6
MACA	Manacapuru-AM	29.43	22	eP	P	03 18 40.4	+1.4
ALF01	Guarapari-ES	29.48	77	eP	P	03 18 39.8	+0.4
JANB	Januaria	29.49	64	eP	P	03 18 39.4	-0.2
SJMB	Sao Joao De Ma	30.00	73	eP	P	03 18 44.2	+0.2
BSFB	Barra de Sao F	30.21	74	eP	P	03 18 46.0	0.0
ITTB	Itaituba	30.30	33	eP	P	03 18 48.4	+1.7
RIB01	Linhares ES	30.36	75	eP	P	03 18 47.7	+0.5
SDBA	SAO DESIDERIO	30.70	59	eP	P	03 18 50.6	+0.3
SMTB	Santa Maria do	31.28	51	eP	P	03 18 56.6	+1.1
NAN01	Guarapari, ES	31.30	73	eP	P	03 18 55.2	-0.3
OTAV	Otavalo	31.66	347	eP	P	03 18 57.7	-1.6
PRPB	Parauapebas	31.94	44	eP	P	03 19 01.5	+0.3
PTGA	Pitinga	31.95	22	P	P	03 19 00.8	-0.4
	comp=Z,100nm,0.8s,baz=255,slow=0.2,SNR=9.8						
GUA01	Guaratinga, BA	32.21	71	eP	P	03 19 04.6	+1.0
CMC01	Camacan, BA	33.10	69	eP	P	03 19 12.0	+0.7
RPN	Rapa Nui	33.18	267	LR	LR	03 27 37.9	
	comp=Z,904nm,21.3s,baz=352,slow=28						
MALB	Monte Alegre	33.19	33	eP	P	03 19 13.4	+1.3
NBIT	Itapeh - BA	33.40	69	eP	P	03 19 14.6	+0.6
GDU01	Guandu, BA	33.98	67	eP	P	03 19 19.0	0.0
PMSA	Palmer Station	34.21	174	P	P	03 19 21.8	+1.4
	comp=Z,7.7nm,0.8s,baz=18,slow=6.7,SNR=3.9						
PMSA	Palmer Station	34.21	174	P	P	03 19 23.8	+3.3
PMSA				IAmb	IAmb	03 19 38.8	
	comp=Z,17nm,1.1s						
PMSA	Palmer Station	34.21	174	eP	P	03 19 23.8	+3.3
BOAV	Boa Vista	34.73	20	eP	P	03 19 26.2	+0.8
NBPN	Ponto Novo - B	35.23	62	eP	P	03 19 30.0	+0.2
MCPB	Macapa, AP	35.55	35	eP	P	03 19 33.5	+0.9
ROSC	El Rosal	35.64	355	P	P	03 19 35.1	+1.4
	comp=Z,4.6nm,0.4s,baz=217,slow=20,SNR=1.9						
ROSC	El Rosal	35.64	355	P	P	03 19 35.3	+1.5
TMAB	Tom-Au,PA,Br	36.00	43	eP	P	03 19 37.0	+0.6
RUSC	La Rusia	36.62	357	P	P	03 19 41.2	-0.9
NBLA	Lagarto - SE	36.99	65	eP	P	03 19 44.4	-0.5
ROSB	Rosrio	38.02	48	eP	P	03 19 54.6	+1.1
NBMA	Muriti-CE	38.55	59	eP	P	03 19 58.4	+0.3
NBPS	Pedro II - PI	38.69	53	eP	P	03 19 59.8	+0.5
NBAN	Anadia - AL	38.98	65	eP	P	03 20 01.2	-0.4
NBPB	Pedra_Branca-C	39.19	56	eP	P	03 20 04.5	+1.1
SDV	Santo Domingo	39.57	1	P	P	03 20 04.5	-2.2
	comp=Z,12nm,0.7s,baz=282,slow=3.7,SNR=7.6						
SDV	Santo Domingo	39.57	1	eP	P	03 20 04.7	-2.0
MDP	Montagnes des	40.09	30	P	P	03 20 10.6	-0.3
	comp=Z,13nm,0.8s,baz=188,slow=9.5,SNR=12						
NBMO	Morrinhos-CE	40.43	54	eP	P	03 20 13.8	0.0
NBPA	Parau_RN	40.84	59	eP	P	03 20 15.8	-1.3
NBCL	Cascavel-CE	41.02	56	eP	P	03 20 19.4	+0.8
PCRV	Puerto La Cruz	41.37	10	P	P	03 20 20.1	-1.3
	comp=Z,7.5nm,0.5s,baz=172,slow=5.2,SNR=5.2						
RCBR	Riachuelo	41.69	61	eP	P	03 20 24.8	+0.6
NBPV	Pedro Velho	41.77	62	eP	P	03 20 25.6	+0.9
JTS	Las Juntas de	42.94	340	P	P	03 20 31.3	-2.8
	comp=Z,5.1nm,0.8s,baz=26,slow=20,SNR=4.0						
SJG	San Juan	49.00	7	P	P	03 21 19.9	-1.8
	comp=Z,26nm,0.8s,baz=277,slow=1.6,SNR=8.2						
VNA3	Neumayer Olymp	52.07	159	P	P	03 21 45.5	+1.2
VNA1	Neumayer--Stat	52.36	158	P	P	03 21 46.4	-0.1
VNA2	Neumayer--Watz	52.70	158	P	P	03 21 49.8	+0.8
	baz=288,slow=8.2						
CMIG	Matias Romero	52.74	332	P	P	03 21 45.4	-4.5
	comp=Z,6.1nm,1.1s,baz=191,slow=5.5,SNR=6.2						
SNAA	Sanae	54.29	159	P	P	03 22 01.3	+0.5
SNAA	Sanae	54.29	159	P	P	03 22 01.7	+0.9
	comp=Z,9.8nm,0.8s,baz=274,slow=8.1,SNR=28						
SNAA	Sanae	54.29	159	P	P	03 22 01.7	+0.9
TKL	Tuckaleechee C	67.20	349	P	P	03 23 30.6	+1.8
TKL				IAmb	IAmb	03 23 32.1	
	comp=Z,9.3nm,0.8s						
VNDA	Vanda	67.22	191	P	P	03 23 27.0	-1.4
	comp=Z,2.3nm,1.0s,baz=112,slow=5.4,SNR=4.1						
VNDA	Vanda	67.22	191	P	P	03 23 30.3	+1.8
TXAR	Lajitas Array	67.27	330	P	P	03 23 25.6	-3.8
	comp=Z,4.2nm,0.8s,baz=154,slow=8.3,SNR=45						
WVT	Waverly	68.41	346	P	P	03 23 38.2	+1.8
WVT				IAmb	IAmb	03 23 40.0	
	comp=Z,14nm,0.8s						
U40A	Yellville	69.83	342	P	P	03 23 47.2	+2.0
U40A				IAmb	IAmb	03 23 49.5	
	comp=Z,21nm,1.4s						
MNTX	Cornudas Mount	70.05	330	P	P	03 23 48.2	+1.6
MSTX	Muleshoe	70.94	333	P	P	03 23 55.2	+3.0
MSTX				IAmb	IAmb	03 24 09.3	
	comp=Z,7.9nm,0.8s						
CCM	Cathedral Cave	71.03	344	P	P	03 23 55.0	+2.5
CCM				IAmb	IAmb	03 23 56.8	
	comp=Z,12nm,0.9s						
P48A	Milroy	71.19	349	P	P	03 23 55.3	+2.0
P48A				IAmb	IAmb	03 23 56.6	
	comp=Z,6.6nm,0.6s						
S39A	Bolivar	71.22	342	P	P	03 23 56.3	+2.8
S39A				IAmb	IAmb	03 23 58.1	
	comp=Z,13nm,1.2s						
LIC	Lamto	73.39	72	eP	P	03 24 07.6	+0.5
	comp=Z,90nm,1.4s						
TIC	Toumodi	73.64	72	eP	P	03 24 09.0	+0.4
KIC	Kosan Boka	73.70	72	eP	P	03 24 09.5	+0.5
	comp=Z,23nm,0.7s						
214A	Organ Pipe Nat	73.75	324	P	P	03 24 11.0	+2.2
DBIC	Dimbokro	73.79	72	P	P	03 24 10.2	+0.8
	comp=Z,9.1nm,0.5s,baz=229,slow=6.3,SNR=24						
X16A	Lo Mia Camp, P	75.08	327	P	P	03 24 19.6	+2.9
MAW	Mawson	76.02	164	P	P	03 24 22.6	+1.2
	comp=Z,2.3nm,0.8s,baz=196,slow=5.7,SNR=8.3						
MAW	Mawson	76.02	164	P	P	03 24 21.6	+0.1
PFO	Pinyon Flats O	76.92	323	P	P	03 24 24.2	-2.9
	comp=Z,3.8nm,0.8s,baz=162,slow=3.2,SNR=3.0						
PFO	Pinyon Flats O	76.92	323	P	P	03 24 29.6	+2.5
ECSD	EROS Data Cent	77.75	342	P	P	03 24 33.6	+2.2
ECSD				IAmb	IAmb	03 24 35.7	
	comp=Z,9.0nm,0.8s						
CCUT	Cedar City	78.53	327	P	P	03 24 39.2	+3.1
KOWA	Kowa	78.97	66	P	P	03 24 39.5	+0.8
KOWA				IAmb	IAmb	03 24 40.6	
	comp=Z,15nm,0.7s						
SPR3	Spring Creek 3	80.15	327	P	P	03 24 47.5	+2.5
BOSA	Boshof	81.13	118	P	P	03 24 51.3	+0.8
	comp=Z,3.1nm,0.9s,baz=251,slow=3.9,SNR=8.2						
PDAR	Pinedale Array	81.21	333	P	P	03 24 47.1	-3.4
	comp=Z,0.8nm,0.8s,baz=142,slow=5.6,SNR=5.5						
NVAR	Mina Array Bea	81.61	325	P	P	03 24 49.9	-2.8
	comp=Z,1.2nm,0.7s,baz=156,slow=6.5,SNR=6.1						
TORD	Torodi Ar. Bea	82.75	70	P	P	03 25 00.0	+1.1
	comp=Z,11nm,0.6s,baz=279,slow=5.4,SNR=81						
TORD	Torodi Ar. Bea	82.75	70	P	P	03 24 58.8	-0.1
TORD				IAmb	IAmb	03 25 01.1	
	comp=Z,15nm,1.1s						
CASY	Casey	83.12	181	P	P	03 25 01.5	+1.5
CASY				IAmb	IAmb	03 25 18.3	
	comp=Z,16nm,0.8s						
LBTB	Lobatse	83.21	115	P	P	03 25 01.0	-0.4
LBTB				IAmb	IAmb	03 25 17.2	
	comp=Z,13nm,0.8s						
ULM	Lac du Bonnet	83.63	345	P	P	03 24 59.4	-3.2
	comp=Z,3.4nm,0.6s,baz=191,slow=6.5,SNR=3.5						
YBH	Yreka Blue Hor	86.31	324	P	P	03 25 11.9	-4.5
	comp=Z,1.4nm,0.6s,baz=115,slow=17,SNR=4.0						
BRTR	Keskin Array B	119.91	59	PKP	PKPdf	03 31 23.2	-1.6
	comp=Z,0.5nm,0.5s,baz=191,slow=4.4,SNR=3.7						
ASAR	Alice Springs	120.52	207	PKP	PKPdf	03 31 24.8	-1.8
	comp=Z,0.7nm,0.6s,baz=133,slow=2.0,SNR=7.9						
ASAR	Alice Springs	120.52	207		PKPdf	03 31 25.2	-1.3
WRA	Warramunga Arr	123.67	210	PKP	PKPdf	03 31 31.3	-1.3
	comp=Z,1.9nm,0.7s,baz=165,slow=1.4,SNR=21						
WRA	Warramunga Arr	123.67	210		PKPdf	03 31 31.6	-1.0
H11S2	WAKE ISLAND Hy	126.20	271	T	T	05 50 36.3	
	baz=116,slow=75,SNR=17						
H11S1	WAKE ISLAND Hy	126.21	271	T	T	05 50 34.4	
	baz=116,slow=75,SNR=24						
H11S3	WAKE ISLAND Hy	126.22	271	T	T	05 50 37.6	
	baz=116,slow=75,SNR=24						
H11N3	WAKE ISLAND Hy	126.53	273	T	T	05 51 03.0	
	baz=117,slow=75,SNR=14						
H11N1	WAKE ISLAND Hy	126.55	273	T	T	05 51 04.0	
	baz=117,slow=75,SNR=7.9						
H11N2	WAKE ISLAND Hy	126.55	273	T	T	05 51 03.7	
	baz=117,slow=75,SNR=24						
SEY	Seymchan	137.54	332	PKP	PKPdf	03 31 57.4	0.0
	comp=Z,1.8nm,0.4s,baz=160,slow=7.6,SNR=7.1						
BRVK	Borovoye	144.61	40	PKPdf	PKPdf	03 32 11.7	+1.3
YAK	Yakutsk	145.94	342	PKPbc	PKPdf	03 32 11.9	-0.5
	comp=Z,22nm,0.5s,baz=324,slow=1.5,SNR=4.7						
CHGR	Chuyangaron	146.99	66	PKPdf	PKPbc	03 32 16.8	-0.4
KK31	Karatay Array	147.59	57	PKPdf	PKPbc	03 32 17.8	-0.8
KKAR	Karatay Array	147.59	57	PKPdf	PKPbc	03 32 17.4	-1.2
TOLI2	Tolitoli	148.16	204	PKPdf	PKPdf	03 32 18.5	+0.9
BTK	Batken	148.20	63	PKPdf	PKPdf	03 32 16.9	-0.1
HYB	Hyderabad	149.69	109	i PKP	PKPbc	03 32 25.0	+0.3
HYB				epPKP	pPKPbc	03 32 40.5	-0.7
AAK	Ala-Archa	150.56	57	PKPbc	PKiKP	03 32 27.8	+0.8
ZALV	Zalesovo Beam	151.35	30	PKP	PKPdf	03 32 17.9	-3.5
	comp=Z,2.5nm,0.7s,baz=316,slow=4.0,SNR=3.9						
ZALV				PKPbc	PKiKP	03 32 28.7	+0.7
	comp=Z,22nm,0.6s,baz=302,slow=3.0,SNR=35						
ZALV	Zalesovo Beam	151.35	30	PKPbc	PKiKP	03 32 28.4	+0.5
MKAR	Makanchi Array	154.32	44	PKPbc	PKiKP	03 32 35.5	+1.1
	comp=Z,1.7nm,0.7s,baz=316,slow=1.1,SNR=7.5						
MKAR				PKPab	PKPab	03 32 48.3	-0.3
	comp=Z,3.8nm,0.8s,baz=286,slow=4.5,SNR=9.8						
MKAR	Makanchi Array	154.32	44	PKPbc	PKiKP	03 32 35.4	+1.0
KLR	Kul'dur	154.63	323	PKPbc	PKPbc	03 32 33.0	-1.8
	comp=Z,1.7nm,0.6s,baz=31,slow=3.9,SNR=8.0						
SONM	Songino Array	163.01	5	PKPab	PKPab	03 33 26.2	0.0
	comp=Z,1.0nm,0.7s,baz=349,slow=3.0,SNR=4.4						
GTA	Gaotai	168.94	37	ePKPbc	PKPdf	03 32 42.5	+1.0
GTA				pPKP	pPKPdf	03 32 52.0	-6.2
GTA				sPKP		03 32 56.6	
GTA				PKPab	PKPab	03 33 54.8	+2.0

*GUC **17** 03:17:52.7±0.5, 31°.74S×71°.93W, h16km±3km, ML4.4*

ISC 17 03:17:53.5±1.4**, 31°.77S**±0°.03×**71°.90W**±0°.08**, h11**km±11km**,**
n15, σ1s.23/27**, 7C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CO06	Fray Jorge	1.12	12	eP	Pg	03 18 17.0	+2.0
CO06				eS	Sg	03 18 29.4	-0.2
VA01	Torpederas	1.26	170⇑	eP	Pb	03 18 16.6	-0.7
VA01				eS	Sg	03 18 35.6	+1.4
CO03	El Pedregal	1.39	48	eP	Pg	03 18 20.3	+0.1
CO03				eS	Sg	03 18 38.5	+0.1
CO03				IAML		03 18 41.7	
	comp=E,4μm,0.2s						
ROCH	El Roble	1.41	148⇑	eP	Pb	03 18 19.8	-0.2
ROCH				eS	Sg	03 18 41.0	+2.0
ROCH				IAML		03 18 43.4	
	comp=N,7μm,0.3s						
VA03	San Esteban	1.51	131⇑	eP	Pb	03 18 21.1	-0.5
VA03				eS	Sg	03 18 43.2	+1.1
VA03				IAML		03 18 48.4	
	comp=N,8μm,0.7s						
GO04	Tololo Observa	1.85	31	eP	Pg	03 18 28.5	-0.5
GO04				eS	Sg	03 18 51.9	-1.2
GO04				IAML		03 19 03.4	
	comp=E,15μm,0.6s						
MT05	Renca	1.89	149⇑	eP	Pb	03 18 27.4	-0.6
MT05				eS	Sg	03 18 53.6	-0.6
MT05				IAML		03 19 01.0	
	comp=E,6μm,0.3s						
VA05	Santo Domingo	1.89	173⇑	eP	Pb	03 18 26.6	-1.4
VA05				eS	Sg	03 18 53.3	-1.1
VA05				IAML		03 19 01.9	
	comp=E,8μm,0.4s						
FSR	Penalolen	2.06	146	eP	Pb	03 18 30.4	-0.5
FSR				eS	Sg	03 18 58.6	-1.0
MT09	Talagante	2.14	159⇑	eP	Pb	03 18 31.2	-1.1
MT09				eS	Sg	03 19 00.8	-1.4
MT09				IAML		03 19 12.5	
	comp=N,2μm,0.6s						
MT01	Popeta	2.15	166⇑	eP	Pb	03 18 30.7	-1.8
MT01				eS	Sb	03 18 59.9	+0.6
MT01				IAML		03 19 09.6	
	comp=E,2μm,0.2s						
LMEL	Las Melosas	2.51	146	eP	Pb	03 18 36.0	-2.8
LMEL				eS	Sn	03 19 06.2	+1.1
VNA3	Neumayer Olymp	51.38	159	P	P	03 26 58.0	+0.3
VNA2	Neumayer--Watz	52.02	158	P	P	03 27 02.7	+0.2
SNAA	Sanae	53.60	158	P	P	03 27 14.6	+0.3

*IDC **17** 03:19:51.8±0.8, 31°.40S×71°.79W, h0km, mb4.0/6, mb1 4.2/7, mb1mx3.9/36, mbtmp4.0/7, ML4.2/1, Error ellipse: s-maj=47.8km s-min=22.1km az=74.0*

*NEIC **17** 03:19:56.6±2.0, 31°.490S±0°.010×71°.9W±0°.1, h35km±2km, mb4.4/4, Error ellipse: s-maj=16.0km s-min=3.0km az=89.0*

*GUC **17** 03:19:57.1±0.7, 31°.49S×71°.77W, h33km±4km, ML4.4*

ISC 17 03:19:53.8±1.3**, 31°.52S**±0°.02×**71°.85W**±0°.06**, h12**km±8km**,**
n34, σ0s.65/48**, mb4.1**/6**, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.86	12	eP	Pg	03 20 10.7	+0.2
CO06	Fray Jorge	0.86	12		Pg	03 20 11.0	+0.5
CO06					Sb	03 20 22.6	+0.4
CO03	El Pedregal	1.21	56	eP	Pg	03 20 17.1	+0.1
CO03				eS	Sn	03 20 32.6	-0.2
CO03				IAML		03 20 37.9	
	comp=E,8μm,0.3s						
CO03	El Pedregal	1.21	56	Pn	Pg	03 20 17.0	0.0
CO03				Sn	Sn	03 20 33.5	+0.7
VA01	Torpederas	1.51	173	eP	Pg	03 20 23.2	+0.5
VA01				eS	Sb	03 20 40.4	-0.3
VA01	Torpederas	1.51	173	Pn	Pb	03 20 21.6	-0.1
VA01				Sn	Sn	03 20 40.3	+0.2
ROCH	El Roble	1.61	154	eS	Sg	03 20 46.0	+0.2
GO04	Tololo Observa	1.62	34	eP	Pb	03 20 23.4	-0.3
GO04				eS	Sb	03 20 44.7	+0.5
GO04				IAML		03 20 49.0	
	comp=E,9μm,0.4s						
GO04	Tololo Observa	1.62	34	Pn	Pn	03 20 22.8	+0.5
VA03	San Esteban	1.66	139	eP	Pg	03 20 26.0	+0.4
VA03				eS	Sg	03 20 46.4	-0.8
VA03				IAML		03 20 54.9	
	comp=E,7μm,0.3s						
VA03	San Esteban	1.66	139		Pn	03 20 22.9	+0.2
VA03					Sb	03 20 44.9	-0.3
MT05	Renca	2.09	154	eP	Pb	03 20 32.1	+0.5
MT05				eS	Sb	03 20 57.8	+0.3
MT05				IAML		03 21 08.4	
	comp=E,7μm,0.4s						
VA05	Santo Domingo	2.14	175	eP	Pb	03 20 33.0	+0.5
VA05				eS	Sn	03 20 55.2	-0.5
VA05				IAML		03 21 10.1	
	comp=E,5μm,0.5s						
MT09	Talagante	2.36	162	eP	Pb	03 20 35.7	-0.6
MT09				eS	Sb	03 21 04.2	-1.4
MT09				IAML		03 21 17.7	
	comp=E,3μm,0.7s						
MT01	Popeta	2.39	168	eP	Pb	03 20 36.3	-0.5
MT01				eS	Sb	03 21 05.8	-0.3
MT01				IAML		03 21 17.7	
	comp=E,2μm,0.5s						
MT01	Popeta	2.39	168	Pn	Pn	03 20 33.0	+0.3
BO01	Tunca	2.94	168	Pn	Pn	03 20 41.4	+1.2
BO01				Sn	Sn	03 21 15.1	-0.2
BO02	Sierra Bellavi	3.38	165	Pn	Pn	03 20 45.9	-0.6
BO02					Sn	03 21 26.8	+0.3
PB14	IPOC Station P	6.99	11		Pn	03 21 35.0	-1.2
PLCA	Paso Flores	9.25	174	Pn	Pn	03 22 07.8	+0.8
	comp=E,0.6nm,0.3s,baz=72,slow=3.2,SNR=1.5						
PLCA	Paso Flores	9.25	174		Pn	03 22 05.9	-1.2
RUSC	La Rusia	37.22	358	P	P	03 27 05.7	+0.1
SNAA	Sanae	53.82	159	P	P	03 29 17.0	+1.0
	comp=E,1.1nm,0.8s,baz=300,slow=7.1,SNR=2.6						
SNAA	Sanae	53.82	159	P	P	03 29 16.4	+0.4
SNAA				IAmb	IAmb	03 29 35.1	
	comp=Z,5.4nm,1.3s						
QSPA	South Pole Qui	58.71	180	P	P	03 29 52.0	+1.0
	comp=Z,1.4nm,0.9s,baz=122,slow=7.3						
QSPA	South Pole Qui	58.71	180	P	P	03 29 52.2	+1.1
QSPA				IAmb	IAmb	03 30 08.5	
	comp=Z,4.3nm,1.1s						
TXAR	Lajitas Array	67.66	330	P	P	03 30 50.5	-0.2
	comp=Z,0.8nm,0.8s,baz=150,slow=6.7,SNR=5.9						
ANMO	Albuquerque	73.69	331	P	P	03 31 28.3	+0.8
	comp=Z,1.1nm,0.6s,baz=180,slow=1.0,SNR=2.4						
NVAR	Mina Array Bea	81.95	325	P	P	03 32 12.2	-1.3
	comp=Z,0.5nm,0.8s,baz=157,slow=8.0,SNR=4.2						
TORD	Torodi Ar. Bea	83.22	70	P	P	03 32 20.1	-0.3
	comp=Z,3.2nm,0.8s,baz=258,slow=4.9,SNR=6.0						
KURBB	Kurchatov Arra	150.92	40	PKPbc	PKPbc	03 39 45.8	-0.1
	comp=Z,2.9nm,0.8s,baz=302,slow=3.0,SNR=11						
ZALV	Zalesovo Beam	152.03	30	PKPbc	PKPbc	03 39 47.9	-0.4
	comp=Z,6.9nm,0.7s,baz=292,slow=3.2,SNR=11						
ZALV	Zalesovo Beam	152.03	30		PKPdf	03 39 42.5	+0.7
MKAR	Makanchi Array	154.96	45	PKPbc	PKPbc	03 39 54.3	-0.7
	comp=Z,1.0nm,0.8s,baz=307,slow=4.4,SNR=3.9						

*NEIC **17** 03:20:31±2.7, 31°.50S±0°.03×71°.8W±0°.1, h10km±1km, mb4.6/9, Error ellipse: s-maj=17.1km s-min=5.4km az=272.0*

*IDC **17** 03:20:33.6±0.9, 31°.60S×71°.93W, h22km±3km, mb4.0/6, mb1 4.2/9, mb1mx3.9/37, mbtmp4.2/9, ML4.3/3, Error ellipse: s-maj=34.9km s-min=22.2km az=75.0*

ISC 17 03:20:31.9±0.7**, 31°.44S**±0°.06×**71°.8W**±0°.1**, h14**km**, n31,**
σ**2s.07**/35**, mb4.5**/8**, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.78	11	Pg	Pn	03 20 48.0	-0.5
CO06				Sg	Sg	03 20 52.5	-4.7
CO03	El Pedregal	1.12	58	Pn	Pg	03 20 52.4	-1.2
AC04	Llanos de Chal	3.29	11	Pn	Pn	03 21 20.7	-2.3
GO03	Copiap	4.07	20	Pn	Pn	03 21 34.3	+0.5
ML02	Panimavida	4.32	176	Pn	Pn	03 21 34.0	-3.2
AC02	Maricunga	5.15	28	Pn	Pn	03 21 47.8	-1.2
PLCA	Paso Flores	9.33	174	Pn	Pn	03 22 43.1	-2.9
	0.8nm,0.3s,baz=45,slow=10.0,SNR=2.1						
PLCA	Paso Flores	9.33	174		Pn	03 22 42.9	-3.1
LPAZ	La Paz	15.45	13	Pn	Pn	03 24 11.0	+0.9
	0.6nm,0.3s,baz=201,slow=9.7,SNR=8.4						
LPAZ	La Paz	15.45	13	Pn	Pn	03 24 08.3	-1.8
SIV	San Ignacio	18.23	35	P	P	03 24 46.0	+1.3
	0.7nm,0.3s,baz=233,slow=14,SNR=5.8						
BDFB	Brasilia	26.80	60	P	P	03 26 16.9	+5.0
	10nm,0.8s,baz=210,slow=11,SNR=4.9						
BDFB	Brasilia	26.80	60	P	P	03 26 10.8	-1.0
RUSC	La Rusia	37.14	358	P	P	03 27 45.5	+2.6
RUSC				IAmb	IAmb	03 27 49.2	
	comp=Z,9.6nm,0.8s						
BAUV	El Baul	40.31	6	P	P	03 28 08.8	-0.1
SNAA	Sanae	53.88	159	P	P	03 29 53.5	-0.8
	comp=Z,3.1nm,0.6s,baz=268,slow=5.9,SNR=10						
SNAA	Sanae	53.88	159	P	P	03 29 53.5	-0.8

SNAA				lAmb	lAmb	03 29 54.2
	comp=Z,3.7nm,0.7s					
QSPA	**South Pole Qui**	**58.79**	**180**	P	**P**	**03 30 28.5 -1.0**
TXAR	**Lajitas Array**	**67.61**	**330**	P	**P**	**03 31 29.2 +0.9**
	comp=Z,0.6nm,0.7s,baz=153,slow=7.3,SNR=5.0					
DBIC	**Dimbokro**	**74.18**	**72**	P	**P**	**03 32 09.4 +0.9**
	comp=Z,5.0nm,0.8s,baz=246,slow=6.6,SNR=3.9					
DBIC				pP	**sP**	**03 32 17.0 +2.8**
	comp=Z,5.3nm,0.6s,baz=235,slow=4.1,SNR=2.9					
BOSA	**Boshof**	**81.08**	**118**	P	**P**	**03 32 48.4 +1.3**
	comp=Z,3.7nm,0.9s,baz=354,slow=5.2,SNR=3.1					
NVAR	**Mina Array Bea**	**81.91**	**325**	P	**P**	**03 32 51.8 +0.7**
	comp=Z,0.2nm,0.5s,baz=156,slow=7.9,SNR=2.5					
TORD	**Torodi Ar. Bea**	**83.15**	**70**	P	**P**	**03 32 59.4 +1.5**
	comp=Z,2.0nm,0.6s,baz=243,slow=6.3,SNR=5.4					
TORD				pP	**sP**	**03 33 06.2 +2.6**
	comp=Z,3.7nm,0.8s,baz=263,slow=4.7,SNR=5.2					
TORD	**Torodi Ar. Bea**	**83.15**	**70**	P	**P**	**03 32 57.2 -0.6**
TORD				lAmb	lAmb	03 33 06.3
	comp=Z,3.5nm,0.8s					
WRA	**Warramunga Arr**	**123.09**	**210**	pPKP	pPKPdf	03 39 37.2 +4.1
	comp=Z,0.5nm,0.6s,baz=179,slow=3.8,SNR=4.2					
BVAR	**Borovoye Array**	**145.24**	**41**	PKPbc	**PKiKP**	**03 40 09.9 -2.7**
	comp=Z,2.8nm,0.6s,baz=228,slow=5.8,SNR=6.7					
BVAR				pPKPbc	**sPKPdf**	**03 40 16.7 +2.1**
	comp=Z,6.0nm,0.6s,baz=258,slow=6.8,SNR=9.1					
KURBB	**Kurchatov Arra**	**150.83**	**40**	PKPbc	**PKiKP**	**03 40 24.2 0.0**
	comp=Z,1.0nm,0.6s,baz=305,slow=2.8,SNR=4.6					
KURBB				pPKPbc	**PKPab**	**03 40 31.2 +0.4**
	comp=Z,2.2nm,0.7s,baz=300,slow=3.1,SNR=3.9					
AAK	**Ala-Archa**	**151.04**	**58**	pPKPbc	**PKPab**	**03 40 32.8 +0.6**
	comp=Z,2.3nm,0.7s,baz=216,slow=7.2,SNR=2.8					
ZALV	**Zalesovo Beam**	**151.94**	**30**	PKPbc	**PKiKP**	**03 40 26.1 -0.3**
	comp=Z,2.7nm,0.6s,baz=291,slow=4.0,SNR=1.9					
ZALV				pPKPbc	**PKPab**	**03 40 33.5 -1.7**
	comp=Z,11nm,0.7s,baz=302,slow=3.1,SNR=6.7					
ZALV	**Zalesovo Beam**	**151.94**	**30**		**PKiKP**	**03 40 25.9 -0.4**
MKAR	**Makanchi Array**	**154.87**	**45**	pPKPbc	pPKPbc	03 40 40.1 +3.0
	comp=Z,0.8nm,0.8s,baz=318,slow=4.9,SNR=4.3					

NEIC ***17*** *03:24:03.9±1.3,31.°95S±0.°03×72.°17W±0.°05, h14km±5km, mb4.8/8, Error ellipse: s-maj=6.3km s-min=3.2km az=67.0*
IDC ***17*** *03:24:06.2±0.7,31.°86S×71.°92W, h30km±4km, mb4.2/6, mb1 4.2/8, mb1mx3.9/32, mbtmp4.3/8, ML4.2/2, Error ellipse: s-maj=35.0km s-min=20.4km az=83.0*

ISC 17 03:24:04.5±0.6, 31.°96S±0.°04×72.°10W±0.°08, h17km, n49, σ1s31/53, mb4.5/10, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA01	**Torpederas**	**1.13**	**160**		**Pn**	**03 24 24.9**	**-0.6**
VA01				Sn	**Sb**	**03 24 40.7**	**+0.8**
VA03	**San Esteban**	**1.54**	**122**		**Pn**	**03 24 31.5**	**+0.3**
VA03				Sn	**Sn**	**03 24 51.8**	**+0.9**
CO03	**El Pedregal**	**1.65**	**48**	Pn	**Pn**	**03 24 31.9**	**-0.8**
CO03				Sn	**Sn**	**03 24 53.0**	**-0.5**
VA05	**Santo Domingo**	**1.74**	**167**	Pn	**Pn**	**03 24 33.7**	**-0.3**
VA05				Sn	**Sn**	**03 24 56.6**	**+0.8**
MT05	**Renca**	**1.83**	**142**		**Pn**	**03 24 36.2**	**+0.9**
MT01	**Popeta**	**2.03**	**160**	Pn	**Pn**	**03 24 38.0**	**+0.1**
MT09	**Talagante**	**2.04**	**153**		**Pn**	**03 24 38.7**	**+0.5**
GO04	**Tololo Observa**	**2.10**	**32**	Pn	**Pn**	**03 24 39.6**	**+0.4**
BO01	**Tunca**	**2.57**	**161**	Pn	**Pn**	**03 24 46.6**	**+1.3**
ZON	**Zonda**	**2.94**	**83**	Pn	**Pn**	**03 24 49.7**	**-0.8**
BO02	**Sierra Bellavi**	**3.03**	**159**	Pn	**Pn**	**03 24 51.9**	**+0.1**
GO05	**Huala**	**3.04**	**177**	Pn	**Pn**	**03 24 52.5**	**+0.5**
ML02	**Panimavida**	**3.83**	**172**	Pn	**Pn**	**03 25 02.0**	**-0.7**
GO03	**Copiap**	**4.64**	**21**	Pn	**Pn**	**03 25 13.3**	**-0.6**
GO03				Sn	**Sn**	**03 26 09.3**	**+1.8**
H03S3	**Juan Fernandez**	**6.02**	**250**	T	T	03 32 23.1	
	baz=84,slow=74,SNR=7.8						
H03S1	**Juan Fernandez**	**6.03**	**250**	T	T	03 32 18.1	
	baz=84,slow=74,SNR=8.1						
H03S2	**Juan Fernandez**	**6.04**	**250**	T	T	03 32 21.7	
	baz=84,slow=74,SNR=8.0						
LC01	**Cunco**	**6.92**	**179**	Pn	**Pn**	**03 25 44.9**	**-0.3**
LR03	**Panguipulli**	**7.66**	**181**	Pn	**Pn**	**03 25 54.5**	**-0.8**
LR03					**Sn**	**03 27 19.2**	**-2.4**
PLCA	**Paso Flores**	**8.84**	**172**	Pn	**Pn**	**03 26 12.2**	**+0.6**
	1.4nm,0.3s,baz=336,slow=14,SNR=16						
LL04	**Puerto Octay**	**8.94**	**182**	Pn	Pn	03 26 10.2	-2.6
LL05	**Los Muermos**	**9.49**	**186**	Pn	**Pn**	**03 26 20.0**	**-0.4**
LPAZ	**La Paz**	**16.02**	**14**	Pn	**Pn**	**03 27 48.5**	**-1.1**
	0.1nm,0.3s,baz=188,slow=7.0,SNR=2.1						
LPAZ	**La Paz**	**16.02**	**14**		**Pn**	**03 27 50.0**	**+0.3**
EFI	**East Falkland**	**22.23**	**156**	P	**P**	**03 29 00.3**	**+0.2**
SPB	**Sao Paulo**	**23.32**	**75**	P	**P**	**03 29 10.2**	**-1.6**
SPB				lAmb	lAmb	03 29 26.2	
	comp=Z,41nm,1.1s						
RUSC	**La Rusia**	**37.65**	**358**	P	**P**	**03 31 18.6**	**-0.8**
RUSC				lAmb	lAmb	03 31 37.5	
	comp=Z,32nm,1.5s						
VNA3	**Neumayer Olymp**	**51.27**	**158**	P	**P**	**03 33 07.7**	**+0.7**
VNA2	**Neumayer--Watz**	**51.91**	**158**	P	**P**	**03 33 12.4**	**+0.5**
	baz=290,slow=7.4						
SNAA	**Sanae**	**53.49**	**158**	P	**P**	**03 33 24.1**	**+0.5**
SNAA	**Sanae**	**53.49**	**158**	P	**P**	**03 33 24.0**	**+0.4**
	comp=Z,4.9nm,0.8s,baz=267,slow=5.8,SNR=10						
SNAA	**Sanae**	**53.49**	**158**	P	**P**	**03 33 23.7**	**+0.1**
SNAA				lAmb	lAmb	03 33 25.0	
	comp=Z,8.8nm,1.0s						
QSPA	**South Pole Qui**	**58.27**	**180**	P	**P**	**03 33 58.9**	**+0.9**
	comp=Z,4.0nm,0.9s,baz=133,slow=2.5,SNR=7.1						
QSPA	**South Pole Qui**	**58.27**	**180**	P	**P**	**03 33 58.1**	**+0.1**
TXAR	**Lajitas Array**	**67.94**	**330**	P	**P**	**03 35 02.6**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=161,slow=9.4,SNR=2.1						
TXAR				pP	**sP**	**03 35 11.2**	**+2.7**
	comp=Z,1.1nm,0.8s,baz=150,slow=7.2,SNR=9.6						
TXAR	**Lajitas Array**	**67.94**	**330**	P	**P**	**03 35 01.9**	**-0.6**
DBIC	**Dimbokro**	**74.58**	**72**	P	**P**	**03 35 40.6**	**-2.3**
	comp=Z,5.2nm,0.7s,baz=242,slow=6.1,SNR=4.9						
DBIC	**Dimbokro**	**74.58**	**72**	P	**P**	**03 35 42.1**	**-0.8**
BOSA	**Boshof**	**81.07**	**118**	P	**P**	**03 36 17.8**	**-1.4**
	comp=Z,4.2nm,1.1s,baz=112,slow=9.1,SNR=3.1						
PDAR	**Pinedale Array**	**81.92**	**333**	pP	pP	03 36 32.1	+4.5
	comp=Z,0.5nm,0.7s,baz=120,slow=8.8,SNR=3.9						
NVAR	**Mina Array Bea**	**82.19**	**325**	pP	pP	03 36 33.9	+4.7
	comp=Z,1.7nm,0.8s,baz=160,slow=5.8,SNR=4.8						
TORD	**Torodi Ar. Bea**	**83.57**	**70**	P	**P**	**03 36 31.2**	**-0.9**
	comp=Z,5.2nm,0.8s,baz=262,slow=4.7,SNR=16						
WRA	**Warramunga Arr**	**122.51**	**210**	PKP	**PKPdf**	**03 42 58.3**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=138,slow=1.3,SNR=1.2						
BVAR	**Borovoye Array**	**145.80**	**41**	PKPbc	**PKPdf**	**03 43 41.8**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=258,slow=7.1,SNR=4.3						
BVAR				pPKPbc	sPKPab	03 43 51.5	+2.8
	comp=Z,3.5nm,0.7s,baz=238,slow=8.5,SNR=5.7						
KURBB	**Kurchatov Arra**	**151.39**	**41**	PKPbc	**PKPdf**	**03 43 54.8**	**+3.9**
	comp=Z,1.3nm,0.3s,baz=286,slow=2.8,SNR=7.0						
KURBB				pPKPbc	**sPKPbc**	**03 44 05.1**	**+2.1**
	comp=Z,3.8nm,0.8s,baz=298,slow=3.0,SNR=4.4						
KURK	**Kurchatov**	**151.40**	**40**		**PKPdf**	**03 43 54.8**	**+3.9**
AAK	**Ala-Archa**	**151.54**	**58**	PKPbc	**PKPbc**	**03 43 57.3**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=172,slow=3.0,SNR=4.7						
AAK				pPKPbc	**PKPab**	**03 44 07.3**	**+0.9**
	comp=Z,4.1nm,0.7s,baz=113,slow=2.1,SNR=4.2						
ZALV	**Zalesovo Beam**	**152.51**	**30**	PKPbc	**PKPbc**	**03 43 58.8**	**-0.6**
	comp=Z,3.3nm,0.7s,baz=298,slow=3.2,SNR=5.6						
ZALV				pPKPbc	**sPKPbc**	**03 44 07.8**	**+2.4**
	comp=Z,8.5nm,0.7s,baz=304,slow=2.5,SNR=11						
ZALV	**Zalesovo Beam**	**152.51**	**30**	PKPbc	**PKPbc**	**03 43 58.6**	**-0.7**

IDC ***17*** *03:26:33.1±1.2,31.°53S×71.°75W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/32, mbtmp3.9/4, ML4.1/1, Error ellipse: s-maj=64.7km s-min=32.2km az=80.0*
NEIC ***17*** *03:26:36.5±1.2,31.°54S±0.°03×71.°8W±0.°1, h20km±4km, mb4.1/6, Error ellipse: s-maj=12.7km s-min=4.0km az=92.0*

ISC 17 03:26:36.3±1.9, 31.°53S±0.°05×71.°73W±0.°09, h20km±8km, n22, σ0s58/27, mb3.9/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.86**	**6**		**Pn**	**03 26 53.5**	**+0.2**
CO06				Sn	**Sn**	**03 27 05.4**	**+0.1**
CO03	**El Pedregal**	**1.13**	**53**		**Pg**	**03 26 58.0**	**-0.3**
CO03				Sn	**Sn**	**03 27 13.0**	**+0.9**
VA01	**Torpederas**	**1.49**	**177**	Pn	**Pn**	**03 27 02.1**	**+0.2**
VA01				Sn	**Sn**	**03 27 21.0**	**+0.2**
VA03	**San Esteban**	**1.58**	**141**	Pn	**Pn**	**03 27 03.5**	**+0.2**
VA03				Sn	**Sn**	**03 27 24.0**	**+0.7**
MT05	**Renca**	**2.04**	**156**	Pn	**Pn**	**03 27 09.5**	**0.0**
MT05				Sn	**Sb**	**03 27 36.7**	**-0.9**
VA05	**Santo Domingo**	**2.12**	**177**	Pn	**Pn**	**03 27 11.4**	**+0.8**
BO02	**Sierra Bellavi**	**3.35**	**166**	Pn	**Pn**	**03 27 28.2**	**+0.6**
PB10	**IPOC Station P**	**8.05**	**8**		**Pn**	**03 28 32.5**	**+0.3**
PB06	**IPOC Station P**	**9.00**	**13**	Pn	**Pn**	**03 28 46.7**	**+1.3**
PLCA	**Paso Flores**	**9.23**	**174**	Pn	**Pn**	**03 28 48.5**	**+0.1**
	0.5nm,0.3s,baz=73,slow=19,SNR=1.3						
PLCA	**Paso Flores**	**9.23**	**174**		**Pn**	**03 28 48.1**	**-0.2**
PB04	**IPOC Station P**	**9.27**	**9**		**Pn**	**03 28 48.1**	**-0.9**
SAML	**Samuel**	**23.84**	**21**	P	**P**	**03 31 47.7**	**-0.6**
SAML				lAmb	lAmb	03 31 56.3	
	comp=Z,3.9nm,1.4s						
SNAA	**Sanae**	**53.77**	**159**	P	**P**	**03 35 56.5**	**-0.5**
	comp=Z,1.5nm,0.9s,baz=262,slow=7.1,SNR=2.8						
SNAA	**Sanae**	**53.77**	**159**	P	**P**	**03 35 57.4**	**+0.4**
SNAA				lAmb	lAmb	03 36 04.6	
	comp=Z,4.1nm,1.2s						
QSPA	**South Pole Qui**	**58.70**	**180**	P	**P**	**03 36 33.0**	**+0.6**
QSPA				lAmb	lAmb	03 36 34.8	
	comp=Z,1.0nm,0.8s						
NVAR	**Mina Array Bea**	**82.02**	**325**	P	**P**	**03 38 54.9**	**-0.2**
	comp=Z,0.5nm,0.9s,baz=167,slow=4.4,SNR=1.6						
TORD	**Torodi Ar. Bea**	**83.13**	**70**	P	**P**	**03 39 01.0**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=250,slow=3.5,SNR=7.1						
TORD	**Torodi Ar. Bea**	**83.13**	**70**	P	**P**	**03 39 00.8**	**-0.4**
TORD				lAmb	lAmb	03 39 01.7	
	comp=Z,2.3nm,0.8s						
BVAR	**Borovoye Array**	**145.27**	**41**	PKPbc	**PKPdf**	**03 46 12.4**	**+0.3**
	comp=Z,3.0nm,0.5s,baz=267,slow=5.9,SNR=9.0						
KURBB	**Kurchatov Arra**	**150.86**	**40**	PKPbc	**PKPbc**	**03 46 26.8**	**-0.3**
	comp=Z,1.4nm,0.3s,baz=297,slow=4.1,SNR=9.9						
ZALV	**Zalesovo Beam**	**151.99**	**30**	PKPbc	**PKPbc**	**03 46 29.3**	**-0.2**
	comp=Z,7.1nm,0.5s,baz=317,slow=2.9,SNR=12						

IDC ***17*** *03:27:15.0±0.5,29.°85S×71.°95W, h0km, mb4.4/14, mb1 4.5/18, mb1mx4.4/36, mbtmp4.4/18, ML4.2/4, Error ellipse: s-maj=23.0km s-min=15.3km az=85.0*
NEIC ***17*** *03:27:16.2,29.°80S×72.°12W, h13km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.15; $M_{\theta\theta}$0.07; $M_{\phi\phi}$-1.22; $M_{r\theta}$0.21; $M_{r\phi}$-0.16; $M_{\theta\phi}$0.19; Fault plane solution: M_o1.23000×10^{16} NP1:φ_s177.47000°, δ40.76000°, λ75.79000°. NP2:φ_s15.95000°, δ50.74000°, λ101.94000°. Principal axes: T 1.1988, Plg79.0000°, Azm339.0000°; N 0.0613, Plg9.0000°, Azm188.0000°; P -1.2601, Plg5.0000°, Azm98.0000°;*
NEIC ***17*** *03:27:17.1±1.3,29.°79S±0.°04×71.°96W±0.°07, h10km±3km, mb4.7/57, Mwr4.7/34 Error ellipse: s-maj=9.4km s-min=5.0km az=72.0*

ISC 17 03:27:18.6±0.4, 29.°80S±0.°04×71.°95W±0.°07, h25km, n94, σ0s96/94, mb4.7/37, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.91**	**162**	Pg	**Pb**	**03 27 33.6**	**-2.2**
CO06				Sg	**Sb**	**03 27 46.1**	**-1.4**
GO04	**Tololo Observa**	**1.07**	**111**	Pg	**Pb**	**03 27 38.1**	**-0.5**
LCO	**Las Campanas**	**1.35**	**55**	Pn	**Pb**	**03 27 42.0**	**-1.3**
LCO				Sn	**Sb**	**03 28 00.9**	**+0.7**
CO03	**El Pedregal**	**1.51**	**134**		**Pn**	**03 27 44.0**	**-0.1**
CO03				Sg	**Sb**	**03 28 05.5**	**+0.8**
AC04	**Llanos de Chal**	**1.77**	**26**	Pn	**Pn**	**03 27 46.4**	**-1.2**
GO03	**Copiap**	**2.67**	**35**	Pn	**Pn**	**03 28 00.5**	**+0.4**
MT05	**Renca**	**3.73**	**164**	Pn	**Pn**	**03 28 14.6**	**0.0**
AC02	**Maricunga**	**3.86**	**41**	Pn	**Pn**	**03 28 17.4**	**+0.5**
MT01	**Popeta**	**4.09**	**172**	Pn	**Pn**	**03 28 19.8**	**+0.1**
H03N1	**Juan Fernandez**	**6.96**	**237**	T	T	03 36 31.4	
	baz=69,slow=72,SNR=10.0						
H03N2	**Juan Fernandez**	**6.97**	**237**	T	T	03 36 33.1	
	baz=69,slow=72,SNR=10						
H03N3	**Juan Fernandez**	**6.97**	**237**	T	T	03 36 32.0	
	baz=69,slow=72,SNR=11						
LVC	**Limon Verde**	**7.67**	**22**	Pn	**Pn**	**03 29 06.6**	**-2.5**
	3.3nm,0.3s,baz=281,slow=11,SNR=3.3						
PB01	**IPOC Station P**	**9.00**	**15**	P	**Pn**	**03 29 24.1**	**-3.0**
PLCA	**Paso Flores**	**10.97**	**174**	Pn	**Pn**	**03 29 52.2**	**-1.7**
	0.5nm,0.3s,baz=341,slow=13,SNR=3.1						
LPAZ	**La Paz**	**13.90**	**15**	Pn	**Pn**	**03 30 36.4**	**+1.7**
	0.4nm,0.3s,baz=174,slow=11,SNR=6.0						
LPAZ	**La Paz**	**13.90**	**15**		**Pn**	**03 30 30.8**	**-3.9**
COYC	**Coyhaique**	**15.74**	**180**	Pn	**Pn**	**03 30 58.6**	**-0.1**
SIV	**San Ignacio**	**17.00**	**38**	P	**P**	**03 31 16.2**	**-0.3**
	0.6nm,0.3s,baz=235,slow=12,SNR=15						
SAML	**Samuel**	**22.31**	**23**	P	**P**	**03 32 14.4**	**0.0**
SPB	**Sao Paulo**	**22.74**	**80**	P	**P**	**03 32 17.8**	**-1.1**
SPB				lAmb	lAmb	03 32 20.8	
	comp=Z,35nm,1.1s						
BDFB	**Brasilia**	**26.12**	**63**	P	**P**	**03 32 50.7**	**-0.2**
	comp=Z,13nm,1.0s,baz=225,slow=9.0,SNR=5.0						
BDFB	**Brasilia**	**26.12**	**63**	P	**P**	**03 32 49.2**	**-1.7**
BDFB				lAmb	lAmb	03 32 51.9	
	comp=Z,32nm,1.2s						
OTAV	**Otavalo**	**30.51**	**347**	P	**P**	**03 33 30.1**	**-0.3**
OTAV				lAmb	lAmb	03 33 37.0	
	comp=Z,7.5nm,0.8s						
RUSC	**La Rusia**	**35.51**	**358**	P	**P**	**03 34 14.4**	**+0.4**
SDV	**Santo Domingo**	**38.48**	**2**	P	**P**	**03 34 38.5**	**-0.5**
SDV				lAmb	lAmb	03 34 43.6	
	comp=Z,8.3nm,0.8s						
SJCC	**San Jacinto, C**	**39.59**	**355**	P	**P**	**03 34 48.1**	**0.0**
SJCC				lAmb	lAmb	03 34 50.8	
	comp=Z,15nm,1.0s						
CVTR	**Volcan Turrial**	**41.19**	**342**	P	**P**	**03 35 02.0**	**+0.2**
VNA3	**Neumayer Olymp**	**53.23**	**159**	P	**P**	**03 36 34.6**	**+0.1**
VNA2	**Neumayer--Watz**	**53.86**	**158**	P	**P**	**03 36 39.4**	**+0.2**
	baz=284,slow=8.3						
SNAA	**Sanae**	**55.45**	**159**	P	**P**	**03 36 50.8**	**+0.1**
SNAA	**Sanae**	**55.45**	**159**	P	**P**	**03 36 50.4**	**-0.4**
	comp=Z,14nm,1.2s,baz=242,slow=6.8,SNR=8.9						
SNAA	**Sanae**	**55.45**	**159**	P	**P**	**03 36 51.0**	**+0.2**
QSPA	**South Pole Qui**	**60.42**	**180**	P	**P**	**03 37 25.9**	**+0.1**
	comp=Z,9.8nm,1.0s,baz=141,slow=4.0,SNR=12						
QSPA	**South Pole Qui**	**60.42**	**180**		**P**	**03 37 26.2**	**+0.4**
OXF	**Oxford**	**66.06**	**344**	P	**P**	**03 38 03.1**	**-0.1**
TXAR	**Lajitas Array**	**66.13**	**330**	P	**P**	**03 38 04.3**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=146,slow=9.8,SNR=5.6						
V48A	**Smith Brothers**	**66.68**	**347**	P	**P**	**03 38 06.6**	**-0.6**
R58B	**Mineral**	**67.64**	**355**	P	**P**	**03 38 13.1**	**-0.1**
R58B				lAmb	lAmb	03 38 16.9	
	comp=Z,7.7nm,0.9s						
T47A	**Sharon Grove**	**67.94**	**347**	P	**P**	**03 38 15.0**	**-0.1**
VNDA	**Vanda**	**68.22**	**191**	P	**P**	**03 38 17.8**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=222,slow=3.8,SNR=3.5						
HHAR	**Hobbs**	**68.91**	**341**	P	**P**	**03 38 21.4**	**+0.1**
HHAR				lAmb	lAmb	03 38 22.2	
	comp=Z,4.0nm,0.8s						
MNTX	**Cornudas Mount**	**68.91**	**330**	P	**P**	**03 38 21.2**	**-0.2**
MNTX				lAmb	lAmb	03 38 22.6	
	comp=Z,3.1nm,1.0s						
DBIC	**Dimbokro**	**73.80**	**72**	P	**P**	**03 38 51.9**	**+0.6**
	comp=Z,9.0nm,0.9s,baz=248,slow=6.1,SNR=4.8						
X16A	**Lo Mia Camp, P**	**73.96**	**327**	P	**P**	**03 38 52.6**	**+0.6**
MVCO	**Mesa Verde**	**74.94**	**331**	P	**P**	**03 38 57.2**	**-0.6**
K31A	**O'Neill**	**76.17**	**340**	P	**P**	**03 39 05.2**	**+0.8**
ECSD	**EROS Data Cent**	**76.59**	**342**	P	**P**	**03 39 07.6**	**+0.9**
ECSD				lAmb	lAmb	03 39 08.0	
	comp=Z,5.4nm,0.9s						
LCMT	**Little Creek M**	**76.92**	**327**	P	**P**	**03 39 09.9**	**+1.0**
MAW	**Mawson**	**77.18**	**164**	P	**P**	**03 39 09.8**	**0.0**
	comp=Z,2.8nm,0.9s,baz=241,slow=7.2,SNR=4.9						
MAW	**Mawson**	**77.18**	**164**	P	**P**	**03 39 09.6**	**-0.2**
MTPU	**Mount Pierson**	**77.26**	**328**	P	**P**	**03 39 11.2**	**+0.2**
O20A	**White River Ci**	**77.31**	**332**	P	**P**	**03 39 11.0**	**-0.1**
O20A				lAmb	lAmb	03 39 15.2	
	comp=Z,9.4nm,1.2s						
CCUT	**Cedar City**	**77.41**	**327**	P	**P**	**03 39 12.8**	**+1.1**
CCUT				lAmb	lAmb	03 39 15.0	
	comp=Z,3.2nm,0.9s						
SRU	**San Rafael Swe**	**77.41**	**330**	P	**P**	**03 39 12.7**	**+1.0**
SRU				lAmb	lAmb	03 39 14.7	
	comp=Z,3.4nm,0.9s						
MVU	**Marysvale**	**77.65**	**329**	P	**P**	**03 39 14.3**	**+1.2**
MVU				lAmb	lAmb	03 39 15.9	
	comp=Z,9.8nm,0.9s						
P17A	**Butcher Ranch,**	**77.80**	**330**	P	**P**	**03 39 14.9**	**+1.1**
P17A				lAmb	lAmb	03 39 16.7	
	comp=Z,3.4nm,0.9s						
QSM	**Queen of Sheba**	**77.86**	**324**	P	**P**	**03 39 15.0**	**+1.0**
GWY	**Greenwater Val**	**77.94**	**324**	P	**P**	**03 39 15.7**	**+1.1**
GWY				lAmb	lAmb	03 39 17.8	
	comp=Z,5.5nm,1.3s						
PRN	**Pahroc Range**	**78.09**	**326**	P	**P**	**03 39 16.5**	**+1.0**
PRN				lAmb	lAmb	03 39 19.0	
	comp=Z,5.3nm,1.0s						
RWWY	**Rawlins**	**78.23**	**334**	P	**P**	**03 39 17.2**	**+0.9**
RWWY				lAmb	lAmb	03 39 20.3	
	comp=Z,9.3nm,0.9s						
TPNV	**Topopah Spring**	**78.32**	**325**	P	**P**	**03 39 17.4**	**+0.7**
TPNV				lAmb	lAmb	03 39 22.7	
	comp=Z,4.6nm,1.1s						
PSUT	**Pine Spring**	**78.43**	**328**	P	**P**	**03 39 18.2**	**+0.8**
MPU	**Maple Canyon**	**78.64**	**330**	P	**P**	**03 39 19.5**	**+1.0**
KOWA	**Kowa**	**78.86**	**66**	P	**P**	**03 39 19.8**	**-0.1**
KOWA				lAmb	lAmb	03 39 21.3	
	comp=Z,13nm,1.1s						
R11A	**Troy Canyon, C**	**79.10**	**326**	P	**P**	**03 39 21.6**	**+0.6**
TPH	**Tonopah**	**79.68**	**325**	P	**P**	**03 39 25.3**	**+1.1**
TPH				lAmb	lAmb	03 39 27.2	
	comp=Z,18nm,1.2s						
HWUT	**Hardware Ranch**	**79.92**	**331**	P	**P**	**03 39 26.4**	**+1.0**
HWUT				lAmb	lAmb	03 39 35.0	
	comp=Z,6.0nm,0.8s						
PDAR	**Pinedale Array**	**80.06**	**333**	P	**P**	**03 39 27.0**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=145,slow=5.4,SNR=5.3						
MDPB	**Devils Postpil**	**80.28**	**324**	P	**P**	**03 39 28.7**	**+1.2**
TSUM	**Tsumeb**	**80.31**	**107**	P	**P**	**03 39 28.8**	**+0.7**
	comp=Z,9.3nm,0.9s,baz=214,slow=4.7,SNR=5.4						
TSUM	**Tsumeb**	**80.31**	**107**	P	**P**	**03 39 27.8**	**-0.3**
TSUM				lAmb	lAmb	03 39 30.1	
	comp=Z,12nm,0.9s						
NVAR	**Mina Array Bea**	**80.50**	**325**	P	**P**	**03 39 29.5**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=157,slow=6.9,SNR=6.3						
HVU	**Hansel Valley**	**80.58**	**330**	P	**P**	**03 39 29.9**	**+0.9**
ELK	**Elko**	**80.84**	**328**	P	**P**	**03 39 31.3**	**+0.9**
	comp=Z,1.4nm,0.9s,baz=176,slow=2.2,SNR=2.9						
BOSA	**Boshof**	**81.97**	**118**	P	**P**	**03 39 37.3**	**+0.5**
	comp=Z,8.5nm,1.1s,baz=357,slow=5.1,SNR=4.4						
ULM	**Lac du Bonnet**	**82.47**	**345**	P	**P**	**03 39 39.2**	**+0.7**
	comp=Z,7.7nm,0.9s,baz=179,slow=7.1,SNR=4.6						
TORD	**Torodi Ar. Bea**	**82.73**	**70**	P	**P**	**03 39 41.1**	**+0.4**
	comp=Z,10.0nm,1.0s,baz=251,slow=5.3,SNR=17						
TORD	**Torodi Ar. Bea**	**82.73**	**70**	P	**P**	**03 39 41.1**	**+0.4**
LBTB	**Lobatse**	**84.01**	**115**	P	**P**	**03 39 47.8**	**+0.4**
CASY	**Casey**	**84.21**	**181**	P	**P**	**03 39 48.3**	**+0.9**
CASY				lAmb	lAmb	03 39 48.9	
	comp=Z,7.2nm,0.9s						
J08A	**Circle Bar Ran**	**84.38**	**328**	P	**P**	**03 39 49.5**	**+0.8**
J08A				lAmb	lAmb	03 39 51.6	
	comp=Z,4.4nm,1.1s						
PLID	**Pearl Lake**	**84.63**	**330**	P	**P**	**03 39 49.9**	**-0.1**
PLID				lAmb

n49,σ1$21/66, mb4.5/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.77**	**347**	*e*P	**Pn**	**03 32 45.6**	**+1.0**
CO06				*e*S	**Sn**	**03 32 57.2**	**+1.3**
CO06				IAML		03 33 01.1	
	comp=E,10μm,0.3s						
CO06	**Fray Jorge**	**0.77**	**347**		**Pn**	**03 32 46.6**	**+2.0**
CO06				Sn	**Sn**	**03 32 56.4**	**+0.5**
CO03	**El Pedregal**	**0.87**	**47**	*e*P	**Pn**	**03 32 47.5**	**+1.5**
CO03				*e*S	**Sn**	**03 33 00.4**	**+2.0**
CO03				IAML		03 33 04.0	
	comp=N,17μm,0.3s						
CO03	**El Pedregal**	**0.87**	**47**		**Pn**	**03 32 48.2**	**+2.3**
CO03				Sn	**Sn**	**03 32 59.9**	**+1.6**
GO04	**Tololo Observa**	**1.37**	**24**	*e*P	**Pg**	**03 32 54.6**	**-0.2**
GO04				*i* S	**Sg**	**03 33 13.3**	**+0.7**
GO04	**Tololo Observa**	**1.37**	**24**	Pn	**Pg**	**03 32 55.1**	**+0.3**
GO04				Sn	**Sg**	**03 33 12.7**	**+0.1**
VA03	**San Esteban**	**1.53**	**151**	*e*P	**Pg**	**03 32 57.4**	**-0.4**
VA03				*e*S	**Sg**	**03 33 18.1**	**+0.4**
VA03				IAML		03 33 21.2	
	comp=E,6μm,0.2s						
VA03	**San Esteban**	**1.53**	**151**	Pn	**Pb**	**03 32 57.0**	**+0.6**
VA03				Sn	**Sg**	**03 33 16.8**	**-0.8**
ROCH	**El Roble**	**1.58**	**167**	*e*P	**Pg**	**03 32 58.6**	**-0.2**
ROCH				*e*S	**Sg**	**03 33 20.1**	**+0.8**
ROCH				IAML		03 33 22.6	
	comp=N,6μm,0.5s						
VA01	**Torpederas**	**1.60**	**186**	*e*P	**Pb**	**03 32 57.9**	**+0.4**
VA01				*e*S	**Sg**	**03 33 19.3**	**-0.6**
VA01				IAML		03 33 22.9	
	comp=E,4μm,0.4s						
VA01	**Torpederas**	**1.60**	**186**		**Pb**	**03 32 57.4**	**-0.1**
MT05	**Renca**	**2.04**	**163**	*e*P	**Pb**	**03 33 04.3**	**-0.8**
MT05				*e*S	**Sb**	**03 33 30.2**	**-0.1**
MT05				IAML		03 33 35.8	
	comp=E,6μm,0.3s						
MT05	**Renca**	**2.04**	**163**	Pn	**Pb**	**03 33 05.3**	**+0.2**
FSR	**Penalolen**	**2.18**	**160**	*e*P	**Pg**	**03 33 09.5**	**-0.7**
FSR				*e*S	**Sb**	**03 33 36.3**	**+2.0**
VA05	**Santo Domingo**	**2.23**	**184**	*e*P	**Pn**	**03 33 06.5**	**+1.9**
VA05				*e*S	**Sn**	**03 33 33.3**	**+1.6**
VA05				IAML		03 33 45.0	
	comp=E,4μm,0.5s						
VA05	**Santo Domingo**	**2.23**	**184**	Pn	**Pn**	**03 33 06.3**	**+1.7**
ZON	**Zonda**	**2.36**	**94**	Pn	**Pb**	**03 33 09.1**	**-1.4**
MT09	**Talagante**	**2.37**	**171**	*e*P	**Pn**	**03 33 09.3**	**+2.6**
MT09				*e*S	**Sb**	**03 33 39.0**	**-0.8**
MT09				IAML		03 33 53.3	
	comp=E,2μm,0.7s						
MT09	**Talagante**	**2.37**	**171**	Pn	**Pn**	**03 33 09.1**	**+2.4**
MT01	**Popeta**	**2.43**	**176**	*e*P	**Pn**	**03 33 09.4**	**+2.0**
MT01				*e*S	**Sn**	**03 33 39.1**	**+2.3**
MT01				IAML		03 33 50.1	
	comp=N,1μm,0.3s						
LCO	**Las Campanas**	**2.49**	**15**	*e*P	**Pn**	**03 33 08.6**	**+0.1**
LCO				*e*S	**Sn**	**03 33 41.0**	**+2.3**
LMEL	**Las Melosas**	**2.62**	**157**	*e*P	**Pn**	**03 33 11.8**	**+1.6**
LMEL				*e*S	**Sb**	**03 33 45.6**	**-1.5**
LMEL				IAML		03 33 54.5	
	comp=E,2μm,0.1s						
LC01	**Cunco**	**7.46**	**183**	Pn	**Pn**	**03 34 17.0**	**+0.5**
LR03	**Panguipulli**	**8.22**	**185**	Pn	**Pn**	**03 34 26.8**	**-0.1**
LVC	**Limon Verde**	**9.07**	**15**	Pn	**Pn**	**03 34 38.7**	**-0.2**
	baz=93,slow=16,SNR=0.8						
LVC	**Limon Verde**	**9.07**	**15**		**Pn**	**03 34 39.2**	**+0.3**
PLCA	**Paso Flores**	**9.31**	**176**	Pn	**Pn**	**03 34 43.9**	**+1.9**
	comp=E,0.1nm,0.3s,baz=139,slow=20,SNR=1.6						
PLCA	**Paso Flores**	**9.31**	**176**		**Pn**	**03 34 42.5**	**+0.5**
LL04	**Puerto Octay**	**9.49**	**184**	Pn	**Pn**	**03 34 44.7**	**+0.4**
LPAZ	**La Paz**	**15.37**	**12**	Pn	**Pn**	**03 36 06.4**	**+1.2**
	comp=E,0.3nm,0.3s,baz=76,slow=8.3,SNR=2.5						
LPAZ	**La Paz**	**15.37**	**12**	Pn	**Pn**	**03 36 06.5**	**+1.3**
SIV	**San Ignacio**	**18.04**	**34**	P	**Pn**	**03 36 39.3**	**+0.8**
	comp=E,0.9nm,0.3s,baz=206,slow=7.9,SNR=11						
BDFB	**Brasilia**	**26.52**	**59**	P	**P**	**03 38 05.2**	**-0.2**
	comp=E,12nm,1.0s,baz=211,slow=9.1,SNR=5.1						
BDFB	**Brasilia**	**26.52**	**59**	P	**P**	**03 38 03.9**	**-1.5**
RUSC	**La Rusia**	**37.15**	**357**	P	**P**	**03 39 39.4**	**+0.4**
RUSC				IAmb	IAmb	03 39 42.4	
	comp=Z,7.8nm,1.0s						
CRIN	**San Cristobal**	**46.37**	**339**	P	**P**	**03 40 53.6**	**-0.4**
SNAA	**Sanae**	**53.77**	**159**	P	**P**	**03 41 49.5**	**-0.1**
	comp=Z,2.8nm,0.9s,baz=281,slow=4.5,SNR=4.8						
SNAA	**Sanae**	**53.77**	**159**	P	**P**	**03 41 49.5**	**-0.1**
SNAA				IAmb	IAmb	03 41 57.0	
	comp=Z,4.4nm,1.1s						
255A	**Hazlehurst**	**63.88**	**350**	P	**P**	**03 42 59.0**	**-1.0**
TXAR	**Lajitas Array**	**67.76**	**330**	P	**P**	**03 43 25.9**	**+0.6**
	comp=Z,0.1nm,0.5s,baz=138,slow=5.9,SNR=1.6						
TXAR	**Lajitas Array**	**67.76**	**330**	P	**P**	**03 43 25.3**	**-0.1**
DBIC	**Dimbokro**	**73.88**	**72**	P	**P**	**03 44 02.3**	**-0.5**
	comp=Z,3.5nm,0.6s,baz=247,slow=7.1,SNR=4.6						
TORD	**Torodi Ar. Bea**	**82.85**	**70**	P	**P**	**03 44 52.0**	**-0.5**
	comp=Z,3.8nm,0.8s,baz=260,slow=4.7,SNR=9.6						
TORD	**Torodi Ar. Bea**	**82.85**	**70**	P	**P**	**03 44 51.2**	**-1.2**
TORD				IAmb	IAmb	03 44 52.7	
	comp=Z,4.6nm,0.9s						
WRA	**Warramunga Arr**	**123.25**	**209**	PKP	**PKPdf**	**03 51 23.6**	**-1.5**
	comp=Z,0.6nm,1.0s,baz=132,slow=1.2,SNR=2.6						
BVAR	**Borovoye Array**	**145.03**	**41**	PKPbc	**PKPbc**	**03 52 04.2**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=214,slow=10,SNR=5.4						
KURBB	**Kurchatov Arra**	**150.62**	**41**	PKPbc	**PKPbc**	**03 52 18.3**	**-0.8**
	comp=Z,1.9nm,0.9s,baz=305,slow=2.9,SNR=2.5						
AAK	**Ala-Archa**	**150.78**	**58**	PKPbc	**PKPbc**	**03 52 19.6**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=157,slow=7.7,SNR=2.1						
ZALV	**Zalesovo Beam**	**151.77**	**30**	PKPbc	**PKPbc**	**03 52 21.1**	**-0.6**
	comp=Z,4.7nm,0.4s,baz=314,slow=2.7,SNR=8.8						

IDC ***17*** *03:32:38.7±1.1,31°.48S×71°.97W,h0km, mb4.3/4, mb1 4.3/5, mb1mx4.0/35, mbtmp4.3/5, ML4.2/1, Error ellipse: s-maj=43.0km s-min=33.9km az=85.0*

ISC 17 03:32:41.0±1.1, 31°.5S±0°.2×72°.0W±0°.3, h14km, n10, σ1$26/10, mb4.5/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**18.35**	**35**	P	**Pn**	**03 36 55.7**	**+0.4**
	0.8nm,0.3s,baz=238,slow=13,SNR=6.8						
SNAA	**Sanae**	**53.91**	**159**	P	**P**	**03 42 04.6**	**+1.0**
	2.2nm,0.7s,baz=260,slow=8.0,SNR=2.7						
TXAR	**Lajitas Array**	**67.56**	**330**	P	**P**	**03 43 38.1**	**+1.0**
	0.5nm,0.7s,baz=153,slow=9.8,SNR=4.2						
DBIC	**Dimbokro**	**74.35**	**72**	P	**P**	**03 44 20.2**	**+1.6**
	7.7nm,0.8s,baz=252,slow=3.2,SNR=3.1						
TORD	**Torodi Ar. Bea**	**83.32**	**70**	P	**P**	**03 45 06.1**	**-1.8**
	5.4nm,0.9s,baz=228,slow=4.1,SNR=6.4						
WRA	**Warramunga Arr**	**122.97**	**210**	PKP	**PKiKP**	**03 51 36.8**	**-1.0**
	0.4nm,0.6s,baz=169,slow=1.9,SNR=4.8						
BVAR	**Borovoye Array**	**145.38**	**40**	PKPbc	**PKPbc**	**03 52 17.4**	**-0.6**
	1.6nm,0.5s,baz=264,slow=4.5,SNR=4.2						
KURBB	**Kurchatov Arra**	**150.97**	**40**	PKPbc	**PKPbc**	**03 52 32.1**	**-0.9**
	1.5nm,0.7s,baz=300,slow=3.0,SNR=3.3						
AAK	**Ala-Archa**	**151.21**	**58**	PKPbc	**PKiKP**	**03 52 33.7**	**-0.9**
	1.2nm,0.3s,baz=208,slow=5.1,SNR=4.0						
ZALV	**Zalesovo Beam**	**152.05**	**30**	PKPbc	**PKPbc**	**03 52 34.6**	**-0.7**
	7.0nm,0.5s,baz=301,slow=3.6,SNR=9.7						

NEIC ***17*** *03:34:50.2±1.7, 31°.87S±0°.02×72°.10W±0°.05, h10km±1km, mb4.6/43, ML4.6(GUC), Error ellipse: s-maj=7.9km s-min=2.7km az=281.0*

GUC ***17*** *03:34:51.9±0.9, 31°.87S×71°.99W, h13km±9km, ML4.5*

IDC ***17*** *03:34:53.4±0.5, 31°.79S×71°.86W, h29km±2km, mb4.2/14, mb1 4.3/18, mb1mx4.2/37, mbtmp4.4/18, ML4.3/4, Error ellipse: s-maj=19.0km s-min=13.2km az=88.0*

ISC 17 03:34:52.4±0.5, 31°.85S±0°.03×72°.03W±0°.06, h27km±3km, n102, σ0$82/117, mb4.5/33, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**1.21**	**165**	*e*P	**Pn**	**03 35 13.1**	**-0.5**
VA01				*e*S	**Sb**	**03 35 29.7**	**-0.2**
VA01	**Torpederas**	**1.21**	**165**	Pn	**Pn**	**03 35 13.1**	**-0.5**
VA01				Sn	**Sn**	**03 35 29.2**	**+0.1**
CO06	**Fray Jorge**	**1.22**	**16**	*e*P	**Pn**	**03 35 14.2**	**+0.5**
CO06				*e*S	**Sn**	**03 35 27.5**	**-1.8**
CO06				IAML		03 35 34.8	
	comp=N,13μm,0.3s						
ROCH	**El Roble**	**1.41**	**143**	*e*P	**Pn**	**03 35 17.1**	**+0.6**
ROCH				*e*S	**Sb**	**03 35 36.1**	**+0.2**
CO03	**El Pedregal**	**1.52**	**49**	*i* P	**Pn**	**03 35 18.4**	**+0.4**
CO03				*e*S	**Sb**	**03 35 38.6**	**-0.4**
CO03				IAML		03 35 39.1	
	comp=N,32μm,0.4s						
CO03	**El Pedregal**	**1.52**	**49**	Pn	**Pn**	**03 35 17.6**	**-0.4**
CO03				Sn	**Sn**	**03 35 37.8**	**+0.8**
VA03	**San Esteban**	**1.55**	**126**	*e*P	**Pn**	**03 35 18.5**	**+0.2**
VA03				*e*S	**Sb**	**03 35 39.1**	**-0.5**
VA03				IAML		03 35 45.0	
	comp=N,17μm,0.5s						
VA03	**San Esteban**	**1.55**	**126**		**Pn**	**03 35 18.2**	**-0.1**
VA03				Sg	**Sb**	**03 35 40.5**	**+0.8**
VA05	**Santo Domingo**	**1.83**	**169**	*e*P	**Pn**	**03 35 21.6**	**-0.5**
VA05				*e*S	**Sn**	**03 35 44.0**	**-0.5**
VA05	**Santo Domingo**	**1.83**	**169**	Pn	**Pn**	**03 35 21.1**	**-1.0**
MT05	**Renca**	**1.88**	**145**	*e*P	**Pb**	**03 35 24.8**	**-1.4**
MT05				*e*S	**Sb**	**03 35 49.1**	**-0.2**
MT05				IAML		03 36 00.7	
	comp=E,6μm,0.5s						
MT05	**Renca**	**1.88**	**145**	Pn	**Pn**	**03 35 22.5**	**-0.4**
GO04	**Tololo Observa**	**1.98**	**33**	*e*P	**Pb**	**03 35 26.5**	**-1.3**
GO04				*e*S	**Sb**	**03 35 52.8**	**+0.7**
GO04	**Tololo Observa**	**1.98**	**33**	Pn	**Pn**	**03 35 25.2**	**+0.8**
GO04					**Sb**	**03 35 51.4**	**-0.7**
MT09	**Talagante**	**2.11**	**156**	*e*P	**Pn**	**03 35 27.7**	**+1.6**
MT09				*e*S	**Sn**	**03 35 51.7**	**+0.2**
MT09				IAML		03 36 11.8	
	comp=N,3μm,0.5s						
MT09	**Talagante**	**2.11**	**156**	Pn	**Pn**	**03 35 24.5**	**-1.6**
MT09				Sn	**Sn**	**03 35 50.7**	**-0.9**
MT01	**Popeta**	**2.11**	**162**	*e*S	**Sb**	**03 35 54.9**	**-0.9**
MT01				IAML		03 36 07.8	
	comp=E,4μm,0.9s						
BO01	**Tunca**	**2.66**	**163**	Pn	**Pn**	**03 35 32.4**	**-1.0**
BO01				Sn	**Sn**	**03 36 04.4**	**-0.4**
GO03	**Copiap**	**4.52**	**21**	Pn	**Pn**	**03 35 57.9**	**-1.2**
GO03				Sn	**Sn**	**03 36 53.6**	**+2.7**
H03N1	**Juan Fernandez**	**6.02**	**253**	T	T	03 43 00.2	
	baz=77,slow=72,SNR=10						
H03N3	**Juan Fernandez**	**6.03**	**253**	T	T	03 42 55.4	
	baz=77,slow=72,SNR=10						
H03N2	**Juan Fernandez**	**6.04**	**253**	T	T	03 43 00.1	
	baz=77,slow=72,SNR=10						
H03S3	**Juan Fernandez**	**6.12**	**249**	T	T	03 43 10.4	
	baz=84,slow=74,SNR=2.4						
H03S1	**Juan Fernandez**	**6.12**	**249**	T	T	03 43 06.1	
	baz=84,slow=74,SNR=4.4						
H03S2	**Juan Fernandez**	**6.13**	**249**	T	T	03 43 09.8	
	baz=84,slow=74,SNR=2.6						
PLCA	**Paso Flores**	**8.94**	**173**	Pn	**Pn**	**03 37 00.1**	**+0.2**
	comp=E,0.9nm,0.3s,baz=332,slow=12,SNR=6.7						
PB07	**IPOC Station P**	**10.26**	**11**		**Pn**	**03 37 16.3**	**-1.8**
TRQA	**Tornquist**	**10.31**	**130**	Pn	**Pn**	**03 37 18.9**	**+0.4**
CPUP	**Villa Florida**	**13.97**	**71**	Pn	**Pn**	**03 38 08.0**	**-0.7**
	comp=E,0.6nm,0.3s,baz=207,slow=16,SNR=3.0						
LPAZ	**La Paz**	**15.89**	**14**	Pn	**Pn**	**03 38 33.3**	**-1.6**
	comp=E,0.2nm,0.3s,baz=146,slow=4.9,SNR=3.0						
LPAZ	**La Paz**	**15.89**	**14**	P	**Pn**	**03 38 34.1**	**-0.8**
SIV	**San Ignacio**	**18.67**	**35**	P	**P**	**03 39 07.6**	**-1.0**
	comp=E,0.8nm,0.3s,baz=236,slow=16,SNR=3.1						
SPB	**Sao Paulo**	**23.24**	**75**	P	**P**	**03 39 57.2**	**-0.4**
BDFB	**Brasilia**	**27.17**	**59**	P	**P**	**03 40 33.5**	**-0.4**
	comp=E,28nm,1.1s,baz=225,slow=9.7,SNR=9.1						
BDFB	**Brasilia**	**27.17**	**59**	P	**P**	**03 40 33.5**	**-0.4**
MDP	**Montagnes des**	**41.13**	**30**	P	**P**	**03 42 33.7**	**-0.7**
	comp=E,9.1nm,0.9s,baz=175,slow=4.2,SNR=4.4						
CVTR	**Volcan Turrial**	**43.12**	**343**	P	**P**	**03 42 50.4**	**-0.6**
VNA3	**Neumayer Olymp**	**51.34**	**158**	P	**P**	**03 43 55.1**	**+1.0**
VNA2	**Neumayer--Watz**	**51.99**	**158**	P	**P**	**03 44 00.4**	**+1.5**
	baz=287,slow=8.0						
SNAA	**Sanae**	**53.57**	**158**	P	**P**	**03 44 11.3**	**+0.7**
SNAA	**Sanae**	**53.57**	**158**	P	**P**	**03 44 11.5**	**+0.9**
	comp=E,7.8nm,1.0s,baz=280,slow=6.2,SNR=8.7						
SNAA	**Sanae**	**53.57**	**158**	P	**P**	**03 44 11.2**	**+0.7**
SNAA				IAmb	IAmb	03 44 14.4	
	comp=Z,9.3nm,1.1s						
QSPA	**South Pole Qui**	**58.38**	**180**	P	**P**	**03 44 46.2**	**+1.0**
	comp=Z,7.4nm,1.0s,baz=147,slow=4.1,SNR=6.8						
QSPA	**South Pole Qui**	**58.38**	**180**	P	**P**	**03 44 45.3**	**+0.1**
VNDA	**Vanda**	**66.21**	**191**	P	**P**	**03 45 39.2**	**+2.0**
	comp=Z,1.4nm,1.1s,baz=143,slow=7.7,SNR=3.3						
VNDA				pP	**sP**	**03 45 48.1**	**+0.6**
	comp=Z,1.8nm,1.0s,baz=218,slow=5.7,SNR=4.8						
VNDA	**Vanda**	**66.21**	**191**	P	**P**	**03 45 36.5**	**-0.7**
JCT	**Junction City**	**67.36**	**334**	P	**P**	**03 45 45.0**	**-0.2**
TXAR	**Lajitas Array**	**67.87**	**330**	P	**P**	**03 45 49.0**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=152,slow=7.8,SNR=11						
TXAR				pP	**sP**	**03 45 59.0**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=150,slow=9.3,SNR=8.4						
TXAR	**Lajitas Array**	**67.87**	**330**	P	**P**	**03 45 48.9**	**+0.4**
TX32	**Lajitas Array**	**67.87**	**330**	P	**P**	**03 45 48.7**	**+0.2**
TX32				IAmb	IAmb	03 45 49.9	
	comp=Z,2.7nm,0.9s						
W39A	**Magazine**	**69.76**	**341**	P	**P**	**03 46 00.9**	**+0.9**
U40A	**Yellville**	**70.60**	**342**	P	**P**	**03 46 04.6**	**-0.6**
U40A				IAmb	IAmb	03 46 05.9	
	comp=Z,6.5nm,1.0s						
MNTX	**Cornudas Mount**	**70.65**	**330**	P	**P**	**03 46 04.7**	**-0.8**
MNTX				IAmb	IAmb	03 46 05.7	
	comp=Z,3.8nm,0.8s						
HHAR	**Hobbs**	**70.82**	**341**	P	**P**	**03 46 06.6**	**+0.1**
HHAR				IAmb	IAmb	03 46 07.0	
	comp=Z,4.8nm,0.7s						
S39A	**Bolivar**	**71.98**	**342**	P	**P**	**03 46 13.1**	**-0.4**
S39A				IAmb	IAmb	03 46 22.2	
	comp=Z,3.4nm,0.9s						
R40A	**Maddies Statio**	**72.29**	**343**	P	**P**	**03 46 14.0**	**-1.2**
R40A				IAmb	IAmb	03 46 15.7	
	comp=Z,5.0nm,0.9s						
BNM	**Barren Site**	**73.29**	**331**	P	**P**	**03 46 21.7**	**0.0**
214A	**Organ Pipe Nat**	**74.27**	**325**	P	**P**	**03 46 26.2**	**-0.9**
214A				IAmb	IAmb	03 46 29.4	
	comp=Z,5.7nm,1.1s						
DBIC	**Dimbokro**	**74.49**	**72**	P	**P**	**03 46 28.1**	**-0.7**
	comp=Z,9.6nm,1.0s,baz=326,slow=3.1,SNR=3.9						
DBIC				pP	**pP**	**03 46 37.6**	**+1.1**
	comp=Z,9.0nm,0.8s,baz=229,slow=7.9,SNR=4.4						
DBIC	**Dimbokro**	**74.49**	**72**	P	**P**	**03 46 29.2**	**+0.4**
T25A	**Trinidad**	**75.01**	**334**	P	**P**	**03 46 32.4**	**+0.8**
T25A				IAmb	IAmb	03 46 33.7	
	comp=Z,9.5nm,1.0s						
MAW	**Mawson**	**75.23**	**164**	P	**P**	**03 46 32.5**	**+0.3**
	comp=Z,3.0nm,0.9s,baz=162,slow=3.2,SNR=3.5						
MAW				pP	**sP**	**03 46 42.1**	**-0.5**
	comp=Z,10nm,0.9s,baz=234,slow=8.0,SNR=13						
MAW	**Mawson**	**75.23**	**164**	P	**P**	**03 46 32.5**	**+0.3**
X16A	**Lo Mia Camp, P**	**75.64**	**327**		**P**	**03 46 34.9**	**-0.3**
X16A				IAmb	IAmb	03 46 37.9	
	comp=Z,5.0nm,1.0s						
MVCO	**Mesa Verde**	**76.69**	**331**	P	**P**	**03 46 41.4**	**+0.2**
MVCO				IAmb	IAmb	03 46 44.2	
	comp=Z,6.0nm,1.1s						
ISCO	**Idaho Springs**	**77.80**	**334**	P	**P**	**03 46 47.8**	**+0.4**
SHPR	**Sheep Range**	**79.09**	**326**	P	**P**	**03 46 55.0**	**+0.6**
SHPR				IAmb	IAmb	03 46 56.6	
	comp=Z,5.7nm,1.1s						
CCUT	**Cedar City**	**79.10**	**328**	P	**P**	**03 46 55.5**	**+0.9**
CCUT				IAmb	IAmb	03 46 57.1	
	comp=Z,5.7nm,1.1s						
MVU	**Marysvale**	**79.37**	**329**	P	**P**	**03 46 56.9**	**+0.9**
PRN	**Pahroc Range**	**79.76**	**326**	P	**P**	**03 46 58.6**	**+0.6**
PRN				IAmb	IAmb	03 47 00.6	
	comp=Z,7.1nm,1.0s						
TPNV	**Topopah Spring**	**79.97**	**325**	P	**P**	**03 46 59.9**	**+0.6**
TPNV				IAmb	IAmb	03 47 07.8	
	comp=Z,6.6nm,1.1s						
SPR3	**Spring Creek 3**	**80.72**	**328**	P	**P**	**03 47 03.6**	**+0.2**
R11A	**Troy Canyon, C**	**80.77**	**327**	P	**P**	**03 47 04.3**	**+0.8**
LCH	**Last Change Ra**	**80.87**	**325**	P	**P**	**03 47 05.2**	**+1.1**
BOSA	**Boshof**	**81.06**	**118**	P	**P**	**03 47 06.1**	**+0.6**
	comp=Z,8.2nm,1.1s,baz=237,slow=4.0,SNR=3.4						
BOSA				pP	**sP**	**03 47 15.2**	**-1.0**
	comp=Z,4.5nm,0.8s,baz=208,slow=5.0,SNR=2.7						
TPH	**Tonopah**	**81.33**	**325**	P	**P**	**03 47 06.9**	**+0.4**
HWUT	**Hardware Ranch**	**81.68**	**331**	P	**P**	**03 47 08.1**	**-0.2**
HWUT				IAmb	IAmb	03 47 09.3	
	comp=Z,3.2nm,0.8s						
PDAR	**Pinedale Array**	**81.86**	**333**	P	**P**	**03 47 09.5**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=167,slow=8.2,SNR=2.8						
NVAR	**Mina Array Bea**	**82.13**	**325**	P	**P**	**03 47 11.9**	**+1.1**
	comp=Z,1.7nm,0.8s,baz=158,slow=5.8,SNR=9.9						
NVAR	**Mina Array Bea**	**82.13**	**325**	P	**P**	**03 47 11.3**	**+0.5**
HVU	**Hansel Valley**	**82.32**	**330**	P	**P**	**03 47 11.7**	**+0.1**
HVU				IAmb	IAmb	03 47 12.5	
	comp=Z,2.8nm,0.8s						
KVN	**Kaiserville**	**82.52**	**326**	P	**P**	**03 47 13.3**	**+0.5**
ELK	**Elko**	**82.54**	**328**	P	**P**	**03 47 13.4**	**+0.6**
	comp=Z,2.3nm,0.8s,baz=126,slow=1.8,SNR=7.4						
ELK	**Elko**	**82.54**	**328**	P	**P**	**03 47 13.5**	**+0.6**
ELK				IAmb	IAmb	03 47 14.2	
	comp=Z,2.9nm,0.8s						
LBTB	**Lobatse**	**83.20**	**115**	P	**P**	**03 47 16.7**	**0.0**
	comp=Z,2.0nm,0.8s,baz=258,slow=13,SNR=2.1						
TORD	**Torodi Ar. Bea**	**83.47**	**70**	P	**P**	**03 47 18.3**	**+0.3**
	comp=Z,4.0nm,0.7s,baz=283,slow=5.2,SNR=11						
TORD				pP	**pP**	**03 47 26.0**	**+0.2**
	comp=Z,7.0nm,0.8s,baz=262,slow=3.1,SNR=13						
TORD	**Torodi Ar. Bea**	**83.47**	**70**	P	**P**	**03 47 18.1**	**+0.1**
TORD				IAmb	IAmb	03 47 27.5	
	comp=Z,4.6nm,0.8s						
PAHR	**Pah Rah Range**	**83.65**	**325**	P	**P**	**03 47 19.5**	**+1.0**
PAHR				IAmb	IAmb	03 47 21.9	
	comp=Z,2.9nm,0.9s						
WVOR	**Wild Horse Val**	**85.43**	**327**	P	**P**	**03 47 27.6**	**+0.2**
WVOR				IAmb	IAmb	03 47 28.1	
	comp=Z,3.9nm,1.1s						
J08A	**Circle Bar Ran**	**86.08**	**328**	P	**P**	**03 47 31.3**	**+0.7**
J08A				IAmb	IAmb	03 47 32.4	
	comp=Z,7.4nm,1.0s						
WRA	**Warramunga Arr**	**122.63**	**210**	PKP	**PKPdf**	**03 53 45.9**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=176,slow=1.5,SNR=2.7						
WRA				pPKP	**pPKPdf**	**03 53 55.4**	**+1.3**
	comp=Z,2.2nm,0.9s,baz=169,slow=1.8,SNR=5.4						
H11S2	**WAKE ISLAND Hyl**	**25.78**	**271**	T	T	06 12 41.0	
	baz=118,slow=74,SNR=10.0						
H11S1	**WAKE ISLAND Hyl**	**25.80**	**271**	T	T	06 12 38.7	
	baz=118,slow=74,SNR=7.2						
H11S3	**WAKE ISLAND Hyl**	**25.80**	**271**	T	T	06 12 42.2	
	baz=118						
SEY	**Seymchan**	**138.17**	**331**	PKP	**PKPdf**	**03 54 14.8**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=100,slow=12,SNR=5.0						
BVAR	**Borovoye Array**	**145.68**	**41**	PKPbc	**PKPab**	**03 54 28.4**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=171,slow=2.8,SNR=2.9						
BVAR				pPKPbc	**sPKPdf**	**03 54 38.7**	**+0.2**
	comp=Z,9.2nm,0.7s,baz=278,slow=4.3,SNR=18						
KURBB	**Kurchatov Arra**	**151.27**	**41**	PKPbc	**PKPbc**	**03 54 42.7**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=290,slow=2.9,SNR=5.1						
KURBB				pPKPbc	**pPKPbc**	**03 54 52.3**	**+1.5**
	comp=Z,5.0nm,0.7s,baz=301,slow=3.1,SNR=15						
AAK	**Ala-Archa**	**151.43**	**58**	PKPbc	**PKiKP**	**03 54 44.8**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=55,slow=3.2,SNR=2.3						
ZALV	**Zalesovo Beam**	**152.39**	**30**	PKPbc	**PKiKP**	**03 54 46.0**	**+0.3**
	comp=Z,2.5nm,0.5s,baz=284,slow=3.1,SNR=4.6						
ZALV				pPKPbc	**PKPab**	**03 54 55.0**	**-0.5**
	comp=Z,12nm,0.8s,baz=305,slow=2.8,SNR=9.9						
ZALV	**Zalesovo Beam**	**152.39**	**30**	PKPdf	**PKPdf**	**03 54 40.0**	**+1.5**
MKAR	**Makanchi Array**	**155.30**	**45**	PKPbc	PKPbc	03 54 56.0	
	comp=Z,0.9nm,0.7s,baz=318,slow=1.9,SNR=2.7						
SONM	**Songino Array**	**163.99**	**4**	pPKPab	pPKPab	03 55 54.

SKT S Sn 03 39 19.7 +0.1
baz=56
PPLA Purkeypile 1.51 275 Pn 03 39 01.8 +0.1
PPLA Purkeypile 1.51 275 P Pn 03 39 01.6 -0.2
baz=93,SNR=124
PPLA S Sn 03 39 20.2 -0.5
baz=93
PS10 TAPS Pump St10 1.56 65 Pn 03 39 03.5 +1.2
CAST Castle Rocks 1.58 295 Pn 03 39 02.6 +0.2
CAST Sn 03 39 21.5 -0.6
CAST Castle Rocks 1.58 295 IAML 03 39 23.6
comp=E,5µm,0.6s
CAST Castle Rocks 1.58 295 P Pn 03 39 02.4 -0.1
baz=113,SNR=252
CAST S Sn 03 39 21.3 -0.8
baz=113
PAX Paxson 1.58 82 Pn 03 39 03.4 +0.7
PAX Paxson 1.58 82 P Pn 03 39 03.4 +0.7
baz=264,SNR=808
SUA Susitna One 1.59 214 Pn 03 39 02.9 +0.2
SUA Susitna One 1.59 214 IAML 03 39 25.4
comp=E,6µm,1.0s
SUA IAML 03 39 27.0
comp=N,5µm,0.9s
SUA Susitna One 1.59 214 P Pn 03 39 02.9 +0.2
baz=32,SNR=1000
BPAW Bear Paw Mtn. 1.61 325 Pn 03 39 02.9 -0.1
BPAW Sn 03 39 22.1 -0.8
BPAW Bear Paw Mtn. 1.61 325 P Pn 03 39 03.0 +0.1
baz=144,SNR=619
BPAW S Sn 03 39 21.6 -1.3
baz=144
WRH Wood River Hil 1.73 12 Pn 03 39 04.7 +0.2
WRH Sn 03 39 25.3 -0.3
PS11 TAPS Pump St11 1.75 113 Pn 03 39 06.2 +1.5
RC01 Rabbit Creek A 1.75 193 Pn 03 39 04.8 0.0
RC01 Rabbit Creek A 1.75 193 IAML 03 39 30.3
comp=N,6µm,0.5s
RC01 Rabbit Creek A 1.75 193 P Pn 03 39 04.5 -0.3
baz=13,SNR=1000
FIS Fire Island 1.77 201 Pn 03 39 05.6 +0.7
FIS Fire Island 1.77 201 IAML 03 39 33.1
comp=N,6µm,0.7s
HARP HAARP 1.78 101 Pn 03 39 06.4 +1.3
HARP HAARP 1.78 101 P Pn 03 39 06.5 +1.3
baz=284,SNR=716
NEA2 Nenana 1.81 358 Pn 03 39 05.6 0.0
NEA2 Nenana 1.81 358 IAML 03 39 28.2
comp=N,3µm,0.6s
NEA2 IAML 03 39 28.5
comp=E,3µm,0.5s
NEA2 Nenana 1.81 358 P Pn 03 39 05.7 0.0
baz=178,SNR=1000
NEA2 S Sn 03 39 26.3 -1.3
baz=178
HDA Harding Lake 1.84 27 Pn 03 39 06.3 +0.3
HDA Harding Lake 1.84 27 IAML 03 39 33.5
comp=E,6µm,0.6s
HDA Harding Lake 1.84 27 P Pn 03 39 06.3 +0.3
baz=209,SNR=471
CHUM Lake Minchumin 1.89 307 Pn 03 39 06.8 +0.2
CHUM Lake Minchumin 1.89 307 P Pn 03 39 06.8 +0.2
baz=124,SNR=138
CHUM S Sn 03 39 28.6 -0.8
baz=124
STLK Strandline Lak 1.89 228 Pn 03 39 06.7 0.0
KLU Klutina 1.91 132 Pn 03 39 06.8 -0.2
KLU Klutina 1.91 132 IAML 03 39 35.4
comp=N,6µm,0.5s
KLU IAML 03 39 37.3
comp=E,4µm,0.8s
KLU Klutina 1.91 132 P Pn 03 39 06.9 -0.2
baz=314,SNR=302
CCB Clear Creek Bu 1.93 14 Pn 03 39 07.2 +0.1
PWL Port Wells 1.96 172 Pn 03 39 07.2 -0.3
PWL Port Wells 1.96 172 IAML 03 39 36.1
comp=N,6µm,0.6s
PWL IAML 03 39 36.1
comp=E,5µm,0.8s
PS08 TAPS Pump Stn8 1.99 27 Pn 03 39 08.1 +0.2
JPK Jack Peak 2.06 147 Pn 03 39 08.4 -0.6
RIDG Independent Ri 2.07 61 Pn 03 39 10.6 +1.6
RIDG Independent Ri 2.07 61 IAML 03 39 40.8
comp=N,3µm,0.7s
RIDG Independent Ri 2.07 61 P Pn 03 39 10.6 +1.6
baz=244,SNR=888
VMT TAPS Tl Valdez 2.09 144 Pn 03 39 08.9 -0.4
GLI Glacier Island 2.10 155 Pn 03 39 08.8 -0.7
GLI Glacier Island 2.10 155 IAML 03 39 40.9
comp=N,4µm,0.6s
GLI Glacier Island 2.10 155 P Pn 03 39 08.9 -0.7
baz=336,SNR=87
SPCG Spurr Capps Gl 2.10 226 Pn 03 39 10.3 +0.6
TCOL CIGO, UAF Yank 2.14 12 Pn 03 39 10.4 +0.4
TCOL CIGO, UAF Yank 2.14 12 P Pn 03 39 10.4 +0.4
baz=193,SNR=704
TCOL S Sn 03 39 35.7 +0.2
baz=193
COLA College 2.14 12 Pn 03 39 10.2 +0.2
COLA College 2.14 12 IAML 03 39 36.5
comp=N,4µm,0.8s
COLA IAML 03 39 36.6
comp=N,4µm,0.5s
SPCP Crater Peak Br 2.17 226 Pn 03 39 10.5 0.0
IL31 2.18 23 Pn 03 39 10.6 +0.1
ILAR Eielson Array 2.18 23 P Pn 03 39 10.5 -0.1
comp=N,72nm,0.3s,baz=204,slow=14,SNR=3212
ILAR S Sn 03 39 36.5 0.0
comp=N,379nm,0.3s,baz=207,slow=23,SNR=29
ILAR LR LR 03 39 57.1
comp=N,2µm,22.0s,baz=120,slow=38
ILAR Eielson Array 2.18 23 Pn 03 39 10.1 -0.5
MDM Murphy Dome 2.20 7 Pn 03 39 11.0 +0.2
MDM Murphy Dome 2.20 7 IAML 03 39 37.6
comp=N,3µm,0.5s
PS12 TAPS Pump St12 2.21 125 Pn 03 39 11.1 +0.1
SPCN Chakachatna No 2.21 226 Pn 03 39 11.8 +0.9
DIV Divide 2.23 137 Pn 03 39 10.5 -0.8
SPCR Spurr Chakacha 2.23 226 Pn 03 39 11.6 +0.3
SPCR Spurr Chakacha 2.23 226 P Pn 03 39 11.3 -0.1
baz=43,SNR=67
SPBG Spurr Blockage 2.24 228 Pn 03 39 12.1 +0.6
CAPN Captain Cook N 2.29 209 Pn 03 39 13.4 +1.3
L20K Farewell, AK 2.32 264 Pn 03 39 12.2 -0.2
L20K Farewell, AK 2.32 264 P Pn 03 39 12.3 -0.2
baz=80,SNR=115
N25K Chitina, Valde 2.34 119 Pn 03 39 13.3 +0.5
N25K Chitina, Valde 2.34 119 P Pn 03 39 13.3 +0.5
baz=302,SNR=106
FID Port Fidalgo 2.35 150 Pn 03 39 12.3 -0.6
FID Port Fidalgo 2.35 150 IAML 03 39 48.1
comp=N,3µm,0.6s
FID IAML 03 39 49.0
comp=E,4µm,0.6s
O22K Cooper Landing 2.35 190 Pn 03 39 13.4 +0.6
O22K Cooper Landing 2.35 190 P Pn 03 39 12.7 -0.2
baz=9.3,SNR=110
DOT Dot Lake 2.35 66 Pn 03 39 13.7 +0.7
I23K Minto, Yukon-K 2.37 355 Pn 03 39 13.6 +0.5
I23K Minto, Yukon-K 2.37 355 IAML 03 39 59.8
comp=N,2µm,0.8s
I23K Minto, Yukon-K 2.37 355 P Pn 03 39 13.7 +0.5
baz=175,SNR=1000
SLKM Skilak Lake 2.38 196 Pn 03 39 12.9 -0.4
MENT Mentasta 2.38 84 Pn 03 39 14.1 +0.8
MENT Mentasta 2.38 84 IAML 03 39 55.1
comp=E,3µm,0.6s
MENT IAML 03 39 58.5
comp=N,2µm,1.0s
MLY Manley 2.39 341 Pn 03 39 13.8 +0.4
MLY Manley 2.39 341 IAML 03 39 42.5
comp=N,2µm,0.5s
MLY Manley 2.39 341 P Pn 03 39 13.7 +0.3
baz=159,SNR=987
J25K Salcha River, 2.41 39 Pn 03 39 14.0 +0.3
J25K Salcha River, 2.41 39 P Pn 03 39 14.1 +0.3
baz=222,SNR=442
K20K Telida 2.42 286 Pn 03 39 13.8 -0.1
K20K Telida 2.42 286 P Pn 03 39 13.7 -0.1
baz=102,SNR=100
POKR Poker Plat Res 2.42 15 Pn 03 39 14.3 +0.5
POKR Poker Plat Res 2.42 15 IAML 03 39 46.7
comp=E,2µm,0.7s
POKR IAML 03 39 47.5
comp=N,3µm,0.6s
POKR Poker Plat Res 2.42 15 P Pn 03 39 14.4 +0.5
baz=196,SNR=177
SCRK Sand Creek 2.51 60 Pn 03 39 15.8 +0.7
SCRK Sand Creek 2.51 60 IAML 03 39 47.7
comp=N,2µm,0.7s
SCRK IAML 03 39 48.4
comp=E,2µm,0.6s
SCRK Sand Creek 2.51 60 P Pn 03 39 15.9 +0.7
baz=244,SNR=357
PS07 TAPS Pump Stn7 2.54 6 Pn 03 39 16.2 +0.8
L26K Log Cabin Wild 2.55 82 Pn 03 39 16.8 +1.1
L26K Log Cabin Wild 2.55 82 IAML 03 39 54.2
comp=E,2µm,0.4s
L26K IAML 03 40 05.9
comp=N,3µm,0.4s
L26K Log Cabin Wild 2.55 82 P Pn 03 39 16.8 +1.1
baz=267,SNR=372
HIN Hinchinbrook I 2.66 153 Pn 03 39 16.5 -0.6
EYAK Cordova Ski Ar 2.71 145 Pn 03 39 17.6 -0.1
EYAK Cordova Ski Ar 2.71 145 P Pn 03 39 17.3 -0.4
baz=327,SNR=249
SEW Seward 2.71 186 Pn 03 39 18.3 +0.6
SEW Seward 2.71 186 P Pn 03 39 17.6 -0.1
baz=5.4,SNR=108
M19K Big River Lodg 2.71 253 Pn 03 39 17.3 -0.4
M19K Big River Lodg 2.71 253 P Pn 03 39 17.3 -0.4
baz=69,SNR=97
J20K Nowinta River 2.73 303 Pn 03 39 18.2 +0.2
J20K Nowinta River 2.73 303 IAML 03 40 06.2
comp=N,1µm,0.6s
J20K IAML 03 40 06.5
comp=E,1µm,0.8s
J20K Nowinta River 2.73 303 P Pn 03 39 18.2 +0.2
baz=119,SNR=137
BMRM Bremner River 2.74 130 Pn 03 39 17.7 -0.5
BMRM Bremner River 2.74 130 IAML 03 40 00.2
comp=E,3µm,0.5s
BMRM IAML 03 40 00.3
comp=N,2µm,1.0s
BMRM Bremner River 2.74 130 P Pn 03 39 17.5 -0.7
baz=314,SNR=261
GLB Gilahina Butte 2.75 117 Pn 03 39 18.8 +0.4
GLB Gilahina Butte 2.75 117 IAML 03 40 01.9
comp=N,1µm,1.0s
I21K Tanana 2.75 332 Pn 03 39 18.6 +0.3
I21K Tanana 2.75 332 IAML 03 39 51.9
comp=N,1µm,0.7s
I21K Tanana 2.75 332 P Pn 03 39 18.8 +0.5
baz=149,SNR=345
M26K Nabesna, AK 2.76 96 Pn 03 39 18.9 +0.5
M26K Nabesna, AK 2.76 96 IAML 03 40 02.5
comp=N,1µm,0.6s
M26K IAML 03 40 07.1
comp=E,1µm,0.5s
M26K Nabesna, AK 2.76 96 P Pn 03 39 18.8 +0.3
baz=280,SNR=111
L19K White Mountain 2.83 260 Pn 03 39 19.0 -0.3
L19K White Mountain 2.83 260 P Pn 03 39 19.1 -0.3
baz=75,SNR=68
DFR Drift River 2.85 221 Pn 03 39 19.9 +0.1
RDJH Redoubt Jeurge 2.89 222 Pn 03 39 20.7 +0.4
NCT North Crescent 2.95 222 Pn 03 39 21.5 +0.4
RSO Redoubt South 2.97 220 Pn 03 39 21.9 +0.3
RDSO Redoubt South 2.98 220 Pn 03 39 21.9 +0.4
RDWB Redoubt West 2.98 221 Pn 03 39 21.9 +0.3
GOAT Goat Mountain 2.98 136 Pn 03 39 21.6 +0.1
VRDI Verde Repeater 3.01 119 Pn 03 39 21.9 -0.1
RED Redoubt Volcan 3.01 220 Pn 03 39 22.3 +0.3
H23K Yukon River 3.06 355 Pn 03 39 23.1 +0.6
H23K Yukon River 3.06 355 P Pn 03 39 23.0 +0.6
baz=174,SNR=151
H24K Noodor Dome 3.09 8 Pn 03 39 23.5 +0.6
H24K Noodor Dome 3.09 8 P Pn 03 39 23.6 +0.6
baz=189,SNR=333
PS06 TAPS Pump Stn6 3.10 354 Pn 03 39 23.5 +0.6
MCARA McCarthy VSAT 3.10 114 Pn 03 39 23.9 +0.7
MCARA McCarthy VSAT 3.10 114 IAML 03 40 33.5
comp=N,2µm,1.0s
MCARA McCarthy VSAT 3.10 114 P Pn 03 39 23.8 +0.7
baz=299,SNR=49
PRP Porcupine Dome 3.11 27 Pn 03 39 23.9 +0.6
PRP Porcupine Dome 3.11 27 IAML 03 40 02.9
comp=N,2µm,0.9s
PRP IAML 03 40 06.8
comp=E,2µm,0.6s
PRP Porcupine Dome 3.11 27 P Pn 03 39 23.9 +0.6
baz=210,SNR=29
RAGM Ragged Mountai 3.15 138 Pn 03 39 24.0 +0.3
BRLK Bradley Lake 3.19 198 Pn 03 39 24.5 +0.2
BRLK Bradley Lake 3.19 198 IAML 03 40 11.4
comp=E,1µm,0.8s
BRLK IAML 03 40 12.3
comp=N,1µm,0.8s
BRSE Bradley Lake S 3.19 197 Pn 03 39 23.9 -0.3
BRSE Bradley Lake S 3.19 197 P Pn 03 39 24.0 -0.3
baz=15,SNR=50
L27K Beaver Creek, 3.25 82 Pn 03 39 25.4 +0.3
L27K Beaver Creek, 3.25 82 P Pn 03 39 25.2 +0.1
baz=268,SNR=240
O20K Slope Mountain 3.25 215 Pn 03 39 25.9 +0.6
O20K Slope Mountain 3.25 215 P Pn 03 39 25.1 -0.1
baz=32,SNR=34
TTA Tatalina 3.26 276 Pn 03 39 24.8 -0.5
TTA Tatalina 3.26 276 P Pn 03 39 24.8 -0.5
baz=90,SNR=5.8
BC03 3.27 82 Pn 03 39 25.6 +0.4
BCAR Beaver Creek A 3.27 82 Pn 03 39 25.1 -0.3
TT01 Tatalina 3.27 275 Pn 03 39 24.8 -0.5
M27K Edge Creek, AK 3.28 95 Pn 03 39 26.6 +0.9
M27K Edge Creek, AK 3.28 95 P Pn 03 39 26.6 +0.9
baz=280,SNR=116
BC05 Beaver Creek A 3.28 82 Pn 03 39 25.5 -0.1
N19K Bonanza Creek 3.31 236 Pn 03 39 25.8 -0.2
N19K Bonanza Creek 3.31 236 P Pn 03 39 25.8 -0.2
baz=51,SNR=24
K27K Chicken 3.31 65 Pn 03 39 26.4 +0.5
K27K Chicken 3.31 65 IAML 03 40 09.3
comp=N,741nm,0.6s
K27K Chicken 3.31 65 P Pn 03 39 26.4 +0.5
baz=251
HMT Hamilton 3.32 136 Pn 03 39 25.7 -0.3
H21K Melozitna Rive 3.34 331 Pn 03 39 26.6 +0.3
H21K Melozitna Rive 3.34 331 IAML 03 40 03.3
comp=E,814nm,0.6s
H21K Melozitna Rive 3.34 331 P Pn 03 39 26.6 +0.3
baz=148,SNR=450
HOM Homer 3.41 204 Pn 03 39 28.1 +0.9
HOM Homer 3.41 204 P Pn 03 39 28.2 +0.9
baz=22,SNR=12
IVE Iliamna Volcan 3.42 217 Pn 03 39 27.4 0.0
CRQM Cirque 3.42 124 Pn 03 39 27.8 +0.3
CRQE Cirque 3.44 124 P Pn 03 39 27.8 +0.1
baz=309,SNR=62
PTPK Patty Peak 3.44 115 Pn 03 39 28.5 +0.7
BERG Berg Lake 3.46 132 Pn 03 39 28.4 +0.5
CNPM China Poot 3.47 200 Pn 03 39 28.1 +0.1
CNPM China Poot 3.47 200 IAML 03 40 19.4
comp=N,852nm,0.5s
CNPM IAML 03 40 21.2
comp=E,991nm,0.7s
ILS Iliamna Low So 3.48 217 Pn 03 39 28.8 +0.5
NICHA Nichawak Mount 3.49 135 Pn 03 39 28.1 -0.2
TGL Tana Glacier 3.54 123 Pn 03 39 28.8 -0.2
TGL Tana Glacier 3.54 123 IAML 03 40 22.0
comp=E,1µm,0.9s
BALM Baldy 3.57 117 Pn 03 39 29.4 -0.2
KHIT Khitrov Hills 3.58 129 Pn 03 39 29.6 -0.1
SVW2 Sparrevohn 3.58 245 Pn 03 39 29.4 -0.2
Q23K Middleton Isla 3.59 159 Pn 03 39 29.8 +0.1
Q23K Middleton Isla 3.59 159 IAML 03 40 37.0
comp=N,878nm,0.7s
Q23K IAML 03 40 39.1
comp=E,815nm,0.8s
Q23K Middleton Isla 3.59 159 P Pn 03 39 29.5 -0.3
baz=341
KAIM Kayak Island 3.59 141 Pn 03 39 29.0 -0.8
KAIM Kayak Island 3.59 141 IAML 03 40 31.9
comp=N,738nm,0.7s
KAIM IAML 03 40 31.9
comp=E,898nm,0.8s
KAIM Kayak Island 3.59 141 P Pn 03 39 28.9 -0.8
baz=325
MID Middleton Isla 3.60 159 Pn 03 39 29.4 -0.4
MID Middleton Isla 3.60 159 IAML 03 40 33.2
comp=E,853nm,1.4s
MID IAML 03 40 37.0
comp=N,738nm,0.8s
KIAG Kiagna River 3.62 118 Pn 03 39 29.8 -0.5
GRIN Grindle Hills 3.67 131 Pn 03 39 30.8 -0.1
SUCK Suckling Hills 3.67 136 Pn 03 39 30.7 -0.2
O19K Port Alsworth 3.68 227 Pn 03 39 30.9 0.0
O19K Port Alsworth 3.68 227 IAML 03 40 25.6
comp=N,880nm,0.5s
O19K IAML 03 40 34.8
comp=E,763nm,0.5s
O19K Port Alsworth 3.68 227 P Pn 03 39 30.7 -0.2
baz=43,SNR=9.4
WAX Waxell Ridge 3.72 126 Pn 03 39 31.5 -0.1
BVCY Beaver Creek 3.74 92 P Pn 03 39 32.0 +0.3
baz=279,SNR=12
OPT Oil Point 3.78 216 Pn 03 39 32.9 +0.5
P19K Oil Pt 3.78 216 Pn 03 39 32.8 +0.4
P19K Oil Pt 3.78 216 P Pn 03 39 32.5 +0.2
baz=32,SNR=38
BGLC Bering Glacier 3.80 132 Pn 03 39 33.0 +0.5
ISLE Juniper Island 3.82 122 Pn 03 39 32.4 -0.6
IM03 3.83 329 Pn 03 39 33.3 +0.3
IMAR Indian Mountai 3.83 329 Pn Pn 03 39 33.1 +0.1
BARN Barnard Glacie 3.84 114 Pn 03 39 33.7 +0.4
BARN Barnard Glacie 3.84 114 IAML 03 40 42.9
comp=N,596nm,0.8s
BARN IAML 03 40 44.8
comp=E,628nm,0.9s
BARK Barkley Ridge 3.89 125 Pn 03 39 34.1 +0.3
YUK2 White River 3.90 101 Pn 03 39 34.8 +0.8
KULT Kultieth River 3.91 128 Pn 03 39 34.4 +0.3
SNH Sunshine Point 3.91 129 Pn 03 39 34.5 +0.4
YUK1 Sand Pete Hill 3.94 96 Pn 03 39 35.6 +0.9
N18K Kilae Creek 3.94 241 Pn 03 39 34.1 -0.5
N18K Kilae Creek 3.94 241 P Pn 03 39 34.0 -0.5
baz=55
EGAK Eagle 3.97 56 Pn 03 39 35.8 +0.9
EGAK Eagle 3.97 56 IAML 03 40 36.1
comp=E,952nm,0.9s
EGAK Eagle 3.97 56 P Pn 03 39 35.6 +0.7
baz=243,SNR=257
GRNC Granite Creek 3.98 118 Pn 03 39 34.5 -0.6
GRNC Granite Creek 3.98 118 IAML 03 40 37.8
comp=E,472nm,0.7s
GRNC IAML 03 40 39.0
comp=N,633nm,0.8s
BAGL Bagley Icefiel 3.99 122 Pn 03 39 35.0 -0.1
CTG Chitna Glacier 4.02 114 P Pn 03 39 36.0 +0.2
baz=300,SNR=49
CTGM Chitina Glacie 4.03 114 Pn 03 39 36.1 +0.3
CTGM Chitina Glacie 4.03 114 IAML 03 40 40.2
comp=N,609nm,0.6s
AU22 Augustine Moun 4.06 214 Pn 03 39 36.6 +0.5
AU2 Augustine Isla 4.06 214 Pn 03 39 36.7 +0.5
AUL Augustine Lava 4.07 215 Pn 03 39 36.9 +0.6
YUK3 Moose Creek 4.07 101 Pn 03 39 37.3 +0.8
YUK3 Moose Creek 4.07 101 P Pn 03 39 37.5 +0.9
baz=288,SNR=231
AGU Augustine-Summ 4.08 215 Pn 03 39 37.1 +0.5
AUQ Augustine Qik' 4.08 214 Pn 03 39 37.0 +0.5
AUCH Augustine Cone 4.09 215 Pn 03 39 36.9 +0.4
AUW Augustine West 4.09 215 Pn 03 39 37.1 +0.6
FYU Fort Yukon 4.10 21 Pn 03 39 37.5 +0.9
FYU Fort Yukon 4.10 21 IAML 03 40 28.9
comp=N,790nm,0.7s
FYU IAML 03 40 29.9
comp=E,616nm,0.8s
PS05 TAPS Pump Stn5 4.11 350 Pn 03 39 37.4 +0.7
YAH Yahtse 4.20 122 Pn 03 39 38.3 +0.1
YAH Yahtse 4.20 122 IAML 03 40 41.6
comp=E,599nm,0.9s
LOGN Logan Glacier 4.24 114 Pn 03 39 38.8 +0.1
LOGN Logan Glacier 4.24 114 IAML 03 40 43.9
comp=N,454nm,0.8s
LOGN IAML 03 40 44.3
comp=E,572nm,1.1s
MESA MESA 4.24 125 Pn 03 39 39.2 +0.4
MESA MESA 4.24 125 P Pn 03 39 38.6 -0.2
baz=311,SNR=15
TABL Table Mountain 4.39 119 Pn 03 39 40.5 -0.3
TABL Table Mountain 4.39 119 IAML 03 40 46.9
comp=E,385nm,1.2s
TABL IAML 03 40 54.8
comp=N,471nm,0.8s
RKAV Rock Avalanche 4.39 121 Pn 03 39 40.9 0.0
DAWY Dawson 4.46 69 Pn 03 39 42.2 +0.6
DAWY Dawson 4.46 69 IAML 03 40 57.6
comp=E,459nm,0.8s
DAWY IAML 03 41 05.7
comp=N,386nm,0.7s
DAWY Dawson 4.46 69 P Pn 03 39 42.2 +0.6
baz=257
COLD Coldfoot 4.49 354 Pn 03 39 42.8 +0.9
COLD Coldfoot 4.49 354 P Pn 03 39 42.9 +0.9
baz=172,SNR=270
Q19K Cape Douglas, 4.52 213 Pn 03 39 42.4 0.0
Q19K Cape Douglas, 4.52 213 P Pn 03 39 42.2 -0.2
baz=29,SNR=34
SAMH Samovar Hills 4.72 121 Pn 03 39 45.7 +0.4
PCA Pinnacle 4.95 119 Pn 03 39 49.0 +0.6
PINM Pinnacle 4.95 119 P Pn 03 39 48.7 +0.3
baz=307,SNR=13
BM03 Burnt Mountain 4.99 19 Pn 03 39 49.4 +0.5
BMAR Burnt Mountain 5.00 19 Pn Pn 03 39 49.2 +0.3
BM01 Burnt Mountain 5.03 20 Pn 03 39 50.0 +0.7
YUK4 Talbot Arm 5.04 102 P Pn 03 39 50.1 +0.4
baz=290,SNR=16
BCPM Bancas Point 5.29 118 Pn 03 39 53.3 +0.4
BCPM Bancas Point 5.29 118 IAML 03 41 18.1
comp=N,222nm,1.1s
BCPM IAML 03 41 23.3
comp=E,260nm,0.8s
KAWH Katmai 5.29 216 Pn 03 39 54.5 +1.5
YUK6 Outpost Mounta 5.32 106 Pn 03 39 53.8 +0.2
YUK6 Outpost Mounta 5.32 106 P Pn 03 39 54.1 +0.5
baz=295,SNR=22
KDAK Kodiak Island 5.35 202 P Pn 03 39 51.6 -2.1
comp=E,4.5nm,0.3s,baz=71,slow=8.0,SNR=129
KDAK S Sn 03 40 49.0 -4.9
comp=E,6.4nm,0.3s,baz=305,slow=20,SNR=5.9
KDAK Kodiak Island 5.35 202 Pn 03 39 51.5 -2.1
KDAK Kodiak Island 5.35 202 IAML 03 41 14.6
comp=E,255nm,0.9s
KDAK IAML 03 41 18.2
comp=E,161nm,0.9s
KDAK Kodiak Island 5.35 202 P Pn 03 39 51.6 -2.1
baz=18
KAKN Katmai Knife C 5.44 217 Pn 03 39 54.4 -0.6
KABU Katmai Buttres 5.52 218 Pn 03 39 56.3 +0.1
KABR Katmai Barrier 5.55 215 Pn 03 39 56.9 +0.3
PNL Peninsula 5.56 120 Pn 03 39 56.2 -0.4
ANCK Angle Creek 5.64 218 Pn 03 39 59.7 +2.0
PS04 TAPS Pump Stn4 5.66 358 Pn 03 39 59.7 +1.7
HYT Haines Junctio 5.75 105 Pn 03 39 58.8 -0.6
HYT Haines Junctio 5.75 105 P Pn 03 39 58.9 -0.4
baz=295,SNR=27
TOLK Toolik Lake Re 5.88 358 Pn 03 40 03.2 +2.2
TOLK Toolik Lake Re 5.88 358 P Pn 03 40 03.0 +2.0
baz=177,SNR=79
MAYO Mayo, Yukon 5.94 76 P Pn 03 40 02.2 +0.4
baz=268
OHAK Old Harbor 6.00 203 Pn 03 40 00.2 -2.5
OHAK Old Harbor 6.00 203 P Pn 03 40 00.6 -2.1
baz=20
EPYK Eagle Plains 6.35 50 Pn 03 40 07.5 +0.1
EPYK Eagle Plains 6.35 50 P Pn 03 40 07.7 +0.3
baz=241,SNR=31
WHY Whitehorse 7.00 102 Pn 03 40 16.1 -0.2
WHY Whitehorse 7.00 102 P Pn 03 40 16.7 +0.4
baz=294,SNR=14
FARO Faro, Yukon 7.22 88 P Pn 03 40 19.6 +0.3
baz=281,SNR=10
SKAG Skagway 7.37 111 Pn 03 40 20.6 -0.6
SKAG Skagway 7.37 111 P Pn 03 40 21.1 -0.2
baz=303,SNR=16
ANM Nome 7.53 291 Sn 03 41 46.6 -0.6
BESE Bessie Mountai 8.08 115 Pn 03 40 30.2 -0.8
MMPY Sheldon Lake, 8.11 83 P Pn 03 40 31.4 -0.1
baz=279,SNR=14
VNHG Veniaminof 1 8.40 223 Pn 03 40 35.0 -0.5
INK Inuvik 8.42 42 P Pn 03 40 36.5 +0.9
comp=E,2.5nm,0.3s,baz=237,slow=13,SNR=38
INK S Sn 03 42 06.7 -2.3
comp=E,5.6nm,0.3s,baz=316,slow=9.5,SNR=7.5
INK Inuvik 8.42 42 Pn 03 40 35.4 -0.2

INK	**Inuvik**	**8.42**	**42**	P		**Pn**	**03 40 36.2**	**+0.5**
	baz=236,SNR=25							
JIS	**Juneau Island**	**8.46**	**116**			**Pn**	**03 40 35.3**	**-0.9**
SIT	**Sitka**	**8.91**	**124**	P		**Pn**	**03 40 41.8**	**-0.5**
	baz=316							
A21K	**Barrow**	**9.07**	**344**			**Pn**	**03 40 43.8**	**-0.6**
A21K	**Barrow**	**9.07**	**344**	P		**Pn**	**03 40 44.9**	**+0.4**
	baz=157							
DLBC	**Dease Lake**	**10.23**	**107**	P		**Pn**	**03 41 00.1**	**-0.4**
	comp=E,0.5nm,0.3s,baz=283,slow=10,SNR=13							
DLBC	**Dease Lake**	**10.23**	**107**			**Pn**	**03 40 59.1**	**-1.3**
WRAK	**Wrangell Islan**	**10.52**	**120**	P		**Pn**	**03 41 03.8**	**-0.5**
	baz=314							
YKA	**Yellowknife Ar**	**15.66**	**76**	P		**Pn**	**03 42 12.1**	**-0.6**
	comp=E,0.7nm,0.3s,baz=288,slow=8.8,SNR=10							
A04D	**Lummi Island**	**20.18**	**122**	P		Pn	03 43 07.5	-0.1
	baz=324							
B05A	**Bryant**	**20.79**	**122**	P		Pn	03 43 13.6	-1.3
	baz=324							
EDM	**Edmonton**	**20.86**	**101**	P		**P**	**03 43 12.5**	**0.0**
EDM				IAmb		IAmb	03 43 18.2	
	comp=Z,15nm,0.7s							
B08A	**Colville Reser**	**21.82**	**118**	P		**P**	**03 43 22.7**	**-0.1**
E04D	**Cinebar**	**22.02**	**125**	P		**P**	**03 43 25.0**	**+0.1**
	baz=327							
NEW	**Newport**	**22.80**	**115**	P		**P**	**03 43 33.4**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=71,slow=2.5,SNR=4.4							
NEW	**Newport**	**22.80**	**115**	P		**P**	**03 43 33.3**	**0.0**
NEW	**Newport**	**22.80**	**115**	P		**P**	**03 43 33.9**	**+0.5**
	baz=321							
F05D	**White Salmon**	**23.00**	**125**	P		**P**	**03 43 36.8**	**+1.4**
	baz=327							
D08A	**Wollman Farm,**	**23.03**	**119**	P		**P**	**03 43 35.5**	**-0.1**
D08A				IAmb		IAmb	03 43 37.0	
	comp=Z,7.4nm,0.8s							
E07A	**Sunnyside**	**23.07**	**121**	P		**P**	**03 43 35.8**	**-0.1**
E07A				IAmb		IAmb	03 43 37.1	
	comp=Z,7.0nm,0.9s							
WALA	**Waterton Lakes**	**23.56**	**109**	P		**P**	**03 43 40.5**	**-0.2**
WALA				IAmb		IAmb	03 43 43.3	
	comp=Z,11nm,1.1s							
I05D	**Terrebonne, OR**	**24.36**	**126**	P		**P**	**03 43 49.1**	**+1.3**
	baz=329							
F10A	**Beach Ranch, E**	**24.59**	**118**	P		**P**	**03 43 50.2**	**+0.2**
K02D	**Willamette Mer**	**24.97**	**132**	P		**P**	**03 43 55.2**	**+1.8**
	baz=332							
MSO	**Missoula**	**25.27**	**113**	P		**P**	**03 43 56.0**	**-0.1**
MSO	**Missoula**	**25.27**	**113**	P		**P**	**03 43 57.1**	**+0.9**
	baz=322							
BMO	**Blue Mountains**	**25.48**	**120**	P		**P**	**03 43 58.0**	**-0.1**
L04D	**Klamath Falls**	**25.86**	**130**	P		**P**	**03 44 02.7**	**+1.2**
	baz=332							
SEY	**Seymchan**	**25.98**	**297**	P		**P**	**03 44 02.7**	**+0.4**
	comp=Z,3.7nm,0.7s,baz=105,slow=7.4,SNR=10							
YBH	**Yreka Blue Hor**	**26.15**	**131**	P		**P**	**03 44 05.8**	**+1.7**
	comp=Z,2.5nm,1.0s,baz=4.1,slow=14,SNR=4.5							
EGMT	**Eagleton**	**26.16**	**106**	P		**P**	**03 44 04.2**	**0.0**
EGMT				IAmb		IAmb	03 44 05.5	
	comp=Z,9.0nm,0.9s							
EGMT	**Eagleton**	**26.16**	**106**	P		**P**	**03 44 04.5**	**+0.3**
	baz=319,SNR=5.0							
N02D	**Trinity Center**	**26.82**	**132**	P		**P**	**03 44 11.6**	**+1.4**
	baz=333							
BOZ	**Bozeman (W)**	**27.23**	**112**	P		**P**	**03 44 14.5**	**+0.7**
	baz=323							
HLID	**Hailey**	**27.71**	**118**	P		**P**	**03 44 18.4**	**+0.2**
	baz=326							
O03E	**Paynes Creek**	**27.74**	**132**	P		**P**	**03 44 18.2**	**-0.2**
	baz=333							
YHH	**Holmes Hill**	**28.20**	**112**	P		**P**	**03 44 22.6**	**-0.1**
YHH				IAmb		IAmb	03 44 25.1	
	comp=Z,4.1nm,1.0s							
YNE	**Yellowstone No**	**28.39**	**110**	P		**P**	**03 44 24.3**	**-0.1**
YNE				IAmb		IAmb	03 44 26.7	
	comp=Z,7.8nm,1.0s							
RLMT	**Red Lodge**	**28.62**	**109**	P		**P**	**03 44 26.3**	**-0.1**
RLMT				IAmb		IAmb	03 44 28.7	
	comp=Z,7.8nm,0.9s							
RLMT	**Red Lodge**	**28.62**	**109**	P		**P**	**03 44 26.8**	**+0.5**
	baz=322,SNR=6.7							
TPAW	**Teton Pass**	**29.21**	**113**	P		**P**	**03 44 31.6**	**-0.1**
ELK	**Elko**	**29.76**	**122**	P		**P**	**03 44 37.8**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=318,slow=8.7,SNR=6.2							
ELK				sP		**sP**	**03 45 01.3**	**-0.3**
	comp=Z,3.4nm,0.9s,baz=357,slow=8.6,SNR=6.9							
ELK	**Elko**	**29.76**	**122**	P		**P**	**03 44 35.5**	**-1.0**
BW06	**Boulder Array**	**30.39**	**113**	P		**P**	**03 44 41.2**	**-0.8**
BW06				IAmb		IAmb	03 44 44.1	
	comp=Z,3.9nm,1.0s							
BW06	**Boulder Array**	**30.39**	**113**	P		**P**	**03 44 42.7**	**+0.7**
	baz=325							
PD31	**Pinedale Array**	**30.39**	**113**	P		**P**	**03 44 41.4**	**-0.7**
PDAR	**Pinedale Array**	**30.39**	**113**	P		**P**	**03 44 43.3**	**+1.3**
	comp=Z,2.0nm,0.8s,baz=319,slow=6.7,SNR=18							
PDAR				sP		**sP**	**03 45 07.2**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=324,slow=7.3,SNR=6.5							
PDAR	**Pinedale Array**	**30.39**	**113**	P		**P**	**03 44 41.4**	**-0.7**
NVAR	**Mina Array Bea**	**30.63**	**128**	P		**P**	**03 44 45.6**	**+1.4**
	comp=Z,1.9nm,0.9s,baz=310,slow=8.3,SNR=7.8							
NVAR				sP		**sP**	**03 45 10.2**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=322,slow=7.7,SNR=3.9							
NV11	**Mina Array Sit**	**30.68**	**128**	P		**P**	**03 44 43.7**	**-0.9**
ULM	**Lac du Bonnet**	**30.86**	**89**	P		**P**	**03 44 46.4**	**+0.6**
	comp=Z,3.5nm,0.7s,baz=291,slow=9.0,SNR=3.5							
MDND	**Maddock**	**30.87**	**96**	P		**P**	**03 44 46.5**	**+0.5**
	baz=317							
DUG	**Dugway, Tooele**	**31.19**	**119**	P		**P**	**03 44 49.6**	**+0.6**
	baz=329							
NEEM	**North Greenlan**	**31.48**	**25**	*i* P		**P**	**03 44 48.0**	**-3.3**
NEEM				IAmb		IAmb	03 44 57.7	
	comp=Z,12nm,0.7s							
R11A	**Troy Canyon, C**	**31.71**	**125**	P		**P**	**03 44 53.1**	**-0.5**
R11A				IAmb		IAmb	03 44 55.3	
	comp=Z,3.5nm,1.1s							
R11A	**Troy Canyon, C**	**31.71**	**125**	P		**P**	**03 44 54.0**	**+0.4**
	baz=331,SNR=5.6							
RSSD	**Black Hills**	**31.71**	**105**	P		**P**	**03 44 52.8**	**-0.8**
RSSD	**Black Hills**	**31.71**	**105**	P		**P**	**03 44 53.9**	**+0.3**
	baz=322							
AGMN	**Agassiz Nation**	**32.26**	**92**	P		**P**	**03 44 57.9**	**-0.2**
	baz=317							
SMMC	**Simmler**	**32.84**	**133**	P		**P**	**03 45 03.0**	**-0.4**
	baz=336							
Q16A	**Castle Valley**	**32.94**	**119**	P		**P**	**03 45 03.6**	**-0.8**
Q16A				IAmb		IAmb	03 45 06.7	
	comp=Z,3.2nm,0.8s							
SRU	**San Rafael Swe**	**33.04**	**118**	P		**P**	**03 45 04.8**	**-0.5**
SRU				IAmb		IAmb	03 45 07.4	
	comp=Z,4.5nm,0.9s							
O20A	**White River Ci**	**33.12**	**114**	P		**P**	**03 45 06.6**	**+0.6**
	baz=327							
CCUT	**Cedar City**	**33.25**	**123**	P		**P**	**03 45 06.6**	**-0.6**
CCUT				IAmb		IAmb	03 45 09.2	
	comp=Z,3.1nm,0.8s							
PKM	**Mcpherson Peak**	**33.29**	**133**	P		**P**	**03 45 08.7**	**+1.2**
	baz=336							
LCMT	**Little Creek M**	**33.77**	**123**	P		**P**	**03 45 11.0**	**-0.6**
LCMT				IAmb		IAmb	03 45 13.7	
	comp=Z,3.8nm,0.9s							
KNB	**Kanab**	**33.93**	**122**	P		**P**	**03 45 12.4**	**-0.6**
KNB				IAmb		IAmb	03 45 15.3	
	comp=Z,5.2nm,0.8s							
GSC	**Goldstone, Bar**	**33.96**	**129**	P		**P**	**03 45 14.1**	**+0.9**
	baz=334							
PV22	**Blue Mesa, Par**	**34.24**	**116**	P		**P**	**03 45 13.7**	**-2.0**
PV22				IAmb		IAmb	03 45 17.3	
	comp=Z,5.1nm,1.0s							
EYMN	**Ely**	**34.52**	**88**	P		**P**	**03 45 17.6**	**-0.2**
EYMN	**Ely**	**34.52**	**88**	P		**P**	**03 45 17.6**	**-0.2**
	baz=317							
PV01	**Paradox Valley**	**34.67**	**116**	P		**P**	**03 45 19.2**	**-0.3**
PV01				IAmb		IAmb	03 45 20.6	
	comp=Z,3.7nm,0.9s							
ECSD	**EROS Data Cent**	**35.35**	**98**	P		**P**	**03 45 24.9**	**-0.1**
	baz=321							
MVCO	**Mesa Verde**	**35.49**	**117**	P		**P**	**03 45 26.4**	**-0.1**
	baz=329							
S22A	**4UR Ranch, Cre**	**35.72**	**115**	P		**P**	**03 45 29.6**	**+1.0**
	baz=328							
WUAZ	**Wupatki**	**35.80**	**122**	P		**P**	**03 45 30.2**	**+1.1**
	baz=332							
MONP2	**Monument Peak**	**36.27**	**130**	P		**P**	**03 45 34.1**	**+0.9**
	baz=335							
SDCO	**Great Sand Dun**	**36.28**	**113**	P		**P**	**03 45 34.0**	**+0.6**
	baz=328							
X16A	**Lo Mia Camp, P**	**36.74**	**123**	P		**P**	**03 45 36.9**	**-0.3**
X16A				IAmb		IAmb	03 45 39.5	
	comp=Z,2.6nm,0.8s							
SUMG	**Summit**	**37.02**	**28**	*i* P		**P**	**03 45 39.8**	**+0.5**
SUMG				IAmb		IAmb	03 45 40.4	
	comp=Z,7.4nm,0.6s							
SUMG	**Summit**	**37.02**	**28**	P		**P**	**03 45 39.3**	**0.0**
ANMO	**Albuquerque**	**38.27**	**116**	P		**P**	**03 45 51.4**	**+1.3**
	baz=330							
Y22D	**IRIS PASSCAL I**	**38.84**	**118**	P		**P**	**03 45 54.6**	**-0.2**
	baz=331							
JFWS	**Jewell Farm**	**38.91**	**93**	P		**P**	**03 45 54.9**	**-0.2**
	baz=321							
KSU1	**Kansas State U**	**39.05**	**102**	P		**P**	**03 45 56.5**	**+0.1**
	baz=325							
ICESG	**Greenland Ices**	**39.24**	**32**	*i* P		**P**	**03 45 58.3**	**+0.3**
ICESG				IAmb		IAmb	03 46 04.9	
	comp=Z,10nm,0.9s							
SCHQ	**Schefferville**	**40.44**	**62**	P		**P**	**03 46 07.8**	**+0.1**
	comp=Z,3.9nm,0.7s,baz=317,slow=12,SNR=2.6							
SCHQ	**Schefferville**	**40.44**	**62**	P		**P**	**03 46 07.8**	**+0.1**
SCHQ				IAmb		IAmb	03 46 08.1	
	comp=Z,5.9nm,0.8s							
MSTX	**Muleshoe**	**40.65**	**113**	P		**P**	**03 46 10.3**	**+0.5**
	baz=330,SNR=6.1							
MSTX	**Muleshoe**	**40.65**	**113**	P		**P**	**03 46 09.8**	**0.0**
KLR	**Kul'dur**	**43.42**	**290**	P		**P**	**03 46 33.6**	**+1.7**
	comp=Z,1.4nm,0.5s,baz=32,slow=13,SNR=1.7							
NRS	**Narsarsuaq**	**43.55**	**43**	P		**P**	**03 46 32.3**	**-0.6**
TXAR	**Lajitas Array**	**44.32**	**117**	P		**P**	**03 46 40.5**	**+1.0**
	comp=Z,1.4nm,0.6s,baz=327,slow=6.9,SNR=13							
TXAR				pP		**pP**	**03 46 57.4**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=335,slow=5.8,SNR=3.2							
TXAR				sP		**sP**	**03 47 06.1**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=342,slow=7.9,SNR=4.1							
M53A	**WI Miller and**	**44.46**	**85**	P		**P**	**03 46 40.2**	**-0.2**
	baz=322							
LONY	**Lake Ozonia**	**44.73**	**78**	P		**P**	**03 46 42.4**	**-0.2**
	baz=321							
M54A	**Oil Creek Stat**	**44.87**	**85**	P		**P**	**03 46 43.6**	**-0.1**
	baz=322							
JCT	**Junction City**	**44.92**	**112**	P		**P**	**03 46 43.9**	**-0.4**
JCT				IAmb		IAmb	03 46 45.2	
	comp=Z,5.5nm,0.7s							
JCT	**Junction City**	**44.92**	**112**	P		**P**	**03 46 44.3**	**0.0**
	baz=331							
FRNY	**Flat Rock**	**45.01**	**77**	P		**P**	**03 46 43.9**	**-0.8**
D62A	**Allapoint, All**	**45.28**	**71**	P		**P**	**03 46 46.9**	**+0.1**
M55A	**Ridgway**	**45.31**	**84**	P		**P**	**03 46 46.9**	**-0.3**
O56A	**Blue Knob Stat**	**46.36**	**85**	P		**P**	**03 46 54.4**	**-1.1**
	baz=323							
SSPA	**Standing Stone**	**46.38**	**84**	P		**P**	**03 46 55.3**	**-0.3**
	baz=323							
ARCES	**ARCESS Array B**	**47.90**	**3**	P		**P**	**03 47 06.4**	**-0.6**
	comp=Z,2.5nm,0.6s,baz=8.6,slow=8.5,SNR=9.7							
ARCES				pP		**pP**	**03 47 24.7**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=342,slow=7.6,SNR=2.8							
ARCES				PcP		**PcP**	**03 48 33.7**	**-0.7**
	comp=Z,2.7nm,0.7s,baz=5.7,slow=3.6,SNR=9.3							
ARCES	**ARCESS Array B**	**47.90**	**3**	P		**P**	**03 47 05.3**	**-1.7**
CBN	**Corbin Frederi**	**48.57**	**85**	P		**P**	**03 47 12.4**	**-0.2**
	baz=324							
Y52A	**Lilburn**	**49.07**	**94**	P		**P**	**03 47 15.8**	**-0.6**
MJAR	**Matsushiro Arr**	**50.55**	**275**	P		**P**	**03 47 29.3**	**+1.6**
	comp=Z,0.6nm,0.5s,baz=46,slow=0.4,SNR=5.2							
KSRS	**Korea Array**	**54.46**	**284**	P		**P**	**03 47 56.7**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=31,slow=5.7,SNR=2.5							
KSRS				pP		**pP**	**03 48 14.7**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=29,slow=7.5,SNR=3.5							
SONM	**Songino Array**	**54.71**	**307**	P		**P**	**03 47 58.9**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=9.2,slow=6.0,SNR=8.1							
SONM				pP		**pP**	**03 48 16.4**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=15,slow=6.6,SNR=3.6							
NB2	**NORSAR Subarra**	**55.57**	**12**	P		**P**	**03 48 03.4**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=348,slow=7.4							
NOA	**NORSAR Array B**	**55.57**	**12**	P		**P**	**03 48 03.7**	**-0.5**
	comp=Z,1.9nm,0.9s,baz=350,slow=7.2,SNR=4.6							
FINES	**FINESS Array B**	**56.02**	**3**	P		**P**	**03 48 05.1**	**-2.3**
	comp=Z,1.8nm,0.5s,baz=356,slow=7.8,SNR=9.6							
FINES				pP		**pP**	**03 48 24.8**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=8.2,slow=7.1,SNR=2.9							
ZALV	**Zalesovo Beam**	**56.25**	**325**	P		**P**	**03 48 08.2**	**-1.0**
	comp=Z,6.1nm,0.7s,baz=357,slow=5.1,SNR=1.6							
ARU	**Arti**	**59.21**	**343**	P		**P**	**03 48 28.8**	**-1.0**
	comp=Z,1.9nm,0.2s,baz=6.5,slow=5.7,SNR=4.0							
ARU				pP		**pP**	**03 48 47.2**	**-0.8**
	comp=Z,2.3nm,0.3s,baz=0.2,slow=4.9,SNR=1.7							
BVAR	**Borovoye Array**	**60.47**	**334**	P		**P**	**03 48 37.2**	**-1.4**
	comp=Z,2.8nm,0.7s,baz=90,slow=1.5,SNR=3.6							
MKAR	**Makanchi Array**	**63.42**	**323**	P		**P**	**03 48 56.7**	**-1.8**
	comp=Z,1.3nm,0.5s,baz=37,slow=6.2,SNR=7.8							
AKASG	**Malin Array Be**	**66.84**	**1**	P		**P**	**03 49 19.8**	**-0.7**
	comp=Z,2.7nm,0.5s,baz=360,slow=5.6,SNR=4.9							
VRAC	**Vranov**	**67.65**	**10**	LR		LR	04 20 14.1	
	comp=Z,400nm,19.7s,baz=84,slow=37							
GERES	**GERESS Array B**	**67.85**	**12**	P		**P**	**03 49 26.8**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=46,slow=2.8,SNR=3.2							
KBZ	**Khabaz**	**73.41**	**351**	P		**P**	**03 50 04.6**	**+3.9**
	comp=Z,1.4nm,0.7s,baz=292,slow=6.9,SNR=3.8							
ESDC	**Sonseca Array**	**74.08**	**27**	P		**P**	**03 50 05.0**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=340,slow=5.7,SNR=21							
ESDC	**Sonseca Array**	**74.08**	**27**	P		**P**	**03 50 04.2**	**-0.6**
BOSA	**Boshof**	**145.60**	**9**	PKPbc		**PKPdf**	**03 58 06.0**	**-0.4**
	comp=Z,6.3nm,0.5s,baz=356,slow=3.4,SNR=23							

IDC ***17*** *03:39:07.0±0.6,31°.38S×71°.75W,h0km,mb4.4/13, mb1 4.4/17,mb1mx4.4/29,mbtmp4.3/17, ML4.3/3, Error ellipse: s-maj=24.8km s-min=14.8km az=91.0*

NEIC ***17*** *03:39:08.1±1.7,31°.51S±0°.03×71°.84W±0°.08,h6km±3km, mb4.7/23, ML4.8(GUC), Error ellipse: s-maj=10.4km s-min=3.7km az=102.0*

GUC ***17*** *03:39:09.7±0.9,31°.44S×71°.84W,h52km±8km, ML4.7*

SJA ***17*** *03:39:10.6±1.1,31°.56S×71°.91W,h10km, ML4.5, MW4.3*

ISC 17 03:39:06.7±1.5,31°.44S±0°.02×71°.94W±0°.05,h0km±9km, n103,σ1s10/117,mb4.6/18,3C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.81**	**19**	*e*P		**Pn**	**03 39 25.2**	**-0.1**
CO06				*e*S		**Sb**	**03 39 36.0**	**+0.9**
CO06	**Fray Jorge**	**0.81**	**19**			**Pb**	**03 39 24.3**	**+0.7**
CO06						**Sb**	**03 39 35.6**	**+0.6**
CO03	**El Pedregal**	**1.23**	**61**	*e*P		**Pn**	**03 39 31.9**	**+0.6**
CO03				*e*S		**Sn**	**03 39 47.3**	**-1.2**
CO03				IAML			03 39 50.0	
	comp=E,17μm,0.4s							
CO03	**El Pedregal**	**1.23**	**61**	Pn		**Pg**	**03 39 30.5**	**+0.3**
CO03				Sn		**Sn**	**03 39 47.4**	**-1.2**
VA01	**Torpederas**	**1.60**	**171**	*e*P		**Pn**	**03 39 36.4**	**+0.2**
VA01				*e*S		**Sn**	**03 39 56.6**	**-0.9**
VA01				IAML			03 40 07.8	
	comp=N,8μm,0.7s							
VA01	**Torpederas**	**1.60**	**171**			**Pn**	**03 39 35.3**	**-0.9**
VA01				Sn		**Sn**	**03 39 55.5**	**-2.1**
VA01	**Torpederas**	**1.60**	**171**	*i* P		**Pb**	**03 39 37.0**	**-0.1**
VA01				*e*S		**Sg**	**03 39 59.6**	**+1.5**
VA01				IAML			03 40 05.5	
	comp=Z,2μm,0.3s							
GO04	**Tololo Observa**	**1.60**	**38**	*e*P		**Pb**	**03 39 37.4**	**+0.1**
GO04				*e*S		**Sg**	**03 39 58.7**	**+0.6**
GO04				IAML			03 40 01.5	
	comp=N,27μm,0.4s							
GO04	**Tololo Observa**	**1.60**	**38**			**Pb**	**03 39 37.6**	**+0.3**
ROCH	**El Roble**	**1.72**	**153**	*e*P		**Pb**	**03 39 39.2**	**-0.1**
ROCH				*i* S		**Sb**	**03 40 01.7**	**+0.1**
ROCH				IAML			03 40 08.3	
	comp=N,13μm,0.6s							
VA03	**San Esteban**	**1.77**	**139**	*e*P		**Pn**	**03 39 38.3**	**-0.4**
VA03				*e*S		**Sb**	**03 40 02.2**	**-0.7**
VA03				IAML			03 40 10.6	
	comp=N,18μm,0.3s							
VA03	**San Esteban**	**1.77**	**139**			**Pn**	**03 39 38.3**	**-0.4**
VA03	**San Esteban**	**1.77**	**139**	*i* P		**Pg**	**03 39 41.0**	**+0.3**
VA03				*e*S		**Sg**	**03 40 04.2**	**+0.6**
VA03				IAML			03 40 06.9	
	comp=Z,13μm,1.3s							
MT05	**Renca**	**2.20**	**153**	*e*P		**Pn**	**03 39 45.8**	**+1.3**
MT05				*e*S		**Sn**	**03 40 12.9**	**+0.5**
MT05				IAML			03 40 19.9	
	comp=E,12μm,0.3s							
MT05	**Renca**	**2.20**	**153**			**Pn**	**03 39 43.1**	**-1.4**
MT05	**Renca**	**2.20**	**153**	*i* P		**Pb**	**03 39 47.0**	**-0.4**
VA05	**Santo Domingo**	**2.23**	**173**	*e*P		**Pn**	**03 39 45.2**	**+0.3**
VA05				*e*S		**Sn**	**03 40 11.8**	**-1.3**
VA05				IAML			03 40 26.4	
	comp=E,11μm,0.4s							
VA05	**Santo Domingo**	**2.23**	**173**			**Pn**	**03 39 43.5**	**-1.4**
RTLS	**Leoncito**	**2.28**	**100**	*i* P		**Pg**	**03 39 50.0**	**-0.5**
RTLS				*e*S		**Sg**	**03 40 20.6**	**+0.4**
RTLS				IAML			03 40 25.9	
	comp=Z,2μm,0.6s							
AUSP	**Uspallata**	**2.31**	**110**	*i* P		**Pg**	**03 39 51.0**	**0.0**
AUSP				*e*S		**Sg**	**03 40 20.3**	**-0.7**
FSR	**Penalolen**	**2.36**	**150**	*e*P		**Pb**	**03 39 50.4**	**+0.3**
FSR				*e*S		**Sb**	**03 40 18.7**	**-1.1**
MT09	**Talagante**	**2.46**	**161**	*e*P		**Pn**	**03 39 49.9**	**+1.6**
MT09				*e*S		**Sn**	**03 40 19.2**	**0.0**
MT09				IAML			03 40 33.5	
	comp=E,5μm,0.4s							
MT09	**Talagante**	**2.46**	**161**			**Pn**	**03 39 46.7**	**-1.6**
AROD	**Rodeo**	**2.47**	**60**	*i* P		**Pb**	**03 39 53.0**	**+0.8**
AROD				*e*S		**Sg**	**03 40 24.5**	**-1.7**
MT01	**Popeta**	**2.49**	**167**	*e*P		**Pn**	**03 39 49.3**	**+0.8**
MT01				*e*S		**Sn**	**03 40 19.9**	**+0.4**
MT01				IAML			03 40 32.1	
	comp=E,4μm,0.8s							
MT01	**Popeta**	**2.49**	**167**			**Pn**	**03 39 47.0**	**-1.5**
ACCO	**Cerro Coronel**	**2.61**	**72**	*i* P		**Pg**	**03 39 56.0**	**-0.8**
ACCO				*e*S		**Sg**	**03 40 30.5**	**-0.1**
ACCO				IAML			03 40 39.1	
	comp=Z,1μm,1.1s							
LCO	**Las Campanas**	**2.65**	**24**	*e*P		**Pn**	**03 39 50.4**	**-0.5**
LCO				*e*S		**Sn**	**03 40 24.2**	**+0.4**
ACDV	**Cuesta del Vie**	**2.74**	**63**	*i* P		**Pb**	**03 39 56.7**	**0.0**
ACDV				*e*S		**Sg**	**03 40 35.2**	**+0.5**
ACDV				IAML			03 40 41.7	
	comp=Z,1μm,0.8s							
ZON	**Zonda**	**2.79**	**93**	*i* P		**Pb**	**03 39 58.0**	**+0.6**
ZON				IAML			03 40 42.8	
	comp=Z,2μm,0.7s							
LMEL	**Las Melosas**	**2.81**	**149**	*e*P		**Pn**	**03 39 55.2**	**+2.1**
LMEL				*e*S		**Sn**	**03 40 27.9**	**+0.1**
RTCV	**Cerro Valdivia**	**2.93**	**99**	*i* P		**Pb**	**03 39 59.4**	**-0.5**
RTCV				IAML			03 40 46.4	
	comp=Z,812nm,1.4s							
BO01	**Tunca**	**3.03**	**166**	*e*P		**Pn**	**03 39 57.0**	**+1.0**
BO01				*e*S		**Sn**	**03 40 33.5**	**+0.6**
BO01				IAML			03 40 48.5	
	comp=N,1μm,0.4s							
BO01	**Tunca**	**3.03**	**166**			**Pn**	**03 39 55.6**	**-0.3**
AAGR	**Agrelo**	**3.10**	**123**	*i* P		**Pb**	**03 40 04.0**	**+1.1**
AAGR				IAML			03 40 55.7	
	comp=Z,2μm,1.8s							
AC04	**Llanos de Chal**	**3.31**	**13**	Pn		**Pn**	**03 40 01.4**	**+1.6**
BO02	**Sierra Bellavi**	**3.48**	**164**	*e*P		**Pn**	**03 40 02.9**	**+0.7**
BO02				*e*S		**Sn**	**03 40 43.1**	**-1.1**
BO02	**Sierra Bellavi**	**3.48**	**164**			**Pn**	**03 40 03.7**	**+1.5**
BO02	**Sierra Bellavi**	**3.48**	**164**	*i* P		**Pb**	**03 40 06.0**	**-3.3**
BO02				IAML			03 40 58.6	
	comp=Z,2μm,0.8s							
GO05	**Huala**	**3.56**	**180**			**Pn**	**03 40 03.1**	**-0.2**
GO05	**Huala**	**3.56**	**180**	*i* P		**Pn**	**03 40 03.0**	**-0.2**
GO03	**Copiap**	**4.11**	**22**	*i* P		**Pb**	**03 40 19.0**	**-1.0**
VCA	**Vinchina**	**4.21**	**51**	*i* P		**Pb**	**03 40 19.0**	**-2.8**
VCA				IAML			03 41 21.6	
	comp=Z,1μm,0.5s							
RFA	**San Rafael**	**4.42**	**140**	*i* P		**Pn**	**03 40 19.0**	**+3.9**
RFA				IAML			03 41 35.4	
	comp=Z,443nm,1.8s							
MRA	**San Martin**	**5.38**	**102**	*i* P		Pn	03 40 34.0	+5.7
MRA				IAML			03 41 43.6	
	comp=Z,260nm,0.7s							
H03N1	**Juan Fernandez**	**6.22**	**249**	T	

comp=Z,0.4nm,0.5s,baz=159,slow=2.0,SNR=6.3
H11S2 WAKE ISLAND Hyl 25.85 271 T T 06 17 00.5
baz=116,slow=75,SNR=14
H11S1 WAKE ISLAND Hyl 25.86 271 T T 06 16 59.2
baz=116,slow=75,SNR=6.4
H11S3 WAKE ISLAND Hyl 25.87 271 T T 06 17 00.7
baz=116,slow=75,SNR=9.3
ARU Arti 137.73 39 PKP **PKPdf 03 58 31.4 -0.9**
comp=Z,1.8nm,0.2s,baz=255,slow=4.1,SNR=4.2
ZALV Zalesovo Beam 152.00 30 PKPbc **PKPbc 03 59 03.1 -0.1**
comp=Z,22nm,0.7s,baz=297,slow=3.1,SNR=41
ZALV Zalesovo Beam 152.00 30 PKPbc 03 59 02.2 -1.1
MKAR Makanchi Array 154.96 45 PKPbc **PKPbc 03 59 09.6 -0.5**
comp=Z,1.5nm,0.6s,baz=284,slow=2.3,SNR=9.5
MKAR Makanchi Array 154.96 45 PKPbc 03 59 08.1 -1.9

IDC 17 03:39:38.4±2.9, 32°.70S×178°.14W, h0km, mb4.2/3, mb1 4.3/4, mb1mx3.9/36, mbtmp4.1/4, ML3.7/1, Error ellipse: s-maj=62.2km s-min=35.7km az=118.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.76**	**214**	Pn	Pn	03 41 19.6	+0.7
	1.5nm,0.3s,baz=129,slow=23,SNR=7.8						
URZ				Sn	Sn	03 42 35.7	-0.9
	6.5nm,0.3s,baz=265,slow=22,SNR=9.1						
CTA	**Charters Tower**	**34.12**	**283**	P	P	03 46 26.4	+1.3
	2.2nm,0.5s,baz=100,slow=10,SNR=4.1						
ASAR	**Alice Springs**	**42.92**	**269**	P	P	03 47 38.7	-0.4
	1.2nm,0.6s,baz=109,slow=7.7,SNR=16						
WRA	**Warramunga Arr**	**44.11**	**275**	P	P	03 47 48.0	-0.7
	1.2nm,0.3s,baz=113,slow=7.6,SNR=15						
FINES	**FINESS Array B**	**147.25**	**339**	PKPbc	PKPbc	03 59 22.1	-0.8
	0.6nm,0.4s,baz=46,slow=6.0,SNR=9.6						

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*NNC **17** 03:46:50.9±1.3, 39°.71N×75°.79E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=9.2km s-min=6.4km az=167.0*
*SOME **17** 03:46:54.6, 39°.92N×75°.70E, h0km*
*KRNET **17** 03:46:55.0±0.1, 39°.66N×75°.79E, mb3.0*
ISC 17 03:46:52.8±1.9, 39°.82N±0°.07×75°.72E±0°.03, h7km±17km, n50, σ1°70/79, 29C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZA	**Kyzart**	**2.29**	**351**	⇑*i*P	**Pg**	**03 47 38.4**	**+1.7**
	baz=51						
KZA				⇑*i*S	**Sg**	**03 48 10.0**	**+3.7**
	baz=51						
ARLS	**Aral**	**2.30**	**333**	⇑*i*P	**Pg**	**03 47 38.5**	**+1.6**
	baz=34						
ARLS				⇑*i*S	**Sg**	**03 48 10.1**	**+3.4**
	baz=34						
OHH	**Osh**	**2.36**	**288**	⇑*i*P	**Pg**	**03 47 38.5**	**+0.5**
	baz=91						
OHH				⇑*i*S	**Sg**	**03 48 10.1**	**+1.6**
	baz=91						
ULHL	**Ulahol**	**2.46**	**9**	⇑*i*P	**Pg**	**03 47 40.4**	**+0.5**
	baz=7.0						
ULHL				⇑*i*S	**Sg**	**03 48 13.5**	**+1.7**
	baz=7.0						
TARG	**Taragay, Kyrgy**	**2.48**	**39**	⇓*e*P	**Pg**	**03 47 40.1**	**-0.3**
	baz=36						
TARG				⇓*i*S	**Sg**	**03 48 12.9**	**+0.4**
	baz=36						
KDJ	**Kajisay**	**2.56**	**25**	⇑*e*P	**Pg**	**03 47 41.6**	**-0.3**
	baz=23						
KDJ				⇑*i*S	**Sg**	**03 48 15.4**	**+0.3**
	baz=23						
UCH	**Uchtor**	**2.58**	**340**	⇓*e*P	**Pg**	**03 47 42.4**	**+0.2**
	baz=40						
UCH				⇓*i*S	**Sg**	**03 48 17.1**	**+1.5**
	baz=40						
BOOM	**Boomskoye usch**	**2.67**	**3**	⇑*i*P	**Pg**	**03 47 43.5**	**-0.6**
	baz=2.0						
BOOM				⇑*i*S	**Sg**	**03 48 19.1**	**+0.3**
	baz=2.0						
AML	**Almayashu**	**2.77**	**327**	⇑*e*P	**Pg**	**03 47 45.5**	**-0.5**
	baz=28						
AML				⇑*i*S	**Sg**	**03 48 21.9**	**-0.1**
	baz=28						
AAK	**Ala-Archa**	**2.97**	**342**	⇑*i*P	**Pg**	**03 47 48.0**	**-1.6**
	baz=42						
AAK				⇑*i*S	**Sg**	**03 48 26.2**	**-1.9**
	baz=42						
AAK	**Ala-Archa**	**2.97**	**342**	Pg	**Pg**	**03 47 48.0**	**-1.6**
	7.4nm,0.7s						
AAK				Lg	Lg	03 48 26.8	
	17nm,0.8s						
TKM2	**Tokmak 2**	**3.10**	**358**	⇑*e*P	**Pg**	**03 47 49.5**	**+1.1**
	baz=58						
TKM2				⇑*i*S	**Sg**	**03 48 29.6**	**-2.9**
	baz=58						
TKM2	**Tokmak 2**	**3.10**	**358**	⇓Pg	**Pb**	**03 47 49.0**	**+0.6**
	4.5nm,0.7s						
TKM2				⇑Lg	Lg	03 48 33.0	
	19nm,0.5s						
EKS2	**Erkin-Say**	**3.20**	**333**	⇑*e*P	**Pb**	**03 47 50.9**	**+0.9**
	baz=34						
EKS2				⇑*i*S	**Sg**	**03 48 31.7**	**-3.8**
	baz=34						
KST	**Kastek**	**3.23**	**3**	*e*P	**Pb**	**03 47 51.8**	**+1.3**
	9.2nm,0.5s						
KST				*e*S	**Sg**	**03 48 34.1**	**-2.4**
	6.1nm,0.9s						
KST	**Kastek**	**3.23**	**3**	Pg	**Pb**	**03 47 51.8**	**+1.3**
	9.2nm,0.5s						
KST				Lg	Lg	03 48 38.5	
	6.1nm,0.9s						
CHMS	**Chumysh**	**3.26**	**347**	⇑*e*P	**Pb**	**03 47 51.6**	**+0.6**
	baz=47						
CHMS				⇑*i*S	**Sg**	**03 48 33.1**	**-4.4**
	baz=47						
ANVS	**Anan'yevo**	**3.31**	**26**	⇑*i*P	**Pb**	**03 47 51.9**	**0.0**
	baz=24						
ANVS				⇑*e*S	**Sb**	**03 48 33.7**	**+1.3**
	baz=24						
TNSS	**Tian-Shan**	**3.35**	**16**	Pg	**Pb**	**03 47 53.1**	**+0.4**
	13nm,0.3s						
TNSS				Lg	Lg	03 48 40.9	
	24nm,0.7s						
MTBS	**Maitube**	**3.35**	**9**	*e*P	**Pg**	**03 47 55.7**	**-1.3**
	5.8nm,0.5s						
MTBS				*e*S	**Sg**	**03 48 40.2**	**-0.3**
	10nm,0.3s						
MTBS	**Maitube**	**3.35**	**9**	Pg	**Pb**	**03 47 53.4**	**+0.8**
	7.0nm,0.4s						
MTBS				Lg	Lg	03 48 41.0	
	10nm,0.3s						
DGS	**Degeres**	**3.42**	**1**	*e*P	**Pg**	**03 47 57.1**	**-1.3**
	1.9nm,0.5s						
DGS				*e*S	**Sg**	**03 48 43.0**	**+0.3**
	16nm,0.5s						
DGS	**Degeres**	**3.42**	**1**	Pg	**Pb**	**03 47 54.7**	**+0.9**
	15nm,0.5s						
DGS				Lg	Lg	03 48 43.0	
	16nm,0.5s						
MRKS	**Merke**	**3.48**	**328**	*e*P	**Pg**	**03 47 59.2**	**-0.2**
	3.3nm,0.6s						
MRKS				*e*S	**Sg**	**03 48 46.2**	**+1.7**
	10.0nm,0.6s						
MRKS	**Merke**	**3.48**	**328**	Pg	**Pb**	**03 47 55.7**	**+1.0**
	4.3nm,0.3s						
MRKS				Lg	Lg	03 48 45.0	
	10.0nm,0.6s						
MDOK	**Medeo**	**3.49**	**16**	Pg	**Pb**	**03 47 53.7**	**-1.3**
	7.2nm,0.9s						
MDOK				Lg	Lg	03 48 45.1	
	10nm,0.8s						
USP	**Ospenovka**	**3.57**	**346**	⇑*i*P	**Pb**	**03 47 55.9**	**-0.3**
	baz=45						
USP				⇑*i*S	**Sb**	**03 48 40.5**	**+0.8**
	baz=45						
KOTS	**Kotyrbulak**	**3.57**	**17**	*e*P	**Pg**	**03 47 59.8**	**-1.4**
	2.7nm,0.3s						
KOTS				*e*S	**Sg**	**03 48 47.8**	**+0.4**
	19nm,0.7s						
KOTS	**Kotyrbulak**	**3.57**	**17**	Pg	**Pb**	**03 47 57.7**	**+1.3**
	5.8nm,0.4s						
KOTS				Lg	Lg	03 48 47.8	
	19nm,0.7s						
SGDS	**Sogindy**	**3.72**	**348**	Pg	**Pb**	**03 48 00.6**	**+1.7**
	1.9nm,0.5s						
SGDS				Lg	Lg	03 48 53.1	
	10nm,0.7s						
SATY	**Saty**	**3.82**	**31**	*e*P	**Pg**	**03 48 05.2**	**-0.7**
	3.5nm,0.7s						
SATY				*e*S	**Sg**	**03 48 55.5**	**+0.1**
	10nm,0.7s						
SATY	**Saty**	**3.82**	**31**	Pg	**Pb**	**03 48 02.1**	**+1.6**
	3.4nm,0.5s						
SATY				Lg	Lg	03 48 55.5	
	10nm,0.7s						
KRBS	**Karabastau**	**3.88**	**360**	*e*P	**Pg**	**03 48 05.8**	**-1.3**
	2.4nm,0.4s						
KRBS				*e*S	**Sg**	**03 48 56.4**	**-0.8**
	6.3nm,0.6s						
KRBS	**Karabastau**	**3.88**	**360**	Pg	**Pb**	**03 48 02.9**	**+1.4**
	5.7nm,0.7s						
KRBS				Lg	Lg	03 48 56.4	
	6.3nm,0.6s						
TRKS	**Terek-Say**	**3.88**	**298**	⇑*i*P	**Pb**	**03 47 59.1**	**-2.5**
	baz=99						
TRKS				⇑*i*S	**Sb**	**03 48 46.0**	**-2.9**
	baz=99						
KTBS	**Karatobe**	**3.96**	**10**	*e*P	**Pg**	**03 48 08.1**	**-0.5**
	2.3nm,0.4s						
KTBS				*e*S	**Sg**	**03 49 00.2**	**+0.4**
	26nm,0.5s						
KTBS	**Karatobe**	**3.96**	**10**	Pg	**Pb**	**03 48 05.0**	**+2.1**
	2.3nm,0.4s						
KTBS				Lg	Lg	03 49 00.2	
	26nm,0.5s						
KUU	**Kurty**	**4.10**	**6**	*e*P	**Pg**	**03 48 09.6**	**-1.7**
	2.0nm,0.4s						
KUU				*e*S	**Sg**	**03 49 03.1**	**-1.3**
	8.1nm,0.5s						
KUU	**Kurty**	**4.10**	**6**	Pg	**Pb**	**03 48 07.7**	**+2.4**
	2.0nm,0.4s						
KUU				Lg	Lg	03 49 05.0	
	8.1nm,0.5s						
CHKK	**Chushkaly**	**4.14**	**13**	*e*P	**Pg**	**03 48 10.4**	**-1.8**
	1.2nm,0.2s						
CHKK				*e*S	**Sg**	**03 49 05.0**	**-0.8**
	11nm,0.4s						
CHKK	**Chushkaly**	**4.14**	**13**	Pg	**Pb**	**03 48 08.4**	**+2.4**
	2.2nm,0.2s						
CHKK				Lg	Lg	03 49 06.0	
	11nm,0.4s						
UZB	**Uzynbulak**	**4.15**	**36**	*e*P	**Pg**	**03 48 09.9**	**-2.4**
	1.9nm,0.3s						
UZB				*e*S	**Sg**	**03 49 03.7**	**-2.4**
	6.4nm,1.2s						
UZB	**Uzynbulak**	**4.15**	**36**	Pg	**Pb**	**03 48 08.1**	**+1.9**
	2.4nm,0.3s						
UZB				Lg	Lg	03 49 06.0	
	6.4nm,1.2s						
KPKS	**Kokpek**	**4.27**	**30**	*e*P	**Pg**	**03 48 12.8**	**-1.8**
	3.5nm,0.4s						
KPKS				*e*S	**Sg**	**03 49 08.4**	**-1.4**
	16nm,0.6s						
PDGK	**Podgornoye**	**4.51**	**38**	Pg	**Pb**	**03 48 15.0**	**+2.7**
	1.0nm,0.5s						
PDGK				Lg	Lg	03 49 17.5	
	3.5nm,0.6s						
IUG	**Iuzhnay**	**4.89**	**300**	Pg	**Pb**	**03 48 20.4**	**+1.5**
	81nm,0.5s						
IUG				Lg	Lg	03 49 26.7	
	2.4nm,0.1s						
KTMS	**Ketmen**	**5.02**	**42**	Pg	**Pb**	**03 48 22.9**	**+1.9**
	0.2nm,0.0s						
KTMS				Lg	Lg	03 49 31.0	
	1.6nm,0.1s						
KK31	**Karatay Array**	**5.11**	**312**	⇓Pg	**Pg**	**03 48 30.2**	**-0.5**
	1.3nm,0.7s,baz=123,slow=15						
KK31				⇓Lg	Lg	03 49 38.5	
	2.0nm,0.6s,baz=124,slow=28,SNR=4.0						
BTLS	**Baital**	**5.37**	**347**	*e*P	**Pg**	**03 48 35.1**	**-0.5**
	1.0nm,0.5s						
BTLS				*e*S	**Sg**	**03 49 47.0**	**+2.0**
	3.5nm,0.8s						
BTLS	**Baital**	**5.37**	**347**	Pg	**Pg**	**03 48 32.4**	**-3.1**
	1.8nm,0.5s						
BTLS				Lg	Lg	03 49 47.0	
	3.5nm,0.8s						

IDC 17 03:48:03.6±2.0, 6°.13S×151°.70E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/33, mbtmp3.7/4, Error ellipse: s-maj=112.2km s-min=27.7km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.75**	**229**	P	P	03 52 57.1	+0.2
	0.3nm,0.4s,baz=57,slow=10,SNR=6.3						
ASAR	**Alice Springs**	**24.43**	**223**	P	P	03 53 25.1	+0.7
	1.7nm,0.8s,baz=56,slow=9.1,SNR=13						
FITZ	**Fitzroy Crossi**	**28.07**	**243**	P	P	03 53 56.2	-0.9
	1.4nm,0.6s,baz=60,slow=6.3,SNR=7.3						
ILAR	**Eielson Array**	**83.80**	**22**	P	P	04 00 34.6	0.0
	0.7nm,0.7s,baz=243,slow=5.8,SNR=6.9						

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*IDC **17** 03:48:31.2±0.8, 31°.58S×71°.73W, h0km, mb4.6/7, mb1 4.4/11, mb1mx4.2/31, mbtmp4.4/11, ML3.9/4, Error ellipse: s-maj=28.9km s-min=18.7km az=92.0*
*NEIC **17** 03:48:31.5±2.0, 31°.62S±0°.03×72°.01W±0°.07, h8km±4km, mb4.6/12, ML4.6(GUC), Error ellipse: s-maj=8.6km s-min=3.8km az=87.0*
*GUC **17** 03:48:34.9±0.7, 31°.65S×71°.75W, h38km±4km, ML4.5*
ISC 17 03:48:32.0±1.7, 31°.63S±0°.02×71°.97W±0°.07, h12km±10km, n68, σ1°04/75, mb4.6/10, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.99**	**17**	*e*P	**Pn**	**03 48 52.1**	**+0.2**
CO06				*e*S	**Sg**	**03 49 05.2**	**+1.1**
CO06	**Fray Jorge**	**0.99**	**17**	Pn	**Pn**	**03 48 52.0**	**+0.2**
CO06				Sn	**Sg**	**03 49 04.8**	**+0.7**
CO03	**El Pedregal**	**1.35**	**55**	⇓*i*P	**Pb**	**03 48 57.5**	**+0.2**
CO03				*i* S	**Sn**	**03 49 14.2**	**-0.5**
CO03				IAML		03 49 21.5	
	comp=E,11μm,0.3s						
CO03	**El Pedregal**	**1.35**	**55**		**Pn**	**03 48 56.6**	**-0.2**
CO03				Sn	**Sn**	**03 49 13.9**	**-0.8**
VA01	**Torpederas**	**1.42**	**169**		**Pn**	**03 48 58.3**	**+0.7**
VA01				Sn	**Sn**	**03 49 15.6**	**-0.6**
ROCH	**El Roble**	**1.56**	**149**	*e*P	**Pb**	**03 49 01.4**	**+0.3**
ROCH				*e*S	**Sg**	**03 49 22.2**	**-0.3**
ROCH				IAML		03 49 27.5	
	comp=N,15μm,0.4s						
VA03	**San Esteban**	**1.65**	**134**	⇑*i*P	**Pb**	**03 49 02.4**	**0.0**
VA03				*i* S	**Sb**	**03 49 22.8**	**-0.5**
VA03				IAML		03 49 29.5	
	comp=N,16μm,0.4s						
VA03	**San Esteban**	**1.65**	**134**		**Pn**	**03 49 00.5**	**-0.4**
GO04	**Tololo Observa**	**1.77**	**35**	*e*P	**Pb**	**03 49 04.8**	**+0.3**
GO04				*e*S	**Sb**	**03 49 27.9**	**+1.2**
MT05	**Renca**	**2.04**	**150**	*e*P	**Pb**	**03 49 08.0**	**-1.1**
MT05				*i* S	**Sb**	**03 49 33.6**	**-0.9**
MT05				IAML		03 49 39.9	
	comp=E,9μm,0.5s						
MT05	**Renca**	**2.04**	**150**	Pn	**Pn**	**03 49 05.3**	**-1.0**
VA05	**Santo Domingo**	**2.04**	**172**	*e*P	**Pn**	**03 49 05.9**	**-0.4**
VA05				*i* S	**Sn**	**03 49 31.3**	**-0.4**
VA05	**Santo Domingo**	**2.04**	**172**	Pn	**Pn**	**03 49 06.7**	**+0.4**
FSR	**Penalolen**	**2.21**	**147**	*e*P	**Pb**	**03 49 13.1**	**+1.1**
FSR				*e*S	**Sb**	**03 49 40.1**	**+0.8**
MT09	**Talagante**	**2.29**	**159**	*e*P	**Pb**	**03 49 12.1**	**-1.4**
MT09				*e*S	**Sb**	**03 49 40.5**	**-1.4**
MT09				IAML		03 49 52.9	
	comp=E,3μm,0.4s						
MT09	**Talagante**	**2.29**	**159**	Pn	**Pn**	**03 49 09.3**	**-0.5**
MT01	**Popeta**	**2.31**	**165**	*e*P	**Pn**	**03 49 10.9**	**+1.0**
MT01				*e*S	**Sn**	**03 49 37.2**	**-1.1**
MT01				IAML		03 49 52.5	
	comp=E,2μm,0.6s						
MT01	**Popeta**	**2.31**	**165**		**Pn**	**03 49 10.8**	**+0.9**
LMEL	**Las Melosas**	**2.67**	**147**	*e*P	**Pn**	**03 49 16.9**	**+2.0**
LMEL				*e*S	**Sn**	**03 49 48.7**	**+1.4**
LMEL				IAML		03 49 58.9	
	comp=N,3μm,0.3s						
ZON	**Zonda**	**2.81**	**89**	Pn	**Pn**	**03 49 16.4**	**-0.4**
LCO	**Las Campanas**	**2.83**	**23**	*e*P	**Pn**	**03 49 19.3**	**+2.0**
LCO				*e*S	**Sb**	**03 49 55.9**	**-1.5**
BO01	**Tunca**	**2.85**	**165**	*e*P	**Pn**	**03 49 17.6**	**+0.3**
BO01				*e*S	**Sn**	**03 49 53.1**	**+1.4**
BO01				IAML		03 50 07.7	
	comp=N,797nm,0.6s						
BO02	**Sierra Bellavi**	**3.31**	**163**		**Pn**	**03 49 23.7**	**0.0**
AC04	**Llanos de Chal**	**3.50**	**13**	Pn	**Pn**	**03 49 27.2**	**+0.9**
ML02	**Panimavida**	**4.15**	**174**	Pn	**Pn**	**03 49 34.1**	**-1.1**
H03N1	**Juan Fernandez**	**6.14**	**251**	T	T	03 56 48.8	
	baz=78,slow=72,SNR=20						
H03N3	**Juan Fernandez**	**6.15**	**251**	T	T	03 56 53.1	
	baz=78,slow=72,SNR=25						
H03N2	**Juan Fernandez**	**6.15**	**251**	T	T	03 56 53.6	
	baz=78,slow=72,SNR=43						
LC01	**Cunco**	**7.25**	**179**		**Pn**	**03 50 17.6**	**-0.2**
PLCA	**Paso Flores**	**9.16**	**173**	Pn	**Pn**	**03 50 45.3**	**+1.2**
	comp=N,0.4nm,0.3s,baz=332,slow=12,SNR=5.0						
LVC	**Limon Verde**	**9.39**	**18**	Pn	**Pn**	**03 50 44.6**	**-2.9**
	comp=N,1.0nm,0.3s,baz=341,slow=18,SNR=1.7						
LVC	**Limon Verde**	**9.39**	**18**		**Pn**	**03 50 45.3**	**-2.2**
TRQA	**Tornquist**	**10.41**	**131**		**Pn**	**03 51 01.6**	**+0.5**
LPAZ	**La Paz**	**15.67**	**14**	Pn	**Pn**	**03 52 14.3**	**+1.0**
	comp=N,0.2nm,0.3s,baz=182,slow=5.7,SNR=6.7						
LPAZ	**La Paz**	**15.67**	**14**		**Pn**	**03 52 12.7**	**-0.6**
SIV	**San Ignacio**	**18.46**	**35**	P	**P**	**03 52 47.7**	**-0.1**
	comp=N,0.3nm,0.3s,baz=234,slow=9.7,SNR=6.1						
SPB	**Sao Paulo**	**23.13**	**76**	P	**P**	**03 53 38.0**	**-0.1**
SAML	**Samuel**	**24.00**	**22**	P	**P**	**03 53 45.2**	**-1.5**
BDFB	**Brasilia**	**27.02**	**59**	P	**P**	**03 54 13.1**	**-1.2**
	comp=N,15nm,1.0s,baz=223,slow=7.9,SNR=7.1						
BDFB	**Brasilia**	**27.02**	**59**	P	**P**	**03 54 12.5**	**-1.8**
BDFB				IAmb	IAmb	03 54 14.7	
	comp=Z,25nm,1.2s						
RUSC	**La Rusia**	**37.33**	**358**	P	**P**	**03 55 43.8**	**-1.1**
RUSC				IAmb	IAmb	03 55 50.4	
	comp=Z,4.8nm,0.8s						
VNA3	**Neumayer Olymp**	**51.53**	**159**	P	**P**	**03 57 38.6**	**+1.2**
VNA2	**Neumayer--Watz**	**52.17**	**158**	P	**P**	**03 57 42.2**	**+0.1**
	baz=287,slow=7.8						
SNAA	**Sanae**	**53.76**	**158**	P	**P**	**03 57 55.0**	**+1.1**
SNAA	**Sanae**	**53.76**	**158**	P	**P**	**03 57 55.0**	**+1.1**
	comp=Z,6.2nm,0.9s,baz=276,slow=6.6,SNR=19						
SNAA	**Sanae**	**53.76**	**158**	P	**P**	**03 57 54.4**	**+0.5**
SNAA				IAmb	IAmb	03 57 55.8	
	comp=Z,7.2nm,0.9s						
TXAR	**Lajitas Array**	**67.70**	**330**	P	**P**	**03 59 31.2**	**+1.9**
	comp=Z,0.3nm,0.8s,baz=164,slow=4.4,SNR=2.5						
TXAR	**Lajitas Array**	**67.70**	**330**	P	**P**	**03 59 27.9**	**-1.4**
WMOK	**Wichita Mounta**	**70.67**	**337**	P	**P**	**03 59 46.0**	**-1.6**
WMOK				IAmb	IAmb	03 59 47.3	
	comp=Z,4.1nm,0.8s						
DBIC	**Dimbokro**	**74.38**	**72**	P	**P**	**04 00 09.8**	**-0.3**
	comp=Z,6.3nm,0.7s,baz=224,slow=5.9,SNR=8.5						
DBIC	**Dimbokro**	**74.38**	**72**	P	**P**	**04 00 10.5**	**+0.4**
MAW	**Mawson**	**75.43**	**164**	P	**P**	**04 00 16.2**	**+0.9**
	comp=Z,2.2nm,0.9s,baz=135,slow=1.4,SNR=4.2						
BOSA	**Boshof**	**81.12**	**118**	P	**P**	**04 00 48.3**	**+0.5**
	comp=Z,8.0nm,0.9s,baz=260,slow=5.7,SNR=5.8						
NVAR	**Mina Array Bea**	**81.98**	**325**	P	**P**	**04 00 53.4**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=170,slow=7.0,SNR=6.2						
TORD	**Torodi Ar. Bea**	**83.35**	**70**	P	**P**	**04 00 59.3**	**-0.1**
	comp=Z,7.7nm,0.7s,baz=261,slow=4.8,SNR=31						
TORD	**Torodi Ar. Bea**	**83.35**	**70**	P	**P**	**04 00 59.1**	**-0.3**
ASAR	**Alice Springs**	**119.70**	**207**	PKP	**PKiKP**	**04 07 23.0**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=143,slow=3.2,SNR=2.3						
WRA	**Warramunga Arr**	**122.85**	**210**	PKP	**PKiKP**	**04 07 29.6**	**+0.7**
	comp=Z,0.5nm,0.9s,baz=164,slow=2.5,SNR=4.5						
H11S2	**WAKE ISLAND Hyl**	**25.83**	**271**	T	T	06 25 17.8	
	baz=116,slow=75,SNR=52						
H11S1	**WAKE ISLAND Hyl**	**25.84**	**271**	T	T	06 25 19.1	
	baz=116,slow=75,SNR=33						
H11S3	**WAKE ISLAND Hyl**	**25.85**	**271**	T	T	06 25 17.6	
	baz=116,slow=75,SNR=41						
H11N3	**WAKE ISLAND Hyl**	**26.19**	**272**	T	T	06 25 42.8	
	baz=117,slow=76,SNR=20						
H11N1	**WAKE ISLAND Hyl**	**26.20**	**272**	T	T	06 25 47.7	
	baz=117,slow=76,SNR=5.9						
H11N2	**WAKE ISLAND Hyl**	**26.20**	**272**	T	T	06 25 43.7	
	baz=117,slow=76,SNR=34						
KURBB	**Kurchatov Arra**	**151.07**	**40**	PKPbc	**PKiKP**	**04 08 25.2**	**+0.1**
	comp=Z,3.8nm,0.8s,baz=300,slow=3.1,SNR=24						
KURK	**Kurchatov**	**151.07**	**40**		**PKiKP**	**04 08 25.2**	**+0.1**
ZALV	**Zalesovo Beam**	**152.17**	**30**	PKPbc	**PKiKP**	**04 08 27.8**	**+0.5**
	comp=Z,12nm,0.7s,baz=302,slow=3.1,SNR=29						
MKAR	**Makanchi Array**	**155.11**	**45**	PKPab	**PKPab**	**04 08 50.0**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=288,slow=5.6,SNR=4.6						

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*NEIC **17** 03:52:44.6±0.8, 30°.85S±0°.08×72°.4W±0°.1, h14km±7km, mb4.2/6, Error ellipse: s-maj=17.4km s-min=9.1km az=116.0*
*IDC **17** 03:52:46.2±0.9, 30°.81S×72°.54W, h30km±4km, mb3.8/6, mb1 4.0/9, mb1mx3.8/34, mbtmp4.0/9, ML4.2/3, Error ellipse: s-maj=35.3km s-min=20.0km az=99.0*
ISC 17 03:52:46.8±0.7, 30°.83S±0°.08×72°.5W±0°.1, h35km, n30, σ1°04/33, mb4.1/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO03	**El Pedregal**	**1.52**	**91**		**Pn**	**03 53 10.9**	**-0.7**
CO03				Sn	**Sn**	**03 53 31.4**	**+1.2**
GO04	**Tololo Observa**	**1.57**	**66**		**Pn**	**03 53 12.0**	**-0.4**
GO04				Sn	**Sn**	**03 53 30.6**	**-1.1**
GO03	**Copiap**	**3.76**	**32**	Pn	**Pn**	**03 53 42.3**	**-0.1**
H03N1	**Juan Fernandez**	**6.06**	**243**	T	T	03 59 37.8	
	baz=72,slow=72,SNR=12						
H03N2	**Juan Fernandez**	**6.08**	**243**	T	T	03 59 38.3	
	baz=72,slow=72,SNR=13						
H03N3	**Juan Fernandez**	**6.08**	**243**	T	T	03 59 38.2	
	baz=72,slow=72,SNR=10						
LC01	**Cunco**	**8.07**	**177**	Pn	**Pn**	**03 54 39.3**	**-2.1**
LVC	**Limon Verde**	**8.78**	**22**	Pn	Pn	03 54 46.3	-5.3
	baz=13,slow=18,SNR=0.5						
LR03	**Panguipulli**	**8.79**	**179**		**Pn**	**03 54 50.1**	**-1.2**
PLCA	**Paso Flores**	**10.01**	**172**	Pn	**Pn**	**03 55 08.1**	**0.0**
	1.4nm,0.3s,baz=335,slow=11,SNR=10						
PLCA	**Paso Flores**	**10.01**	**172**		**Pn**	**03 55 07.5**	**-0.6**
LPAZ	**La Paz**	**15.00**

NEIC ***17*** *03:54:12.0±0.9, 31°.42S±0°.03×71°.86W±0°.06, h20km±6km, mb4.2/3, Error ellipse: s-maj=7.5km s-min=3.8km az=78.0*

ISC 17 03:54:11.1±0.9, 31°.43S±0°.06×71°.8W±0°.1, h14km, n16, σ0661/19, mb4.2/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.77**	**12**		**Pn**	**03 54 27.3**	**-0.3**
CO06				Sn	**Sn**	**03 54 38.5**	**-0.4**
CO03	**El Pedregal**	**1.14**	**59**	Pn	**Pg**	**03 54 33.1**	**0.0**
CO03				Sn	**Sn**	**03 54 47.9**	**-0.2**
VA01	**Torpederas**	**1.60**	**175**	Pn	**Pn**	**03 54 38.9**	**-0.1**
VA01				Sn	**Sn**	**03 54 58.6**	**-0.8**
VA05	**Santo Domingo**	**2.23**	**176**	Pn	**Pn**	**03 54 48.3**	**+0.6**
MT01	**Popeta**	**2.48**	**169**	Pn	**Pn**	**03 54 51.2**	**+0.1**
PLCA	**Paso Flores**	**9.34**	**174**	Pn	**Pn**	**03 56 25.7**	**+0.3**
	0.2nm,0.3s,baz=295,slow=17,SNR=1.4						
PLCA	**Paso Flores**	**9.34**	**174**		**Pn**	**03 56 26.1**	**+0.7**
SIV	**San Ignacio**	**18.23**	**35**	P	**P**	**03 58 25.6**	**+1.5**
	0.1nm,0.3s,baz=215,slow=16,SNR=1.0						
BDFB	**Brasília**	**26.81**	**60**	P	**P**	**03 59 50.5**	**-0.6**
BDFB				IAmb	IAmb	03 59 59.9	
	comp=Z,2.4nm,0.8s						
QSPA	**South Pole Qui**	**58.80**	**180**	P	**P**	**04 04 09.0**	**+0.2**
QSPA				IAmb	IAmb	04 04 16.9	
	comp=Z,1.8nm,0.9s						
TXAR	**Lajitas Array**	**67.59**	**330**	P	**P**	**04 05 07.5**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=153,slow=8.1,SNR=2.4						
TXAR	**Lajitas Array**	**67.59**	**330**	P	**P**	**04 05 06.8**	**-0.6**
DBIC	**Dimbokro**	**74.19**	**72**	P	**P**	**04 05 47.2**	**-0.6**
	comp=Z,5.4nm,1.0s,baz=232,slow=5.0,SNR=1.7						
DBIC	**Dimbokro**	**74.19**	**72**	P	**P**	**04 05 47.4**	**-0.4**
DBIC				IAmb	IAmb	04 05 49.5	
	comp=Z,18nm,1.4s						
TORD	**Torodi Ar. Bea**	**83.17**	**70**	P	**P**	**04 06 37.0**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=250,slow=5.0,SNR=4.4						
ZALV	**Zalesovo Beam**	**151.93**	**30**	PKPbc	**PKiKP**	**04 14 06.1**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=297,slow=4.7,SNR=2.1						

MEX 17 03:54:22.1±0.7, 18°.81N×102°.65W, h78km±17km, MD3.8, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.84**	**232**	*i* P	Pn	03 54 37.3	-1.8
MMIG				*i* S	Sn	03 54 50.5	-1.2
COIG	**Colima**	**1.05**	**291**	*i* P	Pn	03 54 40.1	-1.6
COIG				*i* S	Sn	03 54 54.4	-2.0
EZ5V		**1.11**	**307**	*i* P	Pn	03 54 41.4	-1.3
EZ5V				*i* S	Sn	03 54 57.2	-0.9
R15V		**1.31**	**286**	*i* P	Pn	03 54 43.7	-1.2
R15V				*i* S	Sn	03 55 00.4	-1.7

IDC ***17*** *03:54:47.4±1.1, 30°.96S×71°.92W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/29, mbtmp3.9/3, Error ellipse: s-maj=65.7km s-min=33.6km az=64.0*

ISC 17 03:54:49.0±1.0, 31°.05S±0°.1×72°.0W±0°.2, h10km, n9, σ1§35/8, mb4.2/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**2.00**	**171**	Pn	**Pb**	**03 55 24.3**	**-1.2**
VA03	**San Esteban**	**2.12**	**144**	Pn	**Pb**	**03 55 27.3**	**-0.3**
SNAA	**Sanae**	**54.31**	**159**	P	**P**	**04 04 16.4**	**+1.2**
	1.6nm,0.6s,baz=281,slow=7.5,SNR=4.5						
QSPA	**South Pole Qui**	**59.19**	**180**	P	**P**	**04 04 51.6**	**+1.6**
QSPA	**South Pole Qui**	**59.19**	**180**	IAmb	IAmb	04 04 54.7	
	comp=Z,19nm,2.0s						
TXAR	**Lajitas Array**	**67.18**	**330**	P	**P**	**04 05 43.7**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=154,slow=8.4,SNR=7.3						
TORD	**Torodi Ar. Bea**	**83.19**	**70**	P	**P**	**04 07 15.1**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=253,slow=4.3,SNR=4.1						
WRA	**Warramunga Arr**	**123.24**	**210**	PKP	**PKPdf**	**04 13 45.4**	**-1.6**
	comp=Z,0.7nm,0.7s,baz=150,slow=2.1,SNR=4.6						
ZALV	**Zalesovo Beam**	**151.68**	**29**	PKPbc	**PKiKP**	**04 14 43.0**	**-0.7**
	comp=Z,2.6nm,0.5s,baz=298,slow=3.1,SNR=5.2						

NEIC ***17*** *03:54:56.3±1.0, 31°.41S±0°.06×72°.2W±0°.2, h23km±8km, mb4.6/6, Error ellipse: s-maj=19.3km s-min=7.0km az=105.0*

IDC ***17*** *03:55:00.0±0.4, 31°.04S×71°.36W, h0km, mb4.8/22, mb1 4.9/27, mb1mx4.8/32, mbtmp4.8/27, ML4.8/5, Error ellipse: s-maj=17.7km s-min=11.1km az=80.0*

VAO ***17*** *03:55:05.6±0.2, 31°.06S×71°.33W, h35km, mb6.0*

ISC 17 03:55:06.0±0.3, 31°.02S±0°.05×71°.38W±0°.07, h35km, n343, σ1§82/267, mb4.9/27, 33C-27D, Fault plane solution: NP1: ϕ_s348.80826°, δ38.72896°, λ111.26237°. **NP2:** ϕ_s142.29785°, δ54.33467°, λ73.78399°. **Principal axes:** T Plg74.5584°, Azm4.4264°; N Plg13.1135°, Azm151.9219°; P Plg8.0100°, Azm243.8004°; **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO03	**El Pedregal**	**0.61**	**73**		**Pn**	**03 55 20.2**	**+1.8**
GO04	**Tololo Observa**	**0.98**	**31**	Pn	**Pn**	**03 55 25.1**	**+1.6**
AC04	**Llanos de Chal**	**2.81**	**5**	Pn	**Pn**	**03 55 47.2**	**-1.4**
H03N1	**Juan Fernandez**	**6.83**	**247**	T	T	04 03 30.7	
	baz=78,slow=72,SNR=1037						
H03N3	**Juan Fernandez**	**6.84**	**247**	T	T	04 03 31.7	
	baz=78,slow=72,SNR=529						
H03N2	**Juan Fernandez**	**6.84**	**247**	T	T	04 03 31.4	
	baz=78,slow=72,SNR=557						
H03S3	**Juan Fernandez**	**6.96**	**244**	T	T	04 03 59.2	
	baz=70,slow=79,SNR=80						
H03S1	**Juan Fernandez**	**6.96**	**244**	T	T	04 03 57.5	
	baz=70,slow=79,SNR=70						
H03S2	**Juan Fernandez**	**6.97**	**244**	T	T	04 03 57.4	
	baz=70,slow=79,SNR=154						
LVC	**Limon Verde**	**8.66**	**15**	Pn	**Pn**	**03 57 08.9**	**-0.3**
	3.4nm,0.3s,baz=160,slow=23,SNR=3.6						
LVC	**Limon Verde**	**8.66**	**15**	*eP*	**Pn**	**03 57 08.2**	**-0.9**
PLCA	**Paso Flores**	**9.72**	**176**	Pn	**Pn**	**03 57 22.9**	**-0.4**
	2.7nm,0.3s,baz=336,slow=12,SNR=17						
ITQB	**Itaqui**	**12.81**	**88**	*eP*	**Pn**	**03 58 05.4**	**-0.3**
CPUP	**Villa Florida**	**13.18**	**73**	Pn	**Pn**	**03 58 09.5**	**-1.2**
	1.6nm,0.3s,baz=250,slow=14,SNR=6.2						
CPUP	**Villa Florida**	**13.18**	**73**	*eP*	**Pn**	**03 58 10.1**	**-0.6**
LPAZ	**La Paz**	**14.96**	**12**	Pn	**Pn**	**03 58 34.6**	**-0.9**
	1.7nm,0.3s,baz=188,slow=6.0,SNR=21						
LPAZ	**La Paz**	**14.96**	**12**	Pn	**Pn**	**03 58 33.6**	**-1.9**
LPAZ	**La Paz**	**14.96**	**12**	*eP*	**Pn**	**03 58 37.7**	**+2.2**
PLTB	**Pedras Altas**	**15.20**	**97**	Pn	**Pn**	**03 58 37.1**	**-1.0**
PLTB				IAmb	IAmb	03 58 37.8	
	comp=Z,66nm,1.6s						
PLTB	**Pedras Altas**	**15.20**	**97**	*eP*	**Pn**	**03 58 36.5**	**-1.6**
CPSB	**Cacapava Do Su**	**15.44**	**92**	*eP*	**Pn**	**03 58 40.0**	**-1.3**
AQDB	**Aquidauana**	**17.57**	**57**	*eP*	**Pn**	**03 59 07.1**	**-1.1**
SIV	**San Ignacio**	**17.67**	**35**	P	**Pn**	**03 59 09.5**	**-0.1**
	comp=Z,2.7nm,0.3s,baz=232,slow=9.4,SNR=24						
CNLB	**Canela**	**17.83**	**90**	*eP*	**Pn**	**03 59 12.2**	**+0.8**
PTGB	**Pitanga**	**18.18**	**75**	*eP*	**Pn**	**03 59 16.7**	**+0.9**
TRCB	**Terra Rica**	**18.59**	**68**	P	**P**	**03 59 20.2**	**-0.1**
TRCB				IAmb	IAmb	03 59 28.5	
	comp=Z,36nm,0.9s						
PTLB	**Pontes e Lacer**	**19.12**	**39**	*eP*	**P**	**03 59 25.7**	**-0.4**
TER01	**Tubaro-SC**	**19.47**	**88**	*eP*	**P**	**03 59 30.9**	**+1.1**
PP1B	**Ponte de Pedra**	**20.07**	**52**	*eP*	**P**	**03 59 36.1**	**-0.4**
PCMB	**Pacaembu**	**20.29**	**67**	*eP*	**P**	**03 59 38.9**	**0.0**
TIJ01	**Guaruva-PR**	**20.51**	**79**	*eP*	**P**	**03 59 39.5**	**-1.8**
VILB	**Vilhena**	**20.72**	**32**	*eP*	**P**	**03 59 44.0**	**+0.4**
SALV	**Santo Antonio**	**20.78**	**47**	*eP*	**P**	**03 59 44.0**	**-0.2**
FRTB	**Fartura**	**20.83**	**74**	*eP*	**P**	**03 59 44.2**	**-0.5**
ETMB	**Extrema**	**21.64**	**14**	*eP*	**P**	**03 59 53.8**	**+0.5**
ITRB	**Iturama**	**22.04**	**64**	*eP*	**P**	**03 59 57.5**	**-0.2**
PET01	**Itanhaem-SP**	**22.35**	**78**	*eP*	**P**	**04 00 00.3**	**-0.7**
SPB	**Sao Paulo**	**22.50**	**77**	P	**P**	**04 00 01.1**	**-1.5**
BB19B	**Bebedouro**	**22.75**	**70**	*eP*	**P**	**04 00 03.4**	**-2.0**
RCLB	**Rio Claro- Sao**	**22.92**	**74**	*eP*	**P**	**04 00 06.5**	**-0.6**
VAO	**Valinhos**	**23.13**	**76**	*eP*	**P**	**04 00 07.7**	**-1.5**
CZSB	**Cruzeiro do Su**	**23.20**	**357**	*eP*	**P**	**04 00 10.6**	**+0.6**
SAML	**Samuel**	**23.25**	**21**	P	**P**	**04 00 07.2**	**-3.2**
SAML				IAmb	IAmb	04 00 11.7	
	comp=Z,15nm,1.0s						
USHA	**Ushuaia**	**23.90**	**176**	P	**P**	**04 00 15.7**	**-0.5**
	comp=Z,69nm,0.8s,baz=203,slow=0.4,SNR=7.3						
PARB	**Paraibuna**	**24.11**	**78**	*eP*	**P**	**04 00 17.3**	**-1.4**
IPMB	**Ipameri, GO**	**24.69**	**64**	*eP*	**P**	**04 00 22.8**	**-1.1**
CLDB	**Colider**	**24.71**	**39**	*eP*	**P**	**04 00 23.1**	**-1.0**
BSCB	**Bom Sucesso**	**25.85**	**74**	*eP*	**P**	**04 00 33.9**	**-0.6**
BDFB	**Brasilia**	**26.27**	**60**	P	**P**	**04 00 37.2**	**-1.1**
	comp=Z,36nm,0.8s,baz=233,slow=9.4,SNR=29						
VAS01	**Vassouras-RJ**	**26.38**	**78**	*eP*	**P**	**04 00 39.2**	**0.0**
SNDB	**Serra Nova Dou**	**26.53**	**49**	*eP*	**P**	**04 00 40.0**	**-0.6**
TBTG	**Tabatinga, AM**	**26.72**	**3**	*eP*	**P**	**04 00 42.0**	**-0.3**
TBTG	**Tabatinga, AM**	**26.72**	**3**	*eP*	**P**	**04 00 42.6**	**+0.4**
DUB01	**Friburgo-RJ**	**27.36**	**78**	*eP*	**P**	**04 00 47.8**	**-0.3**
CAM01	**Campos-RJ**	**28.07**	**78**	*eP*	**P**	**04 00 53.9**	**-0.5**
DIAM	**Diamantina, MG**	**28.09**	**70**	*eP*	**P**	**04 00 54.2**	**-0.6**
NPGB	**Novo Progresso**	**28.17**	**35**	*eP*	**P**	**04 00 53.2**	**-2.1**
PEXB	**Peixe**	**28.43**	**54**	*eP*	**P**	**04 00 57.2**	**-0.4**
MC01	**Montes Claros**	**28.75**	**67**	*eP*	**P**	**04 00 59.4**	**-1.1**
ALF01	**Guarapari-ES**	**29.38**	**77**	*eP*	**P**	**04 01 05.1**	**-0.9**
JANB	**Januaria**	**29.43**	**63**	*eP*	**P**	**04 01 05.5**	**-1.0**
MACA	**Manacapuru-AM**	**29.49**	**22**	*eP*	**P**	**04 01 06.2**	**-0.7**
SJMB	**Sao Joao De Ma**	**29.91**	**73**	*eP*	**P**	**04 01 10.5**	**-0.2**
BSFB	**Barra de Sao F**	**30.12**	**73**	*eP*	**P**	**04 01 11.6**	**-1.0**
RIB01	**Linhares ES**	**30.26**	**75**	*eP*	**P**	**04 01 13.4**	**-0.4**
ITTB	**Itaituba**	**30.33**	**32**	*eP*	**P**	**04 01 13.1**	**-1.2**
SDBA	**SAO DESIDERIO**	**30.65**	**59**	*eP*	**P**	**04 01 16.9**	**-0.4**
NAN01	**Guarapari, ES**	**31.21**	**72**	*eP*	**P**	**04 01 22.0**	**-0.2**
SMTB	**Santa Maria do**	**31.26**	**50**	*eP*	**P**	**04 01 22.4**	**-0.2**
OTAV	**Otavalo**	**31.80**	**346**	*eP*	P	04 01 33.5	+5.6
OTAV	**Otavalo**	**31.80**	**346**	*eP*	**P**	**04 01 27.5**	**-0.4**
PRPB	**Parauapebas**	**31.93**	**44**	*eP*	**P**	**04 01 27.8**	**-0.8**
PTGA	**Pitinga**	**32.01**	**22**	P	**P**	**04 01 28.7**	**-0.4**
	comp=Z,144nm,0.3s,baz=193,slow=0.0,SNR=6.5						
GUA01	**Guaratinga, BA**	**32.13**	**71**	*eP*	**P**	**04 01 29.2**	**-1.1**
CMC01	**Camacan, BA**	**33.02**	**69**	*eP*	**P**	**04 01 38.2**	**+0.1**
MALB	**Monte Alegre**	**33.22**	**32**	*eP*	**P**	**04 01 39.7**	**-0.1**
NBIT	**Itapeh - BA**	**33.33**	**69**	*eP*	**P**	**04 01 40.4**	**-0.3**
GDU01	**Guandu, BA**	**33.91**	**67**	*eP*	**P**	**04 01 45.2**	**-0.6**
PMSA	**Palmer Station**	**34.09**	**174**	*eP*	**P**	**04 01 46.1**	**-0.7**
PRAC	**Prado**	**34.70**	**354**	*eP*	**P**	**04 01 54.3**	**+1.6**
BOAV	**Boa Vista**	**34.80**	**19**	*eP*	**P**	**04 01 53.4**	**-0.1**
ORTC	**Ortega, Tolima**	**34.93**	**353**	*eP*	**P**	**04 01 56.3**	**+1.7**
PTGC	**Puerto Gaitan,**	**35.03**	**359**	*eP*	**P**	**04 01 55.5**	**+0.1**
NBPN	**Ponto Novo - B**	**35.17**	**62**	*eP*	**P**	**04 01 55.6**	**-1.2**
CHIC	**Chingaza**	**35.52**	**356**	*eP*	**P**	**04 02 01.6**	**+1.4**
MCPB	**Macapa, AP**	**35.57**	**35**	*eP*	**P**	**04 01 59.7**	**-0.5**
ROSC	**El Rosal**	**35.77**	**355**	P	**P**	**04 02 04.2**	**+1.9**
	comp=Z,14nm,0.5s,baz=274,slow=2.4,SNR=6.9						
TMAB	**Tom-Au,PA,Br**	**36.00**	**42**	*eP*	**P**	**04 02 03.6**	**-0.2**
GUY2C	**Guyana, Caldas**	**36.24**	**353**	*eP*	**P**	**04 02 07.7**	**+1.3**
NORC	**Noracaia**	**36.53**	**354**	*eP*	**P**	**04 02 09.5**	**+1.1**
RUSC	**La Rusia**	**36.74**	**357**	*eP*	**P**	**04 02 12.0**	**+1.4**
NBLA	**Lagarto - SE**	**36.93**	**65**	*eP*	**P**	**04 02 10.4**	**-1.4**
CBOC	**Ciudad Bolivar**	**36.94**	**352**	*eP*	**P**	**04 02 14.1**	**+2.1**
HELC	**Santa Helena**	**37.21**	**353**	*eP*	**P**	**04 02 15.8**	**+1.3**
PTBC	**PUERTO BERRIO,**	**37.46**	**355**	*eP*	**P**	**04 02 15.5**	**-0.8**
SOLC	**Bahia Solano**	**37.48**	**350**	*eP*	P	04 02 23.1	+6.7
ROSB	**Rosrio**	**38.00**	**48**	*eP*	**P**	**04 02 20.7**	**-0.2**
DBBC	**Dabeiba**	**38.10**	**352**	*eP*	**P**	**04 02 23.7**	**+2.0**
ZARC	**Zaragoza, Cauc**	**38.44**	**354**	*eP*	**P**	**04 02 24.3**	**-0.2**
NBMA	**Muriti-CE**	**38.50**	**59**	*eP*	**P**	**04 02 24.6**	**-0.6**
NBPS	**Pedro II - PI**	**38.66**	**53**	*eP*	**P**	**04 02 26.1**	**-0.3**
NBAN	**Anadia - AL**	**38.91**	**65**	*eP*	**P**	**04 02 27.6**	**-1.0**
NBPB	**Pedra_Branca-C**	**39.14**	**56**	*eP*	**P**	**04 02 30.1**	**-0.4**
SMLC	**San Martn de**	**39.67**	**356**	*eP*	**P**	**04 02 33.9**	**-1.0**
SDV	**Santo Domingo**	**39.68**	**1**	P	**P**	**04 02 34.2**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=234,slow=2.5,SNR=12						
SDV	**Santo Domingo**	**39.68**	**1**	*eP*	**P**	**04 02 34.6**	**-0.5**
SDV	**Santo Domingo**	**39.68**	**1**	*eP*	**P**	**04 02 34.9**	**-0.2**
MDP	**Montagnes des**	**40.13**	**30**	P	**P**	**04 02 37.6**	**-1.0**
	comp=Z,19nm,0.8s,baz=196,slow=10.0,SNR=7.6						
NBMO	**Morrinhos-CE**	**40.40**	**53**	*eP*	**P**	**04 02 40.4**	**-0.6**
NBRF	**Rio Formoso -**	**40.41**	**64**	*eP*	**P**	**04 02 40.1**	**-0.9**
ARGC	**Ariguani, Magd**	**40.73**	**356**	*eP*	**P**	**04 02 44.1**	**+0.5**
SJCC	**San Jacinto, C**	**40.84**	**354**	*eP*	**P**	**04 02 45.4**	**+0.8**
NBCL	**Cascavel-CE**	**40.98**	**56**	*eP*	**P**	**04 02 44.9**	**-0.9**
PLCV	**Puerto La Cruz**	**41.46**	**10**	P	**P**	**04 02 49.2**	**-0.4**
PCRV	**Puerto La Cruz**	**41.47**	**10**	P	**P**	**04 02 49.2**	**-0.5**
	comp=Z,11nm,0.8s,baz=180,slow=19,SNR=2.5						
RCBR	**Riachuelo**	**41.64**	**60**	*eP*	**P**	**04 02 50.7**	**-0.5**
NBPV	**Pedro Velho**	**41.71**	**62**	*eP*	**P**	**04 02 51.4**	**-0.4**
CRJC	**Cerrejon, Guaj**	**41.82**	**358**	*eP*	**P**	**04 02 50.7**	**-1.9**
SMRC	**Santa Marta, M**	**42.03**	**356**	*eP*	**P**	**04 02 52.6**	**-1.6**
JTS	**Las Juntas de**	**43.09**	**340**	P	**P**	**04 03 03.8**	**+0.9**
	comp=Z,6.0nm,0.7s,baz=174,slow=3.5,SNR=5.8						
SJG	**San Juan**	**49.10**	**7**	*eP*	**P**	**04 03 48.6**	**-1.5**
VNA3	**Neumayer Olymp**	**51.91**	**159**	P	**P**	**04 04 10.2**	**-0.7**
VNA1	**Neumayer--Stat**	**52.20**	**158**	P	**P**	**04 04 12.8**	**-0.1**
VNA2	**Neumayer--Watz**	**52.55**	**158**	P	**P**	**04 04 14.9**	**-0.6**
	baz=286,slow=8.3						
CMIG	**Matias Romero**	**52.90**	**331**	P	**P**	**04 04 18.5**	**-0.2**
	comp=Z,6.1nm,0.9s,baz=132,slow=2.8,SNR=10.0						
SNAA	**Sanae**	**54.14**	**159**	P	**P**	**04 04 26.7**	**-0.5**
SNAA	**Sanae**	**54.14**	**159**	P	**P**	**04 04 26.8**	**-0.5**
	comp=Z,23nm,0.6s,baz=277,slow=7.1,SNR=58						
VNDA	**Vanda**	**67.13**	**191**	P	**P**	**04 05 56.0**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=114,slow=6.6,SNR=10						
TXAR	**Lajitas Array**	**67.43**	**330**	P	**P**	**04 05 58.5**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=153,slow=8.3,SNR=19						
LIC	**Lamto**	**73.31**	**72**	*eP*	**P**	**04 06 33.5**	**-0.9**
	comp=Z,75nm,0.6s						
ANMO	**Albuquerque**	**73.45**	**330**	*i* P	**P**	**04 06 35.3**	**+0.3**
ANMO	**Albuquerque**	**73.45**	**330**	IAMs_20	IAMs_20	04 34 36.1	
	comp=Z,9nm,20.0s						
ANMO	**Albuquerque**	**73.45**	**330**	pmax	pmax		
	comp=Z,94nm,1.2s						
TIC	**Toumodi**	**73.55**	**72**	*eP*	**P**	**04 06 34.8**	**-1.0**
KIC	**Kosan Boka**	**73.62**	**72**	*eP*	**P**	**04 06 35.5**	**-0.7**
	comp=Z,462nm,0.8s						
DBIC	**Dimbokro**	**73.70**	**72**	P	**P**	**04 06 36.1**	**-0.6**
	comp=Z,43nm,0.8s,baz=234,slow=5.1,SNR=49						
SUR	**Sutherland**	**75.78**	**119**	P	**P**	**04 06 49.0**	**+0.2**
	comp=Z,15nm,0.6s,baz=238,slow=6.3,SNR=12						
MAW	**Mawson**	**75.87**	**164**	P	**P**	**04 06 48.0**	**-0.4**
	comp=Z,9.2nm,0.9s,baz=203,slow=7.1,SNR=18						
BOSA	**Boshof**	**80.96**	**118**	P	**P**	**04 07 16.8**	**-0.6**
	comp=Z,15nm,0.9s,baz=262,slow=3.6,SNR=18						
PDAR	**Pinedale Array**	**81.37**	**333**	P	**P**	**04 07 18.1**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=149,slow=6.9,SNR=10						
NVAR	**Mina Array Bea**	**81.77**	**325**	P	**P**	**04 07 21.7**	**+0.3**
	comp=Z,2.8nm,0.9s,baz=149,slow=6.2,SNR=14						
TORD	**Torodi Ar. Bea**	**82.67**	**70**	P	**P**	**04 07 25.9**	**-0.3**
	comp=Z,33nm,0.9s,baz=278,slow=5.3,SNR=77						
LBTB	**Lobatse**	**83.05**	**115**	P	**P**	**04 07 27.3**	**-1.1**
	comp=Z,24nm,0.8s,baz=239,slow=5.8,SNR=32						
ULM	**Lac du Bonnet**	**83.78**	**344**	P	**P**	**04 07 29.8**	**-1.4**
	comp=Z,8.0nm,0.7s,baz=147,slow=5.2,SNR=7.7						
SCHQ	**Schefferville**	**85.59**	**3**	P	**P**	**04 07 39.0**	**-1.2**
	comp=Z,6.1nm,0.9s,baz=222,slow=10,SNR=3.3						
MATP	**Matopo**	**87.72**	**112**	P	**P**	**04 07 51.1**	**-0.6**
	comp=Z,2.8nm,0.7s,baz=248,slow=11,SNR=4.6						
ESDC	**Sonseca Array**	**94.10**	**46**	P	**P**	**04 08 20.7**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=240,slow=4.3,SNR=4.2						
ESDC	**Sonseca Array**	**94.10**	**46**	P	P	04 08 17.5	-3.4
DAVA	**Damuels**	**106.66**	**45**	*eP*	**PKiKP**	**04 13 30.4**	**+3.0**
	comp=Z,18nm,1.5s						
FETA	**Feichten**	**107.05**	**45**	*eP*	**PKiKP**	**04 13 29.1**	**+1.0**
	comp=Z,12nm,1.3s						
FETA	**Feichten**	**107.05**	**45**	*eP*	**PKKPbc**	**04 24 44.7**	**-1.5**
	comp=Z,17nm,1.1s						
RETA	**Reutte**	**107.29**	**45**	*eP*	**PKiKP**	**04 13 30.1**	**+1.6**
	comp=Z,13nm,1.1s						
MOTA	**Moosalm**	**107.43**	**45**	*eP*	**PKiKP**	**04 13 30.2**	**+1.4**
	comp=Z,24nm,1.3s						
MOTA	**Moosalm**	**107.43**	**45**	*eP*	**PKKPbc**	**04 24 43.8**	**-1.2**
	comp=Z,13nm,0.9s						
SQTA	**Sankt Quirin**	**107.44**	**45**	*eP*	**PKiKP**	**04 13 28.7**	**-0.1**
	comp=Z,9.9nm,0.8s						
SQTA	**Sankt Quirin**	**107.44**	**45**	*eP*	**PKKPbc**	**04 24 44.4**	**-0.5**
	comp=Z,22nm,1.1s						
WATA	**Walderalm**	**107.71**	**45**	*eP*	**PKiKP**	**04 13 30.6**	**+1.2**
	comp=Z,12nm,1.2s						
WTTA	**Wattenberg**	**107.72**	**45**	*eP*	**PKiKP**	**04 13 30.4**	**+1.0**
	comp=Z,5.4nm,0.7s						
ABTA	**Abfaltersbach**	**108.02**	**46**	*eP*	**PKKPbc**	**04 24 46.4**	**+3.4**
	comp=Z,11nm,1.1s						
ABTA	**Abfaltersbach**	**108.02**	**46**	*eP*	**Pdif**	**04 09 24.0**	**+1.0**
	comp=Z,4.7nm,1.1s						
ABTA	**Abfaltersbach**	**108.02**	**46**	*eP*	**PKiKP**	**04 13 29.7**	**-0.2**
	comp=Z,5.5nm,0.9s						
MYKA	**Terra Mystica**	**108.67**	**46**	*eP*	**PKKPab**	**04 24 51.4**	**+0.4**
	comp=Z,4.4nm,1.0s						
MYKA	**Terra Mystica**	**108.67**	**46**	*eP*	**PKiKP**	**04 13 33.6**	**+2.5**
	comp=Z,7.8nm,0.8s						
KBA	**Koelnbreinsper**	**108.68**	**46**	*eP*	**PKKPab**	**04 24 53.9**	**+2.8**
	comp=Z,5.8nm,1.0s						
KBA	**Koelnbreinsper**	**108.68**	**46**	*eP*	**PKiKP**	**04 13 35.1**	**+3.9**
	comp=Z,7.1nm,1.1s						
OBKA	**Obir**	**109.19**	**47**	*eP*	**PKiKP**	**04 13 33.2**	**+1.2**
	comp=Z,6.5nm,0.8s						
SOKA	**Soboth**	**109.56**	**47**	*eP*	**PKKPdf**	**04 24 54.2**	**-0.4**
	comp=Z,4.1nm,1.0s						
SOKA	**Soboth**	**109.56**	**47**	*eP*	**PKiKP**	**04 13 36.5**	**+3.8**
	comp=Z,9.3nm,1.4s						
MOA	**Molln**	**109.58**	**45**	*eP*	**PKKPdf**	**04 24 52.6**	**-1.9**
	comp=Z,3.9nm,0.9s						
MOA	**Molln**	**109.58**	**45**	*eP*	**PKiKP**	**04 13 34.6**	**+2.0**
	comp=Z,2.9nm,0.6s						
KHC	**Kasperske Hory**	**109.69**	**44**	*e*PKP	**PKiKP**	**04 13 30.6**	**-2.2**
KHC	**Kasperske Hory**	**109.69**	**44**	*e*PP	**PP**	**04 14 11.8**	**+6.7**
ARSA	**Arzberg**	**110.10**	**46**	*e*P	**PKiKP**	**04 13 33.9**	**+0.2**
	comp=Z,4.2nm,0.8s						
SNART	**Snartemo**	**110.24**	**33**	*e*PP	**PP**	**04 14 02.5**	**-6.2**
SNART	**Snartemo**	**110.24**	**33**	*e*SP	SP	04 23 28.5	-4.9
SNART	**Snartemo**	**110.24**	**33**	*e*SS	SS	04 29 28.7	-4.3
CLL	**Collm**	**110.27**	**42**	*e*SS	SS	04 29 34.0	+0.3
BER	**Bergen**	**110.30**	**31**	*e*PP	**PP**	**04 14 10.5**	**+1.4**
BER	**Bergen**	**110.30**	**31**	*e*SP	SP	04 23 30.2	-3.6
BER	**Bergen**	**110.30**	**31**	*e*SS	SS	04 29 35.4	+1.7
PRU	**Pruhonice**	**110.62**	**43**	*e*PP	**PP**	**04 14 16.8**	**+5.1**
ODD1	**Odda**	**110.67**	**32**	*e*SP	SP	04 23 37.6	+0.2
ODD1	**Odda**	**110.67**	**32**	*e*PP	**PP**	**04 14 10.4**	**-1.4**
ODD1	**Odda**	**110.67**	**32**	*e*Pdif	**Pdif**	**04 09 34.9**	**+0.4**
FOO	**Floro**	**110.73**	**30**	*e*PP	**PP**	**04 14 15.2**	**+3.0**
FOO	**Floro**	**110.73**	**30**	*e*SP	SP	04 23 39.5	+1.9
**F

	SNR=14								
AAK	**Ala-Archa**	**150.51**	**57**	*c i* PKIKP	**PKPbc**	**04 14 53.6**	**-0.5**
UCH	**Uchtor**	**150.61**	**58**	P	**PKPbc**	**04 14 54.5**	**-0.2**
	SNR=14								
TKM2	**Tokmak 2**	**151.24**	**56**	P	**PKPbc**	**04 14 55.1**	**-0.7**
	SNR=8.3								
ZALV	**Zalesovo Beam**	**151.39**	**30**	PKPbc	**PKPbc**	**04 14 54.7**	**-0.9**
	comp=Z,20nm,0.7s,baz=302,slow=3.4,SNR=23								
ZALV	**Zalesovo Beam**	**151.39**	**30**	PKIKP	**PKPbc**	**04 14 54.7**	**-0.9**
KUU	**Kurty**	**151.52**	**54**	*e*PKP	**PKPdf**	**04 14 52.4**	**+2.4**
	baz=54								
KUU	**Kurty**	**151.52**	**54**	*e*PKIKP	**PKPdf**	**04 14 52.4**	**+2.4**
MTBS	**Maitube**	**151.78**	**56**	*e*PKP	**PKPdf**	**04 14 54.4**	**+3.8**
	baz=56								
ULHL	**Ulahol**	**151.86**	**57**	P	**PKPbc**	**04 14 57.2**	**-0.1**
	SNR=6.2								
CHKK	**Chushkaly**	**151.98**	**54**	*e*PKP	**PKPdf**	**04 14 54.5**	**+3.8**
	baz=54								
KSH	**Kashi**	**152.14**	**63**	sPKP		04 15 11.1	
KSH	**Kashi**	**152.14**	**63**	PKPbc	**PKPbc**	**04 14 57.0**	**-1.0**
KSH	**Kashi**	**152.14**	**63**	PKPbc	**PKPbc**	**04 14 56.9**	**-1.0**
TNSS	**Tian-Shan**	**152.17**	**56**	*e*PKP	**PKPbc**	**04 14 56.6**	**-1.7**
	baz=56								
MDOK	**Medeo**	**152.21**	**55**	*e*PKP	**PKPbc**	**04 14 56.9**	**-1.2**
	baz=55								
MDOK	**Medeo**	**152.21**	**55**	*e*PKIKP	**PKPbc**	**04 14 56.8**	**-1.2**
SATY	**Saty**	**153.20**	**55**	*e*PKP	**PKPdf**	**04 14 56.4**	**+3.6**
	baz=55								
SATY	**Saty**	**153.20**	**55**	*e*PKIKP	**PKPdf**	**04 14 56.3**	**+3.6**
KPKS	**Kokpek**	**153.27**	**54**	*e*PKP	**PKPbc**	**04 14 58.3**	**-2.0**
	baz=54								
KPKS	**Kokpek**	**153.27**	**54**	*e*PKIKP	**PKPbc**	**04 14 58.3**	**-2.0**
UZB	**Uzynbulak**	**153.60**	**54**	*e*PKP	**PKPdf**	**04 14 57.7**	**+4.4**
	baz=54								
UZB	**Uzynbulak**	**153.60**	**54**	*e*PKIKP	**PKPdf**	**04 14 57.7**	**+4.4**
TEY	**Ternei**	**154.05**	**311**	*e*	**PKPab**	**04 15 13.6**	**-1.7**
TEY	**Ternei**	**154.05**	**311**	pmax	pmax		
	comp=Z,100nm,8.9s								
TEY	**Ternei**	**154.05**	**311**	*de*PKIKP	**PKPdf**	**04 14 59.3**	**+5.7**
MKAR	**Makanchi Array**	**154.32**	**45**	PKP	**PKPdf**	**04 14 52.9**	**-1.2**
	comp=Z,1.8nm,0.9s,baz=298,slow=2.6,SNR=5.2								
MKAR				PKPbc	**PKPbc**	**04 15 01.4**	**-1.0**
	comp=Z,4.5nm,0.8s,baz=306,slow=2.2,SNR=13								
KLR	**Kul'dur**	**154.80**	**323**	PKP	**PKPdf**	**04 14 53.9**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=5.5,slow=4.7,SNR=5.0								
ZSN	**Zaisan**	**155.49**	**41**	*e*PKP	**PKPdf**	**04 14 54.3**	**-1.4**
	baz=41								
ZSN	**Zaisan**	**155.49**	**41**	*e*PKIKP	**PKPdf**	**04 14 54.2**	**-1.4**
MDJ	**Mudanjiang**	**158.66**	**315**	PKP	**PKPdf**	**04 15 01.3**	**+1.6**
KSRS	**Korea Array**	**162.81**	**297**	PKP	**PKPdf**	**04 15 03.1**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=269,slow=2.1,SNR=2.1								
SONM	**Songino Array**	**163.12**	**5**	PKP	**PKPdf**	**04 15 03.1**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=63,slow=0.3,SNR=4.0								
CMAR	**Chiang Mai Arr**	**164.72**	**143**	PKPab	**PKPab**	**04 16 01.2**	**-1.0**
	comp=Z,5.4nm,0.6s,baz=247,slow=3.1,SNR=1.7								
GTA	**Gaotai**	**168.96**	**38**	AMB	AMB		
	comp=Z,1μm,8.0s								
GTA	**Gaotai**	**168.96**	**38**	LR	LR		
	comp=N,11μm,22.2s								
GTA	**Gaotai**	**168.96**	**38**	LR	LR		
	comp=Z,12μm,22.9s								
GTA	**Gaotai**	**168.96**	**38**	LR	LR		
	comp=E,6μm,22.5s								
GTA	**Gaotai**	**168.96**	**38**	⇓PKP	**PKPdf**	**04 15 09.3**	**-0.2**
GTA	**Gaotai**	**168.96**	**38**	pPKP	pPKPdf	04 15 20.1	-1.2
GTA	**Gaotai**	**168.96**	**38**	sPKP		04 15 23.9	
NJ2	**Nanjing**	**171.21**	**279**	PP	PP	04 20 24.0	+1.9
NJ2	**Nanjing**	**171.21**	**279**	*e*PKPbc	**PKPdf**	**04 15 12.0**	**+1.2**
NJ2	**Nanjing**	**171.21**	**279**	pPKP	pPKPdf	04 15 21.4	-1.2
NJ2	**Nanjing**	**171.21**	**279**	sPKP		04 15 26.5	
KMI	**Kunming**	**172.16**	**137**	PP	PP	04 20 27.6	+1.5
KMI	**Kunming**	**172.16**	**137**	⇓PKP	**PKPdf**	**04 15 12.3**	**+0.5**
KMI	**Kunming**	**172.16**	**137**	pPKP	pPKPdf	04 15 23.3	-0.2
GYA	**Guiyang**	**175.14**	**159**	⇑PKP	**PKPdf**	**04 15 15.5**	**+2.8**
GYA	**Guiyang**	**175.14**	**159**	pPKP	pPKPdf	04 15 25.3	+0.8
CD2	**Chengdu**	**175.82**	**90**	PKP	**PKPdf**	**04 15 13.0**	**+0.3**

NEIC ***17*** *03:55:07.3,30.99S×71.40W,h36km,Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.97; $M_{\theta\theta}$-0.25; $M_{\phi\phi}$-1.71; $M_{r\theta}$0.09; $M_{r\phi}$0.71; $M_{\theta\phi}$-1.36; Fault plane solution: M_o2.41000×10^{18} NP1:ϕ_s167.90000°, δ62.26000°, λ99.58000°. NP2:ϕ_s327.97000°, δ29.22000°, λ72.44000°. Principal axes: T 2.4194, Plg71.0000°, Azm99.0000°; N -0.0250, Plg8.0000°, Azm343.0000°; P -2.3944, Plg17.0000°, Azm251.0000°;*

NEIC ***17*** *03:55:08,30.97S×72.53W,h36km,Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}5.84; $M_{\theta\theta}$0.26; $M_{\phi\phi}$-6.10; $M_{r\theta}$1.54; $M_{\theta\phi}$1.72; $M_{r\phi}$-2.13; Fault plane solution: M_o6.75000×10^{18} NP1:ϕ_s356.00000°, δ35.00000°, λ106.00000°. NP2:ϕ_s157.00000°, δ56.00000°, λ79.00000°. Principal axes: T 6.4673, Plg76.0000°, Azm34.0000°; N 0.5376, Plg9.0000°, Azm163.0000°; P -7.0049, Plg11.0000°, Azm254.0000°;*

IDC ***17*** *03:55:12.2±0.3,31.27S×71.24W,h0km,mb5.7/27, mb1 5.7/32,mb1mx5.6/34,mbtmp5.6/32,ML5.1/5,MS6.4/4, Ms1 6.4/4,ms1mx5.6/35 Error ellipse: s-maj=14.7km s-min=8.4km az=82.0*

GUC ***17*** *03:55:14.8±0.6,31.50S×71.69W,h32km±5km,ML6.1*

SVSA ***17*** *03:55:15.4,31.42S×71.69W,h27km,MW6.5(NEIC)*

NEIC ***17*** *03:55:15.4±1.3,31.42S±0.02×71.69W±0.06,h27km±1km, mb6.0/109,Ms_20 6.5/385,Mwr6.2/34,Mww6.5, Mwr6.0(GUC),Error ellipse: s-maj=9.2km s-min=2.7km az=253.0*

MOS ***17*** *03:55:16.5±1.7,31.15S×71.21W,h33km,mb6.1/29, MS6.3/14,Error ellipse: s-maj=13.4km s-min=7.6km az=93.4*

BJI ***17*** *03:55:17.5±0.0,31.10S×71.35W,h40km,mB6.3/24, Ms6.5/11,Ms7 6.5/11*

ISC 17 03:55:17.3±0.2,31.41S±0.03×71.47W±0.04,h40km±2km, n1055,σ2s12/939,mb5.9/113,MS6.5/194,57C-18D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.75**	**349**		*e*P		**Pn**	**03 55 30.4**	**-1.1**
CO06	**Fray Jorge**	**0.75**	**349**		Pn		**Pn**	**03 55 28.3**	**-3.1**
CO03	**El Pedregal**	**0.88**	**50**		*e*P		**Pn**	**03 55 35.5**	**+2.1**
CO03					*e*S		**Sn**	**03 55 50.6**	**+5.6**
CO03	**El Pedregal**	**0.88**	**50**		Pn		**Pn**	**03 55 33.9**	**+0.6**
CO03					Sn		**Sn**	**03 55 50.6**	**+5.6**
GO04	**Tololo Observa**	**1.36**	**25**		*e*P		**Pn**	**03 55 42.8**	**+2.7**
GO04					*e*S		**Sn**	**03 56 02.1**	**+5.1**
GO04	**Tololo Observa**	**1.36**	**25**					**03 55 39.2**	**-0.9**
VA03	**San Esteban**	**1.56**	**150**	⇑	*e*P		**Pn**	**03 55 43.2**	**+0.6**
VA03					*e*S		**Sn**	**03 56 04.5**	**+2.9**
VA03					IAML			03 56 11.8	
	comp=E,298μm,0.5s								
VA03	**San Esteban**	**1.56**	**150**		Pn		**Pn**	**03 55 42.3**	**-0.3**
ROCH	**El Roble**	**1.60**	**166**	⇑	*e*P		**Pn**	**03 55 43.6**	**+0.2**
ROCH					*e*S		**Sn**	**03 56 05.4**	**+2.4**
ROCH					IAML			03 56 12.6	
	comp=N,241μm,0.5s								
VA01	**Torpederas**	**1.61**	**185**	⇑	*e*P		**Pn**	**03 55 41.7**	**-1.6**
VA01	**Torpederas**	**1.61**	**185**				**Pn**	**03 55 40.3**	**-3.0**
MT05	**Renca**	**2.07**	**163**		*e*P		**Pn**	**03 55 49.6**	**0.0**
MT05					*e*S		**Sn**	**03 56 17.1**	**+2.8**
MT05					IAML			03 56 30.0	
	comp=N,160μm,0.5s								
MT05	**Renca**	**2.07**	**163**		Pn		**Pn**	**03 55 46.4**	**-3.2**
VA05	**Santo Domingo**	**2.24**	**183**		*e*P		**Pn**	**03 55 49.8**	**-2.1**
VA05					IAML			03 56 30.6	
	comp=E,146μm,0.5s								
VA05	**Santo Domingo**	**2.24**	**183**		Pn		**Pn**	**03 55 49.8**	**-2.1**
MT09	**Talagante**	**2.39**	**170**		*e*P		**Pn**	**03 55 53.3**	**-0.9**
MT09					*e*S		**Sn**	**03 56 23.0**	**+0.6**
MT09	**Talagante**	**2.39**	**170**		Pn		**Pn**	**03 55 52.4**	**-1.8**
MT01	**Popeta**	**2.45**	**176**				**Pn**	**03 55 52.4**	**-2.5**
LCO	**Las Campanas**	**2.48**	**16**		*e*P		**Pn**	**03 55 58.6**	**+3.1**
LCO					*e*S		**Sn**	**03 56 30.2**	**+5.4**
BO01	**Tunca**	**2.99**	**174**		*e*P		**Pn**	**03 56 00.6**	**-1.6**
BO01	**Tunca**	**2.99**	**174**				**Pn**	**03 56 00.6**	**-1.6**
BO03	**Pichilemu**	**3.10**	**188**		*e*P		**Pn**	**03 56 02.8**	**-0.9**
BO03					IAML			03 57 04.7	
	comp=N,35μm,0.4s								
AC04	**Llanos de Chal**	**3.21**	**6**	⇑	*e*P		**Pn**	**03 56 07.3**	**+2.0**
AC04					IAML			03 56 59.3	
	comp=N,79μm,0.6s								
BO02	**Sierra Bellavi**	**3.42**	**170**		*e*P		**Pn**	**03 56 08.2**	**0.0**
BO02					IAML			03 57 08.8	
	comp=N,55μm,0.5s								
BO02	**Sierra Bellavi**	**3.42**	**170**		Pn		**Pn**	**03 56 06.5**	**-1.8**
GO03	**Copiap**	**3.95**	**16**		*e*P		**Pn**	**03 56 15.8**	**+0.2**
AC02	**Maricunga**	**5.00**	**25**		*e*P		**Pn**	**03 56 32.2**	**+1.9**
VA04	**Juan Fernndez**	**6.60**	**248**		*e*P		**Pn**	**03 56 47.5**	**-4.3**
VA04	**Juan Fernndez**	**6.60**	**248**		Pn		**Pn**	**03 56 47.9**	**-3.9**
LC01	**Cunco**	**7.48**	**182**		Pn		**Pn**	**03 57 01.5**	**-2.3**
LR03	**Panguipulli**	**8.23**	**185**		Pn		**Pn**	**03 57 11.9**	**-2.3**
LVC	**Limon Verde**	**9.06**	**15**		Pn		Pn	03 57 19.9	-6.0
	comp=N,16nm,0.3s,baz=112,slow=8.6,SNR=10								
LVC						Sn	**Sn**	**03 59 05.9**	**-0.9**
	comp=N,176nm,0.3s,baz=188,slow=17,SNR=1.7								
LVC						LR	LR	04 01 08.6	
	comp=N,269μm,21.8s,baz=215,slow=40								
LVC	**Limon Verde**	**9.06**	**15**		Pn		**Pn**	**03 57 25.6**	**-0.3**
PLCA	**Paso Flores**	**9.33**	**176**		Pn		**Pn**	**03 57 28.6**	**-0.7**
	comp=N,9.8nm,0.3s,baz=337,slow=13,SNR=21								
PLCA						Sn	Sn	03 59 28.9	+16
	baz=180,slow=15,SNR=1.8								
PLCA	**Paso Flores**	**9.33**	**176**		*e*P		Pn	03 57 22.2	-7.1
LL05	**Los Muermos**	**10.10**	**189**				**Pn**	**03 57 35.9**	**-3.9**
TRQA	**Tornquist**	**10.24**	**133**		P		**Pn**	**03 57 41.6**	**-0.1**
TRQA	**Tornquist**	**10.24**	**133**		Pn		**Pn**	**03 57 41.6**	**-0.1**
TRQA	**Tornquist**	**10.24**	**133**		*e*P		Pn	03 57 32.6	-9.1
PB01	**IPOC Station P**	**10.48**	**10**		Pn		**Pn**	**03 57 43.5**	**-1.6**
LL02	**Futaleuf**	**11.76**	**181**		Pn		**Pn**	**03 57 59.5**	**-2.9**
LPA	**La Plata**	**11.87**	**111**		*i* P		Pn	03 58 15.6	+12
LPA					S		**Sn**	**04 00 15.0**	**0.0**
LPA					sS			04 00 30.9	
LPA					PCP		**PcP**	**04 03 46.4**	**-3.0**
LPA					SCS		**ScS**	**04 10 50.6**	**-4.2**
LPA					PKIKP		**PKiKP**	**04 11 44.8**	**-2.6**
CPUP	**Villa Florida**	**13.38**	**71**		Pn		**Pn**	**03 58 21.8**	**-2.9**
	comp=N,3.1nm,0.3s,baz=246,slow=15,SNR=5.1								
CPUP						Sn	**Sn**	**04 00 49.3**	**-2.8**
	comp=N,14nm,0.3s,baz=311,slow=20,SNR=1.1								
CPUP	**Villa Florida**	**13.38**	**71**				**Pn**	**03 58 25.2**	**+0.5**
LPAZ	**La Paz**	**15.36**	**12**		Pn		**Pn**	**03 58 50.0**	**-1.8**
	comp=N,2.3nm,0.3s,baz=170,slow=7.9,SNR=12								
LPAZ						Sn	**Sn**	**04 01 45.6**	**+4.3**
	comp=N,1.6nm,0.3s,baz=216,slow=19,SNR=2.1								
AQDB	**Aquidauana**	**17.86**	**56**		P		**Pn**	**03 59 22.6**	**-0.2**
SIV	**San Ignacio**	**18.04**	**34**		P		**Pn**	**03 59 25.1**	**0.0**
	comp=N,12nm,0.3s,baz=231,slow=11,SNR=13								
SIV	**San Ignacio**	**18.04**	**34**		P		**Pn**	**03 59 25.1**	**0.0**
NNA	**Nana**	**19.96**	**344**		P		**P**	**03 59 45.9**	**-0.2**
	comp=N,1.5nm,0.3s,baz=214,slow=13,SNR=23								
NNA						S	**S**	**04 03 25.6**	**-3.0**
	comp=N,1.3nm,0.3s,baz=143,slow=6.2,SNR=0.8								
NNA	**Nana**	**19.96**	**344**		P		**P**	**03 59 45.7**	**-0.5**
NNA					pmax		pmax		
	comp=Z,215nm,0.9s								
NNA	**Nana**	**19.96**	**344**		P		**P**	**03 59 45.6**	**-0.5**
EFI	**East Falkland**	**22.53**	**158**		*c i* P		**P**	**04 00 06.9**	**-6.6**
EFI					pmax		pmax		
	comp=Z,461nm,1.1s								
EFI	**East Falkland**	**22.53**	**158**				**P**	**04 00 12.9**	**-0.5**
EFI					IAmb		IAmb	04 00 19.2	
	comp=Z,630nm,1.1s								
USHA	**Ushuaia**	**23.51**	**176**		P		**P**	**04 00 26.4**	**+3.1**
	comp=Z,154nm,0.9s,baz=357,slow=7.2,SNR=11								
USHA						S	**S**	**04 04 34.9**	**+0.7**
	comp=Z,14nm,0.4s,baz=330,slow=4.7,SNR=1.5								
USHA	**Ushuaia**	**23.51**	**176**		P		**P**	**04 00 26.4**	**+3.1**
SAML	**Samuel**	**23.64**	**21**		P		**P**	**04 00 24.6**	**-0.4**
SAML					pmax		pmax		
	comp=Z,328nm,1.1s								
SAML					MLR		MLR		
	comp=Z,96μm,20.0s								
SAML	**Samuel**	**23.64**	**21**		P		**P**	**04 00 24.6**	**-0.4**
SAML					IAMs_20		IAMs_20	04 10 22.5	
	comp=Z,96μm,20.0s								
MG01	**Puerto William**	**23.67**	**174**		P		**P**	**04 00 24.5**	**-0.4**
MG01					IAmb		IAmb	04 00 53.0	
	comp=Z,779nm,1.1s								
BDFB	**Brasilia**	**26.54**	**59**		P		**P**	**04 00 51.0**	**-0.5**
	comp=Z,696nm,1.1s,baz=230,slow=8.1,SNR=37								
BDFB						S	**S**	**04 05 18.9**	**-4.5**
	comp=Z,48nm,1.0s,baz=167,slow=18,SNR=1.8								
BDFB						LR	LR	04 12 49.6	
	comp=Z,380μm,18.0s,baz=227,slow=40								
BDFB	**Brasilia**	**26.54**	**59**		P		**P**	**04 00 50.8**	**-0.8**
BDFB					pmax		pmax		
	comp=Z,572nm,0.8s								
BDFB	**Brasilia**	**26.54**	**59**		P		**P**	**04 00 50.8**	**-0.8**
PTLC	**Puerto Leguiza**	**31.57**	**354**		*e*P		**P**	**04 01 34.9**	**-1.2**
PTGA	**Pitinga**	**32.40**	**22**		P		**P**	**04 01 43.4**	**0.0**
	comp=Z,198nm,0.8s,baz=197,slow=12,SNR=36								
PTGA						S	**S**	**04 06 51.2**	**-3.9**
	comp=Z,36nm,0.3s,baz=184,slow=0.9,SNR=1.3								
PTGA	**Pitinga**	**32.40**	**22**		IAMs_20		IAMs_20	04 15 54.1	
	comp=Z,73μm,20.0s								
TULM	**Tulcn-Chalpat**	**32.51**	**348**		*e*P		**P**	**04 01 48.3**	**+3.4**
GCUF	**Volcan Galeras**	**32.94**	**349**		*e*P		**P**	**04 01 52.5**	**+3.9**
PTGL	**Punta Galera**	**33.03**	**344**		*e*P		**P**	**04 01 52.5**	**+3.6**
FLOC	**Florencia**	**33.05**	**352**		*e*P		**P**	**04 01 51.5**	**+2.4**
RPN	**Rapa Nui**	**33.20**	**268**		IAMs_20		IAMs_20	04 11 08.7	
	comp=Z,65μm,22.0s								
MACC	**Macarena, Meta**	**33.45**	**356**		*e*P		**P**	**04 01 55.3**	**+2.7**
BBAC	**Balboa, Cauca**	**33.70**	**350**		*e*P		**P**	**04 01 57.6**	**+2.7**
PMSA	**Palmer Station**	**33.70**	**174**		P		**P**	**04 01 57.0**	**+2.8**
	comp=Z,90nm,1.1s,baz=0.4,slow=7.7,SNR=24								
PMSA						S	**S**	**04 07 18.9**	**+4.5**
	comp=Z,8.7nm,1.0s,baz=27,slow=9.0,SNR=1.9								
PMSA	**Palmer Station**	**33.70**	**174**		P		**P**	**04 01 54.2**	**0.0**
PMSA	**Palmer Station**	**33.70**	**174**		IAMs_20		IAMs_20	04 15 18.7	
	comp=Z,84μm,20.0s								
SOTA	**Rioblanco**	**33.72**	**351**		*e*P		**P**	**04 01 59.8**	**+4.3**
TUMC	**Tumaco**	**33.76**	**347**		*e*P		**P**	**04 01 57.1**	**+1.8**
GUVC	**San Jose del G**	**33.79**	**358**		*e*P		**P**	**04 01 57.8**	**+2.3**
HOPE	**Hope Point**	**33.81**	**143**		P		**P**	**04 01 55.5**	**+0.2**
HOPE					pmax		pmax		
	comp=Z,164nm,1.0s								
HOPE					MLR		MLR		
	comp=Z,49μm,21.0s								
HOPE	**Hope Point**	**33.81**	**143**		P		**P**	**04 01 55.5**	**+0.2**
HOPE					IAmb		IAmb	04 02 00.8	
	comp=Z,164nm,0.9s								
PCON	**Cinco Dias**	**33.88**	**351**		*e*P		**P**	**04 02 00.8**	**+3.9**
BETC	**Betania**	**34.11**	**353**		*e*P		**P**	**04 02 02.6**	**+4.2**
POPC	**Popayan, Colom**	**34.12**	**351**		*e*P		**P**	**04 02 00.1**	**+1.4**
MARP	**Paez Belalcaza**	**34.33**	**352**		*e*P		**P**	**04 02 03.4**	**+2.9**
GR1C	**Gorgona, Isla**	**34.81**	**348**		*e*P		**P**	**04 02 06.7**	**+2.4**
PAYG	**Puerto Ayora**	**35.38**	**326**		IAMs_20		IAMs_20	04 12 34.1	
	comp=Z,65μm,22.0s								
PAYG	**Puerto Ayora**	**35.38**	**326**		*e*P		**P**	**04 02 13.6**	**+4.2**
YOTC	**Yotoco, Valle**	**35.50**	**352**		*e*P		**P**	**04 02 13.2**	**+2.7**
ANIL	**Santa Ana**	**35.90**	**353**		*e*P		**P**	**04 02 18.0**	**+4.0**
ROSC	**El Rosal**	**36.15**	**355**		P		**P**	**04 02 17.2**	**+0.9**
	comp=Z,112nm,0.9s,baz=145,slow=2.3,SNR=19								
ROSC						S	**S**	**04 07 55.5**	**+1.8**
	comp=Z,8.4nm,0.6s,baz=150,slow=20,SNR=1.3								
ROSC	**El Rosal**	**36.15**	**355**		*e*P		**P**	**04 02 18.9**	**+2.6**
SPBC	**San Pablo de B**	**36.94**	**356**		*e*P		**P**	**04 02 23.1**	**+0.5**
TAMC	**Tame, Arauca**	**37.63**	**359**		*e*P		**P**	**04 02 28.1**	**-0.4**
BRRC	**Barranca, Sant**	**38.36**	**356**		*e*P		**P**	**04 02 32.0**	**-2.6**
PTAC	**Punta Ardita,**	**38.82**	**350**		*e*P		**P**	**04 02 41.2**	**+2.8**
UREC	**San Jos de Ur**	**39.13**	**354**		*e*P		**P**	**04 02 41.1**	**0.0**
CACAO	**El Cacao, Vera**	**39.57**	**345**		*e*P		**P**	**04 02 48.6**	**+3.9**
AZU	**Azuero**	**39.88**	**346**		*e*P		**P**	**04 02 49.1**	**+1.8**
SDV	**Santo Domingo**	**40.08**	**1**		P		**P**	**04 02 49.5**	**+0.4**
	comp=Z,152nm,1.0s,baz=209,slow=5.4,SNR=27								
SDV	**Santo Domingo**	**40.08**	**1**		IAMs_20		IAMs_20	04 20 07.9	
	comp=Z,63μm,21.0s								
CAPC	**Capurgana**	**40.22**	**351**		*e*P		**P**	**04 02 52.1**	**+2.0**
UPD2	**Meteti**	**40.22**	**350**		*e*P		**P**	**04 02 52.2**	**+2.1**
BAUV	**El Baul**	**40.26**	**5**		*e*P		**P**	**04 02 51.6**	**+1.2**
MDP	**Montagnes des**	**40.51**	**30**		P		**P**	**04 02 49.8**	**-2.8**
	comp=Z,206nm,0.9s,baz=204,slow=9.5,SNR=41								
UPA	**Univ. de Panam**	**40.90**	**348**		*e*P		**P**	**04 02 59.1**	**+3.5**
BCIP	**Isla Barro Col**	**41.14**	**347**		*e*P		**P**	**04 02 59.0**	**+1.4**
PCRV	**Puerto La Cruz**	**41.87**	**10**		P		**P**	**04 03 02.2**	**-1.5**
	comp=Z,115nm,0.9s,baz=173,slow=4.2,SNR=22								
TPP	**Pointe-a-Pierr**	**42.59**	**15**		*e*P		**P**	**04 03 11.8**	**+2.3**
URIC	**Uribia, Colomb**	**42.87**	**359**		P		**P**	**04 03 11.8**	**0.0**
URIC	**Uribia, Colomb**	**42.87**	**359**		*e*P		**P**	**04 03 10.3**	**-1.5**
TRN	**Trinidad (W)**	**42.92**	**15**		*e*P		**P**	**04 03 12.4**	**+0.2**
HATO	**Hato, Curacao**	**43.41**	**4**		IAMs_20		IAMs_20	04 23 28.4	
	comp=Z,48μm,18.0s								
JTS	**Las Juntas de**	**43.43**	**341**		P		**P**	**04 03 17.2**	**+0.8**
	comp=Z,46nm,1.0s,baz=168,slow=4.2,SNR=12								
JTS	**Las Juntas de**	**43.43**	**341**		P		**P**	**04 03 15.3**	**-1.1**
JTS					pmax		pmax		
	comp=Z,85nm,1.0s								
JTS					MLR		MLR		
	comp=Z,18μm,19.0s								
JTS	**Las Juntas de**	**43.43**	**341**				**P**	**04 03 15.3**	**-1.1**
BOT	**Bacolet**	**43.57**	**15**		*e*P		**P**	**04 03 17.9**	**+0.5**
TOSP	**Speyside**	**43.74**	**16**		*e*P		**P**	**04 03 19.7**	**+0.9**
GRGR	**Grenville**	**44.31**	**14**		*e*P		**P**	**04 03 23.9**	**+0.5**
GRGR	**Grenville**	**44.31**	**14**		IAMs_20		IAMs_20	04 25 13.2	
	comp=Z,50μm,20.0s								
GCMP	**Grenada, Carri**	**44.70**	**14**		*e*P		**P**	**04 03 25.5**	**-0.9**
GCMP	**Grenada, Carri**	**44.70**	**14**		*e*			04 13 27.1	
SVB	**Belmont**	**45.50**	**14**		*e*P		**P**	**04 03 29.4**	**-3.4**
SVB	**Belmont**	**45.50**	**14**		*e*			04 10 22.5	
SVV	**Soufriere Volc**	**45.55**	**14**		*e*P		**P**	**04 03 33.0**	**-0.3**
SSV	**Crater Summit**	**45.56**	**14**		*e*P		**P**	**04 03 31.3**	**-2.1**
SFAN	**Fancy Village**	**45.62**	**14**		*e*P		**P**	**04 03 30.7**	**-3.1**
BBGH	**Gun Hill**	**45.75**	**16**		*e*			04 10 16.4	
BBGH	**Gun Hill**	**45.75**	**16**		IAMs_20		IAMs_20	04 24 51.6	
	comp=Z,52μm,21.0s								
MCLT	**Moule a Chique**	**45.99**	**14**		*e*P		**P**	**04 03 32.1**	**-4.5**
SLB	**Belfond**	**46.08**	**14**		*e*P		**P**	**04 03 37.2**	**-0.3**
SLBI	**Saint Lucia, B**	**46.28**	**14**		*e*P		**P**	**04 03 36.1**	**-2.9**
SLBI	**Saint Lucia, B**	**46.28**	**14**		*e*			04 10 19.5	
FDF	**Fort de France**	**46.94**	**14**		IAMs_20		IAMs_20	04 24 43.8	
	comp=Z,51μm,20.0s								
DLPL	**La Plaine**	**47.50**	**13**		*e*P		P	04 03 43.4	-5.1
DSLB	**Salisbury**	**47.57**	**13**		*e*P		**P**	**04 03 47.4**	**-1.6**
DSLB	**Salisbury**	**47.57**	**13**		*e*			04 13 45.2	
TGUH	**Tegucigalpa,Un**	**47.69**	**339**		*e*P		**P**	**04 03 50.9**	**+0.7**
ANBD	**Bethesda, Anti**	**49.07**	**12**		*e*P		**P**	**04 03 57.7**	**-2.9**
ANOC	**Antigua Open C**	**49.13**	**12**		*e*P		P	04 03 53.5	-7.5
SKI	**Saint Kitts**	**49.19**	**11**		*e*P		P	04 03 53.5	-8.0
SKI	**Saint Kitts**	**49.19**	**11**		*e*			04 10 57.2	
SEUS	**St. Eustatius**	**49.30**	**11**		*e*P		**P**	**04 03 58.6**	**-3.7**
SEUS	**St.

VBMS S **S** **04 14 44.8 +2.8**
baz=162
146A Union 65.84 344 P **P** **04 05 57.6 -0.9**
JSC Jenkinsville 65.99 351 P **P** **04 05 58.8 -0.6**
JSC pmax pmax
comp=Z,89nm,1.1s
JSC Jenkinsville 65.99 351 P **P** **04 05 58.8 -0.6**
SLBS Sierra La Lagu 66.02 321 P **P** **04 05 58.9 -1.0**
SLBS IAmb IAmb 04 06 15.8
comp=Z,307nm,2.0s
HODGE Hodges 66.08 350 P **P** **04 05 59.7 -0.3**
Z47A Carrollton 66.15 345 P **P** **04 05 59.8 -0.7**
Z47A IAmb IAmb 04 06 20.2
comp=Z,105nm,0.8s
BIRD Birdtown, Kers 66.25 352 P **P** **04 06 00.4 -0.6**
Y49A Blount Mountai 66.43 346 P **P** **04 06 01.8 -0.6**
143A Socs Landing, 66.50 342 P **P** **04 06 02.6 -0.1**
NATX Nacogdoches 66.56 339 P **P** **04 06 03.5 +0.3**
NATX IAmb IAmb 04 06 44.5
comp=Z,110nm,0.8s
NATX Nacogdoches 66.56 339 P **P** **04 06 02.8 -0.3**
baz=158,SNR=6.7
NATX S **S** **04 14 53.9 +2.7**
baz=158
CNNC Cliffs of the 66.57 354 P **P** **04 06 02.7 -0.4**
CNNC IAmb IAmb 04 06 08.2
comp=Z,125nm,0.9s
CNNC Cliffs of the 66.57 354 P **P** **04 06 02.7 -0.4**
baz=174
CNNC S **S** **04 14 54.1 +2.9**
baz=174
PAULI Pauline 66.60 351 P **P** **04 06 02.5 -0.8**
PAULI IAmb IAmb 04 06 07.3
comp=Z,132nm,1.1s
435B Jarrell 66.64 336 P **P** **04 06 03.6 -0.1**
435B Jarrell 66.64 336 P **P** **04 06 00.9 -2.7**
baz=156
435B S **S** **04 14 54.3 +2.1**
baz=156
VNDA Vanda 66.73 191 P **P** **04 06 06.5 +2.8**
comp=Z,21nm,1.1s,baz=144,slow=6.0,SNR=25
VNDA PKPPKP P'P'df 04 34 25.9 -13
comp=Z,2.7nm,0.9s,baz=273,slow=1.2,SNR=4.1
KMSC Kings Mountain 66.85 351 P **P** **04 06 03.1 -1.8**
KMSC IAmb IAmb 04 06 09.3
comp=Z,93nm,1.0s
KMSC Kings Mountain 66.85 351 P **P** **04 06 04.1 -0.8**
baz=171,SNR=20
KMSC S **S** **04 14 54.1 -0.4**
baz=171
BG3 Lake Jocassee 66.93 350 P **P** **04 06 04.4 -1.0**
BG3 IAmb IAmb 04 06 10.1
comp=Z,158nm,1.1s
FPAL Fort Paine 66.94 347 P **P** **04 06 04.5 -1.1**
FPAL IAmb IAmb 04 06 09.2
comp=Z,104nm,1.1s
V61A Roper 67.02 355 P **P** **04 06 05.6 -0.3**
V61A IAmb IAmb 04 06 11.4
comp=Z,220nm,1.1s
237A Washetta, Mont 67.15 338 P **P** **04 06 06.4 -0.5**
237A IAmb IAmb 04 06 11.8
comp=Z,163nm,1.0s
JCT Junction City 67.17 334 P **P** **04 06 06.8 -0.3**
JCT pmax pmax
comp=Z,203nm,1.3s
JCT Junction City 67.17 334 P **P** **04 06 06.8 -0.3**
JCT IAmb IAmb 04 06 12.2
comp=Z,203nm,1.2s
JCT Junction City 67.17 334 P **P** **04 06 06.2 -0.9**
baz=154,SNR=34
JCT S **S** **04 15 02.2 +3.4**
baz=154
W52A Murphy 67.18 349 P **P** **04 06 05.7 -1.3**
W52A IAmb IAmb 04 06 11.7
comp=Z,142nm,1.1s
Z41A Richland Creek 67.40 341 P **P** **04 06 07.1 -1.4**
baz=160,SNR=12
Z41A S **S** **04 15 04.5 +3.2**
baz=160
WHTX Lake Whitney, 67.69 336 P **P** **04 06 10.1 -0.3**
WHTX Lake Whitney, 67.69 336 P **P** **04 06 09.3 -1.0**
baz=156,SNR=16
WHTX S **S** **04 15 06.8 +2.0**
baz=156
OXF Oxford 67.72 344 P **P** **04 06 08.0 -2.4**
baz=163,SNR=30
OXF S **S** **04 15 05.5 +0.5**
baz=163
TXAR Lajitas Array 67.73 330 P **P** **04 06 11.0 +0.2**
comp=Z,22nm,0.8s,baz=155,slow=8.6,SNR=41
TXAR PKP2bc 04 34 27.8
comp=Z,12nm,1.3s,baz=86,slow=1.3,SNR=4.5
CCAR Cane Creek 67.74 342 P **P** **04 06 09.9 -0.7**
CCAR IAmb IAmb 04 06 59.3
comp=Z,157nm,0.9s
PLAL Pickwick Lake 67.87 345 P **P** **04 06 10.4 -1.0**
PLAL IAmb IAmb 04 06 15.5
comp=Z,147nm,1.1s
WLAR White Oak Lake 67.89 341 P **P** **04 06 11.0 -0.6**
U56A King 67.92 352 P **P** **04 06 10.5 -1.1**
U56A IAmb IAmb 04 06 16.0
comp=Z,116nm,0.9s
V51A Loudon 67.95 349 P **P** **04 06 10.3 -1.5**
V51A IAmb IAmb 04 06 16.0
comp=Z,154nm,1.0s
Z38A Mt. Pleasant 68.05 339 P **P** **04 06 12.2 -0.3**
Z38A IAmb IAmb 04 06 37.1
comp=Z,139nm,1.1s
SYO Syowa Base 68.09 159 *e*P **P** **04 06 11.2 -1.2**
SYO Syowa Base 68.09 159 *e*pP **P** **04 06 13.4 +1.0**
T59A Double "B" Far 68.27 355 P **P** **04 06 13.3 -0.5**
T59A IAmb IAmb 04 06 19.0
comp=Z,188nm,1.2s
U54A Nelsons Funny 68.27 351 P **P** **04 06 12.2 -1.7**
U54A IAmb IAmb 04 06 18.2
comp=Z,197nm,0.9s
W45A Hickory Valley 68.28 344 P **P** **04 06 11.9 -2.1**
T60A Surry 68.37 355 P **P** **04 06 14.1 -0.4**
T60A IAmb IAmb 04 06 18.0
comp=Z,140nm,0.9s
TBI Tubuai 68.42 255 *e*S **S** **04 15 17.0 +2.9**
comp=Z,16µm,25.5s
TBI Tubuai 68.42 255 *e*LR LR 04 26 56.3
comp=Z,54µm,25.5s
TBI Tubuai 68.42 255 *e*T T 05 20 35.8
comp=Z,76nm,0.2s
T57A Hurt 68.44 353 P **P** **04 06 13.3 -1.6**
TZTN Tazewell 68.54 350 P **P** **04 06 14.0 -1.6**
TZTN IAmb IAmb 04 06 19.2
comp=Z,121nm,1.1s
TZTN IAMs_20 IAMs_20 04 40 10.2
comp=Z,16µm,20.0s
TZTN Tazewell 68.54 350 P **P** **04 06 12.5 -3.1**
baz=169,SNR=24
TZTN S **S** **04 15 14.9 +0.1**
baz=169
X40A Basin Creek Fa 68.57 341 P **P** **04 06 14.3 -1.5**
X40A Basin Creek Fa 68.57 341 P **P** **04 06 13.6 -2.2**
baz=160
X40A S **S** **04 15 15.4 +0.2**
baz=160
CLTN Cedars of Leba 68.58 347 P **P** **04 06 14.6 -1.2**
CLTN IAmb IAmb 04 06 19.7
comp=Z,166nm,1.0s
BLA Blacksburg 68.78 352 P **P** **04 06 16.5 -0.6**
BLA pmax pmax
comp=Z,90nm,1.2s
BLA Blacksburg 68.78 352 P **P** **04 06 16.5 -0.6**
BLA Blacksburg 68.78 352 P **P** **04 06 14.3 -2.8**
baz=172,SNR=8.8
BLA S **S** **04 15 18.1 +0.4**
baz=172
MIAR Mount Ida 68.83 341 P **P** **04 06 15.4 -2.0**
baz=160,SNR=23
MIAR S **S** **04 15 19.8 +1.5**
baz=160
WVT Waverly 68.92 346 P **P** **04 06 16.7 -1.2**
baz=165
WVT S **S** **04 15 17.8 -1.5**
baz=165
HBAR Harrisburg 69.01 343 P **P** **04 06 17.1 -1.3**
HBAR IAmb IAmb 04 07 02.9
comp=Z,156nm,1.0s
ABTX Abilene, Hawle 69.04 335 P **P** **04 06 18.3 -0.5**
ABTX IAmb IAmb 04 06 23.7
comp=Z,208nm,1.2s

ABTX Abilene, Hawle 69.04 335 P **P** **04 06 16.1 -2.7**
baz=154,SNR=31
ABTX S **S** **04 15 23.0 +2.1**
baz=154
HALT Halls 69.04 345 P **P** **04 06 17.7 -0.9**
W41B Gary Mavity, V 69.06 342 P **P** **04 06 16.8 -2.0**
baz=161,SNR=9.0
W41B S **S** **04 15 21.8 +0.9**
baz=161
WHAR Wooly Hollow 69.18 342 P **P** **04 06 18.8 -0.8**
CBN Corbin Frederi 69.48 355 P **P** **04 06 19.1 -2.2**
baz=174
CBN S **S** **04 15 30.1 +4.4**
baz=174
W39A Magazine 69.50 341 P **P** **04 06 20.6 -1.0**
baz=160,SNR=20
W39A S **S** **04 15 28.3 +2.1**
baz=160
MEH Mehetia 69.70 261 *e*P **P** **04 06 26.4 +3.1**
comp=Z,41nm,1.1s
MEH Mehetia 69.70 261 *e*T T 05 22 11.5
comp=Z,244nm,0.2s
Q61A Milford 70.03 357 P **P** **04 06 24.3 -0.3**
baz=176
U40A Yellville 70.33 342 P **P** **04 06 25.0 -1.6**
baz=160,SNR=22
U40A S **S** **04 15 37.1 +1.2**
baz=160
MNTX Cornudas Mount 70.51 330 P **P** **04 06 27.2 -0.7**
baz=149,SNR=23
MNTX S **S** **04 15 40.4 +2.2**
baz=149
VAH Vaihoa 70.56 264 *e*P **P** **04 06 31.4 +2.9**
comp=Z,143nm,1.2s
WMOK Wichita Mounta 70.64 336 P **P** **04 06 27.0 -1.6**
baz=155,SNR=28
WMOK S **S** **04 15 41.2 +1.5**
baz=155
WCI Wyandotte Cave 70.65 348 IAMs_20 IAMs_20 04 40 36.5
comp=Z,17µm,21.0s
WCI Wyandotte Cave 70.65 348 P **P** **04 06 25.9 -2.6**
baz=166
WCI S **S** **04 15 38.0 -1.5**
baz=166
TUL1 Leonard 70.75 339 P **P** **04 06 27.9 -1.3**
baz=158,SNR=21
TUL1 S **S** **04 15 41.3 +0.5**
baz=158
TIAR Tiarei 70.92 261 *e*P **P** **04 06 33.9 +3.1**
comp=Z,9.1nm,1.0s
TIAR Tiarei 70.92 261 *e*T T 05 23 43.8
comp=Z,35nm,0.3s
P60A Greenville 70.97 357 P **P** **04 06 28.8 -1.6**
baz=176,SNR=15
P60A S **S** **04 15 46.8 +3.7**
baz=176
PAE Paea 71.07 261 *e*P **P** **04 06 34.7 +3.0**
comp=Z,24nm,1.0s
PAE Paea 71.07 261 *e*T T 05 23 54.4
comp=Z,3.5nm,0.3s
PPTF Pamatai, Papee 71.09 261 IAMs_20 IAMs_20 04 31 42.5
comp=Z,25µm,19.0s
PPT2 Papeete2 71.11 261 *e*P **P** **04 06 35.3 +3.3**
comp=Z,139nm,1.1s
PPT2 Papeete2 71.11 261 *e*LR LR 04 28 11.7
comp=Z,27µm,23.8s
PPT2 Papeete2 71.11 261 *e*T T 05 23 36.8
comp=Z,7.1nm,0.2s
PPT2 Papeete2 71.11 261 *e*S **S** **04 15 49.1 +3.1**
comp=Z,20µm,27.5s
PPT Papeete 71.11 261 P **P** **04 06 35.0 +3.1**
comp=Z,65nm,0.9s,baz=342,slow=16,SNR=4.6
MCWV Mont Chateau 71.14 353 P **P** **04 06 30.5 -1.0**
baz=172,SNR=13
MCWV S **S** **04 15 46.7 +1.5**
baz=172
P52A Corning 71.38 351 P **P** **04 06 31.3 -1.6**
baz=170,SNR=30
P52A S **S** **04 15 48.6 +0.7**
baz=170
MSTX Muleshoe 71.42 333 P **P** **04 06 32.4 -1.1**
baz=152,SNR=27
MSTX S **S** **04 15 51.1 +2.3**
baz=152
CCM Cathedral Cave 71.53 344 P **P** **04 06 31.8 -2.1**
baz=162
CCM S **S** **04 15 51.0 +1.2**
baz=162
O56A Blue Knob Stat 71.62 354 P **P** **04 06 31.8 -2.7**
baz=173,SNR=26
O56A S **S** **04 15 53.3 +2.5**
baz=173
P49A Miami Univ. Ec 71.65 349 P **P** **04 06 32.6 -1.9**
baz=168,SNR=25
P49A S **S** **04 15 50.8 -0.3**
baz=168
AMTX Amarillo 71.81 334 P **P** **04 06 33.1 -2.7**
baz=153
AMTX S **S** **04 15 54.0 +0.7**
baz=153
SLM Saint Louis 71.85 345 P **P** **04 06 34.7 -1.1**
SLM pmax pmax
comp=Z,179nm,1.0s
SLM Saint Louis 71.85 345 P **P** **04 06 34.7 -1.1**
SLM IAmb IAmb 04 06 39.6
comp=Z,179nm,0.9s
O53A New Philadelph 71.87 352 P **P** **04 06 32.6 -3.3**
baz=171,SNR=20
O53A S **S** **04 15 53.6 0.0**
baz=171
SSPA Standing Stone 71.93 355 P **P** **04 06 35.5 -0.7**
baz=174
SSPA S **S** **04 15 57.0 +2.8**
baz=174
ACSO Alum Creek Sta 72.08 351 P **P** **04 06 35.2 -1.9**
baz=170,SNR=30
ACSO S **S** **04 15 55.3 -0.6**
baz=170
N59A State Game Lan 72.08 357 P **P** **04 06 35.5 -1.6**
baz=176,SNR=30
N59A S **S** **04 16 01.2 +5.3**
baz=176
PAL Palisades 72.09 358 P **P** **04 06 36.2 -0.9**
baz=178,SNR=6.7
PAL S **S** **04 16 00.6 +4.6**
baz=178
121A Cookes Peak, D 72.28 328 P **P** **04 06 37.6 -1.1**
baz=148,SNR=17
121A S **S** **04 16 02.5 +3.5**
baz=148
M66A Nantucket 72.32 1 P **P** **04 06 37.3 -1.2**
baz=181
N54A Moraine State 72.44 353 P **P** **04 06 37.4 -1.9**
baz=172,SNR=27
N54A S **S** **04 16 02.0 +1.8**
baz=172
M64A Tiverton 72.60 0 P **P** **04 06 39.6 -0.6**
baz=180,SNR=16
M64A S **S** **04 16 06.5 +4.6**
baz=180
M65A Busby, Falmout 72.61 1 P **P** **04 06 37.7 -2.5**
baz=181
M65A S **S** **04 16 05.9 +3.9**
baz=181
SFIN Lafayette 72.88 348 P **P** **04 06 39.4 -2.5**
baz=166,SNR=19
SFIN S **S** **04 16 02.8 -2.3**
baz=166
L63A North Scituate 72.91 360 P **P** **04 06 40.4 -1.6**
baz=180,SNR=25
L63A S **SKiKP** **04 16 10.4 -1.4**
baz=180
M54A Oil Creek Stat 72.95 354 P **P** **04 06 40.4 -1.9**
baz=172,SNR=23
M54A S **S** **04 16 06.1 +0.2**
baz=172
M53A WI Miller and 72.99 353 P **P** **04 06 40.6 -1.9**
baz=172,SNR=26
L64A Middleborough 72.99 0 P **P** **04 06 41.5 -0.9**
baz=180,SNR=15
L64A S **SKiKP** **04 16 10.4 -1.5**
baz=180
L65A Cape Cod Natio 73.09 1 P **P** **04 06 41.4 -1.6**
baz=181
Y22D IRIS PASSCAL I 73.21 330 P **P** **04 06 44.3 +0.1**
baz=149
BINY Binghamton 73.37 356 P **P** **04 06 43.1 -1.6**
baz=176,SNR=20

HDIL Hopedale 73.48 346 P **P** **04 06 43.6 -1.8**
baz=164,SNR=15
TUC Tucson 73.48 326 IAMs_20 IAMs_20 04 34 14.7
comp=Z,20µm,20.0s
TUC Tucson 73.48 326 P **P** **04 06 46.4 +0.6**
baz=145
L61B Northampton 73.51 359 P **P** **04 06 45.6 +0.1**
baz=179,SNR=23
HRV Adam Dziewonsk 73.56 360 P **P** **04 06 45.6 -0.2**
baz=180
ERPA Erie 73.59 353 P **P** **04 06 45.1 -0.9**
baz=172,SNR=24
K62A Royalston 73.72 359 P **P** **04 06 45.6 -1.1**
baz=179
K61A Williamstown 73.74 359 P **P** **04 06 46.0 -0.9**
baz=178,SNR=16
ANMO Albuquerque 73.76 331 P **P** **04 06 46.6 -0.9**
baz=149
DBIC Dimbokro 73.90 72 P **P** **04 06 48.5 0.0**
comp=Z,192nm,0.7s,baz=234,slow=5.7,SNR=51
KSU1 Kansas State U 73.95 340 P **P** **04 06 46.7 -1.5**
baz=158,SNR=7.0
214A Organ Pipe Nat 74.19 324 P **P** **04 06 49.2 -0.6**
baz=144,SNR=13
AAM Ann Arbor 74.20 351 P **P** **04 06 48.1 -1.5**
baz=169,SNR=7.7
HQIL Hanson Quary C 74.40 347 IAMs_20 IAMs_20 04 41 39.8
comp=Z,16µm,22.0s
J61A Chester 74.40 359 P **P** **04 06 51.5 +0.8**
baz=179,SNR=28
CBKS Cedar Bluff 74.66 337 P **P** **04 06 51.9 -0.5**
baz=155,SNR=12
L44A Lake County Fo 74.78 347 P **P** **04 06 51.9 -1.0**
baz=165
T25A Trinidad 74.83 333 IAMs_20 IAMs_20 04 36 28.7
comp=Z,16µm,20.0s
T25A Trinidad 74.83 333 P **P** **04 06 53.3 -0.4**
baz=151,SNR=31
I60A Shoreham 74.91 359 P **P** **04 06 54.1 +0.5**
baz=178,SNR=24
I62A Tamworth 74.92 0 P **P** **04 06 53.5 -0.2**
baz=180,SNR=13
I63A Otisfield 75.10 1 P **P** **04 06 55.6 +0.8**
baz=181,SNR=24
LBNH Lisbon 75.29 360 P **P** **04 06 55.3 -0.5**
baz=179,SNR=20
W18A Petrified Fore 75.33 328 P **P** **04 06 56.8 +0.3**
baz=147,SNR=18
K43A Burlington 75.36 347 P **P** **04 06 54.8 -1.5**
K43A IAmb IAmb 04 07 00.5
comp=Z,120nm,1.0s
MAW Mawson 75.52 164 P **P** **04 06 59.1 +2.0**
comp=Z,120nm,1.0s,baz=211,slow=6.7,SNR=48
MAW Mawson 75.52 164 P **P** **04 06 56.9 -0.1**
MAW pmax pmax
comp=Z,85nm,1.4s
MAW Mawson 75.52 164 P **P** **04 06 56.9 -0.1**
SCIA State Center 75.66 343 P **P** **04 06 57.5 -0.6**
SCIA IAmb IAmb 04 07 02.7
comp=Z,240nm,1.1s
SCIA State Center 75.66 343 P **P** **04 06 57.6 -0.4**
baz=161,SNR=17
SUR Sutherland 75.66 119 P **P** **04 06 59.7 +0.9**
comp=Z,61nm,0.8s,baz=242,slow=6.6,SNR=21
SUR Sutherland 75.66 119 IAMs_20 IAMs_20 04 35 47.6
comp=Z,25µm,21.0s
LONY Lake Ozonia 75.72 358 P **P** **04 06 57.8 -0.5**
baz=177,SNR=28
SDCO Great Sand Dun 75.79 333 IAMs_20 IAMs_20 04 36 56.9
comp=Z,16µm,19.0s
SDCO Great Sand Dun 75.79 333 P **P** **04 06 59.1 -0.2**
baz=150,SNR=18
KSCO Kaye Shedlock' 75.83 335 P **P** **04 06 59.6 +0.4**
baz=153,SNR=10.0
JFWS Jewell Farm 75.95 346 IAMs_20 IAMs_20 04 45 55.6
comp=Z,16µm,19.0s
JFWS Jewell Farm 75.95 346 P **P** **04 06 58.5 -1.1**
baz=163,SNR=33
GLA Glamis 76.08 324 P **P** **04 07 00.8 +0.1**
baz=143,SNR=6.0
SADO Sadowa 76.14 354 LR LR 04 42 26.9
comp=Z,10µm,21.5s,baz=172,slow=37
S22A 4UR Ranch, Cre 76.31 332 P **P** **04 07 03.1 +0.8**
baz=149,SNR=16
PKME Peaks-Kenny Pk 76.34 2 P **P** **04 07 03.0 +1.2**
baz=182,SNR=24
WUAZ Wupatki 76.40 327 P **P** **04 07 04.3 +1.7**
baz=145,SNR=14
IKP In-Ko-Pah, Jac 76.42 322 P **P** **04 07 04.4 +1.7**
baz=142,SNR=7.0
SWSC Sam W. Stewart 76.49 323 P **P** **04 07 02.2 -0.8**
baz=142,SNR=5.9
MVCO Mesa Verde 76.55 330 IAMs_20 IAMs_20 04 37 49.9
comp=Z,29µm,19.0s
MVCO Mesa Verde 76.55 330 P **P** **04 07 02.8 -0.8**
baz=148,SNR=17
Q24A Divide 76.71 334 P **P** **04 07 04.7 +0.2**
baz=151,SNR=19
PDMCI Parker Dam,Lak 76.73 325 P **P** **04 07 04.9 +0.6**
baz=143,SNR=5.4
MONP2 Monument Peak 76.78 322 P **P** **04 07 05.1 +0.3**
baz=141,SNR=6.5
GLMI Grayling 76.81 350 P **P** **04 07 03.8 -0.8**
baz=168,SNR=11
BC3 Big Chuckawall 76.88 324 P **P** **04 07 05.7 +0.4**
baz=142,SNR=20
IRM Iron Mountain 77.12 324 P **P** **04 07 07.0 +0.5**
baz=142,SNR=8.4
109C Camp Elliot, M 77.13 322 P **P** **04 07 06.9 +0.4**
baz=141
NEE2 Needles Airpor 77.34 325 P **P** **04 07 07.2 -0.6**
baz=143
OGNE Ogallala 77.34 337 P **P** **04 07 07.9 +0.1**
baz=153,SNR=9.5
TPFO Pinon Flats 77.35 323 P **P** **04 07 07.0 -1.0**
baz=142,SNR=9.8
PFO Pinyon Flats O 77.36 323 IAMs_20 IAMs_20 04 34 19.0
comp=Z,19µm,20.0s
PFO Pinyon Flats O 77.36 323 P **P** **04 07 07.4 -0.6**
baz=149,SNR=11
BELC Belle Mtn. Jos 77.43 323 P **P** **04 07 08.8 +0.4**
baz=142,SNR=7.7
ISCO Idaho Springs 77.61 334 P **P** **04 07 09.1 -0.5**
baz=150,SNR=21
MURC Murrieta 77.73 322 P **P** **04 07 10.8 +0.8**
baz=141,SNR=14
SCI2 San Clemente I 77.97 321 P **P** **04 07 11.2 -0.1**
baz=140
BBRC Big Bear Solar 78.11 323 P **P** **04 07 12.8 +0.5**
baz=141
CIS Catalina Islan 78.22 321 P **P** **04 07 12.2 -0.5**
baz=140,SNR=5.5
ECSD EROS Data Cent 78.24 342 P **P** **04 07 12.2 -0.4**
baz=158,SNR=21
HEC Hector,Ludlow 78.25 324 P **P** **04 07 12.7 -0.2**
baz=142,SNR=7.8
FMP Fort Macarthur 78.40 322 P **P** **04 07 12.1 -1.5**
baz=140
BFSC Mount Baldy Ra 78.47 322 P **P** **04 07 14.2 0.0**
baz=141,SNR=8.7
TUQ Turquoise Moun 78.52 324 P **P** **04 07 14.2 -0.3**
baz=142,SNR=5.3
RRX Edison Barstow 78.62 323 P **P** **04 07 14.3 -0.6**
baz=141
N23A Red Feather La 78.69 334 P **P** **04 07 15.4 -0.1**
baz=150,SNR=18
SPMN Marine on St. 78.70 345 P **P** **04 07 14.3 -0.7**
baz=161,SNR=19
DECC Green Verdugo 78.83 322 P **P** **04 07 16.4 +0.3**
baz=140
GSC Goldstone, Bar 78.86 324 P **P** **04 07 17.0 +0.8**
baz=142,SNR=13
O20A White River Ci 78.93 332 P **P** **04 07 15.7 -1.0**
baz=148,SNR=12
SHOC Shoshone, Teco 79.06 324 P **P** **04 07 15.8 -1.5**
baz=142
KOWA Kowa 79.13 66 IAMs_20 IAMs_20 04 48 14.7
comp=Z,19µm,18.0s
KOWA Kowa 79.13 66 P **P** **04 07 20.3 +2.3**
EDW2 Edwards Air Fo 79.14 323 P **P** **04 07 17.9 +0.1**
baz=141,SNR=12
OSI Osito Audit: C 79.32 322 P **P** **04 07 18.1 -0.6**
baz=140
LRMC Laurel Mtn Rad 79.44 323 P **P** **04 07 20.2 +0.7**
baz=141
SUSD Miller 79.55 340 P **P** **04 07 19.3 -0.4**
baz=156,SNR=5.8
SBC Santa Barbara 79.71 321 P **P** **04 07 21.2 +0.4**

baz=139
H07S1 FLORES T-PHASE 79.75 31 *e*P P 04 07 21.1 +0.2
comp=Z,272nm,1.4s
H07S1 FLORES T-PHASE 79.75 31 *es*S S 04 17 26.8 +6.2
ARVC Arvin 79.77 322 P P 04 07 22.4 +1.3
baz=140
MPMC Manual Prospec 79.80 324 P P 04 07 20.8 -0.7
baz=141,SNR=15
FURC Furnace Creek, 79.80 324 P P 04 07 20.7 -0.5
baz=142
RWWY Rawlins 79.86 334 IAMs_20 IAMs_20 04 39 07.7
comp=Z,14µm,20.0s
TPNV Topopah Spring 79.88 325 P P 04 07 22.9 +1.0
baz=142,SNR=20
ISA Isabella, Lake 79.99 323 P P 04 07 23.2 +0.8
baz=140,SNR=22
H07N1 FLORES T-PHASE 80.05 30 *es*S S 04 17 29.5 +5.8
PKM Mcpherson Peak 80.10 321 P P 04 07 22.2 -1.0
baz=139,SNR=17
CALA Caldeira 80.22 33 *e*P P 04 07 20.8 -2.8
comp=Z,200nm,1.1s
CALA Caldeira 80.22 33 *es*S S 04 17 31.4 +5.7
PCAN Candelaria 80.23 33 *e*P P 04 07 21.4 -2.1
comp=Z,110nm,1.1s
PCED Cedros 80.26 33 *e*P P 04 07 23.5 -0.2
comp=Z,159nm,1.1s
PCED Cedros 80.26 33 *es*S S 04 17 31.1 +5.2
PICO Pico 80.28 33 *e*P P 04 07 23.8 -0.1
comp=Z,248nm,1.4s
PICO Pico 80.28 33 *es*S S 04 17 32.3 +5.9
PID Ribeirinha 80.38 33 *e*P P 04 07 24.9 +0.5
comp=Z,250nm,1.4s
PID Ribeirinha 80.38 33 *es*S S 04 17 32.7 +5.4
CWC Cottonwood Cre 80.39 324 P P 04 07 24.4 -0.3
baz=141
K22A Casper 80.43 335 P P 04 07 24.1 -0.6
baz=150,SNR=19
VES Vestal, Richgr 80.45 323 P P 04 07 24.3 -0.4
baz=140,SNR=28
GRAC Grapevine Rang 80.47 324 P P 04 07 26.6 +1.7
baz=141
SMMC Simmler 80.52 322 P P 04 07 26.1 +0.9
baz=139,SNR=16
ROSA Rosais 80.55 33 *e*P P 04 07 26.6 +1.4
comp=Z,198nm,1.3s
ROSA Rosais 80.55 33 *es*S S 04 17 35.7 +6.7
PMAN Manadas 80.55 33 *e*P P 04 07 27.5 +2.3
comp=Z,298nm,1.2s
PMAN Manadas 80.55 33 *es*S S 04 17 32.7 +3.8
R11A Troy Canyon, C 80.67 326 P P 04 07 26.1 0.0
baz=143,SNR=31
PSMA Santa Maria 80.69 36 *e*P P 04 07 25.9 -0.1
comp=Z,165nm,1.0s
PSMA Santa Maria 80.69 36 *es*S S 04 17 36.5 +6.0
PSMN Pico do Norte, 80.72 36 *e*P P 04 07 26.2 0.0
comp=Z,242nm,1.6s
PSMN Pico do Norte, 80.72 36 *es*S S 04 17 37.1 +6.2
RSSD Black Hills 80.84 337 P P 04 07 25.8 -1.2
baz=152
BOSA Boshof 80.85 118 P P 04 07 27.4 0.0
comp=Z,90nm,0.9s,baz=239,slow=4.2,SNR=23
DUG Dugway, Tooele 80.89 329 IAMs_20 IAMs_20 04 38 09.9
comp=Z,29µm,22.0s
DUG Dugway, Tooele 80.89 329 P P 04 07 26.0 -1.2
baz=145,SNR=27
SRBC Serra Branca 80.89 33 *e*P P 04 07 24.5 -2.6
comp=Z,295nm,1.0s
PGRA Graciosa 80.92 33 *e*P P 04 07 28.5 +1.3
comp=Z,196nm,1.7s
TIN Tinemaha, Big 80.94 324 P P 04 07 27.8 +0.3
baz=141
ADH Angra Heroismo 80.97 34 *e*P P 04 07 29.4 +2.0
comp=Z,238nm,1.8s
VOG Valley Oaks Go 80.97 323 P P 04 07 25.6 -1.9
baz=140
PDA Ponta Delgada 81.01 35 *e*P P 04 07 27.8 +0.1
comp=Z,140nm,1.4s
EYMN Ely 81.02 347 P P 04 07 26.5 -1.0
baz=163,SNR=33
PSET Sete Cidades 81.04 35 *e*P P 04 07 29.8 +1.9
comp=Z,496nm,1.8s
PSET Sete Cidades 81.04 35 *es*S S 04 17 38.6 +4.4
PSCM Serra do Cume 81.06 34 *e*P P 04 07 30.1 +2.1
comp=Z,228nm,1.5s
PAGU Agualva, Azore 81.08 34 *e*P P 04 07 28.5 +0.5
comp=Z,246nm,1.6s
PAGU Agualva, Azore 81.08 34 *es*S S 04 17 39.8 +5.3
GRON Grota Negra 81.09 35 *e*P P 04 07 21.4 -6.8
comp=Z,324nm,1.7s
GRON Grota Negra 81.09 35 *es*S S 04 17 38.6 +3.9
CMLA Cha da Macela 81.09 35 *e*P P 04 07 27.8 -0.3
comp=Z,212nm,1.6s
CMLA Cha da Macela 81.09 35 *es*S S 04 17 38.6 +3.9
PCALD Caldeiras da R 81.13 35 *e*P P 04 07 26.2 -2.2
comp=Z,335nm,1.2s
PCALD Caldeiras da R 81.13 35 *es*S S 04 17 41.6 +6.5
BART Pico Bartolome 81.28 35 *e*P P 04 07 30.7 +1.5
comp=Z,355nm,1.3s
BART Pico Bartolome 81.28 35 *es*S S 04 17 40.1 +3.3
BW06 Boulder Array 81.68 333 IAMs_20 IAMs_20 04 40 18.0
comp=Z,18µm,19.0s
BW06 Boulder Array 81.68 333 P P 04 07 30.8 -0.7
baz=148,SNR=13
PDAR Pinedale Array 81.68 333 P P 04 07 31.4 -0.1
comp=Z,19nm,1.0s,baz=136,slow=5.3,SNR=25
MLAC Mammoth, Mammo 81.69 324 P P 04 07 31.0 -0.7
baz=140,SNR=5.6
PMAR Madeira 82.02 44 *ep*P P 04 07 37.6 +4.2
PMAR A A 04 07 38.4
comp=Z,278nm,1.4s
NVAR Mina Array Bea 82.05 325 P P 04 07 34.4 +0.9
comp=Z,14nm,0.8s,baz=154,slow=6.4,SNR=22
AHID Auburn Hatcher 82.30 332 IAMs_20 IAMs_20 04 40 37.2
comp=Z,21µm,20.0s
AGMN Agassiz Nation 82.31 344 P P 04 07 32.6 -1.6
baz=159,SNR=22
SAO San Andreas Ge 82.39 322 IAMs_20 IAMs_20 04 51 29.5
comp=Z,15µm,20.0s
ELK Elko 82.42 328 IAMs_20 IAMs_20 04 42 54.3
comp=Z,16µm,22.0s
CASY Casey 82.61 181 P P 04 07 35.6 -0.3
CASY Casey 82.61 181 IAMs_20 IAMs_20 04 47 14.5
comp=Z,17µm,20.0s
PMPST Porto Santo, M 82.61 44 *ep*P P 04 07 38.7 +2.4
PMPST A A 04 07 43.6
comp=Z,220nm,1.3s
REDW Red Top Meadow 82.69 332 IAMs_20 IAMs_20 04 40 26.8
comp=Z,18µm,20.0s
SNOW Snow King Moun 82.74 332 IAMs_20 IAMs_20 04 40 29.0
comp=Z,20µm,21.0s
LOHW Long Hollow 82.81 332 IAMs_20 IAMs_20 04 40 42.7
comp=Z,23µm,20.0s
TPAW Teton Pass 82.84 332 IAMs_20 IAMs_20 04 40 29.6
comp=Z,16µm,21.0s
MDND Maddock 82.85 341 P P 04 07 36.5 -0.6
MDND Maddock 82.85 341 P P 04 07 35.5 -1.6
baz=156,SNR=27
TORD Torodi Ar. Bea 82.88 70 P P 04 07 38.3 +0.2
comp=Z,214nm,0.8s,baz=265,slow=4.4,SNR=31
TORD Torodi Ar. Bea 82.88 70 P P 04 07 37.9 -0.1
LBTB Lobatse 82.95 115 P P 04 07 37.8 -0.7
comp=Z,64nm,0.8s,baz=239,slow=5.4,SNR=21
MOOW Moose Ponds 82.98 332 IAMs_20 IAMs_20 04 40 48.2
comp=Z,23µm,20.0s
FXWY Fox Creek 83.00 332 P P 04 07 37.8 -0.5
FXWY IAMs_20 IAMs_20 04 40 35.7
comp=Z,16µm,20.0s
IMW Indian Meadow 83.18 332 P P 04 07 38.8 -0.5
IMW IAMs_20 IAMs_20 04 40 53.5
comp=Z,18µm,20.0s
PNTR Pine Nut 83.20 324 P P 04 07 38.2 -1.3
PNTR IAmb IAmb 04 07 52.2
comp=Z,86nm,0.9s
FLWY Flagg Ranch 83.24 333 P P 04 07 39.5 0.0
FLWY IAmb IAmb 04 08 04.4
comp=Z,237nm,1.6s
FLWY IAMs_20 IAMs_20 04 40 58.2
comp=Z,25µm,20.0s
EMB Emerald Bay 83.36 324 P P 04 07 38.4 -1.9
H17A Grant Village 83.45 333 P P 04 07 39.4 -1.2
baz=147
LKWY Lake 83.53 333 IAMs_20 IAMs_20 04 44 39.8
comp=Z,24µm,18.0s
PAHR Pah Rah Range 83.57 325 P P 04 07 39.0 -2.2
PAHR IAmb IAmb 04 08 19.9
comp=Z,123nm,1.3s
RLMT Red Lodge 83.57 334 P P 04 07 39.0 -1.3
RLMT IAmb IAmb 04 08 25.9
comp=Z,186nm,1.9s
RLMT Red Lodge 83.57 334 P P 04 07 39.9 -1.3
baz=148,SNR=8.9
YNE Yellowstone No 83.75 334 P 04 07 41.5 -0.7
YMR Madison River 83.83 333 P P 04 07 41.7 -0.9
YMR IAmb IAmb 04 08 08.6
comp=Z,197nm,1.4s
LAO LASA Array 83.83 337 P P 04 07 40.6 -1.7
baz=150,SNR=5.9
YHH Holmes Hill 83.89 333 P 04 07 42.0 -1.0
ULM Lac du Bonnet 84.13 345 P P 04 07 43.7 0.0
comp=Z,134nm,1.0s,baz=162,slow=3.8,SNR=24
ULM Lac du Bonnet 84.13 345 P P 04 07 42.4 -1.2
ULM pmax pmax
comp=Z,180nm,1.1s
ULM Lac du Bonnet 84.13 345 P 04 07 42.4 -1.2
ULM IAmb IAmb 04 07 47.1
comp=Z,180nm,1.1s
MCCM Marconi Confer 84.18 322 IAMs_20 IAMs_20 04 52 28.5
comp=Z,21µm,19.0s
GCMT Greycliff 84.28 334 P 04 07 43.5 -1.2
HLID Hailey 84.33 330 P 04 07 44.3 -0.8
HLID IAMs_20 IAMs_20 04 40 43.9
comp=Z,15µm,21.0s
HLID Hailey 84.33 330 P P 04 07 43.2 -1.9
baz=144,SNR=16
ORV Oroville 84.51 323 P P 04 07 45.9 0.0
ORV pmax pmax
comp=Z,72nm,1.2s
ORV Oroville 84.51 323 P 04 07 45.9 0.0
MCMT McKenzie Canyo 84.71 332 P 04 07 46.5 -0.5
DGMT Dagmar 84.75 339 P 04 07 46.6 -0.2
DGMT Dagmar 84.75 339 P P 04 07 45.9 -1.0
baz=152,SNR=20
MFID Camas Ranch 84.82 329 P P 04 07 47.5 0.0
MFID IAmb IAmb 04 08 10.4
comp=Z,133nm,1.8s
MFID IAMs_20 IAMs_20 04 41 36.9
comp=Z,22µm,20.0s
BOZ Bozeman (W) 84.87 333 P P 04 07 47.2 -0.5
BOZ pmax pmax
comp=Z,32nm,1.3s
BOZ Bozeman (W) 84.87 333 P P 04 07 47.2 -0.5
BOZ IAMs_20 IAMs_20 04 42 03.3
comp=Z,15µm,20.0s
BOZ Bozeman (W) 84.87 333 P P 04 07 46.5 -1.2
baz=146,SNR=12
HOPS Hopland Field 84.90 322 IAMs_20 IAMs_20 04 53 04.8
comp=Z,24µm,20.0s
CGR Cap Guir 84.97 50 P P 04 07 53.0 +4.6
MQZ McQueen's Vall 85.04 221 IAMs_20 IAMs_20 04 51 14.6
comp=Z,27µm,21.0s
DLMT Dillon 85.05 332 P P 04 07 48.4 -0.2
DLMT IAMs_20 IAMs_20 04 41 54.2
comp=Z,14µm,22.0s
O03E Paynes Creek 85.22 324 P P 04 07 48.5 -1.0
baz=138
WVOR Wild Horse Val 85.32 327 IAMs_20 IAMs_20 04 42 19.9
comp=Z,13µm,19.0s
KHZ Kahutara 85.35 222 IAMs_20 IAMs_20 04 52 10.9
comp=Z,20µm,22.0s
SNZO South Karori 85.36 224 IAMs_20 IAMs_20 04 53 31.0
comp=Z,20µm,18.0s
MXZ Matakaoa Point 85.41 228 IAMs_20 IAMs_20 04 51 45.6
comp=Z,26µm,22.0s
O02D Mt. Diablo Mer 85.63 323 P P 04 07 49.1 -2.4
baz=138
LTZ Lake Taylor 85.84 221 IAMs_20 IAMs_20 04 51 51.7
comp=Z,21µm,20.0s
TTIG Tnine Tigouga, 85.86 50 P P 04 07 56.0 +3.0
RPZ Rata Peaks 85.92 220 IAMs_20 IAMs_20 04 52 59.7
comp=Z,20µm,21.0s
SCHQ Schefferville 85.98 3 P P 04 07 52.0 -0.8
comp=Z,176nm,1.2s,baz=172,slow=3.6,SNR=20
THZ Tophouse 86.13 223 IAMs_20 IAMs_20 04 52 49.3
comp=Z,18µm,20.0s
N02D Trinity Center 86.18 324 P P 04 07 54.2 -0.1
baz=138
EGMT Eagleton 86.21 335 P P 04 07 53.2 -1.1
baz=148,SNR=10
PLID Pearl Lake 86.23 330 IAMs_20 IAMs_20 04 42 46.3
comp=Z,15µm,19.0s
M04C Macdoel 86.35 325 P P 04 07 55.6 +0.5
baz=138,SNR=15
M02C Callahan 86.57 324 P P 04 07 55.1 -1.0
baz=138
PYZ Puysegur Point 86.60 216 IAMs_20 IAMs_20 04 53 27.7
comp=Z,13µm,20.0s
BMO Blue Mountains 86.61 329 IAMs_20 IAMs_20 04 42 54.2
comp=Z,22µm,20.0s
OUK Oukaimeden 86.66 50 P P 04 07 60.0 +2.8
JCC Jacoby Creek, 86.74 323 IAMs_20 IAMs_20 04 54 02.5
comp=Z,14µm,20.0s
YBH Yreka Blue Hor 86.75 324 LR LR 04 40 15.5
comp=Z,11µm,21.2s,baz=146,slow=31
YBH Yreka Blue Hor 86.75 324 IAMs_20 IAMs_20 04 40 03.7
comp=Z,12µm,20.0s
MSO Missoula 86.79 332 IAMs_20 IAMs_20 04 43 37.2
comp=Z,21µm,19.0s
MSO Missoula 86.79 332 P P 04 07 54.7 -2.4
baz=144
L04D Klamath Falls 86.91 325 P P 04 07 56.8 -1.1
baz=138
K04D Chiloquin, OR 86.94 325 P P 04 07 56.5 -1.5
baz=139
J05D Fort Rock, OR 87.19 326 P P 04 07 58.0 -1.2
baz=139,SNR=24
F10A Beach Ranch, E 87.46 330 IAmb IAmb 04 08 24.0
comp=Z,123nm,1.6s
L02E Cave Junction 87.51 324 P P 04 07 59.2 -1.4
baz=137
J04D Umpqua Nationa 87.58 326 P P 04 07 60.0 -1.2
baz=138
MATP Matopo 87.64 112 P P 04 08 03.4 +1.3
comp=Z,20nm,0.7s,baz=237,slow=8.6,SNR=18
MATP Matopo 87.64 112 P P 04 08 03.4 +1.3
TZRR Tazzarine 87.92 52 P P 04 08 06.0 +3.0
K02D Willamette Mer 87.94 324 P P 04 08 00.3 -2.5
baz=137,SNR=6.4
I05D Terrebonne, OR 88.04 327 P P 04 08 02.1 -1.1
baz=139,SNR=12
I04A Tendick Farm, 88.14 326 P P 04 08 02.9 -0.7
baz=138,SNR=5.6
AVE Averroes 88.29 49 P P 04 08 08.1 +3.5
AVE SKS S 04 18 39.8 -6.7
J01E Myrtle Point 88.41 325 P P 04 08 05.3 +0.5
baz=137
I03D Drain, OR 88.52 325 P P 04 08 05.8 +0.5
baz=138
G05D Wamic, OR 88.71 327 P P 04 08 05.8 -0.5
baz=139
HAWA Hanford 88.79 329 IAMs_20 IAMs_20 04 43 29.8
comp=Z,22µm,20.0s
H04D Lebanon 88.84 326 P P 04 08 05.0 -1.8
baz=138
ZHG ZHG 88.88 49 P P 04 08 09.0 +1.6
I02D Swisshome 89.07 325 P P 04 08 06.1 -1.8
baz=137
COR Corvallis 89.16 326 IAMs_20 IAMs_20 04 55 59.9
comp=Z,18µm,22.0s
NEW Newport 89.23 331 P P 04 08 06.3 -2.4
baz=142,SNR=13
F05D White Salmon 89.27 328 P P 04 08 07.9 -0.9
baz=139
G03D McMinnville, O 89.60 326 P P 04 08 08.6 -1.8
baz=138
CZD Col de Zad 89.67 50 P P 04 08 14.3 +2.9
MDT Midelt 89.82 51 P P 04 08 14.6 +2.7
IFR Ifrane 89.91 50 P P 04 08 15.1 +2.7
IFR SKS S 04 18 59.8 -2.3
MORF Marmelete 90.09 45 *e*P P 04 08 07.3 -5.7
MORF Marmelete 90.09 45 *e*P P 04 08 07.2 -5.7
MORF Marmelete 90.09 45 *ep*P P 04 08 14.0 +1.1
MORF A A 04 08 16.8
comp=Z,95nm,1.4s
MORF Marmelete 90.09 45 IAmb IAmb 04 08 16.9
comp=Z,36nm,0.5s
F04D Rainier, OR 90.13 327 P P 04 08 12.9 +0.1
baz=138
PTEO Sao Teotonio 90.20 45 *ep*P P 04 08 15.5 +2.1
PTEO A A 04 08 31.6
comp=Z,137nm,1.2s
E04D Cinebar 90.28 328 P P 04 08 10.8 -2.7
baz=138
RSA Sarsar 90.31 49 P P 04 08 17.0 +2.9
PBDV Barranco-do-Ve 90.49 46 *ep*P P 04 08 16.2 +1.4
PBDV A A 04 08 18.9
comp=Z,172nm,1.5s
C06D Leavenworth 90.56 329 P P 04 08 12.1 -2.8
baz=139
PCVE Castro Verde 90.67 45 *ep*P P 04 08 16.8 +1.2
PCVE A A 04 08 27.6
comp=Z,57nm,1.8s
PNCL Nicolau / Gran 90.69 45 *ep*P P 04 08 15.9 +0.3
PNCL A A 04 08 20.1
comp=Z,84nm,1.4s
MESJ Messejana 90.70 45 IAmb IAmb 04 08 20.4
comp=Z,129nm,1.6s
MESJ Messejana 90.70 45 *e*P P 04 08 10.1 -5.6
MESJ Messejana 90.70 45 *ep*P P 04 08 17.7 +2.0
MESJ A A 04 08 23.5
comp=Z,53nm,1.4s
MESJ Messejana 90.70 45 *e*P P 04 08 10.2 -5.5
LIS Lisbon 90.71 44 IAmb IAmb 04 08 12.9
comp=Z,229nm,1.6s
LIS Lisbon 90.71 44 *e*P P 04 08 10.0 -5.7
LIS Lisbon 90.71 44 *e*P P 04 08 10.0 -5.7
PVAQ Vaqueiros 90.72 46 *ep*P P 04 08 17.3 +1.5
PVAQ A A 04 08 19.9
comp=Z,76nm,1.2s
CHEFC Chefchaouen 90.76 49 P P 04 08 20.0 +3.8
PBEJ Beja 91.03 45 *ep*P P 04 08 18.3 +1.1
PBEJ A A 04 08 21.1
comp=Z,34nm,1.5s
SFS San Fernando 91.06 47 P P 04 08 18.7 +1.3
SFS SKS S 04 19 07.0 -5.1
SMIR Smir Dam 91.09 48 P P 04 08 22.0 +4.4
ARNO Arenosillo 91.13 46 P P 04 08 22.1 +4.4
ARNO SKS SKSac 04 18 51.5 +5.0
CEU Ceuta 91.23 48 P P 04 08 19.4 +1.3
CEU SKS S 04 19 09.3 -4.3
EVO Evora 91.27 45 P P 04 08 24.2 +5.9
EVO Evora 91.27 45 *ep*P P 04 08 19.2 +0.9
EVO A A 04 08 21.3
comp=Z,54nm,1.7s
EVO Evora 91.27 45 SKS S 04 18 59.5 -14
B05A Bryant 91.34 329 P P 04 08 15.8 -2.6
baz=138,SNR=9.2
PSBE So Bento 91.44 43 *ep*P P 04 08 18.4 -0.7
PSBE A A 04 08 24.2
comp=Z,132nm,1.6s
PVLZ Peæn de 91.47 49 P P 04 08 20.1 +0.8
PVLZ Peæn de 91.47 49 SKS S 04 19 03.8 -12
PMTG Montargil 91.48 44 *ep*P P 04 08 20.9 +1.6
PMTG A A 04 08 23.7
comp=Z,75nm,1.1s
NLWA Neilton Lookou 91.50 327 IAMs_20 IAMs_20 04 48 35.4
comp=Z,12µm,20.0s
PBAR Barrancos 91.63 45 *ep*P P 04 08 21.3 +1.3
FIGM Figuig 91.66 53 P P 04 08 24.0 +3.5
TDRA Tendrara 91.67 52 P P 04 08 24.0 +3.4
PESTR Estremoz 91.73 45 *ep*P P 04 08 22.1 +1.6
PESTR A A 04 08 24.9
comp=Z,44nm,1.3s
EDM Edmonton 91.81 336 IAmb IAmb 04 08 25.2
comp=Z,99nm,1.1s
LIJA Lijar 91.84 47 P P 04 08 22.0 +0.9
A04D Lummi Island 91.95 329 P P 04 08 20.9 -0.3
baz=138,SNR=15
PCAS Casmilo, Conde 91.96 43 *ep*P P 04 08 23.1 +1.6
PCAS A A 04 08 42.1
comp=Z,88nm,2.0s
JBK JBK 92.09 51 P P 04 08 26.0 +3.5
PMRV Marv??o 92.21 44 *ep*P P 04 08 22.1 -0.6
PMRV A A 04 08 25.8
comp=Z,41nm,1.4s
EMAL Malaga-Limoner 92.36 48 P P 04 08 24.6 +1.2
EMAL SKS S 04 19 11.4 -12
PCBR Castelo Branco 92.42 44 *ep*P P 04 08 24.4 +0.8
PCBR A A 04 08 26.1
comp=Z,47nm,1.5s
MELI Melilla 92.43 50 P P 04 08 25.1 +1.4
MELI SKS S 04 19 11.4 -13
MTE Manteigas 92.74 43 *ep*P P 04 08 25.7 +0.5
MTE A A 04 08 27.8
comp=Z,85nm,1.3s
PVRL Vila Real 93.20 43 *ep*P P 04 08 28.7 +1.4
PVRL A A 04 08 38.4
comp=Z,65nm,1.4s
MVO Moncorvo 93.53 43 *ep*P P 04 08 30.6 +1.8
MVO A A 04 08 32.2
comp=Z,74nm,1.5s
PBRG Braganca 94.10 43 *ep*P P 04 08 31.0 -0.4
PBRG A A 04 08 42.8
comp=Z,68nm,1.7s
ESDC Sonseca Array 94.44 46 P P 04 08 34.4 +1.4
comp=Z,13nm,1.1s,baz=331,slow=1.9,SNR=22
NRS Narsarsuaq 94.66 12 IAMs_20 IAMs_20 04 49 29.5
comp=Z,17µm,21.0s
CART Cartagena 95.04 49 P P 04 08 36.9 +1.2
CART SKS SKSac 04 19 19.8 +12
CART Cartagena 95.04 49 IAMs_20 IAMs_20 04 59 40.5
comp=Z,12µm,20.0s
UCM Universidad Co 95.26 45 P P 04 08 42.4 +5.7
UCM SKS SKSac 04 19 21.1 +12
SET Setif 98.50 53 P P 04 08 51.0 -0.6
DY2G Dye2 99.47 10 *i* P Pdif 04 08 57.0 +1.6
YKA Yellowknife Ar 99.77 341 P Pdif 04 08 55.7 -0.7
comp=Z,6.7nm,0.8s,baz=136,slow=5.3,SNR=12
ANGG Ammassalik, Gr 100.19 14 IAMs_20 IAMs_20 04 54 00.4
comp=Z,14µm,20.0s
KEST Kesra 100.98 55 P Pdif 04 09 03.8 +1.1
comp=Z,4.4nm,0.8s,baz=296,slow=4.2,SNR=4.1
CRAG Craig 101.25 329 P Pdif 04 09 01.2 -2.0
baz=130
ILULI Ilulissat 101.44 7 IAMs_20 IAMs_20 04 57 20.4
comp=Z,11µm,20.0s
WRAK Wrangell Islan 101.53 330 P Pdif 04 09 01.1 -3.3
baz=130
DZM Mont Dzumac 103.15 234 *e*SKSac SKSac 04 19 50.5 +0.6
comp=Z,4µm,26.0s
DZM Mont Dzumac 103.15 234 *e*SS SS 04 28 11.0 +3.9
comp=Z,10µm,27.4s
DZM Mont Dzumac 103.15 234 *e*LR LR 04 43 02.7
comp=Z,45µm,24.6s
DZM Mont Dzumac 103.15 234 *e*PS PS 04 22 39.9 +2.9
comp=Z,6µm,28.4s
SIT Sitka 103.21 330 P Pdif 04 09 09.9 -2.0
baz=128
LIFNC LIFOU 103.45 235 IAMs_20 IAMs_20 05 05 04.6
comp=Z,12µm,18.0s
JIS Juneau Island 103.57 331 IAMs_20 IAMs_20 04 53 05.9
comp=Z,14µm,22.0s
ESK Eskdalemuir 104.16 33 IAMs_20 IAMs_20 04 54 40.6
comp=Z,17µm,20.0s
VLC Villacollemand 105.84 48 IAMs_20 IAMs_20 04 57 00.3
comp=Z,12µm,22.0s
LODK Lodwar 106.13 96 IAMs_20 IAMs_20 05 08 04.1
comp=Z,15µm,21.0s
SUMG Summit 106.17 10 IAMs_20 IAMs_20 05 01 41.3
comp=Z,11µm,21.0s
BFO Black Forest 106.57 43 IAMs_20 IAMs_20 04 56 50.4
comp=Z,14µm,20.0s
BCPM Bancas Point 106.75 331 IAMs_20 IAMs_20 05 06 52.9
comp=Z,15µm,22.0s
DAVA Damuels 107.00 45 *e*P Pdif 04 09 31.7 +2.5
comp=Z,8.4nm,1.2s
DAVA *e*P PKKPbc 04 24 45.1 -12
comp=Z,15nm,1.1s
STU Stuttgart 107.29 43 IAMs_20 IAMs_20 04 58 46.3
comp=Z,17µm,20.0s
FETA Feichten 107.39 45 *e*P Pdif 04 09 33.7 +2.8
comp=Z,6.0nm,1.1s
SCO Scoresbysund 107.57 16 IAMs_20 IAMs_20 04 57 22.6
comp=Z,9µm,21.0s
RETA Reutte 107.62 45 *e*P Pdif 04 09 34.9 +3.0
comp=Z,11nm,1.2s
RETA *e*P PKKPbc 04 24 43.2 -12
comp=Z,7.3nm,0.9s
TABL Table Mountain 107.64 331 IAMs_20 IAMs_20 05 08 39.6
comp=Z,11µm,21.0s
TULEG Thule 107.70 1 IAMs_20 IAMs_20 04 59 32.6
comp=Z,13µm,22.0s
MOTA Moosalm 107.76 45 *e*P Pdif 04 09 34.7 +2.1
comp=Z,7.3nm,1.2s
SQTA Sankt Quirin 107.77 45 *e*P Pdif 04 09 34.5 +1.9
comp=Z,9.5nm,1.2s
MESA MESA 107.84 330 IAMs_20 IAMs_20 05 09 03.9
comp=Z,14µm,21.0s
YAH Yahtse 107.86 331 IAMs_20 IAMs_20 05 03 52.2
comp=Z,14µm,22.0s
WATA Walderalm 108.05 45 *e*P Pdif 04 09 37.2 +3.4

comp=Z,4.8nm,0.6s
WATA *e*P PKKPbc **04 24 47.3 -6.3**
comp=Z,8.8nm,0.8s
WTTA Wattenberg 108.05 45 *e*P **Pdif 04 09 38.1 +4.2**
comp=Z,7.6nm,0.9s
WTTA *e*P PKKPbc 04 24 45.0 -8.6
comp=Z,17nm,1.2s
GRNC Granite Creek 108.06 331 IAMs_20 IAMs_20 05 08 53.5
comp=Z,14µm,22.0s
BARN Barnard Glacie 108.19 331 IAMs_20 IAMs_20 05 05 04.1
comp=Z,8µm,21.0s
ISLE Juniper Island 108.23 331 IAMs_20 IAMs_20 05 09 19.2
comp=Z,16µm,22.0s
WAX Waxell Ridge 108.37 330 IAMs_20 IAMs_20 05 09 19.1
comp=Z,13µm,21.0s
TGL Tana Glacier 108.52 331 IAMs_20 IAMs_20 05 09 26.7
comp=Z,15µm,22.0s
SUCK Suckling Hills 108.57 330 IAMs_20 IAMs_20 05 04 16.0
comp=Z,15µm,18.0s
CRQM Cirque 108.65 331 IAMs_20 IAMs_20 05 09 28.6
comp=Z,13µm,22.0s
UBBA Unterbreizbach 108.69 41 *e*L L 04 56 53.9
comp=Z,22µm,21.1s
BERG Berg Lake 108.70 330 IAMs_20 IAMs_20 05 05 23.5
comp=Z,12µm,22.0s
GRFO Grafenberg 108.89 43 IAMs_20 IAMs_20 05 09 50.7
comp=Z,20µm,22.0s
GRA1 Grafenberg Arr 108.89 43 IAMs_20 IAMs_20 05 09 50.7
comp=Z,19µm,22.0s
GRF Grafenberg Arr 108.89 43 *e*L L 04 55 59.5
comp=Z,9µm,21.6s
GRF Grafenberg Arr 108.89 43 *e*PP **PP 04 14 08.9 -1.0**
HMT Hamilton 108.91 330 IAMs_20 IAMs_20 05 08 55.1
comp=Z,17µm,21.0s
MCARA McCarthy VSAT 108.92 331 IAMs_20 IAMs_20 05 05 22.5
comp=Z,9µm,22.0s
M27K Edge Creek, AK 108.97 332 IAMs_20 IAMs_20 05 09 03.6
comp=Z,8µm,21.0s
VRDI Verde Repeater 109.02 331 IAMs_20 IAMs_20 05 09 43.5
comp=Z,16µm,20.0s
GLB Gilahina Butte 109.28 331 IAMs_20 IAMs_20 04 56 43.9
comp=Z,9µm,22.0s
L27K Beaver Creek, 109.32 333 IAMs_20 IAMs_20 04 58 11.9
comp=Z,15µm,20.0s
BMRM Bremner River 109.38 330 IAMs_20 IAMs_20 05 09 12.3
comp=Z,11µm,21.0s
INK Inuvik 109.42 340 PKKPbc PKKPbc 04 24 50.2 +0.6
comp=Z,5.3nm,0.9s,baz=307,slow=3.0,SNR=4.2
OBKA Obir 109.52 47 *e*P **Pdif 04 09 39.2 -1.2**
comp=Z,9.4nm,1.6s
OBKA *e*P **PKKPbc 04 24 49.9 +1.1**
comp=Z,10nm,1.4s
MOX Moxa 109.54 42 *e*L L 04 59 08.1
comp=Z,22µm,19.9s
A36M Sachs Harbour 109.62 345 IAMs_20 IAMs_20 05 00 43.1
comp=Z,13µm,20.0s
N25K Chitina, Valde 109.69 331 IAMs_20 IAMs_20 05 09 40.7
comp=Z,11µm,21.0s
STKA Stephens Creek 109.70 210 PKiKP **PKiKP 04 13 45.4 +1.2**
comp=Z,2.0nm,0.8s,baz=135,slow=2.9,SNR=3.5
L26K Log Cabin Wild 109.89 333 IAMs_20 IAMs_20 05 08 57.1
comp=Z,11µm,20.0s
HIN Hinchinbrook I 109.91 329 IAMs_20 IAMs_20 05 09 18.5
comp=Z,15µm,20.0s
EGAK Eagle 109.97 335 IAMs_20 IAMs_20 05 10 29.0
comp=Z,11µm,22.0s
GERES GERESS Array B 109.99 44 PKiKP **PKiKP 04 13 45.5 +1.4**
comp=Z,3.9nm,0.7s,baz=153,slow=0.3,SNR=19
GERES PKKPab **PKKPab 04 24 57.2 +1.5**
comp=Z,2.0nm,1.0s,baz=318,slow=1.3,SNR=4.8
KHC Kasperske Hory 110.03 44 *ex* x 04 13 45.6
FID Port Fidalgo 110.07 330 IAMs_20 IAMs_20 05 07 13.8
comp=Z,12µm,22.0s
KLU Klutina 110.19 330 IAMs_20 IAMs_20 05 10 15.8
comp=Z,10µm,22.0s
CKRC Cesky Krumlov 110.34 45 *e*PKP **PKiKP 04 13 46.4 +1.7**
CKRC *e*PP **PP 04 14 13.1 -7.4**
GLI Glacier Island 110.40 330 IAMs_20 IAMs_20 05 07 23.4
comp=Z,11µm,22.0s
CLL Collm 110.61 42 *e*(Pdif) 04 09 42.0
CLL *e*PKiKP **PKiKP 04 13 47.0 +2.0**
CLL *i* sPKiKP sPKiKP 04 13 58.0 -4.6
CLL *i* 04 14 06.8
CLL *e*PP **PP 04 14 20.0 -2.3**
CLL *e*(PS) 04 23 46.0
CLL *e*(PPS) 04 24 42.0
CLL *e*SSS SSS 04 33 42.0
CLL Lm MLR 04 59 00.0
comp=Z,21µm,20.4s
CLL Collm 110.61 42 *e*P **Pdif 04 09 42.0 -2.9**
CLL *e* 04 13 47.0
CLL *i* 04 13 58.0
CLL MLR MLR
comp=Z,21µm,20.4s
SCRK Sand Creek 110.62 333 IAMs_20 IAMs_20 04 58 26.3
comp=Z,14µm,19.0s
BER Bergen 110.68 31 IVMs_BB IVMs_BB 05 16 36.0
comp=Z,9µm,18.5s
RIDG Independent Ri 110.83 333 IAMs_20 IAMs_20 05 09 35.0
comp=Z,13µm,21.0s
PDG Podgorica 110.89 52 IAMs_20 IAMs_20 05 05 29.5
comp=Z,13µm,19.0s
CONA Conrad Observa 110.92 46 *e*P PKiKP 04 13 36.0 -10
comp=Z,5.5nm,0.6s
CONA *e*P **PKKPab 04 24 51.0 -0.7**
comp=Z,4.3nm,1.2s
PWL Port Wells 110.93 329 IAMs_20 IAMs_20 05 10 39.3
comp=Z,11µm,20.0s
PRA Prague 110.93 43 *e*PP **PP 04 14 23.0 -1.7**
SCM Sheep Creek Mo 110.94 330 IAMs_20 IAMs_20 05 10 36.2
comp=Z,14µm,22.0s
BRG Berggiesshubel 110.97 43 *e*PKP **PKiKP 04 13 47.6 +1.9**
BRG Amp 04 13 49.9
comp=Z,10nm,0.9s
BRG Berggiesshubel 110.97 43 P PKiKP 04 13 58.1 +12
BRG Amp 04 13 59.5
comp=Z,14nm,1.0s
FOO Floro 111.11 30 IVMs_BB IVMs_BB 05 14 40.6
comp=Z,7µm,19.9s
PVCC Panska Ves 111.20 43 *e*PKP **PKiKP 04 13 47.7 +1.5**
PVCC *e*PP **PP 04 14 21.2 -5.4**
HOMB Homborsund 111.20 34 *e*Pdif **Pdif 04 09 41.3 -6.0**
HOMB IVMs_BB IVMs_BB 05 09 26.1
comp=Z,10µm,19.8s
KNK Knik Glacier 111.23 330 IAMs_20 IAMs_20 05 11 06.8
comp=Z,14µm,22.0s
JMIC Jan Mayen 111.26 18 IVMs_BB IVMs_BB 05 11 17.3
comp=Z,4µm,21.8s
SML Sawmill 111.35 330 IAMs_20 IAMs_20 05 09 33.1
comp=Z,13µm,21.0s
GHO Glory Hole Cre 111.59 330 IAMs_20 IAMs_20 05 09 28.3
comp=Z,13µm,22.0s
CNPM China Poot 111.64 327 IAMs_20 IAMs_20 05 06 22.2
comp=Z,11µm,21.0s
RC01 Rabbit Creek A 111.64 329 IAMs_20 IAMs_20 05 10 49.3
comp=Z,13µm,21.0s
KRUC Moravsky 111.70 45 *ep*PKIKP 04 13 48.5
KRUC *e* 04 14 27.7
FIS Fire Island 111.88 329 IAMs_20 IAMs_20 05 10 57.4
comp=Z,13µm,21.0s
VRAC Vranov 111.91 45 *ep*PKIKP 04 13 49.1
VRAC *e* 04 14 29.9
PRP Porcupine Dome 111.94 334 IAMs_20 IAMs_20 04 58 14.1
comp=Z,11µm,21.0s
HDA Harding Lake 111.97 333 IAMs_20 IAMs_20 05 01 35.9
comp=Z,11µm,20.0s
MODS Modra-Piesok 111.97 46 *e*PKIKP **PKiKP 04 13 50.0 +2.2**
MODS Modra-Piesok 111.97 46 *e*PKP **PKiKP 04 13 49.9 +2.2**
UPC Upice 112.03 43 *e*PKP **PKiKP 04 13 49.8 +2.0**
UPC *e*PP **PP 04 14 27.2 -5.4**
CHVC Chvalec 112.09 43 *e*PKP **PKiKP 04 13 49.0 +1.1**
CHVC *ex* x 04 13 58.9
RGN Rugen 112.10 39 IAMs_20 IAMs_20 05 02 44.4
comp=Z,13µm,20.0s
ILAR Eielson Array 112.11 333 Pdiff **Pdif 04 09 51.6 +0.3**
comp=Z,0.8nm,0.8s,baz=153,slow=4.0,SNR=5.3
ILAR PKiKP **PKiKP 04 13 48.7 +1.2**
comp=Z,4.5nm,0.9s,baz=170,slow=1.3,SNR=16
ILAR PKKPbc **PKKPbc 04 24 37.4 -3.4**
comp=Z,1.8nm,0.7s,baz=306,slow=3.2,SNR=8.2
CAPN Captain Cook N 112.13 329 IAMs_20 IAMs_20 05 09 19.1
comp=Z,10µm,21.0s
SKAR Skarslia 112.13 32 IVMs_BB IVMs_BB 05 17 27.0
comp=Z,10µm,19.2s
DPC Dobruska-Polom 112.16 44 *e*PKP **PKiKP 04 13 49.4 +1.3**
DPC *ex* x 04 14 00.0
DPC *e*PP **PP 04 14 28.6 -4.9**
OSTC Ostas 112.17 43 *e*PKP **PKiKP 04 13 47.9 -0.2**
OSTC *ex* x 04 13 58.3
OSTC *e*PP **PP 04 14 30.2 -3.4**
AKN Aaknes 112.20 30 IVMs_BB IVMs_BB 05 16 37.2
comp=Z,7µm,20.7s
SUA Susitna One 112.24 329 IAMs_20 IAMs_20 05 11 52.1
comp=Z,10µm,20.0s
RND Reindeer 112.28 332 IAMs_20 IAMs_20 05 09 58.6
comp=Z,10µm,21.0s
KONO Kongsberg 112.29 33 IAMs_20 IAMs_20 04 59 03.8
comp=Z,16µm,20.0s
FYU Fort Yukon 112.32 335 IAMs_20 IAMs_20 05 00 00.2
comp=Z,12µm,20.0s
KRLC Kraliky 112.32 44 *e*PKP **PKiKP 04 13 50.2 +1.8**
KRLC *ex* x 04 14 00.2
KRLC *e*PP PP 04 14 24.9 -10
KSP Ksiaz 112.33 43 *e*PP **PP 04 14 30.1 -4.5**
KSP *e*PS **PS 04 24 13.2 +4.7**
JAVC Velka Javorina 112.39 46 *ep*PKIKP 04 13 48.6
JAVC *e* 04 14 32.6
CCB Clear Creek Bu 112.40 333 IAMs_20 IAMs_20 05 11 47.5
comp=Z,12µm,22.0s
CUT Chulitna 112.44 330 IAMs_20 IAMs_20 05 10 34.2
comp=Z,13µm,22.0s
WRH Wood River Hil 112.44 333 IAMs_20 IAMs_20 04 59 33.4
comp=Z,11µm,20.0s
POKR Poker Plat Res 112.47 334 IAMs_20 IAMs_20 04 59 42.2
comp=Z,12µm,19.0s
COLA College 112.52 333 IAMs_20 IAMs_20 05 00 45.7
comp=Z,10µm,18.0s
TCOL CIGO, UAF Yank 112.53 333 IAMs_20 IAMs_20 05 00 45.7
comp=Z,10µm,18.0s
MORC Moravsky Berou 112.66 45 ⇑P **PKiKP 04 13 50.5 +1.5**
MORC Moravsky Berou 112.66 45 ⇑PKIKP **PKiKP 04 13 50.5 +1.5**
MORC Moravsky Berou 112.66 45 *ep*PKIKP 04 13 50.7
MORC *e* 04 14 32.2
MDM Murphy Dome 112.70 333 IAMs_20 IAMs_20 04 59 30.4
comp=Z,9µm,19.0s
KOLL Kolacno 112.74 46 *e*PKP **PKiKP 04 13 51.2 +2.0**
SKT Skwentna 112.80 330 IAMs_20 IAMs_20 05 11 26.8
comp=Z,10µm,21.0s
BWN Browne 112.85 332 IAMs_20 IAMs_20 05 12 11.5
comp=Z,16µm,22.0s
NEA2 Nenana 112.87 333 IAMs_20 IAMs_20 04 59 46.8
comp=Z,12µm,19.0s
TRF Thorofare Moun 112.88 331 IAMs_20 IAMs_20 05 10 41.5
comp=Z,17µm,20.0s
SANT Santorini 112.92 60 IAMs_20 IAMs_20 05 04 34.5
comp=Z,12µm,20.0s
H24K Noodor Dome 112.95 334 IAMs_20 IAMs_20 04 58 53.0
comp=Z,13µm,21.0s
VYHS Vyhne 112.97 46 *e* **PKiKP 04 13 51.6 +1.9**
VYHS Vyhne 112.97 46 *e*PKP **PKiKP 04 13 51.6 +1.9**
BOVS Bovan 113.02 52 ⇑P **PKiKP 04 13 50.6 +0.8**
OKC Ostrava-Krasne 113.05 45 *e*PP **PP 04 14 35.5 -4.3**
I23K Minto, Yukon-K 113.22 333 IAMs_20 IAMs_20 05 12 34.0
comp=Z,11µm,21.0s
O19K Port Alsworth 113.34 327 IAMs_20 IAMs_20 05 11 44.0
comp=Z,10µm,20.0s
BPAW Bear Paw Mtn. 113.43 332 IAMs_20 IAMs_20 05 11 04.6
comp=Z,14µm,22.0s
H23K Yukon River 113.57 334 IAMs_20 IAMs_20 05 00 44.3
comp=Z,12µm,19.0s
NB2 NORSAR Subarra 113.58 32 PKPdf **PKiKP 04 13 51.1 +0.6**
comp=Z,23nm,1.7s,baz=248,slow=1.9
NB2 NORSAR Subarra 113.58 32 *e* **PKiKP 04 13 51.1 +0.6**
baz=248,slow=1.9
NOA NORSAR Array B 113.58 32 PKiKP **PKiKP 04 13 50.1 -0.3**
comp=Z,3.5nm,0.8s,baz=252,slow=2.1,SNR=8.5
NOA PP **PP 04 14 44.5 +1.2**
comp=Z,3.6nm,1.1s,baz=240,slow=7.2,SNR=3.3
LANS Liptovska Anna 113.60 46 *e*PKIKP **PKiKP 04 13 53.5 +2.6**
LANS Liptovska Anna 113.60 46 *e*PKP **PKiKP 04 13 53.5 +2.6**
CAST Castle Rocks 113.61 331 IAMs_20 IAMs_20 05 11 35.2
comp=Z,11µm,22.0s
N19K Bonanza Creek 113.65 328 IAMs_20 IAMs_20 05 07 57.6
comp=Z,10µm,21.0s
VTS Vitosha 113.68 53 ⇑P **PKiKP 04 13 52.4 +1.0**
VTS Vitosha 113.68 53 ⇑PKIKP **PKiKP 04 13 52.4 +1.0**
BZS Buzias 113.69 50 ⇑P **PKiKP 04 13 50.4 -0.7**
BZS Buzias 113.69 50 ⇑PKIKP **PKiKP 04 13 50.4 -0.7**
MLY Manley 113.70 333 IAMs_20 IAMs_20 05 00 11.9
comp=Z,15µm,20.0s
ALE Alert 113.78 1 IAMs_20 IAMs_20 05 02 40.2
comp=Z,14µm,22.0s
HERR Herculane 113.95 51 ⇑P **PKiKP 04 13 51.6 0.0**
M19K Big River Lodg 114.01 329 IAMs_20 IAMs_20 05 12 07.0
comp=Z,10µm,20.0s
OJC Ojcow 114.18 45 *e*PKiKP **PKiKP 04 13 53.2 +1.3**
OJC *e*PP **PP 04 14 45.0 -2.9**
OJC *e*PS **PKKPbc 04 24 30.9 -2.4**
NIE Niedzica 114.20 46 *e*PKiKP **PKiKP 04 13 54.9 +2.9**
NIE *e*PP **PP 04 14 43.9 -4.2**
NIE *e*PS **PKKPab 04 24 38.4 +1.4**
N18K Kilae Creek 114.24 328 IAMs_20 IAMs_20 05 07 12.9
comp=Z,10µm,22.0s
I21K Tanana 114.25 333 IAMs_20 IAMs_20 05 13 09.2
comp=Z,16µm,20.0s
L19K White Mountain 114.32 329 IAMs_20 IAMs_20 05 12 38.0
comp=Z,15µm,21.0s
GZR Gura Zlata 114.37 50 ⇑P **PKiKP 04 13 54.4 +1.9**
GZR Gura Zlata 114.37 50 ⇑PKIKP **PKiKP 04 13 54.4 +1.9**
K20K Telida 114.41 331 IAMs_20 IAMs_20 05 10 37.5
comp=Z,12µm,21.0s
TOLK Toolik Lake Re 114.71 337 IAMs_20 IAMs_20 05 00 08.5
comp=Z,9µm,21.0s
J20K Kowinta River 114.74 331 IAMs_20 IAMs_20 05 13 35.2
comp=Z,16µm,21.0s
CRVS Cervenica-Dubn 114.74 47 *e*PKIKP **PKiKP 04 13 54.7 +1.7**
CRVS Cervenica-Dubn 114.74 47 *e*PKP **PKiKP 04 13 54.7 +1.7**
H21K Melozitna Rive 114.75 333 IAMs_20 IAMs_20 05 12 27.4
comp=Z,16µm,21.0s
STHS Stebnicka Huta 114.78 46 *e*PKIKP **PKiKP 04 13 55.4 +2.3**
STHS Stebnicka Huta 114.78 46 *e*PKP **PKiKP 04 13 55.4 +2.3**
DRGR 114.81 49 ⇑P **PKiKP 04 13 55.1 +1.8**
DRGR 114.81 49 ⇑PKIKP **PKiKP 04 13 55.1 +1.8**
LOT Lotru 115.04 51 ⇑P **PKPdf 04 13 53.0 -0.9**
UZH Uzhgorod 115.17 47 *i* PKIKP **PKPdf 04 13 52.4 -1.4**
UZH *e* 04 14 04.9
UZH *i* 04 14 51.0
UZH *i* PPP PPP 04 17 28.4
UZH *i* 04 24 37.2
UZH MLR MLR
comp=N,2µm,19.0s
UZH MLR MLR
comp=E,4µm,19.0s
UZH MLR MLR
comp=Z,2µm,19.0s
NSS Namsos 115.17 28 *e*PS PS 04 24 18.6 -15
NSS IVMs_BB IVMs_BB 05 17 21.5
comp=Z,6µm,19.6s
KOLS Kolonicke sedl 115.26 47 *e*PKIKP **PKiKP 04 13 58.5 +4.5**
KOLS Kolonicke sedl 115.26 47 *e*PKP **PKiKP 04 13 58.5 +4.5**
BEL Belsk 115.32 43 *e*PKiKP **PKiKP 04 13 55.4 +1.4**
BEL *e*PP **PP 04 14 55.0 -0.9**
BEL *e*PS **PS 04 24 42.6 +6.8**
ARR Arges 115.59 51 ⇑P **PKiKP 04 13 56.6 +1.8**
BMR Baia Mare 115.61 48 ⇑P **PKiKP 04 13 55.1 +0.4**
BMR Baia Mare 115.61 48 ⇑PKIKP **PKiKP 04 13 55.1 +0.4**
KWP Kalwaria Pacla 115.75 46 *e*PKiKP **PKiKP 04 13 57.4 +2.4**
KWP *e*PP **PP 04 14 55.7 -3.3**
KWP *e*PS **PKKPdf 04 24 51.9 -1.4**
VOIR 115.89 51 ⇑P **PKiKP 04 13 56.7 +1.3**
VOIR 115.89 51 ⇑PKIKP **PKiKP 04 13 56.7 +1.3**
ARCR ARCALIA 115.97 49 ⇑P **PKiKP 04 13 57.4 +2.0**
HNR Honiara 116.21 239 IAMs_20 IAMs_20 04 52 13.0
comp=Z,9µm,22.0s
DOPR Dopca 116.29 51 ⇑P **PKiKP 04 13 56.2 +0.1**
SECR 116.44 52 ⇑P **PKiKP 04 13 57.8 +1.3**
MLR Muntele Rosu 116.50 51 ⇑P **PKiKP 04 13 57.4 +0.7**
MLR Muntele Rosu 116.50 51 ⇑PKIKP **PKiKP 04 13 57.4 +0.7**
MLR Muntele Rosu 116.50 51 PKPdf 04 13 56.3 -0.4
LVV L'vov 116.63 46 *e*PKIKP **PKiKP 04 13 59.0 +2.4**
MOR8 Moi Rana 116.69 27 *e*PS PS 04 24 32.8 -15
BUR08 Bucovina Ar. S 116.69 49 PKPdf 04 13 56.2 -0.8
BURAR Bucovina Array 116.70 49 ⇓P **PKiKP 04 13 57.3 +0.4**
BURAR Bucovina Array 116.70 49 ⇓PKIKP **PKiKP 04 13 57.3 +0.4**
BURAR Bucovina Array 116.70 49 PKPdf 04 13 56.8 -0.2
NEHR Nehoiu 116.72 51 ⇓P **PKiKP 04 13 57.2 +0.2**
BISRR Bisoca 117.03 51 ⇑P **PKPdf 04 13 56.9 -0.7**
BIZ Bicaz 117.06 50 ⇑P **PKPdf 04 13 55.4 -2.1**
PLOR Plostina 117.08 51 ⇑P **PKiKP 04 13 57.7 0.0**
PLOR Plostina 117.08 51 ⇑PKIKP **PKiKP 04 13 57.7 0.0**
VRI Vrincioaia 117.14 51 ⇓P **PKPdf 04 13 55.9 -1.9**
VRI Vrincioaia 117.14 51 ⇓PKIKP **PKPdf 04 13 55.9 -1.9**
ISP Isparta 117.22 61 IAMs_20 IAMs_20 05 05 12.2
comp=Z,16µm,22.0s
TESR Tescani 117.29 50 ⇓P **PKiKP 04 13 58.0 0.0**
ODBI Odobesti 117.33 51 ⇓P PKiKP 04 14 10.6 +13
SUW Suwalki 117.36 41 *e*PKiKP **PKPdf 04 13 56.7 -1.1**
SUW *e*PP **PP 04 15 04.5 -5.6**
SUW *e*PS **PS 04 24 58.6 +4.3**
SUW Suwalki 117.36 41 *e*P **PKiKP 04 13 59.0 +1.1**
STEI Steigen 117.49 25 IVMs_BB IVMs_BB 05 10 27.8
comp=Z,5µm,28.5s
HARR Harsova 117.59 53 ⇓P **PKiKP 04 14 00.2 +1.6**
HARR Harsova 117.59 53 ⇓PKIKP **PKiKP 04 14 00.2 +1.6**
TLBR Topalu 117.62 53 ⇑P **PKiKP 04 13 60.0 +1.3**
TIRR Tirgusor 117.84 53 ⇑P **PKiKP 04 14 00.1 +1.0**
TIRR Tirgusor 117.84 53 ⇑PKIKP **PKiKP 04 14 00.1 +1.0**
CFR Carcaliu 117.88 52 ⇑P **PKPdf 04 13 58.8 -0.3**
CFR Carcaliu 117.88 52 ⇑PKIKP **PKPdf 04 13 58.8 -0.3**
A21K Barrow 117.88 339 IAMs_20 IAMs_20 05 02 53.4
comp=Z,10µm,22.0s
TPGR Topolog 117.97 52 ⇑P **PKPdf 04 13 58.9 -0.5**
VLDR Vladesti 118.04 51 ⇑P **PKiKP 04 14 00.4 +0.9**
VASR Vaslui 118.08 50 ⇑P **PKiKP 04 14 01.3 +1.7**
PABE Paberze 118.20 40 *e*P **PKiKP 04 14 01.0 +1.6**
PABE Paberze 118.20 40 PKiKP 04 13 59.9 +0.4
TLCR 118.34 52 ⇑P **PKiKP 04 14 00.7 +0.7**
TLCR 118.34 52 ⇑PKIKP **PKiKP 04 14 00.7 +0.7**
CSS Mathiatis 118.38 64 IAMs_20 IAMs_20 05 05 38.1
comp=Z,11µm,22.0s
RAF Rauma 118.45 34 *e*P **PKiKP 04 14 00.7 +0.9**
MILM Milestii Mici 118.83 50 ⇓P **PKiKP 04 14 02.0 +1.0**
KIS Kishinev 118.86 50 *e*PP PP 04 15 18.0 -2.6
comp=Z,480nm,11.3s
KIS *e*SKP 04 17 14.0
KIS Kishinev 118.86 50 *e*LR LR 04 56 57.0
comp=Z,4µm,21.0s
SORM Soroca 118.87 49 ⇑P **PKPdf 04 14 00.0 -0.9**
SORM Soroca 118.87 49 ⇑PKIKP **PKPdf 04 14 00.0 -0.9**
MTSE Matsula 118.91 36 *e*P **PKiKP 04 14 02.1 +1.4**
TRO Tromso 119.20 24 IVMs_BB IVMs_BB 05 15 26.2
comp=Z,4µm,18.4s
RDOG Red Dog Mine 119.25 334 IAMs_20 IAMs_20 05 03 17.5
comp=Z,10µm,20.0s
ISAL Salakas 119.41 40 *e*P **PKiKP 04 13 03.2 +1.4**
IIGN Ignalina 119.41 41 *e*P **PKiKP 04 13 03.2 +1.4**
ANM Nome 119.53 330 IAMs_20 IAMs_20 05 13 46.8
comp=Z,13µm,22.0s
MEF Metsahovi 119.54 35 *e*P **PKiKP 04 14 03.2 +1.3**
NACGM Naroch 119.62 41 *i* PKP **PKiKP 04 14 03.0 +0.7**
HSPB Hornsund (broa 119.67 15 *e*PP PP 04 15 25.8 +0.4
HSPB *e*PS **PS 04 25 07.9 -6.6**
SPA0 Spitsbergen Ar 120.06 14 *ep*PKPdf **PKiKP 04 14 04.7 +2.1**
AKASG Malin Array Be 120.08 46 PKP **PKPdf 04 14 01.6 -1.6**
comp=Z,22nm,0.6s,baz=265,slow=2.7,SNR=55
ASAR Alice Springs 120.09 207 PKhKP PKPpre 04 14 02.1
comp=Z,9.6nm,0.9s,baz=147,slow=2.2,SNR=27
ASAR PKP **PKiKP 04 14 05.0 +0.6**
comp=Z,9.6nm,0.9s,baz=145,slow=2.1,SNR=26
ASAR PKKPbc **PKKPbc 04 24 11.7 -0.3**
comp=Z,2.4nm,0.7s,baz=343,slow=3.0,SNR=9.9
BRTR Keskin Array B 120.13 59 PKP **PKPdf 04 14 03.4 -0.5**
comp=Z,11nm,0.8s,baz=180,slow=2.4,SNR=22
BRTR PP **PP 04 15 28.6 -1.2**
comp=Z,9.0nm,1.0s,baz=224,slow=5.2,SNR=5.0
BRTR Keskin Array B 120.13 59 PKIKP **PKPdf 04 14 03.0 -0.9**
BRTR Keskin Array B 120.13 59 PKPdf 04 14 03.0 -0.9
MNK Minsk 120.15 42 *i* PKIKP **PKPdf 04 14 00.8 -2.4**
MNK *i* 04 15 25.4
MNK *i* PPP PPP 04 17 58.2
MNK *i* 04 21 05.7
MNK *i* PS **PS 04 25 15.6 -3.9**
MNK *i* SS SS 04 31 50.8 -2.8
MNK *i* SSS SSS 04 36 12.8
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=Z,112nm,0.8s
MNK pmax pmax
comp=N,15nm,0.8s
MNK MLR MLR
comp=E,2µm,18.0s
MNK MLR MLR
comp=N,4µm,18.0s
MNK MLR MLR
comp=Z,13µm,18.0s
MNK Minsk 120.15 42 *i* PKP **PKPdf 04 14 00.8 -2.4**
comp=E,3.0nm,0.8s
MNK *i* PKP **PKPdf 04 14 00.8 -2.4**
comp=N,15nm,0.8s
MNK *i* PKP **PKPdf 04 14 00.8 -2.4**
comp=Z,112nm,0.8s,baz=78
MNK *i* PP **PP 04 15 25.5 -3.8**
MNK *i* PPP PPP 04 17 58.2
MNK *i* SKS **SKSdf 04 21 05.7 -6.0**
MNK *i* PS **PS 04 25 15.6 -3.9**
MNK *i* SS **SS 04 31 50.9 -2.7**
MNK *i* SSS SSS 04 36 12.8
MNK *i* LR LR 05 00 48.4
MNK *i* LRM MLR 05 05 09.7
comp=E,2µm,18.1s
MNK *i* LRM MLR 05 05 14.2
comp=N,4µm,18.1s
MNK *i* LRM MLR 05 05 14.2
comp=Z,13µm,18.1s
VSU Vasula 120.35 37 *e*P **PKiKP 04 14 04.8 +1.2**
VSU Vasula 120.35 37 *i* **PKPdf 04 14 02.0 -1.4**
FINES FINESS Array B 120.58 34 PKP **PKPdf 04 14 03.5 -0.4**
comp=Z,15nm,0.9s,baz=0.0,slow=0.4,SNR=21
HAMF Hammerfest 120.97 23 IVmB_BB 04 13 58.6
comp=Z,602nm,2.2s
HAMF IVMs_BB IVMs_BB 05 10 49.9
comp=Z,3µm,21.1s
ARA0 ARCESS Array S 121.47 24 *ep*PKPdf **PKiKP 04 14 07.0 +1.5**
ARCES ARCESS Array B 121.47 24 PKP **PKPdf 04 14 04.5 -0.8**
comp=Z,8.6nm,0.7s,baz=246,slow=2.6,SNR=18
ARCES ARCESS Array B 121.47 24 PKPdf 04 14 04.7 -0.6
BNN Bunyan 121.52 61 PKPdf 04 14 05.9 -0.6
HOPEN Hopen 121.79 16 *e*SS SS 04 32 01.0 -12
KEV Kevo 122.01 24 IAMs_20 IAMs_20 05 17 48.9
comp=Z,10µm,22.0s
PUL Pulkovo 122.39 36 pmax pmax
comp=Z,33nm,0.8s
WRA Warramunga Arr 123.25 209 PKhKP PKPpre 04 14 08.8
comp=Z,27nm,1.0s,baz=160,slow=1.9,SNR=38
WRA PKP **PKiKP 04 14 11.4 +0.8**
comp=Z,27nm,1.0s,baz=160,slow=1.9,SNR=42
WRA PKKPbc **PKKPbc 04 23 59.5 -0.4**
comp=Z,3.1nm,0.8s,baz=333,slow=2.7,SNR=6.3
ANN Anapa 124.15 54 *e* **PKiKP 04 14 11.7 +0.2**
ANN pmax pmax
comp=N,24nm,1.3s
ANN pmax pmax
comp=Z,38nm,1.2s
ANN MLR MLR
comp=N,10µm,26.0s
ANN MLR MLR
comp=Z,14µm,23.0s
APA Apatity 124.27 27 ⇓*i* PKIKP **PKPdf 04 14 04.9 -5.9**
APA pmax pmax
comp=Z,29nm,0.8s
LVZ Lovozero 124.74 26 *c i* PKIKP PKPdf 04 14 02.2 -10
LVZ *i* 04 14 12.8
LVZ pmax pmax
comp=Z,2.0nm,0.9s
LVZ Lovozero 124.74 26 **PKiKP 04 14 12.5 +0.5**
LVZ IAMs_20 IAMs_20 05 20 20.4
comp=Z,14µm,21.0s
OBN Obninsk 125.21 42 *d i* PKIKP **PKiKP 04 14 14.4 +1.2**
OBN *i* 04 14 24.7
OBN pmax pmax
comp=Z,122nm,1.0s
OBN Obninsk 125.21 42 **PKPdf 04 14 12.2 -0.7**
SOC Sochi 125.51 56 *e*PKIKP **PKPdf 04 14 09.8 -4.1**
SOC *e* 04 16 03.9
SOC *e*PS **PS 04 26 01.2 -6.2**
SOC pmax pmax
comp=Z,51nm,1.1s
SOC MLR MLR
comp=Z,5µm,21.0s
MOS Moscow 125.87 41 *i* PKIKP **PKPdf 04 14 12.2 -1.9**
MOS *e* 04 14 25.2
MOS *e* 04 16 11.1
MOS *e*PPP PPP 04 18 56.0
MOS pmax pmax

	comp=Z,108nm,1.1s								
MOS					pmax	pmax			
	comp=Z,100nm,1.2s								
MOS					MLR	MLR			
	comp=Z,12μm,20.0s								
PSA00	**Pilbara Seismi**	**126.21**	**193**			**PKPdf**	**04 14 14.0**	**-2.1**	
VORD	**Divnogorie**	**126.40**	**47**	*e*	PKHKP	PKPpre	04 14 03.7		
VORD					pmax	pmax			
	comp=Z,60nm,1.2s								
BCA	**Borcka**	**126.45**	**59**	⇑	P	**PKiKP**	**04 14 17.7**	**+1.5**	
KLMR	**Klimovskoe**	**127.02**	**35**	*e*	PKiKP	**PKPdf**	**04 14 15.7**	**-0.5**	
KLMR					pmax	pmax			
	comp=Z,206nm,1.1s								
KLMR	**Klimovskoe**	**127.02**	**35**	*e*	PKPdf	**PKPdf**	**04 14 15.7**	**-0.5**	
KLMR					AMP		04 14 20.6		
	comp=Z,206nm,1.1s								
RST	**Umm Al-Ruwaisa**	**127.54**	**75**	*e*	P	**PKiKP**	**04 14 19.6**	**+0.9**	
KIV	**Kislovodsk**	**127.69**	**56**	⇓	P	**PKiKP**	**04 14 20.9**	**+2.1**	
KIV	**Kislovodsk**	**127.69**	**56**	*i*	PKiKP	**PKPdf**	**04 14 18.4**	**+0.2**	
	SNR=5.7								
KIV	**Kislovodsk**	**127.69**	**56**	*e*	PKiKP	**PKiKP**	**04 14 19.5**	**+0.8**	
KIV					pmax	pmax			
	comp=Z,41nm,1.0s								
KIV	**Kislovodsk**	**127.69**	**56**		IAMs_20	IAMs_20	05 21 05.2		
	comp=Z,9μm,22.0s								
KBZ	**Khabaz**	**127.80**	**57**		PKP	**PKPdf**	**04 14 17.7**	**-0.5**	
	comp=Z,12nm,0.9s,baz=266,slow=6.3,SNR=15								
KBZ	**Khabaz**	**127.80**	**57**	*c*	*i* PKiKP	**PKiKP**	**04 14 19.9**	**+1.1**	
RDF	**Al-Radifah**	**127.82**	**76**	*e*	P	**PKiKP**	**04 14 19.7**	**+0.4**	
AKH	**Akhalkalaki**	**127.82**	**60**	⇓	P	**PKiKP**	**04 14 21.2**	**+2.0**	
MIB	**Mutribah**	**127.92**	**75**	*e*	P	**PKiKP**	**04 14 20.3**	**+0.8**	
VRH	**Novokhopyorsk**	**127.95**	**47**	*e*	PKHKP	PKPpre	04 14 05.7		
VRH					pmax	pmax			
	comp=Z,70nm,0.9s								
VRH					MLR	MLR			
	comp=Z,11μm,20.0s								
ONI	**Oni**	**128.01**	**58**		PKiKP	**PKPdf**	**04 14 18.7**	**-0.1**	
ONI	**Oni**	**128.01**	**58**			**PKPdf**	**04 14 18.6**	**-0.1**	
KBD	**Kabd**	**128.02**	**76**	*e*	P	**PKiKP**	**04 14 20.3**	**+0.6**	
QRN	**Al-Qurain**	**128.06**	**76**	*e*	P	**PKiKP**	**04 14 20.3**	**+0.5**	
GOF	**Gofitskoye**	**128.12**	**55**	⇑	*e* PKiKP	**PKiKP**	**04 14 20.3**	**+0.9**	
GOF					pmax	pmax			
	comp=Z,58nm,0.6s								
NCK	**Nalchik**	**128.26**	**57**	*i*		**PKiKP**	**04 14 20.3**	**+0.5**	
ZEI	**Tsey**	**128.37**	**58**	*i*	PKiKP	**PKPdf**	**04 14 17.6**	**-2.0**	
ZEI					pmax	pmax			
	comp=Z,9.0nm,1.1s								
GNI	**Garni**	**128.50**	**61**		PKiKP	**PKPdf**	**04 14 19.5**	**-0.4**	
GNI	**Garni**	**128.50**	**61**	⇑	*i* PKHKP	PKPpre	04 14 08.2		
GNI					*i*		04 14 22.9		
GNI					pmax	pmax			
	comp=Z,3.0nm,0.8s								
GNI	**Garni**	**128.50**	**61**		IAMs_20	IAMs_20	05 15 06.0		
	comp=Z,10μm,19.0s								
GROC	**Groznyy**	**129.81**	**58**	*i*	PKiKP	**PKPdf**	**04 14 16.5**	**-5.6**	
GROC					*e*		04 16 30.2		
GROC					*e*		04 21 20.7		
GROC					*e*		04 21 30.8		
GROC					pmax	pmax			
	comp=Z,76nm,1.4s								
BILL	**Bilibino**	**130.71**	**335**	⇑	*i* PKHKP	PKPpre	04 14 14.3		
BILL					*i*		04 14 26.2		
BILL					*e*		04 16 43.0		
BILL							04 21 22.0		
BILL					*e*PS	**PS**	**04 26 44.0**	**-7.9**	
BILL					*e*SS	SS	04 34 07.6	+2.5	
BILL					pmax	pmax			
	comp=Z,26nm,1.5s								
BILL					MLR	MLR			
	comp=Z,5μm,17.0s								
BILL	**Bilibino**	**130.71**	**335**		IAMs_20	IAMs_20	05 24 18.3		
	comp=Z,7μm,20.0s								
AKT	**Akhty**	**130.97**	**60**	*e*	PKiKP	**PKPdf**	**04 14 23.6**	**-0.9**	
AKT					*e*		04 16 41.6		
AKT					pmax	pmax			
	comp=Z,78nm,1.0s								
MAK	**Makhachkala**	**131.01**	**58**	*i*	PKHKP	PKPpre	04 14 14.0		
MAK					pmax	pmax			
	comp=Z,252nm,1.3s								
KIRV	**Kirov**	**132.20**	**37**	*ce*	PKiKP	**PKPdf**	**04 14 25.5**	**-0.6**	
ASUD	**Al Ashush, Dub**	**132.92**	**84**	*i*	PKiKP	**PKiKP**	**04 14 29.1**	**-0.6**	
	SNR=10								
FAQ	**Al Faqa, Dubai**	**133.19**	**84**	*i*	PKiKP	**PKPdf**	**04 14 28.6**	**-0.5**	
	SNR=11								
NAZ	**Nazwa, Dubai**	**133.33**	**84**	*i*	PKiKP	**PKiKP**	**04 14 30.0**	**-0.5**	
	SNR=6.1								
ASHO	**Ashiyiah**	**133.56**	**85**	*i*	PKiKP	**PKPdf**	**04 14 28.5**	**-1.3**	
	SNR=6.6								
HATD	**Hatta, Dubai**	**133.68**	**84**	*i*	PKiKP	**PKPdf**	**04 14 28.9**	**-1.1**	
	SNR=11								
SOHO	**SOHO**	**133.77**	**86**	*i*	PKiKP	**PKPdf**	**04 14 29.9**	**-0.3**	
	SNR=8.9								
UOSS	**Minazif**	**133.78**	**84**		PKiKP	**PKPdf**	**04 14 26.7**	**-3.4**	
MSFE	**Esma-Masafi**	**133.88**	**84**	*i*	PKiKP	**PKPdf**	**04 14 30.5**	**+0.1**	
	SNR=10								
SHME	**Shamm**	**134.10**	**83**	*i*	PKiKP	**PKPdf**	**04 14 30.3**	**-0.4**	
	SNR=11								
BANOM	**Banah**	**134.19**	**83**		PKiKP	**PKPdf**	**04 14 28.4**	**-2.5**	
ARU	**Arti**	**137.46**	**39**		PKP	**PKPdf**	**04 14 36.3**	**+0.3**	
	baz=128,slow=20								
ARU	**Arti**	**137.46**	**39**	*i*	PKHKP	PKPpre	04 14 27.1		
ARU							04 27 43.3		
ARU					SS	SS	04 35 17.6	-9.4	
ARU					MLR	MLR			
	comp=Z,22μm,23.0s								
ARU	**Arti**	**137.46**	**39**			**PKPdf**	**04 14 35.9**	**-0.1**	
SEY	**Seymchan**	**138.01**	**332**		PKP	**PKPdf**	**04 14 37.5**	**+0.7**	
	comp=Z,72nm,1.0s,baz=135,slow=3.2,SNR=13								
MMRI	**Maumere**	**138.07**	**201**		IAMs_20	IAMs_20	05 23 59.1		
	comp=Z,12μm,22.0s								
PET	**Petropavlovsk**	**138.11**	**316**	⇑	*i* PKHKP	PKPpre	04 14 28.7		
PET					*i*		04 14 40.8		
PET					pmax	pmax			
	comp=Z,20nm,1.1s								
TIXI	**Tiksi**	**138.23**	**350**		PKP	**PKiKP**	**04 14 38.6**	**-0.5**	
	comp=Z,32nm,1.0s,baz=6.4,slow=4.4,SNR=8.1								
TIXI	**Tiksi**	**138.23**	**350**	*i*	PKHKP	PKPpre	04 14 28.1		
TIXI					*e*		04 14 40.3		
TIXI	**Tiksi**	**138.23**	**350**			**PKiKP**	**04 14 38.1**	**-1.0**	
AKTO	**Aktyubinsk**	**138.28**	**48**		PKHKP	PKPpre	04 14 28.2		
GEYT	**Alibeck**	**138.44**	**67**		PKP	**PKPdf**	**04 14 39.2**	**+0.7**	
	comp=Z,520nm,0.7s,baz=238,slow=8.4,SNR=14								
SVE	**Sverdlovsk**	**138.45**	**38**	*i*	PKiKP	**PKiKP**	**04 14 38.9**	**-1.0**	
SVE					pmax	pmax			
	comp=Z,76nm,1.2s								
SVE					MLR	MLR			
	comp=Z,18μm,23.0s								
SVE					MLR	MLR			
	comp=E,17μm,24.0s								
PEA0B	**Petropavlovsk-**	**138.66**	**316**	*d*	*i* PKHKP	PKPpre	04 14 31.0		
PEA0B					*i*		04 14 41.5		
PETK	**Petropavlovsk-**	**138.66**	**316**		PKP	**PKiKP**	**04 14 40.9**	**+0.4**	
	comp=E,70nm,1.0s,baz=103,slow=6.5,SNR=20								
PETK	**Petropavlovsk-**	**138.66**	**316**		PKiKP	**PKPdf**	**04 14 39.2**	**+0.8**	
PETK	**Petropavlovsk-**	**138.66**	**316**		PKPdf	**PKPdf**	**04 14 39.2**	**+0.8**	
AB31	**Akbulak array**	**139.67**	**49**	*i*	PKHKP	PKPpre	04 14 28.1		
JAGI	**Jajag, Banyuwa**	**139.98**	**189**		IAMs_20	IAMs_20	05 26 52.7		
	comp=Z,11μm,22.0s								
SKR	**Severo-Kuril's**	**140.09**	**313**	*i*	PKiKP	**PKPdf**	**04 14 39.9**	**-1.1**	
SKR					*e*		04 17 45.1		
SKR					MLR	MLR			
	comp=Z,7μm,22.0s								
SKR					MLR	MLR			
	comp=Z,6μm,21.0s								
MA2	**Magadan**	**140.23**	**328**		PKP	**PKiKP**	**04 14 43.2**	**-0.3**	
	comp=Z,38nm,0.9s,baz=140,slow=1.2,SNR=13								
MA2	**Magadan**	**140.23**	**328**	*ce*	PKiKP	**PKiKP**	**04 14 43.0**	**-0.5**	
MA2	**Magadan**	**140.23**	**328**		IAMs_20	IAMs_20	05 23 01.9		
	comp=Z,11μm,20.0s								
GUMO	**Guam**	**142.26**	**250**		PKP	**PKiKP**	**04 14 48.1**	**-0.9**	
	comp=Z,58nm,0.5s,baz=0.0,slow=1.0,SNR=3.7								
TRD	**Trivandrum**	**142.82**	**121**	*e*	P	**PKPdf**	**04 14 43.1**	**-4.0**	
GOA	**Goa**	**144.62**	**109**	*e*	P	**PKPdf**	**04 14 51.0**	**+0.9**	
PALK	**Pallekele**	**144.62**	**127**		PKiKP	**PKPab**	**04 14 48.1**	**-0.8**	
PALK	**Pallekele**	**144.62**	**127**			**PKPab**	**04 14 48.1**	**-0.8**	
BHUJ	**Bhuj**	**144.66**	**94**	*e*	P	**PKPdf**	**04 14 49.5**	**-0.5**	
BHUJ					*i*	x	04 14 51.8		
BRVK	**Borovoye**	**144.96**	**41**	*c*	*i* PKiKP	PKPbc	04 14 48.8	-0.2	
BVAR	**Borovoye Array**	**145.04**	**41**		PKP	**PKPdf**	**04 14 50.0**	**+0.2**	
	comp=Z,95nm,0.6s,baz=267,slow=5.8,SNR=76								
BVAR	**Borovoye Array**	**145.04**	**41**		PKiKP	**PKPdf**	**04 14 50.0**	**+0.2**	
POO	**Poona**	**146.19**	**104**	*e*	P	**PKPbc**	**04 14 54.2**	**+0.3**	
YAK	**Yakutsk**	**146.44**	**342**		PKPbc	**PKPbc**	**04 14 53.6**	**+0.3**	
	comp=Z,80nm,0.7s,baz=63,slow=0.3,SNR=20								
YAK	**Yakutsk**	**146.44**	**342**	*e*	PKiKP	**PKPdf**	**04 14 51.0**	**-0.8**	
YAK					*e*		04 18 14.7		
YAK					*e*		04 21 56.9		
YAK					*e*SS	SS	04 37 09.4	-0.8	
YAK					pmax	pmax			
	comp=Z,103nm,1.2s								
YAK					pmax	pmax			
	comp=N,12nm,1.2s								
YAK					pmax	pmax			
	comp=E,10.0nm,1.2s								
YAK					pmax	pmax			
	comp=Z,610nm,3.3s								
YAK					pmax	pmax			
	comp=N,164nm,2.6s								
YAK					pmax	pmax			
	comp=E,126nm,2.8s								
YAK	**Yakutsk**	**146.44**	**342**			**PKPdf**	**04 14 51.9**	**+0.1**	
KUR	**Kuril'sk**	**146.54**	**306**	*e*	PKiKP	**PKPdf**	**04 14 51.9**	**-0.6**	
KUR					*i*		04 14 56.7		
KUR					pmax	pmax			
	comp=Z,461nm,1.0s								
KUR					pmax	pmax			
	comp=N,135nm,1.3s								
KUR					pmax	pmax			
	comp=Z,11μm,6.6s								
KBL	**Kabul**	**146.87**	**74**		PKP2	**PKPab**	**04 14 57.1**	**0.0**	
KBL	**Kabul**	**146.87**	**74**		PKPab	**PKPab**	**04 14 57.1**	**0.0**	
TOLI2	**Tolitoli**	**147.71**	**203**		IAMs_20	IAMs_20	05 18 57.6		
	comp=Z,5μm,22.0s								
KK31	**Karatay Array**	**147.83**	**58**	*i*	PKHKP	PKPpre	04 14 43.2		
YUK	**Yuzh-Kuril'sk**	**148.17**	**304**	*e*	PKHKP	PKPpre	04 14 51.3		
YUK					*e*		04 18 31.0		
TYV	**Tymovskoe**	**148.18**	**318**	*e*	PKP2	**PKiKP**	**04 14 59.5**	**-0.6**	
TYV					pmax	pmax			
	comp=Z,200nm,1.4s								
TYV					pmax	pmax			
	comp=Z,2μm,8.9s								
MDRS	**Chennai**	**148.23**	**119**	*e*	P	**PKPdf**	**04 14 57.2**	**+1.0**	
DRK	**Karamyk**	**149.18**	**65**		PKPdf	**PKPdf**	**04 14 55.9**	**-1.6**	
UGL	**Uglegorsk**	**149.25**	**315**	*e*	PKHKP	PKPpre	04 15 00.5		
UGL					pmax	pmax			
	comp=Z,180nm,1.0s								
UGL					pmax	pmax			
	comp=Z,7μm,12.0s								
HYB	**Hyderabad**	**149.47**	**110**	*e*	PP	PP	04 18 36.0	+0.5	
YSS	**Yuzh-Sakhalins**	**149.55**	**311**	*e*	PKHKP	PKPpre	04 15 00.5		
YSS					*e*		04 18 41.0		
YSS					pmax	pmax			
	comp=Z,170nm,0.8s								
YSS					pmax	pmax			
	comp=Z,5μm,14.7s								
YSS	**Yuzh-Sakhalins**	**149.55**	**311**			**PKiKP**	**04 15 04.4**	**+1.3**	
JMP	**Maruseppu**	**149.94**	**305**		P	**PKPbc**	**04 15 01.9**	**-1.2**	
ASAJ	**Asahikawa**	**150.45**	**305**		PKP	**PKPbc**	**04 15 02.0**	**-2.2**	
	comp=Z,46nm,1.0s,baz=255,slow=13,SNR=9.8								
ASAJ					PKPbc	**PKiKP**	**04 15 07.2**	**+2.2**	
	comp=Z,248nm,1.1s,baz=267,slow=6.8,SNR=30								
ASAJ	**Asahikawa**	**150.45**	**305**		P	**PKPdf**	**04 15 01.2**	**+2.3**	
JEM	**Erimo**	**150.47**	**301**		P	**PKPbc**	**04 15 03.3**	**-1.1**	
JWK2	**Keihoku**	**150.62**	**308**		P	**PKPdf**	**04 15 00.6**	**+1.5**	
KURBB	**Kurchatov Arra**	**150.63**	**40**		PKPbc	**PKPbc**	**04 15 02.6**	**-1.9**	
	comp=Z,15nm,0.8s,baz=301,slow=2.4,SNR=19								
KURBB	**Kurchatov Arra**	**150.63**	**40**		PKIKP	**PKPdf**	**04 14 57.8**	**-1.2**	
KURK	**Kurchatov**	**150.63**	**40**			**PKPbc**	**04 15 02.6**	**-1.9**	
AAK	**Ala-Archa**	**150.79**	**58**		PKPbc	**PKiKP**	**04 15 07.9**	**+1.9**	
	comp=Z,164nm,0.9s,baz=202,slow=3.3,SNR=34								
CHMS	**Chumysh**	**150.90**	**57**		P	**PKPab**	**04 15 09.9**	**-3.0**	
	SNR=20								
KBK	**Karagaybulak**	**151.12**	**58**		P	**PKiKP**	**04 15 09.0**	**+2.3**	
	SNR=6.4								
BHPL	**Bhopal**	**151.26**	**99**	*e*	P	**PKPdf**	**04 15 02.9**	**+1.9**	
BHPL					*i* x	x	04 15 08.6		
KZA	**Kyzart**	**151.45**	**59**		P	**PKiKP**	**04 15 11.4**	**+3.6**	
	SNR=11								
JEW	**Eniwo**	**151.55**	**303**		P	**PKPbc**	**04 15 04.5**	**-2.4**	
GRNR	**Gornyy**	**151.70**	**321**	⇑	*i* PKiKP	**PKPdf**	**04 15 03.4**	**+2.7**	
GRNR					pmax	pmax			
	comp=Z,20nm,1.1s								
ZALV	**Zalesovo Beam**	**151.77**	**30**		PKP	**PKPdf**	**04 15 02.0**	**+1.4**	
	comp=Z,121nm,0.5s,baz=288,slow=2.1,SNR=20								
ZALV					PKPbc	**PKPbc**	**04 15 06.7**	**-0.4**	
	comp=Z,371nm,0.6s,baz=310,slow=3.7,SNR=68								
JOT	**Ohata**	**152.14**	**300**		P	**PKPdf**	**04 15 04.4**	**+2.8**	
CMBY	**CAMPBELL BAY**	**152.15**	**148**	*e*	P	**PKPdf**	**04 15 04.4**	**+1.9**	
JTM	**Tenmabayashi**	**152.23**	**299**		P	**PKiKP**	**04 15 10.6**	**+1.8**	
JSH	**Shimam**	**152.61**	**303**		P	**PKiKP**	**04 15 09.9**	**+0.4**	
DHRM	**DHARAMSHALA**	**152.66**	**80**	*i*	x	x	04 15 12.4		
DHRM	**DHARAMSHALA**	**152.66**	**80**	*ex*		**PKPbc**	**04 15 11.8**	**+1.7**	
VIS	**Vishakhapatnam**	**153.41**	**115**	*e*	P	**PKPdf**	**04 15 06.2**	**+2.0**	
ZEA	**Zeya**	**153.93**	**334**	*i*	PKIKP	**PKPdf**	**04 15 03.1**	**-0.7**	
ZEA					*e*		04 15 25.3		
ZEA					*e*		04 19 08.3		
ZEA					pmax	pmax			
	comp=Z,40nm,1.3s								
ZEA					pmax	pmax			
	comp=Z,1μm,7.1s								
ZEA					pmax	pmax			
	comp=N,800nm,15.9s								
ZEA					pmax	pmax			
	comp=Z,1μm,13.8s								
JOD2	**Odawara 2**	**154.24**	**287**		P	**PKPdf**	**04 15 07.0**	**+2.1**	
JRY	**Ryogami san**	**154.38**	**289**		P	**PKPdf**	**04 15 07.4**	**+2.3**	
MAKZ	**Makanchi**	**154.46**	**45**		PKIKP	**PKPdf**	**04 15 03.8**	**-1.0**	
MK31	**Makanchi Array**	**154.65**	**45**		PKIKP	**PKPdf**	**04 15 05.6**	**+0.5**	
MKAR	**Makanchi Array**	**154.65**	**45**		PKP	**PKPdf**	**04 15 06.5**	**+1.3**	
	comp=Z,16nm,0.8s,baz=354,slow=0.9,SNR=28								
MKAR					PKPbc	**PKiKP**	**04 15 15.6**	**+1.9**	
	comp=Z,65nm,0.8s,baz=327,slow=1.3,SNR=29								
MKAR					PKPab	**pPKPbc**	**04 15 26.5**	**-0.1**	
	comp=Z,70nm,0.9s,baz=304,slow=2.8,SNR=13								
MKAR	**Makanchi Array**	**154.65**	**45**		PKIKP	**PKPdf**	**04 15 05.4**	**+0.3**	
MKAR	**Makanchi Array**	**154.65**	**45**		PKPdf	**PKPdf**	**04 15 05.4**	**+0.3**	
JSD	**Sado**	**154.75**	**293**		P	**PKPdf**	**04 15 06.4**	**+0.9**	
MJAR	**Matsushiro Arr**	**154.92**	**290**		PKP	**PKPdf**	**04 15 05.0**	**-0.7**	
	comp=Z,30nm,1.1s,baz=141,slow=1.2,SNR=31								
MAT	**Matsushiro**	**154.92**	**290**		PKP	**PKPdf**	**04 15 04.5**	**-1.3**	
MAT	**Matsushiro**	**154.92**	**290**		P	**PKPdf**	**04 15 07.0**	**+1.2**	
KLR	**Kul'dur**	**155.06**	**322**		PKP	**PKPdf**	**04 15 03.9**	**-1.7**	
	comp=Z,33nm,1.0s,baz=59,slow=2.5,SNR=15								
KLR	**Kul'dur**	**155.06**	**322**			**PKPdf**	**04 15 03.9**	**-1.7**	
JGN	**Niukaw**	**155.65**	**289**		P	**PKPdf**	**04 15 05.9**	**-1.0**	
USRK	**Ussuriysk Ar.**	**157.59**	**311**		PKP	**PKPdf**	**04 15 07.2**	**-1.7**	
	comp=Z,17nm,1.1s,baz=168,slow=9.8,SNR=13								
USRK					PKPab	**PKPab**	**04 15 43.3**	**+2.1**	
	comp=Z,12nm,0.9s,baz=63,slow=4.7,SNR=5.7								
USRK	**Ussuriysk Ar.**	**157.59**	**311**			**PKPdf**	**04 15 07.8**	**-1.2**	
MDJ	**Mudanjiang**	**158.88**	**315**		PP	PP	04 19 53.8	+26	
MDJ					LR	LR			
	comp=N,5μm,23.1s								
MDJ					LR	LR			
	comp=E,6μm,24.2s								
MDJ					LR	LR			
	comp=Z,18μm,25.0s								
IRK	**Irkutsk**	**158.95**	**7**	*e*	PKIKP	**PKPdf**	**04 15 09.4**	**-1.0**	
IRK					*e*		04 19 29.6		
IRK					pmax	pmax			
	comp=Z,107nm,1.9s								
MOY	**Mondy**	**159.01**	**13**	*e*	PKIKP	**PKPdf**	**04 15 13.3**	**+2.6**	
MOY					pmax	pmax			
	comp=Z,154nm,4.1s								
CIT	**Chita**	**159.08**	**351**	*e*	PKIKP	PKPdf	04 15 22.6	+12	
CIT					*e*		04 15 47.4		
JHS	**Saijyo**	**159.13**	**286**		P	**PKPdf**	**04 15 13.9**	**+2.7**	
WMQ	**Urumqi**	**159.43**	**47**		PKP	**PKPdf**	**04 15 14.3**	**+3.0**	
WMQ					pPKP	pPKPdf	04 15 23.6	-0.8	
WMQ					PKPab	**PKPab**	**04 15 52.3**	**+3.0**	
WMQ					PP	**PP**	**04 19 36.5**	**+5.7**	
WMQ					SKKS		04 26 14.3		
ZAK	**Zakamensk**	**160.65**	**10**	*e*	PKIKP	**PKPdf**	**04 15 11.1**	**-1.4**	
ZAK					pmax	pmax			
	comp=Z,24nm,1.3s								
JNU	**Nakatsue**	**161.03**	**281**		PKPab	**PKPab**	**04 15 58.9**	**+2.2**	
	comp=Z,20nm,1.0s,baz=134,slow=4.7,SNR=3.8								
CN2	**Changchun**	**161.81**	**318**	*e*	PKP	**PKPdf**	**04 15 15.1**	**+1.3**	
CN2					PP	**PP**	**04 19 47.8**	**+4.5**	
CN2					AMB	AMB			
	comp=Z,2μm,8.0s								
JOW	**Kunigami**	**162.16**	**260**		PKP	**PKPdf**	**04 15 17.2**	**+2.5**	
	comp=Z,8.0nm,0.4s,baz=146,slow=7.2,SNR=4.1								
KSRS	**Korea Array**	**162.91**	**296**		PKP	**PKPdf**	**04 15 16.6**	**+1.5**	
	comp=Z,15nm,0.9s,baz=117,slow=0.6,SNR=36								
KSRS					PKPab	**PKPab**	**04 16 05.8**	**+1.2**	
	comp=Z,23nm,1.1s,baz=73,slow=2.1,SNR=11								
SONM	**Songino Array**	**163.52**	**5**		PKP	**PKPdf**	**04 15 17.0**	**+1.4**	
	comp=Z,10nm,0.9s,baz=269,slow=0.5,SNR=24								
SONM					PKPab	**PKPab**	**04 16 08.6**	**+1.6**	
	comp=Z,9.8nm,0.9s,baz=339,slow=3.7,SNR=6.8								
SONM					PP	**PP**	**04 19 56.1**	**+4.4**	
	comp=Z,11nm,1.1s,baz=343,slow=4.5,SNR=5.2								
SONM	**Songino Array**	**163.52**	**5**		PKIKP	**PKPdf**	**04 15 14.9**	**-0.7**	
SONM	**Songino Array**	**163.52**	**5**			**PKPdf**	**04 15 14.9**	**-0.7**	
SNY	**Shenyang**	**164.09**	**315**	⇑	PKP	**PKPdf**	**04 15 13.5**	**-2.6**	
SNY					SKKS		04 26 43.3		
SNY					SS	**SS**	**04 40 21.8**	**-0.6**	
SHL	**Shillong**	**164.25**	**108**	*eP*		**PKPdf**	**04 15 16.3**	**-0.7**	
CMAR	**Chiang Mai Arr**	**164.46**	**144**		PKP	**PKPdf**	**04 15 18.4**	**+1.2**	
	comp=Z,4.6nm,0.4s,baz=244,slow=2.3,SNR=30								
CMAR					PKPab	**PKPab**	**04 16 13.1**	**+1.3**	
	comp=Z,12nm,0.9s,baz=225,slow=4.9,SNR=4.8								
CMAR					PP	**PP**	**04 19 59.4**	**+2.3**	
	comp=Z,1.5nm,0.4s,baz=216,slow=4.0,SNR=4.4								
CMAR	**Chiang Mai Arr**	**164.46**	**144**			**PKPab**	**04 16 10.6**	**-1.1**	
LSA	**Lhasa**	**164.93**	**92**		PKP	**PKPdf**	**04 15 13.9**	**-3.9**	
IMP	**Imphal**	**165.56**	**113**	*eP*		**PKPdf**	**04 15 18.3**	**+0.3**	
KOHI	**KOHIMA**	**166.12**	**111**	*eP*		**PKPdf**	**04 15 19.1**	**+0.5**	
MOKO	**MOKOCHONG**	**166.72**	**109**	*eP*		**PKPdf**	**04 15 20.0**	**+1.0**	
DL2	**Dalian**	**166.94**	**309**		PKP	**PKPdf**	**04 15 20.8**	**+2.3**	
DL2					PP	**PP**	**04 20 10.8**	**+0.3**	
DL2					AMB	AMB			
	comp=Z,1μm,7.5s								
QIZ	**Qiongzhong**	**167.61**	**186**		PKP	PKPdf	04 15 11.5	-8.1	
QIZ					PP	**PP**	**04 20 09.8**	**-3.0**	
QZH	**Quanzhou**	**169.03**	**236**	*eP*		**PKPdf**	**04 15 16.9**	**-3.5**	
QZH					PP	**PP**	**04 20 23.3**	**+2.0**	
QZH					SKKS		04 27 01.9		
QZH				*e*	SS	**SS**	**04 41 16.8**	**+3.6**	
QZH					AMB	AMB			
	comp=Z,2μm,12.0s								
SSE	**Sheshan**	**169.16**	**272**		PKP	**PKPdf**	**04 15 18.8**	**-1.5**	
GTA	**Gaotai**	**169.32**	**39**		PKPab	**PKPab**	**04 16 35.0**	**+2.1**	
GTA					PP	**PP**	**04 20 20.5**	**-1.9**	
BJI	**Beijing**	**169.39**	**326**		PKP	**PKPdf**	**04 15 19.9**	**-0.2**	
BJI					SKS	**SKSdf**	**04 22 18.8**	**-1.7**	
BJI					SKKS	**SKKSac**	**04 27 06.3**	**-0.1**	
BJI					SS	**SS**	**04 41 14.6**	**-0.8**	
HHC	**Hu-ho-hao-te**	**170.27**	**346**	*eP*		**PKPdf**	**04 15 19.8**	**-1.0**	
HHC					pPKP	pPKPdf	04 15 31.0	-2.9	
HHC					PP	**PP**	**04 20 27.4**	**+0.9**	
HHC					SS	SS	04 41 16.4	-7.1	
HHC					AMB	AMB			
	comp=Z,3μm,11.4s								
BTO	**Baotou**	**170.75**	**353**	*e*	PKP	**PKPdf**	**04 15 19.3**	**-1.8**	
NJ2	**Nanjing**	**171.18**	**277**		PKPab	PKPdf	04 15 32.8	+11	
TIA	**Tai'an**	**171.40**	**306**		PKP	**PKPdf**	**04 15 20.5**	**-0.9**	
TIA					PP	**PP**	**04 20 35.0**	**+

comp=Z,15µm,0.5s
ZON Zonda 2.84 97 *i* P **Pb 04 02 59.0 -0.8**
ZON *eS* **Sb 04 03 35.7 +1.2**
ZON IAML 04 03 43.2
comp=Z,18µm,1.3s
ASAL Salagasta 3.00 118 *i* P **Pb 04 03 02.0 -0.5**
ASAL IAML 04 04 03.2
comp=Z,2µm,1.2s
RTCV Cerro Valdivia 3.01 103 *i* P **Pb 04 03 01.0 -1.6**
RTCV IAML 04 03 55.4
comp=Z,1µm,2.1s
LMEL Las Melosas 3.01 150 *e*P **Pn 04 02 57.4 +0.8**
LMEL *eS* **Sn 04 03 33.0 +0.5**
LMEL IAML 04 03 50.0
comp=N,18µm,0.8s
ARCO CERRO ARCO 3.05 123 *i* P **Pb 04 03 04.0 +0.7**
ARCO *eS* **Sb 04 03 42.4 +2.0**
ARCO IAML 04 03 50.9
comp=Z,14µm,2.0s
AC04 Llanos de Chal 3.12 15 *e*P **Pn 04 02 58.3 +0.3**
AC04 Llanos de Chal 3.12 15 Pn **Pn 04 02 58.0 0.0**
AC04 Llanos de Chal 3.12 15 *i* P **Pn 04 03 01.0 +3.0**
AC04 IAML 04 03 50.7
comp=Z,6µm,0.7s
BO01 Tunca 3.24 167 *e*P **Pb 04 03 04.7 -1.8**
BO01 Tunca 3.24 167 Pn **Pn 04 02 59.9 +0.3**
BO01 Tunca 3.24 167 *i* P **Pb 04 03 06.0 -0.5**
BO01 IAML 04 03 53.2
comp=Z,6µm,1.4s
BO03 Pichilemu 3.25 180 *e*P **Pn 04 02 58.4 -1.4**
BO02 Sierra Bellavi 3.69 164 *e*P **Pn 04 03 06.8 +0.9**
BO02 Sierra Bellavi 3.69 164 Pn **Pn 04 03 06.6 +0.8**
BO02 Sierra Bellavi 3.69 164 *i* P **Pb 04 03 10.0 -4.2**
BO02 IAML 04 04 16.8
comp=Z,10µm,0.6s
GO05 Huala 3.77 179 Pn **Pn 04 03 05.4 -1.5**
GO03 Copiap 3.94 23 *e*P **Pn 04 03 11.1 +1.8**
GO03 Copiap 3.94 23 Pn **Pn 04 03 09.0 -0.2**
GO03 Copiap 3.94 23 *i* P **Pn 04 03 13.0 +3.7**
VCA Vinchina 4.12 54 *i* P **Pb 04 03 17.0 -4.6**
VCA IAML 04 04 23.6
comp=Z,16µm,0.4s
COIS El Sosneado 4.35 153 *i* P Pb 04 03 20.0 -5.5
LAMA Las Malvinas 4.36 149 *i* P **Pn 04 03 19.0 +3.9**
ML02 Panimavida 4.54 174 Pn **Pn 04 03 17.2 -0.3**
RFA San Rafael 4.60 141 *i* P **Pn 04 03 21.0 +2.6**
RFA IAML 04 04 36.5
comp=Z,6µm,1.7s
AC02 Maricunga 5.05 30 Pn **Pn 04 03 24.6 -0.3**
MRA San Martin 5.46 104 *i* P **Pn 04 03 33.0 +2.7**
MRA IAML 04 05 12.0
comp=Z,2µm,2.1s
CYA Choya 6.05 64 *i* P **Pn 04 03 40.0 +1.7**
CYA IAML 04 04 57.6
comp=Z,2µm,1.7s
H03N1 Juan Fernandez 6.26 248 T T 04 10 23.7
baz=77,slow=72,SNR=121
H03N3 Juan Fernandez 6.28 248 T T 04 10 20.1
baz=77,slow=72,SNR=87
H03N2 Juan Fernandez 6.28 248 T T 04 10 20.6
baz=77,slow=72,SNR=120
CANA Caviahue 6.68 174 *i* P **Pn 04 03 50.0 +2.9**
PB14 IPOC Station P 6.73 12 Pn **Pn 04 03 46.5 -1.5**
AHML Horco Molle 7.32 54 *i* P **Pn 04 03 58.0 +2.3**
AHML IAML 04 06 03.8
comp=Z,804nm,0.8s
FSA Cafayete 7.34 47 *i* P **Pn 04 04 00.0 +3.8**
LC01 Cunco 7.65 179 Pn **Pn 04 03 58.8 -1.4**
LR03 Panguipulli 8.38 182 Pn **Pn 04 04 10.0 -0.3**
LVC Limon Verde 9.02 18 Pn **Pn 04 04 17.5 -1.8**
comp=Z,0.9nm,0.3s,baz=343,slow=20,SNR=1.0
LVC Sn Sn 04 06 13.4 +13
comp=Z,10.0nm,0.3s,baz=13,slow=18,SNR=2.5
LVC Limon Verde 9.02 18 Pn **Pn 04 04 19.0 -0.4**
PLCA Paso Flores 9.55 173 Pn **Pn 04 04 26.4 +0.1**
comp=Z,3.5nm,0.3s,baz=135,slow=19,SNR=1.2
LL04 Puerto Octay 9.66 182 Pn **Pn 04 04 27.1 -0.7**
TRQA Tornquist 10.68 132 P **Pn 04 04 43.2 +1.4**
TRQA Tornquist 10.68 132 Pn **Pn 04 04 43.2 +1.4**
TRQA Tornquist 10.68 132 *i* P **Pn 04 04 45.0 +3.2**
GO07 Milladeo Hill, 11.93 186 Pn **Pn 04 04 59.2 +0.4**
LPAZ La Paz 15.29 14 Pn **Pn 04 05 46.2 +1.0**
comp=Z,1.6nm,0.3s,baz=185,slow=20,SNR=2.7
LPAZ La Paz 15.29 14 P **Pn 04 05 45.2 -0.1**
LPAZ pmax pmax
comp=Z,41nm,0.8s
LPAZ La Paz 15.29 14 Pn **Pn 04 05 45.2 -0.1**
SIV San Ignacio 18.15 36 P **Pn 04 06 19.4 -1.6**
comp=Z,2.5nm,0.3s,baz=294,slow=20,SNR=1.1
PTGB Pitanga 18.74 75 *e*P **Pn 04 06 28.7 +0.4**
PCMB Pacaembu 20.86 68 *e*P **P 04 06 51.1 +0.3**
TIJ01 Guaruva-PR 21.06 79 *e*P **P 04 06 51.6 -1.5**
FRTB Fartura 21.39 74 *e*P **P 04 06 57.4 +0.8**
EFI East Falkland 22.86 157 P **P 04 07 11.9 0.0**
EFI pmax pmax
comp=Z,70nm,0.8s
EFI East Falkland 22.86 157 P **P 04 07 11.9 0.0**
EFI IAmb IAmb 04 07 21.3
comp=Z,70nm,0.8s
BDFB Brasilia 26.83 60 P **P 04 07 48.3 -1.2**
comp=Z,89nm,0.9s,baz=228,slow=8.5,SNR=7.9
BDFB Brasilia 26.83 60 P **P 04 07 48.8 -0.7**
NAN01 Guarapari, ES 31.77 73 *e*P **P 04 08 33.9 +0.7**
NBIT Itapeh - BA 33.89 69 *e*P **P 04 08 52.1 +0.3**
PMSA Palmer Station 33.92 174 P **P 04 08 51.2 -0.3**
comp=Z,5.3nm,0.8s,baz=306,slow=17,SNR=1.7
HOPE Hope Point 34.22 143 P **P 04 08 55.1 +0.9**
HOPE pmax pmax
comp=Z,34nm,1.0s
HOPE Hope Point 34.22 143 P **P 04 08 55.0 +0.9**
HOPE IAmb IAmb 04 09 01.1
comp=Z,34nm,1.0s
NBPN Ponto Novo - B 35.73 62 *e*P **P 04 09 07.3 -0.4**
NBPS Pedro II - PI 39.20 53 *e*P **P 04 09 35.7 -1.5**
NBAN Anadia - AL 39.48 65 *e*P **P 04 09 36.4 -3.0**
NBPB Pedra_Branca-C 39.70 57 *e*P **P 04 09 40.8 -0.5**
SDV Santo Domingo 39.91 2 P **P 04 09 42.5 -0.7**
comp=Z,6.8nm,0.8s,baz=233,slow=8.4,SNR=2.1
SDV Santo Domingo 39.91 2 *e*P **P 04 09 42.7 -0.4**
MDP Montagnes des 40.58 30 P **P 04 09 47.4 -1.1**
comp=Z,18nm,0.9s,baz=233,slow=9.0,SNR=3.1
NBRF Rio Formoso - 40.98 65 *e*P **P 04 09 51.2 -0.6**
NBCL Cascavel-CE 41.54 57 *e*P **P 04 09 55.8 -0.6**
PCRV Puerto La Cruz 41.77 11 P **P 04 09 58.3 0.0**
comp=Z,13nm,0.6s,baz=185,slow=7.1,SNR=6.9
RCBR Riachuelo 42.20 61 *e*P **P 04 10 01.3 -0.6**
NBPV Pedro Velho 42.28 62 *e*P **P 04 10 01.3 -1.2**
JTS Las Juntas de 43.12 341 *i* P **P 04 10 10.9 +1.6**
JTS pmax pmax
comp=Z,20nm,1.6s
TOSP Speyside 43.69 16 P **P 04 10 13.7 -0.1**
GRGR Grenville 44.24 15 P **P 04 10 16.5 -1.8**
SVB Belmont 45.44 15 P **P 04 10 27.6 -0.1**
MCLT Moule a Chique 45.93 15 P **P 04 10 29.6 -2.0**
CRPR Cabo Rojo, PR 49.18 6 P **P 04 10 56.6 -0.2**
OBIP Obispado Ponce 49.27 7 P **P 04 10 56.2 -1.3**
OBIP IAmb IAmb 04 10 58.5
comp=Z,38nm,0.9s
PDPR Patillas Dam, 49.30 7 P **P 04 10 57.0 -0.8**
BANI BANI 49.37 2 P **P 04 10 58.6 +0.2**
SJG San Juan 49.38 7 P **P 04 10 58.1 -0.3**
comp=Z,52nm,0.9s,baz=196,slow=4.6,SNR=15
SJG San Juan 49.38 7 P **P 04 10 58.3 -0.1**
GCPR Guaynabo City 49.58 7 IAmb IAmb 04 11 01.0
comp=Z,27nm,0.8s
CUPR Culebra, Puert 49.68 8 P **P 04 10 59.5 -1.1**
SMRT St. Maarten 49.74 11 IAmb IAmb 04 11 01.3
comp=Z,46nm,1.1s
VNA3 Neumayer Olymp 51.90 159 P P 04 11 23.1 +6.2
VNA2 Neumayer--Watz 52.54 158 P **P 04 11 22.9 +1.2**
baz=283,slow=8.2
SNAA Sanae 54.13 159 P **P 04 11 33.4 0.0**
SNAA Sanae 54.13 159 P **P 04 11 33.5 0.0**
comp=Z,8.2nm,0.6s,baz=261,slow=7.9,SNR=11
SNAA Sanae 54.13 159 P **P 04 11 33.7 +0.3**
SNAA IAmb IAmb 04 11 41.8
comp=Z,25nm,1.2s
BRAL Brewton 63.69 346 P **P 04 12 41.8 +1.8**
baz=166
NHSC New Hope 64.46 352 P **P 04 12 47.7 +2.6**
baz=172
833A Chaparral WMA, 64.73 333 P **P 04 12 49.0 +2.0**
baz=154
HKT Hockley 64.94 337 *i* P **P 04 12 49.2 +1.0**
HKT pmax pmax
comp=Z,26nm,1.7s
HKT Hockley 64.94 337 P **P 04 12 48.2 0.0**
HKT IAmb IAmb 04 12 50.6
comp=Z,27nm,1.4s
GOGA Godfrey 65.21 349 P **P 04 12 49.7 -0.3**
GOGA pmax pmax
comp=Z,8.0nm,0.8s
GOGA Godfrey 65.21 349 P **P 04 12 49.7 -0.3**
SACV Santiago Islan 65.33 53 P **P 04 12 51.0 -0.1**
SACV IAmb IAmb 04 12 54.2
comp=Z,24nm,1.0s
LRAL Lakeview Retre 65.48 346 P **P 04 12 53.2 +1.5**
baz=166
VBMS Vicksburg 65.50 343 P **P 04 12 53.7 +1.8**
baz=163
SLBS Sierra La Lagu 65.61 322 P **P 04 12 53.5 +0.6**
SLBS IAmb IAmb 04 12 55.6
comp=Z,23nm,1.2s
X58A Rowland 65.81 353 P **P 04 12 54.1 +0.3**
HPIG 66.18 327 IAmb IAmb 04 13 06.6
comp=Z,31nm,1.4s
NATX Nacogdoches 66.23 339 P **P 04 12 58.3 +1.6**
baz=159
CNNC Cliffs of the 66.36 355 P **P 04 12 58.6 +1.3**
baz=174
X51A Calhoun 66.56 348 P **P 04 12 59.3 +0.6**
X51A IAmb IAmb 04 13 07.8
comp=Z,23nm,0.8s
KMSC Kings Mountain 66.61 352 P **P 04 12 60.0 +1.0**
baz=171
VNDA Vanda 66.82 191 P **P 04 13 00.7 +0.8**
comp=Z,5.6nm,1.1s,baz=166,slow=4.8,SNR=4.3
VNDA Vanda 66.82 191 P **P 04 13 00.7 +0.8**
JCT Junction City 66.82 334 P **P 04 13 01.5 +1.0**
baz=154
X48A Hartselle 66.86 346 IAmb IAmb 04 13 10.2
comp=Z,18nm,0.9s
Z41A Richland Creek 67.09 341 P **P 04 13 03.4 +1.3**
baz=161
W50A Signal Mountai 67.26 348 IAmb IAmb 04 13 13.0
comp=Z,41nm,1.4s
V55A Taylorsville 67.30 352 IAmb IAmb 04 13 12.5
comp=Z,22nm,0.8s
V53A Saluda 67.33 350 P **P 04 13 03.2 -0.4**
V53A IAmb IAmb 04 13 12.5
comp=Z,14nm,0.8s
TX32 Lajitas Array 67.36 330 IAmb IAmb 04 13 13.9
comp=Z,22nm,1.4s
TXAR Lajitas Array 67.36 330 P **P 04 13 05.5 +1.5**
comp=Z,5.5nm,0.9s,baz=153,slow=7.3,SNR=13
CPCT Cooper Cave 67.37 349 IAmb IAmb 04 13 12.9
comp=Z,16nm,0.8s
SWET Sewanee 67.39 348 IAmb IAmb 04 13 13.0
comp=Z,18nm,0.8s
OXF Oxford 67.43 344 P **P 04 13 03.5 -0.7**
baz=164,SNR=5.4
TKL Tuckaleechee C 67.46 350 P **P 04 13 04.0 -0.4**
comp=Z,3.3nm,0.9s,baz=141,slow=13,SNR=2.1
TKL Tuckaleechee C 67.46 350 P **P 04 13 04.0 -0.4**
TKL Tuckaleechee C 67.46 350 IAmb IAmb 04 13 13.1
comp=Z,16nm,0.8s
PLAL Pickwick Lake 67.58 346 IAmb IAmb 04 13 14.4
comp=Z,16nm,1.1s
V52A Sevierville 67.61 350 P **P 04 13 05.4 0.0**
V52A IAmb IAmb 04 13 14.0
comp=Z,26nm,0.8s
U56A King 67.69 353 IAmb IAmb 04 13 14.7
comp=Z,18nm,0.8s
V51A Loudon 67.69 349 IAmb IAmb 04 13 15.1
comp=Z,18nm,0.9s
T59A Double "B" Far 68.05 355 IAmb IAmb 04 13 17.2
comp=Z,27nm,0.9s
V48A Smith Brothers 68.06 347 IAmb IAmb 04 13 10.1
comp=Z,29nm,1.1s
T57A Hurt 68.22 354 P **P 04 13 09.8 +0.6**
TZTN Tazewell 68.29 350 P **P 04 13 10.5 +0.8**
baz=169
CLTN Cedars of Leba 68.31 348 IAmb IAmb 04 13 18.9
comp=Z,16nm,0.7s
SYO Syowa Base 68.42 159 *e*sP sP 04 13 16.4 +0.8
MIAR Mount Ida 68.52 341 P **P 04 13 11.9 +0.8**
baz=160
BLA Blacksburg 68.55 353 P **P 04 13 12.2 +1.0**
baz=172
WVT Waverly 68.64 346 P **P 04 13 11.9 +0.1**
WVT pmax pmax
comp=Z,25nm,1.0s
WVT Waverly 68.64 346 P **P 04 13 11.8 +0.1**
WVT IAmb IAmb 04 13 20.8
comp=Z,25nm,0.9s
WVT Waverly 68.64 346 P **P 04 13 12.3 +0.5**
baz=166
ABTX Abilene, Hawle 68.69 335 P **P 04 13 12.0 -0.2**
baz=155,SNR=5.3
W41B Gary Mavity, V 68.75 342 P **P 04 13 13.1 +0.6**
baz=162
S57A Dark Hollow, R 68.95 354 IAmb IAmb 04 13 23.0
comp=Z,21nm,0.8s
W39A Magazine 69.19 341 P **P 04 13 16.0 +0.8**
baz=160
LCAR Lake Charles 69.33 343 P **P 04 13 16.1 +0.1**
LCAR IAmb IAmb 04 13 23.4
comp=Z,14nm,0.8s
PBMO Poplar Bluff 69.83 344 P **P 04 13 18.7 -0.4**
PBMO IAmb IAmb 04 13 26.5
comp=Z,15nm,0.8s
U40A Yellville 70.03 342 IAmb IAmb 04 13 21.7
comp=Z,27nm,1.3s
U40A Yellville 70.03 342 P **P 04 13 20.5 +0.1**
baz=161
MNTX Cornudas Mount 70.14 330 P **P 04 13 20.9 -0.3**
MNTX Cornudas Mount 70.14 330 P **P 04 13 21.2 0.0**
baz=150,SNR=6.7
HHAR Hobbs 70.25 341 IAmb IAmb 04 13 22.9
comp=Z,18nm,1.1s
TUL1 Leonard 70.43 340 P **P 04 13 23.7 +0.8**
baz=159
S44A Carbondale 70.45 346 P **P 04 13 22.9 0.0**
S44A IAmb IAmb 04 13 32.2
comp=Z,21nm,0.7s
SIUC Southern Illin 70.46 346 IAmb IAmb 04 13 32.4
comp=Z,25nm,0.8s
P57A Homestead Farm 70.58 355 IAmb IAmb 04 13 33.9
comp=Z,32nm,0.9s
MSTX Muleshoe 71.06 333 P **P 04 13 26.2 -0.7**
baz=152,SNR=9.4
P52A Corning 71.14 352 P **P 04 13 27.6 +0.6**
baz=171,SNR=5.5
CCM Cathedral Cave 71.24 344 P **P 04 13 28.0 +0.3**
CCM pmax pmax
comp=Z,17nm,0.9s
CCM Cathedral Cave 71.24 344 P **P 04 13 28.0 +0.3**
CCM IAmb IAmb 04 13 35.8
comp=Z,17nm,0.8s
CCM Cathedral Cave 71.24 344 P **P 04 13 28.3 +0.6**
baz=163
O56A Blue Knob Stat 71.40 355 P **P 04 13 29.1 +0.3**
O56A Blue Knob Stat 71.40 355 P **P 04 13 29.7 +1.0**
baz=174
S39A Bolivar 71.41 342 IAmb IAmb 04 13 30.3
comp=Z,32nm,1.4s
P48A Milroy 71.44 349 IAmb IAmb 04 13 37.1
comp=Z,21nm,0.7s
AMTX Amarillo 71.46 335 IAmb IAmb 04 13 39.4
comp=Z,45nm,1.2s
AMTX Amarillo 71.46 335 P **P 04 13 29.7 +0.4**
baz=154
O53A New Philadelph 71.64 353 P **P 04 13 30.7 +0.6**
baz=172
SSPA Standing Stone 71.72 355 P **P 04 13 30.8 +0.2**
SSPA IAmb IAmb 04 13 39.3
comp=Z,19nm,1.1s
SSPA Standing Stone 71.72 355 P **P 04 13 31.3 +0.7**
baz=175
ACSO Alum Creek Sta 71.83 351 P **P 04 13 31.5 +0.2**
baz=170,SNR=5.4
N59A State Game Lan 71.88 357 P **P 04 13 32.2 +0.7**
baz=177
121A Cookes Peak, D 71.90 329 P **P 04 13 32.4 +0.3**
121A IAmb IAmb 04 13 35.5
comp=Z,23nm,1.1s
121A Cookes Peak, D 71.90 329 P **P 04 13 31.0 -1.0**
baz=148,SNR=6.2
N54A Moraine State 72.22 354 P **P 04 13 34.1 +0.5**
N54A IAmb IAmb 04 13 42.8
comp=Z,15nm,0.7s
N54A Moraine State 72.22 354 P **P 04 13 34.6 +1.0**
baz=173
M64A Tiverton 72.43 1 P **P 04 13 36.0 +1.2**
baz=181
M55A Ridgway 72.61 355 IAmb IAmb 04 13 44.8
comp=Z,22nm,0.8s
M54A Oil Creek Stat 72.73 354 P **P 04 13 37.4 +0.8**
baz=173
L63A North Scituate 72.74 0 IAmb IAmb 04 13 46.2
comp=Z,28nm,1.0s
L63A North Scituate 72.74 0 P **P 04 13 37.7 +1.1**
baz=180
BRYW Bryant College 72.79 0 P **P 04 13 37.9 +1.0**
BRYW IAmb IAmb 04 13 46.6
comp=Z,26nm,1.0s
L64A Middleborough 72.82 1 P **P 04 13 38.4 +1.4**
baz=181
P40A Paris 72.83 344 IAmb IAmb 04 13 47.0
comp=Z,44nm,1.2s
L65A Cape Cod Natio 72.92 2 P **P 04 13 39.0 +1.3**
baz=182
M50A Fremont 73.00 351 IAmb IAmb 04 13 46.9
comp=Z,22nm,0.7s
TUC Tucson 73.09 326 P **P 04 13 40.2 +1.2**
baz=146
L56A Greenwood 73.19 356 IAmb IAmb 04 13 49.0
comp=Z,26nm,0.8s
HRV Adam Dziewonsk 73.38 0 P **P 04 13 42.2 +1.8**
baz=180
ANMO Albuquerque 73.39 331 *i* P **P 04 13 42.4 +1.5**
ANMO pmax pmax
comp=Z,16nm,1.2s
ANMO Albuquerque 73.39 331 P **P 04 13 42.2 +1.3**
baz=150
K62A Royalston 73.54 360 P **P 04 13 43.3 +2.0**
baz=180
L48A N Adams 73.72 350 IAmb IAmb 04 13 50.9
comp=Z,20nm,0.8s
214A Organ Pipe Nat 73.79 325 IAmb IAmb 04 13 45.9
comp=Z,24nm,1.2s
214A Organ Pipe Nat 73.79 325 P **P 04 13 44.2 +1.0**
baz=144,SNR=6.4
MMNY Mt. Morris Dam 73.81 355 IAmb IAmb 04 13 51.8
comp=Z,16nm,0.7s
LIC Lamto 73.87 72 *e*P **P 04 13 43.3 -0.7**
comp=Z,118nm,0.8s
TIC Toumodi 74.12 72 *e*P **P 04 13 44.5 -1.0**
KIC Kosan Boka 74.18 72 *e*P **P 04 13 45.1 -0.7**
comp=Z,109nm,0.8s
J61A Chester 74.22 360 P **P 04 13 47.0 +1.7**
baz=180
DBIC Dimbokro 74.27 72 P **P 04 13 45.7 -0.6**
comp=Z,34nm,0.9s,baz=220,slow=6.3,SNR=10.0
DBIC Dimbokro 74.27 72 P **P 04 13 45.6 -0.7**
DBIC pmax pmax
comp=Z,43nm,0.7s
DBIC Dimbokro 74.27 72 P **P 04 13 45.6 -0.7**
N38A Joes South For 74.32 343 IAmb IAmb 04 13 47.7
comp=Z,30nm,1.1s
CBKS Cedar Bluff 74.33 338 IAmb IAmb 04 13 48.6
comp=Z,46nm,1.1s
CBKS Cedar Bluff 74.33 338 P **P 04 13 47.4 +1.2**
baz=156
FFD Franklin Falls 74.34 0 IAmb IAmb 04 13 56.0
comp=Z,30nm,1.0s
T25A Trinidad 74.48 334 IAmb IAmb 04 13 57.6
comp=Z,32nm,0.9s
T25A Trinidad 74.48 334 P **P 04 13 48.7 +1.5**
baz=152
I60A Shoreham 74.73 359 P **P 04 13 49.6 +1.3**
baz=179
I62A Tamworth 74.75 0 P **P 04 13 50.0 +1.7**
baz=181
I63A Otisfield 74.93 1 IAmb IAmb 04 13 59.6
comp=Z,40nm,1.1s
I63A Otisfield 74.93 1 P **P 04 13 51.2 +1.8**
baz=181
W18A Petrified Fore 74.95 329 IAmb IAmb 04 13 53.3
comp=Z,41nm,1.3s
W18A Petrified Fore 74.95 329 P **P 04 13 50.5 +0.5**
baz=147,SNR=8.8
LBNH Lisbon 75.11 0 IAmb IAmb 04 14 00.2
comp=Z,19nm,0.9s
LBNH Lisbon 75.11 0 P **P 04 13 51.8 +1.3**
baz=180
SDCO Great Sand Dun 75.43 333 P **P 04 13 53.5 +0.7**
baz=151
KSCO Kaye Shedlock' 75.48 336 P **P 04 13 54.2 +1.3**
baz=153
LONY Lake Ozonia 75.53 358 P **P 04 13 54.2 +1.3**
baz=178
JFWS Jewell Farm 75.67 346 P **P 04 13 54.7 +0.9**
baz=164
GLA Glamis 75.68 324 P **P 04 13 54.3 +0.2**
baz=143
FRNY Flat Rock 75.72 359 IAmb IAmb 04 14 03.6
comp=Z,16nm,0.8s
MAW Mawson 75.81 164 P **P 04 13 54.7 +0.4**
comp=Z,9.5nm,0.6s,baz=224,slow=8.8,SNR=25
MAW Mawson 75.81 164 P **P 04 13 55.1 +0.7**
SADO Sadowa 75.92 355 P **P 04 13 55.3 +0.2**
comp=Z,7.0nm,0.6s,baz=180,slow=5.1,SNR=3.1
SADO Sadowa 75.92 355 IAmb IAmb 04 14 04.0
comp=Z,23nm,0.9s
S22A 4UR Ranch, Cre 75.95 332 P **P 04 13 56.4 +0.5**
baz=150
IKP In-Ko-Pah, Jac 76.02 323 P **P 04 13 56.7 +0.7**
baz=142
WUAZ Wupatki 76.02 328 IAmb IAmb 04 14 07.3
comp=Z,38nm,1.3s
WUAZ Wupatki 76.02 328 P **P 04 13 56.5 +0.4**
baz=146,SNR=5.3
SWSC Sam W. Stewart 76.09 323 P **P 04 13 56.6 +0.3**
baz=142
SUR Sutherland 76.13 119 P **P 04 13 57.0 -0.1**
comp=Z,10nm,0.9s,baz=242,slow=4.7
SUR Sutherland 76.13 119 P **P 04 13 56.4 -0.7**
SUR IAmb IAmb 04 14 05.6
comp=Z,22nm,1.0s
PKME Peaks-Kenny Pk 76.18 2 P **P 04 13 57.7 +1.2**
baz=182
MVCO Mesa Verde 76.18 331 IAmb IAmb 04 13 59.4
comp=Z,24nm,1.1s
MVCO Mesa Verde 76.18 331 P **P 04 13 57.7 +0.7**
baz=148,SNR=5.5
PDMCI Parker Dam,Lak 76.34 325 P **P 04 13 58.3 +0.6**
baz=144
Q24A Divide 76.36 334 P **P 04 13 59.2 +1.0**
baz=151,SNR=9.2
MONP2 Monument Peak 76.37 323 P **P 04 13 58.6 +0.4**
baz=142
BC3 Big Chuckawall 76.47 324 P **P 04 13 59.0 +0.3**
baz=143,SNR=7.7
IRM Iron Mountain 76.72 324 P **P 04 14 00.9 +0.9**
baz=143
F64A Sherman 76.81 3 P **P 04 14 00.5 +0.5**
TPFO Pinon Flats 76.94 323 P **P 04 14 02.5 +1.1**
baz=142,SNR=6.2
PFO Pinyon Flats O 76.95 323 P **P 04 14 01.5 +0.1**
PFO pmax pmax
comp=Z,17nm,1.1s
PFO Pinyon Flats O 76.95 323 P **P 04 14 01.4 +0.1**
PFO Pinyon Flats O 76.95 323 P **P 04 14 02.3 +0.9**
baz=142,SNR=7.1
LMN Caledonia Moun 77.00 5 IAmb IAmb 04 14 03.8
comp=Z,22nm,1.0s
OGNE Ogallala 77.01 337 P **P 04 14 02.5 +1.1**
baz=154
BELC Belle Mtn. Jos 77.02 324 P **P 04 14 01.7 -0.2**
baz=142
PV13 Radium Mtn., P 77.12 331 IAmb IAmb 04 14 13.7
comp=Z,21nm,1.1s
PV05 Paradox Valley 77.17 331 IAmb IAmb 04 14 12.5
comp=Z,15nm,0.8s
SMCO Snowmass 77.24 333 IAmb IAmb 04 14 06.6
comp=Z,40nm,1.2s
ISCO Idaho Springs 77.26 334 P **P 04 14 03.8 +0.6**
baz=151
MURC Murrieta 77.32 323 P **P 04 14 04.0 +0.6**
baz=142,SNR=6.0
HEC Hector,Ludlow 77.85 324 P **P 04 14 07.4 +1.1**
baz=142
KNB Kanab 77.91 328 IAmb IAmb 04 14 18.1
comp=Z,51nm,1.4s
ECSD EROS Data Cent 77.94 342 IAmb IAmb 04 14 16.2
comp=Z,21nm,0.8s
ECSD EROS Data Cent 77.94 342 P **P 04 14 06.3 -0.2**
baz=159,SNR=5.4

D62A	Allapoint, All	78.00	2	P		P		04 14 07.5	+0.8
D62A				IAmb		IAmb		04 14 16.7	
	comp=Z,36nm,1.1s								
E46A	Sault Ste Mari	78.04	351	IAmb		IAmb		04 14 08.4	
	comp=Z,24nm,0.9s								
BFSC	Mount Baldy Ra	78.06	323	P		P		04 14 08.4	+0.8
	baz=141,SNR=6.8								
BATG	Bathurst New B	78.33	4	IAmb		IAmb		04 14 18.1	
	comp=Z,19nm,0.9s								
N23A	Red Feather La	78.34	334	P		P		04 14 09.8	+0.6
	baz=151								
GSC	Goldstone, Bar	78.46	324	P		P		04 14 10.4	+0.7
	baz=142								
PHWY	Pilot Hill	78.52	335	IAmb		IAmb		04 14 20.7	
	comp=Z,19nm,1.1s								
O20A	White River Ci	78.56	332	IAmb		IAmb		04 14 20.4	
	comp=Z,29nm,1.1s								
O20A	White River Ci	78.56	332	P		P		04 14 11.5	+1.2
	baz=149								
EDW2	Edwards Air Fo	78.73	323	P		P		04 14 12.3	+1.0
	baz=141								
P17A	Butcher Ranch,	79.03	330	IAmb		IAmb		04 14 22.7	
	comp=Z,20nm,1.0s								
LRMC	Laurel Mtn Rad	79.04	323	P		P		04 14 14.2	+1.2
	baz=142								
PRN	Pahroc Range	79.27	326	IAmb		IAmb		04 14 24.9	
	comp=Z,28nm,1.1s								
MPMC	Manual Prospec	79.39	324	P		P		04 14 15.9	+0.9
	baz=142								
FURC	Furnace Creek,	79.40	325	P		P		04 14 16.3	+1.6
	baz=142								
KOWA	Kowa	79.46	66	P		P		04 14 15.4	-0.1
	comp=Z,16nm,0.6s,baz=244,slow=4.7,SNR=16								
KOWA	Kowa	79.46	66	P		P		04 14 15.5	-0.1
KOWA				IAmb		IAmb		04 14 16.2	
	comp=Z,45nm,1.2s								
TPNV	Topopah Spring	79.48	325	P		P		04 14 16.5	+1.1
	baz=143								
RWWY	Rawlins	79.50	334	IAmb		IAmb		04 14 26.1	
	comp=Z,28nm,1.1s								
ISA	Isabella, Lake	79.59	323	P		P		04 14 16.7	+0.8
	baz=141,SNR=7.4								
PKM	Mcpherson Peak	79.69	322	P		P		04 14 16.9	+0.3
	baz=140,SNR=6.7								
TSUM	Tsumeb	79.93	106	P		P		04 14 18.5	+0.2
	comp=Z,11nm,1.0s,baz=144,slow=6.4								
TSUM	Tsumeb	79.93	106	P		P		04 14 16.6	-1.8
CWC	Cottonwood Cre	79.99	324	P		P		04 14 19.1	+0.9
	baz=141								
VES	Vestal, Richgr	80.04	323	P		P		04 14 19.3	+1.1
	baz=141,SNR=8.9								
K22A	Casper	80.08	335	IAmb		IAmb		04 14 29.2	
	comp=Z,38nm,1.1s								
K22A	Casper	80.08	335	P		P		04 14 19.7	+1.2
	baz=151								
SMMC	Simmler	80.11	322	P		P		04 14 19.7	+1.0
	baz=140								
R11A	Troy Canyon, C	80.28	327	P		P		04 14 20.6	+0.9
	baz=143,SNR=5.6								
RSSD	Black Hills	80.51	337	P		P		04 14 22.5	+1.6
	baz=153								
DUG	Dugway, Tooele	80.52	329	P		P		04 14 22.4	+1.5
	baz=146,SNR=5.2								
HWUT	Hardware Ranch	81.16	331	IAmb		IAmb		04 14 33.2	
	comp=Z,18nm,0.9s								
MLAC	Mammoth, Mammo	81.29	324	P		P		04 14 26.6	+1.4
	baz=141								
BOSA	Boshof	81.32	118	P		P		04 14 24.6	-1.0
	comp=Z,13nm,0.9s,baz=232,slow=3.2,SNR=5.7								
BOSA	Boshof	81.32	118	P		P		04 14 24.1	-1.5
BOSA				pmax		pmax			
	comp=Z,18nm,1.0s								
BOSA	Boshof	81.32	118	P		P		04 14 24.1	-1.5
BOSA				IAmb		IAmb		04 14 26.1	
	comp=Z,18nm,0.9s								
BW06	Boulder Array	81.32	333	P		P		04 14 26.7	+1.5
	baz=148								
PDAR	Pinedale Array	81.32	333	P		P		04 14 25.4	+0.2
	comp=Z,1.8nm,0.9s,baz=110,slow=5.2,SNR=2.8								
B35A	Bob, Littlefor	81.59	346	IAmb		IAmb		04 14 35.0	
	comp=Z,18nm,0.6s								
NVAR	Mina Array Bea	81.65	325	P		P		04 14 28.6	+1.6
	comp=Z,6.0nm,1.0s,baz=156,slow=5.5,SNR=6.1								
AGMN	Agassiz Nation	82.01	344	IAmb		IAmb		04 14 37.8	
	comp=Z,14nm,0.7s								
CASY	Casey	82.78	181	P		P		04 14 33.5	+1.1
PNTR	Pine Nut	82.80	325	IAmb		IAmb		04 14 44.8	
	comp=Z,26nm,1.1s								
PAHR	Pah Rah Range	83.17	325	IAmb		IAmb		04 14 37.4	
	comp=Z,20nm,1.1s								
TORD	Torodi Ar. Bea	83.23	70	P		P		04 14 35.3	-0.3
	comp=Z,36nm,0.7s,baz=284,slow=5.7,SNR=50								
LBTB	Lobatse	83.43	115	P		P		04 14 36.3	-0.4
	comp=Z,12nm,0.9s,baz=231,slow=6.5,SNR=9.4								
LBTB	Lobatse	83.43	115	P		P		04 14 35.5	-1.2
LBTB				pmax		pmax			
	comp=Z,39nm,1.4s								
LBTB	Lobatse	83.43	115	P		P		04 14 35.5	-1.2
LBTB				IAmb		IAmb		04 14 38.7	
	comp=Z,39nm,1.4s								
YMR	Madison River	83.48	333	IAmb		IAmb		04 14 47.1	
	comp=Z,16nm,1.0s								
YHH	Holmes Hill	83.53	333	IAmb		IAmb		04 14 47.4	
	comp=Z,19nm,1.2s								
BEKR	Beckworth	83.77	325	IAmb		IAmb		04 14 48.7	
	comp=Z,17nm,1.1s								
ULM	Lac du Bonnet	83.85	345	P		P		04 14 37.7	-0.2
	comp=Z,8.2nm,0.8s,baz=190,slow=8.0,SNR=3.3								
ULM	Lac du Bonnet	83.85	345	*eP*		P		04 14 37.0	-0.9
ULM				pmax		pmax			
	comp=Z,8.0nm,0.9s								
HLID	Hailey	83.96	330	P		P		04 14 40.0	+1.1
	baz=145								
ORV	Oroville	84.11	324	IAmb		IAmb		04 14 50.5	
	comp=Z,36nm,1.4s								
DGMT	Dagmar	84.42	339	P		P		04 14 42.2	+1.3
	baz=153								
BOZ	Bozeman (W)	84.51	333	P		P		04 14 42.3	+0.7
	baz=147								
O03E	Paynes Creek	84.82	324	P		P		04 14 43.8	+0.6
	baz=139								
J08A	Circle Bar Ran	85.58	328	IAmb		IAmb		04 14 58.3	
	comp=Z,26nm,1.0s								
N02D	Trinity Center	85.78	324	P		P		04 14 48.5	+0.5
	baz=138								
SCHQ	Schefferville	85.83	3	P		P		04 14 47.9	+0.1
	comp=Z,16nm,1.1s,baz=126,slow=8.7,SNR=4.3								
M04C	Macdoel	85.96	325	P		P		04 14 49.4	+0.5
	baz=139								
M02C	Callahan	86.17	324	P		P		04 14 50.5	+0.6
	baz=138								
K05A	Summer Lake	86.21	326	IAmb		IAmb		04 15 01.1	
	comp=Z,30nm,1.2s								
MSO	Missoula	86.43	333	P		P		04 14 52.3	+1.2
	baz=145								
L04D	Klamath Falls	86.51	325	P		P		04 14 52.3	+0.7
	baz=139								
K04D	Chiloquin, OR	86.55	326	P		P		04 14 52.9	+1.1
	baz=139								
J05D	Fort Rock, OR	86.80	326	P		P		04 14 54.0	+0.9
	baz=140								
L02E	Cave Junction	87.11	324	P		P		04 14 55.0	+0.6
	baz=138								
K02D	Willamette Mer	87.54	325	P		P		04 14 57.5	+0.9
	baz=138								
I05D	Terrebonne, OR	87.65	327	P		P		04 14 58.2	+1.1
	baz=140								
HAWA	Hanford	88.41	329	IAmb		IAmb		04 15 02.4	
	comp=Z,12nm,1.1s								
I02D	Swisshome	88.67	325	P		P		04 15 00.5	-1.3
	baz=138								
ASAR	Alice Springs	120.04	208	PKP		PKPdf		04 20 59.8	-0.3
	comp=Z,1.0nm,0.9s,baz=140,slow=1.9,SNR=1.9								
AKASG	Malin Array Be	120.27	46	PKP		PKPdf		04 20 58.1	-1.3
	comp=Z,3.1nm,0.5s,baz=266,slow=2.8,SNR=4.1								
AKASG	Malin Array Be	120.27	46	*e*PKIKP		PKPdf		04 20 59.3	-0.1
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.4s								
AKASG	Malin Array Be	120.27	46			PKPdf		04 20 58.4	-1.1
MNK	Minsk	120.32	42	*i* PKIKP		PKPdf		04 20 57.0	-2.4
MNK				*i*				04 22 24.3	
MNK				*i* PPP		PPP		04 24 57.8	
MNK				*i*				04 28 03.5	
MNK				*i* PS		SP		04 32 15.4	+1.6
MNK				*i* SS		SKKSdf		04 38 52.8	0.0
MNK				*i* SSS		SSS		04 43 10.6	
MNK				pmax		pmax			
	comp=Z,9.0nm,0.8s								
MNK				pmax		pmax			
	comp=N,12nm,0.9s								
MNK				pmax		pmax			
	comp=E,3.0nm,0.9s								
MNK				MLR		MLR			
	comp=N,3μm,18.0s								
MNK				MLR		MLR			
	comp=E,1μm,21.0s								
MNK				MLR		MLR			
	comp=Z,9μm,18.0s								
MNK	Minsk	120.32	42	*i* PKP		PKPdf		04 20 57.0	-2.4
	comp=E,3.0nm,0.9s								
MNK				*i* PKP		PKPdf		04 20 57.0	-2.4
	comp=N,12nm,0.8s								
MNK				*i* PKP		PKPdf		04 20 57.0	-2.4
	comp=Z,9.0nm,0.8s,baz=257								
MNK				*i* PP		PP		04 22 24.3	-1.7
MNK				*i* PPP		PPP		04 24 57.9	
MNK				*i* SKS		SKSdf		04 28 03.5	-7.2
MNK				*i* PS		PS		04 32 15.5	-0.8
MNK				*i* SS		SKKSdf		04 38 52.8	0.0
MNK				*i* SSS		SSS		04 43 10.6	
MNK				*i* LR		LR		05 11 16.1	
MNK				*i* LRM		MLR		05 12 27.6	
	comp=E,1μm,21.0s								
MNK				*i* LRM		MLR		05 12 27.6	
	comp=N,3μm,18.1s								
MNK				*i* LRM		MLR		05 12 41.5	
	comp=Z,9μm,18.1s								
BRTR	Keskin Array B	120.42	59	PKP		PKPdf		04 20 59.2	-1.1
	comp=Z,2.0nm,0.8s,baz=210,slow=7.1,SNR=3.6								
VSU	Vasula	120.48	37	*i* PKIKP		PKPdf		04 20 59.5	-0.1
PUL	Pulkovo	122.51	36	*i* PKIKP		PKPdf		04 21 02.9	-0.5
PUL				pmax		pmax			
	comp=Z,28nm,0.6s								
WRA	Warramunga Arr	123.18	210	PKP		PKPdf		04 21 05.9	-0.3
	comp=Z,1.5nm,0.7s,baz=151,slow=1.9,SNR=8.2								
WRA	Warramunga Arr	123.18	210	*e*PKIKP		PKPdf		04 21 05.0	-1.1
WRA				pmax		pmax			
	comp=Z,2.0nm,0.7s								
WRA	Warramunga Arr	123.18	210			PKPdf		04 21 05.6	-0.6
WRAB	Tennant Creek	123.19	210	*i* PKIKP		PKiKP		04 21 06.9	+0.5
LVZ	Lovozero	124.78	26	*i* PKIKP		PKiKP		04 21 08.4	+0.4
LVZ				pmax		pmax			
	comp=Z,7.0nm,1.1s								
OBN	Obninsk	125.38	42	⇑ *i* PKIKP		PKPdf		04 21 09.1	0.0
OBN				pmax		pmax			
	comp=Z,6.0nm,0.4s								
H11S2	WAKE ISLAND Hyl	125.81	271	T		T		06 40 00.0	
	baz=117,slow=74,SNR=20								
H11S1	WAKE ISLAND Hyl	125.82	271	T		T		06 39 58.9	
	baz=117								
H11S3	WAKE ISLAND Hyl	125.83	271	T		T		06 39 59.8	
	baz=117,slow=74,SNR=25								
H11N3	WAKE ISLAND Hyl	126.15	273	T		T		06 40 23.3	
	baz=117								
H11N1	WAKE ISLAND Hyl	126.17	273	T		T		06 40 24.5	
	baz=117								
H11N2	WAKE ISLAND Hyl	126.17	273	T		T		06 40 24.1	
	baz=117								
KLMR	Klimovskoe	127.13	35	*e*PKIKP		PKPdf		04 21 10.9	-1.3
KLMR				pmax		pmax			
	comp=Z,29nm,1.6s								
KLMR	Klimovskoe	127.13	35	*e*PKPdf		PKPdf		04 21 11.0	-1.3
KLMR				AMP				04 21 22.6	
	comp=Z,29nm,1.6s								
BILL	Bilibino	130.36	335	⇑ *i* PKIKP		PKiKP		04 21 20.2	+1.1
BILL				pmax		pmax			
	comp=Z,8.0nm,0.6s								
PALK	Pallekele	145.08	127	PKP		PKPab		04 21 46.5	+0.1
	comp=Z,4.5nm,0.5s,baz=14,slow=4.2,SNR=1.5								
BRVK	Borovoye	145.12	40	PKIKP		PKPbc		04 21 44.7	-0.6
BRVK	Borovoye	145.12	40			PKPbc		04 21 44.7	-0.6
BVAR	Borovoye Array	145.19	40	PKPbc		PKPdf		04 21 45.7	-0.1
	comp=Z,5.1nm,0.5s,baz=269,slow=5.2,SNR=11								
KBL	Kabul	147.24	74	PKP2		PKPbc		04 21 52.9	+0.3
KBL	Kabul	147.24	74			PKPbc		04 21 52.9	+0.3
TOLI2	Tolitoli	147.69	204			PKPdf		04 21 51.5	+0.1
HYB	Hyderabad	149.95	110	*i* PKP		PKPbc		04 21 59.0	-0.8
JKA	Kamikawa-asahi	149.99	305	PKPdf		PKPdf		04 21 55.1	+1.0
ASAJ	Asahikawa	149.99	305	PKPbc		PKPbc		04 21 59.4	+0.4
	comp=Z,17nm,1.0s,baz=216,slow=4.3,SNR=4.2								
ASAJ	Asahikawa	149.99	305	PKIKP		PKPdf		04 21 55.1	+1.0
PSI	Prapat	150.44	161	PKPbc		PKPbc		04 22 00.3	-0.9
	baz=180,slow=6.1								
EKS2	Erkin-Say	150.55	58	P		PKiKP		04 22 01.1	-0.3
	SNR=7.5								
NIL	Nilore	150.64	76	PKIKP		PKPbc		04 22 00.8	-0.2
NIL	Nilore	150.64	76			PKPbc		04 22 00.8	-0.2
KURBB	Kurchatov Arra	150.78	40	PKPbc		PKPbc		04 22 00.8	+0.1
	comp=Z,7.7nm,0.5s,baz=306,slow=2.8,SNR=17								
KURK	Kurchatov	150.78	40	PKIKP		PKPbc		04 22 00.8	+0.1
KURK	Kurchatov	150.78	40			PKPbc		04 22 00.8	+0.1
USP	Ussenovka	150.94	56	P		PKiKP		04 22 02.0	0.0
	SNR=7.2								
AAK	Ala-Archa	151.07	57	PKPbc		PKiKP		04 22 02.4	0.0
	comp=Z,22nm,0.9s,baz=191,slow=3.1,SNR=8.7								
AAK	Ala-Archa	151.07	57	P		PKiKP		04 22 02.6	+0.2
	SNR=7.7								
AAK	Ala-Archa	151.07	57	PKIKP		PKiKP		04 22 02.3	-0.2
AAK	Ala-Archa	151.07	57			PKiKP		04 22 02.3	-0.2
UCH	Uchtor	151.17	58	P		PKiKP		04 22 03.2	+0.1
	SNR=7.4								
TKM2	Tokmak 2	151.80	56	P		PKiKP		04 22 04.0	0.0
	SNR=5.1								
ZAA0	Zalesovo Array	151.84	30			PKPbc		04 22 03.2	+0.2
ZALV	Zalesovo Beam	151.84	30	PKPbc		PKPbc		04 22 02.9	-0.1
	comp=Z,17nm,0.5s,baz=311,slow=3.4,SNR=19								
ZALV	Zalesovo Beam	151.84	30			PKiKP		04 22 03.3	-0.2
MKAR	Makanchi Array	154.84	45	PKPbc		PKPbc		04 22 09.3	-0.6
	comp=Z,5.9nm,0.8s,baz=299,slow=2.4,SNR=5.7								
WMQ	Urumqi	159.63	46	*e*PKP		PKPdf		04 22 08.3	+0.8
GTA	Gaotai	169.45	37	*e*PKP		PKPdf		04 22 17.5	+1.2
GTA				pPKP		sPKPdf		04 22 22.9	+0.8
GTA				sPKP				04 22 26.3	
HHC	Hu-ho-hao-te	169.99	344	*e*PKP		PKPdf		04 22 15.8	-0.8
NJ2	Nanjing	170.72	278	*e*PKP		PKPdf		04 22 18.4	+1.3

IDC ***17*** *04:05:01.0±0.7, 31°.39S×71°.58W, h0km, mb4.8/15, mb1 4.9/18, mb1mx4.6/44, mbtmp4.8/18, ML4.5/3, Error ellipse: s-maj=29.5km s-min=17.2km az=72.0*
NEIC ***17*** *04:05:04±1.5, 31°.471S±0°.010×71°.74W±0°.07, h18km±3km, mb5.1/34, Error ellipse: s-maj=9.2km s-min=0.9km az=83.0*

ISC 17 04:05:04.7±1.8, 31°.46S±0°.04×71°.64W±0°.08, h25km±12km, n89, σ0°69/86, mb5.0/31, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.78	0			Pn	04 05 20.5	+0.4
CO06					Sn	Sn	04 05 31.8	+0.8
CO03	El Pedregal	1.02	53		Pn	Pn	04 05 25.2	+1.7
CO03					Sn	Sn	04 05 38.6	+1.6
GO04	Tololo Observa	1.47	29		Pn	Pb	04 05 32.4	+0.9
GO04					Sn	Sb	04 05 50.1	+0.3
VA03	San Esteban	1.59	145		Pn	Pn	04 05 31.9	+0.5
VA03						Sb	04 05 52.7	-0.6
MT05	Renca	2.07	159		Pn	Pn	04 05 38.9	+1.0
MT05						Sn	04 06 04.0	+1.1
ZON	Zonda	2.53	93			Pn	04 05 44.6	+0.5
H03N1	Juan Fernandez	6.46	250	T		T	04 13 17.0	
	baz=78,slow=72,SNR=12							
H03N3	Juan Fernandez	6.47	250	T		T	04 13 16.3	
	baz=78,slow=72,SNR=15							
H03N2	Juan Fernandez	6.48	250	T		T	04 13 16.3	
	baz=78,slow=72,SNR=13							
LVC	Limon Verde	9.14	16			Pn	04 07 16.0	+0.6
PB04	IPOC Station P	9.19	9			Pn	04 07 15.6	-0.1
PLCA	Paso Flores	9.30	175	Pn		Pn	04 07 17.7	+0.5
	1.5nm,0.3s,baz=317,slow=18,SNR=2.1							
PLCA	Paso Flores	9.30	175			Pn	04 07 16.3	-0.8
ITQB	Itaqui	13.06	86			Pn	04 08 05.7	-2.9
LPAZ	La Paz	15.44	13	Pn		Pn	04 08 41.0	-0.4
	0.8nm,0.3s,baz=189,slow=5.4,SNR=1.5							
SIV	San Ignacio	18.16	34	P		P	04 09 15.5	+0.1
	0.8nm,0.3s,baz=227,slow=19,SNR=1.3							
SPB	Sao Paulo	22.82	76	P		P	04 10 05.8	0.0
SAML	Samuel	23.74	21	P		P	04 10 13.3	-1.7
BDFB	Brasilia	26.68	59	P		P	04 10 42.2	+0.2
MDP	Montagnes des	40.62	30	P		P	04 12 41.9	-0.8
	18nm,0.9s,baz=181,slow=9.7,SNR=4.1							
MLPR	Magueyes Islan	49.34	6	P		P	04 13 51.0	-0.9
SJG	San Juan	49.57	7	P		P	04 13 52.4	-1.2
	16nm,0.8s,baz=204,slow=2.1,SNR=3.7							
SJG	San Juan	49.57	7	P		P	04 13 52.7	-0.9
SJG				IAmb		IAmb	04 13 53.6	
	comp=Z,20nm,0.8s							
SNAA	Sanae	53.81	159	P		P	04 14 25.7	+0.8
	comp=Z,12nm,0.8s,baz=264,slow=5.1,SNR=3.6							
SNAA	Sanae	53.81	159	P		P	04 14 25.3	+0.4
SNAA				IAmb		IAmb	04 14 26.6	
	comp=Z,19nm,1.0s							
TXAR	Lajitas Array	67.70	330	P		P	04 15 59.8	-0.1
	comp=Z,1.8nm,0.8s,baz=156,slow=9.6,SNR=3.5							
TKL	Tuckaleechee C	67.73	349	P		P	04 15 59.0	-0.9
	comp=Z,9.4nm,0.8s,baz=182,slow=8.2,SNR=4.2							
T47A	Sharon Grove	69.61	347	P		P	04 16 11.6	+0.1
T47A				IAmb		IAmb	04 16 12.5	
	comp=Z,13nm,0.9s							
P57A	Homestead Farm	70.83	355	P		P	04 16 18.6	-0.4
P57A				IAmb		IAmb	04 16 21.1	
	comp=Z,10nm,0.9s							
Q51A	Peebles	70.97	350	P		P	04 16 19.9	+0.1
Q51A				IAmb		IAmb	04 16 20.7	
	comp=Z,13nm,0.8s							
MSTX	Muleshoe	71.39	333	P		P	04 16 23.1	+0.4
MSTX				IAmb		IAmb	04 16 24.4	
	comp=Z,18nm,0.8s							
CCM	Cathedral Cave	71.54	344	P		P	04 16 23.7	+0.4
CCM				IAmb		IAmb	04 16 24.5	
	comp=Z,18nm,0.9s							
ACSO	Alum Creek Sta	72.10	351	P		P	04 16 26.2	-0.4
N59A	State Game Lan	72.12	357	P		P	04 16 26.9	+0.1
N59A				IAmb		IAmb	04 16 28.9	
	comp=Z,19nm,1.0s							
ODNJ	Ogdensburg	72.23	358	P		P	04 16 26.8	-0.6
L59A	Walton	73.35	357	P		P	04 16 34.5	+0.4
L59A				IAmb		IAmb	04 16 36.4	
	comp=Z,14nm,0.8s							
L56A	Greenwood	73.44	355	P		P	04 16 35.1	+0.5
L56A				IAmb		IAmb	04 16 36.1	
	comp=Z,20nm,1.0s							
LIC	Lamto	73.66	72	*e*P		P	04 16 36.1	-0.4
	comp=Z,51nm,0.9s							
TIC	Toumodi	73.91	72	*e*P		P	04 16 37.7	-0.3
KIC	Kosan Boka	73.97	72	*e*P		P	04 16 38.2	-0.1
	comp=Z,56nm,0.9s							
DBIC	Dimbokro	74.05	72	P		P	04 16 39.0	+0.2
	comp=Z,20nm,0.8s,baz=237,slow=3.8,SNR=8.0							
DBIC	Dimbokro	74.05	72	P		P	04 16 38.6	-0.2
PECO	Prince Edward	75.19	356	P		P	04 16 44.7	+0.1
PECO				IAmb		IAmb	04 16 45.9	
	comp=Z,10nm,0.8s							
L40A	Anamosa	75.35	345	P		P	04 16 45.6	0.0
MAW	Mawson	75.51	164	P		P	04 16 47.2	+0.8
	comp=Z,8.5nm,0.9s,baz=206,slow=7.3,SNR=4.0							
MAW	Mawson	75.51	164	P		P	04 16 46.6	+0.2
FRNY	Flat Rock	75.95	359	P		P	04 16 49.3	+0.3
FRNY				IAmb		IAmb	04 16 50.6	
	comp=Z,10nm,0.8s							
SADO	Sadowa	76.17	355	P		P	04 16 50.3	0.0
	comp=Z,12nm,0.7s,baz=189,slow=4.9,SNR=7.1							
SADO	Sadowa	76.17	355	P		P	04 16 50.6	+0.3
SADO				IAmb		IAmb	04 16 51.1	
	comp=Z,15nm,0.8s							
K31A	O'Neill	77.82	340	P		P	04 16 60.0	+0.3
D62A	Allapoint, All	78.21	2	P		P	04 17 02.3	+0.7
D62A				IAmb		IAmb	04 17 03.9	
	comp=Z,20nm,0.9s							
ECSD	EROS Data Cent	78.24	342	P		P	04 17 02.7	+0.7
ECSD				IAmb		IAmb	04 17 03.2	
	comp=Z,17nm,0.9s							
E43A	Lone Tree Farm	78.71	349	P		P	04 17 04.4	0.0
E43A				IAmb		IAmb	04 17 05.5	
	comp=Z,17nm,0.8s							
KOWA	Kowa	79.28	66	P		P	04 17 07.7	-0.6
	comp=Z,9.6nm,0.8s,baz=226,slow=4.2,SNR=5.3							
KOWA	Kowa	79.28	66	P		P	04 17 08.6	+0.2
KOWA				IAmb		IAmb	04 17 09.5	
	comp=Z,20nm,1.1s							
F36A	Milaca	79.48	345	P		P	04 17 06.7	-1.9
TSUM	Tsumeb	79.58	106	P		P	04 17 10.6	+0.4
	comp=Z,5.4nm,0.8s,baz=205,slow=10,SNR=3.3							
TSUM	Tsumeb	79.58	106	P		P	04 17 10.3	+0.1
BOSA	Boshof	80.95	118	P		P	04 17 17.2	-0.2
	comp=Z,9.6nm,0.8s,baz=264,slow=5.7,SNR=4.5							
BOSA	Boshof	80.95	118	P		P	04 17 16.9	-0.5
NVAR	Mina Array Bea	82.00	325	P		P	04 17 23.5	+0.8
	comp=Z,1.0nm,0.7s,baz=153,slow=6.1,SNR=2.8							
CASY	Casey	82.56	181	P		P	04 17 25.3	+0.3
CASY				IAmb		IAmb	04 17 27.2	
	comp=Z,12nm,0.9s							
TORD	Torodi Ar. Bea	83.03	70	P		P	04 17 28.3	+0.1
	comp=Z,21nm,0.8s,baz=258,slow=4.7,SNR=10							
TORD	Torodi Ar. Bea	83.03	70	P		P	04 17

NDT				*e*S		Sn	04 07 10.9	-0.4
	baz=250							
YHNB	**Yeheng**	**0.66**	**252**	P		Pn	04 06 56.9	-0.3
	baz=241							
YHNB				S		Sn	04 07 11.2	-1.2
	baz=241							
NSK	**Sanguang**	**0.67**	**253**	P		Pn	04 06 57.3	+0.1
	baz=241							
NSK				S		Sn	04 07 11.6	-1.0
	baz=241							
PCYT	**Pengchaiyu**	**0.75**	**1**	*e*P		Pn	04 06 57.7	0.0
	baz=5.0							
PCYT				*e*S		Sn	04 07 13.6	+0.1
	baz=5.0							
NNSB	**Datong**	**0.76**	**234**	*e*P		Pn	04 06 57.9	-0.1
	baz=236							
NNSB				*e*S		Sn	04 07 13.8	-0.1
	baz=236							
NNS	**Nan Shan**	**0.77**	**235**	*e*P		Pn	04 06 58.4	+0.4
	baz=237							
NNS				*e*S		Sn	04 07 14.3	+0.4
	baz=237							
NACB	**Ninganchiao**	**0.82**	**211**	*e*P		Pn	04 06 58.5	+0.2
	baz=208							
ETLH	**Xiulin Townshi**	**0.85**	**218**	*e*P		Pn	04 06 59.1	+0.4
	baz=220							
ETLH				*e*S		Sn	04 07 15.1	-0.1
	baz=220							
FUSS	**Fushou**	**0.97**	**230**	*e*P		Pn	04 06 59.8	-0.1
	baz=232							
FUSS				*e*S		Sn	04 07 17.1	-0.3
	baz=232							
LIOB	**Emei**	**0.98**	**256**	*e*P		Pn	04 06 59.7	0.0
	baz=248							
LIOB				*e*S		Sn	04 07 16.6	-0.4
	baz=248							
SBCB	**Hsinchu**	**0.98**	**265**	*e*P		Pn	04 06 59.8	+0.1
	baz=268							
SBCB				*e*S		Sn	04 07 16.9	-0.1
	baz=268							
NSTT	**Nanjuang**	**1.00**	**256**	*e*P		Pn	04 07 00.3	+0.5
	baz=247							
NSTT				*e*S		Sn	04 07 16.9	-0.3
	baz=247							
WHF	**Hehuan Shan**	**1.03**	**225**	*e*S		Sn	04 07 17.7	-0.9
	baz=217							
CHGB	**Renai**	**1.15**	**225**	*e*P		Pn	04 07 01.8	+0.2
	baz=216							
CHGB				*e*S		Sn	04 07 20.3	+0.1
	baz=216							
WHP	**Taichung City**	**1.18**	**240**	*e*P		Pn	04 07 02.5	+0.8
	baz=243							
WHP				*e*S		Sn	04 07 21.0	+0.5
	baz=243							
ESL	**Shilin**	**1.21**	**209**	*e*P		Pn	04 07 01.2	-0.7
	baz=207							
ESL				*e*S		Sn	04 07 19.1	-1.9
	baz=207							
OWD	**Renai**	**1.23**	**221**	*e*S		Sn	04 07 22.1	+0.7
	baz=217							
WCS	**Beigang Elemen**	**1.33**	**232**	*e*P		Pn	04 07 04.0	+0.8
	baz=235							
WCS				*e*S		Sn	04 07 23.6	+0.4
	baz=235							
SSLB	**Suanglung**	**1.48**	**223**	*e*P		Pn	04 07 05.6	+0.7
	baz=220							
SSLB				S		Sn	04 07 26.7	+0.5
	baz=220							
HGSD	**Ruisui**	**1.50**	**203**	*e*P		Pn	04 07 04.7	-0.3
	baz=200							
HGSD				*e*S		Sn	04 07 25.6	-0.9
	baz=200							
YULB	**Yu-li**	**1.64**	**205**	*e*P		Pn	04 07 04.8	-1.8
	baz=197							
YULB				*e*S		Sn	04 07 26.4	-2.9
	baz=197							
FULB	**Fuli**	**1.81**	**203**	*e*P		Pn	04 07 08.2	-0.5
	baz=206							
FULB				*e*S		Sn	04 07 32.1	-0.9
	baz=206							

TAP 17 04:07:05.5,24°33N×121°55E,h21km±1km, ML1.3, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETLH	**Xiulin Townshi**	**0.13**	**208**	*e*P	Pb	04 07 10.4	-1.4
	baz=207						
ETLH				*e*S	Sb	04 07 14.0	-2.1
	baz=207						
NACB	**Ninganchiao**	**0.16**	**165**	P	Pb	04 07 10.7	-0.8
	baz=164						
NACB				*e*S	Sb	04 07 13.7	-2.0
	baz=164						
NACB	**Ninganchiao**	**0.16**	**165**	*e*S	Sb	04 07 13.6	-2.0
	baz=208						
ETL	**Fush Village**	**0.18**	**158**	*e*P	Pb	04 07 11.1	-0.3
	baz=158						
ETL				*e*S	Sb	04 07 14.9	-0.7
	baz=158						
NNSB	**Datong**	**0.18**	**304**	*e*P	Pb	04 07 11.2	-0.4
	baz=303						
NNSB				*e*S	Sb	04 07 14.7	-1.1
	baz=303						
FUSS	**Fushou**	**0.29**	**254**	*e*P	Pb	04 07 12.9	+0.6
	baz=254						
FUSS				*e*S	Sb	04 07 17.9	+0.8
	baz=254						
WHF	**Hehuan Shan**	**0.32**	**235**	*e*P	Pb	04 07 13.1	+0.3
	baz=234						
WHF				*e*S	Sb	04 07 18.9	+1.1
	baz=234						
CHGB	**Renai**	**0.43**	**232**	*e*P	Pb	04 07 14.9	+0.4
	baz=232						
CHGB				S	Sb	04 07 21.9	+1.3
	baz=232						

IDC ***17*** *04:07:03.4±1.2,31°19S×71°84W,h0km,mb4.5/4, mb1 4.6/5,mb1mx4.1/44,mbtmp4.5/5, Error ellipse: s-maj=44.7km s-min=37.6km az=64.0*

ISC 17 04:07:05.3±1.0,31°2S±0°1×71°8W±0°3,h12km,n9,σ0s79/9, mb4.7/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**9.60**	**174**	Pn	**Pn**	**04 09 23.6**	**+0.3**
	baz=329,slow=17,SNR=1.4						
TXAR	**Lajitas Array**	**67.37**	**330**	P	**P**	**04 18 01.0**	**+0.5**
	0.4nm,0.5s,baz=158,slow=7.6,SNR=4.3						
DBIC	**Dimbokro**	**74.12**	**72**	P	**P**	**04 18 42.0**	**+0.1**
	8.4nm,0.8s,baz=202,slow=6.3,SNR=3.5						
KOWA	**Kowa**	**79.32**	**66**	P	**P**	**04 19 11.6**	**+0.3**
	4.0nm,0.7s,baz=227,slow=7.3,SNR=2.3						
TORD	**Torodi Ar. Bea**	**83.09**	**70**	P	**P**	**04 19 31.4**	**+0.1**
	7.4nm,0.7s,baz=286,slow=8.3,SNR=5.9						
WRA	**Warramunga Arr**	**123.30**	**210**	PKP	**PKPdf**	**04 26 01.8**	**-1.0**
	1.2nm,1.0s,baz=156,slow=2.1,SNR=1.3						
KURBB	**Kurchatov Arra**	**150.65**	**40**	PKPbc	**PKPbc**	**04 26 55.4**	**-1.4**
	4.3nm,0.9s,baz=305,slow=3.0,SNR=3.8						
AAK	**Ala-Archa**	**150.93**	**57**	PKPbc	**PKiKP**	**04 26 58.9**	**+0.3**
	4.6nm,0.7s,baz=225,slow=4.3,SNR=3.0						
ZALV	**Zalesovo Beam**	**151.72**	**30**	PKPbc	**PKPbc**	**04 26 59.6**	**+0.4**
	9.2nm,0.7s,baz=307,slow=2.5,SNR=4.3						

IDC ***17*** *04:08:21.6±0.5,30°81S×71°66W,h0km,mb4.8/22, mb1 4.9/26,mb1mx4.7/47,mbtmp4.8/26,ML4.3/3, Error ellipse: s-maj=22.2km s-min=12.7km az=74.0*

NEIC ***17*** *04:08:26.6±1.0,30°81S±0°05×71°68W±0°07,h29km±4km, mb5.0/69, Error ellipse: s-maj=8.4km s-min=6.4km az=106.0*

ISC 17 04:08:25.9±0.9,30°82S±0°05×71°69W±0°07,h29km±6km, n149,σ0s95/151,mb5.0/48, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.16**	**17**		**Pb**	**04 08 31.4**	**-0.1**
CO06				Sg	**Sb**	**04 08 35.5**	**+0.1**
CO03	**El Pedregal**	**0.86**	**91**		**Pn**	**04 08 41.9**	**-0.2**
CO03					**Sn**	**04 08 54.2**	**+0.4**
GO04	**Tololo Observa**	**1.00**	**50**		**Pb**	**04 08 44.7**	**-0.1**
VA03	**San Esteban**	**2.16**	**154**	Pn	**Pn**	**04 09 00.4**	**+0.3**
VA01	**Torpederas**	**2.19**	**179**	Pn	**Pn**	**04 09 01.3**	**+0.9**
AC04	**Llanos de Chal**	**2.66**	**12**	Pn	**Pn**	**04 09 07.3**	**+0.4**
ZON	**Zonda**	**2.68**	**106**		**Pn**	**04 09 08.6**	**+1.5**
MT05	**Renca**	**2.68**	**163**	Pn	**Pn**	**04 09 08.6**	**+1.4**
MT09	**Talagante**	**3.00**	**169**	Pn	**Pn**	**04 09 13.3**	**+1.6**
MT01	**Popeta**	**3.05**	**173**	Pn	**Pn**	**04 09 13.1**	**+0.8**
AC02	**Maricunga**	**4.56**	**30**	Pn	**Pn**	**04 09 34.8**	**+1.3**
LC01	**Cunco**	**8.06**	**181**	Pn	**Pn**	**04 10 20.4**	**-0.6**
LVC	**Limon Verde**	**8.55**	**18**	Pn	**Pn**	**04 10 28.3**	**+0.2**
	baz=288,slow=20,SNR=0.5						
PLCA	**Paso Flores**	**9.93**	**175**	Pn	**Pn**	**04 10 45.4**	**-1.3**
	1.1nm,0.3s,baz=323,slow=20,SNR=0.9						
LL04	**Puerto Octay**	**10.08**	**183**	Pn	**Pn**	**04 10 48.2**	**-0.5**
TRQA	**Tornquist**	**10.78**	**135**	Pn	**Pn**	**04 11 01.1**	**+2.8**
GO07	**Milladeo Hill,**	**12.37**	**187**	Pn	**Pn**	**04 11 18.6**	**-1.3**
LPAZ	**La Paz**	**14.83**	**13**	Pn	**Pn**	**04 11 52.7**	**-1.6**
	0.2nm,0.3s,baz=172,slow=9.2,SNR=2.0						
LPAZ	**La Paz**	**14.83**	**13**	Pn	**Pn**	**04 11 55.2**	**+0.9**
SIV	**San Ignacio**	**17.67**	**36**	P	**Pn**	**04 12 28.8**	**-1.2**
	1.1nm,0.3s,baz=229,slow=11,SNR=1.4						
MG02	**Cerro Sombrero**	**22.02**	**176**	P	**P**	**04 13 17.9**	**+0.2**
EFI	**East Falkland**	**23.14**	**158**	P	**P**	**04 13 28.3**	**-1.3**
USHA	**Ushuaia**	**24.11**	**175**	P	**P**	**04 13 40.7**	**+1.8**
	54nm,0.7s,baz=359,slow=2.8,SNR=4.6						
BDFB	**Brasilia**	**26.41**	**60**	P	**P**	**04 14 00.2**	**0.0**
	69nm,1.1s,baz=163,slow=11,SNR=1.9						
BDFB	**Brasilia**	**26.41**	**60**	P	**P**	**04 13 59.9**	**-0.4**
PMSA	**Palmer Station**	**34.30**	**174**	P	**P**	**04 15 10.0**	**+0.6**
PMSA				IAmb	IAmb	04 15 11.3	
	comp=Z,13nm,1.1s						
RUSC	**La Rusia**	**36.53**	**358**	P	**P**	**04 15 30.6**	**+1.0**
SDV	**Santo Domingo**	**39.49**	**2**	P	**P**	**04 15 53.5**	**-0.8**
MDP	**Montagnes des**	**40.10**	**30**	P	**P**	**04 15 58.7**	**-0.4**
	comp=Z,12nm,0.8s,baz=192,slow=9.4,SNR=10						
ORTG	**Ortega, Santa**	**43.03**	**340**	P	**P**	**04 16 22.4**	**-0.8**
MLPR	**Magueyes Islan**	**48.72**	**6**	P	**P**	**04 17 07.4**	**-0.4**
OBIP	**Obispado Ponce**	**48.83**	**6**	P	**P**	**04 17 06.9**	**-1.8**
OBIP				IAmb	IAmb	04 17 20.4	
	comp=Z,26nm,1.0s						
PDPR	**Patillas Dam,**	**48.86**	**7**	P	**P**	**04 17 08.3**	**-0.7**
PDPR				IAmb	IAmb	04 17 16.1	
	comp=Z,18nm,0.9s						
SJG	**San Juan**	**48.94**	**7**	P	**P**	**04 17 09.2**	**-0.4**
	comp=Z,11nm,0.9s,baz=198,slow=20,SNR=3.1						
SJG	**San Juan**	**48.94**	**7**	P	**P**	**04 17 09.9**	**+0.4**
SJG				IAmb	IAmb	04 17 20.4	
	comp=Z,21nm,1.1s						
HUMP	**Col San Antoni**	**49.01**	**7**	P	**P**	**04 17 10.3**	**+0.2**
CBYP	**Canovanas**	**49.13**	**7**	P	**P**	**04 17 10.6**	**-0.5**
CBYP				IAmb	IAmb	04 17 11.1	
	comp=Z,25nm,0.9s						
GCPR	**Guaynabo City**	**49.15**	**7**	P	**P**	**04 17 10.5**	**-0.7**
GCPR				IAmb	IAmb	04 17 10.9	
	comp=Z,9.8nm,0.7s						
VNA3	**Neumayer Olymp**	**52.19**	**159**	P	**P**	**04 17 33.9**	**+0.3**
VNA1	**Neumayer--Stat**	**52.48**	**158**	P	**P**	**04 17 36.3**	**+0.6**
VNA2	**Neumayer--Watz**	**52.83**	**158**	P	**P**	**04 17 38.6**	**+0.2**
	baz=288,slow=8.2						
SNAA	**Sanae**	**54.42**	**159**	P	**P**	**04 17 49.9**	**-0.1**
SNAA	**Sanae**	**54.42**	**159**	P	**P**	**04 17 50.2**	**+0.2**
	comp=Z,19nm,0.7s,baz=274,slow=7.6,SNR=22						
SNAA	**Sanae**	**54.42**	**159**	P	**P**	**04 17 49.7**	**-0.3**
QSPA	**South Pole Qui**	**59.40**	**180**	P	**P**	**04 18 25.9**	**+0.3**
QSPA				IAmb	IAmb	04 18 38.1	
	comp=Z,14nm,0.8s						
X58A	**Rowland**	**65.43**	**353**	P	**P**	**04 19 06.2**	**+0.4**
X48A	**Hartselle**	**66.52**	**346**	P	**P**	**04 19 13.1**	**+0.2**
JCT	**Junction City**	**66.57**	**334**	P	**P**	**04 19 14.7**	**+1.3**
	baz=154						
V58A	**Windy Hill, Pi**	**66.63**	**353**	P	**P**	**04 19 13.4**	**-0.2**
W50A	**Signal Mountai**	**66.91**	**348**	P	**P**	**04 19 15.3**	**-0.2**
W50A				IAmb	IAmb	04 19 24.9	
	comp=Z,11nm,1.1s						
V55A	**Taylorsville**	**66.93**	**352**	P	**P**	**04 19 15.6**	**+0.1**
V55A				IAmb	IAmb	04 19 23.5	
	comp=Z,17nm,1.3s						
TKL	**Tuckaleechee C**	**67.10**	**349**	P	**P**	**04 19 16.2**	**-0.4**
	comp=Z,5.4nm,0.8s,baz=139,slow=8.8,SNR=3.0						
TKL	**Tuckaleechee C**	**67.10**	**349**	P	**P**	**04 19 16.5**	**-0.1**
TKL				IAmb	IAmb	04 19 21.7	
	comp=Z,16nm,1.3s						
TXAR	**Lajitas Array**	**67.13**	**330**	P	**P**	**04 19 18.2**	**+1.1**
	comp=Z,13nm,0.7s,baz=146,slow=6.3,SNR=5.1						
TXAR	**Lajitas Array**	**67.13**	**330**	P	**P**	**04 19 17.1**	**+0.1**
TX31	**Lajitas Ar. Si**	**67.13**	**330**	P	**P**	**04 19 17.6**	**+0.5**
TX31				IAmb	IAmb	04 19 30.6	
	comp=Z,14nm,1.1s						
TX32	**Lajitas Array**	**67.13**	**330**	P	**P**	**04 19 18.2**	**+1.2**
V52A	**Sevierville**	**67.25**	**350**	P	**P**	**04 19 17.6**	**0.0**
V48A	**Smith Brothers**	**67.72**	**347**	P	**P**	**04 19 20.9**	**+0.4**
V48A				IAmb	IAmb	04 19 30.0	
	comp=Z,12nm,1.0s						
CLTN	**Cedars of Leba**	**67.97**	**347**	P	**P**	**04 19 22.5**	**+0.5**
U49A	**Red Boiling Sp**	**68.28**	**348**	P	**P**	**04 19 24.1**	**+0.1**
WVT	**Waverly**	**68.31**	**346**	P	**P**	**04 19 24.1**	**0.0**
WVT				IAmb	IAmb	04 19 38.3	
	comp=Z,8.4nm,0.8s						
WVT	**Waverly**	**68.31**	**346**	P	**P**	**04 19 25.0**	**+0.8**
	baz=165						
W39A	**Magazine**	**68.88**	**341**	P	**P**	**04 19 28.0**	**+0.2**
W39A				IAmb	IAmb	04 19 38.2	
	comp=Z,21nm,1.2s						
W39A	**Magazine**	**68.88**	**341**	P	**P**	**04 19 29.1**	**+1.3**
	baz=160						
T47A	**Sharon Grove**	**68.99**	**347**	P	**P**	**04 19 29.3**	**+0.9**
T47A				IAmb	IAmb	04 19 37.8	
	comp=Z,23nm,1.2s						
LCAR	**Lake Charles**	**69.01**	**343**	P	**P**	**04 19 28.7**	**+0.2**
LCAR				IAmb	IAmb	04 19 29.6	
	comp=Z,7.4nm,0.7s						
U40A	**Yellville**	**69.72**	**342**	P	**P**	**04 19 33.5**	**+0.6**
	baz=161						
MNTX	**Cornudas Mount**	**69.91**	**330**	P	**P**	**04 19 34.6**	**+0.3**
MNTX	**Cornudas Mount**	**69.91**	**330**	P	**P**	**04 19 33.9**	**-0.3**
	baz=150						
HHAR	**Hobbs**	**69.94**	**341**	P	**P**	**04 19 34.0**	**-0.4**
HHAR				IAmb	IAmb	04 19 48.4	
	comp=Z,11nm,0.9s						
CCM	**Cathedral Cave**	**70.92**	**344**	P	**P**	**04 19 40.3**	**+0.1**
CCM				IAmb	IAmb	04 19 54.3	
	comp=Z,7.0nm,0.7s						
CCM	**Cathedral Cave**	**70.92**	**344**	P	**P**	**04 19 40.9**	**+0.6**
	baz=162						
S39A	**Bolivar**	**71.10**	**342**	P	**P**	**04 19 41.8**	**+0.4**
S39A				IAmb	IAmb	04 19 56.0	
	comp=Z,13nm,1.2s						
SSPA	**Standing Stone**	**71.33**	**355**	P	**P**	**04 19 43.3**	**+0.6**
SSPA	**Standing Stone**	**71.33**	**355**	P	**P**	**04 19 43.6**	**+0.9**
	baz=174						
R40A	**Maddies Statio**	**71.39**	**343**	P	**P**	**04 19 43.5**	**+0.4**
R40A				IAmb	IAmb	04 19 44.0	
	comp=Z,12nm,0.7s						
121A	**Cookes Peak, D**	**71.68**	**328**	P	**P**	**04 19 47.4**	**+2.2**
	baz=148						
L63A	**North Scituate**	**72.33**	**0**	P	**P**	**04 19 49.4**	**+0.8**
L63A				IAmb	IAmb	04 19 57.2	
	comp=Z,29nm,1.2s						
L63A	**North Scituate**	**72.33**	**0**	P	**P**	**04 19 50.1**	**+1.4**
	baz=180						
M54A	**Oil Creek Stat**	**72.35**	**354**	P	**P**	**04 19 49.2**	**+0.4**
	baz=173						
L64A	**Middleborough**	**72.40**	**1**	P	**P**	**04 19 49.8**	**+0.7**
P40A	**Paris**	**72.51**	**344**	P	**P**	**04 19 50.3**	**+0.5**
P40A				IAmb	IAmb	04 19 50.8	
	comp=Z,12nm,0.7s						
L56A	**Greenwood**	**72.80**	**355**	P	**P**	**04 19 52.0**	**+0.5**
L56A				IAmb	IAmb	04 20 01.9	
	comp=Z,20nm,1.0s						
L61B	**Northampton**	**72.92**	**359**	P	**P**	**04 19 53.2**	**+1.1**
	baz=179						
HRV	**Adam Dziewonsk**	**72.97**	**0**	P	**P**	**04 19 54.0**	**+1.5**
	baz=180						
ANMO	**Albuquerque**	**73.16**	**331**	P	**P**	**04 19 53.4**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=179,slow=2.9,SNR=3.5						
MMNY	**Mt. Morris Dam**	**73.42**	**355**	P	**P**	**04 19 55.8**	**+0.7**
MMNY				IAmb	IAmb	04 20 09.6	
	comp=Z,30nm,1.4s						
LIC	**Lamto**	**73.50**	**72**	*e*P	**P**	**04 19 56.1**	**-0.2**
	comp=Z,71nm,1.2s						
TIC	**Toumodi**	**73.75**	**72**	*e*P	**P**	**04 19 57.4**	**-0.4**
KIC	**Kosan Boka**	**73.82**	**72**	*e*P	**P**	**04 19 57.8**	**-0.3**
	comp=Z,47nm,0.9s						
DBIC	**Dimbokro**	**73.90**	**72**	P	**P**	**04 19 58.3**	**-0.3**
	comp=Z,13nm,1.0s,baz=272,slow=5.0,SNR=4.3						
DBIC	**Dimbokro**	**73.90**	**72**	P	**P**	**04 19 58.7**	**+0.1**
I60A	**Shoreham**	**74.32**	**359**	P	**P**	**04 20 01.5**	**+1.2**
	baz=179						
I62A	**Tamworth**	**74.34**	**0**	P	**P**	**04 20 02.6**	**+2.2**
	baz=180						
SDCO	**Great Sand Dun**	**75.18**	**333**	P	**P**	**04 20 07.5**	**+1.7**
	baz=150						
SADO	**Sadowa**	**75.54**	**355**	P	**P**	**04 20 07.2**	**-0.1**
	comp=Z,4.7nm,0.5s,baz=199,slow=7.3,SNR=8.0						
SADO	**Sadowa**	**75.54**	**355**	P	**P**	**04 20 07.7**	**+0.4**
SADO				IAmb	IAmb	04 20 19.3	
	comp=Z,23nm,1.3s						
S22A	**4UR Ranch, Cre**	**75.71**	**332**	P	**P**	**04 20 10.8**	**+1.9**
	baz=149						
MVCO	**Mesa Verde**	**75.95**	**330**	P	**P**	**04 20 11.9**	**+1.7**
	baz=148						
Q24A	**Divide**	**76.10**	**334**	P	**P**	**04 20 12.8**	**+1.7**
	baz=151						
SUR	**Sutherland**	**76.11**	**119**	P	**P**	**04 20 12.2**	**+0.8**
	comp=Z,7.2nm,0.7s,baz=235,slow=9.2,SNR=6.0						
MAW	**Mawson**	**76.13**	**164**	P	**P**	**04 20 10.8**	**+0.1**
	comp=Z,12nm,0.6s,baz=208,slow=6.3,SNR=22						
MAW	**Mawson**	**76.13**	**164**	P	**P**	**04 20 10.7**	**+0.1**
BC3	**Big Chuckawall**	**76.29**	**324**	P	**P**	**04 20 13.8**	**+1.7**
	baz=142						
LMN	**Caledonia Moun**	**76.57**	**5**	P	**P**	**04 20 13.9**	**+0.7**
SMCO	**Snowmass**	**77.00**	**333**	P	**P**	**04 20 14.8**	**-1.5**
D62A	**Allapoint, All**	**77.58**	**2**	P	**P**	**04 20 19.0**	**+0.2**
ECSD	**EROS Data Cent**	**77.63**	**342**	P	**P**	**04 20 19.3**	**+0.1**
ECSD				IAmb	IAmb	04 20 23.5	
	comp=Z,20nm,1.3s						
ECSD	**EROS Data Cent**	**77.63**	**342**	P	**P**	**04 20 19.4**	**+0.2**
	baz=158						
KOWA	**Kowa**	**79.06**	**66**	P	**P**	**04 20 28.2**	**+0.4**
	comp=Z,7.1nm,0.6s,baz=255,slow=4.1,SNR=11						
KOWA	**Kowa**	**79.06**	**66**	P	**P**	**04 20 27.5**	**-0.4**
KOWA				IAmb	IAmb	04 20 36.7	
	comp=Z,13nm,0.9s						
PRN	**Pahroc Range**	**79.07**	**326**	P	**P**	**04 20 26.2**	**-1.3**
ISA	**Isabella, Lake**	**79.41**	**323**	P	**P**	**04 20 31.7**	**+2.3**
	baz=140						
TSUM	**Tsumeb**	**79.80**	**106**	P	**P**	**04 20 32.7**	**+0.6**
	comp=Z,24nm,1.1s,baz=241,slow=5.0,SNR=11						
TSUM	**Tsumeb**	**79.80**	**106**	P	**P**	**04 20 31.5**	**-0.6**
TSUM				IAmb	IAmb	04 20 33.6	
	comp=Z,28nm,1.1s						
R11A	**Troy Canyon, C**	**80.08**	**326**	P	**P**	**04 20 34.9**	**+1.9**
	baz=143						
DRLN	**Deer Lake**	**80.72**	**9**	P	**P**	**04 20 36.8**	**+0.8**
DRLN				IAmb	IAmb	04 20 39.9	
	comp=Z,24nm,1.1s						
HWUT	**Hardware Ranch**	**80.92**	**331**	P	**P**	**04 20 37.3**	**-0.2**
PDAR	**Pinedale Array**	**81.08**	**333**	P	**P**	**04 20 38.5**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=138,slow=7.3,SNR=5.1						
BOSA	**Boshof**	**81.29**	**118**	P	**P**	**04 20 39.9**	**-0.1**
	comp=Z,14nm,0.9s,baz=222,slow=4.0,SNR=11						
BOSA	**Boshof**	**81.29**	**118**	P	**P**	**04 20 39.6**	**-0.3**
BOSA				IAmb	IAmb	04 20 40.9	
	comp=Z,18nm,0.9s						
NVAR	**Mina Array Bea**	**81.46**	**325**	P	**P**	**04 20 41.9**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=142,slow=6.0,SNR=3.8						
HVU	**Hansel Valley**	**81.58**	**330**	P	**P**	**04 20 40.5**	**-0.5**
TORD	**Torodi Ar. Bea**	**82.85**	**70**	P	**P**	**04 20 48.1**	**+0.1**
	comp=Z,4.8nm,0.6s,baz=278,slow=6.0,SNR=9.4						
TORD	**Torodi Ar. Bea**	**82.85**	**70**	P	**P**	**04 20 46.6**	**-1.5**
TORD				IAmb	IAmb	04 20 58.2	
	comp=Z,9.3nm,0.9s						
CASY	**Casey**	**83.19**	**181**	P	**P**	**04 20 49.3**	**+0.3**
CASY				IAmb	IAmb	04 20 49.9	
	comp=Z,8.6nm,0.8s						
LBTB	**Lobatse**	**83.37**	**115**	P	**P**	**04 20 50.6**	**-0.3**
	comp=Z,25nm,0.8s,baz=238,slow=5.9,SNR=22						
LBTB	**Lobatse**	**83.37**	**115**	P	**P**	**04 20 49.1**	**-1.7**
ULM	**Lac du Bonnet**	**83.52**	**345**	P	**P**	**04 20 50.3**	**-0.3**
	comp=Z,3.8nm,0.6s,baz=247,slow=3.0,SNR=2.5						
DGMT	**Dagmar**	**84.13**	**339**	P	**P**	**04 20 54.6**	**+0.7**
	baz=152						
SCHQ	**Schefferville**	**85.41**	**3**	P	**P**	**04 20 59.9**	**-0.2**
	comp=Z,22nm,1.2s,baz=85,slow=5.4,SNR=4.0						
MATP	**Matopo**	**88.04**	**113**	P	**P**	**04 21 13.9**	**-0.2**
	comp=Z,3.6nm,0.8s,baz=251,slow=12,SNR=5.0						
WRA	**Warramunga Arr**	**123.67**	**210**	PKP	**PKPdf**	**04 27 19.9**	**-1.5**
	comp=Z,0.7nm,0.4s,baz=163,slow=2.0,SNR=1.7						
WRA	**Warramunga Arr**	**123.67**	**210**	PKPdf	**PKPdf**	**04 27 20.7**	**-0.8**
BVAR	**Borovoye Array**	**144.71**	**40**	PKP	**PKPdf**	**04 27 59.3**	**-0.1**
	comp=Z,3.9nm,0.6s,baz=264,slow=6.0,SNR=7.9						
YAK	**Yakutsk**	**145.83**	**342**	PKPbc	**PKPbc**	**04 28 01.3**	**-0.2**
	comp=Z,10nm,0.4s,baz=205,slow=0.7,SNR=6.3						
TOLI2	**Tolitoli**	**148.17**	**204**		**PKPbc**	**04 28 09.0**	**-0.7**
HYB	**Hyderabad**	**149.84**	**109**	*i* PKP	**PKPdf**	**04 28 08.5**	**-0.6**
KURBB	**Kurchatov Arra**	**150.30**	**40**	PKPbc	**PKPbc**	**04 28 14.2**	**+0.3**
	comp=Z,2.9nm,0.7s,baz=306,slow=3.1,SNR=5.2						
AAK	**Ala-Archa**	**150.63**	**57**	PKPbc	**PKiKP**	**04 28 15.9**	**0.0**
	comp=Z,1.6nm,0.4s,baz=214,slow=11,SNR=1.6						
ZALV	**Zalesovo Beam**	**151.35**	**29**	PKPbc	**PKPbc**	**04 28 16.2**	**0.0**
	comp=Z,11nm,0.6s,baz=293,slow=3.3,SNR=7.7						
MKAR	**Makanchi Array**	**154.37**	**44**	PKPab	**PKPab**	**04 28 37.8**	**+0.3**
	comp=Z,5.2nm,0.9s,baz=289,

19nm,1.1s,baz=240,slow=5.2,SNR=4.2
SCHQ Schefferville 85.80 3 P **P 04 22 19.8 -0.4**
8.5nm,1.1s,baz=212,slow=9.8,SNR=3.0
MATP Matopo 87.91 113 P **P 04 22 31.9 +0.2**
3.6nm,0.8s,baz=248,slow=6.6,SNR=4.7
WRA Warramunga Arr 123.32 210 PKP **PKiKP 04 28 41.2 +2.0**
5.8nm,1.3s,baz=146,slow=1.2,SNR=1.5
BVAR Borovoye Array 145.02 40 PKPbc **PKiKP 04 29 18.3 -3.6**
5.1nm,0.7s,baz=266,slow=5.7,SNR=4.1
PSI Prapat 150.39 161 PKPbc **PKiKP 04 29 32.3 -2.0**
12nm,0.9s,baz=176,slow=3.9,SNR=4.1
KURBB Kurchatov Arra 150.61 40 PKPbc **PKiKP 04 29 33.0 -0.5**
17nm,1.0s,baz=299,slow=3.0,SNR=11
AAK Ala-Archa 150.86 57 PKPbc **PKiKP 04 29 34.7 +0.2**
16nm,0.9s,baz=214,slow=1.8,SNR=7.1
ZALV Zalesovo Beam 151.70 30 PKPbc **PKiKP 04 29 35.5 -0.1**
24nm,0.8s,baz=298,slow=3.2,SNR=7.6
MKAR Makanchi Array 154.66 45 PKPbc **PKiKP 04 29 41.6 -0.4**
5.4nm,0.9s,baz=308,slow=2.9,SNR=4.8
GTA Gaotai 169.29 38 ⇑PKP **PKPdf 04 29 49.4 +0.7**
GTA pPKP pPKPdf 04 29 56.8 -3.2
GTA sPKP 04 30 01.6

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*IDC **17** 04:10:24.7±0.3,31°.50S×71°.53W,h0km,mb5.9/36, mb1 6.0/40,mb1mx5.9/45,mbtmp5.9/40,ML5.5/4,MS6.8/13, Ms1 6.8/13,ms1mx6.5/22,Error ellipse: s-maj=13.3km s-min=8.0km az=82.0*

*SVSA **17** 04:10:27.7,31°.52S×71°.80W,h23km,MW6.7(NEIC)*

*MOS **17** 04:10:27.8±1.2,31°.48S×71°.59W,h38km,mb6.4/56, MS6.8/19,Error ellipse: s-maj=14.6km s-min=7.8km az=90.6*

*BJI **17** 04:10:27.7±0.0,31°.55S×71°.70W,h30km,mB6.7/43, Ms6.9/79,Ms7 6.9/77*

*NEIC **17** 04:10:27.8±1.9,31°.52S±0°.04×71°.80W±0°.04,h23km±1km, mb6.2/635,Ms_20 6.6/242,Mwb6.6/48,Mwr6.5/12,Mww6.7, Mwc6.8(GCMT),Mwr6.6(GUC),Error ellipse: s-maj=7.3km s-min=5.6km az=220.0*

*GUC **17** 04:10:27.6±0.7,31°.54S×71°.72W,h38km±6km,ML6.6*

*SJA **17** 04:10:29.5±1.1,31°.56S×72°.01W,h49km±15km,ML6.4, MW6.2*

*VAO **17** 04:10:30.1±0.8,31°.60S×71°.65W,h38km±7km,mb6.3*

*NEIC **17** 04:10:30.6,31°.54S×71°.72W,h39km,Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}3.16; $M_{\theta\theta}$-1.69; $M_{\phi\phi}$-1.47; $M_{r\theta}$0.17; $M_{r\phi}$0.83; $M_{\theta\phi}$-5.58; Fault plane solution: M_o6.27000×10^{18} NP1:ϕ_s172.82000°, δ78.11000°,λ98.67000°. NP2:ϕ_s316.32000°,δ14.68000°, λ54.40000°. Principal axes: T 6.8959, Plg56.0000°, Azm94.0000°; N -1.5337, Plg8.0000°, Azm351.0000°; P -5.3623, Plg33.0000°, Azm256.0000°;*

*NEIC **17** 04:10:30.4,31°.53S×71°.73W,h31km,Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}0.88; $M_{\theta\theta}$0.01; $M_{\phi\phi}$-0.89; $M_{r\theta}$0.16; $M_{r\phi}$0.39; $M_{\theta\phi}$-0.51; Fault plane solution: M_o1.11000×10^{19} NP1:ϕ_s161.13000°, δ59.55000°,λ91.73000°. NP2:ϕ_s337.71000°,δ30.50000°, λ87.06000°. Principal axes: T 1.0235, Plg75.0000°, Azm76.0000°; N 0.1497, Plg1.0000°, Azm340.0000°; P -1.1733, Plg15.0000°, Azm250.0000°;*

*GCMT **17** 04:10:35.8±0.2,31°.65S±0°.01×71°.94W±0°.01,h37km, MW6.8/151,Moment Tensor Solution. s91,c123; s151,c270; Duration: 5s9 Moment tensor: Scale 10^{19} Nm; M_{rr}1.61±.04; $M_{\theta\theta}$-0.24±.02; $M_{\phi\phi}$-1.37±.02; $M_{r\theta}$0.20±.02; $M_{r\phi}$0.15±.01; $M_{\theta\phi}$-0.86±.02; Best double couple: M_o1.74200×10^{19} NP1:ϕ_s355.00000°,δ30.00000°, λ94.00000°. NP2:ϕ_s170.00000°,δ60.00000°,λ88.00000°. Principal axes: T 1.8540, Plg75.0000°, Azm74.0000°; N -0.2280, Plg2.0000°, Azm171.0000°; P -1.6300, Plg15.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **17** 04:10:35,31°.67S×72°.01W,h38km,Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}1.59; $M_{\theta\theta}$-0.20; $M_{\phi\phi}$-1.39; $M_{r\theta}$0.16; $M_{r\phi}$0.05; $M_{\theta\phi}$-0.92; Fault plane solution: M_o1.77000×10^{19} NP1:ϕ_s1.00000°, δ29.00000°,λ96.00000°. NP2:ϕ_s174.00000°,δ61.00000°, λ87.00000°. Principal axes: T 1.8595, Plg74.0000°, Azm76.0000°; N -0.2040, Plg3.0000°, Azm176.0000°; P -1.6555, Plg16.0000°, Azm266.0000°;*

*NEIC **17** 04:10:35,31°.53S×71°.89W,h36km,Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}1.02; $M_{\theta\theta}$-0.06; $M_{\phi\phi}$-0.96; $M_{r\theta}$0.10; $M_{r\phi}$0.11; $M_{\theta\phi}$-0.67; Fault plane solution: M_o1.21000×10^{19} NP1:ϕ_s353.00000°, δ28.00000°,λ91.00000°. NP2:ϕ_s172.00000°,δ62.00000°, λ89.00000°. Principal axes: T 1.2306, Plg73.0000°, Azm81.0000°; N -0.0501, Plg1.0000°, Azm172.0000°; P -1.1805, Plg17.0000°, Azm263.0000°;*

ISC 17 04:10:28.3±0.5,31°.54S±0°.02×71°.71W±0°.03,h23km±3km, h23km:pP-P,n1785,σ1°87/1667,mb6.2/410,MS6.7/174, 292C-98D,Fault plane solution: NP1:ϕ_s32.92156°, δ49.25700°,λ111.29053°. **NP2:**ϕ_s182.08106°,δ45.09475°, λ67.14462°. **Principal axes:** T Plg73.8791°, Azm10.5400°; N Plg15.9679°, Azm198.6515°; P Plg2.1587°, Azm108.0335°; **Fault plane solution: NP1:**ϕ_s315.09476°,δ50.47807°,λ53.42000°. **NP2:** ϕ_s184.48158°,δ51.72484°,λ125.84341°. **Principal axes:** T Plg62.6222°, Azm158.6944°; N Plg27.3678°, Azm340.3746°; P Plg0.6861°, Azm250.0195°; **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.86**	**4**	***e*P**		**Pb**	**04 10 44.1**	**-0.5**
CO06				eS		Sn	04 10 56.8	-0.1
CO06	**Fray Jorge**	**0.86**	**4**			**Pn**	**04 10 45.1**	**+0.1**
CO03	**El Pedregal**	**1.11**	**52**⇑	***e*P**		**Pn**	**04 10 48.9**	**+0.3**
CO03				eS		Sb	04 11 04.6	+1.5
CO03	**El Pedregal**	**1.11**	**52**			**Pn**	**04 10 48.1**	**-0.5**
VA01	**Torpederas**	**1.48**	**178**	***e*P**		**Pn**	**04 10 53.8**	**+0.2**
VA01				eS		Sb	04 11 13.8	+0.1
VA01	**Torpederas**	**1.48**	**178**	*i* P		**Pb**	**04 10 56.0**	**+0.8**
VA01					IAML		04 11 21.2	
	comp=Z,150μm,1.4s							
ROCH	**El Roble**	**1.55**	**158**	***e*P**		**Pb**	**04 10 55.9**	**-0.6**
ROC1	**El Roble**	**1.55**	**158**	***e*P**		**Pb**	**04 10 56.4**	**-0.2**
ROC1				eS		Sb	04 11 16.1	+0.3
GO04	**Tololo Observa**	**1.57**	**30**	***e*P**		**Pn**	**04 10 55.6**	**+0.6**
GO04				eS		Sb	04 11 17.8	+1.6
GO04	**Tololo Observa**	**1.57**	**30**			**Pn**	**04 10 55.0**	**0.0**
GO04	**Tololo Observa**	**1.57**	**30**	***e*P**		**Pb**	**04 10 59.4**	**+2.6**
VA03	**San Esteban**	**1.57**	**142**	***e*P**		**Pn**	**04 10 55.8**	**+0.9**
VA03				eS		Sb	04 11 16.7	+0.5
VA03	**San Esteban**	**1.57**	**142**	Pn		**Pn**	**04 10 55.5**	**+0.6**
VA03				Sn		Sb	04 11 16.3	+0.1
VA03						Sn	04 11 17.2	+2.6
MT05	**Renca**	**2.02**	**156**	***e*P**		**Pn**	**04 11 00.1**	**-1.1**
MT05				eS		Sb	04 11 28.2	-1.0
MT05	**Renca**	**2.02**	**156**	Sn		**Sb**	**04 11 28.6**	**-0.7**
RTLS	**Leoncito**	**2.07**	**98**	***e*P**		**Pb**	**04 11 08.0**	**+2.6**
RTLS				eS		Sb	04 11 33.5	+2.6
RTLS					IAML		04 11 39.0	
	comp=Z,113μm,1.8s							
VA05	**Santo Domingo**	**2.12**	**178**	***e*P**		**Pn**	**04 11 03.2**	**+0.9**
VA05					IAML		04 11 41.8	
	comp=E,403μm,0.5s							
MT09	**Talagante**	**2.32**	**165**	***e*P**		**Pn**	**04 11 02.0**	**-3.2**
MT09				eS		Sb	04 11 35.8	-1.9
MT09					IAML		04 11 47.5	
	comp=E,438μm,0.5s							
MT01	**Popeta**	**2.35**	**171**	***e*P**		**Pn**	**04 11 03.4**	**-2.2**
MT01					IAML		04 11 50.7	
	comp=E,255μm,0.5s							
MT01	**Popeta**	**2.35**	**171**	*i* P		**Pn**	**04 11 07.7**	**+2.1**
MT01					IAML		04 11 45.5	
	comp=Z,75μm,0.5s							
ZON	**Zonda**	**2.59**	**91**	P		**Pn**	**04 11 07.7**	**-1.1**
ZON	**Zonda**	**2.59**	**91**			**Pn**	**04 11 07.7**	**-1.1**
ZON						**Sb**	**04 11 47.7**	**+2.2**
ZON	**Zonda**	**2.59**	**91**	***e*P**		**Pb**	**04 11 15.0**	**+0.9**
ZON					IAML		04 11 56.8	
	comp=Z,113μm,2.2s							
ACDV	**Cuesta del Vie**	**2.61**	**59**	*i* P		**Pb**	**04 11 14.2**	**-0.3**
ACDV					IAML		04 11 54.6	
	comp=Z,141μm,1.0s							
LMEL	**Las Melosas**	**2.63**	**152**	***e*P**		**Pn**	**04 11 08.9**	**-0.7**
LMEL					IAML		04 11 57.3	
	comp=E,169μm,0.5s							
LCO	**Las Campanas**	**2.66**	**19**⇓	*i* P		**Pn**	**04 11 12.1**	**+2.1**
LCO	**Las Campanas**	**2.66**	**19**	***e*P**		**Pb**	**04 11 13.8**	**-1.7**
LCO					IAML		04 12 01.5	
	comp=Z,609μm,1.2s							
BO01	**Tunca**	**2.90**	**170**	***e*P**		**Pn**	**04 11 14.9**	**+1.9**
BO01					IAML		04 12 05.9	
	comp=E,419μm,0.5s							
BO01	**Tunca**	**2.90**	**170**			**Pn**	**04 11 11.1**	**-2.0**
BO01	**Tunca**	**2.90**	**170**	*i* P		**Pn**	**04 11 15.2**	**+2.2**
BO01					IAML		04 12 00.0	
	comp=Z,83μm,1.5s							
BO03	**Pichilemu**	**2.96**	**184**	***e*P**		**Pn**	**04 11 14.6**	**+0.7**
BO02	**Sierra Bellavi**	**3.34**	**167**	***e*P**		**Pn**	**04 11 20.9**	**+1.7**
BO02	**Sierra Bellavi**	**3.34**	**167**			**Pn**	**04 11 19.6**	**+0.4**
AC04	**Llanos de Chal**	**3.36**	**10**	***e*P**		**Pn**	**04 11 20.6**	**+1.1**
AC04					IAML		04 12 19.7	
	comp=E,116μm,0.7s							
AC04	**Llanos de Chal**	**3.36**	**10**	Pn		**Pn**	**04 11 18.0**	**-1.4**
GO05	**Huala**	**3.47**	**183**	***e*P**		**Pn**	**04 11 20.4**	**-0.6**
GO05	**Huala**	**3.47**	**183**			**Pn**	**04 11 20.1**	**-0.9**
GO05	**Huala**	**3.47**	**183**	*i* P		**Pn**	**04 11 18.8**	**-2.2**
GO05				*i* S		**Sb**	**04 12 12.8**	**+1.9**
VCA	**Vinchina**	**4.12**	**48**	*i* P		**Pb**	**04 11 35.8**	**-4.5**
VCA				***e*P**		Pn	04 11 36.6	+6.6
VCA					IAML		04 12 55.2	
	comp=E,112μm,1.3s							
GO03	**Copiap**	**4.13**	**18**	***e*P**		**Pn**	**04 11 31.2**	**+1.1**
GO03	**Copiap**	**4.13**	**18**	Pn		**Pn**	**04 11 29.0**	**-1.1**
GO03	**Copiap**	**4.13**	**18**	*i* P		**Pn**	**04 11 32.7**	**+2.6**
RFA	**San Rafael**	**4.22**	**141**	*i* P		**Pn**	**04 11 36.1**	**+4.8**
RFA				***e*P**		Pb	04 11 36.5	-5.4
RFA					IAML		04 12 44.8	
	comp=Z,45μm,1.3s							
TINO	**Tinogasta**	**4.99**	**47**	*i* P		Pn	04 11 47.4	+5.5
MRA	**San Martin**	**5.17**	**101**	***e*P**		Pn	04 11 49.9	+5.5
MRA					IAML		04 12 57.1	
	comp=Z,21μm,0.7s							
AC02	**Maricunga**	**5.20**	**26**			**Pn**	**04 11 44.3**	**-0.8**
CYA	**Choya**	**5.98**	**60**	***e*P**		**Pn**	**04 11 59.8**	**+4.3**
CYA					IAML		04 13 13.4	
	comp=Z,38μm,2.0s							
VA04	**Juan Fernndez**	**6.37**	**249**	***e*P**		**Pn**	**04 11 58.9**	**-1.8**
VA04	**Juan Fernndez**	**6.37**	**249**	Pn		**Pn**	**04 11 59.0**	**-1.7**
H03N1	**Juan Fernandez**	**6.38**	**251**	T		T	04 18 40.1	
	baz=78,slow=72,SNR=1169							
H03N3	**Juan Fernandez**	**6.39**	**251**	T		T	04 18 43.1	
	baz=78,slow=72,SNR=1773							
H03N2	**Juan Fernandez**	**6.39**	**251**	T		T	04 18 44.6	
	baz=78,slow=72,SNR=1629							
H03S3	**Juan Fernandez**	**6.49**	**247**	T		T	04 19 00.0	
	baz=86,slow=74,SNR=120							
H03S1	**Juan Fernandez**	**6.49**	**247**	T		T	04 18 58.1	
	baz=86,slow=74,SNR=133							
H03S2	**Juan Fernandez**	**6.50**	**247**	T		T	04 18 56.8	
	baz=86,slow=74,SNR=153							
PB14	**IPOC Station P**	**6.98**	**10**	***e*P**		**Pn**	**04 12 11.3**	**+1.8**
LC01	**Cunco**	**7.35**	**181**	Pn		**Pn**	**04 12 14.6**	**+0.4**
FSA	**Cafayete**	**7.38**	**44**	***e*P**		Pn	04 12 19.8	+5.0
LR03	**Panguipulli**	**8.10**	**183**			**Pn**	**04 12 25.0**	**+0.5**
AF01	**San Pedro de A**	**9.11**	**21**			**Pn**	**04 12 37.5**	**-1.1**
PLCA	**Paso Flores**	**9.23**	**175**	Pn		**Pn**	**04 12 40.3**	**+0.3**
	comp=Z,20nm,0.3s,baz=341,slow=13,SNR=26							
PLCA					Sn	Sn	04 14 38.4	+15
	comp=Z,4.9nm,0.3s,baz=40,slow=18,SNR=2.1							
PLCA	**Paso Flores**	**9.23**	**175**	P		**Pn**	**04 12 40.1**	**+0.1**
PLCA	**Paso Flores**	**9.23**	**175**	Pn		**Pn**	**04 12 40.1**	**+0.1**
PLCA	**Paso Flores**	**9.23**	**175**	***e*P**		**Pn**	**04 12 39.5**	**-0.6**
LVC	**Limon Verde**	**9.23**	**16**	Pn		**Pn**	**04 12 38.3**	**-2.1**
	comp=Z,9.6nm,0.3s,baz=248,slow=18,SNR=3.4							
LVC					Sn	**Sn**	**04 14 27.2**	**+3.4**
	comp=Z,147nm,0.3s,baz=343,slow=17,SNR=2.4							
LVC					LR	LR	04 16 26.5	
	comp=Z,540μm,21.3s,baz=216,slow=40							
LVC	**Limon Verde**	**9.23**	**16**			**Pn**	**04 12 39.4**	**-1.0**
LL04	**Puerto Octay**	**9.37**	**183**			**Pn**	**04 12 41.3**	**-0.7**
LL03	**Petrohue**	**9.60**	**183**			**Pn**	**04 12 45.7**	**+0.6**
LL05	**Los Muermos**	**9.95**	**188**			**Pn**	**04 12 49.4**	**-0.5**
LL01	**San Ignacio de**	**10.84**	**183**			**Pn**	**04 13 02.0**	**0.0**
LL02	**Futaleuf**	**11.64**	**181**			**Pn**	**04 13 12.3**	**-0.6**
GO07	**Milladeo Hill,**	**11.66**	**187**			**Pn**	**04 13 11.8**	**-1.5**
ITQB	**Itaqui**	**13.13**	**86**	Pn		**Pn**	**04 13 33.0**	**-0.3**
ITQB	**Itaqui**	**13.13**	**86**	***e*P**		**Pn**	**04 13 34.1**	**+0.7**
ITQB				eS		**Sn**	**04 15 58.6**	**0.0**
CPUP	**Villa Florida**	**13.61**	**71**	Pn		**Pn**	**04 13 40.1**	**+0.1**
	comp=Z,18nm,0.3s,baz=246,slow=14,SNR=12							
CPUP					Sn	**Sn**	**04 16 04.5**	**-6.0**
	comp=Z,19nm,0.3s,baz=198,slow=18,SNR=1.9							
CPUP					LR	LR	04 19 25.7	
	comp=Z,673μm,18.6s,baz=248,slow=40							
CPUP	**Villa Florida**	**13.61**	**71**	P		**Pn**	**04 13 38.4**	**-1.6**
CPUP	**Villa Florida**	**13.61**	**71**	Pn		**Pn**	**04 13 38.4**	**-1.6**
COYC	**Coyhaique**	**14.02**	**181**	P		**Pn**	**04 13 46.2**	**+0.7**
PLTB	**Pedras Altas**	**15.42**	**96**	Pn		**Pn**	**04 14 01.8**	**-2.7**
PLTB	**Pedras Altas**	**15.42**	**96**	***e*P**		**Pn**	**04 14 02.6**	**-1.8**
LPAZ	**La Paz**	**15.53**	**13**	Pn		**Pn**	**04 14 05.5**	**-1.0**
	comp=Z,9.7nm,0.3s,baz=195,slow=8.0,SNR=28							
LPAZ					Sn	**S**	**04 17 12.4**	**-1.1**
	baz=180,slow=4.0,SNR=2.0							
LPAZ	**La Paz**	**15.53**	**13**	P		**Pn**	**04 14 05.2**	**-1.2**
LPAZ					pmax	pmax		
	comp=Z,568nm,0.9s							
LPAZ	**La Paz**	**15.53**	**13**			**Pn**	**04 14 05.2**	**-1.2**
LPAZ	**La Paz**	**15.53**	**13**	***e*P**		**Pn**	**04 14 08.2**	**+1.8**
CPSB	**Cacapava Do Su**	**15.71**	**91**	***e*P**		**Pn**	**04 14 06.8**	**-1.4**
AQDB	**Aquidauana**	**18.10**	**56**	P		**Pn**	**04 14 38.2**	**-0.1**
AQDB	**Aquidauana**	**18.10**	**56**	***e*P**		**Pn**	**04 14 38.8**	**+0.3**
CNLB	**Canela**	**18.12**	**88**	***e*P**		**P**	**04 14 39.1**	**+0.2**
SIV	**San Ignacio**	**18.26**	**35**	P		**Pn**	**04 14 39.4**	**-1.0**
	comp=Z,14nm,0.3s,baz=230,slow=12,SNR=28							
SIV					LR	LR	04 22 20.5	
	comp=Z,173μm,21.6s,baz=220,slow=39							
PTGB	**Pitanga**	**18.60**	**73**	***e*P**		**Pn**	**04 14 44.9**	**+0.5**
TRCB	**Terra Rica**	**19.05**	**67**	P		**Pn**	**04 14 49.4**	**+0.4**
PTLB	**Pontes e Lacer**	**19.70**	**39**	***e*P**		**Pn**	**04 14 57.3**	**-0.4**
TER01	**Tubaro-SC**	**19.77**	**87**	***e*P**		**P**	**04 14 57.3**	**+0.4**
NNA	**Nana**	**20.02**	**345**	P		Pn	04 15 01.0	-0.6
	comp=Z,141nm,0.9s,baz=214,slow=7.9,SNR=23							
NNA					S	**S**	**04 18 35.2**	**-8.6**
	comp=Z,36nm,1.0s,baz=56,slow=17,SNR=1.3							
NNA					LR	LR	04 21 01.9	
	comp=Z,139μm,21.4s,baz=170,slow=32							
NNA	**Nana**	**20.02**	**345**	P		Pn	04 15 01.0	-0.5
PP1B	**Ponte de Pedra**	**20.62**	**52**	***e*P**		**P**	**04 15 06.2**	**+0.1**
PCMB	**Pacaembu**	**20.76**	**67**	***e*P**		**P**	**04 15 07.9**	**+0.3**
PCMB				eS		**S**	**04 18 58.4**	**0.0**
FRTB	**Fartura**	**21.25**	**73**	***e*P**		**P**	**04 15 12.4**	**-0.6**
MG02	**Cerro Sombrero**	**21.31**	**176**	P		**P**	**04 15 13.4**	**+0.1**
VILB	**Vilhena**	**21.31**	**32**	***e*P**		**P**	**04 15 13.2**	**-0.4**
SALV	**Santo Antonio**	**21.34**	**47**	***e*P**		**P**	**04 15 13.8**	**-0.1**
GO10	**Punta Arenas**	**21.61**	**179**	P		**P**	**04 15 17.2**	**+0.6**
ETMB	**Extrema**	**22.20**	**14**	***e*P**		**P**	**04 15 24.4**	**+1.3**
EFI	**East Falkland**	**22.49**	**157**⇑	***e*P**		**P**	**04 15 26.8**	**+0.8**
EFI					pmax	pmax		
	comp=Z,1μm,1.3s							
EFI	**East Falkland**	**22.49**	**157**	P		**P**	**04 15 25.1**	**-0.8**
EFI					IAmb	IAmb	04 15 45.8	
	comp=Z,1μm,1.0s							
EFI	**East Falkland**	**22.49**	**157**		IAMs_20	IAMs_20	04 25 04.2	
	comp=Z,259μm,18.0s							
ITRB	**Iturama**	**22.52**	**64**	***e*P**		**P**	**04 15 27.5**	**+0.9**
PET01	**Itanhaem-SP**	**22.73**	**78**	***e*P**		**P**	**04 15 28.6**	**-0.2**
SPB	**Sao Paulo**	**22.90**	**76**	P		**P**	**04 15 30.6**	**+0.1**
RCLB	**Rio Claro- Sao**	**23.34**	**73**	***e*P**		**P**	**04 15 34.5**	**-0.6**
USHA	**Ushuaia**	**23.40**	**175**	P		**P**	**04 15 37.3**	**+1.9**
	comp=Z,275nm,1.0s,baz=327,slow=10,SNR=7.3							
USHA					S	**S**	**04 19 38.8**	**-8.2**
	comp=Z,14nm,0.5s,baz=184,slow=2.3,SNR=1.3							
USHA					LR	LR	04 25 30.6	
	comp=Z,267μm,18.6s,baz=358,slow=39							
VAO	**Valinhos**	**23.54**	**75**	***e*P**		**P**	**04 15 36.2**	**-0.9**
MG01	**Puerto William**	**23.57**	**174**	P		**P**	**04 15 37.3**	**+0.3**
CZSB	**Cruzeiro do Su**	**23.70**	**358**	***e*P**		**P**	**04 15 40.4**	**+1.8**
SAML	**Samuel**	**23.83**	**21**	P		**P**	**04 15 39.5**	**-0.3**
SAML					pmax	pmax		
	comp=Z,7μm,2.9s							
SAML					MLR	MLR		
	comp=Z,169μm,20.0s							
SAML	**Samuel**	**23.83**	**21**	P		**P**	**04 15 39.5**	**-0.3**
SAML					IAMs_20	IAMs_20	04 25 39.9	
	comp=Z,169μm,20.0s							
IPMB	**Ipameri, GO**	**25.18**	**63**	***e*P**		**P**	**04 15 52.2**	**0.0**
CLDB	**Colider**	**25.29**	**39**	***e*P**		**P**	**04 15 53.0**	**-0.2**
BSCB	**Bom Sucesso**	**26.27**	**73**	***e*P**		**P**	**04 16 00.3**	**-1.8**
VAS01	**Vassouras-RJ**	**26.77**	**77**	***e*P**		**P**	**04 16 06.2**	**-0.5**
BDFB	**Brasilia**	**26.78**	**59**	P		**P**	**04 16 05.8**	**-1.0**
	comp=Z,1μm,1.0s,baz=219,slow=8.6,SNR=21							
BDFB					S	**S**	**04 20 47.8**	**+6.2**
	comp=Z,127nm,1.2s,baz=49,slow=11,SNR=2.2							
BDFB					LR	LR	04 27 57.0	
	comp=Z,783μm,18.9s,baz=230,slow=40							
BDFB	**Brasilia**	**26.78**	**59**	P		**P**	**04 16 05.6**	**-1.2**
BDFB					pmax	pmax		
	comp=Z,2μm,1.1s							
BDFB	**Brasilia**	**26.78**	**59**	P		**P**	**04 16 05.6**	**-1.2**
SNDB	**Serra Nova Dou**	**27.08**	**49**	***e*P**		**P**	**04 16 09.8**	**+0.4**
TBTG	**Tabatinga, AM**	**27.26**	**4**	***e*P**		**P**	**04 16 10.8**	**-0.2**
TBTG	**Tabatinga, AM**	**27.26**	**4**	***e*P**		**P**	**04 16 11.2**	**+0.3**
DUB01	**Friburgo-RJ**	**27.75**	**77**	***e*P**		**P**	**04 16 15.4**	**0.0**
CAM01	**Campos-RJ**	**28.46**	**78**	***e*P**		**P**	**04 16 21.3**	**-0.4**
DIAM	**Diamantina, MG**	**28.54**	**69**	***e*P**		**P**	**04 16 21.9**	**-0.8**
NPGB	**Novo Progresso**	**28.76**	**36**	***e*P**		**P**	**04 16 24.9**	**+0.6**
ALF01	**Guarapari-ES**	**29.78**	**76**	***e*P**		**P**	**04 16 33.1**	**-0.3**
MACA	**Manacapuru-AM**	**30.07**	**22**	***e*P**		**P**	**04 16 35.9**	**-0.1**
SJMB	**Sao Joao De Ma**	**30.34**	**72**	***e*P**		**P**	**04 16 37.5**	**-0.8**
BSFB	**Barra de Sao F**	**30.55**	**73**	***e*P**		**P**	**04 16 38.4**	**-1.8**
RIB01	**Linhares ES**	**30.68**	**74**	***e*P**		**P**	**04 16 41.5**	**+0.1**
ITTB	**Itatiuba**	**30.91**	**32**	***e*P**		**P**	**04 16 43.1**	**-0.3**
NAN01	**Guarapari, ES**	**31.64**	**72**	***e*P**		**P**	**04 16 49.6**	**-0.3**
PTLC	**Puerto Leguiza**	**31.67**	**354**	***e*P**		**P**	**04 16 48.4**	**-1.7**
SMTB	**Santa Maria do**	**31.81**	**50**	***e*P**		**P**	**04 16 51.8**	**+0.5**
OTAV	**Otavalo**	**32.24**	**347**	P		**P**	**04 16 53.8**	**-1.8**
OTAV					IAmb	IAmb	04 17 11.3	
	comp=Z,527nm,1.6s							
OTAV					PcP	**PcP**	**04 19 46.1**	**+2.2**
OTAV	**Otavalo**	**32.24**	**347**	***e*P**		**P**	**04 16 57.1**	**+1.5**
CUSE	**Cuicocha Este**	**32.30**	**347**	***e*P**		P	04 17 02.0	+5.9
PRPB	**Parauapebas**	**32.50**	**44**	***e*P**		**P**	**04 16 57.1**	**-0.3**
TULM	**Tulcn-Chalpat**	**32.59**	**349**	***e*P**		**P**	**04 17 00.2**	**+1.5**
PTGA	**Pitinga**	**32.59**	**22**	P		**P**	**04 16 57.3**	**-0.8**
	comp=Z,450nm,1.0s,baz=199,slow=10,SNR=20							
PTGA					LR	LR	04 31 33.9	
	comp=Z,156μm,21.8s,baz=196,slow=39							
PTGA	**Pitinga**	**32.59**	**22**		IAMs_20	IAMs_20	04 32 07.0	
	comp=Z,142μm,19.0s							
RPN	**Rapa Nui**	**32.99**	**268**	P		**P**	**04 17 06.3**	**+4.7**
	comp=Z,44nm,0.8s,baz=219,slow=6.5,SNR=1.9							
RPN	**Rapa Nui**	**32.99**	**268**		IAMs_20	IAMs_20	04 26 21.0	
	comp=Z,121μm,22.0s							
GCUF	**Volcan Galeras**	**33.02**	**350**	***e*P**		**P**	**04 17 06.8**	**+4.4**
PTGL	**Punta Galera**	**33.10**	**345**	***e*P**		**P**	**04 17 06.4**	**+3.8**
FLOC	**Florencia**	**33.15**	**353**	P		**P**	**04 17 02.8**	**-0.3**
FLOC					IAmb	IAmb	04 17 22.1	
	comp=Z,598nm,1.4s							
FLOC	**Florencia**	**33.15**	**353**	***e*P**		**P**	**04 17 04.5**	**+1.4**
CFLOR	**Florencia**	**33.15**	**353**	***e*P**		P	04 17 10.7	+7.6
CMC01	**Camacan, BA**	**33.47**	**69**	***e*P**		**P**	**04 17 05.8**	**-0.1**
MACC	**Macarena, Meta**	**33.56**	**356**	***e*P**		**P**	**04 17 06.8**	**+0.2**
PMSA	**Palmer Station**	**33.60**	**174**	P		**P**	**04 17 06.5**	**+0.1**
	comp=Z,42nm,0.9s,baz=8.6,slow=8.3,SNR=11							
PMSA					S	**S**	**04 22 29.8**	**+2.4**
	comp=Z,9.5nm,

comp=Z,1µm,1.9s
PCRV Puerto La Cruz 42.02 10 P **P** **04 18 18.4 +0.3**
comp=Z,169nm,0.9s,baz=151,slow=0.9,SNR=27
SRBA San Rafael, Bu 42.04 343 P **P** **04 18 16.5 -1.9**
DRK0 Durika 42.04 343 P **P** **04 18 18.3 -0.1**
RCBR Riachuelo 42.14 60 *e*P **P** **04 18 20.6 +1.4**
NBPV Pedro Velho 42.21 61 *e*P **P** **04 18 21.2 +1.4**
PEZE Perez Zeledon, 42.27 342 P **P** **04 18 19.9 -0.3**
PEZE IAmb IAmb 04 18 34.4
comp=Z,1µm,2.7s
CRJC Cerrejon, Guaj 42.33 358 *e*P **P** **04 18 19.4 -1.3**
SMRC Santa Marta, M 42.52 356 *e*P **P** **04 18 22.1 0.0**
RIMA Rio Macho 42.69 342 P **P** **04 18 23.3 -0.4**
RIMA IAmb IAmb 04 18 37.9
comp=Z,790nm,2.1s
JACO JACO, Garabito 42.80 341 P **P** **04 18 24.4 0.0**
CAO2 Cobano, Puntar 42.95 340 P **P** **04 18 26.5 +0.8**
HDC Heredia 42.98 342 P **P** **04 18 25.9 -0.2**
HDC IAmb IAmb 04 18 40.7
comp=Z,1µm,2.1s
URIC Uribia, Colomb 42.99 360 P **P** **04 18 25.1 -0.8**
URIC Uribia, Colomb 42.99 360 *e*P **P** **04 18 25.2 -0.8**
URIC Uribia, Colomb 42.99 360 *e*P **P** **04 18 24.2 -1.8**
JTS Las Juntas de 43.48 341 P **P** **04 18 31.5 +1.6**
comp=Z,47nm,1.1s,baz=250,slow=4.0,SNR=9.4
JTS Las Juntas de 43.48 341 *c i*P **P** **04 18 30.8 +0.8**
JTS pmax pmax
comp=Z,233nm,1.7s
JTS Las Juntas de 43.48 341 P **P** **04 18 30.2 +0.3**
HATO Hato, Curacao 43.55 4 P **P** **04 18 30.5 +0.1**
HATO IAmb IAmb 04 18 40.0
comp=Z,512nm,1.3s
ORTG Ortega, Santa 43.69 340 P **P** **04 18 31.8 +0.1**
COVE Coope Vega, Sa 43.74 342 P **P** **04 18 32.2 +0.2**
COVE IAmb IAmb 04 19 58.9
comp=Z,311nm,1.1s
TOSP Speyside 43.92 16 P **P** **04 18 32.0 -1.4**
HZTE Horizontes, Gu 44.07 340 P **P** **04 18 34.6 0.0**
GRGR Grenville 44.48 14 P **P** **04 18 37.2 -0.7**
GRGR IAMs_20 IAMs_20 04 40 19.7
comp=Z,109µm,20.0s
ACON Acoyapa 45.14 341 P **P** **04 18 43.4 +0.2**
PRVC Isla de Provid 45.60 347 P **P** **04 18 46.9 0.0**
SVB Belmont 45.67 14 P **P** **04 18 46.6 -0.7**
BBGH Gun Hill 45.93 17 *e* P 04 18 56.2 +6.8
BBGH Gun Hill 45.93 17 IAMs_20 IAMs_20 04 40 10.2
comp=Z,106µm,20.0s
MCLT Moule a Chique 46.16 15 *e* **P** **04 18 48.2 -3.0**
MCLT Moule a Chique 46.16 15 P **P** **04 18 48.5 -2.8**
MATN Matagalpa 46.27 341 P **P** **04 18 50.1 -2.1**
CRIN San Cristobal 46.38 339 P **P** **04 18 52.6 -0.5**
CRIN IAmb IAmb 04 19 19.2
comp=Z,173nm,1.0s
FDF Fort de France 47.11 14 P **P** **04 18 56.9 -1.8**
FDF pmax pmax
comp=Z,343nm,0.8s
FDF MLR MLR
comp=Z,91µm,20.0s
FDF Fort de France 47.11 14 P **P** **04 18 56.9 -1.8**
FDF IAMs_20 IAMs_20 04 40 01.7
comp=Z,91µm,20.0s
TGUH Tegucigalpa,Un 47.73 339 P **P** **04 19 03.6 0.0**
TGUH IAmb IAmb 04 19 16.5
comp=Z,470nm,1.2s
TGUH Tegucigalpa,Un 47.73 339 *e*P **P** **04 19 04.7 +1.0**
MTO3 Montecristo 48.71 337 P **P** **04 19 10.6 -0.8**
ICMP Isla Caja de M 49.39 7 P **P** **04 19 14.7 -1.5**
MLPR Magueyes Islan 49.42 6 P **P** **04 19 15.2 -1.3**
CDVI St. Croix 49.45 9 P **P** **04 19 15.6 -1.1**
CDVI IAmb IAmb 04 19 18.7
comp=Z,181nm,0.8s
CRPR Cabo Rojo, PR 49.45 6 P **P** **04 19 16.2 -0.5**
SEUS St. Eustatius 49.46 11 P **P** **04 19 15.3 -1.5**
SEUS IAmb IAmb 04 19 58.2
comp=Z,389nm,1.1s
SEUS IAMs_20 IAMs_20 04 43 29.0
comp=Z,74µm,19.0s
OBIP Obispado Ponce 49.54 6 P **P** **04 19 14.9 -2.4**
PDPR Patillas Dam, 49.57 7 P **P** **04 19 15.5 -2.1**
SJG San Juan 49.65 7 P **P** **04 19 16.8 -1.4**
comp=Z,379nm,0.9s,baz=164,slow=3.1,SNR=31
SJG San Juan 49.65 7 P **P** **04 19 16.5 -1.7**
SJG PcP **PcP** **04 20 41.3 +1.9**
SJG San Juan 49.65 7 *e*P **P** **04 19 16.6 -1.7**
HUMP Col San Antoni 49.71 7 IAmb IAmb 04 19 57.7
comp=Z,169nm,1.1s
MTDJ Mount Denham 49.79 353 IAmb IAmb 04 19 32.4
comp=Z,425nm,1.4s
AOPR Arecibo Observ 49.82 6 P **P** **04 19 16.8 -2.8**
AOPR IAmb IAmb 04 19 59.3
comp=Z,249nm,0.9s
AOPR PP **PP** **04 21 13.1 -1.5**
CBYP Canovanas 49.84 7 IAmb IAmb 04 19 21.9
comp=Z,374nm,0.9s
ANWB Willy Bob 49.84 12 IAmb IAmb 04 19 20.2
comp=Z,264nm,0.9s
ANWB IAMs_20 IAMs_20 04 43 15.1
comp=Z,83µm,20.0s
GCPR Guaynabo City 49.85 7 IAmb IAmb 04 19 21.6
comp=Z,229nm,0.9s
EMPR Esperanza - Ma 49.97 6 IAmb IAmb 04 20 08.6
comp=Z,403nm,1.1s
SMRT St. Maarten 49.99 11 IAmb IAmb 04 19 22.8
comp=Z,331nm,1.3s
SMRT IAMs_20 IAMs_20 04 43 44.1
comp=Z,66µm,19.0s
SDDR Presa de Saban 50.23 1 IAMs_20 IAMs_20 04 42 38.2
comp=Z,61µm,20.0s
ABVI Anegada Island 50.48 9 IAmb IAmb 04 20 18.9
comp=Z,426nm,1.0s
GTBY Guantanamo Bay 51.27 356 IAmb IAmb 04 19 36.0
comp=Z,202nm,0.9s
GTBY IAMs_20 IAMs_20 04 44 25.7
comp=Z,42µm,18.0s
VNA3 Neumayer Olymp 51.54 159 P **P** **04 19 32.3 +0.3**
CBCY The Bluff, Cay 51.56 350 IAmb IAmb 04 19 45.1
comp=Z,659nm,1.4s
VNA1 Neumayer--Stat 51.83 158 P **P** **04 19 33.6 -0.5**
VNA2 Neumayer--Watz 52.18 158 P **P** **04 19 36.8 0.0**
baz=287,slow=8.5
GRTK Grand Turk 52.75 1 P **P** **04 19 40.2 -1.2**
CMIG Matias Romero 53.22 332 P **P** **04 19 44.2 -0.8**
comp=Z,39nm,1.1s,baz=160,slow=4.8,SNR=16
SNAA Sanae 53.76 159 P **P** **04 19 48.1 -0.3**
SNAA Sanae 53.76 159 P **P** **04 19 47.9 -0.6**
comp=Z,285nm,0.9s,baz=277,slow=6.5,SNR=22
SNAA Sanae 53.76 159 *c i*P **P** **04 19 48.8 +0.3**
SNAA pmax pmax
comp=Z,948nm,1.7s
SNAA Sanae 53.76 159 P **P** **04 19 47.6 -0.9**
SNAA IAMs_20 IAMs_20 04 41 00.9
comp=Z,50µm,20.0s
SOR Soroa 55.09 347 IAmb IAmb 04 20 03.4
comp=Z,317nm,1.1s
RKT Rikitea 56.16 262 *e*P **P** **04 20 08.8 +2.4**
comp=Z,40nm,1.0s
RKT Rikitea 56.16 262 *e*T T 05 20 44.2
comp=Z,48nm,0.3s
ASCN Ascension 58.15 79 P **P** **04 20 19.6 -1.0**
ASCN IAmb IAmb 04 20 25.9
comp=Z,230nm,0.7s
ASCN IAMs_20 IAMs_20 04 42 33.5
comp=Z,40µm,22.0s
QSPA South Pole Qui 58.70 180 P **P** **04 20 25.0 +1.2**
baz=148,slow=2.3
QSPA South Pole Qui 58.70 180 P **P** **04 20 22.7 -1.1**
DWPF Disney Wildern 60.03 350 P **P** **04 20 31.3 -2.0**
DWPF Disney Wildern 60.03 350 P **P** **04 20 29.9 -3.4**
baz=170
DWPF S **S** **04 28 44.5 -0.2**
baz=170
SHEL Horse Pasture 61.52 92 P **P** **04 20 42.8 -1.1**
SHEL pmax pmax
comp=Z,2µm,1.9s
SHEL Horse Pasture 61.52 92 P **P** **04 20 42.8 -1.1**
ZAIG Zacatecas 61.56 327 P **P** **04 20 42.4 -1.7**
ZAIG IAmb IAmb 04 22 04.6
comp=Z,244nm,2.0s
TIGA Tifton 63.64 349 IAmb IAmb 04 21 01.4
comp=Z,308nm,1.1s
TIGA Tifton 63.64 349 P **P** **04 20 56.1 -1.4**
baz=169,SNR=10
TIGA S **S** **04 29 28.0 -2.2**
baz=169
BBSR BB Station 63.91 7 P **P** **04 20 58.0 -1.2**
BBSR IAmb IAmb 04 21 04.1
comp=Z,151nm,0.9s
255A Hazlehurst 63.94 350 IAmb IAmb 04 21 03.4
comp=Z,308nm,1.2s
BRAL Brewton 64.04 345 P **P** **04 20 58.1 -1.9**
baz=166,SNR=19
NHSC New Hope 64.79 352 P **P** **04 21 04.7 -0.3**
baz=172,SNR=28
NHSC S **S** **04 29 44.9 +0.5**
baz=172
152A Waverly Hall 65.03 348 IAmb IAmb 04 21 10.3
comp=Z,147nm,1.0s
833A Chaparral WMA, 65.11 333 P **P** **04 21 06.5 -0.6**
baz=154,SNR=20
833A S **S** **04 29 50.5 +2.0**
baz=154
344A Westbrook Farm 65.19 342 IAmb IAmb 04 21 13.0
comp=Z,363nm,1.2s
441A DeRidder 65.21 340 IAmb IAmb 04 21 25.4
comp=Z,151nm,0.8s
HKT Hockley 65.30 337 *c i*P **P** **04 21 09.0 +0.7**
HKT pmax pmax
comp=Z,298nm,2.0s
HKT Hockley 65.30 337 P **P** **04 21 07.3 -1.0**
SACV Santiago Islan 65.32 52 P **P** **04 21 07.7 -1.2**
SACV IAMs_20 IAMs_20 04 49 49.3
comp=Z,52µm,19.0s
Y59A Loris 65.52 353 IAmb IAmb 04 21 16.3
comp=Z,110nm,0.9s
SBA Scott Base 65.54 191 P **P** **04 21 08.7 -0.7**
SBA pmax pmax
comp=Z,603nm,2.1s
SBA Scott Base 65.54 191 P **P** **04 21 08.7 -0.7**
SBA IAmb IAmb 04 22 15.7
comp=Z,602nm,2.0s
GOGA Godfrey 65.55 349 IAmb IAmb 04 21 13.7
comp=Z,167nm,1.1s
GOGA Godfrey 65.55 349 P **P** **04 21 07.8 -2.1**
baz=169,SNR=61
Y57A Sumter 65.71 352 IAmb IAmb 04 21 16.2
comp=Z,220nm,1.0s
LRAL Lakeview Retre 65.83 346 IAmb IAmb 04 21 15.9
comp=Z,206nm,1.4s
LRAL Lakeview Retre 65.83 346 P **P** **04 21 10.8 -0.9**
baz=166,SNR=18
VBMS Vicksburg 65.86 343 P **P** **04 21 10.7 -1.2**
baz=162,SNR=10
VBMS S **S** **04 29 58.6 +1.1**
baz=162
SLBS Sierra La Lagu 65.99 322 P **P** **04 21 10.9 -2.1**
JSC Jenkinsville 66.08 351 IAmb IAmb 04 21 18.5
comp=Z,173nm,1.0s
Y52A Lilburn 66.08 349 IAmb IAmb 04 21 17.4
comp=Z,316nm,1.1s
X58A Rowland 66.13 353 IAmb IAmb 04 21 19.0
comp=Z,222nm,0.8s
HODGE Hodges 66.17 350 IAmb IAmb 04 21 18.0
comp=Z,160nm,1.2s
Z47A Carrollton 66.22 345 IAmb IAmb 04 21 18.5
comp=Z,174nm,0.8s
BIRD Birdtown, Kers 66.34 352 IAmb IAmb 04 21 19.2
comp=Z,205nm,1.3s
Y49A Blount Mountai 66.51 347 IAmb IAmb 04 21 20.1
comp=Z,181nm,1.1s
LPIG La Paz 66.52 322 P **P** **04 21 20.4 +4.1**
comp=Z,26nm,0.3s,baz=184,slow=4.0,SNR=3.8
HPIG 66.56 327 IAmb IAmb 04 21 22.2
comp=Z,156nm,1.2s
VNDA Vanda 66.57 191 P **P** **04 21 18.2 +2.2**
comp=Z,14nm,0.8s,baz=138,slow=5.6,SNR=12
VNDA Vanda 66.57 191 P **P** **04 21 16.1 +0.1**
VNDA pmax pmax
comp=Z,171nm,1.4s
VNDA Vanda 66.57 191 P **P** **04 21 16.1 +0.1**
VNDA IAmb IAmb 04 21 49.4
comp=Z,170nm,1.4s
NATX Nacogdoches 66.60 339 IAmb IAmb 04 21 22.1
comp=Z,306nm,1.2s
NATX Nacogdoches 66.60 339 P **P** **04 21 15.3 -1.4**
baz=159,SNR=14
NATX S **S** **04 30 09.5 +2.9**
baz=159
435B Jarrell 66.66 336 P **P** **04 21 16.4 -0.7**
baz=156,SNR=5.8
435B S **S** **04 30 08.1 +0.7**
baz=156
CNNC Cliffs of the 66.68 354 IAmb IAmb 04 21 22.8
comp=Z,269nm,0.9s
CNNC Cliffs of the 66.68 354 P **P** **04 21 16.6 -0.5**
baz=174,SNR=36
CNNC S **S** **04 30 09.4 +2.1**
baz=174
PAULI Pauline 66.69 351 P **P** **04 21 15.5 -1.7**
PAULI IAmb IAmb 04 21 21.5
comp=Z,332nm,1.2s
W57A Gilead 66.79 353 P **P** **04 21 16.6 -1.3**
W57A IAmb IAmb 04 21 22.0
comp=Z,200nm,1.1s
X51A Calhoun 66.91 348 P **P** **04 21 16.2 -2.4**
KMSC Kings Mountain 66.94 351 P **P** **04 21 16.7 -2.1**
KMSC IAmb IAmb 04 21 22.9
comp=Z,210nm,1.1s
KMSC Kings Mountain 66.94 351 P **P** **04 21 16.2 -2.6**
baz=171,SNR=63
KMSC S **S** **04 30 08.4 -2.1**
baz=171
BG3 Lake Jocassee 67.01 350 P **P** **04 21 18.2 -1.1**
BG3 IAmb IAmb 04 21 23.7
comp=Z,283nm,1.0s
FPAL Fort Paine 67.02 348 IAmb IAmb 04 21 23.3
comp=Z,270nm,1.2s
237A Washetta, Mont 67.19 338 P **P** **04 21 17.9 -2.5**
237A PP **PP** **04 23 44.2 -4.7**
Y45A Yeager Farm, C 67.19 344 P **P** **04 21 19.2 -1.2**
JCT Junction City 67.19 334 P **P** **04 21 19.2 -1.4**
JCT pmax pmax
comp=Z,361nm,1.3s
JCT Junction City 67.19 334 P **P** **04 21 19.2 -1.4**
JCT IAmb IAmb 04 21 25.7
comp=Z,361nm,1.2s
JCT Junction City 67.19 334 P **P** **04 21 19.2 -1.4**
baz=154,SNR=17
JCT S **S** **04 30 15.2 +1.3**
baz=154
W52A Murphy 67.27 349 P **P** **04 21 19.1 -1.8**
W52A IAmb IAmb 04 21 25.3
comp=Z,288nm,1.2s
V58A Windy Hill, Pi 67.33 353 IAmb IAmb 04 21 26.4
comp=Z,206nm,0.9s
Z41A Richland Creek 67.45 341 P **P** **04 21 23.0 +0.9**
baz=161,SNR=14
Z41A S **S** **04 30 18.5 +1.8**
baz=161
W50A Signal Mountai 67.60 348 P **P** **04 21 21.6 -1.5**
V53A Saluda 67.66 350 P **P** **04 21 21.2 -2.2**
V53A IAmb IAmb 04 21 27.5
comp=Z,247nm,0.9s
WHTX Lake Whitney, 67.72 336 P **P** **04 21 23.0 -0.8**
WHTX IAmb IAmb 04 21 28.7
comp=Z,327nm,1.3s
WHTX Lake Whitney, 67.72 336 P **P** **04 21 22.4 -1.4**
baz=156,SNR=13
WHTX S **S** **04 30 20.9 +0.8**
baz=156
TXAR Lajitas Array 67.73 330 P **P** **04 21 24.8 +0.7**
comp=Z,29nm,0.8s,baz=153,slow=6.1,SNR=24
TX31 Lajitas Ar. Si 67.73 330 IAmb IAmb 04 22 00.2
comp=Z,352nm,1.3s
U59A Littleton 67.77 355 P **P** **04 21 22.7 -1.4**
U59A IAmb IAmb 04 21 28.9
comp=Z,280nm,1.1s
OXF Oxford 67.78 344 P **P** **04 21 22.7 -1.4**
baz=164,SNR=54
OXF S **S** **04 30 19.4 -1.2**
baz=164
TKL Tuckaleechee C 67.79 349 P **P** **04 21 23.5 -0.7**
comp=Z,264nm,1.1s,baz=161,slow=7.9,SNR=26
TKL Tuckaleechee C 67.79 349 P **P** **04 21 22.2 -2.0**
TKL pmax pmax
comp=Z,303nm,1.1s
TKL Tuckaleechee C 67.79 349 P **P** **04 21 22.2 -2.0**
TKL IAmb IAmb 04 21 28.7
comp=Z,302nm,1.1s
CCAR Cane Creek 67.80 342 P **P** **04 21 22.0 -2.2**
CCAR IAmb IAmb 04 22 24.7
comp=Z,197nm,1.0s
PLAL Pickwick Lake 67.93 346 IAmb IAmb 04 21 29.1
comp=Z,284nm,1.1s
WLAR White Oak Lake 67.94 341 P **P** **04 21 24.3 -0.9**
U56A King 68.02 352 P **P** **04 21 23.9 -1.7**
U56A IAmb IAmb 04 21 30.1
comp=Z,166nm,0.8s
V51A Loudon 68.03 349 IAmb IAmb 04 21 29.6
comp=Z,278nm,1.0s
SYO Syowa Base 68.05 159 *e*P **P** **04 21 24.2 -1.3**
SYO Syowa Base 68.05 159 *i*pP **P** **04 21 27.4 +1.9**
SYO Syowa Base 68.05 159 *i*eP P 04 21 30.6 +5.1
Z38A Mt. Pleasant 68.09 339 P **P** **04 21 24.3 -1.9**
Z38A IAmb IAmb 04 21 47.0
comp=Z,387nm,1.4s
TBI Tubuai 68.19 255 *e*P **P** **04 21 28.8 +1.7**
TBI *e*S **S** **04 30 26.2 -0.1**
comp=Z,36µm,25.2s
TBI Tubuai 68.19 255 *e*LR LR 04 42 04.0
comp=Z,129µm,26.0s,baz=106
TBI Tubuai 68.19 255 *e*T T 05 35 47.6
comp=Z,63nm,0.2s
W45A Hickory Valley 68.34 345 P **P** **04 21 26.0 -1.6**
V48A Smith Brothers 68.41 347 P **P** **04 21 26.5 -1.6**
MET Memphis--Engin 68.48 344 P **P** **04 21 27.7 -0.8**
T57A Hurt 68.54 354 IAmb IAmb 04 21 33.2
comp=Z,123nm,0.9s
X40A Basin Creek Fa 68.62 341 P **P** **04 21 28.1 -1.3**
X40A Basin Creek Fa 68.62 341 P **P** **04 21 27.9 -1.5**
baz=161,SNR=12
X40A S **S** **04 30 30.0 -0.7**
baz=161
TZTN Tazewell 68.63 350 IAmb IAmb 04 21 33.4
comp=Z,332nm,1.3s
TZTN Tazewell 68.63 350 P **P** **04 21 27.8 -1.6**
baz=169,SNR=23
TZTN S **S** **04 30 28.2 -2.6**
baz=169
CLTN Cedars of Leba 68.66 347 P **P** **04 21 28.0 -1.6**
CLTN IAmb IAmb 04 21 33.8
comp=Z,244nm,0.9s
BLA Blacksburg 68.87 353 IAmb IAmb 04 21 43.9
comp=Z,242nm,1.4s
BLA Blacksburg 68.87 353 P **P** **04 21 29.4 -1.6**
baz=172,SNR=11
BLA S **S** **04 30 32.4 -1.3**
baz=172
MIAR Mount Ida 68.88 341 P **P** **04 21 30.8 -0.2**
MIAR pmax pmax
comp=Z,191nm,1.3s
MIAR Mount Ida 68.88 341 P **P** **04 21 30.8 -0.2**
MIAR IAmb IAmb 04 21 35.7
comp=Z,191nm,1.2s
MIAR Mount Ida 68.88 341 P **P** **04 21 30.0 -1.1**
baz=160,SNR=30
MIAR S **S** **04 30 32.6 -1.2**
baz=160
U49A Red Boiling Sp 68.97 348 P **P** **04 21 29.8 -1.7**
U49A IAmb IAmb 04 21 35.6
comp=Z,371nm,1.4s
WVT Waverly 68.99 346 P **P** **04 21 29.9 -1.7**
WVT pmax pmax
comp=Z,553nm,1.1s
WVT Waverly 68.99 346 P **P** **04 21 29.9 -1.7**
WVT Waverly 68.99 346 P **P** **04 21 30.7 -1.0**
baz=165
LPAR Lepanto 69.03 344 P **P** **04 21 29.6 -2.3**
LPAR IAmb IAmb 04 21 36.3
comp=Z,333nm,1.2s
ABTX Abilene, Hawle 69.06 335 IAmb IAmb 04 21 37.1
comp=Z,298nm,1.1s
ABTX Abilene, Hawle 69.06 335 P **P** **04 21 31.2 -1.0**
baz=155,SNR=15
ABTX S **S** **04 30 36.8 +0.7**
baz=155
W41B Gary Mavity, V 69.11 342 P **P** **04 21 31.9 -0.5**
baz=161,SNR=24
W41B S **S** **04 30 36.4 -0.1**
baz=161
S57A Dark Hollow, R 69.27 354 IAmb IAmb 04 21 38.0
comp=Z,179nm,0.9s
T50A Nancy 69.30 349 IAmb IAmb 04 21 37.4
comp=Z,152nm,1.2s
R58B Mineral 69.38 355 P **P** **04 21 34.3 +0.2**
R58B IAmb IAmb 04 21 39.2
comp=Z,328nm,1.2s
UTMT University of 69.41 345 P **P** **04 21 33.1 -1.2**
PEBM Pemiscott Bayo 69.42 344 P **P** **04 21 33.5 -0.8**
X37A Clayton 69.44 339 P **P** **04 21 32.9 -1.6**
X37A IAmb IAmb 04 22 03.0
comp=Z,200nm,1.2s
LOOK Love County 69.46 338 IAmb IAmb 04 22 54.9
comp=Z,141nm,1.0s
MEH Mehetia 69.48 261 *e*P **P** **04 21 37.1 +1.8**
comp=Z,37nm,1.0s
MEH Mehetia 69.48 261 *e*T T 05 37 22.6
comp=Z,202nm,0.2s
W39A Magazine 69.55 341 P **P** **04 21 33.9 -1.3**
baz=160,SNR=27
W39A S **S** **04 30 41.9 +0.3**
baz=160
S54A Dingess, Beckl 69.56 352 P **P** **04 21 33.2 -2.0**
S54A IAmb IAmb 04 21 39.1
comp=Z,216nm,1.1s
CBN Corbin Frederi 69.58 355 P **P** **04 21 34.6 -0.7**
CBN IAmb IAmb 04 21 48.6
comp=Z,326nm,1.4s
CBN Corbin Frederi 69.58 355 P **P** **04 21 34.1 -1.2**
baz=175,SNR=14
CBN S **S** **04 30 44.2 +2.3**
baz=175
LCAR Lake Charles 69.68 343 IAmb IAmb 04 21 40.0
comp=Z,229nm,0.9s
FCAR Ozark Folk Cen 69.75 342 P **P** **04 21 35.0 -1.4**
FCAR IAmb IAmb 04 21 40.5
comp=Z,273nm,1.5s
R55A Marlinton 69.90 353 IAmb IAmb 04 21 42.2
comp=Z,277nm,1.0s
Q61A Milford 70.14 357 P **P** **04 21 38.0 -0.7**
baz=177,SNR=5.9
SRIG Santa Rosalia 70.14 322 IAmb IAmb 04 22 46.7
comp=Z,198nm,1.6s
R53A Hurricane 70.16 351 IAmb IAmb 04 21 42.8
comp=Z,108nm,0.9s
VAH Vaihoa 70.34 264 *e*P **P** **04 21 42.0 +1.5**
comp=Z,142nm,1.2s
U40A Yellville 70.39 342 IAmb IAmb 04 21 44.6
comp=Z,280nm,1.1s
U40A Yellville 70.39 342 P **P** **04 21 37.3 -3.0**
baz=161,SNR=30
U40A S **S** **04 30 50.4 -1.0**
baz=161
R50A Paris 70.45 349 IAmb IAmb 04 21 44.4
comp=Z,178nm,1.1s
MNTX Cornudas Mount 70.52 330 P **P** **04 21 40.2 -1.0**
baz=150,SNR=20
MNTX S **S** **04 30 52.9 -0.3**
baz=150
Q56A Snyder Ridge, 70.56 354 IAmb IAmb 04 21 44.7
comp=Z,127nm,1.0s
R49A Shelbyville 70.59 349 IAmb IAmb 04 22 00.9
comp=Z,261nm,1.4s
HHAR Hobbs 70.61 341 IAmb IAmb 04 21 46.0
comp=Z,239nm,1.1s
Q54A Coxs Mills 70.67 352 IAmb IAmb 04 21 46.7
comp=Z,96nm,0.8s
WMOK Wichita Mounta 70.67 337 P **P** **04 21 41.2 -1.0**
baz=156,SNR=17
WMOK S **S** **04 30 54.8 -0.1**
baz=156
PMOR Pomariorio Ree 70.68 264 *e*P **P** **04 21 44.7 +2.1**
comp=Z,135nm,1.2s
FNO Franklin 70.69 338 IAmb IAmb 04 22 56.6
comp=Z,230nm,1.2s
TIAR Tiarei 70.70 261 *e*P **P** **04 21 44.3 +1.5**
comp=Z,16nm,1.2s
TIAR Tiarei 70.70 261 *e*T T 05 38 54.7
comp=Z,19nm,0.3s
WCI Wyandotte Cave 70.73 348 P **P** **04 21 39.7 -2.6**
WCI pmax pmax
comp=Z,151nm,1.0s
WCI Wyandotte Cave 70.73 348 P **P** **04 21 39.7 -2.6**
WCI IAmb IAmb 04 21 45.8
comp=Z,151nm,0.9s
WCI Wyandotte Cave 70.73 348 P **P** **04 21 40.0 -2.3**
baz=167
WCI S **S** **04 30 52.2 -3.1**
baz=167
TUL1 Leonard 70.80 339 P **P** **04 21 41.0 -1.8**

baz=158,SNR=29
TUL1 S **S** **04 30 54.5 -1.8**

baz=158
PAE **Paea** **70.85 261** *e*P **P** **04 21 45.7 +2.0**
comp=Z,56nm,1.2s
PAE **Paea** **70.85 261** *e*T T 05 39 03.6
comp=Z,3.0nm,0.2s
OKCFA **Oklahoma City** **70.86 338** IAmb IAmb 04 21 47.4
comp=Z,200nm,1.1s
PPTF **Pamatai, Papee** **70.87 261** IAMs_20 IAMs_20 04 44 01.5
comp=Z,28µm,21.0s
PPT2 **Papeete2** **70.88 261** *e*P **P** **04 21 45.4 +1.4**
comp=Z,288nm,1.3s
PPT2 *e*S **S** **04 30 56.9 -1.4**
comp=Z,49µm,27.2s
PPT2 **Papeete2** **70.88 261** *e*LR LR 04 43 19.3
comp=Z,54µm,23.8s,baz=114
PPT2 **Papeete2** **70.88 261** *e*T T 05 38 59.2
comp=Z,5.5nm,0.2s
PPT **Papeete** **70.89 261** P **P** **04 21 45.3 +1.3**
comp=Z,47nm,0.8s,baz=214,slow=4.4,SNR=3.8
OK025 **Westminster Rd** **70.97 338** IAmb IAmb 04 21 59.2
comp=Z,241nm,0.9s
MGMO **Mountain Grove** **70.99 343** IAmb IAmb 04 21 48.4
comp=Z,186nm,1.1s
P60A **Greenville** **71.08 357** IAmb IAmb 04 21 49.4
comp=Z,214nm,1.1s
P60A **Greenville** **71.08 357** P **P** **04 21 43.7 -0.7**
baz=176,SNR=38
P60A S **S** **04 31 00.9 +1.6**
baz=176
OK031 **S. Brethren Rd** **71.16 339** IAmb IAmb 04 21 49.2
comp=Z,324nm,1.2s
WUPA **West Chester U** **71.20 357** P **P** **04 21 43.7 -1.4**
WUPA IAmb IAmb 04 21 50.3
comp=Z,192nm,1.1s
OK029 **Liberty Lake** **71.21 338** IAmb IAmb 04 21 49.5
comp=Z,232nm,1.1s
P53A **Whipple** **71.23 352** IAmb IAmb 04 21 49.5
comp=Z,297nm,1.2s
MCWV **Mont Chateau** **71.23 353** IAMs_20 IAMs_20 04 42 20.4
comp=Z,18µm,21.0s
MCWV **Mont Chateau** **71.23 353** P **P** **04 21 44.6 -0.8**
baz=173,SNR=10
MCWV S **S** **04 31 02.2 +1.0**
baz=173
MVL **Millersville** **71.30 356** IAmb IAmb 04 21 51.0
comp=Z,281nm,1.2s
QUOK **Quay** **71.32 339** IAmb IAmb 04 21 50.4
comp=Z,276nm,1.3s
MSTX **Muleshoe** **71.43 333** IAmb IAmb 04 21 51.9
comp=Z,323nm,1.0s
MSTX **Muleshoe** **71.43 333** P **P** **04 21 44.7 -2.2**
baz=152,SNR=23
MSTX S **S** **04 31 04.3 +0.3**
baz=152
P51A **Williamsport** **71.44 351** IAmb IAmb 04 21 50.4
comp=Z,266nm,0.9s
P52A **Corning** **71.47 352** P **P** **04 21 44.7 -2.0**
baz=171,SNR=49
PAGS **Pennsylvania G** **71.55 356** IAmb IAmb 04 21 52.1
comp=Z,221nm,1.1s
OLIL **Olney** **71.56 347** IAmb IAmb 04 21 51.0
comp=Z,376nm,1.1s
CCM **Cathedral Cave** **71.59 344** P **P** **04 21 46.5 -1.0**
CCM pmax pmax
comp=Z,409nm,1.0s
CCM **Cathedral Cave** **71.59 344** P **P** **04 21 46.5 -1.0**
CCM **Cathedral Cave** **71.59 344** P **P** **04 21 46.6 -1.0**
baz=163
CCM S **S** **04 31 04.7 -0.6**
baz=163
BLO **Bloomington** **71.68 348** IAmb IAmb 04 21 54.0
comp=Z,185nm,0.9s
O56A **Blue Knob Stat** **71.72 354** IAmb IAmb 04 21 53.3
comp=Z,308nm,1.2s
O56A **Blue Knob Stat** **71.72 354** P **P** **04 21 47.8 -0.6**
baz=174,SNR=43
O56A S **S** **04 31 06.7 -0.2**
baz=174
P49A **Miami Univ. Ec** **71.73 349** IAmb IAmb 04 21 52.0
comp=Z,140nm,0.8s
P49A **Miami Univ. Ec** **71.73 349** P **P** **04 21 46.8 -1.6**
baz=168,SNR=47
P49A S **S** **04 31 04.1 -2.9**
baz=168
S39A **Bolivar** **71.77 342** IAmb IAmb 04 21 53.1
comp=Z,232nm,1.0s
AMTX **Amarillo** **71.83 334** P **P** **04 21 47.4 -1.9**
AMTX IAmb IAmb 04 21 54.0
comp=Z,343nm,1.1s
AMTX **Amarillo** **71.83 334** P **P** **04 21 47.8 -1.4**
baz=153
AMTX S **S** **04 31 08.2 -0.3**
baz=153
LUPA **Lehigh Univers** **71.85 357** P **P** **04 21 48.3 -0.8**
O52A **Adamsville** **71.91 352** P **P** **04 21 47.4 -2.0**
O52A IAmb IAmb 04 21 53.3
comp=Z,159nm,0.9s
Q44A **Meyer Farm, Va** **71.91 346** IAmb IAmb 04 21 53.0
comp=Z,172nm,1.1s
T35A **Sooner Cattle** **71.94 339** IAmb IAmb 04 21 54.4
comp=Z,252nm,1.1s
O53A **New Philadelph** **71.97 352** P **P** **04 21 48.4 -1.4**
O53A IAmb IAmb 04 21 53.9
comp=Z,247nm,1.2s
O53A **New Philadelph** **71.97 352** P **P** **04 21 49.0 -0.8**
baz=172,SNR=28
BLOK **Blackwell** **72.02 339** IAmb IAmb 04 21 54.8
comp=Z,196nm,1.1s
CROK **Carrier** **72.02 338** IAmb IAmb 04 21 54.7
comp=Z,221nm,1.1s
SSPA **Standing Stone** **72.04 355** P **P** **04 21 48.9 -1.3**
SSPA IAmb IAmb 04 22 03.4
comp=Z,272nm,1.2s
SSPA **Standing Stone** **72.04 355** P **P** **04 21 49.4 -0.8**
baz=174
SSPA S **S** **04 31 10.9 +0.5**
baz=174
N62A **Caumsett State** **72.12 359** IAmb IAmb 04 21 55.6
comp=Z,280nm,1.1s
N58A **Sunburg** **72.16 356** IAmb IAmb 04 21 55.9
comp=Z,333nm,1.3s
ACSO **Alum Creek Sta** **72.17 351** P **P** **04 21 50.2 -0.8**
baz=170,SNR=50
N59A **State Game Lan** **72.19 357** P **P** **04 21 50.3 -0.8**
N59A IAmb IAmb 04 21 56.5
comp=Z,363nm,1.2s
N59A **State Game Lan** **72.19 357** P **P** **04 21 51.6 +0.5**
baz=176,SNR=52
N59A S **S** **04 31 14.6 +2.4**
baz=176
PAL **Palisades** **72.21 358** P **P** **04 21 51.0 -0.2**
baz=178,SNR=9.0
PAL S **S** **04 31 14.3 +2.0**
baz=178
P46A **Rosedale** **72.24 347** IAmb IAmb 04 21 54.2
comp=Z,243nm,1.0s
U32A **Winter Ranch,** **72.24 337** IAmb IAmb 04 21 56.3
comp=Z,208nm,1.1s
121A **Cookes Peak, D** **72.28 329** IAmb IAmb 04 22 08.8
comp=Z,246nm,1.1s
121A **Cookes Peak, D** **72.28 329** P **P** **04 21 52.6 +0.5**
baz=148,SNR=22
121A S **S** **04 31 16.2 +2.3**
baz=148
GC02 **Grant County #** **72.30 338** P **P** **04 21 51.0 -0.9**
ODNJ **Ogdensburg** **72.31 358** IAmb IAmb 04 21 55.6
comp=Z,132nm,0.9s
KAN13 **South Haven SW** **72.33 339** P **P** **04 21 52.0 -0.1**
KAN13 IAmb IAmb 04 22 12.6
comp=Z,496nm,1.4s
TRNY **Table Rock, Ra** **72.36 358** P **P** **04 21 50.9 -1.1**
TRNY IAmb IAmb 04 22 05.6
comp=Z,398nm,1.8s
OK032 **Salt Plains WL** **72.37 338** IAmb IAmb 04 21 56.9
comp=Z,277nm,1.2s
KAN14 **Manchester OK** **72.43 338** IAmb IAmb 04 21 57.2
comp=Z,180nm,1.1s
M66A **Nantucket** **72.45 1** P **P** **04 21 51.4 -1.2**
baz=181
KAN17 **Caldwell West** **72.45 338** IAmb IAmb 04 21 57.4
comp=Z,180nm,1.1s
N53A **Lisbon** **72.47 353** IAmb IAmb 04 21 57.1
comp=Z,243nm,1.2s
KAN09 **Caldwell North** **72.49 339** IAmb IAmb 04 21 57.7
comp=Z,229nm,1.0s
N54A **Moraine State** **72.54 353** P **P** **04 21 51.9 -1.3**
N54A IAmb IAmb 04 21 57.6
comp=Z,232nm,0.9s
N54A **Moraine State** **72.54 353** P **P** **04 21 53.2 0.0**
baz=173,SNR=53
N54A S **S** **04 31 14.9 -1.3**
baz=173
KAN05 **Bluff City Nor** **72.54 338** IAmb IAmb 04 21 58.1
comp=Z,479nm,1.3s
KS20 **Mayfield South** **72.55 339** IAmb IAmb 04 21 58.1
comp=Z,337nm,1.1s
M63A **Gales Ferry** **72.58 360** IAmb IAmb 04 22 06.8
comp=Z,223nm,1.5s
M57A **Sunshine Farm,** **72.68 356** P **P** **04 21 52.5 -1.6**
M57A IAmb IAmb 04 21 59.0
comp=Z,256nm,1.2s
KAN16 **Harper SW Stat** **72.71 338** IAmb IAmb 04 21 59.2
comp=Z,348nm,1.1s
P43A **Skaggs, Pawnee** **72.72 346** P **P** **04 21 53.0 -1.3**
M64A **Tiverton** **72.72 0** P **P** **04 21 54.8 +0.6**
baz=180,SNR=22
M64A S **S** **04 31 19.3 +1.1**
baz=180
M65A **Busby, Falmout** **72.74 1** IAMs_20 IAMs_20 04 55 22.4
comp=Z,26µm,20.0s
M65A **Busby, Falmout** **72.74 1** P **P** **04 21 53.6 -0.7**
baz=181
M65A S **S** **04 31 20.5 +2.1**
baz=181
KAN12 **Harper NE Stat** **72.75 338** P **P** **04 21 53.8 -0.7**
KAN12 IAmb IAmb 04 21 59.4
comp=Z,416nm,1.2s
N51A **Ashland** **72.76 352** IAmb IAmb 04 21 57.2
comp=Z,155nm,0.8s
KSPA **Keystone Colle** **72.83 357** P **P** **04 21 54.5 -0.3**
KSCT **Kent School, K** **72.92 359** P **P** **04 21 54.8 -0.6**
M55A **Ridgway** **72.93 354** IAmb IAmb 04 22 00.0
comp=Z,301nm,1.0s
SFIN **Lafayette** **72.96 348** IAmb IAmb 04 21 58.9
comp=Z,270nm,1.4s
SFIN **Lafayette** **72.96 348** P **P** **04 21 54.3 -1.3**
baz=166,SNR=23
SFIN S **S** **04 31 16.5 -4.4**
baz=166
UCCT **U. Connecticut** **72.97 360** IAmb IAmb 04 22 08.9
comp=Z,446nm,2.0s
O44A **Mansfield** **73.00 347** IAmb IAmb 04 21 59.3
comp=Z,206nm,0.9s
N49A **Columbus Grove** **73.01 350** P **P** **04 21 53.4 -2.5**
L63A **North Scituate** **73.04 0** P **P** **04 21 55.5 -0.5**
L63A IAmb IAmb 04 22 01.2
comp=Z,304nm,1.1s
L63A **North Scituate** **73.04 0** P **P** **04 21 56.4 +0.3**
baz=180,SNR=51
L63A S **SKiKP** **04 31 24.4 -2.9**
baz=180
M54A **Oil Creek Stat** **73.05 354** P **P** **04 21 54.4 -1.9**
M54A IAmb IAmb 04 22 00.4
comp=Z,188nm,0.9s
M54A IAMs_20 IAMs_20 04 59 06.6
comp=Z,26µm,20.0s
M54A **Oil Creek Stat** **73.05 354** P **P** **04 21 54.9 -1.3**
baz=173,SNR=42
M53A **WI Miller and** **73.08 353** IAmb IAmb 04 22 00.5
comp=Z,308nm,1.1s
M53A **WI Miller and** **73.08 353** P **P** **04 21 55.4 -1.0**
baz=172,SNR=62
M53A S **S** **04 31 19.9 -2.4**
baz=172
BRYW **Bryant College** **73.09 0** IAmb IAmb 04 22 09.9
comp=Z,573nm,1.6s
L64A **Middleborough** **73.11 1** IAmb IAmb 04 22 10.0
comp=Z,321nm,1.4s
L64A **Middleborough** **73.11 1** P **P** **04 21 56.6 +0.1**
baz=181,SNR=22
L64A S **S** **04 31 24.4 +1.9**
baz=181
BNM **Barren Site** **73.15 330** P **P** **04 21 55.6 -1.6**
Y22D **IRIS PASSCAL I** **73.21 330** P **P** **04 21 57.3 -0.2**
baz=149
Y22D S **SKiKP** **04 31 28.6 +0.5**
baz=149
L65A **Cape Cod Natio** **73.22 1** P **P** **04 21 57.4 +0.2**
baz=182
ALLY **Alegheny Colle** **73.24 353** IAmb IAmb 04 22 01.4
comp=Z,236nm,1.1s
M52A **Chesterland** **73.26 352** IAmb IAmb 04 22 01.6
comp=Z,335nm,0.9s
M50A **Fremont** **73.33 351** IAmb IAmb 04 22 02.9
comp=Z,268nm,0.8s
L59A **Walton** **73.43 357** IAmb IAmb 04 22 01.9
comp=Z,235nm,0.9s
QUA2 **Belchertown** **73.45 360** IAmb IAmb 04 22 03.5
comp=Z,267nm,1.2s
TUC **Tucson** **73.47 326** P **P** **04 21 59.7 +0.7**
TUC pmax pmax
comp=Z,140nm,1.6s
TUC **Tucson** **73.47 326** P **P** **04 21 59.7 +0.7**
TUC **Tucson** **73.47 326** IAMs_20 IAMs_20 04 49 50.4
comp=Z,37µm,18.0s
TUC **Tucson** **73.47 326** P **P** **04 21 58.7 -0.3**
baz=146
TUC S **SKiKP** **04 31 30.4 +1.9**
baz=146
BINY **Binghamton** **73.48 357** P **P** **04 21 57.0 -1.8**
baz=176,SNR=40
BINY S **SKiKP** **04 31 27.6 -0.4**
baz=176
HDIL **Hopedale** **73.56 346** P **P** **04 21 58.3 -0.9**
baz=164,SNR=28
HDIL S **S** **04 31 25.7 -2.0**
baz=164
WES **Weston** **73.56 0** P **P** **04 21 58.3 -0.8**
WES pmax pmax
comp=Z,263nm,1.6s
WES MLR MLR
comp=Z,23µm,20.0s
WES **Weston** **73.56 0** P **P** **04 21 58.3 -0.8**
WES IAmb IAmb 04 22 12.6
comp=Z,263nm,1.6s
L61B **Northampton** **73.63 359** P **P** **04 21 58.9 -0.7**
baz=179,SNR=69
L61B S **S** **04 31 30.9 +2.5**
baz=179
P38A **Dawn** **73.64 343** IAmb IAmb 04 22 03.8
comp=Z,194nm,0.9s
HRV **Adam Dziewonsk** **73.68 0** P **P** **04 21 59.1 -0.8**
HRV pmax pmax
comp=Z,338nm,1.5s
HRV MLR MLR
comp=Z,22µm,20.0s
HRV **Adam Dziewonsk** **73.68 0** P **P** **04 21 59.0 -0.8**
HRV IAmb IAmb 04 22 13.5
comp=Z,338nm,1.5s
HRV **Adam Dziewonsk** **73.68 0** P **P** **04 21 59.1 -0.8**
baz=180
HRV S **S** **04 31 33.3 +4.3**
baz=180
ERPA **Erie** **73.69 354** P **P** **04 21 58.6 -1.3**
ERPA IAmb IAmb 04 22 04.1
comp=Z,360nm,1.0s
ERPA **Erie** **73.69 354** P **P** **04 21 59.2 -0.8**
baz=173,SNR=47
ERPA S **SKiKP** **04 31 26.1 -2.2**
baz=173
LIC **Lamto** **73.74 72** *e*P **P** **04 22 00.5 -0.4**
comp=Z,774nm,0.7s
ANMO **Albuquerque** **73.77 331** P **P** **04 22 01.6 +0.8**
comp=Z,76nm,1.1s,baz=139,slow=6.5,SNR=16
ANMO **Albuquerque** **73.77 331** P **P** **04 21 59.5 -1.3**
ANMO pmax pmax
comp=Z,158nm,1.3s
ANMO **Albuquerque** **73.77 331** P **P** **04 21 59.5 -1.3**
ANMO **Albuquerque** **73.77 331** P **P** **04 21 59.1 -1.7**
baz=150
ANMO S **S** **04 31 32.8 +2.1**
baz=150
K62A **Royalston** **73.84 360** IAmb IAmb 04 22 06.2
comp=Z,216nm,1.1s
K62A **Royalston** **73.84 360** P **P** **04 21 59.6 -1.2**
baz=180
K62A S **S** **04 31 34.0 +3.2**
baz=180
K61A **Williamstown** **73.86 359** P **P** **04 22 00.4 -0.5**
baz=179,SNR=22
K61A S **S** **04 31 34.8 +3.8**
baz=179
TIC **Toumodi** **73.99 72** *e*P **P** **04 22 02.0 -0.4**
KSU1 **Kansas State U** **74.00 340** P **P** **04 22 00.0 -1.8**
baz=158,SNR=14
KSU1 S **SKiKP** **04 31 30.7 +1.8**
baz=158
R32A **Long Quarter,** **74.01 338** IAmb IAmb 04 22 22.6
comp=Z,293nm,1.2s
KIC **Kosan Boka** **74.05 72** *e*P **P** **04 22 02.4 -0.4**
comp=Z,679nm,0.7s
L48A **N Adams** **74.05 350** IAmb IAmb 04 22 05.7
comp=Z,312nm,0.9s
DBIC **Dimbokro** **74.14 72** P **P** **04 22 02.2 -1.0**
comp=Z,399nm,0.7s,baz=238,slow=5.3,SNR=77
DBIC LR LR 04 51 22.5
comp=Z,92µm,21.5s,baz=238,slow=33
DBIC **Dimbokro** **74.14 72** P **P** **04 22 01.8 -1.4**
DBIC pmax pmax
comp=Z,416nm,0.7s
DBIC **Dimbokro** **74.14 72** P **P** **04 22 01.8 -1.4**
214A **Organ Pipe Nat** **74.17 324** P **P** **04 22 02.9 -0.2**
baz=144,SNR=13
214A S **S** **04 31 38.1 +3.0**
baz=144
AAM **Ann Arbor** **74.29 351** IAmb IAmb 04 22 22.8
comp=Z,479nm,1.6s
AAM IAMs_20 IAMs_20 04 53 01.4
comp=Z,26µm,22.0s
AAM **Ann Arbor** **74.29 351** P **P** **04 22 02.2 -1.3**
baz=170,SNR=11
AAM S **SKiKP** **04 31 32.2 +3.0**
baz=170
L46A **Eue Claire** **74.41 349** IAmb IAmb 04 22 07.4
comp=Z,342nm,1.1s
SFX **San Felipe** **74.47 322** P **P** **04 22 02.8 -2.0**
J61A **Chester** **74.52 359** P **P** **04 22 05.3 +0.5**
baz=179,SNR=48
J61A S **S** **04 31 41.6 +3.1**
baz=179
ACCN **Adirondack Com** **74.58 359** IAmb IAmb 04 22 18.5
comp=Z,470nm,1.6s
MEDO **Medina** **74.59 355** IAmb IAmb 04 22 08.5
comp=Z,299nm,1.2s
J56A **Wolcott** **74.60 356** IAmb IAmb 04 22 11.0
comp=Z,192nm,0.8s
FFD **Franklin Falls** **74.64 0** IAmb IAmb 04 22 09.4
comp=Z,216nm,0.9s
J55A **Hilton** **74.65 355** IAmb IAmb 04 22 09.8
comp=Z,333nm,1.3s
J59A **Piesco** **74.68 358** IAmb IAmb 04 22 10.4
comp=Z,254nm,1.2s
J57A **Williamstown** **74.69 357** P **P** **04 22 04.1 -1.6**
J57A IAmb IAmb 04 22 10.8
comp=Z,251nm,1.1s
CBKS **Cedar Bluff** **74.70 338** IAmb IAmb 04 22 22.2
comp=Z,336nm,1.1s
CBKS **Cedar Bluff** **74.70 338** P **P** **04 22 06.2 +0.3**
baz=156,SNR=15
CBKS S **S** **04 31 41.4 +0.7**
baz=156
J54A **Appleton** **74.72 355** IAmb IAmb 04 22 11.3
comp=Z,188nm,0.9s
L44A **Lake County Fo** **74.85 348** IAmb IAmb 04 22 10.6
comp=Z,339nm,1.0s
L44A **Lake County Fo** **74.85 348** P **P** **04 22 05.4 -1.4**
baz=166,SNR=17
L44A S **S** **04 31 38.9 -3.3**
baz=166
T25A **Trinidad** **74.85 333** IAmb IAmb 04 22 12.9
comp=Z,310nm,1.1s
T25A IAMs_20 IAMs_20 04 51 44.6
comp=Z,26µm,19.0s
T25A **Trinidad** **74.85 333** P **P** **04 22 07.8 +0.7**
baz=152,SNR=39
T25A S **S** **04 31 45.7 +2.8**
baz=152
HNH **Hanover** **74.88 360** IAmb IAmb 04 22 10.7
comp=Z,155nm,0.9s
L42A **Oliver, Polo** **75.02 346** IAmb IAmb 04 22 11.6
comp=Z,408nm,1.1s
I60A **Shoreham** **75.03 359** P **P** **04 22 07.7 +0.1**
baz=179,SNR=74
I60A S **S** **04 31 46.1 +2.1**
baz=179
I62A **Tamworth** **75.05 0** IAmb IAmb 04 22 21.7
comp=Z,289nm,1.4s
I62A **Tamworth** **75.05 0** P **P** **04 22 08.6 +0.8**
baz=180,SNR=29
I62A S **S** **04 31 47.5 +3.2**
baz=180
NCB **Newcomb** **75.18 358** IAmb IAmb 04 22 13.7
comp=Z,160nm,1.0s
I63A **Otisfield** **75.23 1** IAmb IAmb 04 22 13.4
comp=Z,194nm,0.8s
I63A **Otisfield** **75.23 1** P **P** **04 22 09.1 +0.3**
baz=181,SNR=54
I63A S **S** **04 31 51.1 +4.8**
baz=181
PECO **Prince Edward** **75.26 356** P **P** **04 22 07.8 -1.2**
PECO IAmb IAmb 04 22 11.8
comp=Z,180nm,1.0s
W18A **Petrified Fore** **75.33 329** IAmb IAmb 04 22 16.4
comp=Z,300nm,1.4s
W18A **Petrified Fore** **75.33 329** P **P** **04 22 11.1 +1.3**
baz=147,SNR=38
W18A S **S** **04 31 52.2 +4.1**
baz=147
N35A **Tabor** **75.36 341** P **P** **04 22 07.8 -1.9**
J47A **Sunmer** **75.38 350** IAmb IAmb 04 22 14.1
comp=Z,248nm,0.9s
LBNH **Lisbon** **75.41 360** P **P** **04 22 08.2 -1.7**
LBNH pmax pmax
comp=Z,181nm,0.9s
LBNH MLR MLR
comp=Z,19µm,20.0s
LBNH **Lisbon** **75.41 360** P **P** **04 22 08.2 -1.7**
LBNH IAmb IAmb 04 22 14.0
comp=Z,181nm,0.9s
LBNH **Lisbon** **75.41 360** P **P** **04 22 10.7 +0.8**
baz=180,SNR=46
LBNH S **S** **04 31 52.4 +4.1**
baz=180
K43A **Burlington** **75.44 347** IAmb IAmb 04 22 14.1
comp=Z,270nm,1.0s
MAW **Mawson** **75.46 164** P **P** **04 22 09.7 -0.3**
comp=Z,245nm,0.9s,baz=212,slow=6.9,SNR=31
MAW LR LR 04 54 09.8
comp=Z,80µm,21.9s,baz=226,slow=35
MAW **Mawson** **75.46 164** P **P** **04 22 09.8 -0.2**
SCIA **State Center** **75.72 344** P **P** **04 22 11.0 -0.7**
baz=161,SNR=20
SCIA S **S** **04 31 50.4 -1.5**
baz=161
H62A **Milan** **75.75 0** IAmb IAmb 04 22 25.6
comp=Z,284nm,1.8s
WVL **Waterville** **75.76 2** IAmb IAmb 04 22 25.6
comp=Z,332nm,1.6s
SUR **Sutherland** **75.78 119** P **P** **04 22 12.9 +0.1**
comp=Z,292nm,0.9s,baz=243,slow=6.0,SNR=55
SUR **Sutherland** **75.78 119** P **P** **04 22 11.8 -1.0**
SDCO **Great Sand Dun** **75.80 333** P **P** **04 22 13.0 +0.3**
baz=151,SNR=34
SDCO S **S** **04 31 55.8 +2.3**
baz=151
LONY **Lake Ozonia** **75.84 358** IAmb IAmb 04 22 15.9
comp=Z,179nm,0.9s
LONY **Lake Ozonia** **75.84 358** P **P** **04 22 11.3 -1.0**
baz=178,SNR=61
KSCO **Kaye Shedlock'** **75.85 336** IAmb IAmb 04 22 18.2
comp=Z,244nm,1.1s
KSCO **Kaye Shedlock'** **75.85 336** P **P** **04 22 12.8 +0.1**
baz=153,SNR=13
KSCO S **S** **04 31 55.3 +1.6**
baz=153
Y14A **Wickenburg** **75.87 326** P **P** **04 22 11.7 -1.2**
DELO **Deloro Mine** **75.88 356** P **P** **04 22 11.6 -0.9**
DELO IAmb IAmb 04 22 16.9
comp=Z,200nm,1.1s
EMMW **East Machias** **75.98 3** IAmb IAmb 04 22 26.8
comp=Z,281nm,1.4s
JFWS **Jewell Farm** **76.02 346** IAmb IAmb 04 22 17.7
comp=Z,444nm,1.3s
JFWS **Jewell Farm** **76.02 346** P **P** **04 22 12.5 -0.9**
baz=164,SNR=47
JFWS S **S** **04 31 53.8 -1.3**
baz=164
FRNY **Flat Rock** **76.03 359** IAmb IAmb 04 22 17.0
comp=Z,197nm,0.9s
GLA **Glamis** **76.06 324** IAmb IAmb 04 23 46.5
comp=Z,378nm,2.0s

GLA	**Glamis**	76.06	324	P		**P**		04 22 15.0	+1.1	
	baz=143									
GLA				S		**S**		04 32 00.0	+4.0	
	baz=143									
HAL	**Halifax**	76.17	6	IAmb		IAmb		04 22 49.7		
	comp=Z,189nm,1.1s									
SADO	**Sadowa**	76.24	355	P		**P**		04 22 14.2	-0.5	
	comp=Z,271nm,1.0s,baz=195,slow=4.5,SNR=29									
SADO	**Sadowa**	76.24	355	P		**P**		04 22 13.4	-1.2	
SADO				IAmb		IAmb		04 22 19.9		
	comp=Z,262nm,0.9s									
K38A	**Parkersburg**	76.31	344	IAmb		IAmb		04 22 18.9		
	comp=Z,144nm,0.8s									
S22A	**4UR Ranch, Cre**	76.33	332	P		**P**		04 22 15.4	-0.2	
	baz=150,SNR=10									
I45A	**Fountain**	76.37	349	IAmb		IAmb		04 22 18.2		
	comp=Z,169nm,0.9s									
IKP	**In-Ko-Pah, Jac**	76.40	323	P		**P**		04 22 16.1	+0.2	
	baz=142,SNR=8.0									
WUAZ	**Wupatki**	76.40	328	P		**P**		04 22 14.4	-1.5	
WUAZ	**Wupatki**	76.40	328	P		**P**		04 22 16.5	+0.5	
	baz=146,SNR=20									
G65A	**Princeton**	76.46	3	IAmb		IAmb		04 22 29.6		
	comp=Z,479nm,1.6s									
PKME	**Peaks-Kenny Pk**	76.47	2	IAmb		IAmb		04 22 29.4		
	comp=Z,265nm,1.3s									
PKME				IAMs_20		IAMs_20		04 53 05.0		
	comp=Z,27µm,22.0s									
PKME	**Peaks-Kenny Pk**	76.47	2	P		**P**		04 22 15.4	-0.4	
	baz=182,SNR=37									
SWSC	**Sam W. Stewart**	76.47	323	P		**P**		04 22 17.3	+1.1	
	baz=142									
MVCO	**Mesa Verde**	76.55	331	IAmb		IAmb		04 23 28.8		
	comp=Z,331nm,1.4s									
MVCO				IAMs_20		IAMs_20		04 51 52.6		
	comp=Z,46µm,20.0s									
MVCO	**Mesa Verde**	76.55	331	P		**P**		04 22 16.9	0.0	
	baz=148,SNR=27									
BGNE	**Belgrade**	76.58	340	P		**P**		04 22 14.5	-2.1	
	baz=157									
L34A	**Svendsen Farm,**	76.59	341	IAmb		IAmb		04 22 42.7		
	comp=Z,196nm,0.8s									
TKX	**Tecate**	76.59	322	P		**P**		04 22 15.8	-1.2	
I42A	**Draeger Farm,**	76.69	347	IAmb		IAmb		04 22 22.1		
	comp=Z,320nm,1.1s									
BAR	**Barrett**	76.71	322	P		**P**		04 22 17.4	-0.2	
PDMCI	**Parker Dam,Lak**	76.72	325	P		**P**		04 22 18.0	+0.4	
	baz=144,SNR=8.3									
Q24A	**Divide**	76.73	334	P		**P**		04 22 17.8	-0.2	
	baz=151,SNR=32									
MONP2	**Monument Peak**	76.75	323	P		**P**		04 22 17.3	-0.7	
	baz=142,SNR=9.5									
BC3	**Big Chuckawall**	76.85	324	P		**P**		04 22 19.4	+0.9	
	baz=143,SNR=12									
GLMI	**Grayling**	76.90	351	IAmb		IAmb		04 22 21.1		
	comp=Z,185nm,0.8s									
GLMI				IAMs_20		IAMs_20		04 54 29.4		
	comp=Z,27µm,21.0s									
GLMI	**Grayling**	76.90	351	P		**P**		04 22 17.0	-1.3	
	baz=169,SNR=11									
I40A	**Norwalk**	77.03	346	IAmb		IAmb		04 22 23.2		
	comp=Z,271nm,1.2s									
IRM	**Iron Mountain**	77.10	324	P		**P**		04 22 20.1	+0.3	
	baz=143,SNR=13									
109C	**Camp Elliot, M**	77.10	322	IAMs_20		IAMs_20		04 51 16.0		
	comp=Z,24µm,19.0s									
109C	**Camp Elliot, M**	77.10	322	P		**P**		04 22 19.9	+0.1	
	baz=142									
G45A	**Suttons Bay**	77.26	350	IAmb		IAmb		04 22 24.2		
	comp=Z,194nm,1.1s									
LMN	**Caledonia Moun**	77.28	5	IAmb		IAmb		04 22 33.7		
	baz=144									
NEE2	**Needles Airpor**	77.33	325	P		**P**		04 22 20.3	-0.7	
TPFO	**Pinon Flats**	77.33	323	P		**P**		04 22 22.5	+1.3	
	baz=142,SNR=23									
PFO	**Pinyon Flats O**	77.33	323	P		**P**		04 22 21.4	+0.2	
	comp=Z,34nm,0.9s,baz=122,slow=4.7,SNR=16									
PFO	**Pinyon Flats O**	77.33	323	P		**P**		04 22 20.9	-0.3	
PFO				pmax		pmax				
	comp=Z,125nm,1.2s									
PFO	**Pinyon Flats O**	77.33	323	P		**P**		04 22 20.9	-0.3	
PFO	**Pinyon Flats O**	77.33	323	IAMs_20		IAMs_20		04 49 45.0		
	comp=Z,37µm,20.0s									
PFO	**Pinyon Flats O**	77.33	323	P		**P**		04 22 21.8	+0.6	
	baz=142,SNR=24									
OGNE	**Ogallala**	77.38	337	P		**P**		04 22 20.3	-1.0	
OGNE				IAmb		IAmb		04 22 26.5		
	comp=Z,192nm,1.3s									
OGNE	**Ogallala**	77.38	337	P		**P**		04 22 20.7	-0.6	
	baz=154,SNR=14									
BELC	**Belle Mtn. Jos**	77.40	324	P		**P**		04 22 23.2	+1.6	
	baz=142,SNR=9.3									
PV12	**Saucer Basin,**	77.62	331	IAmb		IAmb		04 22 43.6		
	comp=Z,166nm,1.1s									
ISCO	**Idaho Springs**	77.64	334	P		**P**		04 22 23.6	+0.5	
	baz=151,SNR=26									
MURC	**Murrieta**	77.70	322	P		**P**		04 22 22.7	-0.5	
	baz=142,SNR=14									
I37A	**Lemond, Waseca**	77.76	344	IAmb		IAmb		04 22 28.2		
	comp=Z,242nm,0.8s									
PV14	**Lion Creek, Pa**	77.76	331	IAmb		IAmb		04 23 35.3		
	comp=Z,309nm,1.5s									
PQI	**Presque Isle**	77.91	3	IAmb		IAmb		04 22 27.9		
	comp=Z,156nm,0.9s									
SCI2	**San Clemente I**	77.94	321	P		**P**		04 22 24.5	+0.1	
	baz=141									
BBRC	**Big Bear Solar**	78.08	323	P		**P**		04 22 25.8	+0.2	
	baz=142,SNR=11									
CIS	**Catalina Islan**	78.19	322	P		**P**		04 22 25.3	-0.6	
	baz=141,SNR=6.8									
HEC	**Hector,Ludlow**	78.23	324	P		**P**		04 22 26.1	0.0	
	baz=142,SNR=12									
G40A	**Rib Lake**	78.27	347	IAmb		IAmb		04 22 30.2		
	comp=Z,222nm,1.2s									
D62A	**Allapoint, All**	78.29	2	IAmb		IAmb		04 22 29.9		
	comp=Z,298nm,0.9s									
KNB	**Kanab**	78.29	327	IAmb		IAmb		04 22 43.4		
	comp=Z,273nm,1.3s									
ECSD	**EROS Data Cent**	78.30	342	P		**P**		04 22 24.9	-1.3	
ECSD				IAmb		IAmb		04 22 30.6		
	comp=Z,298nm,0.9s									
ECSD	**EROS Data Cent**	78.30	342	P		**P**		04 22 26.1	-0.1	
	baz=158,SNR=44									
F42A	**Maple Grove Fa**	78.36	348	IAmb		IAmb		04 22 30.7		
	comp=Z,262nm,0.9s									
FMP	**Fort Macarthur**	78.37	322	P		**P**		04 22 26.4	-0.4	
	baz=141									
PKCU	**Pink Cliffs**	78.41	328	IAmb		IAmb		04 22 43.2		
	comp=Z,397nm,1.7s									
BFSC	**Mount Baldy Ra**	78.44	323	P		**P**		04 22 26.4	-1.0	
	baz=141									
TUQ	**Turquoise Moun**	78.50	324	P		**P**		04 22 26.8	-0.9	
	baz=143									
RRX	**Edison Barstow**	78.60	323	P		**P**		04 22 28.2	+0.1	
	baz=142									
BATG	**Bathurst New B**	78.61	4	P		**P**		04 22 27.4	-0.4	
BATG				IAmb		IAmb		04 22 41.4		
	comp=Z,694nm,1.9s									
MWC	**Mount Wilson**	78.64	322	P		**P**		04 22 27.4	-1.2	
MWC				pmax		pmax				
	comp=Z,745nm,2.3s									
MWC	**Mount Wilson**	78.64	322	P		**P**		04 22 27.4	-1.2	
MWC				IAmb		IAmb		04 22 44.4		
	comp=Z,744nm,2.2s									
N23A	**Red Feather La**	78.71	334	P		**P**		04 22 28.3	-0.6	
	baz=151,SNR=16									
LMQ	**La Malbaie**	78.73	1	P		**P**		04 22 27.8	-0.7	
LMQ				IAmb		IAmb		04 22 33.1		
	comp=Z,375nm,1.3s									
SPMN	**Marine on St.**	78.77	345	IAmb		IAmb		04 22 32.5		
	comp=Z,172nm,1.1s									
SPMN	**Marine on St.**	78.77	345	P		**P**		04 22 28.3	-0.5	
	baz=162,SNR=38									
E43A	**Lone Tree Farm**	78.77	349	IAmb		IAmb		04 22 33.0		
	comp=Z,279nm,1.1s									
DECC	**Green Verdugo**	78.81	322	P		**P**		04 22 28.9	-0.4	
	baz=141									
GSC	**Goldstone, Bar**	78.84	324	P		**P**		04 22 28.7	-0.8	
	baz=142,SNR=14									
COWI	**Conover**	78.87	348	IAmb		IAmb		04 22 33.6		
	comp=Z,237nm,1.3s									
O20A	**White River Ci**	78.94	332	IAmb		IAmb		04 23 14.3		
	comp=Z,246nm,1.2s									
O20A	**White River Ci**	78.94	332	P		**P**		04 22 30.2	+0.1	
	baz=149,SNR=17									
SRU	**San Rafael Swe**	79.01	330	P		**P**		04 22 30.5	0.0	
SRU				pmax		pmax				
	comp=Z,116nm,1.0s									
SRU	**San Rafael Swe**	79.01	330	P		**P**		04 22 30.5	0.0	
SHOC	**Shoshone, Teco**	79.04	325	P		**P**		04 22 29.7	-0.8	
	baz=142									
EDW2	**Edwards Air Fo**	79.11	323	P		**P**		04 22 31.4	+0.4	
	baz=141,SNR=29									
Q16A	**Castle Valley**	79.13	330	IAmb		IAmb		04 22 48.8		
	comp=Z,202nm,1.2s									
MVU	**Marysvale**	79.24	329	P		**P**		04 22 32.3	+0.5	
MVU				IAmb		IAmb		04 22 37.6		
	comp=Z,465nm,1.2s									
OSI	**Osito Audit: C**	79.29	322	P		**P**		04 22 31.0	-0.9	
	baz=141									
MACI	**Morro de la Ar**	79.35	47	P		**P**		04 22 31.6	-1.0	
MACI				IAmb		IAmb		04 22 41.4		
	comp=Z,257nm,0.9s									
KOWA	**Kowa**	79.37	66	P		**P**		04 22 32.6	-0.1	
	comp=Z,474nm,0.9s,baz=237,slow=4.5,SNR=42									
KOWA	**Kowa**	79.37	66	P		**P**		04 22 31.3	-1.5	
KOWA	**Kowa**	79.37	66	P		**P**		04 22 32.0	-0.7	
KOWA	**Kowa**	79.37	66	P		**P**		04 22 32.3	-0.4	
KOWA	**Kowa**	79.37	66	P		**P**		04 22 32.0	-0.7	
KOWA	**Kowa**	79.37	66	P		**P**		04 22 34.5	+1.8	
QSM	**Queen of Sheba**	79.39	324	P		**P**		04 22 30.9	-1.5	
QSM				IAmb		IAmb		04 22 48.0		
	comp=Z,451nm,2.3s									
P17A	**Butcher Ranch,**	79.41	330	IAmb		IAmb		04 22 53.8		
	comp=Z,193nm,1.2s									
LRMC	**Laurel Mtn Rad**	79.42	323	P		**P**		04 22 32.1	-0.6	
	baz=142,SNR=5.8									
TCRU	**Three Creeks R**	79.43	329	P		**P**		04 22 31.0	-1.8	
TCRU				IAmb		IAmb		04 23 08.2		
	comp=Z,325nm,1.9s									
F36A	**Milaca**	79.53	345	IAmb		IAmb		04 22 36.7		
	comp=Z,225nm,1.1s									
SUSD	**Miller**	79.60	341	IAmb		IAmb		04 22 37.5		
	comp=Z,139nm,0.8s									
SUSD	**Miller**	79.60	341	P		**P**		04 22 32.7	-0.6	
	baz=157,SNR=12									
TSUM	**Tsumeb**	79.62	106	P		**P**		04 22 34.3	0.0	
	comp=Z,228nm,1.0s,baz=230,slow=5.2,SNR=52									
TSUM	**Tsumeb**	79.62	106	P		**P**		04 22 33.7	-0.7	
TSUM				IAmb		IAmb		04 22 37.3		
	comp=Z,197nm,0.9s									
PRN	**Pahroc Range**	79.65	326	P		**P**		04 22 32.8	-1.2	
PRN				IAmb		IAmb		04 22 53.2		
	comp=Z,199nm,1.2s									
SBC	**Santa Barbara**	79.68	321	P		**P**		04 22 33.1	-0.9	
	baz=140									
D41A	**Chassel**	79.70	348	P		**P**		04 22 32.3	-1.4	
ARVC	**Arvin**	79.74	322	P		**P**		04 22 33.9	-0.4	
	baz=141									
MPMC	**Manual Prospec**	79.77	324	P		**P**		04 22 36.0	+1.3	
	baz=142,SNR=17									
FURC	**Furnace Creek,**	79.78	324	P		**P**		04 22 34.7	+0.2	
	baz=142									
E38A	**The Farm, Brul**	79.82	346	IAmb		IAmb		04 22 38.4		
	comp=Z,216nm,1.2s									
RDMU	**Red Mountain**	79.84	332	IAmb		IAmb		04 22 53.3		
	comp=Z,167nm,1.1s									
TPNV	**Topopah Spring**	79.86	325	P		**P**		04 22 33.8	-1.4	
TPNV				pmax		pmax				
	comp=Z,138nm,1.2s									
TPNV	**Topopah Spring**	79.86	325	P		**P**		04 22 33.8	-1.4	
TPNV				IAMs_20		IAMs_20		04 52 50.5		
	comp=Z,28µm,19.0s									
TPNV	**Topopah Spring**	79.86	325	P		**P**		04 22 34.8	-0.4	
	baz=143,SNR=14									
RWWY	**Rawlins**	79.88	334	IAmb		IAmb		04 22 40.5		
	comp=Z,215nm,1.1s									
H07S1	**FLORES T-PHASE**	79.96	31	*e*P		**P**		04 22 35.5	+0.1	
	comp=Z,318nm,1.4s									
H07S1	**FLORES T-PHASE**	79.96	31	*e*SS		**P**		04 22 35.9	+0.5	
ISA	**Isabella, Lake**	79.97	323	P		**P**		04 22 34.1	-1.6	
ISA				pmax		pmax				
	comp=Z,121nm,1.0s									
ISA	**Isabella, Lake**	79.97	323	P		**P**		04 22 34.1	-1.6	
ISA	**Isabella, Lake**	79.97	323	P		**P**		04 22 35.3	-0.3	
	baz=141,SNR=40									
PKM	**Mcpherson Peak**	80.07	322	P		**P**		04 22 36.1	-0.3	
	baz=140,SNR=31									
MPU	**Maple Canyon**	80.24	330	P		**P**		04 22 34.9	-2.3	
H07N1	**FLORES T-PHASE**	80.25	31	*e*SS		**P**		04 22 40.1	+3.1	
CWC	**Cottonwood Cre**	80.37	324	P		**P**		04 22 38.3	+0.4	
	baz=141									
NLU	**North Lily Min**	80.38	330	P		**P**		04 22 35.8	-2.2	
VES	**Vestal, Richgr**	80.42	323	P		**P**		04 22 38.7	+0.8	
	baz=141,SNR=25									
HOR	**Horta**	80.42	33	*e*SS		**P**		04 22 40.5	+2.6	
HOR	**Horta**	80.42	33	*e*P		**P**		04 22 40.2	+2.3	
	comp=Z,180nm,1.0s									
CALA	**Caldeira**	80.44	33	*e*P		**P**		04 22 38.8	+0.7	
	comp=Z,189nm,1.1s									
CALA	**Caldeira**	80.44	33	*e*SS		**P**		04 22 40.1	+2.0	
PCAN	**Candelaria**	80.44	33	*e*SS		P		04 22 45.6	+7.6	
GRAC	**Grapevine Rang**	80.45	325	P		**P**		04 22 39.6	+1.5	
	baz=142,SNR=5.3									
K22A	**Casper**	80.45	335	IAmb		IAmb		04 23 21.3		
	comp=Z,668nm,1.8s									
K22A	**Casper**	80.45	335	P		**P**		04 22 38.9	+0.7	
	baz=150,SNR=16									
PCED	**Cedros**	80.47	33	*e*P		**P**		04 22 39.4	+1.2	
	comp=Z,203nm,0.8s									
PCED	**Cedros**	80.47	33	*e*SS		**P**		04 22 41.2	+3.0	
SMMC	**Simmler**	80.50	322	P		**P**		04 22 38.8	+0.4	
	baz=140,SNR=15									
PICO	**Pico**	80.50	33	*e*P		**P**		04 22 39.8	+1.4	
	comp=Z,370nm,1.1s									
PICO	**Pico**	80.50	33	*e*SS		**P**		04 22 41.6	+3.2	
PPNO	**Prainha do Nor**	80.55	33	*e*SS		P		04 22 46.6	+7.9	
PID	**Ribeirinha**	80.59	33	*e*P		**P**		04 22 38.8	-0.1	
	comp=Z,250nm,1.4s									
PID	**Ribeirinha**	80.59	33	*e*SS		**P**		04 22 42.0	+3.1	
JLU	**Jordanelle**	80.65	330	P		**P**		04 22 38.3	-1.1	
R11A	**Troy Canyon, C**	80.66	326	P		**P**		04 22 40.6	+1.1	
	baz=143,SNR=34									
ROSA	**Rosais**	80.76	33	*e*P		**P**		04 22 39.9	+0.2	
	comp=Z,309nm,1.2s									
ROSA	**Rosais**	80.76	33	*e*SS		**P**		04 22 42.4	+2.7	
PMAN	**Manadas**	80.76	33	*e*P		**P**		04 22 40.0	+0.3	
	comp=Z,296nm,1.1s									
PMAN	**Manadas**	80.76	33	*e*SS		**P**		04 22 43.3	+3.6	
LCH	**Last Change Ra**	80.77	324	P		**P**		04 22 38.4	-1.6	
LCH				IAmb		IAmb		04 23 15.1		
	comp=Z,300nm,1.9s									
CTU	**Camp Tracy**	80.85	330	P		**P**		04 22 38.8	-1.6	
RSSD	**Black Hills**	80.88	337	P		**P**		04 22 38.9	-1.6	
RSSD				pmax		pmax				
	comp=Z,189nm,1.4s									
RSSD	**Black Hills**	80.88	337	P		**P**		04 22 38.9	-1.6	
RSSD	**Black Hills**	80.88	337	P		**P**		04 22 39.4	-1.1	
	baz=152									
DUG	**Dugway, Tooele**	80.89	329	P		**P**		04 22 40.2	-0.4	
	baz=146,SNR=23									
PSMA	**Santa Maria**	80.91	36	*e*P		**P**		04 22 41.8	+1.3	
	comp=Z,165nm,1.6s									
PSMA	**Santa Maria**	80.91	36	*e*SS		**P**		04 22 43.5	+3.0	
TIN	**Tinemaha, Big**	80.92	324	P		**P**		04 22 41.9	+1.1	
	baz=141,SNR=7.5									
PSMN	**Pico do Norte,**	80.94	36	*e*P		**P**		04 22 42.2	+1.4	
	comp=Z,195nm,1.1s									
PSMN	**Pico do Norte,**	80.94	36	*e*SS		**P**		04 22 45.0	+4.2	
VOG	**Valley Oaks Go**	80.94	323	P		**P**		04 22 39.9	-0.8	
	baz=140									
PAGB	**Antelope Grade**	80.95	322	P		**P**		04 22 39.6	-1.2	
PAGB				IAmb		IAmb		04 22 59.2		
	comp=Z,213nm,1.3s									
BOSA	**Boshof**	80.97	118	P		**P**		04 22 41.1	-0.4	
	comp=Z,336nm,0.9s,baz=238,slow=5.0,SNR=66									
BOSA	**Boshof**	80.97	118	P		**P**		04 22 38.3	-3.2	
BOSA				pmax		pmax				
	comp=Z,396nm,0.9s									
BOSA	**Boshof**	80.97	118	P		**P**		04 22 38.3	-3.2	
TCUT	**Toone Canyon**	81.06	331	IAmb		IAmb		04 23 24.7		
	comp=Z,358nm,1.7s									
EYMN	**Ely**	81.09	347	IAmb		IAmb		04 22 45.2		
	comp=Z,225nm,1.1s									
EYMN	**Ely**	81.09	347	P		**P**		04 22 39.8	-1.5	
	baz=163,SNR=50									
SRBC	**Serra Branca**	81.11	33	*e*SS		**P**		04 22 42.2	+0.6	
PGRA	**Graciosa**	81.13	33	*e*SS		P		04 22 48.3	+6.6	
PGRA	**Graciosa**	81.13	33	*e*P		**P**		04 22 44.1	+2.4	
	comp=Z,195nm,1.4s									
ADH	**Angra Heroismo**	81.18	34	*e*SS		**P**		04 22 45.0	+3.1	
ADH	**Angra Heroismo**	81.18	34	*e*P		**P**		04 22 42.1	+0.2	
	comp=Z,182nm,1.2s									
TPH	**Tonopah**	81.22	325	P		**P**		04 22 41.3	-1.2	
TPH	**Tonopah**	81.22	325	P		**P**		04 22 41.3	-1.2	
PDA	**Ponta Delgada**	81.23	35	*e*SS		**P**		04 22 38.5	-3.7	
PSET	**Sete Cidades**	81.26	35	*e*P		**P**		04 22 42.5	+0.1	
	comp=Z,218nm,1.2s									
PSET	**Sete Cidades**	81.26	35	*e*SS		P		04 22 35.1	-7.3	
PSCM	**Serra do Cume**	81.27	34	*e*SS		**P**		04 22 45.4	+2.9	
PSCM	**Serra do Cume**	81.27	34	*e*P		**P**		04 22 42.8	+0.3	
	comp=Z,304nm,1.2s									
PAGU	**Agualva, Azore**	81.30	34	*e*P		**P**		04 22 42.6	0.0	
	comp=Z,278nm,1.5s									
PAGU	**Agualva, Azore**	81.30	34	*e*SS		**P**		04 22 46.8	+4.2	
GRON	**Grota Negra**	81.31	35	*e*P		**P**		04 22 44.8	+2.1	
	comp=Z,346nm,1.4s									
GRON	**Grota Negra**	81.31	35	*e*SS		**P**		04 22 46.0	+3.3	
CMLA	**Cha da Macela**	81.31	35	*e*P		**P**		04 22 42.8	+0.1	
	comp=Z,216nm,1.2s									
CMLA	**Cha da Macela**	81.31	35	IAMs_20		IAMs_20		04 56 41.0		
	comp=Z,27µm,21.0s									
CMLA	**Cha da Macela**	81.31	35	*e*SS		P		04 22 53.4	+11	
PCALD	**Caldeiras da R**	81.35	35	*e*P		**P**		04 22 44.2	+1.3	
	comp=Z,198nm,0.9s									
PCALD	**Caldeiras da R**	81.35	35	*e*SS		P		04 22 50.2	+7.3	
DRLN	**Deer Lake**	81.42	9	P		**P**		04 22 42.1	-0.9	
DRLN				IAmb		IAmb		04 22 57.1		
	comp=Z,184nm,1.2s									
BART	**Pico Bartolome**	81.49	36	*e*P		**P**		04 22 44.6	+0.8	
	comp=Z,446nm,1.3s									
BART	**Pico Bartolome**	81.49	36	*e*SS		**P**		04 22 43.9	+0.1	
HWUT	**Hardware Ranch**	81.53	331	P		**P**		04 22 42.6	-1.4	
D32A	**Dogwood Acres,**	81.56	343	P		**P**		04 22 42.0	-1.8	
D32A				IAmb		IAmb		04 22 48.1		
	comp=Z,365nm,1.2s									
BGU	**Big Grassy Mou**	81.59	330	P		**P**		04 22 43.0	-1.3	
SPUT	**South Promonto**	81.66	330	P		**P**		04 22 44.6	0.0	
SPUT				IAmb		IAmb		04 23 00.2		
	comp=Z,323nm,1.6s									
MLAC	**Mammoth, Mammo**	81.67	324	P		**P**		04 22 45.6	+0.7	
	baz=141,SNR=16									
BW06	**Boulder Array**	81.70	333	P		**P**		04 22 43.9	-1.0	
BW06				IAMs_20		IAMs_20		04 55 24.8		
	comp=Z,39µm,20.0s									
BW06	**Boulder Array**	81.70	333	P		**P**		04 22 44.5	-0.4	
	baz=148,SNR=12									
PD31	**Pinedale Array**	81.70	333	P		**P**		04 22 44.3	-0.6	
PDAR	**Pinedale Array**	81.70	333	P		**P**		04 22 45.6	+0.7	
	comp=Z,28nm,1.0s,baz=134,slow=6.4,SNR=19									
PDAR				PKKPbc		**PKKPbc**		04 41 17.4	-1.2	
	comp=Z,3.4nm,0.7s,baz=152,slow=0.7,SNR=7.9									
PDAR				PKPPKP		P'P'df		04 49 08.2	-8.2	
	comp=Z,1.3nm,1.1s,baz=278,slow=0.6,SNR=3.7									
MDPB	**Devils Postpil**	81.80	324	P		**P**		04 22 43.3	-2.3	
B35A	**Bob, Littlefor**	81.94	345	P		**P**		04 22 44.0	-1.7	
B35A				IAmb		IAmb		04 22 49.7		
	comp=Z,213nm,1.0s									
NVAR	**Mina Array Bea**	82.03	325	P		**P**		04 22 47.3	+0.6	
	comp=Z,53nm,0.8s,baz=152,slow=5.5,SNR=57									
NVAR				PKKPbc		**PKKPbc**		04 41 16.9	-0.6	
	comp=Z,8.7nm,0.9s,baz=286,slow=1.9,SNR=10.0									
NVAR				PKPPKP		**P'P'df**		04 49 17.5	+0.9	
	comp=Z,1.3nm,0.8s,baz=317,slow=3.2,SNR=3.8									
NVAR	**Mina Array Bea**	82.03	325	P		**P**		04 22 45.6	-1.1	
E28A	**Huff**	82.04	340	P		**P**		04 22 44.5	-1.8	
E28A				IAmb		IAmb		04 22 51.8		
	comp=Z,212nm,0.8s					

LAO IAmb IAmb 04 23 58.1
comp=Z,134nm,1.1s
LAO LASA Array 83.87 337 P **P** **04 22 55.5 -0.4**
baz=151,SNR=14
YHH Holmes Hill 83.91 333 P **P** **04 22 54.6 -1.8**
YHH IAmb IAmb 04 23 12.9
comp=Z,156nm,1.2s
BEKR Beckworth 84.15 324 P **P** **04 22 56.0 -1.7**
QLMT Earthquake Lak 84.17 333 P **P** **04 22 56.4 -1.3**
ULM Lac du Bonnet 84.20 345 P **P** **04 22 56.3 -1.0**
comp=Z,186nm,1.1s,baz=164,slow=3.9,SNR=26
ULM Lac du Bonnet 84.20 345 IAmb IAmb 04 23 01.1
comp=Z,212nm,1.1s
GCMT Greycliff 84.31 334 P **P** **04 22 56.3 -2.0**
HLID Hailey 84.33 330 P **P** **04 22 58.5 +0.1**
HLID IAmb IAmb 04 23 19.7
comp=Z,106nm,1.1s
HLID IAMs_20 IAMs_20 04 55 38.5
comp=Z,28µm,21.0s
HLID Hailey 84.33 330 P **P** **04 22 59.0 +0.5**
baz=144,SNR=18
ORV Oroville 84.49 324 P **P** **04 22 58.6 -0.5**
ORV pmax pmax
comp=Z,187nm,1.3s
ORV Oroville 84.49 324 P **P** **04 22 58.6 -0.5**
ORV IAmb IAmb 04 23 17.9
comp=Z,187nm,1.3s
ORV IAMs_20 IAMs_20 04 54 53.5
comp=Z,19µm,19.0s
DGMT Dagmar 84.79 339 P **P** **04 22 59.2 -1.2**
DGMT Dagmar 84.79 339 P **P** **04 22 59.2 -1.2**
baz=153,SNR=52
MQZ McQueen's Vall 84.81 221 IAMs_20 IAMs_20 04 51 15.4
comp=Z,27µm,21.0s
MFID Camas Ranch 84.82 329 IAmb IAmb 04 23 16.0
comp=Z,203nm,1.6s
MFID IAMs_20 IAMs_20 04 56 44.4
comp=Z,42µm,20.0s
BOZ Bozeman (W) 84.89 333 IAMs_20 IAMs_20 04 57 19.1
comp=Z,29µm,20.0s
BOZ Bozeman (W) 84.89 333 P **P** **04 23 00.0 -1.1**
baz=147,SNR=24
ODZ Otahua Downs 85.06 219 P **P** **04 23 00.8 -1.4**
ODZ IAmb IAmb 04 23 07.1
comp=Z,274nm,1.6s
DLMT Dillon 85.07 332 P **P** **04 23 01.0 -1.1**
DLMT IAmb IAmb 04 23 44.3
comp=Z,136nm,1.2s
SNZO South Karori 85.13 224 IAMs_20 IAMs_20 04 54 57.6
comp=Z,22µm,18.0s
MXZ Matakaoa Point 85.18 229 P **P** **04 23 00.7 -2.2**
MXZ IAMs_20 IAMs_20 04 51 46.4
comp=Z,26µm,22.0s
O03E Paynes Creek 85.20 324 P **P** **04 23 02.1 -0.6**
baz=139,SNR=15
CGR Cap Guir 85.20 50 P **P** **04 23 07.0 +4.1**
CGR Cap Guir 85.20 50 P **P** **04 23 06.0 +3.0**
CGR Cap Guir 85.20 50 P **P** **04 23 06.0 +3.0**
CGR Cap Guir 85.20 50 P **P** **04 23 06.0 +3.0**
BKZ Black Stump Fm 85.36 226 IAMs_20 IAMs_20 04 52 20.1
comp=Z,64µm,20.0s
OXZ Oxford 85.40 221 IAMs_20 IAMs_20 04 52 41.9
comp=Z,26µm,20.0s
URZ Urewera 85.52 227 P **P** **04 23 06.4 +1.8**
comp=Z,22nm,0.8s,baz=113,slow=6.4,SNR=9.9
URZ Urewera 85.52 227 IAMs_20 IAMs_20 04 51 34.4
comp=Z,42µm,22.0s
O02D Mt. Diablo Mer 85.61 323 P **P** **04 23 04.4 -0.4**
baz=138,SNR=8.4
LTZ Lake Taylor 85.62 222 P **P** **04 23 02.2 -2.9**
KCPM Cahto Peak 85.66 322 IAmb IAmb 04 23 27.1
comp=Z,327nm,1.4s
MOD Modoc Plateau 85.68 326 P **P** **04 23 05.0 -0.2**
MOD IAmb IAmb 04 23 26.3
comp=Z,140nm,1.1s
RPZ Rata Peaks 85.70 220 IAmb IAmb 04 23 10.3
comp=Z,216nm,1.0s
LBZ Lake Benmore 85.73 219 P **P** **04 23 04.6 -1.0**
LBZ IAmb IAmb 04 24 05.9
comp=Z,185nm,1.4s
WDC Whiskeytown Da 85.78 324 P **P** **04 23 01.5 -4.1**
WDC pmax pmax
comp=Z,86nm,1.2s
WDC Whiskeytown Da 85.78 324 P **P** **04 23 01.5 -4.1**
HRY Holter Researc 85.89 334 P **P** **04 23 04.8 -1.3**
THZ Tophouse 85.90 223 P **P** **04 23 05.7 -0.8**
THZ IAMs_20 IAMs_20 04 55 10.1
comp=Z,19µm,19.0s
WHZ Wether Hill Ro 85.92 217 P **P** **04 23 06.5 0.0**
WHZ IAmb IAmb 04 23 11.2
comp=Z,225nm,1.4s
WHZ IAMs_20 IAMs_20 04 51 53.5
comp=Z,36µm,21.0s
J08A Circle Bar Ran 85.95 328 P **P** **04 23 06.1 -0.4**
J08A IAmb IAmb 04 23 11.9
comp=Z,208nm,0.9s
NNZ Nelson 85.97 223 IAMs_20 IAMs_20 04 52 15.1
comp=Z,17µm,20.0s
EAH EAH 86.06 49 P P 04 23 12.0 +4.8
EAH EAH 86.06 49 P **P** **04 23 10.0 +2.8**
EAH EAH 86.06 49 P **P** **04 23 10.0 +2.8**
EAH EAH 86.06 49 P **P** **04 23 10.0 +2.8**
WKZ Wanaka 86.07 218 IAMs_20 IAMs_20 04 52 20.6
comp=Z,63µm,21.0s
TTIG Tnine Tigouga, 86.09 51 P **P** **04 23 09.1 +1.6**
TTIG Tnine Tigouga, 86.09 51 P **P** **04 23 09.1 +1.6**
TTIG Tnine Tigouga, 86.09 51 P **P** **04 23 09.1 +1.6**
TTIG Tnine Tigouga, 86.09 51 P **P** **04 23 09.1 +1.6**
KMRM Mail Ridge 86.12 323 P **P** **04 23 05.2 -2.1**
SCHQ Schefferville 86.12 3 P **P** **04 23 05.7 -1.2**
comp=Z,146nm,1.1s,baz=186,slow=3.8,SNR=16
SCHQ LR LR 05 01 04.5
comp=Z,12µm,21.9s,baz=181,slow=35
SCHQ Schefferville 86.12 3 P **P** **04 23 05.1 -1.8**
N02D Trinity Center 86.16 324 P **P** **04 23 07.1 -0.4**
baz=138,SNR=12
MLZ Mavora Lakes 86.18 218 P **P** **04 23 07.2 -0.6**
MLZ IAmb IAmb 04 23 15.2
comp=Z,225nm,1.7s
EGMT Eagleton 86.24 336 P **P** **04 23 06.7 -1.1**
EGMT IAmb IAmb 04 24 17.1
comp=Z,413nm,1.8s
EGMT Eagleton 86.24 336 P **P** **04 23 07.5 -0.3**
baz=148,SNR=16
PLID Pearl Lake 86.24 330 IAmb IAmb 04 23 28.7
comp=Z,234nm,1.4s
PLID IAMs_20 IAMs_20 04 57 52.9
comp=Z,30µm,19.0s
M04C Macdoel 86.34 325 P **P** **04 23 08.0 -0.4**
baz=139,SNR=32
PYZ Puysegur Point 86.38 216 IAMs_20 IAMs_20 04 55 32.5
comp=Z,22µm,18.0s
FOZ Fox Glacier 86.50 220 IAMs_20 IAMs_20 04 54 42.8
comp=Z,32µm,19.0s
M02C Callahan 86.55 324 P **P** **04 23 09.3 -0.2**
baz=138,SNR=12
K05A Summer Lake 86.59 326 P **P** **04 23 09.4 -0.4**
KHMM Horse Mountain 86.61 323 IAmb IAmb 04 23 28.7
comp=Z,162nm,1.1s
BMO Blue Mountains 86.61 329 IAMs_20 IAMs_20 04 58 00.7
comp=Z,37µm,20.0s
QRZ Quartz Range 86.72 223 P **P** **04 23 08.9 -1.5**
QRZ IAMs_20 IAMs_20 04 52 15.8
comp=Z,22µm,22.0s
JCC Jacoby Creek, 86.72 323 P **P** **04 23 08.8 -1.3**
JCC IAmb IAmb 04 23 29.0
comp=Z,200nm,1.2s
YBH Yreka Blue Hor 86.73 324 P **P** **04 23 08.9 -1.5**
YBH pmax pmax
comp=Z,57nm,1.0s
YBH Yreka Blue Hor 86.73 324 P **P** **04 23 08.9 -1.5**
HIZ Hauiti 86.77 226 IAMs_20 IAMs_20 04 53 06.4
comp=Z,40µm,20.0s
MSO Missoula 86.81 332 P **P** **04 23 11.0 +0.3**
baz=145,SNR=9.5
L04D Klamath Falls 86.89 325 P **P** **04 23 11.7 +0.5**
baz=139,SNR=12
OUK Oukaimeden 86.89 50 P **P** **04 23 13.0 +1.2**
OUK Oukaimeden 86.89 50 P **P** **04 23 13.0 +1.2**
OUK Oukaimeden 86.89 50 P **P** **04 23 13.0 +1.2**
OUK Oukaimeden 86.89 50 P **P** **04 23 13.0 +1.2**
K04D Chiloquin, OR 86.93 325 P **P** **04 23 12.4 +1.1**
baz=139,SNR=13
I07A Izee 86.99 328 P **P** **04 23 11.5 -0.1**
CRZF Crozet Islands 87.17 145 IAMs_20 IAMs_20 04 55 53.9
comp=Z,21µm,21.0s

KRMB Red Mountain 87.18 324 IAmb IAmb 04 23 18.1
comp=Z,112nm,1.1s
J05D Fort Rock, OR 87.18 326 P **P** **04 23 13.1 +0.5**
baz=140,SNR=35
XMAS Kiritimati 87.42 274 IAMs_20 IAMs_20 04 52 44.7
comp=Z,36µm,20.0s
PINE Pine Mountain 87.43 327 P **P** **04 23 12.9 -0.9**
PINE IAmb IAmb 04 23 19.4
comp=Z,174nm,0.9s
RAO Raoul Island 87.44 237 IAMs_20 IAMs_20 04 52 41.9
comp=Z,17µm,22.0s
F10A Beach Ranch, E 87.47 330 P **P** **04 23 14.2 +0.4**
L02E Cave Junction 87.49 324 P **P** **04 23 14.8 +0.9**
baz=138,SNR=10
HUMO Hull Mountain 87.50 325 P **P** **04 23 12.8 -1.2**
J04D Umpqua Nationa 87.57 326 P **P** **04 23 15.2 +0.7**
baz=139,SNR=5.2
G08A Pilot Rock 87.68 329 P **P** **04 23 14.8 -0.1**
G08A IAmb IAmb 04 23 19.9
comp=Z,155nm,1.5s
MATP Matopo 87.78 113 P **P** **04 23 15.7 -0.4**
comp=Z,42nm,0.8s,baz=234,slow=8.9,SNR=42
K02D Willamette Mer 87.92 324 P **P** **04 23 17.1 +1.0**
baz=138,SNR=17
DBO Dodson Butte 88.03 325 P **P** **04 23 16.2 -0.4**
DBO IAmb IAmb 04 23 37.9
comp=Z,215nm,1.3s
I05D Terrebonne, OR 88.03 327 P **P** **04 23 17.7 +1.2**
baz=140,SNR=32
I04A Tendick Farm, 88.13 326 P **P** **04 23 17.4 +0.4**
baz=139,SNR=11
TZRR Tazzarine 88.16 52 P **P** **04 23 19.0 +1.5**
TZRR Tazzarine 88.16 52 P **P** **04 23 19.0 +1.5**
TZRR Tazzarine 88.16 52 P **P** **04 23 19.0 +1.5**
J01E Myrtle Point 88.40 325 P **P** **04 23 18.2 +0.1**
baz=138
I03D Drain, OR 88.51 325 P **P** **04 23 19.6 +1.0**
baz=138,SNR=8.5
AVE Averroes 88.52 49 P **P** **04 23 19.9 +0.9**
AVE S **S** **04 34 02.2 -1.6**
AVE Averroes 88.52 49 P **P** **04 23 21.9 +2.9**
AVE Averroes 88.52 49 P **P** **04 23 21.9 +2.9**
AVE Averroes 88.52 49 P **P** **04 23 21.9 +2.9**
AVE Averroes 88.52 49 P **P** **04 23 21.9 +2.9**
F07A Phinny Hill Vi 88.58 329 P **P** **04 23 18.8 -0.2**
F07A IAmb IAmb 04 23 24.4
comp=Z,96nm,1.1s
WALA Waterton Lakes 88.62 334 IAmb IAmb 04 23 40.5
comp=Z,237nm,1.3s
E08A Dider Farm, El 88.66 329 P **P** **04 23 17.8 -1.5**
H04A Detroit Lake 88.69 327 IAmb IAmb 04 23 24.1
comp=Z,87nm,0.9s
BUCK Buck Mountain 88.70 326 P **P** **04 23 18.3 -1.4**
BUCK IAmb IAmb 04 23 40.6
comp=Z,230nm,1.4s
G05D Wamic, OR 88.71 327 P **P** **04 23 21.3 +1.7**
baz=140,SNR=13
HAWA Hanford 88.79 329 P **P** **04 23 19.8 -0.2**
HAWA IAmb IAmb 04 23 35.7
comp=Z,135nm,1.2s
H04D Lebanon 88.83 326 P **P** **04 23 20.3 +0.1**
baz=138
I02D Swishome 89.05 325 P **P** **04 23 21.3 +0.1**
baz=138
ZHG ZHG 89.11 49 P **P** **04 23 25.0 +3.1**
ZHG ZHG 89.11 49 P **P** **04 23 24.0 +2.1**
ZHG ZHG 89.11 49 P **P** **04 23 24.0 +2.1**
ZHG ZHG 89.11 49 P **P** **04 23 25.0 +3.1**
COR Corvallis 89.14 326 P **P** **04 23 22.6 +0.9**
COR pmax pmax
comp=Z,113nm,1.0s
COR Corvallis 89.14 326 P **P** **04 23 22.6 +0.9**
COR IAmb IAmb 04 23 27.4
comp=Z,112nm,0.9s
NEW Newport 89.24 332 IAMs_20 IAMs_20 04 59 52.3
comp=Z,37µm,20.0s
NEW Newport 89.24 332 P **P** **04 23 22.4 +0.3**
baz=143,SNR=18
F05D White Salmon 89.26 328 P **P** **04 23 22.2 0.0**
baz=139,SNR=17
C09A Chrisman Ranch 89.35 331 P **P** **04 23 21.9 -0.7**
C09A IAmb IAmb 04 23 27.1
comp=Z,90nm,0.9s
G03D McMinnville, O 89.59 326 P **P** **04 23 23.8 +0.1**
baz=138
OUZ Omahuta 89.61 228 P **P** **04 23 23.0 -1.4**
OUZ IAmb IAmb 04 23 29.2
comp=Z,150nm,1.5s
OUZ IAMs_20 IAMs_20 04 53 48.8
comp=Z,31µm,22.0s
F04A Amboy 89.74 327 P **P** **04 23 23.2 -1.2**
F04A IAmb IAmb 04 23 28.9
comp=Z,72nm,0.8s
FFC Flin Flon 89.78 343 P **P** **04 23 23.1 -1.3**
FFC pmax pmax
comp=Z,82nm,1.1s
FFC Flin Flon 89.78 343 P **P** **04 23 23.1 -1.3**
CZD Col de Zad 89.90 50 P P 04 23 31.0 +5.1
CZD Col de Zad 89.90 50 P **P** **04 23 28.0 +2.1**
CZD Col de Zad 89.90 50 P **P** **04 23 28.0 +2.1**
CZD Col de Zad 89.90 50 P **P** **04 23 29.0 +3.1**
LTY Liberty 89.95 329 P **P** **04 23 24.7 -0.8**
MDT Midelt 90.05 51 P **P** **04 23 26.6 +0.2**
comp=Z,81nm,1.0s,baz=239,slow=4.4,SNR=24
MDT Midelt 90.05 51 P **P** **04 23 27.4 +1.1**
MDT Midelt 90.05 51 P **P** **04 23 27.4 +1.1**
LON Longmire 90.07 328 P **P** **04 23 24.3 -1.7**
LON pmax pmax
comp=Z,39nm,0.9s
LON Longmire 90.07 328 P **P** **04 23 24.3 -1.7**
PFVI Vila Bisbo 90.10 45 *e*P **P** **04 23 28.7 +2.4**
comp=Z,188nm,1.3s
PFVI Vila Bisbo 90.10 45 P **P** **04 23 24.9 -1.4**
PFVI IAmb IAmb 04 23 31.1
comp=Z,111nm,1.0s
F04D Rainier, OR 90.12 327 P **P** **04 23 25.8 -0.4**
baz=138
IFR Ifrane 90.14 50 P **P** **04 23 26.1 -0.8**
IFR S **S** **04 34 12.8 -6.5**
B08A Colville Reser 90.23 330 P **P** **04 23 25.2 -1.5**
E04D Cinebar 90.27 328 P **P** **04 23 27.0 +0.1**
baz=139
LSZ Lusaka 90.31 108 P **P** **04 23 26.1 -2.0**
LSZ Lusaka 90.31 108 P **P** **04 23 26.1 -2.0**
MORF Marmelete 90.32 45 *e*P **P** **04 23 28.6 +1.1**
MORF IAmb IAmb 04 23 32.3
comp=Z,115nm,1.1s
MORF *e*SKSac **SKSac** **04 33 57.2 0.0**
MORF Marmelete 90.32 45 *e*P **P** **04 23 28.5 +1.1**
MORF Marmelete 90.32 45 *e*P **P** **04 23 28.6 +1.1**
comp=Z,141nm,1.1s
LCRM LCR 90.43 50 P P 04 23 33.0 +4.8
LCRM LCR 90.43 50 P **P** **04 23 31.0 +2.8**
LCRM LCR 90.43 50 P **P** **04 23 31.0 +2.8**
LCRM LCR 90.43 50 P **P** **04 23 31.0 +2.8**
PTEO Sao Teotonio 90.43 45 *e*P **P** **04 23 30.4 +2.5**
comp=Z,262nm,1.0s
D05A Enumclaw 90.48 328 P **P** **04 23 26.9 -0.9**
D05A IAmb IAmb 04 23 48.2
comp=Z,199nm,1.2s
RSA Sarsar 90.55 49 P **P** **04 23 32.0 +3.4**
RSA Sarsar 90.55 49 P **P** **04 23 32.0 +3.4**
RSA Sarsar 90.55 49 P **P** **04 23 32.0 +3.4**
C06D Leavenworth 90.56 329 P **P** **04 23 27.4 -0.8**
baz=140
PBDV Barranco-do-Ve 90.72 46 *e*P **P** **04 23 29.6 +0.3**
comp=Z,243nm,1.2s
E03A Lebam 90.72 327 P **P** **04 23 27.8 -1.2**
E03A IAmb IAmb 04 23 33.8
comp=Z,94nm,1.0s
D04E Lakebay 90.83 328 P **P** **04 23 29.6 +0.2**
baz=138
PCVE Castro Verde 90.90 45 *e*P **P** **04 23 31.9 +1.8**
comp=Z,93nm,1.0s
PCVE Castro Verde 90.90 45 *e*PP PP 04 27 17.8 +11
PNCL Nicolau / Gran 90.92 45 *e*P **P** **04 23 31.6 +1.5**
comp=Z,159nm,1.4s
MESJ Messejana 90.93 45 *e*P **P** **04 23 31.4 +1.2**
MESJ IAmb IAmb 04 23 36.9
comp=Z,91nm,1.2s
MESJ Messejana 90.93 45 *e*P **P** **04 23 31.3 +1.2**
MESJ Messejana 90.93 45 *e*P **P** **04 23 30.6 +0.4**
comp=Z,125nm,1.5s
MESJ Messejana 90.93 45 *e*PP PP 04 27 06.8 0.0
PVAQ Vaqueiros 90.95 46 *e*P **P** **04 23 31.9 +1.6**

comp=Z,177nm,1.5s
PVAQ Vaqueiros 90.95 46 *e*PP PP 04 27 07.1 0.0
PVAQ Vaqueiros 90.95 46 P **P** **04 23 27.8 -2.5**
PVAQ IAmb IAmb 04 23 43.4
comp=Z,150nm,1.4s
PVAQ Vaqueiros 90.95 46 P **P** **04 23 34.4 +4.1**
PVAQ Vaqueiros 90.95 46 P **P** **04 23 34.4 +4.1**
CHEFC Chefchaouen 90.99 49 P **P** **04 23 35.0 +4.3**
CHEFC Chefchaouen 90.99 49 P P 04 23 36.0 +5.3
CHEFC Chefchaouen 90.99 49 P **P** **04 23 35.0 +4.3**
CHEFC Chefchaouen 90.99 49 P **P** **04 23 35.0 +4.3**
PMAFR Mafra 91.02 44 *e*P **P** **04 23 32.4 +1.8**
comp=Z,194nm,1.2s
AFI Afiamalu 91.18 253 IAMs_20 IAMs_20 04 56 40.6
comp=Z,38µm,19.0s
WISH Wishkah 91.24 327 IAmb IAmb 04 24 00.9
comp=Z,276nm,1.8s
PBEJ Beja 91.26 45 *e*P **P** **04 23 31.8 +0.1**
comp=Z,111nm,1.1s
B06A Marblemount 91.27 329 P **P** **04 23 29.9 -1.6**
B06A IAmb IAmb 04 23 35.3
comp=Z,75nm,0.9s
SFS San Fernando 91.29 47 P **P** **04 23 34.2 +2.4**
SFS S **S** **04 34 23.2 -6.0**
SMIR Smir Dam 91.33 48 P **P** **04 23 36.0 +3.9**
SMIR Smir Dam 91.33 48 P **P** **04 23 36.0 +3.9**
SMIR Smir Dam 91.33 48 P **P** **04 23 36.0 +3.9**
CNIL Conil 91.33 47 P **P** **04 23 34.0 +2.0**
B05A Bryant 91.34 329 P **P** **04 23 30.9 -0.9**
baz=139,SNR=15
ARNO Arenosillo 91.36 46 P **P** **04 23 36.2 +4.0**
ARNO S **SKSac** **04 34 13.3 +10**
CEU Ceuta 91.46 48 P **P** **04 23 31.6 -1.1**
CEU S SKSac 04 34 17.0 +13
NLWA Neilton Lookou 91.49 328 P **P** **04 23 32.9 +0.3**
EVO Evora 91.50 45 P **P** **04 23 33.4 +0.6**
EVO S **SKSac** **04 34 10.3 +6.5**
EVO Evora 91.50 45 *e*P **P** **04 23 34.1 +1.3**
comp=Z,86nm,2.1s
EVO Evora 91.50 45 *e*PP PP 04 27 11.8 +0.4
PSBE So Bento 91.67 44 *e*P **P** **04 23 35.1 +1.5**
comp=Z,223nm,1.8s
PSBE So Bento 91.67 44 *e*PP PP 04 27 11.4 -1.3
PVLZ Peæn de 91.70 49 P **P** **04 23 34.0 +0.2**
PVLZ S **SKSac** **04 34 14.1 +9.0**
PMTG Montargil 91.72 44 *e*P **P** **04 23 33.9 +0.1**
comp=Z,187nm,1.0s
PMTG Montargil 91.72 44 *e*PP PP 04 27 12.4 -0.7
EDM Edmonton 91.84 336 P **P** **04 23 32.1 -2.0**
EDM Edmonton 91.84 336 P **P** **04 23 32.1 -2.0**
PBAR Barrancos 91.86 45 *e*P **P** **04 23 36.4 +1.9**
comp=Z,90nm,1.6s
FCC Fort Churchill 91.88 349 P **P** **04 23 34.1 +0.1**
FCC pmax pmax
comp=Z,188nm,1.3s
FCC Fort Churchill 91.88 349 P **P** **04 23 34.1 +0.1**
FCC IAmb IAmb 04 23 38.4
comp=Z,188nm,1.3s
FIGM Figuig 91.89 53 P **P** **04 23 36.0 +1.0**
FIGM Figuig 91.89 53 P **P** **04 23 36.0 +1.0**
FIGM Figuig 91.89 53 P **P** **04 23 36.0 +1.0**
TDRA Tendrara 91.91 52 P **P** **04 23 38.1 +2.9**
TDRA Tendrara 91.91 52 P **P** **04 23 36.0 +0.8**
TDRA Tendrara 91.91 52 P **P** **04 23 36.0 +0.8**
TDRA Tendrara 91.91 52 P **P** **04 23 38.1 +2.9**
A04D Lummi Island 91.95 329 P **P** **04 23 33.7 -0.9**
baz=138,SNR=15
PESTR Estremoz 91.97 45 *e*P **P** **04 23 36.4 +1.4**
comp=Z,137nm,1.8s
PESTR Estremoz 91.97 45 *e*PP PP 04 27 13.4 -1.7
PESTR Estremoz 91.97 45 P **P** **04 23 34.8 -0.2**
PESTR Estremoz 91.97 45 P **P** **04 23 38.7 +3.8**
PESTR Estremoz 91.97 45 P **P** **04 23 38.7 +3.8**
LIJA Lijar 92.07 47 P **P** **04 23 37.5 +1.9**
PCAS Casmilo, Conde 92.19 43 *e*P **P** **04 23 38.0 +2.0**
comp=Z,264nm,1.6s
PCAS Casmilo, Conde 92.19 43 *e*PP PP 04 27 16.9 +0.1
PGC Sidney 92.23 329 P **P** **04 23 36.1 +0.2**
PGC IAmb IAmb 04 25 06.2
comp=Z,105nm,1.7s
JBK JBK 92.33 51 P **P** **04 23 41.0 +3.9**
JBK JBK 92.33 51 P **P** **04 23 41.0 +3.9**
COI Coimbra 92.34 43 *e*P **P** **04 23 37.2 +0.6**
comp=Z,184nm,1.1s
COI Coimbra 92.34 43 IAmb IAmb 04 23 41.1
comp=Z,139nm,1.1s
PMRV Marv??o 92.44 44 *e*P **P** **04 23 38.2 +1.0**
comp=Z,81nm,1.0s
PMRV Marv??o 92.44 44 *e*PP PP 04 27 18.5 -0.3
EMAL Malaga-Limoner 92.60 48 P **P** **04 23 37.8 -0.1**
EMAL S SKSac 04 34 26.0 +16
PAF Port-aux-Franc 92.62 156 IAMs_20 IAMs_20 05 10 20.4
comp=Z,21µm,18.0s
PCBR Castelo Branco 92.65 44 *e*P **P** **04 23 39.3 +1.2**
comp=Z,96nm,1.1s
PCBR Castelo Branco 92.65 44 *e*PP PP 04 27 23.5 +3.1
MELI Melilla 92.66 50 P **P** **04 23 39.0 +0.7**
MELI S S 04 34 30.5 -11
TAF Taforalt 92.72 50 P **P** **04 23 42.0 +3.3**
TAF Taforalt 92.72 50 P **P** **04 23 42.0 +3.3**
PVIS Viseu 92.97 43 *e*P **P** **04 23 38.3 -1.3**
comp=Z,100nm,1.3s
MTE Manteigas 92.97 43 *e*P **P** **04 23 40.9 +1.2**
comp=Z,132nm,1.1s
LLLB Lillooet 93.02 331 P **P** **04 23 39.2 -0.4**
PVRL Vila Real 93.43 43 *e*P **P** **04 23 43.4 +1.7**
comp=Z,156nm,1.3s
PVRL Vila Real 93.43 43 *e*PP PP 04 27 27.2 +0.6
POLO Lamas de Olo 93.45 43 *e*P **P** **04 23 43.5 +1.6**
comp=Z,54nm,2.0s
PCAB Cabril 93.53 42 *e*P **P** **04 23 44.6 +2.4**
comp=Z,119nm,1.6s
PGAV Gavieira, Arco 93.55 42 *e*PP PP 04 27 22.9 -4.7
MVO Moncorvo 93.76 43 *e*P **P** **04 23 44.8 +1.5**
comp=Z,148nm,1.2s
MVO Moncorvo 93.76 43 *e*PP PP 04 27 27.2 -2.0
PBRG Braganca 94.33 43 *e*P **P** **04 23 47.5 +1.6**
comp=Z,110nm,1.5s
PAB San Pablo 94.35 46 P **P** **04 23 44.9 -1.2**
PAB pmax pmax
comp=Z,70nm,1.2s
PAB San Pablo 94.35 46 P **P** **04 23 44.9 -1.2**
PAB IAmb IAmb 04 23 58.6
comp=Z,70nm,1.1s
ESDC Sonseca Array 94.67 46 P **P** **04 23 46.0 -1.5**
comp=Z,35nm,0.9s,baz=245,slow=3.8,SNR=28
ESBB Sonseca Array 94.67 46 P **P** **04 23 47.2 -0.3**
NRS Narsarsuaq 94.82 12 P **P** **04 23 46.4 -1.1**
NRS pmax pmax
comp=Z,89nm,0.8s
NRS Narsarsuaq 94.82 12 P **P** **04 23 46.4 -1.1**
NRS IAmb IAmb 04 27 10.9
comp=Z,89nm,0.8s
POHA Pohakuloa 95.07 290 IAMs_20 IAMs_20 04 57 02.7
comp=Z,17µm,19.0s
CART Cartagena 95.28 49 P **P** **04 23 48.2 -2.1**
CART S **SKSac** **04 34 33.2 +8.6**
UCM Universidad Co 95.49 46 P **P** **04 23 54.6 +3.4**
UCM S SKSac 04 34 37.4 +12
KNTN Kanton 97.08 262 IAMs_20 IAMs_20 04 59 05.3
comp=Z,32µm,19.0s
MSVF Nonsavu 97.12 244 IAMs_20 IAMs_20 04 56 43.1
comp=Z,21µm,21.0s
TAU Tasmania Unive 97.72 208 IAMs_20 IAMs_20 04 58 16.4
comp=Z,23µm,20.0s
KIP Kipapa 97.92 290 IAMs_20 IAMs_20 04 58 03.0
comp=Z,25µm,20.0s
DY2G Dye2 99.62 10 *i* P **Pdif** **04 24 08.5 -1.0**
YKA Yellowknife Ar 99.82 341 P **Pdif** **04 24 09.8 -0.3**
comp=Z,8.7nm,0.8s,baz=138,slow=5.4,SNR=14
YKA PKKPbc **PKKPbc** **04 40 31.0 -1.3**
comp=Z,3.1nm,0.8s,baz=330,slow=3.1,SNR=5.6
VOI Vohitsoka 100.68 124 P Pdif 04 24 34.4 +19
HTL Hartland 101.21 36 *e*P **PP** **04 28 26.3 +0.1**
HTL IAMs_20 IAMs_20 05 09 42.6
comp=Z,40µm,18.6s
KEST Kesra 101.22 55 P **Pdif** **04 24 17.5 +0.4**
comp=Z,18nm,0.9s,baz=192,slow=2.1,SNR=10
CRAG Craig 101.26 329 Pdiff **Pdif** **04 24 17.0 +0.4**
baz=130
WRAK Wrangell Islan 101.54 330 IAMs_20 IAMs_20 05 06 35.6
comp=Z,18µm,21.0s
WRAK Wrangell Islan 101.54 330 Pdiff **Pdif** **04 24 17.4 -0.5**
baz=131

ILULI	**Ilulissat**	**101.59**	**7**	IAMs_20	IAMs_20	05 12 09.2				
	comp=Z,21µm,20.0s									
DLBC	**Dease Lake**	**101.93**	**333**	PKKPbc	PKKPbc	04 40 24.1	-2.1			
	comp=Z,11nm,0.9s,baz=292,slow=4.8,SNR=13									
WPS	**Cemaes, Angles**	**102.64**	**34**	*e*P	**PP**	**04 28 32.2**	**-4.6**			
WPS				IAMs_20	IAMs_20	05 06 02.3				
	comp=Z,46µm,22.0s									
CLGH	**Cloghs, Cushen**	**102.89**	**32**	*e*P	**PP**	**04 28 33.4**	**-5.3**			
CLGH				IAMs_20	IAMs_20	05 13 00.5				
	comp=Z,36µm,18.9s									
DZM	**Mont Dzumac**	**102.92**	**234**	*e*PS	PS	04 37 49.8	+2.5			
	comp=Z,15µm,28.2s									
DZM	**Mont Dzumac**	**102.92**	**234**	*e*LQ	LQ	04 53 54.0				
	comp=Z,18µm,30.6s									
DZM				*e*LR	LR	04 58 11.4				
	comp=Z,81µm,27.7s,baz=133									
HLM1	**Long Mynd**	**102.92**	**36**	*e*P	**PP**	**04 28 32.2**	**-6.8**			
HLM1				IAMs_20	IAMs_20	05 09 40.2				
	comp=Z,27µm,21.6s									
WRGLY	**Wrigley**	**102.98**	**339**	Pdiff	**Pdif**	**04 24 23.8**	**-0.3**			
	baz=137									
ICESG	**Greenland Ices**	**103.06**	**11**	*i* P	**Pdif**	**04 24 26.0**	**+1.2**			
ICESG				IAmb	IAmb	04 24 30.3				
	comp=Z,11nm,0.9s									
SIT	**Sitka**	**103.21**	**330**	Pdiff	**Pdif**	**04 24 27.1**	**+1.9**			
	baz=128									
CAN	**Canberra**	**103.28**	**213**	IAMs_20	IAMs_20	05 01 36.0				
	comp=Z,15µm,21.0s									
TGTN	**Hyland Airport**	**103.38**	**336**	Pdiff	**Pdif**	**04 24 26.5**	**+0.5**			
	baz=133									
BORG	**Borgarnes**	**103.69**	**20**	IAMs_20	IAMs_20	05 07 54.2				
	comp=Z,17µm,21.0s									
EKA	**Eskdalemuir Ar**	**104.40**	**33**	Pdiff	**Pdif**	**04 24 30.6**	**-0.1**			
	comp=Z,8.8nm,0.9s,baz=227,slow=3.3,SNR=10									
SKAG	**Skagway**	**104.70**	**332**	Pdiff	**Pdif**	**04 24 36.6**	**+4.7**			
	baz=128									
JOHN	**Johnston Islan**	**105.09**	**281**	IAMs_20	IAMs_20	05 04 25.0				
	comp=Z,28µm,18.0s									
MMPY	**Sheldon Lake,**	**105.16**	**336**	Pdiff	**PKiKP**	**04 28 54.8**	**+6.7**			
	baz=130									
WHY	**Whitehorse**	**105.26**	**333**	Pdiff	**Pdif**	**04 24 31.6**	**-2.9**			
	baz=128									
KIBK	**Kibwezi**	**105.50**	**103**	IAMs_20	IAMs_20	05 07 22.2				
	comp=Z,40µm,22.0s									
FARO	**Faro, Yukon**	**105.66**	**335**	Pdiff	**Pdif**	**04 24 33.8**	**-2.3**			
	baz=129									
BMRD	**Maredsous**	**105.74**	**40**	*d*Pdif	**Pdif**	**04 24 38.9**	**+2.1**			
WLF	**Walferdange**	**106.20**	**41**	*d*Pdif	**Pdif**	**04 24 39.4**	**+0.6**			
SUMG	**Summit**	**106.33**	**10**	*i* P	**Pdif**	**04 24 44.2**	**+4.9**			
SUMG				IAmb	IAmb	04 24 48.8				
	comp=Z,13nm,1.1s									
SUMG	**Summit**	**106.33**	**10**	*e*P	**PKiKP**	**04 28 52.5**	**+2.0**			
HYT	**Haines Junctio**	**106.39**	**332**	Pdiff	**Pdif**	**04 24 35.1**	**-4.4**			
	baz=126									
SANVU	**Saraoutou**	**106.70**	**240**	IAMs_20	IAMs_20	05 02 48.1				
	comp=Z,17µm,20.0s									
BFO	**Black Forest**	**106.80**	**43**	*e*L	L	05 12 06.4				
	comp=Z,34µm,20.0s									
YUK6	**Outpost Mounta**	**106.80**	**332**	Pdiff	**Pdif**	**04 24 38.8**	**-2.7**			
	baz=125									
DAVOX	**Davos/Dischmat**	**106.99**	**45**	Pdiff	**Pdif**	**04 24 43.1**	**+0.4**			
	comp=Z,10nm,1.0s,baz=313,slow=7.4,SNR=8.2									
PINM	**Pinnacle**	**107.09**	**331**	Pdiff	**Pdif**	**04 24 41.2**	**-1.4**			
	baz=124									
YUK4	**Talbot Arm**	**107.14**	**332**	Pdiff	**Pdif**	**04 24 41.8**	**-1.2**			
	baz=125									
DAVA	**Damuels**	**107.23**	**45**	*e*P	**PKiKP**	**04 28 49.3**	**-3.2**			
	comp=Z,22nm,1.4s									
DAVA				*e*P	**PKKPab**	**04 40 19.8**	**-1.7**			
	comp=Z,5.2nm,1.0s									
RER	**Riviere de l'E**	**107.33**	**129**	IAMs_20	IAMs_20	05 03 57.2				
	comp=Z,24µm,22.0s									
FETA	**Feichten**	**107.62**	**45**	*e*P	**PKiKP**	**04 28 54.9**	**+1.6**			
	comp=Z,5.9nm,0.9s									
FETA				*e*P	**PKKPbc**	**04 40 08.8**	**+0.3**			
	comp=Z,10nm,1.3s									
TNS	**Taunus Mts**	**107.77**	**42**	*e*L	L	05 11 13.2				
	comp=Z,54µm,22.0s									
MESA	**MESA**	**107.85**	**330**	Pdiff	**Pdif**	**04 24 43.1**	**-3.1**			
	baz=122									
RETA	**Reutte**	**107.85**	**45**	*e*P	**PKiKP**	**04 28 55.1**	**+1.5**			
	comp=Z,9.9nm,1.1s									
RETA				*e*P	**PKKPbc**	**04 40 03.0**	**-4.6**			
	comp=Z,6.0nm,1.2s									
YAH	**Yahtse**	**107.86**	**331**	IAMs_20	IAMs_20	05 10 41.8				
	comp=Z,19µm,22.0s									
MOTA	**Moosalm**	**108.00**	**45**	*e*P	**PKiKP**	**04 28 55.9**	**+1.9**			
	comp=Z,19nm,1.2s									
MOTA				*e*P	**PKKPbc**	**04 40 04.3**	**-2.9**			
	comp=Z,6.6nm,1.5s									
SQTA	**Sankt Quirin**	**108.00**	**45**	*e*P	**PKiKP**	**04 28 55.8**	**+1.8**			
	comp=Z,15nm,1.1s									
SQTA				*e*P	**PKKPbc**	**04 40 09.4**	**+2.2**			
	comp=Z,7.5nm,1.1s									
CTG	**Chitna Glacier**	**108.02**	**331**	Pdiff	**Pdif**	**04 24 46.7**	**-0.1**			
	baz=123									
YUK3	**Moose Creek**	**108.11**	**332**	Pdiff	**Pdif**	**04 24 46.0**	**-1.3**			
	baz=123									
ISLE	**Juniper Island**	**108.24**	**331**	IAMs_20	IAMs_20	05 09 39.8				
	comp=Z,16µm,22.0s									
WATA	**Walderalm**	**108.28**	**45**	*e*P	**PKiKP**	**04 29 00.9**	**+6.5**			
	comp=Z,16nm,1.4s									
WATA				*e*P	**PKKPab**	**04 40 18.7**	**+1.9**			
	comp=Z,14nm,1.3s									
WTTA	**Wattenberg**	**108.28**	**45**	*e*P	**PKiKP**	**04 28 58.0**	**+3.5**			
	comp=Z,35nm,1.7s									
WTTA				*e*P	**PKKPab**	**04 40 12.6**	**-4.3**			
	comp=Z,13nm,1.5s									
FUR	**Furstenfeldbru**	**108.47**	**44**	*e*L	L	05 11 26.5				
	comp=Z,31µm,21.7s									
TGL	**Tana Glacier**	**108.53**	**331**	IAMs_20	IAMs_20	05 09 48.3				
	comp=Z,16µm,21.0s									
SUCK	**Suckling Hills**	**108.57**	**330**	IAMs_20	IAMs_20	05 12 31.6				
	comp=Z,17µm,19.0s									
ABTA	**Abfaltersbach**	**108.59**	**46**	*e*P	**PKKPab**	**04 40 11.4**	**-4.0**			
	comp=Z,4.2nm,1.1s									
BVCY	**Beaver Creek**	**108.61**	**333**	Pdiff	**Pdif**	**04 24 47.4**	**-1.9**			
	baz=123									
CRQE	**Cirque**	**108.63**	**331**	Pdiff	**Pdif**	**04 24 50.7**	**+1.2**			
	baz=121									
CRQM	**Cirque**	**108.66**	**331**	IAMs_20	IAMs_20	05 10 32.2				
	comp=Z,14µm,21.0s									
BERG	**Berg Lake**	**108.70**	**330**	IAMs_20	IAMs_20	05 17 48.5				
	comp=Z,15µm,18.0s									
KAIM	**Kayak Island**	**108.77**	**329**	IAMs_20	IAMs_20	05 16 43.3				
	comp=Z,21µm,20.0s									
HMT	**Hamilton**	**108.92**	**330**	IAMs_20	IAMs_20	05 11 40.6				
	comp=Z,19µm,21.0s									
MCARA	**McCarthy VSAT**	**108.94**	**331**	Pdiff	**Pdif**	**04 24 54.6**	**+3.9**			
	baz=121									
DAWY	**Dawson**	**108.96**	**335**	Pdiff	**Pdif**	**04 24 50.4**	**-0.4**			
	baz=123									
M27K	**Edge Creek, AK**	**108.98**	**332**	Pdiff	**Pdif**	**04 24 56.6**	**+5.6**			
	baz=122									
VRDI	**Verde Repeater**	**109.03**	**331**	IAMs_20	IAMs_20	05 09 42.7				
	comp=Z,16µm,20.0s									
GRFO	**Grafenberg**	**109.12**	**43**	IAMs_20	IAMs_20	05 17 36.1				
	comp=Z,21µm,19.0s									
GRA1	**Grafenberg Arr**	**109.12**	**43**	IAMs_20	IAMs_20	05 17 27.1				
	comp=Z,22µm,19.0s									
GRF	**Grafenberg Arr**	**109.12**	**43**	*e*Pdiff	**Pdif**	**04 24 55.6**	**+3.8**			
GRF				*e*PP	**PP**	**04 29 23.0**	**-1.9**			
GRF				*e*L	L	05 17 27.7				
	comp=Z,22µm,19.1s									
MYKA	**Terra Mystica**	**109.23**	**47**	*e*P	PKiKP	04 29 06.3	+10			
	comp=Z,11nm,1.4s									
KBA	**Koelnbreinsper**	**109.25**	**46**	*e*P	PKiKP	04 29 08.4	+12			
	comp=Z,12nm,1.7s									
KBA				*e*P	**PKKPdf**	**04 40 18.0**	**-1.4**			
	comp=Z,6.2nm,1.2s									
EPYK	**Eagle Plains**	**109.32**	**337**	Pdiff	**Pdif**	**04 24 51.1**	**-1.3**			
	baz=125									
BMRM	**Bremner River**	**109.38**	**330**	IAMs_20	IAMs_20	05 21 32.4				
	comp=Z,16µm,20.0s									
BMRM	**Bremner River**	**109.38**	**330**	Pdiff	**Pdif**	**04 24 59.3**	**+6.5**			
	baz=120									
M26K	**Nabesna, AK**	**109.45**	**332**	IAMs_20	IAMs_20	05 10 27.8				
	comp=Z,22µm,21.0s									
M26K	**Nabesna, AK**	**109.45**	**332**	Pdiff	**Pdif**	**04 24 55.1**	**+2.1**			
	baz=121									
NEEM	**North Greenlan**	**109.45**	**5**	*i* P	**Pdif**	**04 24 51.2**	**-1.8**			
NEEM				IAmb	IAmb	04 24 54.6				
	comp=Z,17nm,1.1s									
NEEM	**North Greenlan**	**109.45**	**5**	*i* P	**PKiKP**	**04 28 57.9**	**+1.8**			
INK	**Inuvik**	**109.47**	**340**	PKKPbc	PKKPbc	04 40 02.6	-0.3			
	comp=Z,15nm,1.0s,baz=349,slow=4.3,SNR=8.8									
STKA	**Stephens Creek**	**109.49**	**210**	PKKPbc	PKKPbc	04 40 00.8	-1.0			
	comp=Z,3.4nm,0.5s,baz=328,slow=3.6,SNR=10									
EYAK	**Cordova Ski Ar**	**109.66**	**330**	Pdiff	**Pdif**	**04 24 56.5**	**+2.6**			
	baz=119									
N25K	**Chitina, Valde**	**109.70**	**331**	IAMs_20	IAMs_20	05 12 02.3				
	comp=Z,18µm,22.0s									
N25K	**Chitina, Valde**	**109.70**	**331**	Pdiff	**Pdif**	**04 24 56.5**	**+2.4**			
	baz=120									
OBKA	**Obir**	**109.75**	**47**	*e*P	PKiKP	04 29 06.8	+10			
	comp=Z,11nm,1.0s									
OBKA				*e*P	**PKKPdf**	**04 40 25.7**	**+7.4**			
	comp=Z,10nm,1.4s									
MOX	**Moxa**	**109.76**	**42**	*e*L	L	05 14 34.5				
	comp=Z,49µm,19.6s									
WET	**Wettzell**	**109.85**	**44**	*e*L	L	05 13 17.4				
	comp=Z,25µm,21.3s									
L26K	**Log Cabin Wild**	**109.91**	**333**	Pdiff	**Pdif**	**04 24 56.0**	**+1.0**			
	baz=120									
FID	**Port Fidalgo**	**110.07**	**330**	IAMs_20	IAMs_20	05 16 53.8				
	comp=Z,14µm,21.0s									
SOKA	**Soboth**	**110.12**	**47**	*e*P	PKiKP	04 29 07.3	+9.4			
	comp=Z,11nm,1.2s									
SOKA				*e*P	PKKPdf	04 40 25.8	+8.2			
	comp=Z,4.3nm,1.0s									
MOA	**Molln**	**110.14**	**46**	*e*P	PKiKP	04 29 05.8	+8.0			
	comp=Z,11nm,1.2s									
MOA				*e*P	**PKKPdf**	**04 40 13.3**	**-4.2**			
	comp=Z,4.7nm,0.8s									
KLU	**Klutina**	**110.19**	**331**	Pdiff	**Pdif**	**04 25 00.3**	**+3.9**			
	baz=119									
GEC2	**GERESS Array S**	**110.22**	**45**	*e*L	L	05 14 52.1				
	comp=Z,28µm,19.4s									
GERES	**GERESS Array B**	**110.22**	**45**	PKiKP	**PKiKP**	**04 28 59.4**	**+1.4**			
	comp=Z,11nm,0.9s,baz=191,slow=0.7,SNR=17									
GERES				PKKPbc	**PKKPbc**	**04 40 02.1**	**+2.1**			
	comp=Z,1.3nm,0.8s,baz=72,slow=4.3,SNR=4.8									
KHC	**Kasperske Hory**	**110.27**	**44**	*e*P	**Pdif**	**04 24 58.1**	**+1.1**			
KHC				*e*		04 29 57.1				
KHC				*e*		04 29 31.5				
KHC				*e*PS	**PS**	**04 38 55.5**	**-7.3**			
KHC				*e*		04 40 01.5				
KHC				MLR	MLR					
	comp=Z,26µm,23.8s									
KHC	**Kasperske Hory**	**110.27**	**44**	*e*PDIFF	**Pdif**	**04 24 58.1**	**+1.1**			
KHC				*ex*	x	04 25 46.5				
KHC				*e*PP	**PKiKP**	**04 28 57.1**	**-0.9**			
KHC				*e*PP	**PP**	**04 29 31.5**	**-1.7**			
KHC				*e*PS	PS	04 38 55.5	-7.3			
KHC				*ex*	x	04 40 01.5				
KHC				AMS	AMS	05 08 10.0				
	comp=Z,26µm,23.8s									
KMY	**Karmoy**	**110.31**	**32**	*e*Pdif	**Pdif**	**04 24 57.6**	**+0.7**			
KMY				*e*PP	**PP**	**04 29 34.1**	**+0.9**			
KMY				*e*SKSac	**SKSac**	**04 35 31.8**	**-2.5**			
KMY				*e*SP	SP	04 38 55.3	-4.0			
HARP	**HAARP**	**110.32**	**332**	Pdiff	**Pdif**	**04 25 01.5**	**+4.7**			
	baz=119									
GLI	**Glacier Island**	**110.40**	**330**	Pdiff	**Pdif**	**04 25 02.1**	**+4.9**			
	baz=118									
BSEG	**Bad Segeberg**	**110.47**	**39**	*e*L	L	05 18 29.4				
	comp=Z,22µm,18.8s									
CKRC	**Cesky Krumlov**	**110.57**	**45**	*e*PDIFF	**Pdif**	**04 24 57.7**	**-0.6**			
CKRC				*e*PKP	**PKiKP**	**04 28 59.7**	**+1.1**			
CKRC				*e*PS	PS	04 38 50.0	-16			
M24K	**Tolsona, Glenn**	**110.60**	**331**	Pdiff	**Pdif**	**04 25 03.9**	**+5.8**			
	baz=118									
SCRK	**Sand Creek**	**110.64**	**333**	Pdiff	**Pdif**	**04 25 04.0**	**+5.7**			
	baz=120									
ARSA	**Arzberg**	**110.67**	**47**	*e*P	**PKiKP**	**04 28 58.9**	**+0.1**			
	comp=Z,11nm,0.9s									
ARSA				*e*P	**PKKPdf**	**04 40 20.4**	**+3.9**			
	comp=Z,6.7nm,1.5s									
PAX	**Paxson**	**110.72**	**332**	Pdiff	**Pdif**	**04 25 02.3**	**+3.6**			
	baz=119									
PBCC	**Pribram**	**110.74**	**44**	*e*PS	PS	04 38 58.6	-8.5			
SNART	**Snartemo**	**110.83**	**34**	*e*PP	**PP**	**04 29 37.1**	**+0.1**			
SNART				*e*SP	SP	04 39 05.5	+1.5			
SNART				IVMs_BB	IVMs_BB	05 14 26.2				
	comp=Z,31µm,21.0s									
CLL	**Collm**	**110.84**	**42**	*e*Pdif	**Pdif**	**04 25 02.0**	**+2.6**			
CLL				*es*Pdif	**sPdif**	**04 25 11.0**	**+1.6**			
CLL				*i*		04 25 19.7				
CLL				*i* PKiKP	**PKiKP**	**04 29 00.9**	**+1.9**			
	comp=Z,30nm,1.1s									
CLL				*i* sPKiKP	PP	04 29 10.5	-27			
CLL				*e*PP	PP	04 29 36.0	-1.2			
CLL				*e*		04 38 24.0				
CLL				*e*PS	PKKPbc	04 39 13.0	-45			
CLL				*e*PKKPab	**PKKPab**	**04 40 10.0**	**+4.9**			
	comp=Z,29nm,1.6s									
CLL				*e*PPS	PPS	04 40 18.0				
CLL				*e*SS	SS	04 45 06.0	-0.5			
CLL				*e*SSS	SSS	04 49 06.0				
CLL				Lm	MLR	05 14 00.0				
	comp=N,18µm,20.4s									
CLL				Lm	MLR	05 14 00.0				
	comp=E,42µm,20.3s									
CLL				Lm	MLR	05 14 00.0				
	comp=Z,51µm,19.4s									
CLL	**Collm**	**110.84**	**42**	*e*L	L	05 14 56.5				
	comp=Z,51µm,19.4s									
RIDG	**Independent Ri**	**110.85**	**333**	Pdiff	**Pdif**	**04 25 02.1**	**+2.8**			
	baz=119									
ASK	**Askoy**	**110.88**	**31**	*e*PP	**PP**	**04 29 37.2**	**0.0**			
ASK				*e*SP	SP	04 39 05.1	+0.8			
ASK				*e*SS	**SS**	**04 45 07.3**	**+0.8**			
ASK				IVMs_BB	IVMs_BB	05 16 45.1				
	comp=Z,19µm,19.5s									
BER	**Bergen**	**110.89**	**31**	*e*PP	**PP**	**04 29 37.1**	**-0.2**			
BER				*e*SP	SP	04 39 03.0	-1.5			
BER				*e*SS	**SS**	**04 45 06.9**	**+0.2**			
BER				IVMs_BB	IVMs_BB	05 16 36.6				
	comp=Z,9µm,18.4s									
SUE	**Sulen**	**110.95**	**30**	*e*Pdif	**Pdif**	**04 25 01.1**	**+1.5**			
SUE				*e*PP	**PP**	**04 29 34.9**	**-2.9**			
SUE				*e*SP	SP	04 39 04.8	-0.2			
SUE				*e*SS	**SS**	**04 45 05.7**	**-1.7**			
SUE				IVMs_BB	IVMs_BB	05 16 41.5				
	comp=Z,9µm,20.0s									
BLS5	**Blasjo**	**110.96**	**32**	*e*Pdif	**Pdif**	**04 25 01.1**	**+1.3**			
BLS5				*e*PP	**PP**	**04 29 34.2**	**-3.7**			
BLS5				*e*SKPdf	**SKiKP**	**04 32 32.5**	**-0.4**			
BLS5				*e*SP	SP	04 39 02.8	-2.5			
BLS5				IVMs_BB	IVMs_BB	05 15 30.9				
	comp=Z,13µm,19.2s									
SEW	**Seward**	**111.08**	**328**	Pdiff	**Pdif**	**04 25 03.4**	**+3.2**			
	baz=117									
TIR	**Tirane**	**111.11**	**54**	⇑P	**PKiKP**	**04 29 01.7**	**+1.9**			
TIR	**Tirane**	**111.11**	**54**	⇑PKiKP	**PKiKP**	**04 29 01.7**	**+1.9**			
PDG	**Podgorica**	**111.13**	**53**	IAMs_20	IAMs_20	05 17 24.5				
	comp=Z,28µm,21.0s									
CONA	**Conrad Observa**	**111.15**	**46**	*e*P	PKiKP	04 29 11.6	+12			
	comp=Z,10.0nm,1.3s									
CONA				*e*P	**PKKPab**	**04 40 09.6**	**+5.5**			
	comp=Z,14nm,1.4s									
PRA	**Prague**	**111.16**	**44**	*e*SP	SP	04 38 59.2	-8.3			
PRA				AMS	AMS	05 14 10.0				
	comp=Z,29µm,20.3s									
PRU	**Pruhonice**	**111.19**	**44**	*e*PP	**PP**	**04 29 37.4**	**-2.4**			
PRU				*e*SP	SP	04 38 58.3	-10			
PRU				AMS	AMS	05 14 30.0				
	comp=Z,24µm,20.3s									
BRG	**Berggiesshubel**	**111.20**	**43**	*e*P	**Pdif**	**04 25 05.4**	**+4.4**			
BRG				Amp		04 25 06.5				
	comp=Z,6.6nm,1.0s									
BRG	**Berggiesshubel**	**111.20**	**43**	*i* PKP	**PKiKP**	**04 29 01.7**	**+2.0**			
BRG				Amp		04 29 02.9				
	comp=Z,22nm,1.0s									
FOO	**Floro**	**111.32**	**30**	*e*Pdif	**Pdif**	**04 25 03.9**	**+2.7**			
FOO				*e*PP	**PP**	**04 29 40.3**	**0.0**			
FOO				*e*SP	SP	04 39 06.7	-1.6			
FOO				*e*SS	**SS**	**04 45 10.3**	**-2.0**			
FOO				IVMs_BB	IVMs_BB	05 18 48.3				
	comp=Z,10µm,17.2s									
SML	**Sawmill**	**111.36**	**330**	Pdiff	**Pdif**	**04 25 04.0**	**+2.4**			
	baz=117									
O22K	**Cooper Landing**	**111.37**	**329**	IAMs_20	IAMs_20	05 23 04.0				
	comp=Z,17µm,21.0s									
PVCC	**Panska Ves**	**111.42**	**43**	*e*PKP	**PKiKP**	**04 29 01.6**	**+1.5**			
PVCC				*e*PS	PKKPbc	04 38 58.1	-58			
PVCC				AMS	AMS	05 14 40.0				
	comp=Z,39µm,19.8s									
JMIC	**Jan Mayen**	**111.44**	**18**	*e*PP	**PP**	**04 29 42.3**	**+1.2**			
JMIC				*e*SP	SP	04 39 11.1	+2.1			
JMIC				*e*SS	**SS**	**04 45 18.1**	**+4.5**			
JMIC				IVMs_BB	IVMs_BB	05 13 30.3				
	comp=Z,5µm,17.6s									
WAT6	**Susitna Watana**	**111.46**	**331**	Pdiff	**Pdif**	**04 25 05.1**	**+3.0**			
	baz=117									
TREC	**Trest**	**111.47**	**45**	*e*PS	PS	04 38 49.3	-24			
TREC				AMS	AMS	05 15 50.0				
	comp=Z,30µm,19.3s									
J25K	**Salcha River,**	**111.47**	**334**	Pdiff	**Pdif**	**04 25 06.6**	**+4.6**			
	baz=118									
BRSE	**Bradley Lake S**	**111.50**	**328**	Pdiff	**Pdif**	**04 25 05.6**	**+3.5**			
	baz=116									
KDAK	**Kodiak Island**	**111.53**	**325**	PKKPbc	PKKPbc	04 39 54.8	-1.1			
	comp=Z,17nm,1.0s,baz=291,slow=5.0,SNR=4.4									
KDAK	**Kodiak Island**	**111.53**	**325**	IAMs_20	IAMs_20	05 05 11.8				
	comp=Z,14µm,20.0s									
DHY	**Denali Highway**	**111.54**	**332**	IAMs_20	IAMs_20	05 09 38.0				
	comp=Z,15µm,22.0s									
DHY	**Denali Highway**	**111.54**	**332**	Pdiff	**Pdif**	**04 25 05.3**	**+2.8**			
	baz=117									
BRLK	**Bradley Lake**	**111.58**	**328**	IAMs_20	IAMs_20	05 10 12.1				
	comp=Z,11µm,22.0s									
PMR	**Palmer**	**111.60**	**330**	Pdiff	**Pdif**	**04 25 04.9**	**+2.4**			
	baz=116									
HYA	**Hoyanger**	**111.62**	**31**	*e*PP	**PP**	**04 29 43.5**	**+1.0**			
HYA				*e*SP	SP	04 39 06.8	-4.3			
HYA				*e*SS	**SS**	**04 45 17.5**	**+1.2**			
HYA				IVMs_BB	IVMs_BB	05 14 41.9				
	comp=Z,7µm,20.7s									
OHAK	**Old Harbor**	**111.64**	**325**	Pdiff	**Pdif**	**04 25 00.9**	**-1.9**			
	baz=115									
RC01	**Rabbit Creek A**	**111.64**	**329**	Pdiff	**Pdif**	**04 25 04.3**	**+1.6**			
	baz=116									
SII	**Sitkinak Islan**	**111.81**	**324**	IAMs_20	IAMs_20	05 05 17.3				
	comp=Z,16µm,20.0s									
HOM	**Homer**	**111.88**	**327**	IAMs_20	IAMs_20	05 06 29.1				
	comp=Z,12µm,21.0s									
PRP	**Porcupine Dome**	**111.96**	**334**	Pdiff	**Pdif**	**04 25 08.0**	**+3.7**			
	baz=118									
HDA	**Harding Lake**	**111.98**	**333**	Pdiff	**Pdif**	**04 25 07.5**	**+3.3**			
	baz=117									
ILAR	**Eielson Array**	**112.12**	**333**	Pdiff	**Pdif**	**04 25 05.8**	**+1.0**			
	comp=Z,2.0nm,0.9s,baz=146,slow=2.8,SNR=6.1									
ILAR				PKiKP	**PKiKP**	**04 29 02.5**	**+1.5**			
	comp=Z,9.7nm,0.9s,baz=169,slow=0.9,SNR=17									
ILAR				PKKPbc	**PKKPbc**	**04 39 52.1**	**-1.9**			
	comp=Z,5.2nm,0.9s,baz=290,slow=3.4,SNR=8.7									
CAPN	**Captain Cook N**	**112.13**	**329**	IAMs_20	IAMs_20	05 23 59.1				
	comp=Z,14µm,20.0s									
VRAC	**Vranov**	**112.14**	**45**	⇑P	**PKiKP**	**04 29 03.3**	**+1.8**			
VRAC	**Vranov**	**112.14**	**45**	⇑PKiKP	**PKiKP**	**04 29 03.3**	**+1.8**			
VRAC	**Vranov**	**112.14**	**45**	*e*PKiKP	**PKiKP**	**04 29 03.3**	**+1.8**			
VRAC				*e*		04 29 42.4				
VRAC				*e*PP	**PP**	**04 29 51.1**	**+4.4**			
MODS	**Modra-Piesok**	**112.20**	**46**	*e*PKiKP	**PKiKP**	**04 29 03.0**	**+1.3**			
MODS	**Modra-Piesok**	**112.20**	**46**	*e*PKP	**PKiKP**	**04 29 03.0**	**+1.3**			
TARA	**Tarawa**	**112.21**	**257**	IA

NOA PKKPab **PKKPab** 04 39 55.4 +3.7
comp=Z,4.4nm,0.9s,baz=69,slow=4.6,SNR=9.1
NC602 NORSAR Array S 113.83 32 *e*PKPdf **PKiKP** **04 29 05.9 +1.5**
NC602 *e*SKSac **SKSac** **04 35 47.6 -0.9**
NC602 *e*SP SP 04 39 30.8 -0.6
NC602 *e*SS **SS** **04 45 46.0 +0.3**
NC602 IVMs_BB IVMs_BB 05 14 38.8
comp=Z,12μm,19.7s
LANS Liptovska Anna 113.83 46 *e*PKiKP **PKiKP** **04 29 05.1 +0.3**
LANS Liptovska Anna 113.83 46 *e*PKP **PKiKP** **04 29 05.1 +0.3**
VTS Vitosha 113.92 54 ⇑P **PKiKP** **04 29 02.4 -2.9**
VTS Vitosha 113.92 54 ⇑PKiKP **PKiKP** **04 29 02.4 -2.9**
BZS Buzias 113.92 50 ⇓P **PKiKP** **04 29 04.4 -0.6**
BZS Buzias 113.92 50 ⇓PKiKP **PKiKP** **04 29 04.4 -0.6**
CNBA Chernabura Isl 113.97 321 IAMs_20 IAMs_20 05 07 07.5
comp=Z,27μm,20.0s
GKP Gorka Klasztor 114.00 41 *e*PKiKP **PKiKP** **04 29 06.9 +2.0**
GKP *e*PP **PP** **04 29 57.1 -2.6**
GKP *e*PS **PS** **04 39 40.3 +3.6**
GKP *e*L L 05 15 22.7
comp=Z,52μm,21.7s
HERR Herculane 114.19 51 ⇓P **PKiKP** **04 29 07.6 +2.0**
N18K Kilae Creek 114.23 328 IAMs_20 IAMs_20 05 27 29.7
comp=Z,16μm,19.0s
OJC Ojcow 114.41 45 *e*PKiKP **PKiKP** **04 29 07.8 +2.0**
OJC *e*PP **PP** **04 29 59.2 -3.6**
OJC *e*PS **PKKPbc** **04 39 44.8 -1.2**
OJC *e*L L 05 12 38.5
comp=Z,21μm,23.0s
NIE Niedzica 114.44 46 *e*PKiKP **PKiKP** **04 29 09.1 +3.1**
NIE *e*PP **PP** **04 30 02.1 -0.9**
NIE *e*PS **PKKPab** **04 39 49.3 -0.2**
NIE *e*L L 05 14 10.0
comp=Z,31μm,24.7s
GZR Gura Zlata 114.61 51 ⇑P **PKiKP** **04 29 07.9 +1.5**
GZR Gura Zlata 114.61 51 ⇑PKiKP **PKiKP** **04 29 07.9 +1.5**
STHS Stebnicka Huta 115.02 46 *e*PKiKP **PKiKP** **04 29 08.4 +1.4**
STHS Stebnicka Huta 115.02 46 *e*PKP **PKiKP** **04 29 08.4 +1.4**
DRGR 115.05 49 ⇓P **PKPdf** **04 29 07.2 -0.1**
DRGR 115.05 49 ⇓PKiKP **PKPdf** **04 29 07.2 -0.1**
NWAO Narrogin (SRO) 115.33 188 PKP **PKPdf** **04 29 08.7 +0.3**
comp=Z,7.6nm,0.7s,baz=167,slow=3.7,SNR=4.2
NWAO Narrogin (SRO) 115.33 188 IAMs_20 IAMs_20 05 13 16.4
comp=Z,22μm,21.0s
NSS Namsos 115.38 28 *e*PKPdf **PKPdf** **04 29 06.2 -1.1**
NSS *e*PP **PP** **04 30 08.8 -0.3**
NSS *e*SP SP 04 39 45.1 -0.2
NSS *e*SS **SS** **04 46 07.0 +1.1**
NSS IVMs_BB IVMs_BB 05 20 59.4
comp=Z,6μm,19.0s
TRPA Tarpa 115.39 48 ⇑P **PKPdf** **04 29 07.6 -0.2**
TRPA Tarpa 115.39 48 *e*PKP **PKiKP** **04 29 09.4 +1.7**
UZH Uzhgorod 115.40 47 *e*PKiKP **PKiKP** **04 29 14.4 +6.6**
KOLS Kolonicke sedl 115.49 47 *e*PKiKP **PKiKP** **04 29 10.5 +2.5**
KOLS Kolonicke sedl 115.49 47 *e*PKP **PKiKP** **04 29 10.5 +2.5**
BEL Belsk 115.55 43 *e*PKiKP **PKiKP** **04 29 09.9 +2.0**
BEL *e*PP **PP** **04 30 07.9 -2.8**
BEL *e*PS **PS** **04 39 55.4 +4.5**
BEL *e*L L 05 17 52.7
comp=Z,38μm,21.0s
ARR Arges 115.83 51 ⇓P **PKPdf** **04 29 07.8 -1.0**
KWP Kalwaria Pacla 115.99 46 *e*PKiKP **PKiKP** **04 29 10.9 +2.0**
KWP *e*PP **PP** **04 30 11.8 -2.1**
KWP *e*L L 05 15 29.8
comp=Z,44μm,24.1s
VOIR 116.12 51 ⇑P **PKPdf** **04 29 08.5 -0.9**
VOIR 116.12 51 ⇑PKiKP **PKPdf** **04 29 08.5 -0.9**
ARCR ARCALIA 116.21 49 ⇓P **PKiKP** **04 29 10.1 +0.7**
NOR Nord 116.28 8 *i* P **PKiKP** **04 29 10.3 +1.6**
NOR IAmb IAmb 04 29 10.9
comp=Z,27nm,1.0s
STOK Stokkvaagen 116.39 27 *e*PKPdf **PKiKP** **04 29 10.7 +1.6**
KONS Konsvik 116.48 26 *e*Pdif **Pdif** **04 25 25.6 +1.5**
KONS *e*PKPdf **PKiKP** **04 29 11.1 +1.8**
KONS *e*SKSac **SKSac** **04 35 56.3 -1.9**
KONS *e*SP SP 04 39 53.5 -1.8
RAZG Razgrad 116.50 54 ⇑P **PKPdf** **04 29 09.0 -1.1**
DOPR Dopca 116.52 51 ⇑P **PKiKP** **04 29 10.9 +0.8**
MIDW Midway 116.63 288 IAMs_20 IAMs_20 05 06 09.8
comp=Z,20μm,21.0s
SECR 116.67 52 ⇑P **PKiKP** **04 29 11.7 +1.3**
MLR Muntele Rosu 116.74 51 ⇓P **PKPdf** **04 29 10.0 -0.7**
MLR Muntele Rosu 116.74 51 PKP **PKPdf** **04 29 09.5 -1.1**
comp=Z,27nm,1.0s,baz=41,slow=4.6,SNR=17
MLR Muntele Rosu 116.74 51 ⇓PKiKP **PKPdf** **04 29 10.0 -0.7**
OZUR 116.83 51 ⇓P **PKPdf** **04 29 10.1 -0.5**
LVV L'vov 116.86 46 *e*PKiKP **PKiKP** **04 29 11.6 +1.0**
LVV MLR MLR
comp=Z,32μm,21.0s
MOR8 Moi Rana 116.89 27 *e*Pdif **Pdif** **04 25 27.5 +1.6**
MOR8 *e*PKPdf **PKPdf** **04 29 09.7 -0.4**
MOR8 *e*SKSac **SKSac** **04 36 00.0 +0.1**
MOR8 *e*SP **SP** **04 40 02.0 +3.0**
MOR8 *e*SS **SS** **04 46 27.7 +2.1**
MOR8 IVMs_BB IVMs_BB 05 12 28.1
comp=Z,5μm,26.2s
BURAR Bucovina Array 116.93 49 ⇑P **PKiKP** **04 29 12.8 +1.9**
BURAR Bucovina Array 116.93 49 ⇑PKiKP **PKiKP** **04 29 12.8 +1.9**
NEHR Nehoiu 116.95 51 ⇑P **PKPdf** **04 29 10.6 -0.3**
CTA Charters Tower 117.07 220 PKP **PKPdf** **04 29 11.0 -1.0**
comp=Z,8.7nm,1.0s,baz=317,slow=1.7,SNR=5.9
CTA Charters Tower 117.07 220 PKiKP **PKPdf** **04 29 11.0 -1.0**
CTAO Charters Tower 117.07 220 PKiKP **PKPdf** **04 29 11.4 -0.6**
CTAO Charters Tower 117.07 220 **PKPdf** **04 29 11.4 -0.6**
CTAO Charters Tower 117.07 220 IAMs_20 IAMs_20 05 10 22.4
comp=Z,16μm,19.0s
LOF Lofoten 117.13 25 *e*Pdif **Pdif** **04 25 28.4 +1.4**
LOF *e*PKPdf **PKiKP** **04 29 11.6 +1.1**
LOF *e*SP SP 04 40 00.7 -0.4
LOF *e*SS **SS** **04 46 29.9 +1.3**
LOF IVMs_BB IVMs_BB 05 08 26.1
comp=Z,4μm,30.3s
BISRR Bisoca 117.27 51 ⇓P **PKiKP** **04 29 12.7 +1.1**
BIZ Bicaz 117.30 50 ⇓P **PKiKP** **04 29 12.5 +1.0**
PLOR Plostina 117.32 51 ⇑P **PKPdf** **04 29 11.0 -0.6**
PLOR Plostina 117.32 51 ⇑PKiKP **PKPdf** **04 29 11.0 -0.6**
VRI Vrincioaia 117.38 51 ⇑P **PKPdf** **04 29 10.3 -1.4**
VRI Vrincioaia 117.38 51 ⇑PKiKP **PKPdf** **04 29 10.3 -1.4**
PBUR Paburge 117.46 39 *e*P **PKiKP** **04 29 13.5 +2.0**
TESR Tescani 117.52 50 ⇑P **PKPdf** **04 29 11.0 -0.9**
FAUS Fauske 117.56 26 *e*Pdif **Pdif** **04 25 29.8 +0.9**
FAUS *e*PKPdf **PKPdf** **04 29 10.7 -0.6**
FAUS *e*SKSac **SKSac** **04 35 59.4 -2.8**
FAUS *e*SP SP 04 40 02.5 -2.4
FAUS *e*SS **SS** **04 46 35.7 +1.5**
FAUS IVMs_BB IVMs_BB 05 09 49.3
comp=Z,5μm,31.2s
ODBI Odobesti 117.56 51 ⇑P **PKiKP** **04 29 14.4 +2.3**
SUW Suwalki 117.59 42 *e*PKiKP **PKPdf** **04 29 11.2 -0.5**
SUW *e*PP **PP** **04 30 23.1 -1.8**
SUW *e*PS PKKPdf 04 40 12.8 +9.4
SUW *e*L L 05 17 55.1
comp=Z,39μm,21.3s
SUW Suwalki 117.59 42 *e*P **PKiKP** **04 29 13.4 +1.6**
STEI Steigen 117.69 25 *e*Pdif **Pdif** **04 25 30.7 +1.3**
STEI *e*PKPdf **PKiKP** **04 29 13.4 +1.8**
STEI *e*SP SP 04 40 05.9 -0.3
STEI *e*SS **SS** **04 46 34.0 -1.9**
STEI IVMs_BB IVMs_BB 05 17 11.5
comp=Z,5μm,19.5s
HARR Harsova 117.83 53 ⇓P **PKiKP** **04 29 13.8 +1.2**
HARR Harsova 117.83 53 ⇓PKiKP **PKiKP** **04 29 13.8 +1.2**
TLBR Topalu 117.86 53 ⇓P **PKPdf** **04 29 12.4 -0.2**
EIL Elat 117.99 71 PKP **PKPdf** **04 29 13.3 0.0**
comp=Z,8.4nm,0.9s,baz=111,slow=4.7,SNR=5.5
TIRR Tirgusor 118.02 53 ⇑P **PKPdf** **04 29 10.2 -2.9**
TIRR Tirgusor 118.08 53 ⇑PKiKP **PKPdf** **04 29 10.2 -2.9**
CFR Carcaliu 118.11 52 ⇓P **PKiKP** **04 29 14.4 +1.3**
CFR Carcaliu 118.11 52 ⇓PKiKP **PKiKP** **04 29 14.4 +1.3**
TPGR Topolog 118.21 53 ⇑P **PKPdf** **04 29 13.3 0.0**
VASR Vaslui 118.31 51 ⇑P **PKiKP** **04 29 13.5 0.0**
PABE Paberze 118.43 40 *e*P **PKiKP** **04 29 14.4 +1.0**
TLCR 118.57 52 ⇓P **PKiKP** **04 29 15.6 +1.6**
TLCR 118.57 52 ⇓PKiKP **PKiKP** **04 29 15.6 +1.6**
RAF Rauma 118.67 34 *e*P **PKiKP** **04 29 15.0 +1.4**
MILM Milestii Mici 119.07 50 ⇓P **PKPdf** **04 29 13.7 -1.2**
KIS Kishinev 119.09 50 *e*PP PP 04 30 29.0 -6.5
comp=Z,1μm,18.0s
KIS LRM MLR 05 18 23.0
comp=Z,6μm,21.5s
SORM Soroca 119.10 49 ⇑P **PKPdf** **04 29 13.4 -1.5**
SORM Soroca 119.10 49 ⇑PKiKP **PKPdf** **04 29 13.4 -1.5**

MTSE Matsula 119.13 36 *e*P **PKiKP** **04 29 15.7 +1.0**
RDOG Red Dog Mine 119.28 334 IAMs_20 IAMs_20 05 18 23.4
comp=Z,20μm,20.0s
MORW Morawa 119.28 188 PKPdf **PKiKP** **04 29 16.2 +0.1**
TRO Tromso 119.40 24 *e*PKPdf **PKiKP** **04 29 15.2 +0.3**
TRO *e*PP **PP** **04 30 37.3 +0.4**
TRO *e*SP SP 04 40 18.6 -2.8
TRO *e*SS **SS** **04 46 58.8 +1.0**
TRO IVMs_BB IVMs_BB 05 19 12.3
comp=Z,6μm,17.3s
KBS Kingsbay 119.50 13 *i* P **PKiKP** **04 29 17.4 +2.5**
KBS IAmb IAmb 04 29 17.9
comp=Z,68nm,0.9s
KBS Kingsbay 119.50 13 *e*Pdif **Pdif** **04 25 39.0 +1.7**
KBS *e*PKPdf **PKiKP** **04 29 15.8 +0.8**
KBS *e*SP SP 04 40 21.2 -0.8
KBS *e*SS **SS** **04 47 02.4 +3.6**
KBS IVMs_BB IVMs_BB 05 11 45.1
comp=Z,3μm,19.5s
MMAI Mount Meron Ar 119.56 67 PKP **PKPdf** **04 29 15.5 -0.8**
comp=Z,5.9nm,0.5s,baz=3.8,slow=2.2,SNR=12
ISAL Salakas 119.64 40 *e*P **PKiKP** **04 29 16.8 +1.1**
IGN Ignalina 119.64 41 *e*P **PKiKP** **04 29 16.9 +1.1**
MEF Metsahovi 119.75 35 *e*P **PKiKP** **04 29 16.5 +0.7**
ANTO Ankara 119.79 59 PKiKP **PKPdf** **04 29 15.0 -1.6**
ANTO Ankara 119.79 59 PKPdf **PKPdf** **04 29 15.0 -1.6**
HSPB Hornsund (broa 119.84 15 *e*P **PKiKP** PP 04 30 40.5 +0.6
HSPB *e*PS PKKPdf 04 40 32.5 +33
HSPB Hornsund (broa 119.84 15 *e*Pdif **Pdif** **04 25 37.8 -1.1**
HSPB *e*PP **PP** **04 30 41.0 +1.1**
HSPB *e*SP SP 04 40 23.5 -1.7
HSPB *e*SS **SS** **04 47 05.0 +1.7**
HSPB IVMs_BB IVMs_BB 05 18 02.7
comp=Z,6μm,19.8s
NACGM Naroch 119.85 41 *i* PKP **PKPdf** **04 29 15.3 -0.8**
ASAR Alice Springs 119.88 207 PKP **PKPdf** **04 29 15.4 -2.0**
comp=Z,20nm,0.8s,baz=146,slow=2.0,SNR=34
ASAR PKKPbc **PKKPbc** **04 39 26.1 0.0**
comp=Z,11nm,0.9s,baz=342,slow=3.5,SNR=18
ASAR SKKPbc SKKPbc 04 43 01.6 -8.2
comp=Z,5.3nm,1.0s,baz=347,slow=4.1,SNR=5.0
AS31 Alice Springs 119.88 207 PKPdf **PKPdf** **04 29 16.3 -1.1**
JETT Jettan, Norway 119.89 24 *e*PKPdf **PKiKP** **04 29 17.7 +1.8**
JETT *e*PS PKKPdf 04 40 31.9 +33
JETT *e*SS SS 04 47 07.5 +3.1
JETT IVMs_BB IVMs_BB 05 26 05.3
comp=Z,5μm,21.3s
SPA0 Spitsbergen Ar 120.22 14 *e*PKPdf **PKiKP** **04 29 17.9 +1.5**
SPITS Spitsbergen Ar 120.22 14 PKP **PKiKP** **04 29 17.8 +1.4**
comp=Z,17nm,0.8s,baz=144,slow=3.1,SNR=17
BJO1 Bjornoya 120.27 18 *e*Pdif **Pdif** **04 25 41.9 +1.1**
BJO1 *e*PKPdf **PKiKP** **04 29 17.8 +1.3**
BJO1 *e*PP **PP** **04 30 44.7 +1.8**
BJO1 *e*SP SP 04 40 30.3 +1.2
BJO1 *e*SS **SS** **04 47 08.2 -0.7**
BJO1 IVMs_BB IVMs_BB 05 18 42.0
comp=Z,4μm,21.9s
AKASG Malin Array Be 120.31 46 PKP **PKPdf** **04 29 15.3 -1.8**
comp=Z,47nm,0.8s,baz=270,slow=2.4,SNR=34
AKASG PKKPab **PKKPbc** **04 39 24.6 -0.2**
comp=Z,2.4nm,0.5s,baz=78,slow=2.8,SNR=6.2
AKBB Malin Array Si 120.31 46*c* *i*PKiKP **PKPdf** **04 29 15.4 -1.7**
BR131 Keskin Array S 120.37 60 P **PKiKP** **04 29 18.8 +0.9**
SNR=8.9
BRTR Keskin Array B 120.37 60 PKP **PKPdf** **04 29 16.0 -1.8**
comp=Z,24nm,0.9s,baz=192,slow=3.2,SNR=29
MNK Minsk 120.38 42 *i* PKiKP **PKPdf** **04 29 16.2 -0.9**
MNK *i* 04 30 43.7
MNK *i* PPP PPP 04 33 17.3
MNK *i* 04 36 17.0
MNK *i* PS PKKPdf 04 40 25.9 +28
MNK *i* SS SS 04 47 08.6 -2.7
MNK pmax pmax
comp=Z,196nm,0.9s
MNK pmax pmax
comp=N,82nm,1.2s
MNK pmax pmax
comp=E,11nm,1.2s
MNK MLR MLR
comp=N,9μm,17.0s
MNK MLR MLR
comp=Z,40μm,20.0s
MNK MLR MLR
comp=E,6μm,21.0s
MNK Minsk 120.38 42 *i* PKP **PKPdf** **04 29 16.3 -0.9**
comp=E,11nm,1.2s
MNK *i* PKP **PKPdf** **04 29 16.3 -0.9**
comp=N,82nm,1.2s
MNK *i* PKP **PKPdf** **04 29 16.3 -0.9**
comp=Z,196nm,0.9s,baz=257
MNK *i* PP **PP** **04 30 43.7 -0.4**
MNK *i* PPP PPP 04 33 17.3
MNK *i* SKS **SKSdf** **04 36 17.0 -10**
MNK *i* SKKSac **SKKSac** **04 37 39.1 -2.6**
MNK *i* PS PKKPdf 04 40 25.9 +28
MNK *i* SS **SKKSdf** **04 47 08.7 -0.7**
MNK *i* SSS SSS 04 51 45.8
MNK *i* LR LR 05 16 03.3
MNK *i* LRM MLR 05 20 48.0
comp=N,9μm,16.6s
MNK *i* LRM MLR 05 20 48.0
comp=Z,40μm,20.3s
MNK *i* LRM MLR 05 20 53.5
comp=E,6μm,21.0s
ASF Jabal al Asfar 120.45 69 PKP **PKiKP** **04 29 18.4 +0.1**
comp=E,18nm,1.0s,baz=154,slow=0.9,SNR=15
VSU Vasula 120.58 37 *e*P **PKPdf** **04 29 17.1 -0.3**
VSU Vasula 120.58 37*d* *i*PKiKP **PKPdf** **04 29 16.1 -1.3**
FINES FINESS Array B 120.80 34 PKP **PKPdf** **04 29 16.8 -1.0**
comp=E,26nm,0.9s,baz=186,slow=1.7,SNR=28
FINES PKKPbc **PKKPbc** **04 39 23.9 +0.7**
comp=E,6.8nm,0.8s,baz=126,slow=4.9,SNR=8.9
KTK1 Kautokeino 120.80 25 *e*PKPdf **PKPdf** **04 29 16.2 -1.4**
KTK1 *e*PP **PP** **04 30 47.6 +1.0**
KTK1 *e*SP SP 04 40 34.4 +0.3
KTK1 *e*SS **SS** **04 47 16.7 +0.8**
KTK1 IVMs_BB IVMs_BB 05 20 18.8
comp=Z,5μm,20.9s
FIA1 FINESS Array S 120.80 34 PKPdf **PKPdf** **04 29 17.0 -0.7**
HAMF Hammerfest 121.16 23 *e*Pdif **Pdif** **04 25 45.6 +0.8**
HAMF *e*PKPdf **PKPdf** **04 29 18.2 0.0**
HAMF *e*PP **PP** **04 30 50.0 +1.0**
HAMF *e*SP SP 04 40 32.8 -4.3
HAMF *e*SS **SS** **04 47 18.6 -1.8**
HAMF IVMs_BB IVMs_BB 05 16 27.3
comp=Z,4μm,25.2s
ATKA Atka Island 121.59 315 PKPdf **PKiKP** **04 29 20.5 +0.8**
ARA0 ARCESS Array S 121.66 24 *e*PKPdf **PKiKP** **04 29 20.8 +1.4**
ARCES ARCESS Array S 121.66 24 PKP **PKPdf** **04 29 18.4 -0.9**
comp=Z,13nm,0.6s,baz=347,slow=1.2,SNR=15
ARCES PKKPab **PKKPab** **04 39 17.6 +0.5**
comp=Z,14nm,0.8s,baz=72,slow=4.0,SNR=15
HOPEN Hopen 121.96 16 *e*Pdif **Pdif** **04 25 48.7 +0.4**
HOPEN *e*PKPdf **PKiKP** **04 29 20.8 +1.0**
HOPEN *e*SP SP 04 40 44.4 +0.4
HOPEN IVMs_BB IVMs_BB 05 12 26.9
comp=Z,3μm,30.8s
DIKM Dikmen 122.09 58 ⇓P **PKiKP** **04 29 22.1 +1.1**
SIM Simferopol' 122.13 54 *e*P Pdif 04 25 31.0 -19
SIM *e*PPS PPS 04 40 47.0
SIM pmax pmax
comp=Z,800nm,8.0s
SIM MLR MLR
comp=Z,7μm,18.0s
GAMB Gambell 122.15 329 **PKiKP** **04 29 21.4 +1.0**
GAMB IAMs_20 IAMs_20 05 23 11.9
comp=Z,14μm,20.0s
KEV Kevo 122.20 24 PKIKP **PKiKP** **04 29 20.6 +0.2**
KEV Kevo 122.20 24 PKPdf **PKiKP** **04 29 20.6 +0.2**
PUL Pulkovo 122.61 36 ⇑PKiKP **PKiKP** **04 29 22.8 +1.3**
PUL pmax pmax
comp=Z,294nm,1.0s
ADK Adak 123.04 314 IAMs_20 IAMs_20 05 13 38.6
comp=Z,19μm,20.0s
WRA Warramunga Arr 123.04 210 PKP **PKPdf** **04 29 21.6 -2.0**
comp=Z,58nm,0.9s,baz=161,slow=1.8,SNR=46
WRA PKKPbc **PKKPbc** **04 39 14.3 +0.1**
comp=Z,8.4nm,0.9s,baz=343,slow=3.0,SNR=11
WRA SKKPbc SKKPbc 04 42 43.2 -16
comp=Z,7.8nm,0.9s,baz=343,slow=4.6,SNR=6.1
WRAB Tennant Creek 123.05 210*d* *i*PKIKP **PKPdf** **04 29 23.1 -0.4**
WRAB Tennant Creek 123.05 210 **PKiKP** **04 29 24.3 +0.6**
WRAB Tennant Creek 123.05 210 IAMs_20 IAMs_20 05 18 41.0
comp=Z,22μm,18.0s

ANN Anapa 124.39 55 *i* PKIKP **PKPdf** **04 29 24.8 -0.3**
ANN *i* 04 29 36.5
ANN *i* 04 31 07.0
ANN *i* PPP PPP 04 33 40.3
ANN *e* 04 36 22.2
ANN pmax pmax
comp=E,28nm,1.1s
ANN pmax pmax
comp=N,15nm,1.1s
ANN pmax pmax
comp=Z,97nm,1.1s
ANN MLR MLR
comp=N,16μm,25.0s
ANN MLR MLR
comp=Z,33μm,23.0s
APA Apatity 124.47 27 ⇓*i*PKIKP **PKPdf** **04 29 23.5 -1.1**
APA pmax pmax
comp=Z,62nm,0.8s
APA MLR MLR
comp=Z,22μm,19.0s
LVZ Lovozero 124.94 26*de*PKIKP **PKPdf** **04 29 24.9 -0.7**
LVZ Lovozero 124.94 26 PKPdf **PKPdf** **04 29 25.0 -0.6**
LVZ IAMs_20 IAMs_20 05 22 59.3
comp=Z,20μm,20.0s
KTUT Trabzon 125.22 60 ⇑P **PKiKP** **04 29 28.4 +1.1**
OBN Obninsk 125.44 42 ⇑P **PKiKP** **04 29 28.2 +1.0**
OBN Obninsk 125.44 42 PKP **PKPdf** **04 29 25.9 -0.9**
comp=Z,20nm,0.6s,baz=74,slow=3.1,SNR=16
OBN Obninsk 125.44 42*c* *i*PKIKP **PKPdf** **04 29 26.1 -0.7**
OBN *i* 04 29 37.8
OBN *e* 04 29 44.6
OBN *e* 04 42 49.8
OBN *e*SS SS 04 48 29.3 +14
OBN pmax pmax
comp=Z,60nm,1.2s
OBN MLR MLR
comp=Z,48μm,21.0s
OBN Obninsk 125.44 42 PKPdf **PKiKP** **04 29 28.0 +0.8**
SOC Sochi 125.75 56 *e*PKIKP **PKPdf** **04 29 27.5 -0.3**
SOC *e* 04 31 16.9
SOC *e*PPP PPP 04 34 01.6
SOC *e*PS PS 04 41 21.6 -1.0
SOC *e*SSS SSS 04 52 57.5
SOC pmax pmax
comp=Z,80nm,0.9s
SOC MLR MLR
comp=Z,14μm,22.0s
PSA00 Pilbara Seismi 126.05 193 PKPdf **PKPdf** **04 29 28.0 -1.2**
PSA00 Pilbara Seismi 126.05 193 PKPdf **PKPdf** **04 29 28.0 -1.2**
H11S2 WAKE ISLAND Hyl 126.05 271 T T 06 48 24.4
baz=117,slow=75,SNR=269
H11S1 WAKE ISLAND Hyl 126.06 271 T T 06 48 20.6
baz=117,slow=75,SNR=285
H11S3 WAKE ISLAND Hyl 126.07 271 T T 06 48 25.9
baz=117,slow=75,SNR=275
MOS Moscow 126.09 41 *i* PKIKP **PKPdf** **04 29 27.2 -0.9**
MOS *e* 04 29 38.3
MOS *e* 04 31 18.3
MOS *e*PS PS 04 41 16.3 -8.9
MOS *e*SS SS 04 48 19.1 -4.5
MOS pmax pmax
comp=Z,150nm,1.0s
MOS pmax pmax
comp=Z,200nm,1.4s
MOS MLR MLR
comp=N,11μm,21.0s
MOS MLR MLR
comp=E,25μm,21.0s
MOS MLR MLR
comp=Z,27μm,21.0s
H11N3 WAKE ISLAND Hyl 126.40 272 T T 06 48 42.5
baz=117,slow=76,SNR=217
H11N1 WAKE ISLAND Hyl 126.42 272 T T 06 48 48.2
baz=117,slow=76,SNR=47
H11N2 WAKE ISLAND Hyl 126.42 272 T T 06 48 48.5
baz=117,slow=76,SNR=228
WAKE Wake Island 126.44 272 IAMs_20 IAMs_20 05 12 33.6
comp=Z,13μm,20.0s
VORD Divnogorie 126.64 47 *e*PKIKP **PKPdf** **04 29 27.9 -1.3**
VORD pmax pmax
comp=Z,70nm,1.0s
VORR Voronezh 126.66 46 *e*PKIKP **PKPdf** **04 29 29.0 -0.3**
VORR pmax pmax
comp=Z,250nm,1.0s
BCA Borcka 126.69 59 ⇓P **PKiKP** **04 29 31.5 +1.3**
BATM Batumi 126.77 59 ⇑P **PKiKP** **04 29 31.4 +1.1**
BATM Batumi 126.77 59 ⇑PKIKP **PKiKP** **04 29 31.4 +1.1**
KLMR Klimovskoe 127.24 35 *e*PKIKP **PKPdf** **04 29 29.1 -1.0**
KLMR 04 31 28.5
KLMR MLR MLR
comp=Z,30μm,20.0s
KLMR Klimovskoe 127.24 35 *e*PKPdf **PKPdf** **04 29 29.1 -1.0**
KLMR PP **PP** **04 31 28.5 -1.6**
KLMR 04 32 49.4
KLMR 04 32 49.4
KLMR LR LR 05 00 26.3
KLMR AMP 05 23 23.9
comp=Z,30μm,19.6s
CHVG Ch'k'valeri 127.28 58 ⇑P **PKiKP** **04 29 36.0 +4.7**
CHVG Ch'k'valeri 127.28 58 ⇑PKIKP **PKiKP** **04 29 36.0 +4.7**
RST Umm Al-Ruwaisa 127.77 75 *e*P **PKPdf** **04 29 31.6 -0.6**
FITZ Fitzroy Crossi 127.92 201 PKP **PKPdf** **04 29 31.8 -1.0**
comp=Z,71nm,0.9s,baz=201,slow=2.8,SNR=37
KIV Kislovodsk 127.93 56 ⇑P **PKiKP** **04 29 33.9 +1.2**
KIV Kislovodsk 127.93 56 *i* PKIKP **PKPdf** **04 29 31.5 -0.6**
KIV *e* 04 31 33.7
KIV *e*SSS SSS 04 53 30.2
KIV pmax pmax
comp=Z,71nm,1.0s
KIV Kislovodsk 127.93 56 PKPdf **PKPdf** **04 29 31.6 -0.6**
KIV IAMs_20 IAMs_20 05 28 45.3
comp=Z,13μm,20.0s
KVAR Kislovodsk Arr 127.94 56 PKP **PKPdf** **04 29 31.5 -0.7**
comp=Z,7.0nm,0.7s,baz=270,slow=20,SNR=3.0
KBZ Khabaz 128.04 57 PKP **PKPdf** **04 29 31.8 -0.4**
comp=Z,55nm,0.9s,baz=221,slow=2.5,SNR=23
KBZ Khabaz 128.04 57*c* *i*PKIKP **PKPdf** **04 29 31.9 -0.3**
RDF Al-Radifah 128.04 76 *e*P **PKPdf** **04 29 31.9 -0.8**
AKH Akhalkalaki 128.06 60 ⇑P **PKiKP** **04 29 34.9 +1.7**
MIB Mutribah 128.15 75 *e*P **PKPdf** **04 29 32.6 -0.2**
VRH Novokhopyorsk 128.18 47 *e*PKIKP **PKPdf** **04 29 31.6 -0.6**
VRH pmax pmax
comp=Z,100nm,1.1s
QRN Al-Qurain 128.29 77 *e*P **PKPdf** **04 29 31.9 -1.2**
GOF Gofitskoye 128.36 55 ⇑*e*PKIKP **PKiKP** **04 29 33.2 -0.2**
GOF pmax pmax
comp=Z,114nm,0.9s
NCK Nalchik 128.50 57 ⇓*e*PKIKP **PKiKP** **04 29 33.6 -0.2**
ZEI Tsey 128.61 58 *i* PKIKP **PKPdf** **04 29 32.1 -1.5**
ZEI pmax pmax
comp=Z,15nm,1.2s
GNI Garni 128.74 62 PKP **PKPdf** **04 29 33.1 -0.8**
comp=Z,34nm,0.9s,baz=159,slow=2.7,SNR=11
GNI Garni 128.74 62*c* *i*PKIKP **PKiKP** **04 29 36.1 +1.5**
GNI Garni 128.74 62 PKPdf **PKPdf** **04 29 34.2 +0.3**
GNI Garni 128.74 62 IAMs_20 IAMs_20 05 28 25.1
comp=Z,21μm,22.0s
DOK Doka 129.74 91 P **PKiKP** **04 29 37.5 +0.6**
SNR=6.2
GROC Groznyy 130.04 58 *i* PKIKP **PKPdf** **04 29 35.2 -0.8**
GROC *e* 04 31 42.8
GROC *e*PPP PPP 04 34 37.1
GROC *e*SS SS 04 49 26.8 +13
GROC pmax pmax
comp=Z,69nm,0.9s
PRGR Permogore 130.13 34 *e*PKIKP **PKPdf** **04 29 35.3 -0.3**
PRGR pmax pmax
comp=Z,108nm,1.0s
MTN Manton Dam 130.73 210 PKPdf **PKPdf** **04 29 37.6 -0.7**
BILL Bilibino 130.73 335*d* *i*PKIKP **PKiKP** **04 29 39.2 +1.7**
BILL *e* 04 29 48.6
BILL *e*PPP PPP 04 34 38.5
BILL pmax pmax
comp=Z,120nm,1.2s
BILL Bilibino 130.73 335 **PKiKP** **04 29 38.0 +0.5**
BILL IAMs_20 IAMs_20 05 25 58.3
comp=Z,10μm,20.0s
JRN Qarnain Island 131.15 83 P **PKPdf** **04 29 38.0 -0.7**
SNR=5.4
AKT Akhty 131.21 60 *e*PKIKP **PKPdf** **04 29 38.2 -0.3**
AKT *e* 04 31 58.9
AKT pmax pmax
comp=Z,94nm,1.0s
MAK Makhachkala 131.25 58 *e*P **Pdif** **04 26 29.1 -1.2**

MAK				*e*			04 31 58.3		
MAK				*e*SS	SS		04 49 21.5	-6.7	
MAK				*e*SSS	SSS		04 54 16.2		
MAK				pmax	pmax				
	comp=Z,180nm,1.1s								
BELG	**Belogornoye**	**131.88**	**46**	PKP	**PKPdf**		**04 29 38.2**	**-0.9**	
	comp=Z,194nm,0.9s,baz=94,slow=0.9,SNR=19								
KIRV	**Kirov**	**132.42**	**37**	PKP	**PKPdf**		**04 29 39.0**	**-1.0**	
	comp=Z,59nm,0.7s,baz=311,slow=0.7,SNR=11								
KIRV	**Kirov**	**132.42**	**37**	*i* PKIKP	**PKPdf**		**04 29 39.5**	**-0.5**	
ASUD	**Al Ashush, Dub**	**133.14**	**85**	*i* PKiKP	**PKiKP**		**04 29 45.0**	**+1.3**	
	SNR=6.3								
ASUD	**Al Ashush, Dub**	**133.14**	**85**	P	**PKPdf**		**04 29 42.3**	**-0.2**	
	SNR=9.8								
DQM	**DQM**	**133.21**	**92**	P	**PKPdf**		**04 29 42.5**	**-0.2**	
	SNR=6.4								
ALNE	**Al Ain**	**133.29**	**86**	*i* PKiKP	**PKiKP**		**04 29 45.4**	**+1.4**	
	SNR=10								
ALNE	**Al Ain**	**133.29**	**86**	P	**PKiKP**		**04 29 44.4**	**+0.4**	
	SNR=16								
FAQ	**Al Faqa, Dubai**	**133.40**	**85**	*i* PKPdf	**PKPdf**		**04 29 43.5**	**+0.6**	
	SNR=16								
FAQ	**Al Faqa, Dubai**	**133.40**	**85**	P	**PKiKP**		**04 29 43.9**	**-0.3**	
	SNR=13								
NAZ	**Nazwa, Dubai**	**133.55**	**84**	*i* PKiKP	**PKiKP**		**04 29 46.0**	**+1.5**	
	SNR=8.9								
NAZ	**Nazwa, Dubai**	**133.55**	**84**	P	**PKiKP**		**04 29 44.9**	**+0.4**	
	SNR=12								
ARQ	**Araqi**	**133.69**	**87**	P	**PKPdf**		**04 29 43.6**	**+0.1**	
	SNR=6.6								
UMQ	**Umm Al-Quwin**	**133.74**	**84**	*i* PKiKP	**PKiKP**		**04 29 46.1**	**+1.3**	
	SNR=6.1								
ASHO	**Ashiyiah**	**133.78**	**85**	*i* PKPdf	**PKPdf**		**04 29 43.3**	**-0.5**	
	SNR=7.1								
ASHO	**Ashiyiah**	**133.78**	**85**	P	**PKPdf**		**04 29 43.8**	**0.0**	
	SNR=10								
HATD	**Hatta, Dubai**	**133.89**	**85**	*i* PKiKP	**PKiKP**		**04 29 46.0**	**+0.8**	
	SNR=8.0								
HATD	**Hatta, Dubai**	**133.89**	**85**	P	**PKPdf**		**04 29 43.3**	**-0.6**	
	SNR=11								
SOHO	**SOHO**	**133.99**	**86**	*i* PKPdf	**PKPdf**		**04 29 43.6**	**-0.5**	
	SNR=19								
UOSS	**Minazif**	**133.99**	**85**	*i* PKPdf	**PKPdf**		**04 29 42.7**	**-1.4**	
	SNR=7.7								
UOSS	**Minazif**	**133.99**	**85**	PKPdf	**PKPdf**		**04 29 43.0**	**-1.1**	
MSFE	**Esma-Masafi**	**134.10**	**84**	*i* PKPdf	**PKPdf**		**04 29 43.2**	**-1.1**	
	SNR=11								
MASF	**Masafi**	**134.10**	**84**	P	**PKPdf**		**04 29 44.8**	**+0.5**	
	SNR=15								
MDH	**Madha**	**134.20**	**84**	*i* PKPdf	**PKPdf**		**04 29 44.9**	**+0.4**	
	SNR=7.7								
MDH	**Madha**	**134.20**	**84**	P	**PKiKP**		**04 29 45.6**	**-0.2**	
	SNR=5.5								
JAY	**Jayapura**	**134.23**	**228**	PKP	**PKiKP**		**04 29 46.2**	**-0.1**	
	comp=Z,14nm,0.9s,baz=231,slow=4.9,SNR=7.7								
SHME	**Shamm**	**134.32**	**83**	*i* PKPdf	**PKPdf**		**04 29 43.5**	**-1.1**	
	SNR=16								
SHME	**Shamm**	**134.32**	**83**	P	**PKPdf**		**04 29 42.4**	**-2.2**	
	SNR=13								
BANOM	**Banah**	**134.41**	**83**	*i* PKPdf	**PKPdf**		**04 29 43.4**	**-1.5**	
	SNR=6.8								
BANOM	**Banah**	**134.41**	**83**	P	**PKiKP**		**04 29 46.3**	**+0.1**	
	SNR=5.7								
JMDO	**Jabal Madar**	**134.67**	**89**	P	**PKiKP**		**04 29 46.4**	**-0.5**	
	SNR=5.3								
SMDO	**Samad**	**134.88**	**88**	P	**PKPdf**		**04 29 43.1**	**-2.8**	
	SNR=14								
BIDO	**Bidbid**	**135.12**	**87**	P	**PKPdf**		**04 29 44.0**	**-2.2**	
	SNR=9.3								
WSAR	**Wadi Sarin**	**135.45**	**88**	PKP	**PKPdf**		**04 29 46.5**	**-0.4**	
	comp=Z,73nm,0.8s,baz=243,slow=2.5,SNR=22								
WBK	**Wadi Bani Khal**	**135.50**	**89**	P	**PKiKP**		**04 29 49.2**	**+0.7**	
	SNR=11								
JLN	**Jalan Bani Buh**	**135.70**	**90**	P	**PKiKP**		**04 29 49.2**	**+0.3**	
	SNR=10								
ARU	**Arti**	**137.68**	**39**	PKhKP	PKPpre		04 29 43.3		
	comp=Z,2.1nm,0.4s,baz=294,slow=12,SNR=2.4								
ARU				PKP	**PKPdf**		**04 29 49.3**	**-0.7**	
	comp=Z,30nm,0.7s,baz=296,slow=2.6,SNR=20								
ARU	**Arti**	**137.68**	**39**	*i* PKIKP	**PKPdf**		**04 29 50.0**	**+0.1**	
ARU							04 32 32.1		
ARU				PPP	PPP		04 35 29.9		
ARU							04 42 55.6		
ARU				MLR	MLR				
	comp=Z,40μm,23.0s								
SEY	**Seymchan**	**138.02**	**332**	PKP	**PKPdf**		**04 29 50.0**	**-0.4**	
	comp=Z,153nm,0.9s,baz=103,slow=3.0,SNR=36								
SEY	**Seymchan**	**138.02**	**332**	PKIKP	**PKPdf**		**04 29 50.0**	**-0.4**	
PET	**Petropavlovsk**	**138.06**	**316**	*ce*PKIKP	**PKiKP**		**04 29 52.7**	**0.0**	
PET	**Petropavlovsk**	**138.06**	**316**	IAMs_20	IAMs_20		05 19 16.8		
	comp=Z,13μm,20.0s								
TIXI	**Tiksi**	**138.32**	**350**	*c i*PKIKP	**PKiKP**		**04 29 52.1**	**-0.6**	
TIXI	**Tiksi**	**138.32**	**350**		PKPpre		04 29 44.4		
AKTO	**Aktyubinsk**	**138.51**	**48**	PKhKP	PKPpre		04 29 44.7		
	comp=Z,14nm,1.0s,baz=308,slow=2.9,SNR=8.1								
AKTO				PKP	**PKPdf**		**04 29 51.4**	**-0.3**	
	comp=Z,41nm,0.9s,baz=291,slow=2.1,SNR=15								
AKTO	**Aktyubinsk**	**138.51**	**48**	PKIKP	PKPpre		04 29 43.8		
PEA0B	**Petropavlovsk-**	**138.61**	**316**	*ce*PKIKP	**PKPdf**		**04 29 51.5**	**-0.3**	
PETK	**Petropavlovsk-**	**138.61**	**316**	PKhKP	PKPpre		04 29 43.0		
	comp=Z,9.6nm,0.9s,baz=163,slow=5.6,SNR=8.0								
PETK				PKP	**PKiKP**		**04 29 53.5**	**-0.5**	
	comp=Z,37nm,1.1s,baz=120,slow=5.8,SNR=6.7								
SVE	**Sverdlovsk**	**138.67**	**38**	*i* PKIKP	**PKPdf**		**04 29 51.4**	**-0.3**	
SVE				pmax	pmax				
	comp=Z,81nm,1.4s								
SVE				MLR	MLR				
	comp=E,30μm,22.0s								
SVE				MLR	MLR				
	comp=Z,36μm,23.0s								
GEYT	**Alibeck**	**138.68**	**67**	PKhKP	PKPpre		04 29 43.0		
	comp=Z,9.9nm,0.8s,baz=284,slow=2.4,SNR=4.7								
GEYT				PKP	**PKPdf**		**04 29 52.1**	**-0.4**	
	comp=Z,26nm,0.9s,baz=225,slow=5.7,SNR=11								
AB31	**Akbulak array**	**139.91**	**49**	*i* PKIKP	PKPpre		04 29 46.8		
SKR	**Severo-Kuril's**	**140.02**	**313**	*i* PKIKP	**PKPdf**		**04 29 51.2**	**-3.2**	
SKR				pmax	pmax				
	comp=Z,2μm,7.7s								
SKR				MLR	MLR				
	comp=Z,4μm,22.0s								
SKR				MLR	MLR				
	comp=Z,4μm,22.0s								
MA2	**Magadan**	**140.22**	**328**	PKhKP	PKPpre		04 29 49.2		
	comp=Z,19nm,0.7s,baz=114,slow=8.7,SNR=4.1								
MA2	**Magadan**	**140.22**	**328**	*ce*PKIKP	**PKiKP**		**04 29 56.8**	**-0.2**	
MA2	**Magadan**	**140.22**	**328**		**PKPdf**		**04 29 49.8**	**-4.7**	
UGM	**Wanagama**	**140.72**	**183**	IAMs_20	IAMs_20		05 29 21.1		
	comp=Z,13μm,21.0s								
SIJI	**Sorong**	**141.10**	**218**	PKhKP	PKPpre		04 29 52.8		
	comp=Z,44nm,0.9s,baz=9.8,slow=5.9,SNR=5.8								
CISI	**Cisompet, Garu**	**141.13**	**179**	IAMs_20	IAMs_20		05 28 41.1		
	comp=Z,9μm,22.0s								
SMRI	**Semarang**	**141.58**	**183**		**PKPdf**		**04 29 56.9**	**-1.6**	
LEM	**Lembang**	**141.85**	**179**	PKhKP	PKPpre		04 29 53.4		
	comp=Z,145nm,0.7s,baz=138,slow=3.3,SNR=14								
LEM	**Lembang**	**141.85**	**179**	PKIKP	**PKPdf**		**04 29 57.2**	**-1.9**	
GUMO	**Guam**	**142.03**	**250**	PKP	**PKPdf**		**04 29 59.4**	**+0.3**	
	comp=Z,57nm,0.7s,baz=185,slow=4.9,SNR=4.2								
KAPI	**Kappang**	**142.05**	**199**	PKhKP	PKPpre		04 29 56.0		
	comp=Z,68nm,0.9s,baz=198,slow=6.4,SNR=16								
KAPI	**Kappang**	**142.05**	**199**	PKIKP	**PKPdf**		**04 29 56.0**	**-3.2**	
TRD	**Trivandrum**	**142.93**	**121**	*eP*	**PKPdf**		**04 30 01.7**	**+0.9**	
TNTI	**Ternate**	**144.48**	**214**	PKPdf	PKPbc		04 30 02.6	+0.6	
PALK	**Pallekele**	**144.71**	**127**	PKP	**PKPab**		**04 30 02.5**	**-0.2**	
	comp=Z,215nm,0.9s,baz=354,slow=3.8,SNR=25								
GOA	**Goa**	**144.77**	**109**	*eP*	**PKPab**		**04 30 02.6**	**-0.1**	
BHUJ	**Bhuj**	**144.86**	**94**	*eP*	**PKPdf**		**04 30 04.2**	**+0.4**	
BRVK	**Borovoye**	**145.19**	**41**	*c i*PKIKP	**PKPdf**		**04 30 03.5**	**0.0**	
BRVK	**Borovoye**	**145.19**	**41**		**PKPbc**		**04 30 03.0**	**-0.2**	
BVAR	**Borovoye Array**	**145.26**	**41**	PKPbc	**PKPdf**		**04 30 03.7**	**0.0**	
	comp=Z,501nm,0.7s,baz=265,slow=5.2,SNR=69								
KAD	**Karad**	**146.02**	**107**	⇑*iP*	**PKPdf**		**04 30 05.7**	**-0.4**	
POO	**Poona**	**146.36**	**104**	⇑*iP*	**PKPdf**		**04 30 06.0**	**-0.6**	
	comp=Z,510nm,1.0s								
POO				*eP*	**PKPbc**		**04 30 07.1**	**-0.7**	
KUR	**Kuril'sk**	**146.44**	**305**	*e*PKP2	**PKPdf**		**04 30 04.9**	**-1.0**	
KUR				pmax	pmax				
	comp=Z,920nm,1.1s								
KUR				pmax	pmax				
	comp=N,192nm,1.0s								
KUR				pmax	pmax				
	comp=E,269nm,1.0s								
KUR				pmax	pmax				
	comp=Z,19μm,6.9s								
YAK	**Yakutsk**	**146.50**	**342**	PKPbc	**PKPbc**		**04 30 06.3**	**-0.5**	
	comp=Z,628nm,0.8s,baz=88,slow=0.1,SNR=29								
YAK	**Yakutsk**	**146.50**	**342**	*e*PKP2	**PKPdf**		**04 30 05.3**	**-0.1**	
YAK				*e*			04 33 30.8		
YAK				*e*SS	SS		04 52 25.4	-0.4	
YAK				pmax	pmax				
	comp=Z,274nm,1.0s								
YAK				pmax	pmax				
	comp=N,28nm,1.0s								
YAK				pmax	pmax				
	comp=E,29nm,1.0s								
YAK				pmax	pmax				
	comp=Z,2μm,4.5s								
YAK				pmax	pmax				
	comp=N,513nm,4.3s								
YAK				pmax	pmax				
	comp=E,675nm,4.7s								
YAK	**Yakutsk**	**146.50**	**342**		**PKPdf**		**04 30 05.7**	**+0.3**	
KBL	**Kabul**	**147.10**	**74**	PKP2	**PKPdf**		**04 30 08.2**	**+0.5**	
KBL	**Kabul**	**147.10**	**74**		**PKPdf**		**04 30 08.2**	**+0.5**	
TOLI2	**Tolitoli**	**147.52**	**204**		**PKPdf**		**04 30 09.7**	**+1.0**	
BRZS	**Berezniki**	**147.74**	**45**	*e*PKP	**PKPdf**		**04 30 07.5**	**-0.4**	
	baz=45								
BRZS	**Berezniki**	**147.74**	**45**	*e*PKP2	**PKPdf**		**04 30 07.5**	**-0.4**	
IUG	**Iuzhnay**	**147.84**	**60**	*e*PKP	**PKPdf**		**04 30 08.2**	**-0.4**	
	baz=60								
IUG	**Iuzhnay**	**147.84**	**60**	*e*PKP2	**PKPdf**		**04 30 08.1**	**-0.4**	
KK31	**Karatay Array**	**148.07**	**58**	*i* PKP2	**PKPbc**		**04 30 10.9**	**-1.0**	
YUK	**Yuzh-Kuril'sk**	**148.07**	**304**	*c i*PKP2	**PKPbc**		**04 30 11.4**	**-0.4**	
YUK				*e*			04 46 24.7		
YUK				*e*SSS	SSS		04 58 12.7		
YUK				MLR	MLR				
	comp=Z,16μm,19.0s								
MDRS	**Chennai**	**148.35**	**119**	*eP*	**PKPbc**		**04 30 11.8**	**-1.6**	
DZA	**Taraz**	**148.69**	**58**	*e*PKP	**PKPdf**		**04 30 09.2**	**-0.6**	
	baz=58								
DZA	**Taraz**	**148.69**	**58**	*e*PKP2	**PKPdf**		**04 30 09.2**	**-0.6**	
UGL	**Uglegorsk**	**149.19**	**314**	*e*PKP2	**PKPdf**		**04 30 09.4**	**-0.9**	
UGL				pmax	pmax				
	comp=Z,260nm,0.9s								
UGL				pmax	pmax				
	comp=Z,12μm,14.0s								
YSS	**Yuzh-Sakhalins**	**149.48**	**310**	*i* PKP2	**PKPdf**		**04 30 11.0**	**+0.2**	
YSS				*e*			04 33 48.3		
YSS				*e*SSS	SSS		04 58 30.7		
YSS				pmax	pmax				
	comp=Z,240nm,1.1s								
YSS				pmax	pmax				
	comp=Z,10μm,16.0s								
YSS				MLR	MLR				
	comp=N,5μm,18.0s								
YSS				MLR	MLR				
	comp=Z,11μm,18.0s								
YSS				MLR	MLR				
	comp=E,6μm,19.0s								
YSS	**Yuzh-Sakhalins**	**149.48**	**310**		**PKPbc**		**04 30 13.8**	**-1.5**	
YSS				IAMs_20	IAMs_20		05 43 50.8		
	comp=Z,13μm,20.0s								
HYB	**Hyderabad**	**149.62**	**111**	*i* PKP	**PKPbc**		**04 30 15.0**	**-1.6**	
HYB				*es*PKP			04 30 26.0		
HYB				*e*PP	**PP**		**04 33 50.0**	**+0.3**	
JMP	**Maruseppu**	**149.84**	**304**	P	**PKPbc**		**04 30 14.3**	**-2.1**	
RPSI	**Rantau Prapat**	**149.98**	**161**	IAMs_20	IAMs_20		05 36 00.0		
	comp=Z,30μm,20.0s								
PSI	**Prapat**	**150.09**	**161**	PKP	**PKPdf**		**04 30 13.3**	**+0.3**	
	comp=Z,81nm,0.9s,baz=143,slow=0.5,SNR=11								
PSI				PKPbc	**PKPbc**		**04 30 16.7**	**-1.3**	
	comp=Z,436nm,0.9s,baz=359,slow=0.6,SNR=27								
BTLS	**Baital**	**150.17**	**53**	*e*PKP	**PKPdf**		**04 30 11.7**	**-0.3**	
	baz=53								
BTLS	**Baital**	**150.17**	**53**	*e*PKIKP	**PKPdf**		**04 30 11.7**	**-0.3**	
ASAJ	**Asahikawa**	**150.35**	**305**	PKP	**PKPdf**		**04 30 12.9**	**+0.6**	
	comp=Z,58nm,1.0s,baz=240,slow=7.0,SNR=7.7								
ASAJ				PKPbc	**PKPbc**		**04 30 16.2**	**-1.3**	
	comp=Z,272nm,1.0s,baz=262,slow=7.1,SNR=19								
JEM	**Erimo**	**150.36**	**301**	P	**PKPbc**		**04 30 17.2**	**-0.4**	
ERM	**Erimo**	**150.36**	**301**	PKIKP	**PKiKP**		**04 30 18.0**	**-0.4**	
ERM	**Erimo**	**150.36**	**301**		**PKiKP**		**04 30 18.0**	**-0.4**	
NIL	**Nilore**	**150.49**	**76**	IAMs_20	IAMs_20		05 35 51.0		
	comp=Z,24μm,22.0s								
EKS2	**Erkin-Say**	**150.51**	**58**	P	**PKPbc**		**04 30 15.5**	**-2.6**	
	SNR=16								
JWK2	**Keihoku**	**150.53**	**307**	P	**PKPdf**		**04 30 13.0**	**+0.5**	
AML	**Almayashu**	**150.54**	**59**	P	**PKPdf**		**04 30 15.8**	**+2.6**	
	SNR=16								
AML	**Almayashu**	**150.54**	**59**	*i* PKPdf	**PKPdf**		**04 30 13.0**	**-0.2**	
	SNR=18								
DAV	**Davao City (W)**	**150.79**	**217**	IAMs_20	IAMs_20		05 38 15.9		
	comp=Z,12μm,22.0s								
KURBB	**Kurchatov Arra**	**150.85**	**40**	PKP	**PKPdf**		**04 30 12.8**	**-0.1**	
	comp=Z,96nm,0.9s,baz=296,slow=2.2,SNR=21								
KURBB				PKPbc	**PKPbc**		**04 30 18.4**	**-0.1**	
	comp=Z,417nm,0.9s,baz=300,slow=2.9,SNR=57								
KURBB	**Kurchatov Arra**	**150.85**	**40**	PKIKP	**PKPdf**		**04 30 14.7**	**+1.8**	
KURK	**Kurchatov**	**150.86**	**40**	PKIKP	**PKPdf**		**04 30 12.8**	**-0.1**	
KURK							04 30 18.4		
KURK	**Kurchatov**	**150.86**	**40**		**PKPdf**		**04 30 12.8**	**-0.1**	
USP	**Ospenovka**	**150.90**	**57**	P	**PKPbc**		**04 30 19.0**	**0.0**	
	SNR=34								
SGDS	**Sogindy**	**150.96**	**56**	*e*PKP	**PKPdf**		**04 30 13.1**	**-0.3**	
	baz=56								
AAK	**Ala-Archa**	**151.03**	**58**	PKP	**PKPdf**		**04 30 13.6**	**-0.1**	
	comp=Z,33nm,0.9s,baz=225,slow=5.8,SNR=5.9								
AAK				PKPbc	**PKPbc**		**04 30 19.6**	**+0.2**	
	comp=Z,327nm,0.9s,baz=198,slow=2.3,SNR=16								
AAK	**Ala-Archa**	**151.03**	**58**	P	**PKPdf**		**04 30 16.5**	**+2.9**	
	SNR=21								
AAK	**Ala-Archa**	**151.03**	**58**	*i* PKPdf	**PKPdf**		**04 30 13.6**	**-0.1**	
	SNR=21								
AAK	**Ala-Archa**	**151.03**	**58**		**PKPdf**		**04 30 16.4**	**+2.7**	
UCH	**Uchtor**	**151.12**	**59**	P	**PKPbc**		**04 30 17.2**	**-2.9**	
	SNR=14								
CHMS	**Chumysh**	**151.14**	**57**	P	**PKPdf**		**04 30 16.1**	**+2.4**	
	SNR=26								
KBK	**Karagaybulak**	**151.35**	**58**	P	**PKiKP**		**04 30 22.6**	**+1.9**	
	SNR=9.2								
BHPL	**Bhopal**	**151.45**	**99**	*eP*	**PKPdf**		**04 30 16.8**	**+2.1**	
JEW	**Eniwo**	**151.45**	**303**	P	**PKiKP**		**04 30 21.7**	**+1.1**	
GRNR	**Gornyy**	**151.67**	**321**	⇑*i*PKIKP	**PKPdf**		**04 30 16.7**	**+2.6**	
GRNR				pmax	pmax				
	comp=Z,30nm,1.0s								
KZA	**Kyzart**	**151.69**	**59**	P	**PKiKP**		**04 30 22.0**	**+0.3**	
	SNR=10								
LHMI	**Lhok Sumawe**	**151.75**	**156**	IAMs_20	IAMs_20		05 33 29.4		
	comp=Z,11μm,20.0s								
TKM2	**Tokmak 2**	**151.76**	**57**	P	**PKPdf**		**04 30 17.1**	**+2.3**	
	SNR=5.3								
ZALV	**Zalesovo Beam**	**151.98**	**30**	PKP	**PKPdf**		**04 30 14.3**	**-0.1**	
	comp=Z,66nm,0.8s,baz=313,slow=3.2,SNR=5.8								
ZALV				PKPbc	**PKPbc**		**04 30 20.7**	**-0.3**	
	comp=Z,772nm,0.5s,baz=317,slow=2.5,SNR=47								
KUU	**Kurty**	**152.05**	**55**	*e*PKP	**PKPdf**		**04 30 14.3**	**-0.7**	
	baz=55								
KUU	**Kurty**	**152.05**	**55**	*e*PKIKP	**PKPdf**		**04 30 14.2**	**-0.7**	
JTM	**Tenmabayashi**	**152.11**	**299**	P	**PKPbc**		**04 30 19.3**	**-2.4**	
JOM	**Ohasama**	**152.11**	**296**	P	**PKPdf**		**04 30 16.4**	**+1.3**	
CMBY	**CAMPBELL BAY**	**152.15**	**148**	*eP*	**PKPbc**		**04 30 19.6**	**-3.0**	
MTBS	**Maitube**	**152.31**	**56**	*e*PKP	**PKPdf**		**04 30 14.4**	**-1.1**	
	baz=56								
ULHL	**Ulahol**	**152.38**	**58**	P	**PKPdf**		**04 30 16.8**	**+1.1**	
	SNR=6.6								
JSH	**Shimam**	**152.50**	**303**	P	**PKPdf**		**04 30 17.1**	**+1.5**	
CHKK	**Chushkaly**	**152.51**	**55**	*e*PKP	**PKPdf**		**04 30 15.1**	**-0.6**	
	baz=55								
KSH	**Kashi**	**152.63**	**64**	PKPbc	**PKPdf**		**04 30 18.5**	**+2.4**	
KSH				pPKP	pPKPdf		04 30 24.8	+1.1	
KSH				PP	**PP**		**04 34 09.3**	**+2.3**	
KSH				SKKS			04 40 52.8		
KSH				AMB	AMB				
	comp=Z,10μm,14.2s								
KSH				LR	LR				
	comp=Z,15μm,20.8s								
KSH				LR	LR				
	comp=Z,23μm,23.2s								
KSH				LR	LR				
	comp=Z,40μm,20.4s								
TNSS	**Tian-Shan**	**152.70**	**56**	*e*PKP	**PKPdf**		**04 30 16.8**	**+0.3**	
	baz=56								
MDOK	**Medeo**	**152.74**	**56**	*e*PKP	**PKPdf**		**04 30 14.8**	**-1.4**	
	baz=56								
MDOK	**Medeo**	**152.74**	**56**	*e*PKIKP	**PKPdf**		**04 30 14.7**	**-1.4**	
BHK	**Bhakra**	**152.86**	**82**	*eP*	**PKPbc**		**04 30 23.0**	**-0.8**	
BHK				*ex*	x		04 31 26.0		
DHRM	**DHARAMSHALA**	**152.88**	**80**	*eP*	**PKPdf**		**04 30 18.2**	**+1.4**	
NDI	**New Delhi**	**153.01**	**88**	*eP*	**PKPdf**		**04 30 20.0**	**+3.2**	
TDK	**Taldyqorghan**	**153.13**	**51**	*e*PKP	**PKPdf**		**04 30 15.8**	**-0.7**	
	baz=52								
TDK	**Taldyqorghan**	**153.13**	**51**	*e*PKIKP	**PKPdf**		**04 30 15.8**	**-0.7**	
JYA	**Atsumi**	**153.42**	**294**	P	**PKPdf**		**04 30 18.7**	**+1.6**	
SMLA	**Simla**	**153.45**	**83**	*eP*	**PKPdf**		**04 30 20.2**	**+2.9**	
SATY	**Saty**	**153.73**	**56**	*e*PKP	**PKPdf**		**04 30 16.9**	**-0.7**	
	baz=56								
SATY	**Saty**	**153.73**	**56**	*e*PKIKP	**PKPdf**		**04 30 16.9**	**-0.7**	
KPKS	**Kokpek**	**153.81**	**55**	*e*PKP	**PKPdf**		**04 30 16.9**	**-0.7**	
	baz=55								
KPKS	**Kokpek**	**153.81**	**55**	*e*PKIKP	**PKPdf**		**04 30 16.9**	**-0.7**	
ZEA	**Zeya**	**153.95**	**334**	*i* PKIKP	**PKPdf**		**04 30 17.1**	**-0.3**	
ZEA				pmax	pmax				
	comp=Z,50nm,1.1s								
ZEA				pmax	pmax				
	comp=Z,3μm,16.2s								
JOD2	**Odawara 2**	**154.07**	**287**	P	**PKPdf**		**04 30 19.4**	**+1.2**	
UZB	**Uzynbulak**	**154.13**	**55**	*e*PKP	**PKPdf**		**04 30 17.4**	**-0.8**	
	baz=55								
UZB	**Uzynbulak**	**154.13**	**55**	*e*PKIKP	**PKPdf**		**04 30 17.4**	**-0.8**	
TEY	**Ternei**	**154.16**	**310**	*de*PKIKP	PKPdf		04 30 06.7	-11	
TEY				*e*			04 30 17.9		
TEY				*e*			04 30 27.8		
TEY				pmax	pmax				
	comp=Z,300nm,7.8s								
TEY				pmax	pmax				
	comp=N,10.0nm,0.9s								
TEY				pmax	pmax				
	comp=E,20nm,0.9s								
TEY				pmax	pmax				
	comp=Z,70nm,0.9s								
JRY	**Ryogami san**	**154.22**	**288**	P	**PKPdf**		**04 30 20.0**	**+1.6**	
SHLS	**Shalkode**	**154.44**	**55**	*e*PKP	**PKPdf**		**04 30 18.6**	**0.0**	
	baz=55								
SHLS	**Shalkode**	**154.44**	**55**	*e*PKIKP	**PKPdf**		**04 30 18.6**	**0.0**	
JSD	**Sado**	**154.62**	**293**	P	**PKPdf**		**04 30 20.0**	**+1.2**	
PKDT	**Phuket**	**154.71**	**156**	PKP	**PKiKP**		**04 30 30.1**	**+1.9**	
MJAR	**Matsushiro Arr**	**154.77**	**290**	PKP	**PKPdf**		**04 30 19.0**	**-0.1**	
	comp=Z,35nm,1.1s,baz=114,slow=1.6,SNR=20								
MJAR	**Matsushiro Arr**	**154.77**	**290**	PKIKP	**PKPdf**		**04 30 19.0**	**-0.1**	
MAT	**Matsushiro**	**154.77**	**290**	PKP	**PKPdf**		**04 30 20.2**	**+1.1**	
MAT	**Matsushiro**	**154.77**	**290**	P	**PKPdf**		**04 30 20.1**	**+1.0**	
MK31	**Makanchi Array**	**154.88**	**45**	PKIKP	**PKPdf**		**04 30 19.2**	**+0.3**	
MKAR	**Makanchi Array**	**154.88**	**45**	PKP	**PKPdf**		**04 30 19.6**	**+0.6**	
	comp=Z,24nm,0.9s,baz=321,slow=1.6,SNR=14								
MKAR				PKPbc	**PKPbc**		**04 30 27.5**	**-0.1**	
	comp=Z,114nm,0.9s,baz=18,slow=1.0,SNR=24								
MKAR				PKPab	**PKPab**		**04 30 43.5**	**+0.5**	
	comp=Z,161nm,0.9s,baz=302,slow=2.7,SNR=12								
KLR	**Kul'dur**	**155.03**	**322**	PKP	**PKPdf**		**04 30 18.2**	**-0.8**	
	comp=Z,50nm,0.9s,baz=6.7,slow=2.7,SNR=39								
KRAB	**Krabi**	**155.30**	**158**	PKP	PKPdf		04 30 31.2	+11

DL2				PP	**PP**	**04 35 21.4**	**-2.1**	
DL2				SS	SS	04 56 03.3	-2.8	
DL2				AMB	AMB			
	comp=Z,4μm,11.2s							
DL2				LR	LR			
	comp=Z,8μm,18.2s							
DL2				LR	LR			
	comp=Z,15μm,20.8s							
MOKO	**MOKOCHONG**	**166.87**	**110**	*e*PKP	**PKPdf**	**04 30 33.9**	**+1.3**	
QIZ	**Qiongzhong**	**167.47**	**187**	PKP	**PKPdf**	**04 30 31.9**	**-1.1**	
QIZ				PP	**PP**	**04 35 24.0**	**-1.4**	
QIZ				SS	SS	04 56 11.9	+1.7	
QIZ				LR	LR			
	comp=Z,9μm,19.4s							
QIZ				LR	LR			
	comp=Z,7μm,21.8s							
QIZ				LR	LR			
	comp=Z,15μm,23.0s							
QZH	**Quanzhou**	**168.80**	**237**	*i* PKP	**PKPdf**	**04 30 36.3**	**+2.5**	
QZH				PKPab	**pPKPab**	**04 31 48.3**	**-3.1**	
QZH				PP	**PP**	**04 35 36.9**	**+3.4**	
QZH				SKKS		04 42 20.3		
QZH				SS	**SS**	**04 56 24.6**	**-1.3**	
QZH				AMB	AMB			
	comp=Z,5μm,12.2s							
QZH				LR	LR			
	comp=Z,10μm,18.5s							
QZH				LR	LR			
	comp=Z,8μm,19.4s							
QZH				LR	LR			
	comp=Z,17μm,22.3s							
SSE	**Sheshan**	**168.96**	**271**	PKP	**PKPdf**	**04 30 35.5**	**+1.8**	
SSE				PP	**PP**	**04 35 35.3**	**+0.4**	
SSE				SKKS		04 42 21.8		
SSE				AMB	AMB			
	comp=Z,2μm,13.1s							
SSE				LR	LR			
	comp=Z,7μm,20.3s							
SLVN	**Son La**	**169.11**	**158**	PKPab	**PKPab**	**04 31 43.7**	**-2.0**	
BJI	**Beijing**	**169.38**	**325**	PKP	**PKPdf**	**04 30 33.3**	**-0.4**	
BJI				pPKP	**sPKPdf**	**04 30 43.8**	**-0.1**	
BJI				sPKP		04 30 47.0		
BJI				PP	**PP**	**04 35 35.6**	**-0.1**	
BJI				SKS	**SKSdf**	**04 37 30.8**	**-5.0**	
BJI				SKKS	**SKKSac**	**04 42 24.6**	**+3.0**	
BJI				SS	**SS**	**04 56 25.9**	**-4.4**	
BJI				LR	LR			
	comp=Z,11μm,25.1s							
BJI				LR	LR			
	comp=Z,20μm,21.4s							
BJI				LR	LR			
	comp=Z,24μm,23.1s							
GTA	**Gaotai**	**169.54**	**39**	⇑PKP	**PKPdf**	**04 30 33.3**	**-0.7**	
GTA				pPKP	pPKPdf	04 30 42.4	+0.8	
GTA				sPKP		04 30 47.6		
GTA				PKPab	**PKPab**	**04 31 49.4**	**+2.1**	
GTA				PP	**PP**	**04 35 40.8**	**+3.9**	
GTA				SS	SS	04 56 35.5	+2.9	
GTA				AMB	AMB			
	comp=Z,4μm,6.7s							
GTA				LR	LR			
	comp=Z,16μm,20.0s							
GTA				LR	LR			
	comp=Z,24μm,20.7s							
GTA				LR	LR			
	comp=Z,35μm,21.1s							
HHC	**Hu-ho-hao-te**	**170.34**	**345**	*e*PKP	**PKPdf**	**04 30 34.8**	**+0.4**	
HHC				sPKP		04 30 47.4		
HHC				PP	**PP**	**04 35 40.6**	**+0.4**	
HHC				SKKS		04 42 27.5		
HHC				SS	**SS**	**04 56 39.9**	**+0.7**	
HHC				AMB	AMB			
	comp=Z,5μm,9.0s							
HHC				LR	LR			
	comp=Z,11μm,22.9s							
HHC				LR	LR			
	comp=Z,15μm,22.8s							
HHC				LR	LR			
	comp=Z,27μm,20.0s							
GZH	**Guangzhou**	**170.46**	**209**	PKP	**PKPdf**	**04 30 36.5**	**+1.7**	
GZH				SS	SS	04 56 46.1	+5.3	
GZH				LR	LR			
	comp=Z,11μm,18.4s							
GZH				LR	LR			
	comp=Z,10μm,18.4s							
BTO	**Baotou**	**170.84**	**352**	*e*PKP	**PKPdf**	**04 30 34.5**	**-0.2**	
BTO				PP	**PP**	**04 35 42.6**	**0.0**	
BTO				SS	SS	04 56 45.0	+1.0	
NJ2	**Nanjing**	**171.00**	**276**	⇓PKP	**PKPdf**	**04 30 35.6**	**+0.8**	
NJ2				pPKP	**sPKPdf**	**04 30 45.3**	**+0.2**	
NJ2				sPKP		04 30 50.4		
NJ2				SKKS		04 42 30.6		
NJ2				AMB	AMB			
	comp=Z,6μm,11.8s							
NJ2				LR	LR			
	comp=Z,13μm,19.4s							
NJ2				LR	LR			
	comp=Z,13μm,19.9s							
NJ2				LR	LR			
	comp=Z,21μm,20.8s							
TIA	**Tai'an**	**171.30**	**305**	PKP	**PKPdf**	**04 30 34.3**	**-0.6**	
TIA				PP	**PP**	**04 35 44.9**	**-1.2**	
TIA				SS	SS	04 56 47.4	-3.3	
TIA				LR	LR			
	comp=Z,11μm,20.6s							
TIA				LR	LR			
	comp=Z,13μm,19.1s							
TIA				LR	LR			
	comp=Z,25μm,22.0s							
KMI	**Kunming**	**171.96**	**141**	⇑PKP	**PKPdf**	**04 30 36.0**	**+0.2**	
KMI				pPKP	sPKPdf	04 30 45.3	-0.8	
KMI				sPKP		04 30 49.1		
TIY	**Taiyuan**	**172.96**	**332**	*e*PKP	**PKPdf**	**04 30 37.5**	**+1.8**	
TIY				PKPab	**PKPab**	**04 32 04.5**	**+2.1**	
TIY				PP	**PP**	**04 35 57.9**	**+4.5**	
TIY				AMB	AMB			
	comp=Z,8μm,15.6s							
TIY				LR	LR			
	comp=Z,27μm,19.6s							
TIY				LR	LR			
	comp=Z,10μm,20.6s							
TIY				LR	LR			
	comp=Z,33μm,21.1s							
LZH	**Lanzhou**	**174.14**	**38**	⇑PKP	**PKPdf**	**04 30 37.0**	**+0.7**	
LZH				pPKP	pPKPdf	04 30 45.0	+1.0	
LZH				sPKP		04 30 50.3		
LZH				AMB	AMB			
	comp=Z,4μm,4.3s							
LZH				LR	LR			
	comp=Z,8μm,16.8s							
LZH				LR	LR			
	comp=Z,5μm,17.4s							
LZH				LR	LR			
	comp=Z,5μm,17.4s							
WHN	**Wuhan**	**174.71**	**261**	⇑PKP	**PKPdf**	**04 30 38.5**	**+2.1**	
WHN				pPKP	**sPKPdf**	**04 30 49.8**	**+3.1**	
WHN				PP	**PP**	**04 36 04.0**	**+0.6**	
WHN				AMB	AMB			
	comp=Z,6μm,4.6s							
WHN				LR	LR			
	comp=Z,48μm,22.6s							
GYA	**Guiyang**	**174.75**	**164**	⇑*i* PKP	**PKPdf**	**04 30 38.4**	**+1.7**	
GYA				pPKP	sPKPdf	04 30 47.5	+0.5	
GYA				PKPab	**PKPab**	**04 32 12.0**	**+1.4**	
GYA				PP	**PP**	**04 36 02.8**	**+0.9**	
GYA				SS	SS	04 57 21.1	-1.1	
GYA				LR	LR			
	comp=Z,8μm,18.7s							
GYA				LR	LR			
	comp=Z,6μm,19.4s							
GYA				LR	LR			
	comp=Z,16μm,18.6s							
CD2	**Chengdu**	**176.07**	**98**	PKP	**PKPdf**	**04 30 38.0**	**+1.1**	
CD2				PP	**PP**	**04 36 07.5**	**-2.5**	
CD2				AMB	AMB			
	comp=Z,12μm,8.0s							
CD2				LR	LR			
	comp=Z,20μm,20.4s							
CD2				LR	LR			
	comp=Z,24μm,20.0s							
CD2				LR	LR			
	comp=Z,30μm,26.5s							
XAN	**Xi'an**	**177.45**	**348**	PKP	**PKPdf**	**04 30 37.4**	**+0.4**	
XAN				pPKP	sPKPdf	04 30 48.6	+1.3	
XAN				PKPab	PKPab	04 32 23.8	+1.5	
XAN				PP	**PP**	**04 36 13.9**	**-0.7**	
XAN				SKKS		04 42 57.8		
XAN				SS	**SS**	**04 57 40.8**	**-6.9**	
XAN				AMB	AMB			
	comp=Z,14μm,12.7s							
XAN				LR	LR			
	comp=Z,12μm,20.5s							
XAN				LR	LR			
	comp=Z,14μm,20.1s							
XAN				LR	LR			
	comp=Z,20μm,21.1s							
ENH	**Enshi**	**178.38**	**220**		**PKPdf**	**04 30 35.5**	**-1.7**	

*IDC **17** 04:17:27.4±1.3,30.°60S×71.°93W,h0km,mb4.8/7, mb1 4.7/7,mb1mx4.3/38,mbtmp4.8/7 Error ellipse: s-maj=52.5km s-min=27.5km az=88.0*

ISC 17 04:17:30.4±1.1,**30.°7S**±0.°2×**71.°8W**±0.°3,**h16**km,**n12,** σ0**.°94**/12,**mb4.8/7,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**37.70**	**353**	*e*P		**P**	**04 24 46.8**	**+1.5**
SJG	**San Juan**	**48.80**	**7**	P		**P**	**04 26 14.3**	**-0.5**
	17nm,0.8s,baz=223,slow=6.4,SNR=4.0							
SJG	**San Juan**	**48.80**	**7**	*e*P		**P**	**04 26 14.1**	**-0.7**
SNAA	**Sanae**	**54.61**	**159**	P		**P**	**04 26 57.9**	**+0.1**
	7.5nm,0.8s,baz=250,slow=7.6,SNR=3.0							
DBIC	**Dimbokro**	**73.97**	**72**	P		**P**	**04 29 05.0**	**-0.4**
	10nm,1.0s,baz=222,slow=12,SNR=3.1							
SUR	**Sutherland**	**76.30**	**120**	P		**P**	**04 29 20.1**	**+1.1**
	15nm,0.8s,baz=252,slow=4.0,SNR=3.7							
MAW	**Mawson**	**76.32**	**164**	P		**P**	**04 29 18.7**	**+0.6**
	5.1nm,0.8s,baz=239,slow=8.7,SNR=6.1							
BOSA	**Boshof**	**81.47**	**118**	P		**P**	**04 29 47.4**	**0.0**
	5.9nm,0.9s,baz=252,slow=5.9,SNR=3.4							
TORD	**Torodi Ar. Bea**	**82.92**	**70**	P		**P**	**04 29 54.6**	**-0.2**
	6.4nm,0.8s,baz=279,slow=4.2,SNR=5.1							
WRA	**Warramunga Arr**	**123.74**	**210**	PKP		**PKPdf**	**04 36 26.5**	**-1.5**
	2.7nm,1.2s,baz=132,slow=1.2,SNR=1.5							
KURBB	**Kurchatov Arra**	**150.26**	**39**	PKPbc		**PKPbc**	**04 37 19.5**	**-0.8**
	4.3nm,0.8s,baz=299,slow=3.2,SNR=3.9							
ZALV	**Zalesovo Beam**	**151.28**	**29**	PKPbc		**PKiKP**	**04 37 22.7**	**-0.4**
	18nm,0.7s,baz=301,slow=2.8,SNR=7.0							

*SJA **17** 04:18:30.4±0.7,30.°89S×71.°56W,h20km±6km, ML5.0, MW4.8*

*NEIC **17** 04:18:31.9±1.1,30.°89S±0.°04×71.°39W±0.°07,h35km±1km, mb5.4/190,Error ellipse: s-maj=10.5km s-min=6.9km az=291.0*

*IDC **17** 04:18:32.8±0.4,30.°83S×71.°24W,h46km±3km,mb4.8/26, mb1 4.9/30,mb1mx4.8/40,mbtmp5.0/30,MS6.4/1, Ms1 6.4/1,ms1mx5.1/28,Error ellipse: s-maj=16.1km s-min=9.0km az=79.0*

ISC 17 04:18:32.4±0.4,**30.°85S**±0.°04×**71.°36W**±0.°04,**h43**km±3km, **h43**km:**pP-P,n374,**σ1**°32**/343,**mb5.4**/111,**89C-52D,Fault plane solution: NP1:**ϕs151.79619°,δ61.90640°, λ41.56484°. **NP2:**ϕs39.13175°,δ54.17602°,λ144.49406°. **Principal axes:** T Plg48.3186°, Azm9.0848°; N Plg41.3038°, Azm179.7671°; P Plg4.6392°, Azm273.8557°; **Fault plane solution: NP1:** ϕs167.61133°,δ51.50301°,λ91.17385°. **NP2:** ϕs345.72595°,δ38.51210°,λ88.52454°. **Principal axes:** T Plg83.4385°, Azm84.8943°; N Plg0.9187°, Azm346.8806°; P Plg6.4963°, Azm256.7759°; **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.29**	**307**			**Pn**	**04 18 41.2**	**+0.3**
CO06						**Sn**	**04 18 47.4**	**+0.6**
CO03	**El Pedregal**	**0.58**	**89**			**Pn**	**04 18 45.1**	**+0.7**
CO03				Sn		**Sn**	**04 18 54.2**	**+1.3**
CO03	**El Pedregal**	**0.58**	**89**	*e*P		**Pn**	**04 18 45.5**	**+1.2**
CO03				IAML			04 18 58.8	
	comp=Z,50μm,0.5s							
GO04	**Tololo Observa**	**0.83**	**36**	Pn		**Pn**	**04 18 48.7**	**+0.7**
GO04						**Sn**	**04 19 00.6**	**+1.4**
VA03	**San Esteban**	**2.03**	**160**	Pn		**Pn**	**04 19 03.7**	**-0.5**
ACDV	**Cuesta del Vie**	**2.05**	**71**	*e*P		**Pn**	**04 19 09.0**	**+4.4**
ACDV				*e*S		**Sn**	**04 19 21.7**	**-7.3**
ACDV				IAML			04 19 23.0	
	comp=Z,5μm,1.0s							
VA01	**Torpederas**	**2.18**	**186**	Pn		**Pn**	**04 19 06.0**	**-0.2**
ZON	**Zonda**	**2.40**	**107**	*e*P		**Pn**	**04 19 13.0**	**+3.7**
ZON				*e*S		Sn	04 20 01.8	+24
ZON				IAML			04 20 07.7	
	comp=Z,7μm,0.5s							
RTCV	**Cerro Valdivia**	**2.62**	**113**	*e*P		**Pn**	**04 19 16.0**	**+3.8**
AC04	**Llanos de Chal**	**2.65**	**5**	Pn		**Pn**	**04 19 14.3**	**+1.7**
AC04	**Llanos de Chal**	**2.65**	**5**	*e*P		**Pn**	**04 19 15.4**	**+2.8**
AC04				*e*S		**Sn**	**04 19 50.7**	**+7.1**
AC04				IAML			04 19 54.9	
	comp=Z,4μm,0.4s							
ARCO	**CERRO ARCO**	**2.87**	**134**	*e*P		**Pn**	**04 19 15.4**	**-0.3**
ARCO				*e*P		**Pn**	**04 19 19.2**	**+3.4**
ARCO				*e*P		**Pn**	**04 19 20.0**	**+4.3**
ARCO				*e*S		Sn	04 20 07.8	+19
ARCO				IAML			04 20 16.3	
	comp=Z,5μm,0.9s							
MT01	**Popeta**	**3.00**	**178**			**Pn**	**04 19 17.6**	**+0.1**
MT01	**Popeta**	**3.00**	**178**	*e*P		**Pn**	**04 19 20.0**	**+2.5**
MT01				*e*S		**Sn**	**04 19 55.7**	**+3.4**
MT01				IAML			04 20 12.3	
	comp=Z,5μm,0.5s							
AAGR	**Agrelo**	**3.10**	**137**	*e*P		**Pn**	**04 19 23.4**	**+4.5**
VCA	**Vinchina**	**3.46**	**53**	*e*P		**Pn**	**04 19 28.6**	**+4.7**
VCA				*e*S		Sn	04 20 23.0	+19
VCA				IAML			04 20 25.6	
	comp=Z,6μm,0.7s							
BO01	**Tunca**	**3.54**	**176**	Pn		**Pn**	**04 19 25.1**	**+0.3**
BO01	**Tunca**	**3.54**	**176**	*e*P		**Pn**	**04 19 27.1**	**+2.3**
BO01				*e*S		Sn	04 20 15.4	+10
BO01				IAML			04 20 24.8	
	comp=Z,2μm,0.7s							
BO02	**Sierra Bellavi**	**3.96**	**173**	Pn		**Pn**	**04 19 30.2**	**-0.5**
BO02	**Sierra Bellavi**	**3.96**	**173**	*e*P		**Pn**	**04 19 32.9**	**+2.2**
BO02				*e*S		Sn	04 20 30.4	+14
BO02				IAML			04 20 36.8	
	comp=Z,4μm,0.8s							
GO05	**Huala**	**4.17**	**186**	Pn		**Pn**	**04 19 32.5**	**-1.1**
AC02	**Maricunga**	**4.46**	**27**	*e*P		**Pn**	**04 19 42.0**	**+4.1**
AC02				*e*S		Sn	04 20 41.0	+12
AC02				IAML			04 21 02.6	
	comp=Z,3μm,1.1s							
RFA	**San Rafael**	**4.61**	**149**	*e*P		**Pn**	**04 19 42.0**	**+2.4**
RFA				IAML			04 21 05.8	
	comp=Z,1μm,0.7s							
ML02	**Panimavida**	**4.90**	**181**	Pn		**Pn**	**04 19 43.0**	**-0.5**
MRA	**San Martin**	**5.06**	**109**	*e*P		**Pn**	**04 19 48.3**	**+2.5**
CYA	**Choya**	**5.40**	**65**	*e*P		**Pn**	**04 19 52.6**	**+2.1**
AHML	**Horco Molle**	**6.66**	**54**	*e*P		**Pn**	**04 20 09.0**	**+1.2**
AHML				*e*P		**Pn**	**04 20 09.5**	**+1.7**
FSA	**Cafayete**	**6.69**	**46**	*e*P		**Pn**	**04 20 11.2**	**+2.9**
LC01	**Cunco**	**8.04**	**183**	Pn		**Pn**	**04 20 25.9**	**-0.6**
AF01	**San Pedro de A**	**8.37**	**21**	Pn		**Pn**	**04 20 31.8**	**+0.4**
LVC	**Limon Verde**	**8.50**	**16**	P		**Pn**	**04 20 31.1**	**-2.2**
	comp=Z,4.1nm,0.3s,baz=120,slow=20,SNR=1.3							
LVC	**Limon Verde**	**8.50**	**16**	Pn		**Pn**	**04 20 32.9**	**-0.3**
PLCA	**Paso Flores**	**9.88**	**176**	P		**Pn**	**04 20 53.2**	**+1.4**
	comp=Z,1.0nm,0.3s,baz=216,slow=3.9,SNR=0.7							
LL04	**Puerto Octay**	**10.07**	**185**	Pn		**Pn**	**04 20 53.3**	**-1.1**
LL05	**Los Muermos**	**10.67**	**189**	Pn		**Pn**	**04 21 00.5**	**-2.1**
CPUP	**Villa Florida**	**13.12**	**73**	P		**Pn**	**04 21 34.0**	**-2.2**
	comp=Z,3.4nm,0.3s,baz=148,slow=19,SNR=1.1							
LPAZ	**La Paz**	**14.80**	**12**	P		**Pn**	**04 21 58.8**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=16,slow=18,SNR=2.5							
LPAZ	**La Paz**	**14.80**	**12**	Pn		**Pn**	**04 21 60.0**	**+0.5**
SIV	**San Ignacio**	**17.53**	**35**	P		**P**	**04 22 34.5**	**+0.1**
	comp=Z,6.0nm,0.3s,baz=270,slow=20,SNR=6.1							
USHA	**Ushuaia**	**24.06**	**176**	P		**P**	**04 23 44.1**	**+0.7**
	comp=Z,33nm,0.5s,baz=320,slow=0.3,SNR=7.5							
USHA				pP		**pP**	**04 23 56.1**	**+1.0**
	comp=Z,49nm,0.7s,baz=326,slow=5.7,SNR=3.3							
BDFB	**Brasilia**	**26.18**	**60**	P		**P**	**04 24 02.6**	**-0.5**
	comp=Z,140nm,0.9s,baz=218,slow=8.1,SNR=6.1							
BDFB	**Brasilia**	**26.18**	**60**	P		**P**	**04 24 02.9**	**-0.2**
PTGA	**Pitinga**	**31.85**	**22**	P		**P**	**04 24 53.7**	**+0.3**
PMSA	**Palmer Station**	**34.25**	**174**	P		**P**	**04 25 13.6**	**-0.2**
	comp=Z,22nm,1.0s,baz=332,slow=4.1,SNR=4.6							
PMSA	**Palmer Station**	**34.25**	**174**	P		**P**	**04 25 13.7**	**-0.1**
RUSC	**La Rusia**	**36.57**	**357**	P		**P**	**04 25 35.4**	**+0.6**
RUSC	**La Rusia**	**36.57**	**357**	*e*P		**P**	**04 25 35.6**	**+0.8**
TAMC	**Tame, Arauca**	**37.08**	**359**	*e*P		**P**	**04 25 38.8**	**+0.1**
PAMC	**Pamplona, Colo**	**37.99**	**358**	*e*P		**P**	**04 25 43.0**	**-3.9**
UREC	**San Jos de Ur**	**38.59**	**353**	*e*P		**P**	**04 25 51.4**	**0.0**
SMLC	**San Martn de**	**39.51**	**356**	*e*P		**P**	**04 25 57.4**	**-1.7**
SDV	**Santo Domingo**	**39.52**	**1**	P		**P**	**04 25 58.9**	**-0.4**
	comp=Z,24nm,0.8s,baz=180,slow=8.1,SNR=2.7							
MDP	**Montagnes des**	**39.98**	**30**	P		**P**	**04 26 01.8**	**-1.2**
	comp=Z,19nm,0.9s,baz=200,slow=14,SNR=6.4							
SJCC	**San Jacinto, C**	**40.68**	**354**	P		**P**	**04 26 09.3**	**+0.5**
SJCC				lAmb		lAmb	04 26 12.1	
	comp=Z,80nm,1.3s							
PCRV	**Puerto La Cruz**	**41.30**	**10**	P		**P**	**04 26 13.7**	**-0.1**
	comp=Z,16nm,0.6s,baz=183,slow=5.6,SNR=8.1							
URIC	**Uribia, Colomb**	**42.31**	**359**	P		**P**	**04 26 19.6**	**-2.4**
URIC	**Uribia, Colomb**	**42.31**	**359**	*e*P		**P**	**04 26 19.1**	**-3.0**
JTS	**Las Juntas de**	**42.94**	**340**	LR		LR	04 41 16.2	
	comp=Z,47μm,21.4s,baz=210,slow=32							
ORTG	**Ortega, Santa**	**43.16**	**339**	P		**P**	**04 26 28.8**	**-0.2**
SVB	**Belmont**	**44.93**	**14**	P		**P**	**04 26 41.8**	**-1.4**
SVB				lAmb		lAmb	04 26 43.6	
	comp=Z,70nm,0.9s							
MLPR	**Magueyes Islan**	**48.72**	**5**	P		**P**	**04 27 12.3**	**-0.4**
CRPR	**Cabo Rojo, PR**	**48.75**	**5**	P		**P**	**04 27 12.5**	**-0.4**
OBIP	**Obispado Ponce**	**48.83**	**6**	P		**P**	**04 27 11.7**	**-1.8**
PDPR	**Patillas Dam,**	**48.86**	**7**	P		**P**	**04 27 12.8**	**-0.9**
SJG	**San Juan**	**48.94**	**7**	P		**P**	**04 27 13.6**	**-0.8**
	comp=Z,75nm,1.0s,baz=176,slow=3.1,SNR=11							
SJG				pP		**pP**	**04 27 27.2**	**+0.7**
	comp=Z,36nm,0.9s,baz=107,slow=1.2,SNR=4.7							
SJG	**San Juan**	**48.94**	**7**	P		**P**	**04 27 12.9**	**-1.5**
SJG				lAmb		lAmb	04 27 14.2	
	comp=Z,56nm,0.8s							
BANI	**BANI**	**48.97**	**1**	P		**P**	**04 27 15.0**	**+0.2**
AOPR	**Arecibo Observ**	**49.12**	**6**	P		**P**	**04 27 15.4**	**-0.4**
AOPR				lAmb		lAmb	04 27 20.6	
	comp=Z,33nm,0.8s							
CBYP	**Canovanas**	**49.13**	**7**	P		**P**	**04 27 14.8**	**-1.1**
GCPR	**Guaynabo City**	**49.14**	**7**	P		**P**	**04 27 14.5**	**-1.4**
GCPR				lAmb		lAmb	04 27 15.3	
	comp=Z,39nm,0.8s							
CUPR	**Culebra, Puert**	**49.22**	**8**	P		**P**	**04 27 15.8**	**-0.8**
DR12	**Loma Pena Alta**	**49.39**	**2**	P		**P**	**04 27 17.8**	**-0.1**
GTBY	**Guantanamo Bay**	**50.62**	**355**	P		**P**	**04 27 26.3**	**-0.8**
GTBY				lAmb		lAmb	04 27 27.7	
	comp=Z,30nm,0.7s							
VNA3	**Neumayer Olymp**	**52.06**	**159**	P		**P**	**04 27 37.1**	**-0.4**
VNA3	**Neumayer Olymp**	**52.06**	**159**	pP		pP	04 27 50.5	+0.6
VNA2	**Neumayer--Watz**	**52.70**	**158**	P		**P**	**04 27 42.1**	**-0.1**
	baz=284,slow=8.6							
VNA2	**Neumayer--Watz**	**52.70**	**158**	pP		pP	04 27 55.3	+0.7
	baz=284,slow=8.3							
CMIG	**Matias Romero**	**52.76**	**331**	P		**P**	**04 27 44.0**	**+0.7**
	comp=Z,14nm,0.9s,baz=146,slow=4.2,SNR=9.7							
SNAA	**Sanae**	**54.29**	**159**	P		**P**	**04 27 53.7**	**-0.2**
SNAA	**Sanae**	**54.29**	**159**	pP		pP	04 28 06.9	+0.5
SNAA	**Sanae**	**54.29**	**159**	P		**P**	**04 27 53.9**	**0.0**
	comp=Z,21nm,0.6s,baz=227,slow=2.2,SNR=32							
SNAA				pP		**pP**	**04 28 07.1**	**+0.7**
	comp=Z,29nm,0.8s,baz=271,slow=8.8,SNR=7.5							
SNAA	**Sanae**	**54.29**	**159**	P		**P**	**04 27 53.8**	**-0.2**
SNAA				lAmb		lAmb	04 27 54.6	
	comp=Z,65nm,1.2s							
SOR	**Soroa**	**54.50**	**347**	P		**P**	**04 27 55.7**	**-0.1**
SOR				lAmb		lAmb	04 27 56.6	
	comp=Z,35nm,1.0s							
QSPA	**South Pole Qui**	**59.38**	**180**	P		**P**	**04 28 30.3**	**+0.2**
	comp=Z,13nm,0.7s,baz=175,slow=0.0,SNR=3.4							
QSPA	**South Pole Qui**	**59.38**	**180**	P		**P**	**04 28 30.3**	**+0.2**
QSPA				lAmb		lAmb	04 28 30.8	
	comp=Z,15nm,0.8s							
553A	**Crawfordville**	**61.96**	**347**	P		**P**	**04 28 48.1**	**+0.3**
TIGA	**Tifton**	**63.03**	**348**	P		**P**	**04 28 54.6**	**-0.4**
	baz=168							
352A	**Blakely**	**63.31**	**347**	P		**P**	**04 28 56.5**	**-0.4**
BRAL	**Brewton**	**63.45**	**345**	P		**P**	**04 28 56.6**	**-1.1**
	baz=165							
NHSC	**New Hope**	**64.16**	**352**	P		**P**	**04 29 02.7**	**+0.4**
NHSC	**New Hope**	**64.16**	**352**	P		**P**	**04 29 02.8**	**+0.4**
	baz=172							
346A	**Big Creek Wild**	**64.24**	**343**	P		**P**	**04 29 03.6**	**+0.7**
833A	**Chaparral WMA,**	**64.63**	**333**	P		**P**	**04 29 05.7**	**+0.1**
	baz=154,SNR=9.0							
GOGA	**Godfrey**	**64.93**	**349**	P		**P**	**04 29 06.9**	**-0.5**
	baz=169							
Y57A	**Sumter**	**65.08**	**352**	lAmb		lAmb	04 29 09.1	
	comp=Z,47nm,1.1s							
LRAL	**Lakeview Retre**	**65.24**	**346**	P		**P**	**04 29 08.9**	**-0.6**
	baz=165							
VBMS	**Vicksburg**	**65.30**	**342**	P		**P**	**04 29 10.6**	**+0.8**
	baz=162							
146A	**Union**	**65.33**	**344**	lAmb		lAmb	04 29 12.3	
	comp=Z,40nm,1.1s							
JSC	**Jenkinsville**	**65.45**	**351**	lAmb		lAmb	04 29 11.4	
	comp=Z,28nm,1.0s							
Y52A	**Lilburn**	**65.48**	**348**	lAmb		lAmb	04 29 11.6	
	comp=Z,28nm,0.8s							
Z47A	**Carrollton**	**65.64**	**345**	P		**P**	**04 29 12.2**	**+0.2**
Z47A				lAmb		lAmb	04 29 12.9	
	comp=Z,52nm,1.1s							
CNNC	**Cliffs of the**	**66.03**	**354**	lAmb		lAmb	04 29 15.7	
	comp=Z,43nm,0.8s							
CNNC	**Cliffs of the**	**66.03**	**354**	P		**P**	**04 29 14.7**	**+0.3**
	baz=174,SNR=5.2							
PAULI	**Pauline**	**66.06**	**351**	lAmb		lAmb	04 29 15.6	
	comp=Z,53nm,1.3s							
NATX	**Nacogdoches**	**66.07**	**338**	lAmb		lAmb	04 29 16.9	
	comp=Z,50nm,1.0s							
NATX	**Nacogdoches**	**66.07**	**338**	P		**P**	**04 29 15.4**	**+0.6**
	ba

T59A IAmb IAmb 04 29 26.6
comp=Z,52nm,1.2s
V48A Smith Brothers 67.82 346 P P 04 29 25.6 -0.2
V48A IAmb IAmb 04 29 27.3
comp=Z,46nm,0.8s
T60A Surry 67.82 355 P P 04 29 26.4 +0.6
T60A IAmb IAmb 04 29 27.9
comp=Z,45nm,0.8s
TZTN Tazewell 68.01 349 P P 04 29 26.8 -0.3
baz=169
CLTN Cedars of Leba 68.06 347 P P 04 29 27.1 -0.2
BLA Blacksburg 68.24 352 IAmb IAmb 04 29 31.1
comp=Z,32nm,1.2s
BLA Blacksburg 68.24 352 P P 04 29 28.4 -0.1
baz=172
MIAR Mount Ida 68.34 340 P P 04 29 29.5 +0.4
baz=160
WVT Waverly 68.40 346 P P 04 29 29.5 0.0
baz=165
W41B Gary Mavity, V 68.56 342 P P 04 29 30.4 -0.1
baz=161
ABTX Abilene, Hawle 68.57 335 IAmb IAmb 04 29 32.2
comp=Z,60nm,1.4s
ABTX Abilene, Hawle 68.57 335 P P 04 29 31.6 +0.9
baz=154
S57A Dark Hollow, R 68.62 354 IAmb IAmb 04 29 32.0
comp=Z,19nm,0.8s
GNAR Gosnell 68.74 344 P P 04 29 31.8 +0.2
PEBM Pemiscott Bayo 68.84 344 P P 04 29 32.4 +0.1
S54A Dingess, Beckl 68.93 352 P P 04 29 32.5 -0.3
S54A IAmb IAmb 04 29 33.3
comp=Z,30nm,1.1s
CBN Corbin Frederi 68.93 355 P P 04 29 33.1 +0.4
baz=174
W39A Magazine 69.00 340 P P 04 29 33.9 +0.7
baz=160,SNR=8.3
T47A Sharon Grove 69.08 347 P P 04 29 33.5 -0.2
T47A IAmb IAmb 04 29 34.4
comp=Z,64nm,1.1s
X34A Smith Ranch, M 69.72 337 P P 04 29 38.0 +0.2
X34A IAmb IAmb 04 29 39.0
comp=Z,21nm,0.8s
U40A Yellville 69.83 342 P P 04 29 38.5 +0.1
U40A IAmb IAmb 04 29 38.9
comp=Z,33nm,0.6s
U40A Yellville 69.83 342 P P 04 29 38.3 -0.1
baz=160,SNR=8.6
HHAR Hobbs 70.06 341 P P 04 29 39.9 +0.1
HHAR IAmb IAmb 04 29 40.7
comp=Z,38nm,0.8s
MNTX Cornudas Mount 70.08 330 P P 04 29 38.9 -1.1
baz=149
WCI Wyandotte Cave 70.12 348 P P 04 29 39.4 -0.7
WCI IAmb IAmb 04 29 40.2
comp=Z,26nm,0.8s
WCI Wyandotte Cave 70.12 348 P P 04 29 39.3 -0.8
baz=166
WMOK Wichita Mounta 70.17 336 P P 04 29 39.7 -0.8
baz=155
TUL1 Leonard 70.27 339 P P 04 29 40.9 -0.2
baz=158,SNR=7.5
P60A Greenville 70.42 357 P P 04 29 42.0 +0.2
baz=176
OK025 Westminster Rd 70.45 338 IAmb IAmb 04 29 42.8
comp=Z,45nm,0.9s
HSIG 70.48 324 P P 04 29 42.7 +0.2
MCWV Mont Chateau 70.59 353 P P 04 29 42.6 -0.4
baz=172
FVM French Village 70.76 344 P P 04 29 43.7 -0.3
FVM IAmb IAmb 04 29 45.0
comp=Z,56nm,1.1s
QUOK Quay 70.79 338 IAmb IAmb 04 29 45.2
comp=Z,55nm,1.2s
P52A Corning 70.84 351 P P 04 29 44.0 -0.5
baz=170,SNR=5.3
MSTX Muleshoe 70.96 333 P P 04 29 45.3 -0.2
baz=152,SNR=6.8
CCM Cathedral Cave 71.02 344 P P 04 29 45.7 +0.1
CCM IAmb IAmb 04 29 46.6
comp=Z,44nm,0.8s
CCM Cathedral Cave 71.02 344 P P 04 29 45.7 +0.1
baz=162
O56A Blue Knob Stat 71.08 354 P P 04 29 46.6 +0.6
baz=174
BLO Bloomington 71.08 348 P P 04 29 45.1 -0.8
BLO IAmb IAmb 04 29 46.0
comp=Z,30nm,0.9s
S39A Bolivar 71.21 342 P P 04 29 46.7 0.0
S39A IAmb IAmb 04 29 47.9
comp=Z,57nm,1.2s
O53A New Philadelph 71.33 352 P P 04 29 47.2 -0.2
baz=171
SLM Saint Louis 71.34 344 IAmb IAmb 04 29 48.2
comp=Z,40nm,0.8s
AMTX Amarillo 71.35 334 P P 04 29 47.8 -0.1
AMTX IAmb IAmb 04 29 49.8
comp=Z,52nm,1.3s
AMTX Amarillo 71.35 334 P P 04 29 47.7 -0.1
baz=153
SSPA Standing Stone 71.39 355 P P 04 29 47.9 +0.2
SSPA Standing Stone 71.39 355 P P 04 29 48.2 +0.5
baz=174
N59A State Game Lan 71.53 356 P P 04 29 49.5 +0.9
baz=176,SNR=7.5
ACSO Alum Creek Sta 71.54 351 P P 04 29 48.0 -0.7
baz=170,SNR=10
P46A Rosedale 71.64 347 IAmb IAmb 04 29 49.3
comp=Z,54nm,1.1s
O49A Covington 71.70 350 IAmb IAmb 04 29 50.0
comp=Z,47nm,0.9s
121A Cookes Peak, D 71.85 328 P P 04 29 51.2 +0.2
121A IAmb IAmb 04 29 53.4
comp=Z,29nm,0.9s
121A Cookes Peak, D 71.85 328 P P 04 29 51.8 +0.8
baz=148,SNR=7.7
N54A Moraine State 71.90 353 P P 04 29 50.7 -0.2
N54A IAmb IAmb 04 29 51.8
comp=Z,28nm,0.8s
N54A Moraine State 71.90 353 P P 04 29 50.5 -0.3
baz=172,SNR=5.3
M64A Tiverton 72.04 0 P P 04 29 51.5 -0.1
baz=180
N51A Ashland 72.14 351 P P 04 29 51.8 -0.4
N51A IAmb IAmb 04 29 52.6
comp=Z,30nm,0.9s
L63A North Scituate 72.36 360 P P 04 29 53.9 +0.4
baz=180
SFIN Lafayette 72.36 347 P P 04 29 52.4 -1.2
baz=166
N49A Columbus Grove 72.39 350 IAmb IAmb 04 29 54.3
comp=Z,54nm,0.8s
M54A Oil Creek Stat 72.41 353 P P 04 29 53.6 -0.2
baz=173
L64A Middleborough 72.43 0 P P 04 29 54.2 +0.2
baz=180
M53A WI Miller and 72.44 353 P P 04 29 54.2 +0.1
baz=172
M52A Chesterland 72.62 352 P P 04 29 54.9 -0.2
M52A IAmb IAmb 04 29 55.8
comp=Z,36nm,0.8s
M50A Fremont 72.70 351 IAmb IAmb 04 29 56.0
comp=Z,42nm,0.7s
BINY Binghamton 72.81 356 P P 04 29 55.9 -0.4
baz=176
L56A Greenwood 72.85 355 P P 04 29 56.7 +0.2
L56A IAmb IAmb 04 29 57.8
comp=Z,42nm,1.0s
LENM Lemitar 72.87 330 P P 04 29 57.2 +0.2
L61B Northampton 72.95 359 P P 04 29 57.5 +0.4
baz=179,SNR=5.0
HDIL Hopedale 72.97 346 IAmb IAmb 04 29 57.5
comp=Z,100nm,1.5s
HDIL Hopedale 72.97 346 P P 04 29 56.4 -0.8
baz=164,SNR=5.7
HRV Adam Dziewonsk 73.00 360 P P 04 29 58.1 +0.7
baz=180
ERPA Erie 73.04 353 IAmb IAmb 04 29 58.3
comp=Z,36nm,1.1s
ERPA Erie 73.04 353 P P 04 29 56.8 -0.8
baz=172,SNR=5.1
TUC Tucson 73.08 326 P P 04 29 58.8 +0.7
baz=145
K62A Royalston 73.16 359 P P 04 29 59.4 +1.1
baz=179
K61A Williamstown 73.18 359 P P 04 29 58.8 +0.3
baz=178
LIC Lamto 73.25 72 *e*PKP2 **P 04 29 59.0 -0.5**
comp=Z,136nm,0.8s
ANMO Albuquerque 73.32 330 P P 04 30 00.5 +0.8
comp=Z,7.4nm,1.0s,baz=139,slow=5.0,SNR=7.1
ANMO Albuquerque 73.32 330 P P 04 29 59.8 +0.2
baz=149
L48A N Adams 73.43 350 IAmb IAmb 04 30 00.0
comp=Z,33nm,0.8s
N41A Hansen Midland 73.45 345 IAmb IAmb 04 30 00.5
comp=Z,64nm,1.1s
KSU1 Kansas State U 73.46 340 P P 04 29 59.8 -0.3
baz=158
MMNY Mt. Morris Dam 73.47 355 IAmb IAmb 04 30 01.2
comp=Z,54nm,1.2s
TIC Toumodi 73.49 72 *e*PKP2 **P 04 30 00.2 -0.7**
M44A Midewin, Midew 73.51 347 IAmb IAmb 04 30 01.1
comp=Z,35nm,0.9s
KIC Kosan Boka 73.56 72 *e*PKP2 **P 04 30 00.4 -0.9**
comp=Z,116nm,0.8s
DBIC Dimbokro 73.64 72 P P 04 30 01.6 -0.1
comp=Z,54nm,0.6s,baz=232,slow=5.6,SNR=36
DBIC Dimbokro 73.64 72 P P 04 30 01.4 -0.4
214A Organ Pipe Nat 73.79 324 P P 04 30 03.5 +1.2
baz=144
L46A Eue Claire 73.80 348 IAmb IAmb 04 30 01.8
comp=Z,34nm,1.0s
J61A Chester 73.84 359 P P 04 30 03.2 +0.9
baz=179
HQIL Hanson Quary C 73.88 347 IAmb IAmb 04 30 02.8
comp=Z,63nm,1.1s
CBKS Cedar Bluff 74.18 337 P P 04 30 04.5 +0.1
baz=155
L44A Lake County Fo 74.25 347 IAmb IAmb 04 30 05.1
comp=Z,36nm,0.9s
L44A Lake County Fo 74.25 347 P P 04 30 04.4 -0.3
baz=165
I60A Shoreham 74.36 359 P P 04 30 05.4 +0.2
baz=178
I62A Tamworth 74.36 0 P P 04 30 06.8 +1.4
baz=180
T25A Trinidad 74.38 333 P P 04 30 06.8 +1.0
baz=151
L42A Oliver, Polo 74.43 346 IAmb IAmb 04 30 06.3
comp=Z,55nm,1.2s
I63A Otisfield 74.54 1 IAmb IAmb 04 30 08.6
comp=Z,29nm,1.0s
I63A Otisfield 74.54 1 P P 04 30 07.0 +0.7
baz=181,SNR=6.5
LBNH Lisbon 74.73 360 P P 04 30 08.3 +0.9
baz=180
W18A Petrified Fore 74.90 328 P P 04 30 09.5 +0.6
baz=147
SCIA State Center 75.15 343 P P 04 30 09.5 -0.4
baz=161
LONY Lake Ozonia 75.17 358 P P 04 30 10.2 +0.3
baz=177,SNR=5.1
SDCO Great Sand Dun 75.33 333 P P 04 30 11.9 +0.5
baz=150
KSCO Kaye Shedlock' 75.36 335 P P 04 30 12.1 +0.8
baz=153
JFWS Jewell Farm 75.43 346 IAmb IAmb 04 30 12.2
comp=Z,76nm,1.3s
JFWS Jewell Farm 75.43 346 P P 04 30 11.0 -0.4
baz=163,SNR=6.5
PKME Peaks-Kenny Pk 75.78 2 P P 04 30 14.0 +0.6
baz=182
SUR Sutherland 75.86 119 P P 04 30 15.2 +0.5
comp=Z,10nm,0.7s,baz=225,slow=8.3,SNR=7.4
S22A 4UR Ranch, Cre 75.87 332 P P 04 30 15.3 +0.8
baz=149
WUAZ Wupatki 75.98 327 P P 04 30 15.9 +0.8
baz=145
MAW Mawson 76.03 164 P P 04 30 14.8 +0.1
comp=Z,39nm,0.7s,baz=208,slow=5.8,SNR=16
IKP In-Ko-Pah, Jac 76.04 322 P P 04 30 16.2 +0.9
baz=142
L34A Svendsen Farm, 76.04 341 IAmb IAmb 04 30 15.5
comp=Z,46nm,0.8s
SWSC Sam W. Stewart 76.11 323 P P 04 30 16.6 +1.0
baz=142
MVCO Mesa Verde 76.11 330 P P 04 30 16.7 +0.8
baz=148
Q24A Divide 76.25 333 P P 04 30 17.2 +0.5
baz=151,SNR=6.6
MONP2 Monument Peak 76.39 322 P P 04 30 18.7 +1.3
baz=141
F64A Sherman 76.40 2 P P 04 30 17.7 +0.8
BC3 Big Chuckawall 76.48 323 P P 04 30 18.8 +0.9
baz=142,SNR=7.1
LMN Caledonia Moun 76.57 5 P P 04 30 18.1 +0.1
LMN IAmb IAmb 04 30 19.7
comp=Z,48nm,1.1s
IRM Iron Mountain 76.72 324 P P 04 30 19.8 +0.7
baz=142,SNR=5.1
OGNE Ogallala 76.87 337 P P 04 30 20.0 +0.2
baz=153
NEE2 Needles Airpor 76.94 325 P P 04 30 21.5 +1.3
baz=143
TPFO Pinon Flats 76.96 323 P P 04 30 22.0 +1.4
baz=142
PFO Pinyon Flats O 76.97 323 P P 04 30 22.2 +1.6
comp=Z,10nm,0.9s,baz=103,slow=3.4,SNR=7.7
PFO Pinyon Flats O 76.97 323 P P 04 30 21.1 +0.5
PFO Pinyon Flats O 76.97 323 P P 04 30 21.9 +1.2
baz=142,SNR=5.8
BELC Belle Mtn. Jos 77.03 323 P P 04 30 22.2 +1.2
baz=142
PV05 Paradox Valley 77.09 330 P P 04 30 21.6 +0.3
SMCO Snowmass 77.15 332 IAmb IAmb 04 30 24.3
comp=Z,30nm,0.9s
ISCO Idaho Springs 77.16 334 P P 04 30 22.8 +1.0
baz=150
PV18 Skein Mesa, Pa 77.16 331 P P 04 30 21.7 0.0
PQI Presque Isle 77.22 2 P P 04 30 22.1 +0.6
PQI IAmb IAmb 04 30 23.1
comp=Z,22nm,0.9s
K31A O'Neill 77.33 340 P P 04 30 23.0 +0.6
MURC Murrieta 77.35 322 P P 04 30 24.3 +1.6
baz=141
D62A Allapoint, All 77.60 2 P P 04 30 24.2 +0.6
D62A IAmb IAmb 04 30 25.1
comp=Z,39nm,0.9s
BBRC Big Bear Solar 77.72 323 P P 04 30 25.8 +0.9
baz=141
ECSD EROS Data Cent 77.74 342 IAmb IAmb 04 30 25.5
comp=Z,58nm,0.9s
ECSD EROS Data Cent 77.74 342 P P 04 30 24.1 -0.5
baz=158,SNR=21
F42A Maple Grove Fa 77.75 348 IAmb IAmb 04 30 25.4
comp=Z,34nm,0.8s
HEC Hector,Ludlow 77.86 324 P P 04 30 26.8 +1.3
baz=142,SNR=5.1
BFSC Mount Baldy Ra 78.08 322 P P 04 30 27.5 +0.6
baz=141
TUQ Turquoise Moun 78.12 324 P P 04 30 27.9 +0.9
baz=142
E43A Lone Tree Farm 78.16 349 IAmb IAmb 04 30 27.6
comp=Z,37nm,0.9s
SPMN Marine on St. 78.19 345 P P 04 30 26.8 -0.2
baz=161
N23A Red Feather La 78.23 334 P P 04 30 28.6 +0.9
baz=150
DECC Green Verdugo 78.45 322 P P 04 30 29.5 +0.7
baz=140
GSC Goldstone, Bar 78.47 323 P P 04 30 29.3 +0.4
baz=142
O20A White River Ci 78.48 332 P P 04 30 29.5 +0.6
baz=148
SHOC Shoshone, Teco 78.66 324 P P 04 30 30.5 +0.7
baz=142
EDW2 Edwards Air Fo 78.75 322 P P 04 30 30.8 +0.4
baz=141,SNR=6.2
SUSD Miller 79.06 340 IAmb IAmb 04 30 32.5
comp=Z,41nm,0.9s
SUSD Miller 79.06 340 P P 04 30 32.0 +0.2
baz=156
RDMU Red Mountain 79.39 331 P P 04 30 34.2 +0.2
MPMC Manual Prospec 79.40 324 P P 04 30 34.9 +0.8
baz=141
FURC Furnace Creek, 79.40 324 P P 04 30 35.1 +1.3
baz=142
TPNV Topopah Spring 79.47 325 P P 04 30 35.5 +1.0
baz=142
ISA Isabella, Lake 79.61 323 P P 04 30 35.6 +0.5
ISA Isabella, Lake 79.61 323 P P 04 30 36.1 +1.0
baz=140,SNR=8.4
PKM Mcpherson Peak 79.73 321 P P 04 30 37.0 +1.0
baz=139
K22A Casper 79.97 334 IAmb IAmb 04 30 38.9
comp=Z,43nm,1.2s
K22A Casper 79.97 334 P P 04 30 37.9 +0.8
baz=150
CWC Cottonwood Cre 80.00 323 P P 04 30 38.1 +0.8
baz=141
VES Vestal, Richgr 80.06 322 P P 04 30 38.6 +1.2
baz=140
SMMC Simmler 80.14 321 P P 04 30 39.0 +1.0
baz=139
R11A Troy Canyon, C 80.25 326 P P 04 30 39.2 +0.5
baz=143
RSSD Black Hills 80.37 337 P P 04 30 40.2 +1.0
baz=152
DUG Dugway, Tooele 80.46 329 P P 04 30 40.6 +0.9
baz=145
EYMN Ely 80.50 346 P P 04 30 38.4 -1.1
baz=163,SNR=7.0
TPH Tonopah 80.83 325 IAmb IAmb 04 30 43.8
comp=Z,42nm,1.0s
BOSA Boshof 81.03 118 P P 04 30 42.6 -0.5
comp=Z,11nm,0.6s,baz=238,slow=4.7,SNR=17
HWUT Hardware Ranch 81.08 331 P P 04 30 42.8 -0.2
BW06 Boulder Array 81.23 333 P P 04 30 43.6 -0.2
baz=148
PDAR Pinedale Array 81.23 333 P P 04 30 43.6 -0.2
comp=Z,2.5nm,0.6s,baz=136,slow=8.6,SNR=6.0
PDAR pP **pP 04 30 57.9 +1.1**
comp=Z,2.3nm,0.6s,baz=139,slow=7.8,SNR=5.7
MLAC Mammoth, Mammo 81.30 324 P P 04 30 44.9 +0.5
baz=140
NVAR Mina Array Bea 81.65 325 P P 04 30 46.9 +0.7
comp=Z,4.1nm,0.8s,baz=152,slow=6.0,SNR=7.0
NVAR pP **pP 04 31 00.4 +1.3**
comp=Z,3.7nm,0.8s,baz=156,slow=5.4,SNR=4.9
NVAR Mina Array Bea 81.65 325 P P 04 30 46.0 -0.2
HVU Hansel Valley 81.74 330 P P 04 30 46.3 -0.2
AGMN Agassiz Nation 81.80 344 IAmb IAmb 04 30 47.0
comp=Z,26nm,0.9s
AGMN Agassiz Nation 81.80 344 P P 04 30 45.7 -0.7
baz=159,SNR=7.2
ELK Elko 82.00 328 P P 04 30 48.0 +0.1
MDND Maddock 82.35 341 P P 04 30 49.8 +0.4
MDND Maddock 82.35 341 P P 04 30 49.2 -0.1
baz=156,SNR=7.0
TORD Torodi Ar. Bea 82.60 70 P P 04 30 51.3 -0.1
comp=Z,18nm,0.6s,baz=279,slow=6.1,SNR=37
TORD Torodi Ar. Bea 82.60 70 P P 04 30 50.5 -0.9
TORD IAmb IAmb 04 30 52.0
comp=Z,21nm,0.7s
RLMT Red Lodge 83.11 334 P P 04 30 53.3 -0.4
baz=148
PAHR Pah Rah Range 83.16 325 P P 04 30 54.4 +0.4
PAHR IAmb IAmb 04 30 56.0
comp=Z,26nm,1.3s
ULM Lac du Bonnet 83.62 344 P P 04 30 55.4 -0.4
comp=Z,26nm,0.8s,baz=157,slow=4.4,SNR=11
ULM pP **pP 04 31 08.6 -0.2**
comp=Z,15nm,0.9s,baz=121,slow=3.4,SNR=5.0
ULM Lac du Bonnet 83.62 344 IAmb IAmb 04 30 56.6
comp=Z,36nm,1.0s
HLID Hailey 83.89 330 P P 04 30 57.9 +0.2
baz=144
DGMT Dagmar 84.26 339 P P 04 30 59.2 0.0
baz=152,SNR=12
BOZ Bozeman (W) 84.41 333 P P 04 30 59.7 -0.5
baz=146
O03E Paynes Creek 84.82 324 P P 04 31 01.9 -0.4
baz=138
SCHQ Schefferville 85.42 3 P P 04 31 03.9 -0.9
comp=Z,8.4nm,0.6s,baz=204,slow=5.6,SNR=8.1
SCHQ pP **pP 04 31 18.1 +0.2**
comp=Z,5.6nm,0.8s,baz=159,slow=15,SNR=2.4
SCHQ Schefferville 85.42 3 IAmb IAmb 04 31 05.3
comp=Z,27nm,1.3s
J08A Circle Bar Ran 85.54 328 IAmb IAmb 04 31 07.6
comp=Z,27nm,1.1s
N02D Trinity Center 85.79 324 P P 04 31 06.8 -0.3
baz=138
M04C Macdoel 85.95 325 P P 04 31 08.4 +0.4
baz=138
M02C Callahan 86.17 324 P P 04 31 09.1 +0.1
baz=138
MSO Missoula 86.34 332 P P 04 31 09.2 -0.5
baz=144
YBH Yreka Blue Hor 86.35 324 P P 04 31 09.3 -0.5
comp=Z,3.8nm,0.7s,baz=69,slow=5.4,SNR=9.3
YBH pP **pP 04 31 23.1 +0.1**
comp=Z,2.4nm,0.6s,baz=112,slow=2.1,SNR=3.5
L04D Klamath Falls 86.51 325 P P 04 31 09.9 -0.8
baz=138
I07A Izee 86.57 327 P P 04 31 11.3 +0.4
THZ Tophouse 86.60 222 P P 04 31 11.5 +0.1
J05D Fort Rock, OR 86.78 326 P P 04 31 11.9 -0.1
baz=139
PINE Pine Mountain 87.02 326 P P 04 31 14.0 +0.7
PINE IAmb IAmb 04 31 15.1
comp=Z,27nm,1.0s
L02E Cave Junction 87.11 324 P P 04 31 13.5 0.0
baz=137
K02D Willamette Mer 87.54 324 P P 04 31 15.7 +0.1
baz=137
I05D Terrebonne, OR 87.62 327 P P 04 31 16.7 +0.7
baz=139,SNR=5.9
I04A Tendick Farm, 87.73 326 P P 04 31 16.6 +0.2
baz=138
WALA Waterton Lakes 88.14 334 IAmb IAmb 04 31 19.4
comp=Z,19nm,1.1s
G05D Wamic, OR 88.29 327 P P 04 31 19.3 +0.2
baz=139
HAWA Hanford 88.36 329 IAmb IAmb 04 31 20.7
comp=Z,22nm,1.2s
H04D Lebanon 88.43 326 P P 04 31 19.6 -0.1
baz=138
NEW Newport 88.78 331 P P 04 31 21.3 0.0
baz=142
F05D White Salmon 88.84 328 P P 04 31 22.3 +0.6
baz=139
A04D Lummi Island 91.53 329 P P 04 31 34.2 +0.2
baz=138
ESDC Sonseca Array 93.98 46 P P 04 31 44.6 -1.1
comp=Z,1.0nm,0.9s,baz=259,slow=2.6,SNR=1.6
CLL Collm 110.13 42 *e*PKiKP **PKiKP 04 36 58.0 -0.9**
CLL esPKiKP **sPKiKP 04 37 13.0 -4.2**
ASAR Alice Springs 120.62 207 PKP PKPdf 04 37 18.4 -1.7
comp=Z,2.5nm,0.7s,baz=134,slow=1.8,SNR=8.5
ASAR pPKP **pPKPdf 04 37 32.6 -1.1**
comp=Z,1.4nm,0.5s,baz=133,slow=1.7,SNR=3.9
ASAR Alice Springs 120.62 207 PKPdf PKPdf 04 37 18.3 -1.8
WRA Warramunga Arr 123.78 209 PKP PKPdf 04 37 24.9 -1.3
comp=Z,6.7nm,0.6s,baz=129,slow=1.4,SNR=43
WRA pPKP **pPKPdf 04 37 39.0 -0.7**
comp=Z,5.1nm,0.6s,baz=132,slow=1.4,SNR=7.4
WRA Warramunga Arr 123.78 209 PKPdf PKPdf 04 37 24.4 -1.8
FITZ Fitzroy Crossi 128.66 201 PKP PKPdf 04 37 35.0 -0.5
baz=183,slow=2.9
PALK Pallekele 144.88 126 PKPdf PKPab 04 38 04.3 -0.3
YAK Yakutsk 145.94 342 PKPbc PKPdf 04 38 06.0 +0.2
comp=Z,45nm,0.7s,baz=222,slow=0.9,SNR=11
YAK pPKPbc pPKPab 04 38 20.2 -0.2
comp=Z,25nm,0.5s,baz=36,slow=0.5,SNR=3.0
TOLI2 Tolitoli 148.26 204 PKPdf PKPdf 04 38 10.9 -0.3
HYB Hyderabad 149.57 109 *i* PKP **PKPbc 04 38 16.0 -1.8**
KURBB Kurchatov Arra 150.14 40 PKPbc PKPbc 04 38 17.3 -0.8
comp=Z,5.4nm,0.7s,baz=303,slow=3.0,SNR=5.0
KURK Kurchatov 150.15 40 PKPbc PKPbc 04 38 17.3 -0.8
ASAJ Asahikawa 150.20 306 PKPbc PKPbc 04 38 17.8 -0.7
comp=Z,9.1nm,0.7s,baz=344,slow=5.4,SNR=4.3
ZALV Zalesovo Beam 151.24 30 PKPbc PKPbc 04 38 20.1 -0.5
comp=Z,22nm,0.6s,baz=311,slow=3.1,SNR=12
ZALV Zalesovo Beam 151.24 30 PKPbc 04 38 19.6 -1.0
KSH Kashi 152.06 63 PKPbc PKPdf 04 38 18.4 +1.9
KSH sPKP 04 38 31.9
MKAR Makanchi Array 154.19 44 PKPbc PKiKP 04 38 27.9 +0.3
comp=Z,3.9nm,0.9s,baz=316,slow=1.1,SNR=2.4
MKAR pPKPbc **pPKPbc 04 38 40.7 -0.3**
comp=Z,6.5nm,0.8s,baz=289,slow=3.7,SNR=4.7
WMQ Urumqi 158.98 46 *e*P **PKPdf 04 38 26.1 +0.5**
WMQ pmax pmax
comp=Z,1μm,8.3s
WMQ LR LR
comp=N,9μm,14.5s
WMQ LR LR
comp=E,4μm,13.3s
WMQ LR LR
comp=Z,7μm,17.3s
BJI Beijing 168.97 328 PKP PKPdf 04 38 32.4 -2.3
BTO Baotou 170.20 354 *e*PKP **PKPdf 04 38 35.6 0.0**

BTO			PP	**PP**	**04 43 48.4**	**+7.6**
NJ2	**Nanjing**	**171.19 280**	*eP*	**PKPdf**	**04 38 36.0**	**-0.2**
NJ2			pmax	pmax		

comp=Z,8.0nm,0.5s

IDC ***17*** *04:24:49.7±1.8,31°.53S×72°.45W,h0km,mb4.4/3, mb1 4.5/4,mb1mx4.0/33,mbtmp4.4/4,ML3.9/1 Error ellipse: s-maj=81.1km s-min=34.0km az=95.0*

ISC 17 04:24:53.3±2.2,31°.6S±0°.2×71°.5W±0°.6,h25km,n7,σ0s27/7, mb4.4/3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**9.18**	**175**	Pn	**Pn**	**04 27 04.1**	**-0.1**
	0.3nm,0.3s,baz=337,slow=13,SNR=1.8						
SNAA	**Sanae**	**53.68**	**159**	P	**P**	**04 34 12.8**	**+0.2**
	1.8nm,0.9s,baz=289,slow=13,SNR=2.4						
DBIC	**Dimbokro**	**74.01**	**72**	P	**P**	**04 36 27.3**	**+0.2**
	6.9nm,1.0s,baz=196,slow=7.4,SNR=3.9						
TORD	**Torodi Ar. Bea**	**82.98**	**70**	P	**P**	**04 37 16.4**	**-0.3**
	2.6nm,0.8s,baz=252,slow=4.5,SNR=5.9						
BVAR	**Borovoye Array**	**145.19**	**41**	PKPbc	**PKPdf**	**04 44 28.5**	**+0.3**
	3.8nm,0.5s,baz=285,slow=5.8,SNR=11						
KURBB	**Kurchatov Arra**	**150.78**	**41**	PKPbc	**PKPbc**	**04 44 42.9**	**-0.1**
	1.6nm,0.6s,baz=306,slow=3.0,SNR=6.3						
ZALV	**Zalesovo Beam**	**151.93**	**30**	PKPbc	**PKPbc**	**04 44 45.4**	**-0.2**
	8.4nm,0.5s,baz=315,slow=3.0,SNR=16						

SJA ***17*** *04:26:36.8±0.7,31°.54S×72°.15W,h9km,ML5.8,MW5.7*

IDC ***17*** *04:26:36.1±0.4,31°.37S×71°.83W,h0km,mb5.0/22, mb1 5.0/28,mb1mx5.0/35,mbtmp4.9/28,ML4.7/6,MS5.5/2, Ms1 5.6/2,ms1mx5.2/26,Error ellipse: s-maj=16.7km s-min=10.9km az=79.0*

GUC ***17*** *04:26:36.6±0.7,31°.38S×71°.97W,h34km±5km,ML5.6*

NEIC ***17*** *04:26:39.0±1.4,31°.42S±0°.04×71°.98W±0°.07,h18km±3km, mb5.3/410,Mwr5.5/42,ML5.7(GUC),Error ellipse: s-maj=8.5km s-min=5.2km az=95.0*

MOS ***17*** *04:26:39.0±0.8,31°.33S×71°.72W,h33km,mb5.5/41,Error ellipse: s-maj=15.5km s-min=7.1km az=101.1*

NEIC ***17*** *04:26:39,31°.44S×71°.98W,h23km,Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=1.77; Mθθ=0.01; Mφφ=1.76; Mrθ=-0.71; Mrφ=0.42; Mθφ=1.06; Fault plane solution: M0=2.22000×10^17 NP1:φ=204.76000°, δ62.69000°, λ101.50000°. NP2:φ=0.85000°, δ29.46000°, λ68.89000°. Principal axes: T 2.2164, Plg70.0000°, Azm139.0000°; N -0.0021, Plg10.0000°, Azm219.0000°; P -2.2143, Plg17.0000°, Azm286.0000°;*

VAO ***17*** *04:26:49.9±0.3,31°.51S×71°.46W,h109km,mb5.4*

ISC 17 04:26:38.4±0.6,31°.43S±0°.02×71°.99W±0°.03,h16km±3km, n800,σ1s26/714,mb5.3/226,51C-25D,Fault plane solution: NP1:φ=37.02780°,δ39.29007°,λ78.42290°. NP2:φ=231.85324°,δ51.65731°,λ99.32486°. Principal axes: T Plg80.3769°, Azm185.1193°; N Plg7.3011°, Azm46.0369°; P Plg6.2347°, Azm315.2349°**; Fault plane solution: NP1:φ=345.03577°,δ47.74868°, λ68.94814°. NP2:φ=194.82452°,δ46.30666°,λ111.57603°. Principal axes:** T Plg74.5612°, Azm182.4541°; N Plg15.4199°, Azm359.5457°; P Plg0.7461°, Azm89.7515°**; Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.81**	**22**	*eP*	**Pb**	**04 26 52.5**	**-1.5**
CO06				*eS*	**Sb**	**04 27 02.8**	**-1.9**
CO06	**Fray Jorge**	**0.81**	**22**		**Pb**	**04 26 53.3**	**-0.7**
CO06				Sn	**Sb**	**04 27 04.3**	**-0.4**
CO03	**El Pedregal**	**1.26**	**63**	*eP*	**Pn**	**04 26 59.5**	**-2.0**
CO03				*i* S	**Sb**	**04 27 16.4**	**-1.4**
CO03				IAML		04 27 21.5	
	comp=E,154μm,0.7s						
CO03	**El Pedregal**	**1.26**	**63**		**Pn**	**04 27 00.2**	**-1.2**
CO03				Sn	**Sn**	**04 27 17.8**	**-0.3**
GO04	**Tololo Observa**	**1.62**	**40**	*eP*	**Pn**	**04 27 04.8**	**-1.6**
GO04				*eS*	**Sn**	**04 27 26.5**	**-0.5**
GO04	**Tololo Observa**	**1.62**	**40**		**Pn**	**04 27 06.8**	**+0.4**
VA01	**Torpederas**	**1.62**	**170**	*eP*	**Pn**	**04 27 05.3**	**-1.0**
VA01				*eS*	**Sn**	**04 27 26.1**	**-0.7**
VA01	**Torpederas**	**1.62**	**170**		**Pn**	**04 27 05.9**	**-0.4**
VA01	**Torpederas**	**1.62**	**170**	*eP*	**Pn**	**04 27 06.0**	**-0.3**
VA01				*eS*	**Sn**	**04 27 22.8**	**-4.0**
ROCH	**El Roble**	**1.75**	**152**	*eP*	**Pn**	**04 27 08.2**	**-0.1**
ROCH				*eS*	**Sb**	**04 27 32.1**	**0.0**
ROCH				IAML		04 27 38.1	
	comp=N,96μm,0.6s						
VA03	**San Esteban**	**1.81**	**138**	*eP*	**Pn**	**04 27 09.2**	**+0.2**
VA03				*eS*	**Sn**	**04 27 31.6**	**-0.1**
VA03				IAML		04 27 37.7	
	comp=N,196μm,0.5s						
VA03	**San Esteban**	**1.81**	**138**		**Pn**	**04 27 08.7**	**-0.3**
VA03	**San Esteban**	**1.81**	**138**	*eP*	**Pb**	**04 27 10.0**	**-1.2**
VA03				*eS*	**Sg**	**04 27 36.0**	**-0.7**
VA03				IAML		04 27 40.6	
	comp=Z,67μm,0.7s						
MT05	**Renca**	**2.23**	**152**	*eP*	**Pn**	**04 27 14.4**	**-0.3**
MT05				*eS*	**Sb**	**04 27 43.9**	**-1.8**
MT05				IAML		04 27 51.7	
	comp=E,54μm,0.4s						
MT05	**Renca**	**2.23**	**152**	Pn	**Pn**	**04 27 14.7**	**0.0**
MT05	**Renca**	**2.23**	**152**	*eP*	**Pn**	**04 27 17.0**	**-1.3**
VA05	**Santo Domingo**	**2.25**	**172**	*eP*	**Pn**	**04 27 14.6**	**-0.3**
VA05				*eS*	**Sb**	**04 27 44.4**	**-1.8**
VA05				IAML		04 27 58.3	
	comp=E,37μm,0.6s						
VA05	**Santo Domingo**	**2.25**	**172**		**Pn**	**04 27 14.4**	**-0.5**
RTLS	**Leoncito**	**2.33**	**100**	*eP*	**Pb**	**04 27 19.2**	**-1.0**
RTLS				*eS*	**Sb**	**04 27 50.4**	**+1.6**
RTLS				IAML		04 27 55.5	
	comp=Z,37μm,0.6s						
AUSP	**Uspallata**	**2.36**	**110**	*eP*	**Pn**	**04 27 14.3**	**-2.3**
AUSP				*eP*	**Pb**	**04 27 20.0**	**-0.6**
FSR	**Penalolen**	**2.39**	**149**	*eP*	**Pn**	**04 27 18.3**	**+1.3**
FSR				*eS*	**Sn**	**04 27 47.7**	**+1.7**
MT09	**Talagante**	**2.49**	**160**	*eP*	**Pn**	**04 27 18.8**	**+0.3**
MT09				*eS*	**Sn**	**04 27 50.4**	**+1.8**
MT09				IAML		04 28 08.4	
	comp=N,57μm,0.7s						
MT09	**Talagante**	**2.49**	**160**		**Pn**	**04 27 18.1**	**-0.3**
AROD	**Rodeo**	**2.50**	**61**	*eP*	**Pb**	**04 27 22.0**	**-1.2**
MT01	**Popeta**	**2.51**	**166**	*eP*	**Pn**	**04 27 18.3**	**-0.2**
MT01				*eS*	**Sn**	**04 27 48.1**	**-0.7**
MT01				IAML		04 28 03.4	
	comp=E,21μm,0.4s						
MT01	**Popeta**	**2.51**	**166**		**Pn**	**04 27 18.2**	**-0.4**
ACCO	**Cerro Coronel**	**2.65**	**72**	*eP*	**Pb**	**04 27 25.0**	**-0.6**
LCO	**Las Campanas**	**2.65**	**25**	*eP*	**Pn**	**04 27 22.3**	**+1.6**
LCO				*eS*	**Sn**	**04 27 53.4**	**+0.7**
ACDV	**Cuesta del Vie**	**2.77**	**64**	*eP*	**Pn**	**04 27 26.9**	**-0.7**
ACDV				*eS*	**Sg**	**04 28 05.7**	**-1.7**
ZON	**Zonda**	**2.83**	**93**	P	**Pn**	**04 27 24.1**	**+1.1**
ZON	**Zonda**	**2.83**	**93**		**Pn**	**04 27 24.1**	**+1.1**
ZON	**Zonda**	**2.83**	**93**	*eP*	**Pb**	**04 27 26.4**	**-2.2**
ZON				*eS*	**Sb**	**04 28 03.8**	**+0.7**
ZON				IAML		04 28 10.2	
	comp=Z,28μm,1.6s						
LMEL	**Las Melosas**	**2.85**	**148**	*i* P	**Pn**	**04 27 24.3**	**+0.9**
LMEL				*eS*	**Sn**	**04 27 58.9**	**+1.5**
LMEL				IAML		04 28 12.5	
	comp=N,12μm,0.4s						
ASAL	**Salagasta**	**2.92**	**114**	*eP*	**Pb**	**04 27 29.2**	**-1.0**
ASAL				*eS*	**Sg**	**04 28 14.3**	**+2.0**
RTCV	**Cerro Valdivia**	**2.98**	**99**	*eP*	**Pb**	**04 27 28.7**	**-2.4**
BO01	**Tunca**	**3.06**	**166**	*eP*	**Pn**	**04 27 26.1**	**0.0**
BO01				*eS*	**Sn**	**04 28 03.3**	**+1.0**
BO01				IAML		04 28 23.9	
	comp=E,8μm,0.7s						
BO01	**Tunca**	**3.06**	**166**		**Pn**	**04 27 25.8**	**-0.2**
BO03	**Pichilemu**	**3.06**	**180**	*eP*	**Pn**	**04 27 25.1**	**-1.0**
BO03				*eS*	**Sn**	**04 27 59.4**	**-3.0**
BO03				IAML		04 28 27.2	
	comp=E,8μm,0.6s						
AAGR	**Agrelo**	**3.15**	**123**	*eP*	**Pb**	**04 27 32.3**	**-1.7**
AC04	**Llanos de Chal**	**3.31**	**14**	*eP*	**Pn**	**04 27 29.1**	**-0.4**
AC04				*eS*	**Sn**	**04 28 06.1**	**-2.3**
AC04				IAML		04 28 26.5	
	comp=E,7μm,0.5s						
AC04	**Llanos de Chal**	**3.31**	**14**		**Pn**	**04 27 30.3**	**+0.8**
AC04	**Llanos de Chal**	**3.31**	**14**	*eP*	**Pb**	**04 27 34.0**	**-2.7**
AC04				*eS*	**Sb**	**04 28 17.3**	**+0.7**
AC04				IAML		04 28 32.0	
	comp=Z,11μm,0.8s						
BO02	**Sierra Bellavi**	**3.51**	**163**	*eP*	**Pn**	**04 27 33.1**	**+0.8**
BO02				*eS*	**Sn**	**04 28 15.0**	**+1.5**
BO02				IAML		04 28 33.5	
	comp=E,14μm,0.4s						
BO02	**Sierra Bellavi**	**3.51**	**163**		**Pn**	**04 27 32.3**	**0.0**
GO05	**Huala**	**3.58**	**179**	*eP*	**Pn**	**04 27 32.0**	**-1.2**
GO05				*eS*	**Sn**	**04 28 10.0**	**-4.5**
GO05	**Huala**	**3.58**	**179**		**Pn**	**04 27 32.0**	**-1.2**
GO03	**Copiap**	**4.11**	**22**	*eP*	**Pn**	**04 27 42.4**	**+1.7**
GO03	**Copiap**	**4.11**	**22**		**Pn**	**04 27 41.5**	**+0.8**
VCA	**Vinchina**	**4.24**	**52**	*eP*	**Pb**	04 27 47.3	-5.3
VCA				*eP*	Pn	04 27 48.0	+5.6
VCA				*eS*	**Sb**	**04 28 41.3**	**-2.3**
VCA				IAML		04 28 51.0	
	comp=Z,21μm,0.6s						
ML02	**Panimavida**	**4.35**	**174**	*eP*	**Pn**	**04 27 42.9**	**-0.9**
ML02	**Panimavida**	**4.35**	**174**		**Pn**	**04 27 43.2**	**-0.6**
RFA	**San Rafael**	**4.46**	**139**	*eP*	**Pn**	**04 27 48.0**	**+2.6**
RFA				*eS*	**Sb**	**04 28 51.8**	**+1.9**
RFA				IAML		04 29 01.3	
	comp=Z,10μm,1.7s						
AC02	**Maricunga**	**5.21**	**29**		**Pn**	**04 27 56.1**	**0.0**
H03N1	**Juan Fernandez**	**6.19**	**249**	T	T	04 34 51.3	
	baz=78,slow=72,SNR=238						
H03N3	**Juan Fernandez**	**6.20**	**249**	T	T	04 34 47.5	
	baz=78,slow=72,SNR=281						
H03N2	**Juan Fernandez**	**6.20**	**249**	T	T	04 34 48.8	
	baz=78,slow=72,SNR=301						
CANA	**Caviahue**	**6.49**	**173**	*eP*	**Pn**	**04 28 15.0**	**+1.6**
PB14	**IPOC Station P**	**6.92**	**12**	Pn	**Pn**	**04 28 17.3**	**-2.1**
AHML	**Horco Molle**	**7.43**	**53**	*eP*	**Pn**	**04 28 30.4**	**+4.2**
AHML				*eS*	**Sn**	**04 29 58.8**	**+8.5**
LC01	**Cunco**	**7.46**	**179**	*eP*	**Pn**	**04 28 25.4**	**-1.1**
LC01	**Cunco**	**7.46**	**179**	*eP*	**Pn**	**04 28 26.0**	**-0.5**
PB15	**IPOC Station P**	**8.48**	**16**	Pn	**Pn**	**04 28 40.6**	**-0.2**
AF01	**San Pedro de A**	**9.10**	**23**	Pn	**Pn**	**04 28 49.6**	**+0.3**
LVC	**Limon Verde**	**9.20**	**18**	Pn	**Pn**	**04 28 48.6**	**-2.1**
	comp=Z,0.9nm,0.3s,baz=158,slow=16,SNR=1.1						
LVC					Sn	04 30 44.8	+11
	comp=Z,11nm,0.3s,baz=14,slow=18,SNR=3.4						
LVC	**Limon Verde**	**9.20**	**18**	Pn	**Pn**	**04 28 50.0**	**-0.7**
LVC	**Limon Verde**	**9.20**	**18**	*eP*	Pn	04 28 59.5	+8.7
PLCA	**Paso Flores**	**9.36**	**173**	Pn	**Pn**	**04 28 53.0**	**+0.3**
	comp=Z,5.9nm,0.3s,baz=338,slow=11,SNR=65						
PLCA	**Paso Flores**	**9.36**	**173**	*eP*	**Pn**	**04 28 51.7**	**-1.0**
PLCA				pmax	pmax		
	comp=Z,6.0nm,0.3s						
PLCA	**Paso Flores**	**9.36**	**173**		**Pn**	**04 28 52.2**	**-0.5**
PLCA	**Paso Flores**	**9.36**	**173**	*eP*	Pn	04 28 47.3	-5.3
PLCA				*eP*	**Pn**	**04 28 53.0**	**+0.3**
LL04	**Puerto Octay**	**9.47**	**182**		**Pn**	**04 28 52.8**	**-1.3**
LL03	**Petrohue**	**9.70**	**182**		**Pn**	**04 28 56.8**	**-0.4**
LL05	**Los Muermos**	**10.03**	**186**		**Pn**	**04 28 59.9**	**-1.9**
TRQA	**Tornquist**	**10.56**	**132**	P	**Pn**	**04 29 08.5**	**-0.5**
TRQA	**Tornquist**	**10.56**	**132**		**Pn**	**04 29 08.5**	**-0.5**
TRQA	**Tornquist**	**10.56**	**132**	*eP*	**Pn**	**04 29 10.8**	**+1.7**
GO07	**Milladeo Hill,**	**11.74**	**186**		**Pn**	**04 29 23.3**	**-1.9**
LL02	**Futaleuf**	**11.74**	**179**	Pn	**Pn**	**04 29 23.9**	**-1.3**
ITQB	**Itaqui**	**13.36**	**86**		**Pn**	**04 29 46.9**	**-0.5**
ITQB	**Itaqui**	**13.36**	**86**	*eP*	**Pn**	**04 29 47.8**	**+0.4**
CPUP	**Villa Florida**	**13.81**	**72**	Pn	**Pn**	**04 29 51.2**	**-2.3**
	comp=Z,1.7nm,0.3s,baz=258,slow=12,SNR=3.8						
CPUP					Sn	**Sn**	**04 32 23.2**	**-3.4**
	comp=Z,4.2nm,0.3s,baz=239,slow=16,SNR=2.1						
CPUP	**Villa Florida**	**13.81**	**72**	P	**Pn**	**04 29 50.6**	**-2.9**
CPUP	**Villa Florida**	**13.81**	**72**	Pn	**Pn**	**04 29 50.6**	**-2.9**
CPUP	**Villa Florida**	**13.81**	**72**	*eP*	**Pn**	**04 29 53.7**	**+0.2**
LPAZ	**La Paz**	**15.47**	**14**	Pn	**Pn**	**04 30 16.9**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=193,slow=7.4,SNR=14						
LPAZ					LR	LR	04 36 25.8	
	comp=Z,17μm,19.9s,baz=145,slow=38						
LPAZ	**La Paz**	**15.47**	**14**	P	**Pn**	**04 30 16.3**	**-0.3**
LPAZ				pmax	pmax		
	comp=Z,28nm,0.8s						
LPAZ	**La Paz**	**15.47**	**14**		**Pn**	**04 30 16.3**	**-0.3**
PLTB	**Pedras Altas**	**15.68**	**96**		**Pn**	**04 30 15.0**	**-3.6**
AQDB	**Aquidauana**	**18.24**	**57**		**Pn**	**04 30 49.8**	**-1.1**
AQDB	**Aquidauana**	**18.24**	**57**	*eP*	**P**	**04 30 52.8**	**+1.7**
SIV	**San Ignacio**	**18.31**	**35**	P	**Pn**	**04 30 51.0**	**-0.8**
	comp=Z,1.9nm,0.3s,baz=210,slow=8.2,SNR=13						
PTGB	**Pitanga**	**18.80**	**74**	*eP*	**P**	**04 30 57.0**	**-0.3**
TRCB	**Terra Rica**	**19.24**	**68**	*eP*	**P**	**04 31 01.8**	**-0.3**
PTLB	**Pontes e Lacer**	**19.77**	**39**	*eP*	**Pn**	**04 31 08.9**	**-0.5**
NNA	**Nana**	**19.86**	**346**	P	**Pn**	**04 31 10.6**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=200,slow=12,SNR=5.7						
NNA					LR	LR	04 37 18.4	
	comp=Z,17μm,18.5s,baz=124,slow=32						
NNA	**Nana**	**19.86**	**346**	P	**P**	**04 31 08.1**	**-0.7**
NNA				pmax	pmax		
	comp=Z,78nm,1.4s						
NNA	**Nana**	**19.86**	**346**	P	**P**	**04 31 08.1**	**-0.7**
TER01	**Tubaro-SC**	**20.01**	**88**	*eP*	**P**	**04 31 09.8**	**-0.6**
PP1B	**Ponte de Pedra**	**20.74**	**52**	*eP*	**P**	**04 31 17.9**	**-0.6**
PCMB	**Pacaembu**	**20.94**	**67**	*eP*	**P**	**04 31 19.7**	**-0.9**
TIJ01	**Guaruva-PR**	**21.10**	**79**	*eP*	**P**	**04 31 21.5**	**-0.9**
VILB	**Vilhena**	**21.35**	**33**	*eP*	**P**	**04 31 28.0**	**+3.0**
MG02	**Cerro Sombrero**	**21.44**	**175**	P	**P**	**04 31 26.4**	**+0.8**
SALV	**Santo Antonio**	**21.44**	**48**	*eP*	**P**	**04 31 26.3**	**+0.3**
FRTB	**Fartura**	**21.45**	**73**	*eP*	**P**	**04 31 25.4**	**-0.7**
GO10	**Punta Arenas**	**21.73**	**178**	P	**P**	**04 31 30.2**	**+1.4**
ETMB	**Extrema**	**22.16**	**15**	*eP*	**P**	**04 31 36.5**	**+2.8**
EFI	**East Falkland**	**22.68**	**157**	*i* P	**P**	**04 31 39.1**	**+0.1**
EFI				pmax	pmax		
	comp=Z,324nm,1.0s						
EFI	**East Falkland**	**22.68**	**157**	P	**P**	**04 31 38.8**	**-0.2**
ITRB	**Iturama**	**22.69**	**64**	*eP*	**P**	**04 31 39.0**	**-0.3**
PET01	**Itanhaem-SP**	**22.95**	**78**	*eP*	**P**	**04 31 41.2**	**-0.8**
SPB	**Sao Paulo**	**23.11**	**76**	*eP*	**P**	**04 31 43.6**	**0.0**
BB19B	**Bebedouro**	**23.39**	**70**	*eP*	**P**	**04 31 46.0**	**-0.6**
USHA	**Ushuaia**	**23.53**	**175**	P	**P**	**04 31 49.1**	**+1.5**
	comp=Z,131nm,0.9s,baz=329,slow=3.2,SNR=14						
RCLB	**Rio Claro- Sao**	**23.54**	**74**	*eP*	**P**	**04 31 47.2**	**-0.9**
MG01	**Puerto William**	**23.70**	**174**	P	**P**	**04 31 49.0**	**-0.3**
VAO	**Valinhos**	**23.75**	**75**	*eP*	**P**	**04 31 49.5**	**-0.6**
SAML	**Samuel**	**23.82**	**22**	*eP*	**P**	**04 31 51.8**	**+1.1**
PARB	**Paraibuna**	**24.72**	**78**	*eP*	**P**	**04 31 56.6**	**-2.5**
IPMB	**Ipameri, GO**	**25.34**	**64**	*eP*	**P**	**04 32 03.7**	**-1.1**
CLDB	**Colider**	**25.36**	**40**	*eP*	**P**	**04 32 04.5**	**-0.4**
BSCB	**Bom Sucesso**	**26.47**	**74**	*eP*	**P**	**04 32 14.0**	**-1.0**
BDFB	**Brasilia**	**26.93**	**60**	P	**P**	**04 32 18.1**	**-1.1**
	comp=Z,44nm,0.9s,baz=209,slow=5.1,SNR=5.9						
VAS01	**Vassouras-RJ**	**26.99**	**77**	*eP*	**P**	**04 32 18.1**	**-1.5**
TBTG	**Tabatinga, AM**	**27.17**	**5**	*eP*	**P**	**04 32 21.6**	**+0.5**
TBTG	**Tabatinga, AM**	**27.17**	**5**	*eP*	**P**	**04 32 22.8**	**+1.6**
SNDB	**Serra Nova Dou**	**27.19**	**49**	*eP*	**P**	**04 32 21.2**	**-0.2**
DUB01	**Friburgo-RJ**	**27.96**	**78**	*eP*	**P**	**04 32 26.4**	**-2.0**
CAM01	**Campos-RJ**	**28.68**	**78**	*eP*	**P**	**04 32 32.2**	**-2.4**
NPGB	**Novo Progresso**	**28.81**	**36**	*eP*	**P**	**04 32 34.5**	**-1.3**
PEXB	**Peixe**	**29.10**	**54**	*eP*	**P**	**04 32 38.4**	**-0.1**
MC01	**Montes Claros**	**29.40**	**67**	*eP*	**P**	**04 32 39.9**	**-1.3**
ALF01	**Guarapari-ES**	**29.99**	**77**	*eP*	**P**	**04 32 45.3**	**-1.0**
MACA	**Manacapuru-AM**	**30.07**	**23**	*eP*	**P**	**04 32 46.7**	**-0.3**
JANB	**Januaria**	**30.08**	**64**	*eP*	**P**	**04 32 45.8**	**-1.5**
SJMB	**Sao Joao De Ma**	**30.53**	**73**	*eP*	**P**	**04 32 49.5**	**-1.7**
BSFB	**Barra de Sao F**	**30.75**	**73**	*eP*	**P**	**04 32 51.7**	**-1.3**
RIB01	**Linhares ES**	**30.88**	**75**	*eP*	**P**	**04 32 52.0**	**-2.2**
ITTB	**Itaituba**	**30.95**	**33**	*eP*	**P**	**04 32 54.2**	**-0.6**
SDBA	**SAO DESIDERIO**	**31.32**	**59**	*eP*	**P**	**04 32 56.8**	**-1.3**
PTLC	**Puerto Leguiza**	**31.54**	**355**	*eP*	**P**	**04 32 58.3**	**-1.6**
NAN01	**Guarapari, ES**	**31.84**	**72**	*eP*	**P**	**04 33 01.1**	**-1.5**
SMTB	**Santa Maria do**	**31.93**	**51**	*eP*	**P**	**04 33 03.2**	**-0.2**
OTAV	**Otavalo**	**32.08**	**348**	P	**P**	**04 33 05.4**	**+0.1**
OTAV				pmax	pmax		
	comp=Z,37nm,1.4s						
OTAV	**Otavalo**	**32.08**	**348**	P	**P**	**04 33 05.4**	**+0.1**
OTAV	**Otavalo**	**32.08**	**348**	*eP*	**P**	**04 33 08.2**	**+2.9**
OTAV	**Otavalo**	**32.08**	**348**	*eP*	**P**	**04 33 08.5**	**+3.2**
PRPB	**Paraupebas**	**32.59**	**44**	*eP*	**P**	**04 33 08.0**	**-1.2**
GUA01	**Guaratinga, BA**	**32.76**	**71**	*eP*	**P**	**04 33 09.2**	**-1.5**
MACC	**Macarena, Meta**	**33.43**	**357**	*eP*	**P**	**04 33 16.8**	**+0.2**
BBAC	**Balboa, Cauca**	**33.63**	**350**	*eP*	**P**	**04 33 20.4**	**+1.8**
CMC01	**Camacan, BA**	**33.66**	**69**	*eP*	**P**	**04 33 16.9**	**-1.7**
SOTA	**Rioblanco**	**33.66**	**352**	*eP*	**P**	**04 33 22.3**	**+3.2**
PMSA	**Palmer Station**	**33.74**	**174**	P	**P**	**04 33 20.3**	**+1.7**
	comp=Z,56nm,1.0s,baz=9.3,slow=8.6						
PMSA	**Palmer Station**	**33.74**	**174**	P	**P**	**04 33 19.1**	**+0.5**
PMSA	**Palmer Station**	**33.74**	**174**	*eP*	**P**	**04 33 18.1**	**-0.6**
MALB	**Monte Alegre**	**33.85**	**33**	*eP*	**P**	**04 33 19.5**	**-0.7**
NBIT	**Itapeh - BA**	**33.97**	**69**	*eP*	**P**	**04 33 19.4**	**-1.9**
POPC	**Popayan, Colom**	**34.07**	**352**	*eP*	**P**	**04 33 23.5**	**+1.2**
HOPE	**Hope Point**	**34.07**	**143**	P	**P**	**04 33 21.1**	**-0.6**
HOPE				pmax	pmax		
	comp=Z,99nm,1.2s						
HOPE	**Hope Point**	**34.07**	**143**	P	**P**	**04 33 21.1**	**-0.6**
GDU01	**Guandu, BA**	**34.55**	**67**	*eP*	**P**	**04 33 25.0**	**-1.4**
PRAC	**Prado**	**35.05**	**355**	*eP*	**P**	**04 33 32.9**	**+2.3**
ORTC	**Ortega, Tolima**	**35.27**	**354**	*eP*	**P**	**04 33 35.1**	**+2.5**
BOAV	**Boa Vista**	**35.36**	**20**	*eP*	**P**	**04 33 32.9**	**-0.3**
VILC	**Villavicencio,**	**35.38**	**357**	*eP*	**P**	**04 33 36.2**	**+2.6**
YOTC	**Yotoco, Valle**	**35.45**	**352**	*eP*	**P**	**04 33 34.3**	**+0.1**
NBPN	**Ponto Novo - B**	**35.83**	**62**	*eP*	**P**	**04 33 35.9**	**-1.4**
CHIC	**Chingaza**	**35.89**	**357**	*eP*	**P**	**04 33 39.7**	**+1.4**
ROSC	**El Rosal**	**36.13**	**356**	P	**P**	**04 33 42.3**	**+2.0**
	comp=Z,17nm,0.6s,baz=3.0,slow=6.8,SNR=11						
ROSC	**El Rosal**	**36.13**	**356**	*eP*	**P**	**04 33 44.0**	**+3.7**
GUY2C	**Guyana, Caldas**	**36.59**	**354**	*eP*	**P**	**04 33 46.3**	**+2.0**
TMAB	**Tom-Au,PA,Br**	**36.65**	**43**	*eP*	**P**	**04 33 44.5**	**+0.2**
NORC	**Norcasia**	**36.88**	**355**	*eP*	**P**	**04 33 47.5**	**+1.1**
RUSC	**La Rusia**	**37.12**	**358**	P	**P**	**04 33 49.8**	**+1.0**
RUSC	**La Rusia**	**37.12**	**358**	*eP*	**P**	**04 33 50.0**	**+1.2**
CBOC	**Ciudad Bolivar**	**37.28**	**353**	*eP*	**P**	**04 33 51.4**	**+1.5**
HELC	**Santa Helena**	**37.56**	**354**	*eP*	**P**	**04 33 53.3**	**+0.9**
NBLA	**Lagarto - SE**	**37.58**	**65**	*eP*	**P**	**04 33 51.0**	**-1.3**
BARC	**Barichara**	**37.82**	**358**	*eP*	**P**	**04 33 54.0**	**-0.5**
PTBC	**PUERTO BERRIO,**	**37.82**	**356**	*eP*	**P**	**04 33 53.9**	**-0.4**
DBBC	**Dabeiba**	**38.44**	**353**	*eP*	**P**	**04 34 01.9**	**+2.3**
ROSB	**Rosrio**	**38.66**	**48**	*eP*	**P**	**04 34 00.7**	**-0.7**
PTAC	**Punta Ardita,**	**38.76**	**351**	*eP*	**P**	**04 34 04.0**	**+1.9**
ZARC	**Zaragoza, Cauc**	**38.79**	**355**	*eP*	**P**	**04 34 02.8**	**+0.4**
URCC	**San Jos de Ur**	**39.10**	**354**	*eP*	**P**	**04 34 05.8**	**+0.8**
NBMA	**Muriti-CE**	**39.16**	**59**	*eP*	**P**	**04 34 04.7**	**-1.0**
NBPS	**Pedro II - PI**	**39.32**	**53**	*eP*	**P**	**04 34 05.9**	**-1.1**
NBAN	**Anadia - AL**	**39.56**	**65**	*eP*	**P**	**04 34 06.9**	**-2.1**
NBPB	**Pedra_Branca-C**	**39.81**	**56**	*eP*	**P**	**04 34 10.2**	**-0.8**
SMLC	**San Martn de**	**40.05**	**357**	*eP*	**P**	**04 34 11.4**	**-1.5**
SDV	**Santo Domingo**	**40.10**	**2**	P	**P**	**04 34 13.2**	**-0.3**
	comp=Z,11nm,0.6s,baz=206,slow=6.0,SNR=7.0						
SDV	**Santo Domingo**	**40.10**	**2**	P	**P**	**04 34 12.6**	**-1.0**
SDV				IAmb	IAmb	04 34 20.7	
	comp=Z,90nm,1.4s						
SDV	**Santo Domingo**	**40.10**	**2**	*eP*	**P**	**04 34 14.2**	**+

W52A **Murphy** 67.11 349 IAmb IAmb 04 37 37.9
comp=Z,40nm,1.4s
V58A **Windy Hill, Pi** 67.20 354 IAmb IAmb 04 37 40.6
comp=Z,22nm,1.1s
Z41A **Richland Creek** 67.27 341 P P **04 37 32.2 +0.2**
baz=161
V53A **Saluda** 67.51 350 IAmb IAmb 04 37 42.8
comp=Z,53nm,1.4s
TXAR **Lajitas Array** 67.52 330 P P **04 37 34.8 +1.0**
comp=Z,4.6nm,0.7s,baz=152,slow=8.0,SNR=23
TXAR PKP2bc 05 06 00.4
comp=Z,1.4nm,1.1s,baz=49,slow=2.7,SNR=5.8
TX32 **Lajitas Array** 67.52 330 IAmb IAmb 04 37 42.3
comp=Z,37nm,1.3s
WHTX **Lake Whitney,** 67.52 337 P P **04 37 34.1 +0.4**
baz=157
SWET **Sewanee** 67.57 348 IAmb IAmb 04 37 40.7
comp=Z,40nm,1.2s
OXF **Oxford** 67.61 344 P P **04 37 34.1 -0.1**
baz=164
TKL **Tuckaleechee C** 67.64 350 P P **04 37 33.7 -0.7**
comp=Z,11nm,0.8s,baz=155,slow=7.6,SNR=15
TKL **Tuckaleechee C** 67.64 350 IAmb IAmb 04 37 40.7
comp=Z,17nm,0.9s
U59A **Littleton** 67.64 355 P P **04 37 34.4 +0.1**
U59A IAmb IAmb 04 37 41.6
comp=Z,51nm,1.4s
WLAR **White Oak Lake** 67.76 341 P P **04 37 34.9 -0.2**
PLAL **Pickwick Lake** 67.77 346 IAmb IAmb 04 37 44.1
comp=Z,27nm,1.2s
V52A **Sevierville** 67.79 350 IAmb IAmb 04 37 41.7
comp=Z,46nm,1.2s
V51A **Loudon** 67.87 349 IAmb IAmb 04 37 44.8
comp=Z,37nm,1.1s
U56A **King** 67.88 353 IAmb IAmb 04 37 45.4
comp=Z,31nm,1.1s
Z38A **Mt. Pleasant** 67.90 339 IAmb IAmb 04 37 47.0
comp=Z,31nm,1.1s
SYO **Syowa Base** 68.24 159¶ *e*P P **04 37 38.2 +0.4**
SYO **Syowa Base** 68.24 159¶ *e*pP pP 04 37 41.2 -1.0
T57A **Hurt** 68.41 354 IAmb IAmb 04 37 39.4
comp=Z,18nm,1.1s
X40A **Basin Creek Fa** 68.44 342 P P **04 37 39.8 +0.4**
baz=161
TZTN **Tazewell** 68.48 350 IAmb IAmb 04 37 49.2
comp=Z,33nm,1.2s
TZTN **Tazewell** 68.48 350 P P **04 37 39.6 0.0**
baz=169
CLTN **Cedars of Leba** 68.50 348 IAmb IAmb 04 37 49.0
comp=Z,31nm,0.9s
MIAR **Mount Ida** 68.70 341 IAmb IAmb 04 37 48.8
comp=Z,38nm,1.4s
MIAR **Mount Ida** 68.70 341 P P **04 37 40.8 -0.2**
baz=160,SNR=5.8
BLA **Blacksburg** 68.73 353 P P **04 37 41.1 -0.1**
baz=172
U49A **Red Boiling Sp** 68.81 348 IAmb IAmb 04 37 50.8
comp=Z,35nm,1.4s
WVT **Waverly** 68.82 346 P P **04 37 41.4 -0.4**
WVT pmax pmax
comp=Z,35nm,1.0s
WVT **Waverly** 68.82 346 P P **04 37 41.4 -0.4**
WVT IAmb IAmb 04 37 50.0
comp=Z,35nm,0.9s
WVT **Waverly** 68.82 346 P P **04 37 41.4 -0.4**
baz=166
ABTX **Abilene, Hawle** 68.86 335 P P **04 37 42.3 +0.2**
baz=155,SNR=8.0
W41B **Gary Mavity, V** 68.93 342 P P **04 37 42.2 -0.2**
baz=162
S57A **Dark Hollow, R** 69.14 354 IAmb IAmb 04 37 53.2
comp=Z,30nm,1.1s
T50A **Nancy** 69.14 349 IAmb IAmb 04 37 52.1
comp=Z,44nm,1.5s
R58B **Mineral** 69.25 355 IAmb IAmb 04 37 51.3
comp=Z,22nm,1.2s
X37A **Clayton** 69.26 340 IAmb IAmb 04 37 54.2
comp=Z,27nm,1.3s
GLAT **Glass** 69.27 345 P P **04 37 44.8 +0.3**
W39A **Magazine** 69.36 341 P P **04 37 45.5 +0.4**
W39A IAmb IAmb 04 37 49.2
comp=Z,47nm,1.1s
W39A **Magazine** 69.36 341 P P **04 37 45.2 +0.1**
baz=160,SNR=13
LCAR **Lake Charles** 69.51 344 IAmb IAmb 04 37 55.1
comp=Z,29nm,0.9s
R55A **Marlinton** 69.76 353 IAmb IAmb 04 37 48.4
comp=Z,21nm,1.1s
U40A **Yellville** 70.21 342 IAmb IAmb 04 37 59.7
comp=Z,29nm,1.0s
U40A **Yellville** 70.21 342 P P **04 37 50.3 0.0**
baz=161,SNR=5.5
R50A **Paris** 70.30 350 IAmb IAmb 04 37 59.9
comp=Z,20nm,1.1s
MNTX **Cornudas Mount** 70.30 330 IAmb IAmb 04 37 58.9
comp=Z,25nm,1.1s
MNTX **Cornudas Mount** 70.30 330 P P **04 37 50.4 -0.6**
baz=150,SNR=35
Q56A **Snyder Ridge,** 70.43 354 IAmb IAmb 04 38 01.9
comp=Z,52nm,1.4s
HHAR **Hobbs** 70.43 341 IAmb IAmb 04 37 58.4
comp=Z,21nm,1.1s
WMOK **Wichita Mounta** 70.48 337 IAmb IAmb 04 37 52.9
comp=Z,23nm,1.3s
WMOK **Wichita Mounta** 70.48 337 P P **04 37 50.9 -1.1**
baz=156,SNR=5.9
FNO **Franklin** 70.50 338 IAmb IAmb 04 37 59.7
comp=Z,38nm,1.1s
WCI **Wyandotte Cave** 70.57 348 P P **04 37 51.9 -0.6**
WCI pmax pmax
comp=Z,17nm,0.8s
WCI **Wyandotte Cave** 70.57 348 P P **04 37 51.9 -0.6**
WCI IAmb IAmb 04 38 01.1
comp=Z,17nm,0.8s
WCI **Wyandotte Cave** 70.57 348 P P **04 37 52.0 -0.5**
baz=167
TUL1 **Leonard** 70.61 340 P P **04 37 52.4 -0.4**
baz=159,SNR=6.5
HSIG 70.62 324 IAmb IAmb 04 38 01.8
comp=Z,32nm,1.1s
S44A **Carbondale** 70.63 346 IAmb IAmb 04 38 01.5
comp=Z,33nm,0.8s
SIUC **Southern Illin** 70.64 346 IAmb IAmb 04 38 01.6
comp=Z,30nm,0.8s
Q52A **Bidwell** 70.68 352 IAmb IAmb 04 38 02.7
comp=Z,47nm,1.1s
U38A **Gravette** 70.70 341 IAmb IAmb 04 38 00.9
comp=Z,33nm,1.3s
P57A **Homestead Farm** 70.77 355 IAmb IAmb 04 38 04.1
comp=Z,58nm,1.4s
Q51A **Peebles** 70.88 351 IAmb IAmb 04 38 03.5
comp=Z,33nm,1.1s
P60A **Greenville** 70.96 357 P P **04 37 55.1 +0.3**
baz=177
WUPA **West Chester U** 71.08 357 IAmb IAmb 04 38 05.9
comp=Z,44nm,1.5s
MCWV **Mont Chateau** 71.10 354 P P **04 37 55.5 -0.2**
baz=173
QUOK **Quay** 71.13 339 P P **04 37 55.9 0.0**
FVM **French Village** 71.16 345 P P **04 37 55.4 -0.7**
FVM pmax pmax
comp=Z,60nm,1.5s
FVM **French Village** 71.16 345 P P **04 37 55.4 -0.7**
FVM IAmb IAmb 04 38 02.9
comp=Z,60nm,1.5s
MVL **Millersville** 71.18 356 P P **04 37 56.0 -0.1**
MVL IAmb IAmb 04 38 03.7
comp=Z,38nm,1.4s
MSTX **Muleshoe** 71.23 333 P P **04 37 56.4 -0.3**
MSTX **Muleshoe** 71.23 333 P P **04 37 56.5 -0.2**
baz=153,SNR=14
P52A **Corning** 71.32 352 P P **04 37 56.4 -0.7**
baz=171,SNR=6.3
CCM **Cathedral Cave** 71.42 344 P P **04 37 57.6 -0.1**
CCM pmax pmax
comp=Z,22nm,1.0s
CCM **Cathedral Cave** 71.42 344 P P **04 37 57.6 -0.1**
CCM IAmb IAmb 04 38 04.6
comp=Z,22nm,0.9s
CCM **Cathedral Cave** 71.42 344 P P **04 37 57.5 -0.2**
baz=163
PAGS **Pennsylvania G** 71.43 356 P P **04 37 57.6 0.0**
PAGS IAmb IAmb 04 38 07.7
comp=Z,24nm,1.2s
BLO **Bloomington** 71.53 348 IAmb IAmb 04 38 06.4
comp=Z,27nm,0.9s
P49A **Miami Univ. Ec** 71.58 350 IAmb IAmb 04 38 07.2
comp=Z,25nm,1.0s
P49A **Miami Univ. Ec** 71.58 350 P P **04 37 57.8 -0.8**
baz=169
O56A **Blue Knob Stat** 71.59 355 P P **04 37 59.0 +0.3**
baz=174
P48A **Milroy** 71.62 349 IAmb IAmb 04 38 07.3
comp=Z,62nm,1.4s
AMTX **Amarillo** 71.63 335 P P **04 37 58.7 -0.4**
AMTX **Amarillo** 71.63 335 P P **04 37 59.1 0.0**
baz=154
LUPA **Lehigh Univers** 71.73 357 P P **04 37 59.7 +0.2**
Q44A **Meyer Farm, Va** 71.74 346 IAmb IAmb 04 38 08.2
comp=Z,29nm,1.0s
T35A **Sooner Cattle** 71.76 340 P P **04 37 58.8 -0.9**
319A **Douglas** 71.76 327 P P **04 37 59.8 -0.2**
319A IAmb IAmb 04 38 02.5
comp=Z,43nm,1.4s
O53A **New Philadelph** 71.82 353 P P **04 38 00.1 0.0**
baz=172
BLOK **Blackwell** 71.83 339 P P **04 37 59.2 -0.9**
BLOK IAmb IAmb 04 38 01.4
comp=Z,43nm,1.3s
R40A **Maddies Statio** 71.89 343 IAmb IAmb 04 38 09.8
comp=Z,47nm,1.0s
SSPA **Standing Stone** 71.91 355 P P **04 38 00.5 0.0**
SSPA **Standing Stone** 71.91 355 P P **04 38 00.7 +0.2**
baz=175
ACSO **Alum Creek Sta** 72.02 351 IAmb IAmb 04 38 10.2
comp=Z,48nm,1.0s
ACSO **Alum Creek Sta** 72.02 351 P P **04 38 00.8 -0.4**
baz=170,SNR=8.2
N58A **Sunbury** 72.04 356 P P **04 38 01.2 0.0**
U32A **Winter Ranch,** 72.05 337 P P **04 38 01.4 -0.1**
U32A IAmb IAmb 04 38 02.3
comp=Z,17nm,0.8s
121A **Cookes Peak, D** 72.06 329 P P **04 38 01.8 0.0**
121A IAmb IAmb 04 38 04.4
comp=Z,29nm,1.1s
121A **Cookes Peak, D** 72.06 329 P P **04 38 02.8 +0.9**
baz=148,SNR=13
N59A **State Game Lan** 72.06 357 P P **04 38 01.1 -0.4**
N59A **State Game Lan** 72.06 357 P P **04 38 02.2 +0.7**
baz=177,SNR=8.1
O49A **Covington** 72.17 350 IAmb IAmb 04 38 10.9
comp=Z,37nm,1.1s
OK032 **Salt Plains WL** 72.18 338 IAmb IAmb 04 38 03.4
comp=Z,42nm,1.3s
WSPT **Westport, CT** 72.24 359 P P **04 38 02.8 +0.3**
N54A **Moraine State** 72.40 354 P P **04 38 03.0 -0.5**
N54A IAmb IAmb 04 38 10.3
comp=Z,31nm,1.4s
N54A **Moraine State** 72.40 354 P P **04 38 03.9 +0.4**
baz=173
M57A **Sunshine Farm,** 72.56 356 P P **04 38 04.7 +0.3**
P43A **Skaggs, Pawnee** 72.56 346 P P **04 38 03.8 -0.6**
M64A **Tiverton** 72.62 1 IAmb IAmb 04 38 13.8
comp=Z,45nm,1.4s
M64A **Tiverton** 72.62 1 P P **04 38 06.4 +1.7**
baz=181
M55A **Ridgway** 72.80 355 IAmb IAmb 04 38 15.4
comp=Z,48nm,1.2s
SFIN **Lafayette** 72.80 348 P P **04 38 04.9 -0.9**
baz=167
KSCT **Kent School, K** 72.80 359 P P **04 38 05.2 -0.6**
O44A **Mansfield** 72.84 347 P P **04 38 04.8 -1.3**
UCCT **U. Connecticut** 72.86 360 IAmb IAmb 04 38 14.4
comp=Z,28nm,1.3s
N49A **Columbus Grove** 72.86 350 P P **04 38 05.0 -1.2**
N49A IAmb IAmb 04 38 12.7
comp=Z,60nm,1.2s
M54A **Oil Creek Stat** 72.92 354 P P **04 38 05.6 -0.9**
M54A **Oil Creek Stat** 72.92 354 P P **04 38 06.1 -0.4**
baz=173
L63A **North Scituate** 72.93 0 P P **04 38 07.1 +0.6**
L63A **North Scituate** 72.93 0 P P **04 38 06.3 -0.2**
baz=180,SNR=8.8
BNM **Barren Site** 72.94 330 P P **04 38 07.2 0.0**
M53A **WI Miller and** 72.94 353 IAmb IAmb 04 38 13.2
comp=Z,41nm,1.2s
M53A **WI Miller and** 72.94 353 P P **04 38 06.1 -0.6**
baz=172
BRYW **Bryant College** 72.98 0 P P **04 38 06.4 -0.5**
BRYW IAmb IAmb 04 38 11.1
comp=Z,40nm,1.3s
L64A **Middleborough** 73.01 1 P P **04 38 06.6 -0.4**
L64A IAmb IAmb 04 38 10.6
comp=Z,29nm,1.1s
L64A **Middleborough** 73.01 1 P P **04 38 07.8 +0.8**
baz=181
P40A **Paris** 73.01 344 IAmb IAmb 04 38 15.6
comp=Z,34nm,0.9s
N47A **Urna** 73.05 349 IAmb IAmb 04 38 07.0
comp=Z,16nm,0.7s
LENM **Lemitar** 73.10 330 P P **04 38 07.6 -0.5**
M52A **Chesterland** 73.12 353 IAmb IAmb 04 38 14.2
comp=Z,32nm,1.1s
M50A **Fremont** 73.18 351 IAmb IAmb 04 38 17.1
comp=Z,65nm,1.4s
TUC **Tucson** 73.25 326 P P **04 38 08.1 -0.7**
TUC pmax pmax
comp=Z,19nm,1.5s
TUC **Tucson** 73.25 326 P P **04 38 08.1 -0.7**
TUC **Tucson** 73.25 326 P P **04 38 08.7 -0.2**
baz=146
L59A **Walton** 73.31 358 P P **04 38 08.8 -0.1**
QUA2 **Belchertown** 73.34 360 P P **04 38 09.5 +0.5**
QUA2 IAmb IAmb 04 38 18.2
comp=Z,57nm,1.4s
BINY **Binghamton** 73.35 357 P P **04 38 09.4 +0.2**
BINY **Binghamton** 73.35 357 P P **04 38 09.5 +0.4**
baz=176
HDIL **Hopedale** 73.39 346 P P **04 38 08.5 -0.8**
HDIL IAmb IAmb 04 38 16.6
comp=Z,33nm,1.1s
HDIL **Hopedale** 73.39 346 P P **04 38 09.3 0.0**
baz=165
WES **Weston** 73.45 1 P P **04 38 10.1 +0.5**
WES pmax pmax
comp=Z,48nm,1.5s
WES **Weston** 73.45 1 P P **04 38 10.1 +0.5**
WES IAmb IAmb 04 38 19.0
comp=Z,48nm,1.5s
P38A **Dawn** 73.47 343 P P **04 38 09.5 -0.3**
P38A IAmb IAmb 04 38 18.9
comp=Z,22nm,0.9s
L61B **Northampton** 73.52 359 P P **04 38 10.5 +0.4**
baz=179,SNR=8.7
ERPA **Erie** 73.55 354 P P **04 38 10.0 -0.3**
baz=173
ANMO **Albuquerque** 73.55 331 P P **04 38 11.8 +1.1**
comp=Z,4.7nm,0.8s,baz=141,slow=7.6,SNR=12
ANMO **Albuquerque** 73.55 331 *i* P P **04 38 11.2 +0.5**
ANMO pmax pmax
comp=Z,49nm,1.4s
ANMO **Albuquerque** 73.55 331 P P **04 38 11.2 +0.5**
ANMO IAmb IAmb 04 38 19.7
comp=Z,56nm,1.4s
ANMO **Albuquerque** 73.55 331 P P **04 38 11.8 +1.1**
baz=150
HRV **Adam Dziewonsk** 73.57 0 P P **04 38 11.2 +0.8**
HRV pmax pmax
comp=Z,89nm,1.5s
HRV **Adam Dziewonsk** 73.57 0 P P **04 38 11.2 +0.8**
HRV **Adam Dziewonsk** 73.57 0 P P **04 38 11.1 +0.8**
baz=180
K62A **Royalston** 73.73 360 IAmb IAmb 04 38 15.1
comp=Z,38nm,1.5s
K62A **Royalston** 73.73 360 P P **04 38 12.4 +1.1**
baz=180
K61A **Williamstown** 73.74 359 P P **04 38 12.2 +0.9**
baz=179
TRY **Troy** 73.81 359 IAmb IAmb 04 38 15.6
comp=Z,28nm,1.0s
KSU1 **Kansas State U** 73.81 340 P P **04 38 11.9 +0.1**
baz=158
R32A **Long Quarter,** 73.82 338 P P **04 38 11.6 -0.4**
R32A IAmb IAmb 04 38 19.3
comp=Z,25nm,0.9s
N41A **Harden Midland** 73.86 345 P P **04 38 11.9 -0.2**
N41A IAmb IAmb 04 38 21.1
comp=Z,42nm,0.9s
L48A **N Adams** 73.90 350 IAmb IAmb 04 38 21.0
comp=Z,42nm,1.3s
LIC **Lamto** 73.94 72 *e*P P **04 38 12.5 -0.7**
comp=Z,249nm,1.5s
214A **Organ Pipe Nat** 73.94 325 P P **04 38 13.2 +0.4**
214A **Organ Pipe Nat** 73.94 325 P P **04 38 13.7 +0.9**
baz=145,SNR=8.8
M44A **Midewin, Midew** 73.95 347 IAmb IAmb 04 38 21.3
comp=Z,38nm,0.9s
MMNY **Mt. Morris Dam** 73.99 355 IAmb IAmb 04 38 22.4
comp=Z,64nm,1.3s
AAM **Ann Arbor** 74.14 351 P P **04 38 13.2 -0.5**
baz=170
TIC **Toumodi** 74.18 72 *e*P P **04 38 14.0 -0.7**
KIC **Kosan Boka** 74.25 72 *e*P P **04 38 14.4 -0.6**
comp=Z,133nm,0.9s
DBIC **Dimbokro** 74.33 72 P P **04 38 14.9 -0.5**
comp=Z,47nm,0.8s,baz=236,slow=4.9,SNR=36
DBIC **Dimbokro** 74.33 72 P P **04 38 14.8 -0.7**
DBIC pmax pmax
comp=Z,64nm,1.0s
DBIC **Dimbokro** 74.33 72 P P **04 38 14.8 -0.7**
J61A **Chester** 74.41 360 P P **04 38 15.6 +0.3**
baz=180
ACCN **Adirondack Com** 74.46 359 P P **04 38 16.0 +0.5**
J56A **Wolcott** 74.47 356 P P **04 38 15.1 -0.5**
J56A IAmb IAmb 04 38 24.9
comp=Z,32nm,1.1s
K50A **Casco** 74.48 352 P P **04 38 14.9 -0.7**
CBKS **Cedar Bluff** 74.50 338 P P **04 38 16.4 +0.4**
baz=156
J55A **Hilton** 74.52 356 IAmb IAmb 04 38 25.3
comp=Z,47nm,1.3s
FFD **Franklin Falls** 74.53 0 P P **04 38 16.7 +0.8**
FFD IAmb IAmb 04 38 20.0
comp=Z,27nm,0.9s
J57A **Williamstown** 74.56 357 IAmb IAmb 04 38 25.7
comp=Z,37nm,1.1s
T25A **Trinidad** 74.65 334 P P **04 38 17.3 +0.2**
T25A **Trinidad** 74.65 334 P P **04 38 17.7 +0.6**
baz=152,SNR=17
L44A **Lake County Fo** 74.69 348 P P **04 38 16.6 -0.3**
baz=166
X18A **Snowflake** 74.71 328 P P **04 38 17.8 +0.4**
X18A IAmb IAmb 04 38 26.6
comp=Z,43nm,1.4s
HNH **Hanover** 74.77 360 P P **04 38 17.8 +0.4**
HNH IAmb IAmb 04 38 26.1
comp=Z,55nm,1.4s
I60A **Shoreham** 74.92 359 P P **04 38 18.9 +0.8**
baz=179,SNR=8.6
I62A **Tamworth** 74.94 0 P P **04 38 18.1 -0.2**
I62A **Tamworth** 74.94 0 P P **04 38 19.2 +0.9**
baz=181
W18A **Petrified Fore** 75.11 329 P P **04 38 19.9 +0.2**
W18A **Petrified Fore** 75.11 329 P P **04 38 20.3 +0.6**
baz=147,SNR=11
I63A **Otisfield** 75.12 1 P P **04 38 20.0 +0.6**
I63A IAmb IAmb 04 38 24.1
comp=Z,34nm,1.0s
I63A **Otisfield** 75.12 1 P P **04 38 19.7 +0.3**
baz=181,SNR=11
N35A **Tabor** 75.18 342 P P **04 38 19.1 -0.7**
N35A IAmb IAmb 04 38 27.8
comp=Z,31nm,0.8s
J47A **Sunmer** 75.23 350 P P **04 38 19.0 -1.0**
J47A IAmb IAmb 04 38 27.9
comp=Z,20nm,0.8s
X16A **Lo Mia Camp, P** 75.30 327 P P **04 38 20.7 -0.1**
X16A IAmb IAmb 04 38 30.0
comp=Z,56nm,1.4s
LBNH **Lisbon** 75.30 0 IAmb IAmb 04 38 24.6
comp=Z,38nm,1.3s
LBNH **Lisbon** 75.30 0 P P **04 38 21.3 +0.9**
baz=180
SDCO **Great Sand Dun** 75.59 333 P P **04 38 21.6 -1.0**
SDCO **Great Sand Dun** 75.59 333 P P **04 38 23.2 +0.6**
baz=151,SNR=24
MAW **Mawson** 75.63 164 P P **04 38 22.6 +0.5**
comp=Z,47nm,1.1s,baz=213,slow=6.4,SNR=41
MAW **Mawson** 75.63 164 P P **04 38 22.8 +0.7**
MAW IAmb IAmb 04 38 24.6
comp=Z,35nm,1.4s
Y14A **Wickenburg** 75.64 326 P P **04 38 23.6 +0.9**
Y14A IAmb IAmb 04 38 31.6
comp=Z,38nm,1.4s
KSCO **Kaye Shedlock'** 75.65 336 P P **04 38 23.5 +0.8**
KSCO IAmb IAmb 04 38 30.8
comp=Z,48nm,1.4s
WVL **Waterville** 75.66 2 IAmb IAmb 04 38 31.9
comp=Z,50nm,1.5s
LONY **Lake Ozonia** 75.72 358 P P **04 38 22.8 0.0**
LONY IAmb IAmb 04 38 32.4
comp=Z,30nm,1.2s
LONY **Lake Ozonia** 75.72 358 P P **04 38 22.8 0.0**
baz=178
GLA **Glamis** 75.83 324 P P **04 38 23.8 0.0**
baz=143
JFWS **Jewell Farm** 75.85 346 P P **04 38 22.9 -0.7**
JFWS pmax pmax
comp=Z,23nm,0.9s
JFWS **Jewell Farm** 75.85 346 P P **04 38 22.9 -0.7**
JFWS IAmb IAmb 04 38 32.3
comp=Z,23nm,0.9s
JFWS **Jewell Farm** 75.85 346 P P **04 38 23.3 -0.3**
baz=164
EMMW **East Machias** 75.88 3 P P **04 38 23.9 +0.2**
FRNY **Flat Rock** 75.91 359 P P **04 38 23.1 -0.7**
SUR **Sutherland** 76.05 119 P P **04 38 25.2 -0.3**
SUR IAmb IAmb 04 38 27.2
comp=Z,41nm,1.0s
HAL **Halifax** 76.09 6 P P **04 38 24.3 -0.5**
HAL pmax pmax
comp=Z,20nm,1.1s
HAL **Halifax** 76.09 6 P P **04 38 24.3 -0.5**
SADO **Sadowa** 76.11 355 P P **04 38 24.8 -0.2**
comp=Z,8.0nm,0.6s,baz=213,slow=5.1
SADO **Sadowa** 76.11 355 P P **04 38 24.1 -0.9**
S22A **4UR Ranch, Cre** 76.12 332 P P **04 38 26.1 +0.5**
baz=150,SNR=6.1
IKP **In-Ko-Pah, Jac** 76.16 323 P P **04 38 26.1 +0.4**
baz=142
WUAZ **Wupatki** 76.17 328 P P **04 38 26.1 +0.2**
WUAZ IAmb IAmb 04 38 28.4
comp=Z,46nm,1.4s
WUAZ **Wupatki** 76.17 328 P P **04 38 26.4 +0.6**
baz=146,SNR=5.4
SWSC **Sam W. Stewart** 76.24 323 P P **04 38 26.5 +0.5**
baz=143
MVCO **Mesa Verde** 76.34 331 P P **04 38 27.0 +0.2**
MVCO IAmb IAmb 04 38 35.7
comp=Z,56nm,1.3s
MVCO **Mesa Verde** 76.34 331 P P **04 38 27.5 +0.7**
baz=149,SNR=17
PKME **Peaks-Kenny Pk** 76.36 2 IAmb IAmb 04 38 30.0
comp=Z,42nm,1.1s
PKME **Peaks-Kenny Pk** 76.36 2 P P **04 38 27.3 +0.9**
baz=182
G65A **Princeton** 76.37 3 P P **04 38 27.4 +0.9**
G65A IAmb IAmb 04 38 31.5
comp=Z,33nm,1.4s
MOQ **Mont Orford** 76.37 360 P P **04 38 27.0 +0.4**
BAR **Barrett** 76.48 322 P P **04 38 28.1 +0.7**
BAR IAmb IAmb 04 38 36.5
comp=Z,52nm,1.4s
PDMCI **Parker Dam,Lak** 76.49 325 P P **04 38 27.9 +0.5**
baz=144
MONP2 **Monument Peak** 76.52 323 P P **04 38 28.7 +0.8**
baz=142,SNR=5.5
Q24A **Divide** 76.53 334 P P **04 38 29.1 +1.2**
baz=151,SNR=17
I42A **Draeger Farm,** 76.53 348 IAmb IAmb 04 38 36.7
comp=Z,36nm,1.1s
BC3 **Big Chuckawall** 76.62 324 P P **04 38 29.5 +1.2**
baz=143,SNR=9.9
GLMI **Grayling** 76.75 351 P P **04 38 29.4 +0.7**
baz=169
F63A **Nahmakanta, Br** 76.81 2 P P **04 38 29.0 0.0**
IRM **Iron Mountain** 76.87 324 P P **04 38 30.8 +1.2**
baz=143,SNR=5.8
W13A **Hualapai Mount** 77.01 326 P P **04 38 31.1 +0.5**
TPFO **Pinon Flats** 77.09 323 P P **04 38 32.4 +1.4**
baz=142,SNR=7.2
PFO **Pinyon Flats O** 77.10 323 P P **04 38 31.5 +0.4**
comp=Z,9.0nm,1.0s,baz=129,slow=4.4,SNR=12
PFO **Pinyon Flats O** 77.10 323 P P **04 38 31.7 +0.7**
PFO IAmb IAmb 04 38 41.2
comp=Z,24nm,1.1s
PFO **Pinyon Flats O** 77.10 323 P P **04 38 32.1 +1.0**
baz=142,SNR=7.2
PV01 **Paradox Valley** 77.16 331 P P **04 38 31.7 +0.3**

PV01 IAmb IAmb 04 38 39.6
comp=Z,34nm,1.4s
BELC Belle Mtn. Jos 77.17 324 P P 04 38 32.5 +1.0
baz=143
OGNE Ogallala 77.18 337 P P 04 38 31.6 +0.3
baz=154
LMN Caledonia Moun 77.19 5 P P 04 38 31.4 +0.3
PV13 Radium Mtn., P 77.28 331 P P 04 38 32.3 +0.2
PV13 IAmb IAmb 04 38 41.6
comp=Z,30nm,1.1s
PV15 Paradox Valley 77.30 331 P P 04 38 32.3 +0.1
PV05 Paradox Valley 77.33 331 P P 04 38 32.3 -0.1
PV03 Paradox Valley 77.37 331 IAmb IAmb 04 38 41.3
comp=Z,46nm,1.5s
PV18 Skein Mesa, Pa 77.39 331 P P 04 38 32.8 +0.1
PV18 IAmb IAmb 04 38 41.3
comp=Z,28nm,1.1s
SMCO Snowmass 77.41 333 IAmb IAmb 04 38 43.0
comp=Z,55nm,1.1s
PV11 David Mesa, Pa 77.42 331 P P 04 38 33.0 +0.2
PV11 IAmb IAmb 04 38 41.6
comp=Z,38nm,1.2s
ISCO Idaho Springs 77.43 334 IAmb IAmb 04 38 42.6
comp=Z,24nm,1.1s
ISCO Idaho Springs 77.43 334 P P 04 38 33.4 +0.4
baz=151,SNR=16
PV17 East Wray Mesa 77.44 331 P P 04 38 33.2 +0.3
PV17 IAmb IAmb 04 38 41.6
comp=Z,26nm,1.0s
PV16 Nyswonger Mesa 77.45 331 P P 04 38 33.2 +0.2
PV16 IAmb IAmb 04 38 41.8
comp=Z,32nm,1.2s
MURC Murrieta 77.47 323 P P 04 38 33.9 +0.9
baz=142,SNR=5.6
PV19 Morning Glory 77.47 331 IAmb IAmb 04 38 41.9
comp=Z,31nm,1.2s
PV20 West Nyswonger 77.50 331 P P 04 38 33.5 +0.3
PV20 IAmb IAmb 04 38 42.0
comp=Z,34nm,1.3s
PV04 Paradox Valley 77.51 331 P P 04 38 33.5 +0.1
PV04 IAmb IAmb 04 38 42.2
comp=Z,33nm,1.2s
PV10 Paradox Valley 77.56 331 P P 04 38 33.5 -0.1
I37A Lemond, Waseca 77.59 344 IAmb IAmb 04 38 40.9
comp=Z,60nm,1.2s
PV22 Blue Mesa, Par 77.59 331 P P 04 38 33.9 +0.2
PV22 IAmb IAmb 04 38 42.6
comp=Z,26nm,1.2s
PV21 Cone Mtn., Par 77.69 331 IAmb IAmb 04 38 43.1
comp=Z,32nm,1.3s
PQI Presque Isle 77.82 3 P P 04 38 35.6 +1.1
BBRC Big Bear Solar 77.85 323 P P 04 38 36.7 +1.4
baz=142
CIS Catalina Islan 77.96 322 P P 04 38 37.2 +1.4
baz=141
HEC Hector,Ludlow 78.00 324 P P 04 38 37.7 +1.7
baz=142
KNB Kanab 78.07 328 P P 04 38 37.1 +0.6
KNB pmax pmax
comp=Z,83nm,1.4s
KNB Kanab 78.07 328 P P 04 38 37.1 +0.6
ECSD EROS Data Cent 78.12 342 P P 04 38 36.1 -0.2
ECSD IAmb IAmb 04 38 43.2
comp=Z,26nm,1.1s
ECSD EROS Data Cent 78.12 342 P P 04 38 36.2 -0.2
baz=159,SNR=13
D62A Allapoint, All 78.19 2 IAmb IAmb 04 38 40.1
comp=Z,34nm,0.9s
BFSC Mount Baldy Ra 78.21 323 P P 04 38 38.5 +1.2
baz=142
E46A Sault Ste Mari 78.23 351 P P 04 38 36.5 -0.3
LCMT Little Creek M 78.26 327 IAmb IAmb 04 38 46.4
comp=Z,33nm,1.4s
TUQ Turquoise Mon 78.27 325 P P 04 38 38.9 +1.3
baz=143
MWC Mount Wilson 78.40 322 P P 04 38 38.6 +0.2
MWC pmax pmax
comp=Z,41nm,1.3s
MWC Mount Wilson 78.40 322 P P 04 38 38.6 +0.2
MWC IAmb IAmb 04 38 47.6
comp=Z,41nm,1.2s
N23A Red Feather La 78.51 334 P P 04 38 40.3 +1.3
baz=151
BATG Bathurst New B 78.52 4 P P 04 38 39.2 +0.7
BATG IAmb IAmb 04 38 47.8
comp=Z,50nm,1.3s
DECC Green Verdugo 78.57 322 P P 04 38 40.9 +1.8
baz=141
GSC Goldstone, Bar 78.61 324 IAmb IAmb 04 38 48.7
comp=Z,32nm,1.2s
GSC Goldstone, Bar 78.61 324 P P 04 38 40.5 +1.1
baz=142
E43A Lone Tree Farm 78.62 349 P P 04 38 38.2 -0.8
MTPU Mount Pierson 78.63 329 P P 04 38 40.0 +0.2
MTPU IAmb IAmb 04 38 48.7
comp=Z,50nm,1.5s
SZCU Shurtz Canyon 78.67 328 IAmb IAmb 04 38 49.1
comp=Z,48nm,1.4s
O20A White River Ci 78.73 332 P P 04 38 40.6 +0.5
O20A White River Ci 78.73 332 P P 04 38 40.6 +0.5
baz=149,SNR=6.8
CCUT Cedar City 78.75 328 IAmb IAmb 04 38 49.9
comp=Z,66nm,1.5s
SRU San Rafael Swe 78.80 330 IAmb IAmb 04 38 49.6
comp=Z,29nm,1.2s
EDW2 Edwards Air Fo 78.88 323 P P 04 38 41.4 +0.5
baz=141,SNR=5.5
Q16A Castle Valley 78.91 330 P P 04 38 41.5 +0.4
Q16A IAmb IAmb 04 38 50.1
comp=Z,68nm,1.4s
MSU Marysvale 79.01 329 P P 04 38 40.7 -1.0
MSU Marysvale 79.01 329 P P 04 38 40.7 -1.0
P17A Butcher Ranch, 79.19 330 P P 04 38 42.4 -0.2
P17A IAmb IAmb 04 38 51.0
comp=Z,61nm,1.4s
TCRU Three Creeks R 79.21 329 P P 04 38 43.0 +0.2
GWY Greenwater Val 79.23 325 IAmb IAmb 04 38 51.6
comp=Z,36nm,1.4s
PRN Pahroc Range 79.42 326 IAmb IAmb 04 38 54.0
comp=Z,50nm,1.2s
SBC Santa Barbara 79.44 322 P P 04 38 45.7 +1.8
baz=140
MPMC Manual Prospec 79.54 324 P P 04 38 45.5 +0.8
baz=142
KOWA Kowa 79.55 66 P P 04 38 44.6 -0.3
FURC Furnace Creek, 79.55 325 P P 04 38 45.8 +1.4
baz=142
RDMU Red Mountain 79.63 332 IAmb IAmb 04 38 54.1
comp=Z,31nm,1.1s
TPNV Topopah Spring 79.63 325 P P 04 38 45.2 +0.2
TPNV pmax pmax
comp=Z,12nm,1.1s
TPNV Topopah Spring 79.63 325 P P 04 38 45.2 +0.2
TPNV Topopah Spring 79.63 325 P P 04 38 46.0 +0.9
baz=143,SNR=7.5
RWWY Rawlins 79.67 334 IAmb IAmb 04 38 53.8
comp=Z,56nm,1.2s
ISA Isabella, Lake 79.73 323 IAmb IAmb 04 38 54.9
comp=Z,41nm,1.3s
ISA Isabella, Lake 79.73 323 P P 04 38 46.6 +1.1
baz=141,SNR=7.6
PSUT Pine Spring 79.78 328 P P 04 38 45.5 -0.3
PKM Mcpherson Peak 79.84 322 P P 04 38 47.6 +1.3
baz=140,SNR=7.2
TSUM Tsumeb 79.89 106 P P 04 38 46.5 -0.4
TSUM IAmb IAmb 04 38 50.8
comp=Z,45nm,1.4s
CWC Cottonwood Cre 80.14 324 P P 04 38 48.9 +1.1
baz=141
VES Vestal, Richgr 80.19 323 P P 04 38 48.9 +1.1
baz=141,SNR=5.8
K22A Casper 80.25 335 P P 04 38 48.6 +0.4
K22A IAmb IAmb 04 38 56.2
comp=Z,47nm,1.4s
K22A Casper 80.25 335 P P 04 38 49.0 +0.8
baz=151,SNR=15
SMMC Simmler 80.26 322 P P 04 38 49.7 +1.4
baz=140
SPR3 Spring Creek 3 80.37 328 IAmb IAmb 04 38 58.6
comp=Z,59nm,1.5s
R11A Troy Canyon, C 80.43 327 IAmb IAmb 04 38 58.6
comp=Z,57nm,1.5s
R11A Troy Canyon, C 80.43 327 P P 04 38 50.5 +1.2
baz=143,SNR=10
LCH Last Change Ra 80.54 325 IAmb IAmb 04 38 58.9
comp=Z,35nm,1.3s

DUG Dugway, Tooele 80.68 330 P P 04 38 50.8 +0.2
DUG pmax pmax
comp=Z,50nm,1.5s
DUG Dugway, Tooele 80.68 330 P P 04 38 50.8 +0.2
DUG IAmb IAmb 04 38 59.4
comp=Z,50nm,1.4s
DUG Dugway, Tooele 80.68 330 P P 04 38 51.6 +1.0
baz=146,SNR=9.3
RSSD Black Hills 80.68 337 P P 04 38 51.2 +0.6
RSSD pmax pmax
comp=Z,26nm,1.4s
RSSD Black Hills 80.68 337 P P 04 38 51.2 +0.6
RSSD Black Hills 80.68 337 P P 04 38 51.1 +0.6
baz=153
PAGB Antelope Grade 80.71 322 IAmb IAmb 04 39 00.1
comp=Z,54nm,1.2s
TCUT Toone Canyon 80.84 331 P P 04 38 51.1 -0.4
TCUT IAmb IAmb 04 39 00.1
comp=Z,61nm,1.4s
EYMN Ely 80.93 347 IAmb IAmb 04 39 00.6
comp=Z,22nm,1.0s
EYMN Ely 80.93 347 P P 04 38 52.8 +1.2
baz=163
BOSA Boshof 81.24 118 P P 04 38 54.1 +0.1
comp=Z,34nm,1.1s,baz=242,slow=4.6,SNR=22
BOSA Boshof 81.24 118 P P 04 38 53.8 -0.3
BOSA pmax pmax
comp=Z,113nm,1.5s
BOSA Boshof 81.24 118 P P 04 38 53.8 -0.3
BGU Big Grassy Mou 81.37 330 P P 04 38 54.7 +0.4
MLAC Mammoth, Mammo 81.44 324 P P 04 38 56.1 +1.2
baz=141,SNR=5.3
BW06 Boulder Array 81.49 333 P P 04 38 54.5 -0.4
BW06 Boulder Array 81.49 333 P P 04 38 55.0 0.0
baz=148,SNR=7.6
PD31 Pinedale Array 81.49 333 P P 04 38 54.7 -0.3
PDAR Pinedale Array 81.49 333 P P 04 38 55.5 +0.5
comp=Z,1.2nm,0.6s,baz=130,slow=4.6,SNR=8.5
PDAR Pinedale Array 81.49 333 P P 04 38 54.9 0.0
MDPB Devils Postpil 81.57 324 P P 04 38 55.7 +0.2
NV11 Mina Array Sit 81.73 325 P P 04 38 55.7 -0.5
LHV Little Huntoon 81.76 325 P P 04 38 56.9 +0.7
B35A Bob, Littlefor 81.78 346 IAmb IAmb 04 39 05.1
comp=Z,26nm,1.0s
NVAR Mina Array Bea 81.80 325 P P 04 38 57.8 +1.1
comp=Z,3.9nm,0.8s,baz=157,slow=6.4,SNR=18
E28A Huff 81.86 340 P P 04 38 56.9 +0.4
E28A IAmb IAmb 04 39 04.5
comp=Z,47nm,1.2s
HVU Hansel Valley 81.97 330 IAmb IAmb 04 39 05.4
comp=Z,36nm,1.4s
RYN Ryan 82.06 325 P P 04 38 56.9 -1.0
AHID Auburn Hatcher 82.10 332 P P 04 38 57.9 -0.2
AHID IAmb IAmb 04 39 05.4
comp=Z,30nm,1.5s
KVN Kaiserville 82.19 326 IAmb IAmb 04 39 07.2
comp=Z,44nm,1.5s
AGMN Agassiz Nation 82.19 344 IAmb IAmb 04 39 06.9
comp=Z,19nm,0.9s
AGMN Agassiz Nation 82.19 344 P P 04 38 57.6 -0.6
baz=160
ELK Elko 82.20 328 P P 04 38 58.2 -0.5
ELK pmax pmax
comp=Z,12nm,1.1s
ELK Elko 82.20 328 P P 04 38 58.2 -0.5
REDW Red Top Meadow 82.50 333 IAmb IAmb 04 39 08.3
comp=Z,39nm,1.5s
CASY Casey 82.59 181 P P 04 39 01.0 +0.7
TPAW Teton Pass 82.65 333 P P 04 38 60.0 -1.1
TPAW IAmb IAmb 04 39 08.3
comp=Z,25nm,1.4s
MDND Maddock 82.72 342 P P 04 39 01.3 +0.3
baz=156
PNTR Pine Nut 82.95 325 IAmb IAmb 04 39 12.5
comp=Z,30nm,0.9s
IMW Indian Meadow 82.98 333 IAmb IAmb 04 39 11.1
comp=Z,30nm,1.4s
VCNR Virginia City 83.13 325 IAmb IAmb 04 39 12.7
comp=Z,29nm,1.3s
TORD Torodi Ar. Bea 83.30 70 P P 04 39 04.4 -0.4
comp=Z,52nm,0.7s,baz=261,slow=4.5,SNR=116
TORD Torodi Ar. Bea 83.30 70 P P 04 39 04.2 -0.5
LBTB Lodtse 83.35 115 IAmb IAmb 04 39 05.6
comp=Z,26nm,0.8s
RLMT Red Lodge 83.39 334 P P 04 39 04.7 0.0
baz=149
YMR Madison River 83.64 333 IAmb IAmb 04 39 14.0
comp=Z,42nm,1.4s
YHH Holmes Hill 83.70 333 IAmb IAmb 04 39 15.0
comp=Z,38nm,1.4s
BEKR Beckworth 83.92 325 IAmb IAmb 04 39 16.4
comp=Z,24nm,1.1s
ULM Lac du Bonnet 84.03 345 P P 04 39 07.0 -0.6
comp=Z,5.9nm,0.8s,baz=95,slow=1.9,SNR=4.8
ULM Lac du Bonnet 84.03 345 IAmb IAmb 04 39 16.6
comp=Z,26nm,1.1s
HLID Hailey 84.12 330 IAmb IAmb 04 39 17.3
comp=Z,39nm,1.4s
HLID Hailey 84.12 330 P P 04 39 09.3 +0.8
baz=145,SNR=7.8
ORV Oroville 84.26 324 IAmb IAmb 04 39 17.2
comp=Z,21nm,1.2s
DGMT Dagmar 84.60 339 IAmb IAmb 04 39 11.4
comp=Z,17nm,0.8s
DGMT Dagmar 84.60 339 P P 04 39 11.2 +0.5
baz=153
MFID Camas Ranch 84.61 330 IAmb IAmb 04 39 19.4
comp=Z,28nm,1.4s
BOZ Bozeman (W) 84.68 333 P P 04 39 11.5 +0.2
baz=147
O03E Paynes Creek 84.97 324 P P 04 39 13.1 +0.3
baz=139,SNR=5.1
WVOR Wild Horse Val 85.08 327 IAmb IAmb 04 39 21.9
comp=Z,36nm,1.4s
O02D Mt. Diablo Mer 85.38 323 P P 04 39 15.6 +0.8
baz=138
MOD Modoc Plateau 85.46 326 IAmb IAmb 04 39 23.9
comp=Z,18nm,1.1s
WDC Whiskeytown Da 85.55 324 IAmb IAmb 04 39 23.0
comp=Z,17nm,1.3s
J08A Circle Bar Ran 85.73 328 IAmb IAmb 04 39 17.9
comp=Z,16nm,1.0s
N02D Trinity Center 85.93 324 P P 04 39 17.3 -0.2
baz=139
SCHQ Schefferville 86.02 3 P P 04 39 17.1 -0.4
comp=Z,24nm,1.2s,baz=179,slow=4.2,SNR=5.8
EGMT Eagleton 86.04 336 P P 04 39 18.0 +0.1
baz=148
M04C Macdoel 86.11 325 P P 04 39 18.7 +0.2
baz=139,SNR=5.9
M02C Callahan 86.32 324 P P 04 39 20.1 +0.7
baz=138
K05A Summer Lake 86.37 326 IAmb IAmb 04 39 27.9
comp=Z,38nm,1.5s
MSO Missoula 86.60 333 P P 04 39 21.2 +0.4
baz=145
L04D Klamath Falls 86.66 325 P P 04 39 21.4 +0.2
baz=139
I07A Izee 86.77 328 IAmb IAmb 04 39 30.4
comp=Z,36nm,1.4s
J05D Fort Rock, OR 86.96 326 P P 04 39 23.4 +0.7
baz=140,SNR=5.5
PINE Pine Mountain 87.20 327 IAmb IAmb 04 39 33.6
comp=Z,22nm,1.1s
L02E Cave Junction 87.26 324 P P 04 39 25.1 +1.2
baz=138
J04D Umpqua Nationa 87.34 326 P P 04 39 25.0 +0.4
baz=139
G08A Pilot Rock 87.46 329 IAmb IAmb 04 39 33.4
comp=Z,22nm,1.4s
JTMT Jette 87.48 333 IAmb IAmb 04 39 33.1
comp=Z,19nm,1.3s
K02D Willamette Mer 87.69 325 P P 04 39 27.0 +0.9
baz=138
I05D Terrebonne, OR 87.81 327 P P 04 39 27.6 +1.0
baz=140
I04A Tendick Farm, 87.90 326 P P 04 39 27.8 +0.7
baz=139
J01E Myrtle Point 88.17 325 P P 04 39 29.3 +1.1
baz=138
H04A Detroit Lake 88.46 327 IAmb IAmb 04 39 39.4
comp=Z,13nm,0.9s
G05D Wamic, OR 88.48 328 P P 04 39 31.1 +1.3
baz=140
HAWA Hanford 88.57 329 IAmb IAmb 04 39 37.7
comp=Z,24nm,1.5s
D08A Wollman Farm, 88.82 330 IAmb IAmb 04 39 39.4
comp=Z,14nm,1.1s
I02D Swisshome 88.82 325 P P 04 39 32.6 +1.4
baz=138
NEW Newport 89.03 332 P P 04 39 33.4 +1.1
baz=143
F04A Amboy 89.51 327 IAmb IAmb 04 39 37.0
comp=Z,10nm,0.8s
B05A Bryant 91.12 329 P P 04 39 44.2 +2.3
baz=139
GERES GERESS Array B 110.31 45 PKiKP PKiKP 04 45 09.3 -0.1
comp=Z,1.0nm,0.7s,baz=93,slow=2.7,SNR=3.9
KNK Knik Glacier 111.02 330 P P 04 45 11.8 +1.6
baz=117
LVV L'vov 116.96 46 *e*PKIKP PKPdf 04 45 19.7 -2.2
BUR08 Bucovina Ar. S 117.04 49 PKiKP 04 45 22.8 +0.5
ASAR Alice Springs 119.87 208 PKP PKPdf 04 45 28.2 -0.4
comp=Z,0.9nm,0.9s,baz=174,slow=1.7,SNR=1.9
ASAR PKKPbc **PKKPbc 04 55 37.2 -0.2**
comp=Z,0.3nm,0.6s,baz=323,slow=2.4,SNR=4.4
HEL Helsinki 120.07 35 PKIKP PKPdf 04 45 20.4 -7.1
HEL pmax pmax
comp=Z,15nm,0.7s
AKASG Malin Array Be 120.41 46 PKP PKPdf 04 45 26.9 -1.6
comp=Z,3.9nm,0.6s,baz=260,slow=2.9,SNR=14
MNK Minsk 120.46 42 *i* PKIKP PKPdf 04 45 27.4 -1.1
MNK *i* 04 46 55.8
MNK *i* PPP PPP 04 49 29.8
MNK *i* PS **PS 04 56 41.5 -4.9**
MNK *i* SS SS 05 03 25.8 +1.7
MNK pmax pmax
comp=E,1.0nm,0.7s
MNK pmax pmax
comp=N,13nm,0.9s
MNK pmax pmax
comp=Z,25nm,1.1s
MNK MLR MLR
comp=N,6μm,20.0s
MNK MLR MLR
comp=E,454nm,15.0s
MNK MLR MLR
comp=Z,7μm,23.0s
MNK Minsk 120.46 42 *i* PKP PKPdf 04 45 27.4 -1.1
comp=E,1.0nm,0.7s
MNK *i* PKP **PKPdf 04 45 27.4 -1.1**
comp=N,13nm,0.9s
MNK *i* PKP **PKPdf 04 45 27.4 -1.1**
comp=Z,25nm,1.1s,baz=258
MNK *i* PP **PP 04 46 55.9 +0.1**
MNK *i* PPP PPP 04 49 29.8
MNK *i* SKS **SKSdf 04 52 43.5 +3.9**
MNK *i* PS **SP 04 56 41.6 -2.1**
MNK *i* SS **SS 05 03 25.9 +1.7**
MNK *i* SSS SSS 05 08 00.0
MNK *i* LQ LQ 05 31 05.5
MNK *i* LR LR 05 32 37.0
MNK *i* LRM MLR 05 36 40.9
comp=N,6μm,19.5s
MNK *i* LRM MLR 05 36 47.4
comp=E,454nm,15.2s
MNK *i* LRM MLR 05 36 50.3
comp=Z,7μm,23.1s
BRTR Keskin Array B 120.53 60 PKP PKPdf 04 45 29.0 -0.3
comp=Z,3.0nm,0.8s,baz=211,slow=3.9,SNR=5.9
BRTR PKKP **PKKPdf 04 56 08.1 -0.7**
comp=Z,2.9nm,0.9s,baz=242,slow=2.7,SNR=7.8
FINES FINESS Array B 120.84 34 PKP PKPdf 04 45 28.4 -0.6
comp=Z,5.2nm,1.1s,baz=267,slow=3.8,SNR=3.9
ARCES ARCESS Array B 121.66 24 PKP PKiKP 04 45 30.5 -0.1
comp=Z,1.7nm,0.7s,baz=243,slow=2.2,SNR=5.8
WRA Warramunga Arr 123.02 210 PKP PKPdf 04 45 33.2 -1.4
comp=Z,1.6nm,0.6s,baz=129,slow=1.4,SNR=12
WRAB Tennant Creek 123.02 210 *i* PKIKP PKPdf 04 45 34.7 +0.1
LVZ Lovozero 124.95 26 *i* PKIKP PKiKP 04 45 37.0 -0.1
LVZ pmax pmax
comp=Z,10.0nm,1.0s
OBN Obninsk 125.52 42 *d i* PKIKP PKiKP 04 45 38.4 -0.1
OBN *e* 04 45 45.0
OBN 04 45 51.0
OBN pmax pmax
comp=Z,46nm,1.1s
H11S2 WAKE ISLAND Hyd 125.81 271 T T 07 04 31.8
baz=116,slow=75,SNR=32
H11S1 WAKE ISLAND Hyd 125.82 271 T T 07 04 31.9
baz=116,slow=75,SNR=37
H11S3 WAKE ISLAND Hyd 125.83 271 T T 07 04 32.5
baz=116,slow=75,SNR=37
SOC Sochi 125.89 56 *e* PKIKP PKPdf 04 45 39.3 0.0
SOC *e* 04 47 32.6
SOC *e* PPP PPP 04 50 14.3
SOC *e* PS **PS 04 57 32.8 -2.1**
SOC *e* SS SS 05 04 29.4 -4.2
SOC pmax pmax
comp=Z,12nm,0.8s
H11N3 WAKE ISLAND Hyd 126.16 272 T T 07 04 52.9
baz=116,slow=75,SNR=18
H11N1 WAKE ISLAND Hyd 126.17 272 T T 07 04 53.9
baz=116,slow=75,SNR=5.5
MOS Moscow 126.17 41 *i* PKIKP PKPdf 04 45 39.4 0.0
MOS pmax pmax
comp=Z,46nm,1.3s
H11N2 WAKE ISLAND Hyd 126.17 272 T T 07 04 59.7
baz=116,slow=75,SNR=23
KLMR Klimovskoe 127.29 35 *e* PKIKP PKPdf 04 45 39.4 -1.9
KLMR pmax pmax
comp=Z,100nm,1.5s
KLMR Klimovskoe 127.29 35 *e* PKPdf PKPdf 04 45 39.5 -1.9
KLMR AMP 04 45 44.4
comp=Z,100nm,1.5s
KIV Kislovodsk 128.07 56 *e* PKIKP PKPdf 04 45 43.8 +0.2
KIV pmax pmax
comp=Z,16nm,1.1s
KBZ Khabaz 128.19 57 PKP PKiKP 04 45 45.0 +0.8
comp=Z,3.7nm,0.9s,baz=257,slow=4.4,SNR=6.2
GNI Garni 128.90 62 *i* PKIKP PKiKP 04 45 47.0 +0.9
PRGR Permogore 130.17 34 *e* PKIKP PKiKP 04 45 47.4 -0.3
PRGR pmax pmax
comp=Z,217nm,1.4s
GROC Groznyy 130.19 58 *i* PKIKP PKPdf 04 45 45.3 -2.2
GROC pmax pmax
comp=Z,17nm,0.6s
BILL Bilibino 130.53 335 *i* PKIKP PKiKP 04 45 50.0 +1.8
BILL *e* 04 45 57.9
BILL pmax pmax
comp=Z,7.0nm,0.4s
AKT Akhty 131.36 60 *e* PKIKP PKiKP 04 45 50.9 0.0
AKT *e* 04 48 05.5
AKT pmax pmax
comp=Z,39nm,1.4s
BELG Belogornoye 131.98 46 PKP PKPdf 04 45 51.0 +0.5
comp=Z,20nm,0.8s,baz=359,slow=1.9,SNR=5.8
ARU Arti 137.75 39 PKP PKPdf 04 46 01.5 +0.2
comp=Z,2.6nm,0.2s,baz=107,slow=19,SNR=2.6
ARU Arti 137.75 39 *i* PKIKP PKiKP 04 46 02.3 -0.9
ARU 04 48 45.8
ARU Arti 137.75 39 PKPdf PKPdf 04 46 01.3 +0.1
SEY Seymchan 137.81 332 PKP PKPdf 04 46 01.8 +0.6
comp=Z,6.1nm,0.6s,baz=0.0,slow=20,SNR=4.1
PET Petropavlovsk 137.81 316 *i* PKIKP PKiKP 04 46 04.3 +0.9
PET pmax pmax
comp=Z,21nm,0.9s
EDFI Ende, Flores 137.96 200 PKP PKiKP 04 46 05.7 +0.6
TIXI Tiksi 138.17 350 *i* PKIKP PKiKP 04 46 03.5 -0.1
PETK Petropavlovsk- 138.36 316 PKP PKPdf 04 46 02.5 0.0
comp=Z,9.5nm,1.1s,baz=84,slow=6.1,SNR=5.8
AKTO Aktyubinsk 138.62 48 PKP PKPdf 04 46 02.8 -0.2
comp=Z,15nm,1.2s,baz=270,slow=4.0,SNR=9.6
SVE Sverdlovsk 138.74 38 *e* PKIKP PKiKP 04 46 04.9 -0.3
SVE pmax pmax
comp=Z,42nm,1.5s
TWSI Taliwang, Sumb 139.17 193 PKP PKiKP 04 46 08.8 +1.3
MA2 Magadan 140.00 327 *i* PKIKP PKiKP 04 46 07.8 +0.1
MA2 pmax pmax
comp=Z,11nm,1.3s
MDSI Maura Dua 144.10 173 PKP PKPbc 04 46 12.2 +0.2
LHSI Lahat 144.69 172 PKP PKPdf 04 46 15.6 +0.5
KSI Kapahiang 144.74 171 PKP PKiKP 04 46 23.6 +4.6
PALK Pallekele 144.97 128 PKIKP PKPdf 04 46 15.4 -0.2
PALK Pallekele 144.97 128 PKPdf PKPdf 04 46 15.4 -0.2
PALK Pallekele 144.97 128 PKP PKPdf 04 46 16.1 +0.5
BRVK Borovoye 145.26 40 *i* PKIKP PKPdf 04 46 15.6 +0.8
BRVK Borovoye 145.26 40 PKPdf PKPdf 04 46 14.9 +0.1
BVAR Borovoye Array 145.34 40 PKPbc PKPdf 04 46 15.2 +0.2
comp=Z,15nm,0.5s,baz=258,slow=4.4,SNR=43
TPI Tanjungpandan 146.01 179 PKP PKiKP 04 46 27.5 +6.0
KRJI Kerinci 146.09 168 PKP PKiKP 04 46 28.5 +6.7

YAK	**Yakutsk**	**146.31**	**342**	PKPbc	**PKPbc**	**04 46 17.1**	**-0.4**
	comp=Z,13nm,0.4s,baz=322,slow=1.0,SNR=6.6						
YAK	**Yakutsk**	**146.31**	**342**	*e*PKP2	**PKPdf**	**04 46 16.1**	**-0.2**
YAK				*e*		04 49 40.7	
YAK				*e*		04 53 21.2	
YAK				*e*SS	SS	05 08 33.9	-1.7
YAK				pmax	pmax		
	comp=Z,40nm,1.0s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,213nm,2.3s						
YAK				pmax	pmax		
	comp=N,81nm,2.1s						
YAK				pmax	pmax		
	comp=E,40nm,2.1s						
PPBI	**Pangkal Pinang**	**146.55**	**177**	PKP	**PKPdf**	**04 46 18.5**	**+0.2**
POO	**Poona**	**146.62**	**104**	*e*P	**PKPdf**	**04 46 11.0**	**-7.2**
PDSI	**Padang**	**147.05**	**166**	PKP	**PKPab**	**04 46 22.0**	**-0.6**
KBL	**Kabul**	**147.30**	**74**	PKP2	**PKPdf**	**04 46 19.4**	**+0.2**
KBL	**Kabul**	**147.30**	**74**	PKPdf	**PKPdf**	**04 46 19.4**	**+0.2**
TOLI2	**Tolitoli**	**147.52**	**204**		**PKPdf**	**04 46 19.8**	**-0.1**
DSRI	**Dabo**	**148.10**	**173**	PKP	**PKiKP**	**04 46 26.0**	**+0.2**
MNSI	**Mandailing Nat**	**148.51**	**164**	PKP	**PKPab**	**04 46 28.9**	**+0.6**
STKI	**Sintang**	**148.64**	**187**	PKP	**PKPab**	**04 46 28.2**	**-0.6**
YSS	**Yuzh-Sakhalins**	**149.22**	**310**	*e*PKP2	**PKPbc**	**04 46 25.5**	**-0.3**
YSS				pmax	pmax		
	comp=Z,30nm,1.1s						
HYB	**Hyderabad**	**149.89**	**111**	*i* PKP	**PKPbc**	**04 46 28.0**	**-0.4**
ASAJ	**Asahikawa**	**150.09**	**305**	PKPbc	**PKPbc**	**04 46 27.3**	**-0.8**
	comp=Z,15nm,0.8s,baz=240,slow=2.8,SNR=5.7						
PSI	**Prapat**	**150.27**	**161**	PKP	**PKiKP**	**04 46 30.4**	**0.0**
EKS2	**Erkin-Say**	**150.65**	**58**	P	**PKPbc**	**04 46 29.9**	**+0.3**
	SNR=22						
AML	**Almayashu**	**150.69**	**59**	P	**PKiKP**	**04 46 30.5**	**-0.3**
	SNR=12						
KURBB	**Kurchatov Arra**	**150.93**	**40**	PKP	**PKPdf**	**04 46 24.1**	**-0.1**
	comp=Z,3.5nm,0.2s,baz=304,slow=2.4,SNR=37						
KURBB				PKPbc	**PKPbc**	**04 46 29.9**	**+0.1**
	comp=Z,25nm,0.7s,baz=306,slow=2.9,SNR=57						
KURK	**Kurchatov**	**150.93**	**40**	PKIKP	**PKPdf**	**04 46 24.1**	**-0.1**
KURK						04 46 30.0	
KURK	**Kurchatov**	**150.93**	**40**		**PKPdf**	**04 46 24.1**	**-0.1**
USP	**Ospenovka**	**151.05**	**56**	P	**PKiKP**	**04 46 30.9**	**-0.1**
	SNR=17						
AAK	**Ala-Archa**	**151.18**	**58**	PKPbc	**PKiKP**	**04 46 31.6**	**+0.1**
	comp=Z,27nm,0.6s,baz=5.2,slow=3.3,SNR=4.1						
AAK	**Ala-Archa**	**151.18**	**58**	P	**PKiKP**	**04 46 31.7**	**+0.2**
	SNR=20						
AAK	**Ala-Archa**	**151.18**	**58**	PKIKP	**PKPdf**	**04 46 26.0**	**+0.9**
AAK	**Ala-Archa**	**151.18**	**58**	PKPdf	**PKPdf**	**04 46 26.0**	**+0.9**
UCH	**Uchtor**	**151.27**	**59**	P	**PKPdf**	**04 46 27.6**	**+2.0**
	SNR=11						
CHMS	**Chumysh**	**151.28**	**57**	P	**PKPbc**	**04 46 31.2**	**+0.2**
	SNR=12						
KZA	**Kyzart**	**151.84**	**59**	P	**PKiKP**	**04 46 33.5**	**+0.2**
	SNR=8.3						
TKM2	**Tokmak 2**	**151.91**	**57**	P	**PKPdf**	**04 46 25.8**	**-0.5**
	SNR=5.8						
ZALV	**Zalesovo Beam**	**152.00**	**30**	PKP	**PKPdf**	**04 46 24.4**	**-1.3**
	comp=Z,5.2nm,0.8s,baz=265,slow=3.2,SNR=11						
ZALV				PKPbc	**PKPbc**	**04 46 32.2**	**0.0**
	comp=Z,71nm,0.6s,baz=302,slow=3.1,SNR=81						
ULHL	**Ulahol**	**152.52**	**58**	P	**PKPdf**	**04 46 28.8**	**+1.7**
	SNR=5.3						
KSH	**Kashi**	**152.80**	**64**	PKPbc	**PKPdf**	**04 46 28.8**	**+1.3**
KSH				pPKP	PKPbc	04 46 34.6	-0.1
KSH				PP	**PP**	**04 50 17.6**	**-1.4**
ZEA	**Zeya**	**153.75**	**334**	*e*PKIKP	**PKPdf**	**04 46 28.5**	**+0.3**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MJAR	**Matsushiro Arr**	**154.50**	**290**	PKP	**PKPdf**	**04 46 30.4**	**+0.5**
	comp=Z,2.6nm,0.9s,baz=75,slow=1.9,SNR=4.7						
MJAR				PKPbc	**sPKPdf**	**04 46 37.1**	**+0.9**
	comp=Z,1.8nm,0.6s,baz=180,slow=1.3,SNR=5.0						
MJAR				PKPab	**PKPab**	**04 46 53.0**	**+0.1**
	comp=Z,2.3nm,0.6s,baz=122,slow=2.7,SNR=5.4						
MAJO	**Matsushiro**	**154.50**	**290**	PKP2	**PKPab**	**04 46 53.2**	**+0.4**
MAJO	**Matsushiro**	**154.50**	**290**		**PKPab**	**04 46 53.2**	**+0.4**
KLR	**Kul'dur**	**154.79**	**322**	PKP	**PKPdf**	**04 46 29.3**	**-0.6**
	comp=Z,2.8nm,0.8s,baz=81,slow=1.8,SNR=6.1						
KLR				PKPbc	**sPKPdf**	**04 46 37.1**	**+1.0**
	comp=Z,4.3nm,0.9s,baz=13,slow=1.8,SNR=11						
MKAR	**Makanchi Array**	**154.98**	**45**	PKP	**PKPdf**	**04 46 30.2**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=354,slow=1.2,SNR=8.5						
MKAR				PKPbc	**sPKPdf**	**04 46 37.7**	**+1.2**
	comp=Z,7.9nm,0.7s,baz=319,slow=1.4,SNR=19						
USRK	**Ussuriysk Ar.**	**157.26**	**311**	PKP	**PKPdf**	**04 46 32.9**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=106,slow=4.2,SNR=5.2						
PYUN	**Piuthan**	**158.04**	**92**	*e*P	**PKPab**	**04 47 07.2**	**-1.4**
	comp=Z,92nm,1.3s						
KOLN	**Koldanda**	**158.48**	**94**	*e*P	**PKPab**	**04 47 08.8**	**-1.7**
	comp=Z,52nm,1.0s						
DANN	**Dangsing**	**158.76**	**92**	*e*P	**PKPab**	**04 47 10.4**	**-1.4**
	comp=Z,61nm,0.8s						
GKN	**Gorkha**	**159.43**	**94**	*e*P	**PKPab**	**04 47 13.2**	**-1.3**
	comp=Z,38nm,0.8s						
DMN	**Daman**	**159.72**	**95**	*e*P	**PKPab**	**04 47 15.4**	**-0.5**
WMQ	**Urumqi**	**159.76**	**47**	*e*PKP	**PKPdf**	**04 46 36.8**	**+0.4**
KKN	**Kakani**	**159.92**	**95**	*e*P	**PKPab**	**04 47 15.9**	**-0.8**
PKIN	**Phulchoki**	**159.96**	**95**	*e*P	**PKPab**	**04 47 15.7**	**-1.3**
PKI	**Pulchoki**	**159.97**	**95**	*e*P	**PKPab**	**04 47 16.1**	**-1.0**
GUN	**Gumba**	**160.46**	**95**	*e*P	**PKPab**	**04 47 18.3**	**-1.0**
ZAK	**Zakamensk**	**160.74**	**9**	*e*PKIKP	**PKPdf**	**04 46 36.1**	**-1.2**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.5s						
KSRS	**Korea Array**	**162.52**	**296**	PKP	**PKPdf**	**04 46 39.7**	**+0.3**
	comp=Z,2.1nm,1.0s,baz=132,slow=1.9,SNR=6.0						
KSRS				PKPab	**PKPab**	**04 47 29.4**	**+1.9**
	comp=Z,3.7nm,1.1s,baz=82,slow=3.9,SNR=6.2						
SONM	**Songino Array**	**163.56**	**4**	PKP	**PKPdf**	**04 46 39.8**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=127,slow=0.2,SNR=7.0						
SONM				PKPab	**PKPab**	**04 47 32.0**	**+0.2**
	comp=Z,4.9nm,1.2s,baz=325,slow=2.3,SNR=3.9						
SONM				PP	**PP**	**04 51 15.2**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=356,slow=7.8,SNR=1.5						
ULN	**Ulaanbaatar**	**163.56**	**2**	PKP2	**PKPab**	**04 47 32.2**	**+0.4**
ULN	**Ulaanbaatar**	**163.56**	**2**	PKPab	**PKPab**	**04 47 32.2**	**+0.4**
CM13	**Chiang Mai Arr**	**164.66**	**145**	PKP	**PKPdf**	**04 46 45.6**	**+3.6**
CM04	**Chiang Mai Arr**	**164.67**	**146**	PKP	PKPdf	04 46 50.3	+8.3
CMAR	**Chiang Mai Arr**	**164.71**	**145**	PKP	**PKPdf**	**04 46 43.7**	**+1.6**
	comp=Z,1.4nm,0.3s,baz=242,slow=2.3,SNR=8.3						
CMAR				PKPab	**PKPab**	**04 47 37.2**	**-0.2**
	comp=Z,5.9nm,0.9s,baz=227,slow=4.4,SNR=11						
CHTO	**Chiang Mai**	**165.01**	**145**	PKP2	**PKPab**	**04 47 38.5**	**-0.3**
CHTO	**Chiang Mai**	**165.01**	**145**	PKPab	**PKPab**	**04 47 38.5**	**-0.3**
GTA	**Gaotai**	**169.60**	**38**	⇑PKP	**PKPdf**	**04 46 45.8**	**+0.6**
GTA				pPKP	sPKPdf	04 46 53.3	+1.8
GTA				PKPab	**PKPab**	**04 47 58.9**	**+0.1**
GTA				PP	**PP**	**04 51 53.6**	**+5.3**
HHC	**Hu-ho-hao-te**	**170.17**	**344**	*e*PKP	**PKPdf**	**04 46 45.8**	**+0.3**
NJ2	**Nanjing**	**170.74**	**277**	*e*PKP	**PKPdf**	**04 46 47.3**	**+1.4**
KMI	**Kunming**	**172.19**	**142**	⇑PKP	**PKPdf**	**04 46 47.3**	**+0.2**
LZH	**Lanzhou**	**174.20**	**36**	*e*PKP	**PKPdf**	**04 46 49.3**	**+1.8**
LZH				pPKP	sPKPdf	04 46 54.8	+1.0
GYA	**Guiyang**	**174.91**	**166**	⇑PKP	**PKPdf**	**04 46 48.9**	**+0.9**
GYA				PP	**PP**	**04 52 14.1**	**+0.3**
GYA				SKKS		04 58 55.8	
XAN	**Xi'an**	**177.28**	**344**	PKP	**PKPdf**	**04 46 48.3**	**+0.1**
XAN				sPKP		04 46 58.6	
XAN				PKPab	**sPKPab**	**04 48 39.3**	**+0.1**

*IDC **17** 04:30:58.7±9.3, 13°.34N×146°.39E, h0km, mb4.2/5, mb1 4.3/5, mb1mx3.8/44, mbtmp4.2/5 Error ellipse: s-maj=251.7km s-min=26.0km az=172.0*
ISC 17 04:31:00.1±5.2, **13°N**±1°×**146°.33E**±0°.10, **h10**km, **n6, σ0°79/7, mb4.5/5, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.45**	**281**	Pn	**Pb**	**04 31 26.7**	**-0.5**
	39nm,0.3s,baz=164,slow=15,SNR=7.4						
GUMO				Sn	**Sg**	**04 31 46.7**	**0.0**
	77nm,0.3s,baz=226,slow=21,SNR=19						
MKAR	**Makanchi Array**	**62.68**	**316**	P	**P**	**04 41 26.2**	**+1.1**
	1.7nm,0.5s,baz=91,slow=8.9,SNR=8.3						
ZALV	**Zalesovo Beam**	**62.68**	**324**	P	**P**	**04 41 25.5**	**+0.5**
	0.8nm,0.4s,baz=115,slow=7.7,SNR=1.2						
KURBB	**Kurchatov Arra**	**65.76**	**320**	P	**P**	**04 41 45.8**	**+0.5**
	3.1nm,0.7s,baz=104,slow=7.0,SNR=4.4						
ILAR	**Eielson Array**	**68.22**	**25**	P	**P**	**04 41 59.9**	**-0.7**
	0.6nm,0.5s,baz=251,slow=5.9,SNR=5.5						
BVAR	**Borovoye Array**	**71.03**	**322**	P	**P**	**04 42 18.3**	**+0.1**
	3.0nm,0.5s,baz=116,slow=6.6,SNR=6.8						

*IDC **17** 04:32:10.2±0.5, 31°.03S×71°.94W, h0km, mb4.7/16, mb1 4.9/20, mb1mx4.7/30, mbtmp4.8/20, ML4.6/4, Error ellipse: s-maj=20.8km s-min=13.3km az=77.0*
*SJA **17** 04:32:10.6±0.5, 31°.03S×72°.02W, h16km±6km, ML5.0, MW4.9*
*NEIC **17** 04:32:11.4±1.7, 30°.97S±0°.03×72°.13W±0°.06, h5km±3km, mb5.1/75, Error ellipse: s-maj=7.8km s-min=1.0km az=116.0*
*GUC **17** 04:32:11.1±0.9, 30°.92S×72°.04W, h34km±4km, ML5.4*
ISC 17 04:32:10.1±1.0, **30°.97S**±0°.02×**72°.12W**±0°.04, **h3**km±6km, **n273, σ1§21/285, mb5.1/53, 1C-2D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.51**	**55**	⇓*i*P	**Pb**	**04 32 21.2**	**-0.5**
CO06				*i* S	**Sb**	**04 32 28.2**	**-1.2**
CO06	**Fray Jorge**	**0.51**	**55**		**Pb**	**04 32 21.3**	**-0.3**
CO06					**Sb**	**04 32 28.4**	**-1.1**
CO03	**El Pedregal**	**1.24**	**84**	⇓*e*P	**Pn**	**04 32 33.3**	**-1.1**
CO03				*i* S	**Sb**	**04 32 49.1**	**-1.5**
CO03	**El Pedregal**	**1.24**	**84**	Pn	**Pn**	**04 32 33.3**	**-1.1**
CO03				Sn	**Sb**	**04 32 49.0**	**-1.5**
CO03	**El Pedregal**	**1.24**	**84**	*i* P	**Pn**	**04 32 33.0**	**-1.4**
CO03				*e*S	**Sb**	**04 32 48.9**	**-1.6**
CO03				IAML		04 32 52.0	
	comp=Z,37μm,0.7s						
GO04	**Tololo Observa**	**1.39**	**56**	*e*P	**Pb**	**04 32 35.8**	**-1.0**
GO04				*e*S	**Sn**	**04 32 54.1**	**-1.4**
GO04	**Tololo Observa**	**1.39**	**56**		**Pg**	**04 32 36.5**	**-0.2**
GO04	**Tololo Observa**	**1.39**	**56**	*e*P	**Pb**	**04 32 36.3**	**-0.5**
GO04				*e*S	**Sg**	**04 32 55.2**	**+0.5**
VA01	**Torpederas**	**2.09**	**169**	*e*P	**Pb**	**04 32 48.9**	**+0.3**
VA01	**Torpederas**	**2.09**	**169**		**Pn**	**04 32 45.6**	**-0.3**
VA01	**Torpederas**	**2.09**	**169**	*i* P	**Pn**	**04 32 46.0**	**0.0**
VA01				IAML		04 33 25.2	
	comp=Z,4μm,0.7s						
ROCH	**El Roble**	**2.21**	**155**	*e*P	**Pn**	**04 32 48.6**	**+0.8**
ROCH				*e*S	**Sb**	**04 33 18.7**	**0.0**
ROCH				IAML		04 33 27.3	
	comp=E,35μm,0.5s						
VA03	**San Esteban**	**2.23**	**144**	*e*P	**Pb**	**04 32 49.0**	**-2.2**
VA03				*i* S	**Sb**	**04 33 17.6**	**-1.7**
VA03				IAML		04 33 23.1	
	comp=E,40μm,0.7s						
VA03	**San Esteban**	**2.23**	**144**		**Pb**	**04 32 49.1**	**-2.0**
VA03					**Sb**	**04 33 17.6**	**-1.7**
LCO	**Las Campanas**	**2.31**	**33**	*e*P	**Pn**	**04 32 48.7**	**-0.5**
LCO				*e*S	**Sn**	**04 33 17.1**	**-1.1**
LCO	**Las Campanas**	**2.31**	**33**	*i* P	**Pn**	**04 32 49.2**	**0.0**
LCO				*e*S	**Sb**	**04 33 20.7**	**-0.7**
LCO				IAML		04 33 26.1	
	comp=Z,38μm,0.9s						
AROD	**Rodeo**	**2.42**	**71**	*i* P	**Pb**	**04 32 54.0**	**-0.4**
RTLS	**Leoncito**	**2.55**	**110**	*i* P	**Pb**	**04 32 57.0**	**+0.3**
RTLS				*e*S	**Sb**	**04 33 29.3**	**+0.7**
RTLS				IAML		04 33 34.0	
	comp=Z,6μm,0.7s						
AUSP	**Uspallata**	**2.65**	**119**	*i* P	**Pb**	**04 32 58.0**	**-0.3**
ACCO	**Cerro Coronel**	**2.66**	**83**	*i* P	**Pb**	**04 32 57.6**	**-0.9**
MT05	**Renca**	**2.69**	**155**	*e*P	**Pn**	**04 32 55.1**	**+0.8**
MT05				*e*S	**Sb**	**04 33 29.6**	**-2.7**
MT05				IAML		04 33 42.0	
	comp=E,17μm,0.5s						
MT05	**Renca**	**2.69**	**155**	Pn	**Pn**	**04 32 54.2**	**-0.1**
ACDV	**Cuesta del Vie**	**2.71**	**74**	*i* P	**Pb**	**04 32 59.0**	**-0.3**
ACDV				*e*S	**Sg**	**04 33 37.6**	**+0.5**
ACDV				IAML		04 33 45.8	
	comp=Z,4μm,0.8s						
VA05	**Santo Domingo**	**2.72**	**171**	*e*P	**Pn**	**04 32 54.3**	**-0.3**
VA05	**Santo Domingo**	**2.72**	**171**		**Pn**	**04 32 54.4**	**-0.2**
AC04	**Llanos de Chal**	**2.90**	**19**	*e*P	**Pn**	**04 32 55.8**	**-1.4**
AC04	**Llanos de Chal**	**2.90**	**19**	Pn	**Pn**	**04 32 56.1**	**-1.1**
AC04	**Llanos de Chal**	**2.90**	**19**	*i* P	**Pn**	**04 32 56.0**	**-1.1**
AC04				*e*S	**Sg**	**04 33 42.5**	**-0.7**
AC04				IAML		04 33 54.0	
	comp=Z,4μm,1.4s						
MT09	**Talagante**	**2.96**	**161**		**Pn**	**04 32 58.4**	**+0.3**
MT01	**Popeta**	**2.98**	**166**	*e*P	**Pn**	**04 32 58.3**	**0.0**
MT01				IAML		04 33 58.5	
	comp=E,10μm,0.6s						
MT01	**Popeta**	**2.98**	**166**		**Pn**	**04 32 58.4**	**+0.1**
MT01	**Popeta**	**2.98**	**166**	*e*P	**Pb**	**04 33 03.6**	**-0.2**
MT01				*e*S	**Sb**	**04 33 40.5**	**-0.1**
MT01				IAML		04 33 51.5	
	comp=Z,5μm,0.7s						
RTCV	**Cerro Valdivia**	**3.19**	**107**	*i* P	**Pb**	**04 33 06.0**	**-1.4**
RTCV				IAML		04 34 04.2	
	comp=Z,1μm,1.4s						
BO03	**Pichilemu**	**3.52**	**178**	*e*P	**Pn**	**04 33 04.5**	**-1.2**
BO03				IAML		04 34 14.0	
	comp=N,4μm,0.8s						
BO01	**Tunca**	**3.52**	**166**	*e*P	**Pn**	**04 33 06.3**	**+0.5**
BO01				IAML		04 34 07.9	
	comp=E,2μm,0.4s						
BO01	**Tunca**	**3.52**	**166**		**Pn**	**04 33 06.3**	**+0.5**
BO01	**Tunca**	**3.52**	**166**	*i* P	**Pn**	**04 33 07.0**	**+1.3**
BO01				*e*S	**Sg**	**04 34 03.4**	**+0.1**
BO01				IAML		04 34 08.1	
	comp=Z,4μm,1.1s						
GO03	**Copiap**	**3.74**	**27**	Pn	**Pn**	**04 33 08.8**	**0.0**
BO02	**Sierra Bellavi**	**3.98**	**164**	⇑*e*P	**Pn**	**04 33 12.9**	**+0.9**
BO02	**Sierra Bellavi**	**3.98**	**164**	Pn	**Pn**	**04 33 13.0**	**+0.9**
BO02	**Sierra Bellavi**	**3.98**	**164**	*i* P	**Pn**	**04 33 15.0**	**+3.0**
BO02				*e*S	**Sg**	**04 34 16.7**	**-1.2**
BO02				IAML		04 34 19.8	
	comp=Z,4μm,1.5s						
GO05	**Huala**	**4.04**	**178**	*e*P	**Pn**	**04 33 11.7**	**-1.1**
GO05	**Huala**	**4.04**	**178**		**Pn**	**04 33 11.6**	**-1.1**
GO05	**Huala**	**4.04**	**178**	*i* P	**Pn**	**04 33 12.0**	**-0.8**
ACHE	**Chepes**	**4.69**	**94**	*i* P	**Pn**	**04 33 24.0**	**+2.1**
ML02	**Panimavida**	**4.82**	**173**	*e*P	**Pn**	**04 33 23.7**	**+0.2**
ML02	**Panimavida**	**4.82**	**173**		**Pn**	**04 33 22.4**	**-1.2**
AC02	**Maricunga**	**4.88**	**33**	*e*P	**Pn**	**04 33 24.9**	**+0.1**
AC02				*e*S	**Sn**	**04 34 22.2**	**+0.1**
AC02	**Maricunga**	**4.88**	**33**	Pn	**Pn**	**04 33 25.2**	**+0.4**
AC02	**Maricunga**	**4.88**	**33**	*i* P	**Pn**	**04 33 26.0**	**+1.2**
AC02				IAML		04 34 45.0	
	comp=Z,2μm,1.0s						
RFA	**San Rafael**	**4.88**	**142**	*i* P	**Pn**	**04 33 27.0**	**+2.5**
RFA				IAML		04 34 52.2	
	comp=Z,1μm,2.3s						
MRA	**San Martin**	**5.65**	**107**	*i* P	**Pn**	**04 33 38.0**	**+3.0**
MRA				IAML		04 35 16.1	
	comp=Z,1μm,1.2s						
CYA	**Choya**	**6.04**	**67**	*i* P	**Pn**	**04 33 43.0**	**+2.6**
CYA				IAML		04 35 20.9	
	comp=Z,1μm,1.2s						
H03N1	**Juan Fernandez**	**6.26**	**245**	T	T	04 40 29.8	
	baz=75,slow=72,SNR=113						
VA04	**Juan Fernndez**	**6.28**	**243**	Pn	**Pn**	**04 33 42.1**	**-1.5**
H03N3	**Juan Fernandez**	**6.28**	**245**	T	T	04 40 25.7	
	baz=75,slow=72,SNR=118						
H03N2	**Juan Fernandez**	**6.28**	**245**	T	T	04 40 31.5	
	baz=75,slow=72,SNR=89						
LC01	**Cunco**	**7.92**	**179**	Pn	**Pn**	**04 34 05.3**	**-0.7**
LC01	**Cunco**	**7.92**	**179**	*i* P	**Pn**	**04 34 05.0**	**-1.1**
LR03	**Panguipulli**	**8.65**	**181**		**Pn**	**04 34 15.7**	**-0.4**
PLCA	**Paso Flores**	**9.83**	**173**	Pn	**Pn**	**04 34 33.1**	**+0.7**
	comp=Z,3.3nm,0.3s,baz=340,slow=12,SNR=11						
PLCA	**Paso Flores**	**9.83**	**173**		**Pn**	**04 34 32.1**	**-0.2**
PLCA	**Paso Flores**	**9.83**	**173**	*i* P	**Pn**	**04 34 33.0**	**+0.7**
LPAZ	**La Paz**	**15.06**	**15**	Pn	**P**	**04 35 46.1**	**-3.9**
	comp=Z,0.7nm,0.3s,baz=188,slow=8.8,SNR=5.6						
LPAZ	**La Paz**	**15.06**	**15**		**Pn**	**04 35 44.7**	**+0.3**
SIV	**San Ignacio**	**18.00**	**37**	P	**Pn**	**04 36 20.5**	**-1.0**
	comp=Z,1.1nm,0.3s,baz=250,slow=21,SNR=6.7						
NNA	**Nana**	**19.39**	**346**	P	**Pn**	**04 36 39.1**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=213,slow=16,SNR=2.0						
NNA	**Nana**	**19.39**	**346**	P	**Pn**	**04 36 37.6**	**-0.7**
USHA	**Ushuaia**	**24.00**	**175**	P	**P**	**04 37 26.5**	**+0.7**
	comp=Z,90nm,0.7s,baz=7.9,slow=3.3,SNR=8.1						
BDFB	**Brasilia**	**26.80**	**61**	P	**P**	**04 37 50.4**	**-1.3**
	comp=Z,43nm,0.8s,baz=224,slow=8.3,SNR=10						
BDFB	**Brasilia**	**26.80**	**61**	P	**P**	**04 37 50.8**	**-0.9**
BDFB				IAmb	IAmb	04 37 52.7	
	comp=Z,51nm,0.8s						
BBAC	**Balboa, Cauca**	**33.17**	**351**	*e*P	**P**	**04 38 51.0**	**+2.8**
SOTA	**Rioblanco**	**33.19**	**352**	*e*P	**P**	**04 38 52.1**	**+3.3**
PMSA	**Palmer Station**	**34.20**	**174**	P	**P**	**04 38 57.4**	**+1.0**
	comp=Z,17nm,1.0s,baz=331,slow=4.4,SNR=5.1						
ORTC	**Ortega, Tolima**	**34.81**	**355**	*e*P	**P**	**04 39 04.7**	**+2.4**
VILC	**Villavicencio,**	**34.91**	**357**	*e*P	**P**	**04 39 04.1**	**+0.8**
CHIC	**Chingaza**	**35.43**	**357**	*e*P	**P**	**04 39 09.7**	**+1.6**
ROSC	**El Rosal**	**35.67**	**356**	P	**P**	04 39 14.1	+4.0
	comp=Z,3.6nm,0.4s,baz=135,slow=20,SNR=1.4						
ROSC	**El Rosal**	**35.67**	**356**	*e*P	**P**	04 39 19.8	+10
GUY2C	**Guyana, Caldas**	**36.12**	**355**	*e*P	**P**	**04 39 15.9**	**+1.9**
NORC	**Norcasia**	**36.42**	**355**	*e*P	**P**	**04 39 18.2**	**+2.1**
RUSC	**La Rusia**	**36.66**	**358**	*e*P	**P**	**04 39 20.0**	**+1.4**
CBOC	**Ciudad Bolivar**	**36.81**	**354**	*e*P	**P**	**04 39 21.1**	**+1.5**
HELC	**Santa Helena**	**37.09**	**354**	*e*P	**P**	**04 39 23.2**	**+1.0**
PTBC	**PUERTO BERRIO,**	**37.36**	**356**	*e*P	**P**	**04 39 23.3**	**-0.7**
DBBC	**Dabeiba**	**37.97**	**353**	*e*P	**P**	**04 39 31.6**	**+2.3**
ZARC	**Zaragoza, Cauc**	**38.33**	**356**	*e*P	**P**	**04 39 32.7**	**+0.4**
SJCC	**San Jacinto, C**	**40.73**	**355**	*e*P	**P**	**04 39 52.1**	**-0.2**
SJG	**San Juan**	**49.13**	**8**	P	P	04 41 03.3	+4.2
	comp=Z,14nm,0.8s,baz=229,slow=3.6,SNR=3.9						
SJG	**San Juan**	**49.13**	**8**	P	**P**	**04 40 59.3**	**+0.2**
SJG				IAmb	IAmb	04 41 05.9	
	comp=Z,28nm,1.1s						
VNA3	**Neumayer Olymp**	**52.19**	**159**	P	**P**	**04 41 22.2**	**+0.5**
VNA1	**Neumayer--Stat**	**52.49**	**158**	P	**P**	**04 41 25.1**	**+1.2**
VNA2	**Neumayer--Watz**	**52.84**	**158**	P	**P**	**04 41 27.1**	**+0.6**
	baz=284,slow=8.4						
SNAA	**Sanae**	**54.42**	**159**	P	**P**	**04 41 38.3**	**+0.2**
QSPA	**South Pole Qui**	**59.26**	**180**	P	**P**	**04 42 13.3**	**+0.6**
833A	**Chaparral WMA,**	**64.44**	**333**	P	**P**	**04 42 49.3**	**+1.6**
	baz=154						
HPIG		**65.89**	**327**	P	**P**	**04 42 56.0**	**-1.4**
HPIG				IAmb	IAmb	04 43 07.0	
	comp=Z,12nm,0.9s						
143A	**Socs Landing,**	**65.90**	**342**	P	**P**	**04 42 56.3**	**-0.8**
435B	**Jarrell**	**66.00**	**336**	P	**P**	**04 42 58.7**	**+0.8**
	baz=156						
JCT	**Junction City**	**66.53**	**334**	P	**P**	**04 43 01.0**	**-0.3**
JCT	**Junction City**	**66.53**	**334**	P	**P**	**04 43 02.2**	**+0.9**
	baz=154						
VNDA	**Vanda**	**67.06**	**191**	P	**P**	**04 43 04.6**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=116,slow=5.8,SNR=3.5						
VNDA	**Vanda**	**67.06**	**191**	P	**P**	**04 43 04.6**	**+0.5**
WHTX	**Lake Whitney,**	**67.06**	**337**	P	**P**	**04 43 05.4**	**+0.9**
	baz=157						
TX32	**Lajitas Array**	**67.07**	**330**	P	**P**	**04 43 05.5**	**+0.7**
TXAR	**Lajitas Array**	**67.07**	**330**	P	**P**	**04 43 05.9**	**+1.1**
	comp=Z,4.2nm,0.9s,baz=154,slow=8.5,SNR=18						
TXAR				PKP2ab		05 11 36.3	
	comp=Z,0.6nm,1.0s,baz=349,slow=3.9,SNR=4.8						
TXAR	**Lajitas Array**	**67.07**	**330**	P	**P**	**04 43 05.1**	**+0.3**
TX31	**Lajitas Ar. Si**	**67.07**

MAW	**Mawson**	**76.10**	**164**	P		**P**	**04 43 59.3**	**+0.6**
BC3	**Big Chuckawall**	**76.19**	**324**	P		**P**	**04 44 01.3**	**+1.5**
	baz=143							
IRM	**Iron Mountain**	**76.43**	**324**	P		**P**	**04 44 02.7**	**+1.7**
	baz=143							
TPFO	**Pinon Flats**	**76.66**	**323**	P		**P**	**04 44 04.1**	**+1.7**
	baz=142							
PFO	**Pinyon Flats O**	**76.67**	**323**	P		**P**	**04 44 04.6**	**+2.1**
	comp=Z,5.9nm,0.9s,baz=119,slow=2.7,SNR=5.8							
PFO	**Pinyon Flats O**	**76.67**	**323**	P		**P**	**04 44 03.8**	**+1.4**
	baz=142							
LMN	**Caledonia Moun**	**76.74**	**5**	P		**P**	**04 44 03.9**	**+1.4**
PV13	**Radium Mtn., P**	**76.83**	**331**	P		**P**	**04 44 04.3**	**+0.9**
PV13				IAmb		IAmb	04 44 13.3	
	comp=Z,12nm,0.9s							
PV05	**Paradox Valley**	**76.87**	**331**	P		**P**	**04 44 04.6**	**+0.9**
PV05				IAmb		IAmb	04 44 12.9	
	comp=Z,12nm,0.9s							
ISCO	**Idaho Springs**	**76.97**	**334**	P		**P**	**04 44 05.8**	**+1.5**
	baz=151							
K31A	**O'Neill**	**77.22**	**340**	P		**P**	**04 44 05.8**	**+0.6**
HEC	**Hector,Ludlow**	**77.56**	**324**	P		**P**	**04 44 09.7**	**+2.3**
	baz=142							
KNB	**Kanab**	**77.62**	**328**	P		**P**	**04 44 09.6**	**+1.7**
KNB				IAmb		IAmb	04 44 10.8	
	comp=Z,20nm,1.2s							
ECSD	**EROS Data Cent**	**77.65**	**342**	P		**P**	**04 44 08.1**	**+0.5**
	baz=159							
D62A	**Allapoint, All**	**77.74**	**2**	P		**P**	**04 44 10.0**	**+2.1**
D62A				IAmb		IAmb	04 44 17.5	
	comp=Z,18nm,0.9s							
TUQ	**Turquoise Moun**	**77.83**	**325**	P		**P**	**04 44 11.1**	**+2.1**
	baz=143							
N23A	**Red Feather La**	**78.05**	**334**	P		**P**	**04 44 11.8**	**+1.6**
	baz=151							
GSC	**Goldstone, Bar**	**78.17**	**324**	P		**P**	**04 44 12.7**	**+1.9**
	baz=142							
MTPU	**Mount Pierson**	**78.18**	**329**	P		**P**	**04 44 12.4**	**+1.3**
PHWY	**Pilot Hill**	**78.23**	**335**	P		**P**	**04 44 12.3**	**+1.1**
PHWY				IAmb		IAmb	04 44 20.5	
	comp=Z,10nm,0.8s							
O20A	**White River Ci**	**78.27**	**333**	P		**P**	**04 44 12.8**	**+1.4**
O20A				IAmb		IAmb	04 44 20.9	
	comp=Z,19nm,0.9s							
O20A	**White River Ci**	**78.27**	**333**	P		**P**	**04 44 13.1**	**+1.7**
	baz=149							
CCUT	**Cedar City**	**78.31**	**328**	P		**P**	**04 44 13.5**	**+1.8**
CCUT				IAmb		IAmb	04 44 22.0	
	comp=Z,12nm,0.9s							
SHPR	**Sheep Range**	**78.31**	**326**	P		**P**	**04 44 13.3**	**+1.6**
SHPR				IAmb		IAmb	04 44 14.4	
	comp=Z,15nm,1.2s							
SRU	**San Rafael Swe**	**78.34**	**330**	P		**P**	**04 44 12.9**	**+1.1**
SRU				IAmb		IAmb	04 44 21.4	
	comp=Z,10nm,0.8s							
EDW2	**Edwards Air Fo**	**78.45**	**323**	P		**P**	**04 44 13.8**	**+1.4**
	baz=141							
MSU	**Marysvale**	**78.56**	**329**	P		**P**	**04 44 14.7**	**+1.6**
MVU	**Marysvale**	**78.57**	**329**	P		**P**	**04 44 14.8**	**+1.7**
P17A	**Butcher Ranch,**	**78.74**	**330**	P		**P**	**04 44 15.0**	**+1.0**
P17A				IAmb		IAmb	04 44 23.8	
	comp=Z,14nm,1.0s							
PRN	**Pahroc Range**	**78.98**	**326**	P		**P**	**04 44 17.1**	**+1.8**
PRN				IAmb		IAmb	04 44 18.2	
	comp=Z,16nm,1.0s							
MPMC	**Manual Prospec**	**79.11**	**324**	P		**P**	**04 44 15.8**	**-0.3**
	baz=142							
RDMU	**Red Mountain**	**79.18**	**332**	P		**P**	**04 44 17.6**	**+1.2**
RDMU				IAmb		IAmb	04 44 26.0	
	comp=Z,17nm,0.9s							
TPNV	**Topopah Spring**	**79.19**	**325**	P		**P**	**04 44 18.5**	**+2.0**
TPNV	**Topopah Spring**	**79.19**	**325**	P		**P**	**04 44 18.5**	**+2.0**
	baz=143							
RWWY	**Rawlins**	**79.21**	**334**	P		**P**	**04 44 17.7**	**+1.0**
RWWY				IAmb		IAmb	04 44 26.5	
	comp=Z,34nm,1.1s							
ISA	**Isabella, Lake**	**79.30**	**323**	P		**P**	**04 44 18.6**	**+1.6**
ISA	**Isabella, Lake**	**79.30**	**323**	P		**P**	**04 44 18.8**	**+1.7**
	baz=141							
PSUT	**Pine Spring**	**79.33**	**328**	P		**P**	**04 44 18.9**	**+1.6**
PKM	**Mcpherson Peak**	**79.41**	**322**	P		**P**	**04 44 19.6**	**+1.9**
	baz=140							
MPU	**Maple Canyon**	**79.57**	**330**	P		**P**	**04 44 19.6**	**+1.1**
MPU				IAmb		IAmb	04 44 28.4	
	comp=Z,14nm,1.0s							
CWC	**Cottonwood Cre**	**79.70**	**324**	P		**P**	**04 44 20.4**	**+1.1**
	baz=141							
NLU	**North Lily Min**	**79.71**	**330**	P		**P**	**04 44 20.7**	**+1.4**
VES	**Vestal, Richgr**	**79.76**	**323**	P		**P**	**04 44 21.3**	**+2.0**
	baz=140							
K22A	**Casper**	**79.79**	**335**	P		**P**	**04 44 20.9**	**+1.3**
	baz=150							
SMMC	**Simmler**	**79.83**	**322**	P		**P**	**04 44 21.7**	**+1.9**
	baz=140							
R11A	**Troy Canyon, C**	**79.99**	**327**	P		**P**	**04 44 22.4**	**+1.5**
	baz=143							
TSUM	**Tsumeb**	**80.12**	**106**	P		**P**	**04 44 22.5**	**+0.4**
TSUM				IAmb		IAmb	04 44 22.7	
	comp=Z,62nm,1.9s							
RSSD	**Black Hills**	**80.22**	**337**	P		**P**	**04 44 23.5**	**+1.5**
	baz=153							
DUG	**Dugway, Tooele**	**80.23**	**330**	P		**P**	**04 44 23.3**	**+1.3**
DUG	**Dugway, Tooele**	**80.23**	**330**	P		**P**	**04 44 23.2**	**+1.2**
	baz=146							
HWUT	**Hardware Ranch**	**80.86**	**331**	P		**P**	**04 44 25.6**	**+0.1**
HWUT				IAmb		IAmb	04 44 34.8	
	comp=Z,21nm,0.9s							
BW06	**Boulder Array**	**81.03**	**333**	P		**P**	**04 44 26.8**	**+0.4**
	baz=148							
PDAR	**Pinedale Array**	**81.03**	**333**	P		**P**	**04 44 26.7**	**+0.3**
	comp=Z,2.9nm,1.0s,baz=141,slow=5.0,SNR=5.5							
NVAR	**Mina Array Bea**	**81.36**	**325**	P		**P**	**04 44 29.6**	**+1.4**
	comp=Z,2.5nm,0.8s,baz=156,slow=5.8,SNR=6.5							
HVU	**Hansel Valley**	**81.52**	**330**	P		**P**	**04 44 29.1**	**+0.3**
HVU				IAmb		IAmb	04 44 37.6	
	comp=Z,10nm,0.8s							
BOSA	**Boshof**	**81.55**	**118**	P		**P**	**04 44 29.4**	**-0.2**
	comp=Z,13nm,0.8s,baz=240,slow=4.3,SNR=17							
BOSA	**Boshof**	**81.55**	**118**	P		**P**	**04 44 29.6**	**0.0**
BOSA				IAmb		IAmb	04 44 30.7	
	comp=Z,15nm,0.8s							
ELK	**Elko**	**81.75**	**328**	P		**P**	**04 44 30.7**	**+0.4**
CASY	**Casey**	**83.04**	**181**	P		**P**	**04 44 37.5**	**+1.0**
CASY				IAmb		IAmb	04 44 38.8	
	comp=Z,12nm,0.9s							
TORD	**Torodi Ar. Bea**	**83.25**	**70**	P		**P**	**04 44 38.0**	**-0.4**
	comp=Z,13nm,0.8s,baz=260,slow=4.6,SNR=20							
TORD	**Torodi Ar. Bea**	**83.25**	**70**	P		**P**	**04 44 37.9**	**-0.5**
TORD				IAmb		IAmb	04 44 39.0	
	comp=Z,12nm,0.8s							
ULM	**Lac du Bonnet**	**83.56**	**345**	P		**P**	**04 44 40.6**	**+1.5**
	comp=Z,3.0nm,0.7s,baz=194,slow=4.2,SNR=2.1							
LBTB	**Lobatse**	**83.65**	**115**	P		**P**	**04 44 40.5**	**-0.1**
HLID	**Hailey**	**83.67**	**331**	P		**P**	**04 44 41.3**	**+1.2**
HLID				IAmb		IAmb	04 44 50.1	
	comp=Z,9.8nm,1.0s							
HLID	**Hailey**	**83.67**	**331**	P		**P**	**04 44 41.3**	**+1.2**
	baz=144							
ORV	**Oroville**	**83.82**	**324**	P		**P**	**04 44 42.1**	**+1.4**
ORV				IAmb		IAmb	04 44 43.3	
	comp=Z,14nm,1.1s							
MCMT	**McKenzie Canyo**	**84.06**	**332**	P		**P**	**04 44 43.4**	**+1.3**
DGMT	**Dagmar**	**84.13**	**339**	P		**P**	**04 44 42.9**	**+0.8**
DGMT	**Dagmar**	**84.13**	**339**	P		**P**	**04 44 42.9**	**+0.8**
	baz=153							
O03E	**Paynes Creek**	**84.53**	**324**	P		**P**	**04 44 44.7**	**+0.3**
	baz=139							
J08A	**Circle Bar Ran**	**85.29**	**328**	P		**P**	**04 44 49.5**	**+1.2**
YBH	**Yreka Blue Hor**	**86.06**	**325**	P		**P**	**04 44 52.3**	**+0.2**
	comp=Z,3.1nm,0.8s,baz=318,slow=3.2,SNR=5.4							
YBH	**Yreka Blue Hor**	**86.06**	**325**	P		**P**	**04 44 52.3**	**+0.2**
L04D	**Klamath Falls**	**86.23**	**325**	P		**P**	**04 44 53.3**	**+0.4**
	baz=139							
J05D	**Fort Rock, OR**	**86.51**	**326**	P		**P**	**04 44 55.3**	**+0.9**
	baz=140							
K02D	**Willamette Mer**	**87.25**	**325**	P		**P**	**04 44 59.4**	**+1.5**
	baz=138							
I05D	**Terrebonne, OR**	**87.36**	**327**	P		**P**	**04 44 59.6**	**+1.2**
	baz=140							
AKASG	**Malin Array Be**	**120.17**	**46**	PKP		**PKiKP**	**04 51 01.2**	**-0.9**
	comp=Z,2.4nm,0.8s,baz=253,slow=3.0,SNR=4.8							
ASAR	**Alice Springs**	**120.22**	**208**	PKP		**PKiKP**	**04 51 02.2**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=141,slow=2.1,SNR=6.5							
BRTR	**Keskin Array B**	**120.39**	**59**	PKP		**PKiKP**	**04 51 02.4**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=205,slow=5.5,SNR=3.9							
WRA	**Warramunga Arr**	**123.36**	**210**	PKP		**PKiKP**	**04 51 08.8**	**-0.6**
	comp=Z,2.5nm,0.7s,baz=153,slow=2.1,SNR=20							
H11S2	**WAKE ISLAND Hyl**	**125.69**	**271**	T		T	07 10 04.4	
	baz=115,slow=75,SNR=23							
H11S1	**WAKE ISLAND Hyl**	**125.70**	**271**	T		T	07 10 05.0	
	baz=115,slow=75,SNR=22							
H11S3	**WAKE ISLAND Hyl**	**125.71**	**271**	T		T	07 10 03.6	
	baz=115,slow=75,SNR=21							
BVAR	**Borovoye Array**	**145.06**	**40**	PKPbc		**PKPdf**	**04 51 48.6**	**+0.2**
	comp=Z,11nm,0.8s,baz=245,slow=6.4,SNR=16							
YAK	**Yakutsk**	**145.85**	**342**	PKPbc		**PKiKP**	**04 51 52.2**	**-1.4**
	comp=Z,15nm,0.4s,baz=22,slow=5.3,SNR=1.8							
GAR	**Garm**	**148.37**	**65**			**PKiKP**	**04 51 58.2**	**-1.5**
HYB	**Hyderabad**	**150.15**	**110**	*i* PKP		**PKPbc**	**04 52 02.0**	**-1.0**
EKS2	**Erkin-Say**	**150.50**	**57**	P		**PKiKP**	**04 52 03.9**	**-0.1**
	SNR=8.7							
RPSI	**Rantau Prapat**	**150.63**	**162**			**PKiKP**	**04 52 03.5**	**-1.5**
KURBB	**Kurchatov Arra**	**150.65**	**40**	PKPbc		**PKiKP**	**04 52 02.9**	**-1.0**
	comp=Z,7.2nm,0.8s,baz=300,slow=3.0,SNR=13							
KURBB				PKPab		**pPKPab**	**04 52 10.9**	**+0.8**
	comp=Z,7.7nm,0.7s,baz=300,slow=3.4,SNR=12							
KURK	**Kurchatov**	**150.65**	**39**			**PKiKP**	**04 52 02.9**	**-0.9**
USP	**Ospenovka**	**150.88**	**56**	P		**PKiKP**	**04 52 04.9**	**+0.2**
	SNR=6.4							
AAK	**Ala-Archa**	**151.02**	**57**	PKPbc		**PKiKP**	**04 52 05.5**	**+0.3**
	comp=Z,13nm,0.8s,baz=181,slow=1.3,SNR=14							
AAK				PKPab		**pPKPab**	**04 52 12.6**	**+0.5**
	comp=Z,6.7nm,0.7s,baz=159,slow=2.2,SNR=5.1							
AAK	**Ala-Archa**	**151.02**	**57**	P		**PKiKP**	**04 52 05.4**	**+0.3**
	SNR=7.0							
AAK	**Ala-Archa**	**151.02**	**57**			**PKiKP**	**04 52 05.0**	**-0.2**
UCH	**Uchtor**	**151.12**	**58**	P		**PKiKP**	**04 52 05.6**	**-0.2**
	SNR=9.6							
ZALV	**Zalesovo Beam**	**151.66**	**29**	PKPbc		**PKiKP**	**04 52 05.3**	**-0.5**
	comp=Z,22nm,0.8s,baz=296,slow=3.4,SNR=22							
TKM2	**Tokmak 2**	**151.75**	**56**	P		**PKiKP**	**04 52 06.8**	**+0.2**
	SNR=6.0							
KSH	**Kashi**	**152.69**	**63**	PKPbc		**PKPdf**	**04 52 02.6**	**+1.3**
KLR	**Kul'dur**	**154.37**	**322**	PKPbc		**PKiKP**	**04 52 10.8**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=326,slow=3.6,SNR=3.6							
MKAR	**Makanchi Array**	**154.73**	**44**	PKPbc		**PKiKP**	**04 52 11.4**	**-1.1**
	comp=Z,3.8nm,0.8s,baz=304,slow=2.8,SNR=6.6							
MKAR	**Makanchi Array**	**154.73**	**44**			**PKiKP**	**04 52 12.4**	**-0.1**
WMQ	**Urumqi**	**159.53**	**46**	*eP*		**PKPdf**	**04 52 08.8**	**-1.3**
WMQ				pmax		pmax		
	comp=Z,2μm,11.6s							
SONM	**Songino Array**	**163.12**	**3**	PKPab		**PKPab**	**04 53 03.1**	**-0.6**
	comp=Z,1.9nm,0.9s,baz=343,slow=4.5,SNR=3.6							
CMAR	**Chiang Mai Arr**	**165.14**	**145**	PKPab		**PKPab**	**04 53 12.2**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=207,slow=3.7,SNR=1.5							
HHC	**Hu-ho-hao-te**	**169.70**	**344**	*eP*		**PKPdf**	**04 52 15.3**	**-3.9**
HHC				LR		LR		
	comp=N,7μm,18.0s							
HHC				LR		LR		
	comp=E,5μm,19.4s							
HHC				LR		LR		
	comp=Z,8μm,18.6s							
NJ2	**Nanjing**	**170.57**	**279**	*eP*		**PKPdf**	**04 52 19.3**	**-0.5**
NJ2				pmax		pmax		
	comp=Z,11nm,0.9s							
XAN	**Xi'an**	**176.81**	**344**	PKPbc		**PKPdf**	**04 52 23.8**	**+1.7**
XAN				pPKP		sPKPdf	04 52 34.3	+12
XAN				PKPab		sPKPab	04 54 18.9	+14

IDC 17 04:35:30.3±1.5,31°.97S×72°.18W,h0km,mb4.1/3, mb1 4.4/4,mb1mx3.9/30,mbtmp4.2/4,ML3.8/1,Error ellipse: s-maj=68.1km s-min=36.2km az=63.0,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLCA	**Paso Flores**	**8.84**	**172**	Pn		Pn	04 37 39.2	-0.2
	0.2nm,0.3s,baz=352,slow=14,SNR=1.5							
TXAR	**Lajitas Array**	**67.91**	**331**	P		P	04 46 30.9	+0.1
	0.5nm,0.7s,baz=155,slow=6.7,SNR=1.6							
ANMO	**Albuquerque**	**73.95**	**331**	P		P	04 47 07.3	-0.2
	1.7nm,0.8s,baz=27,slow=2.3,SNR=2.6							
TORD	**Torodi Ar. Bea**	**83.64**	**70**	P		P	04 48 00.8	-0.2
	2.7nm,0.7s,baz=255,slow=5.3,SNR=4.1							
ZALV	**Zalesovo Beam**	**152.56**	**30**	PKPbc		PKiKP	04 55 28.7	+0.3
	1.7nm,0.5s,baz=319,slow=4.2,SNR=1.6							

*IDC **17** 04:38:04.5±0.5,31°.24S×71°.67W,h0km,mb4.9/16, mb1 4.9/21,mb1mx4.8/32,mbtmp4.9/21,ML4.6/5,Error ellipse: s-maj=22.3km s-min=12.5km az=90.0*
*VAO **17** 04:38:06.8±0.4,31°.24S×71°.61W,h10km,mb5.1*
*GUC **17** 04:38:08.0±0.6,31°.30S×71°.81W,h26km±3km, ML5.2*
*NEIC **17** 04:38:08.1±1.6,31°.26S±0°.04×71°.90W±0°.07,h20km±3km, mb5.2/80,ML5.2(GUC),Error ellipse: s-maj=8.5km s-min=4.6km az=112.0*
*MOS **17** 04:38:08.8±1.1,31°.16S×71°.73W,h33km,mb5.2/16,Error ellipse: s-maj=14.1km s-min=9.7km az=97.2*
*SJA **17** 04:38:09.1±0.7,31°.42S×71°.72W,h10km±13km,ML4.9, MW4.8*

ISC 17 04:38:07.9±0.9,31°.29S±0°.02×71°.83W±0°.04,h24km±6km, n350,σ1§26/370,mb5.2/61,6C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.63**	**15**	*eP*		**Pb**	**04 38 20.2**	**-0.1**
CO06				*eS*		**Sb**	**04 38 29.2**	**+0.4**
CO06	**Fray Jorge**	**0.63**	**15**			**Pb**	**04 38 20.1**	**-0.1**
CO06						**Sb**	**04 38 29.3**	**+0.6**
CO03	**El Pedregal**	**1.07**	**66**	*eP*		**Pn**	**04 38 27.0**	**-0.5**
CO03				*eS*		**Sb**	**04 38 41.3**	**-0.2**
CO03				IAML			04 38 45.0	
	comp=E,69μm,0.4s							
CO03	**El Pedregal**	**1.07**	**66**			**Pn**	**04 38 26.9**	**-0.5**
CO03				Sn		**Sn**	**04 38 41.6**	**0.0**
GO04	**Tololo Observa**	**1.42**	**39**	*eP*		**Pn**	**04 38 32.8**	**+0.5**
GO04				*eS*		**Sb**	**04 38 51.7**	**+0.2**
GO04				IAML			04 38 56.4	
	comp=N,93μm,0.5s							
GO04	**Tololo Observa**	**1.42**	**39**			**Pb**	**04 38 33.1**	**-0.7**
VA01	**Torpederas**	**1.74**	**175**	*eP*		**Pn**	**04 38 37.0**	**+0.5**
VA01	**Torpederas**	**1.74**	**175**			**Pn**	**04 38 37.0**	**+0.5**
VA01				Sn		**Sn**	**04 38 58.2**	**+0.4**
VA01	**Torpederas**	**1.74**	**175**	*i* P		**Pb**	**04 38 39.0**	**-0.1**
VA01				IAML			04 39 10.9	
	comp=Z,5μm,0.6s							
ROCH	**El Roble**	**1.82**	**158**	*eP*		**Pn**	**04 38 39.0**	**+1.2**
ROCH				*eS*		**Sb**	**04 39 02.1**	**-0.9**
ROCH				IAML			04 39 08.0	
	comp=N,42μm,0.7s							
VA03	**San Esteban**	**1.83**	**144**	*eP*		**Pb**	**04 38 39.5**	**-1.2**
VA03				*eS*		**Sb**	**04 39 02.3**	**-0.9**
VA03				IAML			04 39 05.5	
	comp=N,52μm,0.6s							
VA03	**San Esteban**	**1.83**	**144**			**Pn**	**04 38 38.0**	**+0.2**
VA03				Sn		**Sb**	**04 39 02.2**	**-0.9**
VA03	**San Esteban**	**1.83**	**144**	*i* P		**Pb**	**04 38 40.0**	**-0.7**
VA03				*eS*		**Sb**	**04 39 03.5**	**+0.3**
VA03				IAML			04 39 08.3	
	comp=Z,20μm,0.6s							
AUSP	**Uspallata**	**2.28**	**115**	*i* P		**Pb**	**04 38 48.0**	**-0.5**
MT05	**Renca**	**2.29**	**157**	*eP*		**Pn**	**04 38 45.7**	**+1.6**
MT05				*eS*		**Sb**	**04 39 14.8**	**-1.7**
MT05				IAML			04 39 25.7	
	comp=E,31μm,0.4s							
MT05	**Renca**	**2.29**	**157**			**Pn**	**04 38 45.8**	**+1.6**
MT05				Sn		**Sb**	**04 39 15.0**	**-1.5**
MT05	**Renca**	**2.29**	**157**	*i* P		**Pb**	**04 38 47.0**	**-1.6**
AROD	**Rodeo**	**2.31**	**62**	*i* P		**Pb**	**04 38 48.0**	**-1.1**
VA05	**Santo Domingo**	**2.37**	**176**	*eP*		**Pn**	**04 38 46.1**	**+0.9**
VA05				*eS*		**Sb**	**04 39 16.7**	**-2.0**
VA05				IAML			04 39 26.7	
	comp=E,19μm,0.2s							
VA05	**Santo Domingo**	**2.37**	**176**			**Pn**	**04 38 46.5**	**+1.3**
ACCO	**Cerro Coronel**	**2.47**	**74**	*i* P		**Pb**	**04 38 51.0**	**-0.8**
MT09	**Talagante**	**2.58**	**164**	*eP*		**Pn**	**04 38 49.7**	**+1.5**
MT09				*eS*		**Sn**	**04 39 21.8**	**+2.9**
MT09				IAML			04 39 30.8	
	comp=E,10μm,0.3s							
MT09	**Talagante**	**2.58**	**164**			**Pn**	**04 38 47.6**	**-0.6**
ACDV	**Cuesta del Vie**	**2.58**	**65**	*i* P		**Pb**	**04 38 54.0**	**+0.4**
ACDV				IAML			04 39 45.4	
	comp=Z,4μm,1.2s							
MT01	**Popeta**	**2.62**	**169**	*eP*		**Pn**	**04 38 49.6**	**+1.0**
MT01				IAML			04 39 34.7	
	comp=N,7μm,0.5s							
MT01	**Popeta**	**2.62**	**169**			**Pn**	**04 38 49.8**	**+1.2**
MT01	**Popeta**	**2.62**	**169**	*i* P		**Pb**	**04 38 52.0**	**-2.0**
MT01				*eS*		**Sb**	**04 39 26.7**	**+1.0**
MT01				IAML			04 39 32.9	
	comp=Z,5μm,0.6s							
ZON	**Zonda**	**2.70**	**96**	P		**Pn**	**04 38 52.4**	**+2.6**
ZON	**Zonda**	**2.70**	**96**			**Pn**	**04 38 52.4**	**+2.6**
ZON	**Zonda**	**2.70**	**96**	*i* P		**Pb**	**04 38 54.0**	**-1.6**
ZON				*eS*		**Sb**	**04 39 28.7**	**+0.4**
ZON				IAML			04 39 42.0	
	comp=Z,6μm,0.5s							
ASAL	**Salagasta**	**2.86**	**118**	*i* P		**Pb**	**04 38 56.7**	**-1.5**
ASAL				IAML			04 39 41.0	
	comp=Z,2μm,1.2s							
RTCV	**Cerro Valdivia**	**2.86**	**102**	*i* P		**Pb**	**04 38 56.0**	**-2.3**
RTCV				IAML			04 39 50.9	
	comp=Z,1μm,1.4s							
LMEL	**Las Melosas**	**2.90**	**152**	*eP*		**Pn**	**04 38 54.5**	**+1.9**
LMEL				IAML			04 39 48.5	
	comp=N,5μm,0.6s							
ARCO	**CERRO ARCO**	**2.90**	**123**	*i* P		**Pb**	**04 38 59.0**	**-0.1**
ARCO				IAML			04 39 48.7	
	comp=Z,9μm,0.7s							
AAGR	**Agrelo**	**3.11**	**126**	*i* P		**Pb**	**04 39 00.5**	**-2.1**
AAGR				IAML			04 39 56.8	
	comp=Z,2μm,2.4s							
AC04	**Llanos de Chal**	**3.14**	**12**	*eP*		**Pn**	**04 38 56.6**	**+0.8**
AC04				IAML			04 39 48.0	
	comp=E,3μm,0.5s							
AC04	**Llanos de Chal**	**3.14**	**12**			**Pn**	**04 38 56.2**	**+0.4**
BO01	**Tunca**	**3.16**	**169**	*eP*		**Pn**	**04 38 58.5**	**+2.5**
BO01				IAML			04 39 48.3	
	comp=E,4μm,0.5s							
BO01	**Tunca**	**3.16**	**169**			**Pn**	**04 38 58.3**	**+2.3**
BO01	**Tunca**	**3.16**	**169**	*i* P		**Pb**	**04 39 00.0**	**-3.3**
BO01				*eS*		**Sn**	**04 39 34.8**	**+1.8**
BO01				IAML			04 39 48.8	
	comp=Z,3μm,0.8s							
BO03	**Pichilemu**	**3.20**	**182**	*eP*		**Pn**	**04 38 56.3**	**-0.3**
AGUA	**GUANDACOL**	**3.39**	**59**	*i* P		**Pb**	**04 39 05.0**	**-2.4**
AGUA				IAML			04 39 59.9	
	comp=Z,2μm,0.9s							
BO02	**Sierra Bellavi**	**3.60**	**166**	*eP*		**Pn**	**04 39 03.5**	**+1.3**
BO02	**Sierra Bellavi**	**3.60**	**166**	Pn		**Pn**	**04 39 03.6**	**+1.3**
BO02	**Sierra Bellavi**	**3.60**	**166**	*i* P		**Pb**	**04 39 07.0**	**-3.9**
BO02				IAML			04 40 02.9	
	comp=Z,6μm,0.7s							
GO05	**Huala**	**3.71**	**181**	*eP*		**Pn**	**04 39 03.1**	**-0.6**
GO05	**Huala**	**3.71**	**181**			**Pn**	**04 39 02.7**	**-1.0**
GO05	**Huala**	**3.71**	**181**	*i* P		**Pn**	**04 39 05.0**	**+1.3**
GO03	**Copiap**	**3.93**	**21**	*eP*		**Pn**	**04 39 07.3**	**+0.5**
GO03	**Copiap**	**3.93**	**21**	Pn		**Pn**	**04 39 05.8**	**-0.9**
VCA	**Vinchina**	**4.04**	**52**	*i* P		Pn	04 39 13.0	+4.7
VCA				IAML			04 40 21.0	
	comp=Z,5μm,0.7s							
COIS	**El Sosneado**	**4.25**	**154**	*i* P		**Pn**	**04 39 14.0**	**+3.0**
LAMA	**Las Malvinas**	**4.25**	**150**	*i* P		**Pn**	**04 39 15.0**	**+4.0**
ACHE	**Chepes**	**4.42**	**90**	*i* P		**Pn**	**04 39 17.0**	**+3.4**
RFA	**San Rafael**	**4.47**	**142**	*i* P		**Pn**	**04 39 17.0**	**+2.8**
RFA				*eS*		**Sb**	**04 40 26.8**	**+7.5**
RFA				IAML			04 40 33.3	
	comp=Z,2μm,1.0s							
ML02	**Panimavida**	**4.48**	**176**			**Pn**	**04 39 12.8**	**-1.4**
AC02	**Maricunga**	**5.02**	**29**	Pn		**Pn**	**04 39 20.7**	**-1.4**
AC02	**Maricunga**	**5.02**	**29**	*i* P		Pn	04 39 27.0	+4.8
AC02				IAML			04 40 46.3	
	comp=Z,3μm,0.8s							
MRA	**San Martin**	**5.32**	**104**	*i* P		**Pn**	**04 39 29.0**	**+3.2**
MRA				IAML			04 41 03.7	
	comp=Z,715nm,0.7s							
VA04	**Juan Fernndez**	**6.37**	**247**	Pn		**Pn**	**04 39 39.0**	**-1.1**
H03N1	**Juan Fernandez**	**6.37**	**248**	T		T	04 46 23.4	
	baz=77,slow=72,SNR=770							
H03N3	**Juan Fernandez**	**6.38**	**248**	T		T	04 46 23.4	
	baz

NBPB Pedra_Branca-C 39.61 56 eP P 04 45 37.0 -0.7
SMLC San Martn de 39.92 357 eP P 04 45 39.2 -0.9
SDV Santo Domingo 39.96 2 P P 04 45 40.0 -0.7
comp=Z,13nm,0.7s,baz=262,slow=3.2,SNR=7.1
SDV Santo Domingo 39.96 2 eP P 04 45 41.3 +0.6
NBMO Morrinhos-CE 40.87 53 eP P 04 45 46.5 -1.5
NBRF Rio Formoso - 40.87 65 eP P 04 45 47.9 -0.2
SJCC San Jacinto, C 41.07 355 P P 04 45 49.7 0.0
NBCL Cascavel-CE 41.45 56 eP P 04 45 52.1 -0.7
SRBA San Rafael, Bu 41.78 343 P P 04 45 55.8 +0.2
PLCV Puerto La Cruz 41.79 11 P P 04 45 55.2 -0.3
PCRV Puerto La Cruz 41.80 11 P P 04 45 55.2 -0.4
comp=Z,24nm,1.0s,baz=136,slow=11,SNR=4.5
RCBR Riachuelo 42.11 61 eP P 04 45 58.0 -0.3
NBPV Pedro Velho 42.18 62 eP P 04 45 59.3 +0.5
CRPR Cabo Rojo, PR 49.22 6 P P 04 46 53.0 -1.2
OBIP Obispado Ponce 49.30 7 P P 04 46 53.3 -1.6
OBIP IAmb IAmb 04 46 54.8
comp=Z,41nm,0.9s
PDPR Patillas Dam, 49.34 7 P P 04 46 54.0 -1.2
PDPR IAmb IAmb 04 46 56.0
comp=Z,33nm,0.9s
SJG San Juan 49.42 7 P P 04 46 55.3 -0.5
comp=Z,11nm,0.3s,baz=209,slow=3.3,SNR=11
CBYP Canovanas 49.61 7 P P 04 46 56.2 -1.1
CBYP IAmb IAmb 04 46 57.6
comp=Z,30nm,0.9s
GCPR Guaynabo City 49.62 7 P P 04 46 56.4 -1.0
GCPR IAmb IAmb 04 46 56.9
comp=Z,26nm,0.9s
VNA3 Neumayer Olymp 51.80 159 P P 04 47 14.2 +0.9
VNA1 Neumayer--Stat 52.10 158 P P 04 47 16.9 +1.4
VNA2 Neumayer--Watz 52.45 158 P P 04 47 18.8 +0.7
baz=285,slow=8.1
SNAA Sanae 54.03 159 P P 04 47 30.3 +0.6
SNAA Sanae 54.03 159 i P P 04 47 29.9 +0.1
SNAA pmax pmax
comp=Z,27nm,1.1s
SNAA Sanae 54.03 159 P P 04 47 30.5 +0.7
SNAA IAmb IAmb 04 47 43.2
comp=Z,19nm,0.9s
735A Kenedy 64.72 335 P P 04 48 44.6 +0.6
833A Chaparral WMA, 64.84 333 P P 04 48 46.6 +1.9
baz=154
KMSC Kings Mountain 66.68 352 P P 04 49 02.7 +6.2
baz=171
VNDA Vanda 66.79 191 P P 04 48 58.9 +2.1
comp=Z,1.7nm,0.8s,baz=136,slow=7.1,SNR=6.6
JCT Junction City 66.93 334 P P 04 48 59.1 +0.9
JCT pmax pmax
comp=Z,66nm,1.1s
JCT Junction City 66.93 334 P 04 48 59.1 +0.9
JCT Junction City 66.93 334 P P 04 49 00.7 +2.5
baz=154
X48A Hartselle 66.94 346 P 04 48 58.4 +0.3
X48A IAmb IAmb 04 49 51.4
comp=Z,28nm,1.1s
V53A Saluda 67.40 350 P P 04 49 00.7 -0.4
CPCT Cooper Cave 67.45 349 P P 04 49 01.5 +0.1
SWET Sewanee 67.47 348 P P 04 49 01.5 0.0
TX31 Lajitas Ar. Si 67.47 330 P P 04 49 02.5 +0.8
TX32 Lajitas Array 67.47 330 P P 04 49 02.1 +0.3
TXAR Lajitas Array 67.47 330 P P 04 49 03.2 +1.5
comp=Z,1.9nm,0.6s,baz=153,slow=8.6,SNR=15
TXAR Lajitas Array 67.47 330 P P 04 49 02.5 +0.7
TXAR Lajitas Array 67.47 330 P P 04 49 02.5 +0.7
OXF Oxford 67.51 344 P P 04 49 02.2 +0.4
OXF pmax pmax
comp=Z,40nm,0.9s
OXF Oxford 67.51 344 P P 04 49 02.2 +0.4
OXF Oxford 67.51 344 P P 04 49 01.8 +0.1
baz=164
TKL Tuckaleechee C 67.53 349 P P 04 49 01.3 -0.6
comp=Z,5.4nm,0.8s,baz=183,slow=8.3,SNR=5.6
CLTN Cedars of Leba 68.39 347 P P 04 49 07.8 +0.5
CLTN IAmb IAmb 04 49 53.6
comp=Z,26nm,1.2s
Z35A Perchaven, San 68.61 337 P P 04 49 09.5 +0.8
WVT Waverly 68.72 346 P P 04 49 09.3 -0.1
WVT pmax pmax
comp=Z,18nm,0.8s
WVT Waverly 68.72 346 P 04 49 09.3 -0.1
WVT IAmb IAmb 04 49 22.8
comp=Z,18nm,0.8s
WVT Waverly 68.72 346 P P 04 49 09.6 +0.2
baz=165
W41B Gary Mavity, V 68.84 342 P P 04 49 11.0 +0.9
baz=161
W39A Magazine 69.28 341 P P 04 49 13.7 +0.9
W39A Magazine 69.28 341 P P 04 49 14.2 +1.4
baz=160
LCAR Lake Charles 69.42 343 P P 04 49 13.5 -0.1
FCAR Ozark Folk Cen 69.49 342 P 04 49 14.3 +0.2
PBMO Poplar Bluff 69.92 344 P P 04 49 16.4 -0.4
PBMO IAmb IAmb 04 49 40.8
comp=Z,33nm,1.2s
X34A Smith Ranch, M 69.97 337 P 04 49 17.1 0.0
X34A IAmb IAmb 04 49 54.6
comp=Z,41nm,1.2s
U40A Yellville 70.12 342 P P 04 49 18.6 +0.5
U40A Yellville 70.12 342 P P 04 49 18.4 +0.4
baz=161
MNTX Cornudas Mount 70.25 330 P 04 49 19.2 +0.2
MNTX IAmb IAmb 04 49 52.0
comp=Z,25nm,1.2s
MNTX Cornudas Mount 70.25 330 P P 04 49 19.4 +0.5
baz=150
HHAR Hobbs 70.34 341 P P 04 49 19.5 +0.1
HHAR IAmb IAmb 04 49 40.8
comp=Z,28nm,1.2s
S44A Carbondale 70.53 345 P P 04 49 20.3 -0.1
S44A IAmb IAmb 04 49 32.5
comp=Z,22nm,1.0s
SIUC Southern Illin 70.54 345 P P 04 49 20.9 +0.4
SIUC IAmb IAmb 04 49 32.1
comp=Z,15nm,0.8s
U38A Gravette 70.61 341 P P 04 49 21.5 +0.5
FVM French Village 71.07 345 P P 04 49 24.3 +0.5
FVM pmax pmax
comp=Z,21nm,0.9s
FVM French Village 71.07 345 P P 04 49 24.3 +0.5
FVM IAmb IAmb 04 49 36.1
comp=Z,21nm,0.8s
MSTX Muleshoe 71.17 333 P P 04 49 25.5 +0.9
MSTX IAmb IAmb 04 49 36.6
comp=Z,23nm,0.9s
MSTX Muleshoe 71.17 333 P P 04 49 25.5 +0.9
baz=152
CCM Cathedral Cave 71.33 344 P P 04 49 25.3 0.0
CCM pmax pmax
comp=Z,21nm,0.9s
CCM Cathedral Cave 71.33 344 P P 04 49 25.3 0.0
CCM IAmb IAmb 04 49 37.6
comp=Z,21nm,0.9s
CCM Cathedral Cave 71.33 344 P P 04 49 25.8 +0.5
baz=162
P49A Miami Univ. Ec 71.47 350 P P 04 49 25.2 -1.0
baz=168
S39A Bolivar 71.50 342 P P 04 49 27.0 +0.7
S39A IAmb IAmb 04 49 47.7
comp=Z,30nm,1.2s
O53A New Philadelph 71.71 352 P P 04 49 27.6 +0.1
baz=172
R40A Maddies Statio 71.80 343 P P 04 49 28.6 +0.5
R40A IAmb IAmb 04 49 39.9
comp=Z,23nm,1.0s
ACSO Alum Creek Sta 71.91 351 P P 04 49 29.0 +0.2
ACSO IAmb IAmb 04 49 40.6
comp=Z,20nm,0.8s
ACSO Alum Creek Sta 71.91 351 P P 04 49 28.8 +0.1
baz=170
N59A State Game Lan 71.94 357 P P 04 49 31.0 +2.0
baz=176
121A Cookes Peak, D 72.01 329 P P 04 49 30.2 +0.4
121A IAmb IAmb 04 49 43.6
comp=Z,22nm,1.1s
121A Cookes Peak, D 72.01 329 P P 04 49 32.4 +2.6
baz=148
ODNJ Ogdensburg 72.06 358 P P 04 49 30.7 +1.1
ODNJ IAmb IAmb 04 49 52.3
comp=Z,41nm,1.7s
P43A Skaggs, Pawnee 72.46 346 P P 04 49 32.0 -0.1
P43A IAmb IAmb 04 49 43.5
comp=Z,22nm,0.8s
KSPA Keystone Colle 72.57 357 P P 04 49 33.5 +0.8
KSPA IAmb IAmb 04 49 33.8
comp=Z,21nm,1.3s
SFIN Lafayette 72.70 348 P P 04 49 32.9 -0.6
baz=166
N49A Columbus Grove 72.75 350 P P 04 49 34.1 +0.4
N49A IAmb IAmb 04 49 42.4
comp=Z,23nm,0.9s
L63A North Scituate 72.79 0 P P 04 49 35.3 +1.3
L63A IAmb IAmb 04 49 43.8
comp=Z,24nm,1.1s
L63A North Scituate 72.79 0 P P 04 49 35.3 +1.3
baz=180
M54A Oil Creek Stat 72.79 354 P P 04 49 33.9 -0.1
baz=173
P40A Paris 72.92 344 P P 04 49 35.3 +0.5
P40A IAmb IAmb 04 49 47.2
comp=Z,25nm,0.9s
L59A Walton 73.17 358 P P 04 49 37.5 +1.2
L59A IAmb IAmb 04 49 46.1
comp=Z,16nm,1.0s
TUC Tucson 73.21 326 P P 04 49 37.7 +0.9
TUC pmax pmax
comp=Z,10.0nm,1.2s
TUC Tucson 73.21 326 P P 04 49 37.6 +0.9
L56A Greenwood 73.25 356 P P 04 49 38.0 +1.2
L56A IAmb IAmb 04 49 46.7
comp=Z,23nm,1.0s
L61B Northampton 73.38 359 P P 04 49 37.7 +0.3
baz=179
HRV Adam Dziewonsk 73.43 0 P P 04 49 39.2 +1.5
HRV pmax pmax
comp=Z,15nm,1.1s
HRV Adam Dziewonsk 73.43 0 P P 04 49 39.2 +1.5
HRV Adam Dziewonsk 73.43 0 P P 04 49 39.1 +1.3
baz=180
ANMO Albuquerque 73.50 331 i P P 04 49 41.2 +2.6
ANMO pmax pmax
comp=Z,16nm,1.4s
LIC Lamto 73.76 72 eP P 04 49 39.3 -1.1
comp=Z,133nm,1.1s
TIC Toumodi 74.00 72 eP P 04 49 41.1 -0.7
KIC Kosan Boka 74.07 72 eP P 04 49 41.6 -0.6
comp=Z,89nm,0.8s
DBIC Dimbokro 74.15 72 P P 04 49 42.4 -0.2
comp=Z,50nm,0.9s,baz=238,slow=5.5,SNR=43
DBIC Dimbokro 74.15 72 P P 04 49 42.8 +0.1
FFD Franklin Falls 74.39 0 P P 04 49 42.6 -0.7
FFD IAmb IAmb 04 49 53.6
comp=Z,14nm,0.8s
J57A Williamstown 74.43 357 P P 04 49 43.3 -0.3
J57A IAmb IAmb 04 49 52.8
comp=Z,17nm,1.1s
T25A Trinidad 74.59 333 P P 04 49 47.0 +2.0
baz=152
I63A Otisfield 74.98 1 P P 04 49 48.1 +1.3
baz=181
L40A Anamosa 75.14 345 P P 04 49 47.8 0.0
L40A IAmb IAmb 04 49 59.2
comp=Z,25nm,0.9s
LBNH Lisbon 75.16 360 P P 04 49 47.9 +0.1
baz=180
SDCO Great Sand Dun 75.54 333 P P 04 49 50.8 +0.3
SDCO Great Sand Dun 75.54 333 P P 04 49 52.2 +1.7
baz=151
LONY Lake Ozonia 75.58 358 P P 04 49 50.5 +0.3
baz=178
MAW Mawson 75.72 164 P P 04 49 51.6 +0.7
comp=Z,12nm,0.8s,baz=33,slow=7.1,SNR=3.8
MAW Mawson 75.72 164 P P 04 49 51.7 +0.8
FRNY Flat Rock 75.78 359 P P 04 49 52.1 +0.8
MVCO Mesa Verde 76.29 331 P P 04 49 54.7 -0.1
MVCO Mesa Verde 76.29 331 P P 04 49 56.8 +2.0
baz=148
ISCO Idaho Springs 77.37 334 P P 04 50 00.8 -0.1
ISCO pmax pmax
comp=Z,6.0nm,0.9s
ISCO Idaho Springs 77.37 334 P P 04 50 00.8 -0.1
ISCO Idaho Springs 77.37 334 P P 04 50 02.2 +1.3
baz=151
ECSD EROS Data Cent 78.03 342 P P 04 50 04.1 +0.1
ECSD EROS Data Cent 78.03 342 P P 04 50 04.6 +0.5
baz=158
D62A Allapoint, All 78.05 2 P P 04 50 04.8 +0.8
D62A IAmb IAmb 04 50 06.2
comp=Z,18nm,0.9s
KOWA Kowa 79.36 66 P P 04 50 12.0 0.0
KOWA IAmb IAmb 04 50 12.9
comp=Z,33nm,1.1s
RDMU Red Mountain 79.58 332 P P 04 50 13.4 +0.5
ISA Isabella, Lake 79.71 323 P P 04 50 13.5 -0.1
ISA pmax pmax
comp=Z,8.0nm,1.1s
ISA Isabella, Lake 79.71 323 P P 04 50 13.5 -0.1
ISA Isabella, Lake 79.71 323 P P 04 50 15.9 +2.4
baz=141
TSUM Tsumeb 79.79 106 P P 04 50 14.2 -0.4
DUG Dugway, Tooele 80.63 329 P P 04 50 20.4 +1.8
baz=145
EYMN Ely 80.83 347 P P 04 50 19.4 +0.2
baz=163
BOSA Boshof 81.17 118 P P 04 50 22.2 +0.3
comp=Z,13nm,0.9s,baz=238,slow=5.0,SNR=13
HWUT Hardware Ranch 81.27 331 P P 04 50 22.2 +0.3
NVAR Mina Array Bea 81.77 325 P P 04 50 26.4 +1.7
comp=Z,1.9nm,0.8s,baz=167,slow=6.3,SNR=4.1
NVAR Mina Array Bea 81.77 325 P P 04 50 24.9 +0.1
MDND Maddock 82.63 342 P P 04 50 29.8 +1.1
baz=156
CASY Casey 82.73 181 P P 04 50 30.2 +1.0
TORD Torodi Ar. Bea 83.12 70 P P 04 50 32.0 0.0
comp=Z,38nm,0.8s,baz=286,slow=5.4,SNR=86
TORD Torodi Ar. Bea 83.12 70 P P 04 50 32.2 +0.2
YHH Holmes Hill 83.64 333 P P 04 50 35.1 +0.7
J08A Circle Bar Ran 85.69 328 P P 04 50 45.2 +0.6
SCHQ Schefferville 85.88 3 P P 04 50 44.6 -0.4
comp=Z,4.8nm,0.9s,baz=205,slow=5.6,SNR=5.2
SCHQ Schefferville 85.88 3 P P 04 50 44.5 -0.5
LSZ Lusaka 90.48 108 P P 04 51 07.6 -0.6
LSZ pmax pmax
comp=Z,78nm,1.2s
LSZ Lusaka 90.48 108 P P 04 51 07.6 -0.6
GERES GERESS Array B 110.11 45 PKiKP PKiKP 04 56 36.4 -0.8
comp=Z,0.5nm,0.5s,baz=145,slow=3.6,SNR=4.2
GERES GERESS Array B 110.11 45 PKiKP 04 56 37.6 +0.4
KLNR Kaliningrad 115.98 40 i PKIKP PKiKP 04 56 48.3 +0.3
KLNR pmax pmax
comp=Z,14nm,0.9s
ASAR Alice Springs 120.06 207 PKP PKPdf 04 56 56.3 -0.7
comp=Z,1.2nm,0.8s,baz=158,slow=3.3,SNR=7.2
AKASG Malin Array Be 120.21 46 PKP PKPdf 04 56 55.0 -1.3
comp=Z,3.3nm,0.7s,baz=257,slow=3.0,SNR=8.4
AKASG Malin Array Be 120.21 46 PKIKP PKPdf 04 56 55.0 -1.3
AKBB Malin Array Si 120.21 46 c iPKIKP PKPdf 04 56 55.8 -0.5
MNK Minsk 120.26 42 i PKIKP PKPdf 04 56 56.0 -0.2
MNK i 04 58 22.6
MNK i PPP PPP 05 00 55.2
MNK i 05 04 05.4
MNK i PS PS 05 08 12.7 -0.2
MNK i SS SS 05 14 42.6 -6.4
MNK i SSS SSS 05 19 09.2
MNK pmax pmax
comp=Z,19nm,0.8s
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK pmax pmax
comp=N,15nm,0.8s
MNK MLR MLR
comp=Z,2μm,22.0s
MNK MLR MLR
comp=N,2μm,17.0s
MNK MLR MLR
comp=E,223nm,19.0s
MNK Minsk 120.26 42 i PKP PKPdf 04 56 56.1 -0.2
comp=E,1.0nm,0.8s
MNK i PKP PKPdf 04 56 56.1 -0.2
comp=N,15nm,0.8s
MNK i PKP PKPdf 04 56 56.1 -0.2
comp=Z,19nm,0.8s,baz=258
MNK i PP PP 04 58 22.7 0.0
MNK i PPP PPP 05 00 55.3
MNK i SKS SKSdf 05 04 05.4 -1.0
MNK i PS PS 05 08 12.8 -0.2
MNK i SS SKKSdf 05 14 42.6 -6.1
MNK i SSS SSS 05 19 09.3
MNK i LR LR 05 46 02.7
MNK i LRM MLR 05 48 15.2
comp=Z,2μm,21.7s
MNK i LRM MLR 05 48 18.3
comp=N,2μm,17.4s
MNK i LRM MLR 05 48 45.5
comp=E,223nm,18.8s
BRTR Keskin Array B 120.33 59 PKP PKPdf 04 56 57.0 -0.1
comp=E,1.7nm,0.8s,baz=192,slow=2.0,SNR=2.6
BRTR Keskin Array B 120.33 59 PKIKP PKPdf 04 56 57.0 -0.1
WRA Warramunga Arr 123.21 210 PKP PKPdf 04 57 02.6 -0.5
comp=E,2.1nm,0.7s,baz=132,slow=1.4,SNR=21
WRAB Tennant Creek 123.21 210 c iPKIKP PKiKP 04 57 03.5 +0.1
WRAB pmax pmax
comp=Z,6.0nm,1.7s
OBN Obninsk 125.32 42 ||i PKIKP PKPdf 04 57 05.6 -0.3
OBN 04 57 14.0
OBN eSS SS 05 15 54.6 +1.4
OBN pmax pmax
comp=Z,8.0nm,0.9s
H11S2 WAKE ISLAND Hyl 125.95 271 T T 07 15 57.0
baz=116,slow=74,SNR=38
H11S1 WAKE ISLAND Hyl 125.96 271 T T 07 15 59.3
baz=116,slow=74,SNR=20
H11S3 WAKE ISLAND Hyl 125.97 271 T T 07 15 58.3
baz=116,slow=74,SNR=39
H11N3 WAKE ISLAND Hyl 126.29 272 T T 07 16 25.1
baz=120,slow=74,SNR=5.9
H11N2 WAKE ISLAND Hyl 126.31 272 T T 07 16 23.7
baz=154,slow=74,SNR=22
KLMR Klimovskoe 127.10 35 ePKIKP PKPdf 04 57 05.8 -3.4
KLMR pmax pmax
comp=Z,16nm,1.1s
KLMR Klimovskoe 127.10 35 ePKPdf PKPdf 04 57 05.9 -3.3
KLMR AMP 04 57 10.4
comp=Z,16nm,1.1s
KIV Kislovodsk 127.88 56 ePKIKP PKiKP 04 57 11.9 0.0
KIV pmax pmax
comp=Z,6.0nm,1.1s
FITZ Fitzroy Crossi 128.11 201 PKP PKPdf 04 57 11.7 -0.8
comp=Z,2.4nm,0.8s,baz=196,slow=5.3,SNR=7.5
GNI Garni 128.71 61 i PKIKP PKPdf 04 57 13.3 +0.1
BILL Bilibino 130.47 335 ⇑i PKIKP PKPdf 04 57 14.7 -0.7
BILL e 04 57 27.1
BILL 05 04 26.0
BILL pmax pmax
comp=Z,47nm,2.7s
ARU Arti 137.55 39 PKP PKPdf 04 57 29.5 +0.4
comp=Z,1.4nm,0.3s,baz=203,slow=2.7,SNR=7.3
ARU Arti 137.55 39 i PKIKP PKPdf 04 57 29.4 +0.4
ARU 05 00 11.8
ARU Arti 137.55 39 PKPdf 04 57 29.7 +0.7
TIXI Tiksi 138.06 350 i PKIKP PKiKP 04 57 31.0 -0.5
AKTO Aktyubinsk 138.42 48 PKP PKPdf 04 57 31.3 +0.5
comp=Z,2.0nm,0.7s,baz=274,slow=4.0,SNR=4.6
GEYT Alibeck 138.67 67 PKP PKPdf 04 57 32.3 +0.5
comp=Z,3.0nm,0.5s,baz=216,slow=7.3,SNR=3.6
BRVK Borovoye 145.07 40 i PKIKP PKPdf 04 57 43.0 +0.4
BVAR Borovoye Array 145.14 40 PKPbc PKPdf 04 57 42.9 +0.1
comp=Z,16nm,0.8s,baz=245,slow=5.9,SNR=24
YAK Yakutsk 146.23 342 c iPKP2 PKPab 04 57 46.1 0.0
YAK pmax pmax
comp=Z,19nm,0.8s
KBL Kabul 147.13 74 PKIKP PKPdf 04 57 47.2 +0.2
KBL Kabul 147.13 74 PKPdf PKPdf 04 57 47.2 +0.2
KK31 Karatay Array 148.02 58 PKIKP PKPdf 04 57 48.5 +0.5
KK31 Karatay Array 148.02 58 PKPdf PKPdf 04 57 48.5 +0.5
KKAR Karatay Array 148.02 58 PKIKP PKPdf 04 57 48.4 +0.4
KKAR Karatay Array 148.02 58 PKPdf PKPdf 04 57 48.4 +0.4
KKAR Karatay Array 148.02 58 PKPdf PKPdf 04 57 48.6 +0.7
GAR Garm 148.28 65 PKPdf PKPdf 04 57 48.2 -0.5
BTK Batken 148.60 63 PKIKP PKPdf 04 57 49.2 +0.1
BTK Batken 148.60 63 PKPdf PKPdf 04 57 49.2 +0.1
HYB Hyderabad 149.80 110 i PKP PKPbc 04 57 56.0 -0.4
HYB es PKP 04 58 06.0
EKS2 Erkin-Say 150.46 58 P PKiKP 04 57 58.0 -0.1
SNR=15
AML Almayashu 150.50 59 P PKiKP 04 57 58.3 -0.2
SNR=8.3
USP Ospenovka 150.85 56 P PKPbc 04 57 58.4 +0.2
SNR=10
AAK Ala-Archa 150.98 58 PKP PKPdf 04 57 54.2 +1.3
comp=Z,26nm,0.9s,baz=337,slow=2.0,SNR=3.7
AAK PKPbc PKiKP 04 57 59.6 +0.4
comp=Z,21nm,0.8s,baz=199,slow=2.1,SNR=33
AAK Ala-Archa 150.98 58 P PKiKP 04 57 59.5 +0.3
SNR=14
UCH Uchtor 151.08 58 P PKiKP 04 58 00.2 +0.4
SNR=15
KZA Kyzart 151.64 58 P PKiKP 04 58 01.4 +0.4
SNR=7.1
TKM2 Tokmak 2 151.71 57 P PKiKP 04 58 00.7 -0.1
SNR=8.5
ZALV Zalesovo Beam 151.81 30 PKP PKPdf 04 57 54.0 +0.4
comp=Z,4.9nm,0.8s,baz=270,slow=2.8,SNR=5.0
ZALV PKPbc PKiKP 04 58 00.2 -0.1
comp=Z,49nm,0.7s,baz=298,slow=3.3,SNR=54
ZALV Zalesovo Beam 151.81 30 PKIKP PKPdf 04 57 53.8 +0.3
ZALV Zalesovo Beam 151.81 30 PKPdf PKPdf 04 57 53.8 +0.3
ULHL Ulahol 152.33 58 P PKiKP 04 58 02.6 +0.5
SNR=6.5
KSH Kashi 152.61 64 PKPbc PKPdf 04 57 56.9 +1.5
KSH sPKP 04 58 10.9
KSH PP PP 05 01 45.8 -0.4
KLR Kul'dur 154.77 322 PKP PKPdf 04 57 57.5 -0.5
comp=Z,1.3nm,0.7s,baz=349,slow=5.2,SNR=4.3
MKAR Makanchi Array 154.78 45 PKP PKPdf 04 57 58.2 +0.1
comp=Z,1.5nm,0.8s,baz=101,slow=1.2,SNR=4.7
MKAR PKPbc pPKPdf 04 58 06.3 +0.2
comp=Z,6.5nm,0.8s,baz=311,slow=2.1,SNR=14
MKAR PKPab PKPab 04 58 22.0 +0.1
comp=Z,5.8nm,0.9s,baz=311,slow=2.9,SNR=5.4
WMQ Urumqi 159.57 47 eP PKPdf 04 58 05.4 +1.1
WMQ pmax pmax
comp=Z,1μm,9.5s
WMQ LR LR
comp=N,3μm,18.1s
WMQ LR LR
comp=E,3μm,16.3s
WMQ LR LR
comp=Z,3μm,21.1s
SONM Songino Array 163.42 4 PKP PKPdf 04 58 08.6 +0.3
comp=Z,1.1nm,0.7s,baz=22,slow=1.6,SNR=4.0
SONM PKPab PKPab 04 58 59.5 +0.2
comp=Z,1.2nm,0.8s,baz=346,slow=3.0,SNR=3.1
CMAR Chiang Mai Arr 164.74 145 PKPab PKPab 04 59 04.5 -1.2
comp=Z,1.3nm,0.3s,baz=231,slow=5.7,SNR=6.6
NONG Nongkai 166.07 160 PKP PKPdf 04 58 19.4 +8.1
GTA Gaotai 169.41 38 ePKPbc PKPdf 04 58 14.6 +1.4
GTA pPKP pPKPdf 04 58 22.4 +1.2
GTA sPKP 04 58 25.8
GTA PKPab PKPab 04 59 26.4 +0.3
HHC Hu-ho-hao-te 170.07 345 eP PKPdf 04 58 14.5 +0.9
HHC LR LR
comp=N,2μm,19.0s
HHC LR LR
comp=E,5μm,18.6s
HHC LR LR
comp=Z,6μm,18.2s
NJ2 Nanjing 170.87 278 eP PKPdf 04 58 16.0 +1.9
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
XAN Xi'an 177.18 347 PKPbc PKPdf 04 58 16.5 +0.2
XAN PKPab PKPab 04 59 59.8 -0.7

IDC 17 04:41:47.0±3.0, 31°20S×71°70W, h0km, mb4.3/2, mb1 4.5/3, mb1mx3.9/29, mbtmp4.5/3, ML3.9/1, MS5.5/1, Ms1 5.5/1, ms1mx4.5/31, Error ellipse: s-maj=109.5km s-min=46.9km az=101.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	Paso Flores	9.56	175	Pn	Pn	04 44 06.0	0.0
	0.2nm,0.3s,baz=319,slow=20,SNR=1.3						
SIV	San Ignacio	17.98	35	LR	LR	04 52 36.4	
	comp=Z,15μm,20.3s,baz=21,slow=36						
DBIC	Dimbokro	74.02	72	P	P	04 53 24.9	-0.1
	3.0nm,0.8s,baz=217,slow=5.1,SNR=1.5						
TORD	Torodi Ar. Bea	82.99	70	P	P	04 54 14.7	+0.2
	0.4nm,0.6s,baz=224,slow=8.1,SNR=5.0						
ZALV	Zalesovo Beam	151.69	30	PKPbc	PKPbc	05 01 42.7	-0.2
	2.3nm,0.5s,baz=328,slow=3.4,SNR=3.9						

IDC 17 04:43:40.2±0.5, 31°10S×72°53W, h0km, mb4.6/13,

mb1 4.8/17,mb1mx4.7/31,mbtmp4.7/17,ML4.7/4,Error ellipse: s-maj=21.5km s-min=15.8km az=77.0
NEIC 17 04:43:41.4±1.4,31°.08S±0°.04×72°.55W±0°.05,h4km±3km, mb4.9/96,Error ellipse: s-maj=7.0km s-min=4.9km az=138.0

ISC 17 04:43:41.8±0.4,**31°.07S**±0°.05×**72°.52W**±0°.06,**h10**km,**n148,** σ0.8**76**/155,**mb4.8**/51,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.86**	**63**		**Pg**	**04 43 58.5**	**+0.2**
CO06					**Sg**	**04 44 10.2**	**+0.8**
CO03	**El Pedregal**	**1.59**	**82**	Pn	**Pn**	**04 44 10.2**	**+0.1**
CO03				Sn	**Sn**	**04 44 31.1**	**+0.4**
GO04	**Tololo Observa**	**1.73**	**59**		**Pn**	**04 44 11.4**	**-0.7**
VA01	**Torpederas**	**2.08**	**159**		**Pn**	**04 44 15.9**	**-0.8**
VA03	**San Esteban**	**2.38**	**136**		**Pn**	**04 44 21.4**	**+0.5**
VA05	**Santo Domingo**	**2.69**	**164**		**Pn**	**04 44 24.4**	**-0.7**
MT05	**Renca**	**2.76**	**147**	Pn	**Pn**	**04 44 26.5**	**+0.3**
MT05					**Sn**	**04 44 58.0**	**-1.7**
MT01	**Popeta**	**2.98**	**159**		**Pn**	**04 44 29.1**	**0.0**
MT09	**Talagante**	**2.99**	**155**		**Pn**	**04 44 30.4**	**+1.0**
AC04	**Llanos de Chal**	**3.12**	**24**		**Pn**	**04 44 28.7**	**-2.4**
ZON	**Zonda**	**3.32**	**99**		**Pn**	**04 44 34.5**	**+0.6**
BO01	**Tunca**	**3.52**	**160**	Pn	**Pn**	**04 44 36.4**	**-0.2**
LC01	**Cunco**	**7.83**	**176**	Pn	**Pn**	**04 45 34.1**	**-1.6**
LR03	**Panguipulli**	**8.54**	**179**		**Pn**	**04 45 44.2**	**-1.3**
PLCA	**Paso Flores**	**9.77**	**171**	Pn	**Pn**	**04 46 03.0**	**+0.6**
	1.7nm,0.3s,baz=341,slow=13,SNR=9.9						
COYC	**Coyhaique**	**14.48**	**179**		**Pn**	**04 47 08.0**	**+1.3**
LPAZ	**La Paz**	**15.25**	**16**	Pn	**Pn**	**04 47 18.3**	**+0.4**
	0.8nm,0.3s,baz=192,slow=8.3,SNR=24						
LPAZ	**La Paz**	**15.25**	**16**	Pn	**Pn**	**04 47 17.9**	**+0.1**
SIV	**San Ignacio**	**18.30**	**37**	P	**Pn**	**04 47 54.5**	**-1.3**
	7.3nm,0.3s,baz=223,slow=10,SNR=90						
AQDB	**Aquidauana**	**18.44**	**59**		**P**	**04 47 56.9**	**-0.6**
AQDB				IAmb	IAmb	04 48 02.0	
	comp=Z,50nm,0.8s						
NNA	**Nana**	**19.41**	**347**	P	**Pn**	**04 48 09.8**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=231,slow=16,SNR=5.6						
NNA	**Nana**	**19.41**	**347**	P	**Pn**	**04 48 09.0**	**-0.3**
SPB	**Sao Paulo**	**23.46**	**78**	P	**P**	**04 48 51.4**	**-0.1**
SAML	**Samuel**	**23.67**	**24**	P	**P**	**04 48 53.4**	**-0.2**
BDFB	**Brasilia**	**27.15**	**61**	P	**P**	**04 49 25.4**	**-0.1**
	comp=Z,70nm,1.1s,baz=229,slow=10.0,SNR=12						
BDFB	**Brasilia**	**27.15**	**61**	P	**P**	**04 49 25.1**	**-0.4**
RUSC	**La Rusia**	**36.76**	**359**	P	**P**	**04 50 49.0**	**-1.2**
SDV	**Santo Domingo**	**39.77**	**3**	P	**P**	**04 51 13.8**	**-1.3**
	comp=Z,4.1nm,0.3s,baz=8.4,slow=5.3,SNR=4.0						
VNA3	**Neumayer Olymp**	**52.22**	**159**	P	**P**	**04 52 53.5**	**+1.0**
VNA1	**Neumayer--Stat**	**52.52**	**158**	P	**P**	**04 52 56.1**	**+1.3**
VNA2	**Neumayer--Watz**	**52.87**	**158**	P	**P**	**04 52 57.1**	**-0.2**
	baz=287,slow=8.5						
SNAA	**Sanae**	**54.45**	**159**	P	**P**	**04 53 09.4**	**+0.5**
SNAA	**Sanae**	**54.45**	**159**	P	**P**	**04 53 10.1**	**+1.2**
QSPA	**South Pole Qui**	**59.16**	**180**	P	**P**	**04 53 43.7**	**+1.2**
HPIG		**65.80**	**328**	P	**P**	**04 54 28.1**	**+0.6**
HPIG				IAmb	IAmb	04 54 29.5	
	comp=Z,12nm,1.0s						
143A	**Socs Landing,**	**65.90**	**343**	P	**P**	**04 54 27.4**	**-0.2**
JCT	**Junction City**	**66.48**	**334**	P	**P**	**04 54 31.2**	**-0.3**
VNDA	**Vanda**	**66.89**	**191**	P	**P**	**04 54 32.7**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=96,slow=6.7,SNR=2.9						
VNDA	**Vanda**	**66.89**	**191**	P	**P**	**04 54 35.1**	**+1.6**
VNDA				IAmb	IAmb	04 55 12.7	
	comp=Z,17nm,1.8s						
TXAR	**Lajitas Array**	**66.99**	**331**	P	**P**	**04 54 35.0**	**+0.1**
	comp=Z,4.3nm,0.8s,baz=150,slow=8.1,SNR=25						
TXAR	**Lajitas Array**	**66.99**	**331**	P	**P**	**04 54 34.9**	**-0.1**
TX31	**Lajitas Ar. Si**	**66.99**	**331**	P	**P**	**04 54 35.4**	**+0.4**
TX32	**Lajitas Array**	**66.99**	**331**	P	**P**	**04 54 35.3**	**+0.4**
TX32				IAmb	IAmb	04 54 36.8	
	comp=Z,7.3nm,0.9s						
V48A	**Smith Brothers**	**67.81**	**347**	P	**P**	**04 54 41.0**	**+1.1**
ABTX	**Abilene, Hawle**	**68.35**	**336**	P	**P**	**04 54 43.8**	**+0.4**
W39A	**Magazine**	**68.89**	**341**	P	**P**	**04 54 47.1**	**+0.6**
LCAR	**Lake Charles**	**69.04**	**344**	P	**P**	**04 54 46.9**	**-0.6**
LCAR				IAmb	IAmb	04 54 48.3	
	comp=Z,8.3nm,0.9s						
U40A	**Yellville**	**69.74**	**343**	P	**P**	**04 54 52.2**	**+0.3**
U40A				IAmb	IAmb	04 54 52.8	
	comp=Z,12nm,1.1s						
MNTX	**Cornudas Mount**	**69.77**	**330**	P	**P**	**04 54 52.3**	**+0.1**
MNTX				IAmb	IAmb	04 54 53.3	
	comp=Z,9.9nm,0.9s						
HHAR	**Hobbs**	**69.95**	**342**	P	**P**	**04 54 52.4**	**-0.8**
HHAR				IAmb	IAmb	04 54 54.2	
	comp=Z,7.8nm,0.9s						
OK025	**Westminster Rd**	**70.29**	**339**	P	**P**	**04 54 54.9**	**-0.4**
CCM	**Cathedral Cave**	**70.96**	**344**	P	**P**	**04 54 59.9**	**+0.6**
CCM				IAmb	IAmb	04 55 00.4	
	comp=Z,11nm,0.9s						
S39A	**Bolivar**	**71.12**	**343**	P	**P**	**04 55 00.8**	**+0.6**
S39A				IAmb	IAmb	04 55 01.4	
	comp=Z,6.7nm,1.1s						
319A	**Douglas**	**71.22**	**327**	P	**P**	**04 55 02.7**	**+1.5**
319A				IAmb	IAmb	04 55 04.1	
	comp=Z,13nm,1.0s						
R40A	**Maddies Statio**	**71.42**	**344**	P	**P**	**04 55 01.9**	**-0.2**
R40A				IAmb	IAmb	04 55 03.1	
	comp=Z,18nm,1.1s						
N58A	**Sunbury**	**71.66**	**357**	P	**P**	**04 55 04.5**	**+1.1**
N58A				IAmb	IAmb	04 55 06.6	
	comp=Z,9.2nm,0.9s						
P40A	**Paris**	**72.55**	**344**	P	**P**	**04 55 09.5**	**+0.6**
P40A				IAmb	IAmb	04 55 10.1	
	comp=Z,14nm,0.9s						
LENM	**Lemitar**	**72.57**	**331**	P	**P**	**04 55 10.0**	**+0.7**
ANMO	**Albuquerque**	**73.03**	**331**	P	**P**	**04 55 13.4**	**+1.4**
	comp=Z,3.0nm,1.0s,baz=156,slow=8.4,SNR=6.4						
ANMO	**Albuquerque**	**73.03**	**331**	P	**P**	**04 55 13.3**	**+1.3**
ANMO				IAmb	IAmb	04 55 15.7	
	comp=Z,14nm,1.6s						
214A	**Organ Pipe Nat**	**73.39**	**325**	P	**P**	**04 55 14.7**	**+0.7**
214A				IAmb	IAmb	04 55 17.2	
	comp=Z,17nm,1.2s						
MMNY	**Mt. Morris Dam**	**73.61**	**356**	P	**P**	**04 55 15.9**	**+0.9**
DBIC	**Dimbokro**	**74.65**	**72**	P	**P**	**04 55 22.1**	**+0.3**
	comp=Z,7.4nm,0.8s,baz=205,slow=2.9,SNR=7.4						
DBIC	**Dimbokro**	**74.65**	**72**	P	**P**	**04 55 21.9**	**+0.1**
DBIC				IAmb	IAmb	04 55 22.7	
	comp=Z,14nm,0.9s						
X16A	**Lo Mia Camp, P**	**74.76**	**327**	P	**P**	**04 55 23.1**	**+1.0**
X16A				IAmb	IAmb	04 55 25.3	
	comp=Z,9.4nm,1.0s						
SDCO	**Great Sand Dun**	**75.08**	**333**	P	**P**	**04 55 25.2**	**+1.1**
Y14A	**Wickenburg**	**75.10**	**326**	P	**P**	**04 55 25.3**	**+1.3**
MVCO	**Mesa Verde**	**75.81**	**331**	P	**P**	**04 55 27.6**	**-0.6**
MVCO				IAmb	IAmb	04 55 31.1	
	comp=Z,7.8nm,1.1s						
MAW	**Mawson**	**76.09**	**164**	P	**P**	**04 55 29.8**	**+0.6**
	comp=Z,7.9nm,0.9s,baz=201,slow=6.5,SNR=18						
MAW	**Mawson**	**76.09**	**164**	P	**P**	**04 55 30.2**	**+1.0**
PFO	**Pinyon Flats O**	**76.55**	**323**	P	**P**	**04 55 33.0**	**+0.6**
PFO				IAmb	IAmb	04 55 35.2	
	comp=Z,8.5nm,1.1s						
PV01	**Paradox Valley**	**76.63**	**332**	P	**P**	**04 55 33.6**	**+0.8**
PV01				IAmb	IAmb	04 55 35.6	
	comp=Z,9.2nm,1.3s						
PV13	**Radium Mtn., P**	**76.75**	**331**	P	**P**	**04 55 33.6**	**0.0**
PV13				IAmb	IAmb	04 55 35.8	
	comp=Z,8.0nm,1.1s						
PV03	**Paradox Valley**	**76.85**	**331**	P	**P**	**04 55 35.2**	**+1.1**
ISCO	**Idaho Springs**	**76.92**	**334**	P	**P**	**04 55 35.6**	**+1.0**
K31A	**O'Neill**	**77.20**	**340**	P	**P**	**04 55 36.1**	**+0.4**
KNB	**Kanab**	**77.53**	**328**	P	**P**	**04 55 38.3**	**+0.4**
KNB				IAmb	IAmb	04 55 40.7	
	comp=Z,9.7nm,1.1s						
ECSD	**EROS Data Cent**	**77.64**	**342**	P	**P**	**04 55 39.4**	**+1.2**
ECSD				IAmb	IAmb	04 55 39.6	
	comp=Z,12nm,0.9s						
LCMT	**Little Creek M**	**77.72**	**328**	P	**P**	**04 55 39.1**	**+0.2**
MTPU	**Mount Pierson**	**78.09**	**329**	P	**P**	**04 55 42.0**	**+0.8**
PHWY	**Pilot Hill**	**78.18**	**335**	P	**P**	**04 55 42.1**	**+0.6**
PHWY				IAmb	IAmb	04 55 43.6	
	comp=Z,6.6nm,1.0s						
SHPR	**Sheep Range**	**78.21**	**326**	P	**P**	**04 55 42.6**	**+0.9**
O20A	**White River Ci**	**78.21**	**333**	P	**P**	**04 55 41.7**	**0.0**
O20A				IAmb	IAmb	04 55 51.7	
	comp=Z,14nm,1.2s						
CCUT	**Cedar City**	**78.22**	**328**	P	**P**	**04 55 42.1**	**+0.3**
CCUT				IAmb	IAmb	04 55 44.8	
	comp=Z,7.8nm,1.0s						
SRU	**San Rafael Swe**	**78.27**	**331**	P	**P**	**04 55 40.9**	**-1.0**
Q16A	**Castle Valley**	**78.38**	**330**	P	**P**	**04 55 43.7**	**+1.1**
Q16A				IAmb	IAmb	04 55 45.0	
	comp=Z,6.7nm,1.0s						
MSU	**Marysvale**	**78.48**	**329**	P	**P**	**04 55 43.6**	**+0.4**
MVU	**Marysvale**	**78.49**	**329**	P	**P**	**04 55 44.2**	**+1.0**
P17A	**Butcher Ranch,**	**78.66**	**331**	P	**P**	**04 55 44.8**	**+0.7**
P17A				IAmb	IAmb	04 55 46.7	
	comp=Z,10nm,1.2s						
GWY	**Greenwater Val**	**78.69**	**325**	P	**P**	**04 55 44.2**	**-0.1**
PRN	**Pahroc Range**	**78.88**	**327**	P	**P**	**04 55 44.7**	**-0.6**
PRN				IAmb	IAmb	04 55 48.7	
	comp=Z,9.8nm,1.0s						
RDMU	**Red Mountain**	**79.11**	**332**	P	**P**	**04 55 47.6**	**+1.1**
RWWY	**Rawlins**	**79.16**	**334**	P	**P**	**04 55 46.7**	**-0.1**
RWWY				IAmb	IAmb	04 55 49.0	
	comp=Z,8.9nm,0.8s						
MPU	**Maple Canyon**	**79.49**	**330**	P	**P**	**04 55 49.8**	**+1.1**
K22A	**Casper**	**79.74**	**335**	P	**P**	**04 55 50.9**	**+0.9**
KOWA	**Kowa**	**79.82**	**66**	P	**P**	**04 55 51.0**	**+0.3**
	comp=Z,3.4nm,0.7s,baz=263,slow=5.4,SNR=6.6						
KOWA	**Kowa**	**79.82**	**66**	P	**P**	**04 55 50.6**	**-0.1**
KOWA				IAmb	IAmb	04 56 18.3	
	comp=Z,33nm,1.6s						
SPR3	**Spring Creek 3**	**79.84**	**328**	P	**P**	**04 55 51.4**	**+0.6**
JLU	**Jordanelle**	**79.91**	**331**	P	**P**	**04 55 50.9**	**-0.1**
LCH	**Last Change Ra**	**79.99**	**325**	P	**P**	**04 55 51.9**	**+0.5**
DUG	**Dugway, Tooele**	**80.15**	**330**	P	**P**	**04 55 53.2**	**+1.1**
TSUM	**Tsumeb**	**80.42**	**107**	P	**P**	**04 55 53.5**	**-0.8**
TSUM				IAmb	IAmb	04 55 56.7	
	comp=Z,24nm,1.2s						
TPH	**Tonopah**	**80.45**	**326**	P	**P**	**04 55 53.8**	**-0.1**
HWUT	**Hardware Ranch**	**80.79**	**331**	P	**P**	**04 55 55.6**	**0.0**
HWUT				IAmb	IAmb	04 55 57.3	
	comp=Z,9.8nm,0.9s						
PDAR	**Pinedale Array**	**80.97**	**333**	P	**P**	**04 55 56.9**	**+0.3**
	comp=Z,1.6nm,0.9s,baz=133,slow=6.3,SNR=7.2						
NVAR	**Mina Array Bea**	**81.25**	**325**	P	**P**	**04 55 58.4**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=154,slow=7.2,SNR=9.6						
KVN	**Kaiserville**	**81.64**	**326**	P	**P**	**04 56 00.4**	**+0.2**
ELK	**Elko**	**81.66**	**329**	P	**P**	**04 55 59.9**	**-0.5**
BOSA	**Boshof**	**81.80**	**118**	P	**P**	**04 56 01.7**	**+0.3**
	comp=Z,27nm,1.0s,baz=238,slow=4.4,SNR=19						
BOSA	**Boshof**	**81.80**	**118**	P	**P**	**04 56 01.6**	**+0.2**
LOHW	**Long Hollow**	**82.10**	**333**	P	**P**	**04 56 02.6**	**0.0**
LOHW				IAmb	IAmb	04 56 08.3	
	comp=Z,11nm,1.8s						
TPAW	**Teton Pass**	**82.13**	**333**	P	**P**	**04 56 02.8**	**+0.1**
FLWY	**Flagg Ranch**	**82.53**	**333**	P	**P**	**04 56 04.6**	**-0.2**
FLWY				IAmb	IAmb	04 56 06.8	
	comp=Z,7.4nm,0.9s						
PAHR	**Pah Rah Range**	**82.78**	**325**	P	**P**	**04 56 06.5**	**+0.4**
PAHR				IAmb	IAmb	04 56 09.2	
	comp=Z,8.8nm,1.1s						
YHH	**Holmes Hill**	**83.18**	**334**	P	**P**	**04 56 08.7**	**+0.4**
YHH				IAmb	IAmb	04 56 10.4	
	comp=Z,7.0nm,1.1s						
BEKR	**Beckworth**	**83.38**	**325**	P	**P**	**04 56 09.6**	**+0.3**
BEKR				IAmb	IAmb	04 56 11.5	
	comp=Z,5.8nm,1.2s						
ULM	**Lac du Bonnet**	**83.57**	**345**	P	**P**	**04 56 09.4**	**-0.3**
	comp=Z,6.1nm,0.9s,baz=148,slow=3.1,SNR=4.3						
HLID	**Hailey**	**83.59**	**331**	P	**P**	**04 56 10.7**	**+0.5**
HLID				IAmb	IAmb	04 56 12.5	
	comp=Z,5.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**83.61**	**71**	P	**P**	**04 56 10.6**	**-0.1**
	comp=Z,4.4nm,0.7s,baz=235,slow=2.2,SNR=14						
TORD	**Torodi Ar. Bea**	**83.61**	**71**	P	**P**	**04 56 10.4**	**-0.4**
TORD				IAmb	IAmb	04 57 15.0	
	comp=Z,8.5nm,0.8s						
LBTB	**Lobatse**	**83.91**	**115**	P	**P**	**04 56 12.0**	**-0.5**
MCMT	**McKenzie Canyo**	**84.00**	**332**	P	**P**	**04 56 11.4**	**-0.9**
MFID	**Camas Ranch**	**84.07**	**330**	P	**P**	**04 56 12.5**	**-0.2**
DGMT	**Dagmar**	**84.11**	**339**	P	**P**	**04 56 13.0**	**+0.4**
WVOR	**Wild Horse Val**	**84.55**	**328**	P	**P**	**04 56 15.5**	**+0.4**
WVOR				IAmb	IAmb	04 56 17.0	
	comp=Z,6.3nm,1.1s						
J08A	**Circle Bar Ran**	**85.20**	**328**	P	**P**	**04 56 18.5**	**+0.2**
K05A	**Summer Lake**	**85.83**	**326**	P	**P**	**04 56 22.1**	**+0.5**
K05A				IAmb	IAmb	04 56 24.0	
	comp=Z,16nm,1.1s						
I07A	**Izee**	**86.23**	**328**	P	**P**	**04 56 23.8**	**+0.3**
I07A				IAmb	IAmb	04 56 25.6	
	comp=Z,5.8nm,1.0s						
GERES	**GERESS Array B**	**110.38**	**45**	PKiKP	**PKiKP**	**05 02 14.2**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=221,slow=5.8,SNR=3.8						
ASAR	**Alice Springs**	**119.97**	**208**	PKP	**PKPdf**	**05 02 31.6**	**-1.6**
	comp=Z,0.8nm,0.6s,baz=135,slow=1.5,SNR=5.8						
ASAR	**Alice Springs**	**119.97**	**208**		**PKPdf**	**05 02 31.9**	**-1.3**
AKASG	**Malin Array Be**	**120.49**	**46**	PKP	**PKPdf**	**05 02 31.9**	**-1.3**
	comp=Z,1.3nm,0.5s,baz=261,slow=2.6,SNR=5.3						
AKASG	**Malin Array Be**	**120.49**	**46**		**PKPdf**	**05 02 32.4**	**-0.7**
WRA	**Warramunga Arr**	**123.09**	**210**	PKP	**PKPdf**	**05 02 38.3**	**-0.9**
	comp=Z,1.9nm,0.6s,baz=163,slow=1.8,SNR=23						
FITZ	**Fitzroy Crossi**	**128.09**	**202**	PKP	**PKPdf**	**05 02 48.0**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=181,slow=7.8,SNR=5.3						
FITZ	**Fitzroy Crossi**	**128.09**	**202**	PKPdf	**PKPdf**	**05 02 48.2**	**-0.6**
SEY	**Seymchan**	**137.28**	**332**	PKP	**PKPdf**	**05 03 05.1**	**+0.4**
	comp=Z,2.6nm,0.7s,baz=108,slow=3.2,SNR=7.5						
ARU	**Arti**	**137.75**	**39**	PKP	**PKPdf**	**05 03 06.0**	**+0.3**
	comp=Z,1.9nm,0.2s,baz=287,slow=16,SNR=1.3						
BVAR	**Borovoye Array**	**145.36**	**40**	PKPbc	**PKPab**	**05 03 19.9**	**+0.4**
	comp=Z,9.4nm,0.7s,baz=242,slow=6.2,SNR=29						
HYB	**Hyderabad**	**150.43**	**111**	*i* PKP	**PKPbc**	**05 03 34.0**	**-0.2**
HYB				*es*PKP		05 03 43.0	
AAK	**Ala-Archa**	**151.37**	**57**	PKPbc	**PKiKP**	**05 03 36.7**	**+0.3**
	baz=182,slow=4.9						
ZALV	**Zalesovo Beam**	**151.92**	**29**	PKP	**PKPdf**	**05 03 29.9**	**-0.1**
	comp=Z,2.7nm,0.7s,baz=291,slow=1.3,SNR=4.8						
ZALV				PKPbc	**PKiKP**	**05 03 36.4**	**-0.5**
	comp=Z,26nm,0.8s,baz=301,slow=3.4,SNR=26						
ZALV				PKPab	**PKPab**	**05 03 45.6**	**-0.1**
	comp=Z,14nm,0.6s,baz=307,slow=3.7,SNR=11						
KSH	**Kashi**	**153.04**	**63**	PKPbc	**PKPdf**	**05 03 32.8**	**+0.4**
MKAR	**Makanchi Array**	**155.04**	**44**	PKP	**PKPdf**	**05 03 34.1**	**-0.7**
	comp=Z,1.2nm,0.9s,baz=225,slow=1.8,SNR=3.6						
MKAR				PKPab	**PKPab**	**05 03 59.5**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=314,slow=4.5,SNR=3.5						
MKAR	**Makanchi Array**	**155.04**	**44**		**PKPdf**	**05 03 33.5**	**-1.3**
WMQ	**Urumqi**	**159.84**	**45**	*e*P	**PKPdf**	**05 03 41.5**	**+0.5**
WMQ				pmax	pmax		
	comp=Z,460nm,11.7s						
GTA	**Gaotai**	**169.59**	**35**	*e*PKPbc	**PKPdf**	**05 03 50.3**	**+0.6**
GTA				pPKP	sPKPdf	05 03 58.3	+6.8
GTA				sPKP		05 04 03.4	
GTA				PKPab	**pPKPab**	**05 03 03.6**	**-0.8**
HHC	**Hu-ho-hao-te**	**169.70**	**342**	*e*P	**PKPdf**	**05 03 49.0**	**-0.7**
HHC				LR	LR		
	comp=N,2μm,21.0s						
HHC				LR	LR		
	comp=E,3μm,18.6s						
HHC				LR	LR		
	comp=Z,3μm,19.2s						

IDC 17 04:46:24.5±1.2,32°.11S×72°.07W,h0km,mb4.4/7, mb1 4.5/9,mb1mx4.2/23,mbtmp4.4/9,ML4.2/3,MS5.4/1, Ms1 5.4/1,ms1mx4.7/29,Error ellipse: s-maj=39.5km s-min=25.3km az=93.0
NEIC 17 04:46:26.4±3.2,32°.09S±0°.08×72°.5W±0°.2,h10km±2km, mb4.4/7,Error ellipse: s-maj=35.4km s-min=13.2km az=265.0
ISC 17 04:46:25.5±0.9,**32°.08S**±0°.07×**72°.5W**±0°.1,**h10**km,**n21,** σ2.8**02**/23,**mb4.5**/7,**Off coast of central Chile**

IDC 17 04:45:38.1±1.7,**31°.78S**×**72°.33W**,**h0**km,**mb4.2**/3, **mb1 4.3**/4,**mb1mx4.0**/25,**mbtmp4.1**/4,**ML4.4**/1,**Error ellipse: s-maj=59.8km s-min=39.5km az=66.0,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**9.05**	**171**	Pn	Pn	04 47 49.8	-0.4
	0.9nm,0.3s,baz=350,slow=14,SNR=1.1						
TXAR	**Lajitas Array**	**67.68**	**331**	P	P	04 56 36.8	-0.4
	0.3nm,0.7s,baz=168,slow=4.6,SNR=1.6						
KOWA	**Kowa**	**79.95**	**66**	P	P	04 57 49.1	-0.4
	2.6nm,0.6s,baz=245,slow=4.3,SNR=4.3						
TORD	**Torodi Ar. Bea**	**83.69**	**70**	P	P	04 58 09.2	0.0
	3.7nm,0.7s,baz=249,slow=2.4,SNR=5.3						
ZALV	**Zalesovo Beam**	**152.45**	**30**	PKPbc	PKiKP	05 05 36.8	+0.8
	2.5nm,0.5s,baz=318,slow=1.9,SNR=1.9						

IDC 17 04:50:38.6±1.7,31°.45S×71°.77W,h0km,mb4.3/2, mb1 4.2/3,mb1mx3.8/22,mbtmp4.2/3,ML3.9/1,Error ellipse: s-maj=76.0km s-min=43.2km az=108.0
ISC 17 04:50:40.5±1.7,**31°.4S**±0°.2×**71°.8W**±0°.5,**h14**km,**n6,** σ0.9**71**/6, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**9.36**	**174**	Pn	**Pn**	**04 52 55.0**	**+0.1**
	0.3nm,0.3s,baz=352,slow=15,SNR=1.2						
DBIC	**Dimbokro**	**74.19**	**72**	P	**P**	**05 02 16.8**	**-0.4**
	4.9nm,1.0s,baz=225,slow=7.1,SNR=1.6						
TORD	**Torodi Ar. Bea**	**83.17**	**70**	P	**P**	**05 03 06.7**	**+0.2**
	1.5nm,0.8s,baz=253,slow=3.2,SNR=6.3						
ASAR	**Alice Springs**	**119.94**	**207**	PKP	**PKPdf**	**05 09 30.5**	**-0.6**
	0.2nm,0.4s,baz=156,slow=4.8,SNR=2.0						
BVAR	**Borovoye Array**	**145.24**	**40**	PKPbc	**PKPdf**	**05 10 18.2**	**+0.9**
	0.9nm,0.4s,baz=278,slow=4.3,SNR=3.6						
ZALV	**Zalesovo Beam**	**151.93**	**30**	PKPbc	**PKiKP**	**05 10 34.7**	**-0.2**
	3.6nm,0.4s,baz=313,slow=3.6,SNR=7.4						

IDC 17 04:58:35.2±1.5,31°.48S×71°.68W,h0km,mb3.7/2, mb1 3.8/4,mb1mx3.6/27,mbtmp3.6/4,ML3.5/2,Error ellipse: s-maj=62.6km s-min=36.1km az=79.0
ISC 17 04:58:39.0±1.2,**31°.5S**±0°.1×**71°.7W**±0°.4,**h25**km,**n6,** σ0.9**15**/6, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**9.25**	**175**	Pn	**Pn**	**05 00 51.0**	**0.0**
	0.1nm,0.3s,baz=328,slow=19,SNR=2.8						
LPAZ	**La Paz**	**15.49**	**13**	Pn	**Pn**	**05 02 16.6**	**+0.1**
	0.1nm,0.3s,baz=203,slow=13,SNR=3.4						
TXAR	**Lajitas Array**	**67.72**	**330**	P	**P**	**05 09 34.5**	**0.0**
	0.3nm,0.8s,baz=159,slow=2.8,SNR=2.3						
TORD	**Torodi Ar. Bea**	**83.09**	**70**	P	**P**	**05 11 02.9**	**0.0**
	1.0nm,0.6s,baz=252,slow=2.9,SNR=6.6						
BVAR	**Borovoye Array**	**145.23**	**41**	PKPbc	**PKPbc**	**05 18 13.7**	**0.0**
	1.0nm,0.4s,baz=306,slow=3.4,SNR=3.4						
ZALV	**Zalesovo Beam**	**151.95**	**30**	PKPbc	**PKPbc**	**05 18 31.1**	**-0.2**
	3.3nm,0.5s,baz=290,slow=4.7,SNR=7.1						

IDC 17 05:00:47.0±0.8,31°.53S×71°.58W,h0km,mb4.3/7, mb1 4.3/12,mb1mx4.1/31,mbtmp4.2/12,ML3.8/5,Error ellipse: s-maj=28.1km s-min=22.0km az=97.0
GUC 17 05:00:52.1±0.8,31°.48S×71°.57W,h53km±9km,ML4.7
NEIC 17 05:00:53.2±2.4,31°.48S±0°.02×71°.6W±0°.1,h35km±1km, mb4.5/11,ML4.5(GUC),Error ellipse: s-maj=16.5km s-min=3.6km az=272.0
ISC 17 05:00:52.6±0.5,**31°.46S**±0°.04×**71°.71W**±0°.08,**h39**km±5km, **n65,** σ1.9**17**/63,**mb4.5**/12,**2C,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.79**	**5**		**Pn**	**05 01 07.7**	**+0.4**
CO06				Sn	**Sn**	**05 01 18.7**	**+0.8**
CO03	**El Pedregal**	**1.07**	**55**	↑*i*P	**Pn**	**05 01 11.7**	**+0.4**
CO03				*i* S	**Sn**	**05 01 25.5**	**+0.5**
CO03	**El Pedregal**	**1.07**	**55**		**Pn**	**05 01 11.5**	**+0.3**
GO04	**Tololo Observa**	**1.50**	**32**	*e*P	**Pn**	**05 01 18.0**	**+0.7**
GO04				*i* S	**Sn**	**05 01 38.8**	**+3.0**
GO04	**Tololo Observa**	**1.50**	**32**	Pn	**Pn**	**05 01 18.6**	**+1.3**
VA01	**Torpederas**	**1.56**	**178**	*e*S	**Sn**	**05 01 34.6**	**-2.1**
VA01	**Torpederas**	**1.56**	**178**	Pn	**Pn**	**05 01 18.3**	**+0.5**
ROCH	**El

BDFB	**Brasilia**	**26.74**	**59**	P		**P**	**05 06 26.5**	**-2.3**	
	comp=Z,8.5nm,1.0s,baz=224,slow=9.5,SNR=6.7								
BDFB	**Brasilia**	**26.74**	**59**	P		**P**	**05 06 28.1**	**-0.6**	
BDFB				IAmb		IAmb	05 06 28.8		
	comp=Z,9.5nm,1.0s								
ICMP	**Isla Caja de M**	**49.32**	**7**	P		**P**	**05 09 36.8**	**-1.1**	
VNA3	**Neumayer Olymp**	**51.60**	**159**	P		**P**	**05 09 55.2**	**+0.6**	
VNA2	**Neumayer--Watz**	**52.24**	**158**	P		**P**	**05 09 59.1**	**-0.3**	
	baz=299,slow=8.0								
SNAA	**Sanae**	**53.83**	**159**	P		**P**	**05 10 11.3**	**+0.1**	
SNAA	**Sanae**	**53.83**	**159**	P		**P**	**05 10 11.3**	**+0.1**	
SNAA				IAmb		IAmb	05 10 12.5		
	comp=Z,4.4nm,0.9s								
QSPA	**South Pole Qui**	**58.77**	**180**	P		**P**	**05 10 47.3**	**+0.9**	
QSPA				IAmb		IAmb	05 10 49.6		
	comp=Z,3.7nm,0.9s								
JCT	**Junction City**	**67.13**	**334**	P		**P**	**05 11 41.7**	**-0.5**	
JCT				IAmb		IAmb	05 11 42.3		
	comp=Z,7.8nm,1.3s								
TXAR	**Lajitas Array**	**67.67**	**330**	P		**P**	**05 11 46.9**	**+1.1**	
	comp=Z,0.7nm,1.0s,baz=146,slow=6.6,SNR=3.9								
WVT	**Waverly**	**68.92**	**346**	P		**P**	**05 11 53.8**	**+0.5**	
WVT				IAmb		IAmb	05 11 54.3		
	comp=Z,4.8nm,0.9s								
DBIC	**Dimbokro**	**74.11**	**72**	P		**P**	**05 12 25.2**	**+0.1**	
	comp=Z,10nm,0.9s,baz=210,slow=6.6,SNR=6.8								
DBIC	**Dimbokro**	**74.11**	**72**	P		**P**	**05 12 25.4**	**+0.3**	
MAW	**Mawson**	**75.53**	**164**	P		**P**	**05 12 32.8**	**+0.3**	
	comp=Z,2.4nm,0.9s,baz=257,slow=5.7,SNR=4.7								
BOSA	**Boshof**	**81.00**	**118**	P		**P**	**05 13 03.5**	**-0.2**	
	comp=Z,4.4nm,0.8s,baz=140,slow=2.4,SNR=4.3								
NVAR	**Mina Array Bea**	**81.97**	**325**	P		**P**	**05 13 09.9**	**+1.5**	
	comp=Z,0.2nm,0.6s,baz=149,slow=3.7,SNR=2.2								
TORD	**Torodi Ar. Bea**	**83.09**	**70**	P		**P**	**05 13 14.6**	**+0.1**	
	comp=Z,7.9nm,0.8s,baz=260,slow=4.6,SNR=35								
AKASG	**Malin Array Be**	**120.26**	**46**	PKP		**PKPdf**	**05 19 38.3**	**-0.7**	
	comp=Z,1.2nm,0.4s,baz=265,slow=2.3,SNR=5.5								
ARCES	**ARCESS Array B**	**121.60**	**24**	PKP		**PKPdf**	**05 19 40.3**	**-0.7**	
	comp=Z,1.9nm,1.0s,baz=240,slow=3.6,SNR=1.5								
WRA	**Warramunga Arr**	**123.10**	**210**	PKP		**PKPdf**	**05 19 44.7**	**-0.8**	
	comp=Z,0.1nm,0.4s,baz=159,slow=2.5,SNR=1.3								
H11S2	**WAKE ISLAND Hyl**	**26.05**	**271**	T		T	07 38 46.4		
	baz=117,slow=74,SNR=18								
H11S1	**WAKE ISLAND Hyl**	**26.06**	**271**	T		T	07 38 43.2		
	baz=117,slow=74,SNR=10								
H11S3	**WAKE ISLAND Hyl**	**26.07**	**271**	T		T	07 38 47.6		
	baz=117,slow=74,SNR=9.3								
H11N3	**WAKE ISLAND Hyl**	**26.40**	**272**	T		T	07 39 12.1		
	baz=116								
H11N1	**WAKE ISLAND Hyl**	**26.41**	**272**	T		T	07 39 15.0		
	baz=116								
H11N2	**WAKE ISLAND Hyl**	**26.42**	**272**	T		T	07 39 27.3		
	baz=116								
BVAR	**Borovoye Array**	**145.21**	**41**	PKPbc		**PKPdf**	**05 20 26.4**	**+0.9**	
	comp=Z,4.5nm,0.5s,baz=242,slow=6.4,SNR=14								
KURBB	**Kurchatov Arra**	**150.80**	**40**	PKPbc		**PKPbc**	**05 20 40.5**	**+0.2**	
	comp=Z,4.9nm,0.7s,baz=292,slow=2.9,SNR=8.2								
AAK	**Ala-Archa**	**150.99**	**58**	PKPbc		**PKPbc**	**05 20 41.9**	**+0.7**	
	comp=Z,4.0nm,0.8s,baz=189,slow=2.9,SNR=7.1								
AAK	**Ala-Archa**	**150.99**	**58**			**PKPdf**	**05 20 36.3**	**+0.9**	
ZALV	**Zalesovo Beam**	**151.92**	**30**	PKPbc		**PKPbc**	**05 20 43.4**	**+0.7**	
	comp=Z,12nm,0.4s,baz=313,slow=2.8,SNR=36								
ZALV	**Zalesovo Beam**	**151.92**	**30**			**PKPbc**	**05 20 43.5**	**+0.7**	
ZALV				PKPab		**PKPab**	**05 20 52.7**	**+0.6**	
MKAR	**Makanchi Array**	**154.84**	**45**	PKPbc		**PKPbc**	**05 20 49.6**	**+0.1**	
	comp=Z,2.0nm,0.9s,baz=318,slow=3.3,SNR=6.7								
SONM	**Songino Array**	**163.59**	**5**	PKP		**PKPdf**	**05 20 49.0**	**-2.1**	
	comp=Z,0.5nm,0.4s,baz=0.0,slow=2.9,SNR=3.0								

SJA ***17*** *05:04:42.2±0.8,31.31S×72.26W,h22km±8km, ML4.8, MW4.8*

IDC ***17*** *05:04:43.5±0.6,31.42S×71.71W,h0km,mb4.5/10, mb1 4.6/15,mb1mx4.4/33,mbtmp4.5/15, ML4.4/4, Error ellipse: s-maj=23.7km s-min=19.1km az=91.0*

NEIC ***17*** *05:04:46.4±1.7,31.49S±0.04×71.83W±0.07,h14km±3km, mb4.8/69, ML4.8(GUC), Error ellipse: s-maj=9.1km s-min=5.0km az=101.0*

GUC ***17*** *05:04:48.1±1.0,31.50S×71.73W,h25km±6km, ML4.8*

ISC 17 05:04:45.3±1.2,31.51S±0.02×71.78W±0.03,h12km±7km, n178,σ1°62/203,mb4.8/40,8C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.84**	**8**	*e*P		**Pn**	**05 05 03.5**	**+0.5**
CO06				*e*S		**Sn**	**05 05 14.4**	**-0.9**
CO06				IAML			05 05 16.3	
	comp=N,56μm,0.4s							
CO06	**Fray Jorge**	**0.84**	**8**			**Pn**	**05 05 04.0**	**+1.0**
CO03	**El Pedregal**	**1.15**	**55**	*e*P		**Pg**	**05 05 07.9**	**+0.5**
CO03				*e*S		**Sg**	**05 05 22.4**	**0.0**
CO03	**El Pedregal**	**1.15**	**55**			**Pg**	**05 05 08.1**	**+0.7**
VA01	**Torpederas**	**1.51**	**176**	*e*P		**Pb**	**05 05 13.8**	**+0.5**
VA01	**Torpederas**	**1.51**	**176**			**Pb**	**05 05 13.5**	**+0.2**
VA01	**Torpederas**	**1.51**	**176**	*e*P		**Pb**	**05 05 14.0**	**+0.7**
VA01				*e*P		**Pg**	**05 05 14.5**	**+0.1**
VA01				*e*S		**Sg**	**05 05 37.2**	**+3.2**
GO04	**Tololo Observa**	**1.58**	**32**	*e*P		**Pb**	**05 05 14.7**	**+0.2**
GO04				*i*			05 05 31.9	
GO04				*e*S		**Sg**	**05 05 35.2**	**-0.9**
GO04				IAML			05 05 44.7	
	comp=E,67μm,0.5s							
GO04	**Tololo Observa**	**1.58**	**32**			**Pb**	**05 05 15.2**	**+0.7**
GO04	**Tololo Observa**	**1.58**	**32**	*e*P		**Pb**	**05 05 14.5**	**0.0**
GO04				*e*S		**Sg**	**05 05 35.5**	**-0.6**
ROCH	**El Roble**	**1.59**	**156**	*e*P		**Pb**	**05 05 15.4**	**+0.6**
ROCH				*e*S		**Sg**	**05 05 36.6**	**-0.1**
ROCH				IAML			05 05 40.4	
	comp=N,15μm,0.4s							
ROC1	**El Roble**	**1.60**	**156**	*e*P		**Pn**	**05 05 14.5**	**+0.9**
ROC1				*e*P		**Pg**	**05 05 16.1**	**0.0**
ROC1				*e*S		**Sg**	**05 05 37.6**	**+0.8**
VA03	**San Esteban**	**1.62**	**141**	*e*P		**Pb**	**05 05 15.7**	**+0.4**
VA03				*e*S		**Sb**	**05 05 36.6**	**+0.8**
VA03				IAML			05 05 42.9	
	comp=E,27μm,0.3s							
VA03	**San Esteban**	**1.62**	**141**			**Pg**	**05 05 16.3**	**-0.2**
MT05	**Renca**	**2.07**	**155**	*e*P		**Pb**	**05 05 23.0**	**+0.2**
MT05				*e*S		**Sb**	**05 05 49.5**	**+0.9**
MT05				IAML			05 05 53.7	
	comp=E,15μm,0.4s							
MT05	**Renca**	**2.07**	**155**	Pn		**Pb**	**05 05 23.1**	**+0.2**
RTLS	**Leoncito**	**2.13**	**98**	*e*P		**Pg**	**05 05 25.5**	**-0.8**
RTLS				*e*S		**Sn**	**05 05 48.0**	**+0.4**
RTLS				IAML			05 05 54.4	
	comp=Z,2μm,1.2s							
VA05	**Santo Domingo**	**2.15**	**176**	*e*P		**Pb**	**05 05 23.4**	**-0.7**
VA05				*e*S		**Sb**	**05 05 51.4**	**+0.7**
VA05				IAML			05 05 58.6	
	comp=N,7μm,0.4s							
VA05	**Santo Domingo**	**2.15**	**176**			**Pg**	**05 05 21.6**	**+0.7**
AUSP	**Uspallata**	**2.15**	**110**	*e*P		**Pg**	**05 05 26.1**	**-0.6**
AUSP				*e*S		**Sg**	**05 05 57.0**	**+2.4**
MT09	**Talagante**	**2.35**	**164**	*e*P		**Pb**	**05 05 27.0**	**-0.8**
MT09				*e*S		**Sb**	**05 05 57.2**	**+0.4**
MT09				IAML			05 06 05.9	
	comp=E,5μm,0.5s							
MT09	**Talagante**	**2.35**	**164**			**Pb**	**05 05 26.7**	**-1.1**
MT01	**Popeta**	**2.39**	**169**	*i*	P	**Pb**	**05 05 28.5**	**+0.3**
MT01				*e*S		**Sb**	**05 05 58.1**	**+0.4**
MT01				IAML			05 06 06.6	
	comp=E,4μm,0.3s							
MT01	**Popeta**	**2.39**	**169**			**Pb**	**05 05 28.6**	**+0.3**
MT01	**Popeta**	**2.39**	**169**	*e*P		**Pn**	**05 05 25.5**	**+1.2**
MT01				*e*S		**Sn**	**05 05 50.0**	**-3.5**
MT01				*e*S		**Sg**	**05 06 00.5**	**-1.6**
MT01				IAML			05 06 04.0	
	comp=Z,3μm,0.5s							
AROD	**Rodeo**	**2.39**	**57**	*e*P		**Pb**	**05 05 29.0**	**+0.5**
AROD				*e*S		**Sn**	**05 05 55.0**	**+1.0**
ACCO	**Cerro Coronel**	**2.50**	**69**	*e*P		**Pb**	**05 05 31.8**	**+1.4**
ZON	**Zonda**	**2.65**	**92**			**Pb**	**05 05 30.8**	**-1.8**
ZON	**Zonda**	**2.65**	**92**	*e*P		**Pb**	**05 05 33.0**	**+0.3**
ZON				*e*S		**Sg**	**05 06 09.3**	**-1.1**
ZON				IAML			05 06 13.2	
	comp=Z,2μm,0.4s							
ACDV	**Cuesta del Vie**	**2.65**	**60**	*e*P		**Pb**	**05 05 33.8**	**+1.1**
ACDV				*e*P		**Pg**	**05 05 34.0**	**-2.1**
ACDV				*e*S		**Sg**	**05 06 09.3**	**-1.1**
ACDV				IAML			05 06 24.1	
	comp=Z,2μm,0.7s							
ASAL	**Salagasta**	**2.72**	**114**	*e*P		**Pb**	**05 05 35.0**	**+1.0**
ASAL				*e*P		**Pg**	**05 05 35.7**	**-1.8**
ARCO	**CERRO ARCO**	**2.75**	**120**	*e*P		**Pb**	**05 05 36.0**	**+1.4**
ARCO				*e*S		**Sg**	**05 06 20.0**	**+6.2**
ARCO				IAML			05 06 22.2	
	comp=Z,3μm,0.9s							
RTCV	**Cerro Valdivia**	**2.78**	**98**	*e*P		**Pb**	**05 05 35.0**	**0.0**
RTCV				*e*P		**Pg**	**05 05 35.5**	**-3.1**
RTCV				*e*S		**Sg**	**05 06 18.7**	**+4.0**
RTLL	**Cerro Villicun**	**2.83**	**87**	*e*P		**Pb**	**05 05 35.8**	**0.0**
RTLL				*e*S		**Sg**	**05 06 17.5**	**+1.3**
BO01	**Tunca**	**2.93**	**169**			**Pn**	**05 05 32.4**	**+0.7**
BO01	**Tunca**	**2.93**	**169**	*e*P		Pn	05 05 24.2	-7.6
BO01				*e*P		**Pb**	**05 05 38.0**	**+0.5**
BO01				*e*S		**Sb**	**05 06 12.0**	**-1.3**
BO01				*e*S		**Sg**	**05 06 17.5**	**-2.0**
BO01				IAML			05 06 21.5	
	comp=Z,2μm,0.7s							
AAGR	**Agrelo**	**2.95**	**123**	*e*P		**Pb**	**05 05 38.0**	**+0.1**
AAGR				*e*S		**Sg**	**05 06 22.3**	**+2.2**
AC04	**Llanos de Chal**	**3.35**	**11**	Pn		**Pn**	**05 05 39.5**	**+2.0**
AC04	**Llanos de Chal**	**3.35**	**11**	*e*P		**Pn**	**05 05 38.5**	**+1.0**
AC04				*e*S		**Sn**	**05 06 18.0**	**+0.8**
AC04				IAML			05 06 38.5	
	comp=Z,2μm,0.6s							
BO02	**Sierra Bellavi**	**3.38**	**166**	Pn		**Pn**	**05 05 38.6**	**+0.7**
BO02	**Sierra Bellavi**	**3.38**	**166**	*e*P		Pn	05 05 27.3	-11
BO02				*e*S		**Sb**	**05 06 25.0**	**-1.2**
BO02				IAML			05 06 38.5	
	comp=Z,2μm,0.8s							
AVIZ	**Vizcacheras**	**3.38**	**126**	*e*P		**Pn**	**05 05 38.5**	**+0.5**
AVIZ				*e*P		**Pb**	**05 05 44.2**	**-1.0**
AVIZ				*e*S		**Sg**	**05 06 35.7**	**+1.8**
AGUA	**GUANDACOL**	**3.48**	**55**	*e*P		**Pb**	**05 05 45.0**	**-1.9**
AGUA				*e*S		**Sb**	**05 06 31.5**	**+2.3**
AGUA				IAML			05 06 44.9	
	comp=Z,3μm,0.6s							
GO05	**Huala**	**3.49**	**182**			**Pn**	**05 05 40.1**	**+0.6**
GO05	**Huala**	**3.49**	**182**	*e*P		**Pn**	**05 05 40.7**	**+1.3**
GO05				*e*S		**Sb**	**05 06 31.5**	**+2.0**
COIS	**El Sosneado**	**4.03**	**154**	*e*P		**Pn**	**05 05 50.0**	**+3.2**
COIS				*e*P		Pb	05 05 51.0	-5.2
COIS				*e*S		**Sg**	**05 06 52.5**	**-2.2**
LAMA	**Las Malvinas**	**4.04**	**149**	*e*P		**Pb**	**05 05 52.0**	**-4.4**
GO03	**Copiap**	**4.13**	**19**	Pn		**Pn**	**05 05 48.6**	**+0.3**
GO03	**Copiap**	**4.13**	**19**	*e*P		**Pn**	**05 05 50.0**	**+1.7**
GO03				*e*P		Pb	05 05 51.0	-7.0
GO03				*e*S		**Sn**	**05 06 37.0**	**+0.5**
GO03				*e*S		**Sb**	**05 06 45.0**	**-2.8**
VCA	**Vinchina**	**4.15**	**49**	*e*P		Pn	05 05 39.4	-9.2
VCA				*e*S		**Sb**	**05 06 52.2**	**+3.7**
VCA				IAML			05 07 09.1	
	comp=Z,2μm,1.3s							
ML02	**Panimavida**	**4.25**	**176**			**Pn**	**05 05 51.2**	**+1.3**
RFA	**San Rafael**	**4.28**	**140**	*e*P		**Pn**	**05 05 52.0**	**+1.7**
RFA				*e*P		Pb	05 05 54.1	-6.3
RFA				*e*S		**Sg**	**05 06 58.0**	**-4.7**
ACHE	**Chepes**	**4.39**	**87**	*e*P		**Pb**	**05 05 58.1**	**-4.3**
ACHE				*e*S		**Sb**	**05 06 50.7**	**-4.7**
AC02	**Maricunga**	**5.20**	**27**	Pn		**Pn**	**05 06 05.0**	**+1.6**
AC02	**Maricunga**	**5.20**	**27**	*e*P		**Pn**	**05 06 06.0**	**+2.6**
AC02				*e*S		**Sn**	**05 07 07.5**	**+3.9**
AC02				IAML			05 07 32.2	
	comp=Z,1μm,0.8s							
MRA	**San Martin**	**5.23**	**102**	*e*S		**Sn**	**05 07 07.5**	**+3.8**
MRA				*e*S		**Sb**	**05 07 12.8**	**-6.7**
MRA				IAML			05 07 43.1	
	comp=Z,708nm,1.4s							
CYA	**Choya**	**6.02**	**61**	*e*P		**Pn**	**05 06 17.0**	**+2.8**
VA04	**Juan Fernndez**	**6.32**	**248**	Pn		**Pn**	**05 06 18.4**	**0.0**
H03N1	**Juan Fernandez**	**6.33**	**250**	T		T	05 13 00.8	
	baz=73,slow=72							
H03N3	**Juan Fernandez**	**6.34**	**250**	T		T	05 12 54.9	
	baz=73,slow=72							
H03N2	**Juan Fernandez**	**6.35**	**250**	T		T	05 12 55.1	
	baz=73,slow=72							
PB14	**IPOC Station P**	**6.96**	**10**	Pn		**Pn**	**05 06 27.5**	**+0.1**
LC01	**Cunco**	**7.37**	**181**	Pn		**Pn**	**05 06 33.4**	**+0.7**
FSA	**Cafayete**	**7.40**	**45**	*e*P		**Pn**	**05 06 38.0**	**+4.7**
PB10	**IPOC Station P**	**8.04**	**8**	Pn		**Pn**	**05 06 43.8**	**+1.9**
LR03	**Panguipulli**	**8.12**	**183**			**Pn**	**05 06 43.7**	**+0.7**
LVC	**Limon Verde**	**9.22**	**17**	Pn		**Pn**	**05 06 55.7**	**-2.8**
	baz=141,slow=19,SNR=0.5							
LVC						Sn		**Sn**	**05 08 44.7**	**+2.2**
	comp=Z,2.9nm,0.3s,baz=290,slow=7.4,SNR=1.7								
PLCA	**Paso Flores**	**9.26**	**174**	Pn		**Pn**	**05 07 00.5**	**+1.8**
	comp=Z,1.4nm,0.3s,baz=335,slow=10,SNR=14								
PLCA	**Paso Flores**	**9.26**	**174**	*e*P		**Pn**	**05 07 01.0**	**+2.3**
LL04	**Puerto Octay**	**9.39**	**183**	Pn		**Pn**	**05 07 00.8**	**+0.4**
LL05	**Los Muermos**	**9.97**	**187**	Pn		**Pn**	**05 07 08.9**	**+0.5**
TRQA	**Tornquist**	**10.37**	**132**	Pn		**Pn**	**05 07 14.4**	**+0.6**
CPUP	**Villa Florida**	**13.66**	**71**	Pn		**Pn**	**05 07 58.8**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=317,slow=20,SNR=1.6								
PLTB	**Pedras Altas**	**15.48**	**96**	Pn		**Pn**	**05 08 23.9**	**+0.3**
LPAZ	**La Paz**	**15.51**	**13**	Pn		**Pn**	**05 08 24.8**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=195,slow=7.1,SNR=12								
LPAZ	**La Paz**	**15.51**	**13**	Pn		**Pn**	**05 08 26.0**	**+1.4**
SIV	**San Ignacio**	**18.27**	**35**	P		**Pn**	**05 08 58.2**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=237,slow=11,SNR=16								
SPB	**Sao Paulo**	**22.95**	**76**	P		**P**	**05 09 49.6**	**+0.1**
SPB				IAmb		IAmb	05 09 50.8		
	comp=Z,39nm,0.8s								
SAML	**Samuel**	**23.83**	**21**	P		**P**	**05 09 58.4**	**+0.1**
BDFB	**Brasilia**	**26.81**	**59**	P		**P**	**05 10 24.3**	**-1.3**
	comp=Z,26nm,1.0s,baz=221,slow=6.9,SNR=18								
BDFB	**Brasilia**	**26.81**	**59**	P		**P**	**05 10 25.0**	**-0.7**
BDFB				IAmb		IAmb	05 10 26.1		
	comp=Z,28nm,1.0s								
PRAC	**Prado**	**35.15**	**355**	*e*P		**P**	**05 11 41.7**	**+2.6**
ORTC	**Ortega, Tolima**	**35.38**	**354**	*e*P		**P**	**05 11 43.6**	**+2.6**
CHIC	**Chingaza**	**35.99**	**357**	*e*P		**P**	**05 11 48.1**	**+1.5**
ROSC	**El Rosal**	**36.23**	**356**	P		**P**	**05 11 47.2**	**-1.5**
GUY2C	**Guyana, Caldas**	**36.69**	**354**	*e*P		**P**	**05 11 53.2**	**+0.4**
RUSC	**La Rusia**	**37.21**	**358**	P		**P**	**05 11 58.4**	**+1.2**
RUSC				IAmb		IAmb	05 12 14.9		
	comp=Z,18nm,0.8s								
RUSC	**La Rusia**	**37.21**	**358**	*e*P		**P**	**05 11 58.6**	**+1.4**
CBOC	**Ciudad Bolivar**	**37.38**	**353**	*e*P		**P**	**05 11 59.6**	**+1.3**
HELC	**Santa Helena**	**37.86**	**354**	*e*P		**P**	**05 12 02.4**	**+1.5**
ZARC	**Zaragoza, Cauc**	**38.89**	**355**	*e*P		**P**	**05 12 10.9**	**+0.1**
MDP	**Montagnes des**	**40.73**	**30**	P		**P**	**05 12 25.1**	**-1.0**
	comp=Z,11nm,0.8s,baz=183,slow=9.7,SNR=5.2								
SJCC	**San Jacinto, C**	**41.30**	**355**	P		**P**	**05 12 31.1**	**+0.3**
OBIP	**Obispado Ponce**	**49.52**	**6**	P		**P**	**05 13 34.2**	**-1.6**
PDPR	**Patillas Dam,**	**49.55**	**7**	P		**P**	**05 13 35.3**	**-0.8**
PDPR				IAmb		IAmb	05 13 35.8		
	comp=Z,14nm,0.9s								
VNA3	**Neumayer Olymp**	**51.58**	**159**	P		**P**	**05 13 52.0**	**+1.0**
VNA1	**Neumayer--Stat**	**51.88**	**158**	P		**P**	**05 13 54.6**	**+1.5**
VNA2	**Neumayer--Watz**	**52.22**	**158**	P		**P**	**05 13 56.7**	**+1.0**
	baz=289,slow=8.3								
SNAA	**Sanae**	**53.81**	**159**	P		**P**	**05 14 08.3**	**+0.8**
SNAA	**Sanae**	**53.81**	**159**	P		**P**	**05 14 08.3**	**+0.8**
SNAA				IAmb		IAmb	05 14 09.4		
	comp=Z,12nm,0.9s								
QSPA	**South Pole Qui**	**58.72**	**180**	P		**P**	**05 14 43.9**	**+1.2**
QSPA				IAmb		IAmb	05 14 45.6		
	comp=Z,10nm,1.2s								
X58A	**Rowland**	**66.10**	**353**	P		**P**	**05 15 32.1**	**0.0**
HPIG		**66.51**	**327**	P		**P**	**05 15 36.2**	**+1.0**
HPIG				IAmb		IAmb	05 15 37.2		
	comp=Z,8.0nm,0.9s								
TXAR	**Lajitas Array**	**67.68**	**330**	P		**P**	**05 15 42.9**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=157,slow=8.3,SNR=10								
TXAR	**Lajitas Array**	**67.68**	**330**	P		**P**	**05 15 43.0**	**+0.6**
TX31	**Lajitas Ar. Si**	**67.69**	**330**	IAmb		IAmb	05 15 55.4		
	comp=Z,11nm,1.2s								
SWET	**Sewanee**	**67.70**	**347**	IAmb		IAmb	05 15 43.2		
	comp=Z,10.0nm,0.9s								
U54A	**Nelsons Funny**	**68.33**	**351**	P		**P**	**05 15 46.2**	**-0.1**
WVT	**Waverly**	**68.95**	**346**	P		**P**	**05 15 50.1**	**-0.1**
LCAR	**Lake Charles**	**69.64**	**343**	IAmb		IAmb	05 15 55.1		
	comp=Z,9.9nm,1.0s								
PBMO	**Poplar Bluff**	**70.14**	**344**	IAmb		IAmb	05 15 57.9		
	comp=Z,4.8nm,0.7s								
MSTX	**Muleshoe**	**71.39**	**333**	IAmb		IAmb	05 16 07.0		
	comp=Z,7.3nm,0.8s								
P51A	**Williamsport**	**71.41**	**351**	IAmb		IAmb	05 16 05.7		
	comp=Z,9.3nm,0.8s								
P52A	**Corning**	**71.43**	**352**	P		**P**	**05 16 05.0**	**-0.3**
CCM	**Cathedral Cave**	**71.55**	**344**	P		**P**	**05 16 06.6**	**+0.5**
CCM				IAmb		IAmb	05 16 07.2		
	comp=Z,8.7nm,0.9s								
AMTX	**Amarillo**	**71.79**	**334**	P		**P**	**05 16 08.1**	**+0.5**
AMTX				IAmb		IAmb	05 16 09.4		
	comp=Z,9.3nm,1.1s								
R40A	**Maddies Statio**	**72.03**	**343**	IAmb		IAmb	05 16 09.8		
	comp=Z,9.0nm,1.0s								
N58A	**Sunbury**	**72.13**	**356**	IAmb		IAmb	05 16 11.2		
	comp=Z,7.1nm,0.9s								
ODNJ	**Ogdensburg**	**72.28**	**358**	P		**P**	**05 16 10.8**	**+0.5**
ODNJ				IAmb		IAmb	05 16 12.1		
	comp=Z,6.2nm,0.8s								
M53A	**WI Miller and**	**73.05**	**353**	P		**P**	**05 16 14.8**	**-0.2**
M53A				IAmb		IAmb	05 16 15.8		
	comp=Z,11nm,0.8s								
LIC	**Lamto**	**73.79**	**72**	*e*P		**P**	**05 16 18.7**	**-1.2**
	comp=Z,61nm,1.1s								
TIC	**Toumodi**	**74.03**	**72**	*e*P		**P**	**05 16 20.0**	**-1.4**
KIC	**Kosan Boka**	**74.10**	**72**	*e*P		**P**	**05 16 21.3**	**-0.5**
	comp=Z,51nm,0.9s								
DBIC	**Dimbokro**	**74.18**	**72**	P		**P**	**05 16 21.5**	**-0.7**
	comp=Z,16nm,0.8s,baz=235,slow=4.9,SNR=14								
DBIC	**Dimbokro**	**74.18**	**72**	P		**P**	**05 16 21.9**	**-0.4**
FFD	**Franklin Falls**	**74.62**	**0**	P		**P**	**05 16 25.8**	**+1.8**
FFD				IAmb		IAmb	05 16 26.4		
	comp=Z,12nm,0.8s								
T25A	**Trinidad**	**74.81**	**333**	IAmb		IAmb	05 16 28.1		
	comp=Z,5.7nm,0.8s								
X18A	**Snowflake**	**74.88**	**328**	P		**P**	**05 16 24.2**	**-1.8**
LBNH	**Lisbon**	**75.39**	**360**	IAmb		IAmb	05 16 30.9		
	comp=Z,11nm,0.9s								
MAW	**Mawson**	**75.50**	**164**	P		**P**	**05 16 29.7**	**+0.8**
	comp=Z,5.3nm,0.9s,baz=206,slow=6.7,SNR=8.5								
MAW	**Mawson**	**75.50**	**164**	IAmb		IAmb	05 16 30.8		
	comp=Z,1.6nm,1.0s								
LONY	**Lake Ozonia**	**75.81**	**358**	IAmb		IAmb	05 16 32.3		
	comp=Z,9.9nm,0.9s								
FRNY	**Flat Rock**	**76.00**	**359**	P		**P**	**05 16 32.5**	**+0.6**
FRNY				IAmb		IAmb	05 16 33.9		
	comp=Z,7.5nm,0.8s								
ECSD	**EROS Data Cent**	**78.25**	**342**	P		**P**	**05 16 45.0**	**+0.3**
ECSD				IAmb		IAmb	05 16 45.8		
	comp=Z,7.9nm,0.8s								
E43A	**Lone Tree Farm**	**78.74**	**349**	P		**P**	**05 16 47.7**	**+0.5**
PHWY	**Pilot Hill**	**78.84**	**335**	IAmb		IAmb	05 17 04.3		
	comp=Z,12nm,1.4s								
KOWA	**Kowa**	**79.41**	**66**	P		**P**	**05 16 51.6**	**-0.1**
KOWA				IAmb		IAmb	05 16 52.6		
	comp=Z,15nm,0.9s								
F36A	**Milaca**	**79.50**	**345**	IAmb		IAmb	05 16 52.3		
	comp=Z,5.3nm,0.8s								
BOSA	**Boshof**	**81.03**	**118**	P		**P**	**05 17 00.9**	**+0.4**
	comp=Z,7

PCIG				*i* S	Sn	05 07 49.8	-1.5
CCIG	**Comitan**	**1.99**	**31**	*i* P	Pn	05 07 50.1	+3.2
CCIG				*e*S	Sn	05 08 18.4	+7.1
TGIG		**2.19**	**2**	*i* P	Pn	05 07 51.7	+2.3
TGIG				*e*S	Sn	05 08 21.4	+5.6

IDC ***17*** *05:10:03.8±1.2, 30.54S×72.06W, h0km, mb4.1/5, mb1 4.2/7, mb1mx3.9/30, mbtmp4.1/7, ML3.8/2, Error ellipse: s-maj=35.1km s-min=29.4km az=93.0*
NEIC ***17*** *05:10:07.6±1.0, 30.53S±0.07×71.37W±0.09, h32km±6km, mb4.5/21, Error ellipse: s-maj=11.3km s-min=10.1km az=115.0*

ISC 17 05:10:04.6±0.6, 30.56S±0.07×71.97W±0.09, h16km, n29, σ2s02/29, mb4.5/10, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.31**	**112**		**Pn**	**05 10 14.7**	**+0.1**
CO06				Sg	**Sb**	**05 10 19.8**	**+3.0**
LC01	**Cunco**	**8.32**	**179**	Pn	**Pn**	**05 12 03.7**	**-1.0**
PB07	**IPOC Station P**	**8.99**	**13**	Pn	**Pn**	**05 12 13.8**	**-0.2**
LPAZ	**La Paz**	**14.63**	**15**	Pn	**P**	**05 13 34.7**	**-3.3**
	0.1nm,0.3s,baz=204,slow=10.0,SNR=1.0						
SIV	**San Ignacio**	**17.60**	**37**	P	**P**	**05 14 12.7**	**+2.4**
	0.6nm,0.3s,baz=223,slow=12,SNR=12						
BDFB	**Brasilia**	**26.49**	**61**	P	**P**	**05 15 43.3**	**+1.8**
	4.9nm,0.8s,baz=236,slow=10.0,SNR=4.8						
BDFB	**Brasilia**	**26.49**	**61**	P	**P**	**05 15 35.8**	**-5.7**
BDFB				IAmb	IAmb	05 15 46.3	
	comp=Z,5.7nm,0.9s						
PMSA	**Palmer Station**	**34.60**	**174**	P	P	05 16 55.1	+2.6
	comp=Z,6.0nm,0.8s,baz=104,slow=3.1,SNR=2.2						
PMSA	**Palmer Station**	**34.60**	**174**	P	**P**	**05 16 52.8**	**+0.3**
HOPE	**Hope Point**	**34.75**	**143**	P	**P**	**05 16 52.0**	**-1.9**
SJG	**San Juan**	**48.71**	**7**	P	**P**	**05 18 47.7**	**-0.7**
CBYP	**Canovanas**	**48.90**	**8**	P	**P**	**05 18 48.1**	**-1.9**
STVI	**Saint Thomas**	**49.09**	**9**	P	**P**	**05 18 50.7**	**-0.6**
SDDR	**Presa de Saban**	**49.26**	**1**	P	**P**	**05 18 52.5**	**-0.2**
SDDR				IAmb	IAmb	05 18 52.6	
	comp=Z,8.1nm,0.9s						
SNAA	**Sanae**	**54.76**	**159**	P	**P**	**05 19 33.1**	**0.0**
SNAA				IAmb	IAmb	05 19 34.2	
	comp=Z,1.6nm,0.7s						
QSPA	**South Pole Qui**	**59.67**	**180**	P	**P**	**05 20 08.7**	**+0.7**
SHEL	**Horse Pasture**	**61.79**	**93**	P	**P**	**05 20 19.2**	**-3.9**
TXAR	**Lajitas Array**	**66.77**	**330**	P	**P**	**05 20 57.1**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=152,slow=8.3,SNR=5.1						
SRIG	**Santa Rosalia**	**69.23**	**322**	P	**P**	**05 21 12.4**	**+1.6**
U38A	**Gravette**	**69.88**	**341**	P	**P**	**05 21 16.3**	**+1.7**
OK031	**S. Brethren Rd**	**70.16**	**339**	P	**P**	**05 21 17.8**	**+1.4**
N53A	**Lisbon**	**71.48**	**353**	P	**P**	**05 21 24.8**	**+0.5**
N53A				IAmb	IAmb	05 21 36.7	
	comp=Z,4.8nm,1.0s						
M63A	**Gales Ferry**	**71.60**	**360**	P	**P**	**05 21 25.6**	**+0.7**
M63A				IAmb	IAmb	05 21 34.5	
	comp=Z,14nm,1.4s						
KAN10	**Anthony SW Sta**	**71.64**	**338**	P	**P**	**05 21 26.1**	**+0.7**
MMNY	**Mt. Morris Dam**	**73.13**	**355**	P	**P**	**05 21 35.3**	**+1.2**
MMNY				IAmb	IAmb	05 21 39.9	
	comp=Z,12nm,1.3s						
GLMI	**Grayling**	**75.90**	**351**	P	**P**	**05 21 51.4**	**+1.2**
PDAR	**Pinedale Array**	**80.73**	**333**	P	**P**	**05 22 18.2**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=140,slow=4.7,SNR=2.4						
TORD	**Torodi Ar. Bea**	**82.99**	**70**	P	**P**	**05 22 31.1**	**+1.7**
	comp=Z,2.9nm,0.8s,baz=258,slow=4.6,SNR=12						
ZALV	**Zalesovo Beam**	**151.24**	**29**	PKPbc	**PKiKP**	**05 29 58.3**	**+1.0**
	comp=Z,3.7nm,0.5s,baz=306,slow=3.1,SNR=8.4						

GUC 17 05:12:09.8±0.5, 31.25S×71.26W, h64km±6km, ML4.1, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO03	**El Pedregal**	**0.63**	**50**	*e*P	Pn	05 12 23.4	-0.3
CO03				*e*S	Sn	05 12 34.0	+0.2
CO03				IAML		05 12 35.0	
	comp=N,9μm,0.1s						
CO06	**Fray Jorge**	**0.66**	**330**	*e*P	Pn	05 12 23.7	-0.1
CO06				*e*S	Sn	05 12 34.1	0.0
CO06				IAML		05 12 36.3	
	comp=E,7μm,0.3s						
GO04	**Tololo Observa**	**1.14**	**20**	*e*P	Pn	05 12 30.2	+0.1
GO04				*e*S	Sn	05 12 45.8	+0.7
GO04				IAML		05 12 51.1	
	comp=N,19μm,0.3s						
VA03	**San Esteban**	**1.63**	**159**	*e*P	Pn	05 12 36.1	-0.3
VA03				*i* S	Sn	05 12 56.4	-0.1
VA03				IAML		05 12 60.0	
	comp=E,3μm,0.2s						
ROCH	**El Roble**	**1.73**	**173**	*e*P	Pn	05 12 38.2	+0.3
ROCH				*e*S	Sn	05 12 58.7	-0.6
VA01	**Torpederas**	**1.80**	**190**	*e*P	Pn	05 12 39.1	+0.5
VA01				*e*S	Sn	05 13 01.3	+0.8
MT05	**Renca**	**2.19**	**169**	*e*P	Pn	05 12 45.0	+1.0
MT05				*e*S	Sn	05 13 10.4	+0.5
MT05				IAML		05 13 17.4	
	comp=E,2μm,0.3s						
VA05	**Santo Domingo**	**2.42**	**187**	*e*P	Pn	05 12 50.0	+2.9
VA05				*e*S	Sn	05 13 15.9	+0.3
VA05				IAML		05 13 23.0	
	comp=E,1μm,0.4s						
MT09	**Talagante**	**2.53**	**175**	*e*P	Pn	05 12 49.0	+0.3
MT09				*e*S	Sn	05 13 18.7	+0.2
MT09				IAML		05 13 24.4	
	comp=E,1μm,0.4s						
MT01	**Popeta**	**2.61**	**180**	*e*P	Pn	05 12 51.2	+1.6
MT01				*e*S	Sn	05 13 20.8	+0.5
MT01				IAML		05 13 29.1	
	comp=E,778nm,0.3s						

IDC 17 05:13:07.1±1.3, 30.63S×72.79W, h0km, mb3.9/6, mb1 4.0/9, mb1mx3.8/30, mbtmp3.9/9, ML4.1/3, Error ellipse: s-maj=41.8km s-min=23.0km az=100.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**10.24**	**170**	Pn	Pn	05 15 34.6	-0.8
	0.6nm,0.3s,baz=337,slow=11,SNR=5.7						
LPAZ	**La Paz**	**14.90**	**18**	Pn	Pn	05 16 38.8	-0.9
	0.2nm,0.3s,baz=174,slow=10,SNR=4.9						
SIV	**San Ignacio**	**18.09**	**39**	P	Pn	05 17 19.1	-1.0
	0.4nm,0.3s,baz=235,slow=9.7,SNR=7.6						
BDFB	**Brasilia**	**27.15**	**62**	P	P	05 18 53.3	+1.0
	4.1nm,0.8s,baz=236,slow=11,SNR=2.5						
SNAA	**Sanae**	**54.94**	**159**	P	P	05 22 39.3	-0.2
	1.0nm,0.9s,baz=287,slow=11,SNR=2.3						
QSPA	**South Pole Qui**	**59.59**	**180**	P	P	05 23 12.7	+0.2
	1.0nm,0.8s,baz=170,slow=2.2,SNR=2.5						
TXAR	**Lajitas Array**	**66.50**	**331**	P	P	05 23 58.9	+0.1
	0.1nm,0.7s,baz=155,slow=6.8,SNR=1.3						
DBIC	**Dimbokro**	**74.74**	**73**	P	P	05 24 49.3	0.0
	9.7nm,1.1s,baz=202,slow=5.4,SNR=2.7						
TORD	**Torodi Ar. Bea**	**83.68**	**71**	P	P	05 25 38.0	-0.2
	0.7nm,0.8s,baz=260,slow=3.3,SNR=4.1						

JMA 17 05:13:40.4±0.2, 24.38N×123.79E, h47km±2km, M1.1, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.07**	**231**	P	Pn	05 13 47.6	-0.2
IRIF				S	Sn	05 13 53.6	+0.7
JKRS	**Kuro-shima**	**0.24**	**125**	P	Pn	05 13 48.8	0.0
JKRS				S	Sn	05 13 55.0	+0.3
JIJ	**Ishigaki jima**	**0.32**	**93**	P	Pn	05 13 49.3	-0.2
JIJ				S	Sn	05 13 55.6	-0.3
JISG	**Ishigakijimahi**	**0.52**	**66**	P	Pn	05 13 52.0	+0.3
JISG				*e*S	Sn	05 14 00.5	+0.8
JTJ	**Tarama**	**0.87**	**72**	S	Sn	05 14 09.0	+1.1

TAP 17 05:13:52.1, 24.23N×121.86E, h15km, ML2.1, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.22**	**330**	P	Pg	05 13 56.9	-0.3
	baz=332						
ENA				S	Sg	05 14 00.7	+0.2
	baz=332						
EWUT	**Wuta**	**0.22**	**340**	P	Pg	05 13 56.9	-0.3
	baz=340						
EWUT				S	Sg	05 14 00.7	+0.1
	baz=340						
ETL	**Fush Village**	**0.23**	**251**	*e*P	Pg	05 13 57.0	-0.3
	baz=250						
ETL				*e*S	Sg	05 14 01.3	+0.5
	baz=250						
NACB	**Ninganchiao**	**0.25**	**256**	P	Pg	05 13 57.3	-0.4
	baz=256						
NACB				S	Sg	05 14 01.4	+0.1
	baz=256						
TWD	**Chiawan**	**0.29**	**238**	P	Pg	05 13 58.0	-0.2
	baz=237						
TWD				S	Sg	05 14 02.9	+0.6
	baz=237						
ETLH	**Xiulin Townshi**	**0.35**	**266**	P	Pg	05 13 58.8	-0.5
	baz=265						
ETLH				*e*S	Sg	05 14 04.0	-0.3
	baz=265						
TWC	**Suao**	**0.37**	**358**	*e*P	Pg	05 13 59.4	-0.3
	baz=359						
TWC				*e*S	Sg	05 14 05.2	+0.2
	baz=359						
NDS	**Dongshan**	**0.42**	**342**	P	Pg	05 14 00.4	-0.2
	baz=341						
NDS				S	Sg	05 14 06.4	0.0
	baz=341						
NNSB	**Datong**	**0.48**	**294**	P	Pg	05 14 01.5	-0.2
	baz=293						
NNSB				S	Sg	05 14 08.0	-0.1
	baz=293						
ENTT	**Nioudou**	**0.48**	**326**	P	Pg	05 14 01.6	-0.2
	baz=326						
ENTT				S	Sg	05 14 08.5	+0.1
	baz=326						
NDT	**Datong Townshi**	**0.48**	**319**	*e*P	Pg	05 14 02.0	+0.1
	baz=319						
NDT				S	Sg	05 14 08.8	+0.4
	baz=319						
NNS	**Nan Shan**	**0.49**	**295**	P	Pg	05 14 01.7	-0.3
	baz=294						
NNS				S	Sg	05 14 08.4	-0.2
	baz=294						
WHF	**Hehuan Shan**	**0.55**	**261**	P	Pg	05 14 02.5	-0.7
	baz=260						
WHF				S	Sg	05 14 10.2	-0.4
	baz=260						
FUSS	**Fushou**	**0.56**	**272**	P	Pg	05 14 03.2	-0.2
	baz=271						
FUSS				S	Sg	05 14 10.7	-0.2
	baz=271						
YHNB	**Yeheng**	**0.62**	**315**	P	Pg	05 14 03.9	-0.5
	baz=314						
YHNB				S	Sg	05 14 12.4	-0.2
	baz=314						
NWLT	**Wulai**	**0.63**	**329**	*e*P	Pg	05 14 04.3	-0.2
	baz=328						
NWLT				*e*S	Sg	05 14 13.0	0.0
	baz=328						
NSK	**Sanguang**	**0.64**	**314**	P	Pg	05 14 04.3	-0.4
	baz=314						
NSK				S	Sg	05 14 12.8	-0.3
	baz=314						
CHGB	**Renai**	**0.65**	**255**	*e*P	Pg	05 14 04.7	-0.3
	baz=254						
CHGB				*e*S	Sg	05 14 13.9	+0.2
	baz=254						

JMA ***17*** *05:14:01.7±0.1, 24.66N×122.45E, h101km±2km, M3.2*
TAP ***17*** *05:14:02.1, 24.71N×122.47E, h98km, ML4.2, D*

ISC 17 05:14:02.5±1.2, 24.66N±0.03×122.47E±0.02, h96km±6km, n131, σ0s86/260, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.48**	**115**	P	**Pn**	**05 14 17.8**	**+0.2**
JYNG				*S*	**Sn**	**05 14 29.5**	**+0.6**
EGS		**0.53**	**291**	*e*P	**Pn**	**05 14 17.9**	**-0.1**
	baz=277						
EGS				*e*S	**Sn**	**05 14 29.1**	**-0.4**
	baz=277						
YOJ	**Yonaguni jima**	**0.53**	**111**	P	**Pn**	**05 14 18.2**	**+0.2**
YOJ				S	**Sn**	**05 14 30.1**	**+0.5**
YOJ	**Yonaguni jima**	**0.53**	**111**	P	**Pn**	**05 14 18.1**	**+0.1**
	baz=123						
YOJ				S	**Sn**	**05 14 30.0**	**+0.5**
	baz=123						
TWB1	**Santiao Chiao**	**0.56**	**309**	*i* P	**Pn**	**05 14 18.1**	**-0.1**
	baz=298						
TWB1				S	**Sn**	**05 14 30.2**	**+0.1**
	baz=298						
TWC	**Suao**	**0.57**	**266**	P	**Pn**	**05 14 18.1**	**-0.2**
	baz=256						
TWC				S	**Sn**	**05 14 29.4**	**-0.7**
	baz=256						
NTC	**Toucheng**	**0.62**	**289**	P	**Pn**	**05 14 18.5**	**-0.2**
	baz=282						
NTC				S	**Sn**	**05 14 30.6**	**-0.3**
	baz=282						
EWUT	**Wuta**	**0.67**	**252**	P	**Pn**	**05 14 19.4**	**+0.3**
	baz=250						
EWUT				S	**Sn**	**05 14 31.8**	**+0.2**
	baz=250						
TIPB	**Shuangxi**	**0.67**	**298**	P	**Pn**	**05 14 19.1**	**-0.1**
	baz=290						
TIPB				S	**Sn**	**05 14 31.2**	**-0.5**
	baz=290						
ILA	**Ilan**	**0.67**	**280**	P	**Pn**	**05 14 19.3**	**+0.2**
	baz=273						
ILA				S	**Sn**	**05 14 31.8**	**+0.2**
	baz=273						
NDS	**Dongshan**	**0.69**	**268**	P	**Pn**	**05 14 19.5**	**+0.1**
	baz=264						
NDS				S	**Sn**	**05 14 31.6**	**-0.4**
	baz=264						
ENA	**Nanau**	**0.70**	**251**	*i* P	**Pn**	**05 14 19.8**	**+0.3**
	baz=247						
ENA				S	**Sn**	**05 14 32.6**	**+0.4**
	baz=247						
TWE	**Neicheng**	**0.73**	**275**	P	**Pn**	**05 14 19.9**	**+0.1**
	baz=271						
TWE				*e*S	**Sn**	**05 14 32.3**	**-0.5**
	baz=271						
EHP	**Heping Village**	**0.75**	**243**	*e*P	**Pn**	**05 14 20.1**	**+0.2**
	baz=234						
EHP				*e*S	**Sn**	**05 14 33.1**	**0.0**
	baz=234						
NWF	**Wu-fen Shan**	**0.75**	**304**	P	**Pn**	**05 14 19.9**	**-0.2**
	baz=295						
NWF				S	**Sn**	**05 14 32.5**	**-0.7**
	baz=295						
ENTT	**Nioudou**	**0.82**	**269**	P	**Pn**	**05 14 21.2**	**+0.5**
	baz=269						
ENTT				S	**Sn**	**05 14 34.5**	**+0.1**
	baz=269						
TWA	**Mucha**	**0.87**	**292**	P	**Pn**	**05 14 21.0**	**-0.2**
	baz=281						
TWA				S	**Sn**	**05 14 34.4**	**-0.8**
	baz=281						
NDT	**Datong Townshi**	**0.87**	**267**	P	**Pn**	**05 14 22.0**	**+0.8**
	baz=265						
NDT				*e*S	**Sn**	**05 14 36.3**	**+1.0**
	baz=265						
NWLT	**Wulai**	**0.89**	**278**	P	**Pn**	**05 14 21.4**	**0.0**
	baz=281						
NWLT				S	**Sn**	**05 14 35.3**	**-0.4**
	baz=281						
NHDH	**Xindian Distri**	**0.91**	**290**	*e*P	**Pn**	**05 14 21.9**	**+0.3**
	baz=280						
NHDH				S	**Sn**	**05 14 34.5**	**-1.5**
	baz=280						
ETL	**Fush Village**	**0.92**	**238**	P	**Pn**	**05 14 21.7**	**0.0**
	baz=235						
ETL				*e*S	**Sn**	**05 14 35.8**	**-0.3**
	baz=235						
NACB	**Ninganchiao**	**0.93**	**239**	*i* P	**Pn**	**05 14 21.7**	**-0.1**
	baz=231						
NACB				S	**Sn**	**05 14 35.7**	**-0.6**
	baz=231						
YM01	**YM01**	**0.95**	**301**	P	**Pn**	**05 14 21.7**	**-0.4**
	baz=290						
YM01				S	**Sn**	**05 14 35.8**	**-1.1**
	baz=290						
TAP	**Taipei**	**0.96**	**294**	*e*P	**Pn**	**05 14 22.2**	**+0.1**
	baz=291						
TAP				*e*S	**Sn**	**05 14 36.0**	**-0.8**
	baz=291						
TWD	**Chiawan**	**0.98**	**235**	P	**Pn**	**05 14 22.5**	**+0.2**
	baz=228						
TWD				S	**Sn**	**05 14 36.8**	**-0.5**
	baz=228						
YHNB	**Yeheng**	**1.00**	**271**	P	**Pn**	**05 14 23.0**	**+0.4**
	baz=275						
YHNB				S	**Sn**	**05 14 37.7**	**0.0**
	baz=275						
TWY	**Chenhua**	**1.00**	**308**	P	**Pn**	**05 14 22.6**	**0.0**
	baz=298						
TWY				*e*S	**Sn**	**05 14 38.3**	**+0.6**
	baz=298						
ETLH	**Xiulin Townshi**	**1.01**	**244**	P	**Pn**	**05 14 22.7**	**-0.1**
	baz=236						
ETLH				S	**Sn**	**05 14 37.6**	**-0.4**
	baz=236						
NSK	**Sanguang**	**1.01**	**271**	P	**Pn**	**05 14 23.0**	**+0.2**
	baz=275						
NSK				S	**Sn**	**05 14 37.7**	**-0.3**
	baz=275						
NNSB	**Datong**	**1.02**	**257**	P	**Pn**	**05 14 23.2**	**+0.3**
	baz=249						
NNSB				S	**Sn**	**05 14 38.0**	**-0.3**
	baz=249						
NNS	**Nan Shan**	**1.02**	**258**	P	**Pn**	**05 14 23.2**	**+0.2**
	baz=250						
NNS				S	**Sn**	**05 14 37.8**	**-0.5**
	baz=250						
PCYT	**Pengchaiyu**	**1.04**	**340**	P	**Pn**	**05 14 23.0**	**0.0**
	baz=330						
PCYT				*e*S	**Sn**	**05 14 38.5**	**+0.1**
	baz=330						
HWA	**Hwalien**	**1.04**	**230**	*e*P	**Pn**	**05 14 23.6**	**+0.6**
	baz=221						
HWA				S	**Sn**	**05 14 39.3**	**+0.9**
	baz=221						
TWS1	**Kuangyinshan**	**1.05**	**295**	P	**Pn**	**05 14 21.8**	**-1.4**
	baz=293						
TWS1				S	**Sn**	**05 14 37.1**	**-1.7**
	baz=293						
NTST	**Danshui**	**1.06**	**299**	*e*P	**Pn**	**05 14 23.1**	**-0.1**
	baz=296						
NTST				*e*S	**Sn**	**05 14 38.2**	**-0.6**
	baz=296						
FUSS	**Fushou**	**1.19**	**250**	P	**Pn**	**05 14 25.4**	**+0.4**
	baz=243						
FUSS				S	**Sn**	**05 14 41.3**	**-0.7**
	baz=243						
IRIF	**Iriomote-Funau**	**1.19**	**105**	P	**Pn**	**05 14 24.5**	**-0.2**
IRIF				S	**Sn**	**05 14 42.0**	**+0.5**
NCU	**National Centr**	**1.21**	**285**	*e*P	**Pn**	**05 14 25.8**	**+0.9**
	baz=290						
NCU				*e*S	**Sn**	**05 14 42.1**	**+0.2**
	baz=290						
NCUH	**Zhongli**	**1.21**	**285**	*e*P	**Pn**	**05 14 25.5**	**+0.5**
	baz=290						
NCUH				*e*S	**Sn**	**05 14 42.3**	**+0.4**
	baz=290						
WHF	**Hehuan Shan**	**1.21**	**245**	P	**Pn**	**05 14 25.7**	**+0.2**
	baz=238						
WHF				S	**Sn**	**05 14 42.1**	**-0.6**
	baz=238						
TWT	**Tachien**	**1.25**	**252**	P	**Pn**	**05 14 27.0**	**+1.4**
	baz=242						
TWT				S	**Sn**	**05 14 43.6**	**+0.5**
	baz=242						
TDCB	**Techi**	**1.26**	**252**	P	**Pn**	**05 14 26.5**	**+0.8**
	baz=242						
TDCB				S	**Sn**	**05 14 43.4**	**+0.1**
	baz=242						
ESL	**Shilin**	**1.27**	**229**	P	**Pn**	**05 14 25.2**	**-0.5**
	baz=236						
ESL				S	**Sn**	**05 14 42.4**	**-0.7**
	baz=236						
CHGB	**Renai**	**1.32**	**244**	P	**Pn**	**05 14 27.1**	**+0.5**
	baz=236						
CHGB				S	**Sn**	**05 14 44.2**	**-0.5**
	baz=236						
LIOB	**Emei**	**1.32**	**270**	P	**Pn**	**05 14 26.5**	**+0.2**
	baz=268						
LIOB				S	**Sn**	**05 14 44.5**	**+0.1**
	baz=268						
NSTT	**Nanjuang**	**1.34**	**269**	P	**Pn**	**05 14 26.9**	**+0.4**
	baz=267						
NSTT				S	**Sn**	**05 14 44.5**	**-0.2**
	baz=267						
HATJ	**Hateruma jima**	**1.35**	**116**	P	**Pn**	**05 14 26.5**	**-0.2**
HATJ				*e*S	**Sn**	**05 14 45.6**	**+0.6**
SBCB	**Hsinchu**	**1.36**	**276**	*e*P	**Pn**	**05 14 27.4**	**+0.7**
	baz=274						
SBCB				*e*S	**Sn**	**05 14 45.4**	**+0.3**
	baz=274						
EGFH	**Guangfu**	**1.37**	**224**	P	**Pn**	**05 14 26.9**	**0.0**
	baz=217						
EGFH				S	**Sn**	**05 14 44.9**	**-0.4**
	baz=217						
OWD	**Renai**	**1.37**	**240**	P	**Pn**	**05 14 27.4**	**+0.3**
	baz=234						
OWD				S	**Sn**	**05 14 45.3**	**-0.4**
	baz=234						
HSN	**Hsinchu**	**1.37**	**276**	*e*P	**Pn**	**05 14 26.9**	**0.0**
	baz=275						
HSN				*e*S	**Sn**	**05 14 45.0**	**-0.4**
	baz=275						
WHP	**Taichung City**	**1.44**	**255**	P	**Pn**	**05 14 28.9**	**+1.1**
	baz=253						
WHP				S	**Sn**	**05 14 47.8**	**+0.7**
	baz=253						
JKRS	**Kuro-shima**	**1.46**	**106**	P	**Pn**	**05 14 28.4**	**+0.4**
JKRS				S	**Sn**	**05 14 48.0**	**+0.7**
HGSD	**Ruisui**	**1.50**	**220**	P	**Pn**	**05 14 28.5**	**0.0**
	baz=219						
HGSD				S	**Sn**	**05 14 47.5**	**-0.7**
	baz=219						
NMLH	**Miaoli**	**1.53**	**266**	*e*P	**Pn**	**05 14 29.5**	**+0.6**
	baz=264						
NMLH				*e*S	**Sn**	**05 14 49.4**	**+0.4**
	baz=264						
WCS	**Beigang Elemen**	**1.54**	**248**	P	**Pn**	**05 14 30.1**	**+1.1**
	baz=241						
WCS				S	**Sn**	**05 14 50.3**	**+1.1**
	baz=241						
JIJ	**Ishigaki jima**	**1.55**	**100**	P	**Pn**	**05 14 29.1**	**0.0**
JIJ				S	**Sn**	**05 14 48.8**	**-0.5**
EHY	**Hungye**	**1.55**	**223**	P	**Pn**	**05 14 28.6**	**-0.6**
	baz=215						
EHY				*e*S	**Sn**	**05 14 48.2**	**-1.2**
	baz=215						
NSY	**Sanyi**	**1.58**	**262**	P	**Pn**	**05 14 30.1**	**+0.7**
	baz=259						
NSY				S	**Sn**	**05 14 50.6**	**+0.7**
	baz=259						
SMLT	**Sun Moon Lake**	**1.63**	**242**	P	**Pn**	**05 14 31.5**	**+1.3**
	baz=234						
SMLT				*e*S	**Sn**	**05 14 53.0**	**+1.7**
	baz=234						
SSLB	**Suanglung**	**1.63**	**238**	P	**Pn**	**05 14 30.8**	**+0.6**
	baz=234						
SSLB				*e*S	**Sn**	**05 14 51.8**	**+0.6**
	baz=234						
TYC	**Yuchr**	**1.65**	**243**	P	**Pn**	**05 14 31.4**	**+1.0**
	baz=241						
TYC				S	**Sn**	**05 14 53.2**	**+1.6**
	baz=241						
YULB	**Yu-li**	**1.65**	**221**	P	**Pn**	**05 14 29.9**	**-0.6**
	baz=220						
YULB				S	**Sn**	**05 14 50.6**	**-1.1**
	baz=220						
EYUL	**Yuli**	**1.68**	**219**	P	**Pn**	**05 14 31.0**	**+0.3**
	baz=226						
EYUL				S	**Sn**	**05 14 51.7**	**-0.5**
	baz=226						
JISG	**Ishigakijimahi**	**1.68**	**92**	P	**Pn**	**05 14 30.7**	**0.0**
JISG				S	**Sn**	**05 14 51.8**	**-0.3**
WDJ	**Dajia District**	**1.70**	**260**	*e*P	**Pn**	**05 14 31.5**	**+0.6**
	baz=258						
WDJ				*e*S	**Sn**	**05 14 52.5**	**-0.1**
	baz=258						
TCU	**Taichung**	**1.71**	**253**	*e*P	**Pn**	**05 14 31.7**	**+0.5**
	baz=251						
TCU				*e*S	**Sn**	**05 14 52.8**	**-0.2**
	baz=251						
WHYT	**Xinyi Township**	**1.76**	**237**	P	**Pn**	**05 14 33.1**	**+1.3**
	baz=230						
WHYT				S	**Sn**	**05 14 55.5**	**+1.3**
	baz=230						
WJS	**Zhushan**	**1.79**	**243**	*e*P	**Pn**	**05 14 33.6**	**+1.4**
	baz=251						

WJS				*e*S	**Sn**	05 14 57.0	+2.1		
	baz=251								
WNT	**Mingjian**	**1.81**	**245**	*e*P	**Pn**	05 14 33.4	+1.1		
	baz=243								
WNT				*e*S	**Sn**	05 14 56.3	+1.2		
	baz=243								
FULB	**Fuli**	**1.81**	**217**	P	**Pn**	05 14 32.4	0.0		
	baz=211								
FULB				S	**Sn**	05 14 54.5	-0.7		
	baz=211								
YUS	**Yu-Shan**	**1.81**	**230**	*e*P	**Pn**	05 14 33.4	+0.5		
	baz=222								
YUS				*e*S	**Sn**	05 14 56.0	+0.1		
	baz=222								
WCHH	**Zhanghua**	**1.84**	**252**	*e*P	**Pn**	05 14 33.0	+0.2		
	baz=250								
WCHH				*e*S	**Sn**	05 14 55.6	-0.2		
	baz=250								
CHKT	**Chengkung**	**1.85**	**213**	P	**Pn**	05 14 32.2	-0.7		
	baz=207								
CHKT				S	**Sn**	05 14 54.9	-1.2		
	baz=207								
ALS	**Alishan**	**1.90**	**234**	P	**Pn**	05 14 34.9	+0.9		
	baz=226								
ALS				*e*S	**Sn**	05 14 59.5	+1.7		
	baz=226								
CHN5	**Tsauling**	**1.95**	**238**	P	**Pn**	05 14 35.4	+1.1		
	baz=246								
CHN5				S	**Sn**	05 15 00.8	+2.3		
	baz=246								
ELDTW	**Lidau**	**1.98**	**223**	P	**Pn**	05 14 34.7	0.0		
	baz=219								
ELDTW				*e*S	**Sn**	05 14 58.3	-0.9		
	baz=219								
EDH	**Donghe**	**1.99**	**213**	P	**Pn**	05 14 34.4	-0.3		
	baz=208								
EDH				S	**Sn**	05 14 58.3	-1.0		
	baz=208								
WDLH	**Douliu**	**2.01**	**242**	*e*P	**Pn**	05 14 35.6	+0.6		
	baz=250								
WDLH				*e*S	**Sn**	05 15 00.5	+0.6		
	baz=250								
JTJ	**Tarama**	**2.03**	**90**	P	**Pn**	05 14 35.7	+0.5		
JTJ				*e*S	**Sn**	05 15 00.3	0.0		
WRL	**Guolierlin Hig**	**2.05**	**249**	P	**Pn**	05 14 35.6	+0.1		
	baz=255								
WRL				S	**Sn**	05 15 00.5	-0.4		
	baz=255								
LONT	**Longtian**	**2.13**	**215**	*e*P	**Pn**	05 14 36.3	-0.3		
	baz=215								
LONT				*e*S	**Sn**	05 15 01.5	-1.1		
	baz=215								
WTK	**Tuku**	**2.13**	**244**	P	**Pn**	05 14 37.0	+0.5		
	baz=242								
WTK				S	**Sn**	05 15 02.7	0.0		
	baz=242								
CHN2	**Minshiung**	**2.14**	**239**	*e*P	**Pn**	05 14 37.2	+0.6		
	baz=247								
CHN2				*e*S	**Sn**	05 15 04.0	+1.2		
	baz=247								
STYH	**Taoyuan**	**2.14**	**227**	P	**Pn**	05 14 37.3	+0.6		
	baz=219								
STYH				S	**Sn**	05 15 03.3	+0.4		
	baz=219								
CHN4	**Tsaushan**	**2.15**	**233**	P	**Pn**	05 14 37.5	+0.6		
	baz=232								
CHN4				*e*S	**Sn**	05 15 05.0	+1.8		
	baz=232								
TPUB	**Ta-pu**	**2.16**	**232**	P	**Pn**	05 14 38.4	+1.5		
	baz=230								
TPUB				S	**Sn**	05 15 05.3	+1.9		
	baz=230								
LDUT	**Ludao**	**2.18**	**205**	P	**Pn**	05 14 36.7	-0.4		
	baz=209								
LDUT				S	**Sn**	05 15 01.9	-1.8		
	baz=209								
CHY	**Chiayi**	**2.20**	**239**	*e*P	**Pn**	05 14 37.9	+0.4		
	baz=247								
CHY				*e*S	**Sn**	05 15 04.7	+0.4		
	baz=247								
WTP	**Ta-pu**	**2.20**	**231**	P	**Pn**	05 14 38.4	+0.8		
	baz=230								
WTP				*e*S	**Sn**	05 15 05.8	+1.4		
	baz=230								
TWGBT	**Beinan**	**2.23**	**215**	P	**Pn**	05 14 37.5	-0.4		
	baz=215								
TWGBT				S	**Sn**	05 15 03.4	-1.6		
	baz=215								
TWG	**Pinlang**	**2.23**	**215**	P	**Pn**	05 14 37.4	-0.5		
	baz=215								
TWG				S	**Sn**	05 15 04.2	-0.9		
	baz=215								
TTN	**Taitung**	**2.25**	**213**	*e*P	**Pn**	05 14 38.4	+0.3		
	baz=219								
TTN				*e*S	**Sn**	05 15 06.3	+0.9		
	baz=219								
TWK	**Hsinying**	**2.28**	**233**	P	**Pn**	05 14 39.2	+0.6		
	baz=232								
TWK				*e*S	**Sn**	05 15 08.8	+2.5		
	baz=232								
WSF	**Szhu**	**2.29**	**244**	*e*P	**Pn**	05 14 38.8	+0.2		
	baz=242								
WSF				*e*S	**Sn**	05 15 06.0	-0.4		
	baz=242								
CHN1	**Nanshi**	**2.30**	**231**	P	**Pn**	05 14 39.8	+0.9		
	baz=230								
CHN1				*e*S	**Sn**	05 15 07.8	+1.0		
	baz=230								
SNST	**Tainan City**	**2.30**	**232**	*e*P	**Pn**	05 14 40.0	+1.1		
	baz=231								
SNST				*e*S	**Sn**	05 15 07.6	+0.9		
	baz=231								
SGST	**Jiashian**	**2.33**	**228**	*e*P	**Pn**	05 14 40.6	+1.4		
	baz=227								
SGST				*e*S	**Sn**	05 15 08.8	+1.3		
	baz=227								
SLGT	**Liugui**	**2.35**	**226**	*e*P	**Pn**	05 14 40.5	+1.0		
	baz=225								
SLGT				*e*S	**Sn**	05 15 08.2	+0.4		
	baz=225								
ICHU	**Yijhu**	**2.38**	**238**	*e*P	**Pn**	05 14 40.6	+0.7		
	baz=236								
ICHU				*e*S	**Sn**	05 15 08.6	0.0		
	baz=236								
CHN8	**Yiju**	**2.44**	**238**	*e*S	**Sn**	05 15 09.5	-0.5		
	baz=237								
JIRB	**Irabujima**	**2.46**	**85**	*e*S	**Sn**	05 15 09.9	-0.5		
ECL	**Taimali**	**2.48**	**214**	*e*P	**Pn**	05 14 41.5	+0.4		
	baz=208								
ECL				*e*S	**Sn**	05 15 09.3	-1.5		
	baz=208								
SCST	**Cishan**	**2.53**	**226**	*e*P	**Pn**	05 14 43.4	+1.6		
	baz=225								
SCST				*e*S	**Sn**	05 15 13.0	+1.0		
	baz=225								
SSD	**Sandimen**	**2.54**	**222**	*e*P	**Pn**	05 14 42.9	+0.9		
	baz=221								
SSD				*e*S	**Sn**	05 15 14.2	+1.9		
	baz=221								
TSMG	**Majia**	**2.56**	**221**	*e*P	**Pn**	05 14 43.5	+1.2		
	baz=221								
TSMG				*e*S	**Sn**	05 15 14.4	+1.6		
	baz=221								
MASBT	**Mashibuluo**	**2.64**	**220**	P	**Pn**	05 14 44.5	+1.1		
	baz=220								
MASBT				*e*S	**Sn**	05 15 16.0	+1.3		
	baz=220								
TAW	**Tawu**	**2.71**	**213**	*e*P	**Pn**	05 14 44.6	+0.5		
	baz=212								
TAW				*e*S	**Sn**	05 15 15.2	-1.0		
	baz=212								
EAST	**Anshuo**	**2.71**	**214**	*e*P	**Pn**	05 14 44.3	0.0		
	baz=209								
EAST				*e*S	**Sn**	05 15 15.3	-1.1		
	baz=209								
MATB	**Ma-tsu**	**2.73**	**304**	*e*P	**Pn**	05 14 43.1	-1.3		
	baz=300								
MATB				*e*S	**Sn**	05 15 17.3	+0.5		
	baz=300								
LAY	**Lan-yu**	**2.74**	**198**	P	**Pn**	05 14 44.0	-0.6		
	baz=202								
LAY				*e*S	**Sn**	05 15 16.1	-1.0		
	baz=202								
VWUC	**VWUC**	**2.77**	**278**	*e*P	**Pn**	05 14 44.3	-0.7		
	baz=276								
VWUC				*e*S	**Sn**	05 15 17.1	-0.6		
	baz=276								
SSPT	**Xinbi**	**2.78**	**219**	*e*P	**Pn**	05 14 46.0	+0.8		
	baz=219								
SSPT				*e*S	**Sn**	05 15 17.7	-0.3		
	baz=219								
SCZT	**Fangliau**	**2.84**	**217**	*e*P	**Pn**	05 14 46.6	+0.6		
	baz=227								
SCZT				*e*S	**Sn**	05 15 19.2	-0.3		
	baz=227								
SLIU	**Shizi**	**2.87**	**213**	*e*P	**Pn**	05 14 46.5	+0.1		
	baz=209								
SLIU				*e*S	**Sn**	05 15 19.1	-1.1		
	baz=209								
PNG	**Penghu**	**2.88**	**248**	*e*P	**Pn**	05 14 45.3	-1.1		
	baz=247								
PNG				*e*S	**Sn**	05 15 18.9	-1.5		
	baz=247								
PHUB	**P'eng-hu**	**2.88**	**247**	*e*P	**Pn**	05 14 45.8	-0.7		
	baz=246								
PHUB				*e*S	**Sn**	05 15 19.0	-1.5		
	baz=246								
WDGT	**Dungji**	**2.92**	**242**	*e*P	**Pn**	05 14 46.6	-0.5		
	baz=241								
WDGT				*e*S	**Sn**	05 15 19.8	-1.6		
	baz=241								
XPSS	**Dashiqiu**	**3.06**	**318**	*e*P	**Pn**	05 14 50.3	+1.4		
	baz=306								
XPSS				*e*S	**Sn**	05 15 25.0	+0.4		
	baz=306								
PTMZ	**Houxiangcun**	**3.07**	**278**	*e*P	**Pn**	05 14 47.8	-1.2		
	baz=276								
PTMZ				*e*S	**Sn**	05 15 23.7	-1.2		
	baz=276								
HEN	**Hengchun**	**3.08**	**211**	*e*P	**Pn**	05 14 50.1	+0.9		
	baz=222								
HEN				*e*S	**Sn**	05 15 23.8	-1.4		
	baz=222								
LYJJ	**Jianjiangzhen**	**3.09**	**308**	*e*P	**Pn**	05 14 50.5	+1.2		
	baz=305								
LYJJ				*e*S	**Sn**	05 15 24.4	-1.1		
	baz=305								
TSEB	**Hengchuen, Pin**	**3.10**	**208**	*e*P	**Pn**	05 14 50.4	+0.9		
	baz=209								
TSEB				*e*S	**Sn**	05 15 24.9	-0.8		
	baz=209								
TWKBT	**Hengchun**	**3.10**	**210**	*e*P	**Pn**	05 14 49.9	+0.3		
	baz=204								
TWKBT				*e*S	**Sn**	05 15 24.6	-1.2		
	baz=204								
TWK1	**Hengchun**	**3.10**	**210**	*e*P	**Pn**	05 14 49.5	0.0		
	baz=204								
TWK1				*e*S	**Sn**	05 15 24.6	-1.2		
	baz=204								
VCHM	**Qimei**	**3.13**	**243**	*e*P	**Pn**	05 14 50.6	+0.7		
	baz=234								
VCHM				*e*S	**Sn**	05 15 25.0	-1.5		
	baz=234								
MHZQ	**Yeshan**	**3.43**	**296**	*e*P	**Pn**	05 14 54.7	+0.8		
	baz=293								
MHZQ				*e*S	**Sn**	05 15 33.6	0.0		
	baz=293								
KNM	**Kinmen**	**3.69**	**267**	*e*P	**Pn**	05 14 59.0	+1.7		
	baz=265								
KNM				*e*S	**Sn**	05 15 41.5	+1.7		
	baz=265								
KNMB	**Chin-men Tao**	**3.72**	**268**	*e*P	**Pn**	05 14 56.9	-0.9		
	baz=266								
KNMB				*e*S	**Sn**	05 15 39.3	-1.4		
	baz=266								
AXDP	**Jialang**	**4.10**	**274**	*e*P	**Pn**	05 15 04.0	+1.0		
	baz=272								
AXDP				*e*S	**Sn**	05 15 48.1	-1.7		
	baz=272								
ZPLA	**Ao Xicun**	**4.37**	**261**	*e*P	**Pn**	05 15 07.7	+1.1		
	baz=259								
ZPLA				*e*S	**Sn**	05 15 54.2	-2.1		
	baz=259								

IDC 17 05:15:09.4±13.0, 16.84S×176.63W, h442km±113km, mb3.5/4, mb1 3.6/5, mb1mx3.0/44, mbtmp4.3/5, Error ellipse: s-maj=150.0km s-min=45.9km az=24.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op	ISC	h	m s	ISC
DZM	**Mont Dzumac**	**16.79**	**249**	P	P	05 18 39.7		-0.2
	0.5nm,0.3s,baz=103,slow=19,SNR=2.3							
STKA	**Stephens Creek**	**40.63**	**241**	P	P	05 22 09.6		0.0
	1.9nm,0.5s,baz=90,slow=13,SNR=4.3							
WRA	**Warramunga Arr**	**46.51**	**258**	P	P	05 22 55.4		-0.4
	0.7nm,0.3s,baz=93,slow=6.9,SNR=30							
ASAR	**Alice Springs**	**46.72**	**253**	P	P	05 22 57.3		-0.1
	11nm,0.6s,baz=87,slow=8.4,SNR=110							
FITZ	**Fitzroy Crossi**	**54.89**	**259**	P	P	05 23 57.6		+0.3
	1.3nm,0.8s,baz=80,slow=6.5,SNR=6.7							
TORD	**Torodi Ar. Bea**	**175.99**	**156**	PKPab	PKPab	05 36 10.1		-0.6
	0.9nm,0.6s,baz=220,slow=5.0,SNR=4.1							

*IDC **17** 05:16:30.6±0.6, 30.64S×71.90W, h0km, mb4.4/11, mb1 4.5/16, mb1mx4.4/31, mbtmp4.4/16, ML4.2/3, Error ellipse: s-maj=24.7km s-min=15.1km az=92.0*
*GUC **17** 05:16:31.4±0.8, 30.59S×72.03W, h30km±7km, ML5.0*
*NEIC **17** 05:16:31.7±2.0, 30.62S±0.05×72.07W±0.06, h10km±1km, mb4.9/58, ML5.0(GUC), Error ellipse: s-maj=8.8km s-min=7.6km az=316.0*
*SJA **17** 05:16:35.5±0.6, 30.45S×71.87W, h22km±4km, ML4.7, MW5.1*
ISC 17 05:16:32.5±1.3, 30.59S±0.03×71.98W±0.04, h17km±8km, n163, σ1s72/177, mb4.9/35, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op	ISC	h	m s	ISC
CO06	**Fray Jorge**	**0.31**	**106**	⇑*i*P	**Pb**	**05 16 39.7**		**+0.1**
CO06				*e*S	**Sb**	**05 16 45.0**		**+0.6**
CO06				IAML		05 16 45.6		
	comp=E,126μm,0.2s							
CO06	**Fray Jorge**	**0.31**	**106**		**Pb**	**05 16 39.8**		**+0.1**
CO06				Sg	**Sb**	**05 16 45.1**		**+0.6**
GO04	**Tololo Observa**	**1.10**	**68**	*e*P	**Pb**	**05 16 52.6**		**-0.6**
GO04				*e*S	**Sb**	**05 17 08.0**		**+0.5**
GO04				IAML		05 17 12.3		
	comp=N,88μm,0.5s							
GO04	**Tololo Observa**	**1.10**	**68**		**Pb**	**05 16 53.6**		**+0.3**
GO04				Sg	**Sn**	**05 17 08.9**		**+0.6**
GO04	**Tololo Observa**	**1.10**	**68**	*i*P	**Pg**	**05 16 54.7**		**+0.8**
GO04				*e*S	**Sb**	**05 17 08.3**		**+0.8**
CO03	**El Pedregal**	**1.14**	**103**	*e*P	**Pn**	**05 16 52.1**		**-1.7**
CO03	**El Pedregal**	**1.14**	**103**		**Pn**	**05 16 52.0**		**-1.8**
LCO	**Las Campanas**	**1.92**	**36**	Pn	**Pb**	**05 17 07.5**		**+0.1**
AROD	**Rodeo**	**2.21**	**80**	*i*P	**Pb**	**05 17 12.0**		**-0.2**
AROD				*e*S	**Sb**	**05 17 40.1**		**+0.7**
VA01	**Torpederas**	**2.45**	**173**	*e*P	**Pn**	**05 17 10.5**		**-1.2**
VA01	**Torpederas**	**2.45**	**173**		**Pn**	**05 17 10.6**		**-1.0**
VA01	**Torpederas**	**2.45**	**173**	*i*P	**Pb**	**05 17 16.4**		**+0.3**
VA01				*e*S	**Sg**	**05 17 50.2**		**-1.0**
VA03	**San Esteban**	**2.49**	**151**	*e*P	**Pn**	**05 17 12.4**		**+0.1**
VA03				IAML		05 17 55.4		
	comp=N,8μm,0.4s							
VA03	**San Esteban**	**2.49**	**151**		**Pn**	**05 17 12.5**		**+0.1**
AC04	**Llanos de Chal**	**2.50**	**19**	*e*P	**Pn**	**05 17 11.3**		**-1.1**
AC04	**Llanos de Chal**	**2.50**	**19**	Pn	**Pn**	**05 17 11.6**		**-0.8**
AC04	**Llanos de Chal**	**2.50**	**19**	*i*P	**Pn**	**05 17 11.3**		**-1.1**
ACDV	**Cuesta del Vie**	**2.51**	**81**	*i*P	**Pb**	**05 17 17.2**		**0.0**
ACDV				IAML		05 17 55.3		
	comp=Z,3μm,1.1s							
ACCO	**Cerro Coronel**	**2.52**	**91**	*i*P	**Pb**	**05 17 17.0**		**-0.4**
ROCH	**El Roble**	**2.52**	**161**	*e*P	**Pn**	**05 17 12.1**		**-0.7**
ROCH				IAML		05 18 26.5		
	comp=N,5μm,0.5s							
ROC1	**El Roble**	**2.52**	**161**	*i*P	**Pn**	**05 17 14.3**		**+1.4**
RTLS	**Leoncito**	**2.60**	**118**	*i*P	**Pb**	**05 17 18.2**		**-0.6**
RTLS				*e*S	**Sg**	**05 17 53.9**		**-2.3**
AUSP	**Uspallata**	**2.75**	**127**	*i*P	**Pb**	**05 17 19.8**		**-1.7**
MT05	**Renca**	**2.99**	**160**	*e*P	**Pn**	**05 17 20.3**		**+1.1**
MT05	**Renca**	**2.99**	**160**	Pn	**Pn**	**05 17 18.7**		**-0.5**
ZON	**Zonda**	**2.99**	**109**		**Pn**	**05 17 17.7**		**-1.5**
ZON	**Zonda**	**2.99**	**109**	*i*P	**Pb**	**05 17 23.7**		**-1.7**
ZON				IAML		05 18 16.4		
	comp=Z,2μm,1.6s							
VA05	**Santo Domingo**	**3.08**	**174**		**Pn**	**05 17 20.5**		**+0.2**
RTLL	**Cerro Villicun**	**3.10**	**105**	*i*P	**Pn**	**05 17 24.0**		**+3.2**
RTLL				*e*S	**Sg**	**05 18 11.2**		**-1.0**
RTCV	**Cerro Valdivia**	**3.21**	**114**	*i*P	**Pb**	**05 17 27.4**		**-1.7**
RTCV				*e*S	**Sg**	**05 18 15.2**		**-0.6**
AGUA	**GUANDACOL**	**3.22**	**71**	*i*P	**Pb**	**05 17 29.1**		**-0.2**
MT09	**Talagante**	**3.29**	**165**	*e*P	**Pn**	**05 17 23.9**		**+0.5**
MT09				IAML		05 18 23.0		
	comp=E,3μm,0.5s							
MT09	**Talagante**	**3.29**	**165**	Pn	**Pn**	**05 17 22.9**		**-0.5**
MT01	**Popeta**	**3.33**	**169**	*e*P	**Pn**	**05 17 23.3**		**-0.4**
MT01	**Popeta**	**3.33**	**169**	Pn	**Pn**	**05 17 23.0**		**-0.8**
MT01	**Popeta**	**3.33**	**169**	*i*P	**Pn**	**05 17 25.2**		**+1.4**
MT01				IAML		05 18 47.3		
	comp=Z,1μm,0.4s							
GO03	**Copiap**	**3.35**	**28**	*e*P	**Pn**	**05 17 24.4**		**+0.3**
GO03				IAML		05 18 28.9		
	comp=N,838nm,0.5s							
GO03	**Copiap**	**3.35**	**28**	Pn	**Pn**	**05 17 25.6**		**+1.4**
GO03	**Copiap**	**3.35**	**28**	*i*P	**Pb**	**05 17 32.0**		**+0.5**
ARCO	**CERRO ARCO**	**3.44**	**132**	*e*P	**Pb**	**05 17 30.9**		**-2.1**
ARCO				IAML		05 18 30.8		
	comp=Z,2μm,0.8s							
LMEL	**Las Melosas**	**3.58**	**156**	*e*P	**Pn**	**05 17 28.8**		**+1.3**
LMEL				IAML		05 18 29.3		
	comp=E,2μm,0.3s							
AAGR	**Agrelo**	**3.66**	**134**	*i*P	**Pb**	**05 17 33.2**		**-3.6**
AAGR				IAML		05 18 54.0		
	comp=Z,1μm,1.2s							
VCA	**Vinchina**	**3.77**	**62**	*i*P	**Pb**	**05 17 35.9**		**-2.8**
VCA				*i*P	Pn	05 17 36.0		+6.0
VCA				IAML		05 18 45.3		
	comp=Z,3μm,1.0s							
BO01	**Tunca**	**3.87**	**169**		**Pn**	**05 17 30.6**		**-0.6**
BO01	**Tunca**	**3.87**	**169**	*i*P	**Pb**	**05 17 41.0**		**+0.7**
BO01				IAML		05 19 05.5		
	comp=Z,886nm,0.6s							
AVFE	**Valle Fertil**	**3.90**	**92**	*e*P	**Pn**	**05 17 36.0**		**+4.3**
AVFE				IAML		05 18 40.0		
	comp=Z,1μm,0.8s							
BO02	**Sierra Bellavi**	**4.32**	**167**	Pn	**Pn**	**05 17 37.0**		**-0.5**
GO05	**Huala**	**4.41**	**179**	Pn	**Pn**	**05 17 37.4**		**-1.3**
GO05	**Huala**	**4.41**	**179**	*i*P	**Pb**	**05 17 51.0**		**+1.4**
AC02	**Maricunga**	**4.50**	**35**	Pn	**Pn**	**05 17 43.7**		**+3.3**
AC02	**Maricunga**	**4.50**	**35**	*i*P	**Pb**	**05 17 48.0**		**-3.4**
AC02				IAML		05 19 01.2		
	comp=Z,703nm,1.1s							
ACHE	**Chepes**	**4.61**	**98**	*i*P	**Pn**	**05 17 45.0**		**+3.5**
ML02	**Panimavida**	**5.18**	**175**		**Pn**	**05 17 48.8**		**-0.5**
CYA	**Choya**	**5.79**	**70**	*i*P	**Pn**	**05 18 02.0**		**+4.3**
CYA				IAML		05 19 39.8		
	comp=Z,421nm,2.0s							
H03N1	**Juan Fernandez**	**6.54**	**242**	T	T	05 25 06.4		
	baz=71,slow=72							
H03N2	**Juan Fernandez**	**6.55**	**242**	T	T	05 25 02.9		
	baz=71,slow=72							
H03N3	**Juan Fernandez**	**6.55**	**242**	T	T	05 25 02.6		
	baz=71,slow=72							
VA04	**Juan Fernndez**	**6.56**	**241**	Pn	**Pn**	**05 18 05.5**		**-2.7**
AHML	**Horco Molle**	**6.96**	**59**	*i*P	Pn	05 18 22.0		+8.2
AHML				IAML		05 20 28.9		
	comp=Z,205nm,1.1s							
PB15	**IPOC Station P**	**7.68**	**18**	Pn	**Pn**	**05 18 22.9**		**-0.9**
LC01	**Cunco**	**8.29**	**179**	Pn	**Pn**	**05 18 30.7**		**-1.2**
LVC	**Limon Verde**	**8.41**	**20**	Pn	**Pn**	**05 18 33.8**		**-0.1**
	baz=254,slow=18,SNR=1.0							
LVC	**Limon Verde**	**8.41**	**20**	Pn	**Pn**	**05 18 33.5**		**-0.4**
LR03	**Panguipulli**	**9.03**	**182**	Pn	**Pn**	**05 18 41.0**		**-1.1**
PLCA	**Paso Flores**	**10.19**	**174**	Pn	**Pn**	**05 18 56.5**		**-1.5**
	comp=Z,1.5nm,0.3s,baz=335,slow=11,SNR=13							
PLCA	**Paso Flores**	**10.19**	**174**	Pn	**Pn**	**05 18 57.0**		**-1.1**
LL04	**Puerto Octay**	**10.31**	**182**		**Pn**	**05 18 55.6**		**-3.9**
LL05	**Los Muermos**	**10.86**	**186**	Pn	**Pn**	**05 19 05.7**		**-1.4**
TRQA	**Tornquist**	**11.13**	**135**		**Pn**	**05 19 10.4**		**-0.4**
ITQB	**Itaqui**	**13.33**	**90**	Pn	**Pn**	**05 19 40.1**		**-0.8**
CPUP	**Villa Florida**	**13.57**	**75**	Pn	**Pn**	**05 19 44.8**		**+0.6**
	comp=Z,0.1nm,0.3s,baz=230,slow=7.9,SNR=1.7							
LPAZ	**La Paz**	**14.66**	**15**	Pn	**Pn**	**05 20 01.3**		**+1.5**
	comp=Z,0.3nm,0.3s,baz=202,slow=5.3,SNR=9.5							
LPAZ	**La Paz**	**14.66**	**15**	Pn	**Pn**	**05 20 00.6**		**+0.8**
COYC	**Coyhaique**	**14.96**	**180**		**Pn**	**05 20 02.3**		**-0.9**
PLTB	**Pedras Altas**	**15.78**	**99**	Pn	**Pn**	**05 20 14.2**		**+0.3**
SIV	**San Ignacio**	**17.63**	**37**	P	**P**	**05 20 38.9**		**+0.6**
	comp=Z,0.1nm,0.3s,baz=243,slow=11,SNR=3.0							
AQDB	**Aquidauana**	**17.79**	**59**	P	**Pn**	**05 20 39.1**		**-0.3**
SAML	**Samuel**	**23.04**	**23**	P	**P**	**05 21 37.4**		**+0.4**
USHA	**Ushuaia**	**24.37**	**175**	P	**P**	**05 21 50.1**		**+0.7**
	comp=Z,36nm,0.8s,baz=360,slow=11,SNR=3.0							
BDFB	**Brasilia**	**26.51**	**61**	P	**P**	**05 22 09.3**		**-0.1**
	comp=Z,9.7nm,0.8s,baz=222,slow=8.7,SNR=7.6							
BDFB	**Brasilia**	**26.51**	**61**	P	**P**	**05 22 09.3**		**-0.1**
BDFB				IAmb	IAmb	05 22 19.0		
	comp=Z,15nm,0.8s							
PTGA	**Pitinga**	**31.81**	**23**	P	**P**	**05 22 56.9**		**+0.6**
	comp=Z,86nm,0.3s,baz=117,slow=0.5,SNR=2.1							
PTGA	**Pitinga**	**31.81**	**23**	P	**P**	**05 22 55.7**		**-0.7**
PMSA	**Palmer Station**	**34.57**	**174**	P	**P**	**05 23 19.4**		**-0.5**
PMSA				IAmb	IAmb	05 23 21.3		
	comp=Z,16nm,1.1s							
HOPE	**Hope Point**	**34.73**	**143**	P	**P**	**05 23 22.0**		**+0.6**
RUSC	**La Rusia**	**36.29**	**358**	P	**P**	**05 23 36.6**		**+0.9**
SDV	**Santo Domingo**	**39.27**	**2**	P	**P**	**05 24 01.2**		**+0.6**
JACO	**JACO, Garabito**	**41.83**	**341**	P	**P**	**05 24 20.8**		**-0.7**
JACO				IAmb	IAmb	05 24 27.4		
	comp=Z,17nm,0.9s							
RCBR	**Riachuelo**	**41.89**	**61**	P	**P**	**05 24 22.9**		**+0.7**
RCBR				IAmb	IAmb	05 24 31.2		
	comp=Z,35nm,1.4s							
ICMP	**Isla Caja de M**	**48.48**	**7**	P	**P**	**05 25 15.3**		**+1.1**
OBIP	**Obispado Ponce**	**48.62**	**7**	P	**P**	**05 25 16.0**		**+0.5**
SJG	**San Juan**	**48.74**	**

ANMO	Albuquerque	72.83	331	P		P	05 28 00.8	+0.4
DBIC	Dimbokro	74.06	72	P		P	05 28 08.7	+0.8
	comp=Z,5.6nm,0.9s,baz=216,slow=12,SNR=2.5							
SDCO	Great Sand Dun	74.85	333	P		P	05 28 11.7	-0.6
MAW	Mawson	76.43	164	P		P	05 28 21.3	+0.6
	comp=Z,8.2nm,0.9s,baz=223,slow=8.1,SNR=13							
MAW	Mawson	76.43	164	P		P	05 28 21.3	+0.6
KNB	Kanab	77.37	328	P		P	05 28 25.7	-0.9
KNB				IAmb		IAmb	05 28 40.8	
	comp=Z,13nm,1.5s							
PHWY	Pilot Hill	77.93	335	P		P	05 28 28.4	-1.4
O20A	White River Ci	77.99	332	P		P	05 28 28.7	-1.3
O20A				IAmb		IAmb	05 28 40.8	
	comp=Z,8.9nm,1.1s							
DUG	Dugway, Tooele	79.96	329	P		P	05 28 39.9	-0.9
DUG				IAmb		IAmb	05 28 56.1	
	comp=Z,10nm,1.4s							
HWUT	Hardware Ranch	80.59	331	P		P	05 28 44.1	0.0
PDAR	Pinedale Array	80.75	333	P		P	05 28 46.0	+1.0
	comp=Z,0.4nm,0.8s,baz=148,slow=8.6,SNR=3.9							
NVAR	Mina Array Bea	81.12	325	P		P	05 28 49.3	+2.2
	comp=Z,0.4nm,0.7s,baz=159,slow=5.0,SNR=4.6							
BOSA	Boshof	81.62	118	P		P	05 28 50.5	+0.5
	comp=Z,5.7nm,1.1s,baz=174,slow=9.2,SNR=2.7							
TORD	Torodi Ar. Bea	83.01	70	P		P	05 28 57.7	+0.5
	comp=Z,6.7nm,0.9s,baz=260,slow=4.4,SNR=24							
TORD	Torodi Ar. Bea	83.01	70	P		P	05 28 57.5	+0.3
TORD				IAmb		IAmb	05 28 58.5	
	comp=Z,7.7nm,0.8s							
HLID	Hailey	83.40	330	P		P	05 28 59.0	+0.1
HLID				IAmb		IAmb	05 29 13.9	
	comp=Z,6.8nm,1.2s							
CASY	Casey	83.43	181	P		P	05 28 58.5	0.0
CASY				IAmb		IAmb	05 29 03.4	
	comp=Z,7.8nm,0.9s							
MCMT	McKenzie Canyo	83.78	332	P		P	05 29 01.5	+0.7
DGMT	Dagmar	83.82	339	P		P	05 29 02.4	+1.7
DGMT				IAmb		IAmb	05 29 16.0	
	comp=Z,11nm,0.9s							
J08A	Circle Bar Ran	85.03	328	P		P	05 29 08.2	+1.2
J08A				IAmb		IAmb	05 29 22.2	
	comp=Z,11nm,1.1s							
C09A	Chrisman Ranch	88.41	331	P		P	05 29 23.9	+0.6
C09A				IAmb		IAmb	05 29 24.8	
	comp=Z,3.2nm,1.0s							
MNK	Minsk	119.83	41	*i* PKP		PKPdf	05 35 17.5	-3.8
	comp=E,2.0nm,0.8s							
MNK				*i* PKP		PKPdf	05 35 17.5	-3.8
	comp=N,26nm,0.9s							
MNK				*i* PKP		PKPdf	05 35 17.5	-3.8
	comp=Z,9.0nm,0.7s,baz=78							
MNK				*i* PP		PP	05 36 43.3	-2.2
MNK				*i* PPP		PPP	05 39 15.6	
MNK				*i* SKS		SKSdf	05 42 22.5	-10
MNK				*i* PS		PS	05 46 25.7	-9.1
MNK				*i* SS		SKKSdf	05 53 19.2	+3.0
MNK				*i* SSS		SSS	05 57 30.4	
MNK				*i* LQ		LQ	06 20 06.5	
MNK				*i* LR		LR	06 24 37.9	
WRA	Warramunga Arr	123.75	210	PKP		PKPdf	05 35 29.6	-0.5
	comp=Z,0.5nm,0.7s,baz=132,slow=1.2,SNR=2.9							
H11S2	WAKE ISLAND Hyl	25.80	272	T		T	07 54 17.9	
	baz=115,slow=75,SNR=45							
H11S1	WAKE ISLAND Hyl	25.81	272	T		T	07 54 19.3	
	baz=115,slow=75,SNR=33							
H11S3	WAKE ISLAND Hyl	25.81	272	T		T	07 54 21.4	
	baz=115,slow=75,SNR=33							
KLMR	Klimovskoe	126.60	35	*e*PKPdf		PKPdf	05 35 34.1	+0.1
KLMR				AMP			05 35 36.4	
	comp=Z,10.0nm,1.3s							
EKS2	Erkin-Say	150.19	57	P		PKiKP	05 36 23.6	+0.2
	SNR=7.7							
USP	Ospenovka	150.57	55	P		PKiKP	05 36 24.7	+0.7
	SNR=6.6							
AAK	Ala-Archa	150.72	56	P		PKiKP	05 36 25.7	+1.1
	SNR=5.4							
UCH	Uchtor	150.82	57	P		PKiKP	05 36 26.3	+1.2
	SNR=11							
ZALV	Zalesovo Beam	151.27	29	PKPbc		PKiKP	05 36 25.5	+0.5
	comp=Z,24nm,0.7s,baz=298,slow=3.3,SNR=46							
ZALV	Zalesovo Beam	151.27	29	PKPdf		PKPdf	05 36 19.7	+1.1
ZALV				PKPbc		PKiKP	05 36 25.9	+0.8
TKM2	Tokmak 2	151.43	55	P		PKiKP	05 36 26.8	+0.7
	SNR=7.1							
ULHL	Ulahol	152.06	57	P		PKiKP	05 36 28.4	+1.0
	SNR=6.1							
KSH	Kashi	152.41	62	PKPbc		PKPdf	05 36 22.9	+2.0
KSH				PP		PP	05 40 10.9	+0.1
MKAR	Makanchi Array	154.37	44	PKPbc		PKiKP	05 36 31.8	+0.1
	comp=Z,2.4nm,0.9s,baz=343,slow=3.8,SNR=6.7							
MKAR	Makanchi Array	154.37	44	PKPdf		PKPdf	05 36 23.8	+0.4
MKAR				PKPbc		PKiKP	05 36 32.6	+0.8
MKAR				PKPab		PKPab	05 36 47.8	+1.8
WMQ	Urumqi	159.18	45	*e*P		PKPdf	05 36 30.4	+0.7
WMQ				pmax		pmax		
	comp=Z,300nm,9.7s							
SONM	Songino Array	162.73	4	PKPab		PKPab	05 37 23.9	+1.8
	comp=Z,0.4nm,0.5s,baz=3.8,slow=4.3,SNR=2.7							
GTA	Gaotai	168.93	35	*e*PKPbc		PKPdf	05 36 39.6	+0.8
GTA				pPKP		sPKPdf	05 36 48.1	+2.4
GTA				PKPab		PKPab	05 37 50.8	+1.1
HHC	Hu-ho-hao-te	169.36	345	*e*P		PKPdf	05 36 35.5	-3.5
HHC				LR		LR		
	comp=N,690nm,18.8s							
HHC				LR		LR		
	comp=E,1μm,18.8s							
HHC				LR		LR		
	comp=Z,1μm,20.0s							

IDC ***17*** *05:17:33.2±1.3,31°.82S×71°.86W,h0km,mb4.5/6, mb1 4.5/9,mb1mx4.1/30,mbtmp4.4/9,ML4.0/3,Error ellipse: s-maj=41.8km s-min=23.9km az=98.0*

ISC 17 05:17:36.0±1.1,31°.8S±0°.1×71°.8W±0°.3,h17km,n10, σ0s87/10,mb4.6/6,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	Paso Flores	8.97	174	Pn	Pn	05 19 46.0	+1.1
	0.4nm,0.3s,baz=7.1,slow=17,SNR=1.4						
LVC	Limon Verde	9.52	17	Pn	Pn	05 19 53.7	+1.0
	1.5nm,0.3s,baz=272,slow=14,SNR=1.2						
SIV	San Ignacio	18.55	34	P	P	05 21 51.0	-1.0
	0.3nm,0.3s,baz=211,slow=12,SNR=0.9						
BDFB	Brasilia	27.01	59	P	P	05 23 17.0	-0.5
	7.2nm,0.9s,baz=204,slow=6.4,SNR=1.6						
PMSA	Palmer Station	33.35	174	P	P	05 24 11.5	-1.3
	9.0nm,1.1s,baz=322,slow=9.9,SNR=1.9						
DBIC	Dimbokro	74.33	72	P	P	05 29 12.9	0.0
	7.4nm,0.9s,baz=245,slow=7.5,SNR=3.6						
BOSA	Boshof	80.95	118	P	P	05 29 50.2	+0.2
	3.8nm,0.8s,baz=148,slow=5.8,SNR=3.7						
NVAR	Mina Array Bea	82.18	325	P	P	05 29 56.0	-0.1
	0.8nm,0.8s,baz=147,slow=6.6,SNR=3.7						
TORD	Torodi Ar. Bea	83.31	70	P	P	05 30 02.5	+0.2
	4.1nm,0.8s,baz=251,slow=4.4,SNR=4.5						
ZALV	Zalesovo Beam	152.27	30	PKPbc	PKiKP	05 37 30.4	-0.2
	5.1nm,0.5s,baz=311,slow=2.3,SNR=6.5						

IDC ***17*** *05:20:48.9±1.1,30°.48S×72°.58W,h0km,mb3.9/4, mb1 4.2/7,mb1mx3.9/32,mbtmp4.1/7,ML3.7/3,Error ellipse: s-maj=53.3km s-min=22.0km az=92.0*
NEIC ***17*** *05:20:50.0±1.1,31°.63S±0°.07×71°.7W±0°.1,h45km±6km, mb4.3/13,ML4.6(GUC),Error ellipse: s-maj=15.5km s-min=10.3km az=86.0*

ISC 17 05:20:45.4±0.7,31°.59S±0°.08×71°.8W±0°.2,h10km,n28, σ1s37/23,mb4.2/9,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	Fray Jorge	0.93	11	Pn	Pn	05 21 07.3	+2.7
GO04	Tololo Observa	1.68	33	Pn	Pb	05 21 16.5	0.0
LVC	Limon Verde	9.32	17	Pn	Pn	05 22 51.2	-9.0
	0.7nm,0.3s,baz=150,slow=21,SNR=0.8						
LL01	San Ignacio de	10.78	182	Pn	Pn	05 23 20.3	+0.6
LL02	Futaleuf	11.58	180	Pn	Pn	05 23 31.9	+1.2
LPAZ	La Paz	15.61	13	Pn	Pn	05 24 18.9	-7.2
	0.2nm,0.3s,baz=208,slow=15,SNR=3.6						
SIV	San Ignacio	18.37	35	P	P	05 25 00.9	+0.4
	0.2nm,0.3s,baz=225,slow=12,SNR=5.7						
SAML	Samuel	23.93	22	P	P	05 25 58.3	-1.4
BDFB	Brasilia	26.90	59	P	P	05 26 24.9	-2.0
BDFB				IAmb	IAmb	05 26 32.8	
	comp=Z,8.8nm,1.2s						
OTAV	Otavalo	32.27	348	P	P	05 27 13.3	-1.6
PTGA	Pitinga	32.69	22	P	P	05 27 17.1	-1.0
TUMC	Tumaco	33.87	348	P	P	05 27 27.8	-0.6
SNAA	Sanae	53.75	159	P	P	05 30 21.6	+14
	comp=Z,1.3nm,0.8s,baz=274,slow=11,SNR=3.3						
SNAA	Sanae	53.75	159	P	P	05 30 07.2	-0.3
SNAA				IAmb	IAmb	05 30 22.6	
	comp=Z,2.1nm,1.1s						
QSPA	South Pole Qui	58.64	180	P	P	05 30 55.4	+13
	comp=Z,0.8nm,0.7s,baz=123,slow=3.8,SNR=5.7						
QSPA	South Pole Qui	58.64	180	P	P	05 30 42.0	-0.6
QSPA				IAmb	IAmb	05 30 58.9	
	comp=Z,2.9nm,1.1s						
W57A	Gilead	66.83	353	P	P	05 31 37.0	-0.2
W57A				IAmb	IAmb	05 31 51.0	
	comp=Z,14nm,1.4s						
TX31	Lajitas Ar. Si	67.73	330	P	P	05 31 44.1	+0.8
TX32	Lajitas Array	67.73	330	P	P	05 31 44.1	+0.8
TXAR	Lajitas Array	67.73	330	P	P	05 31 40.4	-2.8
	comp=Z,0.7nm,0.8s,baz=147,slow=8.7,SNR=5.0						
ACSO	Alum Creek Sta	72.21	351	P	P	05 32 10.2	-0.2
ACSO				IAmb	IAmb	05 32 28.0	
	comp=Z,6.2nm,0.9s						
ALLY	Alegheny Colle	73.28	354	P	P	05 32 16.0	-0.8
MAW	Mawson	75.44	164	P	P	05 32 41.2	+12
	comp=Z,2.3nm,1.0s,baz=225,slow=5.7,SNR=2.8						
REDW	Red Top Meadow	82.71	332	P	P	05 33 09.8	+0.4
REDW				IAmb	IAmb	05 33 17.4	
	comp=Z,2.3nm,1.1s						
MFID	Camas Ranch	84.81	329	P	P	05 33 20.6	+0.5
MFID				IAmb	IAmb	05 33 28.0	
	comp=Z,3.3nm,1.4s						
DLMT	Dillon	85.07	332	P	P	05 33 21.1	-0.2
WALA	Waterton Lakes	88.62	334	P	P	05 33 38.2	-0.3
ZALV	Zalesovo Beam	152.09	30	PKPbc	PKiKP	05 40 43.6	+2.7
	comp=Z,2.8nm,0.9s,baz=319,slow=4.3,SNR=3.6						

IDC ***17*** *05:26:36.3±0.9,31°.41S×71°.86W,h0km,mb4.2/6, mb1 4.2/11,mb1mx4.0/37,mbtmp4.1/11,ML4.1/4,Error ellipse: s-maj=37.1km s-min=18.9km az=99.0*
NEIC ***17*** *05:26:39.9±1.3,31°.33S±0°.04×72°.1W±0°.1,h23km±6km, mb4.6/10,ML4.4(GUC),Error ellipse: s-maj=13.7km s-min=5.4km az=103.0*
GUC ***17*** *05:26:40.5±0.8,31°.42S×71°.82W,h24km±5km,ML4.4*

ISC 17 05:26:39.3±0.6,31°.36S±0°.03×72°.00W±0°.08,h21km±3km, n55,σ1s03/64,mb4.5/8,2C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	Fray Jorge	0.76	25	*e*P	Pb	05 26 54.6	+0.9
CO06				*i* S	Sb	05 27 03.9	+0.3
CO06				IAML		05 27 06.8	
	comp=E,12μm,0.3s						
CO06	Fray Jorge	0.76	25		Pn	05 26 55.3	+0.5
CO06				Sg	Sb	05 27 04.3	+0.8
CO03	El Pedregal	1.24	66	ǁ *i*P	Pn	05 27 00.6	-0.9
CO03				*i* S	Sn	05 27 15.2	-2.5
CO03	El Pedregal	1.24	66	Pn	Pn	05 27 01.0	-0.6
GO04	Tololo Observa	1.57	41	*e*P	Pb	05 27 08.0	+0.1
GO04				*e*S	Sn	05 27 26.7	+0.5
VA01	Torpederas	1.68	170	*e*P	Pn	05 27 07.7	+0.2
VA01				*e*S	Sn	05 27 28.4	-0.1
VA01	Torpederas	1.68	170		Pn	05 27 08.0	+0.5
ROCH	El Roble	1.81	153	ǁ *i*P	Pn	05 27 10.1	+0.6
ROCH				*i* S	Sn	05 27 31.9	-0.1
ROCH				IAML		05 27 39.4	
	comp=N,5μm,0.4s						
VA03	San Esteban	1.86	139	ǁ *i*P	Pn	05 27 11.2	+1.1
VA03				*i* S	Sn	05 27 33.4	+0.3
VA03				IAML		05 27 36.9	
	comp=E,14μm,0.5s						
VA03	San Esteban	1.86	139		Pn	05 27 11.2	+1.1
MT05	Renca	2.29	152	*e*P	Pn	05 27 16.9	+1.0
MT05				*e*S	Sn	05 27 45.2	+1.6
MT05				IAML		05 27 49.8	
	comp=E,5μm,0.6s						
MT05	Renca	2.29	152		Pn	05 27 16.8	+0.9
VA05	Santo Domingo	2.31	172	*e*P	Pn	05 27 17.0	+0.8
VA05				*e*S	Sb	05 27 46.1	-2.3
VA05				IAML		05 27 55.2	
	comp=E,2μm,0.4s						
VA05	Santo Domingo	2.31	172		Pn	05 27 17.0	+0.8
MT09	Talagante	2.56	161	*e*P	Pn	05 27 20.6	+1.0
MT09				*e*S	Sn	05 27 49.9	-0.4
MT09				IAML		05 28 02.9	
	comp=E,3μm,0.4s						
MT09	Talagante	2.56	161		Pn	05 27 20.8	+1.2
MT01	Popeta	2.57	166	*e*P	Pn	05 27 20.6	+0.7
MT01				*e*S	Sn	05 27 51.5	+1.0
MT01				IAML		05 28 02.5	
	comp=N,939nm,0.3s						
MT01	Popeta	2.57	166		Pn	05 27 20.7	+0.8
LCO	Las Campanas	2.60	26	*e*P	Pn	05 27 20.2	-0.2
LCO				*e*S	Sb	05 27 55.2	-1.7
LCO	Las Campanas	2.60	26		Pn	05 27 19.7	-0.7
LMEL	Las Melosas	2.91	149	*e*P	Pn	05 27 26.4	+1.8
LMEL				IAML		05 28 11.2	
	comp=N,1μm,0.2s						
BO01	Tunca	3.12	166		Pn	05 27 28.4	+1.1
BO02	Sierra Bellavi	3.57	164		Pn	05 27 35.1	+1.5
GO05	Huala	3.64	179	Pn	Pn	05 27 34.4	-0.1
ML02	Panimavida	4.42	174	Pn	Pn	05 27 45.8	+0.7
H03N1	Juan Fernandez	6.20	249	T	T	05 34 47.2	
	baz=78,slow=72						
H03N3	Juan Fernandez	6.21	249	T	T	05 34 51.3	
	baz=78,slow=72						
H03N2	Juan Fernandez	6.22	249	T	T	05 34 46.8	
	baz=78,slow=72						
LC01	Cunco	7.52	179	Pn	Pn	05 28 27.9	+0.2
LVC	Limon Verde	9.14	18	Pn	Pn	05 28 51.7	+1.3
	baz=125,slow=16,SNR=0.9						
PLCA	Paso Flores	9.43	173	Pn	Pn	05 28 54.4	+0.4
	comp=N,1.2nm,0.3s,baz=332,slow=12,SNR=16						
PLCA	Paso Flores	9.43	173		Pn	05 28 55.1	+1.1
LL04	Puerto Octay	9.53	182	Pn	Pn	05 28 54.9	-0.5
TRQA	Tornquist	10.61	132	Pn	Pn	05 29 11.7	+1.6
CPUP	Villa Florida	13.80	72	Pn	Pn	05 29 53.6	-0.1
	comp=N,0.3nm,0.3s,baz=173,slow=10,SNR=1.2						
CPUP	Villa Florida	13.80	72		Pn	05 29 54.2	+0.5
LPAZ	La Paz	15.42	14	Pn	Pn	05 30 17.5	+1.3
	comp=N,0.1nm,0.3s,baz=191,slow=8.0,SNR=4.5						
LPAZ	La Paz	15.42	14		Pn	05 30 16.6	+0.4
SIV	San Ignacio	18.26	36	P	Pn	05 30 51.3	-0.3
	comp=N,0.3nm,0.3s,baz=210,slow=12,SNR=7.9						
SAML	Samuel	23.77	22	P	P	05 31 50.6	+0.1
RUSC	La Rusia	37.06	358	P	P	05 33 46.0	-2.6
RUSC				IAmb	IAmb	05 33 52.3	
	comp=Z,7.2nm,1.0s						
SNAA	Sanae	54.02	159	P	P	05 36 01.9	+0.3
	comp=Z,3.1nm,0.9s,baz=270,slow=5.9,SNR=7.2						
SNAA	Sanae	54.02	159	P	P	05 36 02.7	+1.0
SNAA				IAmb	IAmb	05 36 03.6	
	comp=Z,6.8nm,1.1s						
QSPA	South Pole Qui	58.87	180	P	P	05 36 37.3	+0.9
	comp=Z,1.8nm,0.9s,baz=201,slow=1.8,SNR=5.4						
QSPA	South Pole Qui	58.87	180	P	P	05 36 37.3	+0.9
QSPA				IAmb	IAmb	05 36 49.3	
	comp=Z,3.7nm,1.2s						
TXAR	Lajitas Array	67.46	330	P	P	05 37 34.6	+0.9
	comp=Z,0.2nm,0.6s,baz=153,slow=6.1,SNR=3.0						
Q52A	Bidwell	70.61	352	P	P	05 37 52.7	-0.2
Q52A				IAmb	IAmb	05 37 56.6	
	comp=Z,11nm,1.2s						
DBIC	Dimbokro	74.32	72	P	P	05 38 14.1	-1.6
	comp=Z,2.8nm,0.5s,baz=230,slow=4.4,SNR=5.5						
DBIC	Dimbokro	74.32	72	P	P	05 38 15.7	+0.1
MAW	Mawson	75.69	164	P	P	05 38 21.1	-1.6
	comp=Z,1.7nm,0.7s,baz=220,slow=7.9,SNR=3.6						
TORD	Torodi Ar. Bea	83.29	70	P	P	05 39 04.9	0.0
	comp=Z,3.5nm,0.6s,baz=266,slow=4.5,SNR=17						
TORD	Torodi Ar. Bea	83.29	70	P	P	05 39 05.2	+0.3
TORD				IAmb	IAmb	05 39 05.7	
	comp=Z,4.1nm,0.8s						
WRA	Warramunga Arr	123.07	210	PKP	PKPdf	05 45 34.7	-0.2
	comp=Z,0.2nm,0.4s,baz=132,slow=1.2,SNR=2.3						
ZALV	Zalesovo Beam	151.35	30	PKPbc	PKiKP	05 46 33.3	+0.7
	comp=Z,7.0nm,0.5s,baz=308,slow=3.4,SNR=16						
MKAR	Makanchi Array	154.94	45	PKPbc	PKPbc	05 46 38.4	-0.7
	comp=Z,0.5nm,0.4s,baz=318,slow=1.9,SNR=3.0						

IDC ***17*** *05:27:02.4±1.2,5°.33S×150°.89E,h0km,mb3.7/4, mb1 4.0/4,mb1mx3.6/38,mbtmp3.7/4,Error ellipse: s-maj=69.1km s-min=25.8km az=136.0*

ISC 17 05:27:09.5±1.3,5°.7S±0°.4×151°.2E±0°.4,h65km,n6,σ0s58/6, mb3.5/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	21.71	228	P	P	05 31 54.7	-0.6
	0.7nm,0.4s,baz=52,slow=11,SNR=11						
ASAR	Alice Springs	24.47	221	P	P	05 32 22.4	-0.2
	1.4nm,0.8s,baz=53,slow=9.4,SNR=14						
FITZ	Fitzroy Crossi	27.87	241	P	P	05 32 54.0	+0.6
	2.0nm,0.5s,baz=59,slow=8.5,SNR=17						
ILAR	Eielson Array	83.54	22	P	P	05 39 29.9	-0.3
	0.3nm,0.6s,baz=260,slow=5.4,SNR=2.7						
PTGA	Pitinga	148.22	101	PKPbc	PKPab	05 46 52.8	+0.3
	377nm,0.3s,baz=312,slow=0.0,SNR=9.2						
TORD	Torodi Ar. Bea	149.06	286	PKPbc	PKiKP	05 46 52.6	0.0
	0.9nm,0.6s,baz=70,slow=2.3,SNR=5.3						

IDC ***17*** *05:31:47.5±0.8,12°.46N×143°.76E,h0km,mb3.9/9, mb1 4.1/9,mb1mx3.8/46,mbtmp3.9/9,Error ellipse: s-maj=30.8km s-min=14.5km az=106.0*
NEIC ***17*** *05:31:51.7±0.5,12°.6N±0°.1×143°.7E±0°.2,h35km±2km, mb4.3/10,Error ellipse: s-maj=28.7km s-min=14.8km az=291.0*

ISC 17 05:31:51.1±0.7,12°.46N±0°.10×143°.8E±0°.1,h27km,n29, σ0s81/24,mb4.0/13,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	1.53	42	Pn	Pn	05 32 17.0	+0.4
	64nm,0.3s,baz=192,slow=6.1,SNR=22						
GUMO				Sn	Sb	05 32 37.2	-0.5
	55nm,0.3s,baz=42,slow=16,SNR=5.8						
GUMO	Guam	1.53	42		Pn	05 32 16.0	-0.6
H11S3	WAKE ISLAND Hy	22.84	72	T	T	06 00 46.1	
	baz=262						
H11S1	WAKE ISLAND Hy	22.86	72	T	T	06 00 43.9	
	baz=262						
H11S2	WAKE ISLAND Hy	22.86	72	T	T	06 00 52.9	
	baz=262						
H11N1	WAKE ISLAND Hy	23.30	69	T	T	06 01 17.3	
	baz=255,slow=75,SNR=11						
H11N2	WAKE ISLAND Hy	23.32	69	T	T	06 01 24.9	
	baz=255,slow=75,SNR=6.4						
H11N3	WAKE ISLAND Hy	23.32	69	T	T	06 01 25.6	
	baz=255,slow=75,SNR=8.7						
MJAR	Matsushiro Arr	24.50	349	P	P	05 37 07.5	-0.8
	2.2nm,0.7s,baz=182,slow=8.6,SNR=2.8						
KSRS	Korea Array	28.67	333	P	P	05 37 46.6	+0.9
	1.4nm,0.7s,baz=142,slow=10.0,SNR=1.6						
KNRA	Kununurra	31.67	208	P	P	05 38 12.0	-0.5
CTA	Charters Tower	32.43	176	P	P	05 38 20.2	+1.1
	3.2nm,0.7s,baz=359,slow=9.8,SNR=6.6						
CTAO	Charters Tower	32.43	176	P	P	05 38 19.9	+0.8
CTAO				IAmb	IAmb	05 38 21.2	
	comp=Z,4.0nm,0.8s						
WR0	Warramunga Arr	33.48	196	P	P	05 38 28.0	-0.3
WR0				IAmb	IAmb	05 38 28.8	
	comp=Z,2.7nm,0.8s						
WRAB	Tennant Creek	33.51	196	P	P	05 38 28.4	-0.2
WRAB				IAmb	IAmb	05 38 28.9	
	comp=Z,4.3nm,0.8s						
WB2	Warramunga Arr	33.52	196	P	P	05 38 28.1	-0.5
WRA	Warramunga Arr	33.52	196	P	P	05 38 28.3	-0.4
	comp=Z,3.4nm,0.7s,baz=19,slow=10,SNR=23						
WRA	Warramunga Arr	33.52	196	P	P	05 38 28.0	-0.6
FITZ	Fitzroy Crossi	35.26	211	P	P	05 38 43.3	-0.4
FITZ				IAmb	IAmb	05 38 55.2	
	comp=Z,5.0nm,1.2s						
JAGI	Jajag, Banyuwa	36.07	236	P	P	05 38 49.3	-1.5
AS31	Alice Springs	37.19	195	P	P	05 38 59.5	-0.7
AS31				IAmb	IAmb	05 39 10.2	
	comp=Z,1.4nm,0.6s						
ASAR	Alice Springs	37.19	195	P	P	05 39 00.1	-0.1
	comp=Z,0.7nm,0.7s,baz=20,slow=11,SNR=10						
ASAR	Alice Springs	37.19	195	P	P	05 38 59.2	-1.0
STKA	Stephens Creek	44.13	183	P	P	05 39 57.6	+0.3
	comp=Z,1.5nm,0.8s,baz=323,slow=10,SNR=3.5						
SONM	Songino Array	47.07	326	P	P	05 40 21.4	+0.7
	comp=Z,0.3nm,0.4s,baz=147,slow=8.1,SNR=1.9						
CAN	Canberra	47.77	174	P	P	05 40 26.4	+0.3
ILAR	Eielson Array	70.03	25	P	P	05 43 00.4	+0.1
	comp=Z,0.3nm,0.6s,baz=250,slow=5.5,SNR=2.6						
NVAR	Mina Array Bea	88.43	51	P	P	05 44 42.9	+1.4
	comp=Z,0.6nm,0.7s,baz=258,slow=5.6,SNR=5.8						
NVAR	Mina Array Bea	88.43	51	P	P	05 44 40.1	-1.4

IDC ***17*** *05:33:45.7±1.8,31°.99S×71°.37W,h0km,mb4.1/4, mb1 4.1/9,mb1mx3.9/36,mbtmp4.0/9,ML3.9/5,Error ellipse: s-maj=60.1km s-min=20.9km az=106.0*
NEIC ***17*** *05:33:48.5±0.9,31°.93S×71°.80W,h21km±10km,ML4.3*
GUC ***17*** *05:33:48.5±0.9,31°.93S×71°.80W,h21km±10km,ML4.3*

**ISC 17

SNAA					IAmb	IAmb	05 43 15.5		
	comp=Z,3.6nm,0.9s								
QSPA	**South Pole Qui**	**58.29**	**180**	P	**P**		**05 43 41.5**	**+0.9**	
	comp=Z,1.5nm,1.0s,baz=129,slow=2.7,SNR=2.8								
QSPA	**South Pole Qui**	**58.29**	**180**	P	**P**		**05 43 41.8**	**+1.2**	
QSPA					IAmb	IAmb	05 43 51.3		
	comp=Z,2.9nm,0.9s								
TORD	**Torodi Ar. Bea**	**83.30**	**70**	P	**P**		**05 46 12.9**	**-0.3**	
	comp=Z,1.7nm,0.8s,baz=245,slow=3.6,SNR=6.9								
TORD	**Torodi Ar. Bea**	**83.30**	**70**	P	**P**		**05 46 12.8**	**-0.5**	
ZALV	**Zalesovo Beam**	**152.35**	**30**	PKPbc	**PKPbc**		**05 53 41.7**	**+0.2**	
	comp=Z,0.9nm,0.5s,baz=298,slow=3.1,SNR=2.6								

*IDC **17** 05:35:23.7±0.9,30°.36S×71°.97W,h0km,mb4.0/4, mb1 4.1/7,mb1mx3.9/35,mbtmp4.0/7,ML4.0/3,Error ellipse: s-maj=46.2km s-min=21.3km az=91.0*
*NEIC **17** 05:35:25.4±1.6,30°.36S±0°.04×72°.2W±0°.2,h10km±1km, mb4.4/17,Error ellipse: s-maj=24.2km s-min=4.3km az=101.0*

ISC 17 05:35:25.6±0.5,**30°.36S**±0°.06×**72°.1W**±0°.1,**h16**km,**n29,** σ0**84**/30,**mb4.3/6,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MT01	**Popeta**	**3.58**	**168**	Pn	**Pn**	**05 36 20.1**	**-0.3**
AC02	**Maricunga**	**4.39**	**38**	Pn	**Pn**	**05 36 32.5**	**+0.4**
PLCA	**Paso Flores**	**10.43**	**173**	Pn	**Pn**	**05 37 53.4**	**-1.2**
	0.3nm,0.3s,baz=323,slow=14,SNR=2.0						
LL02	**Futaleuf**	**12.81**	**179**	Pn	**Pn**	**05 38 26.3**	**-0.7**
LPAZ	**La Paz**	**14.48**	**16**	Pn	**Pn**	**05 38 49.6**	**-0.8**
	0.3nm,0.3s,baz=194,slow=9.0,SNR=5.1						
LPAZ	**La Paz**	**14.48**	**16**		**Pn**	**05 38 49.8**	**-0.7**
SIV	**San Ignacio**	**17.53**	**38**	P	**P**	**05 39 29.4**	**-1.1**
	0.5nm,0.3s,baz=244,slow=12,SNR=7.3						
SAML	**Samuel**	**22.89**	**23**	P	**P**	**05 40 28.1**	**-0.5**
RPN	**Rapa Nui**	**32.68**	**266**	P	**P**	**05 41 56.5**	**-0.6**
RUSC	**La Rusia**	**36.06**	**358**	P	**P**	**05 42 26.9**	**-0.1**
PTCN	**Pitcairn Islan**	**51.11**	**261**	P	**P**	**05 44 27.4**	**-0.3**
SNAA	**Sanae**	**54.99**	**159**	P	**P**	**05 44 55.8**	**+0.1**
	3.8nm,0.9s,baz=289,slow=2.9,SNR=5.2						
SNAA	**Sanae**	**54.99**	**159**	P	**P**	**05 44 56.5**	**+0.8**
QSPA	**South Pole Qui**	**59.87**	**180**	P	**P**	**05 45 31.2**	**+0.9**
	3.8nm,0.9s,baz=225,slow=4.3,SNR=33						
QSPA	**South Pole Qui**	**59.87**	**180**	P	**P**	**05 45 30.5**	**+0.2**
QSPA					IAmb	IAmb	05 45 38.7		
	comp=Z,5.0nm,0.9s								
V58A	**Windy Hill, Pi**	**66.13**	**354**	P	**P**	**05 46 12.5**	**+0.6**
W50A	**Signal Mountai**	**66.38**	**348**	P	**P**	**05 46 15.1**	**+1.5**
TX32	**Lajitas Array**	**66.53**	**330**	P	**P**	**05 46 15.4**	**+0.5**
TX32					IAmb	IAmb	05 48 32.6		
	comp=Z,4.0nm,1.4s								
TXAR	**Lajitas Array**	**66.53**	**330**	P	**P**	**05 46 15.9**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=158,slow=7.5,SNR=5.8								
TXAR	**Lajitas Array**	**66.53**	**330**	P	**P**	**05 46 16.1**	**+1.2**
MNTX	**Cornudas Mount**	**69.31**	**330**	P	**P**	**05 46 30.4**	**-1.7**
MNTX					IAmb	IAmb	05 46 39.8		
	comp=Z,2.5nm,1.1s								
S44A	**Carbondale**	**69.57**	**346**	P	**P**	**05 46 34.0**	**+0.5**
ACSO	**Alum Creek Sta**	**70.95**	**351**	P	**P**	**05 46 42.9**	**+0.9**
TORD	**Torodi Ar. Bea**	**83.06**	**71**	P	**P**	**05 47 51.1**	**+0.3**
	comp=Z,1.8nm,0.9s,baz=263,slow=5.4,SNR=4.9								
E03A	**Lebam**	**89.54**	**327**	P	**P**	**05 48 21.7**	**-0.1**
WRA	**Warramunga Arr**	**123.87**	**210**	PKP	**PKiKP**	**05 54 25.3**	**+1.5**
	comp=Z,0.7nm,0.9s,baz=151,slow=1.9,SNR=3.1								
KURBB	**Kurchatov Arra**	**150.19**	**39**	PKPbc	**PKPbc**	**05 55 14.9**	**-0.4**
	comp=Z,1.5nm,0.9s,baz=308,slow=3.2,SNR=2.6								
ZALV	**Zalesovo Beam**	**151.14**	**29**	PKPbc	**PKPbc**	**05 55 17.6**	**+0.2**
	comp=Z,3.0nm,0.7s,baz=270,slow=3.0,SNR=7.4								
ZALV	**Zalesovo Beam**	**151.14**	**29**		**PKPbc**	**05 55 17.7**	**+0.2**
ZALV					**PKPab**	**05 55 25.2**	**-0.1**

*IDC **17** 05:39:04.0±0.8,31°.83S×72°.13W,h0km,mb4.0/7, mb1 4.1/10,mb1mx4.0/32,mbtmp4.0/10,ML3.9/3,Error ellipse: s-maj=34.7km s-min=19.0km az=84.0*
ISC 17 05:39:06.7±0.8,**31°.81S**±0°.09×**72°.1W**±0°.2,**h17**km,**n12,** σ0**86**/12,**mb4.1/7,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**9.00**	**172**	Pn	**Pn**	**05 41 16.5**	**+0.5**
	0.5nm,0.3s,baz=358,slow=12,SNR=3.5						
LVC	**Limon Verde**	**9.59**	**18**	Pn	**Pn**	**05 41 25.0**	**+0.6**
	1.5nm,0.3s,baz=180,slow=17,SNR=1.6						
LPAZ	**La Paz**	**15.87**	**14**	Pn	**Pn**	**05 42 49.0**	**-1.0**
	0.1nm,0.3s,baz=202,slow=8.4,SNR=2.6						
BDFB	**Brasilia**	**27.21**	**59**	P	**P**	**05 44 50.3**	**+0.3**
	1.6nm,0.4s,baz=333,slow=2.3,SNR=2.1						
SNAA	**Sanae**	**53.64**	**158**	P	**P**	**05 48 25.2**	**-1.7**
	2.2nm,0.6s,baz=266,slow=8.4,SNR=14						
QSPA	**South Pole Qui**	**58.42**	**180**	P	**P**	**05 49 02.2**	**+0.9**
	2.5nm,0.7s,baz=104,slow=4.6,SNR=7.6						
TXAR	**Lajitas Array**	**67.80**	**330**	P	**P**	**05 50 04.6**	**+0.8**
	0.4nm,0.6s,baz=150,slow=6.8,SNR=6.3						
PDAR	**Pinedale Array**	**81.78**	**333**	P	**P**	**05 51 24.0**	**-0.8**
	0.2nm,0.6s,baz=143,slow=7.7,SNR=2.4						
NVAR	**Mina Array Bea**	**82.05**	**325**	P	**P**	**05 51 25.8**	**-0.5**
	0.6nm,0.7s,baz=150,slow=6.1,SNR=5.5						
TORD	**Torodi Ar. Bea**	**83.53**	**70**	P	**P**	**05 51 34.3**	**+0.2**
	1.1nm,0.7s,baz=262,slow=4.4,SNR=4.6						
KURBB	**Kurchatov Arra**	**151.28**	**41**	PKPbc	**PKiKP**	**05 58 59.3**	**-0.1**
	0.7nm,0.6s,baz=309,slow=2.9,SNR=5.0						
ZALV	**Zalesovo Beam**	**152.38**	**30**	PKPbc	**PKiKP**	**05 59 01.5**	**-0.1**
	1.3nm,0.5s,baz=309,slow=4.9,SNR=2.9						

*IDC **17** 05:40:56.1±0.4,31°.30S×71°.93W,h0km,mb4.8/18, mb1 4.8/24,mb1mx4.8/33,mbtmp4.7/24,ML4.3/6,Error ellipse: s-maj=18.3km s-min=11.2km az=86.0*
*NEIC **17** 05:40:57.7±1.5,31°.39S±0°.04×71°.96W±0°.07,h9km±3km, mb5.2/310,ML5.0(GUC),Error ellipse: s-maj=9.0km s-min=4.9km az=107.0*
*GUC **17** 05:40:58.8±0.9,31°.35S×71°.98W,h26km±6km,ML5.0*
*MOS **17** 05:41:00.7±1.0,31°.19S×71°.88W,h38km,mb5.3/35,Error ellipse: s-maj=16.3km s-min=8.1km az=104.2*

ISC 17 05:40:57.9±0.3,**31°.38S**±0°.03×**71°.97W**±0°.05,**h14**km,**n568,** σ1**07**/547,**mb5.2**/177,**61C-65D,Fault plane solution: NP1:**ϕs165.67677°,δ85.24625°,λ110.64916°. **NP2:** ϕs268.07919°,δ21.16598°,λ13.26891°. **Principal axes:** T Plg45.8900°, Azm96.6697°; N Plg20.5749°, Azm343.8879°; P Plg36.9275°, Azm237.5011°; **Fault plane solution: NP1:**ϕs323.93601°,δ85.18227°, λ-2.95256°. **NP2:**ϕs54.18419°,δ87.05788°,λ-175.17590°. **Principal axes:** T Plg1.3233°, Azm188.9968°; N Plg84.3513°, Azm85.4910°; P Plg5.4905°, Azm279.1240°; **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.76**	**23**	*eP*	**Pb**	**05 41 11.9**	**-1.0**
CO06				*eS*	**Sb**	**05 41 22.2**	**-1.0**
CO06	**Fray Jorge**	**0.76**	**23**		**Pb**	**05 41 12.3**	**-0.6**
CO06				Sg	**Sb**	**05 41 22.4**	**-0.8**
CO03	**El Pedregal**	**1.23**	**64**	*eP*	**Pn**	**05 41 20.1**	**-0.6**
CO03				*eS*	**Sb**	**05 41 35.6**	**-1.1**
CO03				IAML		05 41 40.8	
	comp=E,23μm,0.4s						
CO03	**El Pedregal**	**1.23**	**64**	Pn	**Pn**	**05 41 20.2**	**-0.6**
GO04	**Tololo Observa**	**1.57**	**40**	*eP*	**Pn**	**05 41 25.2**	**-0.5**
GO04				IAML		05 41 57.8	
	comp=N,60μm,0.6s						
GO04	**Tololo Observa**	**1.57**	**40**	Pn	**Pb**	**05 41 26.0**	**-0.9**
VA01	**Torpederas**	**1.66**	**170**	*eP*	**Pn**	**05 41 27.1**	**+0.4**
VA01				*eS*	**Sn**	**05 41 46.7**	**-1.1**
VA01				IAML		05 41 57.7	
	comp=E,10μm,0.5s						
VA01	**Torpederas**	**1.66**	**170**		**Pn**	**05 41 27.2**	**+0.6**
VA03	**San Esteban**	**1.83**	**139**	*eP*	**Pb**	**05 41 31.0**	**-0.4**
VA03				*eS*	**Sb**	**05 41 54.5**	**+0.3**
VA03				IAML		05 41 59.5	
	comp=E,41μm,0.4s						
VA03	**San Esteban**	**1.83**	**139**		**Pn**	**05 41 29.8**	**+0.7**
MT05	**Renca**	**2.26**	**153**	*eP*	**Pb**	**05 41 38.0**	**-0.6**
MT05				*eS*	**Sb**	**05 42 05.7**	**-0.8**
MT05				IAML		05 42 15.9	
	comp=N,23μm,0.7s						
MT05	**Renca**	**2.26**	**153**	Pn	**Pn**	**05 41 34.8**	**-0.2**
VA05	**Santo Domingo**	**2.29**	**172**		**Pn**	**05 41 35.5**	**+0.2**
MT09	**Talagante**	**2.53**	**161**		**Pn**	**05 41 40.7**	**+2.0**
MT01	**Popeta**	**2.55**	**166**	*eP*	**Pb**	**05 41 43.0**	**-0.6**
LCO	**Las Campanas**	**2.60**	**25**	P	**Pb**	**05 41 44.8**	**+0.2**
LCO	**Las Campanas**	**2.60**	**25**	*eP*	**Pn**	**05 41 41.4**	**+1.5**
LCO	**Las Campanas**	**2.60**	**25**		**Pb**	**05 41 44.8**	**+0.2**
ZON	**Zonda**	**2.82**	**94**	P	**Pn**	**05 41 42.9**	**+0.2**
ZON	**Zonda**	**2.82**	**94**		**Pn**	**05 41 42.9**	**+0.2**
BO01	**Tunca**	**3.10**	**166**		**Pn**	**05 41 45.7**	**-0.7**
AC04	**Llanos de Chal**	**3.26**	**14**	*eP*	**Pb**	**05 41 53.4**	**-2.2**
AC04				IAML		05 42 47.2	
	comp=N,1μm,0.6s						
AC04	**Llanos de Chal**	**3.26**	**14**	Pn	**Pn**	**05 41 50.4**	**+1.7**
BO02	**Sierra Bellavi**	**3.55**	**164**	Pn	**Pn**	**05 41 53.4**	**+0.7**
GO05	**Huala**	**3.62**	**179**		**Pn**	**05 41 52.8**	**-0.8**
GO03	**Copiap**	**4.07**	**22**	*eS*	**Sn**	**05 42 49.8**	**+2.6**
GO03				IAML		05 43 11.2	
	comp=E,2μm,0.8s						
VA04	**Juan Fernndez**	**6.21**	**247**	Pn	**Pn**	**05 42 27.6**	**-1.7**
H03N1	**Juan Fernandez**	**6.22**	**249**	T	T	05 49 08.1	
	baz=69,slow=76,SNR=118						
H03N3	**Juan Fernandez**	**6.23**	**249**	T	T	05 49 08.1	
	baz=69,slow=76,SNR=101						
H03N2	**Juan Fernandez**	**6.23**	**249**	T	T	05 49 08.1	
	baz=69,slow=76,SNR=118						
LC01	**Cunco**	**7.50**	**179**	Pn	**Pn**	**05 42 46.7**	**-0.2**
LVC	**Limon Verde**	**9.15**	**18**	Pn	**Pn**	**05 43 08.2**	**-1.8**
	comp=E,1.5nm,0.3s,baz=166,slow=17,SNR=2.1						
PLCA	**Paso Flores**	**9.40**	**173**	Pn	**Pn**	**05 43 14.3**	**+1.2**
	comp=E,1.6nm,0.3s,baz=334,slow=9.7,SNR=20						
PLCA	**Paso Flores**	**9.40**	**173**	P	**Pn**	**05 43 13.1**	**0.0**
PLCA	**Paso Flores**	**9.40**	**173**	Pn	**Pn**	**05 43 13.1**	**0.0**
LL04	**Puerto Octay**	**9.52**	**182**		**Pn**	**05 43 13.9**	**-0.7**
LL03	**Petrohue**	**9.74**	**182**	Pn	**Pn**	**05 43 17.4**	**-0.3**
LL05	**Los Muermos**	**10.08**	**186**		**Pn**	**05 43 20.9**	**-1.4**
TRQA	**Tornquist**	**10.58**	**132**	P	**Pn**	**05 43 29.8**	**+0.7**
TRQA	**Tornquist**	**10.58**	**132**	Pn	**Pn**	**05 43 29.8**	**+0.7**
GO07	**Milladeo Hill,**	**11.79**	**186**		**Pn**	**05 43 44.9**	**-0.8**
LPA	**La Plata**	**12.28**	**110**	PN	**Pn**	**05 43 49.8**	**-2.6**
LPA				pPP		05 44 04.9	
LPA				PPP	PPP	05 44 33.8	
LPA				PP	**PgPg**	**05 45 00.3**	**+7.1**
LPA				S	**Sn**	**05 46 06.8**	**-2.3**
LPA				SS	**SnSn**	**05 46 20.2**	**-0.9**
LPA				SSS	SSS	05 46 30.3	
LPA				SSS	SSS	05 47 12.8	
LPA				SSS	SSS	05 47 14.9	
LPA				SSS	SSS	05 47 42.6	
LPA				PCP	**PcP**	**05 49 34.7**	**+0.2**
LPA				SCS	**ScS**	**05 56 41.0**	**-2.1**
LPA				PKIKP	**PKiKP**	**05 57 31.5**	**-0.7**
LPA				SKIKS		06 04 31.5	
ITQB	**Itaqui**	**13.34**	**87**	Pn	**Pn**	**05 44 05.4**	**-1.5**
CPUP	**Villa Florida**	**13.78**	**72**	Pn	**Pn**	**05 44 12.7**	**-0.2**
	comp=E,0.3nm,0.3s,baz=245,slow=16,SNR=1.3						
COYC	**Coyhaique**	**14.17**	**180**		**Pn**	**05 44 19.5**	**+1.3**
LPAZ	**La Paz**	**15.43**	**14**	Pn	**Pn**	**05 44 36.2**	**+0.4**
	comp=E,0.4nm,0.3s,baz=180,slow=7.8,SNR=20						
LPAZ	**La Paz**	**15.43**	**14**	P	**Pn**	**05 44 36.3**	**+0.5**
LPAZ				pmax	pmax		
	comp=Z,27nm,0.8s						
LPAZ	**La Paz**	**15.43**	**14**	Pn	**Pn**	**05 44 36.3**	**+0.5**
AQDB	**Aquidauana**	**18.20**	**57**	P	**P**	**05 45 10.6**	**+0.1**
SIV	**San Ignacio**	**18.26**	**35**	P	**P**	**05 45 10.9**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=212,slow=10,SNR=14						
NNA	**Nana**	**19.82**	**346**	P	**Pn**	**05 45 29.4**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=173,slow=10,SNR=5.9						
SPB	**Sao Paulo**	**23.08**	**76**	P	**P**	**05 46 02.5**	**-0.7**
SPB				IAmb	IAmb	05 46 15.8	
	comp=Z,55nm,1.0s						
SAML	**Samuel**	**23.77**	**22**		**P**	**05 46 10.3**	**+0.1**
SAML	**Samuel**	**23.77**	**22**	P	**P**	**05 46 10.0**	**-0.1**
SAML				IAmb	IAmb	05 46 22.1	
	comp=Z,36nm,1.2s						
BDFB	**Brasilia**	**26.89**	**60**	P	**P**	**05 46 38.1**	**-0.7**
	comp=Z,12nm,0.7s,baz=234,slow=9.5,SNR=15						
BDFB	**Brasilia**	**26.89**	**60**	P	**P**	**05 46 37.7**	**-1.1**
BDFB				pmax	pmax		
	comp=Z,18nm,0.8s						
BDFB	**Brasilia**	**26.89**	**60**	P	**P**	**05 46 37.6**	**-1.1**
OTAV	**Otavalo**	**32.04**	**348**	P	**P**	**05 47 24.2**	**-0.6**
OTAV				pmax	pmax		
	comp=Z,27nm,1.7s						
OTAV	**Otavalo**	**32.04**	**348**	P	**P**	**05 47 24.2**	**-0.6**
FLOC	**Florencia**	**32.97**	**353**	P	**P**	**05 47 32.0**	**-0.4**
FLOC				IAmb	IAmb	05 47 35.5	
	comp=Z,45nm,1.8s						
PMSA	**Palmer Station**	**33.78**	**174**	P	**P**	**05 47 41.1**	**+2.2**
	comp=Z,9.8nm,0.9s,baz=359,slow=8.2,SNR=3.7						
PMSA	**Palmer Station**	**33.78**	**174**	P	**P**	**05 47 38.8**	**-0.1**
PMSA				IAmb	IAmb	05 47 42.8	
	comp=Z,44nm,1.6s						
ROSC	**El Rosal**	**36.09**	**356**	P	**P**	**05 47 59.0**	**-0.8**
ROSC				pmax	pmax		
	comp=Z,12nm,0.7s						
ROSC	**El Rosal**	**36.09**	**356**	P	**P**	**05 47 59.0**	**-0.8**
RUSC	**La Rusia**	**37.08**	**358**	P	**P**	**05 48 09.2**	**+0.8**
SDV	**Santo Domingo**	**40.06**	**2**	P	**P**	**05 48 33.0**	**-0.1**
	comp=Z,5.3nm,0.3s,baz=222,slow=5.4,SNR=7.1						
SDV	**Santo Domingo**	**40.06**	**2**	P	**P**	**05 48 32.6**	**-0.5**
MDP	**Montagnes des**	**40.70**	**30**	P	**P**	**05 48 37.7**	**-0.5**
	comp=Z,5.4nm,0.8s,baz=189,slow=7.9,SNR=3.6						
SJCC	**San Jacinto, C**	**41.16**	**355**	P	**P**	**05 48 42.1**	**+0.1**
SJCC				IAmb	IAmb	05 48 45.4	
	comp=Z,36nm,1.1s						
SRBA	**San Rafael, Bu**	**41.83**	**343**	P	**P**	**05 48 47.8**	**+0.2**
DRK0	**Durika**	**41.83**	**343**	P	**P**	**05 48 47.6**	**-0.1**
DRK0				IAmb	IAmb	05 48 50.4	
	comp=Z,30nm,0.9s						
RIMA	**Rio Macho**	**42.47**	**342**	P	**P**	**05 48 52.6**	**-0.3**
JTS	**Las Juntas de**	**43.26**	**341**	P	**P**	**05 48 59.3**	**+0.2**
	comp=Z,6.4nm,0.9s,baz=190,slow=11,SNR=4.9						
JTS	**Las Juntas de**	**43.26**	**341**	*i* P	**P**	**05 48 59.3**	**+0.2**
JTS				pmax	pmax		
	comp=Z,26nm,1.9s						
ORTG	**Ortega, Santa**	**43.47**	**341**	P	**P**	**05 49 00.6**	**-0.3**
TGUH	**Tegucigalpa,Un**	**47.51**	**340**	P	**P**	**05 49 32.5**	**-0.4**
MTO3	**Montecristo**	**48.48**	**337**	P	**P**	**05 49 41.3**	**+0.7**
ICMP	**Isla Caja de M**	**49.26**	**7**	P	**P**	**05 49 45.8**	**-0.4**
MLPR	**Magueyes Islan**	**49.29**	**6**	P	**P**	**05 49 46.5**	**0.0**
CRPR	**Cabo Rojo, PR**	**49.32**	**6**	P	**P**	**05 49 46.3**	**-0.4**
OBIP	**Obispado Ponce**	**49.41**	**7**	P	**P**	**05 49 46.0**	**-1.4**
BANI	**BANI**	**49.51**	**2**	P	**P**	**05 49 48.8**	**+0.5**
SJG	**San Juan**	**49.52**	**7**	P	**P**	**05 49 47.7**	**-0.6**
	comp=Z,14nm,0.4s,baz=150,slow=2.4						
SJG	**San Juan**	**49.52**	**7**	P	**P**	**05 49 47.3**	**-0.9**
SJG				pmax	pmax		
	comp=Z,62nm,1.1s						
SJG	**San Juan**	**49.52**	**7**	P	**P**	**05 49 47.3**	**-0.9**
MTP	**Monte Pirata**	**49.58**	**8**	P	**P**	**05 49 48.6**	**0.0**
HUMP	**Col San Antoni**	**49.59**	**8**	P	**P**	**05 49 48.0**	**-0.7**
HUMP				IAmb	IAmb	05 49 50.2	
	comp=Z,18nm,0.9s						
SDD	**Santo Domingo**	**49.59**	**3**	P	**P**	**05 49 48.3**	**-0.5**
AOPR	**Arecibo Observ**	**49.69**	**7**	P	**P**	**05 49 49.1**	**-0.4**
CBYP	**Canovanas**	**49.72**	**8**	P	**P**	**05 49 49.1**	**-0.6**
GCPR	**Guaynabo City**	**49.73**	**7**	P	**P**	**05 49 48.3**	**-1.5**
GCPR				IAmb	IAmb	05 49 49.4	
	comp=Z,26nm,0.8s						
CCIG	**Comitan**	**51.19**	**335**	P	**P**	**05 50 01.1**	**-0.1**
CCIG				IAmb	IAmb	05 50 02.7	
	comp=Z,27nm,1.2s						
VNA3	**Neumayer Olymp**	**51.77**	**159**	P	**P**	**05 50 05.9**	**+1.3**
VNA1	**Neumayer--Stat**	**52.06**	**158**	P	**P**	**05 50 07.8**	**+0.9**
VNA2	**Neumayer--Watz**	**52.41**	**158**	P	**P**	**05 50 10.7**	**+1.3**
	baz=282,slow=8.7						
SNAA	**Sanae**	**53.99**	**159**	P	**P**	**05 50 22.3**	**+1.2**
SNAA	**Sanae**	**53.99**	**159**	P	**P**	**05 50 22.0**	**+0.9**
	comp=Z,9.1nm,0.7s,baz=282,slow=6.4,SNR=26						
SNAA	**Sanae**	**53.99**	**159**	*i* P	**P**	**05 50 21.4**	**+0.3**
SNAA				pmax	pmax		
	comp=Z,31nm,1.3s						
SNAA	**Sanae**	**53.99**	**159**	P	**P**	**05 50 22.1**	**+0.9**
SNAA				IAmb	IAmb	05 50 33.3	
	comp=Z,26nm,1.1s						
SOR	**Soroa**	**54.89**	**348**	P	**P**	**05 50 27.8**	**-0.3**
SOR				pmax	pmax		
	comp=Z,27nm,0.9s						
SOR	**Soroa**	**54.89**	**348**	P	**P**	**05 50 27.8**	**-0.3**
SOR				IAmb	IAmb	05 50 28.8	
	comp=Z,27nm,0.9s						
UNM	**Universidad Na**	**56.78**	**329**	P	**P**	**05 50 43.2**	**+1.1**
UNM				pmax	pmax		
	comp=Z,98nm,1.1s						
UNM	**Universidad Na**	**56.78**	**329**	P	**P**	**05 50 43.2**	**+1.1**
QSPA	**South Pole Qui**	**58.85**	**180**	P	**P**	**05 50 56.5**	**+0.5**
	comp=Z,13nm,1.1s,baz=108,slow=1.8,SNR=16						
QSPA	**South Pole Qui**	**58.85**	**180**	P	**P**	**05 50 56.7**	**+0.8**
QSPA				IAmb	IAmb	05 51 08.3	
	comp=Z,16nm,0.8s						
ZAIG	**Zacatecas**	**61.30**	**328**	P	**P**	**05 51 14.6**	**+1.1**
TIGA	**Tifton**	**63.44**	**349**	P	**P**	**05 51 27.3**	**+0.2**
	baz=169						
BRAL	**Brewton**	**63.83**	**346**	P	**P**	**05 51 30.9**	**+1.2**
	baz=166						
250A	**Grady**	**64.45**	**347**	P	**P**	**05 51 33.8**	**-0.1**
346A	**Big Creek Wild**	**64.59**	**343**	P	**P**	**05 51 35.5**	**+0.8**
NHSC	**New Hope**	**64.61**	**352**	P	**P**	**05 51 35.8**	**+1.0**
	baz=172						
152A	**Waverly Hall**	**64.83**	**348**	P	**P**	**05 51 35.5**	**-0.8**
152A				IAmb	IAmb	05 51 44.8	
	comp=Z,17nm,1.0s						
833A	**Chaparral WMA,**	**64.86**	**333**	P	**P**	**05 51 37.5**	**+0.9**
	baz=154						
344A	**Westbrook Farm**	**64.97**	**342**	P	**P**	**05 51 37.0**	**-0.2**
441A	**DeRidder**	**64.99**	**340**	P	**P**	**05 51 37.4**	**+0.1**
HKT	**Hockley**	**65.07**	**337**	P	**P**	**05 51 38.1**	**+0.3**
HKT				pmax	pmax		
	comp=Z,60nm,1.9s						
HKT	**Hockley**	**65.07**	**337**	P	**P**	**05 51 38.1**	**+0.3**
342A	**Flagon Creek P**	**65.33**	**341**	P	**P**	**05 51 39.8**	**+0.2**
Y58A	**Scranton**	**65.34**	**353**	P	**P**	**05 51 39.7**	**+0.2**
GOGA	**Godfrey**	**65.35**	**349**	P	**P**	**05 51 39.2**	**-0.5**
GOGA				pmax	pmax		
	comp=Z,11nm,1.0s						
GOGA	**Godfrey**	**65.35**	**349**	P	**P**	**05 51 39.2**	**-0.5**
GOGA	**Godfrey**	**65.35**	**349**	P	**P**	**05 51 40.9**	**+1.2**
	baz=169						
LRAL	**Lakeview Retre**	**65.62**	**346**	P	**P**	**05 51 41.2**	**-0.2**
LRAL				IAmb	IAmb	05 51 42.3	
	comp=Z,24nm,1.4s						
LRAL	**Lakeview Retre**	**65.62**	**346**	P	**P**	**05 51 41.7**	**+0.3**
	baz=166						
VBMS	**Vicksburg**	**65.64**	**343**	P	**P**	**05 51 42.1**	**+0.6**
VBMS	**Vicksburg**	**65.64**	**343**	P	**P**	**05 51 42.1**	**+0.6**
	baz=163						
146A	**Union**	**65.69**	**344**	P	**P**	**05 51 42.2**	**+0.4**
SLBS	**Sierra La Lagu**	**65.72**	**322**	P	**P**	**05 51 43.0**	**+0.6**
SLBS				IAmb	IAmb	05 51 44.8	
	comp=Z,19nm,0.9s						
Y52A	**Lilburn**	**65.89**	**349**	P	**P**	**05 51 42.5**	**-0.6**
Y52A				IAmb	IAmb	05 51 43.8	
	comp=Z,24nm,1.1s						
Z47A	**Carrollton**	**66.01**	**345**	P	**P**	**05 51 43.3**	**-0.6**
Z47A				IAmb	IAmb	05 51 44.4	
	comp=Z,12nm,1.0s						
HPIG		**66.31**	**327**	P	**P**	**05 51 46.0**	**-0.2**
NATX	**Nacogdoches**	**66.37**	**339**	P	**P**	**05 51 47.5**	**+1.2**
NATX	**Nacogdoches**	**66.37**	**339**	P	**P**	**05 51 47.1**	**+0.8**
	baz=159						
435B	**Jarrell**	**66.43**	**336**	P	**P**	**05 51 46.9**	**+0.2**
435B				IAmb	IAmb	05 51 48.5	
	comp=Z,31nm,1.4s						
435B	**Jarrell**	**66.43**	**336**	P	**P**	**05 51 47.2**	**+0.5**
	baz=156						
PAULI	**Pauline**	**66.50**	**351**	P	**P**	**05 51 47.0**	**0.0**
PAULI				IAmb	IAmb	05 51 47.9	
	comp=Z,32nm,1.4s						
CNNC	**Cliffs of the**	**66.50**	**355**	P	**P**	**05 51 47.4**	**+0.4**
	baz=174						
VNDA	**Vanda**	**66.68**	**191**	P	**P**	**05 51 49.8**	**+2.0**
	comp=Z,4.5nm,0.9s,baz=133,slow=5.9,SNR=18						
VNDA	**Vanda**	**66.68**	**191**	P	**P**	**05 51 48.7**	**+0.9**
VNDA				pmax	pmax		
	comp=Z,16nm,1.5s						
VNDA	**Vanda**	**66.68**	**191**	P	**P**	**05 51 48.7**	**+0.9**

W39A	Magazine	69.33	341	P	P	05 52 04.8	0.0	
	baz=160,SNR=13							
LCAR	Lake Charles	69.47	343	IAmb	IAmb	05 52 14.3		
	comp=Z,17nm,0.8s							
FCAR	Ozark Folk Cen	69.54	343	P	P	05 52 05.8	-0.4	
HENM	Henderson Moun	69.70	345	P	P	05 52 07.3	+0.2	
PBMO	Poplar Bluff	69.97	344	P	P	05 52 08.6	-0.1	
PBMO				IAmb	IAmb	05 52 17.4		
	comp=Z,18nm,0.8s							
X34A	Smith Ranch, M	70.00	337	P	P	05 52 09.2	+0.2	
U40A	Yellville	70.17	342	IAmb	IAmb	05 52 18.8		
	comp=Z,16nm,0.8s							
U40A	Yellville	70.17	342	P	P	05 52 09.4	-0.6	
	baz=161,SNR=6.4							
MNTX	Cornudas Mount	70.27	330	IAmb	IAmb	05 52 11.2		
	comp=Z,14nm,0.8s							
MNTX	Cornudas Mount	70.27	330	P	P	05 52 10.3	-0.4	
	baz=150							
HHAR	Hobbs	70.39	341	IAmb	IAmb	05 52 20.2		
	comp=Z,18nm,0.8s							
WMOK	Wichita Mounta	70.44	337	P	P	05 52 11.5	-0.2	
WMOK				pmax	pmax			
	comp=Z,13nm,1.2s							
WMOK	Wichita Mounta	70.44	337	P	P	05 52 11.5	-0.2	
WMOK	Wichita Mounta	70.44	337	P	P	05 52 10.9	-0.8	
	baz=156,SNR=7.4							
FNO	Franklin	70.46	338	P	P	05 52 11.8	0.0	
FNO				IAmb	IAmb	05 52 13.4		
	comp=Z,28nm,1.2s							
WCI	Wyandotte Cave	70.53	348	P	P	05 52 11.1	-1.0	
	baz=167							
TUL1	Leonard	70.57	340	P	P	05 52 11.9	-0.6	
	baz=159,SNR=6.1							
S44A	Carbondale	70.59	346	P	P	05 52 12.0	-0.5	
S44A				IAmb	IAmb	05 52 13.2		
	comp=Z,18nm,0.8s							
SIUC	Southern Illin	70.60	346	IAmb	IAmb	05 52 13.2		
	comp=Z,17nm,0.8s							
Q52A	Bidwell	70.64	352	P	P	05 52 12.4	-0.4	
Q52A				IAmb	IAmb	05 52 13.4		
	comp=Z,31nm,1.1s							
P57A	Homestead Farm	70.73	355	P	P	05 52 13.6	+0.3	
P57A				IAmb	IAmb	05 52 15.3		
	comp=Z,19nm,1.1s							
OK025	Westminster Rd	70.74	338	P	P	05 52 13.1	-0.4	
OK031	S. Brethren Rd	70.93	339	P	P	05 52 14.1	-0.6	
OK029	Liberty Lake	70.98	338	P	P	05 52 14.5	-0.4	
WUPA	West Chester U	71.03	357	P	P	05 52 15.2	0.0	
MCWV	Mont Chateau	71.06	354	P	P	05 52 15.4	0.0	
	baz=173							
FVM	French Village	71.12	345	IAmb	IAmb	05 52 25.2		
	comp=Z,22nm,1.0s							
MVL	Millersville	71.14	356	P	P	05 52 16.5	+0.7	
MVL				IAmb	IAmb	05 52 17.7		
	comp=Z,29nm,1.4s							
MSTX	Muleshoe	71.19	333	P	P	05 52 16.7	+0.2	
	baz=152							
P52A	Corning	71.28	352	P	P	05 52 16.3	-0.4	
	baz=171							
CCM	Cathedral Cave	71.38	344	P	P	05 52 17.2	-0.1	
CCM				pmax	pmax			
	comp=Z,24nm,0.9s							
CCM	Cathedral Cave	71.38	344	P	P	05 52 17.2	-0.1	
CCM				IAmb	IAmb	05 52 26.3		
	comp=Z,24nm,0.8s							
CCM	Cathedral Cave	71.38	344	P	P	05 52 17.2	-0.1	
	baz=163							
BLO	Bloomington	71.48	348	IAmb	IAmb	05 52 25.9		
	comp=Z,16nm,1.0s							
P49A	Miami Univ. Ec	71.54	350	P	P	05 52 17.5	-0.8	
P49A				IAmb	IAmb	05 52 18.4		
	comp=Z,13nm,0.8s							
P49A	Miami Univ. Ec	71.54	350	P	P	05 52 17.8	-0.4	
	baz=169							
O56A	Blue Knob Stat	71.55	355	P	P	05 52 18.7	+0.3	
	baz=174							
S39A	Bolivar	71.55	342	IAmb	IAmb	05 52 19.5		
	comp=Z,39nm,1.4s							
P48A	Milroy	71.58	349	P	P	05 52 17.2	-1.3	
P48A				IAmb	IAmb	05 52 18.5		
	comp=Z,16nm,0.8s							
AMTX	Amarillo	71.59	335	P	P	05 52 18.9	+0.2	
AMTX	Amarillo	71.59	335	P	P	05 52 19.0	+0.2	
	baz=154							
T35A	Sooner Cattle	71.72	339	P	P	05 52 19.7	+0.2	
T35A				IAmb	IAmb	05 52 20.8		
	comp=Z,30nm,1.1s							
319A	Douglas	71.73	327	P	P	05 52 20.9	+1.1	
319A				IAmb	IAmb	05 52 22.1		
	comp=Z,16nm,1.0s							
O53A	New Philadelph	71.78	353	P	P	05 52 20.4	+0.7	
	baz=172							
BLOK	Blackwell	71.79	339	P	P	05 52 20.1	+0.3	
BLOK				IAmb	IAmb	05 52 21.1		
	comp=Z,31nm,1.1s							
R40A	Maddies Statio	71.85	343	IAmb	IAmb	05 52 29.0		
	comp=Z,24nm,0.8s							
SSPA	Standing Stone	71.86	355	P	P	05 52 19.9	-0.3	
SSPA				IAmb	IAmb	05 52 21.5		
	comp=Z,19nm,1.3s							
SSPA	Standing Stone	71.86	355	P	P	05 52 20.1	-0.1	
	baz=175							
ACSO	Alum Creek Sta	71.98	351	P	P	05 52 20.4	-0.5	
ACSO				IAmb	IAmb	05 52 21.4		
	comp=Z,21nm,0.8s							
ACSO	Alum Creek Sta	71.98	351	P	P	05 52 20.3	-0.5	
	baz=170							
N58A	Sunbury	71.99	356	IAmb	IAmb	05 52 22.6		
	comp=Z,15nm,1.1s							
N59A	State Game Lan	72.02	357	P	P	05 52 22.2	+1.0	
	baz=177							
121A	Cookes Peak, D	72.03	329	P	P	05 52 22.5	+0.9	
121A				IAmb	IAmb	05 52 24.1		
	comp=Z,36nm,1.1s							
121A	Cookes Peak, D	72.03	329	P	P	05 52 22.5	+0.9	
	baz=148							
ODNJ	Ogdensburg	72.14	358	P	P	05 52 21.2	-0.6	
ODNJ				IAmb	IAmb	05 52 32.2		
	comp=Z,55nm,1.9s							
OK032	Salt Plains WL	72.14	338	P	P	05 52 21.7	-0.3	
OK032				IAmb	IAmb	05 52 23.2		
	comp=Z,29nm,1.1s							
KAN17	Caldwell West	72.22	339	P	P	05 52 23.0	+0.5	
KAN17				IAmb	IAmb	05 52 23.8		
	comp=Z,22nm,0.9s							
M66A	Nantucket	72.30	1	P	P	05 52 23.2	+0.5	
	baz=182							
N54A	Moraine State	72.36	354	P	P	05 52 23.3	+0.1	
	baz=173							
P43A	Skaggs, Pawnee	72.52	346	P	P	05 52 23.3	-0.8	
P43A				IAmb	IAmb	05 52 24.6		
	comp=Z,22nm,0.8s							
M55A	Ridgway	72.76	355	IAmb	IAmb	05 52 26.6		
	comp=Z,18nm,0.9s							
N49A	Columbus Grove	72.82	350	P	P	05 52 25.5	-0.4	
M54A	Oil Creek Stat	72.87	354	P	P	05 52 25.8	-0.4	
	baz=173							
L63A	North Scituate	72.88	0	P	P	05 52 27.1	+0.9	
L63A	North Scituate	72.88	0	P	P	05 52 26.5	+0.3	
	baz=180							
M53A	WI Miller and	72.90	353	P	P	05 52 26.3	-0.1	
	baz=172							
BNM	Barren Site	72.91	330	P	P	05 52 28.0	+1.2	
BRYW	Bryant College	72.94	0	P	P	05 52 27.7	+1.1	
BRYW				IAmb	IAmb	05 52 28.5		
	comp=Z,21nm,1.1s							
P40A	Paris	72.97	344	P	P	05 52 26.7	-0.1	
N47A	Urbana	73.01	349	P	P	05 52 25.8	-1.2	
N47A				IAmb	IAmb	05 52 34.8		
	comp=Z,22nm,0.9s							
TUC	Tucson	73.22	326	P	P	05 52 28.9	+0.4	
TUC				pmax	pmax			
	comp=Z,22nm,1.6s							
TUC	Tucson	73.22	326	P	P	05 52 28.9	+0.4	
TUC	Tucson	73.22	326	P	P	05 52 29.3	+0.8	
	baz=146							
L59A	Walton	73.26	358	P	P	05 52 29.1	+0.5	
L59A				IAmb	IAmb	05 52 30.4		
	comp=Z,20nm,1.1s							
BINY	Binghamton	73.31	357	P	P	05 52 28.5	-0.3	
	baz=176							
L56A	Greenwood	73.33	356	P	P	05 52 29.2	+0.3	
L56A				IAmb	IAmb	05 52 30.3		
	comp=Z,28nm,1.1s							
HDIL	Hopedale	73.35	346	IAmb	IAmb	05 52 29.5		
	comp=Z,13nm,0.8s							
HDIL	Hopedale	73.35	346	P	P	05 52 29.0	0.0	
	baz=165							
L61B	Northampton	73.47	359	P	P	05 52 30.5	+0.8	
	baz=179							
ERPA	Erie	73.51	354	IAmb	IAmb	05 52 30.6		
	comp=Z,20nm,0.9s							
ERPA	Erie	73.51	354	P	P	05 52 30.1	+0.2	
	baz=173							
ANMO	Albuquerque	73.52	331	*i* P	P	05 52 30.6	+0.2	
ANMO				pmax	pmax			
	comp=Z,20nm,1.4s							
ANMO	Albuquerque	73.52	331	P	P	05 52 31.6	+1.1	
ANMO				IAmb	IAmb	05 52 32.7		
	comp=Z,24nm,1.4s							
ANMO	Albuquerque	73.52	331	P	P	05 52 31.4	+1.0	
	baz=150							
HRV	Adam Dziewonsk	73.53	0	P	P	05 52 31.4	+1.4	
	baz=180							
K62A	Royalston	73.68	360	P	P	05 52 32.3	+1.4	
	baz=180							
KSU1	Kansas State U	73.77	340	P	P	05 52 32.1	+0.6	
	baz=158							
R32A	Long Quarter,	73.78	338	IAmb	IAmb	05 52 33.1		
	comp=Z,29nm,1.0s							
L48A	N Adams	73.86	350	IAmb	IAmb	05 52 32.2		
	comp=Z,19nm,0.8s							
LIC	Lamto	73.91	72	*e*P	P	05 52 33.1	+0.1	
	comp=Z,32nm,0.9s							
214A	Organ Pipe Nat	73.91	325	IAmb	IAmb	05 52 35.1		
	comp=Z,22nm,1.1s							
214A	Organ Pipe Nat	73.91	325	P	P	05 52 33.7	+1.1	
	baz=144							
M44A	Midewin, Midew	73.91	347	IAmb	IAmb	05 52 32.5		
	comp=Z,24nm,0.9s							
MMNY	Mt. Morris Dam	73.95	355	IAmb	IAmb	05 52 33.6		
	comp=Z,21nm,1.0s							
TIC	Toumodi	74.16	72	*e*P	P	05 52 34.6	+0.2	
KIC	Kosan Boka	74.22	72	*e*P	P	05 52 35.1	+0.3	
	comp=Z,28nm,0.7s							
DBIC	Dimbokro	74.30	72	P	P	05 52 35.4	+0.1	
	comp=Z,13nm,0.8s,baz=244,slow=5.2,SNR=11							
DBIC	Dimbokro	74.30	72	P	P	05 52 35.4	+0.1	
DBIC				pmax	pmax			
	comp=Z,17nm,0.8s							
DBIC	Dimbokro	74.30	72	IAmb	IAmb	05 52 43.4		
	comp=Z,17nm,0.8s							
J61A	Chester	74.36	360	P	P	05 52 36.1	+1.2	
	baz=180							
ACCN	Adirondack Com	74.42	359	IAmb	IAmb	05 52 47.0		
	comp=Z,50nm,1.9s							
N38A	Joes South For	74.46	343	P	P	05 52 35.3	-0.2	
N38A				IAmb	IAmb	05 52 44.8		
	comp=Z,33nm,1.1s							
CBKS	Cedar Bluff	74.47	338	P	P	05 52 36.5	+0.8	
CBKS				pmax	pmax			
	comp=Z,35nm,0.9s							
CBKS	Cedar Bluff	74.47	338	P	P	05 52 36.5	+0.8	
CBKS	Cedar Bluff	74.47	338	P	P	05 52 36.8	+1.1	
	baz=156							
J55A	Hilton	74.48	356	P	P	05 52 35.2	-0.3	
J55A				IAmb	IAmb	05 52 36.5		
	comp=Z,21nm,1.2s							
FFD	Franklin Falls	74.49	0	P	P	05 52 36.8	+1.2	
J57A	Williamstown	74.52	357	IAmb	IAmb	05 52 37.0		
	comp=Z,20nm,1.1s							
T25A	Trinidad	74.61	334	P	P	05 52 37.5	+0.7	
	baz=152,SNR=23							
L44A	Lake County Fo	74.65	348	P	P	05 52 36.4	-0.2	
	baz=166							
X18A	Snowflake	74.68	328	P	P	05 52 38.1	+1.0	
X18A				IAmb	IAmb	05 52 39.6		
	comp=Z,26nm,1.5s							
I60A	Shoreham	74.87	359	P	P	05 52 38.4	+0.6	
	baz=179							
W18A	Petrified Fore	75.07	329	P	P	05 52 40.6	+1.2	
	baz=147							
I63A	Otisfield	75.08	1	P	P	05 52 40.6	+1.5	
I63A				IAmb	IAmb	05 52 41.5		
	comp=Z,27nm,1.1s							
I63A	Otisfield	75.08	1	P	P	05 52 40.5	+1.5	
	baz=181							
J47A	Sunmer	75.18	350	IAmb	IAmb	05 52 40.8		
	comp=Z,15nm,0.9s							
L40A	Anamosa	75.20	345	IAmb	IAmb	05 52 40.3		
	comp=Z,31nm,0.9s							
LBNH	Lisbon	75.26	0	P	P	05 52 40.9	+0.8	
	baz=180							
X16A	Lo Mia Camp, P	75.27	327	P	P	05 52 41.4	+0.8	
X16A				IAmb	IAmb	05 52 43.0		
	comp=Z,20nm,1.1s							
SCIA	State Center	75.51	344	P	P	05 52 41.4	-0.2	
SCIA				IAmb	IAmb	05 52 51.0		
	comp=Z,21nm,1.0s							
SDCO	Great Sand Dun	75.56	333	IAmb	IAmb	05 52 44.3		
	comp=Z,11nm,0.8s							
SDCO	Great Sand Dun	75.56	333	P	P	05 52 42.7	+0.4	
	baz=151,SNR=26							
Y14A	Wickenburg	75.61	326	P	P	05 52 43.4	+1.0	
KSCO	Kaye Shedlock'	75.62	336	P	P	05 52 43.4	+1.0	
KSCO	Kaye Shedlock'	75.62	336	P	P	05 52 43.4	+1.0	
	baz=153							
MAW	Mawson	75.67	164	P	P	05 52 43.3	+1.0	
	comp=Z,15nm,0.8s,baz=207,slow=6.2,SNR=34							
MAW	Mawson	75.67	164	P	P	05 52 43.2	+1.0	
MAW				pmax	pmax			
	comp=Z,5.0nm,0.9s							
MAW	Mawson	75.67	164	P	P	05 52 43.2	+1.0	
LONY	Lake Ozonia	75.67	358	IAmb	IAmb	05 52 43.8		
	comp=Z,24nm,1.2s							
LONY	Lake Ozonia	75.67	358	P	P	05 52 43.4	+0.9	
	baz=178							
GLA	Glamis	75.80	324	P	P	05 52 44.6	+1.1	
	baz=143							
JFWS	Jewell Farm	75.81	346	P	P	05 52 42.8	-0.5	
JFWS				pmax	pmax			
	comp=Z,65nm,1.7s							
JFWS	Jewell Farm	75.81	346	P	P	05 52 42.8	-0.5	
JFWS	Jewell Farm	75.81	346	P	P	05 52 43.1	-0.1	
	baz=164							
FRNY	Flat Rock	75.87	359	P	P	05 52 43.9	+0.4	
SADO	Sadowa	76.07	355	P	P	05 52 44.5	-0.1	
SADO				IAmb	IAmb	05 52 45.4		
	comp=Z,18nm,1.0s							
S22A	4UR Ranch, Cre	76.08	332	P	P	05 52 46.5	+1.1	
	baz=150,SNR=15							
IKP	In-Ko-Pah, Jac	76.14	323	P	P	05 52 46.1	+0.6	
	baz=142							
WUAZ	Wupatki	76.14	328	P	P	05 52 46.6	+1.0	
WUAZ				IAmb	IAmb	05 52 48.1		
	comp=Z,25nm,1.1s							
WUAZ	Wupatki	76.14	328	P	P	05 52 46.8	+1.3	
	baz=146,SNR=8.7							
MVCO	Mesa Verde	76.31	331	IAmb	IAmb	05 52 48.6		
	comp=Z,21nm,0.9s							
MVCO	Mesa Verde	76.31	331	P	P	05 52 47.4	+0.8	
	baz=148,SNR=16							
PKME	Peaks-Kenny Pk	76.32	2	P	P	05 52 47.2	+1.1	
	baz=182							
PDMC	Parker Dam,Lak	76.46	325	P	P	05 52 48.0	+0.9	
	baz=144							
MONP2	Monument Peak	76.49	323	P	P	05 52 48.8	+1.2	
	baz=142,SNR=5.1							
Q24A	Divide	76.49	334	P	P	05 52 48.6	+0.9	
	baz=151,SNR=19							
I42A	Draeger Farm,	76.49	347	P	P	05 52 46.6	-0.6	
I42A				IAmb	IAmb	05 52 47.9		
	comp=Z,18nm,0.9s							
BC3	Big Chuckawall	76.59	324	P	P	05 52 49.0	+0.9	
	baz=143,SNR=16							
I40A	Norwalk	76.83	346	IAmb	IAmb	05 52 49.6		
	comp=Z,11nm,0.8s							
IRM	Iron Mountain	76.84	324	P	P	05 52 50.4	+1.0	
	baz=143,SNR=11							
W13A	Hualapai Mount	76.98	326	P	P	05 52 50.9	+0.5	
TPFO	Pinon Flats	77.07	323	P	P	05 52 52.1	+1.3	
	baz=142,SNR=9.5							
PFO	Pinyon Flats O	77.07	323	P	P	05 52 51.9	+1.1	
	baz=142,SNR=11							
LMN	Caledonia Moun	77.14	5	P	P	05 52 51.3	+0.5	
LMN				IAmb	IAmb	05 52 53.0		
	comp=Z,15nm,0.9s							
BELC	Belle Mtn. Jos	77.14	324	P	P	05 52 52.9	+1.6	
	baz=143,SNR=6.9							
OGNE	Ogallala	77.14	337	P	P	05 52 52.6	+1.6	
	baz=154							
PV13	Radium Mtn., P	77.25	331	P	P	05 52 52.4	+0.6	
PV13				IAmb	IAmb	05 52 53.8		
	comp=Z,19nm,0.9s							
PV02	Paradox Valley	77.25	331	P	P	05 52 52.1	+0.3	
PV02				IAmb	IAmb	05 52 53.9		
	comp=Z,18nm,0.9s							
PV15	Paradox Valley	77.26	331	P	P	05 52 52.7	+0.8	
PV03	Paradox Valley	77.34	331	P	P	05 52 52.9	+0.6	
PV18	Skein Mesa, Pa	77.36	331	P	P	05 52 52.9	+0.4	
PV18				IAmb	IAmb	05 52 54.2		
	comp=Z,16nm,0.8s							
PV12	Saucer Basin,	77.38	331	P	P	05 52 53.2	+0.7	
PV12				IAmb	IAmb	05 52 54.5		
	comp=Z,21nm,0.9s							
SMCO	Snowmass	77.38	333	P	P	05 52 53.6	+0.9	
SMCO				IAmb	IAmb	05 52 55.2		
	comp=Z,12nm,0.8s							
ISCO	Idaho Springs	77.40	334	IAmb	IAmb	05 52 54.7		
	comp=Z,15nm,0.9s							
ISCO	Idaho Springs	77.40	334	P	P	05 52 53.5	+0.8	
	baz=151,SNR=16							
PV17	East Wray Mesa	77.41	331	P	P	05 52 53.0	+0.3	
PV17				IAmb	IAmb	05 52 54.5		
	comp=Z,13nm,0.8s							
PV16	Nyswonger Mesa	77.42	331	P	P	05 52 53.2	+0.4	
PV16				IAmb	IAmb	05 52 54.6		
	comp=Z,59nm,1.9s							
MURC	Murrieta	77.44	323	P	P	05 52 54.4	+1.6	
	baz=142,SNR=8.5							
PV04	Paradox Valley	77.48	331	P	P	05 52 53.5	+0.5	
PV10	Paradox Valley	77.52	331	P	P	05 52 53.5	+0.1	
PV10				IAmb	IAmb	05 52 54.8		
	comp=Z,21nm,0.8s							
K31A	O'Neill	77.64	340	P	P	05 52 53.9	+0.2	
PV21	Cone Mtn., Par	77.65	331	P	P	05 52 54.8	+0.7	
PV21				IAmb	IAmb	05 52 56.1		
	comp=Z,30nm,1.6s							
HEC	Hector,Ludlow	77.97	324	P	P	05 52 57.7	+1.9	
	baz=142							
KNB	Kanab	78.04	328	P	P	05 52 56.4	+0.2	
KNB				pmax	pmax			
	comp=Z,67nm,1.6s							
KNB	Kanab	78.04	328	P	P	05 52 56.4	+0.2	
ECSD	EROS Data Cent	78.08	342	IAmb	IAmb	05 52 57.1		
	comp=Z,25nm,0.9s							
ECSD	EROS Data Cent	78.08	342	P	P	05 52 56.2	+0.1	
	baz=159							
D62A	Allapoint, All	78.14	2	IAmb	IAmb	05 52 58.1		
	comp=Z,24nm,0.9s							
BFSC	Mount Baldy Ra	78.18	323	P	P	05 52 58.3	+1.3	
	baz=141,SNR=8.4							
E46A	Sault Ste Mari	78.18	351	IAmb	IAmb	05 53 04.9		
	comp=Z,34nm,1.1s							
LCMT	Little Creek M	78.23	327	P	P	05 52 58.4	+1.2	
TUQ	Turquoise Moun	78.24	325	P	P	05 52 58.6	+1.3	
	baz=143,SNR=11							
MWC	Mount Wilson	78.38	322	P	P	05 52 59.3	+1.1	
MWC				pmax	pmax			
	comp=Z,16nm,1.1s							
MWC	Mount Wilson	78.38	322	P	P	05 52 59.3	+1.1	
MWC				IAmb	IAmb	05 52 59.9		
	comp=Z,16nm,1.1s							
N23A	Red Feather La	78.47	334	P	P	05 52 59.7	+1.1	
	baz=151,SNR=10.0							
SPMN	Marine on St.	78.56	345	P	P	05 52 57.7	-0.9	
SPMN	Marine on St.	78.56	345	P	P	05 52 58.0	-0.6	
	baz=162							
GSC	Goldstone, Bar	78.58	324	P	P	05 53 00.2	+1.1	
	baz=142,SNR=5.9							
MTPU	Mount Pierson	78.59	329	P	P	05 53 00.3	+0.8	
SZCU	Shurtz Canyon	78.64	328	P	P	05 53 00.7	+1.1	
PHWY	Pilot Hill	78.65	335	IAmb	IAmb	05 53 01.4		
	comp=Z,16nm,0.8s							
O20A	White River Ci	78.70	332	IAmb	IAmb	05 53 01.8		
	comp=Z,19nm,0.9s							
O20A	White River Ci	78.70	332	P	P	05 53 00.9	+1.1	
	baz=149,SNR=15							
CCUT	Cedar City	78.72	328	IAmb	IAmb	05 53 02.9		
	comp=Z,17nm,1.0s							
SHPR	Sheep Range	78.72	326	IAmb	IAmb	05 53 02.5		
	comp=Z,17nm,1.1s							
SRU	San Rafael Swe	78.76	330	IAmb	IAmb	05 53 01.9		
	comp=Z,14nm,0.9s							
SHOC	Shoshone, Teco	78.78	325	P	P	05 53 01.6	+1.5	
	baz=143							
EDW2	Edwards Air Fo	78.86	323	P	P	05 53 01.5	+0.9	
	baz=141,SNR=7.3							
Q16A	Castle Valley	78.88	330	IAmb	IAmb	05 53 03.0		
	comp=Z,16nm,1.0s							
MVU	Marysvale	78.99	329	P	P	05 53 02.2	+0.7	
OSI	Osito Audit: C	79.03	322	P	P	05 53 02.7	+1.1	
	baz=141							
QSM	Queen of Sheba	79.13	324	P	P	05 53 02.7	+0.7	
P17A	Butcher Ranch,	79.16	330	P	P	05 53 02.7	+0.4	
P17A				IAmb	IAmb	05 53 04.2		
	comp=Z,27nm,1.2s							
LRMC	Laurel Mtn Rad	79.16	324	P	P	05 53 03.6	+1.3	
	baz=142							
GWY	Greenwater Val	79.21	325	P	P	05 53 03.0	+0.3	
F36A	Milaca	79.33	345	P	P	05 53 01.9	-0.9	
MPMC	Manual Prospec	79.52	324	P	P	05 53 05.4	+1.0	
	baz=142,SNR=7.9							
FURC	Furnace Creek,	79.52	325	P	P	05 53 05.3	+1.2	
	baz=142,SNR=7.1							
TPNV	Topopah Spring	79.60	325	P	P	05 53 05.7	+0.9	
	baz=143,SNR=16							
RWWY	Rawlins	79.64	334	P	P	05 53 04.9	-0.1	
RWWY				IAmb	IAmb	05 53 06.8		
	comp=Z,27nm,1.0s							
ISA	Isabella, Lake	79.71	323	P	P	05 53 06.0	+0.7	
ISA				pmax	pmax			
	comp=Z,21nm,1.0s							
ISA	Isabella, Lake	79.71	323	P	P	05 53 06.0	+0.7	
ISA				IAmb	IAmb	05 53 07.8		
	comp=Z,20nm,0.9s							
ISA	Isabella, Lake	79.71	323	P	P	05 53 07.0	+1.7	
	baz=141,SNR=14							
PKM	Mcpherson Peak	79.81	322	P	P	05 53 07.3	+1.2	
	baz=140,SNR=8.6							
CWC	Cottonwood Cre	80.11	324	P	P	05 53 08.8	+1.2	
	baz=141							
NLU	North Lily Min	80.13	330	P	P	05 53 08.2	+0.6	
NLU				IAmb	IAmb	05 53 09.8		
	comp=Z,29nm,1.6s							
VES	Vestal, Richgr	80.16	323	P	P	05 53 09.2	+1.5	
	baz=141							
GRAC	Grapevine Rang	80.19	325	P	P	05 53 09.2	+1.4	
	baz=142							
K22A	Casper	80.22	335	P	P	05 53 08.6	+0.6	
K22A				IAmb	IAmb	05 53 09.9		
	comp=Z,28nm,1.1s							
K22A	Casper	80.22	335	P	P	05 53 09.2	+1.2	
	baz=151							
SMMC	Simmler	80.23	322	P	P	05 53 09.4	+1.3	
	baz=140,SNR=6.5							
SPR3

HWUT **Hardware Ranch** **81.29 331** P **P** **05 53 13.6 -0.1**
HWUT IAmb IAmb 05 53 15.2
comp=Z,19nm,0.9s
MLAC **Mammoth, Mammo** **81.42 324** P **P** **05 53 15.6 +1.0**
baz=141,SNR=9.0
BW06 **Boulder Array** **81.46 333** P **P** **05 53 15.0 +0.3**
baz=148
PD31 **Pinedale Array** **81.46 333** P **P** **05 53 14.8 +0.1**
PDAR **Pinedale Array** **81.46 333** P **P** **05 53 14.3 -0.4**
comp=Z,4.1nm,1.1s,baz=145,slow=5.4,SNR=18
MDPB **Devils Postpil** **81.54 324** P **P** **05 53 16.1 +0.8**
NV11 **Mina Array Sit** **81.70 325** P **P** **05 53 16.5 +0.5**
LHV **Little Huntoon** **81.73 325** P **P** **05 53 17.5 +1.6**
LHV IAmb IAmb 05 53 18.6
comp=Z,17nm,0.9s
B35A **Bob, Littlefor** **81.74 346** IAmb IAmb 05 53 16.1
comp=Z,14nm,0.8s
NVAR **Mina Array Bea** **81.77 325** P **P** **05 53 17.4 +0.9**
comp=Z,6.1nm,0.8s,baz=157,slow=6.6,SNR=49
E28A **Huff** **81.82 340** IAmb IAmb 05 53 17.7
comp=Z,32nm,1.3s
AGMN **Agassiz Nation** **82.16 344** P **P** **05 53 17.2 -0.7**
AGMN **Agassiz Nation** **82.16 344** P **P** **05 53 17.9 0.0**
baz=160
KVN **Kaiserville** **82.16 325** IAmb IAmb 05 53 20.1
comp=Z,13nm,1.0s
REDW **Red Top Meadow** **82.47 332** P **P** **05 53 20.0 0.0**
CMB **Columbia Colle** **82.51 323** P **P** **05 53 20.6 +0.5**
CMB pmax pmax
comp=Z,6.0nm,1.1s
CMB **Columbia Colle** **82.51 323** P **P** **05 53 20.6 +0.5**
SNOW **Snow King Moun** **82.51 333** P **P** **05 53 20.2 -0.1**
CASY **Casey** **82.64 181** P **P** **05 53 21.7 +1.3**
MDND **Maddock** **82.68 342** P **P** **05 53 21.1 +0.4**
baz=156
TORD **Torodi Ar. Bea** **83.27 70** P **P** **05 53 24.5 0.0**
comp=Z,14nm,0.7s,baz=260,slow=4.7,SNR=57
TORD **Torodi Ar. Bea** **83.27 70** P **P** **05 53 24.6 0.0**
TORD IAmb IAmb 05 53 25.5
comp=Z,15nm,0.8s
PAHR **Pah Rah Range** **83.29 325** P **P** **05 53 25.8 +1.5**
PAHR IAmb IAmb 05 53 26.6
comp=Z,20nm,1.0s
RLMT **Red Lodge** **83.35 334** P **P** **05 53 24.8 +0.3**
baz=149
LBTB **Lobatse** **83.36 115** P **P** **05 53 25.5 +0.4**
LBTB pmax pmax
comp=Z,41nm,1.8s
LBTB **Lobatse** **83.36 115** P **P** **05 53 25.5 +0.4**
LBTB IAmb IAmb 05 53 28.9
comp=Z,41nm,1.8s
YNE **Yellowstone No** **83.53 334** P **P** **05 53 25.3 -0.1**
YMR **Madison River** **83.61 333** P **P** **05 53 26.4 +0.6**
YMR IAmb IAmb 05 53 28.6
comp=Z,14nm,1.1s
YHH **Holmes Hill** **83.67 333** P **P** **05 53 27.0 +0.7**
YHH IAmb IAmb 05 53 28.8
comp=Z,12nm,1.1s
BEKR **Beckworth** **83.89 325** P **P** **05 53 27.8 +0.4**
BEKR IAmb IAmb 05 53 29.3
comp=Z,11nm,0.9s
ULM **Lac du Bonnet** **83.99 345** P **P** **05 53 26.4 -1.0**
comp=Z,9.3nm,0.8s,baz=169,slow=6.0,SNR=6.0
HLID **Hailey** **84.09 330** P **P** **05 53 28.9 +0.7**
baz=145
ORV **Oroville** **84.23 324** IAmb IAmb 05 53 31.1
comp=Z,23nm,1.1s
DGMT **Dagmar** **84.56 339** P **P** **05 53 30.9 +0.5**
baz=153
BOZ **Bozeman (W)** **84.64 333** P **P** **05 53 31.0 0.0**
baz=147
O03E **Paynes Creek** **84.94 324** P **P** **05 53 32.3 -0.2**
baz=139
O02D **Mt. Diablo Mer** **85.35 323** P **P** **05 53 34.9 +0.3**
baz=138
J08A **Circle Bar Ran** **85.70 328** P **P** **05 53 37.0 +0.7**
J08A IAmb IAmb 05 53 38.3
comp=Z,21nm,0.8s
N02D **Trinity Center** **85.90 324** P **P** **05 53 37.2 -0.1**
baz=138
SCHQ **Schefferville** **85.97 3** P **P** **05 53 36.8 -0.5**
comp=Z,8.5nm,1.0s,baz=195,slow=2.2,SNR=4.3
PLID **Pearl Lake** **85.99 330** IAmb IAmb 05 53 39.4
comp=Z,44nm,1.8s
EGMT **Eagleton** **86.00 336** P **P** **05 53 37.3 -0.4**
baz=148
M04C **Macdoel** **86.08 325** P **P** **05 53 39.1 +0.9**
baz=139
M02C **Callahan** **86.29 324** P **P** **05 53 39.7 +0.4**
baz=138
K05A **Summer Lake** **86.34 326** P **P** **05 53 40.4 +0.8**
K05A IAmb IAmb 05 53 41.8
comp=Z,19nm,0.9s
JCC **Jacoby Creek,** **86.46 323** P **P** **05 53 40.8 +0.8**
YBH **Yreka Blue Hor** **86.47 325** P **P** **05 53 39.5 -0.7**
YBH pmax pmax
comp=Z,7.0nm,0.9s
YBH **Yreka Blue Hor** **86.47 325** P **P** **05 53 39.5 -0.7**
L04D **Klamath Falls** **86.64 325** P **P** **05 53 41.4 +0.4**
baz=139
K04D **Chiloquin, OR** **86.67 326** P **P** **05 53 41.7 +0.5**
baz=139
I07A **Izee** **86.73 328** P **P** **05 53 42.0 +0.6**
J05D **Fort Rock, OR** **86.93 326** P **P** **05 53 43.0 +0.6**
baz=140
PINE **Pine Mountain** **87.17 327** P **P** **05 53 43.8 +0.2**
PINE IAmb IAmb 05 53 45.8
comp=Z,20nm,0.9s
L02E **Cave Junction** **87.23 324** P **P** **05 53 45.1 +1.3**
baz=138
J04D **Umpqua Nationa** **87.31 326** P **P** **05 53 45.4 +1.1**
baz=139
G08A **Pilot Rock** **87.43 329** P **P** **05 53 44.9 +0.2**
JTMT **Jette** **87.45 333** P **P** **05 53 45.0 +0.2**
K02D **Willamette Mer** **87.66 325** P **P** **05 53 47.3 +1.4**
baz=138
I05D **Terrebonne, OR** **87.78 327** P **P** **05 53 47.9 +1.5**
baz=140
I03D **Drain, OR** **88.25 325** P **P** **05 53 49.7 +1.1**
baz=138
WALA **Waterton Lakes** **88.38 334** IAmb IAmb 05 53 50.4
comp=Z,10nm,1.0s
E08A **Dider Farm, El** **88.41 330** P **P** **05 53 49.5 +0.2**
H04A **Detroit Lake** **88.43 327** P **P** **05 53 49.7 +0.3**
H04A IAmb IAmb 05 53 50.6
comp=Z,14nm,1.0s
HAWA **Hanford** **88.54 329** IAmb IAmb 05 53 51.5
comp=Z,12nm,1.1s
E07A **Sunnyside** **88.81 329** P **P** **05 53 51.8 +0.6**
E07A IAmb IAmb 05 53 52.2
comp=Z,11nm,1.2s
NEW **Newport** **89.00 332** P **P** **05 53 52.1 +0.1**
NEW pmax pmax
comp=Z,3.0nm,0.9s
NEW **Newport** **89.00 332** P **P** **05 53 52.1 +0.1**
C09A **Chrisman Ranch** **89.10 331** IAmb IAmb 05 53 53.6
comp=Z,8.1nm,0.8s
D05A **Enumclaw** **90.23 328** P **P** **05 53 58.4 +0.7**
D05A IAmb IAmb 05 54 04.1
comp=Z,16nm,1.1s
EDM **Edmonton** **91.61 337** P **P** **05 54 03.3 -0.8**
EDM pmax pmax
comp=Z,14nm,1.3s
EDM **Edmonton** **91.61 337** P **P** **05 54 03.3 -0.8**
EDM IAmb IAmb 05 54 20.4
comp=Z,14nm,1.3s
GERES **GERESS Array B** **110.27 45** PKiKP **PKiKP** **05 59 27.6 -1.7**
comp=Z,0.3nm,0.3s,baz=132,slow=1.5,SNR=4.7
TOLK **Toolik Lake Re** **114.51 337** P **PKiKP** **05 59 39.4 +2.7**
baz=113
KLNR **Kaliningrad** **116.13 40** *i* PKIKP **PKiKP** **05 59 41.0 +1.0**
KLNR pmax pmax
comp=Z,23nm,0.8s
ASAR **Alice Springs** **119.92 207** PKP **PKPdf** **05 59 47.2 -1.3**
comp=Z,0.3nm,0.7s,baz=129,slow=2.5,SNR=1.9
AKASG **Malin Array Be** **120.37 46** PKP **PKPdf** **05 59 46.5 -1.8**
comp=Z,2.1nm,0.6s,baz=270,slow=2.6,SNR=9.2
AKASG **Malin Array Be** **120.37 46** **PKPdf** **05 59 47.3 -1.1**
AKBB **Malin Array Si** **120.37 46** PKIKP **PKPdf** **05 59 47.5 -0.9**
AKBB **Malin Array Si** **120.37 46** PKPdf **PKPdf** **05 59 47.5 -0.9**
MNK **Minsk** **120.42 42** *i* PKIKP **PKPdf** **05 59 47.9 -0.4**
MNK *i* 06 01 16.0
MNK *i* PPP PPP 06 03 47.7
MNK *i* 06 06 51.4
MNK *i* SS SS 06 17 38.0 -5.7
MNK pmax pmax
comp=N,24nm,0.9s
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=Z,17nm,0.7s
MNK MLR MLR
comp=E,215nm,21.0s
MNK MLR MLR
comp=Z,1μm,19.0s
MNK MLR MLR
comp=N,705nm,19.0s
MNK **Minsk** **120.42 42** *i* PKP **PKPdf** **05 59 47.9 -0.4**
comp=E,4.0nm,0.8s
MNK *i* PKP **PKPdf** **05 59 47.9 -0.4**
comp=N,24nm,0.9s
MNK *i* PKP **PKPdf** **05 59 47.9 -0.4**
comp=Z,17nm,0.7s,baz=79
MNK *i* PP **PP** **06 01 16.0 +0.6**
MNK *i* PPP PPP 06 03 47.8
MNK *i* SKS **SKSdf** **06 06 51.5 -8.2**
MNK *i* PS **PS** **06 11 17.0 +11**
MNK *i* SS **SKKSdf** **06 17 38.0 -3.4**
MNK *i* SSS SSS 06 21 59.3
MNK *i* LR LR 06 48 09.7
MNK *i* LRM MLR 06 50 19.9
comp=E,215nm,21.0s
MNK *i* LRM MLR 06 50 27.9
comp=Z,1μm,18.8s
MNK *i* LRM MLR 06 50 33.0
comp=N,705nm,18.8s
WRA **Warramunga Arr** **123.06 210** PKP **PKPdf** **05 59 54.0 -0.7**
comp=N,1.2nm,0.8s,baz=132,slow=1.4,SNR=8.7
OBN **Obninsk** **125.48 42** ⇓ *i* PKIKP **PKiKP** **05 59 58.0 -0.4**
OBN 06 07 05.0
OBN pmax pmax
comp=Z,8.0nm,0.4s
KLMR **Klimovskoe** **127.25 35** *e*PKIKP **PKPdf** **06 00 00.0 -1.2**
KLMR pmax pmax
comp=Z,27nm,1.5s
KLMR **Klimovskoe** **127.25 35** *e*PKPdf **PKPdf** **06 00 00.1 -1.2**
KLMR AMP 06 00 11.2
comp=Z,27nm,1.5s
KIV **Kislovodsk** **128.03 56** *e*PKIKP **PKPdf** **06 00 03.1 -0.3**
KIV pmax pmax
comp=Z,12nm,1.0s
PRGR **Permogore** **130.13 34** *e*PKIKP **PKPdf** **06 00 05.3 -1.4**
PRGR pmax pmax
comp=Z,23nm,1.3s
BILL **Bilibino** **130.50 335** ⇑ *e*PKIKP **PKPdf** **06 00 07.2 -0.1**
BILL pmax pmax
comp=Z,5.0nm,1.2s
ARU **Arti** **137.70 39** *i* PKIKP **PKPdf** **06 00 21.5 +0.4**
ARU 06 03 03.6
ARU **Arti** **137.70 39** **PKPdf** **06 00 21.6 +0.5**
SEY **Seymchan** **137.78 332** PKP **PKPdf** **06 00 21.8 +0.8**
comp=Z,1.6nm,0.4s,baz=68,slow=3.8,SNR=8.6
PETK **Petropavlovsk-** **138.34 316** PKP **PKPdf** **06 00 21.4 -1.0**
comp=Z,2.6nm,0.6s,baz=66,slow=8.6,SNR=4.5
ABKAR **Akbulak array** **139.98 49** **PKPdf** **06 00 26.1 +0.6**
BRVK **Borovoye** **145.22 40** PKIKP **PKPdf** **06 00 35.1 +0.4**
BRVK **Borovoye** **145.22 40** PKPdf **PKPdf** **06 00 35.1 +0.4**
BVAR **Borovoye Array** **145.29 40** PKPbc **PKPdf** **06 00 35.3 +0.5**
comp=Z,9.6nm,0.7s,baz=233,slow=6.9,SNR=30
YAK **Yakutsk** **146.28 342** PKPbc **PKPbc** **06 00 36.8 -0.5**
comp=Z,10.0nm,0.4s,baz=206,slow=0.9,SNR=5.4
YAK **Yakutsk** **146.28 342** *e*PKP2 **PKPbc** **06 00 36.6 -0.7**
YAK pmax pmax
comp=Z,25nm,0.8s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.3s
CHGR **Chuyangaron** **147.53 66** PKPdf **PKPdf** **06 00 39.5 +0.3**
KK31 **Karatay Array** **148.18 58** PKIKP **PKPdf** **06 00 40.0 0.0**
KK31 06 00 43.5
KK31 **Karatay Array** **148.18 58** PKPdf **PKPdf** **06 00 40.0 0.0**
KK31 **PKPbc** **06 00 43.5 +0.2**
KKAR **Karatay Array** **148.18 58** PKP2 **PKPbc** **06 00 43.7 +0.4**
KKAR **Karatay Array** **148.18 58** PKPbc **PKPbc** **06 00 43.7 +0.4**
GAR **Garm** **148.43 66** **PKPdf** **06 00 41.3 +0.6**
YSS **Yuzh-Sakhalins** **149.21 310** *e*PKP2 **PKPbc** **06 00 45.1 -0.6**
HYB **Hyderabad** **149.89 111** *i* PKP **PKPbc** **06 00 48.0 -0.4**
ASAJ **Asahikawa** **150.08 305** PKPbc **PKPbc** **06 00 47.5 -0.4**
comp=E,14nm,0.8s,baz=257,slow=8.5,SNR=6.3
EKS2 **Erkin-Say** **150.62 58** P **PKiKP** **06 00 50.4 +0.2**
SNR=12
AML **Almayashu** **150.65 59** P **PKiKP** **06 00 50.9 +0.3**
SNR=5.5
NIL **Nilore** **150.67 76** PKIKP **PKPdf** **06 00 44.5 +0.2**
NIL **Nilore** **150.67 76** PKPdf **PKPdf** **06 00 44.5 +0.2**
NIL **sPKPdf** **06 00 50.0 +0.2**
DAV **Davao City (W)** **150.77 218** **PKPdf** **06 00 42.1 -2.9**
KURBB **Kurchatov Arra** **150.88 40** PKP **PKPdf** **06 00 44.5 +0.4**
comp=E,3.0nm,1.1s,baz=301,slow=3.0,SNR=29
KURBB PKPbc **PKiKP** **06 00 49.9 -0.4**
comp=E,12nm,0.8s,baz=304,slow=2.9,SNR=38
USP **Ospenovka** **151.01 56** P **PKiKP** **06 00 51.3 +0.4**
SNR=12
AAK **Ala-Archa** **151.14 58** PKP **PKPdf** **06 00 46.0 +1.0**
comp=E,3.0nm,0.9s,baz=157,slow=6.7,SNR=5.2
AAK PKPbc **PKiKP** **06 00 52.0 +0.7**
comp=E,16nm,0.8s,baz=218,slow=2.2,SNR=28
AAK **Ala-Archa** **151.14 58** P **PKiKP** **06 00 52.1 +0.7**
SNR=11
UCH **Uchtor** **151.24 58** P **PKiKP** **06 00 52.5 +0.6**
SNR=13
TKM2 **Tokmak 2** **151.87 57** P **PKiKP** **06 00 52.8 -0.1**
SNR=6.7
ZAA0 **Zalesovo Array** **151.96 30** PKPdf **PKPdf** **06 00 45.6 +0.1**
ZAA0 PKPbc **PKiKP** **06 00 52.3 -0.1**
ZALV **Zalesovo Beam** **151.96 30** PKP **PKPdf** **06 00 45.5 0.0**
comp=E,5.3nm,0.9s,baz=278,slow=2.6,SNR=8.5
ZALV PKPbc **PKiKP** **06 00 52.1 -0.3**
comp=E,24nm,0.7s,baz=296,slow=3.4,SNR=40
BOOM **Boomskoye usch** **152.21 57** PKIKP **PKPdf** **06 00 46.5 -0.1**
BOOM 06 00 53.8
BOOM **Boomskoye usch** **152.21 57** PKPdf **PKPdf** **06 00 46.5 -0.1**
BOOM **PKiKP** **06 00 53.8 +0.2**
ULHL **Ulahol** **152.49 58** P **PKiKP** **06 00 55.1 +0.9**
SNR=7.8
KSH **Kashi** **152.76 64** PKPbc **PKPdf** **06 00 48.3 +0.9**
KSH LR LR
comp=E,590nm,22.3s
MJAR **Matsushiro Arr** **154.50 290** PKP **PKPdf** **06 00 49.2 -0.6**
comp=E,0.6nm,0.4s,baz=90,slow=3.8,SNR=4.6
MJAR PKPbc **PKPbc** **06 00 57.1 -1.2**
comp=E,3.0nm,1.0s,baz=82,slow=3.7,SNR=4.4
MJAR PKPab **PKPab** **06 01 13.2 +0.4**
comp=E,3.8nm,1.0s,baz=119,slow=1.4,SNR=4.8
KLR **Kul'dur** **154.77 322** PKP **PKPdf** **06 00 49.0 -0.7**
comp=E,2.4nm,0.9s,baz=36,slow=2.2,SNR=6.6
KLR PKPbc **PKPbc** **06 00 57.9 -0.5**
comp=E,3.0nm,0.9s,baz=89,slow=4.7,SNR=6.2
MK31 **Makanchi Array** **154.94 45** PKIKP **PKPdf** **06 00 49.9 -0.2**
MK31 06 00 59.2
MK31 **Makanchi Array** **154.94 45** PKPdf **PKPdf** **06 00 49.9 -0.2**
MK31 PKPbc **PKiKP** **06 00 59.2 +0.3**
MKAR **Makanchi Array** **154.94 45** PKP **PKPdf** **06 00 49.6 -0.5**
comp=E,2.0nm,0.8s,baz=327,slow=1.0,SNR=9.7
MKAR PKPbc **PKiKP** **06 00 58.9 0.0**
comp=E,5.0nm,0.8s,baz=318,slow=2.3,SNR=20
MKAR **Makanchi Array** **154.94 45** PKIKP **PKPdf** **06 00 49.1 -1.1**
MKAR 06 00 59.4
MKAR **Makanchi Array** **154.94 45** PKPdf **PKPdf** **06 00 49.0 -1.1**
MKAR **PKiKP** **06 00 59.4 +0.6**
WMQ **Urumqi** **159.72 47** *e*PKP **PKPdf** **06 00 57.0 +0.7**
WMQ LR LR
comp=E,550nm,28.3s
KSRS **Korea Array** **162.51 296** PKPab **PKPab** **06 01 48.9 +1.5**
comp=E,2.2nm,0.8s,baz=91,slow=5.4,SNR=6.8
SONM **Songino Array** **163.52 4** PKP **PKPdf** **06 01 00.0 -0.2**
comp=E,0.7nm,0.7s,baz=224,slow=2.6,SNR=4.9
SONM PKPab **PKPab** **06 01 52.4 +0.9**
comp=E,1.4nm,0.8s,baz=318,slow=3.2,SNR=5.0
SONM **Songino Array** **163.52 4** PKIKP **PKPdf** **06 01 00.0 -0.2**
SONM 06 01 51.7
SONM **Songino Array** **163.52 4** PKPdf **PKPdf** **06 01 00.0 -0.2**
SONM **PKPab** **06 01 51.7 +0.2**
ULN **Ulaanbaatar** **163.52 2** PKIKP **PKPdf** **06 01 00.3 +0.1**
ULN **Ulaanbaatar** **163.52 2** PKPdf **PKPdf** **06 01 00.3 +0.1**
ULN **PKPab** **06 01 52.4 +0.9**
CMAR **Chiang Mai Arr** **164.73 145** PKP **PKPdf** **06 01 02.3 +0.3**
comp=E,1.0nm,0.3s,baz=264,slow=0.9,SNR=4.2
CMAR PKPab **pPKPab** **06 01 59.5 -1.9**
comp=E,1.0nm,0.3s,baz=216,slow=4.5,SNR=1.2
CMAR **Chiang Mai Arr** **164.73 145** PKIKP **PKPdf** **06 01 00.8 -1.2**
CMAR **Chiang Mai Arr** **164.73 145** PKPdf **PKPdf** **06 01 00.8 -1.2**
HHC **Hu-ho-hao-te** **170.13 344** *e*PKP **PKPdf** **06 01 01.6 -3.8**
HHC LR LR
comp=E,350nm,18.8s
HHC LR LR
comp=E,710nm,22.4s
NJ2 **Nanjing** **170.75 277** *e*PKP **PKPdf** **06 01 08.0 +2.2**
XAN **Xi'an** **177.24 344** PKP **PKPdf** **06 01 08.1 0.0**
XAN sPKP 06 01 16.6

MEX 17 05:41:56.8±0.6, **16°.50N**×**98°.66W**, **h16**km±8km, **MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.52**	**101**	*i* P	Pg	05 42 05.6	-1.6
PNIG				*i* P	Pb	05 42 05.7	-1.9
	baz=281,slow=16						
PNIG				*i* S	Sg	05 42 12.0	-2.2
MGIG	**Malinaltepec**	**0.73**	**2**	*i* P	Pg	05 42 08.7	-2.5
MGIG				*i* S	Sg	05 42 17.6	-3.4
TXIG	**Tlaxiaco**	**1.14**	**48**	*e*P	Pb	05 42 15.4	-2.9
TXIG				*i* S	Sb	05 42 28.5	-4.4
FTIG	**Fresnillo de T**	**1.49**	**20**	*e*P	Pn	05 42 21.3	-1.7
FTIG				*i* S	Sn	05 42 38.6	-3.7
PEIG	**Puerto Escondi**	**1.54**	**109**	*e*P	Pn	05 42 22.0	-1.6
PEIG				*i* S	Sn	05 42 41.9	-1.3
HLIG	**Huajuapan de L**	**1.56**	**32**	*e*P	Pn	05 42 22.0	-2.1
HLIG				*e*S	Sn	05 42 41.9	-2.2
VHO	**Vista Hermosa**	**1.93**	**72**	*e*P	Pn	05 42 26.7	-2.5
VHO				*i* S	Sn	05 42 48.5	-4.7

DJA **17** *05:43:35.5*±*0.4, 10°.S*±*4°*×*10°.7E*±*°, h10km, M4.4/12, mb4.5/2, MLv4.4/12*
IDC **17** *05:43:45.7*±*1.1, 7°.70S*×*109°.92E, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.7/44, mbtmp3.8/7, ML3.9/2, Error ellipse: s-maj=42.9km s-min=14.0km az=31.0*
ISC 17 05:43:38.9±1.4, **9°.9S**±0°.1×**107°.4E**±0°.1, **h23**km, **n21,** σ1§**48**/**22**, **mb3.6/5, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMJI	**Cimerak**	**2.31**	**26**	P	**Pn**	**05 44 15.1**	**-0.5**
CISI	**Cisompet, Garu**	**2.34**	**9**	P	**Pn**	**05 44 15.9**	**-0.1**
CNJI	**Cibinong**	**2.57**	**353**	P	**Pn**	**05 44 18.7**	**-0.4**
CNJI				S	**Sn**	**05 44 50.2**	**+0.5**
KPJI	**Karang Pucung**	**2.93**	**31**	P	**Pn**	**05 44 25.4**	**+1.3**
SKJI	**Sukabumi**	**2.98**	**343**	P	**Pn**	**05 44 25.4**	**+0.6**
LEM	**Lembang**	**3.04**	**4**	Pn	**Pn**	**05 44 26.8**	**+1.1**
	25nm,0.3s,baz=32,slow=14,SNR=27						
LEM				Lg	Lg	05 45 03.4	
	32nm,0.3s,baz=166,slow=20,SNR=8.8						
LEM	**Lembang**	**3.04**	**4**	P	**Pn**	**05 44 26.5**	**+0.8**
CTJI	**Waduk Cacaban**	**3.34**	**31**	P	**Pn**	**05 44 30.9**	**+1.2**
UGM	**Wanagama**	**3.63**	**58**	P	**Pn**	**05 44 33.4**	**-0.3**
PCJI	**Pacitan**	**4.06**	**66**	P	**Pn**	**05 44 40.5**	**+0.8**
SMRI	**Semarang**	**4.10**	**47**	P	**Pn**	**05 44 41.3**	**+1.1**
PWJI	**Pagerwojo**	**4.70**	**67**	P	**Pn**	**05 44 48.9**	**+0.5**
SJI	**Sawahan**	**4.79**	**64**	P	**Pn**	**05 44 49.9**	**+0.2**
GMJI	**Gumukmas**	**6.15**	**75**	P	**Pn**	**05 45 09.2**	**+0.8**
	0.2nm27nm,0.7s						
TWSI	**Taliwang, Sumb**	**9.40**	**84**	P	**Pn**	**05 45 52.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**19.46**	**117**	P	**Pn**	**05 48 04.3**	**-1.1**
	0.3nm,0.3s,baz=290,slow=7.5,SNR=10						
FITZ				S	S	05 51 20.8	-22
	0.0nm,0.3s,baz=64,slow=21,SNR=1.2						
WRA	**Warramunga Arr**	**27.82**	**114**	P	**P**	**05 49 26.8**	**0.0**
	0.6nm,0.6s,baz=295,slow=12,SNR=8.4						
ASAR	**Alice Springs**	**28.75**	**122**	P	**P**	**05 49 36.7**	**+1.7**
	0.8nm,0.8s,baz=300,slow=9.6,SNR=7.4						
SONM	**Songino Array**	**57.46**	**359**	P	**P**	**05 53 21.6**	**-4.5**
	0.2nm,0.3s,baz=163,slow=7.1,SNR=2.3						
MKAR	**Makanchi Array**	**60.72**	**340**	P	**P**	**05 53 50.2**	**+1.6**
	1.0nm,0.5s,baz=152,slow=8.1,SNR=5.9						
ZALV	**Zalesovo Beam**	**66.41**	**346**	P	**P**	**05 54 28.4**	**+2.4**
	0.8nm,0.6s,baz=159,slow=8.4,SNR=1.4						

SJA **17** *05:44:36.6*±*1.0, 31°.92S*×*72°.70W, h10km, ML5.3, MWW5.0*
IDC **17** *05:44:38.3*±*0.3, 31°.78S*×*72°.02W, h0km, mb5.1/26, mb1 5.1/31, mb1mx5.1/35, mbtmp5.1/31, ML4.8/5, MS5.4/13, Ms1 5.4/13, ms1mx5.1/38, Error ellipse: s-maj=16.6km s-min=9.9km az=90.0*
NEIC **17** *05:44:38.6, 31°.80S×72°.16W, h21km, Moment Tensor Solution. Moment tensor: Scale 10*^{17}*Nm; Mrr1.80; Mθθ0.02; Mϕϕ-1.82; Mrθ0.44; Mrϕ0.46; Mθϕ-0.87; Fault plane solution: M*$_0$*2.11000×10*^{17}*. NP1:*ϕ_1*176.47000°, δ58.29000°, λ70.90000°. NP2:*ϕ_2*29.85000°, δ36.50000°, λ117.90000°. Principal axes: T 2.1355, Plg70.0000°, Azm44.0000°; N -0.0579, Plg16.0000°, Azm187.0000°; P -2.0776, Plg11.0000°, Azm280.0000°;*
VAO **17** *05:44:39.2*±*0.2, 31°.84S×72°.10W, h10km, mb5.4*
NEIC **17** *05:44:40.0*±*1.3, 31°.80S*±*0°.04×72°.13W*±*0°.07, h10km*±*1km, mb5.4/407, Ms_20 5.7/82, Mwr5.5/41, ML5.3(GUC), Error ellipse: s-maj=10.3km s-min=6.2km az=278.0*
GUC **17** *05:44:41.1*±*0.5, 31°.83S×71°.96W, h25km*±*13km, ML5.3, MW5.6*
MOS **17** *05:44:42.4*±*1.3, 31°.67S×72°.10W, h33km, mb5.5/41, MS5.4/6, Error ellipse: s-maj=13.8km s-min=6.9km az=97.3*
ISC 17 05:44:39.3±0.5, **31°.78S**±0°.02×**72°.03W**±0°.04, **h7**km±2km, **h7**km:**pP-P, n869,** σ1§**23**/781, **mb5.4**/238, **MS5.7**/56, **10C-3D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**1.15**	**17**	*e*P	**Pg**	**05 45 01.8**	**+0.3**
CO06				*i* S	**Sb**	**05 45 17.4**	**+0.6**
CO06	**Fray Jorge**	**1.15**	**17**		**Pn**	**05 45 02.8**	**+0.9**
CO06				Sg	**Sb**	**05 45 17.5**	**+0.7**
VA01	**Torpederas**	**1.28**	**165**	⇑ *i* P	**Pn**	**05 45 02.4**	**-1.4**
VA01				*i* S	**Sb**	**05 45 18.2**	**-2.4**
VA01	**Torpederas**	**1.28**	**165**		**Pg**	**05 45 03.6**	**-0.4**
VA01	**Torpederas**	**1.28**	**165**	*i* P	**Pn**	**05 45 03.0**	**-0.7**
VA01				*e*S	**Sn**	**05 45 28.0**	**+6.8**
VA01				IAML		05 45 34.3	
	comp=Z,16μm,1.1s						
ROCH	**El Roble**	**1.47**	**144**	*e*P	**Pn**	**05 45 05.8**	**-0.8**
ROCH				*i* S	**Sb**	**05 45 23.9**	**-2.4**
ROCH				IAML		05 45 36.5	
	comp=E,63μm,0.5s						
CO03	**El Pedregal**	**1.48**	**51**	*e*P	**Pn**	**05 45 06.2**	**-0.4**
CO03				*i* S	**Sn**	**05 45 25.5**	**-0.8**
CO03				IAML		05 45 31.2	
	comp=N,89μm,0.8s						
CO03	**El Pedregal**	**1.48**	**51**		**Pg**	**05 45 08.4**	**+0.6**
VA03	**San Esteban**	**1.59**	**128**	*e*P	**Pn**	**05 45 07.1**	**-1.0**
VA03				*i* S	**Sn**	**05 45 27.1**	**-1.9**
VA03				IAML		05 45 37.2	
	comp=N,104μm,0.7s						
VA03	**San Esteban**	**1.59**	**128**		**Pb**	**05 45 08.9**	**-0.3**
VA05	**Santo Domingo**	**1.91**	**169**	*e*P	**Pn**	**05 45 11.7**	**-0.6**
VA05				IAML		05 45 50.8	
	comp=E,59μm,0.4s						
VA05	**Santo Domingo**	**1.91**	**169**		**Pn**	**05 45 12.8**	**+0.5**
GO04	**Tololo Observa**	**1.92**	**34**	*e*P	**Pb**	**05 45 14.8**	**-0.1**
GO04	**Tololo Observa**	**1.92**	**34**		**Pb**	**05 45 15.1**	**+0.2**
MT05	**Renca**	**1.94**	**146**	*e*P	**Pn**	**05 45 13.8**	**-1.4**
MT05				*i* S	**Sn**	**05 45 38.0**	**+0.3**
MT05				IAML		05 45 45.5	
	comp=E,39μm,0.5s						
MT05	**Renca**	**1.94**	**146**		**Pb**	**05 45 14.2**	**-1.0**
MT05	**Renca**	**1.94**	**146**	*i* P	**Pb**	**05 45 15.0**	**-0.2**
MT09	**Talagante**	**2.18**	**156**	IAML		05 45 55.9	
	comp=N,22μm,0.6s						
MT09	**Talagante**	**2.18**	**156**		**Pn**	**05 45 16.2**	**0.0**
MT01	**Popeta**	**2.18**	**163**	*e*P	**Pn**	**05 45 14.8**	**-1.3**
MT01	**Popeta**	**2.18**	**163**		**Pn**	**05 45 16.1**	**0.0**
MT01	**Popeta**	**2.18**	**163**	*i* P	**Pn**	**05 45 16.1**	**0.0**
MT01				*e*S	**Sg**	**05 45 50.8**	**+1.4**
MT01				IAML		05 45 54.7	
	comp=Z,10μm,0.8s						
AUSP	**Uspallata**	**2.29**	**102**	*i* P	**Pb**	**05 45 21.6**	**+0.3**
LMEL	**Las Melosas**	**2.58**	**144**	*e*P	**Pn**	**05 45 21.5**	**-0.2**
LMEL				IAML		05 46 08.7	
	comp=N,14μm,0.2s						
BO03	**Pichilemu**	**2.71**	**179**	*e*P	**Pn**	**05 45 20.9**	**-2.4**

AROD Rodeo 2.72 55 *i* P Pn 05 45 22.8 -1.1
BO01 Tunca 2.73 163 Pn Pn 05 45 23.8 +0.2
BO01 Tunca 2.73 163 *i* P Pn 05 45 25.0 +1.4
BO01 *e*S Sb 05 46 03.9 +1.8
BO01 IAML 05 46 11.9
comp=Z,10µm,1.2s
ASAL Salagasta 2.83 107 *i* P Pg 05 45 32.0 -1.6
ASAL IAML 05 46 12.3
comp=Z,3µm,1.6s
ARCO CERRO ARCO 2.83 113 *i* P Pg 05 45 32.0 -1.6
ZON Zonda 2.87 86 P Pn 05 45 27.6 +2.0
ZON Zonda 2.87 86 Pn 05 45 27.6 +2.0
ACDV Cuesta del Vie 2.97 58 *i* P Pb 05 45 33.0 +0.3
ACDV *e*S Sg 05 46 15.3 +0.5
LCO Las Campanas 2.99 23 *e*P Pn 05 45 29.2 +1.8
AAGR Agrelo 3.01 117 *i* P Pb 05 45 34.0 +0.7
BO02 Sierra Bellavi 3.18 161 *e*P Pn 05 45 30.9 +1.0
BO02 Sierra Bellavi 3.18 161 Pn 05 45 30.4 +0.5
BO02 Sierra Bellavi 3.18 161 *i* P Pn 05 45 31.0 +1.0
BO02 *e*S Sb 05 46 17.1 +1.8
BO02 IAML 05 46 22.0
comp=Z,12µm,0.8s
GO05 Huala 3.22 178 *e*P Pn 05 45 28.6 -1.9
GO05 Huala 3.22 178 Pn 05 45 29.7 -0.8
GO05 Huala 3.22 178 *i* P Pn 05 45 29.0 -1.5
AC04 Llanos de Chal 3.66 13 Pn 05 45 37.0 +0.6
AC04 Llanos de Chal 3.66 13 *i* P Pb 05 45 44.0 -0.3
AC04 *e*S Sg 05 46 33.6 -3.2
AC04 IAML 05 46 40.9
comp=Z,10µm,1.6s
AGUA GUANDACOL 3.81 54 *i* P Pb 05 45 46.0 -1.0
COIS El Sosneado 3.90 149 *i* P Pb 05 45 45.0 -3.4
COIS *e*S Sb 05 46 30.8 -5.1
LAMA Las Malvinas 3.94 144 *i* P Pn 05 45 44.0 +3.8
ML02 Panimavida 4.01 173 Pn 05 45 41.4 +0.2
AVFE Valle Fertil 4.08 75 *i* P Pb 05 45 48.0 -3.5
RFA San Rafael 4.22 136 *i* P Pb 05 45 49.0 -5.0
RFA IAML 05 46 59.1
comp=Z,4µm,2.3s
GO03 Copiap 4.45 21 *e*P Pn 05 45 47.8 +0.4
GO03 Copiap 4.45 21 Pn 05 45 48.2 +0.8
GO03 Copiap 4.45 21 *i* P Pb 05 45 56.0 -2.0
VCA Vinchina 4.49 48 *i* P Pb 05 45 56.0 -2.6
ACHE Chepes 4.63 84 *i* P Pb 05 45 56.0 -5.0
TINO Tinogasta 5.36 47 *i* P Pb 05 46 07.0 -6.4
MRA San Martin 5.40 98 *i* P Pn 05 46 05.0 +4.6
MRA IAML 05 47 43.9
comp=Z,3µm,1.0s
AC02 Maricunga 5.54 28 Pn 05 46 03.2 +0.5
AC02 Maricunga 5.54 28 *i* P Pb 05 46 10.0 -6.7
VA04 Juan Fernndez 6.02 250 Pn Pn 05 46 07.6 -1.3
H03N1 Juan Fernandez 6.04 252 T T 05 52 38.7
baz=83,slow=72
H03N3 Juan Fernandez 6.05 252 T T 05 52 40.9
baz=83,slow=72
H03N2 Juan Fernandez 6.05 252 T T 05 52 41.3
baz=83,slow=72
LC01 Cunco 7.11 179 Pn Pn 05 46 22.0 -1.8
LC01 Cunco 7.11 179 *i* P Pn 05 46 23.0 -0.8
LC01 IAML 05 48 26.1
comp=Z,366nm,1.9s
FSA Cafayete 7.75 45 *i* P Pn 05 46 39.0 +6.2
PB10 IPOC Station P 8.34 9 Pn Pn 05 46 42.3 +1.6
PLCA Paso Flores 9.02 173 Pn Pn 05 46 48.8 -1.3
comp=Z,6.9nm,0.3s,baz=333,slow=13,SNR=17
PLCA Paso Flores 9.02 173 Pn Pn 05 46 49.3 -0.7
PLCA Paso Flores 9.02 173 *e*P Pn 05 46 48.8 -1.3
PLCA Paso Flores 9.02 173 *i* P Pn 05 46 50.0 -0.1
PLCA IAML 05 48 57.4
comp=Z,162nm,0.9s
LL04 Puerto Octay 9.12 182 Pn Pn 05 46 51.1 -0.2
LVC Limon Verde 9.54 18 Pn Pn 05 46 55.7 -1.9
comp=Z,1.9nm,0.3s,baz=195,slow=9.0,SNR=0.8
LVC Sn Sn 05 48 40.6 -4.8
comp=Z,13nm,0.3s,baz=207,slow=22,SNR=3.0
LVC Limon Verde 9.54 18 Pn Pn 05 46 57.8 +0.1
LVC Limon Verde 9.54 18 *e*P Pn 05 46 57.7 +0.1
LL05 Los Muermos 9.68 186 Pn Pn 05 46 57.5 -1.5
ASTB Santa Barbara 10.28 43 *i* P Pn 05 47 15.0 +7.5
TRQA Tornquist 10.36 130 *e*P Pn 05 47 09.0 +0.6
GO07 Milladeo Hill, 11.39 186 Pn Pn 05 47 22.1 -0.4
LL02 Futaleuf 11.39 179 Pn Pn 05 47 21.6 -0.9
ITQB Itaqui 13.42 85 *e*P Pn 05 47 51.4 +1.1
COYC Coyhaique 13.77 180 Pn Pn 05 47 56.2 +1.2
CPUP Villa Florida 13.96 71 Pn Pn 05 47 57.7 +0.1
comp=Z,0.9nm,0.3s,baz=225,slow=13,SNR=2.8
CPUP LR LR 05 53 39.5
comp=Z,16µm,20.0s,baz=246,slow=39
CPUP Villa Florida 13.96 71 *e*P Pn 05 47 57.9 +0.3
PLTB Pedras Altas 15.68 95 Pn Pn 05 48 21.7 +0.9
PLTB Pedras Altas 15.68 95 *e*P Pn 05 48 21.6 +0.9
LPAZ La Paz 15.82 14 Pn Pn 05 48 23.2 -0.1
comp=Z,1.3nm,0.3s,baz=184,slow=5.8,SNR=14
LPAZ La Paz 15.82 14 Pn 05 48 23.4 +0.1
LPAZ La Paz 15.82 14 *e*P Pn 05 48 23.9 +0.5
CPSB Cacapava Do Su 15.99 90 *e*P Pn 05 48 25.9 +1.1
CNLB Canela 18.41 88 *e*P P 05 48 55.9 +0.7
AQDB Aquidauana 18.46 56 P P 05 48 55.0 -0.8
AQDB Aquidauana 18.46 56 *e*P Pn 05 48 56.8 +1.0
SIV San Ignacio 18.62 35 P P 05 48 57.6 +0.1
comp=Z,3.2nm,0.3s,baz=213,slow=8.0,SNR=26
SIV LR LR 05 57 42.1
comp=Z,8µm,18.4s,baz=224,slow=42
PTGB Pitanga 18.93 73 *e*P Pn 05 49 02.5 +0.8
TRCB Terra Rica 19.40 67 P Pn 05 49 07.0 -0.3
TRCB IAmb IAmb 05 49 13.2
comp=Z,280nm,1.1s
TRCB Terra Rica 19.40 67 *e*P Pn 05 49 07.2 0.0
TER01 Tubaro-SC 20.06 87 *e*P Pn 05 49 14.4 -0.7
PTLB Pontes e Lacer 20.07 39 *e*P P 05 49 13.5 +0.2
NNA Nana 20.19 346 P P 05 49 15.0 +0.2
comp=Z,27nm,0.8s,baz=194,slow=9.8,SNR=9.4
NNA LR LR 05 55 09.9
comp=Z,3µm,21.2s,baz=162,slow=31
NNA Nana 20.19 346 *ce*P Pn 05 49 17.6 +0.9
NNA pmax pmax
comp=Z,63nm,1.0s
NNA Nana 20.19 346 P 05 49 13.7 -1.1
PP1B Ponte de Pedra 20.98 52 *e*P P 05 49 23.9 +0.6
PCMB Pacaembu 21.11 66 *e*P P 05 49 25.7 +1.0
TIJ01 Guaruva-PR 21.21 78 *e*P P 05 49 23.9 -1.9
FRTB Fartura 21.59 73 *e*P P 05 49 30.2 +0.3
VILB Vilhena 21.66 33 *e*P P 05 49 31.4 +0.7
SALV Santo Antonio 21.71 47 *e*P P 05 49 30.5 -0.6
EFI East Falkland 22.38 157 *ce*P P 05 49 39.2 +1.2
EFI pmax pmax
comp=Z,255nm,1.7s
EFI East Falkland 22.38 157 IAMs_20 IAMs_20 05 59 14.4
comp=Z,24µm,18.0s
ETMB Extrema 22.51 15 *e*P P 05 49 40.9 +1.2
ITRB Iturama 22.88 64 *e*P P 05 49 42.6 -1.1
PET01 Itanhaem-SP 23.06 77 *e*P P 05 49 45.7 +0.2
USHA Ushuaia 23.19 175 P P 05 49 47.8 +1.3
comp=Z,20nm,0.5s,baz=342,slow=4.8,SNR=3.4
USHA LR LR 05 59 41.5
comp=Z,6µm,18.1s,baz=356,slow=39
SPB Sao Paulo 23.22 76 P P 05 49 47.7 +0.5
SPB IAMs_20 IAMs_20 05 59 38.1
comp=Z,22µm,18.0s
BB19B Bebedouro 23.55 69 *e*P P 05 49 49.7 -0.8
RCLB Rio Claro- Sao 23.68 73 *e*P P 05 49 51.4 -0.4
VAO Valinhos 23.87 75 *e*P P 05 49 53.2 -0.5
CZSB Cruzeiro do Su 23.94 358 *e*P P 05 49 54.6 +0.4
SAML Samuel 24.16 22 P P 05 49 56.9 +0.6
SAML Samuel 24.16 22 *e*P P 05 49 57.0 +0.6
SAML Samuel 24.16 22 P P 05 49 56.9 +0.6
SAML IAmb IAmb 05 49 59.6
comp=Z,56nm,1.0s
PARB Paraibuna 24.83 77 *e*P P 05 50 01.8 -0.7
IPMB Ipameri, GO 25.53 63 *e*P P 05 50 07.8 -1.1
CLDB Colider 25.65 39 *e*P P 05 50 10.2 +0.3
BSCB Bom Sucesso 26.61 73 *e*P P 05 50 17.8 -0.9
VAS01 Vassouras-RJ 27.10 77 *e*P P 05 50 23.0 0.0
BDFB Brasilia 27.14 59 P P 05 50 23.2 -0.3
comp=Z,172nm,1.1s,baz=228,slow=7.9,SNR=32
BDFB Brasilia 27.14 59 P P 05 50 23.2 -0.3
SNDB Serra Nova Dou 27.45 49 *e*P P 05 50 26.6 +0.4
TBTG Tabatinga, AM 27.52 5 *e*P P 05 50 25.7 -1.0
TBTG Tabatinga, AM 27.52 5 *e*P P 05 50 27.1 +0.4
DUB01 Friburgo-RJ 28.07 77 *e*P P 05 50 31.9 +0.1
CAM01 Campos-RJ 28.78 77 *e*P P 05 50 38.2 +0.2
DIAM Diamantina, MG 28.89 69 *e*P P 05 50 39.5 +0.4

NPGB Novo Progresso 29.12 36 *e*P P 05 50 40.6 -0.4
PEXB Peixe 29.34 53 *e*P P 05 50 43.0 -0.1
MC01 Montes Claros 29.57 66 *e*P P 05 50 44.5 -0.7
ALF01 Guarapari-ES 30.11 76 *e*P P 05 50 50.1 +0.3
JANB Januaria 30.27 63 *e*P P 05 50 51.0 -0.3
MACA Manacapuru-AM 30.40 23 *e*P P 05 50 52.8 +0.4
SJMB Sao Joao De Ma 30.67 72 *e*P P 05 50 54.3 -0.5
BSFB Barra de Sao F 30.88 73 *e*P P 05 50 56.1 -0.6
RIB01 Linhares ES 31.01 74 *e*P P 05 50 57.6 -0.2
ITTB Itaituba 31.27 33 *e*P P 05 50 59.6 -0.4
SDBA SAO DESIDERIO 31.53 58 *e*P P 05 51 01.4 -1.0
PTLC Puerto Leguiza 31.88 355 *e*P P 05 51 03.1 -2.4
NAN01 Guarapari, ES 31.98 72 *e*P P 05 51 05.6 -0.7
SMTB Santa Maria do 32.18 50 *e*P P 05 51 08.2 +0.1
OTAV Otavalo 32.42 348 P P 05 51 09.6 -1.0
OTAV pmax pmax
comp=Z,54nm,1.3s
OTAV Otavalo 32.42 348 P P 05 51 09.6 -1.0
OTAV IAmb IAmb 05 51 24.3
comp=Z,54nm,1.2s
OTAV Otavalo 32.42 348 *e*P P 05 51 13.3 +2.7
OTAV Otavalo 32.42 348 *e*P P 05 51 10.5 -0.1
PRPB Parauapebas 32.87 44 *e*P P 05 51 13.1 -1.1
GUA01 Guaratinga, BA 32.91 70 *e*P P 05 51 14.0 -0.5
PTGA Pitinga 32.92 23 P P 05 51 14.2 -0.4
comp=Z,72nm,0.5s,baz=49,slow=0.3,SNR=16
PTGA Pitinga 32.92 23 P P 05 51 14.3 -0.2
PMSA Palmer Station 33.39 174 P P 05 51 19.2 +1.1
comp=Z,12nm,0.9s,baz=321,slow=6.5,SNR=3.6
PMSA Palmer Station 33.39 174 *e*P P 05 51 17.2 -0.9
HOPE Hope Point 33.81 142 P P 05 51 22.1 +0.2
HOPE pmax pmax
comp=Z,79nm,0.9s
HOPE Hope Point 33.81 142 P P 05 51 22.1 +0.2
CMC01 Camacan, BA 33.82 69 *e*P P 05 51 22.0 -0.4
BBAC Balboa, Cauca 33.98 351 *e*P P 05 51 25.4 +1.4
SOTA Rioblanco 34.01 352 *e*P P 05 51 26.4 +1.9
NBIT Itapeh - BA 34.13 68 *e*P P 05 51 25.3 +0.2
MALB Monte Alegre 34.16 33 *e*P P 05 51 24.7 -0.6
POPC Popayan, Colom 34.41 352 *e*P P 05 51 30.1 +2.3
GDU01 Guandu, BA 34.72 66 *e*P P 05 51 30.1 -0.2
PRAC Prado 35.40 355 *e*P P 05 51 37.9 +1.8
ORTC Ortega, Tolima 35.62 354 *e*P P 05 51 39.5 +1.5
BOAV Boa Vista 35.70 20 *e*P P 05 51 38.1 -0.5
VILC Villavicencio, 35.73 357 *e*P P 05 51 41.0 +2.1
PTGC Puerto Gaitan, 35.78 360 *e*P P 05 51 40.8 +1.5
YOTC Yotoco, Valle 35.80 353 *e*P P 05 51 41.8 +2.2
NBPN Ponto Novo - B 36.02 62 *e*P P 05 51 39.6 -1.9
ANIL Santa Ana 36.21 354 *e*P P 05 51 45.2 +1.9
CHIC Chingaza 36.24 357 *e*P P 05 51 45.6 +1.9
ROSC El Rosal 36.48 356 P P 05 51 46.2 +0.5
comp=Z,7.3nm,0.6s,baz=108,slow=5.1,SNR=1.6
ROSC El Rosal 36.48 356 *e*P P 05 51 49.8 +4.0
MCPB Macapa, AP 36.52 35 *e*P P 05 51 45.9 +0.2
GUY2C Guyana, Caldas 36.93 354 *e*P P 05 51 50.6 +1.0
TMAB Tom-Au,PA,Br 36.94 42 *e*P P 05 51 49.7 +0.5
RUSC La Rusia 37.47 358 *e*P P 05 51 53.1 -1.1
CBOC Ciudad Bolivar 37.62 354 *e*P P 05 51 56.1 +0.9
NBLA Lagarto - SE 37.76 64 *e*P P 05 51 55.4 -0.8
HELC Santa Helena 37.90 354 *e*P P 05 51 58.2 +0.5
PTBC PUERTO BERRIO, 38.17 356 *e*P P 05 51 58.9 -0.8
DBBC Dabeiba 38.78 353 *e*P P 05 52 07.4 +2.5
ROSB Rosrio 38.92 48 *e*P P 05 52 05.7 -0.3
ZARC Zaragoza, Cauc 39.14 356 *e*P P 05 52 07.4 -0.4
NBMA Muriti-CE 39.37 59 *e*P P 05 52 10.0 +0.2
NBPS Pedro II - PI 39.56 53 *e*P P 05 52 11.8 +0.3
NBAN Anadia - AL 39.75 64 *e*P P 05 52 11.8 -1.1
NBPB Pedra_Branca-C 40.03 56 *e*P P 05 52 15.7 +0.4
SMLC San Martn de 40.40 357 *e*P P 05 52 16.5 -1.7
SDV Santo Domingo 40.46 2 P P 05 52 17.5 -1.4
comp=Z,4.0nm,0.3s,baz=184,slow=6.6,SNR=4.6
SDV Santo Domingo 40.46 2 P P 05 52 18.5 -0.4
SDV Santo Domingo 40.46 2 *e*P P 05 52 19.6 +0.6
MDP Montagnes des 41.07 30 P P 05 52 23.7 -0.1
comp=Z,36nm,0.8s,baz=206,slow=9.4,SNR=15
MDP LR LR 06 09 05.8
comp=Z,3µm,20.4s,baz=196,slow=36
NBRF Rio Formoso - 41.24 64 *e*P P 05 52 25.5 +0.2
NBMO Morrinhos-CE 41.30 53 *e*P P 05 52 25.8 0.0
SJCC San Jacinto, C 41.55 355 *e*P P 05 52 29.2 +1.5
NBPA Parau_RN 41.67 59 *e*P P 05 52 28.2 -0.6
NBCL Cascavel-CE 41.87 56 *e*P P 05 52 30.9 +0.4
DRK0 Durika 42.20 343 P P 05 52 32.6 -0.6
PCRV Puerto La Cruz 42.31 11 P P 05 52 34.5 +0.5
comp=Z,29nm,1.1s,baz=164,slow=4.5,SNR=4.4
PCRV LR LR 06 11 04.5
comp=Z,5µm,19.2s,slow=38
RCBR Riachuelo 42.51 60 P P 05 52 35.3 -0.4
RCBR pmax pmax
comp=Z,64nm,1.3s
RCBR MLR MLR
comp=Z,9µm,21.0s
RCBR Riachuelo 42.51 60 P P 05 52 35.3 -0.4
RCBR IAmb IAmb 05 52 37.5
comp=Z,64nm,1.2s
RCBR Riachuelo 42.51 60 IAMs_20 IAMs_20 06 11 52.0
comp=Z,9µm,21.0s
RCBR Riachuelo 42.51 60 *e*P P 05 52 36.3 +0.6
NBPV Pedro Velho 42.57 62 *e*P P 05 52 36.3 +0.1
TOSP Speyside 44.23 16 P P 05 52 48.8 -0.6
GRGR Grenville 44.78 14 P P 05 52 54.4 +0.6
MCLT Moule a Chique 46.46 15 P P 05 53 07.5 +0.3
FDF Fort de France 47.41 14 P P 05 53 14.2 -0.4
FDF pmax pmax
comp=Z,61nm,0.9s
FDF MLR MLR
comp=Z,3µm,20.0s
FDF Fort de France 47.41 14 P P 05 53 14.2 -0.4
MTO3 Montecristo 48.83 337 P P 05 53 25.4 -0.4
ICMP Isla Caja de M 49.66 7 P 05 53 31.2 -0.7
CRPR Cabo Rojo, PR 49.73 6 P P 05 53 32.2 -0.1
OBIP Obispado Ponce 49.81 7 P P 05 53 32.0 -0.9
OBIP IAmb IAmb 05 53 34.6
comp=Z,66nm,1.1s
PDPR Patillas Dam, 49.85 7 P P 05 53 33.3 0.0
BANI BANI 49.91 2 P P 05 53 33.8 -0.1
SJG San Juan 49.92 7 P P 05 53 33.6 -0.3
comp=Z,76nm,1.1s,baz=223,slow=2.5,SNR=14
SJG San Juan 49.92 7 P P 05 53 33.3 -0.5
SJG pmax pmax
comp=Z,74nm,1.0s
SJG San Juan 49.92 7 P P 05 53 33.3 -0.5
MTP Monte Pirata 49.98 8 P P 05 53 33.3 -0.9
MTP IAmb IAmb 05 53 35.8
comp=Z,73nm,1.4s
HUMP Col San Antoni 49.99 8 P P 05 53 33.7 -0.7
HUMP IAmb IAmb 05 53 35.4
comp=Z,45nm,1.2s
CBYP Canovanas 50.12 8 P P 05 53 34.4 -1.0
GCPR Guaynabo City 50.13 7 P P 05 53 35.5 +0.1
GCPR IAmb IAmb 05 53 36.2
comp=Z,41nm,0.9s
ANWB Willy Bob 50.14 13 P P 05 53 34.6 -0.8
CUPR Culebra, Puert 50.22 8 P P 05 53 35.8 -0.2
SMRT St. Maarten 50.28 11 P P 05 53 35.4 -1.2
SMRT IAmb IAmb 05 53 36.8
comp=Z,57nm,1.1s
SC01 Santiago de lo 50.93 2 P P 05 53 41.2 -0.3
VNA3 Neumayer Olymp 51.41 158 P P 05 53 45.9 +1.3
VNA1 Neumayer--Stat 51.72 158 P P 05 53 48.5 +1.7
VNA2 Neumayer--Watz 52.06 158 P P 05 53 49.3 0.0
baz=286,slow=8.5
CMIG Matias Romero 53.31 332 P P 05 53 59.2 0.0
comp=Z,3.2nm,0.7s,baz=91,slow=5.4,SNR=8.0
SNAA Sanae 53.64 158 P P 05 54 00.8 -0.4
SNAA Sanae 53.64 158 P P 05 54 00.7 -0.4
comp=Z,59nm,0.9s,baz=277,slow=5.5,SNR=41
SNAA LR LR 06 14 47.7
comp=Z,3µm,19.4s,baz=331,slow=34
SNAA Sanae 53.64 158 P P 05 54 01.0 -0.1
SOR Soroa 55.27 348 P P 05 54 12.9 -0.5
SOR pmax pmax
comp=Z,27nm,0.9s
SOR MLR MLR
comp=Z,2µm,19.0s
SOR Soroa 55.27 348 P P 05 54 12.9 -0.5
SOR IAmb IAmb 05 54 24.6
comp=Z,27nm,0.9s
RKT Rikitea 55.85 262 *e*T T 06 54 59.2
comp=Z,5.9nm,0.3s
QSPA South Pole Qui 58.45 180 P P 05 54 35.6 -0.2
comp=Z,55nm,1.0s,baz=155,slow=2.8,SNR=25
QSPA South Pole Qui 58.45 180 P P 05 54 35.7 0.0

ASCN Ascension 58.47 79 IAMs_20 IAMs_20 06 18 52.9
comp=Z,4µm,19.0s
ZAIG Zacatecas 61.61 328 P P 05 54 57.7 -0.4
ZAIG IAMs_20 IAMs_20 06 15 33.4
comp=Z,4µm,20.0s
TIGA Tifton 63.82 349 IAMs_20 IAMs_20 06 28 05.0
comp=Z,3µm,19.0s
BRAL Brewton 64.20 346 P P 05 55 16.3 +1.5
baz=166
250A Grady 64.83 347 P P 05 55 17.4 -1.5
250A IAmb IAmb 05 55 29.6
comp=Z,44nm,1.2s
154A Montrose 64.89 350 P P 05 55 18.5 -0.8
346A Big Creek Wild 64.96 344 P P 05 55 19.6 -0.1
NHSC New Hope 64.99 352 P P 05 55 21.3 +1.4
baz=172
833A Chaparral WMA, 65.20 333 P P 05 55 21.4 0.0
baz=155,SNR=16
152A Waverly Hall 65.21 348 P P 05 55 20.7 -0.7
HKT Hockley 65.42 337 *i* P P 05 55 23.8 +1.1
HKT pmax pmax
comp=Z,35nm,1.9s
GOGA Godfrey 65.73 350 P P 05 55 24.2 -0.5
GOGA pmax pmax
comp=Z,13nm,1.0s
GOGA Godfrey 65.73 350 P P 05 55 24.2 -0.5
GOGA Godfrey 65.73 350 P P 05 55 25.3 +0.6
baz=170
Y57A Sumter 65.92 352 P P 05 55 25.4 -0.4
Y57A IAmb IAmb 05 55 37.2
comp=Z,23nm,0.8s
Z51A Franklin 65.92 348 P P 05 55 26.0 0.0
LRAL Lakeview Retre 66.00 346 P P 05 55 26.2 -0.2
LRAL Lakeview Retre 66.00 346 P P 05 55 26.3 -0.2
baz=166
SLBS Sierra La Lagu 66.01 322 P P 05 55 27.4 +0.6
SLBS IAmb IAmb 05 55 46.4
comp=Z,37nm,1.1s
VBMS Vicksburg 66.01 343 P P 05 55 27.1 +0.6
VBMS Vicksburg 66.01 343 P P 05 55 27.3 +0.8
baz=163
VNDA Vanda 66.28 191 P P 05 55 28.1 +0.3
comp=Z,6.2nm,0.9s,baz=133,slow=5.2,SNR=13
JSC Jenkinsville 66.28 352 P P 05 55 28.3 +0.1
JSC pmax pmax
comp=Z,21nm,0.9s
JSC Jenkinsville 66.28 352 P P 05 55 28.3 +0.1
JSC IAmb IAmb 05 55 39.0
comp=Z,21nm,0.9s
X58A Rowland 66.34 353 P P 05 55 28.1 -0.4
HODGE Hodges 66.36 351 P P 05 55 28.1 -0.6
Z47A Carrollton 66.38 345 P P 05 55 28.2 -0.6
Z47A IAmb IAmb 05 55 32.1
comp=Z,17nm,1.0s
HPIG 66.61 327 P P 05 55 29.8 -1.0
HPIG IAmb IAmb 05 55 35.8
comp=Z,24nm,1.0s
143A Socs Landing, 66.70 342 P P 05 55 30.6 -0.3
NATX Nacogdoches 66.73 339 P P 05 55 31.2 0.0
NATX Nacogdoches 66.73 339 P P 05 55 31.7 +0.6
baz=159
435B Jarrell 66.77 336 P P 05 55 30.1 -1.3
435B IAmb IAmb 05 55 43.5
comp=Z,24nm,0.8s
435B Jarrell 66.77 336 P P 05 55 30.2 -1.2
baz=157
PAULI Pauline 66.88 351 P P 05 55 31.3 -0.7
PAULI IAmb IAmb 05 55 43.0
comp=Z,18nm,0.9s
CNNC Cliffs of the 66.89 355 P P 05 55 32.2 +0.2
CNNC Cliffs of the 66.89 355 P P 05 55 33.5 +1.5
baz=175
X51A Calhoun 67.09 349 P P 05 55 32.9 -0.5
KMSC Kings Mountain 67.14 352 P P 05 55 34.4 +0.7
baz=172
BG3 Lake Jocassee 67.20 350 P P 05 55 33.5 -0.6
BG3 IAmb IAmb 05 55 47.2
comp=Z,48nm,1.4s
JCT Junction City 67.29 334 P P 05 55 34.3 -0.6
JCT pmax pmax
comp=Z,40nm,0.9s
JCT Junction City 67.29 334 P P 05 55 34.2 -0.6
JCT Junction City 67.29 334 P P 05 55 34.2 -0.6
baz=155,SNR=22
237A Washetta, Mont 67.31 338 P P 05 55 34.8 -0.1
Y45A Yeager Farm, C 67.35 344 P P 05 55 34.5 -0.5
X48A Hartselle 67.38 347 P P 05 55 34.2 -1.0
X48A IAmb IAmb 05 55 37.2
comp=Z,21nm,0.8s
W52A Murphy 67.45 349 P P 05 55 35.1 -0.6
W52A IAmb IAmb 05 55 47.3
comp=Z,23nm,0.9s
V58A Windy Hill, Pi 67.55 354 P P 05 55 36.0 -0.3
V58A IAmb IAmb 05 55 47.0
comp=Z,24nm,0.8s
Z41A Richland Creek 67.59 341 P P 05 55 37.3 +0.7
baz=161
TX32 Lajitas Array 67.81 330 P P 05 55 38.0 -0.2
TX32 IAmb IAmb 05 55 52.1
comp=Z,23nm,1.2s
TXAR Lajitas Array 67.81 330 P P 05 55 37.9 -0.3
comp=Z,8.1nm,0.7s,baz=152,slow=7.1,SNR=27
TXAR Lajitas Array 67.81 330 P P 05 55 37.7 -0.4
TX31 Lajitas Ar. Si 67.81 330 P P 05 55 37.7 -0.5
WHTX Lake Whitney, 67.83 337 P P 05 55 37.3 -0.8
WHTX Lake Whitney, 67.83 337 P P 05 55 37.9 -0.3
baz=157,SNR=7.5
V53A Saluda 67.85 351 P P 05 55 38.0 -0.2
V53A IAmb IAmb 05 55 49.1
comp=Z,26nm,0.9s
TBI Tubuai 67.86 256 *e*LR LR 06 16 10.3
comp=Z,4µm,27.2s
CPCT Cooper Cave 67.90 349 P P 05 55 37.5 -1.0
CPCT IAmb IAmb 05 55 49.4
comp=Z,27nm,0.9s
SWET Sewanee 67.91 348 P P 05 55 37.1 -1.5
SWET IAmb IAmb 05 55 49.6
comp=Z,30nm,0.9s
SYO Syowa Base 67.93 159 *i*pP P 05 55 38.6 +0.3
SYO Syowa Base 67.93 159 *i*esP sP 05 55 40.6 +0.7
OXF Oxford 67.94 345 P P 05 55 37.7 -1.0
OXF pmax pmax
comp=Z,42nm,0.9s
OXF Oxford 67.94 345 P P 05 55 37.7 -1.0
OXF Oxford 67.94 345 P P 05 55 38.1 -0.7
baz=164,SNR=7.6
CCAR Cane Creek 67.94 342 P P 05 55 38.7 -0.1
CCAR IAmb IAmb 05 55 56.8
comp=Z,23nm,0.8s
TKL Tuckaleechee C 67.98 350 P P 05 55 38.3 -0.7
TKL pmax pmax
comp=Z,29nm,0.9s
TKL Tuckaleechee C 67.98 350 P P 05 55 38.3 -0.7
TKL IAmb IAmb 05 55 49.6
comp=Z,29nm,0.9s
WLAR White Oak Lake 68.08 341 P P 05 55 40.0 +0.3
PLAL Pickwick Lake 68.10 346 P P 05 55 39.5 -0.2
PLAL IAmb IAmb 05 55 50.9
comp=Z,14nm,0.8s
V52A Sevierville 68.14 350 P P 05 55 39.1 -0.9
V52A IAmb IAmb 05 55 50.6
comp=Z,33nm,0.9s
V51A Loudon 68.21 349 P P 05 55 40.3 -0.2
V51A IAmb IAmb 05 55 51.6
comp=Z,26nm,0.9s
W45A Hickory Valley 68.51 345 P P 05 55 42.5 +0.2
U54A Nelsons Funny 68.56 352 P P 05 55 41.8 -0.9
V48A Smith Brothers 68.58 347 P P 05 55 42.0 -0.8
V48A IAmb IAmb 05 55 54.4
comp=Z,30nm,0.9s
T59A Double "B" Far 68.59 355 P P 05 55 43.1 +0.3
T59A IAmb IAmb 05 55 45.3
comp=Z,34nm,1.1s
T60A Surry 68.70 356 P P 05 55 43.9 +0.5
T57A Hurt 68.75 354 P P 05 55 43.4 -0.4
X40A Basin Creek Fa 68.76 342 P P 05 55 43.9 0.0
X40A Basin Creek Fa 68.76 342 P P 05 55 44.3 +0.4
baz=161
TZTN Tazewell 68.82 350 P P 05 55 44.5 +0.3
baz=170
Z35A Perchaven, San 69.00 338 P P 05 55 44.9 -0.5
MIAR Mount Ida 69.02 341 P P 05 55 45.0 -0.5
MIAR pmax pmax
comp=Z,21nm,1.0s
MIAR Mount Ida 69.02 341 P P 05 55 45.0 -0.5

MIAR IAmb IAmb 05 56 04.5
comp=Z,21nm,1.0s
MIAR Mount Ida 69.02 341 P **P** **05 55 45.3 -0.2**
baz=161,SNR=8.8
BLA Blacksburg 69.08 353 P **P** **05 55 45.7 -0.2**
BLA pmax pmax
comp=Z,14nm,0.9s
BLA MLR MLR
comp=Z,2µm,20.0s
BLA Blacksburg 69.08 353 P **P** **05 55 45.7 -0.2**
BLA Blacksburg 69.08 353 P **P** **05 55 47.2 +1.3**
baz=172
U49A Red Boiling Sp 69.14 348 P **P** **05 55 46.0 -0.3**
U49A IAmb IAmb 05 55 57.0
comp=Z,18nm,1.0s
WVT Waverly 69.16 346 P **P** **05 55 45.3 -1.0**
WVT pmax pmax
comp=Z,46nm,0.8s
WVT Waverly 69.16 346 P **P** **05 55 45.3 -1.0**
WVT Waverly 69.16 346 P **P** **05 55 45.9 -0.5**
baz=166
ABTX Abilene, Hawle 69.17 335 P **P** **05 55 45.6 -0.9**
ABTX Abilene, Hawle 69.17 335 P **P** **05 55 46.0 -0.5**
baz=155,SNR=7.8
W41B Gary Mavity, V 69.26 342 P **P** **05 55 46.8 -0.1**
baz=162,SNR=6.9
HALT Halls 69.27 345 P **P** **05 55 46.4 -0.6**
WHAR Wooly Hollow 69.38 342 P **P** **05 55 47.9 +0.2**
WHAR IAmb IAmb 05 55 56.5
comp=Z,39nm,1.3s
GNAR Gosnell 69.47 344 P **P** **05 55 48.9 +0.6**
LNXT Lenox 69.48 345 P **P** **05 55 48.1 -0.2**
S57A Dark Hollow, R 69.48 354 P **P** **05 55 47.9 -0.4**
S57A IAmb IAmb 05 55 59.6
comp=Z,25nm,0.8s
T50A Nancy 69.48 349 P **P** **05 55 48.5 +0.1**
UTMT University of 69.58 346 P **P** **05 55 48.9 0.0**
LOOK Love County 69.58 338 P **P** **05 55 48.4 -0.6**
LOOK IAmb IAmb 05 56 00.7
comp=Z,34nm,0.8s
W39A Magazine 69.69 341 P **P** **05 55 49.5 -0.1**
W39A Magazine 69.69 341 P **P** **05 55 49.2 -0.4**
baz=160,SNR=20
LCAR Lake Charles 69.83 344 P **P** **05 55 50.0 -0.5**
LCAR IAmb IAmb 05 56 06.4
comp=Z,24nm,0.9s
PENMO Penman 69.85 345 P **P** **05 55 50.8 +0.2**
T45A Paducah 70.18 346 P **P** **05 55 52.0 -0.6**
PBMO Poplar Bluff 70.34 344 P **P** **05 55 52.5 -1.1**
PBMO IAmb IAmb 05 56 09.5
comp=Z,21nm,0.9s
X34A Smith Ranch, M 70.35 338 P **P** **05 55 53.4 -0.3**
TIAR Tiarei 70.39 261 *e*T T 07 13 08.2
comp=Z,1.4nm,0.2s
U40A Yellville 70.53 342 P **P** **05 55 54.3 -0.5**
U40A IAmb IAmb 05 56 11.0
comp=Z,41nm,1.0s
U40A Yellville 70.53 342 P **P** **05 55 53.7 -1.1**
baz=161,SNR=10.0
PPT2 Papeete2 70.57 261 *e*P **P** **05 55 58.6 +2.9**
comp=Z,115nm,1.2s
PPT2 Papeete2 70.57 261 *e*LR LR 06 17 18.0
comp=Z,3µm,23.5s
PPT Papeete 70.58 261 P **P** **05 55 56.2 +0.6**
comp=Z,55nm,0.8s,baz=274,slow=18,SNR=3.8
MNTX Cornudas Mount 70.59 330 IAmb IAmb 05 56 06.0
comp=Z,18nm,0.8s
MNTX Cornudas Mount 70.59 330 P **P** **05 55 54.0 -1.3**
baz=150,SNR=28
WMOK Wichita Mounta 70.79 337 P **P** **05 55 55.2 -1.2**
baz=156,SNR=7.1
FNO Franklin 70.81 338 IAmb IAmb 05 56 08.4
comp=Z,26nm,0.8s
HSIG 70.89 324 IAmb IAmb 05 56 11.4
comp=Z,38nm,1.3s
WCI Wyandotte Cave 70.91 348 P **P** **05 55 55.9 -1.1**
WCI pmax pmax
comp=Z,22nm,0.8s
WCI Wyandotte Cave 70.91 348 P **P** **05 55 55.9 -1.1**
WCI IAmb IAmb 05 56 07.3
comp=Z,22nm,0.8s
WCI Wyandotte Cave 70.91 348 P **P** **05 55 56.0 -1.1**
baz=167
TUL1 Leonard 70.93 340 P **P** **05 55 56.1 -1.2**
baz=159,SNR=11
S44A Carbondale 70.96 346 P **P** **05 55 57.4 0.0**
S44A IAmb IAmb 05 56 10.0
comp=Z,26nm,1.0s
SIUC Southern Illin 70.97 346 P **P** **05 55 57.0 -0.4**
SIUC IAmb IAmb 05 56 10.0
comp=Z,33nm,1.0s
Q52A Bidwell 71.02 352 IAMs_20 IAMs_20 06 28 24.8
comp=Z,3µm,21.0s
P57A Homestead Farm 71.12 355 P **P** **05 55 58.6 +0.3**
P57A IAmb IAmb 05 56 10.3
comp=Z,32nm,0.9s
MGMO Mountain Grove 71.14 343 P **P** **05 55 58.4 -0.1**
MGMO IAmb IAmb 05 56 15.2
comp=Z,25nm,1.0s
Q51A Peebles 71.23 351 P **P** **05 55 58.0 -0.9**
Q51A IAmb IAmb 05 56 10.2
comp=Z,28nm,0.9s
OK031 S. Brethren Rd 71.28 339 P **P** **05 55 58.6 -0.8**
P60A Greenville 71.31 357 P **P** **05 56 00.3 +0.8**
baz=177
OK029 Liberty Lake 71.33 338 P **P** **05 55 58.9 -0.8**
WUPA West Chester U 71.43 357 P **P** **05 56 00.2 +0.1**
MCWV Mont Chateau 71.44 354 P **P** **05 55 59.5 -0.8**
MCWV IAmb IAmb 05 56 11.5
comp=Z,25nm,0.9s
MCWV Mont Chateau 71.44 354 P **P** **05 56 01.4 +1.1**
baz=173
FVM French Village 71.49 345 P **P** **05 56 00.0 -0.6**
FVM pmax pmax
comp=Z,33nm,1.0s
FVM French Village 71.49 345 P **P** **05 56 00.0 -0.6**
FVM IAmb IAmb 05 56 16.2
comp=Z,33nm,0.9s
MSTX Muleshoe 71.53 333 P **P** **05 56 00.3 -0.8**
MSTX Muleshoe 71.53 333 P **P** **05 56 01.0 -0.1**
baz=153
MVL Millersville 71.53 357 P **P** **05 56 00.9 +0.1**
MVL IAmb IAmb 05 56 12.7
comp=Z,43nm,1.3s
P51A Williamsport 71.64 351 P **P** **05 56 00.2 -1.2**
P51A IAmb IAmb 05 56 11.9
comp=Z,30nm,0.9s
P52A Corning 71.67 352 P **P** **05 56 01.5 -0.1**
P52A IAmb IAmb 05 56 12.7
comp=Z,43nm,1.0s
P52A Corning 71.67 352 P **P** **05 56 01.5 -0.1**
baz=171,SNR=5.5
OLIL Olney 71.73 347 P **P** **05 56 01.9 -0.1**
OLIL IAmb IAmb 05 56 03.3
comp=Z,52nm,1.4s
CCM Cathedral Cave 71.75 344 P **P** **05 56 01.3 -0.9**
CCM pmax pmax
comp=Z,33nm,0.9s
CCM Cathedral Cave 71.75 344 P **P** **05 56 01.3 -0.9**
CCM IAmb IAmb 05 56 18.3
comp=Z,33nm,0.9s
CCM Cathedral Cave 71.75 344 P **P** **05 56 01.6 -0.5**
baz=163
S39A Bolivar 71.91 342 P **P** **05 56 02.3 -0.9**
P49A Miami Univ. Ec 71.92 350 P **P** **05 56 02.1 -1.0**
baz=169
AMTX Amarillo 71.93 335 P **P** **05 56 02.6 -0.9**
AMTX IAmb IAmb 05 56 20.6
comp=Z,38nm,0.9s
AMTX Amarillo 71.93 335 P **P** **05 56 04.2 +0.7**
baz=154
O56A Blue Knob Stat 71.94 355 P **P** **05 56 03.9 +0.6**
O56A IAmb IAmb 05 56 14.8
comp=Z,23nm,0.9s
O56A Blue Knob Stat 71.94 355 P **P** **05 56 03.9 +0.6**
baz=174,SNR=5.4
P48A Milroy 71.96 349 P **P** **05 56 02.7 -0.7**
P48A IAmb IAmb 05 56 13.6
comp=Z,34nm,1.1s
319A Douglas 72.04 327 P **P** **05 56 05.0 +0.8**
319A IAmb IAmb 05 56 21.3
comp=Z,43nm,1.2s
T35A Sooner Cattle 72.08 340 P **P** **05 56 03.7 -0.5**
T35A IAmb IAmb 05 56 21.1
comp=Z,50nm,1.1s
SLM Saint Louis 72.08 345 P **P** **05 56 03.4 -0.7**
SLM pmax pmax
comp=Z,51nm,1.1s
SLM Saint Louis 72.08 345 P **P** **05 56 03.4 -0.7**
SLM IAmb IAmb 05 56 16.9
comp=Z,52nm,1.1s
LUPA Lehigh Univers 72.08 357 P **P** **05 56 03.7 -0.4**
LUPA IAmb IAmb 05 56 16.5
comp=Z,22nm,1.0s
BLOK Blackwell 72.14 339 P **P** **05 56 04.1 -0.5**
BLOK IAmb IAmb 05 56 16.0
comp=Z,32nm,0.8s
O53A New Philadelph 72.17 353 P **P** **05 56 05.7 +1.1**
baz=172
R40A Maddies Statio 72.22 343 P **P** **05 56 04.4 -0.6**
SSPA Standing Stone 72.25 355 P **P** **05 56 05.1 0.0**
SSPA IAmb IAmb 05 56 16.5
comp=Z,29nm,0.9s
SSPA Standing Stone 72.25 355 P **P** **05 56 06.3 +1.1**
baz=175
121A Cookes Peak, D 72.34 329 P **P** **05 56 06.7 +0.6**
121A IAmb IAmb 05 56 18.3
comp=Z,34nm,0.9s
121A Cookes Peak, D 72.34 329 P **P** **05 56 06.4 +0.3**
baz=149,SNR=18
U32A Winter Ranch, 72.36 337 P **P** **05 56 05.3 -0.6**
N62A Caumsett State 72.36 359 P **P** **05 56 04.8 -0.9**
N62A IAmb IAmb 05 56 08.4
comp=Z,28nm,0.8s
ACSO Alum Creek Sta 72.36 351 P **P** **05 56 04.7 -1.0**
ACSO IAmb IAmb 05 56 17.0
comp=Z,44nm,0.9s
ACSO Alum Creek Sta 72.36 351 P **P** **05 56 05.2 -0.6**
baz=170,SNR=8.5
N58A Sunbury 72.39 356 P **P** **05 56 05.9 0.0**
N58A IAmb IAmb 05 56 08.7
comp=Z,24nm,0.9s
N59A State Game Lan 72.42 357 IAmb IAmb 05 56 18.2
comp=Z,39nm,1.1s
N59A State Game Lan 72.42 357 P **P** **05 56 06.1 0.0**
baz=177,SNR=8.5
P46A Rosedale 72.42 348 P **P** **05 56 05.7 -0.4**
P46A IAmb IAmb 05 56 16.8
comp=Z,39nm,1.0s
PAL Palisades 72.44 359 P **P** **05 56 08.8 +2.6**
baz=178
KAN13 South Haven SW 72.46 339 P **P** **05 56 06.2 -0.3**
OK032 Salt Plains WL 72.49 338 P **P** **05 56 06.4 -0.3**
OK032 IAmb IAmb 05 56 18.1
comp=Z,42nm,0.9s
ODNJ Ogdensburg 72.54 358 P **P** **05 56 06.8 0.0**
ODNJ IAmb IAmb 05 56 18.6
comp=Z,22nm,0.9s
KAN17 Caldwell West 72.57 339 P **P** **05 56 06.3 -0.8**
KAN17 IAmb IAmb 05 56 18.6
comp=Z,31nm,0.9s
N53A Lisbon 72.68 353 P **P** **05 56 07.2 -0.5**
N53A IAmb IAmb 05 56 24.4
comp=Z,42nm,1.4s
N54A Moraine State 72.75 354 P **P** **05 56 08.0 -0.1**
N54A IAmb IAmb 05 56 19.2
comp=Z,30nm,1.0s
N54A Moraine State 72.75 354 P **P** **05 56 08.1 +0.1**
baz=173
KAN08 Anthony NE Sta 72.81 339 P **P** **05 56 08.2 -0.3**
KAN16 Harper SW Stat 72.83 338 P **P** **05 56 08.4 -0.3**
P43A Skaggs, Pawnee 72.89 346 P **P** **05 56 08.0 -0.9**
P43A IAmb IAmb 05 56 19.6
comp=Z,34nm,0.9s
N51A Ashland 72.96 352 P **P** **05 56 08.3 -1.0**
N51A IAmb IAmb 05 56 20.5
comp=Z,28nm,0.9s
M64A Tiverton 72.97 1 P **P** **05 56 10.5 +1.1**
M64A IAmb IAmb 05 56 12.2
comp=Z,28nm,1.2s
M64A Tiverton 72.97 1 P **P** **05 56 10.3 +1.0**
baz=181,SNR=6.0
KSPA Keystone Colle 73.05 357 P **P** **05 56 09.3 -0.6**
M55A Ridgway 73.15 355 IAmb IAmb 05 56 21.6
comp=Z,30nm,0.8s
KSCT Kent School, K 73.15 359 P **P** **05 56 10.6 +0.2**
N49A Columbus Grove 73.20 350 P **P** **05 56 09.5 -1.3**
UCCT U. Connecticut 73.21 360 P **P** **05 56 10.4 -0.4**
BNM Barren Site 73.23 331 P **P** **05 56 11.5 +0.1**
M54A Oil Creek Stat 73.26 354 IAmb IAmb 05 56 22.0
comp=Z,21nm,0.9s
M54A Oil Creek Stat 73.26 354 P **P** **05 56 11.2 0.0**
baz=173
L63A North Scituate 73.28 0 P **P** **05 56 11.8 +0.6**
baz=180,SNR=11
M53A WI Miller and 73.29 353 IAmb IAmb 05 56 22.1
comp=Z,28nm,0.9s
M53A WI Miller and 73.29 353 P **P** **05 56 11.9 +0.6**
baz=172,SNR=5.7
BRYW Bryant College 73.33 0 P **P** **05 56 11.5 0.0**
BRYW IAmb IAmb 05 56 14.6
comp=Z,48nm,1.1s
L64A Middleborough 73.36 1 P **P** **05 56 12.2 +0.6**
baz=181,SNR=6.6
TUC Tucson 73.52 326 P **P** **05 56 13.2 +0.3**
TUC pmax pmax
comp=Z,15nm,1.2s
TUC Tucson 73.52 326 P **P** **05 56 13.2 +0.3**
TUC Tucson 73.52 326 P **P** **05 56 13.3 +0.3**
baz=146
M50A Fremont 73.53 351 P **P** **05 56 13.4 +0.8**
L59A Walton 73.66 358 P **P** **05 56 14.2 +0.8**
L59A IAmb IAmb 05 56 25.3
comp=Z,40nm,0.9s
BINY Binghamton 73.70 357 P **P** **05 56 13.7 0.0**
BINY IAmb IAmb 05 56 25.3
comp=Z,28nm,1.1s
BINY Binghamton 73.70 357 P **P** **05 56 13.5 -0.2**
baz=177
HDIL Hopedale 73.72 346 P **P** **05 56 13.6 -0.2**
HDIL IAmb IAmb 05 56 28.5
comp=Z,24nm,0.8s
HDIL Hopedale 73.72 346 P **P** **05 56 12.7 -1.1**
baz=165
L56A Greenwood 73.73 356 P **P** **05 56 13.5 -0.4**
P38A Dawn 73.79 343 P **P** **05 56 13.4 -0.8**
P38A IAmb IAmb 05 56 25.1
comp=Z,41nm,0.8s
P38A IAMs_20 IAMs_20 06 27 46.7
comp=Z,3µm,20.0s
WES Weston 73.80 1 P **P** **05 56 15.0 +0.8**
WES pmax pmax
comp=Z,22nm,1.1s
WES Weston 73.80 1 P **P** **05 56 14.9 +0.8**
ANMO Albuquerque 73.84 331 *ce*P **P** **05 56 15.9 +1.0**
ANMO pmax pmax
comp=Z,22nm,1.3s
ANMO Albuquerque 73.84 331 P **P** **05 56 15.1 +0.2**
ANMO Albuquerque 73.84 331 P **P** **05 56 15.7 +0.7**
baz=150
L61B Northampton 73.87 360 P **P** **05 56 15.2 +0.6**
baz=180,SNR=11
ERPA Erie 73.90 354 P **P** **05 56 14.1 -0.7**
ERPA IAmb IAmb 05 56 26.2
comp=Z,40nm,0.9s
ERPA Erie 73.90 354 P **P** **05 56 15.2 +0.4**
baz=173
HRV Adam Dziewonsk 73.92 0 P **P** **05 56 15.2 +0.3**
HRV pmax pmax
comp=Z,28nm,1.0s
HRV Adam Dziewonsk 73.92 0 P **P** **05 56 15.2 +0.3**
HRV IAmb IAmb 05 56 18.1
comp=Z,28nm,1.0s
HRV Adam Dziewonsk 73.92 0 P **P** **05 56 15.8 +0.9**
baz=180
LIC Lamto 74.08 72 *e*P **P** **05 56 17.0 +0.4**
comp=Z,248nm,1.2s
K62A Royalston 74.08 360 P **P** **05 56 16.7 +0.8**
K62A IAmb IAmb 05 56 25.5
comp=Z,41nm,1.1s
K62A Royalston 74.08 360 P **P** **05 56 17.0 +1.2**
baz=180,SNR=7.9
K61A Williamstown 74.09 359 P **P** **05 56 16.8 +0.8**
baz=179
KSU1 Kansas State U 74.13 340 P **P** **05 56 17.0 +0.8**
KSU1 IAmb IAmb 05 56 27.1
comp=Z,21nm,0.8s
KSU1 Kansas State U 74.13 340 P **P** **05 56 16.6 +0.4**
baz=159
R32A Long Quarter, 74.13 338 P **P** **05 56 15.7 -0.7**
R32A IAmb IAmb 05 56 28.4
comp=Z,34nm,0.9s
214A Organ Pipe Nat 74.21 325 IAmb IAmb 05 56 32.3
comp=Z,60nm,1.4s
214A Organ Pipe Nat 74.21 325 P **P** **05 56 17.4 +0.5**
baz=145,SNR=15
L48A N Adams 74.24 350 P **P** **05 56 15.8 -1.0**
L48A IAmb IAmb 05 56 27.2
comp=Z,38nm,0.8s
K57A Scipio Center 74.26 357 P **P** **05 56 16.9 0.0**
M44A Midewin, Midew 74.29 348 P **P** **05 56 17.3 +0.2**
M44A IAmb IAmb 05 56 28.1
comp=Z,44nm,0.9s
TIC Toumodi 74.33 72 *e*P **P** **05 56 18.6 +0.6**
MMNY Mt. Morris Dam 74.34 356 P **P** **05 56 17.1 -0.3**
MMNY IAmb IAmb 05 56 28.6
comp=Z,47nm,0.9s
KIC Kosan Boka 74.39 72 *e*P **P** **05 56 18.4 0.0**
comp=Z,210nm,1.0s
DBIC Dimbokro 74.47 72 P **P** **05 56 19.0 +0.1**
comp=Z,50nm,0.8s,baz=224,slow=5.7,SNR=27
DBIC LR LR 06 25 45.2
comp=Z,4µm,21.5s,baz=233,slow=33
DBIC Dimbokro 74.47 72 P **P** **05 56 18.7 -0.1**
DBIC pmax pmax
comp=Z,113nm,1.0s
DBIC Dimbokro 74.47 72 P **P** **05 56 18.7 -0.1**
AAM Ann Arbor 74.49 351 P **P** **05 56 17.7 -0.6**
AAM pmax pmax
comp=Z,40nm,1.2s
AAM Ann Arbor 74.49 351 P **P** **05 56 17.7 -0.6**
AAM IAmb IAmb 05 56 28.9
comp=Z,40nm,1.2s
J61A Chester 74.76 360 P **P** **05 56 21.9 +2.1**
baz=180,SNR=8.4
ACCN Adirondack Com 74.81 359 P **P** **05 56 19.1 -1.1**
ACCN IAmb IAmb 05 56 31.9
comp=Z,28nm,1.0s
CBKS Cedar Bluff 74.82 338 P **P** **05 56 19.8 -0.5**
baz=156
N38A Joes South For 74.83 343 P **P** **05 56 19.2 -1.1**
J57A Williamstown 74.91 357 IAmb IAmb 05 56 32.5
comp=Z,34nm,0.9s
J59A Piesco 74.91 358 IAmb IAmb 05 56 37.7
comp=Z,39nm,1.3s
T25A Trinidad 74.95 334 P **P** **05 56 22.0 +0.7**
baz=152,SNR=20
L44A Lake County Fo 75.03 348 P **P** **05 56 21.7 +0.3**
baz=166
HNH Hanover 75.12 360 IAmb IAmb 05 56 34.1
comp=Z,28nm,0.9s
L42A Oliver, Polo 75.19 346 IAmb IAmb 05 56 37.4
comp=Z,36nm,0.9s
I60A Shoreham 75.27 359 P **P** **05 56 23.3 +0.6**
baz=179,SNR=12
I62A Tamworth 75.29 1 IAmb IAmb 05 56 32.0
comp=Z,28nm,1.1s
I62A Tamworth 75.29 1 P **P** **05 56 23.9 +1.1**
baz=181,SNR=7.0
MAW Mawson 75.30 164 P **P** **05 56 22.1 -0.7**
comp=Z,28nm,1.0s,baz=214,slow=6.4,SNR=20
MAW Mawson 75.30 164 P **P** **05 56 23.0 +0.2**
W18A Petrified Fore 75.39 329 P **P** **05 56 24.5 +0.6**
W18A IAmb IAmb 05 56 36.0
comp=Z,41nm,1.0s
W18A Petrified Fore 75.39 329 P **P** **05 56 24.6 +0.8**
baz=148,SNR=6.3
I63A Otisfield 75.48 1 P **P** **05 56 24.3 +0.4**
I63A Otisfield 75.48 1 P **P** **05 56 25.5 +1.6**
baz=181,SNR=11
PECO Prince Edward 75.48 356 P **P** **05 56 23.5 -0.4**
PECO IAmb IAmb 05 56 35.2
comp=Z,38nm,0.8s
J47A Sunmer 75.57 350 P **P** **05 56 23.9 -0.5**
L40A Anamosa 75.57 345 P **P** **05 56 23.4 -1.2**
X16A Lo Mia Camp, P 75.57 327 P **P** **05 56 25.2 +0.3**
X16A IAmb IAmb 05 56 28.8
comp=Z,29nm,1.0s
LBNH Lisbon 75.65 0 IAmb IAmb 05 56 42.4
comp=Z,32nm,0.9s
LBNH Lisbon 75.65 0 P **P** **05 56 26.1 +1.2**
baz=180
SCIA State Center 75.88 344 P **P** **05 56 26.0 -0.2**
SCIA IAmb IAmb 05 56 38.1
comp=Z,36nm,1.0s
SCIA State Center 75.88 344 P **P** **05 56 26.8 +0.5**
baz=162
SDCO Great Sand Dun 75.89 333 P **P** **05 56 27.5 +0.6**
baz=151,SNR=15
SUR Sutherland 75.90 119 LR LR 06 26 18.7
comp=Z,3µm,20.3s,baz=95,slow=33
SUR Sutherland 75.90 119 P **P** **05 56 26.9 -0.3**
SUR IAmb IAmb 05 56 40.6
comp=Z,40nm,0.9s
KSCO Kaye Shedlock' 75.96 336 P **P** **05 56 27.4 +0.4**
KSCO IAmb IAmb 05 56 38.9
comp=Z,40nm,1.0s
KSCO Kaye Shedlock' 75.96 336 P **P** **05 56 28.1 +1.0**
baz=154
I49A Point Hope 76.00 352 P **P** **05 56 27.1 +0.2**
WVL Waterville 76.01 2 IAmb IAmb 05 56 30.2
comp=Z,36nm,1.1s
LONY Lake Ozonia 76.07 358 IAmb IAmb 05 56 44.3
comp=Z,41nm,1.1s
LONY Lake Ozonia 76.07 358 P **P** **05 56 27.3 0.0**
baz=178,SNR=7.4
GLA Glamis 76.09 324 P **P** **05 56 28.0 +0.3**
baz=144,SNR=6.2
DELO Deloro Mine 76.10 356 IAmb IAmb 05 56 38.6
comp=Z,31nm,1.2s
JFWS Jewell Farm 76.19 346 P **P** **05 56 27.0 -1.0**
JFWS pmax pmax
comp=Z,37nm,1.1s
JFWS Jewell Farm 76.19 346 P **P** **05 56 27.0 -1.0**
JFWS IAmb IAmb 05 56 40.9
comp=Z,37nm,1.1s
JFWS Jewell Farm 76.19 346 P **P** **05 56 27.5 -0.5**
baz=164,SNR=7.8
EMMW East Machias 76.23 3 P **P** **05 56 28.1 -0.1**
EMMW IAmb IAmb 05 56 31.5
comp=Z,40nm,0.9s
FRNY Flat Rock 76.26 359 IAmb IAmb 05 56 40.4
comp=Z,28nm,0.8s
S22A 4UR Ranch, Cre 76.41 332 P **P** **05 56 29.8 0.0**
baz=150,SNR=10
IKP In-Ko-Pah, Jac 76.42 323 P **P** **05 56 30.6 +0.9**
baz=143
CBX Cerro Bola 76.44 322 P **P** **05 56 28.5 -1.4**
WUAZ Wupatki 76.45 328 P **P** **05 56 30.4 +0.5**
WUAZ IAmb IAmb 05 56 42.2
comp=Z,37nm,0.9s
WUAZ Wupatki 76.45 328 P **P** **05 56 30.2 +0.3**
baz=146,SNR=15
SADO Sadowa 76.46 355 IAmb IAmb 05 56 40.4
comp=Z,44nm,0.9s
K38A Parkersburg 76.47 344 IAmb IAmb 05 56 42.1
comp=Z,19nm,0.8s
SWSC Sam W. Stewart 76.50 323 P **P** **05 56 30.0 0.0**
baz=143
PLVO Plevna 76.59 356 IAmb IAmb 05 56 41.5
comp=Z,31nm,0.9s
MVCO Mesa Verde 76.63 331 IAmb IAmb 05 56 42.8
comp=Z,32nm,1.0s
MVCO Mesa Verde 76.63 331 P **P** **05 56 31.2 +0.2**
baz=149,SNR=16
PKME Peaks-Kenny Pk 76.72 2 IAmb IAmb 05 56 34.0
comp=Z,38nm,1.1s
PKME Peaks-Kenny Pk 76.72 2 P **P** **05 56 31.8 +0.9**
baz=182,SNR=7.9
G65A Princeton 76.72 3 IAmb IAmb 05 56 34.3
comp=Z,43nm,1.1s
BAR Barrett 76.74 322 IAmb IAmb 05 56 49.8
comp=Z,39nm,1.2s
PDMCI Parker Dam,Lak 76.76 325 P **P** **05 56 32.6 +1.1**
baz=144
MONP2 Monument Peak 76.77 323 P **P** **05 56 32.5 +0.7**
baz=142,SNR=6.8
TJX Tijuana 76.80 322 IAMs_20 IAMs_20 06 20 33.4
comp=Z,4µm,18.0s
Q24A Divide 76.83 334 P **P** **05 56 32.3 +0.1**
baz=152,SNR=14
I42A Draeger Farm, 76.87 348 IAmb IAmb 05 56 43.3
comp=Z,36nm,1.1s
BC3 Big Chuckawall 76.89 324 P **P** **05 56 32.4 +0.1**
baz=143,SNR=21
GLMI Grayling 77.10 351 P **P** **05 56 33.5 +0.3**
baz=169
IRM Iron Mountain 77.13 324 P **P** **05 56 33.8 +0.2**
baz=144,SNR=12

F63A	Nahmakanta, Br	77.16	2	IAmb	IAmb	05 56 36.7				
	comp=Z,43nm,1.1s									
I40A	Norwalk	77.20	346	IAmb	IAmb	05 56 44.5				
	comp=Z,27nm,0.9s									
F64A	Sherman	77.35	3	P	P		05 56 34.1	-0.3		
TPFO	Pinon Flats	77.35	323	P	P		05 56 35.7	+0.7		
	baz=143,SNR=15									
PFO	Pinyon Flats O	77.36	323	P	P		05 56 33.8	-1.2		
PFO				pmax	pmax					
	comp=Z,37nm,1.2s									
PFO	Pinyon Flats O	77.36	323	P	P		05 56 33.8	-1.2		
PFO				IAmb	IAmb	05 56 47.4				
	comp=Z,37nm,1.1s									
PFO	Pinyon Flats O	77.36	323	P	P		05 56 36.0	+0.9		
	baz=143,SNR=17									
BELC	Belle Mtn. Jos	77.44	324	P	P		05 56 36.3	+0.8		
	baz=143									
PV13	Radium Mtn., P	77.57	331	IAmb	IAmb	05 56 48.0				
	comp=Z,33nm,1.0s									
PV02	Paradox Valley	77.58	331	IAmb	IAmb	05 56 48.1				
	comp=Z,31nm,1.0s									
PV05	Paradox Valley	77.62	331	IAmb	IAmb	05 56 48.1				
	comp=Z,28nm,0.9s									
PV18	Skein Mesa, Pa	77.68	331	IAmb	IAmb	05 56 48.4				
	comp=Z,23nm,0.9s									
SMCO	Snowmass	77.71	333	IAmb	IAmb	05 56 58.0				
	comp=Z,55nm,1.4s									
MURC	Murrieta	77.73	323	P	P		05 56 37.4	+0.4		
	baz=142,SNR=10.0									
PV17	East Wray Mesa	77.73	331	P	P		05 56 36.4	-0.7		
PV17				IAmb	IAmb	05 56 48.7				
	comp=Z,19nm,0.8s									
ISCO	Idaho Springs	77.73	334	P	P		05 56 36.3	-0.9		
ISCO				pmax	pmax					
	comp=Z,21nm,1.0s									
ISCO	Idaho Springs	77.73	334	P	P		05 56 36.3	-0.9		
ISCO	Idaho Springs	77.73	334	P	P		05 56 37.7	+0.5		
	baz=151,SNR=14									
PV04	Paradox Valley	77.81	331	IAmb	IAmb	05 56 49.3				
	comp=Z,26nm,1.0s									
PV14	Lion Creek, Pa	77.84	331	IAmb	IAmb	05 56 49.3				
	comp=Z,26nm,0.9s									
PV10	Paradox Valley	77.85	331	IAmb	IAmb	05 56 49.0				
	comp=Z,33nm,0.9s									
PV23	Carpenter Ridg	77.90	331	P	P		05 56 37.5	-0.7		
I37A	Lemond, Waseca	77.92	344	IAmb	IAmb	05 56 50.5				
	comp=Z,32nm,0.9s									
K31A	O'Neill	78.00	340	P	P		05 56 37.8	-0.4		
PQI	Presque Isle	78.17	3	IAmb	IAmb	05 56 51.0				
	comp=Z,38nm,0.9s									
HEC	Hector,Ludlow	78.26	324	P	P		05 56 40.4	+0.4		
	baz=143,SNR=6.0									
KNB	Kanab	78.35	328	IAmb	IAmb	05 56 52.9				
	comp=Z,48nm,1.0s									
ECSD	EROS Data Cent	78.44	342	IAmb	IAmb	05 56 51.8				
	comp=Z,37nm,0.8s									
ECSD	EROS Data Cent	78.44	342	P	P		05 56 40.0	-0.7		
	baz=159,SNR=18									
BFSC	Mount Baldy Ra	78.47	323	P	P		05 56 40.3	-0.9		
	baz=142									
TUQ	Turquoise Moun	78.54	325	P	P		05 56 42.3	+0.7		
	baz=143,SNR=19									
RRX	Edison Barstow	78.63	324	P	P		05 56 45.3	+3.4		
	baz=142									
MWC	Mount Wilson	78.66	323	IAmb	IAmb	05 56 56.9				
	comp=Z,32nm,1.1s									
N23A	Red Feather La	78.81	334	P	P		05 56 43.8	+0.7		
	baz=151,SNR=6.7									
DECC	Green Verdugo	78.83	322	P	P		05 56 45.3	+2.3		
	baz=141									
GSC	Goldstone, Bar	78.87	324	IAmb	IAmb	05 56 58.0				
	comp=Z,29nm,1.2s									
GSC	Goldstone, Bar	78.87	324	P	P		05 56 44.0	+0.7		
	baz=142,SNR=6.7									
BATG	Bathurst New B	78.88	4	P	P		05 56 43.2	+0.2		
BATG				IAmb	IAmb	05 56 54.9				
	comp=Z,30nm,1.0s									
SPMN	Marine on St.	78.93	345	P	P		05 56 43.8	+0.5		
	baz=162									
SZCU	Shurtz Canyon	78.94	328	IAmb	IAmb	05 56 55.5				
	comp=Z,34nm,1.2s									
E43A	Lone Tree Farm	78.96	350	IAmb	IAmb	05 56 55.0				
	comp=Z,35nm,0.9s									
LMQ	La Malbaie	78.98	1	IAmb	IAmb	05 56 55.0				
	comp=Z,40nm,0.9s									
SHPR	Sheep Range	79.03	326	IAmb	IAmb	05 56 56.5				
	comp=Z,25nm,0.9s									
O20A	White River Ci	79.03	333	IAmb	IAmb	05 56 56.1				
	comp=Z,27nm,0.9s									
O20A	White River Ci	79.03	333	P	P		05 56 45.1	+0.9		
	baz=149,SNR=12									
CCUT	Cedar City	79.03	328	IAmb	IAmb	05 56 57.0				
	comp=Z,35nm,1.0s									
SHOC	Shoshone, Teco	79.08	325	P	P		05 56 45.5	+1.1		
	baz=143,SNR=5.4									
SRU	San Rafael Swe	79.08	330	IAmb	IAmb	05 56 56.0				
	comp=Z,24nm,0.9s									
EDW2	Edwards Air Fo	79.14	323	P	P		05 56 45.1	+0.3		
	baz=142,SNR=7.2									
Q16A	Castle Valley	79.20	330	IAmb	IAmb	05 56 57.1				
	comp=Z,35nm,1.1s									
P17A	Butcher Ranch,	79.48	331	IAmb	IAmb	05 56 58.2				
	comp=Z,38nm,1.1s									
TCRU	Three Creeks R	79.49	329	P	P		05 56 46.5	-0.4		
GWY	Greenwater Val	79.50	325	IAMs_20	IAMs_20	06 37 21.0				
	comp=Z,2µm,18.0s									
PRN	Pahroc Range	79.70	326	IAmb	IAmb	05 57 00.4				
	comp=Z,43nm,0.9s									
KOWA	Kowa	79.72	66	P	P		05 56 48.8	+0.5		
MPMC	Manual Prospec	79.81	324	P	P		05 56 48.8	+0.2		
	baz=142,SNR=12									
FURC	Furnace Creek,	79.82	325	P	P		05 56 49.2	+0.9		
	baz=143,SNR=7.0									
TSUM	Tsumeb	79.82	106	LR	LR	06 27 13.4				
	comp=Z,4µm,20.5s,baz=230,slow=32									
TSUM	Tsumeb	79.82	106	P	P		05 56 49.2	+0.1		
TSUM				IAmb	IAmb	05 57 01.9				
	comp=Z,69nm,1.1s									
TSUM				IAMs_20	IAMs_20	06 27 23.3				
	comp=Z,4µm,20.0s									
TPNV	Topopah Spring	79.90	325	P	P		05 56 48.8	-0.2		
TPNV				pmax	pmax					
	comp=Z,28nm,1.0s									
TPNV	Topopah Spring	79.90	325	P	P		05 56 48.8	-0.2		
TPNV				IAmb	IAmb	05 57 06.2				
	comp=Z,28nm,0.9s									
TPNV	Topopah Spring	79.90	325	P	P		05 56 49.5	+0.5		
	baz=143,SNR=18									
RDMU	Red Mountain	79.93	332	IAmb	IAmb	05 57 00.6				
	comp=Z,30nm,0.9s									
ISA	Isabella, Lake	80.00	323	IAmb	IAmb	05 57 06.6				
	comp=Z,36nm,1.1s									
ISA	Isabella, Lake	80.00	323	P	P		05 56 50.3	+0.8		
	baz=141,SNR=15									
PKM	Mcpherson Peak	80.09	322	P	P		05 56 50.6	+0.4		
	baz=140,SNR=9.0									
CWC	Cottonwood Cre	80.40	324	P	P		05 56 52.2	+0.4		
	baz=142									
VES	Vestal, Richgr	80.45	323	P	P		05 56 52.6	+0.8		
	baz=141,SNR=15									
GRAC	Grapevine Rang	80.48	325	P	P		05 56 53.3	+1.3		
	baz=142									
SMMC	Simmler	80.52	322	P	P		05 56 52.9	+0.7		
	baz=140,SNR=6.1									
K22A	Casper	80.56	335	IAmb	IAmb	05 56 55.2				
	comp=Z,40nm,1.2s									
K22A	Casper	80.56	335	P	P		05 56 53.3	+0.9		
	baz=151,SNR=9.3									
SPR3	Spring Creek 3	80.65	328	IAmb	IAmb	05 57 04.8				
	comp=Z,27nm,1.0s									
R11A	Troy Canyon, C	80.71	327	P	P		05 56 53.7	+0.3		
	baz=144,SNR=23									
TIN	Tinemaha, Big	80.96	324	P	P		05 56 55.9	+1.2		
	baz=142									
DUG	Dugway, Tooele	80.96	330	P	P		05 56 56.0	+1.4		
	baz=146,SNR=12									
PAGB	Antelope Grade	80.97	322	IAmb	IAmb	05 57 09.5				
	comp=Z,26nm,1.0s									
RSSD	Black Hills	80.99	337	P	P		05 56 54.9	+0.1		
RSSD				pmax	pmax					
	comp=Z,17nm,0.9s									
RSSD	Black Hills	80.99	337	P	P		05 56 54.9	+0.1		
RSSD	Black Hills	80.99	337	P	P		05 56 55.4	+0.6		
	baz=153									
BOSA	Boshof	81.10	118	P	P		05 56 55.1	-0.8		
	comp=Z,26nm,0.9s,baz=237,slow=4.0,SNR=17									
BOSA				LR	LR	06 29 30.8				
	comp=Z,4µm,19.6s,baz=346,slow=33									
BOSA	Boshof	81.10	118	P	P		05 56 56.4	+0.5		
TCUT	Toone Canyon	81.14	331	P	P		05 56 55.9	+0.2		
TCUT				IAmb	IAmb	05 57 08.1				
	comp=Z,22nm,0.8s									
EYMN	Ely	81.26	347	P	P		05 56 55.7	-0.2		
	baz=163									
HWUT	Hardware Ranch	81.61	331	IAmb	IAmb	05 57 09.3				
	comp=Z,26nm,0.8s									
HWUT				IAMs_20	IAMs_20	06 29 53.0				
	comp=Z,4µm,20.0s									
MLAC	Mammoth, Mammo	81.71	324	P	P		05 56 59.8	+1.0		
	baz=141,SNR=8.7									
D32A	Dogwood Acres,	81.71	343	P	P		05 56 57.0	-1.2		
D32A				IAmb	IAmb	05 57 11.1				
	comp=Z,36nm,1.0s									
BW06	Boulder Array	81.79	333	P	P		05 56 59.4	+0.3		
BW06	Boulder Array	81.79	333	P	P		05 56 59.6	+0.5		
	baz=149,SNR=7.3									
PD31	Pinedale Array	81.79	333	P	P		05 56 58.7	-0.4		
PDAR	Pinedale Array	81.79	333	P	P		05 56 57.8	-1.3		
	comp=Z,4.2nm,1.0s,baz=151,slow=4.2,SNR=14									
LHV	Little Huntoon	82.03	325	IAmb	IAmb	05 57 17.3				
	comp=Z,36nm,0.9s									
NVAR	Mina Array Bea	82.07	325	P	P		05 57 00.7	0.0		
	comp=Z,8.9nm,0.9s,baz=157,slow=6.1,SNR=22									
B35A	Bob, Littlefor	82.11	346	IAmb	IAmb	05 57 10.9				
	comp=Z,26nm,0.8s									
E28A	Huff	82.18	340	IAmb	IAmb	05 57 12.2				
	comp=Z,38nm,0.9s									
CASY	Casey	82.24	181	P	P		05 57 01.6	+0.6		
CASY				IAmb	IAmb	05 57 18.1				
	comp=Z,46nm,1.1s									
HVU	Hansel Valley	82.26	330	IAmb	IAmb	05 57 12.8				
	comp=Z,20nm,0.8s									
RYN	Ryan	82.33	325	IAmb	IAmb	05 57 13.8				
	comp=Z,22nm,0.9s									
KVN	Kaiserville	82.46	326	IAmb	IAmb	05 57 14.1				
	comp=Z,26nm,0.9s									
ELK	Elko	82.48	328	IAmb	IAmb	05 57 14.5				
	comp=Z,22nm,0.8s									
AGMN	Agassiz Nation	82.52	344	IAmb	IAmb	05 57 12.9				
	comp=Z,20nm,0.8s									
AGMN	Agassiz Nation	82.52	344	P	P		05 57 02.9	+0.4		
	baz=160,SNR=6.8									
REDW	Red Top Meadow	82.80	333	IAmb	IAmb	05 57 24.4				
	comp=Z,19nm,1.1s									
TPAW	Teton Pass	82.94	333	IAmb	IAmb	05 57 20.1				
	comp=Z,19nm,1.1s									
YERR	Yerington	82.96	325	IAmb	IAmb	05 57 17.4				
	comp=Z,38nm,1.0s									
MDND	Maddock	83.04	342	P	P		05 57 06.9	+1.7		
	baz=157									
FXWY	Fox Creek	83.10	333	IAMs_20	IAMs_20	06 34 24.4				
	comp=Z,3µm,19.0s									
LBTB	Lobatse	83.23	115	P	P		05 57 06.8	-0.3		
LBTB	Lobatse	83.23	115	P	P		05 57 06.8	-0.3		
FLWY	Flagg Ranch	83.34	333	IAmb	IAmb	05 57 22.4				
	comp=Z,20nm,0.9s									
VCNR	Virginia City	83.40	325	IAmb	IAmb	05 57 19.5				
	comp=Z,20nm,1.0s									
TOC4	Torodi Ar. Sit	83.44	70	IAMs_20	IAMs_20	06 30 50.0				
	comp=Z,4µm,21.0s									
TORD	Torodi Ar. Bea	83.45	70	P	P		05 57 07.5	-0.6		
	comp=Z,42nm,0.8s,baz=260,slow=4.8,SNR=55									
TORD				LR	LR	06 31 11.5				
	comp=Z,3µm,21.0s,baz=275,slow=34									
TORD	Torodi Ar. Bea	83.45	70	P	P		05 57 07.5	-0.6		
TOC3	Torodi Ar. Sit	83.47	70	IAMs_20	IAMs_20	06 31 00.7				
	comp=Z,4µm,20.0s									
H17A	Grant Village	83.56	333	P	P		05 57 09.3	+1.0		
	baz=148									
PAHR	Pah Rah Range	83.59	325	IAmb	IAmb	05 57 20.5				
	comp=Z,29nm,1.0s									
RLMT	Red Lodge	83.69	334	IAMs_20	IAMs_20	06 24 48.2				
	comp=Z,4µm,21.0s									
RLMT	Red Lodge	83.69	334	P	P		05 57 07.3	-1.6		
	baz=148									
YNE	Yellowstone No	83.86	334	P	P		05 57 09.1	-0.7		
YNE				IAmb	IAmb	05 57 26.9				
	comp=Z,30nm,1.5s									
YMR	Madison River	83.94	333	P	P		05 57 10.2	0.0		
YMR				IAmb	IAmb	05 57 22.0				
	comp=Z,25nm,0.9s									
YHH	Holmes Hill	84.00	333	P	P		05 57 10.2	-0.4		
YHH				IAmb	IAmb	05 57 22.1				
	comp=Z,17nm,1.0s									
YHB	Horse Butte	84.10	333	P	P		05 57 10.5	-0.5		
BEKR	Beckworth	84.19	325	P	P		05 57 11.8	+0.2		
QLMT	Earthquake Lak	84.26	333	P	P		05 57 11.2	-0.6		
ULM	Lac du Bonnet	84.36	345	P	P		05 57 10.9	-0.9		
	comp=Z,16nm,1.0s,baz=174,slow=0.9,SNR=7.6									
ULM	Lac du Bonnet	84.36	345	IAmb	IAmb	05 57 22.3				
	comp=Z,24nm,0.9s									
HLID	Hailey	84.41	331	IAmb	IAmb	05 57 24.3				
	comp=Z,16nm,0.9s									
HLID	Hailey	84.41	331	P	P		05 57 12.4	-0.1		
	baz=145,SNR=16									
ORV	Oroville	84.52	324	IAmb	IAmb	05 57 25.0				
	comp=Z,31nm,1.1s									
MFID	Camas Ranch	84.89	330	P	P		05 57 14.8	-0.1		
DGMT	Dagmar	84.92	339	P	P		05 57 14.8	0.0		
	baz=153,SNR=11									
BOZ	Bozeman (W)	84.98	333	P	P		05 57 14.7	-0.6		
BOZ				pmax	pmax					
	comp=Z,11nm,1.3s									
BOZ	Bozeman (W)	84.98	333	P	P		05 57 14.7	-0.6		
BOZ	Bozeman (W)	84.98	333	P	P		05 57 14.8	-0.6		
	baz=147									
BKZ	Black Stump Fm	84.99	227	IAMs_20	IAMs_20	06 26 07.5				
	comp=Z,3µm,19.0s									
DLMT	Dillon	85.16	333	P	P		05 57 15.7	-0.5		
DLMT				IAmb	IAmb	05 57 33.8				
	comp=Z,27nm,1.2s									
O03E	Paynes Creek	85.23	324	P	P		05 57 17.5	+0.8		
	baz=140									
LRM	Limekiln Ridge	85.48	333	P	P		05 57 17.6	-0.3		
O02D	Mt. Diablo Mer	85.64	323	P	P		05 57 21.2	+2.5		
	baz=139									
HRY	Holter Researc	85.99	334	P	P		05 57 19.8	-0.5		
N02D	Trinity Center	86.19	324	P	P		05 57 21.6	+0.2		
	baz=139									
PLID	Pearl Lake	86.31	330	P	P		05 57 21.5	-0.6		
PLID				IAmb	IAmb	05 57 24.4				
	comp=Z,22nm,1.1s									
EGMT	Eagleton	86.34	336	P	P		05 57 22.4	+0.4		
EGMT				IAMs_20	IAMs_20	06 43 40.4				
	comp=Z,4µm,20.0s									
EGMT	Eagleton	86.34	336	P	P		05 57 22.2	+0.3		
	baz=149									
SCHQ	Schefferville	86.37	3	P	P		05 57 21.7	-0.1		
	comp=Z,16nm,1.1s,baz=152,slow=6.1,SNR=6.9									
SCHQ	Schefferville	86.37	3	P	P		05 57 21.5	-0.3		
M04C	Macdoel	86.38	325	P	P		05 57 23.5	+1.1		
	baz=140									
M02C	Callahan	86.58	324	P	P		05 57 22.8	-0.5		
	baz=139									
KHMM	Horse Mountain	86.64	323	P	P		05 57 22.9	-0.8		
KHMM				IAmb	IAmb	05 57 38.2				
	comp=Z,35nm,1.1s									
MSO	Missoula	86.89	333	P	P		05 57 25.9	+1.1		
	baz=145									
L04D	Klamath Falls	86.93	325	P	P		05 57 22.8	-2.3		
	baz=139									
K04D	Chiloquin, OR	86.97	326	P	P		05 57 26.8	+1.5		
	baz=140									
I07A	Izee	87.05	328	IAmb	IAmb	05 57 37.3				
	comp=Z,18nm,0.9s									
J05D	Fort Rock, OR	87.23	326	P	P		05 57 26.7	+0.2		
	baz=140,SNR=7.0									
L02E	Cave Junction	87.53	324	P	P		05 57 27.3	-0.5		
	baz=138									
F10A	Beach Ranch, E	87.54	330	P	P		05 57 27.6	-0.3		
G08A	Pilot Rock	87.74	329	P	P		05 57 28.8	-0.1		
G08A				IAmb	IAmb	05 57 42.5				
	comp=Z,16nm,1.2s									
JTMT	Jette	87.78	333	IAmb	IAmb	05 57 40.1				
	comp=Z,14nm,0.8s									
K02D	Willamette Mer	87.96	325	P	P		05 57 29.7	-0.2		
	baz=138									
I05D	Terrebonne, OR	88.08	327	P	P		05 57 31.7	+1.3		
	baz=140									
I04A	Tendick Farm,	88.17	326	P	P		05 57 29.7	-1.1		
	baz=139									
I03D	Drain, OR	88.55	326	P	P		05 57 32.5	-0.1		
	baz=138									
WALA	Waterton Lakes	88.72	334	IAmb	IAmb	05 57 35.5				
	comp=Z,26nm,1.2s									
E08A	Dider Farm, El	88.73	330	P	P		05 57 33.2	-0.1		
H04A	Detroit Lake	88.74	327	P	P		05 57 33.5	0.0		
H04A				IAmb	IAmb	05 57 45.0				
	comp=Z,12nm,0.8s									
HAWA	Hanford	88.86	329	IAmb	IAmb	05 57 53.4				
	comp=Z,16nm,0.9s									
E07A	Sunnyside	89.12	329	IAmb	IAmb	05 57 48.9				
	comp=Z,20nm,1.4s									
NEW	Newport	89.32	332	P	P		05 57 35.8	-0.4		
NEW				pmax	pmax					
	comp=Z,10.0nm,1.1s									
NEW	Newport	89.32	332	P	P		05 57 35.8	-0.4		
NEW	Newport	89.32	332	P	P		05 57 36.3	+0.1		
	baz=143									
C09A	Chrisman Ranch	89.42	331	P	P		05 57 36.2	-0.4		
C09A				IAmb	IAmb	05 57 47.6				
	comp=Z,17nm,0.9s									
E04D	Cinebar	90.33	328	P	P		05 57 41.2	+0.4		
	baz=139									
MDT	Midelt	90.42	51	P	P		05 57 42.9	+1.1		
	comp=Z,5.6nm,1.1s,baz=257,slow=3.1,SNR=5.5									
D05A	Enumclaw	90.55	329	IAmb	IAmb	05 57 55.8				
	comp=Z,19nm,1.0s									
B05A	Bryant	91.41	329	P	P		05 57 46.2	+0.4		
	baz=139									
EDM	Edmonton	91.96	337	IAmb	IAmb	05 58 03.4				
	comp=Z,32nm,1.3s									
A04D	Lummi Island	92.02	329	P	P		05 57 47.7	-0.9		
	baz=139									
JCUZ	Jacuzzi	94.35	290	IAMs_20	IAMs_20	06 44 02.0				
	comp=Z,3µm,20.0s									
ES14	SONSECA Array	95.00	46	IAMs_20	IAMs_20	06 39 27.7				
	comp=Z,3µm,19.0s									
ES15	SONSECA Array	95.01	46	IAMs_20	IAMs_20	06 39 15.7				
	comp=Z,3µm,19.0s									
ES16	SONSECA Array	95.02	46	IAMs_20	IAMs_20	06 39 17.1				
	comp=Z,3µm,19.0s									
ES12	SONSECA Array	95.03	46	IAMs_20	IAMs_20	06 39 29.2				
	comp=Z,3µm,19.0s									
ESDC	Sonseca Array	95.03	46	P	P		05 58 03.0	+0.2		
	comp=Z,2.1nm,1.0s,baz=280,slow=4.1,SNR=5.4									
DZM	Mont Dzumac	102.55	234	*e*LR	LR	06 32 18.3				
	comp=Z,8µm,22.4s									
CORL	Corleone	105.41	55	IAMs_20	IAMs_20	06 49 31.1				
	comp=Z,2µm,18.0s									
AGG	Agios Georgios	112.28	57	IAMs_20	IAMs_20	06 53 01.6				
	comp=Z,2µm,20.0s									
KLNR	Kaliningrad	116.46	40	*i* PKIKP	PKiKP	06 03 24.3	+0.9			
KLNR				pmax	pmax					
	comp=Z,24nm,0.9s									
MLR	Muntele Rosu	117.11	51	PKP	PKPdf	06 03 24.7	-0.5			
	comp=Z,2.6nm,0.6s,baz=270,slow=3.0,SNR=4.4									
ASAR	Alice Springs	119.54	207	PKP	PKPdf	06 03 29.0	-1.5			
	comp=Z,2.4nm,0.8s,baz=159,slow=2.6,SNR=14									
ASAR				PKKPbc	PKKPbc	06 13 42.5	+1.3			
	comp=Z,1.4nm,0.8s,baz=336,slow=3.2,SNR=6.3									
ASAR	Alice Springs	119.54	207	PKiKP	PKPdf	06 03 28.1	-2.4			
ASAR	Alice Springs	119.54	207	PKPdf	PKPdf	06 03 28.1	-2.4			
AKASG	Malin Array Be	120.68	46		PKPdf	06 03 30.2	-1.4			
	comp=Z,1.6nm,0.6s,baz=276,slow=2.4,SNR=8.7									
AKASG				PKKPbc	PKKPbc	06 13 40.1	+3.0			
	comp=Z,0.7nm,0.4s,baz=68,slow=3.8,SNR=5.1									
AKASG	Malin Array Be	120.68	46		PKPdf	06 03 31.3	-0.3			
BRTR	Keskin Array B	120.73	60	PKP	PKPdf	06 03 31.1	-1.3			
	comp=Z,3.3nm,0.8s,baz=178,slow=3.3,SNR=9.1									
BRTR	Keskin Array B	120.73	60	PKIKP	PKPdf	06 03 30.7	-1.6			
BRTR	Keskin Array B	120.73	60	PKPdf	PKPdf	06 03 30.7	-1.6			
MNK	Minsk	120.75	42	*i* PKP	PKPdf	06 03 31.4	-0.2			
	comp=E,3.0nm,0.8s									
MNK				*i* PKP	PKPdf	06 03 31.4	-0.2			
	comp=N,18nm,1.0s									
MNK				*i* PKP	PKPdf	06 03 31.4	-0.2			
	comp=Z,25nm,0.8s,baz=77									
MNK				*i* PP	PP	06 05 02.1	+1.9			
MNK				*i* PPP	PPP	06 07 35.7				
MNK				*i* SKS	SKSdf	06 10 40.7	-3.1			
MNK				*i* PS	PS	06 14 53.6	+2.3			
MNK				*i* SS	SS	06 21 33.0	+1.8			
MNK				*i* LQ	LQ	06 48 48.8				
MNK				*i* LR	LR	06 54 12.1				
MNK				*i* LRM	MLR	06 55 20.3				
	comp=N,455nm,19.6s									
MNK				*i* LRM	MLR	06 55 26.6				
	comp=E,239nm,18.8s									
MNK				*i* LRM	MLR	06 55 49.8				
	comp=Z,1µm,21.0s									
VSU	Vasula	120.94	37	*i* PKIKP	PKiKP	06 03 32.9	+0.9

NRIK	**Noril'sk**	**140.65**	**11**	PKP	**PKPdf**	**06 04 08.2**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=0.0,slow=1.0,SNR=1.5						
HRA	**Herat**	**141.84**	**73**	IAMs_20	IAMs_20	06 50 58.1	
	comp=Z,1μm,18.0s						
PALK	**Pallekele**	**144.78**	**128**	PKP	**PKPab**	**06 04 16.5**	**-0.2**
	comp=Z,24nm,1.0s,baz=329,slow=2.4,SNR=3.9						
BRVK	**Borovoye**	**145.55**	**41**	PKIKP	**PKPdf**	**06 04 16.1**	**-1.8**
BRVK	**Borovoye**	**145.55**	**41**		**PKiKP**	**06 04 20.3**	**-1.6**
BRVK				IAMs_20	IAMs_20	07 09 38.3	
	comp=Z,1μm,20.0s						
BVAR	**Borovoye Array**	**145.63**	**41**	PKPbc	**PKPdf**	**06 04 18.1**	**+0.1**
	comp=Z,27nm,0.8s,baz=243,slow=6.5,SNR=38						
POO	**Poona**	**146.57**	**105**	*e*P	**PKPdf**	**06 04 20.0**	**-0.7**
YAK	**Yakutsk**	**146.64**	**342**	PKPbc	**PKPbc**	**06 04 21.1**	**+0.1**
	comp=Z,10nm,0.3s,baz=158,slow=0.3,SNR=4.1						
YAK	**Yakutsk**	**146.64**	**342**	*e*PKP2	**PKiKP**	**06 04 29.6**	**+5.8**
YAK				pmax	pmax		
	comp=Z,59nm,1.0s						
YAK				pmax	pmax		
	comp=N,15nm,1.2s						
YAK				pmax	pmax		
	comp=E,12nm,1.1s						
YAK				pmax	pmax		
	comp=Z,1μm,11.6s						
YAK				pmax	pmax		
	comp=N,2μm,11.9s						
YAK				pmax	pmax		
	comp=E,1μm,11.3s						
YAK	**Yakutsk**	**146.64**	**342**		**PKPab**	**06 04 21.8**	**-0.3**
TOLI2	**Tolitoli**	**147.18**	**204**		**PKPbc**	**06 04 24.0**	**0.0**
KBL	**Kabul**	**147.43**	**74**	PKIKP	**PKPdf**	**06 04 21.4**	**-0.6**
KBL	**Kabul**	**147.43**	**74**		**PKPdf**	**06 04 21.4**	**-0.6**
CHGR	**Chuyangaron**	**147.74**	**67**	PKPbc	**PKiKP**	**06 04 26.2**	**-0.9**
KK31	**Karatay Array**	**148.43**	**58**	PKIKP	**PKPdf**	**06 04 23.8**	**+0.7**
KK31						06 04 27.4	
KK31	**Karatay Array**	**148.43**	**58**		**PKPdf**	**06 04 23.8**	**+0.7**
KK31				PKPbc	**pPKPbc**	**06 04 27.4**	**-0.4**
KKAR	**Karatay Array**	**148.43**	**58**	PKP2	**PKiKP**	**06 04 27.7**	**-0.5**
KKAR	**Karatay Array**	**148.43**	**58**		**PKiKP**	**06 04 27.7**	**-0.5**
GAR	**Garm**	**148.64**	**66**		**PKPdf**	**06 04 25.3**	**+1.6**
BTK	**Batken**	**148.98**	**64**	PKP2	**PKiKP**	**06 04 29.3**	**-0.2**
BTK	**Batken**	**148.98**	**64**		**PKiKP**	**06 04 29.3**	**-0.2**
YSS	**Yuzh-Sakhalins**	**149.42**	**310**	*e*PKIKP	PKPdf	06 04 15.7	-8.8
YSS				pmax	pmax		
	comp=Z,20nm,1.5s						
DRK	**Karamyk**	**149.77**	**65**		**PKiKP**	**06 04 32.3**	**+0.9**
DRK				IAMs_20	IAMs_20	07 12 55.4	
	comp=Z,812nm,20.0s						
HYB	**Hyderabad**	**149.79**	**111**	*i* PKP	**PKPbc**	**06 04 29.0**	**-1.8**
RPSI	**Rantau Prapat**	**149.84**	**162**		**PKPbc**	**06 04 31.4**	**+0.4**
PSI	**Prapat**	**149.94**	**162**	PKPbc	**PKPbc**	**06 04 30.6**	**-0.8**
	comp=Z,20nm,0.9s,baz=183,slow=8.0,SNR=7.7						
JKA	**Kamikawa-asahi**	**150.26**	**304**	IAMs_20	IAMs_20	07 10 58.3	
	comp=Z,781nm,18.0s						
ASAJ	**Asahikawa**	**150.26**	**304**	PKPbc	**PKiKP**	**06 04 32.3**	**+0.4**
	comp=Z,10nm,0.9s,baz=244,slow=7.9,SNR=2.4						
NIL	**Nilore**	**150.81**	**77**	PKIKP	**PKPdf**	**06 04 26.7**	**-0.5**
NIL						06 04 33.7	
NIL						06 04 41.0	
NIL	**Nilore**	**150.81**	**77**	PKPdf	**PKPdf**	**06 04 26.7**	**-0.5**
NIL				PKPbc	**PKiKP**	**06 04 33.7**	**+0.3**
NIL				PKPab	**pPKPab**	**06 04 41.0**	**-0.2**
NIL	**Nilore**	**150.81**	**77**	IAMs_20	IAMs_20	07 13 53.8	
	comp=Z,984nm,22.0s						
EKS2	**Erkin-Say**	**150.87**	**58**	P	**PKPdf**	**06 04 29.2**	**+2.1**
	SNR=9.9						
KURBB	**Kurchatov Arra**	**151.22**	**41**	PKPbc	**PKPbc**	**06 04 32.9**	**-0.3**
	comp=Z,27nm,0.8s,baz=300,slow=2.9,SNR=19						
KURBB	**Kurchatov Arra**	**151.22**	**41**	PKIKP	**PKPbc**	**06 04 31.1**	**-2.0**
KURK	**Kurchatov**	**151.22**	**40**	PKIKP	**PKPbc**	**06 04 32.9**	**-0.3**
KURK	**Kurchatov**	**151.22**	**40**		**PKPbc**	**06 04 32.9**	**-0.3**
USP	**Ospenovka**	**151.27**	**57**	P	**PKiKP**	**06 04 35.0**	**+0.9**
	SNR=9.9						
AAK	**Ala-Archa**	**151.39**	**58**	PKP	**PKPdf**	**06 04 29.8**	**+1.8**
	comp=Z,4.4nm,0.9s,baz=247,slow=3.7,SNR=3.8						
AAK				PKPbc	**PKiKP**	**06 04 34.9**	**+0.3**
	comp=Z,29nm,0.9s,baz=198,slow=2.5,SNR=21						
AAK	**Ala-Archa**	**151.39**	**58**	P	**PKiKP**	**06 04 36.1**	**+1.5**
	SNR=11						
AAK	**Ala-Archa**	**151.39**	**58**	PKPdf	**PKPdf**	**06 04 28.6**	**+0.6**
AAK				PKPbc	**PKiKP**	**06 04 36.1**	**+1.5**
AAK	**Ala-Archa**	**151.39**	**58**	IAMs_20	IAMs_20	07 08 07.8	
	comp=Z,1μm,19.0s						
UCH	**Uchtor**	**151.48**	**59**	P	**PKPdf**	**06 04 25.0**	**-3.5**
	SNR=21						
CHMS	**Chumysh**	**151.50**	**57**	P	**PKiKP**	**06 04 35.8**	**+1.2**
	SNR=6.6						
KZA	**Kyzart**	**152.05**	**59**	P	**PKiKP**	**06 04 37.9**	**+1.7**
	SNR=7.8						
TKM2	**Tokmak 2**	**152.13**	**57**	P	**PKPdf**	**06 04 30.5**	**+1.3**
	SNR=5.4						
ZAA0	**Zalesovo Array**	**152.33**	**30**	PKPdf	**PKPdf**	**06 04 29.5**	**+0.7**
ZAA0				PKPbc	**pPKPbc**	**06 04 37.0**	**+0.3**
ZAA0				PKPab	**PKPab**	**06 04 45.8**	**+0.2**
ZALV	**Zalesovo Beam**	**152.33**	**30**	PKP	**PKPdf**	**06 04 29.5**	**+0.8**
	comp=Z,6.4nm,0.9s,baz=266,slow=2.2,SNR=5.6						
ZALV				PKPbc	**PKPbc**	**06 04 34.8**	**-0.7**
	comp=Z,37nm,0.6s,baz=304,slow=3.5,SNR=30						
ZALV	**Zalesovo Beam**	**152.33**	**30**	PKIKP	**PKPdf**	**06 04 28.9**	**+0.2**
ZALV						06 04 37.2	
ZALV	**Zalesovo Beam**	**152.33**	**30**	PKPdf	**PKPdf**	**06 04 28.9**	**+0.2**
ZALV				PKPbc	**sPKPbc**	**06 04 37.1**	**0.0**
ZALV				PKPab	**pPKPab**	**06 04 46.3**	**-0.4**
BOOM	**Boomskoye usch**	**152.47**	**58**	PKIKP	**PKPdf**	**06 04 29.8**	**+0.2**
BOOM						06 04 37.8	
BOOM	**Boomskoye usch**	**152.47**	**58**	PKPdf	**PKPdf**	**06 04 29.8**	**+0.2**
BOOM					**pPKPbc**	**06 04 37.8**	**+0.1**
BOOM					**sPKPab**	**06 04 48.8**	**+0.4**
ULHL	**Ulahol**	**152.74**	**58**	P	**PKiKP**	**06 04 39.2**	**+1.8**
	SNR=5.7						
KSH	**Kashi**	**152.98**	**64**	PKPbc	**PKPdf**	**06 04 31.9**	**+1.5**
KSH				LR	LR		
	comp=Z,1μm,17.1s						
KSH				LR	LR		
	comp=Z,750nm,17.5s						
NDI	**New Delhi**	**153.30**	**89**	*e*P	**PKiKP**	**06 04 40.5**	**+1.8**
KDJ	**Kajisay**	**153.44**	**58**	PKIKP	**PKPdf**	**06 04 29.1**	**-2.0**
KDJ						06 04 39.6	
KDJ						06 04 50.4	
KDJ	**Kajisay**	**153.44**	**58**		**PKPdf**	**06 04 29.1**	**-2.0**
KDJ				PKPbc	**pPKPbc**	**06 04 39.6**	**-0.3**
KDJ				PKPab	**PKPab**	**06 04 50.4**	**-0.6**
BOD	**Bodaibo**	**153.63**	**353**	*e*PKIKP	**PKPbc**	**06 04 34.9**	**-3.4**
BOD				pmax	pmax		
	comp=Z,35nm,1.1s						
ZEA	**Zeya**	**154.04**	**333**	*e*PKIKP	**PKPab**	**06 04 47.7**	**-5.1**
TEY	**Ternei**	**154.10**	**309**	*e*PKIKP	**PKPdf**	**06 04 25.3**	**-6.3**
KLR	**Kul'dur**	**155.05**	**321**	PKPbc	PKPdf	06 04 40.9	+8.1
	comp=Z,1.8nm,0.7s,baz=85,slow=3.4,SNR=5.5						
KLR				PKPab	**PKPab**	**06 04 57.8**	**+0.6**
	comp=Z,5.6nm,1.0s,baz=68,slow=8.5,SNR=5.0						
MK31	**Makanchi Array**	**155.25**	**45**	PKIKP	**PKPdf**	**06 04 31.4**	**-1.8**
MK31	**Makanchi Array**	**155.25**	**45**		**PKPdf**	**06 04 31.4**	**-1.8**
MK31				PKPab	**pPKPab**	**06 04 59.2**	**-0.3**
MKAR	**Makanchi Array**	**155.25**	**45**	PKP	**PKPdf**	**06 04 33.6**	**+0.3**
	comp=Z,3.0nm,0.9s,baz=343,slow=1.6,SNR=6.2						
MKAR				PKPbc	pPKPbc	06 04 42.2	-1.2
	comp=Z,7.6nm,0.9s,baz=316,slow=1.4,SNR=9.7						
MKAR				PKPab	**pPKPab**	**06 04 59.2**	**-0.3**
	comp=Z,12nm,0.9s,baz=298,slow=3.4,SNR=9.2						
MKAR	**Makanchi Array**	**155.25**	**45**	PKIKP	**PKPdf**	**06 04 32.2**	**-1.0**
MKAR	**Makanchi Array**	**155.25**	**45**		**PKPdf**	**06 04 32.2**	**-1.0**
MKAR				PKPab	**pPKPab**	**06 04 59.3**	**-0.1**
WMQ	**Urumqi**	**160.03**	**47**	*e*PKP	**PKPdf**	**06 04 39.3**	**0.0**
WMQ				LR	LR		
	comp=Z,960nm,22.3s						
WMQ				LR	LR		
	comp=Z,770nm,19.7s						
WMQ				LR	LR		
	comp=Z,1μm,17.9s						
ZAK	**Zakamensk**	**161.09**	**9**	*e*PKP2	**PKPab**	**06 05 23.1**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,17nm,1.4s						
KSRS	**Korea Array**	**162.64**	**294**	PKPab	**PKPab**	**06 05 31.6**	**+1.0**
	comp=Z,2.1nm,0.9s,baz=105,slow=6.1,SNR=4.9						
ULN	**Ulaanbaatar**	**163.92**	**2**	PKP2	**PKPab**	**06 05 35.4**	**-0.5**
ULN	**Ulaanbaatar**	**163.92**	**2**		**PKPab**	**06 05 35.4**	**-0.5**
SONM	**Songino Array**	**163.92**	**4**	PKP	**PKPdf**	**06 04 43.8**	**+0.5**
	comp=Z,1.4nm,1.1s,baz=151,slow=2.5,SNR=5.1						
SONM				PKPab	**pPKPab**	**06 05 37.4**	**+0.3**
	comp=Z,4.2nm,0.9s,baz=329,slow=4.5,SNR=8.1						
SONM	**Songino Array**	**163.92**	**4**	PKIKP	**PKPdf**	**06 04 41.8**	**-1.5**
SONM	**Songino Array**	**163.92**	**4**		**PKPdf**	**06 04 41.8**	**-1.5**
SONM					**pPKPab**	**06 05 37.3**	**+0.3**

CMAR	**Chiang Mai Arr**	**164.43**	**146**	PKP	**PKPdf**	**06 04 44.9**	**+0.5**
	comp=Z,4.5nm,0.9s,baz=255,slow=2.1,SNR=15						
CMAR				PKPab	**pPKPab**	**06 05 40.0**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=224,slow=3.8,SNR=1.6						
CMAR	**Chiang Mai Arr**	**164.43**	**146**		**PKPdf**	**06 04 45.5**	**+1.0**
BJI	**Beijing**	**169.41**	**323**	PKP	**PKPdf**	**06 04 48.3**	**+0.8**
GTA	**Gaotai**	**169.90**	**39**	⇓PKP	**PKPdf**	**06 04 49.6**	**+1.6**
GTA				PKPab	**sPKPab**	**06 06 04.6**	**+0.4**
GTA				PP	**PP**	**06 09 56.6**	**+4.2**
GTA				LR	LR		
	comp=Z,740nm,20.0s						
GTA				LR	LR		
	comp=Z,660nm,18.5s						
GTA				LR	LR		
	comp=Z,1μm,21.4s						
HHC	**Hu-ho-hao-te**	**170.50**	**343**	*e*P	**PKPdf**	**06 04 42.5**	**-5.8**
HHC				LR	LR		
	comp=N,670nm,19.2s						
HHC				LR	LR		
	comp=E,430nm,18.1s						
HHC				LR	LR		
	comp=Z,1μm,20.0s						
NJ2	**Nanjing**	**170.74**	**275**	*e*PKP	**PKPdf**	**06 04 47.4**	**-1.1**
BTO	**Baotou**	**171.04**	**350**	*e*PKP	**PKPdf**	**06 04 48.8**	**+0.3**
BTO				PP	**PP**	**06 10 02.9**	**+5.6**
BTO				SS	SS	06 30 58.8	-2.6
CD2	**Chengdu**	**176.30**	**102**	PKP	**PKPdf**	**06 04 50.0**	**-0.7**
XAN	**Xi'an**	**177.61**	**341**	PKP	**PKPdf**	**06 04 50.8**	**0.0**
XAN				LR	LR		
	comp=Z,640nm,19.4s						
XAN				LR	LR		
	comp=Z,460nm,19.4s						
XAN				LR	LR		
	comp=Z,790nm,22.2s						

*INET **17** 05:51:35.3, 11°.29N×85°.88W, h128km, MW4.2*
*UCR **17** 05:51:42.3±1.4, 11°.30N×85°.94W, h87km±4km, ML3.6, MW4.1*
*SNET **17** 05:51:46.8±0.9, 11°.40N×86°.25W, h91km±103km, ML3.9*

ISC 17 05:51:42.4±1.4, 11°.28N±0°.06×85°.95W±0°.06, h90km±12km, n68, σ0°.80/83, 14D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HZTE	**Horizontes, Gu**	**0.66**	**148**	*e*P		**Pn**		**05 51 58.9**	**+0.4**
GBS3	**Finca Las Img**	**0.69**	**136**	⇓*i*P		**Pn**		**05 51 58.5**	**-0.4**
GBS3				*i* S		**Sn**		**05 52 11.1**	**0.0**
GB1A	**Borinquen Arri**	**0.70**	**130**	⇓*i*P		**Pn**		**05 51 58.9**	**-0.2**
GB1A				*i* S		**Sn**		**05 52 11.8**	**+0.3**
BUEV	**Buena Vista**	**0.71**	**132**	*e*P		**Pn**		**05 51 59.0**	**-0.1**
BUEV				*e*S		**Sn**		**05 52 11.6**	**0.0**
BUAI	**Buenos Aires**	**0.72**	**123**	⇓*i*P		**Pn**		**05 51 59.1**	**-0.1**
BUAI				*i* S		**Sn**		**05 52 11.9**	**+0.2**
GPS3	**Bodega del ICE**	**0.77**	**132**	⇓*i*P		**Pn**		**05 51 59.4**	**-0.3**
GPS2	**Hotel Rincn d**	**0.78**	**132**	*e*P		**Pn**		**05 51 59.7**	**-0.1**
GPS2				*e*S		**Sn**		**05 52 12.9**	**+0.1**
LIM1	**Limonal**	**0.89**	**130**	⇓*i*P		**Pn**		**05 52 00.9**	**-0.1**
GUAB	**Guayabo de Bag**	**0.90**	**129**	⇓*i*P		**Pn**		**05 52 00.9**	**-0.2**
HORNC	**Hornillas**	**0.94**	**127**	⇓*i*P		**Pn**		**05 52 01.2**	**-0.3**
COLC	**Colonia**	**0.95**	**130**	⇓*i*P		**Pn**		**05 52 01.5**	**-0.1**
CUI	**Cuipilapa**	**0.98**	**129**	⇓*i*P		**Pn**		**05 52 02.0**	**0.0**
CUI				*e*S		**Sn**		**05 52 17.9**	**+1.2**
ACON	**Acoyapa**	**1.02**	**48**	*e*P		**Pn**		**05 52 02.2**	**-0.2**
ORTG	**Ortega, Santa**	**1.03**	**152**	*e*P		**Pn**		**05 52 02.5**	**0.0**
GUAI	**GUAI**	**1.09**	**157**	⇓*i*P		**Pn**		**05 52 03.4**	**+0.2**
PLVR	**Palo Verde**	**1.09**	**148**	*e*P		**Pn**		**05 52 03.2**	**-0.1**
ACAL	**Aguas Claras**	**1.10**	**125**	⇓*i*P		**Pn**		**05 52 03.4**	**+0.1**
SAJU	**San Juanillo,**	**1.22**	**169**	*e*P		**Pn**		**05 52 04.5**	**-0.2**
DUNO	**Dulce Nombre,**	**1.27**	**159**	*e*P		**Pn**		**05 52 05.5**	**+0.1**
JTS	**Las Juntas de**	**1.38**	**135**	*e*P		**Pn**		**05 52 06.3**	**-0.4**
JTS	**Las Juntas de**	**1.38**	**135**	*e*P		**Pn**		**05 52 06.5**	**-0.2**
GRZA	**Playa Garza**	**1.39**	**167**	*e*P		**Pn**		**05 52 06.5**	**-0.2**
CNGN	**Cerro Negro**	**1.42**	**329**	*e*P		**Pn**		**05 52 08.5**	**+1.3**
CEDE	**Laguna Cedeo**	**1.45**	**123**	⇓*i*P		**Pn**		**05 52 07.8**	**+0.2**
ARE1	**Arenal 1**	**1.45**	**124**	*e*P		**Pn**		**05 52 07.9**	**+0.3**
CASO	**Castillo**	**1.46**	**125**	⇓*i*P		**Pn**		**05 52 07.7**	**+0.1**
INDI	**Punta indio, G**	**1.47**	**163**	*e*P		**Pn**		**05 52 07.6**	**-0.2**
FORC	**Fortuna**	**1.49**	**123**	⇓*i*P		**Pn**		**05 52 08.0**	**0.0**
COVE	**Coope Vega, Sa**	**1.61**	**110**	*e*P		**Pn**		**05 52 09.1**	**-0.5**
LAFE	**Finca La Fe, P**	**1.78**	**145**	*e*P		**Pn**		**05 52 11.7**	**-0.1**
SRA1	**San Ramn**	**1.87**	**129**	*e*P		**Pn**		**05 52 13.0**	**+0.1**
CRPO	**Crater poas**	**2.00**	**122**	*e*P		**Pn**		**05 52 14.9**	**0.0**
JACO	**JACO, Garabito**	**2.04**	**142**	*e*P		**Pn**		**05 52 15.4**	**+0.2**
HDC3	**Heredia 3**	**2.20**	**125**	*e*P		**Pn**		**05 52 17.8**	**+0.4**
RIFO	**Rio Frio, Sara**	**2.21**	**115**	*e*P		**Pn**		**05 52 17.2**	**-0.1**
OCM	**Ochomogo**	**2.39**	**125**	*e*P		**Pn**		**05 52 20.0**	**+0.1**
LCR2	**La Lucha 2**	**2.44**	**128**	*e*P		**Pn**		**05 52 20.6**	**0.0**
CVTR	**Volcan Turrial**	**2.49**	**120**	*e*P		**Pn**		**05 52 21.5**	**+0.1**
RIMA	**Rio Macho**	**2.54**	**126**	*e*P		**Pn**		**05 52 22.2**	**+0.3**
LCND	**La Caada**	**2.77**	**317**	*e*P		**Pn**		**05 52 25.4**	**+0.5**
LCND				*e*S		**Sn**		**05 52 56.2**	**-1.4**
LCND				IAML				05 53 02.5	
	comp=Z,472nm,0.3s								
LCND	**La Caada**	**2.77**	**317**	*e*P		**Pn**		**05 52 25.4**	**+0.5**
LCND				*e*S		**Sn**		**05 52 56.2**	**-1.4**
LCND				IAML				05 53 02.5	
	comp=Z,472nm,0.3s								
BATAN	**Batan**	**2.79**	**115**	*e*P		**Pn**		**05 52 25.4**	**+0.4**
PEZE	**Perez Zeledon,**	**2.92**	**130**	*e*P		**Pn**		**05 52 27.6**	**+0.6**
JUCU	**Jucuarn**	**2.99**	**311**	*e*P		**Pn**		**05 52 28.5**	**+0.7**
JUCU				*e*S		**Sn**		**05 53 01.8**	**-1.0**
JUCU				IAML				05 53 08.3	
	comp=Z,506nm,0.5s								
JUCU	**Jucuarn**	**2.99**	**311**	*e*P		**Pn**		**05 52 28.5**	**+0.7**
JUCU				*e*S		**Sn**		**05 53 01.8**	**-1.0**
JUCU				IAML				05 53 08.3	
	comp=Z,506nm,0.5s								
TGUH	**Tegucigalpa,Un**	**3.05**	**335**	*e*P		**Pn**		**05 52 29.7**	**+0.9**
SRBA	**San Rafael, Bu**	**3.26**	**128**	*e*P		**Pn**		**05 52 32.1**	**+0.6**
SRBA	**San Rafael, Bu**	**3.26**	**128**	P		**Pn**		**05 52 32.1**	**+0.6**
COEB	**Comit de Eme**	**3.35**	**311**	*e*P		**Pn**		**05 52 33.9**	**+1.1**
COEB				*e*S		**Sn**		**05 53 11.1**	**-0.6**
COEB				IAML				05 53 20.6	
	comp=Z,165nm,0.4s								
COEB	**Comit de Eme**	**3.35**	**311**	*e*P		**Pn**		**05 52 33.9**	**+1.1**
COEB				*e*S		**Sn**		**05 53 11.1**	**-0.6**
COEB				IAML				05 53 20.6	
	comp=Z,165nm,0.4s								
PQSS	**Presa 15 de Se**	**3.46**	**313**	*e*P		**Pn**		**05 52 34.5**	**+0.4**
PQSS				*e*S		**Sn**		**05 53 12.8**	**-1.3**
COEG	**Centro de Oper**	**3.69**	**309**	*e*P		**Pn**		**05 52 38.6**	**+1.3**
COEG				IAML				05 53 24.5	
	comp=Z,230nm,0.3s								
COEG	**Centro de Oper**	**3.69**	**309**	*e*P		**Pn**		**05 52 38.6**	**+1.3**
COEG				IAML				05 53 24.5	
	comp=Z,230nm,0.3s								
SJTE	**Alcalda de S**	**3.79**	**308**	*e*P		**Pn**		**05 52 39.3**	**+0.7**
SJTE				IAML				05 53 26.6	
	comp=Z,107nm,0.2s								
SJTE	**Alcalda de S**	**3.79**	**308**	*e*P		**Pn**		**05 52 39.3**	**+0.7**
SJTE				*e*S		**Sn**		**05 53 19.8**	**-2.4**
SJTE				IAML				05 53 26.6	
	comp=Z,107nm,0.2s								
PAVA	**Las Pavas**	**3.79**	**310**	*e*P		**Pn**		**05 52 40.0**	**+1.3**
PAVA	**Las Pavas**	**3.79**	**310**	*e*P		**Pn**		**05 52 40.0**	**+1.3**
OPAM	**Oficina de Pla**	**3.99**	**308**	*e*P		**Pn**		**05 52 42.7**	**+1.3**
OPAM	**Oficina de Pla**	**3.99**	**308**	*e*P		**Pn**		**05 52 42.7**	**+1.3**
JAYA	**Jayaque - finc**	**4.16**	**305**	*e*P		**Pn**		**05 52 44.8**	**+1.1**
JAYA				IAML				05 52 49.1	
	comp=Z,265nm,0.2s								
JAYA	**Jayaque - finc**	**4.16**	**305**	*e*P		**Pn**		**05 52 44.8**	**+1.1**
JAYA				IAML				05 52 49.1	
	comp=Z,265nm,0.2s								
CEDA	**San Andres**	**4.20**	**307**	*e*P		**Pn**		**05 52 45.0**	**+0.8**
CEDA				IAML				05 53 51.0	
	comp=Z,236nm,0.6s								
CEDA	**San Andres**	**4.20**	**307**	*e*P		**Pn**		**05 52 45.0**	**+0.8**
CEDA				*e*S		**Sn**		**05 53 30.4**	**-1.7**
CEDA				IAML				05 53 51.0	
	comp=Z,236nm,0.6s								
TACO	**Tacachico**	**4.27**	**309**	*e*P		**Pn**		**05 52 46.1**	**+1.0**
TACO	**Tacachico**	**4.27**	**309**	*e*P		**Pn**		**05 52 46.1**	**+1.0**
CEVE	**Cerro Verde**	**4.39**	**306**	*e*P		**Pn**		**05 52 48.6**	**+1.6**
CEVE				IAML				05 53 46.3	
	comp=Z,234nm,0.3s								
CEVE	**Cerro Verde**	**4.39**	**306**	*e*P		**Pn**		**05 52 48.6**	**+1.6**
CEVE				IAML				05 53 46.3	
	comp=Z,234nm,0.3s								
SLOZ	**Alcaldia de Sa**	**4.64**	**307**	*e*P		**Pn**		**05 52 51.5**	**+1.3**

*IDC **17** 05:51:44.5±0.9, 31°.78S×71°.99W, h0km, mb4.0/6, mb1 4.3/7, mb1mx4.0/37, mbtmp4.1/7, ML3.7/1, Error ellipse: s-maj=48.7km s-min=23.4km az=75.0*
*NEIC **17** 05:51:46.8±1.0, 31°.91S±0°.05×72°.06W±0°.06, h10km±1km, mb4.4/7, Error ellipse: s-maj=8.3km s-min=7.9km az=224.0*

ISC 17 05:51:47.2±0.6, 31°.86S±0°.07×72°.1W±0°.1, h17km, n25, σ0°.71/26, mb4.3/7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**1.22**	**162**	Pn		**Pn**		**05 52 08.5**	**-1.0**
CO03	**El Pedregal**	**1.58**	**50**	Pn		**Pn**		**05 52 14.3**	**-0.3**
VA03	**San Esteban**	**1.59**	**125**	Pn		**Pn**		**05 52 14.5**	**-0.2**
MT01	**Popeta**	**2.12**	**160**	Pn		**Pn**		**05 52 21.9**	**0.0**
MT09	**Talagante**	**2.13**	**154**	Pn		**Pn**		**05 52 22.0**	**-0.1**
GO05	**Huala**	**3.14**	**177**	Pn		**Pn**		**05 52 34.8**	**-1.1**
ML02	**Panimavida**	**3.93**	**172**	Pn		**Pn**		**05 52 46.2**	**-0.6**
LC01	**Cunco**	**7.02**	**179**	Pn		**Pn**		**05 53 28.4**	**-0.8**
LVC	**Limon Verde**	**9.64**	**18**	Pn		**Pn**		**05 54 04.3**	**-1.2**
	0.7nm,0.3s,baz=181,slow=16,SNR=1.5								
RUSC	**La Rusia**	**37.56**	**358**	P		**P**		**05 59 02.0**	**+0.8**
RUSC				IAmb		IAmb		05 59 07.5	
	comp=Z,4.8nm,0.8s								
BCIP	**Isla Barro Col**	**41.46**	**348**	P		**P**		**05 59 33.4**	**+0.1**
PTCN	**Pitcairn Islan**	**50.92**	**262**	P		**P**		**06 00 47.6**	**-0.1**
SNAA	**Sanae**	**53.58**	**158**	P		**P**		**06 01 07.4**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=269,slow=12								
SNAA	**Sanae**	**53.58**	**158**	P		**P**		**06 01 07.3**	**+0.4**
SNAA				IAmb		IAmb		06 01 10.0	
	comp=Z,3.6nm,1.0s								
QSPA	**South Pole Qui**	**58.37**	**180**	P		**P**		**06 01 42.0**	**+0.7**
	comp=Z,4.5nm,1.0s,baz=150,slow=4.1,SNR=3.2								
QSPA	**South Pole Qui**	**58.37**	**180**	P		**P**		**06 01 42.0**	**+0.7**
QSPA				IAmb		IAmb		06 01 42.4	
	comp=Z,4.2nm,1.0s								
KVTX	**Kingsville**	**63.99**	**335**	P		**P**		**06 02 21.1**	**+1.5**
TXAR	**Lajitas Array**	**67.85**	**330**	P		**P**		**06 02 44.6**	**0.0**
	comp=Z,0.7nm,0.7s,baz=150,slow=9.6,SNR=5.7								
PDAR	**Pinedale Array**	**81.84**	**333**	P		**P**		**06 04 05.0**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=144,slow=9.4,SNR=2.3								
NVAR	**Mina Array Bea**	**82.10**	**325**	P		**P**		**06 04 07.2**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=146,slow=5.8,SNR=5.1								
NVAR	**Mina Array Bea**	**82.10**	**325**	P		**P**		**06 04 07.8**	**+0.8**
TORD	**Torodi Ar. Bea**	**83.54**	**70**	P		**P**		**06 04 13.9**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=251,

ACDV	**Cuesta del Vie**	3.09	58	*i* P		**Pb**	**05 58 04.0**	**-0.4**
ACDV				*e*S		**Sb**	**05 58 43.9**	**+1.6**
ACDV				IAML			05 58 48.3	
	comp=Z,3µm,0.5s							
BO02	**Sierra Bellavi**	**3.16**	**159**			**Pn**	**05 58 00.6**	**+1.3**
BO02	**Sierra Bellavi**	**3.16**	**159**	*i* P		**Pn**	**05 58 02.0**	**+2.7**
BO02				IAML			05 58 49.9	
	comp=Z,3µm,0.8s							
GO05	**Huala**	**3.17**	**177**			**Pn**	**05 58 00.1**	**+0.8**
GO05	**Huala**	**3.17**	**177**	*i* P		**Pn**	**05 58 00.0**	**+0.7**
GO05				*e*S		**Sg**	**05 58 49.4**	**-1.4**
AC04	**Llanos de Chal**	**3.74**	**15**	Pn		**Pn**	**05 58 08.3**	**+1.0**
AC04	**Llanos de Chal**	**3.74**	**15**	*i* P		**Pb**	**05 58 16.0**	**+0.6**
AC04				IAML			05 59 15.6	
	comp=Z,2µm,0.7s							
COIS	**El Sosneado**	**3.90**	**147**	*i* P		**Pn**	**05 58 14.0**	**+4.6**
AGUA	**GUANDACOL**	**3.93**	**54**	*i* P		**Pb**	**05 58 16.0**	**-2.7**
AGUA				IAML			05 59 23.0	
	comp=Z,2µm,0.6s							
LAMA	**Las Malvinas**	**3.94**	**142**	*i* P		**Pb**	**05 58 15.0**	**-3.9**
ML02	**Panimavida**	**3.96**	**171**			**Pn**	**05 58 10.9**	**+0.7**
RFA	**San Rafael**	**4.25**	**134**	*i* P		**Pn**	**05 58 18.0**	**+3.7**
RFA				IAML			05 59 34.9	
	comp=Z,932nm,1.4s							
GO03	**Copiap**	**4.55**	**22**			**Pn**	**05 58 18.7**	**+0.4**
GO03	**Copiap**	**4.55**	**22**	*i* P		Pb	05 58 25.0	-4.2
VCA	**Vinchina**	**4.60**	**49**	*i* P		Pb	05 58 25.0	-5.2
VCA				IAML			05 59 46.1	
	comp=Z,3µm,0.9s							
ACHE	**Chepes**	**4.73**	**83**	*i* P		**Pn**	**05 58 25.0**	**+4.0**
TINO	**Tinogasta**	**5.47**	**48**	*i* P		Pn	05 58 36.0	+4.9
MRA	**San Martin**	**5.49**	**98**	*i* P		**Pn**	**05 58 34.0**	**+2.7**
MRA				IAML			05 59 48.8	
	comp=Z,539nm,0.7s							
AC02	**Maricunga**	**5.64**	**29**			**Pn**	**05 58 35.0**	**+1.2**
AC02	**Maricunga**	**5.64**	**29**	*i* P		Pn	05 58 39.6	+5.9
AC02				*e*S		**Sb**	**05 59 58.7**	**+2.5**
AC02				IAML			06 00 10.1	
	comp=Z,1µm,1.1s							
H03N1	**Juan Fernandez**	**5.92**	**253**	T		T	06 05 23.4	
	baz=72,slow=71							
H03N3	**Juan Fernandez**	**5.94**	**252**	T		T	06 05 22.2	
	baz=72,slow=71							
H03N2	**Juan Fernandez**	**5.94**	**253**	T		T	06 05 24.9	
	baz=72,slow=71							
LC01	**Cunco**	**7.04**	**178**	Pn		**Pn**	**05 58 52.4**	**-0.3**
PB14	**IPOC Station P**	**7.35**	**13**	Pn		**Pn**	**05 58 58.1**	**+1.0**
FSA	**Cafayete**	**7.86**	**45**	*i* P		**Pn**	**05 59 08.0**	**+4.0**
PB15	**IPOC Station P**	**8.92**	**16**			**Pn**	**05 59 19.3**	**+0.7**
PLCA	**Paso Flores**	**8.97**	**172**	Pn		**Pn**	**05 59 20.1**	**+1.1**
	comp=Z,1.4nm,0.3s,baz=333,slow=12,SNR=19							
PLCA	**Paso Flores**	**8.97**	**172**	Pn		**Pn**	**05 59 19.5**	**+0.5**
PLCA	**Paso Flores**	**8.97**	**172**	*i* P		**Pn**	**05 59 20.0**	**+1.0**
LL04	**Puerto Octay**	**9.05**	**181**			**Pn**	**05 59 20.4**	**+0.3**
LL05	**Los Muermos**	**9.61**	**186**	Pn		**Pn**	**05 59 27.2**	**-0.5**
LVC	**Limon Verde**	**9.63**	**18**	Pn		**Pn**	**05 59 25.6**	**-2.9**
	comp=Z,0.5nm,0.3s,baz=294,slow=23,SNR=1.8							
LVC	**Limon Verde**	**9.63**	**18**			**Pn**	**05 59 29.5**	**+1.0**
LVC	**Limon Verde**	**9.63**	**18**	*i* P		Pn	05 59 34.0	+5.5
AZAP	**Zapla**	**9.83**	**41**	*i* P		Pn	05 59 38.0	+6.9
TRQA	**Tornquist**	**10.39**	**129**	Pn		**Pn**	**05 59 38.3**	**-0.2**
ASTB	**Santa Barbara**	**10.39**	**43**	*i* P		Pn	05 59 45.0	+6.3
ITQB	**Itaqui**	**13.53**	**85**	Pn		**Pn**	**06 00 21.5**	**+0.2**
CPUP	**Villa Florida**	**14.07**	**71**	Pn		**Pn**	**06 00 24.6**	**-4.2**
	comp=Z,0.1nm,0.3s,baz=307,slow=16,SNR=0.9							
CPUP	**Villa Florida**	**14.07**	**71**	Pn		**Pn**	**06 00 30.4**	**+1.6**
PLTB	**Pedras Altas**	**15.77**	**95**	Pn		**Pn**	**06 00 50.6**	**-1.1**
PLTB				IAmb		IAmb	06 00 56.5	
	comp=Z,40nm,1.1s							
LPAZ	**La Paz**	**15.91**	**14**	Pn		**Pn**	**06 00 52.3**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=200,slow=5.8,SNR=13							
LPAZ	**La Paz**	**15.91**	**14**			**Pn**	**06 00 54.8**	**+0.7**
SIV	**San Ignacio**	**16.73**	**35**	P		**P**	**06 01 27.3**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=223,slow=21,SNR=2.0							
NNA	**Nana**	**20.23**	**347**	P		**P**	**06 01 45.0**	**+0.2**
	comp=Z,4.8nm,0.5s,baz=186,slow=8.9,SNR=4.2							
USHA	**Ushuaia**	**23.13**	**175**	P		**P**	**06 02 18.6**	**+3.0**
	comp=Z,17nm,0.4s,baz=330,slow=1.4,SNR=1.8							
SAML	**Samuel**	**24.25**	**22**	P		**P**	**06 02 26.3**	**-0.6**
BDFB	**Brasilia**	**27.25**	**59**	P		**P**	**06 02 53.1**	**-1.1**
	comp=Z,67nm,1.1s,baz=233,slow=7.0,SNR=7.5							
BDFB	**Brasilia**	**27.25**	**59**	P		**P**	**06 02 53.2**	**-1.0**
PTGA	**Pitinga**	**33.02**	**23**	P		**P**	**06 03 43.2**	**-1.8**
	comp=Z,271nm,0.5s,baz=82,slow=0.1,SNR=2.3							
PTGA	**Pitinga**	**33.02**	**23**	P		**P**	**06 03 44.1**	**-0.9**
RUSC	**La Rusia**	**37.53**	**358**	P		**P**	**06 04 24.8**	**+0.4**
RUSC				IAmb		IAmb	06 04 42.3	
	comp=Z,23nm,1.1s							
MDP	**Montagnes des**	**41.17**	**30**	P		**P**	**06 04 52.5**	**-1.9**
	comp=Z,6.1nm,0.9s,baz=209,slow=6.9,SNR=4.2							
SJG	**San Juan**	**50.00**	**7**	P		**P**	**06 06 02.1**	**-2.0**
	comp=Z,3.3nm,0.3s,baz=84,slow=2.1,SNR=5.0							
VNA3	**Neumayer Olymp**	**51.39**	**158**	P		**P**	**06 06 14.9**	**+0.8**
VNA1	**Neumayer--Stat**	**51.70**	**158**	P		**P**	**06 06 16.7**	**+0.4**
VNA2	**Neumayer--Watz**	**52.04**	**158**	P		**P**	**06 06 19.2**	**+0.3**
	baz=285,slow=8.6							
SNAA	**Sanae**	**53.62**	**158**	P		**P**	**06 06 30.7**	**+0.1**
SNAA	**Sanae**	**53.62**	**158**	P		**P**	**06 06 30.7**	**+0.1**
	comp=Z,7.2nm,0.9s,baz=285,slow=5.3,SNR=20							
SNAA	**Sanae**	**53.62**	**158**	P		**P**	**06 06 30.8**	**+0.2**
QSPA	**South Pole Qui**	**58.39**	**180**	P		**P**	**06 07 05.9**	**+1.0**
	comp=Z,10.0nm,1.0s,baz=157,slow=5.3,SNR=13							
QSPA	**South Pole Qui**	**58.39**	**180**	P		**P**	**06 07 05.7**	**+0.8**
QSPA				IAmb		IAmb	06 07 19.1	
	comp=Z,11nm,0.8s							
HPIG		**66.61**	**328**	P		**P**	**06 08 01.3**	**+0.9**
HPIG				IAmb		IAmb	06 08 19.9	
	comp=Z,10nm,1.5s							
JCT	**Junction City**	**67.30**	**334**	P		**P**	**06 08 05.2**	**+0.7**
JCT				IAmb		IAmb	06 08 20.1	
	comp=Z,7.9nm,0.9s							
TXAR	**Lajitas Array**	**67.81**	**330**	P		**P**	**06 08 08.8**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=152,slow=8.4,SNR=12							
TXAR	**Lajitas Array**	**67.81**	**330**	P		**P**	**06 08 08.6**	**+0.7**
TX31	**Lajitas Ar. Si**	**67.81**	**330**	P		**P**	**06 08 08.7**	**+0.9**
TX31				IAmb		IAmb	06 08 24.1	
	comp=Z,8.9nm,0.9s							
TX32	**Lajitas Array**	**67.81**	**330**	P		**P**	**06 08 08.6**	**+0.7**
SYO	**Syowa Base**	**67.91**	**159**	‖ *e*sP		sP	06 08 13.4	+4.0
CLTN	**Cedars of Leba**	**68.87**	**348**	P		**P**	**06 08 14.8**	**+0.6**
CLTN				IAmb		IAmb	06 08 24.3	
	comp=Z,4.6nm,0.9s							
Z35A	**Perchaven, San**	**69.02**	**338**	P		**P**	**06 08 16.5**	**+1.3**
ABTX	**Abilene, Hawle**	**69.18**	**335**	P		**P**	**06 08 17.1**	**+0.8**
ABTX				IAmb		IAmb	06 08 32.1	
	comp=Z,7.4nm,0.8s							
W39A	**Magazine**	**69.71**	**341**	P		**P**	**06 08 20.8**	**+1.3**
LCAR	**Lake Charles**	**69.87**	**344**	P		**P**	**06 08 21.3**	**+0.9**
LCAR				IAmb		IAmb	06 08 31.3	
	comp=Z,9.9nm,1.4s							
FCAR	**Ozark Folk Cen**	**69.93**	**343**	P		**P**	**06 08 21.6**	**+0.8**
FCAR				IAmb		IAmb	06 08 37.1	
	comp=Z,4.8nm,1.1s							
MNTX	**Cornudas Mount**	**70.59**	**330**	P		**P**	**06 08 25.3**	**+0.3**
HHAR	**Hobbs**	**70.78**	**341**	P		**P**	**06 08 26.0**	**0.0**
HHAR				IAmb		IAmb	06 08 37.8	
	comp=Z,13nm,1.3s							
HSIG		**70.88**	**324**	P		**P**	**06 08 27.7**	**+1.0**
HSIG				IAmb		IAmb	06 08 44.6	
	comp=Z,8.4nm,1.5s							
OK025	**Westminster Rd**	**71.11**	**338**	P		**P**	**06 08 28.5**	**+0.5**
MSTX	**Muleshoe**	**71.54**	**333**	P		**P**	**06 08 31.4**	**+0.6**
P40A	**Paris**	**73.38**	**344**	P		**P**	**06 08 42.2**	**+0.8**
P40A				IAmb		IAmb	06 08 52.9	
	comp=Z,9.9nm,0.9s							
ANMO	**Albuquerque**	**73.85**	**331**	P		**P**	**06 08 44.9**	**+0.2**
LIC	**Lamto**	**74.19**	**72**	*e*PKP1		**P**	**06 08 47.7**	**+0.8**
	comp=Z,87nm,1.9s							
TIC	**Toumodi**	**74.44**	**72**	*e*PKP1		**P**	**06 08 46.8**	**-1.5**
KIC	**Kosan Boka**	**74.50**	**72**	*e*PKP1		**P**	**06 08 47.6**	**-1.1**
	comp=Z,17nm,0.7s							
DBIC	**Dimbokro**	**74.59**	**72**	P		**P**	**06 08 48.5**	**-0.6**
	comp=Z,8.6nm,0.8s,baz=216,slow=4.1,SNR=7.1							
DBIC	**Dimbokro**	**74.59**	**72**	P		**P**	**06 08 48.8**	**-0.3**
DBIC				IAmb		IAmb	06 08 49.0	
	comp=Z,10nm,0.8s							
T25A	**Trinidad**	**74.96**	**334**	P		**P**	**06 08 52.4**	**+1.3**
T25A				IAmb		IAmb	06 09 07.8	
	comp=Z,5.5nm,0.8s							
MAW	**Mawson**	**75.27**	**164**	P		**P**	**06 08 53.6**	**+1.4**
	comp=Z,3.2nm,0.8s,baz=234,slow=7.2,SNR=5.9							
X16A	**Lo Mia Camp, P**	**75.57**	**327**	P		**P**	**06 08 55.8**	**+1.2**
SDCO	**Great Sand Dun**	**75.91**	**333**	P		**P**	**06 08 57.5**	**+1.0**
KSCO	**Kaye Shedlock'**	**75.98**	**336**	P		**P**	**06 08 56.6**	**-0.2**
KNB	**Kanab**	**78.35**	**328**	P		**P**	**06 09 11.8**	**+1.6**
PRN	**Pahroc Range**	**79.69**	**327**	P		**P**	**06 09 19.9**	**+2.4**
KOWA	**Kowa**	**79.84**	**66**	P		**P**	**06 09 18.2**	**-0.4**
	comp=Z,5.2nm,0.6s,baz=228,slow=4.9,SNR=16							
KOWA	**Kowa**	**79.84**	**66**	P		**P**	**06 09 18.4**	**-0.2**
KOWA				IAmb		IAmb	06 09 23.8	
	comp=Z,8.4nm,0.8s							
BOSA	**Boshof**	**81.16**	**118**	P		**P**	**06 09 26.1**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=327,slow=3.5,SNR=4.1							
HWUT	**Hardware Ranch**	**81.62**	**331**	P		**P**	**06 09 28.5**	**+0.7**
HWUT				IAmb		IAmb	06 09 41.3	
	comp=Z,6.1nm,1.0s							
PDAR	**Pinedale Array**	**81.80**	**333**	P		**P**	**06 09 28.8**	**0.0**
	comp=Z,0.3nm,0.6s,baz=119,slow=9.2,SNR=3.0							
NVAR	**Mina Array Bea**	**82.06**	**325**	P		**P**	**06 09 31.9**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=163,slow=5.3,SNR=6.3							
NVAR	**Mina Array Bea**	**82.06**	**325**	P		**P**	**06 09 31.2**	**+0.9**
TORD	**Torodi Ar. Bea**	**83.57**	**70**	P		**P**	**06 09 37.6**	**-0.7**
	comp=Z,8.5nm,0.7s,baz=262,slow=4.5,SNR=37							
TORD	**Torodi Ar. Bea**	**83.57**	**70**	P		**P**	**06 09 37.6**	**-0.7**
HLID	**Hailey**	**84.41**	**331**	P		**P**	**06 09 43.4**	**+1.2**
J08A	**Circle Bar Ran**	**86.01**	**328**	P		**P**	**06 09 51.5**	**+1.4**
J08A				IAmb		IAmb	06 10 03.2	
	comp=Z,7.3nm,0.9s							
ASAR	**Alice Springs**	**119.44**	**208**	PKP		**PKiKP**	**06 16 01.5**	**+1.5**
	comp=Z,0.6nm,0.9s,baz=158,slow=3.0,SNR=2.3							
AKASG	**Malin Array Be**	**120.79**	**47**	PKP		**PKPdf**	**06 16 00.6**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=222,slow=1.2,SNR=1.8							
WRA	**Warramunga Arr**	**122.59**	**210**	PKP		**PKPdf**	**06 16 05.5**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=132,slow=1.4,SNR=6.6							
ZALV	**Zalesovo Beam**	**152.43**	**30**	PKPbc		**PKPbc**	**06 17 05.5**	**0.0**
	comp=Z,4.5nm,0.6s,baz=292,slow=4.0,SNR=13							
ZALV	**Zalesovo Beam**	**152.43**	**30**	PKPbc		**PKPbc**	**06 17 05.8**	**+0.4**
ZALV				PKPab		**PKPab**	**06 17 15.2**	**-0.4**
WMQ	**Urumqi**	**160.15**	**47**	*e*P		**PKPdf**	**06 17 09.3**	**+0.2**
SONM	**Songino Array**	**163.99**	**4**	PKPab		**PKPab**	**06 18 05.2**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=70,slow=1.7,SNR=2.0							
HHC	**Hu-ho-hao-te**	**170.53**	**343**	*e*P		**PKPdf**	**06 17 16.0**	**-1.9**
HHC				LR		LR		
	comp=N,670nm,20.6s							
HHC				LR		LR		
	comp=E,740nm,19.5s							
HHC				LR		LR		
	comp=Z,910nm,18.7s							
NJ2	**Nanjing**	**170.65**	**274**	*e*P		**PKPdf**	**06 17 18.9**	**+0.8**
NJ2				pmax		pmax		
	comp=Z,14nm,0.6s							

MAN ***17*** *06:00:07.4, 6.52N×123.79E, h1km, mb4.5, ML3.3, MS3.1*
IDC ***17*** *06:00:07.3±1.5, 6.35N×123.93E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/57, mbtmp4.0/5, Error ellipse: s-maj=27.6km s-min=15.4km az=139.0*
ISC 17 06:00:08.9±1.2, 6.3N±0.1×123.9E±0.2, h10km, n8, σ1.8s83/8, mb3.8/5, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.40**	**58**	‖ *i* P	**Pn**	**06 00 32.2**	**-2.3**
DAV	**Davao City (W)**	**1.86**	**64**	Pn	**Pn**	**06 00 39.3**	**-1.5**
	120nm,0.3s,baz=114,slow=1.2,SNR=8.1						
DAV				Lg	Lg	06 01 04.2	
	84nm,0.3s,baz=292,slow=22,SNR=7.8						
BUKP	**Musuan**	**1.98**	**36**	‖ *i* P	Pg	06 00 49.7	+2.8
BUKP				*i* S	**Sg**	**06 01 15.1**	**+2.5**
FITZ	**Fitzroy Crossi**	**24.27**	**176**	P	**P**	**06 05 27.8**	**+1.4**
	1.5nm,0.6s,baz=1.7,slow=9.3,SNR=6.6						
WRA	**Warramunga Arr**	**28.00**	**159**	P	**P**	**06 05 59.7**	**-0.4**
	1.4nm,0.7s,baz=339,slow=9.8,SNR=5.2						
ASAR	**Alice Springs**	**31.31**	**162**	P	**P**	**06 06 30.1**	**+0.6**
	0.9nm,0.7s,baz=336,slow=6.9,SNR=6.9						
STKA	**Stephens Creek**	**41.52**	**157**	P	**P**	**06 07 57.0**	**+0.5**
	4.3nm,0.7s,baz=333,slow=8.8,SNR=8.0						
MKAR	**Makanchi Array**	**53.88**	**326**	P	**P**	**06 09 31.9**	**-0.5**
	1.3nm,0.8s,baz=122,slow=7.6,SNR=2.0						

IDC ***17*** *06:01:03.8±0.6, 31.66S×71.98W, h0km, mb4.5/14, mb1 4.5/17, mb1mx4.3/44, mbtmp4.4/17, ML4.2/3, MS4.8/1, Ms1 4.8/1, ms1mx3.8/30, Error ellipse: s-maj=24.0km s-min=14.6km az=80.0*
NEIC ***17*** *06:01:05.6±1.4, 31.65S±0.05×71.6W±0.1, h10km±1km, mb4.7/113, Error ellipse: s-maj=18.1km s-min=8.0km az=276.0*
ISC 17 06:01:05.2±0.4, 31.62S±0.05×71.65W±0.09, h10km, n141, σ1.9s34/121, mb4.7/63, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**1.39**	**180**		**Pn**	**06 01 28.4**	**-2.3**
VA03	**San Esteban**	**1.47**	**141**		**Pn**	**06 01 28.6**	**-3.3**
GO04	**Tololo Observa**	**1.62**	**27**		**Pn**	**06 01 32.6**	**-1.4**
MT05	**Renca**	**1.92**	**157**	Pn	**Pn**	**06 01 33.9**	**-4.2**
VA05	**Santo Domingo**	**2.03**	**179**		**Pn**	**06 01 34.8**	**-4.6**
MT03	**Talagante**	**2.22**	**166**		**Pn**	**06 01 38.5**	**-3.6**
MT01	**Popeta**	**2.26**	**172**		**Pn**	**06 01 39.6**	**-3.0**
BO01	**Tunca**	**2.80**	**170**		**Pn**	**06 01 47.5**	**-2.6**
BO02	**Sierra Bellavi**	**3.24**	**167**	Pn	**Pn**	**06 01 52.1**	**-4.1**
AC04	**Llanos de Chal**	**3.44**	**9**	Pn	**Pn**	**06 01 56.6**	**-2.3**
H03N1	**Juan Fernandez**	**6.39**	**252**	T	T	06 09 29.8	
	baz=76,slow=72						
H03N3	**Juan Fernandez**	**6.41**	**252**	T	T	06 09 30.5	
	baz=76,slow=72						
H03N2	**Juan Fernandez**	**6.41**	**252**	T	T	06 09 31.7	
	baz=76,slow=72						
LC01	**Cunco**	**7.26**	**181**	Pn	**Pn**	**06 02 50.0**	**-1.4**
PLCA	**Paso Flores**	**9.13**	**175**	Pn	**Pn**	**06 03 16.6**	**-0.6**
	1.4nm,0.3s,baz=331,slow=11,SNR=7.5						
PLCA	**Paso Flores**	**9.13**	**175**	Pn	**Pn**	**06 03 15.8**	**-1.3**
LL05	**Los Muermos**	**9.87**	**188**	Pn	**Pn**	**06 03 26.3**	**-0.8**
TRQA	**Tornquist**	**10.21**	**132**	Pn	**Pn**	**06 03 32.0**	**+0.2**
CPUP	**Villa Florida**	**13.60**	**71**	Pn	**Pn**	**06 04 15.1**	**-3.0**
PLTB	**Pedras Altas**	**15.37**	**95**	Pn	**Pn**	**06 04 42.7**	**+0.5**
LPAZ	**La Paz**	**15.60**	**13**	Pn	**Pn**	**06 04 46.9**	**+1.1**
	0.2nm,0.3s,baz=189,slow=9.8,SNR=3.1						
LPAZ	**La Paz**	**15.60**	**13**	Pn	**Pn**	**06 04 44.2**	**-1.6**
AQDB	**Aquidauana**	**18.11**	**56**	P	**Pn**	**06 05 15.9**	**-1.0**
SIV	**San Ignacio**	**18.31**	**34**	P	**P**	**06 05 21.6**	**+2.1**
	0.2nm,0.3s,baz=214,slow=11,SNR=2.5						
EFI	**East Falkland**	**22.39**	**157**	P	**P**	**06 06 03.6**	**+0.1**
USHA	**Ushuaia**	**23.31**	**175**	P	**P**	**06 06 12.6**	**-0.6**
	16nm,0.5s,baz=50,slow=2.4,SNR=1.5						
BDFB	**Brasilia**	**26.78**	**59**	P	**P**	**06 06 47.9**	**+2.3**
	9.1nm,0.9s,baz=244,slow=9.6,SNR=4.1						
BDFB	**Brasilia**	**26.78**	**59**	P	**P**	**06 06 43.8**	**-1.8**
BDFB				IAmb	IAmb	06 06 59.0	
	comp=Z,25nm,1.3s						
OTAV	**Otavalo**	**32.34**	**347**	P	**P**	**06 07 32.4**	**-2.9**
RPN	**Rapa Nui**	**33.03**	**268**	LR	LR	06 17 07.5	
	comp=Z,2µm,20.8s,baz=211,slow=29						
PAYG	**Puerto Ayora**	**35.47**	**327**	P	**P**	**06 08 02.4**	**+0.3**
RUSC	**La Rusia**	**37.33**	**358**	P	**P**	**06 08 17.1**	**-1.3**
SDV	**Santo Domingo**	**40.29**	**2**	P	**P**	**06 08 42.1**	**-0.8**
SJCC	**San Jacinto, C**	**41.42**	**355**	P	**P**	**06 08 50.5**	**-1.5**
SJCC				IAmb	IAmb	06 08 55.9	
	comp=Z,16nm,1.1s						
ACON	**Acoyapa**	**45.24**	**341**	P	**P**	**06 09 22.5**	**-0.3**
ACON				IAmb	IAmb	06 09 23.0	
	comp=Z,12nm,1.2s						
MLPR	**Magueyes Islan**	**49.51**	**6**	P	**P**	**06 09 55.2**	**-0.8**
IGPR	**InterUniversit**	**49.59**	**7**	P	**P**	**06 09 56.8**	**+0.2**
VNA3	**Neumayer Olymp**	**51.44**	**159**	P	**P**	**06 10 11.7**	**+1.6**
VNA2	**Neumayer--Watz**	**52.08**	**158**	P	**P**	**06 10 16.4**	**+1.5**
	baz=286,slow=8.4						
SNAA	**Sanae**	**53.66**	**159**	P	**P**	**06 10 28.1**	**+1.4**
SNAA	**Sanae**	**53.66**	**159**	P	**P**	**06 10 27.5**	**+0.9**
	comp=Z,11nm,0.7s,baz=275,slow=7.4,SNR=29						
SNAA	**Sanae**	**53.66**	**159**	P	**P**	**06 10 27.8**	**+1.1**
SNAA				IAmb	IAmb	06 10 28.7	
	comp=Z,13nm,0.8s						
QSPA	**South Pole Qui**	**58.60**	**180**	P	**P**	**06 11 02.5**	**+0.3**
	comp=Z,9.4nm,0.7s,baz=143,slow=1.6,SNR=22						
QSPA	**South Pole Qui**	**58.60**	**180**	P	**P**	**06 11 02.4**	**+0.3**
060A	**Indiantown**	**58.92**	**351**	P	**P**	**06 11 04.7**	**+0.2**
344A	**Westbrook Farm**	**65.29**	**342**	P	**P**	**06 11 47.9**	**+0.7**
344A				IAmb	IAmb	06 11 48.7	
	comp=Z,9.5nm,1.0s						
VNDA	**Vanda**	**66.49**	**191**	P	**P**	**06 11 53.7**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=90,slow=3.0,SNR=2.1						
VNDA	**Vanda**	**66.49**	**191**	P	**P**	**06 11 55.4**	**+0.9**
143A	**Socs Landing,**	**66.65**	**342**	P	**P**	**06 11 56.0**	**+0.1**
HPIG		**66.66**	**327**	P	**P**	**06 11 56.0**	**-0.4**
HPIG				IAmb	IAmb	06 11 58.0	
	comp=Z,13nm,1.5s						
NATX	**Nacogdoches**	**66.70**	**339**	P	**P**	**06 11 56.1**	**-0.2**
JCT	**Junction City**	**67.30**	**334**	P	**P**	**06 12 00.9**	**+0.8**
WHTX	**Lake Whitney,**	**67.82**	**336**	P	**P**	**06 12 03.9**	**+0.5**
TXAR	**Lajitas Array**	**67.83**	**330**	P	**P**	**06 12 02.7**	**-1.0**
	comp=Z,1.8nm,0.7s,baz=151,slow=8.2,SNR=13						
TXAR	**Lajitas Array**	**67.83**	**330**	P	**P**	**06 12 04.2**	**+0.5**
TX31	**Lajitas Ar. Si**	**67.84**	**330**	P	**P**	**06 12 03.6**	**-0.1**
TX31				IAmb	IAmb	06 12 04.5	
	comp=Z,6.4nm,0.8s						
TX32	**Lajitas Array**	**67.84**	**330**	P	**P**	**06 12 04.0**	**+0.3**
SYO	**Syowa Base**	**67.95**	**159**	‖ *e*P	**P**	**06 12 01.0**	**-2.8**
V52A	**Sevierville**	**68.04**	**350**	P	**P**	**06 12 04.0**	**-0.7**
V52A				IAmb	IAmb	06 12 05.8	
	comp=Z,9.0nm,1.2s						
WLAR	**White Oak Lake**	**68.04**	**341**	P	**P**	**06 12 05.9**	**+1.2**
Z35A	**Perchaven, San**	**68.98**	**337**	P	**P**	**06 12 11.0**	**+0.4**
WVT	**Waverly**	**69.09**	**346**	P	**P**	**06 12 11.4**	**+0.2**
WVT				IAmb	IAmb	06 12 28.6	
	comp=Z,6.0nm,0.9s						
ABTX	**Abilene, Hawle**	**69.16**	**335**	P	**P**	**06 12 12.0**	**+0.1**
ABTX				IAmb	IAmb	06 12 13.2	
	comp=Z,9.9nm,1.0s						
W39A	**Magazine**	**69.65**	**341**	P	**P**	**06 12 15.4**	**+0.7**
SRIG	**Santa Rosalia**	**70.24**	**322**	P	**P**	**06 12 19.8**	**+1.3**
PBMO	**Poplar Bluff**	**70.28**	**344**	P	**P**	**06 12 18.7**	**+0.1**
U40A	**Yellville**	**70.48**	**342**	P	**P**	**06 12 20.0**	**+0.1**
U40A				IAmb	IAmb	06 12 20.9	
	comp=Z,7.8nm,0.9s						
MNTX	**Cornudas Mount**	**70.62**	**330**	P	**P**	**06 12 19.1**	**-1.7**
MNTX				IAmb	IAmb	06 12 20.9	
	comp=Z,3.5nm,0.8s						
HHAR	**Hobbs**	**70.71**	**341**	IAmb	IAmb	06 12 22.2	
	comp=Z,6.0nm,0.7s						
WMOK	**Wichita Mounta**	**70.78**	**337**	P	**P**	**06 12 21.6**	**-0.1**
WMOK				IAmb	IAmb	06 12 22.5	
	comp=Z,5.5nm,1.1s						
HSIG		**70.95**	**324**	P	**P**	**06 12 22.8**	**-0.1**
OK025	**Westminster Rd**	**71.07**	**338**	P	**P**	**06 12 22.8**	**-0.6**
MGMO	**Mountain Grove**	**71.09**	**343**	P	**P**	**06 12 23.1**	**-0.4**
MGMO				IAmb	IAmb	06 12 25.3	
	comp=Z,9.7nm,1.4s						
OK031	**S. Brethren Rd**	**71.26**	**339**	P	**P**	**06 12 24.9**	**+0.3**
CCM	**Cathedral Cave**	**71.69**	**344**	P	**P**	**06 12 27.5**	**+0.4**
CCM				IAmb	IAmb	06 12 27.8	
	com

comp=Z,2.5nm,0.8s,baz=66,slow=5.8,SNR=5.7

PINE	**Pine Mountain**	**87.53**	**327**	IAmb	IAmb	06 13 55.1
	comp=Z,6.2nm,0.8s					
C09A	**Chrisman Ranch**	**89.45**	**331**	P	**P**	**06 14 02.2 +0.2**
C09A				IAmb	IAmb	06 14 02.9
	comp=Z,4.8nm,0.9s					
FFC	**Flin Flon**	**89.88**	**343**	P	**P**	**06 14 03.9 +0.1**
FFC				IAmb	IAmb	06 14 04.3
	comp=Z,11nm,1.2s					
ZALV	**Zalesovo Beam**	**152.03**	**30**	PKPbc	**PKiKP**	**06 21 00.9 +0.4**
	comp=Z,4.4nm,0.6s,baz=293,slow=3.2,SNR=8.9					
ZALV	**Zalesovo Beam**	**152.03**	**30**		**PKiKP**	**06 21 01.2 +0.7**
ZALV				PKPab	**PKPab**	**06 21 09.8 +0.2**
MKAR	**Makanchi Array**	**154.91**	**45**	PKPab	**PKPab**	**06 21 23.4 +1.3**
	comp=Z,0.9nm,0.8s,baz=286,slow=3.2,SNR=3.1					
MKAR	**Makanchi Array**	**154.91**	**45**	PKPbc	**PKPbc**	**06 21 06.6 -0.1**
MKAR				pPKPab	**PKPab**	**06 21 24.0 +1.9**

IDC ***17*** *06:04:04.3±0.7, 30.°55S×71.°86W, h0km, mb4.1/10, mb1 4.3/13, mb1mx4.1/37, mbtmp4.1/13, ML4.3/4, Error ellipse: s-maj=28.1km s-min=16.5km az=96.0*

NEIC ***17*** *06:04:06.2±1.3, 30.°62S±0.°05×72.°05W±0.°06, h10km±1km, mb4.7/14, Mwr4.5/31, Error ellipse: s-maj=9.8km s-min=7.6km az=140.0*

NEIC ***17*** *06:04:06.3, 30.°62S×72.°05W, h16km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}6.46; $M_{\theta\theta}$-0.28; $M_{\phi\phi}$-6.18; $M_{r\theta}$-1.64; $M_{\theta\phi}$-0.70; $M_{\phi r}$3.11; Fault plane solution: $M_0$7.27000×10^{15} NP1:ϕ199.60000°, δ34.18000°, λ113.47000°. NP2:ϕ351.92000°, δ58.98000°, λ74.87000°. Principal axes: T 7.5828, Plg72.0000°, Azm226.0000°; N -0.6632, Plg13.0000°, Azm360.0000°; P -6.9196, Plg13.0000°, Azm93.0000°;*

ISC 17 06:04:06.8±0.5, 30.°61S±0.°05×71.°91W±0.°09, h16km, n43, σ1^{s}03/45, mb4.3/11, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.24**	**105**	Pg	**Pg**	**06 04 10.5**	**-1.7**
GO04	**Tololo Observa**	**1.05**	**66**	Pg	**Pg**	**06 04 29.7**	**+2.5**
CO03	**El Pedregal**	**1.07**	**103**		**Pg**	**06 04 29.3**	**+1.7**
LCO	**Las Campanas**	**1.91**	**34**		**Pb**	**06 04 41.9**	**+0.5**
AC04	**Llanos de Chal**	**2.51**	**17**	Pn	**Pn**	**06 04 46.7**	**-0.2**
GO03	**Copiap**	**3.34**	**26**	Pn	**Pn**	**06 04 59.2**	**+0.7**
BO01	**Tunca**	**3.83**	**170**	Pn	**Pn**	**06 05 05.7**	**+0.6**
ML02	**Panimavida**	**5.15**	**176**	Pn	**Pn**	**06 05 22.6**	**-0.6**
LVC	**Limon Verde**	**8.41**	**19**	Pn	**Pn**	**06 06 07.2**	**-1.1**
	6.3nm,0.3s,baz=297,slow=19,SNR=5.4						
LVC				Sn	**Sn**	**06 07 40.7**	**-2.5**
	1.3nm,0.3s,baz=137,slow=19,SNR=1.2						
LVC				Lg	Lg	06 08 22.3	
	3.6nm,0.3s,baz=358,slow=21,SNR=3.4						
PB01	**IPOC Station P**	**9.77**	**13**	Pn	**Pn**	**06 06 27.5**	**+0.7**
PLCA	**Paso Flores**	**10.16**	**174**	Pn	**Pn**	**06 06 31.6**	**-0.4**
	1.1nm,0.3s,baz=335,slow=8.6,SNR=5.1						
PB08	**IPOC Station P**	**10.72**	**14**	Pn	**Pn**	**06 06 40.0**	**0.0**
PB11	**IPOC Station P**	**10.99**	**11**	Pn	**Pn**	**06 06 43.4**	**-0.2**
TRQA	**Tornquist**	**11.06**	**135**	Pn	**Pn**	**06 06 42.3**	**-2.1**
LPAZ	**La Paz**	**14.67**	**14**	Pn	**Pn**	**06 07 32.4**	**-2.0**
	0.4nm,0.3s,baz=205,slow=7.8,SNR=3.1						
SIV	**San Ignacio**	**17.61**	**37**	P	**Pn**	**06 08 10.8**	**-0.8**
	0.3nm,0.3s,baz=218,slow=12,SNR=3.4						
BDFB	**Brasilia**	**26.47**	**61**	P	**P**	**06 09 42.8**	**-0.6**
	8.1nm,0.6s,baz=252,slow=8.6,SNR=8.9						
RUSC	**La Rusia**	**36.31**	**358**	P	**P**	**06 11 10.8**	**+0.4**
OBIP	**Obispado Ponce**	**48.64**	**7**	P	**P**	**06 12 49.7**	**-0.3**
VNA3	**Neumayer Olymp**	**52.46**	**159**	P	**P**	**06 13 19.5**	**+1.1**
VNA2	**Neumayer--Watz**	**53.10**	**158**	P	**P**	**06 13 24.3**	**+1.3**
	baz=289,slow=8.2						
SNAA	**Sanae**	**54.68**	**159**	P	**P**	**06 13 35.7**	**+1.0**
SNAA	**Sanae**	**54.68**	**159**	P	**P**	**06 13 35.3**	**+0.6**
	3.0nm,0.5s,baz=269,slow=13,SNR=20						
SNAA	**Sanae**	**54.68**	**159**	P	**P**	**06 13 35.7**	**+1.0**
SNAA				IAmb	IAmb	06 13 46.0	
	comp=Z,9.3nm,1.2s						
QSPA	**South Pole Qui**	**59.62**	**180**	P	**P**	**06 14 10.4**	**+0.6**
JCT	**Junction City**	**66.29**	**334**	P	**P**	**06 14 54.8**	**+0.4**
TXAR	**Lajitas Array**	**66.85**	**330**	P	**P**	**06 14 57.6**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=156,slow=8.9,SNR=3.0						
VNDA	**Vanda**	**67.44**	**191**	P	**P**	**06 15 02.2**	**+1.1**
	comp=Z,2.7nm,0.8s,baz=120,slow=14,SNR=6.9						
T60A	**Surry**	**67.55**	**356**	P	**P**	**06 15 02.3**	**+0.2**
DBIC	**Dimbokro**	**74.01**	**72**	P	**P**	**06 15 41.6**	**-0.4**
	comp=Z,11nm,1.2s,baz=217,slow=7.7,SNR=2.1						
DBIC	**Dimbokro**	**74.01**	**72**	P	**P**	**06 15 42.0**	**-0.1**
MAW	**Mawson**	**76.39**	**164**	P	**P**	**06 15 55.1**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=206,slow=8.7,SNR=9.5						
RWWY	**Rawlins**	**78.97**	**334**	P	**P**	**06 16 09.4**	**-0.5**
PDAR	**Pinedale Array**	**80.80**	**333**	P	**P**	**06 16 19.9**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=149,slow=8.0,SNR=2.2						
PDAR	**Pinedale Array**	**80.80**	**333**	P	**P**	**06 16 20.1**	**+0.4**
NVAR	**Mina Array Bea**	**81.18**	**325**	P	**P**	**06 16 22.1**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=156,slow=4.6,SNR=2.2						
BOSA	**Boshof**	**81.56**	**118**	P	**P**	**06 16 24.4**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=288,slow=3.2,SNR=1.0						
BOSA	**Boshof**	**81.56**	**118**	P	**P**	**06 16 23.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**82.96**	**70**	P	**P**	**06 16 31.3**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=275,slow=4.4,SNR=4.6						
H04A	**Detroit Lake**	**87.83**	**327**	P	**P**	**06 16 55.2**	**+0.2**
H04A				IAmb	IAmb	06 17 00.8	
	comp=Z,4.6nm,1.1s						
WRA	**Warramunga Arr**	**123.75**	**210**	PKP	**PKPdf**	**06 23 03.5**	**-1.0**
	comp=Z,0.4nm,0.9s,baz=160,slow=1.5,SNR=1.3						
ZALV	**Zalesovo Beam**	**151.26**	**29**	PKPbc	**PKiKP**	**06 23 59.9**	**+0.4**
	comp=Z,5.3nm,0.5s,baz=304,slow=2.9,SNR=6.4						
ZALV	**Zalesovo Beam**	**151.26**	**29**		**PKiKP**	**06 23 60.0**	**+0.5**
ZALV					**pPKPab**	**06 24 09.7**	**-2.0**

IDC ***17*** *06:04:02.8±1.1, 5.°92S×151.°35E, h0km, mb4.0/7, mb1 4.3/7, mb1mx3.9/48, mbtmp4.0/7, Error ellipse: s-maj=53.0km s-min=20.6km az=124.0*

ISC 17 06:04:07.4±1.4, 5.°8S±0.°3×151.°2E±0.°4, h35km, n9, σ1^{s}65/8, mb4.0/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.60**	**228**	P	**P**	**06 08 54.7**	**+0.3**
	3.2nm,0.8s,baz=59,slow=9.8,SNR=14						
WRA				PcP	**PcP**	**06 12 56.9**	**+1.1**
	0.9nm,0.9s,baz=69,slow=1.2,SNR=3.7						
ASAR	**Alice Springs**	**24.36**	**221**	P	**P**	**06 09 23.3**	**+1.0**
	4.7nm,0.8s,baz=56,slow=9.3,SNR=40						
STKA	**Stephens Creek**	**27.49**	**198**	P	**P**	**06 09 49.2**	**-1.3**
	0.7nm,0.4s,baz=53,slow=10,SNR=2.2						
FITZ	**Fitzroy Crossi**	**27.77**	**242**	P	**P**	**06 09 54.1**	**+1.0**
	2.6nm,0.7s,baz=37,slow=5.8,SNR=9.2						
SONM	**Songino Array**	**66.27**	**329**	P	P	06 14 55.0	+2.8
	0.8nm,0.6s,baz=126,slow=6.1,SNR=2.3						
ILAR	**Eielson Array**	**83.65**	**22**	P	**P**	**06 16 32.5**	**+0.4**
	2.6nm,0.7s,baz=247,slow=5.2,SNR=22						
NVAR	**Mina Array Bea**	**93.95**	**52**	P	P	06 17 24.6	+2.4
	0.2nm,0.6s,baz=246,slow=6.5,SNR=2.3						
GERES	**GERESS Array B**	**123.98**	**327**	PKP	**PKiKP**	**06 23 03.1**	**+0.6**
	1.0nm,0.6s,baz=83,slow=4.1,SNR=5.8						
TORD	**Torodi Ar. Bea**	**149.02**	**286**	PKPbc	**PKPab**	**06 23 54.2**	**-2.9**
	5.7nm,0.7s,baz=64,slow=2.9,SNR=28						

MEX 17 06:04:43.7±0.4, 15.°20N×93.°12W, h79km±7km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.51**	**349**	*i* P	Pn	06 04 56.0	-1.5
PCIG				*i* S	Sn	06 05 05.8	-1.7
THIG		**0.88**	**109**	*i* P	Pn	06 04 59.6	-1.6
THIG				*i* S	Sn	06 05 12.6	-1.6
CCIG	**Comitan**	**1.43**	**41**	*i* P	Pn	06 05 09.2	+0.9
CCIG				*i* S	Sn	06 05 24.3	-2.5
CMIG	**Matias Romero**	**2.53**	**318**	*i* P	Pn	06 05 21.8	-0.9
CMIG				*i* S	Sn	06 05 51.1	-1.6

IDC ***17*** *06:12:51.7±1.4, 5.°77S×151.°42E, h0km, mb4.1/5, mb1 4.4/5, mb1mx3.9/35, mbtmp4.2/5, Error ellipse: s-maj=66.2km s-min=25.7km az=125.0*

NEIC ***17*** *06:12:54.9±1.0, 5.°82S±0.°06×151.°5E±0.°1, h17km±6km, mb4.4/12, Error ellipse: s-maj=16.2km s-min=8.5km az=89.0*

ISC 17 06:12:57.4±0.8, 5.°8S±0.°1×151.°5E±0.°2, h41km, n22, σ0^{s}71/23, mb4.3/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.75**	**24**	Pn	**Pn**	**06 13 25.2**	**-0.2**
COEN	**Coen**	**11.49**	**225**	Pn	**Pn**	**06 15 39.8**	**+0.7**
EIDS	**Eidsvold**	**19.46**	**181**	P	**P**	**06 17 20.2**	**-0.6**
WR0	**Warramunga Arr**	**21.64**	**228**	P	**P**	**06 17 44.0**	**-0.5**
WR0				IAmb	IAmb	06 17 55.0	
	comp=Z,18nm,1.1s						
WRAB	**Tennant Creek**	**21.76**	**228**	P	**P**	**06 17 43.8**	**-1.9**
WRAB				IAmb	IAmb	06 18 02.0	
	comp=Z,14nm,1.1s						
WB2	**Warramunga Arr**	**21.77**	**228**	P	**P**	**06 17 45.6**	**-0.2**
WB2				IAmb	IAmb	06 18 04.7	
	comp=Z,18nm,1.2s						
WRA	**Warramunga Arr**	**21.78**	**228**	P	**P**	**06 17 45.0**	**-1.0**
	comp=Z,2.7nm,0.5s,baz=54,slow=10,SNR=17						
WRA				PcP	**PcP**	**06 21 46.1**	**+0.6**
	comp=Z,0.8nm,0.9s,baz=58,slow=1.9,SNR=2.6						
KNRA	**Kununurra**	**24.32**	**244**	P	**P**	**06 18 11.4**	**-0.1**
KNRA				IAmb	IAmb	06 18 20.1	
	comp=Z,11nm,0.9s						
ARMA	**Armidale**	**24.49**	**180**	P	**P**	**06 18 12.2**	**-0.9**
ARMA				IAmb	IAmb	06 18 16.0	
	comp=Z,20nm,1.5s						
AS31	**Alice Springs**	**24.51**	**222**	P	**P**	**06 18 13.0**	**-0.2**
ASAR	**Alice Springs**	**24.51**	**222**	P	**P**	**06 18 12.9**	**-0.3**
	comp=Z,3.5nm,0.8s,baz=55,slow=9.4,SNR=33						
ASAR	**Alice Springs**	**24.51**	**222**	P	**P**	**06 18 13.2**	**0.0**
STKA	**Stephens Creek**	**27.53**	**198**	P	**P**	**06 18 40.6**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=31,slow=12,SNR=2.9						
FITZ	**Fitzroy Crossi**	**28.00**	**242**	P	**P**	**06 18 44.4**	**-0.3**
	comp=Z,3.9nm,0.5s,baz=50,slow=7.2,SNR=19						
FITZ	**Fitzroy Crossi**	**28.00**	**242**	P	**P**	**06 18 45.0**	**+0.3**
FITZ				IAmb	IAmb	06 19 00.7	
	comp=Z,6.1nm,0.9s						
BBOO	**Buckleboo**	**30.46**	**206**	P	**P**	**06 19 07.1**	**+0.7**
FORT	**Forrest**	**33.17**	**219**	P	**P**	**06 19 29.5**	**-0.7**
MORW	**Morawa**	**40.67**	**231**	P	**P**	**06 20 33.8**	**-0.3**
MORW				IAmb	IAmb	06 20 45.5	
	comp=Z,13nm,1.2s						
ILAR	**Eielson Array**	**83.59**	**22**	P	**P**	**06 25 20.9**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=248,slow=5.5,SNR=5.1						
ILAR	**Eielson Array**	**83.59**	**22**	P	**P**	**06 25 22.2**	**+1.1**
QSPA	**South Pole Qui**	**84.13**	**180**	P	**P**	**06 25 24.8**	**+0.5**
TORD	**Torodi Ar. Bea**	**149.31**	**286**	PKPbc	**PKiKP**	**06 32 43.6**	**-0.5**
	comp=Z,2.6nm,0.6s,baz=82,slow=2.5,SNR=14						

IDC ***17*** *06:17:09.6±1.4, 31.°55S×71.°25W, h0km, mb4.1/3, mb1 3.9/8, mb1mx3.7/35, mbtmp3.8/8, ML3.6/5, Error ellipse: s-maj=53.1km s-min=23.8km az=101.0*

GUC ***17*** *06:17:12.0±0.8, 31.°55S×71.°64W, h16km±10km, ML4.0*

NEIC ***17*** *06:17:13.4±2.4, 31.°54S±0.°04×71.°6W±0.°1, h35km±2km, Error ellipse: s-maj=16.3km s-min=5.6km az=98.0*

ISC 17 06:17:11.5±1.4, 31.°53S±0.°03×71.°72W±0.°08, h25km±10km, n43, σ1^{s}49/51, mb4.2/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.85**	**5**	*eP*	**Pn**	**06 17 29.0**	**+1.1**
CO06				*eS*	**Sn**	**06 17 41.1**	**+1.5**
CO06				IAML		06 17 44.5	
	comp=E,5μm,0.2s						
CO06	**Fray Jorge**	**0.85**	**5**	Pn	**Pn**	**06 17 29.7**	**+1.8**
CO03	**El Pedregal**	**1.11**	**52**	*eP*	**Pb**	**06 17 33.4**	**+1.2**
CO03				*eS*	**Sn**	**06 17 49.2**	**+2.9**
CO03				IAML		06 17 52.9	
	comp=E,4μm,0.3s						
CO03	**El Pedregal**	**1.11**	**52**		**Pb**	**06 17 31.8**	**-0.4**
VA01	**Torpederas**	**1.49**	**178**	*eP*	**Pn**	**06 17 37.3**	**+0.6**
VA01	**Torpederas**	**1.49**	**178**		**Pn**	**06 17 36.6**	**-0.2**
ROCH	**El Roble**	**1.56**	**158**	*eP*	**Pb**	**06 17 40.1**	**+0.2**
ROCH				*i* S	**Sb**	**06 18 01.8**	**+2.5**
GO04	**Tololo Observa**	**1.56**	**31**	*eP*	**Pb**	**06 17 40.8**	**+0.9**
GO04				*eS*	**Sb**	**06 18 02.8**	**+3.5**
GO04	**Tololo Observa**	**1.56**	**31**	Pn	**Pn**	**06 17 37.4**	**-0.6**
VA03	**San Esteban**	**1.58**	**142**	*eP*	**Pb**	**06 17 41.1**	**+1.0**
VA03				*eS*	**Sb**	**06 18 01.6**	**+1.9**
VA03				IAML		06 18 02.9	
	comp=E,6μm,0.5s						
VA03	**San Esteban**	**1.58**	**142**		**Pn**	**06 17 38.3**	**+0.2**
MT05	**Renca**	**2.04**	**156**	*eP*	**Pb**	**06 17 47.0**	**-0.9**
MT05				*eS*	**Sb**	**06 18 13.2**	**+0.4**
MT05				IAML		06 18 18.5	
	comp=E,2μm,0.4s						
MT05	**Renca**	**2.04**	**156**		**Pn**	**06 17 44.3**	**0.0**
VA05	**Santo Domingo**	**2.13**	**178**	*eP*	**Pb**	**06 17 49.1**	**-0.2**
VA05				*eS*	**Sb**	**06 18 16.9**	**+1.6**
VA05				IAML		06 18 23.6	
	comp=E,2μm,0.4s						
VA05	**Santo Domingo**	**2.13**	**178**		**Pn**	**06 17 45.7**	**+0.2**
MT09	**Talagante**	**2.33**	**165**	*eP*	**Pn**	**06 17 49.7**	**+1.4**
MT09				IAML		06 18 28.7	
	comp=N,1μm,0.4s						
MT09	**Talagante**	**2.33**	**165**		**Pn**	**06 17 48.8**	**+0.5**
MT01	**Popeta**	**2.36**	**171**	*eP*	**Pb**	**06 17 53.8**	**+0.3**
MT01				IAML		06 18 29.9	
	comp=E,525nm,0.5s						
MT01	**Popeta**	**2.36**	**171**		**Pn**	**06 17 47.9**	**-0.9**
LMEL	**Las Melosas**	**2.64**	**152**	*eP*	**Pb**	**06 17 55.8**	**-2.5**
LMEL				*eS*	**Sb**	**06 18 28.6**	**-1.8**
LMEL				IAML		06 18 37.7	
	comp=N,945nm,0.4s						
LCO	**Las Campanas**	**2.66**	**20**	*eS*	**Sb**	**06 18 28.6**	**-2.3**
GO05	**Huala**	**3.48**	**183**	Pn	**Pn**	**06 18 04.0**	**0.0**
LVC	**Limon Verde**	**9.22**	**16**	Pn	**Pn**	**06 19 23.1**	**-0.2**
	comp=N,0.6nm,0.3s,baz=180,slow=9.2,SNR=1.5						
PLCA	**Paso Flores**	**9.24**	**174**	Pn	**Pn**	**06 19 24.2**	**+1.1**
	comp=N,0.3nm,0.3s,baz=348,slow=10.0,SNR=4.0						
CPUP	**Villa Florida**	**13.62**	**71**	Pn	**Pn**	**06 20 18.9**	**-4.2**
	comp=N,0.1nm,0.3s,baz=221,slow=11,SNR=1.4						
PLTB	**Pedras Altas**	**15.43**	**96**	Pn	**Pn**	**06 20 48.0**	**+0.4**
LPAZ	**La Paz**	**15.52**	**13**	Pn	**Pn**	**06 20 49.3**	**0.0**
	comp=N,0.1nm,0.3s,baz=210,slow=8.8,SNR=5.6						
SIV	**San Ignacio**	**18.26**	**35**	P	**Pn**	**06 21 22.0**	**-1.3**
	comp=N,0.1nm,0.3s,baz=240,slow=12,SNR=3.9						
SAML	**Samuel**	**23.83**	**21**	P	**P**	**06 22 22.1**	**-0.5**
SAML				IAmb	IAmb	06 22 31.0	
	comp=Z,17nm,1.9s						
BDFB	**Brasilia**	**26.78**	**59**	P	**P**	**06 22 47.8**	**-1.9**
	comp=Z,2.5nm,0.7s,baz=35,slow=8.4,SNR=3.1						
OTAV	**Otavalo**	**32.23**	**347**	P	**P**	**06 23 35.9**	**-2.5**
OTAV				IAmb	IAmb	06 23 39.5	
	comp=Z,8.6nm,1.7s						
SNAA	**Sanae**	**53.77**	**159**	P	**P**	**06 26 31.6**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=269,slow=3.0,SNR=3.9						
SNAA	**Sanae**	**53.77**	**159**	P	**P**	**06 26 32.1**	**+0.6**
QSPA	**South Pole Qui**	**58.70**	**180**	P	**P**	**06 27 08.6**	**+1.8**
SHEL	**Horse Pasture**	**61.53**	**92**	P	**P**	**06 27 26.8**	**0.0**
LRAL	**Lakeview Retre**	**65.82**	**346**	P	**P**	**06 27 53.8**	**-0.7**
PAGS	**Pennsylvania G**	**71.54**	**356**	P	**P**	**06 28 30.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**83.11**	**70**	P	**P**	**06 29 36.6**	**+1.1**
	comp=Z,2.6nm,0.7s,baz=260,slow=4.8,SNR=14						
BVAR	**Borovoye Array**	**145.26**	**41**	PKPbc	**PKPdf**	**06 36 48.2**	**+1.7**
	comp=Z,2.9nm,0.6s,baz=242,slow=6.1,SNR=13						
KURBB	**Kurchatov Arra**	**150.85**	**40**	PKPbc	**PKiKP**	**06 37 02.5**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=289,slow=2.9,SNR=9.9						
KURK	**Kurchatov**	**150.85**	**40**		**PKiKP**	**06 37 02.5**	**+0.4**
ZALV	**Zalesovo Beam**	**151.97**	**30**	PKPbc	**PKiKP**	**06 37 04.8**	**+0.6**
	comp=Z,4.6nm,0.5s,baz=327,slow=2.1,SNR=9.2						
ZALV	**Zalesovo Beam**	**151.97**	**30**		**PKiKP**	**06 37 05.4**	**+1.2**

IDC ***17*** *06:20:10.2±0.8, 31.°67S×71.°94W, h0km, mb4.0/6, mb1 4.1/10, mb1mx4.0/27, mbtmp3.9/10, ML3.8/4, Error ellipse: s-maj=30.8km s-min=20.5km az=85.0*

NEIC ***17*** *06:20:22.0±1.0, 32.°31S±0.°02×71.°7W±0.°1, h38km±8km, mb4.5/12, Error ellipse: s-maj=14.7km s-min=3.2km az=85.0*

ISC 17 06:20:12.9±0.7, 31.°67S±0.°08×71.°94W±0.°10, h14km, n36, σ1^{s}49/31, mb4.2/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VA01	**Torpederas**	**1.38**	**170**	Pn	**Pn**	**06 20 35.5**	**-2.2**
VA03	**San Esteban**	**1.61**	**133**	Pn	**Pn**	**06 20 39.4**	**-1.6**
MT05	**Renca**	**2.00**	**150**	Pn	**Pn**	**06 20 44.2**	**-2.1**
VA05	**Santo Domingo**	**2.00**	**172**	Pn	**Pn**	**06 20 45.5**	**-0.8**
ZON	**Zonda**	**2.79**	**88**	Pn	**Pb**	**06 21 03.6**	**+1.0**
GO05	**Huala**	**3.33**	**180**	Pn	**Pn**	**06 21 03.2**	**-1.5**
ML02	**Panimavida**	**4.11**	**174**	Pn	**Pn**	**06 21 13.3**	**-2.0**
H03N1	**Juan Fernandez**	**6.14**	**251**	T	T	06 28 44.4	
	baz=78,slow=72						
H03N3	**Juan Fernandez**	**6.16**	**251**	T	T	06 28 37.8	
	baz=78,slow=72						
H03N2	**Juan Fernandez**	**6.16**	**251**	T	T	06 28 45.1	
	baz=78,slow=72						
LC01	**Cunco**	**7.22**	**180**	Pn	**Pn**	**06 21 56.9**	**-1.1**
PLCA	**Paso Flores**	**9.12**	**173**	Pn	**Pn**	**06 22 23.1**	**-1.0**
	0.7nm,0.3s,baz=338,slow=12,SNR=10						
PLCA	**Paso Flores**	**9.12**	**173**	Pn	**Pn**	**06 22 22.8**	**-1.3**
CPUP	**Villa Florida**	**13.85**	**71**	Pn	**Pn**	**06 23 27.1**	**-1.6**
	0.2nm,0.3s,baz=246,slow=5.1,SNR=1.3						
LPAZ	**La Paz**	**15.70**	**14**	Pn	**Pn**	**06 23 53.6**	**-0.7**
	0.0nm,0.3s,baz=185,slow=11,SNR=2.7						
SIV	**San Ignacio**	**18.48**	**35**	P	**P**	**06 24 28.7**	**+0.1**
	0.1nm,0.3s,baz=226,slow=14,SNR=3.2						
BDFB	**Brasilia**	**27.02**	**59**	P	**P**	**06 25 54.3**	**-0.5**
	2.3nm,0.7s,baz=297,slow=16,SNR=2.4						
BAUV	**El Baul**	**40.55**	**6**	IAmb	IAmb	06 28 06.6	
	comp=Z,12nm,0.8s						
VNA3	**Neumayer Olymp**	**51.49**	**159**	P	**P**	**06 29 19.0**	**+1.4**
VNA2	**Neumayer--Watz**	**52.13**	**158**	P	**P**	**06 29 23.7**	**+1.3**
	baz=287,slow=8.2						
SNAA	**Sanae**	**53.72**	**158**	P	**P**	**06 29 35.1**	**+1.0**
SNAA	**Sanae**	**53.72**	**158**	P	**P**	**06 29 33.6**	**-0.5**
	comp=Z,3.8nm,0.7s,baz=268,slow=7.5,SNR=25						
SNAA	**Sanae**	**53.72**	**158**	P	**P**	**06 29 34.9**	**+0.8**
QSPA	**South Pole Qui**	**58.56**	**180**	P	**P**	**06 30 09.8**	**+0.9**
QSPA				IAmb	IAmb	06 30 14.1	
	comp=Z,3.0nm,0.9s						
TXAR	**Lajitas Array**	**67.75**	**330**	P	**P**	**06 31 10.6**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=155,slow=9.1,SNR=6.6						
WVT	**Waverly**	**69.07**	**346**	P	P	06 31 27.1	+8.9
DBIC	**Dimbokro**	**74.37**	**72**	P	**P**	**06 31 54.7**	**+4.1**
MAW	**Mawson**	**75.39**	**164**	P	**P**	**06 31 55.9**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=246,slow=10,SNR=1.2						
MAW	**Mawson**	**75.39**	**164**	P	**P**	**06 31 56.5**	**+0.9**
NVAR	**Mina Array Bea**	**82.02**	**325**	P	**P**	**06 32 32.0**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=156,slow=6.0,SNR=8.0						
TORD	**Torodi Ar. Bea**	**83.34**	**70**	P	**P**	**06 32 40.0**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=262,slow=5.0,SNR=8.6						
BVAR	**Borovoye Array**	**145.49**	**41**	PKPbc	**PKPab**	**06 39 50.8**	**+0.4**
	comp=Z,2.5nm,0.7s,baz=204,slow=1.4,SNR=6.0						
KURBB	**Kurchatov Arra**	**151.08**	**40**	PKPbc	**PKPbc**	**06 40 04.3**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=301,slow=3.0,SNR=8.4						
AAK	**Ala-Archa**	**151.27**	**58**	PKPbc	**PKPbc**	**06 40 03.9**	**-2.2**
	comp=Z,1.0nm,0.3s,baz=3.5,slow=19,SNR=1.8						
ZALV	**Zalesovo Beam**	**152.19**	**30**	PKPbc	**PKPbc**	**06 40 05.7**	**-1.8**
	comp=Z,1.3nm,0.5s,baz=296,slow=4.7,SNR=3.7						
MKAR	**Makanchi Array**	**155.12**	**45**	PKPab	**PKPab**	**06 40 29.1**	**-1.0**
	comp=Z,2.0nm,0.7s,baz=291,slow=2.1,SNR=9.8						

IDC ***17*** *06:20:26.2±0.7, 31.°45S×71.°67W, h0km, mb4.4/7, mb1 4.5/12, mb1mx4.3/26, mbtmp4.3/12, ML4.2/5, Error ellipse: s-maj=26.9km s-min=18.9km az=91.0*

NEIC ***17*** *06:20:29.9±1.6, 31.°48S±0.°04×71.°86W±0.°06, h18km±3km, mb4.8/21, ML4.8(GUC), Error ellipse: s-maj=7.7km s-min=5.5km az=86.0*

GUC ***17*** *06:20:30.0±0.8, 31.°44S×71.°71W, h38km±7km, ML4.8*

**

comp=Z,64nm,1.5s
TIC Toumodi 73.99 72 *e*P **P 06 32 03.9 +0.2**
KIC Kosan Boka 74.05 72 *e*P **P 06 32 04.5 +0.4**
comp=Z,16nm,0.8s
DBIC Dimbokro 74.14 72 P **P 06 32 04.6 +0.1**
comp=Z,4.9nm,0.6s,baz=242,slow=5.7,SNR=8.3
DBIC Dimbokro 74.14 72 P **P 06 32 05.1 +0.6**
MAW Mawson 75.53 164 P **P 06 32 12.1 +0.4**
comp=Z,1.8nm,0.7s,baz=227,slow=11,SNR=5.3
MAW Mawson 75.53 164 P **P 06 32 13.2 +1.4**
E62A Clayton Lake 77.75 2 P **P 06 32 25.6 +1.3**
ECSD EROS Data Cent 78.22 342 P **P 06 32 27.3 +0.2**
KOWA Kowa 79.36 66 P **P 06 32 34.8 +0.8**
KOWA IAmb IAmb 06 32 35.5
comp=Z,5.0nm,0.8s
NVAR Mina Array Bea 81.96 325 P **P 06 32 47.3 -0.3**
comp=Z,1.3nm,0.9s,baz=170,slow=6.0,SNR=5.3
TORD Torodi Ar. Bea 83.11 70 P **P 06 32 52.6 -1.3**
comp=Z,10nm,0.8s,baz=56,slow=2.4,SNR=15
AKASG Malin Array Be 120.28 46 PKP **PKPdf 06 39 17.7 -0.6**
comp=Z,0.3nm,0.3s,baz=263,slow=2.7,SNR=6.6
WRA Warramunga Arr 123.09 210 PKP **PKPdf 06 39 23.5 -1.4**
comp=Z,1.1nm,0.9s,baz=161,slow=1.8,SNR=5.9
BVAR Borovoye Array 145.22 41 PKPbc **PKPdf 06 40 05.2 +0.4**
comp=Z,4.7nm,0.4s,baz=267,slow=4.5,SNR=16
KURBB Kurchatov Arra 150.81 40 PKPbc **PKPbc 06 40 19.6 -0.1**
comp=Z,6.6nm,0.8s,baz=292,slow=2.9,SNR=30
AAK Ala-Archa 151.01 58 PKPbc **PKiKP 06 40 21.4 +0.1**
comp=Z,8.6nm,0.8s,baz=192,slow=3.1,SNR=9.7
ZALV Zalesovo Beam 151.93 30 PKPbc **PKiKP 06 40 22.6 +0.1**
comp=Z,24nm,0.7s,baz=299,slow=3.0,SNR=37
SONM Songino Array 163.59 4 PKPab **PKPab 06 41 22.7 +0.7**
comp=Z,0.5nm,0.5s,baz=356,slow=4.3,SNR=3.8

NNC 17 06:24:55.0±11.0, 37.58N×71.42E, h125km±231km, mb2.8, mpv3.5, 1C-3D, Error ellipse: s-maj=96.9km s-min=65.1km az=13.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KK31	**Karatay Array**	**5.56**	**353**	⇓P		Pn	06 26 17.4	+1.9
	3.0nm,0.3s,baz=180,slow=14,SNR=24							
KK31				⇓S		Sn	06 27 19.7	+1.5
	3.3nm,0.3s,baz=175,slow=22,SNR=11							
AAK	**Ala-Archa**	**5.58**	**24**	P		Pn	06 26 14.5	-1.3
	2.2nm,0.5s							
AAK				S		Sn	06 27 18.0	-0.8
	6.3nm,0.7s							
AB31	**Akbulak array**	**14.32**	**328**	⇓P		Pn	06 28 12.1	+0.3
	0.2nm,0.3s,baz=129,slow=14,SNR=14							
AB31				⇑S		Sn	06 30 49.0	-0.9
	0.5nm,0.5s,baz=162,slow=21,SNR=4.3							

IDC 17 06:34:31.7±2.5, 54.27N×85.95E, h0km, mb1 3.3/2, mb1mx3.1/50, mbtmp3.3/2, ML2.6/2, Error ellipse: s-maj=18.0km s-min=10.5km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.74**	**245**	*i*			06 39 40.0	
	baz=64,slow=331,SNR=0.3							
ZALV	**Zalesovo Beam**	**0.74**	**245**	Pg		Pg	06 34 45.1	-0.7
	0.6nm,0.3s,baz=68,slow=16,SNR=5.6							
ZALV				Lg		Lg	06 34 56.8	
	2.9nm,0.3s,baz=63,slow=31,SNR=20							
KURBB	**Kurchatov Arra**	**5.82**	**234**	Pn		Pn	06 36 00.1	+0.9
	0.1nm,0.3s,baz=50,slow=14,SNR=8.2							
KURBB				Lg		Lg	06 37 33.6	
	0.1nm,0.3s,baz=50,slow=32,SNR=1.4							
MKAR	**Makanchi Array**	**7.84**	**199**	Pn		Pn	06 36 27.6	+0.7
	0.1nm,0.3s,baz=23,slow=13,SNR=5.4							
MKAR				Lg		Lg	06 38 34.7	
	0.0nm,0.3s,baz=20,slow=29,SNR=1.8							

*NEIC **17** 06:35:30.5±1.5, 18.55S±0.02×69.19W±0.05, h10km±1km, mb4.5/27, Error ellipse: s-maj=8.3km s-min=3.4km az=270.0*
*GUC **17** 06:35:31.3±0.7, 18.46S×69.14W, h10km, ML4.4*
*IDC **17** 06:35:37.2±1.9, 18.59S×68.60W, h59km±17km, mb3.6/7, mb1 4.0/12, mb1mx3.8/33, mbtmp4.1/12, Error ellipse: s-maj=21.6km s-min=15.6km az=73.0*

ISC 17 06:35:29.3±1.4, 18.55S±0.03×69.17W±0.05, h3km±9km, n76, σ1s62/84, mb4.5/16, 1C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AP01	**Chacalluta**	**1.13**	**279**	⇑*i*P		**Pg**	**06 35 50.7**	**-0.3**
AP01				*e*S		**Sb**	**06 36 06.5**	**-0.1**
AP01				IAML			06 36 08.2	
	comp=N,28μm,0.5s							
AP01	**Chacalluta**	**1.13**	**279**			**Pg**	**06 35 51.0**	**0.0**
AP01						**Sb**	**06 36 06.9**	**+0.4**
PB11	**IPOC Station P**	**1.29**	**201**	⇓*i*P		**Pn**	**06 35 54.1**	**-0.3**
PB11				*e*S		**Sn**	**06 36 12.8**	**+0.4**
PB11	**IPOC Station P**	**1.29**	**201**	Pn		**Pn**	**06 35 54.1**	**-0.3**
PB11				Sn		**Sg**	**06 36 11.6**	**+0.6**
PSGC	**Pisagua**	**1.38**	**221**	⇓*i*P		**Pn**	**06 35 55.4**	**-0.2**
PSGC				*i* S		**Sb**	**06 36 14.4**	**+0.4**
PSGC				IAML			06 36 16.4	
	comp=N,3μm,0.3s							
PSGCX	**Pisagua**	**1.38**	**221**			**Pn**	**06 35 55.5**	**-0.1**
PB08	**IPOC Station P**	**1.58**	**180**	⇓*i*P		**Pb**	**06 35 59.6**	**+0.1**
PB08				*e*S		**Sg**	**06 36 22.4**	**+2.0**
PB08	**IPOC Station P**	**1.58**	**180**	Pn		**Pn**	**06 35 59.2**	**+0.5**
TA02	**Huaiquique**	**1.94**	**208**	*e*P		**Pb**	**06 36 04.9**	**-0.5**
TA02				*e*S		**Sb**	**06 36 30.6**	**+0.6**
TA02				IAML			06 36 33.8	
	comp=N,3μm,0.2s							
TA02	**Huaiquique**	**1.94**	**208**			**Pn**	**06 36 03.7**	**+0.5**
TA01	**Diego Aracena**	**2.22**	**205**	⇓*i*P		**Pb**	**06 36 09.4**	**-0.8**
TA01				*i* S		**Sg**	**06 36 40.7**	**-0.1**
TA01				IAML			06 36 41.9	
	comp=E,4μm,0.3s							
TA01	**Diego Aracena**	**2.22**	**205**			**Pn**	**06 36 07.1**	**0.0**
I08BO	**LAS PENAS INFR**	**2.42**	**16**	P		**Pb**	**06 36 14.6**	**+0.8**
	baz=202,slow=15,SNR=3.7							
I08BO				*i*			06 50 00.0	
	baz=194,slow=323,SNR=0.7							
LPAZ	**La Paz**	**2.46**	**24**	P		**Pb**	**06 36 14.1**	**-0.4**
	comp=E,31nm,0.3s,baz=190,slow=11,SNR=666							
LPAZ	**La Paz**	**2.46**	**24**			**Pn**	**06 36 11.8**	**+1.0**
PB01	**IPOC Station P**	**2.50**	**187**	⇓*i*P		**Pb**	**06 36 14.6**	**-0.4**
PB01				*e*S		**Sb**	**06 36 45.4**	**-0.9**
PB02	**IPOC Station P**	**2.84**	**194**	*e*P		**Pn**	**06 36 18.0**	**+2.3**
PB02				*e*S		**Sb**	**06 36 58.8**	**+2.7**
PB02				IAML			06 37 00.2	
	comp=E,3μm,0.4s							
PB07	**IPOC Station P**	**3.23**	**192**			**Pb**	**06 36 24.9**	**-2.6**
PB04	**IPOC Station P**	**3.88**	**194**			**Pn**	**06 36 34.4**	**+4.3**
LVC	**Limon Verde**	**4.05**	**177**	P		**Pn**	**06 36 37.3**	**+4.8**
	comp=E,46nm,0.3s,baz=357,slow=8.3,SNR=85							
PB06	**IPOC Station P**	**4.16**	**185**			**Pn**	**06 36 34.4**	**+0.6**
PB15	**IPOC Station P**	**4.65**	**183**			**Pn**	**06 36 40.7**	**+0.1**
PB10	**IPOC Station P**	**5.11**	**194**	Pn		**Pn**	**06 36 46.9**	**+0.1**
PB14	**IPOC Station P**	**6.16**	**191**			**Pn**	**06 37 01.3**	**-0.2**
SIV	**San Ignacio**	**8.14**	**73**	P		**Pn**	**06 37 27.5**	**-1.0**
	comp=E,2.9nm,0.3s,baz=270,slow=8.6,SNR=38							
NNA	**Nana**	**9.87**	**310**	P		Pn	06 38 01.9	+10
	comp=E,1.5nm,0.3s,baz=126,slow=3.3,SNR=4.2							
NNA	**Nana**	**9.87**	**310**	Pn		**Pn**	**06 37 50.1**	**-2.1**
SAML	**Samuel**	**11.17**	**32**			**Pn**	**06 38 10.5**	**+0.5**
BDFB	**Brasilia**	**20.42**	**85**	P		**P**	**06 40 02.2**	**-5.8**
	comp=E,0.2nm,0.3s,baz=206,slow=7.0,SNR=4.1							
TRQA	**Tornquist**	**20.43**	**164**	P		**P**	**06 40 07.6**	**-0.1**
TRQA				IAmb		IAmb	06 40 09.2	
	comp=Z,22nm,1.0s							
TULM	**Tulcn-Chalpat**	**20.93**	**335**	*e*P		Pn	06 40 26.5	+10
SOTA	**Rioblanco**	**21.82**	**340**	*e*P		**P**	**06 40 22.5**	**-0.9**
BBAC	**Balboa, Cauca**	**21.93**	**338**	*e*P		**P**	**06 40 25.7**	**+1.3**
PLCA	**Paso Flores**	**22.14**	**183**	P		**P**	**06 40 26.6**	**+0.3**
	comp=Z,13nm,0.9s,baz=351,slow=9.3,SNR=12							
PLCA	**Paso Flores**	**22.14**	**183**	P		**P**	**06 40 24.3**	**-2.0**
PLCA				IAmb		IAmb	06 40 30.1	
	comp=Z,22nm,1.1s							
POPC	**Popayan, Colom**	**22.22**	**340**	*e*P		**P**	**06 40 29.7**	**+2.2**
LL04	**Puerto Octay**	**22.46**	**186**	P		**P**	**06 40 28.8**	**-0.8**
CHIC	**Chingaza**	**23.47**	**349**	*e*P		**P**	**06 40 43.8**	**+3.1**
ROSC	**El Rosal**	**23.79**	**347**	P		**P**	**06 40 43.1**	**-0.7**
RUSC	**La Rusia**	**24.59**	**351**	P		**P**	**06 40 50.2**	**-1.2**
RUSC				IAmb		IAmb	06 40 54.7	
	comp=Z,8.3nm,0.8s							
RUSC	**La Rusia**	**24.59**	**351**	*e*P		**P**	**06 40 48.9**	**-2.5**
GO07	**Milladeo Hill,**	**24.78**	**188**	P		**P**	**06 40 52.9**	**+0.5**
ZARC	**Zaragoza, Cauc**	**26.48**	**347**	*e*P		**P**	**06 41 06.0**	**-1.9**
CAO2	**Cobano, Puntar**	**32.16**	**329**	P		**P**	**06 41 58.5**	**-0.1**
SVB	**Belmont**	**32.57**	**14**	P		**P**	**06 42 01.1**	**-0.9**
CMIG	**Matias Romero**	**43.52**	**323**	P		**P**	**06 43 37.7**	**+3.3**
	comp=Z,2.5nm,0.9s,baz=145,slow=4.5,SNR=4.6							
TXAR	**Lajitas Array**	**58.09**	**324**	P		**P**	**06 45 26.8**	**+2.5**
	comp=Z,0.2nm,0.6s,baz=146,slow=9.8,SNR=2.6							
PBMO	**Poplar Bluff**	**58.58**	**340**	P		**P**	**06 45 27.6**	**+0.2**
PBMO				IAmb		IAmb	06 45 29.9	
	comp=Z,8.0nm,1.1s							
HHAR	**Hobbs**	**59.35**	**337**	P		**P**	**06 45 30.8**	**-2.0**
HHAR				IAmb		IAmb	06 45 42.7	
	comp=Z,1.7nm,0.4s							
FVM	**French Village**	**59.68**	**341**	P		**P**	**06 45 35.5**	**+0.4**
CCM	**Cathedral Cave**	**60.01**	**340**	P		**P**	**06 45 39.1**	**+1.8**
CCM				IAmb		IAmb	06 45 40.9	
	comp=Z,6.0nm,1.1s							
S39A	**Bolivar**	**60.38**	**338**	P		**P**	**06 45 38.9**	**-1.0**
S39A				IAmb		IAmb	06 45 42.1	
	comp=Z,5.1nm,0.9s							
VNA3	**Neumayer Olymp**	**62.94**	**162**	P		**P**	**06 45 57.5**	**+0.7**
VNA1	**Neumayer--Stat**	**63.14**	**161**	P		**P**	**06 45 58.0**	**0.0**
VNA2	**Neumayer--Watz**	**63.51**	**161**	P		**P**	**06 46 00.9**	**+0.4**
	baz=294,slow=8.4							
SNAA	**Sanae**	**65.14**	**161**	P		**P**	**06 46 11.8**	**+0.5**
SNAA	**Sanae**	**65.14**	**161**	P		**P**	**06 46 11.2**	**-0.1**
	comp=Z,3.0nm,0.9s,baz=262,slow=5.3,SNR=8.8							
SNAA	**Sanae**	**65.14**	**161**	P		**P**	**06 46 10.8**	**-0.5**
L34A	**Svendsen Farm,**	**65.26**	**338**	P		**P**	**06 46 11.5**	**-0.8**
214A	**Organ Pipe Nat**	**65.35**	**320**	P		**P**	**06 46 12.5**	**-0.6**
214A				IAmb		IAmb	06 46 18.9	
	comp=Z,2.3nm,1.0s							
BGNE	**Belgrade**	**65.42**	**336**	P		**P**	**06 46 12.1**	**-1.4**
ECSD	**EROS Data Cent**	**66.89**	**339**	P		**P**	**06 46 22.4**	**-0.4**
F36A	**Milaca**	**67.80**	**342**	P		**P**	**06 46 28.2**	**-0.3**
PV23	**Carpenter Ridg**	**67.91**	**327**	P		**P**	**06 46 27.0**	**-2.7**
PV23				IAmb		IAmb	06 46 29.1	
	comp=Z,3.1nm,0.7s							
PHWY	**Pilot Hill**	**68.39**	**331**	P		**P**	**06 46 31.6**	**-1.1**
PHWY				IAmb		IAmb	06 46 36.7	
	comp=Z,2.7nm,1.1s							
F33A	**5 Mile Ranch,**	**68.64**	**340**	P		**P**	**06 46 33.6**	**-0.2**
PDAR	**Pinedale Array**	**71.45**	**330**	P		**P**	**06 46 54.4**	**+3.1**
	comp=Z,0.3nm,0.6s,baz=125,slow=5.6,SNR=2.7							
QSPA	**South Pole Qui**	**71.63**	**180**	P		**P**	**06 46 52.9**	**+0.8**
QSPA				IAmb		IAmb	06 46 53.7	
	comp=Z,1.8nm,0.8s							
NVAR	**Mina Array Bea**	**73.04**	**322**	P		**P**	**06 47 03.1**	**+2.1**
	comp=Z,0.3nm,0.7s,baz=164,slow=4.4,SNR=2.6							
MFID	**Camas Ranch**	**75.05**	**327**			**PcP**	**06 47 26.3**	**+0.1**
TORD	**Torodi Ar. Bea**	**76.61**	**71**	P		**P**	**06 47 18.9**	**-3.0**
	comp=Z,3.8nm,0.8s,baz=251,slow=5.3,SNR=12							
TORD	**Torodi Ar. Bea**	**76.61**	**71**	P		**P**	**06 47 20.5**	**-1.4**
TORD				IAmb		IAmb	06 47 26.3	
	comp=Z,4.2nm,0.8s							
ASAR	**Alice Springs**	**132.38**	**209**	PKP		**PKPdf**	**06 54 45.0**	**-0.9**
	comp=Z,0.5nm,0.9s,baz=139,slow=2.2,SNR=3.5							
WRA	**Warramunga Arr**	**135.34**	**212**	PKP		**PKPdf**	**06 54 51.4**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=135,slow=2.4,SNR=2.2							
MKAR	**Makanchi Array**	**143.35**	**33**	PKP		**PKPdf**	**06 55 05.0**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=325,slow=2.3,SNR=2.0							
SONM	**Songino Array**	**156.50**	**6**	PKPbc		**PKPbc**	**06 55 23.1**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=346,slow=2.1,SNR=8.7							

*GUC **17** 06:36:32.3±0.7, 18.41S×69.09W, h10km, ML5.0*
*NEIC **17** 06:36:33.8, 18.60S×69.20W, h15km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}=1.71; $M_{\theta\theta}$=-2.43; $M_{\phi\phi}$=4.14; $M_{r\theta}$=2.12; $M_{r\phi}$=2.77; $M_{\theta\phi}$=-1.74; Fault plane solution: M_0=5.31000×10^{16} NP1:ϕ_s=239.26000°, δ=58.81000°, λ=-21.56000°. NP2:ϕ_s=340.83000°, δ=71.68000°, λ=-146.94000°. Principal axes: T 5.2862, Plg8.0000°, Azm108.0000°; N 0.0478, Plg53.0000°, Azm7.0000°; P -5.3340, Plg36.0000°, Azm204.0000°;*
*NEIC **17** 06:36:34.3±1.2, 18.55S±0.05×69.16W±0.06, h11km±4km, mb5.1/126, Ms_20 5.1/45, Mwr5.1/38 Error ellipse: s-maj=8.7km s-min=7.8km az=108.0*
*MOS **17** 06:36:36.8±2.1, 18.59S×69.30W, h40km, mb5.1/18, Error ellipse: s-maj=16.7km s-min=7.7km az=109.4*
*IDC **17** 06:36:38.9±1.9, 18.53S×68.91W, h60km±17km, mb4.1/17, mb1 4.3/21, mb1mx4.2/33, mbtmp4.4/21, MS4.9/12, Ms1 4.9/12, ms1mx4.6/36, Error ellipse: s-maj=19.1km s-min=12.5km az=69.0*

ISC 17 06:36:32.4±1.4, 18.56S±0.03×69.23W±0.04, h2km±8km, n295, σ1s74/281, mb5.1/81, MS5.1/32, 2C-6D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AP01	**Chacalluta**	**1.07**	**280**	⇑*i*P		**Pb**	**06 36 52.8**	**-0.9**
AP01				*e*S		**Sb**	**06 37 08.6**	**+0.4**
AP01				IAML			06 37 11.2	
	comp=N,73μm,0.2s							
AP01	**Chacalluta**	**1.07**	**280**	Pn		**Pb**	**06 36 52.8**	**-0.9**
AP01				Sg		**Sn**	**06 37 09.5**	**-0.5**
PB11	**IPOC Station P**	**1.26**	**199**	⇓*i*P		**Pn**	**06 36 56.2**	**-1.0**
PB11				*e*S		**Sg**	**06 37 15.3**	**+2.2**
PB11	**IPOC Station P**	**1.26**	**199**	Pn		**Pn**	**06 36 56.1**	**-1.2**
PSGC	**Pisagua**	**1.33**	**219**	⇓*i*P		**Pn**	**06 36 57.6**	**-0.7**
PSGC				*i* S		**Sg**	**06 37 17.3**	**+1.9**
PSGC				IAML			06 37 19.9	
	comp=E,15μm,0.4s							
PSGCX	**Pisagua**	**1.33**	**219**	Pn		**Pn**	**06 36 57.4**	**-0.8**
PB08	**IPOC Station P**	**1.58**	**177**	⇓*i*P		**Pn**	**06 37 01.5**	**-0.3**
PB08				*e*S		**Sg**	**06 37 24.8**	**+1.6**
PB08	**IPOC Station P**	**1.58**	**177**	Pn		**Pn**	**06 37 02.8**	**+1.0**
TA02	**Huaiquique**	**1.90**	**206**	*e*P		**Pn**	**06 37 07.0**	**+1.0**
TA02				*e*S		**Sb**	**06 37 33.4**	**+1.2**
TA02				IAML			06 37 37.5	
	comp=N,29μm,0.4s							
TA02	**Huaiquique**	**1.90**	**206**	Pn		**Pn**	**06 37 07.3**	**+1.4**
TA01	**Diego Aracena**	**2.19**	**204**	⇓*i*P		**Pn**	**06 37 11.6**	**+1.7**
TA01				*i* S		**Sg**	**06 37 42.8**	**0.0**
TA01				IAML			06 37 45.5	
	comp=E,12μm,0.3s							
TA01	**Diego Aracena**	**2.19**	**204**	Pn		**Pn**	**06 37 11.6**	**+1.7**
I08BO	**LAS PENAS INFR**	**2.44**	**18**	P		**Pb**	**06 37 16.9**	**-0.6**
	baz=200,slow=14							
I08BO				*i*			06 51 00.0	
	baz=195,slow=326							
PB01	**IPOC Station P**	**2.48**	**186**	*e*P		**Pn**	**06 37 14.5**	**+0.5**
PB01				*e*S		**Sn**	**06 37 44.5**	**-0.6**
PB01				IAML			06 37 59.6	
	comp=E,6μm,0.3s							
PB01	**IPOC Station P**	**2.48**	**186**	Pn		**Pb**	**06 37 17.4**	**-0.4**
LPAZ	**La Paz**	**2.49**	**25**	P		**Pn**	**06 37 17.0**	**+2.5**
	comp=E,16nm,0.3s,baz=194,slow=10,SNR=1.9							
LPAZ				LR		LR	06 38 30.9	
	comp=E,23μm,20.8s,baz=128,slow=48							
LPAZ	**La Paz**	**2.49**	**25**	P		**Pb**	**06 37 18.0**	**-0.3**
LPAZ	**La Paz**	**2.49**	**25**	*e*P		**Pn**	**06 37 14.4**	**-0.2**
LPAZ				*e*S		**Sn**	**06 37 47.6**	**+1.7**
LPAZ	**La Paz**	**2.49**	**25**	Pn		**Pb**	**06 37 17.9**	**-0.3**
PB02	**IPOC Station P**	**2.82**	**193**	*e*P		**Pn**	**06 37 21.9**	**+3.2**
PB02				*e*S		**Sn**	**06 37 52.5**	**-0.8**
PB04	**IPOC Station P**	**3.85**	**193**	Pn		**Pn**	**06 37 31.4**	**-1.5**
LVC	**Limon Verde**	**4.04**	**176**	P		**Pn**	**06 37 39.9**	**+4.2**
	comp=E,15nm,0.3s,baz=66,slow=23,SNR=1.9							
LVC				LR		LR	06 39 30.8	
	comp=E,22μm,18.8s,baz=346,slow=42							
LVC	**Limon Verde**	**4.04**	**176**	P		**Pn**	**06 37 36.6**	**+0.9**
LVC	**Limon Verde**	**4.04**	**176**	Pn		**Pn**	**06 37 36.6**	**+0.9**
PB10	**IPOC Station P**	**5.08**	**194**	Pn		**Pn**	**06 37 53.1**	**+3.4**
SIV	**San Ignacio**	**8.20**	**73**	P		**Pn**	**06 38 31.1**	**-1.5**
	comp=E,2.7nm,0.3s,baz=264,slow=14,SNR=2.0							
AC02	**Maricunga**	**8.24**	**179**	Pn		**Pn**	**06 38 34.6**	**+1.1**
NNA	**Nana**	**9.83**	**311**	P		**Pn**	**06 38 59.1**	**+4.1**
	comp=E,3.8nm,0.3s,baz=138,slow=10,SNR=5.4							
NNA				LR		LR	06 43 17.1	
	comp=E,5μm,19.3s,baz=138,slow=40							
NNA	**Nana**	**9.83**	**311**	P		**Pn**	**06 38 55.1**	**+0.1**
NNA	**Nana**	**9.83**	**311**	Pn		**Pn**	**06 38 55.1**	**+0.1**
SAML	**Samuel**	**11.21**	**32**	P		**Pn**	**06 39 11.3**	**-2.5**
SAML	**Samuel**	**11.21**	**32**	Pn		**Pn**	**06 39 11.3**	**-2.5**
AQDB	**Aquidauana**	**12.90**	**101**	Pn		**Pn**	**06 39 34.9**	**-2.1**
CPUP	**Villa Florida**	**13.44**	**127**	P		**Pn**	**06 39 45.2**	**+0.9**
	comp=E,0.3nm,0.3s,baz=290,slow=18,SNR=2.2							
CPUP				LR		LR	06 45 45.3	
	comp=E,6μm,21.2s,baz=319,slow=41							
CPUP	**Villa Florida**	**13.44**	**127**	P		**Pn**	**06 39 43.7**	**-0.6**
CPUP	**Villa Florida**	**13.44**	**127**	Pn		**Pn**	**06 39 43.6**	**-0.6**
TBTG	**Tabatinga, AM**	**14.30**	**357**	*e*P		**Pn**	**06 39 55.8**	**-0.3**
ITQB	**Itaqui**	**15.95**	**136**			**Pn**	**06 40 19.3**	**+1.3**
TRCB	**Terra Rica**	**16.09**	**108**			**Pn**	**06 40 19.6**	**-0.3**
PLTB	**Pedras Altas**	**19.28**	**136**	P		**P**	**06 40 57.8**	**-0.8**
PTLC	**Puerto Leguiza**	**19.40**	**343**	*e*P		**P**	**06 40 59.2**	**-0.8**
TRQA	**Tornquist**	**20.43**	**163**	P		**P**	**06 41 10.9**	**-0.2**
TRQA				pmax		pmax		
	comp=Z,58nm,0.9s							
TRQA	**Tornquist**	**20.43**	**163**	P		**P**	**06 41 10.9**	**-0.2**
BDFB	**Brasilia**	**20.48**	**85**	P		**P**	**06 41 09.0**	**-3.0**
	comp=Z,6.6nm,1.0s,baz=260,slow=9.7,SNR=2.7							
BDFB	**Brasilia**	**20.48**	**85**	P		**P**	**06 41 11.6**	**-0.3**
BDFB				pmax		pmax		
	comp=Z,17nm,1.0s							
BDFB	**Brasilia**	**20.48**	**85**			**P**	**06 41 11.6**	**-0.3**
OTAV	**Otavalo**	**20.76**	**333**	IAMs_20		IAMs_20	06 49 58.0	
	comp=Z,9μm,19.0s							
PLCA	**Paso Flores**	**22.13**	**183**	P		**P**	**06 41 28.7**	**-0.7**
	comp=Z,32nm,1.2s,baz=353,slow=13,SNR=6.1							
PLCA	**Paso Flores**	**22.13**	**183**	P		**P**	**06 41 29.6**	**+0.2**
PLCA				pmax		pmax		
	comp=Z,124nm,1.4s							
PLCA	**Paso Flores**	**22.13**	**183**	P		**P**	**06 41 29.6**	**+0.2**
PLCA				IAmb		IAmb	06 41 41.2	
	comp=Z,124nm,1.4s							
ROSC	**El Rosal**	**23.79**	**347**	P		**P**	**06 41 46.0**	**-1.1**
	comp=Z,3.0nm,0.4s,baz=165,slow=20,SNR=1.3							
ROSC	**El Rosal**	**23.79**	**347**	P		**P**	**06 41 46.0**	**-1.1**
ROSC				pmax		pmax		
	comp=Z,10.0nm,0.9s							
RUSC	**La Rusia**	**24.59**	**351**	P		**P**	**06 41 54.0**	**-0.7**
RUSC				IAmb		IAmb	06 41 56.9	
	comp=Z,74nm,1.4s							
COYC	**Coyhaique**	**27.04**	**184**	P		**P**	**06 42 16.1**	**0.0**
SDV	**Santo Domingo**	**27.31**	**357**	P		**P**	**06 42 17.6**	**-1.3**
	comp=Z,6.5nm,0.3s,baz=237,slow=7.6,SNR=4.7							
SDV				LR		LR	06 53 57.1	
	comp=Z,4μm,20.4s,baz=164,slow=38							
SDV	**Santo Domingo**	**27.31**	**357**	P		**P**	**06 42 18.5**	**-0.4**
MDP	**Montagnes des**	**28.64**	**36**	LR		LR	06 53 53.2	
	comp=Z,2μm,18.7s,baz=216,slow=36							
PCRV	**Puerto La Cruz**	**28.91**	**9**	LR		LR	06 54 50.7	
	comp=Z,4μm,19.3s,slow=38							
BCIP	**Isla Barro Col**	**29.47**	**338**	IAMs_20		IAMs_20	06 55 23.7	
	comp=Z,3μm,18.0s							
RIMA	**Rio Macho**	**31.63**	**332**	P		**P**	**06 42 56.7**	**-0.7**
SVB	**Belmont**	**32.59**	**15**	P		**P**	**06 43 05.7**	**+0.2**
JTS	**Las Juntas de**	**32.60**	**330**	LR		LR	06 57 32.0	
	comp=Z,4μm,19.1s,baz=352,slow=38							
JTS	**Las Juntas de**	**32.60**	**330**	*i* P		**P**	**06 43 08.5**	**+2.9**
JTS				pmax		pmax		
	comp=Z,30nm,1.9s							
JTS	**Las Juntas de**	**32.60**	**330**	P		**P**	**06 43 06.0**	**+0.3**
JTS				IAmb		IAmb	06 43 09.4	
	comp=Z,26nm,1.5s							
JTS				IAMs_20		IAMs_20	06 57 20.7	
	comp=Z,4μm,18.0s							
COVE	**Coope Vega, Sa**	**32.72**	**332**	P		**P**	**06 43 06.9**	**+0.2**
COVE				IAmb		IAmb	06 43 10.7	
	comp=Z,37nm,1.1s							
ORTG	**Ortega, Santa**	**32.90**	**330**	P		**P**	**06 43 09.0**	**+0.7**
TGUH	**Tegucigalpa,Un**	**36.97**	**330**	P		**P**	**06 43 43.9**	**+0.3**
TGUH				IAmb		IAmb	06 44 01.1	
	comp=Z,32nm,1.2s							
DR12	**Loma P

comp=Z,26nm,1.3s
TX31 Lajitas Ar. Si 58.06 324 P P 06 46 27.7 +0.3
TX31 lAmb lAmb 06 46 47.4
comp=Z,22nm,1.5s
TXAR Lajitas Array 58.06 324 P P 06 46 27.4 -0.1
comp=Z,1.1nm,0.9s,baz=148,slow=7.5,SNR=4.0
TXAR Lajitas Array 58.06 324 P P 06 46 28.3 +0.9
TXAR Lajitas Array 58.06 324 P P 06 46 28.3 +0.9
LCAR Lake Charles 58.16 339 P P 06 46 26.9 -0.9
LCAR lAmb lAmb 06 46 28.6
comp=Z,18nm,1.1s
PARMO Parma 58.25 341 P P 06 46 28.7 +0.3
Q54A Coxs Mills 58.26 349 P P 06 46 28.4 -0.1
W39A Magazine 58.32 336 lAmb lAmb 06 46 31.1
comp=Z,41nm,1.5s
W39A Magazine 58.32 336 P P 06 46 30.4 +1.5
baz=152
FCAR Ozark Folk Cen 58.33 338 P P 06 46 28.1 -0.9
FCAR lAmb lAmb 06 46 29.7
comp=Z,16nm,1.2s
X37A Clayton 58.41 335 P P 06 46 29.5 -0.1
PBMO Poplar Bluff 58.57 340 P P 06 46 29.2 -1.4
PBMO lAmb lAmb 06 46 31.5
comp=Z,32nm,1.3s
ABTX Abilene, Hawle 58.63 330 P P 06 46 31.3 +0.1
ABTX lAmb lAmb 06 46 47.4
comp=Z,22nm,1.1s
ABTX Abilene, Hawle 58.63 330 P P 06 46 32.2 +1.0
baz=146
P53A Whipple 58.85 349 P P 06 46 32.6 0.0
P53A lAmb lAmb 06 46 41.9
comp=Z,28nm,1.3s
U40A Yellville 59.01 338 P P 06 46 33.7 -0.1
U40A lAmb lAmb 06 46 34.3
comp=Z,16nm,1.1s
U40A Yellville 59.01 338 P P 06 46 33.4 -0.4
baz=154
S44A Carbondale 59.04 342 P P 06 46 33.2 -0.7
SIUC Southern Illin 59.05 342 P P 06 46 33.6 -0.4
HHAR Hobbs 59.34 337 lAmb lAmb 06 46 37.4
comp=Z,28nm,1.3s
X34A Smith Ranch, M 59.46 333 P P 06 46 36.8 -0.2
X34A lAmb lAmb 06 46 50.0
comp=Z,15nm,0.8s
MGMO Mountain Grove 59.52 339 P P 06 46 36.1 -1.2
FVM French Village 59.67 341 P P 06 46 37.5 -0.8
FVM pmax pmax
comp=Z,47nm,1.2s
FVM French Village 59.67 341 P P 06 46 37.5 -0.8
TUL1 Leonard 59.73 335 P P 06 46 39.8 +1.1
baz=151
FNO Franklin 59.83 333 P P 06 46 40.1 +0.7
FNO lAmb lAmb 06 46 49.6
comp=Z,16nm,0.9s
WMOK Wichita Mounta 59.99 332 P P 06 46 39.6 -1.0
WMOK pmax pmax
comp=Z,7.0nm,1.2s
WMOK Wichita Mounta 59.99 332 P P 06 46 39.6 -1.0
WMOK Wichita Mounta 59.99 332 P P 06 46 42.3 +1.7
baz=147
CCM Cathedral Cave 60.00 340 P P 06 46 39.3 -1.2
CCM pmax pmax
comp=Z,24nm,1.2s
CCM Cathedral Cave 60.00 340 P P 06 46 39.3 -1.2
CCM lAmb lAmb 06 46 41.4
comp=Z,24nm,1.2s
CCM Cathedral Cave 60.00 340 P P 06 46 40.7 +0.2
baz=156
N54A Moraine State 60.05 351 P P 06 46 40.8 -0.1
baz=168
OK025 Westminster Rd 60.08 334 P P 06 46 41.9 +0.7
OK025 lAmb lAmb 06 46 42.5
comp=Z,14nm,0.8s
L63A North Scituate 60.16 358 P P 06 46 41.8 +0.2
L63A lAmb lAmb 06 46 53.6
comp=Z,15nm,1.0s
OK031 S. Brethren Rd 60.19 334 P P 06 46 42.5 +0.6
BRYW Bryant College 60.21 358 P P 06 46 41.3 -0.6
BRYW lAmb lAmb 06 46 43.7
comp=Z,14nm,0.9s
OK029 Liberty Lake 60.31 334 P P 06 46 43.3 +0.6
OK029 lAmb lAmb 06 46 46.0
comp=Z,19nm,0.9s
QUOK Quay 60.33 335 P P 06 46 43.0 +0.2
S39A Bolivar 60.37 338 P P 06 46 43.0 -0.1
S39A lAmb lAmb 06 46 44.2
comp=Z,31nm,1.3s
R40A Maddies Statio 60.55 339 P P 06 46 43.2 -1.1
R40A lAmb lAmb 06 46 45.1
comp=Z,24nm,1.4s
M53A WI Miller and 60.63 350 P P 06 46 43.7 -1.1
baz=168
HRV Adam Dziewonsk 60.80 358 P P 06 46 45.5 -0.4
baz=177
MNTX Cornudas Mount 60.82 325 P P 06 46 46.7 +0.3
MNTX Cornudas Mount 60.82 325 P P 06 46 47.2 +0.8
baz=140
T35A Sooner Cattle 60.89 335 P P 06 46 47.3 +0.6
T35A lAmb lAmb 06 46 57.5
comp=Z,11nm,0.8s
SFIN Lafayette 60.95 344 P P 06 46 48.2 +1.3
SFIN lAmb lAmb 06 47 05.3
comp=Z,28nm,1.4s
SFIN Lafayette 60.95 344 P P 06 46 48.3 +1.3
baz=161
BLOK Blackwell 61.04 334 P P 06 46 48.5 +0.9
ERPA Erie 61.18 351 P P 06 46 47.8 -0.8
ERPA lAmb lAmb 06 46 57.2
comp=Z,14nm,0.9s
MSTX Muleshoe 61.24 328 P P 06 46 49.2 0.0
MSTX lAmb lAmb 06 46 53.4
comp=Z,33nm,1.4s
MSTX Muleshoe 61.24 328 P P 06 46 50.1 +0.9
baz=143
AMTX Amarillo 61.45 330 P P 06 46 51.0 +0.4
AMTX lAmb lAmb 06 46 57.2
comp=Z,7.2nm,0.6s
P40A Paris 61.60 340 P P 06 46 51.2 -0.2
P40A lAmb lAmb 06 46 51.5
comp=Z,20nm,1.2s
KAN16 Harper SW Stat 61.79 334 P P 06 46 51.3 -1.5
J59A Piesco 61.91 356 P P 06 46 53.2 -0.2
J59A lAmb lAmb 06 47 01.8
comp=Z,16nm,1.2s
P38A Dawn 62.17 339 P P 06 46 54.9 -0.4
P38A lAmb lAmb 06 46 56.5
comp=Z,14nm,1.2s
N41A Harden Midland 62.30 342 P P 06 46 55.3 -0.8
LBNH Lisbon 62.54 358 P P 06 46 58.1 +0.5
baz=177
319A Douglas 62.80 322 P P 06 46 59.6 -0.1
KSU1 Kansas State U 62.82 336 P P 06 47 00.1 +0.5
VNA3 Neumayer Olymp 62.95 162 P P 06 46 59.8 -0.3
N38A Joes South For 63.12 340 P P 06 47 01.3 -0.3
N38A lAmb lAmb 06 47 04.2
comp=Z,15nm,1.1s
VNA1 Neumayer--Stat 63.15 161 P P 06 47 01.1 -0.3
L42A Oliver, Polo 63.15 343 P P 06 47 01.0 -0.8
L42A lAmb lAmb 06 47 11.0
comp=Z,14nm,1.1s
VNA2 Neumayer--Watz 63.51 161 P P 06 47 03.4 -0.5
baz=290,slow=7.4
ANMO Albuquerque 63.89 326 *i* P **P 06 47 07.7 +0.6**
ANMO pmax pmax
comp=Z,11nm,2.1s
N35A Tabor 64.01 338 P P 06 47 07.7 +0.2
JFWS Jewell Farm 64.16 343 P P 06 47 08.3 -0.1
JFWS pmax pmax
comp=Z,27nm,1.4s
JFWS Jewell Farm 64.16 343 P P 06 47 08.3 -0.1
JFWS lAmb lAmb 06 47 15.3
comp=Z,27nm,1.4s
TUC Tucson 64.35 321 P P 06 47 10.8 +0.7
TUC pmax pmax
comp=Z,2.0nm,1.1s
TUC Tucson 64.35 321 P P 06 47 10.8 +0.7
SNAA Sanae 65.15 161 P P 06 47 14.0 -0.7
SNAA Sanae 65.15 161 P P 06 47 12.7 -2.0
comp=Z,5.8nm,0.9s,baz=288,slow=5.1,SNR=10
SNAA Sanae 65.15 161 *i* P **P 06 47 15.8 +1.1**
SNAA pmax pmax
comp=Z,18nm,1.5s
SNAA Sanae 65.15 161 P P 06 47 14.8 +0.2
SNAA lAmb lAmb 06 47 17.3
comp=Z,20nm,1.4s

L34A Svendsen Farm, 65.24 338 P P 06 47 15.4 -0.2
KSCO Kaye Shedlock' 65.25 332 P P 06 47 15.8 0.0
214A Organ Pipe Nat 65.32 320 P P 06 47 15.8 -0.5
214A lAmb lAmb 06 47 25.2
comp=Z,10.0nm,1.1s
214A Organ Pipe Nat 65.32 320 P P 06 47 19.2 +2.9
baz=134
BGNE Belgrade 65.41 336 P P 06 47 17.1 +0.5
SDCO Great Sand Dun 65.58 329 P P 06 47 19.0 +0.9
SDCO lAmb lAmb 06 47 23.6
comp=Z,13nm,1.3s
SDCO Great Sand Dun 65.58 329 P P 06 47 20.1 +1.9
baz=142
I37A Lemond, Waseca 66.09 341 P P 06 47 21.1 +0.2
S22A 4UR Ranch, Cre 66.24 328 P P 06 47 24.3 +1.9
baz=141
MVCO Mesa Verde 66.68 327 P P 06 47 24.7 -0.5
MVCO lAmb lAmb 06 47 42.5
comp=Z,15nm,1.3s
MVCO Mesa Verde 66.68 327 P P 06 47 27.1 +1.9
baz=135
ECSD EROS Data Cent 66.88 339 P P 06 47 26.3 +0.3
ECSD lAmb lAmb 06 47 39.1
comp=Z,19nm,1.1s
ECSD EROS Data Cent 66.88 339 P P 06 47 26.9 +0.8
baz=152
SPMN Marine on St. 67.01 342 P P 06 47 27.3 +0.5
baz=156
ISCO Idaho Springs 67.25 330 P P 06 47 30.9 +2.0
baz=142
SMCO Snowmass 67.42 329 IAMs_20 IAMs_20 07 06 56.1
comp=Z,1µm,19.0s
F36A Milaca 67.80 342 P P 06 47 31.8 +0.1
BC3 Big Chuckawall 68.11 320 P P 06 47 36.8 +2.6
baz=133
DBIC Dimbokro 68.22 75 P P 06 47 31.9 -3.2
comp=Z,3.3nm,0.7s,baz=242,slow=3.8,SNR=4.3
IRM Iron Mountain 68.25 320 P P 06 47 38.0 +3.0
baz=133
O20A White River Ci 68.78 329 P P 06 47 40.6 +2.2
baz=140
LCMT Little Creek M 69.12 323 P P 06 47 40.5 0.0
EYMN Ely 69.14 344 P P 06 47 40.0 -0.2
EYMN lAmb lAmb 06 47 41.1
comp=Z,28nm,1.4s
EYMN Ely 69.14 344 P P 06 47 40.4 +0.2
baz=157
HEC Hector,Ludlow 69.43 320 P P 06 47 45.6 +3.3
baz=132
D32A Dogwood Acres, 70.01 340 P P 06 47 45.6 +0.1
D32A lAmb lAmb 06 47 55.1
comp=Z,18nm,1.1s
RSSD Black Hills 70.03 334 P P 06 47 46.4 +0.4
RSSD pmax pmax
comp=Z,16nm,1.5s
RSSD Black Hills 70.03 334 P P 06 47 46.4 +0.4
RSSD lAmb lAmb 06 47 56.5
comp=Z,16nm,1.4s
RSSD Black Hills 70.03 334 P P 06 47 47.9 +1.8
baz=145
B35A Bob, Littlefor 70.12 343 lAmb lAmb 06 47 48.1
comp=Z,18nm,1.1s
AGMN Agassiz Nation 70.69 342 P P 06 47 50.3 +0.6
AGMN lAmb lAmb 06 47 59.3
comp=Z,13nm,0.9s
AGMN Agassiz Nation 70.69 342 P P 06 47 49.7 +0.1
baz=153
FURC Furnace Creek, 70.85 321 P P 06 47 53.2 +2.3
baz=132
R11A Troy Canyon, C 71.38 323 P P 06 47 57.5 +3.1
baz=134
PDAR Pinedale Array 71.43 330 P P 06 47 53.9 -0.7
comp=Z,0.7nm,0.7s,baz=132,slow=5.2,SNR=3.6
PDAR LR LR 07 22 21.2
comp=Z,652nm,19.9s,baz=110,slow=38
AHID Auburn Hatcher 72.17 329 IAMs_20 IAMs_20 07 18 15.9
comp=Z,1µm,22.0s
ULM Lac du Bonnet 72.44 342 P P 06 47 58.8 -1.4
comp=Z,8.5nm,0.7s,baz=153,slow=5.8,SNR=6.8
ULM LR LR 07 22 39.9
comp=Z,689nm,18.4s,baz=144,slow=38
ULM Lac du Bonnet 72.44 342 P P 06 48 00.2 0.0
ULM pmax pmax
comp=Z,37nm,1.5s
ULM Lac du Bonnet 72.44 342 P P 06 48 00.1 0.0
ULM lAmb lAmb 06 48 05.8
comp=Z,37nm,1.5s
IMW Indian Meadow 72.94 330 P P 06 48 03.5 -0.2
NVAR Mina Array Bea 73.01 322 P P 06 48 03.3 -0.9
comp=Z,0.9nm,0.6s,baz=146,slow=6.6,SNR=4.6
LAO LASA Array 73.02 334 P P 06 48 06.4 +2.7
baz=143
SCHQ Schefferville 73.12 1 P P 06 48 01.6 -2.6
comp=Z,8.5nm,1.1s,baz=186,slow=10,SNR=2.9
SCHQ LR LR 07 21 24.1
comp=Z,569nm,20.4s,baz=230,slow=37
DGMT Dagmar 73.67 337 P P 06 48 07.8 +0.3
DGMT lAmb lAmb 06 48 18.1
comp=Z,15nm,1.1s
GCMT Greycliff 73.79 332 P P 06 48 08.4 -0.1
EGMT Eagleton 75.55 333 P P 06 48 20.2 +1.6
baz=140
O03E Paynes Creek 76.28 321 P P 06 48 24.7 +1.8
baz=129
TORD Torodi Ar. Bea 76.67 71 P P 06 48 21.5 -4.1
comp=Z,10nm,0.8s,baz=254,slow=5.6,SNR=16
TORD Torodi Ar. Bea 76.67 71 P P 06 48 23.1 -2.5
TORD lAmb lAmb 06 48 27.2
comp=Z,18nm,1.1s
BMO Blue Mountains 76.79 327 IAMs_20 IAMs_20 07 20 52.3
comp=Z,1µm,18.0s
J05D Fort Rock, OR 77.86 324 P P 06 48 34.6 +2.8
baz=130
JCC Jacoby Creek, 77.94 321 IAMs_20 IAMs_20 07 17 13.9
comp=Z,972nm,19.0s
NEW Newport 79.07 330 IAMs_20 IAMs_20 07 14 21.4
comp=Z,848nm,19.0s
D08A Wollman Farm, 79.12 328 P P 06 48 38.8 +0.2
VNDA Vanda 79.68 190 P P 06 48 40.2 -1.0
comp=Z,1.1nm,1.0s,baz=108,slow=3.2,SNR=3.1
TSUM Tsumeb 81.18 107 IAMs_20 IAMs_20 07 22 17.4
comp=Z,1µm,19.0s
B05A Bryant 81.53 327 P P 06 48 53.0 +1.6
baz=130
NRS Narsarsuaq 81.71 11 IAMs_20 IAMs_20 07 17 43.6
comp=Z,808nm,20.0s
NLWA Neilton Lookou 81.90 326 IAMs_20 IAMs_20 07 16 37.5
comp=Z,946nm,20.0s
MTE Manteigas 81.99 43 IAMs_20 IAMs_20 07 19 07.0
comp=Z,859nm,20.0s
ESDC Sonseca Array 83.96 45 P P 06 49 01.9 -2.5
comp=Z,1.7nm,1.1s,baz=260,slow=3.8,SNR=3.4
MAW Mawson 87.22 163 P P 06 49 18.4 -1.7
comp=Z,4.5nm,1.0s,baz=228,slow=7.2,SNR=6.3
YKA Yellowknife Ar 88.33 341 P P 06 49 24.6 -0.7
comp=Z,5.2nm,0.8s,baz=129,slow=5.6,SNR=7.4
WRAK Wrangell Islan 91.41 330 IAMs_20 IAMs_20 07 33 17.8
comp=Z,860nm,20.0s
JIS Juneau Island 93.32 331 IAMs_20 IAMs_20 07 39 46.3
comp=Z,649nm,19.0s
SNZO South Karori 96.08 223 IAMs_20 IAMs_20 07 22 05.7
comp=Z,789nm,19.0s
THZ Tophouse 97.00 222 IAMs_20 IAMs_20 07 41 16.7
comp=Z,886nm,19.0s
QRZ Quartz Range 97.74 222 IAMs_20 IAMs_20 07 43 04.4
comp=Z,811nm,18.0s
GERES GERESS Array B 99.23 42 LR LR 07 34 34.0
comp=Z,308nm,18.7s,baz=301,slow=35
CLL Collm 99.54 39 *e*P **Pdif 06 50 18.0 +1.0**
comp=Z,9.0nm,0.9s
KONO Kongsberg 100.32 30 *i* P **Pdif 06 50 20.7 +0.4**
KONO pmax pmax
comp=Z,10.0nm,1.0s
MNK Minsk 108.99 38 *i* P **Pdif 06 51 05.6 +6.6**
MNK *i* 06 55 36.9
MNK *i* PPP PPP 06 57 54.4
MNK *i* SS SS 07 10 57.9 +6.8
MNK *i* SSS SSS 07 14 48.7
MNK pmax pmax
comp=Z,14nm,0.7s
MNK pmax pmax
comp=E,1.0nm,0.7s
MNK pmax pmax
comp=N,11nm,0.7s
MNK MLR MLR
comp=Z,205nm,19.5s
MNK *i* LRM MLR 07 41 28.4
comp=E,86nm,20.3s
MNK *i* LRM MLR 07 41 29.9
comp=N,429nm,21.0s
OBN Obninsk 114.04 37 ⇑ *i* PKIKP **PKiKP 06 55 14.6 +1.6**
OBN pmax pmax
comp=Z,3.0nm,0.8s
KIV Kislovodsk 118.33 50 *e*PKIKP **PKiKP 06 55 22.3 +0.5**
KIV pmax pmax
comp=Z,10.0nm,1.0s
BILL Bilibino 119.69 339 ⇓ *i* PKIKP **PKiKP 06 55 28.6 +5.0**
BILL PS **SP 07 06 36.0 +2.0**
BILL SS **SS 07 13 02.0 -9.0**
BILL pmax pmax
comp=Z,14nm,0.4s
BILL MLR MLR
comp=Z,720nm,21.0s
ARU Arti 125.87 33 *i* PKIKP **PKiKP 06 55 37.9 +1.8**
ARU pmax pmax
comp=Z,2.0nm,1.0s
NWAO Narrogin (SRO) 128.43 187 IAMs_20 IAMs_20 07 48 22.4
comp=Z,558nm,22.0s
ASAR Alice Springs 132.34 209 PKP **PKPdf 06 55 46.6 -2.5**
comp=Z,0.5nm,0.7s,baz=126,slow=1.8,SNR=4.2
WRA Warramunga Arr 135.29 212 PKP **PKPdf 06 55 53.0 -1.8**
comp=Z,1.5nm,0.8s,baz=161,slow=2.2,SNR=5.2
WRA Warramunga Arr 135.29 212 *e*PKIKP **PKiKP 06 55 55.9 -0.4**
WRA pmax pmax
comp=Z,2.0nm,0.8s
ZALV Zalesovo Beam 139.41 23 PKP **PKPdf 06 55 59.2 -2.1**
comp=Z,1.0nm,0.4s,baz=320,slow=4.3,SNR=3.3
ZALV Zalesovo Beam 139.41 23 *e*PKIKP **PKiKP 06 56 03.8 +0.3**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
AAK Ala-Archa 141.06 44 IAMs_20 IAMs_20 07 48 31.1
comp=Z,297nm,20.0s
NIL Nilore 143.33 58 IAMs_20 IAMs_20 07 46 52.9
comp=Z,284nm,20.0s
MKAR Makanchi Array 143.40 33 PKP PKPbc 06 56 05.4 -0.4
comp=Z,0.4nm,0.5s,baz=328,slow=5.1,SNR=2.8
KSH Kashi 143.42 48 PKP **PKiKP 06 56 11.0 -1.4**
DGZ Jazzator, Alta 143.72 26 *i* PKIKP **PKPdf 06 56 11.0 +1.7**
KLR Kul'dur 145.04 336 *i* PKIKP **PKPdf 06 56 11.7 +0.3**
KLR pmax pmax
comp=Z,16nm,1.2s
TEY Ternei 145.94 327 ⇓ *e*PKP2 **PKPab 06 56 15.1 +0.9**
TEY pmax pmax
comp=Z,10.0nm,1.3s
ZAK Zakamensk 147.69 9 *e*PKP2 **PKPbc 06 56 18.3 -0.5**
ZAK pmax pmax
comp=Z,11nm,1.4s
WMQ Urumqi 148.21 33 *e*P **PKPdf 06 56 17.4 +0.3**
WMQ pmax pmax
comp=Z,350nm,4.5s
USA0B Ussuriysk Arra 148.85 330 PKP2 **PKiKP 06 56 23.3 0.0**
USA0B Ussuriysk Arra 148.85 330 PKiKP 06 56 23.3 0.0
USRK Ussuriysk Ar. 148.85 330 PKPbc **PKPbc 06 56 19.9 -1.9**
comp=Z,8.5nm,1.0s,baz=281,slow=0.7,SNR=8.6
HYB Hyderabad 149.36 87 *i* PKP **PKiKP 06 56 25.0 -0.1**
MJA0 Matsu Arr-Jizo 149.92 312 *e*PKP2 **PKiKP 06 56 26.2 +0.4**
MJA0 pmax pmax
comp=Z,3.0nm,0.8s
MJAR Matsushiro Arr 149.95 312 PKPbc **PKPbc 06 56 22.9 -2.0**
comp=Z,3.2nm,0.8s,baz=66,slow=1.8,SNR=5.7
MAJO Matsushiro 149.95 312 IAMs_20 IAMs_20 07 47 27.2
comp=Z,404nm,18.0s
SONM Songino Array 150.58 6 PKPbc **PKPbc 06 56 25.3 -0.9**
comp=Z,8.2nm,0.9s,baz=317,slow=1.6,SNR=10
SONM Songino Array 150.58 6 PKIKP **PKPdf 06 56 20.2 -0.6**
SONM Songino Array 150.58 6 PKPdf **PKPdf 06 56 20.1 -0.6**
BJT Baijiatuau 158.11 349 IAMs_20 IAMs_20 08 06 00.7
comp=Z,285nm,21.0s
NJ2 Nanjing 164.72 333 *e*P **PKPdf 06 56 38.9 +0.4**
NJ2 pmax pmax
comp=Z,9.0nm,0.7s

IDC ***17*** *06:38:50.5±0.7, 31°.70S×71°.93W, h0km, mb4.4/9, mb1 4.6/12, mb1mx4.4/29, mbtmp4.4/12, ML4.4/3, Error ellipse: s-maj=26.2km s-min=20.8km az=73.0*
SJA ***17*** *06:38:50.6±0.8, 31°.25S×72°.40W, h16km±11km, ML4.8, MW4.8*
GUC ***17*** *06:38:54.3±1.0, 31°.64S×71°.79W, h43km±9km, ML4.9*
NEIC ***17*** *06:38:55.0±1.2, 31°.65S±0°.04×72°.0W±0°.1, h18km±4km, mb4.9/78, ML4.9(GUC), Error ellipse: s-maj=14.1km s-min=6.2km az=92.0*
ISC 17 06:38:53.0±1.3, 31°.68S±0°.02×72°.00W±0°.04, h10km±8km, n145, σ1s38/165, mb4.9/46, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**1.04**	**17**	*e*P		**Pg**	**06 39 12.8**	**-0.2**
CO06				*e*S		**Sb**	**06 39 27.0**	**+0.2**
CO06	**Fray Jorge**	**1.04**	**17**			**Pn**	**06 39 14.3**	**+0.6**
VA01	**Torpederas**	**1.38**	**168**	*e*P		**Pn**	**06 39 18.1**	**-0.1**
VA01				*i* S		**Sg**	**06 39 37.6**	**+0.4**
VA01	**Torpederas**	**1.38**	**168**	Pn		**Pn**	**06 39 17.4**	**-0.7**
CO03	**El Pedregal**	**1.40**	**54**	‖ *e*P		**Pn**	**06 39 16.7**	**-1.9**
CO03				*e*S		**Sb**	**06 39 34.7**	**-2.3**
CO03	**El Pedregal**	**1.40**	**54**	Pn		**Pb**	**06 39 19.1**	**0.0**
ROCH	**El Roble**	**1.54**	**147**	*e*P		**Pn**	**06 39 20.6**	**0.0**
ROCH				*e*S		**Sb**	**06 39 40.9**	**-0.4**
ROCH				IAML			06 39 50.5	
comp=N,28µm,0.5s								
VA03	**San Esteban**	**1.64**	**132**	*e*P		**Pn**	**06 39 21.6**	**-0.2**
VA03				*e*S		**Sn**	**06 39 42.4**	**-0.6**
VA03				IAML			06 39 49.2	
comp=E,25µm,0.3s								
VA03	**San Esteban**	**1.64**	**132**	Pn		**Pb**	**06 39 23.2**	**0.0**
GO04	**Tololo Observa**	**1.82**	**35**	*e*P		**Pn**	**06 39 24.2**	**-0.3**
GO04				*e*S		**Sn**	**06 39 46.8**	**-0.9**
GO04				IAML			06 39 55.4	
comp=N,51µm,0.4s								
GO04	**Tololo Observa**	**1.82**	**35**	Pn		**Pb**	**06 39 25.8**	**-0.6**
VA05	**Santo Domingo**	**2.00**	**171**	*e*P		**Pb**	**06 39 28.3**	**-1.2**
VA05				*e*S		**Sb**	**06 39 54.2**	**-0.2**
VA05				IAML			06 40 08.1	
comp=E,14µm,0.5s								
VA05	**Santo Domingo**	**2.00**	**171**			**Pg**	**06 39 30.9**	**-0.5**
MT05	**Renca**	**2.01**	**149**	*e*P		**Pn**	**06 39 27.5**	**+0.5**
MT05				*e*S		**Sn**	**06 39 52.7**	**+0.4**
MT05				IAML			06 40 03.7	
comp=E,19µm,0.5s								
MT05	**Renca**	**2.01**	**149**			**Pn**	**06 39 28.0**	**+0.9**
MT09	**Talagante**	**2.26**	**158**	‖ *e*P		**Pb**	**06 39 32.2**	**-1.7**
MT09				*e*S		**Sb**	**06 40 00.6**	**-1.4**
MT09				IAML			06 40 16.2	
comp=N,7µm,0.3s								
MT09	**Talagante**	**2.26**	**158**			**Pg**	**06 39 35.0**	**-1.3**
MT01	**Popeta**	**2.27**	**164**	*e*P		**Pn**	**06 39 31.8**	**+1.3**
MT01				*e*S		**Sn**	**06 40 00.2**	**+1.6**
MT01				IAML			06 40 12.9	
comp=E,4µm,0.4s								
MT01	**Popeta**	**2.27**	**164**			**Pb**	**06 39 33.4**	**-0.6**
MT01	**Popeta**	**2.27**	**164**	*e*P		**Pg**	**06 39 36.9**	**+0.4**
MT01				*e*S		**Sn**	**06 39 59.2**	**+0.6**
MT01				IAML			06 40 10.4	
comp=Z,4µm,0.6s								
MT01				*e*S		**Sg**	**06 40 11.7**	**+5.7**
RTLS	**Leoncito**	**2.30**	**94**	*e*P		**Pg**	**06 39 35.7**	**-1.4**
RTLS				*e*S		**Sn**	**06 39 58.7**	**-1.0**
RTLS				IAML			06 40 06.7	

comp=Z,5μm,0.8s
ACCO Cerro Coronel 2.74 67 *e*P Pb **06 39 41.8 -0.4**
BO01 Tunca 2.81 164 Pb **06 39 41.6 -1.7**
ASAL Salagasta 2.83 110 *e*P Pb **06 39 45.1 +1.4**
ASAL *e*P Pg **06 39 46.0 -1.2**
ASAL *e*S Sg **06 40 26.6 +2.6**
ZON Zonda 2.83 88 *e*P Pn **06 39 38.7 +0.4**
ZON *e*P Pb **06 39 43.0 -0.6**
ZON *e*S Sb **06 40 19.9 +1.5**
ZON IAML 06 40 34.0
comp=Z,2μm,1.0s
ARCO CERRO ARCO 2.84 115 *e*P Pb **06 39 45.1 +1.2**
ARCO *e*S Sb **06 40 17.2 -1.6**
ARCO IAML 06 40 22.6
comp=Z,2μm,1.2s
RTCV Cerro Valdivia 2.95 95 *e*P Pb **06 39 45.4 -0.2**
RTCV *e*S Sb **06 40 24.2 +2.5**
AAGR Agrelo 3.02 119 *e*P Pb **06 39 48.0 +1.0**
AAGR *e*S Sg **06 40 30.8 +0.6**
AC04 Llanos de Chal 3.55 13 Pn **06 39 49.1 +1.0**
COIS El Sosneado 3.97 150 *e*P Pb **06 40 00.7 -2.3**
COIS *e*S Sb **06 40 51.7 +0.6**
LAMA Las Malvinas 4.00 145 *e*P Pb **06 40 01.4 -2.1**
AVFE Valle Fertil 4.02 77 *e*P Pb **06 39 59.2 -4.7**
AVFE *e*S Sb **06 40 48.2 -4.4**
ML02 Panimavida 4.11 173 Pn Pn **06 39 57.6 +1.9**
GO03 Copiap 4.35 21 Pn Pn **06 40 00.6 +1.4**
AC02 Maricunga 5.43 28 Pn Pn **06 40 14.7 +0.3**
H03N1 Juan Fernandez 6.10 251 T T 06 47 07.6
baz=73,slow=72
H03N3 Juan Fernandez 6.11 251 T T 06 47 04.6
baz=73,slow=72
H03N2 Juan Fernandez 6.12 251 T T 06 47 10.9
baz=73,slow=72
CYA Choya 6.26 61 *e*P Pn **06 40 27.7 +2.3**
CYA *e*S Sn **06 41 38.7 +1.7**
LC01 Cunco 7.21 179 Pn Pn **06 40 36.9 -1.5**
AHML Horco Molle 7.59 52 *e*P Pn **06 40 46.0 +2.3**
FSA Cafayete 7.65 45 *e*P Pn **06 40 49.0 +4.4**
PLCA Paso Flores 9.11 173 Pn Pn **06 41 04.1 -0.5**
comp=Z,1.1nm,0.3s,baz=339,slow=10,SNR=8.5
PLCA Paso Flores 9.11 173 Pn **06 41 04.4 -0.2**
LVC Limon Verde 9.44 18 Sn Sn **06 43 01.8 +6.1**
comp=Z,3.0nm,0.3s,baz=50,slow=18,SNR=2.7
ITQB Itaqui 13.38 85 Pn Pn **06 42 05.3 +2.4**
CPUP Villa Florida 13.89 71 Pn Pn **06 42 09.4 -0.5**
comp=Z,0.4nm,0.3s,baz=213,slow=17,SNR=1.5
CPUP Sn Sn **06 44 47.9 +3.7**
comp=Z,0.6nm,0.3s,baz=184,slow=16,SNR=2.1
PLTB Pedras Altas 15.65 95 Pn Pn **06 42 33.5 -0.1**
LPAZ La Paz 15.72 14 Pn Pn **06 42 34.8 -0.3**
comp=Z,0.7nm,0.3s,baz=218,slow=17,SNR=1.8
LPAZ La Paz 15.72 14 Pn Pn **06 42 35.4 +0.3**
AQDB Aquidauana 18.38 57 Pn **06 43 05.5 -2.5**
SPB Sao Paulo 23.17 76 P P **06 43 59.9 +0.2**
BDFB Brasilia 27.06 59 P P **06 44 34.1 -1.7**
comp=Z,25nm,0.9s,baz=224,slow=6.2,SNR=11
BDFB Brasilia 27.06 59 P P **06 44 34.6 -1.2**
BDFB IAmb IAmb 06 44 35.9
comp=Z,46nm,1.1s
RUSC La Rusia 37.37 358 P P **06 46 08.4 +1.9**
SJCC San Jacinto, C 41.45 355 P P **06 46 41.4 +1.4**
SJCC IAmb IAmb 06 46 44.1
comp=Z,14nm,1.0s
SRBA San Rafael, Bu 42.10 343 P P **06 46 44.6 -0.8**
PEZE Perez Zeledon, 42.33 343 P P **06 46 46.7 -0.5**
PEZE IAmb IAmb 06 46 59.2
comp=Z,27nm,1.4s
RIMA Rio Macho 42.74 343 P P **06 46 50.4 -0.4**
CAO2 Cobano, Puntar 43.00 341 P P **06 46 52.5 -0.1**
CAO2 IAmb IAmb 06 46 53.6
comp=Z,22nm,1.3s
SNAA Sanae 53.72 158 P P **06 48 14.7 -0.1**
comp=Z,4.5nm,0.8s,baz=279,slow=11,SNR=2.4
JCT Junction City 67.21 334 P P **06 49 48.1 +0.8**
JCT IAmb IAmb 06 49 58.9
comp=Z,11nm,1.1s
TX32 Lajitas Array 67.73 330 P P **06 49 50.9 +0.2**
TXAR Lajitas Array 67.73 330 P P **06 49 50.9 +0.2**
comp=Z,0.8nm,0.7s,baz=153,slow=8.1,SNR=5.9
TXAR Lajitas Array 67.73 330 P P **06 49 51.3 +0.6**
TX31 Lajitas Ar. Si 67.73 330 P P **06 49 50.9 +0.2**
TX31 IAmb IAmb 06 50 01.7
comp=Z,11nm,1.1s
WHTX Lake Whitney, 67.75 337 P P **06 49 51.1 +0.5**
WHTX IAmb IAmb 06 50 02.1
comp=Z,12nm,0.9s
SWET Sewanee 67.82 348 P P **06 49 51.3 +0.3**
SWET IAmb IAmb 06 50 02.5
comp=Z,6.4nm,1.0s
LCAR Lake Charles 69.75 344 P P **06 50 02.4 -0.6**
LCAR IAmb IAmb 06 50 12.1
comp=Z,3.5nm,0.6s
T47A Sharon Grove 69.75 347 P P **06 50 02.2 -0.9**
T47A IAmb IAmb 06 50 11.8
comp=Z,8.1nm,1.1s
FCAR Ozark Folk Cen 69.81 343 P P **06 50 03.1 -0.3**
R53A Hurricane 70.26 352 P P **06 50 06.2 0.0**
MNTX Cornudas Mount 70.51 330 P P **06 50 07.4 -0.5**
OK025 Westminster Rd 71.01 338 P P **06 50 11.1 +0.3**
MSTX Muleshoe 71.45 333 P P **06 50 13.8 +0.2**
MSTX IAmb IAmb 06 50 25.0
comp=Z,9.6nm,0.9s
AMTX Amarillo 71.85 335 P P **06 50 15.7 -0.3**
AMTX IAmb IAmb 06 50 17.0
comp=Z,7.8nm,0.7s
LUPA Lehigh Univers 71.98 357 P P **06 50 17.0 +0.5**
LUPA IAmb IAmb 06 50 18.7
comp=Z,6.2nm,0.4s
R40A Maddies Static 72.13 343 P P **06 50 17.4 -0.1**
R40A IAmb IAmb 06 50 26.4
comp=Z,9.5nm,1.2s
ACSO Alum Creek Sta 72.27 351 P P **06 50 18.1 -0.1**
ACSO IAmb IAmb 06 50 29.5
comp=Z,14nm,1.1s
121A Cookes Peak, D 72.27 329 P P **06 50 18.2 -0.5**
121A IAmb IAmb 06 50 30.3
comp=Z,8.9nm,1.1s
L63A North Scituate 73.18 0 P P **06 50 24.0 +0.4**
L63A IAmb IAmb 06 50 25.8
comp=Z,15nm,1.0s
BRYW Bryant College 73.23 0 P P **06 50 24.6 +0.6**
BRYW IAmb IAmb 06 50 26.6
comp=Z,16nm,1.1s
P40A Paris 73.25 344 P P **06 50 24.6 +0.5**
P40A IAmb IAmb 06 50 36.4
comp=Z,22nm,1.4s
L59A Walton 73.56 358 P P **06 50 26.2 +0.3**
L59A IAmb IAmb 06 50 28.0
comp=Z,15nm,1.1s
QUA2 Belchertown 73.59 360 P P **06 50 27.0 +1.0**
QUA2 IAmb IAmb 06 50 28.0
comp=Z,7.1nm,0.9s
ANMO Albuquerque 73.77 331 P P **06 50 28.1 +0.6**
LIC Lamto 74.02 72 *e*PKP1 P 06 50 23.9 -5.3
comp=Z,54nm,1.1s
TRY Troy 74.06 359 P P **06 50 29.2 +0.5**
TRY IAmb IAmb 06 50 31.2
comp=Z,17nm,1.0s
TIC Toumodi 74.26 72 *e*PKP1 P 06 50 23.6 -7.1
KIC Kosan Boka 74.33 72 *e*PKP1 P 06 50 24.4 -6.6
comp=Z,39nm,1.1s
DBIC Dimbokro 74.41 72 P P **06 50 30.4 -1.1**
comp=Z,11nm,0.9s,baz=228,slow=8.1,SNR=7.3
DBIC Dimbokro 74.41 72 P P **06 50 31.1 -0.4**
FFD Franklin Falls 74.78 0 P P **06 50 34.0 +1.1**
FFD IAmb IAmb 06 50 35.0
comp=Z,15nm,0.8s
J57A Williamstown 74.81 357 P P **06 50 33.3 +0.2**
T25A Trinidad 74.87 334 P P **06 50 33.9 0.0**
T25A IAmb IAmb 06 50 44.6
comp=Z,10nm,1.1s
I63A Otisfield 75.37 1 P P **06 50 36.5 +0.2**
MAW Mawson 75.39 164 P P **06 50 34.8 -1.5**
comp=Z,0.9nm,0.4s,baz=225,slow=7.8,SNR=1.7
X16A Lo Mia Camp, P 75.50 327 P P **06 50 38.8 +1.3**
LBNH Lisbon 75.55 0 P P **06 50 38.6 +1.2**
LBNH IAmb IAmb 06 50 40.0
comp=Z,15nm,1.1s
SDCO Great Sand Dun 75.82 333 P P **06 50 40.6 +1.2**
SUR Sutherland 75.92 119 P P **06 50 40.9 +0.6**
LONY Lake Ozonia 75.97 358 P P **06 50 40.0 +0.3**
LONY IAmb IAmb 06 50 41.1
comp=Z,13nm,1.1s

FRNY Flat Rock 76.16 359 P P **06 50 41.1 +0.3**
FRNY IAmb IAmb 06 50 42.6
comp=Z,15nm,1.1s
MNTQ Montreal, Queb 76.83 359 P P **06 50 44.5 0.0**
MNTQ IAmb IAmb 06 50 47.0
comp=Z,14nm,1.2s
F62A Pittston Farm, 77.23 1 P P **06 50 47.5 +0.6**
F64A Sherman 77.25 3 P P **06 50 47.7 +0.8**
LMN Caledonia Moun 77.44 5 P P **06 50 48.8 +0.7**
E62A Clayton Lake 77.96 2 P P **06 50 52.2 +1.3**
PQI Presque Isle 78.06 3 P P **06 50 52.4 +0.9**
KNB Kanab 78.28 328 P P **06 50 54.5 +1.3**
KNB IAmb IAmb 06 51 05.0
comp=Z,13nm,1.3s
ECSD EROS Data Cent 78.35 342 P P **06 50 53.6 +0.4**
D62A Allapoint, All 78.44 2 P P **06 50 54.0 +0.5**
BATG Bathurst New B 78.77 4 P P **06 50 56.4 +1.0**
KOWA Kowa 79.65 66 P P **06 51 00.8 -0.1**
KOWA IAmb IAmb 06 51 01.0
comp=Z,12nm,1.1s
RDMU Red Mountain 79.85 332 P P **06 51 01.9 +0.2**
RDMU IAmb IAmb 06 51 12.5
comp=Z,8.9nm,1.2s
JLU Jordanelle 80.65 331 P P **06 51 05.9 -0.2**
BOSA Boshof 81.12 118 P P **06 51 08.2 -0.8**
comp=Z,5.9nm,0.8s,baz=246,slow=4.1,SNR=5.5
BOSA Boshof 81.12 118 P P **06 51 08.6 -0.4**
BOSA IAmb IAmb 06 51 10.9
comp=Z,10nm,1.0s
HWUT Hardware Ranch 81.54 331 P P **06 51 11.4 +0.7**
DRLN Deer Lake 81.60 10 P P **06 51 10.9 +0.3**
PDAR Pinedale Array 81.71 333 P P **06 51 11.2 -0.5**
comp=Z,0.2nm,0.4s,baz=134,slow=7.7,SNR=2.0
NVAR Mina Array Bea 82.00 325 P P **06 51 12.9 -0.4**
comp=Z,1.2nm,0.8s,baz=151,slow=5.4,SNR=6.4
NVAR Mina Array Bea 82.00 325 P P **06 51 14.3 +1.0**
HVU Hansel Valley 82.18 330 P P **06 51 14.1 +0.1**
ELK Elko 82.41 328 P P **06 51 15.5 +0.1**
LBTB Lobatse 83.25 115 P P **06 51 19.4 -0.7**
LBTB IAmb IAmb 06 51 20.3
comp=Z,8.2nm,0.9s
TORD Torodi Ar. Bea 83.39 70 P P **06 51 19.6 -1.1**
comp=Z,9.4nm,0.8s,baz=262,slow=4.8,SNR=14
TORD Torodi Ar. Bea 83.39 70 P P **06 51 20.3 -0.4**
TORD IAmb IAmb 06 51 21.1
comp=Z,9.8nm,0.8s
PAHR Pah Rah Range 83.52 325 P P **06 51 22.0 +0.9**
PAHR IAmb IAmb 06 51 32.6
comp=Z,5.1nm,1.0s
ULM Lac du Bonnet 84.27 345 P P **06 51 24.8 +0.4**
ULM IAmb IAmb 06 51 30.3
comp=Z,9.6nm,1.2s
MCMT McKenzie Canyo 84.73 332 P P **06 51 27.9 +0.6**
J08A Circle Bar Ran 85.94 328 P P **06 51 34.0 +0.9**
J08A IAmb IAmb 06 51 44.2
comp=Z,10nm,1.0s
I07A Izee 86.97 328 P P **06 51 39.1 +0.9**
I07A IAmb IAmb 06 51 49.2
comp=Z,5.9nm,1.2s
ASAR Alice Springs 119.65 207 PKP **PKPdf 06 57 41.0 -2.7**
comp=Z,0.5nm,0.8s,baz=141,slow=1.8,SNR=2.5
WRA Warramunga Arr 122.80 210 PKP **PKPdf 06 57 48.4 -1.4**
comp=Z,0.2nm,0.3s,baz=164,slow=2.1,SNR=1.8
HYB Hyderabad 149.80 111 *i* PKP **PKiKP 06 58 45.0 +0.2**
ZALV Zalesovo Beam 152.22 30 PKPbc **PKPbc 06 58 48.0 -0.3**
comp=Z,14nm,0.5s,baz=295,slow=3.1,SNR=17
ZALV Zalesovo Beam 152.22 30 PKPdf **PKPdf 06 58 41.6 +0.1**
ZALV **PKPbc 06 58 48.1 -0.3**
MKAR Makanchi Array 155.16 45 PKPab **PKPab 06 59 10.2 -0.7**
comp=Z,2.1nm,0.8s,baz=306,slow=2.9,SNR=5.1
MKAR Makanchi Array 155.16 45 PKPbc PKPbc 06 58 56.5
MKAR **PKPab 06 59 11.1 +0.3**
WMQ Urumqi 159.94 47 *e*P **PKPdf 06 58 52.6 +0.4**
WMQ pmax pmax
comp=Z,390nm,11.6s
SONM Songino Array 163.81 4 PKPab **PKPab 06 59 47.6 -0.8**
comp=Z,0.8nm,0.7s,baz=304,slow=2.6,SNR=3.2
GTA Gaotai 169.80 39 *e*PKPbc **PKPdf 06 59 00.1 -0.8**
GTA pPKP sPKPdf 06 59 10.1 +5.5
GTA sPKP 06 59 13.3
GTA PKPab **PKPab 07 00 15.6 +0.4**
HHC Hu-ho-hao-te 170.41 344 *e*P **PKPdf 06 58 59.3 -1.9**
HHC LR LR
comp=N,340nm,20.1s
HHC LR LR
comp=E,230nm,18.5s
HHC LR LR
comp=Z,450nm,19.3s
NJ2 Nanjing 170.76 275 *e*P **PKPdf 06 59 01.8 +0.3**
NJ2 pmax pmax
comp=Z,12nm,0.7s

MEX 17 06:46:08.8±0.4, 17°.33N×100°.88W, h23km±17km, MD4.1, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**1.07**	**28**	*i* P	Pn	06 46 25.5	-3.0
ARIG				*i* S	Sb	06 46 38.4	-3.9
DAIG	**Los Arroyos**	**1.21**	**105**	*i* P	Pn	06 46 27.6	-2.9
DAIG				*i* S	Sn	06 46 42.0	-4.2
MEIG	**Mezcala**	**1.34**	**64**	*e*P	Pn	06 46 29.2	-3.0
MEIG				*i* S	Sn	06 46 45.4	-4.0
MGIG	**Malinaltepec**	**2.15**	**92**	*i* P	Pn	06 46 41.3	-2.1
MGIG				*i* S	Sn	06 47 09.2	-0.3
PNIG	**Pinotepa**	**2.80**	**109**	*i* P	Pn	06 46 49.6	-2.6
PNIG				*i* S	Sb	06 47 29.2	-2.7
TXIG	**Tlaxiaco**	**2.97**	**91**	*i* P	Pn	06 46 52.9	-2.0
TXIG				*i* S	Sn	06 47 29.4	-0.7

IDC 17 06:46:29.3±3.2, 54°.19N×87°.41E, h0km, mb1 2.7/2, mb1mx2.7/44, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=25.4km s-min=19.4km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.55**	**262**	*i*		06 56 30.0	
	baz=82,slow=329,SNR=1.2						
ZALV	**Zalesovo Beam**	**1.55**	**262**	Pg	Pn	06 46 56.5	-1.5
	1.9nm,0.3s,baz=77,slow=15,SNR=13						
ZALV				Lg	Lg	06 47 19.1	
	2.2nm,0.3s,baz=80,slow=22,SNR=8.1						
KURBB	**Kurchatov Arra**	**6.50**	**240**	Pn	Pn	06 48 06.7	+0.6
	0.1nm,0.3s,baz=52,slow=14,SNR=6.1						
KURBB				Sn	Sn	06 49 19.3	-1.5
	0.0nm,0.3s,baz=243,slow=24,SNR=1.7						
KURBB				Lg	Lg	06 49 56.4	
	0.0nm,0.3s,baz=54,slow=29,SNR=1.8						
MKAR	**Makanchi Array**	**8.09**	**206**	Pn	Pn	06 48 29.4	+1.4
	0.1nm,0.3s,baz=27,slow=9.7,SNR=1.6						
MKAR				Lg	Lg	06 50 46.9	
	0.0nm,0.3s,baz=7.8,slow=22,SNR=3.2						

IDC 17 06:47:37.9±2.3, 10°.11S×121°.60E, h63km±28km, mb3.8/1, mb1 3.5/6, mb1mx3.3/44, mbtmp3.6/6, ML3.4/5, Error ellipse: s-maj=26.5km s-min=12.2km az=49.0
DJA 17 06:47:39.1±1.2, 10°.5S±6°×12°.2E±°, h1 1km±9km, M3.7/7, MLv3.7/7

ISC 17 06:47:38.9±1.0, 9°.68S±0°.06×121°.84E±0°.04, h35km, n14, σ3°.41/18, Savu Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDFI	**Ende, Flores**	**0.94**	**351**	P	**Pn**	**06 47 56.1**	**+0.4**
EDFI				S	**Sn**	**06 48 05.7**	**-2.2**
MMRI	**Maumere**	**1.11**	**21**	P	**Pn**	**06 47 58.8**	**+0.8**
MMRI				S	**Sn**	**06 48 13.6**	**+1.6**
BATI	**Baumata**	**1.87**	**106**	P	**Pn**	**06 48 10.3**	**+1.8**
	20nm,0.3s,baz=272,slow=2.2,SNR=6.7						
BATI				S	**Sn**	**06 48 34.8**	**+3.8**
	18nm,0.3s,baz=300,slow=21,SNR=5.7						
BATI	**Baumata**	**1.87**	**106**	P	**Pn**	**06 48 11.7**	**+3.2**
SOEI	**Soe**	**2.40**	**92**	P	**Pn**	**06 48 19.2**	**+3.4**
WBSI	**Waikabubak, Su**	**2.41**	**271**	P	**Pn**	**06 48 17.5**	**+1.5**
WBSI				S	**Sn**	**06 48 46.9**	**+2.6**
PLAI	**Plampang**	**4.10**	**282**	P	**Pn**	**06 48 41.3**	**+2.2**
BKSI	**Bulukumba**	**4.65**	**338**	P	**Pn**	**06 48 48.5**	**+1.8**
TWSI	**Taliwang, Sumb**	**4.98**	**280**	P	**Pn**	**06 48 53.4**	**+2.1**
KAPI	**Kappang**	**5.08**	**336**	P	**Pn**	**06 48 55.7**	**+3.1**
	2.5nm,0.3s,baz=218,slow=4.1,SNR=8.6						
KAPI				S	**Sn**	**06 49 56.8**	**+6.8**
	baz=90,slow=20,SNR=0.7						
FITZ	**Fitzroy Crossi**	**9.15**	**157**	P	Pn	06 49 44.5	-3.9
	0.1nm,0.3s,baz=339,slow=13,SNR=2.0						
FITZ				S	Sn	06 51 21.1	-9.1
	0.9nm,0.3s,baz=91,slow=17,SNR=8.4						
WRA	**Warramunga Arr**	**15.80**	**132**	P	**Pn**	**06 51 14.4**	**-4.6**
	0.2nm,0.3s,baz=306,slow=13,SNR=7.0						
WRA				S	Sn	06 53 57.8	-15
	0.2nm,0.3s,baz=302,slow=24,SNR=5.8						
ASAR	**Alice Springs**	**18.07**	**142**	P	**Pn**	**06 51 42.6**	**-4.7**
	0.1nm,0.3s,baz=317,slow=12,SNR=12						
ASAR				S	Sn	06 54 51.5	-16
	0.1nm,0.3s,baz=313,slow=22,SNR=2.8						
MKAR	**Makanchi Array**	**66.36**	**331**	P	**P**	**06 58 21.8**	**-2.4**
	1.4nm,0.7s,baz=133,slow=7.3,SNR=5.7						

IDC 17 06:51:05.6±0.6, 23°.44S×115°.09W, h0km, mb4.3/13, mb1 4.5/13, mb1mx4.3/32, mbtmp4.3/13, Error ellipse: s-maj=26.0km s-min=17.2km az=89.0
NEIC 17 06:51:08.3±1.2, 23°.5S±0°.1×115°.0W±0°.1, h10km±1km, mb4.8/156, Error ellipse: s-maj=22.1km s-min=18.8km az=138.0

ISC 17 06:51:07.5±0.5, 23°.46S±0°.10×115°.0W±0°.1, h10km, n292, σ0°.64/279, mb4.8/88, 1D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPTF	**Pamatai, Papee**	**32.83**	**274**	P	**P**	**06 57 41.7**	**+0.1**
PAYG	**Puerto Ayora**	**32.99**	**50**	P	**P**	**06 57 42.3**	**-0.7**
NNA	**Nana**	**37.99**	**79**	P	**P**	**06 58 25.5**	**-0.5**
LPAZ	**La Paz**	**44.51**	**90**	P	**P**	**06 59 21.4**	**+1.2**
	8.1nm,0.8s,baz=246,slow=10.0,SNR=2.3						
JTS	**Las Juntas de**	**44.60**	**45**	P	**P**	**06 59 20.9**	**+0.6**
	1.8nm,0.5s,baz=251,slow=15,SNR=3.7						
JTS	**Las Juntas de**	**44.60**	**45**	P	**P**	**06 59 21.1**	**+0.8**
CDITO	**Canoas**	**44.73**	**48**	P	**P**	**06 59 21.3**	**0.0**
CDITO					IAmb	IAmb	06 59 26.7
	comp=Z,23nm,1.2s						
PEZE	**Perez Zeledon,**	**44.77**	**47**	P	**P**	**06 59 22.7**	**+1.0**
CMIG	**Matias Romero**	**44.84**	**28**	P	**P**	**06 59 21.4**	**-0.6**
	comp=Z,2.9nm,0.8s,baz=247,slow=6.4,SNR=5.7						
MTO3	**Montecristo**	**45.22**	**36**	P	**P**	**06 59 26.0**	**+0.6**
MTO3					IAmb	IAmb	06 59 33.0
	comp=Z,20nm,1.2s						
CCIG	**Comitan**	**45.38**	**32**	P	**P**	**06 59 27.5**	**+0.9**
CCIG					IAmb	IAmb	06 59 30.0
	comp=Z,22nm,1.4s						
ZAIG	**Zacatecas**	**47.51**	**16**	P	**P**	**06 59 44.0**	**+0.6**
ZAIG					IAmb	IAmb	06 59 45.3
	comp=Z,11nm,1.4s						
RUSC	**La Rusia**	**50.26**	**60**	P	**P**	**07 00 04.8**	**-0.1**
HPIG		**50.90**	**11**	P	**P**	**07 00 09.6**	**+0.5**
SIV	**San Ignacio**	**51.07**	**92**	P	**P**	**07 00 10.6**	**+0.1**
	comp=Z,10.0nm,1.1s,baz=265,slow=11,SNR=6.7						
SJCC	**San Jacinto, C**	**51.15**	**54**	P	**P**	**07 00 11.7**	**+0.6**
SJCC					IAmb	IAmb	07 00 12.6
	comp=Z,17nm,1.3s						
SAML	**Samuel**	**51.54**	**83**	P	**P**	**07 00 13.8**	**-0.3**
HSIG		**52.32**	**4**	P	**P**	**07 00 19.9**	**+0.4**
HSIG					IAmb	IAmb	07 00 21.8
	comp=Z,14nm,1.1s						
TX31	**Lajitas Ar. Si**	**53.61**	**12**	P	**P**	**07 00 29.5**	**+0.3**
TX32	**Lajitas Array**	**53.61**	**12**	P	**P**	**07 00 29.5**	**+0.3**
TXAR	**Lajitas Array**	**53.61**	**12**	P	**P**	**07 00 29.4**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=194,slow=9.0,SNR=7.5						
833A	**Chaparral WMA,**	**53.63**	**17**	P	**P**	**07 00 29.1**	**-0.1**
	baz=198						
AFI	**Afiamalu**	**54.32**	**269**	P	**P**	**07 00 34.9**	**+0.2**
319A	**Douglas**	**54.80**	**6**	P	**P**	**07 00 38.8**	**+1.0**
319A					IAmb	IAmb	07 00 39.5
	comp=Z,16nm,1.1s						
214A	**Organ Pipe Nat**	**55.14**	**2**	P	**P**	**07 00 40.8**	**+0.6**
214A					IAmb	IAmb	07 00 42.0
	comp=Z,9.7nm,1.1s						
214A	**Organ Pipe Nat**	**55.14**	**2**	P	**P**	**07 00 40.8**	**+0.6**
	baz=182,SNR=6.6						
JCT	**Junction City**	**55.58**	**16**	P	**P**	**07 00 43.7**	**+0.4**
JCT	**Junction City**	**55.58**	**16**	P	**P**	**07 00 43.5**	**+0.1**
	baz=197,SNR=8.1						
TUC	**Tucson**	**55.60**	**4**	P	**P**	**07 00 44.3**	**+0.8**
TUC	**Tucson**	**55.60**	**4**	P	**P**	**07 00 44.4**	**+0.9**
	baz=185						
MNTX	**Cornudas Mount**	**55.61**	**10**	P	**P**	**07 00 43.6**	**+0.1**
MNTX					IAmb	IAmb	07 00 44.5
	comp=Z,9.9nm,1.2s						
MNTX	**Cornudas Mount**	**55.61**	**10**	P	**P**	**07 00 43.1**	**-0.5**
	baz=191,SNR=12						
TKX	**Tecate**	**55.73**	**358**	P	**P**	**07 00 45.0**	**+0.6**
TKX					IAmb	IAmb	07 00 46.6
	comp=Z,14nm,1.0s						
IKP	**In-Ko-Pah, Jac**	**55.80**	**359**	P	**P**	**07 00 45.6**	**+0.7**
	baz=179						
BAR	**Barrett**	**55.84**	**358**	P	**P**	**07 00 45.4**	**+0.2**
BAR					IAmb	IAmb	07 00 46.9
	comp=Z,13nm,1.1s						
113A	**Mohawk Valley,**	**55.92**	**1**	P	**P**	**07 00 46.4**	**+0.7**
MONP2	**Monument Peak**	**56.05**	**359**	P	**P**	**07 00 47.3**	**+0.4**
	baz=178						
121A	**Cookes Peak, D**	**56.10**	**7**	P	**P**	**07 00 48.1**	**+0.9**
121A					IAmb	IAmb	07 00 48.9
	comp=Z,10nm,0.9s						
121A	**Cookes Peak, D**	**56.10**	**7**	P	**P**	**07 00 47.1**	**-0.2**
	baz=188,SNR=5.4						
GLA	**Glamis**	**56.19**	**0**	P	**P**	**07 00 48.9**	**+1.2**
HKT	**Hockley**	**56.21**	**20**	P	**P**	**07 00 48.6**	**+0.9**
435B	**Jarrell**	**56.46**	**18**	P	**P**	**07 00 50.4**	**+0.8**
435B					IAmb	IAmb	07 00 55.9
	comp=Z,20nm,1.3s						
TPFO	**Pinon Flats**	**56.76**	**359**	P	**P**	**07 00 51.9**	**0.0**
	baz=176						
PFO	**Pinyon Flats O**	**56.77**	**359**	P	**P**	**07 00 52.7**	**+0.8**
PFO	**Pinyon Flats O**	**56.77**	**359**	P	**P**	**07 00 51.9**	**0.0**
	baz=178						
BC3	**Big Chuckawall**	**56.80**	**360**	P	**P**	**07 00 53.0**	**+0.9**
	baz=180						
Y14A	**Wickenburg**	**57.11**	**2**	P	**P**	**07 00 54.6**	**+0.4**
Y14A					IAmb	IAmb	07 00 56.0
	comp=Z,10nm,1.3s						
BELC	**Belle Mtn. Jos**	**57.15**	**359**	P	**P**	**07 00 55.1**	**+0.5**
	baz=179,SNR=8.0						
IRM	**Iron Mountain**	**57.30**	**360**	P	**P**	**07 00 56.1**	**+0.6**
	baz=180						
PASC	**Pasadena Art C**	**57.39**	**357**	P	**P**	**07 00 57.5**	**+1.4**
PASC					IAmb	IAmb	07 00 57.7
	comp=Z,22nm,1.4s						
BFSC	**Mount Baldy Ra**	**57.43**	**357**	P	**P**	**07 00 57.2**	**+0.6**
	baz=177						
MWC	**Mount Wilson**	**57.43**	**357**	P	**P**	**07 00 57.1**	**+0.5**
MWC					IAmb	IAmb	07 00 58.8
	comp=Z,14nm,1.1s						
PDMCI	**Parker Dam,Lak**	**57.45**	**1**	P	**P**	**07 00 57.1**	**+0.6**
	baz=181						
WHTX	**Lake Whitney,**	**57.63**	**18**	P	**P**	**07 00 58.3**	**+0.4**
WHTX					IAmb	IAmb	07 01 03.1
	comp=Z,9.1nm,0.9s						
X16A	**Lo Mia Camp, P**	**57.65**	**3**	P	**P**	**07 00 58.7**	**+0.5**
ABTX	**Abilene, Hawle**	**57.66**	**15**	P	**P**	**07 00 58.7**	**+0.6**
Y22D	**IRIS PASSCAL I**	**57.73**	**8**	P	**P**	**07 00 60.0**	**+1.3**
LENM	**Lemitar**	**57.81**	**8**	P	**P**	**07 00 59.6**	**+0.3**
BNM	**Barren Site**	**57.84**	**8**	P	**P**	**07 01 00.1**	**+0.5**
X18A	**Snowflake**	**57.87**	**5**	IAmb	IAmb	07 01 01.5	
	comp=Z,9.7nm,0.9s						
EDW2	**Edwards Air Fo**	**58.09**	**357**	P	**P**	**07 01 01.5**	**+0.4**
	baz=177						
NATX	**Nacogdoches**	**58.26**	**20**	P	**P**	**07 01 02.5**	**+0.2**
MSTX	**Muleshoe**	**58.28**	**12**	P	**P**	**07 01 02.1**	**-0.5**
MSTX					IAmb	IAmb	07 01 02.7
	comp=Z,8.8nm,0.9s						
MSTX	**Muleshoe**	**58.28**	**12**	P	**P**	**07 01 02.3**	**-0.3**
	baz=193						
GSC	**Goldstone, Bar**	**58.46**	**358**	P	**P**	**07 01 04.5**	**+0.7**
GSC					IAmb	IAmb	07 01 06.0
	comp=Z,8.5nm,1.1s						
GSC	**Goldstone, Bar**	**58.46**	**358**	P	**P**	**07 01 04.0**	**+0.3**
	baz=178						
TUQ	**Turquoise Moun**	**58.58**	**359**	P	**P**	**07 01 04.5**	**-0.1**
	baz=179						
ANMO	**Albuquerque**	**58.65**	**8**	P	**P**	**07 01 05.0**	**-0.2**
ANMO

baz=176
Z35A Perchaven, San 58.95 17 P P 07 01 06.9 -0.2
VES Vestal, Richgr 59.10 356 P P 07 01 08.6 +0.6
baz=176
QSM Queen of Sheba 59.12 358 P P 07 01 08.6 +0.3
QSM IAmb IAmb 07 01 09.9
comp=Z,7.2nm,1.0s
MPMC Manual Prospec 59.24 358 P P 07 01 09.2 -0.1
baz=177,SNR=6.6
GWY Greenwater Val 59.34 358 P P 07 01 10.1 +0.1
GWY IAmb IAmb 07 01 12.1
comp=Z,8.1nm,1.2s
FURC Furnace Creek, 59.62 358 P P 07 01 12.5 +0.9
baz=178
SHPR Sheep Range 59.64 360 P P 07 01 12.9 +0.9
SHPR IAmb IAmb 07 01 14.2
comp=Z,11nm,0.9s
CWC Cottonwood Cre 59.64 357 P P 07 01 12.9 +0.9
baz=177
TPNV Topopah Spring 60.09 359 P P 07 01 16.3 +1.2
TPNV IAmb IAmb 07 01 17.3
comp=Z,6.7nm,1.1s
TPNV Topopah Spring 60.09 359 P P 07 01 15.6 +0.5
baz=179
LCMT Little Creek M 60.17 2 P P 07 01 16.2 +0.6
GRAC Grapevine Rang 60.17 358 P P 07 01 16.4 +0.9
baz=178
KNB Kanab 60.18 2 P P 07 01 16.6 +0.8
KNB IAmb IAmb 07 01 22.4
comp=Z,14nm,1.5s
143A Socs Landing, 60.22 23 P P 07 01 16.1 +0.3
Z41A Richland Creek 60.24 21 P P 07 01 15.6 -0.4
baz=203
LCH Last Change Ra 60.41 358 P P 07 01 18.0 +0.7
WLAR White Oak Lake 60.53 21 P P 07 01 18.2 +0.3
PRN Pahroc Range 60.54 360 P P 07 01 19.2 +1.1
PRN IAmb IAmb 07 01 27.0
comp=Z,9.3nm,1.0s
PKCU Pink Cliffs 60.63 2 P P 07 01 19.9 +0.9
MVCO Mesa Verde 60.65 6 IAmb IAmb 07 01 20.2
comp=Z,14nm,1.3s
MVCO Mesa Verde 60.65 6 P P 07 01 18.9 -0.2
baz=187,SNR=5.4
CCUT Cedar City 60.70 1 P P 07 01 19.8 +0.5
CCUT IAmb IAmb 07 01 21.5
comp=Z,8.7nm,1.0s
SZCU Shurtz Canyon 60.75 2 P P 07 01 20.0 +0.4
SZCU IAmb IAmb 07 01 25.8
comp=Z,16nm,1.5s
T25A Trinidad 61.09 10 P P 07 01 21.8 -0.3
baz=191
MIAR Mount Ida 61.17 20 P P 07 01 21.6 -0.7
baz=202
CCAR Cane Creek 61.19 22 P P 07 01 23.1 +0.7
TPH Tonopah 61.24 358 P P 07 01 23.7 +0.8
S22A 4UR Ranch, Cre 61.36 7 P P 07 01 23.5 -0.4
baz=188
CMB Columbia Colle 61.37 355 P P 07 01 24.5 +0.8
CMB IAmb IAmb 07 01 25.2
comp=Z,7.5nm,1.1s
PV05 Paradox Valley 61.46 5 P P 07 01 25.5 +1.0
PV05 IAmb IAmb 07 01 29.2
comp=Z,5.6nm,0.7s
LHV Little Huntoon 61.47 357 P P 07 01 25.1 +0.9
LHV IAmb IAmb 07 01 26.6
comp=Z,13nm,1.1s
R11A Troy Canyon, C 61.48 359 IAmb IAmb 07 01 26.7
comp=Z,10nm,1.2s
R11A Troy Canyon, C 61.48 359 P P 07 01 24.6 +0.1
baz=179,SNR=14
SDCO Great Sand Dun 61.53 9 IAmb IAmb 07 01 30.2
comp=Z,7.0nm,1.1s
SDCO Great Sand Dun 61.53 9 P P 07 01 24.9 -0.2
baz=190,SNR=11
NVAR Mina Array Bea 61.64 357 P P 07 01 25.5 -0.2
comp=Z,9.3nm,1.1s,baz=183,slow=8.5,SNR=30
NVAR Mina Array Bea 61.64 357 P P 07 01 25.6 -0.1
PSUT Pine Spring 61.67 1 IAmb IAmb 07 01 29.6
comp=Z,6.5nm,1.1s
W39A Magazine 61.71 20 P P 07 01 25.2 -0.7
baz=202
PV15 Paradox Valley 61.77 6 P P 07 01 26.0 -0.6
PV15 IAmb IAmb 07 01 27.6
comp=Z,5.6nm,0.9s
TUL1 Leonard 61.78 18 P P 07 01 26.3 -0.1
baz=200
PV21 Cone Mtn., Par 61.95 5 P P 07 01 27.9 +0.1
PV21 IAmb IAmb 07 01 28.8
comp=Z,7.9nm,1.0s
SPR3 Spring Creek 3 62.13 1 P P 07 01 29.3 +0.2
Q16A Castle Valley 62.15 3 P P 07 01 28.8 -0.3
Q16A IAmb IAmb 07 01 35.4
comp=Z,11nm,1.4s
W41B Gary Mavity, V 62.17 21 P P 07 01 28.9 -0.1
baz=204
LRAL Lakeview Retre 62.21 26 P P 07 01 28.9 -0.4
baz=209
KVN Kaiserville 62.25 357 P P 07 01 30.5 +0.8
KVN IAmb IAmb 07 01 32.1
comp=Z,6.7nm,1.1s
KAN17 Caldwell West 62.33 16 P P 07 01 30.4 +0.3
KAN17 IAmb IAmb 07 01 30.7
comp=Z,9.4nm,1.0s
PNTR Pine Nut 62.37 356 P P 07 01 31.0 +0.5
SRU San Rafael Swe 62.38 4 P P 07 01 30.5 -0.1
VCNR Virginia City 62.57 356 P P 07 01 32.7 +0.8
VCNR IAmb IAmb 07 01 37.4
comp=Z,5.4nm,1.0s
P17A Butcher Ranch, 62.73 4 P P 07 01 33.2 +0.3
P17A IAmb IAmb 07 01 34.0
comp=Z,6.3nm,1.0s
PAHR Pah Rah Range 62.97 356 P P 07 01 35.2 +0.7
BDFB Brasilia 63.14 96 P P 07 01 36.4 +0.3
comp=Z,11nm,1.0s,baz=288,slow=5.2,SNR=5.3
BEKR Beckworth 63.19 355 P P 07 01 36.5 +0.5
BEKR IAmb IAmb 07 01 38.3
comp=Z,9.4nm,1.3s
MPU Maple Canyon 63.22 3 P P 07 01 37.0 +0.8
MPU IAmb IAmb 07 01 37.6
comp=Z,6.6nm,1.2s
W45A Hickory Valley 63.23 24 P P 07 01 35.3 -0.8
DUG Dugway, Tooele 63.35 2 P P 07 01 37.6 +0.6
DUG IAmb IAmb 07 01 38.6
comp=Z,8.5nm,1.1s
DUG Dugway, Tooele 63.35 2 P P 07 01 37.4 +0.4
baz=182
PLAL Pickwick Lake 63.49 25 IAmb IAmb 07 01 37.4
comp=Z,11nm,1.1s
ISCO Idaho Springs 63.53 8 P P 07 01 38.5 +0.1
baz=190
O20A White River Ci 63.58 6 P P 07 01 39.0 +0.4
baz=187
BMN Battle Mountai 63.59 358 P P 07 01 39.0 +0.4
GNAR Gosnell 63.65 22 P P 07 01 38.9 0.0
O02D Mt. Diablo Mer 63.72 353 P P 07 01 40.1 +0.8
baz=172
ELK Elko 63.87 360 P P 07 01 40.5 -0.1
ELK IAmb IAmb 07 01 42.3
comp=Z,13nm,1.4s
BGU Big Grassy Mou 64.08 2 P P 07 01 42.4 +0.6
BGU IAmb IAmb 07 01 43.2
comp=Z,13nm,1.5s
PBMO Poplar Bluff 64.24 22 P P 07 01 42.4 -0.4
PBMO IAmb IAmb 07 01 42.8
comp=Z,13nm,1.3s
UTMT University of 64.40 23 P P 07 01 43.8 0.0
N02D Trinity Center 64.50 354 P P 07 01 45.2 +0.7
baz=172
SWET Sewanee 64.53 26 P P 07 01 44.0 -0.7
KSU1 Kansas State U 64.57 16 P P 07 01 45.2 +0.3
N23A Red Feather La 64.57 8 P P 07 01 45.3 +0.1
baz=189
WVT Waverly 64.59 24 P P 07 01 43.9 -1.2
WVT IAmb IAmb 07 01 44.6
comp=Z,6.9nm,0.8s
WVT Waverly 64.59 24 P P 07 01 44.1 -1.0
baz=208
M02C Callahan 64.93 353 P P 07 01 48.1 +0.8
baz=172
PHWY Pilot Hill 65.03 8 P P 07 01 47.7 -0.5
CCM Cathedral Cave 65.13 21 P P 07 01 48.2 -0.3
CCM IAmb IAmb 07 01 52.6
comp=Z,11nm,1.2s
CCM Cathedral Cave 65.13 21 P P 07 01 47.7 -0.9
baz=204
M04C Macdoel 65.22 354 P P 07 01 49.5 +0.3
baz=173,SNR=5.2
S44A Carbondale 65.47 22 P P 07 01 50.0 -0.8
SIUC Southern Illin 65.50 22 P P 07 01 49.7 -1.3
SIUC IAmb IAmb 07 01 51.6
comp=Z,7.1nm,0.9s
BG3 Lake Jocassee 65.61 29 P P 07 01 50.6 -1.1
BG3 IAmb IAmb 07 01 52.0
comp=Z,7.1nm,0.9s
T47A Sharon Grove 65.62 24 P P 07 01 51.0 -0.8
WVOR Wild Horse Val 65.64 357 P P 07 01 52.6 +0.6
WVOR IAmb IAmb 07 01 54.4
comp=Z,8.8nm,1.1s
L04D Klamath Falls 65.69 354 P P 07 01 52.8 +0.5
baz=173
L02E Cave Junction 65.77 353 P P 07 01 53.5 +0.9
baz=171
VNDA Vanda 65.78 194 P P 07 01 52.4 +0.1
comp=Z,0.5nm,0.9s,baz=101,slow=6.1,SNR=1.5
VNDA Vanda 65.78 194 P P 07 01 53.3 +1.0
P38A Dawn 65.88 18 P P 07 01 52.6 -0.8
K05A Summer Lake 66.07 355 P P 07 01 55.3 +0.6
BW06 Boulder Array 66.08 4 P P 07 01 54.2 -0.7
BW06 Boulder Array 66.08 4 P P 07 01 54.3 -0.6
baz=185
PD31 Pinedale Array 66.08 4 P P 07 01 53.8 -1.1
PDAR Pinedale Array 66.08 4 P P 07 01 53.0 -1.9
comp=Z,1.0nm,0.8s,baz=175,slow=6.8,SNR=9.6
PDAR Pinedale Array 66.08 4 P P 07 01 53.7 -1.2
HUMO Hull Mountain 66.14 354 P P 07 01 55.8 +0.7
HUMO IAmb IAmb 07 01 56.6
comp=Z,12nm,1.1s
K22A Casper 66.24 7 IAmb IAmb 07 02 00.5
comp=Z,11nm,1.0s
K22A Casper 66.24 7 P P 07 01 55.4 -0.4
baz=188
N35A Tabor 66.47 16 P P 07 01 57.8 +0.6
MFID Camas Ranch 66.54 359 P P 07 01 58.1 +0.4
MFID IAmb IAmb 07 02 03.2
comp=Z,8.2nm,1.2s
J08A Circle Bar Ran 66.56 357 P P 07 01 58.9 +1.1
Q44A Meyer Farm, Va 66.64 22 P P 07 01 57.8 -0.5
J05D Fort Rock, OR 66.66 355 P P 07 01 58.6 +0.2
baz=174,SNR=6.3
HLID Hailey 66.69 0 P P 07 01 58.8 +0.1
HLID IAmb IAmb 07 02 00.2
comp=Z,10nm,1.1s
HLID Hailey 66.69 0 P P 07 01 59.0 +0.3
baz=181,SNR=12
QSPA South Pole Qui 66.70 180 P P 07 01 58.5 0.0
comp=Z,6.8nm,1.1s,baz=119,slow=3.4,SNR=8.3
QSPA South Pole Qui 66.70 180 P P 07 01 59.6 +1.0
QSPA IAmb IAmb 07 02 02.1
comp=Z,7.7nm,1.1s
FXWY Fox Creek 66.86 3 IAmb IAmb 07 02 07.2
comp=Z,11nm,1.4s
IMW Indian Meadow 67.12 3 P P 07 02 01.3 -0.3
IMW IAmb IAmb 07 02 02.2
comp=Z,6.5nm,1.2s
PINE Pine Mountain 67.14 355 P P 07 02 02.0 +0.4
PINE IAmb IAmb 07 02 03.3
comp=Z,9.9nm,1.1s
I03D Drain, OR 67.26 353 P P 07 02 02.7 +0.7
baz=172
I07A Izee 67.33 356 P P 07 02 02.8 +0.1
I07A IAmb IAmb 07 02 08.8
comp=Z,6.0nm,1.1s
L34A Svendsen Farm, 67.34 15 P P 07 02 02.7 +0.1
I05D Terrebonne, OR 67.71 355 P P 07 02 05.5 +0.5
baz=174
R50A Paris 67.83 26 P P 07 02 04.2 -1.6
YMR Madison River 67.89 3 P P 07 02 05.5 -0.9
YMR IAmb IAmb 07 02 07.6
comp=Z,6.9nm,1.1s
MCMT McKenzie Canyo 67.98 2 P P 07 02 07.8 +0.8
RSSD Black Hills 67.99 9 P P 07 02 07.0 0.0
RSSD IAmb IAmb 07 02 07.8
comp=Z,5.7nm,0.9s
RSSD Black Hills 67.99 9 P P 07 02 06.8 -0.2
baz=191
HDIL Hopedale 68.03 21 P P 07 02 06.4 -0.6
HDIL Hopedale 68.03 21 P P 07 02 06.7 -0.4
baz=205
H04A Detroit Lake 68.12 354 P P 07 02 08.2 +0.6
H04A IAmb IAmb 07 02 09.1
comp=Z,15nm,1.3s
PLID Pearl Lake 68.22 359 P P 07 02 08.0 -0.4
PLID IAmb IAmb 07 02 09.2
comp=Z,6.9nm,1.1s
YNE Yellowstone No 68.28 4 P P 07 02 09.0 +0.2
RLMT Red Lodge 68.45 4 P P 07 02 09.7 -0.1
baz=186
G08A Pilot Rock 68.51 357 P P 07 02 10.8 +0.7
G08A IAmb IAmb 07 02 12.5
comp=Z,12nm,1.1s
DLMT Dillon 68.52 2 P P 07 02 10.1 -0.1
BLA Blacksburg 68.58 29 P P 07 02 09.8 -0.8
baz=214
SFIN Lafayette 68.62 23 P P 07 02 10.4 -0.3
baz=207
ECSD EROS Data Cent 68.96 14 P P 07 02 12.2 -0.6
baz=198
E09A Wood Farm, Sta 69.70 358 P P 07 02 18.0 +0.8
HRY Holter Researc 69.89 2 P P 07 02 19.1 +0.5
MSO Missoula 69.96 1 P P 07 02 18.4 -0.6
baz=181
E04D Cinebar 70.02 354 P P 07 02 19.3 +0.1
baz=173
ACSO Alum Creek Sta 70.04 26 P P 07 02 18.7 -0.8
baz=211
LAO LASA Array 70.26 6 P P 07 02 20.8 -0.1
baz=188
D08A Wollman Farm, 70.27 357 P P 07 02 21.5 +0.8
D08A IAmb IAmb 07 02 22.0
comp=Z,7.3nm,1.1s
WISH Wishkah 70.69 354 P P 07 02 24.7 +1.5
O53A New Philadelph 70.77 27 P P 07 02 23.4 -0.6
baz=214
C09A Chrisman Ranch 70.99 358 P P 07 02 24.8 -0.3
C09A IAmb IAmb 07 02 31.6
comp=Z,7.8nm,0.9s
EGMT Eagleton 71.31 4 P P 07 02 27.7 +0.5
baz=185
NEW Newport 71.41 359 P P 07 02 28.1 +0.3
NEW IAmb IAmb 07 02 29.0
comp=Z,10nm,1.3s
NEW Newport 71.41 359 P P 07 02 27.8 0.0
baz=178
B08A Colville Reser 71.59 357 P P 07 02 28.6 -0.2
B05A Bryant 71.67 355 P P 07 02 29.6 +0.4
baz=173
F36A Milaca 71.70 16 IAmb IAmb 07 02 30.1
comp=Z,7.8nm,0.8s
N54A Moraine State 71.87 27 P P 07 02 30.6 -0.1
baz=214
O56A Blue Knob Stat 71.91 29 P P 07 02 30.7 -0.3
baz=215
M53A WI Miller and 71.99 26 P P 07 02 31.2 -0.1
baz=213
A04D Lummi Island 72.17 355 P P 07 02 32.9 +0.7
baz=173
DGMT Dagmar 72.25 8 P P 07 02 32.6 -0.2
baz=190
M54A Oil Creek Stat 72.46 27 P P 07 02 33.8 -0.4
baz=214
VNA3 Neumayer Olymp 72.79 161 P P 07 02 35.6 -0.2
P60A Greenville 72.88 31 P P 07 02 36.0 -0.6
baz=217
N58A Sunbury 73.20 29 P P 07 02 38.8 +0.2
N58A IAmb IAmb 07 02 43.1
comp=Z,8.5nm,0.9s
AGMN Agassiz Nation 73.46 13 P P 07 02 40.0 0.0
VNA2 Neumayer--Watz 73.59 161 P P 07 02 40.7 +0.1
baz=245,slow=4.8
N59A State Game Lan 73.69 30 P P 07 02 40.3 -1.2
baz=217
EYMN Ely 74.15 16 P P 07 02 43.8 -0.2
baz=202
SNAA Sanae 74.58 162 P P 07 02 46.5 +0.1
SNAA Sanae 74.58 162 P P 07 02 45.3 -1.1
comp=Z,3.0nm,0.9s,baz=194,slow=4.4,SNR=7.2
SNAA Sanae 74.58 162 P P 07 02 46.1 -0.3
BINY Binghamton 74.62 29 P P 07 02 46.4 -0.4
baz=217
PAL Palisades 74.63 31 P P 07 02 45.9 -1.0
baz=219
EDM Edmonton 76.37 1 P P 07 02 56.8 +0.2
EDM IAmb IAmb 07 02 57.3
comp=Z,16nm,1.1s
ACCN Adirondack Com 76.60 30 P P 07 02 58.3 +0.1
ACCN IAmb IAmb 07 03 08.1
comp=Z,11nm,1.2s
HRV Adam Dziewonsk 76.91 31 P P 07 02 58.7 -1.2
baz=220
J61A Chester 77.08 30 P P 07 02 59.5 -1.4
baz=219
I60A Shoreham 77.13 30 P P 07 03 00.5 -0.6
baz=219
DLBC Dease Lake 82.54 352 IAmb IAmb 07 03 32.4
comp=Z,13nm,1.1s
YKA Yellowknife Ar 85.65 0 P P 07 03 46.1 +0.3
comp=Z,3.5nm,0.9s,baz=159,slow=5.3,SNR=4.8
HYT Haines Junctio 85.95 349 P P 07 03 47.5 -0.1
baz=159
SYO Syowa Base 85.97 171 ||ePcP PcP 07 03 49.2 -1.1
FARO Faro, Yukon 86.64 352 P P 07 03 50.6 -0.3
baz=163
WRGLY Wrigley 86.65 356 P P 07 03 50.5 -0.2
baz=172
MMPY Sheldon Lake, 86.75 353 P P 07 03 51.3 -0.1
baz=165
CTG Chitna Glacier 86.79 347 P P 07 03 51.8 +0.1
baz=156
CRQE Cirque 86.96 347 P P 07 03 52.1 -0.5
baz=154
H11S2 WAKE ISLAND Hy 87.01 291 T T 08 40 06.8
baz=117,slow=75,SNR=44
H11S1 WAKE ISLAND Hy 87.02 291 T T 08 39 57.4
baz=117,slow=75,SNR=9.7
H11S3 WAKE ISLAND Hy 87.03 291 T T 08 40 09.6
baz=117,slow=75,SNR=13
YUK3 Moose Creek 87.36 348 P P 07 03 54.0 -0.6
baz=157
M27K Edge Creek, AK 88.17 348 P P 07 03 58.0 -0.4
baz=156
M26K Nabesna, AK 88.43 347 P P 07 03 59.1 -0.4
baz=154
KNK Knik Glacier 88.77 345 P P 07 04 00.4 -0.7
baz=150
BCAR Beaver Creek A 88.80 348 P P 07 03 59.5 -1.7
L27K Beaver Creek, 88.80 348 P P 07 04 00.4 -0.8
baz=156
RC01 Rabbit Creek A 88.81 344 P P 07 04 01.0 -0.2
baz=148
M24K Tolsona, Glenn 88.84 346 P P 07 04 01.6 +0.2
baz=152
HARP HAARP 88.88 346 P P 07 04 01.4 -0.1
baz=152
L26K Log Cabin Wild 89.06 347 P P 07 04 02.1 -0.4
baz=154
SML Sawmill 89.08 345 P P 07 04 02.1 -0.5
baz=150
PMR Palmer 89.09 344 P P 07 04 02.0 -0.5
baz=149
DAWY Dawson 89.30 350 P P 07 04 02.9 -0.6
baz=158
SUA Susitna One 89.38 344 P P 07 04 03.8 -0.2
baz=148
PAX Paxson 89.45 347 P P 07 04 03.9 -0.4
baz=152
WAT6 Susitna Watana 89.61 346 P P 07 04 05.2 0.0
baz=150
K27K Chicken 89.73 348 P P 07 04 04.9 -0.6
baz=155
RIDG Independent Ri 90.01 347 P P 07 04 06.4 -0.4
baz=153
SKT Skwentna 90.02 344 P P 07 04 06.1 -0.8
baz=147
MCK McKinley 90.88 346 P P 07 04 10.7 -0.2
baz=149
J25K Salcha River, 90.89 347 P P 07 04 10.9 -0.1
baz=152
TRF Thorofare Moun 90.96 345 P P 07 04 11.3 -0.1
baz=148
ILAR Eielson Array 91.34 347 P P 07 04 11.7 -1.2
comp=Z,0.5nm,0.9s,baz=165,slow=3.7,SNR=4.6
ILAR Eielson Array 91.34 347 P P 07 04 13.0 +0.1
BPAW Bear Paw Mtn. 91.67 345 P P 07 04 13.7 -0.9
baz=147
I23K Minto, Yukon-K 92.20 346 P P 07 04 16.5 -0.3
baz=149
INK Inuvik 92.50 353 P P 07 04 17.6 -0.6
baz=163
J20K Nowinta River 92.51 344 P P 07 04 17.5 -0.9
baz=144
I21K Tanana 92.82 345 P P 07 04 19.6 -0.1
baz=146
AKASG Malin Array Be 141.20 36 PKP PKPdf 07 10 37.8 -0.3
comp=Z,0.6nm,0.4s,baz=274,slow=2.6,SNR=4.4
ZALV Zalesovo Beam 146.09 339 PKPbc PKPdf 07 10 46.6 0.0
comp=Z,3.5nm,0.8s,baz=21,slow=3.8,SNR=5.8
ZALV Zalesovo Beam 146.09 339 PKPdf 07 10 46.8 +0.1
ARU Arti 146.73 7 PKPbc PKPbc 07 10 48.6 -0.7
comp=Z,0.7nm,0.4s,baz=315,slow=3.9,SNR=5.3
CMAR Chiang Mai Arr 147.96 268 PKPbc PKiKP 07 10 54.8 -0.9
comp=Z,1.5nm,0.4s,baz=40,slow=1.5,SNR=5.7
BELG Belogornoye 148.20 20 PKPbc PKPbc 07 10 53.4 -0.1
comp=Z,18nm,1.0s,baz=232,slow=2.9,SNR=4.3
BRTR Keskin Array B 148.96 51 PKPbc PKPdf 07 10 53.8 +1.7
comp=Z,4.7nm,0.9s,baz=227,slow=2.9,SNR=9.8
AKTO Aktyubinsk 152.53 10 PKPbc PKPbc 07 11 04.0 0.0
comp=Z,0.7nm,0.4s,baz=130,slow=2.6,SNR=4.7
MKAR Makanchi Array 152.87 333 PKPbc PKPbc 07 11 03.1 -1.8
comp=Z,2.8nm,1.0s,baz=40,slow=4.0,SNR=8.3

IDC ***17*** *06:54:10.2±1.1,30.59S×72.01W,h0km,mb3.9/5, mb1 4.1/7,mb1mx3.8/26,mbtmp4.0/7,ML3.8/2,Error ellipse: s-maj=40.1km s-min=25.0km az=100.0*

ISC 17 06:54:12.6±1.1,30.6S±0.1×72.0W±0.3,h16km,n8,σ1.9s17/8, mb4.0/5,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**8.42**	**20**	Pn	**Pn**	**06 56 15.2**	**+0.9**
	2.6nm,0.3s,baz=176,slow=13,SNR=2.1						
SIV	**San Ignacio**	**17.64**	**37**	P	**Pn**	**06 58 16.7**	**-1.1**
	0.2nm,0.3s,baz=226,slow=12,SNR=6.9						
BDFB	**Brasilia**	**26.51**	**61**	P	**P**	**06 59 48.5**	**-1.2**
	2.7nm,0.8s,baz=214,slow=4.6,SNR=3.6						
SNAA	**Sanae**	**54.71**	**159**	P	**P**	**07 03 40.2**	**-0.5**
	1.4nm,0.8s,baz=285,slow=8.4,SNR=2.1						
QSPA	**South Pole Qui**	**59.62**	**180**	P	**P**	**07 04 16.0**	**+0.4**
	0.8nm,0.8s,baz=157,slow=7.7,SNR=1.8						
TXAR	**Lajitas Array**	**66.82**	**330**	P	**P**	**07 05 02.8**	**-0.8**
	0.4nm,0.8s,baz=150,slow=9.3,SNR=4.4						
TORD	**Torodi Ar. Bea**	**83.01**	**70**	P	**P**	**07 06 38.9**	**+1.3**
	1.5nm,0.7s,baz=257,slow=4.5,SNR=8.1						
ZALV	**Zalesovo Beam**	**151.28**	**29**	PKPbc	**PKiKP**	**07 14 06.0**	**+0.6**
	5.8nm,0.7s,baz=319,slow=2.5,SNR=12						

MEX 17 06:56:49.9±0.4,16.81N×100.81W,h30km±407km,MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**1.01**	**322**	*i* P	Pn	06 57 05.7	-2.3
ZIIG				*i* S	Sn	06 57 18.0	-3.2
DAIG	**Los Arroyos**	**1.13**	**79**	*i* P	Pn	06 57 07.8	-2.0
DAIG				*i* S	Sn	06 57 20.8	-3.6
MEIG	**Mezcala**	**1.59**	**46**	*i* P	Pn	06 57 13.9	-2.2
MEIG				*i* S	Sn	06 57 33.0	-2.7
MGIG	**Malinaltepec**	**2.13**	**78**	*i* P	Pb	06 57 25.9	-2.0
MGIG				*i* S	Sn	06 57 46.5	-2.6
PNIG	**Pinotepa**	**2.61**	**99**	*e*P	Pb	06 57 35.2	-0.9

IDC ***17*** *06:57:11.5±2.3,31.51S×72.18W,h0km,mb4.4/4, mb1 4.2/5,mb1mx3.8/24,mbtmp4.2/5,ML4.1/1,Error ellipse: s-maj=77.9km s-min=30.3km az=104.0*
NEIC ***17*** *06:57:15.2±1.8,31.61S±0.02×72.0W±0.1,h10km±1km, mb4.3/5,Error ellipse: s-maj=15.8km s-min=2.9km az=276.0*

ISC 17 06:57:14.9±1.0,31.58S±0.09×72.1W±0.2,h14km,n24, σ1.9 01/26,mb4.3/4,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.99**	**25**		**Pb**	**06 57 33.7**	**-0.2**
CO03	**El Pedregal**	**1.43**	**59**	Pn	**Pn**	**06 57 40.1**	**-0.4**
VA01	**Torpederas**	**1.49**	**165**		**Pn**	**06 57 40.8**	**-0.4**
VA03	**San Esteban**	**1.78**	**132**	Pn	**Pn**	**06 57 45.7**	**+0.4**

VA05	**Santo Domingo**	**2.11**	**169**	Pn		**Pn**	**06 57 49.1**	**-0.7**
MT05	**Renca**	**2.15**	**148**	Pn		**Pn**	**06 57 50.3**	**-0.1**
MT09	**Talagante**	**2.39**	**157**	Pn		**Pn**	**06 57 54.3**	**+0.6**
MT01	**Popeta**	**2.39**	**162**	Pn		**Pn**	**06 57 53.6**	**0.0**
BO01	**Tunca**	**2.94**	**163**	Pn		**Pn**	**06 58 01.2**	**+0.1**
AC04	**Llanos de Chal**	**3.48**	**15**	Pn		**Pn**	**06 58 09.6**	**+0.9**
LC01	**Cunco**	**7.30**	**179**			**Pn**	**06 59 00.6**	**-0.6**
PLCA	**Paso Flores**	**9.22**	**173**	Pn		**Pn**	**06 59 27.1**	**-0.4**
	0.5nm,0.3s,baz=342,slow=12,SNR=5.8							
PLCA	**Paso Flores**	**9.22**	**173**			**Pn**	**06 59 27.7**	**+0.2**
LL04	**Puerto Octay**	**9.31**	**181**	Pn		**Pn**	**06 59 27.3**	**-1.4**
LL05	**Los Muermos**	**9.87**	**186**	Pn		**Pn**	**06 59 35.0**	**-1.2**
SAML	**Samuel**	**24.00**	**22**	P		**P**	**07 02 29.3**	**0.0**
BDFB	**Brasilia**	**27.10**	**60**	P		**P**	**07 02 55.9**	**-1.7**
	4.6nm,0.9s,baz=191,slow=19,SNR=3.1							
SNAA	**Sanae**	**53.85**	**159**	P		**P**	**07 06 36.2**	**-0.8**
	1.2nm,0.8s,baz=318,slow=7.2,SNR=6.2							
SNAA	**Sanae**	**53.85**	**159**	P		**P**	**07 06 37.5**	**+0.5**
SNAA				IAmb		IAmb	07 06 46.3	
	comp=Z,4.4nm,1.2s							
QSPA	**South Pole Qui**	**58.65**	**180**	P		**P**	**07 07 14.1**	**+2.6**
DBIC	**Dimbokro**	**74.48**	**72**	P		**P**	**07 08 52.4**	**-0.8**
	comp=Z,3.6nm,0.6s,baz=234,slow=6.9,SNR=5.6							
TORD	**Torodi Ar. Bea**	**83.45**	**70**	P		**P**	**07 09 42.2**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=242,slow=3.1,SNR=14							
ZALV	**Zalesovo Beam**	**152.19**	**30**	PKPbc		**PKPbc**	**07 17 08.2**	**-1.3**
	comp=Z,3.4nm,0.6s,baz=300,slow=3.1,SNR=9.0							
ZALV	**Zalesovo Beam**	**152.19**	**30**	PKPdf		**PKPdf**	**07 17 04.0**	**+1.1**
ZALV						**sPKPdf**	**07 17 09.7**	**+1.8**
ZALV				PKPab		**PKPab**	**07 17 18.9**	**-0.4**

IDC 17 07:00:10.2±1.6, 30.58S×72.08W, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.5/24, mbtmp3.4/3, Error ellipse: s-maj=82.0km s-min=38.8km az=64.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SNAA	**Sanae**	**54.76**	**159**	P		P	07 09 41.2	-0.1
	0.4nm,0.7s,baz=256,slow=14,SNR=1.4							
TXAR	**Lajitas Array**	**66.75**	**330**	P		P	07 11 03.4	0.0
	0.1nm,0.5s,baz=163,slow=6.6,SNR=1.8							
TORD	**Torodi Ar. Bea**	**83.09**	**70**	P		P	07 12 38.2	0.0
	0.5nm,0.4s,baz=247,slow=4.6,SNR=1.8							
ZALV	**Zalesovo Beam**	**151.31**	**29**	PKPbc		PKPbc	07 20 05.1	-0.2
	2.0nm,0.6s,baz=304,slow=3.7,SNR=3.9							

*IDC **17** 07:00:58.0±0.5, 30.69S×71.73W, h0km, mb4.6/12, mb1 4.7/17, mb1mx4.5/29, mbtmp4.5/17, ML4.3/5, Error ellipse: s-maj=20.6km s-min=14.2km az=82.0*

*GUC **17** 07:01:00.9±0.6, 30.60S×71.75W, h33km±1km, ML5.1*

*NEIC **17** 07:01:01.3±1.8, 30.59S±0.04×71.92W±0.04, h17km±2km, mb4.8/53, Mwr4.5/37, ML5.1(GUC), Error ellipse: s-maj=6.5km s-min=5.5km az=188.0*

*NEIC **17** 07:01:01.1, 30.58S×71.92W, h28km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}4.65; $M_{\theta\theta}$1.35; $M_{\phi\phi}$-6.00; $M_{r\theta}$2.58; $M_{r\phi}$-0.70; $M_{\theta\phi}$-1.74; Fault plane solution: M_o6.31000×10^{15} NP1:ϕ_s159.30000°, δ59.30000°, λ56.84000°. NP2:ϕ_s31.30000°, δ43.96000°, λ132.66000°. Principal axes: T 6.3393, Plg60.0000°, Azm18.0000°; N -0.0539, Plg28.0000°, Azm178.0000°; P -6.2854, Plg9.0000°, Azm272.0000°;*

*SJA **17** 07:01:02.1±1.4, 30.61S×71.84W, h10km, ML4.7, MW4.4*

ISC 17 07:01:01.8±0.8, 30.67S±0.03×71.86W±0.05, h26km±5km, n155, σ1$40/167, mb4.8/30, 7C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.19**	**91**	*e*P		**Pb**	**07 01 07.1**	**-0.4**
CO06				*e*S		**Sb**	**07 01 11.6**	**+0.2**
CO06				IAML			07 01 11.8	
	comp=E,228μm,0.8s							
CO06	**Fray Jorge**	**0.19**	**91**			**Pb**	**07 01 07.4**	**-0.1**
CO06				Sg		**Sb**	**07 01 11.0**	**-0.4**
CO03	**El Pedregal**	**1.02**	**100**	*e*P		**Pn**	**07 01 18.9**	**-1.6**
CO03				*e*S		**Sb**	**07 01 33.0**	**-0.9**
CO03	**El Pedregal**	**1.02**	**100**	Pn		**Pn**	**07 01 19.7**	**-0.8**
GO04	**Tololo Observa**	**1.04**	**62**	*e*P		**Pn**	**07 01 19.7**	**-1.2**
GO04				*e*S		**Sb**	**07 01 33.3**	**-1.3**
GO04				IAML			07 01 39.4	
	comp=E,193μm,0.6s							
GO04	**Tololo Observa**	**1.04**	**62**			**Pn**	**07 01 20.6**	**-0.3**
GO04	**Tololo Observa**	**1.04**	**62**	*i* P		**Pn**	**07 01 20.6**	**-0.3**
GO04				*e*S		**Sn**	**07 01 36.5**	**+1.8**
LCO	**Las Campanas**	**1.94**	**32**	*e*P		**Pn**	**07 01 32.9**	**-0.3**
LCO				*e*S		**Sn**	**07 01 57.9**	**+1.0**
LCO	**Las Campanas**	**1.94**	**32**			**Pn**	**07 01 33.4**	**+0.2**
LCO	**Las Campanas**	**1.94**	**32**	*i* P		**Pn**	**07 01 34.0**	**+0.8**
LCO				*e*S		**Sb**	**07 02 02.0**	**+1.6**
LCO				IAML			07 02 04.7	
	comp=Z,20μm,0.6s							
AROD	**Rodeo**	**2.12**	**77**	*i* P		**Pb**	**07 01 39.0**	**-0.8**
AROD				*e*S		**Sb**	**07 02 06.6**	**+0.8**
VA01	**Torpederas**	**2.35**	**176**	*e*P		**Pn**	**07 01 41.2**	**+2.6**
VA01				*e*S		**Sb**	**07 02 11.4**	**-0.6**
VA01				IAML			07 02 19.1	
	comp=E,6μm,0.5s							
VA01	**Torpederas**	**2.35**	**176**			**Pb**	**07 01 42.0**	**-1.5**
VA03	**San Esteban**	**2.37**	**152**	*e*P		**Pn**	**07 01 40.7**	**+1.7**
VA03				*e*S		**Sb**	**07 02 10.9**	**-1.7**
VA03				IAML			07 02 19.3	
	comp=E,19μm,0.4s							
VA03	**San Esteban**	**2.37**	**152**			**Pn**	**07 01 41.5**	**+2.5**
ROCH	**El Roble**	**2.41**	**163**	*e*P		**Pn**	**07 01 42.0**	**+2.3**
ROCH				*e*S		**Sb**	**07 02 18.9**	**0.0**
ROCH				IAML			07 02 18.9	
	comp=E,11μm,0.6s							
ACCO	**Cerro Coronel**	**2.41**	**89**	*i* P		**Pb**	**07 01 44.0**	**-0.7**
ACCO				IAML			07 02 20.1	
	comp=Z,2μm,1.2s							
ACDV	**Cuesta del Vie**	**2.42**	**79**	*i* P		**Pb**	**07 01 44.0**	**-0.7**
ACDV				IAML			07 02 22.7	
	comp=Z,3μm,0.5s							
AC04	**Llanos de Chal**	**2.55**	**16**	*i* P		**Pn**	**07 01 41.2**	**-0.3**
AC04				*e*S		**Sn**	**07 02 12.7**	**+1.1**
AC04	**Llanos de Chal**	**2.55**	**16**	Pn		**Pn**	**07 01 41.0**	**-0.5**
AC04	**Llanos de Chal**	**2.55**	**16**	*i* P		**Pn**	**07 01 42.0**	**+0.6**
AC04				*e*S		**Sb**	**07 02 20.2**	**+2.4**
AC04				IAML			07 02 26.1	
	comp=Z,3μm,0.6s							
ZON	**Zonda**	**2.86**	**109**			**Pn**	**07 01 48.3**	**+2.5**
ZON	**Zonda**	**2.86**	**109**	*i* P		**Pb**	**07 01 50.0**	**-2.2**
ZON				IAML			07 02 39.8	
	comp=Z,2μm,0.5s							
MT05	**Renca**	**2.88**	**161**	*e*P		**Pn**	**07 01 48.3**	**+2.3**
MT05				*e*S		**Sb**	**07 02 24.6**	**-2.6**
MT05	**Renca**	**2.88**	**161**			**Pn**	**07 01 48.6**	**+2.6**
VA05	**Santo Domingo**	**2.99**	**176**	*e*P		**Pb**	**07 01 53.1**	**-1.2**
VA05				IAML			07 02 35.5	
	comp=E,8μm,0.4s							
VA05	**Santo Domingo**	**2.99**	**176**			**Pn**	**07 01 48.7**	**+1.3**
RTCV	**Cerro Valdivia**	**3.08**	**114**	*i* P		**Pb**	**07 01 53.0**	**-2.9**
RTCV				IAML			07 02 43.6	
	comp=Z,572nm,2.0s							
AGUA	**GUANDACOL**	**3.15**	**69**	*i* P		**Pb**	**07 01 54.2**	**-3.0**
AGUA				IAML			07 02 47.3	
	comp=Z,1μm,0.5s							
MT09	**Talagante**	**3.18**	**167**			**Pn**	**07 01 51.5**	**+1.2**
MT01	**Popeta**	**3.23**	**171**	*e*P		**Pn**	**07 01 54.0**	**+3.3**
MT01				IAML			07 02 43.7	
	comp=E,4μm,0.4s							
MT01	**Popeta**	**3.23**	**171**			**Pn**	**07 01 53.7**	**+3.0**
MT01	**Popeta**	**3.23**	**171**	*i* P		**Pb**	**07 01 57.0**	**-1.4**
MT01				*e*S		**Sb**	**07 02 39.4**	**+2.2**
MT01				IAML			07 02 45.4	
	comp=Z,2μm,0.9s							
ARCO	**CERRO ARCO**	**3.30**	**132**	*i* P		**Pb**	**07 01 57.0**	**-2.8**
ARCO				IAML			07 02 50.8	
	comp=Z,3μm,0.6s							
GO03	**Copiap**	**3.38**	**25**	*e*P		**Pn**	**07 01 52.6**	**-0.3**
GO03				*e*S		**Sn**	**07 02 32.6**	**+0.4**
GO03				IAML			07 02 50.2	
	comp=N,2μm,0.5s							
GO03	**Copiap**	**3.38**	**25**			**Pn**	**07 01 53.5**	**+0.6**
GO03	**Copiap**	**3.38**	**25**	*i* P		**Pn**	**07 01 54.0**	**+1.1**
LMEL	**Las Melosas**	**3.46**	**157**	*e*P		**Pn**	**07 01 55.6**	**+1.4**
LMEL				IAML			07 02 52.4	
	comp=E,4μm,0.4s							
VCA	**Vinchina**	**3.72**	**60**	*i* P		**Pn**	**07 02 02.0**	**+4.3**
VCA				IAML			07 03 09.4	
	comp=Z,2μm,0.7s							
BO01	**Tunca**	**3.77**	**170**	*e*P		**Pn**	**07 02 00.6**	**+2.4**
BO01				*e*S		**Sn**	**07 02 44.5**	**+2.8**
BO01				IAML			07 03 09.8	
	comp=N,1μm,0.5s							
BO01	**Tunca**	**3.77**	**170**			**Pn**	**07 01 59.8**	**+1.6**
BO01	**Tunca**	**3.77**	**170**	*i* P		**Pb**	**07 02 05.0**	**-2.6**
BO01				IAML			07 03 04.2	
	comp=Z,2μm,0.6s							
GO05	**Huala**	**4.33**	**181**			**Pn**	**07 02 06.6**	**+0.7**
ACHE	**Chepes**	**4.49**	**98**	*i* P		**Pn**	**07 02 12.0**	**+3.7**
AC02	**Maricunga**	**4.51**	**33**			**Pn**	**07 02 10.3**	**+1.4**
RFA	**San Rafael**	**4.99**	**146**	*i* P		**Pn**	**07 02 18.0**	**+3.0**
RFA				IAML			07 03 43.8	
	comp=Z,497nm,0.9s							
ML02	**Panimavida**	**5.09**	**176**			**Pn**	**07 02 16.6**	**+0.2**
MRA	**San Martin**	**5.53**	**110**	*i* P		**Pn**	**07 02 25.0**	**+2.6**
MRA				IAML			07 04 01.4	
	comp=Z,474nm,0.7s							
CYA	**Choya**	**5.72**	**69**	*i* P		**Pn**	**07 02 28.0**	**+2.9**
CYA				IAML			07 04 02.2	
	comp=Z,413nm,0.7s							
PB14	**IPOC Station P**	**6.16**	**12**	Pn		**Pn**	**07 02 28.7**	**-2.6**
H03N1	**Juan Fernandez**	**6.59**	**243**	T		T	07 09 31.1	
	baz=72,slow=72,SNR=229							
H03N2	**Juan Fernandez**	**6.61**	**243**	T		T	07 09 31.8	
	baz=72,slow=72,SNR=292							
H03N3	**Juan Fernandez**	**6.61**	**243**	T		T	07 09 30.4	
	baz=72,slow=72,SNR=254							
VA04	**Juan Fernndez**	**6.61**	**242**	Pn		**Pn**	**07 02 35.0**	**-2.3**
CANA	**Caviahue**	**7.23**	**175**	*i* P		Pn	07 02 51.0	+5.1
LC01	**Cunco**	**8.21**	**180**	Pn		**Pn**	**07 02 59.5**	**+0.3**
LVC	**Limon Verde**	**8.45**	**19**	Pn		**Pn**	**07 03 00.8**	**-2.1**
	comp=Z,0.8nm,0.3s,baz=162,slow=19,SNR=0.7							
PLCA	**Paso Flores**	**10.10**	**174**	Pn		**Pn**	**07 03 24.6**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=345,slow=12,SNR=7.1							
PLCA	**Paso Flores**	**10.10**	**174**	Pn		**Pn**	**07 03 25.6**	**+0.5**
LL04	**Puerto Octay**	**10.23**	**182**			**Pn**	**07 03 27.3**	**+0.5**
TRQA	**Tornquist**	**10.99**	**135**	Pn		**Pn**	**07 03 39.1**	**+1.8**
ITQB	**Itaqui**	**13.22**	**90**	Pn		**Pn**	**07 04 09.6**	**+1.8**
CPUP	**Villa Florida**	**13.49**	**75**	Pn		**Pn**	**07 04 10.4**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=326,slow=14,SNR=1.9							
LPAZ	**La Paz**	**14.72**	**14**	Pn		**Pn**	**07 04 29.1**	**+0.3**
	comp=Z,1.2nm,0.3s,baz=185,slow=6.9,SNR=20							
LPAZ	**La Paz**	**14.72**	**14**	Pn		**Pn**	**07 04 27.1**	**-1.7**
SIV	**San Ignacio**	**17.63**	**36**	P		**Pn**	**07 05 05.1**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=224,slow=11,SNR=30							
NNA	**Nana**	**19.16**	**345**	P		**Pn**	**07 05 25.9**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=206,slow=9.4,SNR=2.0							
SAML	**Samuel**	**23.08**	**22**	P		**P**	**07 06 04.5**	**-0.9**
SAML				IAmb		IAmb	07 06 07.7	
	comp=Z,17nm,0.9s							
BDFB	**Brasilia**	**26.46**	**61**	P		**P**	**07 06 36.0**	**-0.9**
	comp=Z,13nm,0.8s,baz=221,slow=8.4,SNR=13							
BDFB	**Brasilia**	**26.46**	**61**	P		**P**	**07 06 35.8**	**-1.1**
BDFB				IAmb		IAmb	07 06 48.0	
	comp=Z,19nm,0.7s							
FLOC	**Florencia**	**32.28**	**353**	P		**P**	**07 07 28.8**	**+0.3**
FLOC				IAmb		IAmb	07 07 46.0	
	comp=Z,9.4nm,1.1s							
PMSA	**Palmer Station**	**34.47**	**174**	P		**P**	**07 07 48.2**	**+1.2**
PMSA				IAmb		IAmb	07 07 59.1	
	comp=Z,13nm,1.2s							
RUSC	**La Rusia**	**36.37**	**358**	P		**P**	**07 08 05.0**	**+0.5**
RUSC				IAmb		IAmb	07 08 07.2	
	comp=Z,29nm,1.1s							
SDV	**Santo Domingo**	**39.35**	**2**	P		**P**	**07 08 28.6**	**-0.7**
SDV				IAmb		IAmb	07 08 33.6	
	comp=Z,20nm,1.3s							
JTS	**Las Juntas de**	**42.62**	**341**	P		**P**	**07 08 57.9**	**+1.8**
	comp=Z,5.1nm,0.9s,baz=343,slow=7.9,SNR=4.0							
JTS	**Las Juntas de**	**42.62**	**341**	IAmb		IAmb	07 08 59.3	
	comp=Z,9.2nm,1.1s							
MLPR	**Magueyes Islan**	**48.58**	**6**	P		**P**	**07 09 42.7**	**-0.3**
CRPR	**Cabo Rojo, PR**	**48.61**	**6**	P		**P**	**07 09 43.0**	**-0.3**
OBIP	**Obispado Ponce**	**48.69**	**7**	P		**P**	**07 09 42.3**	**-1.7**
PDPR	**Patillas Dam,**	**48.73**	**7**	P		**P**	**07 09 42.8**	**-1.4**
SJG	**San Juan**	**48.81**	**7**	P		**P**	**07 09 43.1**	**-1.7**
CBYP	**Canovanas**	**49.00**	**8**	P		**P**	**07 09 45.3**	**-1.0**
GCPR	**Guaynabo City**	**49.01**	**7**	P		**P**	**07 09 45.2**	**-1.2**
VNA3	**Neumayer Olymp**	**52.39**	**159**	P		**P**	**07 10 11.7**	**+0.4**
VNA1	**Neumayer--Stat**	**52.68**	**158**	P		**P**	**07 10 13.9**	**+0.5**
VNA2	**Neumayer--Watz**	**53.03**	**158**	P		**P**	**07 10 16.5**	**+0.5**
	baz=286,slow=8.6							
SNAA	**Sanae**	**54.61**	**159**	P		**P**	**07 10 27.9**	**+0.2**
SNAA	**Sanae**	**54.61**	**159**	P		**P**	**07 10 27.7**	**0.0**
	comp=Z,11nm,0.8s,baz=284,slow=6.7,SNR=36							
SNAA	**Sanae**	**54.61**	**159**	P		**P**	**07 10 27.4**	**-0.3**
SNAA				IAmb		IAmb	07 10 28.9	
	comp=Z,14nm,1.0s							
QSPA	**South Pole Qui**	**59.56**	**180**	P		**P**	**07 11 03.4**	**+0.6**
	comp=Z,5.1nm,0.6s,baz=152,slow=1.2,SNR=31							
QSPA	**South Pole Qui**	**59.56**	**180**	P		**P**	**07 11 03.4**	**+0.6**
QSPA				IAmb		IAmb	07 11 04.5	
	comp=Z,9.1nm,1.0s							
TXAR	**Lajitas Array**	**66.92**	**330**	P		**P**	**07 11 52.9**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=153,slow=8.0,SNR=14							
TXAR	**Lajitas Array**	**66.92**	**330**	P		**P**	**07 11 52.0**	**0.0**
TX31	**Lajitas Ar. Si**	**66.92**	**330**	P		**P**	**07 11 52.4**	**+0.5**
TX31				IAmb		IAmb	07 12 10.6	
	comp=Z,9.6nm,1.2s							
TX32	**Lajitas Array**	**66.92**	**330**	P		**P**	**07 11 52.4**	**+0.4**
MNTX	**Cornudas Mount**	**69.70**	**330**	P		**P**	**07 12 09.0**	**-0.2**
HHAR	**Hobbs**	**69.75**	**341**	P		**P**	**07 12 08.8**	**-0.6**
HHAR				IAmb		IAmb	07 12 11.6	
	comp=Z,5.9nm,1.1s							
CCM	**Cathedral Cave**	**70.73**	**344**	P		**P**	**07 12 15.1**	**-0.2**
CCM				IAmb		IAmb	07 12 17.1	
	comp=Z,5.2nm,0.9s							
R40A	**Maddies Statio**	**71.20**	**343**	P		**P**	**07 12 17.3**	**-0.9**
R40A				IAmb		IAmb	07 12 19.4	
	comp=Z,8.3nm,1.0s							
ACSO	**Alum Creek Sta**	**71.30**	**351**	P		**P**	**07 12 18.8**	**0.0**
ACSO				IAmb		IAmb	07 12 20.2	
	comp=Z,12nm,0.9s							
P40A	**Paris**	**72.32**	**344**	P		**P**	**07 12 24.4**	**-0.5**
P40A				IAmb		IAmb	07 12 26.3	
	comp=Z,7.6nm,0.8s							
LIC	**Lamto**	**73.60**	**72**	*e*PKP2		**P**	**07 12 33.3**	**+0.2**
	comp=Z,89nm,1.6s							
TIC	**Toumodi**	**73.84**	**72**	*e*PKP2		**P**	**07 12 34.7**	**+0.2**
KIC	**Kosan Boka**	**73.91**	**72**	*e*PKP2		**P**	**07 12 34.4**	**-0.5**
	comp=Z,17nm,0.7s							
DBIC	**Dimbokro**	**73.99**	**72**	P		**P**	**07 12 35.1**	**-0.3**
	comp=Z,7.0nm,0.4s,baz=237,slow=6.1,SNR=19							
DBIC	**Dimbokro**	**73.99**	**72**	IAmb		IAmb	07 12 36.1	
	comp=Z,12nm,0.6s							
L40A	**Anamosa**	**74.54**	**345**	P		**P**	**07 12 37.7**	**-0.2**
L40A				IAmb		IAmb	07 12 38.9	
	comp=Z,10nm,0.8s							
BGNE	**Belgrade**	**75.72**	**340**	P		**P**	**07 12 44.3**	**-0.5**
SUR	**Sutherland**	**76.32**	**120**	P		**P**	**07 12 49.7**	**+0.9**
	comp=Z,15nm,0.9s,baz=216,slow=7.1,SNR=8.0							
SUR	**Sutherland**	**76.32**	**120**	IAmb		IAmb	07 12 52.1	
	comp=Z,53nm,1.2s							
MAW	**Mawson**	**76.32**	**164**	P		**P**	**07 12 48.5**	**+0.5**
	comp=Z,7.7nm,0.5s,baz=218,slow=7.4,SNR=52							
MAW	**Mawson**	**76.32**	**164**	P		**P**	**07 12 48.0**	**+0.1**
ECSD	**EROS Data Cent**	**77.44**	**342**	P		**P**	**07 12 54.7**	**+0.2**
ECSD				IAmb		IAmb	07 12 55.9	
	comp=Z,7.1nm,1.0s							
KNB	**Kanab**	**77.50**	**327**	P		**P**	**07 12 55.1**	**-0.1**
RDMU	**Red Mountain**	**79.02**	**332**	P		**P**	**07 13 03.6**	**0.0**
JLU	**Jordanelle**	**79.83**	**330**	P		**P**	**07 13 07.8**	**-0.2**
HWUT	**Hardware Ranch**	**80.72**	**331**	P		**P**	**07 13 12.3**	**-0.3**
PDAR	**Pinedale Array**	**80.87**	**333**	P		**P**	**07 13 13.7**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=142,slow=7.5,SNR=5.9							
NVAR	**Mina Array Bea**	**81.25**	**325**	P		**P**	**07 13 17.1**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=168,slow=5.4,SNR=3.4							
HVU	**Hansel Valley**	**81.37**	**330**	P		**P**	**07 13 16.6**	**+0.5**
BOSA	**Boshof**	**81.49**	**118**	P		**P**	**07 13 16.9**	**-0.3**
	comp=Z,14nm,1.1s,baz=273,slow=3.8,SNR=9.9							
BOSA	**Boshof**	**81.49**	**118**	IAmb		IAmb	07 13 17.6	
	comp=Z,11nm,1.0s							
BOSA				P		P	**07 13 17.9**	**+0.6**
ELK	**Elko**	**81.62**	**328**	P		**P**	**07 13 18.0**	**+0.5**
TORD	**Torodi Ar. Bea**	**82.94**	**70**	P		**P**	**07 13 24.3**	**-0.5**
	comp=Z,4.7nm,0.7s,baz=275,slow=5.7,SNR=33							
TORD	**Torodi Ar. Bea**	**82.94**	**70**	P		**P**	**07 13 24.8**	**+0.1**
TORD				IAmb		IAmb	07 13 25.4	
	comp=Z,12nm,1.2s							
CASY	**Casey**	**83.34**	**181**	P		**P**	**07 13 26.8**	**+0.8**
CASY				IAmb		IAmb	07 13 28.3	
	comp=Z,8.6nm,1.1s							
HLID	**Hailey**	**83.52**	**330**	P		**P**	**07 13 27.7**	**+0.4**
LBTB	**Lobatse**	**83.57**	**115**	P		**P**	**07 13 28.6**	**+0.5**
DGMT	**Dagmar**	**83.94**	**339**	P		**P**	**07 13 29.3**	**+0.2**
DGMT				IAmb		IAmb	07 13 31.9	
	comp=Z,9.6nm,0.8s							
J08A	**Circle Bar Ran**	**85.16**	**328**	P		**P**	**07 13 35.5**	**0.0**
J08A				IAmb		IAmb	07 13 38.4	
	comp=Z,6.0nm,1.0s							
AKASG	**Malin Array Be**	**119.81**	**46**	PKP		**PKPdf**	**07 19 48.2**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=256,slow=3.1,SNR=2.1							
ASAR	**Alice Springs**	**120.59**	**208**	PKP		**PKPdf**	**07 19 50.5**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=128,slow=1.5,SNR=5.8							
ASAR				PKKPbc		**PKKPbc**	**07 29 56.9**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=343,slow=2.9,SNR=4.1							
WRA	**Warramunga Arr**	**123.73**	**210**	PKP		**PKPdf**	**07 19 56.9**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=166,slow=2.0,SNR=12							
H11S2	**WAKE ISLAND Hyl**	**125.91**	**271**	T		T	09 38 45.9	
	baz=114							
H11S1	**WAKE ISLAND Hyl**	**125.92**	**271**	T		T	09 38 46.9	
	baz=114							
H11S3	**WAKE ISLAND Hyl**	**125.92**	**271**	T		T	09 38 47.3	
	baz=114							
KLMR	**Klimovskoe**	**126.61**	**35**	*e*PKPdf		**PKPdf**	**07 19 57.8**	**-4.1**
KLMR				AMP			07 20 02.9	
	comp=Z,12nm,1.4s							
SEY	**Seymchan**	**137.20**	**332**	PKP		**PKiKP**	**07 20 22.9**	**-0.8**
	comp=Z,1.5nm,0.2s,baz=18,slow=20,SNR=4.7							
AKTO	**Aktyubinsk**	**138.03**	**47**	PKP		**PKPdf**	**07 20 24.2**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=277,slow=4.5,SNR=2.2							
CHGR	**Chuyangaron**	**147.16**	**65**			**PKPdf**	**07 20 41.1**	**+0.7**
KKAR	**Karatay Array**	**147.71**	**57**			**PKPbc**	**07 20 43.6**	**-0.4**
GAR	**Garm**	**148.04**	**65**			**PKPdf**	**07 20 43.4**	**+1.5**
TOLI2	**Tolitoli**	**148.25**	**205**			**PKPbc**	**07 20 44.8**	**-1.4**
KURBB	**Kurchatov Arra**	**150.28**	**39**	PKPbc		**PKPbc**	**07 20 50.5**	**+0.3**
	comp=Z,6.0nm,0.8s,baz=299,slow=3.1,SNR=6.2							
ZALV	**Zalesovo Beam**	**151.29**	**29**	PKP		**PKPdf**	**07 20 46.0**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=266,slow=4.3,SNR=2.5							
ZALV				PKPbc		**PKPbc**	**07 20 52.4**	**0.0**
	comp=Z,23nm,0.8s,baz=294,slow=3.2,SNR=31							
ZALV				PKPab		**PKPab**	**07 21 00.7**	**+0.2**
	comp=Z,7.3nm,0.6s,baz=300,slow=2.9,SNR=4.6							
KSH	**Kashi**	**152.36**	**63**	PKPbc		**PKPdf**	**07 20 47.8**	**-0.9**
KSH				pPKP		PKPbc	07 20 55.6	+0.1
KLR	**Kul'dur**	**154.27**	**323**	PKP		**PKPdf**	**07 20 51.1**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=0.0,slow=1.0,SNR=3.7							
MJAR	**Matsushiro Arr**	**154.34**	**291**	PKPab		**PKPab**	**07 21 15.3**	**+1.3**
	comp=Z,1.0nm,0.3s,baz=104,slow=2.7,SNR=2.5							
MKAR	**Makanchi Array**	**154.36**	**44**	PKPbc		**PKPbc**	**07 20 59.0**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=318,slow=1.6,SNR=8.6							
MKAR				PKPab		**PKPab**	**07 21 13.4**	**-0.3**
	com

comp=Z,1.1nm,1.0s

IDC 17 07:11:49.2±2.4,30.78S×71.83W,h0km,mb4.0/5, mb1 3.9/8,mb1mx3.8/28,mbtmp3.9/8,ML3.7/2,MS4.0/1, Ms1 4.0/1,ms1mx3.6/30,Error ellipse: s-maj=82.8km s-min=22.5km az=107.0

NEIC 17 07:11:53.9±2.2,30.89S±0.04×71.68W±0.07,h25km±7km, mb4.1/4, ML4.5(GUC),Error ellipse: s-maj=8.7km s-min=5.6km az=100.0

GUC 17 07:11:53.0±0.6,30.85S×71.63W,h39km±4km, ML4.4

ISC 17 07:11:53.9±1.0,30.84S±0.03×71.70W±0.06,h29km±7km, n46,σ1§26/53,mb4.0/5,1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.17**	**18**	**i/P**		**Pn**	**07 12 00.4**	**-0.1**
CO06				*eS*		**Sb**	**07 12 04.4**	**+0.8**
CO06				IAML			07 12 05.0	
	comp=E,130μm,0.3s							
CO06	**Fray Jorge**	**0.17**	**18**			**Pn**	**07 12 00.4**	**-0.1**
CO06						**Sb**	**07 12 04.5**	**+0.8**
CO03	**El Pedregal**	**0.86**	**90**	*eP*		**Pn**	**07 12 09.8**	**-0.5**
CO03				*eS*		**Sb**	**07 12 21.2**	**-0.5**
CO03	**El Pedregal**	**0.86**	**90**			**Pn**	**07 12 09.7**	**-0.5**
CO03				Sn		**Sb**	**07 12 20.0**	**-1.8**
GO04	**Tololo Observa**	**1.02**	**50**	*eP*		**Pb**	**07 12 12.6**	**-0.5**
GO04				*eS*		**Sb**	**07 12 25.9**	**-0.3**
GO04				IAML			07 12 30.4	
	comp=N,37μm,0.5s							
GO04	**Tololo Observa**	**1.02**	**50**	Pn		**Pb**	**07 12 13.0**	**-0.1**
LCO	**Las Campanas**	**2.01**	**26**	*eP*		**Pn**	**07 12 27.3**	**+1.2**
LCO				*eS*		**Sn**	**07 12 51.4**	**+0.9**
LCO	**Las Campanas**	**2.01**	**26**			**Pn**	**07 12 27.8**	**+1.6**
VA03	**San Esteban**	**2.15**	**153**	*eP*		**Pb**	**07 12 31.0**	**-1.3**
VA03				*eS*		**Sb**	**07 12 56.4**	**-2.2**
VA03				IAML			07 13 04.9	
	comp=N,3μm,0.5s							
VA03	**San Esteban**	**2.15**	**153**			**Pn**	**07 12 25.5**	**-2.5**
VA01	**Torpederas**	**2.18**	**179**	*eP*		**Pn**	**07 12 28.2**	**0.0**
VA01	**Torpederas**	**2.18**	**179**	Pn		**Pn**	**07 12 27.7**	**-0.5**
ROCH	**El Roble**	**2.21**	**165**	*eP*		**Pn**	**07 12 29.8**	**+1.0**
ROCH				*eS*		**Sn**	**07 12 56.7**	**+1.5**
ROCH				IAML			07 13 03.5	
	comp=E,1μm,0.4s							
MT05	**Renca**	**2.67**	**163**	*eP*		**Pn**	**07 12 36.5**	**+1.4**
MT05				*eS*		**Sn**	**07 13 07.9**	**+1.4**
MT05				IAML			07 13 21.5	
	comp=E,2μm,0.4s							
MT05	**Renca**	**2.67**	**163**	Pn		**Pn**	**07 12 36.3**	**+1.2**
AC04	**Llanos de Chal**	**2.68**	**12**	*eP*		**Pn**	**07 12 35.2**	**+0.2**
AC04				*eS*		**Sn**	**07 13 06.0**	**-0.5**
AC04	**Llanos de Chal**	**2.68**	**12**	Pn		**Pn**	**07 12 35.1**	**+0.1**
VA05	**Santo Domingo**	**2.81**	**179**	*eP*		**Pn**	**07 12 37.1**	**+0.2**
VA05				*eS*		**Sn**	**07 13 09.1**	**-0.7**
VA05				IAML			07 13 23.8	
	comp=E,1μm,0.3s							
VA05	**Santo Domingo**	**2.81**	**179**	Pn		**Pn**	**07 12 35.4**	**-1.5**
MT09	**Talagante**	**2.99**	**169**	*eP*		**Pn**	**07 12 40.8**	**+1.3**
MT09				*eS*		**Sn**	**07 13 16.3**	**+1.9**
MT09				IAML			07 13 34.0	
	comp=N,757nm,0.3s							
MT09	**Talagante**	**2.99**	**169**	Pn		**Pn**	**07 12 40.6**	**+1.1**
MT01	**Popeta**	**3.04**	**173**	*eP*		**Pn**	**07 12 40.5**	**+0.5**
MT01				*eS*		**Sn**	**07 13 18.2**	**+2.7**
MT01				IAML			07 13 31.0	
	comp=E,651nm,0.4s							
MT01	**Popeta**	**3.04**	**173**	Pn		**Pn**	**07 12 40.6**	**+0.5**
LMEL	**Las Melosas**	**3.26**	**158**	*eP*		**Pn**	**07 12 45.6**	**+2.4**
LMEL				*eS*		**Sn**	**07 13 24.2**	**+3.2**
LMEL				IAML			07 13 26.9	
	comp=N,662nm,0.1s							
GO03	**Copiap**	**3.47**	**22**	Pn		**Pn**	**07 12 46.5**	**+0.5**
GO05	**Huala**	**4.17**	**183**	Pn		**Pn**	**07 12 54.3**	**-1.2**
H03N1	**Juan Fernandez**	**6.65**	**245**	T		T	07 20 18.7	
	baz=70,slow=72							
VA04	**Juan Fernndez**	**6.66**	**243**	Pn		**Pn**	**07 13 28.9**	**-0.8**
H03N3	**Juan Fernandez**	**6.66**	**245**	T		T	07 20 18.0	
	baz=70,slow=72							
H03N2	**Juan Fernandez**	**6.66**	**245**	T		T	07 20 20.6	
	baz=70,slow=72							
LC01	**Cunco**	**8.04**	**181**	Pn		**Pn**	**07 13 46.8**	**-2.0**
LVC	**Limon Verde**	**8.56**	**18**	Pn		**Pn**	**07 13 54.1**	**-2.1**
	baz=167,slow=3.1,SNR=1.0							
LVC				LR		LR	07 17 05.6	
	comp=N,1μm,21.0s,baz=356,slow=37							
PLCA	**Paso Flores**	**9.92**	**175**	Pn		**Pn**	**07 14 14.8**	**+0.3**
	comp=N,0.2nm,0.3s,baz=21,slow=20,SNR=1.4							
SIV	**San Ignacio**	**17.68**	**36**	P		**P**	**07 15 58.6**	**-0.3**
	comp=N,0.2nm,0.3s,baz=224,slow=11,SNR=7.4							
BDFB	**Brasilia**	**26.42**	**60**	P		**P**	**07 17 29.2**	**+1.0**
	comp=N,1.3nm,0.5s,baz=225,slow=7.1,SNR=3.2							
SNAA	**Sanae**	**54.41**	**159**	P		**P**	**07 21 17.9**	**0.0**
	comp=N,0.9nm,0.5s,baz=270,slow=11,SNR=2.8							
SNAA	**Sanae**	**54.41**	**159**	IAmb		IAmb	07 21 25.8	
	comp=Z,2.8nm,1.2s							
QSPA	**South Pole Qui**	**59.39**	**180**	P		**P**	**07 21 54.0**	**+0.6**
	comp=Z,0.8nm,0.9s,baz=120,slow=3.7,SNR=1.7							
QSPA	**South Pole Qui**	**59.39**	**180**	P		**P**	**07 21 53.9**	**+0.5**
DBIC	**Dimbokro**	**73.91**	**72**	P		**P**	**07 23 26.7**	**+0.1**
	comp=Z,4.4nm,0.9s,baz=208,slow=2.1,SNR=2.0							
TORD	**Torodi Ar. Bea**	**82.86**	**70**	P		**P**	**07 24 16.1**	**0.0**
	comp=Z,0.8nm,0.4s,baz=252,slow=4.7,SNR=12							
TORD	**Torodi Ar. Bea**	**82.86**	**70**	P		**P**	**07 24 16.4**	**+0.4**
TORD				IAmb		IAmb	07 24 16.8	
	comp=Z,0.9nm,0.8s							
H11S2	**WAKE ISLAND Hyl**	**26.05**	**271**	T		T	09 49 39.3	
	baz=115,slow=75,SNR=12							
H11S1	**WAKE ISLAND Hyl**	**26.06**	**271**	T		T	09 49 35.0	
	baz=115,slow=75,SNR=12							
H11S3	**WAKE ISLAND Hyl**	**26.07**	**271**	T		T	09 49 38.8	
	baz=115,slow=75,SNR=15							
ZALV	**Zalesovo Beam**	**151.37**	**29**	PKPab		**PKPab**	**07 31 52.5**	**0.0**
	comp=Z,0.7nm,0.3s,baz=310,slow=3.4,SNR=1.6							

IDC 17 07:12:22.2±3.1,11.28S×110.96E,h0km,mb3.4/3, mb1 3.6/4,mb1mx3.4/53,mbtmp3.4/4,ML3.0/1,Error ellipse: s-maj=145.2km s-min=28.7km az=44.0,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**15.73**	**117**	Pn		Pn	07 16 05.2	-0.1
	0.1nm,0.3s,baz=298,slow=8.2,SNR=1.4							
FITZ				Sn		Sn	07 18 50.4	-10
	0.1nm,0.3s,baz=154,slow=18,SNR=1.5							
WRA	**Warramunga Arr**	**24.09**	**114**	P		P	07 17 38.6	-1.1
	0.5nm,0.8s,baz=285,slow=11,SNR=4.7							
ASAR	**Alice Springs**	**25.07**	**122**	P		P	07 17 49.2	+0.6
	0.4nm,0.5s,baz=297,slow=9.3,SNR=6.3							
H08S2	**Diego Garcia H**	**38.09**	**272**	T		T	08 00 40.5	
	baz=98							
H08S3	**Diego Garcia H**	**38.10**	**272**	T		T	08 00 49.0	
	baz=98							
H08S1	**Diego Garcia H**	**38.11**	**272**	T		T	08 00 51.3	
	baz=98							
MKAR	**Makanchi Array**	**63.24**	**338**	P		P	07 22 52.9	+0.4
	0.5nm,0.6s,baz=142,slow=7.7,SNR=2.0							

IDC 17 07:17:19.0±0.9,31.60S×71.48W,h0km,mb4.0/6, mb1 4.0/10,mb1mx3.8/36,mbtmp3.9/10,ML3.7/4,Error ellipse: s-maj=44.0km s-min=18.7km az=97.0

NEIC 17 07:17:23.8±1.4,31.56S±0.04×71.9W±0.1,h32km±7km, mb4.3/8,Error ellipse: s-maj=13.6km s-min=5.7km az=100.0

ISC 17 07:17:22.5±0.6,31.56S±0.06×71.68W±0.10,h25km,n34, σ0§93/35,mb4.1/6,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.88**	**2**			**Pn**	**07 17 40.3**	**+1.0**
CO03	**El Pedregal**	**1.11**	**50**			**Pb**	**07 17 43.3**	**+0.1**
VA01	**Torpederas**	**1.46**	**179**			**Pn**	**07 17 47.5**	**+0.2**
VA03	**San Esteban**	**1.53**	**142**			**Pn**	**07 17 49.9**	**+1.4**
GO04	**Tololo Observa**	**1.57**	**29**			**Pb**	**07 17 50.9**	**-0.2**
MT05	**Renca**	**1.99**	**157**			**Pn**	**07 17 56.0**	**+1.4**
VA05	**Santo Domingo**	**2.09**	**179**			**Pn**	**07 17 56.6**	**+0.6**
MT09	**Talagante**	**2.29**	**165**			**Pn**	**07 17 60.0**	**+1.2**
MT01	**Popeta**	**2.33**	**171**			**Pn**	**07 18 00.7**	**+1.4**
ZON	**Zonda**	**2.56**	**90**			**Pb**	**07 18 06.4**	**-1.4**
BO01	**Tunca**	**2.87**	**170**			**Pn**	**07 18 08.1**	**+1.5**
GO05	**Huala**	**3.45**	**183**	Pn		**Pn**	**07 18 14.5**	**-0.2**
GO03	**Copiap**	**4.15**	**18**	Pn		**Pn**	**07 18 25.4**	**+1.1**
ML02	**Panimavida**	**4.20**	**177**			**Pn**	**07 18 25.8**	**+0.9**
PLCA	**Paso Flores**	**9.20**	**175**	Pn		**Pn**	**07 19 33.5**	**-0.2**
	0.3nm,0.3s,baz=309,slow=11,SNR=4.5							
LVC	**Limon Verde**	**9.25**	**16**	Pn		**Pn**	**07 19 33.4**	**-1.3**
	0.9nm,0.3s,baz=128,slow=16,SNR=2.3							
TRQA	**Tornquist**	**10.27**	**132**			**Pn**	**07 19 50.4**	**+2.1**
LPAZ	**La Paz**	**15.54**	**13**	Pn		**Pn**	**07 21 01.4**	**+0.8**
	0.1nm,0.3s,baz=171,slow=7.5,SNR=3.7							
SIV	**San Ignacio**	**18.27**	**34**	P		**P**	**07 21 33.9**	**-0.5**
	0.2nm,0.3s,baz=213,slow=9.3,SNR=5.7							
PTGA	**Pitinga**	**32.60**	**22**	P		**P**	**07 23 51.8**	**-0.4**
SNAA	**Sanae**	**53.73**	**159**	P		**P**	**07 26 41.9**	**-0.3**
	0.6nm,0.8s,baz=282,slow=9.7,SNR=6.3							
SNAA	**Sanae**	**53.73**	**159**	P		**P**	**07 26 42.1**	**0.0**
SNAA				IAmb		IAmb	07 26 53.1	
	comp=Z,3.6nm,1.2s							
QSPA	**South Pole Qui**	**58.67**	**180**	P		**P**	**07 27 18.0**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=240,slow=1.0,SNR=7.3							
QSPA	**South Pole Qui**	**58.67**	**180**	P		**P**	**07 27 18.2**	**+0.6**
QSPA				IAmb		IAmb	07 27 37.4	
	comp=Z,6.2nm,1.4s							
DBIC	**Dimbokro**	**74.12**	**72**	P		**P**	**07 28 56.3**	**-0.7**
	comp=Z,2.5nm,0.6s,baz=226,slow=6.8,SNR=4.9							
MAW	**Mawson**	**75.43**	**164**	P		**P**	**07 29 03.7**	**0.0**
	comp=Z,0.5nm,0.4s,baz=243,slow=14,SNR=2.2							
NVAR	**Mina Array Bea**	**82.06**	**325**	P		**P**	**07 29 42.3**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=169,slow=6.0,SNR=2.8							
TORD	**Torodi Ar. Bea**	**83.09**	**70**	P		**P**	**07 29 45.9**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=256,slow=4.7,SNR=10							
TORD	**Torodi Ar. Bea**	**83.09**	**70**	P		**P**	**07 29 46.1**	**-0.4**
TORD				IAmb		IAmb	07 29 47.6	
	comp=Z,2.2nm,0.8s							
WRA	**Warramunga Arr**	**123.03**	**209**	PKP		**PKPdf**	**07 36 16.2**	**-1.2**
	comp=Z,0.6nm,1.0s,baz=159,slow=1.9,SNR=1.6							
BVAR	**Borovoye Array**	**145.26**	**41**	PKPbc		**PKPdf**	**07 36 57.9**	**+0.3**
	comp=Z,2.0nm,0.5s,baz=255,slow=5.7,SNR=12							
KURBB	**Kurchatov Arra**	**150.85**	**41**	PKPbc		**PKPbc**	**07 37 12.5**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=299,slow=3.0,SNR=5.2							
AAK	**Ala-Archa**	**151.02**	**58**	PKPbc		**PKiKP**	**07 37 13.9**	**0.0**
	comp=Z,0.6nm,0.3s,baz=220,slow=6.9,SNR=4.0							
ZALV	**Zalesovo Beam**	**151.99**	**30**	PKPbc		**PKPbc**	**07 37 14.9**	**0.0**
	comp=Z,4.7nm,0.5s,baz=302,slow=3.5,SNR=15							
ZALV				PKPab		**PKPab**	**07 37 24.8**	**+0.5**
	comp=Z,2.9nm,0.7s,baz=316,slow=4.1,SNR=6.3							

IDC 17 07:17:58.8±0.8,31.50S×71.60W,h0km,mb4.2/7, mb1 4.2/10,mb1mx4.0/34,mbtmp4.1/10,ML3.8/3,Error ellipse: s-maj=30.7km s-min=21.1km az=98.0

NEIC 17 07:18:03.4±1.4,31.45S±0.04×71.66W±0.08,h22km±6km, mb4.5/13,Error ellipse: s-maj=10.5km s-min=5.7km az=108.0

ISC 17 07:18:02.5±0.7,31.50S±0.08×71.6W±0.1,h25km,n30, σ1§11/29,mb4.4/8,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.82**	**0**	Pn		**Pn**	**07 18 18.3**	**-0.2**
CO06				Sn		**Sn**	**07 18 29.4**	**-0.4**
CO03	**El Pedregal**	**1.04**	**51**	Pn		**Pb**	**07 18 22.6**	**+0.6**
LCO	**Las Campanas**	**2.61**	**18**			**Pn**	**07 18 42.6**	**-0.8**
GO03	**Copiap**	**4.08**	**18**			**Pn**	**07 19 04.1**	**+0.8**
AC02	**Maricunga**	**5.14**	**26**			**Pn**	**07 19 18.7**	**+0.4**
LVC	**Limon Verde**	**9.18**	**16**	Pn		**Pn**	**07 20 12.4**	**-1.3**
	0.6nm,0.3s,baz=211,slow=5.9,SNR=1.6							
LPAZ	**La Paz**	**15.47**	**13**	Pn		**Pn**	**07 21 40.1**	**+0.3**
	0.2nm,0.3s,baz=208,slow=7.5,SNR=5.2							
SIV	**San Ignacio**	**18.20**	**34**	P		**Pn**	**07 22 13.4**	**-0.1**
	0.4nm,0.3s,baz=240,slow=8.4,SNR=5.1							
SAML	**Samuel**	**23.77**	**21**	P		**P**	**07 23 13.4**	**+0.2**
BDFB	**Brasilia**	**26.70**	**59**	P		**P**	**07 23 39.2**	**-0.9**
	5.8nm,0.8s,baz=213,slow=7.4,SNR=5.5							
BDFB	**Brasilia**	**26.70**	**59**	IAmb		IAmb	07 23 41.2	
	comp=Z,10nm,1.1s							
SNAA	**Sanae**	**53.78**	**159**	P		**P**	**07 27 22.8**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=293,slow=6.8,SNR=5.5							
SNAA	**Sanae**	**53.78**	**159**	IAmb		IAmb	07 27 23.7	
	comp=Z,3.0nm,0.9s							
QSPA	**South Pole Qui**	**58.73**	**180**	P		**P**	**07 27 58.6**	**+0.5**
	comp=Z,3.5nm,1.1s,baz=144,slow=4.0,SNR=4.6							
QSPA	**South Pole Qui**	**58.73**	**180**	IAmb		IAmb	07 28 00.9	
	comp=Z,8.1nm,1.2s							
TXAR	**Lajitas Array**	**67.73**	**330**	P		**P**	**07 28 58.1**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=153,slow=7.1,SNR=4.7							
WVT	**Waverly**	**68.97**	**346**	P		**P**	**07 29 05.2**	**-0.3**
WVT				IAmb		IAmb	07 29 06.2	
	comp=Z,4.8nm,0.8s							
HALT	**Halls**	**69.08**	**345**	P		**P**	**07 29 08.3**	**+2.2**
DBIC	**Dimbokro**	**74.06**	**72**	P		**P**	**07 29 36.9**	**+0.2**
	comp=Z,9.9nm,0.8s,baz=225,slow=5.2,SNR=5.5							
NVAR	**Mina Array Bea**	**82.03**	**325**	P		**P**	**07 30 21.4**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=139,slow=5.4,SNR=3.6							
TORD	**Torodi Ar. Bea**	**83.04**	**70**	P		**P**	**07 30 26.1**	**-0.1**
	comp=Z,5.6nm,0.8s,baz=256,slow=5.7,SNR=20							
TORD	**Torodi Ar. Bea**	**83.04**	**70**	IAmb		IAmb	07 30 27.1	
	comp=Z,5.3nm,0.8s							
WRA	**Warramunga Arr**	**123.10**	**209**	PKP		**PKPdf**	**07 36 56.4**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=164,slow=2.3,SNR=2.3							
SEY	**Seymchan**	**138.02**	**332**	PKP		**PKPdf**	**07 37 24.9**	**+0.6**
	comp=Z,1.8nm,0.2s,baz=0.0,slow=20,SNR=3.8							
BVAR	**Borovoye Array**	**145.19**	**41**	PKPbc		**PKPab**	**07 37 37.7**	**+0.5**
	comp=Z,3.1nm,0.3s,baz=265,slow=3.9,SNR=15							
KURBB	**Kurchatov Arra**	**150.78**	**40**	PKPbc		**PKPbc**	**07 37 52.4**	**+0.1**
	comp=Z,3.4nm,0.7s,baz=300,slow=3.0,SNR=16							
AAK	**Ala-Archa**	**150.96**	**58**	PKPbc		**PKPbc**	**07 37 53.8**	**+0.6**
	comp=Z,2.1nm,0.5s,baz=246,slow=2.6,SNR=5.8							
ZALV	**Zalesovo Beam**	**151.91**	**30**	PKPbc		**PKPbc**	**07 37 54.8**	**0.0**
	comp=Z,16nm,0.5s,baz=296,slow=3.1,SNR=28							
ZALV				PKPab		**PKPab**	**07 38 04.0**	**-0.1**
	comp=Z,5.3nm,0.5s,baz=312,slow=3.2,SNR=7.3							
KSH	**Kashi**	**152.56**	**64**	PKPbc		**PKPdf**	**07 37 45.5**	**-4.4**
MKAR	**Makanchi Array**	**154.81**	**45**	PKPbc		**PKPbc**	**07 38 01.1**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=289,slow=3.7,SNR=6.7							
MKAR				PKPab		**PKPab**	**07 38 16.9**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=291,slow=6.0,SNR=4.3							

IDC 17 07:18:52.9±0.5,31.81S×71.96W,h0km,mb4.6/15, mb1 4.6/18,mb1mx4.5/32,mbtmp4.5/18,ML4.4/3,MS4.4/2, Ms1 4.4/2,ms1mx3.9/27,Error ellipse: s-maj=22.0km s-min=13.3km az=88.0

NEIC 17 07:18:55.8,31.78S×71.97W,h17km,Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr0.94; Mθθ-0.12; Mϕϕ-0.82; Mrθ0.40; Mϕϕ-0.40; Mθϕ-1.02; Fault plane solution: M0 1.47000×10^16 NP1:ϕs44.37000°, δ29.03000°,λ135.75000°. NP2:ϕs174.78000°,δ70.21000°, λ68.32000°. Principal axes: T 1.5781, Plg59.0000°, Azm54.0000°; N -0.2528, Plg20.0000°, Azm182.0000°; P -1.3252, Plg22.0000°, Azm281.0000°;

NEIC 17 07:18:55.4±1.1,31.78S±0.04×72.0W±0.1,h13km±3km, mb4.8/59,Ms_20 4.7/27,Mwr4.7/38 Error ellipse: s-maj=13.4km s-min=5.7km az=90.0

ISC 17 07:18:55.6±0.4,31.79S±0.05×71.96W±0.10,h17km,n124, σ0§73/105,mb4.8/37,MS4.8/16,1C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**1.15**	**14**	Pn		**Pn**	**07 19 15.9**	**-0.9**
VA01	**Torpederas**	**1.26**	**168**	Pn		**Pb**	**07 19 18.9**	**+0.1**
CO03	**El Pedregal**	**1.44**	**49**	Pn		**Pb**	**07 19 22.4**	**+0.4**
VA03	**San Esteban**	**1.54**	**130**	Pn		**Pn**	**07 19 22.5**	**+0.1**
GO05	**Huala**	**3.21**	**180**			**Pn**	**07 19 47.2**	**+1.9**
LC01	**Cunco**	**7.09**	**179**	Pn		**Pn**	**07 20 38.8**	**+0.2**
PB14	**IPOC Station P**	**7.27**	**11**	Pn		**Pn**	**07 20 42.5**	**+1.2**
PLCA	**Paso Flores**	**9.00**	**173**	Pn		**Pn**	**07 21 04.0**	**-0.8**
	1.7nm,0.3s,baz=331,slow=11,SNR=10							
PLCA				LR		LR	07 23 55.4	
	comp=Z,1μm,21.9s,baz=253,slow=34							
PLCA	**Paso Flores**	**9.00**	**173**	Pn		**Pn**	**07 21 04.7**	**-0.1**
LL04	**Puerto Octay**	**9.11**	**182**			**Pn**	**07 21 08.0**	**+1.8**
LL05	**Los Muermos**	**9.67**	**187**	Pn		**Pn**	**07 21 12.5**	**-1.5**
TRQA	**Tornquist**	**10.30**	**130**	Pn		**Pn**	**07 21 23.3**	**+0.7**
LL02	**Futaleuf**	**11.38**	**180**	Pn		**Pn**	**07 21 38.1**	**+0.8**
LPAZ	**La Paz**	**15.82**	**14**	Pn		**Pn**	**07 22 39.3**	**+1.1**
	0.6nm,0.3s,baz=216,slow=8.9,SNR=8.6							
LPAZ	**La Paz**	**15.82**	**14**	Pn		**Pn**	**07 22 38.2**	**0.0**
AQDB	**Aquidauana**	**18.41**	**56**	P		**P**	**07 23 08.3**	**-1.7**
SIV	**San Ignacio**	**18.59**	**35**	P		**P**	**07 23 11.4**	**-0.6**
	0.3nm,0.3s,baz=231,slow=11,SNR=6.6							
TRCB	**Terra Rica**	**19.35**	**67**	P		**P**	**07 23 19.6**	**-0.8**
TRCB				IAmb		IAmb	07 23 27.2	
	comp=Z,58nm,0.6s							
NNA	**Nana**	**20.22**	**346**	P		Pn	07 23 31.4	-0.5
	comp=Z,7.5nm,0.8s,baz=197,slow=14,SNR=2.4							
SPB	**Sao Paulo**	**23.16**	**75**	P		**P**	**07 24 01.4**	**+0.1**
SAML	**Samuel**	**24.15**	**22**	P		**P**	**07 24 11.4**	**+0.5**
BDFB	**Brasilia**	**27.09**	**59**	P		**P**	**07 24 37.0**	**-0.7**
	comp=Z,32nm,0.9s,baz=238,slow=10,SNR=15							
BDFB	**Brasilia**	**27.09**	**59**	P		**P**	**07 24 37.0**	**-0.7**
BDFB				IAmb		IAmb	07 24 39.5	
	comp=Z,30nm,0.8s							
RUSC	**La Rusia**	**37.49**	**358**	P		**P**	**07 26 08.5**	**-0.5**
RUSC				IAmb		IAmb	07 26 11.1	
	comp=Z,16nm,0.9s							
MDP	**Montagnes des**	**41.05**	**30**	P		**P**	**07 26 38.0**	**-0.2**
	comp=Z,11nm,0.7s,baz=211,slow=6.0,SNR=5.9							
SRBA	**San Rafael, Bu**	**42.22**	**343**	P		**P**	**07 26 49.4**	**+1.4**
JTS	**Las Juntas de**	**43.65**	**341**	IAMs_20		IAMs_20	07 43 57.3	
	comp=Z,566nm,21.0s							
SJG	**San Juan**	**49.93**	**7**	P		**P**	**07 27 48.1**	**-0.3**
	comp=Z,12nm,0.7s,baz=235,slow=4.3,SNR=5.1							
SJG	**San Juan**	**49.93**	**7**	IAmb		IAmb	07 27 48.6	
	comp=Z,19nm,0.9s							
VNA3	**Neumayer Olymp**	**51.38**	**158**	P		**P**	**07 27 59.2**	**+0.3**
VNA1	**Neumayer--Stat**	**51.68**	**158**	P		**P**	**07 28 01.5**	**+0.3**
VNA2	**Neumayer--Watz**	**52.02**	**158**	P		**P**	**07 28 04.0**	**+0.2**
	baz=289,slow=8.4							
GRTK	**Grand Turk**	**53.00**	**1**	IAMs_20		IAMs_20	07 51 01.2	
	comp=Z,493nm,22.0s							
CMIG	**Matias Romero**	**53.35**	**332**	P		**P**	**07 28 13.8**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=198,slow=9.6,SNR=2.3							
SNAA	**Sanae**	**53.60**	**158**	P		**P**	**07 28 15.5**	**0.0**
SNAA	**Sanae**	**53.60**	**158**	P		**P**	**07 28 15.5**	**0.0**
	comp=Z,14nm,0.8s,baz=283,slow=6.3,SNR=26							
SNAA				LR		LR	07 50 01.6	
	comp=Z,1μm,21.2s,baz=248,slow=35							
SNAA	**Sanae**	**53.60**	**158**	P		**P**	**07 28 15.5**	**0.0**
QSPA	**South Pole Qui**	**58.44**	**180**	P		**P**	**07 28 50.4**	**+0.1**
	comp=Z,7.7nm,0.7s,baz=136,slow=3.0,SNR=18							
QSPA	**South Pole Qui**	**58.44**	**180**	P		**P**	**07 28 50.5**	**+0.3**
QSPA				IAmb		IAmb	07 29 03.2	
	comp=Z,12nm,0.9s							
BRAL	**Brewton**	**64.23**	**346**	IAMs_20		IAMs_20	07 50 41.5	
	comp=Z,740nm,19.0s							
HKT	**Hockley**	**65.45**	**337**	IAMs_20		IAMs_20	07 51 08.2	
	comp=Z,564nm,19.0s							
VNDA	**Vanda**	**66.28**	**191**	P		**P**	**07 29 43.3**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=131,slow=7.3,SNR=4.7							
HPIG		**66.66**	**327**	P		**P**	**07 29 45.7**	**0.0**
HPIG				IAmb		IAmb	07 29 56.5	
	comp=Z,3.5nm,0.7s							
JCT	**Junction City**	**67.33**	**334**	P		**P**	**07 29 49.1**	**-0.5**
JCT				IAmb		IAmb	07 30 01.7	
	comp=Z,13nm,1.2s							
JCT				IAMs_20		IAMs_20	07 53 54.6	
	comp=Z,382nm,18.0s							
TXAR	**Lajitas Array**	**67.85**	**330**	P		**P**	**07 29 53.3**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=152,slow=8.3,SNR=23							
TX31	**Lajitas Ar. Si

comp=Z,16nm,0.7s,baz=262,slow=4.7,SNR=37
TORD Torodi Ar. Bea 83.40 70 P P 07 31 22.2 -0.1
MCMT McKenzie Canyo 84.85 332 P P 07 31 29.9 +0.5
OUZ Omahuta 89.29 228 IAMs_20 IAMs_20 08 06 51.4
comp=Z,488nm,22.0s
MBAR Mbarara 100.47 97 IAMs_20 IAMs_20 08 10 57.5
comp=Z,394nm,21.0s
BNI Bardonecchia 104.53 46 IAMs_20 IAMs_20 08 18 56.9
comp=Z,311nm,21.0s
ASAR Alice Springs 119.56 207 PKP PKPdf 07 37 43.1 -1.9
comp=Z,0.5nm,0.7s,baz=147,slow=2.6,SNR=5.6
ASAR PKKPbc **PKKPbc 07 47 55.4 -0.2**
comp=Z,0.2nm,0.7s,baz=343,slow=3.3,SNR=4.7
AKASG Malin Array Be 120.64 46 PKP PKPdf 07 37 44.9 -1.1
comp=Z,0.3nm,0.3s,baz=261,slow=2.5,SNR=5.8
WRA Warramunga Arr 122.72 210 PKP PKPdf 07 37 49.7 -1.5
comp=Z,1.3nm,0.6s,baz=163,slow=1.3,SNR=15
H11S2 WAKE ISLAND Hyl 25.86 271 T T 09 55 56.7
baz=116,slow=75,SNR=5.9
H11S1 WAKE ISLAND Hyl 25.86 271 T T 09 55 53.3
baz=116,slow=75,SNR=22
H11S3 WAKE ISLAND Hyl 25.86 271 T T 09 55 50.3
baz=116,slow=75,SNR=19
H11N3 WAKE ISLAND Hyl 26.20 272 T T 09 56 13.3
baz=116,slow=75,SNR=4.6
H11N1 WAKE ISLAND Hyl 26.22 272 T T 09 56 16.6
baz=116,slow=75,SNR=4.4
H11N2 WAKE ISLAND Hyl 26.22 272 T T 09 56 17.0
baz=116,slow=75,SNR=23
ARU Arti 138.01 39 PKP PKPdf 07 38 19.3 +0.5
comp=Z,1.8nm,0.2s,baz=300,slow=20,SNR=3.8
BVAR Borovoye Array 145.59 41 PKPbc PKPab 07 38 33.4 +0.4
comp=Z,6.2nm,0.6s,baz=227,slow=7.9,SNR=16
HYB Hyderabad 149.73 111 *i* PKP **PKPbc 07 38 45.0 -0.1**
KURBB Kurchatov Arra 151.19 41 PKPbc PKiKP 07 38 47.7 -0.4
comp=Z,8.1nm,0.7s,baz=299,slow=3.1,SNR=22
KURK Kurchatov 151.19 40 PKiKP PKiKP 07 38 47.7 -0.4
AAK Ala-Archa 151.34 58 PKPbc PKiKP 07 38 49.2 +0.3
comp=Z,9.6nm,0.8s,baz=257,slow=8.8,SNR=14
ZALV Zalesovo Beam 152.30 30 PKPbc PKiKP 07 38 50.2 -0.1
comp=Z,7.8nm,0.6s,baz=299,slow=3.4,SNR=11
ZALV PKPab **PKPab 07 38 59.9 -0.1**
comp=Z,10nm,0.5s,baz=312,slow=3.3,SNR=12
MKAR Makanchi Array 155.22 45 PKPab PKPab 07 39 12.9 +0.3
comp=Z,2.6nm,0.8s,baz=291,slow=3.8,SNR=7.9
WMQ Urumqi 159.99 47 *eP* **PKPdf 07 38 53.6 -0.1**
WMQ pmax pmax
comp=Z,210nm,6.5s
SONM Songino Array 163.93 4 PKPab PKPab 07 39 51.4 +1.0
comp=Z,0.8nm,0.7s,baz=343,slow=3.0,SNR=3.8
HHC Hu-ho-hao-te 170.53 344 *eP* **PKPdf 07 38 59.8 -2.9**
HHC LR LR
comp=N,190nm,18.9s
HHC LR LR
comp=E,230nm,19.0s
HHC LR LR
comp=Z,290nm,19.7s

*IDC **17** 07:20:25.3±2.8, 32.46S×178.35W, h0km, mb4.2/2, mb1 4.4/4, mb1mx3.9/38, mbtmp4.2/4, ML4.0/2, Error ellipse: s-maj=69.3km s-min=30.6km az=121.0*
*WEL **17** 07:20:27.1±0.8, 32°S±10'×17°9W±2°7, h33km, M4.2/12, mB4.6/7, ML4.9/12, MLv4.6/12, Mw(mB)3.8/7, Error ellipse: s-maj=0.0km s-min=0.0km az=109.9*
ISC 17 07:20:23.1±2.1, 32.72S±0.10×177.6W±0.3, h21km, n30, σ2s25/50, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.45**	**356**	P			**Pn**	**07 21 13.8**	**-1.8**
GLKZ				S			**Sn**	**07 21 53.2**	**-2.6**
RAO	**Raoul Island**	**3.46**	**356**	Pn			**Pn**	**07 21 17.0**	**+1.3**
	22nm,0.3s,baz=150,slow=20,SNR=1.6								
RAO				Sn			**Sn**	**07 21 54.4**	**-1.7**
	67nm,0.3s,baz=130,slow=17,SNR=3.2								
RIZ	**Raoul Island**	**3.47**	**356**	S			**Sn**	**07 21 54.0**	**-2.3**
MXZ	**Matakaoa Point**	**5.86**	**213**	P			**Pn**	**07 21 52.3**	**+3.7**
MXZ				S			**Sn**	**07 22 55.6**	**+0.4**
PKGZ	**Pakihiroa**	**6.23**	**213**	P			**Pn**	**07 21 55.3**	**+1.4**
PKGZ				S			**Sn**	**07 23 04.0**	**-0.5**
HAZ	**Te Kaha**	**6.27**	**215**	P			**Pn**	**07 21 55.3**	**+1.1**
HAZ				S			**Sn**	**07 23 07.0**	**+1.8**
PUZ	**Puketiti**	**6.30**	**211**	P			**Pn**	**07 21 54.9**	**+0.1**
PUZ				S			**Sn**	**07 23 06.1**	**-0.1**
RUGZ	**Raukumara Rang**	**6.48**	**215**	P			**Pn**	**07 21 57.8**	**+0.5**
RUGZ				S			**Sn**	**07 23 12.0**	**+1.3**
TWGZ	**Tauwhareparae**	**6.51**	**212**	P			**Pn**	**07 21 57.8**	**+0.1**
TWGZ				S			**Sn**	**07 23 15.8**	**+1.5**
CNGZ	**Carnagh Statio**	**6.67**	**209**	P			**Pn**	**07 21 59.5**	**-0.3**
CNGZ				S			**Sn**	**07 23 16.6**	**+1.4**
MWZ	**Matawai**	**6.85**	**214**	P			**Pn**	**07 22 01.2**	**-1.0**
MWZ				S			**Sn**	**07 23 18.8**	**-0.8**
URZ	**Urewera**	**6.99**	**216**	Pn			**Pn**	**07 22 05.4**	**+1.3**
	1.7nm,0.3s,baz=300,slow=20,SNR=9.6								
URZ				Sn			**Sn**	**07 23 21.3**	**-1.7**
	7.2nm,0.3s,baz=64,slow=22,SNR=11								
RAHZ	**Arahi**	**7.52**	**213**	P			**Pn**	**07 22 13.4**	**+1.9**
RAHZ				S			**Sn**	**07 23 34.1**	**-2.1**
WHHZ	**Waihua**	**7.58**	**212**	P			**Pn**	**07 22 15.9**	**+3.6**
WHHZ				S			**Sn**	**07 23 37.6**	**0.0**
MTHZ	**Maungataniwha**	**7.58**	**215**	P			**Pn**	**07 22 15.8**	**+3.2**
MTHZ				S			**Sn**	**07 23 37.8**	**0.0**
NMHZ	**Naumai**	**7.80**	**214**	P			**Pn**	**07 22 18.5**	**+3.2**
NMHZ				S			**Sn**	**07 23 43.0**	**0.0**
ARHZ	**Aropaoanui**	**7.84**	**212**	P			**Pn**	**07 22 15.0**	**-0.9**
ARHZ				S			**Sn**	**07 23 42.8**	**-1.2**
BKZ	**Black Stump Fm**	**8.00**	**215**	P			**Pn**	**07 22 19.9**	**+1.8**
BKZ				S			**Sn**	**07 23 43.9**	**-4.0**
MCHZ	**McNeill Hill**	**8.12**	**213**	P			**Pn**	**07 22 21.2**	**+1.4**
MCHZ				S			**Sn**	**07 23 48.8**	**-2.2**
CKHZ	**Cape Kidnapper**	**8.13**	**210**	S			**Sn**	**07 23 47.4**	**-3.7**
KWHZ	**Kaweka Forest**	**8.24**	**214**	P			**Sn**	**07 23 51.3**	**-2.4**
KAHZ	**Kahuranaki**	**8.33**	**211**	P			**Pn**	**07 22 20.9**	**-1.8**
KAHZ				P			**Sn**	**07 23 51.4**	**-4.7**
KRHZ	**Kereru**	**8.44**	**213**	P			**Pn**	**07 22 23.4**	**-0.7**
BHHZ	**Black Hill Sta**	**8.46**	**215**	P			**Pn**	**07 22 26.5**	**+2.1**
BHHZ				S			**Sn**	**07 23 56.4**	**-2.8**
PNHZ	**Pukenui**	**8.73**	**213**	P			**Sn**	**07 24 01.8**	**-4.1**
WPHZ	**Waipukurau**	**8.74**	**211**	P			**Sn**	**07 24 01.4**	**-4.8**
ANWZ	**Angora Road**	**9.06**	**210**	S			**Sn**	**07 24 09.9**	**-3.9**
ASAR	**Alice Springs**	**43.34**	**269**	P			**P**	**07 28 24.8**	**+0.9**
	1.6nm,0.6s,baz=108,slow=7.5,SNR=30								
WRA	**Warramunga Arr**	**44.53**	**274**	P			**P**	**07 28 34.0**	**+0.5**
	1.7nm,0.3s,baz=112,slow=7.9,SNR=36								
FINES	**FINESS Array B**	**147.41**	**339**	PKPbc			**PKiKP**	**07 40 08.3**	**+1.7**
	1.4nm,0.6s,baz=48,slow=2.1,SNR=7.8								

IDC 17 07:25:23.0±1.5, 30.53S×72.34W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/31, mbtmp4.0/4, Error ellipse: s-maj=57.7km s-min=42.0km az=56.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**66.59**	**330**	P			P	07 36 15.2	0.0
	0.3nm,0.6s,baz=159,slow=8.6,SNR=2.8								
DBIC	**Dimbokro**	**74.34**	**72**	P			P	07 37 02.5	-0.3
	6.3nm,0.9s,baz=231,slow=4.9,SNR=3.8								
MAW	**Mawson**	**75.58**	**164**	P			P	07 37 14.8	0.0
	0.9nm,0.6s,baz=203,slow=7.7,SNR=2.4								
TORD	**Torodi Ar. Bea**	**83.29**	**71**	P			P	07 37 52.4	+0.4
	1.1nm,0.7s,baz=252,slow=4.5,SNR=5.7								
ZALV	**Zalesovo Beam**	**151.37**	**29**	PKPbc			PKPbc	07 45 17.9	-0.3
	1.5nm,0.6s,baz=308,slow=3.5,SNR=4.4								

*NNC **17** 07:25:30.7±1.0, 50.03N×78.73E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=19.9km s-min=5.3km az=76.0, Suspected Mining explosion.*
*IDC **17** 07:25:31.3±1.0, 50.08N×78.74E, h0km, mb1 2.7/2, mb1mx2.7/43, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=13.8km s-min=6.8km az=65.0*
ISC 17 07:25:31.7±1.0, 50.05N±0.06×78.78E±0.07, h0km, n8, σ1s14/11, 6C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.59**	**345**	Pg			**Pg**	**07 25 41.9**	**-1.2**
	2.0nm,0.3s,baz=165,slow=18,SNR=67								
KURBB				Lg			Lg	07 25 50.9	
	1.7nm,0.3s,baz=164,slow=31,SNR=10.0								
KURBB	**Kurchatov Arra**	**0.59**	**345**	⇑P			**Pg**	**07 25 42.2**	**-0.9**
	21nm,0.4s								
KURBB				⇓S			**Sg**	**07 25 51.5**	**+0.8**
	22nm,0.3s								
MAKZ	**Makanchi**	**3.88**	**146**	⇓Pn			**Pn**	**07 26 34.4**	**+1.7**
	4.1nm,0.6s								
MAKZ				⇓Lg			Lg	07 27 28.8	
	7.1nm,0.7s								
MK31	**Makanchi Array**	**4.01**	**143**	⇑Pn			**Pn**	**07 26 34.2**	**-0.3**
	0.1nm,0.2s,baz=163,slow=38,SNR=35								
MK31				⇑Pg			**Pb**	**07 26 43.6**	**+0.3**
	1.4nm,0.5s,baz=326,slow=14,SNR=10								
MK31				⇓Lg			Lg	07 27 36.7	
	4.2nm,0.5s,baz=326,slow=27,SNR=12								
MKAR	**Makanchi Array**	**4.01**	**143**	Pn			**Pn**	**07 26 34.4**	**-0.1**
	0.2nm,0.3s,baz=321,slow=10,SNR=43								
MKAR				Pg			**Pb**	**07 26 42.5**	**-0.8**
	0.6nm,0.3s,baz=322,slow=14,SNR=9.7								
MKAR				Lg			Lg	07 27 34.1	
	1.2nm,0.3s,baz=328,slow=30,SNR=9.6								
OTUK	**Ortayu**	**4.60**	**249**	⇑Pn			**Pn**	**07 26 41.5**	**-1.0**
	1.6nm,0.5s								
OTUK				⇑Pg			**Pb**	**07 26 54.3**	**+1.0**
	0.6nm,0.3s								
OTUK				⇑Lg			Lg	07 27 54.7	
	2.0nm,0.5s								
ZALV	**Zalesovo Beam**	**5.40**	**41**	Pn			**Pn**	**07 26 54.8**	**+1.4**
	0.5nm,0.3s,baz=229,slow=14,SNR=7.6								
I46RU	**ZALESOVO INFRA**	**5.40**	**41**	*i*				07 58 10.0	
	baz=224,slow=324,SNR=1.5								

*IDC **17** 07:27:09.1±1.2, 30.55S×72.71W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.7/32, mbtmp3.9/3, MS4.5/1, Ms1 4.5/1, ms1mx3.7/27, Error ellipse: s-maj=69.9km s-min=36.4km az=66.0*
*NEIC **17** 07:27:11.4±1.1, 30.51S±0.07×72.57W±0.03, h11km±5km, mb4.3/4, Error ellipse: s-maj=10.0km s-min=1.8km az=194.0*
ISC 17 07:27:12.4±0.9, 30.53S±0.07×72.55W±0.07, h19km, n16, σ1s08/15, mb4.0/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.80**	**100**	Pg			**Pb**	**07 27 27.3**	**-0.4**
CO06							**Sb**	**07 27 38.0**	**-0.1**
GO04	**Tololo Observa**	**1.56**	**77**	Pn			**Pn**	**07 27 38.0**	**-1.3**
GO04				Sn			**Sn**	**07 27 59.7**	**+0.6**
CO03	**El Pedregal**	**1.63**	**101**	Pn			**Pn**	**07 27 39.9**	**-0.2**
MT01	**Popeta**	**3.50**	**162**	Pn			**Pn**	**07 28 04.2**	**-1.6**
GO03	**Copiap**	**3.56**	**35**	Pn			**Pn**	**07 28 05.2**	**-1.5**
AC02	**Maricunga**	**4.75**	**40**	Pn			**Pn**	**07 28 23.5**	**0.0**
PMSA	**Palmer Station**	**34.67**	**174**	P			**P**	**07 34 00.3**	**-0.1**
MDP	**Montagnes des**	**40.23**	**32**	LR			LR	07 51 01.2	
	comp=Z,599nm,20.9s,baz=214,slow=36								
SNAA	**Sanae**	**54.96**	**159**	P			**P**	**07 36 42.2**	**+0.4**
	1.2nm,0.5s,baz=291,slow=8.4,SNR=3.7								
SNAA	**Sanae**	**54.96**	**159**	IAmb			IAmb	07 36 44.5	
	comp=Z,4.9nm,1.2s								
QSPA	**South Pole Qui**	**59.69**	**180**	P			**P**	**07 37 17.6**	**+2.2**
TXAR	**Lajitas Array**	**66.51**	**331**	P			**P**	**07 38 00.8**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=147,slow=8.7,SNR=4.0								
TORD	**Torodi Ar. Bea**	**83.46**	**71**	P			**P**	**07 39 39.6**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=256,slow=5.0,SNR=3.5								
TORD	**Torodi Ar. Bea**	**83.46**	**71**	IAmb			IAmb	07 39 41.3	
	comp=Z,1.4nm,0.8s								
WRA	**Warramunga Arr**	**123.54**	**211**	PKP			**PKPdf**	**07 46 07.9**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=152,slow=1.8,SNR=1.7								
ZALV	**Zalesovo Beam**	**151.46**	**28**	PKPbc			**PKiKP**	**07 47 04.5**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=290,slow=4.3,SNR=4.6								

*IDC **17** 07:27:57.9±0.6, 31.54S×71.58W, h0km, mb4.4/13, mb1 4.6/17, mb1mx4.4/36, mbtmp4.4/17, ML4.1/4, Error ellipse: s-maj=22.3km s-min=16.9km az=68.0*
*SJA **17** 07:28:00.5±0.7, 31.48S×71.94W, h20km±13km, ML4.9, MW4.5*
*NEIC **17** 07:28:04.1±1.1, 31.51S±0.04×71.62W±0.07, h38km±5km, Error ellipse: s-maj=8.3km s-min=5.1km az=77.0*
*GUC **17** 07:28:04.3±0.5, 31.50S×71.58W, h46km±3km, ML4.8*
ISC 17 07:28:04.1±0.9, 31.49S±0.03×71.70W±0.06, h42km±8km, n168, σ1s22/138, mb4.9/36, MS4.8/43, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.82**	**4**	*eP*			**Pn**	**07 28 19.7**	**+0.5**
CO06				eS			**Sn**	**07 28 31.3**	**+1.2**
CO06				IAML				07 28 33.9	
	comp=E,30μm,0.2s								
CO06	**Fray Jorge**	**0.82**	**4**	Pn			**Pn**	**07 28 19.9**	**+0.7**
CO06				Sn			**Sn**	**07 28 31.1**	**+1.0**
CO03	**El Pedregal**	**1.08**	**53**	*eP*			**Pn**	**07 28 22.7**	**-0.2**
CO03				eS			**Sn**	**07 28 36.4**	**-0.4**
CO03				IAML				07 28 39.3	
	comp=E,29μm,0.6s								
CO03	**El Pedregal**	**1.08**	**53**	Pn			**Pn**	**07 28 22.4**	**-0.5**
CO03				Sn			**Sn**	**07 28 36.1**	**-0.7**
GO04	**Tololo Observa**	**1.53**	**31**	*eP*			**Pn**	**07 28 29.8**	**+0.7**
GO04				eS			**Sn**	**07 28 49.3**	**+1.5**
GO04				IAML				07 28 55.2	
	comp=N,44μm,0.6s								
GO04	**Tololo Observa**	**1.53**	**31**				**Pn**	**07 28 28.3**	**-0.8**
VA01	**Torpederas**	**1.53**	**178**				**Pn**	**07 28 29.6**	**+0.8**
ROCH	**El Roble**	**1.59**	**159**	⇑*eP*			**Pn**	**07 28 30.8**	**+0.9**
ROCH				eS			**Sn**	**07 28 50.6**	**+1.2**
ROCH				IAML				07 28 53.8	
	comp=N,12μm,0.6s								
VA03	**San Esteban**	**1.60**	**143**	*eP*			**Pn**	**07 28 30.8**	**+0.8**
VA03				eS			**Sn**	**07 28 50.2**	**+0.7**
VA03				IAML				07 28 51.7	
	comp=E,35μm,0.7s								
VA03	**San Esteban**	**1.60**	**143**	Pn			**Pn**	**07 28 29.7**	**-0.3**
MT05	**Renca**	**2.06**	**157**	Pn			**Pn**	**07 28 34.4**	**-1.9**
VA05	**Santo Domingo**	**2.16**	**178**	Pn			**Pn**	**07 28 37.6**	**0.0**
AROD	**Rodeo**	**2.33**	**56**	*eP*			**Pn**	**07 28 43.0**	**+2.8**
MT09	**Talagante**	**2.36**	**165**				**Pn**	**07 28 39.5**	**-0.9**
MT01	**Popeta**	**2.40**	**171**				**Pn**	**07 28 39.7**	**-1.1**
ZON	**Zonda**	**2.58**	**92**	*eP*			**Pn**	**07 28 47.0**	**+3.6**
ZON				IAML				07 29 31.2	
	comp=Z,3μm,0.6s								
LCO	**Las Campanas**	**2.62**	**20**	⇑*eP*			**Pn**	**07 28 45.0**	**+0.9**
LCO				eS			**Sn**	**07 29 16.5**	**+1.6**
BO01	**Tunca**	**2.94**	**170**				**Pn**	**07 28 47.3**	**-1.0**
BO01	**Tunca**	**2.94**	**170**	*eP*			**Pn**	**07 28 49.9**	**+1.6**
BO01				eS			**Sn**	**07 29 25.0**	**+2.7**
AC04	**Llanos de Chal**	**3.32**	**10**	*eP*			**Pn**	**07 28 53.9**	**+0.4**
AC04				eS			**Sn**	**07 29 33.5**	**+1.7**
AC04				IAML				07 29 46.0	
	comp=E,2μm,0.6s								
AC04	**Llanos de Chal**	**3.32**	**10**				**Pn**	**07 28 53.7**	**+0.2**
AC04	**Llanos de Chal**	**3.32**	**10**	*eP*			**Pn**	**07 28 54.8**	**+1.3**
AC04				eP			**Pn**	**07 28 56.0**	**+2.5**
AC04				eS			**Sn**	**07 29 35.0**	**+3.2**
AC04				IAML				07 29 47.3	
	comp=Z,2μm,0.8s								
GO05	**Huala**	**3.51**	**183**	*eP*			**Pn**	**07 28 56.0**	**-0.2**
GO05				eS			Sn	07 29 48.5	+12
GO03	**Copiap**	**4.09**	**19**	*eP*			**Pn**	**07 29 04.6**	**+0.5**
GO03				eS			**Sn**	**07 29 52.5**	**+1.8**
GO03	**Copiap**	**4.09**	**19**				**Pn**	**07 29 03.5**	**-0.6**
GO03	**Copiap**	**4.09**	**19**	*eP*			**Pn**	**07 29 05.0**	**+0.9**
GO03				eS			**Sn**	**07 29 49.5**	**-1.3**
GO03				eS			**Sn**	**07 29 56.0**	**+5.2**
RFA	**San Rafael**	**4.25**	**141**	*eP*			**Pn**	**07 29 09.0**	**+2.7**
RFA				eS			Sn	07 30 12.0	+17
TINO	**Tinogasta**	**4.96**	**47**	*eP*			**Pn**	**07 29 19.0**	**+2.9**
AC02	**Maricunga**	**5.16**	**27**				**Pn**	**07 29 19.8**	**+0.6**
CYA	**Choya**	**5.95**	**61**	eS			**Sn**	**07 30 37.5**	**+0.8**
CYA				IAML				07 30 44.4	
	comp=Z,903nm,1.2s								
H03N1	**Juan Fernandez**	**6.40**	**250**	T			T	07 36 23.4	
	baz=80,slow=73								
H03N3	**Juan Fernandez**	**6.41**	**250**	T			T	07 36 17.8	
	baz=80,slow=73								
H03N2	**Juan Fernandez**	**6.41**	**250**	T			T	07 36 19.7	
	baz=80,slow=73								
AHML	**Horco Molle**	**7.28**	**51**	*eP*			**Pn**	**07 29 49.0**	**+1.1**
AHML				eS			**Sn**	**07 31 08.5**	**-0.8**
AHML				eS			**Sn**	**07 31 09.0**	**-0.3**
AHML				IAML				07 31 58.0	
	comp=Z,165nm,0.7s								
LC01	**Cunco**	**7.39**	**181**				**Pn**	**07 29 48.1**	**-1.2**
LC01	**Cunco**	**7.39**	**181**	*eP*			**Pn**	**07 29 49.0**	**-0.4**
LVC	**Limon Verde**	**9.19**	**16**	Pn			**Pn**	**07 30 12.7**	**-1.8**
	comp=Z,1.0nm,0.3s,baz=292,slow=20,SNR=1.5								
PLCA	**Paso Flores**	**9.27**	**175**	Pn			**Pn**	**07 30 15.6**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=352,slow=11,SNR=3.2								
LL04	**Puerto Octay**	**9.42**	**183**				**Pn**	**07 30 15.7**	**-1.4**
ITQB	**Itaqui**	**13.12**	**86**	Pn			**Pn**	**07 31 06.4**	**-1.3**
CPUP	**Villa Florida**	**13.60**	**71**	Pn			**Pn**	**07 31 12.3**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=245,slow=12,SNR=3.4								
LPAZ	**La Paz**	**15.48**	**13**	Pn			**Pn**	**07 31 40.2**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=179,slow=7.9,SNR=13								
LPAZ	**La Paz**	**15.48**	**13**				**Pn**	**07 31 39.9**	**-0.2**
SIV	**San Ignacio**	**18.22**	**35**	P			**P**	**07 32 12.8**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=220,slow=7.9,SNR=14								
NNA	**Nana**	**19.98**	**345**	P			**Pn**	**07 32 35.7**	**+0.7**
	comp=Z,10nm,0.7s,baz=222,slow=10,SNR=7.8								
SAML	**Samuel**	**23.79**	**21**	P			**P**	**07 33 12.7**	**-0.2**
BDFB	**Brasilia**	**26.75**	**59**	P			**P**	**07 33 38.9**	**-1.1**
	comp=Z,18nm,0.9s,baz=255,slow=5.3,SNR=7.6								
RUSC	**La Rusia**	**37.20**	**358**	P			**P**	**07 35 12.8**	**+0.9**
TGUH	**Tegucigalpa,Un**	**47.69**	**339**	IAMs_20			IAMs_20	07 49 46.1	
	comp=Z,337nm,18.0s								
SJG	**San Juan**	**49.61**	**7**	P			**P**	**07 36 50.6**	**-0.7**
	comp=Z,9.7nm,0.5s,baz=275,slow=1.3,SNR=6.6								
SJG	**San Juan**	**49.61**	**7**	IAmb			IAmb	07 36 51.5	
	comp=Z,13nm,0.7s								
VNA3	**Neumayer Olymp**	**51.58**	**159**	P			**P**	**07 37 06.0**	**+0.3**
VNA2	**Neumayer--Watz**	**52.22**	**158**	P			**P**	**07 37 10.9**	**+0.5**
	baz=289,slow=8.6								
CMIG	**Matias Romero**	**53.19**	**332**	P			**P**	**07 37 19.1**	**+1.0**
	comp=Z,2.0nm,1.0s,baz=136,slow=14,SNR=2.9								
SNAA	**Sanae**	**53.80**	**159**	P			**P**	**07 37 22.6**	**+0.5**
SNAA	**Sanae**	**53.80**	**159**	P			**P**	**07 37 22.3**	**+0.2**
	comp=Z,3.3nm,0.8s,baz=277,slow=6.0,SNR=7.1								
SNAA	**Sanae**	**53.80**	**159**	P			**P**	**07 37 22.2**	**+0.1**
QSPA	**South Pole Qui**	**58.74**	**180**	P			**P**	**07 37 58.5**	**+1.0**
QSPA				IAmb			IAmb	07 38 10.1	
	comp=Z,10nm,0.8s								
Y45A	**Yeager Farm, C**	**67.15**	**344**	P			**P**	**07 38 54.0**	**+0.5**
JCT	**Junction City**	**67.16**	**334**	P			**P**	**07 38 54.2**	**+0.6**
JCT				IAmb			IAmb	07 38 55.5	
	comp=Z,6.7nm,0.8s								
SWET	**Sewanee**	**67.69**	**347**	P			**P**	**07 38 57.6**	**+0.7**
TXAR	**Lajitas Array**	**67.70**	**330**	P			**P**	**07 38 58.2**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=151,slow=8.0,SNR=16								
TX31	**Lajitas Ar. Si**	**67.70**	**330**	P			**P**	**07 38 57.5**	**+0.3**
TX31				IAmb			IAmb	07 39 11.5	
	comp=Z,16nm,1.5s								
TX32	**Lajitas Array**	**67.70**	**330**	P			**P**	**07 38 57.7**	**+0.6**
V52A	**Sevierville**	**67.90**	**350**	P			**P**	**07 38 58.1**	**0.0**
V52A				IAmb			IAmb	07 38 59.1	
	comp=Z,9.6nm,0.7s								
CLTN	**Cedars of Leba**	**68.62**	**347**	P			**P**	**07 39 02.9**	**+0.3**
CLTN				IAmb			IAmb	07 39 04.0	
	comp=Z,12nm,0.7s								
WVT	**Waverly**	**68.95**	**346**	P			**P**	**07 39 04.7**	**0.0**
LCAR	**Lake Charles**	**69.64**	**343**	P			**P**	**07 39 09.3**	**+0.3**
PBMO	**Poplar Bluff**	**70.14**	**344**	P			**P**	**07 39 12.3**	**+0.3**
PBMO				IAmb			IAmb	07 39 13.4	
	comp=Z,11nm,0.7s								
U40A	**Yellville**	**70.35**	**342**	P			**P**	**07 39 13.4**	**+0.1**
U40A				IAmb			IAmb	07 39 14.8	
	comp=Z,8.7nm,0.7s								
MNTX	**Cornudas Mount**	**70.48**	**330**	P			**P**	**07 39 14.5**	**+0.2**
HHAR	**Hobbs**	**70.57**	**341**	P			**P**	**07 39 14.8**	**+0.1**
HHAR				IAmb			IAmb	07 39 16.1	
	comp=Z,7.4nm,0.7s								
WCI	**Wyandotte Cave**	**70.69**	**348**	IAMs_20			IAMs_20	08 07 45.8	
	comp=Z,401nm,18.0s								
S44A	**Carbondale**	**70.75**	**345**	P			**P**	**07 39 15.6**	**-0.1**
OK025	**Westminster Rd**	**70.93**	**338**	IAMs_20			IAMs_20	07 59 30.8	
	comp=Z,453nm,20.0s								
FVM	**French Village**	**71.29**	**344**	P			**P**	**07 39 19.6**	**+0.6**
FVM				IAmb			IAmb	07 39 20.6	
	comp=Z,16nm,1.1s								
CCM	**Cathedral Cave**	**71.55**	**344**	P			**P**	**07 39 21

WDC	**Whiskeytown Da**	**85.75**	**324**	IAMs_20	IAMs_20	08 23 55.9		
	comp=Z,348nm,18.0s							
EGMT	**Eagleton**	**86.20**	**336**	IAMs_20	IAMs_20	08 23 38.0		
	comp=Z,360nm,18.0s							
HIZ	**Hauiti**	**86.81**	**226**	IAMs_20	IAMs_20	08 13 06.5		
	comp=Z,443nm,18.0s							
MBAR	**Mbarara**	**100.29**	**97**	IAMs_20	IAMs_20	08 14 31.9		
	comp=Z,336nm,20.0s							
VLC	**Villacollemand**	**106.04**	**48**	IAMs_20	IAMs_20	08 19 19.2		
	comp=Z,251nm,22.0s							
LODK	**Lodwar**	**106.32**	**96**	IAMs_20	IAMs_20	08 17 53.9		
	comp=Z,210nm,20.0s							
AQU	**L'Aquila**	**107.15**	**51**	IAMs_20	IAMs_20	08 15 47.8		
	comp=Z,300nm,19.0s							
STU	**Stuttgart**	**107.48**	**43**	IAMs_20	IAMs_20	08 15 58.4		
	comp=Z,225nm,20.0s							
TIP	**Timpagrande**	**108.01**	**55**	IAMs_20	IAMs_20	08 16 29.6		
	comp=Z,313nm,19.0s							
GRA1	**Grafenberg Arr**	**109.08**	**43**	IAMs_20	IAMs_20	08 28 29.8		
	comp=Z,228nm,19.0s							
BMRM	**Bremner River**	**109.35**	**330**	IAMs_20	IAMs_20	08 34 37.5		
	comp=Z,210nm,20.0s							
A36M	**Sachs Harbour**	**109.64**	**345**	IAMs_20	IAMs_20	08 36 50.1		
	comp=Z,296nm,20.0s							
N25K	**Chitina, Valde**	**109.66**	**331**	IAMs_20	IAMs_20	08 34 24.8		
	comp=Z,245nm,20.0s							
L26K	**Log Cabin Wild**	**109.87**	**333**	IAMs_20	IAMs_20	08 22 51.2		
	comp=Z,329nm,22.0s							
KLU	**Klutina**	**110.16**	**331**	IAMs_20	IAMs_20	08 27 18.0		
	comp=Z,202nm,20.0s							
GLI	**Glacier Island**	**110.37**	**330**	IAMs_20	IAMs_20	08 26 10.5		
	comp=Z,226nm,19.0s							
SCRK	**Sand Creek**	**110.60**	**333**	IAMs_20	IAMs_20	08 19 08.4		
	comp=Z,290nm,19.0s							
RIDG	**Independent Ri**	**110.82**	**333**	IAMs_20	IAMs_20	08 22 15.1		
	comp=Z,226nm,20.0s							
SCM	**Sheep Creek Mo**	**110.91**	**331**	IAMs_20	IAMs_20	08 41 37.9		
	comp=Z,252nm,18.0s							
KNK	**Knik Glacier**	**111.20**	**330**	IAMs_20	IAMs_20	08 31 59.5		
	comp=Z,202nm,19.0s							
SML	**Sawmill**	**111.32**	**330**	IAMs_20	IAMs_20	08 40 00.8		
	comp=Z,235nm,20.0s							
HDA	**Harding Lake**	**111.95**	**333**	IAMs_20	IAMs_20	08 19 36.0		
	comp=Z,169nm,19.0s							
RGN	**Ruger**	**112.29**	**39**	IAMs_20	IAMs_20	08 37 35.6		
	comp=Z,299nm,19.0s							
MDM	**Murphy Dome**	**112.69**	**333**	IAMs_20	IAMs_20	08 22 38.5		
	comp=Z,248nm,22.0s							
I23K	**Minto, Yukon-K**	**113.20**	**333**	IAMs_20	IAMs_20	08 36 25.1		
	comp=Z,188nm,20.0s							
PSZ	**Piszkesteto**	**113.62**	**47**	IAMs_20	IAMs_20	08 39 04.8		
	comp=Z,144nm,18.0s							
MLY	**Manley**	**113.69**	**333**	IAMs_20	IAMs_20	08 32 05.0		
	comp=Z,220nm,22.0s							
I21K	**Tanana**	**114.23**	**333**	IAMs_20	IAMs_20	08 26 15.3		
	comp=Z,264nm,21.0s							
K20K	**Telida**	**114.38**	**331**	IAMs_20	IAMs_20	08 22 20.6		
	comp=Z,184nm,20.0s							
J20K	**Nowinta River**	**114.72**	**331**	IAMs_20	IAMs_20	08 27 21.3		
	comp=Z,162nm,20.0s							
SUW	**Suwalki**	**117.55**	**42**	IAMs_20	IAMs_20	08 28 08.8		
	comp=Z,216nm,22.0s							
ANM	**Nome**	**119.50**	**330**	IAMs_20	IAMs_20	08 38 02.0		
	comp=Z,220nm,18.0s							
ASAR	**Alice Springs**	**119.92**	**207**	PKP	**PKPdf**	**07 46 49.5**	**-1.1**	
	comp=Z,0.2nm,0.6s,baz=138,slow=2.0,SNR=4.2							
ASAR				PKKPbc	**PKKPbc**	**07 56 59.0**	**-0.1**	
	comp=Z,0.2nm,0.6s,baz=332,slow=2.7,SNR=4.2							
AKASG	**Malin Array Be**	**120.27**	**46**	PKP	**PKPdf**	**07 46 48.8**	**-1.4**	
	comp=Z,1.4nm,0.8s,baz=250,slow=1.9,SNR=4.3							
MNK	**Minsk**	**120.34**	**42**	*i* PKP	**PKPdf**	**07 46 49.6**	**-0.5**	
	comp=E,1.0nm,0.7s							
MNK				*i* PKP	**PKPdf**	**07 46 49.6**	**-0.5**	
	comp=N,18nm,0.8s							
MNK				*i* PKP	**PKPdf**	**07 46 49.6**	**-0.5**	
	comp=Z,12nm,0.8s,baz=256							
MNK				*i* PP	**PP**	**07 48 17.1**	**-0.1**	
MNK				*i* PPP	PPP	07 50 50.6		
MNK				*i* SKS	**SKSdf**	**07 53 55.1**	**-3.4**	
MNK				*i* PS	**PS**	**07 58 08.2**	**+0.3**	
MNK				*i* SS	**SS**	**08 04 45.3**	**+2.8**	
MNK				*i* SSS	SSS	08 09 12.9		
MNK				*i* LR	LR	08 36 32.9		
MNK				*i* LRM	MLR	08 38 30.9		
	comp=Z,261nm,18.1s							
MNK				*i* LRM	MLR	08 38 33.0		
	comp=N,233nm,24.6s							
MNK				*i* LRM	MLR	08 38 49.7		
	comp=E,42nm,21.7s							
ARCES	**ARCESS Array B**	**121.62**	**24**	PKP	**PKPdf**	**07 46 51.3**	**-0.9**	
	comp=E,1.2nm,0.7s,baz=275,slow=4.3,SNR=3.9							
WRA	**Warramunga Arr**	**123.08**	**210**	PKP	**PKPdf**	**07 46 56.1**	**-0.5**	
	comp=E,0.7nm,0.6s,baz=160,slow=1.0,SNR=13							
H11S2	**WAKE ISLAND Hyl**	**126.06**	**271**	T	T	10 05 55.7		
	baz=117,slow=75,SNR=21							
H11S1	**WAKE ISLAND Hyl**	**126.07**	**271**	T	T	10 05 55.7		
	baz=117,slow=75,SNR=21							
H11S3	**WAKE ISLAND Hyl**	**126.08**	**271**	T	T	10 05 52.5		
	baz=117,slow=75,SNR=22							
H11N3	**WAKE ISLAND Hyl**	**126.41**	**272**	T	T	10 06 16.8		
	baz=116,slow=75,SNR=36							
H11N1	**WAKE ISLAND Hyl**	**126.42**	**272**	T	T	10 06 17.9		
	baz=116,slow=75,SNR=16							
H11N2	**WAKE ISLAND Hyl**	**126.42**	**272**	T	T	10 06 18.1		
	baz=116,slow=75,SNR=31							
KLMR	**Klimovskoe**	**127.20**	**35**	*e*PKPdf	**PKPdf**	**07 47 00.2**	**-2.9**	
KLMR				AMP		07 47 04.1		
	comp=Z,5.0nm,0.9s							
ARU	**Arti**	**137.64**	**39**	PKP	**PKPdf**	**07 47 23.7**	**+0.8**	
	comp=Z,1.9nm,0.2s,baz=292,slow=16,SNR=3.2							
ZALV	**Zalesovo Beam**	**151.94**	**30**	PKPbc	**PKiKP**	**07 47 54.4**	**+0.1**	
	comp=Z,38nm,0.5s,baz=301,slow=3.1,SNR=77							
MKAR	**Makanchi Array**	**154.85**	**45**	PKPbc	**PKPbc**	**07 48 00.6**	**-0.1**	
	comp=Z,2.2nm,0.8s,baz=324,slow=2.0,SNR=10							
MKAR				PKPab	**PKPab**	**07 48 16.1**	**+0.1**	
	comp=Z,1.8nm,0.7s,baz=310,slow=1.4,SNR=8.1							

*IDC **17** 07:31:45.1±0.9,31°.26S×71°.74W,h0km,mb3.7/4, mb1 4.0/5,mb1mx3.7/31,mbtmp3.8/5,ML3.8/1,Error ellipse: s-maj=42.8km s-min=30.5km az=70.0*
*NEIC **17** 07:31:52.0±1.3,31°.10S±0°.05×71°.73W±0°.08,h39km±10km, mb4.4/5,Error ellipse: s-maj=10.1km s-min=6.5km az=84.0*

ISC 17 07:31:48.6±0.7,31°.15S±0°.05×71°.78W±0°.07,h12km,n33, σ1s95/24,mb4.2/5,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.49**	**14**	Op		**Pb**	**07 32 01.4**	**+2.1**
CO06					Sn	**Sb**	**07 32 08.6**	**+2.2**
CO03	**El Pedregal**	**0.99**	**72**			**Pg**	**07 32 08.1**	**+0.4**
CO03					Sn	**Sg**	**07 32 20.4**	**-0.1**
GO04	**Tololo Observa**	**1.29**	**41**	Pn		**Pn**	**07 32 13.4**	**+0.7**
VA01	**Torpederas**	**1.87**	**177**	Pn		**Pn**	**07 32 23.1**	**+2.8**
VA03	**San Esteban**	**1.91**	**147**	Pn		**Pn**	**07 32 22.3**	**+1.1**
MT05	**Renca**	**2.40**	**159**	Pn		**Pn**	**07 32 29.4**	**+1.6**
VA05	**Santo Domingo**	**2.50**	**177**	Pn		**Pn**	**07 32 30.3**	**+1.2**
ZON	**Zonda**	**2.68**	**99**			**Pn**	**07 32 32.6**	**+1.0**
MT01	**Popeta**	**2.74**	**171**	Pn		**Pn**	**07 32 34.7**	**+2.3**
AC04	**Llanos de Chal**	**3.00**	**12**	Pn		**Pn**	**07 32 36.4**	**+0.4**
BO01	**Tunca**	**3.28**	**170**	Pn		**Pn**	**07 32 41.4**	**+1.6**
H03N1	**Juan Fernandez**	**6.46**	**247**	T		T	07 40 24.0	
	baz=76,slow=72,SNR=37							
H03N3	**Juan Fernandez**	**6.47**	**247**	T		T	07 40 02.8	
	baz=76,slow=72,SNR=7.8							
H03N2	**Juan Fernandez**	**6.47**	**248**	T		T	07 40 04.2	
	baz=76,slow=72,SNR=9.6							
LPAZ	**La Paz**	**15.17**	**14**	Pn		**Pn**	**07 35 24.2**	**+0.9**
	0.2nm,0.3s,baz=232,slow=14,SNR=1.8							
LPAZ	**La Paz**	**15.17**	**14**	IAmb		IAmb	07 35 32.6	
	comp=Z,13nm,1.5s							
SNAA	**Sanae**	**54.14**	**159**	P		**P**	**07 41 12.0**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=266,slow=11,SNR=3.6							
SNAA	**Sanae**	**54.14**	**159**	P		**P**	**07 41 12.1**	**-1.1**
SNAA				IAmb		IAmb	07 41 12.7	
	comp=Z,5.1nm,1.3s							
QSPA	**South Pole Qui**	**59.07**	**180**	P		**P**	**07 41 47.8**	**-0.8**
TXAR	**Lajitas Array**	**67.38**	**330**	P		**P**	**07 42 43.3**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=154,slow=8.0,SNR=3.8							
DBIC	**Dimbokro**	**74.07**	**72**	P		**P**	**07 43 23.1**	**-1.8**
	comp=Z,23nm,1.4s,baz=248,slow=5.3,SNR=3.3							
PDAR	**Pinedale Array**	**81.33**	**333**	P		**P**	**07 44 04.5**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=150,slow=5.8,SNR=1.6							
TORD	**Torodi Ar. Bea**	**83.04**	**70**	P		**P**	**07 44 12.5**	**-1.8**
	comp=Z,1.9nm,0.7s,baz=252,slow=4.1,SNR=6.1							
TORD	**Torodi Ar. Bea**	**83.04**	**70**	IAmb		IAmb	07 44 13.4	
	comp=Z,3.0nm,0.8s							
ASAR	**Alice Springs**	**120.19**	**207**	PKP		**PKPdf**	**07 50 37.4**	**-2.7**
	comp=Z,0.2nm,0.7s,baz=127,slow=2.3,SNR=2.1							
WRA	**Warramunga Arr**	**123.34**	**210**	PKP		**PKPdf**	**07 50 43.6**	**-2.6**
	comp=Z,0.6nm,0.9s,baz=161,slow=1.9,SNR=8.5							
H11S2	**WAKE ISLAND Hyl**	**125.99**	**271**	T		T	10 09 40.0	
	baz=116,slow=75,SNR=14							
H11S1	**WAKE ISLAND Hyl**	**126.00**	**271**	T		T	10 09 38.7	
	baz=116,slow=75,SNR=11							
H11S3	**WAKE ISLAND Hyl**	**126.00**	**271**	T		T	10 09 41.3	
	baz=116,slow=75,SNR=12							
H11N3	**WAKE ISLAND Hyl**	**126.33**	**273**	T		T	10 10 02.7	
	baz=117,slow=74							
H11N1	**WAKE ISLAND Hyl**	**126.34**	**273**	T		T	10 10 03.6	
	baz=117							
H11N2	**WAKE ISLAND Hyl**	**126.34**	**273**	T		T	10 10 03.9	
	baz=117,slow=74							
ZALV	**Zalesovo Beam**	**151.68**	**30**	PKPbc		**PKPdf**	**07 51 41.0**	**+4.8**
	comp=Z,3.0nm,0.5s,baz=330,slow=3.6,SNR=6.7							

*INET **17** 07:32:56.9,12°.93N×86°.60W,h16km,MW4.0*
SNET 17 07:33:01.7±0.7,12°.84N×86°.66W,h18km±5km,ML2.8,1C, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.22**	**291**		*e*P	Pn	07 33 23.5	-0.6
CNCH					*e*S	Sg	07 33 41.3	-0.1
LCND	**La Caada**	**1.28**	**292**		*e*P	Pn	07 33 24.3	-0.5
LCND					IAML		07 33 25.6	
	comp=Z,270nm,0.2s							
LCND					*e*S	Sb	07 33 41.4	-0.2
TGUH	**Tegucigalpa,Un**	**1.35**	**334**		*e*P	Pn	07 33 25.2	-0.7
TGUH					*e*S	Sb	07 33 43.7	+0.1
JUCU	**Jucuar¡n**	**1.60**	**285**		*e*P	Pn	07 33 29.0	-0.2
JUCU					IAML		07 34 00.5	
	comp=Z,89nm,0.4s							
COEB	**Comit de Eme**	**1.93**	**290**		*e*P	Pn	07 33 33.9	0.0
COEB					*e*S	Sn	07 33 59.0	+1.1
COEB					IAML		07 34 10.7	
	comp=Z,49nm,0.5s							
COEG	**Centro de Oper**	**2.29**	**290**		*e*P	Pn	07 33 39.1	+0.3
COEG					IAML		07 33 46.5	
	comp=Z,48nm,0.6s							

IDC 17 07:36:17.5±68.0,16°.56S×178°.04W,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.5/31,mbtmp3.6/3,Error ellipse: s-maj=1252.0km s-min=186.6km az=77.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.60**	**240**	P		P	07 43 51.0	+0.1
	0.5nm,0.5s,baz=72,slow=6.4,SNR=1.6							
WRA	**Warramunga Arr**	**45.23**	**258**	P		P	07 44 36.8	-0.2
	0.4nm,0.8s,baz=92,slow=8.3,SNR=1.5							
ASAR	**Alice Springs**	**45.51**	**253**	P		P	07 44 38.9	-0.3
	0.6nm,0.5s,baz=89,slow=8.0,SNR=12							

NEIC 17 07:39:17.9±0.9,30°.82S±0°.05×71°.65W±0°.07,h33km±3km, mb4.3/3,Error ellipse: s-maj=9.4km s-min=6.5km az=109.0,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.15**	**3**	Op		**Pb**	**07 39 24.1**	**0.0**
CO06					Sg	Sb	07 39 28.8	+0.5
CO03	**El Pedregal**	**0.82**	**91**			Pn	07 39 33.2	-0.1
CO03					Sn	Sn	07 39 44.5	+0.1
GO04	**Tololo Observa**	**0.98**	**49**			Pn	07 39 35.6	0.0
LCO	**Las Campanas**	**1.98**	**25**			Pb	07 39 51.6	-1.9
VA03	**San Esteban**	**2.15**	**155**	Pn		Pn	07 39 51.7	+0.2
VA01	**Torpederas**	**2.19**	**180**	Pn		Pn	07 39 51.1	-1.0
ZON	**Zonda**	**2.64**	**107**	Pn		Pn	07 39 58.1	-0.2
AC04	**Llanos de Chal**	**2.66**	**11**	Pn		Pn	07 39 58.9	+0.4
MT05	**Renca**	**2.67**	**164**	Pn		Pn	07 39 59.4	+0.7
VA05	**Santo Domingo**	**2.83**	**179**	Pn		Pn	07 39 59.6	-1.1
LVC	**Limon Verde**	**8.54**	**17**	Pn		Pn	07 41 18.4	-1.2
PB01	**IPOC Station P**	**9.93**	**12**	Pn		Pn	07 41 37.5	-1.0
SNAA	**Sanae**	**54.40**	**159**	P		P	07 48 41.0	-0.4
SNAA				IAmb		IAmb	07 48 55.3	
	comp=Z,2.2nm,1.2s							
QSPA	**South Pole Qui**	**59.40**	**180**	P		P	07 49 16.7	-0.3
QSPA				IAmb		IAmb	07 49 28.8	
	comp=Z,4.1nm,1.4s							

*IDC **17** 07:39:42.6±0.7,30°.40S×72°.52W,h0km,mb4.3/9, mb1 4.4/12,mb1mx4.3/26,mbtmp4.3/12,ML4.1/3,Error ellipse: s-maj=27.4km s-min=19.0km az=77.0*
*NEIC **17** 07:39:46.5±1.4,30°.43S±0°.06×72°.47W±0°.07,h19km±4km, mb4.5/37,Error ellipse: s-maj=9.5km s-min=8.3km az=213.0*

ISC 17 07:39:45.8±0.6,30°.41S±0°.07×72°.46W±0°.07,h19km,n63, σ0s75/62,mb4.4/24,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.76**	**110**	Op		**Pb**	**07 40 00.5**	**+0.1**
CO06					Sn	**Sn**	**07 40 12.2**	**-0.2**
CO03	**El Pedregal**	**1.58**	**106**	Pn		**Pn**	**07 40 13.8**	**+0.9**
CO03					Sn	**Sb**	**07 40 34.2**	**+0.1**
VA05	**Santo Domingo**	**3.31**	**168**			**Pn**	**07 40 36.5**	**-0.1**
ZON	**Zonda**	**3.44**	**110**	Pn		**Pn**	**07 40 39.0**	**+0.7**
MT09	**Talagante**	**3.58**	**160**			**Pn**	**07 40 40.3**	**-0.1**
MT01	**Popeta**	**3.59**	**164**			**Pn**	**07 40 41.3**	**+0.8**
GO05	**Huala**	**4.61**	**175**	Pn		**Pn**	**07 40 53.6**	**-0.8**
AC02	**Maricunga**	**4.61**	**40**	Pn		**Pn**	**07 40 55.5**	**+0.6**
LC01	**Cunco**	**8.48**	**177**	Pn		**Pn**	**07 41 46.8**	**-0.8**
PLCA	**Paso Flores**	**10.42**	**172**	Pn		**Pn**	**07 42 14.7**	**+0.5**
	0.6nm,0.3s,baz=334,slow=9.1,SNR=6.3							
LL04	**Puerto Octay**	**10.48**	**180**	Pn		**Pn**	**07 42 15.3**	**+0.4**
LPAZ	**La Paz**	**14.61**	**17**	Pn		**Pn**	**07 43 12.4**	**+0.3**
	0.2nm,0.3s,baz=198,slow=8.9,SNR=12							
SIV	**San Ignacio**	**17.74**	**39**	P		**Pn**	**07 43 49.8**	**-2.0**
	0.6nm,0.3s,baz=233,slow=10.0,SNR=33							
SAML	**Samuel**	**23.05**	**24**	P		**P**	**07 44 49.8**	**-0.2**
BDFB	**Brasilia**	**26.79**	**62**	P		**P**	**07 45 25.0**	**+0.1**
	11nm,0.9s,baz=237,slow=10,SNR=7.6							
BDFB	**Brasilia**	**26.79**	**62**	P		**P**	**07 45 24.8**	**-0.1**
BDFB				IAmb		IAmb	07 45 26.0	
	comp=Z,14nm,0.9s							
RUSC	**La Rusia**	**36.10**	**359**	P		**P**	**07 46 47.4**	**+0.3**
VNA3	**Neumayer Olymp**	**52.82**	**159**	P		**P**	**07 48 59.1**	**-0.4**
VNA2	**Neumayer--Watz**	**53.46**	**158**	P		**P**	**07 49 02.6**	**-1.6**
	baz=284,slow=8.1							
SNAA	**Sanae**	**55.04**	**159**	P		**P**	**07 49 15.6**	**-0.3**
SNAA	**Sanae**	**55.04**	**159**	P		**P**	**07 49 15.1**	**-0.7**
	comp=Z,6.6nm,0.6s,baz=280,slow=7.7							
SNAA	**Sanae**	**55.04**	**159**	P		**P**	**07 49 17.1**	**+1.2**
QSPA	**South Pole Qui**	**59.81**	**180**	P		**P**	**07 49 50.5**	**+0.9**
TXAR	**Lajitas Array**	**66.44**	**330**	P		**P**	**07 50 33.8**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=147,slow=7.6,SNR=9.9							
MNTX	**Cornudas Mount**	**69.22**	**330**	P		**P**	**07 50 51.1**	**-0.2**
MNTX				IAmb		IAmb	07 50 52.1	
	comp=Z,2.3nm,0.8s							
P40A	**Paris**	**71.93**	**344**	P		**P**	**07 51 07.3**	**-0.3**
L40A	**Anamosa**	**74.16**	**346**	P		**P**	**07 51 19.9**	**-0.9**
X16A	**Lo Mia Camp, P**	**74.23**	**327**	P		**P**	**07 51 21.5**	**-0.1**
X16A				IAmb		IAmb	07 51 23.6	
	comp=Z,4.5nm,1.0s							
DBIC	**Dimbokro**	**74.40**	**72**	P		**P**	**07 51 23.5**	**+0.6**
	comp=Z,4.5nm,0.9s,baz=250,slow=6.2,SNR=4.1							
DBIC	**Dimbokro**	**74.40**	**72**	IAmb		IAmb	07 51 30.7	
	comp=Z,48nm,1.8s							
MVCO	**Mesa Verde**	**75.26**	**331**	P		**P**	**07 51 28.2**	**+0.6**
MVCO				IAmb		IAmb	07 51 28.9	
	comp=Z,4.2nm,0.9s							
MAW	**Mawson**	**76.72**	**164**	P		**P**	**07 51 35.7**	**+0.5**
	comp=Z,3.3nm,1.0s,baz=195,slow=7.1,SNR=9.4							
KNB	**Kanab**	**77.00**	**328**	P		**P**	**07 51 38.5**	**+1.1**
LCMT	**Little Creek M**	**77.19**	**328**	P		**P**	**07 51 39.2**	**+0.7**
LCMT				IAmb		IAmb	07 51 39.8	
	comp=Z,5.5nm,1.3s							
O20A	**White River Ci**	**77.65**	**333**	P		**P**	**07 51 41.7**	**+0.7**
O20A				IAmb		IAmb	07 51 42.3	
	comp=Z,5.1nm,1.1s							
CCUT	**Cedar City**	**77.69**	**328**	P		**P**	**07 51 42.6**	**+1.3**
CCUT				IAmb		IAmb	07 51 43.3	
	comp=Z,4.7nm,1.0s							

SHPR	**Sheep Range**	**77.69**	**326**	P		**P**	**07 51 42.2**	**+0.9**
SRU	**San Rafael Swe**	**77.72**	**331**	P		**P**	**07 51 41.7**	**+0.3**
SRU				IAmb		IAmb	07 51 42.2	
	comp=Z,3.0nm,0.7s							
MSU	**Marysvale**	**77.94**	**329**	P		**P**	**07 51 43.5**	**+0.8**
P17A	**Butcher Ranch,**	**78.11**	**331**	P		**P**	**07 51 44.4**	**+0.8**
P17A				IAmb		IAmb	07 51 44.6	
	comp=Z,5.5nm,1.1s							
PRN	**Pahroc Range**	**78.36**	**327**	P		**P**	**07 51 46.5**	**+1.6**
PRN				IAmb		IAmb	07 51 46.8	
	comp=Z,5.1nm,0.9s							
TPNV	**Topopah Spring**	**78.57**	**326**	P		**P**	**07 51 47.0**	**+0.9**
TPNV				IAmb		IAmb	07 51 49.3	
	comp=Z,3.7nm,0.9s							
RWWY	**Rawlins**	**78.59**	**334**	P		**P**	**07 51 46.8**	**+0.6**
PSUT	**Pine Spring**	**78.71**	**328**	P		**P**	**07 51 48.1**	**+1.2**
PSUT				IAmb		IAmb	07 51 49.7	
	comp=Z,3.0nm,0.9s							
MPU	**Maple Canyon**	**78.94**	**330**	P		**P**	**07 51 49.2**	**+1.0**
K22A	**Casper**	**79.17**	**335**	P		**P**	**07 51 49.9**	**+0.6**
K22A				IAmb		IAmb	07 51 50.5	
	comp=Z,5.9nm,0.8s							
R11A	**Troy Canyon, C**	**79.37**	**327**	P		**P**	**07 51 51.4**	**+0.9**
LCH	**Last Change Ra**	**79.48**	**325**	P		**P**	**07 51 51.7**	**+0.6**
HWUT	**Hardware Ranch**	**80.24**	**331**	P		**P**	**07 51 55.2**	**0.0**
HWUT				IAmb		IAmb	07 51 55.8	
	comp=Z,3.9nm,0.8s							
PDAR	**Pinedale Array**	**80.41**	**333**	P		**P**	**07 51 55.6**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=123,slow=5.5,SNR=4.8							
NVAR	**Mina Array Bea**	**80.74**	**325**	P		**P**	**07 51 58.2**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=143,slow=5.1,SNR=7.3							
HVU	**Hansel Valley**	**80.89**	**331**	P		**P**	**07 51 58.5**	**-0.1**
HVU				IAmb		IAmb	07 51 59.2	
	comp=Z,3.8nm,1.0s							
ELK	**Elko**	**81.12**	**329**	P		**P**	**07 52 00.1**	**+0.1**
ULM	**Lac du Bonnet**	**82.95**	**345**	P		**P**	**07 52 08.3**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=144,slow=2.7,SNR=3.2							
ULM	**Lac du Bonnet**	**82.95**	**345**	IAmb		IAmb	07 52 10.6	
	comp=Z,31nm,1.8s							
HLID	**Hailey**	**83.04**	**331**	P		**P**	**07 52 10.5**	**+0.6**
HLID				IAmb		IAmb	07 52 11.7	
	comp=Z,2.8nm,1.0s							
TORD	**Torodi Ar. Bea**	**83.34**	**71**	P		**P**	**07 52 12.2**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=257,slow=4.4,SNR=6.5							
TORD	**Torodi Ar. Bea**	**83.34**	**71**	IAmb		IAmb	07 52 26.4	
	comp=Z,3.6nm,1.1s							
MCMT	**McKenzie Canyo**	**83.43**	**332**	P		**P**	**07 52 12.7**	**+0.6**
WRA	**Warramunga Arr**	**123.69**	**211**	PKP		**PKPdf**	**07 58 41.5**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=152,slow=1.5,SNR=2.6							
ZALV	**Zalesovo Beam**	**151.32**	**28**	PKPbc		**PKiKP**	**07 59 37.6**	**-0.5**
	comp=Z,8.2nm,0.7s,baz=302,slow=3.5,SNR=19							
ZALV	**Zalesovo Beam**	**151.32**	**28**			**PKPbc**	**07 59 37.2**	**-0.3**
MKAR	**Makanchi Array**	**154.53**	**43**	PKPbc		**PKiKP**	**07 59 45.2**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=318,slow=1.6,SNR=5.6							

*IDC **17** 07:42:23.4±1.3,31°.25S×71°.89W,h0km,mb3.6/4, mb1 3.8/5,mb1mx3.7/23,mbtmp3.6/5,ML3.2/1,Error ellipse: s-maj=51.1km s-min=34.2km az=67.0*

ISC 17 07:42:25.0±1.1,31°.2S±0°.2×71°.8W±0°.3,h10km,n6,σ0s45/6, mb3.6/4,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**18.08**	**35**	P		**P**	**07 46 36.7**	**-0.2**
	0.1nm,0.3s,baz=215,slow=12,SNR=2.4							
SNAA	**Sanae**	**54.08**	**159**	P		**P**	**07 51 49.5**	**0.0**
	0.6nm,0.8s,baz=281,slow=10,SNR=2.0							
TXAR	**Lajitas Array**	**67.42**

baz=79,slow=72
LC01 Cunco 7.12 179 Pn Pn 07 48 08.3 -0.5
PLCA Paso Flores 9.03 173 Pn **Pn 07 48 35.5 +0.4**
0.6nm,0.3s,baz=331,slow=12,SNR=9.7
LL04 Puerto Octay 9.13 182 Pn **Pn 07 48 35.3 -1.1**
TA02 Huaiquique 11.57 9 Pn **Pn 07 49 11.8 +1.9**
CPUP Villa Florida 13.94 71 Pn **Pn 07 49 43.2 +1.0**
0.2nm,0.3s,baz=263,slow=14,SNR=2.7
PLTB Pedras Altas 15.67 95 Pn **Pn 07 50 04.5 -1.0**
PLTB IAmb IAmb 07 50 25.1
comp=Z,25nm,1.2s
BDFB Brasilia 27.12 59 P **P 07 52 07.2 -0.9**
comp=Z,3.9nm,0.7s,baz=223,slow=9.2,SNR=4.8
BDFB Brasilia 27.12 59 IAmb IAmb 07 52 29.7
comp=Z,7.9nm,1.1s
RUSC La Rusia 37.46 358 P **07 53 38.5 -0.5**
RUSC IAmb IAmb 07 53 49.3
comp=Z,8.5nm,0.9s
VNA3 Neumayer Olymp 51.42 158 P **P 07 55 30.4 +1.0**
VNA2 Neumayer--Watz 52.06 158 P **P 07 55 35.2 +1.0**
baz=288,slow=8.8
SNAA Sanae 53.65 158 P **P 07 55 46.8 +0.8**
SNAA Sanae 53.65 158 P **P 07 55 46.2 +0.3**
comp=Z,7.4nm,0.8s,baz=269,slow=7.9,SNR=35
SNAA Sanae 53.65 158 P **P 07 55 46.6 +0.7**
QSPA South Pole Qui 58.46 180 P **P 07 56 21.3 +0.7**
SLBS Sierra La Lagu 66.00 322 P **P 07 57 12.1 +0.6**
JCT Junction City 67.28 334 P **P 07 57 19.1 -0.4**
TXAR Lajitas Array 67.80 330 P **P 07 57 22.6 -0.2**
comp=Z,0.8nm,0.7s,baz=151,slow=8.4,SNR=10
TX31 Lajitas Ar. Si 67.80 330 P **P 07 57 23.0 +0.1**
TX31 IAmb IAmb 07 57 23.5
comp=Z,3.4nm,0.9s
ABTX Abilene, Hawle 69.16 335 P **P 07 57 30.7 -0.5**
HSIG 70.88 324 P **P 07 57 42.0 +0.2**
DBIC Dimbokro 74.46 72 P **P 07 58 03.2 -0.3**
comp=Z,4.3nm,0.8s,baz=230,slow=6.3,SNR=3.1
MAW Mawson 75.31 164 P **P 07 58 07.7 +0.2**
comp=Z,0.9nm,0.6s,baz=243,slow=11,SNR=2.3
X16A Lo Mia Camp, P 75.57 327 P 07 58 09.8 +0.1
SDCO Great Sand Dun 75.89 333 P **P 07 58 12.3 +0.8**
KNB Kanab 78.34 328 P **P 07 58 25.6 +0.3**
KNB IAmb IAmb 07 58 26.8
comp=Z,4.1nm,1.0s
ECSD EROS Data Cent 78.43 342 P **P 07 58 25.0 -0.4**
ECSD IAmb IAmb 07 58 25.5
comp=Z,3.4nm,0.7s
SHPR Sheep Range 79.02 326 P **P 07 58 29.5 +0.6**
SHPR IAmb IAmb 07 58 30.6
comp=Z,3.5nm,1.0s
PDAR Pinedale Array 81.78 333 P **P 07 58 42.9 -0.8**
comp=Z,0.4nm,0.6s,baz=144,slow=5.3,SNR=3.9
NVAR Mina Array Bea 82.07 325 P **P 07 58 45.7 +0.4**
comp=Z,1.8nm,0.7s,baz=155,slow=6.2,SNR=15
KVN Kaiserville 82.45 326 IAmb IAmb 07 58 48.0
comp=Z,3.3nm,0.9s
ELK Elko 82.47 328 IAmb IAmb 07 58 48.0
comp=Z,1.8nm,0.7s
TORD Torodi Ar. Bea 83.44 70 P **P 07 58 52.8 +0.1**
comp=Z,2.4nm,0.7s,baz=269,slow=4.5,SNR=11
TORD Torodi Ar. Bea 83.44 70 P **P 07 58 53.0 +0.3**
TORD IAmb IAmb 07 58 53.4
comp=Z,3.1nm,0.7s
ZALV Zalesovo Beam 152.31 30 PKPbc **PKPbc 08 06 19.9 -0.3**
comp=Z,2.4nm,0.5s,baz=303,slow=3.7,SNR=1.8
MKAR Makanchi Array 155.24 45 PKPab **PKPab 08 06 42.8 -0.1**
comp=Z,1.0nm,0.8s,baz=328,slow=5.1,SNR=3.6
SONM Songino Array 163.91 4 PKPab **PKPab 08 07 19.9 -0.6**
comp=Z,0.5nm,0.5s,baz=357,slow=6.2,SNR=2.5

IDC 17 07:48:00.1±3.9, 5°.95S×151°.54E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/30, mbtmp3.2/3, Error ellipse: s-maj=126.0km s-min=55.7km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.75**	**229**	P		P		07 52 52.8	-0.6
0.2nm,0.5s,baz=56,slow=10.0,SNR=1.0									
ASAR	**Alice Springs**	**24.46**	**222**	P		P		07 53 22.0	+1.0
0.3nm,0.6s,baz=46,slow=9.6,SNR=4.2									
FITZ	**Fitzroy Crossi**	**28.02**	**242**	P		P		07 53 52.9	-0.2
0.9nm,0.8s,baz=63,slow=11									
TORD	**Torodi Ar. Bea**	**149.44**	**286**	PKPbc		PKPbc		08 07 51.5	-0.8
0.3nm,0.6s,baz=79,slow=4.2,SNR=1.5									

IDC 17 07:50:22.4±1.2, 30°.54S×71°.94W, h0km, mb4.0/4, mb1 4.0/7, mb1mx3.8/27, mbtmp3.9/7, ML3.8/3, Error ellipse: s-maj=42.3km s-min=24.2km az=92.0
NEIC 17 07:50:26.7±1.8, 30°.75S±0°.05×71°.98W±0°.04, h19km±3km, mb4.4/7, Error ellipse: s-maj=7.2km s-min=4.7km az=164.0

ISC 17 07:50:25.1±0.7, 30°.60S±0°.07×71°.92W±0°.06, h16km, n24, σ0s.99/23, mb4.2/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.25**	**107**				**Pn**	**07 50 33.5**	**-0.7**
CO06							**Sn**	**07 50 38.8**	**-1.0**
GO04	**Tololo Observa**	**1.05**	**66**	Pn			**Pb**	**07 50 45.6**	**+0.5**
CO03	**El Pedregal**	**1.08**	**103**				**Pg**	**07 50 47.1**	**+1.0**
VA01	**Torpederas**	**2.43**	**175**	Pn			**Pn**	**07 51 03.5**	**-0.6**
VA03	**San Esteban**	**2.45**	**152**	Pn			**Pn**	**07 51 03.1**	**-1.4**
AC04	**Llanos de Chal**	**2.50**	**17**				**Pb**	**07 51 08.9**	**-0.7**
GO05	**Huala**	**4.40**	**180**	Pn			**Pn**	**07 51 29.2**	**-2.1**
ML02	**Panimavida**	**5.17**	**176**	Pn			**Pn**	**07 51 42.5**	**+0.7**
LC01	**Cunco**	**8.28**	**180**	Pn			**Pn**	**07 52 23.4**	**-1.1**
PLCA	**Paso Flores**	**10.17**	**174**	Pn			**Pn**	**07 52 50.4**	**-0.1**
0.2nm,0.3s,baz=316,slow=23,SNR=0.9									
LPAZ	**La Paz**	**14.66**	**15**	Pn			**Pn**	**07 53 52.2**	**-0.3**
0.1nm,0.3s,baz=180,slow=15,SNR=1.9									
SIV	**San Ignacio**	**17.61**	**37**	P			**Pn**	**07 54 30.4**	**+0.5**
0.4nm,0.3s,baz=234,slow=12,SNR=7.4									
NNA	**Nana**	**19.08**	**345**	P			**Pn**	**07 54 49.7**	**+1.8**
BDFB	**Brasilia**	**26.47**	**61**	P			**P**	**07 56 00.5**	**-1.4**
2.8nm,0.8s,baz=236,slow=11,SNR=3.6									
CVTR	**Volcan Turrial**	**41.96**	**342**	P			**P**	**07 58 16.6**	**+0.6**
SNAA	**Sanae**	**54.70**	**159**	P			**P**	**07 59 53.8**	**+0.7**
1.1nm,0.5s,baz=280,slow=6.9,SNR=13									
SNAA	**Sanae**	**54.70**	**159**	IAmb			IAmb	08 00 04.0	
comp=Z,3.6nm,1.1s									
QSPA	**South Pole Qui**	**59.63**	**180**	P			**P**	**08 00 28.7**	**+0.5**
QSPA				IAmb			IAmb	08 00 29.3	
comp=Z,5.4nm,1.4s									
TXAR	**Lajitas Array**	**66.84**	**330**	P			**P**	**08 01 15.7**	**-0.6**
comp=Z,0.2nm,0.6s,baz=150,slow=7.3,SNR=2.9									
TORD	**Torodi Ar. Bea**	**82.96**	**70**	P			**P**	**08 02 50.0**	**+0.2**
comp=Z,1.9nm,0.7s,baz=220,slow=5.6,SNR=8.2									
TORD	**Torodi Ar. Bea**	**82.96**	**70**	IAmb			IAmb	08 02 50.2	
comp=Z,3.9nm,1.1s									
KURBB	**Kurchatov Arra**	**150.25**	**39**	PKPbc			**PKPbc**	**08 10 14.3**	**-0.8**
baz=303,slow=2.9									
ZALV	**Zalesovo Beam**	**151.26**	**29**	PKPbc			**PKPbc**	**08 10 17.0**	**-0.3**
comp=Z,3.6nm,0.6s,baz=314,slow=5.5,SNR=8.6									
ZALV	**Zalesovo Beam**	**151.26**	**29**				**PKPbc**	**08 10 17.2**	**-0.2**

IDC 17 07:53:32.3±3.2, 31°.59S×71°.57W, h0km, mb3.8/1, mb1 4.0/3, mb1mx3.6/26, mbtmp4.0/3, ML3.9/2, MS4.5/1, Ms1 4.5/1, ms1mx3.6/22, Error ellipse: s-maj=146.7km s-min=35.9km az=96.0
GUC 17 07:53:34.8±0.6, 31°.80S×71°.92W, h20km±4km, ML3.9

ISC 17 07:53:33.4±1.8, 31°.73S±0°.03×71°.84W±0°.09, h10km±11km, n17, σ1s48/28, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**1.07**	**9**	*eP*			**Pn**	**07 53 55.0**	**+0.7**
CO06				*eS*			**Sn**	**07 54 10.5**	**+1.3**
CO06				IAML				07 54 17.0	
comp=E,3μm,0.2s									
VA01	**Torpederas**	**1.30**	**173**	*eP*			**Pn**	**07 53 56.7**	**-0.8**
VA01				*eS*			**Sb**	**07 54 13.0**	**-1.6**
CO03	**El Pedregal**	**1.32**	**48**	*eP*			**Pg**	**07 54 00.0**	**+1.2**
CO03				*i* S			**Sn**	**07 54 18.3**	**+2.6**
CO03				IAML				07 54 20.2	
comp=E,4μm,0.2s									
ROCH	**El Roble**	**1.42**	**151**	*eP*			**Pn**	**07 53 59.2**	**-0.2**
ROCH				*eS*			**Sb**	**07 54 16.8**	**-1.5**
VA03	**San Esteban**	**1.50**	**134**	*eP*			**Pb**	**07 54 00.6**	**-0.7**
VA03				*i* S			**Sg**	**07 54 21.0**	**-0.7**
VA03				IAML				07 54 27.9	
comp=E,3μm,0.3s									
GO04	**Tololo Observa**	**1.79**	**30**	*eP*			**Pg**	**07 54 08.1**	**+0.4**
GO04				*eS*			**Sg**	**07 54 31.5**	**+0.5**
MT05	**Renca**	**1.90**	**151**	*eP*			**Pb**	**07 54 07.6**	**-0.5**
MT05				*eS*			**Sn**	**07 54 30.9**	**+1.0**
MT05				IAML				07 54 37.0	
comp=E,2μm,0.3s									
VA05	**Santo Domingo**	**1.93**	**174**	*eP*			**Pb**	**07 54 09.1**	**+0.5**
VA05				*eS*			**Sb**	**07 54 33.7**	**+1.0**
VA05				IAML				07 54 38.0	
comp=E,3μm,0.4s									
FSR	**Penalolen**	**2.06**	**148**	*eP*			**Pb**	**07 54 10.1**	**-0.9**
FSR				*eS*			**Sb**	**07 54 36.0**	**-0.7**
MT09	**Talagante**	**2.16**	**161**	*eP*			**Pn**	**07 54 11.1**	**+1.5**
MT09				*eS*			**Sn**	**07 54 38.2**	**+1.7**
MT09				IAML				07 54 47.6	
comp=N,586nm,0.4s									
MT01	**Popeta**	**2.18**	**167**	*eP*			**Pn**	**07 54 11.8**	**+2.1**
MT01				*eS*			**Sn**	**07 54 38.5**	**+1.7**
LMEL	**Las Melosas**	**2.52**	**147**	*eP*			**Pn**	**07 54 16.4**	**+1.9**
LMEL				*eS*			**Sb**	**07 54 48.1**	**-1.8**
LMEL				IAML				07 54 59.8	
comp=E,443nm,0.5s									
PLCA	**Paso Flores**	**9.04**	**174**	Pn			**Pn**	**07 55 45.4**	**+1.4**
comp=E,0.4nm,0.3s,baz=334,slow=12,SNR=5.0									
LVC	**Limon Verde**	**9.45**	**17**	Pn			**Pn**	**07 55 46.7**	**-3.1**
comp=E,0.7nm,0.3s,baz=236,slow=12,SNR=1.0									
USHA	**Ushuaia**	**23.22**	**175**	LR			LR	08 08 42.7	
comp=E,1μm,19.6s,baz=318,slow=39									
TORD	**Torodi Ar. Bea**	**83.28**	**70**	P			**P**	**08 05 60.0**	**-0.6**
comp=E,0.6nm,0.8s,baz=243,slow=6.3,SNR=2.8									
ZALV	**Zalesovo Beam**	**152.20**	**30**	PKPbc			**PKPbc**	**08 13 28.8**	**+0.1**
comp=E,1.2nm,0.6s,baz=309,slow=3.9,SNR=2.0									

IDC 17 07:55:53.9±0.6, 31°.77S×72°.01W, h0km, mb4.3/11, mb1 4.4/14, mb1mx4.3/27, mbtmp4.3/14, ML4.2/3, MS3.9/1, Ms1 3.8/1, ms1mx3.4/27, Error ellipse: s-maj=24.4km s-min=16.5km az=81.0
GUC 17 07:55:55.3±0.4, 31°.81S×72°.10W, h26km±2km, ML4.5
SJA 17 07:55:56.0±0.7, 31°.98S×72°.33W, h23km±3km, ML4.6, MW4.8
NEIC 17 07:55:56.2±1.4, 31°.76S±0°.01×72°.12W±0°.08, h16km±3km, mb4.7/44, Mwr4.4/42, ML4.3(GUC), Error ellipse: s-maj=9.5km s-min=1.6km az=84.0
NEIC 17 07:55:56.2, 31°.76S×72°.12W, h17km, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr=4.09; Mθθ=0.13; Mϕϕ=-3.96; Mrθ=-1.09; Mϕθ=0.64; Mϕr=-4.00; Fault plane solution: M0=5.82000×10^15 NP1:ϕs=193.46000°, δ=67.77000°, λ=93.24000°. NP2:ϕs=4.96000°, δ=22.45000°, λ=82.14000°. Principal axes: T 5.8406, Plg=67.0000°, Azm=109.0000°; N -0.0466, Plg=3.0000°, Azm=12.0000°; P -5.7940, Plg=23.0000°, Azm=281.0000°;

ISC 17 07:55:54.3±0.5, 31°.78S±0°.02×72°.17W±0°.04, h10km, n114, σ1s58/130, mb4.7/27, 5C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**1.19**	**23**	*eP*			**Pg**	**07 56 16.3**	**-0.9**
CO06				*i* S			**Sb**	**07 56 30.9**	**-1.6**
CO06	**Fray Jorge**	**1.19**	**23**				**Pg**	**07 56 16.3**	**-0.9**
CO06				Sg			**Sb**	**07 56 31.4**	**-1.2**
VA01	**Torpederas**	**1.32**	**161**	*eP*			**Pg**	**07 56 18.5**	**-1.2**
VA01				*eS*			**Sb**	**07 56 34.2**	**-1.9**
VA01	**Torpederas**	**1.32**	**161**				**Pg**	**07 56 18.8**	**-0.8**
VA01	**Torpederas**	**1.32**	**161**	*eP*			**Pg**	**07 56 19.0**	**-0.6**
VA01				*eS*			**Sn**	**07 56 35.5**	**-0.9**
ROCH	**El Roble**	**1.54**	**141**	*iP*			**Pb**	**07 56 22.3**	**-0.8**
ROCH				*eS*			**Sn**	**07 56 40.6**	**-1.6**
ROCH				IAML				07 56 53.7	
comp=E,8μm,0.6s									
CO03	**El Pedregal**	**1.57**	**54**	*eP*			**Pb**	**07 56 22.6**	**-1.0**
CO03				*eS*			**Sn**	**07 56 42.2**	**-0.8**
CO03				IAML				07 56 44.9	
comp=E,8μm,0.7s									
CO03	**El Pedregal**	**1.57**	**54**				**Pb**	**07 56 22.9**	**-0.7**
CO03				Sn			**Sb**	**07 56 42.8**	**-0.8**
VA03	**San Esteban**	**1.69**	**126**	*eP*			**Pb**	**07 56 24.4**	**-1.1**
VA03				*eS*			**Sn**	**07 56 44.0**	**-1.7**
VA03				IAML				07 56 52.2	
comp=E,15μm,0.6s									
VA03	**San Esteban**	**1.69**	**126**				**Pb**	**07 56 24.4**	**-1.1**
VA03				Sn			**Sb**	**07 56 45.4**	**-1.4**
VA05	**Santo Domingo**	**1.93**	**166**	*iP*			**Pn**	**07 56 27.2**	**0.0**
VA05				IAML				07 57 06.7	
comp=E,7μm,0.5s									
VA05	**Santo Domingo**	**1.93**	**166**				**Pb**	**07 56 27.9**	**-1.7**
GO04	**Tololo Observa**	**1.99**	**37**	*eP*			**Pg**	**07 56 30.8**	**-1.6**
GO04				*eS*			**Sb**	**07 56 54.4**	**-1.2**
GO04	**Tololo Observa**	**1.99**	**37**				**Pb**	**07 56 29.5**	**-1.2**
MT05	**Renca**	**2.01**	**143**	*eP*			**Pb**	**07 56 28.9**	**-2.1**
MT05				*eS*			**Sn**	**07 56 53.4**	**-0.3**
MT05				IAML				07 57 02.1	
comp=E,7μm,0.5s									
MT05	**Renca**	**2.01**	**143**				**Pb**	**07 56 29.4**	**-1.7**
MT05	**Renca**	**2.01**	**143**	*eP*			**Pg**	**07 56 31.0**	**-1.9**
MT01	**Popeta**	**2.22**	**160**	*eP*			**Pn**	**07 56 31.4**	**+0.2**
MT01				*eS*			**Sn**	**07 56 57.9**	**-0.8**
MT01				IAML				07 57 12.2	
comp=E,3μm,0.7s									
MT01	**Popeta**	**2.22**	**160**				**Pn**	**07 56 31.4**	**+0.2**
MT01	**Popeta**	**2.22**	**160**	*eP*			**Pb**	**07 56 32.2**	**-2.3**
MT01				*eS*			**Sn**	**07 56 57.7**	**-1.0**
MT01				IAML				07 57 14.3	
comp=Z,3μm,0.7s									
MT09	**Talagante**	**2.23**	**154**	*eP*			**Pb**	**07 56 32.8**	**-1.9**
MT09				*i* S			**Sn**	**07 56 58.8**	**-0.3**
MT09				IAML				07 57 18.0	
comp=N,3μm,0.5s									
MT09	**Talagante**	**2.23**	**154**				**Pb**	**07 56 32.6**	**-2.1**
AUSP	**Uspallata**	**2.40**	**101**	*eP*			**Pb**	**07 56 37.5**	**-0.3**
AUSP				*eS*			**Sg**	**07 57 11.9**	**+0.3**
RTLS	**Leoncito**	**2.44**	**91**	*eP*			**Pg**	**07 56 39.5**	**-1.7**
RTLS				*eS*			**Sg**	**07 57 11.8**	**-1.1**
RTLS				IAML				07 57 14.1	
comp=Z,3μm,0.9s									
LMEL	**Las Melosas**	**2.64**	**142**	*iP*			**Pb**	**07 56 38.5**	**-3.4**
LMEL				*eS*			**Sn**	**07 57 09.9**	**+0.4**
LMEL				IAML				07 57 25.0	
comp=N,3μm,0.6s									
BO01	**Tunca**	**2.76**	**161**				**Pb**	**07 56 40.5**	**-3.3**
BO01	**Tunca**	**2.76**	**161**	*eP*			**Pn**	**07 56 35.5**	**-3.2**
BO01				*eP*			**Pb**	**07 56 40.0**	**-3.8**
BO01				*eS*			**Sn**	**07 57 11.9**	**-0.1**
BO01				IAML				07 57 32.2	
comp=Z,2μm,0.7s									
ARCO	**CERRO ARCO**	**2.94**	**112**	*eP*			**Pb**	**07 56 46.0**	**-0.9**
ARCO				*eS*			**Sg**	**07 57 30.9**	**+2.2**
ARCO				IAML				07 57 36.2	
comp=Z,2μm,1.2s									
ZON	**Zonda**	**2.98**	**86**				**Pn**	**07 56 43.1**	**+1.3**
LCO	**Las Campanas**	**3.04**	**25**	*eP*			**Pn**	**07 56 43.3**	**+0.6**
LCO				*eS*			**Sn**	**07 57 19.1**	**-0.2**
ACDV	**Cuesta del Vie**	**3.07**	**59**	*eP*			**Pb**	**07 56 49.5**	**+0.3**
ACDV				*eS*			**Sg**	**07 57 30.2**	**-2.8**
ACDV				IAML				07 57 34.3	
comp=Z,2μm,0.8s									
RTCV	**Cerro Valdivia**	**3.09**	**92**	*eP*			**Pb**	**07 56 47.5**	**-1.9**
RTCV				*eS*			**Sb**	**07 57 27.9**	**+0.8**
GO05	**Huala**	**3.23**	**177**				**Pn**	**07 56 47.2**	**+2.1**
GO05	**Huala**	**3.23**	**177**	*eP*			**Pn**	**07 56 45.2**	**+0.1**
GO05				*eS*			**Sn**	**07 57 20.8**	**-2.9**
AC04	**Llanos de Chal**	**3.69**	**15**	*eP*			**Pb**	**07 56 56.6**	**-3.0**
LAMA	**Las Malvinas**	**4.00**	**143**	*eP*			**Pb**	**07 57 00.3**	**-4.6**
VCA	**Vinchina**	**4.58**	**50**	*eP*			**Pb**	**07 57 11.0**	**-3.8**
VCA				*eS*			**Sb**	**07 58 05.0**	**-5.2**
VCA				IAML				07 58 26.4	
comp=Z,2μm,0.6s									
ACHE	**Chepes**	**4.74**	**84**	*eP*			Pb	07 57 12.4	-5.2
ACHE				*eS*			**Sb**	**07 58 13.2**	**-1.7**
MRA	**San Martin**	**5.51**	**98**	*eP*			Pb	07 57 22.6	-8.1
MRA				*eS*			**Sn**	**07 58 25.9**	**+5.9**
H03N1	**Juan Fernandez**	**5.93**	**252**	T			T	08 04 15.4	
baz=80,slow=72,SNR=60									
H03N3	**Juan Fernandez**	**5.94**	**252**	T			T	08 04 11.4	
baz=80,slow=72,SNR=64									
H03N2	**Juan Fernandez**	**5.94**	**252**	T			T	08 04 10.8	
baz=80,slow=72,SNR=55									
LC01	**Cunco**	**7.11**	**178**				**Pn**	**07 57 38.9**	**+0.5**
LC01	**Cunco**	**7.11**	**178**	*eP*			**Pn**	**07 57 38.0**	**-0.4**
AHML	**Horco Molle**	**7.77**	**52**	*eP*			Pn	07 57 53.0	+5.5
PLCA	**Paso Flores**	**9.03**	**172**	Pn			**Pn**	**07 58 05.9**	**+1.0**
comp=Z,1.7nm,0.3s,baz=334,slow=12,SNR=18									
PLCA	**Paso Flores**	**9.03**	**172**				**Pn**	**07 58 05.6**	**+0.8**
PLCA	**Paso Flores**	**9.03**	**172**	*eP*			**Pn**	**07 58 05.5**	**+0.7**
LL04	**Puerto Octay**	**9.11**	**181**	Pn			**Pn**	**07 58 06.3**	**+0.4**
TRQA	**Tornquist**	**10.45**	**130**				**Pn**	**07 58 25.0**	**+0.8**
LPAZ	**La Paz**	**15.85**	**14**	Pn			**P**	**07 59 39.1**	**-2.9**
comp=Z,0.2nm,0.3s,baz=188,slow=5.4,SNR=9.6									
LPAZ	**La Paz**	**15.85**	**14**	Pn			**Pn**	**07 59 38.4**	**+0.2**
AQDB	**Aquidauana**	**18.56**	**57**	P			**Pn**	**08 00 10.9**	**-0.6**
SIV	**San Ignacio**	**18.68**	**35**	P			**Pn**	**08 00 13.6**	**+0.4**
comp=Z,0.1nm,0.3s,baz=232,slow=10,SNR=7.0									
NNA	**Nana**	**20.16**	**347**	P			Pn	08 00 31.6	+0.7
comp=Z,5.8nm,0.7s,baz=202,slow=7.8,SNR=3.8									
SPB	**Sao Paulo**	**23.34**	**76**	P			**P**	**08 01 02.8**	**0.0**
BDFB	**Brasilia**	**27.24**	**59**	P			**P**	**08 01 38.2**	**-0.6**
comp=Z,14nm,0.9s,baz=218,slow=8.8,SNR=9.9									
BDFB				LR			LR	08 13 14.8	
comp=Z,299nm,22.0s,baz=265,slow=38									
BDFB	**Brasilia**	**27.24**	**59**	P			**P**	**08 01 38.3**	**-0.6**
BDFB				IAmb			IAmb	08 01 40.0	
comp=Z,15nm,0.9s									
RUSC	**La Rusia**	**37.47**	**359**	P			**P**	**08 03 09.7**	**+1.0**
RUSC				IAmb			IAmb	08 03 28.3	
comp=Z,15nm,1.1s									
VNA3	**Neumayer Olymp**	**51.45**	**158**	P			**P**	**08 05 00.8**	**+1.4**
VNA2	**Neumayer--Watz**	**52.10**	**158**	P			**P**	**08 05 05.5**	**+1.4**
baz=286,slow=8.3									
SNAA	**Sanae**	**53.68**	**158**	P			**P**	**08 05 17.1**	**+1.2**
SNAA	**Sanae**	**53.68**	**158**	P			**P**	**08 05 16.8**	**+0.9**
comp=Z,6.4nm,0.7s,baz=273,slow=7.8,SNR=59									
SNAA	**Sanae**	**53.68**	**158**	P			**P**	**08 05 16.4**	**+0.5**
QSPA	**South Pole Qui**	**58.45**	**180**	P			**P**	**08 05 52.0**	**+1.7**
VNDA	**Vanda**	**66.25**	**191**	P			**P**	**08 06 44.1**	**+2.1**
comp=Z,0.5nm,0.7s,baz=136,slow=6.4,SNR=2.4									
JCT	**Junction City**	**67.24**	**334**	P			**P**	**08 06 49.5**	**+0.6**
JCT				IAmb			IAmb	08 06 51.4	
comp=Z,8.6nm,1.0s									
TX32	**Lajitas Array**	**67.75**	**330**	P			**P**	**08 06 53.0**	**+0.7**
TXAR	**Lajitas Array**	**67.75**	**330**	P			**P**	**08 06 53.8**	**+1.5**
comp=Z,1.6nm,0.7s,baz=149,slow=8.0,SNR=17									
TX31	**Lajitas Ar. Si**	**67.75**	**330**	P			**P**	**08 06 52.8**	**+0.5**
TX31				IAmb			IAmb	08 06 54.3	
comp=Z,6.4nm,0.8s									
Z35A	**Perchaven, San**	**68.95**	**338**	P			**P**	**08 07 00.3**	**+0.7**
ABTX	**Abilene, Hawle**	**69.12**	**335**	P			**P**	**08 07 00.6**	**-0.1**
ABTX				IAmb			IAmb	08 07 02.9	
comp=Z,7.6nm,0.9s									
W39A	**Magazine**	**69.65**	**341**	P			**P**	**08 07 04.8**	**+0.9**
U40A	**Yellville**	**70.50**	**342**	P			**P**	**08 07 09.1**	**+0.1**
U40A				IAmb			IAmb	08 07 11.1	
comp=Z,4.2nm,0.7s									
MNTX	**Cornudas Mount**	**70.53**	**330**	P			**P**	**08 07 09.1**	**-0.3**
MNTX				IAmb			IAmb	08 07 10.6	
comp=Z,3.8nm,0.8s									
HHAR	**Hobbs**	**70.71**	**341**	P			**P**	**08 07 10.2**	**-0.2**
HHAR				IAmb			IAmb	08 07 11.9	
comp=Z,5.9nm,0.7s									
MSTX	**Muleshoe**	**71.48**	**333**	P			**P**	**08 07 15.7**	**+0.5**
S39A	**Bolivar**	**71.88**	**342**	P			**P**	**08 07 17.8**	**+0.4**
S39A				IAmb			IAmb	08 07 19.0	
comp=Z,9.7nm,1.3s									
R40A	**Maddies Statio**	**72.19**	**343**	P			**P**	**08 07 19.8**	**+0.6**
R40A				IAmb			IAmb	08 07 20.8	
comp=Z,8.0nm,0.8s									
121A	**Cookes Peak, D**	**72.28**	**329**	P			**P**	**08 07 19.9**	**-0.2**
121A				IAmb			IAmb	08 07 23.4	
comp=Z,7.7nm,1.0s									
P40A	**Paris**	**73.31**	**344**	P			**P**	**08 07 26.3**	**+0.5**
P40A				IAmb			IAmb	08 07 27.5	
comp=Z,9.2nm,0.9s									
DBIC	**Dimbokro**	**74.58**	**72**	P			**P**	**08 07 34.2**	**+0.3**
comp=Z,9.0nm,1.0s,baz=207,slow=9.0,SNR=4.5									
DBIC	**Dimbokro**	**74.58**	**72**	IAmb			IAmb	08 07 35.2	
comp=Z,47nm,1.4s									
T25A	**Trinidad**	**74.90**	**334**	P			**P**	**08 07 35.2**	**-0.3**
T25A				IAmb			IAmb	08 07 38.6	
comp=Z,6.7nm,0.8s									
MAW	**Mawson**	**75.33**	**164**	P			**P**	**08 07 38.7**	**+1.3**
comp=Z,0.9nm,0.5s,baz=248,slow=6

NEIC 17 08:00:06.4±1.7,30.77S×0.03×71.47W×0.08,h40km±5km, mb4.4/18,ML4.6(GUC),Error ellipse: s-maj=9.5km s-min=4.7km az=92.0

ISC 17 08:00:05.5±0.5,**30.69S**±0.03×**71.44W**×0.04,**h35**km,**n73,** σ1§**41**/74,**mb4.4**/13,**2C-1D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.17**	**277**	⇑	*iP*	**Pn**	**08 00 13.2**	**+1.1**
CO06					*eS*	**Sn**	**08 00 18.6**	**+2.0**
CO06					IAML		08 00 20.3	
	comp=E,57μm,0.2s							
CO06	**Fray Jorge**	**0.17**	**277**			**Pn**	**08 00 13.3**	**+1.1**
CO06					Sn	**Sn**	**08 00 18.8**	**+2.2**
CO03	**El Pedregal**	**0.66**	**103**		*eP*	**Pn**	**08 00 18.9**	**+0.4**
CO03					*eS*	**Sn**	**08 00 28.1**	**+0.4**
CO03	**El Pedregal**	**0.66**	**103**			**Pn**	**08 00 19.4**	**+0.9**
CO03					Sn	**Sn**	**08 00 29.0**	**+1.2**
GO04	**Tololo Observa**	**0.76**	**47**		*eP*	**Pn**	**08 00 20.5**	**+0.6**
GO04					*eS*	**Sn**	**08 00 31.6**	**+1.2**
GO04					IAML		08 00 33.9	
	comp=N,33μm,0.4s							
GO04	**Tololo Observa**	**0.76**	**47**			**Pn**	**08 00 20.6**	**+0.6**
GO04					Sn	**Sn**	**08 00 32.8**	**+2.5**
LCO	**Las Campanas**	**1.79**	**21**	⇓	*eP*	**Pn**	**08 00 35.2**	**+0.9**
LCO					*eS*	**Sn**	**08 00 57.5**	**+1.5**
LCO	**Las Campanas**	**1.79**	**21**			**Pn**	**08 00 35.2**	**+0.9**
VA03	**San Esteban**	**2.20**	**160**	⇑	*eP*	**Pn**	**08 00 41.2**	**+1.6**
VA03					*eS*	**Sn**	**08 01 09.2**	**+3.5**
VA03					IAML		08 01 16.3	
	comp=E,5μm,0.2s							
VA03	**San Esteban**	**2.20**	**160**			**Pn**	**08 00 40.1**	**+0.4**
ROCH	**El Roble**	**2.30**	**171**		*eP*	**Pn**	**08 00 42.3**	**+1.1**
ROCH					*eS*	**Sn**	**08 01 12.3**	**+3.9**
ROCH					IAML		08 01 17.4	
	comp=N,4μm,0.7s							
VA01	**Torpederas**	**2.33**	**184**		*eP*	**Pn**	**08 00 41.4**	**+0.1**
VA01					*eS*	**Sn**	**08 01 09.0**	**+0.3**
VA01	**Torpederas**	**2.33**	**184**			**Pn**	**08 00 41.1**	**-0.2**
AC04	**Llanos de Chal**	**2.50**	**7**		*eP*	**Pn**	**08 00 45.1**	**+1.4**
AC04					*eS*	**Sn**	**08 01 14.6**	**+1.6**
AC04	**Llanos de Chal**	**2.50**	**7**			**Pn**	**08 00 45.3**	**+1.5**
ZON	**Zonda**	**2.52**	**110**			**Pn**	**08 00 45.0**	**+1.1**
MT05	**Renca**	**2.76**	**168**		*eP*	**Pn**	**08 00 48.7**	**+1.4**
MT05					*eS*	**Sn**	**08 01 22.2**	**+2.8**
MT05					IAML		08 01 35.0	
	comp=E,4μm,0.3s							
MT05	**Renca**	**2.76**	**168**			**Pn**	**08 00 48.3**	**+1.0**
VA05	**Santo Domingo**	**2.96**	**183**		*eP*	**Pn**	**08 00 49.8**	**-0.2**
VA05					*i* S	Sn	08 01 33.1	+8.8
VA05					IAML		08 01 44.0	
	comp=E,2μm,0.5s							
VA05	**Santo Domingo**	**2.96**	**183**			**Pn**	**08 00 49.2**	**-0.8**
MT09	**Talagante**	**3.10**	**173**		*eP*	**Pn**	**08 00 53.2**	**+1.1**
MT09					*i* S	**Sn**	**08 01 29.9**	**+2.0**
MT09					IAML		08 01 43.2	
	comp=N,1μm,0.4s							
MT09	**Talagante**	**3.10**	**173**			**Pn**	**08 00 52.4**	**+0.3**
MT01	**Popeta**	**3.17**	**177**		*eP*	**Pn**	**08 00 53.5**	**+0.6**
MT01					*eS*	**Sn**	**08 01 30.8**	**+1.3**
MT01	**Popeta**	**3.17**	**177**			**Pn**	**08 00 53.6**	**+0.8**
LMEL	**Las Melosas**	**3.31**	**162**		*eP*	**Pn**	**08 00 57.7**	**+2.6**
LMEL					*eS*	**Sn**	**08 01 36.5**	**+3.2**
LMEL					IAML		08 01 47.2	
	comp=N,1μm,0.2s							
BO01	**Tunca**	**3.70**	**175**			**Pn**	**08 01 01.0**	**+0.7**
GO05	**Huala**	**4.32**	**185**	Pn		**Pn**	**08 01 07.9**	**-1.0**
AC02	**Maricunga**	**4.35**	**28**			**Pn**	**08 01 11.7**	**+2.1**
ML02	**Panimavida**	**5.06**	**180**	Pn		**Pn**	**08 01 18.5**	**-0.4**
H03N1	**Juan Fernandez**	**6.91**	**245**	T		T	08 08 39.1	
	baz=74,slow=72,SNR=144							
VA04	**Juan Fernndez**	**6.92**	**243**	Pn		**Pn**	**08 01 42.7**	**-1.8**
H03N3	**Juan Fernandez**	**6.92**	**245**	T		T	08 08 36.8	
	baz=74,slow=72,SNR=125							
H03N2	**Juan Fernandez**	**6.92**	**245**	T		T	08 08 34.4	
	baz=74,slow=72,SNR=116							
LVC	**Limon Verde**	**8.36**	**16**	Pn		**Pn**	**08 02 02.9**	**-1.8**
	baz=21,slow=5.5,SNR=0.5							
PLCA	**Paso Flores**	**10.04**	**176**	Pn		**Pn**	**08 02 26.0**	**-1.4**
	comp=N,0.2nm,0.3s,baz=115,slow=20,SNR=2.1							
LL04	**Puerto Octay**	**10.22**	**184**	Pn		**Pn**	**08 02 27.7**	**-2.0**
TRQA	**Tornquist**	**10.72**	**136**	Pn		**Pn**	**08 02 38.4**	**+1.8**
CPUP	**Villa Florida**	**13.14**	**74**	Pn		**Pn**	**08 03 08.7**	**-1.0**
	comp=N,0.3nm,0.3s,baz=168,slow=15,SNR=2.9							
LPAZ	**La Paz**	**14.66**	**13**	Pn		**Pn**	**08 03 32.1**	**+1.2**
	comp=N,0.2nm,0.3s,baz=134,slow=7.7,SNR=5.9							
LPAZ	**La Paz**	**14.66**	**13**	Pn		**Pn**	**08 03 32.4**	**+1.4**
SIV	**San Ignacio**	**17.44**	**35**	P		**P**	**08 04 06.6**	**-0.5**
	comp=N,0.8nm,0.3s,baz=224,slow=7.2,SNR=11							
BDFB	**Brasilia**	**26.16**	**60**	P		**P**	**08 05 35.4**	**-1.4**
	comp=N,7.3nm,0.7s,baz=228,slow=8.1,SNR=7.1							
BDFB	**Brasilia**	**26.16**	**60**	P		**P**	**08 05 36.0**	**-0.8**
BDFB					IAmb	IAmb	08 05 37.6	
	comp=Z,8.5nm,0.9s							
RUSC	**La Rusia**	**36.41**	**357**	P		**P**	**08 07 08.8**	**+1.3**
RUSC					IAmb	IAmb	08 07 09.4	
	comp=Z,7.4nm,0.8s							
DRK0	**Durika**	**41.31**	**342**			**PcP**	**08 09 47.6**	**+1.3**
CVTR	**Volcan Turrial**	**42.17**	**342**	P		**P**	**08 07 56.0**	**+0.6**
CBYP	**Canovanas**	**48.98**	**7**	P		**P**	**08 08 48.0**	**-0.8**
SNAA	**Sanae**	**54.46**	**159**	P		**P**	**08 09 28.2**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=271,slow=7.9,SNR=11							
SNAA	**Sanae**	**54.46**	**159**		IAmb	IAmb	08 09 49.6	
	comp=Z,4.0nm,1.2s							
QSPA	**South Pole Qui**	**59.53**	**180**	P		**P**	**08 10 05.1**	**-0.1**
QSPA					IAmb	IAmb	08 10 24.9	
	comp=Z,3.2nm,1.0s							
TX31	**Lajitas Ar. Si**	**67.12**	**330**	P		**P**	**08 10 56.8**	**+1.0**
TX31					IAmb	IAmb	08 11 07.4	
	comp=Z,4.5nm,1.3s							
TXAR	**Lajitas Array**	**67.12**	**330**	P		**P**	**08 10 56.2**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=158,slow=7.9,SNR=9.2							
DBIC	**Dimbokro**	**73.65**	**72**	P		**P**	**08 11 35.2**	**-0.7**
	comp=Z,6.7nm,0.5s,baz=231,slow=5.1,SNR=18							
DBIC	**Dimbokro**	**73.65**	**72**	IAmb		IAmb	08 11 36.0	
	comp=Z,31nm,1.3s							
MAW	**Mawson**	**76.20**	**164**	P		**P**	**08 11 49.0**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=227,slow=6.7,SNR=10							
MAW	**Mawson**	**76.20**	**164**	IAmb		IAmb	08 11 52.6	
	comp=Z,1.2nm,1.3s							
ECSD	**EROS Data Cent**	**77.57**	**342**	P		**P**	**08 11 57.7**	**0.0**
ECSD					IAmb	IAmb	08 11 58.7	
	comp=Z,5.7nm,0.8s							
PDAR	**Pinedale Array**	**81.06**	**333**	P		**P**	**08 12 17.6**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=179,slow=4.1,SNR=2.4							
BOSA	**Boshof**	**81.16**	**118**	P		**P**	**08 12 17.4**	**-0.6**
	comp=Z,5.2nm,1.0s,baz=237,slow=4.0,SNR=4.3							
BOSA	**Boshof**	**81.16**	**118**	IAmb		IAmb	08 12 17.8	
	comp=Z,6.1nm,0.9s							
NVAR	**Mina Array Bea**	**81.48**	**325**	P		**P**	**08 12 19.8**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=163,slow=6.6,SNR=2.0							
TORD	**Torodi Ar. Bea**	**82.61**	**70**	P		**P**	**08 12 25.1**	**-0.4**
	comp=Z,2.6nm,0.5s,baz=278,slow=6.2,SNR=41							
TORD	**Torodi Ar. Bea**	**82.61**	**70**	P		**P**	**08 12 25.3**	**-0.2**
TORD					IAmb	IAmb	08 12 25.5	
	comp=Z,2.9nm,0.7s							
H11S2	**WAKE ISLAND Hyl**	**26.27**	**271**	T		T	10 37 50.2	
	baz=116,slow=75,SNR=87							
H11S1	**WAKE ISLAND Hyl**	**26.28**	**271**	T		T	10 37 51.9	
	baz=116,slow=75,SNR=70							
H11S3	**WAKE ISLAND Hyl**	**26.29**	**271**	T		T	10 37 54.8	
	baz=116,slow=75,SNR=66							
H11N3	**WAKE ISLAND Hyl**	**26.60**	**273**	T		T	10 38 16.6	
	baz=117,slow=75,SNR=7.9							
H11N1	**WAKE ISLAND Hyl**	**26.61**	**273**	T		T	10 38 21.5	
	baz=117,slow=75,SNR=3.4							
H11N2	**WAKE ISLAND Hyl**	**26.61**	**273**	T		T	10 38 17.4	
	baz=117,slow=75,SNR=15							
BVAR	**Borovoye Array**	**144.47**	**40**	PKP		PKPbc	08 19 36.2	-0.1
	comp=Z,1.9nm,0.5s,baz=285,slow=2.3,SNR=6.4							
KURBB	**Kurchatov Arra**	**150.06**	**40**	PKPbc		**PKPbc**	**08 19 51.0**	**-1.1**
	comp=Z,1.1nm,0.4s,baz=302,slow=3.0,SNR=4.7							
KURK	**Kurchatov**	**150.07**	**39**			**PKPbc**	**08 19 51.0**	**-1.1**
ZALV	**Zalesovo Beam**	**151.14**	**30**	PKPbc		**PKPbc**	**08 19 53.8**	**-0.7**
	comp=Z,6.2nm,0.5s,baz=278,slow=2.4,SNR=9.5							

NEIC 17 08:05:30.5±0.6,31.56S×0.03×71.80W×0.04,h6km±6km, mb4.4/3,Error ellipse: s-maj=5.4km s-min=3.2km az=45.0

IDC 17 08:05:30.9±1.6,31.62S×71.39W,h0km,mb4.1/1, mb1 3.7/4,mb1mx3.5/24,mbtmp3.6/4,ML3.4/3,Error ellipse: s-maj=84.1km s-min=32.5km az=106.0

ISC 17 08:05:30.9±0.8,**31.54S**±0.06×**71.80W**±0.10,**h10**km,**n31,** σ0§**71**/22,**mb4.3**/3,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.88**	**9**			**Pg**	**08 05 47.6**	**-0.2**
CO03	**El Pedregal**	**1.18**	**54**			**Pg**	**08 05 53.4**	**-0.1**
CO03						**Sb**	**08 06 08.1**	**-0.7**
VA01	**Torpederas**	**1.48**	**175**			**Pn**	**08 05 57.2**	**-0.4**
VA03	**San Esteban**	**1.61**	**139**			**Pn**	**08 05 59.3**	**-0.2**
GO04	**Tololo Observa**	**1.61**	**32**			**Pn**	**08 05 59.8**	**+0.2**
MT05	**Renca**	**2.05**	**154**			**Pn**	**08 06 06.1**	**+0.6**
VA05	**Santo Domingo**	**2.11**	**176**			**Pn**	**08 06 05.8**	**-0.5**
MT09	**Talagante**	**2.33**	**163**			**Pn**	**08 06 10.2**	**+0.8**
MT01	**Popeta**	**2.36**	**169**			**Pn**	**08 06 09.3**	**-0.4**
BO01	**Tunca**	**2.90**	**168**			**Pn**	**08 06 17.1**	**-0.1**
GO05	**Huala**	**3.46**	**182**	Pn		**Pn**	**08 06 23.7**	**-1.1**
GO03	**Copiap**	**4.16**	**19**	Pn		**Pn**	**08 06 34.5**	**-0.1**
H03N1	**Juan Fernandez**	**6.30**	**251**	T		T	08 13 53.9	
	baz=78,slow=72,SNR=73							
H03N3	**Juan Fernandez**	**6.32**	**251**	T		T	08 13 53.9	
	baz=78,slow=72,SNR=60							
H03N2	**Juan Fernandez**	**6.32**	**251**	T		T	08 13 55.1	
	baz=78,slow=72,SNR=66							
PLCA	**Paso Flores**	**9.22**	**174**	Pn		**Pn**	**08 07 44.1**	**+0.1**
	0.2nm,0.3s,baz=180,slow=20,SNR=1.3							
LPAZ	**La Paz**	**15.55**	**13**	Pn		**Pn**	**08 09 12.2**	**+1.3**
	0.0nm,0.3s,baz=357,slow=22,SNR=0.8							
SIV	**San Ignacio**	**18.31**	**35**	P		**Pn**	**08 09 44.4**	**-0.8**
	0.1nm,0.3s,baz=73,slow=17,SNR=1.3							
SNAA	**Sanae**	**53.78**	**159**	P		**P**	**08 14 53.0**	**-0.2**
SNAA					IAmb	IAmb	08 14 58.3	
	comp=Z,5.2nm,1.4s							
QSPA	**South Pole Qui**	**58.69**	**180**	P		**P**	**08 15 28.4**	**0.0**
QSPA					IAmb	IAmb	08 15 39.0	
	comp=Z,3.3nm,1.3s							
TORD	**Torodi Ar. Bea**	**83.18**	**70**	P		**P**	**08 17 57.6**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=251,slow=4.2,SNR=6.5							
TORD	**Torodi Ar. Bea**	**83.18**	**70**	IAmb		IAmb	08 18 08.5	
	comp=Z,3.8nm,1.2s							
WRA	**Warramunga Arr**	**123.00**	**210**	PKP		**PKiKP**	**08 24 29.3**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=164,slow=1.5,SNR=5.7							
H11S2	**WAKE ISLAND Hyl**	**25.98**	**271**	T		T	10 43 24.2	
	baz=116,slow=75,SNR=11							
H11S1	**WAKE ISLAND Hyl**	**25.99**	**271**	T		T	10 43 25.3	
	baz=116,slow=75,SNR=7.9							
H11S3	**WAKE ISLAND Hyl**	**26.00**	**271**	T		T	10 43 25.9	
	baz=116,slow=75,SNR=8.0							
H11N3	**WAKE ISLAND Hyl**	**26.33**	**272**	T		T	10 43 48.5	
	baz=117,slow=74							
H11N1	**WAKE ISLAND Hyl**	**26.34**	**272**	T		T	10 43 49.0	
	baz=117							
H11N2	**WAKE ISLAND Hyl**	**26.35**	**272**	T		T	10 43 50.5	
	baz=117,slow=74							
ZALV	**Zalesovo Beam**	**152.02**	**30**	PKPbc		**PKiKP**	**08 25 27.6**	**+1.5**
	comp=Z,0.1nm,100.0s,baz=310,slow=3.1,SNR=5.8							
ZALV	**Zalesovo Beam**	**152.02**	**30**			**PKPbc**	**08 25 25.0**	**-0.9**

IDC 17 08:10:35.4±1.1,31.76S×72.10W,h0km,mb4.0/4, mb1 4.1/6,mb1mx3.9/28,mbtmp3.9/6,ML3.8/2,Error ellipse: s-maj=54.5km s-min=23.9km az=72.0

NEIC 17 08:10:36.8±2.0,31.74S×72.04W×0.1,h8km±4km, mb4.5/8,Error ellipse: s-maj=14.7km s-min=5.7km az=100.0

ISC 17 08:10:37.6±0.7,**31.72S**±0.04×**71.9W**±0.2,**h14**km,**n30,** σ1§**18**/27,**mb4.4**/6,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**1.07**	**12**	Pn		**Pb**	**08 10 57.8**	**-0.1**
CO06				Sn		**Sb**	**08 11 12.2**	**+0.4**
VA01	**Torpederas**	**1.31**	**171**	Pn		**Pb**	**08 11 01.3**	**-0.8**
VA05	**Santo Domingo**	**1.94**	**173**	Pn		**Pn**	**08 11 09.7**	**-0.6**
MT09	**Talagante**	**2.19**	**160**	Pn		**Pn**	**08 11 12.9**	**-0.8**
MT01	**Popeta**	**2.20**	**166**	Pn		**Pn**	**08 11 12.4**	**-1.4**
BO01	**Tunca**	**2.75**	**166**	Pn		**Pn**	**08 11 20.9**	**-0.4**
ZON	**Zonda**	**2.75**	**87**	Pn		**Pn**	**08 11 21.9**	**+0.5**
GO05	**Huala**	**3.28**	**180**	Pn		**Pn**	**08 11 27.5**	**-1.2**
H03N1	**Juan Fernandez**	**6.17**	**252**	T		T	08 18 56.3	
	baz=72,slow=72,SNR=2.5							
H03N3	**Juan Fernandez**	**6.18**	**252**	T		T	08 18 55.1	
	baz=72,slow=72,SNR=4.0							
H03N2	**Juan Fernandez**	**6.18**	**252**	T		T	08 18 53.5	
	baz=72,slow=72,SNR=5.3							
LC01	**Cunco**	**7.16**	**180**	Pn		**Pn**	**08 12 20.6**	**-1.3**
PLCA	**Paso Flores**	**9.06**	**173**	Pn		**Pn**	**08 12 46.8**	**-1.2**
	0.4nm,0.3s,baz=342,slow=13,SNR=8.4							
LL04	**Puerto Octay**	**9.18**	**182**	Pn		**Pn**	**08 12 49.0**	**-0.6**
LVC	**Limon Verde**	**9.46**	**17**	Sn		**Sn**	**08 14 36.4**	**-3.8**
	0.3nm,0.3s,baz=282,slow=15,SNR=3.3							
LPAZ	**La Paz**	**15.74**	**13**	Pn		**Pn**	**08 14 20.7**	**+1.0**
	0.1nm,0.3s,baz=198,slow=9.3,SNR=3.2							
RUSC	**La Rusia**	**37.42**	**358**	P		**P**	**08 17 50.6**	**-0.4**
PRVC	**Isla de Provid**	**45.75**	**347**	P		**P**	**08 18 59.1**	**+0.4**
PRVC					IAmb	IAmb	08 19 15.7	
	comp=Z,6.1nm,0.9s							
OBIP	**Obispado Ponce**	**49.74**	**7**	P		**P**	**08 19 30.2**	**+0.6**
OBIP					IAmb	IAmb	08 19 47.8	
	comp=Z,6.2nm,1.0s							
VNA3	**Neumayer Olymp**	**51.42**	**159**	P		**P**	**08 19 43.0**	**+1.3**
VNA1	**Neumayer--Stat**	**51.72**	**158**	P		**P**	**08 19 45.6**	**+1.6**
VNA2	**Neumayer--Watz**	**52.06**	**158**	P		**P**	**08 19 47.7**	**+1.1**
	baz=284,slow=8.5							
SNAA	**Sanae**	**53.65**	**158**	P		**P**	**08 19 59.2**	**+0.9**
SNAA	**Sanae**	**53.65**	**158**	P		**P**	**08 19 58.7**	**+0.3**
	comp=Z,4.9nm,0.8s,baz=290,slow=6.0,SNR=15							
SNAA	**Sanae**	**53.65**	**158**	P		**P**	**08 19 59.2**	**+0.9**
QSPA	**South Pole Qui**	**58.51**	**180**	P		**P**	**08 20 34.0**	**+0.8**
TXAR	**Lajitas Array**	**67.82**	**330**	P		**P**	**08 21 34.8**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=135,slow=9.0,SNR=4.7							
NVAR	**Mina Array Bea**	**82.09**	**325**	P		**P**	**08 22 57.9**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=157,slow=4.9,SNR=5.3							
TORD	**Torodi Ar. Bea**	**83.32**	**70**	P		**P**	**08 23 05.2**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=241,slow=4.5,SNR=5.6							
TORD	**Torodi Ar. Bea**	**83.32**	**70**	IAmb		IAmb	08 23 22.7	
	comp=Z,2.6nm,1.1s							

IDC 17 08:13:59.7±0.9,31.78S×71.62W,h0km,mb4.0/7, mb1 4.0/10,mb1mx3.9/31,mbtmp3.9/10,ML3.7/3,MS4.3/1, Ms1 4.3/1,ms1mx3.3/19,Error ellipse: s-maj=33.7km s-min=21.1km az=90.0

GUC 17 08:14:02.1±0.7,31.84S×71.98W,h29km±3km,ML4.4

NEIC 17 08:14:03.7±1.9,31.86S±0.05×71.88W±0.06,h24km±5km, Error ellipse: s-maj=8.7km s-min=5.6km az=136.0

ISC 17 08:13:59.6±2.7,**31.82S**±0.04×**71.97W**±0.07,**h2**km±17km, **n60,**σ1§**00**/54,**mb4.4**/9,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VA01	**Torpederas**	**1.23**	**167**		*eP*	**Pn**	**08 14 23.6**	**-0.2**
VA01					*eS*	**Sb**	**08 14 38.9**	**-0.9**
VA01	**Torpederas**	**1.23**	**167**			**Pn**	**08 14 23.8**	**0.0**
ROCH	**El Roble**	**1.40**	**145**		*eP*	**Pn**	**08 14 26.6**	**+0.2**
ROCH					*eS*	**Sb**	**08 14 45.3**	**+0.2**
ROCH					IAML		08 14 48.6	
	comp=N,7μm,0.3s							
CO03	**El Pedregal**	**1.47**	**48**		*eP*	**Pb**	**08 14 27.8**	**+0.1**
CO03					*eS*	**Sg**	**08 14 47.1**	**+0.2**
CO03					IAML		08 14 50.1	
	comp=E,4μm,0.4s							
CO03	**El Pedregal**	**1.47**	**48**	Pn		**Pb**	**08 14 27.9**	**+0.1**
VA03	**San Esteban**	**1.52**	**128**		*eP*	**Pn**	**08 14 28.5**	**+0.5**
VA03					*eS*	**Sb**	**08 14 48.0**	**-0.5**
VA03					IAML		08 14 54.4	
	comp=N,13μm,0.6s							
VA03	**San Esteban**	**1.52**	**128**			**Pn**	**08 14 28.5**	**+0.5**
VA05	**Santo Domingo**	**1.85**	**171**		*eP*	**Pn**	**08 14 33.6**	**+1.2**
VA05					*eS*	**Sn**	**08 14 56.7**	**+0.3**
VA05					IAML		08 15 07.4	
	comp=E,8μm,0.4s							
VA05	**Santo Domingo**	**1.85**	**171**			**Pn**	**08 14 33.6**	**+1.2**
MT05	**Renca**	**1.88**	**147**		*eP*	**Pn**	**08 14 33.7**	**+0.9**
MT05					*eS*	**Sb**	**08 14 58.8**	**+0.1**
MT05					IAML		08 15 03.3	
	comp=E,7μm,0.4s							
MT05	**Renca**	**1.88**	**147**			**Pn**	**08 14 33.8**	**+0.9**
GO04	**Tololo Observa**	**1.93**	**32**		*eP*	**Pb**	**08 14 35.4**	**-0.3**
GO04					*eS*	**Sb**	**08 15 00.2**	**0.0**
MT09	**Talagante**	**2.12**	**157**		*eP*	**Pn**	**08 14 37.0**	**+0.8**
MT09					*eS*	**Sn**	**08 15 03.9**	**+0.8**
MT09					IAML		08 15 16.5	
	comp=E,3μm,0.4s							
MT09	**Talagante**	**2.12**	**157**			**Pn**	**08 14 36.8**	**+0.6**
MT01	**Popeta**	**2.12**	**164**		*eP*	**Pn**	**08 14 37.3**	**+1.2**
MT01					*eS*	**Sn**	**08 15 02.0**	**-1.2**
MT01					IAML		08 15 14.7	
	comp=E,2μm,0.7s							
MT01	**Popeta**	**2.12**	**164**			**Pn**	**08 14 37.3**	**+1.2**
LMEL	**Las Melosas**	**2.51**	**144**		*eP*	**Pn**	**08 14 43.2**	**+1.7**
LMEL					*eS*	**Sn**	**08 15 14.4**	**+1.6**
LMEL					IAML		08 15 23.5	
	comp=N,2μm,0.2s							
BO01	**Tunca**	**2.67**	**164**			**Pn**	**08 14 44.5**	**+0.9**
GO05	**Huala**	**3.18**	**179**	Pn		**Pn**	**08 14 49.6**	**-1.0**
ML02	**Panimavida**	**3.96**	**173**	Pn		**Pn**	**08 15 01.1**	**-0.2**
H03N1	**Juan Fernandez**	**6.08**	**253**	T		T	08 22 10.5	
	baz=74,slow=74							
H03N3	**Juan Fernandez**	**6.09**	**253**	T		T	08 22 18.8	
	baz=74,slow=74							
H03N2	**Juan Fernandez**	**6.09**	**253**	T		T	08 22 08.5	
	baz=74							
H03S3	**Juan Fernandez**	**6.17**	**249**	T		T	08 22 23.8	
	baz=78,slow=75,SNR=14							
H03S1	**Juan Fernandez**	**6.18**	**249**	T		T	08 22 25.8	
	baz=78,slow=75,SNR=11							
H03S2	**Juan Fernandez**	**6.19**	**249**	T		T	08 22 21.0	
	baz=78,slow=75,SNR=1.9							
LC01	**Cunco**	**7.06**	**179**	Pn		**Pn**	**08 15 43.0**	**-1.0**
PLCA	**Paso Flores**	**8.96**	**173**	Pn		**Pn**	**08 16 10.7**	**+0.5**
	comp=N,0.5nm,0.3s,baz=344,slow=14,SNR=8.1							
LL05	**Los Muermos**	**9.64**	**187**	Pn		**Pn**	**08 16 19.3**	**-0.1**
LPAZ	**La Paz**	**15.86**	**14**	Pn		**Pn**	**08 17 44.8**	**+0.2**
	comp=N,0.0nm,0.3s,baz=134,slow=4.8,SNR=2.3							
SIV	**San Ignacio**	**18.62**	**35**	P		**P**	**08 18 17.0**	**-1.6**
	comp=N,0.1nm,0.3s,baz=149,slow=20,SNR=1.3							
USHA	**Ushuaia**	**23.14**	**175**	LR		LR	08 28 13.9	
	comp=N,810nm,19.6s,baz=4.5,slow=37							
SAML	**Samuel**	**24.18**	**22**	P		**P**	**08 19 18.6**	**+1.1**
BDFB	**Brasilia**	**27.12**	**59**	P		**P**	**08 19 41.4**	**-2.9**
	comp=N,4.5nm,0.5s,baz=238,slow=6.2,SNR=6.5							
BDFB	**Brasilia**	**27.12**	**59**	IAmb		IAmb	08 19 44.8	
	comp=Z,4.6nm,0.6s							
RUSC	**La Rusia**	**37.52**	**358**	P		**P**	**08 21 16.5**	**+0.8**
RUSC						IAmb	IAmb	08 21 33.6
	comp=Z,5.9nm,1.0s							
PTCN	**Pitcairn Islan**	**51.04**	**262**	P		**P**	**08 23 04.8**	**+1.3**
VNA3	**Neumayer Olymp**	**51.35**	**158**	P		**P**	**08 23 06.2**	**+1.0**
VNA2	**Neumayer--Watz**	**51.99**	**158**	P		**P**	**08 23 10.2**	**+0.2**
	baz=280,slow=8.6							
SNAA	**Sanae**	**53.58**	**158**	P		**P**	**08 23 22.1**	**+0.4**
SNAA	**Sanae**	**53.58**	**158**	P		**P**	**08 23 21.8**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=287,slow=6.5,SNR=19							
SNAA	**Sanae**	**53.58**	**158**	P		**P**	**08 23 22.1**	**+0.4**
SNAA					IAmb	IAmb	08 23 22.7	
	comp=Z,3.5nm,0.8s							
QSPA	**South Pole Qui**	**58.41**	**180**	P		**P**	**08 23 56.8**	**+0.3**
QSPA					IAmb	IAmb	08

BDFB Brasilia 26.70 61 P **P** **08 22 19.1 -1.1**
comp=N,2.0nm,0.6s,baz=145,slow=27,SNR=2.3
RUSC La Rusia 36.65 358 P **P** **08 23 49.5 +1.6**
RUSC IAmb IAmb 08 24 01.1
comp=Z,9.3nm,1.0s
VNA2 Neumayer--Watz 52.81 158 P **P** **08 25 55.9 +0.3**
baz=282,slow=7.1
SNAA Sanae 54.39 159 P **P** **08 26 07.5 +0.2**
SNAA Sanae 54.39 159 P **P** **08 26 07.3 0.0**
comp=Z,2.4nm,0.7s,baz=280,slow=8.4,SNR=13
SNAA Sanae 54.39 159 IAmb IAmb 08 26 08.3
comp=Z,2.7nm,0.7s
QSPA South Pole Qui 59.27 180 P **P** **08 26 42.7 +0.5**
TXAR Lajitas Array 67.11 330 P **P** **08 27 35.0 +0.5**
comp=Z,0.6nm,0.6s,baz=153,slow=8.9,SNR=13
MAW Mawson 76.08 164 P **P** **08 28 28.1 +0.1**
comp=Z,0.9nm,0.4s,baz=327,slow=19,SNR=3.3
TORD Torodi Ar. Bea 83.15 70 P **P** **08 29 06.4 -0.9**
comp=Z,1.1nm,0.7s,baz=255,slow=4.7,SNR=4.4
TORD Torodi Ar. Bea 83.15 70 P **P** **08 29 06.8 -0.4**
TORD IAmb IAmb 08 29 24.6
comp=Z,2.3nm,1.2s
WRA Warramunga Arr 123.42 210 PKP **PKPdf** **08 35 38.0 -0.8**
comp=Z,0.5nm,0.5s,baz=157,slow=1.7,SNR=6.4
H11S2 WAKE ISLAND Hyl 25.80 271 T T 10 54 31.4
baz=116,slow=75,SNR=25
H11S1 WAKE ISLAND Hyl 25.81 271 T T 10 54 30.4
baz=116,slow=75,SNR=24
H11S3 WAKE ISLAND Hyl 25.81 271 T T 10 54 32.8
baz=116,slow=75,SNR=31
H11N3 WAKE ISLAND Hyl 26.13 273 T T 10 54 53.8
baz=113
H11N1 WAKE ISLAND Hyl 26.15 273 T T 10 54 55.7
baz=113
H11N2 WAKE ISLAND Hyl 26.15 273 T T 10 54 56.8
baz=113
BVAR Borovoye Array 144.98 40 PKP PKPbc 08 36 17.2 +0.3
comp=Z,1.2nm,0.6s,baz=274,slow=4.2,SNR=4.4
KURBB Kurchatov Arra 150.57 40 PKPbc **PKPbc** **08 36 31.9 -0.5**
comp=Z,0.7nm,0.2s,baz=288,slow=3.3,SNR=1.9
KURK Kurchatov 150.57 39 **PKPbc** **08 36 31.9 -0.5**
ZALV Zalesovo Beam 151.60 29 PKPbc **PKPbc** **08 36 34.3 -0.3**
comp=Z,3.2nm,0.5s,baz=284,slow=2.1,SNR=5.7

IDC ***17*** *08:23:32.8±0.6,5.°89×151.°54E,h0km,mb4.4/18, mb1 4.6/19,mb1mx4.4/46,mbtmp4.4/19,ML3.6/1,MS4.0/7, Ms1 3.9/7,ms1mx3.6/43,Error ellipse: s-maj=20.2km s-min=14.3km az=100.0*
NEIC ***17*** *08:23:35.2±1.1,5.°97S±0.°08×151.°55E±0.°10,h11km±4km, mb4.9/37,Ms_20 4.8/116,Error ellipse: s-maj=14.4km s-min=10.2km az=114.0*
DJA ***17*** *08:23:38.9±0.5,6.°5S±3.°3×15.°1E±.°,h48km±5km,M5.1/28, mB5.4/6,mb5.0/28,MLv5.3/2,Mw(mB)4.9/6*
ISC 17 08:23:34.9±0.4,6.°06S±0.°06×151.°54E±0.°08,h10km,n169, σ1s47/116,mb4.9/48,MS4.8/67,1C,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.95**	**19**		**Pn**	**08 24 07.2**	**-1.0**
MANU	**Manus Island**	**5.76**	**314**		**Pn**	**08 25 00.0**	**-0.5**
HNR	**Honiara**	**8.98**	**112**	LR	LR	08 28 52.2	
	comp=Z,871nm,21.5s,baz=269,slow=35						
JAY	**Jayapura**	**11.36**	**288**	Pn	**Pn**	**08 26 16.8**	**-0.6**
	0.4nm,0.3s,baz=46,slow=8.0,SNR=2.2						
COEN	**Coen**	**11.38**	**226**		**Pn**	**08 26 18.2**	**+0.6**
CTA	**Charters Tower**	**14.86**	**200**	Pn	**P**	**08 27 09.9**	**-1.2**
	0.1nm,0.3s,baz=30,slow=14,SNR=3.3						
CTAO	**Charters Tower**	**14.86**	**200**		**Pn**	**08 27 06.2**	**+0.9**
EIDS	**Eidsvold**	**19.21**	**181**		**P**	**08 27 59.3**	**+0.2**
GUMO	**Guam**	**20.61**	**341**	LR	LR	08 36 31.0	
	comp=Z,263nm,18.2s,baz=163,slow=38						
MTN	**Manton Dam**	**21.22**	**250**	P	**P**	**08 28 19.9**	**-1.2**
MTN	IAmb IAmb 08 28 46.5						
	comp=Z,63nm,1.1s						
DZM	**Mont Dzumac**	**21.47**	**139**	*e*P	**P**	**08 28 24.5**	**+0.6**
	comp=Z,10nm,0.7s						
DZM	*e*LR LR 08 33 35.9						
	comp=Z,1μm,24.1s						
DZM	**Mont Dzumac**	**21.47**	**139**	P	**P**	**08 28 25.3**	**+1.4**
	comp=Z,6.0nm,0.7s,baz=240,slow=9.4,SNR=11						
WR0	**Warramunga Arr**	**21.54**	**229**	P	**P**	**08 28 24.4**	**-0.1**
WR0	IAmb IAmb 08 28 40.6						
	comp=Z,45nm,1.1s						
WRAB	**Tennant Creek**	**21.66**	**229**	P	**P**	**08 28 26.4**	**+0.5**
WRAB	IAmb IAmb 08 28 41.7						
	comp=Z,47nm,0.9s						
WB2	**Warramunga Arr**	**21.67**	**229**	P	**P**	**08 28 25.3**	**-0.6**
WB2	IAmb IAmb 08 28 41.9						
	comp=Z,55nm,1.1s						
WRA	**Warramunga Arr**	**21.68**	**229**	P	**P**	**08 28 26.6**	**+0.6**
	comp=Z,11nm,0.6s,baz=52,slow=11,SNR=72						
WRA	S **S** **08 32 24.6** **-1.6**						
	comp=Z,6.8nm,1.1s,baz=54,slow=20,SNR=6.0						
WRA	ScP **ScP** **08 36 03.4** **-1.5**						
	comp=Z,3.7nm,1.1s,baz=31,slow=3.6,SNR=8.5						
WRA	**Warramunga Arr**	**21.68**	**229**	P	**P**	**08 28 25.3**	**-0.7**
KNRA	**Kununurra**	**24.30**	**245**	P	**P**	**08 28 52.3**	**-0.5**
KNRA	IAmb IAmb 08 29 18.3						
	comp=Z,35nm,0.9s						
AS31	**Alice Springs**	**24.38**	**222**	P	**P**	**08 28 53.4**	**-0.2**
ASAR	**Alice Springs**	**24.38**	**222**	P	**P**	**08 28 53.7**	**+0.1**
	comp=Z,27nm,0.9s,baz=55,slow=9.5,SNR=172						
ASAR	S **S** **08 33 19.9** **+6.6**						
	comp=Z,2.2nm,1.1s,baz=34,slow=20,SNR=5.7						
ASAR	ScP **ScP** **08 36 11.6** **-0.3**						
	comp=Z,2.8nm,1.1s,baz=55,slow=2.3,SNR=7.9						
ASAR	**Alice Springs**	**24.38**	**222**	P	**P**	**08 28 53.8**	**+0.3**
STKA	**Stephens Creek**	**27.32**	**199**	P	**P**	**08 29 20.5**	**+0.5**
	comp=Z,14nm,0.9s,baz=15,slow=11,SNR=16						
STKA	LR LR 08 41 02.7						
	comp=Z,390nm,18.0s,baz=359,slow=38						
STKA	**Stephens Creek**	**27.32**	**199**	P	**P**	**08 29 20.7**	**+0.7**
BATI	**Baumata**	**27.89**	**260**	P	**P**	**08 29 25.5**	**+0.1**
	comp=Z,26nm,0.5s,baz=59,slow=2.8,SNR=4.4						
FITZ	**Fitzroy Crossi**	**27.96**	**242**	P	**P**	**08 29 26.0**	**+0.1**
	comp=Z,9.9nm,0.5s,baz=55,slow=8.2,SNR=81						
FITZ	**Fitzroy Crossi**	**27.96**	**242**	P	**P**	**08 29 24.5**	**-1.4**
FITZ	IAmb IAmb 08 29 52.4						
	comp=Z,16nm,0.8s						
MSVF	**Nonsavu**	**28.37**	**116**	LR	LR	08 40 22.7	
	comp=Z,218nm,19.1s,baz=4,slow=36						
EDFI	**Ende, Flores**	**29.71**	**263**	P	**P**	**08 29 38.2**	**-3.5**
	comp=Z,28nm,1.0s						
WBSI	**Waikabubak, Su**	**32.03**	**262**	P	**P**	**08 30 00.2**	**-1.9**
	comp=Z,97nm,0.9s						
FORT	**Forrest**	**33.03**	**219**	P	**P**	**08 30 09.8**	**-0.7**
PLAI	**Plampang**	**33.58**	**263**	P	**P**	**08 30 12.3**	**-3.3**
	comp=Z,77nm,0.7s						
PSA00	**Pilbara Seismi**	**34.31**	**240**	P	**P**	**08 30 22.6**	**+0.7**
PSA00	IAmb IAmb 08 30 23.9						
	comp=Z,24nm,1.1s						
PSA00	**Pilbara Seismi**	**34.31**	**240**	P	**P**	**08 30 21.7**	**-0.2**
PSA00	IAmb IAmb 08 30 23.2						
	comp=Z,14nm,1.2s						
TWSI	**Taliwang, Sumb**	**34.46**	**263**	P	**P**	**08 30 21.4**	**-1.8**
	comp=Z,18nm,0.9s						
JAGI	**Jajag, Banyuwa**	**37.15**	**264**	P	**P**	**08 30 44.3**	**-2.1**
JAGI	**Jajag, Banyuwa**	**37.15**	**264**	P	**P**	**08 30 43.8**	**-2.6**
	comp=Z,95nm,1.1s						
PWJI	**Pagerwojo**	**39.47**	**265**	P	**P**	**08 31 03.9**	**-2.0**
	comp=Z,52nm,0.9s						
SJI	**Sawahan**	**39.51**	**265**	P	**P**	**08 31 05.0**	**-1.3**
GIRL	**Giralia**	**39.56**	**242**	P	**P**	**08 31 07.4**	**+0.9**
URZ	**Urewera**	**39.57**	**148**	LR	LR	08 46 38.6	
	comp=Z,185nm,19.0s,baz=32,slow=35						
JOW	**Kunigami**	**39.70**	**326**	LR	LR	08 45 05.0	
	comp=Z,157nm,19.7s,baz=352,slow=33						
PCJI	**Pacitan**	**40.09**	**264**	P	**P**	**08 31 09.9**	**-1.2**
	comp=Z,109nm,0.8s						
MORW	**Morawa**	**40.58**	**231**	P	**P**	**08 31 14.4**	**-0.5**
NWAO	**Narrogin (SRO)**	**41.62**	**226**	IAMs_20	IAMs_20	08 42 33.5	
	comp=Z,5.3nm,21.0s						
KPJI	**Karang Pucung**	**42.32**	**266**	P	**P**	**08 31 28.2**	**-1.2**
	comp=Z,69nm,0.8s						
CMJI	**Cimerak**	**42.80**	**265**	P	**P**	**08 31 31.2**	**-2.1**
	comp=Z,95nm,0.9s						
CISI	**Cisompet, Garu**	**43.43**	**265**	P	**P**	**08 31 37.6**	**-0.9**
	comp=Z,57nm,0.7s						
CNJI	**Cibinong**	**44.11**	**266**	P	**P**	**08 31 42.6**	**-1.3**
	comp=Z,219nm,1.1s						
MJAR	**Matsushiro Arr**	**44.17**	**345**	LR	LR	08 48 51.1	
	comp=Z,188nm,19.2s,baz=185,slow=34						
MDSI	**Maura Dua**	**47.17**	**269**	P	**P**	**08 32 06.5**	**-1.7**
KSRS	**Korea Array**	**48.57**	**335**	P	**P**	**08 32 17.2**	**-1.3**
	comp=Z,1.0nm,0.6s,baz=162,slow=6.5,SNR=1.6						
NJ2	**Nanjing**	**49.05**	**323**	*e*P	**P**	**08 32 23.1**	**+0.8**
NJ2	pmax pmax						
	comp=Z,7.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**53.04**	**342**	P	**P**	**08 32 50.8**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=170,slow=11,SNR=2.7						
KMI	**Kunming**	**56.66**	**305**	⇑P	**P**	**08 33 21.0**	**+2.0**
KMI	sP pwP 08 33 25.8 -2.0						
KMI	pmax pmax						
	comp=Z,10.0nm,0.6s						
XAN	**Xi'an**	**56.68**	**318**	P	P	08 33 27.5	+8.7
XAN	sP pwP 08 33 34.4 +6.9						
XAN	pmax pmax						
	comp=Z,9.0nm,0.9s						
XAN	LR LR						
	comp=N,190nm,16.8s						
XAN	LR LR						
	comp=E,130nm,16.5s						
XAN	LR LR						
	comp=Z,250nm,16.7s						
BSI	**Banda Aceh**	**57.30**	**280**	P	P	08 33 35.9	+12
KLR	**Kul'dur**	**57.70**	**345**	P	**P**	**08 33 23.3**	**-2.3**
	comp=Z,0.7nm,0.5s,baz=148,slow=4.9,SNR=4.2						
HHC	**Hu-ho-hao-te**	**59.34**	**325**	*e*P	**P**	**08 33 40.3**	**+2.9**
HHC	S **S** **08 41 45.4** **-0.9**						
HHC	SS **SS** **08 45 44.8** **+3.5**						
HHC	pmax pmax						
	comp=Z,10.0nm,1.1s						
HHC	pmax pmax						
	comp=Z,94nm,5.7s						
HHC	LR LR						
	comp=Z,190nm,17.8s						
HHC	LR LR						
	comp=Z,190nm,15.6s						
HHC	LR LR						
	comp=Z,310nm,15.0s						
ULN	**Ulaanbaatar**	**66.40**	**329**	P	P	08 34 34.0	+10
CASY	**Casey**	**66.46**	**197**	P	**P**	**08 34 24.3**	**+0.1**
CASY	IAmb IAmb 08 34 44.4						
	comp=Z,7.7nm,1.1s						
SONM	**Songino Array**	**66.72**	**329**	P	**P**	**08 34 25.5**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=128,slow=5.4,SNR=5.2						
SONM	**Songino Array**	**66.72**	**329**	P	**P**	**08 34 25.9**	**-0.5**
SONM	IAmb IAmb 08 34 36.6						
	comp=Z,13nm,1.3s						
VNDA	**Vanda**	**71.63**	**178**	P	**P**	**08 34 56.6**	**+0.4**
	comp=Z,9.8nm,1.3s,baz=333,slow=6.9,SNR=8.3						
VNDA	**Vanda**	**71.63**	**178**	P	**P**	**08 34 57.0**	**+0.8**
VNDA	IAmb IAmb 08 34 58.1						
	comp=Z,12nm,1.4s						
WMQ	**Urumqi**	**75.81**	**318**	*e*P	**P**	**08 35 22.4**	**+0.9**
WMQ	pmax pmax						
	comp=Z,23nm,0.7s						
WMQ	pmax pmax						
	comp=Z,120nm,3.7s						
KDAK	**Kodiak Island**	**77.86**	**27**	IAMs_20	IAMs_20	09 13 19.7	
	comp=Z,556nm,21.0s						
N18K	**Kilae Creek**	**78.10**	**24**	IAMs_20	IAMs_20	09 12 34.8	
	comp=Z,592nm,19.0s						
SVW2	**Sparrevohn**	**78.47**	**23**	P	**P**	**08 35 36.2**	**+0.3**
SVW2	IAmb IAmb 08 35 37.8						
	comp=Z,7.9nm,0.9s						
P19K	**Oil Pt**	**78.60**	**25**	P	**P**	**08 35 36.0**	**-0.6**
N19K	**Bonanza Creek**	**78.74**	**24**	IAMs_20	IAMs_20	09 12 33.7	
	comp=Z,554nm,21.0s						
L19K	**White Mountain**	**79.38**	**23**	P	**P**	**08 35 41.0**	**+0.1**
L19K	IAmb IAmb 08 35 51.8						
	comp=Z,17nm,1.2s						
L19K	IAMs_20 IAMs_20 09 14 02.8						
	comp=Z,490nm,18.0s						
CNPM	**China Poot**	**79.38**	**26**	IAMs_20	IAMs_20	09 15 12.0	
	comp=Z,420nm,20.0s						
M19K	**Big River Lodg**	**79.40**	**23**	IAMs_20	IAMs_20	09 14 12.2	
	comp=Z,388nm,18.0s						
BRLK	**Bradley Lake**	**79.66**	**26**	IAMs_20	IAMs_20	09 13 40.9	
	comp=Z,358nm,20.0s						
K20K	**Telida**	**80.36**	**22**	P	**P**	**08 35 46.0**	**-0.1**
MKAR	**Makanchi Array**	**80.44**	**319**	P	**P**	**08 35 46.7**	**-0.4**
	comp=Z,2.0nm,1.0s,baz=159,slow=4.3,SNR=3.4						
RDOG	**Red Dog Mine**	**80.52**	**16**	IAMs_20	IAMs_20	09 12 08.6	
	comp=Z,573nm,22.0s						
SKT	**Skwentna**	**80.57**	**24**	IAMs_20	IAMs_20	09 13 51.1	
	comp=Z,506nm,19.0s						
J20K	**Nowinta River**	**80.80**	**21**	P	**P**	**08 35 48.3**	**-0.2**
J20K	IAMs_20 IAMs_20 09 14 26.2						
	comp=Z,578nm,21.0s						
RC01	**Rabbit Creek A**	**80.83**	**25**	IAMs_20	IAMs_20	09 14 01.2	
	comp=Z,525nm,19.0s						
PWL	**Port Wells**	**81.31**	**25**	P	**P**	**08 35 50.6**	**-0.8**
ZALV	**Zalesovo Beam**	**81.50**	**327**	P	**P**	**08 35 49.5**	**-3.0**
	comp=Z,1.5nm,0.8s,baz=108,slow=9.3,SNR=2.4						
KTH	**Kantishna Hill**	**81.64**	**22**	IAMs_20	IAMs_20	09 16 00.6	
	comp=Z,566nm,22.0s						
SML	**Sawmill**	**81.78**	**25**	IAMs_20	IAMs_20	09 15 43.2	
	comp=Z,563nm,20.0s						
TRF	**Thorofare Moun**	**81.83**	**23**	IAMs_20	IAMs_20	09 14 10.5	
	comp=Z,306nm,19.0s						
GLI	**Glacier Island**	**81.85**	**26**	IAMs_20	IAMs_20	09 15 16.2	
	comp=Z,611nm,21.0s						
IMAR	**Indian Mountai**	**81.98**	**20**		**P**	**08 35 54.3**	**-0.4**
H21K	**Melozitna River**	**82.11**	**20**	IAMs_20	IAMs_20	09 16 12.9	
	comp=Z,564nm,21.0s						
I21K	**Tanana**	**82.14**	**21**	IAMs_20	IAMs_20	09 16 06.5	
	comp=Z,532nm,20.0s						
SCM	**Sheep Creek Mo**	**82.21**	**25**	IAMs_20	IAMs_20	09 15 07.6	
	comp=Z,498nm,20.0s						
RND	**Reindeer**	**82.36**	**23**	IAMs_20	IAMs_20	09 16 09.6	
	comp=Z,511nm,19.0s						
MCK	**McKinley**	**82.50**	**23**	IAMs_20	IAMs_20	09 16 07.1	
	comp=Z,477nm,19.0s						
MLY	**Manley**	**82.50**	**21**		**P**	**08 35 56.6**	**-0.9**
NEA2	**Nenana**	**82.88**	**22**	IAMs_20	IAMs_20	09 15 29.3	
	comp=Z,383nm,19.0s						
H23K	**Yukon River**	**83.34**	**21**	IAMs_20	IAMs_20	09 17 32.4	
	comp=Z,296nm,19.0s						
MDM	**Murphy Dome**	**83.38**	**22**	IAMs_20	IAMs_20	09 15 39.4	
	comp=Z,574nm,21.0s						
CCB	**Clear Creek Bu**	**83.38**	**22**	P	**P**	**08 36 00.3**	**-1.8**
CCB	IAmb IAmb 08 36 11.6						
	comp=Z,13nm,1.3s						
TCOL	**CIGO, UAF Yank**	**83.47**	**22**	IAMs_20	IAMs_20	09 17 10.9	
	comp=Z,445nm,18.0s						
COLA	**College**	**83.48**	**22**	IAMs_20	IAMs_20	09 17 10.9	
	comp=Z,417nm,18.0s						
HDA	**Harding Lake**	**83.59**	**23**	P	**P**	**08 36 01.9**	**-1.2**
HDA	IAmb IAmb 08 36 14.6						
	comp=Z,7.5nm,1.1s						
HDA	IAMs_20 IAMs_20 09 17 06.1						
	comp=Z,528nm,20.0s						
IL31		**83.79**	**22**	P	**P**	**08 36 02.6**	**-1.4**
IL31	IAmb IAmb 08 36 03.2						
	comp=Z,6.0nm,0.8s						
ILAR	**Eielson Array**	**83.79**	**22**	P	**P**	**08 36 01.8**	**-2.4**
	comp=Z,4.6nm,0.7s,baz=249,slow=5.4,SNR=43						
QSPA	**South Pole Qui**	**83.91**	**180**	P	**P**	**08 36 05.1**	**+0.1**
MAW	**Mawson**	**83.94**	**203**	P	**P**	**08 36 05.4**	**+0.6**
	comp=Z,2.4nm,0.6s,baz=84,slow=3.1,SNR=7.5						
MAW	**Mawson**	**83.94**	**203**	IAmb	IAmb	08 36 06.1	
	comp=Z,2.8nm,1.3s						
H24K	**Noodor Dome**	**83.94**	**21**	IAMs_20	IAMs_20	09 16 00.2	
	comp=Z,517nm,20.0s						
KURK	**Kurchatov**	**83.98**	**322**	P	**P**	**08 36 05.2**	**-0.3**
KURBB	**Kurchatov Arra**	**84.01**	**322**	P	**P**	**08 36 05.2**	**-0.4**
	comp=Z,0.6nm,0.2s,baz=117,slow=3.9,SNR=6.6						
RIDG	**Independent Ri**	**84.10**	**24**	IAMs_20	IAMs_20	09 20 36.6	
	comp=Z,350nm,19.0s						
L26K	**Log Cabin Wild**	**84.40**	**25**	P	**P**	**08 36 07.0**	**-0.3**
L26K	IAmb IAmb 08 36 07.7						
	comp=Z,4.2nm,0.7s						
SCRK	**Sand Creek**	**84.55**	**24**	IAMs_20	IAMs_20	09 18 15.4	
	comp=Z,321nm,20.0s						
AAK	**Ala-Archa**	**84.61**	**314**	P	**P**	**08 36 08.4**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=84,slow=2.0,SNR=1.9						
PRP	**Porcupine Dome**	**84.65**	**22**	IAMs_20	IAMs_20	09 16 44.9	
	comp=Z,547nm,21.0s						
M27K	**Edge Creek, AK**	**84.74**	**25**	P	**P**	**08 36 09.0**	**-0.2**
TOLK	**Toolik Lake Re**	**84.79**	**18**	IAMs_20	IAMs_20	09 14 10.6	
	comp=Z,388nm,19.0s						
L27K	**Beaver Creek,**	**85.05**	**25**	IAMs_20	IAMs_20	09 18 29.6	
	comp=Z,543nm,20.0s						
EGAK	**Eagle**	**86.00**	**23**	IAMs_20	IAMs_20	09 19 02.8	
	comp=Z,337nm,18.0s						
WRAK	**Wrangell Islan**	**87.39**	**33**	IAMs_20	IAMs_20	09 21 36.2	
	comp=Z,484nm,21.0s						
EPYK	**Eagle Plains**	**88.30**	**23**	P	**P**	**08 36 25.9**	**-0.5**
EPYK	IAMs_20 IAMs_20 09 19 07.5						
	comp=Z,423nm,18.0s						
INK	**Inuvik**	**90.07**	**21**	P	**P**	**08 36 33.0**	**-1.6**
	comp=Z,3.0nm,0.9s,baz=329,slow=3.2,SNR=3.9						
INK	**Inuvik**	**90.07**	**21**	IAmb	IAmb	08 36 45.0	
	comp=Z,7.9nm,1.1s						
WDC	**Whiskeytown Da**	**90.80**	**49**	IAMs_20	IAMs_20	09 12 58.8	
	comp=Z,383nm,19.0s						
NVAR	**Mina Array Bea**	**93.84**	**52**	P	**P**	**08 36 53.1**	**0.0**
	comp=Z,1.9nm,0.9s,baz=255,slow=6.1,SNR=9.1						
DLMT	**Dillon**	**98.39**	**45**	IAMs_20	IAMs_20	09 17 21.3	
	comp=Z,305nm,22.0s						
TPAW	**Teton Pass**	**99.58**	**47**	IAMs_20	IAMs_20	09 14 57.9	
	comp=Z,261nm,19.0s						
REDW	**Red Top Meadow**	**99.66**	**47**	IAMs_20	IAMs_20	09 29 28.9	
	comp=Z,332nm,21.0s						
SNOW	**Snow King Moun**	**99.73**	**47**	IAMs_20	IAMs_20	09 20 31.7	
	comp=Z,244nm,20.0s						
MOOW	**Moose Ponds**	**99.73**	**47**	IAMs_20	IAMs_20	09 18 16.8	
	comp=Z,222nm,18.0s						
PDAR	**Pinedale Array**	**100.62**	**48**	P	**Pdif**	**08 37 22.9**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=258,slow=4.4,SNR=2.5						
RLMT	**Red Lodge**	**100.75**	**45**	IAMs_20	IAMs_20	09 30 09.6	
	comp=Z,406nm,21.0s						
EPT	**El Paso**	**103.32**	**59**	IAMs_20	IAMs_20	09 20 44.1	
	comp=Z,267nm,18.0s						
ISCO	**Idaho Springs**	**103.72**	**51**	IAMs_20	IAMs_20	09 30 26.8	
	comp=Z,250nm,21.0s						
KEV	**Kevo**	**107.12**	**343**	IAMs_20	IAMs_20	09 25 58.8	
	comp=Z,217nm,20.0s						
AGMN	**Agassiz Nation**	**109.46**	**41**	IAMs_20	IAMs_20	09 35 08.7	
	comp=Z,276nm,19.0s						
KS21	**Milan North St**	**110.17**	**53**	IAMs_20	IAMs_20	09 14 45.9	
	comp=Z,383nm,22.0s						
KS20	**Mayfield South**	**110.27**	**53**	IAMs_20	IAMs_20	09 13 22.3	
	comp=Z,372nm,21.0s						
OK029	**Liberty Lake**	**110.54**	**54**	IAMs_20	IAMs_20	09 26 09.7	
	comp=Z,216nm,20.0s						
MNK	**Minsk**	**113.99**	**328**	*i* P	**Pdif**	**08 38 24.4**	**+1.9**
	comp=E,3.0nm,0.7s						
MNK	*i* P **Pdif** **08 38 24.4** **+1.9**						
	comp=N,29nm,0.9s						
MNK	*i* P **Pdif** **08 38 24.4** **+1.9**						
	comp=Z,21nm,0.9s,baz=64						
MNK	*i* PKP **PKiKP** **08 42 13.9** **-0.3**						
MNK	*i* PP **PP** **08 43 10.2** **+2.3**						
MNK	*i* PPP PPP 08 45 48.6						
MNK	*i* SKS **SKSdf** **08 49 27.9** **+1.5**						
MNK	*i* PS **PS** **08 52 47.9** **+2.5**						
MNK	*i* SS **SS** **08 59 02.1** **+4.7**						
MNK	*i* SSS SSS 09 03 30.2						
MNK	*i* LQ LQ 09 24 30.9						
MNK	*i* LR LR 09 28 35.5						
MNK	*i* LRM MLR 09 30 41.3						
	comp=E,24nm,18.8s						
MNK	*i* LRM MLR 09 30 41.3						
	comp=N,155nm,27.5s						
MNK	*i* LRM MLR 09 30 55.9						
	comp=Z,260nm,21.7s						
SANT	**Santorini**	**122.31**	**309**	IAMs_20	IAMs_20	09 47 11.3	
	comp=Z,311nm,21.0s						
BRG	**Berggiesshubel**	**123.11**	**329**	*e*PKP	**PKiKP**	**08 42 32.4**	**+0.3**
BRG	Amp 08 42 33.3						
	comp=Z,3.7nm,0.8s						
BRG	**Berggiesshubel**	**123.11**	**329**	P	PKiKP	08 42 41.3	+9.2
BRG	Amp 08 42 42.1						
	comp=Z,9.9nm,1.0s						
CLL	**Collm**	**123.32**	**330**	*e*PKPdf	**PKiKP**	**08 42 33.0**	**+0.5**
CONA	**Conrad Observa**	**123.78**	**326**	*e*P	**PKPdf**	**08 42 32.8**	**-0.6**
	comp=Z,1.3nm,0.5s						
CKRC	**Cesky Krumlov**	**124.13**	**327**	*e*PKP	**PKPdf**	**08 42 32.9**	**-1.0**
CKRC	*ex* x 08 42 43.1						
KHC	**Kasperske Hory**	**124.34**	**328**	*e*PKP	**PKPdf**	**08 42 34.2**	**-0.2**
KHC	*ex* x 08 42 43.3						
ARSA	**Arzberg**	**124.34**	**325**	*e*P	**PKiKP**	**08 42 34.7**	**0.0**
	comp=Z,1.8nm,0.7s						
GERES	**GERESS Array B**	**124.44**	**327**	PKP	**PKPdf**	**08 42 34.3**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=64,slow=3.1,SNR=10						
MOA	**Molln**	**124.72**	**326**	*e*P	**PKiKP**	**08 42 35.8**	**+0.4**
	comp=Z,2.5nm,0.7s						
SOKA	**Soboth**	**124.94**	**325**	*e*P	**PKPdf**	**08 42 35.0**	**-0.6**
	comp=Z,0.2nm,0.5s						
GRA1	**Grafenberg Arr**	**125.22**	**329**	IAMs_20	IAMs_20	09 49 02.5	
	comp=Z,250nm,20.0s						
GRFO	**Grafenberg**	**125.22**	**329**	IAMs_20	IAMs_20	09 40 08.5	
	comp=Z,220nm,20.0s						
OBKA	**Obir**	**125.31**	**325**	*e*P	**PKPdf**	**08 42 36.4**	**0.0**
	comp=Z,9.0nm,1.1s						
KBA	**Koelnbreinsper**	**125.67**	**326**	*e*P	**PKPdf**	**08 42 36.9**	**-0.3**
	comp=Z,3.3nm,0.9s						
MYKA	**Terra Mystica**	**125.76**	**325**	*e*P	**PKiKP**	**08 42 39.4**	**+1.8**
	comp=Z,2

RUSC						IAmb		IAmb	08 31 08.4		
	comp=Z,4.0nm,0.9s										
SNAA	**Sanae**	**54.09**	**159**			P		**P**	**08 33 20.0**	**-0.1**	
SNAA						IAmb		IAmb	08 33 23.2		
	comp=Z,3.0nm,1.2s										
SNAA						PcP		**PcP**	**08 34 23.6**	**-1.2**	
QSPA	**South Pole Qui**	**59.00**	**180**			P		**P**	**08 33 55.9**	**+0.6**	
TORD	**Torodi Ar. Bea**	**83.11**	**70**			P		**P**	**08 36 21.2**	**-0.8**	
TORD						IAmb		IAmb	08 36 33.2		
	comp=Z,1.6nm,0.7s										

JMA 17 08:25:39.5, 37°.94N×138°.02E, h17km±1km, M3.8, 3C-2D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSD	**Sado**	**0.21**	**63**	⇑P	Pg	08 25 44.2	-0.3
JSD				S	Sg	08 25 47.5	-0.5
JIZZ	**Izumozaki**	**0.68**	**127**	⇓P	Pg	08 25 52.8	-0.1
JIZZ				S	Sb	08 26 02.5	+0.5
JSZ	**Suzu**	**0.72**	**227**	⇑P	Pb	08 25 53.1	-0.4
JSZ				S	Sg	08 26 03.0	0.0
JJN	**Nakama**	**0.84**	**172**	⇓P	Pb	08 25 55.5	-0.2
JJN				eS	Sg	08 26 07.3	+0.3
JHG	**Hegura jima**	**0.88**	**264**	P	Pb	08 25 55.9	-0.3
JHG				S	Sb	08 26 07.8	+0.2
JNS	**Sasagawa**	**1.03**	**96**	⇑P	Pb	08 25 57.8	-1.1
JNS				S	Sb	08 26 11.6	-0.6
JAW	**Awa shima**	**1.10**	**62**	P	Pb	08 25 58.5	-1.5
MAT	**Matsushiro**	**1.40**	**174**	P	Pn	08 26 03.1	-1.2
MAT				S	Sn	08 26 20.7	-1.7

IDC 17 08:27:40.1±2.0, 32°.27S×70°.76W, h0km, mb3.7/2, mb1 3.8/5, mb1mx3.7/36, mbtmp3.7/5, ML3.5/3, Error ellipse: s-maj=55.3km s-min=45.2km az=78.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N1	**Juan Fernandez**	**6.96**	**258**	T	T	08 36 06.5	
	baz=76,slow=72,SNR=44						
H03N3	**Juan Fernandez**	**6.97**	**258**	T	T	08 36 05.9	
	baz=76,slow=72,SNR=45						
H03N2	**Juan Fernandez**	**6.97**	**258**	T	T	08 36 07.2	
	baz=76,slow=72,SNR=49						
LVC	**Limon Verde**	**9.76**	**10**	Pn	Pn	08 30 03.3	+1.2
	0.4nm,0.3s,baz=206,slow=1.9,SNR=1.3						
LPAZ	**La Paz**	**16.09**	**9**	Pn	Pn	08 31 28.5	+0.1
	0.1nm,0.3s,baz=206,slow=13,SNR=4.9						
SIV	**San Ignacio**	**18.44**	**31**	P	Pn	08 31 55.1	-2.2
	0.1nm,0.3s,baz=215,slow=10,SNR=2.5						
TXAR	**Lajitas Array**	**68.78**	**329**	P	P	08 38 46.6	+0.5
	0.1nm,0.7s,baz=148,slow=7.4,SNR=1.9						
TORD	**Torodi Ar. Bea**	**82.61**	**69**	P	P	08 40 06.6	+1.0
	1.8nm,0.7s,baz=252,slow=4.4,SNR=8.7						
H11S2	**WAKE ISLAND Hyl**	**26.86**	**270**	T	T	11 05 42.3	
	baz=116,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hyl**	**26.87**	**270**	T	T	11 05 42.8	
	baz=116,slow=75,SNR=28						
H11S3	**WAKE ISLAND Hyl**	**26.88**	**270**	T	T	11 05 41.0	
	baz=116,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hyl**	**27.23**	**271**	T	T	11 05 51.0	
	baz=116,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hyl**	**27.24**	**271**	T	T	11 06 04.1	
	baz=116,slow=75,SNR=8.0						
H11N2	**WAKE ISLAND Hyl**	**27.25**	**271**	T	T	11 05 52.3	
	baz=116,slow=75,SNR=18						
ZALV	**Zalesovo Beam**	**152.20**	**32**	PKPbc	PKPbc	08 47 35.7	-1.4
	3.7nm,0.5s,baz=301,slow=2.4,SNR=6.3						

IDC 17 08:28:57.6±2.2, 54°.48N×83°.55E, h0km, mb1 2.8/2, mb1mx2.8/58, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=17.8km s-min=11.3km az=161.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.92**	**125**	*i*		08 34 24.7	
	baz=306,slow=332,SNR=18						
ZALV	**Zalesovo Beam**	**0.92**	**125**	Pg	Pg	08 29 15.1	-0.2
	2.0nm,0.3s,baz=304,slow=17,SNR=9.4						
ZALV				Lg	Lg	08 29 28.2	
	2.7nm,0.3s,baz=307,slow=29,SNR=14						
KURBB	**Kurchatov Arra**	**4.93**	**220**	Pn	Pn	08 30 12.7	-0.2
	0.1nm,0.3s,baz=40,slow=13,SNR=2.1						
MKAR	**Makanchi Array**	**7.74**	**186**	Pn	Pn	08 30 52.0	+0.5
	0.1nm,0.3s,baz=9.9,slow=11,SNR=2.3						

IDC 17 08:31:13.5±0.8, 31°.20S×71°.72W, h0km, mb4.1/7, mb1 4.2/11, mb1mx4.0/38, mbtmp4.1/11, ML4.1/3, Error ellipse: s-maj=31.8km s-min=19.4km az=92.0
NEIC 17 08:31:17.7±1.7, 31°.21S±0°.02×71°.76W±0°.09, h20km±5km, mb4.5/9, Error ellipse: s-maj=11.2km s-min=2.6km az=95.0

ISC 17 08:31:15.3±0.7, 31°.22S±0°.06×71°.86W±0°.09, h10km, n38, σ1§14/28, mb4.3/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.58**	**20**		**Pb**	**08 31 29.0**	**+1.5**
CO06					**Sb**	**08 31 36.6**	**+0.8**
CO03	**El Pedregal**	**1.08**	**70**		**Pg**	**08 31 36.4**	**+0.4**
CO03				Sn	**Sb**	**08 31 50.0**	**-0.2**
GO04	**Tololo Observa**	**1.39**	**42**	Pn	**Pn**	**08 31 42.2**	**+1.3**
VA03	**San Esteban**	**1.90**	**144**		**Pn**	**08 31 48.0**	**+0.1**
MT05	**Renca**	**2.37**	**157**		**Pn**	**08 31 56.5**	**+2.3**
MT01	**Popeta**	**2.69**	**169**		**Pn**	**08 32 00.3**	**+1.7**
BO01	**Tunca**	**3.23**	**169**		**Pn**	**08 32 08.1**	**+2.0**
H03N1	**Juan Fernandez**	**6.36**	**248**	T	T	08 39 30.7	
	baz=75						
H03N3	**Juan Fernandez**	**6.38**	**248**	T	T	08 39 32.1	
	baz=75						
H03N2	**Juan Fernandez**	**6.38**	**248**	T	T	08 39 35.4	
	baz=75						
LC01	**Cunco**	**7.66**	**180**	Pn	**Pn**	**08 33 07.1**	**+0.2**
LVC	**Limon Verde**	**8.97**	**18**	Pn	**Pn**	**08 33 24.8**	**-0.5**
	baz=273,slow=17,SNR=0.5						
PLCA	**Paso Flores**	**9.55**	**174**		**Pn**	**08 33 33.6**	**+0.7**
	1.2nm,0.3s,baz=336,slow=12,SNR=12						
LL04	**Puerto Octay**	**9.68**	**182**	Pn	**Pn**	**08 33 34.2**	**-0.4**
LPAZ	**La Paz**	**15.25**	**14**	Pn	**Pn**	**08 34 52.1**	**+0.8**
	0.1nm,0.3s,baz=177,slow=7.3,SNR=5.1						
SIV	**San Ignacio**	**18.08**	**35**	P	**Pn**	**08 35 26.5**	**-0.2**
	0.2nm,0.3s,baz=239,slow=13,SNR=4.2						
BDFB	**Brasilia**	**26.73**	**60**	P	**P**	**08 36 52.7**	**-2.6**
	2.2nm,0.7s,baz=246,slow=12,SNR=3.1						
BDFB	**Brasilia**	**26.73**	**60**	IAmb	IAmb	08 37 03.2	
	comp=Z,13nm,1.1s						
SNAA	**Sanae**	**54.10**	**159**	P	**P**	**08 40 39.9**	**0.0**
	comp=Z,2.4nm,0.7s,baz=273,slow=7.8,SNR=9.7						
SNAA	**Sanae**	**54.10**	**159**	P	**P**	**08 40 40.0**	**0.0**
SNAA				IAmb	IAmb	08 40 40.5	
	comp=Z,2.5nm,0.8s						
QSPA	**South Pole Qui**	**59.01**	**180**	P	**P**	**08 41 15.7**	**+0.7**
TXAR	**Lajitas Array**	**67.39**	**330**	P	**P**	**08 42 12.1**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=155,slow=9.2,SNR=5.4						
DBIC	**Dimbokro**	**74.16**	**72**	P	**P**	**08 42 51.9**	**-0.5**
	comp=Z,4.1nm,0.7s,baz=257,slow=5.6,SNR=4.5						
DBIC	**Dimbokro**	**74.16**	**72**	IAmb	IAmb	08 42 52.7	
	comp=Z,5.5nm,0.8s						
MAW	**Mawson**	**75.80**	**164**	P	**P**	**08 43 01.2**	**+0.2**
	comp=Z,3.4nm,0.9s,baz=277,slow=9.9,SNR=6.1						
MAW	**Mawson**	**75.80**	**164**	P	**P**	**08 43 01.5**	**+0.5**
KOWA	**Kowa**	**79.36**	**66**	P	**P**	**08 43 20.4**	**-1.4**
	comp=Z,3.3nm,0.9s,baz=250,slow=7.7,SNR=4.4						
KOWA	**Kowa**	**79.36**	**66**	IAmb	IAmb	08 43 21.8	
	comp=Z,4.3nm,1.0s						
NVAR	**Mina Array Bea**	**81.70**	**325**	P	**P**	**08 43 32.9**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=156,slow=4.9,SNR=2.7						
WRA	**Warramunga Arr**	**123.25**	**210**	PKP	**PKPdf**	**08 50 11.8**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=161,slow=2.0,SNR=9.0						
H11S2	**WAKE ISLAND Hyl**	**25.91**	**271**	T	T	11 09 07.0	
	baz=112						
H11S1	**WAKE ISLAND Hyl**	**25.93**	**271**	T	T	11 09 02.9	
	baz=112						
H11S3	**WAKE ISLAND Hyl**	**25.93**	**271**	T	T	11 09 07.6	
	baz=112						
H11N3	**WAKE ISLAND Hyl**	**26.26**	**273**	T	T	11 09 29.4	
	baz=116,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hyl**	**26.27**	**273**	T	T	11 09 30.5	
	baz=116,slow=75,SNR=7.8						
H11N2	**WAKE ISLAND Hyl**	**26.27**	**273**	T	T	11 09 30.6	
	baz=116,slow=75,SNR=19						
ZALV	**Zalesovo Beam**	**151.77**	**30**	PKPbc	**PKPbc**	**08 51 09.5**	**-0.2**
	comp=Z,6.7nm,0.7s,baz=292,slow=2.2,SNR=14						
MKAR	**Makanchi Array**	**154.76**	**45**	PKPbc	**PKPbc**	**08 51 15.8**	**-0.7**
	comp=Z,1.1nm,1.0s,baz=328,slow=5.1,SNR=3.7						

IDC 17 08:32:38.4±0.4, 31°.56S×71°.35W, h0km, mb4.9/22, mb1 5.0/25, mb1mx4.9/36, mbtmp4.9/25, ML4.6/3, MS4.1/2, Ms1 4.1/2, ms1mx3.6/20, Error ellipse: s-maj=17.8km s-min=11.2km az=83.0
MOS 17 08:32:42.4±1.0, 31°.56S×71°.34W, h33km, mb5.3/17, Error ellipse: s-maj=13.0km s-min=7.6km az=94.5
GUC 17 08:32:43.8±0.8, 31°.62S×71°.33W, h35km±8km, ML5.0
NEIC 17 08:32:44.2, 31°.60S×71°.41W, h39km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr 0.86; Mθθ 0.20; Mφφ -1.06; Mtt 0.11; Mθφ 0.22; Mrθ -0.83; Fault plane solution: M0 1.30000×10^16 NP1:φs 348.47000°, δ 24.73000°, λ 86.85000°. NP2:φs 171.93000°, δ 65.31000°, λ 91.45000°. Principal axes: T 1.1652, Plg70.0000°, Azm85.0000°; N 0.2396, Plg1.0000°, Azm351.0000°; P -1.4048, Plg20.0000°, Azm261.0000°.
NEIC 17 08:32:44.3±1.2, 31°.60S±0°.03×71°.40W±0°.03, h35km±4km Error ellipse: s-maj=5.4km s-min=2.0km az=150.0
SJA 17 08:32:48.0, 31°.60S×71°.22W, h10km, ML5.5
ISC 17 08:32:44.5±0.8, 31°.59S±0°.03×71°.44W±0°.05, h41km±6km, n425, σ1§22/423, mb5.1/59, MS4.6/16, 95C-29D, Fault plane solution: NP1:φs 307.52499°, δ 44.89309°, λ 56.89258°. NP2:φs 170.15329°, δ 53.75777°, λ 118.55396°. Principal axes: T Plg66.7765°, Azm139.1506°; N Plg22.6753°, Azm332.3194°; P Plg4.7547°, Azm240.3279°; Fault plane solution: NP1:φs 30.04543°, δ 47.48342°, λ 113.92614°. NP2:φs 176.75935°, δ 47.64334°, λ 66.13863°. Principal axes: T Plg72.6064°, Azm13.6470°; N Plg17.3933°, Azm193.3544°; P Plg0.0835°, Azm283.3805°; Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.93**	**349**	*eP*	**Pn**	**08 33 02.0**	**+0.9**
CO06				*eS*	**Sn**	**08 33 12.9**	**-0.4**
CO06				IAML		08 33 20.0	
	comp=E,96μm,0.6s						
CO06	**Fray Jorge**	**0.93**	**349**	Pn	**Pn**	**08 33 01.9**	**+0.7**
CO06				Sn	**Sn**	**08 33 12.1**	**-1.2**
CO03	**El Pedregal**	**0.99**	**41**	⇓*iP*	**Pn**	**08 33 03.1**	**+1.1**
CO03				*eS*	**Sn**	**08 33 15.9**	**+1.1**
CO03				IAML		08 33 18.1	
	comp=E,77μm,0.4s						
CO03	**El Pedregal**	**0.99**	**41**	Pn	**Pn**	**08 33 02.8**	**+0.8**
CO03				Sn	**Sn**	**08 33 13.0**	**-1.8**
VA03	**San Esteban**	**1.39**	**147**	*eP*	**Pn**	**08 33 08.0**	**+0.4**
VA03				*eS*	**Sn**	**08 33 25.8**	**+1.0**
VA03				IAML		08 33 29.4	
	comp=E,34μm,0.5s						
VA03	**San Esteban**	**1.39**	**147**	Pn	**Pn**	**08 33 06.0**	**-1.6**
VA01	**Torpederas**	**1.44**	**187**	⇑*eP*	**Pn**	**08 33 08.7**	**+0.6**
VA01				*eS*	**Sn**	**08 33 27.9**	**+2.2**
VA01				IAML		08 33 31.1	
	comp=E,19μm,0.2s						
VA01	**Torpederas**	**1.44**	**187**	Pn	**Pn**	**08 33 06.8**	**-1.3**
GO04	**Tololo Observa**	**1.52**	**21**	*eP*	**Pn**	**08 33 11.2**	**+1.8**
GO04				*eS*	**Sn**	**08 33 30.8**	**+2.7**
GO04	**Tololo Observa**	**1.52**	**21**		**Pn**	**08 33 09.0**	**-0.4**
MT05	**Renca**	**1.89**	**162**	*eP*	**Pn**	**08 33 15.5**	**+1.1**
MT05				*eS*	**Sn**	**08 33 39.9**	**+2.9**
MT05				IAML		08 33 52.5	
	comp=E,27μm,0.4s						
MT05	**Renca**	**1.89**	**162**	Pn	**Pn**	**08 33 14.4**	**0.0**
FSR	**Penalolen**	**2.03**	**158**	*eP*	**Pn**	**08 33 20.0**	**+3.7**
FSR				*eS*	**Sn**	**08 33 43.1**	**+2.5**
VA05	**Santo Domingo**	**2.07**	**184**	*eP*	**Pn**	**08 33 18.6**	**+1.8**
VA05				*eS*	**Sn**	**08 33 45.1**	**+3.8**
VA05				IAML		08 33 57.4	
	comp=N,18μm,0.5s						
VA05	**Santo Domingo**	**2.07**	**184**	Pn	**Pn**	**08 33 16.2**	**-0.5**
MT09	**Talagante**	**2.21**	**170**	*eP*	**Pn**	**08 33 20.7**	**+1.8**
MT09				*eS*	**Sn**	**08 33 46.9**	**+1.8**
MT09				IAML		08 34 00.1	
	comp=E,10μm,0.3s						
MT09	**Talagante**	**2.21**	**170**	Pn	**Pn**	**08 33 18.1**	**-0.8**
MT01	**Popeta**	**2.27**	**176**	*eP*	**Pn**	**08 33 21.2**	**+1.6**
MT01				*eS*	**Sn**	**08 33 49.5**	**+3.1**
MT01				IAML		08 33 56.6	
	comp=E,10μm,0.5s						
ZON	**Zonda**	**2.35**	**90**	P	**Pn**	**08 33 20.0**	**-0.8**
ZON	**Zonda**	**2.35**	**90**	Pn	**Pn**	**08 33 20.0**	**-0.8**
LMEL	**Las Melosas**	**2.48**	**156**	*eP*	**Pn**	**08 33 24.7**	**+2.2**
LMEL				*eS*	**Sn**	**08 33 54.8**	**+3.0**
LMEL				IAML		08 34 01.9	
	comp=N,7μm,0.3s						
LCO	**Las Campanas**	**2.65**	**14**	⇑*eP*	**Pn**	**08 33 26.9**	**+1.9**
LCO				*eS*	**Sn**	**08 33 59.3**	**+3.3**
BO01	**Tunca**	**2.81**	**174**	*eP*	**Pn**	**08 33 28.3**	**+1.4**
BO01				*eS*	**Sn**	**08 34 00.4**	**+0.8**
BO03	**Pichilemu**	**2.93**	**188**	*eP*	**Pn**	**08 33 28.4**	**-0.2**
BO03				*eS*	**Sn**	**08 34 01.0**	**-1.6**
AGUA	**GUANDACOL**	**3.29**	**51**	*iP*	Pn	08 33 39.0	+5.3
AC04	**Llanos de Chal**	**3.39**	**5**	*eP*	**Pn**	**08 33 36.1**	**+1.2**
AC04				*eS*	**Sn**	**08 34 19.6**	**+5.7**
AC04	**Llanos de Chal**	**3.39**	**5**	*iP*	Pn	08 33 41.0	+6.0
COIS	**El Sosneado**	**3.83**	**157**	*iP*	Pn	08 33 47.0	+6.0
RFA	**San Rafael**	**4.03**	**143**	*iP*	**Pn**	**08 33 47.0**	**+3.2**
GO03	**Copiap**	**4.12**	**15**	*eP*	**Pn**	**08 33 46.9**	**+1.9**
GO03	**Copiap**	**4.12**	**15**	*iP*	**Pn**	**08 33 49.0**	**+4.0**
TINO	**Tinogasta**	**4.86**	**45**	*iP*	**Pn**	**08 34 00.0**	**+4.7**
AC02	**Maricunga**	**5.15**	**24**	*iP*	**Pn**	**08 34 04.0**	**+4.4**
CYA	**Choya**	**5.81**	**59**	*iP*	**Pn**	**08 34 10.0**	**+1.8**
VA04	**Juan Fernndez**	**6.56**	**250**		**Pn**	**08 34 18.5**	**0.0**
H03N1	**Juan Fernandez**	**6.58**	**252**	T	T	08 40 56.9	
	baz=83,slow=72						
H03N3	**Juan Fernandez**	**6.59**	**252**	T	T	08 41 01.8	
	baz=83,slow=72						
H03N2	**Juan Fernandez**	**6.59**	**252**	T	T	08 41 02.1	
	baz=83,slow=72						
H03S3	**Juan Fernandez**	**6.68**	**249**	T	T	08 41 10.8	
	baz=84,slow=74,SNR=28						
H03S1	**Juan Fernandez**	**6.68**	**248**	T	T	08 41 12.9	
	baz=84,slow=74,SNR=22						
H03S2	**Juan Fernandez**	**6.70**	**248**	T	T	08 41 09.5	
	baz=84,slow=74,SNR=26						
PB14	**IPOC Station P**	**7.00**	**8**	Pn	**Pn**	**08 34 24.6**	**-0.3**
LC01	**Cunco**	**7.30**	**183**	Pn	**Pn**	**08 34 28.0**	**-0.6**
PB15	**IPOC Station P**	**8.53**	**12**		**Pn**	**08 34 43.7**	**-2.0**
PLCA	**Paso Flores**	**9.15**	**176**	Pn	**Pn**	**08 34 54.5**	**+0.5**
	comp=N,1.2nm,0.3s,baz=343,slow=12,SNR=7.0						
LVC	**Limon Verde**	**9.22**	**15**	Pn	**Pn**	**08 34 54.4**	**-1.0**
	comp=N,2.9nm,0.3s,baz=143,slow=8.5,SNR=6.7						
LL04	**Puerto Octay**	**9.33**	**185**		**Pn**	**08 34 56.0**	**-0.4**
ASTB	**Santa Barbara**	**9.81**	**41**	*iP*	Pn	08 35 08.0	+4.8
TRQA	**Tornquist**	**10.10**	**132**	P	**Pn**	**08 35 06.7**	**-0.3**
TRQA	**Tornquist**	**10.10**	**132**		**Pn**	**08 35 06.7**	**-0.3**
GO07	**Milladeo Hill,**	**11.64**	**188**		**Pn**	**08 35 26.1**	**-1.8**
ITQB	**Itaqui**	**12.90**	**85**	Pn	**Pn**	**08 35 44.3**	**-1.0**
CPUP	**Villa Florida**	**13.41**	**71**	Pn	**Pn**	**08 35 51.1**	**-1.2**
	comp=N,0.9nm,0.3s,baz=234,slow=14,SNR=3.9						
CPUP				LR	LR	08 41 39.1	
	comp=N,1μm,18.1s,baz=247,slow=41						
LPAZ	**La Paz**	**15.53**	**12**	Pn	**Pn**	**08 36 21.5**	**+0.2**
	comp=N,2.0nm,0.3s,baz=196,slow=6.4,SNR=28						
LPAZ	**La Paz**	**15.53**	**12**	P	**Pn**	**08 36 21.0**	**-0.2**
LPAZ				pmax	pmax		
	comp=Z,54nm,0.9s						
LPAZ	**La Paz**	**15.53**	**12**	Pn	**Pn**	**08 36 21.0**	**-0.2**
AQDB	**Aquidauana**	**17.94**	**56**	P	**P**	**08 36 50.9**	**-0.2**
SIV	**San Ignacio**	**18.18**	**34**	P	**P**	**08 36 53.3**	**-0.5**
	comp=Z,2.9nm,0.3s,baz=214,slow=9.0,SNR=40						
TRCB	**Terra Rica**	**18.86**	**67**	P	**P**	**08 37 01.1**	**-0.2**
TRCB				IAmb	IAmb	08 37 20.6	
	comp=Z,50nm,0.6s						
NNA	**Nana**	**20.14**	**344**	P	**P**	**08 37 15.8**	**+0.6**
	comp=Z,5.8nm,0.4s,baz=230,slow=12,SNR=3.2						
NNA				LR	LR	08 43 40.1	
	comp=Z,333nm,21.7s,baz=183,slow=33						
EFI	**East Falkland**	**22.35**	**158**	*iP*	**P**	**08 37 37.5**	**-1.2**
EFI				pmax	pmax		
	comp=Z,73nm,1.2s						
EFI	**East Falkland**	**22.35**	**158**	P	**P**	**08 37 38.8**	**0.0**
EFI				IAmb	IAmb	08 37 48.3	
	comp=Z,122nm,1.2s						
USHA	**Ushuaia**	**23.33**	**176**	P	**P**	**08 37 48.3**	**-0.5**
	comp=Z,33nm,0.8s,baz=29,slow=3.4,SNR=3.1						
SAML	**Samuel**	**23.80**	**21**	P	**P**	**08 37 53.3**	**-0.3**
SAML				pmax	pmax		
	comp=Z,35nm,1.0s						
SAML	**Samuel**	**23.80**	**21**	P	**P**	**08 37 53.3**	**-0.3**
BDFB	**Brasilia**	**26.61**	**59**	P	**P**	**08 38 18.2**	**-1.1**
	comp=Z,57nm,1.0s,baz=230,slow=8.1,SNR=28						
BDFB	**Brasilia**	**26.61**	**59**	P	**P**	**08 38 19.2**	**-0.1**
BDFB				IAmb	IAmb	08 38 20.0	
	comp=Z,67nm,1.0s						
TBTG	**Tabatinga, AM**	**27.30**	**3**	*eP*	**P**	**08 38 25.6**	**+0.3**
PTLC	**Puerto Leguiza**	**31.75**	**354**	*eP*	**P**	**08 39 03.1**	**-1.7**
FLOC	**Florencia**	**33.23**	**352**	*eP*	**P**	**08 39 19.4**	**+1.6**
PMSA	**Palmer Station**	**33.52**	**174**	P	**P**	**08 39 20.9**	**+1.1**
	comp=Z,6.6nm,0.9s,baz=357,slow=7.1,SNR=4.8						
PMSA	**Palmer Station**	**33.52**	**174**	P	**P**	**08 39 18.5**	**-1.3**
PMSA				IAmb	IAmb	08 39 40.1	
	comp=Z,44nm,1.2s						
BBAC	**Balboa, Cauca**	**33.88**	**350**	*eP*	**P**	**08 39 25.4**	**+1.7**
SOTA	**Rioblanco**	**33.90**	**351**	*eP*	**P**	**08 39 26.2**	**+2.0**
PCON	**Cinco Dias**	**34.06**	**351**	*eP*	**P**	**08 39 30.2**	**+4.5**
POPC	**Popayan, Colom**	**34.31**	**351**	*eP*	**P**	**08 39 29.0**	**+1.6**
MARP	**Paez Belalcaza**	**34.51**	**352**	*eP*	**P**	**08 39 30.7**	**+1.5**
PRAC	**Prado**	**35.26**	**354**	*eP*	**P**	**08 39 37.4**	**+1.9**
ORTC	**Ortega, Tolima**	**35.49**	**353**	*eP*	**P**	**08 39 39.5**	**+2.2**
VILC	**Villavicencio,**	**35.57**	**356**	*eP*	**P**	**08 39 40.1**	**+2.0**
PTGC	**Puerto Gaitan,**	**35.60**	**359**	*eP*	**P**	**08 39 38.6**	**+0.4**
YOTC	**Yotoco, Valle**	**35.68**	**352**	*eP*	**P**	**08 39 39.6**	**+0.4**
ANIL	**Santa Ana**	**36.08**	**353**	*eP*	P	08 39 49.1	+6.3
CHIC	**Chingaza**	**36.08**	**356**	*eP*	**P**	**08 39 43.3**	**+0.4**
GUY2C	**Guyana, Caldas**	**36.80**	**353**	*eP*	**P**	**08 39 50.4**	**+1.3**
NORC	**Norcasia**	**37.09**	**354**	*eP*	**P**	**08 39 52.6**	**+1.6**
RUSC	**La Rusia**	**37.31**	**357**	P	**P**	**08 39 52.1**	**-1.3**
RUSC	**La Rusia**	**37.31**	**357**	*eP*	**P**	**08 39 54.6**	**+1.2**
CBOC	**Ciudad Bolivar**	**37.50**	**353**	*eP*	**P**	**08 39 55.8**	**+1.2**
HELC	**Santa Helena**	**37.77**	**353**	*eP*	**P**	**08 39 58.1**	**+0.9**
TAMC	**Tame, Arauca**	**37.81**	**359**	*eP*	**P**	**08 39 57.2**	**+0.1**
BARC	**Barichara**	**38.01**	**357**	*eP*	**P**	**08 39 58.0**	**-1.0**
PTBC	**PUERTO BERRIO,**	**38.02**	**355**	*eP*	**P**	**08 39 58.1**	**-0.9**
DBBC	**Dabeiba**	**38.66**	**352**	*eP*	**P**	**08 40 04.3**	**0.0**
PAMC	**Pamplona, Colo**	**38.73**	**358**	*eP*	**P**	**08 40 04.5**	**-0.9**
ZARC	**Zaragoza, Cauc**	**39.00**	**355**	*eP*	**P**	**08 40 07.1**	**0.0**
UREC	**San Jos de Ur**	**39.31**	**354**	*eP*	**P**	**08 40 10.2**	**+0.5**
OCAC	**Ocana**	**39.65**	**357**	*eP*	**P**	**08 40 11.7**	**-0.9**
SMLC	**San Martn de**	**40.24**	**356**	*eP*	**P**	**08 40 16.2**	**-1.2**
SDV	**Santo Domingo**	**40.25**	**1**	P	**P**	**08 40 17.2**	**-0.6**
	comp=Z,8.1nm,0.5s,baz=198,slow=1.3,SNR=4.9						
MDP	**Montagnes des**	**40.65**	**30**	P	**P**	**08 40 19.8**	**-1.1**
	comp=Z,37nm,0.8s,baz=203,slow=9.9,SNR=14						
ARGC	**Ariguani, Magd**	**41.30**	**356**	*eP*	**P**	**08 40 27.3**	**+1.2**
SJCC	**San Jacinto, C**	**41.41**	**354**	*eP*	**P**	**08 40 28.0**	**+0.9**
PCRV	**Puerto La Cruz**	**42.04**	**10**	P	**P**	**08 40 30.7**	**-1.5**
	comp=Z,18nm,0.9s,baz=123,slow=5.2,SNR=3.6						
ORTG	**Ortega, Santa**	**43.83**	**340**	P	**P**	**08 40 46.6**	**-0.2**
TOSP	**Speyside**	**43.91**	**16**	P	**P**	**08 40 47.1**	**-0.2**
ICMP	**Isla Caja de M**	**49.42**	**6**	P	**P**	**08 41 30.2**	**-0.1**
MLPR	**Magueyes Islan**	**49.46**	**6**	P	**P**	**08 41 30.2**	**-0.4**
SJG	**San Juan**	**49.68**	**7**	P	**P**	**08 41 31.1**	**-1.3**
	comp=Z,25nm,0.7s,baz=169,slow=4.9,SNR=11						
CBYP	**Canovanas**	**49.87**	**7**	P	**P**	**08 41 33.2**	**-0.7**
CBYP				IAmb	IAmb	08 41 33.4	
	comp=Z,29nm,0.8s						
VNA3	**Neumayer Olymp**	**51.40**	**159**	P	**P**	**08 41 45.2**	**+0.4**
VNA1	**Neumayer--Stat**	**51.70**	**158**	P	**P**	**08 41 47.5**	**+0.5**
VNA2	**Neumayer--Watz**	**52.04**	**158**	P	**P**	**08 41 50.1**	**+0.5**
	baz=288,slow=8.6						
SNAA	**Sanae**	**53.63**	**159**	P	**P**	**08 42 01.7**	**+0.3

MIAR Mount Ida 69.01 341 P P 08 43 46.0 +0.4
baz=160,SNR=5.5
WVT Waverly 69.10 346 P P 08 43 46.1 -0.1
baz=165
ABTX Abilene, Hawle 69.21 335 P P 08 43 47.7 +0.7
baz=154,SNR=6.7
W41B Gary Mavity, V 69.23 342 P P 08 43 47.0 0.0
baz=161,SNR=7.8
W39A Magazine 69.68 341 P P 08 43 49.3 -0.4
W39A Magazine 69.68 341 P P 08 43 50.6 +0.8
baz=160,SNR=20
LCAR Lake Charles 69.80 343 P P 08 43 50.4 -0.1
Q61A Milford 70.20 357 P P 08 43 54.0 +1.2
baz=176
U40A Yellville 70.51 342 P P 08 43 54.8 0.0
baz=161,SNR=14
MNTX Cornudas Mount 70.68 330 IAMs_20 IAMs_20 09 20 06.3
comp=Z,209nm,19.0s
MNTX Cornudas Mount 70.68 330 P P 08 43 55.9 -0.1
baz=150,SNR=24
WMOK Wichita Mounta 70.82 336 P P 08 43 56.5 -0.3
baz=156,SNR=5.1
WCI Wyandotte Cave 70.83 348 P P 08 43 56.2 -0.6
baz=167
TUL1 Leonard 70.93 339 P P 08 43 57.3 -0.1
baz=158,SNR=9.3
P60A Greenville 71.15 357 P P 08 43 59.2 +0.6
baz=176
MCWV Mont Chateau 71.32 353 P P 08 43 59.8 +0.1
baz=172
FVM French Village 71.45 344 P P 08 44 00.7 +0.2
FVM pmax pmax
comp=Z,38nm,1.0s
FVM French Village 71.45 344 P P 08 44 00.7 +0.2
FVM IAmb IAmb 08 44 01.6
comp=Z,38nm,1.0s
P52A Corning 71.56 351 P P 08 44 00.5 -0.6
baz=170,SNR=6.4
MSTX Muleshoe 71.59 333 P P 08 44 02.0 +0.5
MSTX IAmb IAmb 08 44 15.0
comp=Z,33nm,0.8s
MSTX Muleshoe 71.59 333 P P 08 44 01.7 +0.2
baz=152,SNR=19
CCM Cathedral Cave 71.71 344 P P 08 44 02.3 +0.2
CCM pmax pmax
comp=Z,42nm,0.9s
CCM Cathedral Cave 71.71 344 P P 08 44 02.3 +0.2
CCM Cathedral Cave 71.71 344 P P 08 44 02.2 +0.1
baz=162
O56A Blue Knob Stat 71.80 354 P P 08 44 03.1 +0.5
baz=174
P49A Miami Univ. Ec 71.83 349 P P 08 44 02.5 -0.3
P49A IAmb IAmb 08 44 02.6
comp=Z,15nm,0.7s
P49A Miami Univ. Ec 71.83 349 P P 08 44 02.0 -0.8
baz=168,SNR=5.4
AMTX Amarillo 71.98 334 P P 08 44 04.4 +0.5
baz=153
O53A New Philadelph 72.05 352 P P 08 44 03.6 -0.5
baz=171
SSPA Standing Stone 72.11 355 P P 08 44 04.7 +0.3
SSPA Standing Stone 72.11 355 P P 08 44 04.8 +0.4
baz=174
R40A Maddies Statio 72.19 343 P P 08 44 05.4 +0.5
N59A State Game Lan 72.26 357 P P 08 44 06.2 +0.9
N59A State Game Lan 72.26 357 P P 08 44 06.2 +0.9
baz=176,SNR=6.3
ACSO Alum Creek Sta 72.26 351 P P 08 44 04.8 -0.5
baz=170,SNR=9.8
121A Cookes Peak, D 72.45 328 P P 08 44 08.1 +1.3
baz=148,SNR=14
N54A Moraine State 72.62 353 P P 08 44 07.8 +0.3
baz=172
KS21 Milan North St 72.78 338 IAMs_20 IAMs_20 09 15 06.7
comp=Z,346nm,18.0s
SFIN Lafayette 73.06 348 P P 08 44 09.1 -0.9
baz=166
L63A North Scituate 73.09 360 P P 08 44 10.8 +0.6
baz=180
N49A Columbus Grove 73.11 350 P P 08 44 10.2 -0.1
M54A Oil Creek Stat 73.13 354 P P 08 44 10.4 -0.1
baz=173
M53A WI Miller and 73.17 353 P P 08 44 10.2 -0.5
baz=172,SNR=5.2
Y22D IRIS PASSCAL I 73.38 330 IAMs_20 IAMs_20 09 12 02.7
comp=Z,290nm,19.0s
LIC Lamto 73.54 72 eP P 08 44 13.0 -0.5
comp=Z,109nm,1.1s
BINY Binghamton 73.55 356 P P 08 44 13.6 +0.7
baz=176
L56A Greenwood 73.58 355 P P 08 44 13.5 +0.4
L56A IAmb IAmb 08 44 14.6
comp=Z,29nm,1.1s
TUC Tucson 73.65 326 IAMs_20 IAMs_20 09 18 28.0
comp=Z,298nm,21.0s
TUC Tucson 73.65 326 P P 08 44 14.6 +0.7
baz=146
HDIL Hopedale 73.67 346 P P 08 44 13.2 -0.4
baz=164
L61B Northampton 73.69 359 P P 08 44 14.2 +0.5
baz=179,SNR=5.0
HRV Adam Dziewonsk 73.73 360 P P 08 44 14.6 +0.7
baz=180
ERPA Erie 73.77 353 P P 08 44 13.9 -0.3
baz=172
TIC Toumodi 73.79 71 eP P 08 44 14.5 -0.5
KIC Kosan Boka 73.85 72 eP P 08 44 15.0 -0.4
comp=Z,94nm,0.8s
K62A Royalston 73.90 359 P P 08 44 16.0 +1.1
baz=179
K61A Williamstown 73.92 359 P P 08 44 15.2 +0.1
baz=178
ANMO Albuquerque 73.93 331 ceP P 08 44 16.7 +1.1
ANMO pmax pmax
comp=Z,9.0nm,1.3s
ANMO Albuquerque 73.93 331 P P 08 44 16.9 +1.4
baz=149
DBIC Dimbokro 73.93 72 P P 08 44 15.6 -0.2
comp=Z,39nm,0.6s,baz=233,slow=5.1,SNR=42
DBIC Dimbokro 73.93 72 P P 08 44 15.3 -0.5
DBIC 08 44 28.7
DBIC pmax pmax
comp=Z,42nm,0.7s
DBIC Dimbokro 73.93 72 P P 08 44 15.3 -0.5
DBIC PcP pP 08 44 28.7 +0.4
KSU1 Kansas State U 74.13 340 IAMs_20 IAMs_20 09 19 50.4
comp=Z,239nm,21.0s
KSU1 Kansas State U 74.13 340 P P 08 44 16.4 +0.1
baz=158
J61A Chester 74.58 359 P P 08 44 20.0 +1.1
baz=179
CBKS Cedar Bluff 74.84 337 P P 08 44 21.2 +0.6
baz=155
T25A Trinidad 75.01 333 P P 08 44 23.1 +1.3
baz=151,SNR=9.4
I60A Shoreham 75.09 359 P P 08 44 22.6 +0.8
baz=178
I62A Tamworth 75.10 0 P P 08 44 22.9 +1.0
baz=180
I63A Otisfield 75.28 1 P P 08 44 24.5 +1.6
baz=181
MAW Mawson 75.34 164 P P 08 44 23.5 +0.4
comp=Z,9.1nm,0.6s,baz=203,slow=6.8,SNR=22
LBNH Lisbon 75.47 360 P P 08 44 25.0 +1.0
baz=180
SUR Sutherland 75.55 119 P P 08 44 25.8 +0.5
comp=Z,14nm,0.9s,baz=251,slow=5.2,SNR=7.9
SUR Sutherland 75.55 119 P P 08 44 25.2 -0.1
SUR IAmb IAmb 08 44 26.6
comp=Z,28nm,1.0s
SCIA State Center 75.84 343 P P 08 44 26.9 +0.8
baz=161
LONY Lake Ozonia 75.90 358 P P 08 44 26.9 +0.4
baz=177,SNR=5.1
DELO Deloro Mine 75.95 355 P P 08 44 26.6 -0.2
SDCO Great Sand Dun 75.96 333 P P 08 44 28.2 +0.9
baz=151,SNR=9.3
KSCO Kaye Shedlock' 76.00 335 P P 08 44 28.5 +1.2
baz=153
JFWS Jewell Farm 76.13 346 P P 08 44 27.6 -0.2
JFWS pmax pmax
comp=Z,40nm,1.2s
JFWS Jewell Farm 76.13 346 P P 08 44 27.6 -0.2
JFWS IAmb IAmb 08 44 28.8
comp=Z,40nm,1.2s
JFWS Jewell Farm 76.13 346 P P 08 44 27.7 -0.2
baz=164,SNR=6.8

SADO Sadowa 76.32 354 P P 08 44 28.5 -0.3
SADO IAmb IAmb 08 44 29.2
comp=Z,16nm,0.7s
PLVO Plevna 76.44 356 P P 08 44 29.6 +0.1
PLVO IAmb IAmb 08 44 30.3
comp=Z,13nm,0.9s
S22A 4UR Ranch, Cre 76.48 332 P P 08 44 31.3 +0.9
baz=150,SNR=5.6
WUAZ Wupatki 76.57 327 P P 08 44 32.2 +1.5
baz=146
IKP In-Ko-Pah, Jac 76.58 322 P P 08 44 32.2 +1.5
baz=142
MVCO Mesa Verde 76.72 330 P P 08 44 32.7 +1.1
baz=148,SNR=6.6
Q24A Divide 76.88 334 P P 08 44 33.7 +1.1
baz=151,SNR=9.0
MONP2 Monument Peak 76.93 322 P P 08 44 34.4 +1.5
baz=142
BC3 Big Chuckawall 77.04 324 P P 08 44 34.9 +1.6
baz=143
F64A Sherman 77.14 2 P P 08 44 34.2 +0.8
F64A IAmb IAmb 08 44 57.0
comp=Z,20nm,1.2s
IRM Iron Mountain 77.28 324 P P 08 44 35.8 +1.2
baz=143
LMN Caledonia Moun 77.31 5 P P 08 44 34.8 +0.4
LMN IAmb IAmb 08 44 35.5
comp=Z,16nm,0.9s
TPFO Pinon Flats 77.51 323 P P 08 44 37.5 +1.5
baz=142
PFO Pinyon Flats O 77.52 323 P P 08 44 37.7 +1.7
baz=142
BELC Belle Mtn. Jos 77.59 323 P P 08 44 37.7 +1.3
baz=142
ISCO Idaho Springs 77.79 334 P P 08 44 38.5 +0.8
baz=151,SNR=8.6
MURC Murrieta 77.89 322 P P 08 44 39.4 +1.4
baz=141
HEC Hector,Ludlow 78.41 324 P P 08 44 42.4 +1.5
baz=142
ECSD EROS Data Cent 78.42 342 P P 08 44 40.7 0.0
baz=158,SNR=26
BFSC Mount Baldy Ra 78.63 322 P P 08 44 43.5 +1.3
baz=141
TUQ Turquoise Moun 78.68 324 P P 08 44 44.1 +1.6
baz=142
N23A Red Feather La 78.86 334 P P 08 44 44.9 +1.4
baz=151
SPMN Marine on St. 78.88 345 P P 08 44 42.7 -0.4
baz=162,SNR=5.5
GSC Goldstone, Bar 79.02 324 P P 08 44 45.6 +1.4
baz=142
O20A White River Ci 79.10 332 P P 08 44 45.8 +1.1
baz=149,SNR=5.7
KOWA Kowa 79.18 66 P P 08 44 45.3 -0.2
KOWA IAmb IAmb 08 44 46.0
comp=Z,28nm,0.7s
EDW2 Edwards Air Fo 79.30 323 P P 08 44 46.6 +0.8
baz=141
D41A Chassel 79.80 348 P P 08 44 48.4 +0.3
MPMC Manual Prospec 79.96 324 P P 08 44 50.6 +1.1
baz=142
FURC Furnace Creek, 79.96 324 P P 08 44 50.9 +1.7
baz=142
TPNV Topopah Spring 80.04 325 IAMs_20 IAMs_20 09 23 46.2
comp=Z,276nm,20.0s
TPNV Topopah Spring 80.04 325 P P 08 44 51.5 +1.6
baz=142
ISA Isabella, Lake 80.15 323 P P 08 44 52.0 +1.6
baz=141,SNR=9.0
PKM Mcpherson Peak 80.26 321 P P 08 44 52.7 +1.5
baz=140
CWC Cottonwood Cre 80.55 324 P P 08 44 54.0 +1.4
baz=141
K22A Casper 80.60 335 P P 08 44 53.7 +0.9
baz=150,SNR=5.9
VES Vestal, Richgr 80.61 323 P P 08 44 54.2 +1.5
baz=140
GRAC Grapevine Rang 80.63 324 P P 08 44 54.3 +1.4
baz=142
SMMC Simmler 80.68 322 P P 08 44 54.9 +1.7
baz=140
BOSA Boshof 80.74 118 P P 08 44 53.6 -0.4
comp=Z,15nm,0.8s,baz=244,slow=4.6,SNR=19
BOSA Boshof 80.74 118 P P 08 44 54.2 +0.2
BOSA IAmb IAmb 08 44 54.6
comp=Z,20nm,0.8s
R11A Troy Canyon, C 80.83 326 P P 08 44 55.6 +1.5
baz=143,SNR=9.4
RSSD Black Hills 81.02 337 P P 08 44 55.8 +0.8
baz=152
DUG Dugway, Tooele 81.06 329 P P 08 44 56.2 +1.0
DUG pmax pmax
comp=Z,4.0nm,0.9s
DUG Dugway, Tooele 81.06 329 P P 08 44 56.2 +1.0
DUG Dugway, Tooele 81.06 329 P P 08 44 56.3 +1.0
baz=145,SNR=7.5
TIN Tinemaha, Big 81.10 324 P P 08 44 57.0 +1.5
baz=141
EYMN Ely 81.20 347 P P 08 44 55.3 -0.3
baz=163
HWUT Hardware Ranch 81.69 331 P P 08 44 59.4 +0.8
BW06 Boulder Array 81.85 333 IAMs_20 IAMs_20 09 19 04.1
comp=Z,284nm,21.0s
BW06 Boulder Array 81.85 333 P P 08 44 59.3 -0.2
baz=148,SNR=5.0
PDAR Pinedale Array 81.85 333 P P 08 44 59.2 -0.3
comp=Z,3.3nm,1.1s,baz=152,slow=4.1,SNR=14
MLAC Mammoth, Mammo 81.86 324 P P 08 45 00.9 +1.3
baz=141,SNR=5.5
NVAR Mina Array Bea 82.21 325 P P 08 45 02.5 +1.1
comp=Z,4.1nm,0.8s,baz=155,slow=5.9,SNR=24
CASY Casey 82.43 181 P P 08 45 02.6 +0.6
CASY IAmb IAmb 08 45 04.0
comp=Z,19nm,1.0s
AGMN Agassiz Nation 82.48 344 P P 08 45 02.2 -0.1
AGMN IAmb IAmb 08 45 15.6
comp=Z,12nm,0.7s
AGMN Agassiz Nation 82.48 344 P P 08 45 02.1 -0.3
baz=159,SNR=6.0
LBTB Lobatse 82.85 115 P P 08 45 04.5 -0.7
LBTB pmax pmax
comp=Z,20nm,0.7s
LBTB Lobatse 82.85 115 P P 08 45 04.5 -0.7
LBTB IAmb IAmb 08 45 05.5
comp=Z,20nm,0.7s
REDW Red Top Meadow 82.87 332 P P 08 45 05.4 +0.6
TORD Torodi Ar. Bea 82.91 70 P P 08 45 05.0 -0.3
comp=Z,28nm,0.8s,baz=264,slow=4.8,SNR=32
TORD PKKPbc PKKPbc 09 03 27.7 +0.3
comp=Z,0.5nm,0.8s,baz=50,slow=2.7,SNR=4.6
TORD Torodi Ar. Bea 82.91 70 P P 08 45 04.9 -0.5
MDND Maddock 83.03 341 P P 08 45 05.4 +0.3
baz=156
H17A Grant Village 83.62 333 P P 08 45 08.2 -0.5
baz=147
PAHR Pah Rah Range 83.73 325 P P 08 45 10.4 +1.2
RLMT Red Lodge 83.74 334 P P 08 45 09.8 +0.7
RLMT Red Lodge 83.74 334 P P 08 45 09.4 +0.2
baz=148
YNE Yellowstone No 83.92 334 P P 08 45 10.1 -0.1
YMR Madison River 84.00 333 P P 08 45 11.2 +0.6
YMR IAmb IAmb 08 45 12.8
comp=Z,14nm,1.1s
LAO LASA Array 84.01 337 P P 08 45 10.5 +0.2
baz=151
YHH Holmes Hill 84.06 333 P P 08 45 11.5 +0.6
ULM Lac du Bonnet 84.31 345 P P 08 45 11.3 -0.3
comp=Z,13nm,0.9s,baz=168,slow=3.1,SNR=7.4
ULM Lac du Bonnet 84.31 345 eP P 08 45 11.1 -0.6
ULM pmax pmax
comp=Z,13nm,0.9s
HLID Hailey 84.50 330 P P 08 45 13.9 +0.9
HLID Hailey 84.50 330 P P 08 45 14.0 +0.9
baz=144,SNR=11
MCMT McKenzie Canyo 84.88 332 P P 08 45 15.7 +0.6
DGMT Dagmar 84.92 339 P P 08 45 15.4 +0.5
DGMT Dagmar 84.92 339 P P 08 45 15.4 +0.5
baz=152,SNR=5.6
BOZ Bozeman (W) 85.04 333 P P 08 45 16.1 +0.4
baz=146
DLMT Dillon 85.22 332 P P 08 45 16.7 +0.1
DLMT IAmb IAmb 08 45 31.0
comp=Z,18nm,1.4s
O03E Paynes Creek 85.38 324 P P 08 45 17.6 +0.2
baz=139
WVOR Wild Horse Val 85.48 327 IAMs_20 IAMs_20 09 27 24.2

comp=Z,401nm,21.0s
LRM Limekiln Ridge 85.55 333 P P 08 45 19.4 +1.1
O02D Mt. Diablo Mer 85.79 323 P P 08 45 20.0 +0.6
baz=138
HRY Holter Researc 86.05 333 P P 08 45 21.2 +0.6
J08A Circle Bar Ran 86.12 328 P P 08 45 21.9 +0.8
J08A IAmb IAmb 08 45 23.2
comp=Z,25nm,1.1s
SCHQ Schefferville 86.16 3 P P 08 45 20.1 -0.8
comp=Z,7.0nm,0.9s,baz=210,slow=3.4,SNR=3.9
EGMT Eagleton 86.38 335 P P 08 45 23.2 +1.0
baz=148
PLID Pearl Lake 86.40 330 P P 08 45 22.8 +0.2
PLID IAmb IAmb 08 45 24.2
comp=Z,10nm,1.1s
M04C Macdoel 86.52 325 P P 08 45 23.7 +0.6
baz=139
M02C Callahan 86.73 324 P P 08 45 24.6 +0.5
baz=138
K05A Summer Lake 86.77 326 P P 08 45 25.4 +1.0
K05A IAmb IAmb 08 45 26.7
comp=Z,20nm,1.1s
MSO Missoula 86.96 332 P P 08 45 25.8 +0.8
baz=145
L04D Klamath Falls 87.07 325 P P 08 45 26.1 +0.3
baz=139
K04D Chiloquin, OR 87.11 325 P P 08 45 26.4 +0.5
baz=139
I07A Izee 87.16 328 P P 08 45 27.0 +0.9
I07A IAmb IAmb 08 45 28.3
comp=Z,12nm,1.1s
J05D Fort Rock, OR 87.36 326 P P 08 45 28.3 +1.1
baz=139,SNR=5.6
F10A Beach Ranch, E 87.63 330 P P 08 45 28.5 +0.1
L02E Cave Junction 87.67 324 P P 08 45 29.9 +1.4
baz=138
K02D Willamette Mer 88.10 324 P P 08 45 32.0 +1.4
baz=138
I05D Terrebonne, OR 88.20 327 P P 08 45 32.5 +1.4
baz=139
NEW Newport 89.40 331 P P 08 45 36.5 -0.1
baz=142
C09A Chrisman Ranch 89.51 331 P P 08 45 37.1 +0.1
C09A IAmb IAmb 08 45 38.4
comp=Z,8.5nm,0.8s
B05A Bryant 91.51 329 P P 08 45 46.7 +0.4
baz=139
A04D Lummi Island 92.12 329 P P 08 45 50.1 +1.0
baz=138
ESDC Sonseca Array 94.54 46 P P 08 46 01.0 +0.4
comp=Z,1.7nm,0.8s,baz=265,slow=4.9,SNR=5.2
FUNA Funafuti 101.72 252 IAMs_20 IAMs_20 09 38 39.5
comp=Z,171nm,18.0s
CLTB Caltabellotta 104.68 55 IAMs_20 IAMs_20 09 32 53.9
comp=Z,228nm,20.0s
KIBK Kibwezi 105.26 102 IAMs_20 IAMs_20 09 22 09.2
comp=Z,193nm,18.0s
ASAR Alice Springs 119.94 207 PKP PKPdf 08 51 29.9 -1.1
comp=Z,1.8nm,0.6s,baz=134,slow=1.6,SNR=23
ASAR Alice Springs 119.94 207 PKIKP PKPdf 08 51 30.0 -1.1
AS31 Alice Springs 119.94 207 PKPdf 08 51 30.2 -1.0
AKASG Malin Array Be 120.18 46 PKP PKPdf 08 51 29.1 -1.4
comp=Z,1.5nm,0.6s,baz=265,slow=2.6,SNR=1.7
BRTR Keskin Array B 120.20 60 PKP PKPdf 08 51 30.7 -0.4
comp=Z,1.5nm,0.6s,baz=204,slow=2.7,SNR=8.2
MNK Minsk 120.27 42 i PKIKP PKiKP 08 51 31.5 +0.9
MNK i 08 52 57.4
MNK i 09 58 40.8
MNK i PS PS 09 02 46.7 -1.0
MNK i SS SS 09 09 22.2 +0.1
MNK i SSS SSS 09 13 48.9
MNK pmax pmax
comp=Z,11nm,0.8s
MNK pmax pmax
comp=E,5.0nm,1.0s
MNK pmax pmax
comp=N,18nm,0.9s
MNK MLR MLR
comp=N,125nm,17.0s
MNK MLR MLR
comp=Z,510nm,19.0s
MNK MLR MLR
comp=E,33nm,16.0s
MNK Minsk 120.27 42 i PKP PKiKP 08 51 31.5 +0.9
comp=E,5.0nm,1.0s
MNK i PKP PKiKP 08 51 31.5 +0.9
comp=N,18nm,0.8s
MNK i PKP PKiKP 08 51 31.5 +0.9
comp=Z,11nm,0.8s,baz=258
MNK i PP PP 08 52 57.4 +0.2
MNK i PPP PPP 08 55 42.0
MNK i SKS SKSdf 08 58 40.9 +1.9
MNK i PS PS 09 02 46.7 -0.9
MNK i SS SS 09 09 22.2 +0.1
MNK i SSS SSS 09 13 48.9
MNK i LQ LQ 09 36 19.0
MNK i LR LR 09 39 55.7
MNK i LRM MLR 09 42 46.8
comp=N,125nm,17.4s
MNK i LRM MLR 09 42 46.8
comp=Z,510nm,18.8s
MNK i LRM MLR 09 43 07.5
comp=E,33nm,15.9s
ARCES ARCESS Array B 121.62 24 PKP PKPdf 08 51 30.4 -2.4
comp=E,2.7nm,0.9s,baz=338,slow=1.0,SNR=3.8
WRA Warramunga Arr 123.11 209 PKP PKPdf 08 51 36.4 -0.8
comp=E,4.6nm,0.5s,baz=167,slow=2.1,SNR=70
WRAB Tennant Creek 123.11 209 c i PKIKP PKPdf 08 51 37.0 -0.2
WRAB pmax pmax
comp=Z,14nm,2.5s
LVZ Lovozero 124.89 26 i PKIKP PKiKP 08 51 39.5 0.0
OBN Obninsk 125.33 42 ↓i PKIKP PKPdf 08 51 39.6 -0.6
OBN pmax pmax
comp=Z,12nm,1.3s
H11S2 WAKE ISLAND Hyl 26.28 271 T T 11 10 33.9
baz=119,slow=75
H11S1 WAKE ISLAND Hyl 26.30 271 T T 11 10 37.7
baz=119,slow=75
H11S3 WAKE ISLAND Hyl 26.30 271 T T 11 10 35.1
baz=119,slow=75
H11N3 WAKE ISLAND Hyl 26.64 272 T T 11 10 58.9
baz=116,slow=75,SNR=78
H11N1 WAKE ISLAND Hyl 26.65 272 T T 11 11 00.6
baz=116,slow=75,SNR=58
H11N2 WAKE ISLAND Hyl 26.65 272 T T 11 11 07.5
baz=116,slow=75,SNR=103
KLMR Klimovskoe 127.16 35 ePKIKP PKPdf 08 51 42.8 -0.8
KLMR pmax pmax
comp=Z,9.0nm,0.8s
KLMR Klimovskoe 127.16 35 ePKPdf PKPdf 08 51 42.9 -0.7
KLMR AMP 08 51 44.3
comp=Z,9.0nm,0.8s
SHA1 Shidzhatmaz 127.71 57 i PKIKP PKPdf 08 51 43.6 -1.9
FITZ Fitzroy Crossi 127.95 201 PKP PKPdf 08 51 46.3 -0.2
comp=Z,5.1nm,0.7s,baz=183,slow=5.1,SNR=12
GOF Gofitskoye 128.20 55 ↑ ePKIKP PKiKP 08 51 55.3 +8.6
PRGR Permogore 130.05 34 ePKIKP PKPdf 08 51 48.1 -0.9
PRGR pmax pmax
comp=Z,21nm,1.1s
BILL Bilibino 130.88 335 ↑ i PKIKP PKiKP 08 51 53.7 +2.3
BILL 08 54 06.0
BILL pmax pmax
comp=Z,29nm,2.1s
ARU Arti 137.58 39 i PKIKP PKPdf 08 52 02.7 -0.6
ARU 08 54 46.7
SEY Seymchan 138.18 332 PKP PKPdf 08 52 04.9 +0.6
comp=Z,7.8nm,0.8s,baz=94,slow=2.7,SNR=19
TIXI Tiksi 138.41 350 PKP PKPdf 08 52 04.4 -0.1
comp=Z,5.3nm,0.6s,baz=71,slow=2.6,SNR=3.1
TIXI Tiksi 138.41 350 c i PKIKP PKPdf 08 52 04.6 +0.2
PETK Petropavlovsk- 138.81 316 PKP PKPdf 08 52 06.3 +0.5
comp=Z,8.1nm,0.9s,baz=93,slow=5.0,SNR=10
NRIK Noril'sk 140.36 12 c i PKIKP PKPdf 08 52 09.3 +1.2
BRVK Borovoye 145.08 41 c i PKIKP PKPdf 08 52 17.0 +0.1
BRVK pmax pmax
comp=Z,38nm,0.7s
BRVK Borovoye 145.08 41 PKPab PKPbc 08 52 15.9 -0.5
POO Poona 146.12 104 eP PKPdf 08 52 18.0 -1.8
YAK Yakutsk 146.62 342 PKPbc PKPbc 08 52 20.8 -0.1
comp=Z,40nm,0.5s,baz=230,slow=0.8,SNR=11
YAK Yakutsk 146.62 342 ePKP2 PKPdf 08 52 19.9 +0.7
YAK pmax pmax
comp=Z,60nm,0.6s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax

	comp=E,10.0nm,1.2s								
TOLI2	**Tolitoli**	**147.56**	**203**			**PKPdf**	**08 52 22.7**	**+0.3**
KKAR	**Karatay Array**	**147.90**	**58**		PKIKP	**PKPdf**	**08 52 22.8**	**+0.7**
KKAR	**Karatay Array**	**147.90**	**58**			**PKPdf**	**08 52 22.8**	**+0.7**
GAR	**Garm**	**148.10**	**66**			**PKPdf**	**08 52 23.2**	**+0.6**
HYB	**Hyderabad**	**149.38**	**110**	*i*	PKP	**PKPbc**	**08 52 29.0**	**-0.6**
YSS	**Yuzh-Sakhalins**	**149.69**	**310**	*c i*	PKHKP	PKPpre	08 52 28.0	
YSS					pmax	pmax		
	comp=Z,34nm,1.7s							
PSI	**Prapat**	**149.96**	**160**		PKPbc	**PKPbc**	**08 52 30.3**	**-1.0**
	comp=Z,28nm,0.9s,baz=197,slow=1.6,SNR=13							
NIL	**Nilore**	**150.27**	**76**		PKIKP	**PKPdf**	**08 52 28.4**	**+2.2**
NIL	**Nilore**	**150.27**	**76**			**PKPdf**	**08 52 28.4**	**+2.2**
EKS2	**Erkin-Say**	**150.34**	**58**		P	**PKiKP**	**08 52 32.0**	**-0.1**
	SNR=17							
ASAJ	**Asahikawa**	**150.57**	**305**		PKPbc	**PKPbc**	**08 52 31.8**	**+0.1**
	comp=Z,20nm,0.9s,baz=290,slow=7.5,SNR=9.2							
USP	**Ospenovka**	**150.74**	**57**		P	**PKiKP**	**08 52 32.6**	**-0.2**
	SNR=11							
AAK	**Ala-Archa**	**150.86**	**58**		P	**PKiKP**	**08 52 33.5**	**+0.2**
	SNR=15							
AAK	**Ala-Archa**	**150.86**	**58**	*c i*	PKIKP	**PKPdf**	**08 52 29.5**	**+2.5**
AAK					pmax	pmax		
	comp=Z,84nm,0.8s							
UCH	**Uchtor**	**150.95**	**59**		P	**PKiKP**	**08 52 34.1**	**+0.2**
	SNR=23							
CHMS	**Chumysh**	**150.98**	**57**		P	**PKiKP**	**08 52 33.2**	**-0.1**
	SNR=5.7							
TKM2	**Tokmak 2**	**151.60**	**57**		P	**PKPbc**	**08 52 34.4**	**0.0**
	SNR=9.7							
ZALV	**Zalesovo Beam**	**151.91**	**30**		PKPbc	**PKPbc**	**08 52 34.4**	**0.0**
	comp=Z,48nm,0.5s,baz=300,slow=3.2,SNR=50							
ZALV	**Zalesovo Beam**	**151.91**	**30**		PKIKP	**PKPdf**	**08 52 27.2**	**-0.8**
ZALV	**Zalesovo Beam**	**151.91**	**30**			**PKPdf**	**08 52 27.2**	**-0.8**
ULHL	**Ulahol**	**152.21**	**58**		P	**PKiKP**	**08 52 36.6**	**+0.4**
	SNR=8.4							
KSH	**Kashi**	**152.44**	**64**		PKPbc	**PKPdf**	**08 52 30.4**	**+1.0**
KSH					sPKP		08 52 44.5	
KSH					PP	**PP**	**08 56 18.4**	**-1.3**
KSH					LR	LR		
	comp=Z,430nm,23.7s							
KDJ	**Kajisay**	**152.91**	**58**		PKIKP	**PKPbc**	**08 52 36.5**	**-0.9**
KDJ	**Kajisay**	**152.91**	**58**			**PKPbc**	**08 52 36.5**	**-0.9**
ZEA	**Zeya**	**154.10**	**334**	*e*	PKIKP	**PKPdf**	**08 52 31.9**	**+0.7**
MKAR	**Makanchi Array**	**154.76**	**45**		PKPbc	**PKPbc**	**08 52 40.5**	**-0.4**
	comp=Z,4.9nm,0.8s,baz=315,slow=2.0,SNR=18							
KLR	**Kul'dur**	**155.22**	**322**		PKP	**PKPdf**	**08 52 31.5**	**-1.4**
	comp=Z,2.6nm,0.9s,baz=41,slow=1.2,SNR=8.4							
USRK	**Ussuriysk Ar.**	**157.72**	**311**		PKPab	**PKPab**	**08 53 08.1**	**-0.8**
	comp=Z,2.0nm,0.7s,baz=141,slow=42,SNR=3.6							
WMQ	**Urumqi**	**159.53**	**48**	*e*	PKP	**PKPdf**	**08 52 39.6**	**+1.0**
JNU	**Nakatsue**	**161.09**	**281**		PKPab	**PKPab**	**08 53 26.4**	**+2.4**
	comp=Z,5.7nm,0.4s,baz=185,slow=2.9,SNR=8.9							
SONM	**Songino Array**	**163.69**	**5**		PKP	**PKPdf**	**08 52 41.3**	**-1.6**
	comp=Z,0.9nm,1.0s,baz=113,slow=1.9,SNR=3.9							
SONM					PKPab	**PKPab**	**08 53 35.2**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=321,slow=3.7,SNR=6.4							
CMAR	**Chiang Mai Arr**	**164.30**	**144**		PKP	**PKPdf**	**08 52 44.0**	**-0.1**
	comp=Z,1.3nm,0.3s,baz=251,slow=2.8,SNR=4.2							
CMAR					PKPab	**PKPab**	**08 53 37.0**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=239,slow=5.2,SNR=4.7							
CMAR	**Chiang Mai Arr**	**164.30**	**144**		PKIKP	**PKPdf**	**08 52 40.6**	**-3.5**
CMAR	**Chiang Mai Arr**	**164.30**	**144**			**PKPdf**	**08 52 40.5**	**-3.5**
GTA	**Gaotai**	**169.44**	**40**	*e*	PKP	**PKPdf**	**08 52 48.3**	**+0.8**
GTA					sPKP		08 53 01.6	
GTA					PKPab	**PKPab**	**08 54 01.0**	**+0.4**
HHC	**Hu-ho-hao-te**	**170.45**	**346**	*e*	PKP	**PKPdf**	**08 52 41.5**	**-6.5**
HHC					LR	LR		
	comp=Z,120nm,19.2s							
HHC					LR	LR		
	comp=Z,77nm,19.0s							
HHC					LR	LR		
	comp=Z,160nm,21.3s							
NJ2	**Nanjing**	**171.23**	**276**	*e*	PKP	**PKPdf**	**08 52 49.1**	**+0.6**

NEIC ***17*** *08:34:52.5±2.1,5.°12N±0.°06×125.°33E±0.°09, h73km±8km, mb4.7/32 Error ellipse: s-maj=13.2km s-min=8.7km az=89.0*

DJA ***17*** *08:34:53.2±0.3,5.°N±2.°×12.°6E±.°, h47km±4km, M4.8/20, mB5.3/7, mb4.8/20, MLv4.8/10, Mw(mB)4.7/7*

IDC ***17*** *08:34:54.8±1.3,5.°25N×125.°55E, h100km±11km, mb4.2/17, mb1 4.2/18, mb1mx4.0/51, mbtmp4.5/18, Error ellipse: s-maj=23.5km s-min=9.8km az=78.0*

MAN ***17*** *08:34:56.6,5.°66N×125.°78E, h4km, mb5.7, ML4.7, MS5.0*

ISC 17 08:34:49.0±0.4,5.°14N±0.°04×125.°34E±0.°06,h35km,n93, σ2.°32/89,mb4.6/35,1C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.46**	**172**	P		**Pn**	**08 35 15.6**	**+2.8**
SGSI				S		**Sn**	**08 35 32.4**	**+1.7**
KCP	**Kidapawan**	**1.87**	**352**	*e* P		**Pn**	**08 35 20.4**	**+1.8**
KCP				*i* S		**Sn**	**08 35 43.6**	**+2.5**
DAV	**Davao City (W)**	**1.93**	**7**	P		Pn	08 35 24.6	+5.2
	186nm,0.3s,baz=104,slow=11,SNR=9.0							
DAV				S		**Sn**	**08 35 48.2**	**+5.8**
	133nm,0.3s,baz=48,slow=21,SNR=7.4							
DAV	**Davao City (W)**	**1.93**	**7**			**Pn**	**08 35 23.3**	**+3.9**
DAV	**Davao City (W)**	**1.93**	**7**	P		Pn	08 35 25.5	+6.1
DAV				S		**Sn**	**08 35 50.0**	**+7.6**
BUKP	**Musuan**	**2.73**	**354**	*i* P		Pn	08 35 43.0	+13
BUKP				*i* S		Sn	08 36 19.9	+18
ZCP	**Zamboanga City**	**3.70**	**299**	*e* P		**Pn**	**08 35 45.6**	**+2.0**
ZCP				*e* S		**Sn**	**08 36 26.2**	**+0.1**
GAMI	**Galela, Maluku**	**4.09**	**143**	P		**Pn**	**08 35 50.6**	**+1.5**
KMSI	**Cibinong**	**4.73**	**197**	P		Pn	08 36 15.8	+18
TNTI	**Ternate**	**4.79**	**155**			**Pn**	**08 36 00.2**	**+1.5**
TNTI	**Ternate**	**4.79**	**155**	P		**Pn**	**08 36 01.1**	**+2.4**
GTOI	**Gorontalo**	**5.04**	**208**	P		**Pn**	**08 36 05.0**	**+2.9**
MRSI	**Marisa**	**5.74**	**216**	P		**Pn**	**08 36 15.7**	**+4.0**
	1.7nm5µm167nm,0.5s							
TOLI2	**Tolitoli**	**6.06**	**229**	Pn		**Pn**	**08 36 17.1**	**+1.0**
APSI	**Ampana**	**7.05**	**212**	P		**Pn**	**08 36 33.9**	**+4.2**
SANI	**Sanana**	**7.17**	**175**	P		**Pn**	**08 36 32.6**	**+1.2**
	0.3nm2µm62nm,0.6s							
MPSI	**Mapaga**	**7.23**	**229**	P		**Pn**	**08 36 36.5**	**+4.3**
	0.2nm1µm40nm,0.9s							
SWI	**Sorong**	**8.40**	**135**	P		**Pn**	**08 36 49.7**	**+1.4**
	2µm122nm,0.8s							
SIJI	**Sorong**	**8.41**	**135**	P		**Pn**	**08 36 49.5**	**+1.2**
	9.7nm,0.3s,baz=343,slow=12,SNR=12							
SIJI	**Sorong**	**8.41**	**135**	P		**Pn**	**08 36 49.6**	**+1.2**
	738nm99nm,0.8s							
KRAI	**Karang Ratu**	**8.94**	**160**	P		**Pn**	**08 36 57.5**	**+1.8**
	4µm91nm,0.7s							
TTSI	**Tana Toraja**	**9.82**	**214**	P		**Pn**	**08 37 11.9**	**+4.1**
	46nm,0.8s							
FAKI	**Fak Fak**	**10.57**	**139**	Pn		**Pn**	**08 37 19.4**	**+1.4**
BNSI	**Bone**	**10.82**	**209**	P		**Pn**	**08 37 25.5**	**+4.0**
	46nm,0.7s							
BBKI	**Banjar Baru**	**13.53**	**231**	P		P	08 38 16.4	+9.2
SOEI	**Soe**	**14.84**	**184**	P		P	08 38 34.1	+12
BATI	**Baumata**	**15.34**	**186**	P		**P**	**08 38 30.1**	**+2.8**
	11nm,0.3s,baz=43,slow=2.6,SNR=4.7							
BATI	**Baumata**	**15.34**	**186**	P		**P**	**08 38 26.2**	**-1.1**
	38nm,1.1s							
PLAI	**Plampang**	**15.79**	**209**	P		**P**	**08 38 33.4**	**+1.1**
	54nm,0.8s							
TWSI	**Taliwang, Sumb**	**16.16**	**211**	P		**P**	**08 38 38.2**	**+1.8**
	26nm,1.0s							
GENI	**Genyem**	**16.69**	**117**	P		**P**	**08 38 45.9**	**+3.6**
JAY	**Jayapura**	**17.13**	**116**	P		**P**	**08 38 47.7**	**+0.5**
	0.2nm,0.3s,baz=328,slow=12,SNR=2.2							
MTN	**Manton Dam**	**18.77**	**162**	P		**P**	**08 39 04.0**	**-1.2**
KNRA	**Kununurra**	**20.96**	**171**	P		**P**	**08 39 29.2**	**+0.1**
KNRA				IAmb		IAmb	08 39 47.5	
	comp=Z,39nm,0.8s							
JOW	**Kunigami**	**21.75**	**7**	P		**P**	**08 39 36.6**	**-1.0**
	comp=Z,25nm,0.8s,baz=201,slow=9.9,SNR=4.7							
JOW	**Kunigami**	**21.75**	**7**	IAmb		IAmb	08 39 38.6	
	comp=Z,40nm,0.9s							
FITZ	**Fitzroy Crossi**	**23.09**	**179**	P		**P**	**08 39 52.1**	**+0.3**
	comp=Z,66nm,1.2s,baz=13,slow=8.4,SNR=115							
FITZ	**Fitzroy Crossi**	**23.09**	**179**	P		**P**	**08 39 51.6**	**-0.2**
FITZ				IAmb		IAmb	08 39 53.8	
	comp=Z,41nm,1.1s							
MDSI	**Maura Dua**	**23.20**	**246**	P		**P**	**08 39 58.4**	**+5.5**
	comp=Z,13nm,1.1s							
PDSI	**Padang**	**25.56**	**257**	P		**P**	**08 40 21.1**	**+6.2**
	comp=Z,14nm,0.7s							
COEN	**Coen**	**25.95**	**137**	P		**P**	**08 40 17.9**	**-0.5**
COEN				IAmb		IAmb	08 40 22.9	
	comp=Z,18nm,0.9s							
WRAB	**Tennant Creek**	**26.45**	**161**	P		**P**	**08 40 22.1**	**-0.7**
WRAB				IAmb		IAmb	08 40 37.0	
	comp=Z,19nm,0.6s							
WRA	**Warramunga Arr**	**26.45**	**161**	P		**P**	**08 40 22.2**	**-0.7**
	comp=Z,7.1nm,0.3s,baz=338,slow=10,SNR=153							
WRA	**Warramunga Arr**	**26.45**	**161**	P		**P**	**08 40 22.4**	**-0.4**
WB2	**Warramunga Arr**	**26.45**	**161**	P		**P**	**08 40 22.4**	**-0.5**
WB2				IAmb		IAmb	08 40 37.3	
	comp=Z,22nm,0.6s							
PSA00	**Pilbara Seismi**	**27.09**	**191**	P		**P**	**08 40 28.6**	**+0.1**
NJ2	**Nanjing**	**27.45**	**348**	*e* P		**P**	**08 40 33.8**	**+2.1**
NJ2				pmax		pmax		
	comp=Z,11nm,0.7s							
GSI	**Gunungsitoli**	**27.97**	**263**	P		**P**	**08 40 35.9**	**-0.8**
CMAR	**Chiang Mai Arr**	**28.97**	**299**	P		**P**	**08 40 48.0**	**+2.6**
	comp=Z,2.6nm,0.4s,baz=122,slow=7.5,SNR=11							
AS31	**Alice Springs**	**29.83**	**164**	P		**P**	**08 40 52.1**	**-0.8**
ASAR	**Alice Springs**	**29.83**	**164**	P		**P**	**08 40 52.6**	**-0.4**
	comp=Z,5.3nm,0.5s,baz=346,slow=7.5,SNR=80							
ASAR	**Alice Springs**	**29.83**	**164**	P		**P**	**08 40 52.4**	**-0.6**
KSRS	**Korea Array**	**32.25**	**4**	P		**P**	**08 41 12.7**	**-1.5**
	comp=Z,2.5nm,0.7s,baz=182,slow=9.9,SNR=10							
XAN	**Xi'an**	**32.55**	**334**	P		**P**	**08 41 14.5**	**-2.4**
XAN				pmax		pmax		
	comp=Z,4.0nm,0.7s							
FORT	**Forrest**	**35.81**	**176**	P		**P**	**08 41 45.0**	**-0.1**
HHC	**Hu-ho-hao-te**	**37.64**	**343**	*e* P		**P**	**08 42 03.1**	**+2.3**
HHC				pmax		pmax		
	comp=Z,14nm,0.9s							
HHC				pmax		pmax		
	comp=Z,74nm,4.6s							
HHC				LR		LR		
	comp=Z,200nm,14.8s							
HHC				LR		LR		
	comp=Z,220nm,14.8s							
HHC				LR		LR		
	comp=Z,250nm,16.5s							
BBOO	**Buckleboo**	**39.09**	**166**	P		**P**	**08 42 13.1**	**+0.2**
USRK	**Ussuriysk Ar.**	**39.34**	**8**	P		**P**	**08 42 13.2**	**-1.7**
	comp=Z,4.4nm,0.7s,baz=197,slow=7.1,SNR=14							
USRK	**Ussuriysk Ar.**	**39.34**	**8**	P		**P**	**08 42 13.7**	**-1.2**
STKA	**Stephens Creek**	**39.94**	**158**	P		**P**	**08 42 19.8**	**-0.2**
	comp=Z,6.6nm,0.5s,baz=342,slow=7.6,SNR=40							
STKA	**Stephens Creek**	**39.94**	**158**	P		**P**	**08 42 20.1**	**+0.1**
GTA	**Gaotai**	**41.18**	**330**	*e* P		P	08 42 40.1	+10
GTA				pP		pwP	08 42 46.1	+2.8
GTA				sP		sP	08 42 49.3	+5.6
GTA				pmax		pmax		
	comp=Z,3.0nm,1.1s							
ARMA	**Armidale**	**43.40**	**146**	P		**P**	**08 42 48.2**	**-0.3**
KLR	**Kul'dur**	**44.27**	**6**	P		**P**	**08 42 53.0**	**-2.1**
	comp=Z,2.6nm,0.7s,baz=231,slow=4.8,SNR=9.2							
CAN	**Canberra**	**45.99**	**153**	P		**P**	**08 43 09.6**	**+0.6**
DZM	**Mont Dzumac**	**48.48**	**125**	P		**P**	**08 43 28.2**	**-0.5**
	comp=Z,7.3nm,0.7s,baz=105,slow=12,SNR=4.5							
DZM	**Mont Dzumac**	**48.48**	**125**	IAmb		IAmb	08 44 13.7	
	comp=Z,12nm,1.0s							
WMQ	**Urumqi**	**50.78**	**325**	*e* P		**P**	**08 43 47.8**	**+1.9**
PETK	**Petropavlovsk-**	**54.67**	**23**	P		**P**	**08 44 12.8**	**-1.7**
	comp=Z,4.1nm,0.9s,baz=249,slow=6.0,SNR=6.9							
MK31	**Makanchi Array**	**55.61**	**325**	P		**P**	**08 44 20.2**	**-1.1**
MKAR	**Makanchi Array**	**55.61**	**325**	P		**P**	**08 44 20.0**	**-1.3**
	comp=Z,2.2nm,0.4s,baz=126,slow=8.2,SNR=29							
KSH	**Kashi**	**56.07**	**315**	P		**P**	**08 44 26.3**	**+1.4**
KSH				pP		pwP	08 44 42.3	+2.6
KSH				pmax		pmax		
	comp=Z,6.0nm,0.6s							
KDJ	**Kajisay**	**56.38**	**318**	P		**P**	**08 44 27.0**	**-0.1**
KDJ				IAmb		IAmb	08 44 27.5	
	comp=Z,5.0nm,0.7s							
BTK	**Batken**	**59.95**	**314**	P		**P**	**08 44 50.8**	**-1.2**
BTK				IAmb		IAmb	08 45 08.5	
	comp=Z,5.4nm,1.0s							
GAR	**Garm**	**59.95**	**312**	P		**P**	**08 44 50.8**	**-1.3**
KK31	**Karatay Array**	**61.26**	**317**	P		**P**	**08 44 59.3**	**-1.5**
KK31				IAmb		IAmb	08 45 00.4	
	comp=Z,4.5nm,0.8s							
KKAR	**Karatay Array**	**61.26**	**317**	P		**P**	**08 44 59.8**	**-1.1**
KKAR				IAmb		IAmb	08 45 00.4	
	comp=Z,4.5nm,0.8s							
KKAR	**Karatay Array**	**61.26**	**317**	P		**P**	**08 44 59.3**	**-1.5**
BRVK	**Borovoye**	**65.46**	**327**	P		**P**	**08 45 26.7**	**-1.7**
BRVK				IAmb		IAmb	08 45 27.6	
	comp=Z,9.0nm,0.9s							
ABKAR	**Akbulak array**	**70.19**	**321**	P		**P**	**08 45 56.8**	**-1.4**
ABKAR	**Akbulak array**	**70.19**	**321**	P		**P**	**08 45 56.8**	**-1.4**
ABKAR				IAmb		IAmb	08 45 57.4	
	comp=Z,3.8nm,0.8s							
KEKH	**Kekaha**	**74.15**	**69**	P		**P**	**08 46 21.5**	**-1.0**
I21K	**Tanana**	**82.28**	**25**	P		**P**	**08 47 05.2**	**-1.5**
I21K				IAmb		IAmb	08 47 23.5	
	comp=Z,6.3nm,1.0s							
MLY	**Manley**	**82.80**	**25**	P		**P**	**08 47 06.9**	**-2.5**
MLY				IAmb		IAmb	08 47 16.5	
	comp=Z,22nm,1.9s							
HDA	**Harding Lake**	**84.41**	**26**	P		**P**	**08 47 15.2**	**-2.4**
HDA				IAmb		IAmb	08 47 28.4	
	comp=Z,5.0nm,0.7s							
ILAR	**Eielson Array**	**84.44**	**25**	P		**P**	**08 47 14.2**	**-3.6**
	comp=Z,0.8nm,0.6s,baz=246,slow=4.7,SNR=8.8							
MAW	**Mawson**	**84.59**	**200**	P		**P**	**08 47 18.0**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=42,slow=13,SNR=3.3							
VNDA	**Vanda**	**84.99**	**173**	P		**P**	**08 47 19.5**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=291,slow=6.4,SNR=5.3							
BMAR	**Burnt Mountain**	**85.32**	**23**	P		**P**	**08 47 21.0**	**-1.2**
ARCES	**ARCESS Array B**	**88.65**	**340**	P		**P**	**08 47 35.6**	**-2.7**
	comp=Z,1.6nm,0.8s,baz=61,slow=7.5,SNR=2.3							
FINES	**FINESS Array B**	**89.34**	**332**	P		**P**	**08 47 41.3**	**-3.1**
	comp=Z,1.1nm,0.8s,baz=60,slow=8.3,SNR=1.6							
TORD	**Torodi Ar. Bea**	**121.16**	**289**	PKP		**PKPdf**	**08 53 36.9**	**-2.3**
	comp=Z,0.6nm,0.7s,baz=88,slow=2.5,SNR=3.0							
TXAR	**Lajitas Array**	**121.81**	**51**	PKP		**PKPdf**	**08 53 38.4**	**-1.9**
	comp=Z,0.2nm,0.5s,baz=262,slow=0.6,SNR=4.4							

IDC ***17*** *08:38:56.3±1.0,31.°26S×71.°76W, h0km, mb4.2/4, mb1 4.3/9, mb1mx4.1/36, mbtmp4.2/9, ML3.8/5, Error ellipse: s-maj=35.9km s-min=23.0km az=95.0*

GUC ***17*** *08:39:00.7±0.8,31.°31S×71.°72W, h41km±5km, ML4.4*

NEIC ***17*** *08:39:01.4±1.4,31.°24S±0.°03×71.°75W±0.°05, h29km±5km, mb4.6/8, ML4.5(GUC), Error ellipse: s-maj=6.6km s-min=4.8km az=88.0*

ISC 17 08:38:58.7±2.9,31.°30S±0.°03×71.°80W±0.°07,h13km±18km, n50,σ18.°16/56,mb4.5/5,2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.64**	**13**	*e* P		**Pn**	**08 39 13.4**	**+0.1**
CO06				*e* S		**Sb**	**08 39 22.0**	**+1.5**
CO06				IAML			08 39 24.6	
	comp=N,12µm,0.4s							
CO06	**Fray Jorge**	**0.64**	**13**			**Pn**	**08 39 13.5**	**+0.1**
CO06				Sn		**Sb**	**08 39 22.1**	**+1.5**
CO03	**El Pedregal**	**1.06**	**65**	*e* P		**Pb**	**08 39 19.1**	**+0.1**
CO03				*e* S		**Sb**	**08 39 32.4**	**-0.3**
CO03				IAML			08 39 34.6	
	comp=E,11µm,0.2s							
CO03	**El Pedregal**	**1.06**	**65**			**Pb**	**08 39 19.1**	**+0.1**
CO03				Sn		**Sb**	**08 39 32.7**	**-0.1**
GO04	**Tololo Observa**	**1.42**	**38**	*e* P		**Pb**	**08 39 25.2**	**+0.1**
GO04				*e* S		**Sb**	**08 39 43.0**	**-0.1**
GO04				IAML			08 39 48.4	
	comp=E,22µm,0.5s							
GO04	**Tololo Observa**	**1.42**	**38**			**Pb**	**08 39 25.2**	**+0.1**
VA01	**Torpederas**	**1.72**	**176**	*e* P		**Pn**	**08 39 29.5**	**+1.2**
VA01				*e* S		**Sn**	**08 39 51.0**	**+0.8**
VA01	**Torpederas**	**1.72**	**176**			**Pn**	**08 39 29.2**	**+0.9**
ROCH	**El Roble**	**1.80**	**158**	*e* P		**Pb**	**08 39 31.5**	**-0.1**
ROCH				*e* S		**Sn**	**08 39 53.8**	**+1.5**
ROCH				IAML			08 39 59.4	
	comp=N,6µm,0.5s							
VA03	**San Esteban**	**1.81**	**144**	*e* P		**Pb**	**08 39 31.5**	**-0.1**
VA03				*e* S		**Sn**	**08 39 52.6**	**+0.2**
VA03				IAML			08 39 59.0	
	comp=N,7µm,0.3s							
VA03	**San Esteban**	**1.81**	**144**			**Pn**	**08 39 31.0**	**+1.4**
MT05	**Renca**	**2.27**	**157**	*e* P		**Pb**	**08 39 39.5**	**-0.1**
MT05				*e* S		**Sn**	**08 40 04.5**	**+0.7**
MT05				IAML			08 40 17.8	
	comp=E,6µm,0.5s							
MT05	**Renca**	**2.27**	**157**			**Pn**	**08 39 36.5**	**+0.6**
VA05	**Santo Domingo**	**2.36**	**176**	*e* P		**Pn**	**08 39 38.1**	**+1.1**
VA05				*e* S		**Sn**	**08 40 05.2**	**-0.6**
VA05				IAML			08 40 21.9	
	comp=N,3µm,0.4s							
VA05	**Santo Domingo**	**2.36**	**176**			**Pn**	**08 39 38.3**	**+1.3**
LCO	**Las Campanas**	**2.47**	**23**	*e* P		**Pn**	**08 39 39.9**	**+1.0**
LCO				*e* S		**Sn**	**08 40 10.4**	**+1.4**
MT09	**Talagante**	**2.56**	**165**	*e* P		**Pn**	**08 39 42.6**	**+2.6**
MT09				*e* S		**Sn**	**08 40 12.0**	**+0.9**
MT09				IAML			08 40 26.5	
	comp=N,3µm,0.7s							
MT09	**Talagante**	**2.56**	**165**			**Pn**	**08 39 42.3**	**+2.3**
MT01	**Popeta**	**2.60**	**170**	*e* P		**Pn**	**08 39 42.2**	**+1.9**
MT01				*e* S		**Sn**	**08 40 11.5**	**-0.4**
MT01				IAML			08 40 23.8	
	comp=E,2µm,0.3s							
MT01	**Popeta**	**2.60**	**170**			**Pn**	**08 39 41.8**	**+1.4**
LMEL	**Las Melosas**	**2.88**	**152**	*e* P		**Pb**	**08 39 48.4**	**-1.5**
LMEL				*e* S		**Sn**	**08 40 20.3**	**+1.3**
LMEL				IAML			08 40 30.4	
	comp=N,2µm,0.3s							
BO01	**Tunca**	**3.14**	**169**			**Pn**	**08 39 49.9**	**+2.0**
AC04	**Llanos de Chal**	**3.15**	**12**	*e* P		**Pn**	**08 39 49.1**	**+1.2**
AC04				IAML			08 40 47.8	
	comp=E,806nm,0.5s							
AC04	**Llanos de Chal**	**3.15**	**12**			**Pn**	**08 39 48.4**	**+0.4**
GO05	**Huala**	**3.70**	**182**	Pn		**Pn**	**08 39 56.4**	**+0.8**
GO03	**Copiap**	**3.94**	**21**	Pn		**Pn**	**08 39 60.0**	**+1.1**
ML02	**Panimavida**	**4.46**	**176**	Pn		**Pn**	**08 40 07.4**	**+1.4**
H03N1	**Juan Fernandez**	**6.38**	**249**	T		T	08 47 16.7	
	baz=77,slow=72,SNR=251							
H03N3	**Juan Fernandez**	**6.39**	**248**	T		T	08 47 12.3	
	baz=77,slow=72,SNR=344							
H03N2	**Juan Fernandez**	**6.40**	**249**	T		T	08 47 17.4	
	baz=77,slow=72,SNR=268							
LC01	**Cunco**	**7.58**	**180**	Pn		**Pn**	**08 40 49.4**	**+0.6**
LVC	**Limon Verde**	**9.03**	**17**	Pn		**Pn**	**08 41 06.6**	**-2.4**
	comp=E,0.3nm,0.3s,baz=320,slow=21,SNR=1.2							
PLCA	**Paso Flores**	**9.47**	**174**	Pn		**Pn**	**08 41 16.2**	**+1.4**
	comp=E,0.3nm,0.3s,baz=117,slow=23,SNR=1.6							
CPUP	**Villa Florida**	**13.62**	**72**	Pn		**Pn**	**08 42 11.6**	**+0.1**
	comp=E,0.1nm,0.3s,baz=190,slow=20,SNR=0.9							
LPAZ	**La Paz**	**15.31**	**13**	Pn		**Pn**	**08 42 35.6**	**+0.4**
	comp=E,0.2nm,0.3s,baz=180,slow=4.9,SNR=6.2							
LPAZ	**La Paz**	**15.31**	**13**	IAmb		IAmb	08 42 38.7	
	comp=Z,3.6nm,0.8s							
SIV	**San Ignacio**	**18.11**	**35**	P		**Pn**	**08 43 08.2**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=247,slow=22,SNR=2.1							
RUSC	**La Rusia**	**37.00**	**358**	P		**P**	**08 46 09.4**	**+0.8**
RUSC				IAmb		IAmb	08 46 11.4	
	comp=Z,13nm,1.0s							
SNAA	**Sanae**	**54.01**	**159**	P		**P**	**08 48 22.5**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=266,slow=7.1,SNR=5.3							
SNAA	**Sanae**	**54.01**	**159**	IAmb		IAmb	08 48 36.5	
	comp=Z,9.8nm,1.5s							
TXAR	**Lajitas Array**	**67.49**	**330**	P		**P**	**08 49 55.0**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=160,slow=5.8,SNR=4.3							
DBIC	**Dimbokro**	**74.14**	**72**	P		**P**	**08 50 34.3**	**-0.8**
	comp=Z,2.6nm,0.5s,baz=252,slow=5.4,SNR=5.3							
TORD	**Torodi Ar.

comp=E,35μm,0.3s
CO06 Fray Jorge 0.37 41 Pb 08 51 39.7 +0.3
CO03 El Pedregal 1.06 84 *eP* **Pb 08 51 50.5 -0.6**
CO03 *iS* **Sb 08 52 03.6 -1.0**
CO03 El Pedregal 1.06 84 Pn 08 51 51.3 +0.1
CO03 Sn **Sg 08 52 04.9 -1.0**
GO04 Tololo Observa 1.24 51 *eP* **Pn 08 51 51.8 -2.0**
GO04 *eS* **Sb 08 52 09.6 -0.2**
GO04 Tololo Observa 1.24 51 Pn **Pb 08 51 54.2 0.0**
GO04 Sn **Sg 08 52 11.1 -0.5**
VA01 Torpederas 2.08 174 *eP* **Pb 08 52 08.7 +0.3**
VA01 *eS* **Sn 08 52 30.4 0.0**
VA01 Torpederas 2.08 174 Pn 08 52 03.9 -1.2
VA03 San Esteban 2.15 148 *eP* **Pn 08 52 08.1 +1.9**
VA03 *iS* **Sb 08 52 35.2 -0.7**
VA03 IAML 08 52 42.0
comp=E,2μm,0.6s
VA03 San Esteban 2.15 148 Pn 08 52 08.1 +1.9
ROCH El Roble 2.15 159 *eP* **Pn 08 52 07.2 +0.7**
ROCH *eS* **Sb 08 52 36.1 -0.2**
ROCH IAML 08 52 44.6
comp=N,2μm,0.5s
LCO Las Campanas 2.20 29 *eP* **Pn 08 52 06.9 -0.2**
LCO *eS* **Sn 08 52 33.5 -0.5**
LCO Las Campanas 2.20 29 Pn 08 52 08.8 +1.7
MT05 Renca 2.63 158 *eP* **Pn 08 52 14.3 +1.5**
MT05 *iS* **Sb 08 52 47.2 -2.6**
MT05 IAML 08 53 00.2
comp=E,2μm,0.3s
MT05 Renca 2.63 158 Pn 08 52 14.4 +1.6
VA05 Santo Domingo 2.71 175 *eP* **Pn 08 52 11.8 -2.0**
VA05 *eS* **Sn 08 52 45.9 -0.2**
VA05 IAML 08 53 03.5
comp=E,1μm,0.5s
VA05 Santo Domingo 2.71 175 Pn 08 52 13.2 -0.6
AC04 Llanos de Chal 2.83 15 *eP* **Pn 08 52 14.7 -0.9**
AC04 *eS* **Sn 08 52 46.7 -2.5**
AC04 IAML 08 53 08.8
comp=N,547nm,0.5s
MT09 Talagante 2.92 165 *eP* **Pn 08 52 17.9 +1.0**
MT09 *eS* **Sn 08 52 50.9 -0.6**
MT09 IAML 08 53 12.1
comp=E,608nm,0.5s
MT09 Talagante 2.92 165 Pn 08 52 18.0 +1.0
MT01 Popeta 2.96 169 *eP* **Pn 08 52 18.2 +0.9**
MT01 *eS* **Sn 08 52 53.0 +0.8**
MT01 IAML 08 53 08.3
comp=E,672nm,0.6s
MT01 Popeta 2.96 169 Pn 08 52 17.7 +0.5
LMEL Las Melosas 3.23 154 *eP* **Pn 08 52 22.5 +1.4**
LMEL IAML 08 53 18.1
comp=N,446nm,0.7s
GO03 Copiap 3.65 24 Pn **Pn 08 52 26.9 0.0**
H03N1 Juan Fernandez 6.43 245 T T 08 59 54.9
baz=73,slow=72,SNR=78
H03N3 Juan Fernandez 6.45 245 T T 08 59 56.2
baz=73,slow=72,SNR=98
H03N2 Juan Fernandez 6.45 246 T T 08 59 57.4
baz=73,slow=72,SNR=112
H03S3 Juan Fernandez 6.57 242 T T 09 00 05.6
baz=59
H03S1 Juan Fernandez 6.58 242 T T 09 00 08.4
baz=59
H03S2 Juan Fernandez 6.59 242 T T 09 00 13.2
baz=59
PLCA Paso Flores 9.82 174 Pn **Pn 08 53 50.0 -1.6**
comp=N,0.4nm,0.3s,baz=338,slow=13,SNR=5.4
TRQA Tornquist 10.83 134 Pn **Pn 08 54 06.7 +1.4**
LPAZ La Paz 15.00 14 Pn **Pn 08 55 02.8 -0.1**
comp=N,0.2nm,0.3s,baz=192,slow=6.9,SNR=6.8
SNAA Sanae 54.37 159 P **P 09 00 57.1 +0.7**
SNAA IAmb IAmb 09 00 58.1
comp=Z,1.8nm,0.8s
QSPA South Pole Qui 59.27 180 P **P 09 01 32.5 +1.1**
QSPA IAmb IAmb 09 01 50.0
comp=Z,2.2nm,1.1s
TXAR Lajitas Array 67.14 330 P **P 09 02 25.1 +1.2**
comp=Z,0.1nm,0.5s,baz=145,slow=9.7,SNR=1.9
TORD Torodi Ar. Bea 83.08 70 P **P 09 03 52.5 -3.6**
comp=Z,0.4nm,0.6s,baz=228,slow=5.6,SNR=2.1
TORD Torodi Ar. Bea 83.08 70 P **P 09 03 56.3 +0.2**
H11S2 WAKE ISLAND Hyl 25.87 271 T T 11 29 15.7
baz=115,slow=75,SNR=23
H11S1 WAKE ISLAND Hyl 25.88 271 T T 11 29 15.2
baz=115,slow=75,SNR=26
H11S3 WAKE ISLAND Hyl 25.88 271 T T 11 29 17.7
baz=115,slow=75,SNR=25
H11N3 WAKE ISLAND Hyl 26.20 273 T T 11 29 42.4
baz=117,slow=74
H11N1 WAKE ISLAND Hyl 26.22 273 T T 11 29 41.6
baz=117
H11N2 WAKE ISLAND Hyl 26.22 273 T T 11 29 46.0
baz=117,slow=74
ZALV Zalesovo Beam 151.56 29 PKPbc **PKPbc 09 11 23.9 +0.3**
comp=Z,1.3nm,0.5s,baz=337,slow=1.9,SNR=1.9

IDC 17 08:51:57.7±29.0, 19°24S×176°69W, h380km±312km, mb2.9/6, mb1 3.3/6, mb1mx3.0/48, mbtmp3.7/6, Error ellipse: s-maj=127.1km s-min=69.5km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.86**	**262**	P		P		08 58 15.1	+0.2
	0.8nm,0.3s,baz=93,slow=13,SNR=5.5								
WRA	**Warramunga Arr**	**46.00**	**261**	P		P		08 59 44.7	-0.4
	0.3nm,0.3s,baz=94,slow=7.5,SNR=15								
ASAR	**Alice Springs**	**46.01**	**255**	P		P		08 59 45.1	-0.1
	0.4nm,0.6s,baz=91,slow=8.1,SNR=5.4								
NVAR	**Mina Array Bea**	**79.27**	**43**	P		P		09 03 22.7	+0.4
	0.3nm,0.6s,baz=225,slow=8.7,SNR=3.6								
TXAR	**Lajitas Array**	**85.35**	**57**	P		P		09 03 52.6	-0.9
	0.2nm,0.6s,baz=199,slow=8.1,SNR=4.3								
ILAR	**Eielson Array**	**86.83**	**12**	P		P		09 04 00.4	+0.7
	0.3nm,0.5s,baz=223,slow=5.4,SNR=2.3								

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*BJI **17** 08:58:40.7±0.0, 53°.32N×159°.78E, h64km, mB5.1/44, mb5.3/71, Ms4.7/62, Ms7 4.5/60*
*KRSC **17** 08:58:41.1±0.8, 53°.09N×160°.16E, h62km±8km, ML5.9*
*MOS **17** 08:58:44.1±1.1, 53°.29N×159°.57E, h79km, mb5.7/68, Error ellipse: s-maj=5.9km s-min=4.2km az=91.4*
MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.
*NEIC **17** 08:58:44.7±1.2, 53°.30N±0°.08×159°.7E±0°.1, h68km±5km, mb5.5/160, Error ellipse: s-maj=12.6km s-min=8.8km az=156.0*
*IDC **17** 08:58:47.1±0.8, 53°.33N×159°.62E, h88km±6km, mb5.0/42, mb1 5.1/46, mb1mx5.0/60, mbtmp5.4/46, MS4.4/33, Ms1 4.4/33, ms1mx4.2/53, Error ellipse: s-maj=9.7km s-min=7.2km az=127.0*
*BGR **17** 08:58:49.8±0.0, 54°.20N×158°.25E, h33km, mb5.7, Ms4.5*

ISC 17 08:58:44.3±0.4, 53°.25N±0°.03×159°.85E±0°.03, h68km±3km, h67km:pP-P, n1367, σ1911/1419, mb5.5/329, 137C-39D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.19**	**145**	*i* P		**Pn**		**08 58 51.6**	**-3.0**
SPN				*eS*		**Sn**		**08 58 58.0**	**-4.1**
NLC	**Nalytchevo**	**0.31**	**255**	*i* P		**Pn**		**08 58 54.0**	**-1.3**
NLC				*eS*		**Sn**		**08 59 02.0**	**-1.3**
SDLR	**Sedlovina**	**0.58**	**273**	*i* P		**Pn**		**08 58 57.5**	**-0.3**
UGLR	**Uglovaya**	**0.61**	**266**	PN		**Pn**		**08 58 58.2**	**0.0**
UGLR	**Uglovaya**	**0.61**	**266**	*i* P		**Pn**		**08 58 58.2**	**0.0**
SMAR	**Somma**	**0.63**	**271**	*i* P		**Pn**		**08 58 58.1**	**-0.3**
KRER	**Koryakskii**	**0.66**	**275**	*i* P		**Pn**		**08 58 58.8**	**0.0**
AVH	**Avacha**	**0.67**	**272**	*i* P		**Pn**		**08 58 58.8**	**+0.1**
DALK	**Dalny**	**0.69**	**252**	*i* P		**Pn**		**08 58 58.0**	**-0.9**
DALK				*eS*		**Sn**		**08 59 09.2**	**-0.5**
KRX	**Arik**	**0.73**	**279**	PN		**Pn**		**08 58 59.3**	**-0.2**
KRX	**Arik**	**0.73**	**279**	*i* P		**Pn**		**08 58 59.3**	**-0.2**
KOK	**Koryaka**	**0.73**	**274**	*i* P		**Pn**		**08 58 59.4**	**0.0**
PET	**Petropavlovsk**	**0.75**	**253**K	*i* PN		**Pn**		**08 58 58.9**	**-0.7**
PET				*i* S		**Sn**		**08 59 10.4**	**-0.5**
PET					pmax	pmax			
	comp=Z,44μm,2.6s								
PET					pmax	pmax			
	comp=Z,23μm,0.3s								
PET					smax	smax			
	comp=E,278μm,1.5s								
PET					smax	smax			
	comp=E,149μm,0.5s								
PET					smax	smax			
	comp=N,113μm,0.5s								
PET	**Petropavlovsk**	**0.75**	**253**	*i* P		**Pn**		**08 58 59.0**	**-0.7**
PET	**Petropavlovsk**	**0.75**	**253**			**Pn**		**08 58 59.4**	**-0.2**
KII	**Karymskiy**	**0.82**	**343**	*i* P		**Pn**		**08 59 01.0**	**+0.5**
KRMR	**Karymshinskiy**	**1.12**	**248**	*i* P		**Pn**		**08 59 06.5**	**+2.4**
KRMR				*eS*		**Sn**		**08 59 21.9**	**+3.0**
RUS	**Russkaya**	**1.15**	**225**	PN		**Pn**		**08 59 03.1**	**-1.5**
RUS				S		**Sn**		**08 59 18.7**	**-1.0**
RUS	**Russkaya**	**1.15**	**225**	*eP*		**Pn**		**08 59 03.1**	**-1.5**
RUS				*eS*		**Sn**		**08 59 18.7**	**-1.0**
GNL	**Ganaly**	**1.22**	**292**	*i* P		**Pn**		**08 59 06.5**	**+0.9**
MTVR	**Mutnovka**	**1.27**	**233**	PN		**Pn**		**08 59 05.6**	**-0.6**
MTVR	**Mutnovka**	**1.27**	**233**	*i* P		**Pn**		**08 59 05.6**	**-0.6**
GRL	**Gorelyy**	**1.28**	**238**	*eP*		**Pn**		**08 59 06.4**	**0.0**
I44RU	**PETROPAVLOVSK-**	**1.29**	**264**	P		**Pn**		**08 59 06.0**	**-0.4**
	baz=80,slow=23,SNR=7.9								
PEA0B	**Petropavlovsk-**	**1.30**	**264**	*d i* PN		**Pn**		**08 59 07.3**	**+0.8**
PEA0B	**Petropavlovsk-**	**1.30**	**264**			**Pn**		**08 59 07.0**	**+0.5**
PETK	**Petropavlovsk-**	**1.30**	**264**	P		**Pn**		**08 59 06.6**	**+0.1**
	comp=N,5μm,0.3s,baz=81,slow=18								
PETK				S		**Sn**		**08 59 25.4**	**+2.2**
	comp=N,4μm,0.3s,baz=96,slow=29,SNR=16								
ASAK	**Asacha**	**1.47**	**234**	PN		**Pn**		**08 59 08.9**	**+0.1**
ASAK	**Asacha**	**1.47**	**234**	*i* P		**Pn**		**08 59 08.9**	**+0.1**
APC	**Apacha**	**1.65**	**260**	PN		**Pn**		**08 59 12.7**	**+1.5**
APC	**Apacha**	**1.65**	**260**	*i* P		**Pn**		**08 59 12.7**	**+1.5**
MKZ	**Mys Kozlova**	**1.72**	**40**	*eP*		**Pn**		**08 59 10.7**	**-1.3**
KDTR	**Khodutka, Kamc**	**1.81**	**217**	PN		**Pn**		**08 59 12.6**	**-0.6**
KDTR				S		**Sn**		**08 59 33.3**	**-1.8**
KDTR	**Khodutka, Kamc**	**1.81**	**217**	*eP*		**Pn**		**08 59 12.6**	**-0.6**
KDTR				*eS*		**Sn**		**08 59 33.3**	**-1.8**
KZV	**Kizimen**	**1.88**	**8**	*i* P		**Pn**		**08 59 15.4**	**+1.0**
TUMD	**Tumrok D**	**1.98**	**9**	*i* P		**Pn**		**08 59 16.4**	**+0.8**
TUMD				*eS*		**Sn**		**08 59 40.5**	**+1.0**
TUMR	**Tumrok**	**2.04**	**5**	*i* P		**Pn**		**08 59 18.0**	**+1.5**
MIPR	**Malaya Ipel'ka**	**2.12**	**244**	PN		**Pn**		**08 59 18.6**	**+1.2**
MIPR	**Malaya Ipel'ka**	**2.12**	**244**	*i* P		**Pn**		**08 59 18.6**	**+1.2**
KMNR	**Kamenistaya**	**2.52**	**5**	*i* P		**Pn**		**08 59 24.6**	**+1.6**
PAU	**Pauzhetka**	**2.58**	**227**	PN		**Pn**		**08 59 24.3**	**+0.6**
PAU				S		**Sn**		**08 59 54.6**	**+0.7**
PAU	**Pauzhetka**	**2.58**	**227**	*eP*		**Pn**		**08 59 24.3**	**+0.6**
PAU				*eS*		**Sn**		**08 59 54.6**	**+0.7**
BZMR	**Bezymyannaya**	**2.71**	**8**	*eP*		**Pn**		**08 59 27.5**	**+1.8**
KIRR	**Kirishev**	**2.72**	**6**	*eP*		**Pn**		**08 59 27.7**	**+1.9**
KPT	**Kopyto**	**2.73**	**4**	*eP*		**Pn**		**08 59 27.2**	**+1.4**
BZGR	**Bezymyannyi-Gr**	**2.74**	**10**	*eP*		**Pn**		**08 59 28.0**	**+2.1**
BZWR	**Bezymyannyi-We**	**2.74**	**8**	*eP*		**Pn**		**08 59 28.3**	**+2.2**
ESO	**Esso**	**2.76**	**346**	*i* P		**Pn**		**08 59 29.7**	**+3.5**
KOZ	**Kozyrevsk**	**2.81**	**0**	*eP*		**Pn**		**08 59 28.0**	**+1.1**
ZLN	**Zelenaya**	**2.83**	**11**	*eP*		**Pn**		**08 59 29.6**	**+2.5**
LGNR	**Loginova**	**2.88**	**9**	*eP*		**Pn**		**08 59 31.0**	**+3.0**
CIRR	**Tsirk**	**2.92**	**10**	*eP*		**Pn**		**08 59 30.8**	**+2.4**
KRSR	**Krestovskiy**	**3.00**	**8**	*i* P		**Pn**		**08 59 31.4**	**+1.9**
KLY	**Klyuchi**	**3.10**	**8**	*eP*		**Pn**		**08 59 33.0**	**+2.2**
BDR	**Baidarnaya**	**3.42**	**13**	*i* P		**Pn**		**08 59 38.0**	**+2.9**
KBTR	**Krutoberegovo**	**3.43**	**29**	*eP*		**Pn**		**08 59 36.7**	**+1.5**
KBG	**Krutoberegovo**	**3.44**	**28**	*eP*		**Pn**		**08 59 36.7**	**+1.4**
SKR	**Severo-Kuril's**	**3.46**	**223**	*i* PN		**Pn**		**08 59 36.4**	**+0.8**
SKR				*i* S		**Sn**		**09 00 15.1**	**-0.2**
SKR					pmax	pmax			
	comp=Z,799nm,0.6s								
SKR					smax	smax			
	comp=E,5μm,0.7s								
SKR					smax	smax			
	comp=N,10μm,1.0s								
SKR					MLR	MLR			
	comp=Z,1μm,14.0s								
SKR	**Severo-Kuril's**	**3.46**	**223**	*eP*		**Pn**		**08 59 35.8**	**+0.2**
SKR				*eS*		**Sn**		**09 00 14.7**	**-0.6**
SMKR	**Semkarok**	**3.47**	**15**	*eP*		**Pn**		**08 59 37.9**	**+2.1**
SRKR	**Sorokina**	**3.49**	**12**	*eP*		**Pn**		**08 59 38.7**	**+2.5**
ALID	**Alaid**	**3.57**	**230**	*eP*		**Pn**		**08 59 38.3**	**+1.0**
BKI	**Bering**	**4.09**	**59**	*eP*		**Pn**		**08 59 43.0**	**-1.3**
BKI				*eS*		**Sn**		**09 00 25.0**	**-5.8**
PALN	**Palana**	**5.85**	**1**	*eP*		**Pn**		**09 00 10.3**	**+2.0**
OSSR	**Ossora**	**6.27**	**15**	*eP*		**Pn**		**09 00 16.7**	**+2.7**
TILK	**Tilichiki**	**7.99**	**23**	*eP*		**Pn**		**09 00 39.8**	**+2.3**
MA2	**Magadan**	**8.09**	**325**	P		**Pn**		**09 00 40.7**	**+1.9**
	comp=Z,6.1nm,0.3s,baz=134,slow=9.1,SNR=39								
MA2					LR	LR		09 04 11.2	
	comp=Z,3μm,21.4s,baz=122,slow=41								
MA2	**Magadan**	**8.09**	**325**	*ce* PN		**Pn**		**09 00 39.8**	**+1.0**
MA2					pmax	pmax			
	comp=Z,163nm,1.0s								
MA2					MLR	MLR			
	comp=Z,2μm,15.0s								
MA2	**Magadan**	**8.09**	**325**	Pn		**Pn**		**09 00 37.9**	**-0.9**
SMY	**Shemya**	**8.62**	**88**	PN		**Pn**		**09 00 44.9**	**-1.2**
SMY	**Shemya**	**8.62**	**88**	Pn		**Pn**		**09 00 44.9**	**-1.2**
KMSK	**Kamenskaya**	**9.84**	**18**	*eP*		**Pn**		**09 01 04.0**	**+1.4**
OKH	**Okha**	**10.11**	**278**	*de* PN		**Pn**		**09 01 07.2**	**+0.8**
OKH				*eS*		**Sn**		**09 02 58.3**	**+0.3**
OKH					pmax	pmax			
	comp=Z,100nm,7.2s								
OKH					smax	smax			
	comp=E,900nm,22.9s								
OKH					smax	smax			
	comp=N,400nm,14.3s								
OKH					MLR	MLR			
	comp=Z,1μm,12.0s								
OKH					MLR	MLR			
	comp=E,1μm,16.0s								
OKH					MLR	MLR			
	comp=N,1μm,15.0s								
SEY	**Seymchan**	**10.47**	**341**	P		**Pn**		**09 01 15.0**	**+3.6**
	comp=N,0.9nm,0.3s,baz=145,slow=12,SNR=66								
SEY					LR	LR		09 05 38.2	
	comp=N,3μm,18.7s,baz=153,slow=40								
TYV	**Tymovskoe**	**10.85**	**264**	*e* PN		Pn		09 01 21.5	+4.9
TYV					pmax	pmax			
	comp=Z,124nm,0.9s								
TYV					pmax	pmax			
	comp=Z,700nm,3.3s								
KUR	**Kuril'sk**	**11.20**	**229**	*e* PN		**Pn**		**09 01 21.1**	**-0.2**
KUR				*eS*		**Sn**		**09 03 32.7**	**+8.0**
KUR					pmax	pmax			
	comp=Z,154nm,0.9s								
KUR					pmax	pmax			
	comp=E,59nm,0.6s								
KUR					pmax	pmax			
	comp=N,36nm,0.9s								
KUR					smax	smax			
	comp=N,156nm,0.7s								
KUR					smax	smax			
	comp=E,77nm,0.5s								
NKL	**Nikolayevsk**	**11.49**	**277**	*e* PN		**Pn**		**09 01 24.0**	**-1.3**
NKL				*eS*		**Sn**		**09 03 34.0**	**+2.2**
NKL					pmax	pmax			
	comp=N,380nm,0.9s								
NKL					pmax	pmax			
	comp=E,4.0nm,0.9s								
NKL					pmax	pmax			
	comp=Z,209nm,1.1s								
NKL					smax	smax			
	comp=E,5.0nm,1.2s								
NKL					smax	smax			
	comp=N,790nm,2.2s								
NKL					MLR	MLR			
	comp=E,24nm,16.0s								
NKL					MLR	MLR			
	comp=N,7μm,12.0s								
NKL					MLR	MLR			
	comp=Z,1μm,17.0s								
UGL	**Uglegorsk**	**11.91**	**257**	⇑ *i* PN		**Pn**		**09 01 35.5**	**+4.5**
UGL					pmax	pmax			
	comp=Z,1μm,1.7s								
UGL					pmax	pmax			
	comp=Z,296nm,1.0s								
UGL					MLR	MLR			
	comp=Z,1μm,18.0s								
UGL					MLR	MLR			
	comp=N,1μm,17.0s								
UGL					MLR	MLR			
	comp=E,1μm,17.0s								
YSS	**Yuzh-Sakhalins**	**12.64**	**247**	*ce* PN		**Pn**		**09 01 43.2**	**+2.3**
YSS				*eS*		**Sn**		**09 03 59.4**	**-0.3**
YSS					pmax	pmax			
	comp=Z,110nm,0.9s								
YSS					pmax	pmax			
	comp=Z,400nm,2.9s								
YSS					MLR	MLR			
	comp=Z,2μm,17.0s								
YSS					MLR	MLR			
	comp=N,2μm,19.0s								
YSS	**Yuzh-Sakhalins**	**12.64**	**247**	Pn		**Pn**		**09 01 41.0**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**13.04**	**231**	⇑ *i* PN		**Pn**		**09 01 44.1**	**-2.3**
YUK				S		**Sn**		**09 04 13.0**	**+3.5**
YUK					pmax	pmax			
	comp=Z,774nm,0.3s								
YUK					MLR	MLR			
	comp=E,922nm,16.0s								
YUK					MLR	MLR			
	comp=Z,1μm,16.0s								
YUK					MLR	MLR			
	comp=N,316nm,8.0s								
GRPR	**Tuman**	**13.11**	**231**	⇑ *i* PN		**Pn**		**09 01 45.0**	**-2.4**
GRPR				*eS*		**Sn**		**09 04 10.2**	**-1.1**
GRPR					pmax	pmax			
	comp=Z,354nm,0.3s								
GRPR					pmax	pmax			
	comp=E,76nm,0.1s								
GRPR					pmax	pmax			
	comp=N,128nm,0.3s								
RUSJ	**Misakicho**	**13.27**	**232**	*e* PN		**Pn**		**09 01 48.1**	**-1.4**
GLVR	**Golovnino**	**13.42**	**231**	*e* PN		**Pn**		**09 01 49.6**	**-1.9**
NMR	**Nemuro--Hokkai**	**13.61**	**229**	*eP*		Pn		09 01 48.3	-5.8
NMR				S		Sn		09 04 12.8	-11
KIWB	**Kanaga Island**	**14.05**	**86**			**Pn**		**09 01 59.6**	**-0.3**
ADK	**Adak**	**14.33**	**86**	P		**Pn**		**09 02 02.3**	**-1.1**
ADK	**Adak**	**14.33**	**86**	Pn		**Pn**		**09 02 02.3**	**-1.1**
JKA	**Kamikawa-asahi**	**14.57**	**238**			**Pn**		**09 02 06.5**	**-0.1**
ASAJ	**Asahikawa**	**14.57**	**238**	P		**Pn**		**09 02 07.3**	**+0.6**
	comp=N,11nm,0.3s,baz=52,slow=9.5,SNR=58								
ASAJ					LR	LR		09 07 22.6	
	comp=N,1μm,20.5s,baz=48,slow=36								
ASAJ	**Asahikawa**	**14.57**	**238**	P		**Pn**		**09 02 06.5**	**-0.2**
GRNR	**Gornyy**	**14.62**	**270**	⇓ *iP*		**P**		**09 02 11.0**	**-0.9**
GRNR					pmax	pmax			
	comp=E,130nm,0.8s								
GRNR					pmax	pmax			
	comp=Z,180nm,0.8s								
GRNR					MLR	MLR			
	comp=E,330nm,19.0s								
GRNR					MLR	MLR			
	comp=N,460nm,20.0s								
GRNR					MLR	MLR			
	comp=Z,650nm,20.0s								
BILL	**Bilibino**	**15.15**	**9**	⇓ *eP*		**Pn**		**09 02 15.0**	**+1.0**
BILL				*eS*		**S**		**09 05 09.2**	**-4.6**
BILL					pmax	pmax			
	comp=Z,94nm,1.0s								
BILL					MLR	MLR			
	comp=Z,439nm,13.0s								
BILL	**Bilibino**	**15.15**	**9**			**Pn**		**09 02 14.5**	**+0.5**
ATKA	**Atka Island**	**15.74**	**83**	Pn		**Pn**		**09 02 22.0**	**+0.5**
JEW	**Eniwo**	**16.07**	**237**	Pn		**Pn**		**09 02 24.6**	**-1.2**
JEW				IAmb		IAmb		09 02 40.9	
	comp=Z,178nm,0.6s								
TEY	**Ternei**	**17.23**	**251**	⇓ *eP*		**P**		**09 02 41.3**	**+0.6**
TEY				*e*				09 05 51.0	
TEY					pmax	pmax			
	comp=E,30nm,1.1s								
TEY					pmax	pmax			
	comp=N,20nm,1.0s								
TEY					pmax	pmax			
	comp=Z,50nm,1.1s								
TEY					pmax	pmax			
	comp=Z,100nm,4.4s								
SPIA	**Saint Paul Isl**	**17.43**	**65**	P		**P**		**09 02 43.8**	**+0.9**
	baz=270								
KLR	**Kul'dur**	**17.99**	**268**	P		**Pn**		**09 02 50.6**	**+1.1**
	comp=Z,12nm,0.3s,baz=68,slow=9.7,SNR=97								
KLR					PcP	**PcP**		**09 07 21.7**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=30,slow=3.8,SNR=2.7								
KLR					LR	LR		09 09 54.1	
	comp=Z,1μm,22.0s,baz=66,slow=37								
KLR	**Kul'dur**	**17.99**	**268**	*ce* P		**Pn**		**09 02 50.1**	**+0.7**
KLR					pmax	pmax			
	comp=Z,72nm,0.6s								
KLR					MLR	MLR			
	comp=Z,586nm,12.0s								
GAMB	**Gambell**	**18.04**	**43**	P		**Pn**		**09 02 51.0**	**+1.1**
	baz=248								
YAK	**Yakutsk**	**18.22**	**311**	P		**P**		**09 02 51.6**	**0.0**
	comp=Z,1.5nm,0.3s,baz=95,slow=2.8,SNR=42								
YAK					LR	LR		09 10 27.5	
	comp=Z,2μm,20.2s,baz=93,slow=39								
YAK	**Yakutsk**	**18.22**	**311**	*c* P		**P**		**09 02 51.2**	**-0.3**
YAK				*eS*		**S**		**09 06 15.6**	**+0.1**
YAK					pmax	pmax			
	comp=Z,435nm,1.1s								
YAK					pmax	pmax			
	comp=N,65nm,1.1s								
YAK					pmax	pmax			
	comp=E,224nm,1.3s								
YAK					smax	smax			
	comp=N,16nm,1.0s								
YAK					smax	smax			
	comp=E,33nm,0.9s								
YAK	**Yakutsk**	**18.22**	**311**	P		**P**		**09 02 50.9**	**-0.6**
NIKH	**Nikolski High**	**18.72**	**78**	P		**Pn**		**09 02 59.2**	**+1.0**
	baz=284								
ZEA	**Zeya**	**19.31**	**285**	⇓ *eP*		**P**		**09 03 04.3**	**+0.8**
ZEA				*eS*		S		09 06 27.0	-11
ZEA					pmax	pmax			
	comp=E,100nm,1.2s								
ZEA					pmax	pmax			
	comp=Z,200nm,1.2s								
ZEA					pmax	pmax			
	comp=N,80nm,0.9s								
ZEA					pmax	pmax			
	comp=Z,130nm,0.8s								
ZEA					smax	smax			
	comp=E,300nm,3.6s								
ZEA					smax	smax			
	comp=N,400nm,7.6s								
ZEA					MLR	MLR			
	comp=E,300nm,11.0s								
ZEA					MLR	MLR			
	comp=Z,300nm,10.0s								
UNV	**Unalaska Valle**	**19.90**	**75**	P		**P**		**09 03 10.1**	**+0.2**
UNV	**Unalaska Valle**	**19.90**	**75**	P		**Pn**		**09 03 11.1**	**-1.0**
	baz=282,SNR=7.2								
TNA	**Tin City**	**20.22**	**40**	P		**P**		**09 03 14.3**	**+1.0**
TNA	**Tin City**	**20.22**	**40**	P		Pn		09 03 15.2	-0.6
	baz=248,SNR=5.7								
AKUT	**Akutan**	**20.27**	**74**	P		**P**		**09 03 14.8**	**+0.9**
AKUT				IAmb		IAmb		09 03 32.8	
	comp=Z,154nm,1.0s								
JMM	**Marumori**	**20.27**	**228**	P		**P**		**09 03 14.2**	**+0.2**
JMM				IAmb		IAmb		09 03 19.5	
	comp=Z,157nm,0.8s								
USA0B	**Ussuriysk Arra**	**20.37**	**255**	P		**P**		**09

MAJO Matsushiro 22.53 231 P P 09 03 37.7 -0.7
MAJO pmax pmax
comp=Z,654nm,0.7s
MAJO Matsushiro 22.53 231 P P 09 03 37.7 -0.7
MAT Matsushiro 22.53 231 P P 09 03 37.4 -1.0
MAT S S 09 07 41.2 +0.6
MJAR Matsushiro Arr 22.53 231 P P 09 03 38.1 -0.2
comp=Z,222nm,0.7s,baz=26,slow=12,SNR=464
MJAR PcP PcP 09 07 29.0 -0.5
comp=Z,6.1nm,0.7s,baz=104,slow=4.0,SNR=6.4
MJAR LR LR 09 13 56.0
comp=Z,479nm,20.4s,baz=45,slow=40
MJAR Matsushiro Arr 22.53 231 P P 09 03 37.1 -1.3
MJAR IAmb IAmb 09 03 40.2
comp=Z,312nm,0.9s
TIXI Tiksi 22.87 335 P P 09 03 40.8 -0.8
comp=Z,27nm,0.5s,baz=119,slow=10,SNR=16
TIXI PcP PcP 09 07 30.5 +0.9
comp=Z,19nm,0.6s,baz=124,slow=2.1,SNR=4.7
TIXI LR LR 09 13 44.5
comp=Z,1µm,20.5s,baz=130,slow=40
TIXI Tiksi 22.87 335 *ce*P P **09 03 40.1 -1.5**
TIXI Tiksi 22.87 335 P P 09 03 40.3 -1.3
TIXI IAmb IAmb 09 04 10.5
comp=Z,138nm,0.9s
RDOG Red Dog Mine 23.00 36 P P 09 03 44.6 +1.7
RDOG Red Dog Mine 23.00 36 P P 09 03 45.2 +2.3
baz=249,SNR=12
CHNA Chernabura Isl 23.64 70 P P 09 03 49.2 +0.2
baz=283
JGF Kuroka 23.70 231 P P 09 03 50.2 +0.5
JGF IAmb IAmb 09 03 57.5
comp=Z,94nm,0.6s
CHGN Chignik 24.00 66 P P 09 03 52.5 +0.3
baz=281
CN2 Changchun 24.45 261 *e*P P **09 03 54.3 -2.1**
CN2 PcP PcP **09 07 33.3 -0.1**
CN2 S S **09 08 06.6 -4.9**
CN2 pmax pmax
comp=Z,50nm,0.8s
CN2 pmax pmax
comp=Z,300nm,3.0s
CN2 LR LR
comp=Z,1µm,18.0s
CN2 LR LR
comp=Z,600nm,18.0s
CN2 LR LR
comp=Z,800nm,17.0s
JHJ Hachijo jima 2 24.72 224 P P 09 03 58.4 -0.6
comp=Z,194nm,0.8s,baz=215,slow=4.2,SNR=3.6
TTA Tatalina 24.76 50 P P 09 03 59.9 +0.7
TTA pmax pmax
comp=Z,84nm,1.0s
TTA Tatalina 24.76 50 P P 09 03 59.9 +0.7
TTA Tatalina 24.76 50 P P 09 03 59.8 +0.5
baz=268
N18K Kilae Creek 24.82 55 P P 09 04 01.0 +1.3
JWT Wachi 24.88 234 P P 09 03 59.9 -0.6
JWT IAmb IAmb 09 04 05.5
comp=Z,78nm,0.7s
L19K White Mountain 25.28 51 P P 09 04 04.6 +0.7
L19K White Mountain 25.28 51 P P 09 04 04.6 +0.7
baz=270,SNR=11
M19K Big River Lodg 25.51 52 P P 09 04 07.7 +1.7
M19K Big River Lodg 25.51 52 P P 09 04 07.0 +1.0
baz=271
N19K Bonanza Creek 25.51 55 P P 09 04 06.9 +0.9
N19K Bonanza Creek 25.51 55 P P 09 04 06.7 +0.7
baz=274,SNR=12
CHIR Chirikof Islan 25.63 66 P P 09 04 09.2 +2.2
baz=283
O19K Port Alsworth 25.63 56 P P 09 04 07.8 +0.8
baz=275
J20K Nowinta River 25.66 47 P P 09 04 08.0 +0.7
J20K Nowinta River 25.66 47 P P 09 04 08.0 +0.7
baz=267,SNR=34
K20K Telida 25.66 49 P P 09 04 08.0 +0.6
K20K Telida 25.66 49 P P 09 04 07.9 +0.6
baz=269,SNR=25
L20K Farewell, AK 25.74 51 P P 09 04 08.7 +0.7
baz=271,SNR=12
BOD Bodaibo 25.94 299 *e*P P **09 04 08.1 -1.7**
BOD pmax pmax
comp=Z,126nm,1.3s
IMAR Indian Mountai 25.98 43 P P 09 04 10.2 0.0
Q19K Cape Douglas, 26.11 59 P P 09 04 13.4 +1.9
baz=278
A21K Barrow 26.23 30 P P 09 04 14.5 +2.2
baz=250
P19K Oil Pt 26.23 57 P P 09 04 13.0 +0.5
baz=277
JHS Saijyo 26.23 237 P P 09 04 13.5 +0.7
JHS IAmb IAmb 09 04 16.3
comp=Z,131nm,0.8s
SII Sitkinak Islan 26.25 64 P P 09 04 12.8 +0.1
baz=283
H21K Melozitna Rive 26.34 43 P P 09 04 13.4 0.0
H21K Melozitna Rive 26.34 43 P P 09 04 14.1 +0.7
baz=265,SNR=29
CHUM Lake Minchumin 26.45 47 P P 09 04 15.3 +0.9
baz=269,SNR=15
O20K Slope Mountain 26.49 56 P P 09 04 15.8 +1.0
baz=277
PPLA Purkeypile 26.51 50 P P 09 04 16.1 +1.0
PPLA IAmb IAmb 09 04 31.9
comp=Z,196nm,1.5s
PPLA Purkeypile 26.51 50 P P 09 04 16.4 +1.2
baz=271,SNR=12
CAST Castle Rocks 26.55 48 P P 09 04 16.1 +0.7
CAST Castle Rocks 26.55 48 P P 09 04 16.1 +0.7
baz=270,SNR=26
SPCR Spurr Chakacha 26.59 53 P P 09 04 16.7 +0.9
baz=275
OHAK Old Harbor 26.59 62 P P 09 04 16.0 +0.3
baz=282
I21K Tanana 26.65 45 P P 09 04 16.9 +0.7
I21K Tanana 26.65 45 P P 09 04 16.8 +0.7
baz=267,SNR=18
SNY Shenyang 26.73 259 ⇑P P **09 04 15.6 -1.5**
SNY pmax pmax
comp=Z,25nm,1.1s
SNY pmax pmax
comp=Z,150nm,3.9s
SNY LR LR
comp=Z,590nm,17.9s
SNY LR LR
comp=Z,780nm,20.9s
SNY LR LR
comp=Z,1µm,22.4s
SKT Skwentna 26.85 52 P P 09 04 18.4 +0.3
baz=274,SNR=5.7
KDAK Kodiak Island 26.86 61 P P 09 04 18.3 +0.2
comp=Z,6.9nm,0.5s,baz=332,slow=6.5,SNR=15
KDAK PcP PcP 09 07 39.6 +1.0
comp=Z,22nm,1.1s,baz=304,slow=3.2,SNR=4.1
JMN Monobe 26.88 234 P P 09 04 18.8 +0.3
JMN IAmb IAmb 09 04 24.1
comp=Z,241nm,1.2s
BPAW Bear Paw Mtn. 27.04 47 P P 09 04 20.2 +0.5
BPAW Bear Paw Mtn. 27.04 47 P P 09 04 20.3 +0.5
baz=270,SNR=31
KTH Kantishna Hill 27.07 48 P P 09 04 21.0 +0.9
KSRS Korea Array 27.14 247 P P 09 04 20.6 -0.1
comp=Z,40nm,0.8s,baz=43,slow=9.4,SNR=36
KSRS PcP PcP 09 07 41.1 +1.5
comp=Z,12nm,0.8s,baz=355,slow=2.8,SNR=13
KSRS LR LR 09 14 13.5
comp=Z,738nm,21.4s,baz=58,slow=34
MLY Manley 27.17 45 P P 09 04 21.5 +0.6
MLY Manley 27.17 45 P P 09 04 21.7 +0.8
baz=268,SNR=24
KSAR Wonju Array Be 27.17 247 P P 09 04 19.9 -1.2
KSAR Wonju Array Be 27.17 247 P P 09 04 19.9 -1.2
CNPM China Poot 27.25 57 P P 09 04 21.6 -0.1
SUA Susitna One 27.27 53 P P 09 04 21.8 -0.1
baz=275
TRF Thorofare Moun 27.36 48 P P 09 04 23.5 +0.7
TRF Thorofare Moun 27.36 48 P P 09 04 22.9 +0.2
baz=272,SNR=19
BRLK Bradley Lake 27.40 56 P P 09 04 23.6 +0.7
CUT Chulitna 27.42 51 P P 09 04 23.7 +0.6
CUT Chulitna 27.42 51 P P 09 04 22.7 -0.3
baz=274
BRSE Bradley Lake S 27.47 56 P P 09 04 24.3 +0.6
baz=279
COLD Coldfoot 27.53 40 P P 09 04 24.7 +0.7
COLD Coldfoot 27.53 40 P P 09 04 24.3 +0.2
baz=265,SNR=24
H23K Yukon River 27.69 43 P P 09 04 26.6 +1.1
H23K Yukon River 27.69 43 P P 09 04 26.0 +0.5
baz=268,SNR=26
BWN Browne 27.71 47 P P 09 04 27.3 +1.6
BWN IAmb IAmb 09 04 43.2
comp=Z,246nm,1.2s
CIT Chita 27.75 286 *e*P P **09 04 25.2 -1.0**
CIT *e* 09 04 44.0
I23K Minto, Yukon-K 27.75 45 P P 09 04 26.5 +0.5
I23K Minto, Yukon-K 27.75 45 P P 09 04 25.7 -0.3
baz=269,SNR=15
RC01 Rabbit Creek A 27.79 53 P P 09 04 25.7 -0.7
baz=277
O22K Cooper Landing 27.87 55 P P 09 04 26.7 -0.5
baz=278
NEA2 Nenana 27.88 46 P P 09 04 27.9 +0.8
NEA2 Nenana 27.88 46 P P 09 04 27.2 +0.1
baz=271,SNR=33
TOLK Toolik Lake Re 27.93 37 P P 09 04 27.8 +0.2
baz=263,SNR=6.5
MCK McKinley 27.96 48 P P 09 04 28.1 +0.2
baz=272,SNR=8.8
PMR Palmer 28.02 52 P P 09 04 28.1 -0.3
baz=276
SEW Seward 28.06 56 P P 09 04 27.9 -0.9
baz=279
TJN Taejon 28.23 246 *ce*P P **09 04 30.6 +0.1**
KNK Knik Glacier 28.36 53 P P 09 04 31.6 +0.1
baz=277,SNR=9.2
SML Sawmill 28.38 52 P P 09 04 31.8 +0.1
baz=277,SNR=14
H24K Noodor Dome 28.38 43 P P 09 04 32.1 +0.4
baz=270,SNR=11
TCOL CIGO, UAF Yank 28.39 45 P P 09 04 32.0 +0.3
baz=271,SNR=13
COLA College 28.39 45 P P 09 04 31.9 +0.1
baz=271
POKR Poker Plat Res 28.57 45 P P 09 04 33.4 +0.1
baz=271,SNR=6.2
WAT6 Susitna Watana 28.57 50 P P 09 04 32.9 -0.6
baz=276,SNR=6.2
DHY Denali Highway 28.70 49 P P 09 04 34.0 -0.6
baz=275
HDA Harding Lake 28.80 46 P P 09 04 34.8 -0.6
baz=273,SNR=22
IL31 28.81 45 P P 09 04 35.1 -0.2
ILAR Eielson Array 28.81 45 P P 09 04 35.7 +0.2
comp=Z,16nm,0.8s,baz=264,slow=8.0,SNR=116
ILAR LR LR 09 17 33.7
comp=Z,335nm,18.8s,baz=272,slow=39
ILAR Eielson Array 28.81 45 P P 09 04 35.9 +0.4
JNU Nakatsue 28.85 237 P P 09 04 36.7 +0.5
comp=Z,44nm,0.8s,baz=23,slow=3.7,SNR=11
GLI Glacier Island 29.09 54 P P 09 04 37.4 -0.7
baz=279
JCJ Chichijima 29.24 214 P P 09 04 40.3 +0.7
comp=Z,152nm,1.0s,baz=259,slow=19,SNR=3.8
M24K Tolsona, Glenn 29.35 51 P P 09 04 40.2 -0.2
baz=278
PRP Porcupine Dome 29.36 44 P P 09 04 40.5 0.0
baz=272,SNR=5.7
J25K Salcha River, 29.47 46 P P 09 04 40.3 -1.1
baz=274,SNR=13
KLU Klutina 29.56 52 P P 09 04 42.4 +0.1
baz=279
PAX Paxson 29.57 49 P P 09 04 41.1 -1.2
baz=277,SNR=5.5
BMAR Burnt Mountain 29.71 40 P P 09 04 44.6 +1.1
Q23K Middleton Isla 29.73 56 P P 09 04 42.9 -0.7
baz=282
DL2 Dalian 29.74 257 P P 09 04 42.4 -1.5
DL2 PcP PcP 09 07 47.0 +0.9
DL2 S S 09 09 32.4 -2.6
DL2 pmax pmax
comp=Z,49nm,1.0s
DL2 pmax pmax
comp=Z,140nm,6.1s
DL2 LR LR
comp=Z,950nm,19.5s
DL2 LR LR
comp=Z,370nm,20.8s
DL2 LR LR
comp=Z,1µm,25.0s
RIDG Independent Ri 29.77 47 P P 09 04 43.4 -0.6
baz=276,SNR=9.5
HARP HAARP 29.79 50 P P 09 04 44.2 +0.1
baz=278
EYAK Cordova Ski Ar 29.80 54 P P 09 04 44.3 0.0
baz=281
SCRK Sand Creek 30.12 47 P P 09 04 46.8 -0.4
baz=276,SNR=24
N25K Chitina, Valde 30.17 52 P P 09 04 47.2 -0.4
baz=280,SNR=5.1
BMRM Bremner River 30.28 53 P P 09 04 48.8 +0.3
baz=281
JSU Suzuyama 30.36 236 P P 09 04 50.2 +0.7
JSU IAmb IAmb 09 04 54.5
comp=Z,96nm,0.9s
L26K Log Cabin Wild 30.53 49 P P 09 04 50.8 +0.1
baz=278
M26K Nabesna, AK 30.78 50 P P 09 04 54.0 +1.1
baz=280,SNR=11
MCARA McCarthy VSAT 30.95 52 P P 09 04 55.0 +0.6
baz=281
K27K Chicken 30.95 47 P P 09 04 54.9 +0.5
baz=278
CRQE Cirque 31.05 53 P P 09 04 55.2 -0.2
baz=282
L27K Beaver Creek, 31.20 48 P P 09 04 57.4 +0.7
baz=279,SNR=35
EGAK Eagle 31.25 45 P P 09 04 56.3 -0.8
baz=277,SNR=17
M27K Edge Creek, AK 31.30 50 P P 09 04 58.4 +0.8
baz=280,SNR=17
BVCY Beaver Creek 31.76 50 P P 09 05 02.3 +0.7
baz=281
CTG Chitna Glacier 31.84 52 P P 09 05 03.5 +1.1
baz=283
YUK3 Moose Creek 32.07 51 P P 09 05 05.0 +0.5
baz=282,SNR=10
DAWY Dawson 32.12 46 P P 09 05 04.9 +0.2
baz=280,SNR=5.9
BJI Beijing 32.23 264 P P 09 05 04.0 -1.8
BJI S S **09 10 11.3 -2.7**
BJI pmax pmax
comp=Z,15nm,1.0s
BJI LR LR
comp=Z,580nm,20.1s
BJI LR LR
comp=Z,820nm,19.8s
BJI LR LR
comp=Z,1µm,30.0s
PINM Pinnacle 32.57 54 P P 09 05 08.5 -0.2
baz=275
EPYK Eagle Plains 32.88 42 P P 09 05 12.0 +0.8
baz=278,SNR=11
IRK Irkutsk 32.94 291 *e*P P **09 05 11.0 -0.9**
IRK pmax pmax
comp=Z,47nm,0.8s
YUK4 Talbot Arm 33.02 51 P P 09 05 13.4 +0.7
baz=284
YUK6 Outpost Mounta 33.25 52 P P 09 05 15.9 +1.0
baz=285
ULN Ulaanbaatar 33.32 282 *ce*P P **09 05 14.9 -0.6**
ULN pmax pmax
comp=Z,23nm,1.0s
ULN Ulaanbaatar 33.32 282 P P 09 05 15.1 -0.4
ULN Ulaanbaatar 33.32 282 P P 09 05 14.3 -1.2
comp=Z,6µmcomp=Z,62nm,1.1s
HYT Haines Junctio 33.69 52 P P 09 05 20.2 +1.7
HYT Haines Junctio 33.69 52 P P 09 05 19.8 +1.3
baz=286,SNR=16
SONM Songino Array 33.72 283 P P 09 05 18.4 -0.5
comp=Z,19nm,0.8s,baz=62,slow=8.0,SNR=54
SONM PcP PcP 09 07 57.5 +0.5
comp=Z,25nm,0.8s,baz=86,slow=1.6,SNR=19
SONM LR LR 09 20 17.5
comp=Z,1µm,19.0s,baz=63,slow=38
SONM Songino Array 33.72 283 P P 09 05 18.3 -0.6
MAYO Mayo, Yukon 33.73 46 P P 09 05 19.5 +0.8
baz=283
INK Inuvik 33.83 38 P P 09 05 20.4 +1.0
comp=Z,30nm,0.8s,baz=282,slow=7.8,SNR=46
INK PcP PcP 09 07 57.8 +1.1
comp=Z,9.7nm,0.8s,baz=304,slow=3.8,SNR=4.1
INK Inuvik 33.83 38 P P 09 05 20.3 +0.9
baz=278,SNR=25
H11N2 WAKE ISLAND Hy 33.90 168 T T 09 41 20.2
baz=354
H11N3 WAKE ISLAND Hy 33.91 168 T T 09 41 11.8
baz=354,slow=74
H11N1 WAKE ISLAND Hy 33.92 168 T T 09 41 18.3
baz=354,slow=74
ZAK Zakamensk 34.31 289 *e*P P **09 05 23.1 -0.9**
ZAK pmax pmax
comp=Z,16nm,1.2s
HHC Hu-ho-hao-te 34.50 269 *e*P P **09 05 23.8 -1.9**
HHC pP pP 09 05 38.8 -3.4
HHC S S 09 10 36.9 -12
HHC pmax pmax
comp=Z,18nm,1.1s
HHC pmax pmax
comp=Z,120nm,5.2s
HHC LR LR
comp=Z,400nm,14.3s
HHC LR LR
comp=Z,400nm,13.4s
HHC LR LR
comp=Z,660nm,16.1s
WHY Whitehorse 34.97 51 P P 09 05 31.0 +1.4
baz=288,SNR=18
H11S1 WAKE ISLAND Hy 35.08 169 T T 09 42 39.2
baz=352,slow=76,SNR=74
H11S3 WAKE ISLAND Hy 35.09 169 T T 09 42 44.8
baz=352,slow=76,SNR=108
H11S2 WAKE ISLAND Hy 35.10 169 T T 09 42 45.3
baz=352,slow=76,SNR=36
SKAG Skagway 35.14 53 P P 09 05 32.5 +1.7
baz=289,SNR=19
FARO Faro, Yukon 35.21 48 P P 09 05 32.8 +1.3
baz=287,SNR=18
JOW Kunigami 35.28 234 P P 09 05 32.3 -0.1
BTO Baotou 35.57 270 *e*P P **09 05 34.6 -0.3**
BTO LR LR
comp=Z,2µm,23.9s
BTO LR LR
comp=Z,2µm,22.4s
NRIK Noril'sk 35.69 325 P P 09 05 34.2 -1.2
comp=Z,3.9nm,0.7s,baz=86,slow=9.4,SNR=5.1
NRIK PcP PcP **09 08 03.1 +1.0**
comp=Z,14nm,0.5s,baz=68,slow=2.9,SNR=6.7
NRIK LR LR 09 21 07.2
comp=Z,2µm,20.1s,baz=72,slow=38
NRIK Noril'sk 35.69 325 P P 09 05 34.9 -0.6
NRIK pmax pmax
comp=Z,54nm,1.8s
NRIK Noril'sk 35.69 325 P P 09 05 34.9 -0.6
SIT Sitka 35.99 57 P P 09 05 39.8 +1.6
baz=292
MMPY Sheldon Lake, 36.02 47 P P 09 05 39.6 +1.1
baz=288,SNR=27
A36M Sachs Harbour 36.06 31 P P 09 05 39.8 +1.2
baz=280,SNR=8.3
NJ2 Nanjing 36.17 251 *e*P P **09 05 40.1 +0.1**
NJ2 pmax pmax
comp=Z,50nm,0.7s
TGTN Hyland Airport 37.71 48 P P 09 05 54.0 +1.2
baz=291,SNR=16
WRAK Wrangell Islan 37.75 57 P P 09 05 54.4 +1.3
baz=295
WRGLY Wrigley 39.17 44 P P 09 06 06.7 +1.8
baz=292,SNR=8.2
WHN Wuhan 39.86 254 ⇑P P **09 06 11.3 +0.2**
WHN PcP PcP **09 08 16.1 +0.5**
WHN pmax pmax
comp=Z,86nm,0.8s
XAN Xi'an 40.54 263 P P 09 06 14.6 -2.1
XAN pP pP 09 06 33.4 -0.1
XAN sP sP 09 06 41.3 -0.1
XAN S S **09 12 18.5 -2.4**
XAN pmax pmax
comp=Z,16nm,1.1s
XAN pmax pmax
comp=Z,73nm,5.3s
XAN LR LR
comp=Z,490nm,17.5s
XAN LR LR
comp=Z,640nm,20.4s
XAN LR LR
comp=Z,390nm,20.8s
TPUB Ta-pu 42.06 240 P P 09 06 29.1 -0.1
TPUB IAmb IAmb 09 06 43.6
comp=Z,174nm,1.6s
LZH Lanzhou 42.19 269 ⇓P P **09 06 30.3 0.0**
LZH pP pP 09 06 48.8 +1.6
LZH PcP PcP **09 08 24.8 +1.4**
LZH S S **09 12 50.3 +4.8**
LZH pmax pmax
comp=Z,96nm,1.0s
LZH pmax pmax
comp=Z,92nm,4.1s
LZH LR LR
comp=Z,560nm,17.4s
LZH LR LR
comp=Z,410nm,18.4s
LZH LR LR
comp=Z,560nm,18.7s
TWG Pinlang 42.23 239 P P 09 06 30.7 +0.2
TWG IAmb IAmb 09 06 37.7
comp=Z,56nm,0.6s
GTA Gaotai 42.44 276 ⇑P P **09 06 31.8 -0.5**
GTA pP pP 09 06 47.5 -1.7
GTA sP sP 09 06 54.3 -2.7
GTA PcP PcP **09 08 25.1 +1.0**
GTA S S **09 12 49.4 +0.4**
GTA pmax pmax
comp=Z,72nm,1.0s
GTA pmax pmax
comp=Z,84nm,6.9s
GTA LR LR
comp=Z,440nm,21.1s
GTA LR LR
comp=Z,430nm,20.0s
GTA LR LR
comp=Z,640nm,22.2s
ZALV Zalesovo Beam 42.56 302 P P 09 06 31.4 -1.5
comp=Z,19nm,0.5s,baz=62,slow=7.5,SNR=30
ZALV PcP PcP **09 08 24.2 +0.1**
comp=Z,24nm,0.9s,baz=53,slow=5.6,SNR=6.9
ZALV LR LR 09 25 32.4
comp=Z,851nm,18.7s,baz=60,slow=38
YKA Yellowknife Ar 43.15 43 P P 09 06 38.4 +0.9
comp=Z,26nm,0.9s,baz=299,slow=7.3,SNR=21
YKA LR LR 09 25 52.7
comp=Z,273nm,20.1s,baz=0.0,slow=38
DGZ Jazzator, Alta 43.46 296 *i* P P **09 06 40.4 -0.1**
DGZ pmax pmax
comp=Z,52nm,0.9s
NOR Nord 45.38 359 *i* P P **09 06 53.5 -1.6**
NOR IAmb IAmb 09 06 55.9
comp=Z,20nm,1.1s
CD2 Chengdu 45.84 264 P P 09 06 58.0 -1.4
ZSN Zaisan 46.15 295 *e*P P **09 07 00.2 -1.5**
comp=Z,13nm,0.8s,baz=294
ZSN Zaisan 46.15 295 *e*P P **09 07 00.2 -1.5**
ZSN pmax pmax
comp=Z,13nm,0.8s
KBS Kingsbay 46.70 352 *i* P P **09 07 06.7 +1.2**
KBS IAmb IAmb 09 07 07.5
comp=Z,102nm,0.9s
KBS Kingsbay 46.70 352 *ce*P P **09 07 06.7 +1.2**
KBS pmax pmax
comp=Z,65nm,1.3s
KBS Kingsbay 46.70 352 P P 09 07 05.4 -0.1
KBS IAmb IAmb 09 07 07.8
comp=Z,43nm,0.9s
A04D Lummi Island 46.73 63 P P 09 07 07.1 +1.0
baz=306
WMQ Urumqi 46.78 289 *e*P P **09 07 06.8 +0.1**
WMQ sP sP 09 07 33.3 +1.7
WMQ pmax pmax
comp=Z,130nm,0.9s
WMQ pmax pmax
comp=Z,270nm,4.1s
WMQ LR LR
comp=Z,580nm,16.9s
WMQ LR LR
comp=Z,410nm,18.9s
WMQ LR LR
comp=Z,830nm,19.7s
WMQ Urumqi 46.78 289 P P 09 07 07.0 +0.3

WMQ **Urumqi** 46.78 289 P P 09 07 07.0 +0.3
TULEG **Thule** 46.83 14 *i* P P 09 07 07.1 +0.5
SPA0 **Spitsbergen Ar** 46.95 350 *eP* P 09 07 07.1 -0.4
SPITS **Spitsbergen Ar** 46.95 350 LR LR 09 28 02.3
comp=Z,200nm,18.0s,baz=355,slow=38
SPITS **Spitsbergen Ar** 46.95 350 P P 09 07 07.9 +0.4
SPITS pmax pmax
comp=Z,98nm,0.9s
B05A **Bryant** 47.33 63 P P 09 07 12.4 +1.6
baz=307,SNR=10
GYA **Guiyang** 47.39 257⇓ *i*P P 09 07 10.6 -1.1
GYA pP pP 09 07 26.6 -2.2
GYA sP sP 09 07 35.6 -1.0
GYA PcP PcP 09 08 41.6 +0.3
GYA S S 09 14 01.4 +0.7
GYA sS sS 09 14 24.9 -5.0
GYA pmax pmax
comp=Z,29nm,0.9s
GYA LR LR
comp=Z,670nm,24.4s
KURK **Kurchatov** 47.52 302 P P 09 07 11.4 -0.9
KURK 09 08 41.6
KURK **Kurchatov** 47.52 302 P P 09 07 11.4 -0.9
KURK PcP 09 08 41.6 +0.4
D04E **Lakebay** 47.62 64 P P 09 07 14.6 +1.6
baz=308
KURBB **Kurchatov Arra** 47.62 302 P P 09 07 11.4 -1.6
comp=Z,51nm,0.5s,baz=58,slow=7.4,SNR=259
KURBB PcP PcP 09 08 41.6 0.0
comp=Z,20nm,0.7s,baz=52,slow=3.4,SNR=11
KURBB **Kurchatov Arra** 47.62 302 P P 09 07 11.2 -1.9
MK31 **Makanchi Array** 47.95 295 P P 09 07 14.1 -1.6
MK31 pmax pmax
comp=Z,20nm,0.8s
MK31 **Makanchi Array** 47.95 295 P P 09 07 14.1 -1.6
MKAR **Makanchi Array** 47.95 295 P P 09 07 14.1 -1.7
comp=Z,24nm,0.6s,baz=53,slow=6.7,SNR=92
MKAR LR LR 09 28 46.8
comp=Z,496nm,21.7s,baz=42,slow=38
MKAR **Makanchi Array** 47.95 295 P P 09 07 14.4 -1.3
MKAR **Makanchi Array** 47.95 295 P P 09 07 14.4 -1.3
HSPB **Hornsund (broa** 48.08 350 *eP* P 09 07 16.7 +0.5
MAKZ **Makanchi** 48.11 296 P P 09 07 15.5 -1.5
MAKZ pmax pmax
comp=Z,32nm,0.8s
MAKZ **Makanchi** 48.11 296 P P 09 07 15.5 -1.5
MAKZ IAmb IAmb 09 07 18.7
comp=Z,32nm,0.8s
E04D **Cinebar** 48.11 65 P P 09 07 18.6 +1.7
baz=308,SNR=5.1
NEEM **North Greenlan** 48.15 9⇑ *i*P P 09 07 17.2 +0.1
NEEM IAmb IAmb 09 07 18.4
comp=Z,186nm,1.0s
F04D **Rainier, OR** 48.16 66 P P 09 07 18.6 +1.3
baz=308
C06D **Leavenworth** 48.18 62 P P 09 07 18.1 +0.7
baz=308,SNR=5.1
G03D **McMinnville, O** 48.57 67 P P 09 07 21.6 +1.2
baz=309
F05D **White Salmon** 49.13 65 P P 09 07 25.6 +0.8
baz=309
H04D **Lebanon** 49.29 67 P P 09 07 26.8 +0.9
baz=310
J01E **Myrtle Point** 49.49 69 P P 09 07 28.9 +1.4
baz=310
G05D **Wamic, OR** 49.62 65 P P 09 07 29.3 +0.8
baz=310
BJO1 **Bjornoya** 49.86 347 *eP* P 09 07 29.5 -0.4
I04A **Tendick Farm,** 49.94 68 P P 09 07 31.3 +0.3
baz=310,SNR=6.4
K02D **Willamette Mer** 49.94 69 P P 09 07 32.0 +0.9
baz=310
NEW **Newport** 49.95 60 P P 09 07 31.4 +0.4
baz=309,SNR=12
I05D **Terrebonne, OR** 50.18 66 P P 09 07 33.6 +0.8
baz=310
BRVK **Borovoye** 50.20 308 *ceP* P 09 07 31.3 -1.5
BRVK pmax pmax
comp=Z,35nm,0.6s
BRVK **Borovoye** 50.20 308 P P 09 07 31.7 -1.0
DAG **Danmarks Havn** 50.24 360⇑ *i*P P 09 07 32.7 -0.1
DAG IAmb IAmb 09 07 33.7
comp=Z,110nm,0.9s
L02E **Cave Junction** 50.33 70 P P 09 07 35.7 +1.8
baz=311
J04D **Umpqua Nationa** 50.46 68 P P 09 07 36.4 +1.3
baz=310
KMI **Kunming** 50.70 260 ⇑P P 09 07 37.6 +0.4
KMI pP pP 09 07 54.9 +0.4
KMI sP sP 09 08 03.8 +1.6
KMI pmax pmax
comp=Z,15nm,0.7s
KMI pmax pmax
comp=Z,150nm,3.9s
KMI LR LR
comp=Z,630nm,20.0s
KMI LR LR
comp=Z,520nm,23.7s
KMI LR LR
comp=Z,700nm,25.0s
J05D **Fort Rock, OR** 50.92 67 P P 09 07 39.9 +1.4
baz=311,SNR=17
BRZS **Berezniki** 50.98 304⇑ *i*P P 09 07 36.5 -2.1
comp=Z,8.2nm,0.6s,baz=304
BRZS **Berezniki** 50.98 304 *c i*P P 09 07 36.5 -2.1
BRZS pmax pmax
comp=Z,8.0nm,0.6s
L04D **Klamath Falls** 51.02 69 P P 09 07 40.3 +1.1
baz=311,SNR=6.5
K04D **Chiloquin, OR** 51.06 68 P P 09 07 41.2 +1.6
baz=311
TDK **Taldyqorghan** 51.19 296 *eP* P 09 07 39.1 -1.2
comp=Z,91nm,0.7s,baz=296
TDK **Taldyqorghan** 51.19 296 *eP* P 09 07 39.1 -1.2
TDK pmax pmax
comp=Z,91nm,0.7s
M02C **Callahan** 51.25 70 P P 09 07 42.9 +2.0
baz=312
QIZ **Qiongzhong** 51.36 248 P P 09 07 42.5 +0.7
QIZ S S 09 14 57.4 +1.3
QIZ pmax pmax
comp=Z,41nm,1.3s
QIZ LR LR
comp=Z,320nm,15.9s
QIZ LR LR
comp=Z,450nm,19.9s
M04C **Macdoel** 51.56 69 P P 09 07 44.2 +0.9
baz=312,SNR=8.1
N02D **Trinity Center** 51.61 71 P P 09 07 45.7 +2.1
baz=312
UPNV **Upernavik** 51.81 13 *eP* P 09 07 44.2 -0.3
SHLS **Shalkode** 51.81 293 *eP* P 09 07 42.0 -3.2
comp=Z,26nm,0.6s,baz=293
SHLS **Shalkode** 51.81 293 *eP* P 09 07 41.9 -3.2
SHLS pmax pmax
comp=Z,26nm,0.6s
KPKS **Kokpek** 52.04 294⇑ *i*P P 09 07 45.2 -1.6
comp=Z,21nm,0.8s,baz=294
KPKS **Kokpek** 52.04 294 *c i*P P 09 07 45.2 -1.6
KPKS pmax pmax
comp=Z,21nm,0.8s
SVE **Sverdlovsk** 52.06 317 *eP* P 09 07 46.4 -0.2
SVE pmax pmax
comp=Z,52nm,0.9s
SVE MLR MLR
comp=Z,548nm,18.0s
UZB **Uzynbulak** 52.06 294⇑ *i*P P 09 07 45.4 -1.7
comp=Z,15nm,0.7s,baz=294
UZB **Uzynbulak** 52.06 294 *c i*P P 09 07 45.3 -1.7
UZB pmax pmax
comp=Z,15nm,0.7s
O02D **Mt. Diablo Mer** 52.09 71 P P 09 07 49.0 +1.7
baz=312
SATY **Saty** 52.46 294⇑ *i*P P 09 07 48.6 -1.4
comp=Z,16nm,0.8s,baz=294
SATY **Saty** 52.46 294 *c i*P P 09 07 48.5 -1.4
SATY pmax pmax
comp=Z,16nm,0.8s
HAMF **Hammerfest** 52.48 343 *eP* P 09 07 47.7 -1.8
LVZ **Lovozero** 52.49 337 *ceP* P 09 07 48.4 -1.3
LVZ pmax pmax
comp=Z,17nm,0.7s
MSO **Missoula** 52.53 60 P P 09 07 51.1 +0.7
baz=311,SNR=25
O03E **Paynes Creek** 52.58 71 P P 09 07 52.0 +1.2
baz=312,SNR=13

CHKK **Chushkaly** 52.70 296⇑ *eP* P 09 07 49.4 -2.3
baz=295
DBG **Daneborg** 52.73 0⇑ *i*P P 09 07 51.0 -0.3
DBG IAmb IAmb 09 07 51.9
comp=Z,65nm,0.9s
KUU **Kurty** 53.03 296⇑ *i*P P 09 07 51.8 -2.2
comp=Z,43nm,0.6s,baz=296
KUU **Kurty** 53.03 296 *c i*P P 09 07 51.8 -2.2
KUU pmax pmax
comp=Z,43nm,0.6s
APA **Apatity** 53.05 337⇓ *i*P P 09 07 48.5 -5.2
APA pmax pmax
comp=Z,7.0nm,0.9s
ARA0 **ARCESS Array S** 53.09 342 *eP* P 09 07 52.6 -1.5
ARCES **ARCESS Array B** 53.09 342 P P 09 07 53.1 -1.0
comp=Z,6.0nm,0.6s,baz=42,slow=9.6,SNR=9.7
ARCES PcP PcP 09 09 02.1 +0.6
comp=Z,27nm,0.7s,baz=42,slow=4.1,SNR=11
ARCES **ARCESS Array B** 53.09 342 P P 09 07 52.7 -1.4
ARCES IAmb IAmb 09 09 02.8
comp=Z,32nm,0.8s
MDOK **Medeo** 53.13 295 *eP* P 09 07 53.2 -1.7
baz=295
MDOK **Medeo** 53.13 295 P P 09 07 53.4 -1.5
AAA **Alma-Ata** 53.17 295 *eP* P 09 07 53.5 -1.6
baz=295
AAA **Alma-Ata** 53.17 295 *eP* P 09 07 53.5 -1.6
ARU **Arti** 53.18 317 LR LR 09 32 58.0
comp=Z,620nm,21.2s,baz=44,slow=39
ARU **Arti** 53.18 317 *c i*P P 09 07 53.9 -1.0
ARU *PP pP 09 08 12.5 +0.2
ARU 09 09 00.6
ARU 09 09 50.3
ARU S S 09 15 20.5 +0.3
ARU SS SS 09 18 57.0 -2.6
ARU pmax pmax
comp=Z,90nm,0.8s
TNSS **Tian-Shan** 53.27 295 *eP* P 09 07 54.4 -1.8
baz=295
MTBS **Maitube** 53.49 295⇑ *i*P P 09 07 56.0 -1.5
baz=295
BTLS **Baital** 53.49 298⇑ *i*P P 09 07 55.4 -1.9
comp=Z,10nm,0.8s,baz=298
BTLS **Baital** 53.49 298 *c i*P P 09 07 55.4 -1.9
BTLS pmax pmax
comp=Z,10.0nm,0.8s
TARG **Taragay, Kyrgy** 53.68 293 P P 09 07 58.4 -0.9
KDJ **Kajisay** 53.75 294 P P 09 07 58.2 -1.3
KDJ pmax pmax
comp=Z,86nm,0.7s
KDJ **Kajisay** 53.75 294 P P 09 07 58.2 -1.3
SUMG **Summit** 53.82 7⇑ *i*P P 09 08 00.7 +0.9
SUMG IAmb IAmb 09 08 01.7
comp=Z,181nm,0.8s
EGMT **Eagleton** 53.87 56 P P 09 08 00.7 +0.6
baz=312,SNR=15
KTK1 **Kautokeino** 53.96 342 *eP* P 09 07 59.5 -1.0
JETT **Jettan, Norway** 53.98 344 *eP* P 09 08 01.0 +0.3
TKM2 **Tokmak 2** 54.08 296 P P 09 08 01.2 -0.7
SNR=37
TRO **Tromso** 54.16 344 *eP* P 09 08 01.0 -0.9
ULHL **Ulahol** 54.19 295 P P 09 08 01.9 -0.8
SNR=32
PRGR **Permogore** 54.23 328 *eP* P 09 08 00.2 -2.2
PRGR *e* 09 08 21.1
PRGR *eS* S 09 15 33.5 -0.6
PRGR pmax pmax
comp=Z,20nm,1.3s
SGDS **Sogindy** 54.25 297⇑ *i*P P 09 08 01.6 -1.4
baz=296
USP **Ospenovka** 54.44 296 P P 09 08 03.5 -0.9
SNR=40
HLID **Hailey** 54.45 63 P P 09 08 05.5 +0.9
baz=313,SNR=15
CHMS **Chumysh** 54.49 296 P P 09 08 04.1 -0.5
SNR=19
BOZ **Bozeman (W)** 54.55 60 P P 09 08 06.2 +1.0
baz=313,SNR=30
FRU1 **Bishkek** 54.68 296 P P 09 08 05.7 -0.5
FRU1 pmax pmax
comp=Z,100nm,0.7s
FRU1 **Bishkek** 54.68 296 P P 09 08 05.7 -0.5
MOKO **MOKOCHONG** 54.72 268 *eP* P 09 08 06.8 +0.2
MOKO IAmb IAmb 09 08 07.9
comp=Z,74nm,0.4s
KZA **Kyzart** 54.84 295 P P 09 08 07.6 -0.1
SNR=18
AAK **Ala-Archa** 54.87 296 P P 09 08 06.7 -1.0
SNR=51
AAK **Ala-Archa** 54.87 296 *i*P P 09 08 06.6 -1.0
SNR=51
AAK **Ala-Archa** 54.87 296 *i*P P 09 08 06.2 -1.4
AAK pmax pmax
comp=Z,67nm,0.8s
AAK **Ala-Archa** 54.87 296 P P 09 08 07.1 -0.5
UCH **Uchtor** 55.14 296 P P 09 08 08.9 -1.0
SNR=22
KIRV **Kirov** 55.17 323 *i*P P 09 08 08.7 -0.6
EKS2 **Erkin-Say** 55.24 296 P P 09 08 09.4 -0.8
SNR=92
KOHI **KOHIMA** 55.41 267 *eP* P 09 08 11.3 -0.3
AML **Almayashu** 55.65 296 P P 09 08 13.5 0.0
SNR=7.8
AML **Almayashu** 55.65 296 *i*P P 09 08 12.7 -0.8
SNR=7.9
AML **Almayashu** 55.65 296 P P 09 08 14.0 +0.5
ILULI **Ilulissat** 55.76 13 *i*P P 09 08 12.9 -0.4
ILULI IAmb IAmb 09 08 14.5
comp=Z,48nm,0.7s
JMIC **Jan Mayen** 55.78 355 LR LR 09 30 53.1
comp=Z,143nm,20.8s,baz=352,slow=35
NVAR **Mina Array Bea** 55.83 70 P P 09 08 16.5 +1.9
comp=Z,18nm,0.8s,baz=297,slow=7.4,SNR=126
NVAR LR LR 09 30 18.4
comp=Z,150nm,20.7s,baz=304,slow=34
H17A **Grant Village** 55.91 60 P P 09 08 17.5 +2.3
H17A IAmb IAmb 09 08 19.4
comp=Z,40nm,1.0s
H17A **Grant Village** 55.91 60 P P 09 08 18.1 +2.9
baz=314,SNR=25
NONG **Nongkai** 55.93 254 P P 09 08 16.9 +1.6
comp=Z,36nm,0.5s
MLAC **Mammoth, Mammo** 56.08 71 P P 09 08 18.9 +2.5
baz=314
RLMT **Red Ledge** 56.09 59 P P 09 08 17.8 +1.4
baz=314,SNR=38
IMP **Imphal** 56.17 267 *eP* P 09 08 15.2 -1.8
IMP IAmb IAmb 09 08 19.6
comp=Z,62nm,1.0s
KSH **Kashi** 56.21 292 P P 09 08 20.0 +2.8
KSH pP pP 09 08 35.6 +0.8
KSH PcP PcP 09 09 16.0 +1.9
KSH pmax pmax
comp=Z,32nm,1.0s
KSH LR LR
comp=Z,300nm,16.3s
KSH LR LR
comp=Z,530nm,16.6s
KSH LR LR
comp=Z,590nm,21.8s
DGMT **Dagmar** 56.28 53 P P 09 08 18.6 +1.1
baz=314,SNR=17
STEI **Steigen** 56.29 345 *eP* P 09 08 16.7 -0.4
SKNT **Sakolnakorn** 56.32 252 P P 09 08 18.9 +0.9
comp=Z,78nm,1.1s
SKNT **Sakolnakorn** 56.32 252 P P 09 08 18.9 +0.9
LOF **Lofoten** 56.37 346 *eP* P 09 08 17.1 -0.7
DZA **Taraz** 56.39 298 *eP* P 09 08 16.8 -1.6
baz=298
DZA **Taraz** 56.39 298 *eP* P 09 08 16.7 -1.6
LAO **LASA Array** 56.53 55 P P 09 08 20.6 +1.2
baz=314,SNR=45
SCO **Scoresbysund** 56.56 1⇑ *i*P P 09 08 20.0 +0.9
SCO IAmb IAmb 09 08 20.4
comp=Z,26nm,0.7s
KK31 **Karatay Array** 56.68 299 *eP* P 09 08 18.4 -1.9
KKAR **Karatay Array** 56.68 299 P P 09 08 19.1 -1.2
KKAR pmax pmax
comp=Z,43nm,0.9s
KKAR **Karatay Array** 56.68 299 P P 09 08 19.1 -1.2
KKAR IAmb IAmb 09 08 22.2
comp=Z,43nm,0.8s
KLMR **Klimovskoe** 56.74 330 *c i*P P 09 08 19.8 -0.6
KLMR *e* 09 09 13.9
KLMR pmax pmax
comp=Z,92nm,1.2s

KLMR **Klimovskoe** 56.74 330⇑ *i*P P 09 08 19.8 -0.6
KLMR ⇓ *i*P P 09 08 19.8 -0.6
KLMR ⇓ *i*P P 09 08 19.8 -0.6
KLMR AMP 09 08 21.0
comp=Z,92nm,1.2s
KLMR *e*PcP PcP 09 09 13.9 -1.7
FAUS **Fauske** 56.78 344 *eP* P 09 08 20.0 -0.7
PAYA **Payao** 56.82 258 P P 09 08 22.2 +0.6
comp=Z,1μmcomp=Z,73nm,0.8s
PAYA **Payao** 56.82 258 P P 09 08 22.3 +0.6
comp=Z,345nmcomp=Z,18nm,0.8s
UBPT **Khong Chiam** 56.83 250 P P 09 08 22.7 +1.0
comp=Z,90nm,1.1s
UBPT **Khong Chiam** 56.83 250 P P 09 08 22.0 +0.3
comp=Z,54μmcomp=Z,86nm,1.1s
SHL **Shillong** 56.86 269 *eP* P 09 08 19.9 -2.1
SHL IAmb IAmb 09 08 21.6
comp=Z,27nm,0.8s
SHL **Shillong** 56.86 269 P P 09 08 20.9 -1.1
SNR=9.8
SMMC **Simmler** 57.04 74 P P 09 08 24.5 +1.5
baz=315,SNR=6.0
ICESG **Greenland Ices** 57.13 8 *i*P P 09 08 24.0 +0.4
VES **Vestal, Richgr** 57.20 73 P P 09 08 25.0 +1.0
baz=315,SNR=10
CWC **Cottonwood Cre** 57.35 72 P P 09 08 26.6 +1.2
baz=315
GRAC **Grapevine Rang** 57.36 71 P P 09 08 27.0 +1.7
baz=315,SNR=15
NBB30 **Finnes** 57.41 345 *eP* P 09 08 25.1 +0.1
R11A **Troy Canyon, C** 57.41 68 P P 09 08 27.1 +1.3
baz=315,SNR=26
PKM **Mcpherson Peak** 57.45 74 P P 09 08 27.8 +1.7
baz=316
KHON **Khomkaen** 57.49 253 P P 09 08 27.9 +1.6
comp=Z,56nm,0.9s
GTK **Tadong** 57.53 273 *eP* P 09 08 26.4 -0.3
GTK *i* x x 09 09 19.9
BW06 **Boulder Array** 57.58 61 P P 09 08 28.1 +1.1
baz=315,SNR=54
PDAR **Pinedale Array** 57.58 61 P P 09 08 28.4 +1.4
comp=Z,26nm,0.8s,baz=315,slow=2.8,SNR=206
AB31 **Akbulak array** 57.58 310 *i*P P 09 08 24.3 -2.2
ABKAR **Akbulak array** 57.58 310 P P 09 08 25.2 -1.4
ABKAR IAmb IAmb 09 09 20.2
comp=Z,34nm,1.1s
RABL **Rabaul** 57.60 189 P P 09 08 27.5 +0.4
IUG **Iuzhnay** 57.60 298 *eP* P 09 08 26.5 -0.5
baz=298
IUG **Iuzhnay** 57.60 298 *eP* P 09 08 26.5 -0.5
AKTO **Aktyubinsk** 57.60 312 P P 09 08 24.8 -1.9
LAMP **Lampang** 57.61 257 P P 09 08 28.2 +1.0
comp=Z,570nmcomp=Z,73nm,1.0s
LAMP **Lampang** 57.61 257 P P 09 08 28.3 +1.0
comp=Z,142nmcomp=Z,18nm,1.0s
CM34 **Chiang Mai Arr** 57.64 258 P P 09 08 27.0 -0.4
DUG **Dugway, Tooele** 57.64 65 P P 09 08 29.2 +1.8
baz=315,SNR=22
NBB15 **Halsa Church** 57.64 345 *eP* P 09 08 26.9 +0.2
ISA **Isabella, Lake** 57.67 72 P P 09 08 27.9 +0.4
baz=316,SNR=7.9
UTTA **Uttaradit** 57.69 256 P P 09 08 28.6 +0.9
comp=Z,590nmcomp=Z,69nm,0.9s
BAKI **Biak** 57.76 208 P P 09 08 29.4 +1.2
comp=Z,154nm,0.9s
CM35 **Chiang Mai Arr** 57.77 258 P P 09 08 28.0 -0.3
CHTO **Chiang Mai** 57.79 258 P P 09 08 28.5 +0.1
CHTO pmax pmax
comp=Z,46nm,0.9s
CHTO **Chiang Mai** 57.79 258 P P 09 08 28.6 +0.1
comp=Z,57nm,1.0s
CHTO **Chiang Mai** 57.79 258 P P 09 08 28.5 +0.1
CHTO IAmb IAmb 09 08 30.6
comp=Z,46nm,0.9s
CHTO **Chiang Mai** 57.79 258 P P 09 08 28.5 +0.1
JAY **Jayapura** 57.84 203 P P 09 08 28.5 -0.3
comp=Z,14nm,1.0s,baz=320,slow=4.2,SNR=5.8
JAY **Jayapura** 57.84 203 P P 09 08 29.9 +1.1
comp=Z,310nmcomp=Z,14nm,1.3s
ARVC **Arvin** 57.85 73 P P 09 08 29.2 +0.6
baz=316
SFJD **Kangerlussuaq** 57.90 14⇑ *i*P P 09 08 28.1 -0.3
SFJD IAmb IAmb 09 08 29.5
comp=Z,19nm,0.9s
CM36 **Chiang Mai Arr** 57.93 258 P P 09 08 30.0 +0.6
KONS **Konsvik** 57.94 345 *eP* P 09 08 27.5 -1.3
MPMC **Manual Prospec** 57.95 71 P P 09 08 30.8 +1.1
baz=316,SNR=16
CM32 **Chiang Mai Arr** 57.97 258 P P 09 08 31.0 +1.3
FURC **Furnace Creek,** 58.02 71 P P 09 08 31.5 +1.7
baz=316,SNR=26
TPNV **Topopah Spring** 58.03 70 P P 09 08 31.4 +1.3
TPNV pmax pmax
comp=Z,35nm,1.0s
TPNV **Topopah Spring** 58.03 70 P P 09 08 31.4 +1.3
TPNV IAmb IAmb 09 08 47.1
comp=Z,35nm,1.0s
TPNV **Topopah Spring** 58.03 70 P P 09 08 31.5 +1.3
baz=315,SNR=26
MOR8 **Moi Rana** 58.03 344 *eP* P 09 08 27.4 -2.1
TAPN **Taplejung** 58.05 274 *eP* P 09 08 29.6 -0.9
comp=Z,105nm,0.6s
CM09 **Chiang Mai Arr** 58.05 258 P P 09 08 31.5 +1.2
comp=Z,246nmcomp=Z,38nm,0.9s
CM09 **Chiang Mai Arr** 58.05 258 P P 09 08 31.0 +0.7
comp=Z,246nmcomp=Z,38nm,0.9s
CM31 **Chiang Mai Arr** 58.07 258 P P 09 08 32.0 +1.6
comp=Z,42μmcomp=Z,1μm,0.4s
CMAR **Chiang Mai Arr** 58.07 258 P P 09 08 31.1 +0.7
comp=Z,26nm,0.8s,baz=23,slow=7.1,SNR=61
CMAR PcP PcP 09 09 22.4 +0.8
comp=Z,16nm,0.8s,baz=16,slow=3.3,SNR=12
CMAR LR LR 09 36 52.2
comp=Z,287nm,18.8s,baz=84,slow=39
CMAR **Chiang Mai Arr** 58.07 258 P P 09 08 30.8 +0.4
CM15 **Chiang Mai Arr** 58.08 258 P P 09 08 31.6 +1.1
comp=Z,43nm,0.9s
CM15 **Chiang Mai Arr** 58.08 258 P P 09 08 31.6 +1.1
comp=Z,43nm,0.9s
CM02 **Chiang Mai Arr** 58.08 258 P P 09 08 31.6 +1.1
comp=Z,346nmcomp=Z,49nm,0.9s
CM02 **Chiang Mai Arr** 58.08 258 P P 09 08 31.0 +0.5
comp=Z,346nmcomp=Z,49nm,0.9s
CM01 **Chiang Mai Arr** 58.09 258 P P 09 08 31.7 +1.2
comp=Z,305nmcomp=Z,40nm,1.0s
CM01 **Chiang Mai Arr** 58.09 258 P P 09 08 31.0 +0.5
comp=Z,305nmcomp=Z,40nm,1.0s
CM04 **Chiang Mai Arr** 58.09 258 P P 09 08 31.5 +1.0
comp=Z,312nmcomp=Z,38nm,0.9s
CM04 **Chiang Mai Arr** 58.09 258 P P 09 08 31.6 +1.0
comp=Z,312nmcomp=Z,38nm,0.9s
CM05 **Chiang Mai Arr** 58.11 258 P P 09 08 31.5 +0.9
comp=Z,217nmcomp=Z,28nm,0.9s
CM05 **Chiang Mai Arr** 58.11 258 P P 09 08 31.6 +0.9
comp=Z,217nmcomp=Z,28nm,0.9s
CM13 **Chiang Mai Arr** 58.12 258 P P 09 08 31.8 +1.1
comp=Z,393nmcomp=Z,30nm,0.9s
CM13 **Chiang Mai Arr** 58.12 258 P P 09 08 31.0 +0.3
comp=Z,393nmcomp=Z,30nm,0.9s
PHIT **Phitsanulok** 58.20 256 P P 09 08 32.3 +1.0
comp=Z,98nm,1.1s
LRMC **Laurel Mtn Rad** 58.26 72 P P 09 08 33.0 +1.3
baz=316
OSI **Osito Audit: C** 58.27 74 P P 09 08 33.3 +1.5
baz=316
CHAI **Chaiyaphum** 58.31 253 P P 09 08 32.8 +0.7
comp=Z,590nmcomp=Z,50nm,0.7s
CHAI **Chaiyaphum** 58.31 253 P P 09 08 32.0 -0.1
EDW2 **Edwards Air Fo** 58.50 73 P P 09 08 34.4 +1.1
baz=316,SNR=8.4
ODAN **Odare** 58.60 274 *eP* P 09 08 33.7 -0.6
comp=Z,61nm,0.5s
GUN **Gumba** 58.73 276 *eP* P 09 08 34.1 -1.2
comp=Z,72nm,0.4s
GUN **Gumba** 58.73 276 *eP* P 09 08 34.5 -0.8
comp=Z,126nm,0.4s
DECC **Green Verdugo** 58.76 74 P P 09 08 36.6 +1.6
baz=316
SHOC **Shoshone, Teco** 58.76 71 P P 09 08 36.4 +1.4
baz=316
ULM **Lac du Bonnet** 58.82 47 P P 09 08 36.1 +0.9
comp=Z,38nm,0.7s,baz=314,slow=6.8,SNR=25
GSC **Goldstone, Bar** 58.88 72 P P 09 08 37.2 +1.2
baz=316,SNR=5.5
MHMT **Maesarieng** 58.88 258 P P 09 08 37.0 +1.0
comp=Z,959nmcomp=Z,75nm,0.7s
MHMT **Maesarieng** 58.88 258 P P 09 08 37.1 +1.0

comp=Z,959nmcomp=Z,75nm,0.7s
MDND Maddock 58.89 51 P **P** **09 08 37.3 +1.6**
baz=317,SNR=27
SWI Sorong 58.96 214 P **P** **09 08 37.7 +1.2**
comp=Z,2µmcomp=Z,126nm,1.3s
SIJI Sorong 58.97 214 P **P** **09 08 37.2 +0.6**
comp=Z,8µmcomp=Z,40nm,0.4s
DY2G Dye2 58.97 12⇑ *i*P **P** **09 08 36.0 -0.3**
DY2G IAmb IAmb 09 08 36.9
comp=Z,38nm,0.9s
RRX Edison Barstow 59.08 72 P **P** **09 08 38.6 +1.3**
baz=316
BFSC Mount Baldy Ra 59.16 73 P **P** **09 08 39.0 +1.1**
baz=316
KKN Kakani 59.18 276 *e*P **P** **09 08 37.4 -0.8**
comp=Z,128nm,0.4s
KKN Kakani 59.18 276 *e*P **P** **09 08 37.5 -0.8**
comp=Z,130nm,0.4s
K22A Casper 59.23 59 P **P** **09 08 39.3 +0.9**
baz=316,SNR=17
PKI Pulchoki 59.26 276 *e*P **P** **09 08 37.8 -1.2**
comp=Z,88nm,0.7s
PKIN Phulchoki 59.26 276 *e*P **P** **09 08 37.8 -1.1**
comp=Z,62nm,0.5s
TUQ Turquoise Moun 59.29 71 P **P** **09 08 40.0 +1.1**
baz=316,SNR=15
GKN Gorkha 59.40 277 *e*P **P** **09 08 38.8 -1.0**
comp=Z,56nm,0.5s
GKN Gorkha 59.40 277 *e*P **P** **09 08 38.9 -0.9**
DMN Daman 59.41 276 *e*P **P** **09 08 39.3 -0.7**
comp=Z,107nm,0.6s
RSSD Black Hills 59.44 56 P **P** **09 08 41.1 +1.2**
baz=316
HEC Hector,Ludlow 59.49 72 P **P** **09 08 41.5 +1.3**
baz=316,SNR=6.6
SCI2 San Clemente I 59.55 75 P **P** **09 08 41.7 +1.2**
baz=317
BBRC Big Bear Solar 59.56 73 P **P** **09 08 42.1 +1.2**
baz=316
DANN Dangsing 59.67 278 *e*P **P** **09 08 40.9 -0.9**
comp=Z,102nm,0.5s
MURC Murrieta 59.88 73 P **P** **09 08 43.6 +0.8**
baz=317,SNR=12
UMPA Umpang Tak 59.89 256 P **P** **09 08 45.4 +2.4**
comp=Z,9µmcomp=Z,94nm,0.9s
UMPA Umpang Tak 59.89 256 P **P** **09 08 45.0 +2.0**
comp=Z,2µmcomp=Z,23nm,0.9s
FINES FINESS Array B 59.91 336 P **P** **09 08 42.1 -0.5**
comp=Z,42nm,0.7s,baz=36,slow=8.3,SNR=84
FINES PcP **PcP** **09 09 28.1 -0.1**
comp=Z,25nm,0.7s,baz=46,slow=5.5,SNR=8.2
FINES LR LR 09 38 27.4
comp=Z,190nm,18.6s,baz=32,slow=40
FINES FINESS Array B 59.91 336 P **P** **09 08 42.2 -0.4**
NSS Namsos 59.95 345 *e*P **P** **09 08 42.1 -0.7**
UTHA Uthaitani 60.06 255 P **P** **09 08 45.5 +1.4**
comp=Z,448nmcomp=Z,52nm,1.1s
UTHA Uthaitani 60.06 255 P **P** **09 08 45.0 +0.9**
comp=Z,111nmcomp=Z,13nm,1.1s
O20A White River Ci 60.14 62 P **P** **09 08 46.1 +1.4**
baz=316,SNR=21
AGMN Agassiz Nation 60.27 48 P **P** **09 08 45.5 +0.3**
baz=318,SNR=28
BELC Belle Mtn. Jos 60.28 72 P **P** **09 08 46.5 +0.8**
baz=317,SNR=11
PFO Pinyon Flats O 60.30 73 P **P** **09 08 46.0 +0.2**
baz=317,SNR=6.5
TPFO Pinon Flats 60.30 73 P **P** **09 08 46.1 +0.3**
baz=317
NUUK Nuuk 60.37 15 *i* P **P** **09 08 46.0 +0.4**
NUUK IAmb IAmb 09 08 46.8
comp=Z,39nm,1.0s
109C Camp Elliot, M 60.45 74 P **P** **09 08 47.9 +1.2**
baz=317
NEE2 Needles Airpor 60.51 71 P **P** **09 08 47.8 +0.8**
baz=317
CHGR Chuyangaron 60.55 296 P **P** **09 08 46.4 -1.1**
FAKI Fak Fak 60.57 212 P **P** **09 08 46.6 -0.9**
FAKI Fak Fak 60.57 212 P **P** **09 08 48.5 +0.9**
comp=Z,91nm,0.8s
IRM Iron Mountain 60.65 71 P **P** **09 08 49.5 +1.4**
baz=317,SNR=17
ISOG Isortoq, Green 60.66 9⇑ *i*P **P** **09 08 47.0 -0.5**
ISOG IAmb IAmb 09 08 48.0
comp=Z,32nm,0.8s
GTOI Gorontalo 60.68 223 P **P** **09 08 48.5 +0.2**
comp=Z,342nmcomp=Z,23nm,1.2s
ANGG Ammassalik, Gr 60.71 8 *i* P **P** **09 08 47.3 -0.6**
ANGG IAmb IAmb 09 08 48.3
comp=Z,20nm,0.8s
N23A Red Feather La 60.80 60 P **P** **09 08 50.9 +1.6**
baz=317,SNR=34
BC3 Big Chuckawall 60.84 72 P **P** **09 08 50.4 +0.9**
baz=317,SNR=10
MONP2 Monument Peak 60.84 73 P **P** **09 08 50.4 +0.8**
baz=317
PDMCI Parker Dam,Lak 61.12 71 P **P** **09 08 52.1 +1.0**
baz=317,SNR=15
SWSC Sam W. Stewart 61.16 73 P **P** **09 08 52.3 +0.8**
baz=317
IKP In-Ko-Pah, Jac 61.20 73 P **P** **09 08 52.7 +0.8**
baz=317,SNR=5.3
DHRM DHARAMSHALA 61.20 286 *e*P **P** **09 08 49.9 -2.2**
DHRM IAmb IAmb 09 08 53.5
comp=Z,96nm,0.4s
SRDT SRDT 61.21 255 P **P** **09 08 54.9 +3.0**
comp=Z,50nm,1.6s
SRDT SRDT 61.21 255 P **P** **09 08 54.9 +3.0**
comp=Z,50nm,1.6s
MRSI Marisa 61.27 224 P **P** **09 08 53.0 +0.7**
comp=Z,2µmcomp=Z,79nm,0.4s
RAF Rauma 61.28 338 *e*P **P** **09 08 51.6 -0.2**
MEF Metsahovi 61.39 336 *e*P **P** **09 08 52.7 +0.1**
MOS Moscow 61.44 327 *e*P **P** **09 08 50.9 -2.1**
MOS *e* 09 09 12.3
MOS *e* 09 09 32.3
MOS *e*S **S** **09 17 05.6 -2.9**
MOS pmax pmax
comp=Z,72nm,1.3s
MOS pmax pmax
comp=Z,100nm,1.3s
MOS MLR MLR
comp=Z,600nm,20.0s
SMLA Simla 61.52 285 *e*P **P** **09 08 51.7 -2.2**
SMLA IAmb IAmb 09 08 53.0
comp=Z,60nm,0.6s
SMLA *i* x x 09 09 34.8
DDI Dehra Dun 61.59 283 *e*P **P** **09 08 53.2 -1.3**
GLA Glamis 61.64 72 P **P** **09 08 56.2 +1.5**
baz=317,SNR=12
SUSD Miller 61.69 53 P **P** **09 08 55.4 +0.5**
baz=318,SNR=6.1
ISCO Idaho Springs 61.77 61 P **P** **09 08 57.6 +1.7**
baz=317,SNR=60
BOK Bokaro 61.78 273 *e*P **P** **09 08 54.9 -0.9**
WUAZ Wupatki 61.79 68 P **P** **09 08 57.5 +1.6**
baz=317,SNR=7.9
SANI Sanana 61.95 219 P **P** **09 08 56.9 0.0**
comp=Z,960nmcomp=Z,93nm,1.0s
PHET Kaeng Krachan 62.06 253 P **P** **09 08 59.1 +1.4**
comp=Z,2µmcomp=Z,290nm,0.8s
PHET Kaeng Krachan 62.06 253 P **P** **09 08 59.2 +1.4**
comp=Z,529nmcomp=Z,75nm,0.8s
MVCO Mesa Verde 62.13 65 P **P** **09 08 59.6 +1.3**
baz=317,SNR=19
KRAI Karang Ratu 62.24 216 P **P** **09 09 00.0 +1.2**
OBN Obninsk 62.30 327⇑ *e*P **P** **09 08 57.8 -1.0**
OBN *i* *PP **pP** **09 09 19.1 +2.4**
OBN *e*SP **sP** **09 09 29.3 +5.0**
OBN *i* 09 09 38.0
OBN S **S** **09 17 21.0 +1.7**
OBN *e*SS **sS** **09 17 46.3 -3.6**
OBN pmax pmax
comp=Z,47nm,1.0s
OBN MLR MLR
comp=Z,424nm,18.0s
BORG Borgarnes 62.33 1 P **P** **09 09 00.4 +1.6**
BORG pmax pmax
comp=Z,100nm,1.0s
BORG Borgarnes 62.33 1 P **P** **09 09 00.4 +1.6**
VSU Vasula 62.34 334 *e*P **P** **09 08 59.2 +0.2**
VSU Vasula 62.34 334 *i* P **P** **09 08 58.5 -0.5**
VSU pmax pmax
comp=Z,132nm,0.9s
AAL Aland 62.43 339 *e*P **P** **09 08 59.2 -0.4**
EYMN Ely 62.45 46 P **P** **09 09 00.2 +0.3**
baz=320,SNR=21

MOL Molde 62.48 346 *e*P **P** **09 09 00.1 +0.3**
Q24A Divide 62.63 61 P **P** **09 09 02.8 +1.1**
baz=318,SNR=8.3
S22A 4UR Ranch, Cre 62.64 63 P **P** **09 09 03.4 +1.6**
baz=318,SNR=42
OGNE Ogallala 62.77 57 P **P** **09 09 03.3 +1.0**
baz=318,SNR=7.3
MTSE Matsula 62.86 336 *e*P **P** **09 09 02.7 +0.3**
W18A Petrified Fore 62.99 67 P **P** **09 09 05.3 +1.4**
baz=318
UPP Uppsala 63.23 340 *e*P **P** **09 09 05.0 +0.2**
ECSD EROS Data Cent 63.34 52 P **P** **09 09 06.6 +0.6**
baz=319,SNR=68
SDCO Great Sand Dun 63.34 62 P **P** **09 09 08.0 +1.6**
baz=318,SNR=26
NB2 NORSAR Subarra 63.35 344 P **P** **09 09 05.3 -0.4**
comp=Z,36nm,0.7s,baz=19,slow=6.9
NB2 NORSAR Subarra 63.35 344 P **P** **09 09 05.3 -0.4**
baz=19,slow=6.9
NOA NORSAR Array B 63.35 344 P **P** **09 09 05.5 -0.3**
comp=Z,28nm,0.6s,baz=20,slow=6.7,SNR=121
NOA LR LR 09 42 36.4
comp=Z,131nm,18.2s,baz=15,slow=42
NC602 NORSAR Array S 63.58 343 *e*P **P** **09 09 06.7 -0.5**
214A Organ Pipe Nat 63.60 71 P **P** **09 09 08.9 +1.1**
baz=318,SNR=10
KBL Kabul 63.63 293 P **P** **09 09 06.5 -1.7**
KBL pmax pmax
comp=Z,37nm,0.9s
KBL Kabul 63.63 293 P **P** **09 09 06.5 -1.7**
KBL IAmb IAmb 09 09 08.0
comp=Z,37nm,0.9s
KBL Kabul 63.63 293 P **P** **09 09 06.1 -2.1**
SNR=18
VRH Novokhopyorsk 63.70 322 *e*P **P** **09 09 06.3 -1.8**
VRH pmax pmax
comp=Z,80nm,0.5s
FOO Floro 63.76 347 *e*P **P** **09 09 09.5 +1.2**
KSCO Kaye Shedlock' 63.91 59 P **P** **09 09 10.6 +0.7**
baz=319,SNR=5.8
SPMN Marine on St. 63.97 49 P **P** **09 09 10.5 +0.5**
baz=320,SNR=24
HYA Hoyanger 64.02 346 *e*P **P** **09 09 10.6 +0.6**
SKAR Skarslia 64.16 345 *e*P **P** **09 09 11.2 +0.1**
SLIT Slitere, Latvi 64.20 336 *e*P **P** **09 09 11.3 0.0**
SUE Sulen 64.32 347 *e*P **P** **09 09 12.3 +0.3**
BGNE Belgrade 64.36 55 P **P** **09 09 13.2 +0.5**
baz=320
T25A Trinidad 64.38 62 P **P** **09 09 14.3 +1.2**
baz=319,SNR=14
OSL Oslo 64.47 343 *e*P **P** **09 09 13.1 +0.1**
TUC Tucson 64.48 70 P **P** **09 09 14.9 +1.3**
baz=318
VORD Divnogorie 64.78 323 *e*P **P** **09 09 14.3 -0.9**
VORD pmax pmax
comp=Z,70nm,1.3s
ASK Askoy 64.81 346 *e*P **P** **09 09 16.1 +0.9**
BER Bergen 64.89 346 *e*P **P** **09 09 15.8 +0.1**
ANMO Albuquerque 64.92 65*ce*P **P** **09 09 18.0 +1.4**
ANMO pmax pmax
comp=Z,18nm,1.0s
ANMO Albuquerque 64.92 65 P **P** **09 09 18.0 +1.4**
baz=319
KONO Kongsberg 64.93 344*ce*P **P** **09 09 17.3 +1.3**
KONO pmax pmax
comp=Z,37nm,1.7s
KONO Kongsberg 64.93 344 *e*P **P** **09 09 16.5 +0.5**
SURA Surathani 65.09 251 P **P** **09 09 19.0 +1.3**
comp=Z,191nm,1.5s
SURA Surathani 65.09 251 P **P** **09 09 19.0 +1.3**
comp=Z,189nm,1.5s
ODD1 Odda 65.15 346 *e*P **P** **09 09 17.7 +0.1**
IIGN Ignalina 65.20 333 *e*P **P** **09 09 18.1 +0.2**
Y22D IRIS PASSCAL I 65.31 66 P **P** **09 09 20.9 +1.8**
baz=319
NACGM Naroch 65.44 332 *i* P **P** **09 09 19.1 -0.3**
MNK Minsk 65.48 332 *i* P **P** **09 09 19.0 -0.7**
MNK *i* *PP **pP** **09 09 37.4 -0.3**
MNK *i* 09 11 42.7
MNK *i* PPP PPP 09 13 15.9
MNK *i* S **S** **09 17 56.5 -2.3**
MNK *i* *SS **sS** **09 18 28.4 -1.0**
MNK *i* SS **SS** **09 22 06.3 -5.9**
MNK *i* SSS SSS 09 25 08.8
MNK pmax pmax
comp=E,5.0nm,0.9s
MNK pmax pmax
comp=Z,126nm,1.2s
MNK pmax pmax
comp=N,55nm,1.1s
MNK MLR MLR
comp=E,43nm,22.0s
MNK MLR MLR
comp=N,402nm,22.0s
MNK Minsk 65.48 332 *i* P **P** **09 09 19.1 -0.6**
comp=E,5.0nm,0.8s
MNK *i* P **P** **09 09 19.1 -0.6**
comp=N,55nm,1.1s
MNK *i* P **P** **09 09 19.1 -0.6**
comp=Z,126nm,1.2s,baz=210
MNK *i* pP **pP** **09 09 37.5 -0.2**
MNK *i* PP **PP** **09 11 42.8 -1.0**
MNK *i* PPP PPP 09 13 15.9
MNK *i* S **S** **09 17 56.6 -2.2**
MNK *i* sS **sS** **09 18 28.4 -1.0**
MNK *i* SS **SS** **09 22 06.3 -5.9**
MNK *i* SSS SSS 09 25 08.8
MNK *i* LR LR 09 39 08.1
MNK *i* LRM MLR 09 40 47.1
comp=E,43nm,21.7s
MNK *i* LRM MLR 09 40 48.5
comp=N,402nm,21.7s
MNK *i* LRM MLR 09 41 11.5
comp=Z,847nm,32.5s
CBKS Cedar Bluff 65.54 58 P **P** **09 09 20.6 +0.2**
baz=320
SCHQ Schefferville 65.58 28 P **P** **09 09 20.4 +0.1**
comp=Z,32nm,0.8s,baz=343,slow=7.0,SNR=30
SCHQ LR LR 09 41 29.3
comp=Z,116nm,19.1s,baz=296,slow=39
BLS5 Blasjo 65.65 345 *e*P **P** **09 09 21.0 +0.3**
PABE Paberze 65.67 334 *e*P **P** **09 09 21.1 +0.2**
PBUR Paburge 65.73 336 *e*P **P** **09 09 21.6 +0.3**
DGPR DIGLIPUR 65.76 259 *e*P **P** **09 09 21.7 -0.3**
121A Cookes Peak, D 65.99 68 P **P** **09 09 25.3 +1.7**
baz=319,SNR=8.2
KMY Karmoy 66.03 346 *e*P **P** **09 09 23.7 +0.6**
KRAB Krabi 66.10 251 P **P** **09 09 25.4 +1.2**
comp=Z,21µmcomp=Z,3µm,0.8s
KRAB Krabi 66.10 251 P **P** **09 09 25.0 +0.8**
comp=Z,5µmcomp=Z,652nm,0.8s
TRTT Trang 66.14 250 P **P** **09 09 25.7 +1.3**
comp=Z,113nm,1.4s
TRTT Trang 66.14 250 P **P** **09 09 25.8 +1.3**
comp=Z,113nm,1.4s
BORU Boraas 66.26 341 *i* P **P** **09 09 24.0 -0.6**
SCIA State Center 66.34 51 P **P** **09 09 26.0 +0.6**
baz=321,SNR=33
SNART Snartemo 66.57 345 *i* P **P** **09 09 27.2 +0.6**
SNART Snartemo 66.57 345 *e*P **P** **09 09 26.9 +0.3**
ONAU Onsala 66.65 342 *i* P **P** **09 09 27.1 0.0**
PKDT Phuket 66.86 251 P **P** **09 09 30.8 +1.8**
comp=Z,6µmcomp=Z,131nm,1.0s
PKDT Phuket 66.86 251 P **P** **09 09 30.0 +1.0**
FABU Falkenberg 66.86 341 *i* P **P** **09 09 28.7 +0.2**
GEYT Alibeck 66.88 303 P **P** **09 09 28.0 -0.9**
comp=Z,164nm,0.7s,baz=45,slow=0.8,SNR=16
GEYT LR LR 09 41 13.4
comp=Z,584nm,19.1s,baz=45,slow=38
GYA0B ALIBECK ARRAY 66.88 303 P **P** **09 09 28.3 -0.7**
GYA0B IAmb IAmb 09 09 30.6
comp=Z,20nm,0.6s
BLEU Blekinge 66.88 339 *i* P **P** **09 09 28.2 -0.4**
KSU1 Kansas State U 66.88 55 P **P** **09 09 28.3 -0.7**
baz=321,SNR=8.0
JFWS Jewell Farm 66.92 49 P **P** **09 09 28.5 -0.6**
baz=322,SNR=10.0
PBA Port Blair 67.08 258 P P 09 09 30.3 -0.1
DEL Delary 67.13 340 *i* P **P** **09 09 29.9 -0.3**
KAPI Kappang 67.14 224 P **P** **09 09 29.5 -1.2**
comp=Z,16nm,0.6s,baz=18,slow=4.3,SNR=6.4
KAPI Kappang 67.14 224 P **P** **09 09 29.9 -0.8**
SUW Suwalki 67.21 334 *e*P **P** **09 09 29.9 -0.8**
SUW Suwalki 67.21 334 *e*P **P** **09 09 30.2 -0.5**
SUW Suwalki 67.21 334 P **P** **09 09 30.2 -0.5**

SUW pmax pmax
comp=Z,93nm,1.0s
SUW Suwalki 67.21 334 P **P** **09 09 30.2 -0.5**
SUW IAmb IAmb 09 09 32.0
comp=Z,93nm,1.0s
BHPL Bhopal 67.26 279 *e*P **P** **09 09 29.1 -2.5**
AMTX Amarillo 67.52 62 P **P** **09 09 33.9 +0.7**
AMTX IAmb IAmb 09 09 35.2
comp=Z,66nm,1.5s
AMTX Amarillo 67.52 62 P **P** **09 09 33.8 +0.7**
baz=320
MSTX Muleshoe 67.64 63 P **P** **09 09 34.3 +0.4**
MSTX IAmb IAmb 09 09 35.9
comp=Z,50nm,1.0s
MSTX Muleshoe 67.64 63 P **P** **09 09 34.5 +0.5**
baz=320,SNR=29
BJUU Bjuv 67.67 341 *i* P **P** **09 09 34.1 +0.6**
BIGH Upper Bighouse 67.83 351⇑ *e*P **P** **09 09 34.9 +0.4**
BIGH IAmb IAmb 09 09 35.3
comp=Z,98nm,0.9s
GLMI Grayling 67.84 44 P **P** **09 09 34.7 -0.2**
baz=324,SNR=6.0
VIS Vishakhapatnam 67.95 270 *e*P **P** **09 09 35.4 -0.5**
MNTX Cornudas Mount 67.95 66 P **P** **09 09 37.0 +1.2**
baz=320,SNR=55
MLA1 Latheron 67.97 351⇑ *e*P **P** **09 09 35.6 +0.2**
LUNU Lund 68.00 340 *i* P **P** **09 09 36.2 +0.6**
MUD Monsted U'grnd 68.04 343 *i* P **P** **09 09 36.8 +0.9**
MUD *i* P **P** **09 09 37.1 +1.2**
MUD IAmb IAmb 09 09 37.7
comp=Z,27nm,0.7s
COP Copenhagen 68.16 341 *i* P **P** **09 09 37.9 +1.3**
COP IAmb IAmb 09 09 38.7
comp=Z,720nm,0.8s
GOF Gofitskoye 68.17 317⇑ *i*P **P** **09 09 36.5 -0.4**
GOF pmax pmax
comp=Z,161nm,0.6s
CROK Carrier 68.20 58 P **P** **09 09 37.2 0.0**
CROK IAmb IAmb 09 09 38.3
comp=Z,52nm,1.0s
AKASG Malin Array Be 68.40 329 P **P** **09 09 37.4 -0.9**
comp=Z,22nm,0.4s,baz=32,slow=6.7,SNR=59
AKASG LR LR 09 42 37.8
comp=Z,699nm,21.7s,baz=35,slow=38
LEWI Lewis, Hebride 68.44 352⇑ *e*P **P** **09 09 38.6 +0.3**
LEWI IAmb IAmb 09 09 39.1
comp=Z,44nm,0.8s
COEN Coen 68.45 197 P **P** **09 09 39.0 +0.1**
COEN IAmb IAmb 09 09 40.2
comp=Z,36nm,1.0s
L44A Lake County Fo 68.55 48 P **P** **09 09 39.6 +0.3**
L44A Lake County Fo 68.55 48 P **P** **09 09 39.3 -0.1**
baz=324,SNR=7.4
MCD Coleburn Disti 68.67 350 *e*P **P** **09 09 39.9 +0.1**
MDO Dochfour 68.92 351⇑ *e*P **P** **09 09 41.6 +0.2**
KAC Achnashellach 68.94 351⇑ *e*P **P** **09 09 41.6 +0.1**
RGN Rugen 69.04 340 *e*P **P** **09 09 43.7 +1.5**
RGN Rugen 69.04 340 P **P** **09 09 43.4 +1.2**
RGN Rugen 69.04 340 *e*P **P** **09 09 43.4 +1.2**
comp=Z,211nm,0.8s,baz=20,slow=6.0
KPL Plockton 69.13 352 *e*P **P** **09 09 42.8 +0.1**
KPL IAmb IAmb 09 09 43.8
comp=Z,50nm,0.9s
WMOK Wichita Mounta 69.16 60 P **P** **09 09 43.8 +0.6**
baz=321,SNR=39
KIV Kislovodsk 69.22 317 P **P** **09 09 43.6 0.0**
KIV Kislovodsk 69.22 317 *e*P **P** **09 09 43.8 +0.2**
KIV pmax pmax
comp=Z,36nm,0.9s
KIV MLR MLR
comp=Z,370nm,17.0s
KIV Kislovodsk 69.22 317 P **P** **09 09 44.5 +0.9**
HDIL Hopedale 69.23 50 P **P** **09 09 43.6 +0.1**
baz=323,SNR=28
OK025 Westminster Rd 69.25 58 P **P** **09 09 44.0 +0.2**
OK025 IAmb IAmb 09 09 45.3
comp=Z,46nm,0.8s
DRUM Mains of Drumt 69.25 350⇑ *e*P **P** **09 09 43.5 +0.1**
DRUM IAmb IAmb 09 09 44.9
comp=Z,42nm,0.7s
KBZ Khabaz 69.32 316 P **P** **09 09 44.0 0.0**
comp=Z,52nm,0.8s,baz=61,slow=1.5,SNR=75
KBZ LR LR 09 45 15.3
comp=Z,564nm,19.2s,baz=20,slow=40
SHA1 Shidzhatmaz 69.41 316 *i* P **P** **09 09 44.8 -0.2**
ZEI Tsey 69.67 315 *e*P **P** **09 09 45.0 -1.5**
ZEI pmax pmax
comp=Z,9.0nm,0.9s
SOEI Soe 69.69 218 P **P** **09 09 46.0 -0.7**
SOEI IAmb IAmb 09 10 09.9
comp=Z,85nm,1.0s
X34A Smith Ranch, M 69.75 59 P **P** **09 09 47.3 +0.4**
X34A IAmb IAmb 09 10 03.7
comp=Z,69nm,1.4s
TUL1 Leonard 69.77 57 P **P** **09 09 47.2 +0.2**
baz=322,SNR=22
LNIZ Loecknitz 69.84 339 *e*P **P** **09 09 47.9 +0.8**
comp=Z,84nm,0.7s,baz=20,slow=6.0
INVG Invergeldie, C 69.89 351⇑ *e*P **P** **09 09 47.4 0.0**
INVG IAmb IAmb 09 09 48.1
comp=Z,41nm,0.7s
EAB Aberfoyle 70.15 351⇑ *e*P **P** **09 09 49.0 0.0**
BSEG Bad Segeberg 70.22 341 *e*P **P** **09 09 50.4 +1.0**
comp=Z,50nm,0.8s,baz=20,slow=6.0
ESY Stoneypath 70.24 350⇑ *e*P **P** **09 09 49.7 +0.1**
AAM Ann Arbor 70.30 45 P **P** **09 09 50.5 +0.3**
baz=325,SNR=12
CCM Cathedral Cave 70.31 52 P **P** **09 09 50.3 0.0**
baz=323
SLM Saint Louis 70.32 51 P **P** **09 09 50.5 +0.2**
SLM pmax pmax
comp=Z,133nm,0.8s
SLM Saint Louis 70.32 51 P **P** **09 09 50.5 +0.2**
BATI Baumata 70.32 218 P **P** **09 09 50.8 +0.2**
comp=Z,54nm,0.5s,baz=322,slow=3.8,SNR=8.4
ABTX Abilene, Hawle 70.34 62 P **P** **09 09 51.1 +0.5**
baz=321,SNR=21
SFIN Lafayette 70.36 48 P **P** **09 09 50.9 +0.3**
SFIN IAmb IAmb 09 09 51.4
comp=Z,40nm,0.7s
SFIN Lafayette 70.36 48 P **P** **09 09 50.2 -0.3**
baz=324,SNR=18
EBL Broad Law 70.43 350⇑ *e*P **P** **09 09 50.7 0.0**
PGBU Glenifferbraes 70.54 351⇑ *e*P **P** **09 09 51.8 +0.5**
PGBU IAmb IAmb 09 09 52.6
comp=Z,196nm,1.0s
ANN Anapa 70.61 320 *e*P **P** **09 09 49.4 -2.5**
ANN pmax pmax
comp=Z,40nm,1.2s
ANN MLR MLR
comp=Z,590nm,20.0s
PSI Prapat 70.70 248 LR LR 09 42 34.1
comp=Z,148nm,20.4s,baz=90,slow=37
TX31 Lajitas Ar. Si 70.71 67 P **P** **09 09 54.0 +1.0**
TXAR Lajitas Array 70.71 67 P **P** **09 09 54.4 +1.4**
comp=Z,27nm,0.7s,baz=299,slow=4.6,SNR=346
TXAR Lajitas Array 70.71 67 P **P** **09 09 54.0 +1.0**
TXAR Lajitas Array 70.71 67 P **P** **09 09 54.0 +1.0**
SOC Sochi 70.73 318 *e*P **P** **09 09 51.6 -1.1**
SOC *e* 09 12 27.6
SOC *e*PPP PPP 09 14 11.0
SOC *e*S **S** **09 19 00.9 -0.8**
SOC *e*SS **SS** **09 23 37.6 +3.9**
SOC pmax pmax
comp=Z,20nm,0.4s
SOC MLR MLR
comp=Z,342nm,18.0s
LVV L'vov 70.74 331 *e*P **P** **09 09 52.2 -0.5**
U40A Yellville 70.88 55 P **P** **09 09 53.6 -0.2**
baz=323,SNR=35
RUE Ruedersdorf 70.88 339 *e*P **P** **09 09 54.4 +1.0**
RUE Ruedersdorf 70.88 339 *e*P **P** **09 09 54.2 +0.8**
comp=Z,130nm,0.9s,baz=20,slow=6.0
ESK Eskdalemuir 70.89 350⇑ *e*P **P** **09 09 53.9 +0.3**
ESK IAmb IAmb 09 09 54.2
comp=Z,51nm,0.8s
ESK Eskdalemuir 70.89 350 P **P** **09 09 53.4 -0.1**
ESK pmax pmax
comp=Z,58nm,0.9s
ESK Eskdalemuir 70.89 350 P **P** **09 09 53.4 -0.1**
ESK IAmb IAmb 09 09 54.8
comp=Z,58nm,0.9s
SORM Soroca 70.92 328⇑ P **P** **09 09 53.0 -0.8**
P46A Rosedale 70.93 49 P **P** **09 09 53.7 -0.3**
AKH Akhalkalaki 70.97 315⇑ P **P** **09 09 54.8 +0.4**

NEWG New Galloway 71.20 350⇑ eP P 09 09 55.5 +0.2
NEWG IAmb IAmb 09 09 56.2
comp=Z,36nm,0.9s
KWP Kalwaria Pacla 71.28 332 P P 09 09 56.2 +0.2
KWP Kalwaria Pacla 71.28 332 P P 09 09 56.2 +0.2
W39A Magazine 71.34 56 P P 09 09 56.8 +0.2
baz=323,SNR=14
CLGH Cloghs, Cushen 71.41 352⇑ eP P 09 09 56.9 +0.3
CLGH IAmb IAmb 09 09 57.8
comp=Z,112nm,1.0s
GNI Garni 71.46 313 P P 09 09 57.4 0.0
GNI Garni 71.46 313 *i* P P 09 09 58.1 +0.7
GNI pmax pmax
comp=Z,41nm,1.0s
GNI Garni 71.46 313 P P 09 09 57.6 +0.2
GNI IAmb IAmb 09 10 05.2
comp=Z,33nm,0.9s
GNI Garni 71.46 313 P P 09 09 58.8 +1.4
GAL1 Galloway 71.49 351⇑ eP P 09 09 57.2 +0.1
GAL1 IAmb IAmb 09 09 57.6
comp=Z,40nm,0.8s
OJC Ojcow 71.54 334 eP P 09 09 57.8 +0.3
FLTG Flechtingen 71.56 340 eP P 09 09 57.7 +0.2
comp=Z,55nm,0.9s,baz=20,slow=6.0
BATM Batumi 71.57 316 ⇑P P 09 09 57.6 -0.3
KESW Keswick, Cumbr 71.60 350⇑ eP P 09 09 58.3 +0.5
KESW IAmb IAmb 09 09 59.1
comp=Z,160nm,0.9s
NRDL Niedersach Rie 71.63 341 eP P 09 09 58.7 +0.8
comp=Z,35nm,0.9s,baz=20,slow=6.0
PECO Prince Edward 71.63 40 P P 09 09 57.4 -0.7
PECO IAmb IAmb 09 09 58.6
comp=Z,48nm,0.9s
PBMO Poplar Bluff 71.72 53 P P 09 09 59.2 +0.4
PBMO IAmb IAmb 09 10 00.2
comp=Z,72nm,0.8s
BCA Borcka 71.73 316 ⇑P P 09 09 58.4 -0.4
KSP Ksiaz 71.84 337 eP P 09 09 59.6 +0.4
ASSE Asse, Remlinge 71.86 341 eP P 09 09 59.9 +0.6
comp=Z,24nm,0.8s,baz=20,slow=6.0
STHS Stebnicka Huta 71.88 333 eP P 09 09 59.9 +0.3
STHS Stebnicka Huta 71.88 333 eP P 09 09 59.9 +0.3
JCT Junction City 71.93 63 P P 09 10 00.7 +0.5
baz=322,SNR=20
LONY Lake Ozonia 71.95 38 P P 09 09 59.2 -0.9
baz=329,SNR=11
MIAR Mount Ida 71.96 56 P P 09 10 00.2 -0.1
MIAR pmax pmax
comp=Z,40nm,0.8s
MIAR Mount Ida 71.96 56 P P 09 10 00.2 -0.1
MIAR IAmb IAmb 09 10 01.9
comp=Z,40nm,0.8s
MIAR Mount Ida 71.96 56 P P 09 10 00.4 +0.1
baz=323,SNR=25
ERPA Erie 71.97 43 P P 09 10 00.2 0.0
ERPA IAmb IAmb 09 10 01.4
comp=Z,96nm,0.9s
ERPA Erie 71.97 43 P P 09 10 00.2 0.0
baz=327,SNR=5.2
N51A Ashland 71.98 45 P P 09 10 00.4 +0.1
WHTX Lake Whitney, 71.99 61 P P 09 10 01.0 +0.5
baz=322,SNR=6.6
KOLS Kolonicke sedl 72.03 332 eP P 09 10 00.8 +0.3
KOLS pmax pmax
comp=Z,54nm,1.0s
KOLS Kolonicke sedl 72.03 332 eP P 09 10 00.8 +0.3
HPK Haverah Park 72.05 349 eP P 09 10 00.9 +0.4
IOMK Kirk Michael 72.08 350⇑ eP P 09 10 00.8 +0.1
IOMK IAmb IAmb 09 10 01.5
comp=Z,152nm,1.0s
P49A Miami Univ. Ec 72.11 47 P P 09 10 00.8 -0.3
P49A IAmb IAmb 09 10 02.0
comp=Z,100nm,0.9s
P49A Miami Univ. Ec 72.11 47 P P 09 10 00.7 -0.4
baz=325,SNR=24
W41B Gary Mavity, V 72.12 55 P P 09 10 01.2 -0.1
baz=323,SNR=45
OSTC Ostas 72.12 337 eP P 09 10 00.8 -0.2
OSTC AMS AMS 09 40 00.0
comp=Z,800nm,33.7s
CHVC Chvalec 72.13 337 eP P 09 10 01.2 +0.1
CHVC AMS AMS 09 39 50.0
comp=Z,700nm,30.4s
PARMO Parma 72.13 52 P P 09 10 01.9 +0.7
NIE Niedzica 72.14 334 eP P 09 10 03.4 +2.2
CLL Collm 72.15 339⇑ *i*P P 09 10 01.2 +0.1
comp=Z,93nm,0.9s
CLL *i* pP **PcP 09 10 18.8 -0.3**
CLL *e*S **S 09 19 18.0 +0.2**
CLL *e*SS SS 09 24 30.0 +35
CLL Collm 72.15 339⇑ *i*P P 09 10 01.2 +0.1
CLL *i* *PP **PcP 09 10 18.8 -0.3**
CLL pmax pmax
comp=Z,93nm,0.9s
CLL Collm 72.15 339 eP P 09 10 01.3 +0.1
comp=Z,93nm,0.9s,baz=20,slow=6.0
CLZ Clausthal 72.19 341 eP P 09 10 02.5 +1.0
comp=Z,114nm,1.4s,baz=20,slow=6.0
WIM Isle of Man 72.20 351⇑ eP P 09 10 01.4 0.0
UPC Upice 72.22 337 eP P 09 10 01.6 0.0
UPC Upice 72.22 337 eP P 09 10 01.6 0.0
UPC AMS AMS 09 40 00.0
comp=Z,700nm,29.9s
HENM Henderson Moun 72.22 52 P P 09 10 02.5 +0.7
GMM Mts of Mourne 72.23 351 eP P 09 10 01.6 0.0
IBBN Ibbenburen 72.25 342 eP P 09 10 02.5 +0.8
comp=Z,59nm,0.8s,baz=20,slow=6.0
M53A WI Miller and 72.26 43 P P 09 10 02.0 0.0
baz=327,SNR=30
DPC Dobruska-Polom 72.29 336 eP P 09 10 02.4 +0.3
DPC Dobruska-Polom 72.29 336 eP P 09 10 02.4 +0.3
DPC AMS AMS 09 40 00.0
comp=Z,700nm,34.7s
CRVS Cervenica-Dubn 72.29 333 eP P 09 10 02.8 +0.7
CRVS pmax pmax
comp=Z,44nm,1.0s
CRVS Cervenica-Dubn 72.29 333 eP P 09 10 02.8 +0.7
ACSO Alum Creek Sta 72.29 46 P P 09 10 02.1 0.0
ACSO IAmb IAmb 09 10 03.4
comp=Z,83nm,0.9s
ACSO Alum Creek Sta 72.29 46 P P 09 10 02.2 0.0
baz=326,SNR=19
UZH Uzhgorod 72.30 332 eP P 09 10 02.5 +0.4
UZH *e* 09 10 14.2
OKC Ostrava-Krasne 72.31 335 eP P 09 10 03.3 +1.2
OKC MLR MLR
comp=Z,300nm,18.4s
OKC Ostrava-Krasne 72.31 335 eP P 09 10 03.3 +1.2
OKC AMS AMS 09 45 50.0
comp=Z,300nm,18.4s
BRG Berggiesshubel 72.35 338 eP P 09 10 02.5 +0.2
comp=Z,34nm,1.1s,baz=20,slow=6.0
BRG Berggiesshubel 72.35 338 eP P 09 10 02.5 +0.2
BRG Amp 09 10 05.6
comp=Z,34nm,1.1s
BRG Berggiesshubel 72.35 338 P P 09 10 12.7 +10
BRG Amp 09 10 13.5
comp=Z,18nm,0.8s
BURAR Bucovina Array 72.36 330 ⇓P P 09 10 02.9 +0.2
BURAR Bucovina Array 72.36 330 P P 09 10 02.5 -0.1
X40A Basin Creek Fa 72.38 56 P P 09 10 03.1 +0.3
baz=323,SNR=10
KRLC Kraliky 72.43 336 eP P 09 10 03.0 +0.1
KRLC MLR MLR
comp=Z,400nm,26.0s
KRLC Kraliky 72.43 336 eP P 09 10 03.0 +0.1
KRLC *ex* x 09 10 13.0
KRLC AMS AMS 09 40 30.0
comp=Z,400nm,26.0s
FBE Freiberg 72.44 338 eP P 09 10 03.4 +0.5
comp=Z,57nm,1.1s,baz=20,slow=6.0
WCI Wyandotte Cave 72.47 49 P P 09 10 03.4 +0.1
baz=325
NEUB Neuenburg 72.51 340 eP P 09 10 03.8 +0.5
comp=Z,44nm,0.8s,baz=20,slow=6.0
MORC Moravsky Berou 72.52 335 ⇑P P 09 10 04.4 +0.9
MORC Moravsky Berou 72.52 335 P P 09 10 03.2 -0.2
MORC pmax pmax
comp=Z,55nm,0.9s
MORC Moravsky Berou 72.52 335 P P 09 10 03.2 -0.2
MORC IAmb IAmb 09 10 05.8
comp=Z,55nm,0.8s
MORC Moravsky Berou 72.52 335 eP P 09 10 03.7 +0.3
PVCC Panska Ves 72.53 338 AMS AMS 09 40 20.0
comp=Z,700nm,33.5s

GTTG Gottingen 72.56 341 eP P 09 10 04.6 +1.0
comp=Z,33nm,0.9s,baz=20,slow=6.0
LANS Liptovska Anna 72.60 334 eP P 09 10 05.5 +1.6
LANS pmax pmax
comp=Z,60nm,0.7s
LANS Liptovska Anna 72.60 334 eP P 09 10 05.5 +1.6
LBWR Ladybower, Pea 72.61 349⇑ eP P 09 10 04.2 +0.3
LBWR IAmb IAmb 09 10 04.9
comp=Z,100nm,0.9s
M54A Oil Creek Stat 72.62 43 P P 09 10 04.2 +0.1
baz=327,SNR=17
TRPA Tarpa 72.69 332 ⇑P P 09 10 05.2 +0.9
TRPA Tarpa 72.69 332 eP P 09 10 05.0 +0.7
BIZ Bicaz 72.69 329 ⇓P P 09 10 04.7 +0.2
LNXT Lenox 72.71 53 P P 09 10 05.7 +0.9
435B Jarrell 72.87 62 P P 09 10 06.0 +0.2
baz=322
P51A Williamsport 72.88 46 P P 09 10 05.0 -0.7
P51A IAmb IAmb 09 10 06.5
comp=Z,49nm,0.8s
TESR Tescani 72.90 328 ⇑P P 09 10 05.5 -0.2
WME Mynydd Eilian 72.90 350 eP P 09 10 05.2 -0.3
KECS Kecovo 72.94 333 eP P 09 10 06.4 +0.5
KECS pmax pmax
comp=Z,19nm,0.7s
KECS Kecovo 72.94 333 eP P 09 10 06.4 +0.5
N54A Moraine State 72.94 43 P P 09 10 06.1 +0.1
N54A IAmb IAmb 09 10 07.3
comp=Z,55nm,0.8s
N54A Moraine State 72.94 43 P P 09 10 06.0 -0.1
baz=327
PRA Prague 72.99 338 eP P 09 10 06.8 +0.6
PRA Prague 72.99 338 eP P 09 10 06.8 +0.6
PRA AMS AMS 09 40 00.0
comp=Z,1µm,39.5s
POO Poona 73.00 278 eP P 09 10 03.0 -3.8
WLF1 Llynfaes 73.02 350 eP P 09 10 05.4 -0.8
WLF1 IAmb IAmb 09 10 07.0
comp=Z,79nm,1.0s
O53A New Philadelph 73.03 44 P P 09 10 06.5 -0.1
baz=327,SNR=23
PRU Pruhonice 73.04 337 eP P 09 10 07.0 +0.5
PRU MLR MLR
comp=Z,600nm,26.2s
PRU Pruhonice 73.04 337 eP P 09 10 07.0 +0.5
PRU AMS AMS 09 42 10.0
comp=Z,600nm,26.2s
MOX Moxa 73.07 339 eP P 09 10 07.2 +0.5
comp=Z,44nm,0.9s,baz=20,slow=6.0
MOX *e*L L 09 50 32.1
comp=Z,224nm,18.8s
YRC Rhoscolyn 73.07 350 eP P 09 10 06.5 0.0
I60A Shoreham 73.08 37 P P 09 10 06.4 -0.4
baz=330,SNR=6.1
ARCR ARCALIA 73.10 330 ⇑P P 09 10 08.1 +1.3
PLN Plauen 73.11 339 eP P 09 10 07.4 +0.6
comp=Z,43nm,1.1s,baz=20,slow=6.0
TANN Tannenbergstha 73.11 339 eP P 09 10 07.3 +0.4
comp=Z,59nm,1.6s,baz=20,slow=6.0
WERD Werda 73.11 339 eP P 09 10 07.5 +0.6
comp=Z,53nm,1.0s,baz=20,slow=6.0
P52A Corning 73.15 45 P P 09 10 06.9 -0.4
baz=326,SNR=19
BUG Bochum–Univer 73.17 342 eP P 09 10 07.7 +0.6
comp=Z,48nm,1.1s,baz=20,slow=6.0
KASTN Kahler Asten 73.18 342 eP P 09 10 08.1 +0.8
comp=Z,34nm,0.8s,baz=20,slow=6.0
GUNZ Gunzen 73.19 339 eP P 09 10 08.0 +0.6
comp=Z,42nm,0.9s,baz=20,slow=6.0
VRAC Vranov 73.19 336 ⇓P P 09 10 08.6 +1.2
VRAC Vranov 73.19 336 eP P 09 10 07.9 +0.5
LBNH Lisbon 73.23 36 P P 09 10 07.6 -0.1
baz=331,SNR=12
UBBA Unterbreizbach 73.24 341 eP P 09 10 08.1 +0.6
comp=Z,48nm,1.4s,baz=20,slow=6.0
PKME Peaks-Kenny Pk 73.24 34 P P 09 10 08.1 +0.4
baz=332,SNR=6.8
WERN Wernitzgruen 73.25 339 eP P 09 10 08.6 +0.8
comp=Z,64nm,0.9s,baz=20,slow=6.0
FOEL Foel Wylfa 73.28 349⇑ eP P 09 10 08.3 +0.4
FOEL IAmb IAmb 09 10 09.1
comp=Z,90nm,1.0s
JAVC Velka Javorina 73.33 335 eP P 09 10 09.5 +1.2
TLCR 73.37 326 ⇑P P 09 10 08.3 -0.1
VYHS Vyhne 73.37 334 eP P 09 10 08.8 +0.3
VYHS pmax pmax
comp=Z,61nm,1.2s
VYHS Vyhne 73.37 334 eP P 09 10 08.8 +0.3
Z41A Richland Creek 73.37 57 P P 09 10 08.7 0.0
baz=323
LLW Llanuwchllyn 73.37 350 eP P 09 10 08.1 -0.2
O54A Avella 73.44 44 P P 09 10 09.2 +0.2
O54A IAmb IAmb 09 10 10.3
comp=Z,76nm,0.9s
VRI Vrincioaia 73.45 328 ⇑P P 09 10 09.0 +0.1
PBCC Pribram 73.45 338 eP P 09 10 09.1 +0.2
PBCC *ex* x 09 10 17.9
KRUC Moravsky 73.47 336 eP P 09 10 09.4 +0.4
TREC Trest 73.47 337 eP P 09 10 09.6 +0.6
TREC Trest 73.47 337 eP P 09 10 09.6 +0.6
TREC AMS AMS 09 41 00.0
comp=Z,700nm,33.7s
WVT Waverly 73.47 51 P P 09 10 09.3 +0.1
WVT pmax pmax
comp=Z,69nm,0.8s
WVT Waverly 73.47 51 P P 09 10 09.3 +0.1
WVT IAmb IAmb 09 10 10.9
comp=Z,69nm,0.8s
WVT Waverly 73.47 51 P P 09 10 09.6 +0.4
baz=325
BINY Binghamton 73.49 40 P P 09 10 08.8 -0.5
baz=329
OZUR 73.54 329 ⇓P P 09 10 10.4 +0.8
MANZ Manzenberg 73.59 339 eP P 09 10 10.2 +0.5
comp=Z,38nm,1.2s,baz=20,slow=6.0
CFR Carcaliu 73.60 327 ⇑P P 09 10 09.7 -0.1
HLM1 Long Mynd 73.61 349⇑ eP P 09 10 10.1 +0.3
PSZ Piszkesteto 73.62 333 eP P 09 10 11.0 +1.1
PSZ Piszkesteto 73.62 333 P P 09 10 10.5 +0.5
PSZ pmax pmax
comp=Z,36nm,0.8s
PSZ Piszkesteto 73.62 333 P P 09 10 10.5 +0.5
PSZ IAmb IAmb 09 10 12.5
comp=Z,36nm,0.8s
CBBR Cluj-Babes-Bol 73.62 330 ⇑P P 09 10 10.8 +0.9
NATX Nacogdoches 73.62 59 P P 09 10 10.8 +0.7
baz=323,SNR=6.9
COVR Voineasa-Covas 73.63 328 ⇑P P 09 10 10.7 +0.6
CJR Cluj-Napoca 73.66 330 ⇓P P 09 10 10.6 +0.4
SMOL Smolenice 73.72 335 eP P 09 10 11.9 +1.4
SMOL pmax pmax
comp=Z,26nm,0.8s
SMOL Smolenice 73.72 335 eP P 09 10 11.9 +1.4
JURR Jurilovca 73.72 326 ⇑P P 09 10 10.7 +0.2
BISRR Bisoca 73.74 328 ⇓P P 09 10 11.5 +0.8
I62A Tamworth 73.76 36 P P 09 10 11.0 +0.2
baz=331,SNR=8.2
ROTZ Rotzenmuhle 73.78 339 eP P 09 10 11.6 +0.8
comp=Z,40nm,0.9s,baz=20,slow=6.0
DOPR Dopca 73.78 329 ⇑P P 09 10 11.6 +0.7
J61A Chester 73.78 37 P P 09 10 11.3 +0.3
baz=330,SNR=15
TPGR Topolog 73.79 326 ⇓P P 09 10 11.0 0.0
833A Chaparral WMA, 73.84 64 P P 09 10 12.5 +1.1
baz=322,SNR=10
DRGR 73.85 331 ⇑P P 09 10 11.5 +0.2
I63A Otisfield 73.87 35 P P 09 10 12.1 +0.7
I63A IAmb IAmb 09 10 13.6
comp=Z,86nm,0.9s
I63A Otisfield 73.87 35 P P 09 10 12.1 +0.7
baz=331,SNR=30
MODS Modra-Piesok 73.88 335 eP P 09 10 11.8 +0.3
MODS pmax pmax
comp=Z,49nm,0.9s
MODS Modra-Piesok 73.88 335 eP P 09 10 11.8 +0.3
GURO Guroymak-BITLI 73.96 314 P P 09 10 12.3 +0.1
GURO IAmb IAmb 09 10 29.9
comp=Z,52nm,1.4s
CTA Charters Tower 73.98 193 P P 09 10 12.6 +0.4
comp=Z,24nm,0.7s,baz=8.0,slow=7.6,SNR=34
CTAO Charters Tower 73.98 193 P P 09 10 12.0 -0.2
CTAO pmax pmax
comp=Z,30nm,0.8s
CTAO Charters Tower 73.98 193 P P 09 10 12.0 -0.2
CTAO IAmb IAmb 09 10 13.2
comp=Z,30nm,0.8s
MLR Muntele Rosu 74.03 328 ⇑P P 09 10 13.1 +0.6
OXF Oxford 74.03 53 P P 09 10 13.0 +0.5
baz=324,SNR=19
GRA1 Grafenberg Arr 74.06 339 P P 09 10 12.0 -0.4
GRA1 IAmb IAmb 09 10 15.2
comp=Z,83nm,0.9s
GRF Grafenberg Arr 74.06 339 P P 09 10 12.0 -0.4
GRF pmax pmax
comp=Z,83nm,0.9s
GRF Grafenberg Arr 74.06 339 eP P 09 10 13.6 +1.1
comp=Z,93nm,0.9s,baz=20,slow=6.0
GRF *e*L L 09 43 26.9
comp=Z,182nm,20.4s
GRFO Grafenberg 74.06 339 P P 09 10 11.9 -0.6
GRFO pmax pmax
comp=Z,74nm,0.9s
GRFO Grafenberg 74.06 339 P P 09 10 11.9 -0.6
GRFO IAmb IAmb 09 10 15.1
comp=Z,74nm,0.9s
AHRW Bad Neuenahr-A 74.06 342 eP P 09 10 13.2 +0.8
comp=Z,26nm,0.8s,baz=20,slow=6.0
BEBN Eben Emael 74.07 343 *d*P P 09 10 13.1 +0.7
KHC Kasperske Hory 74.07 338 eP P 09 10 12.9 +0.3
KHC Kasperske Hory 74.07 338 eP P 09 10 12.9 +0.3
KHC *ex* x 09 10 20.0
KHC AMS AMS 09 39 50.0
comp=Z,800nm,32.5s
SSPA Standing Stone 74.07 42 P P 09 10 12.4 -0.3
baz=328
ZST Bratislava 74.09 335 eP P 09 10 13.1 +0.5
ZST pmax pmax
comp=Z,107nm,0.9s
ZST Bratislava 74.09 335 eP P 09 10 13.1 +0.5
MCWV Mont Chateau 74.10 44 P P 09 10 13.1 +0.2
baz=328,SNR=24
HARR Harsova 74.10 327 ⇓P P 09 10 13.1 +0.3
O56A Blue Knob Stat 74.11 43 P P 09 10 12.8 -0.2
baz=328,SNR=28
K61A Williamstown 74.11 38 P P 09 10 12.7 -0.1
baz=330,SNR=12
TNS Taunus Mts 74.11 341 eP P 09 10 13.6 +0.8
comp=Z,85nm,1.6s,baz=20,slow=6.0
TNS *e*L L 09 43 42.1
comp=Z,400nm,18.8s
DIKM Dikmen 74.12 320 ⇑P P 09 10 13.7 +0.7
SRO Srobarova 74.13 334 eP P 09 10 14.2 +1.3
SRO Srobarova 74.13 334 eP P 09 10 14.2 +1.3
MCH1 Michaelchurch 74.14 349⇑ eP P 09 10 12.7 -0.1
MCH1 IAmb IAmb 09 10 13.9
comp=Z,56nm,0.8s
TIRR Tirgusor 74.15 326 ⇑P P 09 10 13.4 +0.4
IWEX Carrickbyrne, 74.15 352 eP P 09 10 13.1 +0.2
IWEX IAmb IAmb 09 10 13.7
comp=Z,44nm,0.8s
ISR Istrita 74.17 328 ⇓P P 09 10 13.8 +0.5
MEM Membach 74.19 343 *d*P P 09 10 13.9 +0.7
comp=Z,92nm,0.7s
BTNL Ternell 74.19 343 *d*P P 09 10 13.4 +0.2
CKRC Cesky Krumlov 74.19 337 eP P 09 10 13.7 +0.4
CLTN Cedars of Leba 74.20 50 P P 09 10 14.0 +0.5
CLTN IAmb IAmb 09 10 15.1
comp=Z,84nm,0.7s
WET Wettzell 74.21 338 eP P 09 10 14.3 +0.9
comp=Z,59nm,0.9s,baz=20,slow=6.0
WET *e*L L 09 46 45.7
comp=Z,210nm,19.8s
BUD Budapest 74.25 334 eP P 09 10 15.5 +1.9
BSTI Sart Tilman 74.29 343 *d*P P 09 10 14.5 +0.7
GEC2 GERESS Array S 74.31 338 P P 09 10 14.2 +0.1
GEC2 GERESS Array S 74.31 338 eP P 09 10 14.5 +0.5
comp=Z,42nm,1.1s,baz=20,slow=6.0
GEC2 *e*L L 09 46 49.1
comp=Z,259nm,19.9s
GERES GERESS Array B 74.31 338 P P 09 10 14.3 +0.3
comp=Z,18nm,0.7s,baz=35,slow=4.9,SNR=95
GERES LR LR 09 46 59.7
comp=Z,217nm,20.8s,baz=36,slow=39
MILB Miltenberg 74.32 341 eP P 09 10 14.8 +0.8
comp=Z,85nm,0.8s,baz=20,slow=6.0
VOIR 74.36 329 ⇑P P 09 10 15.2 +0.8
RSBS Rosebush, Pemb 74.37 350 eP P 09 10 14.0 -0.2
BHOU Houvegnez 74.44 343 *d*P P 09 10 15.4 +0.8
HKT Hockley 74.45 61 P P 09 10 15.4 +0.5
HKT pmax pmax
comp=Z,53nm,1.7s
HKT Hockley 74.45 61 P P 09 10 15.4 +0.5
K62A Royalston 74.49 37 P P 09 10 14.9 -0.2
baz=331,SNR=6.2
BCLA Clavier 74.49 343 *d*P P 09 10 15.4 +0.5
L61B Northampton 74.52 38 P P 09 10 14.9 -0.3
baz=330,SNR=5.2
ARR Arges 74.55 329 ⇑P P 09 10 16.7 +1.2
CSKK Cskako 74.56 334 eP P 09 10 17.2 +1.8
BGES Gesves 74.56 344 *d*P P 09 10 15.8 +0.4
SNF Seneffe 74.58 344 *d*P P 09 10 15.6 +0.2
SIRR Siria 74.63 331 ⇑P P 09 10 16.5 +0.7
CONA Conrad Observa 74.65 336 *i* P P 09 10 17.1 +1.1
comp=Z,27nm,0.8s,SNR=28
ICOR Ion Corvin 74.65 326 ⇓P P 09 10 16.2 +0.3
N59A State Game Lan 74.67 40 P P 09 10 15.8 -0.4
baz=329,SNR=20
BMRD Maredsous 74.70 344 *d*P P 09 10 16.7 +0.5
SOP Sopron 74.70 335 eP P 09 10 18.4 +2.2
EGYH Egyhazaskeszo 74.75 335 eP P 09 10 15.1 -1.4
KSCT Kent School, K 74.85 38 P P 09 10 17.6 +0.5
HRV Adam Dziewonsk 74.87 37 P P 09 10 17.5 +0.2
baz=331
DOU Dourbes 74.93 344 *d*P P 09 10 17.6 +0.2
MPLH Magyarpolny 74.93 334 eP P 09 10 19.3 +1.8
GZR Gura Zlata 75.09 330 ⇓P P 09 10 18.5 -0.1
TZTN Tazewell 75.10 48 P P 09 10 18.8 +0.1
baz=326,SNR=12
SWET Sewanee 75.11 51 P P 09 10 18.8 0.0
MOA Molln 75.11 337 *i* P P 09 10 19.3 +0.8
comp=Z,13nm,0.7s,SNR=8.1
DZM Mont Dzumac 75.22 174 eP P 09 10 21.0 +1.6
comp=Z,177nm,1.3s
DZM Mont Dzumac 75.22 174 eLR LR 09 33 34.1
comp=Z,563nm,26.9s
DZM Mont Dzumac 75.22 174 P P 09 10 21.4 +1.9
comp=Z,47nm,1.1s,baz=41,slow=6.3,SNR=11
BZS Buzias 75.23 331 ⇑P P 09 10 19.5 +0.2
HTL Hartland 75.29 350 eP P 09 10 19.9 +0.4
PAL Palisades 75.31 39 P P 09 10 19.5 -0.3
baz=330,SNR=14
VBMS Vicksburg 75.35 56 P P 09 10 21.0 +0.8
baz=324,SNR=10.0
ARSA Arzberg 75.37 336 *i* P P 09 10 21.2 +1.1
comp=Z,21nm,0.6s,SNR=22
L63A North Scituate 75.42 37 P P 09 10 20.2 -0.2
baz=331,SNR=8.0
CPNY Central Park 75.48 39 P P 09 10 20.6 -0.2
CPNY IAmb IAmb 09 10 21.8
comp=Z,77nm,0.8s
COPA Copaceanca 75.48 328 ⇓P P 09 10 21.4 +0.7
MORH Mrgy, Hungar 75.52 333 eP P 09 10 21.0 +0.1
MORH Mrgy, Hungar 75.52 333⇑ *i*P P 09 10 20.4 -0.5
CPCT Cooper Cave 75.56 49 P P 09 10 21.1 -0.3
CPCT IAmb IAmb 09 10 22.6
comp=Z,54nm,0.8s
RAZG Razgrad 75.57 327 ⇑P P 09 10 21.3 0.0
L64A Middleborough 75.63 37 P P 09 10 22.0 +0.4
baz=332,SNR=20
HERR Herculane 75.67 330 ⇓P P 09 10 21.7 -0.1
P60A Greenville 75.67 41 P P 09 10 21.1 -0.8
baz=330,SNR=5.2
KOVH Kovagotottos 75.78 334 eP P 09 10 22.4 0.0
DYA Yadsworthy 75.78 349⇑ eP P 09 10 22.5 +0.2
DYA IAmb IAmb 09 10 23.4
comp=Z,133nm,0.8s
M64A Tiverton 75.83 37 P P 09 10 22.6 -0.2
baz=331
BLA Blacksburg 75.91 46 P P 09 10 23.6 +0.2
baz=328,SNR=8.6
BFO Black Forest 75.94 341 P P 09 10 23.4 +0.1
BFO pmax pmax
comp=Z,37nm,1.1s
BFO Black Forest 75.94 341 P P 09 10 23.4 +0.1
BFO Black Forest 75.94 341 eP P 09 10 23.9 +0.6
comp=Z,47nm,1.2s,baz=20,slow=6.0
BFO *e*L L 09 43 30.5
comp=Z,306nm,19.9s
SOKA Soboth 76.02 336 *i* P P 09 10 24.9 +1.0
comp=Z,41nm,0.9s,SNR=31

PERS Pernice 76.04 336 *i* P P 09 10 24.7 +0.7
KBA Koelnbreinsper 76.05 337 *i* P P 09 10 25.5 +1.3
comp=Z,176nm,0.7s,SNR=106
WR0 Warramunga Arr 76.13 204 P P 09 10 24.7 +0.2
WR0 IAmb IAmb 09 10 25.8
comp=Z,59nm,1.2s
WRAB Tennant Creek 76.15 205 P P 09 10 25.0 +0.3
WRAB pmax pmax
comp=Z,81nm,1.2s
WRAB Tennant Creek 76.15 205 P P 09 10 25.0 +0.3
WRAB IAmb IAmb 09 10 26.0
comp=Z,81nm,1.2s
WRA Warramunga Arr 76.16 205 P P 09 10 24.8 -0.1
comp=Z,38nm,1.0s,baz=22,slow=5.9,SNR=55
WRA Warramunga Arr 76.16 205 P P 09 10 24.6 -0.1
FRGS Fruska Gora 76.17 332 ⇓*i*P P 09 10 25.1 +0.4
FRGS Fruska Gora 76.17 332 ⇑*i*P P 09 10 24.4 -0.3
KALN Kalnik 76.17 335 *i* P P 09 10 24.9 +0.2
WATA Walderalm 76.21 338 *i* P P 09 10 26.2 +1.1
comp=Z,10nm,0.3s,SNR=14
RETA Reutte 76.24 339 *i* P P 09 10 25.9 +0.7
comp=Z,16nm,0.5s,SNR=9.0
WTTA Wattenberg 76.26 338 *i* P P 09 10 26.6 +1.2
comp=Z,28nm,0.6s,SNR=25
OBKA Obir 76.30 336 *i* P P 09 10 26.1 +0.6
comp=Z,20nm,0.6s,SNR=19
MOTA Moosalm 76.31 339 *i* P P 09 10 26.4 +0.8
comp=Z,32nm,0.6s,SNR=21
CBN Corbin Frederi 76.35 43 P P 09 10 26.0 +0.2
CBN IAmb IAmb 09 10 27.2
comp=Z,74nm,1.1s
CBN Corbin Frederi 76.35 43 P P 09 10 26.0 +0.2
baz=329,SNR=5.7
LRAL Lakeview Retre 76.40 53 P P 09 10 25.7 -0.4
baz=326,SNR=15
SQTA Sankt Quirin 76.40 339 *i* P P 09 10 27.2 +1.1
comp=Z,33nm,0.6s,SNR=20
BR131 Keskin Array S 76.40 320 P P 09 10 26.4 +0.1
SNR=8.1
BRTR Keskin Array B 76.40 320 P P 09 10 26.4 +0.1
comp=Z,10nm,0.7s,baz=54,slow=3.9,SNR=27
BRTR LR LR 09 50 08.2
comp=Z,358nm,19.1s,baz=40,slow=40
BRTR Keskin Array B 76.40 320 *i* P P 09 10 26.1 -0.2
BRTR pmax pmax
comp=Z,10.0nm,0.7s
BRTR Keskin Array B 76.40 320 P P 09 10 26.2 0.0
MYKA Terra Mystica 76.40 337 *i* P P 09 10 26.4 +0.4
comp=Z,7.4nm,0.5s,SNR=13
PTJ Puntijarka 76.51 335 P P 09 10 27.2 +0.6
MOSL Moslavina 76.58 334 *i* P P 09 10 27.0 0.0
Q61A Milford 76.59 41 P P 09 10 27.4 +0.2
baz=330
ANTO Ankara 76.60 321 P P 09 10 27.7 +0.4
ANTO pmax pmax
comp=Z,28nm,0.9s
ANTO Ankara 76.60 321 P P 09 10 27.7 +0.4
DAVA Damuels 76.62 339 *i* P P 09 10 28.6 +1.2
comp=Z,7.1nm,0.4s,SNR=9.8
MDUB Mudurnu 76.67 322 P P 09 10 27.6 -0.1
FETA Feichten 76.69 339 *i* P P 09 10 28.9 +1.2
comp=Z,25nm,0.5s,SNR=24
CRES Cresnjev 76.71 335 ⇑*i*P P 09 10 27.2 -0.5
LJU Ljubljana 76.74 336 ⇑*i*P P 09 10 27.9 0.0
JLP Les Platons 76.74 348 *eP* P 09 10 28.2 +0.5
CADS Cadrg 76.76 337 *i* P P 09 10 27.7 -0.4
JQE Queens East 76.78 348 *eP* P 09 10 28.3 +0.3
JSA Saint Aubin 76.80 348 *eP* P 09 10 28.7 +0.6
JSA IAmb IAmb 09 10 28.9
comp=Z,101nm,0.8s
TEKS Tekeris 76.81 332 ⇑*i*P P 09 10 27.0 -1.3
OZLJ Ozalj 76.91 335 *i* P P 09 10 29.3 +0.6
FITZ Fitzroy Crossi 76.95 213 P P 09 10 29.9 +0.8
comp=Z,36nm,0.6s,baz=15,slow=6.0,SNR=34
BOVS Bovan 77.01 330 ⇑P P 09 10 29.0 -0.4
EDRB Edirne 77.03 326 P P 09 10 29.4 -0.1
CEY Cerknica 77.05 336 ⇑*i*P P 09 10 29.5 -0.1
R61A Willards 77.06 41 P P 09 10 30.2 +0.5
BOJS Bojanci 77.06 335 ⇑*i*P P 09 10 29.9 +0.2
BOJS Bojanci 77.06 335 *i* P P 09 10 29.9 +0.2
Y52A Lilburn 77.09 50 P P 09 10 30.2 +0.1
Y52A IAmb IAmb 09 10 31.5
comp=Z,41nm,0.8s
DIVS Divibare 77.09 332 ⇑*i*P P 09 10 29.6 -0.4
MRAK Mrakovica 77.10 334 ⇑*i*P P 09 10 29.5 -0.5
SHME Shamm 77.23 296 *i* P P 09 10 29.8 -1.0
SNR=9.9
SHME Shamm 77.23 296 P P 09 10 29.9 -1.0
BANOM Banah 77.24 296 *i* P P 09 10 30.1 -0.9
SNR=8.7
BANOM Banah 77.24 296 P P 09 10 31.1 +0.1
KMSC Kings Mountain 77.25 47 P P 09 10 30.8 -0.1
baz=328,SNR=14
BLY Banja Luka 77.27 334 ⇑*i*P P 09 10 30.6 -0.2
SKDS Skadanscina 77.33 336 ⇑*i*P P 09 10 31.0 -0.2
HAPS Han Pijesak,BI 77.40 332 ⇑*i*P P 09 10 31.7 0.0
CTI Castel Tesino 77.41 338 P P 09 10 31.3 -0.5
CTI pmax pmax
comp=Z,111nm,1.2s
CTI Castel Tesino 77.41 338 P P 09 10 31.3 -0.5
CTI IAmb IAmb 09 10 33.2
comp=Z,111nm,1.2s
VTS Vitosha 77.47 329 ⇑P P 09 10 32.5 +0.2
VTS Vitosha 77.47 329 P P 09 10 32.1 -0.1
VTS pmax pmax
comp=Z,44nm,0.7s
VTS Vitosha 77.47 329 P P 09 10 32.1 -0.1
VTS IAmb IAmb 09 10 33.8
comp=Z,44nm,0.7s
BBLS Lazići 77.47 332 ⇑*i*P P 09 10 32.3 +0.2
MGRS Mrkonjic Grad 77.60 334 ⇑*i*P P 09 10 34.0 +1.2
RUDO Rudo 77.71 332 ⇑*i*P P 09 10 33.2 -0.1
PALK Pallekele 77.71 266 P P 09 10 33.3 -0.5
PALK pmax pmax
comp=Z,135nm,0.8s
PALK Pallekele 77.71 266 P P 09 10 33.3 -0.5
PALK Pallekele 77.71 266 P P 09 10 34.0 +0.2
GOGA Godfrey 77.74 50 P P 09 10 33.6 0.0
baz=327,SNR=6.2
MDH Madha 77.74 296 P P 09 10 31.8 -2.0
MDH Madha 77.74 296 P P 09 10 32.7 -1.1
MASF Masafi 77.76 296 P P 09 10 33.0 -1.0
MSFE Esma-Masafi 77.77 296 P P 09 10 32.9 -1.1
W57A Gilead 77.83 46 P P 09 10 34.6 +0.4
W57A IAmb IAmb 09 10 35.3
comp=Z,39nm,0.8s
BRAL Brewton 77.90 54 P P 09 10 35.4 +0.8
baz=326
UMQ Umm Al-Quwin 77.90 296 P P 09 10 33.1 -1.5
PLE Pljevlja 77.97 332 ⇑*i*P P 09 10 35.4 +0.5
BRJN Brijuni 78.00 336 *i* P P 09 10 34.2 -0.6
JSC Jenkinsville 78.01 48 P P 09 10 35.3 +0.2
JSC pmax pmax
comp=Z,32nm,0.8s
JSC Jenkinsville 78.01 48 P P 09 10 35.3 +0.2
JSC IAmb IAmb 09 10 36.2
comp=Z,32nm,0.8s
SENIN Lac Senin/Sane 78.03 341 P P 09 10 35.9 +0.5
SENIN IAmb IAmb 09 10 40.6
comp=Z,26nm,0.8s
NVLJ Novalja 78.04 335 *i* P P 09 10 34.7 -0.4
RDO Rodhopi 78.06 326 P P 09 10 35.4 +0.1
TEOL Teolo 78.06 338 P P 09 10 35.7 +0.5
SALO Salr 78.07 339 P P 09 10 35.4 0.0
UOSS Minazif 78.08 296 *i* P P 09 10 34.4 -1.3
SNR=5.6
UOSS Minazif 78.08 296 P P 09 10 34.7 -1.0
WSAR Wadi Sarin 78.11 293 P P 09 10 35.8 0.0
ALN Alexandroupoli 78.11 326 P P 09 10 34.3 -1.3
ALN Alexandroupoli 78.11 326 P P 09 10 35.1 -0.4
ALN pmax pmax
comp=Z,47nm,0.8s
ALN Alexandroupoli 78.11 326 P P 09 10 35.1 -0.4
ALN IAmb IAmb 09 10 37.0
comp=Z,48nm,0.8s
BIDO Bidbid 78.16 293 P P 09 10 37.8 +1.7
KIJV Kijevo 78.16 334 *i* P P 09 10 35.9 0.0
HATD Hatta, Dubai 78.21 296 *i* P P 09 10 35.3 -1.1
SNR=13
HATD Hatta, Dubai 78.21 296 P P 09 10 35.7 -0.7
SNR=9.1
ENEZ Enez 78.22 326 P P 09 10 35.7 -0.5
UPM Unac-Piva 78.22 332 ⇑*i*P P 09 10 36.4 0.0
UPM Unac-Piva 78.22 332 ⇑*i*P P 09 10 36.0 -0.4

IVA Berane 78.25 331 ⇑*i*P P 09 10 36.4 0.0
NAZ Nazwa, Dubai 78.33 296 P P 09 10 37.1 0.0
SNR=7.5
ASHO Ashiyiah 78.36 296 *i* P P 09 10 36.2 -1.1
SNR=13
ASHO Ashiyiah 78.36 296 P P 09 10 37.7 +0.4
SNR=8.4
KOME Kolasin 78.37 331 ⇑*i*P P 09 10 36.9 -0.2
WBK Wadi Bani Khal 78.42 292 P P 09 10 38.7 +1.1
SNR=5.2
NVR Nevrokopi 78.42 328 P P 09 10 37.0 -0.3
RICI Ricice 78.44 333 *i* P P 09 10 37.1 -0.4
MORI Morici 78.48 334 *i* P P 09 10 37.3 -0.3
PVY Plav 78.48 331 ⇑*i*P P 09 10 37.6 -0.2
DUGI Dugi Otok 78.53 335 *i* P P 09 10 37.2 -0.6
KAVA Kavala 78.53 327 P P 09 10 37.8 -0.1
JLN Jalan Bani Buh 78.53 292 P P 09 10 38.6 +0.4
SOHO SOHO 78.54 295 *i* P P 09 10 36.9 -1.4
SNR=8.9
SOHO SOHO 78.54 295 P P 09 10 37.5 -0.8
HOQ Hoqain 78.56 294 P P 09 10 37.7 -0.6
SNR=7.6
FAQ Al Faqa, Dubai 78.57 296 P P 09 10 37.9 -0.5
SNR=5.9
SMDO Samad 78.57 293 P P 09 10 38.6 +0.1
SNR=7.4
154A Montrose 78.57 50 P P 09 10 39.0 +0.7
154A IAmb IAmb 09 10 39.8
comp=Z,92nm,0.9s
BALB Balikesir 78.60 324 P P 09 10 38.0 -0.3
BALB IAmb IAmb 09 10 40.1
comp=Z,102nm,1.0s
BRY Bratogost 78.61 332 ⇑*i*P P 09 10 37.4 -1.1
BRY Bratogost 78.61 332 ⇑*i*P P 09 10 37.6 -0.9
SKO Skopje 78.61 330 *i* P P 09 10 38.8 +0.5
NKME Niksic 78.61 332 ⇑*i*P P 09 10 37.7 -0.7
X58A Rowland 78.62 46 P P 09 10 38.9 +0.4
X58A IAmb IAmb 09 10 39.9
comp=Z,75nm,0.7s
STIP Stip 78.63 329 *i* P P 09 10 37.6 -0.9
CNNC Cliffs of the 78.66 45 P P 09 10 39.1 +0.4
CNNC IAmb IAmb 09 10 40.3
comp=Z,59nm,0.8s
CNNC Cliffs of the 78.66 45 P P 09 10 38.8 +0.1
baz=329
MAKA Makarska 78.67 333 *i* P P 09 10 38.0 -0.6
ZIRJ Zirje 78.69 334 *i* P P 09 10 38.6 -0.1
UMR Umm Al-Rimmam 78.75 305 *eP* P 09 10 37.9 -1.4
ASUD Al Ashush, Dub 78.80 296 *i* P P 09 10 38.8 -0.9
SNR=14
ASUD Al Ashush, Dub 78.80 296 P P 09 10 39.3 -0.3
SNR=6.7
CEME Cevo 78.83 332 ⇑*i*P P 09 10 38.9 -0.7
TREB Trebinje 78.83 332 ⇑*i*P P 09 10 38.8 -0.7
PDG Podgorica 78.83 331 ⇑P P 09 10 39.7 +0.1
PDG Podgorica 78.83 331 ⇑*i*P P 09 10 39.0 -0.5
PDG Podgorica 78.83 331 P P 09 10 39.0 -0.5
TTG Podgorica 78.83 331 ⇑*i*P P 09 10 39.2 -0.3
VAY Valandovo 78.85 329 *i* P P 09 10 40.6 +0.9
STON Ston 78.87 333 *i* P P 09 10 38.8 -0.9
HVAR Hvar 78.92 334 *i* P P 09 10 39.6 -0.4
PRMA PARMA 78.93 338 P P 09 10 40.0 0.0
EZN Ezine 78.97 325 P P 09 10 40.7 +0.4
PUK Puka 79.01 331 P P 09 10 40.6 0.0
ALNE Al Ain 79.03 295 *i* P P 09 10 40.0 -1.0
SNR=5.3
ALNE Al Ain 79.03 295 P P 09 10 40.5 -0.5
SNR=11
HCY Herceg Novi 79.04 332 ⇑*i*P P 09 10 39.2 -1.5
HCY Herceg Novi 79.04 332 ⇑*i*P P 09 10 40.1 -0.6
BUM Brajici-Budva 79.06 332 ⇑*i*P P 09 10 40.3 -0.6
KBD Kabd 79.07 304 *eP* P 09 10 39.5 -1.6
DRME Dracevica, Mon 79.08 331 ⇑*i*P P 09 10 40.6 -0.3
DRME Dracevica, Mon 79.08 331 ⇑*i*P P 09 10 40.8 -0.1
JMDO Jabal Madar 79.09 293 P P 09 10 41.1 -0.2
SNR=9.6
RST Umm Al-Ruwaisa 79.15 305 *eP* P 09 10 39.7 -1.8
PHP Peshkopia 79.17 330 P P 09 10 40.5 -1.0
ARQ Araqi 79.19 294 P P 09 10 41.4 -0.4
SNR=7.0
GRG Griva 79.24 329 P P 09 10 41.8 0.0
ULC Ulcinj 79.27 331 ⇑*i*P P 09 10 41.9 -0.1
BSY Bisya 79.29 294 P P 09 10 42.2 -0.2
SNR=8.3
LIA Limnos Island 79.29 326 P P 09 10 41.8 -0.3
OUR Ouranopolis 79.30 327 P P 09 10 41.0 -1.1
QRN Al-Qurain 79.32 304 *eP* P 09 10 41.0 -1.4
KULA Kula-Manisa 79.32 323 P P 09 10 41.9 -0.5
TIGA Tifton 79.33 51 P P 09 10 43.2 +0.8
baz=327,SNR=8.5
HORT Hortiatis 79.34 328 P P 09 10 41.2 -1.3
RDF Al-Radifah 79.35 304 *eP* P 09 10 41.2 -1.3
PLG Polygyros 79.44 328 P P 09 10 42.3 -0.6
NHSC New Hope 79.48 48 P P 09 10 43.9 +0.7
baz=328
PRK Paraskevi 79.51 325 P P 09 10 44.1 +0.8
OHR Ohrid 79.59 330 *i* P P 09 10 43.9 +0.1
TIR Tirana 79.65 331 ⇓P P 09 10 44.4 +0.4
FNA Florina 79.71 329 P P 09 10 43.9 -0.6
PAIG Paliouri 79.76 327 P P 09 10 43.7 -0.9
AS31 Alice Springs 79.84 204 P P 09 10 45.2 +0.1
ASAR Alice Springs 79.84 204 P P 09 10 46.3 +1.2
comp=Z,21nm,0.7s,baz=16,slow=5.0,SNR=87
ASAR PKKPbc **PKKPbc** 09 29 31.1 +1.1
comp=Z,0.9nm,0.8s,baz=201,slow=1.5,SNR=8.9
ASAR LR LR 09 45 05.1
comp=Z,40nm,21.8s,baz=12,slow=35
ASAR Alice Springs 79.84 204 P P 09 10 45.0 -0.1
ASAR Alice Springs 79.84 204 P P 09 10 45.0 -0.1
JRN Qannain Island 79.88 298 P P 09 10 44.9 -0.6
SNR=6.4
KZN Kozani 80.03 329 P P 09 10 45.2 -1.0
NRCA Norcia 80.10 336 P P 09 10 47.0 +0.5
SHMA Al-Shehemyia 80.12 300 P P 09 10 46.1 -0.7
NEST Nestorio 80.15 329 P P 09 10 46.5 -0.4
SAKB Bahrain 80.25 300 P P 09 10 47.2 -0.3
MHTO MHTO 80.27 292 P P 09 10 47.6 0.0
SNR=17
UMZA Um Al Zommool 80.43 295 P P 09 10 48.6 +0.2
KPRO Kipourio 80.47 329 P P 09 10 47.5 -1.1
NEO Neokhori 80.47 327 P P 09 10 47.3 -1.2
AQU L'Aquila 80.48 335 P P 09 10 49.2 +0.6
AQU pmax pmax
comp=Z,87nm,0.8s
AQU L'Aquila 80.48 335 ⇑*i*P P 09 10 49.4 +0.8
AQU L'Aquila 80.48 335 P P 09 10 49.2 +0.6
AQU IAmb IAmb 09 10 51.8
comp=Z,87nm,0.8s
VLO Vlora 80.57 330 P P 09 10 48.8 -0.1
VLO pmax pmax
comp=Z,113nm,0.8s
VLO Vlora 80.57 330 P P 09 10 48.8 -0.1
THL Klokotos Trika 80.63 328 P P 09 10 48.0 -1.3
GHWR Ruwais 80.65 298 P P 09 10 48.2 -1.4
CSS Mathiatis 80.66 318 P P 09 10 49.5 0.0
CSS IAmb IAmb 09 10 50.6
comp=Z,56nm,0.8s
YER Yerkesik 80.68 323 P P 09 10 49.8 +0.1
KYMI Kymi, Euboea I 80.80 326 P P 09 10 49.3 -0.9
FETY Fethiye 80.83 322 P P 09 10 49.7 -0.8
JAN Janina 80.91 329 P P 09 10 51.2 +0.4
TRNA Turayna 80.91 299 P P 09 10 50.2 -0.8
SRN Sarande 80.96 330 P P 09 10 50.7 -0.4
AGG Agios Georgios 81.02 328 P P 09 10 50.3 -1.2
MZR Muzera 81.11 297 *i* P P 09 10 51.0 -1.1
SNR=40
MZR Muzera 81.11 297 P P 09 10 51.4 -0.7
SNR=16
LKR Lokris 81.14 327 P P 09 10 50.2 -1.9
KEK Kerkira 81.17 330 P P 09 10 51.6 -0.6
IGT Igoumenitsa 81.18 329 P P 09 10 51.8 -0.5
SLWR Sila 81.20 298 P P 09 10 52.0 -0.6
SCTE Santa Cesarea 81.24 331 P P 09 10 52.4 -0.1
EVR Evrytania 81.28 328 P P 09 10 52.0 -0.9
DAT Datca 81.30 323 P P 09 10 51.5 -1.6
DQM DQM 81.35 292 P P 09 10 52.8 -0.6
PMOR Pomariorio Ree 81.39 129 *eT* T 10 40 08.8
comp=Z,7.1nm,0.2s
PTL Penteli 81.40 326 P P 09 10 51.6 -1.9
PAOL Paolisi 81.42 334 P P 09 10 53.7 +0.1
PAOL IAmb IAmb 09 10 54.9
comp=Z,40nm,0.9s
VILL Villia 81.48 327 P P 09 10 52.4 -1.5

ATHU Athens Univers 81.50 326 P P 09 10 52.4 -1.6
ANX Ano Chora 81.54 328 P P 09 10 53.5 -0.8
ARG Arkhangelos 81.56 322 P P 09 10 52.9 -1.4
SERG Sergoula 81.66 328 P P 09 10 52.4 -2.5
TRIZ Trizonia 81.70 328 P P 09 10 53.5 -1.5
LTK Loutraki 81.72 327 P P 09 10 53.0 -2.2
TSLK Tsoukalades, L 81.73 329 P P 09 10 54.8 -0.4
LOUT Loutraki 81.75 327 P P 09 10 54.1 -1.2
LKD2 Lefkada island 81.76 329 P P 09 10 54.7 -0.7
NYDR Nydri-Lefkada 81.82 329 P P 09 10 55.4 -0.2
LAKA Lakka 81.85 328 P P 09 10 55.2 -0.6
DRAG Dragano-Lefkad 81.88 329 P P 09 10 55.6 -0.4
EVGI Lefkada island 81.92 329 P P 09 10 55.3 -0.9
KLV Kalavryta, Ach 81.97 328 P P 09 10 54.8 -1.7
RAR Rarotonga 81.98 142 P P 09 10 57.6 +1.2
comp=Z,27nm,0.6s,baz=106,slow=2.3,SNR=3.7
PSA00 Pilbara Seismi 82.17 217 P P 09 10 57.8 +0.3
PSA00 IAmb IAmb 09 10 58.5
comp=Z,34nm,0.9s
RLS Riolos of Patr 82.18 328 P P 09 10 57.1 -0.4
DRO Drossia 82.19 328 P P 09 10 57.5 -0.2
VLS Valsamata 82.34 329 P P 09 10 57.8 -0.6
PSDA Pessada-Kefalo 82.40 329 P P 09 10 57.9 -0.8
KARP Karpathos 82.50 323 P P 09 10 57.9 -1.4
KARP Karpathos 82.50 323 P P 09 10 58.5 -0.9
TIP Timpagrande 82.56 332 ⇑P P 09 11 00.3 +0.7
ITM Ithomi 82.83 327 P P 09 10 59.7 -1.3
ITM Ithomi 82.83 327 P P 09 11 00.2 -0.8
PPT Papeete 82.87 132 LR LR 09 38 43.9
comp=Z,238nm,21.1s,baz=315,slow=29
PPT2 Papeete2 82.89 132 *e*LR LR 09 37 05.3
comp=Z,692nm,24.5s
VLI Veliai 82.92 326 P P 09 10 59.0 -2.4
DWPF Disney Wildern 83.13 51 P P 09 11 03.8 +1.2
baz=328
ZKR Zakros 83.23 323 P P 09 11 01.9 -1.2
IDI Anoyia 83.55 324 P P 09 11 02.7 -2.1
IMMV Iera Moni Meta 83.71 325 P P 09 11 05.1 -0.4
SIVA Sivas 83.82 324 P P 09 11 06.0 0.0
KNDR Palaiochora Ch 84.01 325 P P 09 11 05.9 -1.1
VSL Villasalto 84.16 337 P P 09 11 07.6 -0.2
DOK Doka 84.30 293 P P 09 11 07.8 -0.9
DMTO DMTO 84.58 292 P P 09 11 08.8 -1.3
PGAV Gavieira, Arco 84.61 351 *eP* P 09 11 11.1 +1.0
comp=Z,197nm,1.3s
PBRG Braganca 84.61 350 *eP* P 09 11 11.0 +1.0
comp=Z,119nm,1.4s
CORL Corleone 84.70 334 P P 09 11 10.6 0.0
CORL IAmb IAmb 09 11 14.6
comp=Z,49nm,0.7s
PCAB Cabril 84.84 351 *eP* P 09 11 12.3 +1.2
comp=Z,123nm,1.2s
WHFO Wadi Hawf 85.06 293 P P 09 11 11.4 -1.2
POLO Lamas de Olo 85.15 351 *eP* P 09 11 13.8 +1.0
comp=Z,87nm,1.1s
RBK Rabkut 85.16 293 P P 09 11 11.6 -1.5
PVRL Vila Real 85.24 351 *eP* P 09 11 14.8 +1.6
comp=Z,240nm,1.0s
MVO Moncorvo 85.28 350 *eP* P 09 11 14.7 +1.3
comp=Z,184nm,1.2s
CMIG Matias Romero 85.29 68 P P 09 11 15.1 +1.4
comp=Z,25nm,0.9s,baz=337,slow=3.3,SNR=34
ABTO Aybut 85.78 293 P P 09 11 15.4 -0.8
PVIS Viseu 85.81 351 *eP* P 09 11 17.1 +1.1
comp=Z,120nm,1.5s
MTE Manteigas 86.09 350 *eP* P 09 11 18.5 +1.1
comp=Z,83nm,0.9s
STKA Stephens Creek 86.25 195 P P 09 11 18.3 +0.4
comp=Z,13nm,0.8s,baz=344,slow=7.2,SNR=18
STKA LR LR 09 47 12.4
comp=Z,118nm,21.9s,baz=15,slow=34
COI Coimbra 86.36 351 *eP* P 09 11 19.9 +1.2
comp=Z,138nm,1.8s
ESBB Sonseca Array 86.39 348 P P 09 11 19.4 +0.5
ESDC Sonseca Array 86.39 348 P P 09 11 19.4 +0.5
comp=Z,97nm,0.9s,baz=1.7,slow=4.9,SNR=230
PCAS Casmilo, Conde 86.52 351 *eP* P 09 11 20.4 +0.9
comp=Z,139nm,0.8s
PAB San Pablo 86.57 348 P P 09 11 19.9 +0.1
PAB pmax pmax
comp=Z,68nm,0.9s
PAB San Pablo 86.57 348 P P 09 11 19.9 +0.1
PAB San Pablo 86.57 348 P P 09 11 20.6 +0.8
PAB San Pablo 86.57 348 P P 09 11 20.6 +0.4
PCBR Castelo Branco 86.63 350 *eP* P 09 11 20.7 +0.7
comp=Z,87nm,0.9s
PMRV Marv??o 87.03 350 *eP* P 09 11 22.6 +0.6
comp=Z,41nm,2.1s
PSBE So Bento 87.08 351 *eP* P 09 11 23.2 +0.9
comp=Z,152nm,1.8s
PMTG Montargil 87.47 351 *eP* P 09 11 24.6 +0.5
comp=Z,74nm,1.2s
PESTR Estremoz 87.61 350 *eP* P 09 11 25.1 +0.3
comp=Z,74nm,1.1s
PESTR Estremoz 87.61 350 P P 09 11 25.1 +0.3
PESTR Estremoz 87.61 350 P P 09 11 25.1 -0.5
PMAFR Mafra 87.68 352 *eP* P 09 11 25.9 +0.8
comp=Z,217nm,1.4s
KEST Kesra 87.75 336 P P 09 11 25.9 +0.3
comp=Z,96nm,0.8s,baz=334,slow=0.4,SNR=82
KEST LR LR 09 57 27.6
comp=Z,178nm,18.4s,baz=13,slow=40
KEST Kesra 87.75 336 P P 09 11 25.7 +0.1
KEST Kesra 87.75 336 P P 09 11 26.4 +0.7
SNR=12
TBI Tubuai 88.00 135 *e*LR LR 09 39 27.8
comp=Z,522nm,25.2s
TBI Tubuai 88.00 135 *e*T T 10 48 29.7
comp=Z,8.1nm,0.2s
FORT Forrest 88.13 207 P P 09 11 27.3 +0.3
PBAR Barrancos 88.24 350 *eP* P 09 11 28.5 +0.8
comp=Z,107nm,1.3s
PNCL Nicolau / Gran 88.45 351 *eP* P 09 11 29.4 +0.7
comp=Z,64nm,1.4s
PBEJ Beja 88.47 350 *eP* P 09 11 29.6 +0.7
comp=Z,79nm,1.2s
MESJ Messejana 88.69 351 *eP* P 09 11 30.5 +0.7
MESJ IAmb IAmb 09 11 31.5
comp=Z,30nm,1.2s
MESJ Messejana 88.69 351 *eP* P 09 11 30.5 +0.7
MESJ Messejana 88.69 351 *eP* P 09 11 30.6 +0.7
PCVE Castro Verde 88.88 350 *eP* P 09 11 31.6 +0.8
comp=Z,106nm,1.3s
PVAQ Vaqueiros 89.07 350 *eP* P 09 11 32.3 +0.6
comp=Z,93nm,1.6s
PVAQ Vaqueiros 89.07 350 P P 09 11 32.9 +1.3
PVAQ Vaqueiros 89.07 350 P P 09 11 32.9 +0.3
PBDV Barranco-do-Ve 89.25 350 *eP* P 09 11 33.6 +1.0
MORF Marmelete 89.26 351 *eP* P 09 11 33.2 +0.5
MORF IAmb IAmb 09 11 33.9
comp=Z,69nm,1.2s
MORF Marmelete 89.26 351 *eP* P 09 11 33.1 +0.5
MORF Marmelete 89.26 351 *eP* P 09 11 33.4 +0.7
comp=Z,66nm,1.7s
SOCY Socotra 89.59 290 P P 09 11 32.2 -2.3
SMIR Smir Dam 90.51 348 P P 09 11 39.0 +0.6
SMIR Smir Dam 90.51 348 P P 09 11 39.0 -0.2
TAF Taforalt 90.95 345 P P 09 11 41.1 +0.5
TAF Taforalt 90.95 345 P P 09 11 41.1 +0.1
CHEFC Chefchaouen 91.07 348 P P 09 11 42.0 +0.8
CHEFC Chefchaouen 91.07 348 P P 09 11 42.0 +0.2
RSA Sarsar 91.35 348 P P 09 11 43.0 +0.6
RSA Sarsar 91.35 348 P P 09 11 43.0 -0.2
JBK JBK 91.44 346 P P 09 11 43.2 +0.2
JBK JBK 91.44 346 P P 09 11 43.2 -0.4
TDRA Tendrara 92.63 345 P P 09 11 49.0 +0.4
TDRA Tendrara 92.63 345 P P 09 11 49.0 -0.2
CZD Col de Zad 93.07 347 P P 09 11 52.0 +1.3
CZD Col de Zad 93.08 347 P P 09 11 52.0 +0.9
MDT Midelt 93.23 347 P P 09 11 51.2 0.0
MDT Midelt 93.23 347 P P 09 11 51.2 -0.5
FIGM Figuig 93.39 344 P P 09 11 52.0 0.0
FIGM Figuig 93.40 344 P P 09 11 52.0 -0.2
NWAO Narrogin (SRO) 93.47 215 P P 09 11 51.8 0.0
OUK Oukaimeden 95.22 349 P P 09 12 02.0 +1.3
OUK Oukaimeden 95.22 349 P P 09 12 02.0 +0.8
TZRR Tazzarine 95.36 347 P P 09 12 01.0 0.0
TZRR Tazzarine 95.36 347 P P 09 12 01.0 -0.5
TORD Torodi Ar. Bea 111.26 337 Pdiff **Pdif** 09 13 12.9 +0.9
comp=Z,1.1nm,0.7s,baz=10,slow=5.6,SNR=4.5
TORD PKiKP **PKiKP** 09 17 10.4 0.0
comp=Z,2.9nm,0.9s,baz=1.4,slow=7.5,SNR=4.7
TORD PKKPbc **PKKPbc** 09 28 04.1 +0.3
comp=Z,1.6nm,0.9s,baz=274,slow=1.5,SNR=4.4

DBIC	Dimbokro	118.91	343	PKP		PKiKP	09 17 25.5	+0.4
	comp=Z,17nm,0.8s,baz=97,slow=0.3,SNR=12							
TIC	Toumodi	118.97	343	*e*PKP1		PKPdf	09 17 25.1	-0.1
KIC	Kosan Boka	119.19	342	*e*PKP1		PKPdf	09 17 25.6	0.0
	comp=Z,21nm,0.6s							
LIC	Lamto	119.38	343	*e*PKP1		PKPdf	09 17 26.0	0.0
	comp=Z,66nm,1.1s							
VOI	Vohitsoka	121.00	275	P		PKiKP	09 17 29.3	+0.3
LPAZ	La Paz	127.53	64	PKP		PKiKP	09 17 42.7	0.0
	comp=Z,5.2nm,0.8s,baz=28,slow=6.3,SNR=3.8							
VNDA	Vanda	130.51	179	PKP		PKiKP	09 17 46.0	-0.1
	comp=Z,3.2nm,0.7s,baz=319,slow=4.2,SNR=18							
VNDA	Vanda	130.51	179	PKIKP		PKiKP	09 17 46.0	-0.1
SIV	San Ignacio	130.96	57	PKP		PKPdf	09 17 48.4	+0.4
	comp=Z,10nm,0.8s,baz=318,slow=5.2,SNR=5.0							
BDFB	Brasilia	136.55	41	PKP		PKPdf	09 17 59.5	+0.9
	comp=Z,7.9nm,0.9s,baz=219,slow=3.2,SNR=4.6							
BOSA	Boshof	138.74	288	PKhKP		PKPpre	09 17 53.0	
	comp=Z,3.2nm,0.7s,baz=100,slow=6.8,SNR=2.6							
BOSA				PKP		PKPdf	09 18 02.7	+0.4
	comp=Z,10nm,0.6s,baz=64,slow=3.7,SNR=7.7							
MAW	Mawson	140.02	216	PKhKP		PKPpre	09 17 55.2	
	comp=Z,2.1nm,0.8s,baz=32,slow=5.0,SNR=5.0							
MAW				PKP		PKPdf	09 18 04.0	+0.8
	comp=Z,8.9nm,0.8s,baz=47,slow=4.2,SNR=12							
MAW	Mawson	140.02	216	PKIKP		PKPdf	09 18 04.0	+0.8
SUR	Sutherland	144.09	289	PKP		PKPdf	09 18 12.3	+0.4
	comp=Z,9.7nm,0.5s,baz=136,slow=4.0,SNR=25							
PLCA	Paso Flores	144.16	90	PKP		PKPbc	09 18 10.7	+0.8
	comp=Z,23nm,0.8s,baz=282,slow=3.0,SNR=13							
LL02	Futaleuf	144.84	95			PKPdf	09 18 12.3	-0.2
COYC	Coyhaique	146.02	98			PKPbc	09 18 15.6	+0.2
SYO	Syowa Base	148.73	217	*e*PKPdf		PKPbc	09 18 21.6	-0.5
SYO	Syowa Base	148.73	217	*e*PKiKP		PKPab	09 18 26.0	-0.2
SNAA	Sanae	160.01	196	PKPab		PKPab	09 19 13.7	-0.4
SNAA	Sanae	160.01	196	PKP		PKPdf	09 18 32.3	-1.7
	comp=Z,0.9nm,0.7s,baz=84,slow=6.8,SNR=2.8							
SNAA				PKPab		PKPab	09 19 13.5	-0.7
	comp=Z,7.1nm,0.9s,baz=131,slow=2.7,SNR=10							
VNA3	Neumayer Olymp	161.35	191	PKPab		PKPab	09 19 19.1	-0.9
VNA2	Neumayer--Watz	161.37	193	PKPab		PKPab	09 19 19.7	-0.3
VNA1	Neumayer--Stat	161.74	193	PKPab		PKPab	09 19 21.2	-0.4

IDC ***17*** *09:00:00.9±1.3, 31.02S×72.67W, h0km, mb4.1/3, mb1 4.1/6, mb1mx3.9/30, mbtmp4.1/6, ML4.0/3, Error ellipse: s-maj=56.7km s-min=25.8km az=103.0*

ISC 17 09:00:06.1±1.4, 31.0S±0.1×72.7W±0.4, h35km, n22, σ1s07/13, mb3.9/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N1	Juan Fernandez	5.85	243	T	T	09 07 05.1	
	baz=73,slow=72,SNR=29						
H03N3	Juan Fernandez	5.86	243	T	T	09 07 01.7	
	baz=73,slow=72,SNR=33						
H03N2	Juan Fernandez	5.86	243	T	T	09 07 05.8	
	baz=73,slow=72,SNR=22						
PLCA	Paso Flores	9.90	171	Pn	Pn	09 02 24.7	-1.3
	0.3nm,0.3s,baz=336,slow=11,SNR=4.7						
LPAZ	La Paz	15.18	17	Pn	Pn	09 03 37.8	-0.8
	0.2nm,0.3s,baz=199,slow=8.1,SNR=6.6						
SIV	San Ignacio	18.28	38	Pn	P	09 04 16.0	-1.0
	0.5nm,0.3s,baz=232,slow=12,SNR=16						
BDFB	Brasilia	27.20	62	P	P	09 05 47.5	+0.6
	2.3nm,0.7s,baz=27,slow=8.1,SNR=1.5						
VNA3	Neumayer Olymp	52.37	159	P	P	09 09 15.8	+1.5
VNA2	Neumayer--Watz	53.02	158	P	P	09 09 20.4	+1.3
	baz=285,slow=8.3						
SNAA	Sanae	54.60	159	P	P	09 09 31.9	+1.2
SNAA	Sanae	54.60	159	P	P	09 09 29.9	-0.8
	3.2nm,0.7s,baz=294,slow=5.9,SNR=6.1						
TORD	Torodi Ar. Bea	83.69	71	P	P	09 12 31.9	+0.2
	0.9nm,1.0s,baz=227,slow=5.7,SNR=3.5						
WRA	Warramunga Arr	123.13	211	PKP	PKiKP	09 18 59.8	-0.1
	0.7nm,0.8s,baz=159,slow=1.6,SNR=4.8						
H11S2	WAKE ISLAND Hyl	25.22	272	T	T	11 36 21.3	
	baz=115,slow=75,SNR=37						
H11S1	WAKE ISLAND Hyl	25.23	272	T	T	11 36 22.6	
	baz=115,slow=75,SNR=30						
H11S3	WAKE ISLAND Hyl	25.24	272	T	T	11 36 22.6	
	baz=115,slow=75,SNR=24						
H11N3	WAKE ISLAND Hyl	25.56	273	T	T	11 36 47.4	
	baz=117,slow=74,SNR=4.9						
H11N1	WAKE ISLAND Hyl	25.57	273	T	T	11 36 52.0	
	baz=117						
H11N2	WAKE ISLAND Hyl	25.58	273	T	T	11 36 49.9	
	baz=117,slow=74,SNR=12						
BVAR	Borovoye Array	145.35	40	PKPbc	PKPab	09 19 41.1	+1.2
	1.4nm,0.6s,baz=224,slow=10,SNR=5.6						
KURBB	Kurchatov Array	150.94	39	PKPbc	PKPbc	09 19 54.4	-0.3
	1.2nm,0.7s,baz=301,slow=3.1,SNR=8.3						
ZALV	Zalesovo Beam	151.88	29	PKPbc	PKiKP	09 19 57.2	+0.1
	2.9nm,0.7s,baz=297,slow=3.9,SNR=6.8						

IDC ***17*** *09:01:42.6±1.6, 31.42S×71.64W, h0km, mb4.6/2, mb1 4.0/5, mb1mx3.8/30, mbtmp4.0/5, ML3.5/3, MS3.2/1, Ms1 3.3/1, ms1mx2.9/24, Error ellipse: s-maj=72.5km s-min=34.9km az=101.0*

GUC ***17*** *09:01:45.8±0.8, 31.45S×71.75W, h47km±7km, ML4.2*

NEIC ***17*** *09:01:47.1±2.0, 31.47S±0.03×71.81W±0.07, h23km±5km, mb4.2/4, ML4.2(GUC), Error ellipse: s-maj=8.7km s-min=4.3km az=82.0*

ISC 17 09:01:45.7±0.8, 31.48S±0.03×71.82W±0.09, h22km±5km, n54, σ1s11/55, mb4.4/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.81	11	*e*P	Pn	09 02 01.2	-0.7
CO06				*e*S	Sn	09 02 12.9	-0.3
CO06	Fray Jorge	0.81	11	Pn	Pn	09 02 01.2	-0.7
CO03	El Pedregal	1.16	57	*e*P	Pn	09 02 06.8	+0.2
CO03				*e*S	Sb	09 02 22.0	+0.4
CO03				IAML		09 02 26.8	
	comp=N,6μm,0.5s						
CO03	El Pedregal	1.16	57		Pn	09 02 06.6	-0.1
VA01	Torpederas	1.55	175	*e*P	Pn	09 02 13.1	+1.0
VA01				*e*S	Sn	09 02 31.5	+0.1
VA01	Torpederas	1.55	175		Pn	09 02 12.5	+0.5
GO04	Tololo Observa	1.56	34	*e*P	Pn	09 02 13.4	+1.0
GO04				*e*S	Sb	09 02 33.9	+0.2
GO04	Tololo Observa	1.56	34	Pn	Pn	09 02 13.4	+1.0
GO04					Sb	09 02 33.8	+0.2
ROCH	El Roble	1.64	156	*e*P	Pn	09 02 14.1	+0.6
ROCH				*i* S	Sn	09 02 34.5	+0.4
ROCH				IAML		09 02 42.3	
	comp=N,3μm,0.3s						
VA03	San Esteban	1.67	140	*e*P	Pn	09 02 14.8	+0.9
VA03				*e*S	Sb	09 02 36.5	-0.1
VA03				IAML		09 02 42.9	
	comp=N,5μm,0.6s						
VA03	San Esteban	1.67	140		Pn	09 02 15.0	+1.2
MT05	Renca	2.12	155	*e*P	Pn	09 02 20.9	+1.0
MT05				*i* S	Sn	09 02 45.3	-0.2
MT05				IAML		09 02 59.3	
	comp=E,4μm,0.3s						
MT05	Renca	2.12	155	Pn	Pn	09 02 21.5	+1.6
VA05	Santo Domingo	2.18	176	*e*P	Pb	09 02 24.3	-0.2
VA05				*e*S	Sn	09 02 49.8	+2.7
VA05				IAML		09 03 00.0	
	comp=E,3μm,0.4s						
VA05	Santo Domingo	2.18	176		Pn	09 02 23.1	+2.4
MT09	Talagante	2.40	163	*e*P	Pn	09 02 25.6	+1.8
MT09				*e*S	Sn	09 02 52.7	+0.1
MT09				IAML		09 03 06.0	
	comp=N,1μm,0.4s						
MT09	Talagante	2.40	163	Pn	Pn	09 02 25.3	+1.5
MT09					Sb	09 02 57.1	-0.3
MT01	Popeta	2.43	169	*e*P	Pb	09 02 27.6	-1.2
MT01				*e*S	Sn	09 02 52.7	-0.5
MT01				IAML		09 03 05.9	
	comp=E,886nm,0.5s						
MT01	Popeta	2.43	169		Pn	09 02 25.8	+1.7
LCO	Las Campanas	2.64	22	*e*P	Pn	09 02 28.6	+1.3
LCO				*e*S	Sn	09 03 00.5	+1.8
BO01	Tunca	2.97	168	Pn	Pn	09 02 33.5	+2.0
AC04	Llanos de Chal	3.32	11	Pn	Pn	09 02 37.3	+0.9
GO05	Huala	3.53	182	Pn	Pn	09 02 39.9	+0.7
GO05					LR	09 03 39.2	
ML02	Panimavida	4.29	176	Pn	Pn	09 02 50.7	+1.0
H03N1	Juan Fernandez	6.31	250	T	T	09 09 58.0	
	baz=78,slow=72,SNR=42						
H03N3	Juan Fernandez	6.32	250	T	T	09 09 53.2	
	baz=78,slow=72,SNR=42						
H03N2	Juan Fernandez	6.33	250	T	T	09 09 54.5	
	baz=78,slow=72,SNR=42						
H03S3	Juan Fernandez	6.43	247	T	T	09 10 09.7	
	baz=83,slow=75,SNR=4.2						
H03S1	Juan Fernandez	6.43	247	T	T	09 10 08.5	
	baz=83,slow=75,SNR=5.4						
H03S2	Juan Fernandez	6.44	247	T	T	09 10 11.3	
	baz=83,slow=75,SNR=3.8						
LVC	Limon Verde	9.20	17	Pn	Pn	09 03 59.5	+2.0
	baz=216,slow=19,SNR=0.7						
PLCA	Paso Flores	9.29	174	Pn	Pn	09 03 58.8	+0.3
	comp=E,0.2nm,0.3s,baz=349,slow=16,SNR=1.8						
TRQA	Tornquist	10.41	132	Pn	Pn	09 04 15.2	+1.5
LPAZ	La Paz	15.49	13	Pn	Pn	09 05 22.3	-1.1
	comp=E,0.0nm,0.3s,baz=190,slow=6.1,SNR=2.8						
LPAZ				LR	LR	09 12 14.3	
	comp=E,92nm,21.0s,baz=318,slow=41						
LPAZ	La Paz	15.49	13	Pn	Pn	09 05 22.1	-1.4
SIV	San Ignacio	18.26	35	P	Pn	09 05 55.6	-2.3
	comp=E,0.1nm,0.3s,baz=243,slow=11,SNR=1.1						
SNAA	Sanae	53.85	159	P	P	09 11 06.3	-0.4
SNAA				IAmb	IAmb	09 11 07.7	
	comp=Z,3.3nm,1.2s						
QSPA	South Pole Qui	58.75	180	P	P	09 11 42.4	+0.6
QSPA				IAmb	IAmb	09 11 54.8	
	comp=Z,1.9nm,0.9s						
DBIC	Dimbokro	74.20	72	P	P	09 13 20.9	-0.2
	comp=Z,5.8nm,0.8s,baz=247,slow=6.0,SNR=3.6						
TORD	Torodi Ar. Bea	83.18	70	P	P	09 14 10.1	-0.5
	comp=Z,3.8nm,0.8s,baz=242,slow=5.7,SNR=14						
TORD	Torodi Ar. Bea	83.18	70	P	P	09 14 09.3	-1.2
H11S2	WAKE ISLAND Hyl	25.96	271	T	T	11 39 36.5	
	baz=117,slow=75,SNR=23						
H11S1	WAKE ISLAND Hyl	25.97	271	T	T	11 39 37.4	
	baz=117,slow=75,SNR=17						
H11S3	WAKE ISLAND Hyl	25.98	271	T	T	11 39 37.9	
	baz=117,slow=75,SNR=25						
H11N3	WAKE ISLAND Hyl	26.31	272	T	T	11 40 02.9	
	baz=116,slow=75,SNR=20						
H11N1	WAKE ISLAND Hyl	26.32	272	T	T	11 40 02.8	
	baz=116,slow=75,SNR=8.9						
H11N2	WAKE ISLAND Hyl	26.33	272	T	T	11 40 04.0	
	baz=116,slow=75,SNR=32						
BVAR	Borovoye Array	145.28	41	PKPbc	PKPdf	09 21 21.4	+0.2
	comp=Z,1.3nm,0.4s,baz=294,slow=2.0,SNR=6.5						
KURBB	Kurtov Array	150.87	40	PKPbc	PKPbc	09 21 36.2	+0.1
	comp=Z,1.9nm,0.8s,baz=296,slow=2.9,SNR=13						
KURK	Kurchatov	150.87	40		PKPbc	09 21 36.2	+0.1
AAK	Ala-Archa	151.08	58	PKPbc	PKPbc	09 21 37.2	0.0
	comp=Z,0.6nm,0.3s,baz=308,slow=8.3,SNR=3.6						
ZALV	Zalesovo Beam	151.97	30	PKPbc	PKPbc	09 21 38.4	-0.1
	comp=Z,3.6nm,0.5s,baz=301,slow=3.0,SNR=11						
ZALV	Zalesovo Beam	151.97	30		PKPbc	09 21 38.3	-0.2
MKAR	Makanchi Array	154.91	45	PKPbc	PKPbc	09 21 44.6	-0.7
	comp=Z,0.5nm,0.7s,baz=250,slow=2.9,SNR=2.8						

IDC ***17*** *09:01:55.1±0.9, 15.88S×167.85E, h0km, mb4.2/14, mb1 4.5/15, mb1mx4.3/41, mbtmp4.3/15, ML4.8/1, MS3.9/7, Ms1 4.0/7, ms1mx3.6/38, Error ellipse: s-maj=27.5km s-min=18.2km az=127.0*

NEIC ***17*** *09:01:56.9±2.0, 16.02S±0.07×167.91E±0.03, h10km±1km, mb4.7/21, Error ellipse: s-maj=12.1km s-min=4.9km az=8.0*

NOU ***17*** *09:01:58.5, 16.33S×167.74E, h9km, MLv5.4/23, Vanuatu Islands*

ISC 17 09:01:56.9±0.5, 16.08S±0.06×167.85E±0.07, h10km, n72, σ1s72/62, mb4.6/25, MS4.0/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	0.89	315		Pg	09 02 13.5	-0.5
DVP	Devils Point	1.66	169	P	Pn	09 02 23.4	-2.7
RTV	Rentapao	1.79	162	P	Pn	09 02 25.0	-2.8
LIFNC	LIFOU	4.70	187		Pn	09 03 05.6	-2.4
LIFNC	LIFOU	4.70	187	P	Pn	09 03 05.5	-2.4
MARNC	Mare, Loyalty	5.37	178		Pn	09 03 14.0	-3.2
MARNC	Mare, Loyalty	5.37	178	P	Pn	09 03 15.2	-1.9
KOUNC	Koumac, New Ca	5.58	217	P	Pn	09 03 19.5	-0.6
YATNC	Mamie plateau,	6.01	189	P	Pn	09 03 23.8	-2.2
DZM	Mont Dzumac	6.10	192	*e*Pn	Pn	09 03 26.0	-1.3
	286nm,0.8s						
DZM				*e*Sn	Sn	09 04 28.1	-9.2
	560nm,0.9s						
DZM				*e*LR	LR	09 04 45.3	
	comp=Z,3μm,26.9s						
DZM	Mont Dzumac	6.10	192	Pn	Pn	09 03 26.3	-0.9
	84nm,0.3s,baz=312,slow=5.7,SNR=592						
DZM				Sn	Sn	09 04 34.1	-3.1
	13nm,0.3s,baz=321,slow=21,SNR=9.0						
DZM	Mont Dzumac	6.10	192		Pn	09 03 25.5	-1.8
ONTNC	Ouen Toro	6.33	192		Pn	09 03 29.4	-1.0
ONTNC	Ouen Toro	6.33	192	P	Pn	09 03 29.7	-0.6
OUENC	Ouen Island, N	6.37	188		Pn	09 03 29.6	-1.4
OUENC	Ouen Island, N	6.37	188	P	Pn	09 03 30.4	-0.5
PINNC	Pines Island,	6.51	183		Pn	09 03 31.9	-0.8
PINNC	Pines Island,	6.51	183	P	Pn	09 03 32.3	-0.4
MSVF	Nonsavu	9.90	101	Pn	Pn	09 04 22.9	+3.5
	1.0nm,0.3s,baz=265,slow=11,SNR=13						
MSVF	Nonsavu	9.90	101	Pn	Pn	09 04 18.4	-1.0
MSVF	Nonsavu	9.90	101	P	Pn	09 04 23.3	+3.8
HNR	Honiara	10.15	310	Pn	Pn	09 04 21.2	-1.6
	7.5nm,0.3s,baz=131,slow=6.0,SNR=1.9						
HNR				LR	LR	09 07 29.9	
	comp=Z,760nm,19.8s,baz=126,slow=33						
HNR	Honiara	10.15	310	Pn	Pn	09 04 23.4	+0.5
OUZ	Omahuta	19.74	166	P	P	09 06 25.6	-1.2
ARMA	Armidale	20.59	223	P	P	09 06 36.1	-0.2
CTA	Charters Tower	20.91	256	P	P	09 06 41.6	+1.9
	4.9nm,0.8s,baz=91,slow=12,SNR=8.8						
CTAO	Charters Tower	20.91	256	P	Pn	09 06 42.1	-0.1
CTAO				IAmb	IAmb	09 06 52.4	
	comp=Z,48nm,1.5s						
COEN	Coen	23.92	272	P	P	09 07 12.6	+1.3
BKZ	Black Stump Fm	24.21	163	P	P	09 07 14.7	+0.9
BKZ				IAmb	IAmb	09 07 21.6	
	comp=Z,10nm,0.7s						
CAN	Canberra	25.52	218	P	P	09 07 30.0	+4.3
STKA	Stephens Creek	28.57	232	P	P	09 07 53.7	+0.5
	comp=Z,5.8nm,0.8s,baz=55,slow=7.1,SNR=17						
STKA	Stephens Creek	28.57	232	P	P	09 07 53.2	0.0
WR0	Warramunga Arr	31.88	258	P	P	09 08 22.1	-0.5
WR0				IAmb	IAmb	09 08 23.1	
	comp=Z,8.5nm,1.1s						
WB2	Warramunga Arr	32.05	258	P	P	09 08 23.7	-0.5
WB2				IAmb	IAmb	09 08 24.6	
	comp=Z,10nm,1.1s						
WRA	Warramunga Arr	32.07	258	P	P	09 08 23.6	-0.7
	comp=Z,5.0nm,0.9s,baz=86,slow=8.4,SNR=26						
WRA				LR	LR	09 21 46.4	
	comp=Z,255nm,18.1s,baz=60,slow=37						
WRA	Warramunga Arr	32.07	258	P	P	09 08 23.8	-0.5
AS31	Alice Springs	32.74	251	P	P	09 08 30.0	-0.2
AS31				IAmb	IAmb	09 08 38.8	
	comp=Z,5.6nm,0.7s						
ASAR	Alice Springs	32.74	251	P	P	09 08 30.3	+0.1
	comp=Z,26nm,1.0s,baz=80,slow=9.0,SNR=142						
ASAR	Alice Springs	32.74	251	P	P	09 08 30.6	+0.4
BBOO	Buckleboo	33.22	234	P	P	09 08 34.4	+0.2
BBOO				IAmb	IAmb	09 08 35.3	
	comp=Z,22nm,1.4s						
KNRA	Kununurra	37.56	265		P	09 09 11.9	+0.1
FORT	Forrest	39.11	241		P	09 09 24.9	+0.3
FORT				IAmb	IAmb	09 09 31.8	
	comp=Z,19nm,0.7s						
FITZ	Fitzroy Crossi	40.33	261	P	P	09 09 35.2	+0.2
	comp=Z,19nm,0.9s,baz=104,slow=7.2,SNR=28						
PPT2	Papeete2	40.72	98	*e*LR	LR	09 20 58.5	
	comp=Z,336nm,27.5s						
TBI	Tubuai	40.72	107	*e*LR	LR	09 20 55.1	
	comp=Z,292nm,32.2s						
NWAO	Narrogin (SRO)	48.55	240	P	P	09 10 40.5	0.0
MJAR	Matsushiro Arr	59.36	332	P	P	09 11 57.3	-2.1
	comp=Z,2.1nm,0.8s,baz=140,slow=6.5,SNR=2.5						
VNDA	Vanda	61.53	181	P	P	09 12 15.1	+1.4
	comp=Z,0.9nm,1.0s,baz=356,slow=7.9,SNR=1.9						
VNDA				LR	LR	09 35 43.5	
	comp=Z,62nm,18.9s,baz=4.5,slow=33						
VNDA	Vanda	61.53	181	P	P	09 12 16.0	+2.3
VNDA				IAmb	IAmb	09 12 22.0	
	comp=Z,9.3nm,1.4s						
CASY	Casey	62.49	203	P	P	09 12 19.3	-1.0
NJ2	Nanjing	67.03	316	*e*P	P	09 12 55.8	+5.4
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
USRK	Ussuriysk Ar.	68.34	333	P	P	09 12 57.7	-0.7
	comp=Z,0.6nm,0.4s,baz=121,slow=7.5,SNR=5.0						
PETK	Petropavlovsk-	69.46	353	P	P	09 13 04.2	-1.0
	comp=Z,0.6nm,0.5s,baz=140,slow=9.2,SNR=1.1						
KLR	Kul'dur	72.47	336	P	P	09 13 22.2	-1.3
	comp=Z,1.2nm,0.8s,baz=101,slow=8.5,SNR=2.6						
XAN	Xi'an	75.01	313	P	P	09 13 45.8	+6.9
XAN				pP	PcP	09 13 55.6	+3.0
XAN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,94nm,4.8s						
HHC	Hu-ho-hao-te	76.97	320	*e*P	P	09 13 57.0	+7.0
HHC				pmax	pmax		
	comp=Z,15nm,1.2s						
HHC				pmax	pmax		
	comp=Z,240nm,6.7s						
HHC				LR	LR		
	comp=N,120nm,17.4s						
HHC				LR	LR		
	comp=E,130nm,18.1s						
HHC				LR	LR		
	comp=Z,280nm,17.8s						
SEY	Seymchan	79.69	353	LR	LR	09 42 37.2	
	comp=Z,137nm,21.8s,baz=188,slow=31						
SONM	Songino Array	83.91	323	P	P	09 14 26.3	-0.9
	comp=Z,1.1nm,0.9s,baz=132,slow=4.4,SNR=3.5						
SONM	Songino Array	83.91	323	IAmb	IAmb	09 14 34.3	
	comp=Z,5.0nm,1.2s						
ILAR	Eielson Array	87.64	18	P	P	09 14 42.9	-2.2
	comp=Z,1.4nm,0.9s,baz=234,slow=6.3,SNR=8.0						
ILAR				LR	LR	09 48 05.5	
	comp=Z,134nm,20.6s,baz=234,slow=32						
NVAR	Mina Array Bea	87.73	49	P	P	09 14 46.4	-0.1
	comp=Z,1.0nm,0.9s,baz=235,slow=8.0,SNR=5.1						
NVAR				LR	LR	09 49 39.2	
	comp=Z,41nm,19.3s,baz=262,slow=33						
NVAR	Mina Array Bea	87.73	49	P	P	09 14 46.0	-0.5
SHPR	Sheep Range	89.35	52	P	P	09 14 52.6	-1.5
SHPR				IAmb	IAmb	09 15 11.8	
	comp=Z,4.6nm,1.2s						
PRN	Pahroc Range	89.75	51	P	P	09 14 55.9	0.0
F10A	Beach Ranch, E	91.31	42	P	P	09 15 02.7	-0.3
F10A				IAmb	IAmb	09 15 26.0	
	comp=Z,8.4nm,1.2s						
SNAA	Sanae	92.23	183	P	P	09 15 12.0	+5.1
SNAA	Sanae	92.23	183	P	P	09 15 07.9	+1.1
	comp=Z,1.3nm,1.0s,baz=229,slow=22,SNR=2.2						
VNA3	Neumayer Olymp	92.88	181	P	P	09 15 13.4	+3.7
VNA2	Neumayer--Watz	93.15	182	P	P	09 15 16.3	+5.3
	baz=184,slow=3.6						
WMQ	Urumqi	94.07	314	*e*P	P	09 15 19.1	+3.4
WMQ				pmax	pmax		
	comp=Z,30nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,200nm,5.5s						
MKAR	Makanchi Array	98.56	316	LR	LR	10 03 19.7	
	comp=Z,32nm,18.0s,baz=302,slow=37						
GERES	GERESS Array B	141.10	333	PKP	PKPdf	09 21 28.2	+0.5
	comp=Z,0.2nm,0.3s,baz=61,slow=4.6,SNR=1.6						

IDC 17 09:02:37.0±3.1, 31.28S×71.62W, h0km, mb4.1/1, mb1 4.0/2, mb1mx3.6/28, mbtmp3.9/2, ML3.7/1, Error ellipse: s-maj=140.6km s-min=48.1km az=97.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N1	Juan Fernandez	6.54	249	T	T	09 10 53.5	
	baz=78,slow=72,SNR=11						
H03N3	Juan Fernandez	6.55	249	T	T	09 10 49.8	
	baz=78,slow=72,SNR=11						
H03N2	Juan Fernandez	6.55	249	T	T	09 10 56.5	
	baz=78,slow=72,SNR=14						
PLCA	Paso Flores	9.47	175	Pn	Pn	09 04 54.8	0.0
	0.2nm,0.3s,baz=352,slow=13,SNR=1.8						
TORD	Torodi Ar. Bea	82.95	70	P	P	09 15 04.3	0.0
	1.2nm,0.8s,baz=250,slow=4.2,SNR=3.4						
H11S2	WAKE ISLAND Hyl	26.13	271	T	T	11 40 30.9	
	baz=117						
H11S1	WAKE ISLAND Hyl	26.14	271	T	T	11 40 34.1	
	baz=117						
H11S3	WAKE ISLAND Hyl	26.14	271	T	T	11 40 33.8	
	baz=117						
H11N3	WAKE ISLAND Hyl	26.47	272	T	T	11 40 58.0	
	baz=114						
H11N1	WAKE ISLAND Hyl	26.49	272	T	T	11 40 59.2	
	baz=114						
H11N2	WAKE ISLAND Hyl	26.49	272	T	T	11 40 59.3	
	baz=114						
ZALV	Zalesovo Beam	151.72	30	PKPbc	PKPbc	09 22 32.8	-0.2
	2.2nm,0.5s,baz=336,slow=3.3,SNR=3.9						

NEIC ***17*** *09:03:47.0±

BARS				*e*Sg		Sg	09 08 43.7	-0.9
ZAGS	**Zajecar**	**1.53**	**334**	*e*Sg		Sn	09 08 59.9	-0.1
BOVS	**Bovan**	**1.60**	**319**	*e*Pg		Pn	09 08 39.8	-0.5
BOVS				*e*Sg		Sn	09 09 01.1	-0.6

JMA 17 09:08:30.8±0.1, 24°.33N×122°.70E, h83$^{km}_{\pm 2km}$, M1.6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.31**	**65**	P	Pn	09 08 43.6	+0.1
YOJ				*e*S	Sn	09 08 52.7	-0.2
IRIF	**Iriomote-Funau**	**0.94**	**89**	*e*S	Sn	09 09 03.2	+0.1
JKRS	**Kuro-shima**	**1.20**	**94**	S	Sn	09 09 09.5	+0.9
JIJ	**Ishigaki jima**	**1.32**	**88**	P	Pn	09 08 54.0	+0.1
JIJ				S	Sn	09 09 10.7	-0.6
JISG	**Ishigakijimahi**	**1.49**	**80**	S	Sn	09 09 14.2	-1.0
JTJ	**Tarama**	**1.85**	**80**	S	Sn	09 09 23.8	+0.2

TAP 17 09:08:52.5, 24°.44N×121°.76E, h31$^{km}_{\pm 1km}$, ML1.8, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.01**	**73**	*e*P	Pb	09 08 57.7	+0.1
	baz=71						
ENA	**Nanau**	**0.02**	**237**	*e*P	Pb	09 08 57.4	-0.2
	baz=222						
ENA				*e*S	Sb	09 09 02.5	+1.4
	baz=222						
TWC	**Suao**	**0.18**	**25**	*e*P	Pn	09 08 59.0	-0.1
	baz=27						
NDS	**Dongshan**	**0.20**	**347**	*e*P	Pn	09 08 59.1	-0.2
	baz=347						
NDS				*e*S	Sb	09 09 03.1	+0.1
	baz=347						
ENTT	**Nioudou**	**0.27**	**318**	*e*P	Pb	09 08 58.7	-0.9
	baz=318						
NDT	**Datong Townshi**	**0.28**	**305**	P	Pb	09 09 00.1	+0.3
	baz=305						
NACB	**Ninganchiao**	**0.31**	**210**	*e*P	Pb	09 08 59.6	-0.5
	baz=210						
NACB				*e*S	Sn	09 09 06.0	-0.3
	baz=210						
ETLH	**Xiulin Townshi**	**0.35**	**228**	*e*P	Pn	09 09 01.7	+0.2
	baz=227						
ETLH				*e*S	Sn	09 09 07.6	+0.2
	baz=227						
NNSB	**Datong**	**0.35**	**268**	*e*P	Pb	09 08 59.6	-1.2
	baz=267						
TWD	**Chiawan**	**0.39**	**203**	P	Pn	09 09 01.7	-0.2
	baz=202						
YHNB	**Yeheng**	**0.42**	**303**	*e*P	Pb	09 09 01.1	-0.7
	baz=302						
YHNB				*e*S	Sn	09 09 09.7	+0.5
	baz=302						
FUSS	**Fushou**	**0.51**	**248**	*e*P	Pn	09 09 03.6	-0.2
	baz=247						
WHF	**Hehuan Shan**	**0.54**	**237**	*e*P	Pb	09 09 03.9	0.0
	baz=236						
WHF				*e*S	Sn	09 09 12.5	-0.2
	baz=236						
CHGB	**Renai**	**0.66**	**235**	P	Pn	09 09 06.5	+0.6
	baz=234						
CHGB				*e*S	Sb	09 09 14.5	-0.2
	baz=234						

*IDC **17** 09:12:30.2±0.6, 30°.95S×71°.77W, h0^{km}, mb4.3/12, mb1 4.4/17, mb1mx4.3/30, mbtmp4.3/17, ML4.2/5, MS4.0/5, Ms1 4.0/5, ms1mx3.5/26, Error ellipse: s-maj=23.8km s-min=14.6km az=87.0*

*NEIC **17** 09:12:32.5±1.8, 31°.03S±0°.04×71°.89W±0°.07, h10$^{km}_{\pm 1km}$, mb4.6/34, ML4.9(GUC), Error ellipse: s-maj=9.8km s-min=5.9km az=285.0*

*GUC **17** 09:12:32.9±0.6, 30°.94S×71°.77W, h32$^{km}_{\pm 2km}$, ML4.9*

*SJA **17** 09:12:34.2±0.7, 30°.87S×71°.79W, h9$^{km}_{\pm 5km}$, ML4.7, MW4.4*

ISC 17 09:12:32.7±1.1, 30°.88S±0°.02×71°.92W±0°.04, h16$^{km}_{\pm 7km}$, n118, σ 2°.12/122, mb4.5/25, MS3.9/4, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.32**	**50**	*e*P	**Pg**	09 12 40.9	+1.4
CO06				*e*S	**Sg**	09 12 46.3	+2.3
CO06	**Fray Jorge**	**0.32**	**50**		**Pg**	09 12 41.1	+1.6
CO03	**El Pedregal**	**1.06**	**88**	*e*P	**Pg**	09 12 51.0	-2.2
CO03				*e*S	**Sg**	09 13 04.8	-2.3
CO03				IAML		09 13 08.4	
	comp=E,36μm,0.4s						
CO03	**El Pedregal**	**1.06**	**88**	Pg	**Pg**	09 12 51.1	-2.2
GO04	**Tololo Observa**	**1.20**	**54**⇑	*e*P	**Pg**	09 12 54.4	-1.5
GO04				*e*S	**Sn**	09 13 10.9	-0.1
GO04				IAML		09 13 15.9	
	comp=E,84μm,0.5s						
GO04	**Tololo Observa**	**1.20**	**54**	Pn	**Pn**	09 12 55.9	+0.8
LCO	**Las Campanas**	**2.14**	**30**⇑	*e*P	**Pn**	09 13 09.9	+1.8
LCO				*e*S	**Sb**	09 13 38.1	+0.3
LCO	**Las Campanas**	**2.14**	**30**	Pn	**Pn**	09 13 09.0	+1.0
VA01	**Torpederas**	**2.15**	**174**	*e*P	**Pn**	09 13 07.0	-0.9
VA01				*e*S	**Sn**	09 13 35.2	+1.1
VA01	**Torpederas**	**2.15**	**174**		Pn	09 13 05.1	-2.7
VA03	**San Esteban**	**2.21**	**149**	*e*P	**Pn**	09 13 08.6	-0.2
VA03				*e*S	**Sn**	09 13 36.1	+0.3
VA03				IAML		09 13 45.1	
	comp=E,11μm,0.5s						
ROCH	**El Roble**	**2.22**	**160**	*e*P	**Pn**	09 13 10.0	+0.8
ROCH				*e*S	**Sn**	09 13 38.3	+2.0
ROCH				IAML		09 13 42.2	
	comp=E,8μm,0.3s						
AROD	**Rodeo**	**2.23**	**72**	*e*P	**Pb**	09 13 12.7	-0.1
AROD				*e*S	**Sg**	09 13 41.0	-3.5
RTLS	**Leoncito**	**2.42**	**113**	*e*P	**Pb**	09 13 15.7	-0.4
RTLS				*e*S	**Sb**	09 13 46.0	+0.2
RTLS				IAML		09 13 49.0	
	comp=Z,6μm,2.2s						
MT05	**Renca**	**2.69**	**159**	*e*P	**Pn**	09 13 16.0	+0.5
MT05				*e*S	**Sn**	09 13 48.9	+1.1
MT05				IAML		09 13 54.9	
	comp=E,9μm,0.5s						
MT05	**Renca**	**2.69**	**159**	Pn	**Pn**	09 13 13.9	-1.6
AC04	**Llanos de Chal**	**2.77**	**16**	*e*P	**Pn**	09 13 16.8	+0.4
AC04				*e*S	**Sn**	09 13 51.7	+2.2
AC04	**Llanos de Chal**	**2.77**	**16**		**Pn**	09 13 17.8	+1.3
AC04	**Llanos de Chal**	**2.77**	**16**	*e*P	**Pn**	09 13 18.4	+2.0
AC04				*e*S	**Sb**	09 13 55.9	+0.4
AC04				IAML		09 14 05.4	
	comp=Z,1μm,1.2s						
VA05	**Santo Domingo**	**2.78**	**175**	*e*P	**Pn**	09 13 17.8	+1.2
VA05				*e*S	**Sn**	09 13 50.7	+1.0
VA05				IAML		09 14 06.7	
	comp=E,5μm,0.4s						
MT09	**Talagante**	**2.99**	**165**	*e*P	**Pn**	09 13 20.1	+0.4
MT09				*e*S	**Sn**	09 13 54.2	-1.0
MT09				IAML		09 14 15.2	
	comp=N,3μm,0.6s						
MT09	**Talagante**	**2.99**	**165**		**Pn**	09 13 18.0	-1.6
MT01	**Popeta**	**3.03**	**169**	*e*P	**Pn**	09 13 21.0	+1.0
MT01				*e*S	**Sn**	09 13 56.7	+0.8
MT01				IAML		09 14 08.2	
	comp=E,3μm,0.8s						
MT01	**Popeta**	**3.03**	**169**		**Pn**	09 13 18.0	-2.0
MT01	**Popeta**	**3.03**	**169**	*e*P	**Pn**	09 13 18.4	-1.6
MT01				*e*P	**Pb**	09 13 24.4	-1.9
MT01				*e*S	**Sb**	09 14 06.9	+3.9
MT01				IAML		09 14 08.6	
	comp=Z,2μm,0.5s						
RTCV	**Cerro Valdivia**	**3.05**	**110**	*e*P	**Pb**	09 13 24.6	-2.1
RTCV				*e*S	**Sn**	09 13 57.9	+1.3
RTCV				*e*S	**Sg**	09 14 11.1	+0.3
ARCO	**CERRO ARCO**	**3.21**	**128**	*e*P	**Pn**	09 13 22.4	-0.2
ARCO				*e*P	**Pb**	09 13 27.3	-2.1
ARCO				*e*S	**Sb**	09 14 05.4	-2.9
ARCO				IAML		09 14 19.7	
	comp=Z,2μm,0.9s						
AGUA	**GUANDACOL**	**3.28**	**66**	*e*P	Pn	09 13 11.1	-12
AGUA				IAML		09 14 25.4	
	comp=Z,2μm,1.2s						
LMEL	**Las Melosas**	**3.29**	**154**	*e*P	**Pn**	09 13 23.8	0.0
LMEL				*e*S	**Sn**	09 14 02.9	+0.2
LMEL				IAML		09 14 14.3	
	comp=N,3μm,0.4s						
AAGR	**Agrelo**	**3.42**	**131**	*e*P	**Pn**	09 13 30.0	+4.5
AAGR				*e*S	**Sb**	09 14 14.7	+0.2
BO01	**Tunca**	**3.57**	**169**	*e*P	Pn	09 13 32.6	+5.2
BO01				*e*S	**Sb**	09 14 17.4	-1.2
BO01				IAML		09 14 28.5	
	comp=Z,962nm,0.6s						
GO03	**Copiap**	**3.59**	**25**		**Pn**	09 13 30.5	+2.7
GO03	**Copiap**	**3.59**	**25**	*e*P	**Pn**	09 13 30.9	+3.1
GO03				*e*S	**Sn**	09 14 06.9	-3.1
GO03				*e*S	**Sb**	09 14 15.4	-3.9
AVFE	**Valle Fertil**	**3.85**	**88**	*e*P	**Pn**	09 13 34.2	+2.9
AVFE				*e*S	**Sb**	09 14 22.4	-4.3
AVFE				IAML		09 14 33.9	
	comp=Z,2μm,0.6s						
VCA	**Vinchina**	**3.87**	**57**	*e*P	Pn	09 13 24.8	-7.0
VCA				*e*S	**Sb**	09 14 26.4	-1.0
VCA				IAML		09 14 37.5	
	comp=Z,2μm,0.8s						
GO05	**Huala**	**4.12**	**180**		**Pn**	09 13 33.1	-1.9
ACHE	**Chepes**	**4.52**	**95**	*e*P	**Pn**	09 13 43.9	+3.2
ACHE				*e*S	**Sn**	09 14 38.7	+5.7
COIS	**El Sosneado**	**4.64**	**156**	*e*P	**Pn**	09 13 43.9	+1.6
COIS				*e*P	**Pb**	09 13 47.0	-6.8
COIS				*e*S	**Sb**	09 14 55.4	+5.8
AC02	**Maricunga**	**4.72**	**32**	Pn	**Pn**	09 13 46.7	+3.0
AC02	**Maricunga**	**4.72**	**32**	*e*P	Pn	09 13 49.2	+5.5
AC02				*e*S	**Sn**	09 14 41.9	+3.6
AC02				IAML		09 15 09.1	
	comp=Z,869nm,0.8s						
RFA	**San Rafael**	**4.85**	**144**	*e*P	**Pn**	09 13 49.2	+4.1
RFA				*e*S	**Sb**	09 14 58.4	+3.0
ML02	**Panimavida**	**4.88**	**175**		**Pn**	09 13 44.2	-1.3
CYA	**Choya**	**5.85**	**67**	*e*P	Pn	09 13 44.5	-14
CYA				*e*S	**Sn**	09 15 05.9	+0.2
H03N1	**Juan Fernandez**	**6.46**	**245**	T	T	09 20 54.4	
	baz=74,slow=72,SNR=301						
VA04	**Juan Fernndez**	**6.47**	**243**		**Pn**	09 14 06.6	-0.7
VA04					**Sn**	09 15 17.6	-3.1
H03N3	**Juan Fernandez**	**6.47**	**245**	T	T	09 20 53.9	
	baz=74,slow=72,SNR=323						
H03N2	**Juan Fernandez**	**6.47**	**245**	T	T	09 20 54.9	
	baz=74,slow=72,SNR=277						
H03S3	**Juan Fernandez**	**6.60**	**242**	T	T	09 21 18.1	
	baz=74,slow=74,SNR=9.2						
H03S1	**Juan Fernandez**	**6.61**	**242**	T	T	09 21 15.7	
	baz=74,slow=74,SNR=12						
H03S2	**Juan Fernandez**	**6.62**	**242**	T	T	09 21 19.1	
	baz=74,slow=74,SNR=15						
FSA	**Cafayete**	**7.06**	**49**	*e*P	Pn	09 14 05.4	-10
AHML	**Horco Molle**	**7.07**	**56**	*e*P	**Pn**	09 14 18.4	+2.7
AHML				*e*P	**Pn**	09 14 19.0	+3.4
AHML				*e*S	**Sn**	09 15 43.4	+7.6
LC01	**Cunco**	**8.00**	**180**	Pn	Pn	09 14 25.8	-2.5
PB04	**IPOC Station P**	**8.66**	**11**	Pn	**Pn**	09 14 41.5	+3.9
LVC	**Limon Verde**	**8.67**	**19**	Pn	**Pn**	09 14 39.4	+1.6
	comp=Z,0.7nm,0.3s,baz=204,slow=9.9,SNR=1.2						
LVC	**Limon Verde**	**8.67**	**19**	Pn	**Pn**	09 14 41.0	+3.2
PLCA	**Paso Flores**	**9.89**	**174**	Pn	**Pn**	09 14 52.9	-1.4
	comp=Z,1.3nm,0.3s,baz=335,slow=12,SNR=22						
PLCA	**Paso Flores**	**9.89**	**174**	Pn	**Pn**	09 14 53.5	-0.8
LL04	**Puerto Octay**	**10.01**	**182**		**Pn**	09 14 54.2	-1.7
TRQA	**Tornquist**	**10.88**	**134**	Pn	**Pn**	09 15 07.2	-0.6
ITQB	**Itaqui**	**13.28**	**89**	Pn	**Pn**	09 15 38.2	-2.3
CPUP	**Villa Florida**	**13.59**	**74**	Pn	**Pn**	09 15 41.7	-3.2
	comp=Z,0.3nm,0.3s,baz=221,slow=19,SNR=3.8						
CPUP	**Villa Florida**	**13.59**	**74**		**Pn**	09 15 42.5	-2.4
LPAZ	**La Paz**	**14.94**	**14**	Pn	**Pn**	09 16 05.2	+1.4
	comp=Z,0.3nm,0.3s,baz=189,slow=7.8,SNR=24						
LPAZ	**La Paz**	**14.94**	**14**		**Pn**	09 16 06.0	+2.2
PLTB	**Pedras Altas**	**15.68**	**98**	Pn	**Pn**	09 16 12.1	-0.9
SIV	**San Ignacio**	**17.83**	**36**	P	**Pn**	09 16 39.8	-0.5
	comp=Z,0.5nm,0.3s,baz=227,slow=11,SNR=19						
SIV				LR	LR	09 24 51.5	
	comp=Z,496nm,20.2s,baz=244,slow=42						
USHA	**Ushuaia**	**24.07**	**175**	P	**P**	09 17 46.2	-0.9
	comp=Z,38nm,0.8s,baz=43,slow=3.1,SNR=6.9						
BDFB	**Brasilia**	**26.61**	**61**	P	**P**	09 18 09.4	-1.2
	comp=Z,4.0nm,0.5s,baz=230,slow=6.2,SNR=4.5						
BDFB				LR	LR	09 29 45.7	
	comp=Z,628nm,18.7s,baz=269,slow=39						
RPN	**Rapa Nui**	**32.84**	**267**	LR	LR	09 28 31.4	
	comp=Z,271nm,18.4s,baz=164,slow=29						
PMSA	**Palmer Station**	**34.27**	**174**	LR	LR	09 31 54.9	
	comp=Z,167nm,20.4s,baz=5.0,slow=34						
MDP	**Montagnes des**	**40.25**	**31**	LR	LR	09 39 14.7	
	comp=Z,119nm,21.3s,baz=200,slow=40						
VNA3	**Neumayer Olymp**	**52.21**	**159**	P	**P**	09 21 42.4	0.0
VNA2	**Neumayer--Watz**	**52.85**	**158**	P	**P**	09 21 47.1	0.0
	baz=287,slow=8.2						
SNAA	**Sanae**	**54.44**	**159**	P	**P**	09 21 58.5	-0.3
SNAA	**Sanae**	**54.44**	**159**	P	**P**	09 21 58.5	-0.3
	comp=Z,3.2nm,0.6s,baz=265,slow=7.2,SNR=12						
SNAA	**Sanae**	**54.44**	**159**	P	**P**	09 21 58.2	-0.7
SNAA				IAmb	IAmb	09 22 07.2	
	comp=Z,6.2nm,1.0s						
QSPA	**South Pole Qui**	**59.34**	**180**	P	**P**	09 22 34.2	+0.4
	comp=Z,6.7nm,0.7s,baz=184,slow=1.2,SNR=9.1						
QSPA	**South Pole Qui**	**59.34**	**180**	IAmb	IAmb	09 22 35.1	
	comp=Z,6.3nm,0.8s						
TXAR	**Lajitas Array**	**67.08**	**330**	P	**P**	09 23 26.8	+1.3
	comp=Z,6.7nm,0.6s,baz=152,slow=8.5,SNR=11						
TXAR	**Lajitas Array**	**67.08**	**330**	P	**P**	09 23 26.3	+0.8
W39A	**Magazine**	**68.87**	**341**	IAmb	IAmb	09 23 50.3	
	comp=Z,3.8nm,0.8s						
R40A	**Maddies Statio**	**71.39**	**343**	P	**P**	09 23 52.6	+0.8
R40A				IAmb	IAmb	09 23 53.6	
	comp=Z,6.9nm,0.8s						
P40A	**Paris**	**72.51**	**344**	IAmb	IAmb	09 24 00.5	
	comp=Z,7.5nm,0.8s						
ANMO	**Albuquerque**	**73.11**	**331**	P	**P**	09 24 05.4	+3.0
DBIC	**Dimbokro**	**74.10**	**72**	P	**P**	09 24 07.1	-1.5
	comp=Z,5.6nm,1.0s,baz=221,slow=8.4,SNR=2.1						
X16A	**Lo Mia Camp, P**	**74.88**	**327**	P	**P**	09 24 13.7	+0.9
X16A				IAmb	IAmb	09 24 16.2	
	comp=Z,4.4nm,1.1s						
MAW	**Mawson**	**76.13**	**164**	P	**P**	09 24 19.1	-0.2
	comp=Z,3.5nm,0.7s,baz=194,slow=6.7,SNR=10.0						
MAW	**Mawson**	**76.13**	**164**	IAmb	IAmb	09 24 20.2	
	comp=Z,1.0nm,0.9s						
ECSD	**EROS Data Cent**	**77.62**	**342**	P	**P**	09 24 29.0	+1.1
ECSD				IAmb	IAmb	09 24 31.5	
	comp=Z,5.3nm,1.0s						
KNB	**Kanab**	**77.65**	**328**	IAmb	IAmb	09 24 32.1	
	comp=Z,8.6nm,1.3s						
O20A	**White River Ci**	**78.28**	**332**	P	**P**	09 24 34.1	+2.1
O20A				IAmb	IAmb	09 24 58.2	
	comp=Z,7.6nm,1.4s						
CCUT	**Cedar City**	**78.33**	**328**	IAmb	IAmb	09 24 36.1	
	comp=Z,4.7nm,1.1s						
SHPR	**Sheep Range**	**78.34**	**326**	P	**P**	09 24 34.2	+1.8
SHPR				IAmb	IAmb	09 24 35.7	
	comp=Z,3.2nm,1.1s						
PRN	**Pahroc Range**	**79.01**	**326**	IAmb	IAmb	09 24 39.6	
	comp=Z,4.8nm,1.0s						
SPR3	**Spring Creek 3**	**79.95**	**328**	IAmb	IAmb	09 24 44.1	
	comp=Z,7.6nm,1.5s						
R11A	**Troy Canyon, C**	**80.01**	**327**	P	**P**	09 24 41.9	+0.5
DUG	**Dugway, Tooele**	**80.24**	**329**	P	**P**	09 24 43.7	+1.1
HWUT	**Hardware Ranch**	**80.88**	**331**	IAmb	IAmb	09 24 48.2	
	comp=Z,3.6nm,0.8s						
PDAR	**Pinedale Array**	**81.04**	**333**	P	**P**	09 24 47.2	+0.2
	comp=Z,0.4nm,0.6s,baz=156,slow=7.2,SNR=5.2						
NVAR	**Mina Array Bea**	**81.39**	**325**	P	**P**	09 24 50.1	+1.2
	comp=Z,0.8nm,0.7s,baz=156,slow=6.6,SNR=7.0						
BOSA	**Boshof**	**81.44**	**118**	P	**P**	09 24 49.8	+0.3
	comp=Z,2.6nm,0.9s,baz=284,slow=4.2,SNR=1.9						
YERR	**Yerington**	**82.29**	**325**	IAmb	IAmb	09 24 56.8	
	comp=Z,8.2nm,1.3s						
TORD	**Torodi Ar. Bea**	**83.06**	**70**	P	**P**	09 24 57.7	-0.2
	comp=Z,1.5nm,0.7s,baz=279,slow=5.6,SNR=9.7						
TORD	**Torodi Ar. Bea**	**83.06**	**70**	P	**P**	09 24 57.9	0.0
TORD				IAmb	IAmb	09 25 01.0	
	comp=Z,4.9nm,1.4s						
ULM	**Lac du Bonnet**	**83.52**	**345**	P	**P**	09 25 00.9	+1.5
	comp=Z,2.7nm,0.6s,baz=169,slow=9.4,SNR=2.9						
WRA	**Warramunga Arr**	**123.52**	**210**	PKP	**PKPdf**	09 31 28.8	-1.1
	comp=Z,0.9nm,0.5s,baz=132,slow=1.4,SNR=21						
H11S2	**WAKE ISLAND Hyl**	**25.86**	**271**	T	T	11 50 16.8	
	baz=116,slow=75,SNR=79						
H11S1	**WAKE ISLAND Hyl**	**25.87**	**271**	T	T	11 50 18.5	
	baz=116,slow=75,SNR=90						
H11S3	**WAKE ISLAND Hyl**	**25.88**	**271**	T	T	11 50 18.1	
	baz=116,slow=75,SNR=79						
H11N3	**WAKE ISLAND Hyl**	**26.19**	**273**	T	T	11 50 39.9	
	baz=116,slow=75,SNR=27						
H11N1	**WAKE ISLAND Hyl**	**26.21**	**273**	T	T	11 50 42.0	
	baz=116,slow=75,SNR=13						
H11N2	**WAKE ISLAND Hyl**	**26.21**	**273**	T	T	11 50 45.4	
	baz=116,slow=75,SNR=28						
YAK	**Yakutsk**	**145.82**	**342**	PKPbc	**PKPdf**	09 32 09.9	+0.1
	comp=Z,13nm,0.5s,baz=237,slow=1.4,SNR=4.4						
KURBB	**Kurchatov Arra**	**150.47**	**40**	PKPbc	**PKPbc**	09 32 23.2	0.0
	comp=Z,0.7nm,0.6s,baz=311,slow=2.8,SNR=3.1						
ZALV	**Zalesovo Beam**	**151.50**	**29**	PKPbc	**PKPbc**	09 32 25.2	-0.3
	comp=Z,2.3nm,0.5s,baz=306,slow=3.8,SNR=6.4						
KLR	**Kul'dur**	**154.41**	**322**	PKPbc	**PKPbc**	09 32 30.8	-1.2
	comp=Z,0.4nm,0.3s,baz=140,slow=3.4,SNR=3.5						
MKAR	**Makanchi Array**	**154.55**	**44**	PKPbc	**PKPbc**	09 32 30.9	-1.5
	comp=Z,0.5nm,0.8s,baz=318,slow=1.9,SNR=2.5						
MKAR				PKPab	**PKPab**	09 32 48.2	+1.1
	comp=Z,1.5nm,0.9s,baz=284,slow=7.3,SNR=5.2						

IDC 17 09:18:30.8±19.0, 12°.18N×145°.69E, h0^{km}, mb3.5/4, mb1 3.6/4, mb1mx3.4/50, mbtmp3.5/4, MS3.7/4, Ms1 3.7/4, ms1mx3.2/33, Error ellipse: s-maj=776.1km s-min=27.4km az=83.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.82**	**199**	P	P	09 25 14.7	-0.3
	0.4nm,0.9s,baz=22,slow=9.2,SNR=2.0						
FITZ	**Fitzroy Crossi**	**36.01**	**214**	LR	LR	09 41 27.6	
	comp=Z,40nm,18.1s,baz=29,slow=38						
ASAR	**Alice Springs**	**37.44**	**198**	P	P	09 25 46.1	0.0
	0.3nm,0.7s,baz=20,slow=8.6,SNR=5.8						
KLR	**Kul'dur**	**38.71**	**345**	LR	LR	09 42 16.5	
	comp=Z,124nm,18.2s,baz=152,slow=37						
MSVF	**Nonsavu**	**43.64**	**132**	LR	LR	09 41 02.7	
	comp=Z,142nm,21.4s,baz=88,slow=31						
MKAR	**Makanchi Array**	**63.06**	**316**	P	P	09 28 60.0	-0.1
	0.5nm,0.8s,baz=95,slow=6.5,SNR=2.6						
KURBB	**Kurchatov Arra**	**66.21**	**320**	P	P	09 29 20.6	0.0
	0.5nm,0.5s,baz=103,slow=6.4,SNR=6.4						
NOA	**NORSAR Array B**	**98.65**	**339**	LR	LR	10 18 44.4	
	comp=Z,46nm,20.7s,baz=80,slow=37						

*IDC **17** 09:19:42.9±2.3, 31°.25S×71°.84W, h0^{km}, mb4.2/2, mb1 4.1/7, mb1mx3.8/28, mbtmp3.9/7, ML3.7/5, Error ellipse: s-maj=64.2km s-min=30.6km az=102.0*

ISC 17 09:19:44.9±1.6, 31°.3S±0°.1×71°.9W±0°.2, h12^{km}, n17, σ 1°.06/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N1	**Juan Fernandez**	**6.36**	**248**	T	T	09 28 00.9	
	baz=75,slow=72,SNR=222						
H03N3	**Juan Fernandez**	**6.37**	**248**	T	T	09 27 57.6	
	baz=75,slow=72,SNR=278						
H03N2	**Juan Fernandez**	**6.37**	**248**	T	T	09 27 59.2	
	baz=75,slow=72,SNR=183						
LVC	**Limon Verde**	**9.00**	**18**	Pn	**Pn**	09 21 56.4	+1.4
	0.8nm,0.3s,baz=174,slow=5.9,SNR=2.0						
PLCA	**Paso Flores**	**9.52**	**174**	Pn	**Pn**	09 22 02.2	+0.3
	0.1nm,0.3s,baz=101,slow=16,SNR=0.9						
CPUP	**Villa Florida**	**13.65**	**73**	Pn	**Pn**	09 22 58.3	0.0
	0.2nm,0.3s,baz=308,slow=16,SNR=1.6						
LPAZ	**La Paz**	**15.28**	**14**	Pn	**Pn**	09 23 19.7	-1.3
	0.2nm,0.3s,baz=199,slow=9.3,SNR=5.8						
SIV	**San Ignacio**	**18.10**	**35**	P	**Pn**	09 23 55.7	-0.6
	0.3nm,0.3s,baz=223,slow=10,SNR=3.6						
BDFB	**Brasilia**	**26.74**	**60**	P	**P**	09 25 23.6	-1.1
	2.2nm,0.4s,baz=216,slow=10,SNR=3.6						
TORD	**Torodi Ar. Bea**	**83.14**	**70**	P	**P**	09 32 11.3	+0.2
	1.6nm,0.9s,baz=231,slow=4.2,SNR=6.3						
H11S2	**WAKE ISLAND Hyl**	**25.92**	**271**	T	T	11 57 33.6	
	baz=116,slow=75,SNR=64						
H11S1	**WAKE ISLAND Hyl**	**25.93**	**271**	T	T	11 57 33.6	
	baz=116,slow=75,SNR=24						
H11S3	**WAKE ISLAND Hyl**	**25.94**	**271**	T	T	11 57 34.7	
	baz=116,slow=75,SNR=50						
H11N3	**WAKE ISLAND Hyl**	**26.26**	**272**	T	T	11 57 56.7	
	baz=116,slow=76,SNR=15						
H11N1	**WAKE ISLAND Hyl**	**26.28**	**272**	T	T	11 57 57.6	
	baz=116,slow=76,SNR=7.2						
H11N2	**WAKE ISLAND Hyl**	**26.28**	**273**	T	T	11 57 57.9	
	baz=116,slow=76,SNR=25						
ZALV	**Zalesovo Beam**	**151.79**	**30**	PKPbc	**PKPbc**	09 39 38.4	-0.6
	1.2nm,0.4s,baz=288,slow=2.4,SNR=1.7						

**MEX 17 09:22:34.5±0.5, 15°.96N×97°.05W,

ROCH					*e*S		**Sn**	**09 28 51.2**	**+1.0**
ROCH					IAML			09 28 56.3	
	comp=N,8μm,0.2s								
LCO	**Las Campanas**	**2.31**	**25**	*e*P			**Pn**	**09 28 31.9**	**+1.4**
LCO				*i* S			**Sb**	**09 29 01.5**	**-1.6**
MT05	**Renca**	**2.45**	**158**	*e*P			**Pn**	**09 28 32.5**	**+0.1**
MT05				*e*S			**Sn**	**09 29 01.5**	**-0.1**
MT05				IAML				09 29 16.8	
	comp=E,6μm,0.3s								
MT05	**Renca**	**2.45**	**158**				**Pn**	**09 28 32.8**	**+0.5**
VA05	**Santo Domingo**	**2.54**	**176**	*e*P			**Pn**	**09 28 32.9**	**-0.6**
VA05				*e*S			**Sn**	**09 29 02.2**	**-1.5**
VA05				IAML				09 29 18.6	
	comp=E,4μm,0.3s								
MT09	**Talagante**	**2.75**	**165**	*e*P			**Pn**	**09 28 36.6**	**+0.1**
MT09				*i* S			**Sn**	**09 29 08.6**	**-0.5**
MT09				IAML				09 29 21.1	
	comp=N,3μm,0.6s								
MT09	**Talagante**	**2.75**	**165**	Pn			**Pn**	**09 28 38.1**	**+1.6**
MT01	**Popeta**	**2.79**	**170**	*e*P			**Pn**	**09 28 36.9**	**0.0**
MT01				*e*S			**Sn**	**09 29 08.9**	**-0.8**
MT01				IAML				09 29 20.7	
	comp=E,2μm,0.4s								
AC04	**Llanos de Chal**	**2.97**	**13**	Pn			**Pn**	**09 28 38.0**	**-1.4**
LMEL	**Las Melosas**	**3.05**	**154**	*e*P			**Pn**	**09 28 41.9**	**+1.1**
LMEL				*e*S			**Sn**	**09 29 16.4**	**-0.2**
LMEL				IAML				09 29 26.0	
	comp=N,2μm,0.3s								
BO01	**Tunca**	**3.33**	**169**	Pn			**Pn**	**09 28 45.9**	**+1.6**
GO05	**Huala**	**3.89**	**181**	Pn			**Pn**	**09 28 51.4**	**-0.7**
ML02	**Panimavida**	**4.65**	**176**	Pn			**Pn**	**09 29 04.2**	**+1.7**
H03N1	**Juan Fernandez**	**6.44**	**247**	T			T	09 36 09.6	
	baz=77,slow=72,SNR=131								
H03N3	**Juan Fernandez**	**6.45**	**247**	T			T	09 36 11.1	
	baz=77,slow=72,SNR=100								
H03N2	**Juan Fernandez**	**6.45**	**247**	T			T	09 36 10.4	
	baz=77,slow=72,SNR=109								
H03S3	**Juan Fernandez**	**6.57**	**244**	T			T	09 36 14.7	
	baz=83,slow=75,SNR=10								
H03S1	**Juan Fernandez**	**6.57**	**244**	T			T	09 36 13.1	
	baz=83,slow=75,SNR=9.9								
PB14	**IPOC Station P**	**6.58**	**11**				**Sb**	**09 31 06.4**	**+0.2**
H03S2	**Juan Fernandez**	**6.59**	**244**	T			T	09 36 12.6	
	baz=83,slow=75,SNR=16								
LVC	**Limon Verde**	**8.86**	**18**	Pn			**Pn**	**09 29 58.9**	**-1.7**
	comp=N,0.6nm,0.3s,baz=330,slow=16,SNR=1.3								
PB07	**IPOC Station P**	**9.51**	**11**	Pn			Pn	09 30 15.1	+5.7
PLCA	**Paso Flores**	**9.66**	**174**	Pn			**Pn**	**09 30 10.9**	**-0.3**
	comp=N,0.7nm,0.3s,baz=335,slow=11,SNR=11								
TRQA	**Tornquist**	**10.66**	**133**				**Pn**	**09 30 25.5**	**+0.5**
CPUP	**Villa Florida**	**13.58**	**73**	Pn			**Pn**	**09 31 05.2**	**+0.3**
	comp=N,0.2nm,0.3s,baz=207,slow=14,SNR=2.0								
LPAZ	**La Paz**	**15.14**	**14**	Pn			**Pn**	**09 31 26.7**	**0.0**
	comp=N,0.1nm,0.3s,baz=179,slow=5.9,SNR=4.0								
SIV	**San Ignacio**	**17.97**	**36**	P			**P**	**09 32 02.4**	**-0.1**
	comp=N,0.2nm,0.3s,baz=233,slow=12,SNR=4.4								
BDFB	**Brasilia**	**26.65**	**60**	P			**P**	**09 33 30.1**	**-0.8**
	comp=N,6.1nm,1.0s,baz=224,slow=9.7,SNR=3.8								
BDFB	**Brasilia**	**26.65**	**60**	IAmb			IAmb	09 33 51.5	
	comp=Z,21nm,1.4s								
RUSC	**La Rusia**	**36.81**	**358**	P			**P**	**09 35 02.7**	**+2.2**
RUSC				IAmb			IAmb	09 35 05.8	
	comp=Z,11nm,1.2s								
QSPA	**South Pole Qui**	**59.12**	**180**	P			**P**	**09 37 52.9**	**+0.9**
	comp=Z,5.1nm,0.8s,baz=156,slow=0.9,SNR=13								
QSPA	**South Pole Qui**	**59.12**	**180**	IAmb			IAmb	09 38 18.7	
	comp=Z,7.4nm,1.4s								
TXAR	**Lajitas Array**	**67.32**	**330**	P			**P**	**09 38 47.1**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=150,slow=8.5,SNR=4.7								
DBIC	**Dimbokro**	**74.10**	**72**	P			**P**	**09 39 28.5**	**+0.2**
	comp=Z,4.8nm,0.6s,baz=219,slow=6.1,SNR=6.3								
MAW	**Mawson**	**75.89**	**164**	P			**P**	**09 39 37.2**	**-0.6**
	comp=Z,2.6nm,0.8s,baz=202,slow=5.3,SNR=5.7								
TORD	**Torodi Ar. Bea**	**83.06**	**70**	P			**P**	**09 40 17.9**	**+0.2**
	comp=Z,4.4nm,0.8s,baz=265,slow=4.8,SNR=18								
TORD	**Torodi Ar. Bea**	**83.06**	**70**	P			**P**	**09 40 17.8**	**+0.2**
TORD				IAmb			IAmb	09 40 18.9	
	comp=Z,4.7nm,0.9s								
WRA	**Warramunga Arr**	**123.36**	**210**	PKP			**PKPdf**	**09 46 48.6**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=151,slow=1.9,SNR=7.5								
H11S2	**WAKE ISLAND Hyl**	**25.94**	**271**	T			T	12 05 42.1	
	baz=116,slow=75,SNR=42								
H11S1	**WAKE ISLAND Hyl**	**25.96**	**271**	T			T	12 05 43.0	
	baz=116,slow=75,SNR=28								
H11S3	**WAKE ISLAND Hyl**	**25.96**	**271**	T			T	12 05 42.1	
	baz=116,slow=75,SNR=27								
H11N3	**WAKE ISLAND Hyl**	**26.28**	**273**	T			T	12 06 07.9	
	baz=116,slow=75,SNR=17								
H11N1	**WAKE ISLAND Hyl**	**26.30**	**273**	T			T	12 06 07.6	
	baz=116,slow=75,SNR=6.2								
H11N2	**WAKE ISLAND Hyl**	**26.30**	**273**	T			T	12 06 09.3	
	baz=116,slow=75,SNR=22								
ZALV	**Zalesovo Beam**	**151.66**	**30**	PKPbc			**PKPbc**	**09 47 45.9**	**+0.4**
	comp=Z,4.7nm,0.7s,baz=290,slow=2.9,SNR=9.2								
KSH	**Kashi**	**152.53**	**63**	PKPbc			**PKPdf**	**09 47 39.0**	**-2.2**
KSH				sPKP				09 47 52.3	

*IDC **17** 09:33:27.8±1.5,30°.35S×71°.77W,h0km,mb3.8/3, mb1 4.0/7,mb1mx3.8/34,mbtmp3.8/7,ML3.6/4,Error ellipse: s-maj=41.2km s-min=30.6km az=98.0*

ISC 17 09:33:29.1±1.2,30°4S±0°.1×71°.7W±0°.3,h10km,n14, σ1$13/8,mb4.0/3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N1	**Juan Fernandez**	**6.85**	**241**	T	T	09 42 08.7	
	baz=74						
H03N2	**Juan Fernandez**	**6.87**	**242**	T	T	09 42 08.7	
	baz=74,slow=74,SNR=16						
H03N3	**Juan Fernandez**	**6.87**	**241**	T	T	09 42 09.8	
	baz=74,slow=74,SNR=16						
LVC	**Limon Verde**	**8.11**	**19**	Pn	**Pn**	**09 35 25.1**	**-2.2**
	0.3nm,0.3s,baz=292,slow=18,SNR=1.2						
LVC				Lg	Lg	09 37 31.2	
	1.1nm,0.3s,baz=318,slow=23,SNR=2.4						
PLCA	**Paso Flores**	**10.40**	**175**	Pn	**Pn**	**09 35 57.9**	**-0.4**
	0.2nm,0.3s,baz=43,slow=6.3,SNR=1.9						
LPAZ	**La Paz**	**14.38**	**14**	Pn	**Pn**	**09 36 54.1**	**+0.7**
	0.1nm,0.3s,baz=193,slow=6.6,SNR=6.9						
SIV	**San Ignacio**	**17.30**	**37**	P	**P**	**09 37 32.9**	**+0.5**
	0.3nm,0.3s,baz=227,slow=11,SNR=11						
BDFB	**Brasilia**	**26.20**	**61**	P	**P**	**09 39 04.6**	**+0.4**
	1.7nm,0.5s,baz=21,slow=24,SNR=3.1						
TXAR	**Lajitas Array**	**66.72**	**330**	P	**P**	**09 44 20.7**	**+0.2**
	0.4nm,0.8s,baz=160,slow=7.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**82.71**	**70**	P	**P**	**09 45 54.2**	**+0.7**
	1.1nm,0.9s,baz=238,slow=2.9,SNR=4.7						
H11S2	**WAKE ISLAND Hyl**	**26.03**	**272**	T	T	12 11 18.2	
	baz=115,slow=75,SNR=5.1						
H11S1	**WAKE ISLAND Hyl**	**26.04**	**272**	T	T	12 11 17.0	
	baz=115,slow=75,SNR=7.0						
H11S3	**WAKE ISLAND Hyl**	**26.04**	**272**	T	T	12 11 19.6	
	baz=115,slow=75,SNR=5.2						
ZALV	**Zalesovo Beam**	**150.96**	**29**	PKPbc	**PKiKP**	**09 53 22.1**	**-0.1**
	3.0nm,0.7s,baz=315,slow=0.4,SNR=7.3						

*IDC **17** 09:34:27.4±1.8,30°.66S×72°.21W,h0km,mb4.0/2, mb1 3.9/5,mb1mx3.7/34,mbtmp3.8/5,ML3.7/3,Error ellipse: s-maj=78.0km s-min=28.5km az=101.0*

ISC 17 09:34:29.9±1.6,30°.7S±0°.1×72°.2W±0°.4,h16km,n7,σ0$49/7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**10.11**	**173**	Pn	**Pn**	**09 36 54.2**	**-0.4**
	0.1nm,0.3s,baz=354,slow=18,SNR=0.9						
LPAZ	**La Paz**	**14.81**	**15**	Pn	**Pn**	**09 37 59.5**	**+0.1**
	0.2nm,0.3s,baz=192,slow=6.6,SNR=2.5						
SIV	**San Ignacio**	**17.83**	**37**	P	**P**	**09 38 37.6**	**+0.1**
	0.3nm,0.3s,baz=211,slow=9.6,SNR=5.8						
SNAA	**Sanae**	**54.70**	**159**	P	**P**	**09 43 58.8**	**+0.8**
	0.8nm,0.5s,baz=287,slow=13,SNR=2.2						
TORD	**Torodi Ar. Bea**	**83.23**	**70**	P	**P**	**09 46 55.5**	**-0.4**
	1.1nm,0.7s,baz=253,slow=4.2,SNR=5.0						
WRA	**Warramunga Arr**	**123.56**	**210**	PKP	**PKPdf**	**09 53 27.3**	**0.0**
	0.4nm,0.9s,baz=174,slow=1.9,SNR=1.8						
ZALV	**Zalesovo Beam**	**151.45**	**29**	PKPbc	**PKPbc**	**09 54 22.4**	**-0.1**
	6.5nm,0.8s,baz=304,slow=2.7,SNR=6.9						

IDC 17 09:34:55.8±2.1,5°.88S×150°.56E,h0km,mb3.4/4, mb1 3.7/4,mb1mx3.4/41,mbtmp3.4/4,MS3.1/1,Ms1 3.3/1, ms1mx2.8/16,Error ellipse: s-maj=107.8km s-min=29.1km az=129.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.07**	**227**	P	P	09 39 42.5	+0.7
	0.3nm,0.4s,baz=52,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**23.87**	**220**	P	P	09 40 10.1	-1.1
	0.3nm,0.6s,baz=54,slow=8.6,SNR=9.1						
FITZ	**Fitzroy Crossi**	**27.19**	**241**	P	P	09 40 41.8	+0.5
	0.7nm,0.5s,baz=52,slow=8.4,SNR=1.4						
CMAR	**Chiang Mai Arr**	**56.34**	**297**	LR	LR	10 07 36.7	
	comp=Z,17nm,20.8s,baz=50,slow=35						
ILAR	**Eielson Array**	**84.00**	**22**	P	P	09 47 27.9	+0.2
	0.3nm,0.5s,baz=253,slow=5.6,SNR=4.3						

*IDC **17** 09:37:37.3±0.7,31°.68S×71°.90W,h0km,mb4.2/9, mb1 4.2/12,mb1mx4.1/34,mbtmp4.1/12,ML3.8/3,Error ellipse: s-maj=27.6km s-min=18.5km az=95.0*

*NEIC **17** 09:37:37.9±1.8,31°.79S±0°.04×71°.83W±0°.09,h19km±5km, mb4.4/9,Error ellipse: s-maj=11.0km s-min=5.6km az=97.0*

ISC 17 09:37:35.5±0.7,31°.76S±0°.05×71°.85W±0°.09,h10km,n37, σ1$10/35,mb4.4/9,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**1.10**	**10**		**Pn**	**09 37 58.4**	**+1.4**
VA01	**Torpederas**	**1.27**	**172**		**Pn**	**09 37 59.9**	**+0.6**
CO03	**El Pedregal**	**1.36**	**47**		**Pg**	**09 38 02.2**	**+0.6**
VA03	**San Esteban**	**1.49**	**132**		**Pn**	**09 38 01.4**	**-1.0**
GO04	**Tololo Observa**	**1.83**	**30**	Pn	**Pb**	**09 38 10.0**	**+0.8**
MT05	**Renca**	**1.88**	**150**	Pn	**Pb**	**09 38 09.9**	**0.0**
VA05	**Santo Domingo**	**1.90**	**174**	Pn	**Pn**	**09 38 08.2**	**+0.2**
MT09	**Talagante**	**2.13**	**160**	Pn	**Pn**	**09 38 13.1**	**+1.8**
MT01	**Popeta**	**2.15**	**167**	Pn	**Pn**	**09 38 12.7**	**+1.2**
BO01	**Tunca**	**2.70**	**166**	Pn	**Pn**	**09 38 20.3**	**+1.4**
ZON	**Zonda**	**2.71**	**86**	Pn	**Pn**	**09 38 19.5**	**+0.2**
LC01	**Cunco**	**7.12**	**180**	Pn	**Pn**	**09 39 17.1**	**-2.6**
PLCA	**Paso Flores**	**9.01**	**174**	Pn	**Pn**	**09 39 46.7**	**+1.0**
	0.3nm,0.3s,baz=335,slow=9.5,SNR=5.9						
LPAZ	**La Paz**	**15.78**	**13**	Pn	**Pn**	**09 41 18.5**	**+0.1**
	0.2nm,0.3s,baz=184,slow=7.3,SNR=6.7						
LPAZ	**La Paz**	**15.78**	**13**		**Pn**	**09 41 18.5**	**+0.1**
SIV	**San Ignacio**	**18.52**	**34**	P	**P**	**09 41 51.5**	**-0.6**
	0.1nm,0.3s,baz=216,slow=9.3,SNR=5.2						
SAML	**Samuel**	**24.09**	**21**	P	**P**	**09 42 52.2**	**+0.9**
BDFB	**Brasilia**	**27.00**	**59**	P	**P**	**09 43 17.7**	**-0.1**
	6.1nm,0.6s,baz=237,slow=7.4,SNR=5.4						
VNA3	**Neumayer Olymp**	**51.37**	**159**	P	**P**	**09 46 41.1**	**+1.2**
VNA1	**Neumayer--Stat**	**51.67**	**158**	P	**P**	**09 46 43.6**	**+1.6**
VNA2	**Neumayer--Watz**	**52.01**	**158**	P	**P**	**09 46 45.7**	**+1.1**
	baz=288,slow=8.8						
SNAA	**Sanae**	**53.60**	**158**	P	**P**	**09 46 57.5**	**+1.0**
SNAA	**Sanae**	**53.60**	**158**	P	**P**	**09 46 57.2**	**+0.8**
	7.4nm,0.9s,baz=275,slow=6.9,SNR=26						
SNAA	**Sanae**	**53.60**	**158**	P	**P**	**09 46 57.2**	**+0.8**
SNAA				IAmb	IAmb	09 46 58.3	
	comp=Z,6.1nm,0.7s						
QSPA	**South Pole Qui**	**58.47**	**180**	P	**P**	**09 47 31.8**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=58,slow=3.2,SNR=17						
QSPA	**South Pole Qui**	**58.47**	**180**	IAmb	IAmb	09 47 42.3	
	comp=Z,3.4nm,0.8s						
TXAR	**Lajitas Array**	**67.87**	**330**	P	**P**	**09 48 34.0**	**-0.2**
	comp=Z,0.2nm,0.8s,baz=147,slow=8.4,SNR=3.2						
DBIC	**Dimbokro**	**74.32**	**72**	P	**P**	**09 49 12.2**	**-1.4**
	comp=Z,6.6nm,0.9s,baz=210,slow=5.8,SNR=4.1						
KOWA	**Kowa**	**79.58**	**66**	P	**P**	**09 49 42.6**	**-0.5**
	comp=Z,2.6nm,0.6s,baz=228,slow=6.2,SNR=6.8						
KOWA	**Kowa**	**79.58**	**66**	IAmb	IAmb	09 49 55.7	
	comp=Z,4.5nm,0.9s						
PDAR	**Pinedale Array**	**81.85**	**333**	P	**P**	**09 49 52.7**	**-2.3**
	comp=Z,0.1nm,0.4s,baz=157,slow=4.8,SNR=2.2						
NVAR	**Mina Array Bea**	**82.15**	**325**	P	**P**	**09 49 56.6**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=154,slow=5.4,SNR=5.9						
TORD	**Torodi Ar. Bea**	**83.30**	**70**	P	**P**	**09 50 03.3**	**+0.4**
	comp=Z,3.7nm,0.8s,baz=264,slow=4.9,SNR=16						
TORD	**Torodi Ar. Bea**	**83.30**	**70**	P	**P**	**09 50 03.5**	**+0.6**
ASAR	**Alice Springs**	**119.62**	**207**	PKP	**PKPdf**	**09 56 26.4**	**+0.1**
	comp=Z,0.2nm,0.8s,baz=132,slow=2.6,SNR=1.7						
WRA	**Warramunga Arr**	**122.78**	**210**	PKP	**PKPdf**	**09 56 30.7**	**-1.7**
	comp=Z,0.3nm,0.8s,baz=126,slow=1.3,SNR=4.7						
ZALV	**Zalesovo Beam**	**152.24**	**30**	PKPbc	**PKPbc**	**09 57 30.7**	**-0.2**
	comp=Z,3.0nm,0.5s,baz=298,slow=1.4,SNR=7.4						

*IDC **17** 09:39:47.7±0.8,31°.84S×72°.07W,h0km,mb4.1/7, mb1 4.2/8,mb1mx4.0/29,mbtmp4.1/8,ML4.4/1,MS3.9/1, Ms1 3.9/1,ms1mx3.2/20,Error ellipse: s-maj=33.0km s-min=22.2km az=92.0*

ISC 17 09:39:50.3±0.8,31°.9S±0°.1×72°.1W±0°.2,h17km,n16, σ1$04/16,mb4.4/7,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**8.92**	**173**	Pn	**Pn**	**09 41 56.7**	**-1.7**
	0.9nm,0.3s,baz=333,slow=12,SNR=12						
BDFB	**Brasilia**	**27.22**	**59**	P	**P**	**09 45 32.6**	**-1.0**
	4.5nm,0.6s,baz=222,slow=6.5,SNR=4.9						
VNA3	**Neumayer Olymp**	**51.33**	**158**	P	**P**	**09 48 54.8**	**+1.5**
VNA1	**Neumayer--Stat**	**51.63**	**158**	P	**P**	**09 48 56.4**	**+0.9**
VNA2	**Neumayer--Watz**	**51.98**	**158**	P	**P**	**09 48 59.6**	**+1.5**
	baz=285,slow=8.5						
SNAA	**Sanae**	**53.56**	**158**	P	**P**	**09 49 11.1**	**+1.2**
SNAA	**Sanae**	**53.56**	**158**	P	**P**	**09 49 10.2**	**+0.4**
	5.3nm,0.8s,baz=291,slow=6.3,SNR=11						
QSPA	**South Pole Qui**	**58.35**	**180**	P	**P**	**09 49 45.4**	**+1.1**
	5.0nm,1.0s,baz=155,slow=3.7,SNR=6.1						
QSPA				LR	LR	10 11 36.8	
	comp=Z,116nm,21.9s,baz=30,slow=33						
TXAR	**Lajitas Array**	**67.88**	**330**	P	**P**	**09 50 47.1**	**-0.8**
	0.1nm,0.5s,baz=155,slow=8.7,SNR=2.2						
DBIC	**Dimbokro**	**74.54**	**72**	P	**P**	**09 51 28.4**	**0.0**
	3.3nm,0.8s,baz=210,slow=8.1,SNR=1.8						
NVAR	**Mina Array Bea**	**82.13**	**325**	P	**P**	**09 52 10.5**	**+0.3**
	0.1nm,0.6s,baz=162,slow=6.2,SNR=3.2						
TORD	**Torodi Ar. Bea**	**83.52**	**70**	P	**P**	**09 52 17.9**	**+0.2**
	3.2nm,0.7s,baz=260,slow=4.7,SNR=10						
ASAR	**Alice Springs**	**119.43**	**207**	PKP	**PKiKP**	**09 58 38.9**	**-0.6**
	0.3nm,0.8s,baz=152,slow=1.4,SNR=2.2						
WRA	**Warramunga Arr**	**122.59**	**210**	PKP	**PKiKP**	**09 58 45.2**	**-0.6**
	0.5nm,1.0s,baz=157,slow=1.9,SNR=4.6						
BVAR	**Borovoye Array**	**145.73**	**41**	PKPbc	**PKPab**	**09 59 28.6**	**+0.5**
	0.6nm,0.3s,baz=270,slow=7.4,SNR=4.2						
ZALV	**Zalesovo Beam**	**152.43**	**30**	PKPbc	**PKiKP**	**09 59 45.5**	**+0.3**
	1.2nm,0.5s,baz=326,slow=2.1,SNR=2.9						

*NEIC **17** 09:41:12.4±1.6,21°.59S±0°.05×68°.41W±0°.08,h126km±8km, Error ellipse: s-maj=11.7km s-min=6.4km az=69.0*

*IDC **17** 09:41:12.7±0.9,21°.60S×68°.14W,h117km±8km,mb4.0/7, mb1 4.1/10,mb1mx3.8/29,mbtmp4.4/10,Error ellipse: s-maj=22.1km s-min=12.9km az=108.0*

*VAO **17** 09:41:13.6±0.3,21°.48S×68°.37W,h130km,mb4.5*

*GUC **17** 09:41:13.1±0.7,21°.59S×68°.46W,h127km±6km,ML4.3*

ISC 17 09:41:12.3±0.6,21°.54S±0°.03×68°.38W±0°.05,h121km±6km, n83,σ1$19/95,mb4.3/8,2C-4D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.84**	**252**		**Pn**	**09 41 33.8**	**+0.7**
PB01	**IPOC Station P**	**1.14**	**295**	*i*P	**Pn**	**09 41 36.4**	**+0.5**
PB01				*e*S	**Sn**	**09 41 54.1**	**+0.3**
PB01				IAML		09 41 56.3	
	comp=E,5μm,0.3s						
PB01	**IPOC Station P**	**1.14**	**295**		**Pn**	**09 41 36.4**	**+0.5**
LVC	**Limon Verde**	**1.18**	**204**	P	**Pn**	**09 41 37.2**	**+0.6**
	comp=E,329nm,0.3s,baz=30,slow=12,SNR=1304						
LVC				S	**Sn**	**09 41 55.8**	**+0.8**
	comp=E,356nm,0.3s,baz=112,slow=19,SNR=34						
LVC	**Limon Verde**	**1.18**	**204**	*e*P	**Pn**	**09 41 36.8**	**+0.2**
LVC				*e*S	**Sn**	**09 41 55.2**	**+0.2**
LVC	**Limon Verde**	**1.18**	**204**	*e*P	**Pn**	**09 41 37.3**	**+0.8**
PB03	**IPOC Station P**	**1.37**	**248**	*i*P	**Pn**	**09 41 38.5**	**+0.1**
PB03				*e*S	**Sn**	**09 41 57.6**	**-0.8**
PB03				IAML		09 41 59.2	
	comp=N,4μm,0.4s						
PB07	**IPOC Station P**	**1.41**	**262**	*i*P	**Pn**	**09 41 39.1**	**+0.1**
PB07				*e*S	**Sn**	**09 41 58.7**	**-0.5**
PB07				IAML		09 42 00.5	
	comp=E,7μm,0.4s						
PB07	**IPOC Station P**	**1.41**	**262**		**Pn**	**09 41 38.9**	**0.0**
AF01	**San Pedro de A**	**1.42**	**172**		**Pn**	**09 41 40.7**	**+1.5**
PB02	**IPOC Station P**	**1.43**	**278**	*e*P	**Pn**	**09 41 39.1**	**+0.1**
PB02				*e*S	**Sn**	**09 41 58.8**	**-0.5**
PB02				IAML		09 42 00.6	
	comp=E,8μm,0.2s						
PB08	**IPOC Station P**	**1.56**	**332**	*i*P	**Pn**	**09 41 42.6**	**+1.7**
PB08				*e*S	**Sn**	**09 42 04.5**	**+1.8**
PB08				IAML		09 42 06.1	
	comp=E,2μm,0.2s						
PB08	**IPOC Station P**	**1.56**	**332**		**Pn**	**09 41 42.7**	**+1.7**
PB06	**IPOC Station P**	**1.60**	**223**		**Pn**	**09 41 41.5**	**+0.4**
PB04	**IPOC Station P**	**1.82**	**244**	*e*P	**Pn**	**09 41 43.4**	**-0.4**
PB04				*e*S	**Sn**	**09 42 06.2**	**-1.6**
PB04				IAML		09 42 15.0	
	comp=E,2μm,0.1s						
PB04	**IPOC Station P**	**1.82**	**244**		**Pn**	**09 41 43.5**	**-0.3**
TA01	**Diego Aracena**	**1.94**	**300**	*e*P	**Pn**	**09 41 44.8**	**-0.2**
TA01				*e*S	**Sn**	**09 42 09.1**	**-0.9**
TA01				IAML		09 42 10.8	
	comp=E,3μm,0.2s						
TA01	**Diego Aracena**	**1.94**	**300**	Pn	**Pn**	**09 41 45.0**	**0.0**
PB15	**IPOC Station P**	**1.94**	**211**		**Pn**	**09 41 45.5**	**+0.2**
TA02	**Huaiquique**	**2.06**	**307**	*e*P	**Pn**	**09 41 46.4**	**-0.2**
TA02				*e*S	**Sn**	**09 42 11.6**	**-1.2**
TA02	**Huaiquique**	**2.06**	**307**		**Pn**	**09 41 46.6**	**0.0**
PB11	**IPOC Station P**	**2.13**	**326**	*i*P	**Pn**	**09 41 47.7**	**+0.1**
PB11				*e*S	**Sn**	**09 42 14.9**	**+0.3**
PB11				IAML		09 42 16.4	
	comp=E,4μm,0.6s						
PB11	**IPOC Station P**	**2.13**	**326**	Pn	**Pn**	**09 41 48.1**	**+0.5**
PB05	**IPOC Station P**	**2.13**	**232**	*i*P	**Pn**	**09 41 47.0**	**-0.6**
PB05				*e*S	**Sn**	**09 42 12.0**	**-2.6**
PSGC	**Pisagua**	**2.52**	**320**	*e*P	**Pn**	**09 41 51.8**	**-0.8**
PSGC				*e*S	**Sn**	**09 42 22.2**	**-1.3**
PSGC				IAML		09 42 25.8	
	comp=N,896nm,0.7s						
PSGCX	**Pisagua**	**2.52**	**320**		**Pn**	**09 41 52.1**	**-0.5**
PB10	**IPOC Station P**	**2.81**	**225**	Pn	**Pn**	**09 41 55.0**	**-1.1**
PB14	**IPOC Station P**	**3.59**	**211**		**Pn**	**09 42 05.6**	**-1.1**
LPAZ	**La Paz**	**5.23**	**3**	P	**Pn**	**09 42 31.4**	**+2.5**
	comp=N,9.0nm,0.3s,baz=177,slow=4.6,SNR=154						
LPAZ	**La Paz**	**5.23**	**3**	Pn	**Pn**	**09 42 30.9**	**+2.0**
LPAZ	**La Paz**	**5.23**	**3**	*e*P	**Pn**	**09 42 29.4**	**+0.5**
AC02	**Maricunga**	**5.32**	**187**	Pn	**Pn**	**09 42 29.8**	**-0.2**
SIV	**San Ignacio**	**8.85**	**53**	P	**Pn**	**09 43 15.3**	**-2.0**
	comp=N,9.8nm,0.3s,baz=249,slow=10,SNR=86						
SIV				S	**Sn**	**09 44 48.8**	**-6.6**
	comp=N,0.4nm,0.3s,baz=326,slow=24,SNR=2.8						
PTLB	**Pontes e Lacer**	**10.66**	**57**	*e*P	**Pn**	**09 43 40.5**	**-1.1**
CPUP	**Villa Florida**	**11.18**	**117**	P	**Pn**	**09 43 45.8**	**-2.8**
	comp=N,0.3nm,0.3s,baz=242,slow=18,SNR=3.9						
CPUP	**Villa Florida**	**11.18**	**117**	*e*P	**Pn**	**09 43 49.0**	**+0.5**
VILB	**Vilhena**	**11.57**	**44**	*e*P	**Pn**	**09 43 53.1**	**-0.8**
SALV	**Santo Antonio**	**13.26**	**67**	*e*P	**Pn**	**09 44 17.4**	**+1.4**
SAML	**Samuel**	**13.48**	**23**	*e*P	**Pn**	**09 44 18.4**	**-0.4**
TRCB	**Terra Rica**	**14.65**	**98**	*e*P	**P**	**09 44 35.3**	**-1.4**
PTGB	**Pitanga**	**15.34**	**105**	*e*P	**P**	**09 44 45.8**	**+1.3**
PCMB	**

H03S3	**Juan Fernandez**	**6.18**	**247**	T		T	09 50 24.9	
	baz=85,slow=75,SNR=3.2							
H03S1	**Juan Fernandez**	**6.19**	**247**	T		T	09 50 24.1	
	baz=85,slow=75,SNR=3.1							
H03S2	**Juan Fernandez**	**6.20**	**247**	T		T	09 50 24.1	
	baz=85,slow=75,SNR=2.1							
LC01	**Cunco**	**7.31**	**179**	Pn		**Pn**	**09 43 54.6**	**0.0**
PLCA	**Paso Flores**	**9.22**	**173**	Pn		**Pn**	**09 44 21.0**	**+0.1**
	0.9nm,0.3s,baz=340,slow=12,SNR=11							
TRQA	**Tornquist**	**10.52**	**131**			**Pn**	**09 44 39.1**	**+0.5**
ITQB	**Itaqui**	**13.44**	**86**	Pn		**Pn**	**09 45 20.0**	**+1.4**
LPAZ	**La Paz**	**15.64**	**14**	Pn		**Pn**	**09 45 48.7**	**-0.1**
PLTB	**Pedras Altas**	**15.73**	**96**	Pn		**Pn**	**09 45 49.0**	**-0.4**
PLTB				IAmb		IAmb	09 46 02.2	
	comp=Z,26nm,0.9s							
BDFB	**Brasilia**	**27.07**	**60**	P		**P**	**09 47 49.4**	**-1.2**
	comp=Z,3.1nm,0.6s,baz=226,slow=13,SNR=2.2							
BDFB	**Brasilia**	**27.07**	**60**	IAmb		IAmb	09 48 02.0	
	comp=Z,6.0nm,0.9s							
RUSC	**La Rusia**	**37.27**	**358**	P		**P**	**09 49 20.5**	**+0.2**
RUSC				IAmb		IAmb	09 49 22.2	
	comp=Z,26nm,1.4s							
SNAA	**Sanae**	**53.84**	**159**	P		**P**	**09 51 30.0**	**-0.3**
	comp=Z,2.9nm,0.8s,baz=282,slow=6.4,SNR=5.2							
SNAA	**Sanae**	**53.84**	**159**	IAmb		IAmb	09 51 33.1	
	comp=Z,11nm,1.5s							
TXAR	**Lajitas Array**	**67.61**	**330**	P		**P**	**09 53 05.3**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=153,slow=8.5,SNR=8.5							
MSTX	**Muleshoe**	**71.33**	**333**	P		**P**	**09 53 27.5**	**0.0**
MSTX				IAmb		IAmb	09 53 29.0	
	comp=Z,8.6nm,1.0s							
DBIC	**Dimbokro**	**74.44**	**72**	P		**P**	**09 53 46.0**	**-0.3**
	comp=Z,4.6nm,0.7s,baz=198,slow=5.3,SNR=4.4							
NVAR	**Mina Array Bea**	**81.88**	**325**	P		**P**	**09 54 27.9**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=148,slow=6.6,SNR=6.7							
CASY	**Casey**	**82.44**	**181**	P		**P**	**09 54 30.3**	**+0.6**
TORD	**Torodi Ar. Bea**	**83.42**	**70**	P		**P**	**09 54 35.1**	**-0.4**
	comp=Z,3.8nm,0.7s,baz=262,slow=4.5,SNR=11							
TORD	**Torodi Ar. Bea**	**83.42**	**70**	P		**P**	**09 54 34.8**	**-0.8**
TORD				IAmb		IAmb	09 54 35.8	
	comp=Z,4.4nm,0.8s							
WRA	**Warramunga Arr**	**122.85**	**210**	PKP		**PKPdf**	**10 01 03.9**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=156,slow=1.6,SNR=2.4							
H11S2	**WAKE ISLAND Hyl**	**25.74**	**271**	T		T	12 19 40.6	
	baz=117,slow=75,SNR=14							
H11S1	**WAKE ISLAND Hyl**	**25.75**	**271**	T		T	12 19 40.8	
	baz=117,slow=75,SNR=6.6							
H11S3	**WAKE ISLAND Hyl**	**25.76**	**271**	T		T	12 19 41.4	
	baz=117,slow=75,SNR=5.6							
H11N3	**WAKE ISLAND Hyl**	**26.09**	**272**	T		T	12 20 06.1	
	baz=117,slow=75,SNR=16							
H11N1	**WAKE ISLAND Hyl**	**26.11**	**272**	T		T	12 20 06.1	
	baz=117,slow=75,SNR=5.3							
H11N2	**WAKE ISLAND Hyl**	**26.11**	**272**	T		T	12 20 06.5	
	baz=117,slow=75,SNR=2.3							
BVAR	**Borovoye Array**	**145.49**	**41**	PKPbc		**PKPdf**	**10 01 45.3**	**-0.2**
	comp=Z,3.5nm,0.7s,baz=260,slow=8.4,SNR=6.2							
KURBB	**Kurchatov Arra**	**151.09**	**40**	PKPbc		**PKiKP**	**10 02 00.8**	**-0.3**
	comp=Z,3.7nm,0.7s,baz=302,slow=3.0,SNR=11							
KURK	**Kurchatov**	**151.09**	**40**			**PKiKP**	**10 02 00.8**	**-0.3**
AAK	**Ala-Archa**	**151.31**	**58**	PKPbc		**PKiKP**	**10 02 01.8**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=191,slow=5.8,SNR=4.4							
ZALV	**Zalesovo Beam**	**152.17**	**30**	PKPbc		**PKPbc**	**10 02 02.9**	**0.0**
	comp=Z,11nm,0.7s,baz=291,slow=2.9,SNR=16							
ZALV	**Zalesovo Beam**	**152.17**	**30**			**PKPbc**	**10 02 02.7**	**-0.1**
MKAR	**Makanchi Array**	**155.13**	**45**	PKPbc		PKPbc	10 02 08.7	
	comp=Z,1.0nm,0.7s,baz=311,slow=2.6,SNR=3.6							

*IDC **17** 09:42:50.3±2.1, 31°.51S×71°.63W, h0km, mb4.6/2, mb1 4.4/3, mb1mx3.9/29, mbtmp4.4/3, ML4.0/1, Error ellipse: s-maj=87.3km s-min=45.9km az=98.0*

ISC 17 09:42:49.7±2.5, 31°.48S±0°.2×72°.1W±0°.6, h10km, n9, σ1§15/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
H03N1	**Juan Fernandez**	**6.08**	**249**	T		T	09 51 03.5	
	baz=79,slow=72,SNR=3.8							
H03N3	**Juan Fernandez**	**6.09**	**249**	T		T	09 51 03.5	
	baz=79,slow=72,SNR=3.3							
H03N2	**Juan Fernandez**	**6.09**	**249**	T		T	09 51 03.5	
	baz=79,slow=72,SNR=5.3							
PLCA	**Paso Flores**	**9.39**	**173**	Pn		**Pn**	**09 45 05.2**	**0.0**
	0.4nm,0.3s,baz=348,slow=14,SNR=1.7							
DBIC	**Dimbokro**	**74.44**	**72**	P		**P**	**09 54 27.9**	**-0.6**
	3.3nm,0.7s,baz=212,slow=9.5,SNR=3.2							
TORD	**Torodi Ar. Bea**	**83.41**	**70**	P		**P**	**09 55 18.5**	**+0.8**
	4.5nm,0.8s,baz=250,slow=5.3,SNR=6.8							
BVAR	**Borovoye Array**	**145.40**	**40**	PKPbc		**PKiKP**	**10 02 30.0**	**-1.4**
	3.9nm,0.5s,baz=284,slow=5.8,SNR=5.9							
KURBB	**Kurchatov Arra**	**151.00**	**40**	PKPbc		**PKiKP**	**10 02 43.0**	**0.0**
	1.9nm,0.8s,baz=307,slow=2.7,SNR=3.2							
ZALV	**Zalesovo Beam**	**152.05**	**30**	PKPbc		**PKiKP**	**10 02 46.0**	**+0.9**
	6.9nm,0.6s,baz=292,slow=2.9,SNR=5.5							

*IDC **17** 09:44:46.0±4.2, 8°.48S×110°.53E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.3/30, mbtmp3.3/4, ML2.9/1, Error ellipse: s-maj=232.6km s-min=26.5km az=48.0*

*DJA **17** 09:44:56.1±1.4, 9°.5±4°.4×110°.44E±0°.07, h59km±33km, n14, σ0§74/18, mb3.0/3, South of Jawa*

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PCJI	**Pacitan**	**1.17**	**39**	P		**Pn**	**09 45 16.5**	**+0.3**
PCJI				S		**Sn**	**09 45 30.4**	**-0.9**
UGM	**Wanagama**	**1.19**	**4**	P		**Pn**	**09 45 16.8**	**+0.2**
UGM				S		**Sn**	**09 45 31.2**	**-0.7**
YOGI	**Yogyakarta**	**1.29**	**354**	P		**Pn**	**09 45 18.3**	**+0.4**
YOGI				S		**Sn**	**09 45 33.4**	**-0.9**
PWJI	**Pagerwojo**	**1.73**	**52**	P		**Pn**	**09 45 24.3**	**+0.5**
SJI	**Sawahan**	**1.90**	**44**	P		**Pn**	**09 45 26.7**	**+0.6**
SJI				S		**Sn**	**09 45 48.7**	**-0.3**
SMRI	**Semarang**	**2.04**	**0**	P		**Pn**	**09 45 28.7**	**+0.6**
SMRI				S		**Sn**	**09 45 53.7**	**+1.1**
KPJI	**Karang Pucung**	**2.31**	**320**	P		**Pn**	**09 45 32.1**	**+0.4**
CMJI	**Cimerak**	**2.37**	**304**	P		**Pn**	**09 45 32.8**	**+0.3**
CTJI	**Waduk Cacaban**	**2.43**	**329**	P		**Pn**	**09 45 33.8**	**+0.5**
GMJI	**Gumukmas**	**3.09**	**75**	P		**Pn**	**09 45 43.1**	**+0.8**
FITZ	**Fitzroy Crossi**	**17.26**	**123**	P		**Pn**	**09 48 53.7**	**+0.6**
	0.0nm,0.3s,baz=305,slow=12,SNR=1.7							
WRA	**Warramunga Arr**	**25.49**	**118**	P		**P**	**09 50 18.6**	**-0.4**
	0.4nm,0.8s,baz=293,slow=11,SNR=4.6							
ASAR	**Alice Springs**	**26.70**	**126**	P		**P**	**09 50 28.7**	**-1.2**
	0.1nm,0.5s,baz=306,slow=9.8,SNR=1.6							
MKAR	**Makanchi Array**	**61.05**	**338**	P		P	09 54 57.9	-5.7
	0.3nm,0.4s,baz=152,slow=6.7,SNR=5.9							

*IDC **17** 09:45:57.3±1.2, 31°.76S×71°.86W, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.7/23, mbtmp3.7/5, ML3.8/2, Error ellipse: s-maj=62.2km s-min=28.2km az=86.0*

ISC 17 09:45:59.3±1.0, 31°.8S±0°.1×71°.8W±0°.4, h14km, n7, σ1§07/7, mb3.8/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PLCA	**Paso Flores**	**9.03**	**174**	Pn		**Pn**	**09 48 08.5**	**-0.7**
	0.5nm,0.3s,baz=337,slow=14,SNR=3.0							
LPAZ	**La Paz**	**15.75**	**13**	Pn		**Pn**	**09 49 39.8**	**-1.6**
	0.1nm,0.3s,baz=186,slow=12,SNR=1.8							
QSPA	**South Pole Qui**	**58.48**	**180**	P		**P**	**09 55 54.8**	**0.0**
	1.6nm,1.0s,baz=127,slow=8.8,SNR=3.0							
TXAR	**Lajitas Array**	**67.88**	**330**	P		**P**	**09 56 57.8**	**+0.5**
	0.2nm,0.5s,baz=150,slow=8.2,SNR=4.1							
TORD	**Torodi Ar. Bea**	**83.26**	**70**	P		**P**	**09 58 26.9**	**+1.1**
	0.5nm,0.7s,baz=238,slow=3.9,SNR=2.9							
KURBB	**Kurchatov Arra**	**151.07**	**41**	PKPbc		**PKPbc**	**10 05 51.8**	**+0.4**
	0.4nm,0.6s,baz=296,slow=4.2,SNR=2.6							
ZALV	**Zalesovo Beam**	**152.20**	**30**	PKPbc		**PKPbc**	**10 05 53.8**	**-0.1**
	1.3nm,0.4s,baz=309,slow=6.9,SNR=2.4							

*IDC **17** 09:51:06.0±1.2, 31°.16S×72°.78W, h0km, mb3.5/2, mb1 3.9/4, mb1mx3.7/20, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=61.5km s-min=34.9km az=82.0*

ISC 17 09:51:10.9±1.0, 31°.2S±0°.1×72°.6W±0°.3, h35km, n8, σ1§38/8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PLCA	**Paso Flores**	**9.69**	**171**	Pn		**Pn**	**09 53 26.8**	**-1.0**
	0.1nm,0.3s,baz=315,slow=12,SNR=1.4							
LPAZ	**La Paz**	**15.37**	**16**	Pn		**Pn**	**09 54 43.5**	**-2.2**
	0.1nm,0.3s,baz=170,slow=2.9,SNR=8.0							
TXAR	**Lajitas Array**	**67.03**	**331**	P		**P**	**10 02 00.6**	**+0.1**
	0.3nm,0.8s,baz=153,slow=8.1,SNR=3.1							
TORD	**Torodi Ar. Bea**	**83.71**	**71**	P		**P**	**10 03 37.8**	**+1.2**
	0.3nm,0.6s,baz=268,slow=5.3,SNR=1.1							
WRA	**Warramunga Arr**	**122.97**	**211**	PKP		**PKPdf**	**10 10 04.1**	**0.0**
	0.4nm,0.7s,baz=163,slow=2.1,SNR=2.4							
BVAR	**Borovoye Array**	**145.48**	**40**	PKPbc		**PKPab**	**10 10 45.9**	**+0.8**
	0.7nm,0.6s,baz=256,slow=5.8,SNR=1.9							
KURBB	**Kurchatov Arra**	**151.07**	**39**	PKPbc		**PKiKP**	**10 11 01.5**	**+1.2**
	0.5nm,0.7s,baz=296,slow=2.6,SNR=2.6							
ZALV	**Zalesovo Beam**	**152.04**	**29**	PKPbc		**PKPbc**	**10 11 01.9**	**0.0**
	0.9nm,0.4s,baz=320,slow=6.4,SNR=2.1							

*NNC **17** 09:55:47.4±0.7, 45°.97N×79°.63E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=8.3km s-min=4.6km az=129.0*

*SOME **17** 09:55:51.0, 45°.83N×79°.55E, h10km*

ISC 17 09:55:46.5±0.7, 46°.00N±0°.03×79°.60E±0°.03, h10km, n57, σ1§80/83, 11C-8D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KAPS	**Kapalarasan**	**0.73**	**194**	*e*P		**Pb**	**09 56 01.4**	**0.0**
	1.5nm,0.1s							
KAPS				*e*S		**Sg**	**09 56 09.8**	**-0.5**
	27nm,0.1s							
KAPS	**Kapalarasan**	**0.73**	**194**	P		**Pb**	**09 56 01.4**	**0.0**
	1.5nm,0.1s							
KAPS				S		**Sg**	**09 56 09.8**	**-0.5**
	27nm,0.1s							
TDK	**Taldyqorghan**	**1.30**	**221**	*e*P		**Pg**	**09 56 12.9**	**+1.4**
	127nm,0.4s							
TDK				*e*S		**Sg**	**09 56 29.5**	**+1.0**
	272nm,0.2s							
TDK	**Taldyqorghan**	**1.30**	**221**	P		**Pg**	**09 56 12.9**	**+1.4**
	127nm,0.4s							
TDK				S		**Sg**	**09 56 29.5**	**+1.0**
	272nm,0.2s							
DJR	**Jarkent**	**1.67**	**175**	⇓*e*P		**Pg**	**09 56 18.6**	**0.0**
	11nm,0.2s							
DJR				*e*S		**Sb**	**09 56 38.5**	**0.0**
	22nm,0.3s							
DJR	**Jarkent**	**1.67**	**175**	P		**Pg**	**09 56 18.6**	**0.0**
	11nm,0.2s							
DJR				S		**Sb**	**09 56 38.5**	**0.0**
	22nm,0.3s							
MAKZ	**Makanchi**	**1.83**	**63**	Pg		**Pg**	**09 56 21.0**	**-0.6**
MAKZ				Sg		**Sb**	**09 56 43.3**	**+0.2**
MAKZ	**Makanchi**	**1.83**	**63**	⇓Pg		**Pg**	**09 56 22.2**	**+0.6**
	4.4nm,0.2s							
MAKZ				⇓Lg		Lg	09 56 43.4	
	22nm,0.3s							
MK31	**Makanchi Array**	**2.02**	**66**	⇑Pn		**Pb**	**09 56 23.5**	**+0.1**
	2.5nm,0.2s,baz=238,slow=14,SNR=414							
MK31				⇓Lg		Lg	09 56 48.7	
	7.9nm,0.2s,baz=238,slow=30,SNR=33							
MKAR	**Makanchi Array**	**2.02**	**66**	Pg		**Pg**	**09 56 23.6**	**+0.2**
MKAR				Sg		**Sg**	**09 56 50.0**	**-1.5**
KTMS	**Ketmen**	**2.61**	**168**	Pg		**Pn**	**09 56 30.5**	**+1.7**
	0.1nm,0.1s							
KTMS				Lg		Lg	09 56 58.9	
	73nm,0.3s							
KPKS	**Kokpek**	**2.62**	**195**	*e*P		**Pg**	**09 56 35.2**	**-1.4**
	7.2nm,0.2s							
KPKS				*e*S		**Sb**	**09 57 07.0**	**+1.2**
	110nm,0.4s							
PDGK	**Podgornoye**	**2.67**	**182**	Pg		**Pb**	**09 56 35.5**	**+1.0**
	6.4nm,0.2s							
PDGK				Lg		Lg	09 57 07.5	
	36nm,0.5s							
PDGK	**Podgornoye**	**2.67**	**182**	⇑Pg		**Pg**	**09 56 36.2**	**-1.5**
	1.9nm,0.2s							
PDGK				⇑Lg		Lg	09 57 13.3	
	51nm,0.6s							
KURS	**Kuram**	**2.71**	**203**	*e*P		**Pg**	**09 56 37.1**	**-1.4**
	0.5nm,0.2s							
KURS				*e*S		**Sb**	**09 57 10.2**	**+1.8**
	46nm,0.4s							
KURS	**Kuram**	**2.71**	**203**	Pg		**Pg**	**09 56 37.1**	**-1.4**
	5.9nm,0.3s							
KURS				Lg		Lg	09 57 10.2	
	46nm,0.4s							
SHLS	**Shalkode**	**2.84**	**182**	*e*P		**Pg**	**09 56 39.1**	**-1.9**
	17nm,0.3s							
SHLS				*e*S		**Sb**	**09 57 13.9**	**+1.6**
	43nm,0.3s							
SHLS	**Shalkode**	**2.84**	**182**	Pg		**Pg**	**09 56 39.1**	**-1.9**
	17nm,0.3s							
SHLS				Lg		Lg	09 57 13.9	
	43nm,0.3s							
UZB	**Uzynbulak**	**2.88**	**188**	*e*P		**Pb**	**09 56 39.7**	**+1.6**
	7.5nm,0.2s							
UZB				*e*S		**Sb**	**09 57 15.1**	**+1.7**
	70nm,0.3s							
UZB	**Uzynbulak**	**2.88**	**188**	Pg		**Pb**	**09 56 39.7**	**+1.6**
	7.5nm,0.2s							
UZB				Lg		Lg	09 57 15.1	
	70nm,0.3s							
SATY	**Saty**	**3.06**	**197**	*e*P		**Pg**	**09 56 43.8**	**-1.3**
	6.1nm,0.1s							
SATY				*e*S		**Sg**	**09 57 21.9**	**-2.9**
	102nm,0.2s							
SATY	**Saty**	**3.06**	**197**	Pg		**Pg**	**09 56 43.8**	**-1.3**
	6.1nm,0.1s							
SATY				Lg		Lg	09 57 21.9	
	102nm,0.2s							
KTBS	**Karatobe**	**3.09**	**223**	*e*P		**Pg**	**09 56 44.8**	**-0.9**
	6.2nm,0.3s							
KTBS				*e*S		**Sg**	**09 57 23.6**	**-2.1**
	59nm,0.3s							
KTBS	**Karatobe**	**3.09**	**223**	Pg		**Pg**	**09 56 44.8**	**-0.9**
	6.2nm,0.3s							
KTBS				Lg		Lg	09 57 23.6	
	59nm,0.3s							
KUU	**Kurty**	**3.13**	**229**	*e*P		**Pg**	**09 56 45.5**	**-1.0**
	2.2nm,0.2s							
KUU				*e*S		**Sg**	**09 57 24.6**	**-2.4**
	94nm,0.4s							
KUU	**Kurty**	**3.13**	**229**	Pg		**Pg**	**09 56 45.5**	**-1.0**
	6.3nm,0.2s							
KUU				Lg		Lg	09 57 24.6	
	94nm,0.4s							
KOTS	**Kotyrbulak**	**3.29**	**214**	*e*P		**Pg**	**09 56 48.6**	**-0.8**
	4.2nm,0.4s							
KOTS				*e*S		**Sg**	**09 57 29.9**	**-2.2**
	44nm,0.4s							
KOTS	**Kotyrbulak**	**3.29**	**214**	Pg		**Pg**	**09 56 48.7**	**-0.8**
	4.2nm,0.4s							
KOTS				Lg		Lg	09 57 29.9	
	44nm,0.4s							
MDOK	**Medeo**	**3.37**	**214**	*e*P		**Pg**	**09 56 50.1**	**-1.0**
	9.4nm,0.4s							
MDOK				*e*S		**Sg**	**09 57 32.7**	**-2.1**
	19nm,0.5s							
MDOK	**Medeo**	**3.37**	**214**	⇑Pg		**Pg**	**09 56 51.8**	**+0.7**
	4.2nm,0.4s							
MDOK				⇑Lg		Lg	09 57 33.0	
	14nm,0.5s							
MDOK	**Medeo**	**3.37**	**214**	Pg		**Pg**	**09 56 50.2**	**-1.0**
	9.4nm,0.4s							
MDOK				Lg		Lg	09 57 32.7	
	19nm,0.5s							
TNSS	**Tian-Shan**	**3.52**	**214**	*e*P		**Pg**	**09 56 52.3**	**-1.6**
	7.3nm,0.4s							
TNSS				*e*S		**Sg**	**09 57 36.4**	**-3.1**
	8.2nm,0.2s							
TNSS	**Tian-Shan**	**3.52**	**214**	Pg		**Pg**	**09 56 52.3**	**-1.6**
	7.3nm,0.4s							
TNSS				Lg		Lg	09 57 36.4	
	8.2nm,0.2s							
TNSS	**Tian-Shan**	**3.52**	**214**	Pg		**Pg**	**09 56 51.7**	**-2.2**
	5.4nm,0.4s							
TNSS				Lg		Lg	09 57 34.0	
	29nm,0.8s							
KRBS	**Karabastau**	**3.62**	**232**	*e*P		**Pg**	**09 56 54.4**	**-1.5**
	6.0nm,0.4s							
KRBS				*e*S		**Sg**	**09 57 39.7**	**-3.1**
	32nm,0.3s							
KRBS	**Karabastau**	**3.62**	**232**	Pg		**Pg**	**09 56 54.4**	**-1.5**
	6.0nm,0.4s							
KRBS				Lg		Lg	09 57 39.7	
	32nm,0.3s							
MTBS	**Maitube**	**3.66**	**219**	*e*P		**Pg**	**09 56 55.2**	**-1.4**
	1.6nm,0.2s							
MTBS				*e*S		**Sg**	**09 57 41.2**	**-2.7**
	25nm,0.4s							
MTBS	**Maitube**	**3.66**	**219**	Pg		**Pg**	**09 56 55.2**	**-1.4**
	5.6nm,0.3s							
MTBS				Lg		Lg	09 57 41.2	
	25nm,0.4s							
DGS	**Degeres**	**3.88**	**226**	*e*P		**Pg**	**09 56 59.2**	**-1.6**
	5.9nm,0.5s							
DGS				*e*S		**Sg**	**09 57 48.1**	**-3.0**
	32nm,0.4s							
DGS	**Degeres**	**3.88**	**226**	Pg		**Pg**	**09 56 59.3**	**-1.6**
	5.9nm,0.5s							
DGS				Lg		Lg	09 57 48.2	
	32nm,0.4s							
ZSN	**Zaisan**	**3.90**	**66**	*e*P		**Pb**	**09 56 57.4**	**+2.0**
	5.1nm,0.4s							
ZSN				*e*S		**Sb**	**09 57 45.6**	**+3.0**
	14nm,0.4s							
ZSN	**Zaisan**	**3.90**	**66**	Pg		**Pb**	**09 56 57.4**	**+2.0**
	5.1nm,0.4s							
ZSN				Lg		Lg	09 57 45.6	
	14nm,0.4s							
KST	**Kastek**	**3.94**	**223**	*e*P		**Pg**	**09 57 02.1**	**+0.1**
	2.5nm,0.5s							
KST				*e*S		**Sg**	**09 57 52.9**	**-0.1**
	4.8nm,0.4s							
KST	**Kastek**	**3.94**	**223**	Pg		**Pg**	**09 57 02.1**	**+0.1**
	2.5nm,0.5s							
KST				Lg		Lg	09 57 52.9	
	4.8nm,0.4s							
BTLS	**Baital**	**4.02**	**258**	*e*P		**Pg**	**09 57 02.7**	**-0.8**
	2.0nm,0.1s							
BTLS				*e*S		**Sg**	**09 57 54.1**	**-1.5**
	12nm,0.3s							
BTLS	**Baital**	**4.02**	**258**	Pg		**Pg**	**09 57 02.8**	**-0.8**
	4.6nm,0.5s							
BTLS				Lg		Lg	09 57 54.1	
	12nm,0.3s							
TKM2	**Tokmak 2**	**4.21**	**224**	Pg		**Pg**	**09 57 08.4**	**+1.3**
TKM2				Sg		**Sg**	**09 57 58.1**	**-3.4**
TKM2	**Tokmak 2**	**4.21**	**224**	⇑Pg		**Pb**	**09 57 01.1**	**+0.4**
	2.2nm,0.5s							
TKM2				⇑Lg		Lg	09 57 59.9	
	8.3nm,0.5s							
SGDS	**Sogindy**	**4.36**	**236**	Pg		**Pg**	**09 57 08.3**	**-1.8**
	2.0nm,0.3s							
SGDS				Lg		Lg	09 58 04.1	
	8.8nm,0.5s							
KURBB	**Kurchatov Arra**	**4.68**	**352**	⇓Pn		**Pn**	**09 56 54.7**	**-2.5**
	14nm,1.3s							
KURBB				⇑Lg		Lg	09 58 08.6	
	52nm,0.6s							
AAK	**Ala-Archa**	**4.97**	**229**	⇑Pg		**Pg**	**09 57 18.0**	**-3.8**
	1.4nm,0.6s							
AAK				⇓Lg		Lg	09 58 23.4	
	9.3nm,0.7s							
OTUK	**Ortayu**	**5.44**	**297**	⇓Pg		**Pb**	**09 57 22.9**	**+1.2**
	0.7nm,0.3s							
OTUK				⇑Lg		Lg	09 58 33.3	
	23nm,0.8s							
AML	**Almayashu**	**5.75**	**230**	Pg		**Pn**	**09 57 16.6**	**+4.3**
UKR	**Ust'-Kan**	**6.02**	**33**	Pg		**Pb**	**09 57 31.9**	**+0.4**
UKR				Sg		**Sg**	**09 58 57.1**	**-2.5**
DGZ	**Jazzator, Alta**	**6.44**	**52**	Pg		**Pb**	**09 57 39.4**	**+0.7**
DGZ				Sg		**Sg**	**09 59 07.8**	**-5.3**
KK31	**Karatay Array**	**7.11**	**249**	⇑Pn		**Pn**	**09 57 32.5**	**+1.9**
	0.3nm,0.2s,baz=350,slow=51,SNR=11							
KK31				⇓Lg		Lg	09 59 32.7	
	5.6nm,0.6s,baz=53,slow=30,SNR=6.4							
BRVK	**Borovoye**	**9.30**	**323**	Sg		Sn	10 00 40.7	+55

*IDC **17** 10:02:02.3±1.1, 31°.41S×71°.77W, h0km, mb3.7/3, mb1 3.9/8, mb1mx3.7/31, mbtmp3.7/8, ML3.7/5, Error ellipse: s-maj=37.0km s-min=29.8km az=93.0*

*GUC **17** 10:02:05.5±0.8, 31°.34S×71°.84W, h51km±6km, ML4.1*

ISC 17 10:02:03.8±2.5, 31°.34S±0°.03×71°.87W±0°.09, h11km±16km, n32, σ1§16/35, mb3.4/3, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.69**	**17**	⇑*i*P		**Pn**	**10 02 19.9**	**+0.5**
CO06				*i* S		**Sn**	**10 02 31.0**	**+0.7**
CO06				IAML			10 02 33.7	
	comp=E,7μm,0.5s							
CO03	**El Pedregal**	**1.13**	**64**	⇓*i*P		**Pn**	**10 02 26.7**	**+1.1**
CO03				*i* S		**Sn**	**10 02 42.0**	**+0.9**
CO03				IAML			10 02 44.6	
	comp=N,7μm,0.3s							
GO04	**Tololo Observa**	**1.48**	**39**	*e*P		**Pn**	**10 02 30.6**	**0.0**
GO04				*i* S		**Sg**	**10 02 52.5**	**+0.9**
VA01	**Torpederas**	**1.69**	**174**	*e*P		**Pn**	**10 02 33.2**	**0.0**
VA01				*e*S		**Sn**	**10 02 52.9**	**-1.9**
ROCH	**El Roble**	**1.78**	**156**	*e*P		**Pn**	**10 02 35.3**	**+0.6**
ROCH				*e*S		**Sb**	**10 02 58.5**	**-0.5

IDC 17 10:07:14.2±0.7,30.°96S×71.°96W,h0km,mb4.0/6, mb1 4.2/10,mb1mx4.1/30,mbtmp4.0/10,ML3.9/4,Error ellipse: s-maj=29.9km s-min=20.4km az=95.0
NEIC 17 10:07:15.5±2.3,30.°90S±0.°05×72.°19W±0.°05,h16km±5km, mb4.4/9,ML4.3(GUC),Error ellipse: s-maj=7.9km s-min=5.1km az=144.0
GUC 17 10:07:16.7±0.8,30.°89S×71.°97W,h39km±3km,ML4.1
SJA 17 10:07:21.3±1.0,30.°70S×72.°05W,h40km,ML4.1,MW4.5

ISC 17 10:07:14.6±2.0,30.°89S±0.°03×72.12W±0.°05,h4km±12km, n83,σ1°32/90,mb4.3/7,2C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.47**	**63**	*eP*		**Pb**	**10 07 25.8**	**+0.4**
CO06				*eS*		**Sb**	**10 07 33.2**	**+0.5**
CO06				IAML			10 07 34.5	
	comp=N,18μm,0.2s							
CO06	**Fray Jorge**	**0.47**	**63**			**Pb**	**10 07 26.5**	**+1.1**
CO03	**El Pedregal**	**1.23**	**88**	*eP*		**Pn**	**10 07 37.4**	**-1.3**
CO03				*eS*		**Sb**	**10 07 53.0**	**-1.8**
CO03				IAML			10 07 58.1	
	comp=E,5μm,0.5s							
CO03	**El Pedregal**	**1.23**	**88**			**Pn**	**10 07 38.1**	**-0.5**
GO04	**Tololo Observa**	**1.34**	**58**	*eP*		**Pn**	**10 07 39.6**	**-0.7**
GO04				*eS*		**Sb**	**10 07 58.1**	**0.0**
VA01	**Torpederas**	**2.17**	**169**	Pn		**Pn**	**10 07 50.3**	**-1.1**
LCO	**Las Campanas**	**2.24**	**34**	*eP*		**Pn**	**10 07 53.5**	**+0.8**
LCO				*eS*		**Sn**	**10 08 22.3**	**+1.4**
LCO	**Las Campanas**	**2.24**	**34**			**Pn**	**10 07 53.6**	**+0.9**
LCO	**Las Campanas**	**2.24**	**34**	*i* P		**Pn**	**10 07 53.0**	**+0.3**
LCO				*eS*		**Sg**	**10 08 27.8**	**+1.3**
LCO				IAML			10 08 31.1	
	comp=Z,5μm,1.8s							
ROCH	**El Roble**	**2.28**	**156**	*eP*		**Pn**	**10 07 55.3**	**+2.0**
ROCH				*eS*		**Sn**	**10 08 23.1**	**+1.1**
ROCH				IAML			10 08 33.0	
	comp=E,1μm,0.6s							
VA03	**San Esteban**	**2.30**	**145**	*eP*		**Pn**	**10 07 54.7**	**+1.3**
VA03				*i* S		**Sn**	**10 08 22.4**	**+0.2**
VA03				IAML			10 08 32.5	
	comp=N,2μm,0.4s							
VA03	**San Esteban**	**2.30**	**145**			**Pn**	**10 07 53.1**	**-0.3**
AROD	**Rodeo**	**2.40**	**73**	*i* P		**Pb**	**10 07 59.0**	**+0.6**
AROD				*eS*		**Sb**	**10 08 29.7**	**+1.2**
RTLS	**Leoncito**	**2.58**	**111**	*i* P		**Pb**	**10 08 02.1**	**+0.5**
RTLS				*eS*		**Sb**	**10 08 34.9**	**+1.0**
RTLS				IAML			10 08 39.1	
	comp=Z,627nm,0.5s							
ACDV	**Cuesta del Vie**	**2.69**	**75**	*i* P		**Pb**	**10 08 04.0**	**+0.7**
ACDV				IAML			10 08 53.9	
	comp=Z,629nm,0.7s							
MT05	**Renca**	**2.76**	**155**	*eP*		**Pn**	**10 08 00.3**	**+0.6**
MT05				*eS*		**Sn**	**10 08 34.7**	**+1.1**
MT05				IAML			10 08 45.0	
	comp=E,2μm,0.5s							
VA05	**Santo Domingo**	**2.80**	**171**			**Pn**	**10 07 57.8**	**-2.3**
AC04	**Llanos de Chal**	**2.82**	**19**	*eP*		**Pn**	**10 08 00.5**	**0.0**
AC04				*eS*		**Sn**	**10 08 35.5**	**+0.6**
AC04				IAML			10 08 57.5	
	comp=N,442nm,0.6s							
AC04	**Llanos de Chal**	**2.82**	**19**	Pn		**Pn**	**10 08 00.3**	**-0.2**
AC04	**Llanos de Chal**	**2.82**	**19**	*i* P		**Pn**	**10 08 01.0**	**+0.5**
AC04				*eS*		**Sg**	**10 08 46.4**	**+1.2**
AC04				IAML			10 08 55.6	
	comp=Z,524nm,0.8s							
ZON	**Zonda**	**3.02**	**103**	Pn		**Pn**	**10 08 03.1**	**-0.2**
ZON	**Zonda**	**3.02**	**103**	*i* P		**Pb**	**10 08 08.6**	**-0.4**
ZON				*eS*		**Sg**	**10 08 50.2**	**-1.5**
ZON				IAML			10 09 00.8	
	comp=Z,625nm,1.3s							
MT09	**Talagante**	**3.04**	**162**	*eP*		**Pn**	**10 08 03.8**	**+0.2**
MT09				*eS*		**Sn**	**10 08 39.8**	**-0.7**
MT09				IAML			10 08 58.0	
	comp=N,544nm,0.4s							
MT09	**Talagante**	**3.04**	**162**			**Pn**	**10 08 03.4**	**-0.2**
MT01	**Popeta**	**3.06**	**166**	*eP*		**Pn**	**10 08 05.9**	**+2.1**
MT01				*eS*		**Sn**	**10 08 42.0**	**+1.2**
MT01				IAML			10 08 58.7	
	comp=N,319nm,0.5s							
MT01	**Popeta**	**3.06**	**166**			**Pn**	**10 08 04.0**	**+0.2**
MT01	**Popeta**	**3.06**	**166**	*i* P		**Pb**	**10 08 12.0**	**+2.4**
MT01				IAML			10 08 56.6	
	comp=Z,251nm,0.5s							
RTLL	**Cerro Villicun**	**3.16**	**99**	*i* P		**Pn**	**10 08 08.4**	**+3.3**
RTLL				*eS*		**Sb**	**10 08 52.5**	**+2.2**
RTCV	**Cerro Valdivia**	**3.21**	**109**	*i* P		**Pb**	**10 08 11.1**	**-1.2**
RTCV				*eS*		**Sg**	**10 08 57.9**	**+0.1**
RTCV				IAML			10 08 59.7	
	comp=Z,416nm,3.5s							
BO01	**Tunca**	**3.60**	**166**			**Pn**	**10 08 12.1**	**+0.9**
GO03	**Copiap**	**3.67**	**27**	Pn		**Pn**	**10 08 11.3**	**-0.9**
GO03	**Copiap**	**3.67**	**27**	*i* P		**Pn**	**10 08 14.0**	**+1.8**
VCA	**Vinchina**	**4.02**	**59**	*i* P		**Pb**	**10 08 24.4**	**-1.6**
VCA				IAML			10 09 29.3	
	comp=Z,617nm,0.5s							
GO05	**Huala**	**4.12**	**178**			**Pn**	**10 08 16.5**	**-1.8**
AC02	**Maricunga**	**4.81**	**34**	*eP*		**Pn**	**10 08 30.0**	**+1.7**
AC02				*eS*		**Sn**	**10 09 27.1**	**+2.3**
AC02	**Maricunga**	**4.81**	**34**			**Pn**	**10 08 27.0**	**-1.3**
AC02	**Maricunga**	**4.81**	**34**	*i* P		**Pn**	**10 08 32.0**	**+3.7**
AC02				IAML			10 09 54.1	
	comp=Z,237nm,0.9s							
ML02	**Panimavida**	**4.90**	**173**			**Pn**	**10 08 27.9**	**-1.1**
H03N1	**Juan Fernandez**	**6.30**	**244**	T		T	10 15 39.5	
	baz=74,slow=72,SNR=13							
H03N2	**Juan Fernandez**	**6.31**	**244**	T		T	10 15 34.2	
	baz=74,slow=72,SNR=8.7							
H03N3	**Juan Fernandez**	**6.31**	**244**	T		T	10 15 38.9	
	baz=74,slow=72,SNR=8.0							
VA04	**Juan Fernndez**	**6.31**	**242**	Pn		**Pn**	**10 08 47.2**	**-1.2**
PB14	**IPOC Station P**	**6.42**	**14**	Pn		**Pn**	**10 08 49.3**	**-0.9**
H03S3	**Juan Fernandez**	**6.45**	**241**	T		T	10 15 54.7	
	baz=81,slow=73,SNR=4.4							
H03S1	**Juan Fernandez**	**6.45**	**241**	T		T	10 15 55.3	
	baz=81,slow=73,SNR=4.4							
H03S2	**Juan Fernandez**	**6.46**	**241**	T		T	10 15 52.1	
	baz=81,slow=73,SNR=4.0							
FSA	**Cafayete**	**7.20**	**50**	*i* P		Pn	10 09 07.0	+6.2
PB10	**IPOC Station P**	**7.47**	**11**	Pn		**Pn**	**10 09 03.4**	**-1.0**
LC01	**Cunco**	**8.00**	**179**	Pn		**Pn**	**10 09 10.2**	**-1.4**
PB06	**IPOC Station P**	**8.46**	**16**	Pn		**Pn**	**10 09 16.0**	**-2.1**
PB04	**IPOC Station P**	**8.70**	**12**	Pn		**Pn**	**10 09 19.6**	**-1.8**
LVC	**Limon Verde**	**8.73**	**20**	Pn		**Pn**	**10 09 21.3**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=244,slow=10,SNR=2.3							
LVC	**Limon Verde**	**8.73**	**20**	Pn		**Pn**	**10 09 20.7**	**-1.2**
PB07	**IPOC Station P**	**9.34**	**13**	Pn		**Pn**	**10 09 29.0**	**-1.2**
PLCA	**Paso Flores**	**9.91**	**173**	Pn		**Pn**	**10 09 37.6**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=30,slow=14,SNR=1.5							
TRQA	**Tornquist**	**11.01**	**133**	Pn		**Pn**	**10 09 53.0**	**+0.1**
LPAZ	**La Paz**	**14.98**	**15**	Pn		**Pn**	**10 10 50.3**	**+2.5**
	comp=Z,0.6nm,0.3s,baz=192,slow=9.0,SNR=11							
LPAZ	**La Paz**	**14.98**	**15**	Pn		**Pn**	**10 10 48.0**	**+0.3**
SIV	**San Ignacio**	**17.94**	**37**	P		**Pn**	**10 11 25.0**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=222,slow=12,SNR=14							
SAML	**Samuel**	**23.36**	**23**	P		**P**	**10 12 21.1**	**-3.1**
BDFB	**Brasilia**	**26.76**	**61**	P		**P**	**10 12 55.3**	**-0.5**
	comp=Z,4.1nm,0.7s,baz=212,slow=11,SNR=3.6							
RUSC	**La Rusia**	**36.58**	**358**	P		**P**	**10 14 22.6**	**+0.2**
VNA3	**Neumayer Olymp**	**52.27**	**159**	P		**P**	**10 16 27.3**	**+0.6**
VNA2	**Neumayer--Watz**	**52.91**	**158**	P		**P**	**10 16 31.9**	**+0.5**
	baz=285,slow=8.1							
SNAA	**Sanae**	**54.50**	**159**	P		**P**	**10 16 43.4**	**+0.4**
SNAA	**Sanae**	**54.50**	**159**	P		**P**	**10 16 42.5**	**-0.5**
SNAA				IAmb		IAmb	10 16 44.4	
	comp=Z,4.2nm,0.9s							
QSPA	**South Pole Qui**	**59.34**	**180**	P		**P**	**10 17 17.9**	**+0.3**
	comp=Z,2.5nm,1.0s,baz=134,slow=0.8,SNR=7.0							
QSPA	**South Pole Qui**	**59.34**	**180**	IAmb		IAmb	10 17 19.9	
	comp=Z,8.7nm,1.4s							
TXAR	**Lajitas Array**	**67.00**	**330**	P		**P**	**10 18 10.1**	**+1.4**
	comp=Z,0.9nm,0.6s,baz=154,slow=8.4,SNR=13							
V48A	**Smith Brothers**	**67.70**	**347**	P		**P**	**10 18 13.0**	**+0.1**
PDAR	**Pinedale Array**	**80.96**	**333**	P		**P**	**10 19 31.3**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=134,slow=7.6,SNR=5.9							
NVAR	**Mina Array Bea**	**81.30**	**325**	P		**P**	**10 19 34.0**	**+1.8**
	comp=Z,0.8nm,0.8s,baz=159,slow=5.6,SNR=5.6							
TORD	**Torodi Ar. Bea**	**83.22**	**70**	P		**P**	**10 19 42.4**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=260,slow=4.8,SNR=7.5							
TORD	**Torodi Ar. Bea**	**83.22**	**70**	P		**P**	**10 19 40.9**	**-1.8**
TORD				IAmb		IAmb	10 19 43.2	
	comp=Z,1.8nm,0.9s							
ASAR	**Alice Springs**	**120.29**	**208**	PKP		**PKPdf**	**10 26 06.9**	**-0.8**
	comp=Z,0.2nm,0.8s,baz=142,slow=1.3,SNR=2.2							
WRA	**Warramunga Arr**	**123.43**	**210**	PKP		**PKPdf**	**10 26 12.9**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=159,slow=2.0,SNR=10.0							
H11S2	**WAKE ISLAND Hyl**	**25.69**	**271**	T		T	12 45 07.1	
	baz=115,slow=75,SNR=10.0							
H11S1	**WAKE ISLAND Hyl**	**25.70**	**271**	T		T	12 45 08.0	
	baz=115,slow=75,SNR=10							
H11S3	**WAKE ISLAND Hyl**	**25.70**	**271**	T		T	12 45 07.7	
	baz=115,slow=75,SNR=9.8							
BVAR	**Borovoye Array**	**145.00**	**40**	PKP		**PKPdf**	**10 26 53.4**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=276,slow=2.8,SNR=8.1							
KURBB	**Kurchatov Arra**	**150.59**	**39**	PKPbc		**PKiKP**	**10 27 07.7**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=303,slow=3.2,SNR=8.2							
AAK	**Ala-Archa**	**150.98**	**57**	PKPbc		**PKiKP**	**10 27 09.9**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=220,slow=6.5,SNR=4.4							
ZALV	**Zalesovo Beam**	**151.59**	**29**	PKPbc		**PKPbc**	**10 27 07.7**	**-1.9**
	comp=Z,3.7nm,0.7s,baz=295,slow=3.5,SNR=8.6							

MEX 17 10:07:54.6±0.5,14.°01N×93.°20W,h30km,MD3.8,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PCIG		**1.69**	**359**	*i* P		Pn	10 08 20.0	-2.1
PCIG				*i* S		Sn	10 08 36.1	-6.7

IDC 17 10:09:10.6±0.9,31.°09S×71.°94W,h0km,mb3.9/6, mb1 4.1/11,mb1mx4.0/32,mbtmp3.9/11,ML4.0/5,Error ellipse: s-maj=32.5km s-min=20.5km az=98.0
NEIC 17 10:09:13.2±2.4,31.°12S±0.°04×71.°65W±0.°08,h12km±5km, mb4.4/4,ML4.4(GUC),Error ellipse: s-maj=9.8km s-min=5.4km az=99.0
GUC 17 10:09:13.0±0.7,31.°15S×71.°83W,h26km±4km,ML4.3

ISC 17 10:09:11.3±1.6,31.°09S±0.°03×71.°79W±0.°06,h4km±11km, n44,σ1°24/48,mb4.2/6,1C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.44**	**17**	*i* P		**Pb**	**10 09 22.6**	**+1.1**
CO06				*eS*		**Sb**	**10 09 28.9**	**+0.4**
CO06	**Fray Jorge**	**0.44**	**17**			**Pb**	**10 09 22.7**	**+1.1**
CO03	**El Pedregal**	**0.98**	**75**	*eP*		**Pb**	**10 09 30.9**	**+0.1**
CO03				*eS*		**Sb**	**10 09 44.6**	**+0.5**
CO03				IAML			10 09 46.7	
	comp=E,8μm,0.3s							
CO03	**El Pedregal**	**0.98**	**75**			**Pb**	**10 09 30.8**	**-0.1**
GO04	**Tololo Observa**	**1.25**	**43**	*eP*		**Pn**	**10 09 36.3**	**+0.5**
GO04				*eS*		**Sn**	**10 09 53.2**	**0.0**
GO04				IAML			10 10 04.4	
	comp=N,24μm,0.5s							
GO04	**Tololo Observa**	**1.25**	**43**			**Pb**	**10 09 36.0**	**+0.4**
VA01	**Torpederas**	**1.93**	**177**	*eP*		**Pg**	**10 09 49.3**	**+1.0**
VA01				*eS*		**Sn**	**10 10 08.7**	**-1.0**
VA03	**San Esteban**	**1.97**	**148**	*eP*		**Pg**	**10 09 48.6**	**-0.5**
VA03				*eS*		**Sb**	**10 10 12.2**	**-0.6**
VA03				IAML			10 10 17.6	
	comp=E,6μm,0.4s							
ROCH	**El Roble**	**1.99**	**161**	*eP*		**Pb**	**10 09 48.4**	**+0.3**
ROCH				*eS*		**Sb**	**10 10 12.3**	**-1.1**
ROCH				IAML			10 10 19.9	
	comp=N,4μm,0.4s							
LCO	**Las Campanas**	**2.28**	**25**	*eP*		**Pb**	**10 09 52.2**	**-0.9**
LCO				*eS*		**Sb**	**10 10 21.1**	**-0.7**
MT05	**Renca**	**2.46**	**159**	*eP*		**Pn**	**10 09 52.7**	**+0.4**
MT05				*eS*		**Sn**	**10 10 23.9**	**+1.1**
VA05	**Santo Domingo**	**2.56**	**177**	*eP*		**Pg**	**10 10 00.4**	**0.0**
VA05				*eS*		**Sn**	**10 10 24.8**	**-0.4**
VA05				IAML			10 10 35.5	
	comp=E,1μm,0.5s							
MT09	**Talagante**	**2.76**	**166**	*eP*		**Pn**	**10 09 56.6**	**+0.1**
MT09				*eS*		**Sn**	**10 10 31.3**	**+0.9**
MT09				IAML			10 10 43.6	
	comp=E,2μm,0.4s							
MT01	**Popeta**	**2.80**	**171**	*eP*		**Pn**	**10 09 57.5**	**+0.5**
MT01				*eS*		**Sn**	**10 10 31.6**	**+0.5**
MT01				IAML			10 10 47.8	
	comp=E,615nm,0.4s							
LMEL	**Las Melosas**	**3.06**	**154**	*eP*		**Pn**	**10 09 56.2**	**-4.4**
LMEL				*eS*		**Sn**	**10 10 38.3**	**+0.6**
LMEL				IAML			10 10 57.0	
	comp=N,607nm,0.5s							
H03N1	**Juan Fernandez**	**6.47**	**247**	T		T	10 17 33.8	
	baz=69,slow=72,SNR=108							
H03N3	**Juan Fernandez**	**6.49**	**247**	T		T	10 17 30.3	
	baz=69,slow=72,SNR=128							
H03N2	**Juan Fernandez**	**6.49**	**247**	T		T	10 17 23.8	
	baz=69,slow=72,SNR=92							
PB14	**IPOC Station P**	**6.56**	**11**	Pn		**Pn**	**10 10 45.1**	**-3.7**
PB10	**IPOC Station P**	**7.63**	**9**	Pn		**Pn**	**10 11 00.5**	**-2.8**
LVC	**Limon Verde**	**8.83**	**18**	Pn		**Pn**	**10 11 18.9**	**-1.2**
	comp=N,1.0nm,0.3s,baz=347,slow=4.9,SNR=2.8							
PLCA	**Paso Flores**	**9.67**	**174**	Pn		**Pn**	**10 11 31.1**	**-0.3**
	comp=N,0.3nm,0.3s,baz=337,slow=7.7,SNR=1.7							
PLCA	**Paso Flores**	**9.67**	**174**	Pn		**Pn**	**10 11 31.6**	**+0.2**
TA01	**Diego Aracena**	**10.58**	**8**			**Pn**	**10 11 42.3**	**-1.5**
TRQA	**Tornquist**	**10.65**	**133**	Pn		**Pn**	**10 11 44.9**	**+0.2**
CPUP	**Villa Florida**	**13.54**	**73**	Pn		**Pn**	**10 12 26.6**	**+2.3**
	comp=N,0.4nm,0.3s,baz=238,slow=13,SNR=1.2							
LPAZ	**La Paz**	**15.11**	**14**	Pn		**Pn**	**10 12 46.1**	**-0.1**
	comp=N,0.2nm,0.3s,baz=168,slow=7.3,SNR=4.8							
SIV	**San Ignacio**	**17.94**	**35**	P		**Pn**	**10 13 21.3**	**-0.5**
	comp=N,0.3nm,0.3s,baz=229,slow=9.3,SNR=2.1							
BDFB	**Brasilia**	**26.61**	**60**	P		**P**	**10 14 52.4**	**+1.3**
	comp=N,4.1nm,0.7s,baz=239,slow=5.9,SNR=3.5							
SNET	**Serv Nac Est T**	**47.57**	**337**	P		**P**	**10 17 48.8**	**+0.4**
SNAA	**Sanae**	**54.20**	**159**	P		**P**	**10 18 37.8**	**+0.1**
	comp=N,1.2nm,0.9s,baz=268,slow=4.2,SNR=3.7							
SNAA	**Sanae**	**54.20**	**159**	IAmb		IAmb	10 18 47.2	
	comp=Z,4.5nm,1.2s							
QSPA	**South Pole Qui**	**59.14**	**180**	P		**P**	**10 19 13.2**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=111,slow=3.6,SNR=3.3							
TXAR	**Lajitas Array**	**67.32**	**330**	P		**P**	**10 20 07.5**	**0.0**
	comp=Z,1.1nm,1.2s,baz=148,slow=8.6,SNR=2.5							
NVAR	**Mina Array Bea**	**81.63**	**325**	P		**P**	**10 21 30.7**	**0.0**
	comp=Z,2.2nm,0.5s,baz=178,slow=6.8,SNR=2.4							
TORD	**Torodi Ar. Bea**	**83.02**	**70**	P		**P**	**10 21 38.9**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=274,slow=4.9,SNR=3.3							
TORD	**Torodi Ar. Bea**	**83.02**	**70**	IAmb		IAmb	10 21 45.9	
	comp=Z,4.6nm,1.3s							
WRA	**Warramunga Arr**	**123.39**	**210**	PKP		**PKPdf**	**10 28 08.5**	**-1.8**
	comp=Z,0.8nm,1.0s,baz=155,slow=1.6,SNR=3.0							
H11S2	**WAKE ISLAND Hyl**	**25.98**	**271**	T		T	12 46 59.6	
	baz=116							
H11S1	**WAKE ISLAND Hyl**	**25.99**	**271**	T		T	12 46 59.5	
	baz=116							
H11S3	**WAKE ISLAND Hyl**	**26.00**	**271**	T		T	12 46 59.9	
	baz=116							
KURBB	**Kurchatov Arra**	**150.56**	**40**	PKPbc		**PKPbc**	**10 29 04.4**	**+0.3**
	comp=Z,0.5nm,0.2s,baz=312,slow=3.8,SNR=1.8							
KURK	**Kurchatov**	**150.56**	**40**			**PKPbc**	**10 29 04.4**	**+0.3**
ZALV	**Zalesovo Beam**	**151.63**	**30**	PKPbc		**PKPbc**	**10 29 05.9**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=329,slow=1.7,SNR=2.3							

NOU 17 10:09:18.2,39.°02S×175.°44E,h154km,ML3.8/8,North Island, New Zealand

WEL 17 10:09:21.2±0.5,39.°3S±3.°×177.°6E±.°,h129km±4km,M3.3/69, ML2.6/12,MLv3.3/69,Error ellipse: s-maj=0.0km s-min=0.0km az=113.4,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.07**	**226**	P		Pn	10 09 39.4	+0.5
WTVZ	**West Tongariro**	**0.12**	**146**	P		Pn	10 09 39.6	+0.6
KRVZ	**Karewarewa**	**0.13**	**126**	P		Pn	10 09 39.7	+0.7
NNVZ	**North Ngauruho**	**0.14**	**143**	P		Pn	10 09 39.8	+0.7
KATZ	**Kakaramea**	**0.15**	**74**	P		Pn	10 09 39.9	+0.9
NTVZ	**North Tongarir**	**0.15**	**121**	P		Pn	10 09 40.0	+1.0
NGZ	**Ngauruhoe**	**0.17**	**155**	P		Pn	10 09 39.9	+0.8
TMVZ	**Te Maari**	**0.18**	**122**	P		Pn	10 09 40.0	+0.9
OTVZ	**Oturere**	**0.19**	**139**	P		Pn	10 09 40.3	+1.2
OTVZ				S		Sn	10 09 55.3	+2.6
ETVZ	**East Tongariro**	**0.20**	**126**	P		Pn	10 09 40.1	+0.9
SNVZ	**South Ngauruho**	**0.20**	**148**	P		Pn	10 09 40.2	+1.0
FWVZ	**Far West T-bar**	**0.24**	**171**	P		Pn	10 09 40.1	+0.7
RATZ	**Rangitukua**	**0.26**	**54**	P		Pn	10 09 39.7	+0.5
DRZ	**Dome Shelter**	**0.26**	**170**	P		Pn	10 09 40.4	+0.8
WHVZ	**Whangaehu Hut**	**0.27**	**166**	P		Pn	10 09 40.3	+0.8
TUVZ	**Tukino**	**0.27**	**155**	P		Pn	10 09 40.4	+1.0
TUVZ				S		Sn	10 09 55.1	+2.0
RITZ	**Rihia Road**	**0.28**	**82**	P		Pn	10 09 40.3	+1.1
RITZ				S		Sn	10 09 55.1	+2.3
TRVZ	**Turoa**	**0.28**	**173**	P		Pn	10 09 40.3	+0.8
TRVZ				S		Sn	10 09 55.0	+1.7
PKVZ	**Pokaka**	**0.30**	**205**	P		Pn	10 09 39.9	+0.6
WNVZ	**Wahianoa**	**0.32**	**167**	P		Pn	10 09 40.3	+0.7
WATZ	**Wairara**	**0.36**	**30**	P		Pn	10 09 40.3	+0.7
MTVZ	**Mangateitei**	**0.37**	**184**	P		Pn	10 09 40.4	+0.7
MOVZ	**Moawhango**	**0.43**	**154**	P		Pn	10 09 40.5	+0.5
MOVZ				S		Sn	10 09 54.8	+0.7
HATZ	**Hinemaiaia**	**0.47**	**75**	P		Pn	10 09 40.5	+0.4
HATZ				S		Sn	10 09 54.8	+0.5
WHTZ	**Whakaora**	**0.50**	**45**	P		Pn	10 09 41.1	+0.8
KUTZ	**Kaahu Road**	**0.58**	**25**	P		Pn	10 09 41.3	+0.5
VRZ	**Vera Road**	**0.59**	**259**	P		Pn	10 09 40.8	+0.1
BHHZ	**Black Hill Sta**	**0.64**	**138**	P		Pn	10 09 41.8	+0.6
BHHZ				S		Sn	10 09 57.0	+0.7
TLZ	**Tolley Road**	**0.69**	**2**	P		Pn	10 09 41.8	+0.3
WPRZ	**Whakapapatarin**	**0.71**	**46**	P		Pn	10 09 42.0	+0.3
HIZ	**Hauiti**	**0.72**	**315**	P		Pn	10 09 41.5	-0.2
HIZ				S		Sn	10 09 57.4	+0.3
MRHZ	**Matea Rd**	**0.73**	**76**	P		Pn	10 09 42.1	+0.3
MRHZ				S		Sn	10 09 57.6	+0.2
BKZ	**Black Stump Fm**	**0.78**	**101**	P		Pn	10 09 42.8	+0.6
BKZ				S		Sn	10 09 59.2	+1.1
ALRZ	**Allen Road**	**0.80**	**55**	P		Pn	10 09 42.6	+0.3
GRRZ	**Galatos Road**	**0.82**	**35**	P		Pn	10 09 42.9	+0.4
KWHZ	**Kaweka Forest**	**0.82**	**120**	P		Pn	10 09 44.3	+1.8
WAZ	**Wanganui**	**0.84**	**209**	P		Pn	10 09 43.2	+0.6
PRRZ	**Plateau Road**	**0.87**	**53**	P		Pn	10 09 43.0	+0.2
HRRZ	**Handcock Road**	**0.87**	**44**	P		Pn	10 09 43.3	+0.3
HSRZ	**Hossack Road**	**0.91**	**40**	P		Pn	10 09 43.6	+0.3
KRHZ	**Kereru**	**0.92**	**133**	P		Pn	10 09 44.5	+1.2
MHEZ	**Mangahewa**	**0.92**	**266**	P		Pn	10 09 43.5	+0.1
LREZ	**Lake Rotokare**	**0.96**	**242**	P		Pn	10 09 44.0	+0.3
UTU	**Utuhina**	**1.00**	**33**	P		Pn	10 09 44.6	+0.5
HLRZ	**Highlands Stat**	**1.01**	**41**	P		Pn	10 09 45.4	+1.2
NMHZ	**Naumai**	**1.01**	**95**	P		Pn	10 09 46.0	+1.8
MCHZ	**McNeill Hill**	**1.02**	**115**	P		Pn	10 09 46.1	+1.9
DREZ	**Durham Road**	**1.03**	**260**	P		Pn	10 09 44.3	0.0
RRRZ	**Republican Roa**	**1.04**	**50**	P		Pn	10 09 44.7	+0.2
PNHZ	**Pukenui**	**1.04**	**149**	P		Pn	10 09 45.5	+1.0
MTHZ	**Maungataniwha**	**1.05**	**81**	P		Pn	10 09 45.1	+0.5
NGRZ	**Ngongotaha**	**1.06**	**30**	P		Pn	10 09 45.0	+0.3
PREZ	**Palmer Road**	**1.10**	**252**	P		Pn	10 09 45.0	0.0
TSZ	**Takapari Road**	**1.10**	**161**	P		Pn	10 09 45.8	+0.8
TARZ	**Mount Tarawera**	**1.11**	**45**	P		Pn	10 09 45.5	+0.3
NEZ	**North Egmont**	**1.12**	**257**	P		Pn	10 09 45.4	0.0
MUGZ	**Murupara**	**1.13**	**62**	P		Pn	10 09 45.1	-0.2
OMRZ	**Omania**	**1.14**	**37**	P		Pn	10 09 45.5	+0.1
KARZ	**Kaharoa**	**1.15**	**30**	P		Pn	10 09

TXAR	Lajitas Array	66.66	331	P		P	10 21 42.9	+0.2	
	0.4nm,0.6s,baz=151,slow=8.2,SNR=4.5								
PDAR	Pinedale Array	80.64	333	P		P	10 23 04.2	-0.5	
	0.3nm,0.7s,baz=152,slow=4.1,SNR=2.6								
TORD	Torodi Ar. Bea	83.66	71	P		P	10 23 20.6	-0.3	
	0.8nm,0.7s,baz=256,slow=5.8,SNR=3.0								
BVAR	Borovoye Array	145.23	40	PKPbc		PKPbc	10 30 29.3	+0.5	
	1.8nm,0.5s,baz=256,slow=5.8,SNR=7.7								
KURBB	Kurchatov Arra	150.81	39	PKPbc		PKPbc	10 30 44.0	+0.1	
	1.6nm,0.7s,baz=314,slow=3.3,SNR=6.9								
ZALV	Zalesovo Beam	151.74	29	PKPbc		PKPbc	10 30 45.9	-0.1	
	2.2nm,0.5s,baz=310,slow=3.7,SNR=4.5								

IDC ***17*** *10:12:50.3±0.4,30°.67S×71°.68W,h0km,mb4.8/16, mb1 4.8/21,mb1mx4.7/30,mbtmp4.7/21,ML4.5/4,MS4.3/6, Ms1 4.3/6,ms1mx3.9/25,Error ellipse: s-maj=19.1km s-min=12.3km az=80.0*

SJA ***17*** *10:12:51.2±0.6,30°.59S×71°.94W,h10km,ML5.0,MW4.7*

NEIC ***17*** *10:12:52.6±1.6,30°.60S±0°.05×71°.88W±0°.06,h10km±1km, mb4.9/182,ML5.3(GUC),Error ellipse: s-maj=9.2km s-min=7.9km az=285.0*

GUC ***17*** *10:12:52.9±0.5,30°.59S×71°.68W,h39km±1km,ML5.3*

VAO ***17*** *10:12:55.2±1.4,30°.59S×71°.71W,h30km±9km,mb5.1*

ISC 17 10:12:52.2±1.1,30°.58S±0°.02×71°.95W±0°.04,h14km±6km, n429,σ1ι67/409,mb4.9/100,MS4.5/6,2C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.29**	**108**	⇓	*eP*		**Pb**	**10 12 59.6**	**+0.4**
CO06					*i* S		**Sg**	**10 13 03.2**	**+0.9**
CO06					IAML			10 13 04.4	
	comp=N,501μm,0.8s								
GO04	**Tololo Observa**	**1.08**	**68**	*eP*			**Pb**	**10 13 10.7**	**-2.0**
GO04					*eS*		**Sb**	**10 13 23.6**	**-3.3**
GO04					IAML			10 13 37.1	
	comp=N,161μm,0.5s								
GO04	**Tololo Observa**	**1.08**	**68**				**Pb**	**10 13 12.4**	**-0.3**
GO04	**Tololo Observa**	**1.08**	**68**	*eP*			Pb	10 13 07.0	-5.8
GO04					*eP*		**Pn**	**10 13 12.0**	**-1.1**
CO03	**El Pedregal**	**1.12**	**104**	⇓ *eP*			**Pb**	**10 13 11.3**	**-2.1**
CO03					*eS*		**Sb**	**10 13 23.3**	**-4.6**
CO03					IAML			10 13 28.4	
	comp=E,96μm,0.5s								
CO03	**El Pedregal**	**1.12**	**104**				**Pb**	**10 13 11.3**	**-2.1**
CO03	**El Pedregal**	**1.12**	**104**	*eP*			**Pb**	**10 13 11.0**	**-2.4**
CO03					IAML			10 13 29.9	
	comp=Z,25μm,0.5s								
LCO	**Las Campanas**	**1.91**	**35**	*eP*			**Pn**	**10 13 24.3**	**-0.3**
LCO					*eS*		**Sn**	**10 13 48.4**	**-0.1**
LCO	**Las Campanas**	**1.91**	**35**	Pn			**Pn**	**10 13 25.5**	**+0.9**
LCO	**Las Campanas**	**1.91**	**35**	*eP*			**Pb**	**10 13 26.0**	**-0.9**
AROD	**Rodeo**	**2.18**	**80**	*eP*			**Pn**	**10 13 30.0**	**+1.6**
VA01	**Torpederas**	**2.45**	**174**	*eP*			**Pn**	**10 13 30.7**	**-1.0**
VA01					*eS*		**Sn**	**10 14 02.7**	**+1.3**
VA01	**Torpederas**	**2.45**	**174**				**Pn**	**10 13 32.1**	**+0.3**
VA01	**Torpederas**	**2.45**	**174**	*eP*			**Pn**	**10 13 33.0**	**+1.3**
VA01					IAML			10 14 11.3	
	comp=Z,4μm,0.4s								
VA03	**San Esteban**	**2.48**	**152**	*eP*			**Pn**	**10 13 32.2**	**-0.2**
VA03					*eS*		**Sn**	**10 14 02.4**	**-0.1**
VA03					IAML			10 14 16.1	
	comp=N,22μm,0.4s								
VA03	**San Esteban**	**2.48**	**152**				**Pn**	**10 13 33.3**	**+1.0**
VA03	**San Esteban**	**2.48**	**152**	*eP*			**Pn**	**10 13 34.0**	**+1.7**
VA03					*eS*		**Sb**	**10 14 06.2**	**-0.9**
ACDV	**Cuesta del Vie**	**2.48**	**81**	*eP*			**Pb**	**10 13 35.0**	**-1.7**
ACDV					*eS*		**Sb**	**10 14 06.0**	**-1.2**
ACDV					IAML			10 14 16.0	
	comp=Z,8μm,0.5s								
AC04	**Llanos de Chal**	**2.49**	**18**	⇑ *eP*			**Pn**	**10 13 32.6**	**+0.3**
AC04					*eS*		**Sn**	**10 14 01.6**	**-1.0**
AC04	**Llanos de Chal**	**2.49**	**18**	Pn			**Pn**	**10 13 32.6**	**+0.3**
AC04	**Llanos de Chal**	**2.49**	**18**	*eP*			**Pn**	**10 13 33.0**	**+0.7**
AC04					*eS*		**Sb**	**10 14 07.0**	**-0.3**
AC04					IAML			10 14 24.4	
	comp=Z,4μm,0.7s								
ACCO	**Cerro Coronel**	**2.49**	**91**	*eP*			**Pb**	**10 13 35.0**	**-1.9**
ROCH	**El Roble**	**2.51**	**162**	*eP*			**Pn**	**10 13 32.7**	**-0.2**
ROCH					*eS*		**Sn**	**10 14 05.1**	**+1.6**
ROCH					IAML			10 14 18.9	
	comp=N,19μm,0.5s								
RTLS	**Leoncito**	**2.58**	**119**	*eP*			**Pn**	**10 13 36.0**	**+2.2**
AUSP	**Uspallata**	**2.74**	**127**	*eP*			**Pn**	**10 13 38.0**	**+2.0**
ZON	**Zonda**	**2.97**	**110**				**Pn**	**10 13 41.3**	**+2.3**
MT05	**Renca**	**2.99**	**160**	*eP*			**Pn**	**10 13 39.4**	**+0.2**
MT05					*eS*		**Sn**	**10 14 15.5**	**+0.6**
MT05	**Renca**	**2.99**	**160**				**Pn**	**10 13 40.2**	**+1.0**
MT05	**Renca**	**2.99**	**160**	*eP*			**Pn**	**10 13 40.0**	**+0.8**
VA05	**Santo Domingo**	**3.08**	**175**	*eP*			**Pn**	**10 13 40.0**	**-0.4**
VA05					*eS*		**Sn**	**10 14 18.3**	**+1.3**
VA05					IAML			10 14 32.2	
	comp=E,13μm,0.6s								
VA05	**Santo Domingo**	**3.08**	**175**				**Pn**	**10 13 40.5**	**+0.1**
FSR	**Penalolen**	**3.13**	**158**	*eP*			**Pn**	**10 13 43.3**	**+2.1**
FSR					*eS*		**Sn**	**10 14 18.4**	**-0.1**
AGUA	**GUANDACOL**	**3.19**	**71**	*eP*			Pn	10 13 25.1	-17
AGUA					*eP*		**Pb**	**10 13 46.0**	**-2.8**
MT09	**Talagante**	**3.29**	**166**	*eP*			**Pn**	**10 13 43.5**	**+0.1**
MT09					*eS*		**Sn**	**10 14 22.9**	**+0.5**
MT09					IAML			10 14 36.4	
	comp=E,8μm,0.6s								
MT09	**Talagante**	**3.29**	**166**				**Pn**	**10 13 43.6**	**+0.2**
MT01	**Popeta**	**3.33**	**170**	*eP*			**Pn**	**10 13 44.4**	**+0.5**
MT01					*eS*		**Sn**	**10 14 24.6**	**+1.4**
MT01					IAML			10 14 40.9	
	comp=E,5μm,0.3s								
MT01	**Popeta**	**3.33**	**170**				**Pn**	**10 13 45.5**	**+1.7**
MT01	**Popeta**	**3.33**	**170**	*eP*			**Pn**	**10 13 46.0**	**+2.2**
MT01					*eS*		**Sn**	**10 14 26.5**	**+3.3**
MT01					IAML			10 14 39.4	
	comp=Z,4μm,0.7s								
GO03	**Copiap**	**3.34**	**27**	*eP*			**Pn**	**10 13 44.4**	**+0.4**
GO03					*eS*		**Sn**	**10 14 23.4**	**-0.2**
GO03					IAML			10 14 40.2	
	comp=E,5μm,0.6s								
GO03	**Copiap**	**3.34**	**27**	Pn			**Pn**	**10 13 45.4**	**+1.4**
GO03	**Copiap**	**3.34**	**27**	*eP*			**Pn**	**10 13 45.0**	**+1.0**
GO03					*eS*		**Sb**	**10 14 30.0**	**-1.7**
ARCO	**CERRO ARCO**	**3.42**	**132**	*eP*			Pn	10 13 31.3	-14
ARCO					*eS*		**Sb**	**10 14 33.0**	**-1.2**
ARCO					IAML			10 14 48.1	
	comp=Z,5μm,0.6s								
LMEL	**Las Melosas**	**3.58**	**156**	⇑ *eP*			**Pn**	**10 13 48.1**	**+0.7**
LMEL					*eS*		**Sn**	**10 14 29.3**	**-0.3**
LMEL					IAML			10 14 46.0	
	comp=N,5μm,0.5s								
AAGR	**Agrelo**	**3.65**	**134**	*eP*			**Pn**	**10 13 52.0**	**+3.6**
AAGR					IAML			10 14 49.8	
	comp=Z,1μm,0.9s								
VCA	**Vinchina**	**3.75**	**62**	*eP*			**Pn**	**10 13 54.0**	**+4.2**
BO01	**Tunca**	**3.87**	**169**	*eP*			**Pn**	**10 13 51.6**	**+0.3**
BO01					*eS*		**Sn**	**10 14 37.1**	**+0.6**
BO01	**Tunca**	**3.87**	**169**				**Pn**	**10 13 52.9**	**+1.6**
BO01	**Tunca**	**3.87**	**169**	*eP*			**Pn**	**10 13 54.0**	**+2.7**
BO01					*eS*		**Sb**	**10 14 42.5**	**-4.5**
BO01					IAML			10 14 54.2	
	comp=Z,2μm,0.9s								
AVFE	**Valle Fertil**	**3.88**	**92**	*eP*			**Pn**	**10 13 53.0**	**+1.5**
AVFE					*eS*		**Sb**	**10 14 47.9**	**+0.6**
AVFE					IAML			10 14 51.2	
	comp=Z,3μm,0.5s								
BO03	**Pichilemu**	**3.90**	**180**	*eP*			**Pn**	**10 13 51.0**	**-0.8**
BO03					*eS*		**Sn**	**10 14 38.0**	**+0.7**
GO05	**Huala**	**4.42**	**180**				**Pn**	**10 13 57.9**	**-0.9**
GO05	**Huala**	**4.42**	**180**	*eP*			**Pn**	**10 13 59.0**	**+0.2**
GO05					*eS*		**Sb**	**10 15 01.5**	**-1.2**
AC02	**Maricunga**	**4.48**	**34**	⇓ *eP*			**Pn**	**10 14 01.7**	**+1.5**
AC02	**Maricunga**	**4.48**	**34**	Pn			**Pn**	**10 14 02.1**	**+1.9**
AC02	**Maricunga**	**4.48**	**34**	*eP*			**Pn**	**10 14 03.0**	**+2.8**
AC02					*eS*		**Sn**	**10 14 56.5**	**+4.1**
ACHE	**Chepes**	**4.58**	**99**	*eP*			**Pn**	**10 14 02.0**	**+0.7**
LAMA	**Las Malvinas**	**4.92**	**153**	*eP*			**Pn**	**10 14 06.0**	**+0.3**
LAMA					*eP*		Pb	10 14 08.1	-10
LAMA					*eP*			10 14 09.0	
COIS	**El Sosneado**	**4.93**	**157**	*eP*			**Pn**	**10 14 09.0**	**+3.1**
RFA	**San Rafael**	**5.11**	**146**	*eP*			**Pn**	**10 14 10.0**	**+1.6**
RFA					*eS*		**Sb**	**10 15 20.0**	**-2.7**
RFA					IAML			10 15 46.4	
	comp=Z,1μm,0.7s								
ML02	**Panimavida**		**5.19**	**175**	Pn		**Pn**	**10 14 10.4**	**+1.0**
MRA	**San Martin**		**5.63**	**111**	*eP*		**Pn**	**10 14 16.0**	**+0.4**
CYA	**Choya**		**5.77**	**70**	*eP*		**Pn**	**10 14 19.0**	**+1.5**
CYA					*eS*		**Sn**	**10 15 22.0**	**-1.5**
H03N1	**Juan Fernandez**		**6.56**	**242**	T		T	10 21 30.0	
	baz=73,slow=72,SNR=4999								
H03N2	**Juan Fernandez**		**6.58**	**243**	T		T	10 21 30.0	
	baz=73,slow=72,SNR=3843								
H03N3	**Juan Fernandez**		**6.58**	**242**	T		T	10 21 28.6	
	baz=73,slow=72,SNR=3824								
VA04	**Juan Fernndez**		**6.58**	**241**	Pn		**Pn**	**10 14 28.5**	**-0.1**
H03S3	**Juan Fernandez**		**6.72**	**239**	Pn		**Pn**	**10 14 29.7**	**-0.5**
	baz=35,slow=19,SNR=123								
H03S3					T		T	10 21 39.0	
	baz=83,slow=76								
H03S1	**Juan Fernandez**		**6.73**	**239**	Pn		**Pn**	**10 14 29.4**	**-0.9**
	baz=35,slow=19,SNR=78								
H03S1					T		T	10 21 43.9	
	baz=83,slow=76								
H03S2	**Juan Fernandez**		**6.74**	**239**	Pn		**Pn**	**10 14 30.0**	**-0.5**
	baz=35,slow=19,SNR=92								
H03S2					T		T	10 21 45.1	
	baz=83,slow=76								
FSA	**Cafayete**		**6.89**	**51**	*eP*		**Pn**	**10 14 36.0**	**+2.9**
FSA					*eS*		**Sn**	**10 15 48.9**	**-2.6**
AHML	**Horco Molle**		**6.94**	**59**	*eP*		**Pn**	**10 14 34.0**	**+0.5**
AHML					IAML			10 16 57.7	
	comp=Z,447nm,1.0s								
LC01	**Cunco**		**8.30**	**180**	Pn		**Pn**	**10 14 51.4**	**-0.8**
LC01	**Cunco**		**8.30**	**180**	*eP*		**Pn**	**10 14 52.0**	**-0.1**
LVC	**Limon Verde**		**8.39**	**20**	Pn		**Pn**	**10 14 53.6**	**-0.2**
	baz=43,slow=15,SNR=0.7								
LVC					LR		LR	10 18 01.4	
	comp=Z,2μm,19.0s,baz=212,slow=37								
LVC	**Limon Verde**		**8.39**	**20**	*eP*		**Pn**	**10 14 53.8**	**0.0**
ASTB	**Santa Barbara**		**9.39**	**47**	*eP*		**Pn**	**10 15 11.0**	**+3.7**
PLCA	**Paso Flores**		**10.19**	**174**	Pn		**Pn**	**10 15 18.0**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=325,slow=9.8,SNR=4.6								
PLCA					LR		LR	10 19 39.5	
	comp=Z,973nm,18.6s,baz=351,slow=41								
PLCA	**Paso Flores**		**10.19**	**174**	Pn		**Pn**	**10 15 18.1**	**0.0**
PLCA	**Paso Flores**		**10.19**	**174**	*eP*		**Pn**	**10 15 18.0**	**-0.2**
TRQA	**Tornquist**		**11.11**	**135**	Pn		**Pn**	**10 15 30.8**	**+0.1**
TRQA	**Tornquist**		**11.11**	**135**	*eP*		**Pn**	**10 15 29.8**	**-0.9**
LPA	**La Plata**		**12.56**	**114**	*eP*		Pn	10 15 55.6	+5.0
LPA					PP		**PbPb**	**10 16 31.0**	**-0.6**
LPA					PPP		PPP	10 16 47.5	
LPA					S		**Sn**	**10 18 15.6**	**+5.3**
LPA					SS		**SbSb**	**10 19 13.3**	**+11**
LPA					SSS		SSS	10 19 47.6	
LPA					SCS		**ScS**	**10 28 40.7**	**+2.7**
LPA					PKIKP		PKiKP	10 29 12.5	-14
LPA					SKIKP			10 32 53.3	
LPA					PKIKS			10 32 59.1	
LPA					SKIKS			10 36 22.2	
ITQB	**Itaqui**		**13.30**	**90**	Pn		**Pn**	**10 15 58.6**	**-2.0**
ITQB	**Itaqui**		**13.30**	**90**	*eP*		**Pn**	**10 15 59.1**	**-1.5**
CPUP	**Villa Florida**		**13.54**	**75**	Pn		**Pn**	**10 16 02.8**	**-1.1**
	comp=Z,1.7nm,0.3s,baz=242,slow=10,SNR=11								
CPUP					LR		LR	10 21 34.0	
	comp=Z,1μm,21.1s,baz=257,slow=39								
CPUP	**Villa Florida**		**13.54**	**75**	Pn		**Pn**	**10 16 02.2**	**-1.7**
CPUP	**Villa Florida**		**13.54**	**75**	*eP*		**Pn**	**10 16 03.2**	**-0.7**
LPAZ	**La Paz**		**14.65**	**15**	Pn		**Pn**	**10 16 22.0**	**+2.2**
	comp=Z,2.2nm,0.3s,baz=183,slow=8.1,SNR=34								
LPAZ	**La Paz**		**14.65**	**15**	Pn		**Pn**	**10 16 22.2**	**+2.4**
LPAZ							**P**	**10 16 22.4**	**-3.6**
COYC	**Coyhaique**		**14.97**	**180**	Pn		**Pn**	**10 16 23.9**	**+0.6**
PLTB	**Pedras Altas**		**15.75**	**99**	Pn		**Pn**	**10 16 33.1**	**-0.7**
PLTB					IAmb		IAmb	10 17 18.3	
	comp=Z,83nm,1.4s								
PLTB	**Pedras Altas**		**15.75**	**99**	*eP*		**Pn**	**10 16 32.9**	**-0.9**
CPSB	**Cacapava Do Su**		**15.96**	**94**	*eP*		**Pn**	**10 16 35.4**	**-1.0**
SIV	**San Ignacio**		**17.61**	**37**	P		**Pn**	**10 16 57.1**	**-0.3**
	comp=Z,1.4nm,0.3s,baz=237,slow=13,SNR=37								
SIV					LR		LR	10 25 02.3	
	comp=Z,1μm,21.0s,baz=218,slow=42								
CNLB	**Canela**		**18.33**	**91**	*eP*		**Pn**	**10 17 05.5**	**-0.7**
PTGB	**Pitanga**		**18.55**	**76**	*eP*		**P**	**10 17 07.5**	**-1.2**
TRCB	**Terra Rica**		**18.91**	**70**	*eP*		**P**	**10 17 12.1**	**-0.5**
NNA	**Nana**		**19.05**	**345**	P		**Pn**	**10 17 16.1**	**+1.1**
	comp=Z,1.5nm,0.3s,baz=182,slow=16,SNR=1.9								
PTLB	**Pontes e Lacer**		**19.11**	**41**	*eP*		**P**	**10 17 14.1**	**-0.6**
TER01	**Tubaro-SC**		**19.96**	**90**	*eP*		**P**	**10 17 22.6**	**-1.4**
PP1B	**Ponte de Pedra**		**20.21**	**54**	*eP*		**P**	**10 17 25.7**	**-1.1**
PCMB	**Pacaembu**		**20.59**	**69**	*eP*		**P**	**10 17 29.5**	**-1.5**
VILB	**Vilhena**		**20.63**	**34**	*eP*		**P**	**10 17 31.1**	**-0.3**
SALV	**Santo Antonio**		**20.86**	**49**	*eP*		**P**	**10 17 32.6**	**-1.3**
TIJ01	**Guaruva-PR**		**20.93**	**81**	*eP*		**P**	**10 17 32.3**	**-2.4**
FRTB	**Fartura**		**21.20**	**76**	*eP*		**P**	**10 17 36.7**	**-0.8**
ETMB	**Extrema**		**21.34**	**16**	*eP*		**P**	**10 17 40.4**	**+1.3**
ITRB	**Iturama**		**22.31**	**66**	*eP*		**P**	**10 17 47.2**	**-2.2**
CZSB	**Cruzeiro do Su**		**22.75**	**358**	*eP*		**P**	**10 17 55.9**	**+1.8**
PET01	**Itanhaem-SP**		**22.76**	**80**	*eP*		**P**	**10 17 53.7**	**-0.5**
SPB	**Sao Paulo**		**22.89**	**78**	P		**P**	**10 17 54.7**	**-0.8**
SAML	**Samuel**		**23.03**	**23**	P		**P**	**10 17 57.0**	**0.0**
SAML					IAmb		IAmb	10 18 00.2	
	comp=Z,22nm,0.8s								
BB19B	**Bebedouro**		**23.08**	**71**	*eP*		**P**	**10 17 57.2**	**-0.4**
RCLB	**Rio Claro- Sao**		**23.29**	**75**	*eP*		**P**	**10 17 57.4**	**-2.4**
VAO	**Valinhos**		**23.52**	**77**	*eP*		**P**	**10 17 59.7**	**-2.3**
USHA	**Ushuaia**		**24.37**	**175**	P		**P**	**10 18 09.8**	**+0.1**
	comp=Z,19nm,0.5s,baz=354,slow=7.2,SNR=6.2								
PARB	**Paraibuna**		**24.52**	**79**	*eP*		**P**	**10 18 09.7**	**-1.8**
CLDB	**Colider**		**24.70**	**41**	*eP*		**P**	**10 18 11.4**	**-1.6**
IPMB	**Ipameri, GO**		**24.95**	**65**	*eP*		**P**	**10 18 14.1**	**-1.3**
BSCB	**Bom Sucesso**		**26.21**	**75**	*eP*		**P**	**10 18 25.2**	**-1.6**
TBTG	**Tabatinga, AM**		**26.33**	**5**	*eP*		**P**	**10 18 27.3**	**-0.5**
TBTG	**Tabatinga, AM**		**26.33**	**5**	*eP*		**P**	**10 18 29.1**	**+1.4**
BDFB	**Brasilia**		**26.49**	**61**	P		**P**	**10 18 27.8**	**-1.6**
	comp=Z,27nm,0.8s,baz=229,slow=8.4,SNR=26								
BDFB					LR		LR	10 29 59.0	
	comp=Z,1μm,18.6s,baz=204,slow=39								
BDFB	**Brasilia**		**26.49**	**61**	P		**P**	**10 18 28.0**	**-1.4**
SNDB	**Serra Nova Dou**		**26.62**	**50**	*eP*		**P**	**10 18 29.1**	**-1.3**
VAS01	**Vassouras-RJ**		**26.78**	**79**	*eP*		**P**	**10 18 30.9**	**-1.0**
DUB01	**Friburgo-RJ**		**27.77**	**79**	*eP*		**P**	**10 18 40.4**	**-0.4**
NPGB	**Novo Progresso**		**28.12**	**37**	*eP*		**P**	**10 18 42.6**	**-1.3**
DIAM	**Diamantina, MG**		**28.42**	**71**	*eP*		**P**	**10 18 45.5**	**-1.2**
CAM01	**Campos-RJ**		**28.48**	**79**	*eP*		**P**	**10 18 46.6**	**-0.5**
PEXB	**Peixe**		**28.59**	**55**	*eP*		**P**	**10 18 47.2**	**-0.9**
MC01	**Montes Claros**		**29.04**	**68**	*eP*		**P**	**10 18 50.8**	**-1.4**
MACA	**Manacapuru-AM**		**29.28**	**24**	*eP*		**P**	**10 18 54.6**	**+0.4**
JANB	**Januaria**		**29.68**	**65**	*eP*		**P**	**10 18 56.4**	**-1.5**
ALF01	**Guarapari-ES**		**29.77**	**78**	*eP*		**P**	**10 18 57.6**	**-1.0**
ITTB	**Itaituba**		**30.23**	**34**	*eP*		**P**	**10 19 01.5**	**-1.1**
SJMB	**Sao Joao De Ma**		**30.26**	**74**	*eP*		**P**	**10 19 01.2**	**-1.7**
BSFB	**Barra de Sao F**		**30.48**	**75**	*eP*		**P**	**10 19 02.8**	**-2.0**
RIB01	**Linhares ES**		**30.64**	**76**	*eP*		**P**	**10 19 05.9**	**-0.3**
PTLC	**Puerto Leguiza**		**30.70**	**354**	*eP*		**P**	**10 19 05.2**	**-1.6**
SDBA	**SAO DESIDERIO**		**30.86**	**60**	*eP*		**P**	**10 19 08.0**	**-0.3**
OTAV	**Otavalo**		**31.27**	**347**	*eP*		**P**	**10 19 12.8**	**+0.5**
SMTB	**Santa Maria do**		**31.37**	**52**	*eP*		**P**	**10 19 11.9**	**-0.8**
NAN01	**Guarapari, ES**		**31.56**	**74**	*eP*		**P**	**10 19 12.5**	**-1.9**
PRPB	**Parauapebas**		**31.97**	**45**	*eP*		**P**	**10 19 16.9**	**-1.1**
FLOC	**Florencia**		**32.18**	**353**	P		**P**	**10 19 22.4**	**+2.6**
FLOC					IAmb		IAmb	10 19 50.2	
	comp=Z,14nm,1.0s								
FLOC	**Florencia**		**32.18**	**353**	*eP*		**P**	**10 19 22.8**	**+3.0**
MACC	**Macarena, Meta**		**32.59**	**356**	*eP*		**P**	**10 19 25.5**	**+2.1**
BBAC	**Balboa, Cauca**		**32.81**	**350**	*eP*		**P**	**10 19 24.1**	**-1.4**
RPN	**Rapa Nui**		**32.82**	**267**	LR		LR	10 29 10.1	
	comp=Z,501nm,19.6s,baz=127,slow=30								
SOTA	**Rioblanco**		**32.84**	**351**	*eP*		**P**	**10 19 29.6**	**+3.5**
MALB	**Monte Alegre**		**33.13**	**34**	*eP*		**P**	**10 19 26.9**	**-1.2**
BETC	**Betania**		**33.24**	**354**	*eP*		**P**	**10 19 29.6**	**+0.4**
CMC01	**Camacan, BA**		**33.34**	**70**	*eP*		**P**	**10 19 28.2**	**-1.8**
NBIT	**Itapeh - BA**		**33.64**	**70**	*eP*		**P**	**10 19 31.7**	**-0.9**
GDU01	**Guandu, BA**		**34.20**	**68**	*eP*		**P**	**10 19 36.2**	**-1.2**
PRAC	**Prado**		**34.22**	**355**	*eP*		**P**	**10 19 39.0**	**+1.4**
ORTC	**Ortega, Tolima**		**34.44**	**354**	*eP*		**P**	**10 19 41.7**	**+2.2**
VILC	**Villavicencio,**		**34.54**	**357**	*eP*		**P**	**10 19 41.7**	**+1.2**
BOAV	**Boa Vista**		**34.56**	**20**	*eP*		**P**	**10 19 40.5**	**0.0**
YOTC	**Yotoco, Valle**		**34.63**	**352**	*eP*		**P**	**10 19 41.7**	**+0.5**
ANIL	**Santa Ana**		**35.03**	**354**	*eP*		**P**	**10 19 45.8**	**+0.9**
CHIC	**Chingaza**		**35.05**	**357**	*eP*		**P**	**10 19 47.2**	**+1.9**
ROSC	**El Rosal**		**35.29**	**356**	P		**P**	**10 19 49.9**	**+2.6**
	comp=Z,7.9nm,0.4s,baz=70,slow=22,SNR=4.6								
NBPN	**Ponto Novo - B**		**35.41**	**63**	*eP*		**P**	**10 19 46.5**	**-1.5**
MCPB	**Macapa, AP**		**35.51**	**36**	*eP*		**P**	**10 19 48.4**	**-0.3**
GUY2C	**Guyana, Caldas**		**35.75**	**354**	*eP*		**P**	**10 19 52.6**	**+1.2**
TMAB	**Tom-Au,PA,Br**		**36.02**	**43**	*eP*		**P**	**10 19 53.1**	**0.0**
NORC	**Norcasia**		**36.05**	**355**	*eP*		**P**	**10 19 53.9**	**+0.5**
SPBC	**San Pablo de B**		**36.09**	**356**	*eP*		**P**	**10 19 55.3**	**+1.5**
RUSC	**La Rusia**		**36.28**	**358**	*eP*		**P**	**10 19 58.0**	**+2.1**
CBOC	**Ciudad Bolivar**		**36.45**	**353**	*eP*		**P**	**10 19 53.9**	**-3.0**
HELC	**Santa Helena**		**36.72**	**354**	*eP*		**P**	**10 19 59.4**	**-0.2**
PTBC	**PUERTO BERRIO,**		**36.99**	**356**	*eP*		**P**	**10 19 59.4**	**-2.0**
NBLA	**Lagarto - SE**		**37.20**	**66**	*eP*		**P**	**10 20 01.4**	**-1.8**
DBBC	**Dabeiba**		**37.61**	**353**	*eP*		**P**	**10 20 08.8**	**+2.1**
ZARC	**Zaragoza, Cauc**		**37.96**	**355**	*eP*		**P**	**10 20 08.8**	**-0.8**
ROSB	**Rosrio**		**38.08**	**49**	*eP*		**P**	**10 20 10.4**	**-0.3**
UREC	**San Jos de Ur**		**38.27**	**354**	*eP*		**P**	**10 20 12.9**	**+0.7**
NBMA	**Muriti-CE**		**38.71**	**60**	*eP*		**P**	**10 20 15.2**	**-0.9**
NBPS	**Pedro II - PI**		**38.80**	**54**	*eP*		**P**	**10 20 16.1**	**-0.7**
NBAN	**Anadia - AL**		**39.18**	**66**	*eP*		**P**	**10 20 18.3**	**-1.7**
SMLC	**San Martn de**		**39.21**	**357**	*eP*		**P**	**10 20 16.9**	**-3.1**
SDV	**Santo Domingo**		**39.26**	**2**	P		**P**	**10 20 21.2**	**+0.5**
SDV					IAmb		IAmb	10 20 22.6	
	comp=Z,16nm,0.8s								
SDV	**Santo Domingo**		**39.26**	**2**	*eP*		**P**	**10 20 21.2**	**+0.5**
NBPB	**Pedra_Branca-C**		**39.32**	**57**	*eP*		**P**	**10 20 20.6**	**-0.5**
SJCC	**San Jacinto, C**		**40.37**	**355**	P		**P**	**10 20 30.8**	**+1.0**
SJCC					IAmb		IAmb	10 21 22.1	
	comp=Z,22nm,1.1s								
SJCC	**San Jacinto, C**		**40.37**	**355**	*eP*		**P**	**10 20 29.1**	**-0.6**
NBMO	**Morrinhos-CE**

CCM	Cathedral Cave	70.62	344	P	P	10 24 07.5 +0.5
CCM				IAmb	IAmb	10 24 09.1
	comp=Z,14nm,0.8s					
CCM	Cathedral Cave	70.62	344	P	P	10 24 08.4 +1.4
	baz=162					
TIAR	Tiarei	70.65	261	*e*T	T	11 41 28.8
	comp=Z,5.0nm,0.2s					
S39A	Bolivar	70.80	342	P	P	10 24 08.5 +0.4
S39A				IAmb	IAmb	10 24 23.3
	comp=Z,10.0nm,1.1s					
P48A	Milroy	70.80	349	IAmb	IAmb	10 24 09.2
	comp=Z,9.8nm,0.8s					
PPT2	Papeete2	70.83	261	*e*LR	LR	10 45 58.5
	comp=Z,291nm,24.5s					
ACSO	Alum Creek Sta	71.20	351	IAmb	IAmb	10 24 26.4
	comp=Z,16nm,1.0s					
P46A	Rosedale	71.27	348	IAmb	IAmb	10 24 13.3
	comp=Z,17nm,1.0s					
O49A	Covington	71.34	350	P	P	10 24 11.7 +0.4
O49A				IAmb	IAmb	10 24 13.7
	comp=Z,13nm,0.9s					
P43A	Skaggs, Pawnee	71.75	346	IAmb	IAmb	10 24 15.4
	comp=Z,16nm,0.8s					
M55A	Ridgway	71.97	355	IAmb	IAmb	10 25 19.2
	comp=Z,16nm,1.1s					
N49A	Columbus Grove	72.04	350	P	P	10 24 14.7 -0.9
M53A	WI Miller and	72.11	353	IAmb	IAmb	10 25 23.4
	comp=Z,15nm,1.0s					
P40A	Paris	72.22	344	P	P	10 24 17.3 +0.7
L56A	Greenwood	72.54	356	IAmb	IAmb	10 24 35.2
	comp=Z,21nm,1.3s					
P38A	Dawn	72.67	343	IAmb	IAmb	10 24 21.1
	comp=Z,10nm,0.8s					
L61B	Northampton	72.67	359	P	P	10 24 21.1 +1.8
	baz=179					
ANMO	Albuquerque	72.83	331	P	P	10 24 22.0 +1.3
ANMO	Albuquerque	72.83	331	P	P	10 24 23.4 +2.7
	baz=149					
LIC	Lamto	73.65	72	*e*P	P	10 24 24.2 -1.5
	comp=Z,118nm,1.1s					
N38A	Joes South For	73.70	343	P	P	10 24 26.3 +0.9
TIC	Toumodi	73.89	72	*e*P	P	10 24 25.9 -1.3
T25A	Trinidad	73.91	333	P	P	10 24 29.5 +2.5
	baz=151					
KIC	Kosan Boka	73.96	72	*e*P	P	10 24 26.5 -1.1
	comp=Z,220nm,1.4s					
DBIC	Dimbokro	74.04	72	P	P	10 24 27.4 -0.6
	comp=Z,14nm,0.5s,baz=230,slow=5.4,SNR=38					
DBIC	Dimbokro	74.04	72	P	P	10 24 27.2 -0.8
N35A	Tabor	74.39	342	P	P	10 24 29.5 +0.1
SDCO	Great Sand Dun	74.86	333	P	P	10 24 34.1 +1.5
SDCO	Great Sand Dun	74.86	333	P	P	10 24 35.1 +2.5
	baz=150					
K38A	Parkersburg	75.34	344	IAmb	IAmb	10 24 36.7
	comp=Z,11nm,0.8s					
S22A	4UR Ranch, Cre	75.39	332	P	P	10 24 38.2 +2.5
	baz=149					
MVCO	Mesa Verde	75.62	331	P	P	10 24 38.1 +1.2
MVCO				IAmb	IAmb	10 24 40.3
	comp=Z,6.9nm,0.9s					
MVCO	Mesa Verde	75.62	331	P	P	10 24 39.3 +2.3
	baz=148					
Q24A	Divide	75.79	334	P	P	10 24 40.6 +2.7
	baz=151					
I40A	Norwalk	76.06	346	IAmb	IAmb	10 24 41.4
	comp=Z,8.5nm,0.8s					
LMN	Caledonia Moun	76.35	5	P	P	10 24 42.4 +1.8
MAW	Mawson	76.43	164	P	P	10 24 40.9 -0.1
	comp=Z,18nm,0.5s,baz=208,slow=6.8,SNR=20					
MAW	Mawson	76.43	164	P	P	10 24 40.8 -0.1
SUR	Sutherland	76.43	120	P	P	10 24 42.2 +0.3
PV13	Radium Mtn., P	76.56	331	P	P	10 24 44.4 +2.1
PV13				IAmb	IAmb	10 24 45.4
	comp=Z,6.0nm,0.8s					
PV02	Paradox Valley	76.57	331	P	P	10 24 43.3 +1.0
PV05	Paradox Valley	76.61	331	IAmb	IAmb	10 24 45.5
	comp=Z,6.8nm,0.8s					
PV03	Paradox Valley	76.65	331	P	P	10 24 43.8 +1.0
PV03				IAmb	IAmb	10 25 20.8
	comp=Z,25nm,2.0s					
SMCO	Snowmass	76.68	333	P	P	10 24 45.1 +1.9
SMCO				IAmb	IAmb	10 24 46.7
	comp=Z,11nm,0.8s					
ISCO	Idaho Springs	76.69	334	P	P	10 24 45.4 +2.4
	baz=151					
K31A	O'Neill	76.90	340	P	P	10 24 45.0 +1.2
G40A	Rib Lake	77.30	347	IAmb	IAmb	10 24 48.1
	comp=Z,5.7nm,0.8s					
ECSD	EROS Data Cent	77.33	342	IAmb	IAmb	10 24 48.2
	comp=Z,15nm,0.8s					
ECSD	EROS Data Cent	77.33	342	P	P	10 24 47.4 +1.3
	baz=158					
D62A	Allapoint, All	77.35	2	P	P	10 24 47.7 +1.6
D62A				IAmb	IAmb	10 24 48.2
	comp=Z,12nm,0.9s					
BFSC	Mount Baldy Ra	77.56	323	P	P	10 24 50.2 +2.4
	baz=141					
LCMT	Little Creek M	77.57	327	P	P	10 24 48.8 +1.0
MTPU	Mount Pierson	77.93	329	IAmb	IAmb	10 26 52.4
	comp=Z,4.9nm,0.7s					
GSC	Goldstone, Bar	77.95	324	P	P	10 24 52.2 +2.3
	baz=142					
O20A	White River Ci	78.00	332	IAmb	IAmb	10 24 53.4
	comp=Z,6.3nm,0.8s					
O20A	White River Ci	78.00	332	P	P	10 24 52.8 +2.5
	baz=149					
CCUT	Cedar City	78.06	327	P	P	10 24 53.2 +2.5
SRU	San Rafael Swe	78.08	330	P	P	10 24 51.8 +1.1
SRU				IAmb	IAmb	10 24 53.5
	comp=Z,6.5nm,0.8s					
Q16A	Castle Valley	78.20	330	IAmb	IAmb	10 25 05.8
	comp=Z,7.6nm,1.0s					
MVU	Marysvale	78.32	329	P	P	10 24 54.1 +2.0
MVU				IAmb	IAmb	10 24 55.6
	comp=Z,15nm,0.9s					
LRMC	Laurel Mtn Rad	78.53	323	P	P	10 24 56.4 +3.1
	baz=141					
F36A	Milaca	78.56	345	IAmb	IAmb	10 24 54.7
	comp=Z,10nm,0.8s					
D41A	Chassel	78.72	349	P	P	10 24 54.0 +0.2
PRN	Pahroc Range	78.74	326	P	P	10 24 55.2 +0.8
PRN				IAmb	IAmb	10 24 58.1
	comp=Z,6.5nm,0.8s					
MPMC	Manual Prospec	78.88	324	P	P	10 24 57.5 +2.3
	baz=141					
FURC	Furnace Creek,	78.89	325	P	P	10 24 57.8 +2.9
	baz=142					
RDMU	Red Mountain	78.91	332	IAmb	IAmb	10 24 58.1
	comp=Z,9.1nm,0.8s					
RWWY	Rawlins	78.93	334	P	P	10 24 57.3 +1.8
RWWY				IAmb	IAmb	10 24 58.4
	comp=Z,11nm,0.9s					
TPNV	Topopah Spring	78.96	325	P	P	10 24 55.7 +0.1
TPNV	Topopah Spring	78.96	325	P	P	10 24 58.4 +2.8
	baz=142					
ISA	Isabella, Lake	79.08	323	P	P	10 24 59.3 +3.1
	baz=140					
KOWA	Kowa	79.17	66	P	P	10 24 56.1 -0.9
PKM	Mcpherson Peak	79.20	322	P	P	10 25 00.0 +3.0
	baz=139					
F33A	5 Mile Ranch,	79.20	343	IAmb	IAmb	10 25 06.5
	comp=Z,12nm,1.2s					
MPU	Maple Canyon	79.31	330	P	P	10 24 58.7 +1.2
CWC	Cottonwood Cre	79.48	324	P	P	10 25 00.8 +2.4
	baz=141					
K22A	Casper	79.50	335	IAmb	IAmb	10 25 01.5
	comp=Z,9.0nm,0.8s					
K22A	Casper	79.50	335	P	P	10 25 00.8 +2.4
	baz=150					
VES	Vestal, Richgr	79.54	323	P	P	10 25 01.6 +3.1
	baz=140					
R11A	Troy Canyon, C	79.75	327	P	P	10 25 02.7 +2.8
	baz=143					
RSSD	Black Hills	79.92	337	P	P	10 25 01.0 +0.3
RSSD	Black Hills	79.92	337	P	P	10 25 03.1 +2.4
	baz=152					
DUG	Dugway, Tooele	79.97	329	P	P	10 25 03.2 +2.2
	baz=145					
TSUM	Tsumeb	80.09	106	P	P	10 25 01.0 -1.2
TSUM				IAmb	IAmb	10 25 03.4
	comp=Z,14nm,1.0s					
TPH	Tonopah	80.32	325	IAmb	IAmb	10 25 06.2
	comp=Z,19nm,1.0s					
HWUT	Hardware Ranch	80.60	331	P	P	10 25 05.2 +0.8
HWUT				IAmb	IAmb	10 25 06.9
	comp=Z,10nm,0.8s					
PDAR	Pinedale Array	80.76	333	P	P	10 25 06.2 +0.9
	comp=Z,1.1nm,0.8s,baz=138,slow=6.7,SNR=10.0					
PDAR	Pinedale Array	80.76	333	P	P	10 25 05.8 +0.5
B35A	Bob, Littlefor	80.97	345	IAmb	IAmb	10 25 07.4
	comp=Z,14nm,0.7s					
NVAR	Mina Array Bea	81.13	325	P	P	10 25 09.2 +1.9
	comp=Z,1.9nm,0.8s,baz=155,slow=6.0,SNR=16					
HVU	Hansel Valley	81.25	330	IAmb	IAmb	10 25 10.9
	comp=Z,8.5nm,0.9s					
AGMN	Agassiz Nation	81.40	344	P	P	10 25 08.8 +0.6
AGMN				IAmb	IAmb	10 25 09.8
	comp=Z,11nm,0.7s					
AGMN	Agassiz Nation	81.40	344	P	P	10 25 09.4 +1.2
	baz=159					
ELK	Elko	81.50	328	P	P	10 25 08.4 -0.9
KVN	Kaiserville	81.51	325	P	P	10 25 09.6 +0.2
BOSA	Boshof	81.60	118	P	P	10 25 09.2 -1.0
	comp=Z,12nm,0.8s,baz=240,slow=3.0,SNR=15					
LOHW	Long Hollow	81.88	333	P	P	10 25 11.3 0.0
LOHW				IAmb	IAmb	10 25 26.8
	comp=Z,11nm,1.6s					
MDND	Maddock	81.93	342	P	P	10 25 12.4 +1.3
MDND	Maddock	81.93	342	P	P	10 25 13.0 +1.9
	baz=156					
IMW	Indian Meadow	82.25	333	IAmb	IAmb	10 26 38.7
	comp=Z,14nm,1.8s					
PNTR	Pine Nut	82.28	325	IAmb	IAmb	10 25 17.7
	comp=Z,8.1nm,0.9s					
FLWY	Flagg Ranch	82.31	333	IAmb	IAmb	10 25 16.1
	comp=Z,5.6nm,0.8s					
RLMT	Red Lodge	82.64	334	IAmb	IAmb	10 25 37.7
	comp=Z,11nm,1.4s					
RLMT	Red Lodge	82.64	334	P	P	10 25 16.6 +1.5
	baz=148					
PAHR	Pah Rah Range	82.65	325	P	P	10 25 15.7 +0.5
PAHR				IAmb	IAmb	10 25 18.6
	comp=Z,6.9nm,0.9s					
YNE	Yellowstone No	82.83	334	P	P	10 25 17.5 +1.3
YNE				IAmb	IAmb	10 28 01.4
	comp=Z,7.4nm,1.1s					
YHH	Holmes Hill	82.96	333	IAmb	IAmb	10 25 32.9
	comp=Z,7.0nm,1.1s					
TORD	Torodi Ar. Bea	82.99	70	P	P	10 25 16.3 -1.1
	comp=Z,7.3nm,0.5s,baz=279,slow=5.5,SNR=90					
TORD	Torodi Ar. Bea	82.99	70	P	P	10 25 15.9 -1.5
ULM	Lac du Bonnet	83.23	345	P	P	10 25 17.9 +0.2
	comp=Z,9.2nm,0.8s,baz=151,slow=3.4,SNR=6.9					
ULM	Lac du Bonnet	83.23	345	IAmb	IAmb	10 25 19.5
	comp=Z,10nm,0.8s					
HLID	Hailey	83.41	330	P	P	10 25 21.3 +2.2
	baz=144					
ORV	Oroville	83.60	324	P	P	10 25 21.5 +1.6
ORV				IAmb	IAmb	10 25 23.3
	comp=Z,7.0nm,1.1s					
LBTB	Lobatse	83.68	115	P	P	10 25 19.6 -1.4
DGMT	Dagmar	83.83	339	P	P	10 25 22.9 +2.0
	baz=152					
WVOR	Wild Horse Val	84.40	327	IAmb	IAmb	10 25 35.8
	comp=Z,7.7nm,1.4s					
MOD	Modoc Plateau	84.78	326	P	P	10 25 26.3 +0.2
J08A	Circle Bar Ran	85.04	328	IAmb	IAmb	10 25 30.2
	comp=Z,11nm,0.9s					
SCHQ	Schefferville	85.18	3	P	P	10 25 27.1 -0.5
	comp=Z,7.4nm,1.0s,baz=82,slow=7.9,SNR=3.6					
M04C	Macdoel	85.44	325	P	P	10 25 31.7 +2.3
	baz=139					
K05A	Summer Lake	85.69	326	P	P	10 25 32.6 +1.9
I07A	Izee	86.07	328	IAmb	IAmb	10 25 54.7
	comp=Z,6.7nm,1.2s					
PINE	Pine Mountain	86.52	327	IAmb	IAmb	10 25 52.5
	comp=Z,9.2nm,0.9s					
JTMT	Jette	86.75	333	IAmb	IAmb	10 25 39.8
	comp=Z,4.4nm,0.8s					
WALA	Waterton Lakes	87.68	334	P	P	10 25 40.8 +0.7
WALA				IAmb	IAmb	10 25 50.2
	comp=Z,7.3nm,1.1s					
ESDC	Sonseca Array	94.16	46	P	P	10 26 10.2 -0.3
	comp=Z,0.9nm,0.8s,baz=248,slow=3.5,SNR=2.5					
DZM	Mont Dzumac	103.30	234	*e*LR	LR	11 00 52.8
	comp=Z,241nm,24.2s					
MNK	Minsk	119.81	41	*i* PKP	PKiKP	10 31 42.3 +0.8
	comp=E,2.0nm,0.9s					
MNK				*i* PKP	PKiKP	10 31 42.3 +0.8
	comp=N,16nm,0.8s					
MNK				*i* PKP	PKiKP	10 31 42.3 +0.8
	comp=Z,10.0nm,0.8s,baz=260					
MNK				*i* PP	PP	10 33 06.3 +0.8
MNK				*i* PPP	PPP	10 35 38.5
MNK				*i* SKS	SKSdf	10 38 51.7 -1.2
MNK				*i* PS	PS	10 42 55.7 +0.9
MNK				*i* SS	SS	10 49 30.2 0.0
MNK				*i* SSS	SSS	10 54 03.9
MNK				*i* LR	LR	11 21 47.6
MNK				*i* LRM	MLR	11 22 49.2
	comp=Z,237nm,24.6s					
MNK				*i* LRM	MLR	11 23 23.1
	comp=N,472nm,23.1s					
MNK				*i* LRM	MLR	11 23 26.8
	comp=E,75nm,21.0s					
BRTR	Keskin Array B	120.07	59	PKP	PKPdf	10 31 42.1 -0.6
	comp=E,0.6nm,0.5s,baz=225,slow=1.8,SNR=1.6					
ASAR	Alice Springs	120.63	208	PKP	PKPdf	10 31 43.0 -1.2
	comp=E,1.0nm,0.6s,baz=129,slow=1.6,SNR=22					
ASAR				PKKPbc	PKKPbc	10 41 49.0 +0.2
	comp=E,0.7nm,0.7s,baz=334,slow=3.2,SNR=7.0					
WRA	Warramunga Arr	123.76	210	PKP	PKPdf	10 31 49.0 -1.4
	comp=E,2.7nm,0.6s,baz=169,slow=1.9,SNR=45					
WRA				PKKPbc	PKKPbc	10 41 37.3 +0.5
	comp=E,0.7nm,0.7s,baz=332,slow=3.5,SNR=5.3					
WRA	Warramunga Arr	123.76	210		PKPdf	10 31 49.5 -0.8
H11S2	WAKE ISLAND Hyd	125.82	272	T	T	12 50 33.7
	baz=115,slow=75,SNR=29					
H11S1	WAKE ISLAND Hyd	125.83	272	T	T	12 50 33.9
	baz=115,slow=75,SNR=21					
H11S3	WAKE ISLAND Hyd	125.84	272	T	T	12 50 34.3
	baz=115,slow=75,SNR=18					
H11N3	WAKE ISLAND Hyd	126.15	273	T	T	12 51 14.1
	baz=117,slow=75,SNR=39					
H11N1	WAKE ISLAND Hyd	126.16	273	T	T	12 51 15.2
	baz=117,slow=75,SNR=29					
H11N2	WAKE ISLAND Hyd	126.17	273	T	T	12 51 15.4
	baz=117,slow=75,SNR=133					
KLMR	Klimovskoe	126.58	35	*e*PKPdf	PKPdf	10 31 53.3 -1.0
KLMR				AMP		10 31 55.6
	comp=Z,14nm,1.6s					
PSA00	Pilbara Seismi	126.92	194		PKPdf	10 31 55.5 -0.8
BVAR	Borovoye Array	144.67	40	PKP	PKPbc	10 32 27.5 +0.6
	comp=Z,12nm,0.6s,baz=255,slow=5.5,SNR=53					
YAK	Yakutsk	145.53	342	PKPbc	PKPab	10 32 30.3 +0.8
	comp=Z,22nm,0.5s,baz=102,slow=1.6,SNR=8.9					
KKAR	Karatay Array	147.73	57		PKPbc	10 32 35.0 -1.4
BTK	Batken	148.38	62		PKPbc	10 32 36.7 -1.6
HYB	Hyderabad	150.14	109	*i* PKP	PKPbc	10 32 42.0 -1.3
EKS2	Erkin-Say	150.17	57	P	PKiKP	10 32 43.5 -0.1
	SNR=6.3					
KURBB	Kurchatov Arra	150.26	39	PKPbc	PKPbc	10 32 42.7 +0.2
	comp=Z,9.8nm,0.8s,baz=301,slow=3.2,SNR=56					
KURK	Kurchatov	150.26	39		PKPbc	10 32 42.7 +0.2
USP	Ospenovka	150.55	55	P	PKiKP	10 32 44.0 -0.2
	SNR=7.4					
AAK	Ala-Archa	150.69	56	PKPbc	PKPbc	10 32 44.4 +0.3
	comp=Z,10nm,0.8s,baz=211,slow=5.9,SNR=20					
AAK	Ala-Archa	150.69	56	P	PKiKP	10 32 44.9 +0.1
	SNR=7.8					
UCH	Uchtor	150.80	57	P	PKiKP	10 32 45.0 -0.3
	SNR=12					
ZALV	Zalesovo Beam	151.26	29	PKP	PKPdf	10 32 38.5 -0.3
	comp=Z,1.5nm,0.4s,baz=304,slow=1.1,SNR=4.9					
ZALV				PKPbc	pPKPdf	10 32 44.1 +1.5
	comp=Z,46nm,0.8s,baz=304,slow=2.2,SNR=41					
ZALV	Zalesovo Beam	151.26	29		PKPdf	10 32 38.8 0.0
TKM2	Tokmak 2	151.41	55	P	PKPbc	10 32 45.9 +0.1
	SNR=6.9					
KSH	Kashi	152.39	62	PKPbc	PKPdf	10 32 43.4 +2.2
KSH				PP	PP	10 36 30.3 -0.6
TARG	Taragay, Kyrgy	153.30	57		PKPbc	10 32 48.4 -1.9
MJAR	Matsushiro Arr	154.24	291	PKPab	PKPab	10 33 05.3 -0.6
	comp=Z,3.2nm,0.8s,baz=106,slow=0.4,SNR=7.1					
MK31	Makanchi Array	154.35	44		PKPbc	10 32 51.1 -0.9
MKAR	Makanchi Array	154.35	44	PKP	PKPdf	10 32 43.2 -0.5
	comp=Z,0.9nm,0.8s,baz=341,slow=3.5,SNR=3.6					
MKAR				PKPbc	PKPbc	10 32 51.5 -0.4
	comp=Z,3.0nm,0.8s,baz=298,slow=2.7,SNR=14					
MKAR	Makanchi Array	154.35	44		PKPbc	10 32 50.6 -1.4
WMQ	Urumqi	159.16	45	*e*PKP	PKPdf	10 32 51.3 +1.3
SONM	Songino Array	162.72	4	PKPab	PKPab	10 33 43.5 +1.2
	comp=Z,3.8nm,0.9s,baz=328,slow=3.9,SNR=12					
CMAR	Chiang Mai Arr	165.37	144	PKPab	PKPab	10 33 53.2 -1.3
	comp=Z,3.3nm,0.9s,baz=231,slow=6.2,SNR=12					
GTA	Gaotai	168.91	35	*e*PKP	PKPdf	10 32 59.9 +0.9
GTA				PKPab	PKPab	10 34 09.8 -0.1
HHC	Hu-ho-hao-te	169.37	345	*e*P	PKPdf	10 32 51.9 -7.3
HHC				LR	LR	
	comp=N,120nm,20.1s					
HHC				LR	LR	
	comp=E,99nm,20.4s					
HHC				LR	LR	
	comp=Z,130nm,20.3s					
NJ2	Nanjing	170.64	282	*e*PKP	PKPdf	10 33 01.0 +0.9

TRN ***17*** *10:13:59.1, 13.72N×58.38W, h120km, MD4.1*
ISC 17 10:13:57.7±2.4, 13.80N±0.05×58.3W±0.1, h10km, n35,
σ1s68/49, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBSP	Saint Philip	1.31	238	*e*P	Pg	10 14 24.3	+1.3
BBSP				*e*S	Sn	10 14 42.2	+2.5
BBGH	Gun Hill	1.38	242	*e*P	Pg	10 14 24.3	+0.1
BBGH				*e*S	Sg	10 14 44.8	+2.6
BCHC	Barbados, Cave	1.44	243	*e*P	Pg	10 14 25.8	+0.4
BCHC				*e*S	Sg	10 14 45.4	+1.2
MPOM	Morne Pois Mar	2.55	285	*e*P	Pn	10 14 39.1	-0.1
MCLT	Moule a Chique	2.56	268	*e*P	Pn	10 14 39.1	-0.1
MCLT				*e*S	Sn	10 15 09.5	-0.9
SLBI	Saint Lucia, B	2.59	275	*e*P	Pn	10 14 38.9	-0.9
SLBI				*e*S	Sn	10 15 09.8	-1.6
LPMF	Morne Lapointe	2.69	287	*e*P	Pn	10 14 41.7	+0.6
ZAM	Aeronautique	2.74	287	*e*P	Pn	10 14 42.1	+0.3
TRMF	Trois Ilets	2.76	286	*e*P	Pn	10 14 42.3	+0.3
BIM	Bigot	2.77	285	*e*P	Pn	10 14 42.4	+0.2
SSV	Crater Summit	2.84	261	*e*P	Pn	10 14 43.9	+0.6
SSV				*e*S	Sn	10 15 16.0	-1.6
SVV	Soufriere Volc	2.87	261	*e*S	Sn	10 15 16.4	-1.7
FDF	Fort de France	2.90	289	*e*P	Pn	10 14 44.6	+0.5
SVB	Belmont	2.91	260	*e*P	Pn	10 14 44.1	0.0
SVB				*e*S	Sn	10 15 17.5	-1.7
BAMF	Morne Balai	2.93	290	*e*P	Pn	10 14 45.4	+1.0
CXM	Morne La Croix	2.94	290	*e*P	Pn	10 14 46.2	+1.5
SVN	Savane Anatole	2.96	291	*e*P	Pn	10 14 45.4	+0.6
PCM	Pelee Case Pet	2.98	290	*e*P	Pn	10 14 46.7	+1.5
DLPL	La Plaine	3.22	299	*e*P	Pn	10 14 49.1	+0.7
DLPL				*e*S	Sn	10 15 25.1	-1.9
TOSP	Speyside	3.30	221	*e*P	Pn	10 14 50.1	+0.6
TOSP				*e*S	Sn	10 15 25.8	-3.1
GCMP	Grenada, Carri	3.30	247	*e*P	Pn	10 14 50.5	+0.9
GCMP				*e*S	Sn	10 15 26.1	-2.8
DSLB	Salisbury	3.42	299	*e*P	Pn	10 14 51.9	+0.7
DSLB				*e*S	Sn	10 15 30.1	-1.7
MDCT	Cottage Hill,	3.54	301	*e*P	Pn	10 14 53.9	+1.1
MDCT				*e*S	Sn	10 15 32.0	-2.8
MAGL	Barre de l'ile	3.58	307	*e*P	Pn	10 14 55.2	+1.8
GRGR	Grenville	3.66	243	*e*P	Pn	10 14 51.1	-3.3
GRGR				*e*S	Sn	10 15 34.5	-3.2
TDBA	Terre de Bas,	3.81	303	*e*P	Pn	10 14 58.6	+2.2
TBG	Guadaloupe-3	3.81	303	*e*P	Pn	10 14 57.4	+0.9
TBG				*e*S	Sn	10 15 40.5	-1.0
CBE	Ff, Capester	3.90	306	*e*P	Pn	10 14 59.6	+1.8
ABD	La Joyeuse, An	4.06	311	*e*P	Pn	10 15 01.1	+1.2
ANBD	Bethesda, Anti	4.64	315	*e*P	Pn	10 15 08.6	+0.7
ANBD	Bethesda, Anti	4.64	315	*e*S	Sn	10 15 59.3	-2.5
ANOC	Antigua Open C	4.73	315	*e*P	Pn	10 15 10.2	+1.0
ANOC	Antigua Open C	4.73	315	*e*S	Sn	10 16 01.4	-2.7
ANWB	Willy Bob	5.10	319	*e*P	Pn	10 15 14.4	+0.2
ANWB	Willy Bob	5.10	319	*e*S	Sn	10 16 10.3	-2.8

IDC ***17*** *10:28:37.0±1.4, 31.78S×71.79W, h0km, mb4.0/3, mb1 3.9/6, mb1mx3.8/24, mbtmp3.7/6, ML3.7/3, Error ellipse: s-maj=43.4km s-min=33.1km az=98.0*
ISC 17 10:28:39.4±1.2, 31.8S±0.1×71.8W±0.3, h17km, n14,
σ0s54/8, mb4.0/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H03N1	Juan Fernandez	6.23	253	T	T	10 36 45.1	
	baz=75,slow=72						
H03N3	Juan Fernandez	6.24	253	T	T	10 36 43.2	
	baz=75,slow=72						
H03N2	Juan Fernandez	6.24	253	T	T	10 36 49.5	
	baz=75,slow=72						
H03S3	Juan Fernandez	6.32	249	T	T	10 36 55.4	
	baz=83						
H03S1	Juan Fernandez	6.33	249	T	T	10 36 53.2	
	baz=83						
H03S2	Juan Fernandez	6.34	249	T	T	10 36 53.6	
	baz=83						
PLCA	Paso Flores	8.98	174	Pn	Pn	10 30 48.2	-0.3
	0.2nm,0.3s,baz=15,slow=22,SNR=1.8						
LPAZ	La Paz	15.79	13	Pn	Pn	10 32 20.7	-1.0
	0.1nm,0.3s,baz=189,slow=6.3,SNR=2.2						
SIV	San Ignacio	18.51	34	P	Pn	10 32 55.2	0.0
	0.2nm,0.3s,baz=222,slow=15,SNR=2.9						
BDFB	Brasilia	26.97	59	P	P	10 34 20.7	+0.2
	1.4nm,0.4s,baz=230,slow=3.6,SNR=4.4						
TXAR	Lajitas Array	67.91	330	P	P	10 39 37.7	+0.4
	0.2nm,0.8s,baz=146,slow=9.8,SNR=2.2						
TORD	Torodi Ar. Bea	83.27	70	P	P	10 41 05.8	+0.3
	1.8nm,0.8s,baz=214,slow=2.7,SNR=8.8						
KURBB	Kurchatov Arra	151.09	41	PKPbc	PKiKP	10 48 31.4	-0.3
	0.2nm,0.2s,baz=308,slow=3.4,SNR=6.4						
ZALV	Zalesovo Beam	152.23	30	PKPbc	PKiKP	10 48 34.1	+0.1
	2.0nm,0.6s,baz=324,slow=2.2,SNR=6.1						

IDC ***17*** *10:29:32.9±1.7, 30.91S×71.37W, h0km, mb4.1/4, mb1 4.2/7, mb1mx4.0

AC02 eS Sn 10 31 36.7 +1.4
AC02 Maricunga 4.44 27 Pn 10 30 45.4 +1.4
H03N1 Juan Fernandez 6.90 246 T T 10 38 13.2
baz=73
VA04 Juan Fernndez 6.90 244 Pn **Pn 10 31 16.8 -0.6**
H03N3 Juan Fernandez 6.91 246 T T 10 38 13.0
baz=73
H03N2 Juan Fernandez 6.91 246 T T 10 38 14.4
baz=73
PB10 IPOC Station P 7.32 6 Pn **Pn 10 31 25.3 +2.1**
LC01 Cunco 8.06 183 Pn Pn 10 31 27.8 -5.5
LVC Limon Verde 8.48 16 Pn **Pn 10 31 36.8 -2.6**
comp=E,0.7nm,0.3s,baz=230,slow=9.9,SNR=2.2
PB11 IPOC Station P 11.13 8 Pn **Pn 10 32 17.1 +1.6**
PSGCX Pisagua 11.24 6 Pn **Pn 10 32 19.2 +2.2**
LPAZ La Paz 14.78 12 Pn **Pn 10 33 05.9 +0.1**
comp=E,0.1nm,0.3s,baz=188,slow=4.7,SNR=5.8
SIV San Ignacio 17.52 35 P **Pn 10 33 39.9 -0.7**
comp=E,0.2nm,0.3s,baz=234,slow=8.3,SNR=5.4
BDFB Brasilia 26.18 60 P **P 10 35 09.8 -0.9**
comp=E,2.5nm,0.5s,baz=204,slow=10.0,SNR=3.1
TXAR Lajitas Array 67.26 330 P **P 10 40 30.1 -0.3**
comp=E,0.5nm,0.7s,baz=157,slow=8.4,SNR=7.1
DBIC Dimbokro 73.65 72 P **P 10 41 09.3 -0.4**
comp=E,2.1nm,0.5s,baz=216,slow=5.6,SNR=4.4
TORD Torodi Ar. Bea 82.61 70 P **P 10 41 58.2 -1.1**
comp=E,1.1nm,0.8s,baz=242,slow=7.9,SNR=12
H11S2 WAKE ISLAND Hyl 26.32 271 T T 13 07 29.5
baz=115,slow=74,SNR=29
H11S1 WAKE ISLAND Hyl 26.33 271 T T 13 07 29.7
baz=115,slow=74,SNR=20
H11S3 WAKE ISLAND Hyl 26.33 271 T T 13 07 31.0
baz=115,slow=74,SNR=19
KURBB Kurchatov Arra 150.13 40 PKPbc **PKPbc 10 49 24.7 -1.4**
comp=E,0.5nm,0.4s,baz=305,slow=3.1,SNR=2.8
ZALV Zalesovo Beam 151.23 30 PKPbc **PKPbc 10 49 27.5 -1.1**
comp=E,2.9nm,0.6s,baz=296,slow=1.8,SNR=5.7

IDC ***17*** *10:31:19.2±0.5,30.°96S×71.°37W,h0km,mb4.7/13, mb1 4.8/17,mb1mx4.8/22,mbtmp4.7/17,ML4.5/3,MS4.2/5, Ms1 4.2/5,ms1mx3.8/17,Error ellipse: s-maj=22.0km s-min=15.0km az=82.0*

MOS ***17*** *10:31:23.3±1.0,30.°92S×71.°45W,h33km,mb5.3/18,Error ellipse: s-maj=17.1km s-min=9.4km az=93.5*

VAO ***17*** *10:31:25.8±0.3,31.°04S×71.°35W,h42km,mb5.1*

SJA ***17*** *10:31:25.6±0.7,30.°93S×71.°45W,h18km±9km,ML4.8, MW4.7*

GUC ***17*** *10:31:25.7±0.7,30.°93S×71.°43W,h45km±2km,ML5.0*

NEIC ***17*** *10:31:26.1±2.0,30.°99S±0.°05×71.°45W±0.°07,h38km±4km, mb5.2/386,ML5.0(GUC),Error ellipse: s-maj=9.7km s-min=6.0km az=120.0*

ISC 17 10:31:25.7±0.4,30.°94S±0.°03×71.°50W±0.°04,h42km±3km, h42km:pP-P,n619,σ1s28/453,mb5.1/204,**73C-32D,Fault plane solution: NP1**:ϕs187.13402°,δ31.49151°, λ111.27718°. **NP2:**ϕs335.11005°,δ43.18261°,λ65.48397°.
Principal axes: T Plg72.9154°, Azm157.9919°; N Plg16.4967°, Azm353.5047°; P Plg4.3207°, Azm262.2225°; **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.29**	**336**	↑*i*	P	**Pn**	**10 31 34.8**	**+0.8**
CO06				*i*	S	**Sn**	**10 31 41.1**	**+1.2**
CO06					IAML		10 31 42.8	
	comp=N,188μm,0.4s							
CO06	**Fray Jorge**	**0.29**	**336**		P	**Pn**	**10 31 35.0**	**+1.0**
CO03	**El Pedregal**	**0.70**	**82**	↓*i*	P	**Pn**	**10 31 39.4**	**+0.2**
CO03				*i*	S	**Sn**	**10 31 49.4**	**+0.3**
CO03	**El Pedregal**	**0.70**	**82**		Pn	**Pn**	**10 31 39.5**	**+0.2**
CO03	**El Pedregal**	**0.70**	**82**	*i*	P	**Pn**	**10 31 39.0**	**-0.3**
CO03				*e*S		**Sn**	**10 31 48.5**	**-0.6**
CO03					IAML		10 31 49.9	
	comp=Z,29μm,0.8s							
GO04	**Tololo Observa**	**0.97**	**39**	↓↓*i*	P	**Pn**	**10 31 43.5**	**+0.4**
GO04				*i*	S	**Sn**	**10 31 56.7**	**+0.9**
GO04	**Tololo Observa**	**0.97**	**39**		Pn	**Pn**	**10 31 44.0**	**+0.9**
VA03	**San Esteban**	**1.99**	**156**	*e*P		**Pn**	**10 31 58.8**	**+1.9**
VA03					IAML		10 32 32.8	
	comp=E,12μm,0.3s							
LCO	**Las Campanas**	**2.04**	**20**	↓*i*	P	**Pn**	**10 31 58.8**	**+1.0**
LCO				*i*	S	**Sn**	**10 32 23.8**	**+1.6**
ROCH	**El Roble**	**2.07**	**169**	↑*i*	P	**Pn**	**10 31 59.1**	**+0.9**
ROCH				*i*	S	**Sn**	**10 32 25.1**	**+2.2**
ROCH					IAML		10 32 31.0	
	comp=N,8μm,0.5s							
VA01	**Torpederas**	**2.08**	**183**	*e*P		**Pn**	**10 31 58.0**	**-0.1**
VA01	**Torpederas**	**2.08**	**183**		Pn	**Pn**	**10 31 57.6**	**-0.5**
VA01	**Torpederas**	**2.08**	**183**	*i*	P	**Pn**	**10 31 58.2**	**+0.1**
VA01				*e*S		**Sn**	**10 32 28.9**	**+6.1**
VA01					IAML		10 32 33.8	
	comp=Z,2μm,1.1s							
ACDV	**Cuesta del Vie**	**2.19**	**70**	*i*	P	**Pn**	**10 32 03.0**	**+3.3**
ACDV					IAML		10 32 49.5	
	comp=Z,4μm,0.8s							
ZON	**Zonda**	**2.49**	**105**	*i*	P	Pn	10 32 08.0	+4.2
ZON				*e*S		**Sn**	**10 32 40.7**	**+7.7**
ZON					IAML		10 32 54.8	
	comp=Z,8μm,0.8s							
MT05	**Renca**	**2.53**	**165**	*e*P		**Pn**	**10 32 05.9**	**+1.6**
MT05					IAML		10 32 49.3	
	comp=E,12μm,0.5s							
RTCV	**Cerro Valdivia**	**2.69**	**111**	*i*	P	Pn	**10 32 10.0**	**+3.5**
RTCV					IAML		10 33 10.8	
	comp=Z,804nm,1.2s							
VA05	**Santo Domingo**	**2.71**	**182**	*e*P		**Pn**	**10 32 06.3**	**-0.4**
VA05					IAML		10 33 01.5	
	comp=E,7μm,0.3s							
AC04	**Llanos de Chal**	**2.75**	**8**	*e*P		**Pn**	**10 32 08.0**	**+0.8**
AC04					IAML		10 32 52.6	
	comp=E,10μm,0.4s							
AC04	**Llanos de Chal**	**2.75**	**8**	*i*	P	**Pn**	**10 32 11.0**	**+3.7**
AC04					IAML		10 32 51.9	
	comp=Z,10μm,0.5s							
MT09	**Talagante**	**2.86**	**171**	↓↓*e*	P	**Pn**	**10 32 10.1**	**+1.1**
MT09					IAML		10 33 03.5	
	comp=N,6μm,0.4s							
MT01	**Popeta**	**2.93**	**176**	*e*P		**Pn**	**10 32 10.2**	**+0.5**
MT01					IAML		10 32 55.2	
	comp=E,3μm,0.5s							
AGUA	**GUANDACOL**	**2.98**	**62**	*i*	P	**Pn**	**10 32 15.0**	**+4.5**
AGUA					IAML		10 33 08.7	
	comp=Z,3μm,1.7s							
BO01	**Tunca**	**3.46**	**174**	↓↓*e*	P	**Pn**	**10 32 17.9**	**+0.8**
GO03	**Copiap**	**3.51**	**19**	*e*	P	**Pn**	**10 32 18.6**	**+0.8**
GO03	**Copiap**	**3.51**	**19**	*i*	P	**Pn**	**10 32 20.8**	**+3.0**
BO03	**Pichilemu**	**3.57**	**186**	*e*	P	**Pn**	**10 32 17.2**	**-1.3**
VCA	**Vinchina**	**3.60**	**53**	*i*	P	Pn	10 32 24.0	+4.8
VCA					IAML		10 33 16.8	
	comp=Z,5μm,0.6s							
GO05	**Huala**	**4.08**	**185**	*i*	P	**Pn**	**10 32 25.0**	**-0.5**
RFA	**San Rafael**	**4.60**	**147**	*i*	P	**Pn**	**10 32 35.0**	**+2.3**
RFA					IAML		10 33 54.7	
	comp=Z,603nm,1.1s							
MRA	**San Martin**	**5.14**	**108**	*i*	P	**Pn**	**10 32 43.0**	**+2.7**
MRA					IAML		10 34 23.7	
	comp=Z,361nm,0.7s							
CYA	**Choya**	**5.54**	**65**	*i*	P	**Pn**	**10 32 47.0**	**+1.3**
CYA					IAML		10 33 57.2	
	comp=Z,2μm,1.7s							
H03N1	**Juan Fernandez**	**6.76**	**246**		Pn	**Pn**	**10 33 01.7**	**-0.4**
H03N1					T	T	10 39 58.9	
	baz=73,slow=72,SNR=92							
VA04	**Juan Fernndez**	**6.77**	**245**		Pn	**Pn**	**10 33 01.8**	**-0.6**
H03N3	**Juan Fernandez**	**6.78**	**246**		Pn	**Pn**	**10 33 02.1**	**-0.3**
	baz=114,slow=18,SNR=26							
H03N3					T	T	10 39 53.8	
	baz=73,slow=72,SNR=89							
H03N2	**Juan Fernandez**	**6.78**	**246**		Pn	**Pn**	**10 33 02.3**	**0.0**
	baz=114,slow=18,SNR=24							
H03N2					T	T	10 39 57.7	
	baz=73,slow=72,SNR=79							
AHML	**Horco Molle**	**6.81**	**54**	*i*	P	**Pn**	**10 33 04.0**	**+1.0**
AHML					IAML		10 35 06.4	
	comp=Z,471nm,1.3s							
FSA	**Cafayete**	**6.83**	**47**	*i*	P	**Pn**	**10 33 06.0**	**+2.5**
H03S3	**Juan Fernandez**	**6.90**	**243**		Pn	**Pn**	**10 33 02.6**	**-1.4**
	baz=40,slow=19,SNR=17							
H03S3					T	T	10 40 15.9	
	baz=84,slow=75							
H03S1	**Juan Fernandez**	**6.90**	**243**		Pn	**Pn**	**10 33 02.3**	**-1.7**
	baz=40,slow=19,SNR=17							
H03S1					T	T	10 40 14.2	
	baz=84,slow=75							
H03S2	**Juan Fernandez**	**6.92**	**243**		Pn	**Pn**	**10 33 02.6**	**-1.5**
	baz=40,slow=19,SNR=38							
H03S2					T	T	10 40 15.5	
	baz=84,slow=75							
PB10	**IPOC Station P**	**7.44**	**7**		Pn	**Pn**	**10 33 14.6**	**+2.9**
LC01	**Cunco**	**7.95**	**182**		Pn	**Pn**	**10 33 17.2**	**-1.4**
LVC	**Limon Verde**	**8.61**	**16**		Pn	**Pn**	**10 33 25.3**	**-2.7**
	comp=Z,2.2nm,0.3s,baz=246,slow=22,SNR=3.9							
LVC	**Limon Verde**	**8.61**	**16**		Pn	**Pn**	**10 33 28.4**	**+0.3**
LVC	**Limon Verde**	**8.61**	**16**	*e*P		**Pn**	**10 33 29.2**	**+1.1**
PB07	**IPOC Station P**	**9.29**	**9**		Pn	**Pn**	**10 33 39.3**	**+2.1**
PLCA	**Paso Flores**	**9.80**	**176**		Pn	**Pn**	**10 33 41.7**	**-2.4**
	comp=Z,1.0nm,0.3s,baz=339,slow=14,SNR=10							
PLCA					LR	LR	10 37 27.3	
	comp=Z,959nm,21.6s,baz=350,slow=38							
PLCA	**Paso Flores**	**9.80**	**176**			**Pn**	**10 33 43.4**	**-0.7**
PLCA	**Paso Flores**	**9.80**	**176**	*e*P		**Pn**	**10 33 42.9**	**-1.3**
LL04	**Puerto Octay**	**9.98**	**184**			**Pn**	**10 33 44.3**	**-2.1**
LL03	**Petrohue**	**10.21**	**184**			**Pn**	**10 33 46.9**	**-2.6**
TA02	**Huaiquique**	**10.69**	**7**		Pn	**Pn**	**10 33 57.4**	**+1.1**
PB11	**IPOC Station P**	**11.25**	**9**		Pn	**Pn**	**10 34 08.0**	**+3.9**
ITQB	**Itaqui**	**12.92**	**88**		Pn	**Pn**	**10 34 23.5**	**-3.1**
ITQB	**Itaqui**	**12.92**	**88**	*e*P		**Pn**	**10 34 24.8**	**-1.8**
CPUP	**Villa Florida**	**13.26**	**73**		Pn	**Pn**	**10 34 30.7**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=233,slow=12,SNR=4.4							
CPUP					LR	LR	10 40 06.9	
	comp=Z,1μm,19.6s,baz=257,slow=40							
CPUP	**Villa Florida**	**13.26**	**73**	P		**Pn**	**10 34 31.9**	**+0.5**
CPUP	**Villa Florida**	**13.26**	**73**		Pn	**Pn**	**10 34 31.9**	**+0.5**
CPUP	**Villa Florida**	**13.26**	**73**	*e*P		**Pn**	**10 34 30.3**	**-1.0**
LPAZ	**La Paz**	**14.90**	**13**		Pn	**Pn**	**10 34 55.4**	**+1.3**
	comp=Z,1.1nm,0.3s,baz=181,slow=7.6,SNR=36							
LPAZ	**La Paz**	**14.90**	**13**	P		**Pn**	**10 34 54.9**	**+0.7**
LPAZ	**La Paz**	**14.90**	**13**		Pn	**Pn**	**10 34 54.9**	**+0.7**
LPAZ	**La Paz**	**14.90**	**13**	*e*P		**Pn**	**10 34 55.6**	**+1.5**
PLTB	**Pedras Altas**	**15.31**	**98**			**Pn**	**10 34 56.5**	**-2.4**
PLTB	**Pedras Altas**	**15.31**	**98**	*e*P		**Pn**	**10 34 56.9**	**-2.0**
CPSB	**Cacapava Do Su**	**15.55**	**93**	*e*P		**Pn**	**10 35 00.6**	**-1.4**
AQDB	**Aquidauana**	**17.62**	**57**		Pn	**Pn**	**10 35 25.7**	**-2.3**
AQDB	**Aquidauana**	**17.62**	**57**	*e*P		**Pn**	**10 35 26.6**	**-1.5**
SIV	**San Ignacio**	**17.67**	**35**	P		**Pn**	**10 35 27.8**	**-0.9**
	comp=Z,4.3nm,0.3s,baz=218,slow=8.8,SNR=54							
CNLB	**Canela**	**17.93**	**90**	*e*P		**Pn**	**10 35 30.9**	**-1.0**
PTGB	**Pitanga**	**18.26**	**75**	*e*P		**Pn**	**10 35 36.1**	**+0.1**
TRCB	**Terra Rica**	**18.66**	**69**	P		**P**	**10 35 39.1**	**-1.1**
TRCB					IAmb	IAmb	10 35 58.2	
	comp=Z,401nm,1.9s							
TRCB	**Terra Rica**	**18.66**	**69**	*e*P		**P**	**10 35 39.4**	**-0.8**
PTLB	**Pontes e Lacer**	**19.13**	**39**	*e*P		**P**	**10 35 44.6**	**-0.6**
NNA	**Nana**	**19.50**	**344**	P		**P**	**10 35 50.3**	**+1.0**
	baz=168,slow=14,SNR=1.6							
NNA					LR	LR	10 41 44.0	
	comp=Z,421nm,21.6s,baz=122,slow=32							
NNA	**Nana**	**19.50**	**344**	P		**Pn**	**10 35 51.2**	**+0.4**
TER01	**Tubaro-SC**	**19.57**	**89**	*e*P		**P**	**10 35 50.1**	**+0.1**
PP1B	**Ponte de Pedra**	**20.11**	**53**	*e*P		**P**	**10 35 55.6**	**-0.3**
PCMB	**Pacaembu**	**20.36**	**68**	*e*P		**P**	**10 35 58.0**	**-0.7**
TIJ01	**Guaruva-PR**	**20.60**	**80**	*e*P		**P**	**10 35 59.0**	**-2.3**
VILB	**Vilhena**	**20.71**	**33**	*e*P		**P**	**10 36 02.0**	**-0.6**
SALV	**Santo Antonio**	**20.80**	**48**	*e*P		**P**	**10 36 04.4**	**-0.1**
ETMB	**Extrema**	**21.58**	**14**	*e*P		**P**	**10 36 12.5**	**+0.7**
ITRB	**Iturama**	**22.10**	**65**	*e*P		**P**	**10 36 16.2**	**-1.2**
PET01	**Itanhaem-SP**	**22.44**	**79**	*e*P		**P**	**10 36 21.6**	**+0.6**
SPB	**Sao Paulo**	**22.58**	**77**	P		**P**	**10 36 22.8**	**+0.3**
SPB					IAmb	IAmb	10 36 41.3	
	comp=Z,74nm,0.9s							
BB19B	**Bebedouro**	**22.83**	**70**	*e*P		**P**	**10 36 26.3**	**+1.1**
RCLB	**Rio Claro- Sao**	**23.00**	**74**	*e*P		**P**	**10 36 26.4**	**-0.6**
CZSB	**Cruzeiro do Su**	**23.12**	**357**	*e*P		**P**	**10 36 29.1**	**+1.1**
SAML	**Samuel**	**23.21**	**21**	P		**P**	**10 36 28.9**	**-0.1**
SAML					pmax	pmax		
	comp=Z,56nm,1.2s							
SAML	**Samuel**	**23.21**	**21**	P		**P**	**10 36 28.9**	**-0.1**
VAO	**Valinhos**	**23.22**	**76**	*e*P		**P**	**10 36 28.3**	**-0.9**
USHA	**Ushuaia**	**23.98**	**176**	P		**P**	**10 36 35.1**	**-0.9**
	comp=Z,22nm,0.5s,baz=353,slow=0.9,SNR=1.9							
PARB	**Paraibuna**	**24.20**	**78**	*e*P		**P**	**10 36 37.3**	**-1.2**
CLDB	**Colider**	**24.71**	**39**	*e*P		**P**	**10 36 41.6**	**-1.4**
IPMB	**Ipameri, GO**	**24.75**	**64**	*e*P		**P**	**10 36 42.8**	**-0.6**
BSCB	**Bom Sucesso**	**25.93**	**74**	*e*P		**P**	**10 36 53.9**	**-0.3**
BDFB	**Brasilia**	**26.32**	**60**	P		**P**	**10 36 56.4**	**-1.3**
	comp=Z,26nm,0.8s,baz=224,slow=8.6,SNR=21							
BDFB					LR	LR	10 48 44.8	
	comp=Z,938nm,20.0s,baz=209,slow=40							
BDFB	**Brasilia**	**26.32**	**60**	P		**P**	**10 36 55.8**	**-1.9**
BDFB					pmax	pmax		
	comp=Z,32nm,0.8s							
BDFB	**Brasilia**	**26.32**	**60**	P		**P**	**10 36 55.8**	**-1.9**
BDFB					IAmb	IAmb	10 37 14.7	
	comp=Z,32nm,0.8s							
VAS01	**Vassouras-RJ**	**26.47**	**78**	*e*P		**P**	**10 36 59.0**	**+0.1**
SNDB	**Serra Nova Dou**	**26.55**	**49**	*e*P		**P**	**10 36 59.8**	**+0.1**
TBTG	**Tabatinga, AM**	**26.65**	**4**	*e*P		**P**	**10 37 01.4**	**+0.8**
TBTG	**Tabatinga, AM**	**26.65**	**4**	*e*P		**P**	**10 37 01.0**	**+0.4**
DIAM	**Diamantina, MG**	**28.17**	**70**	*e*P		**P**	**10 37 13.8**	**-0.5**
NPGB	**Novo Progresso**	**28.17**	**36**	*e*P		**P**	**10 37 13.8**	**-0.4**
PEXB	**Peixe**	**28.47**	**54**	*e*P		**P**	**10 37 16.5**	**-0.4**
MC01	**Montes Claros**	**28.82**	**67**	*e*P		**P**	**10 37 19.1**	**-0.9**
MACA	**Manacapuru-AM**	**29.45**	**22**	*e*P		**P**	**10 37 25.8**	**+0.2**
ALF01	**Guarapari-ES**	**29.47**	**77**	*e*P		**P**	**10 37 25.2**	**-0.5**
JANB	**Januaria**	**29.49**	**64**	*e*P		**P**	**10 37 25.0**	**-1.0**
SJMB	**Sao Joao De Ma**	**29.99**	**73**	*e*P		**P**	**10 37 29.8**	**-0.6**
BSFB	**Barra de Sao F**	**30.20**	**74**	*e*P		**P**	**10 37 31.5**	**-0.7**
ITTB	**Itaituba**	**30.32**	**32**	*e*P		**P**	**10 37 31.9**	**-1.3**
RIB01	**Linhares ES**	**30.34**	**75**	*e*P		**P**	**10 37 34.6**	**+1.1**
SDBA	**SAO DESIDERIO**	**30.70**	**59**	*e*P		**P**	**10 37 36.1**	**-0.6**
PTLC	**Puerto Leguiza**	**31.10**	**354**	*e*P		**P**	**10 37 39.3**	**-0.8**
NAN01	**Guarapari, ES**	**31.29**	**73**	*e*P		**P**	**10 37 40.5**	**-1.3**
SMTB	**Santa Maria do**	**31.29**	**50**	*e*P		**P**	**10 37 42.4**	**+0.6**
OTAV	**Otavalo**	**31.70**	**347**	*e*P		**P**	**10 37 49.4**	**+3.5**
PRPB	**Parauapebas**	**31.95**	**44**	*e*P		**P**	**10 37 46.5**	**-1.2**
GUA01	**Guaratinga, BA**	**32.20**	**71**	*e*P		**P**	**10 37 50.0**	**+0.2**
FLOC	**Florencia**	**32.58**	**352**		IAmb	IAmb	10 38 26.5	
	comp=Z,57nm,1.1s							
CMC01	**Camacan, BA**	**33.09**	**69**	*e*P		**P**	**10 37 58.2**	**+0.6**
BBAC	**Balboa, Cauca**	**33.23**	**349**	*e*P		P	10 38 12.7	+14
SOTA	**Rioblanco**	**33.25**	**351**	*e*P		**P**	**10 38 02.0**	**+2.5**
NBIT	**Itapeh - BA**	**33.40**	**69**	*e*P		**P**	**10 38 00.0**	**-0.3**
POPC	**Popayan, Colom**	**33.66**	**351**	*e*P		**P**	**10 38 04.8**	**+2.1**
MARP	**Paez Belalcaza**	**33.86**	**352**	*e*P		P	10 38 18.0	+13
GDU01	**Guandu, BA**	**33.97**	**67**	*e*P		**P**	**10 38 04.8**	**-0.6**
PMSA	**Palmer Station**	**34.18**	**174**	*e*P		**P**	**10 38 03.8**	**-2.7**
PRAC	**Prado**	**34.61**	**354**	*e*P		**P**	**10 38 13.0**	**+2.2**
BOAV	**Boa Vista**	**34.76**	**19**	*e*P		**P**	**10 38 11.9**	**-0.2**
ORTC	**Ortega, Tolima**	**34.84**	**353**	*e*P		**P**	**10 38 15.3**	**+2.6**
VILC	**Villavicencio,**	**34.91**	**356**	*e*P		**P**	**10 38 15.4**	**+1.8**
YOTC	**Yotoco, Valle**	**35.03**	**352**	*e*P		**P**	**10 38 15.1**	**+0.5**
NBPN	**Ponto Novo - B**	**35.23**	**62**	*e*P		**P**	**10 38 15.2**	**-0.9**
ANIL	**Santa Ana**	**35.43**	**353**	*e*P		P	10 38 32.0	+14
CHIC	**Chingaza**	**35.43**	**356**	*e*P		**P**	**10 38 19.2**	**+0.9**
MCPB	**Macapa, AP**	**35.57**	**35**	*e*P		**P**	**10 38 18.6**	**-0.5**
ROSC	**El Rosal**	**35.68**	**355**	P		**P**	**10 38 23.4**	**+3.0**
	comp=Z,11nm,0.4s,baz=347,slow=23,SNR=5.1							
TMAB	**Tom-Au,PA,Br**	**36.01**	**42**	*e*P		**P**	**10 38 23.1**	**+0.3**
GUY2C	**Guyana, Caldas**	**36.15**	**353**	*e*P		**P**	**10 38 20.6**	**-3.9**
NORC	**Norcasia**	**36.44**	**354**	*e*P		**P**	**10 38 28.5**	**+2.0**
SPBC	**San Pablo de B**	**36.47**	**356**	*e*P		**P**	**10 38 31.2**	**+4.4**
RUSC	**La Rusia**	**36.65**	**357**	*e*P		**P**	**10 38 29.8**	**+1.0**
HELC	**Santa Helena**	**37.12**	**353**	*e*P		**P**	**10 38 33.8**	**+1.1**
TAMC	**Tame, Arauca**	**37.16**	**360**	*e*P		**P**	**10 38 33.4**	**+0.7**
PTBC	**PUERTO BERRIO,**	**37.37**	**355**	*e*P		**P**	**10 38 34.4**	**-0.1**
DBBC	**Dabeiba**	**38.01**	**352**	*e*P		**P**	**10 38 42.5**	**+2.7**
ZARC	**Zaragoza, Cauc**	**38.35**	**355**	*e*P		**P**	**10 38 42.9**	**+0.3**
PTAC	**Punta Ardita,**	**38.35**	**350**	*e*P		**P**	**10 38 45.5**	**+2.9**
NBMA	**Muriti-CE**	**38.55**	**59**	*e*P		**P**	**10 38 43.7**	**-0.8**
UREC	**San Jos de Ur**	**38.66**	**354**	*e*P		**P**	**10 38 47.0**	**+1.8**
NBPS	**Pedro II - PI**	**38.69**	**53**	*e*P		**P**	**10 38 45.0**	**-0.7**
NBAN	**Anadia - AL**	**38.97**	**65**	*e*P		**P**	**10 38 46.9**	**-1.1**
NBPB	**Pedra Branca-C**	**39.19**	**56**	*e*P		**P**	**10 38 49.4**	**-0.4**
SMLC	**San Martn de**	**39.59**	**356**	*e*P		**P**	**10 38 52.2**	**-0.8**
SDV	**Santo Domingo**	**39.60**	**1**	P		**P**	**10 38 53.0**	**-0.4**
SDV	**Santo Domingo**	**39.60**	**1**	*e*P		**P**	**10 38 53.6**	**+0.2**
SDV	**Santo Domingo**	**39.60**	**1**	*e*P		**P**	**10 38 53.5**	**+0.2**
SJCC	**San Jacinto, C**	**40.75**	**354**	P		**P**	**10 39 03.4**	**+0.7**
SJCC	**San Jacinto, C**	**40.75**	**354**	*e*P		**P**	**10 39 02.6**	**-0.1**
NBCL	**Cascavel-CE**	**41.02**	**56**	*e*P		**P**	**10 39 05.0**	**0.0**
DRK0	**Durika**	**41.53**	**342**		IAmb	IAmb	10 39 30.3	
	comp=Z,46nm,0.7s							
RCBR	**Riachuelo**	**41.69**	**61**	*e*P		**P**	**10 39 10.2**	**-0.3**
NBPV	**Pedro Velho**	**41.77**	**62**	*e*P		**P**	**10 39 11.2**	**+0.1**
URIC	**Uribia, Colomb**	**42.40**	**359**			**pP**	**10 39 26.1**	**-1.9**
URIC					IAmb	IAmb	10 39 34.2	
	comp=Z,49nm,1.2s							
JTS	**Las Juntas de**	**42.98**	**340**	*i*	P	**P**	**10 39 21.2**	**+0.3**
JTS					pmax	pmax		
	comp=Z,14nm,0.9s							
ORTG	**Ortega, Santa**	**43.20**	**340**		P	**P**	**10 39 24.5**	**+1.8**
SNET	**Serv Nac Est T**	**47.53**	**336**		P	**P**	**10 39 55.4**	**-1.6**
ICMP	**Isla Caja de M**	**48.78**	**6**		P	**P**	**10 40 05.1**	**-1.3**
ICMP					pP	**pP**	**10 40 18.3**	**-0.2**
MLPR	**Magueyes Islan**	**48.81**	**6**		P	**P**	**10 40 05.9**	**-0.8**
PDPR	**Patillas Dam,**	**48.96**	**7**		P	**P**	**10 40 06.5**	**-1.3**
PDPR						**pP**	**10 40 19.2**	**-0.7**
SJG	**San Juan**	**49.04**	**7**		P	**P**	**10 40 07.2**	**-1.3**
SJG					pmax	pmax		
	comp=Z,95nm,1.0s							
SJG	**San Juan**	**49.04**	**7**		P	**P**	**10 40 07.2**	**-1.3**
BANI	**BANI**	**49.06**	**1**		P	**P**	**10 40 09.4**	**+0.6**
MTP	**Monte Pirata**	**49.09**	**7**		P	**P**	**10 40 07.8**	**-1.0**
MTP					pP	**pP**	**10 40 19.9**	**-1.0**
HUMP	**Col San Antoni**	**49.10**	**7**		P	**P**	**10 40 07.7**	**-1.3**
HUMP						**pP**	**10 40 20.4**	**-0.6**
GCPR	**Guaynabo City**	**49.24**	**7**		P	**P**	**10 40 08.3**	**-1.7**
GCPR						**pP**	**10 40 21.0**	**-1.1**
SMRT	**St. Maarten**	**49.37**	**11**			pP	10 40 21.7	-1.4
ABVI	**Anegada Island**	**49.86**	**9**			pP	10 40 26.3	-0.5
CCIG	**Comitan**	**50.97**	**334**		P	**P**	**10 40 21.6**	**-1.8**
CCIG					IAmb	IAmb	10 40 25.6	
	comp=Z,24nm,1.0s							
VNA3	**Neumayer Olymp**	**52.03**	**159**		P	**P**	**10 40 30.9**	**+0.3**
VNA3	**Neumayer Olymp**	**52.03**	**159**		pP	pP	10 40 42.4	-0.4
VNA1	**Neumayer--Stat**	**52.32**	**158**		P	**P**	**10 40 33.1**	**+0.5**
VNA1	**Neumayer--Stat**	**52.32**	**158**		pP	pP	10 40 45.8	+0.8
VNA2	**Neumayer--Watz**	**52.66**	**158**		P	**P**	**10 40 35.3**	**0.0**
	baz=286,slow=8.3							
VNA2	**Neumayer--Watz**	**52.66**	**158**		pP	pP	10 40 47.4	-0.2
	baz=287,slow=8.1							
SNAA	**Sanae**	**54.25**	**159**		P	**P**	**10 40 46.8**	**-0.2**
SNAA	**Sanae**	**54.25**	**159**		pP	pP	10 40 59.4	+0.1
SNAA	**Sanae**	**54.25**	**159**		P	**P**	**10 40 46.4**	**-0.6**
SNAA					*PP	**pP**	**10 40 58.4**	**-0.9**
SNAA	**Sanae**	**54.25**	**159**		P	**P**	**10 40 46.4**	**-0.6**
SNAA					pP	**pP**	**10 40 58.4**	**-0.9**
SOR	**Soroa**	**54.55**	**347**		P	**P**	**10 40 49.8**	**+0.2**
SOR						**pP**	**10 41 03.

WVT				pmax	pmax														
	comp=Z,55nm,1.1s																		
WVT	**Waverly**	**68.45**	**346**	P	**P**	**10 42 22.7**	**-0.5**												
WVT	**Waverly**	**68.45**	**346**	P	**P**	**10 42 23.3**	**+0.2**												
	baz=165																		
TBI	**Tubuai**	**68.51**	**255**	*e*LR	LR	11 03 14.6													
	comp=Z,275nm,29.5s																		
TBI	**Tubuai**	**68.51**	**255**	*e*T	T	11 56 52.8													
	comp=Z,13nm,0.3s																		
SYO	**Syowa Base**	**68.54**	**159**⇑	*e*P	**P**	**10 42 21.2**	**-2.2**												
W41B	**Gary Mavity, V**	**68.60**	**342**	P	**P**	**10 42 24.4**	**+0.4**												
	baz=161																		
ABTX	**Abilene, Hawle**	**68.60**	**335**	pP	pP	10 42 37.5	+0.7												
ABTX	**Abilene, Hawle**	**68.60**	**335**	P	**P**	**10 42 24.8**	**+0.6**												
	baz=154																		
S57A	**Dark Hollow, R**	**68.70**	**354**	IAmb	IAmb	10 42 26.3													
	comp=Z,28nm,1.1s																		
T50A	**Nancy**	**68.75**	**349**	IAmb	IAmb	10 42 38.2													
	comp=Z,37nm,1.7s																		
X37A	**Clayton**	**68.95**	**339**	IAmb	IAmb	10 42 27.5													
	comp=Z,54nm,1.9s																		
S54A	**Dingess, Beckl**	**68.99**	**352**	IAmb	IAmb	10 42 27.5													
	comp=Z,33nm,1.2s																		
W39A	**Magazine**	**69.05**	**341**	P	**P**	**10 42 27.6**	**+0.8**												
	baz=160,SNR=18																		
S51A	**Beattyville**	**69.15**	**350**	IAmb	IAmb	10 42 40.8													
	comp=Z,18nm,0.9s																		
R55A	**Marlinton**	**69.33**	**353**	IAmb	IAmb	10 42 30.6													
	comp=Z,30nm,1.1s																		
PBMO	**Poplar Bluff**	**69.66**	**344**	IAmb	IAmb	10 42 31.4													
	comp=Z,20nm,0.6s																		
MEH	**Mehetia**	**69.75**	**261**	*e*T	T	11 58 24.0													
	comp=Z,23nm,0.2s																		
X34A	**Smith Ranch, M**	**69.75**	**337**	IAmb	IAmb	10 42 33.3													
	comp=Z,35nm,1.3s																		
U40A	**Yellville**	**69.88**	**342**	IAmb	IAmb	10 42 33.4													
	comp=Z,40nm,1.2s																		
U40A	**Yellville**	**69.88**	**342**	P	**P**	**10 42 32.2**	**+0.2**												
	baz=160,SNR=9.0																		
Q56A	**Snyder Ridge,**	**69.99**	**354**	IAmb	IAmb	10 42 34.7													
	comp=Z,20nm,1.1s																		
MNTX	**Cornudas Mount**	**70.09**	**330**	P	**P**	**10 42 33.4**	**0.0**												
	baz=149,SNR=17																		
HHAR	**Hobbs**	**70.10**	**341**	IAmb	IAmb	10 42 34.8													
	comp=Z,32nm,1.1s																		
Q54A	**Coxs Mills**	**70.10**	**352**	IAmb	IAmb	10 42 33.9													
	comp=Z,18nm,1.1s																		
WCI	**Wyandotte Cave**	**70.18**	**348**	P	**P**	**10 42 33.8**	**0.0**												
WCI				pmax	pmax														
	comp=Z,17nm,0.9s																		
WCI	**Wyandotte Cave**	**70.18**	**348**	P	**P**	**10 42 33.8**	**0.0**												
WCI				IAmb	IAmb	10 42 33.9													
	comp=Z,17nm,0.8s																		
WCI	**Wyandotte Cave**	**70.18**	**348**	P	**P**	**10 42 33.5**	**-0.3**												
	baz=166																		
WMOK	**Wichita Mounta**	**70.20**	**336**	IAmb	IAmb	10 42 35.4													
	comp=Z,38nm,1.9s																		
WMOK	**Wichita Mounta**	**70.20**	**336**	P	**P**	**10 42 33.8**	**-0.3**												
	baz=155																		
Q52A	**Bidwell**	**70.26**	**351**	IAmb	IAmb	10 42 35.3													
	comp=Z,27nm,1.0s																		
S44A	**Carbondale**	**70.26**	**345**	IAmb	IAmb	10 42 47.8													
	comp=Z,27nm,0.9s																		
SIUC	**Southern Illin**	**70.28**	**345**	IAmb	IAmb	10 42 35.6													
	comp=Z,37nm,1.1s																		
TUL1	**Leonard**	**70.30**	**339**	P	**P**	**10 42 34.8**	**+0.2**												
	baz=158																		
P57A	**Homestead Farm**	**70.32**	**355**	IAmb	IAmb	10 42 49.4													
	comp=Z,24nm,0.9s																		
MGMO	**Mountain Grove**	**70.47**	**343**	IAmb	IAmb	10 42 37.1													
	comp=Z,14nm,0.9s																		
Q51A	**Peebles**	**70.47**	**350**	IAmb	IAmb	10 42 36.6													
	comp=Z,29nm,1.0s																		
OK025	**Westminster Rd**	**70.48**	**338**	IAmb	IAmb	10 42 36.8													
	comp=Z,38nm,1.1s																		
P60A	**Greenville**	**70.50**	**357**	P	**P**	**10 42 36.5**	**+0.9**												
	baz=176																		
WUPA	**West Chester U**	**70.61**	**357**	IAmb	IAmb	10 42 38.6													
	comp=Z,17nm,1.1s																		
MCWV	**Mont Chateau**	**70.66**	**353**	P	**P**	**10 42 37.1**	**+0.4**												
	baz=172																		
OK031	**S. Brethren Rd**	**70.67**	**338**	IAmb	IAmb	10 42 38.9													
	comp=Z,17nm,0.7s																		
P53A	**Whipple**	**70.67**	**352**	IAmb	IAmb	10 42 38.0													
	comp=Z,24nm,1.1s																		
MVL	**Millersville**	**70.72**	**356**	IAmb	IAmb	10 42 39.3													
	comp=Z,20nm,1.1s																		
FVM	**French Village**	**70.81**	**344**	IAmb	IAmb	10 42 39.1													
	comp=Z,37nm,1.1s																		
P51A	**Williamsport**	**70.88**	**351**	IAmb	IAmb	10 42 51.2													
	comp=Z,28nm,0.9s																		
P52A	**Corning**	**70.91**	**351**	P	**P**	**10 42 37.8**	**-0.4**												
	baz=170,SNR=6.5																		
TIAR	**Tiarei**	**70.98**	**261**	*e*T	T	11 59 56.4													
	comp=Z,2.2nm,0.2s																		
MSTX	**Muleshoe**	**70.98**	**333**	IAmb	IAmb	10 42 40.6													
	comp=Z,28nm,1.1s																		
MSTX	**Muleshoe**	**70.98**	**333**	P	**P**	**10 42 39.1**	**+0.2**												
	baz=152,SNR=14																		
OLIL	**Olney**	**71.02**	**346**	IAmb	IAmb	10 42 52.0													
	comp=Z,47nm,1.2s																		
CCM	**Cathedral Cave**	**71.07**	**344**	P	**P**	**10 42 39.4**	**+0.2**												
CCM				pmax	pmax														
	comp=Z,51nm,1.2s																		
CCM	**Cathedral Cave**	**71.07**	**344**	P	**P**	**10 42 39.4**	**+0.2**												
CCM	**Cathedral Cave**	**71.07**	**344**	P	**P**	**10 42 39.7**	**+0.5**												
	baz=162																		
O56A	**Blue Knob Stat**	**71.15**	**354**	IAmb	IAmb	10 42 41.0													
	comp=Z,20nm,1.1s																		
O56A	**Blue Knob Stat**	**71.15**	**354**	P	**P**	**10 42 40.4**	**+0.7**												
	baz=174																		
PPT2	**Papeete2**	**71.16**	**260**	*e*LR	LR	11 04 32.4													
	comp=Z,177nm,24.8s																		
P49A	**Miami Univ. Ec**	**71.18**	**349**	IAmb	IAmb	10 42 40.4													
	comp=Z,21nm,1.0s																		
P49A	**Miami Univ. Ec**	**71.18**	**349**	P	**P**	**10 42 39.3**	**-0.5**												
	baz=168,SNR=5.6																		
P48A	**Milroy**	**71.23**	**349**	IAmb	IAmb	10 42 53.0													
	comp=Z,28nm,0.9s																		
S39A	**Bolivar**	**71.26**	**342**	IAmb	IAmb	10 42 41.9													
	comp=Z,17nm,0.8s																		
LUPA	**Lehigh Univers**	**71.27**	**357**	IAmb	IAmb	10 42 55.0													
	comp=Z,16nm,1.0s																		
AMTX	**Amarillo**	**71.37**	**334**	P	**P**	**10 42 42.0**	**+0.7**												
	baz=153																		
O53A	**New Philadelph**	**71.40**	**352**	P	**P**	**10 42 41.0**	**-0.1**												
	baz=171																		
T35A	**Sooner Cattle**	**71.45**	**339**	IAmb	IAmb	10 42 43.4													
	comp=Z,25nm,1.1s																		
SSPA	**Standing Stone**	**71.46**	**355**	P	**P**	**10 42 42.2**	**+0.7**												
SSPA				IAmb	IAmb	10 42 43.4													
	comp=Z,21nm,1.1s																		
SSPA	**Standing Stone**	**71.46**	**355**	P	**P**	**10 42 42.3**	**+0.7**												
	baz=174																		
N58A	**Sunbury**	**71.58**	**356**	IAmb	IAmb	10 42 44.2													
	comp=Z,20nm,1.1s																		
319A	**Douglas**	**71.59**	**326**	IAmb	IAmb	10 42 45.5													
	comp=Z,16nm,0.9s																		
N59A	**State Game Lan**	**71.60**	**357**	IAmb	IAmb	10 42 57.2													
	comp=Z,24nm,1.0s																		
N59A	**State Game Lan**	**71.60**	**357**	P	**P**	**10 42 43.5**	**+1.1**												
	baz=176,SNR=7.6																		
ACSO	**Alum Creek Sta**	**71.61**	**351**	P	**P**	**10 42 42.2**	**-0.2**												
	baz=170,SNR=8.4																		
P46A	**Rosedale**	**71.70**	**347**	IAmb	IAmb	10 42 43.5													
	comp=Z,33nm,1.0s																		
ODNJ	**Ogdensburg**	**71.72**	**358**	IAmb	IAmb	10 42 57.5													
	comp=Z,18nm,1.0s																		
O49A	**Covington**	**71.76**	**350**	IAmb	IAmb	10 42 44.2													
	comp=Z,43nm,1.1s																		
WSPT	**Westport, CT**	**71.77**	**359**	IAmb	IAmb	10 42 57.8													
	comp=Z,20nm,1.0s																		
121A	**Cookes Peak, D**	**71.86**	**328**	IAmb	IAmb	10 42 47.3													
	comp=Z,28nm,1.1s																		
121A	**Cookes Peak, D**	**71.86**	**328**	P	**P**	**10 42 46.1**	**+1.7**												
	baz=148,SNR=15																		
N53A	**Lisbon**	**71.91**	**353**	IAmb	IAmb	10 42 45.5													
	comp=Z,23nm,1.1s																		
N54A	**Moraine State**	**71.97**	**353**	IAmb	IAmb	10 42 46.0													
	comp=Z,21nm,0.9s																		
N54A	**Moraine State**	**71.97**	**353**	P	**P**	**10 42 44.4**	**-0.2**												
	baz=172																		
M57A	**Sunshine Farm,**	**72.10**	**356**	IAmb	IAmb	10 42 59.1													
	comp=Z,35nm,1.4s																		
M64A	**Tiverton**	**72.13**	**0**	P	**P**	**10 42 44.6**	**-0.8**												
	baz=180																		
P43A	**Skaggs, Pawnee**	**72.19**	**345**	IAmb	IAmb	10 42 59.2													
	comp=Z,30nm,1.0s																		
N51A	**Ashland**	**72.20**	**351**	IAmb	IAmb	10 42 59.3													
	comp=Z,29nm,1.0s																		
KSCT	**Kent School, K**	**72.33**	**358**	IAmb	IAmb	10 43 01.2													
	comp=Z,49nm,1.8s																		
M55A	**Ridgway**	**72.36**	**354**	IAmb	IAmb	10 42 48.4													
	comp=Z,25nm,0.9s																		
SFIN	**Lafayette**	**72.42**	**348**	P	**P**	**10 42 46.6**	**-0.6**												
	baz=165																		
L63A	**North Scituate**	**72.44**	**360**	IAmb	IAmb	10 43 01.9													
	comp=Z,33nm,1.0s																		
L63A	**North Scituate**	**72.44**	**360**	P	**P**	**10 42 48.1**	**+0.8**												
	baz=180																		
N49A	**Columbus Grove**	**72.46**	**350**	pP	pP	10 43 00.1	0.0												
M54A	**Oil Creek Stat**	**72.48**	**354**	IAmb	IAmb	10 42 48.8													
	comp=Z,22nm,1.1s																		
M54A	**Oil Creek Stat**	**72.48**	**354**	P	**P**	**10 42 47.7**	**0.0**												
	baz=173,SNR=5.2																		
BRYW	**Bryant College**	**72.49**	**360**	IAmb	IAmb	10 43 02.3													
	comp=Z,26nm,1.0s																		
M53A	**WI Miller and**	**72.51**	**353**	IAmb	IAmb	10 42 48.9													
	comp=Z,32nm,1.1s																		
M53A	**WI Miller and**	**72.51**	**353**	P	**P**	**10 42 47.8**	**0.0**												
	baz=172																		
N47A	**Urbana**	**72.66**	**349**	IAmb	IAmb	10 43 01.4													
	comp=Z,38nm,1.1s																		
M52A	**Chesterland**	**72.69**	**352**	IAmb	IAmb	10 42 50.0													
	comp=Z,34nm,1.1s																		
L59A	**Walton**	**72.84**	**357**	IAmb	IAmb	10 42 51.8													
	comp=Z,30nm,1.1s																		
QUA2	**Belchertown**	**72.86**	**359**	IAmb	IAmb	10 43 04.3													
	comp=Z,27nm,1.2s																		
BINY	**Binghamton**	**72.89**	**357**	P	**P**	**10 42 50.7**	**+0.6**												
	baz=176																		
L56A	**Greenwood**	**72.93**	**355**	IAmb	IAmb	10 43 04.5													
	comp=Z,43nm,1.1s																		
HDIL	**Hopedale**	**73.02**	**346**	P	**P**	**10 42 50.5**	**-0.3**												
	baz=164																		
L61B	**Northampton**	**73.03**	**359**	P	**P**	**10 42 51.7**	**+0.8**												
	baz=179,SNR=6.7																		
TUC	**Tucson**	**73.08**	**326**	P	**P**	**10 42 52.7**	**+1.2**												
TUC				pmax	pmax														
	comp=Z,8.0nm,1.3s																		
TUC	**Tucson**	**73.08**	**326**	P	**P**	**10 42 52.7**	**+1.2**												
TUC	**Tucson**	**73.08**	**326**	P	**P**	**10 42 52.9**	**+1.4**												
	baz=145																		
HRV	**Adam Dziewonsk**	**73.08**	**360**	P	**P**	**10 42 52.6**	**+1.5**												
HRV				pmax	pmax														
	comp=Z,20nm,1.1s																		
HRV	**Adam Dziewonsk**	**73.08**	**360**	P	**P**	**10 42 52.6**	**+1.5**												
HRV				IAmb	IAmb	10 42 53.3													
	comp=Z,20nm,1.1s																		
HRV	**Adam Dziewonsk**	**73.08**	**360**	P	**P**	**10 42 52.0**	**+0.9**												
	baz=180																		
ERPA	**Erie**	**73.11**	**353**	IAmb	IAmb	10 43 05.0													
	comp=Z,52nm,1.2s																		
ERPA	**Erie**	**73.11**	**353**	P	**P**	**10 42 52.2**	**+0.9**												
	baz=172																		
P38A	**Dawn**	**73.13**	**342**	IAmb	IAmb	10 42 52.7													
	comp=Z,21nm,0.8s																		
K62A	**Royalston**	**73.24**	**359**	P	**P**	**10 42 53.6**	**+1.6**												
	baz=179																		
K61A	**Williamstown**	**73.26**	**359**	P	**P**	**10 42 53.1**	**+0.9**												
	baz=178																		
ANMO	**Albuquerque**	**73.33**	**331**	*i* P	**P**	**10 42 52.8**	**-0.3**												
ANMO				pmax	pmax														
	comp=Z,12nm,1.4s																		
ANMO	**Albuquerque**	**73.33**	**331**	P	**P**	**10 42 54.6**	**+1.5**												
ANMO	**Albuquerque**	**73.33**	**331**	P	**P**	**10 42 53.8**	**+0.7**												
	baz=149																		
TRY	**Troy**	**73.33**	**358**	IAmb	IAmb	10 43 07.4													
	comp=Z,35nm,1.0s																		
LIC	**Lamto**	**73.39**	**72**	*e*P	**P**	**10 42 52.9**	**-0.7**												
	comp=Z,64nm,0.8s																		
L48A	**N Adams**	**73.50**	**350**	IAmb	IAmb	10 43 06.6													
	comp=Z,42nm,1.1s																		
MMNY	**Mt. Morris Dam**	**73.54**	**355**	IAmb	IAmb	10 43 07.9													
	comp=Z,32nm,1.1s																		
M44A	**Midewin, Midew**	**73.57**	**347**	IAmb	IAmb	10 42 54.8													
	comp=Z,29nm,1.0s																		
TIC	**Toumodi**	**73.63**	**72**	*e*P	**P**	**10 42 54.6**	**-0.5**												
KIC	**Kosan Boka**	**73.70**	**72**	*e*P	**P**	**10 42 54.8**	**-0.7**												
	comp=Z,108nm,1.1s																		
DBIC	**Dimbokro**	**73.78**	**72**	P	**P**	**10 42 55.3**	**-0.6**												
	comp=Z,29nm,0.8s,baz=231,slow=5.3,SNR=36																		
DBIC	**Dimbokro**	**73.78**	**72**	P	**P**	**10 42 54.9**	**-1.0**												
DBIC				pmax	pmax														
	comp=Z,29nm,0.7s																		
DBIC	**Dimbokro**	**73.78**	**72**	P	**P**	**10 42 54.9**	**-1.0**												
DBIC				IAmb	IAmb	10 42 56.2													
	comp=Z,29nm,0.7s																		
214A	**Organ Pipe Nat**	**73.79**	**324**	IAmb	IAmb	10 42 58.6													
	comp=Z,21nm,1.1s																		
214A	**Organ Pipe Nat**	**73.79**	**324**	P	**P**	**10 42 57.2**	**+1.6**												
	baz=144,SNR=8.5																		
L46A	**Eue Claire**	**73.86**	**349**	IAmb	IAmb	10 43 08.4													
	comp=Z,32nm,1.0s																		
J61A	**Chester**	**73.93**	**359**	P	**P**	**10 42 57.4**	**+1.3**												
	baz=179																		
ACCN	**Adirondack Com**	**73.99**	**358**	IAmb	IAmb	10 43 11.8													
	comp=Z,29nm,1.4s																		
J56A	**Wolcott**	**74.02**	**356**	IAmb	IAmb	10 42 57.8													
	comp=Z,17nm,0.9s																		
J55A	**Hilton**	**74.07**	**355**	IAmb	IAmb	10 43 10.8													
	comp=Z,27nm,1.1s																		
J59A	**Pieso**	**74.09**	**358**	IAmb	IAmb	10 42 58.8													
	comp=Z,20nm,1.1s																		
J57A	**Williamstown**	**74.10**	**357**	IAmb	IAmb	10 42 58.6													
	comp=Z,23nm,1.0s																		
CBKS	**Cedar Bluff**	**74.21**	**337**	P	**P**	**10 42 59.0**	**+1.1**												
	baz=155																		
HNH	**Hanover**	**74.28**	**359**	IAmb	IAmb	10 43 13.8													
	comp=Z,60nm,1.6s																		
L44A	**Lake County Fo**	**74.31**	**347**	P	**P**	**10 42 58.3**	**0.0**												
	baz=165																		
T25A	**Trinidad**	**74.40**	**333**	IAmb	IAmb	10 43 14.3													
	comp=Z,22nm,1.0s																		
T25A	**Trinidad**	**74.40**	**333**	P	**P**	**10 43 00.7**	**+1.4**												
	baz=151,SNR=13																		
I60A	**Shoreham**	**74.44**	**359**	P	**P**	**10 42 59.9**	**+0.9**												
	baz=178,SNR=6.8																		
I62A	**Tamworth**	**74.45**	**0**	P	**P**	**10 43 00.2**	**+1.1**												
	baz=180																		
L42A	**Oliver, Polo**	**74.49**	**346**	IAmb	IAmb	10 43 00.4													
	comp=Z,24nm,0.9s																		
I63A	**Otisfield**	**74.63**	**1**	IAmb	IAmb	10 43 15.4													
	comp=Z,36nm,1.1s																		
I63A	**Otisfield**	**74.63**	**1**	P	**P**	**10 43 01.4**	**+1.2**												
	baz=181,SNR=9.4																		
PECO	**Prince Edward**	**74.68**	**356**		pP	10 43 14.1	+1.0												
LBNH	**Lisbon**	**74.82**	**360**	P	**P**	**10 43 02.2**	**+0.9**												
	baz=180,SNR=5.8																		
J47A	**Sunmer**	**74.82**	**350**	IAmb	IAmb	10 43 14.4													
	comp=Z,24nm,0.9s																		
X16A	**Lo Mia Camp, P**	**75.12**	**327**	IAmb	IAmb	10 43 06.4													
	comp=Z,22nm,1.2s																		
SCIA	**State Center**	**75.20**	**343**	P	**P**	**10 43 04.0**	**+0.5**												
	baz=161																		
LONY	**Lake Ozonia**	**75.25**	**358**	P	**P**	**10 43 04.1**	**+0.4**												
	baz=177,SNR=7.2																		
DELO	**Deloro Mine**	**75.30**	**355**	IAmb	IAmb	10 43 18.8													
	comp=Z,28nm,1.5s																		
SDCO	**Great Sand Dun**	**75.35**	**333**	P	**P**	**10 43 06.2**	**+1.3**												
	baz=150,SNR=11																		
EMMW	**East Machias**	**75.37**	**3**	P	**P**	**10 43 05.4**	**+1.0**												
EMMW				IAmb	IAmb	10 43 31.8													
	comp=Z,50nm,1.6s																		
KSCO	**Kaye Shedlock'**	**75.38**	**335**	IAmb	IAmb	10 43 19.6													
	comp=Z,42nm,1.4s																		
KSCO	**Kaye Shedlock'**	**75.38**	**335**	P	**P**	**10 43 05.8**	**+0.9**												
	baz=153																		
FRNY	**Flat Rock**	**75.43**	**358**	IAmb	IAmb	10 43 06.4													
	comp=Z,21nm,1.1s																		
FRNY					pP	10 43 17.6	+0.1												
JFWS	**Jewell Farm**	**75.48**	**346**	IAmb	IAmb	10 43 18.9													
	comp=Z,41nm,1.1s																		
JFWS	**Jewell Farm**	**75.48**	**346**	P	**P**	**10 43 05.2**	**+0.1**												
	baz=163,SNR=6.0																		
SADO	**Sadowa**	**75.67**	**354**	IAmb	IAmb	10 43 19.8													
	comp=Z,28nm,1.0s																		
PLVO	**Plevna**	**75.78**	**356**	IAmb	IAmb	10 43 08.3													
	comp=Z,27nm,1.2s																		
K38A	**Parkersburg**	**75.79**	**344**	IAmb	IAmb	10 43 07.2													
	comp=Z,16nm,0.7s																		
G65A	**Princeton**	**75.86**	**3**	IAmb	IAmb	10 43 09.5													
	comp=Z,29nm,1.2s																		
PKME	**Peaks-Kenny Pk**	**75.87**	**2**	P	**P**	**10

EYMN					IAmb	IAmb	10 43 46.6		
	comp=Z,21nm,1.0s								
EYMN	**Ely**	**80.55**	**347**	P	**P**		**10 43 34.3**	**+1.2**	
	baz=163								
TCUT	**Toone Canyon**	**80.63**	**331**	IAmb	IAmb		10 43 49.3		
	comp=Z,15nm,0.8s								
D32A	**Dogwood Acres,**	**81.05**	**343**	IAmb	IAmb		10 43 49.6		
	comp=Z,37nm,0.9s								
BOSA	**Boshof**	**81.09**	**118**	P	**P**		**10 43 36.6**	**-0.2**	
	comp=Z,5.4nm,0.8s,baz=213,slow=4.4,SNR=7.6								
HWUT	**Hardware Ranch**	**81.10**	**331**	IAmb	IAmb		10 43 50.5		
	comp=Z,21nm,0.8s								
BGU	**Big Grassy Mou**	**81.17**	**329**	IAmb	IAmb		10 43 52.1		
	comp=Z,31nm,1.9s								
BW06	**Boulder Array**	**81.25**	**333**	P	**P**		**10 43 37.5**	**+0.2**	
	baz=148,SNR=6.0								
PDAR	**Pinedale Array**	**81.25**	**333**	P	**P**		**10 43 37.5**	**+0.2**	
	comp=Z,2.4nm,0.9s,baz=133,slow=6.3,SNR=14								
B35A	**Bob, Littlefor**	**81.41**	**345**	IAmb	IAmb		10 43 51.2		
	comp=Z,26nm,1.0s								
NVAR	**Mina Array Bea**	**81.65**	**325**	P	**P**		**10 43 40.4**	**+0.9**	
	comp=Z,4.6nm,0.9s,baz=150,slow=5.6,SNR=27								
HVU	**Hansel Valley**	**81.75**	**330**	IAmb	IAmb		10 43 53.8		
	comp=Z,13nm,0.7s								
AGMN	**Agassiz Nation**	**81.84**	**344**	IAmb	IAmb		10 43 53.6		
	comp=Z,16nm,0.8s								
AGMN	**Agassiz Nation**	**81.84**	**344**	P	**P**		**10 43 40.0**	**0.0**	
	baz=159,SNR=8.6								
MDND	**Maddock**	**82.39**	**341**	P	**P**		**10 43 43.1**	**+0.2**	
	baz=156,SNR=6.1								
YERR	**Yerington**	**82.54**	**324**	IAmb	IAmb		10 43 59.1		
	comp=Z,15nm,1.0s								
TORD	**Torodi Ar. Bea**	**82.74**	**70**	P	**P**		**10 43 44.9**	**-0.6**	
	comp=Z,18nm,1.0s,baz=254,slow=4.9,SNR=34								
TORD	**Torodi Ar. Bea**	**82.74**	**70**	P	**P**		**10 43 45.1**	**-0.4**	
TORD				IAmb	IAmb		10 44 04.5		
	comp=Z,23nm,0.9s								
PNTR	**Pine Nut**	**82.80**	**324**	IAmb	IAmb		10 44 00.6		
	comp=Z,21nm,0.9s								
CASY	**Casey**	**83.08**	**181**	P	**P**		**10 43 47.4**	**+1.0**	
CASY				IAmb	IAmb		10 44 00.5		
	comp=Z,18nm,0.9s								
RLMT	**Red Lodge**	**83.13**	**334**	IAmb	IAmb		10 44 02.4		
	comp=Z,30nm,1.8s								
RLMT	**Red Lodge**	**83.13**	**334**	P	**P**		**10 43 47.9**	**+0.9**	
	baz=148								
PAHR	**Pah Rah Range**	**83.17**	**325**	IAmb	IAmb		10 44 02.3		
	comp=Z,16nm,1.1s								
LBTB	**Lobatse**	**83.18**	**115**	P	**P**		**10 43 47.2**	**-0.6**	
LBTB				pmax	pmax				
	comp=Z,13nm,0.8s								
LBTB	**Lobatse**	**83.18**	**115**	P	**P**		**10 43 47.2**	**-0.6**	
LBTB				IAmb	IAmb		10 44 07.9		
	comp=Z,12nm,0.8s								
LAO	**LASA Array**	**83.39**	**337**	P	**P**		**10 43 49.1**	**+0.9**	
	baz=150								
YMR	**Madison River**	**83.40**	**333**	IAmb	IAmb		10 44 03.3		
	comp=Z,23nm,1.1s								
YHH	**Holmes Hill**	**83.46**	**333**	IAmb	IAmb		10 44 03.5		
	comp=Z,20nm,1.3s								
ULM	**Lac du Bonnet**	**83.67**	**345**	P	**P**		**10 43 49.0**	**-0.4**	
	comp=Z,17nm,1.0s,baz=168,slow=2.7,SNR=8.7								
HLID	**Hailey**	**83.91**	**330**	P	**P**		**10 43 52.0**	**+1.0**	
	baz=144,SNR=12								
ORV	**Oroville**	**84.11**	**323**	IAmb	IAmb		10 44 07.0		
	comp=Z,21nm,1.2s								
DGMT	**Dagmar**	**84.30**	**339**	P	**P**		**10 43 53.3**	**+0.6**	
	baz=152,SNR=10								
BOZ	**Bozeman (W)**	**84.44**	**333**	P	**P**		**10 43 54.2**	**+0.6**	
	baz=146								
O03E	**Paynes Creek**	**84.82**	**324**	P	**P**		**10 43 56.2**	**+0.6**	
	baz=138								
O02D	**Mt. Diablo Mer**	**85.24**	**323**	P	**P**		**10 43 58.3**	**+0.6**	
	baz=138								
MOD	**Modoc Plateau**	**85.29**	**326**	IAmb	IAmb		10 44 12.6		
	comp=Z,18nm,1.4s								
SCHQ	**Schefferville**	**85.51**	**3**	P	**P**		**10 43 57.5**	**-1.2**	
	comp=Z,17nm,1.1s,baz=174,slow=3.1,SNR=5.7								
J08A	**Circle Bar Ran**	**85.55**	**328**	IAmb	IAmb		10 44 14.0		
	comp=Z,21nm,1.0s								
EGMT	**Eagleton**	**85.77**	**335**	P	**P**		**10 43 59.9**	**-0.2**	
	baz=148								
N02D	**Trinity Center**	**85.79**	**324**	P	**P**		**10 44 00.6**	**+0.1**	
	baz=138								
PLID	**Pearl Lake**	**85.81**	**330**	IAmb	IAmb		10 44 14.3		
	comp=Z,9.6nm,0.9s								
M04C	**Macdoel**	**85.95**	**325**	P	**P**		**10 44 02.2**	**+0.9**	
	baz=138								
I07A	**Izee**	**86.58**	**328**	IAmb	IAmb		10 44 19.1		
	comp=Z,24nm,1.5s								
J05D	**Fort Rock, OR**	**86.79**	**326**	P	**P**		**10 44 06.7**	**+1.3**	
	baz=139								
JTMT	**Jette**	**87.24**	**333**	IAmb	IAmb		10 44 09.0		
	comp=Z,11nm,1.1s								
G08A	**Pilot Rock**	**87.26**	**329**	pP	**pP**		**10 44 21.1**	**+0.5**	
G08A				IAmb	IAmb		10 44 22.1		
	comp=Z,18nm,1.6s								
K02D	**Willamette Mer**	**87.54**	**324**	P	**P**		**10 44 10.2**	**+1.2**	
	baz=137								
I05D	**Terrebonne, OR**	**87.63**	**327**	P	**P**		**10 44 10.5**	**+1.2**	
	baz=139,SNR=5.5								
WALA	**Waterton Lakes**	**88.17**	**334**	IAmb	IAmb		10 44 13.4		
	comp=Z,14nm,1.1s								
G05D	**Wamic, OR**	**88.30**	**327**	P	**P**		**10 44 13.9**	**+1.5**	
	baz=139								
F05D	**White Salmon**	**88.85**	**328**	P	**P**		**10 44 16.3**	**+1.3**	
	baz=139								
FFC	**Flin Flon**	**89.26**	**343**	pP	pP		10 44 29.4	-0.2	
LON	**Longmire**	**89.66**	**328**	IAmb	IAmb		10 44 19.9		
	comp=Z,9.8nm,1.1s								
B05A	**Bryant**	**90.92**	**329**	P	**P**		**10 44 25.6**	**+1.0**	
	baz=138								
EDM	**Edmonton**	**91.37**	**336**	IAmb	IAmb		10 44 39.2		
	comp=Z,15nm,1.2s								
A04D	**Lummi Island**	**91.54**	**329**	P	**P**		**10 44 28.8**	**+1.5**	
	baz=138								
ESDC	**Sonseca Array**	**94.12**	**46**	P	**P**		**10 44 39.4**	**-0.3**	
	comp=Z,0.8nm,0.8s,baz=235,slow=4.5,SNR=2.4								
ESDC	**Sonseca Array**	**94.12**	**46**	IAmb	IAmb		10 46 41.7		
	comp=Z,11nm,1.8s								
DZM	**Mont Dzumac**	**103.41**	**234**	eLR	LR		11 19 20.8		
	comp=Z,328nm,26.0s								
MNK	**Minsk**	**119.82**	**42**	*i* PKIKP	**PKPdf**		**10 50 10.0**	**-0.7**	
MNK				*i*			10 51 34.5		
MNK				*i* PPP	PPP		10 54 07.1		
MNK				*i*			10 57 19.9		
MNK				*i* PS	**PS**		**11 01 24.3**	**-0.4**	
MNK				*i* SS	SS		11 07 59.0	+1.8	
MNK				*i* SSS	SSS		11 12 25.3		
MNK				pmax	pmax				
	comp=Z,14nm,0.9s								
MNK				pmax	pmax				
	comp=E,3.0nm,0.9s								
MNK				pmax	pmax				
	comp=N,20nm,0.8s								
MNK				MLR	MLR				
	comp=Z,381nm,22.0s								
MNK				MLR	MLR				
	comp=N,213nm,22.0s								
MNK				MLR	MLR				
	comp=E,46nm,19.0s								
MNK	**Minsk**	**119.82**	**42**	*i* PKP	**PKPdf**		**10 50 10.0**	**-0.6**	
	comp=E,3.0nm,0.9s								
MNK				*i* PKP	**PKPdf**		**10 50 10.0**	**-0.6**	
	comp=N,20nm,0.8s								
MNK				*i* PKP	**PKPdf**		**10 50 10.0**	**-0.6**	
	comp=Z,14nm,0.9s,baz=80								
MNK				*i* PP	**PP**		**10 51 34.5**	**-0.6**	
MNK				*i* PPP	PPP		10 54 07.1		
MNK				*i* SKS	**SKSdf**		**10 57 19.9**	**+0.9**	
MNK				*i* PS	**PS**		**11 01 24.4**	**-0.3**	
MNK				*i* SS	**SS**		**11 07 59.1**	**+1.8**	
MNK				*i* SSS	SSS		11 12 25.3		
MNK				*i* LR	LR		11 37 06.6		
MNK				*i* LRM	MLR		11 39 38.5		
	comp=Z,381nm,21.7s								
MNK				*i* LRM	MLR		11 39 43.6		
	comp=N,213nm,22.4s								
MNK				*i* LRM	MLR		11 40 54.5		
	comp=E,46nm,18.8s								
ASAR	**Alice Springs**	**120.50**	**207**	PKP	**PKPdf**		**10 50 11.8**	**-1.3**	
	comp=E,1.3nm,0.7s,baz=129,slow=1.6,SNR=25								
WR0	**Warramunga Arr**	**123.55**	**210**	PKPdf	**PKPdf**		**10 50 18.0**	**-1.0**	
WB2	**Warramunga Arr**	**123.64**	**210**	PKPdf	**PKPdf**		**10 50 17.9**	**-1.4**	
WRA	**Warramunga Arr**	**123.65**	**210**	PKP	**PKPdf**		**10 50 18.4**	**-0.9**	
	comp=E,3.1nm,0.5s,baz=169,slow=1.9,SNR=68								
WRAB	**Tennant Creek**	**123.65**	**210**	*i* PKIKP	**PKPdf**		**10 50 18.6**	**-0.7**	

OBN	**Obninsk**	**124.88**	**42**	*e*PKIKP	**PKPdf**		**10 50 19.4**	**-0.9**	
OBN				pmax	pmax				
	comp=Z,7.0nm,0.5s								
H11S2	**WAKE ISLAND Hyl**	**126.22**	**271**	T	T		13 09 17.5		
	baz=115,slow=75,SNR=142								
H11S1	**WAKE ISLAND Hyl**	**126.23**	**271**	T	T		13 09 18.4		
	baz=115,slow=75,SNR=113								
H11S3	**WAKE ISLAND Hyl**	**126.24**	**271**	T	T		13 09 18.8		
	baz=115,slow=75,SNR=87								
H11N3	**WAKE ISLAND Hyl**	**126.56**	**273**	T	T		13 09 41.6		
	baz=114,slow=74								
H11N1	**WAKE ISLAND Hyl**	**126.57**	**273**	T	T		13 09 44.8		
	baz=114								
H11N2	**WAKE ISLAND Hyl**	**126.57**	**273**	T	T		13 09 41.9		
	baz=114,slow=74								
KIV	**Kislovodsk**	**127.45**	**56**	*e*PKIKP	**PKiKP**		**10 50 26.8**	**+0.4**	
KIV				pmax	pmax				
	comp=Z,11nm,1.0s								
BILL	**Bilibino**	**130.27**	**335**	*e*PKIKP	**PKiKP**		**10 50 31.2**	**+0.1**	
BILL				PS	PS		11 02 53.0	-3.3	
BILL				*e*SS	SS		11 10 13.3	+5.7	
BILL				pmax	pmax				
	comp=Z,10.0nm,0.5s								
ARU	**Arti**	**137.10**	**39**	*i* PKIKP	**PKPdf**		**10 50 42.8**	**-0.7**	
ARU				pmax	pmax				
	comp=Z,2.0nm,1.1s								
SEY	**Seymchan**	**137.58**	**332**	PKP	**PKPdf**		**10 50 44.8**	**+0.6**	
	comp=Z,1.3nm,0.5s,baz=74,slow=7.4,SNR=4.9								
TIXI	**Tiksi**	**137.76**	**351**	*i* PKIKP	**PKiKP**		**10 50 45.5**	**-0.7**	
GEYT	**Alibeck**	**138.28**	**66**		**PKPdf**		**10 50 45.6**	**-0.7**	
NRIK	**Noril'sk**	**139.73**	**11**	*i* PKIKP	**PKPdf**		**10 50 47.7**	**-0.2**	
NRIK				pmax	pmax				
	comp=Z,1.0nm,0.9s								
BRVK	**Borovoye**	**144.62**	**40**	*i* PKIKP	**PKPdf**		**10 50 56.5**	**-0.6**	
BRVK	**Borovoye**	**144.62**	**40**	PKPdf	**PKPdf**		**10 50 56.6**	**-0.5**	
BVAR	**Borovoye Array**	**144.69**	**40**	PKP	**PKPab**		**10 50 56.0**	**-0.1**	
	comp=Z,4.8nm,0.6s,baz=272,slow=5.5,SNR=20								
BVAR	**Borovoye Array**	**144.69**	**40**	PKIKP	**PKPab**		**10 50 56.0**	**-0.1**	
YAK	**Yakutsk**	**145.98**	**342**	PKPbc	**PKPdf**		**10 50 59.5**	**+0.3**	
	comp=Z,23nm,0.8s,baz=24,slow=0.4,SNR=8.0								
YAK	**Yakutsk**	**145.98**	**342**	*e*PKIKP	**PKPdf**		**10 50 58.2**	**-0.9**	
YAK				*e*			10 51 12.4		
YAK				pmax	pmax				
	comp=Z,40nm,1.0s								
YAK				pmax	pmax				
	comp=N,2.0nm,0.9s								
YAK				pmax	pmax				
	comp=E,2.0nm,1.0s								
YAK	**Yakutsk**	**145.98**	**342**	PKPdf	**PKPbc**		**10 50 60.0**	**0.0**	
HYB	**Hyderabad**	**149.66**	**109**	*i* PKP	**PKPbc**		**10 51 10.0**	**-1.3**	
NIL	**Nilore**	**150.17**	**75**	PKIKP	**PKPbc**		**10 51 12.0**	**-0.1**	
NIL	**Nilore**	**150.17**	**75**		**PKPbc**		**10 51 12.0**	**-0.1**	
KURBB	**Kurchatov Arra**	**150.28**	**40**	PKPbc	**PKPbc**		**10 51 11.4**	**-0.4**	
	comp=E,3.2nm,0.7s,baz=301,slow=3.1,SNR=13								
KURK	**Kurchatov**	**150.29**	**40**	PKIKP	**PKPbc**		**10 51 11.4**	**-0.4**	
KURK	**Kurchatov**	**150.29**	**40**		**PKPbc**		**10 51 11.4**	**-0.4**	
RPSI	**Rantau Prapat**	**150.49**	**160**		**PKPbc**		**10 51 12.8**	**-0.7**	
AAK	**Ala-Archa**	**150.56**	**57**	PKPbc	**PKPbc**		**10 51 13.2**	**+0.2**	
	comp=E,8.2nm,1.0s,baz=211,slow=4.5,SNR=12								
AAK	**Ala-Archa**	**150.56**	**57**	PKIKP	**PKPbc**		**10 51 13.0**	**+0.1**	
AAK	**Ala-Archa**	**150.56**	**57**		**PKPbc**		**10 51 13.0**	**+0.1**	
PSI	**Prapat**	**150.59**	**160**	PKIKP	**PKPbc**		**10 51 12.8**	**-1.0**	
ZAA0	**Zalesovo Array**	**151.37**	**30**		**PKPbc**		**10 51 14.0**	**-0.2**	
ZALV	**Zalesovo Beam**	**151.37**	**30**	PKPbc	**PKPbc**		**10 51 13.9**	**-0.3**	
	comp=E,9.0nm,0.6s,baz=303,slow=3.1,SNR=20								
ZALV	**Zalesovo Beam**	**151.37**	**30**	PKIKP	**PKPbc**		**10 51 13.7**	**-0.5**	
ZALV	**Zalesovo Beam**	**151.37**	**30**		**PKPbc**		**10 51 13.7**	**-0.5**	
KSH	**Kashi**	**152.20**	**63**	PKPbc	**PKPdf**		**10 51 11.4**	**+1.3**	
KSH				sPKP			10 51 25.8		
KSH				PP	**PP**		**10 54 59.0**	**-0.3**	
ZEA	**Zeya**	**153.49**	**335**	*e*PKP2	**PKPab**		**10 51 31.9**	**+0.5**	
ZEA				pmax	pmax				
	comp=Z,10.0nm,1.6s								
MKAR	**Makanchi Array**	**154.34**	**44**	PKPbc	**PKPbc**		**10 51 20.3**	**-0.8**	
	comp=Z,1.9nm,0.9s,baz=270,slow=4.2,SNR=5.2								
MKAR	**Makanchi Array**	**154.34**	**44**		**PKPbc**		**10 51 20.3**	**-0.8**	
MKAR				PKPab	**PKPab**		**10 51 35.4**	**+0.1**	
WMQ	**Urumqi**	**159.12**	**46**	*e*PKP	**PKPdf**		**10 51 19.3**	**+0.2**	
SONM	**Songino Array**	**163.05**	**5**	PKPab	**PKPab**		**10 52 12.6**	**-0.4**	
	comp=Z,1.6nm,0.9s,baz=343,slow=4.6,SNR=5.8								
SONM				PP	**PP**		**10 55 58.2**	**+0.8**	
	comp=Z,2.0nm,1.0s,baz=347,slow=5.9,SNR=6.3								
ULN	**Ulaanbaatar**	**163.06**	**3**	PKP2	**PKPab**		**10 52 14.5**	**+1.4**	
ULN	**Ulaanbaatar**	**163.06**	**3**		**PKPab**		**10 52 14.5**	**+1.4**	
CMAR	**Chiang Mai Arr**	**164.85**	**143**	PKP	**PKPdf**		**10 51 25.3**	**-0.3**	
	comp=Z,0.8nm,0.3s,baz=261,slow=2.2,SNR=6.2								
CMAR				PKPab	**PKPab**		**10 52 20.9**	**-0.7**	
	comp=Z,1.2nm,0.4s,baz=220,slow=5.4,SNR=2.3								
CMAR	**Chiang Mai Arr**	**164.85**	**143**		**PKPdf**		**10 51 25.4**	**-0.2**	
GTA	**Gaotai**	**168.96**	**38**	PKPab	**PKPab**		**10 52 40.0**	**+0.5**	
HHC	**Hu-ho-hao-te**	**169.80**	**347**	*e*PKP	**PKPdf**		**10 51 26.8**	**-1.9**	
HHC				LR	LR				
	comp=Z,120nm,19.4s								
HHC				LR	LR				
	comp=Z,130nm,20.2s								
HHC				LR	LR				
	comp=Z,180nm,20.7s								
NJ2	**Nanjing**	**171.09**	**280**	*e*PKP	**PKPdf**		**10 51 30.0**	**+0.5**	
KMI	**Kunming**	**172.29**	**137**	PKP	**PKPdf**		**10 51 29.8**	**-0.8**	
KMI				LR	LR				
	comp=Z,370nm,12.8s								
CD2	**Chengdu**	**175.92**	**89**	PKP	**PKPdf**		**10 51 32.0**	**+0.6**	
XAN	**Xi'an**	**176.89**	**354**	PKP	**PKPdf**		**10 51 31.5**	**0.0**	
XAN				pPKP	pPKPdf		10 51 44.0	-1.0	

*NEIC **17** 10:33:50.0±1.8,21.7°S±0.2×178.2°W±0.1,h519km±12km, mb4.2/20 Error ellipse: s-maj=26.1km s-min=13.4km az=165.0*

*IDC **17** 10:33:50.9±4.3,21.12°S×178.38°W,h532km±27km,mb3.4/5, mb1 3.6/7,mb1mx3.3/24,mbtmp4.3/7,Error ellipse: s-maj=91.3km s-min=20.7km az=139.0*

ISC 17 10:33:49.4±0.8,21.7°S±0.2×178.3°W±0.1,h500km,n38, σ1§67/37,mb4.1/15,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.25**	**319**	P	**P**	**10 35 19.1**	**+0.3**
	3.4nm,0.3s,baz=137,slow=14,SNR=20						
MSVF	**Nonsavu**	**5.25**	**319**	P	**P**	**10 35 19.6**	**+0.7**
NIUE	**Niue**	**8.29**	**73**	P	**P**	**10 35 49.0**	**+0.1**
PINNC	**Pines Island,**	**13.22**	**264**	P	**P**	**10 36 44.2**	**+3.2**
DZM	**Mont Dzumac**	**14.15**	**266**	P	**P**	**10 36 52.1**	**+1.2**
	0.4nm,0.3s,baz=95,slow=16,SNR=4.4						
OUZ	**Omahuta**	**15.20**	**206**	P	**P**	**10 37 01.1**	**-0.4**
LTZ	**Lake Taylor**	**22.42**	**198**	P	**P**	**10 38 10.1**	**+0.3**
EIDS	**Eidsvold**	**28.26**	**257**	P	**P**	**10 39 01.6**	**-0.1**
EIDS				IAmb	IAmb	10 39 23.1	
	comp=Z,10nm,1.4s						
CTAO	**Charters Tower**	**33.10**	**266**	P	**P**	**10 39 42.9**	**-0.6**
CTAO				IAmb	IAmb	10 39 43.5	
	comp=Z,6.8nm,0.6s						
TOO	**Toolangi**	**34.95**	**235**	P	**P**	**10 39 59.7**	**+0.9**
TOO				IAmb	IAmb	10 40 05.3	
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**37.00**	**246**	P	**P**	**10 40 17.4**	**+1.5**
	comp=Z,3.7nm,0.7s,baz=85,slow=9.0,SNR=8.3						
STKA	**Stephens Creek**	**37.00**	**246**	P	**P**	**10 40 16.1**	**+0.1**
COEN	**Coen**	**37.39**	**275**	P	**P**	**10 40 17.9**	**-1.5**
COEN				IAmb	IAmb	10 40 26.4	
	comp=Z,6.3nm,1.1s						
BBOO	**Buckleboo**	**41.75**	**245**	P	**P**	**10 40 55.1**	**+0.8**
BBOO				IAmb	IAmb	10 40 55.6	
	comp=Z,6.6nm,0.6s						
AS31	**Alice Springs**	**43.97**	**258**	P	**P**	**10 41 11.1**	**-0.7**
ASAR	**Alice Springs**	**43.97**	**258**	P	**P**	**10 41 11.3**	**-0.6**
	comp=Z,5.6nm,0.8s,baz=97,slow=7.8,SNR=111						
ASAR				PcP	**pP**	**10 42 45.9**	**+2.9**
	comp=Z,1.2nm,0.6s,baz=102,slow=3.6,SNR=13						
ASAR				ScP	**ScP**	**10 45 48.2**	**-2.7**
	comp=Z,0.2nm,0.9s,baz=102,slow=4.4,SNR=5.7						
WR0	**Warramunga Arr**	**43.97**	**263**	P	**P**	**10 41 10.4**	**-1.5**
WR0				IAmb	IAmb	10 41 22.8	
	comp=Z,8.1nm,1.4s						
WB2	**Warramunga Arr**	**44.14**	**263**	P	**P**	**10 41 11.9**	**-1.4**
WB2				IAmb	IAmb	10 41 12.1	
	comp=Z,4.7nm,0.8s						
WRA	**Warramunga Arr**	**44.16**	**263**	P	**P**	**10 41 11.6**	**-1.8**
	comp=Z,3.7nm,0.7s,baz=95,slow=7.6,SNR=46						
WRA	**Warramunga Arr**	**44.16**	**263**	P	**P**	**10 41 11.5**	**-1.9**
FORT	**Forrest**	**48.55**	**248**	P	**P**	**10 41 46.1**	**-0.5**
MTN	**Manton Dam**	**48.90**	**272**	P	**P**	**10 41 47.2**	**-2.1**
MTN				IAmb	IAmb	10 41 47.5	
	comp=Z,8.7nm,0.7s						

KNRA	**Kununurra**	**50.30**	**267**	P	**P**		**10 41 57.7**	**-2.0**	
KNRA				IAmb	IAmb		10 41 59.4		
	comp=Z,11nm,0.8s								
FITZ	**Fitzroy Crossi**	**52.59**	**263**	P	**P**		**10 42 15.3**	**-1.0**	
SOEI	**Soe**	**56.26**	**273**	P	**P**		**10 42 41.2**	**-1.1**	
PSA00	**Pilbara Seismi**	**57.11**	**258**	P	**P**		**10 42 46.7**	**-1.3**	
MORW	**Morawa**	**59.10**	**248**	P	**P**		**10 42 59.6**	**-1.8**	
MORW				IAmb	IAmb		10 43 27.1		
	comp=Z,11nm,1.4s								
GIRL	**Giralia**	**61.95**	**255**	P	**P**		**10 43 20.6**	**+0.2**	
ILAR	**Eielson Array**	**89.57**	**13**	P	P		10 45 47.2	-5.3	
	comp=Z,0.9nm,0.9s,baz=216,slow=4.5,SNR=5.0								
CMAR	**Chiang Mai Arr**	**90.25**	**290**	P	**P**		**10 45 54.9**	**-1.9**	
	comp=Z,0.5nm,0.3s,baz=111,slow=4.0,SNR=4.6								
HFS	**Hagfors**	**140.70**	**351**	PKhKP	PKPpre		10 52 11.4		
	comp=Z,1.3nm,0.5s,baz=28,slow=3.4,SNR=5.6								
AKASG	**Malin Array Be**	**143.94**	**330**	PKP	PKPbc		10 52 21.9	-4.4	
	comp=Z,4.2nm,0.5s,baz=42,slow=3.8,SNR=15								
EKA	**Eskdalemuir Ar**	**146.25**	**5**	PKPbc	**PKPdf**		**10 52 29.3**	**-1.8**	
	comp=Z,0.7nm,0.5s,baz=353,slow=3.1,SNR=1.3								
BRTR	**Keskin Array B**	**147.43**	**311**	PKPbc	**PKPdf**		**10 52 32.7**	**-1.1**	
	comp=Z,1.3nm,0.7s,baz=126,slow=6.4,SNR=4.3								
MMAI	**Mount Meron Ar**	**148.15**	**298**	PKPbc	**PKPdf**		**10 52 37.1**	**+2.1**	
	comp=Z,2.4nm,0.4s,baz=80,slow=8.1,SNR=3.4								
MLR	**Muntele Rosu**	**149.09**	**326**	PKPbc	**PKPdf**		**10 52 38.7**	**+2.5**	
	comp=Z,1.7nm,0.5s,baz=328,slow=1.7,SNR=3.4								
CLL	**Collm**	**149.19**	**346**	*i* PKPbc	**PKPdf**		**10 52 37.9**	**+1.9**	
GERES	**GERESS Array B**	**151.30**	**343**	PKPbc	**PKPdf**		**10 52 42.8**	**+3.2**	
	comp=Z,0.7nm,0.6s,baz=11,slow=1.0,SNR=4.3								

*ATH **17** 10:40:08.6,39.48°N×19.88°E,h39km±3km,ML3.3/12,Error ellipse: s-maj=4.1km s-min=1.3km az=304.0*

*THE **17** 10:40:09.8,39.46°N×19.88°E,h20km±1km,ML3.3/14,Error ellipse: s-maj=1.5km s-min=0.7km az=284.0*

ISC 17 10:40:08.6±1.0,39.48N±0.03°×19.76E±0.04°,h32km±7km, n65,σ0§96/89,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEK	**Kerkira**	**0.24**	**7**	P	**Pb**	**10 40 16.1**	**+0.5**
KEK				S	**Sb**	**10 40 21.0**	**+0.8**
	7µm,0.4s						
KEK	**Kerkira**	**0.24**	**7**	P	**Pb**	**10 40 16.1**	**+0.5**
KEK				S	**Sn**	**10 40 21.2**	**+0.5**
KEK				AML	AML	10 40 21.5	
	comp=E,18034µm,0.3s						
KEK				AML	AML	10 40 21.8	
	comp=N,9378µm,0.4s						
KASA	**Kassiopi**	**0.30**	**27**	P	**Pn**	**10 40 17.3**	**+0.5**
KASA				S	**Sb**	**10 40 22.1**	**+0.6**
KASA				AML	AML	10 40 23.2	
	comp=N,9443µm,0.3s						
KASA				AML	AML	10 40 23.4	
	comp=E,11031µm,0.2s						
SRN	**Sarande**	**0.44**	**25**	P	**Pb**	**10 40 18.0**	**-0.3**
SRN				S	**Sb**	**10 40 24.7**	**-0.2**
	comp=E,3µm,0.5s						
IGT	**Igoumenitsa**	**0.45**	**83**	P	**Pb**	**10 40 16.9**	**-1.4**
IGT				S	**Sb**	**10 40 23.0**	**-2.0**
	comp=E,5µm,0.3s						
IGT	**Igoumenitsa**	**0.45**	**83**	P	**Pb**	**10 40 17.3**	**-1.0**
IGT				S	**Sb**	**10 40 23.1**	**-2.0**
IGT				AML	AML	10 40 25.2	
	comp=E,8518µm,0.2s						
IG

comp=N,2126µm,0.4s
MAKR AML AML 10 41 10.9
comp=E,3028µm,0.3s
RLS Riolos of Patr 1.95 136 P **Pn** **10 40 40.4 +1.0**
EFP Efpalio 1.97 121 P **Pn** **10 40 41.2 +1.4**
AGG Agios Georgios 2.05 102 P **Pn** **10 40 42.1 +1.3**
AGG S **Sn** **10 41 05.7 +0.4**
comp=E,625nm,0.7s
AGG Agios Georgios 2.05 102 P **Pn** **10 40 42.1 +1.3**
TRIZ Trizonia 2.12 121 P **Pn** **10 40 42.9 +1.1**
LAKA Lakka 2.13 125 P **Pn** **10 40 42.9 +0.9**
DRO Drossia 2.15 134 P **Pn** **10 40 43.3 +0.9**
KLV Kalavryta, Ach 2.35 127 P **Pn** **10 40 46.1 +1.0**
LKR Lokris 2.65 107 P **Pn** **10 40 49.8 +0.6**
SKO Skopje 2.80 27 *i* P **Pb** **10 40 59.3 +1.3**
VAY Valandovo 2.83 48 *e*P **Pb** **10 40 56.6 -1.8**
STIP Stip 2.88 39 *e*P **Pb** **10 40 59.6 +0.2**
STON Ston 3.73 336 *e*Pn **Pn** **10 41 03.2 -0.8**
STON Sn **Sn** **10 41 44.7 -2.1**
MAKA Makarska 4.33 332 *e*Pn **Pn** **10 41 12.6 +0.4**
HVAR Hvar 4.46 327 *e*Pn **Pn** **10 41 13.6 -0.4**
HVAR Sn **Sn** **10 42 02.1 -2.6**
RICI Ricice 4.47 335 *e*Pn **Pn** **10 41 14.6 +0.4**
KIJV Kijevo 5.17 332 *e*Pn **Pn** **10 41 24.5 +0.6**
ZIRJ Zirje 5.19 325 *e*Pn **Pn** **10 41 24.2 +0.2**
MORI Morici 5.33 327 *e*Pn **Pn** **10 41 26.9 +0.9**
NVLJ Novalja 6.25 326 *e*Pn **Pn** **10 41 39.7 +1.1**

NNC 17 10:41:09.3±6.2, 36°93N×69°73E, h0km, mb4.1, mpv3.8, 3C-3D, Error ellipse: s-maj=52.2km s-min=46.8km az=120.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=20	**6.03**	**29**	P	**Pn**	10 42 41.2	+1.0
KK31	**Karatay Array** 1.6nm,0.3s,baz=198,slow=15,SNR=14	**6.19**	**5**	⇑P	**Pn**	10 42 42.4	+0.3
KK31	1.3nm,0.3s,baz=199,slow=27,SNR=6.6			⇓S	Sn	10 43 54.9	+1.4
UCH	**Uchtor** SNR=13	**6.45**	**33**	P	Pn	10 42 46.7	+0.8
EKS2	**Erkin-Say** SNR=7.2	**6.51**	**27**	P	Pn	10 42 48.0	+1.4
AAK	**Ala-Archa** SNR=9.0	**6.78**	**31**	P	Pn	10 42 51.3	+1.2
AAK	**Ala-Archa** 3.6nm,0.5s	**6.78**	**31**	⇑P	Pn	10 42 50.4	+0.2
AAK	3.0nm,0.5s			⇓S	Sn	10 44 10.0	+1.9
CHMS	**Chumysh** SNR=5.7	**7.18**	**31**	P	Pn	10 42 56.4	+0.7
TKM2	**Tokmak 2** SNR=8.3	**7.49**	**35**	P	Pn	10 43 00.4	+0.4
TKM2	**Tokmak 2** 3.3nm,0.5s	**7.49**	**35**	⇓P	Pn	10 42 59.5	-0.5
TKM2	1.4nm,0.8s			⇑S	Sn	10 44 25.5	-0.2

TRN 17 10:43:18.2, 10°92N×62°23W, h25km, MD3.5
FUNV 17 10:43:18.4, 10°88N×62°25W, h27km, MW3.5
ISC 17 10:43:16.9±1.4, 10°85N±0°05×62°28W±0°04, h81km±15km, n22, σ1§01/39, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.88**	**103**	*e*P	**Pn**	**10 43 35.1**	**+0.5**
TRN				*e*S	**Sn**	**10 43 47.5**	**-0.3**
TRN	**Trinidad (W)**	**0.88**	**103**	*e*P	**Pn**	**10 43 35.2**	**+0.6**
TRN				*e*S	**Sn**	**10 43 47.8**	**0.0**
CRUV	**Carupano**	**0.96**	**260**	*e*P	**Pn**	**10 43 35.9**	**+0.4**
CRUV				*e*S	**Sn**	**10 43 49.6**	**+0.2**
GRFF	**Grenada Fort F**	**1.31**	**24**	*e*P	**Pn**	**10 43 39.3**	**-0.5**
GRFF				*e*S	**Sn**	**10 43 56.0**	**-1.0**
GRGR	**Grenville**	**1.42**	**25**	*e*P	**Pn**	**10 43 41.1**	**-0.1**
GRGR				*e*S	**Sn**	**10 43 58.7**	**-0.8**
GRGR	**Grenville**	**1.42**	**25**	*e*P	**Pn**	**10 43 41.0**	**-0.1**
GRGR				*e*S	**Sn**	**10 43 58.4**	**-1.1**
GRHS	**Sauteurs**	**1.50**	**24**	*e*P	**Pn**	**10 43 43.1**	**+0.8**
GRHS				*e*S	**Sn**	**10 44 01.5**	**0.0**
GRSS	**Sisters**	**1.58**	**24**	*e*P	**Pn**	**10 43 44.1**	**+0.8**
TOSP	**Speyside**	**1.77**	**75**	*e*P	**Pn**	**10 43 45.8**	**+0.1**
TOSP				*e*S	**Sn**	**10 44 06.9**	**-0.7**
TOSP	**Speyside**	**1.77**	**75**	*e*P	**Pn**	**10 43 46.3**	**+0.6**
TOSP				*e*S	**Sn**	**10 44 06.5**	**-1.1**
GCMP	**Grenada, Carri**	**1.83**	**27**	*e*P	**Pn**	**10 43 46.5**	**0.0**
GCMP				*e*S	**Sn**	**10 44 08.1**	**-1.0**
PCRV	**Puerto La Cruz**	**2.42**	**254**	*e*P	**Pn**	**10 43 55.9**	**+1.4**
PCRV				*e*S	**Sn**	**10 44 22.7**	**-0.4**
SVB	**Belmont**	**2.61**	**22**	*e*P	**Pn**	**10 43 57.9**	**+0.9**
SVB				*e*S	**Sn**	**10 44 27.7**	**-0.1**
SVV	**Soufriere Volc**	**2.67**	**23**	*e*P	**Pn**	**10 43 59.6**	**+1.8**
PRGV	**PARIAGUAN**	**3.12**	**229**	*e*P	**Pn**	**10 44 04.7**	**+0.7**
PRGV				*e*S	**Sn**	**10 44 39.9**	**-0.4**
MCLT	**Moule a Chique**	**3.13**	**25**	*e*P	**Pn**	**10 44 05.3**	**+1.3**
MCLT				*e*S	**Sn**	**10 44 40.3**	**-0.2**
SLBI	**Saint Lucia, B**	**3.40**	**22**	*e*P	**Pn**	**10 44 08.9**	**+1.1**
SLBI				*e*S	**Sn**	**10 44 46.2**	**-0.9**
BIRV	**Birongo**	**3.94**	**265**	*e*P	**Pn**	**10 44 16.9**	**+1.8**
BIRV				*e*S	**Sn**	**10 44 59.9**	**-0.3**
TACV	**Tcata**	**4.72**	**262**	*e*P	**Pn**	**10 44 27.0**	**+1.2**
BENV	**Beln**	**5.31**	**261**	*e*P	**Pn**	**10 44 33.8**	**0.0**
BENV				*e*S	**Sn**	**10 45 31.8**	**-1.9**
CACV	**CAICARA DEL OR**	**5.32**	**233**	*e*P	Pn	10 44 29.3	-4.6
CACV				*e*S	Sn	10 45 22.3	-12
BAUV	**El Baul**	**5.99**	**252**	*e*P	**Pn**	**10 44 42.9**	**-0.1**
BAUV				*e*S	**Sn**	**10 45 47.4**	**-2.8**

IDC 17 10:53:15.0±1.1, 30°99S×71°99W, h0km, mb3.8/3, mb1 3.9/7, mb1mx3.7/26, mbtmp3.7/7, ML3.9/4, Error ellipse: s-maj=39.6km s-min=24.4km az=89.0
NEIC 17 10:53:18.3±2.9, 30°89S±0°05×71°9W±0°1, h17km±5km, mb4.1/4, ML4.1(GUC), Error ellipse: s-maj=14.9km s-min=7.0km az=91.0
GUC 17 10:53:19.7±0.6, 30°89S×71°78W, h24km±2km, ML4.4
ISC 17 10:53:18.8±1.0, 30°92S±0°03×71°85W±0°08, h22km±6km, n39, σ1§68/42, mb3.9/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.30**	**37**	*e*P	**Pb**	**10 53 26.1**	**+0.5**
CO06				*i* S	**Sb**	**10 53 31.4**	**+1.1**
CO06	**Fray Jorge**	**0.30**	**37**		**Pb**	**10 53 23.5**	**-2.1**
CO03	**El Pedregal**	**1.00**	**86**	*e*P	**Pn**	**10 53 37.8**	**+0.2**
CO03				*i* S	**Sn**	**10 53 51.7**	**+0.7**
CO03	comp=N,7µm,0.3s			IAML		10 53 55.0	
CO03	**El Pedregal**	**1.00**	**86**		**Pn**	**10 53 37.8**	**+0.2**
GO04	**Tololo Observa**	**1.17**	**51**	*e*P	**Pb**	**10 53 40.7**	**+0.3**
GO04				*e*S	**Sn**	**10 53 57.2**	**+1.8**
GO04	comp=E,24µm,0.6s			IAML		10 54 01.6	
GO04	**Tololo Observa**	**1.17**	**51**		**Pb**	**10 53 40.5**	**0.0**
VA01	**Torpederas**	**2.11**	**175**	*e*P	**Pb**	**10 53 56.6**	**+0.3**
VA01	**Torpederas**	**2.11**	**175**	Pn	**Pn**	**10 53 51.2**	**-1.4**
LCO	**Las Campanas**	**2.14**	**28**	*e*P	**Pb**	**10 53 56.5**	**-0.5**
LCO				*i* S	**Sb**	**10 54 24.6**	**+1.2**
LCO	**Las Campanas**	**2.14**	**28**		**Pb**	**10 53 56.6**	**-0.5**
VA03	**San Esteban**	**2.15**	**149**	*e*P	**Pb**	**10 53 56.4**	**-0.6**
VA03	comp=E,5µm,0.3s			IAML		10 54 26.7	
ROCH	**El Roble**	**2.17**	**161**	*e*P	**Pb**	**10 53 57.3**	**-0.2**
MT05	**Renca**	**2.64**	**159**	*e*P	**Pb**	**10 54 04.0**	**-1.4**
MT05				*e*S	**Sb**	**10 54 38.1**	**+0.7**
MT05	comp=E,4µm,0.3s			IAML		10 54 42.2	
AC04	**Llanos de Chal**	**2.79**	**14**	Pn	**Pn**	**10 54 01.1**	**-0.9**
ZON	**Zonda**	**2.79**	**104**		**Pn**	**10 53 58.5**	**-3.5**
MT09	**Talagante**	**2.94**	**166**	*e*P	**Pn**	**10 54 08.3**	**+4.0**
MT09				*i* S	**Sn**	**10 54 39.2**	**+0.1**
MT01	**Popeta**	**2.98**	**170**	Pn	**Pn**	**10 54 05.4**	**+0.7**
GO03	**Copiap**	**3.60**	**23**	Pn	**Pn**	**10 54 15.6**	**+2.3**
GO05	**Huala**	**4.08**	**181**		**Pn**	**10 54 22.1**	**+2.2**
AC02	**Maricunga**	**4.71**	**31**	Pn	Pn	10 54 34.7	+5.7
ML02	**Panimavida**	**4.85**	**176**	Pn	**Pn**	**10 54 34.9**	**+4.5**
PB14	**IPOC Station P**	**6.39**	**12**	Pn	**Pn**	**10 54 50.5**	**-1.4**
LC01	**Cunco**	**7.96**	**180**	Pn	**Pn**	**10 55 12.2**	**-0.9**
PB06	**IPOC Station P**	**8.43**	**14**	Pn	**Pn**	**10 55 17.4**	**-2.3**
AF01	**San Pedro de A**	**8.58**	**23**	Pn	**Pn**	**10 55 19.6**	**-2.3**
PLCA	**Paso Flores**	**9.85**	**174**	Pn	**Pn**	**10 55 38.2**	**-0.9**
	comp=E,0.4nm,0.3s,baz=339,slow=12,SNR=4.7						
TRQA	**Tornquist**	**10.81**	**134**		**Pn**	**10 55 54.1**	**+1.9**
CPUP	**Villa Florida**	**13.54**	**74**	Pn	**Pn**	**10 56 31.3**	**+1.8**
	comp=E,0.3nm,0.3s,baz=255,slow=6.9,SNR=3.8						
CPUP	**Villa Florida**	**13.54**	**74**	Pn	**Pn**	**10 56 28.2**	**-1.4**
LPAZ	**La Paz**	**14.95**	**14**	Pn	**Pn**	**10 56 51.0**	**+1.6**
	comp=E,0.1nm,0.3s,baz=182,slow=6.7,SNR=3.9						
LPAZ	**La Paz**	**14.95**	**14**	Pn	**Pn**	**10 56 48.5**	**-0.9**
SIV	**San Ignacio**	**17.82**	**36**	P	**Pn**	**10 57 25.8**	**+0.3**
	comp=E,0.2nm,0.3s,baz=224,slow=13,SNR=5.0						
SNAA	**Sanae**	**54.38**	**159**	P	**P**	**11 02 43.4**	**-0.2**
	comp=E,1.7nm,0.8s,baz=274,slow=7.3,SNR=8.8						
SNAA	**Sanae**	**54.38**	**159**	IAmb	IAmb	11 02 44.3	
	comp=Z,2.2nm,0.9s						
TXAR	**Lajitas Array**	**67.14**	**330**	P	**P**	**11 04 11.5**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=155,slow=8.8,SNR=5.1						
TORD	**Torodi Ar. Bea**	**83.01**	**70**	P	**P**	**11 05 43.1**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=253,slow=4.6,SNR=3.9						
TORD	**Torodi Ar. Bea**	**83.01**	**70**	IAmb	IAmb	11 05 47.3	
	comp=Z,0.3nm,0.8s						
WRA	**Warramunga Arr**	**123.52**	**210**	PKP	**PKPdf**	**11 12 13.5**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=132,slow=1.4,SNR=5.4						
ZALV	**Zalesovo Beam**	**151.50**	**29**	PKPbc	**PKPbc**	**11 13 10.0**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=318,slow=2.0,SNR=4.8						

IDC 17 10:53:41.5±0.9, 31°59S×72°17W, h0km, mb4.3/7, mb1 4.3/11, mb1mx4.1/26, mbtmp4.2/11, ML4.2/4, Error ellipse: s-maj=27.0km s-min=22.7km az=78.0
NEIC 17 10:53:43.5±2.2, 31°57S±0°04×72°39W±0°08, h14km±1km, mb4.5/8, Error ellipse: s-maj=10.2km s-min=6.1km az=101.0
ISC 17 10:53:43.2±0.7, 31°61S±0°05×72°21W±0°08, h14km, n40, σ1§12/33, mb4.3/8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**1.48**	**162**		**Pn**	**10 54 08.9**	**-0.6**
CO03	**El Pedregal**	**1.51**	**60**	Sn	**Sg**	**10 54 30.4**	**-1.5**
VA03	**San Esteban**	**1.81**	**130**		**Pb**	**10 54 15.9**	**-0.3**
VA05	**Santo Domingo**	**2.10**	**166**		**Pn**	**10 54 18.2**	**+0.3**
VA05				Sn	**Sn**	**10 54 44.1**	**+0.3**
MT05	**Renca**	**2.17**	**145**	Pn	**Pb**	**10 54 21.0**	**-1.2**
MT01	**Popeta**	**2.38**	**160**	Sn	**Sn**	**10 54 49.2**	**-1.7**
MT09	**Talagante**	**2.39**	**155**	Pn	**Pb**	**10 54 25.4**	**-0.7**
BO01	**Tunca**	**2.93**	**162**	Pn	**Pn**	**10 54 31.4**	**+2.0**
GO05	**Huala**	**3.40**	**176**	Pn	**Pn**	**10 54 36.3**	**+0.5**
AC04	**Llanos de Chal**	**3.54**	**16**	Pn	**Pn**	**10 54 36.3**	**-1.5**
VA04	**Juan Fernndez**	**5.94**	**248**	Pn	**Pn**	**10 55 08.7**	**-2.1**
H03N1	**Juan Fernandez** baz=75,slow=72	**5.95**	**250**	T	T	11 01 42.9	
H03N3	**Juan Fernandez** baz=75,slow=72	**5.96**	**250**	T	T	11 01 58.6	
H03N2	**Juan Fernandez** baz=75,slow=72	**5.96**	**250**	T	T	11 01 44.1	
H03S3	**Juan Fernandez** baz=84	**6.06**	**247**	T	T	11 02 11.2	
H03S1	**Juan Fernandez** baz=84	**6.07**	**247**	T	T	11 02 09.6	
H03S2	**Juan Fernandez** baz=84	**6.08**	**247**	T	T	11 02 10.5	
LC01	**Cunco**	**7.27**	**178**	Pn	**Pn**	**10 55 27.6**	**-1.5**
PLCA	**Paso Flores** 1.3nm,0.3s,baz=340,slow=12,SNR=19	**9.20**	**172**	Pn	**Pn**	**10 55 56.8**	**+1.2**
PLCA	**Paso Flores**	**9.20**	**172**	Pn	**Pn**	**10 55 57.0**	**+1.4**
LL04	**Puerto Octay**	**9.28**	**181**	Pn	**Pn**	**10 55 57.1**	**+0.5**
TRQA	**Tornquist**	**10.58**	**130**	Pn	Pn	10 56 19.1	+4.7
CPUP	**Villa Florida** 0.4nm,0.3s,baz=259,slow=14,SNR=4.5	**14.04**	**72**	Pn	**Pn**	**10 57 02.6**	**+0.9**
LPAZ	**La Paz** 0.1nm,0.3s,baz=203,slow=4.1,SNR=4.4	**15.70**	**15**	Pn	**Pn**	**10 57 25.8**	**+1.1**
LPAZ	**La Paz**	**15.70**	**15**	Pn	**Pn**	**10 57 23.1**	**-1.6**
SIV	**San Ignacio** 0.3nm,0.3s,baz=227,slow=9.7,SNR=3.8	**18.57**	**36**	Pn	**Pn**	**10 58 00.1**	**0.0**
SAML	**Samuel**	**24.06**	**22**	P	**P**	**10 58 57.3**	**-0.9**
SAML	comp=Z,5.9nm,0.8s			IAmb	IAmb	10 58 60.0	
BDFB	**Brasilia** comp=Z,4.4nm,0.7s,baz=237,slow=7.4,SNR=5.3	**27.18**	**60**	P	**P**	**10 59 26.4**	**-0.3**
BDFB	**Brasilia** comp=Z,1.1nm,1.1s	**27.18**	**60**	IAmb	IAmb	10 59 27.0	
RUSC	**La Rusia**	**37.30**	**359**	P	**P**	**11 00 55.8**	**+0.2**
SNAA	**Sanae** comp=Z,2.6nm,0.8s,baz=269,slow=7.2,SNR=7.5	**53.85**	**158**	P	**P**	**11 03 06.3**	**+0.9**
SNAA	**Sanae**	**53.85**	**158**	P	**P**	**11 03 06.9**	**+1.5**
SNAA	comp=Z,2.9nm,0.8s			IAmb	IAmb	11 03 07.6	
TXAR	**Lajitas Array** comp=Z,1.0nm,0.7s,baz=152,slow=8.4,SNR=12	**67.59**	**330**	P	**P**	**11 04 40.0**	**+0.5**
DBIC	**Dimbokro** comp=Z,6.1nm,0.8s,baz=224,slow=3.5,SNR=4.6	**74.56**	**72**	P	**P**	**11 05 22.5**	**+0.4**
KOWA	**Kowa** comp=Z,2.8nm,0.6s,baz=244,slow=4.5,SNR=5.5	**79.79**	**66**	P	**P**	**11 05 51.6**	**+0.2**
NVAR	**Mina Array Bea** comp=Z,0.6nm,0.7s,baz=157,slow=5.7,SNR=6.4	**81.85**	**325**	P	**P**	**11 06 03.3**	**+1.2**
TORD	**Torodi Ar. Bea** comp=Z,2.8nm,0.8s,baz=248,slow=4.3,SNR=11	**83.54**	**70**	P	**P**	**11 06 11.0**	**-0.2**
WRA	**Warramunga Arr** comp=Z,0.2nm,0.5s,baz=155,slow=1.5,SNR=1.9	**122.76**	**210**	PKP	**PKPdf**	**11 12 38.4**	**-1.0**
ZALV	**Zalesovo Beam**	**152.26**	**30**	PKPbc	**PKiKP**	**11 13 38.6**	**+0.3**
	comp=Z,6.8nm,0.6s,baz=295,slow=3.2,SNR=14						
ZALV	**Zalesovo Beam**	**152.26**	**30**		**PKPbc**	**11 13 36.9**	**-1.1**

IDC 17 11:01:48.5±1.4, 31°32S×71°93W, h0km, mb3.7/2, mb1 3.8/5, mb1mx3.7/27, mbtmp3.6/5, ML3.7/3, Error ellipse: s-maj=53.5km s-min=33.9km az=88.0
GUC 17 11:01:52.3±0.8, 31°33S×71°88W, h33km±17km, ML3.7
ISC 17 11:01:50.3±2.7, 31°34S±0°04×71°9W±0°1, h11km±17km, n21, σ1§00/22, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.70**	**18**	⇓*i*P	**Pn**	**11 02 05.6**	**-0.5**
CO06				*i* S	**Sb**	**11 02 14.6**	**+0.4**
CO06	comp=N,6µm,0.3s			IAML		11 02 18.1	
CO03	**El Pedregal**	**1.15**	**64**	*e*P	**Pb**	**11 02 12.3**	**+0.1**
CO03				*i* S	**Sn**	**11 02 27.5**	**-0.5**
CO03	comp=N,5µm,0.3s			IAML		11 02 30.6	
GO04	**Tololo Observa**	**1.50**	**39**	*e*P	**Pb**	**11 02 18.2**	**0.0**
GO04				*i* S	**Sg**	**11 02 37.8**	**-0.7**
ROCH	**El Roble** comp=E,756nm,0.6s	**1.79**	**156**	IAML		11 02 52.0	
VA03	**San Esteban**	**1.82**	**142**	⇑*i*P	**Pb**	**11 02 23.6**	**0.0**
VA03				*i* S	**Sb**	**11 02 47.1**	**+0.7**
VA03	comp=N,2µm,0.2s			IAML		11 02 50.7	
MT05	**Renca**	**2.27**	**155**	*e*P	**Pn**	**11 02 29.3**	**+1.6**
MT05				*e*S	**Sb**	**11 02 57.3**	**-1.9**
MT05	comp=E,1µm,0.4s			IAML		11 03 05.2	
VA05	**Santo Domingo**	**2.32**	**174**	*e*P	**Pn**	**11 02 28.9**	**+0.6**
VA05	comp=N,611nm,0.4s			IAML		11 03 11.7	
MT09	**Talagante**	**2.54**	**163**	*e*P	**Pn**	**11 02 33.3**	**+1.7**
MT09	comp=N,350nm,0.6s			IAML		11 03 16.5	
MT01	**Popeta**	**2.57**	**168**	*e*P	**Pn**	**11 02 32.4**	**+0.5**
MT01	comp=E,220nm,0.6s			IAML		11 03 16.6	
LMEL	**Las Melosas**	**2.88**	**151**	*e*P	**Pn**	**11 02 38.3**	**+2.1**
LMEL	comp=N,332nm,0.4s			IAML		11 03 29.1	
AC04	**Llanos de Chal**	**3.21**	**13**	*e*P	**Pn**	**11 02 40.5**	**-0.1**
H03N1	**Juan Fernandez** baz=76,slow=72,SNR=113	**6.30**	**249**	T	T	11 10 01.6	
H03N3	**Juan Fernandez** baz=76,slow=72,SNR=145	**6.31**	**249**	T	T	11 10 01.3	
H03N2	**Juan Fernandez** baz=76,slow=72,SNR=158	**6.31**	**249**	T	T	11 10 07.5	
PLCA	**Paso Flores** comp=N,0.3nm,0.3s,baz=343,slow=12,SNR=3.4	**9.43**	**174**	Pn	**Pn**	**11 04 06.0**	**-0.2**
LPAZ	**La Paz** comp=N,0.1nm,0.3s,baz=186,slow=9.2,SNR=2.6	**15.37**	**14**	Pn	**Pn**	**11 05 28.6**	**+0.8**
SIV	**San Ignacio** comp=N,0.2nm,0.3s,baz=225,slow=13,SNR=2.6	**18.19**	**35**	P	**Pn**	**11 06 01.9**	**-1.1**
TXAR	**Lajitas Array** comp=N,0.2nm,0.8s,baz=144,slow=6.4,SNR=2.2	**67.49**	**330**	P	**P**	**11 12 45.9**	**-0.4**
TORD	**Torodi Ar. Bea** comp=N,1.8nm,0.8s,baz=252,slow=4.2,SNR=8.6	**83.19**	**70**	P	**P**	**11 14 17.1**	**+0.2**
KURBB	**Kurchatov Arra** comp=N,1.3nm,0.3s,baz=284,slow=3.0,SNR=2.1	**150.81**	**40**	PKPbc	**PKiKP**	**11 21 42.8**	**-0.1**
ZALV	**Zalesovo Beam** comp=N,3.0nm,0.6s,baz=307,slow=3.1,SNR=7.4	**151.89**	**30**	PKPbc	**PKiKP**	**11 21 44.8**	**-0.3**

IDC 17 11:07:42.2±3.5, 38°81N×138°91E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.2/57, mbtmp3.3/3, ML2.2/1, Error ellipse: s-maj=79.8km s-min=51.7km az=111.0
JMA 17 11:07:48.9, 38°05N×139°96E, h11km±1km, M3.3 Broadband fault plane solution: P waves. NP1: ϕ±31.00000°, δ42.00000°, λ99.00000°. NP2: ϕ198.00000°, δ48.00000°, λ82.00000°. Principal axes: T Plg83.0000°, Azm50.0000°; N Plg6.0000°, Azm204.0000°; P Plg3.0000°, Azm294.0000°;
JMA Felt II J1.
ISC 17 11:07:48.1±1.0, 38°13N±0°07×139°87E±0°09, h15km±8km, n15, σ0§82/16, 1C-7D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYS	**Shirataka**	**0.18**	**58**	⇑P	**Pg**	**11 07 53.0**	**+0.5**
JYS				S	**Sg**	**11 07 55.7**	**+0.3**
JYAR	**Yonezawaarcadi**	**0.30**	**135**	P	Pg	11 07 53.1	-1.4
JYAR				S	Sg	11 07 56.2	-2.6
JYA	**Atsumi**	**0.48**	**345**	⇓P	**Pn**	**11 07 59.9**	**-0.6**
JYA				S	Sb	11 08 07.8	+2.6
JNS	**Sasagawa**	**0.54**	**235**	⇓P	**Pb**	**11 07 59.5**	**+0.3**
JNS				S	**Sb**	**11 08 06.9**	**+0.1**
JAW	**Awa shima**	**0.59**	**304**	⇓P	Pg	11 08 02.3	+2.5
JAW				S	Sg	11 08 12.0	+4.3
JOU	**Okura**	**0.67**	**69**	⇓P	**Pg**	**11 08 01.1**	**-0.1**
JOU				S	**Sg**	**11 08 09.4**	**-0.6**
JFT	**Otama**	**0.71**	**149**	⇓P	Pg	11 08 00.7	-1.3
JFY	**Yanaizu**	**0.73**	**191**	S	**Sg**	**11 08 10.9**	**-1.1**
JMM	**Marumori**	**0.77**	**109**	⇓P	Pg	11 08 01.7	-1.5
JMM				S	Sg	11 08 10.7	-2.6
JYK	**Kaneyama**	**0.88**	**26**	P	**Pn**	**11 08 06.2**	**+0.3**
JYK				S	**Sn**	**11 08 18.3**	**-0.1**
JFK	**Kawauchi**	**1.10**	**133**	⇓P	Pn	11 08 07.1	-1.9
JFK				S	Sn	11 08 20.3	-3.6
MAT	**Matsushiro**	**2.06**	**221**	P	**Pb**	**11 08 23.5**	**-1.8**
MAT				S	**Sb**	**11 08 51.0**	**+0.2**
MJAR	**Matsushiro Arr** 0.6nm,0.3s,baz=12,slow=19,SNR=7.2	**2.06**	**220**	Pn	**Pn**	**11 08 23.1**	**+0.8**
MJAR	1.1nm,0.3s,baz=29,slow=28,SNR=3.5			Sn	**Sb**	**11 08 51.5**	**+0.7**
WRA	**Warramunga Arr** 0.5nm,0.7s,baz=2.2,slow=8.1,SNR=5.7	**57.99**	**186**	P	**P**	**11 17 40.3**	**+0.1**
ASAR	**Alice Springs** 0.3nm,0.8s,baz=359,slow=5.9,SNR=3.2	**61.72**	**186**	P	**P**	**11 18 06.8**	**+1.0**

IDC 17 11:12:41.7±0.9, 31°71S×71°79W, h0km, mb4.0/6, mb1 4.0/9, mb1mx3.9/29, mbtmp3.9/9, ML3.8/3, MS3.6/2, Ms1 3.6/2, ms1mx3.1/16, Error ellipse: s-maj=33.3km s-min=22.7km az=92.0
NEIC 17 11:12:43.4±1.8, 31°73S±0°03×72°0W±0°1, h9km±2km, mb4.3/2, ML4.2(GUC), Error ellipse: s-maj=14.8km s-min=3.5km az=102.0
GUC 17 11:12:44.9±0.9, 31°77S×71°92W, h31km±9km, ML4.2
ISC 17 11:12:44.4±1.1, 31°75S±0°03×71°92W±0°08, h19km±3km, n57, σ0§88/51, mb4.3/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**1.10**	**13**	*e*P	**Pb**	**11 13 04.0**	**-0.8**
CO06				*e*S	**Sg**	**11 13 19.2**	**-0.9**
CO06	**Fray Jorge**	**1.10**	**13**		**Pb**	**11 13 04.4**	**-0.4**
VA01	**Torpederas**	**1.29**	**170**	*e*P	**Pn**	**11 13 07.2**	**-0.3**
VA01				*e*S	**Sn**	**11 13 23.3**	**-0.9**
VA01	**Torpederas**	**1.29**	**170**	Pn	**Pn**	**11 13 07.3**	**-0.1**
CO03	**El Pedregal**	**1.39**	**50**	*e*P	**Pb**	**11 13 09.7**	**-0.2**
CO03				*e*S	**Sb**	**11 13 27.2**	**0.0**
CO03	comp=E,3µm,0.3s			IAML		11 13 31.2	
CO03	**El Pedregal**	**1.39**	**50**	Pn	**Pb**	**11 13 09.6**	**-0.2**
ROCH	**El Roble**	**1.44**	**148**	*e*P	**Pn**	**11 13 10.3**	**+0.6**
ROCH				*e*S	**Sn**	**11 13 28.0**	**-0.2**
ROCH	comp=N,5µm,0.2s			IAML		11 13 33.3	
VA03	**San Esteban**	**1.54**	**132**	*e*P	**Pb**	**11 13 12.1**	**-0.3**
VA03				*e*S	**Sb**	**11 13 31.9**	**+0.3**
VA03	comp=E,6µm,0.4s			IAML		11 13 38.7	
VA03	**San Esteban**	**1.54**	**132**	Pn	**Pb**	**11 13 12.2**	**-0.2**
GO04	**Tololo Observa**	**1.84**	**32**	*e*P	**Pn**	**11 13 15.9**	**+0.7**
GO04	comp=N,9µm,0.5s			IAML		11 13 50.9	
GO04	**Tololo Observa**	**1.84**	**32**	Pn	**Pb**	**11 13 17.1**	**-0.5**
MT05	**Renca**	**1.92**	**149**	*e*P	**Pn**	**11 13 17.1**	**+0.9**
MT05	comp=E,6µm,0.3s			IAML		11 13 50.9	
MT05	**Renca**	**1.92**	**149**	Pn	**Pn**	**11 13 16.6**	**+0.5**
VA05	**Santo Domingo**	**1.92**	**172**	Pn	**Pn**	**11 13 17.1**	**+1.0**
MT09	**Talagante**	**2.17**	**159**	*e*S	**Sn**	**11 13 47.2**	**+1.1**
MT09	comp=N,2µm,0.2s			IAML		11 13 58.1	
MT09	**Talagante**	**2.17**	**159**	Pn	**Pn**	**11 13 21.

comp=Z,2.2nm,0.7s,baz=260,slow=5.1,SNR=9.6
KURBB **Kurchatov Arra** 151.13 41 PKPbc **PKiKP** 11 32 36.5 0.0
comp=Z,0.5nm,0.2s,baz=302,slow=3.4,SNR=4.1
KURK **Kurchatov** 151.13 40 **PKiKP** 11 32 36.5 0.0
ZALV **Zalesovo Beam** 152.25 30 PKPbc **PKPbc** 11 32 38.5 +0.1
comp=Z,2.8nm,0.5s,baz=274,slow=2.4,SNR=6.5
ZALV PKPab **sPKPbc** 11 32 46.2 +0.5
comp=Z,2.1nm,0.5s,baz=299,slow=4.4,SNR=3.7

*TRN **17** 11:22:19.6, 19°.03N×66°.15W, h34km, M3.3(RSPR)*
*NEIC **17** 11:22:20.7±1.2, 19°.07N±0°.04×66°.10W±0°.03, h33km±10km, Error ellipse: s-maj=5.7km s-min=4.4km az=194.0*
*RSPR **17** 11:22:21.3, 19°.09N×66°.11W, h13km±2km, MD3.6/22*
ISC 17 11:22:20.4±1.4, **19°.06N**±0°.05×**66°.12W**±0°.02, **h28**km±13km, **n90**, σ0°.**77**/113, **25C-13D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
EMPR	**Esperanza - Ma**	**0.70**	**214**	↓*e*P		**Pn**	**11 22 34.2**	**-0.2**
EMPR	**Esperanza - Ma**	**0.70**	**214**	*e*S		**Sb**	**11 22 44.7**	**+1.3**
EMPR	**Esperanza - Ma**	**0.70**	**214**			**Pn**	**11 22 34.2**	**-0.2**
EMPR						**Sb**	**11 22 44.7**	**+1.3**
EMPR	**Esperanza - Ma**	**0.70**	**214**	IAML			11 22 49.8	
	comp=N,2μm,0.5s							
EMPR				IAML			11 22 51.7	
	comp=E,3μm,0.5s							
GCPR	**Guaynabo City**	**0.75**	**178**	↓*e*P		**Pn**	**11 22 34.7**	**-0.4**
GCPR	**Guaynabo City**	**0.75**	**178**	*e*S		**Sb**	**11 22 45.6**	**+0.8**
GCPR	**Guaynabo City**	**0.75**	**178**			**Pn**	**11 22 34.7**	**-0.4**
GCPR						**Sb**	**11 22 45.6**	**+0.8**
GCPR	**Guaynabo City**	**0.75**	**178**	IAML			11 22 45.9	
	comp=E,2μm,0.7s							
GCPR				IAML			11 22 46.2	
	comp=N,2μm,0.3s							
CBYP	**Canovanas**	**0.82**	**163**	↑*e*P		**Pn**	**11 22 35.9**	**-0.3**
CBYP	**Canovanas**	**0.82**	**163**	↑*e*P		**Pn**	**11 22 35.9**	**-0.3**
CBYP				*e*S		**Sb**	**11 22 47.6**	**+0.7**
CBYP	**Canovanas**	**0.82**	**163**			**Pn**	**11 22 35.9**	**-0.3**
CBYP						**Sb**	**11 22 47.6**	**+0.7**
AOPR	**Arecibo Observ**	**0.93**	**220**	↓*i*P		**Pn**	**11 22 37.2**	**-0.5**
AOPR	**Arecibo Observ**	**0.93**	**220**	*e*P		**Pn**	**11 22 37.1**	**-0.6**
AOPR	**Arecibo Observ**	**0.93**	**220**	↓*i*P		**Pn**	**11 22 37.2**	**-0.5**
AOPR				*e*S		**Sn**	**11 22 50.0**	**-0.1**
AOPR	**Arecibo Observ**	**0.93**	**220**			**Pn**	**11 22 37.2**	**-0.5**
AOPR						**Sn**	**11 22 49.8**	**-0.3**
SJG	**San Juan**	**0.95**	**182**	Pg		**Pn**	**11 22 37.8**	**0.0**
SJG				IAML			11 22 52.7	
	comp=N,2μm,0.4s							
SJG				IAML			11 22 54.8	
	comp=N,1μm,0.4s							
HUMP	**Col San Antoni**	**0.95**	**164**	↑*e*P		**Pn**	**11 22 37.5**	**-0.4**
HUMP	**Col San Antoni**	**0.95**	**164**	↑*e*P		**Pn**	**11 22 37.5**	**-0.4**
HUMP				*e*S		**Sn**	**11 22 50.4**	**-0.1**
HUMP	**Col San Antoni**	**0.95**	**164**			**Pn**	**11 22 37.5**	**-0.4**
HUMP						**Sn**	**11 22 50.4**	**-0.1**
HUMP	**Col San Antoni**	**0.95**	**164**	IAML			11 22 54.1	
	comp=E,2μm,0.2s							
HUMP				IAML			11 23 00.1	
	comp=N,854nm,0.2s							
PDPR	**Patillas Dam,**	**1.04**	**175**	Pg		**Pn**	**11 22 39.2**	**+0.1**
PDPR				IAML			11 22 54.0	
	comp=E,1μm,0.7s							
CELP	**Cerrillos**	**1.07**	**204**	↓*e*P		**Pn**	**11 22 39.4**	**-0.2**
CELP	**Cerrillos**	**1.07**	**204**	↓*e*P		**Pn**	**11 22 39.4**	**-0.2**
CELP				*e*S		**Sn**	**11 22 53.6**	**0.0**
CELP	**Cerrillos**	**1.07**	**204**			**Pn**	**11 22 39.4**	**-0.2**
CELP						**Sn**	**11 22 53.6**	**0.0**
CUPR	**Culebra, Puert**	**1.09**	**133**	↑*e*P		**Pn**	**11 22 39.0**	**-0.7**
CUPR	**Culebra, Puert**	**1.09**	**133**	*e*S		**Sn**	**11 22 52.9**	**-1.0**
CUPR	**Culebra, Puert**	**1.09**	**133**			**Pn**	**11 22 39.0**	**-0.7**
CUPR						**Sn**	**11 22 52.9**	**-1.0**
CUPR	**Culebra, Puert**	**1.09**	**133**	IAML			11 22 55.3	
	comp=N,935nm,0.4s							
IGPR	**InterUniversit**	**1.09**	**179**	↓*e*P		**Pn**	**11 22 40.0**	**+0.3**
IGPR	**InterUniversit**	**1.09**	**179**	*e*S		**Sn**	**11 22 53.9**	**0.0**
IGPR	**InterUniversit**	**1.09**	**179**	Pn		**Pn**	**11 22 40.3**	**+0.5**
IGPR						**Sb**	**11 22 55.7**	**+1.3**
MTP	**Monte Pirata**	**1.10**	**151**	↑*e*P		**Pn**	**11 22 39.8**	**-0.1**
MTP	**Monte Pirata**	**1.10**	**151**	↑*e*P		**Pn**	**11 22 39.8**	**-0.1**
MTP				*e*S		**Sn**	**11 22 54.0**	**-0.2**
MTP	**Monte Pirata**	**1.10**	**151**			**Pn**	**11 22 39.8**	**-0.1**
MTP						**Sn**	**11 22 54.0**	**-0.2**
MTP	**Monte Pirata**	**1.10**	**151**	IAML			11 22 58.4	
	comp=E,979nm,0.3s							
MTP				IAML			11 23 01.2	
	comp=N,906nm,0.2s							
AGPR	**Aguadilla, PR**	**1.11**	**238**	↓*e*P		**Pn**	**11 22 39.5**	**-0.5**
AGPR	**Aguadilla, PR**	**1.11**	**238**	↓*e*P		**Pn**	**11 22 39.5**	**-0.5**
AGPR				*e*S		**Sn**	**11 22 54.3**	**-0.2**
AGPR	**Aguadilla, PR**	**1.11**	**238**			**Pn**	**11 22 39.5**	**-0.5**
AGPR						**Sn**	**11 22 54.3**	**-0.2**
AGPR	**Aguadilla, PR**	**1.11**	**238**	IAML			11 23 01.5	
	comp=E,760nm,0.3s							
OBIP	**Obispado Ponce**	**1.11**	**205**	↓*e*P		**Pn**	**11 22 39.1**	**-1.0**
OBIP	**Obispado Ponce**	**1.11**	**205**	↓*e*P		**Pn**	**11 22 39.1**	**-1.0**
OBIP				*e*S		**Sn**	**11 22 53.8**	**-0.8**
OBIP	**Obispado Ponce**	**1.11**	**205**			**Pn**	**11 22 39.1**	**-1.0**
OBIP						**Sn**	**11 22 53.8**	**-0.8**
OBIP	**Obispado Ponce**	**1.11**	**205**	IAML			11 23 01.2	
	comp=E,719nm,0.5s							
ICMP	**Isla Caja de M**	**1.23**	**198**	↑*e*P		**Pn**	**11 22 42.4**	**+0.6**
ICMP	**Isla Caja de M**	**1.23**	**198**	*e*S		**Sb**	**11 22 58.6**	**+0.1**
ICMP	**Isla Caja de M**	**1.23**	**198**			**Pn**	**11 22 42.4**	**+0.6**
ICMP						**Sb**	**11 22 58.6**	**+0.1**
LSP	**Las Mesas**	**1.27**	**226**	↑*e*P		**Pn**	**11 22 42.1**	**-0.2**
LSP	**Las Mesas**	**1.27**	**226**	↑*e*P		**Pn**	**11 22 42.1**	**-0.2**
LSP				*e*S		**Sn**	**11 22 57.8**	**-0.8**
GBPR	**Guanica, Bosqu**	**1.30**	**214**	↓*e*P		**Pn**	**11 22 43.0**	**+0.3**
GBPR	**Guanica, Bosqu**	**1.30**	**214**	↓*e*P		**Pn**	**11 22 43.0**	**+0.3**
STVI	**Saint Thomas**	**1.31**	**122**	↑*e*P		**Pn**	**11 22 42.5**	**-0.2**
STVI	**Saint Thomas**	**1.31**	**122**	↑*e*P		**Pn**	**11 22 42.5**	**-0.2**
STVI				*e*S		**Sn**	**11 22 58.9**	**-0.5**
STVI	**Saint Thomas**	**1.31**	**122**			**Pn**	**11 22 42.5**	**-0.2**
STVI						**Sn**	**11 22 58.9**	**-0.5**
STVI	**Saint Thomas**	**1.31**	**122**	IAML			11 22 59.6	
	comp=E,1μm,0.2s							
STVI				IAML			11 23 04.3	
	comp=N,1μm,0.2s							
MLPR	**Magueyes Islan**	**1.40**	**219**	↑*e*P		**Pn**	**11 22 44.0**	**0.0**
MLPR	**Magueyes Islan**	**1.40**	**219**	*e*S		**Sn**	**11 23 02.0**	**+0.4**
MLPR	**Magueyes Islan**	**1.40**	**219**			**Pn**	**11 22 44.0**	**0.0**
MLPR						**Sn**	**11 23 02.0**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.41**	**222**	↑*e*P		**Pn**	**11 22 44.0**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.41**	**222**	↑*e*P		**Pn**	**11 22 44.0**	**-0.2**
CRPR				*e*S		**Sn**	**11 23 02.0**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.41**	**222**			**Pn**	**11 22 44.0**	**-0.2**
CRPR						**Sn**	**11 23 02.0**	**+0.2**
IDE	**Isla Desecheo**	**1.45**	**243**	↑*e*P		**Pn**	**11 22 43.7**	**-1.0**
IDE	**Isla Desecheo**	**1.45**	**243**	↑*e*P		**Pn**	**11 22 43.7**	**-1.0**
IDE				*e*S		**Sn**	**11 23 02.3**	**-0.6**
TBVI	**Tortola**	**1.56**	**114**	↑*e*P		**Pn**	**11 22 46.0**	**-0.3**
TBVI	**Tortola**	**1.56**	**114**	↑*e*P		**Pn**	**11 22 46.0**	**-0.3**
TBVI				*e*S		**Sn**	**11 23 05.5**	**-0.1**
ABVI	**Anegada Island**	**1.72**	**101**			**Pn**	**11 22 48.4**	**0.0**
ABVI	**Anegada Island**	**1.72**	**101**	IAML			11 23 26.5	
	comp=E,378nm,0.6s							
ABVI				IAML			11 23 29.6	
	comp=N,378nm,0.5s							
VGBI	**Virgin Gorda,**	**1.72**	**109**	↑*e*P		**Pn**	**11 22 48.7**	**+0.2**
VGBI	**Virgin Gorda,**	**1.72**	**109**			**Pn**	**11 22 48.7**	**+0.2**
ABV	**Anegada**	**1.72**	**101**	↑*e*P		**Pn**	**11 22 48.4**	**0.0**
ABV	**Anegada**	**1.72**	**101**	↑*e*P		**Pn**	**11 22 48.4**	**0.0**
CDVI	**St. Croix**	**1.83**	**135**	↑*e*P		**Pb**	**11 22 51.9**	**-1.3**
CDVI	**St. Croix**	**1.83**	**135**	*e*S		**Sn**	**11 23 13.5**	**+1.3**
CDVI	**St. Croix**	**1.83**	**135**	*e*P		**Pb**	**11 22 51.8**	**-1.3**
CDVI				*e*S		**Sb**	**11 23 15.5**	**-0.1**
CDVI	**St. Croix**	**1.83**	**135**			**Pb**	**11 22 51.9**	**-1.3**
CDVI						**Sn**	**11 23 13.5**	**+1.3**
PCDR	**Punta Cana, DR**	**2.21**	**256**	↓*e*P		**Pn**	**11 22 55.9**	**+0.7**
PCDR	**Punta Cana, DR**	**2.21**	**256**	↓*e*P		**Pn**	**11 22 55.9**	**+0.7**
PCDR				*e*S		**Sn**	**11 23 21.6**	**-0.1**
PCDR	**Punta Cana, DR**	**2.21**	**256**			**Pn**	**11 22 55.9**	**+0.7**
PCDR						**Sn**	**11 23 21.6**	**-0.1**
PCDR	**Punta Cana, DR**	**2.21**	**256**	IAML			11 23 40.5	
	comp=N,211nm,0.9s							
SMRT	**St. Maarten**	**3.06**	**109**	*e*P		**Pn**	**11 23 08.5**	**+1.6**
SMRT				*e*S		**Sn**	**11 23 43.3**	**+0.8**
DR12	**Loma Pena Alta**	**3.10**	**265**			**Pn**	**11 23 07.2**	**-0.3**
SKI	**Saint Kitts**	**3.64**	**118**	*e*P		**Pn**	**11 23 16.4**	**+1.5**
SKI				*e*S		**Sn**	**11 23 58.3**	**+1.3**
BANI	**BANI**	**4.07**	**261**	Pn		**Pn**	**11 23 24.1**	**+3.1**
ANWB	**Willy Bob**	**4.34**	**108**	*e*P		**Pn**	**11 23 25.1**	**+0.6**
ANWB	**Willy Bob**	**4.34**	**108**	*e*S		**Sn**	**11 24 13.7**	**-0.5**
ANOC	**Antigua Open C**	**4.51**	**115**	*e*P		**Pn**	**11 23 28.1**	**+1.2**
ANOC	**Antigua Open C**	**4.51**	**115**	*e*S		**Sn**	**11 24 18.9**	**+0.5**
ANBD	**Bethesda, Anti**	**4.60**	**115**	*e*P		**Pn**	**11 23 28.4**	**+0.3**
ANBD	**Bethesda, Anti**	**4.60**	**115**	*e*S		**Sn**	**11 24 19.4**	**-1.2**
SDDR	**Presa de Saban**	**4.89**	**270**	Pn		**Pn**	**11 23 33.2**	**+1.0**
SDDR				IAML			11 25 02.4	
	comp=N,46nm,1.4s							
SDDR				IAML			11 25 04.6	
	comp=N,58nm,0.9s							
GRTK	**Grand Turk**	**5.30**	**298**	Pn		**Pn**	**11 23 34.8**	**-3.0**

*IDC **17** 11:23:13.6±1.0, 31°.42S×71°.68W, h0km, mb4.3/4, mb1 4.1/7, mb1mx3.9/28, mbtmp4.0/7, ML3.9/3, Error ellipse: s-maj=41.7km s-min=22.2km az=94.0*
*NEIC **17** 11:23:14.4±2.2, 31°.43S±0°.04×71°.8W±0°.1, h1km±1km, Error ellipse: s-maj=14.7km s-min=5.5km az=97.0*
*GUC **17** 11:23:18.6±0.7, 31°.43S×71°.73W, h29km±3km, ML4.1*
ISC 17 11:23:15.5±1.4, **31°.44S**±0°.03×**71°.74W**±0°.07, **h13**km±9km, **n49**, σ0°.**94**/54, **mb4.4/6, 1C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.76**	**7**	*e*P		**Pn**	**11 23 32.4**	**+0.4**
CO06				*i* S		**Sn**	**11 23 42.9**	**-0.4**
CO06				IAML			11 23 50.5	
	comp=E,19μm,0.3s							
CO06	**Fray Jorge**	**0.76**	**7**			**Pn**	**11 23 32.5**	**+0.5**
CO03	**El Pedregal**	**1.08**	**57**	↓*e*P		**Pg**	**11 23 37.7**	**+1.3**
CO03				*e*S		**Sn**	**11 23 52.3**	**+1.0**
CO03				IAML			11 23 55.8	
	comp=N,8μm,0.2s							
CO03	**El Pedregal**	**1.08**	**57**			**Pg**	**11 23 37.6**	**+1.2**
GO04	**Tololo Observa**	**1.50**	**33**	↓*e*P		**Pg**	**11 23 44.5**	**+0.2**
GO04				*i* S		**Sg**	**11 24 03.7**	**-0.1**
GO04	**Tololo Observa**	**1.50**	**33**	Pn		**Pn**	**11 23 42.9**	**+0.6**
VA01	**Torpederas**	**1.59**	**177**	*e*P		**Pg**	**11 23 46.0**	**0.0**
VA01	**Torpederas**	**1.59**	**177**			**Pn**	**11 23 42.4**	**-0.9**
ROCH	**El Roble**	**1.65**	**158**	*e*P		**Pb**	**11 23 46.1**	**+0.1**
ROCH				*e*S		**Sg**	**11 24 08.4**	**-0.4**
ROCH				IAML			11 24 13.4	
	comp=N,3μm,0.5s							
VA03	**San Esteban**	**1.67**	**143**	*e*P		**Pb**	**11 23 46.8**	**+0.7**
VA03				*e*S		**Sg**	**11 24 08.9**	**-0.3**
VA03				IAML			11 24 12.1	
	comp=E,4μm,0.6s							
VA03	**San Esteban**	**1.67**	**143**			**Pn**	**11 23 43.3**	**-1.2**
MT05	**Renca**	**2.13**	**157**	*e*P		**Pb**	**11 23 53.6**	**-0.4**
MT05				*e*S		**Sb**	**11 24 20.9**	**+0.6**
MT05				IAML			11 24 24.9	
	comp=N,1μm,0.5s							
MT05	**Renca**	**2.13**	**157**			**Pn**	**11 23 49.9**	**-0.9**
VA05	**Santo Domingo**	**2.22**	**177**	*e*P		**Pb**	**11 23 55.7**	**+0.2**
VA05				*e*S		**Sb**	**11 24 23.6**	**+0.8**
VA05				IAML			11 24 32.7	
	comp=E,2μm,0.5s							
VA05	**Santo Domingo**	**2.22**	**177**			**Pn**	**11 23 52.5**	**+0.5**
MT09	**Talagante**	**2.42**	**165**	↑*e*P		**Pb**	**11 23 57.3**	**-1.7**
MT09				*e*S		**Sb**	**11 24 27.1**	**-1.7**
MT09				IAML			11 24 38.8	
	comp=N,878nm,0.3s							
MT09	**Talagante**	**2.42**	**165**			**Pn**	**11 23 56.0**	**+1.1**
MT01	**Popeta**	**2.46**	**170**	*e*P		**Pb**	**11 23 57.6**	**-1.9**
MT01				*i* S		**Sb**	**11 24 29.3**	**-0.5**
MT01	**Popeta**	**2.46**	**170**			**Pn**	**11 23 56.3**	**+1.0**
LCO	**Las Campanas**	**2.58**	**21**	*e*P		**Pb**	**11 24 00.5**	**-1.3**
LCO				*e*S		**Sb**	**11 24 32.6**	**-0.9**
ZON	**Zonda**	**2.62**	**93**			**Pn**	**11 23 57.7**	**+0.2**
LMEL	**Las Melosas**	**2.73**	**152**	↓*e*P		**Pb**	**11 24 02.0**	**-2.3**
LMEL				*i* S		**Sb**	**11 24 36.5**	**-1.4**
LMEL				IAML			11 24 42.5	
	comp=N,558nm,0.5s							
AC04	**Llanos de Chal**	**3.27**	**10**			**Pn**	**11 24 05.6**	**-0.8**
GO03	**Copiap**	**4.05**	**19**			**Pn**	**11 24 15.4**	**-1.8**
AC02	**Maricunga**	**5.12**	**27**	Pn		**Pn**	**11 24 32.0**	**-0.3**
H03N1	**Juan Fernandez**	**6.38**	**250**	T		T	11 31 01.4	
	baz=72							
H03N3	**Juan Fernandez**	**6.40**	**250**	T		T	11 30 59.2	
	baz=72							
H03N2	**Juan Fernandez**	**6.40**	**250**	T		T	11 31 02.6	
	baz=72							
LC01	**Cunco**	**7.45**	**181**	Pn		**Pn**	**11 25 04.3**	**+0.5**
PB06	**IPOC Station P**	**8.91**	**13**	Pn		**Pn**	**11 25 24.4**	**+0.3**
LVC	**Limon Verde**	**9.14**	**17**	Pn		**Pn**	**11 25 26.0**	**-1.5**
	comp=N,0.4nm,0.3s,baz=159,slow=13,SNR=1.3							
LVC	**Limon Verde**	**9.14**	**17**	Pn		**Pn**	**11 25 26.2**	**-1.3**
PLCA	**Paso Flores**	**9.33**	**174**	Pn		**Pn**	**11 25 30.9**	**+1.1**
	comp=N,0.6nm,0.3s,baz=343,slow=14,SNR=14							
PB07	**IPOC Station P**	**9.81**	**10**	Pn		**Pn**	**11 25 36.9**	**+0.4**
SIV	**San Ignacio**	**18.20**	**35**	P		**P**	**11 27 28.9**	**+0.8**
	comp=N,0.3nm,0.3s,baz=250,slow=12,SNR=3.0							
SNAA	**Sanae**	**53.87**	**159**	P		**P**	**11 32 38.3**	**+0.3**
	comp=N,1.4nm,0.8s,baz=280,slow=11,SNR=5.8							
SNAA	**Sanae**	**53.87**	**159**	IAmb		IAmb	11 32 39.3	
	comp=Z,3.4nm,1.1s							
QSPA	**South Pole Qui**	**58.79**	**180**	P		**P**	**11 33 14.1**	**+0.8**
QSPA				IAmb		IAmb	11 33 18.3	
	comp=Z,7.3nm,1.5s							
TXAR	**Lajitas Array**	**67.63**	**330**	P		**P**	**11 34 12.6**	**+0.4**
	comp=Z,0.2nm,0.8s,baz=150,slow=9.1,SNR=2.6							
DBIC	**Dimbokro**	**74.13**	**72**	P		**P**	**11 34 51.6**	**-0.3**
	comp=Z,5.9nm,0.8s,baz=231,slow=12,SNR=12							
DBIC	**Dimbokro**	**74.13**	**72**	IAmb		IAmb	11 35 00.8	
	comp=Z,28nm,1.5s							
MAW	**Mawson**	**75.56**	**164**	P		**P**	**11 34 59.4**	**0.0**
	comp=Z,0.4nm,0.3s,baz=264,slow=9.2,SNR=1.7							
MAW	**Mawson**	**75.56**	**164**	IAmb		IAmb	11 35 05.0	
	comp=Z,0.9nm,1.2s							
TORD	**Torodi Ar. Bea**	**83.10**	**70**	P		**P**	**11 35 41.0**	**-0.4**
	comp=Z,3.1nm,0.7s,baz=267,slow=4.8,SNR=16							
TORD	**Torodi Ar. Bea**	**83.10**	**70**	P		**P**	**11 35 41.0**	**-0.4**
TORD				IAmb		IAmb	11 35 42.1	
	comp=Z,4.0nm,0.8s							
WRA	**Warramunga Arr**	**123.11**	**210**	PKP		**PKPdf**	**11 42 11.8**	**-0.7**
	comp=Z,0.6nm,1.1s,baz=155,slow=4.1,SNR=1.8							
BVAR	**Borovoye Array**	**145.21**	**41**	PKPbc		**PKPdf**	**11 42 52.8**	**+0.4**
	comp=Z,1.5nm,0.4s,baz=250,slow=5.0,SNR=8.1							
ZALV	**Zalesovo Beam**	**151.91**	**30**	PKPbc		**PKPbc**	**11 43 09.7**	**0.0**
	comp=Z,6.0nm,0.7s,baz=291,slow=3.6,SNR=13							
ZALV	**Zalesovo Beam**	**151.91**	**30**			**PKPbc**	**11 43 09.5**	**-0.2**

*IDC **17** 11:23:30.6±1.2, 30°.41S×72°.59W, h0km, mb4.0/4, mb1 4.1/7, mb1mx3.9/30, mbtmp4.0/7, ML3.9/3, Error ellipse: s-maj=52.0km s-min=23.2km az=88.0*
ISC 17 11:23:33.0±1.1, **30°.38S**±0°.10×**72°.5W**±0°.3, **h19**km, **n11**, σ0°**96**/**11**, **mb4.2/4, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**10.45**	**172**	Pn		**Pn**	**11 26 00.6**	**-1.4**
	0.2nm,0.3s,baz=344,slow=12,SNR=4.2							
LPAZ	**La Paz**	**14.60**	**17**	Pn		**Pn**	**11 26 58.4**	**-0.8**
	0.1nm,0.3s,baz=193,slow=6.4,SNR=2.1							
SIV	**San Ignacio**	**17.76**	**39**	P		**P**	**11 27 39.9**	**-0.2**
	0.5nm,0.3s,baz=225,slow=11,SNR=13							
VNA3	**Neumayer Olymp**	**52.87**	**159**	P		**P**	**11 32 47.3**	**+0.1**
VNA2	**Neumayer--Watz**	**53.51**	**158**	P		**P**	**11 32 52.4**	**+0.6**
	baz=288,slow=8.4							
SNAA	**Sanae**	**55.09**	**159**	P		**P**	**11 33 04.0**	**+0.6**
SNAA	**Sanae**	**55.09**	**159**	P		**P**	**11 33 03.8**	**+0.3**
	3.4nm,0.6s,baz=285,slow=7.5,SNR=26							
TXAR	**Lajitas Array**	**66.39**	**330**	P		**P**	**11 34 20.5**	**-0.4**
	0.2nm,0.7s,baz=156,slow=6.9,SNR=2.9							
MAW	**Mawson**	**76.76**	**164**	P		**P**	**11 35 23.4**	**+0.6**
	0.8nm,0.5s,baz=187,slow=8.1,SNR=1.7							
TORD	**Torodi Ar. Bea**	**83.39**	**71**	P		**P**	**11 35 59.8**	**+0.4**
	1.2nm,0.5s,baz=235,slow=6.8,SNR=5.8							
ZALV	**Zalesovo Beam**	**151.32**	**28**	PKPbc		**PKiKP**	**11 43 27.2**	**+1.8**
	5.8nm,0.6s,baz=301,slow=3.5,SNR=10							

*IDC **17** 11:24:29.9±0.7, 30°.92S×72°.62W, h0km, mb4.2/8, mb1 4.4/11, mb1mx4.3/28, mbtmp4.3/11, ML4.2/3, Error ellipse: s-maj=29.5km s-min=18.6km az=81.0*
*NEIC **17** 11:24:31.9±2.1, 30°.89S±0°.07×72°.64W±0°.05, h10km±1km, mb4.5/13, Error ellipse: s-maj=12.8km s-min=6.6km az=161.0*
ISC 17 11:24:35.1±0.6, **30°.89S**±0°.07×**72°.5W**±0°.1, **h35**km, **n41**,
σ0°**96**/33, **mb4.3**/13, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.76**	**74**	Pg		**Pn**	**11 24 48.6**	**-0.8**
CO06				Sg		**Sn**	**11 25 00.5**	**+0.8**
AC02	**Maricunga**	**5.00**	**37**	Pn		**Pn**	**11 25 46.5**	**-1.6**
VA04	**Juan Fernndez**	**6.03**	**241**	Pn		Pn	11 25 55.8	-6.1
PB14	**IPOC Station P**	**6.51**	**17**	Pn		**Pn**	**11 26 06.3**	**-2.5**
LC01	**Cunco**	**8.00**	**177**	Pn		**Pn**	**11 26 26.7**	**-2.2**
PLCA	**Paso Flores**	**9.94**	**171**	Pn		**Pn**	**11 26 55.0**	**-0.6**
	0.7nm,0.3s,baz=340,slow=13,SNR=12							
LPAZ	**La Paz**	**15.07**	**16**	Pn		**Pn**	**11 28 06.3**	**+0.1**
	0.2nm,0.3s,baz=182,slow=8.6,SNR=6.0							
LPAZ	**La Paz**	**15.07**	**16**	Pn		**Pn**	**11 28 06.3**	**+0.1**
SIV	**San Ignacio**	**18.13**	**38**	P		**Pn**	**11 28 44.0**	**-0.3**
	0.7nm,0.3s,baz=225,slow=10.0,SNR=27							
USHA	**Ushuaia**	**24.10**	**174**	P		**P**	**11 29 46.5**	**-0.7**
	26nm,0.6s,baz=9.7,slow=17,SNR=2.4							
BDFB	**Brasilia**	**27.04**	**61**	P		**P**	**11 30 15.2**	**+0.8**
	8.5nm,0.9s,baz=238,slow=9.5,SNR=4.1							
BDFB	**Brasilia**	**27.04**	**61**	IAmb		IAmb	11 30 23.9	
	comp=Z,11nm,1.1s							
RUSC	**La Rusia**	**36.58**	**359**	P		**P**	**11 31 39.1**	**+0.7**
RUSC				IAmb		IAmb	11 31 44.4	
	comp=Z,11nm,0.8s							
VNA3	**Neumayer Olymp**	**52.38**	**159**	P		**P**	**11 33 44.5**	**+1.1**
VNA2	**Neumayer--Watz**	**53.02**	**158**	P		**P**	**11 33 49.0**	**+0.9**
	baz=287,slow=8.4							
SNAA	**Sanae**	**54.60**	**159**	P		**P**	**11 34 00.7**	**+0.9**
SNAA	**Sanae**	**54.60**	**159**	P		**P**	**11 34 00.6**	**+0.9**
	comp=Z,5.4nm,0.6s,baz=278,slow=7.8,SNR=15							
SNAA	**Sanae**	**54.60**	**159**	P		**P**	**11 34 00.3**	**+0.6**
QSPA	**South Pole Qui**	**59.33**	**180**	P		**P**	**11 34 34.1**	**+0.6**
QSPA				IAmb		IAmb	11 34 35.5	
	comp=Z,5.3nm,0.9s							
TX31	**Lajitas Ar. Si**	**66.85**	**331**	P		**P**	**11 35 23.6**	**0.0**
TX32	**Lajitas Array**	**66.85**	**331**	P		**P**	**11 35 24.1**	**+0.5**
TX32				IAmb		IAmb	11 35 37.4	
	comp=Z,2.9nm,1.1s							
TXAR	**Lajitas Array**	**66.85**	**331**	P		**P**	**11 35 23.6**	**0.0**
	comp=Z,1.1nm,0.8s,baz=150,slow=8.4,SNR=11							
TXAR	**Lajitas Array**	**66.85**	**331**	P		**P**	**11 35 24.0**	**+0.4**
MNTX	**Cornudas Mount**	**69.63**	**330**	P		**P**	**11 35 39.8**	**-1.1**
MNTX				IAmb		IAmb	11 35 42.3	
	comp=Z,2.5nm,0.8s							
CCM	**Cathedral Cave**	**70.80**	**344**	P		**P**	**11 35 47.3

ESL	**Shilin**	**0.57**	**225**	*e*P		Pb	11 29 31.3	-0.5		
	baz=224									
FUSS	**Fushou**	**0.57**	**273**	*e*P		Pb	11 29 32.2	+0.1		
	baz=273									
FUSS				*e*S		Sb	11 29 40.3	+0.4		
	baz=273									
YHNB	**Yeheng**	**0.64**	**315**	*e*P		Pb	11 29 33.4	+0.3		
	baz=315									
NWLT	**Wulai**	**0.65**	**329**	*e*P		Pb	11 29 33.5	+0.3		
	baz=329									
NWLT				*e*S		Sb	11 29 42.0	0.0		
	baz=329									
TDCB	**Techi**	**0.65**	**273**	*e*S		Sb	11 29 42.7	+0.6		
	baz=273									
CHGB	**Renai**	**0.66**	**256**	*e*S		Sb	11 29 40.6	-1.7		
	baz=256									
TIPB	**Shuangxi**	**0.75**	**357**	*e*P		Pb	11 29 35.2	+0.2		
	baz=356									
TIPB				*e*S		Sn	11 29 46.8	+0.3		
	baz=356									

*IDC **17** 11:30:33.8±0.8, 67.˙84N×20.˚53E, h0km, mb3.4/3, mb1 3.4/9, mb1mx3.3/57, mbtmp3.3/9, ML2.5/5, Error ellipse: s-maj=15.5km s-min=6.8km az=117.0*
*NAO **17** 11:30:33.8±1.1, 67.˚80N×20.˚62E, ML3.1*
*HEL **17** 11:30:34.2±0.1, 67.˚84N×20.˚19E, h1km, ML2.3, ML2.4(UPP), Confirmed Induced event*
*BER **17** 11:30:35.5±2.6, 67.˚83N×20.˚26E, h1km, ML2.4, ML3.1(NAO), Confirmed Induced event*

ISC 17 11:30:32.5±0.6, **67.˙78N**±0.˚02×**20.˚24E**±0.˚02, **h0**km, **n48, σ1°20/88, mb3.6/3, 8D, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID		ISC	Time	Res
					Op			h m s	ISC
KUA	**Kurravaara**	**0.18**	**12**	⇓*i*P			**Pg**	**11 30 36.2**	**+0.3**
KUA				*i* S			**Sg**	**11 30 38.1**	**-0.1**
RATU	**Laukkuluspa**	**0.25**	**280**	⇓*i*P			**Pg**	**11 30 38.2**	**+0.9**
RATU				*i* S			**Sg**	**11 30 41.4**	**+0.8**
KOVU	**Salmi**	**0.45**	**356**	⇓*i*P			**Pg**	**11 30 41.0**	**0.0**
KOVU				*i* S			**Sg**	**11 30 46.1**	**-0.6**
NIKU	**Nikkaluokta**	**0.47**	**281**	⇓*i*P			**Pg**	**11 30 42.0**	**+0.6**
NIKU				*i* S			**Sg**	**11 30 48.1**	**+0.7**
DUNU	**Dundret**	**0.68**	**169**	⇓*i*P			**Pb**	**11 30 47.1**	**-0.1**
DUNU				*i* S			**Sb**	**11 30 57.1**	**+0.1**
MASU	**Masugnsbyn**	**0.75**	**115**	*i* P			**Pb**	**11 30 48.2**	**-0.2**
MASU				*i* S			**Sb**	**11 30 59.0**	**0.0**
KIF	**Kilpisjarvi**	**1.25**	**9**	Pg			**Pg**	**11 30 56.4**	**+0.1**
KIF				Lg			Lg	11 31 12.5	
KIF	**Kilpisjarvi**	**1.25**	**9**	*e*P			**Pg**	**11 30 56.5**	**+0.2**
KIF				*e*S			**Sb**	**11 31 13.6**	**+0.2**
KIF	**Kilpisjarvi**	**1.25**	**9**	*e*P			**Pg**	**11 30 56.6**	**+0.2**
KIF				*e*S			**Sg**	**11 31 12.4**	**0.0**
KIF				MSG				11 31 15.2	
	comp=Z,33nm,0.1s								
PAJU	**Pajala**	**1.34**	**123**	*e*P			**Pn**	**11 30 58.7**	**+0.2**
PAJU				*e*S			**Sn**	**11 31 17.0**	**0.0**
HEF	**Hetta**	**1.43**	**62**	Pg			**Pn**	**11 30 59.2**	**-0.4**
HEF				Lg			Lg	11 31 17.0	
HEF				Rg			Rg	11 31 22.5	
HEF	**Hetta**	**1.43**	**62**	⇓*i*P			**Pn**	**11 30 59.5**	**-0.1**
HEF				*e*S			**Sg**	**11 31 17.9**	**-0.5**
HEF	**Hetta**	**1.43**	**62**	*e*P			**Pn**	**11 30 59.5**	**-0.1**
HEF				*e*S			**Sg**	**11 31 17.8**	**-0.5**
HEF				MSG				11 31 24.1	
	comp=Z,27nm,0.2s								
ERTU	**Ertsjaerv**	**1.45**	**147**	*e*P			**Pb**	**11 31 00.8**	**+0.5**
ERTU				*e*S			**Sn**	**11 31 21.0**	**+1.4**
KLF	**Kolari**	**1.53**	**109**	*e*P			**Pg**	**11 31 02.0**	**+0.2**
KLF				*e*S			**Sn**	**11 31 22.6**	**+1.0**
KLF				MSG				11 31 24.6	
	comp=Z,31nm,0.1s								
N2IH	**Innhavet**	**1.64**	**278**	*e*P			**Pn**	**11 31 03.3**	**+0.7**
N2IH				*e*S			**Sn**	**11 31 24.4**	**+0.1**
N2IH				IAML				11 31 30.3	
	comp=Z,75nm,0.4s								
KTK1	**Kautokeino**	**1.66**	**41**	Pn			**Pn**	**11 31 03.1**	**+0.3**
KTK1				Sn			**Sg**	**11 31 25.5**	**-0.3**
KTK1	**Kautokeino**	**1.66**	**41**	⇓*i*P			**Pn**	**11 31 03.1**	**+0.3**
KTK1				*e*S			**Sn**	**11 31 24.4**	**-0.5**
JETT	**Jettan, Norway**	**1.78**	**2**	Pn			**Pn**	**11 31 04.8**	**+0.2**
JETT				Sn			**Sn**	**11 31 27.5**	**-0.4**
JETT				Sg			**Sb**	**11 31 28.1**	**+0.4**
STEI	**Steigen**	**1.90**	**277**	*e*P			**Pb**	**11 31 08.0**	**0.0**
STEI				*e*S			**Sn**	**11 31 30.6**	**-0.1**
STEI				*e*Sg			**Sg**	**11 31 34.3**	**+0.8**
STEI				IAML				11 31 36.2	
	comp=Z,64nm,0.8s								
FAUS	**Fauske**	**1.94**	**260**	⇓*i*P			**Pb**	**11 31 08.3**	**-0.4**
FAUS				*e*S			**Sn**	**11 31 31.5**	**-0.2**
FAUS				IAML				11 31 37.1	
	comp=Z,61nm,0.4s								
TOF	**Tornio**	**2.35**	**135**	*e*P			**Pb**	**11 31 15.1**	**-0.5**
TOF				*e*SG			**Sg**	**11 31 47.5**	**-0.3**
TOF				MSG				11 31 48.6	
	comp=Z,14nm,0.1s								
SGF	**Sodankyl**	**2.43**	**95**	*e*P			**Pb**	**11 31 15.4**	**-1.6**
SGF				*e*S			**Sb**	**11 31 46.0**	**-1.4**
RNF	**Rovaniemi**	**2.54**	**115**	*e*P			**Pb**	**11 31 17.8**	**-1.1**
RNF				*e*SB			**Sb**	**11 31 51.6**	**+1.1**
LOF	**Lofoten**	**2.55**	**281**	*e*P			**Pn**	**11 31 16.6**	**+1.6**
LOF				*e*S			**Sn**	**11 31 47.0**	**+0.2**
LOF				IAML				11 31 58.6	
	comp=Z,34nm,0.5s								
ARA0	**ARCESS Array S**	**2.61**	**45**	Pn			**Pn**	**11 31 17.5**	**+1.6**
	baz=228,slow=14								
ARA0				Lg			Lg	11 31 51.1	
	baz=226,slow=28								
ARA0	**ARCESS Array S**	**2.61**	**45**	Pn			**Pn**	**11 31 17.0**	**+1.1**
	baz=228,slow=14								
ARA0	**ARCESS Array S**	**2.61**	**45**	*e*PB			**Pb**	**11 31 18.3**	**-1.8**
ARA0				*e*SB			**Sb**	**11 31 51.5**	**-1.2**
ARCES	**ARCESS Array B**	**2.61**	**45**	Pn			**Pn**	**11 31 16.8**	**+1.0**
	baz=228,slow=16,SNR=8.3								
ARCES				Lg			Lg	11 31 50.7	
	baz=230,slow=28,SNR=8.3								
N2SV	**S¸rv¥gen**	**2.75**	**276**	*e*P			**Pn**	**11 31 17.8**	**+0.1**
N2SV				*e*S			**Sn**	**11 31 49.5**	**-2.0**
N2SV				IAML				11 32 06.9	
	comp=Z,18nm,0.6s								
NBB40	**Tonnes**	**3.10**	**249**	*e*P			**Pn**	**11 31 23.6**	**+1.1**
NBB40				*e*S			**Sn**	**11 31 60.0**	**-0.2**
NBB40				IAML				11 32 19.6	
	comp=Z,27nm,0.4s								
HAMF	**Hammerfest**	**3.13**	**22**	*e*P			**Pn**	**11 31 23.7**	**+0.8**
HAMF				*e*S			**Sn**	**11 31 59.0**	**-1.9**
HAMF				IAML				11 32 03.1	
	comp=Z,33nm,0.5s								
KEV	**Kevo**	**3.16**	**48**	*e*P			**Pn**	**11 31 24.9**	**+1.5**
KEV				*e*S			**Sn**	**11 32 02.6**	**+0.8**
VRF	**Varrio**	**3.56**	**86**	*e*P			**Pn**	**11 31 30.4**	**+1.4**
VRF				*e*S			**Sn**	**11 32 12.8**	**+1.2**
APA0	**Apatity Array**	**4.86**	**86**	Pn			**Pn**	**11 31 46.8**	**+0.1**
	baz=282,slow=12								
APA0				Pg			**Pb**	**11 32 00.1**	**+1.7**
	baz=276,slow=18								
APA0				Sn			**Sn**	**11 32 42.7**	**-0.9**
	baz=283,slow=28								
APA0				Lg			Lg	11 33 00.8	
	baz=288,slow=22								
APA0	**Apatity Array**	**4.86**	**86**	Pn			**Pn**	**11 31 46.8**	**+0.1**
	baz=282,slow=12								
APA0				Pg			**Pb**	**11 32 00.1**	**+1.7**
	baz=276,slow=18								
APA0				Sn			**Sn**	**11 32 42.7**	**-0.9**
	baz=283,slow=28								
FIA0	**FINESS Array S**	**6.84**	**156**	Pn			**Pn**	**11 32 16.2**	**+2.4**
	baz=342,slow=16								
FIA0				Sn			**Sn**	**11 33 31.0**	**-1.2**
	baz=347,slow=28								
FIA0				Lg			Lg	11 34 02.7	
	baz=347,slow=28								
FIA0	**FINESS Array S**	**6.84**	**156**	Pn			**Pn**	**11 32 16.2**	**+2.4**
	baz=342,slow=16								
FIA0				Sn			**Sn**	**11 33 31.0**	**-1.2**
	baz=347,slow=28								
FINES	**FINESS Array B**	**6.84**	**156**	Pn			**Pn**	**11 32 16.0**	**+2.2**
	comp=Z,0.3nm,0.3s,baz=347,slow=11,SNR=12								
FINES				Sn			**Sn**	**11 33 32.3**	**0.0**
	comp=Z,0.3nm,0.3s,baz=351,slow=22,SNR=2.9								
FINES				Lg			Lg	11 34 02.9	
	comp=Z,0.3nm,0.3s,baz=344,slow=26,SNR=2.8								
NOA	**NORSAR Array B**	**7.81**	**214**	Pn			**Pn**	**11 32 27.6**	**+0.3**
	comp=Z,0.0nm,0.3s,baz=22,slow=11,SNR=2.8								
NOA				Lg			Lg	11 34 36.5	
	comp=Z,0.1nm,0.3s,baz=39,slow=17,SNR=5.9								
NRA0	**NORESS Array S**	**8.01**	**212**	Sn			**Sn**	**11 34 00.2**	**-1.0**
NRA0				Lg			Lg	11 34 43.6	
	baz=41,slow=22								
NRA0	**NORESS Array S**	**8.01**	**212**	Sn			**Sn**	**11 34 00.2**	**-1.0**
NRA0				Sg			**Sg**	**11 34 43.6**	**-5.9**
	baz=41,slow=22								
HFS	**Hagfors**	**8.20**	**204**	Pn			**Pn**	**11 32 32.3**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=19,slow=15,SNR=1.6								
HFS				Sn			**Sn**	**11 34 04.7**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=22,slow=24,SNR=2.4								
HFS				Lg			Lg	11 34 52.2	
	comp=Z,0.5nm,0.3s,baz=26,slow=28,SNR=3.3								
SPITS	**Spitsbergen Ar**	**10.51**	**356**	Pn			**Pn**	**11 33 04.3**	**+0.1**
	baz=165,slow=18,SNR=1.6								
AKASG	**Malin Array Be**	**17.70**	**161**	Pn			**Pn**	**11 34 36.6**	**-3.5**
	comp=Z,0.4nm,0.3s,baz=345,slow=11,SNR=1.6								
BVAR	**Borovoye Array**	**27.84**	**97**	P			**P**	**11 36 23.3**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=324,slow=14,SNR=2.1								
TORD	**Torodi Ar. Bea**	**55.93**	**202**	P			**P**	**11 40 12.8**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=8.4,slow=8.4,SNR=2.1								
TXAR	**Lajitas Array**	**74.60**	**311**	P			**P**	**11 42 14.3**	**+1.1**
	comp=Z,0.1nm,0.5s,baz=23,slow=4.9,SNR=2.3								

MEX 17 11:32:46.7±0.7, **15.˚93N**×**98.˚90W**, **h16**km±337km, **MD3.8, Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID		ISC	Time	Res
					Op			h m s	ISC
PNIG	**Pinotepa**	**0.87**	**58**	*i* P			Pb	11 33 00.0	-3.4
PNIG				*i* S			Sb	11 33 11.2	-3.7
MGIG	**Malinaltepec**	**1.32**	**11**	*i* P			Pn	11 33 07.2	-3.4
MGIG				*i* S			Sb	11 33 22.2	-5.4
PEIG	**Puerto Escondi**	**1.68**	**88**	*i* P			Pg	11 33 18.7	-0.4
PEIG				*i* S			Sn	11 33 30.6	-6.2
TXIG	**Tlaxiaco**	**1.70**	**39**	*i* P			Pn	11 33 13.5	-2.5
TXIG				*i* S			Sn	11 33 37.2	-0.4

*GUC **17** 11:32:50.3±0.5, 19.˚01S×69.˚19W, h128km±4km, ML3.2*
*IDC **17** 11:32:50.6±1.4, 19.˚04S×68.˚89W, h126km±12km, mb3.2/1, mb1 3.2/4, mb1mx3.0/36, mbtmp3.6/4, Error ellipse: s-maj=41.7km s-min=9.0km az=99.0*

ISC 17 11:32:49.3±1.0, **18.˚99S**±0.˚06×**69.˚2W**±0.˚1, **h125**km±9km, **n12, σ1°20/20, 3C, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		ISC	Time	Res
					Op			h m s	ISC
PB11	**IPOC Station P**	**0.88**	**208**	⇑*e*P			**Pn**	**11 33 11.2**	**+0.3**
PB11				*e*S			**Sn**	**11 33 27.8**	**+0.6**
PB11				IAML				11 33 28.9	
	comp=E,999nm,0.4s								
PSGC	**Pisagua**	**1.05**	**234**	⇑*e*P			**Pn**	**11 33 12.6**	**+0.2**
PSGC				*e*S			**Sn**	**11 33 30.1**	**+0.2**
PSGC				IAML				11 33 34.9	
	comp=E,314nm,0.5s								
PB08	**IPOC Station P**	**1.15**	**177**	⇑*e*P			**Pn**	**11 33 14.4**	**+0.7**
PB08				*e*S			**Sn**	**11 33 33.0**	**+0.8**
PB08				IAML				11 33 34.0	
	comp=E,726nm,0.3s								
PB08				IAML				11 33 35.0	
	comp=N,685nm,0.3s								
TA01	**Diego Aracena**	**1.82**	**210**	*e*P			**Pn**	**11 33 20.6**	**-0.2**
TA01				*e*S			**Sn**	**11 33 44.3**	**-0.5**
TA01				IAML				11 33 47.9	
	comp=N,130nm,0.3s								
PB01	**IPOC Station P**	**2.06**	**187**	*e*P			**Pn**	**11 33 24.3**	**+0.3**
PB01				*e*S			**Sn**	**11 33 50.2**	**-0.2**
PB01				IAML				11 33 51.4	
	comp=N,157nm,0.3s								
PB02	**IPOC Station P**	**2.41**	**195**	*e*P			**Pn**	**11 33 28.9**	**+0.6**
PB02				*e*S			**Sn**	**11 33 57.8**	**-0.5**
PB02				IAML				11 34 08.2	
	comp=E,236nm,0.4s								
LPAZ	**La Paz**	**2.87**	**21**	P			**Pn**	**11 33 35.9**	**+1.1**
	comp=E,3.5nm,0.3s,baz=194,slow=7.4,SNR=74								
LPAZ				S			**Sn**	**11 34 10.5**	**+0.9**
	comp=E,0.4nm,0.3s,baz=204,slow=25,SNR=3.9								
LVC	**Limon Verde**	**3.62**	**176**	P			**Pn**	**11 33 46.4**	**+2.2**
	comp=E,2.2nm,0.3s,baz=5.7,slow=10,SNR=6.5								
LVC				S			**Sn**	**11 34 26.4**	**-0.3**
	comp=E,2.5nm,0.3s,baz=311,slow=18,SNR=18								
SIV	**San Ignacio**	**8.32**	**70**	P			**Pn**	**11 34 43.5**	**-3.7**
	comp=E,1.5nm,0.3s,baz=231,slow=14,SNR=12								
TORD	**Torodi Ar. Bea**	**76.80**	**71**	P			**P**	**11 44 27.5**	**-0.3**
	comp=E,0.2nm,0.4s,baz=259,slow=5.8,SNR=4.5								
ASAR	**Alice Springs**	**131.98**	**209**	PKP			**PKPdf**	**11 51 49.3**	**+0.4**
	comp=E,0.3nm,0.7s,baz=134,slow=2.7,SNR=2.2								
WRA	**Warramunga Arr**	**134.94**	**212**	PKP			**PKiKP**	**11 51 55.8**	**-0.1**
	comp=E,0.6nm,0.9s,baz=159,slow=2.2,SNR=2.1								

IDC 17 11:34:38.0±2.7, **30.˚57S**×**71.˚65W**, **h0**km, **mb3.7**/2, **mb1 3.7**/4, **mb1mx3.5**/25, **mbtmp3.7**/4, **ML3.7**/2, **Error ellipse: s-maj=111.4km s-min=34.2km az=97.0, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		ISC	Time	Res
					Op			h m s	ISC
H03N1	**Juan Fernandez**	**6.80**	**243**	T			T	11 43 29.2	
	baz=71,slow=72,SNR=54								
H03N2	**Juan Fernandez**	**6.82**	**243**	T			T	11 43 13.2	
	baz=71,slow=72,SNR=37								
H03N3	**Juan Fernandez**	**6.82**	**243**	T			T	11 43 12.8	
	baz=71,slow=72,SNR=38								
LPAZ	**La Paz**	**14.57**	**14**	Pn			Pn	11 38 07.8	+1.7
	0.1nm,0.3s,baz=183,slow=14,SNR=2.5								
SIV	**San Ignacio**	**17.44**	**36**	P			P	11 38 43.6	-0.6
	0.3nm,0.3s,baz=216,slow=17,SNR=2.5								
SNAA	**Sanae**	**54.64**	**159**	P			P	11 44 08.7	+0.5
	1.3nm,0.8s,baz=263,slow=8.1,SNR=4.4								
TORD	**Torodi Ar. Bea**	**82.73**	**70**	P			P	11 47 03.4	-0.8
	0.4nm,0.7s,baz=235,slow=3.6,SNR=2.0								
H11S2	**WAKE ISLAND Hyl**	**126.08**	**271**	T			T	14 12 27.6	
	baz=114								
H11S1	**WAKE ISLAND Hyl**	**126.10**	**271**	T			T	14 12 36.5	
	baz=114								
H11S3	**WAKE ISLAND Hyl**	**126.10**	**271**	T			T	14 12 26.9	
	baz=114								
ZALV	**Zalesovo Beam**	**151.12**	**29**	PKPbc			PKPbc	11 54 32.0	-0.6
	3.2nm,0.8s,baz=288,slow=1.4,SNR=6.6								

*IDC **17** 11:35:35.6±15.0, 52.˚02N×178.˚98E, h0km, mb3.3/3, mb1 3.9/4, mb1mx3.4/59, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=418.9km s-min=116.9km az=124.0*
*NEIC **17** 11:35:42.8±1.0, 51.˚29N±0.˚06×179.˚99W±0.˚05, h24km±6km, Error ellipse: s-maj=8.4km s-min=4.4km az=197.0*
*AEIC **17** 11:35:43±1.4, 51.˚34N±0.˚08×179.˚98W±0.˚02, h20km±5km, ML3.0/26, Error ellipse: s-maj=11.1km s-min=1.8km az=183.0*

ISC 17 11:35:42.8±1.4, **51.˚31N**±0.˚08×**179.˚97W**±0.˚04, **h26**km±11km, **n27, σ0°65/32, mb3.4/3, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		ISC	Time	Res
					Op			h m s	ISC
AMKA	**Amchitka**	**0.46**	**278**				**Pb**	**11 35 52.2**	**-0.2**
AMKA							**Sb**	**11 35 58.9**	**0.0**
CERAA	**Semis' Rag'd T**	**0.63**	**340**				**Pb**	**11 35 55.6**	**+0.3**
CESW	**Semis' Southwe**	**0.66**	**334**				**Pb**	**11 35 55.9**	**+0.2**
CESW							**Sb**	**11 36 04.9**	**+0.5**
CERB	**Semis' Cerberu**	**0.67**	**338**				**Sn**	**11 36 05.9**	**-0.3**
CEPE	**Semis' Perret**	**0.69**	**340**				**Pb**	**11 35 56.5**	**+0.2**
CETU	**Semis' Tuman**	**0.73**	**333**				**Sn**	**11 36 07.7**	**-0.2**
GALAA	**Gareloi Lava P**	**0.87**	**59**				**Pn**	**11 35 59.5**	**0.0**
GAEA	**Gareloi East**	**0.90**	**58**				**Pn**	**11 35 59.8**	**0.0**
LSSE	**Little Sitkin**	**1.10**	**305**				**Pn**	**11 36 02.6**	**0.0**
LSPA	**Little Sitkin**	**1.11**	**306**				**Pn**	**11 36 03.1**	**+0.3**
LSPA							**Sn**	**11 36 17.8**	**+0.5**
LSSA	**Little Sitkin**	**1.14**	**305**				**Pn**	**11 36 03.1**	**0.0**
LSNW	**Little Sitkin**	**1.15**	**305**				**Pn**	**11 36 03.1**	**-0.2**
LSNW							**Sb**	**11 36 18.2**	**-0.3**
TASE	**Tanaga Southea**	**1.31**	**66**				**Pn**	**11 36 05.8**	**+0.2**
TAFL	**Tanaga Flats**	**1.37**	**70**				**Pn**	**11 36 06.5**	**+0.3**
TAFP	**Tanaga Falls P**	**1.37**	**64**				**Pn**	**11 36 06.8**	**+0.5**
TAFP							**Sb**	**11 36 24.6**	**-0.3**
KIMD	**Kanaga Island**	**1.77**	**74**				**Pn**	**11 36 12.1**	**+0.3**
KIWB	**Kanaga Island**	**1.84**	**72**				**Pn**	**11 36 12.5**	**-0.2**
ADK	**Adak**	**2.13**	**73**	Pn			**Pn**	**11 36 16.8**	**+0.1**
GSSP	**Great Sitkin S**	**2.49**	**70**				**Pn**	**11 36 22.5**	**+0.9**
GSMY	**Great Sitkin M**	**2.54**	**72**				**Pn**	**11 36 22.7**	**+0.3**
GSTR	**Great Sitkin T**	**2.56**	**71**	Pn			**Pn**	**11 36 24.3**	**+1.7**
ATKA	**Atka Island**	**3.70**	**74**				**Pn**	**11 36 38.8**	**+0.6**
SMY	**Shemya**	**3.93**	**293**	Pn			**Pn**	**11 36 42.2**	**+0.9**
KDAK	**Kodiak Island**	**17.07**	**57**	P			**Pn**	**11 39 37.4**	**-2.0**
	0.2nm,0.3s,baz=265,slow=12,SNR=8.9								
NVAR	**Mina Array Bea**	**44.29**	**82**	P			**P**	**11 43 51.6**	**+1.1**
	0.2nm,0.7s,baz=298,slow=8.1,SNR=2.0								
PDAR	**Pinedale Array**	**47.03**	**71**	P			**P**	**11 44 12.1**	**0.0**
	0.6nm,0.5s,baz=305,slow=5.1,SNR=7.8								
TXAR	**Lajitas Array**	**59.39**	**80**	P			**P**	**11 45 42.8**	**-0.2**
	0.2nm,0.7s,baz=317,slow=6.4,SNR=2.3								

*IDC **17** 11:36:06.5±1.5, 51.˚95N×159.˚02E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.3/53, mbtmp3.4/2, Error ellipse: s-maj=39.8km s-min=23.5km az=57.0*
*KRSC **17** 11:36:11.4±1.7, 52.˚04N×158.˚95E, h60km±17km, ML3.8*

ISC 17 11:36:13.2±1.1, **52.˚00N**±0.˚05×**158.˚96E**±0.˚05, **h49**km±12km, **n35, σ1°29/52, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID		ISC	Time	Res
					Op			h m s	ISC
RUS	**Russkaya**	**0.51**	**327**	*e*P			**Pn**	**11 36 24.5**	**-0.1**
RUS				*e*S			**Sn**	**11 36 32.4**	**-0.3**
KDTR	**Khodutka, Kamc**	**0.58**	**251**	*e*P			**Pn**	**11 36 25.9**	**+0.5**
KDTR				*e*S			**Sn**	**11 36 34.6**	**+0.4**
MTVR	**Mutnovka**	**0.68**	**315**	*e*P			**Pn**	**11 36 26.5**	**-0.3**
MTVR				*e*S			**Sn**	**11 36 36.2**	**-0.5**
ASAK	**Asacha**	**0.76**	**301**	*e*P			**Pn**	**11 36 27.8**	**0.0**
ASAK				*e*S			**Sn**	**11 36 38.2**	**-0.1**
GRL	**Gorelyy**	**0.78**	**316**	*e*P			**Pn**	**11 36 28.3**	**+0.2**
GRL				*e*S			**Sn**	**11 36 39.2**	**+0.4**
KRMR	**Karymshinskiy**	**0.97**	**329**	*e*P			**Pn**	**11 36 31.5**	**+1.0**
KRMR				*e*S			**Sn**	**11 36 43.7**	**+0.4**
DALK	**Dalny**	**1.04**	**353**	*e*P			**Pn**	**11 36 31.2**	**-0.2**
DALK				*e*S			**Sn**	**11 36 43.8**	**-1.1**
PET	**Petropavlovsk**	**1.04**	**350**	*e*P			**Pn**	**11 36 31.1**	**-0.3**
PET				*e*S			**Sn**	**11 36 43.6**	**-1.3**
NLC	**Nalytchevo**	**1.19**	**11**	*e*P			**Pn**	**11 36 32.6**	**-0.9**
NLC				*e*S			**Sn**	**11 36 46.7**	**-1.9**
UGLR	**Uglovaya**	**1.21**	**356**	*e*P			**Pn**	**11 36 33.8**	**-0.1**
UGLR				*e*S			**Sn**	**11 36 48.3**	**-0.9**
SMAR	**Somma**	**1.27**	**356**	*e*P			**Pn**	**11 36 34.3**	**-0.4**
AVH	**Avacha**	**1.27**	**354**	*e*P			**Pn**	**11 36 34.8**	**+0.1**
AVH				*e*S			**Sn**	**11 36 50.4**	**-0.3**
SPN	**Mys Shipunski**	**1.27**	**30**	*e*P			**Pn**	**11 36 35.7**	**+1.1**
SPN				*e*S			**Sn**	**11 36 51.5**	**+0.9**
SDLR	**Sedlovina**	**1.28**	**358**	*e*P			**Pn**	**11 36 34.1**	**-0.7**
KOK	**Koryaka**	**1.31**	**351**	*e*P			**Pn**	**11 36 35.4**	**+0.2**
KOK				*e*S			**Sn**	**11 36 51.9**	**+0.4**
KRER	**Koryakskii**	**1.31**	**354**	*e*P			**Pn**	**11 36 35.4**	**+0.1**
PETK	**Petropavlovsk-**	**1.35**	**326**	Pn			**Pn**	**11 36 34.2**	**-1.5**
	5.3nm,0.3s,baz=140,slow=16,SNR=62								
PETK				Sn			**Sn**	**11 36 51.8**	**-0.7**
	10.0nm,0.3s,baz=147,slow=17,SNR=14								
KRX	**Arik**	**1.37**	**352**	*e*P			**Pn**	**11 36 36.1**	**0.0**
KRX				*e*S			**Sn**	**11 36 52.1**	**-1.1**
MIPR	**Malaya Ipel'ka**	**1.39**	**282**	*e*P			**Pn**	**11 36 35.8**	**-0.4**
MIPR				*e*S			**Sn**	**11 36 51.9**	**-1.5**
APC	**Apacha**	**1.44**	**311**	*e*P			**Pn**	**11 36 36.7**	**-0.2**
PAU	**Pauzhetka**	**1.44**	**249**	*e*P			**Pn**	**11 36 37.3**	**+0.4**
PAU				*e*S			**Sn**	**11 36 54.6**	**0.0**
GNL	**Ganaly**	**1.81**	**340**	*e*P			**Pn**	**11 36 41.9**	**-0.1**
KII	**Karymskiy**	**2.06**	**8**	*e*P			**Pn**	**11 36 46.7**	**+1.3**
KII				*e*S			**Sn**	**11 37 11.1**	**+1.2**

	baz=85,slow=75,SNR=3.2								
H03S2	**Juan Fernandez**	**6.42**	**249**	T		T		11 46 05.7	
	baz=85,slow=75,SNR=5.6								
LC01	**Cunco**	**7.20**	**181**	Pn		**Pn**		**11 39 25.4**	**-1.2**
PLCA	**Paso Flores**	**9.08**	**174**	Pn		**Pn**		**11 39 48.8**	**-3.7**
	comp=E,0.1nm,0.3s,baz=5.2,slow=9.0,SNR=2.9								
PLCA	**Paso Flores**	**9.08**	**174**	Pn		**Pn**		**11 39 51.5**	**-1.1**
LVC	**Limon Verde**	**9.38**	**16**	LR		LR		11 43 50.6	
	comp=E,152nm,18.7s,baz=210,slow=39								
TRQA	**Tornquist**	**10.23**	**131**			**Pn**		**11 40 10.3**	**+2.0**
PB08	**IPOC Station P**	**11.73**	**12**	Pn		**Pn**		**11 40 27.6**	**-1.5**
LPAZ	**La Paz**	**15.68**	**13**	Pn		**Pn**		**11 41 22.0**	**-0.9**
	comp=E,0.2nm,0.3s,baz=197,slow=12,SNR=2.1								
LPAZ	**La Paz**	**15.68**	**13**	IAmb		IAmb		11 41 40.4	
	comp=Z,3.3nm,0.9s								
SIV	**San Ignacio**	**18.40**	**34**	P		**Pn**		**11 41 56.3**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=239,slow=9.4,SNR=3.3								
SIV				LR		LR		11 50 22.6	
	comp=Z,61nm,20.3s,baz=130,slow=41								
BDFB	**Brasilia**	**26.88**	**59**	P		**P**		**11 43 21.2**	**-1.0**
	comp=Z,4.3nm,0.7s,baz=218,slow=6.1,SNR=4.3								
BDFB	**Brasilia**	**26.88**	**59**	IAmb		IAmb		11 43 23.9	
	comp=Z,11nm,1.2s								
TXAR	**Lajitas Array**	**67.85**	**330**	P		**P**		**11 48 40.5**	**+1.2**
	comp=Z,0.2nm,0.7s,baz=133,slow=6.6,SNR=2.0								
DBIC	**Dimbokro**	**74.21**	**72**	P		**P**		**11 49 18.2**	**0.0**
	comp=Z,5.9nm,1.0s,baz=184,slow=4.4,SNR=3.3								
NVAR	**Mina Array Bea**	**82.13**	**325**	P		**P**		**11 50 02.8**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=161,slow=5.5,SNR=3.5								
TORD	**Torodi Ar. Bea**	**83.19**	**70**	P		**P**		**11 50 07.0**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=267,slow=5.4,SNR=7.1								
TORD	**Torodi Ar. Bea**	**83.19**	**70**	IAmb		IAmb		11 50 15.8	
	comp=Z,2.0nm,0.8s								
H11S2	**WAKE ISLAND Hyl**	**26.02**	**271**	T		T		14 15 35.3	
	baz=117,slow=74,SNR=14								
H11S1	**WAKE ISLAND Hyl**	**26.04**	**271**	T		T		14 15 36.2	
	baz=117,slow=74,SNR=9.5								
H11S3	**WAKE ISLAND Hyl**	**26.04**	**271**	T		T		14 15 36.3	
	baz=117,slow=74,SNR=9.1								
H11N3	**WAKE ISLAND Hyl**	**26.38**	**272**	T		T		14 16 01.4	
	baz=116								
H11N1	**WAKE ISLAND Hyl**	**26.39**	**272**	T		T		14 16 01.4	
	baz=116								
H11N2	**WAKE ISLAND Hyl**	**26.40**	**272**	T		T		14 16 05.2	
	baz=116								
ZALV	**Zalesovo Beam**	**152.12**	**30**	PKP		**PKPdf**		**11 57 28.1**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=340,slow=2.1,SNR=2.5								
ZALV				PKPbc		**PKiKP**		**11 57 35.8**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=316,slow=6.0,SNR=5.1								

*IDC **17** 11:42:26.7±1.9,31°.51S×71°.84W,h0km,mb4.2/4, mb1 4.1/6,mb1mx3.8/23,mbtmp4.0/6,ML3.9/2,Error ellipse: s-maj=68.0km s-min=23.4km az=111.0*
*NEIC **17** 11:42:29.6±1.7,31°.65S±0°.02×72°.1W±0°.1,h20km±6km, Error ellipse: s-maj=13.5km s-min=2.1km az=85.0*
*GUC **17** 11:42:31.9±0.6,31°.61S×71°.76W,h26km±6km,ML3.9*

ISC 17 11:42:30.5±1.5,31°.64S±0°.04×71°.80W±0°.08,h24km±11km, n44,σ0°84/35,mb4.2/5,1C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**0.97**	**8**	*i* P		**Pb**	**11 42 48.8**	**+0.2**
CO06				*i* S		**Sb**	**11 43 01.4**	**+0.4**
CO06				IAML			11 43 04.3	
	comp=E,4μm,0.3s							
CO06				IAML			11 43 05.2	
	comp=N,5μm,0.5s							
CO06	**Fray Jorge**	**0.97**	**8**			**Pb**	**11 42 48.9**	**+0.2**
CO03	**El Pedregal**	**1.24**	**50**	*i* P		**Pb**	**11 42 53.0**	**-0.3**
CO03				*e*S		**Sb**	**11 43 08.8**	**0.0**
CO03				IAML			11 43 13.0	
	comp=E,3μm,0.5s							
CO03	**El Pedregal**	**1.24**	**50**			**Pb**	**11 42 52.9**	**-0.3**
VA01	**Torpederas**	**1.39**	**175**	IAML			11 43 18.8	
	comp=E,1μm,0.7s							
VA01	**Torpederas**	**1.39**	**175**			**Pn**	**11 42 54.7**	**+0.3**
ROCH	**El Roble**	**1.49**	**154**	*e*P		**Pn**	**11 42 56.8**	**+0.8**
ROCH				*i* S		**Sb**	**11 43 16.4**	**+0.1**
ROCH				IAML			11 43 22.4	
	comp=N,3μm,0.5s							
VA03	**San Esteban**	**1.54**	**137**	*i* P		**Pb**	**11 42 58.4**	**-0.1**
VA03				*i* S		**Sb**	**11 43 18.6**	**+0.9**
VA03				IAML			11 43 20.4	
	comp=E,6μm,0.4s							
VA03	**San Esteban**	**1.54**	**137**			**Pn**	**11 42 57.8**	**+1.2**
GO04	**Tololo Observa**	**1.69**	**31**	*e*P		**Pn**	**11 42 58.6**	**-0.2**
GO04				*i* S		**Sb**	**11 43 20.7**	**-1.3**
GO04	**Tololo Observa**	**1.69**	**31**			**Pb**	**11 43 01.0**	**-0.1**
MT05	**Renca**	**1.97**	**153**	IAML			11 43 35.1	
	comp=E,3μm,0.4s							
MT05	**Renca**	**1.97**	**153**			**Pn**	**11 43 03.1**	**+0.7**
VA05	**Santo Domingo**	**2.02**	**176**			**Pn**	**11 43 01.4**	**-1.8**
MT09	**Talagante**	**2.24**	**163**	IAML			11 43 45.1	
	comp=E,2μm,0.4s							
MT09	**Talagante**	**2.24**	**163**			**Pn**	**11 43 07.0**	**+0.7**
MT01	**Popeta**	**2.27**	**168**			**Pn**	**11 43 06.0**	**-0.6**
ZON	**Zonda**	**2.66**	**89**	Pn		**Pb**	**11 43 16.5**	**-1.1**
LCO	**Las Campanas**	**2.78**	**20**			**Pb**	**11 43 21.2**	**+1.5**
BO01	**Tunca**	**2.81**	**168**			**Pn**	**11 43 15.1**	**+1.0**
GO05	**Huala**	**3.37**	**182**	Pn		**Pn**	**11 43 20.5**	**-1.2**
H03N1	**Juan Fernandez**	**6.27**	**251**	T		T	11 50 43.4	
	baz=81,slow=72,SNR=132							
H03N3	**Juan Fernandez**	**6.29**	**251**	T		T	11 50 44.6	
	baz=81,slow=72,SNR=94							
H03N2	**Juan Fernandez**	**6.29**	**251**	T		T	11 50 44.2	
	baz=81,slow=72,SNR=153							
LC01	**Cunco**	**7.25**	**180**	Pn		**Pn**	**11 44 13.5**	**-1.5**
PLCA	**Paso Flores**	**9.13**	**174**	Pn		**Pn**	**11 44 41.4**	**+0.5**
	comp=E,0.4nm,0.3s,baz=354,slow=10,SNR=11							
LVC	**Limon Verde**	**9.35**	**17**	Pn		**Pn**	**11 44 44.3**	**+0.1**
SIV	**San Ignacio**	**18.39**	**35**	P		**P**	**11 46 42.8**	**-1.1**
	comp=E,0.2nm,0.3s,baz=207,slow=13,SNR=3.8							
BDFB	**Brasilia**	**26.89**	**59**	P		**P**	**11 48 08.7**	**-1.2**
	comp=E,2.0nm,0.4s,baz=217,slow=10,SNR=3.9							
SNAA	**Sanae**	**53.70**	**159**	P		**P**	**11 51 50.9**	**+0.8**
	baz=275,slow=12							
SNAA	**Sanae**	**53.70**	**159**	IAmb		IAmb	11 52 10.1	
	comp=Z,3.0nm,1.2s							
VNDA	**Vanda**	**66.45**	**191**	P		**P**	**11 53 18.1**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=108,slow=3.2,SNR=1.8							
DBIC	**Dimbokro**	**74.24**	**72**	P		**P**	**11 54 05.9**	**0.0**
	comp=Z,3.7nm,0.7s,baz=254,slow=4.3,SNR=4.2							
DBIC	**Dimbokro**	**74.24**	**72**	IAmb		IAmb	11 54 11.1	
	comp=Z,19nm,1.4s							
TORD	**Torodi Ar. Bea**	**83.22**	**70**	P		**P**	**11 54 55.6**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=251,slow=4.9,SNR=9.9							
TORD	**Torodi Ar. Bea**	**83.22**	**70**	P		**P**	**11 54 55.2**	**-0.1**
TORD				IAmb		IAmb	11 54 56.3	
	comp=Z,2.3nm,0.8s							
H11S2	**WAKE ISLAND Hyl**	**25.98**	**271**	T		T	14 20 20.1	
	baz=116,slow=75							
H11S1	**WAKE ISLAND Hyl**	**25.99**	**271**	T		T	14 20 29.9	
	baz=116,slow=75							
H11S3	**WAKE ISLAND Hyl**	**26.00**	**271**	T		T	14 20 29.5	
	baz=116,slow=75							
H11N3	**WAKE ISLAND Hyl**	**26.33**	**272**	T		T	14 20 46.9	
	baz=116							
H11N1	**WAKE ISLAND Hyl**	**26.35**	**272**	T		T	14 20 55.8	
	baz=116							
H11N2	**WAKE ISLAND Hyl**	**26.35**	**272**	T		T	14 20 54.2	
	baz=116							
ZALV	**Zalesovo Beam**	**152.10**	**30**	PKPbc		**PKPbc**	**12 02 22.9**	**-0.5**
	comp=Z,2.7nm,0.5s,baz=308,slow=2.6,SNR=7.6							
ZALV	**Zalesovo Beam**	**152.10**	**30**			**PKiKP**	**12 02 23.7**	**0.0**

*IDC **17** 11:45:14.7±1.8,31°.65S×71°.99W,h0km,mb4.1/1, mb1 3.8/4,mb1mx3.6/25,mbtmp3.7/4,ML3.4/3,Error ellipse: s-maj=87.5km s-min=33.1km az=104.0*
*GUC **17** 11:45:20.3±0.8,31°.64S×71°.64W,h45km±8km,ML3.9*

ISC 17 11:45:21.0±1.3,31°.65S±0°.04×71°.8W±0°.1,h42km±15km, n19,σ0°66/26,1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**0.98**	**6**	*e*P		**Pn**	**11 45 39.0**	**+0.7**
CO06				*e*S		**Sn**	**11 45 50.8**	**-0.2**
CO06				IAML			11 45 54.1	
	comp=E,3μm,0.4s							
CO03	**El Pedregal**	**1.22**	**49**	*e*P		**Pn**	**11 45 40.8**	**-0.9**
CO03				*e*S		**Sn**	**11 45 55.6**	**-1.5**
CO03				IAML			11 46 01.8	
	comp=E,2μm,0.2s							
ROCH	**El Roble**	**1.46**	**155**	*e*P		**Pn**	**11 45 45.2**	**0.0**
ROCH				*e*S		**Sn**	**11 46 03.3**	**+0.1**
ROCH				IAML			11 46 06.5	
	comp=E,1μm,0.2s							
VA03	**San Esteban**	**1.51**	**138**	*e*P		**Pn**	**11 45 45.9**	**+0.2**
VA03				*e*S		**Sn**	**11 46 04.0**	**-0.2**
VA03				IAML			11 46 06.0	
	comp=E,5μm,0.2s							
GO04	**Tololo Observa**	**1.69**	**29**	*e*P		**Pn**	**11 45 48.4**	**+0.2**
GO04				*e*S		**Sn**	**11 46 08.7**	**-0.1**
GO04				IAML			11 46 14.4	
	comp=N,7μm,0.6s							
MT05	**Renca**	**1.94**	**154**	*e*P		**Pn**	**11 45 51.9**	**+0.3**
MT05				*e*S		**Sn**	**11 46 15.7**	**+0.9**
MT05				IAML			11 46 18.9	
	comp=E,2μm,0.3s							
VA05	**Santo Domingo**	**2.00**	**177**	*e*P		**Pn**	**11 45 51.5**	**-0.9**
VA05				*e*S		**Sn**	**11 46 15.1**	**-1.2**
VA05				IAML			11 46 25.3	
	comp=E,1μm,0.4s							
MT09	**Talagante**	**2.22**	**163**	*e*P		**Pn**	**11 45 56.1**	**+0.7**
MT09				*e*S		**Sn**	**11 46 21.2**	**-0.5**
MT09				IAML			11 46 29.9	
	comp=E,736nm,0.5s							
MT01	**Popeta**	**2.25**	**169**	*e*P		**Pn**	**11 45 55.6**	**-0.1**
MT01				*e*S		**Sn**	**11 46 22.0**	**-0.3**
MT01				IAML			11 46 28.3	
	comp=E,421nm,0.5s							
LMEL	**Las Melosas**	**2.55**	**150**	*e*P		**Pn**	**11 46 00.7**	**+0.6**
LMEL				*e*S		**Sn**	**11 46 30.5**	**+0.5**
LMEL				IAML			11 46 39.7	
	comp=N,1μm,0.2s							
H03N1	**Juan Fernandez**	**6.30**	**252**	T		T	11 51 54.8	
	baz=72,slow=72,SNR=15							
H03N3	**Juan Fernandez**	**6.31**	**252**	T		T	11 51 54.9	
	baz=72,slow=72,SNR=11							
H03N2	**Juan Fernandez**	**6.32**	**252**	T		T	11 51 56.0	
	baz=72,slow=72,SNR=16							
PLCA	**Paso Flores**	**9.12**	**174**	Pn		**Pn**	**11 47 29.9**	**-0.1**
	comp=N,0.1nm,0.3s,baz=353,slow=17,SNR=2.2							
LPAZ	**La Paz**	**15.65**	**13**	Pn		**Pn**	**11 48 59.6**	**+0.4**
	comp=N,0.0nm,0.3s,baz=184,slow=3.0,SNR=2.8							
SIV	**San Ignacio**	**18.38**	**34**	P		**Pn**	**11 49 33.6**	**+0.9**
	comp=N,0.3nm,0.3s,baz=200,slow=12,SNR=2.1							
TORD	**Torodi Ar. Bea**	**83.19**	**70**	P		**P**	**11 57 43.0**	**-0.1**
	comp=N,1.2nm,0.8s,baz=251,slow=4.9,SNR=4.2							
WRA	**Warramunga Arr**	**122.92**	**210**	PKP		**PKPdf**	**12 04 12.6**	**-0.6**
	comp=N,0.1nm,0.4s,baz=166,slow=2.4,SNR=1.7							
ZALV	**Zalesovo Beam**	**152.10**	**30**	PKPbc		**PKiKP**	**12 05 11.7**	**+0.1**
	comp=N,2.0nm,0.6s,baz=298,slow=3.1,SNR=4.5							

*IDC **17** 11:46:25.2±1.6,30°.93S×72°.68W,h0km,mb3.5/2, mb1 4.0/5,mb1mx3.8/24,mbtmp3.8/5,ML3.8/3,Error ellipse: s-maj=53.6km s-min=33.9km az=88.0*

ISC 17 11:46:30.1±1.2,31°.0S±0°.1×72°.6W±0°.3,h35km,n15, σ0°82/6,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H03N1	**Juan Fernandez**	**5.91**	**244**	T		T	11 53 30.2	
	baz=79,slow=72							
H03N2	**Juan Fernandez**	**5.93**	**244**	T		T	11 53 34.6	
	baz=79,slow=72							
H03N3	**Juan Fernandez**	**5.93**	**244**	T		T	11 53 24.1	
	baz=79,slow=72							
PLCA	**Paso Flores**	**9.88**	**171**	Pn		**Pn**	**11 48 49.5**	**-0.3**
	0.3nm,0.3s,baz=338,slow=15,SNR=4.8							
LPAZ	**La Paz**	**15.16**	**17**	Pn		**Pn**	**11 50 02.5**	**+0.1**
	0.1nm,0.3s,baz=204,slow=8.4,SNR=3.2							
SIV	**San Ignacio**	**18.24**	**38**	P		**P**	**11 50 39.6**	**-1.0**
	0.3nm,0.3s,baz=223,slow=11,SNR=6.6							
TXAR	**Lajitas Array**	**66.87**	**331**	P		**P**	**11 57 18.6**	**-0.2**
	0.3nm,0.8s,baz=159,slow=8.0,SNR=3.5							
TORD	**Torodi Ar. Bea**	**83.62**	**71**	P		**P**	**11 58 56.2**	**+0.9**
	0.2nm,0.4s,baz=251,slow=4.9,SNR=1.6							
H11S2	**WAKE ISLAND Hyl**	**25.30**	**272**	T		T	14 23 16.7	
	baz=117							
H11S1	**WAKE ISLAND Hyl**	**25.31**	**272**	T		T	14 23 04.7	
	baz=117							
H11S3	**WAKE ISLAND Hyl**	**25.32**	**272**	T		T	14 23 05.8	
	baz=117							
H11N3	**WAKE ISLAND Hyl**	**25.64**	**273**	T		T	14 23 41.5	
	baz=116							
H11N1	**WAKE ISLAND Hyl**	**25.65**	**273**	T		T	14 23 43.7	
	baz=116							
H11N2	**WAKE ISLAND Hyl**	**25.65**	**273**	T		T	14 23 40.1	
	baz=116							
ZALV	**Zalesovo Beam**	**151.85**	**29**	PKPbc		**PKiKP**	**12 06 21.5**	**+0.4**
	1.0nm,0.4s,baz=290,slow=4.3,SNR=2.0							

*IDC **17** 11:48:51.6±0.9,0°.68N×125°.67E,h0km,mb3.9/7, mb1 4.1/8,mb1mx3.8/39,mbtmp3.9/8,ML3.4/1,Error ellipse: s-maj=81.3km s-min=17.2km az=74.0*

ISC 17 11:49:00.5±0.8,0°.6N±0°.2×125°.7E±0°.5,h73km,n8,σ1°11/9, mb3.9/7,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**18.62**	**180**	P		**P**	**11 53 11.8**	**-0.5**
	0.1nm,0.3s,baz=13,slow=9.6,SNR=3.9							
WRA	**Warramunga Arr**	**22.13**	**158**	P		**P**	**11 53 48.6**	**-1.6**
	9.0nm,0.8s,baz=341,slow=12,SNR=58							
ASAR	**Alice Springs**	**25.43**	**162**	P		**P**	**11 54 23.1**	**+1.5**
	2.2nm,0.5s,baz=344,slow=12,SNR=37							
ASAR				PcP		**PcP**	**11 57 52.9**	**+0.7**
	0.3nm,0.6s,baz=340,slow=2.1,SNR=2.5							
STKA	**Stephens Creek**	**35.66**	**156**	P		**P**	**11 55 51.8**	**0.0**
	0.9nm,0.3s,baz=340,slow=7.0,SNR=12							
USRK	**Ussuriysk Ar.**	**43.73**	**7**	P		**P**	**11 56 58.9**	**+0.4**
	1.0nm,0.7s,baz=200,slow=6.0,SNR=2.6							
SONM	**Songino Array**	**49.92**	**343**	P		**P**	**11 57 45.7**	**-1.2**
	0.4nm,0.8s,baz=147,slow=8.6,SNR=2.0							
MKAR	**Makanchi Array**	**59.54**	**327**	P		**P**	**11 58 56.9**	**+0.4**
	0.6nm,0.4s,baz=130,slow=6.7,SNR=5.4							
VNDA	**Vanda**	**80.51**	**173**	P		**P**	**12 01 04.5**	**+0.3**
	0.4nm,0.6s,baz=326,slow=3.6,SNR=2.5							

GUC 17 11:49:18.5±0.7,31°.35S×71°.75W,h50km±12km,ML3.9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO03	**El Pedregal**	**1.04**	**61**	*e*P		Pn	11 49 37.3	+0.4
CO03				*e*S		Sn	11 49 51.5	+1.0
CO03				IAML			11 49 54.2	
	comp=E,3μm,0.2s							
GO04	**Tololo Observa**	**1.43**	**35**	*e*P		Pn	11 49 43.3	+1.0
GO04				IAML			11 50 07.7	
	comp=E,7μm,0.4s							
ROCH	**El Roble**	**1.73**	**159**	*e*P		Pn	11 49 46.5	0.0
ROCH				*e*S		Sn	11 50 08.1	+0.6
ROCH				IAML			11 50 14.9	
	comp=N,1μm,0.5s							
VA03	**San Esteban**	**1.74**	**145**	*e*P		Pn	11 49 47.4	+1.0
VA03				*e*S		Sn	11 50 09.3	+1.9
VA03				IAML			11 50 14.2	
	comp=E,3μm,0.1s							
MT05	**Renca**	**2.21**	**158**	*e*P		Pn	11 49 53.9	+1.1
MT05				*e*S		Sn	11 50 21.1	+2.2
MT05				IAML			11 50 34.0	
	comp=E,1μm,0.3s							
VA05	**Santo Domingo**	**2.30**	**177**	*e*P		Pn	11 49 53.0	-1.0
VA05				*e*S		Sn	11 50 21.7	+0.5
VA05				IAML			11 50 34.2	
	comp=E,626nm,0.5s							
MT09	**Talagante**	**2.50**	**165**	*e*P		Pn	11 49 57.6	+0.7
MT09				*e*S		Sn	11 50 27.4	+1.1
MT09				IAML			11 50 40.0	
	comp=E,397nm,0.4s							
MT01	**Popeta**	**2.54**	**171**	*e*P		Pn	11 49 58.7	+1.4
MT01				*e*S		Sn	11 50 25.8	-1.2

*IDC **17** 11:49:58.8±0.9,30°.77S×72°.76W,h0km,mb4.1/6, mb1 4.3/9,mb1mx4.1/29,mbtmp4.1/9,ML4.1/3,Error ellipse: s-maj=28.0km s-min=27.4km az=33.0*
*NEIC **17** 11:50:01.1±2.0,30°.62S±0°.07×72°.6W±0°.1,h10km±1km, mb4.4/8,Error ellipse: s-maj=16.0km s-min=11.4km az=89.0*

ISC 17 11:50:00.7±0.7,30°.64S±0°.08×72°.6W±0°.2,h10km,n26, σ1°21/22,mb4.2/9,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LCO	**Las Campanas**	**2.32**	**46**			**Pn**	**11 50 36.4**	**-2.8**
AC04	**Llanos de Chal**	**2.77**	**29**			**Pn**	**11 50 43.2**	**-1.9**
AC02	**Maricunga**	**4.87**	**40**	Pn		**Pn**	**11 51 13.8**	**-0.6**
H03N1	**Juan Fernandez**	**6.04**	**241**	T		T	11 57 31.8	
	baz=78,slow=71,SNR=20							
H03N2	**Juan Fernandez**	**6.05**	**241**	T		T	11 57 28.0	
	baz=78,slow=71,SNR=15							
H03N3	**Juan Fernandez**	**6.05**	**241**	T		T	11 57 36.4	
	baz=78,slow=71,SNR=22							
LC01	**Cunco**	**8.26**	**176**			**Pn**	**11 51 59.8**	**-0.8**
PLCA	**Paso Flores**	**10.21**	**171**	Pn		**Pn**	**11 52 26.2**	**-1.1**
	0.4nm,0.3s,baz=334,slow=12,SNR=6.9							
PLCA	**Paso Flores**	**10.21**	**171**	Pn		**Pn**	**11 52 27.4**	**+0.1**
LPAZ	**La Paz**	**14.86**	**17**	Pn		**Pn**	**11 53 33.3**	**+1.8**
	0.3nm,0.3s,baz=194,slow=9.7,SNR=16							
LPAZ	**La Paz**	**14.86**	**17**			**Pn**	**11 53 30.8**	**-0.7**
SIV	**San Ignacio**	**18.00**	**38**	P		**P**	**11 54 11.6**	**0.0**
	0.6nm,0.3s,baz=228,slow=11,SNR=34							
BDFB	**Brasilia**	**27.01**	**62**	P		**P**	**11 55 44.2**	**+1.0**
	3.7nm,0.7s,baz=263,slow=7.4,SNR=6.0							
SNAA	**Sanae**	**54.88**	**159**	P		**P**	**11 59 31.5**	**+0.5**
SNAA				IAmb		IAmb	11 59 39.2	
	comp=Z,2.6nm,1.1s							
QSPA	**South Pole Qui**	**59.59**	**180**	P		**P**	**12 00 04.7**	**+0.2**
QSPA				IAmb		IAmb	12 00 19.3	
	comp=Z,2.7nm,1.1s							
TXAR	**Lajitas Array**	**66.58**	**331**	P		**P**	**12 00 51.4**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=153,slow=8.6,SNR=10							
TX31	**Lajitas Ar. Si**	**66.58**	**331**	P		**P**	**12 00 50.3**	**-0.9**
TX31				IAmb		IAmb	12 00 52.5	
	comp=Z,2.8nm,0.8s							
DBIC	**Dimbokro**	**74.59**	**72**	P		**P**	**12 01 42.2**	**+1.8**
	comp=Z,3.8nm,0.6s,baz=230,slow=5.8,SNR=5.5							
DBIC	**Dimbokro**	**74.59**	**72**	IAmb		IAmb	12 01 42.7	
	comp=Z,5.1nm,0.8s							
PDAR	**Pinedale Array**	**80.55**	**333**	P		**P**	**12 02 13.6**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=103,slow=6.5,SNR=3.7							
NVAR	**Mina Array Bea**	**80.86**	**325**	P		**P**	**12 02 15.5**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=106,slow=9.4,SNR=3.6							
TORD	**Torodi Ar. Bea**	**83.54**	**71**	P		**P**	**12 02 29.7**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=271,slow=5.3,SNR=8.7							
TORD	**Torodi Ar. Bea**	**83.54**	**71**	P		**P**	**12 02 30.1**	**+0.7**
ASAR	**Alice Springs**	**120.31**	**208**	PKP		**PKPdf**	**12 08 51.5**	**-1.2**
	comp=Z,0.2nm,0.9s,baz=125,slow=1.5,SNR=1.5							
WRA	**Warramunga Arr**	**123.43**	**211**	PKP		**PKPdf**	**12 08 57.2**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=170,slow=2.1,SNR=6.4							
ZALV	**Zalesovo Beam**	**151.58**	**28**	PKPbc		**PKPbc**	**12 09 54.7**	**0.0**
	comp=Z,5.8nm,0.7s,baz=298,slow=3.1,SNR=12							

MEX 17 11:51:29.6±0.3,26°.51N×108°.13W,h10km,MD3.8, Northern Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CSIG	**Choix**	**0.39**	**326**	*i* P		Pn	11 51 36.8	-0.4
CSIG				*i* S		Sg	11 51 42.6	+0.3
TSIG	**Topolobambo**	**1.22**	**222**	*i* P		Pn	11 51 49.2	-3.6
TSIG				*i* S		Sb	11 52 04.0	-4.6
SSIG	**Sanalona**	**1.91**	**152**	*i* P		Pn	11 51 58.8	-3.4
SSIG				*i* S		Sn	11 52 26.4	+0.2
HPIG		**2.24**	**79**	*e*P		Pb	11 52 09.9	-0.5
HPIG				*i* S		Sg	11 52 41.3	-0.4

MEX 17 11:53:19.0±0.7,14°.58N×93°.99W,h16km±999km,MD4.2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCIG		**1.35**	**34**	*i* P		Pn	11 53 39.9	-3.3
PCIG				*i* S		Sn	11 53 55.2	-5.5

*IDC **17** 11:54:51.2±1.2,30°.45S×72°.59W,h0km,mb3.7/3, mb1 4.1/6,mb1mx3.8/36,mbtmp3.9/6,ML4.1/3,Error ellipse: s-maj=42.0km s-min=29.7km az=90.0*

ISC 17 11:54:54.2±0.9,30°.44S±0°.1×72°.3W±0°.2,h19km,n9, σ1°77/10,mb3.9/3,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LVC	**Limon Verde**	**8.37**	**22**	Pn		**Pn**	**11 56 53.3**	**-1.7**

KRBG	Karabiga-Canak	1.83	29	PN	Pn	11 55 51.3	+0.3
ERIK	Erikli-Kesan	1.90	9	PN	Pn	11 55 52.0	+0.1
ENEZ	Enez	1.94	0	PN	Pn	11 55 52.9	+0.4
RKY	Sarkoy-Tekirda	2.06	23	PN	Pn	11 55 54.5	+0.4
ALN	Alexandroupoli	2.10	358	P	Pn	11 55 54.4	-0.3
ALN	Alexandroupoli	2.10	358	PN	Pn	11 55 54.8	+0.1
MRMT	Marmara Adasi	2.13	31	PN	Pn	11 55 55.6	+0.4
GZKV	Gazikoy-Tekird	2.16	25	PN	Pn	11 55 56.5	+1.0
ARMT	Armutlu	2.75	49	PN	Pn	11 56 04.8	+1.2

DDA ***17*** *11:58:06.5, 41.83N×41.62E, h6km±2km, ML2.4*
NORS ***17*** *11:58:08.7±0.0, 41.81N×41.88E, h5km, MPVA3.3*
TIF ***17*** *11:58:08.3, 41.73N×41.70E, h17km*
ISK ***17*** *11:58:08.8, 41.69N×41.68E, h19km, ML2.7/7*
MOS ***17*** *11:58:09.8±0.0, 41.82N×41.88E, h9km, MPVA3.5*

ISC 17 11:58:08.7±0.9, **41.77N**±0.02×**41.70E**±0.02, **h11**km±7km, **n36**, σ0.975/66, **Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATM	**Batumi**	**0.17**	**181**	P	**Pg**	**11 58 12.7**	**+0.2**
BATM				S	**Sg**	**11 58 15.2**	**+0.1**
BATM	**Batumi**	**0.17**	**181**	PG	**Pg**	**11 58 12.7**	**+0.2**
BATM				SG	**Sg**	**11 58 15.6**	**+0.5**
BCA	**Borcka**	**0.33**	**190**	PG	**Pg**	**11 58 14.9**	**-0.5**
BCA				SG	**Sg**	**11 58 19.1**	**-0.8**
HOPA	**Hopa-Artvin**	**0.43**	**206**	PG	**Pg**	**11 58 16.5**	**-0.7**
EPOS	**Posof**	**0.82**	**109**	*i* P	**Pg**	**11 58 23.5**	**-1.1**
EPOS				*i* S	**Sb**	**11 58 36.3**	**+0.2**
EPOS				IAML		11 58 38.0	
	comp=E,82nm,0.6s						
EPOS				IAML		11 58 39.0	
	comp=N,77nm,0.8s						
ABS	**Abastumani**	**0.83**	**91**	P	**Pg**	**11 58 24.6**	**-0.3**
ABS				S	**Sb**	**11 58 37.1**	**+0.4**
CHOM	**Cayeli-Rize**	**0.97**	**227**	PG	**Pg**	**11 58 26.7**	**-0.8**
CHOM				SG	**Sg**	**11 58 40.2**	**0.0**
CHVG	**Ch'k'valeri**	**0.99**	**17**	P	**Pn**	**11 58 28.6**	**0.0**
CHVG				S	**Sn**	**11 58 42.2**	**-0.3**
CHVG	**Ch'k'valeri**	**0.99**	**17**	*e*Pg	**Pn**	**11 58 28.3**	**-0.3**
CHVG				*e*Sg	**Sn**	**11 58 43.0**	**+0.5**
TKB	**Tkibuli**	**1.13**	**59**	P	**Pb**	**11 58 30.1**	**-0.1**
TKB				S	**Sn**	**11 58 45.8**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.31**	**158**	PN	**Pn**	**11 58 31.7**	**-1.4**
BKRG	**Bakuriani**	**1.36**	**90**	P	**Pn**	**11 58 34.2**	**+0.4**
BKRG				S	**Sg**	**11 58 53.7**	**+1.0**
AKH	**Akhalkalaki**	**1.39**	**104**	P	**Pn**	**11 58 34.7**	**+0.4**
AKH				S	**Sn**	**11 58 53.6**	**+0.9**
AKH	**Akhalkalaki**	**1.39**	**104**	PN	**Pn**	**11 58 33.7**	**-0.6**
AKH	**Akhalkalaki**	**1.39**	**104**	*e*Pg	**Pn**	**11 58 34.7**	**+0.4**
AKH				*e*Sg	**Sn**	**11 58 53.6**	**+0.9**
BGD	**Bogdanovka**	**1.52**	**109**	P	**Pg**	**11 58 37.8**	**0.0**
BGD				S	**Sg**	**11 58 58.2**	**+0.7**
DOMR	**Dombai**	**1.52**	**358**	*e*Pg	Pg	11 58 42.8	+4.8
DOMR				*e*Sg	**Sg**	**11 58 57.6**	**-0.1**
ONI	**Oni**	**1.54**	**57**	P	**Pn**	**11 58 36.6**	**+0.4**
ONI				S	**Sg**	**11 58 58.5**	**+0.2**
ONI	**Oni**	**1.54**	**57**	*i* Pg	**Pn**	**11 58 36.6**	**+0.4**
ONI				*e*Sg	**Sg**	**11 58 57.4**	**-0.9**
KARS	**Kars**	**1.55**	**137**	PN	**Pn**	**11 58 35.5**	**-0.8**
NEY	**Neytrino**	**1.66**	**27**	*e*Pg	**Pg**	**11 58 40.7**	**+0.1**
NEY				*e*Sg	**Sg**	**11 59 02.4**	**+0.2**
DIGR	**Digorskoe uzhe**	**1.79**	**50**	*e*Pg	**Pg**	**11 58 42.2**	**-1.0**
DIGR				*e*Sg	**Sg**	**11 59 06.3**	**-0.1**
BAYT	**Aydıntepe-Bayb**	**1.81**	**221**	PN	**Pn**	**11 58 38.7**	**-1.3**
ARXR	**Arkhyz**	**1.82**	**350**	*e*Pg	**Pg**	**11 58 42.4**	**-1.2**
ARXR				*e*Sg	**Sg**	**11 59 07.2**	**+0.1**
TRLG	**Trialeti**	**1.82**	**97**	P	**Pn**	**11 58 41.0**	**+0.9**
TRLG				S	**Sb**	**11 59 05.8**	**+0.9**
BAYB	**BAYBURT**	**1.86**	**216**	*i* P	**Pn**	**11 58 41.7**	**+1.0**
BAYB				*i* S	**Sn**	**11 59 05.4**	**+1.1**
BAYB				IAML		11 59 06.0	
	comp=E,62nm,0.4s						
BAYB				IAML		11 59 06.0	
	comp=N,36nm,0.4s						
DMNI	**Dmanisi**	**1.92**	**102**	P	**Pb**	**11 58 43.1**	**-0.8**
DMNI				S	**Sb**	**11 59 08.2**	**+0.4**
ZEI	**Tsey**	**1.93**	**57**	*e*Pg	**Pg**	**11 58 45.5**	**-0.2**
ZEI				*e*Sg	**Sg**	**11 59 09.9**	**-0.8**
EJDE	**Erzurum, Palan**	**1.96**	**189**	*i* P	**Pn**	**11 58 42.5**	**+0.3**
EJDE				*i* S	**Sg**	**11 59 12.1**	**+0.4**
EJDE				IAML		11 59 15.0	
	comp=E,98nm,0.8s						
EJDE				IAML		11 59 15.0	
	comp=N,48nm,1.0s						
SHA1	**Shidzhatmaz**	**2.09**	**19**	*e*Pg	**Pg**	**11 58 48.7**	**-0.1**
SHA1				*e*Sg	**Sg**	**11 59 14.9**	**-1.0**
KBZ	**Khabaz**	**2.15**	**24**	*e*Pg	**Pg**	**11 58 48.7**	**-1.2**
KBZ				*e*Sg	**Sg**	**11 59 16.6**	**-1.1**
LSNR	**Lesken**	**2.18**	**46**	*e*Pg	**Pb**	**11 58 48.9**	**+0.7**
LSNR				*e*Sg	**Sb**	**11 59 15.3**	**+0.1**
KORR	**Kora**	**2.19**	**52**	*e*Pg	**Pb**	**11 58 46.8**	**-1.6**
KORR				*e*Sg	**Sb**	**11 59 15.9**	**+0.3**
RPOR	**Krasnaya Polya**	**2.20**	**332**	*e*Pg	**Pg**	**11 58 52.3**	**+1.5**
RPOR				*e*Sg	**Sg**	**11 59 18.9**	**-0.4**
LACR	**Lac**	**2.20**	**60**	*e*Pg	**Pb**	**11 58 48.5**	**-0.1**
LACR				*e*Sg	**Sg**	**11 59 18.3**	**-1.1**
BEYR	**Belyy Ugol+**	**2.39**	**20**	*e*Pn	**Pg**	**11 58 56.1**	**+1.6**
BEYR				*e*Sn	**Sb**	**11 59 21.7**	**+0.5**

IDC ***17*** *12:09:08.9±1.3, 30.49S×72.29W, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.7/37, mbtmp3.8/6, ML3.7/2, Error ellipse: s-maj=60.4km s-min=25.6km az=85.0*

ISC 17 12:09:10.4±1.1, **30.5S**±0.1×**72.2W**±0.3, **h10**km, **n7**, σ1.9**12**/7, **mb3.9**/4, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**8.35**	**21**	Pn	**Pn**	**12 11 10.9**	**-0.9**
	0.5nm,0.3s,baz=187,slow=8.1,SNR=2.6						
PLCA	**Paso Flores**	**10.34**	**173**	Pn	**Pn**	**12 11 38.4**	**-0.4**
	0.2nm,0.3s,baz=334,slow=10,SNR=4.6						
SNAA	**Sanae**	**54.92**	**159**	P	**P**	**12 18 41.4**	**+0.4**
	0.8nm,0.5s,baz=271,slow=7.6,SNR=0.6						
TXAR	**Lajitas Array**	**66.59**	**330**	P	**P**	**12 20 01.5**	**+0.6**
	0.2nm,0.8s,baz=138,slow=8.6,SNR=2.5						
MAW	**Mawson**	**76.61**	**164**	P	**P**	**12 21 00.2**	**-0.6**
	0.5nm,0.4s,baz=227,slow=4.8,SNR=1.6						
TORD	**Torodi Ar. Bea**	**83.14**	**70**	P	**P**	**12 21 38.5**	**+1.5**
	0.4nm,0.6s,baz=240,slow=3.9,SNR=4.0						
ZALV	**Zalesovo Beam**	**151.25**	**29**	PKPbc	**PKiKP**	**12 29 03.1**	**-1.0**
	0.8nm,0.3s,baz=321,slow=1.8,SNR=2.6						

IDC ***17*** *12:09:41.9±0.5, 32.01S×72.21W, h0km, mb4.7/16, mb1 4.7/21, mb1mx4.6/37, mbtmp4.6/21, ML4.6/5, Error ellipse: s-maj=19.3km s-min=12.1km az=89.0*
NEIC ***17*** *12:09:44.0±2.5, 32.14S±0.02×72.21W±0.04, h7km±3km, mb5.2/65, Mwr5.3/33, ML5.0(GUC), Error ellipse: s-maj=6.3km s-min=1.8km az=59.0*
NEIC ***17*** *12:09:44, 32.14S×72.21W, h19km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.01; $M_{\theta\theta}$0.06; $M_{\phi\phi}$-1.07; $M_{r\theta}$-0.07; $M_{r\phi}$0.16; $M_{\theta\phi}$-0.61; Fault plane solution: $M_0$1.22000×10^{17} NP1:ϕ_s179.91000°, δ60.18000°, λ98.00000°. NP2:ϕ_s344.13000°, δ30.78000°, λ76.35000°. Principal axes: T 1.1891, Plg74.0000°, Azm110.0000°; N 0.0613, Plg7.0000°, Azm356.0000°; P -1.2504, Plg15.0000°, Azm264.0000°;*
VAO ***17*** *12:09:44.0±0.3, 32.11S×72.06W, h11km, mb4.9*
GUC ***17*** *12:09:45.2±0.8, 32.17S×72.20W, h40km±4km, ML5.0*
MOS ***17*** *12:09:45.5±1.6, 32.10S×72.12W, h29km, mb5.5/13, Error ellipse: s-maj=12.8km s-min=8.1km az=89.6*
SJA ***17*** *12:09:47.0, 32.38S×72.25W, h10km, ML5.3*

ISC 17 12:09:42.7±0.6, **32.10S**±0.03×**72.31W**±0.03, **h6**km±3km, **h6**km:**pP-P**, **n325**, σ1.9**86**/333, **mb5.1**/45, **MS5.3**/8, **36C-6D**, **Fault plane solution: NP1**:ϕ_s330.05029°, δ23.04948°, λ60.93137°. **NP2**:ϕ_s181.18660°, δ69.98850°, λ101.68018°. **Principal axes:** T Plg63.2062°, Azm109.7024°; N Plg10.9659°, Azm357.1400°; P Plg24.1218°, Azm262.1625°; **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA01	**Torpederas**	**1.07**	**149**	*i* P	**Pg**	**12 10 03.1**	**-0.2**
VA01				*i* S	**Sg**	**12 10 15.9**	**-1.4**
VA01	**Torpederas**	**1.07**	**149**		**Pg**	**12 10 03.1**	**-0.2**
VA01	**Torpederas**	**1.07**	**149**	*i* P	**Pn**	**12 10 04.0**	**-0.2**
ROCH	**El Roble**	**1.40**	**129**	*i* P	**Pn**	**12 10 07.9**	**-1.0**
ROCH				*i* S	**Sb**	**12 10 25.1**	**-2.3**
ROCH				IAML		12 10 30.4	
	comp=E,56μm,0.3s						
CO06	**Fray Jorge**	**1.54**	**22**	Sn	**Sn**	**12 10 29.1**	**-1.8**
VA03	**San Esteban**	**1.62**	**114**	*i* P	**Pn**	**12 10 11.1**	**-0.9**
VA03				*i* S	**Sn**	**12 10 30.7**	**-2.5**
VA03				IAML		12 10 38.5	
	comp=N,80μm,0.4s						
VA03	**San Esteban**	**1.62**	**114**		**Pn**	**12 10 11.1**	**-0.8**
VA03				Sn	**Sn**	**12 10 30.5**	**-2.8**
VA03	**San Esteban**	**1.62**	**114**	*i* P	**Pn**	**12 10 11.0**	**-0.9**
VA05	**Santo Domingo**	**1.66**	**160**	*i* P	**Pn**	**12 10 11.6**	**-0.6**
VA05				*i* S	**Sn**	**12 10 30.6**	**-3.2**
VA05				IAML		12 10 45.5	
	comp=N,22μm,0.7s						
VA05	**Santo Domingo**	**1.66**	**160**		**Pn**	**12 10 11.1**	**-1.2**
VA05				Sn	**Sn**	**12 10 30.6**	**-3.2**
MT05	**Renca**	**1.84**	**135**	*i* P	**Pn**	**12 10 14.6**	**-0.3**
MT05				*i* S	**Sn**	**12 10 36.8**	**-1.8**
MT05				IAML		12 10 42.8	
	comp=E,33μm,0.3s						
MT05	**Renca**	**1.84**	**135**		**Pn**	**12 10 14.6**	**-0.3**
MT05				Sn	**Sn**	**12 10 38.5**	**-0.2**
MT05	**Renca**	**1.84**	**135**	*i* P	**Pn**	**12 10 15.0**	**+0.1**
CO03	**El Pedregal**	**1.87**	**48**	*i* P	**Pn**	**12 10 15.4**	**+0.1**
CO03				IAML		12 10 50.4	
	comp=N,26μm,0.8s						
CO03	**El Pedregal**	**1.87**	**48**	Pn	**Pn**	**12 10 15.4**	**+0.1**
MT01	**Popeta**	**1.97**	**153**	*e*P	**Pn**	**12 10 15.8**	**-0.7**
MT01				*i* S	**Sn**	**12 10 39.4**	**-2.2**
MT01	**Popeta**	**1.97**	**153**		**Pn**	**12 10 15.9**	**-0.6**
MT01				Sn	**Sn**	**12 10 39.4**	**-2.2**
MT01	**Popeta**	**1.97**	**153**	*i* P	**Pn**	**12 10 17.0**	**+0.4**
MT09	**Talagante**	**2.00**	**147**	*i* P	**Pn**	**12 10 17.0**	**-0.2**
MT09				*i* S	**Sn**	**12 10 41.1**	**-1.6**
MT09				IAML		12 10 53.1	
	comp=N,19μm,0.4s						
MT09	**Talagante**	**2.00**	**147**		**Pn**	**12 10 17.4**	**+0.2**
MT09				Sn	**Sn**	**12 10 41.0**	**-1.6**
GO04	**Tololo Observa**	**2.32**	**34**	*e*P	**Pn**	**12 10 22.0**	**+0.4**
GO04	**Tololo Observa**	**2.32**	**34**		**Pn**	**12 10 21.6**	**0.0**
BO03	**Pichilemu**	**2.40**	**173**	*i* P	**Pn**	**12 10 22.1**	**-0.5**
BO03				IAML		12 11 12.8	
	comp=N,6μm,0.8s						
AUSP	**Uspallata**	**2.48**	**94**	*i* P	**Pb**	**12 10 26.0**	**-1.8**
LMEL	**Las Melosas**	**2.48**	**135**	*i* P	**Pn**	**12 10 24.2**	**+0.4**
LMEL				IAML		12 11 06.3	
	comp=N,11μm,0.8s						
BO01	**Tunca**	**2.50**	**156**	*i* P	**Pn**	**12 10 23.5**	**-0.4**
BO01				*i* S	**Sn**	**12 10 53.3**	**-1.4**
BO01				IAML		12 11 07.1	
	comp=E,7μm,0.3s						
BO01	**Tunca**	**2.50**	**156**	*i* P	**Pn**	**12 10 25.0**	**+1.1**
RTLS	**Leoncito**	**2.58**	**84**	*i* P	**Pb**	**12 10 29.0**	**-0.5**
GO05	**Huala**	**2.92**	**174**	*e*P	**Pn**	**12 10 29.0**	**-0.6**
GO05	**Huala**	**2.92**	**174**		**Pn**	**12 10 29.4**	**-0.2**
GO05	**Huala**	**2.92**	**174**	*i* P	**Pn**	**12 10 29.0**	**-0.6**
ARCO	**CERRO ARCO**	**2.95**	**105**	*i* P	**Pb**	**12 10 35.0**	**-0.7**
ZON	**Zonda**	**3.14**	**81**	P	**Pb**	**12 10 35.8**	**-3.1**
ZON	**Zonda**	**3.14**	**81**		**Pb**	**12 10 35.8**	**-3.1**
ZON	**Zonda**	**3.14**	**81**	*i* P	**Pb**	**12 10 38.0**	**-0.9**
RTCV	**Cerro Valdivia**	**3.21**	**87**	*i* P	**Pb**	**12 10 38.0**	**-2.2**
LCO	**Las Campanas**	**3.38**	**25**	P	**Pn**	**12 10 37.3**	**+1.0**
LCO	**Las Campanas**	**3.38**	**25**	Pn	**Pn**	**12 10 37.2**	**+1.0**
ML02	**Panimavida**	**3.72**	**169**		**Pn**	**12 10 41.0**	**+0.3**
COIS	**El Sosneado**	**3.75**	**144**	*i* P	**Pn**	**12 10 43.0**	**+1.8**
LAMA	**Las Malvinas**	**3.83**	**138**	*i* P	**Pn**	**12 10 45.0**	**+2.8**
AC04	**Llanos de Chal**	**4.03**	**16**	*e*P	**Pn**	**12 10 45.5**	**+0.5**
AC04	**Llanos de Chal**	**4.03**	**16**	Pn	**Pn**	**12 10 45.7**	**+0.8**
AVFE	**Valle Fertil**	**4.39**	**72**	*i* P	**Pn**	**12 10 54.0**	**+4.0**
GO03	**Copiap**	**4.84**	**22**	Pn	**Pn**	**12 10 57.6**	**+1.5**
ACHE	**Chepes**	**4.90**	**80**	*i* P	**Pn**	**12 11 00.0**	**+2.9**
VA04	**Juan Fernndez**	**5.70**	**253**		**Pn**	**12 11 09.2**	**+1.4**
H03N1	**Juan Fernandez**	**5.72**	**255**	Pn	**Pn**	**12 11 09.3**	**+1.4**
	baz=80						
H03N1				Sn	**Sn**	**12 12 11.5**	**-2.2**
	baz=150						
H03N1				T	T	12 18 00.6	
	baz=80,slow=72,SNR=1181						
H03N3	**Juan Fernandez**	**5.73**	**255**	Pn	**Pn**	**12 11 07.2**	**-0.9**
	baz=80						
H03N3				Sn	**Sn**	**12 12 11.2**	**-2.9**
	baz=150						
H03N3				T	T	12 17 59.2	
	baz=80,slow=72,SNR=1140						
H03N2	**Juan Fernandez**	**5.74**	**255**	Pn	**Pn**	**12 11 09.5**	**+1.4**
	baz=180						
H03N2				Sn	**Sn**	**12 12 12.6**	**-1.5**
	baz=118						
H03N2				T	T	12 18 09.8	
	baz=80,slow=72,SNR=124						
H03S3	**Juan Fernandez**	**5.81**	**251**	Pn	**Pn**	**12 11 09.8**	**+0.7**
	baz=180						
H03S3				Sn	**Sn**	**12 12 10.1**	**-5.8**
	baz=118						
H03S3				T	T	12 17 55.5	
	baz=72,slow=74						
H03S1	**Juan Fernandez**	**5.81**	**251**	Pn	**Pn**	**12 11 10.2**	**+1.1**
	baz=80						
H03S1				Sn	**Sn**	**12 12 09.4**	**-6.6**
	baz=150						
H03S1				T	T	12 17 54.1	
	baz=72,slow=74						
H03S2	**Juan Fernandez**	**5.83**	**251**	Pn	**Pn**	**12 11 09.8**	**+0.4**
	baz=180						
H03S2				Sn	**Sn**	**12 12 10.0**	**-6.3**
	baz=118						
H03S2				T	T	12 17 51.5	
	baz=72,slow=74						
AC02	**Maricunga**	**5.94**	**29**	Pn	**Pn**	**12 11 12.7**	**+1.1**
LC01	**Cunco**	**6.79**	**177**	Pn	**Pn**	**12 11 22.1**	**-0.7**
LC01	**Cunco**	**6.79**	**177**	*i* P	**Pn**	**12 11 23.0**	**+0.2**
PLCA	**Paso Flores**	**8.73**	**171**	Pn	**Pn**	**12 11 50.3**	**+0.8**
	comp=E,3.9nm,0.3s,baz=335,slow=11,SNR=75						
PLCA				Lg	Lg	12 14 17.0	
	comp=E,0.2nm,0.3s,baz=63,slow=21,SNR=1.9						
PLCA	**Paso Flores**	**8.73**	**171**	*e*P	**Pn**	**12 11 50.1**	**+0.6**
PLCA	**Paso Flores**	**8.73**	**171**	*i* P	**Pn**	**12 11 50.0**	**+0.6**
LVC	**Limon Verde**	**9.93**	**19**	Pn	**Pn**	**12 12 03.2**	**-3.0**
	comp=E,0.9nm,0.3s,baz=213,slow=13,SNR=1.4						
LVC				Sn	**Sn**	**12 13 58.4**	**+0.2**
	comp=E,3.7nm,0.3s,baz=337,slow=11,SNR=2.1						
LVC	**Limon Verde**	**9.93**	**19**	*e*P	**Pn**	**12 12 06.1**	**-0.2**
LVC	**Limon Verde**	**9.93**	**19**	*i* P	Pn	12 12 14.0	+7.7
TRQA	**Tornquist**	**10.33**	**128**	P	**Pn**	**12 12 10.9**	**-0.6**
TRQA	**Tornquist**	**10.33**	**128**	Pn	**Pn**	**12 12 10.9**	**-0.6**
TRQA	**Tornquist**	**10.33**	**128**	*e*P	**Pn**	**12 12 10.5**	**-1.0**
PB01	**IPOC Station P**	**11.30**	**14**		**Pn**	**12 12 27.4**	**+2.5**
LPA	**La Plata**	**12.32**	**107**	*e*P	Pn	12 12 28.5	-10
LPA				pP		12 12 40.7	
LPA				PPP	PPP	12 12 54.8	
LPA				PP	**PbPb**	**12 13 20.2**	**+1.7**
LPA				pPP		12 13 31.9	
LPA				sS	**Sn**	**12 14 59.2**	**+2.9**
LPA				SS	**SnSn**	**12 15 13.2**	**+5.0**
LPA				SSS	SSS	12 15 25.4	
COYC	**Coyhaique**	**13.45**	**179**		**Pn**	**12 12 55.0**	**+1.0**
CPUP	**Villa Florida**	**14.28**	**70**	Pn	**Pn**	**12 13 04.4**	**-1.1**
	comp=E,0.9nm,0.3s,baz=247,slow=12,SNR=12						
CPUP				Sn	**Sn**	**12 15 43.7**	**-0.6**
	comp=E,0.9nm,0.3s,baz=320,slow=14,SNR=1.8						
CPUP	**Villa Florida**	**14.28**	**70**	Pn	**Pn**	**12 13 05.7**	**+0.2**
CPUP	**Villa Florida**	**14.28**	**70**	*e*P	**Pn**	**12 13 05.0**	**-0.5**
PLTB	**Pedras Altas**	**15.89**	**94**	Pn	**Pn**	**12 13 23.2**	**-3.7**
PLTB	**Pedras Altas**	**15.89**	**94**	*e*P	**Pn**	**12 13 26.1**	**-0.8**
LPAZ	**La Paz**	**16.20**	**15**	Pn	**Pn**	**12 13 30.9**	**-0.7**
	comp=E,0.5nm,0.3s,baz=189,slow=7.9,SNR=19						
LPAZ	**La Paz**	**16.20**	**15**	Pn	**Pn**	**12 13 32.2**	**+0.7**
LPAZ	**La Paz**	**16.20**	**15**	*e*P	**Pn**	**12 13 32.1**	**+0.7**
CPSB	**Cacapava Do Su**	**16.23**	**89**	*e*P	**Pn**	**12 13 30.4**	**-0.9**
CNLB	**Canela**	**18.66**	**87**	*e*P	**P**	**12 14 00.6**	**-0.7**
AQDB	**Aquidauana**	**18.84**	**56**	P	**P**	**12 14 01.9**	**-1.5**
AQDB	**Aquidauana**	**18.84**	**56**	*e*P	**P**	**12 14 01.9**	**-1.4**
SIV	**San Ignacio**	**19.02**	**35**	P	**P**	**12 14 04.1**	**-1.3**
	comp=E,2.2nm,0.3s,baz=217,slow=9.9,SNR=36						
PTGB	**Pitanga**	**19.25**	**73**	*e*P	**P**	**12 14 07.7**	**-0.3**
TRCB	**Terra Rica**	**19.74**	**67**	P	**P**	**12 14 13.3**	**-0.1**
TRCB				IAmb	IAmb	12 14 28.1	
	comp=Z,66nm,0.8s						
TRCB	**Terra Rica**	**19.74**	**67**	*e*P	**P**	**12 14 12.4**	**-1.0**
TER01	**Tubaro-SC**	**20.32**	**86**	*e*P	**P**	**12 14 18.5**	**-1.0**
NNA	**Nana**	**20.45**	**347**	P	**P**	**12 14 19.4**	**-1.6**
	comp=Z,2.4nm,0.3s,baz=263,slow=15,SNR=1.1						
PTLB	**Pontes e Lacer**	**20.46**	**39**	*e*P	**P**	**12 14 20.4**	**-0.7**
PP1B	**Ponte de Pedra**	**21.37**	**52**	*e*P	**P**	**12 14 29.4**	**-1.6**
PCMB	**Pacaembu**	**21.45**	**66**	*e*P	**P**	**12 14 30.1**	**-1.7**
TIJ01	**Guaruva-PR**	**21.50**	**78**	*e*P	**P**	**12 14 27.2**	**-5.2**
FRTB	**Fartura**	**21.91**	**72**	*e*P	**P**	**12 14 35.0**	**-1.8**
VILB	**Vilhena**	**22.07**	**33**	*e*P	**P**	**12 14 37.5**	**-1.0**
SALV	**Santo Antonio**	**22.10**	**47**	*e*P	**P**	**12 14 36.7**	**-2.0**
EFI	**East Falkland**	**22.17**	**156**	*e*P	**P**	**12 14 39.3**	**+0.1**
EFI				pmax	pmax		
	comp=Z,300nm,2.5s						
EFI	**East Falkland**	**22.17**	**156**	P	**P**	**12 14 37.7**	**-1.5**
ETMB	**Extrema**	**22.89**	**16**	*e*P	**P**	**12 14 48.3**	**+1.2**
ITRB	**Iturama**	**23.23**	**63**	*e*P	**P**	**12 14 48.5**	**-2.3**
PET01	**Itanhaem-SP**	**23.36**	**77**	*e*P	**P**	**12 14 49.5**	**-2.5**
SPB	**Sao Paulo**	**23.53**	**75**	P	**P**	**12 14 52.6**	**-1.1**
SPB	**Sao Paulo**	**23.53**	**75**	*e*P	**P**	**12 14 52.6**	**-1.1**
BB19B	**Bebedouro**	**23.89**	**68**	*e*P	**P**	**12 14 55.4**	**-1.9**
RCLB	**Rio Claro- Sao**	**24.00**	**72**	*e*P	**P**	**12 14 54.8**	**-3.5**
VAO	**Valinhos**	**24.18**	**74**	*e*P	**P**	**12 14 57.0**	**-3.1**
CZSB	**Cruzeiro do Su**	**24.25**	**359**	*e*P	**P**	**12 15 01.7**	**+1.0**
SAML	**Samuel**	**24.55**	**22**	P	**P**	**12 15 02.2**	**-1.1**
SAML				pmax	pmax		
	comp=Z,179nm,2.0s						
SAML	**Samuel**	**24.55**	**22**	P	**P**	**12 15 02.1**	**-1.1**
PARB	**Paraibuna**	**25.13**	**76**	*e*P	**P**	**12 15 08.3**	**-0.4**
IPMB	**Ipameri, GO**	**25.89**	**63**	*e*P	**P**	**12 15 13.6**	**-2.0**
CLDB	**Colider**	**26.05**	**39**	*e*P	**P**	**12 15 16.6**	**-0.3**
BSCB	**Bom Sucesso**	**26.93**	**73**	*e*P	**P**	**12 15 22.2**	**-2.7**
VAS01	**Vassouras-RJ**	**27.40**	**76**	*e*P	**P**	**12 15 28.5**	**-0.6**
BDFB	**Brasilia**	**27.51**	**59**	P	**P**	**12 15 28.8**	**-1.5**
	comp=Z,81nm,0.9s,baz=227,slow=8.6,SNR=37						
BDFB	**Brasilia**	**27.51**	**59**	P	**P**	**12 15 28.7**	**-1.5**
BDFB				pmax	pmax		
	comp=Z,315nm,1.5s						
BDFB	**Brasilia**	**27.51**	**59**	P	**P**	**12 15 28.7**	**-1.5**
SNDB	**Serra Nova Dou**	**27.84**	**49**	*e*P	**P**	**12 15 32.3**	**-0.7**
TBTG	**Tabatinga, AM**	**27.86**	**5**	*e*P	**P**	**12 15 34.3**	**+1.1**
DUB01	**Friburgo-RJ**	**28.38**	**77**	*e*P	**P**	**12 15 37.4**	**-0.5**
CAM01	**Campos-RJ**	**29.08**	**77**	*e*P	**P**	**12 15 43.7**	**-0.4**
DIAM	**Diamantina, MG**	**29.22**	**69**	*e*P	**P**	**12 15 44.6**	**-1.0**
NPGB	**Novo Progresso**	**29.52**	**36**	*e*P	**P**	**12 15 46.8**	**-1.2**
PEXB	**Peixe**	**29.72**	**53**	*e*P	**P**	**12 15 50.2**	**+0.4**
MC01	**Montes Claros**	**29.91**	**66**	*e*P	**P**	**12 15 50.4**	**-1.2**
ALF01	**Guarapari-ES**	**30.41**	**76**	*e*P	**P**	**12 15 55.8**	**-0.1**
JANB	**Januaria**	**30.63**	**63**	*e*P	**P**	**12 15 56.6**	**-1.3**
MACA	**Manacapuru-AM**	**30.80**	**23**	*e*P	**P**	**12 15 59.9**	**+0.6**
SJMB	**Sao Joao De Ma**	**31.00**	**72**	*e*P	**P**	**12 15 59.5**	**-1.6**
BSFB	**Barra de Sao F**	**31.20**	**73**	*e*P	**P**	**12 16 00.8**	**-2.1**
RIB01	**Linhares ES**	**31.32**	**74**	*e*P	**P**	**12 16 03.7**	**-0.3**
ITTB	**Itaituba**	**31.67**	**33**	*e*P	**P**	**12 16 05.9**	**-1.1**
SDBA	**SAO DESIDERIO**	**31.90**	**58**	*e*P	**P**	**12 16 07.8**	**-1.3**
NAN01	**Guarapari, ES**	**32.30**	**72**	*e*P	**P**	**12 16 10.4**	**-2.1**
SMTB	**

comp=Z,32nm,1.1s
WVT Waverly 69.42 347 P **P** 12 20 52.4 +1.1
baz=166
W39A Magazine 69.92 341 P **P** 12 20 56.4 +1.9
baz=161
TIAR Tiarei 70.11 261 *e*T T 13 38 10.5
comp=Z,1.2nm,0.3s
PPT2 Papeete2 70.29 261 *e*S S 12 30 22.5 +12
comp=Z,533nm,22.8s
PPT2 Papeete2 70.29 261 *e*LR LR 12 42 27.5
comp=Z,900nm,27.0s,baz=100
X34A Smith Ranch, M 70.56 338 IAmb IAmb 12 21 11.0
comp=Z,22nm,0.8s
MNTX Cornudas Mount 70.75 330 P **P** 12 21 00.8 +1.1
baz=151
U40A Yellville 70.77 343 P **P** 12 21 01.1 +1.4
baz=162
MSTX Muleshoe 71.71 334 IAmb IAmb 12 21 17.8
comp=Z,41nm,1.4s
MSTX Muleshoe 71.71 334 P **P** 12 21 07.5 +1.9
baz=153
CCM Cathedral Cave 72.00 344 P **P** 12 21 08.2 +1.2
CCM pmax pmax
comp=Z,46nm,1.5s
CCM Cathedral Cave 72.00 344 P **P** 12 21 08.2 +1.2
CCM IAmb IAmb 12 21 34.0
comp=Z,46nm,1.5s
CCM Cathedral Cave 72.00 344 P **P** 12 21 08.3 +1.2
baz=163
121A Cookes Peak, D 72.50 329 IAmb IAmb 12 21 38.5
comp=Z,21nm,1.2s
121A Cookes Peak, D 72.50 329 P **P** 12 21 13.8 +3.4
baz=149
ANMO Albuquerque 74.02 331 P **P** 12 21 22.8 +3.4
baz=150
LIC Lamto 74.40 72 *e*P **P** 12 21 21.4 -0.5
comp=Z,131nm,1.5s
TIC Toumodi 74.65 72 *e*P **P** 12 21 22.9 -0.4
KIC Kosan Boka 74.71 72 *e*P **P** 12 21 23.3 -0.4
comp=Z,61nm,0.7s
DBIC Dimbokro 74.80 72 P **P** 12 21 24.0 -0.1
comp=Z,18nm,0.8s,baz=232,slow=5.4,SNR=28
DBIC Dimbokro 74.80 72 P **P** 12 21 24.1 -0.1
MAW Mawson 75.06 164 P **P** 12 21 25.4 +0.6
comp=Z,19nm,1.2s,baz=218,slow=7.5,SNR=12
MAW Mawson 75.06 164 P **P** 12 21 25.7 +0.9
SDCO Great Sand Dun 76.08 333 IAmb IAmb 12 22 05.9
comp=Z,29nm,1.9s
SDCO Great Sand Dun 76.08 333 P **P** 12 21 33.9 +2.5
baz=151
Q24A Divide 77.02 334 P **P** 12 21 39.4 +2.8
baz=152
KNB Kanab 78.50 328 IAmb IAmb 12 22 06.7
comp=Z,41nm,1.5s
ECSD EROS Data Cent 78.68 342 P **P** 12 21 46.8 +1.3
baz=159
GSC Goldstone, Bar 79.00 324 P **P** 12 21 51.5 +4.0
baz=143
CCUT Cedar City 79.18 328 P **P** 12 21 46.7 -1.9
CCUT IAmb IAmb 12 22 02.6
comp=Z,32nm,1.5s
O20A White River Ci 79.21 333 P **P** 12 21 51.0 +2.4
baz=150
SRU San Rafael Swe 79.25 331 IAmb IAmb 12 22 01.7
comp=Z,41nm,1.8s
Q16A Castle Valley 79.36 330 IAmb IAmb 12 22 10.9
comp=Z,30nm,1.6s
MVU Marysvale 79.46 329 P **P** 12 21 49.5 -0.6
ISA Isabella, Lake 80.12 323 P **P** 12 21 57.5 +3.9
baz=142
CWC Cottonwood Cre 80.53 324 P **P** 12 21 59.3 +3.5
baz=142
K22A Casper 80.75 335 IAmb IAmb 12 22 17.9
comp=Z,30nm,1.4s
SPR3 Spring Creek 3 80.81 328 P **P** 12 21 55.6 -1.9
SPR3 IAmb IAmb 12 22 15.4
comp=Z,22nm,1.3s
R11A Troy Canyon, C 80.85 327 P **P** 12 22 00.4 +2.8
baz=144
JLU Jordanelle 80.89 331 IAmb IAmb 12 22 16.4
comp=Z,52nm,1.9s
LCH Last Change Ra 80.94 325 P **P** 12 22 00.4 +2.4
BOSA Boshof 81.16 118 P **P** 12 21 59.5 -0.1
comp=Z,35nm,1.2s,baz=227,slow=5.4,SNR=18
BOSA Boshof 81.16 118 P **P** 12 21 59.5 -0.1
BOSA IAmb IAmb 12 22 00.0
comp=Z,22nm,0.9s
HWUT Hardware Ranch 81.78 331 IAmb IAmb 12 22 20.7
comp=Z,56nm,2.0s
CASY Casey 81.91 181 P **P** 12 22 04.6 +1.9
CASY IAmb IAmb 12 22 29.1
comp=Z,36nm,1.4s
PDAR Pinedale Array 81.97 333 P **P** 12 22 02.2 -1.3
comp=Z,0.3nm,0.8s,baz=167,slow=4.4,SNR=1.6
NVAR Mina Array Bea 82.20 325 P **P** 12 22 04.9 +0.2
comp=Z,1.4nm,0.9s,baz=138,slow=6.1,SNR=8.1
NVAR Mina Array Bea 82.20 325 P **P** 12 22 06.8 +2.1
KVN Kaiserville 82.59 326 P **P** 12 22 04.8 -2.0
KVN pmax pmax
comp=Z,20nm,1.5s
KVN Kaiserville 82.59 326 P **P** 12 22 04.8 -2.0
KVN IAmb IAmb 12 22 19.7
comp=Z,20nm,1.5s
ELK Elko 82.63 329 IAmb IAmb 12 22 19.7
comp=Z,17nm,1.6s
LBTB Lobatse 83.31 115 P **P** 12 22 07.3 -3.6
LBTB pmax pmax
comp=Z,134nm,2.0s
LBTB Lobatse 83.31 115 P **P** 12 22 07.3 -3.6
TORD Torodi Ar. Bea 83.78 70 P **P** 12 22 12.9 -0.3
comp=Z,12nm,0.8s,baz=265,slow=4.5,SNR=38
TORD PKKPbc **PKKPbc** 12 40 29.7 +0.8
comp=Z,2.5nm,0.7s,baz=266,slow=4.8,SNR=4.2
YMR Madison River 84.13 333 IAmb IAmb 12 22 30.8
comp=Z,23nm,1.3s
YHH Holmes Hill 84.18 334 P **P** 12 22 13.7 -1.3
YHH IAmb IAmb 12 22 36.7
comp=Z,18nm,1.4s
LSZ Lusaka 90.61 108 P **P** 12 22 47.9 +1.2
LSZ pmax pmax
comp=Z,61nm,1.9s
LSZ Lusaka 90.61 108 P **P** 12 22 47.9 +1.2
ESDC Sonseca Array 95.43 46 P **P** 12 23 07.7 -0.4
comp=Z,0.9nm,1.0s,baz=302,slow=5.8,SNR=2.3
DZM Mont Dzumac 102.17 234 *e*LR LR 12 57 12.0
comp=Z,803nm,22.9s
KLNR Kaliningrad 116.86 41 *i* PKIKP **PKiKP** 12 28 31.3 +3.7
KLNR pmax pmax
comp=Z,23nm,0.8s
ASAR Alice Springs 119.14 208 PKP **PKPdf** 12 28 31.6 -1.6
comp=Z,0.9nm,0.7s,baz=166,slow=3.4,SNR=8.7
ASAR PKKPbc **PKKPbc** 12 38 46.5 +0.4
comp=Z,0.6nm,0.6s,baz=337,slow=2.9,SNR=11
AKASG Malin Array Be 121.07 47 PKP **PKPdf** 12 28 35.4 -0.4
comp=Z,0.8nm,0.4s,baz=284,slow=2.6,SNR=5.3
MNK Minsk 121.14 42 *i* PKIKP **PKPdf** 12 28 32.2 -3.6
MNK *i* 12 30 04.8
MNK *i* PPP PPP 12 32 38.7
MNK *i* 12 35 41.5
MNK *i* PS **PS** 12 39 56.8 -1.5
MNK *i* SS SS 12 46 37.6 -2.3
MNK pmax pmax
comp=Z,14nm,1.0s
MNK pmax pmax
comp=N,18nm,1.0s
MNK pmax pmax
comp=E,1.0nm,0.6s
MNK MLR MLR
comp=N,595nm,20.0s
MNK MLR MLR
comp=Z,1μm,23.0s
MNK MLR MLR
comp=E,131nm,20.0s
MNK Minsk 121.14 42 *i* PKP **PKPdf** 12 28 32.2 -3.6
comp=E,1.0nm,0.7s
MNK *i* PKP **PKPdf** 12 28 32.2 -3.6
comp=N,18nm,1.0s
MNK *i* PKP **PKPdf** 12 28 32.2 -3.6
comp=Z,14nm,1.0s,baz=78
MNK *i* PP **PP** 12 30 04.9 -1.5
MNK *i* PPP PPP 12 32 38.7
MNK *i* SKS **SKSdf** 12 35 41.5 -6.5
MNK *i* PS **PS** 12 39 56.8 -1.5
MNK *i* SS **SS** 12 46 37.6 -2.2
MNK *i* SSS SSS 12 51 18.2
MNK *i* LR LR 13 18 14.2
MNK *i* LRM MLR 13 20 19.4
comp=N,595nm,20.2s
MNK *i* LRM MLR 13 20 41.8
comp=Z,1μm,23.2s
MNK *i* LRM MLR 13 20 45.5
comp=E,131nm,19.5s
WRA Warramunga Arr 122.30 210 PKP **PKPdf** 12 28 39.4 +0.1
comp=E,1.9nm,0.8s,baz=165,slow=1.9,SNR=17
WRAB Tennant Creek 122.30 210 *i* PKIKP **PKPdf** 12 28 38.0 -1.3
H11S2 WAKE ISLAND Hyl 125.55 271 T T 14 47 57.0
baz=117,slow=74,SNR=16
H11S1 WAKE ISLAND Hyl 125.56 271 T T 14 47 57.7
baz=117,slow=74,SNR=17
H11S3 WAKE ISLAND Hyl 125.57 271 T T 14 47 59.7
baz=117,slow=74,SNR=18
LVZ Lovozero 125.68 26 *c* *i* PKIKP **PKiKP** 12 28 45.1 +0.5
LVZ pmax pmax
comp=Z,17nm,1.7s
H11N3 WAKE ISLAND Hyl 125.91 272 T T 14 48 20.8
baz=116
H11N1 WAKE ISLAND Hyl 125.93 272 T T 14 48 22.9
baz=116
H11N2 WAKE ISLAND Hyl 125.93 272 T T 14 48 20.3
baz=116
OBN Obninsk 126.20 42 ⇑ *i* PKIKP **PKiKP** 12 28 46.6 +0.7
OBN 12 28 57.0
OBN *e* 12 35 45.6
OBN pmax pmax
comp=Z,7.0nm,0.5s
KLMR Klimovskoe 128.00 35 *e*PKIKP **PKPdf** 12 28 47.4 -1.3
KLMR pmax pmax
comp=Z,29nm,1.4s
KLMR Klimovskoe 128.00 35 *e*PKPdf **PKPdf** 12 28 47.5 -1.3
KLMR AMP 12 28 51.2
comp=Z,29nm,1.4s
KIV Kislovodsk 128.67 57 *e*PKIKP **PKiKP** 12 28 52.0 +0.6
KIV pmax pmax
comp=Z,8.0nm,0.9s
PRGR Permogore 130.89 34 *e*PKIKP **PKPdf** 12 28 54.2 0.0
PRGR pmax pmax
comp=Z,60nm,1.4s
BILL Bilibino 131.03 335 ⇓ *e*PKIKP **PKiKP** 12 28 59.7 +4.4
BILL 12 29 06.0
BILL 12 29 12.0
BILL *e* 12 36 07.5
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL MLR MLR
comp=Z,448nm,17.0s
MAK Makhachkala 131.98 59 *e*P **Pdif** 12 25 51.8 +1.1
MAK *i* 12 28 58.2
MAK *e* 12 31 19.8
MAK *e*SS SS 12 48 53.0 -2.9
MAK pmax pmax
comp=Z,160nm,1.4s
ARU Arti 138.44 39 *i* PKIKP **PKiKP** 12 29 09.6 -1.0
ARU 12 31 57.6
PETK Petropavlovsk- 138.66 316 PKP **PKPdf** 12 29 09.5 +0.4
comp=Z,3.7nm,1.1s,baz=88,slow=7.6,SNR=4.3
SKR Severo-Kuril's 140.03 312 *i* PKHKP PKPpre 12 28 58.4
ABKAR Akbulak array 140.66 50 PKPpre 12 29 06.2
NRIK Noril'sk 141.01 11 PKP **PKPdf** 12 29 12.9 +0.1
comp=Z,1.6nm,0.5s,baz=312,slow=4.7,SNR=3.7
NRIK Noril'sk 141.01 11 *c* *i* PKIKP **PKiKP** 12 29 15.6 +0.1
BRVK Borovoye 145.95 41 *c* *i* PKP2 **PKPab** 12 29 24.2 +1.0
BRVK pmax pmax
comp=Z,73nm,2.5s
KUR Kuril'sk 146.35 305 PKHKP PKPpre 12 29 20.7
KUR *i* 12 29 27.0
KUR pmax pmax
comp=Z,700nm,6.5s
KUR MLR MLR
comp=E,2μm,19.0s
KUR MLR MLR
comp=Z,2μm,19.0s
POO Poona 146.71 106 *e*P **PKPdf** 12 29 23.0 -1.4
YAK Yakutsk 146.87 341 *e*PKP2 **PKPbc** 12 29 24.7 -0.4
YAK pmax pmax
comp=Z,39nm,1.4s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK Yakutsk 146.87 341 **PKiKP** 12 29 28.6 +0.9
YUK Yuzh-Kuril'sk 147.95 303 *e*PKIKP **PKPdf** 12 29 25.8 +0.2
YUK *e* 12 32 57.6
YUK *e*PPP PPP 12 36 15.3
YUK *e* 12 45 33.3
YUK *e*SS SS 12 52 05.3 +2.2
YUK *e*SSS SSS 12 57 39.7
NKL Nikolayevsk 148.32 321 *i* PKP2 **PKPbc** 12 29 30.1 +0.8
NKL *e*SS SS 12 52 53.0 +47
KKAR Karatay Array 148.80 59 PKIKP **PKPdf** 12 29 27.2 +0.1
KKAR Karatay Array 148.80 59 PKPdf **PKPdf** 12 29 27.2 +0.1
YSS Yuzh-Sakhalins 149.45 309 *e*PKP2 **PKPbc** 12 29 32.7 +0.3
YSS pmax pmax
comp=Z,10.0nm,1.6s
HYB Hyderabad 149.89 112 *i* PKP **PKPbc** 12 29 34.0 -0.5
ZAA0 Zalesovo Array 152.72 30 PKPdf **PKPdf** 12 29 33.2 +0.4
ZALV Zalesovo Beam 152.72 30 PKP **PKPdf** 12 29 32.8 0.0
comp=Z,1.5nm,0.6s,baz=316,slow=4.1,SNR=5.2
ZALV PKPbc **pPKPbc** 12 29 40.6 -0.2
comp=Z,23nm,0.6s,baz=300,slow=3.2,SNR=55
KSH Kashi 153.33 65 PKPbc **PKPdf** 12 29 36.8 +2.5
KSH LR LR
comp=Z,850nm,18.5s
KSH LR LR
comp=Z,950nm,18.5s
KSH LR LR
comp=Z,1μm,19.9s
BOD Bodaibo 153.93 352 *e*PKIKP **PKPbc** 12 29 42.2 -0.2
BOD pmax pmax
comp=Z,17nm,2.0s
MJAR Matsushiro Ant 154.47 288 PKPbc **PKPbc** 12 29 42.5 -1.8
comp=Z,0.8nm,0.7s,baz=86,slow=7.0,SNR=2.5
MJAR PKPab **sPKPab** 12 30 00.1 +0.2
comp=Z,2.5nm,0.9s,baz=236,slow=0.5,SNR=4.3
MKAR Makanchi Array 155.65 46 PKP **PKPdf** 12 29 35.4 -1.8
comp=Z,1.8nm,1.0s,baz=8.7,slow=1.6,SNR=4.0
MKAR PKPbc sPKPbc 12 29 48.0 +0.4
comp=Z,3.4nm,1.0s,baz=318,slow=1.6,SNR=7.2
MKAR PKPab **pPKPab** 12 30 03.8 -0.5
comp=Z,2.4nm,0.7s,baz=295,slow=5.0,SNR=8.0
WMQ Urumqi 160.42 48 *e*PKP **PKPdf** 12 29 44.4 +1.2
WMQ LR LR
comp=Z,720nm,20.3s
WMQ LR LR
comp=Z,1μm,21.3s
WMQ LR LR
comp=Z,1μm,18.3s
KSRS Korea Array 162.55 293 PKP **PKPdf** 12 29 45.4 -0.1
comp=Z,1.3nm,0.9s,baz=333,slow=34,SNR=3.4
SONM Songino Array 164.26 3 PKP **PKPdf** 12 29 46.7 -0.3
comp=Z,0.2nm,0.4s,baz=33,slow=3.4,SNR=1.5
SONM PKPab **PKPab** 12 30 40.2 -0.6
comp=Z,0.5nm,0.6s,baz=338,slow=3.1,SNR=1.3
CMAR Chiang Mai Arr 164.29 148 PKP **PKPdf** 12 29 47.6 -0.2
comp=Z,1.2nm,0.9s,baz=256,slow=3.0,SNR=7.3
CMAR PKPab **pPKPab** 12 30 42.4 0.0
comp=Z,1.9nm,1.0s,baz=232,slow=3.7,SNR=5.7
CMAR Chiang Mai Arr 164.29 148 **PKPdf** 12 29 47.7 -0.1
QIZ Qiongzhong 166.84 189 PKP **PKPdf** 12 29 48.3 -1.5
QIZ PP **PP** 12 34 46.1 +6.8
QIZ LR LR
comp=Z,640nm,19.6s
QIZ LR LR
comp=Z,750nm,19.1s
QIZ LR LR
comp=Z,1μm,22.1s
GTA Gaotai 170.30 39 ⇑ PKP **PKPdf** 12 29 52.8 +1.1
GTA PKPab **sPKPab** 12 31 09.0 0.0
GTA LR LR
comp=Z,430nm,22.2s
GTA LR LR
comp=Z,670nm,21.1s
GTA LR LR
comp=Z,1μm,21.1s
NJ2 Nanjing 170.53 273 *e*PKP **PKPdf** 12 29 52.1 +0.3
HHC Hu-ho-hao-te 170.73 341 *e*PKP **PKPdf** 12 29 50.0 -1.8
HHC AMB AMB
comp=Z,320nm,9.1s
HHC LR LR
comp=Z,420nm,20.5s
HHC LR LR
comp=Z,550nm,18.3s
HHC LR LR
comp=Z,1μm,21.4s
BTO Baotou 171.31 348 *e*PKP **PKPdf** 12 29 50.3 -1.8
LZH Lanzhou 174.90 38 *e*PKP **PKPdf** 12 29 48.6 -5.2
LZH pPKP sPKPdf 12 29 57.0 +2.1
XAN Xi'an 177.81 332 PKP **PKPdf** 12 29 55.8 +1.5
XAN sPKP 12 30 04.1

IDC ***17*** *12:14:18.8±1.3, 32.06°S×72.21°W, h0km, mb4.6/6, mb1 4.6/9, mb1mx4.2/31, mbtmp4.6/9, ML4.4/2, MS4.8/1, Ms1 4.8/1, ms1mx4.2/10 Error ellipse: s-maj=50.2km s-min=20.9km az=108.0*

ISC 17 12:14:20.6±0.8, 32.08S±0.07°×72.08W±0.10, h10km, n27, σ1s12/24, mb4.6/6, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA01	**Torpederas**	**1.01**	**159**	Pg	**Pn**	**12 14 39.6**	**-1.3**
VA03	**San Esteban**	**1.46**	**118**	Pg	**Pb**	**12 14 48.2**	**+0.3**
MT05	**Renca**	**1.73**	**140**		**Pb**	**12 14 51.2**	**-1.3**
MT01	**Popeta**	**1.91**	**159**		**Pn**	**12 14 52.6**	**-0.7**
MT09	**Talagante**	**1.93**	**152**		**Pn**	**12 14 51.9**	**-1.7**
BO01	**Tunca**	**2.45**	**160**		**Pb**	**12 15 04.0**	**-0.8**
ZON	**Zonda**	**2.94**	**81**	P	**Pg**	**12 15 18.3**	**+1.3**
ZON	**Zonda**	**2.94**	**81**		**Pg**	**12 15 18.3**	**+1.3**
PLCA	**Paso Flores**	**8.72**	**172**	Pn	**Pn**	**12 16 26.6**	**-0.3**
	1.2nm,0.3s,baz=335,slow=13,SNR=9.5						
PLCA	**Paso Flores**	**8.72**	**172**	Pn	**Pn**	**12 16 27.3**	**+0.4**
LL04	**Puerto Octay**	**8.82**	**182**	Pn	**Pn**	**12 16 31.2**	**+3.1**
LVC	**Limon Verde**	**9.84**	**17**	Pn	**Pn**	**12 16 41.5**	**-1.0**
	baz=287,slow=18,SNR=0.7						
LPAZ	**La Paz**	**16.12**	**14**	*e*P	**P**	**12 18 10.1**	**-1.3**
SIV	**San Ignacio**	**18.89**	**35**	P	**Pn**	**12 18 41.8**	**-0.1**
	0.5nm,0.3s,baz=305,slow=3.3,SNR=3.1						
BDFB	**Brasilia**	**27.32**	**59**	P	**P**	**12 20 06.4**	**+0.5**
	31nm,1.1s,baz=246,slow=9.1,SNR=5.7						
SPBC	**San Pablo de B**	**37.57**	**357**	*e*P	**P**	**12 21 35.6**	**+0.2**
JTS	**Las Juntas de**	**43.89**	**342**	LR	LR	12 37 12.4	
	comp=Z,1μm,20.8s,baz=222,slow=31						
SNAA	**Sanae**	**53.38**	**158**	P	**P**	**12 23 39.7**	**-0.2**
	6.7nm,1.0s,baz=290,slow=1.8,SNR=7.5						
QSPA	**South Pole Qui**	**58.15**	**180**	P	**P**	**12 24 14.9**	**+0.5**
	1.7nm,0.8s,baz=108,slow=4.0,SNR=3.6						
SYO	**Syowa Base**	**67.66**	**159** ⇓	*e*sP	sP	12 25 28.2	+7.5
SYO	**Syowa Base**	**67.66**	**159** ⇑	*e*PP	PP	12 27 48.4	+2.4
DBIC	**Dimbokro**	**74.60**	**72**	P	**P**	**12 26 00.4**	**+0.1**
	5.2nm,1.0s,baz=232,slow=6.5,SNR=2.4						
BOSA	**Boshof**	**81.00**	**118**	P	**P**	**12 26 36.4**	**+0.4**
	7.0nm,0.9s,baz=244,slow=7.2,SNR=4.8						
TORD	**Torodi Ar. Bea**	**83.59**	**70**	P	**P**	**12 26 50.3**	**+0.8**
	1.9nm,0.6s,baz=271,slow=4.4,SNR=5.4						
ASAR	**Alice Springs**	**119.26**	**207**	PKP	**PKiKP**	**12 33 09.6**	**-1.1**
	0.5nm,0.9s,baz=130,slow=5.0,SNR=2.8						
WRA	**Warramunga Arr**	**122.42**	**210**	PKP	**PKiKP**	**12 33 16.3**	**-0.7**
	0.4nm,0.7s,baz=155,slow=1.6,SNR=2.5						
ZALV	**Zalesovo Beam**	**152.60**	**30**	PKPbc	**PKiKP**	**12 34 17.0**	**-0.1**
	8.8nm,0.9s,baz=298,slow=3.2,SNR=7.6						

NEIC ***17*** *12:14:34.9±2.4, 32.92S±0.04×71.61W±0.08, h10km±1km, mb5.5/100, Ms_20 5.4/158, Mww5.9, ML5.2(GUC), Mwc5.9(GCMT), Error ellipse: s-maj=11.1km s-min=6.7km az=263.0*

IDC ***17*** *12:14:38.4±0.4, 32.09S×72.01W, h0km, mb5.0/21, mb1 5.0/26, mb1mx5.0/31, mbtmp5.0/26, ML4.6/5, Error ellipse: s-maj=18.3km s-min=10.5km az=88.0*

GUC ***17*** *12:14:39.0±0.7, 32.14S×72.11W, h24km±16km, ML5.3, MW5.6*

VAO ***17*** *12:14:41.7±0.2, 32.15S×71.81W, h10km, mb5.4*

MOS ***17*** *12:14:43.4±1.5, 31.93S×71.96W, h33km, mb5.6/21, MS5.4/10, Error ellipse: s-maj=15.9km s-min=7.5km az=87.6*

NEIC ***17*** *12:14:44, 32.24S×72.37W, h14km, Moment Tensor Solution. Duration: 20s0 Moment tensor: Scale 10^{17}Nm; M_{rr}4.13; $M_{\theta\theta}$-0.42; $M_{\phi\phi}$-3.71; $M_{r\theta}$2.14; $M_{\theta\phi}$1.09; $M_{\phi r}$-8.59; Fault plane solution: $M_0$9.75000×10^{17} NP1: ϕ_s341.00000°, δ12.00000°, λ85.00000°. NP2: ϕ_s166.00000°, δ78.00000°, λ91.00000°. Principal axes: T 9.8003, Plg57.0000°, Azm77.0000°; N -0.0947, Plg1.0000°, Azm346.0000°; P -9.7055, Plg33.0000°, Azm255.0000°;*

SJA ***17*** *12:14:44.0±1.5, 32.10S×72.12W, h25km, MW6.0*

GCMT ***17*** *12:14:45.0±0.2, 32.27S±0.02×72.41W±0.01, h22km, MW5.9/129, Moment Tensor Solution. s76,c104; s129,c232; Duration: 2s1 Moment tensor: Scale 10^{17} Nm; M_{rr}6.44±.21; $M_{\theta\theta}$-1.05±.11; $M_{\phi\phi}$-5.39±.14; $M_{r\theta}$0.71±.19; $M_{\theta\phi}$0.67±.07; $M_{\phi r}$-4.76±.22; Best double couple: $M_0$7.66400×10^{17} NP1:ϕ_s351.00000°, δ26.00000°, λ90.00000°. NP2:ϕ_s172.00000°, δ64.00000°, λ90.00000°. Principal axes: T 8.1390, Plg71.0000°, Azm82.0000°; N -0.9500, Plg0.0000°, Azm351.0000°; P -7.1890, Plg19.0000°, Azm261.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***17*** *12:14:46, 32.33S×72.42W, h20km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}6.20; $M_{\theta\theta}$-0.94; $M_{\phi\phi}$-5.26; $M_{r\theta}$1.23; $M_{\theta\phi}$0.74; $M_{\phi r}$-5.53; Fault plane solution: $M_0$8.13000×10^{17} NP1:ϕ_s352.00000°, δ23.00000°, λ93.00000°. NP2:ϕ_s168.00000°, δ67.00000°, λ89.00000°. Principal axes: T 8.5144, Plg68.0000°, Azm76.0000°; N -0.8261, Plg1.0000°, Azm169.0000°; P -7.6882, Plg22.0000°, Azm259.0000°:*

ISC 17 12:14:41.2±0.9, 32.18S±0.03°×72.17W±0.03, h19km±3km, n562, σ2s04/479, mb5.4/74, MS5.4/95, 24C-15D, Fault plane solution: NP1:ϕ_s359.66519°, δ86.38409°, λ-92.40988°. **NP2:**ϕ_s213.38043°, δ4.34449°, λ-56.36083°. **Principal axes:** T Plg41.3364°, Azm91.9346°; N Plg2.4051°, Azm359.8173°; P Plg48.5619°, Azm267.0903°; **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA01	**Torpederas**	**0.95**	**152**	*e*P	Pb	12 14 52.2	-6.8
ROC1	**El Roble**	**1.26**	**129**	*e*P	**Pn**	**12 15 01.1**	**-2.8**
ROC1				*e*S	**Sb**	**12 15 19.6**	**-0.7**
ROCH	**El Roble**	**1.26**	**129**	*e*P	**Pn**	**12 15 00.5**	**-3.5**
ROCH				*i* S	**Sb**	**12 15 18.8**	**-1.5**
ROCH				IAML		12 15 30.3	
	comp=N,68μm,0.7s						
VA03	**San Esteban**	**1.49**	**113**	*e*P	**Pn**	**12 15 06.0**	**-1.0**
VA03				*i* S	**Sn**	**12 15 26.2**	**+0.3**
VA03				IAML		12 15 36.2	
	comp=N,81μm,0.6s						
VA05	**Santo Domingo**	**1.54**	**163**	*e*P	**Pn**	**12 15 07.0**	**-0.7**
VA05				*i* S	**Sb**	**12 15 28.3**	**-0.1**
VA05				IAML		12 15 40.8	
	comp=E,72μm,0.5s						
CO06	**Fray Jorge**	**1.57**	**17**	*e*P	**Pn**	**12 15 06.2**	**-1.9**
MT05	**Renca**	**1.71**	**135**	*e*P	**Pn**	**12 15 09.4**	**-0.6**
MT05				*i* S	**Sn**	**12 15 31.9**	**+0.5**
MT05				IAML		12 15 44.0	
	comp=E,87μm,0.3s						
CO03	**El Pedregal**	**1.84**	**44**	*e*P	**Pn**	**12 15 11.4**	**-0.4**
CO03				*i* S	**Sb**	**12 15 37.9**	**+0.9**
CO03				IAML		12 15 48.5	
	comp=E,97μm,0.5s						
CO03	**El Pedregal**	**1.84**	**44**	Pn	**Pb**	**12 15 13.2**	**-1.1**
MT01	**Popeta**	**1.85**	**156**	*e*P	**Pn**	**12 15 11.3**	**-0.6**
MT01				*i* S	**Sb**	**12 15 36.9**	**-0.2**
MT01				IAML		12 15 49.9	
	comp=E,62μm,0.8s						
MT01	**Popeta**	**1.85**	**156**	*e*P	**Pn**	**12 15 11.6**	**-0.3**
MT01				*e*S	**Sg**	**12 15 42.3**	**+1.5**
MT09	**Talagante**	**1.88**	**148**	*e*P	**Pn**	**12 15 12.2**	**-0.1**
MT09				*i* S	**Sb**	**12 15 38.0**	**-0.1**
MT09				IAML		12 15 52.4	
	comp=N,41μm,0.5s						
BO03	**Pichilemu**	**2.31**	**176**	*e*P	**Pn**	**12 15 16.6**	**-1.7**
BO03				IAML		12 16 12.3	
	comp=N,18μm,0.7s						
GO04	**Tololo Observa**	**2.32**	**31**	*e*P	**Pb**	**12 15 20.6**	**-1.9**
GO04	**Tololo Observa**	**2.32**	**31**		**Pb**	**12 15 21.0**	**-1.6**
GO04	**Tololo Observa**	**2.32**	**31**	*i* P	**Pb**	**12 15 22.7**	**+0.1**
LMEL	**Las Melosas**	**2.34**	**136**	*e*P	**Pn**	**12 15 19.4**	**+0.6**
AUSP	**Uspallata**	**2.36**	**92**	*i* P	**Pb**	**12 15 22.5**	**-0.8**
BO01	**Tunca**	**2.38**	**158**	*e*P	**Pb**	**12 15 23.0**	**-0.6**
BO01				*i* S	**Sb**	**12 15 50.8**	**-1.8**
BO01	**Tunca**	**2.38**	**158**	*e*P	**Pb**	**12 15 24.3**	**+0.7**

RTLS Leoncito 2.47 82 *i* P Pb 12 15 25.0 -0.2
RTLS *eS* Sg 12 16 01.4 +0.7
ARCO CERRO ARCO 2.81 104 *eP* Pb 12 15 30.9 -0.1
AAGR Agrelo 2.96 109 *i* P Pb 12 15 35.0 +1.5
AROD Rodeo 3.06 50 *i* P Pn 12 15 31.2 +2.3
LCO Las Campanas 3.40 22 P Pn 12 15 33.2 -0.3
LCO Las Campanas 3.40 22 Pn Pn 12 15 33.2 -0.3
AC04 Llanos de Chal 4.08 14 *eP* Pn 12 15 42.8 +0.3
AC04 Llanos de Chal 4.08 14 Pn Pn 12 15 44.4 +1.9
ACHE Chepes 4.80 79 *eP* Pn 12 15 47.6 -5.0
VA04 Juan Fernndez 5.79 254 Pn Pn 12 16 05.4 -0.6
H03N1 Juan Fernandez 5.81 256 Pn Pn 12 16 07.8 +1.6
baz=47
H03N1 Sn Sn 12 17 12.6 +0.4
baz=92
H03N1 T T 12 22 56.7
baz=84,slow=72,SNR=66
H03N3 Juan Fernandez 5.83 256 Pn Pn 12 16 08.0 +1.7
baz=47
H03N3 Sn Sn 12 17 12.6 +0.1
baz=92
H03N3 T T 12 22 53.8
baz=84,slow=72,SNR=52
H03N2 Juan Fernandez 5.83 256 Pn Pn 12 16 10.6 +4.2
baz=43
H03N2 Sn Sn 12 17 12.6 +0.1
baz=48
H03N2 T T 12 23 01.2
baz=84,slow=72,SNR=47
H03S3 Juan Fernandez 5.89 252 Pn Pn 12 16 06.6 -0.7
baz=43
H03S3 Sn Sn 12 17 11.1 -3.0
baz=48
H03S3 T T 12 22 59.4
baz=84,slow=74,SNR=32
H03S1 Juan Fernandez 5.89 252 Pn Pn 12 16 07.1 -0.2
baz=47
H03S1 Sn Sn 12 17 16.8 +2.7
baz=92
H03S1 T T 12 22 57.3
baz=84,slow=74,SNR=45
H03S2 Juan Fernandez 5.91 252 Pn Pn 12 16 06.5 -1.0
baz=43
H03S2 Sn Sn 12 17 10.9 -3.6
baz=48
H03S2 T T 12 22 55.2
baz=84,slow=74,SNR=66
AC02 Maricunga 5.95 27 Pn Pn 12 16 09.5 +0.8
AHML Horco Molle 8.02 50 *eP* Pn 12 16 42.2 +5.3
PLCA Paso Flores 8.63 172 Pn Pn 12 16 45.2 +0.1
comp=N,2.0nm,0.3s,baz=335,slow=12,SNR=8.2
PLCA Lg Lg 12 19 01.7
comp=N,0.4nm,0.3s,baz=319,slow=16,SNR=3.3
PLCA Paso Flores 8.63 172 *eP* Pn 12 16 46.8 +1.7
AF01 San Pedro de A 9.85 22 Pn Pn 12 17 01.0 -1.1
LVC Limon Verde 9.96 18 Pn Pn 12 17 01.1 -2.6
comp=N,2.3nm,0.3s,baz=147,slow=5.7,SNR=6.3
LVC Sn Sn 12 18 58.1 +2.9
comp=N,6.6nm,0.3s,baz=310,slow=20,SNR=2.0
LVC Limon Verde 9.96 18 *eP* Pn 12 17 04.1 +0.4
TRQA Tornquist 10.20 128 *eP* Pn 12 17 05.4 -1.1
ITQB Itaqui 13.58 83 *eP* Pn 12 17 50.0 -2.8
CPUP Villa Florida 14.20 70 Pn Pn 12 17 59.0 -2.3
comp=N,0.3nm,0.3s,baz=241,slow=13,SNR=0.8
CPUP Sn Sn 12 20 35.6 -2.8
comp=N,1.6nm,0.3s,baz=276,slow=18,SNR=1.4
CPUP Villa Florida 14.20 70 *eP* Pn 12 17 59.9 -1.4
PLTB Pedras Altas 15.77 93 *eP* Pn 12 18 19.4 -2.9
CPSB Cacapava Do Su 16.11 89 *eP* Pn 12 18 24.7 -2.0
LPAZ La Paz 16.24 14 Pn Pn 12 18 27.9 -1.1
comp=N,2.0nm,0.3s,baz=141,slow=3.6,SNR=14
CNLB Canela 18.54 87 *eP* P 12 18 55.2 -1.6
AQDB Aquidauana 18.78 56 *eP* Pn 12 18 59.8 -0.1
SIV San Ignacio 19.01 35 P P 12 19 00.8 -1.2
comp=N,3.3nm,0.3s,baz=216,slow=8.6,SNR=14
PTGB Pitanga 19.16 72 *eP* P 12 19 02.8 -0.9
TRCB Terra Rica 19.67 66 *eP* P 12 19 08.0 -1.1
TER01 Tubaro-SC 20.21 86 *eP* P 12 19 12.6 -2.3
PTLB Pontes e Lacer 20.45 38 *eP* P 12 19 17.0 -0.7
NNA Nana 20.55 347 P P 12 19 18.3 -0.5
comp=N,24nm,1.1s,baz=172,slow=9.0,SNR=3.2
NNA Nana 20.55 347 *ceP* Pn 12 19 22.1 +1.0
NNA pmax pmax
comp=Z,144nm,1.7s
PCMB Pacaembu 21.38 66 *eP* P 12 19 26.4 -1.3
TUU1 Guaruva-PR 21.41 77 *eP* P 12 19 26.0 -2.0
FRTB Fartura 21.82 72 *eP* P 12 19 31.0 -1.5
EFI East Falkland 22.05 156 *ceP* P 12 19 38.8 +4.2
EFI pmax pmax
comp=Z,168nm,1.0s
USHA Ushuaia 22.80 174 P P 12 19 43.0 +0.4
comp=Z,21nm,0.8s,baz=334,slow=5.0,SNR=1.6
ITRB Iturama 23.16 63 *eP* P 12 19 44.8 -1.9
PET01 Itanhaem-SP 23.26 77 *eP* P 12 19 45.5 -2.1
SPB Sao Paulo 23.44 75 *eP* P 12 19 49.0 -0.4
BB19B Bebedouro 23.81 68 *eP* P 12 19 52.4 -0.6
RCLB Rio Claro- Sao 23.91 72 *eP* P 12 19 52.9 -1.2
VAO Valinhos 24.09 74 *eP* P 12 19 54.3 -1.5
CZSB Cruzeiro do Su 24.33 359 *eP* P 12 19 59.2 +1.3
SAML Samuel 24.58 22 P P 12 19 59.0 -1.1
SAML pmax pmax
comp=Z,96nm,1.3s
SAML MLR MLR
comp=Z,6μm,20.0s
SAML Samuel 24.58 22 P P 12 19 59.0 -1.1
SAML IAmb IAmb 12 20 14.0
comp=Z,96nm,1.3s
PARB Paraibuna 25.04 76 *eP* P 12 20 03.6 -0.7
IPMB Ipameri, GO 25.82 63 *eP* P 12 20 10.2 -1.2
CLDB Colider 26.04 39 *eP* P 12 20 12.9 -0.5
BSCB Bom Sucesso 26.84 72 *eP* P 12 20 19.6 -1.1
VAS01 Vassouras-RJ 27.31 76 *eP* P 12 20 24.1 -0.7
BDFB Brasilia 27.45 59 P P 12 20 24.6 -1.6
comp=Z,370nm,1.0s,baz=231,slow=7.9,SNR=30
BDFB Brasilia 27.45 59 P P 12 20 24.3 -1.9
BDFB pmax pmax
comp=Z,408nm,1.0s
BDFB Brasilia 27.45 59 P P 12 20 24.2 -1.9
TBTG Tabatinga, AM 27.93 5 *eP* P 12 20 29.4 -1.0
TBTG Tabatinga, AM 27.93 5 *eP* P 12 20 31.2 +0.9
DUB01 Friburgo-RJ 28.28 77 *eP* P 12 20 33.2 -0.4
CAM01 Campos-RJ 28.99 77 *eP* P 12 20 39.1 -0.7
DIAM Diamantina, MG 29.14 69 *eP* P 12 20 40.6 -0.8
NPGB Novo Progresso 29.51 36 *eP* P 12 20 43.1 -1.4
PEXB Peixe 29.67 53 *eP* P 12 20 45.8 -0.1
MC01 Montes Claros 29.84 66 *eP* P 12 20 46.9 -0.6
ALF01 Guarapari-ES 30.32 75 *eP* P 12 20 50.9 -0.7
JANB Januaria 30.56 63 *eP* P 12 20 52.8 -1.0
MACA Manacapuru-AM 30.82 23 *eP* P 12 20 55.8 -0.2
SJMB Sao Joao De Ma 30.91 72 *eP* P 12 20 55.5 -1.3
BSFB Barra de Sao F 31.11 72 *eP* P 12 20 57.5 -1.1
RIB01 Linhares ES 31.23 74 *eP* P 12 20 59.4 -0.3
ITTB Itaituba 31.67 33 *eP* P 12 21 03.0 -0.5
SDBA SAO DESIDERIO 31.84 58 *eP* P 12 21 04.1 -1.0
NAN01 Guarapari, ES 32.22 71 *eP* P 12 21 06.9 -1.4
PTLC Puerto Leguiza 32.27 355 *eP* P 12 21 05.9 -2.9
SMTB Santa Maria do 32.52 50 *eP* P 12 21 06.7 -4.3
OTAV Otavalo 32.79 348 P P 12 21 07.7 -6.1
OTAV pmax pmax
comp=Z,106nm,1.8s
OTAV Otavalo 32.79 348 P P 12 21 07.7 -6.1
OTAV IAmb IAmb 12 21 34.7
comp=Z,106nm,1.8s
OTAV Otavalo 32.79 348 *eP* P 12 21 15.9 +2.2
OTAV Otavalo 32.79 348 *eP* P 12 21 16.4 +2.6
PMSA Palmer Station 33.00 174 P P 12 21 15.7 +1.0
comp=Z,13nm,0.9s,baz=13,slow=6.9,SNR=7.2
PMSA Palmer Station 33.00 174 P P 12 21 04.9 -10
PMSA IAmb IAmb 12 21 42.9
comp=Z,72nm,1.2s
PMSA Palmer Station 33.00 174 IAMs_20 IAMs_20 12 33 10.6
comp=Z,11μm,22.0s
PMSA Palmer Station 33.00 174 *eP* P 12 21 16.9 +2.3
TULM Tulcn-Chalpat 33.15 350 *eP* P 12 21 17.7 +0.7
GUA01 Guaratinga, BA 33.16 70 *eP* P 12 21 16.2 -0.3
PRPB Parauapebas 33.24 44 *eP* P 12 21 16.2 -1.1
GCUF Volcan Galeras 33.59 351 *eP* P 12 21 25.8 +4.9
FLOC Florencia 33.74 354 *eP* P 12 21 23.2 +1.6
CMC01 Camacan, BA 34.08 68 *eP* P 12 21 24.1 -0.5
MACC Macarena, Meta 34.18 357 *eP* P 12 21 25.7 +0.3
BBAC Balboa, Cauca 34.35 351 *eP* P 12 21 27.3 +0.2
SOTA Rioblanco 34.39 352 *eP* P 12 21 29.2 +1.5
NBIT Itapeh - BA 34.39 68 *eP* P 12 21 27.1 -0.2
PCON Cinco Dias 34.55 353 *eP* P 12 21 29.7 +0.4
MALB Monte Alegre 34.56 33 *eP* P 12 21 29.6 +0.8
POPC Popayan, Colom 34.80 352 *eP* P 12 21 34.7 +3.7
GDU01 Guandu, BA 34.99 66 *eP* P 12 21 30.8 -1.8
MARP Paez Belalcaza 35.02 353 *eP* P 12 21 34.8 +1.8
PAYG Puerto Ayora 35.70 328 IAMs_20 IAMs_20 12 33 20.3
comp=Z,5μm,18.0s
PRAC Prado 35.79 355 *eP* P 12 21 41.3 +2.0
ORTC Ortega, Tolima 36.01 355 *eP* P 12 21 42.1 +0.9
BOAV Boa Vista 36.12 20 *eP* P 12 21 41.4 -0.7
VILC Villavicencio, 36.12 357 *eP* P 12 21 43.0 +0.7
PTGC Puerto Gaitan, 36.18 0 *eP* P 12 21 42.1 -0.5
YOTC Yotoco, Valle 36.18 353 *eP* P 12 21 43.8 +1.0
NBPN Ponto Novo - B 36.32 61 *eP* P 12 21 42.6 -1.3
ANIL Santa Ana 36.60 355 *eP* P 12 21 49.6 +3.1
CHIC Chingaza 36.64 357 *eP* P 12 21 49.6 +2.6
ROSC El Rosal 36.87 356 P P 12 21 48.1 -0.8
comp=Z,5.2nm,0.3s,baz=227,slow=6.8,SNR=1.4
ROSC El Rosal 36.87 356 *eP* P 12 21 51.1 +2.1
MCPB Macapa, AP 36.91 35 *eP* P 12 21 48.2 -0.7
TMAB Tom-Au,PA,Br 37.31 42 *eP* P 12 21 53.9 +1.5
GUY2C Guyana, Caldas 37.32 355 *eP* P 12 21 53.7 +0.8
NORC Norcasia 37.62 356 *eP* P 12 21 57.0 +2.0
RUSC La Rusia 37.87 359 *eP* P 12 21 58.6 +1.0
CBOC Ciudad Bolivar 38.01 354 *eP* P 12 21 57.8 -0.6
NBLA Lagarto - SE 38.04 64 *eP* P 12 21 56.5 -2.0
HELC Santa Helena 38.29 355 *eP* P 12 22 01.1 +0.1
TAMC Tame, Arauca 38.40 1 *eP* P 12 22 00.2 -1.3
PTBC PUERTO BERRIO, 38.57 356 *eP* P 12 22 01.1 -1.8
BARC Barichara 38.57 358 *eP* P 12 22 04.4 +1.2
ELOV Elorza 39.05 4 *eP* P 12 22 03.8 -3.1
BRRC Barranca, Sant 39.10 358 *eP* P 12 22 04.4 -2.9
DBBC Dabeiba 39.17 354 *eP* P 12 22 08.5 +0.5
ROSB Rosrio 39.28 48 *eP* P 12 22 09.9 +1.0
PTAC Punta Ardita, 39.48 351 *eP* P 12 22 12.6 +2.1
ZARC Zaragoza, Cauc 39.53 356 *eP* P 12 22 10.9 0.0
NBMA Muriti-CE 39.68 59 *eP* P 12 22 11.9 -0.4
UREC San Jos de Ur 39.84 355 *eP* P 12 22 13.4 -0.1
NBPS Pedro II - PI 39.90 53 *eP* P 12 22 13.7 -0.5
NBAN Anadia - AL 40.03 64 *eP* P 12 22 12.8 -2.4
CACAO El Cacao, Vera 40.17 347 *eP* P 12 22 17.1 +0.9
NBPB Pedra_Branca-C 40.35 56 *eP* P 12 22 17.3 -0.6
AZU Azuero 40.49 348 *eP* P 12 22 22.5 +3.5
SMLC San Martn de 40.79 357 *eP* P 12 22 20.0 -1.4
SDV Santo Domingo 40.86 2 P P 12 22 21.3 -0.9
comp=Z,13nm,0.7s,baz=179,slow=12,SNR=2.4
SDV Santo Domingo 40.86 2 P P 12 22 21.9 -0.3
SDV Santo Domingo 40.86 2 *eP* P 12 22 20.4 -1.8
CAPC Capurgana 40.89 352 *eP* P 12 22 13.4 -8.8
MDP Montagnes des 41.48 30 P P 12 22 25.9 -1.1
comp=Z,79nm,1.0s,baz=201,slow=9.7,SNR=12
NBMO Morrinhos-CE 41.64 53 *eP* P 12 22 30.5 +2.0
ARGC Ariguani, Magd 41.85 357 *eP* P 12 22 29.9 -0.2
SJCC San Jacinto, C 41.94 356 *eP* P 12 22 31.5 +0.6
NBCL Cascavel-CE 42.19 56 *eP* P 12 22 35.1 +2.1
PCRV Puerto La Cruz 42.73 11 P P 12 22 36.4 -0.9
comp=Z,37nm,1.1s,baz=141,slow=6.5,SNR=5.7
RCBR Riachuelo 42.81 60 *eP* P 12 22 38.6 +0.6
NBPV Pedro Velho 42.87 61 *eP* P 12 22 38.3 -0.1
CRJC Cerro Guaj 42.96 359 *eP* P 12 22 34.8 -4.4
SMRC Santa Marta, M 43.14 357 *eP* P 12 22 38.9 -1.7
URIC Uribia, Colomb 43.63 0 *eP* P 12 22 44.7 +0.2
JTS Las Juntas de 43.97 342 P P 12 22 46.9 -0.3
comp=Z,7.5nm,1.0s,baz=161,slow=12,SNR=3.7
JTS Las Juntas de 43.97 342 *eP* P 12 22 47.6 +0.3
H05S1 Guadeloupe/Mar SNR=9.2 47.60 15 P P 12 23 11.6 -4.3
TGUH Tegucigalpa,Un 48.20 340 P P 12 23 21.2 +0.5
TGUH Tegucigalpa,Un 48.20 340 *eP* P 12 23 19.0 -1.7
H09W1 TRISTÁN DA CUN baz=125 48.77 113 P P 12 23 21.9 -3.0
H09N1 TRISTAN DA CUN 48.80 113 P P 12 23 23.1 -2.0
H05N1 Guadeloupe/Mar SNR=11 49.38 14 P P 12 23 26.2 -3.5
SJG San Juan 50.34 7 P P 12 23 35.6 -1.3
comp=Z,80nm,0.9s,baz=200,slow=3.9,SNR=14
SJG San Juan 50.34 7 P P 12 23 35.7 -1.1
SJG San Juan 50.34 7 *eP* P 12 23 33.8 -3.1
MTDJ Mount Denham 50.38 353 IAMs_20 IAMs_20 12 49 25.1
comp=Z,3μm,18.0s
ANWB Willy Bob 50.55 13 P P 12 23 38.8 +0.2
ANWB IAMs_20 IAMs_20 12 47 47.0
comp=Z,5μm,21.0s
SDDR Presa de Saban 50.88 1 IAMs_20 IAMs_20 12 48 23.9
comp=Z,3μm,18.0s
VNA3 Neumayer Olymp 51.08 158 P P 12 23 43.2 +1.2
VNA1 Neumayer--Stat 51.39 157 P P 12 23 45.8 +1.5
VNA2 Neumayer--Watz 51.73 158 P P 12 23 48.0 +1.2
GTBY Guantanamo Bay 51.89 356 IAMs_20 IAMs_20 12 48 58.7
comp=Z,3μm,18.0s
SNAA Sanae 53.31 158 P P 12 23 59.7 +1.1
SNAA Sanae 53.31 158 P P 12 23 58.9 +0.3
comp=Z,33nm,0.9s,baz=278,slow=5.6,SNR=25
SNAA Sanae 53.31 158 *i* P P 12 23 59.2 +0.6
SNAA pmax pmax
comp=Z,140nm,1.5s
GRTK Grand Turk 53.40 1 IAMs_20 IAMs_20 12 50 34.9
comp=Z,3μm,18.0s
RKT Rikitea 55.68 262 *eT* T 13 24 34.6
comp=Z,2.4nm,0.3s
QSPA South Pole Qui 58.05 180 P P 12 24 34.1 +1.3
comp=Z,11nm,0.8s,baz=150,slow=3.4,SNR=18
QSPA PKPPKP P'P'df 12 54 13.7 -8.1
comp=Z,1.0nm,0.9s,baz=0.8,slow=1.2,SNR=2.3
QSPA South Pole Qui 58.05 180 P P 12 24 26.8 -6.0
QSPA IAmb IAmb 12 25 17.9
comp=Z,58nm,1.4s
QSPA South Pole Qui 58.05 180 IAMs_20 IAMs_20 12 49 44.5
comp=Z,3μm,20.0s
833A Chaparral WMA, baz=155 65.50 334 P P 12 25 25.3 +2.1
HKT Hockley 65.75 338 *i* P P 12 25 26.6 +2.0
VNDA Vanda 65.86 191 P P 12 25 26.5 +1.6
comp=Z,0.9nm,0.8s,baz=175,slow=5.7,SNR=3.4
VNDA PKP2bc 12 54 06.6
comp=Z,1.1nm,1.0s,baz=295,slow=4.8,SNR=4.2
VNDA Vanda 65.86 191 P P 12 25 21.3 -3.6
VNDA pmax pmax
comp=Z,15nm,1.2s
VNDA Vanda 65.86 191 P P 12 25 21.3 -3.6
GOGA Godfrey 66.11 350 IAmb IAmb 12 25 43.0
comp=Z,35nm,1.4s
GOGA Godfrey 66.11 350 P P 12 25 27.0 0.0
baz=169
LRAL Lakeview Retre 66.36 346 P P 12 25 27.7 -0.8
LRAL IAmb IAmb 12 25 44.7
comp=Z,36nm,1.4s
LRAL Lakeview Retre baz=166 66.36 346 P P 12 25 30.1 +1.6
VBMS Vicksburg 66.36 343 P P 12 25 29.5 +1.0
VBMS Vicksburg baz=163 66.36 343 P P 12 25 30.2 +1.6
TAOE Nuku Hiva Isla 66.72 274 *eS* S 12 34 19.2 -3.6
comp=Z,2μm,23.0s
TAOE Nuku Hiva Isla 66.72 274 *eLR* LR 12 45 32.6
comp=Z,3μm,23.4s,baz=132
NATX Nacogdoches baz=159 67.06 339 P P 12 25 35.1 +2.0
CNNC Cliffs of the 67.28 355 IAMs_20 IAMs_20 12 58 43.9
comp=Z,2μm,18.0s
KMSC Kings Mountain 67.52 352 IAmb IAmb 12 25 51.2
comp=Z,36nm,1.2s
KMSC Kings Mountain baz=171 67.52 352 P P 12 25 36.3 +0.4
JCT Junction City 67.60 334 P P 12 25 37.5 +0.9
JCT pmax pmax
comp=Z,106nm,1.3s
JCT Junction City 67.60 334 P P 12 25 37.5 +0.9
JCT Junction City baz=155 67.60 334 P P 12 25 38.3 +1.7
TBI Tubuai 67.64 256 *eS* S 12 34 26.0 -7.6
comp=Z,2μm,23.0s
TBI Tubuai 67.64 256 *eLR* LR 12 45 51.0
comp=Z,10μm,27.2s,baz=112
TXAR Lajitas Array 68.10 331 P P 12 25 40.9 +1.0
comp=Z,2.9nm,0.8s,baz=146,slow=9.1,SNR=14
TXAR PKPPKP P'P'df 12 53 59.7 +6.3
comp=Z,0.3nm,0.9s,baz=338,slow=1.0,SNR=2.1
TXAR Lajitas Array 68.10 331 P P 12 25 41.1 +1.3
TX31 Lajitas Ar. Si 68.10 331 P P 12 25 40.2 +0.4
TX32 Lajitas Array 68.10 331 P P 12 25 41.0 +1.1
TX32 IAmb IAmb 12 25 54.3
comp=Z,53nm,1.6s
WHTX Lake Whitney, baz=157 68.16 337 P P 12 25 41.2 +1.2
OXF Oxford 68.29 345 P P 12 25 41.6 +0.8
baz=164
TKL Tuckaleechee C 68.36 350 P P 12 25 41.1 -0.1
TKL pmax pmax
comp=Z,39nm,1.2s
TKL Tuckaleechee C 68.36 350 P P 12 25 41.1 -0.1
TKL IAmb IAmb 12 25 57.3
comp=Z,39nm,1.1s
PLAL Pickwick Lake 68.46 346 P P 12 25 40.8 -1.0
PLAL IAmb IAmb 12 25 57.0
comp=Z,45nm,1.3s
TZTN Tazewell 69.19 350 IAmb IAmb 12 26 05.5
comp=Z,56nm,1.4s
MIAR Mount Ida 69.36 341 P P 12 25 47.2 -0.3
MIAR pmax pmax
comp=Z,48nm,1.4s
MIAR Mount Ida 69.36 341 P P 12 25 47.2 -0.3
MIAR IAmb IAmb 12 26 17.7
comp=Z,48nm,1.4s
MIAR Mount Ida baz=160 69.36 341 P P 12 25 48.3 +0.9
ABTX Abilene, Hawle baz=155 69.48 335 P P 12 25 49.5 +1.2
WVT Waverly 69.52 347 P P 12 25 48.6 +0.2
WVT pmax pmax
comp=Z,177nm,1.6s
WVT MLR MLR
comp=Z,1μm,20.0s
WVT Waverly 69.52 347 P P 12 25 48.6 +0.2
WVT Waverly baz=166 69.52 347 P P 12 25 48.8 +0.4
W41B Gary Mavity, V baz=162 69.60 343 P P 12 25 49.4 +0.4
W39A Magazine baz=160 70.03 341 P P 12 25 52.8 +1.2
TIAR Tiarei 70.22 261 *eT* T 13 42 40.6
comp=Z,1.5nm,0.3s
S51A Beattyville 70.28 350 IAmb IAmb 12 26 02.4
comp=Z,54nm,1.5s
PPT2 Papeete2 70.39 261 *eS* S 12 34 59.8 -6.6
comp=Z,2μm,24.0s
PPT2 Papeete2 70.39 261 *eLR* LR 12 47 08.9
comp=Z,4μm,25.2s,baz=119
X34A Smith Ranch, M 70.68 338 IAmb IAmb 12 26 11.6
comp=Z,66nm,1.1s
MNTX Cornudas Mount baz=151 70.88 330 P P 12 25 57.1 +0.2
U40A Yellville baz=161 70.88 342 P P 12 25 57.4 +0.6
T42A Van Buren 71.09 344 IAmb IAmb 12 26 13.2
comp=Z,92nm,1.8s
WMOK Wichita Mounta 71.11 337 P P 12 25 58.4 +0.2
WMOK pmax pmax
comp=Z,49nm,1.4s
WMOK Wichita Mounta 71.11 337 P P 12 25 58.4 +0.2
WMOK IAmb IAmb 12 26 13.7
comp=Z,49nm,1.4s
WMOK Wichita Mounta baz=156 71.11 337 P P 12 25 58.6 +0.4
FNO Franklin 71.14 338 P P 12 25 58.7 +0.3
TUL1 Leonard baz=159 71.26 340 P P 12 25 59.5 +0.4
WCI Wyandotte Cave 71.28 348 IAMs_20 IAMs_20 13 02 32.8
comp=Z,2μm,19.0s
SIUC Southern Illin 71.33 346 IAmb IAmb 12 26 14.1
comp=Z,23nm,0.8s
OK025 Westminster Rd 71.42 339 P P 12 25 59.8 -0.3
MGMO Mountain Grove 71.49 343 IAmb IAmb 12 26 16.1
comp=Z,55nm,1.3s
OK029 Liberty Lake 71.66 339 P P 12 26 02.4 +0.9
OK029 IAmb IAmb 12 26 17.0
comp=Z,61nm,1.0s
P60A Greenville baz=176 71.70 357 P P 12 26 03.0 +1.4
QUOK Quay 71.78 339 IAmb IAmb 12 26 17.9
comp=Z,56nm,1.1s
MCWV Mont Chateau baz=173 71.83 354 P P 12 26 03.6 +1.2
MSTX Muleshoe baz=153 71.83 334 P P 12 26 03.7 +1.0
FVM French Village 71.85 345 IAmb IAmb 12 26 18.1
comp=Z,80nm,1.2s
P52A Corning baz=171 72.05 352 P P 12 26 03.8 +0.1
OLIL Olney 72.09 347 IAmb IAmb 12 26 18.9
comp=Z,82nm,1.4s
CCM Cathedral Cave 72.10 344 P P 12 26 04.0 -0.1
CCM pmax pmax
comp=Z,60nm,1.1s
CCM Cathedral Cave 72.10 344 P P 12 26 04.0 -0.1
CCM IAmb IAmb 12 26 19.7
comp=Z,60nm,1.1s
CCM Cathedral Cave baz=163 72.10 344 P P 12 26 05.0 +0.9
AMTX Amarillo baz=154 72.25 335 P P 12 26 06.3 +1.2
P49A Miami Univ. Ec 72.30 350 IAMs_20 IAMs_20 13 02 06.5
comp=Z,1μm,18.0s
P49A Miami Univ. Ec baz=168 72.30 350 P P 12 26 05.0 -0.2
O56A Blue Knob Stat baz=174 72.33 355 P P 12 26 06.8 +1.3
BLOK Blackwell 72.48 339 P P 12 26 06.9 +0.5
BLOK IAmb IAmb 12 26 22.2
comp=Z,66nm,1.2s
O53A New Philadelph 72.55 353 IAMs_20 IAMs_20 12 58 40.7
comp=Z,2μm,21.0s
121A Cookes Peak, D baz=149 72.62 329 P P 12 26 09.9 +2.3
SSPA Standing Stone 72.65 355 IAMs_20 IAMs_20 13 03 30.7
comp=Z,2μm,19.0s
SSPA Standing Stone baz=174 72.65 355 P P 12 26 07.4 +0.2
ACSO Alum Creek Sta 72.74 351 IAmb IAmb 12 26 23.0
comp=Z,32nm,0.9s
ACSO IAMs_20 IAMs_20 13 01 53.1
comp=Z,3μm,19.0s
N59A State Game Lan baz=176 72.81 357 P P 12 26 10.1 +1.9
M64A Tiverton baz=180 73.37 1 P P 12 26 13.0 +1.5
M65A Busby, Falmout 73.39 1 IAMs_20 IAMs_20 13 03 10.1
comp=Z,2μm,20.0s
M54A Oil Creek Stat baz=173 73.65 354 P P 12 26 13.3 +0.1
M53A WI Miller and 73.67 353 IAMs_20 IAMs_20 13 02 21.3
comp=Z,1μm,19.0s
M53A WI Miller and baz=172 73.67 353 P P 12 26 13.9 +0.5
L64A Middleborough 73.76 1 IAMs_20 IAMs_20 13 04 51.9
comp=Z,2μm,19.0s
TUC Tucson 73.79 327 P P 12 26 13.9 -0.4
TUC pmax pmax
comp=Z,54nm,1.7s
TUC Tucson 73.79 327 P P 12 26 13.9 -0.4
TUC IAmb IAmb 12 26 29.3
comp=Z,54nm,1.7s
TUC Tucson 73.79 327 IAMs_20 IAMs_20 12 53 44.6
comp=Z,2μm,18.0s
TUC Tucson baz=147 73.79 327 P P 12 26 15.4 +1.1
HDIL Hopedale 74.09 347 IAMs_20 IAMs_20 13 04 21.5
comp=Z,2μm,20.0s
QUA2 Belchertown 74.09 360 IAMs_20 IAMs_20 13 04 54.3
comp=Z,2μm,20.0s
BINY Binghamton 74.10 357 IAMs_20 IAMs_20 13 01 34.9
comp=Z,2μm,20.0s
ANMO Albuquerque 74.14 331 P P 12 26 17.6 +1.1
ANMO pmax pmax
comp=Z,52nm,1.5s
ANMO Albuquerque 74.14 331 P P 12 26 17.6 +1.1
ANMO IAmb IAmb 12 26 34.4
comp=Z,52nm,1.4s
ANMO Albuquerque 74.14 331 IAMs_20 IAMs_20 12 54 06.6
comp=Z,2μm,21.0s
ANMO Albuquerque baz=150 74.14 331 P P 12 26 18.8 +2.3
WES Weston 74.20 1 IAMs_20 IAMs_20 13 03 27.0
comp=Z,2μm,20.0s
ERPA Erie 74.28 354 IAMs_20 IAMs_20 13 01 28.3
comp=Z,2μm,20.0s
LIC Lamto 74.31 72 *eP* P 12 26 17.2 -0.5
comp=Z,217nm,1.1s
K62A Royalston baz=179 74.48 360 P P 12 26 19.9 +1.9
K61A Williamstown baz=178 74.49 359 P P 12 26 19.4 +1.3

TRY	**Troy**	**74.56**	**359**	P	**P**	**12 26 17.9**	**-0.6**
TRY				IAMs_20	IAMs_20	13 05 27.8	
	comp=Z,2µm,18.0s						
TIC	**Toumodi**	**74.56**	**72**	*e*P	**P**	**12 26 18.6**	**-0.6**
KIC	**Kosan Boka**	**74.62**	**72**	*e*P	**P**	**12 26 19.1**	**-0.4**
	comp=Z,207nm,1.2s						
DBIC	**Dimbokro**	**74.71**	**72**	P	**P**	**12 26 20.1**	**+0.1**
	comp=Z,79nm,1.1s,baz=225,slow=5.6,SNR=15						
AAM	**Ann Arbor**	**74.87**	**351**	IAMs_20	IAMs_20	13 04 09.3	
	comp=Z,2µm,18.0s						
MAW	**Mawson**	**74.95**	**164**	P	**P**	**12 26 21.7**	**+1.1**
	comp=Z,25nm,1.1s,baz=216,slow=11,SNR=12						
CBKS	**Cedar Bluff**	**75.14**	**338**	P	**P**	**12 26 23.5**	**+1.5**
	baz=156						
J61A	**Chester**	**75.16**	**360**	P	**P**	**12 26 24.3**	**+2.3**
	baz=179						
T25A	**Trinidad**	**75.25**	**334**	IAMs_20	IAMs_20	12 56 25.9	
	comp=Z,1µm,19.0s						
T25A	**Trinidad**	**75.25**	**334**	P	**P**	**12 26 25.2**	**+2.3**
	baz=152						
FFD	**Franklin Falls**	**75.29**	**0**	P	**P**	**12 26 22.1**	**-0.5**
W18A	**Petrified Fore**	**75.67**	**329**	P	**P**	**12 26 28.1**	**+2.8**
	baz=148						
I62A	**Tamworth**	**75.69**	**1**	IAMs_20	IAMs_20	13 04 41.1	
	comp=Z,2µm,21.0s						
I62A	**Tamworth**	**75.69**	**1**	P	**P**	**12 26 27.4**	**+2.4**
	baz=180						
I63A	**Otisfield**	**75.88**	**1**	P	**P**	**12 26 28.4**	**+2.4**
	baz=181						
SDCO	**Great Sand Dun**	**76.20**	**333**	IAMs_20	IAMs_20	12 56 45.7	
	comp=Z,2µm,18.0s						
SDCO	**Great Sand Dun**	**76.20**	**333**	P	**P**	**12 26 30.0**	**+1.7**
	baz=151						
WVL	**Waterville**	**76.42**	**2**	IAMs_20	IAMs_20	12 59 38.2	
	comp=Z,2µm,21.0s						
LONY	**Lake Ozonia**	**76.47**	**358**	IAmb	IAmb	12 26 51.4	
	comp=Z,52nm,1.4s						
LONY				IAMs_20	IAMs_20	13 06 22.4	
	comp=Z,2µm,18.0s						
JFWS	**Jewell Farm**	**76.55**	**346**	P	**P**	**12 26 29.0**	**-0.9**
JFWS				pmax	pmax		
	comp=Z,151nm,2.0s						
JFWS	**Jewell Farm**	**76.55**	**346**	P	**P**	**12 26 29.0**	**-0.9**
JFWS	**Jewell Farm**	**76.55**	**346**	P	**P**	**12 26 30.3**	**+0.4**
	baz=164						
S22A	**4UR Ranch, Cre**	**76.71**	**332**	P	**P**	**12 26 33.6**	**+2.3**
	baz=150						
WUAZ	**Wupatki**	**76.73**	**328**	IAMs_20	IAMs_20	12 58 14.0	
	comp=Z,1µm,18.0s						
WUAZ	**Wupatki**	**76.73**	**328**	P	**P**	**12 26 33.8**	**+2.5**
	baz=147						
MVCO	**Mesa Verde**	**76.92**	**331**	IAmb	IAmb	12 26 47.3	
	comp=Z,41nm,1.2s						
MVCO	**Mesa Verde**	**76.92**	**331**	P	**P**	**12 26 34.4**	**+2.0**
	baz=149						
PKME	**Peaks-Kenny Pk**	**77.12**	**2**	P	**P**	**12 26 35.9**	**+2.9**
	baz=182						
Q24A	**Divide**	**77.14**	**334**	P	**P**	**12 26 35.6**	**+1.9**
	baz=152						
BC3	**Big Chuckawall**	**77.14**	**324**	P	**P**	**12 26 35.8**	**+2.2**
	baz=144						
109C	**Camp Elliot, M**	**77.37**	**322**	IAMs_20	IAMs_20	12 55 21.0	
	comp=Z,1µm,18.0s						
IRM	**Iron Mountain**	**77.39**	**325**	P	**P**	**12 26 37.1**	**+2.2**
	baz=144						
GLMI	**Grayling**	**77.47**	**351**	IAMs_20	IAMs_20	13 05 46.3	
	comp=Z,2µm,20.0s						
TPFO	**Pinon Flats**	**77.61**	**323**	P	**P**	**12 26 38.9**	**+2.7**
	baz=143						
PFO	**Pinyon Flats O**	**77.61**	**323**	P	**P**	**12 26 38.8**	**+2.5**
	baz=143						
BELC	**Belle Mtn. Jos**	**77.69**	**324**	P	**P**	**12 26 41.0**	**+4.3**
	baz=143						
MURC	**Murrieta**	**77.98**	**323**	P	**P**	**12 26 41.0**	**+2.8**
	baz=142						
ISCO	**Idaho Springs**	**78.04**	**334**	IAmb	IAmb	12 26 56.6	
	comp=Z,67nm,1.7s						
ISCO	**Idaho Springs**	**78.04**	**334**	P	**P**	**12 26 40.7**	**+2.0**
	baz=151						
HEC	**Hector,Ludlow**	**78.52**	**324**	P	**P**	**12 26 43.9**	**+2.7**
	baz=143						
PQI	**Presque Isle**	**78.58**	**3**	IAMs_20	IAMs_20	13 07 12.1	
	comp=Z,2µm,20.0s						
ECSD	**EROS Data Cent**	**78.79**	**342**	IAmb	IAmb	12 26 58.1	
	comp=Z,43nm,1.1s						
ECSD	**EROS Data Cent**	**78.79**	**342**	P	**P**	**12 26 43.1**	**+0.7**
	baz=159						
TUQ	**Turquoise Moun**	**78.80**	**325**	P	**P**	**12 26 45.3**	**+2.5**
	baz=143						
N23A	**Red Feather La**	**79.12**	**335**	P	**P**	**12 26 46.7**	**+2.1**
	baz=151						
GSC	**Goldstone, Bar**	**79.13**	**324**	P	**P**	**12 26 46.2**	**+1.7**
	baz=143						
O20A	**White River Ci**	**79.33**	**333**	IAmb	IAmb	12 27 00.4	
	comp=Z,80nm,1.6s						
O20A	**White River Ci**	**79.33**	**333**	P	**P**	**12 26 47.6**	**+1.9**
	baz=149						
SHOC	**Shoshone, Teco**	**79.34**	**325**	P	**P**	**12 26 47.1**	**+1.5**
	baz=143						
EDW2	**Edwards Air Fo**	**79.39**	**323**	P	**P**	**12 26 47.8**	**+1.9**
	baz=142						
LRMC	**Laurel Mtn Rad**	**79.70**	**324**	P	**P**	**12 26 50.1**	**+2.3**
	baz=142						
P17A	**Butcher Ranch,**	**79.77**	**331**	IAmb	IAmb	12 27 05.6	
	comp=Z,56nm,1.5s						
TMUT	**Trail Mountain**	**79.82**	**330**	IAmb	IAmb	12 27 05.6	
	comp=Z,92nm,1.8s						
TSUM	**Tsumeb**	**79.82**	**106**	P	P	12 26 42.4	-6.5
TSUM				IAmb	IAmb	12 26 53.1	
	comp=Z,51nm,1.1s						
KOWA	**Kowa**	**79.99**	**66**	P	**P**	**12 26 46.0**	**-3.6**
MPMC	**Manual Prospec**	**80.06**	**324**	P	**P**	**12 26 51.6**	**+1.8**
	baz=142						
FURC	**Furnace Creek,**	**80.08**	**325**	P	**P**	**12 26 51.9**	**+2.4**
	baz=143						
TPNV	**Topopah Spring**	**80.17**	**326**	IAMs_20	IAMs_20	12 57 13.4	
	comp=Z,2µm,18.0s						
TPNV	**Topopah Spring**	**80.17**	**326**	P	**P**	**12 26 52.0**	**+1.8**
	baz=143						
ISA	**Isabella, Lake**	**80.25**	**323**	P	**P**	**12 26 52.6**	**+2.0**
	baz=142						
RWWY	**Rawlins**	**80.28**	**334**	IAmb	IAmb	12 27 07.6	
	comp=Z,81nm,1.5s						
RWWY				IAMs_20	IAMs_20	12 59 25.1	
	comp=Z,1µm,18.0s						
PKM	**Mcpherson Peak**	**80.34**	**322**	P	**P**	**12 26 53.5**	**+2.3**
	baz=141						
CWC	**Cottonwood Cre**	**80.66**	**324**	P	**P**	**12 26 54.9**	**+2.0**
	baz=142						
VES	**Vestal, Richgr**	**80.70**	**323**	P	**P**	**12 26 55.0**	**+2.1**
	baz=141						
GRAC	**Grapevine Rang**	**80.75**	**325**	P	**P**	**12 26 55.8**	**+2.6**
	baz=143						
SMMC	**Simmler**	**80.76**	**322**	P	**P**	**12 26 55.8**	**+2.5**
	baz=141						
K22A	**Casper**	**80.87**	**335**	IAmb	IAmb	12 27 08.5	
	comp=Z,69nm,1.4s						
K22A	**Casper**	**80.87**	**335**	P	**P**	**12 26 55.5**	**+1.6**
	baz=151						
SPR3	**Spring Creek 3**	**80.93**	**328**	IAmb	IAmb	12 27 12.2	
	comp=Z,72nm,1.6s						
R11A	**Troy Canyon, C**	**80.98**	**327**	P	**P**	**12 26 56.7**	**+2.1**
	baz=144						
BOSA	**Boshof**	**81.02**	**118**	P	**P**	**12 26 55.1**	**-0.1**
	comp=Z,70nm,1.0s,baz=241,slow=4.9,SNR=20						
DUG	**Dugway, Tooele**	**81.25**	**330**	IAmb	IAmb	12 27 13.0	
	comp=Z,65nm,1.5s						
DUG	**Dugway, Tooele**	**81.25**	**330**	P	**P**	**12 26 57.1**	**+1.2**
	baz=146						
RSSD	**Black Hills**	**81.32**	**337**	IAMs_20	IAMs_20	13 09 53.0	
	comp=Z,1µm,21.0s						
HWUT	**Hardware Ranch**	**81.91**	**331**	P	**P**	**12 26 59.3**	**-0.1**
HWUT				IAmb	IAmb	12 27 12.8	
	comp=Z,49nm,1.4s						
MLAC	**Mammoth, Mammo**	**81.97**	**324**	P	**P**	**12 27 02.1**	**+2.2**
	baz=142						
BW06	**Boulder Array**	**82.09**	**333**	IAMs_20	IAMs_20	13 00 34.1	
	comp=Z,2µm,18.0s						
BW06	**Boulder Array**	**82.09**	**333**	P	**P**	**12 27 01.5**	**+1.0**
	baz=149						
PD31	**Pinedale Array**	**82.09**	**333**	P	**P**	**12 26 59.4**	**-1.1**
PDAR	**Pinedale Array**	**82.09**	**333**	P	**P**	**12 27 01.3**	**+0.9**
	comp=Z,2.2nm,1.0s,baz=147,slow=3.5,SNR=10						
PDAR	**Pinedale Array**	**82.09**	**333**	P	**P**	**12 26 59.9**	**-0.5**
NVAR	**Mina Array Bea**	**82.33**	**325**	P	**P**	**12 27 02.7**	**+0.9**
	comp=Z,2.4nm,0.7s,baz=143,slow=6.2,SNR=9.0						
HVU	**Hansel Valley**	**82.55**	**331**	P	**P**	**12 27 02.1**	**-0.7**
HVU				pmax	pmax		
	comp=Z,78nm,1.7s						
HVU	**Hansel Valley**	**82.55**	**331**	P	**P**	**12 27 02.1**	**-0.7**
HVU				IAmb	IAmb	12 27 21.5	
	comp=Z,78nm,1.7s						
AHID	**Auburn Hatcher**	**82.69**	**332**	IAMs_20	IAMs_20	13 01 19.6	
	comp=Z,1µm,19.0s						
AGMN	**Agassiz Nation**	**82.88**	**344**	IAMs_20	IAMs_20	13 09 43.4	
	comp=Z,2µm,18.0s						
REDW	**Red Top Meadow**	**83.10**	**333**	IAmb	IAmb	12 27 45.1	
	comp=Z,31nm,1.4s						
REDW				IAMs_20	IAMs_20	13 00 42.7	
	comp=Z,1µm,19.0s						
SNOW	**Snow King Moun**	**83.15**	**333**	IAMs_20	IAMs_20	13 01 23.0	
	comp=Z,2µm,18.0s						
TPAW	**Teton Pass**	**83.25**	**333**	P	**P**	**12 27 05.8**	**-0.7**
MDND	**Maddock**	**83.39**	**342**	P	**P**	**12 27 07.6**	**+0.8**
	baz=157						
IMW	**Indian Meadow**	**83.58**	**333**	P	**P**	**12 27 07.4**	**-0.8**
IMW				IAMs_20	IAMs_20	13 01 37.6	
	comp=Z,1µm,18.0s						
FLWY	**Flagg Ranch**	**83.65**	**333**	IAMs_20	IAMs_20	13 00 48.3	
	comp=Z,2µm,20.0s						
TORD	**Torodi Ar. Bea**	**83.70**	**70**	P	**P**	**12 27 08.9**	**-0.2**
	comp=Z,46nm,0.9s,baz=256,slow=4.7,SNR=29						
TORD	**Torodi Ar. Bea**	**83.70**	**70**	P	**P**	**12 27 08.0**	**-1.2**
RLMT	**Red Lodge**	**84.00**	**335**	IAmb	IAmb	12 27 32.5	
	comp=Z,37nm,1.4s						
RLMT	**Red Lodge**	**84.00**	**335**	P	**P**	**12 27 11.0**	**+0.8**
	baz=149						
SNZO	**South Karori**	**84.39**	**224**	IAMs_20	IAMs_20	12 57 21.8	
	comp=Z,2µm,19.0s						
HLID	**Hailey**	**84.70**	**331**	IAmb	IAmb	12 27 31.0	
	comp=Z,42nm,1.4s						
HLID				IAMs_20	IAMs_20	13 01 52.2	
	comp=Z,1µm,19.0s						
HLID	**Hailey**	**84.70**	**331**	P	**P**	**12 27 15.9**	**+2.1**
	baz=145						
ULM	**Lac du Bonnet**	**84.72**	**345**	P	**P**	**12 27 13.4**	**0.0**
	comp=Z,6.3nm,0.9s,baz=178,slow=7.7,SNR=4.3						
ULM	**Lac du Bonnet**	**84.72**	**345**	IAmb	IAmb	12 27 50.1	
	comp=Z,43nm,1.6s						
MFID	**Camas Ranch**	**85.18**	**330**	IAMs_20	IAMs_20	13 03 10.9	
	comp=Z,1µm,18.0s						
BOZ	**Bozeman (W)**	**85.28**	**333**	P	**P**	**12 27 17.5**	**+0.9**
	baz=147						
DLMT	**Dillon**	**85.46**	**333**	P	**P**	**12 27 18.0**	**+0.5**
DLMT				IAmb	IAmb	12 27 34.3	
	comp=Z,31nm,1.4s						
WVOR	**Wild Horse Val**	**85.64**	**327**	IAmb	IAmb	12 27 33.0	
	comp=Z,41nm,1.6s						
WVOR				IAMs_20	IAMs_20	13 01 40.8	
	comp=Z,1µm,18.0s						
M04C	**Macdoel**	**86.64**	**325**	P	**P**	**12 27 24.8**	**+1.3**
	baz=140						
EGMT	**Eagleton**	**86.66**	**336**	IAmb	IAmb	12 28 16.2	
	comp=Z,25nm,1.4s						
EGMT	**Eagleton**	**86.66**	**336**	P	**P**	**12 27 23.7**	**+0.4**
	baz=149						
SCHQ	**Schefferville**	**86.78**	**3**	P	**P**	**12 27 22.9**	**-0.7**
	comp=Z,12nm,1.1s,baz=96,slow=3.9,SNR=4.7						
SCHQ	**Schefferville**	**86.78**	**3**	P	**P**	**12 27 23.6**	**0.0**
BMO	**Blue Mountains**	**86.97**	**330**	IAMs_20	IAMs_20	13 02 25.2	
	comp=Z,2µm,18.0s						
MSO	**Missoula**	**87.20**	**333**	IAMs_20	IAMs_20	13 02 49.2	
	comp=Z,2µm,20.0s						
MSO	**Missoula**	**87.20**	**333**	P	**P**	**12 27 28.1**	**+2.1**
	baz=146						
J05D	**Fort Rock, OR**	**87.50**	**326**	P	**P**	**12 27 29.2**	**+1.6**
	baz=140						
HAWA	**Hanford**	**89.14**	**329**	IAmb	IAmb	12 27 49.6	
	comp=Z,70nm,1.8s						
HAWA				IAMs_20	IAMs_20	13 02 40.4	
	comp=Z,2µm,20.0s						
AVE	**Averroes**	**89.24**	**49**	P	**P**	**12 27 35.0**	**-0.9**
AVE				S	S	12 38 13.2	-11
NEW	**Newport**	**89.62**	**332**	IAMs_20	IAMs_20	13 03 58.3	
	comp=Z,1µm,20.0s						
IFR	**Ifrane**	**90.86**	**50**	P	**P**	**12 27 41.6**	**-2.0**
IFR				S	**SKSac**	**12 38 16.1**	**+1.4**
SFS	**San Fernando**	**92.02**	**47**	P	**P**	**12 27 50.4**	**+1.7**
SFS				S	SKSac	12 38 34.8	+14
ARNO	**Arenosillo**	**92.09**	**47**	P	**P**	**12 27 48.2**	**-0.8**
ARNO				S	**SKSac**	**12 38 29.4**	**+8.3**
CEU	**Ceuta**	**92.19**	**48**	P	**P**	**12 27 50.7**	**+1.3**
CEU				S	**SKSac**	**12 38 29.2**	**+7.6**
EVO	**Evora**	**92.23**	**45**	P	**P**	**12 27 47.6**	**-2.1**
EVO				S	**SKSac**	**12 38 29.2**	**+7.4**
PVLZ	**Peæn de**	**92.42**	**49**	P	**P**	**12 27 52.0**	**+1.4**
PVLZ				S	**SKSac**	**12 38 28.4**	**+5.5**
EMAL	**Malaga-Limoner**	**93.32**	**48**	P	**P**	**12 27 57.5**	**+2.8**
MELI	**Melilla**	**93.38**	**50**	P	**P**	**12 27 56.1**	**+1.1**
ESDC	**Sonseca Array**	**95.40**	**46**	P	**P**	**12 28 03.6**	**-0.7**
	comp=Z,3.5nm,1.0s,baz=255,slow=4.9,SNR=7.5						
CART	**Cartagena**	**96.00**	**49**	P	P	12 28 02.2	-4.8
CART				S	**SKSac**	**12 38 45.9**	**+3.6**
UCM	**Universidad Co**	**96.22**	**46**	P	**P**	**12 28 05.2**	**-2.8**
UCM				S	**SKSac**	**12 38 46.6**	**+3.2**
SFJD	**Kangerlussuaq**	**100.22**	**8**	IAMs_20	IAMs_20	13 16 36.5	
	comp=Z,1µm,20.0s						
WRAK	**Wrangell Islan**	**101.91**	**330**	IAMs_20	IAMs_20	13 23 48.4	
	comp=Z,959nm,19.0s						
DZM	**Mont Dzumac**	**102.22**	**234**	*e*PS	PS	12 41 42.9	-10
	comp=Z,810nm,26.9s						
DZM	**Mont Dzumac**	**102.22**	**234**	*e*LQ	LQ	12 57 16.1	
	comp=Z,2µm,31.6s						
DZM				*e*LR	LR	13 01 44.5	
	comp=Z,3µm,22.9s,baz=135						
SANVU	**Saraoutou**	**106.04**	**240**	IAMs_20	IAMs_20	13 19 11.9	
	comp=Z,1µm,18.0s						
M27K	**Edge Creek, AK**	**109.37**	**332**	IAMs_20	IAMs_20	13 27 41.2	
	comp=Z,1µm,18.0s						
L27K	**Beaver Creek,**	**109.73**	**333**	IAMs_20	IAMs_20	13 19 33.7	
	comp=Z,901nm,19.0s						
EPYK	**Eagle Plains**	**109.77**	**337**	IAMs_20	IAMs_20	13 17 00.3	
	comp=Z,1µm,20.0s						
M26K	**Nabesna, AK**	**109.84**	**332**	IAMs_20	IAMs_20	13 27 55.5	
	comp=Z,1µm,19.0s						
N25K	**Chitina, Valde**	**110.07**	**331**	IAMs_20	IAMs_20	13 30 17.8	
	comp=Z,903nm,20.0s						
A36M	**Sachs Harbour**	**110.20**	**345**	IAMs_20	IAMs_20	13 19 37.6	
	comp=Z,2µm,22.0s						
K27K	**Chicken**	**110.34**	**334**	IAMs_20	IAMs_20	13 16 46.7	
	comp=Z,1µm,20.0s						
EGAK	**Eagle**	**110.40**	**335**	IAMs_20	IAMs_20	13 24 24.7	
	comp=Z,1µm,19.0s						
GERES	**GERESS Array B**	**110.95**	**45**	PKiKP	**PKiKP**	**12 33 12.9**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=243,slow=4.1,SNR=5.4						
CLL	**Collm**	**111.58**	**42**	*e*(Pdif)		12 29 17.0	
CLL				*e*PP	**PP**	**12 33 57.0**	**+1.0**
CLL				*e*PPP	PPP	12 36 18.0	
CLL				*e*SKSac	**SKSac**	**12 39 55.0**	**+1.2**
CLL				*e*(Sdif)		12 41 40.0	
CLL				*e*PS	**PS**	**12 43 33.0**	**+5.0**
CLL				*e*PPS	PPS	12 44 38.0	
CLL				*e*		12 45 28.0	
CLL				*e*SS	**SS**	**12 49 33.0**	**+2.8**
CLL				*e*SSS	SSS	12 53 41.0	
CLL				*e*SSSS		12 57 12.0	
CLL				Lm	MLR	13 19 00.0	
	comp=N,2µm,19.5s						
CLL				Lm	MLR	13 19 00.0	
	comp=E,3µm,19.4s						
CLL				Lm	MLR	13 19 00.0	
	comp=Z,4µm,19.2s						
CLL	**Collm**	**111.58**	**42**	*e*P	**Pdif**	**12 29 17.0**	**+0.9**
CLL				*e*		12 33 57.0	
CLL				*e*		12 39 55.0	
CLL				MLR	MLR		
	comp=Z,4µm,19.2s						
CLL				MLR	MLR		
	comp=Z,4µm,19.9s						
CLL				MLR	MLR		
	comp=Z,700nm,18.1s						
O22K	**Cooper Landing**	**111.71**	**329**	IAMs_20	IAMs_20	13 27 13.4	
	comp=Z,1µm,19.0s						
GHO	**Glory Hole Cre**	**111.96**	**330**	IAMs_20	IAMs_20	13 31 37.6	
	comp=Z,809nm,19.0s						
ILAR	**Eielson Array**	**112.53**	**333**	PKiKP	**PKiKP**	**12 33 15.5**	**+0.2**
	comp=Z,0.5nm,0.9s,baz=113,slow=2.1,SNR=2.0						
POKR	**Poker Plat Res**	**112.89**	**334**	IAMs_20	IAMs_20	13 29 25.2	
	comp=Z,1µm,18.0s						
COLA	**College**	**112.94**	**333**	IAMs_20	IAMs_20	13 19 43.9	
	comp=Z,939nm,18.0s						
O18K	**Koktuh Hills**	**113.93**	**327**	IAMs_20	IAMs_20	13 33 14.9	
	comp=Z,815nm,18.0s						
M19K	**Big River Lodg**	**114.36**	**329**	IAMs_20	IAMs_20	13 30 32.7	
	comp=Z,806nm,20.0s						
N18K	**Kilae Creek**	**114.56**	**327**	IAMs_20	IAMs_20	13 32 10.9	
	comp=Z,1µm,19.0s						
I21K	**Tanana**	**114.66**	**333**	IAMs_20	IAMs_20	13 19 49.9	
	comp=Z,802nm,19.0s						
K20K	**Telida**	**114.79**	**331**	IAMs_20	IAMs_20	13 33 08.5	
	comp=Z,803nm,19.0s						
J20K	**Nowinta River**	**115.13**	**331**	IAMs_20	IAMs_20	13 33 42.5	
	comp=Z,852nm,20.0s						
H21K	**Melozitna Rive**	**115.16**	**333**	IAMs_20	IAMs_20	13 30 48.2	
	comp=Z,1µm,22.0s						
UZH	**Uzhgorod**	**116.13**	**47**	*e*PKiKP	**PKPdf**	**12 33 21.0**	**-1.6**
UZH				*e*		12 33 26.0	
KLNR	**Kaliningrad**	**116.84**	**41**	*i* PKiKP	**PKiKP**	**12 33 25.9**	**+2.1**
KLNR				pmax	pmax		
	comp=Z,31nm,0.8s						
MLR	**Muntele Rosu**	**117.45**	**52**	PP	PP	12 34 35.9	-1.9
	comp=Z,5.1nm,1.0s,baz=252,slow=6.2,SNR=5.7						
ASAR	**Alice Springs**	**119.13**	**207**	PKP	**PKPdf**	**12 33 28.2**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=130,slow=1.6,SNR=9.2						
ASAR				PKKPbc	**PKKPbc**	**12 43 42.8**	**+0.4**
	comp=Z,1.9nm,0.9s,baz=338,slow=2.4,SNR=9.5						
ASAR	**Alice Springs**	**119.13**	**207**		PKKPab	12 43 40.0	-7.6
KIS	**Kishinev**	**119.81**	**51**	*e*P	**Pdif**	**12 29 58.0**	**+5.2**
BRTR	**Keskin Array B**	**121.04**	**60**	PKP	**PKiKP**	**12 33 32.9**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=240,slow=2.8,SNR=5.2						
AKASG	**Malin Array Be**	**121.04**	**47**	PKP	**PKPdf**	**12 33 31.1**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=272,slow=2.3,SNR=11						
AKASG	**Malin Array Be**	**121.04**	**47**	PKiKP	**PKPdf**	**12 33 29.4**	**-2.6**
AKASG	**Malin Array Be**	**121.04**	**47**		**PKPdf**	**12 33 29.4**	**-2.6**
AKBB	**Malin Array Si**	**121.04**	**47**	*c i* PKiKP	**PKiKP**	**12 33 33.4**	**+1.3**
MNK	**Minsk**	**121.12**	**42**	*i* PKiKP	**PKiKP**	**12 33 35.1**	**+2.9**
MNK				*i*		12 35 08.1	
MNK				*i* PPP	PPP	12 37 37.1	
MNK				*i*		12 40 44.4	
MNK				*i* SS	SS	12 51 42.1	+7.4
MNK				*i* SSS	SSS	12 56 08.0	
MNK				pmax	pmax		
	comp=Z,34nm,1.2s						
MNK				pmax	pmax		
	comp=N,25nm,0.8s						
MNK				pmax	pmax		
	comp=E,4.0nm,0.9s						
MNK				MLR	MLR		
	comp=E,394nm,22.0s						
MNK				MLR	MLR		
	comp=N,988nm,23.0s						
MNK				MLR	MLR		
	comp=Z,1µm,20.0s						
VSU	**Vasula**	**121.33**	**37**	*i* PKiKP	**PKiKP**	**12 33 34.0**	**+1.6**
FINES	**FINESS Array B**	**121.55**	**34**	PKP	**PKiKP**	**12 33 33.0**	**+0.2**
	comp=Z,1.1nm,1.2s,baz=229,slow=1.3,SNR=7.0						
WRA	**Warramunga Arr**	**122.29**	**210**	PKP	**PKPdf**	**12 33 35.5**	**0.0**
	comp=Z,5.2nm,1.1s,baz=165,slow=2.0,SNR=15						
WRA				PKKPbc	**PKKPbc**	**12 43 30.0**	**-0.5**
	comp=Z,1.8nm,1.0s,baz=320,slow=2.0,SNR=6.7						
WRA				PKKP	**PKKPdf**	**12 44 02.1**	**-3.8**
	comp=Z,1.8nm,0.6s,baz=153,slow=2.1,SNR=10						
WRA	**Warramunga Arr**	**122.29**	**210**	PKIKP	**PKPdf**	**12 33 35.3**	**-0.2**
WRA	**Warramunga Arr**	**122.29**	**210**		**PKPdf**	**12 33 35.3**	**-0.2**
WRAB	**Tennant Creek**	**122.29**	**210**	*c i* PKiKP	**PKiKP**	**12 33 36.0**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KEV	**Kevo**	**122.95**	**24**	IAMs_20	IAMs_20	13 21 39.4	
	comp=Z,1µm,22.0s						
ADK	**Adak**	**123.21**	**314**	IAMs_20	IAMs_20	13 15 21.0	
	comp=Z,1µm,20.0s						
ANN	**Anapa**	**125.08**	**55**	*i* PKiKP	**PKiKP**	**12 33 40.5**	**+0.2**
ANN				*e*		12 33 49.4	
ANN				*e*		12 35 26.2	
ANN				*e*		12 40 41.5	
ANN				*e*PS	**PS**	**12 45 30.8**	**+0.7**
ANN				pmax	pmax		
	comp=Z,21nm,0.7s						
H11S2	**WAKE ISLAND Hyl**	**25.67**	**271**	T	T	14 52 53.9	
	baz=118,slow=74,SNR=9.6						
H11S1	**WAKE ISLAND Hyl**	**25.68**	**271**	T	T	14 52 55.6	
	baz=118,slow=74,SNR=7.9						
H11S3	**WAKE ISLAND Hyl**	**25.68**	**271**	T	T	14 52 55.1	
	baz=118,slow=74,SNR=9.0						
LVZ	**Lovozero**	**125.70**	**26**	*c i* PKiKP	**PKiKP**	**12 33 42.2**	**+1.3**
LVZ				pmax	pmax		
	comp=Z,34nm,1.3s						
H11N3	**WAKE ISLAND Hyl**	**26.03**	**272**	T	T	14 53 11.0	
	baz=117						
H11N1	**WAKE ISLAND Hyl**	**26.05**	**272**	T	T	14 53 04.2	
	baz=117						
H11N2	**WAKE ISLAND Hyl**	**26.05**	**272**	T	T	14 53 08.0	
	baz=117						
OBN	**Obninsk**	**126.18**	**42**	*i* PKiKP	**PKiKP**	**12 33 42.4**	**+0.3**
OBN						12 33 54.0	
OBN				*e*		12 35 40.1	
OBN				*e*		12 40 48.6	
OBN				*e*PS	**PS**	**12 45 35.2**	**-4.1**
OBN				*e*		12

TIXI	Tiksi	138.89	350		IAms_20	IAms_20	13 48 31.0		
	comp=Z,589nm,19.0s								
GEYT	Alibeck	139.29	68		PKP	PKPdf	12 34 07.6	+0.6	
	comp=Z,3.7nm,0.8s,baz=256,slow=5.8,SNR=3.3								
SVE	Sverdlovsk	139.42	38	*i*	PKIKP	PKiKP	12 34 08.8	-0.1	
SVE					pmax	pmax			
	comp=Z,34nm,1.4s								
SVE					MLR	MLR			
	comp=Z,2μm,21.0s								
ABKAR	Akbulak array	140.62	50		PKPdf	PKPdf	12 34 02.2	-6.8	
NRIK	Noril'sk	141.06	11		PKP	PKPdf	12 34 09.4	+0.2	
	comp=Z,2.6nm,0.5s,baz=101,slow=3.2,SNR=7.3								
NRIK	Noril'sk	141.06	11		PKIKP	PKPdf	12 34 06.5	-2.7	
NRIK	Noril'sk	141.06	11		PKPdf	PKPdf	12 34 06.5	-2.7	
KUR	Kuril'sk	146.49	305	*e*	PKHKP	PKPpre	12 34 15.8		
KUR				*i*			12 34 21.0		
KUR				*e*	SS	SS	12 56 47.1	+5.6	
KUR					pmax	pmax			
	comp=Z,223nm,1.4s								
KUR					pmax	pmax			
	comp=Z,1μm,5.7s								
KUR					MLR	MLR			
	comp=Z,800nm,17.0s								
YAK	Yakutsk	146.98	341		PKPbc	PKPbc	12 34 21.2	-0.6	
	comp=Z,8.3nm,0.4s,baz=185,slow=1.2,SNR=11								
YAK	Yakutsk	146.98	341	*e*	PKP2	PKPbc	12 34 21.1	-0.6	
YAK					pmax	pmax			
	comp=Z,77nm,1.4s								
YAK					pmax	pmax			
	comp=N,13nm,1.2s								
YAK					pmax	pmax			
	comp=E,9.0nm,1.3s								
YAK	Yakutsk	146.98	341		PKPbc	PKPbc	12 34 21.1	-0.6	
YAK					IAMs_20	IAMs_20	13 46 15.5		
	comp=Z,836nm,20.0s								
KKAR	Karatay Array	148.74	59		PKIKP	PKPbc	12 34 25.4	-1.7	
KKAR	Karatay Array	148.74	59			PKPbc	12 34 25.4	-1.7	
YSS	Yuzh-Sakhalins	149.59	309	*i*	PKHKP	PKPpre	12 34 28.8		
YSS				*e*			12 34 35.7		
YSS				*e*	SS	SS	12 57 18.0	+1.9	
YSS					pmax	pmax			
	comp=Z,10.0nm,0.9s								
YSS					MLR	MLR			
	comp=Z,700nm,19.0s								
YSS					MLR	MLR			
	comp=E,400nm,18.0s								
ERM	Erimo	150.34	299		PKIKP	PKiKP	12 34 33.0	+1.2	
ERM	Erimo	150.34	299			PKiKP	12 34 33.0	+1.2	
JKA	Kamikawa-asahi	150.39	304			PKiKP	12 34 31.9	+0.1	
ASAJ	Asahikawa	150.39	304		PKPbc	PKiKP	12 34 31.9	+0.1	
	comp=E,25nm,1.1s,baz=263,slow=10,SNR=5.9								
EKS2	Erkin-Say	151.18	59		P	PKiKP	12 34 34.7	+1.0	
	SNR=8.8								
USP	Ospenovka	151.59	58		P	PKiKP	12 34 35.0	+0.5	
	SNR=11								
AAK	Ala-Archa	151.70	59		P	PKiKP	12 34 36.0	+1.1	
	SNR=9.2								
AAK	Ala-Archa	151.70	59	*c*	iPKIKP	PKiKP	12 34 35.8	+0.9	
AAK					pmax	pmax			
	comp=Z,113nm,1.0s								
BHPL	Bhopal	151.72	101	*i*	x	PKPbc	12 34 34.3	-0.6	
UCH	Uchtor	151.79	60		P	PKiKP	12 34 36.4	+0.9	
	SNR=10.0								
GRNR	Gornyy	151.91	320	⇑	iPKIKP	PKiKP	12 34 34.8	0.0	
GRNR					pmax	pmax			
	comp=Z,9.0nm,1.1s								
ZALV	Zalesovo Beam	152.73	30		PKP	PKPdf	12 34 28.6	-0.4	
	comp=Z,5.6nm,0.8s,baz=294,slow=3.5,SNR=5.4								
ZALV					PKPbc	PKiKP	12 34 36.9	+0.5	
	comp=Z,83nm,0.9s,baz=302,slow=2.9,SNR=29								
ULHL	Ulahol	153.05	59		P	PKiKP	12 34 39.0	+1.2	
	SNR=5.3								
KSH	Kashi	153.26	65		PKPbc	PKPdf	12 34 26.8	-3.7	
KSH					pPKP	PKiKP	12 34 38.6	+0.5	
KSH					PP	PP	12 38 23.3	-0.7	
KSH					AMB	AMB			
	comp=Z,1μm,8.2s								
KSH					LR	LR			
	comp=Z,1μm,18.5s								
KSH					LR	LR			
	comp=Z,1μm,20.8s								
KSH					LR	LR			
	comp=Z,2μm,19.0s								
SMLA	Simla	153.92	84	*i*	x	PKPdf	12 34 34.3	+2.8	
TEY	Ternei	154.26	308	*e*	PKIKP	PKPdf	12 34 19.9	-12	
ZEA	Zeya	154.35	333	*i*	PKIKP	PKPdf	12 34 31.6	+0.2	
ZEA					pmax	pmax			
	comp=Z,100nm,4.5s								
ZEA					pmax	pmax			
	comp=Z,200nm,11.5s								
MJAR	Matsushiro Arr	154.60	288		PKP	PKPdf	12 34 31.5	-0.8	
	comp=Z,9.2nm,1.3s,baz=90,slow=3.0,SNR=6.3								
MJAR	Matsushiro Arr	154.60	288			PKPdf	12 34 33.1	+0.7	
KLR	Kul'dur	155.28	321		PKP	PKPdf	12 34 32.1	-0.7	
	comp=Z,4.8nm,1.1s,baz=20,slow=2.0,SNR=7.2								
MKAR	Makanchi Array	155.62	46		PKP	PKPdf	12 34 33.3	-0.1	
	comp=Z,5.8nm,1.1s,baz=300,slow=1.0,SNR=7.1								
MKAR					PKPab	PKPab	12 34 58.1	-1.5	
	comp=Z,21nm,1.1s,baz=294,slow=3.9,SNR=10								
MKAR	Makanchi Array	155.62	46		PKIKP	PKPdf	12 34 33.0	-0.4	
MKAR	Makanchi Array	155.62	46		PKPdf	PKPdf	12 34 33.0	-0.4	
USRK	Ussuriysk Ar.	157.63	309		PKPbc	PKPbc	12 34 48.4		
	comp=Z,1.7nm,0.7s,baz=90,slow=5.8,SNR=3.3								
WMQ	Urumqi	160.39	48	*e*	P	PKPdf	12 34 34.8	-4.6	
WMQ					pmax	pmax			
	comp=Z,390nm,7.1s								
WMQ					LR	LR			
	comp=N,1μm,23.7s								
WMQ					LR	LR			
	comp=E,610nm,19.5s								
WMQ					LR	LR			
	comp=Z,1μm,18.1s								
ZAK	Zakamensk	161.50	9	*e*	PKIKP	PKPdf	12 34 36.5	-3.9	
ZAK					pmax	pmax			
	comp=Z,6.0nm,1.5s								
CN2	Changchun	161.95	315	*e*	PKP	PKPdf	12 34 41.8	+0.8	
CN2					PP	PP	12 39 14.6	+3.6	
CN2					AMB	AMB			
	comp=Z,300nm,10.0s								
CN2					LR	LR			
	comp=Z,400nm,17.0s								
CN2					LR	LR			
	comp=Z,700nm,17.0s								
CN2					LR	LR			
	comp=Z,800nm,18.0s								
KSRS	Korea Array	162.69	293		PKP	PKPdf	12 34 41.5	-0.4	
	comp=Z,3.2nm,1.1s,baz=236,slow=1.1,SNR=7.1								
KSRS					PKPab	PKPab	12 35 29.8	-0.7	
	comp=Z,5.1nm,1.0s,baz=82,slow=4.6,SNR=2.8								
CMAR	Chiang Mai Arr	164.16	148		PKP	PKPdf	12 34 44.2	+0.3	
	comp=Z,4.9nm,1.1s,baz=240,slow=2.3,SNR=16								
CMAR					PKPab	PKPab	12 35 36.9	-0.4	
	comp=Z,6.4nm,1.2s,baz=216,slow=4.7,SNR=7.0								
SONM	Songino Array	164.33	4		PKP	PKPdf	12 34 43.5	+0.2	
	comp=Z,0.9nm,0.5s,baz=173,slow=1.9,SNR=6.5								
SONM					PKPab	PKPab	12 35 37.0	-0.5	
	comp=Z,2.3nm,0.9s,baz=318,slow=2.0,SNR=4.3								
SONM	Songino Array	164.33	4		PKIKP	PKPdf	12 34 38.4	-4.9	
SONM	Songino Array	164.33	4			PKPdf	12 34 38.4	-4.9	
CHTO	Chiang Mai	164.47	147		PKP	PKPdf	12 34 47.1	+3.0	
QIZ	Qiongzhong	166.78	188		PKP	PKPdf	12 34 38.3	-7.7	
QIZ					PP	PP	12 39 28.8	-6.6	
GTA	Gaotai	170.29	40	⇑	PKP	PKPdf	12 34 48.8	+0.9	
GTA					pPKP	sPKPdf	12 34 55.8	+0.7	
GTA					PKPab	PKPab	12 36 04.8	+0.7	
GTA					PP	PP	12 40 00.3	+6.2	
GTA					SKKS		12 46 41.3		
GTA					SS	SS	13 00 51.5	-2.4	
GTA					AMB	AMB			
	comp=Z,450nm,7.6s								
GTA					LR	LR			
	comp=Z,810nm,18.5s								
GTA					LR	LR			
	comp=Z,810nm,20.0s								
GTA					LR	LR			
	comp=Z,1μm,19.6s								
HHC	Hu-ho-hao-te	170.84	342	*e*	PKP	PKPdf	12 34 38.5	-10	
HHC					sPKP		12 34 51.1		
HHC					PP	PP	12 39 56.9	+0.6	
HHC					SKS	SKSdf	12 41 34.3	-16	
BTO	Baotou	171.41	349	*e*	PKP	PKPdf	12 34 50.1	+1.7	
BTO					PP	PP	12 40 03.9	+4.9	
KMI	Kunming	171.67	146	⇑	PKP	PKPdf	12 34 41.8	-7.4	
KMI					sPKP		12 34 47.8		
LZH	Lanzhou	174.89	39	*e*	PKP	PKPdf	12 34 41.4	-8.6	
LZH					pPKP	pPKPdf	12 34 45.8	-10	
LZH					sPKP		12 34 51.8		
LZH					PP	PP	12 40 15.4	-1.4	
XAN	Xi'an	177.93	334		PKP	PKPdf	12 34 50.8	+0.2	
XAN					sPKP		12 34 59.8		
XAN					SKKS		12 47 19.8		
XAN					LR	LR			
	comp=Z,2μm,16.7s								
XAN					LR	LR			
	comp=Z,1μm,17.0s								
XAN					LR	LR			
	comp=Z,2μm,18.0s								

DJA ***17*** *12:15:18.4±0.8, 4°S×14°E×2°, h168km±10km, M4.3/8, mB4.7/2, mb4.3/8, MLv4.3/2, Mw(mB)3.9/2*
IDC ***17*** *12:15:19.4±2.4, 4°S×151.7°E, h125km±19km, mb3.9/13, mb1 4.1/15, mb1mx3.9/36, mbtmp4.3/15, MS4.0/1, Ms1 4.0/1, ms1mx3.1/30, Error ellipse: s-maj=20.2km s-min=14.1km az=95.0*
NEIC ***17*** *12:15:21.3±1.9, 4.9°S±0.1°×151.7°E±0.1°, h132km±7km, mb4.3/8, Error ellipse: s-maj=22.5km s-min=12.8km az=127.0*

ISC 17 12:15:20.0±0.6, 4.95°S±0.09°×151.7°E±0.1, h129km, n35, σ0°97/37, mb4.2/15, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RABL	Rabaul	0.89	32				Pn	12 15 43.1	+1.3
JAY	Jayapura	11.23	282	P			Pn	12 17 57.1	+0.2
	0.2nm,0.3s,baz=56,slow=0.5,SNR=3.7								
JAY	Jayapura	11.23	282	P			Pn	12 17 59.2	+2.3
	5.7nm,1.1s								
GENI	Genyem	11.74	281	P			Pn	12 18 02.6	-1.0
	21nm,0.5s								
COEN	Coen	12.27	223				Pn	12 18 11.8	+1.2
CTA	Charters Tower	15.95	199	P			P	12 18 59.0	+0.7
	0.3nm,0.3s,baz=6.9,slow=5.7,SNR=3.9								
DZM	Mont Dzumac	22.22	141	P			P	12 20 07.2	+0.9
	6.5nm,0.9s,baz=254,slow=10,SNR=6.2								
DZM	Mont Dzumac	22.22	141	IAmb		IAmb		12 20 10.6	
	comp=Z,18nm,1.2s								
WR0	Warramunga Arr	22.39	227	P			P	12 20 07.0	-1.0
WR0				IAmb		IAmb		12 20 10.0	
	comp=Z,33nm,1.4s								
WB2	Warramunga Arr	22.52	227	P			P	12 20 09.6	+0.3
WRA	Warramunga Arr	22.53	227	P			P	12 20 09.6	+0.2
	comp=Z,8.6nm,0.4s,baz=53,slow=9.7,SNR=138								
WRA				PcP			PcP	12 23 59.0	+0.3
	comp=Z,2.4nm,0.5s,baz=60,slow=1.8,SNR=11								
WRA				S			S	12 24 06.9	-0.2
	comp=Z,4.0nm,1.1s,baz=56,slow=17,SNR=7.4								
WRA				ScP			ScP	12 27 24.8	+0.2
	comp=Z,0.8nm,0.7s,baz=54,slow=2.5,SNR=6.6								
WRA	Warramunga Arr	22.53	227	P			P	12 20 07.4	-2.0
KNRA	Kununurra	24.92	243	P			P	12 20 32.6	+1.3
AS31	Alice Springs	25.30	221	P			P	12 20 35.2	+0.4
AS31				IAmb		IAmb		12 20 39.7	
	comp=Z,4.2nm,1.2s								
ASAR	Alice Springs	25.31	221	P			P	12 20 35.2	+0.4
	comp=Z,2.6nm,0.4s,baz=53,slow=8.8,SNR=118								
ASAR				PcP			PcP	12 24 05.2	+0.5
	comp=Z,1.7nm,0.6s,baz=61,slow=2.7,SNR=10.0								
ASAR				S			S	12 24 49.0	-2.5
	comp=Z,0.3nm,0.5s,baz=47,slow=14,SNR=2.1								
ASAR				ScP			ScP	12 27 32.7	+0.6
	comp=Z,0.5nm,0.7s,baz=32,slow=3.0,SNR=6.0								
ASAR	Alice Springs	25.31	221	P			P	12 20 33.5	-1.3
STKA	Stephens Creek	28.41	198	P			P	12 21 02.2	-0.3
	comp=Z,1.5nm,0.4s,baz=24,slow=9.2,SNR=8.2								
STKA	Stephens Creek	28.41	198	IAmb		IAmb		12 21 05.7	
	comp=Z,1.0nm,1.1s								
FITZ	Fitzroy Crossi	28.62	241	P			P	12 21 04.1	-0.4
	comp=Z,2.7nm,0.3s,baz=60,slow=6.8,SNR=53								
BBOO	Buckleboo	31.33	206	P			P	12 21 28.4	+0.1
RAR	Rarotonga	49.73	114	LR		LR		12 40 29.4	
	comp=Z,185nm,21.5s,baz=270,slow=30								
CMAR	Chiang Mai Arr	56.95	296	P			P	12 24 51.9	-0.4
	comp=Z,2.1nm,0.8s,baz=115,slow=5.5,SNR=10								
PETK	Petropavlovsk-	58.06	4	P			P	12 24 59.7	+0.2
	comp=Z,0.8nm,0.4s,baz=157,slow=7.8,SNR=2.2								
SONM	Songino Array	65.87	328	P			P	12 25 52.5	+0.5
	comp=Z,2.5nm,0.5s,baz=148,slow=5.4,SNR=14								
SONM	Songino Array	65.87	328	P			P	12 25 52.9	+0.9
SONM				IAmb		IAmb		12 25 54.5	
	comp=Z,2.9nm,0.7s								
MKAR	Makanchi Array	79.72	319	P			P	12 27 13.2	-0.5
	comp=Z,1.1nm,0.6s,baz=97,slow=6.6,SNR=9.5								
ZALV	Zalesovo Beam	80.67	327	P			P	12 27 17.7	-0.8
	comp=Z,0.9nm,0.4s,baz=134,slow=6.2,SNR=3.3								
ILAR	Eielson Array	82.71	22	P			P	12 27 27.6	-1.4
	comp=Z,0.7nm,0.5s,baz=246,slow=4.9,SNR=11								
QSPA	South Pole Qui	85.01	180	P			P	12 27 40.3	-0.6
	comp=Z,5.8nm,0.9s,baz=76,slow=8.3,SNR=1.6								
NVAR	Mina Array Bea	93.04	52	P			P	12 28 19.4	-0.3
	comp=Z,1.5nm,0.8s,baz=240,slow=7.2,SNR=1.4								
GERES	GERESS Array B	123.60	328	PKP			PKPdf	12 34 01.8	-0.7
	comp=Z,0.7nm,0.4s,baz=70,slow=1.1,SNR=4.9								
MDT	Midelt	144.53	324	PKP		PKPbc		12 34 40.9	0.0
	comp=Z,0.9nm,0.4s,baz=64,slow=3.2,SNR=6.2								
TORD	Torodi Ar. Bea	149.30	287	PKPbc			PKPbc	12 34 54.2	-0.5
	comp=Z,3.7nm,0.5s,baz=101,slow=2.5,SNR=22								
TORD	Torodi Ar. Bea	149.30	287				PKPbc	12 34 54.4	-0.4
KOWA	Kowa	154.28	293	PKPbc			PKPbc	12 35 05.4	-0.6
	comp=Z,1.9nm,0.3s,baz=81,slow=3.0,SNR=4.2								

GUC ***17*** *12:19:31.6±0.7, 32.16°S×71.92°W, h7km±4km, ML4.5*
IDC ***17*** *12:19:36.6±3.5, 32.38°S×71.21°W, h42km±32km, mb4.2/10, mb1 4.4/13, mb1mx4.1/32, mbtmp4.4/13, ML4.4/3, Error ellipse: s-maj=28.1km s-min=17.4km az=80.0*

ISC 17 12:19:30.5±1.7, 32.19°S±0.05°×72.07°W±0.08, h11km±10km, n44, σ1°44/42, mb4.7/11, 5C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VA01	Torpederas	0.91	157	*e*P			Pg	12 19 48.4	+0.5
VA01				*i* S			Sn	12 20 02.2	0.0
ROCH	El Roble	1.19	131	⇓ *i*P			Pn	12 19 53.2	-0.1
ROCH				*i* S			Sb	12 20 10.0	+1.3
ROCH				IAML				12 20 14.6	
	comp=N,20μm,0.5s								
VA03	San Esteban	1.41	114	⇑ *i*P			Pn	12 19 56.2	0.0
VA03				*i* S			Sn	12 20 15.6	+0.8
VA03				IAML				12 20 21.5	
	comp=N,22μm,0.6s								
VA05	Santo Domingo	1.51	165	*e*P			Pg	12 19 59.2	-0.4
VA05				*e*S			Sg	12 20 20.4	+1.2
VA05				IAML				12 20 29.7	
	comp=E,13μm,0.4s								
CO06	Fray Jorge	1.56	14	⇑ *i*P			Pn	12 19 56.0	-2.1
CO06				*e*S			Sn	12 20 03.1	-15
CO06				IAML				12 20 09.0	
	comp=N,20μm,0.8s								
MT05	Renca	1.64	137	⇑ *i*P			Pb	12 20 00.8	-0.1
MT05				*e*S			Sb	12 20 23.0	+1.4
MT05				IAML				12 20 26.7	
	comp=N,16μm,0.3s								
CO03	El Pedregal	1.79	42	⇓ *i*P			Pn	12 20 02.9	+1.5
CO03				*i* S			Sn	12 20 25.8	+1.6
CO03				IAML				12 20 35.1	
	comp=N,14μm,0.5s								
MT01	Popeta	1.81	158	*i* P			Pb	12 20 03.7	+0.1
MT01				*e*S			Sg	12 20 28.4	-0.2
MT01				IAML				12 20 34.7	
	comp=E,4μm,0.5s								
MT09	Talagante	1.82	150	⇑ *i*P			Pb	12 20 04.5	+0.4
MT09				*i* S			Sg	12 20 28.4	-0.9
MT09				IAML				12 20 38.9	
	comp=E,6μm,0.3s								
FSR	Penalolen	1.83	135	*e*P			Pn	12 20 03.6	+1.6
FSR				*e*S			Sb	12 20 27.9	+1.0
LMEL	Las Melosas	2.28	137	⇑ *i*P			Pb	12 20 11.1	-0.6
LMEL				*i* S			Sb	12 20 41.3	+1.3
LMEL				IAML				12 20 51.3	
	comp=N,3μm,0.3s								
BO01	Tunca	2.35	160	⇓ *i*P			Pb	12 20 13.5	+0.7
BO01				*i* S			Sg	12 20 43.4	-2.5
BO01				IAML				12 20 54.9	
	comp=E,2μm,0.7s								
H03N1	Juan Fernandez	5.89	256	T		T		12 27 42.6	
	baz=85,slow=72,SNR=4.3								
H03N3	Juan Fernandez	5.91	256	T		T		12 27 46.5	
	baz=85,slow=72,SNR=4.3								
H03N2	Juan Fernandez	5.91	256	T		T		12 27 44.8	
	baz=85,slow=72,SNR=4.5								
H03S3	Juan Fernandez	5.97	252	T		T		12 27 56.4	
	baz=84,slow=74,SNR=7.5								
H03S1	Juan Fernandez	5.97	252	T		T		12 27 55.1	
	baz=84,slow=74,SNR=12								
H03S2	Juan Fernandez	5.99	252	T		T		12 27 34.7	
	baz=84,slow=74,SNR=9.3								
PLCA	Paso Flores	8.61	172	P			Pn	12 21 35.2	0.0
	comp=E,1.8nm,0.3s,baz=303,slow=14,SNR=0.7								
LPAZ	La Paz	16.23	14	P			Pn	12 23 21.2	+2.1
	comp=E,0.5nm,0.3s,baz=194,slow=7.2,SNR=2.5								
SIV	San Ignacio	18.97	34	P			P	12 23 51.5	-0.5
	comp=E,0.5nm,0.3s,baz=231,slow=14,SNR=2.1								
NNA	Nana	20.58	347	P			Pn	12 24 16.6	+4.8
	comp=E,4.7nm,0.4s,baz=229,slow=9.3,SNR=1.9								
BDFB	Brasilia	27.38	59	P			P	12 25 13.4	-2.7
	comp=E,42nm,1.0s,baz=239,slow=14,SNR=4.3								
VNA3	Neumayer Olymp	51.05	158	P			P	12 28 32.5	+0.2
VNA2	Neumayer--Watz	51.69	158	P			P	12 28 37.4	+0.3
	baz=282,slow=8.2								
SNAA	Sanae	53.27	158	P			P	12 28 49.1	+0.1
SNAA	Sanae	53.27	158	P			P	12 28 47.4	-1.5
	comp=E,8.3nm,0.9s,baz=279,slow=4.5,SNR=12								
QSPA	South Pole Qui	58.04	180	P			P	12 29 23.6	+0.3
	comp=E,3.0nm,0.9s,baz=122,slow=7.7,SNR=2.5								
TXAR	Lajitas Array	68.15	330	P			P	12 30 35.7	+4.9
	comp=E,1.2nm,0.8s,baz=148,slow=9.3,SNR=5.3								
LIC	Lamto	74.23	72	*e*P			P	12 31 05.9	-2.0
	comp=E,46nm,1.2s								
TIC	Toumodi	74.48	72	*e*P			P	12 31 08.3	-1.1
KIC	Kosan Boka	74.54	72	*e*P			P	12 31 08.7	-1.0
	comp=E,31nm,1.0s								
DBIC	Dimbokro	74.63	72	P			P	12 31 08.5	-1.7
	comp=E,11nm,0.9s,baz=232,slow=4.3,SNR=5.2								
BOSA	Bosaso	80.94	118	P			P	12 31 43.3	-2.1
	comp=E,7.9nm,0.9s,baz=205,slow=4.6,SNR=5.2								
PDAR	Pinedale Array	82.14	333	P			P	12 31 55.8	+4.4
	comp=E,0.4nm,0.5s,baz=145,slow=7.7,SNR=3.7								
NVAR	Mina Array Bea	82.39	325	P			P	12 31 57.7	+5.0
	comp=E,0.4nm,0.7s,baz=152,slow=6.0,SNR=2.4								
TORD	Torodi Ar. Bea	83.62	70	P			P	12 31 58.3	-1.1
	comp=E,4.4nm,0.8s,baz=257,slow=5.5,SNR=5.8								
ASAR	Alice Springs	119.16	207	PKhKP		PKPpre		12 38 18.3	
	comp=E,0.1nm,0.4s,baz=140,slow=1.7,SNR=0.8								
WRA	Warramunga Arr	122.32	210	PKhKP		PKPpre		12 38 24.9	
	comp=E,0.3nm,0.5s,baz=132,slow=1.4,SNR=4.8								
H11S2	WAKE ISLAND Hyl	25.75	270	T		T		14 57 44.2	
	baz=116,slow=74,SNR=13								
H11S1	WAKE ISLAND Hyl	25.76	270	T		T		14 57 42.3	
	baz=116,slow=74,SNR=7.3								
H11S3	WAKE ISLAND Hyl	25.77	270	T		T		14 57 42.0	
	baz=116,slow=74,SNR=7.4								
ZALV	Zalesovo Beam	152.70	30	PKPbc		PKPbc		12 39 26.3	-0.5
	comp=E,11nm,0.9s,baz=302,slow=3.3,SNR=6.9								
ZALV				PKPab		PKPab		12 39 37.1	-0.4
	comp=E,11nm,0.6s,baz=304,slow=3.5,SNR=7.9								
MKAR	Makanchi Array	155.56	46	PKPab		PKPab		12 39 50.3	+0.3
	comp=E,1.9nm,0.9s,baz=294,slow=3.9,SNR=3.6								

TUL ***17*** *12:19:46.7±0.8, 36.943°N±0.010°×97.68°W±0.02, h5km±2km, ML2.4, mb_Lg2.5/18(NEIC), Error ellipse: s-maj=3.3km s-min=3.0km az=263.0*

NEIC 17 12:19:47.0±0.4, 36.93°N±0.01°×97.67°W±0.01, h7km±5km, Error ellipse: s-maj=1.7km s-min=1.3km az=204.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KAN17	Caldwell West	0.13	326				Pg	12 19 50.0	+0.1
GC02	Grant County #	0.17	241				Pg	12 19 50.5	0.0
KAN13	South Haven SW	0.17	63				Pg	12 19 50.7	+0.1
KAN09	Caldwell North	0.21	12				Pg	12 19 51.4	+0.2
KAN14	Manchester OK	0.23	276				Pg	12 19 51.7	0.0
KAN05	Bluff City Nor	0.24	318				Pg	12 19 51.9	+0.1
KAN08	Anthony NE Sta	0.38	321				Pg	12 19 54.5	+0.1
KAN10	Anthony SW Sta	0.39	299		Pg		Pg	12 19 54.5	-0.1
BLOK	Blackwell	0.41	115				Pg	12 19 54.6	-0.3
KAN16	Harper SW Stat	0.43	313				Pg	12 19 55.2	-0.1
KAN12	Harper NE Stat	0.45	325				Pg	12 19 55.6	-0.1
OK032	Salt Plains WL	0.45	253				Pg	12 19 55.8	0.0
CROK	Carrier	0.49	210		Pg		Pg	12 19 56.7	+0.1
CROK							Sg	12 20 03.5	+0.4
T35A	Sooner Cattle	0.93	91				Pg	12 20 04.6	-0.3
QUOK	Quay	1.09	134

s-maj=67.6km s-min=23.1km az=129.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**59.82**	**180**	P	P	12 33 45.5	-0.4
	0.8nm,0.7s,baz=136,slow=12,SNR=1.6						
KOWA	**Kowa**	**79.39**	**66**	P	P	12 35 47.2	-0.1
	2.4nm,0.5s,baz=247,slow=6.8,SNR=5.4						
TORD	**Torodi Ar. Bea**	**83.22**	**71**	P	P	12 36 07.7	+0.1
	3.1nm,0.5s,baz=242,slow=5.5,SNR=12						
WRA	**Warramunga Arr**	**123.76**	**210**	PKP	PKiKP	12 42 40.3	+0.6
	0.2nm,0.6s,baz=159,slow=1.9,SNR=1.6						
MKAR	**Makanchi Array**	**154.44**	**43**	PKPbc	PKPbc	12 43 40.0	-1.2
	0.2nm,0.6s,baz=321,slow=3.7,SNR=1.2						

*IDC **17** 12:24:24.4±0.6,31°.42S×71°.90W,h0km,mb4.6/11, mb1 4.6/15,mb1mx4.5/33,mbtmp4.5/15,ML4.2/4,MS4.8/1, Ms1 4.8/1,ms1mx4.0/28,Error ellipse: s-maj=25.1km s-min=15.4km az=78.0*

*NEIC **17** 12:24:28.1±1.1,31°.43S±0°.09×71°.7W±0°.2,h19km±4km, Error ellipse: s-maj=27.0km s-min=12.5km az=86.0*

*GUC **17** 12:24:29.0±0.6,31°.38S×71°.74W,h26km±7km,ML5.1*

ISC 17 12:24:26.6±0.4,31°.44S±0°.03×71°.96W±0°.06,h14km,n77, σ0°.95/79,mb4.6/22,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.81**	**20**	*eP*	**Pn**	**12 24 43.1**	**-0.6**
CO06				*i* S	**Sb**	**12 24 53.7**	**+0.4**
CO03	**El Pedregal**	**1.25**	**62**	*eP*	**Pb**	**12 24 49.8**	**-0.1**
CO03				*i* S	**Sb**	**12 25 04.2**	**-1.8**
CO03				IAML		12 25 08.6	
	comp=N,36μm,0.2s						
GO04	**Tololo Observa**	**1.61**	**39**	*eP*	**Pb**	**12 24 56.3**	**0.0**
GO04				*i* S	**Sb**	**12 25 16.3**	**-0.3**
GO04				IAML		12 25 21.2	
	comp=E,94μm,0.4s						
ROCH	**El Roble**	**1.73**	**152**	*eP*	**Sn**	**12 25 19.2**	**+0.8**
ROCH				IAML		12 25 52.9	
	comp=E,29μm,0.4s						
VA03	**San Esteban**	**1.78**	**138**	*eP*	**Pb**	**12 24 59.1**	**0.0**
VA03				*i* S	**Sb**	**12 25 22.9**	**+1.5**
VA03				IAML		12 25 25.6	
	comp=E,21μm,0.6s						
MT05	**Renca**	**2.21**	**152**	*eP*	**Pb**	**12 25 06.2**	**-0.1**
MT05				IAML		12 26 03.7	
	comp=N,20μm,0.6s						
VA05	**Santo Domingo**	**2.23**	**172**	*eP*	**Pb**	**12 25 05.8**	**-0.9**
VA05				IAML		12 26 07.2	
	comp=E,19μm,0.4s						
MT09	**Talagante**	**2.47**	**161**	*eP*	**Pn**	**12 25 07.0**	**+0.5**
MT09				IAML		12 26 17.6	
	comp=N,15μm,0.6s						
MT01	**Popeta**	**2.49**	**166**	*eP*	**Pb**	**12 25 09.3**	**-1.8**
MT01				IAML		12 26 16.7	
	comp=E,9μm,0.8s						
LMEL	**Las Melosas**	**2.82**	**149**	*eP*	**Pn**	**12 25 13.1**	**+1.7**
LMEL				IAML		12 26 30.6	
	comp=N,7μm,0.7s						
BO01	**Tunca**	**3.03**	**166**	*eP*	**Pn**	**12 25 15.7**	**+1.5**
BO01				IAML		12 26 28.6	
	comp=N,4μm,0.6s						
BO03	**Pichilemu**	**3.05**	**180**	*eP*	**Pg**	**12 25 23.1**	**-1.9**
BO03				IAML		12 26 33.5	
	comp=N,3μm,0.6s						
AC04	**Llanos de Chal**	**3.32**	**14**	IAML		12 26 15.0	
	comp=E,3μm,0.6s						
H03N1	**Juan Fernandez**	**6.20**	**249**	Pn	**Pn**	**12 25 58.1**	**+0.7**
	baz=354						
H03N3	**Juan Fernandez**	**6.22**	**249**	Pn	**Pn**	**12 25 57.8**	**+0.1**
	baz=354						
H03N2	**Juan Fernandez**	**6.22**	**249**	Pn	**Pn**	**12 25 59.2**	**+1.5**
	baz=354						
H03S3	**Juan Fernandez**	**6.32**	**246**	Pn	**Pn**	**12 25 58.6**	**-0.5**
	baz=27						
H03S1	**Juan Fernandez**	**6.33**	**246**	Pn	**Pn**	**12 25 58.7**	**-0.5**
	baz=27						
H03S2	**Juan Fernandez**	**6.34**	**246**	Pn	**Pn**	**12 25 59.1**	**-0.2**
	baz=27						
LVC	**Limon Verde**	**9.21**	**18**	Pn	**Pn**	**12 26 38.7**	**-0.6**
	comp=E,1.1nm,0.3s,baz=190,slow=18,SNR=1.0						
PLCA	**Paso Flores**	**9.34**	**173**	Pn	**Pn**	**12 26 41.4**	**+0.5**
	comp=E,0.8nm,0.3s,baz=338,slow=12,SNR=8.7						
PLCA				Lg	Lg	12 29 14.8	
	comp=E,0.2nm,0.3s,baz=104,slow=15,SNR=1.4						
CPUP	**Villa Florida**	**13.79**	**72**	LR	LR	12 33 48.5	
	comp=E,4μm,19.6s,baz=218,slow=41						
LPAZ	**La Paz**	**15.48**	**14**	Pn	**Pn**	**12 28 04.1**	**-1.1**
	comp=E,0.3nm,0.3s,baz=210,slow=5.1,SNR=2.6						
LPAZ	**La Paz**	**15.48**	**14**	Pn	**Pn**	**12 28 03.7**	**-1.5**
SIV	**San Ignacio**	**18.31**	**35**	P	**Pn**	**12 28 39.7**	**-0.6**
	comp=E,0.8nm,0.3s,baz=213,slow=7.4,SNR=6.2						
VNA3	**Neumayer Olymp**	**51.70**	**158**	P	**P**	**12 33 34.1**	**+1.2**
VNA1	**Neumayer--Stat**	**52.00**	**158**	P	**P**	**12 33 36.7**	**+1.7**
VNA2	**Neumayer--Watz**	**52.35**	**158**	P	**P**	**12 33 38.8**	**+1.2**
	baz=283,slow=7.9						
CMIG	**Matias Romero**	**53.04**	**332**	P	**P**	**12 33 43.6**	**+0.4**
	comp=E,2.1nm,0.6s,baz=181,slow=7.5,SNR=3.9						
SNAA	**Sanae**	**53.93**	**159**	P	**P**	**12 33 50.3**	**+0.9**
SNAA	**Sanae**	**53.93**	**159**	P	**P**	**12 33 50.0**	**+0.6**
	comp=E,12nm,0.9s,baz=305,slow=5.9,SNR=16						
QSPA	**South Pole Qui**	**58.79**	**180**	P	**P**	**12 34 24.2**	**+0.1**
	comp=E,4.1nm,0.9s,baz=126,slow=1.6,SNR=5.5						
QSPA	**South Pole Qui**	**58.79**	**180**	IAmb	IAmb	12 34 36.4	
	comp=Z,8.3nm,1.1s						
TX31	**Lajitas Ar. Si**	**67.54**	**330**	P	**P**	**12 35 23.4**	**+0.8**
TX31				IAmb	IAmb	12 35 24.4	
	comp=Z,6.3nm,0.8s						
TX32	**Lajitas Array**	**67.54**	**330**	P	**P**	**12 35 23.8**	**+1.2**
TXAR	**Lajitas Array**	**67.54**	**330**	P	**P**	**12 35 23.4**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=156,slow=7.2,SNR=13						
WVT	**Waverly**	**68.84**	**346**	P	**P**	**12 35 30.7**	**+0.3**
MSTX	**Muleshoe**	**71.25**	**333**	P	**P**	**12 35 45.4**	**-0.1**
CCM	**Cathedral Cave**	**71.44**	**344**	P	**P**	**12 35 46.3**	**0.0**
CCM				IAmb	IAmb	12 35 47.9	
	comp=Z,7.2nm,0.8s						
121A	**Cookes Peak, D**	**72.08**	**329**	P	**P**	**12 35 51.6**	**+1.0**
121A				IAmb	IAmb	12 35 53.8	
	comp=Z,5.9nm,0.9s						
ANMO	**Albuquerque**	**73.58**	**331**	P	**P**	**12 36 00.2**	**+0.8**
ANMO				IAmb	IAmb	12 36 02.5	
	comp=Z,5.7nm,1.4s						
LIC	**Lamto**	**73.92**	**72**	*eP*	**P**	**12 36 01.3**	**-0.4**
	comp=Z,68nm,1.2s						
TIC	**Toumodi**	**74.17**	**72**	*eP*	**P**	**12 36 02.8**	**-0.3**
KIC	**Kosan Boka**	**74.23**	**72**	*eP*	**P**	**12 36 03.1**	**-0.4**
	comp=Z,28nm,0.7s						
DBIC	**Dimbokro**	**74.31**	**72**	P	**P**	**12 36 03.9**	**-0.1**
	comp=Z,18nm,0.8s,baz=222,slow=5.8,SNR=13						
DBIC	**Dimbokro**	**74.31**	**72**	P	**P**	**12 36 02.1**	**-1.8**
MAW	**Mawson**	**75.61**	**164**	P	**P**	**12 36 11.3**	**+0.7**
	comp=Z,7.5nm,1.0s,baz=241,slow=6.6,SNR=8.0						
MAW	**Mawson**	**75.61**	**164**	P	**P**	**12 36 10.8**	**+0.2**
SDCO	**Great Sand Dun**	**75.62**	**333**	P	**P**	**12 36 12.4**	**+1.1**
KNB	**Kanab**	**78.10**	**328**	P	**P**	**12 36 27.5**	**+2.3**
KNB				IAmb	IAmb	12 36 27.9	
	comp=Z,3.5nm,0.9s						
ECSD	**EROS Data Cent**	**78.14**	**342**	P	**P**	**12 36 25.6**	**+0.5**
ECSD				IAmb	IAmb	12 36 26.5	
	comp=Z,8.3nm,0.8s						
D62A	**Allapoint, All**	**78.20**	**2**	P	**P**	**12 36 26.4**	**+1.2**
CCUT	**Cedar City**	**78.78**	**328**	IAmb	IAmb	12 36 41.4	
	comp=Z,5.8nm,1.0s						
PRN	**Pahroc Range**	**79.45**	**326**	P	**P**	**12 36 34.5**	**+2.0**
PRN				IAmb	IAmb	12 36 44.7	
	comp=Z,6.8nm,1.0s						
KOWA	**Kowa**	**79.53**	**66**	P	**P**	**12 36 33.0**	**-0.3**
	comp=Z,9.9nm,0.6s,baz=230,slow=5.1,SNR=17						
KOWA	**Kowa**	**79.53**	**66**	P	**P**	**12 36 32.3**	**-1.0**
KOWA				IAmb	IAmb	12 36 34.0	
	comp=Z,9.4nm,0.7s						
SPR3	**Spring Creek 3**	**80.40**	**328**	P	**P**	**12 36 38.4**	**+0.5**
SPR3				IAmb	IAmb	12 36 40.4	
	comp=Z,5.5nm,1.4s						
BOSA	**Boshof**	**81.21**	**118**	P	**P**	**12 36 42.2**	**-0.2**
	comp=Z,3.8nm,1.0s,baz=212,slow=3.8,SNR=6.6						
BOSA	**Boshof**	**81.21**	**118**	IAmb	IAmb	12 36 43.5	
	comp=Z,6.6nm,0.8s						
PDAR	**Pinedale Array**	**81.52**	**333**	P	**P**	**12 36 42.9**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=138,slow=8.6,SNR=3.9						
NVAR	**Mina Array Bea**	**81.83**	**325**	P	**P**	**12 36 45.9**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=152,slow=6.0,SNR=9.9						
CASY	**Casey**	**82.57**	**181**	P	**P**	**12 36 49.5**	**+0.7**
TORD	**Torodi Ar. Bea**	**83.28**	**70**	P	**P**	**12 36 53.3**	**+0.1**
	comp=Z,17nm,0.7s,baz=263,slow=4.6,SNR=40						
TORD	**Torodi Ar. Bea**	**83.28**	**70**	P	**P**	**12 36 51.5**	**-1.7**
ASAR	**Alice Springs**	**119.87**	**207**	PKP	**PKPdf**	**12 43 16.3**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=124,slow=1.7,SNR=1.4						
WRA	**Warramunga Arr**	**123.02**	**210**	PKP	**PKPdf**	**12 43 22.5**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=172,slow=2.5,SNR=4.9						
KVAR	**Kislovodsk Arr**	**128.07**	**56**	PKP	**PKPdf**	**12 43 30.5**	**-1.7**
	comp=Z,4.3nm,0.8s,baz=286,slow=7.4,SNR=2.3						
PETK	**Petropavlovsk-**	**138.39**	**316**	PKP	**PKPdf**	**12 43 50.5**	**-0.6**
	comp=Z,4.3nm,1.1s,baz=88,slow=7.6,SNR=4.8						
EKS2	**Erkin-Say**	**150.64**	**58**	P	**PKiKP**	**12 44 19.4**	**+0.5**
	SNR=8.7						
USP	**Ospenovka**	**151.03**	**56**	P	**PKiKP**	**12 44 20.2**	**+0.6**
	SNR=5.6						
AAK	**Ala-Archa**	**151.16**	**58**	P	**PKiKP**	**12 44 20.7**	**+0.7**
	SNR=8.9						
UCH	**Uchtor**	**151.26**	**59**	P	**PKiKP**	**12 44 21.5**	**+0.8**
	SNR=11						
TKM2	**Tokmak 2**	**151.90**	**57**	P	**PKiKP**	**12 44 21.9**	**+0.3**
	SNR=5.4						
ZALV	**Zalesovo Beam**	**152.01**	**30**	PKP	**PKPdf**	**12 44 13.9**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=346,slow=2.5,SNR=2.2						
ZALV				PKPbc	**PKiKP**	**12 44 21.3**	**+0.2**
	comp=Z,34nm,0.7s,baz=297,slow=3.3,SNR=46						
MKAR	**Makanchi Array**	**154.97**	**45**	PKP	**PKPdf**	**12 44 18.4**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=318,slow=1.9,SNR=2.3						
MKAR				PKPbc	**PKPbc**	**12 44 27.5**	**-0.1**
	comp=Z,3.1nm,0.7s,baz=322,slow=1.9,SNR=14						
SONM	**Songino Array**	**163.58**	**4**	PKP	**PKPdf**	**12 44 28.0**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=1.4,slow=0.2,SNR=4.2						
SONM				PKPab	**PKPab**	**12 45 19.9**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=357,slow=5.2,SNR=3.7						
CMAR	**Chiang Mai Arr**	**164.68**	**145**	PKPab	**PKPab**	**12 45 25.1**	**-0.7**
	comp=Z,1.3nm,0.9s,baz=220,slow=4.0,SNR=3.0						

IDC 17 12:24:58.7±4.1,5°.55S×150°.91E,h0km,mb3.2/2, mb1 3.5/2,mb1mx3.3/33,mbtmp3.2/2,Error ellipse: s-maj=154.4km s-min=55.1km az=116.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.55**	**227**	P	P	12 29 50.5	+0.7
	0.3nm,0.5s,baz=53,slow=10,SNR=1.7						
ASAR	**Alice Springs**	**24.32**	**221**	P	P	12 30 18.2	-0.3
	0.8nm,0.8s,baz=56,slow=9.6,SNR=10						
TORD	**Torodi Ar. Bea**	**148.73**	**286**	PKPbc	PKPbc	12 44 48.4	-0.7
	0.4nm,0.5s,baz=58,slow=3.8,SNR=2.3						

*IDC **17** 12:25:05.1±0.6,32°.11S×71°.90W,h0km,mb4.9/11, mb1 4.9/14,mb1mx4.6/30,mbtmp4.9/14,ML4.7/3,Error ellipse: s-maj=25.3km s-min=15.9km az=94.0*

*NEIC **17** 12:25:07.5±1.8,32°.18S±0°.06×71°.9W±0°.2,h10km±1km, mb4.6/9,Error ellipse: s-maj=31.8km s-min=7.5km az=284.0*

ISC 17 12:25:07.8±0.5,32°.13S±0°.08×71°.9W±0°.1,h17km,n57, σ0°.65/45,mb4.9/17,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N1	**Juan Fernandez**	**6.03**	**256**	T	T	12 32 40.3	
	baz=77,slow=73,SNR=214						
H03N3	**Juan Fernandez**	**6.04**	**256**	T	T	12 32 39.5	
	baz=77,slow=73,SNR=248						
H03N2	**Juan Fernandez**	**6.04**	**256**	T	T	12 32 40.8	
	baz=77,slow=73,SNR=197						
PLCA	**Paso Flores**	**8.65**	**173**	Pn	**Pn**	**12 27 11.9**	**-0.4**
	4.6nm,0.3s,baz=333,slow=11,SNR=16						
PLCA	**Paso Flores**	**8.65**	**173**	Pn	**Pn**	**12 27 11.3**	**-1.0**
CPUP	**Villa Florida**	**13.99**	**69**	Sn	**Sn**	**12 31 00.6**	**+0.3**
	1.4nm,0.3s,baz=342,slow=17,SNR=1.8						
LPAZ	**La Paz**	**16.15**	**13**	Pn	**Pn**	**12 28 54.7**	**0.0**
	0.5nm,0.3s,baz=191,slow=8.8,SNR=2.5						
LPAZ	**La Paz**	**16.15**	**13**	IAmb	IAmb	12 29 11.5	
	comp=Z,30nm,0.8s						
SIV	**San Ignacio**	**18.86**	**34**	P	**P**	**12 29 26.0**	**-1.2**
	comp=Z,1.4nm,0.3s,baz=204,slow=7.9,SNR=5.1						
BDFB	**Brasilia**	**27.24**	**59**	P	**P**	**12 30 51.9**	**+0.6**
	comp=Z,49nm,0.7s,baz=238,slow=10,SNR=12						
MDP	**Montagnes des**	**41.33**	**30**	P	**P**	**12 32 52.9**	**+0.1**
	comp=Z,15nm,0.8s,baz=215,slow=11,SNR=5.0						
VNA3	**Neumayer Olymp**	**51.05**	**158**	P	**P**	**12 34 10.0**	**+1.3**
VNA1	**Neumayer--Stat**	**51.35**	**158**	P	**P**	**12 34 12.3**	**+1.4**
VNA2	**Neumayer--Watz**	**51.69**	**158**	P	**P**	**12 34 14.1**	**+0.5**
	baz=284,slow=8.0						
SNAA	**Sanae**	**53.28**	**158**	P	**P**	**12 34 26.0**	**+0.6**
SNAA	**Sanae**	**53.28**	**158**	P	**P**	**12 34 25.9**	**+0.6**
	comp=Z,17nm,0.7s,baz=284,slow=6.5,SNR=13						
QSPA	**South Pole Qui**	**58.10**	**180**	P	**P**	**12 35 00.4**	**+0.3**
	comp=Z,11nm,0.9s,baz=139,slow=7,SNR=9.9						
QSPA	**South Pole Qui**	**58.10**	**180**	P	**P**	**12 35 00.3**	**+0.2**
TXAR	**Lajitas Array**	**68.16**	**330**	P	**P**	**12 36 07.3**	**0.0**
	comp=Z,1.2nm,0.7s,baz=154,slow=8.3,SNR=4.7						
LIC	**Lamto**	**74.10**	**72**	*eP*	**P**	**12 36 44.0**	**+0.5**
	comp=Z,62nm,1.1s						
TIC	**Toumodi**	**74.35**	**72**	*eP*	**P**	**12 36 45.3**	**+0.3**
KIC	**Kosan Boka**	**74.41**	**72**	*eP*	**P**	**12 36 46.0**	**+0.7**
	comp=Z,43nm,0.9s						
DBIC	**Dimbokro**	**74.50**	**72**	P	**P**	**12 36 45.2**	**-0.6**
	comp=Z,21nm,0.9s,baz=228,slow=5.3,SNR=9.0						
MAW	**Mawson**	**74.94**	**164**	P	**P**	**12 36 47.9**	**+0.4**
	comp=Z,7.2nm,0.7s,baz=214,slow=6.1,SNR=9.8						
MAW	**Mawson**	**74.94**	**164**		**P**	**12 36 47.5**	**+0.1**
LCMT	**Little Creek M**	**78.89**	**327**	P	**P**	**12 37 11.1**	**+0.9**
LCMT				IAmb	IAmb	12 37 12.0	
	comp=Z,5.2nm,1.2s						
KOWA	**Kowa**	**79.78**	**66**	P	**P**	**12 37 14.5**	**-0.9**
	comp=Z,11nm,0.7s,baz=241,slow=3.9,SNR=11						
PRN	**Pahroc Range**	**80.04**	**326**		**P**	**12 37 17.8**	**+1.3**
PRN				IAmb	IAmb	12 37 28.5	
	comp=Z,8.4nm,1.0s						
BOSA	**Boshof**	**80.85**	**118**	P	**P**	**12 37 20.6**	**-0.7**
	comp=Z,24nm,1.0s,baz=230,slow=5.9,SNR=13						
BOSA	**Boshof**	**80.85**	**118**		**P**	**12 37 20.9**	**-0.4**
PDAR	**Pinedale Array**	**82.15**	**333**	P	**P**	**12 37 27.0**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=162,slow=6.5,SNR=1.8						
NVAR	**Mina Array Bea**	**82.41**	**325**	P	**P**	**12 37 29.3**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=151,slow=5.7,SNR=2.4						
LBTB	**Lobatse**	**83.00**	**115**		**P**	**12 37 32.2**	**-0.5**
TORD	**Torodi Ar. Bea**	**83.49**	**70**	P	**P**	**12 37 35.6**	**+0.6**
	comp=Z,11nm,0.7s,baz=271,slow=4.3,SNR=12						
TORD	**Torodi Ar. Bea**	**83.49**	**70**	IAmb	IAmb	12 37 36.7	
	comp=Z,11nm,0.8s						
HLID	**Hailey**	**84.76**	**330**	P	**P**	**12 37 41.5**	**+0.4**
HLID				IAmb	IAmb	12 37 59.0	
	comp=Z,7.2nm,1.4s						
ASAR	**Alice Springs**	**119.27**	**207**	PKKPbc	PKKPbc	12 54 07.8	-1.1
	comp=Z,0.7nm,0.6s,baz=332,slow=2.9,SNR=12						
AKASG	**Malin Array Be**	**120.85**	**47**	PKP	**PKPdf**	**12 43 57.9**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=266,slow=2.5,SNR=1.8						
ARCES	**ARCESS Array B**	**122.28**	**24**	PKP	**PKPdf**	**12 43 60.0**	**-0.9**
	comp=Z,2.2nm,0.8s,baz=293,slow=5.5,SNR=2.2						
WRA	**Warramunga Arr**	**122.43**	**210**	PKKPbc	PKKPbc	12 53 56.9	-0.1
	comp=Z,0.5nm,0.6s,baz=335,slow=3.4,SNR=8.2						
H11S2	**WAKE ISLAND Hyl**	**125.87**	**270**	T	T	15 02 18.9	
	baz=115,slow=74,SNR=9.3						
H11S1	**WAKE ISLAND Hyl**	**125.89**	**270**	T	T	15 02 24.7	
	baz=115,slow=74,SNR=17						
H11S3	**WAKE ISLAND Hyl**	**125.89**	**270**	T	T	15 02 21.5	
	baz=115,slow=74,SNR=23						
H11N3	**WAKE ISLAND Hyl**	**126.24**	**272**	T	T	15 02 42.8	
	baz=116,slow=74						
H11N1	**WAKE ISLAND Hyl**	**126.25**	**272**	T	T	15 02 49.1	
	baz=116						
H11N2	**WAKE ISLAND Hyl**	**126.26**	**272**	T	T	15 02 43.9	
	baz=116,slow=74						
FITZ	**Fitzroy Crossi**	**127.29**	**201**	PKP	**PKPdf**	**12 44 11.9**	**-0.2**
	comp=Z,3.4nm,1.1s,baz=249,slow=3.0,SNR=6.0						
PETK	**Petropavlovsk-**	**138.91**	**316**	PKP	**PKPdf**	**12 44 32.8**	**0.0**
	comp=Z,3.6nm,0.9s,baz=101,slow=4.7,SNR=5.6						
YAK	**Yakutsk**	**147.00**	**341**	PKPdf	**PKPbc**	**12 44 48.2**	**-0.6**
KKAR	**Karatay Array**	**148.54**	**59**		**PKPbc**	**12 44 53.7**	**+0.1**
ZAA0	**Zalesovo Array**	**152.59**	**30**		**PKiKP**	**12 45 03.6**	**+0.5**
ZALV	**Zalesovo Beam**	**152.59**	**30**	PKP	**PKPdf**	**12 44 56.0**	**+0.2**
	comp=Z,3.1nm,0.6s,baz=336,slow=3.2,SNR=1.4						
ZALV				PKPbc	**PKiKP**	**12 45 02.9**	**-0.2**
	comp=Z,28nm,0.8s,baz=298,slow=3.2,SNR=12						
ZALV	**Zalesovo Beam**	**152.59**	**30**		**PKiKP**	**12 45 03.2**	**+0.2**
MKAR	**Makanchi Array**	**155.44**	**46**	PKPab	**PKPab**	**12 45 26.2**	**+0.4**
	comp=Z,6.0nm,0.8s,baz=287,slow=3.4,SNR=3.7						
KSRS	**Korea Array**	**162.86**	**294**	PKP	**PKPdf**	**12 45 08.6**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=90,slow=5.5,SNR=4.1						
CMAR	**Chiang Mai Arr**	**164.09**	**147**	PKP	**PKPdf**	**12 45 10.6**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=227,slow=2.7,SNR=5.1						
SONM	**Songino Array**	**164.27**	**4**	PKPab	**PKPab**	**12 46 04.9**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=6.6,slow=2.0,SNR=3.5						

*IDC **17** 12:39:01.0±2.7,31°.38S×71°.16W,h0km,mb3.8/1, mb1 3.9/4,mb1mx3.6/27,mbtmp3.8/4,ML3.8/2,Error ellipse: s-maj=128.3km s-min=33.1km az=95.0*

*GUC **17** 12:39:04.5±0.7,31°.50S×71°.67W,h14km±5km,ML3.8*

ISC 17 12:39:01.9±1.8,31°.48S±0°.04×71°.7W±0°.1,h10km±11km, n12,σ1°.33/19,1C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.80**	**5**	*eP*	**Pn**	**12 39 20.0**	**+0.8**
CO06				*i* S	**Sn**	**12 39 31.4**	**+0.2**
CO06				IAML		12 39 32.6	
	comp=E,7μm,0.2s						
CO03	**El Pedregal**	**1.09**	**55**	*eP*	**Pn**	**12 39 23.3**	**+0.1**
CO03				*eS*	**Sn**	**12 39 38.9**	**+0.4**
CO03				IAML		12 39 42.0	
	comp=E,4μm,0.1s						
GO04	**Tololo Observa**	**1.52**	**32**	*eP*	**Pg**	**12 39 31.6**	**+0.5**
GO04				*i* S	**Sn**	**12 39 52.0**	**+2.7**
ROCH	**El Roble**	**1.61**	**158**	*eP*	**Pg**	**12 39 32.6**	**-0.2**
ROCH				*i* S	**Sg**	**12 39 53.5**	**-0.2**
ROCH				IAML		12 39 57.6	
	comp=N,2μm,0.6s						
VA03	**San Esteban**	**1.62**	**143**	*eP*	**Pg**	**12 39 33.3**	**+0.2**
VA03				*eS*	**Sg**	**12 39 53.3**	**-0.9**
VA03				IAML		12 39 57.4	
	comp=E,3μm,0.8s						
MT05	**Renca**	**2.08**	**157**	*eP*	**Pb**	**12 39 39.3**	**-0.5**
MT05				*i* S	**Sb**	**12 40 06.3**	**+0.5**
MT05				IAML		12 40 10.7	
	comp=E,2μm,0.3s						
MT09	**Talagante**	**2.38**	**165**	*eP*	**Pb**	**12 39 45.7**	**+0.9**
MT09				*eS*	**Sb**	**12 40 14.7**	**+0.4**
LVC	**Limon Verde**	**9.18**	**17**	Pn	**Pn**	**12 41 12.5**	**-2.2**
	baz=139,slow=20,SNR=0.6						
PLCA	**Paso Flores**	**9.29**	**174**	Pn	**Pn**	**12 41 17.4**	**+1.5**
	comp=E,0.2nm,0.3s,baz=337,slow=15,SNR=1.6						
LPAZ	**La Paz**	**15.47**	**13**	Pn	**Pn**	**12 42 38.4**	**-2.4**
	comp=E,0.2nm,0.3s,baz=180,slow=5.1,SNR=1.9						
TORD	**Torodi Ar. Bea**	**83.10**	**70**	P	**P**	**12 51 26.5**	**-1.7**
	comp=E,0.5nm,0.7s,baz=255,slow=4.2,SNR=3.7						
ZALV	**Zalesovo Beam**	**151.93**	**30**	PKPbc	**PKPbc**	**12 58 56.4**	**-0.1**
	comp=E,3.4nm,0.4s,baz=301,slow=4.3,SNR=8.1						

*IDC **17** 12:41:17.9±1.6,31°.47S×72°.05W,h0km,mb3.5/2, mb1 3.8/3,mb1mx3.6/26,mbtmp3.5/3,ML3.9/1,Error ellipse: s-maj=73.0km s-min=39.2km az=72.0*

*GUC **17** 12:41:20.8±0.8,31°.44S×72°.09W,h24km±9km,ML3.7*

ISC 17 12:41:18.9±2.8,31°.47S±0°.04×72°.1W±0°.1,h7km±16km,n15, σ0°.62/18,3C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.87**	**25**	*eS*	**Sb**	**12 41 48.3**	**+0.1**
CO03	**El Pedregal**	**1.33**	**62**	*eP*	**Pg**	**12 41 44.6**	**+0.2**
CO03				*eS*	**Sg**	**12 42 02.0**	**+0.2**
CO03				IAML		12 42 04.4	
	comp=N,2μm,0.4s						
VA01	**Torpederas**	**1.59**	**167**	*eP*	**Pn**	**12 41 46.8**	**-0.7**
GO04	**Tololo Observa**	**1.69**	**40**	*eP*	**Pn**	**12 41 49.4**	**+0.4**
GO04				*eS*	**Sb**	**12 42 11.2**	**-0.7**
GO04				IAML

	comp=E,0.2nm,0.3s,baz=246,slow=18,SNR=1.3									
CPUP					Sn		Sn	12 52 17.0	-2.8	
	comp=E,0.3nm,0.3s,baz=146,slow=18,SNR=1.9									
LPAZ	La Paz		15.01	15	Pn		Pn	12 50 02.5	-4.5	
	comp=E,0.1nm,0.3s,baz=163,slow=9.4,SNR=3.9									
SIV	San Ignacio		17.92	36	P		Pn	12 50 41.1	-2.5	
	comp=E,0.3nm,0.3s,baz=234,slow=11,SNR=12									
SNAA	Sanae		54.41	159	P		P	12 56 01.5	+0.7	
	comp=E,1.5nm,0.5s,baz=266,slow=6.3,SNR=21									
QSPA	South Pole Qui		59.29	180	P		P	12 56 36.7	+1.1	
	comp=E,2.3nm,1.0s,baz=107,slow=0.4,SNR=12									
TXAR	Lajitas Array		67.09	330	P		P	12 57 27.5	-0.2	
	comp=E,0.1nm,0.6s,baz=172,slow=9.1,SNR=2.2									
DBIC	Dimbokro		74.19	72	P		P	12 58 11.7	+0.5	
	comp=E,2.7nm,0.6s,baz=266,slow=3.7,SNR=4.1									
MAW	Mawson		76.10	164	P		P	12 58 22.4	+1.0	
	comp=E,0.9nm,0.6s,baz=243,slow=9.0,SNR=2.4									
TORD	Torodi Ar. Bea		83.15	70	P		P	12 59 00.7	+0.2	
	comp=E,1.7nm,0.9s,baz=267,slow=4.7,SNR=6.4									
WRA	Warramunga Arr		123.43	210	PKP		PKiKP	13 05 32.6	+0.4	
	comp=E,0.1nm,0.4s,baz=132,slow=1.4,SNR=1.3									
H11S2	WAKE ISLAND Hyl		25.79	271	T		T	15 24 21.6		
	baz=116,slow=75,SNR=24									
H11S1	WAKE ISLAND Hyl		25.80	271	T		T	15 24 23.6		
	baz=116,slow=75,SNR=21									
H11S3	WAKE ISLAND Hyl		25.81	271	T		T	15 24 22.5		
	baz=116,slow=75,SNR=17									
H11N3	WAKE ISLAND Hyl		26.12	273	T		T	15 24 53.9		
	baz=116									
H11N1	WAKE ISLAND Hyl		26.14	273	T		T	15 24 44.3		
	baz=116									
H11N2	WAKE ISLAND Hyl		26.14	273	T		T	15 24 49.8		
	baz=116									
ZALV	Zalesovo Beam		151.59	29	PKPbc		PKiKP	13 06 29.5	+1.3	
	comp=E,1.3nm,0.5s,baz=314,slow=2.9,SNR=4.5									

SOME ***17*** *12:46:46.5, 39.77N×71.98E, h15km*
ISU ***17*** *12:46:47, 39.80N×71.80E, h5km*
KRNET ***17*** *12:46:47.0±0.1, 39.74N×71.86E, h9km, mb3.1*
NNC ***17*** *12:46:53.3±6.2, 40.11N×72.03E, h1km±31km, mb3.5, mpv3.2, Error ellipse: s-maj=46.8km s-min=20.0km az=3.0*

ISC 17 12:46:46.4±1.2, 39.75N±0.04×71.92E±0.03, h2km±12km, n23, σ1s73/40, 20C-9D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.28**	**198**	⇑*iP*			**Pg**	**12 46 51.9**	**0.0**
	baz=89								
DRK				⇑*iS*			**Sg**	**12 46 56.1**	**+0.5**
	baz=89								
FRG	**Fergana**	**0.63**	**351**	*eP*			Pg	12 47 00.0	-5.4
FRG				*eS*			Sg	12 47 09.0	-9.2
BTK	**Batken**	**0.90**	**290**	⇑*iP*			**Pg**	**12 47 03.7**	**+0.1**
	baz=92								
BTK				⇑*iS*			**Sb**	**12 47 15.8**	**-1.5**
	baz=92								
BTK	**Batken**	**0.90**	**290**	*eP*			**Pb**	**12 47 04.0**	**-0.8**
BTK				*eS*			**Sg**	**12 47 15.0**	**-0.3**
MINT	**Mingtut**	**1.02**	**315**	*eP*			**Pn**	**12 47 07.0**	**-0.7**
MINT				*eS*			**Sn**	**12 47 22.0**	**-0.6**
OHH	**Osh**	**1.02**	**40**	⇓*iP*			**Pg**	**12 47 07.3**	**+1.3**
	baz=42								
OHH				⇓*iS*			**Sn**	**12 47 22.6**	**-0.2**
	baz=42								
SFK	**Sufi-Kurgan**	**1.25**	**77**	⇑*iP*			**Pn**	**12 47 11.6**	**+0.5**
	baz=77								
SFK				⇑*iS*			**Sn**	**12 47 29.8**	**+1.1**
	baz=77								
TRKS	**Terek-Say**	**1.87**	**342**	⇑*eP*			**Pb**	**12 47 21.1**	**-0.4**
	baz=43								
TRKS				⇑*iS*			**Sb**	**12 47 45.9**	**+0.5**
	baz=43								
CHRV	**Charvak**	**2.41**	**322**	*iP*			**Pg**	**12 47 33.0**	**+0.4**
CHRV				*iS*			**Sg**	**12 48 04.0**	**+0.2**
AML	**Almayashu**	**2.73**	**29**	⇑*iP*			**Pb**	**12 47 35.0**	**-1.3**
	baz=30								
AML				⇑*iS*			**Sb**	**12 48 09.6**	**-0.8**
	baz=30								
MNAS	**Manas**	**2.77**	**9**	⇓*eP*			**Pb**	**12 47 35.5**	**-1.2**
	baz=10.0								
MNAS				⇓*iS*			**Sb**	**12 48 11.2**	**0.0**
	baz=10.0								
IUG	**luzhnay**	**2.79**	**330**	*eP*			**Pb**	**12 47 37.8**	**+0.8**
	116nm,0.4s								
IUG				*eS*			**Sg**	**12 48 15.1**	**-0.9**
	72nm,0.8s								
IUG	**luzhnay**	**2.79**	**330**	Pg			**Pb**	**12 47 37.8**	**+0.8**
	365nm,0.6s								
IUG				Lg			Lg	12 48 15.5	
	72nm,0.8s								
ARLS	**Aral**	**2.79**	**40**	⇑*eP*			**Pb**	**12 47 35.7**	**-1.4**
	baz=41								
ARLS				⇑*iS*			**Sb**	**12 48 11.6**	**-0.2**
	baz=41								
MRKS	**Merke**	**3.15**	**18**	*eP*			**Pb**	**12 47 40.6**	**-2.6**
	3.9nm,0.5s								
MRKS				*eS*			**Sb**	**12 48 19.1**	**-3.0**
	20nm,0.5s								
MRKS	**Merke**	**3.15**	**18**	Pg			**Pn**	**12 47 39.8**	**+2.7**
	4.0nm,0.5s								
MRKS				Lg			Lg	12 48 19.2	
	20nm,0.5s								
UCH	**Uchtor**	**3.16**	**38**	⇑*eP*			**Pb**	**12 47 41.1**	**-2.5**
	baz=38								
UCH				⇑*iS*			**Sb**	**12 48 21.2**	**-1.5**
	baz=38								
EKS2	**Erkin-Say**	**3.23**	**25**	⇑*eP*			**Pb**	**12 47 42.2**	**-2.4**
	baz=26								
EKS2				⇑*iS*			**Sb**	**12 48 22.4**	**-2.0**
	baz=26								
AAK	**Ala-Archa**	**3.48**	**33**	⇓*iP*			**Pn**	**12 47 45.7**	**+4.0**
	baz=34								
AAK				⇓*iS*			**Sb**	**12 48 28.6**	**-3.0**
	baz=34								
AAK	**Ala-Archa**	**3.48**	**33**	⇓Pg			**Pb**	**12 47 50.6**	**+1.7**
	4.9nm,0.7s								
AAK				Lg			Lg	12 48 35.1	
	9.0nm,0.5s								
KK31	**Karatay Array**	**3.51**	**343**	⇑Pn			**Pn**	**12 47 44.4**	**+2.4**
	0.7nm,0.3s,baz=152,slow=11,SNR=9.7								
KK31				⇓Pg			**Pg**	**12 47 54.0**	**+0.3**
	1.2nm,0.3s,baz=146,slow=14,SNR=8.0								
KK31				⇑Lg			Lg	12 48 37.2	
	4.7nm,0.4s,baz=150,slow=30,SNR=6.0								
TKM2	**Tokmak 2**	**4.21**	**40**	⇑Pn			**Pn**	**12 47 54.7**	**+2.9**
	2.5nm,0.8s								
TKM2				⇓Pg			**Pg**	**12 48 07.2**	**+0.1**
	4.3nm,0.6s								
TKM2				⇑Lg			Lg	12 48 57.4	
	6.9nm,0.6s								
KUU	**Kurty**	**5.30**	**37**	Pg			**Pb**	**12 48 16.7**	**-3.0**
	0.7nm,0.3s								
KUU				Lg			Lg	12 49 24.5	
	1.4nm,0.2s								

IDC 17 12:47:27.4±1.3, 31.59S×71.58W, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.8/30, mbtmp3.8/5, ML4.3/1, Error ellipse: s-maj=62.7km s-min=28.3km az=81.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**9.16**	**175**	Pn			Pn	12 49 40.4	-0.6
	0.6nm,0.3s,baz=355,slow=12,SNR=4.7								
SNAA	**Sanae**	**53.67**	**159**	P			P	12 56 50.7	+0.1
	2.2nm,0.6s,baz=275,slow=8.2,SNR=7.3								
QSPA	**South Pole Qui**	**58.64**	**180**	P			P	12 57 26.2	0.0
	1.4nm,0.9s,baz=131,slow=2.4,SNR=5.2								
TXAR	**Lajitas Array**	**67.83**	**330**	P			P	12 58 27.5	0.0
	0.1nm,0.6s,baz=138,slow=9.6,SNR=1.7								
TORD	**Torodi Ar. Bea**	**83.03**	**70**	P			P	12 59 55.0	-0.1
	1.3nm,0.7s,baz=254,slow=6.4,SNR=3.9								

IDC ***17*** *12:51:32.4±0.7, 31.40S×72.17W, h0km, mb4.2/7, mb1 4.3/11, mb1mx4.1/32, mbtmp4.1/11, ML4.1/4, Error ellipse: s-maj=33.5km s-min=17.4km az=88.0*
GUC ***17*** *12:51:33.7±0.5, 31.37S×72.30W, h43km±5km, ML4.2*
NEIC ***17*** *12:51:33.8±1.2, 31.33S±0.05×72.28W±0.08, h10km±1km, mb4.3/7, ML4.2(GUC), Error ellipse: s-maj=12.5km s-min=8.7km az=68.0*

ISC 17 12:51:33.3±3.0, 31.35S±0.05×72.40W±0.04, h14km±19km, n46, σ1s77/42, mb4.3/8, 6C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.94**	**44**	*eP*			**Pb**	**12 51 50.4**	**-0.9**
CO06				*iS*			**Sb**	**12 52 02.5**	**-1.1**
CO03	**El Pedregal**	**1.55**	**71**	⇓*eP*			Pn	12 51 59.9	-0.7
CO03				*eS*			**Sn**	**12 52 18.6**	**-2.0**
CO03				IAML				12 52 21.8	
	comp=E,5μm,0.4s								
VA01	**Torpederas**	**1.79**	**159**	⇑*iP*			Pn	12 52 02.7	-1.1
GO04	**Tololo Observa**	**1.81**	**50**	⇑*eP*			**Pn**	**12 52 04.7**	**+0.4**
GO04				*eS*			**Sn**	**12 52 25.8**	**-1.3**
ROCH	**El Roble**	**2.00**	**144**	*eP*			Pn	12 52 05.8	-1.1
ROCH				*eS*			**Sn**	**12 52 30.2**	**-1.7**
ROCH				IAML				12 52 42.8	
	comp=E,3μm,0.7s								
VA03	**San Esteban**	**2.11**	**132**	⇑*iP*			Pn	12 52 07.9	-0.4
VA03				*eS*			**Sn**	**12 52 32.2**	**-2.2**
VA03				IAML				12 52 40.4	
	comp=E,3μm,0.5s								
VA05	**Santo Domingo**	**2.40**	**164**	⇑*iP*			Pn	12 52 11.2	-0.9
VA05				*eS*			**Sn**	**12 52 38.6**	**-2.7**
VA05				IAML				12 53 02.8	
	comp=E,1μm,0.5s								
MT05	**Renca**	**2.48**	**146**	⇑*eP*			Pn	12 52 12.8	-0.5
MT05				*iS*			**Sn**	**12 52 41.7**	**-1.7**
MT05				IAML				12 52 59.3	
	comp=E,1μm,0.4s								
MT09	**Talagante**	**2.70**	**154**	⇑*eP*			**Pn**	**12 52 16.6**	**+0.2**
MT09				*eS*			**Sn**	**12 52 46.8**	**-2.1**
MT09				IAML				12 53 08.4	
	comp=E,741nm,0.6s								
LCO	**Las Campanas**	**2.75**	**33**				**Pn**	**12 52 17.1**	**-0.1**
BO02	**Sierra Bellavi**	**3.69**	**159**				Pn	12 52 29.3	-0.7
BO02						Sn	**Sn**	**12 53 14.9**	**+1.4**
H03N1	**Juan Fernandez**	**5.89**	**248**	T		T	T	12 59 53.1	
	baz=78,slow=72,SNR=9.9								
H03N3	**Juan Fernandez**	**5.91**	**247**	T		T	T	12 59 51.0	
	baz=78,slow=72,SNR=10.0								
H03N2	**Juan Fernandez**	**5.91**	**248**	T		T	T	12 59 55.9	
	baz=78,slow=72,SNR=9.2								
H03S3	**Juan Fernandez**	**6.03**	**244**	Pn			**Pn**	**12 53 01.5**	**-0.2**
	baz=82								
H03S3				Sn			**Sn**	**12 54 07.4**	**-3.1**
	baz=82								
H03S1	**Juan Fernandez**	**6.03**	**244**	Pn			Pn	12 53 00.9	-0.9
	baz=82								
H03S1				Sn			**Sn**	**12 54 07.5**	**-3.0**
	baz=82								
H03S2	**Juan Fernandez**	**6.04**	**244**	Pn			**Pn**	**12 53 01.9**	**-0.1**
	baz=82								
H03S2				Sn			**Sn**	**12 54 07.3**	**-3.6**
	baz=82								
LVC	**Limon Verde**	**9.24**	**20**	Pn			**Pn**	**12 53 48.8**	**+2.2**
	comp=E,0.6nm,0.3s,baz=213,slow=7.6,SNR=1.2								
LVC				Sn			Sn	12 55 40.1	+10
	comp=E,0.7nm,0.3s,baz=181,slow=22,SNR=2.5								
LVC	**Limon Verde**	**9.24**	**20**	Pn			Pn	12 53 43.5	-3.0
PLCA	**Paso Flores**	**9.48**	**171**	Pn			**Pn**	**12 53 49.2**	**-0.4**
	comp=E,1.5nm,0.3s,baz=338,slow=11,SNR=17								
PLCA	**Paso Flores**	**9.48**	**171**	Pn			**Pn**	**12 53 49.1**	**-0.5**
TRQA	**Tornquist**	**10.87**	**131**	Pn			**Pn**	**12 54 08.4**	**-0.1**
CPUP	**Villa Florida**	**14.12**	**73**	Sn			**Sn**	**12 57 27.1**	**-2.4**
	comp=E,0.2nm,0.3s,baz=274,slow=19,SNR=1.7								
CPUP	**Villa Florida**	**14.12**	**73**	Pn			Pn	12 54 50.9	-2.0
LPAZ	**La Paz**	**15.49**	**16**	Pn			**Pn**	**12 55 12.4**	**+0.4**
	comp=E,0.3nm,0.3s,baz=188,slow=7.0,SNR=11								
LPAZ	**La Paz**	**15.49**	**16**				**Pn**	**12 55 11.9**	**-0.1**
LPAZ				IAmb		IAmb	IAmb	12 55 22.4	
	comp=E,6.0nm,0.8s								
SIV	**San Ignacio**	**18.45**	**37**	P			**P**	**12 55 48.3**	**-0.3**
	comp=E,0.2nm,0.3s,baz=238,slow=13,SNR=4.9								
SAML	**Samuel**	**23.88**	**23**	P			**P**	**12 56 42.8**	**-3.8**
SAML				IAmb		IAmb	IAmb	12 56 49.6	
	comp=E,3.3nm,0.8s								
PTGA	**Pitinga**	**32.65**	**24**	P			**P**	**12 58 02.0**	**-3.0**
SNAA	**Sanae**	**54.15**	**159**	P			**P**	**13 00 58.2**	**+0.5**
	comp=E,1.8nm,0.8s,baz=275,slow=5.3,SNR=6.2								
QSPA	**South Pole Qui**	**58.88**	**180**	P			**P**	**13 01 32.8**	**+1.3**
	comp=E,1.6nm,0.7s,baz=135,slow=1.8,SNR=9.2								
QSPA	**South Pole Qui**	**58.88**	**180**	IAmb		IAmb	IAmb	13 01 47.9	
	comp=E,9.3nm,1.2s								
TXAR	**Lajitas Array**	**67.28**	**331**	P			**P**	**13 02 29.7**	**+2.1**
	comp=E,0.8nm,0.7s,baz=153,slow=8.0,SNR=10								
DBIC	**Dimbokro**	**74.64**	**72**	P			**P**	**13 03 12.6**	**+0.1**
	comp=E,4.5nm,1.1s,baz=256,slow=4.2,SNR=1.5								
MAW	**Mawson**	**75.80**	**164**	P			**P**	**13 03 19.7**	**+1.3**
	comp=E,4.5nm,0.8s,baz=223,slow=6.3,SNR=8.8								
MAW	**Mawson**	**75.80**	**164**	IAmb		IAmb	IAmb	13 03 20.7	
	comp=E,1.3nm,1.0s								
NVAR	**Mina Array Bea**	**81.54**	**325**	P			**P**	**13 03 53.4**	**+2.8**
	comp=E,1.3nm,1.0s,baz=169,slow=5.2,SNR=6.2								
NVAR	**Mina Array Bea**	**81.54**	**325**	P			**P**	**13 03 51.5**	**+0.9**
TORD	**Torodi Ar. Bea**	**83.60**	**71**	P			**P**	**13 04 01.6**	**0.0**
	comp=E,2.0nm,0.8s,baz=262,slow=4.4,SNR=9.7								
TORD	**Torodi Ar. Bea**	**83.60**	**71**	IAmb		IAmb	IAmb	13 04 02.5	
	comp=E,8nm,1.0s								
WRA	**Warramunga Arr**	**122.91**	**210**	PKP			**PKPdf**	**13 10 29.3**	**-0.5**
	comp=E,2.0nm,0.7s,baz=132,slow=1.4,SNR=5.6								
BVAR	**Borovoye Array**	**145.50**	**40**	PKPbc			**PKPab**	**13 11 12.2**	**+1.3**
	comp=E,1.5nm,0.6s,baz=237,slow=4.4,SNR=8.3								
KURBB	**Kurchatov Arra**	**151.09**	**40**	PKPbc			**PKiKP**	**13 11 26.2**	**0.0**
	comp=E,1.9nm,0.7s,baz=297,slow=2.9,SNR=20								
KURK	**Kurchatov**	**151.09**	**40**				**PKiKP**	**13 11 26.1**	**0.0**
ZALV	**Zalesovo Beam**	**152.11**	**29**	PKPbc			**PKiKP**	**13 11 29.2**	**+1.2**
	comp=E,3.0nm,0.5s,baz=301,slow=3.0,SNR=8.9								
ZALV	**Zalesovo Beam**	**152.11**	**29**				**PKiKP**	**13 11 29.1**	**+1.0**

IDC ***17*** *12:56:17.1±0.9, 31.26S×70.92W, h0km, mb4.0/6, mb1 4.0/10, mb1mx3.9/30, mbtmp3.9/10, ML3.5/4, Error ellipse: s-maj=40.2km s-min=18.8km az=97.0*

ISC 17 12:56:22.6±0.8, 31.23S±0.07×71.5W±0.1, h53km, n38, σ1s87/31, mb4.0/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**1.79**	**168**	*iP*			**Pn**	**12 56 51.1**	**-0.3**
ROC1				*eS*			**Sn**	**12 57 13.2**	**+0.1**
VA01	**Torpederas**	**1.80**	**185**	*iP*			Pn	12 56 48.8	-2.5
RTLS	**Leoncito**	**1.95**	**108**	*iP*			**Pn**	**12 56 51.4**	**-2.1**
AROD	**Rodeo**	**2.02**	**59**	*iP*			Pn	12 57 00.3	+5.7
AROD				*eS*			Sn	12 57 27.8	+9.0
MT05	**Renca**	**2.25**	**164**	*iP*			**Pn**	**12 56 58.0**	**+0.5**
ACDV	**Cuesta del Vie**	**2.28**	**63**	*iP*			Pn	12 57 04.0	+5.9
ZON	**Zonda**	**2.41**	**98**	*iP*			Pn	12 57 05.0	+5.3
RTLL	**Cerro Villicun**	**2.57**	**93**	*iP*			**Pn**	**12 57 01.2**	**-0.6**
RTCV	**Cerro Valdivia**	**2.58**	**105**	*iP*			**Pn**	**12 57 01.2**	**-0.8**
ASAL	**Salagasta**	**2.63**	**122**	*iP*			**Pn**	**12 57 02.0**	**-0.7**
AAGR	**Agrelo**	**2.91**	**130**	*iP*			**Pn**	**12 57 04.0**	**-2.6**
AC04	**Llanos de Chal**	**3.03**	**7**	*iP*			Pn	12 57 10.9	+2.8
AVFE	**Valle Fertil**	**3.50**	**82**	*iP*			**Pn**	**12 57 17.0**	**+2.4**
VCA	**Vinchina**	**3.77**	**50**	*iP*			Pn	12 57 22.9	+4.6
GO03	**Copiap**	**3.78**	**17**	*iP*			Pn	12 57 26.0	+7.6
GO05	**Huala**	**3.79**	**186**	*iP*			**Pn**	**12 57 17.0**	**-1.6**
ACHE	**Chepes**	**4.12**	**90**	*iP*			**Pn**	**12 57 25.0**	**+1.8**
RFA	**San Rafael**	**4.35**	**145**	*iP*			**Pn**	**12 57 27.0**	**+0.8**
AC02	**Maricunga**	**4.83**	**26**	*iP*			Pn	12 57 38.0	+4.7
MRA	**San Martin**	**5.04**	**105**	*iP*			**Pn**	**12 57 35.0**	**-0.8**
CYA	**Choya**	**5.65**	**62**	*iP*			**Pn**	**12 57 47.0**	**+2.8**
AHML	**Horco Molle**	**6.96**	**52**	*iP*			**Pn**	**12 58 06.0**	**+3.9**
FSA	**Cafayete**	**7.02**	**45**	*iP*			Pn	12 58 09.0	+6.0
LC01	**Cunco**	**7.66**	**182**	*iP*			**Pn**	**12 58 10.0**	**-1.6**
LVC	**Limon Verde**	**8.88**	**16**	Pn			**Pn**	**12 58 26.4**	**-2.3**
	0.2nm,0.3s,baz=333,slow=20,SNR=0.6								
PLCA	**Paso Flores**	**9.52**	**176**	Pn			**Pn**	**12 58 35.7**	**-1.3**
	0.3nm,0.3s,baz=149,slow=9.6,SNR=2.2								
LPAZ	**La Paz**	**15.18**	**12**	Pn			**Pn**	**12 59 53.5**	**-0.8**
	0.1nm,0.3s,baz=109,slow=14,SNR=2.1								
SIV	**San Ignacio**	**17.89**	**34**	P			**Pn**	**13 00 25.7**	**-2.1**
	0.1nm,0.3s,baz=235,slow=15,SNR=1.6								
BDFB	**Brasilia**	**26.45**	**59**	P			**P**	**13 01 50.8**	**-4.1**
	1.4nm,0.4s,baz=154,slow=15,SNR=1.6								
SNAA	**Sanae**	**53.98**	**159**	P			**P**	**13 05 41.5**	**+0.6**
	1.6nm,0.7s,baz=274,slow=7.3,SNR=11								
QSPA	**South Pole Qui**	**59.00**	**180**	P			**P**	**13 06 18.3**	**+1.6**
	1.2nm,0.9s,baz=185,slow=0.8,SNR=2.0								
TXAR	**Lajitas Array**	**67.57**	**330**	P			P	13 07 17.6	+3.9
	0.4nm,0.7s,baz=159,slow=8.6,SNR=1.8								
MAW	**Mawson**	**75.70**	**164**	P			**P**	**13 08 02.6**	**+0.6**
	1.7nm,0.8s,baz=254,slow=11,SNR=2.6								
TORD	**Torodi Ar. Bea**	**82.82**	**70**	P			**P**	**13 08 42.3**	**+0.7**
	2.0nm,0.7s,baz=261,slow=4.3,SNR=9.6								
WRA	**Warramunga Arr**	**123.41**	**209**	PKP			**PKiKP**	**13 15 15.2**	**+0.5**
	0.1nm,0.3s,baz=168,slow=2.4,SNR=5.8								
KURBB	**Kurchatov Arra**	**150.49**	**40**	PKPbc			**PKiKP**	**13 16 09.2**	**+0.5**

	0.9nm,0.6s,baz=296,slow=3.0,SNR=8.8								
ZALV	**Zalesovo Beam**	**151.61**	**30**	PKPbc			**PKiKP**	**13 16 12.7**	**+1.8**
	4.5nm,0.4s,baz=299,slow=3.5,SNR=14								
MKAR	**Makanchi Array**	**154.53**	**45**	PKPbc			**PKiKP**	**13 16 19.0**	**+1.8**
	0.5nm,0.6s,baz=263,slow=2.1,SNR=4.2								
MKAR				PKPab			**PKPab**	**13 16 31.6**	**-0.3**
	0.7nm,0.8s,baz=318,slow=1.9,SNR=3.6								

IDC ***17*** *12:57:51.9±3.7, 11.84S×166.66E, h113km±29km, mb3.7/6, mb1 4.0/8, mb1mx3.6/39, mbtmp4.2/8, Error ellipse: s-maj=30.7km s-min=24.4km az=64.0*
NOU ***17*** *12:57:55.8, 12.08S×166.36E, h135km, mb4.7/13, Santa Cruz Islands*

ISC 17 12:57:55.9±1.1, 12.06S±0.09×166.5E±0.1, h150km, n19, σ1s34/22, mb3.9/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**5.88**	**164**	P			**Pn**	**12 59 20.9**	**-0.1**
HNR	**Honiara**	**6.90**	**292**	P			**Pn**	**12 59 31.5**	**-3.1**
	26nm,0.3s,baz=164,slow=5.1,SNR=8.8								
HNR				S			**Sn**	**13 00 51.5**	**-0.6**
	18nm,0.3s,baz=186,slow=23,SNR=2.2								
HNR	**Honiara**	**6.90**	**292**	P			**Pn**	**12 59 33.5**	**-1.2**
KOUNC	**Koumac, New Ca**	**8.70**	**194**	P			**Pn**	**12 59 58.3**	**-0.3**
LIFNC	**LIFOU**	**8.70**	**175**	P			**Pn**	**12 59 58.0**	**-0.7**
MARNC	**Mare, Loyalty**	**9.49**	**171**	P			**Pn**	**13 00 09.3**	**+0.1**
YATNC	**Mamie plateau,**	**9.95**	**178**	P			**Pn**	**13 00 14.3**	**-1.1**
DZM	**Mont Dzumac**	**9.96**	**180**	P			**Pn**	**13 00 14.6**	**-0.9**
	6.5nm,0.3s,baz=9.0,slow=6.2,SNR=94								
DZM				S			**Sn**	**13 02 03.7**	**-2.2**
	0.8nm,0.3s,baz=304,slow=21,SNR=1.7								
DZM	**Mont Dzumac**	**9.96**	**180**	P			**Pn**	**13 00 15.1**	**-0.4**
NOUC	**Port Laguerre**	**9.99**	**181**	P			**Pn**	**13 00 16.0**	**+0.2**
ONTNC	**Ouen Toro**	**10.19**	**180**	P			**Pn**	**13 00 19.1**	**+0.6**
OUENC	**Ouen Island, N**	**10.31**	**178**	P			**Pn**	**13 00 19.7**	**-0.3**
PINNC	**Pines Island,**	**10.54**	**175**	P			**Pn**	**13 00 23.2**	**+0.1**
CTA	**Charters Tower**	**20.96**	**245**	P			**P**	**13 02 30.2**	**+2.9**
	10nm,0.8s,baz=73,slow=12,SNR=18								
WRA	**Warramunga Arr**	**31.80**	**252**	P			**P**	**13 04 07.8**	**+1.3**
	1.7nm,1.0s,baz=80,slow=9.3,SNR=14								
ASAR	**Alice Springs**	**32.97**	**245**	P			**P**	**13 04 18.4**	**+1.7**
	2.8nm,0.7s,baz=71,slow=9.6,SNR=52								
ASAR				PcP			**PcP**	**13 06 58.0**	**+0.6**
	0.2nm,0.7s,baz=84,slow=2.5,SNR=2.2								
CMAR	**Chiang Mai Arr**	**73.14**	**294**	P			**P**	**13 09 10.8**	**+0.2**
	0.8nm,0.3s,baz=118,slow=4.9,SNR=2.9								
ILAR	**Eielson Array**	**84.25**	**18**	P			**P**	**13 10 09.6**	**-0.8**
	0.2nm,0.6s,baz=224,slow=5.9,SNR=2.8								
MKAR	**Makanchi Array**	**94.73**	**317**	P			**P**	**13 11 01.0**	**+0.6**
	0.5nm,0.7s,baz=83,slow=7.6,SNR=3.3								

IDC ***17*** *12:58:02.8±0.6, 30.73S×71.37W, h0km, mb4.4/11, mb1 4.4/16, mb1mx4.3/31, mbtmp4.3/16, ML4.0/5, Error ellipse: s-maj=24.1km s-min=14.9km az=88.0*
NEIC ***17*** *12:58:03.7±2.8, 30.71S±0.06×71.54W±0.07, h1km±4km, Error ellipse: s-maj=12.1km s-min=3.9km az=222.0*
GUC ***17*** *12:58:06.8±0.7, 30.70S×71.61W, h38km±2km, ML5.0*
SJA ***17*** *12:58:10.5±0.6, 30.76S×71.56W, h10km, ML4.7, MW4.3*

**ISC 17 12:58:07.8±0.8, 30.72S±0.03×71.71W±0.04

baz=2.4,slow=20,SNR=13
H03S2 Sn Sn 13 00 57.0 -5.3
baz=55
H03S2 T T 13 06 42.6
baz=74,slow=19,SNR=8.4
LVC Limon Verde 8.45 18 Pn **Pn 13 00 07.1 -1.1**
comp=E,0.7nm,0.3s,baz=156,slow=8.3,SNR=2.2
LVC Sn **Sn 13 01 42.7 +0.1**
comp=E,5.4nm,0.3s,baz=251,slow=12,SNR=1.4
LVC Limon Verde 8.45 18 Pn **Pn 13 00 07.8 -0.4**
PLCA Paso Flores 10.04 175 Pn **Pn 13 00 29.1 -0.5**
comp=E,0.7nm,0.3s,baz=344,slow=11,SNR=5.5
PLCA Lg Lg 13 03 12.2
comp=E,0.2nm,0.3s,baz=68,slow=23,SNR=1.4
TRQA Tornquist 10.87 135 Pn 13 00 39.7 -1.2
CPUP Villa Florida 13.38 74 Pn Pn 13 01 10.1 -5.1
comp=E,0.4nm,0.3s,baz=262,slow=11,SNR=1.6
CPUP Sn **Sn 13 03 40.6 -2.2**
comp=E,1.7nm,0.3s,baz=209,slow=3.6,SNR=3.4
CPUP Lg Lg 13 04 52.6
comp=E,1.2nm,0.3s,baz=355,slow=20,SNR=2.2
LPAZ La Paz 14.73 14 Pn **Pn 13 01 33.1 -1.2**
comp=E,0.1nm,0.3s,baz=215,slow=5.1,SNR=2.0
LPAZ La Paz 14.73 14 Pn **Pn 13 01 33.0 -1.3**
SIV San Ignacio 17.60 36 P **Pn 13 02 07.8 -2.7**
comp=E,0.3nm,0.3s,baz=231,slow=11,SNR=7.6
SAML Samuel 23.07 22 P **P 13 03 07.6 -2.9**
BDFB Brasilia 26.37 61 P **P 13 03 38.5 -2.7**
comp=E,6.6nm,0.7s,baz=222,slow=10,SNR=6.1
BDFB Brasilia 26.37 61 IAmb IAmb 13 03 45.1
comp=Z,8.3nm,0.8s
PTGA Pitinga 31.84 23 P **P 13 04 28.0 -1.6**
VNA3 Neumayer Olymp 52.30 159 P **P 13 07 16.4 +0.8**
VNA1 Neumayer--Stat 52.59 158 P **P 13 07 19.0 +1.3**
VNA2 Neumayer--Watz 52.94 158 P **P 13 07 20.9 +0.7**
baz=285,slow=8.3
SNAA Sanae 54.52 159 P **P 13 07 32.1 +0.1**
SNAA Sanae 54.52 159 P **P 13 07 31.2 -0.7**
comp=Z,7.6nm,0.7s,baz=274,slow=7.3,SNR=27
QSPA South Pole Qui 59.51 180 P **P 13 08 07.5 +0.1**
comp=Z,6.4nm,0.9s,baz=155,slow=2.1,SNR=15
QSPA South Pole Qui 59.51 180 P **P 13 08 07.8 +0.4**
TXAR Lajitas Array 67.03 330 P **P 13 08 59.4 +1.9**
comp=Z,0.7nm,0.8s,baz=149,slow=9.0,SNR=7.8
DBIC Dimbokro 73.88 72 P **P 13 09 38.5 -1.1**
comp=Z,6.1nm,0.7s,baz=248,slow=5.7,SNR=3.7
MAW Mawson 76.24 164 P **P 13 09 52.2 -0.2**
comp=Z,6.7nm,0.8s,baz=220,slow=5.9,SNR=13
MAW Mawson 76.24 164 P **P 13 09 53.1 +0.7**
ECSD EROS Data Cent 77.52 342 P **P 13 10 01.3 +1.5**
ECSD IAmb IAmb 13 10 02.2
comp=Z,3.9nm,0.8s
HWUT Hardware Ranch 80.82 331 P **P 13 10 19.4 +1.3**
HWUT IAmb IAmb 13 10 22.0
comp=Z,3.2nm,0.8s
PDAR Pinedale Array 80.97 333 P **P 13 10 20.1 +1.2**
comp=Z,0.3nm,0.5s,baz=106,slow=5.9,SNR=4.1
BOSA Boshof 81.36 118 P **P 13 10 20.7 -0.7**
comp=Z,5.9nm,0.9s,baz=209,slow=3.0,SNR=7.2
BOSA Boshof 81.36 118 IAmb IAmb 13 10 26.9
comp=Z,10nm,1.0s
NVAR Mina Array Bea 81.36 325 P **P 13 10 23.2 +2.1**
comp=Z,0.7nm,0.8s,baz=168,slow=6.5,SNR=4.4
TORD Torodi Ar. Bea 82.84 70 P **P 13 10 28.2 -0.9**
comp=Z,2.6nm,0.5s,baz=280,slow=6.1,SNR=17
TORD Torodi Ar. Bea 82.84 70 P **P 13 10 28.0 -1.1**
TORD IAmb IAmb 13 10 40.6
comp=Z,5.0nm,1.1s
ULM Lac du Bonnet 83.41 345 P **P 13 10 31.1 -0.2**
comp=Z,3.6nm,0.7s,baz=103,slow=7.3,SNR=3.6
WRA Warramunga Arr 123.75 210 PKP **PKPdf 13 17 02.7 +0.1**
comp=Z,0.4nm,0.6s,baz=176,slow=2.4,SNR=6.3
H11S2 WAKE ISLAND Hyl 26.03 271 T T 15 35 52.3
baz=115,slow=74,SNR=81
H11S1 WAKE ISLAND Hyl 26.05 271 T T 15 35 55.5
baz=115,slow=74,SNR=82
H11S3 WAKE ISLAND Hyl 26.05 271 T T 15 35 53.7
baz=115,slow=74,SNR=56
H11N3 WAKE ISLAND Hyl 26.36 273 T T 15 36 23.2
baz=117,slow=74
H11N1 WAKE ISLAND Hyl 26.38 273 T T 15 36 17.2
baz=117
H11N2 WAKE ISLAND Hyl 26.38 273 T T 15 36 23.4
baz=117,slow=74
BVAR Borovoye Array 144.64 40 PKP **PKPab 13 17 40.9 +1.9**
comp=Z,2.8nm,0.6s,baz=262,slow=4.5,SNR=8.6
ZALV Zalesovo Beam 151.27 29 PKPbc **PKPdf 13 17 55.6 +4.5**
comp=Z,5.6nm,0.7s,baz=292,slow=3.5,SNR=8.5
ZALV Zalesovo Beam 151.27 29 PKPdf 13 17 55.3 +4.1
MKAR Makanchi Array 154.31 44 PKPbc **PKPbc 13 18 04.6 +0.3**
comp=Z,0.3nm,0.6s,baz=327,slow=4.0,SNR=1.7
MKAR PKPab **sPKPbc 13 18 18.8 -0.5**
comp=Z,0.6nm,0.7s,baz=283,slow=4.2,SNR=2.8
SONM Songino Array 162.84 4 PKPab **PKPab 13 18 55.1 -0.2**
comp=Z,0.2nm,0.3s,baz=337,slow=2.2,SNR=2.3
CMAR Chiang Mai Arr 165.14 143 PKPab **PKPab 13 19 05.6 -0.4**
comp=Z,1.4nm,0.8s,baz=233,slow=5.4,SNR=6.5

*IDC **17** 12:59:31.1±0.9, 31°.59S×72°.12W, h0km, mb4.3/8, mb1 4.4/9, mb1mx4.2/27, mbtmp4.3/9, ML4.4/1, Error ellipse: s-maj=32.2km s-min=22.2km az=79.0*
ISC 17 12:59:33.2±0.8, **31°.65S**±0°.1×**72°.1W**±0°.2, **h14**km, **n10, σ0s74/10, mb4.6/8, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**9.18**	**172**	Pn		**Pn**	**13 01 44.8**	**-0.5**
	0.9nm,0.3s,baz=344,slow=15,SNR=3.7							
BDFB	**Brasilia**	**27.12**	**60**	P		**P**	**13 05 16.8**	**+0.7**
	12nm,0.9s,baz=230,slow=11,SNR=4.0							
SNAA	**Sanae**	**53.81**	**158**	P		**P**	**13 08 55.7**	**+0.6**
	8.0nm,0.7s,baz=279,slow=7.2,SNR=8.5							
QSPA	**South Pole Qui**	**58.61**	**180**	P		**P**	**13 09 29.9**	**+0.4**
	5.3nm,1.0s,baz=155,slow=4.6,SNR=3.6							
TXAR	**Lajitas Array**	**67.63**	**330**	P		**P**	**13 10 29.6**	**-0.2**
	0.4nm,0.7s,baz=142,slow=8.9,SNR=2.1							
DBIC	**Dimbokro**	**74.50**	**72**	P		**P**	**13 11 12.1**	**+0.4**
	9.8nm,0.8s,baz=229,slow=5.5,SNR=6.7							
PDAR	**Pinedale Array**	**81.61**	**333**	P		**P**	**13 11 50.6**	**-0.2**
	0.2nm,0.4s,baz=181,slow=6.9,SNR=2.0							
NVAR	**Mina Array Bea**	**81.90**	**325**	P		**P**	**13 11 53.2**	**+0.8**
	0.8nm,0.7s,baz=160,slow=5.9,SNR=5.6							
TORD	**Torodi Ar. Bea**	**83.47**	**70**	P		**P**	**13 11 59.7**	**-1.2**
	3.6nm,0.7s,baz=254,slow=4.8,SNR=5.7							
ZALV	**Zalesovo Beam**	**152.23**	**30**	PKPbc		**PKiKP**	**13 19 27.6**	**-0.6**
	2.7nm,0.7s,baz=306,slow=5.2,SNR=1.8							

*SJA **17** 13:04:47.4±0.8, 30°.12S×72°.44W, h13km±5km, ML4.8, MW4.8*
*IDC **17** 13:04:50.9±0.6, 30°.27S×71°.84W, h0km, mb4.3/8, mb1 4.5/12, mb1mx4.3/23, mbtmp4.3/12, ML4.3/4, Error ellipse: s-maj=26.0km s-min=19.0km az=90.0*
*GUC **17** 13:04:55.2±0.4, 30°.29S×71°.70W, h16km±3km, ML4.2*
*NEIC **17** 13:04:56.6±2.8, 30°.19S±0°.04×71°.8W±0°.2, h35km±1km, Error ellipse: s-maj=24.9km s-min=6.3km az=263.0*
ISC 17 13:04:51.7±0.5, **30°.24S**±0°.02×**72°.02W**±0°.04, **h10**km, **n83, σ2s08/131, mb4.7/18, 2D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.55**	**143**	∥ *i* P		**Pb**	**13 05 03.5**	**0.0**
CO06					eS	**Sg**	**13 05 09.9**	**+0.2**
CO06					IAML		13 05 14.2	
	comp=E,25μm,0.5s							
GO04	**Tololo Observa**	**1.06**	**87**		eP	**Pg**	**13 05 11.5**	**-0.6**
GO04					*i* S	**Sg**	**13 05 24.1**	**-1.7**
GO04	**Tololo Observa**	**1.06**	**87**		eP	**Pb**	**13 05 12.0**	**-0.2**
GO04					eP	**Pn**	**13 05 14.1**	**+1.3**
GO04					eP	**Pn**	**13 05 14.2**	**+1.3**
GO04					eP	**Pg**	**13 05 15.4**	**+3.4**
CO03	**El Pedregal**	**1.30**	**118**		eP	**Pn**	**13 05 15.1**	**-0.8**
CO03					eS	**Sb**	**13 05 29.7**	**-3.3**
CO03					IAML		13 05 32.9	
	comp=E,30μm,0.5s							
CO03	**El Pedregal**	**1.30**	**118**		eP	**Pn**	**13 05 14.9**	**-1.0**
CO03					eP	**Pn**	**13 05 15.0**	**-1.0**
CO03					eP	**Pg**	**13 05 15.3**	**-1.3**
CO03					eP	**Pg**	**13 05 15.4**	**-1.1**
CO03					eS	**Sb**	**13 05 32.3**	**-0.6**
CO03					IAML		13 05 33.3	
	comp=Z,19μm,0.5s							
AC04	**Llanos de Chal**	**2.19**	**22**	∥ *i* P		**Pn**	**13 05 27.6**	**-0.5**
AC04	**Llanos de Chal**	**2.19**	**22**		eP	Pn	13 05 21.9	-6.1
AC04					eP	**Pb**	**13 05 27.0**	**-4.3**
AC04					eP	**Pb**	**13 05 27.8**	**-3.5**
AC04					eP	**Pb**	**13 05 27.8**	**-3.5**
AC04					eS	**Sn**	**13 05 55.5**	**+0.2**
AC04					eS	**Sb**	**13 05 57.5**	**-1.0**
AC04					IAML		13 06 12.6	
	comp=Z,2μm,0.4s							
AROD	**Rodeo**	**2.21**	**89**		eP	**Pb**	**13 05 31.0**	**-0.8**
AROD					eP	**Pg**	**13 05 31.6**	**-2.3**
AROD					eP	**Pg**	**13 05 31.6**	**-2.3**
AROD					eS	**Sn**	**13 05 53.5**	**-2.7**
AROD					eS	**Sb**	**13 05 59.7**	**+0.4**
AROD					eS	**Sb**	**13 05 59.8**	**+0.4**
ACDV	**Cuesta del Vie**	**2.51**	**89**		eP	**Pn**	**13 05 31.4**	**-1.3**
ACDV					eP	**Pn**	**13 05 36.8**	**+4.1**
ACDV					eP	**Pn**	**13 05 37.0**	**+4.3**
ACDV					eP	**Pn**	**13 05 37.1**	**+4.4**
ACDV					eS	**Sn**	**13 06 04.0**	**+0.5**
ACDV					eS	**Sb**	**13 06 09.0**	**+1.0**
ACDV					IAML		13 06 09.3	
	comp=Z,6μm,0.5s							
ACDV					eS	**Sg**	**13 06 09.8**	**-2.6**
ACCO	**Cerro Coronel**	**2.58**	**99**		eP	**Pb**	**13 05 38.0**	**-0.2**
ACCO					eP	**Pb**	**13 05 38.0**	**-0.2**
ACCO					eS	**Sg**	**13 06 14.4**	**-0.1**
ACCO					eS	**Sb**	**13 06 14.8**	**+4.8**
VA01	**Torpederas**	**2.80**	**174**		eP	**Pb**	**13 05 41.1**	**-0.6**
VA01					eS	**Sn**	**13 06 08.1**	**-2.2**
GO03	**Copiap**	**3.06**	**31**		eP	**Pn**	**13 05 40.1**	**0.0**
GO03					IAML		13 06 12.1	
	comp=E,436nm,0.4s							
GO03	**Copiap**	**3.06**	**31**		eP	Pn	13 05 35.0	-5.3
GO03					eP	**Pn**	**13 05 40.0**	**-0.2**
GO03					eP	**Pn**	**13 05 40.2**	**0.0**
GO03					eP	**Pn**	**13 05 40.4**	**+0.2**
GO03					eS	**Sn**	**13 06 18.9**	**+2.0**
GO03					eS	**Sb**	**13 06 20.9**	**-2.8**
MT05	**Renca**	**3.33**	**161**		eP	**Pb**	**13 05 47.8**	**-3.1**
RTCV	**Cerro Valdivia**	**3.40**	**119**		eP	**Pn**	**13 05 44.5**	**-0.4**
RTCV					eP	**Pn**	**13 05 48.6**	**+3.8**
RTCV					eP	**Pn**	**13 05 48.9**	**+4.1**
RTCV					eP	**Pn**	**13 05 49.0**	**+4.1**
RTCV					eS	**Sb**	**13 06 28.9**	**-4.5**
RTCV					eS	**Sg**	**13 06 36.4**	**-4.5**
RTCV					IAML		13 06 41.4	
	comp=Z,538nm,1.1s							
VA05	**Santo Domingo**	**3.43**	**174**		eP	**Pn**	**13 05 46.1**	**+0.9**
ASAL	**Salagasta**	**3.59**	**132**		eP	**Pb**	**13 05 52.0**	**-3.4**
ASAL					eP	**Pb**	**13 05 52.2**	**-3.2**
ASAL					eP	**Pb**	**13 05 52.2**	**-3.2**
ASAL					eP	**Pb**	**13 05 52.4**	**-3.1**
ASAL					eS	**Sb**	**13 06 34.5**	**-4.7**
ASAL					eS	**Sg**	**13 06 42.5**	**-4.7**
ASAL					IAML		13 06 49.1	
	comp=Z,1μm,1.5s							
MT09	**Talagante**	**3.64**	**166**		eP	**Pb**	**13 05 52.3**	**-3.9**
MT01	**Popeta**	**3.68**	**170**		eP	**Pn**	**13 05 51.6**	**+3.0**
ARCO	**CERRO ARCO**	**3.70**	**135**		eP	**Pn**	**13 05 50.0**	**+0.9**
ARCO					eP	Pn	13 05 54.0	+4.9
ARCO					eP	Pn	13 05 54.5	+5.4
ARCO					eP	Pn	13 05 54.5	+5.4
ARCO					eS	**Sb**	**13 06 42.5**	**+0.2**
ARCO					eS	**Sg**	**13 06 49.5**	**-1.1**
ARCO					IAML		13 06 54.2	
	comp=Z,2μm,0.8s							
LMEL	**Las Melosas**	**3.92**	**157**		eP	**Pn**	**13 05 53.6**	**+1.5**
AC02	**Maricunga**	**4.24**	**38**		eP	**Pn**	**13 05 57.5**	**+0.8**
AC02	**Maricunga**	**4.24**	**38**		eP	**Pn**	**13 05 57.6**	**+0.9**
AC02					eP	**Pn**	**13 05 57.7**	**+0.9**
AC02					eP	**Pn**	**13 05 58.0**	**+1.3**
AC02					eP	**Pn**	**13 05 58.0**	**+1.3**
BO02	**Sierra Bellavi**	**4.66**	**167**			**Pn**	**13 06 04.4**	**+2.2**
ACHE	**Chepes**	**4.70**	**103**		eP	**Pn**	**13 06 06.0**	**+3.1**
ACHE					eS	**Sn**	**13 07 01.1**	**+3.5**
GO05	**Huala**	**4.76**	**179**		eP	**Pn**	**13 06 03.9**	**+0.4**
GO05					eP	**Pn**	**13 06 04.0**	**+0.4**
GO05					eP	**Pn**	**13 06 04.0**	**+0.4**
GO05					eP	**Pn**	**13 06 04.2**	**+0.6**
GO05					eS	**Sb**	**13 07 13.9**	**+1.3**
PB14	**IPOC Station P**	**5.77**	**15**		eP	**Pn**	**13 06 15.0**	**-2.7**
PB14					eP	**Pn**	**13 06 15.2**	**-2.4**
H03N1	**Juan Fernandez**	**6.68**	**240**		T	T	13 13 36.5	
	baz=69,slow=72,SNR=416							
H03N2	**Juan Fernandez**	**6.69**	**240**		T	T	13 13 30.9	
	baz=69,slow=72,SNR=304							
H03N3	**Juan Fernandez**	**6.69**	**240**		T	T	13 13 38.3	
	baz=69,slow=72,SNR=468							
LVC	**Limon Verde**	**8.09**	**21**	Pn		**Pn**	**13 06 47.6**	**-1.9**
	comp=Z,2.2nm,0.3s,baz=200,slow=5.6,SNR=20							
LVC	**Limon Verde**	**8.09**	**21**			**Pn**	**13 06 47.9**	**-1.7**
PLCA	**Paso Flores**	**10.54**	**174**	Pn		**Pn**	**13 07 22.9**	**0.0**
	comp=Z,0.5nm,0.3s,baz=357,slow=15,SNR=1.0							
PLCA	**Paso Flores**	**10.54**	**174**	Pn		**Pn**	**13 07 23.7**	**+0.8**
TRQA	**Tornquist**	**11.40**	**136**	Pn		**Pn**	**13 07 36.3**	**+1.7**
LPAZ	**La Paz**	**14.33**	**15**	Pn		**Pn**	**13 08 16.6**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=186,slow=7.4,SNR=13							
LPAZ	**La Paz**	**14.33**	**15**	Pn		**Pn**	**13 08 17.5**	**+2.2**
SIV	**San Ignacio**	**17.37**	**38**	P		**Pn**	**13 08 54.3**	**0.0**
	comp=Z,1.7nm,0.3s,baz=215,slow=9.7,SNR=14							
SAML	**Samuel**	**22.73**	**23**	P		**P**	**13 09 51.2**	**-2.8**
BDFB	**Brasilia**	**26.37**	**62**	P		**P**	**13 10 28.0**	**-0.4**
	comp=Z,6.1nm,0.8s,baz=235,slow=7.9,SNR=4.2							
BDFB	**Brasilia**	**26.37**	**62**	P		**P**	**13 10 25.8**	**-2.6**
PMSA	**Palmer Station**	**34.92**	**174**	P		**P**	**13 11 43.5**	**+0.4**
	comp=Z,5.0nm,1.0s,baz=56,slow=7.3,SNR=1.3							
PMSA	**Palmer Station**	**34.92**	**174**	P		**P**	**13 11 42.8**	**-0.4**
PMSA				IAmb		IAmb	13 11 53.1	
	comp=Z,12nm,1.1s							
BCIP	**Isla Barro Col**	**39.89**	**348**	P		**P**	**13 12 28.1**	**+2.3**
BCIP				IAmb		IAmb	13 12 35.2	
	comp=Z,43nm,1.4s							
VNA1	**Neumayer--Stat**	**53.13**	**158**	P		**P**	**13 14 10.4**	**+1.2**
VNA2	**Neumayer--Watz**	**53.48**	**158**	P		**P**	**13 14 12.9**	**+1.2**
	baz=286,slow=8.6							
SNAA	**Sanae**	**55.07**	**159**	P		**P**	**13 14 24.2**	**+0.8**
QSPA	**South Pole Qui**	**59.99**	**180**	P		**P**	**13 14 59.5**	**+1.2**
QSPA				IAmb		IAmb	13 15 11.5	
	comp=Z,4.9nm,0.8s							
NATX	**Nacogdoches**	**65.29**	**339**	P		**P**	**13 15 36.5**	**+2.8**
JCT	**Junction City**	**65.91**	**334**	P		**P**	**13 15 37.5**	**-0.4**
TX31	**Lajitas Ar. Si**	**66.48**	**330**	P		**P**	**13 15 43.3**	**+1.7**
TX32	**Lajitas Array**	**66.48**	**330**	P		**P**	**13 15 43.5**	**+2.0**
TX32				IAmb		IAmb	13 15 44.7	
	comp=Z,4.2nm,0.9s							
TXAR	**Lajitas Array**	**66.48**	**330**	P		**P**	**13 15 43.7**	**+2.1**
	comp=Z,3.3nm,0.7s,baz=151,slow=8.2,SNR=38							
MNTX	**Cornudas Mount**	**69.26**	**330**	P		**P**	**13 15 59.2**	**+0.3**
MNTX				IAmb		IAmb	13 16 00.8	
	comp=Z,5.8nm,0.8s							
CCM	**Cathedral Cave**	**70.27**	**344**	P		**P**	**13 16 04.7**	**-0.3**
T25A	**Trinidad**	**73.57**	**333**	P		**P**	**13 16 27.2**	**+2.0**
T25A				IAmb		IAmb	13 16 28.7	
	comp=Z,8.7nm,0.8s							
DBIC	**Dimbokro**	**73.99**	**72**	P		**P**	**13 16 28.0**	**+0.2**
	comp=Z,3.2nm,0.6s,baz=238,slow=5.1,SNR=5.2							
DBIC	**Dimbokro**	**73.99**	**72**	P		**P**	**13 16 27.3**	**-0.5**
DBIC				IAmb		IAmb	13 16 33.6	
	comp=Z,14nm,1.2s							
SDCO	**Great Sand Dun**	**74.53**	**333**	P		**P**	**13 16 32.0**	**+1.2**
MVCO	**Mesa Verde**	**75.29**	**331**	P		**P**	**13 16 35.3**	**+0.1**
MVCO				IAmb		IAmb	13 16 38.6	
	comp=Z,8.2nm,1.0s							
MAW	**Mawson**	**76.78**	**164**	P		**P**	**13 16 44.1**	**+1.1**
	comp=Z,1.2nm,0.5s,baz=188,slow=7.5,SNR=2.5							
ECSD	**EROS Data Cent**	**76.98**	**342**	P		**P**	**13 16 44.6**	**+0.3**
CCUT	**Cedar City**	**77.74**	**328**	P		**P**	**13 16 49.0**	**0.0**
SRU	**San Rafael Swe**	**77.75**	**330**	P		**P**	**13 16 50.5**	**+1.5**
SRU				IAmb		IAmb	13 16 51.9	
	comp=Z,5.4nm,0.8s							
Q16A	**Castle Valley**	**77.87**	**330**	P		**P**	**13 16 50.3**	**+0.6**
Q16A				IAmb		IAmb	13 16 53.2	
	comp=Z,5.0nm,0.8s							
HWUT	**Hardware Ranch**	**80.27**	**331**	P		**P**	**13 17 04.4**	**+1.6**
HWUT				IAmb		IAmb	13 17 05.4	
	comp=Z,8.7nm,0.8s							
PDAR	**Pinedale Array**	**80.42**	**333**	P		**P**	**13 17 04.3**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=134,slow=6.4,SNR=6.0							
NVAR	**Mina Array Bea**	**80.82**	**325**	P		**P**	**13 17 07.9**	**+2.1**
	comp=Z,1.0nm,0.7s,baz=152,slow=6.1,SNR=9.5							
NVAR	**Mina Array Bea**	**80.82**	**325**	P		**P**	**13 17 08.0**	**+2.2**
HVU	**Hansel Valley**	**80.92**	**330**	P		**P**	**13 17 07.6**	**+1.3**
HVU				IAmb		IAmb	13 17 08.7	
	comp=Z,5.9nm,0.9s							
TORD	**Torodi Ar. Bea**	**82.92**	**70**	P		**P**	**13 17 17.4**	**+0.2**
	comp=Z,4.2nm,0.7s,baz=263,slow=5.2,SNR=9.3							
TORD	**Torodi Ar. Bea**	**82.92**	**70**	P		**P**	**13 17 16.4**	**-0.7**
TORD				IAmb		IAmb	13 17 25.4	
	comp=Z,3.9nm,0.8s							
ASAR	**Alice Springs**	**120.91**	**208**	PKP		**PKPdf**	**13 23 44.5**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=135,slow=1.9,SNR=12							
WRA	**Warramunga Arr**	**124.03**	**210**	PKP		**PKPdf**	**13 23 51.0**	**0.0**
	comp=Z,1.5nm,0.7s,baz=162,slow=1.6,SNR=25							
WRA	**Warramunga Arr**	**124.03**	**210**	PKP		**PKPdf**	**13 23 50.9**	**-0.1**
H11S2	**WAKE ISLAND Hyl**	**25.75**	**272**	T		T	15 42 34.6	
	baz=114,slow=75,SNR=71							
H11S1	**WAKE ISLAND Hyl**	**25.77**	**272**	T		T	15 42 35.6	
	baz=114,slow=75,SNR=47							
H11S3	**WAKE ISLAND Hyl**	**25.77**	**272**	T		T	15 42 36.2	
	baz=114,slow=75,SNR=15							
SEY	**Seymchan**	**136.75**	**332**	PKP		**PKiKP**	**13 24 14.9**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=62,slow=3.6,SNR=12							
BVAR	**Borovoye Array**	**144.44**	**39**	PKP		**PKPdf**	**13 24 27.8**	**0.0**
	comp=Z,1.1nm,0.6s,baz=253,slow=4.5,SNR=5.0							
AAK	**Ala-Archa**	**150.55**	**56**	PKPbc		**PKiKP**	**13 24 45.3**	**+0.7**
	comp=Z,4.0nm,0.5s,baz=227,slow=2.7,SNR=11							
ZALV	**Zalesovo Beam**	**150.98**	**29**	PKPbc		**PKiKP**	**13 24 45.1**	**+0.2**
	comp=Z,15nm,0.6s,baz=303,slow=3.4,SNR=32							
MKAR	**Makanchi Array**	**154.14**	**43**	PKPbc		**PKiKP**	**13 24 51.8**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=325,slow=1.5,SNR=4.9							

*IDC **17** 13:17:52.8±1.1, 31°.14S×71°.73W, h0km, mb3.7/2, mb1 3.9/5, mb1mx3.7/25, mbtmp3.7/5, ML3.8/3, Error ellipse: s-maj=50.4km s-min=30.3km az=98.0*
ISC 17 13:17:54.6±1.0, **31°.1S**±0°.1×**71°.7W**±0°.3, **h10**km, **n11, σ1s07/8, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
H03N1	**Juan Fernandez**	**6.53**	**247**		T	T	13 26 17.3	
	baz=78,slow=72,SNR=69							
H03N3	**Juan Fernandez**	**6.55**	**247**		T	T	13 26 14.8	
	baz=78,slow=72,SNR=85							
H03N2	**Juan Fernandez**	**6.55**	**247**		T	T	13 26 17.9	
	baz=78,slow=72,SNR=81							
PLCA	**Paso Flores**	**9.65**	**175**	Pn		**Pn**	**13 20 14.5**	**+0.8**
	0.3nm,0.3s,baz=336,slow=14,SNR=4.6							
LPAZ	**La Paz**	**15.10**	**13**	Pn		**Pn**	**13 21 29.8**	**+1.1**
	0.1nm,0.3s,baz=195,slow=7.3,SNR=9.5							
SIV	**San Ignacio**	**17.91**	**35**	P		**P**	**13 22 04.0**	**-0.5**
	0.2nm,0.3s,baz=214,slow=9.3,SNR=3.5							
TXAR	**Lajitas Array**	**67.36**	**330**	P		**P**	**13 28 50.6**	**+0.5**
	0.3nm,0.8s,baz=140,slow=9.9,SNR=3.5							
TORD	**Torodi Ar. Bea**	**82.96**	**70**	P		**P**	**13 30 20.2**	**-0.1**
	1.0nm,0.7s,baz=262,slow=4.6,SNR=5.4							
ASAR	**Alice Springs**	**120.27**	**207**	PKP		**PKiKP**	**13 36 45.8**	**-0.9**
	0.3nm,0.9s,baz=143,slow=2.3,SNR=2.2							
WRA	**Warramunga Arr**	**123.42**	**210**	PKP		**PKiKP**	**13 36 51.6**	**-1.4**
	0.2nm,0.6s,baz=163,slow=2.1,SNR=1.7							
ZALV	**Zalesovo Beam**	**151.60**	**30**	PKPbc		**PKiKP**	**13 37 48.2**	**-0.8**
	1.3nm,0.5s,baz=318,slow=3.1,SNR=4.7							

*ATH **17** 13:22:33.2, 38°.90N×26°.05E, h46km±2km, ML3.0/6, Error ellipse: s-maj=3.1km s-min=1.4km az=69.0*
*ISK **17** 13:22:33.6, 38°.85N×26°.15E, h8km, ML3.0/18*
*DDA **17** 13:22:33.1, 38°.83N×26°.11E, h4km±4km, ML3.0*
*THE **17** 13:22:34.3, 38°.83N×26°.09E, h7km±2km, ML2.9/6, Error ellipse: s-maj=3.0km s-min=0.9km az=59.0*
ISC 17 13:22:33.6±1.1, **38°.85N**±0°.02×**26°.10E**±0°.02, **h8**km±9km, **n52, σ0s57/78, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SIGR	**SIGRI**	**0.40**	**333**		P	**Pb**	**13 22 42.6**	**-0.5**
SIGR					S	**Sb**	**13 22 48.7**	**-0.7**
	3μm,0.4s							
SIGR	**SIGRI**	**0.40**	**333**		P	**Pb**	**13 22 42.6**	**-0.5**
SIGR					S	**Sb**	**13 22 49.0**	**-0.3**
SIGR					AML	AML	13 22 49.9	
	comp=E,6000μm,0.4s							
SIGR					AML	AML	13 22 49.9	
	comp=N,7946μm,0.3s							
SIGR	**SIGRI**	**0.40**	**333**		PG	**Pb**	**13 22 42.5**	**-0.5**
SIGR					SG	**Sb**	**13 22 48.9**	**-0.5**
PRK	**Paraskevi**	**0.42**	**19**		P	**Pb**	**13 22 43.3**	**+0.1**
PRK					S	**Sb**	**13 22 50.1**	**+0.4**
	comp=N,2μm,0.5s							
PRK	**Paraskevi**	**0.42**	**19**		P	**Pb**	**13 22 43.4**	**+0.

GCAM	**G?zelcaml?**	**1.46**	**142**	PN	**Pn**	**13 23 00.4**	**+0.2**
KARY	**Karystos**	**1.54**	**238**	P	**Pn**	**13 23 00.1**	**-1.2**
GELI	**Tayfur-Gelibol**	**1.57**	**11**	PN	**Pb**	**13 23 02.6**	**-0.3**
KYMI	**Kymi, Euboea I**	**1.57**	**263**	P	**Pn**	**13 23 01.8**	**0.0**
BALB	**Balikesir**	**1.59**	**60**	PN	**Pn**	**13 23 01.9**	**-0.2**
LPK	**Lapseki**	**1.60**	**18**	PN	**Pn**	**13 23 02.8**	**+0.6**
SMTH	**Samothraki Isl**	**1.67**	**345**	P	**Pn**	**13 23 03.3**	**+0.1**
SMTH	**Samothraki Isl**	**1.67**	**345**	P	**Pn**	**13 23 03.1**	**-0.2**
SMTH				S	**Sn**	**13 23 23.4**	**-1.5**
AYDB	**Zeytinkoy-Aydi**	**1.68**	**122**	PN	**Pn**	**13 23 03.7**	**+0.4**
GONE	**Gonen-Balikesi**	**1.71**	**45**	PN	**Pn**	**13 23 04.2**	**+0.4**
KRBG	**Karabiga-Canak**	**1.80**	**31**	PN	**Pn**	**13 23 05.0**	**+0.1**
APE	**Apeiranthos**	**1.83**	**194**	P	**Pn**	**13 23 06.0**	**+0.6**
APE	**Apeiranthos**	**1.83**	**194**	PN	**Pb**	**13 23 06.6**	**-0.8**
DION	**Dionisos Attik**	**1.86**	**246**	P	**Pb**	**13 23 05.8**	**-0.1**
MANT	**Manisa**	**1.96**	**100**	*i* P	**Pn**	**13 23 06.5**	**-0.8**
MANT				*i* S	**Sb**	**13 23 34.5**	**+0.1**
BODT	**Bodrum**	**2.03**	**151**	PN	**Pn**	**13 23 08.7**	**+0.6**
KULA	**Kula-Manisa**	**2.04**	**99**	PN	**Pn**	**13 23 08.9**	**+0.6**
ALN	**Alexandroupoli**	**2.04**	**359**	P	**Pn**	**13 23 08.6**	**+0.3**
ALN				AML	AML	13 23 42.2	
	comp=E,99μm,0.4s						
ALN				AML	AML	13 23 58.0	
	comp=N,103μm,0.9s						
THAS	**Thassos island**	**2.05**	**329**	P	**Pn**	**13 23 07.7**	**-0.6**
VLY	**Voula,Athens**	**2.07**	**242**	P	**Pn**	**13 23 08.4**	**-0.1**
OUR	**Ouranopolis**	**2.20**	**313**	P	**Pn**	**13 23 11.0**	**+0.6**
VIL2	**Platees**	**2.31**	**255**	P	**Pn**	**13 23 11.9**	**0.0**
RDO	**Rodhopi**	**2.33**	**350**	P	**Pn**	**13 23 12.5**	**+0.2**
KAVA	**Kavala**	**2.46**	**331**	P	**Pn**	**13 23 14.2**	**+0.1**
ULDT	**Uludag**	**2.68**	**60**	*i* P	**Pb**	**13 23 23.2**	**+1.2**
ULDT				*i* S	**Sg**	**13 23 59.7**	**-0.1**
ULDT				IAML		13 24 03.0	
	comp=E,54nm,0.4s						
ULDT				IAML		13 24 11.0	
	comp=N,49nm,0.7s						

SJA ***17*** *13:22:41.0±0.7,31.28S×72.90W,h40km±8km,ML4.3, MW4.7*

NEIC ***17*** *13:22:42.4±4.0,31.31S±0.04×72.5W±0.2,h10km±1km, Error ellipse: s-maj=22.2km s-min=6.7km az=263.0*

IDC ***17*** *13:22:43.8±0.7,31.38S×72.11W,h0km,mb4.3/7, mb1 4.4/12,mb1mx4.3/28,mbtmp4.2/12,ML4.1/5,Error ellipse: s-maj=24.6km s-min=20.4km az=90.0*

GUC ***17*** *13:22:45.4±0.5,31.31S×72.17W,h45km±4km,ML4.5*

ISC 17 13:22:41.5±1.5,**31.32S**±0.02×**72.31W**±0.05,**h2km**±9km, **n72**,σ1**97**/93,**mb4.5**/11,**1C-2D**,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.87**	**42**	*eP*		**Pn**		**13 23 01.0**	**+0.2**
CO06				*i* S		**Sn**		**13 23 13.0**	**-1.0**
CO03	**El Pedregal**	**1.47**	**71**	*eP*		**Pg**		**13 23 10.5**	**+0.7**
CO03				*i* S		**Sg**		**13 23 28.3**	**-0.5**
CO03				IAML				13 23 30.7	
	comp=N,6μm,0.6s								
VA06	**Catapilco**	**1.51**	**145**	⇓ *i* P		**Pg**		**13 23 10.6**	**+0.2**
VA06				*eS*		**Sg**		**13 23 30.5**	**+0.5**
VA06				IAML				13 23 39.4	
	comp=E,11μm,0.5s								
GO04	**Tololo Observa**	**1.73**	**49**	*eP*		**Pb**		**13 23 14.2**	**0.0**
GO04				*i* S		**Sb**		**13 23 36.7**	**+0.1**
GO04				IAML				13 23 42.4	
	comp=E,18μm,0.5s								
GO04	**Tololo Observa**	**1.73**	**49**	*eP*		**Pg**		**13 23 15.7**	**+0.9**
VA01	**Torpederas**	**1.79**	**162**	*eP*		**Pn**		**13 23 14.4**	**+1.0**
VA01				*eS*		**Sn**		**13 23 35.4**	**-1.2**
VA01	**Torpederas**	**1.79**	**162**	*eP*		**Pb**		**13 23 14.8**	**-0.2**
VA01				*eP*		**Pg**		**13 23 15.7**	**-0.1**
VA01				*eS*		**Sn**		**13 23 37.5**	**+0.8**
VA01				IAML				13 23 51.8	
	comp=Z,791nm,0.7s								
ROCH	**El Roble**	**1.98**	**146**	*eP*		**Pb**		**13 23 18.8**	**+0.3**
ROCH				*i* S		**Sb**		**13 23 44.0**	**+0.3**
ROCH				IAML				13 23 50.6	
	comp=E,4μm,0.4s								
ROC1	**El Roble**	**1.98**	**147**	*eP*		**Pn**		**13 23 15.7**	**-0.7**
ROC1				*eP*		**Pb**		**13 23 18.4**	**-0.1**
ROC1				*eS*		**Sb**		**13 23 43.1**	**-0.6**
VA03	**San Esteban**	**2.08**	**134**	⇓ *iP*		**Pb**		**13 23 19.4**	**-0.5**
VA03				*i* S		**Sn**		**13 23 44.1**	**+0.2**
VA03				IAML				13 23 52.2	
	comp=E,8μm,0.8s								
VA05	**Santo Domingo**	**2.40**	**166**	*eP*		**Pn**		**13 23 23.4**	**+1.5**
VA05				*eS*		**Sb**		**13 23 57.4**	**+1.8**
VA05				IAML				13 24 12.4	
	comp=E,2μm,0.6s								
MT05	**Renca**	**2.46**	**148**	*eP*		**Pb**		**13 23 24.8**	**-1.7**
MT05				IAML				13 24 07.6	
	comp=E,4μm,0.2s								
RTLS	**Leoncito**	**2.62**	**101**	*eP*		**Pg**		**13 23 31.3**	**-0.4**
RTLS				*eS*		**Sn**		**13 23 59.1**	**+1.5**
RTLS				IAML				13 24 12.4	
	comp=Z,2μm,0.7s								
AUSP	**Uspallata**	**2.65**	**111**	*eP*		**Pb**		**13 23 30.6**	**+0.7**
AUSP				*eS*		**Sg**		**13 24 09.5**	**+2.9**
MT01	**Popeta**	**2.69**	**161**	*eP*		**Pn**		**13 23 27.4**	**+1.6**
MT01				*eS*		**Sn**		**13 23 57.8**	**-1.2**
MT01				IAML				13 24 13.8	
	comp=E,782nm,0.5s								
MT09	**Talagante**	**2.69**	**156**	*eP*		**Pn**		**13 23 28.2**	**+2.2**
MT09				*eS*		**Sn**		**13 23 59.6**	**+0.4**
MT09				IAML				13 24 20.3	
	comp=E,1μm,0.5s								
AROD	**Rodeo**	**2.70**	**66**	*eP*		Pn		13 23 15.7	-11
AROD				*eP*		**Pb**		**13 23 31.1**	**+0.3**
AROD				*eS*		**Sg**		**13 24 08.3**	**0.0**
ACCO	**Cerro Coronel**	**2.88**	**76**	*eP*		Pn		13 23 23.4	-5.3
ACCO				*eS*		**Sg**		**13 24 13.4**	**-0.8**
LMEL	**Las Melosas**	**3.08**	**145**	⇑ *iP*		**Pn**		**13 23 33.9**	**+2.5**
LMEL				IAML				13 24 24.0	
	comp=N,976nm,0.7s								
ZON	**Zonda**	**3.12**	**95**	*eP*		Pn		13 23 17.9	-14
ZON				*eS*		**Sb**		**13 24 15.2**	**-1.0**
ZON				IAML				13 24 24.3	
	comp=Z,732nm,1.3s								
BO01	**Tunca**	**3.23**	**162**	*eP*		**Pn**		**13 23 35.9**	**+2.6**
BO01				*eS*		**Sb**		**13 24 18.1**	**-1.3**
BO01				IAML				13 24 31.5	
	comp=Z,405nm,0.8s								
RTCV	**Cerro Valdivia**	**3.26**	**100**	*eP*		Pn		13 23 24.6	-9.1
RTCV				*eS*		**Sb**		**13 24 22.6**	**+2.2**
AC04	**Llanos de Chal**	**3.29**	**19**	*eP*		**Pn**		**13 23 34.8**	**+0.8**
AC04				*eS*		**Sg**		**13 24 26.8**	**-0.3**
AC04	**Llanos de Chal**	**3.29**	**19**	*eP*		**Pn**		**13 23 35.0**	**+1.0**
AC04				*eS*		**Sn**		**13 24 13.4**	**-0.3**
AC04				IAML				13 24 36.6	
	comp=Z,422nm,1.8s								
GO05	**Huala**	**3.69**	**175**	*eP*		**Pn**		**13 23 40.9**	**+1.2**
GO05				*eS*		**Sn**		**13 24 23.1**	**-0.6**
BO02	**Sierra Bellavi**	**3.69**	**160**			**Pn**		**13 23 41.2**	**+1.5**
GO03	**Copiap**	**4.13**	**27**	*eP*		**Pn**		**13 23 47.8**	**+2.1**
GO03				*eS*		**Sb**		**13 24 49.6**	**+4.2**
VCA	**Vinchina**	**4.40**	**55**	*eP*		**Pn**		**13 23 53.6**	**+4.2**
VCA				*eS*		**Sg**		**13 25 00.7**	**-2.1**
ACHE	**Chepes**	**4.84**	**90**	*eP*		Pb		13 24 01.9	-5.3
ACHE				*eS*		**Sb**		**13 25 01.1**	**-4.8**
ACHE				*eS*		**Sg**		**13 25 13.4**	**-3.6**
H03N1	**Juan Fernandez**	**5.97**	**248**	T		T		13 31 11.9	
	baz=78,slow=72,SNR=61								
H03N3	**Juan Fernandez**	**5.98**	**247**	T		T		13 31 09.5	
	baz=78,slow=72,SNR=87								
H03N2	**Juan Fernandez**	**5.98**	**248**	T		T		13 31 09.9	
	baz=78,slow=72,SNR=79								
CYA	**Choya**	**6.34**	**65**	*eP*		Pn		13 24 21.9	+5.9
PB14	**IPOC Station P**	**6.88**	**15**	*eP*		**Pn**		**13 24 24.0**	**+0.3**
PB14				*eS*		**Sn**		**13 25 39.0**	**-3.7**
LC01	**Cunco**	**7.57**	**177**	*eP*		**Pn**		**13 24 34.0**	**+1.2**
AHML	**Horco Molle**	**7.60**	**55**	*eP*		**Pn**		**13 24 36.6**	**+3.3**
AHML				*eP*		Pb		13 24 43.1	-11
PB05	**IPOC Station P**	**8.64**	**13**	*eP*		**Pn**		**13 24 47.0**	**-0.7**
LVC	**Limon Verde**	**9.19**	**20**	Pn		**Pn**		**13 24 56.4**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=197,slow=11,SNR=1.4								
LVC				Sn		**Sn**		**13 26 39.5**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=325,slow=16,SNR=1.5								
PLCA	**Paso Flores**	**9.50**	**172**	Pn		**Pn**		**13 25 01.5**	**+2.1**
	comp=Z,1.0nm,0.3s,baz=340,slow=11,SNR=13								
PLCA	**Paso Flores**	**9.50**	**172**			**Pn**		**13 25 01.7**	**+2.3**
TRQA	**Tornquist**	**10.84**	**131**			**Pn**		**13 25 20.1**	**+2.4**

CPUP	**Villa Florida**	**14.04**	**73**	Pn		**Pn**		**13 26 03.1**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=243,slow=16,SNR=1.5								
CPUP	**Villa Florida**	**14.04**	**73**			**Pn**		**13 25 59.3**	**-2.2**
LPAZ	**La Paz**	**15.44**	**15**	Pn		**P**		**13 26 24.1**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=182,slow=6.8,SNR=21								
LPAZ	**La Paz**	**15.44**	**15**			**P**		**13 26 24.3**	**-1.6**
SIV	**San Ignacio**	**18.39**	**36**	P		**P**		**13 26 59.2**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=228,slow=11,SNR=11								
SAML	**Samuel**	**23.83**	**23**	P		**P**		**13 27 52.8**	**-3.2**
SAML				IAmb		IAmb		13 28 00.4	
	comp=Z,6.1nm,0.8s								
BDFB	**Brasilia**	**27.12**	**60**	P		**P**		**13 28 27.2**	**+1.0**
	comp=Z,4.7nm,0.6s,baz=237,slow=13,SNR=6.1								
BDFB	**Brasilia**	**27.12**	**60**	P		**P**		**13 28 21.2**	**-4.9**
BDFB				IAmb		IAmb		13 28 35.5	
	comp=Z,9.8nm,0.7s								
PMSA	**Palmer Station**	**33.87**	**174**	P		**P**		**13 29 21.5**	**-3.7**
PMSA				IAmb		IAmb		13 29 23.9	
	comp=Z,9.9nm,1.1s								
PAYG	**Puerto Ayora**	**34.91**	**327**	P		**P**		**13 29 31.4**	**-3.3**
QSPA	**South Pole Qui**	**58.91**	**180**	P		**P**		**13 32 40.8**	**-1.0**
QSPA				IAmb		IAmb		13 32 46.1	
	comp=Z,12nm,1.5s								
TX32	**Lajitas Array**	**67.29**	**330**	P		**P**		**13 33 36.5**	**-1.3**
TX32				IAmb		IAmb		13 33 41.8	
	comp=Z,1.7nm,0.8s								
TXAR	**Lajitas Array**	**67.29**	**330**	P		**P**		**13 33 41.5**	**+3.6**
	comp=Z,1.4nm,0.8s,baz=151,slow=7.9,SNR=15								
TXAR	**Lajitas Array**	**67.29**	**330**	P		**P**		**13 33 36.3**	**-1.6**
WVT	**Waverly**	**68.66**	**347**	P		**P**		**13 33 44.4**	**-1.8**
DBIC	**Dimbokro**	**74.56**	**72**	P		**P**		**13 34 24.1**	**+1.8**
	comp=Z,7.0nm,0.9s,baz=180,slow=24,SNR=6.4								
DBIC	**Dimbokro**	**74.56**	**72**	P		**P**		**13 34 20.3**	**-2.0**
DBIC				IAmb		IAmb		13 34 32.8	
	comp=Z,8.8nm,0.8s								
MAW	**Mawson**	**75.81**	**164**	P		**P**		**13 34 30.8**	**+2.2**
	comp=Z,3.7nm,0.6s,baz=221,slow=5.7,SNR=11								
MAW	**Mawson**	**75.81**	**164**	P		**P**		**13 34 28.6**	**0.0**
PDAR	**Pinedale Array**	**81.27**	**333**	P		**P**		**13 35 03.0**	**+3.7**
	comp=Z,0.6nm,0.8s,baz=87,slow=6.1,SNR=4.9								
NVAR	**Mina Array Bea**	**81.56**	**325**	P		**P**		**13 35 04.5**	**+3.6**
	comp=Z,1.1nm,0.7s,baz=155,slow=6.0,SNR=10								
TORD	**Torodi Ar. Bea**	**83.53**	**70**	P		**P**		**13 35 13.2**	**+1.8**
	comp=Z,3.2nm,0.7s,baz=260,slow=5.0,SNR=17								
TORD	**Torodi Ar. Bea**	**83.53**	**70**	P		**P**		**13 35 11.7**	**+0.3**
TORD				IAmb		IAmb		13 35 21.9	
	comp=Z,6.1nm,0.8s								
ASAR	**Alice Springs**	**119.83**	**208**	PKP		**PKiKP**		**13 41 35.0**	**+0.9**
	comp=Z,0.3nm,1.0s,baz=148,slow=1.6,SNR=1.9								
WRA	**Warramunga Arr**	**122.97**	**210**	PKP		**PKiKP**		**13 41 41.6**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=132,slow=1.4,SNR=5.3								
BVAR	**Borovoye Array**	**145.44**	**40**	PKPbc		**PKiKP**		**13 42 23.3**	**-1.3**
	comp=Z,2.5nm,0.6s,baz=255,slow=5.8,SNR=16								
KURBB	**Kurchatov Arra**	**151.03**	**40**	PKPbc		**PKiKP**		**13 42 37.9**	**+1.7**
	comp=Z,2.5nm,0.9s,baz=299,slow=3.0,SNR=12								
KURK	**Kurchatov**	**151.03**	**40**			**PKiKP**		**13 42 37.9**	**+1.7**
AAK	**Ala-Archa**	**151.35**	**57**	PKPbc		**PKiKP**		**13 42 39.8**	**+2.4**
	comp=Z,3.3nm,0.7s,baz=152,slow=2.3,SNR=9.2								
ZALV	**Zalesovo Beam**	**152.05**	**29**	PKPbc		**PKiKP**		**13 42 40.2**	**+2.0**
	comp=Z,4.4nm,0.8s,baz=298,slow=3.2,SNR=9.3								
MKAR	**Makanchi Array**	**155.10**	**44**	PKPbc		PKPbc		13 42 46.1	
	comp=Z,1.2nm,0.8s,baz=313,slow=4.1,SNR=6.1								

IDC 17 13:24:04.9±2.4,**6.80S**×**130.74E**,**h0km**,**mb3.4**/1, **mb1 3.5**/3,**mb1mx3.3**/25,**mbtmp3.3**/3,**ML3.3**/2,**Error ellipse: s-maj=131.1km s-min=32.7km az=71.0**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.52**	**165**	Pn		Pn		13 27 18.0	-0.2
	0.2nm,0.3s,baz=349,slow=14,SNR=9.7								
WRA				Sn		Sn		13 29 37.6	-12
	0.6nm,0.3s,baz=339,slow=21,SNR=13								
ASAR	**Alice Springs**	**17.04**	**170**	P		Pn		13 28 04.9	+0.2
	0.1nm,0.3s,baz=345,slow=10,SNR=8.0								
ASAR				S		Sn		13 31 00.5	-15
	0.1nm,0.3s,baz=352,slow=26,SNR=7.5								
MKAR	**Makanchi Array**	**68.47**	**326**	P		P		13 35 08.9	0.0
	0.2nm,0.3s,baz=115,slow=6.5,SNR=4.9								

VAO ***17*** *13:32:25.8±0.6,32.15S×72.02W,h10km,mb5.3*

NEIC ***17*** *13:32:26.4,32.21S×72.27W,h8km,Moment Tensor Solution. Moment tensor: Scale 10**17**Nm; Mrr4.60; Mθθ1.10; Mϕϕ-5.70; Mrθ0.87; Mθϕ0.82; Mϕr-6.28; Fault plane solution: M0 8.27000×10**17** NP1:ϕs172.26000°, δ70.33000°,λ89.21000°. NP2:ϕs354.61000°,δ19.69000°, λ92.21000°. Principal axes: T 7.6062, Plg65.0000°, Azm81.0000°; N 1.1931, Plg1.0000°, Azm173.0000°; P -8.7992, Plg25.0000°, Azm263.0000°;*

GUC ***17*** *13:32:26.3±0.5,32.09S×72.23W,h25km±5km,ML5.8, MW5.9*

IDC ***17*** *13:32:26.9±0.4,32.17S×71.63W,h0km,mb4.7/18, mb1 4.8/22,mb1mx4.8/28,mbtmp4.7/22,ML4.7/4,MS5.6/23, Ms1 5.5/23,ms1mx5.4/31,Error ellipse: s-maj=20.4km s-min=12.1km az=84.0*

NEIC ***17*** *13:32:26.1±2.9,32.14S±0.07×72.4W±0.1,h10km±1km, mb5.5/87,Ms_20 5.5/241,Mwb5.9/43,Mww5.9, Mwc6.0(GCMT),Mwr6.0(GUC),Error ellipse: s-maj=19.5km s-min=11.3km az=265.0*

SJA ***17*** *13:32:29.3±0.5,32.09S×72.23W,h25km,MW6.0(GUC)*

MOS ***17*** *13:32:30.6±2.1,31.86S×71.80W,h33km,mb5.7/20, MS5.6/11,Error ellipse: s-maj=13.4km s-min=7.5km az=94.5*

GCMT ***17*** *13:32:34.0±0.1,32.23S±0.01×72.28W±0.01,h18km, MW5.9/142,Moment Tensor Solution. s119,c189; s142,c297; Duration: 2s2 Moment tensor: Scale 10**18** Nm; Mrr0.70±.01; Mθθ-0.03±.01; Mϕϕ-0.66±.01; Mrθ-0.02±.02; Mθϕ0.01±.01; Mϕr-0.70±.03; Best double couple: M0 0.97900×10**18** NP1:ϕs357.00000°,δ22.00000°, λ87.00000°. NP2:ϕs181.00000°,δ68.00000°,λ91.00000°. Principal axes: T 0.9940, Plg67.0000°, Azm93.0000°; N -0.0310, Plg1.0000°, Azm0.0000°; P -0.9630, Plg23.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***17*** *13:32:34,32.30S×72.33W,h18km,Moment Tensor Solution. Moment tensor: Scale 10**18**Nm; Mrr0.72; Mθθ-0.03; Mϕϕ-0.70; Mrθ0.05; Mθϕ-0.00; Mϕr-0.80; Fault plane solution: M0 1.07000×10**18** NP1:ϕs2.00000°, δ21.00000°,λ95.00000°. NP2:ϕs178.00000°,δ69.00000°, λ88.00000°. Principal axes: T 1.0852, Plg66.0000°, Azm84.0000°; N -0.0274, Plg2.0000°; Azm178.0000°; P -1.0578, Plg24.0000°, Azm269.0000°;*

NEIC ***17*** *13:32:34, 32.23S×72.11W,h20km,Moment Tensor Solution. Moment tensor: Scale 10**17**Nm; Mrr4.74; Mθθ-1.27; Mϕϕ-3.48; Mrθ-0.08; Mθϕ-0.38; Mϕr-7.46; Fault plane solution: M0 8.60000×10**17** NP1:ϕs11.00000°, δ15.00000°,λ99.00000°. NP2:ϕs182.00000°,δ75.00000°, λ88.00000°. Principal axes: T 9.1556, Plg59.0000°, Azm89.0000°; N -1.2504, Plg2.0000°, Azm182.0000°; P -7.9052, Plg31.0000°, Azm274.0000°;*

ISC 17 13:32:26.2±0.6,**32.13S**±0.02×**72.15W**±0.03,**h8km**±3km, **h8km**:**pP-P**,**n619**,σ2**94**/470,**mb5.4**/72,**MS5.5**/165,**12C-5D**, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.84**	**121**	⇓ *iP*		**Pb**		**13 32 42.8**	**-0.2**
VA06				*i* S		**Sb**		**13 32 55.0**	**+0.7**
VA01	**Torpederas**	**0.98**	**155**	⇑ *eP*		**Pg**		**13 32 45.0**	**-0.1**
VA01				*eS*		**Sb**		**13 32 58.8**	**+0.2**
VA01	**Torpederas**	**0.98**	**155**	*i* P		**Pb**		**13 32 45.9**	**+0.4**
VA01				*eS*		**Sn**		**13 33 00.0**	**-0.4**
ROC1	**El Roble**	**1.27**	**132**	*i* P		**Pg**		**13 32 50.7**	**+0.1**
ROC1				*eS*		**Sn**		**13 33 10.2**	**+2.3**
ROCH	**El Roble**	**1.27**	**131**	⇑ *iP*		**Pn**		**13 32 50.0**	**-0.5**
ROCH				*eS*		**Sn**		**13 33 08.0**	**+0.1**
VA03	**San Esteban**	**1.49**	**116**	⇑ *iP*		**Pn**		**13 32 53.4**	**+0.1**
VA03				*eS*		**Sg**		**13 33 13.7**	**-0.5**
VA03				IAML				13 33 21.2	
	comp=N,260μm,0.7s								
VA03	**San Esteban**	**1.49**	**116**	*i* P		**Pn**		**13 32 53.1**	**-0.2**
VA03				*eS*		**Sg**		**13 33 15.6**	**+1.5**
CO06	**Fray Jorge**	**1.52**	**17**	⇓ *eP*		**Pn**		**13 32 52.2**	**-1.5**
CO06				*eS*		**Sn**		**13 33 11.2**	**-2.3**

VA05	**Santo Domingo**	**1.59**	**164**	*eP*		**Pn**		**13 32 53.5**	**-1.1**
VA05				*eS*		**Sn**		**13 33 15.3**	**0.0**
VA05				IAML				13 33 29.6	
	comp=E,138μm,0.4s								
MT05	**Renca**	**1.73**	**137**	*eP*		**Pn**		**13 32 56.8**	**+0.2**
MT05				*eS*		**Sb**		**13 33 20.3**	**+0.2**
MT05				IAML				13 33 27.8	
	comp=N,173μm,0.6s								
CO03	**El Pedregal**	**1.79**	**44**	⇑ *eP*		**Pb**		**13 32 58.5**	**-0.8**
CO03				IAML				13 33 36.8	
	comp=E,127μm,0.7s								
MT01	**Popeta**	**1.89**	**157**	*eP*		**Pn**		**13 32 58.1**	**-0.6**
MT01	**Popeta**	**1.89**	**157**	*i* P		**Pn**		**13 32 58.1**	**-0.6**
MT01				*eS*		**Sb**		**13 33 23.9**	**-0.7**
MT09	**Talagante**	**1.91**	**150**	*eP*		**Pn**		**13 32 59.0**	**-0.1**
MT09				*i* S		**Sn**		**13 33 24.3**	**+0.9**
MT09				IAML				13 33 33.9	
	comp=N,83μm,0.5s								
GO04	**Tololo Observa**	**2.27**	**31**	*eP*		**Pn**		**13 33 04.4**	**+0.2**
GO04				*eS*		**Sn**		**13 33 33.3**	**+0.8**
GO04	**Tololo Observa**	**2.27**	**31**	*i* P		**Pg**		**13 33 10.9**	**+1.3**
GO04				*eS*		**Sg**		**13 33 41.5**	**+2.5**
AUSP	**Uspallata**	**2.34**	**93**	*i* P		**Pb**		**13 33 07.6**	**-1.3**
BO03	**Pichilemu**	**2.36**	**176**	⇑ *eP*		**Pn**		**13 33 04.0**	**-1.3**
LMEL	**Las Melosas**	**2.37**	**137**	*eP*		**Pn**		**13 33 06.5**	**+1.0**
BO01	**Tunca**	**2.42**	**159**	*eP*		**Pn**		**13 33 06.5**	**+0.4**
BO01				*i* S		**Sn**		**13 33 37.4**	**+1.4**
BO01				IAML				13 33 57.2	
	comp=E,95μm,0.4s								
RTLS	**Leoncito**	**2.44**	**83**	*i* P		**Pb**		**13 33 10.1**	**-0.5**
RTLS				IAML				13 33 54.2	
	comp=Z,22μm,0.6s								
ARCO	**CERRO ARCO**	**2.81**	**105**	*i* P		**Pb**		**13 33 16.4**	**-0.3**
ARCO				IAML				13 34 03.3	
	comp=Z,9μm,0.6s								
ASAL	**Salagasta**	**2.84**	**100**	*i* P		**Pn**		**13 33 12.7**	**+0.8**
GO05	**Huala**	**2.88**	**176**	*eP*		**Pn**		**13 33 11.5**	**-0.9**
GO05	**Huala**	**2.88**	**176**	*i* P		**Pn**		**13 33 12.5**	**+0.1**
GO05				*eS*		**Sb**		**13 33 55.6**	**+2.5**
BO02	**Sierra Bellavi**	**2.89**	**157**	Pn		**Pn**		**13 33 12.3**	**-0.2**
AAGR	**Agrelo**	**2.96**	**110**	*i* P		**Pn**		**13 33 15.9**	**+2.3**
ZON	**Zonda**	**3.01**	**80**	*i* P		**Pg**		**13 33 22.3**	**-1.6**
ZON				*eS*		**Sg**		**13 34 07.0**	**+4.1**
AROD	**Rodeo**	**3.01**	**50**	*i* P		**Pb**		**13 33 18.9**	**-1.4**
ACCO	**Cerro Coronel**	**3.05**	**61**	*i* P		**Pb**		**13 33 19.4**	**-1.5**
RTCV	**Cerro Valdivia**	**3.08**	**86**	*i* P		**Pn**		**13 33 17.8**	**+2.7**
RTLL	**Cerro Villicun**	**3.23**	**77**	*i* P		**Pb**		**13 33 22.2**	**-1.6**
ACDV	**Cuesta del Vie**	**3.25**	**54**	*i* P		**Pn**		**13 33 16.0**	**-1.6**
COIS	**El Sosneado**	**3.65**	**145**	*i* P		**Pb**		**13 33 27.8**	**-3.2**
ML02	**Panimavida**	**3.67**	**171**	*eP*		**Pn**		**13 33 23.5**	**+0.2**
LAMA	**Las Malvinas**	**3.72**	**140**	*i* P		**Pb**		**13 33 30.1**	**-2.1**
AC04	**Llanos de Chal**	**4.02**	**14**	*eP*		**Pn**		**13 33 27.2**	**-0.9**
RFA	**San Rafael**	**4.05**	**132**	*i* P		**Pb**		**13 33 34.4**	**-3.4**
ACHE	**Chepes**	**4.77**	**80**	*i* P		**Pn**		**13 33 37.5**	**-1.1**
VCA	**Vinchina**	**4.80**	**46**	*i* P		**Pn**		**13 33 42.1**	**+3.2**
GO03	**Copiap**	**4.82**	**21**	*eP*		**Pn**		**13 33 39.3**	**+0.2**
H03N1	**Juan Fernandez**	**5.85**	**255**	T		T		13 40 50.2	
	baz=84,slow=73,SNR=997								
H03N3	**Juan Fernandez**	**5.86**	**255**	T		T		13 40 41.4	
	baz=84,slow=73,SNR=1187								
H03N2	**Juan Fernand

TBTG Tabatinga, AM 27.88 5 eP P 13 38 16.5 -0.1
DUB01 Friburgo-RJ 28.25 77 eP P 13 38 17.1 -2.9
CAM01 Campos-RJ 28.96 77 eP P 13 38 23.5 -2.7
DIAM Diamantina, MG 29.11 69 eP P 13 38 25.6 -2.1
NPGB Novo Progresso 29.46 36 eP P 13 38 29.5 -1.2
PEXB Peixe 29.63 53 eP P 13 38 31.1 -1.1
MC01 Montes Claros 29.80 66 eP P 13 38 32.5 -1.3
ALF01 Guarapari-ES 30.29 76 eP P 13 38 36.7 -1.3
JANB Januaria 30.52 63 eP P 13 38 38.7 -1.4
MACA Manacapuru-AM 30.77 23 eP P 13 38 41.4 -0.8
SJMB Sao Joao De Ma 30.87 72 eP P 13 38 42.0 -1.2
BSFB Barra de Sao F 31.08 72 eP P 13 38 43.7 -1.3
RIB01 Linhares ES 31.20 74 eP P 13 38 44.4 -1.7
ITTB Itaituba 31.62 33 eP P 13 38 48.5 -1.2
SDBA SAO DESIDERIO 31.80 58 eP P 13 38 49.7 -1.7
PTLC Puerto Leguiza 32.23 355 eP P 13 38 53.5 -1.5
SMTB Santa Maria do 32.48 50 eP P 13 38 55.7 -1.6
RPN Rapa Nui 32.60 269 LR LR 13 48 30.7
comp=Z,8µm,21.9s,baz=86,slow=29
RPN Rapa Nui 32.60 269 IAMs_20 IAMs_20 13 48 35.7
comp=Z,7µm,18.0s
OTAV Otavalo 32.74 348 P P 13 38 55.8 -4.3
OTAV pmax pmax
comp=Z,51nm,1.4s
OTAV Otavalo 32.74 348 P P 13 38 55.8 -4.3
OTAV IAmb IAmb 13 39 27.4
comp=Z,51nm,1.4s
OTAV Otavalo 32.74 348 eP P 13 39 04.6 +4.5
CUSE Cuicocha Este 32.80 348 eP P 13 39 05.3 +4.8
PMSA Palmer Station 33.05 174 P P 13 39 03.7 +1.9
comp=Z,20nm,1.2s,baz=355,slow=5.8,SNR=5.5
PMSA LR LR 13 50 47.5
comp=Z,9µm,21.9s,baz=346,slow=33
PMSA Palmer Station 33.05 174 P P 13 38 58.3 -3.5
PMSA IAmb IAmb 13 39 16.4
comp=Z,79nm,1.2s
PMSA Palmer Station 33.05 174 IAMs_20 IAMs_20 13 50 45.7
comp=Z,10µm,22.0s
GUA01 Guaratinga, BA 33.12 70 eP P 13 39 01.7 -1.2
PRPB Parauapebas 33.19 44 eP P 13 39 02.4 -1.1
GCUF Volcan Galeras 33.54 351 eP P 13 39 13.6 +6.5
HOPE Hope Point 33.59 142 IAMs_20 IAMs_20 13 52 16.9
comp=Z,10µm,19.0s
FLOC Florencia 33.69 354 eP P 13 39 11.1 +3.2
CMC01 Camacan, BA 34.04 68 eP P 13 39 09.5 -1.5
MACC Macarena, Meta 34.13 357 eP P 13 39 12.9 +1.3
BBAC Balboa, Cauca 34.31 351 eP P 13 39 08.1 -5.4
SOTA Rioblanco 34.34 352 eP P 13 39 17.2 +3.1
NBIT Itapeh - BA 34.35 68 eP P 13 39 12.6 -1.0
PCON Cinco Dias 34.51 352 eP P 13 39 18.5 +2.9
MALB Monte Alegre 34.51 33 eP P 13 39 13.9 -1.1
POPC Popayan, Colom 34.75 352 eP P 13 39 19.4 +2.1
GDU01 Guandu, BA 34.95 66 eP P 13 39 17.0 -1.9
MARP Paez Belalcaza 34.97 353 eP P 13 39 21.2 +1.9
PAYG Puerto Ayora 35.67 328 IAMs_20 IAMs_20 13 51 00.6
comp=Z,7µm,18.0s
PRAC Prado 35.74 355 eP P 13 39 28.3 +2.6
ORTC Ortega, Tolima 35.96 355 eP P 13 39 30.2 +2.7
BOAV Boa Vista 36.06 20 eP P 13 39 27.5 -0.9
PTGC Puerto Gaitan, 36.13 0 eP P 13 39 29.5 +0.6
YOTC Yotoco, Valle 36.14 353 eP P 13 39 21.2 -7.9
NBPN Ponto Novo - B 36.27 61 eP P 13 39 28.6 -1.6
ANIL Santa Ana 36.55 355 eP P 13 39 40.2 +7.4
CHIC Chingaza 36.59 357 eP P 13 39 36.1 +2.8
ROSC El Rosal 36.82 356 P P 13 39 39.1 +3.9
comp=Z,8.7nm,0.5s,baz=137,slow=11,SNR=5.2
ROSC El Rosal 36.82 356 P P 13 39 32.6 -2.7
ROSC pmax pmax
comp=Z,63nm,1.3s
ROSC El Rosal 36.82 356 P P 13 39 32.6 -2.7
ROSC El Rosal 36.82 356 eP P 13 39 39.2 +3.9
MCPB Macapa, AP 36.86 35 eP P 13 39 34.1 -1.1
TMAB Tom-Au,PA,Br 37.26 42 eP P 13 39 37.7 -0.9
GUY2C Guyana, Caldas 37.27 355 eP P 13 39 42.4 +3.2
NORC Norcasia 37.57 356 eP P 13 39 42.4 +1.2
SPBC San Pablo de B 37.62 357 eP P 13 39 43.7 +2.0
RUSC La Rusia 37.82 358 eP P 13 39 45.8 +1.9
CBOC Ciudad Bolivar 37.96 354 eP P 13 39 46.1 +1.4
NBLA Lagarto - SE 38.00 64 eP P 13 39 44.0 -0.9
HELC Santa Helena 38.24 355 eP P 13 39 48.6 +1.3
TAMC Tame, Arauca 38.35 1 eP P 13 39 34.8 -13
PTBC PUERTO BERRIO, 38.52 356 eP P 13 39 48.3 -0.9
ELOV Elorza 38.99 4 eP P 13 39 53.5 +0.4
BRRC Barranca, Sant 39.05 358 eP P 13 39 50.3 -3.3
DBBC Dabeiba 39.12 354 eP P 13 39 56.8 +2.5
ROSB Rosrio 39.23 48 eP P 13 39 53.7 -1.5
PAMC Pamplona, Colo 39.25 359 eP P 13 39 59.8 +4.0
PTAC Punta Ardita, 39.43 351 eP P 13 39 59.2 +2.4
ZARC Zaragoza, Cauc 39.48 356 eP P 13 39 57.3 +0.1
NBMA Muriti-CE 39.64 59 eP P 13 39 57.4 -1.2
URES San Jos de Ur 39.79 355 eP P 13 40 01.2 +1.4
NBPS Pedro II - PI 39.85 53 eP P 13 39 58.9 -1.6
NBAN Anadia - AL 39.99 64 eP P 13 39 59.9 -1.7
CACAO El Cacao, Vera 40.12 347 eP P 13 40 03.5 +0.9
OCAC Ocana 40.16 358 eP P 13 39 57.1 -5.9
SOCV Socops 40.21 2 eP P 13 40 02.6 -0.7
NBPB Pedra_Branca-C 40.31 56 eP P 13 40 03.0 -1.2
AZU Azuero 40.45 346 eP P 13 40 09.8 +4.5
SMLC San Martn de 40.74 357 eP P 13 40 07.0 -0.7
SDV Santo Domingo 40.81 2 P P 13 40 11.2 +2.7
comp=Z,8.6nm,0.3s,baz=180,slow=8.6,SNR=5.1
SDV LR LR 13 56 17.2
comp=Z,4µm,21.6s,baz=193,slow=35
SDV Santo Domingo 40.81 2 P P 13 40 04.8 -3.7
SDV Santo Domingo 40.81 2 eP P 13 40 08.6 +0.1
UPD2 Meteti 40.84 351 eP P 13 40 15.7 +7.3
MDP Montagnes des 41.42 30 LR LR 13 58 19.3
comp=Z,6µm,19.9s,baz=202,slow=38
UPA Univ. de Panam 41.48 349 eP P 13 40 20.2 +6.4
NBRF Rio Formoso - 41.49 64 eP P 13 40 12.3 -1.6
NBMO Morrinhos-CE 41.59 53 eP P 13 40 13.6 -1.2
ARGC Ariguani, Magd 41.80 357 eP P 13 40 17.2 +0.8
SJCC San Jacinto, C 41.89 356 eP P 13 40 17.5 +0.3
NBPA Parau_RN 41.93 59 eP P 13 40 16.3 -1.2
NBCL Cascavel-CE 42.15 56 eP P 13 40 19.1 -0.3
PCRV Puerto La Cruz 42.68 11 P P 13 40 25.2 +1.7
baz=207,slow=4.5
RCBR Riachuelo 42.76 60 P P 13 40 20.2 -4.2
RCBR pmax pmax
comp=Z,64nm,1.4s
RCBR MLR MLR
comp=Z,23µm,18.0s
RCBR Riachuelo 42.76 60 P P 13 40 20.2 -4.2
NBPV Pedro Velho 42.82 61 eP P 13 40 23.9 -0.9
JTS Las Juntas de 43.92 342 P P 13 40 36.8 +3.1
comp=Z,2.8nm,0.4s,baz=117,slow=6.4,SNR=4.2
JTS Las Juntas de 43.92 342 i P P 13 40 34.7 +1.0
JTS pmax pmax
comp=Z,58nm,1.7s
JTS Las Juntas de 43.92 342 eP P 13 40 41.3 +7.7
MPOM Morne Pois Mar 47.56 15 P P 13 41 00.7 -1.6
FDF Fort de France 47.77 14 P P 13 41 00.1 -4.0
FDF pmax pmax
comp=Z,132nm,1.3s
FDF MLR MLR
comp=Z,8µm,19.0s
FDF Fort de France 47.77 14 P P 13 41 00.1 -4.0
TGUH Tegucigalpa,Un 48.16 340 eP P 13 41 09.3 +2.1
SJG San Juan 50.28 7 IAMs_20 IAMs_20 14 06 42.7
comp=Z,5µm,18.0s
SJG San Juan 50.28 7 eP P 13 41 24.3 +1.1
SDD Santo Domingo 50.35 3 P P 13 41 22.1 -1.5
ANWB Willy Bob 50.50 13 P P 13 41 19.6 -5.3
ANWB IAMs_20 IAMs_20 14 05 35.0
comp=Z,6µm,20.0s
DR12 Loma Pena Alta 50.70 3 P P 13 41 25.5 -0.9
SDDR Presa de Saban 50.83 1 IAMs_20 IAMs_20 14 06 12.6
comp=Z,4µm,18.0s
VNA3 Neumayer Olymp 51.12 158 P P 13 41 29.8 +0.8
SC01 Santiago de lo 51.28 2 P P 13 41 27.4 -3.3
VNA1 Neumayer--Stat 51.43 157 P P 13 41 32.3 +1.1
VNA2 Neumayer--Watz 51.77 158 P P 13 41 34.5 +0.6
baz=287,slow=8.5
CCIG Comitan 51.81 335 P P 13 41 32.1 -2.9
CCIG IAmb IAmb 13 42 04.3
comp=Z,71nm,1.5s
GTBY Guantanamo Bay 51.84 356 IAMs_20 IAMs_20 14 06 46.5
comp=Z,3µm,18.0s
GRTK Grand Turk 53.35 1 IAMs_20 IAMs_20 14 08 24.4
comp=Z,3µm,18.0s
SNAA Sanae 53.35 158 P P 13 41 46.0 +0.4
SNAA Sanae 53.35 158 ceP P 13 41 46.3 +0.7

SNAA pmax pmax
comp=Z,78nm,1.3s
RKT Rikitea 55.71 262 eT T 14 42 10.8
comp=Z,3.2nm,0.2s
QSPA South Pole Qui 58.10 180 P P 13 42 17.9 -2.0
QSPA IAmb IAmb 13 42 43.4
comp=Z,37nm,0.9s
QSPA South Pole Qui 58.10 180 IAMs_20 IAMs_20 14 07 31.1
comp=Z,3µm,20.0s
KVTX Kingsville 64.21 335 P P 13 42 55.0 -6.5
SBA Scott Base 64.88 192 P P 13 43 04.0 -1.4
SBA pmax pmax
comp=Z,111nm,1.9s
SBA Scott Base 64.88 192 P P 13 43 04.0 -1.4
VNDA Vanda 65.91 191 P P 13 43 14.4 +2.4
comp=Z,1.2nm,1.1s,baz=124,slow=8.5,SNR=3.2
VNDA Vanda 65.91 191 P P 13 43 10.3 -1.7
VNDA pmax pmax
comp=Z,39nm,1.6s
VNDA Vanda 65.91 191 P P 13 43 10.3 -1.7
VNDA IAmb IAmb 13 43 46.8
comp=Z,39nm,1.6s
GOGA Godfrey 66.06 350 P P 13 43 07.5 -5.9
GOGA pmax pmax
comp=Z,48nm,1.5s
GOGA Godfrey 66.06 350 P P 13 43 07.5 -5.9
GOGA IAmb IAmb 13 43 34.3
comp=Z,48nm,1.5s
LRAL Lakeview Retre 66.31 346 P P 13 43 08.4 -6.6
LRAL IAmb IAmb 13 43 42.7
comp=Z,51nm,1.8s
TAOE Nuku Hiva Isla 66.73 274 eS S 13 52 13.5 +2.5
comp=Z,2µm,23.2s
TAOE Nuku Hiva Isla 66.73 274 eLR LR 14 03 27.8
comp=Z,6µm,26.2s,baz=132
KMSC Kings Mountain 67.47 352 P P 13 43 25.7 +3.3
baz=172
JCT Junction City 67.56 334 P P 13 43 20.1 -3.1
JCT pmax pmax
comp=Z,91nm,1.5s
JCT Junction City 67.56 334 P P 13 43 20.1 -3.1
JCT Junction City 67.56 334 P P 13 43 26.7 +3.5
baz=155
SYO Syowa Base 67.64 159 eX P 13 43 16.2 -6.9
SYO Syowa Base 67.64 159 eX P 13 43 28.8 +5.7
TBI Tubuai 67.68 256 eS S 13 52 25.0 +3.0
comp=Z,2µm,23.8s
TBI Tubuai 67.68 256 eLR LR 14 03 54.9
comp=Z,12µm,27.5s,baz=112
TBI Tubuai 67.68 256 eT T 14 57 05.9
comp=Z,7.9nm,0.3s
TX31 Lajitas Ar. Si 68.06 331 P P 13 43 22.3 -4.1
TX32 Lajitas Array 68.06 331 P P 13 43 22.3 -4.1
TXAR Lajitas Array 68.06 331 P P 13 43 29.2 +2.8
comp=Z,2.6nm,0.7s,baz=150,slow=8.2,SNR=21
TXAR LR LR 14 08 50.0
comp=Z,3µm,18.4s,baz=0.0,slow=32
TXAR Lajitas Array 68.06 331 P P 13 43 23.0 -3.4
OXF Oxford 68.25 345 P P 13 43 24.2 -3.1
OXF pmax pmax
comp=Z,85nm,1.2s
OXF Oxford 68.25 345 P P 13 43 24.2 -3.1
TKL Tuckaleechee C 68.31 350 P P 13 43 27.2 -0.5
TKL pmax pmax
comp=Z,53nm,1.4s
TKL Tuckaleechee C 68.31 350 P P 13 43 27.2 -0.5
TKL IAmb IAmb 13 43 48.6
comp=Z,53nm,1.4s
PLAL Pickwick Lake 68.42 346 P P 13 43 25.0 -3.4
PLAL IAmb IAmb 13 43 49.4
comp=Z,37nm,1.2s
TZTN Tazewell 69.15 350 IAMs_20 IAMs_20 14 18 17.4
comp=Z,3µm,19.0s
MIAR Mount Ida 69.32 341 P P 13 43 31.2 -2.8
MIAR pmax pmax
comp=Z,41nm,1.3s
MIAR Mount Ida 69.32 341 P P 13 43 31.2 -2.8
MIAR IAmb IAmb 13 43 58.1
comp=Z,41nm,1.2s
MIAR Mount Ida 69.32 341 P P 13 43 39.3 +5.3
baz=161
ABTX Abilene, Hawle 69.44 335 P P 13 43 31.1 -3.8
ABTX IAmb IAmb 13 43 59.3
comp=Z,48nm,1.1s
WVT Waverly 69.48 346 P P 13 43 30.5 -4.4
WVT pmax pmax
comp=Z,69nm,1.1s
WVT Waverly 69.48 346 P P 13 43 30.5 -4.4
WVT Waverly 69.48 346 P P 13 43 37.5 +2.6
baz=166
W39A Magazine 69.99 341 P P 13 43 39.6 +1.5
baz=160
TIAR Tiarei 70.24 261 eT T 15 00 18.5
comp=Z,1.3nm,0.3s
PPT2 Papeete2 70.42 261 eS S 13 52 56.7 +1.9
comp=Z,3µm,24.0s
PPT2 Papeete2 70.42 261 eLR LR 14 05 11.5
comp=Z,5µm,26.0s,baz=116
PPT Papeete 70.43 261 LR LR 14 06 44.7
comp=Z,2µm,18.3s,baz=133,slow=29
X34A Smith Ranch, M 70.64 338 P P 13 43 41.9 -0.2
X34A IAmb IAmb 13 44 06.4
comp=Z,67nm,1.2s
PBMO Poplar Bluff 70.65 345 P P 13 43 42.1 -0.1
PBMO IAmb IAmb 13 45 02.1
comp=Z,23nm,1.0s
U40A Yellville 70.84 342 P P 13 43 45.8 +2.5
baz=161
MNTX Cornudas Mount 70.84 330 pP 13 43 45.2 +0.1
MNTX Cornudas Mount 70.84 330 P P 13 43 45.8 +2.3
baz=150
WMOK Wichita Mounta 71.07 337 P P 13 43 45.5 +0.7
WMOK pmax pmax
comp=Z,23nm,1.2s
WMOK Wichita Mounta 71.07 337 P P 13 43 45.5 +0.7
WMOK Wichita Mounta 71.07 337 P P 13 43 47.9 +3.1
baz=156
WCI Wyandotte Cave 71.23 348 IAMs_20 IAMs_20 14 18 26.4
comp=Z,2µm,20.0s
MGMO Mountain Grove 71.45 343 P P 13 43 47.4 +0.5
WUPA West Chester U 71.77 357 P P 13 43 48.0 -0.9
MSTX Muleshoe 71.80 334 P P 13 43 49.3 0.0
MSTX IAmb IAmb 13 44 21.2
comp=Z,30nm,0.9s
FVM French Village 71.81 345 P P 13 43 49.3 +0.2
FVM pmax pmax
comp=Z,42nm,1.1s
FVM French Village 71.81 345 P P 13 43 49.3 +0.2
FVM IAmb IAmb 13 45 15.8
comp=Z,42nm,1.1s
MVL Millersville 71.87 357 P P 13 43 50.1 +0.6
CCM Cathedral Cave 72.06 344 P P 13 43 51.5 +0.9
CCM pmax pmax
comp=Z,32nm,0.9s
CCM MLR MLR
comp=Z,2µm,21.0s
CCM Cathedral Cave 72.06 344 P P 13 43 51.5 +0.9
CCM IAmb IAmb 13 44 21.6
comp=Z,32nm,0.9s
CCM Cathedral Cave 72.06 344 P P 13 43 54.2 +3.6
baz=163
BLO Bloomington 72.19 348 P P 13 43 49.5 -1.9
BLO pmax pmax
comp=Z,17nm,0.8s
BLO Bloomington 72.19 348 P P 13 43 49.5 -1.9
O56A Blue Knob Stat 72.28 355 P P 13 43 49.8 -2.2
O56A IAmb IAmb 13 44 39.9
comp=Z,30nm,1.2s
121A Cookes Peak, D 72.59 329 P P 13 43 53.9 -0.3
121A IAmb IAmb 13 44 35.2
comp=Z,61nm,1.4s
SSPA Standing Stone 72.60 355 P P 13 43 51.9 -1.8
SSPA IAmb IAmb 13 44 12.3
comp=Z,45nm,1.4s
ACSO Alum Creek Sta 72.70 351 P P 13 43 53.4 -1.0
ACSO IAmb IAmb 13 44 18.4
comp=Z,48nm,1.1s
ACSO Alum Creek Sta 72.70 351 P P 13 43 56.8 +2.4
baz=170
KAN13 South Haven SW 72.75 339 P P 13 43 54.9 +0.1
N59A State Game Lan 72.76 357 P P 13 43 53.4 -1.4
OK032 Salt Plains WL 72.78 338 P P 13 43 54.1 -0.9
OK032 IAmb IAmb 13 44 19.1
comp=Z,34nm,1.1s
PAL Palisades 72.79 359 P P 13 43 53.3 -1.6
PAL Palisades 72.79 359 P P 13 43 53.2 -1.6

KAN14 Manchester OK 72.85 339 P P 13 43 54.8 -0.6
KAN14 IAmb IAmb 13 44 57.8
comp=Z,80nm,1.5s
ODNJ Ogdensburg 72.89 358 P P 13 43 55.1 -0.3
TRNY Table Rock, Ra 72.94 358 P P 13 43 54.8 -1.0
WSPT Westport, CT 72.94 359 P P 13 43 55.1 -0.7
WSPT IAMs_20 IAMs_20 14 16 54.7
comp=Z,3µm,21.0s
BNM Barren Site 73.49 331 P P 13 43 58.5 -1.0
M53A WI Miller and 73.63 353 IAMs_20 IAMs_20 14 20 01.3
comp=Z,2µm,19.0s
M53A WI Miller and 73.63 353 P P 13 44 02.9 +3.1
baz=172
BRYW Bryant College 73.69 0 P P 13 44 01.0 +0.8
L64A Middleborough 73.71 1 IAMs_20 IAMs_20 14 22 29.6
comp=Z,2µm,19.0s
TUC Tucson 73.76 327 IAMs_20 IAMs_20 14 11 34.8
comp=Z,2µm,20.0s
QUA2 Belchertown 74.05 360 P P 13 44 02.6 +0.3
QUA2 IAmb IAmb 13 44 20.2
comp=Z,37nm,1.1s
BINY Binghamton 74.05 357 IAMs_20 IAMs_20 14 20 25.7
comp=Z,2µm,20.0s
ANMO Albuquerque 74.10 331 i P P 13 44 04.2 +1.1
ANMO pmax pmax
comp=Z,23nm,1.8s
ANMO Albuquerque 74.10 331 P P 13 44 04.4 +1.4
BCX Boston College 74.11 1 IAMs_20 IAMs_20 14 23 02.0
comp=Z,2µm,19.0s
ERPA Erie 74.23 354 IAMs_20 IAMs_20 14 22 08.4
comp=Z,2µm,19.0s
HRV Adam Dziewonsk 74.27 0 P P 13 44 02.7 -0.9
HRV pmax pmax
comp=Z,44nm,1.1s
HRV MLR MLR
comp=Z,1µm,21.0s
HRV Adam Dziewonsk 74.27 0 P P 13 44 02.7 -0.9
HRV IAmb IAmb 13 44 21.9
comp=Z,44nm,1.1s
LIC Lamto 74.28 72 ePKP2 P 13 44 07.1 +2.8
comp=Z,202nm,1.3s
TRY Troy 74.51 359 P P 13 44 04.9 0.0
TRY IAmb IAmb 13 44 23.3
comp=Z,46nm,1.0s
TIC Toumodi 74.53 72 ePKP2 P 13 44 07.3 +1.5
KIC Kosan Boka 74.59 72 ePKP2 P 13 44 06.1 0.0
comp=Z,105nm,1.0s
DBIC Dimbokro 74.67 72 P P 13 44 06.5 -0.1
comp=Z,29nm,1.1s,baz=224,slow=7.2,SNR=11
DBIC LR LR 14 13 27.9
comp=Z,7µm,20.9s,baz=240,slow=33
DBIC Dimbokro 74.67 72 P P 13 44 05.8 -0.8
DBIC pmax pmax
comp=Z,80nm,1.1s
DBIC Dimbokro 74.67 72 P P 13 44 05.8 -0.8
DBIC IAmb IAmb 13 44 23.6
comp=Z,80nm,1.1s
MMNY Mt. Morris Dam 74.69 356 P P 13 44 05.5 -0.5
AAM Ann Arbor 74.82 351 IAMs_20 IAMs_20 14 22 05.6
comp=Z,2µm,18.0s
HQIL Hanson Quary C 74.98 348 IAMs_20 IAMs_20 14 22 09.5
comp=Z,2µm,19.0s
MAW Mawson 74.99 164 P P 13 44 08.2 +0.6
comp=Z,7.7nm,0.9s,baz=256,slow=3.4,SNR=9.5
MAW LR LR 14 16 34.7
comp=Z,9µm,20.3s,baz=228,slow=35
MAW Mawson 74.99 164 P P 13 44 07.0 -0.6
MAW pmax pmax
comp=Z,10.0nm,1.3s
MAW Mawson 74.99 164 P P 13 44 07.0 -0.6
ACCN Adirondack Com 75.16 359 P P 13 44 07.9 -0.9
T25A Trinidad 75.22 334 P P 13 44 08.3 -1.2
T25A IAmb IAmb 13 44 35.6
comp=Z,95nm,1.4s
T25A IAMs_20 IAMs_20 14 14 15.1
comp=Z,2µm,19.0s
L44A Lake County Fo 75.35 348 IAMs_20 IAMs_20 14 22 19.5
comp=Z,2µm,20.0s
W18A Petrified Fore 75.64 329 P P 13 44 12.5 +0.6
W18A IAmb IAmb 13 44 38.8
comp=Z,84nm,1.6s
NCB Newcomb 75.76 358 P P 13 44 11.2 -1.0
SUR Sutherland 75.81 119 P P 13 44 12.4 -0.9
SUR IAmb IAmb 13 44 32.8
comp=Z,84nm,1.4s
I63A Otisfield 75.83 1 IAMs_20 IAMs_20 14 21 20.6
comp=Z,2µm,18.0s
I63A Otisfield 75.83 1 P P 13 44 17.2 +4.7
baz=181
LBNH Lisbon 76.00 0 P P 13 44 17.0 +3.4
baz=180
VT1 Waterbury 76.10 360 IAMs_20 IAMs_20 14 20 51.9
comp=Z,2µm,21.0s
SDCO Great Sand Dun 76.16 333 P P 13 44 14.3 -0.7
SDCO IAmb IAmb 13 44 52.1
comp=Z,53nm,1.9s
SDCO IAMs_20 IAMs_20 14 14 36.1
comp=Z,2µm,18.0s
SDCO Great Sand Dun 76.16 333 P P 13 44 18.0 +3.0
baz=151
LONY Lake Ozonia 76.42 358 P P 13 44 15.7 -0.2
LONY Lake Ozonia 76.42 358 P P 13 44 19.6 +3.7
baz=178
EMMW East Machias 76.59 3 IAMs_20 IAMs_20 14 24 00.0
comp=Z,2µm,19.0s
FRNY Flat Rock 76.61 359 P P 13 44 16.8 -0.2
MVCO Mesa Verde 76.89 331 P P 13 44 23.6 +4.5
baz=149
Q24A Divide 77.10 334 P P 13 44 24.0 +3.7
baz=152
RAR Rarotonga 77.10 253 LR LR 14 10 48.7
comp=Z,2µm,18.0s,baz=96,slow=30
BC3 Big Chuckawall 77.11 324 P P 13 44 27.7 +7.5
baz=143
109C Camp Elliot, M 77.34 322 IAMs_20 IAMs_20 14 11 49.2
comp=Z,2µm,20.0s
GLMI Grayling 77.43 351 IAMs_20 IAMs_20 14 23 33.6
comp=Z,2µm,19.0s
PFO Pinyon Flats O 77.58 323 LR LR 14 11 50.4
comp=Z,2µm,21.2s,baz=139,slow=30
PFO Pinyon Flats O 77.58 323 IAMs_20 IAMs_20 14 11 26.5
comp=Z,3µm,21.0s
PFO Pinyon Flats O 77.58 323 P P 13 44 29.5 +6.5
baz=143
ISCO Idaho Springs 78.01 334 P P 13 44 25.2 -0.1
ISCO pmax pmax
comp=Z,14nm,1.1s
ISCO Idaho Springs 78.01 334 P P 13 44 25.2 -0.1
HEC Hector,Ludlow 78.49 324 P P 13 44 35.4 +7.5
baz=143
PQI Presque Isle 78.53 3 IAMs_20 IAMs_20 14 24 51.1
comp=Z,2µm,19.0s
KNB Kanab 78.59 328 P P 13 44 25.1 -3.4
KNB pmax pmax
comp=Z,59nm,1.4s
KNB Kanab 78.59 328 P P 13 44 25.1 -3.4
KNB IAmb IAmb 13 45 11.4
comp=Z,59nm,1.4s
ECSD EROS Data Cent 78.75 342 P P 13 44 28.5 -0.4
ECSD IAmb IAmb 13 45 03.7
comp=Z,56nm,1.4s
ECSD EROS Data Cent 78.75 342 P P 13 44 32.4 +3.4
baz=159
TUQ Turquoise Moun 78.77 325 P P 13 44 37.0 +7.6
baz=143
LCMT Little Creek M 78.78 328 P P 13 44 29.4 -0.1
GSC Goldstone, Bar 79.10 324 P P 13 44 38.8 +7.6
baz=143
PHWY Pilot Hill 79.27 335 P P 13 44 29.9 -2.3
PHWY IAmb IAmb 13 44 58.0
comp=Z,78nm,1.9s
CCUT Cedar City 79.28 328 P P 13 44 31.5 -0.8
EDW2 Edwards Air Fo 79.36 323 P P 13 44 39.3 +6.7
baz=142
COWI Conover 79.37 348 IAMs_20 IAMs_20 14 24 21.8
comp=Z,2µm,20.0s
LRMC Laurel Mtn Rad 79.68 324 P P 13 44 42.2 +7.8
baz=142
TSUM Tsumeb 79.81 106 P P 13 44 35.5 -0.2
KOWA Kowa 79.95 66 P P 13 44 35.9 -0.3
MPMC Manual Prospec 80.03 324 P P 13 44 42.7 +6.3
baz=142
FURC Furnace Creek, 80.05 325 P P 13 44 41.4 +5.2
baz=143
TPNV Topopah Spring 80.14 326 P P 13 44 35.6 -1.3
TPNV pmax pmax

comp=Z,27nm,1.3s
TPNV Topopah Spring 80.14 326 P **P** **13 44 35.6 -1.3**
TPNV IAMs_20 IAMs_20 14 14 44.3
comp=Z,2µm,18.0s
ISA Isabella, Lake 80.22 323 P **P** **13 44 36.4 -0.9**
ISA pmax pmax
comp=Z,10.0nm,1.0s
ISA Isabella, Lake 80.22 323 P **P** **13 44 36.4 -0.9**
ISA Isabella, Lake 80.22 323 P P 13 44 44.6 +7.3
baz=142
CWC Cottonwood Cre 80.63 324 P P 13 44 46.3 +6.7
baz=142
GRAC Grapevine Rang 80.72 325 P P 13 44 45.9 +6.0
baz=142
K22A Casper 80.83 335 P P 13 44 46.4 +5.9
baz=151
R11A Troy Canyon, C 80.95 327 P P 13 44 46.3 +5.0
baz=144
BOSA Boshof 81.02 118 P **P** **13 44 41.7 -0.4**
comp=Z,30nm,1.1s,baz=253,slow=4.1,SNR=16
BOSA LR LR 14 18 13.2
comp=Z,7µm,18.3s,baz=236,slow=34
BOSA Boshof 81.02 118 P **P** **13 44 42.0 -0.1**
BOSA IAmb IAmb 13 44 48.4
comp=Z,70nm,1.1s
DUG Dugway, Tooele 81.22 330 IAMs_20 IAMs_20 14 15 41.3
comp=Z,2µm,21.0s
DUG Dugway, Tooele 81.22 330 P P 13 44 48.3 +5.7
baz=146
CASY Casey 81.88 181 P **P** **13 44 44.8 -0.9**
BW06 Boulder Array 82.06 333 IAMs_20 IAMs_20 14 17 28.8
comp=Z,2µm,19.0s
BW06 Boulder Array 82.06 333 P P 13 44 53.7 +6.7
baz=149
PDAR Pinedale Array 82.06 333 P **P** **13 44 50.6 +3.5**
comp=Z,2.4nm,1.0s,baz=144,slow=5.3,SNR=12
PDAR LR LR 14 17 59.4
comp=Z,2µm,18.6s,baz=146,slow=33
NVAR Mina Array Bea 82.30 325 P **P** **13 44 52.3 +3.9**
comp=Z,5.5nm,0.9s,baz=154,slow=5.9,SNR=4.6
NVAR LR LR 14 14 50.6
comp=Z,1µm,21.3s,baz=138,slow=31
HVU Hansel Valley 82.51 331 P **P** **13 44 49.3 -0.1**
HVU pmax pmax
comp=Z,64nm,1.8s
HVU Hansel Valley 82.51 331 P **P** **13 44 49.3 -0.1**
HVU IAmb IAmb 13 45 06.0
comp=Z,64nm,1.8s
AHID Auburn Hatcher 82.66 332 IAMs_20 IAMs_20 14 17 48.6
comp=Z,2µm,19.0s
ELK Elko 82.73 328 P **P** **13 44 48.9 -1.7**
ELK pmax pmax
comp=Z,9.0nm,0.9s
ELK Elko 82.73 328 P **P** **13 44 48.9 -1.7**
ELK IAMs_20 IAMs_20 14 19 00.2
comp=Z,2µm,18.0s
AGMN Agassiz Nation 82.84 344 P **P** **13 44 49.5 -1.1**
AGMN IAmb IAmb 13 45 14.1
comp=Z,70nm,1.9s
AGMN IAMs_20 IAMs_20 14 27 23.0
comp=Z,2µm,19.0s
REDW Red Top Meadow 83.06 333 IAMs_20 IAMs_20 14 18 05.4
comp=Z,2µm,19.0s
SNOW Snow King Moun 83.11 333 IAMs_20 IAMs_20 14 18 08.7
comp=Z,2µm,20.0s
LBTB Lobatse 83.17 115 P **P** **13 44 51.5 -1.9**
LBTB pmax pmax
comp=Z,44nm,1.0s
LBTB Lobatse 83.17 115 P **P** **13 44 51.5 -1.9**
LBTB IAmb IAmb 13 44 59.6
comp=Z,44nm,0.9s
TPAW Teton Pass 83.21 333 IAMs_20 IAMs_20 14 18 09.8
comp=Z,2µm,19.0s
MOOW Moose Ponds 83.35 333 IAMs_20 IAMs_20 14 18 18.0
comp=Z,3µm,20.0s
IMW Indian Meadow 83.55 333 IAMs_20 IAMs_20 14 19 26.3
comp=Z,2µm,18.0s
TORD Torodi Ar. Bea 83.66 70 P **P** **13 44 55.8 0.0**
comp=Z,13nm,0.6s,baz=256,slow=4.8,SNR=23
TORD LR LR 14 19 15.2
comp=Z,6µm,20.7s,baz=230,slow=34
TORD Torodi Ar. Bea 83.66 70 P **P** **13 44 53.7 -2.1**
MCCM Marconi Confer 84.39 322 IAMs_20 IAMs_20 14 14 38.6
comp=Z,1µm,19.0s
SNZO South Karori 84.44 224 IAMs_20 IAMs_20 14 16 36.4
comp=Z,2µm,18.0s
HLID Hailey 84.67 331 P **P** **13 44 59.0 -1.5**
HLID IAmb IAmb 13 45 25.3
comp=Z,28nm,1.4s
HLID IAMs_20 IAMs_20 14 19 40.7
comp=Z,1µm,18.0s
HLID Hailey 84.67 331 P P 13 45 05.7 +5.2
baz=145
ULM Lac du Bonnet 84.67 345 P **P** **13 45 02.5 +2.5**
comp=Z,5.7nm,0.9s,baz=139,slow=2.9,SNR=2.9
ULM Lac du Bonnet 84.67 345 P **P** **13 45 00.4 +0.3**
ULM pmax pmax
comp=Z,39nm,1.2s
ULM Lac du Bonnet 84.67 345 P **P** **13 45 00.4 +0.3**
ULM IAmb IAmb 13 45 24.9
comp=Z,39nm,1.2s
ORV Oroville 84.75 324 P **P** **13 45 01.3 +0.6**
ORV pmax pmax
comp=Z,40nm,1.5s
ORV Oroville 84.75 324 P **P** **13 45 01.3 +0.6**
ORV IAmb IAmb 13 45 35.0
comp=Z,40nm,1.5s
URZ Urewera 84.85 228 LR LR 14 14 30.8
comp=Z,2µm,19.5s,baz=210,slow=30
MCMT McKenzie Canyo 85.08 332 P **P** **13 45 00.9 -1.7**
HOPS Hopland Field 85.12 323 IAMs_20 IAMs_20 14 15 07.1
comp=Z,2µm,18.0s
MFID Camas Ranch 85.14 330 P **P** **13 45 00.4 -2.4**
MFID IAMs_20 IAMs_20 14 18 26.3
comp=Z,2µm,21.0s
BOZ Bozeman (W) 85.25 333 IAMs_20 IAMs_20 14 19 04.5
comp=Z,2µm,20.0s
DLMT Dillon 85.42 333 IAMs_20 IAMs_20 14 19 34.8
comp=Z,2µm,20.0s
O03E Paynes Creek 85.46 324 P P 13 45 10.3 +5.9
baz=140
WVOR Wild Horse Val 85.61 327 IAMs_20 IAMs_20 14 19 40.5
comp=Z,1µm,19.0s
LRM Limekiln Ridge 85.75 333 P **P** **13 45 02.5 -3.4**
MOD Modoc Plateau 85.97 326 IAMs_20 IAMs_20 14 21 19.9
comp=Z,1µm,18.0s
PLID Pearl Lake 86.57 331 P **P** **13 45 08.9 -1.0**
PLID IAmb IAmb 13 45 34.2
comp=Z,59nm,1.7s
M04C Macdoel 86.61 325 P P 13 45 16.6 +6.5
baz=140
SCHQ Schefferville 86.73 3 P **P** **13 45 11.9 +1.7**
comp=Z,5.0nm,0.9s,baz=164,slow=7.4,SNR=2.7
SCHQ LR LR 14 24 10.6
comp=Z,1µm,20.9s,baz=178,slow=36
BMO Blue Mountains 86.93 330 P **P** **13 45 08.8 -2.7**
BMO pmax pmax
comp=Z,15nm,1.4s
BMO Blue Mountains 86.93 330 P **P** **13 45 08.8 -2.7**
BMO IAMs_20 IAMs_20 14 20 04.6
comp=Z,2µm,19.0s
WALA Waterton Lakes 88.99 334 P **P** **13 45 19.4 -1.9**
WALA IAmb IAmb 13 45 45.2
comp=Z,64nm,1.7s
HAWA Hanford 89.11 329 IAMs_20 IAMs_20 14 20 29.1
comp=Z,2µm,20.0s
NEW Newport 89.58 332 IAMs_20 IAMs_20 14 22 14.9
comp=Z,2µm,18.0s
FFC Flin Flon 90.24 343 IAMs_20 IAMs_20 14 34 01.8
comp=Z,2µm,19.0s
LSZ Lusaka 90.48 108 P **P** **13 45 28.9 -0.3**
LSZ pmax pmax
comp=Z,71nm,1.5s
LSZ Lusaka 90.48 108 P **P** **13 45 28.9 -0.3**
ESDC Sonseca Array 95.35 46 P **P** **13 45 50.9 0.0**
comp=Z,1.1nm,0.8s,baz=229,slow=4.1,SNR=5.1
ESDC LR LR 14 28 03.8
comp=Z,5µm,19.0s,baz=250,slow=35
MSVF Nonsavu 96.53 244 IAMs_20 IAMs_20 14 26 24.6
comp=Z,1µm,18.0s
SFJD Kangerlussuaq 100.17 8 IAMs_20 IAMs_20 14 34 23.9
comp=Z,2µm,19.0s
WRAK Wrangell Islan 101.87 330 IAMs_20 IAMs_20 14 41 35.8
comp=Z,1µm,18.0s
DZM Mont Dzumac 102.26 234 *e*SKSac **SKSac** **13 57 05.5 +2.5**
comp=Z,959nm,25.3s
DZM Mont Dzumac 102.26 234 *e*PS PS 13 59 33.7 -6.7
comp=Z,973nm,26.4s
DZM *e*SS SS 14 05 19.7 +8.5
comp=Z,1µm,24.2s
DZM Mont Dzumac 102.26 234 *e*LQ LQ 14 15 41.5
comp=Z,2µm,37.2s
DZM *e*LR LR 14 20 00.6
comp=Z,4µm,23.1s,baz=134
CAN Canberra 102.58 213 IAMs_20 IAMs_20 14 22 51.4
comp=Z,2µm,21.0s
BCPM Bancas Point 107.09 331 IAMs_20 IAMs_20 14 44 39.9
comp=Z,1µm,19.0s
TABL Table Mountain 107.99 331 IAMs_20 IAMs_20 14 45 24.6
comp=Z,1µm,18.0s
MESA MESA 108.18 330 IAMs_20 IAMs_20 14 35 06.3
comp=Z,1µm,18.0s
CTGM Chitina Glacie 108.36 331 IAMs_20 IAMs_20 14 34 41.4
comp=Z,1µm,20.0s
GRNC Granite Creek 108.40 331 IAMs_20 IAMs_20 14 43 22.5
comp=Z,1µm,21.0s
WAX Waxell Ridge 108.71 330 IAMs_20 IAMs_20 14 45 59.5
comp=Z,1µm,19.0s
TGL Tana Glacier 108.86 331 IAMs_20 IAMs_20 14 38 51.6
comp=Z,1µm,21.0s
CRQM Cirque 108.99 331 IAMs_20 IAMs_20 14 35 56.4
comp=Z,1µm,18.0s
MCARA McCarthy VSAT 109.28 331 IAMs_20 IAMs_20 14 45 54.6
comp=Z,1µm,18.0s
VRDI Verde Repeater 109.37 331 IAMs_20 IAMs_20 14 44 02.1
comp=Z,1µm,20.0s
GLB Gilahina Butte 109.63 331 IAMs_20 IAMs_20 14 41 43.9
comp=Z,1µm,21.0s
L27K Beaver Creek, 109.70 333 IAMs_20 IAMs_20 14 45 46.8
comp=Z,1µm,19.0s
BMRM Bremner River 109.71 330 IAMs_20 IAMs_20 14 46 22.1
comp=Z,1µm,19.0s
M26K Nabesna, AK 109.80 332 IAMs_20 IAMs_20 14 45 54.5
comp=Z,1µm,20.0s
N25K Chitina, Valde 110.04 331 IAMs_20 IAMs_20 14 41 55.7
comp=Z,1µm,20.0s
HIN Hinchinbrook I 110.23 329 IAMs_20 IAMs_20 14 39 18.8
comp=Z,1µm,21.0s
L26K Log Cabin Wild 110.27 333 IAMs_20 IAMs_20 14 39 26.8
comp=Z,1µm,20.0s
K27K Chicken 110.31 334 IAMs_20 IAMs_20 14 34 37.2
comp=Z,1µm,20.0s
EGAK Eagle 110.37 335 IAMs_20 IAMs_20 14 42 12.8
comp=Z,1µm,20.0s
FID Port Fidalgo 110.40 330 IAMs_20 IAMs_20 14 40 51.3
comp=Z,1µm,22.0s
KLU Klutina 110.53 331 IAMs_20 IAMs_20 14 44 39.7
comp=Z,1µm,21.0s
M24K Tolsona, Glenn 110.94 331 IAMs_20 IAMs_20 14 47 04.5
comp=Z,3µm,18.0s
KHC Kasperske Hory 110.95 45 AMS AMS 14 41 40.0
comp=Z,3µm,18.4s
SCRK Sand Creek 111.00 333 IAMs_20 IAMs_20 14 36 06.5
comp=Z,1µm,20.0s
RIDG Independent Ri 111.21 333 IAMs_20 IAMs_20 14 36 02.8
comp=Z,1µm,20.0s
PWL Port Wells 111.25 329 IAMs_20 IAMs_20 14 32 31.7
comp=Z,1µm,20.0s
CLL Collm 111.53 42 *e*PS PS 14 01 17.0 +2.8
CLL *e*PPS PPS 14 02 25.0
CLL *e*SS SS 14 07 20.0 +2.6
CLL *e*SSS SSS 14 11 30.0
CLL *e*SSSS 14 14 54.0
CLL Lm MLR 14 37 00.0
comp=N,2µm,19.8s
CLL Lm MLR 14 37 00.0
comp=E,3µm,19.7s
CLL Lm MLR 14 37 00.0
comp=Z,4µm,19.9s
KNK Knik Glacier 111.56 330 IAMs_20 IAMs_20 14 47 09.9
comp=Z,1µm,20.0s
O22K Cooper Landing 111.68 329 IAMs_20 IAMs_20 14 45 01.1
comp=Z,1µm,20.0s
KDAK Kodiak Island 111.80 325 IAMs_20 IAMs_20 14 33 08.0
comp=Z,1µm,19.0s
PRA Prague 111.85 44 AMS AMS 14 46 10.0
comp=Z,3µm,17.7s
PRU Pruhonice 111.88 44 AMS AMS 14 46 30.0
comp=Z,3µm,17.8s
BRLK Bradley Lake 111.88 328 IAMs_20 IAMs_20 14 30 32.5
comp=Z,1µm,19.0s
GHO Glory Hole Cre 111.92 330 IAMs_20 IAMs_20 14 47 39.6
comp=Z,1µm,21.0s
PVCC Panska Ves 112.11 43 AMS AMS 14 38 40.0
comp=Z,3µm,20.1s
TREC Trest 112.16 45 AMS AMS 14 42 00.0
comp=Z,3µm,18.6s
PRP Porcupine Dome 112.33 334 IAMs_20 IAMs_20 14 49 08.8
comp=Z,1µm,21.0s
HDA Harding Lake 112.34 333 IAMs_20 IAMs_20 14 36 57.8
comp=Z,1µm,20.0s
SUA Susitna One 112.57 329 IAMs_20 IAMs_20 14 48 15.5
comp=Z,1µm,21.0s
RND Reindeer 112.63 332 IAMs_20 IAMs_20 14 48 49.5
comp=Z,1µm,19.0s
FYU Fort Yukon 112.73 335 IAMs_20 IAMs_20 14 36 53.3
comp=Z,1µm,19.0s
CCB Clear Creek Bu 112.78 333 IAMs_20 IAMs_20 14 37 21.3
comp=Z,1µm,20.0s
WRH Wood River Hil 112.81 333 IAMs_20 IAMs_20 14 37 11.2
comp=Z,1µm,20.0s
POKR Poker Plat Res 112.86 334 IAMs_20 IAMs_20 14 36 13.6
comp=Z,1µm,20.0s
COLA College 112.90 333 IAMs_20 IAMs_20 14 37 32.9
comp=Z,1µm,20.0s
TCOL CIGO, UAF Yank 112.91 333 IAMs_20 IAMs_20 14 37 32.9
comp=Z,1µm,19.0s
UPC Upice 112.95 44 AMS AMS 14 43 10.0
comp=Z,2µm,17.6s
CHVC Chvalec 113.01 44 AMS AMS 14 47 10.0
comp=Z,2µm,17.8s
DPC Dobruska-Polom 113.07 44 AMS AMS 14 43 20.0
comp=Z,2µm,18.8s
MDM Murphy Dome 113.09 333 IAMs_20 IAMs_20 14 37 36.7
comp=Z,1µm,19.0s
OSTC Ostas 113.09 44 AMS AMS 14 47 20.0
comp=Z,2µm,17.0s
SKT Skwentna 113.13 330 IAMs_20 IAMs_20 14 33 31.3
comp=Z,908nm,19.0s
BWN Browne 113.22 332 IAMs_20 IAMs_20 14 49 06.1
comp=Z,1µm,19.0s
TRF Thorofare Moun 113.23 331 IAMs_20 IAMs_20 14 49 18.2
comp=Z,887nm,18.0s
KRLC Kraliky 113.24 45 AMS AMS 14 38 00.0
comp=Z,2µm,18.6s
NEA2 Nenana 113.25 333 IAMs_20 IAMs_20 14 47 31.6
comp=Z,1µm,20.0s
O19K Port Alsworth 113.63 327 IAMs_20 IAMs_20 14 49 07.6
comp=Z,1µm,20.0s
CAST Castle Rocks 113.95 331 IAMs_20 IAMs_20 14 48 59.9
comp=Z,1µm,18.0s
H23K Yukon River 113.96 334 IAMs_20 IAMs_20 14 47 34.7
comp=Z,1µm,18.0s
OKC Ostrava-Krasne 113.97 45 AMS AMS 14 47 30.0
comp=Z,2µm,16.5s
MLY Manley 114.08 333 IAMs_20 IAMs_20 14 37 59.7
comp=Z,1µm,19.0s
M19K Big River Lodg 114.33 329 IAMs_20 IAMs_20 14 50 09.2
comp=Z,1µm,18.0s
N18K Kilae Creek 114.53 327 IAMs_20 IAMs_20 14 49 59.6
comp=Z,1µm,19.0s
I21K Tanana 114.62 333 IAMs_20 IAMs_20 14 37 40.0
comp=Z,1µm,20.0s
K20K Telida 114.75 331 IAMs_20 IAMs_20 14 47 02.4
comp=Z,1µm,20.0s
H21K Melozitna Rive 115.12 333 IAMs_20 IAMs_20 14 51 14.3
comp=Z,1µm,18.0s
TOLK Toolik Lake Re 115.14 337 IAMs_20 IAMs_20 14 38 49.9
comp=Z,2µm,21.0s
HNR Honiara 115.35 239 IAMs_20 IAMs_20 14 46 47.2
comp=Z,1µm,18.0s
CTAO Charters Tower 116.38 221 IAMs_20 IAMs_20 14 31 28.8
comp=Z,1µm,20.0s
KLNR Kaliningrad 116.79 41 *i* PKIKP **PKiKP** **13 51 11.6 +1.0**
KLNR pmax pmax
comp=Z,29nm,0.8s
A21K Barrow 118.34 339 IAMs_20 IAMs_20 14 44 17.5
comp=Z,1µm,22.0s
ASAR Alice Springs 119.19 207 PKP **PKPdf** **13 51 15.6 -0.8**
comp=Z,1.1nm,0.9s,baz=128,slow=1.6,SNR=7.5
ASAR PKKPbc **PKKPbc** **14 01 29.2 +0.2**
comp=Z,1.0nm,0.8s,baz=334,slow=3.1,SNR=11
ASAR Alice Springs 119.19 207 PKiKP **PKPdf** **13 51 15.5 -0.9**
ASAR Alice Springs 119.19 207 **PKPdf** **13 51 15.5 -0.9**
KIS Kishinev 119.76 51 *e*PKP PKPdf 13 51 06.0 -11
KIS Kishinev 119.76 51 *e*PP PP 13 52 38.0 -2.3
KIS Kishinev 119.76 51 *e*PS PS 14 02 29.0 -0.4
AKASG Malin Array Be 120.99 47 PKP **PKiKP** **13 51 19.7 +0.8**
comp=Z,1.1nm,0.5s,baz=266,slow=2.8,SNR=5.6
AKASG Malin Array Be 120.99 47 PKiKP **PKPdf** **13 51 16.2 -2.6**
AKASG Malin Array Be 120.99 47 **PKPdf** **13 51 16.2 -2.6**
AKBB Malin Array Si 120.99 47 PKiKP **PKiKP** **13 51 20.6 +1.7**
AKBB Malin Array Si 120.99 47 PKPdf **PKiKP** **13 51 20.6 +1.7**
BRTR Keskin Array B 120.99 60 PKP **PKiKP** **13 51 20.6 +1.1**
comp=Z,1.9nm,1.0s,baz=191,slow=5.7,SNR=3.8
BRTR Keskin Array B 120.99 60 PKiKP **PKPdf** **13 51 18.2 -1.2**
BRTR Keskin Array B 120.99 60 **PKPdf** **13 51 18.1 -1.2**
MNK Minsk 121.07 42 *i* PKiKP **PKiKP** **13 51 19.6 +0.6**
MNK *i* 13 52 50.2
MNK *i* PPP PPP 13 55 24.1
MNK *i* 13 58 29.0
MNK *i* PS **PS** **14 02 42.0 +1.1**
MNK *i* SS SS 14 09 21.5 -0.4
MNK pmax pmax
comp=N,21nm,1.0s
MNK pmax pmax
comp=Z,15nm,0.6s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK MLR MLR
comp=N,904nm,20.0s
MNK MLR MLR
comp=E,313nm,20.0s
MNK MLR MLR
comp=Z,2µm,22.0s
MNK Minsk 121.07 42 *i* PKP **PKiKP** **13 51 19.7 +0.7**
comp=E,2.0nm,0.9s
MNK *i* PKP **PKiKP** **13 51 19.7 +0.7**
comp=N,21nm,1.0s
MNK *i* PKP **PKiKP** **13 51 19.7 +0.7**
comp=Z,15nm,0.6s,baz=77
MNK *i* PP **PP** **13 52 50.2 +1.1**
MNK *i* PPP PPP 13 55 24.1
MNK *i* SKS **SKSdf** **13 58 29.0 -1.8**
MNK *i* PS **PS** **14 02 42.0 +1.2**
MNK *i* SS **SS** **14 09 21.6 -0.4**
MNK *i* SSS SSS 14 13 59.7
MNK *i* LR LR 14 39 56.3
MNK *i* LRM MLR 14 43 09.3
comp=E,313nm,20.2s
MNK *i* LRM MLR 14 43 09.3
comp=N,904nm,19.6s
MNK *i* LRM MLR 14 43 09.3
comp=Z,2µm,21.7s
VSU Vasula 121.27 37 *i* PKiKP **PKiKP** **13 51 20.2 +1.0**
FINES FINESS Array B 121.50 34 PKP **PKiKP** **13 51 21.2 +1.6**
comp=Z,4.3nm,1.0s,baz=236,slow=1.5,SNR=4.1
WRA Warramunga Arr 122.34 210 PKP **PKPdf** **13 51 22.3 -0.2**
comp=Z,1.4nm,0.6s,baz=132,slow=1.4,SNR=10
WRA PKKPbc **PKKPbc** **14 01 17.9 +0.7**
comp=Z,0.8nm,0.7s,baz=333,slow=3.9,SNR=6.6
WRAB Tennant Creek 122.34 210 *i* PKiKP **PKPdf** **13 51 22.5 0.0**
ANN Anapa 125.04 55 *i* PKiKP **PKiKP** **13 51 27.0 -0.1**
ANN *i* 13 51 37.7
ANN *e* 13 53 15.4
ANN *e*PS **PS** **14 03 16.0 -0.3**
ANN pmax pmax
comp=Z,30nm,1.3s
LVZ Lovozero 125.64 26 *i* PKiKP **PKiKP** **13 51 28.5 +0.8**
H11S2 WAKE ISLAND Hyl 125.69 271 T T 16 10 41.4
baz=118,slow=74,SNR=118
H11S1 WAKE ISLAND Hyl 125.70 271 T T 16 10 42.7
baz=118,slow=74,SNR=54
H11S3 WAKE ISLAND Hyl 125.70 271 T T 16 10 43.3
baz=118,slow=74,SNR=45
H11N3 WAKE ISLAND Hyl 126.05 272 T T 16 11 07.7
baz=117,slow=75,SNR=13
H11N1 WAKE ISLAND Hyl 126.07 272 T T 16 11 05.9
baz=117,slow=75,SNR=7.7
H11N2 WAKE ISLAND Hyl 126.07 272 T T 16 11 09.1
baz=117,slow=75,SNR=46
OBN Obninsk 126.13 42 ǁ *i* PKiKP **PKiKP** **13 51 31.8 +2.9**
OBN *e* 13 51 42.9
OBN PS **PS** **14 03 23.0 -2.6**
OBN *e* 14 04 43.9
OBN *e*SS SS 14 10 45.4 +20
OBN pmax pmax
comp=Z,48nm,1.7s
SOC Sochi 126.39 57 *e*PKiKP **PKPdf** **13 51 26.8 -2.6**
SOC *e*PS **PS** **14 03 18.3 -10**
SOC *e*SS SS 14 10 18.7 -11
SOC *e*SSS SSS 14 14 58.6
MOS Moscow 126.79 42 *i* PKiKP **PKPdf** **13 51 29.2 -0.5**
MOS *e* 13 51 41.1
MOS *e* 13 53 31.7
MOS MLR MLR
comp=Z,3µm,20.0s
FITZ Fitzroy Crossi 127.23 201 PKP **PKiKP** **13 51 33.5 +1.1**
comp=Z,4.6nm,1.0s,baz=120,slow=1.5,SNR=5.6
KLMR Klimovskoe 127.94 35 *e*PKiKP **PKiKP** **13 51 33.1 +0.7**
KLMR pmax pmax
comp=Z,66nm,1.6s
KLMR Klimovskoe 127.94 35 *e*PKPdf **PKiKP** **13 51 33.2 +0.8**
KLMR AMP 13 51 47.8
comp=Z,66nm,1.6s
KIV Kislovodsk 128.57 57 *i* PKiKP **PKiKP** **13 51 36.0 +1.7**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,1µm,23.0s
KIV Kislovodsk 128.57 57 IAMs_20 IAMs_20 14 51 12.8
comp=Z,1µm,19.0s
KBZ Khabaz 128.68 57 PKP **PKiKP** **13 51 35.5 +1.1**
comp=Z,4.8nm,1.0s,baz=232,slow=5.2,SNR=5.1
GOF Gofitskoye 129.00 56 ǁ *e*PKiKP PKiKP 13 51 49.3 +14
PRGR Permogore 130.83 34 *e*PKiKP **PKiKP** **13 51 40.1 +1.9**
PRGR pmax pmax
comp=Z,47nm,1.3s
BILL Bilibino 131.11 335 ǁ *e*PKiKP **PKiKP** **13 51 39.8 +1.2**
BILL *e* 13 51 44.6
BILL *e* 13 51 53.7
BILL *e*SS SS 14 11 47.6 +21
BILL pmax pmax
comp=Z,18nm,1.3s
BILL MLR MLR
comp=Z,665nm,18.0s
AKT Akhty 131.82 61 *e*PKiKP **PKiKP** **13 51 42.4 +1.4**
AKT *e* 13 54 03.6
AKT pmax pmax
comp=Z,16nm,1.2s
MAK Makhachkala 131.88 59 *i* PKiKP **PKiKP** **13 51 40.4 -0.5**
MAK *e* 13 53 58.7
MAK pmax pmax
comp=Z,67nm,0.4s
BELG Belogornoye 132.56 46 PKP **PKiKP** **13 51 41.6 -0.3**
comp=Z,8.5nm,0.5s,baz=29,slow=1.2,SNR=2.3
KIRV Kirov 133.12 38 PKP **PKiKP** **13 51 42.7 -0.1**
comp=Z,6.5nm,0.4s,baz=244,slow=7.0,SNR=6.1
SEY Seymchan 138.36 331 PKP **PKiKP** **13 51 53.6 +0.2**
comp=Z,3.9nm,0.8s,baz=62,slow=2.2,SNR=11
ARU Arti 138.38 39 PKP **PKiKP** **13 51 53.4 -0.3**
comp=Z,1.0nm,0.5s,baz=286,slow=3.1,SNR=7.2
ARU Arti 138.38 39 *i* PKiKP **PKiKP** **13 51 54.8 +1.1**
ARU 13 54 42.0
ARU PPP PPP 13 57 42.2
ARU SS SS 14 12 43.7 -11
ARU SSS SSS 14 18 03.5
ARU MLR MLR
comp=Z,2µm,16.0s
PETK Petropavlovsk- 138.78 316 PKP **PKiKP** **13 51 55.9 +1.3**
comp=Z,4.0nm,0.8s,baz=99,slow=4.5,SNR=6.4
TIXI Tiksi 138.84 350 PKP **PKiKP** **13 51 54.5 +0.3**
comp=Z,4.4nm,0.7s,baz=297,slow=2.3,SNR=2.7
TIXI Tiksi 138.84 350 *c* PKiKP **PKiKP** **13 51 55.6 +1.4**
AKTO Aktyubinsk 139.19 48 PKP **PKiKP** **13 51 54.8 -0.7**
comp=Z,1.2nm,0.5s,baz=263,slow=7.7,SNR=4.0
SVE Sverdlovsk 139.37 38 *i* PKiKP **PKiKP** **13 51 56.7 +1.0**
SVE pmax pmax
comp=Z,13nm,1.3s
SVE MLR MLR
comp=Z,2µm,21.0s
MA2 Magadan 140.52 327 IAMs_20 IAMs_20 15 01 36.5
comp=Z,806nm,22.0s
NRIK Noril'sk 141.01 11 PKP **PKiKP** **13 51 57.4 -1.3**
comp=Z,1.5nm,0.4s,baz=342,slow=2.6,SNR=1.1
NRIK Noril'sk 141.01 11 *i* PKiKP **PKPdf** **13 51 57.1 +1.1**
NRIK pmax pmax
comp=Z,16nm,1.6s
BRVK Borovoye 145.88 41 *i* PKiKP **PKPbc** **13 52 05.5 -0.2**
BRVK Borovoye 145.88 41 PKPdf **PKPab** **13 52 06.8 +0.6**

BVAR	**Borovoye Array**	**145.96**	**41**	PKPbc	**PKPab**	**13 52 06.9**	**+0.5**		
	comp=Z,6.7nm,0.5s,baz=260,slow=4.2,SNR=26								
KUR	**Kuril'sk**	**146.48**	**305**	*e*PKIKP	**PKPdf**	**13 52 05.7**	**-0.6**		
KUR				*i*		13 52 10.3			
KUR				pmax	pmax				
	comp=Z,1μm,8.4s								
YAK	**Yakutsk**	**146.94**	**341**	PKPbc	**PKPbc**	**13 52 08.9**	**+0.4**		
	comp=Z,24nm,0.7s,baz=199,slow=0.8,SNR=7.8								
YAK	**Yakutsk**	**146.94**	**341**	*e*PKP2	**PKPab**	**13 52 10.0**	**+0.1**		
YAK				pmax	pmax				
	comp=Z,30nm,0.8s								
YAK				pmax	pmax				
	comp=N,9.0nm,1.3s								
YAK				pmax	pmax				
	comp=E,7.0nm,1.2s								
UGL	**Uglegorsk**	**149.33**	**314**	*e*PKP2	**PKPab**	**13 52 19.8**	**-0.1**		
UGL				pmax	pmax				
	comp=Z,50nm,1.4s								
YSS	**Yuzh-Sakhalins**	**149.57**	**309***c*	*i*PKP2	**PKiKP**	**13 52 18.0**	**+1.1**		
YSS				pmax	pmax				
	comp=Z,64nm,2.5s								
YSS	**Yuzh-Sakhalins**	**149.57**	**309**		**PKPab**	**13 52 19.2**	**-1.8**		
YSS				IAMs_20	IAMs_20	15 01 24.3			
	comp=Z,1μm,21.0s								
HYB	**Hyderabad**	**149.75**	**112**	*i* PKP	**PKiKP**	**13 52 18.0**	**-0.3**		
ASAJ	**Asahikawa**	**150.38**	**304**	PKPbc	**PKiKP**	**13 52 20.5**	**+1.7**		
	comp=Z,18nm,0.9s,baz=270,slow=6.3,SNR=5.0								
NIL	**Nilore**	**150.98**	**78**	PKIKP	**PKPbc**	**13 52 20.0**	**+0.2**		
NIL	**Nilore**	**150.98**	**78**		**PKPbc**	**13 52 20.0**	**+0.2**		
KURBB	**Kurchatov Arra**	**151.55**	**41**	PKPbc	**PKiKP**	**13 52 21.1**	**+0.1**		
	comp=Z,2.5nm,0.5s,baz=303,slow=2.9,SNR=16								
KURK	**Kurchatov**	**151.55**	**41**	PKIKP	**PKiKP**	**13 52 21.1**	**+0.2**		
AAK	**Ala-Archa**	**151.66**	**59**	PKPbc	**PKiKP**	**13 52 22.2**	**+0.6**		
	comp=Z,16nm,0.9s,baz=231,slow=1.3,SNR=18								
AAK	**Ala-Archa**	**151.66**	**59**	PKIKP	**PKiKP**	**13 52 22.0**	**+0.3**		
AAK	**Ala-Archa**	**151.66**	**59**		**PKiKP**	**13 52 21.9**	**+0.3**		
ZALV	**Zalesovo Beam**	**152.68**	**30**	PKPbc	**PKiKP**	**13 52 23.4**	**+0.3**		
	comp=Z,4.9nm,0.5s,baz=284,slow=2.4,SNR=7.0								
ZALV	**Zalesovo Beam**	**152.68**	**30**	PKIKP	**PKPdf**	**13 52 16.9**	**+1.0**		
ZALV	**Zalesovo Beam**	**152.68**	**30**	PKPdf	**PKPdf**	**13 52 16.9**	**+1.0**		
KSH	**Kashi**	**153.22**	**65**	PKPbc	**PKPdf**	**13 52 19.4**	**+2.1**		
KSH				PP	**PP**	**13 56 12.9**	**+2.3**		
KSH				LR	LR				
	comp=Z,1μm,18.0s								
KSH				LR	LR				
	comp=Z,1μm,18.7s								
KSH				LR	LR				
	comp=Z,3μm,19.4s								
BOD	**Bodaibo**	**153.97**	**352**	*e*PKIKP	**PKPdf**	**13 52 18.9**	**+1.3**		
BOD				pmax	pmax				
	comp=Z,23nm,2.6s								
TEY	**Ternei**	**154.25**	**308**	*e*PKIKP	**PKPdf**	**13 52 16.8**	**-1.6**		
ZEA	**Zeya**	**154.31**	**333**	*i* PKIKP	**PKPdf**	**13 52 20.3**	**+2.1**		
ZEA				pmax	pmax				
	comp=Z,10.0nm,1.5s								
MJAR	**Matsushiro Arr**	**154.61**	**288**	PKP	**PKPdf**	**13 52 22.1**	**+2.9**		
	comp=Z,4.7nm,1.2s,baz=105,slow=2.8,SNR=2.8								
MJAR				PKPbc	**sPKPbc**	**13 52 30.7**	**+0.7**		
	comp=Z,2.3nm,0.8s,baz=182,slow=1.5,SNR=4.4								
KLR	**Kul'dur**	**155.26**	**321**	PKP	**PKPdf**	**13 52 21.9**	**+2.2**		
	comp=Z,1.9nm,0.8s,baz=3.0,slow=2.3,SNR=4.7								
MK31	**Makanchi Array**	**155.57**	**46**	PKIKP	**PKPdf**	**13 52 20.5**	**+0.2**		
MK31	**Makanchi Array**	**155.57**	**46**	PKPdf	**PKPdf**	**13 52 20.5**	**+0.2**		
MKAR	**Makanchi Array**	**155.57**	**46**	PKP	**PKPdf**	**13 52 22.8**	**+2.5**		
	comp=Z,0.9nm,0.7s,baz=341,slow=2.6,SNR=6.1								
MKAR	**Makanchi Array**	**155.57**	**46**	PKIKP	**PKPdf**	**13 52 21.5**	**+1.3**		
MKAR	**Makanchi Array**	**155.57**	**46**	PKPdf	**PKPdf**	**13 52 21.5**	**+1.3**		
IRK	**Irkutsk**	**159.73**	**6**	*e*PKIKP	**PKPdf**	**13 52 27.0**	**+1.8**		
IRK				*e*		13 56 45.9			
IRK				pmax	pmax				
	comp=Z,72nm,3.1s								
WMQ	**Urumqi**	**160.34**	**48**	*e*PKP	**PKPdf**	**13 52 25.5**	**-0.8**		
ZAK	**Zakamensk**	**161.45**	**9**	*e*PKIKP	**PKPdf**	**13 52 28.2**	**+0.9**		
ZAK				pmax	pmax				
	comp=Z,6.0nm,1.8s								
KSRS	**Korea Array**	**162.69**	**293**	PKP	**PKPdf**	**13 52 31.2**	**+2.5**		
	comp=Z,1.9nm,0.8s,baz=116,slow=0.7,SNR=5.0								
KSRS				PKPab	**sPKPab**	**13 53 22.6**	**+3.1**		
	comp=Z,4.0nm,0.9s,baz=83,slow=3.7,SNR=5.0								
CMAR	**Chiang Mai Arr**	**164.19**	**147**	PKP	**PKPdf**	**13 52 32.8**	**+2.0**		
	comp=Z,2.1nm,0.9s,baz=243,slow=2.4,SNR=10								
CMAR				PKPab	**pPKPab**	**13 53 25.7**	**-0.2**		
	comp=Z,1.1nm,0.5s,baz=224,slow=3.8,SNR=2.2								
CMAR	**Chiang Mai Arr**	**164.19**	**147**	PKIKP	**PKPdf**	**13 52 31.2**	**+0.4**		
CMAR	**Chiang Mai Arr**	**164.19**	**147**		**PKPdf**	**13 52 31.2**	**+0.4**		
SONM	**Songino Array**	**164.28**	**4**	PKP	**PKPdf**	**13 52 31.8**	**+1.7**		
	comp=Z,1.2nm,0.8s,baz=248,slow=0.2,SNR=2.6								
SONM				PKPab	**pPKPab**	**13 53 25.5**	**-0.2**		
	comp=Z,2.0nm,1.0s,baz=347,slow=5.9,SNR=2.5								
SONM	**Songino Array**	**164.28**	**4**		**PKPdf**	**13 52 32.8**	**+2.6**		
CHTO	**Chiang Mai**	**164.50**	**147**	PKP2	**PKPab**	**13 53 28.5**	**+2.8**		
CHTO	**Chiang Mai**	**164.50**	**147**		**PKPab**	**13 53 28.5**	**+2.8**		
QIZ	**Qiongzhong**	**166.83**	**188**	PKP	**PKPdf**	**13 52 31.3**	**-1.6**		
QIZ				PP	**PP**	**13 57 23.3**	**+0.8**		
QIZ				LR	LR				
	comp=Z,1μm,16.1s								
QIZ				LR	LR				
	comp=Z,910nm,23.5s								
QIZ				LR	LR				
	comp=Z,1μm,19.1s								
GTA	**Gaotai**	**170.24**	**40**	⇑PKP	**PKPdf**	**13 52 35.4**	**+0.6**		
GTA				PKPab	**sPKPab**	**13 53 52.8**	**-0.1**		
GTA				PP	**PP**	**13 57 48.0**	**+7.3**		
GTA				AMB	AMB				
	comp=Z,490nm,9.5s								
GTA				LR	LR				
	comp=Z,950nm,21.1s								
GTA				LR	LR				
	comp=Z,890nm,20.0s								
GTA				LR	LR				
	comp=Z,2μm,20.0s								
NJ2	**Nanjing**	**170.67**	**272**	*e*PKP	**PKPdf**	**13 52 34.3**	**-0.7**		
HHC	**Hu-ho-hao-te**	**170.80**	**342**	*e*PKP	**PKPdf**	**13 52 29.0**	**-6.0**		
HHC				LR	LR				
	comp=Z,1μm,22.0s								
HHC				LR	LR				
	comp=Z,660nm,21.3s								
HHC				LR	LR				
	comp=Z,3μm,22.0s								
TIA	**Tai'an**	**171.31**	**300**	*e*PKP	**PKPdf**	**13 52 36.3**	**+1.0**		
BTO	**Baotou**	**171.36**	**349**	*e*PKP	**PKPdf**	**13 52 33.0**	**-2.3**		
BTO				PP	**PP**	**13 57 45.5**	**-0.1**		
BTO				SS	SS	14 18 46.3	-4.8		
KMI	**Kunming**	**171.70**	**146**	⇑PKP	**PKPdf**	**13 52 31.1**	**-5.0**		
XAN	**Xi'an**	**177.90**	**335**	PKP	**PKPdf**	**13 52 39.6**	**+2.1**		
XAN				pPKP	sPKPdf	13 52 47.6	+7.9		
XAN				PP	**PP**	**13 58 21.1**	**+3.8**		
XAN				SS	SS	14 19 46.3	-8.0		
XAN				LR	LR				
	comp=Z,1μm,19.4s								
XAN				LR	LR				
	comp=Z,1μm,17.5s								
XAN				LR	LR				
	comp=Z,1μm,19.1s								

IDC 17 13:38:14.5±2.5,30.54S×71.48W,h0km,mb4.5/3,
mb1 4.4/3,mb1mx4.0/27,mbtmp4.5/3,Error ellipse:
s-maj=103.7km s-min=53.0km az=112.0,Near coast of
central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N1	**Juan Fernandez**	**6.95**	**243**	T	T	13 46 49.1	
	baz=71,slow=72,SNR=324						
H03N2	**Juan Fernandez**	**6.96**	**244**	T	T	13 46 49.6	
	baz=71,slow=72,SNR=271						
H03N3	**Juan Fernandez**	**6.96**	**243**	T	T	13 46 50.0	
	baz=71,slow=72,SNR=184						
DBIC	**Dimbokro**	**73.64**	**72**	P	P	13 49 50.2	0.0
	10nm,0.8s,baz=224,slow=6.7,SNR=5.2						
MAW	**Mawson**	**76.35**	**164**	P	P	13 50 05.1	+0.1
	1.0nm,0.5s,baz=243,slow=6.8,SNR=2.0						
TORD	**Torodi Ar. Bea**	**82.59**	**70**	P	P	13 50 40.0	+0.2
	0.8nm,0.6s,baz=250,slow=4.7,SNR=4.7						
H11S2	**WAKE ISLAND Hyl**	**126.23**	**271**	T	T	16 16 03.3	
	baz=115,slow=75,SNR=41						
H11S1	**WAKE ISLAND Hyl**	**126.25**	**271**	T	T	16 16 04.6	
	baz=115,slow=59,SNR=59						
H11S3	**WAKE ISLAND Hyl**	**126.25**	**271**	T	T	16 16 04.9	
	baz=115,slow=75,SNR=45						
ZALV	**Zalesovo Beam**	**151.02**	**29**	PKPbc	PKPbc	13 58 08.5	-0.3
	2.3nm,0.5s,baz=291,slow=4.0,SNR=5.9						

IDC 17 13:39:11.1±1.6,32.64S×72.11W,h0km,mb4.1/3,
mb1 4.3/4,mb1mx4.0/29,mbtmp4.2/4,ML4.2/1,Error
ellipse: s-maj=56.9km s-min=39.0km az=64.0,Off coast
of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**8.18**	**172**	Pn	Pn	13 41 10.9	-0.2
	0.7nm,0.3s,baz=336,slow=13,SNR=0.9						
TXAR	**Lajitas Array**	**68.52**	**331**	P	P	13 50 15.3	-0.2
	0.2nm,0.6s,baz=163,slow=6.6,SNR=2.7						
DBIC	**Dimbokro**	**74.80**	**72**	P	P	13 50 53.4	-0.2
	5.1nm,0.7s,baz=242,slow=5.5,SNR=5.7						
TORD	**Torodi Ar. Bea**	**83.80**	**70**	P	P	13 51 42.9	+0.2
	1.4nm,0.7s,baz=268,slow=4.7,SNR=4.1						
ZALV	**Zalesovo Beam**	**153.10**	**31**	PKPbc	PKiKP	13 59 10.7	+0.4
	2.4nm,0.5s,baz=313,slow=4.0,SNR=3.6						

IDC 17 13:39:35.8±1.1,31.28S×71.83W,h0km,mb4.1/4,
mb1 4.4/5,mb1mx4.1/29,mbtmp4.2/5,ML4.1/1,Error
ellipse: s-maj=61.4km s-min=28.1km az=69.0
NEIC 17 13:39:37.4±1.7,31.43S±0.04×71.9W±0.2,h10km±1km,
mb4.5/9,Error ellipse: s-maj=31.7km s-min=6.1km
az=277.0
ISC 17 13:39:37.8±0.7,31.39S±0.09×71.9W±0.2,h14km,n21,
σ0.98/17,mb4.4/8,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO02	**Sierra Bellavi**	**3.51**	**165**	Pn	**Pn**	**13 40 30.6**	**-1.3**
H03N1	**Juan Fernandez**	**6.31**	**249**	T	T	13 47 44.8	
	baz=77,slow=72,SNR=8.5						
H03N3	**Juan Fernandez**	**6.32**	**249**	T	T	13 47 44.3	
	baz=77,slow=72,SNR=7.4						
H03N2	**Juan Fernandez**	**6.33**	**249**	T	T	13 47 44.0	
	baz=77,slow=72,SNR=7.6						
LVC	**Limon Verde**	**9.13**	**17**	Pn	**Pn**	**13 41 49.4**	**-0.1**
PLCA	**Paso Flores**	**9.38**	**174**	Pn	**Pn**	**13 41 53.5**	**+1.0**
	0.4nm,0.3s,baz=338,slow=14,SNR=1.1						
PLCA	**Paso Flores**	**9.38**	**174**		**Pn**	**13 41 51.0**	**-1.6**
BDFB	**Brasilia**	**26.81**	**60**	P	**P**	**13 45 17.9**	**+0.1**
QSPA	**South Pole Qui**	**58.84**	**180**	P	**P**	**13 49 36.4**	**+0.6**
QSPA				IAmb	IAmb	13 49 57.7	
	comp=Z,3.6nm,1.1s						
TXAR	**Lajitas Array**	**67.55**	**330**	P	**P**	**13 50 33.6**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=154,slow=8.6,SNR=7.3						
TX31	**Lajitas Ar. Si**	**67.55**	**330**	P	**P**	**13 50 33.7**	**-0.2**
TX31				IAmb	IAmb	13 51 00.1	
	comp=Z,6.8nm,1.2s						
MNTX	**Cornudas Mount**	**70.33**	**330**	P	**P**	**13 50 48.8**	**-2.2**
FVM	**French Village**	**71.17**	**345**	P	**P**	**13 50 56.6**	**+0.7**
FVM				IAmb	IAmb	13 50 57.3	
	comp=Z,3.8nm,0.8s						
MSTX	**Muleshoe**	**71.25**	**333**	P	**P**	**13 50 56.1**	**-0.5**
SDCO	**Great Sand Dun**	**75.62**	**333**	P	**P**	**13 51 22.4**	**-0.1**
SDCO				IAmb	IAmb	13 51 23.6	
	comp=Z,1.5nm,0.7s						
MAW	**Mawson**	**75.63**	**164**	P	**P**	**13 51 23.0**	**+1.1**
	comp=Z,1.8nm,0.6s,baz=202,slow=5.4,SNR=4.4						
MAW	**Mawson**	**75.63**	**164**	P	**P**	**13 51 22.7**	**+0.8**
NVAR	**Mina Array Bea**	**81.84**	**325**	P	**P**	**13 51 56.5**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=157,slow=6.0,SNR=4.2						
TORD	**Torodi Ar. Bea**	**83.18**	**70**	P	**P**	**13 52 03.9**	**0.0**
	comp=Z,1.7nm,0.7s,baz=256,slow=4.3,SNR=3.7						
TORD	**Torodi Ar. Bea**	**83.18**	**70**	IAmb	IAmb	13 52 16.5	
	comp=Z,2.3nm,0.8s						
ZALV	**Zalesovo Beam**	**151.92**	**30**	PKPbc	**PKPbc**	**13 59 31.6**	**-0.2**
	comp=Z,2.6nm,0.6s,baz=311,slow=3.5,SNR=2.8						

IDC 17 13:42:51.7±1.1,30.53S×72.67W,h0km,mb4.1/4,
mb1 4.4/7,mb1mx4.1/31,mbtmp4.3/7,ML4.1/3,Error
ellipse: s-maj=42.6km s-min=27.2km az=93.0
ISC 17 13:42:54.8±1.0,30.49S±0.10×72.6W±0.3,h19km,n16,
σ0.55/13,mb4.2/4,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N1	**Juan Fernandez**	**6.08**	**240**	T	T	13 50 19.3	
	baz=59						
H03N2	**Juan Fernandez**	**6.10**	**240**	T	T	13 50 20.9	
	baz=59						
H03N3	**Juan Fernandez**	**6.10**	**239**	T	T	13 50 18.7	
	baz=59						
PLCA	**Paso Flores**	**10.36**	**171**	Pn	**Pn**	**13 45 22.0**	**-0.4**
	0.3nm,0.3s,baz=358,slow=14,SNR=2.3						
LPAZ	**La Paz**	**14.73**	**17**	Pn	**Pn**	**13 46 22.6**	**-0.1**
	0.4nm,0.3s,baz=196,slow=5.9,SNR=8.0						
SIV	**San Ignacio**	**17.91**	**39**	P	**P**	**13 47 02.8**	**-0.6**
	0.8nm,0.3s,baz=219,slow=9.9,SNR=8.0						
VNA3	**Neumayer Olymp**	**52.80**	**159**	P	**P**	**13 52 08.9**	**+0.6**
VNA2	**Neumayer--Watz**	**53.44**	**158**	P	**P**	**13 52 13.4**	**+0.4**
	baz=292,slow=8.7						
SNAA	**Sanae**	**55.02**	**159**	P	**P**	**13 52 25.0**	**+0.4**
TXAR	**Lajitas Array**	**66.44**	**331**	P	**P**	**13 53 43.4**	**+0.5**
	0.4nm,0.7s,baz=154,slow=7.9,SNR=4.2						
DBIC	**Dimbokro**	**74.58**	**73**	P	**P**	**13 54 33.5**	**+0.6**
	4.4nm,0.9s,baz=224,slow=7.0,SNR=3.2						
MAW	**Mawson**	**76.68**	**164**	P	**P**	**13 54 44.1**	**+0.1**
	1.1nm,0.6s,baz=216,slow=8.7,SNR=2.2						
TORD	**Torodi Ar. Bea**	**83.52**	**71**	P	**P**	**13 55 21.9**	**0.0**
	1.5nm,0.7s,baz=286,slow=5.0,SNR=5.7						
WRA	**Warramunga Arr**	**123.54**	**211**	PKP	**PKiKP**	**14 01 50.7**	**-1.1**
	0.5nm,0.8s,baz=168,slow=1.9,SNR=2.1						
ZALV	**Zalesovo Beam**	**151.46**	**28**	PKPbc	**PKiKP**	**14 02 46.9**	**-0.5**
	2.6nm,0.5s,baz=300,slow=3.3,SNR=7.8						
MKAR	**Makanchi Array**	**154.70**	**43**	PKPbc	**PKiKP**	**14 02 54.5**	**+0.2**
	0.7nm,0.8s,baz=338,slow=1.6,SNR=3.3						

NEIC 17 13:47:24.4±0.4,30.92S±0.07×71.4W±0.3,h10km±2km,
Error ellipse: s-maj=39.0km s-min=5.6km az=255.0
GUC 17 13:47:27.9±0.9,31.13S×71.72W,h32km±5km,ML4.1
ISC 17 13:47:23.0±1.5,31.12S±0.03×72.00W±0.07,h10km±11km,
n18,σ1.20/27,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.54**	**35**	*e*P	**Pn**	**13 47 38.5**	**+1.7**
CO06				*i* S	**Sn**	**13 47 45.4**	**-0.6**
CO06				IAML		13 47 47.8	
	comp=E,13μm,0.3s						
CO03	**El Pedregal**	**1.16**	**76**	*e*P	**Pb**	**13 47 44.7**	**-0.5**
CO03				*i* S	**Sb**	**13 47 59.6**	**-0.7**
CO03				IAML		13 48 02.7	
	comp=E,7μm,0.4s						
GO04	**Tololo Observa**	**1.40**	**48**	*e*P	**Pg**	**13 47 51.6**	**+1.7**
GO04				*i* S	**Sg**	**13 48 08.8**	**+0.7**
GO04				IAML		13 48 13.1	
	comp=N,9μm,0.5s						
VA06	**Catapilco**	**1.56**	**158**	*e*P	**Pg**	**13 47 54.1**	**+1.2**
VA06				*e*S	**Sb**	**13 48 12.5**	**+0.7**
VA01	**Torpederas**	**1.92**	**171**	*e*P	**Pg**	**13 47 59.8**	**0.0**
VA01				*e*S	**Sg**	**13 48 24.6**	**-0.2**
ROCH	**El Roble**	**2.03**	**156**	*e*P	**Pg**	**13 48 02.1**	**+0.2**
ROCH				*e*S	**Sg**	**13 48 27.5**	**-0.7**
ROCH				IAML		13 48 36.2	
	comp=N,3μm,0.5s						
VA03	**San Esteban**	**2.05**	**144**	*e*P	**Pb**	**13 48 01.0**	**+0.6**
VA03				*i* S	**Sb**	**13 48 27.1**	**+1.0**
VA03				IAML		13 48 29.3	
	comp=E,4μm,0.5s						
MT05	**Renca**	**2.50**	**155**	*e*P	**Pb**	**13 48 08.0**	**-0.1**
MT05				*e*S	**Sb**	**13 48 38.9**	**-0.3**
VA05	**Santo Domingo**	**2.55**	**173**	IAML		13 48 53.5	
	comp=E,1μm,0.3s						
MT09	**Talagante**	**2.78**	**162**	*e*P	**Pb**	**13 48 13.7**	**+0.7**
MT09				*e*S	**Sn**	**13 48 42.7**	**+1.1**
MT09				IAML		13 48 56.4	
	comp=N,1μm,0.5s						
MT01	**Popeta**	**2.81**	**167**	*e*P	**Pg**	**13 48 15.2**	**-1.6**
MT01				*e*S	**Sg**	**13 48 51.4**	**-1.9**
MT01				IAML		13 48 57.5	
	comp=E,656nm,0.5s						
AC04	**Llanos de Chal**	**3.01**	**16**	*e*P	**Pb**	**13 48 16.6**	**-0.2**
AC04				*i* S	**Sb**	**13 48 52.4**	**-1.3**
AC04				IAML		13 49 11.9	
	comp=E,398nm,0.5s						
BO02	**Sierra Bellavi**	**3.80**	**165**	Pn	**Pn**	**13 48 23.7**	**+1.9**
PLCA	**Paso Flores**	**9.66**	**173**	Pn	Pn	13 49 46.4	+4.2
TRQA	**Tornquist**	**10.77**	**133**	Pn	**Pn**	**13 49 54.9**	**-2.4**
NNA	**Nana**	**19.56**	**346**	P	**Pn**	**13 51 51.1**	**-1.3**
NNA				IAmb	IAmb	13 52 03.7	
	comp=Z,9.1nm,1.1s						

OTAV	**Otavalo**	**31.78**	**348**	P	**P**	**13 53 49.1**	**+0.9**		
OTAV				IAmb	IAmb	13 53 55.3			
	comp=Z,14nm,1.0s								
JTS	**Las Juntas de**	**43.01**	**341**	P	**P**	**13 55 23.2**	**+0.4**		
JTS				IAmb	IAmb	13 55 25.7			
	comp=Z,10.0nm,1.1s								

IDC 17 13:56:16.3±1.2,31.18S×71.42W,h0km,mb3.9/3,
mb1 4.0/5,mb1mx3.8/31,mbtmp3.9/5,ML3.7/2,Error
ellipse: s-maj=46.4km s-min=37.4km az=130.0
GUC 17 13:56:23.6±0.8,31.08S×71.66W,h26km±11km,ML3.9
ISC 17 13:56:24.3±0.9,30.87S±0.05×71.6W±0.2,h53km±8km,n16,
σ0.91/24,mb3.9/3,4C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.19**	**2**	⇑*i*P	**Pn**	**13 56 32.9**	**-0.1**
CO06				*e*S	**Sn**	**13 56 39.3**	**+0.1**
VA06	**Catapilco**	**1.71**	**170**	*e*P	**Pn**	**13 56 50.4**	**-1.3**
VA06				*e*S	**Sn**	**13 57 10.9**	**-1.7**
VA03	**San Esteban**	**2.11**	**154**	⇑*i*P	**Pn**	**13 56 57.4**	**+0.2**
VA03				*e*S	**Sn**	**13 57 23.3**	**+1.0**
VA03				IAML		13 57 28.1	
	comp=E,2μm,0.2s						
VA01	**Torpederas**	**2.15**	**180**	*e*P	**Pn**	**13 56 57.4**	**-0.3**
VA01				*e*S	**Sn**	**13 57 22.6**	**-0.6**
VA01				IAML		13 57 34.9	
	comp=E,541nm,0.6s						
ROCH	**El Roble**	**2.17**	**166**	*e*P	**Pn**	**13 56 58.8**	**+0.6**
ROCH				*e*S	**Sn**	**13 57 24.5**	**+0.6**
ROCH				IAML		13 57 38.7	
	comp=N,1μm,0.5s						
MT05	**Renca**	**2.63**	**163**	*e*P	**Pn**	**13 57 05.0**	**+0.6**
MT05				*e*S	**Sn**	**13 57 36.2**	**+1.1**
MT05				IAML		13 57 49.5	
	comp=E,2μm,0.3s						
VA05	**Santo Domingo**	**2.78**	**180**	⇑*i*P	**Pn**	**13 57 06.3**	**0.0**
VA05				*e*S	**Sn**	**13 57 38.9**	**+0.2**
VA05				IAML		13 57 57.6	
	comp=E,791nm,0.6s						
MT09	**Talagante**	**2.95**	**169**	⇑*i*P	**Pn**	**13 57 09.4**	**+0.5**
MT09				*i* S	**Sn**	**13 57 44.3**	**+1.1**
MT09				IAML		13 57 59.6	
	comp=N,770nm,0.5s						
LPAZ	**La Paz**	**14.87**	**13**	Pn	**Pn**	**13 59 52.3**	**+0.4**
	comp=N,0.1nm,0.3s,baz=198,slow=9.6,SNR=3.7						
SIV	**San Ignacio**	**17.68**	**36**	P	**Pn**	**14 00 25.8**	**-1.1**
	comp=N,0.3nm,0.3s,baz=216,slow=8.1,SNR=8.3						
TXAR	**Lajitas Array**	**67.19**	**330**	P	**P**	**14 07 14.8**	**+1.9**
	comp=N,0.2nm,0.5s,baz=152,slow=7.8,SNR=3.1						
DBIC	**Dimbokro**	**73.87**	**72**	P	**P**	**14 07 53.0**	**-0.9**
	comp=N,3.3nm,0.7s,baz=233,slow=2.3,SNR=4.3						
TORD	**Torodi Ar. Bea**	**82.83**	**70**	P	**P**	**14 08 42.8**	**-0.5**
	comp=N,0.8nm,0.6s,baz=224,slow=3.8,SNR=4.6						
ASAR	**Alice Springs**	**120.50**	**207**	PKP	**PKPdf**	**14 15 09.8**	**-0.7**
	comp=N,0.2nm,1.0s,baz=143,slow=2.0,SNR=4.0						
WRA	**Warramunga Arr**	**123.65**	**210**	PKP	**PKPdf**	**14 15 16.1**	**-0.4**
	comp=N,0.2nm,0.6s,baz=166,slow=1.3,SNR=6.0						
ZALV	**Zalesovo Beam**	**151.37**	**30**	PKPbc	**PKPbc**	**14 16 11.5**	**-0.1**
	comp=N,0.7nm,0.5s,baz=298,slow=3.1,SNR=2.2						

IDC 17 13:57:21.6±1.1,30.73S×72.99W,h0km,mb4.0/3,
mb1 4.1/6,mb1mx3.9/31,mbtmp4.0/6,ML4.0/3,MS4.5/1,
Ms1 4.5/1,ms1mx3.9/26,Error ellipse: s-maj=41.1km
s-min=31.5km az=88.0
NEIC 17 13:57:24.2±1.4,30.5S±0.1×72.8W±0.1,h10km±2km,
mb4.2/4,Error ellipse: s-maj=19.9km s-min=17.0km
az=254.0
ISC 17 13:57:23.8±0.9,30.57S±0.09×72.8W±0.2,h10km,n24,
σ1.57/17,mb4.2/4,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N1	**Juan Fernandez**	**5.92**	**240**	T	T	14 04 54.1	
	baz=72,slow=72,SNR=61						
H03N2	**Juan Fernandez**	**5.94**	**240**	T	T	14 04 54.7	
	baz=72,slow=72,SNR=188						
H03N3	**Juan Fernandez**	**5.94**	**239**	T	T	14 04 53.4	
	baz=72,slow=72,SNR=70						
PLCA	**Paso Flores**	**10.30**	**170**	Pn	**Pn**	**13 59 49.2**	**-2.5**
	0.4nm,0.3

SAML	**Samuel**	**23.64**	**24**	P	**P**	**14 05 42.3**	**+0.1**
BB19B	**Bebedouro**	**23.68**	**71**	*e*P	**P**	**14 05 43.6**	**+1.0**
VAO	**Valinhos**	**24.08**	**77**	*e*P	**P**	**14 05 46.3**	**-0.2**
CLDB	**Colider**	**25.36**	**41**	*e*P	**P**	**14 05 58.8**	**+0.8**
IPMB	**Ipameri, GO**	**25.57**	**65**	*e*P	**P**	**14 06 00.7**	**+0.7**
BSCB	**Bom Sucesso**	**26.79**	**75**	*e*P	**P**	**14 06 11.6**	**+0.5**
TBTG	**Tabatinga, AM**	**26.83**	**6**	*e*P	**P**	**14 06 11.7**	**+0.5**
BDFB	**Brasilia**	**27.13**	**61**	P	**P**	**14 06 15.2**	**+1.1**
	comp=Z,14nm,0.9s,baz=232,slow=5.8,SNR=9.8						
BDFB	**Brasilia**	**27.13**	**61**	P	**P**	**14 06 15.3**	**+1.2**
SNDB	**Serra Nova Dou**	**27.28**	**51**	*e*P	**P**	**14 06 16.3**	**+0.9**
VAS01	**Vassouras-RJ**	**27.34**	**78**	*e*P	**P**	**14 06 16.8**	**+0.9**
NPGB	**Novo Progresso**	**28.77**	**37**	*e*P	**P**	**14 06 29.5**	**+0.8**
DIAM	**Diamantina, MG**	**29.02**	**71**	*e*P	**P**	**14 06 31.1**	**+0.1**
PEXB	**Peixe**	**29.24**	**55**	*e*P	**P**	**14 06 33.5**	**+0.6**
PTGA	**Pitinga**	**32.41**	**24**	P	**P**	**14 06 59.9**	**-0.8**
PRPB	**Parauapebas**	**32.63**	**45**	*e*P	**P**	**14 07 02.3**	**-0.5**
PMSA	**Palmer Station**	**34.16**	**174**	P	**P**	**14 07 17.4**	**+1.9**
PMSA				IAmb	IAmb	14 07 19.8	
	comp=Z,1.8nm,0.7s						
BOAV	**Boa Vista**	**35.16**	**21**	*e*P	**P**	**14 07 24.6**	**0.0**
NBPN	**Ponto Novo - B**	**36.04**	**63**	*e*P	**P**	**14 07 32.3**	**-0.1**
VNA3	**Neumayer Olymp**	**52.24**	**159**	P	**P**	**14 09 42.0**	**+0.6**
VNA1	**Neumayer--Stat**	**52.55**	**158**	P	**P**	**14 09 43.8**	**+0.2**
VNA2	**Neumayer--Watz**	**52.89**	**158**	P	**P**	**14 09 46.4**	**+0.3**
	baz=280,slow=9.3						
SNAA	**Sanae**	**54.47**	**159**	P	**P**	**14 09 57.5**	**-0.3**
QSPA	**South Pole Qui**	**59.19**	**180**	P	**P**	**14 10 31.9**	**+0.5**
QSPA				IAmb	IAmb	14 10 32.6	
	comp=Z,2.5nm,0.7s						
TXAR	**Lajitas Array**	**66.97**	**331**	P	**P**	**14 11 23.8**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=150,slow=8.3,SNR=9.0						
TXAR	**Lajitas Array**	**66.97**	**331**	P	**P**	**14 11 22.9**	**-0.4**
TX31	**Lajitas Ar. Si**	**66.97**	**331**	P	**P**	**14 11 22.9**	**-0.4**
TX31				IAmb	IAmb	14 11 25.1	
	comp=Z,5.4nm,1.1s						
TX32	**Lajitas Array**	**66.97**	**331**	P	**P**	**14 11 23.4**	**+0.1**
TX32				IAmb	IAmb	14 11 25.1	
	comp=Z,1.7nm,1.1s						
NVAR	**Mina Array Bea**	**81.24**	**325**	P	**P**	**14 12 46.9**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=146,slow=8.5,SNR=2.5						
TORD	**Torodi Ar. Bea**	**83.59**	**71**	P	**P**	**14 12 59.6**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=260,slow=4.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**83.59**	**71**	P	**P**	**14 12 58.2**	**-1.0**
LBTB	**Lobatse**	**83.91**	**115**	P	**P**	**14 13 00.4**	**-0.5**
ASAR	**Alice Springs**	**120.00**	**208**	PKP	**PKPdf**	**14 19 20.6**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=132,slow=1.6,SNR=10						
ASAR	**Alice Springs**	**120.00**	**208**		**PKPdf**	**14 19 19.9**	**-1.6**
WRA	**Warramunga Arr**	**123.12**	**210**	PKP	**PKPdf**	**14 19 27.0**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=132,slow=1.4,SNR=10						
BVAR	**Borovoye Array**	**145.33**	**40**	PKPbc	**PKPab**	**14 20 08.5**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=211,slow=8.4,SNR=6.5						
KURBB	**Kurchatov Arra**	**150.92**	**39**	PKPbc	**PKiKP**	**14 20 23.1**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=305,slow=3.0,SNR=18						
KURK	**Kurchatov**	**150.92**	**39**		**PKiKP**	**14 20 23.1**	**-0.1**
ZALV	**Zalesovo Beam**	**151.89**	**29**	PKPbc	**PKiKP**	**14 20 25.1**	**0.0**
	comp=Z,5.5nm,0.6s,baz=295,slow=2.7,SNR=14						
ZALV	**Zalesovo Beam**	**151.89**	**29**		**PKiKP**	**14 20 25.3**	**+0.2**

NOU 17 14:02:51.0, 39.85S×175.00E, h75km, ML3.1/4, North Island, New Zealand, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRVZ	**Turoa**	**0.69**	**38**	P	Pn	14 03 06.8	+0.3
WHVZ	**Wahianoa**	**0.70**	**42**	P	Pn	14 03 11.3	+4.8
WHVZ	**Whangaehu Hut**	**0.73**	**39**	P	Pn	14 03 10.1	+3.3
FWVZ	**Far West T-bar**	**0.73**	**36**	P	Pn	14 03 06.3	-0.6
TWVZ	**Taurewa**	**0.85**	**24**	P	Pn	14 03 04.4	-3.6
NNVZ	**North Ngauruho**	**0.86**	**34**	P	Pn	14 03 06.4	-1.9
WTVZ	**West Tongariro**	**0.86**	**32**	P	Pn	14 03 06.0	-2.3
KRVZ	**Karewarewa**	**0.90**	**34**	P	Pn	14 03 06.6	-2.1
TMVZ	**Te Maari**	**0.91**	**37**	P	Pn	14 03 07.5	-1.3
NTVZ	**North Tongarir**	**0.92**	**35**	P	Pn	14 03 07.1	-1.8

*IDC **17** 14:07:14.5±2.7, 31.25S×72.17W, h0km, mb3.9/2, mb1 3.7/5, mb1mx3.6/27, mbtmp3.7/5, ML3.6/3, Error ellipse: s-maj=109.9km s-min=28.6km az=97.0*
ISC 17 14:07:16.7±2.6, 31.3S±0.1×72.1W±0.7, h14km, n12, σ0s59/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N1	**Juan Fernandez**	**6.15**	**248**	T	T	14 15 34.3	
	baz=76,slow=72,SNR=66						
H03N3	**Juan Fernandez**	**6.16**	**248**	T	T	14 15 36.2	
	baz=76,slow=72,SNR=84						
H03N2	**Juan Fernandez**	**6.17**	**248**	T	T	14 15 35.4	
	baz=76,slow=72,SNR=61						
PLCA	**Paso Flores**	**9.51**	**173**	Pn	**Pn**	**14 09 32.9**	**-0.5**
	0.3nm,0.3s,baz=334,slow=12,SNR=6.2						
LPAZ	**La Paz**	**15.36**	**15**	Pn	**Pn**	**14 10 53.8**	**0.0**
	0.0nm,0.3s,baz=195,slow=16,SNR=1.8						
SIV	**San Ignacio**	**18.25**	**36**	P	**P**	**14 11 29.6**	**-0.3**
	0.2nm,0.3s,baz=213,slow=15,SNR=2.3						
SNAA	**Sanae**	**54.12**	**159**	P	**P**	**14 16 41.7**	**+0.8**
	0.6nm,0.8s,baz=248,slow=9.6,SNR=2.0						
TORD	**Torodi Ar. Bea**	**83.34**	**70**	P	**P**	**14 19 43.8**	**0.0**
	1.5nm,0.7s,baz=254,slow=5.2,SNR=6.0						
H11S2	**WAKE ISLAND Hyl**	**25.71**	**271**	T	T	16 45 09.0	
	baz=116,slow=74,SNR=16						
H11S1	**WAKE ISLAND Hyl**	**25.72**	**271**	T	T	16 45 11.8	
	baz=116,slow=74,SNR=9.7						
H11S3	**WAKE ISLAND Hyl**	**25.73**	**271**	T	T	16 45 12.8	
	baz=116,slow=74,SNR=10.0						
ZALV	**Zalesovo Beam**	**151.93**	**29**	PKPbc	**PKPbc**	**14 27 10.7**	**-0.1**
	1.4nm,0.5s,baz=336,slow=3.1,SNR=5.3						

IDC 17 14:08:54.5±999.0, 50.95N×49.40E, h0km, Error ellipse: s-maj=1059.0km s-min=120.8km az=90.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**5.52**	**92**	*i*		14 45 20.0	
	baz=279,slow=318,SNR=8.5						
I46RU	**ZALESOVO INFRA**	**21.66**	**68**	*i*		16 20 20.0	
	baz=276,slow=325,SNR=1.9						
I34MN	**SONGINO INFRAS**	**36.47**	**72**	*i*		17 51 30.0	
	baz=297,slow=325,SNR=0.7						

*NEIC **17** 14:10:34.4±1.9, 30.87S±0.04×71.6W±0.3, h22km±10km, Error ellipse: s-maj=38.8km s-min=3.6km az=84.0*
*GUC **17** 14:10:36.9±0.6, 30.98S×71.37W, h46km±5km, ML4.1*
ISC 17 14:10:37.5±0.8, 30.90S±0.04×71.38W±0.07, h57km±8km, n21, σ1s36/32, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.32**	**316**	*i*P	**Pn**	**14 10 47.7**	**+0.2**
CO06				*i* S	**Sn**	**14 10 54.8**	**+0.2**
CO06				IAML		14 10 56.1	
	comp=E,14μm,0.3s						
CO03	**El Pedregal**	**0.60**	**84**	*e*P	**Pn**	**14 10 50.5**	**0.0**
CO03				*i* S	**Sn**	**14 11 00.3**	**+0.4**
CO03				IAML		14 11 00.7	
	comp=N,18μm,0.1s						
GO04	**Tololo Observa**	**0.88**	**35**	*e*P	**Pn**	**14 10 55.4**	**+1.3**
GO04				*i* S	**Sn**	**14 11 08.4**	**+2.1**
GO04				IAML		14 11 10.4	
	comp=N,14μm,0.4s						
VA06	**Catapilco**	**1.66**	**178**	*e*P	**Pn**	**14 11 04.3**	**+0.1**
VA06				*e*S	**Sn**	**14 11 24.9**	**+0.4**
VA06				IAML		14 11 32.6	
	comp=N,3μm,0.4s						
LCO	**Las Campanas**	**1.97**	**18**		**Pn**	**14 11 06.2**	**-2.6**
VA03	**San Esteban**	**1.99**	**159**	*e*P	**Pn**	**14 11 09.6**	**+0.7**
VA03				*e*S	**Sn**	**14 11 34.2**	**+1.6**
VA03				IAML		14 11 39.3	
	comp=E,2μm,0.1s						
ROCH	**El Roble**	**2.09**	**171**	*e*P	**Pn**	**14 11 10.9**	**+0.6**
ROCH				*e*S	**Sn**	**14 11 35.8**	**+0.5**
ROCH				IAML		14 11 41.1	
	comp=E,2μm,0.4s						
VA01	**Torpederas**	**2.13**	**186**	*e*P	**Pn**	**14 11 09.9**	**-0.8**
VA01				*e*S	**Sn**	**14 11 37.1**	**+1.3**
MT05	**Renca**	**2.54**	**168**	*e*P	**Pn**	**14 11 17.1**	**+0.7**
MT05				*e*S	**Sn**	**14 11 47.0**	**+0.8**
MT05				IAML		14 11 59.9	
	comp=E,2μm,0.5s						
AC04	**Llanos de Chal**	**2.70**	**6**	*e*P	**Pn**	**14 11 22.2**	**+3.7**
AC04				IAML		14 12 04.9	
	comp=E,561nm,0.2s						
VA05	**Santo Domingo**	**2.75**	**184**	*e*P	**Pn**	**14 11 18.8**	**-0.4**
VA05				*e*S	**Sn**	**14 11 53.2**	**+1.9**
VA05				IAML		14 12 00.6	
	comp=E,1μm,0.4s						
MT09	**Talagante**	**2.89**	**174**	*e*P	**Pn**	**14 11 21.9**	**+0.8**
MT09				*e*S	**Sn**	**14 11 54.7**	**0.0**
MT09				IAML		14 12 08.4	
	comp=N,647nm,0.4s						
MT01	**Popeta**	**2.96**	**178**	*e*P	**Pn**	**14 11 22.0**	**+0.1**
MT01				*e*S	**Sn**	**14 11 54.6**	**-1.7**
MT01				IAML		14 12 08.6	
	comp=E,445nm,0.3s						
BO02	**Sierra Bellavi**	**3.91**	**173**	Pn	**Pn**	**14 11 33.8**	**-1.4**
PLCA	**Paso Flores**	**9.83**	**176**	Pn	**Pn**	**14 12 57.8**	**+1.6**
TRQA	**Tornquist**	**10.54**	**135**	Pn	**Pn**	**14 13 04.0**	**-1.8**
CPUP	**Villa Florida**	**13.15**	**73**	Pn	**Pn**	**14 13 41.2**	**-0.3**
LPAZ	**La Paz**	**14.85**	**12**	Pn	**Pn**	**14 14 03.9**	**-0.8**
OTAV	**Otavalo**	**31.69**	**346**	P	**P**	**14 16 54.9**	**-1.3**
OTAV				IAmb	IAmb	14 17 06.9	
	comp=Z,2.2nm,0.7s						
PTGA	**Pitinga**	**31.90**	**22**	P	**P**	**14 16 58.0**	**+0.4**
QSPA	**South Pole Qui**	**59.33**	**180**	P	**P**	**14 20 34.1**	**+0.8**
QSPA				IAmb	IAmb	14 20 47.9	
	comp=Z,1.3nm,1.0s						

*GUC **17** 14:14:05.5±0.7, 32.08S×72.28W, h36km±5km, ML4.4*
*IDC **17** 14:14:07.9±0.8, 32.18S×71.38W, h0km, mb4.2/7, mb1 4.2/12, mb1mx4.1/33, mbtmp4.1/12, ML4.1/4, Error ellipse: s-maj=28.9km s-min=18.2km az=98.0*
*NEIC **17** 14:14:11.9±2.5, 32.18S±0.04×71.6W±0.2, h35km±2km, mb4.5/7, ML4.5(GUC), Error ellipse: s-maj=29.4km s-min=7.3km az=273.0*
ISC 17 14:14:06.3±1.8, 32.02S±0.03×71.96W±0.08, h1km±10km, n58, σ2s04/59, mb4.4/10, 6C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.78**	**134**	*i*P	**Pn**	**14 14 23.8**	**-0.6**
VA06				*e*S	**Sn**	**14 14 37.2**	**+0.5**
VA06				IAML		14 14 51.9	
	comp=N,22μm,0.5s						
VA01	**Torpederas**	**1.04**	**166**	*e*P	**Pg**	**14 14 26.2**	**0.0**
VA01				*e*S	**Sb**	**14 14 40.6**	**-0.6**
ROCH	**El Roble**	**1.24**	**140**	*i*P	**Pg**	**14 14 31.0**	**+0.8**
ROCH				*e*S	**Sn**	**14 14 48.4**	**-0.2**
ROCH				IAML		14 15 06.8	
	comp=N,9μm,0.4s						
CO06	**Fray Jorge**	**1.37**	**12**	*i*P	**Pn**	**14 14 32.1**	**-0.4**
CO06				*e*S	**Sb**	**14 14 45.4**	**-5.3**
CO06				IAML		14 14 51.1	
	comp=E,8μm,0.3s						
VA03	**San Esteban**	**1.40**	**122**	*i*P	**Pg**	**14 14 34.2**	**+0.9**
VA03				*e*S	**Sg**	**14 14 54.5**	**+3.0**
VA03				IAML		14 15 09.7	
	comp=N,9μm,0.3s						
CO03	**El Pedregal**	**1.60**	**43**	*i*P	**Pg**	**14 14 37.4**	**+0.4**
CO03				*i* S	**Sn**	**14 14 54.4**	**-2.8**
CO03				IAML		14 15 00.7	
	comp=E,7μm,0.5s						
VA05	**Santo Domingo**	**1.66**	**170**	*e*P	**Pn**	**14 14 34.8**	**-1.8**
VA05				*e*S	**Sn**	**14 14 54.1**	**-4.4**
MT05	**Renca**	**1.71**	**144**	*e*P	**Pn**	**14 14 37.1**	**-0.3**
MT05				*e*S	**Sg**	**14 15 02.4**	**+1.0**
MT05				IAML		14 15 20.4	
	comp=E,6μm,0.3s						
MT09	**Talagante**	**1.94**	**155**	*i*P	**Pn**	**14 14 40.4**	**-0.1**
MT09				*e*S	**Sb**	**14 15 07.0**	**-0.2**
MT01	**Popeta**	**1.94**	**162**	*e*P	**Pn**	**14 14 39.1**	**-1.3**
MT01				*e*S	**Sb**	**14 15 05.0**	**-2.1**
GO04	**Tololo Observa**	**2.09**	**29**	*e*P	**Pn**	**14 14 43.8**	**+1.1**
GO04				*e*S	**Sn**	**14 15 07.9**	**-1.6**
LMEL	**Las Melosas**	**2.35**	**142**	*e*P	**Pb**	**14 14 47.4**	**-2.2**
LMEL				*e*S	**Sb**	**14 15 18.4**	**-0.7**
LMEL				IAML		14 15 43.1	
	comp=N,2μm,0.4s						
BO03	**Pichilemu**	**2.47**	**180**	*i*P	**Pn**	**14 14 45.2**	**-2.5**
BO01	**Tunca**	**2.48**	**163**	*e*P	**Pn**	**14 14 46.7**	**-1.1**
BO01				*e*S	**Sn**	**14 15 18.1**	**-0.7**
BO02	**Sierra Bellavi**	**2.94**	**161**		**Pn**	**14 14 51.7**	**-2.5**
LCO	**Las Campanas**	**3.19**	**20**		**Pn**	**14 14 58.1**	**+0.3**
H03N1	**Juan Fernandez**	**6.03**	**255**	T	T	14 22 19.1	
	baz=79,slow=72,SNR=182						
H03N3	**Juan Fernandez**	**6.04**	**254**	T	T	14 22 24.1	
	baz=79,slow=72,SNR=182						
H03N2	**Juan Fernandez**	**6.05**	**255**	T	T	14 22 24.9	
	baz=79,slow=72,SNR=171						
PLCA	**Paso Flores**	**8.77**	**173**	Pn	**Pn**	**14 16 13.4**	**-0.9**
	comp=N,0.7nm,0.3s,baz=333,slow=11,SNR=14						
PLCA	**Paso Flores**	**8.77**	**173**		**Pn**	**14 16 12.7**	**-1.7**
LVC	**Limon Verde**	**9.75**	**17**	Pn	**Pn**	**14 16 31.2**	**+3.1**
	baz=323,slow=18,SNR=0.6						
LVC	**Limon Verde**	**9.75**	**17**		**Pn**	**14 16 30.5**	**+2.4**
TRQA	**Tornquist**	**10.16**	**129**	Pn	**Pn**	**14 16 29.1**	**-4.2**
CPUP	**Villa Florida**	**13.97**	**70**	Pn	**Pn**	**14 17 22.3**	**-3.2**
	comp=N,0.2nm,0.3s,baz=270,slow=13,SNR=2.0						
LPAZ	**La Paz**	**16.04**	**13**	Pn	**Pn**	**14 17 55.3**	**+1.5**
	comp=N,0.3nm,0.3s,baz=177,slow=7.3,SNR=5.9						
LPAZ	**La Paz**	**16.04**	**13**		**Pn**	**14 17 54.6**	**+0.9**
SIV	**San Ignacio**	**18.78**	**34**	P	**Pn**	**14 18 27.0**	**-0.4**
	comp=N,0.3nm,0.3s,baz=229,slow=9.8,SNR=14						
SAML	**Samuel**	**24.36**	**21**	P	**P**	**14 19 26.7**	**+0.8**
SAML				IAmb	IAmb	14 19 31.4	
	comp=Z,3.4nm,1.0s						
BDFB	**Brasilia**	**27.20**	**59**	P	**P**	**14 19 49.5**	**-2.4**
	comp=Z,2.9nm,0.5s,baz=226,slow=7.1,SNR=1.9						
BDFB	**Brasilia**	**27.20**	**59**	IAmb	IAmb	14 19 55.9	
	comp=Z,17nm,1.1s						
PTGA	**Pitinga**	**33.12**	**22**	P	**P**	**14 20 45.0**	**+1.0**
VNA3	**Neumayer Olymp**	**51.17**	**158**	P	**P**	**14 23 10.8**	**+0.2**
VNA1	**Neumayer--Stat**	**51.47**	**158**	P	**P**	**14 23 12.1**	**-0.8**
VNA2	**Neumayer--Watz**	**51.81**	**158**	P	**P**	**14 23 15.1**	**-0.4**
	baz=285,slow=8.1						
SNAA	**Sanae**	**53.40**	**158**	P	**P**	**14 23 26.7**	**-0.6**
SNAA	**Sanae**	**53.40**	**158**	P	**P**	**14 23 26.6**	**-0.7**
	comp=Z,1.9nm,0.8s,baz=274,slow=7.0,SNR=8.3						
QSPA	**South Pole Qui**	**58.22**	**180**	P	**P**	**14 24 01.5**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=167,slow=2.0,SNR=7.0						
QSPA	**South Pole Qui**	**58.22**	**180**	P	**P**	**14 24 01.3**	**-0.7**
QSPA				IAmb	IAmb	14 24 10.9	
	comp=Z,4.2nm,0.8s						
TXAR	**Lajitas Array**	**68.05**	**330**	P	**P**	**14 25 11.4**	**+3.8**
	comp=Z,0.3nm,0.7s,baz=193,slow=7.4,SNR=1.9						
LIC	**Lamto**	**74.09**	**72**	*e*P	**P**	**14 25 47.9**	**+3.4**
	comp=Z,27nm,0.8s						
TIC	**Toumodi**	**74.34**	**72**	*e*P	**P**	**14 25 49.4**	**+3.4**
KIC	**Kosan Boka**	**74.40**	**72**	*e*P	**P**	**14 25 49.9**	**+3.6**
	comp=Z,21nm,0.9s						
DBIC	**Dimbokro**	**74.49**	**72**	P	**P**	**14 25 47.0**	**+0.2**
	comp=Z,11nm,0.9s,baz=218,slow=6.6,SNR=8.6						
DBIC	**Dimbokro**	**74.49**	**72**	P	**P**	**14 25 45.6**	**-1.2**
NVAR	**Mina Array Bea**	**82.30**	**325**	P	P	14 26 34.2	+4.5
	comp=Z,1.1nm,0.8s,baz=158,slow=6.1,SNR=7.5						
TORD	**Torodi Ar. Bea**	**83.47**	**70**	P	**P**	**14 26 36.1**	**0.0**
	comp=Z,7.3nm,0.8s,baz=261,slow=5.6,SNR=11						
TORD	**Torodi Ar. Bea**	**83.47**	**70**	P	**P**	**14 26 35.2**	**-0.9**
TORD				IAmb	IAmb	14 26 40.7	
	comp=Z,7.7nm,0.8s						
WRA	**Warramunga Arr**	**122.52**	**210**	PKP	**PKiKP**	**14 33 07.7**	**+3.3**
	comp=Z,0.6nm,0.8s,baz=132,slow=1.2,SNR=5.5						
H11S2	**WAKE ISLAND Hyl**	**25.85**	**271**	T	T	16 52 07.0	
	baz=117,slow=75,SNR=2.0						
H11S1	**WAKE ISLAND Hyl**	**25.86**	**271**	T	T	16 52 08.0	
	baz=117,slow=75,SNR=1.0						
H11S3	**WAKE ISLAND Hyl**	**25.86**	**271**	T	T	16 52 08.3	
	baz=117,slow=75,SNR=1.8						
H11N3	**WAKE ISLAND Hyl**	**26.21**	**272**	T	T	16 52 26.3	
	baz=116,slow=75,SNR=7.2						
H11N1	**WAKE ISLAND Hyl**	**26.22**	**272**	T	T	16 52 35.5	
	baz=116,slow=75,SNR=3.7						
H11N2	**WAKE ISLAND Hyl**	**26.23**	**272**	T	T	16 52 37.3	
	baz=116,slow=75,SNR=20						
ZALV	**Zalesovo Beam**	**152.50**	**30**	PKPbc	**PKiKP**	**14 34 03.9**	**-0.2**
	comp=Z,14nm,0.7s,baz=301,slow=2.9,SNR=15						
MKAR	**Makanchi Array**	**155.37**	**46**	PKPbc	PKPdf	14 34 10.8	+10
	comp=Z,0.9nm,0.9s,baz=289,slow=4.4,SNR=4.4						
SONM	**Songino Array**	**164.15**	**4**	PKPab	**PKPab**	**14 35 06.7**	**+1.9**
	comp=Z,0.4nm,0.4s,baz=349,slow=5.9,SNR=2.4						

*IDC **17** 14:19:14.2±0.4, 30.88S×71.87W, h0km, mb5.1/20, mb1 5.1/25, mb1mx5.1/28, mbtmp5.0/25, ML4.6/5, MS5.0/15, Ms1 5.0/15, ms1mx4.8/27, Error ellipse: s-maj=16.2km s-min=10.8km az=88.0*
*GUC **17** 14:19:15.2±0.6, 30.92S×72.09W, h27km±4km, ML5.7*
*NEIC **17** 14:19:16.0±1.9, 30.91S±0.05×71.98W±0.10, h10km±1km, mb5.5/170, Ms_20 5.1/23, Mwr5.7(GUC), Error ellipse: s-maj=15.3km s-min=6.9km az=111.0*
*VAO **17** 14:19:15.0±0.3, 30.93S×71.96W, h10km, mb5.3*
*MOS **17** 14:19:17.8±1.1, 30.79S×71.88W, h31km, mb5.6/35, MS5.1/6, Error ellipse: s-maj=12.3km s-min=6.8km az=90.9*
ISC 17 14:19:14.8±0.9, 30.93S±0.03×72.01W±0.04, h8km±5km, n601, σ1s24/548, mb5.5/114, MS5.1/37, 74C-128D, Fault plane solution: NP1: ϕs197.44560°, δ81.04021°, λ6.77871°. **NP2:** ϕs106.38504°, δ83.30439°, λ170.97817°. **Principal axes:** T Plg11.1028°, Azm61.7568°; N Plg78.7816°, Azm250.0938°; P Plg1.5862°, Azm152.0681°; **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.41**	**52**	*i*P	**Pb**	**14 19 24.6**	**+0.2**
CO06				*i* S	**Sb**	**14 19 31.4**	**+0.5**
CO03	**El Pedregal**	**1.14**	**86**	*i*P	**Pn**	**14 19 36.8**	**-0.4**
CO03				*i* S	**Sn**	**14 19 52.3**	**-0.8**
GO04	**Tololo Observa**	**1.29**	**54**	*i*P	**Pn**	**14 19 38.8**	**-0.6**
GO04	**Tololo Observa**	**1.29**	**54**	*i* P	**Pn**	**14 19 39.0**	**-0.4**
VA06	**Catapilco**	**1.73**	**160**	*e*P	**Pn**	**14 19 45.5**	**+0.1**
VA06				*i* S	**Sb**	**14 20 08.0**	**-0.9**
VA06				IAML		14 20 15.4	
	comp=E,169μm,0.5s						
VA01	**Torpederas**	**2.11**	**172**	*e*P	**Pn**	**14 19 50.5**	**0.0**
VA01	**Torpederas**	**2.11**	**172**	*i* P	**Pn**	**14 19 50.0**	**-0.4**
ROCH	**El Roble**	**2.21**	**158**	*i*P	**Pn**	**14 19 52.8**	**+0.8**
ROCH				*i* S	**Sb**	**14 20 21.9**	**-0.8**
ROCH				IAML		14 20 30.4	
	comp=N,40μm,0.6s						
VA03	**San Esteban**	**2.21**	**146**	*e*P	**Pb**	**14 19 53.6**	**-1.5**
VA03				*e*S	**Sb**	**14 20 21.2**	**-1.5**
VA03				IAML		14 20 29.1	
	comp=N,87μm,0.5s						
LCO	**Las Campanas**	**2.23**	**31**	P	**Pn**	**14 19 52.1**	**-0.2**
LCO	**Las Campanas**	**2.23**	**31**	Pn	**Pn**	**14 19 52.1**	**-0.2**
AROD	**Rodeo**	**2.32**	**71**	*i* P	**Pb**	**14 19 56.0**	**-1.1**
ACDV	**Cuesta del Vie**	**2.60**	**74**	*i* P	**Pb**	**14 20 01.0**	**-0.9**
ACDV				*e*S	**Sg**	**14 20 38.4**	**-0.2**
MT05	**Renca**	**2.68**	**157**	*e*P	**Pn**	**14 19 58.9**	**+0.6**
MT05				*e*S	**Sn**	**14 20 32.5**	**+1.4**
MT05				IAML		14 20 43.8	
	comp=N,31μm,0.6s						
VA05	**Santo Domingo**	**2.74**	**173**	*e*P	**Pn**	**14 19 58.9**	**-0.3**
VA05				*e*S	**Sn**	**14 20 30.5**	**-1.9**
VA05				IAML		14 20 55.5	
	comp=E,21μm,0.5s						
AC04	**Llanos de Chal**	**2.84**	**17**	*e*P	**Pn**	**14 19 59.0**	**-1.4**
AC04	**Llanos de Chal**	**2.84**	**17**	*i* P	**Pn**	**14 19 59.0**	**-1.4**
ZON	**Zonda**	**2.92**	**103**	*i* P	**Pb**	**14 20 06.2**	**-1.0**
ZON				*e*S	**Sg**	**14 20 49.9**	**+1.3**
MT09	**Talagante**	**2.97**	**163**	*e*P	**Pn**	**14 20 03.5**	**+1.1**
MT09				IAML		14 20 55.5	
	comp=N,34μm,0.5s						
MT01	**Popeta**	**3.00**	**168**	*e*P	**Pn**	**14 20 03.0**	**+0.3**
MT01				*e*S	**Sn**	**14 20 37.8**	**-1.0**
MT01				IAML		14 20 58.5	
	comp=E,34μm,0.9s						
MT01	**Popeta**	**3.00**	**168**	*i* P	**Pn**	**14 20 04.0**	**+1.4**
ASAL	**Salagasta**	**3.17**	**122**	*i* P	**Pb**	**14 20 11.0**	**-0.5**
LMEL	**Las Melosas**	**3.29**	**153**	*e*P	**Pn**	**14 20 08.3**	**+1.6**
LMEL				IAML		14 21 02.2	
	comp=N,8μm,0.2s						
BO01	**Tunca**	**3.54**	**168**	*e*P	**Pn**	**14 20 10.5**	**+0.4**
BO01	**Tunca**	**3.54**	**168**	*i* P	**Pn**	**14 20 11.0**	**+0.9**
BO03	**Pichilemu**	**3.56**	**179**	*i*P	**Pn**	**14 20 09.5**	**-

PP1B	Ponte de Pedra	20.46	53	eP		P		14 23 52.5	-0.5
PCMB	Pacaembu	20.77	68	eP		P		14 23 55.8	-0.5
VILB	Vilhena	20.95	34	eP		P		14 23 58.5	+0.1
TIJ01	Guaruva-PR	21.03	80	eP		P		14 23 57.3	-1.9
SALV	Santo Antonio	21.12	49	eP		P		14 23 59.1	-1.1
FRTB	Fartura	21.33	75	eP		P		14 24 01.7	-0.8
ETMB	Extrema	21.69	16	eP		P		14 24 05.8	-0.4
PET01	Itanhaem-SP	22.87	79	eP		P		14 24 18.8	-0.1
SPB	Sao Paulo	23.01	77	P		P		14 24 20.9	+0.6
SPB	comp=Z,7µm,18.0s			IAMs_20	IAMs_20		14 33 45.7		
SPB	Sao Paulo	23.01	77	eP		P		14 24 19.8	-0.5
CZSB	Cruzeiro do Su	23.09	358	eP		P		14 24 20.8	-0.4
EFI	East Falkland	23.15	158	P		P		14 24 20.9	-0.5
EFI	comp=Z,428nm,1.5s			pmax	pmax				
EFI	comp=Z,4µm,20.0s			MLR	MLR				
EFI	East Falkland	23.15	158	P		P		14 24 20.9	-0.5
EFI	East Falkland	23.15	158	IAMs_20	IAMs_20		14 33 47.0		
BB19B	comp=Z,4µm,20.0s Bebedouro	23.24	71	eP		P		14 24 21.6	-1.2
SAML	Samuel	23.37	22	P		P		14 24 23.7	-0.3
SAML	comp=Z,155nm,1.4s			pmax	pmax				
SAML	Samuel	23.37	22	P		P		14 24 23.7	-0.3
SAML	comp=Z,155nm,1.4s			IAmb	IAmb		14 24 38.3		
RCLB	Rio Claro- Sao	23.42	75	eP		P		14 24 23.2	-1.4
VAO	Valinhos	23.64	77	eP		P		14 24 24.9	-1.9
USHA	Ushuaia	24.03	175	P		P		14 24 31.4	+1.4
PARB	comp=Z,141nm,0.9s,baz=357,slow=8.4,SNR=13 Paraibuna	24.63	79	eP		P		14 24 35.1	-1.0
CLDB	Colider	24.99	40	eP		P		14 24 38.8	-0.5
IPMB	Ipameri, GO	25.14	65	eP		P		14 24 39.9	-0.7
BSCB	Bom Sucesso	26.35	74	eP		P		14 24 50.1	-1.6
TBTG	Tabatinga, AM	26.62	5	eP		P		14 24 55.4	+0.9
BDFB	Brasilia	26.70	61	P		P		14 24 54.5	-0.4
BDFB	comp=Z,61nm,0.9s,baz=231,slow=7.3,SNR=38			LR	LR		14 36 33.4		
BDFB	comp=Z,5µm,21.3s,baz=237,slow=39 Brasilia	26.70	61	P		P		14 24 52.9	-2.0
BDFB	comp=Z,89nm,1.0s			pmax	pmax				
BDFB	Brasilia	26.70	61	P		P		14 24 52.9	-2.0
BDFB	comp=Z,89nm,1.0s			IAmb	IAmb		14 25 16.8		
SNDB	Serra Nova Dou	26.88	50	eP		P		14 24 56.2	-0.2
VAS01	Vassouras-RJ	26.90	78	eP		P		14 24 55.6	-0.9
DUB01	Friburgo-RJ	27.88	79	eP		P		14 25 04.2	-1.2
NPGB	Novo Progresso	28.42	37	eP		P		14 25 08.9	-1.3
DIAM	Diamantina, MG	28.58	71	eP		P		14 25 11.2	-0.5
CAM01	Campos-RJ	28.59	79	eP		P		14 25 10.9	-0.7
PEXB	Peixe	28.83	55	eP		P		14 25 13.6	-0.2
MC01	Montes Claros	29.22	67	eP		P		14 25 16.5	-0.8
MACA	Manacapuru-AM	29.62	23	eP		P		14 25 21.5	+0.8
JANB	Januaria	29.88	64	eP		P		14 25 22.4	-0.8
ALF01	Guarapari-ES	29.89	77	eP		P		14 25 22.1	-1.1
SJMB	Sao Joao De Ma	30.41	74	eP		P		14 25 27.1	-0.7
ITTB	Itaituba	30.55	33	eP		P		14 25 27.1	-1.9
BSFB	Barra de Sao F	30.62	74	eP		P		14 25 28.9	-0.8
RIB01	Linhares ES	30.77	75	eP		P		14 25 31.8	+0.8
PTLC	Puerto Leguiza	31.04	355	eP		P		14 25 32.1	-1.2
SDBA	SAO DESIDERIO	31.08	60	eP		P		14 25 32.4	-1.4
OTAV	Otavalo	31.60	348	P		P		14 25 37.9	-0.8
OTAV	comp=Z,71nm,1.5s			pmax	pmax				
OTAV	Otavalo	31.60	348	P		P		14 25 37.9	-0.8
OTAV	comp=Z,71nm,1.4s			IAmb	IAmb		14 25 42.8		
SMTB	Otavalo	31.60	348	eP		P		14 25 42.4	+3.7
PTGA	Santa Maria do	31.63	51	eP		P		14 25 38.9	+0.3
PRPB	Pitinga	32.13	23	IAMs_20	IAMs_20		14 33 28.9		
GUA01	comp=Z,4µm,21.0s Parauapebas	32.25	45	eP		P		14 25 42.1	-2.0
BBAC	Guaratinga, BA	32.61	71	eP		P		14 25 46.8	-0.4
SOTA	Balboa, Cauca	33.15	350	eP		P		14 25 56.5	+2.4
MALB	Rioblanco	33.17	352	eP		P		14 25 55.3	+2.7
CMC01	Monte Alegre	33.44	34	eP		P		14 25 53.8	-0.6
POPC	Camacan, BA	33.50	70	eP		P		14 25 55.0	+0.1
MARP	Popayan, Colom	33.58	352	eP		P		14 25 58.4	+2.6
NBIT	Paez Belalcaza	33.80	353	eP		P		14 26 00.7	+2.9
PMSA	Itapeh - BA	33.80	69	eP		P		14 25 57.4	-0.2
PMSA	Palmer Station	34.23	174	P		P		14 26 02.3	+1.6
PMSA	comp=Z,31nm,1.1s,baz=360,slow=11,SNR=9.7 Palmer Station	34.23	174	P		P		14 26 00.4	-0.3
PMSA	comp=Z,112nm,1.4s			IAmb	IAmb		14 26 11.1		
PMSA	Palmer Station	34.23	174	IAMs_20	IAMs_20		14 40 17.0		
GDU01	comp=Z,3µm,18.0s Guandu, BA	34.37	67	eP		P		14 26 02.1	-0.5
PRAC	Prado	34.56	355	eP		P		14 26 06.6	+2.4
ORTC	Ortega, Tolima	34.78	354	eP		P		14 26 08.8	+2.8
BOAV	Boa Vista	34.90	20	eP		P		14 26 07.7	+0.6
YOTC	Yotoco, Valle	34.96	352	eP		P		14 26 09.0	+1.3
CHIC	Chingaza	35.40	357	eP		P		14 26 13.8	+2.1
NBPN	Ponto Novo - B	35.61	63	eP		P		14 26 12.9	-0.3
ROSC	El Rosal	35.64	356	P		P		14 26 15.3	+1.5
MCPB	comp=Z,21nm,0.8s,baz=213,slow=5.9,SNR=8.3 Macapa, AP	35.82	36	eP		P		14 26 13.8	-1.1
GUY2C	Guyana, Caldas	36.09	354	eP		P		14 26 19.5	+1.6
TMAB	Tom-Au,PA,Br	36.30	43	eP		P		14 26 19.4	+0.3
SPBC	San Pablo de B	36.43	357	eP		P		14 26 21.9	+1.6
RUSC	La Rusia	36.63	358	eP		P		14 26 23.4	+1.0
CBOC	Ciudad Bolivar	36.79	353	eP		P		14 26 25.1	+1.7
HELC	Santa Helena	37.06	354	eP		P		14 26 27.6	+1.6
BARC	Barichara	37.33	358	eP		P		14 26 28.6	+0.6
PTBC	PUERTO BERRIO,	37.33	356	eP		P		14 26 26.1	-1.8
NBLA	Lagarto - SE	37.38	65	eP		P		14 26 27.3	-1.1
DBBC	Dabeiba	37.95	353	eP		P		14 26 35.5	+2.4
PAMC	Pamplona, Colo	38.06	359	eP		P		14 26 36.1	+1.6
ZARC	Zaragoza, Cauc	38.30	355	eP		P		14 26 36.4	+0.3
UREC	San Jos de Ur	38.61	354	eP		P		14 26 38.6	0.0
NBMA	Muriti-CE	38.93	60	eP		P		14 26 40.9	-0.6
NBPS	Pedro II - PI	39.04	54	eP		P		14 26 42.3	-0.1
NBAN	Anadia - AL	39.37	65	eP		P		14 26 43.5	-1.6
NBPB	Pedra_Branca-C	39.55	57	eP		P		14 26 46.4	-0.2
SMLC	San Martn de	39.55	357	eP		P		14 26 45.1	-1.4
SDV	Santo Domingo	39.61	2	P		P		14 26 47.1	-0.1
SDV	comp=Z,18nm,0.8s,baz=199,slow=6.9,SNR=11 Santo Domingo	39.61	2	P		P		14 26 46.5	-0.7
MDP	Montagnes des	40.33	31	P		P		14 26 52.9	-0.1
SJCC	comp=Z,41nm,0.9s,baz=206,slow=10,SNR=12 San Jacinto, C	40.71	355	eP		P		14 26 56.5	+0.3
NBMO	Morrinhos-CE	40.79	54	eP		P		14 26 56.1	-0.7
NBRF	Rio Formoso -	40.87	65	eP		P		14 26 57.6	+0.1
NBPA	Parau_RN	41.22	60	eP		P		14 26 59.7	-0.8
NBCL	Cascavel-CE	41.39	57	eP		P		14 27 01.4	-0.4
PCRV	Puerto La Cruz	41.48	11	P		P		14 27 02.2	-0.3
RCBR	baz=223,slow=5.7 Riachuelo	42.07	61	P		P		14 27 07.1	-0.4
RCBR	comp=Z,40nm,1.1s			pmax	pmax				
RCBR	comp=Z,3µm,20.0s			MLR	MLR				
RCBR	Riachuelo	42.07	61	P		P		14 27 07.1	-0.4
RCBR	Riachuelo	42.07	61	IAMs_20	IAMs_20		14 45 10.9		
NBPV	comp=Z,3µm,20.0s Pedro Velho	42.16	62	eP		P		14 27 07.9	-0.2
JTS	Las Juntas de	42.83	341	P		P		14 27 13.6	+0.1
JTS	comp=Z,3.2nm,0.3s,baz=243,slow=8.3,SNR=5.1 Las Juntas de	42.83	341	P		P		14 27 10.1	-3.4
JTS	comp=Z,98nm,1.9s			pmax	pmax				
JTS	Las Juntas de	42.83	341	P		P		14 27 10.1	-3.4
MPOM	Morne Pois Mar	46.37	15	P		P		14 27 40.6	-1.1
FDF	Fort de France	46.59	15	IAMs_20	IAMs_20		14 48 03.1		
SJG	comp=Z,2µm,19.0s San Juan	49.08	7	P		P		14 28 02.2	-0.6
SJG	comp=Z,101nm,1.2s			pmax	pmax				
SJG	San Juan	49.08	7	P		P		14 28 02.1	-0.6
AOPR	Arecibo Observ	49.25	7	P		P		14 28 01.6	-2.5
ANWB	Willy Bob	49.31	13	P		P		14 28 02.5	-2.0
VNA3	Neumayer Olymp	52.19	159	P		P		14 28 26.6	+0.9
VNA1	Neumayer--Stat	52.49	158	P		P		14 28 29.1	+1.3
CMIG	Matias Romero	52.57	332	P		P		14 28 30.1	+1.0
VNA2	comp=Z,7.1nm,1.0s,baz=169,slow=3.9,SNR=5.9 Neumayer--Watz	52.83	158	P		P		14 28 31.3	+0.8
SNAA	baz=281,slow=8.2 Sanae	54.42	159	P		P		14 28 43.0	+0.8
SNAA	Sanae	54.42	159	*ce*P		P		14 28 42.9	+0.8
SNAA	comp=Z,97nm,1.3s			pmax	pmax				
RKT	Rikitea	55.99	262	*e*T		T		15 29 15.4	
UNM	comp=Z,8.2nm,0.3s Universidad Na	56.38	329	IAMs_20	IAMs_20		14 48 00.9		
QSPA	comp=Z,2µm,20.0s South Pole Qui	59.30	180	P		P		14 29 17.5	+0.6
ZAIG	Zacatecas	60.91	328	P		P		14 29 30.0	+1.3
833A	Chaparral WMA,	64.45	333	P		P		14 29 53.2	+1.4
HKT	baz=154,SNR=14 Hockley	64.65	337	P		P		14 29 54.1	+1.1
HKT	comp=Z,55nm,1.3s			pmax	pmax				
HKT	Hockley	64.65	337	P		P		14 29 54.1	+1.1
HKT	comp=Z,55nm,1.3s			IAmb	IAmb		14 29 55.7		
GOGA	Godfrey	64.91	349	P		P		14 29 54.4	-0.3
GOGA	comp=Z,64nm,1.7s			pmax	pmax				
GOGA	Godfrey	64.91	349	P		P		14 29 54.4	-0.3
GOGA	comp=Z,64nm,1.7s			IAmb	IAmb		14 30 03.4		
LRAL	Lakeview Retre	65.18	346	P		P		14 29 56.5	0.0
LRAL	comp=Z,50nm,1.6s			IAmb	IAmb		14 30 08.9		
SLBS	Sierra La Lagu	65.35	322	P		P		14 29 58.4	+0.4
SLBS	comp=Z,54nm,1.2s			IAmb	IAmb		14 30 00.7		
NATX	Nacogdoches	65.94	339	IAMs_20	IAMs_20		14 56 52.0		
435B	comp=Z,657nm,22.0s Jarrell	66.01	336	P		P		14 30 02.9	+1.0
SBA	baz=156 Scott Base	66.08	191	P		P		14 30 02.7	+0.9
SBA	comp=Z,89nm,1.8s			pmax	pmax				
SBA	Scott Base	66.08	191	P		P		14 30 02.7	+0.9
SBA	comp=Z,89nm,1.8s			IAmb	IAmb		14 30 21.7		
KMSC	Kings Mountain	66.31	352	P		P		14 30 03.4	-0.3
KMSC	comp=Z,31nm,1.2s			IAmb	IAmb		14 30 05.1		
KMSC	Kings Mountain	66.31	352	P		P		14 30 05.4	+1.7
JCT	baz=171 Junction City	66.54	334	P		P		14 30 04.7	-0.6
JCT	comp=Z,163nm,1.4s			pmax	pmax				
JCT	Junction City	66.54	334	P		P		14 30 04.7	-0.6
TAOE	Nuku Hiva Isla	66.77	274	*e*S		S		14 38 59.1	-1.1
TAOE	comp=Z,445nm,21.9s Nuku Hiva Isla	66.77	274	*e*LR		LR		14 50 13.5	
Z41A	comp=Z,569nm,22.7s Richland Creek	66.80	341	P		P		14 30 08.0	+1.1
WHTX	baz=161 Lake Whitney,	67.07	337	P		P		14 30 07.9	-0.7
WHTX	Lake Whitney,	67.07	337	P		P		14 30 09.2	+0.6
TXAR	baz=156,SNR=7.0 Lajitas Array	67.08	330	P		P		14 30 09.7	+0.8
TXAR	comp=Z,7.8nm,0.7s,baz=153,slow=8.6,SNR=92			LR	LR		14 55 40.6		
TXAR	comp=Z,1µm,18.2s,baz=0.0,slow=33			PKP2ab			14 58 42.7		
TX31	comp=Z,0.3nm,0.3s,baz=259,slow=1.3,SNR=7.6 Lajitas Ar. Si	67.08	330	P		P		14 30 09.2	+0.3
TX32	Lajitas Array	67.08	330	P		P		14 30 09.0	0.0
TX32	comp=Z,56nm,1.5s			IAmb	IAmb		14 30 11.2		
VNDA	Vanda	67.11	191	P		P		14 30 10.2	+1.8
VNDA	comp=Z,5.1nm,1.0s,baz=138,slow=4.6,SNR=15			LR	LR		14 54 38.6		
VNDA	comp=Z,398nm,19.7s,baz=146,slow=32 Vanda	67.11	191	P		P		14 30 10.3	+1.8
OXF	Oxford	67.13	344	P		P		14 30 08.0	-1.0
OXF	comp=Z,137nm,1.1s			pmax	pmax				
OXF	Oxford	67.13	344	P		P		14 30 08.0	-1.0
PLAL	Pickwick Lake	67.29	346	P		P		14 30 09.7	-0.2
PLAL	comp=Z,43nm,1.2s			IAmb	IAmb		14 30 11.0		
X40A	Basin Creek Fa	67.97	342	P		P		14 30 14.2	-0.1
TBI	baz=161 Tubuai	68.09	255	*e*S		S		14 39 16.0	+0.3
TBI	comp=Z,802nm,28.2s Tubuai	68.09	255	*e*LR		LR		14 50 44.2	
TBI	comp=Z,974nm,25.2s,baz=113 Tubuai	68.09	255	*e*T		T		15 44 25.6	
MIAR	comp=Z,10nm,0.2s Mount Ida	68.23	341	P		P		14 30 16.1	+0.2
MIAR	comp=Z,45nm,1.3s			pmax	pmax				
MIAR	Mount Ida	68.23	341	P		P		14 30 16.1	+0.2
MIAR	comp=Z,45nm,1.2s			IAmb	IAmb		14 30 17.6		
WVT	Waverly	68.34	346	P		P		14 30 15.8	-0.8
WVT	comp=Z,89nm,1.3s			pmax	pmax				
WVT	Waverly	68.34	346	P		P		14 30 15.8	-0.8
ABTX	Abilene, Hawle	68.41	335	P		P		14 30 17.2	+0.1
ABTX	Abilene, Hawle	68.41	335	P		P		14 30 17.8	+0.7
W41B	baz=155,SNR=9.1 Gary Mavity, V	68.46	342	P		P		14 30 17.6	+0.3
SYO	baz=161,SNR=9.6 Syowa Base	68.71	159⇓	*e*P		P		14 30 18.8	+0.2
LOOK	Love County	68.81	338	P		P		14 30 20.2	+0.7
LOOK	comp=Z,48nm,1.1s			IAmb	IAmb		14 30 26.6		
W39A	Magazine	68.89	341	P		P		14 30 21.0	+1.0
MEH	baz=160,SNR=35 Mehetia	69.31	261	*e*P		P		14 30 24.4	+1.2
SRIG	comp=Z,70nm,1.3s Santa Rosalia	69.50	322	P		P		14 30 24.1	+0.1
Q61A	Milford	69.52	357	P		P		14 30 25.1	+1.3
PBMO	baz=177 Poplar Bluff	69.53	344	P		P		14 30 23.6	-0.4
PBMO	comp=Z,45nm,1.1s			IAmb	IAmb		14 30 25.3		
X34A	Smith Ranch, M	69.58	337	P		P		14 30 24.7	+0.4
U40A	Yellville	69.73	342	P		P		14 30 25.3	+0.1
MNTX	baz=161,SNR=17 Cornudas Mount	69.86	330	IAmb	IAmb		14 30 27.1		
WMOK	comp=Z,50nm,1.4s Wichita Mounta	70.02	337	P		P		14 30 26.3	-0.8
WMOK	comp=Z,30nm,1.3s			pmax	pmax				
WMOK	Wichita Mounta	70.02	337	P		P		14 30 26.3	-0.8
TUL1	Leonard	70.14	340	P		P		14 30 27.7	0.0
SIUC	baz=158,SNR=7.7 Southern Illin	70.16	346	P		P		14 30 27.2	-0.6
HSIG	comp=Z,55nm,1.3s	70.21	324	IAmb	IAmb		14 30 30.9		
MGMO	Mountain Grove	70.34	343	P		P		14 30 28.8	-0.1
MGMO	comp=Z,41nm,1.1s			IAmb	IAmb		14 30 30.4		
P60A	Greenville	70.46	357	IAmb	IAmb		14 30 44.7		
P60A	comp=Z,34nm,1.2s Grnville	70.46	357	P		P		14 30 30.8	+1.1
OK031	baz=177 S. Brethren Rd	70.50	339	P		P		14 30 29.6	-0.4
OK031	comp=Z,614nm,21.0s			IAMs_20	IAMs_20		15 02 58.6		
TIAR	Tiarei	70.55	261	*e*T		T		15 47 26.7	
OK029	comp=Z,3.7nm,0.3s Liberty Lake	70.55	338	P		P		14 30 29.9	-0.4
WUPA	West Chester U	70.58	357	P		P		14 30 31.0	+0.7
WUPA	comp=Z,38nm,1.4s			IAmb	IAmb		14 30 32.8		
QUOK	Quay	70.66	339	IAmb	IAmb		14 30 32.4		
FVM	comp=Z,72nm,1.3s French Village	70.68	345	P		P		14 30 30.6	-0.4
FVM	comp=Z,93nm,1.3s			pmax	pmax				
FVM	French Village	70.68	345	P		P		14 30 30.6	-0.4
MVL	Millersville	70.69	356	P		P		14 30 32.3	+1.4
PAE	Paea	70.70	261	*e*P		P		14 30 32.9	+1.2
PPT2	comp=Z,136nm,1.2s Papeete2	70.73	261	*e*P		P		14 30 33.3	+1.3
PPT2	comp=Z,896nm,22.8s,baz=124 Papeete2	70.73	261	*e*LR		LR		14 51 59.3	
PPT	Papeete	70.73	261	P		P		14 30 33.5	+1.6
PPT	comp=Z,94nm,0.9s,baz=63,slow=1.2,SNR=4.4			LR	LR		14 54 02.0		
MSTX	comp=Z,605nm,18.2s,baz=110,slow=30 Muleshoe	70.78	333	P		P		14 30 32.2	+0.3
P52A	baz=152 Corning	70.83	352	IAmb	IAmb		14 30 44.1		
P52A	comp=Z,56nm,1.2s Corning	70.83	352	P		P		14 30 31.5	-0.4
CCM	baz=171,SNR=6.4 Cathedral Cave	70.94	344	P		P		14 30 32.6	0.0
CCM	comp=Z,75nm,1.1s			pmax	pmax				
CCM	Cathedral Cave	70.94	344	P		P		14 30 32.6	0.0
P49A	Miami Univ. Ec	71.09	350	IAmb	IAmb		14 30 47.1		
P49A	comp=Z,87nm,1.6s Miami Univ. Ec	71.09	350	P		P		14 30 33.1	-0.4
O56A	baz=168 Blue Knob Stat	71.10	355	P		P		14 30 34.4	+0.8
LUPA	baz=174 Lehigh Univers	71.24	357	P		P		14 30 35.2	+0.9
O53A	New Philadelph	71.33	353	P		P		14 30 34.2	-0.8
O53A	comp=Z,61nm,1.4s			IAmb	IAmb		14 30 49.2		
O53A	New Philadelph	71.33	353	P		P		14 30 35.1	+0.2
BLOK	baz=172 Blackwell	71.36	339	P		P		14 30 34.8	-0.4
BLOK	comp=Z,59nm,1.3s			IAmb	IAmb		14 30 36.9		
SSPA	Standing Stone	71.42	355	P		P		14 30 35.5	+0.2
SSPA	comp=Z,88nm,1.6s			IAmb	IAmb		14 30 52.5		
ACSO	Alum Creek Sta	71.53	351	IAmb	IAmb		14 30 50.1		
N59A	comp=Z,45nm,0.9s State Game Lan	71.57	357	P		P		14 30 37.4	+1.0
N59A	comp=Z,30nm,0.7s			IAmb	IAmb		14 30 43.0		
N59A	State Game Lan	71.57	357	P		P		14 30 37.6	+1.3
PAL	baz=177,SNR=12 Palisades	71.60	358	P		P		14 30 37.0	+0.6
121A	baz=178 Cookes Peak, D	71.63	329	P		P		14 30 38.5	+1.4
ODNJ	baz=148 Ogdensburg	71.69	358	P		P		14 30 37.2	+0.2
OK032	Salt Plains WL	71.72	338	P		P		14 30 38.0	+0.7
WSPT	Westport, CT	71.75	359	P		P		14 30 38.2	+0.8
WSPT	comp=Z,40nm,1.2s			IAmb	IAmb		14 30 52.5		
N54A	Moraine State	71.91	354	IAmb	IAmb		14 30 52.9		
N54A	comp=Z,68nm,1.4s Moraine State	71.91	354	P		P		14 30 38.8	+0.4
KSPA	baz=173 Keystone Colle	72.21	357	P		P		14 30 41.6	+1.4
L63A	North Scituate	72.43	0	P		P		14 30 42.6	+1.1
M53A	baz=180,SNR=8.0 WI Miller and	72.45	353	IAmb	IAmb		14 30 55.8		
M53A	comp=Z,58nm,1.2s WI Miller and	72.45	353	P		P		14 30 41.7	0.0
BRYW	baz=172,SNR=5.4 Bryant College	72.49	0	P		P		14 30 43.1	+1.3
BRYW	comp=Z,69nm,1.2s			IAmb	IAmb		14 30 44.4		
BNM	Barren Site	72.50	330	P		P		14 30 43.1	+0.7
L64A	Middleborough	72.51	1	P		P		14 30 43.2	+1.3
Y22D	baz=181 IRIS PASSCAL I	72.56	330	P		P		14 30 43.9	+1.2
TUC	baz=149 Tucson	72.83	326	P		P		14 30 45.1	+0.9
TUC	comp=Z,35nm,1.4s			pmax	pmax				
TUC	Tucson	72.83	326	P		P		14 30 45.1	+0.9
L61B	Northampton	73.02	359	P		P		14 30 45.8	+0.9
ERPA	baz=179,SNR=8.9 Erie	73.06	354	IAmb	IAmb		14 30 59.4		
HRV	comp=Z,55nm,1.1s Adam Dziewonsk	73.08	0	P		P		14 30 46.1	+0.8
HRV	comp=Z,22nm,0.9s			pmax	pmax				
HRV	Adam Dziewonsk	73.08	0	P		P		14 30 46.1	+0.8
ANMO	Albuquerque	73.11	331	*i* P		P		14 30 46.2	+0.2
ANMO	comp=Z,29nm,1.3s			pmax	pmax				
ANMO	Albuquerque	73.11	331	P		P		14 30 47.0	+1.1
ANMO	comp=Z,55nm,1.4s			IAmb	IAmb		14 30 48.8		
K62A	Royalston	73.23	360	IAmb	IAmb		14 31 01.7		
K62A	comp=Z,57nm,1.4s Royalston	73.23	360	P		P		14 30 47.3	+1.1
K61A	baz=180,SNR=8.4 Williamstown	73.25	359	P		P		14 30 47.6	+1.3
214A	baz=179 Organ Pipe Nat	73.53	325	P		P		14 30 49.8	+1.5
J61A	baz=144 Chester	73.92	360	P		P		14 30 51.8	+1.5
CBKS	baz=180,SNR=6.5 Cedar Bluff	74.04	338	IAmb	IAmb		14 30 53.2		
DBIC	comp=Z,81nm,1.1s Dimbokro	74.19	72	P		P		14 30 52.5	-0.1
DBIC	comp=Z,26nm,0.9s,baz=229,slow=5.9,SNR=20			LR	LR		15 01 15.1		
T25A	comp=Z,2µm,19.1s,baz=228,slow=34 Trinidad	74.20	334	P		P		14 30 53.7	+1.4
L44A	baz=152,SNR=36 Lake County Fo	74.21	348	P		P		14 30 53.5	+1.5
I60A	baz=166 Shoreham	74.42	359	P		P		14 30 54.2	+1.0
I62A	baz=179,SNR=5.7 Tamworth	74.45	1	P		P		14 30 54.8	+1.5
I63A	baz=181 Otisfield	74.63	1	P		P		14 30 55.3	+0.9
I63A	comp=Z,72nm,1.2s			IAmb	IAmb		14 30 57.5		
I63A	Otisfield	74.63	1	P		P		14 30 55.9	+1.6
W18A	baz=181,SNR=17 Petrified Fore	74.68	329	P		P		14 30 56.3	+1.2
LBNH	baz=147 Lisbon	74.81	0	P		P		14 30 55.4	0.0
LBNH	comp=Z,44nm,1.2s			pmax	pmax				
LBNH	Lisbon	74.81	0	P		P		14 30 55.4	0.0
LBNH	comp=Z,44nm,1.2s			IAmb	IAmb		14 31 10.5		
KSCO	Kaye Shedlock'	75.20	336	P		P		14 30 58.7	+0.7
KSCO	Kaye Shedlock'	75.20	336	P		P		14 30 59.0	+1.1
JFWS	baz=153 Jewell Farm	75.37	346	IAmb	IAmb		14 31 13.2		
FRNY	comp=Z,65nm,1.3s Flat Rock	75.42	359	P		P		14 30 59.3	+0.4
GLA	Glamis	75.42	324	P		P		14 31 00.5	+1.2
S22A	baz=143 4UR Ranch, Cre	75.67	332	P		P		14 31 02.4	+1.5
IKP	baz=150,SNR=23 In-Ko-Pah, Jac	75.76	323	P		P		14 31 02.9	+1.6
SWSC	baz=142,SNR=7.8 Sam W. Stewart	75.83	323	P		P		14 31 02.8	+1.3
MVCO	baz=142 Mesa Verde	75.90	331	IAmb	IAmb		14 31 04.8		
MVCO	comp=Z,79nm,1.3s			IAMs_20	IAMs_20		15 01 15.8		
BGNE	comp=Z,1µm,18.0s Belgrade	75.92

baz=142,SNR=17
BELC Belle Mtn. Jos 76.77 324 P **P** **14 31 08.3 +1.3**
baz=142,SNR=8.6
SMCO Snowmass 76.96 333 P **P** **14 31 10.0 +1.6**
ISCO Idaho Springs 76.98 334 P **P** **14 31 09.5 +1.2**
ISCO pmax pmax
comp=Z,62nm,1.4s
ISCO Idaho Springs 76.98 334 P **P** **14 31 09.5 +1.2**
ISCO IAmb IAmb 14 31 10.9
comp=Z,62nm,1.4s
MURC Murrieta 77.07 323 P **P** **14 31 10.1 +1.5**
baz=141,SNR=7.9
BBRC Big Bear Solar 77.44 323 P **P** **14 31 12.4 +1.4**
baz=142
CIS Catalina Islan 77.56 322 P **P** **14 31 12.7 +1.3**
baz=140
RAR Rarotonga 77.57 253 P **P** **14 31 13.2 +1.4**
baz=148,slow=16
HEC Hector,Ludlow 77.59 324 P **P** **14 31 13.4 +1.8**
baz=142,SNR=7.5
FMP Fort Macarthur 77.73 322 P **P** **14 31 13.6 +1.4**
baz=141
BFSC Mount Baldy Ra 77.81 323 P **P** **14 31 14.1 +1.3**
baz=141,SNR=14
TUQ Turquoise Moun 77.86 325 P **P** **14 31 14.8 +1.6**
baz=143,SNR=19
RRX Edison Barstow 77.96 324 P **P** **14 31 15.4 +1.8**
baz=142
MWC Mount Wilson 78.00 322 IAmb IAmb 14 31 16.8
comp=Z,42nm,1.2s
N23A Red Feather La 78.06 334 P **P** **14 31 15.6 +1.3**
baz=151,SNR=19
SPMN Marine on St. 78.12 345 P **P** **14 31 15.9 +1.8**
baz=162
DECC Green Verdugo 78.17 322 P **P** **14 31 16.5 +1.8**
baz=141
GSC Goldstone, Bar 78.20 324 P **P** **14 31 16.5 +1.5**
baz=142,SNR=14
PHWY Pilot Hill 78.23 335 IAmb IAmb 14 31 17.6
comp=Z,56nm,1.1s
SZCU Shurtz Canyon 78.24 328 IAmb IAmb 14 31 18.3
comp=Z,52nm,1.3s
O20A White River Ci 78.29 332 P **P** **14 31 16.9 +1.5**
baz=149,SNR=29
CCUT Cedar City 78.33 328 IAmb IAmb 14 31 19.1
comp=Z,60nm,1.2s
SRU San Rafael Swe 78.36 330 IAmb IAmb 14 31 18.0
comp=Z,40nm,1.1s
SHOC Shoshone, Teco 78.40 325 P **P** **14 31 17.2 +1.2**
baz=142
Q16A Castle Valley 78.48 330 IAmb IAmb 14 31 19.2
comp=Z,64nm,1.2s
EDW2 Edwards Air Fo 78.48 323 P **P** **14 31 17.6 +1.1**
baz=141,SNR=11
OSI Osito Audit: C 78.66 322 P **P** **14 31 18.6 +1.2**
OSI IAmb IAmb 14 31 20.1
comp=Z,51nm,1.0s
OSI Osito Audit: C 78.66 322 P **P** **14 31 18.6 +1.2**
baz=140
P17A Butcher Ranch, 78.75 330 IAmb IAmb 14 31 20.4
comp=Z,66nm,1.1s
TCRU Three Creeks R 78.78 329 IAmb IAmb 14 31 21.3
comp=Z,59nm,1.6s
LRMC Laurel Mtn Rad 78.78 323 P **P** **14 31 19.5 +1.2**
baz=141,SNR=17
TMUT Trail Mountain 78.81 330 IAmb IAmb 14 31 21.1
comp=Z,50nm,1.4s
SUSD Miller 78.94 341 P **P** **14 31 20.4 +1.6**
baz=157
SBC Santa Barbara 79.05 321 P **P** **14 31 20.9 +1.3**
baz=140
ARVC Arvin 79.10 323 P **P** **14 31 21.4 +1.6**
baz=140
MPMC Manual Prospec 79.14 324 P **P** **14 31 21.4 +1.1**
baz=142,SNR=14
FURC Furnace Creek, 79.14 325 P **P** **14 31 21.5 +1.6**
baz=142,SNR=12
RDMU Red Mountain 79.19 332 IAmb IAmb 14 31 22.6
comp=Z,66nm,1.0s
TPNV Topopah Spring 79.22 325 IAmb IAmb 14 31 23.7
comp=Z,49nm,1.1s
ISA Isabella, Lake 79.33 323 IAmb IAmb 14 31 24.1
comp=Z,47nm,1.1s
ISA Isabella, Lake 79.33 323 P **P** **14 31 22.7 +1.5**
baz=141,SNR=31
KOWA Kowa 79.36 66 P **P** **14 31 21.7 0.0**
KOWA IAmb IAmb 14 31 43.4
comp=Z,77nm,1.6s
PKM Mcpherson Peak 79.44 322 P **P** **14 31 23.5 +1.5**
baz=140,SNR=17
MPU Maple Canyon 79.59 330 IAmb IAmb 14 31 25.0
comp=Z,52nm,1.1s
NLU North Lily Min 79.73 330 IAmb IAmb 14 31 26.1
comp=Z,54nm,1.3s
CWC Cottonwood Cre 79.73 324 P **P** **14 31 24.7 +1.3**
baz=141
VES Vestal, Richgr 79.78 323 P **P** **14 31 25.0 +1.5**
baz=140,SNR=6.7
K22A Casper 79.80 335 P **P** **14 31 24.8 +1.1**
baz=150,SNR=28
GRAC Grapevine Rang 79.81 325 P **P** **14 31 25.2 +1.5**
baz=142,SNR=21
SMMC Simmler 79.86 322 P **P** **14 31 25.9 +1.9**
baz=140,SNR=14
R11A Troy Canyon, C 80.01 327 P **P** **14 31 26.5 +1.6**
baz=143,SNR=62
TSUM Tsumeb 80.04 106 P **P** **14 31 26.4 +0.8**
TSUM IAmb IAmb 14 31 27.9
comp=Z,46nm,1.1s
RSSD Black Hills 80.22 337 P **P** **14 31 26.7 +0.7**
RSSD pmax pmax
comp=Z,33nm,1.1s
RSSD Black Hills 80.22 337 P **P** **14 31 26.7 +0.7**
DUG Dugway, Tooele 80.25 329 IAmb IAmb 14 31 28.7
comp=Z,69nm,1.3s
TIN Tinemaha, Big 80.28 324 P **P** **14 31 27.9 +1.6**
baz=141,SNR=8.2
VOG Valley Oaks Go 80.31 323 P **P** **14 31 26.7 +0.3**
baz=140
PAGB Antelope Grade 80.31 322 IAmb IAmb 14 31 36.7
comp=Z,60nm,1.3s
HWUT Hardware Ranch 80.88 331 IAmb IAmb 14 31 31.4
comp=Z,57nm,0.9s
MLAC Mammoth, Mammo 81.03 324 P **P** **14 31 32.2 +1.6**
baz=141
PDAR Pinedale Array 81.04 333 P **P** **14 31 30.9 +0.4**
comp=Z,18nm,1.1s,baz=145,slow=5.4,SNR=49
PDAR PKKPbc **PKKPbc** **14 50 07.3 -1.9**
comp=Z,0.7nm,0.7s,baz=11,slow=1.5,SNR=5.6
PDAR LR LR 15 04 14.6
comp=Z,489nm,20.0s,baz=126,slow=33
NVAR Mina Array Bea 81.39 325 P **P** **14 31 33.3 +0.9**
comp=Z,12nm,1.0s,baz=149,slow=5.5,SNR=61
NVAR PKKPbc **PKKPbc** **14 50 08.2 +0.1**
comp=Z,0.2nm,0.4s,baz=350,slow=0.1,SNR=4.0
BOSA Boshof 81.48 118 P **P** **14 31 33.4 +0.2**
comp=Z,29nm,0.9s,baz=234,slow=4.7,SNR=23
BOSA LR LR 15 05 17.8
comp=Z,2μm,18.2s,baz=248,slow=34
BOSA Boshof 81.48 118 P **P** **14 31 33.2 0.0**
BOSA pmax pmax
comp=Z,51nm,1.1s
BOSA Boshof 81.48 118 P **P** **14 31 33.2 0.0**
BOSA IAmb IAmb 14 31 34.9
comp=Z,51nm,1.1s
HVU Hansel Valley 81.53 330 IAmb IAmb 14 31 34.7
comp=Z,42nm,1.0s
AHID Auburn Hatcher 81.66 332 IAmb IAmb 14 31 35.5
comp=Z,72nm,1.4s
ELK Elko 81.77 328 IAmb IAmb 14 31 36.4
comp=Z,32nm,1.0s
ECR Eagle Creek 82.01 332 P **P** **14 31 35.7 +0.2**
MDND Maddock 82.25 342 P **P** **14 31 36.6 +0.3**
baz=156
FLWY Flagg Ranch 82.60 333 IAmb IAmb 14 31 40.9
comp=Z,49nm,1.2s
YNE Yellowstone No 83.11 334 IAmb IAmb 14 31 56.3
comp=Z,47nm,1.5s
TORD Torodi Ar. Bea 83.15 70 P **P** **14 31 42.0 +0.2**
comp=Z,25nm,0.9s,baz=260,slow=4.6,SNR=78
TORD LR LR 15 06 21.1
comp=Z,2μm,19.4s,baz=215,slow=34
TORD Torodi Ar. Bea 83.15 70 P **P** **14 31 41.8 0.0**
TORD IAmb IAmb 14 31 43.1
comp=Z,26nm,0.9s
LAO LASA Array 83.21 337 IAmb IAmb 14 31 43.2
comp=Z,40nm,1.1s
YHH Holmes Hill 83.25 333 IAmb IAmb 14 31 44.5
comp=Z,44nm,1.2s
YHB Horse Butte 83.36 333 P **P** **14 31 43.8 +1.3**
ULM Lac du Bonnet 83.55 345 P **P** **14 31 42.9 -0.1**
comp=Z,24nm,1.2s,baz=163,slow=4.8,SNR=10.0
ULM Lac du Bonnet 83.55 345 IAmb IAmb 14 31 57.1
comp=Z,46nm,1.1s
LBTB Lobatse 83.58 115 P **P** **14 31 44.4 +0.3**
LBTB pmax pmax
comp=Z,72nm,1.1s
LBTB Lobatse 83.58 115 P **P** **14 31 44.4 +0.3**
HLID Hailey 83.68 330 IAmb IAmb 14 31 46.7
comp=Z,39nm,1.1s
MFID Camas Ranch 84.17 330 IAmb IAmb 14 31 48.8
comp=Z,44nm,1.4s
DLMT Dillon 84.41 333 IAmb IAmb 14 31 50.1
comp=Z,38nm,1.2s
O03E Paynes Creek 84.56 324 P **P** **14 31 48.4 -0.2**
baz=139,SNR=11
WVOR Wild Horse Val 84.66 327 IAmb IAmb 14 31 51.3
comp=Z,30nm,1.2s
O02D Mt. Diablo Mer 84.97 323 P **P** **14 31 51.4 +0.8**
baz=138,SNR=5.7
MOD Modoc Plateau 85.04 326 IAmb IAmb 14 31 53.4
comp=Z,53nm,1.3s
HRY Holter Researc 85.24 334 P **P** **14 31 52.7 +0.8**
N02D Trinity Center 85.52 324 P **P** **14 31 53.9 +0.5**
baz=138
SCHQ Schefferville 85.53 3 P **P** **14 31 53.3 +0.3**
comp=Z,40nm,1.1s,baz=175,slow=3.3,SNR=10.0
SCHQ Schefferville 85.53 3 P **P** **14 31 52.7 -0.3**
EGMT Eagleton 85.58 336 IAmb IAmb 14 31 54.8
comp=Z,36nm,1.4s
PLID Pearl Lake 85.59 330 IAmb IAmb 14 31 55.7
comp=Z,36nm,1.1s
PLID IAMs_20 IAMs_20 15 03 16.7
comp=Z,975nm,21.0s
M04C Macdoel 85.70 325 P **P** **14 31 55.2 +0.9**
baz=138,SNR=15
URZ Urewera 85.74 228 LR LR 15 00 30.6
comp=Z,454nm,20.8s,baz=211,slow=29
M02C Callahan 85.91 324 P **P** **14 31 55.8 +0.5**
baz=138,SNR=5.7
L04D Klamath Falls 86.25 325 P **P** **14 31 57.4 +0.4**
baz=139,SNR=5.5
K04D Chiloquin, OR 86.29 326 P **P** **14 31 57.9 +0.7**
baz=139
J05D Fort Rock, OR 86.54 326 P **P** **14 31 59.4 +1.0**
baz=139,SNR=17
L02E Cave Junction 86.85 324 P **P** **14 32 00.7 +0.9**
baz=138
J04D Umpqua Nationa 86.92 326 P **P** **14 32 01.4 +0.9**
baz=139,SNR=6.5
K02D Willamette Mer 87.28 325 P **P** **14 32 03.1 +1.1**
baz=138,SNR=8.3
I05D Terrebonne, OR 87.39 327 P **P** **14 32 03.6 +1.1**
baz=139,SNR=9.9
I04A Tendick Farm, 87.48 326 P **P** **14 32 03.3 +0.4**
baz=139
J01E Myrtle Point 87.75 325 P **P** **14 32 05.7 +1.6**
baz=138
I03D Drain, OR 87.86 325 P **P** **14 32 05.6 +1.0**
baz=138
WALA Waterton Lakes 87.97 334 IAmb IAmb 14 32 07.0
comp=Z,40nm,1.1s
G05D Wamic, OR 88.06 328 P **P** **14 32 06.7 +1.1**
baz=139
H04D Lebanon 88.19 326 P **P** **14 32 06.5 +0.4**
baz=138
I02D Swisshome 88.41 325 P **P** **14 32 07.5 +0.3**
baz=138
NEW Newport 88.59 332 IAmb IAmb 14 32 09.1
comp=Z,34nm,1.6s
F05D White Salmon 88.61 328 P **P** **14 32 08.8 +0.6**
baz=139
G03D McMinnville, O 88.95 327 P **P** **14 32 10.8 +1.1**
baz=138
E04D Cinebar 89.62 328 P **P** **14 32 14.1 +1.2**
baz=138
D04E Lakebay 90.18 328 P **P** **14 32 16.7 +1.3**
baz=138
B05A Bryant 90.69 329 P **P** **14 32 17.6 -0.2**
baz=139
LSZ Lusaka 90.74 108 P **P** **14 32 19.9 +0.8**
LSZ pmax pmax
comp=Z,39nm,1.2s
LSZ Lusaka 90.74 108 P **P** **14 32 19.9 +0.8**
LSZ IAmb IAmb 14 32 22.2
comp=Z,39nm,1.2s
AFI Afiamalu 91.11 253 LR LR 15 04 45.1
comp=Z,742nm,18.6s,baz=117,slow=30
EDM Edmonton 91.19 337 IAmb IAmb 14 32 21.6
comp=Z,22nm,1.1s
A04D Lummi Island 91.31 329 P **P** **14 32 20.8 +0.1**
baz=138
ESDC Sonseca Array 94.43 46 P **P** **14 32 35.3 -0.1**
comp=Z,1.7nm,0.9s,baz=225,slow=1.9,SNR=5.3
ESDC LR LR 15 15 03.3
comp=Z,799nm,18.0s,baz=255,slow=36
MSVF Nonsavu 97.15 245 LR LR 15 06 01.4
comp=Z,230nm,20.4s,baz=161,slow=29
FUNA Funafuti 101.45 253 IAMs_20 IAMs_20 15 20 38.0
comp=Z,674nm,22.0s
DZM Mont Dzumac 103.06 234 *e*LR LR 15 06 59.3
comp=Z,666nm,26.1s,baz=147
CLL Collm 110.56 42 *e*PP PKiKP 14 38 22.0 +34
CLL Lm MLR 15 25 00.0
comp=N,400nm,20.5s
CLL Lm MLR 15 25 00.0
comp=E,700nm,19.2s
CLL Lm MLR 15 25 00.0
comp=Z,700nm,18.1s
BRG Berggiesshubel 110.93 43 Amp 14 37 52.0
comp=E,1.6nm,19.6s
BRG Amp 14 37 57.0
comp=Z,2.5nm,19.2s
BRG Amp 14 37 58.0
comp=N,0.6nm,19.0s
TOLK Toolik Lake Re 114.09 337 P **PKiKP** **14 37 54.1 +0.3**
baz=113
KLNR Kaliningrad 115.81 40 *i* PKIKP **PKiKP** **14 37 57.8 +0.4**
HNR Honiara 116.05 240 IAMs_20 IAMs_20 15 11 22.5
comp=Z,603nm,18.0s
BURAR Buovina Array 116.73 49 PKPdf **PKPdf** **14 37 59.5 -0.1**
AKASG Malin Array Be 120.08 46 PKP **PKPdf** **14 38 05.3 -0.5**
comp=Z,7.4nm,0.9s,baz=271,slow=2.6,SNR=9.8
AKASG Malin Array Be 120.08 46 *e*PKIKP **PKPdf** **14 38 05.1 -0.7**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 120.08 46 *c i* PKIKP **PKPdf** **14 38 05.0 -0.8**
MNK Minsk 120.10 42 *i* PKIKP **PKiKP** **14 38 06.5 +0.7**
MNK *i* 14 39 32.9
MNK *i* PPP PPP 14 42 05.4
MNK *i* 14 45 15.8
MNK *i* SS SS 14 55 59.1 +0.9
MNK pmax pmax
comp=Z,14nm,0.5s
MNK pmax pmax
comp=E,2.0nm,0.6s
MNK pmax pmax
comp=N,25nm,0.6s
MNK MLR MLR
comp=E,48nm,19.0s
MNK MLR MLR
comp=N,128nm,16.0s
MNK MLR MLR
comp=Z,522nm,17.0s
MNK Minsk 120.10 42 *i* PKP **PKiKP** **14 38 06.5 +0.7**
comp=E,2.0nm,0.6s
MNK *i* PKP **PKiKP** **14 38 06.5 +0.7**
comp=N,25nm,0.6s
MNK *i* PKP **PKiKP** **14 38 06.5 +0.7**
comp=Z,14nm,0.5s,baz=79
MNK *i* PP **PP** **14 39 32.9 +1.7**
MNK *i* PPP PPP 14 42 05.5
MNK *i* SKS **SKSdf** **14 45 15.8 -2.0**
MNK *i* SS **SS** **14 55 59.1 +0.9**
MNK *i* SSS SSS 15 00 34.1
MNK *i* LQ LQ 15 22 59.2
MNK *i* LR LR 15 28 02.6
MNK *i* LRM MLR 15 29 22.2
comp=E,48nm,18.8s
MNK *i* LRM MLR 15 29 37.5
comp=N,128nm,15.9s
MNK *i* LRM MLR 15 29 39.6
comp=Z,522nm,16.6s
BRTR Keskin Array B 120.29 59 PKP **PKiKP** **14 38 06.9 +0.1**
comp=Z,2.7nm,0.9s,baz=193,slow=2.1,SNR=6.3
BRTR Keskin Array B 120.29 59 PKIKP **PKPdf** **14 38 06.5 -0.3**
BRTR Keskin Array B 120.29 59 PKPdf **PKPdf** **14 38 06.5 -0.3**
ASAR Alice Springs 120.30 208 PKP **PKPdf** **14 38 06.6 -0.7**
comp=Z,3.4nm,0.8s,baz=152,slow=2.2,SNR=30
ASAR PKKPbc **PKKPbc** **14 48 13.2 -0.5**
comp=Z,1.1nm,0.9s,baz=338,slow=3.0,SNR=9.7
ASAR Alice Springs 120.30 208 PKIKP **PKPdf** **14 38 05.9 -1.4**
ASAR Alice Springs 120.30 208 PKPdf **PKPdf** **14 38 05.9 -1.4**
WR0 Warramunga Arr 123.33 210 PKPdf **PKPdf** **14 38 12.8 -0.4**
WRA Warramunga Arr 123.44 210 PKP **PKPdf** **14 38 13.0 -0.3**
comp=Z,11nm,0.9s,baz=164,slow=1.9,SNR=51
WRA PKKPbc **PKKPbc** **14 48 02.1 +0.4**
comp=Z,0.5nm,0.7s,baz=346,slow=4.4,SNR=4.6
WRA Warramunga Arr 123.44 210 PKIKP **PKPdf** **14 38 12.9 -0.5**
WRA Warramunga Arr 123.44 210 **PKPdf** **14 38 12.8 -0.5**
WRAB Tennant Creek 123.44 210 *c i* PKIKP **PKPdf** **14 38 13.4 +0.1**
WRAB pmax pmax
comp=Z,8.0nm,0.8s
OBN Obninsk 125.16 42 ⇓ *i* PKIKP **PKPdf** **14 38 15.1 -0.3**
OBN *e* 14 38 21.0
OBN pmax pmax
comp=Z,8.0nm,0.4s
SOC Sochi 125.63 56 *e*PKIKP **PKPdf** **14 38 15.6 -1.1**
SOC *e* 14 40 06.0
SOC *e*PPP PPP 14 42 47.2
SOC *e*SSS SSS 14 57 01.9
SOC *e*SSS SSS 15 01 47.4
SOC MLR MLR
comp=Z,269nm,19.0s
H11S2 WAKE ISLAND Hyl 125.78 271 T T 16 57 05.0
baz=115,slow=75,SNR=137
H11S1 WAKE ISLAND Hyl 125.80 271 T T 16 57 07.4
baz=115,slow=75,SNR=122
H11S3 WAKE ISLAND Hyl 125.80 271 T T 16 57 01.5
baz=115,slow=75,SNR=106
H11N3 WAKE ISLAND Hyl 126.12 273 T T 16 57 31.7
baz=116,slow=75,SNR=11
H11N1 WAKE ISLAND Hyl 126.13 273 T T 16 57 38.0
baz=116,slow=75,SNR=7.6
H11N2 WAKE ISLAND Hyl 126.14 273 T T 16 57 31.7
baz=116,slow=75,SNR=27
PSA00 Pilbara Seismi 126.57 194 PKPdf **PKPdf** **14 38 18.2 -1.1**
KLMR Klimovskoe 126.89 35 *e*PKIKP **PKPdf** **14 38 16.8 -1.7**
KLMR pmax pmax
comp=Z,30nm,1.2s
KLMR Klimovskoe 126.89 35 *e*PKPdf **PKPdf** **14 38 16.8 -1.7**
KLMR AMP 14 38 19.8
comp=Z,30nm,1.2s
KIV Kislovodsk 127.81 56 *e*PKIKP **PKPdf** **14 38 19.2 -1.8**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KBZ Khabaz 127.93 56 PKP **PKiKP** **14 38 22.1 +0.5**
comp=Z,3.9nm,0.9s,baz=227,slow=3.7,SNR=6.1
KBZ Khabaz 127.93 56 *e*PKIKP **PKiKP** **14 38 21.7 +0.1**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
GROC Groznyy 129.94 58 *i* PKIKP **PKiKP** **14 38 25.9 +0.2**
GROC pmax pmax
comp=Z,42nm,0.5s
BILL Bilibino 130.08 335 *c i* PKIKP **PKPdf** **14 38 23.9 -0.5**
BILL pmax pmax
comp=Z,24nm,1.4s
ARU Arti 137.37 39 *i* PKIKP **PKiKP** **14 38 39.5 -0.8**
ARU 14 41 22.5
ARU SS SS 14 59 20.6 -11
PEA0B Petropavlovsk- 137.99 317 *c* PKIKP **PKPdf** **14 38 39.9 +0.2**
PETK Petropavlovsk- 137.99 317 PKP **PKPdf** **14 38 40.4 +0.7**
comp=Z,9.3nm,1.0s,baz=79,slow=7.7,SNR=8.0
SVE Sverdlovsk 138.35 37 *e*PKIKP **PKPdf** **14 38 40.8 +0.5**
SVE pmax pmax
comp=Z,13nm,1.2s
GEYT Alibeck 138.68 66 PKP **PKPdf** **14 38 42.4 +0.8**
comp=Z,114nm,0.5s,baz=21,slow=1.2,SNR=2.8
AB31 Akbulak array 139.71 49 *i* PKIKP **PKPdf** **14 38 41.9 -1.1**
ABKAR Akbulak array 139.71 49 PKPdf **PKPdf** **14 38 42.9 0.0**
NRIK Noril'sk 139.81 11 PKP **PKPdf** **14 38 43.1 +0.6**
comp=Z,1.7nm,0.4s,baz=76,slow=4.7,SNR=4.1
NRIK Noril'sk 139.81 11 *c i* PKIKP **PKiKP** **14 38 44.8 -0.2**
BRVK Borovoye 144.90 40 *c i* PKIKP **PKPdf** **14 38 51.7 -0.4**
BRVK pmax pmax
comp=Z,45nm,1.0s
YAK Yakutsk 145.84 342 *d i* PKP2 **PKPbc** **14 38 53.9 -0.1**
YAK pmax pmax
comp=Z,97nm,1.0s
YAK pmax pmax
comp=N,21nm,1.6s
YAK pmax pmax
comp=E,14nm,1.5s
KUR Kuril'sk 145.88 306 *e*PKHKP PKPpre 14 38 49.2
KUR *i* 14 38 53.9
KUR pmax pmax
comp=Z,232nm,1.8s
KUR MLR MLR
comp=Z,500nm,16.0s
POO Poona 146.76 104 *i* x x 14 38 59.8
KK31 Karatay Array 147.96 57 *i* PKIKP **PKPdf** **14 38 58.9 +1.3**
UGL Uglegorsk 148.58 315 *e*PKIKP **PKPbc** **14 39 00.5 -1.5**
UGL pmax pmax
comp=Z,410nm,4.5s
UGL pmax pmax
comp=Z,60nm,1.2s
YSS Yuzh-Sakhalins 148.89 311 *e*PKP2 **PKPbc** **14 39 02.6 -0.3**
YSS pmax pmax
comp=Z,40nm,0.9s
YSS pmax pmax
comp=Z,400nm,5.3s
YSS MLR MLR
comp=Z,500nm,20.0s
YSS Yuzh-Sakhalins 148.89 311 **PKPbc** **14 39 02.9 -0.1**
JMP Maruseppu 149.28 305 P **PKPdf** **14 38 59.9 +0.1**
ASAJ Asahikawa 149.79 306 P **PKPbc** **14 39 05.6 +0.3**
HYB Hyderabad 150.07 110 *i* PKP **PKPbc** **14 39 07.0 +0.2**
EKS2 Erkin-Say 150.40 57 P **PKiKP** **14 39 08.1 +0.3**
SNR=19
AML Almayashu 150.45 58 P **PKiKP** **14 39 08.6 +0.4**
SNR=11
KURBB Kurchatov Arra 150.56 40 PKIKP **PKPdf** **14 39 02.0 +0.5**
USP Ospenovka 150.78 56 P **PKiKP** **14 39 08.4 0.0**
SNR=15
JEW Eniwo 150.91 303 P **PKPbc** **14 39 05.6 -2.4**
AAK Ala-Archa 150.92 57 P **PKiKP** **14 39 09.5 +0.6**
SNR=18
AAK Ala-Archa 150.92 57 *c i* PKIKP **PKPdf** **14 39 04.3 +1.7**
AAK pmax pmax
comp=Z,20nm,1.0s
AAK Ala-Archa 150.92 57 **PKiKP** **14 39 09.4 +0.5**
UCH Uchtor 151.02 58 P **PKPdf** **14 39 04.6 +1.5**
SNR=6.7
CHMS Chumysh 151.03 56 P **PKiKP** **14 39 09.5 +0.6**
SNR=10
GRNR Gornyy 151.04 321 ⇓ *i* PKIKP **PKiKP** **14 39 08.5 -0.1**
GRNR pmax pmax
comp=Z,30nm,1.1s
KBK Karagaybulak 151.25 57 P **PKiKP** **14 39 10.4 +0.8**
SNR=7.9
JOT Ohata 151.50 301 P **PKPbc** **14 39 09.3 -0.1**
ZALV Zalesovo Beam 151.58 29 PKP **PKPdf** **14 39 02.9 -0.1**
comp=Z,6.4nm,0.9s,baz=262,slow=3.0,SNR=13
ZALV PKPbc **PKiKP** **14 39 09.6 0.0**
comp=Z,84nm,1.0s,baz=298,slow=3.2,SNR=84
ZALV Zalesovo Beam 151.58 29 **PKiKP** **14 39 09.4 -0.2**
JTM Tenmabayashi 151.59 299 P **PKPbc** **14 39 09.8 +0.2**
JOM Ohasama 151.61 297 P **PKPbc** **14 39 09.4 -0.3**
TKM2 Tokmak 2 151.65 56 P **PKiKP** **14 39 10.6 +0.1**
SNR=13
BHPL Bhopal 151.79 98 *i* x x 14 39 09.4
JSH Shimam 151.96 304 P **PKPbc** **14 39 10.0 -0.4**
KSH Kashi 152.59 63 PKPbc **PKPdf** **14 39 06.1 +1.0**
KSH PP **PP** **14 42 56.1 +0.4**
BOD Bodaibo 152.80 353 *e*PKIKP **PKPbc** **14 39 10.4 -1.4**
BOD pmax pmax
comp=Z,41nm,1.4s
JYA Atsumi 152.94 295 P **PKiKP** **14 39 13.4 +0.5**
DHRM DHARAMSHALA 153.02 79 *i* x x 14 39 13.8
BHK Bhakra 153.03 81 *ex* x 14 39 35.8
ZEA Zeya 153.30 334 *e*PKIKP **PKPdf** **14 39 05.0 -0.5**
ZEA *e* 14 39 25.1
ZEA pmax pmax
comp=Z,10.0nm,1.7s
TEY Ternei 153.58 310 *e*PKIKP **PKPbc** **14 39 12.9 -1.0**
TEY *e* 14 42 56.6
SMLA Simla 153.62 82 *i* x x 14 39 14.4
JRY Ryogami san 153.78 289 P **PKPbc** **14 39 11.3 -3.4**
MJAR Matsushiro Arr 154.32 291 PKP **PKPdf** **14 39 07.3 -0.3**
comp=Z,2.9nm,0.9s,baz=209,slow=1.5,SNR=7.0

MJAR				PKPab	**PKPab**	**14 39 30.5**	**+0.6**
	comp=Z,9.1nm,1.0s,baz=103,slow=2.4,SNR=8.0								
MAT	**Matsushiro**	**154.32**	**291**	PKP	**PKPdf**	**14 39 07.2**	**-0.4**
MAT	**Matsushiro**	**154.32**	**291**	P	**PKPdf**	**14 39 07.7**	**+0.1**
MK31	**Makanchi Array**	**154.64**	**44**	PKIKP	**PKPdf**	**14 39 06.2**	**-1.5**
MK31	**Makanchi Array**	**154.64**	**44**	PKPdf	**PKPdf**	**14 39 07.7**	**0.0**
MKAR	**Makanchi Array**	**154.64**	**44**	PKP	**PKPdf**	**14 39 07.2**	**-0.5**
	comp=Z,2.5nm,0.9s,baz=305,slow=2.5,SNR=9.6								
MKAR				PKPbc	**PKiKP**	**14 39 16.5**	**+0.3**
	comp=Z,7.6nm,0.9s,baz=315,slow=2.4,SNR=20								
MKAR	**Makanchi Array**	**154.64**	**44**	PKIKP	**PKPdf**	**14 39 06.9**	**-0.8**
MKAR	**Makanchi Array**	**154.64**	**44**	PKPdf	**PKPdf**	**14 39 06.8**	**-0.8**
USRK	**Ussuriysk Ar.**	**156.92**	**312**	PKP	**PKPdf**	**14 39 10.4**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=46,slow=5.5,SNR=4.1								
USRK				PKPab	**PKPab**	**14 39 41.5**	**+0.8**
	comp=Z,7.2nm,1.0s,baz=68,slow=5.3,SNR=5.3								
IRK	**Irkutsk**	**158.53**	**6**	*e*PKP2	**PKPab**	**14 39 47.7**	**+0.3**
IRK				*e*		14 43 28.0			
IRK				pmax	pmax				
	comp=Z,73nm,2.6s								
MOY	**Mondy**	**158.65**	**12**	*e*PKP2	**PKPab**	**14 39 49.3**	**+1.2**
MOY				pmax	pmax				
	comp=Z,46nm,2.0s								
WMQ	**Urumqi**	**159.44**	**46**	*e*PKP	**PKPdf**	**14 39 14.5**	**+0.5**
WMQ				LR	LR				
	comp=Z,290nm,17.3s								
WMQ				LR	LR				
	comp=Z,360nm,17.3s								
WMQ				LR	LR				
	comp=Z,360nm,22.5s								
ZAK	**Zakamensk**	**160.25**	**9**	*e*PKIKP	**PKPdf**	**14 39 13.8**	**-0.9**
ZAK				pmax	pmax				
	comp=Z,4.0nm,1.5s								
KSRS	**Korea Array**	**162.29**	**297**	PKP	**PKPdf**	**14 39 16.9**	**-0.2**
	comp=Z,2.8nm,1.2s,baz=147,slow=2.5,SNR=2.9								
KSRS				PKPab	**pPKPab**	**14 40 05.9**	**-0.2**
	comp=Z,7.1nm,1.1s,baz=94,slow=4.4,SNR=11								
GTK	**Tadong**	**162.68**	**97**	*i* x	x	14 39 07.4			
ULN	**Ulaanbaatar**	**163.07**	**2**	PKP2	**PKPab**	**14 40 08.5**	**+1.0**
ULN	**Ulaanbaatar**	**163.07**	**2**		**PKPab**	**14 40 08.5**	**+1.0**
SONM	**Songino Array**	**163.07**	**4**	PKP	**PKPdf**	**14 39 17.6**	**-0.2**
	comp=Z,2.0nm,0.9s,baz=40,slow=0.2,SNR=6.7								
SONM				PKPab	**pPKPab**	**14 40 08.8**	**-0.4**
	comp=Z,9.9nm,1.0s,baz=336,slow=3.8,SNR=23								
SONM	**Songino Array**	**163.07**	**4**	PKPab	**PKPab**	**14 40 08.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**165.12**	**144**	PKP	**PKPdf**	**14 39 20.6**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=261,slow=2.6,SNR=12								
CMAR				PKPab	**PKPab**	**14 40 17.1**	**-0.1**
	comp=Z,5.3nm,1.0s,baz=227,slow=6.0,SNR=12								
CMAR	**Chiang Mai Arr**	**165.12**	**144**	PKIKP	**PKPdf**	**14 39 20.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**165.12**	**144**		**PKPdf**	**14 39 20.5**	**+0.2**
CHTO	**Chiang Mai**	**165.42**	**144**	PKP	PKPdf	14 39 30.3	+10
MOKO	**MOKOCHONG**	**167.31**	**108**	*i* x	x	14 39 29.0			
BJI	**Beijing**	**168.73**	**326**	PKP	**PKPdf**	**14 39 21.9**	**-0.5**
GTA	**Gaotai**	**169.22**	**36**	⇓PKP	**PKPdf**	**14 39 23.3**	**+0.4**
GTA				pPKP	sPKPdf	14 39 28.0	+2.8
GTA				sPKP		14 39 30.8			
GTA				PKPab	**PKPab**	**14 40 35.1**	**+0.2**
GTA				LR	LR				
	comp=Z,250nm,18.5s								
GTA				LR	LR				
	comp=Z,370nm,19.6s								
GTA				LR	LR				
	comp=Z,410nm,20.4s								
HHC	**Hu-ho-hao-te**	**169.69**	**345**	*e*PKP	**PKPdf**	**14 39 19.5**	**-3.6**
HHC				PP	**PP**	**14 44 31.1**	**+5.1**
HHC				SS	SS	15 05 18.9	-4.5
HHC				AMB	AMB				
	comp=Z,320nm,9.6s								
HHC				LR	LR				
	comp=Z,490nm,18.4s								
HHC				LR	LR				
	comp=Z,370nm,18.5s								
HHC				LR	LR				
	comp=Z,690nm,18.3s								
BTO	**Baotou**	**170.21**	**351**	*e*PKP	**PKPdf**	**14 39 20.9**	**-2.5**
NJ2	**Nanjing**	**170.66**	**280**	*e*PKP	**PKPdf**	**14 39 23.9**	**+0.1**
TIA	**Tai'an**	**170.74**	**307**	PKP	**PKPdf**	**14 39 23.8**	**+0.1**
TIA				LR	LR				
	comp=Z,1μm,19.2s								
TIA				LR	LR				
	comp=Z,680nm,16.7s								
TIA				LR	LR				
	comp=Z,2μm,17.5s								
KMI	**Kunming**	**172.59**	**140**	⇑PKP	**PKPdf**	**14 39 23.0**	**-2.2**
KMI				pPKP	pPKPdf	14 39 26.1	-0.9
GYA	**Guiyang**	**175.39**	**165**	PKP	**PKPdf**	**14 39 26.8**	**+0.8**
CD2	**Chengdu**	**176.36**	**89**	PKP	**PKPdf**	**14 39 26.0**	**0.0**
XAN	**Xi'an**	**176.80**	**346**	PKP	**PKPdf**	**14 39 25.8**	**-0.2**
XAN				pPKP	sPKPdf	14 39 30.9	+2.6
XAN				sPKP		14 39 35.0			
XAN				PKPab	**PKPab**	**14 41 08.8**	**+0.3**
XAN				PP	**PP**	**14 44 58.4**	**-2.2**
XAN				SKKS		14 51 49.3			
XAN				SS	**SS**	**15 06 32.3**	**0.0**
XAN				AMB	AMB				
	comp=Z,460nm,11.0s								
XAN				LR	LR				
	comp=Z,290nm,18.2s								
XAN				LR	LR				
	comp=Z,230nm,17.0s								
XAN				LR	LR				
	comp=Z,270nm,18.4s								

MEX 17 14:21:25.3±0.6,**16°91N**×**99°96W**,**h40**km±15km,**MD3.8,**
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAIG	**Los Arroyos**	**0.32**	**69**	*i* P	Pn	14 21 32.5	-1.3
DAIG				*e*S	Sn	14 21 37.5	-2.3
MEIG	**Mezcala**	**1.07**	**18**	*i* P	Pn	14 21 42.4	-1.4
MEIG				*i* S	Sn	14 21 55.3	-2.2
MGIG	**Malinaltepec**	**1.31**	**75**	*e*P	Pn	14 21 50.0	+2.7
MGIG				*i* S	Sn	14 22 07.8	+4.2
PLIG	**Platanillo**	**1.54**	**16**	*e*P	Pn	14 21 48.4	-2.0
PLIG				*e*S	Sn	14 22 10.0	+0.7
ZIIG	**Zihuatanejo**	**1.60**	**296**	*i* P	Pn	14 21 49.4	-1.7
ZIIG				*i* S	Sn	14 22 08.4	-2.1
PNIG	**Pinotepa**	**1.83**	**106**	*e*P	Pn	14 21 59.0	+4.7
PNIG				*e*S	Sn	14 22 23.6	+7.3
FTIG	**Fresnillo de T**	**2.01**	**60**	*e*P	Pn	14 21 59.7	+2.9
FTIG				*e*S	Sn	14 22 27.2	+6.4
TXIG	**Tlaxiaco**	**2.12**	**80**	*e*P	Pn	14 22 01.4	+2.8
TXIG				*e*S	Sn	14 22 32.8	+8.9
HLIG	**Huajuapan de L**	**2.25**	**66**	*e*P	Pn	14 22 07.0	+6.7
HLIG				*e*S	Sn	14 22 34.7	+7.7
PPM	**Popocatepetl**	**2.50**	**30**	*e*P	Pn	14 22 07.0	+3.1
PPM				*i* S	Sn	14 22 41.6	+8.3
TOIG	**Toxpalan**	**3.00**	**66**	*e*S	Sn	14 22 59.0	+14

*IDC **17** 14:26:52.9±1.1,31°.42S×71°.70W,h0km,mb4.1/5,*
mb1 4.2/7,mb1mx4.0/24,mbtmp4.1/7,ML4.0/2,Error
ellipse: s-maj=47.4km s-min=24.2km az=89.0
*GUC **17** 14:26:56.7±0.7,31°.45S×71°.86W,h31km±3km,ML4.4*
*NEIC **17** 14:26:57.5±3.8,31°.37S±0°.03×71°.7W±0°.2,h35km±2km,*
Error ellipse: s-maj=24.3km s-min=3.5km az=263.0
ISC 17 14:26:53.4±1.5,**31°.48S**±0°.03×**71°.87W**±0°.08,**h11**km±9km,
n38,σ1s34/41,**mb4.1**/6,**4C-2D,Near coast of central**
Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.83**	**14**	*i* S	**Sb**	**14 27 22.1**	**+1.1**
VA06	**Catapilco**	**1.18**	**156**	⇓*i* P	**Pg**	**14 27 17.6**	**+1.5**
VA06				*i* S	**Sg**	**14 27 33.4**	**+1.9**
VA06				IAML		14 27 35.8			
	comp=E,22μm,0.7s								
CO03	**El Pedregal**	**1.20**	**58**	⇑*i* P	**Pg**	**14 27 17.6**	**+1.2**
CO03				*i* S	**Sn**	**14 27 33.0**	**+0.6**
VA01	**Torpederas**	**1.55**	**173**	⇑*e*P	**Pg**	**14 27 22.4**	**-0.7**
VA01				*e*S	**Sg**	**14 27 42.8**	**-0.4**
GO04	**Tololo Observa**	**1.59**	**35**	⇓*i* P	**Pg**	**14 27 24.1**	**+0.1**
GO04				*i* S	**Sb**	**14 27 44.4**	**+1.1**
GO04				IAML		14 27 50.8			
	comp=N,13μm,0.5s								
ROCH	**El Roble**	**1.66**	**154**	*e*P	**Pg**	**14 27 25.4**	**+0.3**
ROCH				*e*S	**Sg**	**14 27 46.6**	**-0.1**
ROCH				IAML		14 27 52.8			
	comp=N,4μm,0.7s								
VA03	**San Esteban**	**1.70**	**139**	⇑*e*P	**Pg**	**14 27 26.3**	**+0.3**
VA03				*i* S	**Sg**	**14 27 48.7**	**+0.6**
VA03				IAML		14 27 51.9			
	comp=E,9μm,0.5s								
MT05	**Renca**	**2.13**	**154**	⇑*e*P	**Pb**	**14 27 31.7**	**-0.4**
MT05				*i* S	**Sb**	**14 27 59.4**	**+0.8**
MT05				IAML		14 28 08.5			
	comp=E,4μm,0.5s								
VA05	**Santo Domingo**	**2.18**	**174**	*e*P	**Pb**	**14 27 33.3**	**+0.4**
VA05				*e*S	**Sb**	**14 28 00.9**	**+1.0**
VA05				IAML		14 28 11.8			
	comp=E,2μm,0.5s								
MT09	**Talagante**	**2.41**	**162**	*e*P	**Pb**	**14 27 35.9**	**-0.9**
MT09				*e*S	**Sb**	**14 28 06.0**	**-0.6**
MT09				IAML		14 28 19.0			
	comp=N,2μm,0.3s								
LCO	**Las Campanas**	**2.66**	**23**		**Pn**	**14 27 35.6**	**-0.8**
BO02	**Sierra Bellavi**	**3.43**	**165**		**Pb**	**14 27 51.8**	**-2.4**
H03N1	**Juan Fernandez**	**6.27**	**250**	T	T	14 35 10.0			
	baz=79,slon=72,SNR=129								
H03N3	**Juan Fernandez**	**6.28**	**250**	T	T	14 35 09.3			
	baz=79,slon=72,SNR=105								
H03N2	**Juan Fernandez**	**6.28**	**250**	T	T	14 35 11.3			
	baz=79,slon=72,SNR=121								
LVC	**Limon Verde**	**9.22**	**17**	Pn	**Pn**	**14 29 03.7**	**-3.0**
PLCA	**Paso Flores**	**9.29**	**174**	Pn	**Pn**	**14 29 09.4**	**+2.1**
	comp=N,0.4nm,0.3s,baz=337,slow=14,SNR=1.1								
PLCA	**Paso Flores**	**9.29**	**174**		**Pn**	**14 29 06.0**	**-1.4**
TRQA	**Tornquist**	**10.44**	**132**	Pn	**Pn**	**14 29 20.9**	**-2.2**
LPAZ	**La Paz**	**15.50**	**14**	Pn	**Pn**	**14 30 32.5**	**-0.1**
	comp=N,0.2nm,0.3s,baz=160,slow=10,SNR=1.7								
LPAZ	**La Paz**	**15.50**	**14**	Pn	**Pn**	**14 30 29.2**	**-3.4**
SAML	**Samuel**	**23.83**	**22**	P	**P**	**14 32 06.5**	**-0.1**
SAML				IAmb	IAmb	14 32 08.9			
	comp=Z,4.6nm,0.9s								
BDFB	**Brasilia**	**26.87**	**60**	P	**P**	**14 32 32.4**	**-2.0**
SNAA	**Sanae**	**53.86**	**159**	P	**P**	**14 36 17.0**	**+0.9**
	comp=Z,2.3nm,0.9s,baz=291,slow=7.0,SNR=7.1								
QSPA	**South Pole Qui**	**58.75**	**180**	P	**P**	**14 36 53.0**	**+1.8**
	comp=Z,0.8nm,0.7s,baz=174,slow=2.1,SNR=1.8								
QSPA	**South Pole Qui**	**58.75**	**180**	P	**P**	**14 36 51.6**	**+0.4**
QSPA				IAmb	IAmb	14 37 03.9			
	comp=Z,0.4nm,1.0s								
TXAR	**Lajitas Array**	**67.62**	**330**	P	**P**	**14 37 51.7**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=156,slow=6.9,SNR=2.5								
TXAR	**Lajitas Array**	**67.62**	**330**	P	**P**	**14 37 50.3**	**0.0**
DBIC	**Dimbokro**	**74.25**	**72**	P	**P**	**14 38 31.4**	**+0.5**
	comp=Z,2.2nm,0.5s,baz=158,slow=2.0,SNR=4.0								
DBIC	**Dimbokro**	**74.25**	**72**	P	**P**	**14 38 30.0**	**-0.8**
DBIC				IAmb	IAmb	14 38 37.0			
	comp=Z,4.7nm,1.1s								
TORD	**Torodi Ar. Bea**	**83.22**	**70**	P	**P**	**14 39 20.8**	**+0.6**
	comp=Z,3.4nm,0.7s,baz=245,slow=6.2,SNR=14								
TORD	**Torodi Ar. Bea**	**83.22**	**70**	P	**P**	**14 39 19.7**	**-0.5**
TORD				IAmb	IAmb	14 39 21.8			
	comp=Z,3.6nm,0.8s								
H11S2	**WAKE ISLAND Hyl**	**25.92**	**271**	T	T	17 04 47.5			
	baz=117,slow=74,SNR=9.0								
H11S1	**WAKE ISLAND Hyl**	**25.93**	**271**	T	T	17 04 48.2			
	baz=117,slow=74,SNR=8.6								
H11S3	**WAKE ISLAND Hyl**	**25.93**	**271**	T	T	17 04 51.9			
	baz=117,slow=74,SNR=7.1								
ZALV	**Zalesovo Beam**	**152.00**	**30**	PKPbc	**PKiKP**	**14 46 49.1**	**+0.7**
	comp=Z,8.3nm,0.7s,baz=313,slow=2.8,SNR=14								
ZALV	**Zalesovo Beam**	**152.00**	**30**		**PKiKP**	**14 46 49.3**	**+0.8**
MKAR	**Makanchi Array**	**154.94**	**45**	PKPbc	**PKiKP**	**14 46 55.6**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=298,slow=3.1,SNR=4.3								

*IDC **17** 14:35:00.5±0.6,31°.33S×71°.85W,h0km,mb4.4/9,*
mb1 4.5/14,mb1mx4.4/23,mbtmp4.3/14,ML4.3/5,MS3.9/3,
Ms1 3.9/3,ms1mx3.6/22,Error ellipse: s-maj=23.8km
s-min=17.6km az=101.0
*NEIC **17** 14:35:01.5±2.9,31°.38S±0°.05×71°.8W±0°.1,h10km±1km,*
mb4.8/14,Mwr4.6(GUC),Error ellipse: s-maj=15.6km
s-min=7.3km az=71.0
*GUC **17** 14:35:03.5±0.8,31°.38S×71°.80W,h37km±6km,ML4.9,*
MW4.6
ISC 17 14:35:00.1±1.5,**31°.35S**±0°.03×**71°.90W**±0°.06,**h4**km±9km,
n112,σ1s75/108,**mb4.8**/16,**5C-3D,Near coast of central**
Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.71**	**18**	*e*P	**Pn**	**14 35 18.0**	**+1.0**
CO06				*i* S	**Sn**	**14 35 28.4**	**+0.1**
CO03	**El Pedregal**	**1.15**	**64**	⇓*i*P	**Pn**	**14 35 24.8**	**+1.7**
CO03				*i* S	**Sn**	**14 35 39.6**	**+0.1**
CO03				IAML		14 35 43.3			
	comp=E,51μm,0.5s								
VA06	**Catapilco**	**1.31**	**157**	⇓*i*P	**Pg**	**14 35 26.4**	**+1.2**
VA06				*i* S	**Sg**	**14 35 43.4**	**+1.1**
GO04	**Tololo Observa**	**1.51**	**39**	*e*P	**Pg**	**14 35 30.8**	**+1.8**
GO04				*i* S	**Sg**	**14 35 51.1**	**+2.6**
GO04	**Tololo Observa**	**1.51**	**39**	*i* P	**Pg**	**14 35 31.0**	**+2.0**
VA01	**Torpederas**	**1.68**	**173**	⇑*i*P	**Pb**	**14 35 31.5**	**-0.1**
VA01	**Torpederas**	**1.68**	**173**	*i* P	**Pb**	**14 35 32.0**	**+0.4**
ROCH	**El Roble**	**1.78**	**155**	⇑*i*P	**Pb**	**14 35 33.8**	**+0.3**
ROCH				*i* S	**Sg**	**14 35 57.3**	**-0.1**
ROCH				IAML		14 36 02.7			
	comp=E,14μm,0.4s								
VA03	**San Esteban**	**1.81**	**141**	⇓*i*P	**Pg**	**14 35 34.5**	**-0.3**
VA03				*i* S	**Sg**	**14 35 58.3**	**-0.1**
VA03				IAML		14 36 00.7			
	comp=E,30μm,0.4s								
VA03	**San Esteban**	**1.81**	**141**	*i* P	**Pg**	**14 35 35.0**	**+0.1**
MT05	**Renca**	**2.26**	**155**	*e*P	**Pb**	**14 35 40.5**	**-1.0**
MT05				*i* S	**Sb**	**14 36 08.8**	**-1.1**
MT05				IAML		14 36 15.8			
	comp=E,16μm,0.6s								
MT05	**Renca**	**2.26**	**155**	*i* P	**Pb**	**14 35 41.0**	**-0.5**
RTLS	**Leoncito**	**2.26**	**102**	*i* P	**Pg**	**14 35 44.0**	**+0.5**
AUSP	**Uspallata**	**2.31**	**113**	*i* P	**Pg**	**14 35 44.0**	**-0.3**
VA05	**Santo Domingo**	**2.31**	**174**	*e*P	**Pn**	**14 35 40.1**	**+1.1**
VA05				IAML		14 36 20.7			
	comp=E,9μm,0.6s								
AROD	**Rodeo**	**2.40**	**61**	*i* P	**Pg**	**14 35 46.0**	**0.0**
MT09	**Talagante**	**2.54**	**163**	⇑*i*P	**Pb**	**14 35 44.6**	**-1.8**
MT09				IAML		14 36 26.9			
	comp=E,6μm,0.6s								
ACCO	**Cerro Coronel**	**2.55**	**73**	*i* P	**Pg**	**14 35 48.0**	**-0.9**
LCO	**Las Campanas**	**2.55**	**24**		**Pn**	**14 35 41.9**	**-0.7**
MT01	**Popeta**	**2.57**	**168**	⇑*i*P	**Pn**	**14 35 44.2**	**+1.7**
MT01				IAML		14 36 26.9			
	comp=E,5μm,0.6s								
MT01	**Popeta**	**2.57**	**168**	*i* P	**Pb**	**14 35 45.0**	**-1.7**
ACDV	**Cuesta del Vie**	**2.66**	**65**	*i* P	**Pg**	**14 35 50.0**	**-1.1**
ZON	**Zonda**	**2.76**	**95**	*i* P	**Pg**	**14 35 52.0**	**-0.9**
LMEL	**Las Melosas**	**2.87**	**151**	⇑*i*P	**Pb**	**14 35 49.8**	**-2.2**
LMEL				IAML		14 36 38.0			
	comp=N,6μm,0.8s								
ASAL	**Salagasta**	**2.88**	**116**	*i* P	**Pb**	**14 35 53.0**	**+0.9**
RTCV	**Cerro Valdivia**	**2.91**	**101**	*i* P	**Pb**	**14 35 53.0**	**+0.4**
ARCO	**CERRO ARCO**	**2.92**	**121**	*i* P	**Pb**	**14 35 54.0**	**+1.1**
BO01	**Tunca**	**3.11**	**168**	*i* P	**Pn**	**14 35 52.0**	**+2.0**
AAGR	**Agrelo**	**3.12**	**124**	*i* P	**Pb**	**14 35 56.0**	**-0.3**
AC04	**Llanos de Chal**	**3.21**	**13**	*i* P	**Pn**	**14 35 53.0**	**+1.6**
AGUA	**GUANDACOL**	**3.48**	**59**	*i* P	**Pb**	**14 36 01.0**	**-1.3**
BO02	**Sierra Bellavi**	**3.56**	**165**		**Pn**	**14 35 54.5**	**-1.7**
GO05	**Huala**	**3.65**	**180**	*i* P	**Pn**	**14 35 58.0**	**+0.6**
AVFE	**Valle Fertil**	**3.87**	**81**	*i* P	**Pb**	**14 36 05.0**	**-4.1**
GO03	**Copiap**	**4.01**	**22**	*i* P	**Pn**	**14 36 05.0**	**+2.5**
VCA	**Vinchina**	**4.12**	**52**	*i* P	**Pb**	**14 36 11.0**	**-2.4**
COIS	**El Sosneado**	**4.21**	**153**	*i* P	**Pn**	**14 36 09.0**	**+3.8**
LAMA	**La Malvinas**	**4.22**	**149**	*i* P	**Pb**	**14 36 11.0**	**-4.0**
RFA	**San Rafael**	**4.46**	**141**	*i* P	**Pn**	**14 36 12.0**	**+3.3**
ACHE	**Chepes**	**4.48**	**89**	*i* P	**Pn**	**14 36 13.0**	**+4.0**
AC02	**Maricunga**	**5.11**	**29**	*i* P	**Pn**	**14 36 21.0**	**+3.1**
MRA	**San Martin**	**5.36**	**103**	*i* P	**Pn**	**14 36 25.0**	**+4.0**
CYA	**Choya**	**6.03**	**63**	*i* P	**Pn**	**14 36 34.0**	**+3.8**
H03N1	**Juan Fernandez**	**6.29**	**249**	T	T	14 43 22.3			
	baz=76,slon=72,SNR=615								
H03N3	**Juan Fernandez**	**6.30**	**249**	T	T	14 43 21.4			
	baz=76,slon=72,SNR=775								
H03N2	**Juan Fernandez**	**6.31**	**249**	T	T	14 43 20.2			
	baz=76,slon=72,SNR=588								
CANA	**Caviahue**	**6.56**	**174**	*i* P	**Pn**	**14 36 41.0**	**+3.5**
AHML	**Horco Molle**	**7.32**	**53**	*i* P	**Pn**	**14 36 52.0**	**+4.0**
FSA	**Cafayete**	**7.36**	**46**	*i* P	**Pn**	**14 36 55.0**	**+6.4**
LC01	**Cunco**	**7.53**	**180**	*i* P	**Pn**	**14 36 51.0**	**+0.3**
PB05	**IPOC Station P**	**8.60**	**11**	*i* P	**Pn**	**14 37 06.0**	**+0.5**
LVC	**Limon Verde**	**9.10**	**18**	Pn	**Pn**	**14 37 12.4**	**-0.2**
	comp=N,0.8nm,0.3s,baz=187,slow=8.1,SNR=1.7								
LVC				LR	LR	14 40 49.8			
	comp=N,782nm,20.2s,baz=232,slow=38								
LVC	**Limon Verde**	**9.10**	**18**	Pn	**Pn**	**14 37 11.1**	**-1.6**
PLCA	**Paso Flores**	**9.43**	**174**	Pn	**Pn**	**14 37 18.7**	**+1.9**
	comp=N,3.2nm,0.3s,baz=335,slow=12,SNR=39								
PLCA				LR	LR	14 41 25.2			
	comp=N,670nm,18.1s,baz=40,slow=41								
PLCA	**Paso Flores**	**9.43**	**174**	Pn	**Pn**	**14 37 16.9**	**+0.1**
TRQA	**Tornquist**	**10.55**	**132**	Pn	**Pn**	**14 37 31.2**	**-0.9**
CPUP	**Villa Florida**	**13.71**	**72**	Pn	**Pn**	**14 38 15.3**	**0.0**
	comp=N,0.4nm,0.3s,baz=234,slow=8.5,SNR=4.0								
CPUP	**Villa Florida**	**13.71**	**72**	Pn	**Pn**	**14 38 12.6**	**-2.7**
LPAZ	**La Paz**	**15.38**	**14**	Pn	**Pn**	**14 38 41.1**	**+2.5**
	comp=N,0.3nm,0.3s,baz=195,slow=7.4,SNR=11								
LPAZ	**La Paz**	**15.38**	**14**		**Pn**	**14 38 33.8**	**-4.8**
SIV	**San Ignacio**	**18.20**	**35**	P	**P**	**14 39 14.5**	**+0.3**
	comp=N,0.5nm,0.3s,baz=208,slow=11,SNR=9.7								
NNA	**Nana**	**19.80**	**346**	LR	LR	14 45 30.8			
	comp=N,361nm,18.4s,baz=73,slow=32								
SAML	**Samuel**	**23.72**	**22**	P	**P**	**14 40 13.0**	**-0.3**
BDFB	**Brasilia**	**26.82**	**60**	P	**P**	**14 40 42.0**	**+0.2**
	comp=N,16nm,1.0s,baz=234,slow=9.4,SNR=4.5								
BDFB	**Brasilia**	**26.82**	**60**	P	**P**	**14 40 40.9**	**-0.9**
BDFB				IAmb	IAmb	14 40 49.2			
	comp=Z,44nm,1.5s								
PTGA	**Pitinga**	**32.48**	**23**	P	**P**	**14 41 29.3**	**-2.5**
PMSA	**Palmer Station**	**33.80**	**174**	P	**P**	**14 41 41.2**	**-1.7**
PMSA				IAmb	IAmb	14 41 46.3			
	comp=Z,14nm,1.1s								
VNA3	**Neumayer Olymp**	**51.77**	**159**	P	**P**	**14 44 10.0**	**+1.6**
VNA1	**Neumayer--Stat**	**52.07**	**158**	P	**P**	**14 44 12.8**	**+2.1**
VNA2	**Neumayer--Watz**	**52.41**	**158**	P	**P**	**14 44 14.5**	**+1.3**
	baz=281,slon=8.3								
SNAA	**Sanae**	**53.99**	**159**	P	**P**	**14 44 26.1**	**+1.2**
QSPA	**South Pole Qui**	**58.88**	**180**	P	**P**	**14 44 59.3**	**-0.6**
QSPA				IAmb	IAmb	14 45 02.3			
	comp=Z,6.1nm,0.8s								
VNDA	**Vanda**	**66.72**	**191**	P	**P**	**14 45 54.0**	**+2.2**
	comp=Z,1.2nm,0.9s,baz=122,slow=6.3,SNR=6.6								
VNDA	**Vanda**	**66.72**	**191**	P	**P**	**14 45 52.1**	**+0.2**
VNDA				IAmb	IAmb	14 45 55.7			
	comp=Z,3.9nm,1.1s								
TXAR	**Lajitas Array**	**67.49**	**330**	P	**P**	**14 45 58.9**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=146,slow=6.9,SNR=5.4								
MNTX	**Cornudas Mount**	**70.27**	**330**	P	**P**	**14 46 15.1**	**+0.5**
MNTX				IAmb	IAmb	14 46 26.3			
	comp=Z,3.6nm,1.1s								
LIC	**Lamto**	**73.84**	**72**	*e*P	**P**	**14 46 36.8**	**+0.4**
	comp=Z,57nm,1.2s								
TIC	**Toumodi**	**74.08**	**72**	*e*P	**P**	**14 46 38.0**	**+0.2**
KIC	**Kosan Boka**	**74.15**	**72**	*e*P	**P**	**14 46 38.5**	**+0.3**
	comp=Z,29nm,0.7s								
DBIC	**Dimbokro**	**74.23**	**72**	P	**P**	**14 46 39.5**	**+0.9**
	comp=Z,10nm,0.5s,baz=228,slow=6.1,SNR=25								
DBIC	**Dimbokro**	**74.23**	**72**	P	**P**	**14 46 38.4**	**-0.2**
SDCO	**Great Sand Dun**	**75.56**	**333**	P	**P**	**14 46 45.8**	**-0.5**
MAW	**Mawson**	**75.68**	**164**	P	**P**	**14 46 47.4**	**+1.2**
	comp=Z,8.6nm,1.0s,baz=237,slow=6.7,SNR=13								
MAW	**Mawson**	**75.68**	**164**	P	**P**	**14 46 46.3**	**+0.1**
SUR	**Sutherland**	**76.01**	**119**	P	**P**	**14 46 47.1**	**-1.9**
**EC

SIV	**San Ignacio**	**17.61**	**37**	P		**Pn**	**14 44 03.9**	**+0.5**	
	comp=E,0.4nm,0.3s,baz=226,slow=13,SNR=5.8								
VNA2	**Neumayer--Watz**	**53.25**	**158**	P		**P**	**14 49 16.2**	**+0.1**	
	baz=284,slow=8.6								
SNAA	**Sanae**	**54.84**	**159**	P		**P**	**14 49 27.6**	**0.0**	
TORD	**Torodi Ar. Bea**	**83.05**	**70**	P		**P**	**14 52 23.5**	**-0.3**	
	comp=E,1.7nm,0.8s,baz=252,slow=3.9,SNR=6.8								
H11S2	**WAKE ISLAND Hy**	**25.72**	**272**	T		T	17 17 49.6		
	baz=114,slow=75,SNR=23								
H11S1	**WAKE ISLAND Hy**	**25.73**	**272**	T		T	17 17 43.9		
	baz=114,slow=75,SNR=21								
H11S3	**WAKE ISLAND Hy**	**25.74**	**272**	T		T	17 17 49.8		
	baz=114,slow=75,SNR=20								
ZALV	**Zalesovo Beam**	**151.23**	**29**	PKPbc		**PKiKP**	**14 59 51.2**	**-0.1**	
	comp=E,5.0nm,0.6s,baz=289,slow=2.7,SNR=7.9								

IDC 17 14:44:09.4±3.1, 31°28S×71°40W, h0km, mb4.1/1, mb1 3.9/2, mb1mx3.6/23, mbtmp3.8/2, ML3.9/1, Error ellipse: s-maj=134.6km s-min=47.7km az=98.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PLCA	**Paso Flores**	**9.46**	**176**	Pn	Pn		14 46 27.1	0.0
	0.2nm,0.3s,baz=335,slow=14,SNR=1.3							
TORD	**Torodi Ar. Bea**	**82.78**	**70**	P	P		14 56 35.8	0.0
	1.2nm,0.8s,baz=250,slow=5.0,SNR=4.9							
ZALV	**Zalesovo Beam**	**151.63**	**30**	PKPbc	PKPbc		15 04 05.0	-0.2
	0.9nm,0.3s,baz=301,slow=2.4,SNR=4.3							

*BJI **17** 14:50:08.8±0.0, 37°60N×78°07E, h10km, mB4.3/5, mb3.9/13, ML4.5/6*
*IDC **17** 14:50:08.9±0.7, 37°74N×77°74E, h0km, mb4.1/19, mb1 4.2/23, mb1mx4.1/53, mbtmp4.1/23, ML3.7/4, MS4.4/2, Ms1 4.4/2, ms1mx3.7/58, Error ellipse: s-maj=15.6km s-min=10.6km az=40.0*
*NNC **17** 14:50:11.6±2.5, 37°90N×78°47E, h0km, mb4.8, mpv4.4, Error ellipse: s-maj=20.1km s-min=15.7km az=153.0*
*NEIC **17** 14:50:12.9±2.0, 37°68N±0°09×78°0E±0°1, h42km±9km, mb4.6/13, Error ellipse: s-maj=16.3km s-min=11.1km az=123.0*
*SOME **17** 14:50:13.0, 37°87N×77°72E, h0km*

ISC 17 14:50:10.4±0.4, 37°75N±0°04×77°90E±0°04, h10km, n137, σ2s25/155, mb4.5/36, 9C-12D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KSH	**Kashi**	**2.32**	**320**	Pn	Pn		14 50 42.0	-6.8
KSH				Sn	**Sn**		**14 51 15.6**	**-1.8**
KSH				S	**Sb**		**14 51 17.8**	**-3.4**
KSH				pmax	pmax			
	comp=Z,130nm,0.7s							
KSH				smax	smax			
	comp=N,7μm,0.5s							
KSH				smax	smax			
	comp=E,8μm,1.0s							
TARG	**Taragay, Kyrgy**	**3.97**	**359**	Pn	**Pn**		**14 51 14.3**	**+2.5**
KZA	**Kyzart**	**4.78**	**336**	P	**Pn**		**14 51 25.6**	**+2.7**
	SNR=7.5							
UCH	**Uchtor**	**5.17**	**331**	P	**Pn**		**14 51 31.3**	**+3.0**
	SNR=16							
SATY	**Saty**	**5.32**	**4**	*e*P	**Pg**		**14 51 50.8**	**-1.4**
SATY	comp=E,202nm,0.8s			*e*S	**Sg**		**14 53 01.2**	**+0.2**
	comp=E,4μm,6.7s							
SATY	**Saty**	**5.32**	**4**	Pg	**Pb**		**14 51 46.2**	**+2.7**
SATY	comp=E,202nm,0.8s							
				Lg	Lg		14 53 03.1	
	comp=E,413nm,1.2s							
TNSS	**Tian-Shan**	**5.33**	**352**	*e*P	**Pg**		**14 51 52.2**	**-0.3**
	comp=E,106nm,0.8s							
TNSS				*e*S	**Sg**		**14 53 03.8**	**+2.3**
	comp=E,176nm,0.8s							
AML	**Almayashu**	**5.44**	**325**	P	**Pn**		**14 51 34.3**	**+2.4**
	SNR=11							
AML	**Almayashu**	**5.44**	**325**	*i* P	**Pn**		**14 51 34.0**	**+2.1**
	SNR=11							
MDOK	**Medeo**	**5.44**	**353**	*e*P	**Pg**		**14 51 52.0**	**-2.6**
MDOK	comp=E,96nm,0.5s			*e*S	**Sg**		**14 53 03.5**	**-1.7**
	comp=E,219nm,1.1s							
MDOK	**Medeo**	**5.44**	**353**	⇓Pn	**Pn**		**14 51 33.2**	**+1.4**
	comp=E,7.2nm,0.4s							
MDOK				⇓Pg	**Pb**		**14 51 49.6**	**+4.0**
	comp=E,101nm,0.6s							
MDOK				⇑Lg	Lg		14 53 05.3	
	comp=E,353nm,0.8s							
TKM2	**Tokmak 2**	**5.45**	**342**	P	**Pn**		**14 51 34.9**	**+2.9**
	SNR=13							
TKM2	**Tokmak 2**	**5.45**	**342**	⇓Pn	**Pn**		**14 51 34.9**	**+2.9**
	comp=E,12nm,0.8s							
TKM2				⇓Pg	**Pg**		**14 51 53.5**	**-1.4**
	comp=E,51nm,0.7s							
TKM2				⇑Lg	Lg		14 53 02.6	
	comp=E,108nm,0.6s							
UZB	**Uzynbulak**	**5.46**	**9**	*e*P	**Pg**		**14 51 52.5**	**-2.4**
UZB	comp=E,54nm,0.8s			*e*S	**Sg**		**14 53 03.8**	**-1.8**
	comp=E,220nm,1.5s							
KST	**Kastek**	**5.49**	**345**	*e*P	**Pg**		**14 51 52.6**	**-2.9**
KST	comp=E,48nm,1.1s			*e*S	**Sg**		**14 53 03.8**	**-2.8**
	comp=E,146nm,2.2s							
MTBS	**Maitube**	**5.49**	**349**	*e*P	**Pg**		**14 51 52.9**	**-2.6**
MTBS	comp=E,45nm,1.0s			*e*S	**Sg**		**14 53 04.9**	**-1.6**
	comp=E,268nm,0.9s							
AAA	**Alma-Ata**	**5.50**	**352**	*e*P	**Pg**		**14 51 53.5**	**-2.2**
AAA	comp=E,179nm,0.7s			*e*S	**Sg**		**14 53 05.7**	**-1.3**
	comp=E,382nm,1.4s							
KNDC	**Almaty**	**5.50**	**353**	⇓Pg	Pb		14 51 51.4	+4.7
	comp=E,194nm,0.7s							
KNDC				⇓Lg	Lg		14 53 05.6	
	comp=E,828nm,0.9s							
SHLS	**Shalkode**	**5.53**	**12**	*e*P	**Pg**		**14 51 55.5**	**-0.8**
SHLS	comp=E,181nm,1.0s			*e*S	**Sg**		**14 53 09.1**	**+1.2**
	comp=E,553nm,1.4s							
AAK	**Ala-Archa**	**5.53**	**333**	Pn	**Pn**		**14 51 36.1**	**+3.1**
	comp=E,3.3nm,0.3s,baz=154,slow=9.0,SNR=38							
AAK				Pg	**Pb**		**14 51 49.3**	**+2.1**
	comp=E,4.7nm,0.3s,baz=159,slow=9.5,SNR=8.6							
AAK				Sn	**Sn**		**14 52 38.9**	**+2.2**
	comp=E,10nm,0.3s,baz=135,slow=18,SNR=3.6							
AAK				Lg	Lg		14 53 04.3	
	comp=E,20nm,0.3s,baz=358,slow=20,SNR=4.5							
AAK	**Ala-Archa**	**5.53**	**333**	P	**Pn**		**14 51 36.1**	**+3.1**
	SNR=19							
AAK	**Ala-Archa**	**5.53**	**333**	*i* P	**Pn**		**14 51 36.1**	**+3.1**
	SNR=20							
AAK	**Ala-Archa**	**5.53**	**333**	Pn	**Pn**		**14 51 35.6**	**+2.6**
	comp=E,8.0nm,0.5s							
AAK				Pg	**Pb**		**14 51 51.6**	**+4.4**
	comp=E,57nm,0.6s							
AAK				Lg	Lg		14 53 07.4	
	comp=E,484nm,1.1s							
AAK	**Ala-Archa**	**5.53**	**333**	Pn	**Pn**		**14 51 34.7**	**+1.7**
CHCP	**Chirah Chowk**	**5.56**	**224**	P	**Pn**		**14 51 33.4**	**+0.1**
NIL	**Nilore**	**5.57**	**224**	Pn	**Pn**		**14 51 33.5**	**0.0**
THN	**Thein Dam**	**5.60**	**199**	*e*P	**Pn**		**14 51 34.0**	**+0.2**
DHRM	**DHARAMSHALA**	**5.64**	**194**	*e*P	**Pn**		**14 51 34.2**	**-0.4**
DHRM				IAML			14 53 13.6	
	comp=N,304nm,1.8s							
PDGK	**Podgornoye**	**5.70**	**12**	⇓Pn	**Pn**		**14 51 36.0**	**+0.7**
	comp=N,14nm,0.5s							
PDGK				⇓Pg	**Pb**		**14 51 51.8**	**+1.8**
	comp=N,88nm,0.7s							
PDGK				⇑Lg	Lg		14 53 03.6	
	comp=N,257nm,0.8s							
KURS	**Kuram**	**5.73**	**2**	*e*P	**Pg**		**14 51 57.5**	**-2.7**
	comp=N,148nm,1.6s							
KURS				*e*S	**Sg**		**14 53 12.3**	**-2.1**
	comp=N,281nm,1.7s							
KPKS	**Kokpek**	**5.74**	**6**	*e*P	**Pg**		**14 51 58.8**	**-1.5**
	comp=N,107nm,0.8s							
KPKS				*e*S	**Sg**		**14 53 14.8**	**+0.2**
	comp=N,376nm,1.0s							
CHMS	**Chumysh**	**5.76**	**336**	P	**Pn**		**14 51 38.9**	**+2.8**
	SNR=9.1							
EKS2	**Erkin-Say**	**5.83**	**329**	P	**Pn**		**14 51 40.6**	**+3.6**
	SNR=11							
CHKK	**Chushkaly**	**6.13**	**354**	*e*P	**Pg**		**14 52 04.5**	**-3.3**
	comp=N,49nm,1.6s							
CHKK				*e*S	**Sg**		**14 53 24.4**	**-2.9**
	comp=N,180nm,0.5s							
MRKS	**Merke**	**6.13**	**326**	*e*P	**Pg**		**14 52 04.3**	**-3.6**
	comp=N,42nm,1.3s							
MRKS				*e*S	**Sg**		**14 53 23.9**	**-3.4**
	comp=N,90nm,0.8s							
KUU	**Kurty**	**6.25**	**350**	*e*P	**Pb**		**14 52 03.7**	**+4.4**
	comp=N,40nm,1.8s							
KUU				*e*S	**Sg**		**14 53 22.9**	**-8.0**
	comp=N,93nm,1.2s							
CEP	**Cherat**	**6.25**	**233**	P	**Pn**		**14 51 41.8**	**-1.0**
BHK	**Bhakra**	**6.44**	**191**	*e*P	**Pn**		**14 51 46.8**	**+1.5**
SMLA	**Simla**	**6.64**	**185**	*e*P	**Pn**		**14 51 45.4**	**-2.5**
SMLA				IAML			14 53 44.8	
	comp=E,179nm,1.4s							
DJR	**Jarkent**	**6.73**	**12**	*e*P	**Pg**		**14 52 16.2**	**-3.0**
	comp=E,2.6nm,1.1s							
DJR				*e*S	**Sg**		**14 53 44.8**	**-1.5**
	comp=E,15nm,1.4s							
DJR	**Jarkent**	**6.73**	**12**	Pg	**Pn**		**14 51 49.6**	**+0.2**
	comp=E,2.7nm,0.8s							
DJR				Lg	Lg		14 53 08.1	
	comp=E,5.4nm,0.7s							
THW	**Thamme Wali**	**7.06**	**227**	P	**Pn**		**14 51 51.7**	**-2.1**
DZA	**Taraz**	**7.18**	**318**	*e*P	Pg		14 52 23.2	-4.6
	comp=E,45nm,0.1s							
DZA				*e*S	**Sg**		**14 53 56.3**	**-4.5**
	comp=E,179nm,0.1s							
DDI	**Dehra Dun**	**7.41**	**179**	*e*P	**Pn**		**14 51 56.7**	**-2.1**
DDI				*e*S	Sn		14 53 14.6	-8.3
DDI				IAML			14 53 20.7	
	comp=E,307nm,0.6s							
DDI				IAML			14 53 21.3	
	comp=N,232nm,0.2s							
KK31	**Karatay Array**	**7.76**	**316**	⇑Pn	**Pn**		**14 52 07.2**	**+3.7**
	comp=N,1.5nm,0.3s,baz=130,slow=13,SNR=26							
KK31				⇑Sn	Sn		14 53 42.6	+11
	comp=N,11nm,0.5s							
KK31				⇓Lg	Lg		14 54 22.8	
	comp=N,90nm,0.9s							
KK31	**Karatay Array**	**7.76**	**316**		**Pn**		**14 52 04.3**	**+0.8**
KKAR	**Karatay Array**	**7.76**	**316**	Pn	**Pn**		**14 52 02.2**	**-1.3**
KBL	**Kabul**	**7.85**	**249**	Pn	**Pn**		**14 52 03.7**	**-1.2**
NDI	**New Delhi**	**9.06**	**184**	*e*P	Pn		14 52 18.0	-3.3
NDI				*e*S	**Sn**		**14 54 00.0**	**-3.4**
MAKZ	**Makanchi**	**9.54**	**17**	⇓Pn	**Pn**		**14 52 26.5**	**-1.3**
	comp=N,38nm,0.8s							
MAKZ				⇓Sn	**Sn**		**14 54 11.6**	**-3.4**
	comp=N,45nm,1.4s							
MAKZ				⇑Lg	Lg		14 55 08.5	
	comp=N,43nm,1.1s							
MAKZ	**Makanchi**	**9.54**	**17**		**Pn**		**14 52 27.4**	**-0.4**
WMQ	**Urumqi**	**9.58**	**48**	*e*P	**Pn**		**14 52 28.3**	**-0.2**
WMQ				S	**Sn**		**14 54 15.5**	**-0.7**
WMQ				smax	smax			
	comp=N,100nm,1.3s							
WMQ				smax	smax			
	comp=N,110nm,1.3s							
MK31	**Makanchi Array**	**9.60**	**18**	Pn	**Pn**		**14 52 27.9**	**-0.8**
	comp=N,31nm,0.8s,baz=200,slow=13,SNR=117							
MK31				Sn	**Sn**		**14 54 13.2**	**-3.4**
	comp=N,91nm,1.3s,baz=200,slow=24,SNR=7.7							
MK31				⇑Lg	Lg		14 55 06.6	
	comp=N,73nm,1.0s,baz=156,slow=41,SNR=3.6							
MK31	**Makanchi Array**	**9.60**	**18**	Pn	**Pn**		**14 52 28.2**	**-0.5**
MKAR	**Makanchi Array**	**9.60**	**18**	Pn	**Pn**		**14 52 28.4**	**-0.2**
	comp=N,2.4nm,0.3s,baz=197,slow=12,SNR=103							
MKAR				Sn	**Sn**		**14 54 13.2**	**-3.4**
	comp=N,1.9nm,0.3s,baz=197,slow=26,SNR=8.8							
MKAR	**Makanchi Array**	**9.60**	**18**	Pn	**Pn**		**14 52 28.0**	**-0.7**
PYUN	**Piuthan**	**10.53**	**155**	*e*P	Pn		14 52 35.9	-5.7
	comp=N,20nm,0.2s							
PYUN				*e*S	Sn		14 54 27.7	-12
DANN	**Dangsing**	**10.58**	**151**	*e*P	Pn		14 52 37.6	-4.9
KOLN	**Koldanda**	**11.05**	**153**	*e*P	Pn		14 52 43.1	-5.6
KOLN				*e*S	Sn		14 54 40.3	-12
OTUK	**Ortayu**	**11.24**	**341**	⇑Pn	Pn		14 52 56.5	+5.4
	comp=N,8.7nm,1.1s							
OTUK				⇑Lg	Lg		14 56 06.0	
	comp=N,147nm,1.4s							
GKN	**Gorkha**	**11.25**	**148**	*e*P	Pn		14 52 46.3	-5.1
	comp=N,31nm,0.3s							
GKN				*e*S	Sn		14 54 45.1	-12
PKIN	**Phulchoki**	**11.95**	**146**	*e*P	Pn		14 52 55.0	-6.1
	comp=N,12nm,0.4s							
PKI	**Pulchoki**	**11.96**	**146**	*e*P	Pn		14 52 54.7	-6.6
	comp=N,11nm,0.4s							
JIRN	**Jiri**	**12.24**	**143**	*e*P	Pn		14 52 59.7	-5.5
	comp=N,15nm,0.4s							
KURBB	**Kurchatov Arra**	**12.88**	**2**	Pn	**Pn**		**14 53 12.2**	**-1.2**
	comp=N,0.1nm,0.3s,baz=187,slow=12,SNR=9.6							
KURBB				Sn	**Sn**		**14 55 33.7**	**-2.9**
	comp=N,0.0nm,0.3s,baz=184,slow=25,SNR=2.3							
KURBB				Lg	Lg		14 56 56.8	
	comp=N,0.1nm,0.3s,baz=183,slow=30,SNR=4.9							
KURBB	**Kurchatov Arra**	**12.88**	**2**	⇓Lg	Lg		14 56 58.8	
	comp=N,117nm,1.1s							
RAMN	**Ramite**	**13.03**	**143**	*e*P	Pn		14 53 08.7	-7.2
	comp=N,11nm,0.4s							
GEYT	**Alibeck**	**15.63**	**277**	Pn	**Pn**		**14 53 53.8**	**+3.0**
	comp=N,1.1nm,0.3s,baz=132,slow=8.8,SNR=20							
GYA0B	**ALIBECK ARRAY**	**15.63**	**277**	P	**Pn**		**14 53 54.1**	**+3.3**
BVAR	**Borovoye Array**	**16.14**	**344**	Pn	**P**		**14 54 01.7**	**+1.2**
	comp=N,1.8nm,0.3s,baz=166,slow=13,SNR=27							
BVAR				Lg	Lg		14 58 39.2	
	comp=N,0.2nm,0.3s,baz=157,slow=34,SNR=3.0							
BRVK	**Borovoye**	**16.20**	**343**	Pn	**Pn**		**14 53 58.5**	**+0.5**
ZAA0	**Zalesovo Array**	**16.89**	**14**	Pn	**Pn**		**14 54 06.4**	**-0.3**
ZALV	**Zalesovo Beam**	**16.89**	**14**	Pn	**Pn**		**14 54 03.1**	**-3.6**
	comp=N,0.2nm,0.3s,baz=204,slow=8.8,SNR=10							
ZALV	**Zalesovo Beam**	**16.89**	**14**	Pn	**Pn**		**14 54 05.1**	**-1.6**
GTA	**Gaotai**	**17.21**	**78**	*e*P	**Pn**		**14 54 07.6**	**-3.5**
GTA				pP	P		14 54 12.3	-0.3
GTA				sP	pP		14 54 14.9	-0.9
GTA				S	**Sn**		**14 57 19.4**	**-3.2**
GTA				pmax	pmax			
	comp=N,3.0nm,1.1s							
GTA				pmax	pmax			
	comp=N,36nm,4.2s							
ABKAR	**Akbulak array**	**17.32**	**317**		**Pn**		**14 54 10.9**	**-1.4**
AKTO	**Aktyubinsk**	**19.02**	**318**	P	**P**		**14 54 32.0**	**-0.3**
	comp=N,0.3nm,0.3s,baz=112,slow=13,SNR=7.6							
AKTO				S	**Sn**		**14 58 06.1**	**+0.1**
	comp=N,0.2nm,0.3s,baz=149,slow=18,SNR=1.2							
BANOM	**Banah**	**21.76**	**243**	P	**P**		**14 55 01.1**	**-1.1**
SHME	**Shamm**	**21.79**	**244**	P	**P**		**14 55 02.0**	**-0.6**
WSAR	**Wadi Sarin**	**21.96**	**234**	P	**P**		**14 55 02.8**	**-1.6**
	comp=N,14nm,1.1s,baz=82,slow=11,SNR=4.8							
MSFE	**Esma-Masafi**	**22.21**	**242**	P	**P**		**14 55 07.3**	**+0.2**
UOSS	**Minazif**	**22.44**	**242**	P	**P**		**14 55 09.6**	**+0.1**
UOSS	**Minazif**	**22.44**	**242**	P	**P**		**14 55 04.7**	**-4.8**
UOSS				IAmb	IAmb		14 55 10.2	
	comp=Z,22nm,1.0s							
HATD	**Hatta, Dubai**	**22.56**	**241**	P	**P**		**14 55 09.3**	**-1.6**
ASHO	**Ashiyiah**	**22.71**	**241**	*i* P	**P**		**14 55 12.2**	**-0.2**
	SNR=35							
ARU	**Arti**	**22.71**	**332**	P	**P**		**14 55 12.2**	**+0.1**
	comp=Z,0.6nm,0.2s,baz=129,slow=8.3,SNR=2.0							
FAQ	**Al Faqa, Dubai**	**22.99**	**242**	P	**P**		**14 55 14.7**	**-0.6**
SONM	**Songino Array**	**23.09**	**55**	P	**P**		**14 55 14.4**	**-2.0**
	comp=Z,8.6nm,1.1s,baz=246,slow=9.5,SNR=13							
ASUD	**Al Ashush, Dub**	**23.25**	**242**	*i* P	**P**		**14 55 18.0**	**0.0**
	SNR=6.3							
BTO	**Baotou**	**24.99**	**73**	*e*P	**P**		**14 55 34.3**	**-0.1**
XAN	**Xi'an**	**25.34**	**89**	P	**P**		**14 55 39.0**	**+1.4**
XAN				pP	sP		14 55 46.5	+4.1
XAN				pmax	pmax			
	comp=Z,7.0nm,0.9s							
BELG	**Belogornoye**	**25.67**	**315**	P	**P**		**14 55 39.6**	**-0.6**
	comp=Z,7.2nm,0.5s,baz=134,slow=5.1,SNR=1.9							
GNI	**Garni**	**25.82**	**286**	P	**P**		**14 55 41.9**	**-0.1**
	comp=Z,7.2nm,0.6s,baz=278,slow=2.0,SNR=3.9							
CMAR	**Chiang Mai Arr**	**26.61**	**130**	P	**P**		**14 55 50.0**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=200,slow=30,SNR=5.3							
KBZ	**Khabaz**	**27.05**	**294**	P	**P**		**14 55 52.0**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=119,slow=13,SNR=1.2							
NRIK	**Noril'sk**	**32.08**	**6**	P	**P**		**14 56 40.9**	**+3.7**
	comp=Z,13nm,0.9s,baz=192,slow=7.0,SNR=13							
BRTR	**Keskin Array B**	**34.32**	**287**	P	**P**		**14 56 56.3**	**-0.9**
	comp=Z,6.2nm,0.9s,baz=90,slow=7.4,SNR=18							
AKASG	**Malin Array Be**	**36.55**	**307**	P	**P**		**14 57 15.3**	**-0.8**
	comp=Z,1.5nm,0.5s,baz=77,slow=8.0,SNR=5.8							
AKBB	**Malin Array Si**	**36.55**	**307**	P	**P**		**14 57 14.9**	**-1.1**
AKBB				IAmb	IAmb		14 57 20.8	
	comp=Z,6.6nm,0.9s							
KSRS	**Korea Array**	**39.24**	**75**	P	**P**		**14 57 40.0**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=287,slow=8.6,SNR=3.7							
FIA1	**FINESS Array S**	**39.64**	**324**	P	**P**		**14 57 41.4**	**-0.6**
FIA1				IAmb	IAmb		14 57 57.0	
	comp=Z,14nm,1.2s							
FINES	**FINESS Array B**	**39.64**	**324**	P	**P**		**14 57 41.6**	**-0.4**
	comp=Z,2.6nm,0.5s,baz=106,slow=8.9,SNR=22							
KLR	**Kul'dur**	**39.92**	**56**	P	**P**		**14 57 46.5**	**+2.0**
	comp=Z,2.7nm,0.8s,baz=267,slow=7.2,SNR=6.3							
ARCES	**ARCESS Array B**	**42.20**	**335**	P	**P**		**14 58 02.3**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=99,slow=7.5,SNR=2.2							
NIE	**Niedzica**	**42.35**	**305**	*e*P	**P**		**14 58 05.4**	**+0.9**
DIVS	**Divibare**	**43.43**	**297**	P	**P**		**14 58 12.9**	**-0.5**
VRAC	**Vranov**	**44.76**	**305**	LR	LR		15 20 58.4	
	comp=Z,464nm,20.0s,baz=234,slow=41							
DPC	**Dobruska-Polom**	**44.78**	**307**	*e*P	**P**		**14 58 23.7**	**-0.4**
DPC				*ep*P	**pP**		**14 58 29.2**	**+1.5**
UPC	**Upice**	**44.95**	**307**	*e*P	**P**		**14 58 25.4**	**-0.1**
UPC				*ep*P	**pP**		**14 58 29.6**	**+0.6**
BRG	**Berggiesshubel**	**46.20**	**308**	*e*P	**P**		**14 58 35.3**	**0.0**
BRG				Amp			14 58 35.9	
	comp=Z,11nm,1.2s							
BRG	**Berggiesshubel**	**46.20**	**308**	P	P		14 58 40.2	+4.9
BRG				Amp			14 58 41.6	
	comp=Z,6.7nm,0.7s							
CLL	**Collm**	**46.71**	**309**	*i* P	**P**		**14 58 38.6**	**-0.7**
GERES	**GERESS Array B**	**46.72**	**305**	P	**P**		**14 58 38.7**	**-0.8**
	comp=Z,3.4nm,0.9s,baz=60,slow=6.6,SNR=8.4							
GERES				LR	LR		15 18 48.9	
	comp=Z,428nm,21.4s,baz=248,slow=37							
KHC	**Kasperske Hory**	**46.74**	**306**	*e*P	**P**		**14 58 39.5**	**-0.1**
KHC				*ep*P	**pP**		**14 58 43.7**	**+0.5**
NB2	**NORSAR Subarra**	**46.74**	**322**	P	**P**		**14 58 38.5**	**-1.0**
	comp=Z,8.9nm,0.7s,baz=89,slow=7.9							
NOA	**NORSAR Array B**	**46.74**	**322**	P	**P**		**14 58 38.4**	**-1.0**
	comp=Z,1.9nm,0.6s,baz=89,slow=7.7,SNR=8.1							
MJAR	**Matsushiro Arr**	**47.34**	**72**	P	**P**		**14 58 45.4**	**+0.9**
	comp=Z,1.9nm,0.8s,baz=290,slow=7.4,SNR=4.3							
MA2	**Magadan**	**49.94**	**39**	P	**P**		**14 59 05.5**	**+1.4**
	comp=Z,3.8nm,0.7s,baz=50,slow=11,SNR=3.9							
SEY	**Seymchan**	**50.27**	**35**	P	**P**		**14 59 09.3**	**+2.8**
	comp=Z,5.8nm,1.0s,baz=290,slow=9.0,SNR=11							
DAG	**Danmarks Havn**	**55.08**	**344**	*i* P	**P**		**14 59 45.5**	**+3.6**
DAG				IAmb	IAmb		14 59 46.3	
	comp=Z,8.5nm,0.9s							
NEEM	**North Greenlan**	**60.93**	**349**	*i* P	**P**		**15 00 27.0**	**+3.7**
NEEM				IAmb	IAmb		15 00 28.9	
	comp=Z,9.6nm,0.8s							
SUMG	**Summit**	**61.62**	**342**	*i* P	**P**		**15 00 32.2**	**+4.0**
SUMG				IAmb	IAmb		15 00 33.7	
	comp=Z,9.2nm,1.0s							
ESDC	**Sonseca Array**	**61.69**	**300**	P	**P**		**15 00 27.0**	**-1.8**
	comp=Z,1.5nm,1.0s,baz=54,slow=7.0,SNR=5.8							
ICESG	**Greenland Ices**	**64.06**	**339**	*i* P	**P**		**15 00 48.3**	**+3.9**
ICESG				IAmb	IAmb		15 00 49.2	
	comp=Z,25nm,1.2s							
IMAR	**Indian Mountai**	**69.21**	**20**	P	**P**		**15 01 14.4**	**-2.4**
J20K	**Nowinta River**	**70.45**	**21**	P	**P**		**15 01 23.2**	**-1.4**
K20K	**Telida**	**71.09**	**22**	P	**P**		**15 01 27.1**	**-1.4**
K20K				IAmb	IAmb		15 01 33.3	
	comp=Z,12nm,1.0s							
TORD	**Torodi Ar. Bea**	**71.22**	**272**	P	**P**		**15 01 27.1**	**-3.0**
	comp=Z,2.3nm,0.7s,baz=42,slow=5.3,SNR=14							
INK	**Inuvik**	**71.67**	**12**	P	**P**		**15 01 31.9**	**0.0**
	comp=Z,6.1nm,1.0s,baz=356,slow=5.5,SNR=3.8							
IL31		**71.96**	**19**	P	**P**		**15 01 31.2**	**-2.4**
IL31				IAmb	IAmb		15 01 36.9	
	comp=Z,6.0nm,0.9s							
ILAR	**Eielson Array**	**71.96**	**19**	P	**P**		**15 01 31.1**	**-2.6**
	comp=Z,0.6nm,0.7s,baz=322,slow=3.5,SNR=9.2							
ILAR	**Eielson Array**	**71.96**	**19**	P	**P**		**15 01 31.5**	**-2.2**
DHY	**Denali Highway**	**73.21**	**20**	P	**P**		**15 01 38.5**	**-2.8**
DHY				IAmb	IAmb		15 01 44.7	
	comp=Z,6.3nm,0.8s							
M24K	**Tolsona, Glenn**	**74.32**	**20**	P	**P**		**15 01 45.6**	**-2.2**
BCAR	**Beaver Creek A**	**74.63**	**18**	P	**P**		**15 01

H11S1	**WAKE ISLAND Hy**	**29.31**	**4**	T	T	15 29 49.8		
	baz=184,slow=76,SNR=6.6							
WRA	**Warramunga Arr**	**30.41**	**249**	P	**P**	**14 59 31.2**	**-1.0**	
	0.3nm,0.5s,baz=77,slow=9.3,SNR=2.6							
H11N1	**WAKE ISLAND Hy**	**30.52**	**4**	T	T	15 31 15.5		
	baz=184,slow=76,SNR=9.1							
H11N3	**WAKE ISLAND Hy**	**30.53**	**4**	T	T	15 31 14.4		
	baz=184,slow=76,SNR=7.9							
H11N2	**WAKE ISLAND Hy**	**30.54**	**4**	T	T	15 31 13.9		
	baz=184,slow=76,SNR=6.2							
ASAR	**Alice Springs**	**31.79**	**242**	P	**P**	**14 59 43.3**	**-1.1**	
	0.2nm,0.6s,baz=64,slow=10,SNR=8.0							
FITZ	**Fitzroy Crossi**	**38.26**	**255**	P	**P**	**15 00 39.1**	**-1.1**	
	1.2nm,0.6s,baz=76,slow=8.3,SNR=1.4							
VNDA	**Vanda**	**66.61**	**181**	P	**P**	**15 04 10.4**	**+1.0**	
	0.9nm,0.8s,baz=16,slow=6.4,SNR=4.9							
QSPA	**South Pole Qui**	**79.09**	**180**	P	**P**	**15 05 24.1**	**+0.3**	
	1.3nm,0.8s,baz=268,slow=4.6,SNR=6.5							
ILAR	**Eielson Array**	**83.77**	**19**	P	**P**	**15 05 48.7**	**+0.4**	
	0.4nm,0.8s,baz=229,slow=6.2,SNR=4.1							
MKAR	**Makanchi Array**	**92.61**	**317**	P	**P**	**15 06 30.6**	**-0.6**	
	0.6nm,0.8s,baz=89,slow=5.9,SNR=3.0							

IDC 17 14:58:12.7±10.0, 35°12'N×77°70'E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.3/49, mbtmp3.8/4, ML3.7/3, Error ellipse: s-maj=168.2km s-min=53.7km az=151.0, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.17**	**15**	Pn	Pn	15 01 08.4	+1.2
	1.0nm,0.3s,baz=200,slow=13,SNR=40						
MKAR				Sn	Sn	15 03 11.0	-13
	0.8nm,0.3s,baz=202,slow=24,SNR=11						
BVAR	**Borovoye Array**	**18.64**	**346**	P	P	15 02 31.0	-0.8
	0.4nm,0.3s,baz=162,slow=13,SNR=5.8						
ZALV	**Zalesovo Beam**	**19.48**	**13**	P	Pn	15 02 42.1	-0.1
	0.2nm,0.3s,baz=209,slow=10,SNR=2.1						
AKTO	**Aktyubinsk**	**20.95**	**323**	P	Pn	15 02 58.5	-1.2
	0.9nm,0.5s,baz=126,slow=8.7,SNR=1.8						
FINES	**FINESS Array B**	**41.69**	**326**	P	P	15 06 02.1	-0.7
	1.6nm,0.8s,baz=109,slow=10,SNR=5.2						

*IDC **17** 15:00:32.2±0.7, 31°.14S×72°.93W, h0km, mb4.0/8, mb1 4.3/12, mb1mx4.3/26, mbtmp4.1/12, ML4.8/3, Error ellipse: s-maj=29.4km s-min=19.8km az=99.0*
*NEIC **17** 15:00:34.0±1.4, 31°.07S±0°.06×72°.9W±0°.2, h8km±4km, mb4.6/44, ML4.2(GUC), Error ellipse: s-maj=19.3km s-min=8.9km az=97.0*
*GUC **17** 15:00:37.9±0.5, 31°.52S×72°.88W, h26km±6km, ML4.2*
ISC 17 15:00:34.7±4.4, 31°.18S±0°.05×73°.01W±0°.08, h18km±27km, n91, σ1s17/93, mb4.5/27, 2C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**2.01**	**134**	⇓*iP*	**Pn**	**15 01 07.8**	**0.0**
VA06				*eS*	**Sn**	**15 01 30.5**	**-1.9**
CO03	**El Pedregal**	**2.02**	**81**	⇑*iP*	**Pn**	**15 01 07.5**	**-0.6**
CO03				*i* S	**Sn**	**15 01 32.2**	**-0.7**
CO03				IAML		15 01 33.1	
	comp=N,3μm,0.5s						
VA01	**Torpederas**	**2.17**	**148**	*eP*	**Pn**	**15 01 09.8**	**-0.3**
VA01				*eS*	**Sn**	**15 01 32.7**	**-3.8**
ROCH	**El Roble**	**2.46**	**137**	⇓*iP*	**Pn**	**15 01 14.9**	**+0.6**
ROCH				*i* S	**Sn**	**15 01 43.9**	**-0.2**
ROCH				IAML		15 01 45.7	
	comp=N,2μm,0.5s						
VA03	**San Esteban**	**2.62**	**128**	⇑*iP*	**Pn**	**15 01 17.4**	**+1.1**
VA03				*i* S	**Sn**	**15 01 47.7**	**0.0**
VA03				IAML		15 01 50.1	
	comp=N,2μm,0.3s						
VA05	**Santo Domingo**	**2.74**	**155**	⇓*iP*	**Pn**	**15 01 17.8**	**-0.1**
VA05				*i* S	**Sn**	**15 01 48.4**	**-2.1**
VA05				IAML		15 01 51.0	
	comp=E,2μm,0.3s						
MT05	**Renca**	**2.93**	**140**	*eP*	**Pn**	**15 01 21.4**	**+0.9**
MT05				*i* S	**Sn**	**15 01 54.5**	**-0.8**
MT05				IAML		15 02 01.4	
	comp=E,1μm,0.2s						
LCO	**Las Campanas**	**2.94**	**43**	Pn	**Pn**	**15 01 18.6**	**-2.3**
MT01	**Popeta**	**3.06**	**151**	*eP*	**Pn**	**15 01 22.4**	**+0.1**
MT01				*i* S	**Sn**	**15 01 56.9**	**-1.6**
MT01				IAML		15 02 01.2	
	comp=E,540nm,0.2s						
MT09	**Talagante**	**3.10**	**147**	*eP*	**Pn**	**15 01 23.5**	**+0.5**
MT09				*eS*	**Sn**	**15 01 58.9**	**-0.8**
MT09				IAML		15 02 04.8	
	comp=N,994nm,0.2s						
BO03	**Pichilemu**	**3.42**	**165**	⇓*iP*	**Pn**	**15 01 27.0**	**-0.3**
BO03				*i* S	**Sn**	**15 02 03.6**	**-3.8**
BO03				IAML		15 02 06.7	
	comp=E,447nm,0.2s						
GO05	**Huala**	**3.93**	**167**	*eP*	**Pn**	**15 01 33.9**	**-0.3**
GO05				*eS*	**Sn**	**15 02 15.6**	**-4.3**
BO02	**Sierra Bellavi**	**4.06**	**153**	Pn	**Pn**	**15 01 37.0**	**+0.9**
H03N1	**Juan Fernandez**	**5.48**	**244**	T	T	15 07 32.6	
	baz=70,slow=71,SNR=18						
H03N2	**Juan Fernandez**	**5.50**	**244**	T	T	15 07 33.0	
	baz=70,slow=71,SNR=22						
H03N3	**Juan Fernandez**	**5.50**	**244**	T	T	15 07 33.5	
	baz=70,slow=71,SNR=27						
LR03	**Panguipulli**	**8.45**	**177**		**Pn**	**15 02 36.1**	**-0.2**
LVC	**Limon Verde**	**9.28**	**24**	Pn	**Pn**	**15 02 45.1**	**-3.0**
	baz=348,slow=1.3,SNR=0.6						
PLCA	**Paso Flores**	**9.74**	**169**	Pn	**Pn**	**15 02 55.0**	**+0.9**
	comp=E,11nm,0.3s,baz=333,slow=12,SNR=150						
PLCA	**Paso Flores**	**9.74**	**169**	Pn	**Pn**	**15 02 55.2**	**+1.2**
LPAZ	**La Paz**	**15.48**	**18**	Pn	**Pn**	**15 04 13.0**	**+0.2**
	comp=E,0.3nm,0.3s,baz=195,slow=8.2,SNR=10						
LPAZ	**La Paz**	**15.48**	**18**	Pn	**Pn**	**15 04 12.6**	**-0.2**
SIV	**San Ignacio**	**18.64**	**38**	P	**P**	**15 04 50.4**	**-1.2**
	comp=E,0.4nm,0.3s,baz=230,slow=12,SNR=12						
EFI	**East Falkland**	**23.26**	**156**	P	**P**	**15 05 41.5**	**+0.4**
SAML	**Samuel**	**23.94**	**25**	P	**P**	**15 05 47.7**	**-0.3**
BDFB	**Brasilia**	**27.57**	**62**	P	**P**	**15 06 20.9**	**-0.1**
	comp=E,6.8nm,0.6s,baz=221,slow=9.2,SNR=1.2						
BDFB	**Brasilia**	**27.57**	**62**	IAmb	IAmb	15 06 24.4	
	comp=Z,9.6nm,0.9s						
VNA3	**Neumayer Olymp**	**52.28**	**159**	P	**P**	**15 09 46.1**	**+1.4**
VNA1	**Neumayer--Stat**	**52.59**	**158**	P	**P**	**15 09 48.4**	**+1.5**
VNA2	**Neumayer--Watz**	**52.93**	**158**	P	**P**	**15 09 50.9**	**+1.4**
	baz=283,slow=8.4						
SNAA	**Sanae**	**54.50**	**159**	P	**P**	**15 10 02.4**	**+1.3**
QSPA	**South Pole Qui**	**59.05**	**180**	P	**P**	**15 10 35.2**	**+1.7**
NATX	**Nacogdoches**	**65.87**	**340**	P	**P**	**15 11 19.7**	**+0.4**
JCT	**Junction City**	**66.39**	**335**	P	**P**	**15 11 23.5**	**+0.8**
VNDA	**Vanda**	**66.70**	**191**	P	**P**	**15 11 25.4**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=122,slow=9.2,SNR=2.3						
TX31	**Lajitas Ar. Si**	**66.88**	**331**	P	**P**	**15 11 26.0**	**+0.1**
TX32	**Lajitas Array**	**66.88**	**331**	P	**P**	**15 11 26.1**	**+0.2**
TX32				IAmb	IAmb	15 11 29.0	
	comp=Z,5.9nm,1.3s						
TXAR	**Lajitas Array**	**66.88**	**331**	P	**P**	**15 11 26.5**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=153,slow=8.4,SNR=6.8						
TXAR	**Lajitas Array**	**66.88**	**331**	P	**P**	**15 11 26.3**	**+0.4**
TZTN	**Tazewell**	**68.09**	**351**	P	**P**	**15 11 32.8**	**-0.5**
ABTX	**Abilene, Hawle**	**68.28**	**336**	P	**P**	**15 11 34.8**	**+0.2**
WVT	**Waverly**	**68.38**	**347**	P	**P**	**15 11 34.3**	**-0.8**
W39A	**Magazine**	**68.86**	**342**	P	**P**	**15 11 37.5**	**-0.6**
W39A				IAmb	IAmb	15 11 41.8	
	comp=Z,4.8nm,0.8s						
MNTX	**Cornudas Mount**	**69.66**	**331**	P	**P**	**15 11 42.6**	**-0.5**
MNTX				IAmb	IAmb	15 11 43.2	
	comp=Z,3.7nm,0.7s						
U40A	**Yellville**	**69.71**	**343**	P	**P**	**15 11 42.8**	**-0.7**
U40A				IAmb	IAmb	15 11 46.4	
	comp=Z,9.0nm,1.1s						
OK025	**Westminster Rd**	**70.23**	**339**	P	**P**	**15 11 45.8**	**-0.9**
OK031	**S. Brethren Rd**	**70.43**	**340**	P	**P**	**15 11 47.5**	**-0.3**
MSTX	**Muleshoe**	**70.62**	**334**	P	**P**	**15 11 49.3**	**+0.1**
WUPA	**West Chester U**	**70.79**	**358**	P	**P**	**15 11 50.0**	**+0.1**
CCM	**Cathedral Cave**	**70.95**	**345**	P	**P**	**15 11 51.0**	**+0.1**
CCM				IAmb	IAmb	15 11 53.6	
	comp=Z,6.8nm,0.8s						
ANMO	**Albuquerque**	**72.92**	**332**	P	**P**	**15 12 03.7**	**+0.6**
ANMO				IAmb	IAmb	15 12 07.0	
	comp=Z,6.9nm,1.4s						
T25A	**Trinidad**	**74.04**	**334**	P	**P**	**15 12 10.4**	**+0.7**
T25A				IAmb	IAmb	15 12 11.7	
	comp=Z,6.4nm,0.9s						
WUAZ	**Wupatki**	**75.51**	**328**	P	**P**	**15 12 17.9**	**-0.3**
WUAZ				IAmb	IAmb	15 12 22.4	
	comp=Z,7.3nm,1.2s						
MVCO	**Mesa Verde**	**75.70**	**331**	P	**P**	**15 12 18.9**	**-0.4**
MVCO				IAmb	IAmb	15 12 29.9	
	comp=Z,4.2nm,0.9s						
MAW	**Mawson**	**76.11**	**164**	P	**P**	**15 12 21.4**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=263,slow=2.2,SNR=3.8						
MAW	**Mawson**	**76.11**	**164**	P	**P**	**15 12 22.3**	**+1.3**
SMCO	**Snowmass**	**76.80**	**334**	P	**P**	**15 12 26.6**	**+0.9**
SMCO				IAmb	IAmb	15 12 30.4	
	comp=Z,8.2nm,1.1s						
ISCO	**Idaho Springs**	**76.83**	**335**	P	**P**	**15 12 25.7**	**0.0**
ISCO				IAmb	IAmb	15 12 29.1	
	comp=Z,4.8nm,1.4s						
KNB	**Kanab**	**77.40**	**328**	P	**P**	**15 12 28.9**	**0.0**
KNB				IAmb	IAmb	15 12 34.0	
	comp=Z,10.0nm,1.5s						
ECSD	**EROS Data Cent**	**77.62**	**343**	P	**P**	**15 12 29.4**	**-0.3**
ECSD				IAmb	IAmb	15 12 30.3	
	comp=Z,5.4nm,0.7s						
MTPU	**Mount Pierson**	**77.97**	**329**	P	**P**	**15 12 32.6**	**+0.3**
SZCU	**Shurtz Canyon**	**78.00**	**328**	P	**P**	**15 12 33.1**	**+0.9**
SZCU				IAmb	IAmb	15 12 36.5	
	comp=Z,2.5nm,0.8s						
CCUT	**Cedar City**	**78.08**	**328**	P	**P**	**15 12 34.2**	**+1.5**
CCUT				IAmb	IAmb	15 12 37.4	
	comp=Z,3.2nm,0.9s						
O20A	**White River Ci**	**78.11**	**333**	P	**P**	**15 12 33.6**	**+0.8**
O20A				IAmb	IAmb	15 13 08.6	
	comp=Z,14nm,1.5s						
SRU	**San Rafael Swe**	**78.16**	**331**	P	**P**	**15 12 32.8**	**-0.3**
TPNV	**Topopah Spring**	**78.94**	**326**	P	**P**	**15 12 38.6**	**+1.3**
TPNV				IAmb	IAmb	15 12 41.9	
	comp=Z,5.2nm,1.2s						
RDMU	**Red Mountain**	**79.01**	**332**	P	**P**	**15 12 37.9**	**+0.1**
PSUT	**Pine Spring**	**79.11**	**329**	P	**P**	**15 12 39.2**	**+0.8**
K22A	**Casper**	**79.66**	**336**	P	**P**	**15 12 41.7**	**+0.5**
K22A				IAmb	IAmb	15 12 45.0	
	comp=Z,4.0nm,0.9s						
R11A	**Troy Canyon, C**	**79.75**	**327**	P	**P**	**15 12 43.5**	**+1.7**
DUG	**Dugway, Tooele**	**80.03**	**330**	P	**P**	**15 12 43.6**	**+0.4**
KOWA	**Kowa**	**80.24**	**67**	P	**P**	**15 12 44.0**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=157,slow=3.5,SNR=2.5						
HWUT	**Hardware Ranch**	**80.69**	**332**	P	**P**	**15 12 47.0**	**+0.2**
HWUT				IAmb	IAmb	15 12 49.6	
	comp=Z,11nm,1.6s						
PDAR	**Pinedale Array**	**80.88**	**334**	P	**P**	**15 12 47.0**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=73,slow=4.1,SNR=1.9						
NVAR	**Mina Array Bea**	**81.10**	**326**	P	**P**	**15 12 50.3**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=140,slow=6.6,SNR=4.3						
NVAR	**Mina Array Bea**	**81.10**	**326**	P	**P**	**15 12 48.2**	**-0.9**
HVU	**Hansel Valley**	**81.33**	**331**	P	**P**	**15 12 50.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**84.04**	**71**	P	**P**	**15 13 03.4**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=270,slow=5.4,SNR=3.9						
TORD	**Torodi Ar. Bea**	**84.04**	**71**	IAmb	IAmb	15 13 05.7	
	comp=Z,5.0nm,1.6s						
ASAR	**Alice Springs**	**119.68**	**209**	PKP	**PKPdf**	**15 19 22.6**	**-1.7**
	comp=Z,0.3nm,0.8s,baz=122,slow=1.6,SNR=4.4						
WRA	**Warramunga Arr**	**122.79**	**211**	PKP	**PKPdf**	**15 19 30.0**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=167,slow=1.5,SNR=8.5						
H11S2	**WAKE ISLAND Hy**	**124.93**	**272**	T	T	17 35 30.8	
	baz=117,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**124.94**	**272**	T	T	17 35 30.2	
	baz=117,slow=75,SNR=13						
H11S3	**WAKE ISLAND Hy**	**124.95**	**272**	T	T	17 35 30.5	
	baz=117,slow=75,SNR=9.3						
BVAR	**Borovoye Array**	**145.71**	**40**	PKPbc	**PKPab**	**15 20 13.1**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=249,slow=7.8,SNR=8.0						
KURK	**Kurchatov**	**151.29**	**39**		**PKiKP**	**15 20 27.5**	**+0.1**
KURBB	**Kurchatov Arra**	**151.29**	**39**	PKPbc	**PKiKP**	**15 20 27.5**	**+0.1**
	comp=Z,3.2nm,0.6s,baz=297,slow=2.9,SNR=13						
AAK	**Ala-Archa**	**151.78**	**57**	PKPbc	**PKiKP**	**15 20 29.5**	**+0.7**
	comp=Z,2.7nm,0.6s,baz=280,slow=1.3,SNR=7.8						
ZALV	**Zalesovo Beam**	**152.21**	**29**	PKPbc	**PKPbc**	**15 20 29.1**	**+0.3**
	comp=Z,4.8nm,0.6s,baz=301,slow=3.1,SNR=16						
ZALV	**Zalesovo Beam**	**152.21**	**29**		**PKPbc**	**15 20 28.8**	**0.0**
MKAR	**Makanchi Array**	**155.41**	**44**	PKPbc	PKPbc	15 20 36.1	
	comp=Z,0.4nm,0.5s,baz=309,slow=2.1,SNR=4.2						

*TUL **17** 15:03:29.5±1.7, 36°.84N±0°.01×97°.81W±0°.02, h5km±5km, ML3.1,mb_Lg3.0/40(NEIC), Error ellipse: s-maj=2.0km s-min=1.5km az=94.0*
NEIC 17 15:03:29.6±0.9, 36°.81N±0°.01×97°.78W±0°.02, h6km±3km, Error ellipse: s-maj=2.0km s-min=1.5km az=114.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.07**	**304**		Pg	15 03 30.9	-0.5
GC02				Sg	Sg	15 03 32.0	-0.6
KAN14	**Manchester OK**	**0.21**	**316**		Pg	15 03 33.5	-0.2
KAN14				Sg	Sg	15 03 36.1	-0.4
KAN17	**Caldwell West**	**0.23**	**4**		Pg	15 03 34.2	0.0
KAN17				Sg	Sg	15 03 37.4	+0.1
KAN05	**Bluff City Nor**	**0.31**	**347**		Pg	15 03 35.4	-0.2
KAN05				Sg	Sg	15 03 39.4	-0.3
KAN13	**South Haven SW**	**0.32**	**50**		Pg	15 03 36.1	+0.3
KAN13				Sg	Sg	15 03 40.6	+0.6
OK032	**Salt Plains WL**	**0.34**	**269**		Pg	15 03 36.1	-0.2
OK032				Sg	Sg	15 03 40.7	-0.1
CROK	**Carrier**	**0.34**	**208**		Pg	15 03 36.8	+0.5
CROK				Sg	Sg	15 03 41.9	+1.1
KAN09	**Caldwell North**	**0.35**	**22**		Pg	15 03 36.5	0.0
KAN09				Sg	Sg	15 03 41.3	+0.2
KAN10	**Anthony SW Sta**	**0.40**	**321**		Pg	15 03 37.1	-0.3
KAN10				Sg	Sg	15 03 42.4	-0.3
KAN08	**Anthony NE Sta**	**0.44**	**340**		Pg	15 03 37.8	-0.4
KAN08				Sg	Sg	15 03 43.9	-0.1
KS20	**Mayfield South**	**0.46**	**24**	Pg	Pg	15 03 38.3	-0.2
KS20				Sg	Sg	15 03 44.6	+0.1
BLOK	**Blackwell**	**0.46**	**96**		Pg	15 03 39.0	+0.5
BLOK				Sg	Sg	15 03 45.4	+0.9
KAN16	**Harper SW Stat**	**0.47**	**332**		Pg	15 03 38.4	-0.4
KAN16				Sg	Sg	15 03 45.6	+0.7
KAN12	**Harper NE Stat**	**0.52**	**341**		Pg	15 03 39.2	-0.3
KAN12				Sg	Sg	15 03 46.1	-0.2
OK029	**Liberty Lake**	**1.04**	**165**		Pg	15 03 49.6	0.0
OK029				Sg	Sb	15 04 04.1	0.0
QUOK	**Quay**	**1.07**	**126**		Pg	15 03 50.3	+0.1
QUOK					Sb	15 04 04.7	-0.2
OK031	**S. Brethren Rd**	**1.15**	**138**		Pg	15 03 51.6	+0.1
OK031				Sn	Sn	15 04 08.0	-0.2
OK025	**Westminster Rd**	**1.28**	**164**		Pn	15 03 53.6	-0.4
OK025				Sn	Sn	15 04 11.5	0.0
OKCFA	**Oklahoma City**	**1.42**	**169**		Pn	15 03 55.8	-0.1
OKCFA				Sn	Sg	15 04 16.1	+0.9
OKCFA				IAmb_Lg		15 04 18.4	
	comp=Z,89nm,0.8s						
OKCSW	**OKLAHOMA CITY**	**1.43**	**169**	Pn	Pn	15 03 56.2	+0.1
OKCSW				Sn	Sg	15 04 16.6	+1.1
FNO	**Franklin**	**1.58**	**169**		Pn	15 03 58.5	+0.4
FNO				Sn	Sg	15 04 21.1	+0.7
X34A	**Smith Ranch, M**	**2.20**	**181**	Pn	Pn	15 04 08.2	+1.5
WMOK	**Wichita Mounta**	**2.22**	**202**		Pn	15 04 07.3	+0.3
LOOK	**Love County**	**2.85**	**170**		Pn	15 04 15.9	+0.2
X37A	**Clayton**	**2.96**	**138**	IAmb_Lg		15 05 11.1	
	comp=Z,56nm,1.0s						
W39A	**Magazine**	**3.62**	**115**		Pn	15 04 25.4	-0.8
AMTX	**Amarillo**	**3.70**	**240**		Pn	15 04 28.8	+1.3
AMTX				IAmb_Lg		15 05 28.7	
	comp=Z,30nm,0.8s						
U40A	**Yellville**	**3.99**	**95**	Pn	Pn	15 04 32.4	+1.0
MIAR	**Mount Ida**	**4.10**	**122**		Pn	15 04 35.1	+2.3
KSCO	**Kaye Shedlock'**	**4.42**	**301**	IAmb_Lg		15 05 54.2	
	comp=Z,37nm,0.7s						
MGMO	**Mountain Grove**	**4.43**	**84**		Pn	15 04 38.7	+1.4
ABTX	**Abilene, Hawle**	**4.45**	**201**	Pn	Pn	15 04 38.9	+1.3
ABTX				IAmb_Lg		15 05 49.3	
	comp=Z,31nm,1.1s						
X40A	**Basin Creek Fa**	**4.65**	**118**		Pn	15 04 40.0	-0.4
X40A				IAmb_Lg		15 06 06.0	
	comp=Z,21nm,0.8s						
MSTX	**Muleshoe**	**4.96**	**237**	Pn	Pn	15 04 45.1	+0.3
OGNE	**Ogallala**	**5.29**	**323**	IAmb_Lg		15 06 20.0	
	comp=Z,25nm,0.7s						
T25A	**Trinidad**	**5.32**	**276**	Pn	Pn	15 04 51.4	+1.6
T25A				IAmb_Lg		15 06 24.3	
	comp=Z,33nm,0.7s						
CCM	**Cathedral Cave**	**5.35**	**75**	Pn	Pn	15 04 48.2	-1.8
CCM	**Cathedral Cave**	**5.35**	**75**	IAmb_Lg		15 06 25.6	
	comp=Z,19nm,0.7s						
PBMO	**Poplar Bluff**	**5.90**	**88**	Pn	Pn	15 04 57.2	-0.4
FVM	**French Village**	**5.97**	**76**		Pn	15 04 57.8	-0.7
FVM				IAmb_Lg		15 06 36.9	
	comp=Z,19nm,0.8s						
SCIA	**State Center**	**6.20**	**33**	IAmb_Lg		15 06 56.5	
	comp=Z,23nm,0.7s						
SDCO	**Great Sand Dun**	**6.22**	**281**	Pn	Pn	15 05 01.8	-0.6
SLM	**Saint Louis**	**6.25**	**71**	IAmb_Lg		15 06 45.9	
	comp=Z,28nm,0.7s						
JCT	**Junction City**	**6.53**	**196**	Pn	Pn	15 05 06.0	-0.3
JCT				IAmb_Lg		15 07 04.1	
	comp=Z,19nm,0.7s						
MET	**Memphis--Engin**	**6.58**	**102**	Pn	Pn	15 05 04.2	-2.7
ISCO	**Idaho Springs**	**6.84**	**298**	Pn	Pn	15 05 10.9	+0.1
ISCO				IAmb_Lg		15 07 06.3	
	comp=Z,14nm,0.7s						
SIUC	**Southern Illin**	**6.89**	**80**	Pn	Pn	15 05 08.4	-2.7
SIUC				IAmb_Lg		15 07 14.4	
	comp=Z,25nm,0.9s						
ECSD	**EROS Data Cent**	**6.97**	**7**	Pn	Pn	15 05 10.5	-1.8
BNM	**Barren Site**	**7.69**	**252**	Pn	Pn	15 05 21.8	-0.5
OLIL	**Olney**	**7.91**	**73**	IAmb_Lg		15 07 53.3	
	comp=Z,14nm,0.8s						
PLAL	**Pickwick Lake**	**8.09**	**100**	IAmb_Lg		15 07 45.7	
	comp=Z,10nm,0.8s						
RWWY	**Rawlins**	**8.79**	**307**	IAmb_Lg		15 08 14.1	
	comp=Z,9.4nm,0.9s						
K22A	**Casper**	**8.91**	**314**	IAmb_Lg		15 08 22.4	
	comp=Z,9.6nm,0.8s						
TX31	**Lajitas Ar. Si**	**8.94**	**215**	Pn	Pn	15 05 39.3	-0.1
SFIN	**Lafayette**	**9.09**	**64**	IAmb_Lg		15 08 18.2	
	comp=Z,12nm,0.7s						

*IDC **17** 15:07:39.5±1.4, 31°.67S×71°.59W, h0km, mb3.9/3, mb1 3.9/4, mb1mx3.7/26, mbtmp3.8/4, ML3.7/1, Error ellipse: s-maj=55.5km s-min=38.4km az=70.0*
*GUC **17** 15:07:43.3±0.7, 31°.91S×71°.96W, h44km±4km, ML3.8*
ISC 17 15:07:40.6±3.7, 31°.76S±0°.08×72°.0W±0°.1, h13km±23km, n17, σ0s90/24, mb4.0/3, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.99**	**144**	⇓*iP*	**Pb**	**15 07 59.8**	**+0.1**
VA06				*i* S	**Sb**	**15 08 12.8**	**+0.1**
VA01	**Torpederas**	**1.29**	**167**	*eP*	**Pn**	**15 08 04.3**	**0.0**
VA01				*i* S	**Sb**	**15 08 19.8**	**-1.5**
ROCH	**El Roble**	**1.47**	**146**	*eP*	**Pn**	**15 08 07.3**	**+0.3**
ROCH				*i* S	**Sb**	**15 08 26.6**	**0.0**
ROCH				IAML		15 08 34.2	
	comp=E,2μm,0.4s						
VA03	**San Esteban**	**1.58**	**130**	⇑*iP*	**Pb**	**15 08 09.1**	**-0.6**
VA03				*i* S	**Sn**	**15 08 28.8**	**0.0**
VA03				IAML		15 08 36.0	
	comp=E,3μm,0.7s						
VA05	**Santo Domingo**	**1.92**	**170**	*eP*	**Pn**	**15 08 13.0**	**0.0**
VA05				IAML		15 08 48.4	
	comp=N,2μm,0.3s						
MT05	**Renca**	**1.94**	**147**	*eP*	**Pn**	**15 08 14.2**	**+0.8**
MT05				*i* S	**Sn**	**15 08 37.8**	**0.0**
MT05				IAML		15 08 47.6	
	comp=E,2μm,0.5s						
MT09	**Talagante**	**2.18**	**157**	⇓*iP*	**Pn**	**15 08 18.1**	**+1.4**
MT09				*i* S	**Sn**	**15 08 43.9**	**+0.1**
MT09				IAML		15 08 51.6	
	comp=N,936nm,0.2s						
MT01	**Popeta**	**2.19**	**164**	*eP*	**Pn**	**15 08 17.2**	**+0.4**
MT01				IAML		15 08 51.4	
	comp=E,489nm,0.8s						
LMEL	**Las Melosas**	**2.57**	**145**	*i* P	**Pn**	**15 08 23.6**	**+1.5**
LMEL				*i* S	**Sn**	**15 08 54.6**	**+1.2**
LMEL				IAML		15 09 04.6	
	comp=N,511nm,0.3s						
BO01	**Tunca**	**2.73**	**164**	*eP*	**Pn**	**15 08 24.9**	**+0.7**
PLCA	**Paso Flores**	**9.03**	**173**	Pn	**Pn**	**15 09 51.7**	**+1.0**
	comp=N,0.2nm,0.3s,baz=301,slow=18,SNR=3.9						
TXAR	**Lajitas Array**	**67.81**	**330**	P	**P**	**15 18

PMSA	**Palmer Station**	**33.85**	**174**	P		**P**		15 16 56.9	**-1.0**
VNA2	**Neumayer--Watz**	**52.30**	**158**	P		**P**		15 19 27.1	**+0.5**
	baz=289,slow=7.6								
SNAA	**Sanae**	**53.89**	**159**	P		**P**		15 19 38.8	**+0.4**
QSPA	**South Pole Qui**	**58.98**	**180**	P		**P**		15 20 15.6	**+0.8**
QSPA				IAmb		IAmb		15 20 30.8	
	comp=Z,1.6nm,0.9s								
TXAR	**Lajitas Array**	**67.68**	**330**	P		**P**		15 21 13.4	**+0.8**
	comp=Z,0.1nm,0.5s,baz=140,slow=8.0,SNR=3.8								
TXAR	**Lajitas Array**	**67.68**	**330**	P		**P**		15 21 11.3	**-1.3**
DBIC	**Dimbokro**	**73.68**	**72**	P		**P**		15 21 49.8	**+0.4**
	comp=Z,4.6nm,0.9s,baz=245,slow=2.6,SNR=3.9								
DBIC	**Dimbokro**	**73.68**	**72**	P		**P**		15 21 49.2	**-0.1**
KOWA	**Kowa**	**78.90**	**66**	P		**P**		15 22 19.5	**+0.5**
	comp=Z,1.3nm,0.4s,baz=222,slow=5.7,SNR=4.0								
KOWA	**Kowa**	**78.90**	**66**	P		**P**		15 22 19.3	**+0.3**
KOWA				IAmb		IAmb		15 22 49.2	
	comp=Z,10nm,1.3s								
TORD	**Torodi Ar. Bea**	**82.65**	**70**	P		**P**		15 22 39.7	**+0.7**
	comp=Z,1.2nm,0.5s,baz=280,slow=6.0,SNR=8.5								
TORD				pP				15 22 55.0	**-0.3**
	comp=Z,1.4nm,0.5s,baz=273,slow=5.7,SNR=8.1								
TORD	**Torodi Ar. Bea**	**82.65**	**70**	P		**P**		15 22 39.4	**+0.5**
TORD				IAmb		IAmb		15 22 55.4	
	comp=Z,1.6nm,0.7s								
ASAR	**Alice Springs**	**120.31**	**207**	PKP		**PKPdf**		15 29 05.5	**-1.2**
	comp=Z,0.2nm,0.9s,baz=107,slow=1.7,SNR=5.5								
WRA	**Warramunga Arr**	**123.48**	**209**	PKP		**PKPdf**		15 29 12.2	**-0.7**
	comp=Z,0.3nm,0.4s,baz=158,slow=2.1,SNR=7.2								
H11S2	**WAKE ISLAND Hyl**	**26.43**	**271**	T		T		17 48 20.2	
	baz=116,slow=75,SNR=45								
H11S1	**WAKE ISLAND Hyl**	**26.44**	**271**	T		T		17 48 22.1	
	baz=116,slow=75,SNR=32								
H11S3	**WAKE ISLAND Hyl**	**26.45**	**271**	T		T		17 48 18.0	
	baz=116,slow=75,SNR=29								
H11N3	**WAKE ISLAND Hyl**	**26.77**	**272**	T		T		17 48 43.6	
	baz=116,slow=74,SNR=7.3								
H11N1	**WAKE ISLAND Hyl**	**26.79**	**272**	T		T		17 48 46.5	
	baz=116								
H11N2	**WAKE ISLAND Hyl**	**26.79**	**272**	T		T		17 48 46.7	
	baz=116,slow=74,SNR=16								
BVAR	**Borovoye Array**	**144.79**	**41**	PKP		**PKPdf**		15 29 51.6	**+0.3**
	comp=Z,2.5nm,0.4s,baz=267,slow=5.3,SNR=17								
BVAR				pPKP		**pPKPdf**		15 30 07.4	**-1.0**
	comp=Z,0.9nm,0.5s,baz=251,slow=4.5,SNR=4.8								
KURBB	**Kurchatov Arra**	**150.39**	**40**	PKPbc		**PKiKP**		15 30 06.5	**-0.1**
	comp=Z,0.6nm,0.3s,baz=324,slow=3.5,SNR=4.6								
KURK	**Kurchatov**	**150.39**	**40**			**PKiKP**		15 30 06.5	**-0.1**
AAK	**Ala-Archa**	**150.55**	**58**	PKPbc		**PKiKP**		15 30 07.8	**+0.3**
	comp=Z,1.4nm,0.6s,baz=228,slow=5.3,SNR=4.6								
AAK				pPKPbc		**pPKPbc**		15 30 23.5	**-0.3**
	comp=Z,2.6nm,0.7s,baz=197,slow=4.9,SNR=2.7								
ZALV	**Zalesovo Beam**	**151.54**	**30**	PKPbc		**PKiKP**		15 30 09.0	**+0.1**
	comp=Z,8.0nm,0.4s,baz=317,slow=2.7,SNR=27								
ZALV				pPKPbc		**pPKPbc**		15 30 25.3	**-0.2**
	comp=Z,1.8nm,0.6s,baz=284,slow=2.4,SNR=3.1								
MKAR	**Makanchi Array**	**154.41**	**45**	PKPbc		**PKPbc**		15 30 14.1	**-1.0**
	comp=Z,0.5nm,0.7s,baz=265,slow=2.9,SNR=4.8								
MKAR				pPKPbc		**PKPab**		15 30 30.2	**+0.6**
	comp=Z,0.7nm,0.7s,baz=299,slow=2.5,SNR=4.6								

CNRM ***17*** *15:11:42.1,35.64N×7.05W,h101km,ml4.1*
IGIL ***17*** *15:11:44.7,35.65N×7.00W,h30km,ML3.7*
LDG ***17*** *15:11:44.8±0.2,35.74N×6.94W,h10km,ml4.3/22,Error ellipse: s-maj=3.6km s-min=2.0km az=22.0*
SFS ***17*** *15:11:44.0,35.60N×6.90W,h37km,ML3.7,GOLFO DE CADIZ*
MDD ***17*** *15:11:44.8±0.5,35.65N×7.02W,h58km±15km,mb4.9/52, Error ellipse: s-maj=5.6km s-min=3.2km az=21.0,PRXIMO*
MDD EMS: I-II INTENSIDAD MAXIMA.
INMG ***17*** *15:11:45.3±2.2,35.63N×7.00W,h34km±7km,MD3.4, ML3.8,Error ellipse: s-maj=2.8km s-min=2.1km az=46.0*

ISC 17 15:11:41.6±0.7,35.65N±0.03×7.04W±0.03,h85km±11km, n254,σ2.966/450,19C-28D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPS	**Cap Spartel**	**0.93**	**81**	P	**Pn**	15 11 59.9	**-0.3**
CPS				S	**Sn**	15 12 18.8	**+4.6**
CPS	**Cap Spartel**	**0.93**	**81**	P	**Pn**	15 12 03.0	**+2.8**
CPS	**Cap Spartel**	**0.93**	**81**	P	**Pn**	15 12 03.0	**+2.8**
SFS	**San Fernando**	**1.06**	**40**	P	**Pn**	15 12 03.6	**+2.0**
SFS				S	**Sn**	15 12 17.2	**+0.5**
SFS	**San Fernando**	**1.06**	**40**	P	**Pn**	15 12 03.6	**+2.0**
SFS				S	**Sn**	15 12 17.2	**+0.5**
CNIL	**Conil**	**1.07**	**48**	P	**Pn**	15 12 03.2	**+1.4**
CNIL				S	**Sn**	15 12 15.0	**-2.0**
CNIL	**Conil**	**1.07**	**48**	P	**Pn**	15 12 03.2	**+1.4**
CNIL				S	**Sn**	15 12 15.0	**-2.0**
RSA	**Sarsar**	**1.26**	**127**	P	**Pn**	15 12 03.8	**-0.4**
RSA				S	**Sn**	15 12 24.2	**+3.1**
RSA	**Sarsar**	**1.26**	**127**	P	**Pn**	15 12 04.8	**+0.6**
RSA	**Sarsar**	**1.26**	**127**	P	**Pn**	15 12 04.8	**+0.6**
SMIR	**Smir Dam**	**1.35**	**88**	P	**Pn**	15 12 06.7	**+1.4**
SMIR				S	**Sn**	15 12 24.6	**+1.5**
SMIR	**Smir Dam**	**1.35**	**88**	P	**Pn**	15 12 07.0	**+1.8**
SMIR	**Smir Dam**	**1.35**	**88**	P	**Pn**	15 12 07.0	**+1.8**
ECEU	**Ceuta**	**1.38**	**79**	⇑P	**Pn**	15 12 07.7	**+2.1**
	94nm,0.1s,SNR=18						
ECEU				S	**Sn**	15 12 21.7	**-1.9**
	334nm,0.6s						
CEU	**Ceuta**	**1.38**	**79**	P	**Pn**	15 12 08.3	**+2.8**
CEU				S	**Sn**	15 12 26.0	**+2.4**
CEU	**Ceuta**	**1.38**	**79**	P	**Pn**	15 12 08.3	**+2.8**
CEU				S	**Sn**	15 12 26.0	**+2.4**
ARNO	**Arenosillo**	**1.47**	**10**	P	**Pn**	15 12 08.4	**+1.8**
ARNO				S	**Sn**	15 12 25.8	**+0.2**
ARNO	**Arenosillo**	**1.47**	**10**	P	**Pn**	15 12 08.4	**+1.8**
ARNO				S	**Sn**	15 12 25.8	**+0.2**
CHEFC	**Chefchaouen**	**1.49**	**111**	P	**Pn**	15 12 09.3	**+2.1**
CHEFC				S	**Sn**	15 12 31.1	**+4.6**
CHEFC	**Chefchaouen**	**1.49**	**111**	P	**Pn**	15 12 11.0	**+3.9**
CHEFC	**Chefchaouen**	**1.49**	**111**	P	**Pn**	15 12 09.1	**+2.0**
CHEFC	**Chefchaouen**	**1.49**	**111**	P	**Pn**	15 12 11.0	**+3.9**
EJIF	**Jimena Fronter**	**1.50**	**58**	⇑P	**Pn**	15 12 09.6	**+2.5**
	SNR=18						
EJIF				S	**Sn**	15 12 24.5	**-2.0**
	SNR=7.9						
ESPR	**Espera**	**1.55**	**38**	⇑P	**Pn**	15 12 09.4	**+1.7**
	112nm,0.1s,SNR=18						
ESPR				S	**Sn**	15 12 26.4	**-1.1**
	1μm,0.3s						
PBDV	**Barranco-do-Ve**	**1.74**	**336**	P	**Pn**	15 12 11.9	**+1.6**
PBDV				S	**Sn**	15 12 32.3	**+0.2**
	207nm,0.4s						
PBDV	**Barranco-do-Ve**	**1.74**	**336**	⇓*i*P	**Pn**	15 12 11.9	**+1.6**
PBDV				*e*S	**Sn**	15 12 32.3	**+0.2**
PBDV				A	A	15 12 34.6	
	207nm,0.4s						
LIJA	**Lijar**	**1.82**	**46**	P	**Pn**	15 12 13.0	**+1.6**
LIJA				S	**Sn**	15 12 30.0	**-4.0**
LIJA	**Lijar**	**1.82**	**46**	P	**Pn**	15 12 13.0	**+1.6**
LIJA				S	**Sn**	15 12 30.0	**-4.0**
PVAQ	**Vaqueiros**	**1.83**	**343**	P	**Pn**	15 12 13.2	**+1.8**
PVAQ				S	**Sn**	15 12 34.1	**0.0**
	605nm,0.6s						
PVAQ	**Vaqueiros**	**1.83**	**343**	⇓*i*P	**Pn**	15 12 13.2	**+1.8**
PVAQ				*e*S	**Sn**	15 12 34.1	**0.0**
PVAQ				A	A	15 12 35.8	
	605nm,0.6s						
PVAQ	**Vaqueiros**	**1.83**	**343**	P	**Pn**	15 12 13.1	**+1.6**
PVAQ				S	**Sn**	15 12 34.2	**+0.2**
PVAQ	**Vaqueiros**	**1.83**	**343**	P	**Pn**	15 12 13.2	**+1.8**
PVAQ	**Vaqueiros**	**1.83**	**343**	P	**Pn**	15 12 13.2	**+1.8**
EGRO	**El Granado**	**1.91**	**349**	⇓P	**Pn**	15 12 14.4	**+1.9**
	67nm,0.1s,SNR=18						
EGRO				S	**Sn**	15 12 36.3	**+0.4**
	679nm,0.2s						
EMIJ	**Mijas**	**2.05**	**63**	⇑P	**Pn**	15 12 15.7	**+1.4**
	185nm,0.4s,SNR=18						
EMIJ				S	**Sn**	15 12 38.2	**-1.1**
	277nm,0.4s						
PFVI	**Vila Bisbo**	**2.06**	**316**	⇓P	**Pn**	15 12 16.2	**+1.7**
	78nm,0.2s,SNR=18						
PFVI				S	**Sn**	15 12 41.4	**+1.9**
	298nm,0.2s,SNR=7.5						
PFVI	**Vila Bisbo**	**2.06**	**316**	⇓*i*P	**Pn**	15 12 16.2	**+1.7**
PFVI				*e*S	**Sn**	15 12 40.8	**+1.3**
PFVI				A	A	15 12 47.7	
	172nm,0.2s						
PFVI	**Vila Bisbo**	**2.06**	**316**	P	**Pn**	15 12 15.5	**+1.0**
PFVI				S	**Sn**	15 12 43.7	**+4.2**
PFVI	**Vila Bisbo**	**2.06**	**316**	P	**Pn**	15 12 16.2	**+1.7**
PFVI	**Vila Bisbo**	**2.06**	**316**	P	**Pn**	15 12 16.2	**+1.7**
MORF	**Marmelete**	**2.10**	**322**	*e*P	**Pn**	15 12 16.6	**+1.6**
MORF				*e*S	**Sn**	15 12 40.2	**-0.2**
MORF				IAML		15 12 47.1	
	comp=N,610nm,0.2s						
MORF	**Marmelete**	**2.10**	**322**	P	**Pn**	15 12 16.6	**+1.6**
MORF				S	**Sn**	15 12 40.2	**-0.2**
MORF	**Marmelete**	**2.10**	**322**	⇓*i*P	**Pn**	15 12 16.6	**+1.6**
MORF				*e*S	**Sn**	15 12 40.9	**+0.4**
MORF				A	A	15 12 48.0	
	comp=N,305nm,0.1s						
EMIN	**Mina Concepcio**	**2.13**	**8**	⇓P	**Pn**	15 12 17.2	**+1.8**
	comp=N,27nm,0.1s,SNR=18						
EMIN				S	**Sn**	15 12 40.2	**-1.0**
	comp=N,306nm,0.1s						
PCVE	**Castro Verde**	**2.13**	**338**	P	**Pn**	15 12 17.3	**+1.9**
PCVE				S	**Sn**	15 12 41.8	**+0.6**
	comp=N,313nm,0.3s						
PCVE	**Castro Verde**	**2.13**	**338**	⇓*i*P	**Pn**	15 12 17.3	**+1.9**
PCVE				*e*S	**Sn**	15 12 41.8	**+0.6**
PCVE				A	A	15 12 43.7	
	comp=N,313nm,0.3s						
ZHG	**ZHG**	**2.23**	**171**	P	**Pn**	15 12 16.9	**+0.2**
ZHG				S	**Sn**	15 12 45.3	**+1.8**
PVLZ	**Peæn de**	**2.29**	**101**	P	**Pn**	15 12 19.2	**+1.8**
PVLZ				S	**Sn**	15 12 44.7	**-0.2**
PVLZ	**Peæn de**	**2.29**	**101**	P	**Pn**	15 12 19.2	**+1.8**
PVLZ				S	**Sn**	15 12 44.7	**-0.2**
PTEO	**Sao Teotonio**	**2.32**	**325**	P	**Pn**	15 12 20.0	**+2.1**
PTEO				S	**Sn**	15 12 47.1	**+1.4**
	comp=N,113nm,0.5s						
PTEO	**Sao Teotonio**	**2.32**	**325**	⇓*i*P	**Pn**	15 12 20.0	**+2.1**
PTEO				*e*S	**Sn**	15 12 47.1	**+1.4**
PTEO				A	A	15 12 53.5	
	comp=N,226nm,0.5s						
AVE	**Averroes**	**2.37**	**188**	P	**Pn**	15 12 20.5	**+2.0**
AVE				S	**Sn**	15 12 46.7	**-0.2**
AVE	**Averroes**	**2.37**	**188**	P	**Pn**	15 12 21.6	**+3.1**
AVE				S	**Sn**	15 12 48.3	**+1.4**
MESJ	**Messejana**	**2.38**	**337**	*e*P	**Pn**	15 12 20.8	**+2.1**
MESJ				*e*S	**Sn**	15 12 46.7	**-0.4**
MESJ				IAML		15 12 51.1	
	comp=N,292nm,0.5s						
MESJ	**Messejana**	**2.38**	**337**	P	**Pn**	15 12 20.8	**+2.1**
MESJ				S	**Sn**	15 12 46.7	**-0.4**
MESJ	**Messejana**	**2.38**	**337**	⇓*i*P	**Pn**	15 12 20.8	**+2.1**
MESJ				*e*S	**Sn**	15 12 47.7	**+0.6**
MESJ				A	A	15 12 50.1	
	comp=N,210nm,0.5s						
EMAL	**Malaga-Limoner**	**2.39**	**62**	P	**Pn**	15 12 20.5	**+1.7**
EMAL				S	**Sn**	15 12 46.4	**-0.8**
EMAL	**Malaga-Limoner**	**2.39**	**62**	P	**Pn**	15 12 20.5	**+1.7**
EMAL				S	**Sn**	15 12 46.4	**-0.8**
PBEJ	**Beja**	**2.46**	**345**	P	**Pn**	15 12 21.9	**+2.1**
PBEJ				S	**Sn**	15 12 49.4	**+0.4**
	comp=N,100nm,0.2s						
PBEJ	**Beja**	**2.46**	**345**	⇓*e*P	**Pn**	15 12 21.9	**+2.1**
PBEJ				*e*S	**Sn**	15 12 49.4	**+0.4**
PBEJ				A	A	15 12 49.9	
	comp=N,201nm,0.2s						
PALE	**Palemas**	**2.57**	**99**	P	**Pn**	15 12 23.3	**+2.0**
PALE				S	**Sn**	15 12 53.8	**+2.1**
PALE	**Palemas**	**2.57**	**99**	P	**Pn**	15 12 24.0	**+2.7**
PALE	**Palemas**	**2.57**	**99**	P	**Pn**	15 12 24.0	**+2.7**
IFR	**Ifrane**	**2.65**	**143**	P	**Pn**	15 12 22.8	**+0.2**
IFR				S	**Sn**	15 12 51.2	**-2.7**
LCRM	**LCR**	**2.66**	**137**	P	**Pn**	15 12 22.7	**0.0**
LCRM				S	**Sn**	15 12 58.4	**+4.2**
LCRM	**LCR**	**2.66**	**137**	P	**Pn**	15 12 24.0	**+1.3**
LCRM	**LCR**	**2.66**	**137**	P	**Pn**	15 12 24.0	**+1.3**
PNCL	**Nicolau / Gran**	**2.73**	**335**	P	**Pn**	15 12 25.4	**+2.0**
PNCL				S	**Sn**	15 12 56.0	**+0.5**
	comp=N,124nm,0.6s						
PNCL	**Nicolau / Gran**	**2.73**	**335**	⇓*e*P	**Pn**	15 12 25.4	**+2.0**
PNCL				*e*S	**Sn**	15 12 56.0	**+0.5**
PNCL				A	A	15 12 58.0	
	comp=N,124nm,0.6s						
ECAB	**El Cabril**	**2.75**	**28**	P	**Pn**	15 12 25.5	**+1.8**
	comp=N,7.8nm,0.1s,SNR=41						
ECAB				S	**Sn**	15 12 54.2	**-1.7**
	comp=N,184nm,0.2s,SNR=8.8						
EGOR	**Sierra Gorda,**	**2.78**	**58**	⇑P	**Pn**	15 12 27.1	**+2.9**
	comp=N,125nm,0.3s,SNR=18						
EGOR				S	**Sn**	15 12 57.4	**+0.5**
	comp=N,521nm,0.4s,SNR=7.9						
EVO	**Evora**	**2.98**	**345**	P	**Pn**	15 12 28.9	**+2.2**
EVO				S	**Sn**	15 13 01.5	**0.0**
	comp=N,235nm,0.3s						
EVO	**Evora**	**2.98**	**345**	P	**Pn**	15 12 28.9	**+2.2**
EVO				S	**Sn**	15 12 58.7	**-2.8**
EVO	**Evora**	**2.98**	**345**	⇓*i*P	**Pn**	15 12 29.1	**+2.4**
EVO				*e*S	**Sn**	15 13 01.5	**0.0**
EVO				A	A	15 13 03.9	
	comp=N,235nm,0.3s						
ELGU	**Los Guajares,**	**3.02**	**65**	⇓P	**Pn**	15 12 28.2	**+0.9**
	comp=N,94nm,0.2s,SNR=18						
ELGU				S	**Sn**	15 13 01.5	**-1.0**
	comp=N,470nm,0.5s,SNR=7.9						
CZD	**Col de Zad**	**3.09**	**147**	P	**Pn**	15 12 30.1	**+1.4**
CZD				S	**Sn**	15 13 06.8	**+2.1**
CZD	**Col de Zad**	**3.09**	**147**	P	**Pn**	15 12 31.0	**+2.4**
CZD	**Col de Zad**	**3.09**	**147**	P	**Pn**	15 12 30.0	**+1.4**
EBAD	**Badajoz**	**3.10**	**0**	⇓P	**Pn**	15 12 30.5	**+2.2**
	comp=N,40nm,0.1s,SNR=18						
EBAD				S	**Sn**	15 13 03.3	**-1.1**
	comp=N,226nm,0.2s,SNR=8.6						
EADA	**Adamuz**	**3.19**	**37**	⇑P	**Pn**	15 12 31.9	**+2.2**
	comp=N,37nm,0.2s,SNR=18						
EADA				S	**Sn**	15 13 04.9	**-1.9**
	comp=N,217nm,0.1s,SNR=8.7						
PESTR	**Estremoz**	**3.24**	**352**	*e*P	**Pn**	15 12 32.3	**+2.1**
PESTR				*e*S	**Sn**	15 13 07.7	**-0.1**
PESTR				A	A	15 13 11.5	
	comp=N,108nm,0.5s						
PESTR	**Estremoz**	**3.24**	**352**	P	**Pn**	15 12 32.4	**+2.1**
PESTR				S	**Sn**	15 13 08.1	**+0.3**
PESTR	**Estremoz**	**3.24**	**352**	P	**Pn**	15 12 32.4	**+2.2**
PESTR	**Estremoz**	**3.24**	**352**	P	**Pn**	15 12 32.4	**+2.2**
EALB	**Alboran**	**3.27**	**84**	P	**Pn**	15 12 31.8	**+1.2**
	comp=N,11nm,0.1s,SNR=7.9						
EALB				S	**Sn**	15 13 07.1	**-1.5**
	comp=N,74nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**3.29**	**61**	⇑P	**Pn**	15 12 34.0	**+2.9**
	comp=N,42nm,0.2s,SNR=18						
EQUE				S	**Sn**	15 13 09.7	**+0.5**
	comp=N,199nm,0.4s,SNR=5.0						
GOG	**Mont Gurugu**	**3.33**	**96**	P	**Pn**	15 12 32.4	**+0.8**
GOG				S	**Sn**	15 13 08.8	**-1.4**
GOG	**Mont Gurugu**	**3.33**	**96**	P	**Pn**	15 12 33.0	**+1.4**
GOG	**Mont Gurugu**	**3.33**	**96**	P	**Pn**	15 12 33.0	**+1.4**
EMEL	**Melilla**	**3.35**	**95**	P	**Pn**	15 12 32.7	**+0.9**
	comp=N,217nm,0.1s,SNR=10.0						
EMEL				S	**Sn**	15 13 08.8	**-1.8**
	comp=N,299nm,0.3s						
MD31	**MD31**	**3.36**	**145**	P	**Pn**	15 12 32.4	**+0.3**
MD31				S	**Sn**	15 13 09.7	**-1.2**
MELI	**Melilla**	**3.37**	**95**	P	**Pn**	15 12 33.1	**+1.1**
	comp=N,49nm,0.2s,SNR=7.9						
MELI				S	**Sn**	15 13 09.4	**-1.5**
	comp=N,223nm,0.5s,SNR=7.9						
MELI	**Melilla**	**3.37**	**95**	P	**Pn**	15 12 32.6	**+0.6**
MELI				S	**Sn**	15 13 08.2	**-2.8**
MDT	**Midelt**	**3.48**	**144**	P	**Pn**	15 12 34.6	**+1.0**
MDT				S	**Sn**	15 13 14.3	**+0.6**
MDT	**Midelt**	**3.48**	**144**	P	**Pn**	15 12 34.6	**+1.0**
MDT	**Midelt**	**3.48**	**144**	P	**Pn**	15 12 34.6	**+1.0**
LIS	**Lisbon**	**3.49**	**332**	*e*S	**Sn**	15 13 13.5	**-0.3**
LIS				IAML		15 13 21.9	
	comp=N,261nm,0.2s						
LIS	**Lisbon**	**3.49**	**332**	S	**Sn**	15 13 16.1	**+2.2**
LIS	**Lisbon**	**3.49**	**332**	*e*S	**Sn**	15 13 16.1	**+2.2**
PMST	**Lisbon--Monsan**	**3.52**	**332**	*e*P	**Pn**	15 12 36.8	**+2.7**
PMST				*e*S	**Sn**	15 13 16.6	**+2.0**
PMST				A	A	15 13 30.9	
	comp=N,89nm,0.6s						
INMG	**Instituto de M**	**3.53**	**333**	P	**Pn**	15 12 37.4	**+3.2**
INMG	**Instituto de M**	**3.53**	**333**	*e*P	**Pn**	15 12 37.4	**+3.2**
PMTG	**Montargil**	**3.54**	**345**	P	**Pn**	15 12 36.7	**+2.4**
PMTG				S	**Sn**	15 13 15.2	**+0.2**
	comp=N,142nm,0.8s						
PMTG	**Montargil**	**3.54**	**345**	⇓*i*P	**Pn**	15 12 36.7	**+2.4**
PMTG				*e*S	**Sn**	15 13 15.2	**+0.2**
PMTG				A	A	15 13 18.3	
	comp=N,142nm,0.8s						
EBER	**Berja**	**3.58**	**68**	P	**Pn**	15 12 36.3	**+1.3**
	comp=N,50nm,0.3s,SNR=81						
EBER				S	**Sn**	15 13 14.9	**-1.4**
	comp=N,119nm,0.4s						
GORA	**Gorafe**	**3.70**	**59**	⇑P	**Pn**	15 12 39.3	**+2.7**
	comp=N,44nm,0.1s,SNR=18						
GORA				S	**Sn**	15 13 18.7	**-0.5**
	comp=N,384nm,0.4s,SNR=7.9						
PMAFR	**Mafra**	**3.75**	**332**	⇓P	**Pn**	15 12 39.9	**+2.6**
	comp=N,92nm,0.1s,SNR=18						
PMAFR				S	**Sn**	15 13 21.0	**+0.8**
	comp=N,402nm,0.3s,SNR=7.9						
PMAFR	**Mafra**	**3.75**	**332**	⇓*i*P	**Pn**	15 12 39.8	**+2.6**
PMAFR				*e*S	**Sn**	15 13 20.5	**+0.3**
PMAFR				A	A	15 13 30.0	
	comp=N,240nm,0.5s						
PMRV	**Marv??o**	**3.78**	**356**	P	**Pn**	15 12 40.0	**+2.4**
PMRV				S	**Sn**	15 13 20.1	**-0.8**
	comp=N,173nm,0.6s						
PMRV	**Marv??o**	**3.78**	**356**	⇓*i*P	**Pn**	15 12 40.0	**+2.4**
PMRV				*e*S	**Sn**	15 13 20.1	**-0.8**
PMRV				A	A	15 13 22.8	
	comp=N,173nm,0.6s						
EQES	**Quesada**	**3.84**	**55**	⇑P	**Pn**	15 12 40.8	**+2.3**
	comp=N,36nm,0.2s,SNR=18						
EQES				S	**Sn**	15 13 20.9	**-1.8**
	comp=N,94nm,0.2s,SNR=8.9						
TAF	**Taforalt**	**3.88**	**101**	P	**Pn**	15 12 40.8	**+1.8**
TAF				S	**Sn**	15 13 24.7	**+1.2**
TAF	**Taforalt**	**3.88**	**101**	P	**Pn**	15 12 41.0	**+1.9**
TAF	**Taforalt**	**3.88**	**101**	P	**Pn**	15 12 41.0	**+1.9**
JBK	**JBK**	**3.90**	**108**	P	**Pn**	15 12 41.2	**+1.7**
JBK				S	**Sn**	15 13 26.0	**+1.8**
JBK	**JBK**	**3.90**	**108**	P	**Pn**	15 12 41.0	**+1.5**
JBK				S	**Sn**	15 13 26.0	**+1.8**
JBK	**JBK**	**3.90**	**108**	P	**Pn**	15 12 41.0	**+1.5**
JBK				S	**Sn**	15 13 26.0	**+1.8**
PSBE	**So Bento**	**4.10**	**341**	⇓*e*P	**Pn**	15 12 44.9	**+3.0**
PSBE				*e*S	**Sn**	15 13 29.2	**+0.5**
PSBE				A	A	15 13 50.2	
	comp=N,72nm,0.5s						
ENIJ	**Nijar**	**4.12**	**70**	⇑P	**Pn**	15 12 44.0	**+1.8**
	comp=N,43nm,0.4s,SNR=18						
ENIJ				S	**Sn**	15 13 28.1	**-1.2**
	comp=N,45nm,0.4s,SNR=7.9						
PCBR	**Castelo Branco**	**4.20**	**355**	P	**Pn**	15 12 45.8	**+2.6**
PCBR				S	**Sn**	15 13 29.7	**-1.3**
	comp=N,113nm,0.4s						
PCBR	**Castelo Branco**	**4.20**	**355**	⇓*e*P	**Pn**	15 12 45.8	**+2.6**
PCBR				*e*S	**Sn**	15 13 29.7	**-1.3**
PCBR				A	A	15 13 32.5	
	comp=N,227nm,0.4s						
SESP	**Santiago Espad**	**4.37**	**54**	⇑P	**Pn**	15 12 47.7	**+2.0**
	comp=N,53nm,0.2s,SNR=18						
SESP				S	**Sn**	15 13 33.3	**-2.1**
	comp=N,142nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**4.44**	**28**	P	**Pn**	15 12 49.4	**+2.8**
	comp=N,3.6nm,0.1s,SNR=7.9						
PAB				S	**Sn**	15 13 34.9	**-2.1**
	comp=N,42nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**4.47**	**10**	⇓P	**Pn**	15 12 49.4	**+2.4**
	comp=N,49nm,0.2s,SNR=18						
EPLA				S	**Sn**	15 13 36.7	**-1.1**
	comp=N,228nm,0.2s,SNR=17						
OUK	**Oukaimeden**	**4.49**	**189**	P	**Pn**	15 12 49.1	**+1.5**
OUK				S	**Sn**	15 13 38.4	**-0.3**
OUK	**Oukaimeden**	**4.49**	**

FIGM					S	Sn	15 14 14.4	+0.2	
	comp=N,54nm,0.3s,SNR=18								
FIGM	**Figuig**	**5.95**	**124**		P	Pn	15 13 11.0	+3.7	
FIGM	**Figuig**	**5.95**	**124**		P	Pn	15 13 10.0	+2.7	
AFON	**Font Roja**	**6.00**	**58**	⇑	P	Pn	15 13 09.7	+1.8	
	comp=N,54nm,0.3s,SNR=18								
AFON					S	Sn	15 14 13.1	-2.1	
	comp=N,83nm,0.4s								
PBRG	**Braganca**	**6.15**	**2**		P	Pn	15 13 12.6	+2.7	
PBRG					S	Sn	15 14 16.4	-2.3	
	comp=N,30nm,0.5s								
PBRG	**Braganca**	**6.15**		2⇑	*e*P	Pn	15 13 12.6	+2.7	
PBRG					*e*S	Sn	15 14 16.4	-2.3	
PBRG					A	A	15 14 20.3		
	comp=N,59nm,0.5s								
ECHE	**Chera**	**6.22**	**49**	⇑	P	Pn	15 13 12.6	+1.8	
	comp=N,62nm,0.4s,SNR=18								
ECHE					S	Sn	15 14 18.0	-2.5	
	comp=N,18nm,0.1s,SNR=7.9								
EBEN2	**Beniarda presa**	**6.25**	**59**		P	Pn	15 13 12.8	+1.6	
	comp=N,24nm,0.1s,SNR=7.9								
EBEN2					S	Sn	15 14 18.3	-2.9	
	comp=N,22nm,0.1s,SNR=7.9								
ELOB	**Lobios**	**6.26**	**353**	⇑	P	Pn	15 13 13.9	+2.5	
	comp=N,16nm,0.2s,SNR=18								
ELOB					S	Sn	15 14 20.3	-1.2	
	comp=N,88nm,0.2s,SNR=21								
ECAL	**Calabor**	**6.29**	**2**		P	Pn	15 13 14.5	+2.8	
	comp=N,13nm,0.1s,SNR=42								
ECAL					S	Sn	15 14 20.8	-1.3	
	comp=N,372nm,0.6s,SNR=16								
PGAV	**Gavieira, Arco**	**6.38**	**352**		P	Pn	15 13 15.6	+2.6	
PGAV					S	Sn	15 14 22.1	-2.3	
	comp=N,56nm,0.6s								
PGAV	**Gavieira, Arco**	**6.38**	**352**		*e*P	Pn	15 13 15.6	+2.6	
PGAV					*e*S	Sn	15 14 22.1	-2.3	
PGAV					A	A	15 14 36.6		
	comp=N,56nm,0.6s								
ETOR	**Torete**	**6.48**	**36**	⇑	P	Pn	15 13 17.3	+2.9	
	comp=N,48nm,0.2s,SNR=18								
ETOR					S	Sn	15 14 24.9	-2.0	
	comp=N,289nm,0.3s,SNR=14								
EZAM	**Zamans**	**6.61**	**349**		P	Pn	15 13 18.7	+2.5	
	comp=N,22nm,0.1s,SNR=7.9								
EZAM					S	Sn	15 14 27.6	-2.4	
	comp=N,29nm,0.5s,SNR=7.9								
EMOS	**Mosqueruela**	**7.00**	**46**	⇑	P	Pn	15 13 24.1	+2.5	
	comp=N,9.7nm,0.2s,SNR=18								
EMOS					S	Sn	15 14 35.7	-4.0	
	comp=N,32nm,0.3s,SNR=8.6								
EMAZ	**Mazaricos**	**7.44**	**349**		P	Pn	15 13 29.5	+2.1	
	comp=N,2.5nm,0.1s,SNR=7.9								
EMAZ					S	Sn	15 14 47.5	-2.7	
	comp=N,6.1nm,0.2s,SNR=7.9								
EIBI	**Ibiza**	**7.48**	**61**	⇓	P	Pn	15 13 29.6	+1.6	
	comp=N,14nm,0.2s,SNR=18								
EIBI					S	Sn	15 14 47.4	-3.8	
	comp=N,11nm,0.3s,SNR=7.9								
EPON	**Pontenova**	**7.67**	**359**		P	Pn	15 13 33.9	+3.4	
	comp=N,1.2nm,0.2s,SNR=6.2								
EPON					S	Sn	15 14 53.2	-2.5	
	comp=N,6.5nm,0.2s,SNR=7.9								
EARI	**Arriondas**	**7.77**	**10**		P	Pn	15 13 35.2	+3.3	
	comp=N,6.7nm,0.2s,SNR=40								
EARI					S	Sn	15 14 55.5	-2.8	
	comp=N,5.5nm,0.1s,SNR=8.8								
ERTA	**Horta de San J**	**7.85**	**45**		P	Pn	15 13 35.5	+2.4	
	comp=N,5.7nm,0.2s,SNR=6.8								
ERTA					S	Sn	15 14 57.4	-2.9	
	comp=N,20nm,0.3s,SNR=8.5								
ESAC	**San Caprasio**	**7.94**	**38**		P	Pn	15 13 38.4	+4.1	
	comp=N,15nm,0.2s,SNR=8.7								
ESAC					S	Sn	15 14 59.2	-3.4	
	SNR=7.9								
TANT	**Tantan**	**8.05**	**207**		P	Pn	15 13 37.5	+1.6	
TANT					S	Sn	15 15 04.1	-1.2	
ELAN	**Lanestosa**	**8.07**	**19**		P	Pn	15 13 38.6	+2.6	
	comp=N,3.1nm,0.2s,SNR=7.4								
ELAN					S	Sn	15 15 01.8	-3.7	
	comp=N,32nm,0.4s,SNR=9.4								
PMPST	**Porto Santo, M**	**8.10**	**254**		*e*S	Sn	15 15 03.3	-3.1	
PMPS	**Porto Santo**	**8.11**	**254**		P	Pn	15 13 39.3	+2.8	
PMPS					S	Sn	15 15 03.3	-3.2	
PMPS	**Porto Santo**	**8.11**	**254**		*e*P	Pn	15 13 39.3	+2.8	
PMPS					*e*S	Sn	15 15 03.3	-3.2	
PMPS					A	A	15 15 05.2		
	comp=N,29nm,0.6s								
EARA	**Aranguren**	**8.28**	**29**		S	Sn	15 15 08.1	-2.5	
	comp=N,89nm,0.6s,SNR=7.9								
EPOB	**Poblet**	**8.54**	**46**		P	Pn	15 13 44.7	+2.3	
	comp=N,5.9nm,0.2s,SNR=11								
EPOB					S	Sn	15 15 13.3	-3.7	
	comp=N,6.1nm,0.3s,SNR=5.9								
PMAR	**Madeira**	**8.68**	**253**		P	Pn	15 13 45.9	+1.3	
PMAR					S	Sn	15 15 15.6	-5.3	
	comp=N,30nm,0.7s								
PMAR	**Madeira**	**8.68**	**253**		*e*P	Pn	15 13 45.9	+1.3	
PMAR					*e*S	Sn	15 15 15.6	-5.3	
PMAR					A	A	15 15 19.9		
	comp=N,60nm,0.7s								
SJPF	**Ste Jean**	**8.70**	**29**		*e*Pn	Pn	15 13 48.2	+3.5	
SJPF					*e*Sn	Sn	15 15 17.6	-3.5	
	comp=N,66nm,0.4s								
SJPF	**Ste Jean**	**8.70**	**29**		P	Pn	15 13 48.2	+3.5	
SJPF					S	Sn	15 15 17.6	-3.5	
	comp=N,33nm,0.4s								
ETSF	**Etsaut**	**8.81**	**33**		*e*Pn	Pn	15 13 49.4	+3.3	
ETSF					*e*Sn	Sn	15 15 20.8	-2.9	
	comp=N,34nm,0.4s								
ETSF	**Etsaut**	**8.81**	**33**		P	Pn	15 13 49.4	+3.3	
ETSF					S	Sn	15 15 20.8	-2.9	
	comp=N,17nm,0.4s								
ETOS	**Mallorca**	**8.82**	**59**		P	Pn	15 13 48.2	+1.9	
	comp=N,7.8nm,0.4s,SNR=8.5								
ETOS					S	Sn	15 15 19.4	-4.6	
	comp=N,0.9nm,0.3s,SNR=7.9								
PMOZ	**Porto Moniz, M**	**8.87**	**254**		P	Pn	15 13 49.5	+2.4	
	comp=N,19nm,0.3s,SNR=7.9								
PMOZ					S	Sn	15 15 23.3	-2.0	
	comp=N,111nm,0.6s,SNR=7.9								
PMOZ	**Porto Moniz, M**	**8.87**	**254**		*e*P	Pn	15 13 49.6	+2.6	
PMOZ					*e*S	Sn	15 15 23.3	-2.0	
PMOZ	**Porto Moniz, M**	**8.87**	**254**		P	Pn	15 13 48.2	+1.2	
PMOZ					S	Sn	15 15 23.3	-2.0	
ATE	**Arette**	**8.90**	**32**		P	Pn	15 13 50.9	+3.6	
	comp=N,4.0nm,0.1s,SNR=7.9								
ATE					S	Sn	15 15 22.5	-3.3	
	comp=N,48nm,0.4s,SNR=7.9								
CLOB	**Isla de Lobos,**	**8.95**	**222**		P	Pn	15 13 51.3	+3.3	
	comp=N,4.4nm,0.1s,SNR=4.0								
CLOB					S	Sn	15 15 21.3	-5.8	
	comp=N,5.4nm,0.2s,SNR=7.9								
ECHI	**Chisagues Biel**	**8.98**	**37**		P	Pn	15 13 51.5	+3.0	
	comp=N,8.6nm,0.2s,SNR=7.9								
ECHI					S	Sn	15 15 22.8	-5.1	
	comp=N,27nm,0.4s,SNR=7.9								
CFUE	**Fuerteventura**	**9.10**	**222**		P	Pn	15 13 48.3	-1.9	
	comp=N,5.2nm,0.2s,SNR=7.9								
CFUE					S	Sn	15 15 24.1	-6.9	
	comp=N,29nm,0.4s,SNR=7.9								
EMIR	**Miracle**	**9.15**	**44**		P	Pn	15 13 53.4	+2.6	
	comp=N,15nm,0.4s,SNR=7.9								
EMIR					S	Sn	15 15 26.9	-5.3	
	comp=N,36nm,0.7s,SNR=7.9								
CSOR	**Sort**	**9.25**	**41**		P	Pn	15 13 54.3	+2.2	
	comp=N,14nm,0.5s,SNR=14								
CSOR					S	Sn	15 15 29.7	-4.7	
	comp=N,28nm,0.4s,SNR=5.7								
EPF	**Esparros**	**9.32**	**36**		*e*Pn	Pn	15 13 57.2	+4.1	
EPF					*e*Sn	Sn	15 15 32.7	-3.5	
	comp=N,24nm,0.3s								
EPF	**Esparros**	**9.32**	**36**		P	Pn	15 13 57.2	+4.1	
EPF					S	Sn	15 15 32.7	-3.5	
	comp=N,12nm,0.3s								
CFON	**Fontmartina**	**9.59**	**48**		P	Pn	15 13 58.9	+2.1	
	comp=N,3.0nm,0.1s,SNR=8.8								
CFON					S	Sn	15 15 38.2	-4.6	
	comp=N,9.3nm,0.4s,SNR=7.9								
CLLI	**Llivia**	**9.77**	**43**		P	Pn	15 14 02.5	+3.1	
	comp=N,4.7nm,0.2s,SNR=8.1								
CLLI					S	Sn	15 15 42.5	-4.9	
	comp=N,44nm,0.8s,SNR=7.9								
EJON	**La Jonquera**	**10.28**	**46**		P	Pn	15 14 08.7	+2.6	
	comp=N,10nm,0.5s,SNR=7.9								
EJON					S	Sn	15 15 56.4	-3.0	
	comp=N,2.3nm,0.4s,SNR=7.9								
SJAF	**Saint Jean de**	**10.29**	**46**		P	Pn	15 14 08.7	+2.4	
	comp=N,1.1nm,0.3s,SNR=7.9								
SJAF					S	Sn	15 15 56.6	-3.2	
	comp=N,2.2nm,0.4s,SNR=7.9								
MTLF	**Montolieu**	**10.49**	**40**		*e*Pn	Pn	15 14 11.2	+2.2	
MTLF					*e*Sn	Sn	15 16 00.4	-4.2	
	comp=N,8.0nm,0.3s								
MTLF	**Montolieu**	**10.49**	**40**		P	Pn	15 14 11.2	+2.2	
MTLF					S	Sn	15 16 00.4	-4.2	
	comp=N,4.0nm,0.3s								
LFF	**La Frestale**	**11.01**	**30**		*e*Pn	Pn	15 14 18.0	+2.0	
LFF					*e*Sn	Sn	15 16 13.5	-3.7	
	comp=N,19nm,0.4s								
LFF	**La Frestale**	**11.01**	**30**		P	Pn	15 14 18.0	+2.0	
LFF					S	Sn	15 16 13.5	-3.7	
	comp=N,9.6nm,0.4s								
CAF	**Calviac**	**11.57**	**34**		*e*Pn	Pn	15 14 26.8	+3.1	
CAF					*e*Sn	Sn	15 16 26.4	-4.6	
	comp=N,33nm,0.6s								
CAF	**Calviac**	**11.57**	**34**		P	Pn	15 14 26.8	+3.1	
CAF					S	Sn	15 16 26.4	-4.6	
	comp=N,16nm,0.6s								
RJF	**Les Rejaudoux**	**11.63**	**31**		*e*Pn	Pn	15 14 26.9	+2.5	
RJF					*e*Sn	Sn	15 16 27.5	-4.8	
	comp=N,38nm,0.5s								
RJF	**Les Rejaudoux**	**11.63**	**31**		P	Pn	15 14 26.9	+2.5	
RJF					S	Sn	15 16 27.5	-4.8	
	comp=N,19nm,0.5s								
LASF	**Ste Croix**	**11.86**	**42**		*e*Pn	Pn	15 14 29.4	+1.8	
LASF					*e*Sn	Sn	15 16 33.8	-4.2	
	comp=N,3.9nm,0.4s								
LASF	**Ste Croix**	**11.86**	**42**		P	Pn	15 14 29.4	+1.8	
LASF					S	Sn	15 16 33.8	-4.2	
	comp=N,1.9nm,0.4s								
MFF	**Saint Martin d**	**12.11**	**23**		*e*Pn	Pn	15 14 33.1	+2.2	
MFF					*e*Sn	Sn	15 16 39.0	-4.8	
	comp=N,66nm,0.8s								
MFF	**Saint Martin d**	**12.11**	**23**		P	Pn	15 14 33.1	+2.2	
MFF					S	Sn	15 16 39.0	-4.8	
	comp=N,33nm,0.8s								
QUIF	**Quistinic**	**12.59**	**12**		*e*Pn	Pn	15 14 39.7	+2.3	
QUIF					*e*Sn	Sn	15 16 49.5	-6.0	
	comp=N,9.8nm,0.4s								
QUIF	**Quistinic**	**12.59**	**12**		P	Pn	15 14 39.7	+2.3	
QUIF					S	Sn	15 16 49.5	-6.0	
	comp=N,4.9nm,0.4s								
TCF	**Toulx Ste Croi**	**12.71**	**30**		*e*Pn	Pn	15 14 41.7	+2.7	
TCF					*e*Sn	Sn	15 16 52.7	-5.8	
	comp=N,24nm,0.6s								
TCF	**Toulx Ste Croi**	**12.71**	**30**		P	Pn	15 14 41.7	+2.7	
TCF					S	Sn	15 16 52.7	-5.8	
	comp=N,12nm,0.6s								
LMR	**La Mourre**	**12.97**	**50**		*e*Pn	Pn	15 14 45.0	+2.6	
LMR					*e*Sn	Sn	15 16 59.3	-5.5	
LMR	**La Mourre**	**12.97**	**50**		P	Pn	15 14 45.0	+2.6	
LMR					S	Sn	15 16 59.3	-5.5	
ROSF	**Rostrenen**	**12.98**	**11**		*e*Pn	Pn	15 14 44.4	+1.8	
ROSF					*e*Sn	Sn	15 16 59.1	-5.9	
	comp=N,2.5nm,0.2s								
ROSF	**Rostrenen**	**12.98**	**11**		P	Pn	15 14 44.4	+1.8	
ROSF					S	Sn	15 16 59.1	-5.9	
	comp=N,1.2nm,0.2s								
SGMF	**Saint Gilles**	**13.02**	**13**		*e*Pn	Pn	15 14 45.8	+2.6	
SGMF					*e*Sn	Sn	15 16 59.0	-7.1	
	comp=N,9.5nm,0.4s								
SGMF	**Saint Gilles**	**13.02**	**13**		P	Pn	15 14 45.8	+2.6	
SGMF					S	Sn	15 16 59.0	-7.1	
	comp=N,4.8nm,0.4s								
FRF	**La Foret Royal**	**13.17**	**49**		*e*Pn	Pn	15 14 45.7	+0.5	
FRF	**La Foret Royal**	**13.17**	**49**		P	Pn	15 14 45.7	+0.5	
BGF	**Bois d'Agland**	**13.19**	**31**		*e*Pn	Pn	15 14 47.8	+2.4	
BGF					*e*Sn	Sn	15 17 05.3	-4.9	
	comp=N,55nm,0.5s								
BGF	**Bois d'Agland**	**13.19**	**31**		P	Pn	15 14 47.8	+2.4	
BGF					S	Sn	15 17 05.3	-4.9	
	comp=N,28nm,0.5s								
GRR	**Gorron**	**13.52**	**18**		*e*Pn	Pn	15 14 52.9	+3.1	
GRR					*e*Sn	Sn	15 17 12.8	-5.5	
	comp=N,8.3nm,0.5s								
GRR	**Gorron**	**13.52**	**18**		P	Pn	15 14 52.9	+3.1	
GRR					S	Sn	15 17 12.8	-5.5	
	comp=N,4.2nm,0.5s								
AVF	**Avril sur Loir**	**13.59**	**32**		*e*Pn	Pn	15 14 53.1	+2.5	
AVF					*e*Sn	Sn	15 17 14.7	-5.1	
	comp=N,6.0nm,0.6s								
AVF	**Avril sur Loir**	**13.59**	**32**		P	Pn	15 14 53.1	+2.5	
AVF					S	Sn	15 17 14.7	-5.1	
	comp=N,3.0nm,0.6s								
SSF	**Saint Saulge**	**13.87**	**31**		*e*Pn	Pn	15 14 56.8	+2.6	
SSF					*e*Sn	Sn	15 17 20.9	-5.7	
	comp=N,8.5nm,0.5s								
SSF	**Saint Saulge**	**13.87**	**31**		P	Pn	15 14 56.8	+2.6	
SSF					S	Sn	15 17 20.9	-5.7	
	comp=N,4.2nm,0.5s								
LDF	**La Druitiere**	**13.90**	**19**		*e*Pn	Pn	15 14 57.9	+3.2	
LDF					*e*Sn	Sn	15 17 22.0	-5.5	
	comp=N,6.0nm,0.5s								
FLN	**La Foliniere**	**13.97**	**18**		*e*Pn	Pn	15 14 58.8	+3.3	
FLN					*e*Sn	Sn	15 17 23.7	-5.3	
	comp=N,3.5nm,0.3s								
FLN	**La Foliniere**	**13.97**	**18**		P	Pn	15 14 58.8	+3.3	
FLN					S	Sn	15 17 23.7	-5.3	
	comp=N,1.8nm,0.3s								
PGF	**Pioggiola**	**14.22**	**56**		*e*Pn	Pn	15 14 59.8	+0.8	
PGF					*e*Sn	Sn	15 17 20.7	-15	
PGF	**Pioggiola**	**14.22**	**56**		P	Pn	15 14 59.8	+0.8	
PGF					S	Sn	15 17 20.7	-15	
KHC	**Kasperske Hory**	**20.25**	**42**		*e*P	Pn	15 16 16.3	+3.7	
CKRC	**Cesky Krumlov**	**20.48**	**43**		*e*P	Pn	15 16 21.1	+5.7	
CLL	**Collm**	**21.26**	**36**		*i* (P)	P	15 16 31.0	+10	
	comp=Z,9.0nm,1.0s								
CLL					Lm	MLR	17 50 00.0		
	comp=Z,100nm,20.5s								
BRG	**Berggiesshubel**	**21.45**	**38**		*e*P	P	15 16 32.4	+10	
BRG					Amp		15 16 33.8		
	comp=Z,7.7nm,0.9s								
DPC	**Dobruska-Polom**	**22.40**	**42**		*e*P	**P**	**15 16 39.4**	**+6.4**	

MEX 17 15:21:13.4±0.7, 18°08'N×103°36'W, h5km±5km, MD4.3, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.21**	**2**	*e*P	Pg	15 21 17.3	-0.3
MMIG				*i* S	Sg	15 21 20.3	-0.1
COIG	**Colima**	**1.14**	**344**	*i* P	Pg	15 21 31.8	-3.6
COIG				*i* S	Sg	15 21 46.0	-4.2
R15V		**1.24**	**331**	*e*P	Pg	15 21 33.4	-3.8
R15V				*i* S	Sg	15 21 49.4	-4.0
EZ5V		**1.42**	**351**	*i* P	Pn	15 21 36.5	-3.6
EZ5V				*i* S	Sg	15 21 54.8	-4.1
UON	**La Union**	**1.47**	**94**	*e*P	Pn	15 21 36.2	-4.4
UON				*i* S	Sn	15 21 56.7	-3.5
URUA	**Uruapan**	**1.81**	**42**	*e*P	Pn	15 21 41.5	-4.0
URUA				*i* S	Sn	15 22 03.7	-5.2
ZIIG	**Zihuatanejo**	**1.86**	**104**	*e*P	Pn	15 21 41.6	-4.3
ZIIG				*e*S	Sn	15 22 08.8	-1.0
CJM	**Chamela**	**2.14**	**312**	*e*P	Pn	15 21 47.0	-2.8
CJM				*i* S	Sn	15 22 17.5	+0.8
MEIG	**Mezcala**	**3.56**	**92**	*e*P	Pb	15 22 14.7	-2.2
PLIG	**Platanillo**	**3.67**	**84**	*e*P	Pb	15 22 15.6	-3.3
MAVM	**Malinalco, Edo**	**3.77**	**76**	*e*P	Pn	15 22 12.0	-0.4
MGIG	**Malinaltepec**	**4.58**	**100**	*e*P	Pn	15 22 28.6	+5.1
PPM	**Popocatepetl**	**4.59**	**77**	*e*P	Pn	15 22 25.4	+1.3
PPM				*e*S	Sb	15 23 29.7	-1.0
FTIG	**Fresnillo de T**	**4.97**	**91**	*e*P	Pn	15 22 26.7	-2.2
FTIG				*e*S	Sb	15 23 36.4	-4.9
PNIG	**Pinotepa**	**5.27**	**108**	*e*P	Pn	15 22 30.4	-2.5
HLIG	**Huajuapan de L**	**5.29**	**92**	*i* P	Pn	15 22 31.4	-2.0
HLIG				*e*S	Sn	15 23 41.8	+6.9
TXIG	**Tlaxiaco**	**5.39**	**98**	*e*P	Pn	15 22 30.8	-4.0
TXIG				*i* S	Sb	15 23 56.9	+3.4

*IDC **17** 15:38:26.7±1.3, 31°.34S×72°.03W, h0km, mb3.8/3, mb1 3.9/5, mb1mx3.7/26, mbtmp3.7/5, ML3.9/2, Error ellipse: s-maj=62.5km s-min=26.3km az=80.0*
*NEIC **17** 15:38:27.5±2.8, 31°.43S±0°.04×72°.6W±0°.2, h10km±1km, mb4.4/5, ML4.0(GUC), Error ellipse: s-maj=35.3km s-min=7.2km az=269.0*
*GUC **17** 15:38:28.4±0.8, 31°.33S×72°.04W, h42km±7km, ML4.1*
ISC 17 15:38:26.8±2.8, 31°.32S±0°.04×72°.12W±0°.09, h8km±17km, n31, σ1s07/35, mb4.0/4, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.77**	**33**	*e*P	**Pb**	**15 38 43.4**	**+0.9**
CO06				*e*S	**Sn**	**15 38 54.3**	**-1.4**
CO03	**El Pedregal**	**1.32**	**69**	*e*P	**Pb**	**15 38 51.8**	**-0.1**
CO03				*i* S	**Sg**	**15 39 08.6**	**-0.6**
CO03				IAML		15 39 10.4	
	comp=E,3μm,0.3s						
VA06	**Catapilco**	**1.42**	**151**	⇑ *i* P	**Pn**	**15 38 53.0**	**0.0**
VA06				*i* S	**Sb**	**15 39 11.3**	**-0.6**
VA06				IAML		15 39 17.7	
	comp=E,8μm,0.5s						
GO04	**Tololo Observa**	**1.61**	**45**	*e*P	**Pn**	**15 38 56.8**	**+1.0**
GO04				*e*S	**Sg**	**15 39 18.2**	**-0.5**
GO04				IAML		15 39 26.9	
	comp=E,7μm,0.6s						
ROCH	**El Roble**	**1.90**	**151**	*e*P	**Pn**	**15 39 00.4**	**+0.6**
ROCH				*e*S	**Sb**	**15 39 25.7**	**-0.2**
ROCH				IAML		15 39 35.8	
	comp=N,2μm,0.2s						
VA03	**San Esteban**	**1.96**	**138**	⇑ *i* P	**Pn**	**15 39 01.3**	**+0.8**
VA03				*e*S	**Sb**	**15 39 26.4**	**-1.2**
VA03				IAML		15 39 34.7	
	comp=N,2μm,0.5s						
VA05	**Santo Domingo**	**2.37**	**170**	*e*P	**Pn**	**15 39 06.2**	**+0.1**
MT05	**Renca**	**2.38**	**151**	*e*P	**Pn**	**15 39 06.5**	**+0.3**
MT05				*e*S	**Sn**	**15 39 36.2**	**+0.7**
MT05				IAML		15 39 46.3	
	comp=E,1μm,0.2s						
LCO	**Las Campanas**	**2.61**	**28**		**Pb**	**15 39 13.7**	**-0.3**
MT09	**Talagante**	**2.63**	**159**	*e*P	**Pn**	**15 39 10.6**	**+0.9**
MT09				*e*S	**Sn**	**15 39 42.6**	**+0.7**
MT09				IAML		15 39 55.3	
	comp=N,665nm,0.4s						
MT01	**Popeta**	**2.64**	**164**	*e*P	**Pn**	**15 39 10.1**	**+0.3**
MT01				*e*S	**Sn**	**15 39 42.4**	**+0.3**
LMEL	**Las Melosas**	**3.00**	**148**	*e*P	**Pn**	**15 39 15.9**	**+1.1**
AC04	**Llanos de Chal**	**3.23**	**17**	*e*P	**Pb**	**15 39 24.5**	**0.0**
BO02	**Sierra Bellavi**	**3.64**	**162**		**Pn**	**15 39 24.6**	**+1.0**
H03N1	**Juan Fernandez**	**6.12**	**248**	T	T	15 46 45.9	
	baz=78,slow=72,SNR=17						
H03N3	**Juan Fernandez**	**6.14**	**248**	T	T	15 46 50.5	
	baz=78,slow=72,SNR=14						
H03N2	**Juan Fernandez**	**6.14**	**248**	T	T	15 46 44.4	
	baz=78,slow=72,SNR=16						
LVC	**Limon Verde**	**9.13**	**19**	Pn	Pn	15 40 46.2	+6.9
PLCA	**Paso Flores**	**9.48**	**173**	Pn	**Pn**	**15 40 44.6**	**+0.8**
	comp=N,0.3nm,0.3s,baz=337,slow=12,SNR=5.3						
PLCA	**Paso Flores**	**9.48**	**173**		**Pn**	**15 40 44.2**	**+0.5**
TRQA	**Tornquist**	**10.71**	**132**	Pn	**Pn**	**15 41 02.6**	**+2.0**
LPAZ	**La Paz**	**15.40**	**15**	Pn	**Pn**	**15 42 07.0**	**+1.9**
	comp=N,0.1nm,0.3s,baz=54,slow=4.1,SNR=5.3						
PMSA	**Palmer Station**	**33.85**	**174**	P	**P**	**15 45 07.9**	**-1.5**
SNAA	**Sanae**	**54.09**	**159**	P	**P**	**15 47 52.5**	**+0.7**
	comp=N,0.9nm,0.7s,baz=274,slow=7.4,SNR=8.7						
QSPA	**South Pole Qui**	**58.91**	**180**		**P**	**15 48 24.0**	**-2.2**
QSPA				IAmb	IAmb	15 48 25.7	
	comp=Z,9.8nm,1.6s						
TXAR	**Lajitas Array**	**67.37**	**330**	P	**P**	**15 49 24.3**	**+1.6**
	comp=Z,0.2nm,0.7s,baz=154,slow=6.9,SNR=3.4						
TXAR	**Lajitas Array**	**67.37**	**330**	P	**P**	**15 49 21.0**	**-1.7**
TORD	**Torodi Ar. Bea**	**83.37**	**70**	P	**P**	**15 50 55.5**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=222,slow=1.9,SNR=5.7						
TORD	**Torodi Ar. Bea**	**83.37**	**70**	IAmb	IAmb	15 50 59.5	
	comp=Z,1.2nm,1.3s						
BVAR	**Borovoye Array**	**145.33**	**40**	PKPbc	**PKPdf**	**15 58 06.2**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=226,slow=6.0,SNR=5.3						
ZALV	**Zalesovo Beam**	**151.97**	**30**	PKPbc	**PKPbc**	**15 58 21.8**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=319,slow=5.3,SNR=3.2						

*GUC **17** 15:40:24.7±0.6, 31°.61S×72°.01W, h36km±4km, ML4.2*
*IDC **17** 15:40:30.4±1.5, 31°.73S×71°.71W, h25km±5km, mb3.6/2, mb1 3.8/3, mb1mx3.5/29, mbtmp3.8/3, ML4.1/1, MS3.5/1, Ms1 3.5/1, ms1mx2.9/31, Error ellipse: s-maj=82.0km s-min=27.2km az=89.0*
**ISC 17 15:40:28.2

ROCH	**El Roble**	**0.72**	**123**	⇓*iP*	**Pn**	**15 43 48.2**	**0.0**
ROCH				*i* S	**Sn**	**15 43 58.8**	**-0.1**
ROCH				IAML		15 44 01.7	
	comp=N,3µm,0.6s						
VA03	**San Esteban**	**1.02**	**101**	*eP*	**Pg**	**15 43 52.8**	**+0.3**
VA03				*i* S	**Sn**	**15 44 05.9**	**+0.1**
VA05	**Santo Domingo**	**1.08**	**175**	*eP*	**Pb**	**15 43 52.5**	**-0.3**
VA05				*i* S	**Sb**	**15 44 05.8**	**-0.7**
VA05				IAML		15 44 09.9	
	comp=E,3µm,0.3s						
MT05	**Renca**	**1.17**	**134**	⇓*iP*	**Pg**	**15 43 54.9**	**-0.4**
MT05				*i* S	**Sg**	**15 44 10.5**	**-0.1**
MT05				IAML		15 44 13.5	
	comp=E,2µm,0.4s						
MT01	**Popeta**	**1.34**	**163**	*eP*	**Pn**	**15 43 56.5**	**+0.1**
MT01				*i* S	**Sn**	**15 44 13.2**	**-0.7**
MT01				IAML		15 44 17.2	
	comp=E,887nm,0.2s						
MT09	**Talagante**	**1.35**	**153**	*eP*	**Pb**	**15 43 57.5**	**+0.1**
MT09				*i* S	**Sb**	**15 44 14.5**	**+0.1**
MT09				IAML		15 44 19.4	
	comp=N,2µm,0.3s						
LMEL	**Las Melosas**	**1.80**	**135**	*eP*	**Pb**	**15 44 05.2**	**0.0**
LMEL				*i* S	**Sb**	**15 44 27.6**	**+0.1**
LMEL				IAML		15 44 34.6	
	comp=N,853nm,0.1s						
PLCA	**Paso Flores**	**8.19**	**174**	Pn	**Pn**	**15 45 31.5**	**+0.9**
	comp=N,0.4nm,0.3s,baz=22,slow=13,SNR=3.2						
LPAZ	**La Paz**	**16.55**	**12**	Pn	**Pn**	**15 47 23.5**	**-0.9**
	comp=N,0.1nm,0.3s,baz=162,slow=5.4,SNR=3.4						
SIV	**San Ignacio**	**19.14**	**33**	P	**P**	**15 47 55.2**	**+0.3**
	comp=N,0.1nm,0.3s,baz=232,slow=9.1,SNR=3.7						
SNAA	**Sanae**	**52.80**	**158**	P	**P**	**15 52 46.5**	**+0.1**
	comp=N,1.0nm,0.9s,baz=266,slow=10,SNR=2.2						
QSPA	**South Pole Qui**	**57.65**	**180**	P	**P**	**15 53 21.9**	**+0.3**
	comp=N,1.9nm,1.2s,baz=129,slow=7.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**83.49**	**70**	P	**P**	**15 55 59.5**	**-0.1**
	comp=N,1.2nm,0.8s,baz=254,slow=2.2,SNR=5.9						
BVAR	**Borovoye Array**	**146.06**	**42**	PKPbc	**PKPab**	**16 03 11.7**	**+0.1**
	comp=N,0.5nm,0.4s,baz=240,slow=4.8,SNR=4.7						
AAK	**Ala-Archa**	**151.59**	**60**	PKPbc	**PKiKP**	**16 03 26.4**	**+0.2**
	comp=N,0.5nm,0.3s,baz=275,slow=4.0,SNR=7.0						
KURBB	**Kurchatov Arra**	**151.65**	**42**	PKPbc	**PKPbc**	**16 03 25.5**	**+0.1**
	comp=N,0.5nm,0.4s,baz=298,slow=3.2,SNR=5.8						
ZALV	**Zalesovo Beam**	**152.89**	**31**	PKPbc	**PKPbc**	**16 03 27.6**	**-0.5**
	comp=N,1.3nm,0.6s,baz=315,slow=1.9,SNR=3.9						

*IDC **17** 15:45:17.9±1.0,30.88S±0.08×72.02W±0.1,**h12**km,**n29**, σ0.69/24,**mb4.3**/5,**Near coast of central Chile***

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**2.14**	**31**		**Pb**	**15 45 57.8**	**-0.8**
BO02	**Sierra Bellavi**	**4.05**	**166**	Pn	**Pn**	**15 46 21.9**	**+0.3**
LVC	**Limon Verde**	**8.65**	**19**	Pn	**Pn**	**15 47 24.2**	**-1.0**
	0.6nm,0.3s,baz=294,slow=18,SNR=1.9						
PLCA	**Paso Flores**	**9.93**	**174**	Pn	**Pn**	**15 47 42.5**	**+0.2**
	0.4nm,0.3s,baz=23,slow=15,SNR=1.9						
PLCA	**Paso Flores**	**9.93**	**174**	Pn	**Pn**	**15 47 42.1**	**-0.1**
TRQA	**Tornquist**	**10.94**	**134**	Pn	**Pn**	**15 47 56.1**	**0.0**
CPUP	**Villa Florida**	**13.63**	**74**	Pn	**Pn**	**15 48 33.4**	**+0.5**
	0.2nm,0.3s,baz=135,slow=16,SNR=1.6						
CPUP	**Villa Florida**	**13.63**	**74**	Pn	**Pn**	**15 48 33.1**	**+0.2**
LPAZ	**La Paz**	**14.92**	**14**	Pn	**Pn**	**15 48 53.1**	**+2.0**
	0.1nm,0.3s,baz=213,slow=3.8,SNR=4.6						
SIV	**San Ignacio**	**17.84**	**36**	P	**P**	**15 49 28.7**	**+0.1**
	0.4nm,0.3s,baz=229,slow=8.1,SNR=5.7						
BDFB	**Brasilia**	**26.64**	**61**	P	**P**	**15 50 59.2**	**+0.7**
	2.9nm,0.5s,baz=190,slow=17,SNR=3.5						
BDFB	**Brasilia**	**26.64**	**61**	P	**P**	**15 50 58.7**	**+0.2**
BDFB				IAmb	IAmb	15 51 04.7	
	comp=E,6.4nm,0.8s						
VNA3	**Neumayer Olymp**	**52.26**	**159**	P	**P**	**15 54 30.0**	**-0.4**
VNA2	**Neumayer~Watz**	**52.89**	**158**	P	**P**	**15 54 34.9**	**-0.3**
	baz=286,slow=8.6						
SNAA	**Sanae**	**54.48**	**159**	P	**P**	**15 54 46.6**	**-0.2**
SNAA	**Sanae**	**54.48**	**159**	P	**P**	**15 54 46.6**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=280,slow=8.3,SNR=21						
QSPA	**South Pole Qui**	**59.37**	**180**	P	**P**	**15 55 22.4**	**+0.7**
	comp=Z,2.8nm,0.8s,baz=182,slow=1.0,SNR=16						
QSPA	**South Pole Qui**	**59.37**	**180**	P	**P**	**15 55 22.4**	**+0.7**
QSPA				IAmb	IAmb	15 55 23.2	
	comp=Z,3.5nm,0.9s						
MAW	**Mawson**	**76.18**	**164**	P	**P**	**15 57 06.9**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=187,slow=8.1,SNR=3.5						
MAW	**Mawson**	**76.18**	**164**	IAmb	IAmb	15 57 08.1	
	comp=Z,0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**83.10**	**70**	P	**P**	**15 57 45.5**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=291,slow=5.8,SNR=2.8						
ASAR	**Alice Springs**	**120.38**	**208**	PKP	**PKPdf**	**16 04 10.3**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=132,slow=1.9,SNR=4.2						
WRA	**Warramunga Arr**	**123.52**	**210**	PKP	**PKPdf**	**16 04 17.2**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=161,slow=1.9,SNR=9.3						
H11S2	**WAKE ISLAND Hyd**	**25.81**	**271**	T	T	18 21 29.1	
	baz=118,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hyd**	**25.82**	**271**	T	T	18 21 30.5	
	baz=118,slow=75,SNR=15						
H11S3	**WAKE ISLAND Hyd**	**25.83**	**271**	T	T	18 21 31.0	
	baz=118,slow=75,SNR=9.1						
BVAR	**Borovoye Array**	**144.89**	**40**	PKP	PKPbc	16 04 55.8	+0.4
	comp=Z,0.5nm,0.6s,baz=227,slow=5.7,SNR=3.9						
YAK	**Yakutsk**	**145.78**	**342**	PKPbc	**PKPab**	**16 04 58.4**	**+0.1**
	comp=Z,2.7nm,0.5s,baz=228,slow=0.4,SNR=4.3						
ZALV	**Zalesovo Beam**	**151.50**	**29**	PKPbc	**PKPbc**	**16 05 13.0**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=270,slow=1.4,SNR=2.7						

*IDC **17** 15:45:38.5±0.7,31.26S×71.79W,h0km,mb4.3/5, mb1 4.3/8,mb1mx4.1/30,mbtmp4.2/8,ML4.0/3,Error ellipse: s-maj=36.1km s-min=20.4km az=96.0*
*GUC **17** 15:45:41.9±0.6,31.25S×71.66W,h40km±20km,ML4.5*
*NEIC **17** 15:45:42.9±1.2,31.23S±0.09×71.8W±0.2,h21km±5km, mb4.4/5,ML4.5(GUC),Error ellipse: s-maj=24.8km s-min=12.3km az=90.0*

ISC 17 15:45:42.2±1.6,31.26S±0.04×71.85W±0.10,h25km±10km, **n52**,σ0.92/41,**mb4.3**/6,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.61**	**18**	*eP*	**Pb**	**15 45 54.3**	**0.0**
CO06				*i* S	**Sb**	**15 46 03.3**	**+0.9**
CO06				IAML		15 46 05.3	
	comp=N,30µm,0.2s						
CO03	**El Pedregal**	**1.08**	**68**	*eP*	**Pn**	**15 46 01.7**	**-0.1**
CO03				*i* S	**Sb**	**15 46 15.3**	**-0.6**
CO03				IAML		15 46 18.0	
	comp=E,20µm,0.4s						
VA06	**Catapilco**	**1.38**	**160**	*eP*	**Pn**	**15 46 06.2**	**+0.3**
VA06				*i* S	**Sn**	**15 46 23.3**	**0.0**
VA06				IAML		15 46 26.4	
	comp=N,13µm,0.2s						
GO04	**Tololo Observa**	**1.41**	**40**	*eP*	**Pn**	**15 46 07.3**	**+0.8**
GO04				*eS*	**Sn**	**15 46 24.6**	**+0.3**
GO04				IAML		15 46 28.9	
	comp=E,26µm,0.7s						
ROCH	**El Roble**	**1.85**	**158**	*eP*	**Pn**	**15 46 13.5**	**+0.9**
ROCH				*eS*	**Sb**	**15 46 37.4**	**-1.0**
ROCH				IAML		15 46 43.9	
	comp=E,4µm,0.4s						
VA03	**San Esteban**	**1.86**	**144**	*eP*	**Pn**	**15 46 13.1**	**+0.4**
VA03				*eS*	**Sn**	**15 46 36.5**	**+1.1**
VA03				IAML		15 46 39.7	
	comp=E,10µm,0.4s						
MT05	**Renca**	**2.33**	**156**	*eP*	**Pn**	**15 46 19.6**	**+0.6**
MT05				*eS*	**Sn**	**15 46 46.6**	**-0.2**
MT05				IAML		15 46 55.3	
	comp=E,7µm,0.3s						
VA05	**Santo Domingo**	**2.40**	**175**	IAML		15 47 02.2	
	comp=E,3µm,0.2s						
MT09	**Talagante**	**2.62**	**164**	IAML		15 47 08.1	
MT01	**Popeta**	**2.65**	**169**	IAML		15 47 06.6	
	comp=E,1µm,0.3s						
LMEL	**Las Melosas**	**2.94**	**152**	IAML		15 47 18.0	
	comp=N,1µm,0.4s						
BO02	**Sierra Bellavi**	**3.64**	**166**		**Pn**	**15 46 38.1**	**+1.1**
H03N1	**Juan Fernandez**	**6.36**	**248**	T	T	15 53 56.9	
	baz=76,slow=72,SNR=958						
H03N3	**Juan Fernandez**	**6.38**	**248**	T	T	15 53 57.8	
	baz=76,slow=72,SNR=1060						
H03N2	**Juan Fernandez**	**6.38**	**248**	T	T	15 53 59.1	
	baz=76,slow=72,SNR=1248						
H03S3	**Juan Fernandez**	**6.49**	**245**	T	T	15 54 13.4	
	baz=84,slow=75,SNR=9.7						
H03S1	**Juan Fernandez**	**6.49**	**245**	T	T	15 54 14.9	
	baz=84,slow=75,SNR=9.4						
H03S2	**Juan Fernandez**	**6.51**	**245**	T	T	15 54 17.4	
	baz=84,slow=75,SNR=12						
LVC	**Limon Verde**	**9.00**	**18**		Pn	15 47 39.2	-12
PLCA	**Paso Flores**	**9.52**	**174**	Pn	**Pn**	**15 47 57.9**	**+0.2**
	comp=N,0.4nm,0.3s,baz=327,slow=13,SNR=2.0						
TRQA	**Tornquist**	**10.58**	**133**	Pn	**Pn**	**15 48 14.3**	**+2.0**
LPAZ	**La Paz**	**15.28**	**14**	Pn	**Pn**	**15 49 14.7**	**-2.2**
	comp=N,0.1nm,0.3s,baz=177,slow=9.2,SNR=4.0						
LPAZ	**La Paz**	**15.28**	**14**		**Pn**	**15 49 14.0**	**-2.9**
SIV	**San Ignacio**	**18.10**	**35**	P	**Pn**	**15 49 52.0**	**0.0**
	comp=N,0.7nm,0.3s,baz=228,slow=7.5,SNR=7.1						
SAML	**Samuel**	**23.62**	**22**	P	**P**	**15 50 51.3**	**-0.1**
SAML				IAmb	IAmb	15 50 52.8	
	comp=Z,4.6nm,0.7s						
SNAA	**Sanae**	**54.07**	**159**	P	**P**	**15 55 04.0**	**-0.3**
	comp=Z,2.5nm,0.8s,baz=276,slow=11,SNR=7.1						
QSPA	**South Pole Qui**	**58.97**	**180**	P	**P**	**15 55 40.4**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=278,slow=1.1,SNR=9.4						
QSPA	**South Pole Qui**	**58.97**	**180**	IAmb	IAmb	15 55 41.1	
	comp=Z,2.3nm,0.8s						
TXAR	**Lajitas Array**	**67.43**	**330**	P	**P**	**15 56 37.0**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=152,slow=8.9,SNR=4.2						
DBIC	**Dimbokro**	**74.16**	**72**	P	**P**	**15 57 16.8**	**-0.2**
	comp=Z,4.7nm,0.6s,baz=234,slow=4.6,SNR=9.7						
TORD	**Torodi Ar. Bea**	**83.13**	**70**	P	**P**	**15 58 06.3**	**+0.1**
	comp=Z,6.3nm,0.7s,baz=267,slow=4.8,SNR=24						
TORD	**Torodi Ar. Bea**	**83.13**	**70**	P	**P**	**15 58 06.0**	**-0.3**
ASAR	**Alice Springs**	**120.08**	**207**	PKP	**PKPdf**	**16 04 30.2**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=128,slow=1.6,SNR=1.7						
WR0	**Warramunga Arr**	**123.12**	**210**	PKPdf	**PKPdf**	**16 04 36.8**	**-0.4**
WB2	**Warramunga Arr**	**123.22**	**210**	PKPdf	**PKPdf**	**16 04 37.0**	**-0.4**
WRA	**Warramunga Arr**	**123.22**	**210**	PKP	**PKPdf**	**16 04 36.5**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=132,slow=1.4,SNR=8.8						
H11S2	**WAKE ISLAND Hyd**	**25.93**	**271**	T	T	18 23 32.0	
	baz=116,slow=74,SNR=117						
H11S1	**WAKE ISLAND Hyd**	**25.94**	**271**	T	T	18 23 33.5	
	baz=116,slow=74,SNR=77						
H11S3	**WAKE ISLAND Hyd**	**25.94**	**271**	T	T	18 23 31.0	
	baz=116,slow=74,SNR=71						
H11N3	**WAKE ISLAND Hyd**	**26.27**	**272**	T	T	18 23 55.8	
	baz=116,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hyd**	**26.28**	**272**	T	T	18 23 57.4	
	baz=116,slow=75,SNR=6.7						
H11N2	**WAKE ISLAND Hyd**	**26.29**	**272**	T	T	18 23 58.0	
	baz=116,slow=75,SNR=64						
BVAR	**Borovoye Array**	**145.13**	**40**	PKPbc	**PKPdf**	**16 05 17.4**	**+0.4**
	comp=Z,2.4nm,0.5s,baz=264,slow=5.4,SNR=16						
YAK	**Yakutsk**	**146.19**	**342**	PKPbc	**PKPbc**	**16 05 19.4**	**-0.1**
	comp=Z,1.9nm,0.4s,baz=128,slow=1.2,SNR=4.4						
KK31	**Karatay Array**	**148.02**	**58**	PKPdf	**PKPdf**	**16 05 21.8**	**-0.4**
KKAR	**Karatay Array**	**148.02**	**58**		**PKPdf**	**16 05 21.9**	**-0.3**
KURBB	**Kurchatov Arra**	**150.72**	**40**	PKPbc	**PKPbc**	**16 05 31.1**	**-0.6**
	comp=Z,2.4nm,0.6s,baz=302,slow=3.0,SNR=12						
KURK	**Kurchatov**	**150.72**	**40**		**PKPbc**	**16 05 31.1**	**-0.6**
AAK	**Ala-Archa**	**150.98**	**57**	PKPbc	**PKiKP**	**16 05 33.9**	**+0.5**
	comp=Z,3.6nm,0.7s,baz=287,slow=3.8,SNR=9.0						
ZAA0	**Zalesovo Array**	**151.80**	**30**		**PKiKP**	**16 05 34.5**	**0.0**
ZALV	**Zalesovo Beam**	**151.80**	**30**	PKPbc	**PKiKP**	**16 05 34.1**	**-0.4**
	comp=Z,11nm,0.6s,baz=321,slow=2.1,SNR=3.7						
MKAR	**Makanchi Array**	**154.77**	**45**	PKPbc	**PKPbc**	**16 05 40.5**	**-0.4**
	comp=Z,7.2nm,0.4s,baz=19,slow=0.6,SNR=2.1						

*IDC **17** 15:46:10.8±1.1,30.21S×71.99W,h0km,mb4.2/5, mb1 4.3/7,mb1mx4.0/29,mbtmp4.2/7,ML4.2/2,Error ellipse: s-maj=43.2km s-min=25.0km az=94.0*

ISC 17 15:46:14.9±1.0,30.2S±0.1×71.9W±0.3,h25km,**n9**,σ0.59/9, **mb4.4**/5,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**14.30**	**15**	Pn	**Pn**	**15 49 37.1**	**+0.6**
	0.6nm,0.3s,baz=198,slow=8.5,SNR=6.6						
SIV	**San Ignacio**	**17.32**	**37**	P	**Pn**	**15 50 14.6**	**-0.5**
	0.5nm,0.3s,baz=232,slow=13,SNR=5.0						
SNAA	**Sanae**	**55.04**	**159**	P	**P**	**15 55 44.2**	**+0.1**
	2.1nm,0.6s,baz=270,slow=9.9,SNR=7.3						
QSPA	**South Pole Qui**	**60.00**	**180**	P	**P**	**15 56 19.5**	**+0.4**
	0.9nm,0.8s,baz=181,slow=5.3,SNR=3.6						
TXAR	**Lajitas Array**	**66.51**	**330**	P	**P**	**15 57 02.4**	**-0.3**
	0.3nm,0.7s,baz=166,slow=9.3,SNR=3.5						
DBIC	**Dimbokro**	**73.91**	**72**	P	**P**	**15 57 48.7**	**+0.5**
	3.6nm,0.8s,baz=211,slow=5.9						
TORD	**Torodi Ar. Bea**	**82.84**	**70**	P	**P**	**15 58 37.3**	**-0.3**
	2.4nm,0.7s,baz=254,slow=4.7,SNR=4.7						
KURBB	**Kurchatov Arra**	**149.97**	**39**	PKPbc	**PKPbc**	**16 06 01.8**	**-0.9**
	0.5nm,0.4s,baz=301,slow=3.4,SNR=4.5						
ZALV	**Zalesovo Beam**	**150.94**	**29**	PKPbc	**PKPbc**	**16 06 04.7**	**-0.2**
	3.2nm,0.7s,baz=309,slow=3.9,SNR=2.4						

*IDC **17** 15:46:29.1±1.6,30.53S×72.25W,h0km,mb4.3/3, mb1 4.2/4,mb1mx3.9/25,mbtmp4.2/4,ML3.7/1,Error ellipse: s-maj=88.5km s-min=33.1km az=98.0*

ISC 17 15:46:30.0±1.9,30.4S±0.2×72.4W±0.6,h10km,**n9**,σ0.47/9, **mb4.2**/3,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIV	**San Ignacio**	**17.71**	**38**	P	**P**	**15 50 37.7**	**-0.1**
	0.3nm,0.3s,baz=232,slow=14,SNR=3.9						
SNAA	**Sanae**	**54.98**	**159**	P	**P**	**15 56 01.2**	**+0.1**
	1.5nm,0.7s,baz=300,slow=8.1,SNR=3.8						
MAW	**Mawson**	**76.66**	**164**	P	**P**	**15 58 20.4**	**-0.3**
	1.2nm,0.6s,baz=211,slow=12,SNR=2.2						
TORD	**Torodi Ar. Bea**	**83.27**	**71**	P	**P**	**15 58 57.2**	**0.0**
	2.0nm,0.6s,baz=248,slow=7.4,SNR=4.2						
BVAR	**Borovoye Array**	**144.79**	**39**	PKP	**PKPdf**	**16 06 06.2**	**-0.5**
	0.9nm,0.5s,baz=249,slow=6.2,SNR=4.2						
KURBB	**Kurchatov Arra**	**150.37**	**39**	PKPbc	**PKiKP**	**16 06 21.9**	**-0.2**
	0.5nm,0.4s,baz=305,slow=2.8,SNR=4.2						
AAK	**Ala-Archa**	**150.91**	**56**	PKPbc	**PKiKP**	**16 06 24.5**	**+0.9**
	2.7nm,0.5s,baz=229,slow=1.0,SNR=6.4						
ZALV	**Zalesovo Beam**	**151.30**	**29**	PKPbc	**PKiKP**	**16 06 23.9**	**+0.1**
	6.2nm,0.6s,baz=306,slow=3.5,SNR=6.2						
MKAR	**Makanchi Array**	**154.49**	**43**	PKPbc	**PKiKP**	**16 06 31.1**	**+0.4**
	12nm,0.5s,baz=318,slow=2.2,SNR=4.4						

*IDC **17** 15:59:02.8±2.8,30.69S×72.68W,h0km,mb3.7/2, mb1 3.9/5,mb1mx3.7/29,mbtmp3.8/5,ML3.8/3,Error ellipse: s-maj=110.7km s-min=27.7km az=98.0*

ISC 17 15:59:06.5±2.1,30.7S±0.1×72.5W±0.5,h19km,**n6**,σ0.51/6, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**10.11**	**172**	Pn	**Pn**	**16 01 31.1**	**+0.3**
	0.5nm,0.3s,baz=332,slow=9.5,SNR=5.8						
LPAZ	**La Paz**	**14.90**	**16**	Pn	**Pn**	**16 02 37.2**	**+0.4**
	0.1nm,0.3s,baz=186,slow=7.9,SNR=3.5						
SIV	**San Ignacio**	**17.98**	**38**	P	**Pn**	**16 03 15.5**	**-0.1**
	0.3nm,0.3s,baz=230,slow=11,SNR=18						
SNAA	**Sanae**	**54.75**	**159**	P	**P**	**16 08 34.3**	**-0.2**
	0.9nm,1.0s,baz=256,slow=8.7,SNR=5.5						
TORD	**Torodi Ar. Bea**	**83.44**	**71**	P	**P**	**16 11 33.3**	**+0.1**
	0.4nm,0.5s,baz=250,slow=4.0,SNR=2.9						
ZALV	**Zalesovo Beam**	**151.58**	**29**	PKPbc	**PKPbc**	**16 18 58.3**	**-0.7**
	1.1nm,0.7s,baz=289,slow=4.5,SNR=3.7						

*DJA **17** 16:00:58.0±0.2,0.7N±3.3×12.2E±.,h182km±2km,M4.3/22, mb4.6/22,mB4.8/10,MLv4.5/17,Mw(mB)4.1/10, MwMwp5.1/1,Mwp5.3/1*
*IDC **17** 16:00:59.6±1.8,0.25N×122.00E,h212km±18km,mb3.9/17, mb1 4.0/21,mb1mx3.8/42,mbtmp4.5/21,Error ellipse: s-maj=18.8km s-min=8.3km az=65.0*
*NEIC **17** 16:01:00.7±2.1,0.21N±0.09×121.9E±0.1,h216km±8km, mb4.5/44,Error ellipse: s-maj=20.4km s-min=12.6km az=75.0*

ISC 17 16:00:58.7±0.4,0.27N±0.05×122.00E±0.06,h200km,**n117**, σ1.35/118,**mb4.4**/47,**1C-1D,Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.22**	**343**	P	Pn	16 01 21.9	-3.2
MRSI					S		
GTOI	**Gorontalo**	**1.07**	**70**	P	Pn	16 01 26.6	-2.4
GTOI					S		
APSI	**Ampana**	**1.22**	**197**	P	**Pn**	**16 01 28.1**	**-2.0**
APSI					S		
KMSI	**Cibinong**	**2.00**	**81**	P	**Pn**	**16 01 36.4**	**-0.9**
MPSI	**Mapaga**	**2.11**	**272**	P	**Pn**	**16 01 35.8**	**-2.6**
PCI	**Palu**	**2.46**	**242**	P	**Pn**	**16 01 40.4**	**-1.8**
MNI	**Manado**	**3.07**	**68**	P	**Pn**	**16 01 48.6**	**-0.6**
TTSI	**Tana Toraja**	**3.95**	**214**	P	**Pn**	**16 01 59.1**	**-0.8**
KKSI	**Kolaka, Sulawe**	**4.42**	**185**	P	**Pn**	**16 02 05.3**	**-0.6**
SGKI	**Sangatta, Kali**	**4.47**	**260**	P	**Pn**	**16 02 04.2**	**-2.3**
SANI	**Sanana**	**4.60**	**120**	P	**Pn**	**16 02 06.5**	**-1.6**
PMSI	**Majene**	**4.85**	**220**	P	**Pn**	**16 02 10.2**	**-1.1**
SGSI	**Sangihe**	**4.89**	**46**	P	**Pn**	**16 02 11.6**	**-0.3**
BNSI	**Bone**	**5.01**	**202**	P	**Pn**	**16 02 13.4**	**+0.1**
	1.2nm10µm3µm356nm,1.1s						
BKB	**Balikpapan**	**5.33**	**253**	P	**Pn**	**16 02 15.7**	**-1.7**
	0.5nm130nm,0.7s						
KAPI	**Kappang**	**5.71**	**203**	P	**Pn**	**16 02 21.9**	**-0.4**
	4.6nm,0.3s,baz=83,slow=6.0,SNR=14						
KAPI	**Kappang**	**5.71**	**203**	P	**Pn**	**16 02 22.1**	**-0.2**
	0.3nm1µm112nm,1.2s						
BKSI	**Bulukumba**	**5.86**	**199**	P	**Pn**	**16 02 24.4**	**+0.2**
	0.3nm991nm99nm,1.0s						
GAMI	**Galela, Maluku**	**5.99**	**75**	P	**Pn**	**16 02 26.1**	**+0.2**
	0.2nm48nm,0.7s						
KBKI	**Kotabaru**	**6.82**	**239**	P	**Pn**	**16 02 36.3**	**-0.4**
	0.2nm400nm55nm,0.8s						
MTKI	**Muara Teweh, K**	**7.21**	**260**	P	**Pn**	**16 02 41.0**	**-0.8**
	0.2nm28nm,0.4s						
KCP	**Kidapawan**	**7.37**	**25**	⇓*iP*	**Pn**	**16 02 47.4**	**+3.4**
EDFI	**Ende, Flores**	**8.96**	**182**	P	**Pn**	**16 03 04.7**	**0.0**
	296nm7.0nm,1.1s						
TWSI	**Taliwang, Sumb**	**10.30**	**210**	P	**P**	**16 03 33.3**	**+3.8**
BATI	**Baumata**	**10.53**	**171**	P	**Pn**	**16 03 26.7**	**+1.7**
	1.3nm,0.3s,baz=162,slow=3.2,SNR=2.0						
KPJI	**Karang Pucung**	**15.06**	**240**	P	**Pn**	**16 04 22.1**	**+0.2**
	104nm,0.8s						
MTN	**Manton Dam**	**15.86**	**146**	P	**P**	**16 04 30.9**	**-0.4**
LEM	**Lembang**	**15.99**	**244**	P	**P**	**16 04 32.8**	**0.0**
	2.9nm,0.3s,baz=360,slow=9.4,SNR=12						
CISI	**Cisompet, Garu**	**16.14**	**241**	P	**P**	**16 04 35.0**	**+0.6**
	706nm74nm,0.9s						
CBJI	**Citeko**	**16.52**	**246**	P	**P**	**16 04 39.1**	**+0.6**
	171nm,0.8s						
CNJI	**Cibinong**	**16.63**	**243**	P	**P**	**16 04 39.7**	**-0.1**
	2µm225nm,1.1s						
DBJI	**Dramaga**	**16.66**	**246**	P	**P**	**16 04 41.4**	**+1.3**
	2µm44nm,1.2s						
KNRA	**Kununurra**	**17.19**	**157**	P	**P**	**16 04 45.8**	**0.0**
BLSI	**Bandar Lampung**	**17.65**	**251**	P	**P**	**16 04 51.1**	**+0.2**
	82nm,0.5s						
MDSI	**Maura Dua**	**18.42**	**255**	P	**P**	**16 04 59.6**	**+0.3**
	702nm62nm,1.0s						
FITZ	**Fitzroy Crossi**	**18.59**	**169**	P	**P**	**16 05 00.5**	**-0.6**
	2.5nm,0.3s,baz=0.1,slow=7.6,SNR=98						
FITZ	**Fitzroy Crossi**	**18.59**	**169**	P	**P**	**16 05 00.5**	**-0.6**
FITZ				IAmb	IAmb	16 05 01.5	
	comp=Z,23nm,0.7s						
LHSI	**Lahat**	**18.91**	**257**	P	**P**	**16 05 06.3**	**+1.7**
	comp=Z,2µmcomp=Z,44nm,0.9s						
MASI	**Maura Aman, Be**	**20.04**	**260**	P	**P**	**16 05 17.6**	**+0.8**
	comp=Z,276nm,1.0s						
PDSI	**Padang**	**21.57**	**267**	P	**P**	**16 05 33.5**	**+0.5**
	comp=Z,29nm,0.8s						
PSA00	**Pilbara Seismi**	**21.81**	**185**	P	**P**	**16 05 33.3**	**-1.9**
PSA00				IAmb	IAmb	16 05 35.3	
	comp=Z,9.9nm,1.3s						
**PS

USRK	**Ussuriysk Ar.**	**44.64**	**10**	P		**P**		**16 08 50.8**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=209,slow=7.0,SNR=5.0								
GKN	**Gorkha**	**45.18**	**311**	*eP*		**P**		**16 08 56.6**	**+0.5**
	comp=Z,14nm,0.4s								
KOLN	**Koldanda**	**45.85**	**310**	*eP*		**P**		**16 09 02.2**	**+0.7**
DANN	**Dangsing**	**46.02**	**311**	*eP*		**P**		**16 09 03.4**	**+0.5**
	comp=Z,38nm,0.5s								
PYUN	**Piuthan**	**46.48**	**310**	*eP*		**P**		**16 09 07.2**	**+0.8**
ULN	**Ulaanbaatar**	**49.16**	**347**	P		**P**		**16 09 27.2**	**+0.7**
ULN				IAmb		IAmb		16 09 27.9	
	comp=Z,6.1nm,0.6s								
SONM	**Songino Array**	**49.29**	**346**	P		**P**		**16 09 28.3**	**+0.8**
	comp=Z,4.6nm,0.6s,baz=168,slow=9.0,SNR=27								
SONM	**Songino Array**	**49.29**	**346**	P		**P**		**16 09 27.8**	**+0.4**
KSH	**Kashi**	**57.32**	**319**	P		**P**		**16 10 27.4**	**+1.3**
KSH				sP		sP		16 11 33.8	+0.3
KSH				pmax		pmax			
	comp=Z,6.0nm,1.2s								
MKAR	**Makanchi Array**	**57.87**	**329**	P		**P**		**16 10 30.3**	**+0.6**
	comp=Z,5.0nm,0.5s,baz=126,slow=8.4,SNR=4.0								
MKAR	**Makanchi Array**	**57.87**	**329**	P		**P**		**16 10 30.2**	**+0.5**
KDJ	**Kajisay**	**57.95**	**322**	P		**P**		**16 10 31.5**	**+1.0**
MAKZ	**Makanchi**	**58.04**	**329**	P		**P**		**16 10 31.4**	**+0.5**
MAKZ				IAmb		IAmb		16 10 31.5	
	comp=Z,4.2nm,0.6s								
KBL	**Kabul**	**60.01**	**310**	P		**P**		**16 10 44.5**	**-0.3**
KBL				IAmb		IAmb		16 10 45.3	
	comp=Z,8.7nm,0.8s								
ZAA0	**Zalesovo Array**	**61.66**	**336**	P		**P**		**16 10 53.3**	**-2.0**
ZALV	**Zalesovo Beam**	**61.66**	**336**	P		**P**		**16 10 53.1**	**-2.2**
	comp=Z,1.1nm,0.4s,baz=126,slow=7.5,SNR=6.0								
ZALV	**Zalesovo Beam**	**61.66**	**336**	P		**P**		**16 10 53.9**	**-1.5**
RPZ	**Rata Peaks**	**61.83**	**142**	P		**P**		**16 10 57.6**	**+0.9**
KURBB	**Kurchatov Arra**	**62.24**	**330**	P		**P**		**16 10 58.6**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=126,slow=6.3,SNR=5.0								
KURK	**Kurchatov**	**62.25**	**330**	P		**P**		**16 10 58.6**	**-0.7**
KK31	**Karatay Array**	**62.67**	**320**	P		**P**		**16 11 01.4**	**-0.9**
KKAR	**Karatay Array**	**62.67**	**320**	P		**P**		**16 11 01.2**	**-1.0**
BVAR	**Borovoye Array**	**67.75**	**329**	P		**P**		**16 11 33.8**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=169,slow=10.0,SNR=7.5								
TIXI	**Tiksi**	**71.41**	**2**	P		**P**		**16 11 56.1**	**-0.6**
TIXI				IAmb		IAmb		16 11 57.5	
	comp=Z,3.5nm,0.8s								
ABKAR	**Akbulak array**	**71.91**	**322**	P		**P**		**16 11 60.0**	**-0.2**
ABKAR	**Akbulak array**	**71.91**	**322**	P		**P**		**16 12 00.0**	**-0.2**
ABKAR				IAmb		IAmb		16 12 01.2	
	comp=Z,1.3nm,0.7s								
AKTO	**Aktyubinsk**	**73.50**	**323**	P		**P**		**16 12 08.3**	**-1.2**
	comp=Z,1.8nm,0.6s,baz=92,slow=7.6,SNR=6.6								
VNDA	**Vanda**	**80.65**	**172**	P		**P**		**16 12 48.3**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=310,slow=6.2,SNR=12								
VNDA	**Vanda**	**80.65**	**172**	IAmb		IAmb		16 12 49.1	
	comp=Z,1.7nm,0.7s								
AKASG	**Malin Array Be**	**91.56**	**321**	P		**P**		**16 13 40.5**	**-2.3**
	comp=Z,0.9nm,0.6s,baz=80,slow=4.8,SNR=5.4								
TORD	**Torodi Ar. Bea**	**119.38**	**285**	PKP		**PKPdf**		**16 19 23.9**	**-1.5**
	comp=Z,1.3nm,0.6s,baz=51,slow=1.7,SNR=4.4								

*IDC **17** 16:01:00.6±0.9,31°.65S×71°.84W,h0km,mb4.2/7, mb1 4.2/11,mb1mx4.0/33,mbtmp4.0/11,ML3.8/4, Error ellipse: s-maj=32.4km s-min=20.7km az=90.0*
*GUC **17** 16:01:01.1±0.8,31°.67S×72°.09W,h39km±5km,ML4.3*
*NEIC **17** 16:01:04.9±1.0,31°.74S±0°.05×72°.0W±0°.2,h27km±4km, mb4.8/9,Error ellipse: s-maj=21.1km s-min=7.3km az=90.0*

ISC 17 16:01:00.0±1.5,**31°.69S**±0°.03×**72°.13W**±0°.06,**h2**km±9km, **n52**,σ1ᵗ**40**/64,**mb4.6**/9,**3C-3D**,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**1.09**	**23**	⇓*iP*		**Pg**	**16 01 20.6**	**-0.3**
CO06				*i* S		**Sb**	**16 01 36.1**	**-0.2**
VA06	**Catapilco**	**1.12**	**141**	⇓*iP*		**Pg**	**16 01 21.9**	**+0.4**
VA06				*i* S		**Sb**	**16 01 36.8**	**-0.4**
VA06				IAML			16 01 37.8	
	comp=E,13μm,0.4s							
VA01	**Torpederas**	**1.39**	**163**	*eP*		**Pn**	**16 01 25.9**	**-0.5**
VA01				*eS*		**Sb**	**16 01 42.2**	**-2.8**
CO03	**El Pedregal**	**1.49**	**56**	⇑*iP*		**Pb**	**16 01 28.3**	**-0.2**
CO03				*i* S		**Sb**	**16 01 47.2**	**-0.7**
CO03				IAML			16 01 54.2	
	comp=E,5μm,0.3s							
ROCH	**El Roble**	**1.59**	**144**	⇑*eP*		**Pn**	**16 01 29.2**	**-0.2**
ROCH				*i* S		**Sn**	**16 01 48.7**	**-2.0**
ROCH				IAML			16 01 53.7	
	comp=N,5μm,0.1s							
VA03	**San Esteban**	**1.71**	**129**	⇑*iP*		**Pn**	**16 01 30.9**	**0.0**
VA03				*i* S		**Sn**	**16 01 52.5**	**-1.0**
GO04	**Tololo Observa**	**1.89**	**37**	*eP*		**Pn**	**16 01 34.0**	**+0.4**
GO04				*eS*		**Sb**	**16 01 58.6**	**-0.9**
CO05	**La Serena**	**1.92**	**24**	*eP*		**Pg**	**16 01 36.9**	**+0.1**
CO05				*eS*		**Sn**	**16 01 57.5**	**-0.8**
CO05				IAML			16 02 11.3	
	comp=N,3μm,0.6s							
VA05	**Santo Domingo**	**2.01**	**168**	*eP*		**Pn**	**16 01 34.6**	**-0.3**
VA05				*eS*		**Sg**	**16 02 05.1**	**+0.4**
VA05				IAML			16 02 12.3	
	comp=E,4μm,0.4s							
MT05	**Renca**	**2.07**	**146**	*eP*		**Pn**	**16 01 35.9**	**+0.1**
MT05				*eS*		**Sn**	**16 02 02.7**	**+0.5**
MT01	**Popeta**	**2.29**	**162**	*eP*		**Pn**	**16 01 37.8**	**-1.1**
MT09	**Talagante**	**2.29**	**156**	*eP*		**Pn**	**16 01 39.8**	**+0.8**
MT09				*eS*		**Sn**	**16 02 06.6**	**-1.3**
BO01	**Tunca**	**2.84**	**162**	*eP*		**Pn**	**16 01 46.4**	**0.0**
BO01				*i* S		**Sn**	**16 02 19.1**	**-2.0**
LCO	**Las Campanas**	**2.94**	**25**			**Pb**	**16 01 53.2**	**0.0**
BO02	**Sierra Bellavi**	**3.30**	**160**			**Pn**	**16 01 53.7**	**+0.9**
AC04	**Llanos de Chal**	**3.59**	**15**	*eP*		**Pn**	**16 01 58.7**	**+2.0**
AC04				*eS*		**Sn**	**16 02 35.4**	**-4.2**
H03N1	**Juan Fernandez**	**5.99**	**251**	T		T	16 09 15.0	
	baz=82							
H03N3	**Juan Fernandez**	**6.00**	**251**	T		T	16 09 13.9	
	baz=82							
H03N2	**Juan Fernandez**	**6.01**	**251**	T		T	16 09 10.7	
	baz=82							
PLCA	**Paso Flores**	**9.12**	**172**	Pn		**Pn**	**16 03 13.3**	**+0.6**
	comp=E,0.6nm,0.3s,baz=327,slow=11,SNR=5.3							
LVC	**Limon Verde**	**9.48**	**18**	Pn		**Pn**	**16 03 17.3**	**-0.7**
	comp=E,0.2nm,0.3s,baz=114,slow=20,SNR=1.3							
TRQA	**Tornquist**	**10.48**	**130**			**Pn**	**16 03 31.1**	**-0.2**
LPA	**La Plata**	**12.30**	**109**	*eP*		**Pn**	**16 03 52.2**	**-4.0**
LPA				sP			16 03 59.7	
LPA				pPP			16 04 06.6	
LPA				PPP		PPP	16 04 40.6	
LPA				S		**Sn**	**16 06 15.3**	**+1.4**
LPA				SS		**SnSn**	**16 06 30.5**	**+4.6**
LPA				SSS		SSS	16 06 47.0	
CPUP	**Villa Florida**	**14.00**	**71**	Pn		**Pn**	**16 04 21.0**	**+1.6**
	comp=E,0.2nm,0.3s,baz=288,slow=9.6,SNR=2.0							
CPUP	**Villa Florida**	**14.00**	**71**			**Pn**	**16 04 22.3**	**+2.9**
LPAZ	**La Paz**	**15.75**	**14**	Pn		**Pn**	**16 04 45.0**	**+1.3**
	comp=E,0.1nm,0.3s,baz=183,slow=7.4,SNR=6.3							
LPAZ	**La Paz**	**15.75**	**14**			**Pn**	**16 04 43.9**	**+0.2**
SIV	**San Ignacio**	**18.59**	**35**	P		**P**	**16 05 17.8**	**-0.8**
	comp=E,0.1nm,0.3s,baz=235,slow=13,SNR=4.4							
SPB	**Sao Paulo**	**23.28**	**76**	P		**P**	**16 06 08.2**	**-0.8**
SPB				IAmb		IAmb	16 06 09.4	
	comp=Z,17nm,0.8s							
SAML	**Samuel**	**24.10**	**22**	P		**P**	**16 06 17.4**	**+0.2**
BDFB	**Brasilia**	**27.16**	**60**	P		**P**	**16 06 43.5**	**-1.5**
	comp=Z,5.7nm,0.8s,baz=247,slow=10,SNR=4.3							
BDFB	**Brasilia**	**27.16**	**60**	IAmb		IAmb	16 06 50.1	
	comp=Z,31nm,1.7s							
VNA3	**Neumayer Olymp**	**51.53**	**159**	P		**P**	**16 10 07.4**	**+0.6**
VNA1	**Neumayer--Stat**	**51.83**	**158**	P		**P**	**16 10 09.8**	**+0.7**
VNA2	**Neumayer--Watz**	**52.17**	**158**	P		**P**	**16 10 12.1**	**+0.4**
	baz=286,slow=8.4							
SNAA	**Sanae**	**53.76**	**158**	P		**P**	**16 10 23.5**	**+0.1**
SNAA	**Sanae**	**53.76**	**158**	P		**P**	**16 10 23.7**	**+0.3**
	comp=Z,5.1nm,0.8s,baz=271,slow=8.1,SNR=31							
QSPA	**South Pole Qui**	**58.55**	**180**	P		**P**	**16 10 58.5**	**+0.7**
QSPA				IAmb		IAmb	16 11 53.2	
	comp=Z,16nm,1.8s							
TXAR	**Lajitas Array**	**67.69**	**330**	P		**P**	**16 11 59.8**	**+1.0**
	comp=Z,0.2nm,0.7s,baz=160,slow=11,SNR=2.9							
SYO	**Syowa Base**	**68.04**	**159**	⇓*eX*		P	16 11 55.4	-5.1
DBIC	**Dimbokro**	**74.52**	**72**	P		**P**	**16 12 40.2**	**-0.3**
	comp=Z,3.1nm,0.8s,baz=245,slow=7.6,SNR=4.0							
KOWA	**Kowa**	**79.75**	**66**	P		**P**	**16 13 09.3**	**-0.6**
BOSA	**Boshof**	**81.22**	**118**	P		**P**	**16 13 17.6**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=256,slow=8.3,SNR=3.3							
BOSA	**Boshof**	**81.22**	**118**	P		**P**	**16 13 16.9**	**-1.0**
BOSA				IAmb		IAmb	16 16 20.3	
	comp=Z,24nm,1.3s							
NVAR	**Mina Array Bea**	**81.95**	**325**	P		**P**	**16 13 22.5**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=127,slow=5.7,SNR=2.4							
TORD	**Torodi Ar. Bea**	**83.50**	**70**	P		**P**	**16 13 29.6**	**-0.2**
	comp=Z,3.5nm,0.8s,baz=259,slow=4.7,SNR=17							
TORD	**Torodi Ar. Bea**	**83.50**	**70**	P		**P**	**16 13 29.5**	**-0.2**
WRA	**Warramunga Arr**	**122.73**	**210**	PKP		**PKiKP**	**16 20 00.9**	**+2.6**
	comp=Z,0.6nm,0.9s,baz=132,slow=1.2,SNR=2.2							
ZAA0	**Zalesovo Array**	**152.29**	**30**			**PKPbc**	**16 20 55.9**	**-1.0**
ZAA0				PKPab		**PKPab**	**16 21 06.0**	**-0.8**
ZALV	**Zalesovo Beam**	**152.29**	**30**	PKPbc		**PKiKP**	**16 20 57.2**	**0.0**
	comp=Z,2.7nm,0.5s,baz=275,slow=2.2,SNR=9.5							
ZALV	**Zalesovo Beam**	**152.29**	**30**			**PKPbc**	**16 20 56.6**	**-0.3**
ZALV						**PKPab**	**16 21 05.6**	**-1.2**
MKAR	**Makanchi Array**	**155.24**	**45**	PKPab		**PKPab**	**16 21 19.7**	**0.0**
	comp=Z,1.1nm,0.8s,baz=266,slow=3.6,SNR=6.0							

*IDC **17** 16:04:01.4±0.7,31°.33S×71°.74W,h0km,mb4.4/9, mb1 4.5/12,mb1mx4.3/33,mbtmp4.4/12,ML4.2/3,MS4.6/1, Ms1 4.6/1,ms1mx3.4/32,Error ellipse: s-maj=27.3km s-min=18.6km az=75.0*
*NEIC **17** 16:04:03.5±1.6,31°.34S±0°.06×72°.0W±0°.1,h15km±3km, mb4.8/30,ML5.3(GUC),Error ellipse: s-maj=17.8km s-min=8.2km az=93.0*
*GUC **17** 16:04:04.9±0.5,31°.55S×72°.07W,h42km±18km,ML5.3, MW5.3*
*VAO **17** 16:04:07.3±0.4,31°.15S×71°.77W,h10km,mb4.7*

ISC 17 16:04:03.0±0.9,**31°.38S**±0°.04×**72°.06W**±0°.07,**h12**km±5km, **n125**,σ1ᵗ**47**/116,**mb4.7**/23,**1C**,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.79**	**27**	*eP*		**Pg**	**16 04 16.4**	**-1.8**
CO06				*i* S		**Sg**	**16 04 25.5**	**-3.0**
VA06	**Catapilco**	**1.35**	**152**	*eP*		**Pn**	**16 04 26.4**	**-1.3**
VA06				*i* S		**Sn**	**16 04 43.2**	**-2.3**
VA06				IAML			16 04 47.5	
	comp=E,105μm,0.4s							
GO04	**Tololo Observa**	**1.61**	**42**	⇑*iP*		**Pn**	**16 04 30.5**	**-1.1**
GO04				*i* S		**Sn**	**16 04 50.3**	**-2.2**
VA01	**Torpederas**	**1.68**	**168**	*eP*		**Pn**	**16 04 31.3**	**-1.0**
VA01				*i* S		**Sn**	**16 04 51.6**	**-2.1**
VA03	**San Esteban**	**1.88**	**138**	*eP*		**Pn**	**16 04 35.5**	**+0.3**
VA03				*i* S		**Sn**	**16 04 58.9**	**0.0**
MT05	**Renca**	**2.30**	**151**	*eP*		**Pn**	**16 04 41.0**	**+0.2**
MT05				*i* S		**Sn**	**16 05 08.4**	**-0.7**
VA05	**Santo Domingo**	**2.31**	**171**	*eP*		**Pn**	**16 04 40.0**	**-0.9**
VA05				*i* S		**Sn**	**16 05 07.5**	**-1.7**
LCO	**Las Campanas**	**2.63**	**27**			**Pn**	**16 04 44.6**	**-1.0**
BO02	**Sierra Bellavi**	**3.57**	**163**			**Pn**	**16 04 59.0**	**+0.7**
H03N1	**Juan Fernandez**	**6.15**	**249**	T		T	16 12 13.8	
	baz=78,slow=72,SNR=409							
H03N3	**Juan Fernandez**	**6.17**	**249**	T		T	16 12 17.4	
	baz=78,slow=72,SNR=419							
H03N2	**Juan Fernandez**	**6.17**	**249**	T		T	16 12 18.6	
	baz=78,slow=72,SNR=166							
H03S3	**Juan Fernandez**	**6.28**	**245**	T		T	16 12 29.8	
	baz=87,slow=75,SNR=30							
H03S1	**Juan Fernandez**	**6.28**	**245**	T		T	16 12 28.6	
	baz=87,slow=75,SNR=25							
H03S2	**Juan Fernandez**	**6.30**	**245**	T		T	16 12 29.0	
	baz=87,slow=75,SNR=6.8							
LR03	**Panguipulli**	**8.24**	**182**	Pn		**Pn**	**16 06 02.5**	**0.0**
PLCA	**Paso Flores**	**9.42**	**173**	Pn		**Pn**	**16 06 18.4**	**-0.2**
	comp=E,1.1nm,0.3s,baz=339,slow=11,SNR=11							
PLCA	**Paso Flores**	**9.42**	**176**	*eP*		Pn	16 06 26.4	+7.8
TRQA	**Tornquist**	**10.63**	**132**	Pn		**Pn**	**16 06 35.7**	**+0.4**
TRQA	**Tornquist**	**10.63**	**132**	*eP*		**Pn**	**16 06 38.1**	**+2.9**
ITQB	**Itaqui**	**13.41**	**87**	*eP*		**Pn**	**16 07 13.3**	**+0.1**
CPUP	**Villa Florida**	**13.85**	**72**	Pn		Pn	16 07 09.8	-9.4
	comp=E,0.2nm,0.3s,baz=166,slow=11,SNR=2.9							
CPUP	**Villa Florida**	**13.85**	**72**	*eP*		**Pn**	**16 07 20.0**	**+0.9**
COYC	**Coyhaique**	**14.18**	**180**			**Pn**	**16 07 23.2**	**-0.3**
LPAZ	**La Paz**	**15.44**	**14**	Pn		**Pn**	**16 07 41.3**	**0.0**
	comp=E,0.2nm,0.3s,baz=183,slow=9.3,SNR=8.7							
LPAZ	**La Paz**	**15.44**	**14**			**Pn**	**16 07 40.6**	**-0.7**
LPAZ	**La Paz**	**15.44**	**14**	*eP*		**Pn**	**16 07 42.0**	**+0.7**
PLTB	**Pedras Altas**	**15.73**	**96**	*eP*		**P**	**16 07 47.0**	**-1.6**
CPSB	**Cacapava Do Su**	**16.01**	**91**	*eP*		**P**	**16 07 51.1**	**-0.5**
SIV	**San Ignacio**	**18.30**	**36**	P		**Pn**	**16 08 15.5**	**-1.4**
	comp=E,0.3nm,0.3s,baz=230,slow=9.9,SNR=6.8							
CNLB	**Canela**	**18.41**	**89**	*eP*		**P**	**16 08 20.4**	**+2.1**
PTGB	**Pitanga**	**18.84**	**74**	*eP*		**Pn**	**16 08 24.8**	**+1.3**
TRCB	**Terra Rica**	**19.27**	**68**	*eP*		**Pn**	**16 08 29.8**	**+1.1**
PTLB	**Pontes e Lacer**	**19.77**	**40**	*eP*		**Pn**	**16 08 33.3**	**-1.2**
TER01	**Tubaro-SC**	**20.06**	**88**	*eP*		**Pn**	**16 08 37.7**	**-0.3**
PP1B	**Ponte de Pedra**	**20.75**	**53**	*eP*		Pn	16 08 45.0	-1.2
PCMB	**Pacaembu**	**20.97**	**67**	*eP*		Pn	16 08 46.8	-1.9
VILB	**Vilhena**	**21.34**	**33**	*eP*		**P**	**16 08 51.5**	**+1.3**
SALV	**Santo Antonio**	**21.45**	**48**	*eP*		**P**	**16 08 50.6**	**-0.7**
FRTB	**Fartura**	**21.49**	**74**	*eP*		**P**	**16 08 52.4**	**+0.6**
ETMB	**Extrema**	**22.13**	**15**	*eP*		**P**	**16 08 59.7**	**+1.1**
ITRB	**Iturama**	**22.72**	**64**	*eP*		**P**	**16 09 07.3**	**+2.4**
PET01	**Itanhaem-SP**	**22.99**	**78**	*eP*		**P**	**16 09 07.3**	**-0.4**
SPB	**Sao Paulo**	**23.15**	**77**	P		**P**	**16 09 06.2**	**-3.1**
SPB				IAmb		IAmb	16 09 09.2	
	comp=Z,44nm,0.9s							
SPB	**Sao Paulo**	**23.15**	**77**	*eP*		**P**	**16 09 07.6**	**-1.7**
BB19B	**Bebedouro**	**23.43**	**70**	*eP*		**P**	**16 09 14.9**	**+2.7**
CZSB	**Cruzeiro do Su**	**23.53**	**358**	*eP*		**P**	**16 09 15.7**	**+2.4**
USHA	**Ushuaia**	**23.59**	**175**	LR		LR	16 19 43.6	
	comp=Z,2μm,19.8s,baz=178,slow=40							
SAML	**Samuel**	**23.79**	**22**	P		**P**	**16 09 14.1**	**-1.7**
PARB	**Paraibuna**	**24.76**	**78**	*eP*		**P**	**16 09 27.0**	**+2.2**
IPMB	**Ipameri, GO**	**25.37**	**64**	*eP*		**P**	**16 09 32.0**	**+1.7**
BDFB	**Brasilia**	**26.95**	**60**	P		**P**	**16 09 41.8**	**-2.9**
	comp=Z,11nm,0.7s,baz=221,slow=8.3,SNR=7.6							
BDFB	**Brasilia**	**26.95**	**60**	P		**P**	**16 09 42.1**	**-2.6**
BDFB				IAmb		IAmb	16 09 43.6	
	comp=Z,16nm,0.8s							
TBTG	**Tabatinga, AM**	**27.12**	**5**	*eP*		**P**	**16 09 47.6**	**+1.6**
BSFB	**Barra de Sao F**	**30.78**	**74**	*eP*		**P**	**16 10 20.9**	**+2.3**
RIB01	**Linhares ES**	**30.92**	**75**	*eP*		**P**	**16 10 22.4**	**+2.5**
ITTB	**Itaituba**	**30.94**	**33**	*eP*		**P**	**16 10 21.9**	**+1.9**
NAN01	**Guarapari, ES**	**31.87**	**73**	*eP*		**P**	**16 10 31.0**	**+2.8**
SMTB	**Santa Maria do**	**31.94**	**51**	*eP*		**P**	**16 10 27.8**	**-1.0**
OTAV	**Otavalo**	**32.02**	**348**	P		**P**	**16 10 30.9**	**+0.8**
OTAV				IAmb		IAmb	16 11 03.6	
	comp=Z,9.6nm,1.5s							
OTAV	**Otavalo**	**32.02**	**348**	*eP*		**P**	**16 10 33.8**	**+3.8**
NBPN	**Ponto Novo - B**	**35.85**	**62**	*eP*		**P**	**16 11 05.0**	**+2.1**
MCPB	**Macapa, AP**	**36.20**	**35**	*eP*		**P**	**16 11 07.0**	**+1.1**
TMAB	**Tom-Au,PA,Br**	**36.65**	**43**	*eP*		**P**	**16 11 12.5**	**+2.8**
NBMA	**Muriti-CE**	**39.18**	**60**	*eP*		**P**	**16 11 32.9**	**+1.7**
NBPS	**Pedro II - PI**	**39.34**	**53**	*eP*		**P**	**16 11 34.5**	**+2.0**
NBAN	**Anadia - AL**	**39.59**	**65**	*eP*		**P**	**16 11 36.1**	**+1.6**
NBRF	**Rio Formoso -**	**41.09**	**65**	*eP*		**P**	**16 11 48.6**	**+1.7**
VNA3	**Neumayer Olymp**	**51.79**	**159**	P		**P**	**16 13 10.6**	**+0.2**
VNA1	**Neumayer--Stat**	**52.09**	**158**	P		**P**	**16 13 13.2**	**+0.7**
VNA2	**Neumayer--Watz**	**52.44**	**158**	P		**P**	**16 13 15.1**	**0.0**
	baz=280,slow=8.4							
SNAA	**Sanae**	**54.02**	**159**	P		**P**	**16 13 26.9**	**+0.1**
SNAA	**Sanae**	**54.02**	**159**	P		**P**	**16 13 26.8**	**0.0**
	comp=Z,7.0nm,1.0s,baz=278,slow=7.3,SNR=17							
QSPA	**South Pole Qui**	**58.85**	**180**	P		**P**	**16 14 01.5**	**0.0**
QSPA				IAmb		IAmb	16 14 11.0	
	comp=Z,11nm,1.1s							
SLBS	**Sierra La Lagu**	**65.68**	**322**	P		**P**	**16 14 48.7**	**+1.1**
TX31	**Lajitas Ar. Si**	**67.45**	**330**	P		**P**	**16 14 57.9**	**-0.9**
TX31				IAmb		IAmb	16 15 32.1	
	comp=Z,15nm,1.4s							
TX32	**Lajitas Array**	**67.45**	**330**	P		**P**	**16 14 58.0**	**-0.8**
TX32				IAmb		IAmb	16 15 32.1	
	comp=Z,6.0nm,1.4s							
TXAR	**Lajitas Array**	**67.45**	**330**	P		**P**	**16 14 59.2**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=155,slow=8.4,SNR=15							
MNTX	**Cornudas Mount**	**70.23**	**330**	P		**P**	**16 15 14.3**	**-1.6**
MNTX				IAmb		IAmb	16 15 23.2	
	comp=Z,3.7nm,1.1s							
MSTX	**Muleshoe**	**71.16**	**333**	P		**P**	**16 15 20.8**	**-0.9**
MSTX				IAmb		IAmb	16 15 22.3	
	comp=Z,7.2nm,0.7s							
CCM	**Cathedral Cave**	**71.36**	**344**	P		**P**	**16 15 21.9**	**-0.8**
CCM				IAmb		IAmb	16 15 34.1	
	comp=Z,7.8nm,0.9s							
121A	**Cookes Peak, D**	**71.99**	**329**	P		**P**	**16 15 26.3**	**-0.5**
121A				IAmb		IAmb	16 15 28.4	
	comp=Z,3.0nm,0.8s							
ANMO	**Albuquerque**	**73.48**	**331**	P		**P**	**16 15 35.8**	**+0.1**
ERPA	**Erie**	**73.50**	**354**	P		**P**	**16 15 35.9**	**+0.6**
ERPA				IAmb		IAmb	16 16 07.5	
	comp=Z,11nm,0.8s							
DBIC	**Dimbokro**	**74.37**	**72**	P		**P**	**16 15 40.1**	**-1.0**
	comp=Z,9.1nm,0.9s,baz=222,slow=5.9,SNR=7.2							
DBIC	**Dimbokro**	**74.37**	**72**	P		**P**	**16 15 39.6**	**-1.5**
HNH	**Hanover**	**74.72**	**360**	P		**P**	**16 15 42.0**	**-0.3**
SDCO	**Great Sand Dun**	**75.53**	**333**	P		**P**	**16 15 46.5**	**-1.1**
MAW	**Mawson**	**75.69**	**164**	P		**P**	**16 15 48.1**	**+0.3**
	comp=Z,3.7nm,0.6s,baz=219,slow=8.6,SNR=6.7							
MAW	**Mawson**	**75.69**	**164**	P		**P**	**16 15 47.6**	**-0.3**
PQI	**Presque Isle**	**77.77**	**3**	P		**P**	**16 15 59.8**	**+0.2**
ECSD	**EROS Data Cent**	**78.05**	**342**	P		**P**	**16 16 00.5**	**-0.9**
ECSD				IAmb		IAmb	16 16 26.0	
	comp=Z,4.6nm,0.8s							
MVU	**Marysvale**	**78.95**	**329**	P		**P**	**16 16 06.0**	**-0.7**
MVU				IAmb		IAmb	16 16 16.3	
	comp=Z,12nm,1.1s							
PRN	**Pahroc Range**	**79.35**	**326**	P		**P**	**16 16 07.1**	**-1.8**
KOWA	**Kowa**	**79.58**	**66**	P		**P**	**16 16 08.7**	**-1.7**
KOWA				IAmb		IAmb	16 16 17.3	
	comp=Z,30nm,1.8s							
SPR3	**Spring Creek 3**	**80.30**	**328**	P		**P**	**16 16 11.4**	**-2.8**
SPR3				IAmb		IAmb	16 16 25.0	
	comp=Z,9.0nm,1.6s							
R11A	**Troy Canyon, C**	**80.36**	**327**	P		**P**	**16 16 13.2**	**-1.1**
BOSA	**Boshof**	**81.31**	**118**	P		**P**	**16 16 19.4**	**-0.3**
	comp=Z,5.0nm,0.9s,baz=217,slow=8.2,SNR=4.3							
PDAR	**Pinedale Array**	**81.42**	**333**	P		**P**	**16 16 22.1**	**+2.1**
	comp=Z,0.3nm,0.5s,baz=129,slow=4.0,SNR=4.6							
PDAR	**Pinedale Array**	**81.42**	**333**	P		**P**	**16 16 20.1**	**+0.1**
NVAR	**Mina Array Bea**	**81.73**	**325**	P		**P**	**16 16 22.5**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=158,slow=6.9,SNR=8.3							
NVAR	**Mina Array Bea**	**81.73**	**325**	P		**P**	**16 16 22.0**	**+0.3**
CASY	**Casey**	**82.64**	**181**	P		**P**	**16 16 26.4**	**+0.5**
TORD	**Torodi Ar. Bea**	**83.33**	**70**	P		**P**	**16 16 29.1**	**-1.1**
	comp=Z,8

CO03				IAML		16 08 59.0	
	comp=E,403µm,0.2s						
CO03	El Pedregal	0.61	92	*i* P	Pn	16 08 49.0	+0.9
GO04	Tololo Observa	0.83	39	*e*P	Pn	16 08 52.0	+0.9
GO04				*i* S	Sn	16 09 03.9	+1.6
GO04				IAML		16 09 06.9	
	comp=E,271µm,0.5s						
GO04	Tololo Observa	0.83	39	*e*P	Pn	16 08 52.6	+1.5
GO04				*e*S	Sn	16 09 04.8	+2.4
CO05	La Serena	0.91	9⇓	*i*P	Pn	16 08 53.1	+1.1
CO05				*e*S	Sn	16 09 03.1	-0.8
CO05				IAML		16 09 10.3	
	comp=E,60µm,0.4s						
VA06	Catapilco	1.74	177⇓	*i*P	Pn	16 08 53.6	-10
VA06				*i* S	Sn	16 09 26.8	+2.6
VA06	Catapilco	1.74	177	*e*P	Pn	16 09 05.4	+2.1
AROD	Rodeo	1.79	69	*i* P	Pn	16 09 08.0	+3.7
LCO	Las Campanas	1.90	19	Pn	Pn	16 09 06.2	+0.3
LCO				Sn	Sn	16 09 31.6	+2.9
RTLS	Leoncito	2.05	119	*i* P	Pn	16 09 12.0	+4.2
VA03	San Esteban	2.07	160	*e*P	Pn	16 08 56.2	-12
VA03				*i* S	Sn	16 09 31.9	-0.7
ACDV	Cuesta del Vie	2.07	72	*e*P	Pn	16 09 12.3	+4.2
ACDV				*i* S	Sn	16 09 24.7	-8.0
ACDV				IAML		16 09 25.2	
	comp=Z,7µm,0.5s						
ROC1	El Roble	2.17	171	*i* P	Pn	16 09 24.8	+15
ROC1				*i* S	Sn	16 09 38.4	+3.0
VA01	Torpederas	2.21	185	*e*P	Pn	16 09 02.9	-6.8
VA01				*i* S	Sn	16 09 40.9	+5.2
VA01	Torpederas	2.21	185	*i* P	Pn	16 09 10.9	+1.2
AUSP	Uspallata	2.22	130	*i* P	Pn	16 09 13.7	+3.6
ZON	Zonda	2.44	108	*i* P	Pn	16 09 17.1	+4.0
ZON				IAML		16 10 05.1	
	comp=Z,10µm,0.9s						
RTLL	Cerro Villicun	2.56	102	*i* P	Pn	16 09 18.0	+3.3
AC04	Llanos de Chal	2.62	6	*e*P	Pn	16 09 17.1	+1.6
AC04				*e*S	Sn	16 09 52.1	+6.0
MT05	Renca	2.62	168	*e*P	Pn	16 09 18.3	+2.7
RTCV	Cerro Valdivia	2.66	114	*i* P	Pn	16 09 19.7	+3.7
ASAL	Salagasta	2.81	130	*i* P	Pn	16 09 22.2	+4.1
VA05	Santo Domingo	2.83	184	*e*P	Pn	16 09 08.7	-10
VA05				*e*S	Sn	16 09 55.4	+4.2
AGUA	GUANDACOL	2.85	63	*e*P	Pn	16 09 24.2	+5.5
AGUA				IAML		16 10 14.9	
	comp=Z,4µm,0.4s						
ARCO	CERRO ARCO	2.91	134	*i* P	Pn	16 09 39.4	+20
ARCO				IAML		16 10 32.4	
	comp=Z,2µm,0.8s						
MT01	Popeta	3.04	178	*e*P	Pn	16 09 11.7	-9.5
MT01				*e*S	Sn	16 09 58.9	+2.6
MT01	Popeta	3.04	178	*e*P	Pn	16 09 31.5	+10
MT01				*e*S	Sn	16 10 02.6	+6.3
AAGR	Agrelo	3.14	137	*i* P	Pn	16 09 22.2	-0.5
AAGR				IAML		16 10 45.9	
	comp=Z,2µm,1.6s						
LMEL	Las Melosas	3.18	162	*e*P	Pn	16 09 11.2	-12
GO03	Copiap	3.37	18	*i* P	Pn	16 09 28.0	+2.2
GO03				*e*S	Sn	16 10 10.3	+5.6
VCA	Vinchina	3.47	54	*e*P	Pn	16 09 32.7	+5.5
VCA				*e*S	Sn	16 10 15.9	+8.7
VCA				IAML		16 10 28.6	
	comp=Z,9µm,0.8s						
BO02	Sierra Bellavi	4.00	173	Pn	Pn	16 09 31.0	-3.3
ACHE	Chepes	4.08	96	*i* P	Pn	16 09 38.0	+2.3
GO05	Huala	4.20	186	*i* P	Pn	16 09 36.3	-0.8
GO05				*e*S	Sn	16 10 20.9	-4.1
AC02	Maricunga	4.44	27	*e*P	Pn	16 09 43.7	+2.7
AC02				*e*S	Sn	16 10 40.6	+8.9
COIS	El Sosneado	4.54	161	*e*P	Pn	16 09 45.5	+3.8
RFA	San Rafael	4.65	149	*i* P	Pn	16 09 45.2	+1.8
RFA				*e*S	Sn	16 10 59.4	+23
RFA				IAML		16 11 10.2	
	comp=Z,916nm,0.9s						
MRA	San Martin	5.10	110	*i* P	Pn	16 10 18.2	+29
MRA				*i* S	Sn	16 10 50.3	+2.9
MRA				IAML		16 11 00.1	
	comp=Z,1µm,0.6s						
PB14	IPOC Station P	6.23	8	*i* P	Pn	16 10 05.0	-0.4
PB14				*e*S	Sn	16 11 35.5	+20
PB14				IAML		16 11 53.4	
	comp=Z,2µm,0.7s						
AHML	Horco Molle	6.67	54	*e*P	Pn	16 10 12.2	+1.1
AHML				*e*S	Sn	16 11 27.1	+1.3
AHML				IAML		16 11 40.0	
	comp=Z,756nm,0.8s						
FSA	Cafayete	6.69	47	*i* P	Pn	16 10 14.0	+2.5
H03N1	Juan Fernandez	6.88	246	T	T	16 17 04.3	
	baz=77,slow=72,SNR=422						
H03N3	Juan Fernandez	6.90	246	T	T	16 17 01.3	
	baz=77,slow=72,SNR=498						
H03N2	Juan Fernandez	6.90	246	T	T	16 17 02.6	
	baz=77,slow=72,SNR=554						
H03S3	Juan Fernandez	7.03	243	T	T	16 17 25.6	
	baz=85,slow=75,SNR=15						
H03S1	Juan Fernandez	7.03	243	T	T	16 17 22.1	
	baz=85,slow=75,SNR=13						
H03S2	Juan Fernandez	7.04	243	T	T	16 17 29.6	
	baz=85,slow=75,SNR=11						
PB10	IPOC Station P	7.32	6	*i* P	Pn	16 10 19.0	-0.9
PB10				*e*S	Sn	16 12 04.9	+23
PB10				IAML		16 12 27.5	
	comp=Z,741nm,0.7s						
PB15	IPOC Station P	7.78	13	*i* P	Pn	16 10 26.0	-0.4
PB15				*e*S	Sn	16 12 09.0	+16
PB15				IAML		16 12 44.1	
	comp=Z,2µm,0.4s						
SLA	San Lorenzo	8.01	42	*i* P	Pn	16 10 32.0	+2.4
SLA				IAML		16 12 40.8	
	comp=Z,240nm,1.6s						
LC01	Cunco	8.07	183	*e*P	Pn	16 10 29.2	-0.9
LC01				*e*S	Sn	16 11 17.6	-42
LVC	Limon Verde	8.47	16	P	Pn	16 10 34.5	-1.7
	comp=Z,4.3nm,0.3s,baz=148,slow=7.9,SNR=22						
LVC				S	Sn	16 12 22.1	+11
	comp=Z,16nm,0.3s,baz=172,slow=22,SNR=4.5						
LVC	Limon Verde	8.47	16		Pn	16 10 34.3	-1.9
AZAP	Zapla	8.65	42	*i* P	Pn	16 10 40.0	+1.6
AZAP				IAML		16 12 27.7	
	comp=Z,274nm,0.6s						
LR03	Panguipulli	8.83	185	Pn	Pn	16 10 38.2	-2.4
ASTB	Santa Barbara	9.22	44	*i* P	Pn	16 10 47.0	+0.9
PLCA	Paso Flores	9.91	176	P	Pn	16 10 54.4	-1.1
	comp=Z,1.7nm,0.3s,baz=345,slow=11,SNR=8.5						
PLCA				LR	LR	16 15 07.0	
	comp=Z,569nm,19.6s,baz=346,slow=40						
PLCA	Paso Flores	9.91	176	P	Pn	16 10 55.6	0.0
PLCA	Paso Flores	9.91	176	Pn	Pn	16 10 55.5	0.0
PLCA	Paso Flores	9.91	176	*e*P	Pn	16 10 55.6	0.0
TRQA	Tornquist	10.61	135	P	Pn	16 11 04.7	-0.3
TRQA	Tornquist	10.61	135		Pn	16 11 04.7	-0.3
LPA	La Plata	12.04	113	*e*P	Pn	16 11 25.6	+1.2
LPA				pPP		16 11 38.9	
LPA				pP	P	16 12 02.3	+26
LPA				S	Sn	16 13 33.9	-3.4
LPA				SSS	SSS	16 14 01.8	
LPA				SS	S	16 14 38.1	+33
LPA				PCP	PcP	16 17 12.5	+5.1
LPA				SCS	ScS	16 24 10.0	-2.6
LPA				PKIKP	PKiKP	16 25 01.7	-3.6
LPA				SKIKP		16 28 35.5	
LPA				PKIKS		16 28 40.9	
LPA				SKIKS		16 32 00.5	
CPUP	Villa Florida	13.15	74	P	Pn	16 11 36.7	-3.0
	comp=Z,3.3nm,0.3s,baz=238,slow=11,SNR=21						
CPUP				S	Sn	16 14 09.2	+4.6
	comp=Z,4.2nm,0.3s,baz=207,slow=14,SNR=3.0						
CPUP	Villa Florida	13.15	74	Pn	Pn	16 11 36.5	-3.2
COYC	Coyhaique	14.74	182	P	P	16 12 05.4	-1.0
LPAZ	La Paz	14.77	12	P	Pn	16 12 01.9	-0.4
	comp=Z,1.6nm,0.3s,baz=193,slow=7.5,SNR=25						
LPAZ	La Paz	14.77	12	*e*P	Pn	16 12 04.4	+2.1
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
LPAZ	La Paz	14.77	12	Pn	Pn	16 12 03.6	+1.4
LPAZ	La Paz	14.77	12	*e*P	Pn	16 12 00.8	-1.5
PLTB	Pedras Altas	15.25	98	*e*P	Pn	16 12 06.5	-1.4
SIV	San Ignacio	17.52	35	P	P	16 12 37.2	-0.3
	comp=Z,8.9nm,0.3s,baz=218,slow=8.2,SNR=76						
PTGB	Pitanga	18.15	75	*e*P	Pn	16 12 45.7	+1.2
TRCB	Terra Rica	18.55	69	*e*P	Pn	16 12 49.6	+0.4
PTLB	Pontes e Lacer	18.98	39	*e*P	Pn	16 12 54.1	-0.4
NNA	Nana	19.41	344	P	Pn	16 13 01.1	+1.5
	comp=Z,1.7nm,0.3s,baz=193,slow=14,SNR=2.2						
NNA	Nana	19.41	344	P	P	16 12 55.3	-2.9
NNA				pmax	pmax		
	comp=Z,76nm,1.7s						
NNA	Nana	19.41	344	P	P	16 12 55.3	-2.9
TER01	Tubaro-SC	19.48	89	*e*P	Pn	16 13 00.0	-0.4
PP1B	Ponte de Pedra	19.97	53	*e*P	P	16 13 04.3	0.0
PCMB	Pacaembu	20.24	68	*e*P	P	16 13 07.7	+0.5
TIJ01	Guaruva-PR	20.50	80	*e*P	P	16 13 07.9	-2.2
VILB	Vilhena	20.57	33	*e*P	P	16 13 11.0	+0.2
SALV	Santo Antonio	20.66	48	*e*P	P	16 13 12.0	+0.2
FRTB	Fartura	20.80	74	*e*P	P	16 13 13.8	+0.5
ETMB	Extrema	21.45	14	*e*P	P	16 13 21.9	+1.6
ITRB	Iturama	21.98	65	*e*P	P	16 13 25.9	0.0
PET01	Itanhaem-SP	22.33	79	*e*P	P	16 13 29.1	-0.6
SPB	Sao Paulo	22.47	77	P	P	16 13 30.2	-1.0
SPB				IAmb	IAmb	16 13 34.2	
	comp=Z,126nm,1.1s						
SPB	Sao Paulo	22.47	77	*e*P	P	16 13 31.9	+0.7
BB19B	Bebedouro	22.71	70	*e*P	P	16 13 32.7	-1.0
CZSB	Cruzeiro do Su	23.00	357	*e*P	P	16 13 38.2	+1.5
EFI	East Falkland	23.05	158	P	P	16 13 37.0	+0.1
EFI				pmax	pmax		
	comp=Z,316nm,1.4s						
EFI	East Falkland	23.05	158	P	P	16 13 37.0	+0.1
SAML	Samuel	23.07	21	P	P	16 13 37.1	-0.3
SAML				pmax	pmax		
	comp=Z,99nm,1.8s						
SAML	Samuel	23.07	21	P	P	16 13 37.1	-0.3
SAML				IAmb	IAmb	16 13 39.6	
	comp=Z,98nm,1.8s						
VAO	Valinhos	23.11	76	*e*P	P	16 13 37.4	-0.5
USHA	Ushuaia	24.09	176	P	P	16 13 46.9	+0.1
	comp=Z,46nm,0.8s,baz=349,slow=1.8,SNR=10						
PARB	Paraibuna	24.10	78	*e*P	P	16 13 47.1	-0.2
CLDB	Colider	24.57	39	*e*P	P	16 13 50.3	-1.3
IPMB	Ipameri, GO	24.62	64	*e*P	P	16 13 51.0	-1.0
BSCB	Bom Sucesso	25.82	74	*e*P	P	16 14 02.2	-0.7
BDFB	Brasilia	26.19	60	P	P	16 14 06.5	+0.1
	comp=Z,51nm,0.6s,baz=232,slow=8.4,SNR=38						
BDFB	Brasilia	26.19	60	P	P	16 14 06.2	-0.2
BDFB				IAmb	IAmb	16 14 07.3	
	comp=Z,54nm,0.7s						
VAS01	Vassouras-RJ	26.36	78	*e*P	P	16 14 08.2	+0.5
SNDB	Serra Nova Dou	26.41	49	*e*P	P	16 14 07.2	-1.0
TBTG	Tabatinga, AM	26.53	3	*e*P	P	16 14 09.9	+0.6
DUB01	Friburgo-RJ	27.35	78	*e*P	P	16 14 17.1	+0.4
NPGB	Novo Progresso	28.03	36	*e*P	P	16 14 22.1	-0.6
DIAM	Diamantina, MG	28.05	70	*e*P	P	16 14 23.5	+0.5
CAM01	Campos-RJ	28.06	79	*e*P	P	16 14 23.4	+0.5
PEXB	Peixe	28.34	54	*e*P	P	16 14 26.0	+0.5
MC01	Montes Claros	28.69	67	*e*P	P	16 14 28.1	-0.6
MACA	Manacapuru-AM	29.32	22	*e*P	P	16 14 34.7	+0.5
JANB	Januaria	29.36	64	*e*P	P	16 14 34.7	0.0
ALF01	Guarapari-ES	29.36	77	*e*P	P	16 14 35.1	+0.6
SJMB	Sao Joao De Ma	29.87	73	*e*P	P	16 14 39.1	0.0
BSFB	Barra de Sao F	30.09	74	*e*P	P	16 14 40.8	-0.2
ITTB	Itaituba	30.17	32	*e*P	P	16 14 41.3	-0.5
RIB01	Linhares ES	30.23	75	*e*P	P	16 14 42.7	+0.4
SDBA	SAO DESIDERIO	30.57	59	*e*P	P	16 14 45.5	+0.1
SMTB	Santa Maria do	31.15	50	*e*P	P	16 14 51.1	+0.6
OTAV	Otavalo	31.61	346	P	P	16 14 54.8	-0.1
OTAV				pmax	pmax		
	comp=Z,13nm,1.3s						
OTAV	Otavalo	31.61	346	P	P	16 14 54.8	-0.1
PRPB	Parauapebas	31.81	44	*e*P	P	16 14 55.6	-0.6
PTGA	Pitinga	31.83	22	P	P	16 14 56.7	+0.4
	comp=Z,66nm,0.4s,baz=129,slow=0.2,SNR=16						
GUA01	Guaratinga, BA	32.08	71	*e*P	P	16 14 58.4	-0.3
CMC01	Camacan, BA	32.97	69	*e*P	P	16 15 06.6	+0.2
MALB	Monte Alegre	33.07	33	*e*P	P	16 15 06.5	-0.7
NBIT	Itapeh - BA	33.28	69	*e*P	P	16 15 09.4	+0.3
GDU01	Guandu, BA	33.85	67	*e*P	P	16 15 11.3	-2.7
PMSA	Palmer Station	34.28	174	P	P	16 15 17.2	-0.1
	comp=Z,10nm,0.9s,baz=357,slow=6.7,SNR=6.0						
PMSA	Palmer Station	34.28	174	P	P	16 15 18.0	+0.7
PMSA				IAmb	IAmb	16 15 32.2	
	comp=Z,52nm,1.4s						
BOAV	Boa Vista	34.62	19	*e*P	P	16 15 20.7	+0.1
NBPN	Ponto Novo - B	35.10	62	*e*P	P	16 15 24.7	-0.1
MCPB	Macapa, AP	35.42	35	*e*P	P	16 15 28.0	+0.3
ROSC	El Rosal	35.57	355	P	P	16 15 32.0	+2.8
	comp=Z,13nm,0.6s,baz=224,slow=6.4,SNR=4.3						
ROSC	El Rosal	35.57	355	P	P	16 15 28.7	-0.6
ROSC				pmax	pmax		
	comp=Z,21nm,1.0s						
ROSC	El Rosal	35.57	355	P	P	16 15 28.7	-0.6
ROSC				IAmb	IAmb	16 15 35.0	
	comp=Z,21nm,0.9s						
TMAB	Tom-Au,PA,Br	35.87	42	*e*P	P	16 15 32.7	+1.3
NBLA	Lagarto - SE	36.87	65	*e*P	P	16 15 39.1	-0.9
NBMA	Muriti-CE	38.42	59	*e*P	P	16 15 53.0	-0.1
NBPS	Pedro II - PI	38.56	53	*e*P	P	16 15 54.4	0.0
NBAN	Anadia - AL	38.85	65	*e*P	P	16 15 56.3	-0.5
NBPB	Pedra_Branca-C	39.05	56	*e*P	P	16 15 59.2	+0.8
SDV	Santo Domingo	39.49	1	P	P	16 16 02.7	+0.6
	comp=Z,7.7nm,0.3s,baz=196,slow=5.5,SNR=6.8						
SDV	Santo Domingo	39.49	1	P	P	16 16 02.6	+0.4
MDP	Montagnes des	39.97	30	P	P	16 16 05.8	-0.2
	comp=Z,16nm,0.7s,baz=203,slow=9.3,SNR=11						
NBPA	Parau_RN	40.71	59	*e*P	P	16 16 12.8	+0.5
NBCL	Cascavel-CE	40.89	56	*e*P	P	16 16 14.4	+0.7
PCRV	Puerto La Cruz	41.28	10	P	P	16 16 17.4	+0.6
	comp=Z,18nm,0.6s,baz=178,slow=7.3,SNR=8.0						
RCBR	Riachuelo	41.56	61	P	P	16 16 19.5	+0.2
RCBR				pmax	pmax		
	comp=Z,20nm,1.0s						
RCBR	Riachuelo	41.56	61	P	P	16 16 19.4	+0.2
NBPV	Pedro Velho	41.64	62	*e*P	P	16 16 20.4	+0.5
JTS	Las Juntas de	42.90	340	P	P	16 16 30.8	+0.8
JTS				pmax	pmax		
	comp=Z,8.0nm,0.8s						
JTS	Las Juntas de	42.90	340	P	P	16 16 30.8	+0.8
TOSP	Speyside	43.16	16	P	P	16 16 32.9	+0.8
GRGR	Grenville	43.72	14	P	P	16 16 36.5	-0.2
SVB	Belmont	44.91	14	P	P	16 16 45.8	-0.3
MPOM	Morne Pois Mar	46.13	14	P	P	16 16 55.2	-0.5
FDF	Fort de France	46.35	14	P	P	16 16 56.3	-1.2
FDF				pmax	pmax		
	comp=Z,118nm,0.5s						
FDF	Fort de France	46.35	14	P	P	16 16 56.3	-1.2
TGUH	Tegucigalpa,Un	47.16	339	P	P	16 17 04.4	+0.4
TGUH				IAmb	IAmb	16 17 06.3	
	comp=Z,22nm,0.6s						
ICMP	Isla Caja de M	48.65	6	P	P	16 17 15.5	+0.2
SJG	San Juan	48.91	7	P	P	16 17 16.8	-0.5
SJG				pmax	pmax		
	comp=Z,75nm,0.9s						
SJG	San Juan	48.91	7	P	P	16 17 16.8	-0.5
BANI	BANI	48.94	1	P	P	16 17 17.7	+0.1
SDD	Santo Domingo	49.02	2	P	P	16 17 18.6	+0.5
ANWB	Willy Bob	49.09	12	P	P	16 17 16.4	-2.3
SMRT	St. Maarten	49.24	10	P	P	16 17 18.2	-1.6
DR12	Loma Pena Alta	49.36	3	P	P	16 17 20.2	-0.6
SC01	Santiago de lo	49.96	1	P	P	16 17 26.3	+0.9
GTBY	Guantanamo Bay	50.58	355	P	P	16 17 30.4	+0.5
CCIG	Comitan	50.90	334	P	P	16 17 33.9	+1.2
CCIG				IAmb	IAmb	16 17 35.0	
	comp=Z,17nm,1.0s						
GRTK	Grand Turk	52.03	0	P	P	16 17 41.6	+0.8
VNA3	Neumayer Olymp	52.11	159	P	P	16 17 41.3	+0.4
VNA1	Neumayer--Stat	52.40	158	P	P	16 17 43.6	+0.6
VNA2	Neumayer--Watz	52.74	158	P	P	16 17 45.9	+0.3
	baz=286,slow=8.6						
SNAA	Sanae	54.33	159	P	P	16 17 57.5	+0.2
SNAA	Sanae	54.33	159	P	P	16 17 57.5	+0.2
	comp=Z,21nm,0.6s,baz=278,slow=7.5,SNR=89						
SNAA				pP	pP	16 18 10.0	0.0
	comp=Z,25nm,0.6s,baz=274,slow=7.8,SNR=16						
SOR	Soroa	54.46	347	P	P	16 17 59.4	+0.8
SOR				pmax	pmax		
	comp=Z,27nm,0.8s						
SOR	Soroa	54.46	347	P	P	16 17 59.4	+0.8
SOR				IAmb	IAmb	16 18 00.2	
	comp=Z,27nm,0.8s						
ASCN	Ascension	57.76	79	P	P	16 18 22.0	-0.5
QSPA	South Pole Qui	59.41	180	P	P	16 18 34.0	+0.5
QSPA				IAmb	IAmb	16 18 47.5	
	comp=Z,27nm,0.9s						
ZAIG	Zacatecas	61.10	327	P	P	16 18 48.2	+2.5
BBSR	BB Station	63.17	6	P	P	16 18 59.8	+0.8
BRAL	Brewton	63.41	345	P	P	16 19 01.4	+0.8
NHSC	New Hope	64.12	352	P	P	16 19 06.4	+1.2
833A	Chaparral WMA,	64.59	333	P	P	16 19 10.3	+1.9
	baz=154,SNR=12						
HKT	Hockley	64.75	337	P	P	16 19 11.0	+1.7
HKT				pmax	pmax		
	comp=Z,19nm,1.1s						
HKT	Hockley	64.75	337	P	P	16 19 11.0	+1.7
HKT				IAmb	IAmb	16 19 12.3	
	comp=Z,19nm,1.1s						
GOGA	Godfrey	64.90	349	P	P	16 19 10.4	+0.1
GOGA				pmax	pmax		
	comp=Z,15nm,0.9s						
GOGA	Godfrey	64.90	349	P	P	16 19 10.4	+0.1
GOGA				IAmb	IAmb	16 19 11.0	
	comp=Z,15nm,0.8s						
LRAL	Lakeview Retre	65.20	346	P	P	16 19 12.7	+0.4
LRAL				IAmb	IAmb	16 19 13.8	
	comp=Z,29nm,1.4s						
SLBS	Sierra La Lagu	65.59	321	P	P	16 19 16.9	+1.8
SLBS				IAmb	IAmb	16 19 18.3	
	comp=Z,18nm,1.1s						
NATX	Nacogdoches	66.03	338	P	P	16 19 18.3	+0.6
435B	Jarrell	66.12	335	P	P	16 19 19.7	+1.4
	baz=156						
KMSC	Kings Mountain	66.28	351	P	P	16 19 19.2	+0.1
KMSC				IAmb	IAmb	16 19 20.7	
	comp=Z,26nm,0.8s						
KMSC	Kings Mountain	66.28	351	P	P	16 19 19.7	+0.5
	baz=171,SNR=7.8						
SBA	Scott Base	66.29	191	P	P	16 19 20.6	+1.8
SBA				pmax	pmax		
	comp=Z,11nm,1.2s						
SBA	Scott Base	66.29	191	P	P	16 19 20.6	+1.8
JCT	Junction City	66.67	333	P	P	16 19 22.7	+0.8
JCT				pmax	pmax		
	comp=Z,39nm,1.2s						
JCT	Junction City	66.67	333	P	P	16 19 22.7	+0.8
JCT				IAmb	IAmb	16 19 24.3	
	comp=Z,39nm,1.1s						
TKL	Tuckaleechee C	67.14	349	P	P	16 19 24.8	+0.1
TKL				pmax	pmax		
	comp=Z,29nm,0.7s						
TKL	Tuckaleechee C	67.14	349	P	P	16 19 24.8	+0.1
OXF	Oxford	67.17	344	P	P	16 19 24.7	-0.1
OXF				pmax	pmax		
	comp=Z,87nm,1.0s						
OXF	Oxford	67.17	344	P	P	16 19 24.7	-0.1
WHTX	Lake Whitney,	67.17	336	P	P	16 19 26.2	+1.2
WHTX				IAmb	IAmb	16 19 27.2	
	comp=Z,36nm,1.0s						
WHTX	Lake Whitney,	67.17	336	P	P	16 19 26.2	+1.2
	baz=156						
TXAR	Lajitas Array	67.25	330	P	P	16 19 27.0	+1.4
	comp=Z,7.1nm,0.8s,baz=152,slow=8.3,SNR=37						
TXAR				PKP2ab		16 47 57.1	
	comp=Z,1.3nm,1.0s,baz=222,slow=1.2,SNR=8.6						
TXAR	Lajitas Array	67.25	330	P	P	16 19 26.4	+0.8
TX31	Lajitas Ar. Si	67.25	330	P	P	16 19 26.7	+1.1
TX31				IAmb	IAmb	16 19 28.2	
	comp=Z,40nm,1.1s						
TX32	Lajitas Array	67.25	330	P	P	16 19 26.7	+1.1
PLAL	Pickwick Lake	67.31	345	P	P	16 19 25.9	+0.1
PLAL				IAmb	IAmb	16 19 27.1	
	comp=Z,27nm,1.1s						
VNDA	Vanda	67.32	191	P	P	16 19 26.4	+1.0
	comp=Z,3.5nm,1.0s,baz=124,slow=6.6,SNR=12						
VNDA	Vanda	67.32	191	P	P	16 19 26.8	+1.4
VNDA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
VNDA	Vanda	67.32	191	P	P	16 19 26.8	+1.4
TZTN	Tazewell	67.97	349	P	P	16 19 30.1	+0.2
X40A	Basin Creek Fa	68.03	341	P	P	16 19 30.6	+0.3
	baz=160						
MIAR	Mount Ida	68.30	340	P	P	16 19 32.6	+0.6
MIAR				pmax	pmax		
	comp=Z,16nm,0.9s						
MIAR	Mount Ida	68.30	340	P	P	16 19 32.6	+0.6
MIAR				IAmb	IAmb	16 19 34.5	
	comp=Z,16nm,0.9s						
WVT	Waverly	68.36	346	P	P	16 19 32.6	+0.2
WVT				pmax	pmax		
	comp=Z,61nm,1.0s						
WVT	Waverly	68.36	346	P	P	16 19 32.6	+0.2
JSRW	J. Sargeant Re	68.43	354	P	P	16 19 34.0	+1.3
W41B	Gary Mavity, V	68.51	342	P	P	16 19 34.1	+0.8
	baz=161,SNR=9.9						
ABTX	Abilene, Hawle	68.53	335	P	P	16 19 34.5	+1.0
ABTX				IAmb	IAmb	16 19 35.8	
	comp=Z,44nm,1.2s						
ABTX	Abilene, Hawle	68.53	335	P	P	16 19 34.7	+1.1
	baz=154						
LOOK	Love County	68.91	337	P	P	16 19 36.8	+1.0
LOOK				IAmb	IAmb	16 19 37.9	
	comp=Z,54nm,1.4s						
W39A	Magazine	68.96	340	P	P	16 19 37.6	+1.5
	baz=160,SNR=29						
X34A	Smith Ranch, M	69.68	337	IAmb	IAmb	16 19 42.7	
	comp=Z,39nm,1.0s						
U40A	Yellville	69.79	342	P	P	16 19 42.0	+0.7
	baz=160,SNR=27						
MNTX	Cornudas Mount	70.03	330	P	P	16 19 42.8	-0.1
MNTX				IAmb	IAmb	16 19 44.5	
	comp=Z,15nm,0.8s						
WCI	Wyandotte Cave	70.09	348	P	P	16 19 43.1	+0.1
WCI				pmax	pmax		
	comp=Z,29nm,0.8s						
WCI	Wyandotte Cave	70.09	348	P	P	16 19 43.1	+0.1
WCI				IAmb	IAmb	16 19 43.9	
	comp=Z,29nm,0.8s						
SIUC	Southern Illin	70.19	345	P	P	16 19 43.8	+0.2
TUL1	Leonard	70.22	339	P	P	16 19 44.5	+0.6
	baz=158,SNR=7.4						
P60A	Greenville	70.38	357	P	P	16 19 45.9	+1.2
	baz=176						
MGMO	Mountain Grove	70.39	342	IAmb	IAmb	16 19 46.6	
	comp=Z,25nm,0.9s						
P52A	Corning	70.80	351	P	P	16 19 47.6	+0.2
	baz=170,SNR=7.6						
MSTX	Muleshoe	70.92	333	IAmb	IAmb	16 19 50.8	
	comp=Z,34nm,0.9s						
MSTX	Muleshoe	70.92	333	P	P	16 19 49.1	+0.8
	baz=152,SNR=16						
CCM	Cathedral Cave	70.98	344	P	P	16 19 49.2	+0.8
CCM				pmax	pmax		
	comp=Z,48nm,0.7s						
CCM	Cathedral Cave	70.98	344	P	P	16 19 49.2	+0.8
O56A	Blue Knob Stat	71.04	354	IAmb	IAmb	16 19 50.6	
	comp=Z,13nm,0.7s						
O56A	Blue Knob Stat	71.04	354	P	P	16 19 50.0	+1.1
	baz=174,SNR=6.3						
BLO	Bloomington	71.04	348	IAmb	IAmb	16 19 50.5	
	comp=Z,26nm,0.7s						
P49A	Miami Univ. Ec	71.08	349	P	P	16 19 48.9	-0.1
	baz=168,SNR=7.2						
LUPA	Lehigh Univers	71.16	357	P	P	16 19 50.4	+0.9
O53A	New Philadelph	71.30	352	P	P	16 19 50.6	+0.3
	baz=171						
AMTX	Amarillo	71.31	334	IAmb	IAmb	16 19 53.3	
	comp=Z,42nm,1.3s						
SSPA	Standing Stone	71.35	355	P	P	16 19 51.6	+1.0
SSPA				IAmb	IAmb	16 19 52.6	
	comp=Z,43nm,1.4s						
BLOK	Blackwell	71.45	338	IAmb	IAmb	16 19 53.3	
	comp=Z,51nm,1.3s						
N59A	State Game Lan	71.49	357	IAmb	IAmb	16 19 54.2	
	comp=Z,30nm,1.1s						
N59A	State Game Lan	71.49	357	P	P	16 19 53.1	+1.6
	baz=176,SNR=8.4						
WSPT	Westport, CT	71.65	358	P	P	16 19 53.1	+0.7
WSPT				IAmb	IAmb	16 19 54.8	
	comp=Z,23nm,1.2s						
121A	Cookes Peak, D	71.81	328	P	P	16 19 55.8	+2.0
121A				IAmb	IAmb	16 19 57.0	
	comp=Z,29nm,0.8s						
121A	Cookes Peak, D	71.81	328	P	P	16 19 55.8	+2.0
	baz=148,SNR=20						
N54A	Moraine State	71.86	353	IAmb	IAmb	16 19 55.5	
	comp=Z,24nm,0.8s						
N54A	Moraine State	71.86	353	P	P	16 19 54.6	+0.9
	baz=172,SNR=6.8						
SFIN	Lafayette	72.32	347	IAmb	IAmb	16 19 56.9	
	comp=Z,46nm,1.4s						
L63A	North Scituate	72.32	360	P	P	16 19 57.8	+1.4
	baz=180,SNR=5.4						
M54A	Oil Creek Stat	72.37	353	IAmb	IAmb	16 19 57.8	
	comp=Z,18nm,0.7s						
M54A	Oil Creek Stat	72.37	353	P	P	16 19 57.2	+0.5

baz=173,SNR=5.3
BRYW Bryant College 72.38 360 IAmb IAmb 16 19 59.2
comp=Z,30nm,1.1s
L64A Middleborough 72.40 0 P P 16 19 57.9 +1.1
baz=180
M53A WI Miller and 72.41 353 P P 16 19 57.4 +0.4
baz=172,SNR=6.7
BNM Barren Site 72.67 330 P P 16 20 00.6 +1.6
QUA2 Belchertown 72.74 359 IAmb IAmb 16 20 01.3
comp=Z,20nm,1.2s
BINY Binghamton 72.78 356 IAmb IAmb 16 20 01.3
comp=Z,17nm,0.9s
L61B Northampton 72.92 359 P P 16 20 01.1 +1.1
baz=179,SNR=9.1
ERPA Erie 73.01 353 IAmb IAmb 16 20 02.0
comp=Z,27nm,0.8s
TUC Tucson 73.03 326 P P 16 20 02.6 +1.6
TUC pmax pmax
comp=Z,7.0nm,1.1s
TUC Tucson 73.03 326 P P 16 20 02.5 +1.6
K62A Royalston 73.13 359 P P 16 20 02.7 +1.5
baz=179
K61A Williamstown 73.15 359 P P 16 20 02.9 +1.6
baz=178
TRY Troy 73.22 358 IAmb IAmb 16 20 04.4
comp=Z,42nm,1.0s
LIC Lamto 73.27 72 eP P 16 20 02.9 +0.2
comp=Z,113nm,0.6s
ANMO Albuquerque 73.27 330 P P 16 20 03.4 +0.9
ANMO pmax pmax
comp=Z,18nm,1.4s
ANMO Albuquerque 73.27 330 P P 16 20 03.4 +0.9
TIC Toumodi 73.51 72 eP P 16 20 04.4 +0.2
KIC Kosan Boka 73.58 72 eP P 16 20 05.0 +0.4
comp=Z,115nm,0.7s
DBIC Dimbokro 73.66 72 P P 16 20 05.5 +0.5
comp=Z,63nm,0.5s,baz=231,slow=5.4,SNR=124
DBIC Dimbokro 73.66 72 P P 16 20 05.0 0.0
214A Organ Pipe Nat 73.74 324 IAmb IAmb 16 20 08.3
comp=Z,20nm,1.1s
214A Organ Pipe Nat 73.74 324 P P 16 20 06.9 +1.8
baz=144,SNR=7.9
CBKS Cedar Bluff 74.14 337 IAmb IAmb 16 20 09.6
comp=Z,49nm,1.1s
HNH Hanover 74.17 359 IAmb IAmb 16 20 10.1
comp=Z,20nm,1.0s
I60A Shoreham 74.32 359 P P 16 20 09.4 +1.2
baz=178,SNR=8.0
T25A Trinidad 74.33 333 P P 16 20 10.6 +1.9
baz=151,SNR=18
I63A Otisfield 74.51 1 P P 16 20 11.2 +2.0
baz=181,SNR=6.8
LBNH Lisbon 74.70 360 IAmb IAmb 16 20 12.9
comp=Z,20nm,0.9s
W18A Petrified Fore 74.86 328 P P 16 20 13.4 +1.7
baz=147
LONY Lake Ozonia 75.14 358 IAmb IAmb 16 20 14.9
comp=Z,20nm,1.0s
EMMW East Machias 75.25 3 P P 16 20 14.6 +1.2
EMMW IAmb IAmb 16 20 16.1
comp=Z,27nm,1.1s
KSCO Kaye Shedlock' 75.31 335 P P 16 20 15.7 +1.5
baz=153
JFWS Jewell Farm 75.39 346 P P 16 20 15.2 +0.9
JFWS pmax pmax
comp=Z,72nm,1.3s
JFWS Jewell Farm 75.39 346 P P 16 20 15.2 +0.9
SADO Sadowa 75.56 354 IAmb IAmb 16 20 16.7
comp=Z,35nm,1.1s
GLA Glamis 75.64 323 P P 16 20 17.5 +1.4
baz=142
PLVO Plevna 75.67 356 IAmb IAmb 16 20 17.9
comp=Z,23nm,1.1s
PKME Peaks-Kenny Pk 75.75 2 IAmb IAmb 16 20 18.7
comp=Z,17nm,1.0s
S22A 4UR Ranch, Cre 75.82 332 P P 16 20 19.1 +1.7
baz=149,SNR=8.4
WUAZ Wupatki 75.94 327 P P 16 20 19.8 +1.9
WUAZ IAmb IAmb 16 20 21.0
comp=Z,23nm,1.1s
IKP In-Ko-Pah, Jac 75.99 322 P P 16 20 20.1 +2.0
baz=142
SWSC Sam W. Stewart 76.06 323 P P 16 20 20.4 +2.0
baz=142
MVCO Mesa Verde 76.06 330 IAmb IAmb 16 20 21.4
comp=Z,22nm,1.1s
MAW Mawson 76.07 164 P P 16 20 18.7 +0.6
comp=Z,10nm,0.6s,baz=199,slow=8.3,SNR=19
Q24A Divide 76.21 334 P P 16 20 21.2 +1.6
baz=151,SNR=12
BAR Barrett 76.31 322 IAmb IAmb 16 20 22.8
comp=Z,16nm,1.1s
MONP2 Monument Peak 76.34 322 P P 16 20 22.1 +1.8
baz=141
BC3 Big Chuckawall 76.44 323 P P 16 20 22.5 +1.8
baz=142,SNR=12
LMN Caledonia Moun 76.55 5 P P 16 20 21.9 +1.0
LMN IAmb IAmb 16 20 23.1
comp=Z,36nm,0.8s
IRM Iron Mountain 76.68 324 P P 16 20 23.7 +1.7
baz=142,SNR=7.5
TPFO Pinon Flats 76.92 323 P P 16 20 25.5 +2.0
baz=142,SNR=6.4
PFO Pinyon Flats O 76.92 323 P P 16 20 25.6 +2.1
baz=142,SNR=6.5
BELC Belle Mtn. Jos 76.99 323 P P 16 20 25.7 +1.8
baz=142
SMCO Snowmass 77.11 332 IAmb IAmb 16 20 45.1
comp=Z,48nm,1.2s
PQI Presque Isle 77.19 2 IAmb IAmb 16 20 26.8
comp=Z,24nm,0.9s
MURC Murrieta 77.30 322 P P 16 20 27.6 +2.1
baz=141
ECSD EROS Data Cent 77.70 342 P P 16 20 28.1 +0.6
CIS Catalina Islan 77.80 321 P P 16 20 30.0 +1.7
baz=140
HEC Hector,Ludlow 77.81 324 P P 16 20 30.4 +2.0
baz=142,SNR=11
FMP Fort Macarthur 77.97 322 P P 16 20 31.4 +2.2
baz=140
BFSC Mount Baldy Ra 78.04 322 P P 16 20 31.6 +1.9
baz=141
TUQ Turquoise Moun 78.08 324 P P 16 20 31.8 +1.9
baz=142,SNR=8.9
SPMN Marine on St. 78.15 345 IAmb IAmb 16 20 30.9
comp=Z,20nm,0.8s
N23A Red Feather La 78.19 334 P P 16 20 32.1 +1.6
baz=150,SNR=6.6
COWI Conover 78.23 347 IAmb IAmb 16 20 31.9
comp=Z,18nm,1.0s
MWC Mount Wilson 78.24 322 IAmb IAmb 16 20 33.7
comp=Z,15nm,0.9s
PHWY Pilot Hill 78.36 334 IAmb IAmb 16 20 34.1
comp=Z,23nm,1.2s
O20A White River Ci 78.43 332 IAmb IAmb 16 20 34.5
comp=Z,16nm,1.0s
O20A White River Ci 78.43 332 P P 16 20 33.5 +1.6
baz=148
EDW2 Edwards Air Fo 78.71 322 P P 16 20 34.7 +1.4
baz=141,SNR=7.7
KOWA Kowa 78.84 66 P P 16 20 34.5 +0.1
KOWA IAmb IAmb 16 20 35.8
comp=Z,38nm,1.1s
LRMC Laurel Mtn Rad 79.01 323 P P 16 20 36.5 +1.5
baz=141,SNR=7.3
SUSD Miller 79.01 340 P P 16 20 35.2 +0.5
baz=156
PRN Pahroc Range 79.20 326 IAmb IAmb 16 20 39.3
comp=Z,20nm,1.0s
RWWY Rawlins 79.35 334 IAmb IAmb 16 20 39.5
comp=Z,31nm,1.1s
FURC Furnace Creek, 79.36 324 P P 16 20 38.8 +2.1
baz=142
MPMC Manual Prospec 79.36 324 P P 16 20 38.4 +1.4
baz=141,SNR=6.7
ISA Isabella, Lake 79.56 323 IAmb IAmb 16 20 41.0
comp=Z,15nm,0.9s
ISA Isabella, Lake 79.56 323 P P 16 20 39.9 +1.9
baz=140,SNR=11
TSUM Tsumeb 79.57 106 P P 16 20 38.8 +0.2
TSUM IAmb IAmb 16 20 40.3
comp=Z,16nm,0.8s
PKM Mcpherson Peak 79.68 321 P P 16 20 40.7 +1.9
baz=139,SNR=9.3
K22A Casper 79.92 334 P P 16 20 41.2 +1.3
K22A IAmb IAmb 16 20 42.5
comp=Z,28nm,1.1s
K22A Casper 79.92 334 P P 16 20 41.4 +1.5
baz=150,SNR=9.0
CWC Cottonwood Cre 79.95 323 P P 16 20 41.9 +1.8
baz=141
VES Vestal, Richgr 80.02 322 P P 16 20 42.4 +2.1
baz=140
GRAC Grapevine Rang 80.02 324 P P 16 20 42.4 +2.1
baz=141
SMMC Simmler 80.10 321 P P 16 20 43.1 +2.3
baz=139
R11A Troy Canyon, C 80.21 326 P P 16 20 43.3 +1.8
baz=143,SNR=19
RSSD Black Hills 80.32 337 P P 16 20 43.3 +1.2
RSSD pmax pmax
comp=Z,15nm,1.0s
RSSD Black Hills 80.32 337 P P 16 20 43.3 +1.2
RSSD IAmb IAmb 16 20 44.2
comp=Z,15nm,1.0s
EYMN Ely 80.46 346 IAmb IAmb 16 20 43.7
comp=Z,18nm,0.8s
BOSA Boshof 81.07 118 P P 16 20 46.7 +0.1
comp=Z,11nm,0.6s,baz=268,slow=3.9,SNR=13
BOSA Boshof 81.07 118 P P 16 20 46.5 0.0
BOSA IAmb IAmb 16 20 47.5
comp=Z,14nm,0.6s
PD31 Pinedale Array 81.19 333 P P 16 20 47.3 +0.6
PDAR Pinedale Array 81.19 333 P P 16 20 47.3 +0.6
comp=Z,2.4nm,0.6s,baz=136,slow=8.1,SNR=24
PDAR PKKPbc PKKPbc 16 39 21.6 -2.6
comp=Z,0.6nm,0.6s,baz=63,slow=0.7,SNR=4.5
NVAR Mina Array Bea 81.60 325 P P 16 20 50.4 +1.3
comp=Z,5.7nm,0.9s,baz=152,slow=6.0,SNR=26
NVAR PKKPbc PKKPbc 16 39 22.4 -0.5
comp=Z,0.6nm,0.6s,baz=303,slow=2.2,SNR=5.0
AGMN Agassiz Nation 81.76 344 P P 16 20 49.4 +0.1
AGMN IAmb IAmb 16 20 50.7
comp=Z,32nm,1.1s
MDND Maddock 82.31 341 P P 16 20 53.1 +0.9
baz=156,SNR=6.9
LOHW Long Hollow 82.31 332 P P 16 20 53.4 +0.7
YERR Yerington 82.50 324 IAmb IAmb 16 20 56.6
comp=Z,24nm,1.3s
TORD Torodi Ar. Bea 82.62 70 P P 16 20 54.8 +0.2
comp=Z,22nm,0.7s,baz=279,slow=6.5,SNR=93
TORD Torodi Ar. Bea 82.62 70 P P 16 20 54.8 +0.2
TORD IAmb IAmb 16 20 55.9
comp=Z,18nm,0.7s
PNTR Pine Nut 82.75 324 IAmb IAmb 16 20 58.0
comp=Z,20nm,0.8s
PAHR Pah Rah Range 83.12 325 IAmb IAmb 16 20 59.7
comp=Z,24nm,1.3s
LBTB Lobatse 83.15 115 P P 16 20 57.4 -0.1
LBTB pmax pmax
comp=Z,20nm,0.7s
LBTB Lobatse 83.15 115 P P 16 20 57.4 -0.1
LBTB IAmb IAmb 16 20 58.3
comp=Z,20nm,0.7s
CASY Casey 83.20 181 P P 16 20 57.2 +0.5
CASY IAmb IAmb 16 20 58.5
comp=Z,22nm,0.8s
LAO LASA Array 83.32 337 P P 16 20 58.3 +0.7
LAO IAmb IAmb 16 20 59.4
comp=Z,20nm,1.0s
ULM Lac du Bonnet 83.58 344 P P 16 20 58.5 -0.3
comp=Z,33nm,1.0s,baz=162,slow=4.4,SNR=18
ULM Lac du Bonnet 83.58 344 eP P 16 20 58.8 +0.1
ULM pmax pmax
comp=Z,33nm,1.0s
HLID Hailey 83.85 330 IAmb IAmb 16 21 03.0
comp=Z,13nm,1.1s
DLMT Dillon 84.56 332 IAmb IAmb 16 21 06.4
comp=Z,15nm,1.4s
O03E Paynes Creek 84.78 324 P P 16 21 05.6 +0.4
baz=138
WVOR Wild Horse Val 84.85 327 P P 16 21 06.5 +0.9
WVOR pmax pmax
comp=Z,6.0nm,1.1s
WVOR Wild Horse Val 84.85 327 P P 16 21 06.5 +0.9
O02D Mt. Diablo Mer 85.20 323 P P 16 21 08.3 +1.0
baz=138
MOD Modoc Plateau 85.24 326 IAmb IAmb 16 21 09.3
comp=Z,7.8nm,0.7s
SCHQ Schefferville 85.39 3 P P 16 21 07.5 -0.3
comp=Z,9.6nm,0.7s,baz=189,slow=5.4,SNR=11
SCHQ Schefferville 85.39 3 P P 16 21 07.7 -0.1
SCHQ IAmb IAmb 16 21 08.9
comp=Z,35nm,1.3s
N02D Trinity Center 85.74 324 P P 16 21 10.6 +0.6
baz=138
PLID Pearl Lake 85.75 330 IAmb IAmb 16 21 11.5
comp=Z,11nm,0.8s
M04C Macdoel 85.91 325 P P 16 21 11.1 +0.2
baz=138
M02C Callahan 86.13 324 P P 16 21 12.3 +0.4
baz=138
LTZ Lake Taylor 86.32 221 P P 16 21 14.4 +1.4
L04D Klamath Falls 86.46 325 P P 16 21 14.3 +0.7
baz=138
THZ Tophouse 86.60 222 P P 16 21 16.1 +1.6
J04D Umpqua Nationa 87.13 326 P P 16 21 17.7 +0.8
baz=138
K02D Willamette Mer 87.49 324 P P 16 21 19.9 +1.4
baz=137
I05D Terrebonne, OR 87.58 327 P P 16 21 19.6 +0.8
baz=139,SNR=7.9
I04A Tendick Farm, 87.69 326 P P 16 21 20.1 +0.8
baz=138
HAWA Hanford 88.31 329 IAmb IAmb 16 21 24.3
comp=Z,25nm,1.2s
F05D White Salmon 88.80 328 P P 16 21 26.1 +1.6
baz=139
B05A Bryant 90.87 329 P P 16 21 34.4 +0.3
baz=138
A04D Lummi Island 91.48 329 P P 16 21 37.7 +0.8
baz=138
KLNR Kaliningrad 115.39 40 i PKIKP PKPdf 16 27 09.9 -2.0
KLNR pmax pmax
comp=Z,17nm,0.9s
KIS Kishinev 118.43 50 ePP PP 16 28 50.0 +14
comp=Z,160nm,15.0s
KIS eLR LR 17 17 16.0
comp=Z,100nm,24.0s
AKASG Malin Array Be 119.63 46 PKP PKPdf 16 27 18.8 -1.4
comp=Z,0.7nm,0.5s,baz=265,slow=2.4,SNR=5.5
AKASG Malin Array Be 119.63 46 ePKIKP PKPdf 16 27 19.0 -1.2
AKASG pmax pmax
comp=Z,1.0nm,0.5s
MNK Minsk 119.67 41 i PKIKP PKPdf 16 27 19.4 -0.8
MNK i 16 28 43.2
MNK i PPP PPP 16 31 15.2
MNK i PS PS 16 38 32.4 -0.8
MNK i SS SS 16 45 06.7 +1.6
MNK i SSS SSS 16 49 32.7
MNK pmax pmax
comp=Z,5.0nm,0.6s
MNK pmax pmax
comp=N,16nm,1.2s
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK MLR MLR
comp=N,214nm,25.0s
MNK MLR MLR
comp=E,19nm,19.0s
MNK MLR MLR
comp=Z,147nm,23.0s
MNK Minsk 119.67 41 i PKP PKPdf 16 27 19.4 -0.8
comp=E,2.0nm,0.7s
MNK i PKP PKPdf 16 27 19.4 -0.8
comp=N,16nm,1.2s
MNK i PKP PKPdf 16 27 19.4 -0.8
comp=Z,5.0nm,0.6s,baz=77
MNK i PP PP 16 28 43.2 -0.7
MNK i PPP PPP 16 31 15.3
MNK i SKS SKSdf 16 34 39.1 +11
MNK i PS PS 16 38 32.4 -0.7
MNK i SS SS 16 45 06.7 +1.7
MNK i SSS SSS 16 49 32.8
MNK i LR LR 17 17 48.8
MNK i LRM MLR 17 18 24.7
comp=E,19nm,18.8s
MNK i LRM MLR 17 18 24.7
comp=N,214nm,24.6s
MNK i LRM MLR 17 18 49.5
comp=Z,147nm,23.1s
FINES FINESS Array B 120.06 33 PKKPbc PKKPbc 16 37 29.5 -1.0
comp=Z,1.2nm,0.5s,baz=93,slow=4.9,SNR=9.2
ASAR Alice Springs 120.64 207 PKP PKPdf 16 27 21.9 -1.2
comp=Z,2.5nm,0.8s,baz=131,slow=1.7,SNR=54
ASAR PKKPbc PKKPbc 16 37 28.0 +0.1
comp=Z,0.8nm,0.5s,baz=334,slow=3.1,SNR=21
ASAR Alice Springs 120.64 207 PKIKP PKPdf 16 27 22.0 -1.2
ASAR Alice Springs 120.64 207 PKPdf 16 27 21.6 -1.6
WR0 Warramunga Arr 123.69 210 PKPdf 16 27 27.9 -1.2
WB2 Warramunga Arr 123.78 209 PKPdf 16 27 28.0 -1.2
WRA Warramunga Arr 123.79 209 PKP PKPdf 16 27 28.3 -1.0
comp=Z,6.5nm,0.6s,baz=166,slow=2.0,SNR=90
WRA pPKP pPKPdf 16 27 42.0 -1.1
comp=Z,2.8nm,0.5s,baz=172,slow=1.9,SNR=7.6
WRA PKKPbc PKKPbc 16 37 16.1 +0.4
comp=Z,1.1nm,0.6s,baz=330,slow=3.4,SNR=14
OBN Obninsk 124.73 42 ePKIKP PKPdf 16 27 28.7 -1.1
OBN pmax pmax
comp=Z,6.0nm,0.4s
H11S2 WAKE ISLAND Hyl 126.30 271 T T 18 46 22.3
baz=116,slow=75,SNR=18
H11S1 WAKE ISLAND Hyl 126.30 271 T T 18 46 24.8
baz=116,slow=75,SNR=24
H11S3 WAKE ISLAND Hyl 126.32 271 T T 18 46 26.4
baz=116,slow=75,SNR=18
KLMR Klimovskoe 126.51 35 ePKIKP PKPdf 16 27 30.7 -2.3
KLMR pmax pmax
comp=Z,7.0nm,1.2s
KLMR Klimovskoe 126.51 35 ePKPdf PKPdf 16 27 30.8 -2.3
KLMR AMP 16 27 34.9
comp=Z,7.0nm,1.2s
H11N3 WAKE ISLAND Hyl 126.64 273 T T 18 46 48.9
baz=116,slow=75,SNR=9.9
H11N1 WAKE ISLAND Hyl 126.65 273 T T 18 46 54.3
baz=116,slow=75,SNR=6.3
H11N2 WAKE ISLAND Hyl 126.65 273 T T 18 46 51.6
baz=116,slow=75,SNR=12
PSA00 Pilbara Seismi 126.80 193 PKPdf PKPdf 16 27 34.0 -1.0
KIV Kislovodsk 127.32 56 ePKIKP PKPdf 16 27 30.7 -4.6
KIV pmax pmax
comp=Z,7.0nm,1.1s
FITZ Fitzroy Crossi 128.68 201 PKP PKPdf 16 27 38.1 -0.5
comp=Z,6.7nm,0.8s,baz=200,slow=4.6,SNR=16
BILL Bilibino 130.20 335 ePKIKP PKPdf 16 27 39.7 -0.2
BILL pmax pmax
comp=Z,4.0nm,1.2s
ARU Arti 136.96 39 PKP PKPdf 16 27 52.9 0.0
comp=Z,0.6nm,0.3s,baz=247,slow=6.9,SNR=3.4
ARU Arti 136.96 39 i PKIKP PKPdf 16 27 51.9 -1.1
ARU 16 30 35.2
ARU SS SS 16 48 34.7 -4.1
NRIK Noril'sk 139.60 11 i PKIKP PKPdf 16 27 57.4 -0.1
NRIK pmax pmax
comp=Z,1.0nm,1.0s
BRVK Borovoye 144.48 40 i PKIKP PKPab 16 28 05.0 0.0
BVAR Borovoye Array 144.55 40 PKP PKPdf 16 28 06.3 -0.5
comp=Z,16nm,0.5s,baz=268,slow=4.5,SNR=72
YAK Yakutsk 145.90 342 ePKP2 PKPdf 16 28 08.8 0.0
YAK pmax pmax
comp=Z,32nm,0.7s
YAK pmax pmax
comp=N,3.0nm,0.8s
YAK pmax pmax
comp=E,1.0nm,0.7s
YAK Yakutsk 145.90 342 PKPdf 16 28 08.9 +0.2
BKB Balikpapan 147.13 195 PKPdf 16 28 13.2 +0.8
KK31 Karatay Array 147.46 57 PKIKP PKPdf 16 28 11.9 -0.2
KK31 16 28 14.1
KK31 Karatay Array 147.46 57 PKPdf 16 28 11.9 -0.2
KK31 PKPbc PKPbc 16 28 14.1 -0.6
KKAR Karatay Array 147.46 57 PKIKP PKPdf 16 28 11.2 -0.9
KKAR 16 28 14.2
KKAR Karatay Array 147.46 57 PKPdf PKPdf 16 28 11.2 -0.9
KKAR PKPbc 16 28 14.2 -0.4
YSS Yuzh-Sakhalins 149.21 311 ePKP2 PKPbc 16 28 18.1 -0.9
YSS pmax pmax
comp=Z,20nm,0.9s
HYB Hyderabad 149.61 109 i PKP PKPbc 16 28 20.0 -1.0
KURBB Kurchatov Arra 150.14 40 PKPbc PKPbc 16 28 21.4 +0.2
comp=Z,5.8nm,0.7s,baz=298,slow=3.0,SNR=18
KURBB pPKPbc sPKPdf 16 28 34.5 -0.3
comp=Z,3.7nm,0.6s,baz=305,slow=3.0,SNR=4.7
KURK Kurchatov 150.14 40 PKIKP PKPbc 16 28 21.4 +0.2
KURK 16 28 34.5
JKA Kamikawa-asahi 150.15 306 PKPbc 16 28 21.4 0.0
ASAJ Asahikawa 150.15 306 PKPbc PKPbc 16 28 21.4 0.0
comp=Z,14nm,0.9s,baz=117,slow=6.6,SNR=6.1
AAK Ala-Archa 150.43 57 PKPbc PKiKP 16 28 23.4 +0.3
comp=Z,6.2nm,0.7s,baz=225,slow=2.9,SNR=10
RPSI Rantau Prapat 150.57 160 PKPbc 16 28 22.4 -0.9
RPSI PKPab PKPab 16 28 30.1 +0.1
PSI Prapat 150.67 160 PKIKP PKPbc 16 28 22.4 -1.4
PSI 16 28 30.1
ZAA0 Zalesovo Array 151.23 30 PKPdf PKPdf 16 28 17.0 -0.7
ZAA0 PKPbc 16 28 23.3 -0.3
ZAA0 sPKPdf 16 28 37.0 +0.7
ZALV Zalesovo Beam 151.23 30 PKPbc PKiKP 16 28 23.9 -0.2
comp=Z,23nm,0.6s,baz=298,slow=3.2,SNR=33
ZALV pPKPbc pPKPbc 16 28 37.6 +0.2
comp=Z,14nm,0.6s,baz=307,slow=3.4,SNR=8.5
ZALV Zalesovo Beam 151.23 30 PKIKP PKPbc 16 28 23.3 -0.3
ZALV Zalesovo Beam 151.23 30 PKPbc 16 28 23.3 -0.3
KSH Kashi 152.07 63 PKPbc PKPdf 16 28 22.0 +2.4
KSH sPKP 16 28 35.3
KSH PP PP 16 32 09.0 +0.7
BOD Bodaibo 152.75 354 ePKIKP PKPab 16 28 37.1 -0.8
BOD pmax pmax
comp=Z,21nm,0.8s
ZEA Zeya 153.42 335 ePKIKP PKPab 16 28 34.9 -6.0
ZEA pmax pmax
comp=Z,10.0nm,1.2s
MK31 Makanchi Array 154.19 44 PKIKP PKPdf 16 28 22.1 -0.3
MK31 16 28 29.8
MK31 16 28 44.0
MK31 Makanchi Array 154.19 44 PKPdf PKPdf 16 28 22.1 -0.3
MK31 PKPbc 16 28 29.8 -0.7
MK31 PKPab PKPab 16 28 44.0 -0.5
MKAR Makanchi Array 154.19 44 PKPbc PKPbc 16 28 30.1 -0.4
comp=Z,1.6nm,0.6s,baz=260,slow=2.0,SNR=10
MKAR PKPab PKPab 16 28 44.3 -0.2
comp=Z,8.8nm,0.9s,baz=292,slow=3.5,SNR=16
MKAR Makanchi Array 154.19 44 PKIKP PKPdf 16 28 21.8 -0.6
MKAR 16 28 29.6
MKAR Makanchi Array 154.19 44 PKPdf PKPdf 16 28 21.8 -0.6
MKAR PKPbc 16 28 29.6 -1.0
MKAR PKPab PKPab 16 28 44.2 -0.3
KLR Kul'dur 154.62 323 PKP PKPdf 16 28 20.8 -2.0
comp=Z,1.6nm,0.9s,baz=10,slow=4.8,SNR=4.6
MJAR Matsushiro Arr 154.76 291 PKPab PKPab 16 28 45.1 -2.2
comp=Z,5.6nm,1.1s,baz=76,slow=2.4,SNR=5.2
MJAR pPKPab sPKPab 16 29 04.3 -1.3
comp=Z,2.6nm,0.9s,baz=102,slow=1.8,SNR=2.5
PYUN Piuthan 157.55 90 eP PKPab 16 28 59.0 -0.8
KOLN Koldanda 158.00 92 eP PKPab 16 29 00.5 -1.2
comp=Z,19nm,0.6s
DANN Dangsing 158.27 90 eP PKPab 16 29 02.0 -1.0
GKN Gorkha 158.95 92 eP PKPab 16 29 04.6 -1.1
comp=Z,18nm,0.7s
WMQ Urumqi 158.98 46 ePKP PKPdf 16 28 30.4 +1.7
DMN Daman 159.25 93 eP PKPab 16 29 06.5 -0.7
KKN Kakani 159.45 93 eP PKPab 16 29 07.2 -0.8
PKIN Phulchoki 159.50 93 eP PKPab 16 29 07.3 -1.0
PKI Pulchoki 159.50 93 eP PKPab 16 29 07.4 -1.0
KSRS Korea Array 162.70 298 PKPab PKPab 16 29 23.4 +1.9
comp=Z,2.1nm,0.9s,baz=69,slow=4.4,SNR=4.3
KSRS pPKPab pPKPab 16 29 36.6 +1.7
comp=Z,2.2nm,0.9s,baz=96,slow=7.7,SNR=4.3
SONM Songino Array 162.92 5 PKPab PKPab 16 29 22.9 +0.7
comp=Z,1.7nm,0.7s,baz=334,slow=4.8,SNR=8.8
SONM pPKPab pPKPab 16 29 37.3 +1.7
comp=Z,1.1nm,0.8s,baz=339,slow=7.9,SNR=3.6
SONM PP PP 16 33 07.6 +1.1
comp=Z,1.9nm,1.0s,baz=16,slow=2.1,SNR=7.8
ULN Ulaanbaatar 162.94 4 PKP2 PKPab 16 29 23.1 +0.8
ULN Ulaanbaatar 162.94 4 PKPab PKPab 16 29 23.1 +0.8
CMAR Chiang Mai Arr 164.89 142 PKP PKPdf 16 28 34.3 -1.1
comp=Z,1.1nm,1.0s,baz=277,slow=2.8,SNR=6.3
CMAR pPKP pPKPdf 16 28 49.0 -0.4
comp=Z,1.4nm,1.0s,baz=242,slow=2.0,SNR=2.4
CMAR PKPab PKPab 16 29 29.8 -1.8
comp=Z,1.9nm,0.8s,baz=219,slow=3.9,SNR=7.7
CMAR Chiang Mai Arr 164.89 142 PKPdf PKPdf 16 28 35.1 -0.3
CMAR PKPab PKPab 16 29 29.8 -1.8
CHTO Chiang Mai 165.19 142 PKP2 PKPab 16 29 31.6 -1.3
CHTO Chiang Mai 165.19 142 PKPab PKPab 16 29 31.6 -1.3
GTA Gaotai 168.82 38 PKP PKPdf 16 28 38.8 +0.9
GTA sPKP 16 28 53.0
GTA PKPab PKPab 16 29 49.3 +0.7

HHC	**Hu-ho-hao-te**	**169.71**	**347**	*e*PKP	**PKPdf**	**16 28 33.5**	**-4.9**
HHC				LR	LR		
	comp=Z,96nm,17.6s						
HHC				LR	LR		
	comp=Z,110nm,20.0s						
HHC				LR	LR		
	comp=Z,120nm,18.4s						
BTO	**Baotou**	**170.17**	**354**	*e*PKP	**PKPdf**	**16 28 36.8**	**-1.8**
NJ2	**Nanjing**	**171.15**	**281**	*e*PKP	**PKPdf**	**16 28 41.0**	**+1.7**
XAN	**Xi'an**	**176.78**	**355**	PKP	**PKPdf**	**16 28 40.8**	**-0.5**
XAN				PKPab	**PKPab**	**16 30 24.0**	**+0.2**

GUC **17** *16:19:48.7±0.8,31°.89S×71°.93W,h45km±8km,ML4.1*
NEIC **17** *16:19:50.3±1.5,31°.95S±0°.08×71°.7W±0°.1,h28km±5km, mb4.4/9,ML4.1(GUC),Error ellipse: s-maj=16.5km s-min=11.5km az=79.0*
IDC **17** *16:19:50.6±0.8,31°.88S×71°.88W,h30km±5km,mb4.0/8, mb1 4.1/11,mb1mx3.9/30,mbtmp4.1/11,ML4.1/3,Error ellipse: s-maj=30.1km s-min=17.3km az=90.0*
ISC 17 16:19:50.3±1.0,31°.88S±0°.04×71°.93W±0°.07,h32km±6km, n55,σ1§12/55,mb4.3/10,1C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.87**	**142**	*e*P	**Pn**	**16 20 05.5**	**-0.7**
VA06				*e*S	**Sn**	**16 20 18.1**	**+0.2**
VA06				IAML		16 20 23.2	
	comp=E,20μm,0.6s						
VA01	**Torpederas**	**1.17**	**168**	*e*P	**Pn**	**16 20 09.1**	**-1.3**
VA01				*e*S	**Sn**	**16 20 24.5**	**-0.8**
ROCH	**El Roble**	**1.34**	**145**	*e*P	**Pn**	**16 20 13.1**	**+0.1**
ROCH				*e*S	**Sb**	**16 20 32.0**	**+0.1**
ROCH				IAML		16 20 39.1	
	comp=N,4μm,0.4s						
VA03	**San Esteban**	**1.46**	**128**	*e*P	**Pn**	**16 20 15.1**	**+0.5**
VA03				*i* S	**Sb**	**16 20 34.2**	**-1.0**
VA03				IAML		16 20 42.4	
	comp=E,5μm,0.5s						
CO03	**El Pedregal**	**1.48**	**46**	*e*P	**Pn**	**16 20 15.1**	**+0.3**
CO03				*i* S	**Sb**	**16 20 35.0**	**-0.7**
CO03				IAML		16 20 37.3	
	comp=E,6μm,0.5s						
VA05	**Santo Domingo**	**1.79**	**172**	*e*P	**Pn**	**16 20 18.0**	**-1.1**
VA05				*i* S	**Sb**	**16 20 47.2**	**+2.6**
VA05				IAML		16 20 53.8	
	comp=E,3μm,0.5s						
MT05	**Renca**	**1.81**	**147**	*e*P	**Pn**	**16 20 19.9**	**+0.5**
MT05				*e*S	**Sb**	**16 20 45.5**	**+0.3**
MT05				IAML		16 20 52.1	
	comp=E,4μm,0.3s						
MT09	**Talagante**	**2.05**	**158**	*e*P	**Pn**	**16 20 23.5**	**+0.7**
MT09				*e*S	**Sb**	**16 20 49.8**	**-2.4**
MT09				IAML		16 21 00.2	
	comp=N,2μm,0.6s						
MT01	**Popeta**	**2.06**	**164**	*e*P	**Pn**	**16 20 22.4**	**-0.3**
MT01				*i* S	**Sb**	**16 20 53.0**	**+0.7**
MT01				IAML		16 21 02.2	
	comp=E,1μm,0.5s						
BO01	**Tunca**	**2.61**	**165**	*e*P	**Pn**	**16 20 30.2**	**0.0**
BO01				*e*S	**Sn**	**16 21 02.7**	**+1.9**
BO01				IAML		16 21 22.2	
	comp=E,450nm,0.5s						
BO03	**Pichilemu**	**2.61**	**181⇑**	*i*P	**Pn**	**16 20 28.9**	**-1.4**
BO03				*i* S	**Sn**	**16 20 58.4**	**-2.6**
BO02	**Sierra Bellavi**	**3.06**	**162**		**Pn**	**16 20 34.6**	**-1.9**
H03N1	**Juan Fernandez**	**6.10**	**253**	T	T	16 27 47.5	
	baz=82,slow=73,SNR=122						
H03N3	**Juan Fernandez**	**6.11**	**253**	T	T	16 27 46.0	
	baz=82,slow=73,SNR=105						
H03N2	**Juan Fernandez**	**6.11**	**253**	T	T	16 27 45.4	
	baz=82,slow=73,SNR=25						
H03S3	**Juan Fernandez**	**6.19**	**250**	T	T	16 28 07.6	
	baz=84,slow=74,SNR=7.1						
H03S1	**Juan Fernandez**	**6.19**	**250**	T	T	16 28 05.7	
	baz=84,slow=74,SNR=6.1						
H03S2	**Juan Fernandez**	**6.21**	**250**	T	T	16 28 10.1	
	baz=84,slow=74,SNR=9.2						
PLCA	**Paso Flores**	**8.91**	**173**	Pn	**Pn**	**16 21 56.1**	**-0.7**
	comp=E,1.0nm,0.3s,baz=334,slow=13,SNR=16						
PLCA	**Paso Flores**	**8.91**	**173**		**Pn**	**16 21 55.9**	**-1.0**
TRQA	**Tornquist**	**10.22**	**130**	Pn	**Pn**	**16 22 11.4**	**-3.4**
LPAZ	**La Paz**	**15.90**	**13**	Pn	**Pn**	**16 23 31.2**	**-1.1**
	comp=E,0.1nm,0.3s,baz=225,slow=10.0,SNR=1.5						
LPAZ	**La Paz**	**15.90**	**13**		**Pn**	**16 23 31.6**	**-0.8**
SIV	**San Ignacio**	**18.64**	**35**	P	**P**	**16 24 04.7**	**-0.9**
	comp=E,0.3nm,0.3s,baz=206,slow=9.9,SNR=3.5						
VNA3	**Neumayer Olymp**	**51.29**	**158**	P	**P**	**16 28 51.7**	**+0.8**
VNA2	**Neumayer--Watz**	**51.93**	**158**	P	**P**	**16 28 56.4**	**+0.7**
	baz=285,slow=8.9						
SNAA	**Sanae**	**53.52**	**158**	P	**P**	**16 29 08.3**	**+0.8**
SNAA	**Sanae**	**53.52**	**158**	P	**P**	**16 29 07.9**	**+0.5**
	comp=E,3.9nm,0.8s,baz=274,slow=8.2,SNR=25						
SNAA	**Sanae**	**53.52**	**158**	P	**P**	**16 29 07.2**	**-0.2**
SNAA				IAmb	IAmb	16 29 09.1	
	comp=Z,6.1nm,1.0s						
QSPA	**South Pole Qui**	**58.35**	**180**	P	**P**	**16 29 43.1**	**+0.8**
	comp=Z,3.2nm,0.8s,baz=142,slow=1.5,SNR=14						
QSPA	**South Pole Qui**	**58.35**	**180**	P	**P**	**16 29 43.0**	**+0.8**
QSPA				IAmb	IAmb	16 29 44.1	
	comp=Z,5.3nm,1.0s						
VNDA	**Vanda**	**66.20**	**191**	P	**P**	**16 30 34.8**	**+0.4**
VNDA				IAmb	IAmb	16 31 03.7	
	comp=Z,3.6nm,1.5s						
TXAR	**Lajitas Array**	**67.94**	**330**	P	**P**	**16 30 46.5**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=158,slow=9.7,SNR=6.2						
TXAR	**Lajitas Array**	**67.94**	**330**	P	**P**	**16 30 46.4**	**+0.2**
DBIC	**Dimbokro**	**74.42**	**72**	P	**P**	**16 31 25.5**	**-0.1**
	comp=Z,3.1nm,0.7s,baz=222,slow=5.8,SNR=3.7						
DBIC	**Dimbokro**	**74.42**	**72**	P	**P**	**16 31 24.0**	**-1.6**
MAW	**Mawson**	**75.19**	**164**	P	**P**	**16 31 29.0**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=180,slow=8.1,SNR=3.8						
MAW	**Mawson**	**75.19**	**164**	IAmb	IAmb	16 31 30.8	
	comp=Z,0.8nm,0.9s						
KOWA	**Kowa**	**79.68**	**66**	P	**P**	**16 31 55.3**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=208,slow=3.4,SNR=6.1						
KOWA	**Kowa**	**79.68**	**66**	IAmb	IAmb	16 31 56.6	
	comp=Z,3.5nm,0.8s						
PDAR	**Pinedale Array**	**81.92**	**333**	pP	pP	16 32 16.3	+0.4
	comp=Z,0.3nm,0.7s,baz=130,slow=8.4,SNR=3.0						
NVAR	**Mina Array Bea**	**82.20**	**325**	P	**P**	**16 32 09.5**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=198,slow=4.7,SNR=3.0						
NVAR				pP	**pP**	**16 32 18.6**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=156,slow=6.1,SNR=4.8						
TORD	**Torodi Ar. Bea**	**83.40**	**70**	P	**P**	**16 32 15.2**	**+0.4**
	comp=Z,2.7nm,0.6s,baz=268,slow=4.4,SNR=16						
TORD	**Torodi Ar. Bea**	**83.40**	**70**	IAmb	IAmb	16 32 15.4	
	comp=Z,3.3nm,0.9s						
WRA	**Warramunga Arr**	**122.66**	**210**	PKP	**PKPdf**	**16 38 42.4**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=144,slow=1.6,SNR=1.7						
WRA				pPKP	**pPKPdf**	**16 38 52.5**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=166,slow=2.0,SNR=2.8						
WRA	**Warramunga Arr**	**122.66**	**210**	PKPdf	**PKPdf**	**16 38 41.9**	**-1.5**
H11S2	**WAKE ISLAND Hyl**	**25.87**	**271**	T	T	18 57 35.4	
	baz=116,slow=75,SNR=10.0						
H11S1	**WAKE ISLAND Hyl**	**25.88**	**271**	T	T	18 57 36.5	
	baz=116,slow=75,SNR=7.0						
H11S3	**WAKE ISLAND Hyl**	**25.89**	**271**	T	T	18 57 37.1	
	baz=116,slow=75,SNR=6.5						
BVAR	**Borovoye Array**	**145.64**	**41**	PKPbc	**PKPab**	**16 39 26.2**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=250,slow=4.3,SNR=9.9						
BVAR				pPKPbc	pPKPab	16 39 35.4	+0.3
	comp=Z,1.4nm,0.6s,baz=218,slow=9.4,SNR=5.8						
KURBB	**Kurchatov Arra**	**151.23**	**41**	PKPbc	**PKiKP**	**16 39 40.9**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=292,slow=3.0,SNR=20						
KURK	**Kurchatov**	**151.24**	**41**		**PKiKP**	**16 39 40.9**	**+0.3**
AAK	**Ala-Archa**	**151.37**	**58**	PKPbc	**PKPbc**	**16 39 41.0**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=89,slow=0.8,SNR=5.0						
ZALV	**Zalesovo Beam**	**152.37**	**30**	PKPbc	**PKPbc**	**16 39 42.4**	**-0.1**
	comp=Z,4.2nm,0.7s,baz=320,slow=5.7,SNR=10						
ZALV	**Zalesovo Beam**	**152.37**	**30**		**PKPbc**	**16 39 42.2**	**-0.3**

IDC **17** *16:32:34.9±0.8,31°.59S×71°.73W,h0km,mb4.6/7, mb1 4.4/12,mb1mx4.1/31,mbtmp4.3/12,ML3.9/5,Error ellipse: s-maj=27.8km s-min=20.2km az=103.0*
GUC **17** *16:32:37.8±0.8,31°.56S×71°.76W,h49km±7km,ML4.5*
NEIC **17** *16:32:37,31°.57S×71°.93W,h31km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.84; $M_{\theta\theta}$0.07; $M_{\phi\phi}$-1.91; $M_{r\theta}$0.29; $M_{\theta\phi}$0.18; $M_{\phi r}$-0.76; Fault plane solution: M_o2.05000×10^{15} NP1:ϕ_s168.38000°, δ56.57000°, λ82.62000°. NP2:ϕ_s42.60000°, δ34.15000°, λ101.01000°. Principal axes: T 2.0199, Plg77.0000°,*

Azm54.0000°; N 0.0637, Plg6.0000°, Azm172.0000°; P -2.0836, Plg11.0000°, Azm264.0000°;
NEIC **17** *16:32:38.3±2.0,31°.56S±0°.03×71°.95W±0°.08,h25km±4km, mb4.5/15,Mwr4.1/32,ML4.5(GUC) Error ellipse: s-maj=10.1km s-min=3.8km az=100.0*
ISC 17 16:32:36.6±1.3,31°.59S±0°.02×71°.85W±0°.06,h14km±8km, n100,σ1§15/100,mb4.5/13,2C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.93**	**12**	*e*P	**Pb**	**16 32 55.1**	**+0.5**
CO06				*i* S	**Sg**	**16 33 07.8**	**+1.0**
CO06	**Fray Jorge**	**0.93**	**12**		**Pb**	**16 32 55.1**	**+0.5**
CO06				Sg	**Sg**	**16 33 07.3**	**+0.5**
VA06	**Catapilco**	**1.08**	**154**	*e*P	**Pg**	**16 32 57.9**	**+0.4**
VA06				*i* S	**Sn**	**16 33 12.0**	**-0.1**
VA06				IAML		16 33 13.7	
	comp=E,22μm,0.6s						
CO03	**El Pedregal**	**1.25**	**53⇓**	*i*P	**Pb**	**16 33 00.2**	**+0.2**
CO03				*e*S	**Sb**	**16 33 15.8**	**-0.1**
CO03				IAML		16 33 20.8	
	comp=E,10μm,0.4s						
CO03	**El Pedregal**	**1.25**	**53**	Pn	**Pb**	**16 33 00.4**	**+0.4**
CO03					**Sn**	**16 33 16.0**	**-0.4**
VA01	**Torpederas**	**1.44**	**173**	*e*P	**Pb**	**16 33 03.2**	**-0.1**
VA01				*e*S	**Sn**	**16 33 20.2**	**-0.9**
VA01	**Torpederas**	**1.44**	**173**		**Pn**	**16 33 03.1**	**+0.7**
ROCH	**El Roble**	**1.55**	**153**	*e*P	**Pn**	**16 33 05.0**	**+0.8**
ROCH				*i* S	**Sb**	**16 33 26.1**	**+1.1**
ROCH				IAML		16 33 30.8	
	comp=N,7μm,0.2s						
VA03	**San Esteban**	**1.61**	**137⇑**	*i*P	**Pb**	**16 33 06.5**	**+0.2**
VA03				*e*S	**Sb**	**16 33 26.8**	**+0.4**
VA03				IAML		16 33 32.3	
	comp=E,14μm,0.8s						
VA03	**San Esteban**	**1.61**	**137**		**Pb**	**16 33 06.5**	**+0.2**
VA03				Sn	**Sb**	**16 33 27.4**	**+1.0**
GO04	**Tololo Observa**	**1.68**	**33**	*e*P	**Pn**	**16 33 06.3**	**+0.5**
GO04				*i* S	**Sb**	**16 33 28.4**	**-0.2**
GO04	**Tololo Observa**	**1.68**	**33**	Pn	**Pb**	**16 33 07.4**	**-0.1**
GO04				Sn	**Sb**	**16 33 28.8**	**+0.3**
CO05	**La Serena**	**1.75**	**18**	IAML		16 33 41.2	
	comp=N,7μm,0.1s						
CO05	**La Serena**	**1.75**	**18**	Pn	**Pb**	**16 33 08.3**	**-0.2**
MT05	**Renca**	**2.03**	**153**	*e*P	**Pn**	**16 33 11.9**	**+1.4**
MT05				*i* S	**Sb**	**16 33 38.0**	**-0.6**
MT05				IAML		16 33 45.4	
	comp=E,5μm,0.4s						
MT05	**Renca**	**2.03**	**153**	Pn	**Pn**	**16 33 11.9**	**+1.4**
VA05	**Santo Domingo**	**2.07**	**175**	*e*P	**Pn**	**16 33 12.1**	**+1.0**
VA05				*e*S	**Sb**	**16 33 39.2**	**-0.5**
VA05				IAML		16 33 48.8	
	comp=E,4μm,0.5s						
VA05	**Santo Domingo**	**2.07**	**175**		**Pn**	**16 33 12.1**	**+1.0**
MT09	**Talagante**	**2.30**	**162⇑**	*e*P	**Pn**	**16 33 16.1**	**+1.7**
MT09				*e*S	**Sn**	**16 33 44.2**	**+1.7**
MT09				IAML		16 33 54.7	
	comp=N,2μm,0.4s						
MT09	**Talagante**	**2.30**	**162**		**Pn**	**16 33 15.9**	**+1.6**
MT01	**Popeta**	**2.33**	**168**	*e*P	**Pn**	**16 33 15.7**	**+1.1**
MT01				*e*S	**Sn**	**16 33 44.6**	**+1.6**
MT01	**Popeta**	**2.33**	**168**		**Pn**	**16 33 15.6**	**+1.1**
LMEL	**Las Melosas**	**2.65**	**149**	*e*P	**Pn**	**16 33 21.3**	**+2.2**
ZON	**Zonda**	**2.71**	**90**		**Pb**	**16 33 23.4**	**-1.5**
LCO	**Las Campanas**	**2.75**	**21**	Pn	**Pn**	**16 33 21.2**	**+0.5**
BO01	**Tunca**	**2.87**	**167**	*e*P	**Pb**	**16 33 25.4**	**-2.2**
BO01				*e*S	**Sn**	**16 33 58.1**	**+1.7**
BO01	**Tunca**	**2.87**	**167**		**Pn**	**16 33 23.5**	**+1.5**
GO05	**Huala**	**3.41**	**181**		**Pn**	**16 33 29.4**	**-0.1**
AC04	**Llanos de Chal**	**3.44**	**12**	*e*P	**Pn**	**16 33 30.5**	**+0.6**
AC04	**Llanos de Chal**	**3.44**	**12**		**Pn**	**16 33 30.8**	**+1.0**
ML02	**Panimavida**	**4.18**	**175**	Pn	**Pn**	**16 33 40.2**	**+0.2**
GO03	**Copiap**	**4.22**	**20**		**Pn**	**16 33 42.5**	**+1.8**
AC06	**Mina Casimiro**	**4.41**	**18**	Pn	**Pn**	**16 33 44.4**	**+1.1**
AC02	**Maricunga**	**5.30**	**27**	Pn	**Pn**	**16 33 56.8**	**+0.9**
H03N1	**Juan Fernandez**	**6.24**	**251**	T	T	16 40 53.1	
	baz=79,slow=72,SNR=587						
H03N3	**Juan Fernandez**	**6.26**	**251**	T	T	16 40 51.9	
	baz=79,slow=72,SNR=452						
H03N2	**Juan Fernandez**	**6.26**	**251**	T	T	16 40 53.2	
	baz=79,slow=72,SNR=457						
H03S3	**Juan Fernandez**	**6.35**	**248**	T	T	16 41 09.7	
	baz=84,slow=75,SNR=11						
H03S1	**Juan Fernandez**	**6.36**	**247**	T	T	16 41 04.2	
	baz=84,slow=75,SNR=9.7						
H03S2	**Juan Fernandez**	**6.37**	**248**	T	T	16 41 06.8	
	baz=84,slow=75,SNR=13						
PB14	**IPOC Station P**	**7.05**	**11**		**Pn**	**16 34 18.9**	**-0.9**
LC01	**Cunco**	**7.29**	**180**		**Pn**	**16 34 22.7**	**-0.1**
PB10	**IPOC Station P**	**8.12**	**8**		**Pn**	**16 34 32.9**	**-1.4**
PB15	**IPOC Station P**	**8.61**	**15**		**Pn**	**16 34 41.0**	**-0.1**
PB06	**IPOC Station P**	**9.08**	**13**	Pn	**Pn**	**16 34 46.0**	**-1.5**
PLCA	**Paso Flores**	**9.19**	**174**	Pn	**Pn**	**16 34 50.0**	**+1.2**
	comp=N,0.4nm,0.3s,baz=337,slow=15,SNR=4.9						
PLCA	**Paso Flores**	**9.19**	**174**	Pn	**Pn**	**16 34 48.7**	**-0.1**
LL04	**Puerto Octay**	**9.31**	**183**	Pn	**Pn**	**16 34 50.4**	**-0.1**
LVC	**Limon Verde**	**9.32**	**17**	Pn	**Pn**	**16 34 49.5**	**-1.5**
	comp=N,0.4nm,0.3s,baz=210,slow=16,SNR=1.4						
LVC	**Limon Verde**	**9.32**	**17**		**Pn**	**16 34 51.6**	**+0.6**
PB04	**IPOC Station P**	**9.34**	**10**	Pn	**Pn**	**16 34 51.2**	**+0.1**
PB07	**IPOC Station P**	**9.98**	**11**	Pn	**Pn**	**16 34 57.9**	**-2.0**
PB09	**IPOC Station P**	**10.03**	**14**	Pn	**Pn**	**16 34 59.3**	**-1.2**
TRQA	**Tornquist**	**10.36**	**131**	Pn	**Pn**	**16 35 03.8**	**-1.2**
PB01	**IPOC Station P**	**10.71**	**12**	Pn	**Pn**	**16 35 06.0**	**-3.8**
TA01	**Diego Aracena**	**11.08**	**9**	Pn	**Pn**	**16 35 13.6**	**-1.2**
PB08	**IPOC Station P**	**11.65**	**13**	Pn	**Pn**	**16 35 19.6**	**-3.4**
PB11	**IPOC Station P**	**11.94**	**10**	Pn	**Pn**	16 35 21.0	-5.7
PSGCX	**Pisagua**	**12.04**	**8**	Pn	**Pn**	16 35 23.3	-4.7
ITQB	**Itaqui**	**13.25**	**86**	Pn	**Pn**	**16 35 43.9**	**-0.6**
CPUP	**Villa Florida**	**13.75**	**71**	Pn	**Pn**	**16 35 50.8**	**-0.4**
	comp=N,0.2nm,0.3s,baz=249,slow=10,SNR=3.5						
CPUP	**Villa Florida**	**13.75**	**71**	Pn	**Pn**	16 35 46.2	-5.0
PLTB	**Pedras Altas**	**15.54**	**95**	Pn	**Pn**	**16 36 12.3**	**-3.2**
LPAZ	**La Paz**	**15.60**	**13**	Pn	**Pn**	**16 36 18.0**	**+1.1**
	comp=N,0.3nm,0.3s,baz=171,slow=8.0,SNR=8.1						
LPAZ	**La Paz**	**15.60**	**13**	P	**Pn**	**16 36 15.3**	**-1.6**
SIV	**San Ignacio**	**18.37**	**35**	P	**P**	**16 36 50.8**	**-0.4**
	comp=N,0.2nm,0.3s,baz=232,slow=14,SNR=6.6						
BDFB	**Brasilia**	**26.91**	**59**	P	**P**	**16 38 16.7**	**-0.9**
	comp=N,10nm,0.9s,baz=240,slow=7.2,SNR=7.8						
BDFB	**Brasilia**	**26.91**	**59**	P	**P**	**16 38 16.6**	**-1.1**
BDFB				IAmb	IAmb	16 38 29.8	
	comp=Z,10nm,1.0s						
RUSC	**La Rusia**	**37.29**	**358**	P	**P**	**16 39 47.0**	**-2.0**
RUSC				IAmb	IAmb	16 39 50.9	
	comp=Z,12nm,1.2s						
CAP2	**Capurgana**	**40.36**	**352**	P	**P**	**16 40 13.3**	**-0.8**
MDP	**Montagnes des**	**40.83**	**30**	P	**P**	**16 40 18.2**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=225,slow=8.6,SNR=3.5						
VNA3	**Neumayer Olymp**	**51.53**	**159**	P	**P**	**16 41 42.6**	**+0.9**
VNA1	**Neumayer--Stat**	**51.83**	**158**	P	**P**	**16 41 45.5**	**+1.6**
VNA2	**Neumayer--Watz**	**52.17**	**158**	P	**P**	**16 41 47.1**	**+0.6**
	baz=282,slow=8.5						
SNAA	**Sanae**	**53.76**	**159**	P	**P**	**16 41 58.9**	**+0.7**
SNAA	**Sanae**	**53.76**	**159**	P	**P**	**16 41 58.5**	**+0.3**
SNAA				IAmb	IAmb	16 41 59.9	
	comp=Z,4.4nm,0.9s						
QSPA	**South Pole Qui**	**58.64**	**180**	P	**P**	**16 42 34.0**	**+0.7**
	comp=Z,2.3nm,0.8s,baz=163,slow=3.9,SNR=3.9						
QSPA	**South Pole Qui**	**58.64**	**180**	P	**P**	**16 42 33.9**	**+0.7**
QSPA				IAmb	IAmb	16 43 05.0	
	comp=Z,9.4nm,1.4s						
TXAR	**Lajitas Array**	**67.72**	**330**	P	**P**	**16 43 34.7**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=143,slow=9.1,SNR=2.9						
LIC	**Lamto**	**73.87**	**72**	*e*P	**P**	**16 44 11.1**	**-0.4**
	comp=Z,44nm,1.0s						
TIC	**Toumodi**	**74.12**	**72**	*e*P	**P**	**16 44 12.5**	**-0.5**
KIC	**Kosan Boka**	**74.18**	**72**	*e*P	**P**	**16 44 12.9**	**-0.4**
	comp=Z,16nm,0.7s						
DBIC	**Dimbokro**	**74.27**	**72**	P	**P**	**16 44 13.8**	**0.0**
	comp=Z,10nm,0.7s,baz=239,slow=4.5,SNR=14						
DBIC	**Dimbokro**	**74.27**	**72**	P	**P**	**16 44 13.5**	**-0.3**
KOWA	**Kowa**	**79.50**	**66**	P	**P**	**16 44 43.1**	**-0.2**
KOWA				IAmb	IAmb	16 44 44.1	
	comp=Z,8.0nm,0.7s						
BOSA	**Boshof**	**81.05**	**118**	P	**P**	**16 44 52.2**	**+0.5**
	comp=Z,3.8nm,0.8s,baz=300,slow=4.8,SNR=5.5						
NVAR	**Mina Array Bea**	**82.00**	**325**	P	**P**	**16 44 58.1**	**+1.7**
	comp=Z,1.1nm,0.8s,baz=167,slow=7.4,SNR=5.5						
TORD	**Torodi Ar. Bea**	**83.24**	**70**	P	**P**	**16 45 03.1**	**0.0**
	comp=Z,9.1nm,0.7s,baz=261,slow=4.7,SNR=49						
TORD	**Torodi Ar. Bea**	**83.24**	**70**	P	**P**	**16 45 02.5**	**-0.6**

WRA	**Warramunga Arr**	**122.94**	**210**	PKP	**PKPdf**	**16 51 32.3**	**-0.9**
	comp=Z,0.4nm,0.9s,baz=159,slow=2.2,SNR=1.7						
H11S2	**WAKE ISLAND Hyl**	**25.93**	**271**	T	T	19 10 33.5	
	baz=117,slow=75,SNR=37						
H11S1	**WAKE ISLAND Hyl**	**25.94**	**271**	T	T	19 10 32.5	
	baz=117,slow=75,SNR=24						
H11S3	**WAKE ISLAND Hyl**	**25.95**	**271**	T	T	19 10 34.1	
	baz=117,slow=75,SNR=30						
H11N3	**WAKE ISLAND Hyl**	**26.28**	**272**	T	T	19 10 54.4	
	baz=116,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hyl**	**26.30**	**272**	T	T	19 10 58.4	
	baz=116,slow=75,SNR=5.7						
H11N2	**WAKE ISLAND Hyl**	**26.30**	**272**	T	T	19 10 58.5	
	baz=116,slow=75,SNR=31						
ZALV	**Zalesovo Beam**	**152.09**	**30**	PKPbc	**PKPbc**	**16 52 31.2**	**+0.1**
	comp=Z,13nm,0.5s,baz=297,slow=3.1,SNR=40						
ZALV	**Zalesovo Beam**	**152.09**	**30**		**PKPbc**	**16 52 31.0**	**-0.1**
KSH	**Kashi**	**152.76**	**64**	PKPbc	**PKiKP**	**16 52 34.0**	**+0.5**
MKAR	**Makanchi Array**	**155.01**	**45**	PKPbc		16 52 36.2	
	comp=Z,0.9nm,0.7s,baz=298,slow=3.3,SNR=5.6						
MKAR				PKPab	**PKPab**	**16 52 53.4**	**0.0**
	comp=Z,0.9nm,0.7s,baz=291,slow=3.8,SNR=4.5						

IDC **17** *16:43:17.8±1.0,24°.41N×124°.08E,h0km,mb3.7/7, mb1 3.7/8,mb1mx3.5/46,mbtmp3.7/8,ML3.2/1,Error ellipse: s-maj=34.6km s-min=20.1km az=67.0*
JMA **17** *16:43:24.6±0.1,24°.38N×124°.12E,h43km±1km,M3.6*
JMA Felt I J1.
ISC 17 16:43:24.1±0.8,24°.38N±0°.08×124°.09E±0°.04,h43km±6km, n20,σ1§62/33,mb3.5/7,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIJ	**Ishigaki jima**	**0.05**	**102**	P	**Pn**	**16 43 31.1**	**+0.2**
JIJ				S	**Sn**	**16 43 36.1**	**+0.4**
JKRS	**Kuro-shima**	**0.15**	**207**	P	**Pn**	**16 43 32.0**	**+0.6**
JKRS				S	**Sn**	**16 43 37.3**	**+0.9**
JISG	**Ishigakijimahi**	**0.29**	**44**	P	**Pn**	**16 43 32.8**	**+0.2**
JISG				S	**Sn**	**16 43 38.2**	**-0.3**
IRIF	**Iriomote-Funau**	**0.33**	**263**	P	**Pn**	**16 43 33.7**	**+0.8**
IRIF				S	**Sn**	**16 43 39.8**	**+0.7**
HATJ	**Hateruma jima**	**0.41**	**219**	P	**Pn**	**16 43 34.3**	**+0.5**
HATJ				S	**Sn**	**16 43 41.9**	**+1.3**
JTJ	**Tarama**	**0.62**	**65**	P	**Pn**	**16 43 36.7**	**+0.2**
JTJ				S	**Sn**	**16 43 45.1**	**-0.3**
YOJ	**Yonaguni jima**	**0.98**	**275**	P	**Pn**	**16 43 42.4**	**+0.9**
YOJ				S	**Sn**	**16 43 55.5**	**+1.3**
JYNG	**Yonagunijimaku**	**1.04**	**274**	P	**Pn**	**16 43 43.3**	**+1.0**
JYNG				S	**Sn**	**16 43 56.8**	**+1.1**
JIRB	**Irabujima**	**1.09**	**65**	P	**Pn**	**16 43 42.9**	**0.0**
JIRB				*e*S	**Sn**	**16 43 57.0**	**+0.2**
JMJ2	**Miyako jima3**	**1.19**	**72**	P	**Pn**	**16 43 44.9**	**+0.6**
JMJ2				S	**Sn**	**16 44 00.9**	**+1.7**
JIKM	**Ikemajima**	**1.19**	**62**	P	**Pn**	**16 43 44.5**	**+0.2**
JIKM				*e*S	**Sn**	**16 44 00.4**	**+1.1**
JOGS	**Gusukube**	**1.26**	**72**	P	**Pn**	**16 43 46.0**	**+0.7**
JOGS				S	**Sn**	**16 44 03.1**	**

AC04	Llanos de Chal	3.35	12	*i* P		Pn	16 47 16.0	+2.4		
GO05	Huala	3.51	181			Pn	16 47 16.1	+0.2		
GO05	Huala	3.51	181	*i* P		Pn	16 47 17.0	+1.1		
AGUA	GUANDACOL	3.53	56	*i* P		Pb	16 47 22.0	-1.5		
GO03	Copiap	4.13	20	Pn		Pn	16 47 24.1	-0.4		
GO03	Copiap	4.13	20	*i* P		Pn	16 47 27.0	+2.5		
VCA	Vinchina	4.19	50	*i* P		Pb	16 47 31.0	-3.9		
ML02	Panimavida	4.28	175	Pn		Pn	16 47 27.6	+1.1		
AC06	Mina Casimiro	4.32	18			Pn	16 47 28.2	+1.1		
RFA	San Rafael	4.33	140	*i* P		Pn	16 47 30.0	+2.7		
AC02	Maricunga	5.22	28	Pn		Pn	16 47 41.2	+1.3		
AC02	Maricunga	5.22	28	*i* P		Pn	16 47 42.0	+2.2		
MRA	San Martin	5.30	102	*i* P		Pn	16 47 43.0	+2.4		
CYA	Choya	6.07	61	*i* P		Pn	16 47 53.0	+1.9		
VA04	Juan Fernndez	6.26	248	Pn		Pn	16 47 53.6	-0.1		
H03N1	Juan Fernandez baz=78,slow=72,SNR=1946	6.27	250	T		T	16 54 35.9			
H03N3	Juan Fernandez baz=78,slow=72,SNR=2234	6.28	250	T		T	16 54 32.1			
H03N2	Juan Fernandez baz=78,slow=72,SNR=1852	6.29	250	T		T	16 54 32.7			
PB14	IPOC Station P	6.96	11	Pn		Pn	16 48 01.8	-1.8		
PB14	IPOC Station P	6.96	11	*i* P		Pn	16 48 04.0	+0.4		
AHML	Horco Molle	7.38	52	*i* P		Pn	16 48 10.0	+0.8		
LC01	Cunco	7.39	180	Pn		Pn	16 48 08.6	-0.6		
LC01	Cunco	7.39	180	*i* P		Pn	16 48 10.0	+0.8		
FSA	Cafayete	7.44	45	*i* P		Pn	16 48 03.0	+2.9		
PB10	IPOC Station P	8.03	9			Pn	16 48 16.5	-1.5		
PB10	IPOC Station P	8.03	9	*i* P		Pn	16 48 18.0	0.0		
PB15	IPOC Station P	8.52	15			Pn	16 48 23.9	-1.1		
PB05	IPOC Station P	8.73	10	*i* P		Pn	16 48 26.0	-1.7		
PB06	IPOC Station P	8.98	14			Pn	16 48 29.7	-1.6		
PB06	IPOC Station P	8.98	14	*i* P		Pn	16 48 30.0	-1.3		
AF01	San Pedro de A	9.11	22	Pn		Pn	16 48 30.9	-2.3		
LVC	Limon Verde comp=N,3.1nm,0.3s,baz=182,slow=9.2,SNR=11	9.23	17	Pn		Pn	16 48 33.1	-1.7		
LVC				Sn		Sn	16 50 27.9	+8.6		
	comp=N,11nm,0.3s,baz=321,slow=6.1,SNR=4.0									
LVC				LR		LR	16 52 20.7			
	comp=N,3µm,20.6s,baz=214,slow=39									
LVC	Limon Verde	9.23	17	Pn		Pn	16 48 32.8	-1.9		
LVC	Limon Verde	9.23	17	*e*P		Pn	16 48 33.1	-1.7		
PB04	IPOC Station P	9.25	10			Pn	16 48 33.3	-1.6		
PLCA	Paso Flores comp=N,2.3nm,0.3s,baz=335,slow=11,SNR=55	9.28	174	Pn		Pn	16 48 37.0	+1.7		
PLCA				LR		LR	16 52 08.2			
	comp=N,2µm,19.6s,baz=352,slow=38									
PLCA	Paso Flores	9.28	174			Pn	16 48 35.4	+0.2		
PLCA	Paso Flores	9.28	174	*e*P		Pn	16 48 37.3	+2.1		
LL04	Puerto Octay	9.41	183	Pn		Pn	16 48 36.4	-0.5		
PB03	IPOC Station P	9.59	12	*i* P		Pn	16 48 38.0	-1.6		
LL03	Petrohue	9.64	182	Pn		Pn	16 48 38.8	-1.2		
PB07	IPOC Station P	9.88	11			Pn	16 48 42.2	-1.4		
PB07	IPOC Station P	9.88	11	*i* P		Pn	16 48 42.0	-1.6		
PB09	IPOC Station P	9.94	14			Pn	16 48 43.5	-0.8		
PB09	IPOC Station P	9.94	14	*i* P		Pn	16 48 44.0	-0.3		
LL05	Los Muermos	9.98	187	Pn		Pn	16 48 43.2	-1.5		
PB02	IPOC Station P	10.28	10	*i* P		Pn	16 48 48.0	-1.0		
TRQA	Tornquist	10.43	132	Pn		Pn	16 48 51.7	+0.8		
TRQA	Tornquist	10.43	132	*e*P		Pn	16 48 52.3	+1.4		
PB01	IPOC Station P	10.62	12			Pn	16 48 51.2	-2.5		
PB01	IPOC Station P	10.62	12	*i* P		Pn	16 48 51.0	-2.6		
TA01	Diego Aracena	10.98	8	Pn		Pn	16 48 56.8	-1.7		
TA02	Huaiquique	11.28	8	Pn		Pn	16 49 01.6	-1.0		
LL07	Hotel Espejo d	11.39	186	Pn		Pn	16 49 03.8	-0.3		
PB08	IPOC Station P	11.56	13	Pn		Pn	16 49 04.5	-2.3		
LL02	Futaleuf	11.68	180	Pn		Pn	16 49 09.3	+1.3		
GO07	Milladeo Hill,	11.69	187	Pn		Pn	16 49 08.0	-0.1		
PSGCX	Pisagua	11.95	8			Pn	16 49 09.4	-2.4		
LPA	La Plata	12.15	110	*e*P		Pn	16 49 14.0	-0.4		
LPA				pPP			16 49 25.5			
LPA				PPP		PPP	16 49 56.4			
LPA				PP		PgPg	16 50 12.3	-0.9		
LPA				S		Sn	16 51 28.5	-1.9		
LPA				SS		SnSn	16 51 44.5	+2.1		
LPA				SSS		SSS	16 51 57.9			
LPA				PCP		PcP	16 55 03.4	+4.7		
LPA				SCS		ScS	17 02 07.8	-0.7		
LPA				PKIKP		PKiKP	17 02 53.4	-3.1		
LPA				SKIKP			17 06 23.5			
LPA				PKIKS			17 06 29.7			
LPA				SKIKS			17 10 09.3			
ITQB	Itaqui	13.25	86	Pn		Pn	16 49 28.0	-1.5		
ITQB	Itaqui	13.25	86	*e*P		Pn	16 49 28.5	-1.0		
CPUP	Villa Florida comp=N,1.0nm,0.3s,baz=247,slow=13,SNR=8.2	13.72	72	Pn		Pn	16 49 33.9	-2.0		
CPUP				Sn		Sn	16 52 07.8	-1.1		
	comp=N,1.9nm,0.3s,baz=223,slow=16,SNR=2.6									
CPUP	Villa Florida	13.72	72	Pn		Pn	16 49 34.7	-1.2		
CPUP	Villa Florida	13.72	72	*e*P		Pn	16 49 33.4	-2.5		
LPAZ	La Paz comp=N,1.8nm,0.3s,baz=195,slow=7.0,SNR=57	15.51	13	Pn		Pn	16 50 02.7	+1.9		
LPAZ	La Paz	15.51	13			Pn	16 50 00.5	-0.3		
PLTB	Pedras Altas	15.56	96			Pn	16 50 01.0	+0.3		
PLTB	Pedras Altas	15.56	96	*e*P		Pn	16 49 59.9	-0.9		
CPSB	Cacapava Do Su	15.84	91	*e*P		Pn	16 50 02.4	-2.0		
SIV	San Ignacio comp=N,1.0nm,0.3s,baz=239,slow=11,SNR=24	18.30	35	P		Pn	16 50 35.0	-0.5		
PTGB	Pitanga	18.73	74	*e*P		P	16 50 39.8	-0.4		
TRCB	Terra Rica	19.16	68			P	16 50 43.1	-2.0		
TRCB	Terra Rica	19.16	68	*e*P		Pn	16 50 46.4	+0.5		
PTLB	Pontes e Lacer	19.75	39	*e*P		P	16 50 51.3	-0.2		
TER01	Tubaro-SC	19.90	87	*e*P		P	16 50 51.9	-1.2		
NNA	Nana comp=N,0.7nm,0.3s,baz=258,slow=19,SNR=1.6	19.95	346	P		Pn	16 50 57.9	+2.5		
NNA				LR		LR	16 56 57.4			
	comp=N,567nm,20.3s,baz=172,slow=32									
NNA	Nana	19.95	346	P		P	16 50 50.1	-3.7		
PP1B	Ponte de Pedra	20.69	52	*e*P		P	16 51 01.3	-0.5		
PCMB	Pacaembu	20.86	67	*e*P		P	16 51 03.1	-0.5		
TIJ01	Guaruva-PR	21.00	79	*e*P		P	16 51 02.5	-2.8		
VILB	Vilhena	21.34	33	*e*P		P	16 51 08.6	-0.3		
FRTB	Fartura	21.36	73	*e*P		P	16 51 08.3	-0.8		
SALV	Santo Antonio	21.40	47	*e*P		P	16 51 08.3	-1.2		
GO10	Punta Arenas	21.66	179	P		P	16 51 12.7	+0.7		
ETMB	Extrema	22.20	15	*e*P		P	16 51 19.4	+1.4		
ITRB	Iturama	22.62	64	*e*P		P	16 51 21.2	-1.3		
PET01	Itanhaem-SP	22.85	78	*e*P		P	16 51 25.4	+0.4		
SPB	Sao Paulo	23.01	76	*e*P		P	16 51 26.4	-0.2		
BB19B	Bebedouro	23.31	69	*e*P		P	16 51 28.8	-1.0		
RCLB	Rio Claro- Sao	23.45	73	*e*P		P	16 51 30.7	-0.5		
VAO	Valinhos	23.65	75	*e*P		P	16 51 32.8	-0.4		
CZSB	Cruzeiro do Su	23.66	358	*e*P		P	16 51 33.5	+0.4		
SAML	Samuel	23.84	22	*e*P		P	16 51 35.2	+0.2		
PARB	Paraibuna	24.62	77	*e*P		P	16 51 40.9	-1.4		
IPMB	Ipameri, GO	25.27	63	*e*P		P	16 51 46.8	-1.3		
CLDB	Colider	25.34	39	*e*P		P	16 51 48.5	-0.2		
BSCB	Bom Sucesso	26.38	73	*e*P		P	16 51 56.9	-1.3		
BDFB	Brasilia comp=N,30nm,0.8s,baz=231,slow=8.3,SNR=19	26.86	60	P		P	16 52 01.9	-0.7		
BDFB				LR		LR	17 03 50.0			
	comp=N,3µm,18.8s,baz=232,slow=39									
BDFB	Brasilia	26.86	60	P		P	16 52 01.3	-1.3		
BDFB				IAmb		IAmb	16 52 16.5			
	comp=Z,70nm,1.2s									
VAS01	Vassouras-RJ	26.89	77	*e*P		P	16 52 02.8	+0.1		
SNDB	Serra Nova Dou	27.15	49	*e*P		P	16 52 03.7	-1.4		
TBTG	Tabatinga, AM	27.22	4	*e*P		P	16 52 07.6	+1.9		
DUB01	Friburgo-RJ	27.87	78	*e*P		P	16 52 09.4	-2.1		
CAM01	Campos-RJ	28.58	78	*e*P		P	16 52 16.8	-1.1		
DIAM	Diamantina, MG	28.65	69	*e*P		P	16 52 18.0	-0.6		
NPGB	Novo Progresso	28.80	36	*e*P		P	16 52 18.5	-1.3		
PEXB	Peixe	29.05	54	*e*P		P	16 52 21.6	-0.5		
MC01	Montes Claros	29.32	66	*e*P		P	16 52 23.6	-0.9		
ALF01	Guarapari-ES	29.90	76	*e*P		P	16 52 29.1	-0.4		
JANB	Januaria	30.01	63	*e*P		P	16 52 29.7	-0.9		
MACA	Manacapuru-AM	30.08	23	*e*P		P	16 52 32.5	+1.3		
SJMB	Sao Joao De Ma	30.45	73	*e*P		P	16 52 33.2	-1.2		
RIB01	Linhares ES	30.79	74	*e*P		P	16 52 35.9	-1.6		
ITTB	Itaituba	30.95	33	*e*P		P	16 52 38.0	-0.8		
SDBA	SAO DESIDERIO	31.25	59	*e*P		P	16 52 40.8	-0.9		
SMTB	Santa Maria do	31.88	50	*e*P		P	16 52 47.1	0.0		
OTAV	Otavalo	32.17	348	P		P	16 52 48.4	-1.7		
OTAV				IAmb		IAmb	16 53 06.2			
	comp=Z,28nm,1.5s									
PRPB	Paraupebas	32.56	44	*e*P		P	16 52 51.7	-1.3		
PTGA	Pitinga comp=Z,77nm,0.5s,baz=24,slow=0.5,SNR=6.0	32.60	22	P		P	16 52 53.3	-0.1		
GUA01	Guaratinga, BA	32.67	71	*e*P		P	16 52 54.0	-0.1		
CMC01	Camacan, BA	33.58	69	*e*P		P	16 53 02.4	+0.5		
PMSA	Palmer Station	33.66	174	P		P	16 52 59.8	-2.3		
PMSA				IAmb		IAmb	16 53 12.2			
	comp=Z,39nm,1.6s									
PMSA	Palmer Station	33.66	174	*e*P		P	16 53 05.7	+3.6		
BBAC	Balboa, Cauca	33.72	350	*e*P		P	16 53 04.6	+1.2		
SOTA	Rioblanco	33.74	351	*e*P		P	16 53 04.6	+0.7		
MALB	Monte Alegre	33.84	33	*e*P		P	16 53 03.5	-0.7		
NBIT	Itapeh - BA	33.88	68	*e*P		P	16 53 04.9	+0.2		
POPC	Popayan, Colom	34.15	351	*e*P		P	16 53 13.2	+6.0		
PRAC	Prado	35.13	355	*e*P		P	16 53 20.9	+5.5		
ORTC	Ortega, Tolima	35.35	354	*e*P		P	16 53 18.9	+1.6		
BOAV	Boa Vista	35.38	20	*e*P		P	16 53 17.9	+0.4		
VILC	Villavicencio,	35.45	357	*e*P		P	16 53 20.9	+2.6		
NBPN	Ponto Novo - B	35.76	62	*e*P		P	16 53 19.5	-1.4		
CHIC	Chingaza	35.96	357	*e*P		P	16 53 24.7	+1.7		
MCPB	Macapa, AP	36.20	35	*e*P		P	16 53 24.2	-0.3		
ROSC	El Rosal	36.20	356	P		P	16 53 24.0	-1.0		
ROSC				IAmb		IAmb	16 53 42.1			
	comp=Z,24nm,0.8s									
TMAB	Tom-Au,PA,Br	36.63	42	*e*P		P	16 53 28.4	+0.1		
GUY2C	Guyana, Caldas	36.66	354	*e*P		P	16 53 30.4	+1.4		
NORC	Norcasia	36.96	355	*e*P		P	16 53 34.2	+3.1		
SPBC	San Pablo de B	36.99	356	*e*P		P	16 53 29.5	-2.0		
RUSC	La Rusia	37.19	358	P		P	16 53 32.7	-0.9		
RUSC	La Rusia	37.19	358	*e*P		P	16 53 35.2	+1.6		
CBOC	Ciudad Bolivar	37.36	353	*e*P		P	16 53 37.1	+2.5		
NBLA	Lagarto - SE	37.50	65	*e*P		P	16 53 34.9	-0.8		
HELC	Santa Helena	37.63	354	*e*P		P	16 53 39.0	+1.8		
TAMC	Tame, Arauca	37.71	0	*e*P		P	16 53 48.6	+11		
PTBC	PUERTO BERRIO,	37.90	356	*e*P		P	16 53 39.0	0.0		
DBBC	Dabeiba	38.52	353	*e*P		P	16 53 45.7	+1.4		
ZARC	Zaragoza, Cauc	38.87	355	*e*P		P	16 53 45.7	-1.5		
NBMA	Muriti-CE	39.10	59	*e*P		P	16 53 48.2	-1.0		
NBPS	Pedro II - PI	39.27	53	*e*P		P	16 53 49.8	-0.9		
NBAN	Anadia - AL	39.49	64	*e*P		P	16 53 50.6	-1.9		
NBPB	Pedra_Branca-C	39.75	56	*e*P		P	16 53 54.0	-0.7		
SMLC	San Martn de	40.12	357	*e*P		P	16 53 55.2	-2.3		
SDV	Santo Domingo	40.16	2	P		P	16 53 55.7	-2.5		
SDV	Santo Domingo	40.16	2	*e*P		P	16 53 59.8	+1.6		
NBPA	Parau_RN	41.39	59	*e*P		P	16 54 07.8	-0.4		
NBCL	Cascavel-CE	41.59	56	*e*P		P	16 54 09.2	-0.6		
SRBA	San Rafael, Bu	41.96	343	P		P	16 54 11.5	-1.4		
NBPV	Pedro Velho	42.30	62	*e*P		P	16 54 16.1	+0.4		
MLPR	Magueyes Islan	49.39	6	P		P	16 55 10.2	-1.3		
PDPR	Patillas Dam,	49.54	7	P		P	16 55 11.6	-1.0		
PDPR				IAmb		IAmb	16 55 25.2			
	comp=Z,25nm,0.9s									
SJG	San Juan comp=Z,7.4nm,0.3s,baz=317,slow=19,SNR=4.0	49.62	7	P		P	16 55 12.9	-0.3		
SJG	San Juan comp=Z,50nm,1.4s	49.62	7	IAmb		IAmb	16 55 24.5			
CBYP	Canovanas	49.81	7	P		P	16 55 13.6	-1.2		
CBYP				IAmb		IAmb	16 55 27.2			
	comp=Z,24nm,0.9s									
VNA3	Neumayer Olymp	51.62	159	P		P	16 55 28.6	+0.8		
VNA1	Neumayer--Stat	51.92	158	P		P	16 55 31.2	+1.2		
VNA2	Neumayer--Watz baz=283,slow=8.1	52.27	158	P		P	16 55 33.4	+0.8		
CMIG	Matias Romero comp=Z,1.1nm,0.5s,baz=308,slow=17,SNR=2.4	53.12	332	P		P	16 55 40.9	+1.4		
SNAA	Sanae	53.85	159	P		P	16 55 45.0	+0.6		
SNAA	Sanae	53.85	159	P		P	16 55 44.0	-0.4		
SNAA				IAmb		IAmb	16 55 54.4			
	comp=Z,22nm,1.0s									
RKT	Rikitea comp=Z,9.2nm,0.2s	56.04	262	*e*T		T	17 56 37.0			
QSPA	South Pole Qui	58.74	180	P		P	16 56 19.5	0.0		
QSPA				IAmb		IAmb	16 56 29.3			
	comp=Z,19nm,1.1s									
VNDA	Vanda comp=Z,76nm,18.8s,baz=141,slow=33	66.58	191	LR		LR	17 23 08.3			
X51A	Calhoun	66.84	348	P		P	16 57 13.5	0.0		
X51A				IAmb		IAmb	16 57 14.8			
	comp=Z,14nm,0.8s									
TAOE	Nuku Hiva Isla comp=Z,220nm,26.6s	66.94	274	*e*LR		LR	17 17 25.0			
X48A	Hartselle	67.14	346	P		P	16 57 15.1	-0.3		
X48A				IAmb		IAmb	16 57 16.6			
	comp=Z,12nm,0.6s									
V58A	Windy Hill, Pi	67.28	354	P		P	16 57 15.5	-0.8		
W50A	Signal Mountai	67.53	348	P		P	16 57 17.6	-0.3		
V53A	Saluda comp=Z,8.3nm,0.7s	67.60	350	IAmb		IAmb	16 57 19.7			
TX32	Lajitas Array comp=Z,18nm,1.8s	67.63	330	IAmb		IAmb	16 58 19.2			
TXAR	Lajitas Array comp=Z,1.3nm,0.6s,baz=154,slow=8.5,SNR=16	67.63	330	P		P	16 57 20.6	+1.8		
TX31	Lajitas Jr. Si	67.63	330	P		P	16 57 19.5	+0.7		
SWET	Sewanee	67.66	348	P		P	16 57 19.0	+0.2		
TKL	Tuckaleechee C comp=Z,7.7nm,0.6s,baz=161,slow=8.1,SNR=11	67.73	350	P		P	16 57 19.7	+0.6		
TKL	Tuckaleechee C	67.73	350	P		P	16 57 18.9	-0.2		
TKL				IAmb		IAmb	16 57 20.3			
	comp=Z,8.8nm,0.7s									
V52A	Sevierville comp=Z,11nm,0.7s	67.88	350	IAmb		IAmb	16 57 21.2			
TBI	Tubuai comp=Z,365nm,29.8s	68.07	255	*e*S		S	17 06 22.7	+0.3		
TBI	Tubuai comp=Z,377nm,26.2s	68.07	255	*e*LR		LR	17 17 55.2			
TBI	Tubuai comp=Z,13nm,0.2s	68.07	255	*e*T		T	18 11 45.0			
V48A	Smith Brothers	68.34	347	P		P	16 57 23.2	+0.2		
CLTN	Cedars of Leba comp=Z,11nm,0.6s	68.59	347	IAmb		IAmb	16 57 26.1			
WVT	Waverly	68.92	346	P		P	16 57 26.8	+0.2		
MEH	Mehetia comp=Z,63nm,0.2s	69.36	261	*e*T		T	18 13 18.4			
W39A	Magazine comp=Z,9.4nm,0.6s	69.47	341	IAmb		IAmb	16 57 32.0			
T47A	Sharon Grove	69.60	347	P		P	16 57 30.9	+0.1		
PBMO	Poplar Bluff comp=Z,12nm,0.6s	70.11	344	IAmb		IAmb	16 57 35.8			
U40A	Yellville comp=Z,8.3nm,0.7s	70.31	342	IAmb		IAmb	16 57 36.4			
MNTX	Cornudas Mount	70.41	330	P		P	16 57 36.2	+0.2		
HHAR	Hobbs comp=Z,8.1nm,0.6s	70.53	341	IAmb		IAmb	16 57 37.7			
TIAR	Tiarei comp=Z,4.6nm,0.2s	70.58	261	*e*T		T	18 14 50.4			
PPT2	Papeete2 comp=Z,124nm,24.5s	70.76	261	*e*S		S	17 06 53.2	-1.2		
PPT2	Papeete2 comp=Z,113nm,21.2s	70.76	261	*e*LR		LR	17 19 09.5			
P57A	Homestead Farm comp=Z,26nm,1.2s	70.85	355	IAmb		IAmb	16 57 40.5			
FVM	French Village comp=Z,9.8nm,0.6s	71.26	345	P		P	16 57 41.0	+0.1		
FVM				IAmb		IAmb	16 57 43.6			
CCM	Cathedral Cave comp=Z,10nm,0.7s	71.52	344	P		P	16 57 42.6	+0.1		
CCM				IAmb		IAmb	16 57 43.8			
R40A	Maddies Statio comp=Z,14nm,0.6s	71.99	343	IAmb		IAmb	16 57 46.5			
ACSO	Alum Creek Sta	72.10	351	P		P	16 57 46.1	+0.2		
ACSO				IAmb		IAmb	16 57 47.2			
	comp=Z,17nm,0.8s									
N59A	State Game Lan comp=Z,11nm,0.8s	72.14	357	IAmb		IAmb	16 57 48.3			
M55A	Ridgway comp=Z,12nm,0.8s	72.88	355	IAmb		IAmb	16 57 52.4			
P40A	Paris comp=Z,14nm,0.7s	73.11	344	IAmb		IAmb	16 57 53.2			
L59A	Walton	73.38	358	P		P	16 57 54.5	+1.0		
L59A				IAmb		IAmb	16 57 55.9			
	comp=Z,14nm,0.7s									
L56A	Greenwood comp=Z,16nm,0.7s	73.45	356	IAmb		IAmb	16 57 55.5			
ANMO	Albuquerque comp=Z,1.1nm,0.6s,baz=151,slow=19,SNR=3.5	73.67	331	P		P	16 57 57.1	+1.5		
LIC	Lamto comp=Z,58nm,0.9s	73.85	72	*e*P		P	16 57 56.3	-0.6		
LIC	Lamto comp=Z,58nm,0.9s	73.85	72	*e*P		P	16 57 56.3	-0.6		
TRY	Troy comp=Z,20nm,0.8s	73.88	359	IAmb		IAmb	16 57 59.0			
L48A	N Adams comp=Z,20nm,0.8s	73.99	350	IAmb		IAmb	16 57 57.9			
MMNY	Mt. Morris Dam comp=Z,15nm,0.7s	74.07	355	IAmb		IAmb	16 57 58.8			
TIC	Toumodi	74.09	72	*e*P		P	16 57 57.7	-0.7		
TIC	Toumodi	74.09	72	*e*P		P	16 57 57.7	-0.7		
KIC	Kosan Boka comp=Z,40nm,0.7s	74.16	72	*e*P		P	16 57 58.2	-0.5		
KIC	Kosan Boka comp=Z,40nm,0.7s	74.16	72	*e*P		P	16 57 58.3	-0.5		
DBIC	Dimbokro comp=Z,23nm,0.7s,baz=228,slow=5.2,SNR=27	74.24	72	P		P	16 57 59.0	-0.2		
DBIC	Dimbokro comp=Z,24nm,0.8s	74.24	72	P		P	16 57 58.8	-0.4		
DBIC				IAmb		IAmb	16 57 59.8			
J56A	Wolcott comp=Z,16nm,0.7s	74.55	356	IAmb		IAmb	16 58 01.7			
J59A	Piesco comp=Z,32nm,1.6s	74.63	358	IAmb		IAmb	16 58 11.0			
HNH	Hanover	74.83	360	P		P	16 58 02.6	+0.7		
PECO	Prince Edward comp=Z,15nm,0.7s	75.21	356	IAmb		IAmb	16 58 05.3			
LBNH	Lisbon comp=Z,11nm,0.8s	75.37	360	IAmb		IAmb	16 58 07.8			
MAW	Mawson comp=Z,3.5nm,0.7s,baz=245,slow=5.8,SNR=4.4	75.54	164	P		P	16 58 06.6	+0.8		
MAW				LR		LR	17 34 27.6			
	comp=Z,324nm,18.6s,baz=228,slow=38									
FRNY	Flat Rock	75.98	359	P		P	16 58 09.0	+0.5		
FRNY				IAmb		IAmb	16 58 10.4			
	comp=Z,14nm,0.7s									
SADO	Sadowa comp=Z,14nm,0.6s,baz=196,slow=6.3,SNR=11	76.19	355	P		P	16 58 10.2	+0.6		
SADO	Sadowa comp=Z,16nm,0.8s	76.19	355	IAmb		IAmb	16 58 10.7			
PLVO	Plevna comp=Z,11nm,0.9s	76.32	356	IAmb		IAmb	16 58 11.7			
D62A	Allapoint, All	78.25	2	P		P	16 58 22.1	+0.9		
D62A				IAmb		IAmb	16 58 23.4			
	comp=Z,20nm,0.8s									
MVU	Marysvale comp=Z,31nm,1.4s	79.14	329	IAmb		IAmb	16 58 38.3			
KOWA	Kowa	79.47	66	P		P	16 58 28.3	-0.4		
KOWA				IAmb		IAmb	16 58 29.1			
	comp=Z,15nm,0.8s									
PRN	Pahroc Range	79.54	326	P		P	16 58 29.6	+0.9		
R11A	Troy Canyon, C	80.55	327	P		P	16 58 35.0	+0.8		
BOSA	Boshof comp=Z,7.4nm,0.8s,baz=234,slow=4.4,SNR=9.6	81.10	118	P		P	16 58 37.7	+0.2		
BOSA				LR		LR	17 33 01.2			
	comp=Z,135nm,18.1s,baz=231,slow=35									
HWUT	Hardware Ranch comp=Z,28nm,1.9s	81.43	331	IAmb		IAmb	16 59 02.0			
PDAR	Pinedale Array comp=Z,0.5nm,0.5s,baz=123,slow=5.5,SNR=4.3	81.60	333	P		P	16 58 40.8	+1.0		
NVAR	Mina Array Bea comp=Z,1.0nm,0.7s,baz=149,slow=5.4,SNR=7.6	81.92	325	P		P	16 58 43.6	+2.1		
TORD	Torodi Ar. Bea comp=Z,23nm,0.7s,baz=264,slow=4.5,SNR=121	83.22	70	P		P	16 58 48.6	0.0		
TORD				LR		LR	17 33 22.0			
	comp=Z,279nm,20.4s,baz=210,slow=34									
TORD	Torodi Ar. Bea	83.22	70	P		P	16 58 47.9	-0.7		
DGMT	Dagmar comp=Z,12nm,0.7s	84.70	339	IAmb		IAmb	16 58 57.4			
SCHQ	Schefferville comp=Z,60nm,21.2s,baz=150,slow=35	86.08	3	LR		LR	17 37 09.5			
AFI	Afiamalu comp=Z,162nm,21.2s,baz=176,slow=30	91.07	253	LR		LR	17 32 27.4			
ESDC	Sonseca Array comp=Z,184nm,19.4s,baz=250,slow=35	94.73	46	LR		LR	17 41 09.5			
NRS	Narsarsuaq	94.80	13	P		P	16 59 43.5	+0.

GTA	**Gaotai**	**169.59**	**38**	pmax	pmax		
	comp=E,3.0nm,1.3s						
GTA	**Gaotai**	**169.59**	**38**	*e*PKP	**PKPdf**	**17 06 30.3**	**+0.8**
GTA				PKPab	**PKPab**	**17 07 42.9**	**-0.1**
HHC	**Hu-ho-hao-te**	**170.26**	**344**	*e*PKP	**PKPdf**	**17 06 23.6**	**-6.3**
HHC				LR	LR		
	comp=Z,93nm,19.4s						
HHC				LR	LR		
	comp=Z,110nm,18.9s						
HHC				LR	LR		
	comp=Z,120nm,18.1s						
NJ2	**Nanjing**	**170.86**	**276**	*e*PKP	**PKPdf**	**17 06 30.6**	**+0.3**

IDC ***17*** *16:52:17.2s0.4,29°.78S×71°.90W,h0km,mb4.6/15, mb1 4.7/19,mb1mx4.7/31,mbtmp4.6/19,ML4.4/4,Error ellipse: s-maj=19.4km s-min=13.5km az=77.0*

NEIC ***17*** *16:52:17.9s2.3,29°.76S±0°.04×72°.09W±0°.05,h10km±1km, mb5.0/148,Mwr5.3(GUC),Error ellipse: s-maj=8.3km s-min=6.0km az=238.0*

BJI ***17*** *16:52:18.5s0.0,29°.80S×72°.00W,h20km,mB5.5/1, Ms5.1/4,Ms7 4.9/6*

MOS ***17*** *16:52:20.8s1.3,29°.57S×71°.82W,h35km,mb5.1/10,Error ellipse: s-maj=17.1km s-min=8.1km az=97.3*

VAO ***17*** *16:52:20.1s0.4,29°.64S×71°.84W,h10km,mb5.0*

GUC ***17*** *16:52:20.4s0.7,30°.01S×71°.90W,h20km±8km,ML5.1*

ISC 17 16:52:17.8±0.8**,29°.83S**±0°.02×**72°.02W**±0°.04**,h10**km±4km**, n431,**σ1§63/**401,mb5.0**/84**,3C-4D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res ISC
				Op			h m s	
CO05	**La Serena**	**0.69**	**98**	*i*P		**Pb**	**16 52 32.7**	**+0.8**
CO05				*i* S		**Sg**	**16 52 40.0**	**0.0**
CO05	**La Serena**	**0.69**	**98**	Pg		**Pb**	**16 52 32.6**	**+0.8**
CO05				Sg		**Sn**	**16 52 43.3**	**-1.0**
CO06	**Fray Jorge**	**0.91**	**159**	*e*P		**Pb**	**16 52 35.7**	**0.0**
CO06				*i* S		**Sg**	**16 52 44.7**	**-2.5**
CO06	**Fray Jorge**	**0.91**	**159**	Pg		**Pb**	**16 52 35.8**	**+0.1**
CO06				Sg		**Sb**	**16 52 48.0**	**+0.1**
GO04	**Tololo Observa**	**1.11**	**108**	*e*P		**Pn**	**16 52 40.0**	**+0.3**
GO04				*i* S		**Sb**	**16 52 54.1**	**+0.2**
GO04				IAML			16 53 01.8	
	comp=E,138μm,0.5s							
GO04	**Tololo Observa**	**1.11**	**108**			**Pn**	**16 52 40.1**	**+0.4**
LCO	**Las Campanas**	**1.41**	**55**	Pn		**Pn**	**16 52 44.0**	**+0.2**
LCO				Sn		**Sn**	**16 53 02.9**	**+0.4**
CO03	**El Pedregal**	**1.53**	**132**	*e*P		**Pb**	**16 52 46.2**	**-0.2**
CO03				*e*S		**Sn**	**16 53 04.2**	**-1.1**
CO03	**El Pedregal**	**1.53**	**132**	Pn		**Pb**	**16 52 46.1**	**-0.2**
AC04	**Llanos de Chal**	**1.81**	**27**	*e*P		**Pg**	**16 52 54.1**	**+1.5**
AC04	**Llanos de Chal**	**1.81**	**27**	Pn		**Pn**	**16 52 48.1**	**-1.0**
AC04				Sn		**Sn**	**16 53 10.9**	**-1.3**
AC04	**Llanos de Chal**	**1.81**	**27**	*i* P		**Pn**	**16 52 48.0**	**-1.1**
AROD	**Rodeo**	**2.23**	**99**	*i* P		**Pb**	**16 52 58.0**	**-0.5**
ACDV	**Cuesta del Vie**	**2.54**	**99**	*i* P		**Pb**	**16 53 04.0**	**+0.4**
GO03	**Copiap**	**2.72**	**36**	*e*P		**Pn**	**16 53 01.5**	**-0.1**
GO03	**Copiap**	**2.72**	**36**	Pn		**Pn**	**16 53 01.7**	**0.0**
GO03	**Copiap**	**2.72**	**36**	*i* P		**Pn**	**16 53 02.0**	**+0.4**
VA06	**Catapilco**	**2.80**	**167**	*e*P		**Pn**	**16 53 02.6**	**0.0**
AC06	**Mina Casimiro**	**2.86**	**31**	*e*P		**Pb**	**16 53 09.1**	**+0.1**
AC06				*e*S		**Sb**	**16 53 44.8**	**+0.7**
AC06	**Mina Casimiro**	**2.86**	**31**			**Pn**	**16 53 03.6**	**+0.1**
VA03	**San Esteban**	**3.19**	**157**	IAML			16 54 04.2	
	comp=N,4μm,0.6s							
VA03	**San Esteban**	**3.19**	**157**			**Pn**	**16 53 07.3**	**-0.8**
VA01	**Torpederas**	**3.20**	**174**	*e*P		**Pb**	**16 53 16.5**	**+1.7**
VA01				*e*S		**Sn**	**16 53 48.2**	**+1.8**
VA01	**Torpederas**	**3.20**	**174**			**Pn**	**16 53 08.1**	**-0.1**
ROCH	**El Roble**	**3.25**	**165**	*e*P		**Pn**	**16 53 11.1**	**+1.9**
ROCH				*e*S		**Sn**	**16 53 48.2**	**+0.2**
ZON	**Zonda**	**3.35**	**122**	P		**Pn**	**16 53 12.2**	**+1.9**
ZON	**Zonda**	**3.35**	**122**			**Pn**	**16 53 12.2**	**+1.9**
VCA	**Vinchina**	**3.50**	**73**	*i* P		**Pb**	**16 53 18.0**	**-2.0**
MT05	**Renca**	**3.72**	**163**	*e*P		**Pn**	**16 53 11.6**	**-3.8**
MT05				*e*S		**Sn**	**16 54 00.2**	**+0.9**
MT05				IAML			16 54 30.6	
	comp=E,3μm,0.4s							
MT05	**Renca**	**3.72**	**163**	Pn		**Pn**	**16 53 12.7**	**-2.6**
VA05	**Santo Domingo**	**3.84**	**175**	*e*P		**Pn**	**16 53 18.4**	**+1.5**
VA05				*e*S		**Sn**	**16 53 58.4**	**-3.6**
VA05	**Santo Domingo**	**3.84**	**175**			**Pn**	**16 53 15.1**	**-1.8**
ASAL	**Salagasta**	**3.88**	**136**	*i* P		**Pb**	**16 53 23.0**	**-3.4**
AC02	**Maricunga**	**3.92**	**41**	*e*S		**Sb**	**16 54 11.7**	**-3.3**
AC02	**Maricunga**	**3.92**	**41**	Pn		**Pn**	**16 53 19.6**	**+1.1**
AC02	**Maricunga**	**3.92**	**41**	*i* P		**Pn**	**16 53 20.0**	**+1.5**
ARCO	**CERRO ARCO**	**4.00**	**139**	*i* P		**Pb**	**16 53 25.0**	**-3.5**
MT09	**Talagante**	**4.04**	**168**	*e*P		**Pn**	**16 53 18.4**	**-1.4**
MT09				*e*S		**Sn**	**16 54 04.8**	**-2.4**
MT09	**Talagante**	**4.04**	**168**	Pn		**Pn**	**16 53 18.5**	**-1.3**
MT01	**Popeta**	**4.08**	**171**	*e*P		**Pn**	**16 53 21.7**	**+1.4**
MT01				*e*S		**Sn**	**16 54 07.5**	**-0.6**
MT01	**Popeta**	**4.08**	**171**	Pn		**Pn**	**16 53 18.5**	**-1.7**
BO01	**Tunca**	**4.62**	**170**			**Pn**	**16 53 28.0**	**+0.3**
BO01	**Tunca**	**4.62**	**170**	*i* P		**Pn**	**16 53 30.0**	**+2.3**
BO02	**Sierra Bellavi**	**5.06**	**168**			**Pn**	**16 53 34.1**	**+0.2**
GO05	**Huala**	**5.17**	**179**	Pn		**Pn**	**16 53 33.9**	**-1.4**
GO05	**Huala**	**5.17**	**179**	*i* P		**Pn**	**16 53 36.0**	**+0.7**
PB14	**IPOC Station P**	**5.37**	**16**	Pn		**Pn**	**16 53 35.2**	**-3.2**
PB14	**IPOC Station P**	**5.37**	**16**	*i* P		**Pn**	**16 53 36.0**	**-2.4**
RFA	**San Rafael**	**5.78**	**150**	*i* P		**Pn**	**16 53 46.0**	**+2.4**
ML02	**Panimavida**	**5.94**	**175**			**Pn**	**16 53 45.3**	**-0.6**
PB10	**IPOC Station P**	**6.42**	**12**	Pn		**Pn**	**16 53 48.6**	**-3.8**
PB10	**IPOC Station P**	**6.42**	**12**	*i* P		**Pn**	**16 53 50.0**	**-2.5**
AHML	**Horco Molle**	**6.63**	**64**	*i* P		**Pn**	**16 54 00.0**	**+4.7**
H03N1	**Juan Fernandez**	**6.89**	**237**	T		T	17 01 21.4	
	baz=67,slow=71,SNR=75							
H03N2	**Juan Fernandez**	**6.91**	**237**	T		T	17 01 19.6	
	baz=67,slow=71,SNR=88							
H03N3	**Juan Fernandez**	**6.91**	**237**	T		T	17 01 19.8	
	baz=67,slow=71,SNR=91							
VA04	**Juan Fernndez**	**6.94**	**235**	Pn		**Pn**	**16 53 56.2**	**-3.3**
PB15	**IPOC Station P**	**6.97**	**20**	Pn		**Pn**	**16 53 58.6**	**-1.7**
PB15	**IPOC Station P**	**6.97**	**20**	*i* P		**Pn**	**16 53 59.0**	**-1.2**
PB05	**IPOC Station P**	**7.13**	**14**	*i* P		**Pn**	**16 53 59.0**	**-3.3**
PB06	**IPOC Station P**	**7.42**	**18**	Pn		**Pn**	**16 54 02.9**	**-3.5**
PB06	**IPOC Station P**	**7.42**	**18**	*i* P		**Pn**	**16 54 04.0**	**-2.4**
PB04	**IPOC Station P**	**7.65**	**13**			**Pn**	**16 54 05.2**	**-4.3**
AF01	**San Pedro de A**	**7.66**	**28**	Pn		**Pn**	**16 54 07.0**	**-2.8**
LVC	**Limon Verde**	**7.71**	**22**	Pn		**Pn**	**16 54 08.3**	**-2.2**
	comp=E,1.9nm,0.3s,baz=199,slow=8.3,SNR=14							
LVC	**Limon Verde**	**7.71**	**22**	P		**Pn**	**16 54 07.9**	**-2.6**
LVC	**Limon Verde**	**7.71**	**22**	Pn		**Pn**	**16 54 07.9**	**-2.6**
LVC	**Limon Verde**	**7.71**	**22**	*e*P		**Pn**	**16 54 08.6**	**-1.9**
PB03	**IPOC Station P**	**8.01**	**15**	*i* P		**Pn**	**16 54 12.0**	**-2.4**
PB07	**IPOC Station P**	**8.29**	**14**	Pn		**Pn**	**16 54 14.3**	**-4.0**
PB07	**IPOC Station P**	**8.29**	**14**	*i* P		**Pn**	**16 54 16.0**	**-2.3**
PB09	**IPOC Station P**	**8.38**	**18**	Pn		**Pn**	**16 54 18.3**	**-1.2**
PB09	**IPOC Station P**	**8.38**	**18**	*i* P		**Pn**	**16 54 19.0**	**-0.5**
PB02	**IPOC Station P**	**8.68**	**13**	*i* P		**Pn**	**16 54 23.0**	**-0.6**
PB01	**IPOC Station P**	**9.04**	**15**	Pn		**Pn**	**16 54 24.4**	**-4.1**
PB01	**IPOC Station P**	**9.04**	**15**	*i* P		**Pn**	**16 54 24.0**	**-4.5**
LC01	**Cunco**	**9.05**	**179**	Pn		**Pn**	**16 54 26.9**	**-1.6**
LC01	**Cunco**	**9.05**	**179**	*i* P		**Pn**	**16 54 28.0**	**-0.5**
TA01	**Diego Aracena**	**9.37**	**11**	Pn		Pn	16 54 26.9	-6.0
TA02	**Huaiquique**	**9.67**	**11**	Pn		Pn	16 54 32.2	-4.7
PB08	**IPOC Station P**	**9.98**	**16**	Pn		**Pn**	**16 54 38.5**	**-3.2**
PB11	**IPOC Station P**	**10.25**	**13**	Pn		Pn	16 54 39.7	-5.4
PSGCX	**Pisagua**	**10.33**	**10**	Pn		**Pn**	**16 54 41.7**	**-4.5**
PSGCX	**Pisagua**	**10.33**	**10**	*i* P		**Pn**	**16 54 42.0**	**-4.2**
PLCA	**Paso Flores**	**10.95**	**174**	Pn		**Pn**	**16 54 54.4**	**-0.2**
	comp=E,1.6nm,0.3s,baz=338,slow=13,SNR=8.7							
PLCA	**Paso Flores**	**10.95**	**174**	*e*P		**Pn**	**16 54 55.3**	**+0.7**
PLCA				pmax		pmax		
	comp=Z,2.0nm,0.3s							
PLCA	**Paso Flores**	**10.95**	**174**	Pn		**Pn**	**16 54 51.6**	**-3.0**
LL04	**Puerto Octay**	**11.06**	**182**	Pn		**Pn**	**16 54 53.4**	**-2.7**
TRQA	**Tornquist**	**11.69**	**137**	P		**Pn**	**16 55 03.4**	**-1.3**
TRQA	**Tornquist**	**11.69**	**137**	Pn		**Pn**	**16 55 03.4**	**-1.3**
TRQA	**Tornquist**	**11.69**	**137**	*e*P		**Pn**	**16 55 07.0**	**+2.2**
ITQB	**Itaqui**	**13.38**	**93**	Pn		**Pn**	**16 55 27.1**	**-0.7**
ITQB	**Itaqui**	**13.38**	**93**	*e*P		**Pn**	**16 55 27.9**	**+0.1**
CPUP	**Villa Florida**	**13.43**	**79**	*e*P		**Pn**	**16 55 28.4**	**0.0**
LPAZ	**La Paz**	**13.94**	**16**	Pn		**Pn**	**16 55 33.0**	**-3.1**
	comp=Z,0.4nm,0.3s,baz=204,slow=7.5,SNR=2.0							
LPAZ	**La Paz**	**13.94**	**16**	P		**Pn**	**16 55 32.4**	**-3.6**
LPAZ	**La Paz**	**13.94**	**16**	Pn		**Pn**	**16 55 32.4**	**-3.6**
LPAZ	**La Paz**	**13.94**	**16**	*e*P		**Pn**	**16 55 33.0**	**-3.1**
CPSB	**Cacapava Do Su**	**16.09**	**97**	*e*P		**P**	**16 56 05.9**	**-1.6**
SIV	**San Ignacio**	**17.05**	**39**	Pn		**Pn**	**16 56 14.0**	**-2.4**
	comp=Z,0.6nm,0.3s,baz=250,slow=17,SNR=5.2							
NNA	**Nana**	**18.31**	**345**	P		**P**	**16 56 34.0**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=169,slow=12,SNR=6.0							
NNA	**Nana**	**18.31**	**345**	P		**P**	**16 56 33.0**	**+0.8**
NNA				pmax		pmax		
	comp=Z,24nm,1.0s							
NNA	**Nana**	**18.31**	**345**	P		**P**	**16 56 33.0**	**+0.8**
PTGB	**Pitanga**	**18.45**	**79**	*e*P		**Pn**	**16 56 35.5**	**+1.7**
PTLB	**Pontes e Lacer**	**18.58**	**42**	*e*P		**P**	**16 56 35.1**	**0.0**
PP1B	**Ponte de Pedra**	**19.83**	**56**	*e*P		**P**	**16 56 48.8**	**0.0**
TER01	**Tubaro-SC**	**20.03**	**92**	*e*P		Pn	16 56 52.7	+0.1
VILB	**Vilhena**	**20.05**	**36**	*e*P		**P**	**16 56 51.0**	**-0.2**
PCMB	**Pacaembu**	**20.39**	**71**	*e*P		**P**	**16 56 55.0**	**0.0**
SALV	**Santo Antonio**	**20.42**	**51**	*e*P		**P**	**16 56 55.2**	**0.0**
ETMB	**Extrema**	**20.63**	**16**	*e*P		**P**	**16 56 58.3**	**+0.8**
CZSB	**Cruzeiro do Su**	**21.99**	**358**	*e*P		**P**	**16 57 14.0**	**+1.9**
ITRB	**Iturama**	**22.07**	**68**	*e*P		**P**	**16 57 13.0**	**0.0**
SAML	**Samuel**	**22.36**	**24**	P		**P**	**16 57 15.6**	**-0.5**
SAML				pmax		pmax		
	comp=Z,16nm,0.9s							
SAML	**Samuel**	**22.36**	**24**	P		**P**	**16 57 15.6**	**-0.5**
SAML	**Samuel**	**22.36**	**24**	*e*P		**P**	**16 57 15.8**	**-0.3**
PET01	**Itanhaem-SP**	**22.70**	**82**	*e*P		**P**	**16 57 20.9**	**+1.2**
SPB	**Sao Paulo**	**22.80**	**80**	P		**P**	**16 57 20.2**	**-0.6**
SPB	**Sao Paulo**	**22.80**	**80**	*e*P		**P**	**16 57 20.5**	**-0.3**
BB19B	**Bebedouro**	**22.90**	**73**	*e*P		**P**	**16 57 20.8**	**-1.1**
RCLB	**Rio Claro- Sao**	**23.16**	**77**	*e*P		**P**	**16 57 24.7**	**0.0**
VAO	**Valinhos**	**23.42**	**79**	*e*P		**P**	**16 57 27.0**	**-0.2**
CLDB	**Colider**	**24.17**	**42**	*e*P		**P**	**16 57 33.4**	**-1.0**
EFI	**East Falkland**	**24.17**	**158**	*i* P		**P**	**16 57 35.6**	**+1.5**
EFI				pmax		pmax		
	comp=Z,90nm,1.1s							
PARB	**Paraibuna**	**24.44**	**81**	*e*P		**P**	**16 57 36.7**	**-0.3**
IPMB	**Ipameri, GO**	**24.70**	**67**	*e*P		**P**	**16 57 39.6**	**+0.4**
TBTG	**Tabatinga, AM**	**25.58**	**5**	*e*P		**P**	**16 57 47.9**	**+0.8**
BSCB	**Bom Sucesso**	**26.08**	**77**	*e*P		**P**	**16 57 53.0**	**+1.1**
BDFB	**Brasilia**	**26.18**	**63**	P		**P**	**16 57 52.9**	**0.0**
	comp=Z,28nm,1.1s,baz=252,slow=7.8,SNR=10.0							
BDFB	**Brasilia**	**26.18**	**63**	P		**P**	**16 57 52.3**	**-0.5**
BDFB				pmax		pmax		
	comp=Z,31nm,1.0s							
BDFB	**Brasilia**	**26.18**	**63**	P		**P**	**16 57 52.3**	**-0.5**
BDFB				IAmb		IAmb	16 58 15.4	
	comp=Z,31nm,1.0s							
SNDB	**Serra Nova Dou**	**26.19**	**52**	*e*P		**P**	**16 57 52.5**	**-0.2**
VAS01	**Vassouras-RJ**	**26.70**	**80**	*e*P		**P**	**16 57 58.6**	**+1.2**
NPGB	**Novo Progresso**	**27.55**	**38**	*e*P		**P**	**16 58 04.4**	**-0.6**
PEXB	**Peixe**	**28.21**	**56**	*e*P		**P**	**16 58 11.0**	**+0.1**
DIAM	**Diamantina, MG**	**28.24**	**72**	*e*P		**P**	**16 58 11.9**	**+0.6**
MACA	**Manacapuru-AM**	**28.61**	**24**	*e*P		**P**	**16 58 15.0**	**+0.6**
MC01	**Montes Claros**	**28.82**	**69**	*e*P		**P**	**16 58 16.4**	**0.0**
JANB	**Januaria**	**29.42**	**66**	*e*P		**P**	**16 58 21.5**	**-0.2**
ITTB	**Itaituba**	**29.64**	**34**	*e*P		**P**	**16 58 22.9**	**-0.7**
ALF01	**Guarapari-ES**	**29.68**	**79**	*e*P		**P**	**16 58 24.2**	**+0.3**
SJMB	**Sao Joao De Ma**	**30.12**	**75**	*e*P		**P**	**16 58 28.0**	**+0.2**
RIB01	**Linhares ES**	**30.52**	**77**	*e*P		**P**	**16 58 32.0**	**+0.6**
OTAV	**Otavalo**	**30.52**	**347**	P		**P**	**16 58 30.7**	**-1.2**
OTAV				pmax		pmax		
	comp=Z,13nm,1.3s							
OTAV	**Otavalo**	**30.52**	**347**	P		**P**	**16 58 30.6**	**-1.2**
SDBA	**SAO DESIDERIO**	**30.54**	**61**	*e*P		**P**	**16 58 31.4**	**-0.3**
SMTB	**Santa Maria do**	**30.95**	**53**	*e*P		**P**	**16 58 35.7**	**+0.5**
PTGA	**Pitinga**	**31.13**	**24**	P		**P**	**16 58 36.7**	**0.0**
	comp=Z,131nm,0.5s,baz=163,slow=0.2,SNR=5.9							
PTGA	**Pitinga**	**31.13**	**24**	IAmb		IAmb	16 58 38.1	
	comp=Z,188nm,0.8s							
FLOC	**Florencia**	**31.42**	**353**	P		**P**	**16 58 37.6**	**-1.8**
FLOC				IAmb		IAmb	16 58 58.8	
	comp=Z,26nm,1.3s							
PRPB	**Paraupebas**	**31.48**	**46**	*e*P		**P**	**16 58 39.3**	**-0.6**
PCON	**Cinco Dias**	**32.24**	**352**	*e*P		**P**	**16 58 50.1**	**+2.9**
GUA01	**Guaratinga, BA**	**32.29**	**73**	*e*P		**P**	**16 58 46.8**	**-0.2**
POPC	**Popayan, Colom**	**32.49**	**351**	*e*P		P	16 58 57.6	+8.6
MALB	**Monte Alegre**	**32.53**	**35**	*e*P		**P**	**16 58 48.6**	**-0.5**
CMC01	**Camacan, BA**	**33.14**	**71**	*e*P		**P**	**16 58 54.8**	**+0.3**
NBIT	**Itapeh - BA**	**33.44**	**71**	*e*P		**P**	**16 58 57.9**	**+0.9**
PRAC	**Prado**	**33.46**	**355**	*e*P		**P**	**16 59 00.6**	**+3.4**
ORTC	**Ortega, Tolima**	**33.68**	**354**	*e*P		**P**	**16 59 02.5**	**+3.3**
PAYG	**Puerto Ayora**	**33.81**	**326**	P		**P**	**16 58 59.4**	**-0.8**
BOAV	**Boa Vista**	**33.87**	**21**	*e*P		**P**	**16 59 01.1**	**+0.3**
GDU01	**Guanambi, BA**	**33.97**	**69**	*e*P		**P**	**16 59 01.6**	**-0.1**
CHIC	**Chingaza**	**34.30**	**357**	*e*P		**P**	**16 59 06.6**	**+1.7**
ROSC	**El Rosal**	**34.54**	**356**	P		**P**	**16 59 05.6**	**-1.4**
ROSC				pmax		pmax		
	comp=Z,27nm,1.2s							
ROSC	**El Rosal**	**34.54**	**356**	P		**P**	**16 59 05.6**	**-1.4**
ROSC				IAmb		IAmb	16 59 22.3	
	comp=Z,27nm,1.2s							
MCPB	**Macapa, AP**	**34.93**	**37**	*e*P		**P**	**16 59 10.3**	**+0.3**
GUY2C	**Guyana, Caldas**	**35.00**	**354**	*e*P		**P**	**16 59 14.0**	**+3.0**
NBPN	**Ponto Novo - B**	**35.13**	**64**	*e*P		**P**	**16 59 11.6**	**-0.1**
PMSA	**Palmer Station**	**35.33**	**174**	P		**P**	**16 59 14.8**	**+2.0**
	comp=Z,15nm,1.0s,baz=30,slow=9.5,SNR=3.7							
PMSA	**Palmer Station**	**35.33**	**174**	P		**P**	**16 59 14.2**	**+1.4**
PMSA				IAmb		IAmb	16 59 32.3	
	comp=Z,21nm,1.0s							
PMSA	**Palmer Station**	**35.33**	**174**	*e*P		**P**	**16 59 14.9**	**+2.0**
SPBC	**San Pablo de B**	**35.33**	**356**	*e*P		**P**	**16 59 15.9**	**+2.4**
TMAB	**Tom-Au,PA,Br**	**35.51**	**44**	*e*P		**P**	**16 59 15.8**	**+0.8**
RUSC	**La Rusia**	**35.53**	**358**	P		**P**	**16 59 15.8**	**+0.2**
RUSC	**La Rusia**	**35.53**	**358**	*e*P		**P**	**16 59 16.8**	**+1.2**
CBOC	**Ciudad Bolivar**	**35.69**	**353**	*e*P		**P**	**16 59 14.0**	**-2.7**
HELC	**Santa Helena**	**35.97**	**354**	*e*P		**P**	**16 59 17.3**	**-1.9**
BARC	**Barichara**	**36.23**	**358**	*e*P		**P**	**16 59 23.9**	**+2.6**
PTBC	**PUERTO BERRIO,**	**36.23**	**356**	*e*P		**P**	**16 59 20.7**	**-0.5**
DBBC	**Dabeiba**	**36.85**	**353**	*e*P		**P**	**16 59 27.2**	**+0.7**
ZARC	**Zaragoza, Cauc**	**37.20**	**355**	*e*P		**P**	**16 59 27.3**	**-2.0**
UREC	**San Jose de Ur**	**37.51**	**354**	*e*P		**P**	**16 59 29.2**	**-2.8**
ROSB	**Rosario**	**37.64**	**50**	*e*P		**P**	**16 59 33.0**	**-0.1**
NBMA	**Muriti-CE**	**38.39**	**61**	*e*P		**P**	**16 59 40.5**	**+0.9**
NBPS	**Pedro II - PI**	**38.40**	**55**	*e*P		**P**	**16 59 39.7**	**0.0**
SMLC	**San Martn de**	**38.45**	**357**	*e*P		**P**	**16 59 37.8**	**-2.1**
SDV	**Santo Domingo**	**38.51**	**2**	P		**P**	**16 59 39.3**	**-1.4**
SDV	**Santo Domingo**	**38.51**	**2**	*e*P		**P**	**16 59 41.1**	**+0.4**
NBAN	**Anadia - AL**	**38.92**	**66**	*e*P		**P**	**16 59 43.5**	**-0.6**
NBPB	**Pedra_Branca-C**	**38.97**	**58**	*e*P		**P**	**16 59 45.5**	**+1.1**
SJCC	**San Jacinto, C**	**39.61**	**355**	P		**P**	**16 59 49.1**	**-0.6**
SJCC				IAmb		IAmb	16 59 53.8	
	comp=Z,41nm,1.0s							
SJCC	**San Jacinto, C**	**39.61**	**355**	*e*P		**P**	**16 59 52.1**	**+2.5**
BRU2	**Volcan**	**39.74**	**343**	P		**P**	**16 59 51.0**	**+0.1**
DRK0	**Durika**	**40.34**	**343**	P		**P**	**16 59 54.7**	**-1.2**
DRK0				IAmb		IAmb	17 00 00.5	
	comp=Z,24nm,0.7s							
SRBA	**San Rafael, Bu**	**40.34**	**343**	P		**P**	**16 59 55.0**	**-0.8**
NBPA	**Parau_RN**	**40.68**	**61**	*e*P		**P**	**16 59 58.9**	**+0.3**
RIMA	**Rio Macho**	**40.98**	**342**	P		**P**	**17 00 00.2**	**-1.1**
NBPV	**Pedro Velho**	**41.66**	**63**	*e*P		**P**	**17 00 07.3**	**+0.6**
JTS	**Las Juntas de**	**41.78**	**341**	*i* P		**P**	**17 00 05.9**	**-1.7**
JTS				pmax		pmax		
	comp=Z,5.0nm,0.9s							
ORTG	**Ortega, Santa**	**42.00**	**340**	P		**P**	**17 00 07.8**	**-1.6**
MTO3	**Montecristo**	**47.04**	**337**	P		**P**	**17 00 48.4**	**-1.5**
MTO3				IAmb		IAmb	17 01 10.1	
	comp=Z,8.2nm,0.8s							
MLPR	**Magueyes Islan**	**47.76**	**6**	P		**P**	**17 00 54.3**	**-0.8**
CRPR	**Cabo Rojo, PR**	**47.79**	**6**	P		**P**	**17 00 54.0**	**-1.4**
OBIP	**Obispado Ponce**	**47.87**	**7**	P		**P**	**17 00 54.7**	**-1.4**
PDPR	**Patillas Dam,**	**47.91**	**8**	P		**P**	**17 00 55.3**	**-1.1**
SJG	**San Juan**	**47.99**	**8**	P		**P**	**17 00 55.6**	**-1.4**
SJG				pmax		pmax		
	comp=Z,29nm,1.0s							
SJG	**San Juan**	**47.99**	**8**	P		**P**	**17 00 55.6**	**-1.4**
GCPR	**Guaynabo City**	**48.20**	**8**	IAmb		IAmb	17 00 58.5	
	comp=Z,22nm,1.0s							
ANWB	**Willy Bob**	**48.24**	**13**	P		**P**	**17 00 56.2**	**-2.6**
CMIG	**Matias Romero**	**51.59**	**332**	P		**P**	**17 01 25.9**	**+1.5**
	comp=Z,6.2nm,0.9s,baz=138,slow=3.6,SNR=8.7							
VNA3	**Neumayer Olymp**	**53.23**	**159**	P		**P**	**17 01 36.6**	**+0.6**
VNA1	**Neumayer--Stat**	**53.52**	**158**	P		**P**	**17 01 38.9**	**+0.9**
VNA2	**Neumayer--Watz**	**53.86**	**158**	P		**P**	**17 01 41.2**	**+0.5**
	baz=284,slow=8.1							
SNAA	**Sanae**	**55.45**	**159**	P		**P**	**17 01 52.6**	**+0.4**
SNAA	**Sanae**	**55.45**	**159**	*c i*P		**P**	**17 01 52.4**	**+0.2**
SNAA				pmax		pmax		
	comp=Z,31nm,1.1s							
SNAA	**Sanae**	**55.45**	**159**	P		**P**	**17 01 52.4**	**+0.2**
QSPA	**South Pole Qui**	**60.40**	**180**	P		**P**	**17 02 27.4**	**+0.3**
833A	**Chaparral WMA,**	**63.46**	**333**	P		**P**	**17 02 50.3**	**+2.3**
	baz=154							
HKT	**Hockley**	**63.63**	**337**	*i* P		**P**	**17 02 49.6**	**+0.7**
HKT				pmax		pmax		
	comp=Z,16nm,2.6s							
BG3	**Lake Jocassee**	**65.29**	**350**	IAmb		IAmb	17 03 00.8	
	comp=Z,9.7nm,1.0s							
X48A	**Hartselle**	**65.49**	**346**	P		**P**	**17 03 00.6**	**-0.5**
X48A				IAmb		IAmb	17 03 11.3	
	comp=Z,12nm,0.8s							
JCT	**Junction City**	**65.55**	**334**	P		**P**	**17 03 00.2**	**-1.4**
JCT				pmax		pmax		
	comp=Z,18nm,1.3s							
JCT	**Junction City**	**65.55**	**334**	P		**P**	**17 03 00.2**	**-1.4**
JCT				IAmb		IAmb	17 03 43.1	
	comp=Z,18nm,1.2s							
JCT	**Junction City**	**65.55**	**334**	P		**P**	**17 03 03.5**	**+1.9**
	baz=154							
W50A	**Signal Mountai**	**65.88**	**348**	IAmb		IAmb	17 03 06.0	
	comp=Z,19nm,1.2s							
V53A	**Saluda**	**65.93**	**350**	IAmb		IAmb	17 03 06.7	
	comp=Z,16nm,1.2s							
CPCT	**Cooper Cave**	**65.99**	**349**	IAmb		IAmb	17 03 06.6	
	comp=Z,15nm,1.0s							
SWET	**Sewanee**	**66.01**	**348**	P		**P**	**17 03 04.0**	**-0.5**
SWET				IAmb		IAmb	17 03 05.7	
	comp=Z,12nm,0.8s							
OXF

	baz=182										
WUAZ	**Wupatki**	**74.81**	**328**	IAmb	IAmb	17 04 20.2					
	comp=Z,14nm,1.2s										
WUAZ	**Wupatki**	**74.81**	**328**	P	**P**	**17 04 01.3**	**+2.8**				
	baz=145										
MVCO	**Mesa Verde**	**74.94**	**331**	P	**P**	**17 04 01.8**	**+2.5**				
	baz=148										
Q24A	**Divide**	**75.08**	**334**	P	**P**	**17 04 02.1**	**+2.0**				
	baz=151										
BC3	**Big Chuckawall**	**75.32**	**324**	P	**P**	**17 04 03.7**	**+2.3**				
	baz=142										
IRM	**Iron Mountain**	**75.56**	**324**	P	**P**	**17 04 04.4**	**+1.7**				
	baz=142										
W13A	**Hualapai Mount**	**75.68**	**326**	P	**P**	**17 04 02.6**	**-1.0**				
TPFO	**Pinon Flats**	**75.80**	**323**	P	**P**	**17 04 07.0**	**+2.8**				
	baz=141										
ECSD	**EROS Data Cent**	**76.59**	**342**	IAmb	IAmb	17 04 10.1					
	comp=Z,11nm,0.8s										
ECSD	**EROS Data Cent**	**76.59**	**342**	P	**P**	**17 04 09.5**	**+1.2**				
	baz=158										
HEC	**Hector,Ludlow**	**76.69**	**324**	P	**P**	**17 04 12.0**	**+2.9**				
	baz=142										
BFSC	**Mount Baldy Ra**	**76.93**	**323**	P	**P**	**17 04 13.3**	**+2.7**				
	baz=140										
TUQ	**Turquoise Moun**	**76.96**	**324**	P	**P**	**17 04 13.6**	**+2.9**				
	baz=142										
MAW	**Mawson**	**77.17**	**164**	P	**P**	**17 04 12.3**	**+0.9**				
	comp=Z,2.4nm,0.6s,baz=215,slow=8.1,SNR=3.6										
MAW	**Mawson**	**77.17**	**164**	P	**P**	**17 04 11.6**	**+0.2**				
MAW	**Mawson**	**77.17**	**164**	P	**P**	**17 04 11.6**	**+0.2**				
O20A	**White River Ci**	**77.31**	**332**	IAmb	IAmb	17 04 27.6					
	comp=Z,19nm,1.2s										
O20A	**White River Ci**	**77.31**	**332**	P	**P**	**17 04 15.0**	**+2.4**				
	baz=148										
EDW2	**Edwards Air Fo**	**77.60**	**323**	P	**P**	**17 04 16.8**	**+2.6**				
	baz=140										
MVU	**Marysvale**	**77.64**	**329**	IAmb	IAmb	17 04 36.1					
	comp=Z,20nm,1.0s										
GWY	**Greenwater Val**	**77.92**	**324**	P	**P**	**17 04 16.9**	**+0.8**				
RWWY	**Rawlins**	**78.23**	**334**	IAmb	IAmb	17 04 21.9					
	comp=Z,19nm,1.1s										
FURC	**Furnace Creek,**	**78.24**	**325**	P	**P**	**17 04 20.4**	**+2.8**				
	baz=141										
TPNV	**Topopah Spring**	**78.31**	**325**	P	**P**	**17 04 20.5**	**+2.3**				
	baz=142										
ISA	**Isabella, Lake**	**78.45**	**323**	P	**P**	**17 04 21.3**	**+2.3**				
	baz=140										
PKM	**Mcpherson Peak**	**78.57**	**322**	P	**P**	**17 04 22.8**	**+3.0**				
	baz=139										
K22A	**Casper**	**78.80**	**335**	IAmb	IAmb	17 04 35.5					
	comp=Z,12nm,0.9s										
K22A	**Casper**	**78.80**	**335**	P	**P**	**17 04 23.2**	**+2.3**				
	baz=150										
CWC	**Cottonwood Cre**	**78.84**	**324**	P	**P**	**17 04 23.2**	**+2.0**				
	baz=140										
GRAC	**Grapevine Rang**	**78.90**	**325**	P	**P**	**17 04 24.1**	**+2.7**				
	baz=141										
KOWA	**Kowa**	**78.92**	**66**	P	**P**	**17 04 22.2**	**+0.3**				
R11A	**Troy Canyon, C**	**79.09**	**327**	P	**P**	**17 04 24.9**	**+2.3**				
	baz=143										
RSSD	**Black Hills**	**79.20**	**337**	P	**P**	**17 04 22.8**	**-0.3**				
RSSD				pmax	pmax						
	comp=Z,5.0nm,0.9s										
RSSD	**Black Hills**	**79.20**	**337**	P	**P**	**17 04 22.8**	**-0.3**				
RSSD	**Black Hills**	**79.20**	**337**	P	**P**	**17 04 24.4**	**+1.4**				
	baz=152										
DUG	**Dugway, Tooele**	**79.29**	**329**	P	**P**	**17 04 25.7**	**+2.2**				
	baz=145										
HWUT	**Hardware Ranch**	**79.91**	**331**	IAmb	IAmb	17 04 29.9					
	comp=Z,11nm,0.8s										
PDAR	**Pinedale Array**	**80.06**	**333**	P	**P**	**17 04 28.4**	**+0.7**				
	comp=Z,1.7nm,0.9s,baz=145,slow=5.4,SNR=8.9										
PDAR	**Pinedale Array**	**80.06**	**333**	P	**P**	**17 04 28.1**	**+0.3**				
TSUM	**Tsumeb**	**80.36**	**107**	P	**P**	**17 04 30.4**	**+0.5**				
TSUM				IAmb	IAmb	17 04 40.7					
	comp=Z,25nm,0.9s										
NVAR	**Mina Array Bea**	**80.48**	**325**	P	**P**	**17 04 32.3**	**+2.2**				
	comp=Z,1.8nm,0.8s,baz=151,slow=6.1,SNR=12										
BOSA	**Boshof**	**82.01**	**118**	P	**P**	**17 04 39.0**	**+0.4**				
	comp=Z,13nm,0.9s,baz=262,slow=5.7,SNR=9.7										
BOSA	**Boshof**	**82.01**	**118**	P	**P**	**17 04 37.4**	**-1.2**				
BOSA				pmax	pmax						
	comp=Z,18nm,1.0s										
BOSA	**Boshof**	**82.01**	**118**	P	**P**	**17 04 37.4**	**-1.2**				
BOSA				IAmb	IAmb	17 04 40.1					
	comp=Z,18nm,1.0s										
ULM	**Lac du Bonnet**	**82.48**	**345**	P	**P**	**17 04 40.4**	**+0.3**				
	comp=Z,13nm,0.9s,baz=157,slow=3.9,SNR=9.5										
ULM	**Lac du Bonnet**	**82.48**	**345**	*e*P	**P**	**17 04 40.9**	**+0.8**				
ULM				pmax	pmax						
	comp=Z,13nm,0.9s										
ULM	**Lac du Bonnet**	**82.48**	**345**	IAmb	IAmb	17 04 41.5					
	comp=Z,18nm,0.9s										
HLID	**Hailey**	**82.72**	**330**	P	**P**	**17 04 43.9**	**+2.1**				
	baz=144										
TORD	**Torodi Ar. Bea**	**82.79**	**70**	P	**P**	**17 04 43.0**	**+0.5**				
	comp=Z,19nm,1.0s,baz=255,slow=4.6,SNR=41										
TORD	**Torodi Ar. Bea**	**82.79**	**70**	P	**P**	**17 04 42.7**	**+0.1**				
ORV	**Oroville**	**82.96**	**324**	IAmb	IAmb	17 05 04.4					
	comp=Z,18nm,1.4s										
DGMT	**Dagmar**	**83.10**	**339**	P	**P**	**17 04 45.3**	**+1.9**				
	baz=152										
LBTB	**Lobatse**	**84.05**	**115**	P	**P**	**17 04 49.1**	**-0.1**				
LBTB				pmax	pmax						
	comp=Z,32nm,1.0s										
LBTB	**Lobatse**	**84.05**	**115**	P	**P**	**17 04 49.1**	**-0.1**				
CASY	**Casey**	**84.18**	**181**	P	**P**	**17 04 49.5**	**+0.6**				
J08A	**Circle Bar Ran**	**84.37**	**328**	IAmb	IAmb	17 05 16.2					
	comp=Z,14nm,1.3s										
PLID	**Pearl Lake**	**84.62**	**330**	IAmb	IAmb	17 04 56.0					
	comp=Z,23nm,1.7s										
PINE	**Pine Mountain**	**85.86**	**327**	IAmb	IAmb	17 05 32.0					
	comp=Z,11nm,1.1s										
G08A	**Pilot Rock**	**86.08**	**329**	IAmb	IAmb	17 05 16.7					
	comp=Z,16nm,1.6s										
WALA	**Waterton Lakes**	**86.97**	**334**	IAmb	IAmb	17 05 08.7					
	comp=Z,11nm,1.2s										
C09A	**Chrisman Ranch**	**87.73**	**331**	IAmb	IAmb	17 06 55.1					
	comp=Z,18nm,1.7s										
EDM	**Edmonton**	**90.17**	**337**	P	**P**	**17 05 17.5**	**-0.5**				
EDM				pmax	pmax						
	comp=Z,8.0nm,0.9s										
EDM	**Edmonton**	**90.17**	**337**	P	**P**	**17 05 17.5**	**-0.5**				
EDM				IAmb	IAmb	17 05 20.5					
	comp=Z,7.8nm,0.9s										
ESDC	**Sonseca Array**	**93.67**	**46**	P	**P**	**17 05 35.4**	**+0.9**				
	comp=Z,1.5nm,0.8s,baz=246,slow=4.8,SNR=5.1										
KLNR	**Kaliningrad**	**114.97**	**40**	*i* PKIKP	**PKiKP**	**17 10 59.0**	**+0.6**				
KLNR				pmax	pmax						
	comp=Z,13nm,0.9s										
ASAR	**Alice Springs**	**121.27**	**208**	PKP	**PKPdf**	**17 11 11.1**	**-0.7**				
ASAR				PKKPbc	**PKKPbc**	**17 21 12.1**	**-0.7**				
	comp=Z,0.2nm,0.5s,baz=132,slow=1.4,SNR=2.8										
	comp=Z,0.8nm,0.9s,baz=332,slow=1.8,SNR=7.6										
OBN	**Obninsk**	**124.34**	**41**‖	*e*PKIKP	**PKPdf**	**17 11 16.1**	**-0.3**				
OBN				*e*PPP	PPP	17 15 36.2					
OBN				pmax	pmax						
	comp=Z,5.0nm,0.9s										
WRA	**Warramunga Arr**	**124.38**	**210**	PKP	**PKPdf**	**17 11 17.6**	**-0.2**				
	comp=Z,1.0nm,0.7s,baz=153,slow=2.1,SNR=14										
WRA				PKKPbc	**PKKPbc**	**17 21 01.2**	**+0.6**				
	comp=Z,0.7nm,0.8s,baz=352,slow=5.1,SNR=5.6										
KLMR	**Klimovskoe**	**125.99**	**34**	*e*PKIKP	**PKPdf**	**17 11 18.4**	**-1.0**				
KLMR				pmax	pmax						
	comp=Z,14nm,1.2s										
KLMR	**Klimovskoe**	**125.99**	**34**	*e*PKPdf	**PKPdf**	**17 11 18.4**	**-1.0**				
KLMR				AMP		17 11 21.7					
	comp=Z,14nm,1.2s										
KIV	**Kislovodsk**	**127.20**	**55**	*i* PKIKP	**PKPdf**	**17 11 17.7**	**-4.7**				
KIV				pmax	pmax						
	comp=Z,7.0nm,1.0s										
KIV				MLR	MLR						
	comp=Z,86nm,23.0s										
PRGR	**Permogore**	**128.85**	**33**	*e*PKIKP	**PKiKP**	**17 11 25.6**	**+0.1**				
PRGR				pmax	pmax						
	comp=Z,51nm,1.3s										
BILL	**Bilibino**	**129.07**	**336**↑	*e*PKIKP	**PKiKP**	**17 11 25.9**	**+0.1**				
BILL				pmax	pmax						
	comp=Z,3.0nm,1.0s										
BILL				MLR	MLR						
	comp=Z,30nm,18.0s										
SEY	**Seymchan**	**136.39**	**332**	PKP	**PKiKP**	**17 11 41.0**	**+0.3**				
	comp=Z,2.2nm,0.9s,baz=135,slow=1.4,SNR=6.5										
ARU	**Arti**	**136.51**	**38**	PKP	**PKiKP**	**17 11 40.7**	**-0.5**				
	comp=Z,0.6nm,0.4s,baz=21,slow=1.4,SNR=5.2										
ARU	**Arti**	**136.51**	**38**	*i* PKIKP	**PKPdf**	**17 11 40.3**	**+0.8**				
ARU						17 14 20.1					
ARU				SS	SS	17 32 15.4	-8.1				
ARU				MLR	MLR						
	comp=Z,167nm,21.0s										
PETK	**Petropavlovsk-**	**137.18**	**317**	PKP	**PKiKP**	**17 11 43.0**	**+0.3**				
	comp=Z,3.3nm,0.9s,baz=174,slow=4.2,SNR=6.4										
NRIK	**Noril'sk**	**138.73**	**11**	*i* PKIKP	**PKPdf**	**17 11 42.4**	**-0.8**				
NRIK				pmax	pmax						
	comp=Z,3.0nm,1.1s										
BRVK	**Borovoye**	**144.05**	**39**	*i* PKIKP	PKPbc	17 11 52.2	+1.0				
BRVK	**Borovoye**	**144.05**	**39**	PKPdf	PKPbc	17 11 52.2	+1.0				
BVAR	**Borovoye Array**	**144.12**	**39**	PKP	**PKPdf**	**17 11 53.1**	**-0.3**				
	comp=Z,2.9nm,0.6s,baz=249,slow=6.2,SNR=15										
YAK	**Yakutsk**	**144.79**	**342**	PKP	**PKPdf**	**17 11 54.0**	**-0.2**				
	comp=Z,42nm,0.8s,baz=287,slow=1.4,SNR=61										
YAK	**Yakutsk**	**144.79**	**342***c*	*i* PKIKP	**PKPdf**	**17 11 53.9**	**-0.3**				
YAK				*e*		17 12 01.9					
YAK				pmax	pmax						
	comp=Z,36nm,0.7s										
YAK				pmax	pmax						
	comp=N,3.0nm,0.6s										
YAK				pmax	pmax						
	comp=E,5.0nm,0.9s										
YAK	**Yakutsk**	**144.79**	**342**	PKPdf	PKPbc	17 11 53.7	+0.5				
KKAR	**Karatay Array**	**147.36**	**56**	PKIKP	**PKPdf**	**17 11 57.7**	**-1.5**				
KKAR	**Karatay Array**	**147.36**	**56**	PKPdf	**PKPdf**	**17 11 57.7**	**-1.5**				
GAR	**Garm**	**147.80**	**63**		**PKPdf**	**17 12 00.4**	**+0.1**				
BTK	**Batken**	**148.07**	**61**	PKIKP	**PKPdf**	**17 12 01.4**	**+0.8**				
BTK	**Batken**	**148.07**	**61**		**PKPdf**	**17 12 01.4**	**+0.8**				
YSS	**Yuzh-Sakhalins**	**148.15**	**312**	*e*PKP2	**PKPbc**	**17 12 04.1**	**+0.5**				
JKA	**Kamikawa-asahi**	**149.13**	**307**		**PKiKP**	**17 12 07.4**	**-0.1**				
ASAJ	**Asahikawa**	**149.13**	**307**	PKPbc	**PKiKP**	**17 12 07.4**	**-0.1**				
	comp=E,6.6nm,0.9s,baz=90,slow=1.0,SNR=2.9										
KURK	**Kurchatov**	**149.71**	**38**	PKP2	**PKiKP**	**17 12 08.5**	**+0.1**				
KURK	**Kurchatov**	**149.71**	**38**		**PKiKP**	**17 12 08.5**	**+0.1**				
KURBB	**Kurchatov Arra**	**149.71**	**38**	PKPbc	**PKiKP**	**17 12 08.5**	**+0.1**				
	comp=E,9.7nm,0.9s,baz=301,slow=3.2,SNR=31										
EKS2	**Erkin-Say**	**149.80**	**56**	P	**PKiKP**	**17 12 10.2**	**+1.1**				
	SNR=5.8										
GSI	**Gunungsitoli**	**149.96**	**159**		**PKiKP**	**17 12 10.3**	**+0.1**				
USP	**Ospenovka**	**150.16**	**54**	P	**PKiKP**	**17 12 10.2**	**+0.5**				
	SNR=7.3										
NIL	**Nilore**	**150.30**	**74**	PKIKP	**PKPbc**	**17 12 09.1**	**-0.4**				
NIL	**Nilore**	**150.30**	**74**		**PKPbc**	**17 12 09.1**	**-0.4**				
AAK	**Ala-Archa**	**150.32**	**55**	PKPbc	**PKiKP**	**17 12 11.1**	**+0.9**				
	comp=E,12nm,0.9s,baz=218,slow=3.2,SNR=15										
AAK	**Ala-Archa**	**150.32**	**55**	P	**PKiKP**	**17 12 11.2**	**+1.0**				
	SNR=10.0										
AAK	**Ala-Archa**	**150.32**	**55**	PKIKP	**PKiKP**	**17 12 10.8**	**+0.6**				
AAK	**Ala-Archa**	**150.32**	**55**		**PKiKP**	**17 12 10.8**	**+0.6**				
CHMS	**Chumysh**	**150.41**	**54**	P	**PKiKP**	**17 12 10.7**	**+0.4**				
	SNR=5.9										
UCH	**Uchtor**	**150.43**	**56**	P	**PKiKP**	**17 12 12.0**	**+1.1**				
	SNR=15										
HYB	**Hyderabad**	**150.44**	**108**	*i* PKP	**PKPbc**	**17 12 10.0**	**-0.3**				
ZAAO	**Zalesovo Array**	**150.62**	**28**		**PKPdf**	**17 12 04.3**	**+0.2**				
ZAAO					**PKiKP**	**17 12 10.3**	**0.0**				
ZALV	**Zalesovo Beam**	**150.62**	**28**	PKP	**PKPdf**	**17 12 05.2**	**+1.1**				
	comp=E,4.8nm,1.0s,baz=290,slow=4.4,SNR=7.0										
ZALV				PKPbc	**PKiKP**	**17 12 10.7**	**+0.4**				
	comp=E,46nm,0.9s,baz=298,slow=3.2,SNR=76										
ZALV	**Zalesovo Beam**	**150.62**	**28**	PKIKP	**PKPdf**	**17 12 03.7**	**-0.4**				
ZALV						17 12 10.6					
ZALV						17 12 18.2					
ZALV	**Zalesovo Beam**	**150.62**	**28**	PKPdf	**PKPdf**	**17 12 03.7**	**-0.4**				
ZALV				PKPbc	**PKiKP**	**17 12 10.6**	**+0.3**				
ZALV					**pPKPab**	**17 12 18.2**	**-0.5**				
KBK	**Karagaybulak**	**150.63**	**55**	P	**PKiKP**	**17 12 12.2**	**+1.2**				
	SNR=6.1										
TKM2	**Tonak 2**	**151.02**	**54**	P	**PKiKP**	**17 12 12.4**	**+0.7**				
	SNR=7.0										
RPSI	**Rantau Prapat**	**151.68**	**161**		**PKPbc**	**17 12 13.5**	**+0.2**				
BOD	**Bodaibo**	**151.70**	**353**	*e*PKIKP	**PKPdf**	**17 12 03.7**	**-1.9**				
BOD				pmax	pmax						
	comp=Z,16nm,1.2s										
PSI	**Prapat**	**151.78**	**161**	PKPbc	**PKPbc**	**17 12 13.5**	**-0.2**				
	comp=Z,2.7nm,0.3s,baz=352,slow=3.6,SNR=3.7										
PSI				PKPab	**PKPab**	**17 12 22.8**	**+0.4**				
	comp=Z,6.4nm,0.4s,baz=189,slow=2.8,SNR=5.5										
KSH	**Kashi**	**152.08**	**61**	PKPbc	**PKPdf**	**17 12 08.6**	**+1.6**				
KSH				PP	**PP**	**17 15 52.3**	**-3.1**				
ZEA	**Zeya**	**152.30**	**335**	*e*PKIKP	**PKiKP**	**17 12 14.2**	**+0.5**				
KLR	**Kul'dur**	**153.51**	**324**	PKPbc	**PKPbc**	**17 12 15.7**	**-0.6**				
	comp=Z,1.4nm,0.8s,baz=54,slow=3.5,SNR=3.9										
KLR				PKPab	**PKPab**	**17 12 29.8**	**+1.2**				
	comp=Z,3.0nm,0.9s,baz=335,slow=5.6,SNR=6.3										
MKAR	**Makanchi Array**	**153.84**	**43**	PKPbc	**PKiKP**	**17 12 17.9**	**+0.6**				
	comp=Z,1.5nm,0.8s,baz=294,slow=1.2,SNR=6.6										
MKAR				PKPab	**pPKPab**	**17 12 31.8**	**-0.7**				
	comp=Z,5.2nm,0.8s,baz=290,slow=6.5,SNR=11										
MKAR	**Makanchi Array**	**153.84**	**43**	PKPdf	**PKPdf**	**17 12 08.8**	**-0.4**				
MKAR					**pPKPab**	**17 12 31.8**	**-0.7**				
MJAR	**Matsushiro Arr**	**153.90**	**293**	PKPab	**PKPab**	**17 12 32.0**	**+1.3**				
	comp=Z,5.2nm,0.9s,baz=124,slow=0.6,SNR=9.7										
MJAR	**Matsushiro Arr**	**153.90**	**293**	PKP2	**PKPab**	**17 12 31.7**	**+0.9**				
MJAR	**Matsushiro Arr**	**153.90**	**293**	PKPab	**PKPab**	**17 12 31.7**	**+0.9**				
WMQ	**Urumqi**	**158.66**	**44**	*e*PKP	**PKPdf**	**17 12 15.8**	**+0.1**				
ZAK	**Zakamensk**	**159.16**	**8**	*e*PKP2	**PKPab**	**17 12 53.8**	**+0.9**				
ZAK				pmax	pmax						
	comp=Z,8.0nm,1.2s										
ULN	**Ulaanbaatar**	**161.97**	**2**	PKP2	**PKPab**	**17 13 06.2**	**+0.9**				
ULN	**Ulaanbaatar**	**161.97**	**2**	PKPab	**PKPab**	**17 13 06.2**	**+0.9**				
SONM	**Songino Array**	**161.97**	**2**	PKPab	**PKPab**	**17 13 07.0**	**+1.7**				
	comp=Z,2.0nm,0.9s,baz=328,slow=2.9,SNR=6.5										
CMAR	**Chiang Mai Arr**	**166.00**	**142**	PKP	**PKPdf**	**17 12 24.7**	**+1.0**				
	comp=Z,0.6nm,0.9s,baz=266,slow=3.0,SNR=4.1										
CMAR				PKPab	**PKPab**	**17 13 23.4**	**-0.2**				
	comp=Z,1.0nm,0.9s,baz=208,slow=5.6,SNR=4.8										
GTA	**Gaotai**	**168.32**	**33**	‖PKP	**PKPdf**	**17 12 26.4**	**+1.5**				
GTA				PKPab	**PKPab**	**17 13 34.6**	**+1.1**				
GTA				LR	LR						
	comp=Z,170nm,19.6s										
GTA				LR	LR						
	comp=Z,160nm,20.7s										
GTA				LR	LR						
	comp=Z,170nm,20.7s										
HHC	**Hu-ho-hao-te**	**168.62**	**346**	*e*PKP	**PKPdf**	**17 12 17.9**	**-7.2**				
HHC				LR	LR						
	comp=Z,74nm,19.3s										
HHC				LR	LR						
	comp=Z,160nm,21.9s										
HHC				LR	LR						
	comp=Z,140nm,20.0s										
NJ2	**Nanjing**	**170.40**	**286**	*e*PKP	**PKPdf**	**17 12 25.1**	**-1.1**				
XAN	**Xi'an**	**175.72**	**349**	PKP	**PKPdf**	**17 12 23.8**	**-4.6**				
XAN				PKPab	**sPKPab**	**17 14 11.8**	**+2.4**				

GUC ***17*** *16:55:00.2±0.6,30.°75S×71.°43W, h49km±4km, ML4.3*
IDC ***17*** *16:55:01.9±1.2,30.°73S×71.°42W, h40km±6km, mb4.3/4, mb1 4.3/4, mb1mx3.8/25, mbtmp4.5/4, Error ellipse: s-maj=53.6km s-min=40.2km az=139.0*
NEIC ***17*** *16:55:02.2±2.1,30.°77S±0.°04×71.°52W±0.°06, h36km±4km, mb4.3/4, ML4.3(GUC), Error ellipse: s-maj=7.8km s-min=5.6km az=99.0*

ISC 17 16:55:01.2±0.7, 30.°75S±0.°03×71.°43W±0.°03, h32km±2km, n43, σ1$55/60, mb4.4/5, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.19**	**294**	‖ *i* P	**Pn**	**16 55 09.0**	**+1.1**
CO06				*i* S	**Sb**	**16 55 13.3**	**+1.3**
CO06				IAML		16 55 15.5	
	comp=E,40μm,0.3s						
CO06	**Fray Jorge**	**0.19**	**294**		**Pn**	**16 55 08.8**	**+0.9**
CO06				Sn	**Sb**	**16 55 14.3**	**+2.3**
CO03	**El Pedregal**	**0.65**	**98**	‖ *i* P	**Pn**	**16 55 15.2**	**+0.9**
CO03				*i* S	**Sn**	**16 55 24.9**	**+1.5**
CO03	**El Pedregal**	**0.65**	**98**		**Pn**	**16 55 15.1**	**+0.8**
CO03				Sn	**Sb**	**16 55 23.2**	**+0.1**
GO04	**Tololo Observa**	**0.79**	**44**	‖ *e*P	**Pb**	**16 55 17.1**	**+0.3**
GO04				*i* S	**Sn**	**16 55 28.7**	**+1.4**
GO04				IAML		16 55 32.2	
	comp=E,17μm,0.3s						
GO04	**Tololo Observa**	**0.79**	**44**		**Pb**	**16 55 17.1**	**+0.3**
GO04				Sn	**Sn**	**16 55 29.1**	**+1.9**
CO05	**La Serena**	**0.84**	**12**	↑ *i* P	**Pn**	**16 55 17.6**	**+0.7**
CO05				*i* S	**Sn**	**16 55 29.3**	**+1.1**
CO05	**La Serena**	**0.84**	**12**		**Pn**	**16 55 17.5**	**+0.6**
VA06	**Catapilco**	**1.81**	**176**	↑ *i* P	**Pn**	**16 55 31.7**	**+1.5**
VA06				*e*S	**Sn**	**16 55 53.9**	**+1.9**
VA06				IAML		16 56 10.0	
	comp=N,4μm,0.5s						
LCO	**Las Campanas**	**1.85**	**20**	Pn	**Pn**	**16 55 32.0**	**+1.1**
LCO				Sn	**Sn**	**16 55 54.8**	**+1.5**
VA03	**San Esteban**	**2.14**	**160**↑	*i* P	**Pn**	**16 55 37.4**	**+2.5**
VA03				*i* S	**Sn**	**16 56 03.5**	**+3.0**
VA03				IAML		16 56 09.5	
	comp=E,3μm,0.2s						
VA03	**San Esteban**	**2.14**	**160**	Pn	**Pb**	**16 55 38.0**	**-1.5**
ROCH	**El Roble**	**2.25**	**171**	*e*P	**Pn**	**16 55 38.6**	**+2.2**
ROCH				*e*S	**Sn**	**16 56 06.3**	**+3.2**
ROCH				IAML		16 56 18.1	
	comp=N,3μm,0.6s						
VA01	**Torpederas**	**2.27**	**185**	*e*P	**Pn**	**16 55 37.2**	**+0.7**
VA01				*e*S	**Sn**	**16 56 03.5**	**0.0**
VA01	**Torpederas**	**2.27**	**185**	Pn	**Pn**	**16 55 37.1**	**+0.5**
ZON	**Zonda**	**2.49**	**109**	Pn	**Pb**	**16 55 43.5**	**-1.8**
AC04	**Llanos de Chal**	**2.56**	**7**	Pn	**Pn**	**16 55 41.7**	**+1.3**
MT05	**Renca**	**2.70**	**168**	*e*P	**Pn**	**16 55 46.2**	**+3.7**
MT05				*e*S	**Sn**	**16 56 16.4**	**+2.3**
MT05	**Renca**	**2.70**	**168**	Pn	**Pn**	**16 55 44.5**	**+2.0**
VA05	**Santo Domingo**	**2.90**	**183**	Pn	**Pn**	**16 55 44.7**	**-0.5**
MT09	**Talagante**	**3.04**	**173**	*e*P	**Pn**	**16 55 49.3**	**+2.1**
MT09				*i* S	**Sn**	**16 56 25.6**	**+3.0**
MT09				IAML		16 56 39.3	
	comp=E,915nm,0.4s						
MT09	**Talagante**	**3.04**	**173**		**Pn**	**16 55 49.1**	**+1.9**
MT01	**Popeta**	**3.11**	**177**	Pn	**Pn**	**16 55 49.1**	**+1.0**
GO03	**Copiap**	**3.31**	**19**	Pn	**Pn**	**16 55 52.4**	**+1.5**
AC06	**Mina Casimiro**	**3.51**	**16**	Pn	**Pn**	**16 55 55.2**	**+1.6**
BO01	**Tunca**	**3.64**	**175**	Pn	**Pn**	**16 55 56.5**	**+1.1**
BO02	**Sierra Bellavi**	**4.07**	**172**	Pn	**Pn**	**16 56 02.9**	**+1.6**
GO05	**Huala**	**4.27**	**185**	Pn	**Pn**	**16 56 03.1**	**-0.9**
AC02	**Maricunga**	**4.39**	**28**	Pn	**Pn**	**16 56 07.5**	**+1.4**
VA04	**Juan Fernndez**	**6.90**	**243**	Pn	**Pn**	**16 56 38.2**	**-1.9**
LC01	**Cunco**	**8.14**	**182**	Pn	**Pn**	**16 56 56.2**	**-0.9**
BDFB	**Brasilia**	**26.18**	**60**	P	**P**	**17 00 32.5**	**-0.6**
	comp=E,11nm,1.0s,baz=239,slow=5.9,SNR=3.3						
SNAA	**Sanae**	**54.41**	**159**	P	**P**	**17 04 23.6**	**-1.2**
SNAA				IAmb	IAmb	17 04 25.2	
	comp=Z,4.0nm,0.9s			

SNR=6.1
KDMR Sn Sg 16 55 54.5 +0.8
KDMR Kurdemir 1.52 87 *e*Pn **Pn** 16 55 32.1 -0.4
IML Ismayilli 1.59 72 Pn **Pn** 16 55 33.1 -0.4
SNR=17
IML Sn **Sb** 16 55 55.0 +0.1
IMRD Marand 1.64 194 *e*Pn **Pb** 16 55 34.9 -0.6
IMRD *e* 16 55 37.8
comp=Z,8µm,0.2s
AKT Akhty 1.65 44 *i*Pn **Pn** 16 55 34.5 +0.1
AKT Akhty 1.65 44 *e*Pg **Pn** 16 55 34.6 +0.1
comp=Z,82nm,0.2s
AKT *e*Sg **Sb** 16 55 56.4 -0.4
comp=Z,4.0nm,0.3s
IGDI IGDIR 1.68 256 *i*P **Pb** 16 55 36.4 +0.2
IGDI *i*S **Sg** 16 55 58.3 -0.6
XNQ Khinaliq 1.71 59 Pn **Pn** 16 55 34.9 -0.5
SNR=12
XNQ Sn **Sb** 16 55 58.2 -0.4
BTNK Botanikuri 1.73 323 PN **Pn** 16 55 32.0 -3.5
KZRT Kazreti 1.74 309 *i*P **Pb** 16 55 35.7 +0.2
KZRT *i*S **Sn** 16 55 57.1 -1.0
KZRT Kazreti 1.74 309 PN **Pn** 16 55 35.8 +0.2
SAAT Saatly 1.77 104 Pn **Pn** 16 55 34.5 -1.4
SAAT Sn **Sn** 16 55 57.1 -1.5
SEAG Tbilisi Sea 1.79 325 PN **Pb** 16 55 37.2 -0.9
DMNI Dmanisi 1.83 304 PN **Pb** 16 55 38.0 -0.8
PQL Pirkuli 1.89 75 Pn **Pn** 16 55 37.7 0.0
SNR=3.7
PQL Sn **Sb** 16 56 03.8 +0.1
AHAR Ahar 1.93 160 *e*Pn **Pn** 16 55 38.8 +0.4
AHAR *e* 16 55 40.4
comp=Z,6µm,0.2s
KMKR Kumukh 1.94 20 *e*PN **Pb** 16 55 40.0 -0.8
KMKR Kumukh 1.94 20 *e*Pg **Pb** 16 55 40.0 -0.8
comp=Z,1µm,0.3s
KMKR *i*Sg **Sb** 16 56 06.0 +0.7
KSMR Kasumkent 1.95 48 *e*PN **Pb** 16 55 40.6 -0.2
KSMR *e* 16 56 06.9
KSMR pmax pmax
comp=Z,78nm,0.2s
KSMR smax smax
comp=E,4.0nm,0.3s
KSMR smax smax
comp=N,8.0nm,0.4s
KSMR smax smax
comp=N,7.0nm,0.4s
KSMR Kasumkent 1.95 48 *e*Pg **Pb** 16 55 40.6 -0.2
comp=N,79nm,0.2s
KSMR *e*Sg **Sg** 16 56 06.9 -0.7
comp=N,192nm,0.6s
QSAR Qusar 1.98 52 Pg **Pb** 16 55 40.2 -1.0
SNR=25
QSAR Sn **Sb** 16 56 06.1 0.0
GLBA Cilabad 2.00 121 Pn **Pn** 16 55 39.4 +0.3
SNR=17
GLBA Sn **Sb** 16 56 05.5 -1.2
TRLG Trialeti 2.01 308 PN **Pn** 16 55 40.2 +0.8
EAK Akyaka 2.01 282 *i*P **Pb** 16 55 41.4 -0.5
EAK *i*S **Sg** 16 56 08.9 -0.5
EAK IAML 16 56 14.0
comp=N,118nm,0.8s
EAK IAML 16 56 16.0
comp=E,94nm,0.5s
QUBA Quba, Azerbaij 2.03 58 Pg **Pb** 16 55 40.9 -1.3
SNR=22
QUBA Sg **Sg** 16 56 09.3 -0.8
ISHB Shabestar 2.07 193 *e*Pn **Pn** 16 55 41.3 +1.0
ITBZ Tabriz 2.07 181 *e*Pn **Pn** 16 55 41.2 +0.9
ITBZ *e* 16 55 44.0
comp=Z,2µm,0.2s
IHRS Heris 2.09 161 *e*Pn **Pn** 16 55 41.5 +0.9
IHRS *e* 16 55 43.1
comp=Z,5µm,0.3s
YRD Yardimli 2.10 131 Pn **Pn** 16 55 41.0 +0.3
SNR=30
YRD Sn **Sn** 16 56 07.9 +0.6
CLDR Caldiran 2.11 237 *i*P **Pg** 16 55 46.4 +1.2
URKR Urkarakh 2.15 30 *e*PN **Pb** 16 55 43.9 -0.2
URKR *e*S **Sb** 16 56 12.1 +1.0
URKR pmax pmax
comp=Z,61nm,0.6s
URKR Urkarakh 2.15 30 *e*Pg **Pb** 16 55 44.0 -0.2
comp=Z,61nm,0.6s
URKR *e*Sg **Sb** 16 56 12.2 +1.0
GNBR Gunib 2.16 15 *i*PN **Pb** 16 55 43.8 -0.5
GNBR Gunib 2.16 15 *e*Pg **Pb** 16 55 44.2 -0.1
comp=Z,41nm,0.6s
GNBR *e*Sg **Sg** 16 56 12.9 -1.2
comp=Z,82nm,0.4s
ATGJ Altiaghaj 2.16 74 Pn **Pn** 16 55 40.9 -0.5
ATGJ Sg **Sb** 16 56 12.6 +1.2
DIGO Kars 2.16 274 *i*P **Pg** 16 55 45.6 -0.6
DIGO *i*S **Sb** 16 56 12.1 +0.5
ALIB Äli-Bayra 2.18 98 Pn **Pn** 16 55 42.5 +0.9
ALIB Sg **Sb** 16 56 12.5 +0.5
SIZA Siyzn 2.19 69 Pn **Pn** 16 55 42.6 +0.7
SNR=3.7
SIZA Sg **Sb** 16 56 13.1 +0.7
XNZR Khunzakh 2.26 10 *e*PN **Pb** 16 55 45.4 -0.7
XNZR *e*S **Sb** 16 56 14.9 +0.4
XNZR pmax pmax
comp=Z,23nm,0.4s
XNZR Khunzakh 2.26 10 *e*Pg **Pb** 16 55 45.5 -0.7
comp=Z,23nm,0.4s
XNZR *e*Sg **Sb** 16 56 14.9 +0.4
comp=Z,101nm,0.5s
AKH Akhalkalaki 2.33 299 PN **Pb** 16 55 47.8 +0.5
LRK Lerik 2.35 134 Pn **Pn** 16 55 45.0 +0.9
SNR=29
LRK Sn **Sb** 16 56 15.3 -1.7
BTLR Botlikh 2.35 0 *i*PN **Pb** 16 55 47.1 -0.6
ARKR Arakani 2.37 14 *e*PN **Pb** 16 55 47.5 -0.4
ARKR *e*S **Sb** 16 56 18.4 +1.0
ARKR pmax pmax
comp=Z,30nm,0.5s
ARKR Arakani 2.37 14 *e*Pn **Pb** 16 55 47.5 -0.4
comp=Z,30nm,0.5s
ARKR *e*Sn **Sb** 16 56 18.5 +1.0
BKRG Bakuriani 2.49 306 PN **Pb** 16 55 49.2 -0.8
GUDG Gudauri 2.51 330 PN **Pn** 16 55 44.8 -1.6
LKRN Lenkeran, Azer 2.56 128 PN **Pn** 16 55 47.2 +0.4
LKRN Lenkeran, Azer 2.56 128 Pn **Pn** 16 55 47.1 +0.4
SNR=3.1
LKRN Sn **Sb** 16 56 20.4 -2.3
PNSH Pansheti 2.61 333 PN **Pn** 16 55 49.4 +1.7
IAZR Azarshahr 2.63 184 *e* **Pg** 16 55 58.7 +3.4
comp=Z,3µm,0.3s
DVE Vedeno 2.65 359 *i*PN **Pb** 16 55 51.7 -0.9
DVE pmax pmax
comp=Z,37nm,0.3s
IBST Bostanabad 2.66 168 *e*Pn **Pb** 16 55 51.1 -1.9
IBST *e* 16 55 53.3
comp=Z,1µm,0.2s
ASTR Astara 2.66 130 Pn **Pn** 16 55 48.8 +0.6
SNR=5.0
ASTR Sn **Sb** 16 56 23.4 -2.4
ISRB Sarab 2.73 155 *e*Pn **Pn** 16 55 51.1 +1.7
ISRB *e* 16 55 54.2
comp=Z,2µm,0.3s
DBC Dubki 2.75 10 *e*PN **Pb** 16 55 55.3 +0.9
DBC pmax pmax
comp=Z,14nm,0.3s
LACR Lac 2.89 331 *e*PN **Pn** 16 55 53.7 +2.2
LACR pmax pmax
comp=Z,66nm,0.4s
GROC Groznyy 2.91 354 *e*PN **Pb** 16 55 56.0 -1.0
GROC *e* 16 56 38.4
GROC pmax pmax
comp=Z,26nm,0.3s
GROC smax smax
comp=N,101nm,0.6s
GROC smax smax
comp=N,91nm,0.5s
GROC smax smax
comp=E,48nm,0.5s
GROC MLR MLR
comp=Z,33nm,1.0s
ZEI Tsey 3.02 326 *e*PN **Pb** 16 55 57.4 -1.6
ZEI *e*S **Sb** 16 56 36.8 +0.6
ZEI pmax pmax
comp=Z,19nm,0.6s
ZEI smax smax
comp=N,118nm,0.6s
ZEI smax smax
comp=E,207nm,0.7s
ONI Oni 3.07 319 PN **Pb** 16 55 58.6 -1.3
TKB Tkibuli 3.16 311 PN **Pb** 16 55 59.7 -1.7
KORR Kora 3.20 331 *e*PN **Pg** 16 56 05.0 -1.1
KORR *e*S **Sg** 16 56 46.4 -1.2
KORR pmax pmax
comp=Z,33nm,0.5s
KORR smax smax
comp=E,61nm,0.6s
DBAD Bademkaya 3.50 283 *i*P **Pg** 16 56 11.8 -0.1
NEY Neytrino 3.92 320 *i*PN **Pb** 16 56 11.9 -2.5
NEY pmax pmax
comp=Z,1.0nm,0.7s
SHA1 Shidzhatmaz 4.32 324 *i*Pn **Pb** 16 56 16.6 -4.7
KIV Kislovodsk 4.48 326 *e*PN Pb 16 56 18.9 -5.0
KIV pmax pmax
comp=Z,7.0nm,1.1s
OBN Obninsk 16.14 340⇗ *e*P **P** 16 58 57.1 +1.7
OBN pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 21.29 74 *i*P **P** 16 59 52.4 +0.2
AAK pmax pmax
comp=Z,2.0nm,0.8s

*IDC **17** 16:59:17.8±2.2,32.°89S×178.°19W,h0km,mb4.1/4, mb1 4.2/5,mb1mx3.8/40,mbtmp4.0/5,ML3.6/1,Error ellipse: s-maj=52.8km s-min=34.0km az=128.0*
*NEIC **17** 16:59:26.8±0.4,32.°88S±0.°07×178.°8W±0.°2,h35km±2km, mb4.0/3,Error ellipse: s-maj=36.0km s-min=4.1km az=107.0*
ISC 17 16:59:26.0±1.1,**32.°9S**±0.°1×**178.°7W**±0.°2,**h32**km,**n17**, σ1s**85**/17,**mb4.1/7,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.64**	**10**	Pn	**Pn**	**17 00 21.1**	**+1.0**
URZ	**Urewera**	**6.40**	**211**	Pn	**Pn**	**17 00 57.4**	**-0.5**
	1.3nm,0.3s,baz=121,slow=22,SNR=6.2						
URZ				Sn	**Sn**	**17 02 12.6**	**+2.7**
	3.6nm,0.3s,baz=104,slow=18,SNR=7.4						
BKZ	**Black Stump Fm**	**7.42**	**210**	Pn	**Pn**	**17 01 10.8**	**-1.2**
BFZ	**Birch Farm**	**8.81**	**206**	Pn	**Pn**	**17 01 28.2**	**-2.9**
CTA	**Charters Tower**	**33.71**	**283**	P	**P**	**17 06 06.2**	**+1.7**
	1.9nm,0.4s,baz=105,slow=8.3						
AS31	**Alice Springs**	**42.47**	**270**	P	**P**	**17 07 17.1**	**-1.1**
AS31				IAmb	IAmb	17 07 18.5	
	comp=Z,0.9nm,0.8s						
ASAR	**Alice Springs**	**42.47**	**270**	P	**P**	**17 07 17.8**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=107,slow=7.5,SNR=32						
ASAR	**Alice Springs**	**42.47**	**270**	P	**P**	**17 07 17.6**	**-0.6**
WR0	**Warramunga Arr**	**43.50**	**275**	P	**P**	**17 07 25.7**	**-0.9**
WR0				IAmb	IAmb	17 07 42.0	
	comp=Z,4.1nm,1.1s						
WB2	**Warramunga Arr**	**43.67**	**275**	P	**P**	**17 07 26.8**	**-1.2**
WB2				IAmb	IAmb	17 07 29.5	
	comp=Z,4.7nm,0.9s						
WRA	**Warramunga Arr**	**43.68**	**275**	P	**P**	**17 07 27.1**	**-0.9**
	comp=Z,3.1nm,0.8s,baz=117,slow=7.7,SNR=16						
FITZ	**Fitzroy Crossi**	**51.83**	**272**	P	**P**	**17 08 29.6**	**-1.6**
	comp=Z,1.0nm,0.9s,baz=138,slow=12,SNR=1.3						
QSPA	**South Pole Qui**	**57.27**	**180**		pP	17 09 19.3	+0.5
VNA1	**Neumayer--Stat**	**76.57**	**177**	P	**P**	**17 11 14.6**	**+2.0**
KURBB	**Kurchatov Arra**	**122.34**	**313**	PKP	**PKPdf**	**17 18 13.5**	**-3.8**
	comp=Z,0.6nm,0.8s,baz=108,slow=1.2,SNR=4.6						
FINES	**FINESS Array B**	**147.22**	**338**	PKPbc	**PKPdf**	**17 19 03.3**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=64,slow=3.2,SNR=7.0						
FINES	**FINESS Array B**	**147.22**	**338**		**PKPdf**	**17 19 03.5**	**+0.6**

*GUC **17** 17:02:10.3±0.5,30.°59S×72.°69W,h20km±16km,ML4.4*
*IDC **17** 17:02:11.2±0.5,30.°69S×72.°73W,h0km,mb4.3/9, mb1 4.6/11,mb1mx4.4/24,mbtmp4.4/11,ML4.7/3,MS3.6/1, Ms1 3.6/1,ms1mx3.0/26,Error ellipse: s-maj=24.7km s-min=17.9km az=94.0*
*NEIC **17** 17:02:12.3±2.6,30.°66S±0.°05×72.°63W±0.°06,h10km±1km, mb4.8/71,ML4.3(GUC), Error ellipse: s-maj=8.7km s-min=7.8km az=136.0*
ISC 17 17:02:12.9±0.8,**30.°65S**±0.°04×**72.°60W**±0.°05,**h16**km±4km, **n161**,σ1s**72**/173,**mb4.7**/38,**1C-1D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ISC	Time	Res
				Op		h m s	ISC
CO06	**Fray Jorge**	**0.83**	**92**	*e*P	**Pg**	**17 02 28.4**	**-0.7**
CO06				*i*S	**Sb**	**17 02 40.8**	**+0.8**
CO06				IAML		17 02 41.6	
	comp=N,15µm,0.5s						
CO06	**Fray Jorge**	**0.83**	**92**		**Pg**	**17 02 28.3**	**-0.7**
CO05	**La Serena**	**1.38**	**59**	*e*P	**Pn**	**17 02 37.4**	**-0.2**
CO05				*i*S	**Sb**	**17 02 55.0**	**-0.7**
CO05				IAML		17 02 57.1	
	comp=E,9µm,0.7s						
CO05	**La Serena**	**1.38**	**59**		**Pn**	**17 02 37.3**	**-0.2**
GO04	**Tololo Observa**	**1.62**	**74**	*e*P	**Pn**	**17 02 39.4**	**-1.7**
GO04				*e*S	**Sn**	**17 03 01.3**	**-0.6**
GO04	**Tololo Observa**	**1.62**	**74**		**Pn**	**17 02 40.4**	**-0.8**
CO03	**El Pedregal**	**1.66**	**97**	*e*P	**Pn**	**17 02 41.8**	**+0.4**
CO03				*i*S	**Sn**	**17 03 02.9**	**+0.4**
CO03				IAML		17 03 06.8	
	comp=N,4µm,0.5s						
CO03	**El Pedregal**	**1.66**	**97**		**Pn**	**17 02 41.8**	**+0.4**
VA06	**Catapilco**	**2.21**	**150**	*e*P	**Pn**	**17 02 48.1**	**-0.8**
VA06				*i*S	**Sn**	**17 03 13.5**	**-2.4**
VA06				IAML		17 03 16.0	
	comp=E,3µm,0.4s						
LCO	**Las Campanas**	**2.32**	**46**		**Pn**	**17 02 50.6**	**-0.1**
VA01	**Torpederas**	**2.50**	**161**		**Pn**	**17 02 50.9**	**-2.1**
ROCH	**El Roble**	**2.69**	**150**	*e*P	**Pn**	**17 02 55.9**	**+0.2**
ROCH				*i*S	**Sn**	**17 03 26.6**	**-1.4**
ROCH				IAML		17 03 31.7	
	comp=E,2µm,0.4s						
VA03	**San Esteban**	**2.74**	**141**	*e*P	**Pn**	**17 02 56.4**	**0.0**
VA03				*e*S	**Sn**	**17 03 26.5**	**-2.7**
VA03	**San Esteban**	**2.74**	**141**		**Pn**	**17 02 56.8**	**+0.5**
AC04	**Llanos de Chal**	**2.77**	**29**⇓	*e*P	**Pn**	**17 02 55.4**	**-1.3**
AC04				*i*S	**Sn**	**17 03 26.7**	**-3.2**
AC04	**Llanos de Chal**	**2.77**	**29**	Pn	**Pn**	**17 02 55.2**	**-1.4**
AC04				Sn	**Sn**	**17 03 25.7**	**-4.2**
VA05	**Santo Domingo**	**3.12**	**165**	*e*P	**Pn**	**17 02 60.0**	**-1.5**
VA05				*e*S	**Sn**	**17 03 32.9**	**-5.5**
VA05				IAML		17 03 35.9	
	comp=N,930nm,0.3s						
VA05	**Santo Domingo**	**3.12**	**165**		**Pn**	**17 02 59.9**	**-1.5**
MT05	**Renca**	**3.16**	**150**	*e*P	**Pn**	**17 03 01.7**	**-0.4**
MT05	**Renca**	**3.16**	**150**	Pn	**Pn**	**17 03 01.7**	**-0.4**
MT01	**Popeta**	**3.41**	**161**	*e*P	**Pn**	**17 03 04.2**	**-1.2**
MT01				*e*S	**Sn**	**17 03 37.0**	**-8.5**
MT01				IAML		17 03 43.6	
	comp=N,420nm,0.5s						
MT01	**Popeta**	**3.41**	**161**	Pn	**Pn**	**17 03 03.8**	**-1.6**
MT09	**Talagante**	**3.41**	**157**	*e*P	**Pn**	**17 03 05.4**	**-0.1**
MT09				*i*S	**Sn**	**17 03 45.5**	**-0.3**
MT09				IAML		17 03 47.7	
	comp=E,618nm,0.4s						
MT09	**Talagante**	**3.41**	**157**	Pn	**Pn**	**17 03 04.9**	**-0.7**
ZON	**Zonda**	**3.48**	**106**		**Pn**	**17 03 06.2**	**-0.3**
GO03	**Copiap**	**3.68**	**35**	*e*P	**Pn**	**17 03 07.8**	**-1.4**
GO03	**Copiap**	**3.68**	**35**	Pn	**Pn**	**17 03 08.1**	**-1.1**
AC06	**Mina Casimiro**	**3.82**	**32**	*e*P	**Pn**	**17 03 10.7**	**-0.5**
AC06	**Mina Casimiro**	**3.82**	**32**		**Pn**	**17 03 11.1**	**-0.1**
BO03	**Pichilemu**	**3.88**	**172**⇓	*e*P	**Pn**	**17 03 10.1**	**-1.7**
BO01	**Tunca**	**3.95**	**162**	*e*P	**Pn**	**17 03 11.9**	**-1.0**
BO01	**Tunca**	**3.95**	**162**	Pn	**Pn**	**17 03 12.2**	**-0.7**
GO05	**Huala**	**4.39**	**173**		**Pn**	**17 03 17.3**	**-1.7**
AC02	**Maricunga**	**4.87**	**40**	Pn	**Pn**	**17 03 26.6**	**+0.7**
ML02	**Panimavida**	**5.20**	**169**	Pn	**Pn**	**17 03 29.1**	**-0.9**
PB14	**IPOC Station P**	**6.30**	**19**	Pn	**Pn**	**17 03 42.0**	**-3.5**
PB10	**IPOC Station P**	**7.33**	**15**	Pn	**Pn**	**17 03 55.5**	**-3.9**
PB15	**IPOC Station P**	**7.92**	**21**		**Pn**	**17 04 03.9**	**-3.7**
LC01	**Cunco**	**8.25**	**176**	Pn	**Pn**	**17 04 10.1**	**-1.9**
PB06	**IPOC Station P**	**8.36**	**20**		**Pn**	**17 04 10.2**	**-3.4**
LVC	**Limon Verde**	**8.66**	**23**	Pn	**Pn**	**17 04 15.3**	**-2.6**
	comp=E,2.1nm,0.3s,baz=191,slow=9.0,SNR=11						
LVC				Sn	**Sn**	**17 05 52.8**	**-2.6**
	comp=E,1.9nm,0.3s,baz=180,slow=20,SNR=1.9						
LR03	**Panguipulli**	**8.97**	**179**		**Pn**	**17 04 19.7**	**-2.0**
PB07	**IPOC Station P**	**9.21**	**16**		**Pn**	**17 04 21.3**	**-4.0**
PB09	**IPOC Station P**	**9.31**	**20**	Pn	**Pn**	**17 04 23.8**	**-3.0**
PB01	**IPOC Station P**	**9.96**	**17**		**Pn**	**17 04 31.5**	**-4.1**
PLCA	**Paso Flores**	**10.20**	**171**	Pn	**Pn**	**17 04 38.2**	**-0.6**
	comp=E,1.8nm,0.3s,baz=334,slow=9.5,SNR=32						
PLCA	**Paso Flores**	**10.20**	**171**	Pn	**Pn**	**17 04 37.9**	**-0.8**
LL04	**Puerto Octay**	**10.24**	**179**	Pn	**Pn**	**17 04 36.6**	**-2.6**
TA01	**Diego Aracena**	**10.27**	**13**	Pn	**Pn**	**17 04 39.2**	**-0.5**
PB11	**IPOC Station P**	**11.16**	**14**	Pn	**Pn**	**17 04 48.9**	**-3.1**
PSGCX	**Pisagua**	**11.23**	**12**		**Pn**	**17 04 48.6**	**-4.2**
TRQA	**Tornquist**	**11.47**	**133**	Pn	**Pn**	**17 04 55.0**	**-1.0**
LL02	**Futaleuf**	**12.54**	**177**	Pn	**Pn**	**17 05 10.1**	**-0.5**
CPUP	**Villa Florida**	**14.10**	**76**	LR	LR	17 10 57.6	
	comp=E,227nm,18.6s,baz=246,slow=37						
LPAZ	**La Paz**	**14.87**	**17**	Pn	**Pn**	**17 05 45.3**	**+2.2**
	comp=E,1.4nm,0.3s,baz=186,slow=6.7,SNR=56						
LPAZ	**La Paz**	**14.87**	**17**		**Pn**	**17 05 45.1**	**+2.0**
SIV	**San Ignacio**	**18.00**	**38**	P	**P**	**17 06 24.5**	**+1.4**
	comp=E,1.2nm,0.3s,baz=227,slow=10,SNR=27						
AQDB	**Aquidauana**	**18.28**	**60**	Pn	**Pn**	**17 06 23.1**	**-2.9**
NNA	**Nana**	**18.98**	**347**	P	**Pn**	**17 06 37.1**	**+2.5**
	comp=E,0.8nm,0.3s,baz=217,slow=13,SNR=4.9						
BDFB	**Brasilia**	**27.01**	**62**	P	**P**	**17 07 56.7**	**+2.2**
	comp=E,12nm,1.0s,baz=263,slow=8.5,SNR=4.4						
BDFB	**Brasilia**	**27.01**	**62**	IAmb	IAmb	17 07 59.1	
	comp=Z,37nm,1.3s						
RUSC	**La Rusia**	**36.33**	**359**	P	**P**	**17 09 17.5**	**+0.8**
SDV	**Santo Domingo**	**39.35**	**3**	P	**P**	**17 09 42.1**	**+0.2**
SRBA	**San Rafael, Bu**	**40.97**	**344**	P	**P**	**17 09 53.6**	**-1.7**
ORTG	**Ortega, Santa**	**42.60**	**341**	P	**P**	**17 10 09.4**	**+0.9**
ORTG				IAmb	IAmb	17 10 11.8	
	comp=Z,11nm,0.9s						
MLPR	**Magueyes Islan**	**48.63**	**7**	P	**P**	**17 10 54.6**	**-1.4**
PDPR	**Patillas Dam,**	**48.79**	**8**	P	**P**	**17 10 57.2**	**-0.2**
SJG	**San Juan**	**48.87**	**8**	P	**P**	**17 10 58.2**	**+0.3**
CBYP	**Canovanas**	**49.06**	**8**	P	**P**	**17 10 58.5**	**-1.0**
SMRT	**St. Maarten**	**49.27**	**12**	P	**P**	**17 11 00.3**	**-0.8**
VNA3	**Neumayer Olymp**	**52.64**	**159**	P	P	17 11 17.7	-8.2
VNA2	**Neumayer--Watz**	**53.29**	**158**	P	P	17 11 20.4	-10
SNAA	**Sanae**	**54.87**	**159**	P	**P**	**17 11 42.6**	**+0.4**
SNAA	**Sanae**	**54.87**	**159**	P	**P**	**17 11 42.0**	**-0.2**
SNAA				IAmb	IAmb	17 11 45.3	
	comp=Z,7.6nm,1.1s						
QSPA	**South Pole Qui**	**59.58**	**180**	P	**P**	**17 12 16.8**	**+1.1**
	comp=Z,3.8nm,0.8s,baz=162,slow=1.4,SNR=13						
QSPA	**South Pole Qui**	**59.58**	**180**	P	**P**	**17 12 16.1**	**+0.4**
QSPA				IAmb	IAmb	17 12 33.8	
	comp=Z,6.1nm,1.1s						
143A	**Socs Landing,**	**65.47**	**343**	P	**P**	**17 12 56.1**	**+1.0**
435B	**Jarrell**	**65.54**	**336**	P	**P**	**17 12 55.5**	**-0.2**
JCT	**Junction City**	**66.06**	**334**	P	**P**	**17 12 58.4**	**-0.7**
TXAR	**Lajitas Array**	**66.58**	**331**	P	**P**	**17 13 03.8**	**+1.2**
	comp=Z,3.4nm,0.8s,baz=153,slow=8.1,SNR=32						
TXAR	**Lajitas Array**	**66.58**	**331**	P	**P**	**17 13 03.5**	**+0.9**
TX31	**Lajitas Ar. Si**	**66.59**	**331**	P	**P**	**17 13 03.7**	**+1.2**
TX31				IAmb	IAmb	17 13 04.0	
	comp=Z,8.7nm,0.7s						
TX32	**Lajitas Array**	**66.59**	**331**	P	**P**	**17 13 03.0**	**+0.5**
TX32				IAmb	IAmb	17 13 04.0	
	comp=Z,3.0nm,0.8s						
VNDA	**Vanda**	**67.29**	**191**	P	**P**	**17 13 08.3**	**+1.9**
	comp=Z,1.4nm,1.2s,baz=164,slow=4.0,SNR=3.8						
VNDA	**Vanda**	**67.29**	**191**	P	**P**	**17 13 06.2**	**-0.2**
ABTX	**Abilene, Hawle**	**67.94**	**336**	P	**P**	**17 13 10.2**	**-0.7**
T50A	**Nancy**	**68.28**	**349**	P	**P**	**17 13 14.2**	**+1.2**
T50A				IAmb	IAmb	17 13 15.4	
	comp=Z,9.8nm,0.8s						
W39A	**Magazine**	**68.46**	**341**	P	**P**	**17 13 14.4**	**+0.2**
LCAR	**Lake Charles**	**68.61**	**344**	P	**P**	**17 13 14.7**	**-0.4**
LCAR				IAmb	IAmb	17 13 15.7	
	comp=Z,7.1nm,0.7s						
T47A	**Sharon Grove**	**68.64**	**348**	P	**P**	**17 13 14.8**	**-0.4**
T47A				IAmb	IAmb	17 13 16.4	
	comp=Z,9.7nm,0.8s						
U40A	**Yellville**	**69.31**	**343**		**P**	**17 13 19.8**	**+0.4**
MNTX	**Cornudas Mount**	**69.36**	**330**	P	**P**	**17 13 19.8**	**-0.1**
MNTX				IAmb	IAmb	17 13 20.7	
	comp=Z,6.2nm,0.8s						
HHAR	**Hobbs**	**69.53**	**342**	P	**P**	**17 13 21.0**	**+0.2**
HHAR				IAmb	IAmb	17 13 22.0	
	comp=Z,7.6nm,0.7s						
SIUC	**Southern Illin**	**69.76**	**346**	P	**P**	**17 13 22.2**	**+0.1**
U38A	**Gravette**	**69.80**	**341**	P	**P**	**17 13 22.1**	**-0.3**
U38A				IAmb	IAmb	17 13 28.6	
	comp=Z,5.6nm,1.2s						
MSTX	**Muleshoe**	**70.30**	**334**	P	**P**	**17 13 26.3**	**+0.6**
R40A	**Maddies Statio**	**71.00**	**344**	P	**P**	**17 13 29.9**	**+0.2**
121A	**Cookes Peak, D**	**71.12**	**329**	P	**P**	**17 13 32.1**	**+1.3**
121A				IAmb	IAmb	17 13 33.6	
	comp=Z,14nm,1.2s						
N49A	**Columbus Grove**	**72.01**	**351**	P	**P**	**17 13 35.8**	**+0.1**
N49A				IAmb	IAmb	17 13 36.3	
	comp=Z,9.1nm,0.7s						
P40A	**Paris**	**72.12**	**344**	P	**P**	**17 13 36.3**	**-0.2**
L56A	**Greenwood**	**72.57**	**356**	P	**P**	**17 13 39.1**	**0.0**
L56A				IAmb	IAmb	17 13 41.0	
	comp=Z,7.7nm,0.9s						
P38A	**Dawn**	**72.57**	**343**	P	**P**	**17 13 38.6**	**-0.5**
P38A				IAmb	IAmb	17 13 40.2	
	comp=Z,9.1nm,0.6s						
ANMO	**Albuquerque**	**72.62**	**331**	P	**P**	**17 13 38.0**	**-1.8**
ANMO				IAmb	IAmb	17 13 43.1	
	comp=Z,6.4nm,1.3s						
T25A	**Trinidad**	**73.72**	**334**	P	**P**	**17 13 45.0**	**-1.3**
T25A				IAmb	IAmb	17 13 49.0	
	comp=Z,8.1nm,1.1s						
L40A	**Anamosa**	**74.36**	**346**	P	**P**	**17 13 48.5**	**-1.1**
L40A				IAmb	IAmb	17 13 50.1	
	comp=Z,9.0nm,0.7s						
X16A	**Lo Mia Camp, P**	**74.36**	**327**	P	**P**	**17 13 51.0**	**+1.0**
X16A				IAmb	IAmb	17 13 52.7	
	comp=Z,9.3nm,1.2s						
DBIC	**Dimbokro**	**74.59**	**72**	P	**P**	**17 13 53.0**	**+1.4**
	comp=Z,3.7nm,0.6s,baz=233,slow=5.6,SNR=8.2						
DBIC	**Dimbokro**	**74.59**	**72**	P	**P**	**17 13 51.9**	**+0.3**
DBIC				IAmb	IAmb	17 14 08.8	
	comp=Z,13nm,1.3s						
SDCO	**Great Sand Dun**	**74.67**	**333**	P	**P**	**17 13 52.8**	**+0.9**
WUAZ	**Wupatki**	**75.24**	**328**	P	**P**	**17 13 56.2**	**+1.2**
WUAZ				IAmb	IAmb	17 13 58.0	
	comp=Z,11nm,1.2s						
W13A	**Hualapai Mount**	**76.07**	**326**	P	**P**	**17 13 57.4**	**-2.5**
PFO	**Pinyon Flats O**	**76.17**	**323**	P	**P**	**17 13 58.9**	**-1.5**
PFO				IAmb	IAmb	17 14 02.7	
	comp=Z,7.5nm,1.0s						
PV01	**Paradox Valley**	**76.22**	**332**	P	**P**	**17 13 60.0**	**-0.8**
PV13	**Radium Mtn., P**	**76.35**	**331**	P	**P**	**17 14 00.6**	**-0.9**
PV05	**Paradox Valley**	**76.39**	**331**	P	**P**	**17 13 59.9**	**-1.9**
PV05				IAmb	IAmb	17 14 04.0	
	comp=Z,9.1nm,1.3s						
SMCO	**Snowmass**	**76.48**	**333**	P	**P**	**17 14 00.6**	**-1.8**
SMCO				IAmb	IAmb	17 14 05.4	
	comp=Z,13nm,1.1s						
ECSD	**EROS Data Cent**	**77.22**	**342**	P	**P**	**17 14 06.6**	**+0.7**
ECSD				IAmb	IAmb	17 14 07.4	
	comp=Z,11nm,0.9s						
MVU	**Marysvale**	**78.08**	**329**	P	**P**	**17 14 10.7**	**-0.5**
GWY	**Greenwater Val**	**78.30**	**325**	P	**P**	**17 14 12.1**	**-0.2**
PRN	**Pahroc Range**	**78.

J08A	**Circle Bar Ran**	**84.80**	**328**	P	**P**	**17 14 47.8**	**+1.3**
J08A				IAmb	IAmb	17 14 48.8	
	comp=Z,10nm,1.3s						
ASAR	**Alice Springs**	**120.31**	**208**	PKP	**PKPdf**	**17 21 03.0**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=136,slow=1.7,SNR=7.1						
WRA	**Warramunga Arr**	**123.42**	**211**	PKP	**PKPdf**	**17 21 09.3**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=159,slow=2.0,SNR=13						
FITZ	**Fitzroy Crossi**	**128.46**	**202**	PKP	**PKiKP**	**17 21 20.2**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=205,slow=2.4,SNR=2.1						
SEY	**Seymchan**	**136.88**	**332**	PKP	**PKiKP**	**17 21 35.4**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=84,slow=2.6,SNR=6.8						
PETK	**Petropavlovsk-**	**137.44**	**317**	PKP	**PKPdf**	**17 21 36.0**	**+0.6**
	comp=Z,1.6nm,0.9s,baz=153,slow=4.6,SNR=3.7						
BVAR	**Borovoye Array**	**145.07**	**39**	PKPbc	**PKPdf**	**17 21 50.5**	**+1.3**
	comp=Z,10nm,0.5s,baz=258,slow=5.6,SNR=64						
YAK	**Yakutsk**	**145.41**	**342**	PKPbc	**PKPdf**	**17 21 49.5**	**+0.1**
	comp=Z,10nm,0.8s,baz=81,slow=0.1,SNR=24						
YAK	**Yakutsk**	**145.41**	**342**		**PKPbc**	**17 21 48.9**	**-0.4**
KURK	**Kurchatov**	**150.66**	**39**		**PKiKP**	**17 22 05.0**	**+0.5**
KURBB	**Kurchatov Arra**	**150.66**	**39**	PKPbc	**PKiKP**	**17 22 05.0**	**+0.5**
	comp=Z,8.6nm,0.8s,baz=300,slow=3.1,SNR=66						
EKS2	**Erkin-Say**	**150.67**	**56**	P	**PKiKP**	**17 22 06.2**	**+1.2**
	SNR=8.1						
USP	**Ospenovka**	**151.04**	**55**	P	**PKiKP**	**17 22 06.3**	**+0.7**
	SNR=6.0						
AAK	**Ala-Archa**	**151.19**	**56**	P	**PKiKP**	**17 22 07.6**	**+1.4**
	SNR=7.2						
UCH	**Uchtor**	**151.30**	**57**	P	**PKiKP**	**17 22 07.9**	**+1.2**
	SNR=12						
ZALV	**Zalesovo Beam**	**151.58**	**28**	PKP	**PKPdf**	**17 22 02.1**	**+2.4**
	comp=Z,15nm,0.7s,baz=257,slow=2.6,SNR=4.7						
ZALV				PKPbc	**pPKPbc**	**17 22 07.0**	**-2.3**
	comp=Z,15nm,0.7s,baz=300,slow=3.2,SNR=38						
ZALV	**Zalesovo Beam**	**151.58**	**28**		**PKPdf**	**17 21 59.5**	**-0.2**
TKM2	**Tokmak 2**	**151.91**	**55**	P	**PKiKP**	**17 22 08.7**	**+1.0**
	SNR=5.1						
KSH	**Kashi**	**152.91**	**62**	PKPbc	**PKPdf**	**17 22 02.3**	**0.0**
KLR	**Kul'dur**	**153.86**	**322**	PKPbc	**PKPbc**	**17 22 11.0**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=7,2,slow=4.1,SNR=5.8						
MKAR	**Makanchi Array**	**154.78**	**43**	PKPbc	**PKiKP**	**17 22 13.7**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=320,slow=2.2,SNR=7.2						
MKAR	**Makanchi Array**	**154.78**	**43**	PKPdf	**PKPdf**	**17 22 04.6**	**-0.1**
MKAR					**PKiKP**	**17 22 13.5**	**+0.2**
WMQ	**Urumqi**	**159.59**	**44**	*e*P	**PKPdf**	**17 22 10.8**	**0.0**
SONM	**Songino Array**	**162.82**	**2**	PKPab	**PKPab**	**17 23 04.3**	**+1.2**
	comp=Z,0.9nm,0.9s,baz=328,slow=5.1,SNR=4.9						
SONM	**Songino Array**	**162.82**	**2**		**PKPab**	**17 23 03.8**	**+0.7**
GTA	**Gaotai**	**169.27**	**33**	*e*PKPbc	**PKPdf**	**17 22 20.9**	**+1.3**
GTA				pPKP	**sPKPdf**	**17 22 29.3**	**+5.1**
GTA				sPKP		17 22 33.1	
GTA				PKPab	**pPKPab**	**17 23 32.8**	**-2.3**

IDC 17 17:07:28.3±1.8, 30.99S×72.52W, h0km, mb3.3/1, mb1 3.9/2, mb1mx3.6/22, mb1mx3.5/2, ML3.6/1, Error ellipse: s-maj=150.8km s-min=38.2km az=74.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**9.86**	**171**	Pn	Pn	17 09 51.3	0.0
	0.1nm,0.3s,baz=345,slow=14,SNR=3.1						
TXAR	**Lajitas Array**	**66.92**	**331**	P	P	17 18 22.6	0.0
	0.2nm,0.6s,baz=153,slow=6.9,SNR=4.3						
ZALV	**Zalesovo Beam**	**151.84**	**29**	PKPbc	PKPbc	17 27 24.4	-0.2
	0.8nm,0.5s,baz=323,slow=3.0,SNR=2.4						

*IDC **17** 17:10:17.9±5.3, 1.68N×126.71E, h59km±53km, mb3.3/5, mb1 3.5/7, mb1mx3.2/49, mbtmp3.6/7, ML3.5/2, Error ellipse: s-maj=69.6km s-min=20.9km az=72.0*

ISC 17 17:10:16.4±1.2, 1.8N±0.2×126.7E±0.2, h47km, n7, σ1$21/8, mb3.6/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.22**	**120**	P	**Pn**	**17 11 32.2**	**+0.1**
	1.4nm,0.3s,baz=217,slow=23,SNR=7.7						
FITZ	**Fitzroy Crossi**	**19.75**	**183**	P	**P**	**17 14 42.6**	**+0.1**
	0.1nm,0.3s,baz=14,slow=12,SNR=1.5						
WRA	**Warramunga Arr**	**22.81**	**161**	P	**P**	**17 15 15.7**	**+0.2**
	1.1nm,0.5s,baz=336,slow=12,SNR=5.5						
ASAR	**Alice Springs**	**26.21**	**165**	P	**P**	**17 15 47.5**	**+0.4**
	0.4nm,0.5s,baz=347,slow=12,SNR=15						
ASAR				PcP	**PcP**	**17 19 10.6**	**-2.5**
	0.3nm,0.6s,baz=352,slow=2.8,SNR=4.9						
STKA	**Stephens Creek**	**36.30**	**158**	P	**P**	**17 17 15.9**	**+0.4**
	0.5nm,0.4s,baz=348,slow=9.3,SNR=3.6						
MKAR	**Makanchi Array**	**59.18**	**326**	P	**P**	**17 20 13.3**	**+0.7**
	0.2nm,0.4s,baz=121,slow=8.0,SNR=5.8						
KURBB	**Kurchatov Arra**	**63.40**	**328**	P	**P**	**17 20 41.4**	**+0.3**
	0.2nm,0.4s,baz=125,slow=6.3,SNR=2.0						

IDC 17 17:15:45.1±3.0, 30.30S×72.01W, h0km, mb4.0/1, mb1 3.8/3, mb1mx3.6/29, mbtmp3.8/3, ML3.5/2, Error ellipse: s-maj=116.1km s-min=60.8km az=108.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**14.39**	**15**	Pn	Pn	17 19 11.1	+0.3
	0.1nm,0.3s,baz=192,slow=9.3,SNR=2.2						
SIV	**San Ignacio**	**17.42**	**38**	P	Pn	17 19 49.5	-0.2
	0.1nm,0.3s,baz=237,slow=15,SNR=4.5						
TORD	**Torodi Ar. Bea**	**82.94**	**70**	P	P	17 28 12.3	+0.1
	0.9nm,0.7s,baz=246,slow=4.4,SNR=5.1						
ZALV	**Zalesovo Beam**	**151.03**	**29**	PKPbc	PKPbc	17 35 39.2	-0.3
	1.6nm,0.6s,baz=303,slow=4.0,SNR=4.6						

*NEIC **17** 17:17:51.8±2.7, 30.31S±0.05×72.11W±0.06, h15km±5km, mb4.5/9, Error ellipse: s-maj=7.7km s-min=7.2km az=78.0*

*IDC **17** 17:17:51.1±1.2, 30.40S×71.88W, h0km, mb4.1/4, mb1 4.2/8, mb1mx4.0/31, mbtmp4.1/8, ML3.9/4, MS3.8/1, Ms1 3.8/1, ms1mx3.1/28, Error ellipse: s-maj=35.3km s-min=27.6km az=105.0*

ISC 17 17:17:52.1±0.7, 30.30S±0.06×72.06W±0.09, h16km, n55, σ1$53/52, mb4.4/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.52**	**136**		**Pb**	**17 18 02.6**	**-0.4**
CO05	**La Serena**	**0.81**	**62**		**Pn**	**17 18 08.5**	**-0.3**
GO04	**Tololo Observa**	**1.10**	**84**	Pn	**Pb**	**17 18 11.7**	**-1.2**
CO03	**El Pedregal**	**1.30**	**115**	Pn	**Pg**	**17 18 16.3**	**-0.9**
LCO	**Las Campanas**	**1.75**	**43**	Pn	**Pn**	**17 18 22.2**	**+0.2**
AC04	**Llanos de Chal**	**2.26**	**23**		**Pn**	**17 18 30.5**	**+1.6**
VA01	**Torpederas**	**2.74**	**173**		**Pn**	**17 18 35.1**	**-0.4**
VA03	**San Esteban**	**2.77**	**153**	Pn	**Pn**	**17 18 34.3**	**-1.8**
GO03	**Copiap**	**3.13**	**31**	Pn	**Pn**	**17 18 42.3**	**+1.3**
ZON	**Zonda**	**3.16**	**114**	Pn	**Pn**	**17 18 42.3**	**+1.0**
MT05	**Renca**	**3.28**	**160**		**Pn**	**17 18 43.8**	**+0.8**
AC06	**Mina Casimiro**	**3.29**	**27**	Pn	**Pn**	**17 18 43.0**	**0.0**
VA05	**Santo Domingo**	**3.37**	**174**	Pn	**Pn**	**17 18 43.9**	**-0.2**
MT09	**Talagante**	**3.58**	**166**	Pn	**Pn**	**17 18 48.0**	**+0.7**
MT01	**Popeta**	**3.62**	**169**	Pn	**Pn**	**17 18 48.0**	**+0.5**
BO01	**Tunca**	**4.16**	**169**	Pn	**Pn**	**17 18 55.3**	**+0.3**
GO05	**Huala**	**4.70**	**179**	Pn	**Pn**	**17 19 01.4**	**-1.1**
ML02	**Panimavida**	**5.48**	**175**	Pn	**Pn**	**17 19 11.8**	**-1.3**
PB06	**IPOC Station P**	**7.88**	**17**		**Pn**	**17 19 44.3**	**-2.0**
AF01	**San Pedro de A**	**8.10**	**26**	Pn	**Pn**	**17 19 45.2**	**-4.2**
PB04	**IPOC Station P**	**8.12**	**13**	Pn	Pn	17 19 45.2	-4.3
LVC	**Limon Verde**	**8.16**	**21**	Pn	**Pn**	**17 19 50.5**	**+0.2**
	0.7nm,0.3s,baz=52,slow=21,SNR=4.1						
LVC	**Limon Verde**	**8.16**	**21**	Pn	**Pn**	**17 19 48.1**	**-2.2**
LC01	**Cunco**	**8.58**	**179**	Pn	**Pn**	**17 19 53.6**	**-2.1**
PB07	**IPOC Station P**	**8.76**	**19**	Pn	**Pn**	**17 19 58.0**	**-0.3**
PB09	**IPOC Station P**	**8.84**	**17**	Pn	**Pn**	**17 20 00.4**	**+1.0**
PB01	**IPOC Station P**	**9.50**	**15**	Pn	**Pn**	**17 20 06.6**	**-1.9**
TA01	**Diego Aracena**	**9.84**	**10**	Pn	**Pn**	**17 20 10.7**	**-2.3**
PB08	**IPOC Station P**	**10.45**	**15**	Pn	**Pn**	**17 20 21.4**	**-0.3**
PLCA	**Paso Flores**	**10.48**	**174**	Pn	**Pn**	**17 20 21.5**	**-0.3**
	0.3nm,0.3s,baz=6.6,slow=11,SNR=4.4						
PLCA	**Paso Flores**	**10.48**	**174**	Pn	**Pn**	**17 20 21.0**	**-0.8**
LL04	**Puerto Octay**	**10.59**	**181**	Pn	**Pn**	**17 20 21.8**	**-1.4**
PB11	**IPOC Station P**	**10.72**	**12**	Pn	**Pn**	**17 20 24.4**	**-0.8**
TRQA	**Tornquist**	**11.38**	**136**	Pn	**Pn**	**17 20 35.6**	**+1.6**
LPAZ	**La Paz**	**14.40**	**15**	Pn	**Pn**	**17 21 17.1**	**+1.1**
	0.2nm,0.3s,baz=187,slow=8.1,SNR=9.2						
LPAZ	**La Paz**	**14.40**	**15**		**Pn**	**17 21 20.0**	**+3.9**
SIV	**San Ignacio**	**17.44**	**38**	P	**P**	**17 21 57.0**	**+0.9**
	0.4nm,0.3s,baz=229,slow=11,SNR=28						
BDFB	**Brasilia**	**26.43**	**62**	P	**P**	**17 23 28.5**	**0.0**
	3.7nm,0.6s,baz=180,slow=4.0,SNR=4.7						
BDFB	**Brasilia**	**26.43**	**62**	IAmb	IAmb	17 23 45.2	
	comp=Z,6.7nm,1.0s						
CMIG	**Matias Romero**	**51.99**	**332**	LR	LR	17 42 59.5	
	comp=Z,93nm,20.0s,baz=104,slow=29						
VNA3	**Neumayer Olymp**	**52.80**	**159**	P	**P**	**17 27 07.2**	**+1.0**
VNA2	**Neumayer--Watz**	**53.44**	**158**	P	**P**	**17 27 11.7**	**+0.8**
	baz=286,slow=8.1						
SNAA	**Sanae**	**55.02**	**159**	P	**P**	**17 27 23.4**	**+0.9**
SNAA	**Sanae**	**55.02**	**159**	P	**P**	**17 27 23.1**	**+0.6**
SNAA				IAmb	IAmb	17 27 33.7	
	comp=Z,7.6nm,1.2s						
X48A	**Hartselle**	**65.94**	**346**	P	**P**	**17 28 35.4**	**-1.9**
TXAR	**Lajitas Array**	**66.52**	**330**	P	**P**	**17 28 44.2**	**+3.0**
	comp=Z,0.5nm,0.8s,baz=141,slow=8.1,SNR=6.1						
TXAR	**Lajitas Array**	**66.52**	**330**	P	**P**	**17 28 38.5**	**-2.8**
TX31	**Lajitas Ar. Si**	**66.52**	**330**	P	**P**	**17 28 38.8**	**-2.5**
TX31				IAmb	IAmb	17 28 53.3	
	comp=Z,4.2nm,0.8s						
CCM	**Cathedral Cave**	**70.33**	**344**	P	**P**	**17 29 05.6**	**+0.8**
DBIC	**Dimbokro**	**74.04**	**72**	P	**P**	**17 29 29.1**	**+1.5**
	comp=Z,1.3nm,0.5s,baz=232,slow=4.5,SNR=1.4						
TORD	**Torodi Ar. Bea**	**82.98**	**70**	P	**P**	**17 30 17.9**	**+1.0**
	comp=Z,2.9nm,0.9s,baz=262,slow=4.8,SNR=12						
TORD	**Torodi Ar. Bea**	**82.98**	**70**		**P**	**17 30 16.8**	**-0.1**
TORD				IAmb	IAmb	17 30 19.1	
	comp=Z,3.7nm,1.1s						
WRA	**Warramunga Arr**	**123.96**	**210**	PKP	**PKPdf**	**17 36 50.5**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=126,slow=1.1,SNR=1.6						
ZALV	**Zalesovo Beam**	**151.05**	**29**	PKPbc	**PKiKP**	**17 37 45.6**	**+1.2**
	comp=Z,11nm,0.7s,baz=294,slow=2.9,SNR=28						
ZALV	**Zalesovo Beam**	**151.05**	**29**		**PKiKP**	**17 37 45.2**	**+0.8**

*IDC **17** 17:18:31.3±1.2, 32.31S×72.09W, h0km, mb4.5/5, mb1 4.5/9, mb1mx4.1/29, mbtmp4.3/9, ML4.2/4, Error ellipse: s-maj=37.0km s-min=27.3km az=116.0*

*NEIC **17** 17:18:32.4±1.6, 32.31S±0.04×72.05W±0.09, h3km±2km, mb4.7/9, ML4.5(GUC), Error ellipse: s-maj=11.5km s-min=5.2km az=77.0*

*GUC **17** 17:18:33.5±0.6, 32.34S×72.15W, h26km±4km, ML4.5*

ISC 17 17:18:32.0±1.7, 32.35S±0.04×72.19W±0.06, h8km±10km, n51, σ1$11/55, mb4.6/7, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.78**	**106**	*e*P	**Pg**	**17 18 47.3**	**+0.3**
VA06				*i* S	**Sg**	**17 18 57.6**	**+0.4**
VA06				IAML		17 19 00.5	
	comp=N,60μm,0.4s						
VA01	**Torpederas**	**0.81**	**146**	*e*P	**Pg**	**17 18 48.1**	**+0.4**
VA01				*e*S	**Sg**	**17 18 59.0**	**+0.8**
VA01	**Torpederas**	**0.81**	**146**	Pg	**Pg**	**17 18 46.9**	**-0.8**
ROCH	**El Roble**	**1.17**	**122**	*e*P	**Pb**	**17 18 53.5**	**-1.1**
ROCH				*e*S	**Sg**	**17 19 09.3**	**-0.5**
ROCH				IAML		17 19 13.5	
	comp=N,15μm,0.5s						
VA05	**Santo Domingo**	**1.39**	**160**	*e*P	**Pn**	**17 18 57.2**	**-0.5**
VA05				*e*S	**Sn**	**17 19 13.7**	**-2.5**
VA05				IAML		17 19 28.0	
	comp=E,7μm,0.4s						
VA05	**Santo Domingo**	**1.39**	**160**	Pn	**Pn**	**17 18 57.3**	**-0.5**
VA03	**San Esteban**	**1.44**	**107**	*e*P	**Pn**	**17 18 58.0**	**-0.6**
VA03				*i* S	**Sn**	**17 19 16.6**	**-1.1**
VA03				IAML		17 19 21.6	
	comp=N,14μm,0.5s						
VA03	**San Esteban**	**1.44**	**107**	Pn	**Pn**	**17 18 58.0**	**-0.6**
MT05	**Renca**	**1.60**	**131**	*e*P	**Pn**	**17 19 01.4**	**+0.7**
MT05				*e*S	**Sn**	**17 19 21.6**	**0.0**
MT05				IAML		17 19 27.1	
	comp=E,27μm,0.4s						
MT05	**Renca**	**1.60**	**131**	Pn	**Pn**	**17 18 59.8**	**-0.9**
MT01	**Popeta**	**1.70**	**153**	*e*P	**Pn**	**17 19 02.6**	**+0.6**
MT01				*e*S	**Sn**	**17 19 22.8**	**-1.3**
MT01				IAML		17 19 30.2	
	comp=E,5μm,0.4s						
MT01	**Popeta**	**1.70**	**153**	Pn	**Pn**	**17 19 02.4**	**+0.4**
CO06	**Fray Jorge**	**1.73**	**16**	Pn	**Pn**	**17 18 59.9**	**-2.5**
MT09	**Talagante**	**1.74**	**145**	*e*P	**Pn**	**17 19 02.8**	**+0.1**
MT09				*e*S	**Sn**	**17 19 23.5**	**-1.7**
MT09				IAML		17 19 33.1	
	comp=N,5μm,0.5s						
MT09	**Talagante**	**1.74**	**145**	Pn	**Pn**	**17 19 02.4**	**-0.3**
CO03	**El Pedregal**	**1.98**	**41**	Pn	**Pn**	**17 19 04.3**	**-1.5**
BO03	**Pichilemu**	**2.15**	**175**	*e*P	**Pn**	**17 19 07.6**	**-0.5**
BO03				*e*S	**Sn**	**17 19 31.1**	**-3.9**
BO01	**Tunca**	**2.24**	**156**	*e*P	**Pn**	**17 19 11.0**	**+1.6**
BO01				*e*S	**Sn**	**17 19 36.6**	**-0.6**
BO01	**Tunca**	**2.24**	**156**	Pn	**Pn**	**17 19 09.5**	**+0.2**
LMEL	**Las Melosas**	**2.24**	**132**	*e*P	**Pn**	**17 19 09.9**	**+0.4**
LMEL				*e*S	**Sn**	**17 19 38.7**	**+1.3**
LMEL				IAML		17 19 51.2	
	comp=N,3μm,0.6s						
GO04	**Tololo Observa**	**2.47**	**29**	Pn	**Pn**	**17 19 12.8**	**0.0**
GO05	**Huala**	**2.66**	**175**	Pn	**Pn**	**17 19 15.2**	**-0.1**
BO02	**Sierra Bellavi**	**2.71**	**155**		**Pn**	**17 19 15.8**	**-0.1**
ZON	**Zonda**	**3.09**	**76**	Pn	**Pn**	**17 19 20.4**	**-0.7**
ML02	**Panimavida**	**3.46**	**170**	Pn	**Pn**	**17 19 27.1**	**+0.9**
H03N1	**Juan Fernandez**	**5.76**	**257**	T	T	17 26 43.8	
	baz=80,slow=73,SNR=284						
H03N3	**Juan Fernandez**	**5.77**	**257**	T	T	17 26 42.9	
	baz=80,slow=73,SNR=244						
H03N2	**Juan Fernandez**	**5.78**	**257**	T	T	17 26 42.1	
	baz=80,slow=73,SNR=268						
H03S3	**Juan Fernandez**	**5.83**	**254**	T	T	17 26 36.3	
	baz=83,slow=75,SNR=23						
H03S1	**Juan Fernandez**	**5.83**	**253**	T	T	17 26 32.8	
	baz=83,slow=75,SNR=23						
H03S2	**Juan Fernandez**	**5.85**	**253**	T	T	17 26 38.1	
	baz=83,slow=75,SNR=36						
LC01	**Cunco**	**6.54**	**178**	Pn	**Pn**	**17 20 08.7**	**+0.2**
PLCA	**Paso Flores**	**8.47**	**172**	Pn	**Pn**	**17 20 36.2**	**+1.2**
	comp=N,0.7nm,0.3s,baz=341,slow=12,SNR=5.9						
CPUP	**Villa Florida**	**14.28**	**69**	Pn	**Pn**	**17 21 55.1**	**+0.6**
	comp=N,0.2nm,0.3s,baz=252,slow=15,SNR=3.1						
LPAZ	**La Paz**	**16.41**	**14**	Pn	**Pn**	**17 22 23.9**	**+0.6**
	comp=N,0.4nm,0.3s,baz=196,slow=3.4,SNR=12						
LPAZ	**La Paz**	**16.41**	**14**	P	**P**	**17 22 25.5**	**-0.6**
SIV	**San Ignacio**	**19.16**	**34**	P	**P**	**17 22 56.1**	**+0.1**
	comp=N,1.0nm,0.3s,baz=223,slow=9.2,SNR=12						
BDFB	**Brasilia**	**27.55**	**59**	P	**P**	**17 24 18.8**	**-0.7**
	comp=N,2.5nm,0.5s,baz=239,slow=5.0,SNR=6.5						
BDFB	**Brasilia**	**27.55**	**59**	P	**P**	**17 24 18.9**	**-0.7**
BDFB				IAmb	IAmb	17 24 25.1	
	comp=Z,12nm,1.0s						
MDP	**Montagnes des**	**41.63**	**30**	P	**P**	**17 26 19.5**	**-1.3**
	comp=Z,7.1nm,0.9s,baz=225,slow=11,SNR=2.2						
QUA2	**Belchertown**	**74.26**	**360**	P	**P**	**17 30 10.5**	**+1.2**
QUA2				IAmb	IAmb	17 30 17.6	
	comp=Z,12nm,0.9s						
DBIC	**Dimbokro**	**74.78**	**72**	P	**P**	**17 30 13.4**	**+0.4**
	comp=Z,4.6nm,0.6s,baz=234,slow=3.2,SNR=7.1						
DBIC	**Dimbokro**	**74.78**	**72**	IAmb	IAmb	17 30 41.4	
	comp=Z,23nm,1.5s						
PV19	**Morning Glory**	**78.20**	**331**	P	**P**	**17 30 33.4**	**+1.3**
PV10	**Paradox Valley**	**78.28**	**331**	P	**P**	**17 30 34.4**	**+1.8**
KOWA	**Kowa**	**80.08**	**66**	P	**P**	**17 30 42.5**	**-0.1**
KOWA				IAmb	IAmb	17 30 44.0	
	comp=Z,4.3nm,0.7s						
NVAR	**Mina Array Bea**	**82.46**	**325**	P	**P**	**17 30 56.4**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=146,slow=5.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**83.77**	**70**	P	**P**	**17 31 02.4**	**+0.3**
	comp=Z,3.9nm,0.7s,baz=264,slow=4.5,SNR=12						
WRA	**Warramunga Arr**	**122.13**	**210**	PKP	**PKPdf**	**17 37 27.6**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=141,slow=1.3,SNR=2.3						
ZALV	**Zalesovo Beam**	**152.88**	**30**	PKPbc	**PKiKP**	**17 38 29.9**	**+0.6**
	comp=Z,1.7nm,0.5s,baz=313,slow=3.5,SNR=1.7						
MKAR	**Makanchi Array**	**155.75**	**46**	PKPab	**PKPab**	**17 38 52.6**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=307,slow=3.9,SNR=5.7						

*GUC **17** 17:32:20.7±0.7, 30.68S×71.61W, h33km±2km, ML4.8*

*IDC **17** 17:32:21.4±0.5, 30.67S×71.56W, h28km±3km, mb4.1/11, mb1 4.2/16, mb1mx4.1/32, mbtmp4.2/16, ML4.0/5, MS3.7/7, Ms1 3.7/7, ms1mx3.4/31, Error ellipse: s-maj=19.4km s-min=13.2km az=93.0*

*NEIC **17** 17:32:21.6±1.2, 30.65S±0.04×71.61W±0.09, h28km±4km, mb4.6/25, ML4.8(GUC), Error ellipse: s-maj=10.8km s-min=6.2km az=97.0*

ISC 17 17:32:21.3±0.5, 30.68S±0.03×71.64W±0.05, h30km±3km, n128, σ1$56/134, mb4.6/15, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.00**	**11**	⇑*i*P	**Pb**	**17 32 26.8**	**+0.5**
CO06				*i* S	**Sb**	**17 32 30.6**	**+0.9**
CO06				IAML		17 32 31.1	
	comp=E,153μm,0.3s						
CO06	**Fray Jorge**	**0.00**	**11**		**Pb**	**17 32 26.8**	**+0.5**
CO05	**La Serena**	**0.83**	**25**	⇓*i*P	**Pn**	**17 32 36.5**	**-0.4**
CO05				*i* S	**Sn**	**17 32 49.0**	**+0.8**
CO05				IAML		17 32 51.7	
	comp=N,15μm,0.4s						
CO05	**La Serena**	**0.83**	**25**		**Pn**	**17 32 35.3**	**-1.6**
CO03	**El Pedregal**	**0.83**	**102**	*e*P	**Pb**	**17 32 37.1**	**-0.2**
CO03				*i* S	**Sn**	**17 32 49.1**	**+0.8**
CO03				IAML		17 32 50.1	
	comp=E,51μm,0.3s						
CO03	**El Pedregal**	**0.83**	**102**		**Pb**	**17 32 37.4**	**+0.1**
CO03	**El Pedregal**	**0.83**	**102**	*i* P	**Pn**	**17 32 37.0**	**-0.1**
GO04	**Tololo Observa**	**0.88**	**55**	⇑*i*P	**Pb**	**17 32 38.5**	**+0.3**
GO04				*e*S	**Sn**	**17 32 51.0**	**+1.2**
GO04				IAML		17 32 53.6	
	comp=N,170μm,0.4s						
GO04	**Tololo Observa**	**0.88**	**55**		**Pb**	**17 32 38.3**	**+0.1**
GO04	**Tololo Observa**	**0.88**	**55**	*i* P	**Pn**	**17 32 38.0**	**-0.2**
LCO	**Las Campanas**	**1.85**	**26**	Pn	**Pn**	**17 32 51.9**	**+0.7**
VA06	**Catapilco**	**1.90**	**171**	⇑*i*P	**Pn**	**17 32 52.9**	**+1.2**
VA06				*i* S	**Sb**	**17 33 17.0**	**-1.7**
VA06				IAML		17 33 26.1	
	comp=N,14μm,0.4s						
AROD	**Rodeo**	**1.94**	**75**	*i* P	**Pb**	**17 32 56.0**	**-0.1**
ACCO	**Cerro Coronel**	**2.22**	**88**	*i* P	**Pb**	**17 33 01.0**	**+0.1**
ACDV	**Cuesta del Vie**	**2.23**	**78**	*i* P	**Pb**	**17 33 01.0**	**0.0**
VA03	**San Esteban**	**2.28**	**156**	*e*P	**Pn**	**17 32 58.6**	**+1.6**
VA03				*i* S	**Sb**	**17 33 28.3**	**-1.3**
VA03				IAML		17 33 40.4	
	comp=E,9μm,0.4s						
VA03	**San Esteban**	**2.28**	**156**		**Pn**	**17 32 57.5**	**+0.6**
RTLS	**Leoncito**	**2.29**	**120**	*i* P	**Pb**	**17 33 02.0**	**-0.2**
VA01	**Torpederas**	**2.34**	**180**	*e*P	**Pn**	**17 32 59.7**	**+2.0**
VA01				*e*S	**Sn**	**17 33 25.4**	**-0.1**
VA01	**Torpederas**	**2.34**	**180**		**Pn**	**17 32 58.2**	**+0.5**
ROCH	**El Roble**	**2.35**	**167**	*e*P	**Pn**	**17 33 00.5**	**+2.4**
ROCH				*e*S	**Sb**	**17 33 30.9**	**-0.9**
ROCH				IAML		17 33 36.1	
	comp=N,6μm,0.5s						
AUSP	**Uspallata**	**2.46**	**129**	*i* P	**Pb**	**17 33 04.0**	**-1.1**
AC04	**Llanos de Chal**	**2.51**	**11**	Pn	**Pn**	**17 32 59.9**	**-0.1**
AC04	**Llanos de Chal**	**2.51**	**11**	*i* P	**Pn**	**17 33 00.0**	**-0.1**
ZON	**Zonda**	**2.68**	**110**		**Pn**	**17 33 02.1**	**-0.4**
ZON	**Zonda**	**2.68**	**110**	*i* P	**Pb**	**17 33 07.0**	**-1.6**
MT05	**Renca**	**2.81**	**165**	*e*P	**Pn**	**17 33 05.9**	**+1.6**
MT05				*e*S	**Sn**	**17 33 41.0**	**+3.7**
MT05				IAML		17 33 50.1	
	comp=E,7μm,0.4s						
MT05	**Renca**	**2.81**	**165**		**Pn**	**17 33 04.4**	**+0.1**
RTCV	**Cerro Valdivia**	**2.90**	**115**	*i* P	**Pb**	**17 33 11.0**	**-1.4**
AGUA	**GUANDACOL**	**2.97**	**67**	*i* P	**Pb**	**17 33 12.0**	**-1.6

QSPA South Pole Qui 59.55 180 P P 17 42 22.6 +0.8
comp=Z,2.7nm,0.5s,baz=226,slow=0.5,SNR=53
QSPA pP pP 17 42 31.4 +0.3
comp=Z,5.5nm,0.7s,baz=153,slow=1.8,SNR=9.8
QSPA South Pole Qui 59.55 180 P P 17 42 22.9 +1.1
QSPA lAmb lAmb 17 42 32.1
comp=Z,6.6nm,0.7s
TXAR Lajitas Array 67.02 330 P P 17 43 12.9 +1.2
comp=Z,0.7nm,0.8s,baz=151,slow=7.7,SNR=7.9
TXAR Lajitas Array 67.02 330 P P 17 43 11.6 0.0
VNDA Vanda 67.42 191 P P 17 43 14.3 +0.9
comp=Z,0.6nm,0.8s,baz=162,slow=2.3,SNR=2.6
R40A Maddies Statio 71.26 343 P P 17 43 38.2 +0.6
DBIC Dimbokro 73.81 72 P P 17 43 53.5 +0.1
comp=Z,6.8nm,0.6s,baz=238,slow=5.6,SNR=20
DBIC pP pP 17 44 02.8 0.0
comp=Z,15nm,0.9s,baz=239,slow=7.4,SNR=6.2
MAW Mawson 76.26 164 P P 17 44 07.4 +0.8
comp=Z,5.2nm,0.5s,baz=202,slow=7.2,SNR=7.9
MAW pP pP 17 44 16.3 +0.1
comp=Z,4.6nm,0.6s,baz=205,slow=10,SNR=4.2
MAW LR LR 18 20 12.9
comp=Z,97nm,18.1s,baz=234,slow=38
MAW Mawson 76.26 164 P P 17 44 07.3 +0.7
ECSD EROS Data Cent 77.50 342 P P 17 44 14.2 +0.4
ECSD lAmb lAmb 17 44 24.4
comp=Z,7.1nm,0.8s
KOWA Kowa 78.96 66 P P 17 44 22.5 0.0
HWUT Hardware Ranch 80.81 331 P P 17 44 32.6 +0.4
HWUT lAmb lAmb 17 44 43.1
comp=Z,6.0nm,0.8s
PDAR Pinedale Array 80.97 333 P P 17 44 33.4 +0.4
comp=Z,0.3nm,0.5s,baz=134,slow=11,SNR=3.0
PDAR pP pP 17 44 42.0 -0.4
comp=Z,0.6nm,0.6s,baz=138,slow=7.6,SNR=5.0
BOSA Boshof 81.32 118 P P 17 44 35.9 +0.6
comp=Z,6.3nm,0.8s,baz=256,slow=3.0,SNR=11
BOSA Boshof 81.32 118 lAmb lAmb 17 44 36.5
comp=Z,5.0nm,0.8s
NVAR Mina Array Bea 81.37 325 P P 17 44 36.7 +1.5
comp=Z,0.9nm,0.8s,baz=165,slow=8.1,SNR=5.4
NVAR pP pP 17 44 45.0 +0.3
comp=Z,0.7nm,0.7s,baz=147,slow=6.3,SNR=5.1
ELK Elko 81.72 328 P P 17 44 37.0 -0.1
TORD Torodi Ar. Bea 82.76 70 P P 17 44 42.8 0.0
comp=Z,2.7nm,0.5s,baz=281,slow=6.1,SNR=23
TORD pP pP 17 44 51.4 -1.1
comp=Z,11nm,1.1s,baz=263,slow=4.9,SNR=12
TORD Torodi Ar. Bea 82.76 70 P P 17 44 42.3 -0.6
TORD lAmb lAmb 17 44 57.2
comp=Z,10nm,0.9s
ASAR Alice Springs 120.67 207 PKP PKPdf 17 51 09.5 -1.4
comp=Z,0.4nm,0.5s,baz=130,slow=2.1,SNR=4.1
WRA Warramunga Arr 123.82 210 PKP PKPdf 17 51 16.1 -0.9
comp=Z,1.0nm,0.6s,baz=153,slow=2.1,SNR=24
WRA pPKP pPKPdf 17 51 25.8 -1.1
comp=Z,0.6nm,0.5s,baz=164,slow=1.3,SNR=3.6
H11S2 WAKE ISLAND Hyl 26.10 271 T T 20 10 03.3
baz=115,slow=75,SNR=106
H11S1 WAKE ISLAND Hyl 26.11 271 T T 20 10 06.2
baz=115,slow=75,SNR=120
H11S3 WAKE ISLAND Hyl 26.12 271 T T 20 10 07.5
baz=115,slow=75,SNR=110
H11N3 WAKE ISLAND Hyl 26.43 273 T T 20 10 29.0
baz=116,slow=75,SNR=21
H11N1 WAKE ISLAND Hyl 26.44 273 T T 20 10 32.9
baz=116,slow=75,SNR=6.4
H11N2 WAKE ISLAND Hyl 26.44 273 T T 20 10 32.0
baz=116,slow=75,SNR=20
ZALV Zalesovo Beam 151.20 29 PKPbc PKPbc 17 52 11.2 0.0
comp=Z,8.4nm,0.7s,baz=286,slow=2.6,SNR=22
ZALV pPKPbc PKPab 17 52 19.9 +0.7
comp=Z,18nm,0.8s,baz=294,slow=3.3,SNR=18
ZALV Zalesovo Beam 151.20 29 PKPbc PKPbc 17 52 10.9 -0.2
MKAR Makanchi Array 154.23 44 PKPbc PKPbc 17 52 18.2 0.0
comp=Z,0.9nm,0.9s,baz=345,slow=1.4,SNR=4.7
MKAR pPKPbc **pPKPbc 17 52 28.1 -0.1**
comp=Z,1.0nm,0.8s,baz=356,slow=1.7,SNR=5.4
MKAR Makanchi Array 154.23 44 PKPbc 17 52 17.5 -0.7
SONM Songino Array 162.80 4 pPKPab pPKPab 17 53 19.0 0.0
comp=Z,1.5nm,0.8s,baz=330,slow=2.6,SNR=5.8
CMAR Chiang Mai Arr 165.13 143 PKPab PKPab 17 53 18.9 -1.3
CMAR pPKPab **pPKPab 17 53 29.0 -0.9**
comp=Z,1.1nm,0.9s,baz=225,slow=7.6,SNR=4.5
CMAR Chiang Mai Arr 165.13 143 PKPab 17 53 18.4 -1.7

*IDC **17** 17:38:21.9±1.0,31°.63S×71°.60W,h0km,mb4.1/6, mb1 4.0/10,mb1mx3.9/33,mbtmp3.9/10,ML3.7/4,Error ellipse: s-maj=37.4km s-min=18.9km az=102.0*
*NEIC **17** 17:38:22.1±1.6,31°.59S±0°.04×72°.11W±0°.06,h10km±1km, mb4.4/5,ML4.1(GUC),Error ellipse: s-maj=8.7km s-min=6.7km az=249.0*
*GUC **17** 17:38:25.1±0.7,31°.62S×71°.64W,h33km±6km,ML4.1*
ISC 17 17:38:22.4±2.1,31°.61S±0°.03×71°.82W±0°.07,h6km±13km, n62,σ0s89/60,mb4.4/6,3C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.95**	**10**	⇓*eP*		**Pn**	**17 38 43.3**	**+1.1**
CO06				*i* S		**Sn**	**17 38 56.6**	**+0.6**
CO06				IAML			17 38 59.0	
	comp=N,9μm,0.7s							
CO06	**Fray Jorge**	**0.95**	**10**			**Pn**	**17 38 43.3**	**+1.1**
VA06	**Catapilco**	**1.05**	**155**	⇑*iP*		**Pb**	**17 38 43.8**	**+0.9**
VA06				*i* S		**Sb**	**17 38 56.5**	**-0.4**
VA06				IAML			17 38 58.8	
	comp=E,15μm,0.5s							
CO03	**El Pedregal**	**1.24**	**52**	⇓*iP*		**Pb**	**17 38 47.0**	**+0.8**
CO03				*i* S		**Sn**	**17 39 02.4**	**-0.9**
CO03				IAML			17 39 05.4	
	comp=E,5μm,0.5s							
CO03	**El Pedregal**	**1.24**	**52**			**Pb**	**17 38 47.0**	**+0.8**
VA01	**Torpederas**	**1.42**	**174**	*eP*		**Pn**	**17 38 49.7**	**+1.1**
VA01				*eS*		**Sn**	**17 39 06.0**	**-1.6**
VA01	**Torpederas**	**1.42**	**174**			**Pn**	**17 38 47.9**	**-0.7**
ROCH	**El Roble**	**1.52**	**153**	⇓*iP*		**Pn**	**17 38 51.1**	**+0.8**
ROCH				*i* S		**Sn**	**17 39 10.5**	**0.0**
ROCH				IAML			17 39 14.2	
	comp=N,4μm,0.3s							
VA03	**San Esteban**	**1.57**	**137**	*eP*		**Pn**	**17 38 51.6**	**+0.7**
VA03				*i* S		**Sn**	**17 39 11.5**	**-0.1**
VA03				IAML			17 39 15.8	
	comp=E,7μm,0.2s							
VA03	**San Esteban**	**1.57**	**137**			**Pn**	**17 38 51.6**	**+0.7**
GO04	**Tololo Observa**	**1.68**	**32**	⇑*iP*		**Pb**	**17 38 54.2**	**+0.4**
GO04				*i* S		**Sg**	**17 39 16.2**	**-0.2**
GO04	**Tololo Observa**	**1.68**	**32**			**Pb**	**17 38 54.2**	**+0.4**
CO05	**La Serena**	**1.76**	**17**	*eP*		**Pb**	**17 38 55.1**	**+0.1**
CO05				*i* S		**Sg**	**17 39 18.5**	**-0.4**
CO05				IAML			17 39 23.1	
	comp=E,4μm,0.8s							
CO05	**La Serena**	**1.76**	**17**			**Pn**	**17 38 53.1**	**-0.3**
MT05	**Renca**	**2.00**	**153**	*eP*		**Pn**	**17 38 58.3**	**+1.6**
MT05				*eS*		**Sn**	**17 39 22.7**	**+0.6**
MT05				IAML			17 39 26.4	
	comp=E,3μm,0.2s							
MT05	**Renca**	**2.00**	**153**			**Pn**	**17 38 57.3**	**+0.6**
VA05	**Santo Domingo**	**2.05**	**175**	*eP*		**Pn**	**17 38 58.0**	**+0.7**
VA05				*eS*		**Sn**	**17 39 22.0**	**-1.2**
VA05				IAML			17 39 32.2	
	comp=N,2μm,0.4s							
VA05	**Santo Domingo**	**2.05**	**175**			**Pn**	**17 38 58.1**	**+0.7**
MT09	**Talagante**	**2.27**	**162**	*eP*		**Pn**	**17 39 02.5**	**+2.0**
MT09				*eS*		**Sn**	**17 39 28.1**	**-0.8**
MT09				IAML			17 39 37.4	
	comp=N,1μm,0.5s							
MT09	**Talagante**	**2.27**	**162**			**Pn**	**17 39 01.3**	**+0.7**
MT01	**Popeta**	**2.30**	**168**	⇑*iP*		**Pn**	**17 39 02.0**	**+1.2**
MT01				*eS*		**Sn**	**17 39 28.2**	**-1.2**
MT01				IAML			17 39 38.3	
	comp=E,932nm,0.6s							
MT01	**Popeta**	**2.30**	**168**			**Pn**	**17 39 00.3**	**-0.5**
LMEL	**Las Melosas**	**2.61**	**149**	*eP*		**Pn**	**17 39 07.5**	**+2.3**
LMEL				*eS*		**Sn**	**17 39 38.2**	**+0.8**
LMEL				IAML			17 39 45.7	
	comp=N,1μm,0.4s							
ZON	**Zonda**	**2.68**	**89**			**Pb**	**17 39 09.4**	**-1.4**
LCO	**Las Campanas**	**2.77**	**21**			**Pn**	**17 39 07.9**	**+0.4**
BO01	**Tunca**	**2.84**	**168**			**Pn**	**17 39 08.7**	**+0.5**
BO02	**Sierra Bellavi**	**3.29**	**165**			**Pn**	**17 39 14.4**	**-0.1**
GO05	**Huala**	**3.39**	**182**			**Pn**	**17 39 15.7**	**-0.2**
AC04	**Llanos de Chal**	**3.46**	**11**			**Pn**	**17 39 16.5**	**-0.2**
ML02	**Panimavida**	**4.15**	**175**			**Pn**	**17 39 26.0**	**-0.3**
GO03	**Copiap**	**4.24**	**19**			**Pn**	**17 39 27.2**	**-0.3**
AC06	**Mina Casimiro**	**4.43**	**17**			**Pn**	**17 39 29.3**	**-0.8**
AC02	**Maricunga**	**5.31**	**27**			**Pn**	**17 39 42.5**	**-0.1**
H03N1	**Juan Fernandez**	**6.26**	**251**	T		T	17 46 37.8	
	baz=80,slow=73,SNR=1267							
H03N3	**Juan Fernandez**	**6.28**	**251**	T		T	17 46 35.7	
	baz=80,slow=73,SNR=939							
H03N2	**Juan Fernandez**	**6.28**	**251**	T		T	17 46 36.6	
	baz=80,slow=73,SNR=812							
H03S3	**Juan Fernandez**	**6.37**	**248**	T		T	17 46 52.1	
	baz=85,slow=74,SNR=8.1							
H03S1	**Juan Fernandez**	**6.37**	**248**	T		T	17 46 52.0	
	baz=85,slow=74,SNR=8.8							
H03S2	**Juan Fernandez**	**6.39**	**248**	T		T	17 46 46.3	
	baz=85,slow=74,SNR=14							
LC01	**Cunco**	**7.27**	**180**	Pn		**Pn**	**17 40 08.6**	**-0.5**
PLCA	**Paso Flores**	**9.16**	**174**	Pn		**Pn**	**17 40 36.3**	**+1.2**
	comp=N,0.4nm,0.3s,baz=3.4,slow=19,SNR=1.6							
LVC	**Limon Verde**	**9.33**	**17**	Pn		**Pn**	**17 40 36.7**	**-1.1**
	comp=N,0.3nm,0.3s,baz=288,slow=14,SNR=1.2							
LPAZ	**La Paz**	**15.62**	**13**	Pn		**Pn**	**17 42 04.4**	**+0.7**
	comp=N,0.1nm,0.3s,baz=176,slow=9.4,SNR=4.1							
LPAZ	**La Paz**	**15.62**	**13**	lAmb		lAmb	17 42 11.2	
	comp=Z,2.4nm,0.7s							
SIV	**San Ignacio**	**18.38**	**35**	P		**Pn**	**17 42 37.3**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=201,slow=12,SNR=2.6							
BDFB	**Brasília**	**26.90**	**59**	P		**P**	**17 44 03.4**	**-1.0**
	comp=Z,3.8nm,0.6s,baz=222,slow=7.9,SNR=4.3							
BDFB	**Brasília**	**26.90**	**59**	lAmb		lAmb	17 44 12.6	
	comp=Z,20nm,1.5s							
SNAA	**Sanae**	**53.73**	**159**	P		**P**	**17 47 44.3**	**-0.6**
	comp=Z,1.9nm,1.0s,baz=276,slow=9.2,SNR=6.7							
SNAA	**Sanae**	**53.73**	**159**	lAmb		lAmb	17 48 19.3	
	comp=Z,11nm,1.6s							
QSPA	**South Pole Qui**	**58.62**	**180**	P		**P**	**17 48 20.7**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=318,slow=1.3,SNR=12							
TXAR	**Lajitas Array**	**67.75**	**330**	P		**P**	**17 49 22.6**	**+1.7**
	comp=Z,0.1nm,0.6s,baz=188,slow=5.5,SNR=2.2							
DBIC	**Dimbokro**	**74.25**	**72**	P		**P**	**17 50 00.4**	**-0.2**
	comp=Z,3.4nm,0.5s,baz=216,slow=5.0,SNR=7.5							
TORD	**Torodi Ar. Bea**	**83.22**	**70**	P		**P**	**17 50 49.6**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=260,slow=5.8,SNR=11							
WRA	**Warramunga Arr**	**122.93**	**210**	PKP		**PKPdf**	**17 57 19.5**	**-0.7**
	comp=Z,1.0nm,1.1s,baz=165,slow=3.5,SNR=2.8							
H11S2	**WAKE ISLAND Hyl**	**25.96**	**271**	T		T	20 16 20.2	
	baz=117,slow=75,SNR=85							
H11S1	**WAKE ISLAND Hyl**	**25.97**	**271**	T		T	20 16 22.6	
	baz=117,slow=75,SNR=68							
H11S3	**WAKE ISLAND Hyl**	**25.97**	**271**	T		T	20 16 19.4	
	baz=117,slow=75,SNR=66							
H11N3	**WAKE ISLAND Hyl**	**26.31**	**272**	T		T	20 16 40.2	
	baz=116,slow=75,SNR=29							
H11N1	**WAKE ISLAND Hyl**	**26.33**	**272**	T		T	20 16 45.8	
	baz=116,slow=75,SNR=12							
H11N2	**WAKE ISLAND Hyl**	**26.33**	**272**	T		T	20 16 50.2	
	baz=116,slow=75,SNR=50							
ZALV	**Zalesovo Beam**	**152.09**	**30**	PKPbc		**PKPbc**	**17 58 18.2**	**+0.1**
	comp=Z,6.4nm,0.5s,baz=314,slow=2.9,SNR=20							
MKAR	**Makanchi Array**	**155.01**	**45**	PKPab		**PKPab**	**17 58 40.8**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=320,slow=3.3,SNR=4.2							

NOU 17 17:39:54.0,16°.27S×167°.94E,h0km,mb4.2/13,Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DVP	**Devils Point**	**1.47**	**171**	P		Pn	17 40 20.6	-1.1
RTV	**Rentapao**	**1.58**	**163**	P		Pn	17 40 22.7	-0.6
LIFNC	**LIFOU**	**4.53**	**188**	P		Pn	17 41 02.5	-1.4
MARNC	**Mare, Loyalty**	**5.18**	**179**	P		Pn	17 41 12.5	-0.4
KOUNC	**Koumac, New Ca**	**5.49**	**219**	P		Pn	17 41 15.9	-1.2
YATNC	**Mamie plateau,**	**5.84**	**190**	P		Pn	17 41 21.7	-0.3
DZM	**Mont Dzumac**	**5.94**	**194**	P		Pn	17 41 23.4	0.0
NOUC	**Port Laguerre**	**6.00**	**195**	P		Pn	17 41 24.4	+0.3
ONTNC	**Ouen Toro**	**6.17**	**193**	P		Pn	17 41 26.9	+0.5
OUENC	**Ouen Island, N**	**6.20**	**189**	P		Pn	17 41 27.8	+0.9
PINNC	**Pines Island,**	**6.33**	**184**	P		Pn	17 41 29.1	+0.5

*IDC **17** 17:45:22.7±2.6,31°.35S×71°.60W,h0km,mb4.4/2, mb1 4.1/3,mb1mx3.7/25,mbtmp4.1/3,ML3.7/1,MS3.5/1, Ms1 3.5/1,ms1mx2.8/25,Error ellipse: s-maj=96.8km s-min=46.3km az=101.0*
*GUC **17** 17:45:25.7±0.8,31°.43S×71°.75W,h26km±6km,ML3.9*
ISC 17 17:45:23.8±1.5,31°.42S±0°.03×71°.81W±0°.09,h9km±10km, n13,σ0s58/20,1C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.75**	**111**	⇑*iP*		**Pn**	**17 45 40.4**	**-0.2**
CO06				*i* S		**Sn**	**17 45 51.8**	**-0.3**
CO06				IAML			17 45 52.6	
	comp=E,4μm,0.7s							
CO03	**El Pedregal**	**1.12**	**59**	⇓*iP*		**Pn**	**17 45 46.6**	**+0.8**
CO03				*eS*		**Sn**	**17 46 02.0**	**+0.7**
CO03				IAML			17 46 05.9	
	comp=E,4μm,0.4s							
VA06	**Catapilco**	**1.22**	**159**	⇓*iP*		**Pn**	**17 45 47.3**	**+0.2**
VA06				*eS*		**Sb**	**17 46 02.9**	**0.0**
VA06				IAML			17 46 05.6	
	comp=N,8μm,0.2s							
CO05	**La Serena**	**1.57**	**18**	*iP*		**Pg**	**17 45 53.6**	**-0.2**
CO05				*i* S		**Sg**	**17 46 14.7**	**+0.5**
CO05				IAML			17 46 19.8	
	comp=E,3μm,0.5s							
VA01	**Torpederas**	**1.61**	**175**	*eP*		**Pb**	**17 45 53.4**	**-0.2**
VA01				*eS*		**Sg**	**17 46 15.8**	**+0.3**
VA01				IAML			17 46 23.9	
	comp=E,668nm,0.5s							
VA03	**San Esteban**	**1.72**	**142**	*eP*		**Pb**	**17 45 55.6**	**+0.1**
VA03				*eS*		**Sg**	**17 46 18.0**	**-1.0**
VA03				IAML			17 46 23.0	
	comp=N,3μm,0.6s							
MT05	**Renca**	**2.17**	**156**	*eP*		**Pb**	**17 46 02.5**	**-0.8**
MT05				*eS*		**Sb**	**17 46 30.4**	**+0.1**
MT05				IAML			17 46 34.5	
	comp=E,2μm,0.4s							
VA05	**Santo Domingo**	**2.24**	**176**	*eP*		**Pb**	**17 46 05.1**	**+0.6**
VA05				*eS*		**Sb**	**17 46 33.0**	**+0.7**
VA05				IAML			17 46 42.1	
	comp=E,2μm,0.4s							
PLCA	**Paso Flores**	**9.35**	**174**	Pn		**Pn**	**17 47 39.5**	**+0.7**
	comp=E,0.2nm,0.3s,baz=340,slow=16,SNR=1.1							
SIV	**San Ignacio**	**18.21**	**35**	LR		LR	17 57 00.7	
	comp=E,145nm,20.3s,baz=135,slow=39							
DBIC	**Dimbokro**	**74.18**	**72**	P		**P**	**17 57 00.3**	**-0.9**
	comp=E,2.8nm,0.6s,baz=223,slow=4.9,SNR=3.9							
TORD	**Torodi Ar. Bea**	**83.15**	**70**	P		**P**	**17 57 50.3**	**-0.3**
	comp=E,1.8nm,0.7s,baz=225,slow=5.7,SNR=8.9							
ZALV	**Zalesovo Beam**	**151.92**	**30**	PKPbc		**PKPbc**	**18 05 18.6**	**-0.1**
	comp=E,3.8nm,0.7s,baz=305,slow=3.9,SNR=8.6							

*IDC **17** 17:47:43.8±2.5,31°.54S×71°.62W,h0km,mb4.2/2, mb1 4.1/3,mb1mx3.7/27,mbtmp4.1/3,ML4.0/1,Error ellipse: s-maj=94.0km s-min=44.6km az=100.0*
*NEIC **17** 17:47:45.3±2.2,31°.64S±0°.03×72°.01W±0°.09,h10km±1km, mb4.4/4,ML4.1(GUC),Error ellipse: s-maj=14.0km s-min=3.8km az=288.0*
*GUC **17** 17:47:48.9±0.5,31°.87S×71°.84W,h35km±7km,ML4.0*
ISC 17 17:47:43.5±2.0,31°.63S±0°.03×71°.91W±0°.07,h4km±13km, n44,σ1s12/57,mb4.3/4,1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.98**	**14**			**Pn**	**17 48 05.0**	**+0.9**
VA06	**Catapilco**	**1.07**	**151**	⇓*iP*		**Pn**	**17 48 05.1**	**-0.2**
VA06				*eS*		**Sg**	**17 48 16.9**	**-0.9**
VA06				IAML			17 48 21.3	
	comp=N,10μm,0.3s							
CO03	**El Pedregal**	**1.31**	**53**	*eP*		**Pn**	**17 48 08.6**	**-0.1**
CO03				*eS*		**Sb**	**17 48 24.2**	**-1.8**
CO03	**El Pedregal**	**1.31**	**53**			**Pn**	**17 48 08.6**	**-0.1**
VA01	**Torpederas**	**1.41**	**171**	*eP*		**Pn**	**17 48 09.8**	**-0.1**
VA01				*eS*		**Sb**	**17 48 27.3**	**-1.5**
VA01	**Torpederas**	**1.41**	**171**			**Pn**	**17 48 09.7**	**-0.3**
ROCH	**El Roble**	**1.54**	**151**	*eP*		**Pn**	**17 48 12.5**	**+0.4**
ROCH				*i* S		**Sn**	**17 48 31.6**	**-1.1**
ROCH				IAML			17 48 37.6	
	comp=N,2μm,0.2s							
VA03	**San Esteban**	**1.62**	**135**	*eP*		**Pb**	**17 48 14.3**	**+0.2**
VA03				*eS*		**Sn**	**17 48 34.0**	**-0.4**
VA03				IAML			17 48 36.6	
	comp=E,7μm,0.2s							
VA03	**San Esteban**	**1.62**	**135**			**Pb**	**17 48 14.2**	**+0.2**
GO04	**Tololo Observa**	**1.74**	**34**	Pn		**Pn**	**17 48 15.5**	**+0.7**
GO04						**Sb**	**17 48 38.2**	**-0.3**
CO05	**La Serena**	**1.80**	**19**	*eP*		**Pb**	**17 48 16.8**	**-0.2**
CO05				*eS*		**Sg**	**17 48 41.5**	**+0.1**
CO05	**La Serena**	**1.80**	**19**	Pn		**Pb**	**17 48 16.9**	**-0.2**
CO05						**Sb**	**17 48 40.5**	**+0.5**
MT05	**Renca**	**2.02**	**151**	*eP*		**Pn**	**17 48 19.7**	**+1.3**
MT05				*i* S		**Sn**	**17 48 43.5**	**-0.7**
MT05				IAML			17 48 50.0	
	comp=E,3μm,0.4s							
MT05	**Renca**	**2.02**	**151**			**Pn**	**17 48 19.4**	**+0.9**
VA05	**Santo Domingo**	**2.04**	**173**	*eP*		**Pn**	**17 48 19.6**	**+1.0**
VA05				*i* S		**Sn**	**17 48 43.6**	**-1.0**
VA05	**Santo Domingo**	**2.04**	**173**			**Pn**	**17 48 18.6**	**-0.1**
MT09	**Talagante**	**2.28**	**160**	*eP*		**Pn**	**17 48 23.9**	**+1.7**
MT09				*i* S		**Sn**	**17 48 50.6**	**-0.2**
MT09				IAML			17 49 03.8	
	comp=N,1μm,0.2s							
MT09	**Talagante**	**2.28**	**160**	Pn		**Pn**	**17 48 22.6**	**+0.4**
MT01	**Popeta**	**2.30**	**166**	*eP*		**Pn**	**17 48 23.5**	**+1.2**
MT01				*eS*		**Sn**	**17 48 51.2**	**+0.2**
MT01				IAML			17 49 00.9	
	comp=E,893nm,0.3s							
MT01	**Popeta**	**2.30**	**166**	Pn		**Pn**	**17 48 23.4**	**+1.1**
LMEL	**Las Melosas**	**2.64**	**147**	*eP*		**Pn**	**17 48 29.3**	**+2.1**
LMEL				*i* S		**Sn**	**17 48 59.6**	**-0.1**
LMEL				IAML			17 49 09.3	
	comp=N,2μm,0.3s							
ZON	**Zonda**	**2.76**	**89**			**Pn**	**17 48 30.7**	**+2.0**
BO01	**Tunca**	**2.84**	**166**	Pn		**Pn**	**17 48 31.2**	**+1.5**
BO02	**Sierra Bellavi**	**3.29**	**164**	Pn		**Pn**	**17 48 37.8**	**+1.8**
GO05	**Huala**	**3.37**	**180**	Pn		**Pn**	**17 48 37.8**	**+0.7**
AC04	**Llanos de Chal**	**3.49**	**12**	Pn		**Pn**	**17 48 39.1**	**+0.4**
GO03	**Copiap**	**4.28**	**20**	Pn		**Pn**	**17 48 48.8**	**-0.7**
AC06	**Mina Casimiro**	**4.47**	**18**	Pn		**Pn**	**17 48 54.5**	**+2.4**
AC02	**Maricunga**	**5.36**	**28**	Pn		**Pn**	**17 49 08.4**	**+3.6**
LC01	**Cunco**	**7.25**	**180**	Pn		**Pn**	**17 49 31.1**	**+0.8**
PLCA	**Paso Flores**	**9.15**	**173**	Pn		**Pn**	**17 49 58.0**	**+1.5**
	comp=N,0.4nm,0.3s,baz=328,slow=11,SNR=6.0							
PB04	**IPOC Station P**	**9.39**	**10**			**Pn**	**17 49 58.3**	**-1.6**
PB07	**IPOC Station P**	**10.03**	**11**	Pn		**Pn**	**17 50 06.9**	**-1.7**
PB09	**IPOC Station P**	**10.08**	**14**	Pn		**Pn**	**17 50 09.1**	**-0.2**
PMSA	**Palmer Station**	**33.53**	**174**	P		**P**	**17 54 25.0**	**+1.1**
PMSA				lAmb		lAmb	17 54 51.5	
	comp=Z,5.3nm,1.0s							
URIC	**Uribia, Colomb**	**43.08**	**360**	P		**P**	**17 55 45.4**	**+0.6**
SNAA	**Sanae**	**53.74**	**159**	P		**P**	**17 57 06.6**	**0.0**
SNAA				lAmb		lAmb	17 57 07.8	
	comp=Z,4.3nm,1.3s							
QSPA	**South Pole Qui**	**58.60**	**180**	P		**P**	**17 57 42.1**	**+0.7**
DBIC	**Dimbokro**	**74.33**	**72**	P		**P**	**17 59 22.1**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=221,slow=7.3,SNR=4.4							
TORD	**Torodi Ar. Bea**	**83.31**	**70**	P		**P**	**18 00 11.5**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=246,slow=2.5,SNR=5.3							
ZAA0	**Zalesovo Array**	**152.15**	**30**			**PKPbc**	**18 07 39.9**	**+0.1**
ZALV	**Zalesovo Beam**	**152.15**	**30**	PKPbc		**PKiKP**	**18 07 40.1**	**-0.1**
	comp=Z,4.3nm,0.5s,baz=299,slow=3.6,SNR=12							
ZALV	**Zalesovo Beam**	**152.15**	**30**			**PKiKP**	**18 07 40.2**	**0.0**
MJB9	**Matsu-Tunnel**	**154.64**	**289**			**PKPbc**	**18 07 45.0**	**-0.9**

*IDC **17** 17:48:48.4±1.5,31°.41S×71°.53W,h0km,mb3.8/2, mb1 4.0/3,mb1mx3.7/27,mbtmp3.7/3,ML3.9/1,MS3.2/2, Ms1 3.1/2,ms1mx2.8/25,Error ellipse: s-maj=65.7km s-min=40.2km az=71.0*
*NEIC **17** 17:48:49.6±1.9,31°.48S±0°.06×72°.00W±0°.1,h12km±4km, mb4.3/1,ML4.0(GUC),Error ellipse: s-maj=19.1km s-min=6.1km az=106.0*
*GUC **17** 17:48:53.8±0.7,31°.61S×71°.71W,h14km±6km,ML4.0*
ISC 17 17:48:49.9±1.0,31°.52S±0°.04×71°.98W±0°.10,h10km,n25, σ1s69/25,2C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.90**	**19**	*eP*		Pn	17 49 15.5	+6.9
CO06				*eS*		**Sn**	**17 49 26.2**	**+4.6**
CO06	**Fray Jorge**	**0.90**	**19**			**Pg**	**17 49 05.6**	**-1.5**
VA06	**Catapilco**	**1.19**	**151**	⇑*iP*		**Pg**	**17 49 13.0**	**+0.3**
VA06				*eS*		**Sb**	**17 49 28.1**	**+0.2**
CO03	**El Pedregal**	**1.30**	**59**			**Pn**	**17 49 11.7**	**-2.5**
ROCH	**El Roble**	**1.66**	**151**	*eS*		**Sb**	**17 49 42.7**	**+0.8**
GO04	**Tololo Observa**

ZIIG					*e*S	Sn	17 59 09.6	-0.9
CJM	**Chamela**		**2.15**	**310**	*e*P	Pn	17 58 50.7	-0.9
CJM					*i* S	Sn	17 59 19.3	+1.0

IDC ***17*** *17:58:23.8±1.0,30.°94S×71.°50W,h0km,mb4.3/6, mb1 4.2/9,mb1mx4.0/35,mbtmp4.2/9,ML3.7/3,Error ellipse: s-maj=31.1km s-min=24.1km az=110.0*
NEIC ***17*** *17:58:29.7±2.4,30.°87S±0.°04×71.°42W±0.°06,h46km±3km, Error ellipse: s-maj=7.0km s-min=5.6km az=107.0*
GUC ***17*** *17:58:30.1±0.7,30.°82S×71.°38W,h44km±2km, ML4.4*
ISC 17 17:58:30.3±0.7,30.°81S±0.°03×71.°42W±0.°05,h51km±7km, n79,σ1°67/97,mb4.4/9,1C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CO06	**Fray Jorge**	**0.23**	**306**	⇓*iP*		**Pn**	**Pn**	**17 58 39.1**	**+0.1**
CO06				*i* S		**Sn**	**Sn**	**17 58 45.2**	**+0.1**
CO06				IAML				17 58 48.9	
	comp=E,30μm,0.1s								
CO06	**Fray Jorge**	**0.23**	**306**			**Pn**	**Pn**	**17 58 39.0**	**+0.1**
CO03	**El Pedregal**	**0.63**	**93**	⇓*iP*		**Pn**	**Pn**	**17 58 43.6**	**+0.3**
CO03				*i* S		**Sn**	**Sn**	**17 58 53.3**	**+0.6**
CO03	**El Pedregal**	**0.63**	**93**			**Pn**	**Pn**	**17 58 43.6**	**+0.3**
CO03						**Sn**	**Sn**	**17 58 52.6**	**-0.1**
GO04	**Tololo Observa**	**0.83**	**40**	*e*P		**Pn**	**Pn**	**17 58 47.4**	**+1.3**
GO04				*i* S		**Sn**	**Sn**	**17 58 59.6**	**+2.1**
GO04				IAML				17 59 01.1	
	comp=N,23μm,0.3s								
GO04	**Tololo Observa**	**0.83**	**40**			**Pn**	**Pn**	**17 58 44.7**	**-1.3**
GO04						**Sn**	**Sn**	**17 58 58.7**	**+1.2**
CO05	**La Serena**	**0.90**	**10**	*e*P		**Pn**	**Pn**	**17 58 47.9**	**+1.2**
CO05				*i* S		**Sn**	**Sn**	**17 59 01.0**	**+2.2**
CO05				IAML				17 59 04.0	
	comp=E,8μm,0.4s								
CO05	**La Serena**	**0.90**	**10**			**Pn**	**Pn**	**17 58 46.4**	**-0.3**
CO05						**Sn**	**Sn**	**17 59 00.1**	**+1.4**
VA06	**Catapilco**	**1.75**	**177**	*e*P		**Pn**	**Pn**	**17 58 55.5**	**-2.8**
VA06				*i* S		**Sn**	**Sn**	**17 59 20.7**	**+1.2**
VA06				IAML				17 59 25.2	
	comp=E,6μm,0.4s								
LCO	**Las Campanas**	**1.90**	**19**	Pn		**Pn**	**Pn**	**17 59 00.8**	**+0.2**
VA03	**San Esteban**	**2.09**	**159**	*e*P		**Pn**	**Pn**	**17 59 04.4**	**+1.4**
VA03				*i* S		**Sn**	**Sn**	**17 59 30.0**	**+2.2**
VA03				IAML				17 59 35.2	
	comp=E,6μm,0.2s								
VA03	**San Esteban**	**2.09**	**159**			**Pn**	**Pn**	**17 59 02.7**	**-0.3**
ROCH	**El Roble**	**2.19**	**171**	*e*P		**Pn**	**Pn**	**17 59 06.6**	**+2.1**
ROCH				*i* S		**Sn**	**Sn**	**17 59 34.5**	**+4.1**
ROCH				IAML				17 59 36.0	
	comp=N,4μm,0.8s								
VA01	**Torpederas**	**2.22**	**185**	*e*P		**Pn**	**Pn**	**17 59 06.4**	**+1.7**
VA01				*e*S		**Sn**	**Sn**	**17 59 34.3**	**+3.5**
VA01				IAML				17 59 39.1	
	comp=E,1μm,0.2s								
VA01	**Torpederas**	**2.22**	**185**			**Pn**	**Pn**	**17 59 03.1**	**-1.6**
ZON	**Zonda**	**2.46**	**108**	Pn		**Pn**	**Pn**	**17 59 04.2**	**-3.9**
AC04	**Llanos de Chal**	**2.61**	**7**	*e*P		**Pn**	**Pn**	**17 59 11.9**	**+1.8**
AC04				*e*S		**Sn**	**Sn**	**17 59 43.0**	**+2.4**
AC04				IAML				18 00 01.1	
	comp=E,830nm,0.6s								
AC04	**Llanos de Chal**	**2.61**	**7**	Pn		**Pn**	**Pn**	**17 59 10.0**	**-0.1**
MT05	**Renca**	**2.64**	**168**	*e*P		**Pn**	**Pn**	**17 59 11.6**	**+1.1**
MT05				*i* S		**Sn**	**Sn**	**17 59 43.9**	**+2.5**
MT05	**Renca**	**2.64**	**168**			**Pn**	**Pn**	**17 59 10.0**	**-0.6**
VA05	**Santo Domingo**	**2.85**	**183**	*e*P		**Pn**	**Pn**	**17 59 13.3**	**0.0**
VA05				*e*S		**Sn**	**Sn**	**17 59 49.8**	**+3.5**
VA05				IAML				18 00 04.5	
	comp=N,2μm,0.4s								
VA05	**Santo Domingo**	**2.85**	**183**			**Pn**	**Pn**	**17 59 11.5**	**-1.8**
MT09	**Talagante**	**2.98**	**173**	*e*P		**Pn**	**Pn**	**17 59 16.0**	**+0.7**
MT09				*e*S		**Sn**	**Sn**	**17 59 50.9**	**+1.0**
MT09				IAML				18 00 01.6	
MT09	**Talagante**	**2.98**	**173**	Pn		**Pn**	**Pn**	**17 59 15.7**	**+0.4**
MT01	**Popeta**	**3.05**	**177**	*e*P		**Pn**	**Pn**	**17 59 16.4**	**+0.3**
MT01				*e*S		**Sn**	**Sn**	**17 59 51.2**	**-0.2**
MT01				IAML				18 00 03.0	
	comp=E,1μm,0.2s								
MT01	**Popeta**	**3.05**	**177**	Pn		**Pn**	**Pn**	**17 59 15.2**	**-0.9**
LMEL	**Las Melosas**	**3.20**	**162**	*e*P		**Pn**	**Pn**	**17 59 20.5**	**+2.2**
LMEL				*e*S		**Sn**	**Sn**	**17 59 58.9**	**+3.5**
LMEL				IAML				18 00 09.8	
	comp=N,2μm,0.2s								
GO03	**Copiap**	**3.37**	**18**	*e*P		**Pn**	**Pn**	**17 59 22.6**	**+2.2**
GO03	**Copiap**	**3.37**	**18**	Pn		**Pn**	**Pn**	**17 59 20.1**	**-0.4**
AC06	**Mina Casimiro**	**3.56**	**15**			**Pn**	**Pn**	**17 59 23.1**	**0.0**
BO01	**Tunca**	**3.59**	**176**			**Pn**	**Pn**	**17 59 22.4**	**-1.1**
BO02	**Sierra Bellavi**	**4.01**	**172**	Pn		**Pn**	**Pn**	**17 59 28.2**	**-1.2**
GO05	**Huala**	**4.21**	**186**			**Pn**	**Pn**	**17 59 30.6**	**-1.5**
AC02	**Maricunga**	**4.44**	**27**	Pn		**Pn**	**Pn**	**17 59 35.3**	**-0.3**
ML02	**Panimavida**	**4.94**	**180**			**Pn**	**Pn**	**17 59 41.1**	**-0.9**
PB14	**IPOC Station P**	**6.22**	**9**	Pn		**Pn**	**Pn**	**17 59 59.7**	**-0.3**
VA04	**Juan Fernndez**	**6.88**	**244**	Pn		**Pn**	**Pn**	**18 00 07.1**	**-1.5**
PB10	**IPOC Station P**	**7.30**	**6**	Pn		**Pn**	**Pn**	**18 00 12.6**	**-1.9**
PB15	**IPOC Station P**	**7.76**	**13**	Pn		**Pn**	**Pn**	**18 00 20.4**	**-0.5**
LC01	**Cunco**	**8.08**	**183**			**Pn**	**Pn**	**18 00 23.1**	**-1.9**
PB06	**IPOC Station P**	**8.24**	**12**	Pn		**Pn**	**Pn**	**18 00 25.2**	**-2.1**
LVC	**Limon Verde**	**8.47**	**16**	Pn		**Pn**	**Pn**	**18 00 30.2**	**-0.5**
	comp=N,0.5nm,0.3s,baz=173,slow=8.1,SNR=2.2								
LVC						Sn	Sn	18 02 15.8	+11
	comp=N,2.2nm,0.3s,baz=158,slow=14,SNR=3.9								
LVC	**Limon Verde**	**8.47**	**16**	Pn		**Pn**	**Pn**	**18 00 31.0**	**+0.3**
PB07	**IPOC Station P**	**9.15**	**9**	Pn		**Pn**	**Pn**	**18 00 39.0**	**-0.9**
PB09	**IPOC Station P**	**9.18**	**13**	Pn		**Pn**	**Pn**	**18 00 36.2**	**-4.1**
PB01	**IPOC Station P**	**9.88**	**11**	Pn		**Pn**	**Pn**	**18 00 49.3**	**-0.5**
PLCA	**Paso Flores**	**9.93**	**176**	Pn		**Pn**	**Pn**	**18 00 49.5**	**-1.0**
	comp=N,0.2nm,0.3s,baz=345,slow=13,SNR=3.8								
PLCA	**Paso Flores**	**9.93**	**176**	Pn		**Pn**	**Pn**	**18 00 47.0**	**-3.4**
LL04	**Puerto Octay**	**10.11**	**184**	Pn		**Pn**	**Pn**	**18 00 49.5**	**-3.4**
TRQA	**Tornquist**	**10.63**	**135**				**Pn**	**18 00 58.4**	**-1.5**
PB08	**IPOC Station P**	**10.82**	**11**	Pn		**Pn**	**Pn**	**18 01 01.1**	**-1.8**
PB11	**IPOC Station P**	**11.11**	**9**	Pn		**Pn**	**Pn**	**18 01 07.3**	**+0.5**
PSGCX	**Pisagua**	**11.22**	**6**	Pn		**Pn**	**Pn**	**18 01 08.2**	**0.0**
ITQB	**Itaqui**	**12.85**	**89**	Pn		**Pn**	**Pn**	**18 01 29.6**	**-0.6**
CPUP	**Villa Florida**	**13.16**	**74**	Pn		**Pn**	**Pn**	**18 01 33.9**	**-0.6**
	comp=N,0.1nm,0.3s,baz=260,slow=17,SNR=1.9								
CPUP						Sn	**Sn**	**18 04 01.9**	**+2.5**
	comp=N,0.5nm,0.3s,baz=149,slow=18,SNR=3.2								
CPUP	**Villa Florida**	**13.16**	**74**	Pn		**Pn**	**Pn**	**18 01 31.3**	**-3.2**
LPAZ	**La Paz**	**14.76**	**12**	Pn		**Pn**	**Pn**	**18 01 57.4**	**+0.7**
SIV	**San Ignacio**	**17.52**	**35**	P		**P**	**P**	**18 02 32.9**	**+1.2**
	comp=N,0.4nm,0.3s,baz=245,slow=11,SNR=11								
BDFB	**Brasilia**	**26.20**	**60**	P		**P**	**P**	**18 04 01.7**	**+1.2**
	comp=N,5.3nm,0.8s,baz=219,slow=9.8,SNR=4.8								
BDFB	**Brasilia**	**26.20**	**60**	P		**P**	**P**	**18 03 58.3**	**-2.2**
VNA3	**Neumayer Olymp**	**52.12**	**159**	P		**P**	**P**	**18 07 35.4**	**+0.4**
VNA1	**Neumayer--Stat**	**52.41**	**158**	P		**P**	**P**	**18 07 37.4**	**+0.2**
VNA2	**Neumayer--Watz**	**52.76**	**158**	P		**P**	**P**	**18 07 40.6**	**+0.8**
	baz=290,slow=8.9								
SNAA	**Sanae**	**54.35**	**159**	P		**P**	**P**	**18 07 52.1**	**+0.7**
SNAA	**Sanae**	**54.35**	**159**	P		**P**	**P**	**18 07 52.1**	**+0.7**
	comp=N,2.9nm,0.7s,baz=270,slow=8.9,SNR=23								
SNAA	**Sanae**	**54.35**	**159**	P		**P**	**P**	**18 07 51.5**	**+0.1**
SNAA				IAML		IAmb	IAmb	18 07 53.0	
	comp=Z,4.6nm,1.0s								
QSPA	**South Pole Qui**	**59.42**	**180**	P		**P**	**P**	**18 08 26.9**	**-0.6**
QSPA				IAmb		IAmb	IAmb	18 08 29.5	
	comp=Z,2.7nm,0.9s								
TXAR	**Lajitas Array**	**67.23**	**330**	P		**P**	**P**	**18 09 21.8**	**+2.3**
	comp=Z,0.2nm,0.5s,baz=144,slow=7.8,SNR=2.7								
MIAR	**Mount Ida**	**68.28**	**340**	P		**P**	**P**	**18 09 24.1**	**-1.7**
MIAR				IAmb		IAmb	IAmb	18 09 30.0	
	comp=Z,4.9nm,0.8s								
DBIC	**Dimbokro**	**73.67**	**72**	P		**P**	**P**	**18 10 00.8**	**+1.7**
	comp=Z,5.5nm,0.6s,baz=224,slow=4.7,SNR=9.0								
DBIC	**Dimbokro**	**73.67**	**72**	P		**P**	**P**	**18 09 59.8**	**+0.7**
ECSD	**EROS Data Cent**	**77.68**	**342**	P		**P**	**P**	**18 10 21.5**	**+0.2**
ECSD				IAmb		IAmb	IAmb	18 10 24.0	
	comp=Z,3.9nm,1.0s								
BOSA	**Boshof**	**81.09**	**118**	P		**P**	**P**	**18 10 40.9**	**+0.3**
	comp=Z,4.2nm,1.0s,baz=180,slow=4.0,SNR=3.6								
BOSA	**Boshof**	**81.09**	**118**	P		**P**	**P**	**18 10 38.4**	**-2.1**
TORD	**Torodi Ar. Bea**	**82.63**	**70**	P		**P**	**P**	**18 10 49.6**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=281,slow=6.3,SNR=12								
TORD	**Torodi Ar. Bea**	**82.63**	**70**	P		**P**	**P**	**18 10 48.2**	**-0.4**
TORD				IAmb		IAmb	IAmb	18 10 51.1	
	comp=Z,6.6nm,1.4s								
WRA	**Warramunga Arr**	**123.80**	**209**	PKP		**PKPdf**	**PKPdf**	**18 17 23.2**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=169,slow=2.0,SNR=9.2								
WRA	**Warramunga Arr**	**123.80**	**209**			**PKPdf**	**PKPdf**	**18 17 23.1**	**-0.1**
ZALV	**Zalesovo Beam**	**151.23**	**30**	PKPbc		**PKPbc**	**PKPbc**	**18 18 17.3**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=298,slow=3.2,SNR=5.4								

IDC 17 17:59:46.9±1.7,31.°33S×72.°73W,h0km,mb3.3/1, mb1 3.9/3,mb1mx3.6/34,mbtmp3.7/3,ML3.8/2,Error ellipse: s-maj=64.1km s-min=37.4km az=89.0,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PLCA	**Paso Flores**	**9.54**	**170**	Pn		Pn	Pn	18 02 05.3	-0.3
	0.3nm,0.3s,baz=346,slow=18,SNR=1.4								
SIV	**San Ignacio**	**18.61**	**38**	P		P	P	18 04 05.6	-0.4
	0.1nm,0.3s,baz=221,slow=12,SNR=8.6								
TXAR	**Lajitas Array**	**67.13**	**331**	P		P	P	18 10 42.4	-0.1
	0.2nm,0.5s,baz=143,slow=7.7,SNR=2.1								
ZALV	**Zalesovo Beam**	**152.23**	**29**	PKPbc		PKiKP		18 19 44.2	-0.1
	1.5nm,0.5s,baz=300,slow=3.2,SNR=3.7								

IDC ***17*** *18:03:33.0±1.0,32.°20S×71.°39W,h0km,mb3.9/5, mb1 4.0/7,mb1mx3.8/30,mbtmp3.8/7,ML3.7/2,MS3.9/1, Ms1 4.1/1,ms1mx3.2/18,Error ellipse: s-maj=37.1km s-min=22.4km az=88.0*
ISC 17 18:03:37.2±0.8,32.°25±0.°1×71.°4W±0.°2,h28km,n12, σ1°04/10,mb4.0/6,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
H03N1	**Juan Fernandez**	**6.47**	**257**	T		T	T	18 11 45.6	
	baz=78								
H03N3	**Juan Fernandez**	**6.48**	**257**	T		T	T	18 11 04.4	
	baz=78,slow=74								
H03N2	**Juan Fernandez**	**6.48**	**257**	T		T	T	18 11 11.3	
	baz=78,slow=74								
PLCA	**Paso Flores**	**8.51**	**176**	Pn		**Pn**	**Pn**	**18 05 38.5**	**-0.1**
	0.2nm,0.3s,baz=349,slow=14,SNR=2.9								
LPAZ	**La Paz**	**16.15**	**11**	Pn		**Pn**	**Pn**	**18 07 23.3**	**+0.5**
	0.1nm,0.3s,baz=214,slow=15,SNR=1.8								
LPAZ						LR	LR	18 14 48.0	
	comp=Z,435nm,18.1s,baz=128,slow=42								
BDFB	**Brasilia**	**26.89**	**58**	P		**P**	**P**	**18 09 16.5**	**+0.5**
	4.4nm,0.4s,baz=234,slow=19,SNR=5.2								
SNAA	**Sanae**	**53.01**	**158**	P		**P**	**P**	**18 12 52.0**	**+0.9**
	1.4nm,0.8s,baz=288,slow=6.9,SNR=8.3								
QSPA	**South Pole Qui**	**58.00**	**180**	P		**P**	**P**	**18 13 27.1**	**-0.1**
	2.0nm,1.1s,baz=132,slow=2.6,SNR=3.0								
LPIG	**La Paz**	**67.25**	**321**	P		**P**	**P**	**18 14 30.7**	**+1.6**
	28nm,0.3s,baz=53,slow=3.3,SNR=2.2								
NVAR	**Mina Array Bea**	**82.77**	**325**	P		**P**	**P**	**18 15 57.0**	**-1.7**
	0.2nm,0.5s,baz=148,slow=4.3,SNR=2.3								
TORD	**Torodi Ar. Bea**	**83.07**	**70**	P		**P**	**P**	**18 15 59.7**	**-0.9**
	0.6nm,0.8s,baz=262,slow=4.1,SNR=2.6								
ZALV	**Zalesovo Beam**	**152.43**	**31**	PKPbc		**PKPbc**		**18 23 29.8**	**-0.3**
	0.5nm,0.5s,baz=289,slow=4.4,SNR=3.5								
ZALV				PKPab		**PKPab**		**18 23 40.2**	**-0.2**
	0.8nm,0.6s,baz=330,slow=2.5,SNR=3.6								

SJA ***17*** *18:04:39.9±0.8,30.°75S×72.°16W,h11km±4km, ML4.5, MW4.4*
IDC ***17*** *18:04:39.8±0.7,30.°92S×71.°86W,h0km,mb4.3/10, mb1 4.4/14,mb1mx4.2/33,mbtmp4.3/14,ML4.3/4,MS3.9/3, Ms1 3.9/3,ms1mx3.5/20,Error ellipse: s-maj=27.2km s-min=16.3km az=94.0*
NEIC ***17*** *18:04:41.2±1.9,30.°88S±0.°04×71.°99W±0.°06,h10km±1km, mb4.5/16,ML4.6(GUC),Error ellipse: s-maj=9.9km s-min=6.1km az=302.0*
GUC ***17*** *18:04:43.6±0.7,30.°91S×71.°74W,h23km±5km,ML4.7*
ISC 17 18:04:40.6±1.3,30.°86S±0.°03×72.°06W±0.°04,h9km±8km, n113,σ1°78/135,mb4.5/11,2C-2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CO06	**Fray Jorge**	**0.41**	**63**	⇓*iP*		**Pg**	**Pg**	**18 04 50.3**	**+1.6**
CO06				*e*S		**Sg**	**Sg**	**18 04 55.2**	**+1.1**
CO06	**Fray Jorge**	**0.41**	**63**	Pg		**Pg**	**Pg**	**18 04 50.0**	**+1.3**
CO05	**La Serena**	**1.18**	**37**	*e*P		**Pn**	**Pn**	**18 05 03.2**	**-0.1**
CO05				*e*S		**Sb**	**Sb**	**18 05 17.6**	**-1.0**
CO05				IAML				18 05 22.3	
	comp=E,18μm,0.4s								
CO05	**La Serena**	**1.18**	**37**			**Pn**	**Pn**	**18 05 02.7**	**-0.7**
CO03	**El Pedregal**	**1.18**	**89**	⇓*iP*		**Pn**	**Pn**	**18 05 02.2**	**-1.3**
CO03				*e*S		**Sb**	**Sb**	**18 05 14.7**	**-4.1**
CO03	**El Pedregal**	**1.18**	**89**	Pn		**Pn**	**Pn**	**18 05 02.2**	**-1.3**
CO03	**El Pedregal**	**1.18**	**89**	*e*P		**Pn**	**Pn**	**18 05 02.3**	**-1.3**
CO03				IAML				18 05 21.8	
	comp=E,8μm,0.5s								
GO04	**Tololo Observa**	**1.29**	**58**	*e*P		**Pn**	**Pn**	**18 05 05.0**	**-0.1**
GO04				*i* S		**Sb**	**Sb**	**18 05 21.4**	**-0.5**
GO04	**Tololo Observa**	**1.29**	**58**			**Pn**	**Pn**	**18 05 04.5**	**-0.5**
GO04	**Tololo Observa**	**1.29**	**58**	*e*P		**Pn**	**Pn**	**18 05 04.8**	**-0.2**
VA06	**Catapilco**	**1.82**	**159**	⇑*iP*		**Pn**	**Pn**	**18 05 11.7**	**-0.5**
VA06				*e*S		**Sn**	**Sn**	**18 05 34.3**	**-1.0**
VA06				IAML				18 05 43.0	
	comp=E,9μm,0.6s								
VA01	**Torpederas**	**2.19**	**171**	*e*P		**Pb**	**Pb**	**18 05 19.8**	**-0.5**
VA01				*i* S		**Sb**	**Sb**	**18 05 48.2**	**+0.6**
VA01	**Torpederas**	**2.19**	**171**	Pn		**Pn**	**Pn**	**18 05 16.6**	**-0.6**
VA01	**Torpederas**	**2.19**	**171**	*e*P		**Pb**	**Pb**	**18 05 20.3**	**-0.2**
VA01				*e*S		**Sb**	**Sb**	**18 05 49.3**	**+1.8**
LCO	**Las Campanas**	**2.19**	**33**			**Pn**	**Pn**	**18 05 17.0**	**-0.6**
ROCH	**El Roble**	**2.29**	**157**	*e*P		**Pb**	**Pb**	**18 05 21.1**	**-1.1**
ROCH				*e*S		**Sn**	**Sn**	**18 05 47.7**	**+0.4**
ROCH				IAML				18 05 57.5	
	comp=E,9μm,0.4s								
ROC1	**El Roble**	**2.29**	**157**	*e*P		**Pb**	**Pb**	**18 05 21.8**	**-0.5**
ROC1				*e*S		**Sg**	**Sg**	**18 05 53.3**	**-0.9**
VA03	**San Esteban**	**2.29**	**146**	⇑*e*P		**Pn**	**Pn**	**18 05 19.3**	**+0.5**
VA03				*i* S		**Sn**	**Sn**	**18 05 47.2**	**0.0**
VA03				IAML				18 05 57.4	
	comp=E,11μm,0.7s								
VA03	**San Esteban**	**2.29**	**146**	Pn		**Pn**	**Pn**	**18 05 18.4**	**-0.4**
AROD	**Rodeo**	**2.34**	**73**	*e*P		**Pb**	**Pb**	**18 05 22.0**	**-1.2**
AROD				*e*S		**Sb**	**Sb**	**18 05 52.0**	**-0.3**
RTLS	**Leoncito**	**2.54**	**112**	*e*P		**Pb**	**Pb**	**18 05 26.3**	**-0.4**
RTLS				*e*S		**Sb**	**Sb**	**18 05 59.6**	**+1.3**
RTLS				IAML				18 06 01.4	
	comp=Z,4μm,0.6s								
ACCO	**Cerro Coronel**	**2.59**	**85**	*e*P		**Pb**	**Pb**	**18 05 27.6**	**+0.1**
ACCO				*e*S		**Sb**	**Sb**	**18 06 00.6**	**+0.9**
ACDV	**Cuesta del Vie**	**2.63**	**76**	*e*P		**Pb**	**Pb**	**18 05 28.0**	**-0.1**
ACDV				*e*S		**Sb**	**Sb**	**18 06 02.3**	**+1.7**
ACDV				IAML				18 06 04.1	
	comp=Z,2μm,1.1s								
AUSP	**Uspallata**	**2.66**	**121**	*e*P		**Pb**	**Pb**	**18 05 28.2**	**-0.4**
AUSP				*e*S		**Sb**	**Sb**	**18 06 02.9**	**+1.4**
MT05	**Renca**	**2.76**	**156**	*e*P		**Pn**	**Pn**	**18 05 27.6**	**+2.4**
MT05				*e*S		**Sb**	**Sb**	**18 06 01.1**	**-3.3**
MT05	**Renca**	**2.76**	**156**	Pn		**Pn**	**Pn**	**18 05 25.4**	**+0.2**
AC04	**Llanos de Chal**	**2.78**	**18**	*e*P		**Pn**	**Pn**	**18 05 24.9**	**-0.5**
AC04				*e*S		**Sn**	**Sn**	**18 05 55.3**	**-3.9**
AC04				IAML				18 06 19.5	
	comp=E,1μm,0.5s								
AC04	**Llanos de Chal**	**2.78**	**18**	Pn		**Pn**	**Pn**	**18 05 24.6**	**-0.8**
AC04	**Llanos de Chal**	**2.78**	**18**	*e*P		**Pn**	**Pn**	**18 05 26.0**	**+0.6**
AC04				*e*S		**Sn**	**Sn**	**18 05 59.3**	**+0.2**
AC04				IAML				18 06 18.5	
	comp=Z,1μm,1.8s								
VA05	**Santo Domingo**	**2.81**	**172**	*e*P		**Pn**	**Pn**	**18 05 28.1**	**+2.2**
VA05				*e*S		**Sb**	**Sb**	**18 06 03.6**	**-2.1**
VA05				IAML				18 06 17.5	
	comp=E,4μm,0.5s								
VA05	**Santo Domingo**	**2.81**	**172**	Pn		**Pn**	**Pn**	**18 05 25.6**	**-0.2**
ZON	**Zonda**	**2.98**	**104**			**Pn**	**Pn**	**18 05 28.5**	**+0.3**
ZON	**Zonda**	**2.98**	**104**	*e*P		**Pb**	**Pb**	**18 05 32.3**	**-1.6**
ZON				*e*S		**Sb**	**Sb**	**18 06 08.3**	**-2.2**
ZON				IAML				18 06 25.2	
	comp=Z,2μm,0.6s								
MT09	**Talagante**	**3.05**	**163**	*e*P		**Pn**	**Pn**	**18 05 31.9**	**+2.7**
MT09				*e*S		**Sb**	**Sb**	**18 06 08.7**	**-3.8**
MT09				IAML				18 06 21.3	
	comp=E,3μm,0.5s								
MT09	**Talagante**	**3.05**	**163**	Pn		**Pn**	**Pn**	**18 05 28.5**	**-0.7**
MT01	**Popeta**	**3.07**	**167**	*e*P		**Pb**	**Pb**	**18 05 34.0**	**-1.6**
MT01				*e*S		**Sb**	**Sb**	**18 06 09.4**	**-3.8**
MT01				IAML				18 06 20.9	
	comp=E,2μm,0.5s								
MT01	**Popeta**	**3.07**	**167**	Pn		**Pn**	**Pn**	**18 05 29.6**	**+0.2**
MT01	**Popeta**	**3.07**	**167**	*e*P		**Pb**	**Pb**	**18 05 33.1**	**-2.4**
MT01				*e*S		**Sb**	**Sb**	**18 06 12.8**	**-0.3**
MT01				IAML				18 06 25.3	
	comp=Z,2μm,0.8s								
RTCV	**Cerro Valdivia**	**3.17**	**109**	*e*P		**Pb**	**Pb**	**18 05 35.3**	**-2.0**
RTCV				*e*S		**Sb**	**Sb**	**18 06 16.3**	**+0.2**
ASAL	**Salagasta**	**3.25**	**123**	*e*P		**Pb**	**Pb**	**18 05 36.6**	**-2.0**
ASAL				*e*S		**Sb**	**Sb**	**18 06 18.3**	**+0.1**
AGUA	**GUANDACOL**	**3.38**	**67**	*e*P		**Pb**	**Pb**	**18 05 38.7**	**-2.1**
AGUA				*e*S		**Sb**	**Sb**	**18 06 23.3**	**+1.2**
BO01	**Tunca**	**3.62**	**167**	*e*P		**Pn**	**Pn**	**18 05 40.1**	**+3.2**
BO01	**Tunca**	**3.62**	**167**	Pn		**Pn**	**Pn**	**18 05 36.8**	**-0.1**
GO03	**Copiap**	**3.63**	**27**	Pn		**Pn**	**Pn**	**18 05 36.9**	**-0.2**
AC06	**Mina Casimiro**	**3.80**	**24**			**Pn**	**Pn**	**18 05 37.3**	**-1.6**
VCA	**Vinchina**	**3.96**	**59**	*e*P		**Pn**	**Pn**	**18 05 47.0**	**-3.8**
VCA				*e*S		**Sn**	**Sn**	**18 06 32.3**	**+3.8**
VCA				*e*S		**Sb**	**Sb**	**18 06 32.8**	**-6.1**
BO02	**Sierra Bellavi**	**4.07**	**165**	Pn		**Pn**	**Pn**	**18 05 42.7**	**-0.5**
GO05	**Huala**	**4.14**	**178**	Pn		**Pn**	**Pn**	**18 05 43.5**	**-0.6**
AC02	**Maricunga**	**4.76**	**33**	Pn		**Pn**	**Pn**	**18 05 53.1**	**0.0**
APLL	**PUNTA DE LOS L**	**4.79**	**86**	*e*P		**Pn**	**Pn**	**18 05 55.4**	**+2.3**
APLL				*e*S		**Sb**	**Sb**	**18 06 58.1**	**-4.6**
MRA	**San Martin**	**5.63**	**108**	*e*P		**Pn**	**Pn**	**18 06 08.0**	**+3.3**
CYA	**Choya**	**5.96**	**68**	*e*P		**Pn**	**Pn**	**18 06 11.0**	**+1.9**
H03N1	**Juan Fernandez**	**6.35**	**244**	T		T	T	18 13 09.6	
	baz=73,slow=72,SNR=363								
H03N3	**Juan Fernandez**	**6.37**	**244**	T		T	T	18 13 08.2	
	baz=73,slow=72,SNR=398								
H03N2	**Juan Fernandez**	**6.37**	**244**	T		T	T	18 13 08.6	
	baz=73,slow=72,SNR=351								
VA04	**Juan Fernndez**	**6.37**	**242**	Pn		**Pn**	**Pn**	**18 06 15.1**	**+0.4**
PB14	**IPOC Station P**	**6.38**	**14**	Pn		**Pn**	**Pn**	**18 06 14.5**	**-0.7**
FSA	**Cafay

0.9nm,0.8s,baz=224,slow=6.0,SNR=5.4
ZALV Zalesovo Beam 152.07 31 PKPab **PKPab 18 32 01.6 -1.0**
1.1nm,0.6s,baz=298,slow=2.8,SNR=4.2

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*IDC **17** 18:26:39.2s 0.6, 31°.95S × 72°.06W, h0km, mb4.5/12, mb1 4.6/15, mb1mx4.6/26, mbtmp4.5/15, ML4.3/3, MS4.1/11, Ms1 4.1/11, ms1mx3.8/23, Error ellipse: s-maj=21.7km s-min=16.9km az=84.0*
*SJA **17** 18:26:39.1s 1.0, 31°.82S × 72°.43W, h15km, ML4.7, MW4.9*
*NEIC **17** 18:26:40.2s 1.9, 31°.77S ± 0°.04 × 72°.04W ± 0°.04, h4km ± 3km, mb4.9/113, ML5.0(GUC), Error ellipse: s-maj=9.7km s-min=5.8km az=92.0*
*GUC **17** 18:26:42.2s 1.6, 31°.74S × 71°.96W, h50km ± 11km, ML4.9*
ISC 17 18:26:40.1 ± 0.8, **31°.78S** ± 0°.02 × **72°.09W** ± 0°.04, **h9**km ± 4km, **n252**, σ 18 **35**/256, **mb4.9**/63, **MS4.3**/13, **5C-2D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**1.02**	**139**	*i* P		**Pn**		**18 27 01.3**	**+0.6**
VA06				*e* S		**Sn**		**18 27 15.0**	**-0.2**
VA06				IAML				18 27 21.0	
	comp=E,100μm,0.5s								
CO06	**Fray Jorge**	**1.17**	**19** ↑	*i* P		**Pn**		**18 27 02.8**	**+0.1**
CO06				*i* S		**Sb**		**18 27 17.9**	**0.0**
CO06	**Fray Jorge**	**1.17**	**19**			**Pn**		**18 27 02.6**	**-0.1**
VA01	**Torpederas**	**1.29**	**163**	*e* P		**Pg**		**18 27 05.1**	**+0.2**
VA01				*i* S		**Sn**		**18 27 22.0**	**+0.2**
VA01	**Torpederas**	**1.29**	**163**			**Pg**		**18 27 05.0**	**+0.1**
VA01	**Torpederas**	**1.29**	**163**	*i* P		**Pg**		**18 27 04.9**	**+0.1**
VA01				IAML				18 27 32.1	
	comp=Z,4μm,0.3s								
ROCH	**El Roble**	**1.49**	**143**	*e* P		**Pg**		**18 27 08.5**	**-0.2**
ROCH				*e* S		**Sg**		**18 27 28.7**	**+0.5**
ROCH				IAML				18 27 35.7	
	comp=N,30μm,0.3s								
ROC1	**El Roble**	**1.50**	**143**	*i* P		**Pg**		**18 27 09.3**	**+0.5**
ROC1				*e* S		**Sg**		**18 27 29.7**	**+1.5**
CO03	**El Pedregal**	**1.52**	**52** ↑	*e* P		**Pg**		**18 27 09.1**	**-0.2**
CO03				*e* S		**Sn**		**18 27 26.6**	**-1.0**
CO03	**El Pedregal**	**1.52**	**52**			**Pg**		**18 27 09.1**	**-0.2**
VA03	**San Esteban**	**1.63**	**127**	*e* P		**Pg**		**18 27 10.8**	**-0.5**
VA03				*i* S		**Sb**		**18 27 30.6**	**-0.5**
VA03				IAML				18 27 41.7	
	comp=N,37μm,0.3s								
VA03	**San Esteban**	**1.63**	**127**			**Pn**		**18 27 07.6**	**-1.5**
VA05	**Santo Domingo**	**1.91**	**168**	*e* P		**Pn**		**18 27 13.8**	**+0.9**
VA05				*e* S		**Sn**		**18 27 36.1**	**-1.0**
VA05				IAML				18 27 51.7	
	comp=E,34μm,0.4s								
VA05	**Santo Domingo**	**1.91**	**168**			**Pn**		**18 27 13.6**	**+0.8**
GO04	**Tololo Observa**	**1.95**	**35**	*e* P		**Pb**		**18 27 15.2**	**-0.8**
GO04				*e* S		**Sb**		**18 27 39.1**	**-1.4**
GO04	**Tololo Observa**	**1.95**	**35**			**Pn**		**18 27 13.3**	**-0.3**
GO04	**Tololo Observa**	**1.95**	**35**	*i* P		**Pg**		**18 27 17.8**	**+0.3**
GO04				*e* S		**Sg**		**18 27 44.8**	**+2.1**
MT05	**Renca**	**1.97**	**145**	*e* P		**Pb**		**18 27 15.5**	**-0.6**
MT05				*e* S		**Sb**		**18 27 40.4**	**-0.5**
MT05				IAML				18 27 54.3	
	comp=E,30μm,0.5s								
MT05	**Renca**	**1.97**	**145**	Pn		**Pn**		**18 27 14.3**	**+0.6**
MT05	**Renca**	**1.97**	**145**	*i* P		**Pg**		**18 27 17.0**	**-0.8**
CO05	**La Serena**	**2.00**	**22**	*e* P		**Pb**		**18 27 15.3**	**-1.3**
CO05				*e* S		**Sn**		**18 27 38.3**	**-0.8**
CO05				IAML				18 27 49.2	
	comp=N,11μm,0.6s								
CO05	**La Serena**	**2.00**	**22**			**Pn**		**18 27 13.9**	**-0.1**
FSR	**Penalolen**	**2.14**	**143**	*e* P		**Pg**		**18 27 21.2**	**+0.1**
FSR				*e* S		**Sb**		**18 27 46.1**	**+0.2**
MT01	**Popeta**	**2.19**	**162**	*e* P		**Pn**		**18 27 18.0**	**+1.3**
MT01				*e* S		**Sn**		**18 27 45.9**	**+1.9**
MT01				IAML				18 27 59.4	
	comp=E,6μm,0.3s								
MT01	**Popeta**	**2.19**	**162**			**Pn**		**18 27 16.8**	**+0.1**
MT01	**Popeta**	**2.19**	**162**	*i* P		**Pn**		**18 27 18.2**	**+1.5**
MT01				IAML				18 27 58.8	
	comp=Z,6μm,0.7s								
MT09	**Talagante**	**2.19**	**155**	*e* P		**Pb**		**18 27 18.8**	**-1.3**
MT09				*e* S		**Sn**		**18 27 45.9**	**+1.6**
MT09				IAML				18 27 55.0	
	comp=N,9μm,0.3s								
MT09	**Talagante**	**2.19**	**155**			**Pn**		**18 27 17.3**	**+0.4**
LMEL	**Las Melosas**	**2.60**	**143** ↑	*e* P		**Pb**		**18 27 24.9**	**-2.1**
LMEL				*e* S		**Sn**		**18 27 56.3**	**+2.0**
LMEL				IAML				18 28 07.6	
	comp=E,6μm,0.4s								
BO03	**Pichilemu**	**2.71**	**178** ↓	*i* P		**Pn**		**18 27 24.4**	**+0.5**
BO01	**Tunca**	**2.73**	**162**	*e* P		**Pn**		**18 27 25.6**	**+1.4**
BO01				*e* S		**Sn**		**18 27 57.1**	**-0.3**
BO01				IAML				18 28 12.0	
	comp=E,2μm,0.5s								
BO01	**Tunca**	**2.73**	**162**			**Pn**		**18 27 24.8**	**+0.6**
BO01	**Tunca**	**2.73**	**162**	*i* P		**Pn**		**18 27 25.9**	**+1.6**
BO01				IAML				18 28 14.8	
	comp=Z,3μm,1.1s								
ASAL	**Salagasta**	**2.87**	**107**	*i* P		**Pb**		**18 27 31.6**	**0.0**
ASAL				IAML				18 28 18.7	
	comp=Z,2μm,1.2s								
ZON	**Zonda**	**2.92**	**86**			**Pn**		**18 27 26.1**	**-0.6**
ZON	**Zonda**	**2.92**	**86**	*i* P		**Pb**		**18 27 31.6**	**-0.7**
ZON				IAML				18 28 17.9	
	comp=Z,3μm,1.7s								
LCO	**Las Campanas**	**3.01**	**24**	Pn		**Pn**		**18 27 28.3**	**0.0**
RTCV	**Cerro Valdivia**	**3.02**	**92**	*i* P		**Pb**		**18 27 33.2**	**-0.9**
RTCV				IAML				18 28 26.6	
	comp=Z,1μm,1.6s								
AAGR	**Agrelo**	**3.04**	**116**	*i* P		**Pb**		**18 27 34.0**	**-0.6**
AAGR				IAML				18 28 37.2	
	comp=Z,2μm,1.1s								
GO05	**Huala**	**3.22**	**178**			**Pn**		**18 27 31.1**	**+0.2**
GO05	**Huala**	**3.22**	**178**	*i* P		**Pn**		**18 27 31.0**	**+0.1**
AC04	**Llanos de Chal**	**3.67**	**14**			**Pn**		**18 27 36.4**	**-0.7**
COIS	**El Sosneado**	**3.92**	**149**	*i* P		**Pn**		**18 27 45.0**	**+4.5**
LAMA	**Las Malvinas**	**3.96**	**143**	*i* P		**Pb**		**18 27 46.8**	**-3.3**
ML02	**Panimavida**	**4.01**	**172**			**Pn**		**18 27 42.1**	**+0.4**
RFA	**San Rafael**	**4.25**	**135**	*i* P		**Pn**		**18 27 48.6**	**+3.5**
RFA				*i* P		Pb		18 27 49.0	-6.1
RFA				IAML				18 29 00.8	
	comp=Z,1μm,0.8s								
GO03	**Copiap**	**4.47**	**22**			**Pn**		**18 27 48.1**	**-0.1**
AC06	**Mina Casimiro**	**4.66**	**19**			**Pn**		**18 27 50.0**	**-0.7**
MRA	**San Martin**	**5.44**	**98**	*i* P		**Pn**		**18 28 05.0**	**+3.5**
MRA				IAML				18 29 19.5	
	comp=Z,484nm,0.9s								
AC02	**Maricunga**	**5.56**	**28**	Pn		**Pn**		**18 28 03.1**	**-0.4**
VA04	**Juan Fernndez**	**5.98**	**250**			**Pn**		**18 28 08.2**	**-0.5**
H03N1	**Juan Fernandez**	**5.99**	**252**	T		T		18 35 01.8	
	baz=84,slow=73,SNR=702								
H03N3	**Juan Fernandez**	**6.01**	**252**	T		T		18 34 51.6	
	baz=84,slow=73,SNR=648								
H03N2	**Juan Fernandez**	**6.01**	**252**	T		T		18 35 00.5	
	baz=84,slow=73,SNR=641								
H03S3	**Juan Fernandez**	**6.10**	**249**	T		T		18 35 12.0	
	baz=85,slow=74,SNR=43								
H03S1	**Juan Fernandez**	**6.10**	**248**	T		T		18 35 17.9	
	baz=85,slow=74,SNR=38								
H03S2	**Juan Fernandez**	**6.11**	**249**	T		T		18 34 56.7	
	baz=85,slow=74,SNR=44								
CYA	**Choya**	**6.38**	**60**	*i* P		Pn		18 28 19.0	+4.6
CYA				IAML				18 30 09.7	
	comp=Z,418nm,0.8s								
LC01	**Cunco**	**7.10**	**179**	Pn		**Pn**		**18 28 24.1**	**-0.1**
LC01	**Cunco**	**7.10**	**179**	*i* P		**Pn**		**18 28 24.6**	**+0.4**
LC01				IAML				18 30 24.0	
	comp=Z,85nm,0.7s								
PB14	**IPOC Station P**	**7.28**	**12**	Pn		**Pn**		**18 28 25.3**	**-1.7**
LR03	**Panguipulli**	**7.83**	**181**	Pn		**Pn**		**18 28 34.2**	**0.0**
PB10	**IPOC Station P**	**8.35**	**10**	Pn		**Pn**		**18 28 42.3**	**+0.9**
PB10	**IPOC Station P**	**8.35**	**10**	*i* P		Pn		18 28 31.0	-10
PB10				IAML				18 30 44.4	
	comp=Z,45nm,0.9s								
PLCA	**Paso Flores**	**9.02**	**173**	Pn		**Pn**		**18 28 52.2**	**+1.7**
	comp=Z,2.2nm,0.3s,baz=336,slow=11,SNR=40								
PLCA				Lg		Lg		18 31 05.7	
	comp=Z,0.6nm,0.3s,baz=96,slow=23,SNR=1.9								
PLCA	**Paso Flores**	**9.02**	**173**	Pn		**Pn**		**18 28 51.6**	**+1.1**
PLCA	**Paso Flores**	**9.02**	**173**	*i* P		**Pn**		**18 28 52.0**	**+1.4**
PLCA				IAML				18 31 05.8	
	comp=Z,30nm,0.9s								
LL04	**Puerto Octay**	**9.11**	**182**	Pn		**Pn**		**18 28 51.7**	**0.0**
LL03	**Petrohue**	**9.34**	**181**	Pn		**Pn**		**18 28 54.3**	**-0.6**
LVC	**Limon Verde**	**9.56**	**18**	Pn		**Pn**		**18 29 02.9**	**+4.6**
	comp=Z,0.5nm,0.3s,baz=207,slow=11,SNR=0.7								
LVC				Sn		**Sn**		**18 30 48.6**	**+2.4**
	baz=198,slow=20,SNR=2.1								
LVC				LR		LR		18 32 11.7	
	comp=Z,368nm,19.6s,baz=196,slow=34								
LVC	**Limon Verde**	**9.56**	**18**	Pn		**Pn**		**18 28 57.4**	**-0.9**
PB04	**IPOC Station P**	**9.57**	**11**	Pn		**Pn**		**18 28 58.0**	**-0.3**
LL05	**Los Muermos**	**9.67**	**186**			**Pn**		**18 28 59.6**	**+0.2**
PB07	**IPOC Station P**	**10.21**	**12**	Pn		**Pn**		**18 29 07.9**	**+0.9**
TRQA	**Tornquist**	**10.39**	**130**	Pn		**Pn**		**18 29 07.9**	**-1.4**
PB01	**IPOC Station P**	**10.95**	**13**	Pn		**Pn**		**18 29 15.8**	**-1.3**
GO07	**Milladeo Hill,**	**11.38**	**186**			**Pn**		**18 29 23.8**	**+1.0**
PB08	**IPOC Station P**	**11.89**	**13**	Pn		**Pn**		**18 29 28.7**	**-1.6**
PB11	**IPOC Station P**	**12.17**	**11**	Pn		**Pn**		**18 29 33.1**	**-0.7**
LPA	**La Plata**	**12.24**	**109**	*e* P		**Pn**		**18 29 31.9**	**-2.7**
LPA				pPP				18 29 45.4	
LPA				PP		**PbPb**		**18 30 13.0**	**-1.3**
LPA				S		**Sn**		**18 31 49.4**	**-1.8**
LPA				SS		**SnSn**		**18 32 01.3**	**-1.8**
LPA				SSS		SSS		18 32 16.7	
LPA				PKIKP		**PKiKP**		**18 43 13.2**	**-2.0**
LPA				SKIKP				18 46 49.1	
LPA				PKIKS				18 46 54.6	
LPA				SKIKS				18 50 23.7	
PSGCX	**Pisagua**	**12.26**	**9**	Pn		**Pn**		**18 29 34.8**	**-0.3**
ITQB	**Itaqui**	**13.47**	**85**	Pn		**Pn**		**18 29 51.6**	**+0.2**
CPUP	**Villa Florida**	**14.00**	**71**	Pn		**Pn**		**18 30 01.0**	**+2.3**
	comp=Z,0.7nm,0.3s,baz=246,slow=12,SNR=7.0								
CPUP				Sn		**Sn**		**18 32 32.4**	**-1.9**
	comp=Z,0.6nm,0.3s,baz=270,slow=20,SNR=1.7								
CPUP	**Villa Florida**	**14.00**	**71**	Pn		**Pn**		**18 29 58.5**	**-0.2**
PLTB	**Pedras Altas**	**15.72**	**95**			**Pn**		**18 30 20.5**	**-1.4**
LPAZ	**La Paz**	**15.84**	**14**	Pn		**Pn**		**18 30 25.8**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=191,slow=7.3,SNR=25								
LPAZ				Sn		**S**		**18 33 29.4**	**-5.4**
	comp=Z,0.1nm,0.3s,baz=230,slow=20,SNR=1.4								
LPAZ	**La Paz**	**15.84**	**14**			**Pn**		**18 30 26.0**	**+2.0**
AQDB	**Aquidauana**	**18.50**	**56**			**P**		**18 30 54.2**	**-2.4**
SIV	**San Ignacio**	**18.65**	**35**	P		**Pn**		**18 30 58.7**	**0.0**
	comp=Z,0.3nm,0.3s,baz=234,slow=12,SNR=20								
NNA	**Nana**	**20.18**	**346**	P		**P**		**18 31 15.6**	**+0.5**
	comp=Z,4.3nm,0.4s,baz=216,slow=11,SNR=2.0								
EFI	**East Falkland**	**22.39**	**157**	P		**P**		**18 31 39.5**	**+0.9**
USHA	**Ushuaia**	**23.19**	**175**	P		**P**		**18 31 46.6**	**-0.4**
	comp=Z,15nm,0.5s,baz=358,slow=5.1,SNR=2.2								
BDFB	**Brasilia**	**27.18**	**59**	P		**P**		**18 32 24.2**	**-0.2**
	comp=Z,55nm,1.1s,baz=223,slow=9.2,SNR=21								
BDFB				LR		LR		18 44 54.0	
	comp=Z,780nm,20.2s,baz=239,slow=40								
BDFB	**Brasilia**	**27.18**	**59**	P		**P**		**18 32 24.1**	**-0.2**
OTAV	**Otavalo**	**32.41**	**348**	P		**P**		**18 33 10.0**	**-1.0**
OTAV				IAmb		IAmb		18 33 25.5	
	comp=Z,20nm,1.5s								
RUSC	**La Rusia**	**37.48**	**358**	P		**P**		**18 33 54.7**	**0.0**
SDV	**Santo Domingo**	**40.46**	**2**	P		**P**		**18 34 19.1**	**-0.4**
MDP	**Montagnes des**	**41.09**	**30**	LR		LR		18 51 59.0	
	comp=Z,126nm,18.4s,baz=212,slow=37								
VNA3	**Neumayer Olymp**	**51.43**	**158**	P		**P**		**18 35 48.0**	**+2.9**
VNA1	**Neumayer--Stat**	**51.73**	**158**	P		**P**		**18 35 50.4**	**+3.1**
VNA2	**Neumayer--Watz**	**52.07**	**158**	P		**P**		**18 35 51.6**	**+1.7**
	baz=283,slow=8.6								
CMIG	**Matias Romero**	**53.29**	**332**	LR		LR		18 54 43.6	
	comp=Z,81nm,19.0s,baz=149,slow=32								
SNAA	**Sanae**	**53.65**	**158**	P		**P**		**18 36 03.4**	**+1.8**
SNAA	**Sanae**	**53.65**	**158**	P		**P**		**18 36 03.1**	**+1.5**
RKT	**Rikitea**	**55.81**	**262**	*e* T		T		19 36 57.9	
	comp=Z,1.6nm,0.3s								
QSPA	**South Pole Qui**	**58.45**	**180**	P		**P**		**18 36 38.3**	**+2.1**
VNDA	**Vanda**	**66.26**	**191**	P		**P**		**18 37 26.1**	**-2.0**
	comp=Z,0.4nm,0.5s,baz=90,slow=19,SNR=6.6								
VNDA	**Vanda**	**66.26**	**191**	P		**P**		**18 37 27.6**	**-0.6**
VNDA				IAmb		IAmb		18 37 51.4	
	comp=Z,5.2nm,1.1s								
LPIG	**La Paz**	**66.51**	**322**	LR		LR		19 00 02.9	
	comp=Z,42nm,19.4s,baz=94,slow=30								
JCT	**Junction City**	**67.28**	**334**	P		**P**		**18 37 36.7**	**+1.6**
JCT				IAmb		IAmb		18 37 52.3	
	comp=Z,9.6nm,0.8s								
TX31	**Lajitas Ar. Si**	**67.79**	**330**	P		**P**		**18 37 39.4**	**+0.9**
TX32	**Lajitas Array**	**67.79**	**330**	P		**P**		**18 37 40.2**	**+1.7**
TXAR	**Lajitas Array**	**67.79**	**330**	P		**P**		**18 37 40.2**	**+1.7**
	comp=Z,2.2nm,0.7s,baz=152,slow=7.7,SNR=34								
TXAR				LR		LR		19 02 53.1	
	comp=Z,68nm,18.4s,baz=0.0,slow=32								
TXAR	**Lajitas Array**	**67.79**	**330**	P		**P**		**18 37 39.7**	**+1.2**
TBI	**Tubuai**	**67.81**	**256**	*e* LR		LR		18 58 12.0	
	comp=Z,288nm,25.2s								
WHTX	**Lake Whitney,**	**67.82**	**337**	P		**P**		**18 37 39.9**	**+1.4**
CPCT	**Cooper Cave**	**67.89**	**349**	P		**P**		**18 37 39.3**	**+0.4**
CPCT				IAmb		IAmb		18 37 50.4	
	comp=Z,10.0nm,0.9s								
SWET	**Sewanee**	**67.91**	**348**	P		**P**		**18 37 39.9**	**+0.9**
SWET				IAmb		IAmb		18 37 50.6	
	comp=Z,7.4nm,0.8s								
SYO	**Syowa Base**	**67.94**	**159** ↑	*e* X		P		18 37 49.8	+11
SYO	**Syowa Base**	**67.94**	**159** ↑	*e* P		P		18 37 51.2	+12
V48A	**Smith Brothers**	**68.58**	**347**	P		**P**		**18 37 44.0**	**+0.8**
V48A				IAmb		IAmb		18 37 55.0	
	comp=Z,9.8nm,1.1s								
T59A	**Double "B" Far**	**68.59**	**355**	P		**P**		**18 37 43.8**	**+0.6**
CLTN	**Cedars of Leba**	**68.83**	**348**	P		**P**		**18 37 45.0**	**+0.3**
CLTN				IAmb		IAmb		18 37 56.0	
	comp=Z,14nm,1.2s								
Z35A	**Perchaven, San**	**68.98**	**338**	P		**P**		**18 37 47.3**	**+1.6**
ABTX	**Abilene, Hawle**	**69.15**	**335**	P		**P**		**18 37 46.1**	**-0.8**
WVT	**Waverly**	**69.15**	**346**	P		**P**		**18 37 46.1**	**-0.7**
W39A	**Magazine**	**69.68**	**341**	P		**P**		**18 37 50.9**	**+0.9**
LCAR	**Lake Charles**	**69.83**	**344**	P		**P**		**18 37 50.0**	**-0.9**
LCAR				IAmb		IAmb		18 38 02.5	
	comp=Z,7.6nm,0.8s								
X34A	**Smith Ranch, M**	**70.34**	**338**	P		**P**		**18 37 55.1**	**+1.0**
U40A	**Yellville**	**70.52**	**342**	P		**P**		**18 37 55.7**	**+0.5**
U40A				IAmb		IAmb		18 38 12.3	
	comp=Z,6.4nm,0.8s								
PPT2	**Papeete2**	**70.53**	**261**	*e* LR		LR		18 59 29.9	
	comp=Z,104nm,23.0s								
MNTX	**Cornudas Mount**	**70.57**	**330**	P		**P**		**18 37 55.8**	**+0.2**
MNTX				IAmb		IAmb		18 37 57.1	
	comp=Z,6.2nm,0.8s								
HHAR	**Hobbs**	**70.74**	**341**	P		**P**		**18 37 57.1**	**+0.6**
HHAR				IAmb		IAmb		18 37 58.4	
	comp=Z,9.2nm,0.8s								
WMOK	**Wichita Mounta**	**70.77**	**337**	P		**P**		**18 37 56.7**	**-0.1**
WMOK				IAmb		IAmb		18 38 25.0	
	comp=Z,7.5nm,1.2s								
WMOK	**Wichita Mounta**	**70.77**	**337**			**P**		**18 37 57.2**	**+0.4**
MSTX	**Muleshoe**	**71.51**	**333**	P		**P**		**18 38 00.4**	**-1.0**
CCM	**Cathedral Cave**	**71.74**	**344**	P		**P**		**18 38 03.2**	**+0.6**
CCM				IAmb		IAmb		18 38 14.5	
	comp=Z,12nm,0.9s								
S39A	**Bolivar**	**71.90**	**342**	P		**P**		**18 38 04.0**	**+0.5**
S39A				IAmb		IAmb		18 38 06.2	
	comp=Z,10nm,1.2s								
AMTX	**Amarillo**	**71.92**	**335**	P		**P**		**18 38 04.9**	**+1.1**
AMTX				IAmb		IAmb		18 38 06.2	
	comp=Z,12nm,1.0s								
R40A	**Maddies Statio**	**72.21**	**343**	P		**P**		**18 38 05.7**	**+0.4**
R40A				IAmb		IAmb		18 38 07.2	
	comp=Z,10nm,0.8s								
SSPA	**Standing Stone**	**72.26**	**355**	P		**P**		**18 38 05.7**	**+0.1**
SSPA				IAmb		IAmb		18 38 17.0	
	comp=Z,16nm,1.2s								
121A	**Cookes Peak, D**	**72.32**	**329**	P		**P**		**18 38 08.5**	**+2.1**
121A				IAmb		IAmb		18 38 09.8	
	comp=Z,11nm,0.9s								
N59A	**State Game Lan**	**72.42**	**357**	P		**P**		**18 38 08.0**	**+1.5**
N59A				IAmb		IAmb		18 38 18.7	
	comp=Z,14nm,1.1s								
N49A	**Columbus Grove**	**73.20**	**350**	P		**P**		**18 38 11.4**	**+0.3**
P40A	**Paris**	**73.33**	**344**	P		**P**		**18 38 12.2**	**+0.3**
LENM	**Lemitar**	**73.37**	**330**	P		**P**		**18 38 12.1**	**-0.5**
TUC	**Tucson**	**73.50**	**326**	P		**P**		**18 38 13.7**	**+0.5**
QUA2	**Belchertown**	**73.70**	**360**	P		**P**		**18 38 14.1**	**0.0**
QUA2				IAmb		IAmb		18 38 25.8	
	comp=Z,11nm,0.9s								
BINY	**Binghamton**	**73.71**	**357**	P		**P**		**18 38 13.3**	**-0.8**
BINY				IAmb		IAmb		18 38 15.4	
	comp=Z,4.3nm,0.5s								
L56A	**Greenwood**	**73.73**	**356**	P		**P**		**18 38 13.4**	**-0.9**
P38A	**Dawn**	**73.78**	**343**	P		**P**		**18 38 15.4**	**+0.8**
P38A				IAmb		IAmb		18 38 16.6	
	comp=Z,8.3nm,0.7s								
ANMO	**Albuquerque**	**73.83**	**331**	P		**P**		**18 38 16.0**	**+0.7**
LIC	**Lamto**	**74.12**	**72**	*e* P		**P**		**18 38 17.8**	**+0.6**
	comp=Z,37nm,0.7s								
TIC	**Toumodi**	**74.37**	**72**	*e* P		**P**		**18 38 19.3**	**+0.6**
KIC	**Kosan Boka**	**74.43**	**72**	*e* P		**P**		**18 38 19.6**	**+0.5**
	comp=Z,28nm,0.8s								
DBIC	**Dimbokro**	**74.52**	**72**	P		**P**		**18 38 20.2**	**+0.7**
	comp=Z,11nm,0.9s,baz=208,slow=6.1,SNR=8.4								
DBIC				LR		LR		19 07 46.2	
	comp=Z,239nm,21.1s,baz=216,slow=33								
DBIC	**Dimbokro**	**74.52**	**72**	P		**P**		**18 38 19.4**	**-0.1**
CBKS	**Cedar Bluff**	**74.80**	**338**	P		**P**		**18 38 21.9**	**+1.3**
CBKS				IAmb		IAmb		18 38 23.1	
	comp=Z,13nm,0.8s								
T25A	**Trinidad**	**74.93**	**334**	P		**P**		**18 38 23.9**	**+2.2**
T25A				IAmb		IAmb		18 38 25.0	
	comp=Z,12nm,0.8s								
MAW	**Mawson**	**75.31**	**164**	P		**P**		**18 38 22.8**	**-0.4**
	comp=Z,1.7nm,0.5s,baz=238,slow=9.5,SNR=3.2								
MAW				LR		LR		19 10 57.7	
	comp=Z,180nm,20.2s,baz=230,slow=35								
MAW	**Mawson**	**75.31**	**164**			**P**		**18 38 22.5**	**-0.8**
X16A	**Lo Mia Camp, P**	**75.55**	**327**	P		**P**		**18 38 27.5**	**+2.3**
X16A				IAmb		IAmb		18 38 28.7	
	comp=Z,6.7nm,0.9s								
LBNH	**Lisbon**	**75.66**	**0**	P		**P**		**18 38 26.9**	**+1.5**
LBNH				IAmb		IAmb		18 38 37.9	
	comp=Z,11nm,0.9s								
SDCO	**Great Sand Dun**	**75.88**	**333**	P		**P**		**18 38 28.0**	**+0.8**
Y14A	**Wickenburg**	**75.89**	**326**	P		**P**		**18 38 27.7**	**+0.7**
Y14A				IAmb		IAmb		18 38 30.2	
	comp=Z,7.7nm,1.1s								
FRNY	**Flat Rock**	**76.27**	**359**	P		**P**		**18 38 31.0**	**+2.1**
FRNY				IAmb		IAmb		18 38 40.4	
	comp=Z,15nm,1.0s								
WUAZ	**Wupatki**	**76.43**	**328**	P		**P**		**18 38 30.9**	**+0.7**
WUAZ				IAmb		IAmb		18 38 34.5	
	comp=Z,11nm,1.2s								
SADO	**Sadowa**	**76.46**	**355**	P		**P**		**18 38 29.5**	**-0.4**
MVCO	**Mesa Verde**	**76.61**	**331**	P		**P**		**18 38 31.8**	**+0.4**
MVCO				IAmb		IAmb		18 38 35.2	
	comp=Z,6.5nm,1.0s								
BAR	**Barrett**	**76.71**	**323**	P		**P**		**18 38 34.0**	**+2.3**
BAR				IAmb		IAmb		18 38 35.0	
	comp=Z,6.4nm,0.8s								
W13A	**Hualapai Mount**	**77.26**	**326**	P		**P**		**18 38 34.3**	**-0.6**
PFO	**Pinyon Flats O**	**77.34**	**323**	P		**P**		**18 38 36.7**	**+1.4**
PFO				IAmb		IAmb		18 38 39.1	
	comp=Z,8.1nm,1.0s								
F64A	**Sherman**	**77.36**	**3**	P		**P**		**18 38 35.3**	**+0.3**
PV01	**Paradox Valley**	**77.43**	**331**	P		**P**		**18 38 36.6**	**+0.7**
LMN	**Caledonia Moun**	**77.55**	**5**	P		**P**		**18 38 36.7**	**+0.6**
PV13	**Radium Mtn., P**	**77.55**	**331**	P		**P**		**18 38 36.4**	**-0.2**
PV13				IAmb		IAmb		18 38 39.4	
	comp=Z,4.7nm,0.8s								
PV05	**Paradox

H11N1	**WAKE ISLAND Hyl**	**26.11**	**272**	T		T		21 04 59.3	
	baz=119,slow=75								
H11N2	**WAKE ISLAND Hyl**	**26.11**	**272**	T		T		21 05 00.2	
	baz=119,slow=75								
ARU	**Arti**	**138.07**	**39**	PKP		**PKPdf**		**18 46 06.0**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=280,slow=6.1,SNR=3.5								
BRVK	**Borovoye**	**145.59**	**41**	PKPdf		**PKPdf**		**18 46 17.6**	**-0.8**
YAK	**Yakutsk**	**146.63**	**341**	PKPbc		**PKPbc**		**18 46 21.9**	**+0.5**
	comp=Z,4.1nm,0.7s,baz=124,slow=3.6,SNR=8.5								
YAK	**Yakutsk**	**146.63**	**341**			**PKPdf**		**18 46 20.7**	**+0.9**
CHGR	**Chuyangaron**	**147.78**	**67**			**PKPab**		**18 46 28.0**	**0.0**
HYB	**Hyderabad**	**149.83**	**111**	*i* PKP		**PKPab**		**18 46 35.0**	**-1.7**
RPSI	**Rantau Prapat**	**149.85**	**162**			**PKPbc**		**18 46 29.9**	**-1.5**
PSI	**Prapat**	**149.95**	**162**	PKPbc		**PKPbc**		**18 46 29.9**	**-1.9**
	comp=Z,2.9nm,0.3s,baz=213,slow=2.0,SNR=3.8								
NIL	**Nilore**	**150.85**	**77**	PKPbc		**PKPbc**		**18 46 31.9**	**-1.5**
KURBB	**Kurchatov Arra**	**151.25**	**41**	PKPbc		**PKiKP**		**18 46 34.4**	**+0.3**
	comp=Z,4.5nm,0.7s,baz=300,slow=3.0,SNR=38								
KURBB				PKPab		**pPKPab**		**18 46 42.8**	**-0.7**
	comp=Z,13nm,0.8s,baz=304,slow=2.9,SNR=22								
KURK	**Kurchatov**	**151.25**	**40**			**PKPab**		**18 46 42.8**	**+1.2**
AAK	**Ala-Archa**	**151.43**	**58**	PKPbc		**PKiKP**		**18 46 35.2**	**+0.2**
	comp=Z,2.7nm,0.5s,baz=191,slow=5.2,SNR=7.1								
AAK				PKPab		**sPKPab**		**18 46 44.9**	**-0.5**
	comp=Z,12nm,0.7s,baz=226,slow=4.0,SNR=21								
ZAA0	**Zalesovo Array**	**152.35**	**30**			**PKiKP**		**18 46 36.8**	**+0.5**
ZALV	**Zalesovo Beam**	**152.35**	**30**	PKPbc		**PKiKP**		**18 46 37.1**	**+0.8**
	comp=Z,8.0nm,0.5s,baz=302,slow=2.8,SNR=25								
ZALV				PKPab		**PKPab**		**18 46 45.8**	**-0.3**
	comp=Z,25nm,0.6s,baz=299,slow=3.3,SNR=29								
ZALV	**Zalesovo Beam**	**152.35**	**30**			**PKiKP**		**18 46 36.5**	**+0.2**
KSH	**Kashi**	**153.02**	**64**	PKPbc		**PKPdf**		**18 46 30.6**	**-0.3**
KSH				PP		**PP**		**18 50 21.6**	**-1.7**
MKAR	**Makanchi Array**	**155.29**	**45**	PKPbc		**PKPdf**		**18 46 37.3**	**+3.6**
ULN	**Ulaanbaatar**	**163.92**	**2**	PKPab		**PKPab**		**18 47 36.4**	**+0.1**
SONM	**Songino Array**	**163.93**	**4**	PKPab		**PKPab**		**18 47 37.6**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=346,slow=5.9,SNR=5.8								
SONM	**Songino Array**	**163.93**	**4**			**PKPab**		**18 47 34.8**	**-1.5**

NNC 17 18:27:52.0±11.0, 35.47N×70.35E, h0km, mb3.7, mpv3.4, 3C-3D, Error ellipse: s-maj=102.6km s-min=88.3km az=128.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KK31	**Karatay Array**	**7.62**	**1**	⇑Pn		Pn	18 29 46.1	+1.8
	1.2nm,0.5s,baz=184,slow=13,SNR=12							
KK31				⇑Sn		Sn	18 31 14.8	+3.5
	0.4nm,0.3s,baz=187,slow=24,SNR=4.5							
AAK	**Ala-Archa**	**7.85**	**23**	⇓Pn		Pn	18 29 48.2	+0.7
	1.5nm,0.4s							
AAK				⇑Sn		Sn	18 31 15.3	-1.9
	2.6nm,0.7s							
TKM2	**Tokmak 2**	**8.48**	**27**	⇓Pn		Pn	18 29 54.1	-2.1
	0.3nm,0.3s							
TKM2				⇓Sn		Sn	18 31 34.0	+1.3
	1.0nm,0.8s							

*BJI **17** 18:34:15.5±0.0, 24.71N×94.55E, h76km, mB4.7/24, mb4.6/41, Ms3.8/16, Ms7 3.5/16*
*IDC **17** 18:34:17.4±0.6, 24.55N×94.77E, h84km±4km, mb4.1/26, mb1 4.1/28, mb1mx4.0/46, mbtmp4.4/28, MS3.5/12, Ms1 3.5/12, ms1mx3.2/52, Error ellipse: s-maj=15.0km s-min=9.2km az=63.0*
*NDI **17** 18:34:17.7±3.1, 24.64N×94.58E, h80km, mb4.7, ML4.7, mb4.7(NEIC)*
*NEIC **17** 18:34:17.2±1.7, 24.60N±0.06×94.67E±0.07, h80km±6km, mb4.7/88, Error ellipse: s-maj=10.0km s-min=8.3km az=135.0*

ISC 17 18:34:17.3±0.4, 24.60N±0.04×94.59E±0.04, h86km±4km, h86km:pP-P,n233,σ1s55/248, mb4.6/72, 11C-5D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KOHI	**KOHIMA**	**1.20**	**339**	*eP*		**Pn**	**18 34 38.4**	**-0.9**
KOHI				*eS*		**Sn**	**18 34 54.8**	**-0.9**
JORH	**JORHAT**	**2.15**	**352**	*eP*		**Pn**	**18 34 49.6**	**-1.7**
JORH				*eS*		**Sn**	**18 35 16.3**	**-1.2**
SHL	**Shillong**	**2.64**	**292**			**Pn**	**18 34 57.1**	**-1.0**
SHL				Sn		**Sn**	**18 35 26.0**	**-3.3**
SHL	**Shillong**	**2.64**	**292**	*eP*		**Pn**	**18 34 57.3**	**-0.7**
SHL				*eS*		**Sn**	**18 35 26.2**	**-3.1**
SHL				IAML			18 35 27.7	
	comp=E,5μm,0.4s							
SHL				IAML			18 35 28.8	
	comp=N,7μm,0.1s							
ITAN	**ITANAGAR**	**2.65**	**343**	*eP*		**Pn**	**18 34 57.0**	**-1.1**
ITAN				*eS*		**Sn**	**18 35 25.9**	**-3.5**
DIBR	**DIBRUGARH**	**2.87**	**6**	*ex*		Pn	18 35 08.4	+7.4
DIBR				*eS*		**Sn**	**18 35 32.6**	**-2.0**
LKP	**Lekhapani**	**2.94**	**22**	*eP*		**Pn**	**18 35 01.7**	**-0.3**
LKP				*eS*		**Sn**	**18 35 36.4**	**0.0**
AGT	**Agartala**	**3.13**	**257**	*eP*		**Pn**	**18 35 04.8**	**+0.2**
AGT				*eS*		**Sn**	**18 35 41.1**	**+0.1**
BRDH	**Bariadhala**	**3.32**	**235**	P		**Pn**	**18 35 06.7**	**-0.3**
	comp=N,49nm,0.3s,baz=237,slow=21,SNR=1.2							
BRDH				S		**Sn**	**18 35 45.2**	**-0.2**
	comp=N,199nm,0.3s,baz=240,slow=22,SNR=4.6							
LSA	**Lhasa**	**5.93**	**330**	P		**Pn**	**18 35 43.6**	**+0.6**
LSA				LR		LR		
	comp=N,700nm,5.0s							
LSA				LR		LR		
	comp=N,310nm,7.1s							
LSA				LR		LR		
	comp=N,1μm,10.0s							
LSA	**Lhasa**	**5.93**	**330**			**Pn**	**18 35 43.3**	**+0.3**
GTK	**Tadong**	**6.03**	**298**	*eP*		**Pn**	**18 35 45.1**	**+1.0**
GTK				*eS*		**Sn**	**18 36 47.4**	**-4.4**
CHTO	**Chiang Mai**	**7.04**	**144**	Pn		**Pn**	**18 35 54.2**	**-3.5**
CHTO	**Chiang Mai**	**7.04**	**144**	P		**Pn**	**18 35 57.6**	**-0.1**
	comp=N,0.2nmcomp=N,361nmcomp=N,20nm,0.5s							
CMMT	**Chiang Mai**	**7.04**	**144**	P		**Pn**	**18 35 57.8**	**0.0**
	comp=N,0.3nmcomp=N,872nmcomp=N,39nm,0.5s							
CMMT	**Chiang Mai**	**7.04**	**144**	P		**Pn**	**18 35 54.3**	**-3.5**
CMMT	**Chiang Mai**	**7.04**	**144**	P		**Pn**	**18 35 57.7**	**0.0**
	comp=N,0.3nmcomp=N,832nmcomp=N,37nm,0.5s							
MHMT	**Maesariang**	**7.11**	**153**	P		**Pn**	**18 35 59.7**	**+1.0**
	comp=N,0.9nmcomp=N,1μmcomp=N,141nm,1.0s							
MHMT	**Maesariang**	**7.11**	**153**	P		**Pn**	**18 35 55.3**	**-3.4**
CM34	**Chiang Mai Arr**	**7.12**	**143**	P		**Pn**	**18 35 59.1**	**+0.2**
PAYA	**Payao**	**7.15**	**136**	P		**Pn**	**18 35 59.2**	**-0.1**
CM15	**Chiang Mai Arr**	**7.33**	**146**	P		**Pn**	**18 36 02.2**	**+0.5**
	comp=N,0.1nmcomp=N,336nmcomp=N,28nm,0.7s							
CM15	**Chiang Mai Arr**	**7.33**	**146**	P		**Pn**	**18 36 00.1**	**-1.6**
CM31	**Chiang Mai Arr**	**7.33**	**146**	P		**Pn**	**18 36 00.8**	**-1.0**
CM31	**Chiang Mai Arr**	**7.33**	**146**			**Pn**	**18 35 58.9**	**-2.9**
CMAR	**Chiang Mai Arr**	**7.33**	**146**	P		**Pn**	**18 36 00.3**	**-1.4**
	comp=N,1.8nm,0.3s,baz=322,slow=13,SNR=46							
CMAR	**Chiang Mai Arr**	**7.33**	**146**	Pn		**Pn**	**18 35 59.7**	**-2.0**
CM13	**Chiang Mai Arr**	**7.34**	**146**	P		**Pn**	**18 36 02.8**	**+0.9**
	comp=N,0.1nmcomp=N,308nmcomp=N,28nm,0.7s							
CM02	**Chiang Mai Arr**	**7.36**	**146**	P		**Pn**	**18 36 02.5**	**+0.4**
	comp=N,0.2nmcomp=N,395nmcomp=N,39nm,0.8s							
CM02	**Chiang Mai Arr**	**7.36**	**146**	P		Pn	18 35 53.5	-8.5
CM09	**Chiang Mai Arr**	**7.37**	**145**	P		**Pn**	**18 36 02.8**	**+0.5**
	comp=N,0.2nmcomp=N,483nmcomp=N,34nm,0.8s							
CM09	**Chiang Mai Arr**	**7.37**	**145**	P		**Pn**	**18 36 01.8**	**-0.5**
CM01	**Chiang Mai Arr**	**7.37**	**146**	P		**Pn**	**18 36 02.9**	**+0.6**
	comp=N,0.3nmcomp=N,468nmcomp=N,33nm,0.8s							
CM01	**Chiang Mai Arr**	**7.37**	**146**	P		**Pn**	**18 35 59.1**	**-3.2**
CM05	**Chiang Mai Arr**	**7.38**	**146**	P		**Pn**	**18 36 02.2**	**-0.2**
	comp=N,0.1nmcomp=N,326nmcomp=N,26nm,0.8s							
CM04	**Chiang Mai Arr**	**7.40**	**146**	P		**Pn**	**18 36 02.9**	**+0.2**
	comp=N,0.2nmcomp=N,449nmcomp=N,37nm,0.8s							
KMI	**Kunming**	**7.42**	**84**	⇑P		**Pn**	**18 36 06.4**	**+3.3**
KMI				sP			18 36 26.5	
KMI				S		**Sn**	**18 37 26.6**	**+0.8**
KMI				pmax		pmax		
	comp=N,66nm,1.2s							
KMI				pmax		pmax		
	comp=N,210nm,3.5s							
KMI				LR		LR		
	comp=N,350nm,6.3s							
KMI				LR		LR		
	comp=N,240nm,8.3s							
KMI				LR		LR		
	comp=N,140nm,7.1s							
LAMP	**Lampang**	**7.65**	**141**	P		**Pn**	**18 36 08.9**	**+2.8**
	comp=N,0.4nmcomp=N,590nmcomp=N,38nm,0.6s							
LAMP	**Lampang**	**7.65**	**141**	P		**Pn**	**18 36 07.1**	**+1.0**
BOK	**Bokaro**	**7.99**	**266**	*eP*		**Pn**	**18 36 09.3**	**-1.4**
BOK				*eS*		**Sn**	**18 37 33.5**	**-5.9**
PHRA	**Phrae**	**8.02**	**138**	P		**Pn**	**18 36 12.5**	**+1.3**
UTTA	**Uttaradit**	**8.80**	**140**	P		**Pn**	**18 36 22.8**	**+1.0**
	comp=N,509nmcomp=N,45nm,0.7s							
UTTA	**Uttaradit**	**8.80**	**140**	P		**Pn**	**18 36 22.1**	**+0.3**
PHIT	**Phitsanulok**	**9.16**	**142**	P		**Pn**	**18 36 28.1**	**+1.4**
	comp=N,146nm,0.9s							
SLVN	**Son La**	**9.18**	**109**			**Pn**	**18 36 26.9**	**0.0**
UMPA	**Umpang Tak**	**9.26**	**154**	P		**Pn**	**18 36 30.4**	**+2.3**
PBKT	**Sadao Pong**	**9.97**	**142**	P		**Pn**	**18 36 39.7**	**+1.9**
PBKT	**Sadao Pong**	**9.97**	**142**			**Pn**	**18 36 39.4**	**+1.7**
PBKT	**Sadao Pong**	**9.97**	**142**	P		**Pn**	**18 36 37.7**	**-0.1**
	comp=N,27nm,0.7s							
UTHA	**Uthaitani**	**10.09**	**152**	P		**Pn**	**18 36 41.5**	**+2.2**
	comp=N,346nmcomp=N,38nm,0.8s							
UTHA	**Uthaitani**	**10.09**	**152**	P		**Pn**	**18 36 39.9**	**+0.6**
NONG	**Nongkai**	**10.29**	**128**	P		**Pn**	**18 36 45.1**	**+3.1**
	comp=N,32nm,2.0s							
SRDT	**SRDT**	**11.06**	**156**	P		Pn	18 36 46.8	-5.7
GYA	**Guiyang**	**11.06**	**78**	⇓P		**Pn**	**18 36 52.8**	**+0.2**
GYA				sP			18 37 13.9	
GYA				pmax		pmax		
	comp=N,13nm,1.3s							
PBA	**Port Blair**	**13.00**	**188**	Pn		Pn	18 37 19.2	+0.5
JBP	**Jabalpur**	**13.44**	**267**	*eS*		**Sn**	**18 39 48.0**	**-4.2**
UBPT	**Khong Chiam**	**13.80**	**130**			**Pn**	**18 37 27.5**	**-1.7**
UBPT	**Khong Chiam**	**13.80**	**130**	P		**Pn**	**18 37 29.0**	**-0.2**
	comp=N,16nm,1.0s							
LZH	**Lanzhou**	**13.95**	**33**	*eP*		**Pn**	**18 37 30.0**	**-1.2**
LZH				pP		P	18 37 45.6	+9.1
LZH				sP			18 37 53.6	
LZH				pmax		pmax		
	comp=N,35nm,1.0s							
LZH				pmax		pmax		
	comp=N,120nm,4.9s							
LZH				LR		LR		
	comp=N,160nm,7.6s							
LZH				LR		LR		
	comp=N,230nm,8.2s							
LZH				LR		LR		
	comp=N,63nm,7.0s							
ENH	**Enshi**	**14.38**	**64**			**Pn**	**18 37 35.0**	**-1.7**
QIZ	**Qiongzhong**	**15.21**	**108**	P		**P**	**18 37 49.0**	**-1.4**
GTA	**Gaotai**	**15.41**	**15**	⇑P		**Pn**	**18 37 47.3**	**-2.6**
GTA				pP		pP	18 38 03.4	-6.1
GTA				sP		sP	18 38 13.8	-6.8
GTA				S		**Sn**	**18 40 38.1**	**-1.8**
BHPL	**Bhopal**	**15.76**	**269**	*eP*		**Pn**	**18 37 53.6**	**-0.7**
SMLA	**Simla**	**16.72**	**297**	*ex*		**Pn**	**18 38 03.7**	**-2.4**
SMLA				IAmb		IAmb	18 38 05.8	
	comp=Z,27nm,0.6s							
DHRM	**DHARAMSHALA**	**17.79**	**299**	*ex*		**P**	**18 38 14.2**	**-4.9**
DHRM				IAmb		IAmb	18 38 22.5	
	comp=Z,80nm,1.5s							
WHN	**Wuhan**	**18.48**	**67**	⇑P		**Pn**	**18 38 27.1**	**-0.5**
WMQ	**Urumqi**	**19.99**	**345**	*eP*		Pn	18 38 53.5	+8.2
WMQ	**Urumqi**	**19.99**	**345**	P		**Pn**	**18 38 44.9**	**-0.4**
WMQ				pP		pP	18 38 59.6	-0.5
WMQ				sP		sP	18 39 05.0	-6.2
WMQ				pmax		pmax		
	comp=Z,79nm,0.9s							
WMQ				pmax		pmax		
	comp=Z,150nm,5.1s							
NIL	**Nilore**	**20.68**	**301**	P		**P**	**18 38 50.1**	**-0.3**
HHC	**Hu-ho-hao-te**	**21.53**	**37**	*eP*		**P**	**18 39 00.6**	**+1.1**
HHC				S		**S**	**18 42 49.4**	**-4.1**
HHC				pmax		pmax		
	comp=Z,22nm,0.9s							
HHC				pmax		pmax		
	comp=Z,120nm,5.4s							
HHC				LR		LR		
	comp=Z,120nm,11.9s							
HHC				LR		LR		
	comp=Z,100nm,12.9s							
HHC				LR		LR		
	comp=Z,58nm,13.0s							
KSH	**Kashi**	**21.62**	**318**	P		**P**	**18 39 01.8**	**+1.3**
KSH				PP		**sP**	**18 39 32.6**	**+3.5**
KSH				PcP		**PcP**	**18 42 59.3**	**+0.2**
KSH				pmax		pmax		
	comp=Z,57nm,1.1s							
KSH				pmax		pmax		
	comp=Z,180nm,5.9s							
PALK	**Pallekele**	**21.77**	**220**	P		**P**	**18 39 03.9**	**+1.7**
	comp=Z,8.9nm,0.9s,baz=3.4,slow=17,SNR=2.1							
PALK				S		**S**	**18 42 55.9**	**-2.3**
	comp=Z,10nm,0.9s,baz=41,slow=19,SNR=2.2							
PALK	**Pallekele**	**21.77**	**220**	IAmb		IAmb	18 39 22.7	
	comp=Z,45nm,1.5s							
TARG	**Taragay, Kyrgy**	**22.05**	**325**	P		**P**	**18 39 05.6**	**+0.2**
TARG				IAmb		IAmb	18 39 30.1	
	comp=Z,24nm,0.8s							
PSI	**Prapat**	**22.07**	**168**	P		**P**	**18 39 06.3**	**+0.8**
	comp=Z,6.2nm,0.3s,baz=359,slow=15,SNR=6.4							
PSI	**Prapat**	**22.07**	**168**	P		**P**	**18 39 07.3**	**+1.8**
	comp=Z,11nm,1.1s,comp=Z,23nm,1.1s							
PSI				P		**P**	**18 39 07.3**	**+1.8**
	comp=Z,11nm,1.1s,comp=Z,23nm,1.1s							
RPSI	**Rantau Prapat**	**22.18**	**168**	P		**P**	**18 39 05.8**	**-0.7**
RPSI				IAmb		IAmb	18 39 08.2	
	comp=Z,20nm,1.0s							
RPSI	**Rantau Prapat**	**22.18**	**168**	P		**P**	**18 39 06.3**	**-0.2**
NJ2	**Nanjing**	**22.58**	**65**	*eP*		**P**	**18 39 10.3**	**-0.3**
NJ2				pmax		pmax		
	comp=Z,13nm,0.5s							
KDJ	**Kajisay**	**22.66**	**325**	P		**P**	**18 39 11.9**	**+0.3**
KDJ				IAmb		IAmb	18 39 16.1	
	comp=Z,47nm,0.8s							
ULHL	**Ulahol**	**23.24**	**324**	P		**P**	**18 39 19.5**	**+2.1**
	SNR=5.9							
GSI	**Gunungsitoli**	**23.34**	**172**	P		**P**	**18 39 17.6**	**-0.7**
GSI				IAmb		IAmb	18 39 44.6	
	comp=Z,48nm,1.5s							
BOOM	**Boomskoye usch**	**23.57**	**324**	P		**P**	**18 39 20.9**	**+0.6**
BOOM				IAmb		IAmb	18 39 23.4	
	comp=Z,79nm,1.4s							
TKM2	**Tokmak 2**	**24.05**	**324**	P		**P**	**18 39 26.9**	**+2.2**
	SNR=47							
UCH	**Uchtor**	**24.19**	**322**	P		**P**	**18 39 28.4**	**+2.3**
	SNR=38							
KBK	**Karagaybulak**	**24.23**	**323**	P		**P**	**18 39 28.9**	**+2.7**
	SNR=20							
MK31	**Makanchi Array**	**24.23**	**339**	P		**P**	**18 39 26.5**	**+0.5**
MK31				IAmb		IAmb	18 39 28.6	
	comp=Z,27nm,0.7s							
MKAR	**Makanchi Array**	**24.23**	**339**	P		**P**	**18 39 27.6**	**+1.6**
	comp=Z,26nm,0.5s,baz=149,slow=10,SNR=255							
MKAR				pP		**pP**	**18 39 47.5**	**+1.8**
	comp=Z,9.6nm,0.6s,baz=148,slow=10.0,SNR=3.3							
MKAR				sP		**sP**	**18 39 57.2**	**+0.8**
	comp=Z,6.8nm,0.7s,baz=150,slow=9.8,SNR=2.0							
MKAR				PcP		**PcP**	**18 43 05.3**	**+1.1**
	comp=Z,2.0nm,0.8s,baz=134,slow=3.5,SNR=3.8							
MKAR				ScP		**ScP**	**18 46 35.7**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=173,slow=2.8,SNR=7.4							
MKAR	**Makanchi Array**	**24.23**	**339**	P		**P**	**18 39 25.8**	**-0.2**
MKAR						**PcP**	**18 43 05.0**	**+0.8**
DRK	**Karamyk**	**24.26**	**313**	P		**P**	**18 39 27.5**	**+0.8**
DRK				IAmb		IAmb	18 39 39.4	
	comp=Z,28nm,0.6s							
KBL	**Kabul**	**24.27**	**300**	P		**P**	**18 39 27.8**	**+1.1**
KBL				IAmb		IAmb	18 39 29.9	
	comp=Z,23nm,0.8s							
TWG	**Pinlang**	**24.30**	**89**	P		**P**	**18 39 27.4**	**+0.5**
TWG				IAmb		IAmb	18 39 30.1	
	comp=Z,31nm,0.9s							
MAKZ	**Makanchi**	**24.35**	**339**	P		**P**	**18 39 27.9**	**+0.9**
AAK	**Ala-Archa**	**24.46**	**322**	P		**P**	**18 39 30.8**	**+2.5**
	comp=Z,22nm,0.8s,baz=139,slow=6.1,SNR=43							
AAK	**Ala-Archa**	**24.46**	**322**	P		**P**	**18 39 31.1**	**+2.7**
	SNR=21							
AAK	**Ala-Archa**	**24.46**	**322**	P		**P**	**18 39 28.9**	**+0.6**
AAK				IAmb		IAmb	18 39 32.7	
	comp=Z,25nm,0.8s							
FRU1	**Bishkek**	**24.50**	**323**	P		**P**	**18 39 28.5**	**-0.1**
FRU1				IAmb		IAmb	18 39 32.8	
	comp=Z,37nm,0.8s							
CHMS	**Chumysh**	**24.56**	**323**	P		**P**	**18 39 31.1**	**+2.0**
	SNR=14							
AML	**Almayashu**	**24.60**	**320**	P		**P**	**18 39 32.2**	**+2.4**
	SNR=20							
USP	**Ospenovka**	**24.88**	**323**	P		**P**	**18 39 34.3**	**+2.4**
	SNR=18							
EKS2	**Erkin-Say**	**24.88**	**321**	P		**P**	**18 39 34.6**	**+2.5**
	SNR=63							
SONM	**Songino Array**	**25.00**	**19**	P		**P**	**18 39 34.1**	**+0.9**
	comp=Z,6.3nm,0.8s,baz=198,slow=9.3,SNR=34							
SONM				ScP		**ScP**	**18 46 37.3**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=179,slow=4.5,SNR=3.0							
SONM	**Songino Array**	**25.00**	**19**	P		**P**	**18 39 33.8**	**+0.6**
GAR	**Garm**	**25.03**	**311**	P		**P**	**18 39 34.6**	**+1.0**
BTK	**Batken**	**25.21**	**313**	P		**P**	**18 39 36.7**	**+1.6**
ULN	**Ulaanbaatar**	**25.23**	**20**	P		**P**	**18 39 35.7**	**+0.4**
CHGR	**Chuyangaron**	**25.69**	**309**	P		**P**	**18 39 40.5**	**+1.1**
CHGR				IAmb		IAmb	18 39 44.4	
	comp=Z,39nm,0.7s							
RGRI	**Rengat**	**25.91**	**162**	P		**P**	**18 39 35.7**	**-5.8**
KK31	**Karatay Array**	**27.06**	**319**	P		**P**	**18 39 52.2**	**+0.6**
KKAR	**Karatay Array**	**27.06**	**319**	P		**P**	**18 39 52.0**	**+0.4**
KKAR	**Karatay Array**	**27.06**	**319**	P		**P**	**18 39 52.3**	**+0.7**
KURBB	**Kurchatov Arra**	**28.80**	**339**	P		**P**	**18 40 08.3**	**+1.3**
	comp=Z,8.0nm,0.8s,baz=153,slow=8.3,SNR=13							
KURBB				PcP		**PcP**	**18 43 15.7**	**+0.9**
	comp=Z,2.9nm,0.6s,baz=153,slow=1.7,SNR=11							
KURK	**Kurchatov**	**28.84**	**339**	P		**P**	**18 40 08.2**	**+0.9**
KURK						**PcP**	**18 43 15.7**	**+0.8**
ZAA0	**Zalesovo Array**	**30.21**	**348**	P		**P**	**18 40 19.6**	**+0.1**
ZALV	**Zalesovo Beam**	**30.21**	**348**	P		**P**	**18 40 20.6**	**+1.2**
	comp=Z,3.3nm,0.4s,baz=168,slow=8.2,SNR=24							
ZALV	**Zalesovo Beam**	**30.21**	**348**	P		**P**	**18 40 19.7**	**+0.3**
JOW	**Kunigami**	**30.38**	**78**	LR		LR	18 55 28.2	
	comp=Z,63nm,18.2s,baz=112,slow=42							
JOW	**Kunigami**	**30.38**	**78**	P		**P**	**18 40 19.9**	**-1.4**
KSRS	**Korea Array**	**31.13**	**58**	LR		LR	18 53 39.0	
	comp=Z,33nm,18.5s,baz=300,slow=38							
SBJI	**Serang**	**32.54**	**158**	P		P	18 40 31.5	-8.8
GEYT	**Alibeck**	**33.67**	**302**	P		**P**	**18 40 52.7**	**+2.6**
	comp=Z,2.4nm,0.7s,baz=116,slow=6.9,SNR=4.0							
GEYT				ScP		**ScP**	**18 47 06.0**	**+0.8**
	comp=Z,6.4nm,0.7s,baz=85,slow=3.5,SNR=7.7							
GYA0B	**ALIBECK ARRAY**	**33.67**	**302**	P		**P**	**18 40 49.6**	**-0.4**
GYA0B				IAmb		IAmb	18 41 12.8	
	comp=Z,7.6nm,0.9s							
BRVK	**Borovoye**	**33.82**	**333**	P		**P**	**18 40 51.6**	**+0.6**
BRVK				IAmb		IAmb	18 40 53.4	
	comp=Z,5.5nm,0.8s							
DAV	**Davao City (W)**	**34.40**	**115**	LR		LR	18 56 07.0	
	comp=Z,54nm,18.1s,baz=297,slow=38							
ABKAR	**Akbulak array**	**36.54**	**321**	P		**P**	**18 41 15.6**	**+1.0**
ABKAR	**Akbulak array**	**36.54**	**321**	P		**P**	**18 41 15.8**	**+1.3**
ABKAR				IAmb		IAmb	18 41 17.2	
	comp=Z,14nm,1.2s							
AKTO	**Aktyubinsk**	**38.21**	**322**	LR		LR	19 00 12.4	
	comp=Z,39nm,19.0s,baz=120,slow=40							
ARU	**Arti**	**41.13**	**330**	P		**P**	**18 41 54.1**	**+1.4**
	comp=Z,2.6nm,0.6s,baz=138,slow=5.0,SNR=14							
ARU	**Arti**	**41.13**	**330**	P		**P**	**18 41 53.5**	**+0.8**
ARU				IAmb		IAmb	18 41 55.0	
	comp=Z,7.4nm,0.7s							
MMRI	**Maumere**	**42.64**	**137**	P		**P**	**18 42 04.7**	**-0.8**
JCJ	**Chichijima**	**42.71**	**76**	LR		LR	19 00 46.6	
	comp=Z,76nm,20.4s,baz=118,slow=37							
YAK	**Yakutsk**	**44.25**	**23**	P		**P**	**18 42 17.4**	**-0.5**
	comp=Z,2.2nm,0.5s,baz=270,slow=1.0,SNR=6.3							
YAK	**Yakutsk**	**44.25**	**23**	P		**P**	**18 42 17.4**	**-0.5**
YAK				IAmb		IAmb	18 42 18.3	
	comp=Z,6.5nm,0.8s							
BATI	**Baumata**	**44.74**	**137**	LR		LR	19 03 01.6	
	comp=Z,63nm,18.5s,baz=324,slow=39							
SOEI	**Soe**	**44.77**	**136**	P		**P**	**18 42 20.4**	**-2.3**
SOEI	**Soe**	**44.77**	**136**	P		**P**	**18 42 21.6**	**-1.1**
	comp=Z,58nm,0.9s							
NRIK	**Noril'sk**	**

NOA				pP	**pP**	**18 45 13.6**	**-0.8**		
	comp=Z,1.9nm,0.7s,baz=84,slow=6.3,SNR=4.5								
NOA				LR	LR	19 16 02.3			
	comp=Z,39nm,19.1s,baz=255,slow=38								
NC204	**NORSAR Array S**	**65.81**	**328**	P	**P**	**18 44 52.5**	**-0.7**		
GERES	**GERESS Array B**	**66.05**	**314**	P	**P**	**18 44 56.1**	**+1.1**		
	comp=Z,1.2nm,0.6s,baz=91,slow=6.9,SNR=4.6								
WLF	**Walferdange**	**70.68**	**317**	P	**P**	**18 45 23.3**	**-0.5**		
WLF				IAmb	IAmb	18 45 26.0			
	comp=Z,26nm,1.5s								
STKA	**Stephens Creek**	**71.91**	**139**	P	**P**	**18 45 29.8**	**-1.5**		
	comp=Z,3.7nm,0.8s,baz=326,slow=5.6,SNR=7.9								
STKA				LR	LR	19 20 35.2			
	comp=Z,80nm,18.8s,baz=204,slow=39								
STKA	**Stephens Creek**	**71.91**	**139**	P	**P**	**18 45 30.2**	**-1.1**		
KEST	**Kesra**	**72.42**	**302**	P	**P**	**18 45 35.8**	**+1.2**		
	comp=Z,2.8nm,0.8s,baz=40,slow=7.9,SNR=2.0								
LSZ	**Lusaka**	**75.92**	**246**	P	**P**	**18 45 56.1**	**+0.9**		
LSZ				IAmb	IAmb	18 46 18.4			
	comp=Z,5.6nm,0.7s								
TOLK	**Toolik Lake Re**	**76.12**	**20**	P	**P**	**18 45 56.2**	**+0.8**		
TOLK				IAmb	IAmb	18 45 57.2			
	comp=Z,13nm,1.1s								
NEEM	**North Greenlan**	**76.14**	**353**	*i* P	**P**	**18 45 56.1**	**+0.4**		
NEEM				IAmb	IAmb	18 45 59.1			
	comp=Z,23nm,0.9s								
H21K	**Melozitna Rive**	**76.60**	**23**	P	**P**	**18 45 58.5**	**+0.3**		
H21K				IAmb	IAmb	18 46 00.3			
	comp=Z,8.9nm,1.0s								
MLY	**Manley**	**77.67**	**23**	P	**P**	**18 46 05.2**	**+1.0**		
MLY				IAmb	IAmb	18 46 06.6			
	comp=Z,6.4nm,1.0s								
CAST	**Castle Rocks**	**78.02**	**25**	P	**P**	**18 46 07.0**	**+0.8**		
SUMG	**Summit**	**78.02**	**347**	*i* P	**P**	**18 46 08.8**	**+2.4**		
SUMG				IAmb	IAmb	18 46 10.7			
	comp=Z,11nm,1.0s								
SUMG	**Summit**	**78.02**	**347**	P	**P**	**18 46 08.5**	**+2.1**		
SUMG				IAmb	IAmb	18 46 10.9			
	comp=Z,9.3nm,0.9s								
BPAW	**Bear Paw Mtn.**	**78.07**	**24**	P	**P**	**18 46 07.5**	**+1.1**		
I23K	**Minto, Yukon-K**	**78.09**	**23**	P	**P**	**18 46 06.4**	**0.0**		
H24K	**Noodor Dome**	**78.22**	**22**	P	**P**	**18 46 07.8**	**+0.6**		
H24K				IAmb	IAmb	18 46 09.5			
	comp=Z,6.8nm,1.1s								
BMAR	**Burnt Mountain**	**78.35**	**20**	P	**P**	**18 46 09.3**	**+1.3**		
NEA2	**Nenana**	**78.50**	**23**	P	**P**	**18 46 09.2**	**+0.5**		
NEA2				IAmb	IAmb	18 46 09.9			
	comp=Z,8.7nm,1.2s								
MDM	**Murphy Dome**	**78.60**	**23**	P	**P**	**18 46 09.6**	**+0.3**		
MDM				IAmb	IAmb	18 46 10.7			
	comp=Z,11nm,0.9s								
CCB	**Clear Creek Bu**	**78.92**	**23**	P	**P**	**18 46 11.0**	**0.0**		
SKT	**Skwentna**	**78.99**	**26**	P	**P**	**18 46 11.2**	**-0.3**		
SKT				IAmb	IAmb	18 46 33.9			
	comp=Z,14nm,1.5s								
IL31		**79.18**	**23**	P	**P**	**18 46 11.4**	**-1.0**		
ILAR	**Eielson Array**	**79.18**	**23**	P	**P**	**18 46 11.9**	**-0.5**		
	comp=Z,2.0nm,0.9s,baz=301,slow=4.3,SNR=13								
ILAR	**Eielson Array**	**79.18**	**23**	P	**P**	**18 46 11.4**	**-1.0**		
A36M	**Sachs Harbour**	**79.86**	**12**	P	**P**	**18 46 16.5**	**+0.5**		
SCRK	**Sand Creek**	**80.66**	**22**	P	**P**	**18 46 20.0**	**-0.7**		
SCRK				IAmb	IAmb	18 46 21.6			
	comp=Z,13nm,1.3s								
ESDC	**Sonseca Array**	**80.87**	**309**	P	**P**	**18 46 23.6**	**+1.5**		
	comp=Z,0.5nm,0.8s,baz=78,slow=4.0,SNR=2.2								
ICESG	**Greenland Ices**	**80.89**	**345**	*i* P	**P**	**18 46 24.5**	**+2.5**		
ICESG				IAmb	IAmb	18 46 25.1			
	comp=Z,11nm,1.0s								
INK	**Inuvik**	**80.89**	**16**	P	**P**	**18 46 21.5**	**0.0**		
INK				IAmb	IAmb	18 46 23.0			
	comp=Z,14nm,0.9s								
EGAK	**Eagle**	**81.11**	**21**	P	**P**	**18 46 23.3**	**+0.5**		
EGAK				IAmb	IAmb	18 46 24.0			
	comp=Z,7.5nm,0.9s								
EPYK	**Eagle Plains**	**81.40**	**19**	P	**P**	**18 46 24.1**	**-0.3**		
EPYK				IAmb	IAmb	18 46 25.2			
	comp=Z,8.9nm,0.9s								
L27K	**Beaver Creek,**	**81.99**	**23**	P	**P**	**18 46 28.0**	**+0.4**		
L27K				IAmb	IAmb	18 46 29.8			
	comp=Z,9.2nm,0.8s								
M26K	**Nabesna, AK**	**82.00**	**23**	P	**P**	**18 46 29.0**	**+1.3**		
M26K				IAmb	IAmb	18 46 44.3			
	comp=Z,9.3nm,1.5s								
BCAR	**Beaver Creek A**	**82.01**	**23**	P	**P**	**18 46 28.3**	**+0.7**		
DAWY	**Dawson**	**82.16**	**21**	P	**P**	**18 46 28.6**	**+0.1**		
BOSA	**Boshof**	**85.11**	**236**	P	**P**	**18 46 45.6**	**+1.5**		
	comp=Z,13nm,0.7s,baz=67,slow=3.7,SNR=26								
BOSA				pP	**pP**	**18 47 06.2**	**-1.0**		
	comp=Z,5.0nm,0.8s,baz=69,slow=3.3,SNR=3.0								
TORD	**Torodi Ar. Bea**	**87.21**	**283**	P	**P**	**18 46 56.2**	**+1.6**		
	comp=Z,0.4nm,0.5s,baz=84,slow=4.4,SNR=2.7								
TORD				pP	**pP**	**18 47 18.1**	**+0.2**		
	comp=Z,0.9nm,0.7s,baz=58,slow=3.8,SNR=4.3								
FRB	**Frobisher Bay**	**90.95**	**353**	LR	LR	19 33 01.4			
	comp=Z,32nm,19.8s,baz=173,slow=39								
TXAR	**Lajitas Array**	**122.57**	**19**	PKP	**PKPdf**	**18 53 05.5**	**+0.1**		
	comp=Z,0.9nm,0.8s,baz=270,slow=0.9,SNR=8.9								
SDV	**Santo Domingo**	**143.73**	**335**	PKP	PKPbc	18 53 41.9	+0.7		
	comp=Z,7.4nm,0.4s,baz=12,slow=2.4,SNR=11								
BDFB	**Brasilia**	**143.87**	**277**	PKP	**PKPdf**	**18 53 42.8**	**-0.7**		
	comp=Z,3.2nm,0.7s,baz=112,slow=5.4,SNR=3.4								

*IDC **17** 18:37:29.1±1.1,30.˚55S×72.˚68W,h0km,mb4.1/3, mb1 4.1/5,mb1mx3.9/20,mbtmp4.0/5,ML3.6/2,Error ellipse: s-maj=44.7km s-min=32.9km az=72.0*

ISC 17 18:37:32.1±1.0,**30.˚5S**±0.˚1×**72.˚7W**±0.˚3,**h19**km,**n16,** σ0**63**/15,**mb4.3/3,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H03N1	**Juan Fernandez**	**6.05**	**240**	T	T	18 45 14.3	
	baz=73,slow=72,SNR=5.0						
H03N2	**Juan Fernandez**	**6.07**	**240**	T	T	18 45 13.1	
	baz=73,slow=72,SNR=9.1						
H03N3	**Juan Fernandez**	**6.07**	**240**	T	T	18 45 12.9	
	baz=73,slow=72,SNR=9.8						
PLCA	**Paso Flores**	**10.33**	**171**	Pn	**Pn**	**18 39 59.6**	**+0.2**
	0.1nm,0.3s,baz=342,slow=16,SNR=1.5						
LPAZ	**La Paz**	**14.76**	**17**	Pn	**Pn**	**18 41 00.7**	**+0.1**
	0.1nm,0.3s,baz=190,slow=6.1,SNR=7.0						
VNA3	**Neumayer Olymp**	**52.78**	**159**	P	**P**	**18 46 45.6**	**0.0**
VNA1	**Neumayer--Stat**	**53.08**	**158**	P	**P**	**18 46 48.1**	**+0.4**
VNA2	**Neumayer--Watz**	**53.42**	**158**	P	**P**	**18 46 50.5**	**+0.1**
	baz=278,slow=7.5						
SNAA	**Sanae**	**55.01**	**159**	P	**P**	**18 47 02.1**	**+0.2**
TXAR	**Lajitas Array**	**66.45**	**331**	P	**P**	**18 48 20.6**	**+0.2**
	0.6nm,0.7s,baz=149,slow=8.0,SNR=7.3						
DBIC	**Dimbokro**	**74.61**	**73**	P	**P**	**18 49 10.0**	**-0.4**
	3.1nm,0.8s,baz=238,slow=9.5,SNR=2.3						
TORD	**Torodi Ar. Bea**	**83.55**	**71**	P	**P**	**18 49 58.8**	**-0.5**
	1.5nm,0.7s,baz=238,slow=8.3,SNR=6.3						
WRA	**Warramunga Arr**	**123.50**	**211**	PKP	**PKPdf**	**18 56 27.8**	**-1.1**
	0.4nm,0.9s,baz=145,slow=1.4,SNR=1.7						
AAK	**Ala-Archa**	**151.17**	**56**	PKPbc	**PKiKP**	**18 57 24.9**	**+0.1**
	2.1nm,0.7s,baz=281,slow=5.2,SNR=8.6						
AAK				PKPab	**PKPab**	**18 57 33.8**	**+1.7**
	0.5nm,0.3s,baz=225,slow=1.6,SNR=3.6						
ZALV	**Zalesovo Beam**	**151.50**	**28**	PKPbc	**PKPbc**	**18 57 24.2**	**-0.2**
	3.9nm,0.8s,baz=302,slow=2.3,SNR=9.9						
ZALV				PKPab	**PKPab**	**18 57 32.7**	**-0.1**
	1.3nm,0.6s,baz=300,slow=3.2,SNR=2.9						
MKAR	**Makanchi Array**	**154.73**	**43**	PKPbc	**PKPbc**	**18 57 31.7**	**-0.1**
	0.4nm,0.7s,baz=318,slow=1.9,SNR=2.7						

*IDC **17** 18:41:29.8±1.6,31.˚38S×71.˚83W,h0km,mb4.0/1, mb1 3.7/2,mb1mx3.5/25,mbtmp3.7/2,ML3.8/1,Error ellipse: s-maj=92.5km s-min=41.1km az=99.0*

*GUC **17** 18:41:34.6±0.8,31.˚47S×71.˚68W,h37km±4km,ML3.9*

ISC 17 18:41:32.4±1.6,**31.˚43S**±0.˚03×**71.˚70W**±0.˚08,**h14**km±10km, **n44,** σ0**81**/56,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.76**	**4**	*eP*	**Pn**	**18 41 49.2**	**+0.5**
CO06				*i* S	**Sn**	**18 42 00.4**	**+0.4**
CO06	**Fray Jorge**	**0.76**	**4**	*eP*	**Pn**	**18 41 49.2**	**+0.5**
CO06				*i* S	**Sn**	**18 42 00.4**	**+0.4**
CO03	**El Pedregal**	**1.05**	**56**	*eP*	**Pg**	**18 41 52.4**	**-0.3**
CO03				*i* S	**Sg**	**18 42 06.8**	**+0.3**
CO03				IAML		18 42 10.8	
	comp=N,3μm,0.2s						
CO03	**El Pedregal**	**1.05**	**56**	*eP*	**Pg**	**18 41 52.4**	**-0.3**
CO03				*i* S	**Sg**	**18 42 06.8**	**+0.3**
CO03				IAML		18 42 10.8	
	comp=N,3μm,0.2s						
VA06	**Catapilco**	**1.18**	**163**	*eP*	**Pn**	**18 41 54.8**	**+0.2**
VA06				*i* S	**Sb**	**18 42 09.8**	**0.0**
VA06				IAML		18 42 13.7	
	comp=E,4μm,0.3s						
VA06	**Catapilco**	**1.18**	**163**	*eP*	**Pn**	**18 41 54.8**	**+0.2**
VA06				*i* S	**Sb**	**18 42 09.8**	**0.0**
VA06				IAML		18 42 13.7	
	comp=E,4μm,0.3s						
GO04	**Tololo Observa**	**1.47**	**32**	*eP*	**Pn**	**18 41 58.5**	**-0.4**
GO04				*i* S	**Sn**	**18 42 19.3**	**+1.1**
GO04				IAML		18 42 22.9	
	comp=Z,4μm,0.4s						
GO04	**Tololo Observa**	**1.47**	**32**	*eP*	**Pn**	**18 41 58.5**	**-0.4**
GO04				*i* S	**Sn**	**18 42 19.3**	**+1.1**
GO04				IAML		18 42 22.9	
	comp=Z,4μm,0.4s						
CO05	**La Serena**	**1.56**	**15**	*eP*	**Pg**	**18 42 02.1**	**-0.3**
CO05				*i* S	**Sb**	**18 42 21.7**	**+1.0**
CO05				IAML		18 42 28.6	
	comp=N,2μm,0.2s						
CO05	**La Serena**	**1.56**	**15**	*eP*	**Pg**	**18 42 02.1**	**-0.3**
CO05				*i* S	**Sb**	**18 42 21.7**	**+1.0**
CO05				IAML		18 42 28.6	
	comp=N,2μm,0.2s						
VA01	**Torpederas**	**1.59**	**178**	*eP*	**Pn**	**18 42 00.6**	**+0.4**
VA01	**Torpederas**	**1.59**	**178**	*eP*	**Pn**	**18 42 00.6**	**+0.4**
ROCH	**El Roble**	**1.65**	**159**	*eP*	**Pb**	**18 42 02.3**	**-0.5**
ROCH				*i* S	**Sb**	**18 42 24.1**	**+0.6**
ROCH				IAML		18 42 27.2	
	comp=N,2μm,0.5s						
ROCH	**El Roble**	**1.65**	**159**	*eP*	**Pb**	**18 42 02.3**	**-0.5**
ROCH				*i* S	**Sb**	**18 42 24.1**	**+0.6**
ROCH				IAML		18 42 27.2	
	comp=N,2μm,0.5s						
VA03	**San Esteban**	**1.65**	**144**	*eP*	**Pb**	**18 42 02.5**	**-0.3**
VA03				*i* S	**Sn**	**18 42 22.8**	**+0.5**
VA03				IAML		18 42 25.2	
	comp=E,3μm,0.6s						
VA03	**San Esteban**	**1.65**	**144**	*eP*	**Pb**	**18 42 02.5**	**-0.3**
VA03				*i* S	**Sn**	**18 42 22.8**	**+0.5**
VA03				IAML		18 42 25.2	
	comp=E,3μm,0.6s						
MT05	**Renca**	**2.12**	**158**	*eP*	**Pn**	**18 42 08.6**	**+0.9**
MT05				*eS*	**Sn**	**18 42 35.0**	**+1.2**
MT05				IAML		18 42 38.5	
	comp=E,2μm,0.2s						
MT05	**Renca**	**2.12**	**158**	*eP*	**Pn**	**18 42 08.6**	**+0.9**
MT05				*eS*	**Sn**	**18 42 35.0**	**+1.2**
MT05				IAML		18 42 38.5	
	comp=E,2μm,0.2s						
VA05	**Santo Domingo**	**2.22**	**178**	*eP*	**Pn**	**18 42 10.4**	**+1.4**
VA05				*i* S	**Sn**	**18 42 37.9**	**+1.7**
VA05				IAML		18 42 48.7	
	comp=E,1μm,0.1s						
VA05	**Santo Domingo**	**2.22**	**178**	*eP*	**Pn**	**18 42 10.4**	**+1.4**
VA05				*i* S	**Sn**	**18 42 37.9**	**+1.7**
VA05				IAML		18 42 48.7	
	comp=E,1μm,0.1s						
MT09	**Talagante**	**2.42**	**166**	*eP*	**Pn**	**18 42 12.2**	**+0.5**
MT09				*i* S	**Sn**	**18 42 40.6**	**-0.7**
MT09				IAML		18 42 51.9	
	comp=E,614nm,0.7s						
MT09	**Talagante**	**2.42**	**166**	*eP*	**Pn**	**18 42 12.2**	**+0.5**
MT09				*i* S	**Sn**	**18 42 40.6**	**-0.7**
MT09				IAML		18 42 51.9	
	comp=E,614nm,0.7s						
MT01	**Popeta**	**2.46**	**171**	*eP*	**Pn**	**18 42 12.4**	**+0.3**
MT01				IAML		18 42 53.0	
	comp=E,340nm,0.6s						
MT01	**Popeta**	**2.46**	**171**	*eP*	**Pn**	**18 42 12.4**	**+0.3**
MT01				IAML		18 42 53.0	
	comp=E,340nm,0.6s						
LMEL	**Las Melosas**	**2.72**	**153**	*eP*	**Pn**	**18 42 16.9**	**+0.9**
LMEL				IAML		18 43 02.0	
	comp=N,501nm,0.3s						
LMEL	**Las Melosas**	**2.72**	**153**	*eP*	**Pn**	**18 42 16.9**	**+0.9**
LMEL				IAML		18 43 02.0	
	comp=N,501nm,0.3s						
BO01	**Tunca**	**3.00**	**170**	*eP*	**Pn**	**18 42 20.8**	**+1.2**
BO01				*i* S	**Sn**	**18 42 55.8**	**+0.3**
BO01	**Tunca**	**3.00**	**170**	*eP*	**Pn**	**18 42 20.8**	**+1.2**
BO01				*i* S	**Sn**	**18 42 55.8**	**+0.3**
AC04	**Llanos de Chal**	**3.26**	**10**	IAML		18 43 23.5	
	comp=E,243nm,0.5s						
AC04	**Llanos de Chal**	**3.26**	**10**	IAML		18 43 23.5	
	comp=E,243nm,0.5s						
H03N1	**Juan Fernandez**	**6.42**	**250**	T	T	18 49 45.3	
	baz=78,slow=72,SNR=133						
H03N3	**Juan Fernandez**	**6.43**	**250**	T	T	18 49 41.9	
	baz=78,slow=72,SNR=90						
H03N2	**Juan Fernandez**	**6.43**	**250**	T	T	18 49 46.8	
	baz=78,slow=72,SNR=74						
PLCA	**Paso Flores**	**9.33**	**175**	Pn	**Pn**	**18 43 47.8**	**+1.2**
	comp=E,0.2nm,0.3s,baz=329,slow=12,SNR=5.3						
TORD	**Torodi Ar. Bea**	**83.07**	**70**	P	**P**	**18 53 57.2**	**-0.9**
	comp=E,0.9nm,0.8s,baz=250,slow=7.1,SNR=4.8						
WRA	**Warramunga Arr**	**123.14**	**210**	PKP	**PKPdf**	**19 00 27.6**	**-1.8**
	comp=E,0.3nm,0.9s,baz=160,slow=2.7,SNR=1.3						
H11S2	**WAKE ISLAND Hyl**	**26.05**	**271**	T	T	21 19 20.2	
	baz=116,slow=75,SNR=25						
H11S1	**WAKE ISLAND Hyl**	**26.07**	**271**	T	T	21 19 23.9	
	baz=116,slow=75,SNR=30						
H11S3	**WAKE ISLAND Hyl**	**26.07**	**271**	T	T	21 19 29.8	
	baz=116,slow=75,SNR=31						
H11N3	**WAKE ISLAND Hyl**	**26.40**	**272**	T	T	21 19 45.6	
	baz=116,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hyl**	**26.42**	**272**	T	T	21 19 46.4	
	baz=116,slow=75,SNR=5.6						
H11N2	**WAKE ISLAND Hyl**	**26.42**	**272**	T	T	21 19 49.1	
	baz=116,slow=75,SNR=14						
BVAR	**Borovoye Array**	**145.18**	**41**	PKPbc	**PKPbc**	**19 01 08.6**	**-0.2**
	comp=E,1.2nm,0.5s,baz=285,slow=2.8,SNR=7.9						
ZALV	**Zalesovo Beam**	**151.88**	**30**	PKPbc	**PKPbc**	**19 01 25.9**	**-0.6**
	comp=E,3.3nm,0.5s,baz=307,slow=3.3,SNR=13						
ZALV				PKPab	**PKPab**	**19 01 35.9**	**+0.3**
	comp=E,1.1nm,0.3s,baz=330,slow=2.4,SNR=4.4						

*IDC **17** 18:43:55.6±2.1,30.˚14S×72.˚28W,h0km,mb4.2/2, mb1 4.2/5,mb1mx3.9/30,mbtmp4.1/5,ML3.9/3,Error ellipse: s-maj=71.4km s-min=31.8km az=100.0*

ISC 17 18:43:58.4±2.0,**30.˚1S**±0.˚1×**72.˚5W**±0.˚5,**h27**km,**n6,** σ0**83**/7, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**8.11**	**24**	Pn	**Pn**	**18 45 54.4**	**-0.4**
	1.4nm,0.3s,baz=229,slow=19,SNR=7.3						
PLCA	**Paso Flores**	**10.73**	**172**	Pn	**Pn**	**18 46 29.9**	**-0.5**
	0.3nm,0.3s,baz=343,slow=14,SNR=7.6						
LPAZ	**La Paz**	**14.31**	**17**	Pn	**Pn**	**18 47 19.1**	**-0.7**
	0.2nm,0.3s,baz=193,slow=9.3,SNR=1.0						
BDFB	**Brasilia**	**26.66**	**63**	P	**P**	**18 49 35.6**	**+0.3**
	1.6nm,0.4s,baz=225,slow=17,SNR=3.6						
TORD	**Torodi Ar. Bea**	**83.25**	**71**	P	**P**	**18 56 23.2**	**+0.3**
	1.7nm,0.7s,baz=249,slow=1.5,SNR=7.4						
ZALV	**Zalesovo Beam**	**151.04**	**28**	PKPbc	**PKPbc**	**19 03 48.8**	**+0.3**
	2.0nm,0.4s,baz=316,slow=2.5,SNR=6.5						
ZALV				PKPab	**sPKPbc**	**19 03 58.8**	**+1.2**
	2.1nm,0.5s,baz=299,slow=3.9,SNR=6.3						

*IDC **17** 18:46:07.1±1.4,30.˚62S×72.˚67W,h0km,mb4.0/4, mb1 4.1/8,mb1mx3.9/32,mbtmp4.0/8,ML3.9/4,Error ellipse: s-maj=35.9km s-min=32.4km az=95.0*

*NEIC **17** 18:46:08.2±2.5,30.˚54S±0.˚06×72.˚48W±0.˚08,h10km±1km, mb4.4/5,Error ellipse: s-maj=13.1km s-min=9.0km az=297.0*

ISC 17 18:46:09.5±0.8,**30.˚62S**±0.˚07×**72.˚5W**±0.˚1,**h19**km,**n31,** σ1**68**/28,**mb4.2/5,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO05	**La Serena**	**1.32**	**58**		**Pn**	**18 46 32.1**	**-0.8**
CO05					**Sn**	**18 46 47.6**	**-2.3**
CO03	**El Pedregal**	**1.60**	**98**	Pn	**Pn**	**18 46 36.5**	**-0.4**
LCO	**Las Campanas**	**2.26**	**45**	Pn	**Pn**	**18 46 43.9**	**-2.1**
AC04	**Llanos de Chal**	**2.72**	**28**	Pn	**Pn**	**18 46 50.0**	**-2.3**
VA03	**San Esteban**	**2.72**	**142**	Pn	**Pn**	**18 46 51.6**	**-0.8**
ZON	**Zonda**	**3.43**	**107**	Pn	**Pn**	**18 47 01.2**	**-0.9**
GO03	**Copiap**	**3.62**	**34**	Pn	**Pn**	**18 47 01.4**	**-3.3**
BO01	**Tunca**	**3.96**	**162**	Pn	**Pn**	**18 47 06.4**	**-2.8**
GO05	**Huala**	**4.41**	**174**	Pn	**Pn**	**18 47 12.6**	**-2.9**
BO02	**Sierra Bellavi**	**4.42**	**161**	Pn	**Pn**	**18 47 13.4**	**-2.2**
AC02	**Maricunga**	**4.81**	**39**	Pn	Pn	18 47 15.8	-5.5
LC01	**Cunco**	**8.28**	**176**		**Pn**	**18 48 07.5**	**-1.0**
PB09	**IPOC Station P**	**9.27**	**19**	Pn	Pn	18 48 15.5	-6.8
PLCA	**Paso Flores**	**10.22**	**171**	Pn	**Pn**	**18 48 35.5**	**+0.3**
	0.4nm,0.3s,baz=339,slow=12,SNR=8.5						
CPUP	**Villa Florida**	**14.03**	**76**	Pn	**Pn**	**18 49 27.3**	**-0.1**
	0.2nm,0.3s,baz=270,slow=20,SNR=1.3						
LPAZ	**La Paz**	**14.82**	**17**	Pn			
	0.1nm,0.3s,baz=187,slow=8.5,SNR=6.9						
LPAZ	**La Paz**	**14.82**	**17**	P	**Pn**	**18 49 40.0**	**+1.3**
SIV	**San Ignacio**	**17.94**	**38**	P	**P**	**18 50 19.0**	**+0.4**
	0.2nm,0.3s,baz=233,slow=11,SNR=18						
BDFB	**Brasilia**	**26.94**	**62**	P	**P**	**18 51 52.5**	**+2.4**
	3.2nm,0.6s,baz=231,slow=14,SNR=2.4						
BDFB	**Brasilia**	**26.94**	**62**	IAmb	IAmb	18 52 17.4	
	comp=Z,10nm,1.2s						
SNAA	**Sanae**	**54.87**	**159**	P	**P**	**18 55 38.6**	**+0.3**
SNAA				IAmb	IAmb	18 56 00.1	
	comp=Z,5.9nm,1.4s						
QSPA	**South Pole Qui**	**59.61**	**180**	P	**P**	**18 56 12.6**	**+0.7**
TXAR	**Lajitas Array**	**66.59**	**331**	P	**P**	**18 56 58.9**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=146,slow=9.1,SNR=3.9						
DBIC	**Dimbokro**	**74.53**	**72**	P	**P**	**18 57 48.6**	**+1.3**
	comp=Z,1.6nm,0.6s,baz=208,slow=4.2,SNR=1.3						
DBIC	**Dimbokro**	**74.53**	**72**	IAmb	IAmb	18 57 57.2	
	comp=Z,19nm,1.5s						
TORD	**Torodi Ar. Bea**	**83.47**	**71**	P	**P**	**18 58 37.2**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=271,slow=5.1,SNR=6.0						
TORD	**Torodi Ar. Bea**	**83.47**	**71**	IAmb	IAmb	18 58 39.6	
	comp=Z,4.0nm,1.4s						
AAK	**Ala-Archa**	**151.13**	**56**	PKPbc	**PKiKP**	**19 06 02.7**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=244,slow=5.9,SNR=5.8						
AAK	**Ala-Archa**	**151.13**	**56**		**PKPdf**	**19 05 52.6**	**-3.0**
ZALV	**Zalesovo Beam**	**151.53**	**29**	PKPbc	**PKiKP**	**19 06 02.5**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=316,slow=4.1,SNR=6.8						
ZALV	**Zalesovo Beam**	**151.53**	**29**	PKPdf	**PKPdf**	**19 05 55.1**	**-0.6**
ZALV					**PKiKP**	**19 06 02.1**	**-0.2**

*IDC **17** 18:51:57.3±1.1,30.˚45S×72.˚66W,h0km,mb4.0/5, mb1 4.3/9,mb1mx4.1/32,mbtmp4.1/9,ML4.3/3,MS3.4/2, Ms1 3.4/2,ms1mx3.0/21,Error ellipse: s-maj=29.3km s-min=27.4km az=101.0*

*NEIC **17** 18:51:58.7±2.2,30.˚37S±0.˚04×72.˚58W±0.˚05,h10km±1km, mb4.6/34,Error ellipse: s-maj=8.4km s-min=4.2km az=307.0*

ISC 17 18:51:59.9±0.6,**30.˚36S**±0.˚05×**72.˚56W**±0.˚09,**h19**km,**n71,** σ1**30**/68,**mb4.5**/22,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.85**	**112**		**Pb**	**18 52 15.3**	**-0.9**
CO05	**La Serena**	**1.23**	**69**		**Pn**	**18 52 21.1**	**-1.0**
GO04	**Tololo Observa**	**1.53**	**83**		**Pn**	**18 52 27.4**	**+0.9**
CO03	**El Pedregal**	**1.68**	**107**		**Pn**	**18 52 28.0**	**-0.4**
LCO	**Las Campanas**	**2.10**	**51**		**Pn**	**18 52 33.1**	**-1.3**
AC04	**Llanos de Chal**	**2.51**	**31**		**Pn**	**18 52 38.5**	**-1.2**
VA03	**San Esteban**	**2.94**	**145**		**Pn**	**18 52 45.0**	**-0.8**
VA05	**Santo Domingo**	**3.38**	**167**	Pn	**Pn**	**18 52 48.7**	**-3.0**
MT05	**Renca**	**3.40**	**153**	Pn	**Pn**	**18 52 49.6**	**-2.4**
GO03	**Copiap**	**3.43**	**37**	Pn	**Pn**	**18 52 50.6**	**-1.8**
GO03					**Sn**	**18 53 32.2**	**-0.4**
ZON	**Zonda**	**3.54**	**110**		**Pn**	**18 52 56.6**	**+2.7**
AC06	**Mina Casimiro**	**3.56**	**33**		**Pn**	**18 52 53.3**	**-0.9**
MT09	**Talagante**	**3.66**	**159**	Pn	**Pn**	**18 52 54.9**	**-0.7**
MT01	**Popeta**	**3.66**	**163**	Pn	**Pn**	**18 52 53.

TORD	**Torodi Ar. Bea**	**83.41**	**71**	P		**P**	19 04 26.5	**+0.1**
WVOR	**Wild Horse Val**	**83.93**	**328**	P		**P**	19 04 28.7	**0.0**
WVOR				IAmb	IAmb		19 04 30.3	
	comp=Z,8.2nm,1.2s							
WRA	**Warramunga Arr**	**123.69**	**211**	PKP		**PKiKP**	19 10 57.5	**+0.2**
	comp=Z,0.2nm,0.5s,baz=159,slow=2.0,SNR=1.1							
H11S2	**WAKE ISLAND Hyl**	**25.29**	**272**	T		T	21 26 31.5	
	baz=115,slow=75,SNR=30							
H11S1	**WAKE ISLAND Hyl**	**25.31**	**272**	T		T	21 26 32.6	
	baz=115,slow=75,SNR=41							
H11S3	**WAKE ISLAND Hyl**	**25.31**	**272**	T		T	21 26 32.8	
	baz=115,slow=75,SNR=28							
ZALV	**Zalesovo Beam**	**151.31**	**28**	PKPbc		**PKiKP**	19 11 52.1	**-0.2**
	comp=Z,4.4nm,0.8s,baz=298,slow=3.1,SNR=12							

*IDC **17** 18:55:54.8±2.5, 31°.26S×71°.63W, h0km, mb4.0/1, mb1 4.0/3, mb1mx3.7/27, mbtmp3.9/3, ML4.0/2, Error ellipse: s-maj=122.3km s-min=34.2km az=95.0*
*NEIC **17** 18:55:56.7±1.1, 31°.39S±0°.03×72°.0W±0°.1, h17km±5km, mb4.2/3, ML3.9(GUC), Error ellipse: s-maj=15.3km s-min=3.4km az=104.0*
*GUC **17** 18:55:58.1±0.8, 31°.36S×71°.71W, h37km±5km, ML4.0*

ISC 17 18:55:54.5±1.6, 31°.38S±0°.03×71°.93W±0°.08, h9km±10km, n51, σ1°34/58, mb4.2/3, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**0.75**	**20**	⇑*i*P		**Pn**	**18 56 11.9**	**+0.7**
CO06				*i* S		**Sn**	**18 56 22.1**	**-0.7**
CO06	**Fray Jorge**	**0.75**	**20**			**Pn**	**18 56 11.9**	**+0.7**
CO03	**El Pedregal**	**1.20**	**63**	⇓*i*P		**Pg**	**18 56 17.8**	**+0.4**
CO03				*i* S		**Sb**	**18 56 32.2**	**-0.8**
CO03				IAML			18 56 35.4	
	comp=E,4μm,0.1s							
CO03	**El Pedregal**	**1.20**	**63**			**Pg**	**18 56 18.0**	**+0.6**
VA06	**Catapilco**	**1.29**	**155**	⇓*i*P		**Pg**	**18 56 19.8**	**+0.6**
VA06				*i* S		**Sb**	**18 56 35.6**	**0.0**
VA06				IAML			18 56 41.8	
	comp=E,4μm,0.7s							
GO04	**Tololo Observa**	**1.55**	**39**	*i* P		**Pg**	**18 56 24.3**	**0.0**
GO04				*i* S		**Sg**	**18 56 43.7**	**-0.7**
GO04				IAML			18 56 48.2	
	comp=N,6μm,0.4s							
GO04	**Tololo Observa**	**1.55**	**39**			**Pg**	**18 56 24.7**	**+0.5**
CO05	**La Serena**	**1.58**	**22**	*e*P		**Pb**	**18 56 24.7**	**+0.9**
CO05				*i* S		**Sg**	**18 56 44.8**	**-0.4**
CO05				IAML			18 56 51.2	
	comp=E,1μm,0.6s							
CO05	**La Serena**	**1.58**	**22**			**Pb**	**18 56 24.0**	**+0.2**
VA01	**Torpederas**	**1.65**	**172**			**Pn**	**18 56 24.6**	**+0.9**
ROCH	**El Roble**	**1.77**	**154**	*e*P		**Pb**	**18 56 27.1**	**-0.1**
ROCH				*i* S		**Sg**	**18 56 50.8**	**-0.5**
ROCH				IAML			18 56 54.1	
	comp=N,2μm,0.3s							
VA03	**San Esteban**	**1.81**	**140**	⇓*i*P		**Pb**	**18 56 28.1**	**+0.3**
VA03				*i* S		**Sb**	**18 56 51.0**	**+0.3**
VA03				IAML			18 56 53.0	
	comp=E,5μm,0.5s							
VA03	**San Esteban**	**1.81**	**140**			**Pb**	**18 56 28.2**	**+0.3**
MT05	**Renca**	**2.24**	**154**	*e*P		**Pb**	**18 56 34.0**	**-1.3**
MT05				*i* S		**Sn**	**18 56 59.8**	**0.0**
MT05				IAML			18 57 14.3	
	comp=E,2μm,0.4s							
MT05	**Renca**	**2.24**	**154**			**Pn**	**18 56 33.5**	**+1.6**
VA05	**Santo Domingo**	**2.28**	**173**	*e*P		**Pn**	**18 56 33.2**	**+0.9**
VA05				*i* S		**Sb**	**18 57 05.5**	**+1.3**
VA05				IAML			18 57 13.6	
	comp=E,1μm,0.2s							
VA05	**Santo Domingo**	**2.28**	**173**			**Pn**	**18 56 33.3**	**+0.9**
MT09	**Talagante**	**2.52**	**162**	⇑*i*P		**Pn**	**18 56 38.1**	**+2.4**
MT09				*e*S		**Sb**	**18 57 10.7**	**-0.4**
MT09				IAML			18 57 20.0	
	comp=E,968nm,0.1s							
MT09	**Talagante**	**2.52**	**162**			**Pn**	**18 56 37.5**	**+1.8**
MT01	**Popeta**	**2.54**	**167**	*e*P		**Pn**	**18 56 37.6**	**+1.7**
MT01				*i* S		**Sb**	**18 57 11.3**	**-0.3**
MT01				IAML			18 57 23.7	
	comp=E,627nm,0.7s							
MT01	**Popeta**	**2.54**	**167**			**Pn**	**18 56 37.4**	**+1.5**
LCO	**Las Campanas**	**2.59**	**25**	Pn		**Pn**	**18 56 38.5**	**+1.6**
ZON	**Zonda**	**2.79**	**94**			**Pb**	**18 56 43.6**	**-0.8**
LMEL	**Las Melosas**	**2.86**	**150**	*e*P		**Pn**	**18 56 43.1**	**+2.7**
LMEL				*i* S		**Sb**	**18 57 18.2**	**-2.7**
LMEL				IAML			18 57 28.1	
	comp=N,1μm,0.6s							
BO01	**Tunca**	**3.08**	**167**	*e*P		**Pn**	**18 56 44.9**	**+1.5**
BO01				*i* S		**Sb**	**18 57 24.7**	**-2.6**
BO01				IAML			18 57 33.3	
	comp=E,152nm,0.6s							
BO01	**Tunca**	**3.08**	**167**			**Pn**	**18 56 44.6**	**+1.3**
BO03	**Pichilemu**	**3.10**	**180**	⇑*i*P		**Pn**	**18 56 44.6**	**+0.9**
BO03				IAML			18 57 44.6	
	comp=N,134nm,0.4s							
AC04	**Llanos de Chal**	**3.25**	**13**	*e*P		**Pn**	**18 56 47.9**	**+2.1**
AC04				IAML			18 57 47.4	
	comp=E,194nm,0.6s							
AC04	**Llanos de Chal**	**3.25**	**13**	Pn		**Pn**	**18 56 47.8**	**+2.1**
BO02	**Sierra Bellavi**	**3.54**	**164**			**Pn**	**18 56 51.5**	**+1.8**
GO05	**Huala**	**3.62**	**180**	⇑*i*P		**Pn**	**18 56 51.4**	**+0.7**
GO05	**Huala**	**3.62**	**180**			**Pn**	**18 56 51.5**	**+0.7**
GO03	**Copiap**	**4.06**	**22**	*e*P		**Pn**	**18 56 57.9**	**+1.1**
GO03	**Copiap**	**4.06**	**22**	Pn		**Pn**	**18 56 58.4**	**+1.6**
AC06	**Mina Casimiro**	**4.24**	**19**	Pn		**Pn**	**18 56 59.8**	**+0.4**
AC02	**Maricunga**	**5.15**	**29**	Pn		**Pn**	**18 57 13.0**	**+0.8**
H03N1	**Juan Fernandez**	**6.25**	**249**	T		T	19 04 12.6	
	baz=78,slow=72,SNR=264							
H03N3	**Juan Fernandez**	**6.26**	**249**	T		T	19 04 11.8	
	baz=78,slow=72,SNR=380							
H03N2	**Juan Fernandez**	**6.26**	**249**	T		T	19 04 13.3	
	baz=78,slow=72,SNR=382							
LC01	**Cunco**	**7.50**	**180**	Pn		**Pn**	**18 57 42.1**	**-1.9**
LVC	**Limon Verde**	**9.14**	**18**	Pn		**Pn**	**18 58 04.3**	**-2.6**
	comp=E,0.3nm,0.3s,baz=278,slow=21,SNR=6.3							
PLCA	**Paso Flores**	**9.40**	**174**	Pn		**Pn**	**18 58 12.3**	**+2.2**
	comp=E,0.7nm,0.3s,baz=357,slow=18,SNR=21							
TRQA	**Tornquist**	**10.55**	**132**	Pn		**Pn**	**18 58 27.8**	**+1.9**
SNAA	**Sanae**	**53.97**	**159**	P		**P**	**19 05 17.8**	**-0.6**
SNAA				IAmb		IAmb	19 05 20.5	
	comp=Z,2.8nm,1.1s							
QSPA	**South Pole Qui**	**58.85**	**180**	P		**P**	**19 05 52.7**	**-0.6**
QSPA				IAmb		IAmb	19 06 12.3	
	comp=Z,2.9nm,1.4s							
TORD	**Torodi Ar. Bea**	**83.24**	**70**	P		**P**	**19 08 22.2**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=221,slow=0.9,SNR=5.2							
TORD	**Torodi Ar. Bea**	**83.24**	**70**	IAmb		IAmb	19 08 22.8	
	comp=Z,0.9nm,0.7s							
H11S2	**WAKE ISLAND Hyl**	**25.86**	**271**	T		T	21 33 47.7	
	baz=116,slow=74,SNR=29							
H11S1	**WAKE ISLAND Hyl**	**25.87**	**271**	T		T	21 33 47.9	
	baz=116,slow=74							
H11S3	**WAKE ISLAND Hyl**	**25.88**	**271**	T		T	21 33 46.9	
	baz=116,slow=74,SNR=24							
ZALV	**Zalesovo Beam**	**151.94**	**30**	PKPbc		**PKiKP**	**19 15 50.3**	**+0.5**
	comp=Z,1.9nm,0.4s,baz=300,slow=2.9,SNR=7.4							
ZALV				PKPab		**PKPab**	**19 16 00.1**	**+1.4**
	comp=Z,0.8nm,0.4s,baz=328,slow=5.1,SNR=2.5							

MEX 17 18:59:42.6±0.4, 19°.34N×104°.10W, h5km, MD3.5, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
R15V		**0.20**	**147**	*i* P		Pg	18 59 45.5	-1.1
R15V				*i* S		Sg	18 59 49.2	-0.2
COIG	**Colima**	**0.42**	**113**	*i* P		Pg	18 59 50.5	-0.2
COIG				*i* S		Sg	18 59 56.4	+0.1
CJM	**Chamela**	**0.91**	**280**	*i* P		Pg	18 59 57.8	-2.2
CJM				*i* S		Sg	19 00 10.7	-1.0

IDC 17 19:00:31.7±1.9, 6°.06S×151°.68E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.6/32, mbtmp3.9/4, Error ellipse: s-maj=104.9km s-min=25.7km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**21.78**	**229**	P		P	19 05 25.5	+0.2
	1.6nm,0.6s,baz=56,slow=10,SNR=14							
ASAR	**Alice Springs**	**24.47**	**223**	P		P	19 05 53.1	+0.4
	1.5nm,0.6s,baz=57,slow=9.1,SNR=21							
FITZ	**Fitzroy Crossi**	**28.08**	**242**	P		P	19 06 24.9	-0.4
	1.7nm,0.5s,baz=54,slow=9.4,SNR=21							
ILAR	**Eielson Array**	**83.74**	**22**	P		P	19 13 02.5	+0.1
	0.8nm,0.7s,baz=248,slow=5.6,SNR=9.0							
TORD	**Torodi Ar. Bea**	**149.60**	**286**	PKPbc		PKPbc	19 20 23.7	-0.7
	1.1nm,0.7s,baz=68,slow=2.7,SNR=6.8							

*GUC **17** 19:09:02.6±0.7, 20°.75S×70°.61W, h41km±3km, ML3.4*
*IDC **17** 19:09:07.1±4.2, 20°.73S×70°.36W, h72km±31km, mb3.4/3, mb1 3.4/7, mb1mx3.3/35, mbtmp3.5/7, Error ellipse: s-maj=53.7km s-min=16.5km az=88.0*

ISC 17 19:09:00.9±1.8, 20°.76S±0°.04×70°.71W±0°.08, h25km±12km, n26, σ1°25/33, mb3.7/3, 7C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TA01	**Diego Aracena**	**0.53**	**69**	⇓*i*P		**Pb**	**19 09 11.7**	**+0.1**
TA01				*i* S		**Sb**	**19 09 18.6**	**-0.4**
TA01				IAML			19 09 19.1	
	comp=N,16μm,0.3s							
TA02	**Huaiquique**	**0.72**	**48**	*e*P		**Pb**	**19 09 14.7**	**-0.2**
TA02				*i* S		**Sb**	**19 09 23.6**	**-0.9**
PB02	**IPOC Station P**	**0.94**	**127**	⇓*i*P		**Pn**	**19 09 18.3**	**-0.4**
PB02				*i* S		**Sb**	**19 09 30.2**	**-0.7**
PB01	**IPOC Station P**	**1.18**	**104**	⇓*i*P		**Pn**	**19 09 21.3**	**-0.5**
PB01				*i* S		**Sn**	**19 09 35.5**	**-1.7**
PB01				IAML			19 09 37.8	
	comp=E,3μm,0.3s							
PB07	**IPOC Station P**	**1.23**	**142**	⇑*i*P		**Pn**	**19 09 22.5**	**-0.2**
PB07				*i* S		**Sn**	**19 09 37.5**	**-1.2**
PB07				IAML			19 09 38.9	
	comp=E,1μm,0.2s							
PSGC	**Pisagua**	**1.28**	**26**	⇑*i*P		**Pn**	**19 09 22.9**	**-0.4**
PSGC				*i* S		**Sn**	**19 09 38.5**	**-1.2**
PB11	**IPOC Station P**	**1.40**	**45**	⇑*i*P		**Pn**	**19 09 24.6**	**-0.3**
PB11				*i* S		**Sn**	**19 09 41.7**	**-1.0**
PB11				IAML			19 09 45.2	
	comp=E,733nm,0.2s							
PB03	**IPOC Station P**	**1.56**	**145**	⇑*i*P		**Pn**	**19 09 27.2**	**-0.1**
PB03				*i* S		**Sn**	**19 09 46.7**	**-0.1**
PB03				IAML			19 09 52.0	
	comp=N,426nm,0.5s							
PB08	**IPOC Station P**	**1.58**	**68**	⇓*i*P		**Pn**	**19 09 27.7**	**0.0**
PB08				*i* S		**Sn**	**19 09 46.7**	**-0.9**
PB08				IAML			19 09 48.5	
	comp=E,685nm,0.4s							
PB04	**IPOC Station P**	**1.65**	**162**	⇑*i*P		**Pn**	**19 09 28.3**	**-0.2**
PB04				*i* S		**Sn**	**19 09 47.4**	**-1.7**
PB04				IAML			19 09 49.2	
	comp=N,1μm,0.1s							
PB09	**IPOC Station P**	**1.71**	**127**	⇑*i*P		**Pn**	**19 09 30.5**	**+1.1**
PB09				*i* S		**Sn**	**19 09 51.4**	**+0.9**
PB09				IAML			19 09 54.5	
	comp=E,700nm,0.5s							
PB05	**IPOC Station P**	**2.14**	**167**	⇑*i*P		**Pn**	**19 09 34.6**	**-0.6**
PB05				*i* S		**Sn**	**19 09 58.5**	**-2.5**
PB05				IAML			19 10 02.1	
	comp=N,225nm,0.6s							
LVC	**Limon Verde**	**2.49**	**138**	P		**Pn**	**19 09 41.7**	**+1.5**
	comp=N,7.9nm,0.3s,baz=16,slow=9.0,SNR=50							
LVC				S		**Sn**	**19 10 11.7**	**+1.7**
	comp=N,94nm,0.3s,baz=142,slow=20,SNR=38							
LPAZ	**La Paz**	**5.07**	**29**	P		**Pn**	**19 10 19.5**	**+3.5**
	comp=N,0.1nm,0.3s,baz=12,slow=4.2,SNR=1.6							
SIV	**San Ignacio**	**10.30**	**64**	P		**Pn**	**19 11 27.9**	**+0.7**
	comp=N,0.2nm,0.3s,baz=132,slow=22,SNR=2.0							
CPUP	**Villa Florida**	**13.46**	**117**	P		**Pn**	**19 12 11.5**	**+1.1**
	comp=N,0.3nm,0.3s,baz=340,slow=2.1,SNR=3.4							
SNAA	**Sanae**	**63.53**	**161**	P		**P**	**19 19 28.6**	**-0.3**
	comp=N,0.7nm,1.0s,baz=304,slow=11,SNR=5.5							
QSPA	**South Pole Qui**	**69.43**	**180**	P		**P**	**19 20 08.1**	**+1.4**
	comp=N,0.7nm,0.7s,baz=150,slow=0.4,SNR=7.6							
TORD	**Torodi Ar. Bea**	**78.70**	**71**	P		**P**	**19 20 59.8**	**-1.8**
	comp=N,0.3nm,0.5s,baz=230,slow=5.0,SNR=1.4							
H11S2	**WAKE ISLAND Hyl**	**26.11**	**278**	T		T	21 47 03.2	
	baz=103,slow=75,SNR=9.2							
H11S1	**WAKE ISLAND Hyl**	**26.12**	**278**	T		T	21 47 07.0	
	baz=103,slow=75,SNR=6.7							
H11S3	**WAKE ISLAND Hyl**	**26.13**	**278**	T		T	21 47 04.5	
	baz=103,slow=75,SNR=16							
H11N3	**WAKE ISLAND Hyl**	**26.18**	**280**	T		T	21 47 18.1	
	baz=102,slow=74,SNR=12							
H11N2	**WAKE ISLAND Hyl**	**26.20**	**280**	T		T	21 47 15.5	
	baz=102,slow=74,SNR=10							
H11N1	**WAKE ISLAND Hyl**	**26.20**	**280**	T		T	21 47 17.8	
	baz=102,slow=74,SNR=12							
MKAR	**Makanchi Array**	**145.99**	**34**	PKPbc		**PKPdf**	**19 28 37.7**	**0.0**
	comp=N,0.1nm,0.4s,baz=323,slow=2.2,SNR=10							

MEX 17 19:10:19.1±0.2, 13°.69N×92°.67W, h10km, MD3.7, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCIG		**2.07**	**345**	*e*P		Pn	19 10 50.8	-3.2

*NEIC **17** 19:11:18.4, 30°.31S×72°.19W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mw 1.40; Mθθ 0.56; Mϕϕ -1.96; Mrr 0.68; Mθϕ 0.00; Mϕr -0.98; Fault plane solution: Mo 2.12000×10^15^ NP1: ϕs 25.67000°, δ 35.48000°, λ 132.16000°. NP2: ϕs 157.64000°, δ 64.52000°, λ 64.43000°. Principal axes: T 1.9726, Plg 62.0000°, Azm 28.0000°; N 0.2668, Plg 23.0000°, Azm 169.0000°; P -2.2394, Plg 16.0000°, Azm 266.0000°;*
*NEIC **17** 19:11:19.4±2.5, 30°.281S±0°.007×72°.19W±0°.07, h14km±1km, mb4.3/12, Mwr 4.2/37, ML4.1(GUC) Error ellipse: s-maj=10.9km s-min=2.9km az=275.0*
*IDC **17** 19:11:19.6±0.8, 30°.53S×71°.68W, h0km, mb4.0/8, mb1 4.2/11, mb1mx4.0/30, mbtmp4.0/11, ML4.1/3, MS3.8/2, Ms1 3.8/2, ms1mx3.1/27, Error ellipse: s-maj=31.9km s-min=18.3km az=98.0*
*GUC **17** 19:11:20.8±0.8, 30°.51S×72°.06W, h32km±4km, ML4.1*

ISC 17 19:11:18.2±1.8, 30°.42S±0°.03×72°.14W±0°.06, h5km±11km, n86, σ1°67/87, mb4.2/9, 2C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**0.51**	**121**	⇓*i*P		**Pb**	**19 11 29.9**	**+0.3**
CO06				*e*S		**Sb**	**19 11 35.5**	**-1.8**
CO06				IAML			19 11 40.4	
	comp=N,14μm,0.7s							
CO06	**Fray Jorge**	**0.51**	**121**	Pg		**Pb**	**19 11 29.9**	**+0.3**
CO05	**La Serena**	**0.93**	**58**	⇓*i*P		**Pg**	**19 11 37.0**	**+1.1**
CO05				*i* S		**Sb**	**19 11 50.1**	**+0.7**
CO05				IAML			19 11 51.9	
	comp=N,12μm,0.3s							
CO05	**La Serena**	**0.93**	**58**	Pg		**Pg**	**19 11 36.8**	**+0.9**
GO04	**Tololo Observa**	**1.19**	**79**	⇓*i*P		**Pb**	**19 11 41.1**	**-0.3**
GO04				*i* S		**Sg**	**19 11 57.0**	**+0.7**
GO04	**Tololo Observa**	**1.19**	**79**			**Pb**	**19 11 41.0**	**-0.3**
CO03	**El Pedregal**	**1.32**	**109**	⇓*i*P		**Pn**	**19 11 43.0**	**-0.5**
CO03				*i* S		**Sb**	**19 11 58.3**	**-2.5**
CO03				IAML			19 12 05.3	
	comp=N,4μm,0.5s							
CO03	**El Pedregal**	**1.32**	**109**			**Pn**	**19 11 43.0**	**-0.5**
LCO	**Las Campanas**	**1.88**	**42**			**Pn**	**19 11 51.5**	**+0.2**
VA06	**Catapilco**	**2.26**	**162**	⇑*i*P		**Pn**	**19 11 56.0**	**-0.3**
VA06				*i* S		**Sn**	**19 12 22.8**	**-1.7**
VA06				IAML			19 12 39.2	
	comp=E,2μm,0.5s							
AC04	**Llanos de Chal**	**2.39**	**23**	*e*P		**Pn**	**19 11 57.5**	**-0.6**
AC04				*i* S		**Sn**	**19 12 25.9**	**-1.9**
AC04				IAML			19 12 46.8	
	comp=E,930nm,0.5s							
AC04	**Llanos de Chal**	**2.39**	**23**	Pn		**Pn**	**19 11 57.5**	**-0.6**
VA01	**Torpederas**	**2.63**	**171**	*e*P		**Pn**	**19 12 01.7**	**+0.3**
VA01	**Torpederas**	**2.63**	**171**			**Pn**	**19 12 03.2**	**+1.8**
VA03	**San Esteban**	**2.71**	**150**	*e*P		**Pn**	**19 12 02.3**	**-0.2**
VA03				*i* S		**Sn**	**19 12 34.5**	**-1.2**
VA03				IAML			19 12 46.8	
	comp=N,2μm,0.5s							
VA03	**San Esteban**	**2.71**	**150**			**Pn**	**19 12 04.3**	**+1.8**
ROCH	**El Roble**	**2.72**	**160**	*e*P		**Pn**	**19 12 03.1**	**+0.2**
ROCH				*i* S		**Sn**	**19 12 35.4**	**-1.0**
ZON	**Zonda**	**3.18**	**112**			**Pn**	**19 12 11.7**	**+2.7**
MT05	**Renca**	**3.20**	**158**	*e*P		**Pn**	**19 12 09.5**	**+0.2**
MT05				*i* S		**Sn**	**19 12 46.2**	**-1.6**
MT05	**Renca**	**3.20**	**158**			**Pn**	**19 12 10.9**	**+1.6**
VA05	**Santo Domingo**	**3.26**	**172**	*e*P		**Pn**	**19 12 09.7**	**-0.3**
VA05				*i* S		**Sn**	**19 12 44.4**	**-4.9**
VA05	**Santo Domingo**	**3.26**	**172**			**Pb**	**19 12 13.2**	**-3.4**
GO03	**Copiap**	**3.27**	**31**			**Pn**	**19 12 09.4**	**-0.8**
AC06	**Mina Casimiro**	**3.43**	**28**	⇑*i*P		**Pn**	**19 12 12.5**	**+0.2**
AC06	**Mina Casimiro**	**3.43**	**28**			**Pn**	**19 12 12.6**	**+0.2**
MT09	**Talagante**	**3.49**	**164**	*e*P		**Pn**	**19 12 13.6**	**+0.2**
MT09				*i* S		**Sn**	**19 12 53.4**	**-1.8**
MT09				IAML			19 13 14.1	
	comp=N,608nm,0.4s							
MT09	**Talagante**	**3.49**	**164**			**Pn**	**19 12 15.5**	**+2.2**
MT01	**Popeta**	**3.52**	**168**	*e*P		**Pn**	**19 12 13.8**	**+0.2**
MT01				*i* S		**Sn**	**19 12 53.3**	**-2.4**
MT01				IAML			19 13 16.8	
	comp=E,338nm,0.5s							
MT01	**Popeta**	**3.52**	**168**			**Pn**	**19 12 15.4**	**+1.8**
VCA	**Vinchina**	**3.81**	**65**	*e*P		**Pb**	**19 12 22.3**	**-3.9**
VCA				*i* S		**Sb**	**19 13 08.9**	**-3.9**
BO01	**Tunca**	**4.06**	**168**	*e*P		**Pn**	**19 12 22.1**	**+1.0**
BO01	**Tunca**	**4.06**	**168**			**Pn**	**19 12 22.5**	**+1.4**
BO03	**Pichilemu**	**4.07**	**178**	*e*P		**Pn**	**19 12 20.1**	**-1.0**
AC02	**Maricunga**	**4.44**	**37**	Pn		**Pn**	**19 12 27.3**	**+0.6**
BO02	**Sierra Bellavi**	**4.51**	**166**			**Pn**	**19 12 28.6**	**+1.3**
GO05	**Huala**	**4.58**	**178**	Pn		**Pn**	**19 12 27.8**	**-0.5**
ML02	**Panimavida**	**5.37**	**174**			**Pn**	**19 12 41.5**	**+2.6**
PB14	**IPOC Station P**	**5.97**	**15**	Pn		**Pn**	**19 12 45.2**	**-2.4**
H03N1	**Juan Fernandez**	**6.50**	**241**	T		T	19 19 55.4	
	baz=70,slow=72,SNR=92							
H03N2	**Juan Fernandez**	**6.51**	**241**	T		T	19 19 56.1	
	baz=70,slow=72,SNR=128							
H03N3	**Juan Fernandez**	**6.51**	**241**	T		T	19 19 54.6	
	baz=70,slow=72,SNR=191							
VA04	**Juan Fernndez**	**6.53**	**239**	Pn		**Pn**	**19 12 54.0**	**-0.9**
PB10	**IPOC Station P**	**7.02**	**12**	Pn		Pn	19 12 57.9	-3.8
PB15	**IPOC Station P**	**7.56**	**19**	Pn		**Pn**	**19 13 06.7**	**-2.7**
PB06	**IPOC Station P**	**8.02**	**17**	Pn		**Pn**	**19 13 12.7**	**-2.8**
LVC	**Limon Verde**	**8.29**	**21**	Pn		**Pn**	19 13 25.1	+5.5
	comp=E,0.7nm,0.3s,baz=193,slow=8.2,SNR=1.1							
LVC	**Limon Verde**	**8.29**	**21**	Pn		**Pn**	**19 13 17.6**	**-1.9**
LC01	**Cunco**	**8.46**	**179**			**Pn**	**19 13 21.1**	**-0.5**
PB09	**IPOC Station P**	**8.97**	**18**	Pn		**Pn**	**19 13 27.5**	**-1.2**
PB01	**IPOC Station P**	**9.63**	**15**	Pn		Pn	19 13 33.8	-3.9
TA01	**Diego Aracena**	**9.97**	**11**	Pn		**Pn**	**19 13 40.3**	**-1.8**
PLCA	**Paso Flores**	**10.38**	**173**	Pn		**Pn**	**19 13 48.5**	**+0.7**
	comp=E,0.4nm,0.3s,baz=345,slow=9.2,SNR=7.4							
LL04	**Puerto Octay**	**10.47**	**181**	Pn		**Pn**	**19 13 51.3**	**+2.2**
PB08	**IPOC Station P**	**10.58**	**15**	Pn		**Pn**	**19 13 47.9**	**-3.1**
TRQA	**Tornquist**	**11.34**	**135**			**Pn**	**19 14 01.6**	**+0.7**
CPUP	**Villa Florida**	**13.66**	**76**	LR		LR	19 20 08.0	
	comp=E,274nm,19.1s,baz=236,slow=40							
LPAZ	**La Paz**	**14.54**	**16**	Pn		**Pn**	**19 14 48.1**	**+2.9**
	comp=E,0.2nm,0.3s,baz=171,slow=7.5,SNR=10							
LPAZ	**La Paz**	**14.54**	**16**			**Pn**	**19 14 43.3**	**-1.9**
PLTB	**Pedras Altas**	**15.94**	**100**			**Pn**	**19 15 03.9**	**+0.6**
SIV	**San Ignacio**	**17.58**	**38**	P		**P**	**19 15 25.6**	**+0.3**
	comp=E,0.7nm,0.3s,baz=238,slow=12,SNR=34							
SAML	**Samuel**	**22.94**	**23**	P		**P**	**19 16 23.6**	**+0.2**
BDFB	**Brasilia**	**26.55**	**62**	P		**P**	**19 16 56.1**	**-1.3**
	comp=E,5.3nm,0.7s,baz=236,slow=8.0,SNR=5.2							
BDFB	**Brasilia**	**26.55**	**62**	P		**P**	**19 16 57.1**	**-0.2**
BDFB				IAmb		IAmb	19 16 57.5	
	comp=Z,4.8nm,0.6s							
RUSC	**La Rusia**	**36.11**	**358**	P		**P**	**19 18 22.8**	**+0.9**
VNA3	**Neumayer Olymp**	**52.71**	**159**	P		**P**	**19 20 34.6**	**+1.1**
VNA1	**Neumayer--Stat**	**53.01**	**158**	P		**P**	**19 20 37.1**	**+1.5**
VNA2	**Neumayer--Watz**	**53.35**	**158**	P		**P**	**19 20 39.1**	**+1.0**
	baz=287,slow=7.6							
SNAA	**Sanae**	**54.94**	**159**	P		**P**	**19 20 50.6**	**+0.8**
SNAA	**Sanae**	**54.94**	**159**	P		**P**	**19 20 50.1**	**+

AKAS					IAML			19 19 01.0		
	comp=N,17nm,0.5s									
AKUM	**Antalya-Kumluc**	**3.50**	**56**	*i* P		**Pn**		**19 18 23.1**	**-0.5**
AKUM				*i* S		**Sn**		**19 19 01.0**	**-3.8**
TAVA	**DENIZLI_Tavas**	**3.51**	**29**	*i* P		**Pn**		**19 18 24.6**	**+0.7**
GOLH	**Golhisar**	**3.62**	**38**	*i* P		**Pn**		**19 18 26.4**	**+1.0**
OSC1	**CSNet OBS 1**	**3.87**	**102**	P		**Pn**		**19 18 29.8**	**+1.1**
AKMS	**Akamas**	**4.63**	**81**	P		**Pn**		**19 18 40.5**	**+1.2**
AKMS					AML	AML		19 19 34.9		
	comp=N,0.1nm,0.3s									
AKMS					AML	AML		19 19 35.2		
	comp=N,0.1nm,0.4s									
KEPZ	**Antalya-Kepez**	**4.66**	**56**	*i* P		**Pn**		**19 18 41.1**	**+1.4**
KEPZ				*i* S		**Sn**		**19 19 30.4**	**-3.2**
KEPZ					IAML			19 19 37.0		
	comp=N,5.8nm,0.5s									
KEPZ					IAML			19 19 38.0		
	comp=E,5.9nm,1.0s									
OSC2	**CSNet OBS 4**	**4.78**	**105**	P		**Pn**		**19 18 42.6**	**+1.4**
ALFC	**Alefka**	**4.87**	**80**	P		**Pn**		**19 18 43.6**	**+1.1**
SZAC	**Souni**	**5.07**	**84**	P		**Pn**		**19 18 46.5**	**+1.3**
ASGA	**Asgata**	**5.37**	**84**	P		**Pn**		**19 18 50.6**	**+1.2**
ASGA					AML	AML		19 19 52.0		
	comp=E,0.1nm,0.4s									
MVOU	**Mavrovouni**	**5.70**	**82**	P		**Pn**		**19 18 55.9**	**+2.1**
KKBE	**Karaman, Kazim**	**5.75**	**59**	*i* P		**Pn**		**19 18 57.2**	**+2.5**

IDC ***17*** *19:17:45.3±2.5,31°.04S×72°.06W,h0km,mb4.0/3, mb1 4.0/5,mb1mx3.7/25,mbtmp3.9/5,ML3.7/2,Error ellipse: s-maj=85.6km s-min=29.2km az=101.0*
NEIC ***17*** *19:17:46.0±2.4,30°.99S±0°.05×72°.34W±0°.04,h10km±1km, mb4.4/5,ML4.1(GUC),Error ellipse: s-maj=9.9km s-min=2.9km az=330.0*
GUC ***17*** *19:17:50.1±0.8,31°.10S×71°.83W,h21km±6km,ML4.1*
ISC 17 19:17:47.8±1.6,**31°.02S**±0°.04×**72°.15W**±0°.08,**h19**km±5km, **n58**,σ1¶**56**/55,**mb4.2**/3,**3D**,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
CO06	**Fray Jorge**	**0.56**	**52**	*eP*		**Pg**	**19**	**17**	**59.3**	**+0.2**
CO06				*i* S		**Sg**	**19**	**18**	**05.8**	**-0.9**
CO06	**Fray Jorge**	**0.56**	**52**			**Pg**	**19**	**17**	**59.4**	**+0.3**
CO03	**El Pedregal**	**1.27**	**82**	⇓*i* P		**Pn**	**19**	**18**	**08.9**	**-1.8**
CO03				*i* S		**Sn**	**19**	**18**	**22.2**	**-5.0**
CO03					IAML		19	18	22.6	
	comp=E,10μm,0.2s									
CO03	**El Pedregal**	**1.27**	**82**			**Pn**	**19**	**18**	**08.8**	**-1.8**
CO05	**La Serena**	**1.35**	**36**	⇓*i* P		**Pb**	**19**	**18**	**12.7**	**+0.1**
CO05				*i* S		**Sn**	**19**	**18**	**29.0**	**-0.2**
CO05					IAML		19	18	34.7	
	comp=N,3μm,0.4s									
CO05	**La Serena**	**1.35**	**36**			**Pb**	**19**	**18**	**12.4**	**-0.2**
GO04	**Tololo Observa**	**1.44**	**54**	⇓*i* P		**Pn**	**19**	**18**	**12.9**	**-0.3**
GO04				*i* S		**Sn**	**19**	**18**	**29.8**	**-2.0**
GO04					IAML		19	18	35.1	
	comp=E,15μm,0.5s									
GO04	**Tololo Observa**	**1.44**	**54**			**Sn**	**19**	**18**	**11.6**	**-1.6**
VA06	**Catapilco**	**1.69**	**155**	*i* S		**Sn**	**19**	**18**	**34.8**	**-2.9**
VA06					IAML		19	18	44.0	
	comp=E,5μm,0.1s									
VA01	**Torpederas**	**2.04**	**168**			**Pn**	**19**	**18**	**19.9**	**-1.3**
ROCH	**El Roble**	**2.17**	**154**	*eP*		**Pn**	**19**	**18**	**24.0**	**+0.8**
ROCH				*i* S		**Sn**	**19**	**18**	**49.5**	**-0.2**
ROCH					IAML		19	18	56.2	
	comp=N,2μm,0.6s									
VA03	**San Esteban**	**2.20**	**142**	*eP*		**Pn**	**19**	**18**	**24.0**	**+0.4**
VA03				*i* S		**Sn**	**19**	**18**	**50.2**	**-0.2**
VA03					IAML		19	18	53.9	
	comp=E,3μm,0.2s									
VA03	**San Esteban**	**2.20**	**142**			**Pn**	**19**	**18**	**24.6**	**+1.0**
LCO	**Las Campanas**	**2.37**	**32**			**Pn**	**19**	**18**	**26.7**	**+0.7**
MT05	**Renca**	**2.65**	**154**	*eP*		**Pn**	**19**	**18**	**30.9**	**+1.3**
MT05				*i* S		**Sn**	**19**	**19**	**02.2**	**+0.9**
MT05					IAML		19	19	09.1	
	comp=N,1μm,0.7s									
MT05	**Renca**	**2.65**	**154**			**Pn**	**19**	**18**	**27.6**	**-2.1**
VA05	**Santo Domingo**	**2.66**	**170**		IAML		19	19	14.7	
	comp=E,1μm,0.3s									
VA05	**Santo Domingo**	**2.66**	**170**			**Pn**	**19**	**18**	**27.6**	**-2.2**
MT09	**Talagante**	**2.91**	**161**	*eP*		**Pn**	**19**	**18**	**35.0**	**+1.6**
MT09					IAML		19	19	21.9	
	comp=E,769nm,0.6s									
MT09	**Talagante**	**2.91**	**161**			**Pn**	**19**	**18**	**32.3**	**-1.1**
MT01	**Popeta**	**2.93**	**165**	*eP*		**Pn**	**19**	**18**	**34.6**	**+1.1**
MT01				*i* S		**Sn**	**19**	**19**	**10.0**	**+1.8**
MT01					IAML		19	19	24.9	
	comp=E,426nm,0.6s									
MT01	**Popeta**	**2.93**	**165**			**Pn**	**19**	**18**	**32.3**	**-1.2**
AC04	**Llanos de Chal**	**2.96**	**19**			**Pn**	**19**	**18**	**33.9**	**0.0**
ZON	**Zonda**	**3.02**	**101**			**Pn**	**19**	**18**	**37.0**	**+2.3**
LMEL	**Las Melosas**	**3.26**	**150**	*eP*		**Pn**	**19**	**18**	**39.8**	**+1.6**
LMEL				*eS*		**Sn**	**19**	**19**	**17.3**	**+0.8**
LMEL					IAML		19	19	31.9	
	comp=N,586nm,0.4s									
BO03	**Pichilemu**	**3.47**	**177**	*eP*		**Pn**	**19**	**18**	**41.1**	**+0.2**
BO01	**Tunca**	**3.48**	**165**	*eP*		**Pn**	**19**	**18**	**42.1**	**+1.2**
BO01					IAML		19	19	48.6	
	comp=N,143nm,0.4s									
BO01	**Tunca**	**3.48**	**165**			**Pn**	**19**	**18**	**39.1**	**-1.9**
GO03	**Copiap**	**3.81**	**27**	*eP*		**Pn**	**19**	**18**	**47.2**	**+1.7**
GO03				*i* S		**Sn**	**19**	**19**	**33.4**	**+3.5**
GO03	**Copiap**	**3.81**	**27**			**Pn**	**19**	**18**	**45.6**	**+0.1**
BO02	**Sierra Bellavi**	**3.93**	**163**			**Pn**	**19**	**18**	**47.5**	**+0.2**
AC06	**Mina Casimiro**	**3.98**	**24**			**Pn**	**19**	**18**	**47.2**	**-0.7**
GO05	**Huala**	**3.98**	**177**	Pn		**Pn**	**19**	**18**	**47.2**	**-0.7**
VCA	**Vinchina**	**4.11**	**57**	*eP*		**Pn**	**19**	**18**	**53.5**	**+3.6**
MLO2	**Panimavida**	**4.76**	**173**	Pn		**Pn**	**19**	**18**	**56.6**	**-2.1**
AC02	**Maricunga**	**4.94**	**33**	Pn		**Pn**	**19**	**19**	**01.4**	**-0.2**
H03N1	**Juan Fernandez**	**6.22**	**245**	T		T	19	26	11.0	
	baz=74									
H03N3	**Juan Fernandez**	**6.23**	**245**	T		T	19	26	05.4	
	baz=74									
H03N2	**Juan Fernandez**	**6.23**	**245**	T		T	19	26	07.8	
	baz=74									
LC01	**Cunco**	**7.86**	**178**	Pn		**Pn**	**19**	**19**	**40.3**	**-0.9**
PLCA	**Paso Flores**	**9.77**	**173**	Pn		**Pn**	**19**	**20**	**07.6**	**+0.1**
	comp=N,0.1nm,0.3s,baz=349,slow=8.6,SNR=1.2									
TRQA	**Torrquist**	**10.93**	**133**	Pn		**Pn**	**19**	**20**	**25.0**	**+1.7**
LPAZ	**La Paz**	**15.12**	**15**	Pn		**Pn**	**19**	**21**	**21.2**	**0.0**
	comp=N,0.2nm,0.3s,baz=190,slow=2.4,SNR=2.0									
LPAZ	**La Paz**	**15.12**	**15**	Pn		**Pn**	**19**	**21**	**20.8**	**-0.3**
BDFB	**Brasilia**	**26.85**	**61**	P		**P**	**19**	**23**	**27.2**	**-0.3**
	comp=N,2.5nm,0.6s,baz=238,slow=14,SNR=2.1									
BDFB	**Brasilia**	**26.85**	**61**	IAmb		IAmb	19	23	56.2	
	comp=Z,9.9nm,1.4s									
PMSA	**Palmer Station**	**34.15**	**174**	P		**P**	**19**	**24**	**31.9**	**+0.5**
SNAA	**Sanae**	**54.38**	**159**	P		**P**	**19**	**27**	**12.9**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=284,slow=7.5,SNR=5.6									
SNAA	**Sanae**	**54.38**	**159**	IAmb		IAmb	19	27	22.9	
	comp=Z,3.6nm,1.2s									
TORD	**Torodi Ar. Bea**	**83.29**	**70**	P		**P**	**19**	**30**	**14.2**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=249,slow=4.1,SNR=4.5									
TORD	**Torodi Ar. Bea**	**83.29**	**70**	IAmb		IAmb	19	30	18.5	
	comp=Z,5.0nm,1.5s									
H11S2	**WAKE ISLAND Hyl**	**25.67**	**271**	T		T	21	55	40.2	
	baz=123									
H11S1	**WAKE ISLAND Hyl**	**25.68**	**271**	T		T	21	55	41.4	
	baz=123									
H11S3	**WAKE ISLAND Hyl**	**25.68**	**271**	T		T	21	55	39.4	
	baz=123									
H11N3	**WAKE ISLAND Hyl**	**26.00**	**273**	T		T	21	56	04.5	
	baz=118									
H11N1	**WAKE ISLAND Hyl**	**26.02**	**273**	T		T	21	56	05.0	
	baz=118									
H11N2	**WAKE ISLAND Hyl**	**26.02**	**273**	T		T	21	56	05.8	
	baz=118									
ZALV	**Zalesovo Beam**	**151.72**	**29**	PKPbc		**PKiKP**	**19**	**37**	**41.0**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=290,slow=3.0,SNR=3.7									

IDC ***17*** *19:19:41.4±1.5,31°.41S×72°.06W,h0km,mb3.9/2, mb1 4.1/5,mb1mx3.9/23,mbtmp3.8/5,ML4.0/3,Error ellipse: s-maj=46.3km s-min=35.1km az=68.0*
ISC 17 19:19:43.6±1.2,**31°.5S**±0°.1×**71°.9W**±0°.2,**h14**km,**n12**, σ1¶**10**/6,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
H03N1	**Juan Fernandez**	**6.24**	**250**	T		T	19	27	26.5	
	baz=74,slow=72,SNR=24									
H03N3	**Juan Fernandez**	**6.25**	**250**	T		T	19	27	24.5	
	baz=74,slow=72,SNR=26									
H03N2	**Juan Fernandez**	**6.26**	**250**	T		T	19	27	25.6	
	baz=74,slow=72,SNR=22									
PLCA	**Paso Flores**	**9.33**	**174**	Pn		**Pn**	**19**	**21**	**58.0**	**+0.3**
	0.2nm,0.3s,baz=339,slow=12,SNR=1.8									
CPUP	**Villa Florida**	**13.75**	**72**	Pn		**Pn**	**19**	**22**	**57.5**	**-0.7**
	0.4nm,0.3s,baz=247,slow=7.7,SNR=1.6									
LPAZ	**La Paz**	**15.48**	**14**	Pn		**Pn**	**19**	**23**	**23.5**	**+1.3**
	0.3nm,0.3s,baz=200,slow=3.0,SNR=2.0									
TXAR	**Lajitas Array**	**67.58**	**330**	P		**P**	**19**	**30**	**38.8**	**-1.1**
	0.4nm,0.5s,baz=156,slow=8.3,SNR=6.2									
TORD	**Torodi Ar. Bea**	**83.25**	**70**	P		**P**	**19**	**32**	**10.6**	**+0.5**
	1.0nm,0.7s,baz=248,slow=4.9,SNR=5.1									
H11S2	**WAKE ISLAND Hyl**	**25.88**	**271**	T		T	21	57	38.0	
	baz=116,slow=74,SNR=17									
H11S1	**WAKE ISLAND Hyl**	**25.89**	**271**	T		T	21	57	37.6	
	baz=116,slow=74,SNR=9.8									
H11S3	**WAKE ISLAND Hyl**	**25.89**	**271**	T		T	21	57	39.5	
	baz=116,slow=74,SNR=6.9									
ZALV	**Zalesovo Beam**	**151.99**	**30**	PKPbc		**PKiKP**	**19**	**39**	**38.4**	**+0.2**
	2.6nm,0.6s,baz=286,slow=2.0,SNR=7.9									

IDC ***17*** *19:22:08.7±0.5,1°.40S×99°.45E,h0km,mb4.3/22, mb1 4.3/23,mb1mx4.2/37,mbtmp4.3/23,ML4.2/1,MS3.3/4, Ms1 3.3/4,ms1mx2.8/46,Error ellipse: s-maj=21.7km s-min=12.7km az=57.0*
DJA ***17*** *19:22:11.7±0.3,1°.S±3°×9°.9E±°,h10km,M4.4/13,mb4.3/7, mB5.4/1,MLv4.5/13,Mw(mB)4.8/1*
NEIC ***17*** *19:22:11.7±2.4,1°.44S±0°.09×99°.40E±0°.06,h16km±4km, mb4.5/32,Error ellipse: s-maj=13.1km s-min=8.0km az=169.0*
ISC 17 19:22:13.1±0.4,**1°.51S**±0°.05×**99°.40E**±0°.06,**h30**km,**n113**, σ1¶**40**/110,**mb4.4**/42,**MS3.6**/3,**8C-2D**,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
PDSI	**Padang**	**1.21**	**61**	P		**Pn**	**19**	**22**	**32.8**	**-1.3**
PDSI				S		**Sn**	**19**	**22**	**48.7**	**-0.8**
MNSI	**Mandailing Nat**	**2.30**	**4**	P		**Pn**	**19**	**22**	**48.1**	**-0.9**
RGRI	**Rengat**	**3.15**	**69**	P		**Pb**	**19**	**23**	**09.3**	**+0.9**
MASI	**Maura Aman, Be**	**3.26**	**120**	P		**Pn**	**19**	**23**	**04.3**	**+2.0**
GSI	**Gunungsitoli**	**3.34**	**327**	Pn		**Pn**	**19**	**23**	**02.0**	**-1.4**
GSI	**Gunungsitoli**	**3.34**	**327**	P		**Pn**	**19**	**23**	**02.9**	**-0.5**
TRSI	**Tarutung**	**3.54**	**353**	P		**Pb**	**19**	**23**	**18.0**	**+2.8**
UBSI	**University, Be**	**3.63**	**128**	P		**Pn**	**19**	**23**	**10.1**	**+2.7**
RPSI	**Rantau Prapat**	**4.21**	**353**	Pn		**Pn**	**19**	**23**	**14.0**	**-1.3**
RPSI	**Rantau Prapat**	**4.21**	**353**			**Pn**	**19**	**23**	**16.0**	**+0.8**
PSI	**Prapat**	**4.31**	**354**	Pn		**Pn**	**19**	**23**	**16.0**	**-0.8**
	baz=179,slow=16									
PSI	**Prapat**	**4.31**	**354**	P		**Pn**	**19**	**23**	**15.0**	**-1.8**
PSI				P		Pb	19	23	15.8	-12
LHSI	**Lahat**	**4.71**	**119**	P		**Pn**	**19**	**23**	**24.6**	**+2.4**
EGSI	**Enggano, Bengk**	**4.77**	**143**	P		**Pn**	**19**	**23**	**23.7**	**+0.6**
TSI	**Tuntungan**	**5.05**	**350**	P		**Pn**	**19**	**23**	**26.6**	**-0.2**
BTDF	**Bukit Timah Da**	**5.22**	**57**	P		**Pn**	**19**	**23**	**29.3**	**+0.1**
	0.3nm23nm,1.2s									
TPTI		**5.23**	**335**	P		**Pn**	**19**	**23**	**28.7**	**-0.7**
	0.1nm9.2nm,0.5s									
MDSI	**Maura Dua**	**5.61**	**122**	P		**Pn**	**19**	**23**	**36.5**	**+1.9**
	0.1nm27nm,1.0s									
LWLI	**Liwa**	**5.81**	**127**	P		**Pn**	**19**	**23**	**38.4**	**+1.0**
	0.7nm3μm173nm,0.7s									
LEM	**Lembang**	**9.74**	**123**	Pn		**Pn**	**19**	**24**	**34.4**	**+2.9**
	1.6nm,0.3s,baz=349,slow=22,SNR=1.3									
LEM				LR		LR	19	28	49.1	
	comp=Z,98nm,19.7s,baz=236,slow=41									
LEM	**Lembang**	**9.74**	**123**	P		**Pn**	**19**	**24**	**34.1**	**+2.6**
	21nm,0.8s									
CISI	**Cisompet, Garu**	**10.31**	**126**	Pn		**Pn**	**19**	**24**	**37.3**	**-1.9**
COCO	**West Island**	**10.91**	**193**	P		**Pn**	**19**	**24**	**47.0**	**-0.3**
CM31	**Chiang Mai Arr**	**19.85**	**359**	P		**P**	**19**	**26**	**40.8**	**-1.0**
CMAR	**Chiang Mai Arr**	**19.85**	**359**	P		**P**	**19**	**26**	**40.0**	**-1.8**
	0.3nm,0.3s,baz=187,slow=10.0,SNR=16									
CMAR						LR	LR	19	34	58.1
	comp=Z,84nm,19.3s,baz=206,slow=39									
CMAR	**Chiang Mai Arr**	**19.85**	**359**	P		**P**	**19**	**26**	**41.7**	**-0.1**
H08S2	**Diego Garcia H**	**27.50**	**256**	T		T	19	55	54.8	
	baz=78,slow=75,SNR=283									
H08S3	**Diego Garcia H**	**27.50**	**256**	T		T	19	55	55.2	
	baz=78,slow=75,SNR=335									
H08S1	**Diego Garcia H**	**27.51**	**256**	T		T	19	55	55.8	
	baz=78,slow=75,SNR=25									
SHL	**Shillong**	**27.89**	**345**	P		**P**	**19**	**27**	**59.1**	**-1.6**
SHL					IAmb	IAmb	19	28	07.4	
	comp=Z,5.1nm,0.7s									
KRAI	**Karang Ratu**	**29.02**	**94**	P		P	19	28	17.3	+6.5
FITZ	**Fitzroy Crossi**	**30.58**	**124**	P		**P**	**19**	**28**	**23.4**	**-1.1**
FITZ					IAmb	IAmb	19	28	33.7	
	comp=Z,5.2nm,0.9s									
SIJI	**Sorong**	**31.86**	**89**	P		P	19	28	43.5	+7.6
LSA	**Lhasa**	**32.02**	**346**	P		**P**	**19**	**28**	**37.8**	**+0.2**
LSA					IAmb	IAmb	19	28	39.0	
	comp=Z,6.0nm,1.1s									
NWAO	**Narrogin (SRO)**	**35.46**	**154**	P		**P**	**19**	**29**	**07.6**	**+0.7**
	comp=Z,4.4nm,0.7s,baz=17,slow=1.1,SNR=3.0									
NWAO	**Narrogin (SRO)**	**35.46**	**154**	P		**P**	**19**	**29**	**08.0**	**+1.1**
NWAO					IAmb	IAmb	19	29	10.3	
	comp=Z,12nm,1.1s									
XAN	**Xi'an**	**36.48**	**13**	P		**P**	**19**	**29**	**12.0**	**-3.7**
XAN					sP	pP	19	29	20.1	-3.9
XAN					pmax	pmax				
	comp=Z,4.0nm,0.8s									
XAN					pmax	pmax				
	comp=Z,51nm,5.0s									
NJ2	**Nanjing**	**38.13**	**27**	*eP*		**P**	**19**	**29**	**31.8**	**+2.1**
NJ2					pmax	pmax				
	comp=Z,10.0nm,0.5s									
WRA	**Warramunga Arr**	**38.75**	**121**	P		**P**	**19**	**29**	**34.6**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=302,slow=9.2,SNR=25									
WRA					PcP	**PcP**	**19**	**31**	**47.2**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=298,slow=2.0,SNR=7.2									
WRA					S	**S**	**19**	**35**	**26.7**	**-4.1**
	comp=Z,1.0nm,1.0s,baz=304,slow=17,SNR=5.5									
WRA	**Warramunga Arr**	**38.75**	**121**	P		**P**	**19**	**29**	**34.7**	**-0.4**
WB2	**Warramunga Arr**	**38.76**	**121**	P		**P**	**19**	**29**	**34.7**	**-0.6**
WR0	**Warramunga Arr**	**38.93**	**121**	P		**P**	**19**	**29**	**35.4**	**-1.3**
WR0					IAmb	IAmb	19	29	45.6	
	comp=Z,5.3nm,0.7s									
FORT	**Forrest**	**39.80**	**140**	P		**P**	**19**	**29**	**45.9**	**+2.1**
FORT					IAmb	IAmb	19	29	47.0	
	comp=Z,18nm,0.9s									
ASAR	**Alice Springs**	**40.02**	**126**	P		**P**	**19**	**29**	**46.0**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=298,slow=7.9,SNR=44									
ASAR					PcP	**PcP**	**19**	**31**	**51.6**	**+1.1**
	comp=Z,1.3nm,0.8s,baz=311,slow=2.6,SNR=8.4									
ASAR					S	**S**	**19**	**35**	**48.0**	**-1.9**
	comp=Z,1.4nm,1.1s,baz=297,slow=14,SNR=8.6									
ASAR	**Alice Springs**	**40.02**	**126**	P		**P**	**19**	**29**	**45.3**	**-0.5**
AS31	**Alice Springs**	**40.02**	**126**	P		**P**	**19**	**29**	**45.6**	**-0.1**
GTA	**Gaotai**	**40.72**	**0**	*eP*		**P**	**19**	**29**	**52.4**	**+1.0**
GTA					pP	pwP	19	30	01.8	-0.1
GTA					sP	sP	19	30	05.5	+2.2
GTA					pmax	pmax				
	comp=Z,2.0nm,0.9s									
NIL	**Nilore**	**42.77**	**327**	P		**P**	**19**	**30**	**07.3**	**-0.9**
NIL					IAmb	IAmb	19	30	08.7	
	comp=Z,12nm,0.8s									
HHC	**Hu-ho-hao-te**	**43.59**	**13**	*eP*		**P**	**19**	**30**	**17.6**	**+2.9**
HHC					S	**S**	**19**	**36**	**45.0**	**+2.7**
HHC					pmax	pmax				
	comp=Z,31nm,1.0s									
HHC					pmax	pmax				
	comp=Z,81nm,5.1s									
HHC					LR	LR				
	comp=N,110nm,15.9s									
HHC					LR	LR				
	comp=E,110nm,14.6s									
HHC					LR	LR				
	comp=Z,110nm,15.1s									
KSH	**Kashi**	**46.14**	**335**	P		**P**	**19**	**30**	**34.3**	**-0.8**
WMQ	**Urumqi**	**46.33**	**348**	*eP*		**P**	**19**	**30**	**37.3**	**+0.8**
WMQ					sP	pP	19	30	44.5	-0.5
KSRS	**Korea Array**	**46.91**	**31**	P		**P**	**19**	**30**	**39.4**	**-1.6**
	comp=Z,1.1nm,0.6s,baz=224,slow=7.8,SNR=6.6									
DRK	**Karamyk**	**48.01**	**331**	P		**P**	**19**	**30**	**50.3**	**+0.4**
GAR	**Garm**	**48.37**	**330**	P		**P**	**19**	**30**	**51.9**	**-0.6**
CHGR	**Chuyangaron**	**48.71**	**328**	P		**P**	**19**	**30**	**53.7**	**-1.3**
BTK	**Batken**	**48.93**	**331**	P		**P**	**19**	**30**	**55.4**	**-1.3**
BTK					IAmb	IAmb	19	31	08.3	
	comp=Z,8.4nm,1.0s									
AAK	**Ala-Archa**	**49.35**	**336**	P		**P**	**19**	**31**	**00.0**	**0.0**
AAK					IAmb	IAmb	19	31	23.0	
	comp=Z,6.4nm,0.9s									
SONM	**Songino Array**	**49.52**	**6**	P		**P**	**19**	**31**	**01.0**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=189,slow=9.0,SNR=12									
SONM					PcP	**PcP**	**19**	**32**	**23.1**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=190,slow=4.6,SNR=4.6									
SONM	**Songino Array**	**49.52**	**6**	P		**P**	**19**	**31**	**00.8**	**-0.4**
ULN	**Ulaanbaatar**	**49.63**	**7**	P		**P**	**19**	**31**	**03.4**	**+1.4**
STKA	**Stephens Creek**	**49.92**	**132**	P		**P**	**19**	**31**	**04.0**	**-0.4**
	comp=Z,2.9nm,0.8s,baz=312,slow=8.1,SNR=7.5									
STKA	**Stephens Creek**	**49.92**	**132**	IAmb		IAmb	19	31	06.1	
	comp=Z,1.0nm,0.9s									
MK31	**Makanchi Array**	**50.40**	**345**	P		**P**	**19**	**31**	**07.5**	**-0.2**
MK31					IAmb	IAmb	19	31	08.5	
	comp=Z,3.5nm,0.8s									
MKAR	**Makanchi Array**	**50.40**	**345**	P		**P**	**19**	**31**	**07.8**	**0.0**
	comp=Z,4.3nm,0.6s,baz=149,slow=8.2,SNR=38									
MKAR	**Makanchi Array**	**50.40**	**345**	P		**P**	**19**	**31**	**07.5**	**-0.2**
USRK	**Ussuriysk Ar.**	**54.01**	**29**	P		**P**	**19**	**31**	**33.9**	**-0.6**
	comp=Z,2.4nm,0.7s,baz=250,slow=3.0,SNR=7.6									
USRK	**Ussuriysk Ar.**	**54.01**	**29**	P		**P**	**19**	**31**	**33.8**	**-0.8**
GEYT	**Alibeck**	**54.69**	**320**	P		**P**	**19**	**31**	**39.6**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=96,slow=7.6,SNR=5.0									
ZALV	**Zalesovo Beam**	**56.58**	**350**	P		**P**	**19**	**31**	**52.6**	**-0.3**
	comp=Z,3.1nm,0.4s,baz=159,slow=4.9,SNR=7.2									
KLR	**Kul'dur**	**57.73**	**25**	P		**P**	**19**	**32**	**00.3**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=296,slow=7.2,SNR=3.4									
ABKAR	**Akbulak array**	**60.93**	**332**	P		**P**	**19**	**32**	**22.0**	**-1.3**
ABKAR	**Akbulak array**	**60.93**	**332**	P		**P**	**19**	**32**	**22.1**	**-1.1**
ABKAR					IAmb	IAmb	19	32	23.2	
	comp=Z,3.5nm,0.8s									
KMBO	**Kilima Mbogo**	**62.13**	**270**	P		**P**	**19**	**32**	**33.4**	**+1.0**
	comp=Z,1.3nm,0.5s,baz=80,slow=8.3,SNR=5.9									
GURO	**Guroymak-BITLI**	**66.02**	**314**	P		**P**	**19**	**32**	**55.5**	**-1.8**
GURO					IAmb	IAmb	19	32	58.7	
	comp=Z,2.9nm,0.9s									
KBZ	**Khabaz**	**67.55**	**319**	P		**P**	**19**	**33**	**05.9**	**-0.9**
	comp=Z,3.4nm,0.7s,baz=126,slow=5.8,SNR=10									
BRTR	**Keskin Array B**	**72.56**	**313**	P		**P**	**19**	**33**	**36.7**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=129,slow=5.9,SNR=4.9									
BRTR	**Keskin Array B**	**72.56**	**313**	P		**P**	**19**	**33**	**35.2**	**-2.6**
SEY	**Seymchan**	**75.40**	**22**	P		**P**	**19**	**33**	**53.8**	**+0.1**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
	comp=N,69μm,0.1s						
CO05	**La Serena**	**0.84**	**28**	*eP*	Pn	19 36 51.0	-0.3
CO05				*eS*	Sn	19 37 02.4	-0.1
CO03	**El Pedregal**	**0.89**	**102**	*eP*	Pn	19 36 51.7	-0.3
CO03				*eS*	Sn	19 37 03.9	+0.1
CO03				IAML		19 37 04.5	
	comp=E,9μm,0.3s						
GO04	**Tololo Observa**	**0.92**	**58⇑**	*eP*	Pn	19 36 52.5	0.0
GO04				*eS*	Sb	19 37 05.4	+0.1
GO04				IAML		19 37 09.1	
	comp=E,17μm,0.5s						
LCO	**Las Campanas**	**1.86**	**28⇑**	*eP*	Pb	19 37 07.4	-1.7
LCO				*i* S	Sn	19 37 29.9	+1.8
VA06	**Catapilco**	**1.92**	**170⇓**	*eP*	Pn	19 37 05.7	-0.4
VA06				*eS*	Sb	19 37 33.1	-0.5
VA03	**San Esteban**	**2.31**	**155**	*eP*	Pn	19 37 13.4	+1.9
VA03				*eS*	Sb	19 37 42.3	-2.5
VA03				IAML		19 37 50.8	
	comp=N,922nm,0.3s						
ROCH	**El Roble**	**2.37**	**166**	*eS*	Sb	19 37 43.7	-3.1
ROCH				IAML		19 37 50.9	
	comp=N,908nm,0.5s						
MT05	**Renca**	**2.84**	**164**	*eP*	Pn	19 37 21.4	+2.7

IDC 17 19:37:25.6±3.2, 31°.63S×72°.06W, h0km, mb4.0/2, mb1 3.8/4, mb1mx3.7/33, mbtmp3.7/4, ML3.6/2, MS4.2/1, Ms1 4.2/1, ms1mx2.8/29, Error ellipse: s-maj=140.9km s-min=31.5km az=93.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H03N1	**Juan Fernandez**	**6.06**	**251**	T	T	19 45 03.7	
	baz=72,slow=72,SNR=135						
H03N3	**Juan Fernandez**	**6.07**	**251**	T	T	19 45 03.8	
	baz=72,slow=72,SNR=144						
H03N2	**Juan Fernandez**	**6.08**	**251**	T	T	19 45 05.2	
	baz=72,slow=72,SNR=215						
H03S3	**Juan Fernandez**	**6.17**	**247**	T	T	19 45 33.5	
	baz=82						
H03S1	**Juan Fernandez**	**6.17**	**247**	T	T	19 45 35.2	
	baz=82,slow=74,SNR=4.3						
H03S2	**Juan Fernandez**	**6.19**	**247**	T	T	19 45 35.2	
	baz=82,slow=74,SNR=6.7						
PLCA	**Paso Flores**	**9.17**	**173**	Pn	Pn	19 39 38.6	-0.6
	0.2nm,0.3s,baz=74,slow=4.9,SNR=2.8						
LPAZ	**La Paz**	**15.69**	**14**	Pn	Pn	19 41 07.2	-1.4
	0.1nm,0.3s,baz=197,slow=11,SNR=1.9						
USHA	**Ushuaia**	**23.34**	**175**	LR	LR	19 51 15.9	
	comp=Z,624nm,20.1s,baz=300,slow=36						
SNAA	**Sanae**	**53.79**	**158**	P	P	19 46 49.4	-0.1
	1.2nm,0.7s,baz=269,slow=8.6,SNR=7.4						
TORD	**Torodi Ar. Bea**	**83.43**	**70**	P	P	19 49 55.5	+0.2
	1.0nm,0.8s,baz=245,slow=6.7,SNR=4.3						
H11S2	**WAKE ISLAND Hyl**	**25.75**	**271**	T	T	22 14 17.3	
	baz=115,slow=74,SNR=33						
H11S1	**WAKE ISLAND Hyl**	**25.76**	**271**	T	T	22 14 19.5	
	baz=115,slow=74,SNR=47						
H11S3	**WAKE ISLAND Hyl**	**25.77**	**271**	T	T	22 14 18.3	
	baz=115,slow=74,SNR=37						
H11N3	**WAKE ISLAND Hyl**	**26.10**	**272**	T	T	22 14 42.4	
	baz=117,slow=74,SNR=6.4						
H11N1	**WAKE ISLAND Hyl**	**26.12**	**272**	T	T	22 14 45.7	
	baz=117						
H11N2	**WAKE ISLAND Hyl**	**26.12**	**272**	T	T	22 14 42.8	
	baz=117,slow=74,SNR=7.2						
ZALV	**Zalesovo Beam**	**152.21**	**30**	PKPbc	PKiKP	19 57 22.9	-0.1
	0.8nm,0.4s,baz=318,slow=1.9,SNR=2.5						

IDC 17 19:38:29.1±2.3, 30°.52S×72°.62W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/31, mbtmp3.8/3, ML3.7/1, Error ellipse: s-maj=68.3km s-min=56.5km az=31.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H03N1	**Juan Fernandez**	**6.09**	**240**	T	T	19 46 42.2	
	baz=77,slow=72,SNR=6.0						
H03N2	**Juan Fernandez**	**6.10**	**240**	T	T	19 46 41.6	
	baz=77,slow=72,SNR=6.5						
H03N3	**Juan Fernandez**	**6.10**	**240**	T	T	19 46 40.1	
	baz=77,slow=72,SNR=6.2						
LVC	**Limon Verde**	**8.55**	**24**	Pn	Pn	19 40 35.0	+0.5
	0.9nm,0.3s,baz=248,slow=19,SNR=2.0						
TXAR	**Lajitas Array**	**66.46**	**331**	P	P	19 49 19.9	-0.6
	0.6nm,1.0s,baz=147,slow=5.4,SNR=2.5						
TORD	**Torodi Ar. Bea**	**83.51**	**71**	P	P	19 50 58.4	-0.8
	1.0nm,0.7s,baz=255,slow=4.3,SNR=4.8						
ZALV	**Zalesovo Beam**	**151.47**	**28**	PKPbc	PKiKP	19 58 25.6	+0.6
	1.7nm,0.6s,baz=309,slow=3.8,SNR=4.7						

GUC 17 19:39:46.5±0.7, 32°.41S×72°.04W, h44km±3km, ML3.5
IDC 17 19:39:49.6±3.5, 31°.78S×70°.27W, h0km, mb4.1/1, mb1 3.8/4, mb1mx3.6/33, mbtmp3.8/4, ML3.4/2, Error ellipse: s-maj=114.6km s-min=47.2km az=88.0
ISC 17 19:39:44.9±1.5, 32°.30S±0°.05×72°.1W±0°.1, h41km±17km, n15, σ2°95/21, 3C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**0.69**	**113⇓**	*eP*	**Pn**	**19 39 58.1**	**-0.1**
VA06				*eS*	**Sn**	**19 40 08.6**	**+0.8**
VA06				IAML		19 40 11.2	
	comp=N,7μm,0.5s						
VA01	**Torpederas**	**0.80**	**155⇑**	*eP*	**Pn**	**19 39 59.7**	**0.0**
VA01				*eS*	**Sn**	**19 40 10.5**	**0.0**
ROCH	**El Roble**	**1.11**	**128**	*eP*	**Pn**	**19 40 05.3**	**+1.1**
ROCH				*i* S	**Sn**	**19 40 20.0**	**+1.7**
ROCH				IAML		19 40 24.6	
	comp=N,2μm,0.7s						
VA03	**San Esteban**	**1.35**	**111⇑**	*eP*	**Pn**	**19 40 09.0**	**+1.6**
VA03				*eS*	**Sn**	**19 40 26.7**	**+2.5**
VA03				IAML		19 40 32.0	
	comp=E,2μm,0.6s						
VA05	**Santo Domingo**	**1.41**	**165**	*i* S	**Sn**	**19 40 25.9**	**+0.6**
MT05	**Renca**	**1.55**	**135⇓**	*eP*	**Pn**	**19 40 12.1**	**+1.9**
MT05				*i* S	**Sn**	**19 40 30.9**	**+1.8**
MT05				IAML		19 40 39.3	
	comp=E,2μm,0.5s						
CO06	**Fray Jorge**	**1.66**	**13**	*eP*	Pn	19 40 16.8	+5.3
CO06				*i* S	**Sn**	**19 40 38.3**	**+6.7**
MT01	**Popeta**	**1.70**	**157**	*eP*	**Pn**	**19 40 15.5**	**+3.4**
MT01				*i* S	**Sn**	**19 40 33.6**	**+1.0**
MT01				IAML		19 40 42.5	
	comp=E,522nm,0.5s						
MT09	**Talagante**	**1.72**	**149⇑**	*eP*	**Pn**	**19 40 15.6**	**+3.1**
MT09				*eS*	**Sn**	**19 40 35.4**	**+2.0**
MT09				IAML		19 40 46.9	
	comp=E,925nm,0.5s						
CO05	**La Serena**	**2.47**	**17**	*eS*	Sn	19 41 02.2	+11
LVC	**Limon Verde**	**10.04**	**17**	Pn	**Pn**	**19 42 02.5**	**-4.5**
	baz=36,slow=22,SNR=1.3						
LPAZ	**La Paz**	**16.33**	**14**	Pn	**Pn**	**19 43 32.8**	**+0.9**
	comp=E,0.1nm,0.3s,baz=187,slow=2.8,SNR=2.6						
SIV	**San Ignacio**	**19.05**	**34**	P	**P**	**19 43 59.3**	**-4.5**
	comp=E,0.2nm,0.3s,baz=174,slow=22,SNR=1.5						
TORD	**Torodi Ar. Bea**	**83.64**	**70**	P	**P**	**19 52 12.0**	**+2.5**
	comp=E,1.0nm,0.6s,baz=252,slow=4.5,SNR=5.6						
ZALV	**Zalesovo Beam**	**152.78**	**31**	PKPbc	**PKPab**	**19 59 45.0**	**-2.8**
	comp=E,0.7nm,0.5s,baz=300,slow=1.6,SNR=2.7						

IDC 17 19:39:57.8±2.0, 5°.47S×151°.03E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.5/43, mbtmp3.8/4, Error ellipse: s-maj=105.4km s-min=28.1km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.69**	**227**	P	P	19 44 50.1	-0.4
	0.6nm,0.5s,baz=52,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**24.48**	**221**	P	P	19 45 18.2	-0.7
	1.4nm,0.7s,baz=51,slow=8.8,SNR=25						
FITZ	**Fitzroy Crossi**	**27.79**	**241**	P	P	19 45 49.7	+0.9
	1.7nm,0.8s,baz=53,slow=7.8,SNR=13						
ILAR	**Eielson Array**	**83.44**	**22**	P	P	19 52 26.7	-0.2
	0.6nm,0.6s,baz=241,slow=6.1,SNR=4.3						
TORD	**Torodi Ar. Bea**	**148.81**	**286**	PKPbc	PKPbc	19 59 48.1	-0.4
	0.9nm,0.7s,baz=67,slow=2.5,SNR=4.5						

MEX 17 19:41:47.4±1.0, 26°.54N×108°.18W, h20km, MD3.8, Northern Mexico

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CSIG	**Choix**	**0.33**	**329**	*eP*	Pb	19 41 52.7	-1.9
CSIG				*eS*	Sb	19 41 59.1	-0.5
TSIG	**Topolobambo**	**1.22**	**220**	*i* P	Pn	19 42 05.3	-3.9
TSIG				*i* S	Sb	19 42 21.0	-4.0
SSIG	**Sanalona**	**1.95**	**151**	*eP*	Pn	19 42 16.4	-3.0
SSIG				*eS*	Sn	19 42 41.8	-1.6
HPIG		**2.28**	**80**	*i* P	Pn	19 42 25.9	+1.8
HPIG				*eS*	Sb	19 42 56.8	+0.9
GUYB	**Guaymas**	**2.75**	**300**	*i* P	Pn	19 42 28.9	-1.5
GUYB				*i* S	Sb	19 43 09.8	+0.5

IDC 17 19:43:24.6±1.4, 30°.92S×72°.96W, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.7/30, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=52.1km s-min=29.4km az=84.0
ISC 17 19:43:30.1±1.3, 30°.9S±0°.2×72°.9W±0°.3, h35km, n6, σ1°00/6, mb3.6/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**15.12**	**18**	Pn	**Pn**	**19 47 01.1**	**-0.6**
	0.1nm,0.3s,baz=206,slow=5.9,SNR=4.3						
SIV	**San Ignacio**	**18.30**	**39**	P	**P**	**19 47 40.9**	**-0.3**
	0.1nm,0.3s,baz=226,slow=11,SNR=6.5						
SNAA	**Sanae**	**54.76**	**159**	P	**P**	**19 52 55.3**	**-0.6**
	0.7nm,0.6s,baz=306,slow=11,SNR=8.0						
TXAR	**Lajitas Array**	**66.65**	**331**	P	**P**	**19 54 17.6**	**+0.4**
	0.1nm,0.5s,baz=155,slow=8.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**83.81**	**71**	P	**P**	**19 55 57.5**	**+1.3**
	0.3nm,0.6s,baz=230,slow=5.0,SNR=2.1						
ZALV	**Zalesovo Beam**	**151.86**	**28**	PKPbc	**PKPbc**	**20 03 20.0**	**-0.7**
	1.1nm,0.6s,baz=328,slow=3.8,SNR=4.0						

IDC 17 19:45:38.5±0.9, 31°.82S×72°.35W, h0km, mb4.0/4, mb1 4.1/7, mb1mx3.9/28, mbtmp3.9/7, ML3.8/3, MS3.3/1, Ms1 3.3/1, ms1mx2.6/23, Error ellipse: s-maj=41.4km s-min=22.4km az=78.0
NEIC 17 19:45:39.4±2.2, 31°.89S±0°.04×72°.32W±0°.07, h10km±1km, mb4.4/7, ML3.8(GUC), Error ellipse: s-maj=13.3km s-min=6.6km az=85.0
GUC 17 19:45:42.9±0.7, 31°.83S×72°.00W, h33km±6km, ML3.8
ISC 17 19:45:38.5±1.8, 31°.85S±0°.03×72°.36W±0°.07, h6km±11km, n63, σ1°36/64, mb4.2/7, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**1.15**	**129⇑**	*iP*	**Pb**	**19 46 00.5**	**-0.3**
VA06				*i* S	**Sb**	**19 46 14.5**	**-1.5**
VA06				IAML		19 46 18.1	
	comp=E,13μm,0.5s						
VA01	**Torpederas**	**1.32**	**153**	*eP*	**Pn**	**19 46 03.7**	**+0.2**
VA01				IAML		19 46 29.6	
	comp=E,1μm,0.8s						
VA01	**Torpederas**	**1.32**	**153**		**Pn**	**19 46 02.8**	**-0.7**
CO06	**Fray Jorge**	**1.32**	**28**	*eP*	**Pg**	**19 46 05.4**	**+1.5**
CO06				IAML		19 46 28.6	
	comp=E,538nm,0.1s						
CO06	**Fray Jorge**	**1.32**	**28**		**Pg**	**19 46 04.0**	**+0.1**
ROCH	**El Roble**	**1.60**	**135**	*eP*	**Pn**	**19 46 07.7**	**+0.1**
ROCH				*i* S	**Sn**	**19 46 27.8**	**-0.9**
ROCH				IAML		19 46 37.5	
	comp=N,3μm,0.4s						
CO03	**El Pedregal**	**1.75**	**55**	*eP*	**Pn**	**19 46 09.9**	**+0.5**
CO03				*i* S	**Sn**	**19 46 29.7**	**-2.4**
CO03	**El Pedregal**	**1.75**	**55**	Pn	**Pn**	**19 46 09.8**	**+0.4**
VA03	**San Esteban**	**1.79**	**121**	*eP*	**Pn**	**19 46 10.6**	**+0.6**
VA03				*i* S	**Sn**	**19 46 32.0**	**-1.1**
VA03				IAML		19 46 42.3	
	comp=N,5μm,0.9s						
VA03	**San Esteban**	**1.79**	**121**	Pn	**Pn**	**19 46 09.6**	**-0.4**
VA05	**Santo Domingo**	**1.91**	**161**	IAML		19 46 48.8	
	comp=E,2μm,0.8s						
VA05	**Santo Domingo**	**1.91**	**161**	Pn	**Pn**	**19 46 11.5**	**-0.1**
MT05	**Renca**	**2.06**	**139**	*eP*	**Pn**	**19 46 15.2**	**+1.5**
MT05				*i* S	**Sn**	**19 46 40.5**	**+0.7**
MT05				IAML		19 46 53.2	
	comp=E,2μm,0.4s						
MT05	**Renca**	**2.06**	**139**	Pn	**Pn**	**19 46 14.0**	**+0.3**
GO04	**Tololo Observa**	**2.14**	**39**	*eP*	**Pb**	**19 46 16.9**	**-0.9**
GO04				*i* S	**Sn**	**19 46 41.0**	**-1.0**
GO04	**Tololo Observa**	**2.14**	**39**	Pn	**Pn**	**19 46 14.9**	**-0.1**
CO05	**La Serena**	**2.15**	**27**	*eP*	**Pb**	**19 46 16.9**	**-0.9**
CO05				*i* S	**Sb**	**19 46 43.6**	**-1.1**
CO05				IAML		19 47 19.6	
	comp=E,541nm,0.4s						
CO05	**La Serena**	**2.15**	**27**		**Pb**	**19 46 17.1**	**-0.8**
MT01	**Popeta**	**2.22**	**155**	IAML		19 46 58.1	
	comp=E,930nm,0.4s						
MT01	**Popeta**	**2.22**	**155**	Pn	**Pn**	**19 46 15.2**	**-0.6**
MT09	**Talagante**	**2.25**	**149**	*eP*	**Pb**	**19 46 19.1**	**-0.5**
MT09				*i* S	**Sn**	**19 46 44.1**	**-0.3**
MT09				IAML		19 46 58.5	
	comp=N,933nm,0.6s						
MT09	**Talagante**	**2.25**	**149**	Pn	**Pn**	**19 46 16.0**	**-0.4**
LMEL	**Las Melosas**	**2.70**	**138**	IAML		19 46 57.8	
	comp=N,550nm,0.3s						
BO01	**Tunca**	**2.75**	**157**	IAML		19 47 15.9	
	comp=E,379nm,0.8s						
BO01	**Tunca**	**2.75**	**157**		**Pn**	**19 46 23.8**	**+0.6**
ZON	**Zonda**	**3.15**	**86**		**Pn**	**19 46 28.1**	**-0.6**
LCO	**Las Campanas**	**3.17**	**27**	Pn	**Pn**	**19 46 27.4**	**-1.8**
GO05	**Huala**	**3.18**	**174**		**Pn**	**19 46 29.0**	**0.0**
BO02	**Sierra Bellavi**	**3.22**	**156**	Pn	**Pn**	**19 46 26.8**	**-2.9**
AC04	**Llanos de Chal**	**3.80**	**17**	Pn	**Pn**	**19 46 35.7**	**-1.9**
ML02	**Panimavida**	**3.98**	**169**	Pn	**Pn**	**19 46 38.9**	**-1.3**
GO03	**Copiap**	**4.62**	**24**	Pn	**Pn**	**19 46 48.2**	**-0.8**
AC06	**Mina Casimiro**	**4.80**	**22**	Pn	**Pn**	**19 46 48.8**	**-2.6**
BI05	**Punta Hualpn**	**4.94**	**188**	*eP*	**Pn**	**19 46 53.5**	**+0.3**
BI05				*i* S	**Sn**	**19 47 45.8**	**-4.8**
AC02	**Maricunga**	**5.74**	**30**	Pn	**Pn**	**19 47 04.4**	**-0.2**
H03S3	**Juan Fernandez**	**5.85**	**249**	T	T	19 53 57.8	
	baz=85,slow=74,SNR=13						
H03S1	**Juan Fernandez**	**5.86**	**248**	T	T	19 53 57.3	
	baz=85,slow=74,SNR=12						
H03S2	**Juan Fernandez**	**5.87**	**248**	T	T	19 53 55.7	
	baz=85,slow=74,SNR=12						
LC01	**Cunco**	**7.05**	**177**		**Pn**	**19 47 22.5**	**+0.3**
PB14	**IPOC Station P**	**7.40**	**14**	Pn	**Pn**	**19 47 26.4**	**-0.9**
LR03	**Panguipulli**	**7.77**	**180**	Pn	**Pn**	**19 47 30.0**	**-2.1**
PB15	**IPOC Station P**	**8.98**	**17**	Pn	**Pn**	**19 47 47.3**	**-1.6**
PLCA	**Paso Flores**	**8.99**	**171**	Pn	**Pn**	**19 47 50.3**	**+1.4**
	comp=E,0.3nm,0.3s,baz=330,slow=13,SNR=5.4						
LL04	**Puerto Octay**	**9.04**	**180**	Pn	**Pn**	**19 47 48.4**	**-1.2**
TRQA	**Tornquist**	**10.53**	**129**		**Pn**	**19 48 09.1**	**-0.9**
LPAZ	**La Paz**	**15.96**	**15**	Pn	**Pn**	**19 49 25.6**	**+1.3**
	comp=E,0.1nm,0.3s,baz=204,slow=7.5,SNR=2.9						
SIV	**San Ignacio**	**18.84**	**36**	P	**Pn**	**19 50 00.1**	**+0.4**
	comp=E,0.2nm,0.3s,baz=228,slow=17,SNR=2.0						
ROSC	**El Rosal**	**36.53**	**357**	LR	LR	20 08 55.5	
	comp=E,36nm,18.0s,baz=80,slow=38						
VNA3	**Neumayer Olymp**	**51.45**	**158**	P	**P**	**19 54 46.5**	**+2.3**
VNA1	**Neumayer--Stat**	**51.76**	**158**	P	**P**	**19 54 48.2**	**+1.9**
VNA2	**Neumayer--Watz**	**52.10**	**158**	P	**P**	**19 54 50.9**	**+2.0**
	baz=285,slow=8.4						
SNAA	**Sanae**	**53.68**	**158**	P	**P**	**19 55 02.6**	**+1.9**
SNAA	**Sanae**	**53.68**	**158**	P	**P**	**19 55 02.3**	**+1.6**
	comp=E,3.3nm,0.8s,baz=281,slow=6.2,SNR=15						
SNAA	**Sanae**	**53.68**	**158**	P	**P**	**19 55 01.2**	**+0.5**
SNAA				IAmb	IAmb	19 55 03.4	
	comp=Z,4.2nm,0.9s						
QSPA	**South Pole Qui**	**58.38**	**180**	P	**P**	**19 55 33.4**	**-1.1**
JCT	**Junction City**	**67.23**	**334**	P	**P**	**19 56 34.5**	**+0.8**
JCT				IAmb	IAmb	19 56 37.1	
	comp=Z,4.3nm,0.8s						
TXAR	**Lajitas Array**	**67.73**	**331**	P	**P**	**19 56 37.5**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=150,slow=6.3,SNR=9.6						
TX31	**Lajitas Ar. Si**	**67.73**	**331**	P	**P**	**19 56 37.1**	**+0.2**
TX31				IAmb	IAmb	19 56 43.2	
	comp=Z,6.2nm,1.2s						
TX32	**Lajitas Array**	**67.73**	**331**	P	**P**	**19 56 37.0**	**0.0**
TX32				IAmb	IAmb	19 56 43.1	
	comp=Z,2.0nm,1.2s						
NVAR	**Mina Array Bea**	**81.97**	**325**	P	**P**	**19 58 01.3**	**+2.0**
	comp=Z,0.6nm,0.7s,baz=159,slow=5.6,SNR=5.3						
TORD	**Torodi Ar. Bea**	**83.74**	**70**	P	**P**	**19 58 09.2**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=262,slow=4.5,SNR=7.4						
WRA	**Warramunga Arr**	**122.50**	**210**	PKP	**PKPdf**	**20 04 35.0**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=187,slow=1.9,SNR=1.5						
ZALV	**Zalesovo Beam**	**152.53**	**30**	PKPbc	**PKiKP**	**20 05 36.3**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=324,slow=7.3,SNR=3.5						

NEIC 17 19:48:44.5±0.1, 32°.59S±0°.06×177°.5W±0°.3, h10km±2km, mb4.4/7, Error ellipse: s-maj=36.8km s-min=8.1km az=79.0
IDC 17 19:48:47.8±2.8, 32°.97S×178°.30W, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.8/32, mbtmp3.9/5, ML3.6/1, Error ellipse: s-maj=61.8km s-min=35.5km az=119.0
ISC 17 19:48:50.6±1.7, 33°.0S±0°.1×178°.0W±0°.2, h34km, n14, σ0°67/13, mb4.2/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.73**	**1**	Pn	Pn	19 49 36.8	-9.0
URZ	**Urewera**	**6.60**	**216**	Pn	**Pn**	**19 50 24.9**	**-0.2**
	1.2nm,0.3s,baz=274,slow=7.4,SNR=6.5						
URZ				Sn	**Sn**	**19 51 38.2**	**-0.9**
	4.5nm,0.3s,baz=228,slow=22,SNR=9.4						
BKZ	**Black Stump Fm**	**7.61**	**214**	Pn	**Pn**	**19 50 40.6**	**+1.5**
CTA	**Charters Tower**	**34.31**	**283**	P	**P**	**19 55 34.2**	**+0.3**
	1.6nm,0.6s,baz=103,slow=11,SNR=2.2						
CTAO	**Charters Tower**	**34.31**	**283**	P	**P**	**19 55 34.5**	**+0.5**
CTAO				IAmb	IAmb	19 55 37.1	
	comp=Z,11nm,1.4s						
ASAR	**Alice Springs**	**43.04**	**270**	P	**P**	**19 56 47.4**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=108,slow=7.9,SNR=9.7						
WR0	**Warramunga Arr**	**44.09**	**275**	P	**P**	**19 56 55.4**	**-0.3**
WR0				IAmb	IAmb	19 56 55.4	
	comp=Z,9.4nm,1.2s						
WB2	**Warramunga Arr**	**44.25**	**275**	P	**P**	**19 56 56.9**	**-0.1**
WB2				IAmb	IAmb	19 57 03.4	
	comp=Z,5.8nm,1.2s						
WRAB	**Tennant Creek**	**44.26**	**275**	P	**P**	**19 56 56.3**	**-0.8**
WRA	**Warramunga Arr**	**44.27**	**275**	P	**P**	**19 56 57.0**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=116,slow=7.6,SNR=23						
FITZ	**Fitzroy Crossi**	**52.41**	**272**	P	**P**	**19 57 59.7**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=127,slow=10,SNR=3.3						
FITZ	**Fitzroy Crossi**	**52.41**	**272**	IAmb	IAmb	19 58 13.1	
	comp=Z,4.7nm,1.3s						
SNAA	**Sanae**	**75.57**	**178**	P	**P**	**20 00 31.3**	**-0.1**
SNAA				IAmb	IAmb	20 00 34.3	
	comp=Z,4.2nm,1.5s						
FINES	**FINESS Array B**	**147.57**	**339**	PKPbc	**PKiKP**	**20 08 32.0**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=43,slow=3.3,SNR=11						

NEIC 17 19:51:06.5±1.0, 30°.61S±0°.05×72°.36W±0°.04, h10km±1km, mb4.3/3, ML4.0(GUC), Error ellipse: s-maj=8.6km s-min=5.8km az=356.0
IDC 17 19:51:07.0±2.6, 30°.94S×71°.43W, h0km, mb4.2/3, mb1 4.0/6, mb1mx3.8/22, mbtmp4.0/6, ML3.5/3, Error ellipse: s-maj=71.3km s-min=44.6km az=98.0
GUC 17 19:51:12.4±0.6, 30°.71S×71°.40W, h48km±2km, ML4.0
ISC 17 19:51:13.3±0.8, 30°.66S±0°.04×71°.62W±0°.07, h51km±6km, n54, σ1°44/60, mb4.3/5, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.02**	**221⇑**	*iP*	**Pn**	**19 51 21.3**	**+0.2**
CO06				*i* S	**Sn**	**19 51 27.4**	**+0.8**
CO06				IAML		19 51 28.4	
	comp=E,12μm,0.2s						
CO06	**Fray Jorge**	**0.02**	**221**		**Pn**	**19 51 21.1**	**0.0**
CO06					**Sn**	**19 51 26.7**	**+0.1**
CO05	**La Serena**	**0.81**	**24⇑**	*iP*	**Pn**	**19 51 28.0**	**-0.5**
CO05				*i* S	**Sn**	**19 51 40.4**	**+0.8**
CO05	**La Serena**	**0.81**	**24**		**Pn**	**19 51 28.8**	**+0.3**
CO03	**El Pedregal**	**0.82**	**103⇓**	*iP*	**Pn**	**19 51 27.3**	**-1.5**
CO03				*i* S	**Sn**	**19 51 36.8**	**-3.3**
CO03				IAML		19 51 37.5	
	comp=N,8μm,0.2s						
GO04	**Tololo Observa**	**0.86**	**56⇓**	*iP*	**Pn**	**19 51 28.9**	**-0.6**
GO04				*i* S	**Sn**	**19 51 40.3**	**-0.9**
GO04				IAML		19 51 43.0	
	comp=N,10μm,0.4s						
GO04	**Tololo Observa**	**0.86**	**56**		**Pn**	**19 51 28.7**	**-0.8**
LCO	**Las Campanas**	**1.83**	**26**		**Pn**	**19 51 43.5**	**+1.0**
VA06	**Catapilco**	**1.92**	**172⇓**	*iP*	**Pn**	**19 51 41.4**	**-2.1**
VA06				*i* S	**Sn**	**19 52 07.1**	**+0.6**
VA06				IAML		19 52 15.8	
	comp=N,2μm,0.3s						
VA03	**San Esteban**	**2.29**	**157⇑**	*iP*	**Pn**	**19 51 48.9**	**+0.2**
VA03				*i* S	**Sn**	**19 52 16.4**	**+0.7**
VA03				IAML		19 52 28.1	
	comp=E,2μm,0.1s						
VA03	**San Esteban**	**2.29**	**157**	Pn	**Pn**	**19 51 49.1**	**+0.4**
VA01	**Torpederas**	**2.36**	**181**	Pn	**Pn**	**19 51 47.0**	**-2.6**
ROCH	**El Roble**	**2.36**	**167**	*eP*	**Pn**	**19 51 50.6**	**+0.7

TORD	**Torodi Ar. Bea**	**82.74**	**70**	IAmb	IAmb	20 03 33.6	
	comp=Z,0.8nm,0.7s						
H11S2	**WAKE ISLAND Hyl**	**26.11**	**271**	T	T	22 29 01.0	
	baz=115,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hyl**	**26.12**	**271**	T	T	22 29 00.4	
	baz=115,slow=75,SNR=22						
H11S3	**WAKE ISLAND Hyl**	**26.13**	**271**	T	T	22 29 02.3	
	baz=115,slow=75,SNR=25						
ZALV	**Zalesovo Beam**	**151.18**	**29**	PKPbc	**PKiKP**	**20 11 01.9**	**+0.9**
	comp=Z,2.3nm,0.5s,baz=304,slow=3.0,SNR=7.7						

MEX 17 20:04:42.8±0.4, 16°31'N×98°28'W, h12km±9km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.16**	**61**	*i* P	Pg	20 04 46.0	-0.6
PNIG				*i* S	Sg	20 04 48.7	-0.5
MGIG	**Malinaltepec**	**0.98**	**340**	*i* P	Pg	20 04 58.9	-2.9
MGIG				*i* S	Sg	20 05 11.0	-3.5
TXIG	**Tlaxiaco**	**1.05**	**27**	*e*P	Pg	20 04 59.7	-3.5
TXIG				*i* S	Sg	20 05 11.7	-5.3
PEIG	**Puerto Escondi**	**1.13**	**106**	*i* P	Pb	20 04 59.4	-4.9
PEIG				*i* S	Sb	20 05 15.7	-3.3
HLIG	**Huajuapan de L**	**1.58**	**17**	*e*P	Pn	20 05 07.9	-2.9
HLIG				*i* S	Sn	20 05 27.8	-3.5
FTIG	**Fresnillo de T**	**1.59**	**5**	*e*P	Pn	20 05 08.3	-2.7
FTIG				*i* S	Sn	20 05 27.7	-3.9

IDC 17 20:21:32.8±2.8, 31°49S×72°17W, h0km, mb3.8/1, mb1 3.7/4, mb1mx3.5/29, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=114.6km s-min=34.4km az=99.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**9.32**	**172**	Pn	Pn	20 23 48.5	0.0
	0.2nm,0.3s,baz=350,slow=12,SNR=5.9						
LPAZ	**La Paz**	**15.57**	**15**	Pn	Pn	20 25 14.5	+0.2
	0.1nm,0.3s,baz=194,slow=8.1,SNR=2.4						
SIV	**San Ignacio**	**18.45**	**36**	P	Pn	20 25 49.9	-0.2
	0.1nm,0.3s,baz=272,slow=5.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**83.47**	**70**	P	P	20 34 02.8	0.0
	0.6nm,0.9s,baz=249,slow=3.9,SNR=3.1						
ZALV	**Zalesovo Beam**	**152.13**	**30**	PKPbc	PKPbc	20 41 29.6	-0.2
	1.3nm,0.6s,baz=325,slow=4.0,SNR=5.5						

*IDC **17** 20:24:14.0±0.8, 31°.65S×71°.83W, h0km, mb4.3/9, mb1 4.2/14, mb1mx4.1/32, mbtmp4.2/14, ML3.8/5, Error ellipse: s-maj=28.5km s-min=17.1km az=97.0*
*SJA **17** 20:24:14.9±2.6, 31°.73S×72°.42W, h58km±32km, MW4.7(GUC)*
*NEIC **17** 20:24:14.2±1.6, 31°.68S±0°.03×72°.21W±0°.08, h10km±1km, mb4.4/10, Error ellipse: s-maj=12.1km s-min=5.6km az=275.0*
ISC 17 20:24:14.7±0.6, 31°.61S±0°.04×72°.15W±0°.07, h14km, n100, σ1°65/85, mb4.4/10, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**1.03**	**25**		**Pn**	**20 24 35.2**	**+0.5**
CO03	**El Pedregal**	**1.47**	**59**		**Pn**	**20 24 41.0**	**+0.1**
VA01	**Torpederas**	**1.47**	**163**		**Pn**	**20 24 39.6**	**-1.2**
VA01	**Torpederas**	**1.47**	**163**	*i* P	**Pn**	**20 24 40.0**	**-0.8**
VA03	**San Esteban**	**1.78**	**131**		**Pn**	**20 24 44.4**	**-0.7**
VA03	**San Esteban**	**1.78**	**131**	*i* P	**Pn**	**20 24 44.0**	**-1.1**
GO04	**Tololo Observa**	**1.84**	**39**		**Pn**	**20 24 46.8**	**+0.7**
CO05	**La Serena**	**1.86**	**25**		**Pb**	**20 24 47.7**	**-0.7**
VA05	**Santo Domingo**	**2.09**	**168**		**Pn**	**20 24 47.9**	**-1.4**
MT05	**Renca**	**2.14**	**147**		**Pn**	**20 24 49.8**	**-0.3**
MT05	**Renca**	**2.14**	**147**	*i* P	**Pn**	**20 24 51.0**	**+0.9**
MT01	**Popeta**	**2.37**	**162**		**Pn**	**20 24 52.4**	**-0.9**
MT01	**Popeta**	**2.37**	**162**	*i* P	**Pn**	**20 24 53.0**	**-0.2**
MT09	**Talagante**	**2.37**	**156**		**Pn**	**20 24 53.5**	**+0.2**
AUSP	**Uspallata**	**2.43**	**105**	*i* P	**Pb**	**20 24 57.0**	**-1.3**
RTLS	**Leoncito**	**2.44**	**95**	*i* P	**Pb**	**20 24 57.0**	**-1.5**
ACCO	**Cerro Coronel**	**2.83**	**70**	*i* P	**Pb**	**20 25 04.0**	**-1.3**
LCO	**Las Campanas**	**2.88**	**26**		**Pn**	**20 25 01.3**	**+0.9**
BO01	**Tunca**	**2.91**	**162**		**Pn**	**20 25 00.1**	**-0.5**
BO01	**Tunca**	**2.91**	**162**	*i* P	**Pn**	**20 25 00.0**	**-0.7**
ZON	**Zonda**	**2.96**	**90**		**Pn**	**20 25 03.7**	**+2.3**
ZON	**Zonda**	**2.96**	**90**	*i* P	**Pb**	**20 25 05.0**	**-2.3**
ACDV	**Cuesta del Vie**	**2.97**	**62**	*i* P	**Pb**	**20 25 06.0**	**-1.6**
ASAL	**Salagasta**	**2.98**	**110**	*i* P	**Pb**	**20 25 06.0**	**-1.6**
ARCO	**CERRO ARCO**	**2.99**	**115**	*i* P	**Pb**	**20 25 06.0**	**-1.8**
RTCV	**Cerro Valdivia**	**3.08**	**96**	*i* P	**Pb**	**20 25 07.0**	**-2.4**
AAGR	**Agrelo**	**3.17**	**119**	*i* P	**Pb**	**20 25 09.0**	**-1.9**
BO02	**Sierra Bellavi**	**3.37**	**161**		**Pn**	**20 25 06.3**	**-0.8**
BO02	**Sierra Bellavi**	**3.37**	**161**	*i* P	**Pn**	**20 25 08.0**	**+0.9**
GO05	**Huala**	**3.40**	**177**	Pn	**Pn**	**20 25 05.9**	**-1.3**
GO05	**Huala**	**3.40**	**177**	*i* P	**Pn**	**20 25 06.0**	**-1.3**
AC04	**Llanos de Chal**	**3.52**	**16**		**Pn**	**20 25 09.5**	**+0.5**
AC04	**Llanos de Chal**	**3.52**	**16**	*i* P	**Pn**	**20 25 12.0**	**+3.0**
AGUA	**GUANDACOL**	**3.80**	**57**	*i* P	**Pb**	**20 25 18.0**	**-3.6**
AVFE	**Valle Fertil**	**4.13**	**78**	*i* P	**Pn**	**20 25 21.0**	**+3.5**
ML02	**Panimavida**	**4.19**	**172**	Pn	**Pn**	**20 25 16.9**	**-1.2**
GO03	**Copiap**	**4.33**	**23**	Pn	**Pn**	**20 25 21.4**	**+1.1**
RFA	**San Rafael**	**4.41**	**137**	*i* P	**Pn**	**20 25 23.0**	**+1.7**
VCA	**Vinchina**	**4.46**	**51**	*i* P	Pb	20 25 28.0	-4.8
AC06	**Mina Casimiro**	**4.52**	**21**	Pn	**Pn**	**20 25 23.4**	**+0.7**
ACHE	**Chepes**	**4.71**	**86**	*i* P	**Pn**	**20 25 28.0**	**+2.5**
APLL	**PUNTA DE LOS L**	**4.97**	**77**	*i* P	**Pn**	**20 25 32.0**	**+2.9**
ACLC	**CERRO LA CRUZ**	**4.98**	**65**	*i* P	**Pn**	**20 25 32.0**	**+2.7**
AC02	**Maricunga**	**5.44**	**30**	Pn	**Pn**	**20 25 37.1**	**+1.2**
AC02	**Maricunga**	**5.44**	**30**	*i* P	**Pn**	**20 25 38.0**	**+2.1**
MRA	**San Martin**	**5.52**	**100**	*i* P	**Pn**	**20 25 38.0**	**+1.4**
VA04	**Juan Fernndez**	**5.99**	**248**	Pn	**Pn**	**20 25 41.8**	**-1.2**
H03N1	**Juan Fernandez**	**6.00**	**250**	T	T	20 32 31.8	
	baz=86,slow=73,SNR=261						
H03N3	**Juan Fernandez**	**6.01**	**250**	T	T	20 32 30.1	
	baz=86,slow=73,SNR=325						
H03N2	**Juan Fernandez**	**6.01**	**251**	T	T	20 32 30.7	
	baz=86,slow=73,SNR=283						
H03S3	**Juan Fernandez**	**6.11**	**247**	T	T	20 32 35.1	
	baz=83,slow=75,SNR=147						
H03S1	**Juan Fernandez**	**6.12**	**247**	T	T	20 32 39.3	
	baz=83,slow=75,SNR=118						
H03S2	**Juan Fernandez**	**6.13**	**247**	T	T	20 32 34.6	
	baz=83,slow=75,SNR=131						
CYA	**Choya**	**6.34**	**62**	*i* P	**Pn**	**20 25 50.0**	**+2.1**
PB14	**IPOC Station P**	**7.13**	**13**	Pn	**Pn**	**20 25 56.0**	**-2.9**
LC01	**Cunco**	**7.27**	**178**	Pn	**Pn**	**20 25 59.2**	**-1.4**
LC01	**Cunco**	**7.27**	**178**	*i* P	**Pn**	**20 26 00.0**	**-0.6**
AHML	**Horco Molle**	**7.65**	**53**	*i* P	**Pn**	**20 26 10.0**	**+4.2**
PLCA	**Paso Flores**	**9.20**	**172**	Pn	**Pn**	**20 26 26.9**	**-0.1**
	0.5nm,0.3s,baz=344,slow=12,SNR=18						
PLCA	**Paso Flores**	**9.20**	**172**	Pn	**Pn**	**20 26 26.7**	**-0.3**
LVC	**Limon Verde**	**9.42**	**19**	Pn	**Pn**	**20 26 29.7**	**-0.6**
	0.5nm,0.3s,baz=7.6,slow=22,SNR=4.8						
PB07	**IPOC Station P**	**10.05**	**12**	Pn	**Pn**	**20 26 36.5**	**-2.4**
TRQA	**Tornquist**	**10.54**	**130**	Pn	**Pn**	**20 26 45.0**	**-0.4**
PB01	**IPOC Station P**	**10.79**	**13**		**Pn**	**20 26 46.9**	**-2.0**
LL02	**Futaleuf**	**11.56**	**179**	Pn	**Pn**	**20 26 55.9**	**-3.4**
PB08	**IPOC Station P**	**11.73**	**14**	Pn	**Pn**	**20 26 59.9**	**-2.2**
CPUP	**Villa Florida**	**13.99**	**72**	Pn	**Pn**	**20 27 31.9**	**-0.7**
	0.2nm,0.3s,baz=9.7,slow=9.3,SNR=2.4						
CPUP	**Villa Florida**	**13.99**	**72**	Pn	**Pn**	**20 27 32.0**	**-0.6**
LPAZ	**La Paz**	**15.69**	**14**	Pn	**P**	**20 27 58.4**	**-1.7**
	0.1nm,0.3s,baz=182,slow=6.5,SNR=6.2						
LPAZ	**La Paz**	**15.69**	**14**		**Pn**	**20 27 53.6**	**-2.3**
SIV	**San Ignacio**	**18.54**	**36**	P	**Pn**	**20 28 31.9**	**+0.7**
	0.2nm,0.3s,baz=245,slow=9.8,SNR=3.2						
SAML	**Samuel**	**24.04**	**22**	P	**P**	**20 29 28.7**	**-0.7**
BDFB	**Brasilia**	**27.14**	**60**	P	**P**	**20 29 56.5**	**-1.3**
	2.9nm,0.5s,baz=280,slow=4.3,SNR=5.0						
BDFB	**Brasilia**	**27.14**	**60**	P	**P**	**20 29 57.2**	**-0.6**
BDFB				IAmb	IAmb	20 29 59.4	
	comp=Z,4.3nm,0.6s						
VNA3	**Neumayer Olymp**	**51.60**	**159**	P	**P**	**20 33 21.5**	**+1.2**
VNA1	**Neumayer--Stat**	**51.91**	**158**	P	**P**	**20 33 24.0**	**+1.6**
VNA2	**Neumayer--Watz**	**52.25**	**158**	P	**P**	**20 33 26.2**	**+1.1**
	baz=281,slow=8.2						
SNAA	**Sanae**	**53.83**	**158**	P	**P**	**20 33 37.6**	**+0.8**
SNAA	**Sanae**	**53.83**	**158**	P	**P**	**20 33 37.7**	**+0.9**
	comp=Z,5.8nm,0.7s,baz=274,slow=7.6,SNR=71						
SNAA	**Sanae**	**53.83**	**158**	P	**P**	**20 33 37.3**	**+0.5**
QSPA	**South Pole Qui**	**58.62**	**180**	P	**P**	**20 34 12.9**	**+1.8**
	comp=Z,2.9nm,0.6s,baz=142,slow=1.3,SNR=27						
QSPA	**South Pole Qui**	**58.62**	**180**	P	**P**	**20 34 11.7**	**+0.6**
QSPA				IAmb	IAmb	20 34 13.5	
	comp=Z,3.2nm,0.7s						
TXAR	**Lajitas Array**	**67.61**	**330**	P	**P**	**20 35 13.8**	**+2.6**
	comp=Z,0.3nm,0.7s,baz=148,slow=8.6,SNR=2.8						
DBIC	**Dimbokro**	**74.52**	**72**	P	**P**	**20 35 51.8**	**-1.4**
	comp=Z,3.9nm,0.8s,baz=243,slow=6.5,SNR=3.8						
MAW	**Mawson**	**75.49**	**164**	P	**P**	**20 35 58.1**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=200,slow=18,SNR=1.9						
KOWA	**Kowa**	**79.74**	**66**	P	**P**	**20 36 22.4**	**-0.2**
KOWA				IAmb	IAmb	20 36 24.5	
	comp=Z,5.4nm,0.7s						
BOSA	**Boshof**	**81.27**	**118**	P	**P**	**20 36 31.4**	**+0.5**
	comp=Z,3.0nm,0.8s,baz=221,slow=5.7,SNR=4.5						
BOSA	**Boshof**	**81.27**	**118**	IAmb	IAmb	20 36 39.6	
	comp=Z,3.4nm,0.9s						
NVAR	**Mina Array Bea**	**81.88**	**325**	P	**P**	**20 36 36.5**	**+2.8**
	comp=Z,0.6nm,0.7s,baz=158,slow=5.5,SNR=5.2						
TORD	**Torodi Ar. Bea**	**83.49**	**70**	P	**P**	**20 36 43.5**	**+1.1**
	comp=Z,3.4nm,0.7s,baz=262,slow=4.7,SNR=22						
TORD	**Torodi Ar. Bea**	**83.49**	**70**	P	**P**	**20 36 43.2**	**+0.8**
WRA	**Warramunga Arr**	**122.79**	**210**	PKP	**PKiKP**	**20 43 11.1**	**0.0**
	comp=Z,0.2nm,0.5s,baz=151,slow=1.9,SNR=1.9						
H11S2	**WAKE ISLAND Hyl**	**25.68**	**271**	T	T	23 02 07.2	
	baz=117,slow=74,SNR=56						
H11S1	**WAKE ISLAND Hyl**	**25.69**	**271**	T	T	23 02 07.2	
	baz=117,slow=74,SNR=34						
H11S3	**WAKE ISLAND Hyl**	**25.69**	**271**	T	T	23 02 07.2	
	baz=117,slow=74,SNR=29						
H11N3	**WAKE ISLAND Hyl**	**26.03**	**272**	T	T	23 02 33.5	
	baz=116,slow=74,SNR=12						
H11N1	**WAKE ISLAND Hyl**	**26.05**	**272**	T	T	23 02 35.5	
	baz=116,slow=74,SNR=4.4						
H11N2	**WAKE ISLAND Hyl**	**26.05**	**272**	T	T	23 02 36.0	
	baz=116						
ZALV	**Zalesovo Beam**	**152.23**	**30**	PKPbc	**PKiKP**	**20 44 11.0**	**+1.2**
	comp=Z,4.0nm,0.5s,baz=301,slow=3.2,SNR=16						
MKAR	**Makanchi Array**	**155.20**	**45**	PKPbc	PKPbc	20 44 17.4	
	comp=Z,0.4nm,0.7s,baz=316,slow=2.8,SNR=2.9						

*IDC **17** 20:24:33.6±0.7, 32°.28S×72°.08W, h0km, mb4.2/12, mb1 4.3/17, mb1mx4.2/31, mbtmp4.2/17, ML4.4/5, Error ellipse: s-maj=27.5km s-min=14.7km az=102.0*
*NEIC **17** 20:24:35.5±2.3, 32°.33S±0°.03×71°.93W±0°.08, h16km±3km, mb4.7/15, Mwr5.0(GUC), Error ellipse: s-maj=10.1km s-min=3.9km az=73.0*
*GUC **17** 20:24:36.7±0.8, 32°.34S×72°.04W, h24km±10km, ML4.6*
ISC 17 20:24:34.6±1.4, 32°.31S±0°.04×72°.03W±0°.05, h11km±8km, n82, σ1°46/92, mb4.5/15, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**0.67**	**112**	*e*P	**Pn**	**20 24 49.8**	**-0.3**
VA06				*i* S	**Sn**	**20 25 00.2**	**-0.5**
VA06				IAML		20 25 05.4	
	comp=E,87μm,0.4s						
VA01	**Torpederas**	**0.79**	**156**	*e*P	**Pn**	**20 24 51.6**	**-0.1**
VA01				*i* S	**Sn**	**20 25 02.6**	**-0.9**
VA01	**Torpederas**	**0.79**	**156**		**Pb**	**20 24 50.4**	**+0.1**
VA01				Sn	**Sn**	**20 25 01.9**	**-1.6**
ROCH	**El Roble**	**1.09**	**128**	*e*P	**Pg**	**20 24 57.3**	**+1.7**
ROCH				*i* S	**Sn**	**20 25 12.7**	**+1.3**
ROCH				IAML		20 25 17.4	
	comp=N,27μm,0.5s						
VA03	**San Esteban**	**1.33**	**110**	*e*P	**Pg**	**20 25 01.0**	**+0.8**
VA03				*i* S	**Sg**	**20 25 19.9**	**+2.3**
VA03				IAML		20 25 25.1	
	comp=N,25μm,0.5s						
VA03	**San Esteban**	**1.33**	**110**	Pn	**Pn**	**20 24 57.4**	**-2.0**
VA05	**Santo Domingo**	**1.39**	**165**	*e*P	**Pb**	**20 25 00.6**	**-0.1**
VA05				*i* S	**Sb**	**20 25 18.4**	**-0.1**
VA05				IAML		20 25 34.8	
	comp=E,14μm,0.1s						
VA05	**Santo Domingo**	**1.39**	**165**	Pn	**Pb**	**20 25 00.7**	**0.0**
MT05	**Renca**	**1.54**	**135**	*e*P	**Pg**	**20 25 04.2**	**0.0**
MT05				*i* S	**Sg**	**20 25 24.8**	**+0.7**
MT05				IAML		20 25 32.1	
	comp=E,34μm,0.5s						
MT05	**Renca**	**1.54**	**135**	Pn	**Pn**	**20 25 01.6**	**-0.6**
MT01	**Popeta**	**1.69**	**157**	*e*P	**Pb**	**20 25 05.0**	**-0.8**
MT01				*i* S	**Sb**	**20 25 27.4**	**+0.4**
MT01				IAML		20 25 35.0	
	comp=E,9μm,0.6s						
MT01	**Popeta**	**1.69**	**157**	Pn	**Pn**	**20 25 03.6**	**-0.5**
MT09	**Talagante**	**1.71**	**149**	*e*P	**Pb**	**20 25 06.4**	**+0.2**
MT09				*i* S	**Sg**	**20 25 28.9**	**-0.7**
MT09				IAML		20 25 40.6	
	comp=N,15μm,0.8s						
MT09	**Talagante**	**1.71**	**149**	Pn	**Pn**	**20 25 04.9**	**+0.4**
CO03	**El Pedregal**	**1.86**	**38**	*e*P	Pn	20 24 59.8	-6.8
CO03				IAML		20 25 45.0	
	comp=N,6μm,0.2s						
LMEL	**Las Melosas**	**2.17**	**135**	*e*P	**Pb**	**20 25 13.6**	**-0.6**
LMEL				IAML		20 25 50.9	
	comp=N,9μm,0.4s						
BO03	**Pichilemu**	**2.18**	**178**	*e*P	**Pn**	**20 25 10.6**	**-0.4**
BO01	**Tunca**	**2.23**	**159**	*e*P	**Pb**	**20 25 14.1**	**-0.8**
BO01				*i* S	**Sb**	**20 25 43.1**	**+0.6**
BO01				IAML		20 26 01.0	
	comp=N,3μm,0.3s						
BO01	**Tunca**	**2.23**	**159**	Pn	**Pn**	**20 25 09.5**	**-2.0**
GO04	**Tololo Observa**	**2.38**	**27**	Pn	**Pn**	**20 25 13.0**	**-0.8**
CO05	**La Serena**	**2.48**	**16**	Pn	**Pn**	**20 25 15.2**	**+0.2**
BO02	**Sierra Bellavi**	**2.69**	**157**	IAML		20 26 03.7	
	comp=N,6μm,0.6s						
GO05	**Huala**	**2.70**	**178**	*e*P	**Pn**	**20 25 17.0**	**-1.0**
GO05				IAML		20 26 15.2	
	comp=N,2μm,0.7s						
GO05	**Huala**	**2.70**	**178**	Pn	**Pn**	**20 25 17.2**	**-0.8**
LCO	**Las Campanas**	**3.48**	**20**	Pn	**Pn**	**20 25 29.7**	**+0.7**
ML02	**Panimavida**	**3.48**	**172**	Pn	**Pn**	**20 25 27.4**	**-1.5**
AC04	**Llanos de Chal**	**4.17**	**12**	Pn	**Pn**	**20 25 38.3**	**0.0**
GO03	**Copiap**	**4.95**	**19**		**Pn**	**20 25 49.9**	**+0.9**
AC06	**Mina Casimiro**	**5.14**	**17**	Pn	**Pn**	**20 25 52.7**	**+1.0**
VA04	**Juan Fernndez**	**5.87**	**255**	Pn	**Pn**	**20 26 03.7**	**+2.1**
AC02	**Maricunga**	**6.01**	**26**	Pn	**Pn**	**20 26 05.3**	**+1.3**
LC01	**Cunco**	**6.58**	**179**	Pn	**Pn**	**20 26 11.0**	**-0.4**
LR03	**Panguipulli**	**7.31**	**182**		**Pn**	**20 26 19.8**	**-1.6**
PLCA	**Paso Flores**	**8.49**	**172**	Pn	**Pn**	**20 26 39.0**	**+1.3**
	comp=N,1.2nm,0.3s,baz=330,slow=12,SNR=13						
PLCA	**Paso Flores**	**8.49**	**172**	Pn	**Pn**	**20 26 36.0**	**-1.7**
LL04	**Puerto Octay**	**8.59**	**182**	Pn	**Pn**	**20 26 37.1**	**-1.9**
LL03	**Petrohue**	**8.82**	**182**	Pn	**Pn**	**20 26 38.9**	**-3.2**
PB10	**IPOC Station P**	**8.86**	**9**	Pn	**Pn**	**20 26 42.2**	**-0.5**
LL05	**Los Muermos**	**9.15**	**187**	Pn	**Pn**	**20 26 45.8**	**-0.9**
PB06	**IPOC Station P**	**9.81**	**13**	Pn	**Pn**	**20 26 55.6**	**-0.3**
TRQA	**Tornquist**	**10.03**	**128**	Pn	**Pn**	**20 26 56.5**	**-2.2**
LVC	**Limon Verde**	**10.05**	**17**	Pn	**Pn**	**20 26 59.3**	**-0.1**
	comp=N,2.0nm,0.3s,baz=345,slow=20,SNR=1.4						
LPA	**La Plata**	**12.04**	**106**	*e*P	**Pn**	**20 27 24.2**	**-2.0**
LPA				pPP		20 27 37.3	
LPA				PPP	PPP	20 28 06.8	
LPA				S	**Sn**	**20 29 39.3**	**-1.2**
LPA				SS	**SbSb**	**20 30 33.7**	**+3.6**
LPA				SSS	SSS	20 31 10.0	
LPA				SCS	**ScS**	**20 40 21.6**	**+1.4**
LPA				PKiKP	**PKiKP**	**20 41 09.0**	**-0.4**
PB08	**IPOC Station P**	**12.39**	**13**	Pn	Pn	20 27 26.9	-4.5
PB11	**IPOC Station P**	**12.68**	**10**	Pn	**Pn**	**20 27 32.0**	**-3.1**
PSGCX	**Pisagua**	**12.77**	**8**	Pn	**Pn**	**20 27 35.1**	**-1.3**
ITQB	**Itaqui**	**13.48**	**83**		**Pn**	**20 27 43.8**	**-2.1**
CPUP	**Villa Florida**	**14.14**	**69**	Pn	**Pn**	**20 27 54.7**	**-0.2**
	comp=N,0.6nm,0.3s,baz=266,slow=5.6,SNR=4.3						
CPUP	**Villa Florida**	**14.14**	**69**	Pn	**Pn**	**20 27 54.0**	**-0.9**
LPAZ	**La Paz**	**16.34**	**13**	Pn	**P**	**20 28 26.6**	**-1.1**
	comp=N,0.4nm,0.3s,baz=199,slow=5.5,SNR=8.6						
LPAZ	**La Paz**	**16.34**	**13**	Pn	**Pn**	**20 28 23.4**	**-1.4**
AQDB	**Aquidauana**	**18.76**	**55**	P	**P**	**20 28 52.1**	**-1.7**
AQDB				IAmb	IAmb	20 29 04.2	
	comp=Z,49nm,1.3s						
SIV	**San Ignacio**	**19.05**	**34**	P	**Pn**	**20 28 57.7**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=218,slow=8.5,SNR=12						
TRCB	**Terra Rica**	**19.61**	**66**	P	**P**	**20 29 00.8**	**-2.4**
TRCB				IAmb	IAmb	20 29 19.6	
	comp=Z,48nm,1.1s						
SAML	**Samuel**	**24.65**	**21**	P	**P**	**20 29 56.7**	**+1.2**
BDFB	**Brasilia**	**27.41**	**58**	P	**P**	**20 30 21.1**	**+0.4**
	comp=Z,5.9nm,0.5s,baz=232,slow=9.0,SNR=8.0						
BDFB	**Brasilia**	**27.41**	**58**	P	**P**	**20 30 19.2**	**-1.4**
PMSA	**Palmer Station**	**32.87**	**174**	P	**P**	**20 31 09.3**	**+1.1**
	comp=Z,2.5nm,0.8s,baz=353,slow=8.8,SNR=1.7						
RUSC	**La Rusia**	**38.00**	**358**	P	**P**	**20 31 51.6**	**-1.9**
RUSC				IAmb	IAmb	20 32 07.7	
	comp=Z,26nm,1.0s						
MDP	**Montagnes des**	**41.52**	**30**	P	**P**	**20 32 22.7**	**+0.5**
	comp=Z,7.7nm,0.8s,baz=219,slow=9.5,SNR=4.7						
SNAA	**Sanae**	**53.15**	**158**	P	**P**	**20 33 53.7**	**+1.4**
	comp=Z,2.0nm,0.6s,baz=262,slow=5.7,SNR=6.3						
SNAA	**Sanae**	**53.15**	**158**	P	**P**	**20 33 51.9**	**-0.4**
SNAA				IAmb	IAmb	20 34 08.1	
	comp=Z,7.3nm,1.0s						
QSPA	**South Pole Qui**	**57.92**	**180**	P	**P**	**20 34 27.9**	**+1.1**
	comp=Z,1.9nm,0.7s,baz=71,slow=1.2,SNR=8.6						
QSPA	**South Pole Qui**	**57.92**	**180**	P	**P**	**20 34 25.5**	**-1.3**
QSPA				IAmb	IAmb	20 34 40.7	
	comp=Z,11nm,1.1s						
352A	**Blakely**	**64.60**	**348**		**P**	**20 35 11.4**	**-0.7**
VNDA	**Vanda**	**65.76**	**191**	P	**P**	**20 35 20.2**	**+1.1**
	comp=Z,0.2nm,0.7s,baz=138,slow=11,SNR=1.1						
SYO	**Syowa Base**	**67.44**	**159**	*e*P	**P**	**20 35 26.2**	**-3.7**
TXAR	**Lajitas Array**	**68.27**	**330**	P	**P**	**20 35 35.9**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=160,slow=12,SNR=2.3						
LIC	**Lamto**	**74.24**	**72**	*e*P	**P**	**20 36 12.8**	**+0.6**
	comp=Z,52nm,1.6s						
TIC	**Toumodi**	**74.49**	**72**	*e*P	**P**	**20 36 15.0**	**+1.3**
KIC	**Kosan Boka**	**74.55**	**72**	*e*P	**P**	**20 36 14.7**	**+0.7**
	comp=Z,8.9nm,0.6s						
DBIC	**Dimbokro**	**74.64**	**72**	P	**P**	**20 36 15.4**	**+0.9**
	comp=Z,7.5nm,0.9s,baz=212,slow=5.1,SNR=7.8						
DBIC	**Dimbokro**	**74.64**	**72**	IAmb	IAmb	20 36 24.3	
	comp=Z,16nm,1.1s						
MAW	**Mawson**	**74.80**	**164**	P	**P**	**20 36 15.4**	**+0.9**
	comp=Z,1.5nm,0.4s,baz=225,slow=12,SNR=2.4						
NVAR	**Mina Array Bea**	**82.50**	**325**	P	**P**	**20 36 58.6**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=162,slow=6.2,SNR=1.6						
TORD	**Torodi Ar. Bea**	**83.63**	**70**	P	**P**	**20 37 04.7**	**+1.0**
	comp=Z,3.2nm,0.6s,baz=282,slow=3.6,SNR=25						
ULM	**Lac du Bonnet**	**84.87**	**345**	P	**P**	**20 37 10.4**	**+1.3**
	comp=Z,2.4nm,0.6s,baz=111,slow=20,SNR=2.2						
ASAR	**Alice Springs**	**119.07**	**207**	PKP	**PKPdf**	**20 43 22.8**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=130,slow=1.8,SNR=4.3						
WRA	**Warramunga Arr**	**122.23**	**210**	PKP	**PKPdf**	**20 43 30.1**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=132,slow=1.4,SNR=8.0						
ZALV	**Zalesovo Beam**	**152.78**	**31**	PKPbc	**PKiKP**	**20 44 32.0**	**+0.7**
	comp=Z,3.1nm,0.5s,baz=302,slow=2.5,SNR=8.6						
KSH	**Kashi**	**153.21**	**65**	PKPbc	**PKPdf**	**20 44 24.0**	**-1.3**
MKAR	**Makanchi Array**	**155.62**	**46**	PKPbc	**PKPdf**	**20 44 33.9**	**+5.5**
	comp=Z,0.7nm,0.7s,baz=306,slow=2.9,SNR=4.8						

*DJA **17**

VA06 eS Sb 20 41 49.4 -1.4
VA06 IAML 20 42 01.9
comp=E,56µm,0.5s
GO03 Copiap 2.75 31⇑ *eP* Pn 20 41 16.4 +0.8
GO03 IAML 20 42 06.2
comp=N,22µm,0.4s
GO03 Copiap 2.75 31 Pn 20 41 16.5 +0.8
GO03 Copiap 2.75 31 *i* P Pn 20 41 17.0 +1.4
RTLS Leoncito 2.84 131 *i* P Pb 20 41 21.0 -1.3
AC06 Mina Casimiro 2.90 27⇑ *i* P Pn 20 41 19.0 +1.3
AC06 eS Sb 20 41 58.6 -0.3
AC06 Mina Casimiro 2.90 27 Pn 20 41 19.0 +1.3
AGUA GUANDACOL 2.94 81 *i* P Pb 20 41 23.0 -0.9
VA03 San Esteban 2.99 159⇑ *i* P Pn 20 41 20.9 +1.9
VA03 eS Sn 20 41 57.2 +2.2
VA03 IAML 20 42 13.5
comp=N,34µm,0.5s
VA03 San Esteban 2.99 159 Pn 20 41 20.6 +1.6
VA01 Torpederas 3.05 177 *eP* Pn 20 41 20.5 +0.8
VA01 IAML 20 42 14.3
comp=E,16µm,0.6s
VA01 Torpederas 3.05 177 Pn 20 41 19.8 +0.1
VA01 Torpederas 3.05 177 *i* P Pb 20 41 23.0 -2.7
AUSP Uspallata 3.07 138 *i* P Pb 20 41 25.0 -1.2
ROCH El Roble 3.07 167 *eP* Pn 20 41 22.7 +2.5
ROCH *i* S Sn 20 41 59.8 +2.5
ROCH IAML 20 42 17.1
comp=N,17µm,0.5s
ZON Zonda 3.13 121 P Pb 20 41 24.0 -3.2
ZON Zonda 3.13 121 Pb 20 41 24.0 -3.2
ZON Zonda 3.13 121 *i* P Pb 20 41 25.0 -2.2
VCA Vinchina 3.39 70 *i* P Pb 20 41 30.0 -1.6
RTCV Cerro Valdivia 3.39 125 *i* P Pb 20 41 29.0 -2.7
MT05 Renca 3.54 165 *eP* Pn 20 41 28.2 +1.7
MT05 Renca 3.54 165 Pn 20 41 26.4 -0.1
MT05 Renca 3.54 165 *i* P Pn 20 41 28.0 +1.5
ASAL Salagasta 3.66 136 *i* P Pb 20 41 33.0 -3.2
VA05 Santo Domingo 3.68 177 *eP* Pn 20 41 28.2 -0.2
VA05 eS Sn 20 42 15.7 +3.7
VA05 Santo Domingo 3.68 177 Pn 20 41 28.2 -0.2
ARCO CERRO ARCÓ 3.78 140 *i* P Pn 20 41 35.0 -3.3
AVFE Valle Fertil 3.84 101 *i* P Pn 20 41 34.0 +3.4
MT09 Talagante 3.86 170 Pn Pn 20 41 30.3 -0.7
MT01 Popeta 3.91 173 *eP* Pn 20 41 32.2 +0.6
MT01 Popeta 3.91 173 Pn Pn 20 41 29.4 -2.2
MT01 Popeta 3.91 173 *i* P Pn 20 41 33.0 +1.4
AC02 Maricunga 3.92 38⇑ *eP* Pn 20 41 34.2 +2.0
AC02 Maricunga 3.92 38 Pn 20 41 33.5 +1.3
AC02 Maricunga 3.92 38 *i* P Pn 20 41 34.0 +1.8
AAGR Agrelo 4.02 141 *i* P Pb 20 41 38.0 -4.4
ACLC CERRO LA CRUZ 4.27 84 *i* P Pn 20 41 40.0 +3.3
BO01 Tunca 4.45 172 *eP* Pn 20 41 39.7 +0.7
BO01 Tunca 4.45 172 Pn 20 41 37.2 -1.9
BO01 Tunca 4.45 172 *i* P Pn 20 41 41.0 +2.0
BO03 Pichilemu 4.52 181⇓ *eP* Pn 20 41 39.0 -0.9
APLL PUNTA DE LOS L 4.60 97 *i* P Pn 20 41 44.0 +2.9
ACHE Chepes 4.61 106 *i* P Pn 20 41 44.0 +2.7
BO02 Sierra Bellavi 4.89 170 Pn Pn 20 41 43.7 -1.2
BO02 Sierra Bellavi 4.89 170 *i* P Pn 20 41 47.0 +1.9
GO05 Huala 5.03 181 Pn 20 41 44.6 -2.4
GO05 Huala 5.03 181 *i* P Pn 20 41 46.0 -0.9
LAMA Las Malvinas 5.42 157 *i* P Pn 20 41 58.0 +5.7
COIS El Sosneado 5.46 160 *i* P Pn 20 41 58.0 +5.1
PB14 IPOC Station P 5.47 14 Pn 20 41 51.3 -2.0
PB14 IPOC Station P 5.47 14 *i* P Pn 20 41 52.0 -1.3
CYA Choya 5.48 75 *i* P Pn 20 41 55.0 +1.8
RFA San Rafael 5.57 150 *i* P Pn 20 41 57.0 +2.6
MRA San Martin 5.77 117 *i* P Pn 20 41 59.0 +1.7
ML02 Panimavida 5.79 177 Pn Pn 20 41 56.8 -0.6
FSA Cafayete 6.44 55 *i* P Pn 20 42 11.0 +4.5
PB10 IPOC Station P 6.53 10 Pn Pn 20 42 05.6 -2.0
PB10 IPOC Station P 6.53 10 *i* P Pn 20 42 06.0 -1.6
AHML Horco Molle 6.54 63 *i* P Pn 20 42 10.0 +2.3
H03N1 Juan Fernandez 6.96 238 T T 20 49 37.4
baz=65,slow=71,SNR=5299
H03N2 Juan Fernandez 6.98 238 T T 20 49 38.5
baz=65,slow=71,SNR=6762
H03N3 Juan Fernandez 6.98 238 T T 20 49 38.5
baz=65,slow=71,SNR=5310
VA04 Juan Fernndez 7.00 237 Pn Pn 20 42 11.9 -2.1
PB15 IPOC Station P 7.05 18 Pn 20 42 13.8 -1.2
H03S3 Juan Fernandez 7.15 236 T T 20 49 57.6
baz=91,slow=74,SNR=24
H03S1 Juan Fernandez 7.15 236 T T 20 49 56.3
baz=91,slow=74,SNR=27
H03S2 Juan Fernandez 7.17 236 T T 20 49 56.7
baz=91,slow=74,SNR=38
PB05 IPOC Station P 7.23 12 *i* P Pn 20 42 15.0 -2.4
PB06 IPOC Station P 7.51 16 Pn 20 42 18.7 -2.5
AF01 San Pedro de A 7.71 26 Pn 20 42 21.9 -2.1
PB04 IPOC Station P 7.75 12 Pn 20 42 21.4 -3.1
PB04 IPOC Station P 7.75 12 *i* P Pn 20 42 23.0 -1.5
LVC Limon Verde 7.78 20 Pn Pn 20 42 24.0 -1.1
comp=N,6.1nm,0.3s,baz=171,slow=9.3,SNR=16
LVC Sn **Sn** **20 43 49.8 -3.7**
comp=N,12nm,0.3s,baz=30,slow=11,SNR=1.8
LVC LR LR 20 45 30.8
comp=N,9µm,18.7s,baz=212,slow=39
LVC Limon Verde 7.78 20 P Pn 20 42 23.4 -1.7
LVC Limon Verde 7.78 20 Pn 20 42 23.4 -1.7
LVC Limon Verde 7.78 20 *eP* Pn 20 42 23.6 -1.5
PB07 IPOC Station P 8.39 12 Pn Pn 20 42 30.0 -3.3
PB09 IPOC Station P 8.46 17 Pn Pn 20 42 32.2 -2.1
LC01 Cunco 8.91 180 Pn Pn 20 42 37.9 -2.2
PB01 IPOC Station P 9.13 14 Pn Pn 20 42 39.9 -3.5
LR03 Panguipulli 9.65 182 Pn 20 42 49.9 -0.5
TA02 Huaiquique 9.78 9 Pn Pn 20 42 47.5 -4.6
PB08 IPOC Station P 10.08 14 Pn 20 42 53.4 -3.3
PB11 IPOC Station P 10.35 11 Pn Pn 20 42 56.5 -3.6
PSGCX Pisagua 10.44 9 Pn 20 42 57.2 -4.1
PSGCX Pisagua 10.44 9 *i* P Pn 20 42 58.0 -3.3
PLCA Paso Flores 10.79 175 Pn Pn 20 43 06.6 +0.6
comp=N,1.0nm,0.3s,baz=339,slow=12,SNR=28
PLCA LR LR 20 47 15.0
comp=N,4µm,19.4s,baz=349,slow=38
PLCA Paso Flores 10.79 175 P Pn 20 43 05.4 -0.6
PLCA Paso Flores 10.79 175 Pn 20 43 05.4 -0.6
PLCA Paso Flores 10.79 175 *eP* Pn 20 43 06.8 +0.7
LL04 Puerto Octay 10.93 182 Pn 20 43 06.2 -1.7
LL03 Petrohue 11.16 182 Pn 20 43 06.0 -4.9
TRQA Tornquist 11.47 137 P Pn 20 43 15.4 +0.1
TRQA Tornquist 11.47 137 Pn 20 43 15.4 +0.1
TRQA Tornquist 11.47 137 *eP* Pn 20 43 15.7 +0.4
LL05 Los Muermos 11.49 186 Pn Pn 20 43 15.3 -0.2
LL01 San Ignacio de 12.39 182 Pn Pn 20 43 24.7 -3.1
LPA La Plata 12.72 116 *eP* Pn 20 43 32.9 +0.5
LPA pPP 20 43 44.0
LPA PP **PbPb** **20 44 11.1 -2.6**
LPA PPP PPP 20 44 21.6
LPA S **Sn** **20 45 51.9 -2.2**
LPA SS **SnSn** **20 46 09.2 +2.9**
LPA SSS SSS 20 46 22.7
LPA PCP **PcP** **20 49 03.5 -5.7**
LL02 Futaleuf 13.20 180 Pn Pn 20 43 38.5 -0.3
ITQB Itaqui 13.20 92 Pn 20 43 37.0 -1.9
ITQB Itaqui 13.20 92 *eP* Pn 20 43 37.3 -1.7
CPUP Villa Florida 13.29 78 Pn Pn 20 43 38.5 -1.7
comp=N,0.4nm,0.3s,baz=259,slow=12,SNR=18
CPUP LR LR 20 49 08.4
comp=N,6µm,19.2s,baz=268,slow=40
CPUP Villa Florida 13.29 78 P Pn 20 43 38.3 -1.9
CPUP Villa Florida 13.29 78 Pn 20 43 38.3 -1.9
CPUP Villa Florida 13.29 78 *eP* Pn 20 43 38.3 -1.9
LPAZ La Paz 14.03 15 Pn Pn 20 43 48.8 -2.2
comp=N,1.3nm,0.3s,baz=188,slow=7.2,SNR=9.3
LPAZ LR LR 20 49 31.0
comp=N,3µm,18.2s,baz=190,slow=39
LPAZ La Paz 14.03 15 P Pn 20 43 48.3 -2.6
LPAZ La Paz 14.03 15 Pn Pn 20 43 48.3 -2.6
LPAZ La Paz 14.03 15⇑ *eP* Pn 20 43 53.8 +2.9
LPAZ eS **S** 20 46 46.4 -2.6
LPAZ La Paz 14.03 15 *eP* Pn 20 43 49.4 -1.6
PLTB Pedras Altas 15.70 101 P Pn 20 44 09.9 -3.4
PLTB Pedras Altas 15.75 101 *eP* Pn 20 44 10.9 -2.5
CPSB Cacapava Do Su 15.90 96 *eP* Pn 20 44 14.5 -0.9
SIV San Ignacio 17.06 38 Pn Pn 20 44 28.5 -1.6
comp=N,0.5nm,0.3s,baz=240,slow=9.8,SNR=24
SIV LR LR 20 52 13.8
comp=N,5µm,21.1s,baz=216,slow=42
AQDB Aquidauana 17.36 61 P Pn 20 44 30.7 -3.3
AQDB Aquidauana 17.36 61 *eP* Pn 20 44 32.3 -1.7
CNLB Canela 18.24 93 *eP* Pn 20 44 44.3 -0.5

PTGB Pitanga 18.31 78 *eP* Pn 20 44 44.8 -0.9
NNA Nana 18.49 344 P Pn 20 44 49.6 +1.7
comp=N,0.9nm,0.3s,baz=198,slow=12,SNR=1.7
NNA LR LR 20 50 30.7
comp=N,1µm,18.6s,baz=166,slow=32
NNA Nana 18.49 344 P P 20 44 43.9 -3.9
PTLB Pontes e Lacer 18.57 42 *eP* Pn 20 44 49.0 +0.2
TRCB Terra Rica 18.60 72 P P 20 44 48.5 -0.5
TRCB Terra Rica 18.60 72 *eP* P 20 44 48.2 -0.8
PP18 Ponte de Pedra 19.77 55 *eP* P 20 45 01.6 -0.2
TER01 Tubaro-SC 19.85 91 *eP* P 20 45 03.1 +0.5
VILB Vilhena 20.07 35 *eP* P 20 45 05.3 +0.2
PCMB Pacaembu 20.28 71 *eP* P 20 45 07.3 0.0
SALV Santo Antonio 20.38 50 *eP* P 20 45 08.3 -0.1
ETMB Extrema 20.72 16 *eP* Pn 20 45 13.4 -1.1
TIJ01 Guaruva-PR 20.73 83 *eP* P 20 45 10.0 -2.3
FRTB Fartura 20.94 77 *eP* P 20 45 14.2 -0.3
ITRB Iturama 21.96 67 *eP* P 20 45 24.1 -1.4
CZSB Cruzeiro do Su 22.14 358 *eP* P 20 45 29.4 +2.0
SAML Samuel 22.42 23 P P 20 45 29.8 -0.6
SAML pmax pmax
comp=Z,108nm,1.0s
SAML MLR MLR
comp=Z,2µm,20.0s
SAML Samuel 22.42 23 P P 20 45 29.8 -0.6
SAML IAmb IAmb 20 45 33.7
comp=Z,108nm,1.0s
SAML Samuel 22.42 23⇑ *eP* P 20 45 30.2 -0.2
SAML Samuel 22.42 23 *eP* P 20 45 30.7 +0.3
PET01 Itanhaem-SP 22.55 81 *eP* P 20 45 31.9 +0.1
SPB Sao Paulo 22.66 80 IAMs_20 IAMs_20 20 54 46.4
comp=Z,4µm,20.0s
SPB Sao Paulo 22.66 80 *eP* P 20 45 31.5 -1.5
BB19B Bebedouro 22.78 73 *eP* P 20 45 29.3 -5.0
RCLB Rio Claro- Sao 23.03 77 *eP* P 20 45 35.4 -1.5
VAO Valinhos 23.28 79 *eP* P 20 45 37.8 -1.7
EFI East Falkland 23.98 159 *i* P P 20 45 46.7 +0.8
EFI pmax pmax
comp=Z,71nm,1.0s
CLDB Colider 24.16 41 *eP* P 20 45 47.1 -0.9
PARB Paraibuna 24.30 80 *eP* P 20 45 48.7 -0.6
IPMB Ipameri, GO 24.60 66 *eP* P 20 45 50.4 -1.6
TBTG Tabatinga, AM 25.71 4⇑ *eP* P 20 46 02.8 +0.8
TBTG Tabatinga, AM 25.71 4 *eP* P 20 46 03.1 +1.1
BSCB Bom Sucesso 25.95 76 *eP* P 20 46 03.5 -0.8
BDFB Brasilia 26.10 62 P P 20 46 05.3 -0.4
comp=Z,63nm,0.8s,baz=234,slow=8.4,SNR=64
BDFB LR LR 20 57 21.4
comp=Z,3µm,20.6s,baz=230,slow=39
BDFB Brasilia 26.10 62 IAMs_20 IAMs_20 20 57 11.2
comp=Z,4µm,22.0s
SNDB Serra Nova Dou 26.15 51 *eP* P 20 46 05.2 -0.8
VAS01 Vassouras-RJ 26.56 80 *eP* P 20 46 10.0 +0.3
DUB01 Friburgo-RJ 27.55 80 *eP* P 20 46 17.9 -0.8
NPGB Novo Progresso 27.56 37 *eP* P 20 46 18.1 -0.7
DIAM Diamantina, MG 28.12 72 *eP* P 20 46 23.8 -0.1
PEXB Peixe 28.15 56 *eP* P 20 46 24.2 +0.2
CAM01 Campos-RJ 28.26 80 *eP* P 20 46 24.4 -0.6
MACA Manacapuru-AM 28.68 24 *eP* P 20 46 28.9 +0.3
MC01 Montes Claros 28.71 69 *eP* P 20 46 28.1 -1.0
JANB Januaria 29.33 66 *eP* P 20 46 33.7 -0.9
ALF01 Guarapari-ES 29.54 79 *eP* P 20 46 36.2 -0.1
ITTB Itaituba 29.66 34 *eP* P 20 46 36.6 -0.8
SJMB Sao Joao De Ma 29.99 75 *eP* P 20 46 40.0 -0.4
PTLC Puerto Leguiza 30.11 354⇑ *eP* P 20 46 40.2 -1.2
RIB01 Linhares ES 30.38 77 *eP* P 20 46 43.9 +0.1
SDBA SAO DESIDERIO 30.46 61 *eP* P 20 46 44.3 +0.3
OTAV Otavalo 30.70 347 P P 20 46 46.2 -0.9
OTAV pmax pmax
comp=Z,19nm,1.2s
OTAV Otavalo 30.70 347 P P 20 46 46.2 -0.9
OTAV Otavalo 30.70 347 *eP* P 20 46 50.4 +3.3
OTAV Otavalo 30.70 347 *eP* P 20 46 51.2 +4.2
PAC1 Pacto, Paraso 30.79 346 *eP* P 20 46 49.2 +1.6
SMTB Santa Maria do 30.91 52 *eP* P 20 46 49.1 +0.6
PRPB Parauapebas 31.46 46 *eP* P 20 46 52.2 -1.1
FLOC Florencia 31.59 353 P P 20 46 53.5 -1.0
FLOC Florencia 31.59 353⇓ *eP* P 20 46 56.5 +2.1
MACC Macarena, Meta 31.99 356⇓ *eP* P 20 46 59.0 +1.0
GUA01 Guaratinga, BA 32.16 73 *eP* P 20 46 59.1 -0.4
BBAC Balboa, Cauca 32.23 350⇓ *eP* P 20 47 02.2 +1.9
SOTA Rioblanco 32.25 351⇓ *eP* P 20 47 04.3 +3.5
GUVC San Jose del G 32.34 358 *eP* P 20 47 02.5 +1.5
PCON Cinco Dias 32.41 351⇓ *eP* P 20 47 05.9 +3.6
MALB Monte Alegre 32.56 34 *eP* P 20 47 01.1 -1.8
POPC Popayan, Colom 32.66 351⇓ *eP* P 20 47 06.9 +2.8
MARP Paez Belalcaza 32.87 352 *eP* P 20 47 08.1 +2.1
CMC01 Camacan, BA 33.03 71 *eP* P 20 47 07.0 -0.1
NBIT Itapeh - BA 33.32 70 *eP* P 20 47 10.0 +0.3
PRAC Prado 33.62 354⇓ *eP* P 20 47 15.3 +3.1
ORTC Ortega, Tolima 33.84 354⇓ *eP* P 20 47 17.3 +3.1
GDU01 Guandu, BA 33.86 69 *eP* P 20 47 13.6 -0.9
VILC Villavicencio, 33.93 357 *eP* P 20 47 19.4 +2.7
BOAV Boa Vista 33.95 21 *eP* P 20 47 15.7 +0.6
PTGC Puerto Gaitan, 33.98 359⇓ *eP* P 20 47 16.5 +1.2
PAYG Puerto Ayora 34.02 326 IAMs_20 IAMs_20 20 58 22.0
comp=Z,1µm,18.0s
YOTC Yotoco, Valle 34.04 352 *eP* P 20 47 18.4 +2.5
CHIC Chinigaza 34.45 357⇓ *eP* P 20 47 22.0 +2.1
ROSC El Rosal 34.69 356 P P 20 47 24.1 +2.2
comp=Z,12nm,0.5s,baz=338,slow=17,SNR=8.9
ROSC LR LR 21 02 22.3
comp=Z,565nm,20.7s,baz=212,slow=38
ROSC El Rosal 34.69 356 P P 20 47 16.7 -5.3
ROSC pmax pmax
comp=Z,41nm,1.1s
ROSC MLR MLR
comp=Z,600nm,21.0s
ROSC El Rosal 34.69 356 P P 20 47 16.7 -5.3
ROSC IAmb IAmb 20 47 28.6
comp=Z,41nm,1.1s
ROSC El Rosal 34.69 356 *eP* P 20 47 25.5 +3.6
MCPB Macapa, AP 34.94 36 *eP* P 20 47 23.6 -0.1
NBPN Ponto Novo - B 35.04 64 *eP* P 20 47 24.0 -0.6
GUY2C Guyana, Caldas 35.16 354⇓ *eP* P 20 47 28.6 +2.5
PMSA Palmer Station 35.16 174 P P 20 47 26.6 +1.6
comp=Z,24nm,0.8s,baz=1.3,slow=7.3,SNR=26
PMSA Palmer Station 35.16 174 P P 20 47 26.0 +0.9
PMSA Palmer Station 35.16 174 IAMs_20 IAMs_20 21 01 33.0
comp=Z,2µm,19.0s
PMSA Palmer Station 35.16 174 *eP* P 20 47 27.0 +1.9
NORC Norcasia 35.45 355⇓ *eP* P 20 47 29.4 +1.2
SPBC San Pablo de B 35.48 356 *eP* P 20 47 28.8 +0.3
TMAB Tom-Au,PA,Br 35.50 44 *eP* P 20 47 28.9 +0.3
RUSC La Rusia 35.68 358 P P 20 47 31.8 +1.2
RUSC La Rusia 35.68 358⇓ *eP* P 20 47 32.9 +2.3
CBOC Ciudad Bolivar 35.85 353 *eP* P 20 47 34.5 +2.7
HELC Santa Helena 36.13 354⇓ *eP* P 20 47 36.1 +1.8
TAMC Tame, Arauca 36.20 0⇓ *eP* P 20 47 35.6 +1.1
BARC Barichara 36.37 358 *eP* P 20 47 35.7 -0.5
PTBC PUERTO BERRIO, 36.39 356⇓ *eP* P 20 47 36.3 +0.2
ELOV Elorza 36.83 4⇓ *eP* P 20 47 40.2 +0.4
NBLA Lagarto - SE 36.85 66 *eP* P 20 47 39.1 -1.0
BRRC Barranca, Sant 36.91 357 *eP* P 20 47 40.1 -0.4
DBBC Dabeiba 37.01 353⇓ *eP* P 20 47 44.6 +3.0
PAMC Pamplona, Colo 37.10 359 *eP* P 20 47 42.5 -0.2
ZARC Zaragoza, Cauc 37.36 355⇓ *eP* P 20 47 45.4 +1.0
ROSB Rosrio 37.60 50 *eP* P 20 47 46.0 -0.5
UREC San Jos de Ur 37.67 354⇓ *eP* P 20 47 48.4 +1.4
NBMA Muriti-CE 38.31 61 *eP* P 20 47 52.5 0.0
NBPS Pedro II - PI 38.35 54 *eP* P 20 47 52.5 -0.4
SMLC San Martn de 38.61 356⇓ *eP* P 20 47 54.4 -0.5
SDV Santo Domingo 38.65 2 P P 20 47 55.7 +0.3
comp=Z,33nm,0.9s,baz=173,slow=9.7,SNR=22
SDV Santo Domingo 38.65 2 P P 20 47 55.5 0.0
SDV Santo Domingo 38.65 2 IAMs_20 IAMs_20 21 05 02.4
comp=Z,947nm,18.0s
SDV Santo Domingo 38.65 2⇑ *eP* P 20 47 55.2 -0.3
SDV Santo Domingo 38.65 2 *eP* P 20 47 55.9 +0.4
NBAN Anadia - AL 38.83 66 *eP* P 20 47 56.0 -0.9
NBPB Pedra_Branca-C 38.90 58 *eP* P 20 47 57.7 +0.2
MDP Montagnes des 39.42 31 P P 20 48 01.8 0.0
comp=Z,48nm,0.8s,baz=197,slow=9.7,SNR=20
ARGC Ariguani, Magd 39.66 356 *eP* P 20 48 02.0 -1.8
SJCC San Jacinto, C 39.77 355 P P 20 48 06.0 +1.3
SJCC San Jacinto, C 39.77 355⇓ *eP* P 20 48 05.5 +0.8
RIOS Rincon, Osa 40.06 342 P P 20 48 04.3 -2.8
NBMO Morrinhos-CE 40.10 55 *eP* P 20 48 07.5 +0.1
NBRF Rio Formoso - 40.32 66 *eP* P 20 48 09.9 +0.6
PLCV Puerto La Cruz 40.50 11 P P 20 48 11.4 +0.7
PCRV Puerto La Cruz 40.51 11 P P 20 48 11.4 +0.6
comp=Z,27nm,0.9s,baz=174,slow=5.7,SNR=9.6

SRBA San Rafael, Bu 40.52 342 P P 20 48 11.1 +0.1
NBPA Parau_RN 40.60 61 *eP* P 20 48 11.6 0.0
NBCL Cascavel-CE 40.73 58 *eP* P 20 48 13.0 +0.3
URIC Uribia, Colomb 41.43 360 P P 20 48 15.9 -2.4
URIC Uribia, Colomb 41.43 360 *eP* P 20 48 18.0 -0.3
RCBR Riachuelo 41.47 62 P P 20 48 18.9 +0.1
RCBR pmax pmax
comp=Z,41nm,1.0s
RCBR MLR MLR
comp=Z,1µm,19.0s
RCBR Riachuelo 41.47 62 P P 20 48 18.9 +0.1
RCBR Riachuelo 41.47 62 IAMs_20 IAMs_20 21 05 32.7
comp=Z,1µm,19.0s
RCBR Riachuelo 41.47 62 *eP* P 20 48 19.4 +0.6
NBPV Pedro Velho 41.57 63 *eP* P 20 48 19.9 +0.3
JTS Las Juntas de 41.98 340 P P 20 48 25.0 +2.2
comp=Z,8.4nm,0.8s,baz=72,slow=3.8,SNR=5.0
JTS LR LR 21 03 43.6
comp=Z,174nm,19.5s,baz=237,slow=33
JTS Las Juntas de 41.98 340 *i* P P 20 48 22.3 -0.6
JTS pmax pmax
comp=Z,13nm,1.0s
JTS Las Juntas de 41.98 340 *eP* P 20 48 22.8 -0.1
TOSP Speyside 42.44 17 P P 20 48 26.6 0.0
TOSP IAmb IAmb 20 48 37.9
comp=Z,65nm,0.8s
GRGR Grenville 42.99 15 IAMs_20 IAMs_20 21 07 41.8
comp=Z,758nm,19.0s
MCLT Moule a Chique 44.67 15 P P 20 48 44.0 -0.6
MPOM Morne Pois Mar 45.40 15 P P 20 48 49.3 -1.0
BIM Bigot 45.42 15 P P 20 48 48.5 -2.1
SVN Savane Anatole 45.72 14 IAMs_20 IAMs_20 21 11 32.2
comp=Z,760nm,20.0s
TGUH Tegucigalpa,Un 46.23 339 P P 20 48 56.2 -0.9
TGUH Tegucigalpa,Un 46.23 339 *eP* P 20 48 53.8 -3.3
MTO3 Montecristo 47.24 337 P P 20 49 02.9 -2.2
ICMP Isla Caja de M 47.85 7 P P 20 49 10.0 +0.5
MLPR Magueyes Islan 47.88 6 P P 20 49 09.7 -0.1
MLPR P 20 49 09.8 +0.1
CRPR Cabo Rojo, PR 47.91 6 P P 20 49 09.9 -0.1
SEUS St. Eustatius 47.95 11 P P 20 49 09.5 -0.8
OBIP Obispado Ponce 48.00 7 P P 20 49 08.9 -1.8
PDPR Patillas Dam, 48.03 7 P P 20 49 09.8 -1.2
BANI BANI 48.10 2 P P 20 49 10.8 -0.8
SJG San Juan 48.11 7 P P 20 49 10.6 -0.9
comp=Z,63nm,0.9s,baz=222,slow=3.0,SNR=22
SJG San Juan 48.11 7 P P 20 49 10.8 -0.8
SJG pmax pmax
comp=Z,76nm,1.0s
SJG San Juan 48.11 7 P P 20 49 10.8 -0.8
SJG San Juan 48.11 7⇑ *eP* P 20 49 11.1 -0.5
MTP Monte Pirata 48.17 8 P P 20 49 10.7 -1.3
MTP IAmb IAmb 20 49 12.4
comp=Z,47nm,1.2s
HUMP Col San Antoni 48.18 8 P P 20 49 11.0 -1.0
HUMP IAmb IAmb 20 49 12.8
comp=Z,51nm,1.2s
SDD Santo Domingo 48.18 2 P P 20 49 13.1 +1.0
AOPR Arecibo Observ 48.28 6 P P 20 49 11.3 -1.6
CBYP Canovanas 48.30 8 P P 20 49 12.1 -1.0
GCPR Guaynabo City 48.31 7 P P 20 49 11.5 -1.6
GCPR IAmb IAmb 20 49 13.9
comp=Z,46nm,0.8s
ANWB Willy Bob 48.34 13 P P 20 49 11.4 -1.9
CUPR Culebra, Puert 48.41 8 P P 20 49 13.5 -0.3
EMPR Esperanza - Ma 48.43 7 P P 20 49 13.8 -0.2
SMRT St. Maarten 48.48 11 P P 20 49 12.7 -1.7
SMRT IAmb IAmb 20 49 13.9
comp=Z,54nm,0.9s
SMRT IAMs_20 IAMs_20 21 13 13.2
comp=Z,687nm,19.0s
DR12 Loma Pena Alta 48.53 3 P P 20 49 14.4 -0.5
SDDR Presa de Saban 48.67 1 IAMs_20 IAMs_20 21 11 28.0
comp=Z,693nm,19.0s
SC01 Santiago de lo 49.12 1 P P 20 49 20.2 +0.9
GTBY Guantanamo Bay 49.71 356 P P 20 49 22.0 -1.8
GTBY IAmb IAmb 20 49 25.9
comp=Z,46nm,0.9s
GTBY Guantanamo Bay 49.71 356 *eP* P 20 49 20.5 -3.3
CCIG Comitan 49.98 334 P P 20 49 24.4 -1.7
CMIG Matias Romero 51.80 332 P P 20 49 41.7 +2.0
comp=Z,12nm,0.9s,baz=131,slow=4.4,SNR=17
CMIG LR LR 21 06 38.2
comp=Z,272nm,20.4s,baz=167,slow=30
VNA3 Neumayer Olymp 53.03 159 P P 20 49 48.6 +0.4
VNA1 Neumayer--Stat 53.32 158 P P 20 49 51.1 +0.8
VNA2 Neumayer--Watz 53.66 158 P P 20 49 53.3 +0.4
baz=286,slow=8.4
TLIG Tlapa 53.83 328 P P 20 49 57.3 +2.5
SNAA Sanae 55.25 159 P P 20 50 04.7 +0.2
SNAA Sanae 55.25 159 P P 20 50 04.8 +0.2
comp=Z,76nm,0.8s,baz=279,slow=7.0,SNR=421
SNAA Sanae 55.25 159 *ceP* P 20 50 04.7 +0.2
SNAA pmax pmax
comp=Z,74nm,0.9s
SNAA Sanae 55.25 159 P P 20 50 04.3 -0.2
SNAA IAMs_20 IAMs_20 21 11 36.2
comp=Z,616nm,21.0s
UNM Universidad Na 55.65 328 IAMs_20 IAMs_20 21 09 16.2
comp=Z,764nm,20.0s
RKT Rikitea 56.30 261 *eT* T 21 51 06.4
comp=Z,13nm,0.3s
QSPA South Pole Qui 60.26 180 P P 20 50 40.1 +0.3
QSPA IAmb IAmb 20 50 57.4
comp=Z,40nm,1.1s
TIGA Tifton 62.09 349 P P 20 50 52.6 +0.3
baz=169
352A Blakely 62.37 347 P 20 50 54.0 -0.2
BRAL Brewton 62.50 345 P P 20 50 53.2 -1.9
BRAL Brewton 62.50 345 P P 20 50 56.2 +1.1
baz=165
154A Montrose 63.15 349 P P 20 50 59.9 +0.4
NHSC New Hope 63.23 352 P P 20 51 01.4 +1.5
baz=172
152A Waverly Hall 63.48 348 P P 20 51 01.4 -0.3
152A IAmb IAmb 20 51 03.2
comp=Z,32nm,0.9s
735A Kenedy 63.54 335 P P 20 51 01.1 -0.9
833A Chaparral WMA, 63.67 333 P P 20 51 05.2 +2.2
baz=154,SNR=15
344A Westbrook Farm 63.67 342 P P 20 51 01.4 -1.5
HKT Hockley 63.83 337 *i* P P 20 51 03.7 -0.2
HKT pmax pmax
comp=Z,14nm,1.0s
HKT Hockley 63.83 337 P P 20 51 02.0 -1.9
GOGA Godfrey 63.99 349 P P 20 51 05.0 0.0
GOGA pmax pmax
comp=Z,10.0nm,0.9s
GOGA Godfrey 63.99 349 P P 20 51 05.0 0.0
GOGA Godfrey 63.99 349 P P 20 51 05.6 +0.7
baz=169
342A Flagon Creek P 64.04 341 P P 20 51 05.2 -0.1
Y57A Sumter 64.15 352 P 20 51 05.7 -0.3
Z51A Franklin 64.20 348 P P 20 51 06.3 -0.1
Z51A IAmb IAmb 20 51 08.1
comp=Z,22nm,0.9s
LRAL Lakeview Retre 64.29 346 P P 20 51 07.3 +0.3
LRAL IAmb IAmb 20 51 08.7
comp=Z,18nm,0.9s
LRAL Lakeview Retre 64.29 346 P P 20 51 07.7 +0.7
baz=166
VBMS Vicksburg 64.34 342 P P 20 51 06.9 -0.4
146A Union 64.37 344 P P 20 51 06.8 -0.7
JSC Jenkinsville 64.52 351 P P 20 51 09.2 +0.8
JSC pmax pmax
comp=Z,26nm,1.0s
JSC Jenkinsville 64.52 351 P P 20 51 09.2 +0.8
JSC IAmb IAmb 20 51 10.3
comp=Z,26nm,1.0s
Y52A Lilburn 64.53 349 P P 20 51 08.4 -0.2
Y52A IAmb IAmb 20 51 10.3
comp=Z,34nm,0.9s
X58A Rowland 64.57 353 P P 20 51 08.4 -0.3
HODGE Hodges 64.61 350 P P 20 51 07.3 -1.7
Y49A Blount Mountai 64.96 347 P P 20 51 11.7 +0.3
Y49A IAmb IAmb 20 51 25.4
comp=Z,18nm,1.0s
143A Socs Landing, 65.04 342 P P 20 51 13.4 +1.6
NATX Nacogdoches 65.11 339 P P 20 51 12.9 +0.6
NATX Nacogdoches 65.11 339 P P 20 51 14.5 +2.2
baz=158
CNNC Cliffs of the 65.11 355 P P 20 51 11.6 -0.7
CNNC Cliffs of the 65.11 355 P P 20 51 13.7 +1.4
baz=174

PAULI **Pauline** 65.13 351 P P 20 51 13.3 +0.9
PAULI IAmb IAmb 20 51 13.9
comp=Z,17nm,0.9s

HPIG 65.20 327 P P 20 51 13.0 -0.3
HPIG IAmb IAmb 20 51 16.1
comp=Z,16nm,0.9s

435B Jarrell 65.20 336 P P 20 51 13.9 +1.0
435B IAmb IAmb 20 51 16.1
comp=Z,36nm,1.1s

435B Jarrell 65.20 336 P P 20 51 14.6 +1.7
baz=156

W57A Gilead 65.23 353 P P 20 51 13.2 +0.1
W57A IAmb IAmb 20 51 14.9
comp=Z,24nm,0.9s

X51A Calhoun 65.36 348 P P 20 51 14.6 +0.7
KMSC Kings Mountain 65.38 351 P P 20 51 14.4 +0.3
KMSC IAmb IAmb 20 51 16.0
comp=Z,27nm,1.0s

KMSC Kings Mountain 65.38 351 P P 20 51 14.5 +0.5
baz=171,SNR=5.9

BG3 Lake Jocassee 65.46 350 P P 20 51 13.2 -1.4
BG3 IAmb IAmb 20 51 16.7
comp=Z,31nm,1.0s

FPAL Fort Paine 65.47 348 P P 20 51 14.5 -0.2
FPAL IAmb IAmb 20 51 16.4
comp=Z,38nm,1.0s

Y45A Yeager Farm, C 65.66 344 P P 20 51 17.6 +1.7
X48A Hartselle 65.67 346 P P 20 51 16.1 +0.2
237A Washetta, Mont 65.70 338 P P 20 51 17.7 +1.5
W52A Murphy 65.71 349 P P 20 51 16.9 +0.7
W52A IAmb IAmb 20 51 18.4
comp=Z,37nm,1.0s

JCT Junction City 65.75 334 P P 20 51 17.9 +1.3
JCT pmax pmax
comp=Z,45nm,1.0s

JCT Junction City 65.75 334 P P 20 51 17.9 +1.3
JCT IAmb IAmb 20 51 19.7
comp=Z,45nm,1.0s

JCT Junction City 65.75 334 P P 20 51 18.7 +2.1
baz=154

V58A Windy Hill, Pi 65.77 354 P P 20 51 17.3 +0.8
V58A IAmb IAmb 20 51 18.5
comp=Z,26nm,0.9s

Z41A Richland Creek 65.95 341 P P 20 51 19.6 +1.9
baz=160

W50A Signal Mountai 66.06 348 P P 20 51 19.1 +0.6
V55A Taylorsville 66.06 352 P P 20 51 18.3 -0.1
V55A IAmb IAmb 20 51 20.6
comp=Z,37nm,1.0s

V53A Saluda 66.10 350 P P 20 51 19.1 +0.4
V53A IAmb IAmb 20 51 20.7
comp=Z,28nm,0.9s

CPCT Cooper Cave 66.16 349 P P 20 51 18.5 -0.6
SWET Sewanee 66.19 347 P P 20 51 19.2 -0.1
U59A Littleton 66.21 355 P P 20 51 18.8 -0.6
U59A IAmb IAmb 20 51 21.9
comp=Z,45nm,1.0s

TKL Tuckaleechee C 66.24 349 P P 20 51 19.3 -0.3
TKL pmax pmax
comp=Z,39nm,0.9s

TKL Tuckaleechee C 66.24 349 P P 20 51 19.3 -0.3
TKL IAmb IAmb 20 51 21.3
comp=Z,38nm,0.9s

OXF Oxford 66.25 344 P P 20 51 20.6 +1.0
OXF pmax pmax
comp=Z,134nm,0.9s

OXF Oxford 66.25 344 P P 20 51 20.6 +1.0
OXF Oxford 66.25 344 P P 20 51 20.3 +0.6
baz=164

WHTX Lake Whitney, 66.25 336 P P 20 51 19.4 -0.3
WHTX Lake Whitney, 66.25 336 P P 20 51 21.5 +1.8
baz=156,SNR=6.5

CCAR Cane Creek 66.28 342 P P 20 51 20.4 +0.6
TX32 Lajitas Array 66.33 330 P P 20 51 21.4 +0.9
TXAR Lajitas Array 66.33 330 P P 20 51 22.4 +2.0
comp=Z,12nm,0.8s,baz=150,slow=8.1,SNR=97
TXAR LR LR 21 16 19.6
comp=Z,337nm,18.2s,baz=0.0,slow=32
TXAR PKP2bc 21 19 56.2
comp=Z,0.5nm,0.8s,baz=340,slow=6.6,SNR=3.5

TXAR Lajitas Array 66.33 330 P P 20 51 21.9 +1.5
TXAR Lajitas Array 66.33 330 P P 20 51 21.9 +1.5
TX31 Lajitas Ar. Si 66.33 330 P P 20 51 22.3 +1.9
TX31 IAmb IAmb 20 51 23.6
comp=Z,38nm,0.9s

V52A Sevierville 66.39 350 P P 20 51 20.7 +0.1
PLAL Pickwick Lake 66.40 345 P P 20 51 20.0 -0.6
PLAL IAmb IAmb 20 51 22.3
comp=Z,38nm,0.9s

WLAR White Oak Lake 66.44 341 P P 20 51 19.6 -1.3
U56A King 66.45 352 P P 20 51 20.8 -0.2
U56A IAmb IAmb 20 51 23.2
comp=Z,31nm,0.9s

V51A Loudon 66.48 349 P P 20 51 21.9 +0.8
V51A IAmb IAmb 20 51 23.8
comp=Z,38nm,0.9s

Z38A Mt. Pleasant 66.60 339 P P 20 51 20.2 -1.7
Z38A IAmb IAmb 20 51 25.0
comp=Z,36nm,0.8s

U54A Nelsons Funny 66.80 351 P P 20 51 23.3 0.0
T59A Double "B" Far 66.81 355 P P 20 51 23.1 0.0
W45A Hickory Valley 66.81 345 P P 20 51 22.2 -1.1
V48A Smith Brothers 66.87 347 P P 20 51 23.9 +0.3
TAOE Nuku Hiva Isla 66.88 273 *e*LR LR 21 11 29.0
comp=Z,356nm,27.4s

T57A Hurt 66.98 354 P P 20 51 24.7 +0.5
SBA Scott Base 67.05 191 P P 20 51 25.8 +1.5
SBA pmax pmax
comp=Z,25nm,1.4s

SBA Scott Base 67.05 191 P P 20 51 25.8 +1.5
SBA IAmb IAmb 20 51 47.0
comp=Z,24nm,1.4s

TZTN Tazewell 67.07 350 P P 20 51 24.4 -0.5
TZTN IAmb IAmb 20 51 36.5
comp=Z,37nm,1.2s

TZTN Tazewell 67.07 350 P P 20 51 25.5 +0.6
baz=169

X40A Basin Creek Fa 67.11 341 P P 20 51 25.9 +0.8
baz=160

CLTN Cedars of Leba 67.11 347 P P 20 51 25.5 +0.4
BLA Blacksburg 67.31 353 P P 20 51 25.2 -1.2
BLA pmax pmax
comp=Z,19nm,1.0s

BLA Blacksburg 67.31 353 P P 20 51 25.2 -1.2
BLA IAmb IAmb 20 51 28.1
comp=Z,19nm,0.9s

BLA Blacksburg 67.31 353 P P 20 51 27.6 +1.1
baz=172

MIAR Mount Ida 67.37 341 P P 20 51 27.3 +0.5
MIAR pmax pmax
comp=Z,26nm,1.2s

MIAR Mount Ida 67.37 341 P P 20 51 27.3 +0.5
MIAR IAmb IAmb 20 51 42.6
comp=Z,26nm,1.1s

MIAR Mount Ida 67.37 341 P P 20 51 28.1 +1.3
baz=160

Z35A Perchaven, San 67.40 337 P P 20 51 28.6 +1.6
U49A Red Boiling Sp 67.42 348 P P 20 51 27.4 +0.4
U49A IAmb IAmb 20 51 28.9
comp=Z,31nm,0.9s

WVT Waverly 67.45 346 P P 20 51 27.3 +0.1
WVT pmax pmax
comp=Z,60nm,1.0s

WVT Waverly 67.45 346 P P 20 51 27.3 +0.1
WVT Waverly 67.45 346 P P 20 51 28.1 +0.8
baz=165

JSRW J. Sargeant Re 67.55 355 P P 20 51 29.1 +1.3
W41B Gary Mavity, V 67.59 342 P P 20 51 29.4 +1.2
baz=161,SNR=7.1

ABTX Abilene, Hawle 67.61 335 P P 20 51 28.8 +0.4
ABTX Abilene, Hawle 67.61 335 P P 20 51 29.9 +1.5
baz=154,SNR=8.2

S57A Dark Hollow, R 67.71 354 P P 20 51 29.6 +0.7
S57A IAmb IAmb 20 51 31.2
comp=Z,22nm,0.8s

WHAR Wooly Hollow 67.72 342 P P 20 51 30.2 +1.3
WHAR IAmb IAmb 20 51 31.4
comp=Z,22nm,1.0s

T50A Nancy 67.75 349 P P 20 51 28.6 -0.6
T50A IAmb IAmb 20 51 30.2
comp=Z,18nm,0.9s

GNAR Gosnell 67.78 344 P P 20 51 28.9 -0.5
LNXT Lenox 67.79 345 P P 20 51 28.9 -0.5
R58B Mineral 67.82 355 P P 20 51 30.7 +1.2
R58B IAmb IAmb 20 51 32.5
comp=Z,39nm,0.9s

UTMT University of 67.88 345 P P 20 51 30.8 +0.8
PEBM Pemiscott Bayo 67.89 344 P P 20 51 29.8 -0.2
LOOK Love County 67.98 337 P P 20 51 29.8 -0.9
LOOK IAmb IAmb 20 51 33.4
comp=Z,24nm,0.8s

S54A Dingess, Beckl 68.00 352 P P 20 51 30.2 -0.6
S54A IAmb IAmb 20 51 32.4
comp=Z,25nm,0.9s

CBN Corbin Frederi 68.02 355 P P 20 51 32.1 +1.3
baz=175

W39A Magazine 68.04 341 P P 20 51 29.9 -1.1
W39A Magazine 68.04 341 P P 20 51 32.8 +1.8
baz=160,SNR=14

VNDA Vanda 68.08 191 P P 20 51 32.1 +1.3
comp=Z,2.0nm,0.9s,baz=140,slow=2.6,SNR=9.6
VNDA LR LR 21 16 17.8
comp=Z,187nm,21.4s,baz=132,slow=32
VNDA PKP2bc 21 19 48.6
comp=Z,1.3nm,1.1s,baz=267,slow=4.4,SNR=4.8

VNDA Vanda 68.08 191 P P 20 51 31.5 +0.7
VNDA pmax pmax
comp=Z,10.0nm,1.2s

VNDA Vanda 68.08 191 P P 20 51 31.5 +0.7
T47A Sharon Grove 68.13 347 P P 20 51 31.6 +0.1
HICK Hickman 68.15 345 P P 20 51 33.0 +1.3
PENMO Penman 68.15 345 P P 20 51 33.4 +1.7
LCAR Lake Charles 68.16 343 P P 20 51 32.0 +0.3
FCAR Ozark Folk Cen 68.24 342 P P 20 51 31.7 -0.5
FCAR IAmb IAmb 20 51 33.7
comp=Z,15nm,0.9s

R55A Marlinton 68.34 353 P P 20 51 34.1 +1.2
R55A IAmb IAmb 20 51 35.5
comp=Z,24nm,0.9s

HENM Henderson Moun 68.37 345 P P 20 51 33.8 +0.8
PARMO Parma 68.39 345 P P 20 51 34.6 +1.5
T45A Paducah 68.48 346 P P 20 51 34.7 +1.0
TBI Tubuai 68.49 255 *e*S S 21 00 31.0 -5.7
comp=Z,252nm,24.8s
TBI Tubuai 68.49 255 *e*LR LR 21 12 15.0
comp=Z,524nm,26.2s,baz=113
TBI Tubuai 68.49 255 *e*T T 22 06 16.8
comp=Z,14nm,0.3s

Q61A Milford 68.57 357 P P 20 51 36.6 +2.4
baz=177

PBMO Poplar Bluff 68.66 344 P P 20 51 35.4 +0.6
X34A Smith Ranch, M 68.75 337 P P 20 51 36.8 +1.3
U40A Yellville 68.87 342 P P 20 51 37.0 +0.8
U40A IAmb IAmb 20 51 38.5
comp=Z,42nm,1.1s

U40A Yellville 68.87 342 P P 20 51 37.3 +1.1
baz=161,SNR=12

R50A Paris 68.89 349 P P 20 51 36.7 +0.4
R50A IAmb IAmb 20 51 38.0
comp=Z,17nm,0.8s

Q56A Snyder Ridge, 69.00 354 P P 20 51 38.5 +1.6
Q56A IAmb IAmb 20 51 39.9
comp=Z,24nm,1.0s

R49A Shelbyville 69.04 349 P P 20 51 37.5 +0.3
R49A IAmb IAmb 20 51 39.9
comp=Z,20nm,0.9s

HHAR Hobbs 69.10 341 P P 20 51 38.2 +0.5
Q54A Coxs Mills 69.11 352 P P 20 51 38.2 +0.6
Q54A IAmb IAmb 20 51 39.0
comp=Z,16nm,0.9s

MNTX Cornudas Mount 69.12 330 P P 20 51 38.1 +0.3
MNTX IAmb IAmb 20 51 40.3
comp=Z,17nm,0.8s
MNTX IAMs_20 IAMs_20 21 18 06.9
comp=Z,490nm,18.0s

MNTX Cornudas Mount 69.12 330 P P 20 51 38.9 +1.0
baz=149

WCI Wyandotte Cave 69.18 348 P P 20 51 38.2 +0.1
WCI pmax pmax
comp=Z,29nm,0.9s

WCI Wyandotte Cave 69.18 348 P P 20 51 38.2 +0.1
WCI IAmb IAmb 20 51 39.5
comp=Z,29nm,0.9s

WCI Wyandotte Cave 69.18 348 P P 20 51 38.5 +0.4
baz=167

WMOK Wichita Mounta 69.20 336 P P 20 51 37.3 -1.1
WMOK pmax pmax
comp=Z,14nm,1.0s

WMOK Wichita Mounta 69.20 336 P P 20 51 37.2 -1.1
WMOK Wichita Mounta 69.20 336 P P 20 51 39.2 +0.8
baz=155

S44A Carbondale 69.26 345 P P 20 51 38.9 +0.4
Q52A Bidwell 69.27 351 P P 20 51 39.3 +0.7
Q52A IAmb IAmb 20 51 40.9
comp=Z,41nm,0.9s

SIUC Southern Illin 69.27 345 P P 20 51 39.3 +0.6
TUL1 Leonard 69.30 339 P P 20 51 40.0 +1.1
baz=158,SNR=11

P57A Homestead Farm 69.34 355 P P 20 51 40.9 +1.9
P57A IAmb IAmb 20 51 42.2
comp=Z,32nm,0.9s

U38A Gravette 69.38 341 P P 20 51 39.6 +0.3
U38A IAmb IAmb 20 51 41.5
comp=Z,20nm,0.9s

MGMO Mountain Grove 69.47 343 P P 20 51 40.9 +0.9
MGMO IAmb IAmb 20 51 42.2
comp=Z,28nm,1.0s

Q51A Peebles 69.48 350 P P 20 51 38.8 -1.1
Q51A IAmb IAmb 20 51 42.2
comp=Z,41nm,0.9s

OK025 Westminster Rd 69.49 338 P P 20 51 38.3 -1.7
P60A Greenville 69.52 357 P P 20 51 39.0 -1.1
P60A Greenville 69.52 357 P P 20 51 41.9 +1.8
baz=177

HSIG 69.53 324 P P 20 51 39.7 -0.8
SYO Syowa Base 69.55 159 *e*P P 20 51 39.6 -0.4
WUPA West Chester U 69.63 357 P P 20 51 40.1 -0.7
WUPA IAmb IAmb 20 51 43.8
comp=Z,18nm,0.9s

BCOK Bluff Creek, N 69.64 338 P P 20 51 40.0 -1.0
BCOK IAmb IAmb 20 51 43.1
comp=Z,38nm,0.8s

OK031 S. Brethren Rd 69.67 339 P P 20 51 40.8 -0.3
P53A Whipple 69.67 352 P P 20 51 40.3 -0.8
P53A IAmb IAmb 20 51 43.1
comp=Z,31nm,1.1s

MCWV Mont Chateau 69.67 353 P P 20 51 40.5 -0.6
MCWV IAmb IAmb 20 51 43.4
comp=Z,25nm,0.8s

MCWV Mont Chateau 69.67 353 P P 20 51 42.3 +1.2
baz=173

EPT El Paso 69.68 329 IAMs_20 IAMs_20 21 17 53.8
comp=Z,555nm,20.0s

OK029 Liberty Lake 69.72 338 P P 20 51 41.6 +0.1
MVL Millersville 69.74 356 P P 20 51 40.2 -1.2
MVL IAmb IAmb 20 51 59.5
comp=Z,28nm,1.0s

FVM French Village 69.80 344 P P 20 51 42.3 +0.4
FVM pmax pmax
comp=Z,65nm,0.9s

FVM French Village 69.80 344 P P 20 51 42.3 +0.4
QUOK Quay 69.83 339 P P 20 51 43.1 +1.0
QUOK IAmb IAmb 20 51 44.5
comp=Z,36nm,0.9s

P51A Williamsport 69.88 351 P P 20 51 42.5 +0.1
P51A IAmb IAmb 20 51 44.0
comp=Z,42nm,0.8s

P52A Corning 69.91 352 P P 20 51 42.9 +0.4
P52A IAmb IAmb 20 51 44.2
comp=Z,44nm,0.9s

P52A Corning 69.91 352 P P 20 51 43.0 +0.4
baz=171,SNR=7.3

PAGS Pennsylvania G 69.99 356 P P 20 51 44.3 +1.3
PAGS IAmb IAmb 20 51 46.6
comp=Z,27nm,1.0s

MSTX Muleshoe 70.00 333 P P 20 51 44.5 +1.1
MSTX IAmb IAmb 20 51 45.9
comp=Z,51nm,0.9s

MSTX Muleshoe 70.00 333 P P 20 51 44.7 +1.4
baz=152,SNR=25

OLIL Olney 70.02 347 P P 20 51 43.4 +0.2
CCM Cathedral Cave 70.07 344 P P 20 51 44.4 +0.9
CCM pmax pmax
comp=Z,73nm,1.0s

CCM Cathedral Cave 70.07 344 P P 20 51 44.4 +0.9
CCM Cathedral Cave 70.07 344 P P 20 51 44.7 +1.2
baz=162

BLO Bloomington 70.14 348 P P 20 51 43.9 -0.1
BLO pmax pmax
comp=Z,31nm,0.8s

BLO Bloomington 70.14 348 P P 20 51 43.9 -0.1
BLO IAmb IAmb 20 51 45.7
comp=Z,31nm,0.8s

O56A Blue Knob Stat 70.16 355 P P 20 51 44.4 +0.2
O56A Blue Knob Stat 70.16 355 P P 20 51 45.8 +1.6
baz=174,SNR=5.9

P49A Miami Univ. Ec 70.18 349 P P 20 51 44.0 -0.2
P49A IAmb IAmb 20 51 45.5
comp=Z,28nm,0.9s

P49A Miami Univ. Ec 70.18 349 P P 20 51 44.4 +0.2
baz=168,SNR=5.0

P48A Milroy 70.23 349 P P 20 51 44.4 -0.1
P48A IAmb IAmb 20 51 45.8
comp=Z,39nm,0.9s

O54A Avella 70.25 353 P P 20 51 44.3 -0.3
S39A Bolivar 70.25 342 P P 20 51 43.4 -1.3
S39A IAmb IAmb 20 51 47.1
comp=Z,45nm,0.9s

LUPA Lehigh Univers 70.29 357 P P 20 51 44.6 -0.2
O52A Adamsville 70.35 352 P P 20 51 45.3 +0.1
O52A IAmb IAmb 20 51 46.4
comp=Z,20nm,0.8s

Q44A Meyer Farm, Va 70.37 346 P P 20 51 45.5 +0.2
Q44A IAmb IAmb 20 51 46.9
comp=Z,47nm,0.9s

SLM Saint Louis 70.38 345 P P 20 51 45.3 -0.1
SLM pmax pmax
comp=Z,81nm,1.0s

SLM Saint Louis 70.38 345 P P 20 51 45.3 -0.1
AMTX Amarillo 70.38 334 P P 20 51 45.6 0.0
AMTX IAmb IAmb 20 51 48.6
comp=Z,45nm,1.2s

AMTX Amarillo 70.38 334 P P 20 51 46.9 +1.2
baz=153

O53A New Philadelph 70.40 352 P P 20 51 46.4 +0.8
O53A New Philadelph 70.40 352 P P 20 51 46.3 +0.8
baz=172

T35A Sooner Cattle 70.45 339 P P 20 51 45.4 -0.5
T35A IAmb IAmb 20 51 48.7
comp=Z,42nm,1.2s

SSPA Standing Stone 70.47 355 P P 20 51 47.0 +1.0
SSPA IAmb IAmb 20 52 00.3
comp=Z,22nm,1.1s

SSPA Standing Stone 70.47 355 P P 20 51 47.4 +1.5
baz=174

BLOK Blackwell 70.53 339 P P 20 51 47.0 +0.6
BLOK IAmb IAmb 20 51 49.0
comp=Z,32nm,0.9s

R40A Maddies Statio 70.54 343 P P 20 51 47.2 +0.8
N58A Sunbury 70.60 356 P P 20 51 47.9 +1.2
N58A IAmb IAmb 20 51 49.0
comp=Z,30nm,1.2s

ACSO Alum Creek Sta 70.61 351 P P 20 51 46.9 +0.1
ACSO Alum Creek Sta 70.61 351 P P 20 51 47.4 +0.6
baz=170

N59A State Game Lan 70.62 357 P P 20 51 48.3 +1.4
N59A IAmb IAmb 20 51 50.1
comp=Z,25nm,0.9s

N59A State Game Lan 70.62 357 P P 20 51 49.0 +2.1
baz=176,SNR=12

PAL Palisades 70.64 358 P P 20 51 48.2 +1.3
baz=178

P46A Rosedale 70.70 347 P P 20 51 47.3 -0.1
ODNJ Ogdensburg 70.74 358 P P 20 51 48.5 +0.9
ODNJ IAmb IAmb 20 51 50.5
comp=Z,22nm,0.9s

O49A Covington 70.76 350 P P 20 51 47.8 +0.1
O49A IAmb IAmb 20 51 49.4
comp=Z,48nm,0.9s

U32A Winter Ranch, 70.77 337 P P 20 51 47.6 -0.3
U32A IAmb IAmb 20 51 50.5
comp=Z,33nm,1.1s

TRNY Table Rock, Ra 70.79 358 P P 20 51 49.2 +1.3
WSPT Westport, CT 70.80 359 P P 20 51 49.4 +1.5
WSPT IAmb IAmb 20 51 50.8
comp=Z,29nm,1.0s

TIAR Tiarei 70.86 260 *e*T T 22 09 24.5
comp=Z,4.7nm,0.2s

OK032 Salt Plains WL 70.89 338 P P 20 51 48.5 -0.1
OK032 IAmb IAmb 20 51 51.2
comp=Z,46nm,1.2s

121A Cookes Peak, D 70.90 328 P P 20 51 48.6 -0.4
121A IAmb IAmb 20 51 52.9
comp=Z,25nm,1.0s

121A Cookes Peak, D 70.90 328 P P 20 51 51.6 +2.6
baz=148,SNR=16

N53A Lisbon 70.91 353 P P 20 51 49.8 +1.1
N54A Moraine State 70.98 353 P P 20 51 50.0 +1.0
N54A IAmb IAmb 20 51 50.8
comp=Z,29nm,1.0s

N54A Moraine State 70.98 353 P P 20 51 50.1 +1.0
baz=173,SNR=8.4

PPT2 Papeete2 71.05 260 *e*S S 21 01 00.8 -6.2
comp=Z,347nm,27.2s
PPT2 Papeete2 71.05 260 *e*LR LR 21 13 26.4
comp=Z,725nm,23.5s,baz=115

PPT Papeete 71.05 260 LR LR 21 14 51.6
comp=Z,440nm,19.6s,baz=145,slow=29

M57A Sunshine Farm, 71.12 356 P P 20 51 51.2 +1.3
M57A IAmb IAmb 20 51 52.7
comp=Z,19nm,0.9s

P43A Skaggs, Pawnee 71.19 346 P P 20 51 50.6 +0.3
KAN08 Anthony NE Sta 71.19 338 P P 20 51 50.2 -0.3
N51A Ashland 71.20 352 P P 20 51 50.4 0.0
N51A IAmb IAmb 20 51 52.1
comp=Z,26nm,0.9s

KAN16 Harper SW Stat 71.22 338 P P 20 51 49.0 -1.6
KSPA Keystone Colle 71.26 357 P P 20 51 50.4 -0.3
KAN12 Harper NE Stat 71.27 338 P P 20 51 51.6 +0.7
KSCT Kent School, K 71.35 359 P P 20 51 52.6 +1.4
KSCT IAmb IAmb 20 51 53.6
comp=Z,22nm,1.1s

M55A Ridgway 71.37 354 P P 20 51 52.0 +0.6
M55A IAmb IAmb 20 51 53.7
comp=Z,35nm,0.9s

UCCT U. Connecticut 71.41 360 P P 20 51 50.9 -0.7
SFIN Lafayette 71.41 348 P P 20 51 51.1 -0.6
SFIN IAmb IAmb 20 51 52.9
comp=Z,20nm,0.8s

SFIN Lafayette 71.41 348 P P 20 51 51.6 -0.1
baz=166

N49A Columbus Grove 71.46 350 P P 20 51 52.3 +0.4
O44A Mansfield 71.46 347 P P 20 51 51.3 -0.6
O44A IAmb IAmb 20 51 53.3
comp=Z,46nm,1.1s

M54A Oil Creek Stat 71.49 354 P P 20 51 52.4 +0.3
M54A IAmb IAmb 20 51 54.1
comp=Z,25nm,0.9s

M54A Oil Creek Stat 71.49 354 P P 20 51 52.9 +0.8
baz=173,SNR=7.7

M53A WI Miller and 71.52 353 P P 20 51 52.3 0.0
M53A IAmb IAmb 20 51 54.3
comp=Z,40nm,0.9s

M53A WI Miller and 71.52 353 P P 20 51 53.2 +0.8
baz=172,SNR=8.3

BRYW Bryant College 71.53 0 P P 20 51 53.0 +0.6
BRYW IAmb IAmb 20 51 55.4
comp=Z,41nm,0.9s

L64A Middleborough 71.55 1 P P 20 51 53.6 +1.1
L64A IAmb IAmb 20 51 55.4
comp=Z,23nm,0.9s

L64A Middleborough 71.55 1 P P 20 51 54.0 +1.5
baz=181

N47A Urbana 71.65 349 P P 20 51 52.5 -0.6
P40A Paris 71.66 344 P P 20 51 54.0 +0.8
ALLY Alegheny Colle 71.67 353 P P 20 51 53.8 +0.6
ALLY IAmb IAmb 20 51 55.2
comp=Z,28nm,0.8s

M52A Chesterland 71.70 352 P P 20 51 52.7 -0.7
M52A IAmb IAmb 20 51 55.3
comp=Z,45nm,0.8s

BNM Barren Site 71.75 330 P P 20 51 55.4 +1.2
M50A Fremont 71.77 351 P P 20 51 53.7 -0.1
Y22D IRIS PASSCAL I 71.81 330 IAMs_20 IAMs_20 21 19 45.3
comp=Z,559nm,19.0s

L59A Walton 71.86 357 P P 20 51 55.1 +0.7
L59A IAmb IAmb 20 51 57.3
comp=Z,38nm,0.9s

QUA2 Belchertown 71.89 360 P P 20 51 55.3 +0.8
QUA2 IAmb IAmb 20 51 57.3
comp=Z,21nm,1.0s

BINY Binghamton 71.91 357 P P 20 51 55.4 +0.7
BINY Binghamton 71.91 357 P P 20 51 56.2 +1.5
baz=176

L56A Greenwood 71.94 356 P P 20 51 55.9 +1.0

L56A IAmb IAmb 20 51 57.5
comp=Z,47nm,0.9s
WES Weston 72.00 0 P **P** **20 51 54.5 -0.6**
WES pmax pmax
comp=Z,14nm,1.0s
WES Weston 72.00 0 P **P** **20 51 54.5 -0.6**
HDIL Hopedale 72.02 346 P **P** **20 51 54.7 -0.6**
HDIL IAmb IAmb 20 51 57.1
comp=Z,52nm,1.1s
HDIL Hopedale 72.02 346 P **P** **20 51 56.1 +0.8**
baz=164
L61B Northampton 72.06 359 P **P** **20 51 57.1 +1.6**
baz=179,SNR=13
HRV Adam Dziewonsk 72.12 0 P **P** **20 51 57.4 +1.5**
HRV pmax pmax
comp=Z,28nm,0.9s
HRV Adam Dziewonsk 72.12 0 P **P** **20 51 57.4 +1.5**
HRV IAmb IAmb 20 51 58.9
comp=Z,28nm,0.9s
HRV Adam Dziewonsk 72.12 0 P **P** **20 51 57.6 +1.8**
baz=180
ERPA Erie 72.12 354 P **P** **20 51 56.1 +0.2**
ERPA IAmb IAmb 20 51 57.9
comp=Z,40nm,0.9s
ERPA Erie 72.12 354 P **P** **20 51 56.8 +0.8**
baz=173
TUC Tucson 72.12 326 pP 20 51 57.9 -0.3
TUC Tucson 72.12 326 P **P** **20 51 55.7 -0.6**
TUC IAmb IAmb 20 51 59.8
comp=Z,12nm,1.1s
TUC Tucson 72.12 326 P **P** **20 51 58.3 +2.0**
baz=145
P38A Dawn 72.12 343 P **P** **20 51 56.0 0.0**
P38A IAmb IAmb 20 51 58.0
comp=Z,48nm,0.9s
K62A Royalston 72.28 360 P **P** **20 51 58.0 +1.2**
K62A IAmb IAmb 20 51 59.4
comp=Z,25nm,1.1s
K62A Royalston 72.28 360 P **P** **20 51 58.8 +2.0**
baz=180,SNR=7.8
K61A Williamstown 72.29 359 P **P** **20 51 58.5 +1.5**
baz=179,SNR=5.3
ANMO Albuquerque 72.36 331 *i* P **P** **20 51 57.2 -0.5**
ANMO pmax pmax
comp=Z,11nm,0.9s
ANMO Albuquerque 72.36 331 P **P** **20 51 59.5 +1.7**
ANMO Albuquerque 72.36 331 P **P** **20 52 00.1 +2.4**
baz=149
TRY Troy 72.36 359 P **P** **20 51 59.1 +1.8**
TRY IAmb IAmb 20 52 00.5
comp=Z,35nm,0.9s
K57A Scipio Center 72.47 356 P **P** **20 51 58.6 +0.6**
KSU1 Kansas State U 72.49 340 P **P** **20 51 58.5 +0.2**
KSU1 IAmb IAmb 20 52 00.2
comp=Z,28nm,0.9s
KSU1 Kansas State U 72.49 340 P **P** **20 51 59.1 +0.9**
baz=158
L48A N Adams 72.50 350 P **P** **20 51 58.3 +0.1**
L48A IAmb IAmb 20 51 59.7
comp=Z,40nm,0.8s
N41A Harden Midland 72.50 345 P **P** **20 51 58.3 +0.1**
R32A Long Quarter, 72.52 338 P **P** **20 51 59.7 +1.3**
R32A IAmb IAmb 20 52 01.3
comp=Z,40nm,0.9s
MMNY Mt. Morris Dam 72.56 355 P **P** **20 51 59.5 +1.0**
MMNY IAmb IAmb 20 52 00.8
comp=Z,41nm,0.9s
M44A Midewin, Midew 72.57 347 P **P** **20 51 58.4 -0.2**
M44A IAmb IAmb 20 52 00.1
comp=Z,40nm,0.9s
AAM Ann Arbor 72.73 351 P **P** **20 51 59.1 -0.4**
AAM pmax pmax
comp=Z,57nm,1.4s
AAM Ann Arbor 72.73 351 P **P** **20 51 59.1 -0.4**
AAM IAmb IAmb 20 52 00.7
comp=Z,57nm,1.4s
214A Organ Pipe Nat 72.84 324 P **P** **20 52 03.1 +2.6**
214A IAmb IAmb 20 52 04.5
comp=Z,31nm,1.0s
214A Organ Pipe Nat 72.84 324 P **P** **20 52 03.1 +2.6**
baz=144,SNR=13
L46A Eue Claire 72.86 349 P **P** **20 51 59.4 -0.9**
L46A IAmb IAmb 20 52 01.5
comp=Z,59nm,1.1s
HQIL Hanson Quary C 72.93 348 P **P** **20 51 59.7 -1.0**
J61A Chester 72.96 359 P **P** **20 52 02.7 +1.8**
baz=179,SNR=7.0
ACCN Adirondack Com 73.01 359 P **P** **20 52 02.5 +1.3**
MEDO Medina 73.03 355 P **P** **20 52 01.2 -0.1**
MEDO IAmb IAmb 20 52 02.4
comp=Z,30nm,0.9s
J56A Wolcott 73.03 356 P **P** **20 52 01.8 +0.5**
J56A IAmb IAmb 20 52 03.3
comp=Z,27nm,0.8s
J58A Remsen 73.04 357 P **P** **20 52 02.2 +0.9**
K50A Casco 73.06 352 P **P** **20 52 01.5 0.0**
FFD Franklin Falls 73.08 0 P **P** **20 52 03.6 +2.1**
FFD IAmb IAmb 20 52 04.9
comp=Z,36nm,0.9s
J55A Hilton 73.08 355 P **P** **20 52 02.3 +0.8**
J55A IAmb IAmb 20 52 03.8
comp=Z,26nm,1.0s
J59A Piesco 73.12 358 P **P** **20 52 03.1 +1.3**
J57A Williamstown 73.12 357 P **P** **20 52 02.4 +0.6**
J57A IAmb IAmb 20 52 04.1
comp=Z,27nm,0.9s
N38A Joes South For 73.15 343 P **P** **20 52 03.0 +0.9**
J54A Appleton 73.15 355 P **P** **20 52 00.3 -1.7**
J54A IAmb IAmb 20 52 04.1
comp=Z,30nm,0.8s
CBKS Cedar Bluff 73.22 338 P **P** **20 52 02.9 +0.3**
CBKS pmax pmax
comp=Z,77nm,1.0s
CBKS Cedar Bluff 73.22 338 P **P** **20 52 02.9 +0.3**
CBKS Cedar Bluff 73.22 338 P **P** **20 52 04.5 +2.0**
baz=155
L44A Lake County Fo 73.31 348 P **P** **20 52 02.9 -0.1**
L44A IAmb IAmb 20 52 04.7
comp=Z,44nm,0.8s
L44A Lake County Fo 73.31 348 P **P** **20 52 03.3 +0.3**
baz=166
HNH Hanover 73.32 360 P **P** **20 52 05.3 +2.3**
HNH IAmb IAmb 20 52 06.3
comp=Z,26nm,0.9s
LIC Lamto 73.36 72 *e*P **P** **20 52 03.8 -0.1**
comp=Z,122nm,0.9s
T25A Trinidad 73.41 333 P **P** **20 52 06.2 +2.2**
T25A IAmb IAmb 20 52 07.7
comp=Z,45nm,1.0s
T25A Trinidad 73.41 333 P **P** **20 52 06.6 +2.6**
baz=151,SNR=24
I60A Shoreham 73.47 359 P **P** **20 52 05.3 +1.5**
baz=179,SNR=9.3
L42A Oliver, Polo 73.48 346 P **P** **20 52 04.5 +0.5**
L42A IAmb IAmb 20 52 05.9
comp=Z,35nm,1.1s
I62A Tamworth 73.49 0 P **P** **20 52 05.6 +1.6**
I62A Tamworth 73.49 0 P **P** **20 52 05.9 +1.9**
baz=180,SNR=5.9
X18A Snowflake 73.55 328 P **P** **20 52 05.9 +1.1**
TIC Toumodi 73.60 72 *e*P **P** **20 52 05.3 -0.1**
NCB Newcomb 73.61 358 P **P** **20 52 05.9 +1.2**
KIC Kosan Boka 73.67 73 *e*P **P** **20 52 05.8 0.0**
comp=Z,113nm,0.8s
PECO Prince Edward 73.70 356 P **P** **20 52 06.1 +0.9**
PECO IAmb IAmb 20 52 07.4
comp=Z,22nm,0.9s
DBIC Dimbokro 73.75 72 P **P** **20 52 06.3 +0.2**
comp=Z,62nm,0.8s,baz=231,slow=5.7,SNR=58
DBIC LR LR 21 22 49.9
comp=Z,1µm,19.0s,baz=238,slow=34
DBIC Dimbokro 73.75 72 P **P** **20 52 05.9 -0.3**
DBIC Dimbokro 73.75 72 P **P** **20 52 05.9 -0.3**
J47A Sunmer 73.82 350 P **P** **20 52 05.8 -0.2**
J47A IAmb IAmb 20 52 07.4
comp=Z,29nm,0.8s
N35A Tabor 73.85 341 P **P** **20 52 06.1 -0.1**
LBNH Lisbon 73.85 360 P **P** **20 52 07.9 +1.8**
LBNH pmax pmax
comp=Z,21nm,0.9s
LBNH Lisbon 73.85 360 P **P** **20 52 07.9 +1.8**
LBNH IAmb IAmb 20 52 09.2
comp=Z,21nm,0.8s
LBNH Lisbon 73.85 360 P **P** **20 52 08.0 +1.9**
baz=180

L40A Anamosa 73.88 345 P **P** **20 52 06.9 +0.6**
K43A Burlington 73.89 347 P **P** **20 52 06.7 +0.3**
K43A IAmb IAmb 20 52 08.2
comp=Z,34nm,0.9s
W18A Petrified Fore 73.94 328 P **P** **20 52 09.2 +2.0**
W18A IAmb IAmb 20 52 10.9
comp=Z,42nm,1.1s
W18A Petrified Fore 73.94 328 P **P** **20 52 09.5 +2.4**
baz=146,SNR=17
VT1 Waterbury 73.95 359 P **P** **20 52 07.3 +0.6**
X16A Lo Mia Camp, P 74.16 327 P **P** **20 52 10.8 +2.4**
X16A IAmb IAmb 20 52 12.8
comp=Z,26nm,0.9s
H62A Milan 74.19 0 P **P** **20 52 09.6 +1.5**
SCIA State Center 74.19 344 P **P** **20 52 09.4 +1.2**
SCIA IAmb IAmb 20 52 10.6
comp=Z,34nm,0.8s
SCIA State Center 74.19 344 P **P** **20 52 09.4 +1.2**
baz=161
WVL Waterville 74.20 2 P **P** **20 52 09.4 +1.3**
LONY Lake Ozonia 74.27 358 P **P** **20 52 09.5 +0.9**
LONY Lake Ozonia 74.27 358 P **P** **20 52 10.0 +1.4**
baz=176
DELO Deloro Mine 74.32 356 P **P** **20 52 09.6 +0.8**
SDCO Great Sand Dun 74.37 333 P **P** **20 52 11.6 +1.9**
SDCO Great Sand Dun 74.37 333 P **P** **20 52 12.1 +2.4**
baz=150
KSCO Kaye Shedlock' 74.39 336 P **P** **20 52 09.1 -0.5**
KSCO Kaye Shedlock' 74.39 336 P **P** **20 52 11.6 +2.0**
baz=153
EMMW East Machias 74.42 3 P **P** **20 52 10.7 +1.3**
EMMW IAMs_20 IAMs_20 21 28 00.0
comp=Z,348nm,22.0s
FRNY Flat Rock 74.46 359 P **P** **20 52 10.3 +0.6**
FRNY IAmb IAmb 20 52 12.3
comp=Z,24nm,0.9s
JFWS Jewell Farm 74.48 346 P **P** **20 52 10.1 +0.3**
JFWS pmax pmax
comp=Z,47nm,1.0s
JFWS Jewell Farm 74.48 346 P **P** **20 52 10.1 +0.3**
JFWS IAmb IAmb 20 52 12.0
comp=Z,47nm,0.9s
JFWS Jewell Farm 74.48 346 P **P** **20 52 10.9 +1.1**
baz=164
Y14A Wickenburg 74.53 325 P **P** **20 52 12.4 +2.0**
HAL Halifax 74.63 6 P **P** **20 52 11.3 +0.7**
HAL pmax pmax
comp=Z,42nm,1.1s
HAL Halifax 74.63 6 P **P** **20 52 11.3 +0.7**
HAL IAmb IAmb 20 52 13.8
comp=Z,42nm,1.1s
SADO Sadowa 74.68 355 LR LR 21 26 57.2
comp=Z,199nm,20.8s,baz=164,slow=37
SADO Sadowa 74.68 355 P **P** **20 52 11.6 +0.7**
SADO IAmb IAmb 20 52 12.9
comp=Z,32nm,0.8s
GLA Glamis 74.74 324 P **P** **20 52 13.8 +2.2**
baz=142
K38A Parkersburg 74.79 344 P **P** **20 52 11.8 +0.2**
K38A IAmb IAmb 20 52 13.4
comp=Z,37nm,0.9s
PLVO Plevna 74.80 356 P **P** **20 52 12.6 +1.0**
S22A 4UR Ranch, Cre 74.90 332 P **P** **20 52 15.1 +2.3**
baz=149,SNR=11
PKME Peaks-Kenny Pk 74.91 2 P **P** **20 52 12.8 +0.6**
PKME Peaks-Kenny Pk 74.91 2 P **P** **20 52 14.1 +1.9**
baz=182
MOQ Mont Orford 74.92 360 P **P** **20 52 13.1 +0.7**
WUAZ Wupatki 75.03 327 P **P** **20 52 13.1 -0.3**
WUAZ IAmb IAmb 20 52 17.4
comp=Z,37nm,1.0s
WUAZ Wupatki 75.03 327 P **P** **20 52 16.0 +2.6**
baz=145
BGNE Belgrade 75.08 340 P **P** **20 52 13.8 +0.4**
BGNE Belgrade 75.08 340 P **P** **20 52 14.9 +1.6**
baz=157,SNR=5.7
IKP In-Ko-Pah, Jac 75.10 322 P **P** **20 52 16.3 +2.5**
baz=141
MVCO Mesa Verde 75.15 330 P **P** **20 52 16.1 +2.0**
MVCO IAmb IAmb 20 52 17.7
comp=Z,32nm,0.9s
MVCO IAMs_20 IAMs_20 21 21 46.6
comp=Z,385nm,18.0s
MVCO Mesa Verde 75.15 330 P **P** **20 52 16.5 +2.4**
baz=148
SWSC Sam W. Stewart 75.16 323 P **P** **20 52 16.6 +2.6**
baz=142
Q24A Divide 75.29 334 P **P** **20 52 17.2 +2.2**
baz=151,SNR=31
BAR Barrett 75.42 322 P **P** **20 52 14.9 -0.6**
MONP2 Monument Peak 75.45 322 P **P** **20 52 18.2 +2.2**
baz=141
I40A Norwalk 75.49 346 P **P** **20 52 14.7 -1.0**
I40A IAmb IAmb 20 52 17.6
comp=Z,30nm,0.9s
H43A Windswept, Lux 75.50 348 P **P** **20 52 15.6 -0.1**
H43A IAmb IAmb 20 52 17.6
comp=Z,61nm,0.9s
BC3 Big Chuckawall 75.54 324 P **P** **20 52 18.6 +2.3**
baz=142,SNR=15
F64A Sherman 75.54 3 P **P** **20 52 17.5 +1.7**
LMN Caledonia Moun 75.73 5 P **P** **20 52 18.4 +1.4**
LMN IAmb IAmb 20 52 20.3
comp=Z,50nm,1.0s
IRM Iron Mountain 75.78 324 P **P** **20 52 20.1 +2.5**
baz=142,SNR=8.6
W13A Hualapai Mount 75.89 325 P **P** **20 52 20.4 +1.9**
OGNE Ogallala 75.90 337 P **P** **20 52 19.8 +1.6**
baz=153
PV01 Paradox Valley 75.96 331 P **P** **20 52 19.8 +1.0**
PV01 IAmb IAmb 20 52 34.8
comp=Z,26nm,1.0s
NEE2 Needles Airpor 75.99 325 P **P** **20 52 20.9 +2.2**
baz=143
TPFO Pinon Flats 76.02 323 P **P** **20 52 21.8 +2.7**
baz=141,SNR=7.1
PFO Pinyon Flats O 76.03 323 P **P** **20 52 20.0 +0.9**
PFO pmax pmax
comp=Z,18nm,1.0s
PFO Pinyon Flats O 76.03 323 P **P** **20 52 20.0 +0.9**
PFO Pinyon Flats O 76.03 323 P **P** **20 52 21.8 +2.6**
baz=141,SNR=6.5
PV13 Radium Mtn., P 76.08 331 P **P** **20 52 21.1 +1.6**
PV13 IAmb IAmb 20 52 22.9
comp=Z,34nm,1.0s
PV02 Paradox Valley 76.09 331 P **P** **20 52 20.8 +1.3**
PV02 IAmb IAmb 20 52 23.1
comp=Z,26nm,0.9s
BELC Belle Mtn. Jos 76.09 323 P **P** **20 52 21.9 +2.4**
baz=142
PV15 Paradox Valley 76.09 331 P **P** **20 52 21.8 +2.2**
PV15 IAmb IAmb 20 52 35.6
comp=Z,29nm,1.1s
PV05 Paradox Valley 76.13 331 P **P** **20 52 21.3 +1.5**
PV05 IAmb IAmb 20 52 23.1
comp=Z,34nm,1.0s
PV03 Paradox Valley 76.17 331 P **P** **20 52 20.9 +1.0**
SMCO Snowmass 76.19 333 P **P** **20 52 22.0 +1.7**
ISCO Idaho Springs 76.19 334 P **P** **20 52 21.5 +1.3**
ISCO pmax pmax
comp=Z,23nm,0.9s
ISCO Idaho Springs 76.19 334 P **P** **20 52 21.5 +1.3**
ISCO IAmb IAmb 20 52 23.6
comp=Z,23nm,0.9s
ISCO Idaho Springs 76.19 334 P **P** **20 52 22.4 +2.2**
baz=150
PV18 Skein Mesa, Pa 76.19 331 P **P** **20 52 21.2 +1.1**
PV18 IAmb IAmb 20 52 23.4
comp=Z,24nm,0.9s
I37A Lemond, Waseca 76.23 344 P **P** **20 52 20.7 +0.8**
PV07 Paradox Valley 76.25 331 P **P** **20 52 22.4 +2.1**
PV16 Nyswonger Mesa 76.25 331 P **P** **20 52 22.2 +1.8**
PV20 West Nyswonger 76.30 331 P **P** **20 52 21.4 +0.7**
PV10 Paradox Valley 76.36 331 P **P** **20 52 20.1 -1.0**
PV10 IAmb IAmb 20 52 23.9
comp=Z,34nm,0.9s
PQI Presque Isle 76.36 3 P **P** **20 52 18.6 -1.9**
PQI IAmb IAmb 20 52 23.4
comp=Z,22nm,1.0s
K31A O'Neill 76.37 340 P **P** **20 52 21.8 +1.1**
PV22 Blue Mesa, Par 76.39 331 P **P** **20 52 22.4 +1.3**
MURC Murrieta 76.41 322 P **P** **20 52 23.6 +2.5**
baz=141
PV23 Carpenter Ridg 76.41 331 P **P** **20 52 19.7 -1.7**
PV23 IAmb IAmb 20 52 24.8
comp=Z,19nm,0.9s
SCI2 San Clemente I 76.66 321 P **P** **20 52 24.9 +2.3**
baz=140
G40A Rib Lake 76.73 347 P **P** **20 52 22.7 0.0**
G40A IAmb IAmb 20 52 24.9
comp=Z,21nm,1.0s
D62A Allapoint, All 76.73 2 P **P** **20 52 23.8 +1.1**
D62A IAmb IAmb 20 52 25.5
comp=Z,40nm,0.9s
ECSD EROS Data Cent 76.78 342 P **P** **20 52 23.6 +0.6**
ECSD EROS Data Cent 76.78 342 P **P** **20 52 24.4 +1.3**
baz=158
E46A Sault Ste Mari 76.81 351 P **P** **20 52 22.8 -0.3**
E46A IAmb IAmb 20 52 24.9
comp=Z,53nm,0.9s
CIS Catalina Islan 76.91 321 P **P** **20 52 26.5 +2.5**
baz=140
HEC Hector,Ludlow 76.91 324 P **P** **20 52 26.9 +2.8**
baz=142,SNR=6.5
MAW Mawson 76.98 164 P **P** **20 52 24.3 +0.4**
comp=Z,12nm,1.0s,baz=219,slow=6.4,SNR=10
MAW LR LR 21 28 33.6
comp=Z,620nm,19.4s,baz=232,slow=38
MAW Mawson 76.98 164 P **P** **20 52 23.9 -0.1**
MAW pmax pmax
comp=Z,3.0nm,1.0s
MAW Mawson 76.98 164 P **P** **20 52 23.9 -0.1**
BATG Bathurst New B 77.06 4 P **P** **20 52 26.2 +1.7**
BATG IAmb IAmb 20 52 27.6
comp=Z,44nm,1.0s
FMP Fort Macarthur 77.08 322 P **P** **20 52 27.2 +2.3**
baz=140
LCMT Little Creek M 77.12 327 P **P** **20 52 26.4 +1.2**
BFSC Mount Baldy Ra 77.14 322 P **P** **20 52 27.8 +2.3**
baz=140
TUQ Turquoise Moun 77.17 324 P **P** **20 52 28.2 +2.6**
baz=142,SNR=22
E43A Lone Tree Farm 77.22 349 P **P** **20 52 25.8 +0.4**
E43A IAmb IAmb 20 52 27.9
comp=Z,22nm,0.8s
SPMN Marine on St. 77.23 345 P **P** **20 52 25.8 +0.3**
SPMN IAmb IAmb 20 52 27.3
comp=Z,27nm,0.8s
SPMN Marine on St. 77.23 345 P **P** **20 52 26.1 +0.6**
baz=162,SNR=8.6
N23A Red Feather La 77.27 334 P **P** **20 52 28.5 +2.3**
baz=150,SNR=18
COWI Conover 77.32 348 P **P** **20 52 26.8 +0.8**
COWI IAmb IAmb 20 52 28.3
comp=Z,30nm,1.1s
PHWY Pilot Hill 77.44 335 P **P** **20 52 27.5 +0.4**
PHWY IAmb IAmb 20 52 30.3
comp=Z,36nm,0.9s
MTPU Mount Pierson 77.46 328 P **P** **20 52 29.6 +2.1**
MTPU IAmb IAmb 20 52 31.0
comp=Z,19nm,0.9s
O20A White River Ci 77.51 332 P **P** **20 52 29.6 +2.1**
O20A White River Ci 77.51 332 P **P** **20 52 29.8 +2.3**
baz=148,SNR=15
DECC Green Verdugo 77.51 322 P **P** **20 52 30.3 +2.9**
baz=140
SZCU Shurtz Canyon 77.52 328 P **P** **20 52 29.7 +2.2**
SZCU IAmb IAmb 20 52 31.6
comp=Z,24nm,0.9s
GSC Goldstone, Bar 77.52 324 P **P** **20 52 29.9 +2.4**
GSC Goldstone, Bar 77.52 324 P **P** **20 52 29.9 +2.4**
GSC IAmb IAmb 20 52 31.4
comp=Z,24nm,1.1s
GSC Goldstone, Bar 77.52 324 P **P** **20 52 30.2 +2.7**
baz=141,SNR=8.6
SRU San Rafael Swe 77.61 330 P **P** **20 52 29.7 +1.7**
SRU pmax pmax
comp=Z,28nm,0.9s
SRU San Rafael Swe 77.61 330 P **P** **20 52 29.7 +1.7**
SRU IAmb IAmb 20 52 31.2
comp=Z,28nm,0.9s
SHOC Shoshone, Teco 77.72 324 P **P** **20 52 30.5 +2.0**
baz=142
Q16A Castle Valley 77.73 330 P **P** **20 52 30.5 +1.8**
Q16A IAmb IAmb 20 52 44.0
comp=Z,30nm,0.9s
EDW2 Edwards Air Fo 77.81 323 P **P** **20 52 31.2 +2.1**
baz=140,SNR=10.0
MSU Marysvale 77.84 329 P **P** **20 52 31.7 +2.3**
MSU Marysvale 77.84 329 P **P** **20 52 31.7 +2.3**
MVU Marysvale 77.85 329 P **P** **20 52 31.5 +2.0**
OSI Osito Audit: C 78.00 322 P **P** **20 52 32.5 +2.4**
baz=140
F36A Milaca 78.00 345 P **P** **20 52 30.1 +0.3**
F36A IAmb IAmb 20 52 31.6
comp=Z,29nm,0.9s
P17A Butcher Ranch, 78.00 330 P **P** **20 52 31.8 +1.6**
P17A IAmb IAmb 20 52 33.5
comp=Z,34nm,1.0s
TMUT Trail Mountain 78.06 330 P **P** **20 52 32.2 +1.6**
QSM Queen of Sheba 78.07 324 P **P** **20 52 32.4 +2.0**
SUSD Miller 78.09 340 P **P** **20 52 31.5 +1.2**
baz=156
LRMC Laurel Mtn Rad 78.11 323 P **P** **20 52 33.3 +2.4**
baz=141,SNR=13
GWY Greenwater Val 78.14 324 P **P** **20 52 32.6 +1.6**
GWY IAmb IAmb 20 52 35.3
comp=Z,20nm,0.9s
D41A Chassel 78.15 348 P **P** **20 52 32.2 +1.7**
E38A The Farm, Brul 78.28 346 P **P** **20 52 31.9 +0.7**
E38A IAmb IAmb 20 52 33.2
comp=Z,24nm,0.9s
PRN Pahroc Range 78.30 326 P **P** **20 52 32.4 +0.5**
PRN IAmb IAmb 20 52 36.4
comp=Z,40nm,0.9s
RDMU Red Mountain 78.42 332 P **P** **20 52 34.1 +1.6**
RDMU IAmb IAmb 20 52 35.7
comp=Z,44nm,1.0s
RWWY Rawlins 78.43 334 P **P** **20 52 34.2 +1.6**
RWWY IAMs_20 IAMs_20 21 28 59.6
comp=Z,322nm,19.0s
ARVC Arvin 78.44 322 P **P** **20 52 34.8 +2.3**
baz=140
FURC Furnace Creek, 78.45 324 P **P** **20 52 35.2 +2.7**
baz=141,SNR=11
MPMC Manual Prospec 78.46 324 P **P** **20 52 35.0 +2.2**
baz=141,SNR=13
TPNV Topopah Spring 78.52 325 P **P** **20 52 35.4 +2.3**
TPNV pmax pmax
comp=Z,26nm,1.0s
TPNV Topopah Spring 78.52 325 P **P** **20 52 35.4 +2.3**
TPNV IAmb IAmb 20 52 37.1
comp=Z,26nm,0.9s
TPNV Topopah Spring 78.52 325 P **P** **20 52 35.9 +2.8**
baz=142
PSUT Pine Spring 78.63 328 P **P** **20 52 36.0 +2.3**
F33A 5 Mile Ranch, 78.65 343 P **P** **20 52 33.6 +0.2**
ISA Isabella, Lake 78.66 323 P **P** **20 52 35.0 +1.2**
ISA pmax pmax
comp=Z,26nm,1.0s
ISA Isabella, Lake 78.66 323 P **P** **20 52 35.0 +1.2**
ISA IAmb IAmb 20 52 37.8
comp=Z,26nm,0.9s
ISA Isabella, Lake 78.66 323 P **P** **20 52 36.7 +2.9**
baz=140,SNR=14
PKM Mcpherson Peak 78.79 321 P **P** **20 52 37.4 +2.8**
baz=139,SNR=14
KOWA Kowa 78.82 66 P **P** **20 52 35.2 +0.2**
KOWA IAmb IAmb 20 52 36.6
comp=Z,52nm,0.8s
MPU Maple Canyon 78.84 330 P **P** **20 52 35.1 +0.3**
MPU IAmb IAmb 20 52 38.2
comp=Z,31nm,1.0s
NLU North Lily Min 78.98 330 P **P** **20 52 36.6 +1.0**
K22A Casper 79.00 335 P **P** **20 52 37.5 +1.9**
K22A IAmb IAmb 20 52 39.1
comp=Z,66nm,0.9s
K22A Casper 79.00 335 P **P** **20 52 37.9 +2.3**
baz=150,SNR=27
CWC Cottonwood Cre 79.06 324 P **P** **20 52 38.5 +2.5**
baz=140
GRAC Grapevine Rang 79.12 324 P **P** **20 52 38.8 +2.6**
baz=141,SNR=12
VES Vestal, Richgr 79.12 323 P **P** **20 52 38.7 +2.5**
baz=140,SNR=6.6
SMMC Simmler 79.21 322 P **P** **20 52 39.7 +2.9**
baz=139,SNR=7.6
SPR3 Spring Creek 3 79.22 328 P **P** **20 52 38.2 +1.1**
JLU Jordanelle 79.24 330 P **P** **20 52 38.1 +1.0**
JLU IAmb IAmb 20 52 40.3
comp=Z,24nm,0.9s

R11A **Troy Canyon, C** 79.30 326 P P 20 52 39.7 +2.4
R11A **Troy Canyon, C** 79.30 326 P P 20 52 39.9 +2.5
baz=142,SNR=34
RSSD **Black Hills** 79.40 337 P P 20 52 39.4 +1.6
RSSD pmax pmax
comp=Z,30nm,1.0s
RSSD **Black Hills** 79.40 337 P P 20 52 39.4 +1.6
RSSD IAmb IAmb 20 52 40.8
comp=Z,30nm,0.9s
RSSD **Black Hills** 79.40 337 P P 20 52 39.6 +1.8
baz=152
LCH **Last Change Ra** 79.44 324 P P 20 52 40.2 +2.1
CTU **Camp Tracy** 79.44 330 P P 20 52 39.6 +1.5
DUG **Dugway, Tooele** 79.50 329 P P 20 52 39.9 +1.5
DUG pmax pmax
comp=Z,28nm,1.0s
DUG MLR MLR
comp=Z,500nm,20.0s
DUG **Dugway, Tooele** 79.50 329 P P 20 52 39.9 +1.5
DUG IAmb IAmb 20 52 41.9
comp=Z,28nm,1.0s
DUG IAMs_20 IAMs_20 21 24 22.9
comp=Z,453nm,20.0s
DUG **Dugway, Tooele** 79.50 329 P P 20 52 40.7 +2.4
baz=145
EYMN **Ely** 79.55 347 P P 20 52 38.6 +0.4
EYMN **Ely** 79.55 347 P P 20 52 39.0 +0.7
baz=163
TIN **Tinemaha, Big** 79.60 324 P P 20 52 41.9 +2.9
baz=140
VOG **Valley Oaks Go** 79.64 323 P P 20 52 40.5 +1.5
baz=140
TCUT **Toone Canyon** 79.65 331 P P 20 52 40.4 +1.1
TPH **Tonopah** 79.89 325 P P 20 52 42.4 +1.8
TPH pmax pmax
comp=Z,121nm,1.1s
TPH **Tonopah** 79.89 325 P P 20 52 42.4 +1.8
DRLN **Deer Lake** 79.90 9 P P 20 52 40.7 +0.6
DRLN IAmb IAmb 20 52 42.5
comp=Z,43nm,0.8s
D32A **Dogwood Acres,** 80.04 343 P P 20 52 42.3 +1.3
HWUT **Hardware Ranch** 80.12 331 P P 20 52 43.1 +1.4
HWUT IAmb IAmb 20 52 44.6
comp=Z,44nm,0.9s
HWUT IAMs_20 IAMs_20 21 24 43.2
comp=Z,425nm,21.0s
TSUM **Tsumeb** 80.15 106 P P 20 52 43.0 +0.5
TSUM IAmb IAmb 20 52 44.3
comp=Z,30nm,0.8s
BGU **Big Grassy Mou** 80.19 330 P P 20 52 43.1 +1.0
SPUT **South Promonto** 80.25 330 P P 20 52 44.1 +1.7
SPUT IAmb IAmb 20 52 45.5
comp=Z,42nm,1.0s
BW06 **Boulder Array** 80.27 333 P P 20 52 43.5 +0.9
BW06 **Boulder Array** 80.27 333 P P 20 52 43.9 +1.3
baz=148
PD31 **Pinedale Array** 80.27 333 P P 20 52 43.4 +0.8
PDAR **Pinedale Array** 80.27 333 P P 20 52 43.9 +1.3
comp=Z,9.0nm,1.0s,baz=150,slow=6.2,SNR=30
PDAR LR LR 21 25 09.9
comp=Z,185nm,19.5s,baz=146,slow=33
PDAR **Pinedale Array** 80.27 333 P P 20 52 43.5 +0.9
MLAC **Mammoth, Mammo** 80.35 324 P P 20 52 45.5 +2.4
baz=140
B35A **Bob, Littlefor** 80.41 345 P P 20 52 43.6 +0.7
B35A IAmb IAmb 20 52 44.8
comp=Z,39nm,1.0s
MDPB **Devils Postpil** 80.48 324 P P 20 52 45.1 +1.3
E28A **Huff** 80.54 340 P P 20 52 43.5 -0.1
E28A IAmb IAmb 20 52 46.4
comp=Z,64nm,0.8s
NV11 **Mina Array Sit** 80.62 325 P P 20 52 44.3 -0.2
LHV **Little Huntoon** 80.66 325 P P 20 52 44.6 +0.2
LHV IAmb IAmb 20 52 48.5
comp=Z,27nm,1.0s
NVAR **Mina Array Bea** 80.70 325 P P 20 52 47.4 +2.5
comp=Z,111nm,0.9s,baz=153,slow=6.2,SNR=43
NVAR **Mina Array Bea** 80.70 325 P P 20 52 46.0 +1.1
HVU **Hansel Valley** 80.78 330 P P 20 52 46.5 +1.3
HVU pmax pmax
comp=Z,29nm,0.9s
HVU **Hansel Valley** 80.78 330 P P 20 52 46.5 +1.3
HVU IAmb IAmb 20 52 48.0
comp=Z,30nm,0.9s
AGMN **Agassiz Nation** 80.84 344 P P 20 52 46.0 +0.8
AGMN IAmb IAmb 20 52 47.3
comp=Z,40nm,0.9s
AGMN **Agassiz Nation** 80.84 344 P P 20 52 46.1 +0.9
baz=159
AHID **Auburn Hatcher** 80.89 332 P P 20 52 46.0 +0.1
AHID IAmb IAmb 20 53 00.9
comp=Z,33nm,1.1s
RYN **Ryan** 80.96 325 P P 20 52 47.6 +1.4
ELK **Elko** 81.04 328 P P 20 52 47.4 +0.6
ELK pmax pmax
comp=Z,24nm,0.9s
ELK **Elko** 81.04 328 P P 20 52 47.4 +0.6
ELK IAmb IAmb 20 52 50.3
comp=Z,24nm,0.9s
KVN **Kaiserville** 81.08 325 P P 20 52 48.2 +1.3
KVN pmax pmax
comp=Z,17nm,0.9s
KVN **Kaiserville** 81.08 325 P P 20 52 48.2 +1.3
REDW **Red Top Meadow** 81.28 332 P P 20 52 49.6 +1.7
SNOW **Snow King Moun** 81.33 332 P P 20 52 50.0 +1.8
MDND **Maddock** 81.39 341 P P 20 52 49.6 +1.5
MDND **Maddock** 81.39 341 P P 20 52 49.7 +1.6
baz=156,SNR=11
LOHW **Long Hollow** 81.39 333 P P 20 52 49.8 +1.3
TPAW **Teton Pass** 81.43 332 P P 20 52 49.2 +0.4
CMB **Columbia Colle** 81.46 323 P P 20 52 48.2 -0.6
CMB pmax pmax
comp=Z,9.0nm,1.0s
CMB **Columbia Colle** 81.46 323 P P 20 52 48.2 -0.6
MOOW **Moose Ponds** 81.56 333 P P 20 52 49.5 0.0
FXWY **Fox Creek** 81.58 332 P P 20 52 50.1 +0.6
YERR **Yerington** 81.59 325 P P 20 52 51.4 +1.7
YERR IAmb IAmb 20 52 53.4
comp=Z,31nm,1.0s
BMN **Battle Mountai** 81.72 327 P P 20 52 50.8 +0.5
BMN pmax pmax
comp=Z,9.0nm,1.0s
BMN **Battle Mountai** 81.72 327 P P 20 52 50.8 +0.5
IMW **Indian Meadow** 81.76 333 P P 20 52 50.8 +0.2
BOSA **Boshof** 81.79 118 P P 20 52 51.3 +0.2
comp=Z,27nm,0.8s,baz=234,slow=4.9,SNR=25
BOSA LR LR 21 26 33.3
comp=Z,240nm,18.1s,baz=228,slow=34
BOSA **Boshof** 81.79 118 P P 20 52 51.2 +0.1
BOSA pmax pmax
comp=Z,29nm,0.8s
BOSA **Boshof** 81.79 118 P P 20 52 51.1 +0.1
BOSA IAmb IAmb 20 52 52.0
comp=Z,29nm,0.8s
FLWY **Flagg Ranch** 81.82 333 P P 20 52 52.2 +1.4
FLWY IAmb IAmb 20 53 06.2
comp=Z,25nm,0.9s
FLWY IAMs_20 IAMs_20 21 26 10.3
comp=Z,322nm,20.0s
PNTR **Pine Nut** 81.85 324 P P 20 52 52.4 +1.3
PNTR IAmb IAmb 20 52 55.4
comp=Z,48nm,0.9s
LKWY **Lake** 82.11 333 IAMs_20 IAMs_20 21 25 12.8
comp=Z,331nm,20.0s
RLMT **Red Lodge** 82.14 334 P P 20 52 53.1 +0.6
RLMT **Red Lodge** 82.14 334 P P 20 52 54.1 +1.7
baz=148
PAHR **Pah Rah Range** 82.22 325 P P 20 52 54.7 +1.8
PAHR IAmb IAmb 20 52 56.6
comp=Z,40nm,1.0s
YNE **Yellowstone No** 82.33 334 P P 20 52 53.6 +0.2
LAO **LASA Array** 82.39 337 P P 20 52 53.1 -0.5
LAO IAmb IAmb 20 53 08.3
comp=Z,34nm,0.8s
LAO **LASA Array** 82.39 337 P P 20 52 55.0 +1.4
baz=150
YMR **Madison River** 82.42 333 P P 20 52 53.9 0.0
YMR IAmb IAmb 20 52 57.4
comp=Z,29nm,1.0s
YHH **Holmes Hill** 82.47 333 P P 20 52 55.8 +1.5
YHH IAmb IAmb 20 52 57.6
comp=Z,21nm,1.0s
YHB **Horse Butte** 82.57 333 P P 20 52 55.8 +1.0
YHL **Hebgen Lake** 82.65 333 P P 20 52 55.9 +0.7
ULM **Lac du Bonnet** 82.67 345 P P 20 52 55.5 +0.8
comp=Z,42nm,0.9s,baz=165,slow=4.3,SNR=25
ULM **Lac du Bonnet** 82.67 345 P P 20 52 55.4 +0.6
ULM pmax pmax
comp=Z,55nm,1.0s
ULM **Lac du Bonnet** 82.67 345 P P 20 52 55.4 +0.6
TORD **Torodi Ar. Bea** 82.67 70 P P 20 52 56.0 +0.3
comp=Z,86nm,0.8s,baz=258,slow=4.8,SNR=348
TORD LR LR 21 28 14.6
comp=Z,774nm,18.7s,baz=240,slow=35
TORD **Torodi Ar. Bea** 82.67 70 P P 20 52 55.3 -0.4
BEKR **Beckworth** 82.83 324 P P 20 52 56.9 +0.8
BEKR IAmb IAmb 20 52 59.5
comp=Z,26nm,1.0s
GCMT **Greycliff** 82.86 334 P P 20 52 56.4 +0.3
HLID **Hailey** 82.93 330 P P 20 52 58.0 +1.4
HLID IAmb IAmb 20 53 00.0
comp=Z,24nm,0.9s
HLID **Hailey** 82.93 330 P P 20 52 58.6 +2.1
baz=144
ORV **Oroville** 83.17 324 P P 20 52 59.5 +1.8
ORV pmax pmax
comp=Z,42nm,1.1s
ORV **Oroville** 83.17 324 P P 20 52 59.5 +1.8
ORV IAmb IAmb 20 53 01.3
comp=Z,42nm,1.1s
DGMT **Dagmar** 83.30 339 P P 20 52 59.3 +1.2
DGMT **Dagmar** 83.30 339 P P 20 52 59.8 +1.7
baz=152
MCMT **McKenzie Canyo** 83.30 332 P P 20 53 00.2 +1.7
MFID **Camas Ranch** 83.43 329 P P 20 53 00.3 +1.2
MFID IAMs_20 IAMs_20 21 26 45.8
comp=Z,433nm,19.0s
BOZ **Bozeman (W)** 83.45 333 P P 20 52 59.9 +0.7
BOZ pmax pmax
comp=Z,6.0nm,1.0s
BOZ **Bozeman (W)** 83.45 333 P P 20 52 59.9 +0.7
BOZ **Bozeman (W)** 83.45 333 P P 20 53 00.6 +1.4
baz=146
DLMT **Dillon** 83.64 332 P P 20 53 01.3 +1.1
LBTB **Lobatse** 83.84 115 P P 20 53 01.2 -0.6
LBTB pmax pmax
comp=Z,53nm,0.9s
LBTB **Lobatse** 83.84 115 P P 20 53 01.2 -0.6
O03E **Paynes Creek** 83.88 324 P P 20 53 02.4 +1.0
baz=138,SNR=13
WVOR **Wild Horse Val** 83.94 327 P P 20 53 03.1 +1.3
WVOR pmax pmax
comp=Z,13nm,1.1s
WVOR **Wild Horse Val** 83.94 327 P P 20 53 03.1 +1.3
LRM **Limekiln Ridge** 83.96 333 P P 20 53 02.8 +0.9
CASY **Casey** 84.04 181 P P 20 53 02.9 +1.0
CASY IAmb IAmb 20 53 03.9
comp=Z,19nm,1.1s
O02D **Mt. Diablo Mer** 84.30 323 P P 20 53 05.2 +1.7
baz=138
MOD **Modoc Plateau** 84.34 326 P P 20 53 05.2 +1.4
MOD IAmb IAmb 20 53 06.9
comp=Z,24nm,0.9s
MOD IAMs_20 IAMs_20 21 28 43.8
comp=Z,237nm,19.0s
HRY **Holter Researc** 84.45 334 P P 20 53 05.0 +0.8
WDC **Whiskeytown Da** 84.47 324 P P 20 53 05.3 +1.0
WDC pmax pmax
comp=Z,15nm,1.0s
WDC **Whiskeytown Da** 84.47 324 P P 20 53 05.3 +1.0
WDC IAmb IAmb 20 53 06.2
comp=Z,15nm,0.9s
SCHQ **Schefferville** 84.56 3 P P 20 53 04.8 +0.4
comp=Z,25nm,1.1s,baz=163,slow=3.8,SNR=8.8
SCHQ LR LR 21 29 39.0
comp=Z,128nm,21.6s,baz=195,slow=35
SCHQ **Schefferville** 84.56 3 P P 20 53 04.9 +0.5
SCHQ IAmb IAmb 20 53 06.3
comp=Z,46nm,1.2s
J08A **Circle Bar Ran** 84.58 328 P P 20 53 06.5 +1.5
EGMT **Eagleton** 84.78 336 P P 20 53 06.0 +0.2
EGMT **Eagleton** 84.78 336 P P 20 53 06.6 +0.8
baz=148
PLID **Pearl Lake** 84.83 330 P P 20 53 07.5 +1.2
PLID IAmb IAmb 20 53 09.1
comp=Z,28nm,0.9s
N02D **Trinity Center** 84.84 324 P P 20 53 07.4 +1.1
baz=138
M04C **Macdoel** 85.00 325 P P 20 53 09.0 +1.9
baz=138,SNR=8.8
BMO **Blue Mountains** 85.22 329 P P 20 53 09.1 +1.0
BMO pmax pmax
comp=Z,6.0nm,1.0s
BMO MLR MLR
comp=Z,400nm,18.0s
BMO **Blue Mountains** 85.22 329 P P 20 53 09.1 +1.0
BMO IAMs_20 IAMs_20 21 28 29.1
comp=Z,389nm,18.0s
M02C **Callahan** 85.23 324 P P 20 53 10.0 +1.8
baz=138,SNR=7.0
K05A **Sumner Lake** 85.24 326 P P 20 53 10.6 +2.2
KHMM **Horse Mountain** 85.30 323 P P 20 53 11.1 +2.4
KHMM IAmb IAmb 20 53 14.7
comp=Z,32nm,1.2s
MSO **Missoula** 85.38 332 P P 20 53 10.4 +1.6
baz=144
YBH **Yreka Blue Hor** 85.40 324 P P 20 53 09.1 0.0
YBH pmax pmax
comp=Z,13nm,0.9s
YBH **Yreka Blue Hor** 85.40 324 P P 20 53 09.1 0.0
L04D **Klamath Falls** 85.56 325 P P 20 53 11.3 +1.4
baz=138,SNR=6.2
K04D **Chiloquin, OR** 85.59 325 P P 20 53 12.0 +1.9
baz=138
I07A **Izee** 85.61 328 P P 20 53 11.9 +1.8
I07A IAmb IAmb 20 53 13.4
comp=Z,22nm,0.9s
J05D **Fort Rock, OR** 85.83 326 P P 20 53 13.3 +2.0
baz=139,SNR=10
KRMB **Red Mountain** 85.86 324 P P 20 53 13.1 +1.7
KRMB IAmb IAmb 20 53 15.8
comp=Z,23nm,1.0s
F10A **Beach Ranch, E** 86.06 330 P P 20 53 13.5 +1.2
PINE **Pine Mountain** 86.07 327 P P 20 53 13.9 +1.4
PINE IAmb IAmb 20 53 16.0
comp=Z,46nm,0.9s
L02E **Cave Junction** 86.17 324 P P 20 53 14.9 +2.1
baz=137
J04D **Umpqua Nationa** 86.22 326 P P 20 53 15.1 +1.9
baz=138,SNR=5.1
JTMT **Jette** 86.26 333 P P 20 53 14.6 +1.4
G08A **Pilot Rock** 86.29 329 P P 20 53 14.6 +1.2
K02D **Willamette Mer** 86.59 324 P P 20 53 17.0 +2.0
baz=137,SNR=7.0
I05D **Terrebonne, OR** 86.67 327 P P 20 53 17.4 +2.1
baz=139,SNR=9.9
DBO **Dodson Butte** 86.69 325 P P 20 53 17.0 +1.6
DBO IAmb IAmb 20 53 18.8
comp=Z,30nm,1.0s
LTZ **Lake Taylor** 86.72 222 P P 20 53 18.4 +2.6
LTZ IAmb IAmb 20 53 36.3
comp=Z,54nm,1.2s
I04A **Tendick Farm,** 86.78 326 P P 20 53 17.1 +1.3
baz=138,SNR=6.7
J01E **Myrtle Point** 87.07 325 P P 20 53 19.2 +2.1
baz=137
I03D **Drain, OR** 87.17 325 P P 20 53 19.4 +1.9
baz=137
WALA **Waterton Lakes** 87.18 334 P P 20 53 18.9 +1.2
WALA IAmb IAmb 20 53 32.4
comp=Z,30nm,0.9s
H04A **Detroit Lake** 87.33 327 P P 20 53 19.6 +1.1
H04A IAmb IAmb 20 53 20.8
comp=Z,30nm,0.9s
G05D **Wamic, OR** 87.34 327 P P 20 53 20.7 +2.3
baz=139
HAWA **Hanford** 87.40 329 P P 20 53 20.3 +1.6
HAWA IAmb IAmb 20 53 21.6
comp=Z,28nm,1.2s
H04D **Lebanon** 87.48 326 P P 20 53 20.6 +1.5
baz=138
D08A **Wollman Farm,** 87.64 330 P P 20 53 21.3 +1.5
E07A **Sunnyside** 87.67 329 P P 20 53 21.3 +1.3
NEW **Newport** 87.82 332 P P 20 53 20.3 -0.4
NEW pmax pmax
comp=Z,11nm,1.3s
NEW MLR MLR
comp=Z,400nm,18.0s
NEW **Newport** 87.82 332 P P 20 53 20.3 -0.4
NEW IAMs_20 IAMs_20 21 30 21.0
comp=Z,364nm,18.0s
NEW **Newport** 87.82 332 P P 20 53 21.1 +0.4
baz=142
F05D **White Salmon** 87.89 328 P P 20 53 23.0 +2.0
baz=139
C09A **Chrisman Ranch** 87.94 331 P P 20 53 21.9 +0.7
C09A IAmb IAmb 20 53 23.7
comp=Z,19nm,1.1s
FFC **Flin Flon** 88.26 343 P P 20 53 22.6 +0.1
FFC pmax pmax
comp=Z,17nm,1.1s
FFC **Flin Flon** 88.26 343 P P 20 53 22.6 +0.1
FFC IAmb IAmb 20 53 24.2
comp=Z,17nm,1.1s
F04A **Amboy** 88.37 327 P P 20 53 24.5 +1.2
F04A IAmb IAmb 20 53 25.7
comp=Z,31nm,0.9s
LTY **Liberty** 88.56 329 P P 20 53 25.3 +1.0
B08A **Colville Reser** 88.82 331 P P 20 53 25.6 +0.2
E04D **Cinebar** 88.90 328 P P 20 53 27.3 +1.6
baz=138
D05A **Enumclaw** 89.10 328 P P 20 53 27.6 +0.9
D05A IAmb IAmb 20 53 29.1
comp=Z,30nm,1.0s
PTEO **Sao Teotonio** 89.40 45 eP P 20 53 29.9 +1.6
comp=Z,103nm,2.1s
PBDV **Barranco-do-Ve** 89.70 46 eP P 20 53 31.5 +1.7
comp=Z,60nm,1.2s
B06A **Marblemount** 89.87 330 P P 20 53 29.6 -0.7
B06A IAmb IAmb 20 53 32.3
comp=Z,15nm,0.9s
PCVE **Castro Verde** 89.88 45 eP P 20 53 32.1 +1.5
comp=Z,28nm,1.8s
MESJ **Messejana** 89.89 45 eP P 20 53 32.0 +1.3
comp=Z,36nm,1.6s
PVAQ **Vaqueiros** 89.93 46 eP P 20 53 32.6 +1.7
comp=Z,17nm,1.1s
PVAQ **Vaqueiros** 89.93 46 eLR LR 21 26 43.6
comp=Z,586nm,18.0s
B05A **Bryant** 89.95 329 P P 20 53 31.8 +1.2
baz=138
PBEJ **Beja** 90.23 45 eP P 20 53 33.6 +1.4
comp=Z,29nm,1.4s
EDM **Edmonton** 90.37 337 P P 20 53 31.9 -0.7
EDM pmax pmax
comp=Z,11nm,0.8s
EDM **Edmonton** 90.37 337 P P 20 53 31.9 -0.7
PMTG **Montargil** 90.66 44 eP P 20 53 34.9 +0.7
comp=Z,21nm,1.1s
LSZ **Lusaka** 90.89 108 P P 20 53 37.1 +1.0
LSZ pmax pmax
comp=Z,27nm,0.9s
LSZ MLR MLR
comp=Z,700nm,19.0s
LSZ **Lusaka** 90.89 108 P P 20 53 37.1 +1.0
LSZ IAmb IAmb 20 53 38.6
comp=Z,27nm,0.9s
PMRV **Marv??o** 91.39 44 eP P 20 53 39.0 +1.4
PMRV **Marv??o** 91.39 44 eLR LR 21 27 50.0
comp=Z,531nm,18.0s
MTE **Manteigas** 91.91 44 eLR LR 21 26 09.1
comp=Z,714nm,20.0s
PGAV **Gavieira, Arco** 92.46 42 eP P 20 53 44.4 +1.8
PGAV **Gavieira, Arco** 92.46 42 eLR LR 21 28 30.2
comp=Z,631nm,20.0s
MVO **Moncorvo** 92.69 43 eP P 20 53 46.6 +2.9
MVO **Moncorvo** 92.69 43 eLR LR 21 27 35.1
comp=Z,610nm,20.0s
ESDC **Sonseca Array** 93.65 46 P P 20 53 48.8 +0.7
comp=Z,2.8nm,0.9s,baz=252,slow=4.5,SNR=13
ESDC LR LR 21 36 14.9
comp=Z,565nm,18.0s,baz=230,slow=36
ESDC **Sonseca Array** 93.65 46 P P 20 53 48.1 0.0
CART **Cartagena** 94.33 49 IAMs_20 IAMs_20 21 24 46.6
comp=Z,233nm,18.0s
DZM **Mont Dzumac** 103.75 234 ePS PS 21 07 57.7 -3.5
comp=Z,117nm,26.1s
DZM **Mont Dzumac** 103.75 234 eLR LR 21 28 33.0
comp=Z,504nm,24.3s
SUMG **Summit** 104.81 10 eP PKiKP 20 58 56.6 +3.6
AQU **L'Aquila** 106.26 50 IAMs_20 IAMs_20 21 41 43.8
comp=Z,345nm,21.0s
STU **Stuttgart** 106.44 43 IAMs_20 IAMs_20 21 44 16.0
comp=Z,330nm,20.0s
CTGM **Chitina Glacie** 106.60 332 IAMs_20 IAMs_20 21 50 34.7
comp=Z,179nm,20.0s
GLB **Gilahina Butte** 107.87 331 IAMs_20 IAMs_20 21 53 28.4
comp=Z,169nm,20.0s
A36M **Sachs Harbour** 108.15 345 IAMs_20 IAMs_20 21 48 29.4
comp=Z,252nm,22.0s
FID **Port Fidalgo** 108.67 330 IAMs_20 IAMs_20 21 54 03.6
comp=Z,206nm,20.0s
KLU **Klutina** 108.79 331 IAMs_20 IAMs_20 21 40 23.4
comp=Z,170nm,19.0s
GLI **Glacier Island** 109.00 330 IAMs_20 IAMs_20 21 43 50.2
comp=Z,172nm,18.0s
CLL **Collm** 109.74 42 ePP PP 20 59 36.0 +1.6
CLL ePS PS 21 09 00.0 -2.5
CLL ePPS PPS 21 10 12.0
CLL Lm MLR 21 45 00.0
comp=N,200nm,19.8s
CLL Lm MLR 21 45 00.0
comp=E,400nm,20.8s
CLL Lm MLR 21 45 00.0
comp=Z,500nm,18.5s
BPAW **Bear Paw Mtn.** 112.02 332 P PKiKP 20 59 07.0 +0.8
baz=113
H23K **Yukon River** 112.14 334 IAMs_20 IAMs_20 21 45 44.1
comp=Z,231nm,20.0s
CAST **Castle Rocks** 112.20 331 P PKiKP 20 59 06.9 +0.3
baz=113
SANT **Santorini** 112.47 60 IAMs_20 IAMs_20 21 49 18.6
comp=Z,339nm,20.0s
TOLK **Toolik Lake Re** 113.27 337 P PKiKP 20 59 08.6 +0.1
baz=113
SUW **Suwalki** 116.48 41 IAMs_20 IAMs_20 21 50 30.3
comp=Z,294nm,20.0s
ISP **Isparta** 116.77 60 IAMs_20 IAMs_20 21 50 36.4
comp=Z,238nm,20.0s
PABE **Paberze** 117.29 40 IAMs_20 IAMs_20 21 50 11.7
comp=Z,352nm,19.0s
KBS **Kingsbay** 118.00 13 IAMs_20 IAMs_20 21 48 10.1
comp=Z,197nm,20.0s
CSS **Mathiatis** 118.02 64 IAMs_20 IAMs_20 21 55 37.8
comp=Z,263nm,19.0s
GHAJ **Ghor Haditha** 118.62 69 IAMs_20 IAMs_20 21 48 03.8
comp=Z,356nm,22.0s
AKASG **Malin Array Be** 119.30 46 PKP PKPdf 20 59 19.9 -0.7
comp=Z,1.1nm,0.5s,baz=270,slow=2.1,SNR=4.7
AKASG **Malin Array Be** 119.30 46 PKIKP PKPdf 20 59 19.2 -1.4
AKASG **Malin Array Be** 119.30 46 PKPdf 20 59 19.2 -1.4
AKBB **Malin Array Si** 119.30 46 *c* PKIKP PKPdf 20 59 20.5 -0.1
BRTR **Keskin Array B** 119.66 59 PKP PKPdf 20 59 20.7 -1.1
comp=Z,1.8nm,0.7s,baz=213,slow=5.0,SNR=3.2
ASAR **Alice Springs** 121.22 208 PKP PKPdf 20 59 24.8 -0.6
comp=Z,1.6nm,0.8s,baz=132,slow=1.9,SNR=13
ASAR PKKPbc PKKPbc 21 09 27.3 +0.7
comp=Z,1.0nm,0.8s,baz=332,slow=3.6,SNR=8.9
WR0 **Warramunga Arr** 124.24 210 PKPdf PKPdf 20 59 30.3 -0.9
OBN **Obninsk** 124.34 41 *ce* PKIKP PKPdf 20 59 30.0 -0.1
OBN *e* 21 01 13.5
OBN pmax pmax
comp=Z,10.0nm,0.9s
OBN **Obninsk** 124.34 41 IAMs_20 IAMs_20 21 53 12.1
comp=Z,310nm,21.0s
WRA **Warramunga Arr** 124.35 210 PKP PKPdf 20 59 31.0 -0.4
comp=Z,3.1nm,0.6s,baz=166,slow=2.0,SNR=28
WRA PKKPbc PKKPbc 21 09 15.3 +0.9
comp=Z,1.3nm,0.8s,baz=330,slow=2.4,SNR=7.9
WRA **Warramunga Arr** 124.35 210 PKIKP PKPdf 20 59 30.7 -0.7
WRA **Warramunga Arr** 124.35 210 PKPdf 20 59 30.6 -0.7
WRAB **Tennant Creek** 124.35 210 *c* PKIKP PKiKP 20 59 31.7 0.0
WRAB pmax pmax
comp=Z,9.0nm,2.5s
H11S2 **WAKE ISLAND Hyl** 25.92 272 T T 23 18 29.7
baz=115,slow=75,SNR=27
H11S1 **WAKE ISLAND Hyl** 25.93 272 T T 23 18 30.8
baz=115,slow=75,SNR=11
H11S3 **WAKE ISLAND Hyl** 25.94 272 T T 23 18 30.8
baz=115,slow=75,SNR=13
KLMR **Klimovskoe** 126.01 34 ePKIKP PKPdf 20 59 32.8 -0.3
KLMR pmax pmax
comp=Z,19nm,1.2s
KLMR **Klimovskoe** 126.01 34 ePKPdf PKPdf 20 59 32.8 -0.3
KLMR AMP 20 59 35.2
comp=Z,19nm,1.2s
H11N3 **WAKE ISLAND Hyl** 26.23 273 T T 23 18 54.1
baz=114,slow=74,SNR=16

H11N1	**WAKE ISLAND Hyl**	**26.24**	**273**		T	T		23 18 57.8	
	baz=114								
H11N2	**WAKE ISLAND Hyl**	**26.24**	**273**		T	T		23 18 56.1	
	baz=114,slow=74,SNR=31								
SHA1	**Shidzhatmaz**	**127.09**	**56**	*i*	PKIKP	**PKPdf**		**20 59 35.5**	**-0.6**
KIV	**Kislovodsk**	**127.14**	**56**	*i*	PKIKP	**PKPdf**		**20 59 33.6**	**-2.4**
KIV					pmax	pmax			
	comp=Z,10.0nm,1.1s								
KBZ	**Khabaz**	**127.26**	**56**		PKP	**PKPdf**		**20 59 36.0**	**0.0**
	comp=Z,1.5nm,0.7s,baz=203,slow=5.5,SNR=5.2								
KBZ	**Khabaz**	**127.26**	**56**	*c*	*i*PKIKP	**PKPdf**		**20 59 36.2**	**+0.1**
KBZ					pmax	pmax			
	comp=Z,4.0nm,1.0s								
PSA00	**Pilbara Seismi**	**127.54**	**194**		PKPdf	**PKPdf**		**20 59 36.6**	**-0.9**
PRGR	**Permogore**	**128.88**	**33**	*e*	PKIKP	**PKPdf**		**20 59 38.7**	**+0.1**
PRGR					pmax	pmax			
	comp=Z,47nm,1.2s								
BILL	**Bilibino**	**129.27**	**336**	⇓ *e*	PKIKP	**PKiKP**		**20 59 40.0**	**+0.1**
BILL								20 59 46.0	
BILL								21 06 38.0	
BILL					pmax	pmax			
	comp=Z,8.0nm,1.0s								
FITZ	**Fitzroy Crossi**	**129.34**	**202**		PKP	**PKiKP**		**20 59 41.3**	**-0.3**
	comp=Z,3.2nm,0.9s,baz=132,slow=5.2,SNR=4.5								
UOSS	**Minazif**	**133.93**	**83**		IAMs_20	IAMs_20		22 07 51.7	
	comp=Z,245nm,20.0s								
ARU	**Arti**	**136.52**	**38**	*i*	PKIKP	**PKPdf**		**20 59 54.0**	**+0.8**
ARU								21 02 32.7	
ARU					SS	SS		21 20 29.5	-7.9
ARU					MLR	MLR			
	comp=Z,384nm,22.0s								
ARU	**Arti**	**136.52**	**38**		PKPdf	**PKPdf**		**20 59 52.8**	**-0.3**
BATI	**Baumata**	**137.37**	**203**		PKP	**PKiKP**		**20 59 58.2**	**+0.2**
	comp=Z,13nm,0.7s,baz=308,slow=5.6,SNR=3.9								
PEA0B	**Petropavlovsk-**	**137.40**	**317**	*c*	*i*PKIKP	**PKPdf**		**20 59 55.8**	**+0.9**
PETK	**Petropavlovsk-**	**137.40**	**317**		PKP	**PKiKP**		**20 59 56.0**	**-0.8**
	comp=Z,8.7nm,0.9s,baz=142,slow=5.1,SNR=8.7								
PETK	**Petropavlovsk-**	**137.40**	**317**		PKPdf	**PKiKP**		**20 59 56.1**	**-0.7**
GEYT	**Alibeck**	**138.14**	**65**		PKP	**PKPdf**		**20 59 55.7**	**-1.1**
	comp=Z,3.7nm,0.8s,baz=10,slow=9.0,SNR=4.2								
NRIK	**Noril'sk**	**138.84**	**11**	*c*	*i*PKIKP	**PKiKP**		**20 59 58.5**	**-0.8**
NRIK					pmax	pmax			
	comp=Z,4.0nm,0.9s								
MA2	**Magadan**	**138.85**	**328**		IAMs_20	IAMs_20		22 03 59.2	
	comp=Z,138nm,21.0s								
ABKAR	**Akbulak array**	**138.95**	**48**			PKPpre		20 59 49.3	
ABKAR	**Akbulak array**	**138.95**	**48**			PKPpre		20 59 51.0	
HRA	**Herat**	**141.12**	**71**			PKPpre		20 59 54.2	
SIJI	**Sorong**	**142.25**	**220**		PKP	**PKPdf**		**21 00 03.0**	**-2.0**
	comp=Z,6.8nm,0.7s,baz=337,slow=17,SNR=3.6								
LEM	**Lembang**	**143.41**	**179**		PKhKP	PKPpre		21 00 04.3	
	comp=Z,41nm,0.8s,baz=189,slow=5.4,SNR=10								
KAPI	**Kappang**	**143.49**	**200**		PKP	PKPbc		21 00 05.7	+1.4
	comp=Z,14nm,0.8s,baz=140,slow=4.1,SNR=6.2								
BRVK	**Borovoye**	**144.06**	**39**	*i*	PKIKP	PKPbc		21 00 05.2	+0.3
BRVK	**Borovoye**	**144.06**	**39**			PKPbc		21 00 05.5	+0.6
YAK	**Yakutsk**	**144.98**	**342**	*c*	*i*PKIKP	**PKPdf**		**21 00 08.2**	**0.0**
YAK					pmax	pmax			
	comp=Z,64nm,0.6s								
YAK					pmax	pmax			
	comp=N,15nm,0.9s								
YAK					pmax	pmax			
	comp=E,11nm,0.9s								
YAK	**Yakutsk**	**144.98**	**342**			**PKPab**		**21 00 07.4**	**-0.1**
KBL	**Kabul**	**146.74**	**72**		PKIKP	**PKPdf**		**21 00 12.1**	**-0.3**
KBL	**Kabul**	**146.74**	**72**			**PKPdf**		**21 00 12.1**	**-0.3**
POO	**Poona**	**146.81**	**102**	*e*	P	**PKPdf**		**21 00 12.0**	**-0.8**
CHGR	**Chuyangaron**	**146.83**	**64**			**PKPbc**		**21 00 13.2**	**-0.9**
KK31	**Karatay Array**	**147.30**	**56**		PKIKP	**PKPdf**		**21 00 13.4**	**+0.6**
KK31	**Karatay Array**	**147.30**	**56**			**PKPdf**		**21 00 13.4**	**+0.6**
KKAR	**Karatay Array**	**147.30**	**56**		PKIKP	**PKPdf**		**21 00 12.6**	**-0.2**
KKAR	**Karatay Array**	**147.30**	**56**		PKPdf	**PKPdf**		**21 00 12.6**	**-0.2**
KKAR	**Karatay Array**	**147.30**	**56**			**PKPdf**		**21 00 13.0**	**+0.2**
GAR	**Garm**	**147.71**	**64**			**PKPdf**		**21 00 14.4**	**+0.6**
BKB	**Balikpapan**	**147.85**	**197**			**PKPdf**		**21 00 13.9**	**-0.7**
BTK	**Batken**	**147.99**	**61**		PKIKP	**PKPdf**		**21 00 13.9**	**-0.3**
BTK	**Batken**	**147.99**	**61**			**PKPdf**		**21 00 13.9**	**-0.3**
YSS	**Yuzh-Sakhalins**	**148.38**	**312**	*e*	PKP2	**PKPbc**		**21 00 18.3**	**+0.4**
YSS					pmax	pmax			
	comp=Z,20nm,0.9s								
YSS					MLR	MLR			
	comp=Z,100nm,20.0s								
YSS	**Yuzh-Sakhalins**	**148.38**	**312**		PKPdf	**PKPdf**		**21 00 14.0**	**-0.4**
TOLI2	**Tolitoli**	**148.90**	**205**		PKPdf	**PKPdf**		**21 00 17.0**	**+0.7**
TOLI2					IAMs_20	IAMs_20		22 04 02.4	
	comp=Z,155nm,20.0s								
EKS2	**Erkin-Say**	**149.74**	**56**		P	**PKiKP**		**21 00 23.0**	**+0.3**
	SNR=19								
GSI	**Gunungsitoli**	**149.76**	**159**		PKPdf	**PKPdf**		**21 00 16.8**	**-0.9**
AML	**Almayashu**	**149.79**	**57**		P	**PKiKP**		**21 00 23.3**	**+0.2**
	SNR=9.2								
USP	**Ospenovka**	**150.10**	**54**		P	**PKiKP**		**21 00 23.9**	**+0.6**
	SNR=16								
NIL	**Nilore**	**150.18**	**74**		PKIKP	**PKPdf**		**21 00 17.1**	**-0.7**
NIL								21 00 23.0	
NIL	**Nilore**	**150.18**	**74**		PKPdf	**PKPdf**		**21 00 17.1**	**-0.7**
NIL						**PKPbc**		**21 00 23.0**	**+0.1**
HYB	**Hyderabad**	**150.23**	**108**	*i*	PKP	**PKPdf**		**21 00 19.0**	**+0.7**
AAK	**Ala-Archa**	**150.26**	**56**		P	**PKiKP**		**21 00 24.6**	**+0.8**
	SNR=26								
CHMS	**Chumysh**	**150.35**	**55**		P	**PKiKP**		**21 00 25.2**	**+0.8**
	SNR=16								
UCH	**Uchtor**	**150.37**	**56**		P	**PKiKP**		**21 00 25.2**	**+0.8**
	SNR=26								
KBK	**Karagaybulak**	**150.57**	**55**		P	**PKiKP**		**21 00 24.7**	**+0.3**
	SNR=11								
ZAA0	**Zalesovo Array**	**150.66**	**29**		PKPdf	**PKPdf**		**21 00 17.7**	**-0.2**
ZAA0					PKPbc	**PKiKP**		**21 00 23.8**	**-0.2**
ZALV	**Zalesovo Beam**	**150.66**	**29**		PKP	**PKPdf**		**21 00 18.6**	**+0.7**
	comp=Z,5.6nm,1.0s,baz=291,slow=4.1,SNR=11								
ZALV					PKPbc	**PKiKP**		**21 00 24.0**	**0.0**
	comp=Z,62nm,0.7s,baz=301,slow=3.2,SNR=135								
ZALV	**Zalesovo Beam**	**150.66**	**29**		PKIKP	**PKPdf**		**21 00 17.7**	**-0.1**
ZALV								21 00 23.6	
ZALV	**Zalesovo Beam**	**150.66**	**29**		PKPdf	**PKPdf**		**21 00 17.7**	**-0.1**
ZALV					PKPbc	**PKPbc**		**21 00 23.6**	**+0.3**
TKM2	**Tokmak 2**	**150.97**	**55**		P	**PKPdf**		**21 00 20.2**	**+1.2**
	SNR=7.5								
BOOM	**Boomskoye usch**	**151.33**	**55**		PKIKP	**PKPbc**		**21 00 24.3**	**-1.2**
BOOM	**Boomskoye usch**	**151.33**	**55**			**PKPbc**		**21 00 24.3**	**-1.2**
RPSI	**Rantau Prapat**	**151.49**	**160**		PKPdf	**PKPdf**		**21 00 18.2**	**-2.2**
RPSI					PKPbc	**PKPbc**		**21 00 25.7**	**-0.8**
RPSI	**Rantau Prapat**	**151.49**	**160**			**PKPdf**		**21 00 19.5**	**-0.9**
RPSI						**PKPbc**		**21 00 26.3**	**-0.2**
PSI	**Prapat**	**151.59**	**160**		PKP	**PKPdf**		**21 00 19.5**	**-1.2**
	comp=Z,3.6nm,0.4s,baz=183,slow=0.5,SNR=1.8								
PSI					PKPbc	**PKPbc**		**21 00 26.3**	**-0.6**
	comp=Z,41nm,0.9s,baz=195,slow=2.3,SNR=16								
PSI	**Prapat**	**151.59**	**160**		PKIKP	**PKPdf**		**21 00 18.2**	**-2.5**
PSI								21 00 25.7	
PSI								21 00 26.3	
ULHL	**Ulahol**	**151.61**	**56**		P	**PKiKP**		**21 00 27.7**	**+1.0**
	SNR=8.5								
BOD	**Bodaibo**	**151.86**	**353**	*e*	PKIKP	**PKPdf**		**21 00 19.3**	**-0.3**
BOD					pmax	pmax			
	comp=Z,28nm,1.0s								
KSH	**Kashi**	**152.00**	**61**		PKPbc	**PKPdf**		**21 00 22.0**	**+1.4**
KSH					PP	**PP**		**21 04 06.8**	**-1.8**
KSH					LR	LR			
	comp=Z,190nm,15.2s								
KSH					LR	LR			
	comp=Z,280nm,17.5s								
KSH					LR	LR			
	comp=Z,320nm,16.1s								
KDJ	**Kajisay**	**152.31**	**56**		PKIKP	**PKPdf**		**21 00 20.6**	**-0.4**
KDJ								21 00 28.3	
KDJ	**Kajisay**	**152.31**	**56**		PKPdf	**PKPdf**		**21 00 20.6**	**-0.4**
KDJ					PKPbc	**PKiKP**		**21 00 28.3**	**+0.2**
ZEA	**Zeya**	**152.50**	**335**	*e*	PKIKP	**PKiKP**		**21 00 27.9**	**+0.1**
ZEA					pmax	pmax			
	comp=Z,10.0nm,1.0s								
MAKZ	**Makanchi**	**153.64**	**43**		PKIKP	**PKPdf**		**21 00 22.6**	**0.0**
MAKZ					MLR	MLR			
	comp=Z,300nm,19.0s								
MAKZ	**Makanchi**	**153.64**	**43**			**PKPdf**		**21 00 22.6**	**0.0**
MK31	**Makanchi Array**	**153.83**	**43**		PKIKP	**PKPdf**		**21 00 22.9**	**0.0**
MK31	**Makanchi Array**	**153.83**	**43**		PKPdf	**PKPdf**		**21 00 22.9**	**0.0**
MKAR	**Makanchi Array**	**153.83**	**43**		PKP	**PKPdf**		**21 00 20.4**	**-2.4**
	comp=Z,2.9nm,0.9s,baz=321,slow=1.7,SNR=9.8								
MKAR					PKPbc	**PKPbc**		**21 00 30.5**	**-0.3**
	comp=Z,4.2nm,0.8s,baz=316,slow=2.5,SNR=11								
MKAR	**Makanchi Array**	**153.83**	**43**		PKIKP	**PKPdf**		**21 00 22.3**	**-0.5**
MKAR	**Makanchi Array**	**153.83**	**43**		PKPdf	**PKPdf**		**21 00 22.3**	**-0.5**
MJAR	**Matsushiro Arr**	**154.11**	**293**		PKP	**PKPdf**		**21 00 23.2**	**-0.4**
	comp=Z,3.9nm,1.2s,baz=90,slow=1.4,SNR=4.4								
MJAR						PKPab	**PKPab**	**21 00 45.8**	**+0.4**
	comp=Z,7.8nm,0.9s,baz=110,slow=1.7,SNR=14								
USRK	**Ussuriysk Ar.**	**156.39**	**314**		PKPab	**PKPab**		**21 00 56.1**	**+1.4**
	comp=Z,4.0nm,1.0s,baz=64,slow=2.2,SNR=5.2								
WMQ	**Urumqi**	**158.64**	**44**	*e*	PKP	**PKPdf**		**21 00 29.6**	**+0.3**
WMQ					LR	LR			
	comp=Z,250nm,18.9s								
WMQ					LR	LR			
	comp=Z,260nm,22.9s								
WMQ					LR	LR			
	comp=Z,120nm,21.9s								
KSRS	**Korea Array**	**161.97**	**300**		PKP	**PKPdf**		**21 00 34.3**	**+1.2**
	comp=Z,1.9nm,0.9s,baz=133,slow=1.9,SNR=4.5								
SONM	**Songino Array**	**162.11**	**4**		PKP	**PKPdf**		**21 00 33.4**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=141,slow=0.6,SNR=6.9								
SONM					PKPab	**pPKPab**		**21 01 21.1**	**-0.8**
	comp=Z,7.4nm,0.9s,baz=331,slow=4.5,SNR=17								
SONM	**Songino Array**	**162.11**	**4**		PKPdf	**PKPdf**		**21 00 31.4**	**-1.7**
SONM						**PKPab**		**21 01 20.6**	**+1.0**
ULN	**Ulaanbaatar**	**162.11**	**2**		PKIKP	**PKPdf**		**21 00 32.9**	**-0.2**
ULN	**Ulaanbaatar**	**162.11**	**2**		PKPdf	**PKPdf**		**21 00 32.9**	**-0.2**
ULN					PKPab	**PKPab**		**21 01 20.7**	**+1.1**
SHL	**Shillong**	**164.93**	**103**		PKIKP	**PKPdf**		**21 00 36.2**	**-0.3**
SHL								21 01 32.6	
SHL	**Shillong**	**164.93**	**103**			**PKPdf**		**21 00 36.2**	**-0.3**
SHL					PKPab	**PKPab**		**21 01 32.6**	**-0.2**
LSA	**Lhasa**	**165.22**	**87**		P	**PKPab**		**21 01 34.4**	**0.0**
LSA					pmax	pmax			
	comp=Z,85nm,1.0s								
LSA	**Lhasa**	**165.22**	**87**		PKIKP	**PKPdf**		**21 00 36.3**	**-0.7**
LSA								21 01 34.5	
LSA	**Lhasa**	**165.22**	**87**		PKPdf	**PKPdf**		**21 00 36.3**	**-0.7**
LSA						**PKPab**		**21 01 34.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**165.79**	**142**		PKP	**PKPdf**		**21 00 38.3**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=264,slow=2.7,SNR=6.8								
CMAR						PKPab	**PKPab**	**21 01 35.9**	**-0.5**
	comp=Z,2.8nm,0.9s,baz=236,slow=5.3,SNR=7.7								
CMAR	**Chiang Mai Arr**	**165.79**	**142**		PKIKP	**PKPdf**		**21 00 36.7**	**-0.5**
CMAR								21 01 35.9	
CMAR	**Chiang Mai Arr**	**165.79**	**142**			**PKPdf**		**21 00 36.7**	**-0.5**
CHTO	**Chiang Mai**	**166.08**	**141**		PKP2	**PKPab**		**21 01 36.1**	**-1.6**
CHTO	**Chiang Mai**	**166.08**	**141**		PKPab	**PKPab**		**21 01 36.1**	**-1.6**
GTA	**Gaotai**	**168.34**	**34**	⇑	PKP	**PKPdf**		**21 00 39.6**	**+1.0**
GTA					PKPab	**PKPab**		**21 01 48.3**	**+1.0**
GTA					PP	**PP**		**21 05 42.1**	**+6.2**
GTA					AMB	AMB			
	comp=Z,110nm,5.5s								
GTA					LR	LR			
	comp=Z,220nm,20.0s								
GTA					LR	LR			
	comp=Z,250nm,20.0s								
GTA					LR	LR			
	comp=Z,190nm,19.6s								
HHC	**Hu-ho-hao-te**	**168.80**	**347**	*e*	PKP	**PKPdf**		**21 00 39.4**	**+0.5**
HHC					PP	**PP**		**21 05 39.8**	**+2.1**
HHC					AMB	AMB			
	comp=Z,110nm,9.0s								
HHC					LR	LR			
	comp=Z,270nm,19.7s								
HHC					LR	LR			
	comp=Z,200nm,20.7s								
HHC					LR	LR			
	comp=Z,450nm,20.1s								
TIA	**Tai'an**	**170.25**	**312**	*e*	PKP	**PKPdf**		**21 00 40.3**	**+0.6**
NJ2	**Nanjing**	**170.61**	**285**	*e*	PKP	**PKPdf**		**21 00 40.8**	**+0.8**
KMI	**Kunming**	**173.18**	**134**	⇑	PKP	**PKPdf**		**21 00 39.3**	**-2.5**
XAN	**Xi'an**	**175.89**	**351**		PKP	**PKPdf**		**21 00 42.5**	**+0.4**
XAN					sPKP			21 00 49.8	
XAN					PKPab	**PKPab**		**21 02 21.1**	**+0.4**
XAN					SS	SS		21 27 36.3	-3.4
XAN					AMB	AMB			
	comp=Z,120nm,7.0s								
XAN					LR	LR			
	comp=Z,120nm,17.5s								
XAN					LR	LR			
	comp=Z,180nm,18.2s								
XAN					LR	LR			
	comp=Z,130nm,19.2s								
CD2	**Chengdu**	**176.07**	**75**		PKP	**PKPdf**		**21 00 43.0**	**+0.7**
GYA	**Guiyang**	**176.26**	**159**	⇑	PKP	**PKPdf**		**21 00 43.8**	**+1.3**
ENH	**Enshi**	**178.83**	**285**			**PKPdf**		**21 00 42.4**	**-0.3**

*IDC **17** 20:48:42.7±1.3,31°.31S×72°.28W, h0km, mb3.9/3, mb1 4.2/5, mb1mx3.9/35, mbtmp4.0/5, ML4.0/2 Error ellipse: s-maj=60.6km s-min=27.2km az=79.0*

*GUC **17** 20:48:46.1±0.8,31°.35S×71°.92W, h27km±5km, ML4.3*

ISC 17 20:48:43.5±1.9,**31°.36S**±0°.03×**72°.09W**±0°.09, **h3**km±11km, **n33**,σ0°**99**/32, **mb4.0**/3, **2C-1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.79**	**30**	⇑ *i*	P	**Pb**	**20 48 59.8**	**0.0**
CO06				*i*	S	**Sb**	**20 49 11.1**	**+0.2**
CO03	**El Pedregal**	**1.31**	**67**	*e*	P	**Pn**	**20 49 08.5**	**-0.3**
CO03				*i*	S	**Sb**	**20 49 24.7**	**-1.4**
CO03					IAML		20 49 25.5	
	comp=N,6μm,0.5s							
VA06	**Catapilco**	**1.37**	**151**	⇓ *i*	P	**Pg**	**20 49 10.3**	**+0.5**
VA06				*i*	S	**Sn**	**20 49 28.0**	**-0.1**
VA06					IAML		20 49 33.5	
	comp=E,16μm,0.3s							
GO04	**Tololo Observa**	**1.63**	**44**	*e*	P	**Pb**	**20 49 13.8**	**-0.4**
GO04				*i*	S	**Sg**	**20 49 35.2**	**-0.6**
GO04					IAML		20 49 38.8	
	comp=N,12μm,0.4s							
ROCH	**El Roble**	**1.85**	**150**	*e*	P	**Pb**	**20 49 17.5**	**-0.6**
ROCH				*i*	S	**Sg**	**20 49 41.9**	**-1.1**
ROCH					IAML		20 49 49.7	
	comp=E,5μm,0.7s							
VA03	**San Esteban**	**1.92**	**137**	*e*	P	**Pb**	**20 49 18.8**	**-0.3**
VA03				*i*	S	**Sb**	**20 49 42.9**	**-0.5**
VA03					IAML		20 49 50.6	
	comp=E,6μm,0.4s							
VA05	**Santo Domingo**	**2.32**	**170**	*e*	P	**Pn**	**20 49 23.0**	**+0.4**
VA05				*i*	S	**Sb**	**20 49 55.2**	**+0.1**
VA05					IAML		20 50 05.0	
	comp=E,3μm,0.5s							
MT05	**Renca**	**2.33**	**151**	*e*	P	**Pn**	**20 49 24.1**	**+1.4**
MT05				*i*	S	**Sb**	**20 49 54.6**	**-0.7**
MT05					IAML		20 50 02.1	
	comp=E,3μm,0.3s							
MT09	**Talagante**	**2.58**	**159**	*e*	P	**Pn**	**20 49 28.1**	**+1.8**
MT09				*i*	S	**Sn**	**20 49 57.8**	**-0.4**
MT09					IAML		20 50 18.5	
	comp=N,2μm,0.4s							
MT01	**Popeta**	**2.59**	**164**	*e*	P	**Pn**	**20 49 27.2**	**+0.9**
MT01				*i*	S	**Sb**	**20 50 02.0**	**-0.9**
MT01					IAML		20 50 13.0	
	comp=E,1μm,0.5s							
LMEL	**Las Melosas**	**2.95**	**148**	⇑ *i*	P	**Pn**	**20 49 33.5**	**+2.2**
LMEL				*i*	S	**Sn**	**20 50 07.5**	**+0.2**
LMEL					IAML		20 50 21.4	
	comp=N,1μm,0.4s							
BO03	**Pichilemu**	**3.13**	**178**	*e*	P	**Pn**	**20 49 33.8**	**+0.2**
BO01	**Tunca**	**3.14**	**165**	*e*	P	**Pn**	**20 49 35.0**	**+1.2**
BO02	**Sierra Bellavi**	**3.59**	**162**	*e*	P	**Pn**	**20 49 42.2**	**+2.0**
GO05	**Huala**	**3.64**	**178**	*e*	P	**Pn**	**20 49 40.7**	**0.0**
H03N1	**Juan Fernandez**	**6.13**	**248**		T	T	20 56 57.1	
	baz=77,slow=72,SNR=134							
H03N3	**Juan Fernandez**	**6.14**	**248**		T	T	20 56 57.7	
	baz=77,slow=72,SNR=141							
H03N2	**Juan Fernandez**	**6.14**	**248**		T	T	20 56 57.7	
	baz=77,slow=72,SNR=103							
H03S3	**Juan Fernandez**	**6.25**	**245**		T	T	20 57 02.5	
	baz=64,slow=74,SNR=5.9							
H03S1	**Juan Fernandez**	**6.26**	**245**		T	T	20 57 04.5	
	baz=64							
H03S2	**Juan Fernandez**	**6.27**	**245**		T	T	20 57 05.1	
	baz=64,slow=74,SNR=2.2							
PLCA	**Paso Flores**	**9.43**	**173**		Pn	**Pn**	**20 51 01.4**	**+1.1**
	comp=N,0.6nm,0.3s,baz=347,slow=12,SNR=1.0							
LPAZ	**La Paz**	**15.44**	**14**		Pn	**Pn**	**20 52 23.8**	**+1.0**
	comp=N,0.1nm,0.3s,baz=198,slow=16,SNR=3.5							
SNAA	**Sanae**	**54.04**	**159**		P	**P**	**20 58 09.2**	**+0.4**
	comp=N,0.6nm,0.6s,baz=279,slow=8.3,SNR=5.9							
TXAR	**Lajitas Array**	**67.42**	**330**		P	**P**	**20 59 39.0**	**-1.4**
	comp=N,0.5nm,0.5s,baz=145,slow=10.0,SNR=3.7							
TORD	**Torodi Ar. Bea**	**83.36**	**70**		P	**P**	**21 01 12.3**	**0.0**
	comp=N,1.7nm,0.7s,baz=255,slow=4.6,SNR=9.6							
H11S2	**WAKE ISLAND Hyl**	**25.72**	**271**		T	T	23 26 32.1	
	baz=116,slow=74,SNR=7.0							
H11S1	**WAKE ISLAND Hyl**	**25.73**	**271**		T	T	23 26 32.1	
	baz=116,slow=74,SNR=4.0							
H11S3	**WAKE ISLAND Hyl**	**25.74**	**271**		T	T	23 26 31.0	
	baz=116,slow=74,SNR=6.4							
H11N3	**WAKE ISLAND Hyl**	**26.07**	**273**		T	T	23 26 56.4	
	baz=117,slow=74,SNR=4.0							
H11N1	**WAKE ISLAND Hyl**	**26.08**	**273**		T	T	23 27 06.4	
	baz=117							
H11N2	**WAKE ISLAND Hyl**	**26.08**	**273**		T	T	23 27 01.4	
	baz=117,slow=74,SNR=8.0							
ZALV	**Zalesovo Beam**	**151.99**	**30**		PKPbc	**PKPbc**	**21 08 39.6**	**+0.1**
	comp=N,2.4nm,0.5s,baz=288,slow=2.9,SNR=8.6							

*DJA **17** 20:48:50.6±0.8, 10°.5±4°.1×10°.7E±°, h20km±8km, M4.3/13, mb4.3/3, MLv4.4/13*

*IDC **17** 20:48:52.7±2.0, 9°.85S×107°.55E, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.6/36, mbtmp3.7/6, ML4.0/2, MS3.6/2, Ms1 3.7/2, ms1mx2.8/31, Error ellipse: s-maj=63.4km s-min=18.7km az=58.0*

ISC 17 20:48:55.3±1.2, **9°.60S**±0°.08×**107°.53E**±0°.10, **h23**km, **n22**, σ1°**60**/20, **mb3.4**/4, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
CMJI	**Cimerak**	**2.02**	**27**		P	**Pb**	**20 49 29.7**	**-1.7**
CISI	**Cisompet, Garu**	**2.05**	**8**		P	**Pb**	**20 49 30.1**	**-1.9**
CNJI	**Cibinong**	**2.31**	**350**		P	**Pn**	**20 49 32.3**	**+0.2**
CNJI					S	**Sb**	**20 50 03.7**	**-0.9**
KPJI	**Karang Pucung**	**2.65**	**32**		P	**Pb**	**20 49 39.2**	**-2.9**
LEM	**Lembang**	**2.76**	**2**		Pn	**Pb**	**20 49 43.3**	**-0.8**
	20nm,0.3s,baz=240,slow=7.6,SNR=36							
LEM					Sn	**Sb**	**20 50 19.6**	**+2.1**
	45nm,0.3s,baz=177,slow=14,SNR=13							
CTJI	**Waduk Cacaban**	**3.05**	**32**		P	**Pn**	**20 49 44.5**	**+2.3**
UGM	**Wanagama**	**3.40**	**61**		P	**Pn**	**20 49 48.3**	**+1.3**
PCJI	**Pacitan**	**3.86**	**69**		P	**Pn**	**20 49 55.0**	**+1.6**
PWJI	**Pagerwojo**	**4.50**	**70**		P	**Pn**	**20 50 03.3**	**+1.1**
SJI	**Sawahan**	**4.58**	**66**		P	**Pn**	**20 50 05.0**	**+1.7**
GMJI	**Gumukmas**	**5.99**	**78**		P	**Pn**	**20 50 23.3**	**+0.7**
	0.2nm35nm,1.6s							
MDSI	**Maura Dua**	**6.08**	**327**		P	**Pn**	**20 50 22.9**	**-0.9**
	0.1nm5.3nm,0.6s							
JAGI	**Jajag, Banyuwa**	**6.63**	**81**		P	**Pn**	**20 50 31.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**19.49**	**118**		P	**P**	**20 53 19.0**	**-1.9**
	0.3nm,0.3s,baz=294,slow=9.3,SNR=14							
FITZ					S	S	20 56 39.2	-21
	0.1nm,0.3s,baz=199,slow=18,SNR=1.7							
FITZ					LR	LR	20 59 26.2	
	comp=Z,56nm,21.2s,baz=298,slow=33							
H01W3	**Cape Leeuwin H**	**25.88**	**167**		T	T	21 21 23.9	
	baz=349							
H01W1	**Cape Leeuwin H**	**25.89**	**167**		T	T	21 21 25.6	
	baz=349							
H01W2	**Cape Leeuwin H**	**25.89**	**168**		T	T	21 21 25.6	
	baz=349							
WRA	**Warramunga Arr**	**27.84**	**115**		P	**P**	**20 54 43.3**	**-0.1**
	0.4nm,0.6s,baz=285,slow=11,SNR=5.7

AAGR				*e*S		**Sg**	**20 52 23.1**	**+1.4**
BO02	**Sierra Bellavi**	**3.38**	**163**	*e*P		**Pn**	**20 51 37.1**	**+1.3**
BO02				*i* S		**Sn**	**20 52 16.1**	**+0.1**
BO02	**Sierra Bellavi**	**3.38**	**163**			**Pn**	**20 51 37.3**	**+1.4**
AC04	**Llanos de Chal**	**3.43**	**13**			**Pn**	**20 51 37.1**	**+0.7**
LAMA	**Las Malvinas**	**4.09**	**146**	*e*P		**Pb**	**20 51 53.7**	**-1.4**
GO03	**Copiap**	**4.23**	**21**	Pn		**Pn**	**20 51 48.7**	**+1.2**
MRA	**San Martin**	**5.39**	**101**	*e*P		Pn	20 52 09.0	+5.5
H03N1	**Juan Fernandez**	**6.15**	**250**	T		T	20 58 51.9	
	baz=80,slow=72,SNR=198							
H03N3	**Juan Fernandez**	**6.17**	**250**	T		T	20 58 50.1	
	baz=80,slow=72,SNR=228							
H03N2	**Juan Fernandez**	**6.17**	**250**	T		T	20 58 50.8	
	baz=80,slow=72,SNR=220							
CYA	**Choya**	**6.19**	**62**	*e*P		**Pn**	**20 52 17.5**	**+3.0**
H03S3	**Juan Fernandez**	**6.27**	**247**	T		T	20 59 06.8	
	baz=72,slow=79,SNR=5.8							
H03S1	**Juan Fernandez**	**6.27**	**247**	T		T	20 59 01.9	
	baz=72,slow=79,SNR=4.8							
H03S2	**Juan Fernandez**	**6.28**	**247**	T		T	20 59 03.6	
	baz=72,slow=79,SNR=12							
PB15	**IPOC Station P**	**8.61**	**16**			**Pn**	**20 52 48.3**	**+0.5**
PB06	**IPOC Station P**	**9.07**	**14**	Pn		**Pn**	**20 52 54.8**	**+0.7**
PLCA	**Paso Flores**	**9.23**	**173**	Pn		**Pn**	**20 52 57.4**	**+1.2**
	comp=E,0.6nm,0.3s,baz=151,slow=22,SNR=1.0							
PLCA	**Paso Flores**	**9.23**	**173**	*e*P		**Pn**	**20 52 57.8**	**+1.6**
PB07	**IPOC Station P**	**9.96**	**11**	Pn		**Pn**	**20 53 06.6**	**+0.2**
PB09	**IPOC Station P**	**10.02**	**15**	Pn		**Pn**	**20 53 07.8**	**+0.6**
TRQA	**Tornquist**	**10.47**	**131**	Pn		**Pn**	**20 53 15.5**	**+2.4**
PB11	**IPOC Station P**	**11.93**	**11**	Pn		**Pn**	**20 53 34.2**	**+0.9**
CPUP	**Villa Florida**	**13.84**	**72**	LR		LR	20 59 25.9	
	comp=E,226nm,18.7s,baz=276,slow=38							
SIV	**San Ignacio**	**18.41**	**35**	P		**P**	**20 54 56.7**	**-1.7**
	comp=E,0.1nm,0.3s,baz=261,slow=21,SNR=1.6							
SIV				LR		LR	21 02 35.3	
	comp=E,224nm,18.3s,baz=286,slow=39							
JTS	**Las Juntas de**	**43.42**	**341**	LR		LR	21 13 48.8	
	comp=E,119nm,19.6s,baz=148,slow=32							
SNAA	**Sanae**	**53.83**	**159**	P		**P**	**21 00 05.2**	**-0.4**
	comp=E,0.5nm,0.6s,baz=319,slow=5.2,SNR=3.2							
SNAA	**Sanae**	**53.83**	**159**	P		**P**	**21 00 04.7**	**-0.8**
QSPA	**South Pole Qui**	**58.67**	**180**	P		**P**	**21 00 42.0**	**+1.7**
	comp=E,1.5nm,0.9s,baz=135,slow=2.0,SNR=5.6							
QSPA	**South Pole Qui**	**58.67**	**180**	P		**P**	**21 00 37.8**	**-2.6**
TXAR	**Lajitas Array**	**67.64**	**330**	P		**P**	**21 01 42.1**	**+2.0**
	comp=E,0.2nm,0.5s,baz=127,slow=8.0,SNR=3.7							
DBIC	**Dimbokro**	**74.36**	**72**	P		**P**	**21 02 21.5**	**+0.3**
	comp=E,4.5nm,0.8s,baz=244,slow=10.0,SNR=3.9							
RSSD	**Black Hills**	**80.80**	**337**	P		**P**	**21 02 53.6**	**-3.2**
RSSD				IAmb		IAmb	21 03 19.3	
	comp=Z,3.8nm,0.8s							
NVAR	**Mina Array Bea**	**81.91**	**325**	P		**P**	**21 03 05.1**	**+2.3**
	comp=Z,0.6nm,0.7s,baz=156,slow=5.7,SNR=4.4							
TORD	**Torodi Ar. Bea**	**83.33**	**70**	P		**P**	**21 03 10.9**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=261,slow=4.9,SNR=10							
TORD	**Torodi Ar. Bea**	**83.33**	**70**	P		**P**	**21 03 08.9**	**-1.6**
TORD				IAmb		IAmb	21 03 12.4	
	comp=Z,2.8nm,0.8s							
H11S2	**WAKE ISLAND Hyl**	**25.82**	**271**	T		T	23 28 33.8	
	baz=117,slow=75,SNR=38							
H11S1	**WAKE ISLAND Hyl**	**25.83**	**271**	T		T	23 28 35.2	
	baz=117,slow=75,SNR=35							
H11S3	**WAKE ISLAND Hyl**	**25.84**	**271**	T		T	23 28 35.2	
	baz=117,slow=75,SNR=38							
H11N3	**WAKE ISLAND Hyl**	**26.17**	**272**	T		T	23 29 03.8	
	baz=117,slow=75,SNR=36							
H11N1	**WAKE ISLAND Hyl**	**26.19**	**272**	T		T	23 29 01.3	
	baz=117,slow=75,SNR=14							
H11N2	**WAKE ISLAND Hyl**	**26.19**	**272**	T		T	23 29 05.8	
	baz=117,slow=75,SNR=53							
ZALV	**Zalesovo Beam**	**152.11**	**30**	PKPbc		**PKiKP**	**21 10 38.5**	**+0.2**
	comp=Z,3.9nm,0.5s,baz=312,slow=3.8,SNR=12							
ZALV	**Zalesovo Beam**	**152.11**	**30**			**PKPbc**	**21 10 38.0**	**0.0**

SNET ***17*** *21:07:00.7±0.7, 12°.13N×89°.70W, h41km±590km, ML3.7*
UCR ***17*** *21:07:01.1±0.8, 12°.20N×89°.65W, h25km±65km, ML3.5*
ISC 17 21:06:59.7±5.1, 12°.0N±0°.3×89°.7W±0°.2, h35km, n16, σ0s22/18, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAYA	**Jayaque - finc**	**1.64**	**9**	*e*P		**Pn**	**21 07 25.8**	**-0.5**
JAYA				IAML			21 07 49.2	
	comp=Z,578nm,0.2s							
JAYA	**Jayaque - finc**	**1.64**	**9**	*e*P		**Pn**	**21 07 25.8**	**-0.5**
JAYA				IAML			21 07 49.2	
	comp=Z,578nm,0.2s							
LFRS	**El Faro**	**1.71**	**21**	*e*P		**Pn**	**21 07 27.1**	**-0.1**
LFRS	**El Faro**	**1.71**	**21**	*e*P		**Pn**	**21 07 27.1**	**-0.1**
CEVE	**Cerro Verde**	**1.80**	**3**	*e*P		**Pn**	**21 07 28.7**	**+0.2**
CEVE				IAML			21 07 53.2	
	comp=Z,844nm,0.3s							
CEVE	**Cerro Verde**	**1.80**	**3**	*e*P		**Pn**	**21 07 28.7**	**+0.2**
CEVE				IAML			21 07 53.2	
	comp=Z,844nm,0.3s							
SBLS	**San Blas**	**1.81**	**3**	*e*P		**Pn**	**21 07 28.5**	**-0.2**
SBLS				*e*S		**Sn**	**21 07 50.7**	**+0.1**
SBLS	**San Blas**	**1.81**	**3**	*e*P		**Pn**	**21 07 28.5**	**-0.2**
SBLS				*e*S		**Sn**	**21 07 50.7**	**+0.1**
SNJE	**San Jose**	**1.84**	**3**	*e*P		**Pn**	**21 07 29.0**	**0.0**
SNJE	**San Jose**	**1.84**	**3**	*e*P		**Pn**	**21 07 29.0**	**0.0**
RTR	**El Retiro**	**1.87**	**2**	*e*P		**Pn**	**21 07 29.6**	**+0.2**
RTR	**El Retiro**	**1.87**	**2**	*e*P		**Pn**	**21 07 29.6**	**+0.2**
TACO	**Tacachico**	**1.97**	**10**	*e*P		**Pn**	**21 07 30.6**	**-0.1**
TACO	**Tacachico**	**1.97**	**10**	*e*P		**Pn**	**21 07 30.6**	**-0.1**
LCND	**La Caada**	**2.19**	**54**	*e*P		**Pn**	**21 07 33.6**	**0.0**
LCND				IAML			21 08 07.2	
	comp=Z,557nm,0.3s							
LCND	**La Caada**	**2.19**	**54**	*e*P		**Pn**	**21 07 33.6**	**0.0**
LCND				IAML			21 08 07.2	
	comp=Z,557nm,0.3s							

IDC ***17*** *21:12:58.6±1.0, 31°.49S×71°.74W, h0km, mb4.1/6, mb1 4.2/11, mb1mx4.1/30, mbtmp4.1/11, ML4.2/5, MS3.7/3, Ms1 3.7/3, ms1mx3.2/34, Error ellipse: s-maj=26.9km s-min=26.5km az=97.0*
SJA ***17*** *21:13:02.6±0.7, 31°.48S×72°.05W, h10km±5km, ML4.5, MW4.5*
NEIC ***17*** *21:13:02.7±1.4, 31°.36S±0°.04×71°.92W±0°.06, h24km±5km, mb4.5/9, Mwr4.1/31, ML4.5(GUC), Error ellipse: s-maj=9.0km s-min=2.9km az=126.0*
NEIC ***17*** *21:13:02.1, 31°.37S×71°.89W, h29km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.36; Mθθ0.43; Mϕϕ- 1.79; Mrθ0.51; Mθϕ-0.33; Mrϕ-0.22; Fault plane solution: M₀1.74000×10¹⁵ NP1:φs165.49000°, δ52.71000°, λ57.72000°. NP2:φs31.68000°, δ47.73000°, λ125.04000°. Principal axes: T 1.6234, Plg65.0000°, Azm13.0000°; N 0.2201, Plg25.0000°, Azm186.0000°; P -1.8435, Plg3.0000°, Azm278.0000°;*
GUC ***17*** *21:13:02.2±0.8, 31°.35S×71°.77W, h40km±5km, ML4.5*
ISC 17 21:13:01.2±1.1, 31°.34S±0°.03×72°.08W±0°.05, h19km±4km, n105, σ1s57/123, mb4.1/6, 3C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.76**	**30**	*e*P		**Pb**	**21 13 15.9**	**0.0**
CO06				*i* S		**Sg**	**21 13 26.5**	**+0.2**
CO06				IAML			21 13 28.7	
	comp=E,13μm,0.3s							
CO06	**Fray Jorge**	**0.76**	**30**			**Pg**	**21 13 16.4**	**+0.2**
CO06				Sg		**Sg**	**21 13 26.8**	**+0.4**
CO03	**El Pedregal**	**1.29**	**68**	⇓*i*P		**Pn**	**21 13 22.6**	**-1.8**
CO03				*i* S		**Sn**	**21 13 37.2**	**-3.9**
CO03				IAML			21 13 39.3	
	comp=E,11μm,0.4s							
CO03	**El Pedregal**	**1.29**	**68**	⇑		**Pn**	**21 13 22.4**	**-1.8**
CO03						**Sn**	**21 13 37.1**	**-4.0**
VA06	**Catapilco**	**1.39**	**152**	⇑*i*P		**Pn**	**21 13 24.5**	**-1.1**
VA06				*i* S		**Sn**	**21 13 40.6**	**-2.8**
VA06				IAML			21 13 46.1	
	comp=N,26μm,0.3s							
CO05	**La Serena**	**1.59**	**27**	Pn		**Pn**	**21 13 29.3**	**+0.9**
GO04	**Tololo Observa**	**1.60**	**44**	⇑*i*P		**Pn**	**21 13 29.0**	**+0.3**
GO04				*i* S		**Sn**	**21 13 48.3**	**-0.7**
GO04				IAML			21 13 53.5	
	comp=E,42μm,0.5s							
GO04	**Tololo Observa**	**1.60**	**44**	Pn		**Pn**	**21 13 28.6**	**-0.2**
VA01	**Torpederas**	**1.72**	**168**			**Pn**	**21 13 29.9**	**-0.3**
VA01	**Torpederas**	**1.72**	**168**	*e*P		**Pn**	**21 13 30.1**	**0.0**
VA01				*e*S		**Sn**	**21 13 50.0**	**-1.6**
ROCH	**El Roble**	**1.86**	**151**	*i* P		**Pn**	**21 13 31.9**	**-0.4**
ROCH				*i* S		**Sn**	**21 13 55.3**	**-0.2**
ROCH				IAML			21 14 00.5	
	comp=N,5μm,0.5s							
VA03	**San Esteban**	**1.92**	**138**	⇑*i*P		**Pn**	**21 13 32.5**	**-0.6**
VA03				*i* S		**Sn**	**21 13 55.2**	**-1.6**
VA03				IAML			21 14 00.2	
	comp=E,13μm,0.8s							
VA03	**San Esteban**	**1.92**	**138**			**Pn**	**21 13 32.5**	**-0.6**
MT05	**Renca**	**2.34**	**151**	*e*P		**Pn**	**21 13 38.9**	**+0.2**
MT05				*i* S		**Sn**	**21 14 07.5**	**+0.4**
MT05	**Renca**	**2.34**	**151**			**Pn**	**21 13 38.4**	**-0.3**
MT05	**Renca**	**2.34**	**151**	*e*P		**Pn**	**21 13 39.0**	**+0.2**
VA05	**Santo Domingo**	**2.35**	**171**	*e*P		**Pn**	**21 13 38.5**	**-0.2**
VA05				IAML			21 14 20.0	
	comp=E,3μm,0.5s							
VA05	**Santo Domingo**	**2.35**	**171**			**Pn**	**21 13 38.3**	**-0.4**
RTLS	**Leoncito**	**2.42**	**102**	*e*P		**Pn**	**21 13 41.8**	**+1.7**
RTLS				*e*S		**Sn**	**21 14 10.8**	**+1.6**
RTLS				IAML			21 14 14.5	
	comp=Z,3μm,0.8s							
AUSP	**Uspallata**	**2.45**	**112**	*e*P		**Pn**	**21 13 42.0**	**+1.5**
AUSP				*e*S		**Sn**	**21 14 11.5**	**+1.3**
MT09	**Talagante**	**2.60**	**160**	*e*P		**Pn**	**21 13 43.3**	**+0.9**
MT09				IAML			21 14 25.9	
	comp=N,2μm,0.4s							
MT09	**Talagante**	**2.60**	**160**			**Pn**	**21 13 42.5**	**+0.1**
MT01	**Popeta**	**2.61**	**165**	*e*P		**Pn**	**21 13 42.4**	**-0.1**
MT01				IAML			21 14 24.4	
	comp=E,912nm,0.5s							
MT01	**Popeta**	**2.61**	**165**	Pn		**Pn**	**21 13 42.4**	**-0.1**
MT01	**Popeta**	**2.61**	**165**	*e*P		Pn	21 13 37.5	-5.0
MT01				*e*P			21 13 42.8	
MT01				*e*S		**Sn**	**21 14 12.0**	**-1.7**
ACCO	**Cerro Coronel**	**2.69**	**75**	*e*P		**Pn**	**21 13 46.0**	**+2.2**
ACCO				*e*S		**Sb**	**21 14 19.6**	**-2.2**
ZON	**Zonda**	**2.91**	**95**			**Pn**	**21 13 47.9**	**+1.3**
ZON	**Zonda**	**2.91**	**95**	*e*P		**Pn**	**21 13 49.0**	**+2.4**
ZON				*e*S		**Sn**	**21 14 22.0**	**+0.9**
ZON				IAML			21 14 32.5	
	comp=Z,1μm,0.6s							
LMEL	**Las Melosas**	**2.96**	**148**	⇓*i*P		**Pn**	**21 13 48.0**	**+0.6**
LMEL				*i* S		**Sn**	**21 14 22.6**	**+0.1**
LMEL				IAML			21 14 33.4	
	comp=N,2μm,0.5s							
ASAL	**Salagasta**	**3.02**	**115**	*e*P		**Pn**	**21 13 51.0**	**+2.8**
ASAL				*e*S		**Sn**	**21 14 24.0**	**0.0**
ASAL				*e*S			21 14 28.5	
ASAL				IAML			21 14 39.7	
	comp=Z,1μm,1.0s							
ARCO	**CERRO ARCO**	**3.06**	**120**	*e*P		**Pb**	**21 13 53.0**	**-2.2**
ARCO				*e*S		**Sn**	**21 14 28.5**	**+3.5**
ARCO				IAML			21 14 41.7	
	comp=Z,1μm,0.6s							
RTCV	**Cerro Valdivia**	**3.06**	**101**	*e*P		**Pn**	**21 13 51.0**	**+2.3**
RTCV				*e*S		**Sn**	**21 14 24.5**	**-0.3**
BO01	**Tunca**	**3.16**	**165**			**Pn**	**21 13 50.0**	**+0.1**
BO01	**Tunca**	**3.16**	**165**	*e*P		**Pn**	**21 13 50.0**	**+0.1**
BO01				*e*S		**Sn**	**21 14 29.0**	**+1.9**
AC04	**Llanos de Chal**	**3.24**	**16**			**Pn**	**21 13 48.0**	**-3.1**
AAGR	**Agrelo**	**3.26**	**123**	*e*S		**Sb**	**21 14 39.0**	**+1.1**
AAGR				*e*S		**Sb**	**21 14 40.6**	**+2.7**
AGUA	**GUANDACOL**	**3.60**	**60**	*e*P		**Pn**	**21 14 00.0**	**+3.8**
AGUA				*e*S		**Sb**	**21 14 47.5**	**-0.3**
BO02	**Sierra Bellavi**	**3.61**	**163**			**Pn**	**21 13 56.7**	**+0.4**
BO02	**Sierra Bellavi**	**3.61**	**163**	*e*P		Pn	21 13 51.0	-5.3
BO02				*e*P			21 13 56.8	
BO02				*e*S		**Sn**	**21 14 37.5**	**-1.0**
BO02				IAML			21 14 59.9	
	comp=Z,723nm,0.9s							
GO05	**Huala**	**3.67**	**178**			**Pn**	**21 13 56.1**	**-0.9**
GO05	**Huala**	**3.67**	**178**	*e*P		Pn	21 13 51.0	-6.0
GO05				*e*P		**Pn**	**21 13 56.3**	**-0.7**
GO05				*e*S		**Sb**	**21 14 52.0**	**+2.5**
AVFE	**Valle Fertil**	**4.02**	**82**	*e*P		**Pn**	**21 14 03.0**	**+1.1**
AVFE				*e*S		**Sn**	**21 14 49.0**	**+0.4**
GO03	**Copiap**	**4.06**	**24**			**Pn**	**21 14 02.5**	**0.0**
GO03	**Copiap**	**4.06**	**24**	*e*P		**Pn**	**21 14 03.0**	**+0.6**
GO03				*e*P		**Pn**	**21 14 03.8**	**+1.3**
GO03				*e*S		**Sn**	**21 14 51.5**	**+2.0**
AC06	**Mina Casimiro**	**4.24**	**21**			**Pn**	**21 14 04.4**	**-0.5**
ML02	**Panimavida**	**4.45**	**173**			**Pn**	**21 14 08.9**	**+1.2**
RFA	**San Rafael**	**4.57**	**139**	*e*P		**Pn**	**21 14 10.0**	**+0.5**
RFA				*e*S		**Sb**	**21 15 16.0**	**+0.3**
ACHE	**Chepes**	**4.64**	**89**	*e*P		**Pn**	**21 14 11.0**	**+0.6**
ACHE				*e*S		**Sn**	**21 15 07.6**	**+3.7**
ACLC	**CERRO LA CRUZ**	**4.82**	**68**	*e*P		**Pn**	**21 14 14.0**	**+1.0**
ACLC				*e*S		**Sn**	**21 15 08.0**	**-0.4**
APLL	**PUNTA DE LOS L**	**4.86**	**80**	*e*P		**Pn**	**21 14 14.0**	**+0.6**
AC02	**Maricunga**	**5.17**	**31**			**Pn**	**21 14 18.3**	**+0.2**
H03N1	**Juan Fernandez**	**6.15**	**248**	T		T	21 21 19.0	
	baz=77,slow=72,SNR=636							
VA04	**Juan Fernndez**	**6.15**	**246**	Pn		**Pn**	**21 14 34.0**	**+2.9**
CYA	**Choya**	**6.16**	**64**	*e*P		**Pn**	**21 14 32.0**	**+0.7**
H03N3	**Juan Fernandez**	**6.17**	**248**	T		T	21 21 16.2	
	baz=77,slow=72,SNR=691							
H03N2	**Juan Fernandez**	**6.17**	**248**	T		T	21 21 20.4	
	baz=77,slow=72,SNR=618							
PB14	**IPOC Station P**	**6.85**	**13**			**Pn**	**21 14 39.6**	**-1.4**
AHML	**Horco Molle**	**7.44**	**54**	*e*P		**Pn**	**21 14 49.0**	**+0.1**
AHML				*e*P		**Pn**	**21 14 51.0**	**+2.1**
LC01	**Cunco**	**7.54**	**179**			**Pn**	**21 14 50.0**	**-0.2**
LC01	**Cunco**	**7.54**	**179**	*e*P		**Pn**	**21 14 53.0**	**+2.8**
PB15	**IPOC Station P**	**8.42**	**17**	Pn		**Pn**	**21 15 03.0**	**+0.5**
PB05	**IPOC Station P**	**8.61**	**12**	*e*P		**Pn**	**21 15 04.2**	**-0.8**
PB06	**IPOC Station P**	**8.88**	**15**	Pn		**Pn**	**21 15 08.8**	**+0.1**
PB04	**IPOC Station P**	**9.13**	**11**	Pn		**Pn**	**21 15 12.8**	**+0.7**
LVC	**Limon Verde**	**9.14**	**19**	Pn		**Pn**	**21 15 10.6**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=166,slow=7.7,SNR=2.3							
LVC	**Limon Verde**	**9.14**	**19**	Pn		**Pn**	**21 15 10.1**	**-2.4**
PLCA	**Paso Flores**	**9.46**	**173**	Pn		**Pn**	**21 15 13.9**	**-2.6**
	comp=Z,1.0nm,0.3s,baz=337,slow=12,SNR=28							
PLCA	**Paso Flores**	**9.46**	**173**			**Pn**	**21 15 16.4**	**-0.1**
LL04	**Puerto Octay**	**9.56**	**182**	Pn		**Pn**	**21 15 17.8**	**0.0**
PB09	**IPOC Station P**	**9.83**	**16**	Pn		**Pn**	**21 15 25.2**	**+3.4**
TRQA	**Tornquist**	**10.67**	**132**			**Pn**	**21 15 33.0**	**-0.1**
ITQB	**Itaqui**	**13.43**	**87**	Pn		**Pn**	**21 16 09.6**	**-1.1**
CPUP	**Villa Florida**	**13.85**	**73**	Pn		**Pn**	**21 16 14.4**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=222,slow=15,SNR=2.3							
CPUP	**Villa Florida**	**13.85**	**73**	Pn		**Pn**	**21 16 14.6**	**-2.0**
LPAZ	**La Paz**	**15.41**	**14**	Pn		**Pn**	**21 16 39.6**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=184,slow=5.9,SNR=19							
LPAZ				LR		LR	21 22 59.1	
	comp=Z,181nm,18.4s,baz=81,slow=39							
LPAZ	**La Paz**	**15.41**	**14**			**Pn**	**21 16 39.7**	**+1.4**
LPAZ	**La Paz**	**15.41**	**14**	*e*P		**Pn**	**21 16 35.1**	**-3.1**
PLTB	**Pedras Altas**	**15.76**	**96**	Pn		**Pn**	**21 16 40.5**	**-1.6**
PLTB				IAmb		IAmb	21 17 26.8	
	comp=Z,53nm,1.8s							
SIV	**San Ignacio**	**18.28**	**36**	P		**Pn**	**21 17 13.4**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=221,slow=8.3,SNR=9.7							
SAML	**Samuel**	**23.77**	**22**	P		**P**	**21 18 12.8**	**+0.1**
SAML	**Samuel**	**23.77**	**22**	*e*P		**P**	**21 18 10.8**	**-1.8**
BDFB	**Brasilia**	**26.95**	**60**	P		**P**	**21 18 40.9**	**-0.9**
	comp=Z,2.7nm,0.6s,baz=240,slow=7.8,SNR=2.8							
RUSC	**La Rusia**	**37.03**	**358**	P		**P**	**21 20 12.0**	**+1.5**
RUSC	**La Rusia**	**37.03**	**358**	*e*P		**P**	**21 20 11.4**	**+0.9**
PTBC	**PUERTO BERRIO,**	**37.73**	**356**	*e*P		P	21 20 07.0	-9.0
VNA3	**Neumayer Olymp**	**51.84**	**159**	P		**P**	**21 22 07.1**	**-0.6**
VNA1	**Neumayer--Stat**	**52.13**	**158**	P		**P**	**21 22 09.9**	**0.0**
VNA2	**Neumayer--Watz**	**52.48**	**158**	P		**P**	**21 22 12.6**	**+0.1**
	baz=286,slow=6.8							
SNAA	**Sanae**	**54.06**	**159**	P		**P**	**21 22 23.7**	**-0.5**
TXAR	**Lajitas Array**	**67.41**	**330**	P		**P**	**21 23 57.6**	**+2.1**
	comp=Z,0.6nm,0.7s,baz=153,slow=9.1,SNR=6.5							
TXAR				LR		LR	21 49 14.9	
	comp=Z,53nm,18.8s,baz=0.0,slow=32							
DBIC	**Dimbokro**	**74.37**	**72**	P		**P**	**21 24 37.1**	**-1.0**
	comp=Z,2.9nm,0.8s,baz=213,slow=5.4,SNR=3.7							
TSUM	**Tsumeb**	**79.98**	**106**	LR		LR	21 56 48.3	
	comp=Z,42nm,19.0s,baz=330,slow=33							
PDAR	**Pinedale Array**	**81.38**	**333**	P		**P**	**21 25 19.1**	**+2.3**
	comp=Z,0.2nm,0.5s,baz=121,slow=8.8,SNR=2.2							
NVAR	**Mina Array Bea**	**81.69**	**325**	P		**P**	**21 25 21.0**	**+2.5**
	comp=Z,0.4nm,0.2s,baz=157,slow=8.0,SNR=8.8							
TORD	**Torodi Ar. Bea**	**83.34**	**70**	P		**P**	**21 25 26.5**	**-0.9**
	comp=Z,3.4nm,0.8s,baz=263,slow=4.7,SNR=19							
TORD	**Torodi Ar. Bea**	**83.34**	**70**	P		**P**	**21 25 26.5**	**-0.9**
TORD				IAmb		IAmb	21 25 27.8	
	comp=Z,3.2nm,0.8s							
WRA	**Warramunga Arr**	**123.06**	**210**	PKP		**PKPdf**	**21 31 56.9**	**-0.2**
	comp=Z,0.4nm,0.9s,baz=178,slow=3.8,SNR=1.9							
H11S2	**WAKE ISLAND Hyl**	**25.73**	**271**	T		T	23 50 53.0	
	baz=116,slow=75,SNR=39							
H11S1	**WAKE ISLAND Hyl**	**25.75**	**271**	T		T	23 50 48.0	
	baz=116,slow=75,SNR=33							
H11S3	**WAKE ISLAND Hyl**	**25.75**	**271**	T		T	23 50 49.0	
	baz=116,slow=75,SNR=38							
H11N3	**WAKE ISLAND Hyl**	**26.08**	**273**	T		T	23 51 14.6	
	baz=116,slow=75,SNR=36							
H11N1	**WAKE ISLAND Hyl**	**26.09**	**273**	T		T	23 51 15.6	
	baz=116,slow=75,SNR=18							
H11N2	**WAKE ISLAND Hyl**	**26.10**	**273**	T		T	23 51 18.6	
	baz=116,slow=75,SNR=57							
ZALV	**Zalesovo Beam**	**151.96**	**30**	PKPbc		**PKiKP**	**21 32 55.0**	**+0.2**
	comp=Z,11nm,0.7s,baz=300,slow=3.3,SNR=28							
MKAR	**Makanchi Array**	**154.97**	**45**	PKPbc		**PKPbc**	**21 33 01.1**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=247,slow=2.5,SNR=5.1							

GUC ***17*** *21:20:58.7±0.8, 31°.49S×71°.65W, h32km±4km, ML4.2*
NEIC ***17*** *21:21:00.5±1.6, 31°.46S±0°.02×71°.82W±0°.07, h30km±5km, mb4.4/11, Mwr4.1/36, ML4.2(GUC), Error ellipse: s-maj=8.1km s-min=3.0km az=93.0*
NEIC ***17*** *21:21:01.1, 31°.45S×71°.86W, h32km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.59; Mθθ0.41; Mϕϕ- 2.00; Mrθ0.23; Mθϕ0.05; Mrϕ-0.12; Fault plane solution: M₀1.85000×10¹⁵ NP1:φs168.61000°, δ47.98000°, λ75.88000°. NP2:φs9.22000°, δ43.91000°, λ105.15000°. Principal axes: T 1.6344, Plg79.0000°, Azm10.0000°; N 0.3703, Plg10.0000°, Azm178.0000°; P -2.0047, Plg2.0000°, Azm269.0000°;*
IDC ***17*** *21:21:01.8±4.2, 31°.51S×71°.47W, h37km±30km, mb4.3/4, mb1 4.1/9, mb1mx3.8/37, mbtmp4.2/9, ML3.9/5, MS3.4/3, Ms1 3.4/3, ms1mx3.1/30 Error ellipse: s-maj=50.1km s-min=21.4km az=100.0*
ISC 17 21:21:00.7±0.9, 31°.45S±0°.03×71°.83W±0°.07, h38km±2km, n84, σ1s27/90, mb4.5/5, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.79**	**12**	*e*P		**Pn**	**21 21 14.9**	**-0.4**
CO06				*i* S		**Sn**	**21 21 26.2**	**+0.3**
CO06				IAML			21 21 28.5	
	comp=N,19μm,0.5s							
CO06				IAML			21 21 29.5	
	comp=E,17μm,0.3s							
CO06	**Fray Jorge**	**0.79**	**12**			**Pn**	**21 21 14.9**	**-0.4**
CO06						**Sn**	**21 21 26.2**	**+0.3**
CO03	**El Pedregal**	**1.15**	**59**	*e*P		**Pn**	**21 21 18.5**	**-1.9**
CO03				*i* S		**Sn**	**21 21 34.0**	**-0.9**
CO03				IAML			21 21 41.3	
	comp=E,7μm,0.4s							
CO03	**El Pedregal**	**1.15**	**59**			**Pn**	**21 21 19.5**	**-0.9**
CO03				Sn		**Sn**	**21 21 34.1**	**-0.8**
VA06	**Catapilco**	**1.20**	**158

SAML	**Samuel**	**23.79**	**22**	P	**P**	**21 26 09.8**	**-0.2**
SAML				IAmb	IAmb	21 26 12.3	
	comp=Z,3.1nm,0.8s						
BDFB	**Brasilia**	**26.82**	**60**	P	**P**	**21 26 36.6**	**-1.1**
	comp=Z,6.2nm,0.9s,baz=243,slow=7.8,SNR=5.7						
BDFB	**Brasilia**	**26.82**	**60**		**P**	**21 26 37.7**	**0.0**
BDFB				IAmb	IAmb	21 26 51.8	
	comp=Z,10nm,1.0s						
VNA3	**Neumayer Olymp**	**51.66**	**159**	P	**P**	**21 30 04.3**	**+1.0**
VNA2	**Neumayer--Watz**	**52.30**	**158**	P	**P**	**21 30 08.8**	**+0.8**
	baz=281,slow=7.4						
SNAA	**Sanae**	**53.88**	**159**	P	**P**	**21 30 20.4**	**+0.7**
SNAA	**Sanae**	**53.88**	**159**	P	**P**	**21 30 19.5**	**-0.2**
	comp=Z,2.8nm,0.8s,baz=269,slow=8.2,SNR=11						
SNAA	**Sanae**	**53.88**	**159**	P	**P**	**21 30 20.4**	**+0.7**
SNAA				IAmb	IAmb	21 30 21.9	
	comp=Z,9.3nm,1.4s						
ANMO	**Albuquerque**	**73.64**	**331**	LR	LR	22 01 00.2	
	comp=Z,61nm,18.7s,baz=218,slow=32						
DBIC	**Dimbokro**	**74.21**	**72**	P	**P**	**21 32 33.5**	**-0.5**
	comp=Z,9.3nm,1.0s,baz=217,slow=7.0,SNR=6.7						
DBIC	**Dimbokro**	**74.21**	**72**	IAmb	IAmb	21 32 34.4	
	comp=Z,19nm,1.2s						
TORD	**Torodi Ar. Bea**	**83.18**	**70**	P	**P**	**21 33 23.4**	**+0.1**
	comp=Z,5.5nm,0.8s,baz=263,slow=5.0,SNR=29						
TORD	**Torodi Ar. Bea**	**83.18**	**70**	P	**P**	**21 33 23.3**	**+0.1**
TORD				IAmb	IAmb	21 33 24.3	
	comp=Z,5.5nm,0.8s						
H11S2	**WAKE ISLAND Hy**	**25.94**	**271**	T	T	23 58 55.0	
	baz=116,slow=75,SNR=45						
H11S1	**WAKE ISLAND Hy**	**25.96**	**271**	T	T	23 58 49.6	
	baz=116,slow=75,SNR=26						
H11S3	**WAKE ISLAND Hy**	**25.96**	**271**	T	T	23 58 46.2	
	baz=116,slow=75,SNR=48						
H11N3	**WAKE ISLAND Hy**	**26.29**	**272**	T	T	23 59 12.8	
	baz=116,slow=75,SNR=60						
H11N1	**WAKE ISLAND Hy**	**26.31**	**272**	T	T	23 59 18.1	
	baz=116,slow=75,SNR=32						
H11N2	**WAKE ISLAND Hy**	**26.31**	**272**	T	T	23 59 18.3	
	baz=116,slow=75,SNR=78						
ZALV	**Zalesovo Beam**	**151.96**	**30**	PKPbc	**PKiKP**	**21 40 51.9**	**+0.5**
	comp=Z,10nm,0.5s,baz=308,slow=3.3,SNR=35						
ZALV				PKPab	**sPKPdf**	**21 41 01.0**	**+0.6**
	comp=Z,5.6nm,0.5s,baz=307,slow=3.4,SNR=10						
MKAR	**Makanchi Array**	**154.90**	**45**	PKPbc	**PKPbc**	**21 40 58.1**	**+0.3**
	comp=Z,1.4nm,0.9s,baz=269,slow=1.2,SNR=6.7						
MKAR				PKPab	**sPKPbc**	**21 41 14.4**	**+0.5**
	comp=Z,0.9nm,0.9s,baz=191,slow=1.2,SNR=5.6						

NNC ***17*** *21:21:18.6±5.4, 37.10N×70.71E, h238km±57km, mb2.4, mpv3.6, Error ellipse: s-maj=49.4km s-min=37.5km az=33.0*

ISC 17 21:21:21.1±3.2, 37°2N±0.2×70°8E±0.1, h250km, n12, σ1§68/17, 4C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.37**	**24**	P	**Pn**	**21 22 40.1**	**-1.7**
	SNR=80						
UCH	**Uchtor**	**5.75**	**29**	P	**Pn**	**21 22 44.8**	**-1.7**
	SNR=5.8						
KK31	**Karatay Array**	**5.86**	**358**	⇑P	**Pn**	**21 22 45.7**	**-1.7**
	1.9nm,0.4s,baz=191,slow=15,SNR=34						
KK31				S	**S**	**21 23 56.6**	**+0.2**
	0.9nm,0.4s,baz=190,slow=24,SNR=4.2						
EKS2	**Erkin-Say**	**5.88**	**22**	P	**Pn**	**21 22 47.4**	**-0.4**
	SNR=9.7						
KZA	**Kyzart**	**5.93**	**34**	P	**Pn**	**21 22 48.1**	**-0.6**
	SNR=8.6						
AAK	**Ala-Archa**	**6.09**	**27**	P	**Pn**	**21 22 49.5**	**-1.0**
	SNR=6.6						
AAK	**Ala-Archa**	**6.09**	**27**	⇓P	**Pn**	**21 22 48.7**	**-1.8**
	3.5nm,0.6s						
AAK				⇑S	**S**	**21 24 05.4**	**+3.4**
	2.2nm,0.7s						
CHMS	**Chumysh**	**6.50**	**27**	P	**Pn**	**21 22 54.5**	**-1.0**
	SNR=8.2						
TKM2	**Tokmak 2**	**6.76**	**32**	P	**Pn**	**21 22 57.3**	**-1.6**
	SNR=6.1						
TKM2	**Tokmak 2**	**6.76**	**32**	⇑P	**Pn**	**21 22 58.1**	**-0.8**
	1.3nm,0.3s						
TKM2				⇓S	**S**	**21 24 16.3**	**-1.1**
	1.3nm,0.7s						
AB31	**Akbulak array**	**14.36**	**330**	⇑P	**P**	**21 24 36.3**	**+2.7**
	0.1nm,0.3s,baz=164,slow=12,SNR=9.7						
AB31				⇓S	**S**	**21 27 10.9**	**-1.2**
	0.8nm,0.7s,baz=145,slow=23,SNR=4.3						
AKTO	**Aktyubinsk**	**16.06**	**329**	⇓P	**P**	**21 24 51.4**	**-0.9**
	1.4nm,0.8s						
AKTO				⇓S	**S**	**21 27 48.1**	**+0.3**
	1.0nm,1.0s						

IDC ***17*** *21:32:40.8±1.3, 30.47S×72.50W, h0km, mb4.0/3, mb1 4.2/5, mb1mx3.9/27, mbtmp4.0/5, ML4.1/2, MS3.5/1, Ms1 3.5/1, ms1mx2.8/24, Error ellipse: s-maj=41.6km s-min=34.0km az=78.0*

ISC 17 21:32:43.8±1.0, 30°5S±0.1×72°5W±0°3, h19km, n16, σ0§57/12, mb3.9/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N1	**Juan Fernandez**	**6.20**	**240**	T	T	21 39 32.7	
	baz=71,slow=72,SNR=44						
H03N2	**Juan Fernandez**	**6.22**	**240**	T	T	21 39 39.4	
	baz=71,slow=72,SNR=45						
H03N3	**Juan Fernandez**	**6.22**	**240**	T	T	21 39 31.1	
	baz=71,slow=72,SNR=32						
PLCA	**Paso Flores**	**10.36**	**172**	Pn	**Pn**	**21 35 10.7**	**-0.7**
	0.4nm,0.3s,baz=344,slow=12,SNR=13						
LPAZ	**La Paz**	**14.68**	**17**	Pn	**Pn**	**21 36 10.9**	**-0.1**
	0.3nm,0.3s,baz=186,slow=7.6,SNR=9.1						
BDFB	**Brasilia**	**26.85**	**62**	P	**P**	**21 38 23.4**	**-0.1**
	5.5nm,0.7s,baz=209,slow=22,SNR=6.1						
JTS	**Las Juntas de**	**42.26**	**342**	LR	LR	21 55 58.3	
	comp=Z,50nm,18.2s,baz=125,slow=33						
VNA3	**Neumayer Olymp**	**52.77**	**159**	P	**P**	**21 41 57.9**	**+0.7**
VNA1	**Neumayer--Stat**	**53.07**	**158**	P	**P**	**21 42 00.3**	**+0.9**
VNA2	**Neumayer--Watz**	**53.41**	**158**	P	**P**	**21 42 02.5**	**+0.6**
	baz=290,slow=8.2						
SNAA	**Sanae**	**54.99**	**159**	P	**P**	**21 42 13.9**	**+0.4**
TXAR	**Lajitas Array**	**66.48**	**330**	P	**P**	**21 43 32.0**	**-0.2**
	0.8nm,0.9s,baz=138,slow=9.5,SNR=4.8						
TORD	**Torodi Ar. Bea**	**83.39**	**71**	P	**P**	**21 45 09.8**	**-0.4**
	0.4nm,0.5s,baz=276,slow=5.6,SNR=6.4						
AKASG	**Malin Array Be**	**120.06**	**46**	PKP	**PKiKP**	**21 51 33.3**	**+0.4**
	0.3nm,0.4s,baz=279,slow=1.8,SNR=1.6						
AAK	**Ala-Archa**	**151.02**	**56**	PKPbc	**PKiKP**	**21 52 36.5**	**+0.4**
	2.0nm,0.6s,baz=240,slow=4.5,SNR=4.3						
ZALV	**Zalesovo Beam**	**151.38**	**28**	PKPbc	**PKPbc**	**21 52 35.6**	**-0.2**
	3.6nm,0.7s,baz=294,slow=1.5,SNR=6.4						

BJI ***17*** *21:42:39.0±0.0, 41.40N×142.10E, h50km, mB4.8/24, mb4.6/39, Ms3.9/13, Ms7 3.6/13*

MOS ***17*** *21:42:40.7±1.0, 41.40N×142.02E, h58km, mb4.8/20, Error ellipse: s-maj=5.6km s-min=4.3km az=103.8*

NEIC ***17*** *21:42:41.4±2.0, 41.35N±0.05×142.08E±0.08, h44km±6km, mb4.7/132, Mwr4.3/11, Error ellipse: s-maj=9.6km s-min=5.9km az=115.0*

JMA ***17*** *21:42:42.2, 41.37N×142.06E, h62km±2km, M4.3 Broadband fault plane solution: P waves. NP1: φs182.00000°, δ14.00000°, λ76.00000°. NP2:φs17.00000°, δ76.00000°, λ94.00000°. Principal axes: T Plg59.0000°, Azm292.0000°; N Plg4.0000°, Azm196.0000°; P Plg31.0000°, Azm104.0000°;*

JMA Felt II J1.

NIED ***17*** *21:42:42.2, 41.37N×142.06E, h62km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr3.05; Mθθ-0.21; Mφφ-2.83; Mrθ1.02; Mθφ-0.48; Mφr3.47; Fault plane solution: Mo4.69000×1015 NP1:φs15.00000°, δ70.00000°, λ93.00000°. NP2:φs186.00000°, δ20.00000°, λ81.00000°.*

NEIC ***17*** *21:42:42.5, 41.39N×141.98E, h44km, Moment Tensor Solution. Moment tensor: Scale 1015Nm; Mrr1.84; Mθθ-0.04; Mφφ-1.79; Mrθ1.28; Mθφ-0.64; Mφr2.03; Fault plane solution: Mo3.08000×1015 NP1:φs185.95000°, δ20.57000°, λ68.10000°. NP2:φs29.19000°, δ70.98000°, λ97.97000°. Principal axes: T 3.0321, Plg63.0000°, Azm312.0000°; N 0.0889, Plg8.0000°, Azm207.0000°; P -3.1210, Plg26.0000°, Azm113.0000°;*

IDC ***17*** *21:42:43.2±1.6, 41.36N×142.04E, h67km±14km, mb4.3/36, mb1 4.3/45, mb1mx4.3/58, mbtmp4.5/45, MS3.4/9, Ms1 3.4/9, ms1mx3.1/47 Error ellipse: s-maj=12.7km s-min=10.7km az=99.0*

ISC 17 21:42:41.9±0.5, 41°37N±0.0°03×142°10E±0.0°03, h57km±4km, n446, σ1§22/456, mb4.7/160, MS3.7/7, 36C-22D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAHD	**Aomorihigashid**	**0.58**	**260**	⇓P	**Pn**	**21 42 55.0**	**+0.5**
JAHD				eS	**Sn**	**21 43 04.5**	**+0.8**
JARK	**Aomorirokkasho**	**0.66**	**237**	⇓P	**Pn**	**21 42 55.6**	**+0.1**
JARK				S	**Sn**	**21 43 05.4**	**+0.1**
JOT	**Ohata**	**0.79**	**272**	⇓P	**Pn**	**21 42 57.3**	**+0.2**
JOT				S	**Sn**	**21 43 08.4**	**+0.2**
JKB	**Kayabe**	**0.95**	**303**	⇓P	**Pn**	**21 42 59.3**	**+0.1**
JKB				eS	**Sn**	**21 43 12.5**	**+0.5**
JTM	**Tenmabayashi**	**0.97**	**234**	⇓P	**Pn**	**21 42 59.9**	**+0.5**
JTM				S	**Sn**	**21 43 12.8**	**+0.5**
JTM	**Tenmabayashi**	**0.97**	**234**		**Pn**	**21 42 59.9**	**+0.5**
JTM				Sn	**Sn**	**21 43 12.9**	**+0.5**
ERM	**Erimo**	**1.02**	**50**	*c* iP	**Pn**	**21 43 00.6**	**+0.5**
ERM	**Erimo**	**1.02**	**50**	Pn	**Pn**	**21 43 00.7**	**+0.6**
JEM	**Erimo**	**1.02**	**50**	⇑P	**Pn**	**21 43 00.8**	**+0.7**
JEM				S	**Sn**	**21 43 14.8**	**+1.2**
JNBK	**Urakawa-nobuka**	**1.04**	**28**	P	**Pn**	**21 43 00.8**	**+0.5**
JANG	**Nango**	**1.08**	**204**	⇓P	**Pn**	**21 43 01.1**	**+0.1**
JANG				S	**Sn**	**21 43 14.6**	**-0.5**
JIAM	**Iburiatsuma**	**1.26**	**354**	⇓P	**Pn**	**21 43 04.8**	**+1.5**
JIAM				eS	**Sn**	**21 43 22.3**	**+3.0**
JSR	**Shiriuchi**	**1.27**	**278**	⇓P	**Pn**	**21 43 04.0**	**+0.6**
JSR				S	**Sn**	**21 43 20.8**	**+1.3**
JNB	**Noboribetsu**	**1.36**	**325**	⇓P	**Pn**	**21 43 04.4**	**-0.2**
JNB				S	**Sn**	**21 43 21.2**	**-0.4**
JBT2	**Biratori 2**	**1.43**	**8**	P	**Pn**	**21 43 06.5**	**+1.0**
JYM2	**Yakumo 2**	**1.50**	**301**	⇓P	**Pn**	**21 43 07.1**	**+0.7**
JEW	**Eniwo**	**1.55**	**342**	⇓P	**Pn**	**21 43 08.0**	**+0.8**
JEW				eS	**Sn**	**21 43 27.2**	**+0.9**
JEW	**Eniwo**	**1.55**	**342**		**Pn**	**21 43 08.0**	**+0.8**
JEW				Sn	**Sn**	**21 43 26.2**	**0.0**
JCH	**Churui**	**1.56**	**37**	⇓P	**Pn**	**21 43 08.5**	**+1.1**
JCH				eS	**Sn**	**21 43 28.4**	**+1.8**
JOMM	**Oshimamatsumae**	**1.58**	**276**	⇓P	**Pn**	**21 43 07.7**	**+0.1**
JAH	**Hinai**	**1.62**	**224**	⇓P	**Pn**	**21 43 08.8**	**+0.7**
JAH				eS	**Sn**	**21 43 29.9**	**+2.0**
JFR	**Furan**	**1.83**	**11**	P	**Pn**	**21 43 12.6**	**+1.5**
JOM	**Ohasama**	**1.99**	**198**	P	**Pn**	**21 43 13.7**	**+0.5**
JOM				eS	**Sn**	**21 43 37.8**	**+0.9**
JOSM	**Okushiri--Mats**	**2.09**	**291**	⇓P	**Pn**	**21 43 14.4**	**-0.1**
JKA	**Kamikawa-asahi**	**2.77**	**7**	Pn	**Pn**	**21 43 25.5**	**+1.7**
JKA				Sn	**Sn**	**21 43 57.6**	**+1.5**
ASAJ	**Asahikawa**	**2.77**	**7**	P	**Pn**	**21 43 25.8**	**+1.9**
	28nm,0.3s,baz=216,slow=13,SNR=127						
ASAJ				S	**Sn**	**21 43 53.6**	**-2.5**
	29nm,0.3s,baz=236,slow=16,SNR=7.6						
NMR	**Nemuro--Hokkai**	**3.35**	**52**	*e*P	**Pn**	**21 43 30.6**	**-1.2**
NMR				eS	**Sn**	**21 44 06.8**	**-3.5**
GLVR	**Golovnino**	**3.47**	**46**	*e*P	**Pn**	**21 43 33.5**	**+0.2**
GLVR				eS	**Sn**	**21 44 11.4**	**-1.7**
GLVR				pmax	pmax		
	comp=Z,408nm,0.2s						
GLVR				smax	smax		
	comp=N,3μm,0.3s						
GLVR				smax	smax		
	comp=E,3μm,0.3s						
RUSJ	**Misakicho**	**3.59**	**39**	⇑*i*P	**Pn**	**21 43 35.8**	**+0.8**
RUSJ				eS	**Sn**	**21 44 16.0**	**-0.1**
JMM	**Marumori**	**3.64**	**197**		**Pn**	**21 43 35.7**	**0.0**
JMM				Sn	**Sn**	**21 44 17.9**	**+0.5**
GRPR	**Tuman**	**3.77**	**45**	⇑*i*P	**Pn**	**21 43 37.4**	**-0.1**
GRPR				eS	**Sn**	**21 44 18.4**	**-2.2**
GRPR				pmax	pmax		
	comp=Z,210nm,0.3s						
GRPR				smax	smax		
	comp=N,1μm,0.2s						
GRPR				smax	smax		
	comp=E,1μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**3.85**	**45**	*e*P	**Pn**	**21 43 39.1**	**+0.6**
YUK				eS	**Sn**	**21 44 21.1**	**-1.3**
YUK				pmax	pmax		
	comp=Z,234nm,0.2s						
YUK				smax	smax		
	comp=E,2μm,0.6s						
YUK				smax	smax		
	comp=N,2μm,0.5s						
JSD	**Sado**	**4.45**	**223**	Pn	**Pn**	**21 43 48.6**	**+1.7**
JYT	**Yasato**	**5.34**	**197**	Pn	**Pn**	**21 43 58.8**	**-0.3**
TEY	**Ternei**	**5.44**	**314**	⇑*e*P	**Pn**	**21 44 00.9**	**+0.6**
TEY				pmax	pmax		
	comp=Z,30nm,0.7s						
TEY				pmax	pmax		
	comp=N,20nm,0.7s						
TEY				pmax	pmax		
	comp=E,30nm,0.7s						
YSS	**Yuzh-Sakhalins**	**5.61**	**5**	*c*eP	**Pn**	**21 44 04.3**	**+1.7**
YSS				eS	**Sn**	**21 45 06.9**	**+1.3**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				smax	smax		
	comp=N,40nm,1.0s						
YSS				MLR	MLR		
	comp=Z,200nm,18.0s						
YSS	**Yuzh-Sakhalins**	**5.61**	**5**	Pn	**Pn**	**21 44 00.7**	**-1.9**
MJA0	**Matsu Arr-Jizo**	**5.67**	**213**	*e*P	**Pn**	**21 44 06.2**	**+2.5**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**5.69**	**213**	P	**Pn**	**21 44 05.0**	**+1.2**
MAJO	**Matsushiro**	**5.69**	**213**	Pn	**Pn**	**21 44 05.0**	**+1.2**
MAT	**Matsushiro**	**5.69**	**213**	P	**Pn**	**21 44 06.1**	**+2.2**
MAT				eS	**Sn**	**21 45 07.2**	**-0.6**
MJAR	**Matsushiro Arr**	**5.69**	**213**	P	**Pn**	**21 44 05.4**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=22,slow=14,SNR=33						
MJAR				LR	LR	21 46 31.1	
	comp=Z,212nm,22.0s,baz=55,slow=40						
MJAR	**Matsushiro Arr**	**5.69**	**213**	Pn	**Pn**	**21 44 04.0**	**+0.1**
KUR	**Kuril'sk**	**5.71**	**46**	*e*P	**Pn**	**21 44 05.1**	**+1.0**
KUR				eS	**Sn**	**21 45 08.3**	**0.0**
KUR				pmax	pmax		
	comp=Z,88nm,1.0s						
KUR				pmax	pmax		
	comp=E,55nm,0.6s						
KUR				smax	smax		
	comp=N,132nm,0.3s						
KUR				smax	smax		
	comp=E,60nm,0.2s						
JGF	**Kuroka**	**6.85**	**214**		**Pn**	**21 44 20.5**	**+0.7**
INU	**Inuyama**	**7.21**	**215**	Pn	**Pn**	**21 44 25.8**	**+1.1**
VLA	**Vladivostok**	**7.78**	**286**	*i* P	**Pn**	**21 44 31.5**	**-0.9**
USA0B	**Ussuriysk Arra**	**7.96**	**294**	P	**Pn**	**21 44 35.8**	**+1.0**
USA0B	**Ussuriysk Arra**	**7.96**	**294**		**Pn**	**21 44 35.8**	**+1.0**
USRK	**Ussuriysk Ar.**	**7.96**	**294**	P	**Pn**	**21 44 35.8**	**+0.9**
	baz=95,slow=14,SNR=29						
USRK				LR	LR	21 47 31.1	
	comp=E,289nm,22.0s,baz=103,slow=36						
JWT	**Wachi**	**8.03**	**223**		**Pn**	**21 44 39.2**	**+3.3**
MSHR	**Mys Shultsa**	**8.24**	**282**	*i* P	**Pn**	**21 44 37.9**	**-0.8**
JHJ	**Hachijo jima 2**	**8.44**	**193**	P	**Pn**	**21 44 42.9**	**+1.5**
	comp=E,17nm,0.3s,baz=98,slow=13,SNR=1.7						
JHJ				S	**Sn**	**21 46 12.5**	**-2.7**
	comp=E,8.5nm,0.3s,baz=48,slow=23,SNR=1.3						
JHJ				LR	LR	21 47 54.5	
	comp=E,108nm,18.5s,baz=276,slow=37						
JHJ2	**Mitsune**	**8.44**	**193**	Pn	**Pn**	**21 44 40.0**	**-1.4**
JHS	**Saijyo**	**9.50**	**231**	Pn	**Pn**	**21 44 58.0**	**+1.9**
MDJ	**Mudanjiang**	**9.72**	**294**	P	Pn	21 45 03.9	+4.9
MDJ				pmax	pmax		
	comp=E,33nm,1.4s						
MDJ				pmax	pmax		
	comp=E,150nm,4.3s						
MDJ	**Mudanjiang**	**9.72**	**294**	Pn	**Pn**	**21 44 57.8**	**-1.2**
JMN	**Monobe**	**10.03**	**223**	Pn	**Pn**	**21 45 03.0**	**-0.3**
KLR	**Kul'dur**	**10.71**	**321**	P	**Pn**	**21 45 14.1**	**+1.7**
	comp=E,0.2nm,0.3s,baz=124,slow=14,SNR=26						
KLR				LR	LR	21 49 22.6	
	comp=E,203nm,20.7s,baz=113,slow=37						
KLR	**Kul'dur**	**10.71**	**321**	*c*eP	**Pn**	**21 45 13.5**	**+1.0**
KLR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
UJN	**ULJIN**	**10.77**	**250**	P	Pn	21 45 18.7	+5.4
	SNR=8.9						
KSTBA	**Taebaek**	**11.04**	**252**	P	Pn	21 45 22.8	+5.7
	SNR=6.8						
KSGWL	**Sabuk**	**11.09**	**252**	P	Pn	21 45 24.5	+6.8
	SNR=5.5						
KSIJA	**INJE**	**11.29**	**257**	P	Pn	21 45 26.0	+5.6
	SNR=9.2						
KSYOW	**Yeongwol**	**11.37**	**253**	P	Pn	21 45 27.4	+5.9
	SNR=26						
KSADO	**Andong**	**11.38**	**248**	P	Pn	21 45 28.0	+6.4
	SNR=6.3						
HWCB	**Hwacheon**	**11.54**	**259**	P	Pn	21 45 29.1	+5.3
	SNR=15						
KSWJU	**Wonju**	**11.57**	**255**	P	Pn	21 45 30.0	+5.8
	SNR=11						
KSEUS	**ULSEONG**	**11.59**	**249**	P	Pn	21 45 30.9	+6.4
	SNR=6.3						
KSCHC	**Chuncheon**	**11.59**	**257**	P	Pn	21 45 30.5	+6.0
	SNR=16						
KSRS	**Korea Array**	**11.64**	**255**	P	**Pn**	**21 45 26.6**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=61,slow=14,SNR=5.6						
KSRS				S	**Sn**	**21 47 39.9**	**+6.4**
	comp=Z,3.0nm,0.3s,baz=67,slow=24,SNR=13						
KSRS				LR	LR	21 49 28.5	
	comp=Z,116nm,21.3s,baz=44,slow=35						
KS19	**Wonju Array Si**	**11.66**	**255**		Pn	21 45 30.3	+4.8
KSAR	**Wonju Array Be**	**11.67**	**255**	P	**Pn**	**21 45 27.5**	**+1.9**
KSAR	**Wonju Array Be**	**11.67**	**255**	Pn	**Pn**	**21 45 27.5**	**+1.9**
KSCWO	**Cheorwon**	**11.70**	**258**	P	Pn	21 45 31.2	+5.2
	SNR=8.4						
JTU	**Tsushima**	**12.12**	**240**	Pn	Pn	21 45 35.9	+4.1
JNU	**Nakatsue**	**12.14**	**231**	P	**Pn**	**21 45 32.3**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=23,slow=13,SNR=1.8						
JNU				LR	LR	21 49 50.7	
	comp=Z,169nm,18.8s,baz=79,slow=35						
KSCEA	**Cheonan**	**12.39**	**253**	P	**P**	**21 45 41.3**	**-4.3**
	SNR=9.4						
CN2	**Changchun**	**12.51**	**287**	*e*P	**P**	**21 45 47.0**	**0.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=N,100nm,17.0s						
CN2				LR	LR		
	comp=E,200nm,17.0s						
CN2				LR	LR		
	comp=Z,200nm,18.0s						
INCN	**Inchon**	**12.57**	**257**	P	**Pn**	**21 45 39.2**	**+1.3**
INCN	**Inchon**	**12.57**	**257**	Pn	**Pn**	**21 45 39.2**	**+1.3**
JSU	**Suzuyama**	**13.58**	**227**		**Pn**	**21 45 51.2**	**-0.5**
PETK	**Petropavlovsk-**	**15.78**	**37**	P	**Pn**	**21 46 19.5**	**-0.7**
	baz=216,slow=11,SNR=1.1						
PETK	**Petropavlovsk-**	**15.78**	**37**	P	**Pn**	**21 46 21.2**	**+1.0**
PETK	**Petropavlovsk-**	**15.78**	**37**	Pn	**Pn**	**21 46 21.2**	**+1.0**
ZEA	**Zeya**	**15.88**	**326**	*e*P	**Pn**	**21 46 20.5**	**-1.1**
ZEA				pmax	pmax		
	comp=N,10.0nm,0.5s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ZEA				MLR	MLR		
	comp=Z,100nm,16.0s						
MA2	**Magadan**	**19.02**	**14**	P	**Pn**	**21 46 59.1**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=161,slow=15,SNR=3.4						
MA2	**Magadan**	**19.02**	**14**	P	**Pn**	**21 46 59.3**	**-0.7**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MA2	**Magadan**	**19.02**	**14**	P	**Pn**	**21 46 59.3**	**-0.7**
BJT	**Baijiatuan**	**19.69**	**275**	P	**P**	**21 47 05.1**	**-1.2**
BJT				pmax	pmax		
	comp=Z,11nm,1.0s						
BJT	**Baijiatuan**	**19.69**	**275**	P	**P**	**21 47 05.1**	**-1.2**
TIA	**Tai'an**	**20.11**	**263**	*e*P	**P**	**21 47 09.1**	**-1.8**
TIA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
TIA				LR	LR		
	comp=Z,180nm,22.6s						
TIA				LR	LR		
	comp=Z,170nm,22.6s						
TIA				LR	LR		
	comp=Z,240nm,20.1s						
YAK	**Yakutsk**	**22.00**	**344**	P	**P**	**21 47 28.3**	**-2.7**
	comp=Z,5.8nm,0.3s,baz=153,slow=3.2,SNR=6.8						
YAK	**Yakutsk**	**22.00**	**344**	*e*P	**P**	**21 47 27.7**	**-3.3**
YAK				*e*		21 51 18.1	
YAK				pmax	pmax		
	comp=Z,12nm,0.7s						
YAK				pmax	pmax		
	comp=N,3.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,1.0nm,0.7s						
YAK	**Yakutsk**	**22.00**	**344**	IAmb	IAmb	21 47 29.8	
	comp=Z,21nm,0.7s						
SEY	**Seymchan**	**22.45**	**12**	P	**P**	**21 47 33.4**	**-2.3**
	comp=Z,1.8nm,0.4s,baz=196,slow=8.7,SNR=8.8						
HHC	**Hu-ho-hao-te**	**22.96**	**279**	*e*P	**P**	**21 47 38.9**	**-2.6**
HHC				pmax	pmax		
	comp=Z,13nm,0.9s						
HHC				pmax	pmax		
	comp=Z,86nm,4.6s						
YHNB	**Yeheng**	**23.97**	**232**	P	**P**	**21 47 50.7**	**-0.4**
YHNB				IAmb	IAmb	21 48 03.9	
	comp=Z,38nm,1.3s						
BTO	**Baotou**	**24.16**	**279**	*e*P	**P**	**21 47 51.8**	**-0.9**
BTO				S	**S**	**21 52 00.3**	**-6.5**
BTO				LR	LR		
	comp=Z,260nm,13.4s						
BTO				LR	LR		
	comp=Z,360nm,10.8s						
NACB	**Ninganchiao**	**24.21**	**231**	P	**P**	**21 47 54.0**	**+0.8**
NACB				IAmb	IAmb	21 48 10.0	
	comp=Z,16nm,0.8s						
WHN	**Wuhan**	**24.82**	**253**	⇓P	**P**	**21 47 59.0**	**+0.3**
WHN				pmax	pmax		
	comp=Z,24nm,0.7s						
SSLB	**Suanglung**	**24.89**	**232**	P	**

comp=Z,150nm,20.7s
GTA LR LR
comp=Z,130nm,17.8s
GTA LR LR
comp=Z,120nm,19.6s
SLVN Son La 37.85 250 P **P 21 49 53.8 +0.5**
SLVN IAmb IAmb 21 49 55.0
comp=Z,9.6nm,0.9s
DGZ Jazzator, Alta 38.43 302*c iP* **P 21 49 59.1 +1.1**
DGZ pmax pmax
comp=Z,11nm,0.8s
ZAA0 Zalesovo Array 39.51 309 P **P 21 50 07.0 +0.3**
ZALV Zalesovo Beam 39.51 309 P **P 21 50 07.0 +0.3**
comp=Z,15nm,0.5s,baz=91,slow=9.5,SNR=42
ZALV PcP **PcP 21 52 13.6 +0.3**
comp=Z,2.4nm,0.4s,baz=97,slow=3.0,SNR=5.5
ZALV Zalesovo Beam 39.51 309 PcP 21 52 13.4 +0.2
WMQ Urumqi 39.52 292 *eP* **P 21 50 08.3 +1.3**
WMQ pP pP 21 50 19.8 -1.6
WMQ pmax pmax
comp=Z,30nm,0.7s
WMQ pmax pmax
comp=Z,150nm,5.1s
NRIK Noril'sk 39.60 333 P **P 21 50 07.3 0.0**
comp=Z,5.6nm,0.6s,baz=90,slow=7.3,SNR=5.6
NRIK Noril'sk 39.60 333 P **P 21 50 07.3 0.0**
NRIK IAmb IAmb 21 50 07.8
comp=Z,6.7nm,0.8s
ZSN Zaisan 40.53 299 *eP* **P 21 50 15.7 +0.4**
baz=299
ZSN Zaisan 40.53 299 *eP* **P 21 50 15.7 +0.4**
NONG Nongkai 40.56 247 P **P 21 50 17.4 +1.6**
comp=Z,21nm,0.8s
O18K Koktuh Hills 42.04 42 P **P 21 50 29.4 +1.8**
O18K IAmb IAmb 21 50 44.8
comp=Z,13nm,1.1s
CHIR Chirikof Islan 42.17 48 P **P 21 50 30.1 +1.5**
MK31 Makanchi Array 42.40 298 P **P 21 50 31.0 +0.3**
MK31 pmax pmax
comp=Z,9.0nm,0.8s
MK31 Makanchi Array 42.40 298 P **P 21 50 30.9 +0.3**
MK31 IAmb IAmb 21 50 35.2
comp=Z,9.3nm,0.8s
MKAR Makanchi Array 42.40 298 P **P 21 50 30.7 0.0**
comp=Z,12nm,0.8s,baz=83,slow=12,SNR=32
MKAR PcP **PcP 21 52 23.1 +0.2**
comp=Z,1.2nm,0.4s,baz=71,slow=5.1,SNR=11
J20K Nowinta River 42.47 36 P **P 21 50 32.8 +1.9**
K20K Telida 42.50 37 P **P 21 50 32.1 +1.0**
UTTA Uttaradit 42.58 249 P **P 21 50 33.4 +1.1**
comp=Z,14nm,0.8s
MAKZ Makanchi 42.60 298 P **P 21 50 32.4 +0.1**
MAKZ pmax pmax
comp=Z,15nm,0.9s
MAKZ Makanchi 42.60 298 P **P 21 50 32.4 +0.1**
MAKZ IAmb IAmb 21 50 36.9
comp=Z,15nm,0.8s
IMAR Indian Mountai 42.69 33 P **P 21 50 33.5 +0.8**
CHAI Chaiyaphum 42.85 246 P **P 21 50 35.7 +1.2**
CMMT Chiang Mai 43.01 252 P **P 21 50 36.8 +0.9**
comp=Z,12nm,0.7s
CHTO Chiang Mai 43.02 252 P **P 21 50 36.6 +0.7**
CHTO pmax pmax
comp=Z,7.0nm,0.8s
CHTO Chiang Mai 43.02 252 P **P 21 50 36.9 +1.0**
comp=Z,12nm,0.7s
CHTO Chiang Mai 43.02 252 P **P 21 50 36.6 +0.7**
CHTO IAmb IAmb 21 50 39.0
comp=Z,7.5nm,0.8s
P19K Oil Pt 43.06 42 P **P 21 50 38.2 +2.4**
H21K Melozitna Rive 43.07 33 P **P 21 50 36.6 +0.8**
CM31 Chiang Mai Arr 43.25 251 P **P 21 50 37.3 -0.4**
CMAR Chiang Mai Arr 43.25 251 P **P 21 50 38.5 +0.7**
comp=Z,3.0nm,0.6s,baz=43,slow=7.8,SNR=14
CMAR PcP **PcP 21 52 26.0 0.0**
comp=Z,0.5nm,0.5s,baz=41,slow=1.7,SNR=2.0
CMAR Chiang Mai Arr 43.25 251 P **P 21 50 37.5 -0.3**
CM04 Chiang Mai Arr 43.26 251 P P 21 50 44.8 +6.9
CAST Castle Rocks 43.39 37 P **P 21 50 39.9 +1.5**
I21K Tanana 43.41 34 P **P 21 50 39.9 +1.5**
KDAK Kodiak Island 43.59 45 P **P 21 50 40.4 +0.4**
comp=Z,2.5nm,0.3s,baz=270,slow=8.1,SNR=1.9
KDAK Kodiak Island 43.59 45 IAmb IAmb 21 50 43.8
comp=Z,32nm,1.4s
SKT Skwentna 43.71 39 P **P 21 50 40.8 -0.2**
SKT IAmb IAmb 21 50 53.6
comp=Z,13nm,1.3s
BPAW Bear Paw Mtn. 43.86 36 P **P 21 50 44.4 +2.3**
KURBB Kurchatov Arra 43.87 305 PcP **PcP 21 52 27.3 -0.3**
comp=Z,2.6nm,0.7s,baz=87,slow=3.2,SNR=7.1
KTH Kantishna Hill 43.91 36 P **P 21 50 43.5 +0.9**
MLY Manley 43.94 34 P **P 21 50 43.8 +1.0**
CNPM China Poot 44.08 42 P **P 21 50 43.4 -0.5**
SUA Susitna One 44.13 39 P **P 21 50 46.2 +1.8**
SUA IAmb IAmb 21 51 12.0
comp=Z,26nm,1.4s
SHL Shillong 44.14 265 P **P 21 50 45.5 +0.4**
SHL pmax pmax
comp=Z,9.0nm,0.7s
SHL Shillong 44.14 265 P **P 21 50 45.5 +0.4**
SHL IAmb IAmb 21 50 46.5
comp=Z,9.3nm,0.7s
TRF Thorofare Moun 44.20 37 P **P 21 50 41.6 -3.4**
TRF IAmb IAmb 21 50 58.0
comp=Z,14nm,1.5s
TOLK Toolik Lake Re 44.41 29 P **P 21 50 47.4 +0.9**
H23K Yukon River 44.42 33 P **P 21 50 46.9 +0.3**
H23K IAmb IAmb 21 50 49.4
comp=Z,7.2nm,0.8s
GHO Glory Hole Cre 44.96 39 P **P 21 50 52.0 +1.0**
GHO IAmb IAmb 21 51 11.6
comp=Z,7.6nm,0.8s
FAKI Fak Fak 44.98 194 P **P 21 50 52.0 +0.5**
MDM Murphy Dome 45.01 34 P **P 21 50 52.8 +1.5**
WRH Wood River Hil 45.10 35 P **P 21 50 54.6 +2.6**
H24K Noodor Dome 45.10 33 P **P 21 50 53.9 +1.9**
CCB Clear Creek Bu 45.21 35 P **P 21 50 53.8 +1.0**
KNK Knik Glacier 45.23 39 P **P 21 50 56.3 +3.2**
KNK IAmb IAmb 21 51 20.1
comp=Z,12nm,1.2s
SML Sawmill 45.24 39 P **P 21 50 54.0 +0.8**
SML IAmb IAmb 21 50 55.4
comp=Z,18nm,1.3s
SHLS Shalkode 45.42 294⇑*iP* **P 21 50 52.6 -2.4**
comp=Z,2.7nm,0.4s,baz=294
SHLS Shalkode 45.42 294*c iP* **P 21 50 52.6 -2.4**
SHLS pmax pmax
comp=Z,3.0nm,0.4s
TDK Taldyqorghan 45.52 297 *eP* **P 21 50 55.5 -0.1**
baz=297
TDK Taldyqorghan 45.52 297 *eP* **P 21 50 55.5 -0.1**
DHY Denali Highway 45.54 37 P **P 21 50 56.7 +1.0**
DHY IAmb IAmb 21 51 12.6
comp=Z,8.8nm,1.3s
IL31 45.59 35 P **P 21 50 56.6 +0.8**
ILAR Eielson Array 45.59 35 P **P 21 50 56.6 +0.8**
comp=Z,1.9nm,0.7s,baz=264,slow=6.3,SNR=11
HDA Harding Lake 45.60 35 P **P 21 50 57.0 +1.0**
HDA IAmb IAmb 21 51 14.2
comp=Z,14nm,1.5s
SCM Sheep Creek Mo 45.71 39 P **P 21 50 58.6 +1.7**
SCM pmax pmax
comp=Z,15nm,1.1s
SCM Sheep Creek Mo 45.71 39 P **P 21 50 58.6 +1.7**
SCM IAmb IAmb 21 51 17.8
comp=Z,15nm,1.1s
UZB Uzynbulak 45.73 294 *eP* **P 21 50 55.2 -2.3**
baz=294
UZB Uzynbulak 45.73 294 *eP* **P 21 50 55.1 -2.3**
KPKS Kokpek 45.85 295 *eP* **P 21 50 55.9 -2.5**
baz=295
KPKS Kokpek 45.85 295 *eP* **P 21 50 55.8 -2.5**
FYU Fort Yukon 46.12 32 P **P 21 50 60.0 -0.1**
FYU IAmb IAmb 21 51 09.7
comp=Z,11nm,1.1s
SATY Saty 46.18 294 *eP* **P 21 50 57.5 -3.6**
baz=294
SATY Saty 46.18 294 *eP* **P 21 50 57.4 -3.6**
BMAR Burnt Mountain 46.31 31 P **P 21 51 02.8 +1.2**
TAPN Taplejung 46.31 270 *eP* **P 21 51 03.1 +0.7**
RIDG Independent Ri 46.59 36 P **P 21 51 04.2 +0.4**
RIDG IAmb IAmb 21 51 13.3
comp=Z,12nm,1.4s
ODAN Odare 46.82 270 *eP* **P 21 51 07.2 +0.9**
comp=Z,13nm,0.6s

DOT Dot Lake 46.95 36 P **P 21 51 07.1 +0.5**
N25K Chitina, Valde 47.03 39 P **P 21 51 09.1 +1.8**
N25K IAmb IAmb 21 51 15.3
comp=Z,14nm,1.5s
MDOK Medeo 47.07 295 *eP* **P 21 51 06.8 -1.2**
baz=295
MDOK Medeo 47.07 295 *eP* **P 21 51 06.8 -1.2**
TARG Taragay, Kyrgy 47.08 293 P **P 21 51 08.7 +0.3**
TARG IAmb IAmb 21 51 13.9
comp=Z,7.3nm,0.7s
TNSS Tian-Shan 47.19 295 *eP* **P 21 51 09.5 +0.3**
baz=295
KUU Kurty 47.29 296 *eP* **P 21 51 08.6 -1.0**
comp=Z,8.8nm,0.7s,baz=296
KUU Kurty 47.29 296 *eP* **P 21 51 08.5 -1.0**
KUU pmax pmax
comp=Z,9.0nm,0.7s
JIRN Jiri 47.29 272 *eP* **P 21 51 11.4 +1.2**
KDJ Kajisay 47.36 294 P **P 21 51 10.4 +0.1**
KDJ pmax pmax
comp=Z,6.0nm,0.8s
KDJ Kajisay 47.36 294 P **P 21 51 10.4 +0.1**
KDJ IAmb IAmb 21 51 28.9
comp=Z,5.8nm,0.8s
RAMN Ramite 47.36 271 *eP* **P 21 51 10.8 +0.2**
comp=Z,18nm,0.3s
MTBS Maitube 47.51 295 *eP* **P 21 51 11.2 -0.1**
baz=295
K27K Chicken 47.76 35 P **P 21 51 14.2 +1.4**
K27K IAmb IAmb 21 51 32.7
comp=Z,4.5nm,0.6s
KKN Kakani 47.91 272 *eP* **P 21 51 14.9 +0.1**
comp=Z,38nm,0.8s
PKI Pulchoki 47.93 272 *eP* **P 21 51 15.3 +0.3**
comp=Z,22nm,0.7s
PKIN Phulchoki 47.93 272 *eP* **P 21 51 15.9 +0.9**
comp=Z,17nm,0.6s
EGAK Eagle 48.02 34 P **P 21 51 15.7 +0.9**
EGAK IAmb IAmb 21 51 20.2
comp=Z,4.6nm,0.9s
L27K Beaver Creek, 48.04 36 IAmb IAmb 21 51 35.5
comp=Z,4.6nm,0.8s
BCAR Beaver Creek A 48.06 36 P **P 21 51 17.3 +2.1**
BOOM Boomskoye usch 48.08 295 P **P 21 51 16.1 +0.3**
BOOM pmax pmax
comp=Z,8.0nm,0.7s
BOOM Boomskoye usch 48.08 295 P **P 21 51 16.1 +0.3**
BOOM IAmb IAmb 21 51 19.4
comp=Z,8.3nm,0.7s
M27K Edge Creek, AK 48.15 37 P **P 21 51 17.5 +1.5**
M27K IAmb IAmb 21 51 42.6
comp=Z,12nm,1.2s
BRVK Borovoye 48.19 310*ceP* **P 21 51 15.6 -0.7**
BRVK pmax pmax
comp=Z,8.0nm,1.3s
BRVK Borovoye 48.19 310 P **P 21 51 16.7 +0.4**
BRVK IAmb IAmb 21 51 17.1
comp=Z,6.7nm,0.6s
GKN Gorkha 48.28 273 *eP* **P 21 51 17.5 0.0**
comp=Z,36nm,0.6s
BTLS Baital 48.41 298 *eP* **P 21 51 17.0 -1.1**
baz=298
BTLS Baital 48.41 298 *eP* **P 21 51 17.0 -1.1**
GRNC Granite Creek 48.55 40 P **P 21 51 20.1 +0.8**
GRNC IAmb IAmb 21 51 43.3
comp=Z,12nm,1.1s
SGDS Sogindy 48.61 296 *eP* **P 21 51 18.9 -0.9**
baz=296
CTGM Chitina Glacie 48.70 39 P **P 21 51 21.6 +1.3**
CTGM IAmb IAmb 21 51 41.8
comp=Z,19nm,1.4s
DANN Dangsing 48.76 274 *eP* **P 21 51 22.0 +0.6**
comp=Z,148nm,0.6s
AAK Ala-Archa 49.01 295 P **P 21 51 23.2 +0.2**
comp=Z,2.0nm,0.3s,baz=102,slow=3.5,SNR=8.0
AAK Ala-Archa 49.01 295 *i* P **P 21 51 22.6 -0.3**
SNR=5.0
AAK Ala-Archa 49.01 295 P **P 21 51 23.1 +0.2**
KOLN Koldanda 49.18 273 *eP* **P 21 51 24.8 +0.3**
comp=Z,33nm,0.7s
KSH Kashi 49.24 291 P P 21 51 29.3 +4.6
KSH sP sP 21 51 46.8 +0.8
PYUN Piuthan 49.47 274 *eP* **P 21 51 27.0 +0.3**
comp=Z,40nm,0.5s
EPYK Eagle Plains 49.53 32 P **P 21 51 28.2 +1.8**
EPYK IAmb IAmb 21 51 28.7
comp=Z,12nm,0.9s
AML Almayashu 49.75 295 P **P 21 51 29.6 +0.7**
INK Inuvik 50.31 29 P **P 21 51 33.7 +1.5**
INK pmax pmax
comp=Z,7.0nm,0.9s
INK Inuvik 50.31 29 P **P 21 51 33.7 +1.5**
INK IAmb IAmb 21 51 34.2
comp=Z,7.3nm,0.8s
HYT Haines Junctio 50.55 39 P **P 21 51 36.5 +2.2**
HYT IAmb IAmb 21 51 59.0
comp=Z,14nm,0.9s
DZA Taraz 51.05 297 *eP* **P 21 51 38.0 -0.3**
baz=297
DZA Taraz 51.05 297 *eP* **P 21 51 37.9 -0.3**
KK31 Karatay Array 51.51 297 P **P 21 51 41.4 -0.3**
KK31 pmax pmax
comp=Z,5.0nm,0.9s
KK31 Karatay Array 51.51 297 P **P 21 51 41.4 -0.3**
KK31 IAmb IAmb 21 51 42.4
comp=Z,5.3nm,0.8s
KKAR Karatay Array 51.51 297 IAmb IAmb 21 51 42.4
comp=Z,5.3nm,0.8s
IUG luzhnay 52.23 296 *eP* **P 21 51 46.7 -0.5**
baz=296
IUG luzhnay 52.23 296 *eP* **P 21 51 46.6 -0.5**
SVE Sverdlovsk 52.31 317 *eP* **P 21 51 48.0 +0.6**
SVE pmax pmax
comp=Z,9.0nm,0.9s
BTK Batken 52.59 294 P **P 21 51 49.1 -0.8**
BTK pmax pmax
comp=Z,4.0nm,1.1s
BTK Batken 52.59 294 P **P 21 51 49.1 -0.8**
GAR Garm 53.41 293 P **P 21 51 55.8 -0.2**
GAR IAmb IAmb 21 52 01.9
comp=Z,6.5nm,0.6s
ARU Arti 53.52 317 P **P 21 51 55.8 -0.5**
comp=Z,1.1nm,0.4s,baz=57,slow=6.2,SNR=3.7
ARU Arti 53.52 317*c iP* **P 21 51 56.4 +0.1**
ARU *PP **pP** 21 52 09.1 -2.1
ARU 21 53 00.6
ARU S **S** 21 59 28.3 +3.5
ARU SS **SS** 22 03 02.1 -2.9
ARU pmax pmax
comp=Z,8.0nm,1.0s
ARU Arti 53.52 317 P **P 21 51 55.5 -0.9**
ARU IAmb IAmb 21 51 58.2
comp=Z,5.8nm,0.9s
NIL Nilore 53.87 286 P **P 21 52 00.4 +1.2**
NIL pmax pmax
comp=Z,12nm,0.7s
NIL Nilore 53.87 286 P **P 21 52 00.4 +1.2**
PSI Prapat 54.53 237 P **P 21 52 04.7 +0.4**
PSI pmax pmax
comp=Z,7.0nm,0.8s
RPSI Rantau Prapat 54.61 237 P **P 21 52 04.7 0.0**
RPSI IAmb IAmb 21 52 05.4
comp=Z,7.0nm,0.8s
DLBC Dease Lake 54.93 40 LR LR 22 16 33.4
comp=Z,53nm,18.2s,baz=291,slow=37
EUNU Eureka 55.83 9 P **P 21 52 13.0 +0.2**
AKTO Aktyubinsk 56.24 310 P **P 21 52 16.2 +0.2**
comp=Z,5.1nm,0.7s,baz=70,slow=13,SNR=18
SPB2 Spitsbergen Ar 56.39 348 P **P 21 52 16.9 +0.2**
SPB2 IAmb IAmb 21 52 37.8
comp=Z,14nm,1.1s
SPITS Spitsbergen Ar 56.39 348 P **P 21 52 17.1 +0.4**
SPITS pmax pmax
comp=Z,12nm,1.1s
KBL Kabul 56.45 289 P **P 21 52 17.7 -0.4**
KBL pmax pmax
comp=Z,6.0nm,0.8s
KBL Kabul 56.45 289 P **P 21 52 17.7 -0.4**
KBL IAmb IAmb 21 52 18.1
comp=Z,5.9nm,0.8s
KBS Kingsbay 56.49 350 *i* P **P 21 52 18.5 +1.1**
KBS IAmb IAmb 21 52 19.3
comp=Z,32nm,1.0s
GSI Gunungsitoli 56.54 237 P **P 21 52 19.4 +0.9**
GSI IAmb IAmb 21 52 20.4

comp=Z,16nm,1.1s
NOR Nord 56.77 356 *i* P **P 21 52 18.8 -0.5**
NOR IAmb IAmb 21 52 20.1
comp=Z,3.7nm,0.9s
KIRV Kirov 57.15 321 P **P 21 52 21.5 -0.8**
comp=Z,24nm,0.6s,baz=55,slow=2.7,SNR=7.2
PRGR Permogore 57.46 326 *eP* **P 21 52 23.7 -0.7**
PRGR pmax pmax
comp=Z,29nm,1.4s
KNRA Kununurra 58.08 195 P **P 21 52 29.7 +0.5**
RES Resolute Bay 58.28 15 P **P 21 52 30.0 0.0**
RES pmax pmax
comp=Z,19nm,1.2s
RES Resolute Bay 58.28 15 P **P 21 52 30.0 0.0**
BBB Bella Bella 58.63 46 P **P 21 52 32.3 -0.5**
KEV Kevo 59.60 339 P **P 21 52 39.5 +0.3**
KEV pmax pmax
comp=Z,17nm,1.3s
KEV Kevo 59.60 339 P **P 21 52 39.5 +0.3**
ARCES ARCESS Array B 60.15 339 P **P 21 52 42.6 -0.4**
comp=Z,3.5nm,0.8s,baz=29,slow=8.5,SNR=8.1
KLMR Klimovskoe 60.41 327 *eP* **P 21 52 43.0 -1.9**
KLMR *e* 21 54 55.8
KLMR pmax pmax
comp=Z,14nm,1.3s
KLMR Klimovskoe 60.41 327 *eP* **P 21 52 43.0 -1.9**
KLMR AMP 21 52 46.4
comp=Z,14nm,1.3s
KLMR *ePP **PP** 21 54 55.9 -2.2
BELG Belogornoye 61.03 316 P **P 21 52 48.8 -0.5**
comp=Z,26nm,0.8s,baz=352,slow=1.2,SNR=16
NEEM North Greenlan 61.18 3 *iP* **P 21 52 50.0 -0.3**
WRAB Tennant Creek 61.41 188*ceP* **P 21 52 52.3 +0.2**
WRAB pmax pmax
comp=Z,4.0nm,1.0s
WR0 Warramunga Arr 61.41 188 P **P 21 52 51.6 -0.6**
WB2 Warramunga Arr 61.42 188 P **P 21 52 51.7 -0.5**
WB2 IAmb IAmb 21 52 52.5
comp=Z,8.8nm,1.1s
WRA Warramunga Arr 61.42 188 P **P 21 52 51.4 -0.7**
comp=Z,3.3nm,0.4s,baz=7.8,slow=7.7,SNR=59
WRA Warramunga Arr 61.42 188 P **P 21 52 51.5 -0.7**
WRA pmax pmax
comp=Z,1.0nm,1.3s
WRA Warramunga Arr 61.42 188 P **P 21 52 51.5 -0.7**
DAG Danmarks Havn 61.51 355 *iP* **P 21 52 51.8 -0.3**
DAG IAmb IAmb 21 52 53.1
comp=Z,5.2nm,0.7s
GYA0B ALIBECK ARRAY 62.26 297 P **P 21 52 57.9 0.0**
GYA0B IAmb IAmb 21 52 58.7
comp=Z,5.4nm,0.8s
VRH Novokhopyorsk 64.76 317 *eP* **P 21 53 13.0 -1.0**
VRH pmax pmax
comp=Z,10.0nm,0.7s
OBN Obninsk 64.97 322 P **P 21 53 14.6 -0.7**
comp=Z,2.9nm,0.5s,baz=175,slow=22,SNR=4.2
OBN Obninsk 64.97 322⇓*eP* **P 21 53 15.3 0.0**
OBN *PP **pP** 21 53 30.0 -0.6
OBN *e*SP **sP** 21 53 36.2 -0.8
OBN pmax pmax
comp=Z,10.0nm,1.0s
OBN Obninsk 64.97 322 IAmb IAmb 21 53 15.6
comp=Z,13nm,0.6s
AS31 Alice Springs 65.14 188 P **P 21 53 16.9 +0.1**
ASAR Alice Springs 65.15 188 P **P 21 53 16.4 -0.4**
comp=Z,2.2nm,0.6s,baz=359,slow=4.9,SNR=33
FIA1 FINESS Array S 65.25 332 P **P 21 53 16.9 -0.1**
FINES FINESS Array B 65.25 332 P **P 21 53 16.9 -0.2**
comp=Z,13nm,0.6s,baz=51,slow=7.0,SNR=119
FINES LR LR 22 23 05.2
comp=Z,67nm,20.7s,baz=56,slow=37
VORD Divnogorie 66.14 318 *eP* **P 21 53 22.2 -0.7**
VORD pmax pmax
comp=Z,10.0nm,1.0s
SUMG Summit 66.36 0⇑*iP* **P 21 53 25.5 +1.0**
SUMG IAmb IAmb 21 53 26.1
comp=Z,11nm,0.8s
SUMG Summit 66.36 0 P **P 21 53 25.5 +1.0**
SUMG pmax pmax
comp=Z,11nm,0.8s
SUMG Summit 66.36 0 P **P 21 53 25.5 +1.0**
SUMG IAmb IAmb 21 53 26.3
comp=Z,11nm,0.8s
MEF Metsahovi 66.69 331 *eP* **P 21 53 26.3 0.0**
VSU Vasula 67.01 329 *eP* **P 21 53 28.8 +0.5**
VSU Vasula 67.01 329 *iP* **P 21 53 27.5 -0.9**
VSU pmax pmax
comp=Z,21nm,0.9s
RAF Rauma 67.05 333 *eP* **P 21 53 29.2 +0.7**
MTSE Matsula 67.95 330 *eP* **P 21 53 34.8 +0.5**
KIV Kislovodsk 68.50 310⇑*iP* **P 21 53 40.0 +1.8**
KIV Kislovodsk 68.50 310 *iP* **P 21 53 39.5 +1.3**
SNR=6.1
KIV Kislovodsk 68.50 310 *eP* **P 21 53 38.9 +0.7**
KIV pmax pmax
comp=Z,27nm,1.0s
KIV MLR MLR
comp=Z,46nm,17.0s
KIV Kislovodsk 68.50 310 P **P 21 53 38.7 +0.5**
KBZ Khabaz 68.52 310 P **P 21 53 38.9 +0.8**
comp=Z,7.1nm,0.7s,baz=59,slow=4.0,SNR=21
SHA1 Shidzhatmaz 68.65 310 *iP* **P 21 53 39.5 +0.2**
ISAL Salakas 69.23 327 *eP* **P 21 53 42.9 +0.6**
IIGN Ignalina 69.34 327 *eP* **P 21 53 43.7 +0.7**
NACGM Naroch 69.42 326 *iP* **P 21 53 44.2 +0.7**
AKH Akhalkalaki 69.57 307⇓*iP* **P 21 53 46.0 +1.0**
BEKR Beckworth 69.86 54 P **P 21 53 48.0 +1.2**
PABE Paberze 70.15 328 *eP* **P 21 53 48.5 +0.6**
KARS Kars 70.29 307 P **P 21 53 48.9 -0.5**
KARS pmax pmax
comp=Z,72nm,1.2s
KARS Kars 70.29 307 P **P 21 53 48.9 -0.5**
HFS Hagfors 70.37 335 P **P 21 53 49.4 +0.1**
comp=Z,7.2nm,0.5s,baz=46,slow=6.4,SNR=38
BANOM Banah 70.37 288 P **P 21 53 49.8 -0.1**
NB2 NORSAR Subarra 70.41 337 P **P 21 53 49.3 -0.3**
comp=Z,6.4nm,0.7s,baz=37,slow=6.2
NOA NORSAR Array B 70.41 337 P **P 21 53 48.9 -0.7**
comp=Z,6.1nm,0.7s,baz=37,slow=6.1,SNR=22
NOA LR LR 22 27 20.1
comp=Z,24nm,22.0s,baz=15,slow=38
NOA NORSAR Array B 70.41 337 *eP* **P 21 53 49.4 -0.2**
NOA pmax pmax
comp=Z,6.0nm,0.7s
SHME Shamm 70.41 288 P **P 21 53 50.3 +0.2**
SOC Sochi 70.43 311 *eP* **P 21 53 47.7 -2.2**
SOC *e* 21 56 30.0
SOC *eS **S** **22 02 56.9 -1.4**
SOC pmax pmax
comp=Z,10.0nm,0.8s
MSFE Esma-Masafi 70.81 287 P **P 21 53 53.1 +0.4**
UOSS Minazif 71.03 287 P **P 21 53 53.8 -0.1**
UOSS Minazif 71.03 287 P **P 21 53 54.2 +0.3**
HATD Hatta, Dubai 71.16 287 *iP* **P 21 53 55.3 +0.6**
SNR=7.0
AKASG Malin Array Be 71.21 322 P **P 21 53 54.5 -0.1**
comp=Z,10nm,0.5s,baz=44,slow=6.0,SNR=50
AKBB Malin Array Si 71.21 322*ceP* **P 21 53 54.5 -0.1**
SOHO SOHO 71.28 286 P **P 21 53 55.5 +0.1**
ASHO Ashiyiah 71.29 287 P **P 21 53 55.8 +0.2**
NAZ Nazwa, Dubai 71.39 287 P **P 21 53 55.9 -0.2**
FAQ Al Faqa, Dubai 71.59 287 *iP* **P 21 53 57.3 0.0**
SNR=5.9
KVN Kaiserville 71.74 54 P **P 21 53 59.5 +1.3**
KVN pmax pmax
comp=Z,4.0nm,0.8s
KVN Kaiserville 71.74 54 P **P 21 53 59.5 +1.3**
ASUD Al Ashush, Dub 71.86 287 P **P 21 53 59.2 +0.4**
ALNE Al Ain 71.90 286 *iP* **P 21 53 59.3 +0.1**
SNR=7.1
NVAR Mina Array Bea 72.00 55 P **P 21 54 01.2 +1.4**
comp=Z,1.3nm,0.8s,baz=288,slow=5.8,SNR=9.6
GURO Guroymak-BITLI 72.21 306 IAmb IAmb 21 54 03.2
comp=Z,7.4nm,0.8s
KLNR Kaliningrad 72.30 329 *iP* **P 21 54 00.1 -0.8**
KLNR pmax pmax
comp=Z,26nm,1.0s
IMW Indian Meadow 72.77 46 P **P 21 54 05.5 +1.1**
STKA Stephens Creek 72.88 180 P **P 21 54 05.3 +0.8**
comp=Z,0.5nm,0.2s,baz=325,slow=7.2,SNR=4.1
STKA Stephens Creek 72.88 180 *eP* **P 21 54 06.7 +2.1**
STKA pmax pmax
comp=Z,1.0nm,0.2s
SORM Soroca 73.39 320⇑*iP* **P 21 54 07.6 0.0**
PDAR Pinedale Array 74.28 47 P **P 21 54 13.7 +0.4**

	comp=Z,1.6nm,0.7s,baz=257,slow=1.8,SNR=14					
TLCR		**75.22 318**	⇑P	**P**	**21 54 19.3**	**+1.0**
BUR08	**Bucovina Ar. S**	**75.24 321**	IAmb	IAmb	21 54 20.0	
	comp=Z,5.0nm,0.7s					
BURAR	**Bucovina Array**	**75.25 321**	⇑P	**P**	**21 54 19.3**	**+0.7**
BURAR	**Bucovina Array**	**75.25 321**	IAmb	IAmb	21 54 20.0	
	comp=Z,7.0nm,0.7s					
BIZ	**Bicaz**	**75.32 320**	⇑P	**P**	**21 54 19.7**	**+0.9**
TESR	**Tescani**	**75.36 320**	⇑P	**P**	**21 54 19.5**	**+0.4**
CFR	**Carcaliu**	**75.57 318**	⇓P	**P**	**21 54 20.6**	**+0.3**
TPGR	**Topolog**	**75.65 318**	⇑P	**P**	**21 54 21.5**	**+0.7**
BNN	**Bunyan**	**75.71 309**	P	**P**	**21 54 21.9**	**+0.5**
VRI	**Vrincioaia**	**75.78 319**	⇑P	**P**	**21 54 22.3**	**+0.8**
PLOR	**Plostina**	**75.83 319**	⇑P	**P**	**21 54 23.1**	**+1.2**
CRVS	**Cervenica-Dubn**	**76.02 324**	*e*P	**P**	**21 54 23.8**	**+1.0**
CRVS			pmax	pmax		
	comp=Z,7.0nm,0.7s					
CRVS	**Cervenica-Dubn**	**76.02 324**	*e*P	**P**	**21 54 23.8**	**+1.0**
OZUR		**76.08 320**	⇑P	**P**	**21 54 24.1**	**+0.9**
TRPA	**Tarpa**	**76.11 323**	⇓P	**P**	**21 54 24.5**	**+1.2**
DOPR	**Dopca**	**76.36 320**	⇑P	**P**	**21 54 25.9**	**+1.0**
BRTR	**Keskin Array B**	**76.39 311**	P	**P**	**21 54 25.8**	**+0.5**
	comp=Z,2.6nm,0.6s,baz=97,slow=3.2,SNR=11					
MLR	**Muntele Rosu**	**76.43 319**	⇑P	**P**	**21 54 25.7**	**+0.3**
MLR	**Muntele Rosu**	**76.43 319**	P	**P**	**21 54 26.2**	**+0.8**
	comp=Z,1.6nm,0.3s,baz=334,slow=5.0,SNR=10.0					
ICOR	**Ion Corvin**	**76.49 318**	⇑P	**P**	**21 54 27.0**	**+1.4**
LANS	**Liptovska Anna**	**76.70 325**	*e*P	**P**	**21 54 27.8**	**+1.1**
LANS			pmax	pmax		
	comp=Z,4.0nm,0.9s					
LANS	**Liptovska Anna**	**76.70 325**	*e*P	**P**	**21 54 27.8**	**+1.1**
ANTO	**Ankara**	**76.77 312**	P	**P**	**21 54 27.8**	**+0.5**
ANTO			pmax	pmax		
	comp=Z,13nm,0.9s					
ANTO	**Ankara**	**76.77 312**	P	**P**	**21 54 27.8**	**+0.5**
VOIR		**76.91 320**	⇑P	**P**	**21 54 29.7**	**+1.7**
OSTC	**Ostas**	**76.96 328**	*e*P	**P**	**21 54 28.6**	**+0.5**
CHVC	**Chvalec**	**77.00 328**	*e*P	**P**	**21 54 29.1**	**+0.7**
DRGR		**77.02 322**	⇑P	**P**	**21 54 29.4**	**+0.8**
MORC	**Moravsky Berou**	**77.03 327**	⇑P	**P**	**21 54 29.5**	**+0.9**
MORC	**Moravsky Berou**	**77.03 327**	P	**P**	**21 54 28.9**	**+0.3**
MORC			pmax	pmax		
	comp=Z,9.0nm,0.8s					
MORC	**Moravsky Berou**	**77.03 327**	P	**P**	**21 54 28.9**	**+0.3**
MORC			IAmb	IAmb	21 54 30.3	
	comp=Z,8.5nm,0.8s					
MORC	**Moravsky Berou**	**77.03 327**	*e*P	**P**	**21 54 29.4**	**+0.9**
DPC	**Dobruska-Polom**	**77.08 328**	*e*P	**P**	**21 54 29.8**	**+1.0**
DPC	**Dobruska-Polom**	**77.08 328**	*e*P	**P**	**21 54 29.8**	**+1.0**
UPC	**Upice**	**77.08 328**	*e*P	**P**	**21 54 29.5**	**+0.7**
UPC	**Upice**	**77.08 328**	*e*P	**P**	**21 54 29.5**	**+0.7**
KRLC	**Kraliky**	**77.11 327**	*e*P	**P**	**21 54 29.5**	**+0.5**
KRLC	**Kraliky**	**77.11 327**	*e*P	**P**	**21 54 29.5**	**+0.5**
ARR	**Arges**	**77.16 320**	⇑P	**P**	**21 54 31.0**	**+1.6**
PSZ	**Piszkesteto**	**77.45 324**	IAmb	IAmb	21 54 32.8	
	comp=Z,6.5nm,0.8s					
CLL	**Collm**	**77.61 330**	*i* P	**P**	**21 54 31.6**	**-0.1**
	comp=Z,8.0nm,1.0s					
CLL			*e*PP	**PP**	**21 57 28.0**	**+1.4**
CLL	**Collm**	**77.61 330**	*i* P	**P**	**21 54 31.6**	**-0.1**
CLL			*e**SP	**sP**	**21 54 55.0**	**+1.4**
CLL			pmax	pmax		
	comp=Z,8.0nm,1.0s					
PVCC	**Panska Ves**	**77.63 329**	*e*P	**P**	**21 54 32.9**	**+1.1**
PVCC	**Panska Ves**	**77.63 329**	*e*P	**P**	**21 54 32.9**	**+1.1**
JAVC	**Velka Javorina**	**77.68 326**	*e*P	**P**	**21 54 34.2**	**+2.0**
VRAC	**Vranov**	**77.78 327**	⇑P	**P**	**21 54 34.1**	**+1.4**
VRAC	**Vranov**	**77.78 327**	P	**P**	**21 54 33.4**	**+0.6**
	comp=Z,6.1nm,0.7s,baz=42,slow=3.4,SNR=9.3					
VRAC	**Vranov**	**77.78 327**	*e*P	**P**	**21 54 33.7**	**+1.0**
GZR	**Gura Zlata**	**78.03 321**	⇑P	**P**	**21 54 34.7**	**+0.5**
KRUC	**Moravsky**	**78.06 327**	*e*P	**P**	**21 54 35.0**	**+0.8**
PRU	**Pruhonice**	**78.07 328**	*e*P	**P**	**21 54 32.4**	**-1.9**
PRU	**Pruhonice**	**78.07 328**	*e*P	**P**	**21 54 32.4**	**-1.9**
MODS	**Modra-Piesok**	**78.22 326**	*e*P	**P**	**21 54 35.3**	**+0.1**
MODS	**Modra-Piesok**	**78.22 326**	*e*P	**P**	**21 54 35.3**	**+0.1**
CKRC	**Cesky Krumlov**	**79.09 326**	*e*P	**P**	**21 54 40.2**	**+0.2**
KHC	**Kasperske Hory**	**79.13 328**	*e*P	**P**	**21 54 40.5**	**+0.3**
KHC	**Kasperske Hory**	**79.13 328**	*e*P	**P**	**21 54 40.5**	**+0.3**
CONA	**Conrad Observa**	**79.16 326**	*e*P	**P**	**21 54 41.6**	**+1.1**
	comp=Z,2.3nm,0.6s					
GERES	**GERESS Array B**	**79.31 328**	P	**P**	**21 54 41.8**	**+0.5**
	comp=Z,1.8nm,0.5s,baz=42,slow=6.2,SNR=11					
ASF	**Jabal al Asfar**	**79.54 304**	P	**P**	**21 54 43.0**	**+0.2**
	comp=Z,2.9nm,0.7s,baz=47,slow=1.4,SNR=6.9					
ASF	**Jabal al Asfar**	**79.54 304**	P	**P**	**21 54 43.0**	**+0.2**
CSS	**Mathiatis**	**79.82 308**	P	**P**	**21 54 44.1**	**-0.1**
CSS			IAmb	IAmb	21 54 47.6	
	comp=Z,9.7nm,0.8s					
ARSA	**Arzberg**	**79.84 326**	*e*P	**P**	**21 54 45.0**	**+0.9**
	comp=Z,3.5nm,0.8s					
VTS	**Vitosha**	**79.87 319**	⇑P	**P**	**21 54 45.6**	**+1.2**
MOA	**Molln**	**79.88 327**	*e*P	**P**	**21 54 44.6**	**+0.3**
	comp=Z,3.2nm,0.8s					
MMAI	**Mount Meron Ar**	**79.90 305**	P	**P**	**21 54 45.7**	**+0.9**
	comp=Z,6.5nm,0.7s,baz=352,slow=5.1,SNR=16					
SOKA	**Soboth**	**80.50 326**	*e*P	**P**	**21 54 48.4**	**+0.7**
	comp=Z,11nm,0.9s					
OBKA	**Obir**	**80.83 326**	*e*P	**P**	**21 54 49.5**	**0.0**
	comp=Z,4.8nm,0.7s					
KBA	**Koelnbreinsper**	**80.88 327**	*e*P	**P**	**21 54 50.6**	**+0.8**
	comp=Z,8.3nm,0.9s					
SCHQ	**Schefferville**	**81.03 16**	P	**P**	**21 54 50.7**	**+0.3**
	comp=Z,3.9nm,0.8s,baz=34,slow=3.8,SNR=2.9					
MYKA	**Terra Mystica**	**81.11 327**	*i* P	**P**	**21 54 51.0**	**0.0**
	comp=Z,3.1nm,0.4s,SNR=4.4					
WATA	**Walderalm**	**81.37 328**	*i* P	**P**	**21 54 52.9**	**+0.5**
	comp=Z,3.6nm,0.5s,SNR=7.4					
WTTA	**Wattenberg**	**81.41 328**	*i* P	**P**	**21 54 53.2**	**+0.6**
	comp=Z,7.1nm,0.8s,SNR=7.8					
ABTA	**Abfaltersbach**	**81.48 328**	*e*P	**P**	**21 54 52.9**	**0.0**
	comp=Z,3.5nm,1.0s					
MOTA	**Moosalm**	**81.55 329**	*e*P	**P**	**21 54 54.0**	**+0.6**
	comp=Z,13nm,1.0s					
RETA	**Reutte**	**81.57 329**	*i* P	**P**	**21 54 54.1**	**+0.7**
	comp=Z,7.5nm,0.9s,SNR=8.8					
SQTA	**Sankt Quirin**	**81.61 329**	*e*P	**P**	**21 54 54.2**	**+0.5**
	comp=Z,4.9nm,0.5s					
STAL	**STALIGIAL**	**81.79 327**	P	**P**	**21 54 53.9**	**-0.7**
STAL			IAmb	IAmb	21 54 54.4	
	comp=Z,7.9nm,0.7s					
PUK	**Puka**	**81.93 320**	P	**P**	**21 54 55.8**	**+0.4**
PUK			IAmb	IAmb	21 55 11.1	
	comp=Z,4.0nm,0.8s					
PDG	**Podgorica**	**81.93 321**	⇑P	**P**	**21 54 55.7**	**+0.4**
FETA	**Feichten**	**81.96 329**	*i* P	**P**	**21 54 56.1**	**+0.6**
	comp=Z,5.7nm,0.9s,SNR=8.1					
DAVA	**Damuels**	**82.07 329**	*e*P	**P**	**21 54 56.4**	**+0.3**
	comp=Z,11nm,0.9s					
CTI	**Castel Tesino**	**82.40 328**	IAmb	IAmb	21 54 57.8	
	comp=Z,7.2nm,0.5s					
EIL	**Elat**	**82.47 303**	P	**P**	**21 54 57.6**	**-0.7**
	comp=Z,1.9nm,0.5s,baz=89,slow=5.8,SNR=4.3					
DAVOX	**Davos/Dischmat**	**82.49 329**	P	**P**	**21 54 58.7**	**+0.3**
	comp=Z,2.7nm,0.6s,baz=28,slow=2.2,SNR=3.6					
KBN	**Korca**	**82.57 319**	P	**P**	**21 54 58.9**	**+0.1**
KBN			pmax	pmax		
	comp=Z,19nm,1.3s					
KBN	**Korca**	**82.57 319**	P	**P**	**21 54 58.9**	**+0.1**
IDI	**Anoyia**	**84.43 313**	P	**P**	**21 55 07.4**	**-0.9**
	comp=Z,8.9nm,0.6s,baz=72,slow=6.0,SNR=13					
TIP	**Timpagrande**	**85.65 321**	IAmb	IAmb	21 55 15.8	
	comp=Z,6.6nm,1.1s					
TXAR	**Lajitas Array**	**87.07 53**	P	**P**	**21 55 22.1**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=268,slow=3.7,SNR=7.3					
SSPA	**Standing Stone**	**90.68 29**	P	**P**	**21 55 38.8**	**+0.5**
ESDC	**Sonseca Array**	**93.63 334**	P	**P**	**21 55 51.8**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=1,slow=4.6,SNR=9.7					
SNAA	**Sanae**	**145.03 198**	PKPdf	**PKPdf**	**22 02 10.8**	**-0.6**
VNA2	**Neumayer--Watz**	**146.61 198**	PKPdf	**PKPbc**	**22 02 15.7**	**-0.1**
VNA3	**Neumayer Olymp**	**146.88 196**	PKPdf	**PKPbc**	**22 02 16.1**	**-0.4**
VNA1	**Neumayer--Stat**	**147.01 198**	PKPdf	**PKPbc**	**22 02 16.8**	**0.0**

IDC ***17****21:46:17.0±1.9,31.81S×71.92W,h0km,mb3.9/3, mb1 4.0/5,mb1mx3.7/34,mbtmp3.9/5,ML4.2/2,Error ellipse: s-maj=59.7km s-min=41.2km az=20.0*

NEIC ***17****21:46:26.7±0.5,30.77S±0.05×71.45W±0.06,h47km±6km, Error ellipse: s-maj=8.2km s-min=6.3km az=219.0*

GUC ***17****21:46:27.3±0.7,30.71S×71.41W,h47km±2km,ML4.2*

ISC 17 21:46:27.5±0.8,30.71S±0.03×71.46W±0.05,h46km±6km, n48,σ1§17/65,mb3.9/3,2C-5D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.16**	**283**	⇑*i*P		**Pn**	**21 46 34.7**	**-0.4**
CO06				*i* S		**Sn**	**21 46 40.5**	**0.0**
CO06				IAML			21 46 41.0	
	comp=E,41μm,0.3s							
CO06	**Fray Jorge**	**0.16**	**283**	⇑*i*P		**Pn**	**21 46 34.7**	**-0.4**
CO06				*i* S		**Sn**	**21 46 40.5**	**0.0**
CO06				IAML			21 46 41.0	
	comp=E,42μm,0.3s							
CO06	**Fray Jorge**	**0.16**	**283**			**Pn**	**21 46 34.7**	**-0.4**
CO06						**Sn**	**21 46 40.5**	**0.0**
CO03	**El Pedregal**	**0.67**	**101**	⇓*i*P		**Pn**	**21 46 40.0**	**-0.8**
CO03				*i* S		**Sn**	**21 46 49.5**	**-0.9**
CO03				IAML			21 46 50.0	
	comp=E,8μm,0.1s							
CO03	**El Pedregal**	**0.67**	**101**	⇓*i*P		**Pn**	**21 46 40.0**	**-0.8**
CO03				*i* S		**Sn**	**21 46 49.5**	**-0.9**
CO03				IAML			21 46 50.0	
CO03	**El Pedregal**	**0.67**	**101**	Pn		**Pn**	**21 46 40.0**	**-0.8**
CO03				Sn		**Sn**	**21 46 49.3**	**-1.1**
GO04	**Tololo Observa**	**0.78**	**47**	⇓*i*P		**Pn**	**21 46 42.0**	**-0.4**
GO04				*i* S		**Sn**	**21 46 53.3**	**+0.1**
GO04				IAML			21 46 56.4	
	comp=N,13μm,0.5s							
GO04	**Tololo Observa**	**0.78**	**47**	*e*P		**Pn**	**21 46 41.3**	**-1.0**
GO04				*i* S		**Sn**	**21 46 53.1**	**-0.1**
GO04	**Tololo Observa**	**0.78**	**47**			**Pn**	**21 46 41.7**	**-0.7**
CO05	**La Serena**	**0.81**	**13**	⇓*i*P		**Pn**	**21 46 42.4**	**-0.1**
CO05				*i* S		**Sn**	**21 46 53.7**	**+0.2**
CO05	**La Serena**	**0.81**	**13**	⇓*i*P		**Pn**	**21 46 42.4**	**-0.1**
CO05				*i* S		**Sn**	**21 46 54.0**	**+0.5**
CO05	**La Serena**	**0.81**	**13**			**Pn**	**21 46 42.5**	**-0.1**
LCO	**Las Campanas**	**1.82**	**21**	Pn		**Pn**	**21 46 56.8**	**+0.3**
VA06	**Catapilco**	**1.85**	**176**	*e*P		**Pn**	**21 46 57.0**	**+0.3**
VA06				*i* S		**Sn**	**21 47 19.3**	**+0.4**
VA03	**San Esteban**	**2.19**	**160**	*e*P		**Pn**	**21 47 02.9**	**+1.4**
VA03				*e*S		**Sn**	**21 47 29.0**	**+1.6**
VA03				IAML			21 47 34.3	
	comp=E,2μm,0.2s							
VA03	**San Esteban**	**2.19**	**160**	*e*P		**Pn**	**21 47 02.2**	**+0.8**
VA03				*i* S		**Sn**	**21 47 28.6**	**+1.2**
VA03				IAML			21 47 34.1	
	comp=E,2μm,0.2s							
ROCH	**El Roble**	**2.29**	**171**	*e*P		**Pn**	**21 47 04.3**	**+1.3**
ROCH				*i* S		**Sn**	**21 47 31.7**	**+1.8**
ROCH				IAML			21 47 37.5	
	comp=E,1μm,0.5s							
ROCH	**El Roble**	**2.29**	**171**	*e*P		**Pn**	**21 47 04.2**	**+1.3**
ROCH				*i* S		**Sn**	**21 47 31.2**	**+1.2**
AC04	**Llanos de Chal**	**2.52**	**8**	*e*P		**Pn**	**21 47 06.6**	**+0.6**
AC04	**Llanos de Chal**	**2.52**	**8**	*e*P		**Pn**	**21 47 06.5**	**+0.6**
AC04	**Llanos de Chal**	**2.52**	**8**	Pn		**Pn**	**21 47 06.0**	**+0.1**
MT05	**Renca**	**2.74**	**167**	*e*P		**Pn**	**21 47 09.9**	**+0.9**
MT05				*e*S		**Sn**	**21 47 42.5**	**+1.5**
MT05				IAML			21 47 57.2	
	comp=E,2μm,0.3s							
MT05	**Renca**	**2.74**	**167**	*e*P		**Pn**	**21 47 09.4**	**+0.4**
MT05				IAML			21 47 57.3	
MT09	**Talagante**	**3.08**	**173**	*e*P		**Pn**	**21 47 14.3**	**+0.5**
MT09				*e*S		**Sn**	**21 47 50.2**	**+0.8**
MT09				IAML			21 48 02.2	
	comp=N,630nm,0.2s							
MT09	**Talagante**	**3.08**	**173**	*e*P		**Pn**	**21 47 14.0**	**+0.2**
MT09				*e*S		**Sn**	**21 47 49.5**	**+0.1**
MT09				IAML			21 48 01.7	
	comp=N,659nm,0.4s							
MT01	**Popeta**	**3.15**	**177**	*e*P		**Pn**	**21 47 15.7**	**+1.2**
MT01				*e*S		**Sn**	**21 47 50.4**	**-0.5**
MT01				IAML			21 48 04.3	
	comp=E,444nm,0.2s							
MT01	**Popeta**	**3.15**	**177**	*e*P		**Pn**	**21 47 15.2**	**+0.6**
MT01				IAML			21 48 02.9	
	comp=E,465nm,0.4s							
GO03	**Copiap**	**3.28**	**19**	*e*P		**Pn**	**21 47 17.1**	**+0.6**
GO03				*i* S		**Sn**	**21 47 56.0**	**+1.6**
GO03	**Copiap**	**3.28**	**19**	*e*P		**Pn**	**21 47 17.4**	**+0.9**
GO03				*i* S		**Sn**	**21 47 55.1**	**+0.8**
GO03				IAML			21 48 10.3	
	comp=E,268nm,0.5s							
GO03	**Copiap**	**3.28**	**19**	Pn		**Pn**	**21 47 18.7**	**+2.2**
LMEL	**Las Melosas**	**3.30**	**162**	*i* S		**Sn**	**21 47 56.2**	**+1.3**
LMEL				IAML			21 48 09.5	
	comp=N,673nm,0.1s							
AC06	**Mina Casimiro**	**3.48**	**16**	Pn		**Pn**	**21 47 18.9**	**-0.2**
GO05	**Huala**	**4.31**	**185**	Pn		**Pn**	**21 47 29.0**	**-1.5**
H03N1	**Juan Fernandez** baz=71,slow=72,SNR=18	**6.89**	**245**	T	T		21 53 12.3	
H03N3	**Juan Fernandez** baz=71,slow=72,SNR=47	**6.90**	**245**	T	T		21 53 10.3	
H03N2	**Juan Fernandez** baz=71,slow=72,SNR=32	**6.90**	**245**	T	T		21 53 15.9	
PB15	**IPOC Station P**	**7.68**	**14**	Pn		**Pn**	**21 48 16.7**	**-0.3**
PB06	**IPOC Station P**	**8.15**	**12**	Pn		**Pn**	**21 48 22.5**	**-0.8**
LC01	**Cunco**	**8.18**	**182**	Pn		**Pn**	**21 48 21.6**	**-1.9**
LVC	**Limon Verde**	**8.38**	**16**	Pn		Pn	21 48 35.8	+9.0
	comp=N,1.8nm,0.3s,baz=178,slow=8.9,SNR=6.3							
TRQA	**Tornquist**	**10.72**	**136**	Pn		**Pn**	**21 48 56.2**	**-2.2**
CPUP	**Villa Florida**	**13.16**	**74**	Pn		**Pn**	**21 49 35.5**	**+3.7**
	comp=N,0.3nm,0.3s,baz=240,slow=14,SNR=2.1							
TXAR	**Lajitas Array**	**67.13**	**330**	P		**P**	**21 57 17.3**	**+0.7**
	comp=N,0.1nm,0.4s,baz=148,slow=8.6,SNR=2.6							
DBIC	**Dimbokro**	**73.67**	**72**	P		**P**	**21 57 56.6**	**-0.1**
	comp=N,1.5nm,0.5s,baz=252,slow=3.6,SNR=4.1							
TORD	**Torodi Ar. Bea**	**82.63**	**70**	P		**P**	**21 58 46.5**	**+0.2**
	comp=N,0.5nm,0.4s,baz=250,slow=4.2,SNR=16							
GEYT	**Alibeck**	**138.15**	**66**	PKP		**PKPdf**	**22 05 43.6**	**-3.9**
	comp=N,1.7nm,0.5s,baz=314,slow=5.0,SNR=2.3							
BVAR	**Borovoye Array**	**144.50**	**40**	PKPbc		**PKPdf**	**22 05 57.2**	**-1.1**
	comp=N,0.4nm,0.4s,baz=305,slow=5.1,SNR=3.7							
ZALV	**Zalesovo Beam**	**151.16**	**30**	PKPbc		**PKPbc**	**22 06 14.2**	**-0.9**
	comp=N,1.6nm,0.6s,baz=305,slow=3.8,SNR=4.9							

IDC ***17****21:50:30.3±1.1,31.12S×72.70W,h0km,mb3.9/4, mb1 4.2/8,mb1mx3.9/37,mbtmp4.1/8,ML4.0/4,Error ellipse: s-maj=43.3km s-min=21.9km az=88.0*

ISC 17 21:50:35.2±1.1,31.1S±0.1×72.5W±0.3,h35km,n14, σ1§42/11,mb3.9/4,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
H03N1	**Juan Fernandez** baz=75,slow=72,SNR=7.2	**5.88**	**245**	T	T		21 56 54.4	
H03N3	**Juan Fernandez** baz=75,slow=72,SNR=12	**5.89**	**245**	T	T		21 56 52.8	
H03N2	**Juan Fernandez** baz=75,slow=72,SNR=8.9	**5.90**	**245**	T	T		21 56 57.4	
LVC	**Limon Verde** 1.3nm,0.3s,baz=160,slow=12,SNR=3.6	**9.07**	**22**	Pn		**Pn**	**21 52 41.4**	**-2.7**
PLCA	**Paso Flores** 0.4nm,0.3s,baz=343,slow=11,SNR=9.0	**9.72**	**171**	Pn		**Pn**	**21 52 51.0**	**-1.6**
LPAZ	**La Paz** 0.1nm,0.3s,baz=186,slow=8.2,SNR=8.1	**15.30**	**16**	Pn		**Pn**	**21 54 09.1**	**-0.2**
SIV	**San Ignacio** 0.7nm,0.3s,baz=217,slow=9.6,SNR=37	**18.34**	**37**	P		**P**	**21 54 47.4**	**+0.7**
SNAA	**Sanae** 2.3nm,0.8s,baz=281,slow=8.0,SNR=14	**54.40**	**159**	P		**P**	**21 59 58.9**	**+0.5**
TXAR	**Lajitas Array** 0.6nm,0.7s,baz=151,slow=7.9,SNR=7.0	**67.03**	**331**	P		**P**	**22 01 24.6**	**-0.3**
KOWA	**Kowa** 0.9nm,0.5s,baz=256,slow=8.3,SNR=1.9	**79.84**	**66**	P		**P**	**22 02 42.0**	**+1.5**
TORD	**Torodi Ar. Bea** 0.4nm,0.6s,baz=249,slow=3.5,SNR=2.0	**83.63**	**71**	P		**P**	**22 03 01.2**	**+0.7**
BVAR	**Borovoye Array** 0.7nm,0.6s,baz=234,slow=4.8,SNR=4.3	**145.40**	**40**	PKPbc		**PKPab**	**22 10 10.7**	**+1.5**
KURBB	**Kurchatov Arra** 0.7nm,0.4s,baz=306,slow=3.0,SNR=5.2	**150.99**	**39**	PKPbc		**PKiKP**	**22 10 24.9**	**+0.4**
ZALV	**Zalesovo Beam** 3.4nm,0.5s,baz=306,slow=3.0,SNR=11	**151.97**	**29**	PKPbc		**PKPbc**	**22 10 26.6**	**+0.6**

SJA ***17****21:54:08.7±0.7,30.15S×72.99W,h41km±16km,ML4.6, MW4.9*

IDC ***17****21:54:16.1±0.7,30.02S×71.75W,h0km,mb4.2/10, mb1 4.2/15,mb1mx4.1/37,mbtmp4.1/15,ML3.9/5,MS3.5/4, Ms1 3.6/4,ms1mx3.2/26,Error ellipse: s-maj=24.4km s-min=18.4km az=82.0*

GUC ***17****21:54:17.0±0.7,30.04S×72.01W,h46km±5km,ML4.2*

NEIC ***17****21:54:21.1±2.1,29.90S±0.04×71.87W±0.08,h28km±3km, mb4.8/23,Mwr4.4/36,ML4.1(GUC),Error ellipse: s-maj=9.7km s-min=5.9km az=95.0*

NEIC ***17****21:54:24.6,29.89S×71.53W,h22km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=1.35; Mθθ=0.27; Mφφ=1.07; Mrθ=-0.63; Mrφ=-1.74; Mθφ=-3.75; Fault plane solution: M₀=4.36000×10¹⁵ NP1:φs=1.18000°, δ=80.90000°, λ=-65.27000°. NP2:φs=110.14000°, δ=26.25000°, λ=-159.04000°. Principal axes: T 4.1089, Plg31.0000°, Azm71.0000°; N 0.4640, Plg24.0000°, Azm177.0000°; P -4.5728, Plg48.0000°, Azm298.0000°:*

ISC 17 21:54:16.4±1.5,30.02S±0.02×71.93W±0.05,h4km±9km, n112,σ1§61/127,mb4.7/17,3C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.61**	**80**	⇓*i*P		**Pn**	**21 54 31.6**	**-0.2**
CO05				*i* S		**Sn**	**21 54 41.7**	**-0.3**
CO05				IAML			21 54 43.6	
	comp=E,22μm,0.4s							
CO05	**La Serena**	**0.61**	**80**			**Pn**	**21 54 31.6**	**-0.2**
CO05						**Sb**	**21 54 39.3**	**+0.8**
CO06	**Fray Jorge**	**0.69**	**159**	*e*P		**Pb**	**21 54 31.1**	**0.0**
CO06				*i* S		**Sb**	**21 54 41.0**	**0.0**
CO06				IAML			21 54 46.0	
	comp=E,10μm,0.7s							
CO06	**Fray Jorge**	**0.69**	**159**			Pn	21 54 40.8	+7.7
GO04	**Tololo Observa**	**0.99**	**99**	⇓*i*P		**Pn**	**21 54 37.6**	**+0.3**
GO04				*i* S		**Sn**	**21 54 52.9**	**+1.1**
GO04	**Tololo Observa**	**0.99**	**99**			**Pn**	**21 54 38.4**	**+1.1**
CO03	**El Pedregal**	**1.34**	**128**	*e*P		**Pn**	**21 54 42.0**	**0.0**
CO03				*i* S		**Sn**	**21 55 01.0**	**+0.6**
CO03				IAML			21 55 05.1	
	comp=E,7μm,0.3s							
CO03	**El Pedregal**	**1.34**	**128**	Pn		**Pg**	**21 54 42.5**	**+0.3**
CO03	**El Pedregal**	**1.34**	**128**	*e*P		**Pg**	**21 54 43.0**	**+0.9**
CO03				*e*S		**Sn**	**21 55 02.9**	**+2.5**
CO03				IAML			21 55 04.1	
	comp=Z,4μm,1.0s							
LCO	**Las Campanas**	**1.47**	**47**			**Pg**	**21 54 44.9**	**+0.3**
AC04	**Llanos de Chal**	**1.96**	**23**	⇑*i*P		**Pn**	**21 54 50.2**	**-0.2**
AC04				*e*S		**Sn**	**21 55 15.8**	**+0.3**
AC04	**Llanos de Chal**	**1.96**	**23**			**Pn**	**21 54 50.2**	**-0.2**
AC04	**Llanos de Chal**	**1.96**	**23**	*e*P		**Pn**	**21 54 50.0**	**-0.4**
AC04				*e*S		**Sg**	**21 55 19.9**	**+0.5**
AROD	**Rodeo**	**2.13**	**94**	*e*P		Pn	21 54 46.6	-6.5
AROD				*e*P		**Pg**	**21 54 57.2**	**-0.1**
AROD				*e*S		**Sg**	**21 55 28.3**	**+3.3**
ACDV	**Cuesta del Vie**	**2.44**	**94**	*e*P		**Pg**	**21 55 02.0**	**-1.1**
ACCO	**Cerro Coronel**	**2.54**	**104**	*e*P		**Pg**	**21 55 03.9**	**-1.2**
ACCO				*e*S		**Sg**	**21 55 42.9**	**+4.9**
VA06	**Catapilco**	**2.59**	**168**	*e*P		**Pn**	**21 54 59.0**	**0.0**
VA06				*i* S		**Sn**	**21 55 30.5**	**-0.4**
VA06				IAML			21 55 41.5	
	comp=E,2μm,0.4s							
GO03	**Copiap**	**2.84**	**32**	*e*P		**Pn**	**21 55 03.0**	**+0.3**
GO03				*i* S		**Sn**	**21 55 38.3**	**+1.0**
GO03				IAML			21 55 56.0	
	comp=N,681nm,0.8s							
GO03	**Copiap**	**2.84**	**32**			**Pn**	**21 55 02.9**	**+0.3**
GO03	**Copiap**	**2.84**	**32**	*e*P		**Pn**	**21 55 03.4**	**+0.8**
GO03				*e*S		**Sb**	**21 55 44.4**	**+1.5**
VA03	**San Esteban**	**2.97**	**157**	*e*P		**Pn**	**21 55 04.4**	**-0.1**
VA03				*i* S		**Sn**	**21 55 41.0**	**+0.3**
VA03				IAML			21 56 00.0	
VA03	**San Esteban**	**2.97**	**157**			**Pb**	**21 55 09.1**	**-0.9**
AC06	**Mina Casimiro**	**3.00**	**28**	⇑*i

comp=Z,17nm,1.1s
CBYP Canovanas 48.37 8 P **P** **22 02 59.0 -0.5**
CBYP IAmb IAmb 22 02 59.6
comp=Z,10nm,0.9s
LCCY Blossom Villag 50.02 350 P **P** **22 03 13.9 +1.8**
CBCY The Bluff, Cay 50.05 350 P **P** **22 03 12.7 +0.5**
VNA3 Neumayer Olymp 53.01 159 P **P** **22 03 34.3 +0.4**
VNA1 Neumayer--Stat 53.30 158 P **P** **22 03 36.7 +0.6**
VNA2 Neumayer--Watz 53.65 158 P **P** **22 03 38.2 -0.4**
baz=287,slow=8.3
SNAA Sanae 55.24 159 P **P** **22 03 50.0 -0.3**
SNAA Sanae 55.24 159 P **P** **22 03 49.9 -0.3**
comp=Z,5.2nm,0.9s,baz=291,slow=8.3,SNR=8.7
SNAA Sanae 55.24 159 P **P** **22 03 50.0 -0.3**
SNAA IAmb IAmb 22 03 51.1
comp=Z,11nm,1.1s
QSPA South Pole Qui 60.20 180 P **P** **22 04 25.6 +0.3**
comp=Z,3.1nm,1.0s,baz=130,slow=3.1,SNR=4.4
QSPA South Pole Qui 60.20 180 IAmb IAmb 22 04 39.0
comp=Z,19nm,1.9s
TXAR Lajitas Array 66.33 330 P **P** **22 05 07.0 +0.6**
comp=Z,0.6nm,0.7s,baz=157,slow=7.6,SNR=7.7
LIC Lamto 73.46 73 *eP* **P** **22 05 50.0 -0.4**
comp=Z,78nm,1.6s
TIC Toumodi 73.70 72 *eP* **P** **22 05 51.8 -0.1**
KIC Kosan Boka 73.77 73 *eP* **P** **22 05 52.5 +0.2**
comp=Z,16nm,1.0s
DBIC Dimbokro 73.85 72 P **P** **22 05 52.8 +0.1**
comp=Z,7.1nm,0.9s,baz=213,slow=4.3,SNR=5.9
K22A Casper 79.01 335 P **P** **22 06 22.0 +0.4**
K22A IAmb IAmb 22 06 33.8
comp=Z,8.5nm,1.1s
PDAR Pinedale Array 80.27 333 P **P** **22 06 28.3 -0.2**
comp=Z,0.1nm,0.3s,baz=89,slow=14,SNR=1.7
PDAR Pinedale Array 80.27 333 P **P** **22 06 28.6 +0.1**
NVAR Mina Array Bea 80.69 325 P **P** **22 06 32.5 +1.6**
comp=Z,0.3nm,0.7s,baz=33,slow=44,SNR=2.3
ELK Elko 81.04 328 P **P** **22 06 33.9 +1.2**
comp=Z,1.1nm,0.8s,baz=128,slow=6.9,SNR=5.7
ELK Elko 81.04 328 P **P** **22 06 32.1 -0.5**
ULM Lac du Bonnet 82.70 345 P **P** **22 06 40.8 0.0**
comp=Z,3.5nm,0.6s,baz=162,slow=3.6,SNR=2.9
ULM Lac du Bonnet 82.70 345 P **P** **22 06 40.4 -0.4**
ULM IAmb IAmb 22 08 11.6
comp=Z,16nm,1.4s
TORD Torodi Ar. Bea 82.78 70 P **P** **22 06 42.0 -0.1**
comp=Z,5.0nm,0.8s,baz=261,slow=4.5,SNR=26
TORD Torodi Ar. Bea 82.78 70 P **P** **22 06 41.1 -1.0**
TORD IAmb IAmb 22 06 42.9
comp=Z,6.3nm,0.9s
KURK Kurchatov 149.81 38 **PKPbc** **22 14 07.7 +0.4**
KURBB Kurchatov Arra 149.81 39 PKPbc **PKPbc** **22 14 07.7 +0.4**
comp=Z,2.0nm,0.8s,baz=301,slow=3.3,SNR=12
ZALV Zalesovo Beam 150.76 29 PKPbc **PKPbc** **22 14 09.7 +0.2**
comp=Z,11nm,0.7s,baz=296,slow=2.7,SNR=33
MKAR Makanchi Array 153.93 43 PKPbc **PKPbc** **22 14 16.9 0.0**
comp=Z,0.5nm,0.8s,baz=5.4,slow=2.6,SNR=3.6

IDC ***17*** *22:00:28.1±1.1,30.˝14S×71.˝87W,h0ᵏᵐ,mb4.1/5, mb1 4.1/9,mb1mx3.9/33,mbtmp4.0/9,ML3.8/4,MS2.9/1, Ms1 2.9/1,ms1mx2.7/28, Error ellipse: s-maj=42.9km s-min=19.7km az=96.0*

GUC ***17*** *22:00:30.7±0.5,30.˚12S×72.˚03W,h30ᵏᵐ±3ᵏᵐ,ML4.1*

ISC 17 22:00:29.4±1.8,30.˚11S±0.˚04×72.˚09W±0.˚08,h13km±10km, n30,σ1°38/39,mb4.4/5,2C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.68**	**145**	*eP*	**Pg**	**22 00 43.1**	**+0.4**
CO06				*i* S	**Sg**	**22 00 52.0**	**+0.3**
CO06				IAML		22 00 55.0	
comp=E,8μm,0.2s							
CO05	**La Serena**	**0.76**	**76⇓**	*iP*	**Pg**	**22 00 43.9**	**-0.2**
CO05				*i* S	**Sg**	**22 00 53.7**	**-0.4**
CO05				IAML		22 00 56.8	
comp=E,9μm,0.5s							
GO04	**Tololo Observa**	**1.11**	**93**	*eP*	**Pb**	**22 00 49.8**	**-0.9**
CO03	**El Pedregal**	**1.41**	**121**	*eP*	**Pn**	**22 00 54.3**	**-0.6**
CO03				*i* S	**Sn**	**22 01 12.3**	**-1.0**
CO03				IAML		22 01 17.7	
comp=E,3μm,0.5s							
AC04	**Llanos de Chal**	**2.10**	**25⇑**	*iP*	**Pn**	**22 01 02.9**	**-1.3**
VA06	**Catapilco**	**2.53**	**165**	*eP*	**Pb**	**22 01 15.6**	**+0.8**
VA03	**San Esteban**	**2.95**	**154**	*eP*	**Pn**	**22 01 17.6**	**+1.5**
VA03				*i* S	**Sn**	**22 01 52.2**	**+0.7**
VA03				IAML		22 02 13.2	
comp=E,756nm,0.4s							
GO03	**Copiap**	**2.99**	**33**	*eP*	**Pn**	**22 01 15.9**	**-0.7**
ROCH	**El Roble**	**3.00**	**162**	*eP*	**Pn**	**22 01 17.1**	**+0.3**
ROCH				*i* S	**Sn**	**22 01 50.2**	**-2.6**
ROCH				IAML		22 02 12.9	
comp=N,705nm,0.7s							
AC06	**Mina Casimiro**	**3.14**	**29⇑**	*iP*	**Pn**	**22 01 18.0**	**-0.6**
MT05	**Renca**	**3.47**	**161**	*eP*	**Pn**	**22 01 23.9**	**+0.7**
MT05				IAML		22 02 24.9	
comp=E,611nm,0.5s							
MT09	**Talagante**	**3.77**	**166**	*eP*	**Pn**	**22 01 28.4**	**+1.0**
MT09				*i* S	**Sn**	**22 02 11.4**	**-0.4**
LMEL	**Las Melosas**	**4.05**	**157**	*eP*	**Pn**	**22 01 32.2**	**+0.8**
LMEL				*i* S	**Sn**	**22 02 19.6**	**+0.8**
AC02	**Maricunga**	**4.17**	**39**	*eP*	**Pn**	**22 01 33.4**	**+0.1**
AC02				*i* S	**Sn**	**22 02 23.1**	**+0.9**
BO01	**Tunca**	**4.35**	**169**	*eP*	**Pn**	**22 01 35.8**	**+0.6**
BO03	**Pichilemu**	**4.37**	**179**	*eP*	**Pn**	**22 01 34.4**	**-1.1**
BO03				*i* S	**Sn**	**22 02 20.5**	**-5.9**
LVC	**Limon Verde**	**8.00**	**22**	Pn	**Pn**	**22 02 23.7**	**-2.0**
comp=E,0.3nm,0.3s,baz=112,slow=20,SNR=6.9							
LVC				LR	LR	22 05 55.3	
comp=E,85nm,19.1s,baz=216,slow=41							
PLCA	**Paso Flores**	**10.67**	**174**	Pn	**Pn**	**22 03 01.1**	**-1.0**
comp=E,0.3nm,0.3s,baz=336,slow=9.9,SNR=6.9							
LPAZ	**La Paz**	**14.23**	**16**	Pn	**Pn**	**22 03 52.0**	**+0.6**
comp=E,0.3nm,0.3s,baz=196,slow=8.0,SNR=4.6							
SIV	**San Ignacio**	**17.31**	**38**	P	**Pn**	**22 04 31.2**	**+0.2**
comp=E,0.4nm,0.3s,baz=249,slow=12,SNR=6.6							
VNA3	**Neumayer Olymp**	**52.98**	**159**	P	**P**	**22 09 46.1**	**+0.7**
VNA1	**Neumayer--Stat**	**53.27**	**158**	P	**P**	**22 09 48.4**	**+1.0**
VNA2	**Neumayer--Watz**	**53.62**	**158**	P	**P**	**22 09 50.5**	**+0.5**
baz=288,slow=8.6							
SNAA	**Sanae**	**55.20**	**159**	P	**P**	**22 10 02.0**	**+0.4**
SNAA	**Sanae**	**55.20**	**159**	P	**P**	**22 10 01.8**	**+0.1**
comp=E,2.4nm,0.6s,baz=280,slow=8.7,SNR=38							
QSPA	**South Pole Qui**	**60.11**	**180**	P	**P**	**22 10 37.0**	**+0.6**
comp=E,1.4nm,0.8s,baz=156,slow=2.4,SNR=6.0							
TXAR	**Lajitas Array**	**66.34**	**330**	P	**P**	**22 11 19.5**	**+1.5**
comp=E,0.3nm,0.8s,baz=149,slow=7.2,SNR=2.6							
DBIC	**Dimbokro**	**74.00**	**72**	P	**P**	**22 12 05.1**	**-0.1**
comp=E,5.3nm,0.8s,baz=215,slow=7.4,SNR=7.1							
TORD	**Torodi Ar. Bea**	**82.94**	**70**	P	**P**	**22 12 54.3**	**-0.2**
comp=E,2.9nm,0.8s,baz=242,slow=3.1,SNR=16							
ZALV	**Zalesovo Beam**	**150.90**	**28**	PKPbc	**PKiKP**	**22 20 22.0**	**+0.1**
comp=E,3.6nm,0.5s,baz=307,slow=2.3,SNR=15							

SJA ***17*** *22:08:03.0±0.6,30.˚22S×72.˚51W,h55ᵏᵐ±8ᵏᵐ,ML4.4, MW4.7*

NEIC ***17*** *22:08:03.8±1.9,30.˚27S±0.˚05×72.˚25W±0.˚05,h4ᵏᵐ±3ᵏᵐ, mb4.9/50,Mwr4.9/42,ML4.7(GUC),Error ellipse: s-maj=7.3km s-min=6.7km az=154.0*

NEIC ***17*** *22:08:04.4,30.˚26S×72.˚24W,h15ᵏᵐ,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}2.04; $M_{\theta\theta}$0.53; $M_{\phi\phi}$-2.57; $M_{r\theta}$0.54; $M_{\theta\phi}$-0.47; $M_{\phi r}$-0.41; Fault plane solution: $M_0$2.49000×10^{16} NP1:ϕs170.29000°, δ52.08000°,λ65.15000°. NP2:ϕs27.30000°,δ44.29000°, λ118.35000°. Principal axes: T 2.2767, Plg70.0000°, Azm19.0000°; N 0.3898, Plg19.0000°, Azm186.0000°; P -2.6666, Plg4.0000°, Azm278.0000°;*

IDC ***17*** *22:08:04.5±0.8,30.˚29S×71.˚70W,h0ᵏᵐ,mb4.4/9, mb1 4.5/14,mb1mx4.3/32, mbtmp4.3/14,ML4.3/5,MS4.2/8, Ms1 4.2/8,ms1mx3.9/27 Error ellipse: s-maj=24.1km s-min=19.7km az=90.0*

GUC ***17*** *22:08:05.4±0.5,30.˚30S×72.˚18W,h47ᵏᵐ±4ᵏᵐ,ML4.9*

GCMT ***17*** *22:08:09.8±0.5,30.˚37S±0.˚03×72.˚27W±0.˚03,h21ᵏᵐ±1ᵏᵐ, MW5.1/79,Moment Tensor Solution. s11,c13; s79,c104; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.03±.37; $M_{\theta\theta}$-0.80±.20; $M_{\phi\phi}$-4.23±.24; $M_{r\theta}$-0.31±.33; $M_{\theta\phi}$-0.01±.10; $M_{\phi r}$-3.24±.33; Best double couple: $M_0$5.65900×10^{16} NP1:ϕs358.00000°,δ28.00000°,λ86.00000°. NP2: ϕs183.00000°,δ63.00000°,λ92.00000°. Principal axes: T*

6.0640, Plg72.0000°, Azm98.0000°; N -0.8090, Plg2.0000°, Azm2.0000°; P -5.2540, Plg18.0000°, Azm271.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 17 22:08:03.2±1.0,30.˚27S±0.˚03×72.˚25W±0.˚04,h2km±6km, n170,σ1°48/185,mb4.8/24,MS4.4/8,3C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.67**	**128**	*eP*	**Pg**	**22 08 16.6**	**+0.7**
CO06				*i* S	**Sg**	**22 08 24.6**	**0.0**
CO06	**Fray Jorge**	**0.67**	**128**		**Pg**	**22 08 16.7**	**+0.7**
CO05	**La Serena**	**0.94**	**69**	*iP*	**Pb**	**22 08 21.9**	**-0.2**
CO05				*i* S	**Sb**	**22 08 34.6**	**-0.4**
CO05				IAML		22 08 37.8	
comp=E,100μm,0.9s							
CO05	**La Serena**	**0.94**	**69**		**Pb**	**22 08 22.2**	**0.0**
GO04	**Tololo Observa**	**1.25**	**86**	*eP*	**Pn**	**22 08 26.9**	**-1.1**
GO04				*i* S	**Sb**	**22 08 43.3**	**-1.1**
GO04				IAML		22 08 51.5	
comp=N,85μm,0.5s							
GO04	**Tololo Observa**	**1.25**	**86**		**Pn**	**22 08 27.0**	**-0.9**
CO03	**El Pedregal**	**1.46**	**113**	*eP*	**Pn**	**22 08 29.7**	**-0.9**
CO03				*i* S	**Sn**	**22 08 47.8**	**-2.6**
CO03				IAML		22 08 51.9	
comp=E,16μm,0.2s							
CO03	**El Pedregal**	**1.46**	**113**	Pn	**Pn**	**22 08 29.6**	**-0.9**
LCO	**Las Campanas**	**1.83**	**47⇑**	*iP*	**Pn**	**22 08 35.7**	**-0.2**
LCO				*i* S	**Sn**	**22 08 59.0**	**-0.9**
LCO	**Las Campanas**	**1.83**	**47**	Pn	**Pn**	**22 08 35.9**	**0.0**
LCO	**Las Campanas**	**1.83**	**47**	*eP*	**Pn**	**22 08 36.0**	**0.0**
AC04	**Llanos de Chal**	**2.29**	**27⇑**	*iP*	**Pn**	**22 08 41.4**	**-0.6**
AC04				*i* S	**Sn**	**22 09 08.8**	**-2.0**
AC04				IAML		22 09 29.0	
comp=E,3μm,0.6s							
AC04	**Llanos de Chal**	**2.29**	**27**	Pn	**Pn**	**22 08 41.6**	**-0.4**
AC04	**Llanos de Chal**	**2.29**	**27**	*eP*	**Pn**	**22 08 41.0**	**-1.0**
AC04				IAML		22 09 25.9	
comp=Z,2μm,1.1s							
VA06	**Catapilco**	**2.43**	**161**	*eP*	**Pn**	**22 08 43.2**	**-0.6**
VA06				*i* S	**Sn**	**22 09 10.7**	**-3.4**
VA06				IAML		22 09 24.2	
comp=N,4μm,0.5s							
VA01	**Torpederas**	**2.80**	**170**		**Pn**	**22 08 48.8**	**-0.1**
VA01	**Torpederas**	**2.80**	**170**	*eP*	**Pn**	**22 08 48.9**	**-0.1**
VA01				IAML		22 09 43.5	
comp=Z,706nm,1.6s							
VA03	**San Esteban**	**2.88**	**150**	IAML		22 09 41.2	
comp=N,4μm,0.3s							
VA03	**San Esteban**	**2.88**	**150**	Pn	**Pn**	**22 08 49.7**	**-0.5**
ROCH	**El Roble**	**2.90**	**159**	IAML		22 09 47.4	
comp=N,3μm,0.6s							
GO03	**Copiap**	**3.19**	**34**	*eP*	**Pn**	**22 08 54.2**	**-0.2**
GO03	**Copiap**	**3.19**	**34**	Pn	**Pn**	**22 08 54.5**	**+0.1**
GO03	**Copiap**	**3.19**	**34**	*eP*	**Pn**	**22 08 54.8**	**+0.4**
GO03				*eS*	**Sn**	**22 09 33.6**	**+0.5**
ZON	**Zonda**	**3.32**	**114**	Pn	**Pn**	**22 08 57.1**	**+0.9**
AC06	**Mina Casimiro**	**3.34**	**30⇑**	*iP*	**Pn**	**22 08 56.4**	**0.0**
AC06				*i* S	**Sb**	**22 09 43.7**	**-0.5**
AC06				IAML		22 10 04.9	
comp=E,2μm,0.4s							
AC06	**Mina Casimiro**	**3.34**	**30**		**Pn**	**22 08 55.7**	**-0.7**
MT05	**Renca**	**3.37**	**158**	*eP*	**Pn**	**22 08 56.8**	**-0.1**
MT05				*i* S	**Sn**	**22 09 34.5**	**-3.0**
MT05				IAML		22 09 54.2	
comp=N,3μm,0.3s							
MT05	**Renca**	**3.37**	**158**		**Pn**	**22 08 57.3**	**+0.4**
VA05	**Santo Domingo**	**3.42**	**171**	IAML		22 10 05.3	
comp=N,2μm,0.8s							
VA05	**Santo Domingo**	**3.42**	**171**	Pn	**Pn**	**22 08 57.9**	**+0.3**
MT09	**Talagante**	**3.66**	**163**	*eP*	**Pn**	**22 08 59.5**	**-1.4**
MT09				*i* S	**Sn**	**22 09 40.6**	**-4.1**
MT09	**Talagante**	**3.66**	**163**	Pn	**Pn**	**22 09 01.4**	**+0.4**
MT01	**Popeta**	**3.69**	**167**	Pn	**Pn**	**22 08 59.7**	**-1.4**
MT01	**Popeta**	**3.69**	**167**	*eP*	**Pn**	**22 09 00.0**	**-1.2**
MT01				*eS*	**Sn**	**22 09 44.8**	**-0.4**
MT01				IAML		22 10 13.6	
comp=Z,438nm,0.5s							
ASAL	**Salagasta**	**3.73**	**129**	*eS*	**Sg**	**22 09 59.6**	**-3.3**
ARCO	**CERRO ARCO**	**3.82**	**133**	*eS*	**Sg**	**22 10 07.6**	**+1.6**
BO01	**Tunca**	**4.23**	**167**	*eP*	**Pn**	**22 09 08.0**	**-0.6**
BO01				*i* S	**Sn**	**22 09 54.7**	**-3.9**
BO01	**Tunca**	**4.23**	**167**		**Pn**	**22 09 08.6**	**0.0**
BO01	**Tunca**	**4.23**	**167**	*eP*	**Pn**	**22 09 09.0**	**+0.4**
BO01				*eS*	**Sn**	**22 09 56.2**	**-2.5**
BO01				*eS*	**Sb**	**22 10 07.6**	**-2.3**
BO01				IAML		22 10 23.3	
comp=Z,515nm,1.2s							
AC02	**Maricunga**	**4.38**	**39**	*eP*	**Pn**	**22 09 11.8**	**+0.7**
AC02				*i* S	**Sn**	**22 10 00.3**	**-2.7**
AC02	**Maricunga**	**4.38**	**39**		**Pn**	**22 09 10.7**	**-0.5**
AC02	**Maricunga**	**4.38**	**39**	*eP*	**Pn**	**22 09 12.0**	**+0.8**
AC02				*eP*	**Pn**	**22 09 14.1**	**+2.9**
AC02				*eS*	**Sb**	**22 10 14.1**	**-0.6**
BO02	**Sierra Bellavi**	**4.68**	**165**	*eP*	**Pn**	**22 09 14.6**	**-0.3**
BO02	**Sierra Bellavi**	**4.68**	**165**	Pn	**Pn**	**22 09 16.1**	**+1.2**
BO02	**Sierra Bellavi**	**4.68**	**165**	*eP*	**Pn**	**22 09 17.0**	**+2.1**
BO02				*eS*	**Sn**	**22 10 13.6**	**+3.7**
GO05	**Huala**	**4.74**	**177**		**Pn**	**22 09 14.0**	**-1.6**
GO05	**Huala**	**4.74**	**177**	*eP*	**Pn**	**22 09 14.1**	**-1.6**
GO05				*eS*	**Sn**	**22 10 05.6**	**-5.6**
ACHE	**Chepes**	**4.89**	**102**	*eP*	**Pn**	**22 09 20.0**	**+2.2**
RFA	**San Rafael**	**5.51**	**146**	*eP*	**Pn**	**22 09 25.6**	**-0.7**
RFA				*eS*	Sn	22 10 18.1	-12
ML02	**Panimavida**	**5.53**	**173**		**Pn**	**22 09 25.4**	**-1.1**
PB14	**IPOC Station P**	**5.85**	**17**	Pn	**Pn**	**22 09 29.1**	**-2.1**
PB14	**IPOC Station P**	**5.85**	**17**	*eP*	**Pn**	**22 09 29.5**	**-1.7**
PB14				*eS*	**Sn**	**22 10 34.4**	**-4.7**
CYA	**Choya**	**5.91**	**74**	*eP*	**Pn**	**22 09 33.3**	**+1.5**
MRA	**San Martin**	**5.98**	**113**	*eP*	**Pn**	**22 09 34.0**	**+1.2**
H03N1	**Juan Fernandez** baz=66,slow=72	**6.50**	**239**	T	T	22 16 50.0	
H03N2	**Juan Fernandez** baz=66,slow=72	**6.51**	**239**	T	T	22 16 49.6	
H03N3	**Juan Fernandez** baz=66,slow=72	**6.51**	**239**	T	T	22 16 47.7	
VA04	**Juan Fernndez**	**6.53**	**237**		**Pn**	**22 09 39.2**	**-1.0**
PB10	**IPOC Station P**	**6.89**	**13**	Pn	**Pn**	**22 09 45.6**	**+0.4**
PB10	**IPOC Station P**	**6.89**	**13**	*eP*	**Pn**	**22 09 43.1**	**-2.2**
PB10				*eP*	**Pn**	**22 09 44.8**	**-0.4**
AHML	**Horco Molle**	**7.00**	**62**	*eP*	**Pn**	**22 09 47.6**	**+0.8**
PB15	**IPOC Station P**	**7.45**	**20**		**Pn**	**22 09 52.1**	**-1.1**
PB15	**IPOC Station P**	**7.45**	**20**	*eP*	**Pn**	**22 09 52.4**	**-0.7**
PB06	**IPOC Station P**	**7.90**	**18**	Pn	**Pn**	**22 09 60.0**	**+0.7**
PB04	**IPOC Station P**	**8.12**	**14**	Pn	**Pn**	**22 10 02.8**	**+0.5**
AF01	**San Pedro de A**	**8.14**	**27**	Pn	**Pn**	**22 10 03.3**	**+0.7**
LVC	**Limon Verde** comp=Z,1.0nm,0.3s,baz=186,slow=7.3,SNR=11	**8.19**	**22**	Pn	**Pn**	**22 10 02.0**	**-1.3**
LVC	**Limon Verde**	**8.19**	**22**	Pn	**Pn**	**22 10 03.3**	**-0.1**
LC01	**Cunco**	**8.62**	**178**	Pn	**Pn**	**22 10 07.5**	**-1.4**
PB07	**IPOC Station P**	**8.76**	**15**	Pn	**Pn**	**22 10 09.7**	**-1.4**
PB09	**IPOC Station P**	**8.86**	**18**	Pn	**Pn**	**22 10 11.7**	**-0.6**
LR03	**Panguipulli**	**9.35**	**180**	Pn	**Pn**	**22 10 19.0**	**+0.1**
PB01	**IPOC Station P**	**9.51**	**16**	Pn	**Pn**	**22 10 21.2**	**-0.1**
TA01	**Diego Aracena**	**9.84**	**11**	Pn	**Pn**	**22 10 25.4**	**-0.2**
TA02	**Huaiquique**	**10.13**	**11**	Pn	**Pn**	**22 10 29.6**	**-0.1**
PB08	**IPOC Station P**	**10.46**	**16**	Pn	**Pn**	**22 10 34.7**	**+0.2**
PLCA	**Paso Flores** comp=Z,1.0nm,0.3s,baz=337,slow=11,SNR=26	**10.54**	**173**	Pn	**Pn**	**22 10 34.6**	**-0.6**
PLCA				LR	LR	22 14 02.7	
comp=Z,435nm,19.4s,baz=352,slow=34							
PLCA	**Paso Flores**	**10.54**	**173**		**Pn**	**22 10 36.0**	**+0.8**
LL04	**Puerto Octay**	**10.62**	**181**	Pn	**Pn**	**22 10 36.2**	**-0.1**
PB11	**IPOC Station P**	**10.72**	**13**	Pn	**Pn**	**22 10 37.4**	**-0.5**
PSGCX	**Pisagua**	**10.79**	**11**	Pn	**Pn**	**22 10 37.1**	**-1.7**
LL03	**Petrohue**	**10.85**	**181**	Pn	**Pn**	**22 10 38.1**	**-1.4**
TRQA	**Tornquist**	**11.51**	**135**		**Pn**	**22 10 48.4**	**-0.1**
LL07	**Hotel Espejo d**	**12.58**	**184**	Pn	**Pn**	**22 11 03.8**	**+0.7**
LPA	**La Plata**	**12.93**	**115**	*iP*	**Pn**	**22 11 10.6**	**+2.8**
LPA				PPP	PPP	22 11 24.7	
LPA				PP	**PgPg**	**22 12 10.4**	**-0.4**
LPA				S	**Sn**	**22 13 35.1**	**+2.8**
LPA				SS	**SnSn**	**22 13 47.8**	**+3.4**
LPA				SSS	SSS	22 14 00.8	
LPA				PCP	**PcP**	**22 16 41.4**	**-1.1**
LPA				KIKP		22 24 36.5	
LPA				SKIKP		22 28 08.4	
LPA				PKIKS		22 28 13.8	
LPA				SKIKS		22 31 46.5	

ITQB	**Itaqui**	**13.56**	**91**		**Pn**	**22 11 15.8**	**-0.7**
CPUP	**Villa Florida**	**13.71**	**77**	Pn	Pn	22 11 13.4	-5.3
comp=Z,0.2nm,0.3s,baz=266,slow=19,SNR=1.7							
CPUP				Lg	Lg	22 15 04.0	
comp=Z,0.5nm,0.3s,baz=210,slow=11,SNR=3.0							
CPUP				LR	LR	22 16 54.5	
comp=Z,3μm,18.1s,baz=256,slow=40							
CPUP	**Villa Florida**	**13.71**	**77**	Pn	**Pn**	**22 11 18.3**	**-0.4**
LPAZ	**La Paz**	**14.41**	**16**	Pn	**Pn**	**22 11 28.9**	**+0.1**
comp=Z,0.8nm,0.3s,baz=191,slow=7.2,SNR=33							
LPAZ	**La Paz**	**14.41**	**16**	Pn	**Pn**	**22 11 29.6**	**+0.7**
COYC	**Coyhaique**	**15.28**	**180**	Pn	**Pn**	**22 11 40.3**	**+0.4**
PLTB	**Pedras Altas**	**16.05**	**100**	Pn	**Pn**	**22 11 49.2**	**-0.8**
SIV	**San Ignacio**	**17.52**	**38**	Pn	**Pn**	**22 12 06.9**	**-1.7**
comp=Z,1.5nm,0.3s,baz=228,slow=11,SNR=43							
SIV				LR	LR	22 19 38.8	
comp=Z,1μm,18.5s,baz=224,slow=40							
AQDB	**Aquidauana**	**17.83**	**61**		**Pn**	**22 12 12.1**	**-0.3**
NNA	**Nana**	**18.68**	**346**	P	**P**	**22 12 19.8**	**-3.0**
SAML	**Samuel**	**22.84**	**24**	P	**P**	**22 13 07.9**	**+0.2**
SPB	**Sao Paulo**	**23.07**	**79**	P	**P**	**22 13 10.2**	**0.0**
SPB				IAmb	IAmb	22 13 20.1	
comp=Z,55nm,1.3s							
BDFB	**Brasilia**	**26.56**	**62**	P	**P**	**22 13 41.1**	**-1.7**
comp=Z,15nm,0.8s,baz=234,slow=9.0,SNR=16							
BDFB	**Brasilia**	**26.56**	**62**	P	**P**	**22 13 42.5**	**-0.3**
BDFB				IAmb	IAmb	22 13 43.7	
comp=Z,26nm,1.0s							
PAYG	**Puerto Ayora**	**34.06**	**326**	P	**P**	**22 14 46.7**	**-2.3**
PMSA	**Palmer Station**	**34.91**	**174**	P	**P**	**22 14 56.1**	**+0.3**
PMSA				IAmb	IAmb	22 15 12.1	
comp=Z,24nm,1.5s							
RUSC	**La Rusia**	**35.96**	**359**	P	**P**	**22 15 05.4**	**-0.5**
SDV	**Santo Domingo**	**38.96**	**3**	P	**P**	**22 15 30.8**	**-0.2**
MDP	**Montagnes des**	**39.87**	**31**	P	**P**	**22 15 38.0**	**-0.3**
comp=Z,6.4nm,0.8s,baz=215,slow=12,SNR=2.4							
MDP				LR	LR	22 33 47.0	
comp=Z,462nm,18.7s,baz=203,slow=39							
MCLT	**Moule a Chique**	**45.05**	**16**	P	**P**	**22 16 20.8**	**+0.2**
MPOM	**Morne Pois Mar**	**45.78**	**15**	P	**P**	**22 16 25.8**	**-0.5**
CRPR	**Cabo Rojo, PR**	**48.25**	**7**	P	**P**	**22 16 46.4**	**+0.9**
OBIP	**Obispado Ponce**	**48.33**	**7**	P	**P**	**22 16 46.7**	**+0.5**
PDPR	**Patillas Dam,**	**48.38**	**8**	P	**P**	**22 16 46.1**	**-0.4**
PDPR				IAmb	IAmb	22 16 48.1	
comp=Z,10nm,0.8s							
SJG	**San Juan**	**48.45**	**8**	P	**P**	**22 16 46.5**	**-0.6**
SJG				IAmb	IAmb	22 16 48.6	
comp=Z,11nm,0.8s							
MTP	**Monte Pirata**	**48.51**	**9**	P	**P**	**22 16 45.9**	**-1.7**
MTP				IAmb	IAmb	22 17 14.7	
comp=Z,19nm,1.1s							
HUMP	**Col San Antoni**	**48.52**	**8**	P	**P**	**22 16 47.3**	**-0.3**
HUMP				IAmb	IAmb	22 16 55.8	
comp=Z,20nm,1.3s							
AOPR	**Arecibo Observ**	**48.62**	**7**	P	**P**	**22 16 47.8**	**-0.7**
AOPR				IAmb	IAmb	22 16 56.7	
comp=Z,15nm,0.8s							
CBYP	**Canovanas**	**48.65**	**8**	P	**P**	**22 16 48.0**	**-0.7**
CBYP				IAmb	IAmb	22 16 50.2	
comp=Z,19nm,1.1s							
GCPR	**Guaynabo City**	**48.66**	**8**	P	**P**	**22 16 48.0**	**-0.7**
GCPR				IAmb	IAmb	22 17 07.0	
comp=Z,31nm,1.4s							
VNA3	**Neumayer Olymp**	**52.88**	**159**	P	**P**	**22 17 21.4**	**+1.3**
VNA1	**Neumayer--Stat**	**53.18**	**158**	P	**P**	**22 17 23.5**	**+1.3**
VNA2	**Neumayer--Watz**	**53.52**	**158**	P	**P**	**22 17 24.9**	**+0.1**
baz=286,slow=8.4							
SNAA	**Sanae**	**55.11**	**159**	P	**P**	**22 17 36.6**	**+0.1**
SNAA	**Sanae**	**55.11**	**159**	P	**P**	**22 17 36.4**	**+0.1**
comp=Z,5.8nm,0.8s,baz=277,slow=7.6,SNR=42							
SNAA	**Sanae**	**55.11**	**159**	P	**P**	**22 17 36.5**	**+0.1**
SNAA				IAmb	IAmb	22 17 47.3	
comp=Z,17nm,1.1s							
RKT	**Rikitea**	**55.89**	**261**	*e*T	T	23 18 36.7	
comp=Z,2.7

GTA				sPKP		22 28 29.0		
HHC	**Hu-ho-hao-te**	**169.00**	**345**	*eP*	**PKPdf**	**22 28 14.3**	**+2.3**	
HHC				LR	LR			
	comp=N,130nm,18.4s							
HHC				LR	LR			
	comp=E,130nm,18.7s							
HHC				LR	LR			
	comp=Z,170nm,20.1s							
NJ2	**Nanjing**	**170.32**	**283**	*eP*	**PKPdf**	**22 28 14.3**	**+1.4**	
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.6s							

IDC ***17*** *22:23:31.6±1.5,31°.48S×71°.76W,h0km,mb3.6/2, mb1 3.8/5,mb1mx3.6/23,mbtmp3.6/5,ML3.5/3,MS3.8/1, Ms1 3.8/1,ms1mx2.9/26,Error ellipse: s-maj=58.8km s-min=32.2km az=86.0*

GUC ***17*** *22:23:34.8±0.7,31°.58S×71°.81W,h25km±5km,ML3.8*

ISC 17 22:23:31.7±2.4,31°.58S±0°.03×72°.0W±0°.1,h4km±16km,n19, σ1§15/25,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.95**	**19**	*eP*	**Pb**	**22 23 51.8**	**+1.0**
CO06				*i* S	**Sb**	**22 24 05.2**	**+1.4**
VA06	**Catapilco**	**1.15**	**149**	*eP*	**Pb**	**22 23 54.5**	**+0.4**
VA06				*i* S	**Sb**	**22 24 09.6**	**+0.3**
CO03	**El Pedregal**	**1.34**	**57**	*eP*	**Pg**	**22 23 57.5**	**+0.1**
CO03				*i* S	**Sg**	**22 24 14.5**	**-0.4**
CO03				IAML		22 24 18.9	
	comp=E,3μm,0.4s						
ROCH	**El Roble**	**1.62**	**149**	*i* S	**Sg**	**22 24 23.7**	**-0.1**
ROCH				IAML		22 24 27.7	
	comp=E,2μm,0.3s						
VA03	**San Esteban**	**1.70**	**134**	*i* P	**Pb**	**22 24 03.9**	**+0.2**
VA03				*i* S	**Sb**	**22 24 25.5**	**0.0**
GO04	**Tololo Observa**	**1.74**	**37**	*eP*	**Pb**	**22 24 04.7**	**+0.3**
GO04				*i* S	**Sg**	**22 24 27.9**	**+0.2**
CO05	**La Serena**	**1.78**	**22**	*eP*	**Pb**	**22 24 05.2**	**+0.3**
CO05				*i* S	**Sg**	**22 24 28.6**	**-0.2**
CO05				IAML		22 24 37.5	
	comp=N,968nm,0.3s						
MT05	**Renca**	**2.10**	**150**	*eP*	**Pb**	**22 24 10.4**	**0.0**
MT05				IAML		22 24 40.4	
	comp=E,2μm,0.4s						
VA05	**Santo Domingo**	**2.10**	**171**	*eP*	**Pn**	**22 24 08.0**	**+0.4**
VA05				IAML		22 24 45.4	
	comp=E,1μm,0.7s						
MT09	**Talagante**	**2.35**	**159**	*i* S	**Sb**	**22 24 44.3**	**+0.1**
MT09				IAML		22 24 55.2	
	comp=N,578nm,0.5s						
MT01	**Popeta**	**2.37**	**165**	*eP*	**Pn**	**22 24 13.4**	**+2.1**
MT01				*i* S	**Sb**	**22 24 44.5**	**0.0**
MT01				IAML		22 24 55.8	
	comp=E,501nm,0.4s						
LMEL	**Las Melosas**	**2.72**	**147**	*eP*	**Pn**	**22 24 18.2**	**+1.8**
LMEL				IAML		22 25 02.3	
	comp=N,668nm,0.4s						
PLCA	**Paso Flores**	**9.21**	**173**	Pn	**Pn**	**22 25 46.0**	**+0.6**
	comp=N,0.1nm,0.3s,baz=347,slow=19,SNR=1.2						
LVC	**Limon Verde**	**9.35**	**18**	Pn	**Pn**	**22 25 43.7**	**-3.9**
	comp=N,0.6nm,0.3s,baz=188,slow=6.1,SNR=2.3						
LPAZ	**La Paz**	**15.62**	**14**	Pn	**Pn**	**22 27 12.9**	**-0.5**
	comp=N,0.1nm,0.3s,baz=126,slow=9.5,SNR=3.7						
CMIG	**Matias Romero**	**53.15**	**332**	LR	LR	22 49 09.8	
	comp=N,75nm,18.2s,baz=296,slow=29						
TXAR	**Lajitas Array**	**67.65**	**330**	P	**P**	**22 34 30.7**	**+0.7**
	comp=N,0.1nm,0.5s,baz=142,slow=9.1,SNR=2.3						
TORD	**Torodi Ar. Bea**	**83.36**	**70**	P	**P**	**22 36 00.1**	**-0.3**
	comp=N,1.3nm,0.8s,baz=259,slow=4.5,SNR=8.2						
ZALV	**Zalesovo Beam**	**152.14**	**30**	PKPbc	**PKPbc**	**22 43 27.9**	**0.0**
	comp=N,3.2nm,0.5s,baz=307,slow=3.4,SNR=11						

IDC ***17*** *22:24:42.7±1.6,31°.31S×71°.00W,h0km,mb3.6/2, mb1 3.9/5,mb1mx3.7/23,mbtmp3.7/5,ML3.7/3,Error ellipse: s-maj=58.8km s-min=31.9km az=86.0*

ISC 17 22:24:43.9±1.1,31°.3S±0°.1×70°.9W±0°.4,h10km,n9,σ1§85/6, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H03N1	**Juan Fernandez**	**7.10**	**250**	T	T	22 32 49.5	
	baz=75,slow=72						
H03N3	**Juan Fernandez**	**7.11**	**250**	T	T	22 32 49.6	
	baz=75,slow=72						
H03N2	**Juan Fernandez**	**7.11**	**251**	T	T	22 32 47.3	
	baz=75,slow=72						
LVC	**Limon Verde**	**8.85**	**12**	Pn	**Pn**	**22 26 50.6**	**-1.6**
	0.5nm,0.3s,baz=249,slow=19,SNR=1.2						
PLCA	**Paso Flores**	**9.41**	**178**	Pn	**Pn**	**22 26 58.9**	**-0.7**
	0.1nm,0.3s,baz=323,slow=15,SNR=1.1						
LPAZ	**La Paz**	**15.17**	**10**	Pn	**Pn**	**22 28 18.8**	**-0.1**
	0.3nm,0.3s,baz=173,slow=6.4,SNR=6.5						
TXAR	**Lajitas Array**	**67.89**	**329**	P	**P**	**22 35 43.9**	**+1.2**
	0.1nm,0.5s,baz=156,slow=6.9,SNR=2.6						
TORD	**Torodi Ar. Bea**	**82.39**	**70**	P	**P**	**22 37 08.5**	**+1.9**
	1.1nm,0.7s,baz=245,slow=4.3,SNR=8.0						
ZALV	**Zalesovo Beam**	**151.44**	**31**	PKPbc	**PKPbc**	**22 44 36.0**	**-1.5**
	0.8nm,0.4s,baz=307,slow=3.1,SNR=2.4						

IDC ***17*** *22:26:00.5±1.6,31°.35S×71°.65W,h0km,mb4.0/3, mb1 4.1/8,mb1mx3.9/27,mbtmp3.9/8,ML3.8/5,MS3.5/1, Ms1 3.5/1,ms1mx2.8/27,Error ellipse: s-maj=39.6km s-min=28.7km az=84.0*

ISC 17 22:26:03.8±1.1,31°.4S±0°.1×71°.6W±0°.2,h25km,n13, σ1§51/9,mb4.0/3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H03N1	**Juan Fernandez**	**6.51**	**249**	T	T	22 34 15.1	
	baz=76,slow=72						
H03N3	**Juan Fernandez**	**6.53**	**249**	T	T	22 34 07.6	
	baz=76,slow=72						
H03N2	**Juan Fernandez**	**6.53**	**250**	T	T	22 34 19.7	
	baz=76,slow=72						
LVC	**Limon Verde**	**9.04**	**16**	Pn	**Pn**	**22 28 11.5**	**-1.5**
	0.9nm,0.3s,baz=276,slow=5.6,SNR=3.5						
PLCA	**Paso Flores**	**9.40**	**175**	Pn	**Pn**	**22 28 16.5**	**-1.2**
	0.1nm,0.3s,baz=163,slow=22,SNR=1.4						
LPAZ	**La Paz**	**15.33**	**13**	Pn	**Pn**	**22 29 37.7**	**-1.5**
	0.2nm,0.3s,baz=169,slow=7.7,SNR=2.7						
SIV	**San Ignacio**	**18.07**	**35**	P	**P**	**22 30 13.4**	**-0.1**
	0.3nm,0.3s,baz=243,slow=9.0,SNR=2.3						
NNA	**Nana**	**19.87**	**345**	P	**P**	**22 30 32.3**	**-1.0**
	1.5nm,0.3s,baz=229,slow=20,SNR=1.6						
BDFB	**Brasilia**	**26.62**	**59**	P	**P**	**22 31 41.9**	**+1.3**
	1.6nm,0.4s,baz=235,slow=8.3,SNR=5.2						
JTS	**Las Juntas de**	**43.34**	**341**	LR	LR	22 47 41.2	
	comp=Z,64nm,20.9s,baz=153,slow=30						
TXAR	**Lajitas Array**	**67.62**	**330**	P	**P**	**22 37 00.5**	**+1.9**
	0.3nm,0.8s,baz=141,slow=5.8,SNR=2.7						
TORD	**Torodi Ar. Bea**	**82.97**	**70**	P	**P**	**22 38 28.2**	**+1.1**
	1.5nm,0.7s,baz=267,slow=4.6,SNR=6.6						
ZALV	**Zalesovo Beam**	**151.78**	**30**	PKPbc	**PKPbc**	**22 45 55.5**	**-0.2**
	0.8nm,0.5s,baz=311,slow=1.4,SNR=2.8						

HVO ***17*** *22:32:49.9±1.1,19°.35N±0°.03×155°.08W±0°.02,h8km±2km, ML3.8/29,ML3.8/59(NEIC),Error ellipse: s-maj=4.5km s-min=2.6km az=142.0*

NEIC 17 22:32:48.5±1.4,19°.41N±0°.03×154°.99W±0°.03,h9km±4km, Error ellipse: s-maj=4.9km s-min=2.7km az=131.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCUZ	**Jacuzzi**	**0.11**	**256**		Pg	22 32 51.8	+0.6
JCUZ				Sg	Sg	22 32 52.5	-0.7
JCUZ				IAML		22 32 53.6	
	comp=E,54μm,0.3s						
NPOC	**North of Pu'u**	**0.12**	**261**		Pg	22 32 52.1	+0.7
NPOC				Sg	Sg	22 32 52.8	-0.5
NPOC				IAML		22 32 54.1	
	comp=N,50μm,0.5s						
STCH	**Steam Cracks**	**0.14**	**259**		Pg	22 32 52.1	+0.5
STCH				Sg	Sg	22 32 52.9	-0.9
PUH	**Pauahi**	**0.22**	**260**		Pg	22 32 53.2	+0.1
PUH				Sg	Sg	22 32 55.5	-0.7
PUH				IAML		22 32 56.4	
	comp=N,23μm,0.7s						
BYL	**Byron's Ledge**	**0.26**	**270**		Pg	22 32 54.0	+0.1
BYL				Sg	Sg	22 32 57.0	-0.4
BYL				IAML		22 32 58.2	
	comp=N,18μm,0.4s						
BYL				IAML		22 32 59.2	
	comp=E,16μm,0.6s						
HATHI	**Halema'uma'u T**	**0.26**	**273**		Pg	22 32 54.0	+0.1
HATHI				Sg	Sg	22 32 58.3	+0.9
HATHI				IAML		22 32 59.4	
	comp=N,24μm,0.2s						
KKO	**Keanakako`i**	**0.27**	**267**		Pg	22 32 54.0	+0.1
KKO				Sg	Sg	22 32 56.8	-0.7
SBLHI	**Steaming Bluff**	**0.27**	**273**		Pg	22 32 54.0	+0.1
SBLHI				Sg	Sg	22 32 57.1	-0.5
SBLHI				IAML		22 33 01.2	
	comp=N,22μm,0.8s						
RIM	**Rim**	**0.27**	**267**		Pg	22 32 54.1	0.0
RIM				Sg	Sg	22 32 57.2	-0.6
RIM				IAML		22 33 00.2	
	comp=N,20μm,0.6s						
RIM				IAML		22 33 00.9	
	comp=E,15μm,0.4s						
UWB	**Uwekahuna B**	**0.28**	**273**		Pg	22 32 54.1	0.0
UWB				Sg	Sg	22 32 57.2	-0.7
NPH	**North Pit**	**0.28**	**270**		Pg	22 32 54.1	-0.1
NPH				Sg	Sg	22 32 57.5	-0.4
RSD	**Rainshed**	**0.28**	**280**		Pg	22 32 54.6	+0.4
RSD				Sg	Sg	22 32 59.1	+1.1
OBL	**Observatory Le**	**0.28**	**271**		Pg	22 32 54.3	+0.1
OBL				Sg	Sg	22 32 58.2	+0.1
OBL				IAML		22 32 59.8	
	comp=E,23μm,0.5s						
UWE	**Uwekahuna**	**0.29**	**272**		Pg	22 32 54.5	+0.1
UWE				Sg	Sg	22 32 58.0	-0.3
UWE				IAML		22 33 00.3	
	comp=E,24μm,0.4s						
UWE				IAML		22 33 00.4	
	comp=N,25μm,0.5s						
SDHHI	**Sand Hill**	**0.29**	**266**		Pg	22 32 54.4	-0.1
SDHHI				Sg	Sg	22 32 58.1	-0.3
SDHHI				IAML		22 32 59.4	
	comp=E,15μm,0.6s						
SDHHI				IAML		22 33 00.3	
	comp=N,18μm,0.3s						
WRMHI	**West Rim**	**0.30**	**269**		Pg	22 32 54.5	-0.1
WRMHI				Sg	Sg	22 32 58.2	-0.4
WRMHI				IAML		22 33 00.3	
	comp=N,20μm,0.5s						
WRMHI				IAML		22 33 00.9	
	comp=E,23μm,0.4s						
HLP	**Hilina Pali**	**0.33**	**249**		Pg	22 32 54.8	-0.2
HLP				Sg	Sg	22 32 57.7	-1.6
HLP				IAML		22 33 00.5	
	comp=N,25μm,0.1s						
HLP				IAML		22 33 01.5	
	comp=E,15μm,0.2s						
MLH	**Mauna Loa**	**0.39**	**282**		Pg	22 32 56.4	+0.2
MLH				Sg	Sg	22 33 02.2	+0.8
MLH				IAML		22 33 02.8	
	comp=E,19μm,0.3s						
MLH				IAML		22 33 03.0	
	comp=N,13μm,0.3s						
AIN	**Ainahou**	**0.45**	**265**		Pg	22 32 57.1	-0.2
AIN				Sg	Sg	22 33 04.0	+0.8
HMH	**Humu'ula Sheep**	**0.51**	**292**		Pg	22 32 58.8	+0.3
HMH				Sg	Sg	22 33 06.3	+1.1
MLOA	**Mauna Loa Obse**	**0.57**	**283**		Pg	22 32 59.5	-0.2
MLOA				Sg	Sg	22 33 07.3	0.0
MWH	**Moku'aweowe**	**0.58**	**277**		Pg	22 32 59.8	-0.2
MWH				Sg	Sg	22 33 07.7	0.0
KHU	**Kahuku**	**0.62**	**255**		Pg	22 32 59.6	-1.0
KHU				Sg	Sg	22 33 07.7	-1.0
KHU				IAML		22 33 09.5	
	comp=N,7μm,0.3s						
KHU				IAML		22 33 13.3	
	comp=E,7μm,0.3s						
POHA	**Pohakuloa**	**0.62**	**304**		Pg	22 33 00.8	+0.2
POHA				Sg	Sg	22 33 09.4	+0.6
POHA	**Pohakuloa**	**0.62**	**304**	IAML		22 33 10.4	
	comp=E,7μm,0.3s						
POHA				IAML		22 33 11.0	
	comp=E,4μm,0.2s						
HUH	**Hualalai**	**0.85**	**289**		Pg	22 33 03.9	-1.0
HUH				Sg	Sb	22 33 17.9	+0.7
KHLU	**Kahalu`u**	**0.88**	**282**		Pg	22 33 03.6	-1.8
KHLU				Sg	Sg	22 33 16.8	0.0
KHLU				IAML		22 33 23.3	
	comp=N,5μm,0.5s						
HPAH	**Hawaii Prepara**	**0.91**	**313**		Pg	22 33 04.7	-1.4
HPAH				Sg	Sg	22 33 18.0	0.0
HPAH				IAML		22 33 20.2	
	comp=N,3μm,0.2s						
HPAH				IAML		22 33 20.3	
	comp=E,5μm,0.2s						
KHLH	**Kahului Airpor**	**2.00**	**318**	Pn	Pb	22 33 23.9	-1.3
KHLH				Sn	Sn	22 33 47.7	-0.1
KHLH				IAML		22 34 04.0	
	comp=E,525nm,0.7s						
WMR	**Waimanalo Ridg**	**3.16**	**307**	Pn	Pn	22 33 36.1	-2.5
DHH	**Diamond Head**	**3.22**	**305**	Pn	Pn	22 33 35.6	-3.7
HON	**Honolulu**	**3.41**	**304**	Pn	Pn	22 33 39.0	-2.9
HON				IAML		22 34 19.2	
	comp=E,222nm,2.5s						
HON				IAML		22 34 35.9	
	comp=N,248nm,1.6s						
KEKH	**Kekaha**	**5.11**	**301**	Pn	Pn	22 34 04.0	-1.3

GUC ***17*** *22:36:34.8±0.9,31°.54S×71°.92W,h34km±4km,ML4.0*

NEIC ***17*** *22:36:36.5±2.1,31°.49S±0°.04×71°.84W±0°.07,h34km±6km, mb4.1/3,ML4.0(GUC),Error ellipse: s-maj=9.9km s-min=4.0km az=118.0*

ISC 17 22:36:35.5±1.5,31°.51S±0°.03×71°.83W±0°.07,h27km±12km, n41,σ1§06/58,mb4.0/3,2C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.85**	**11**	*eP*	**Pn**	**22 36 51.1**	**-0.5**
CO06				*i* S	**Sb**	**22 37 04.1**	**+1.5**
CO06				IAML		22 37 05.3	
	comp=E,6μm,0.1s						
CO06	**Fray Jorge**	**0.85**	**11**		**Pn**	**22 36 51.0**	**-0.7**
VA06	**Catapilco**	**1.14**	**157**	*eP*	**Pn**	**22 36 55.3**	**-0.3**
VA06				*i* S	**Sn**	**22 37 10.1**	**-0.3**
VA06				IAML		22 37 11.9	
	comp=N,6μm,0.2s						
CO03	**El Pedregal**	**1.18**	**56**	*eP*	**Pn**	**22 36 56.4**	**+0.1**
CO03				*i* S	**Sn**	**22 37 11.7**	**+0.2**
CO03				IAML		22 37 16.3	
	comp=E,8μm,0.8s						
CO03	**El Pedregal**	**1.18**	**56**	Pn	**Pn**	**22 36 56.0**	**-0.3**
VA01	**Torpederas**	**1.52**	**174**	*eP*	**Pn**	**22 37 00.8**	**0.0**
VA01				*i* S	**Sb**	**22 37 24.0**	**+2.2**
VA01	**Torpederas**	**1.52**	**174**		**Pn**	**22 37 00.5**	**-0.3**
VA01				Sg	**Sb**	**22 37 23.9**	**+2.2**
GO04	**Tololo Observa**	**1.60**	**34**	*eP*	**Pn**	**22 37 03.1**	**+0.9**
GO04				*i* S	**Sb**	**22 37 25.0**	**+0.6**
GO04	**Tololo Observa**	**1.60**	**34**		**Pn**	**22 37 02.6**	**+0.5**
GO04					**Sb**	**22 37 25.1**	**+0.8**
ROCH	**El Roble**	**1.61**	**155**	*eP*	**Pn**	**22 37 02.6**	**+0.2**
ROCH				*i* S	**Sb**	**22 37 24.4**	**-0.4**
ROCH				IAML		22 37 28.7	
	comp=N,2μm,0.3s						
VA03	**San Esteban**	**1.65**	**140**	⇑*iP*	**Pn**	**22 37 03.7**	**+0.9**
VA03				*i* S	**Sb**	**22 37 25.5**	**-0.3**
VA03				IAML		22 37 30.8	
	comp=N,3μm,0.6s						
VA03	**San Esteban**	**1.65**	**140**		**Pn**	**22 37 03.6**	**+0.9**
VA03				Sn	**Sb**	**22 37 25.4**	**-0.3**
CO05	**La Serena**	**1.66**	**18**	*eP*	**Pn**	**22 37 04.0**	**+1.2**
CO05				*i* S	**Sb**	**22 37 26.3**	**+0.3**
CO05				IAML		22 37 31.9	
	comp=N,2μm,0.3s						
CO05	**La Serena**	**1.66**	**18**		**Pn**	**22 37 03.7**	**+0.9**
CO05					**Sb**	**22 37 26.5**	**+0.5**
MT05	**Renca**	**2.09**	**154**	*eP*	**Pn**	**22 37 09.5**	**+0.7**
MT05				*i* S	**Sn**	**22 37 35.9**	**+2.0**
MT05				IAML		22 37 41.3	
	comp=E,2μm,0.4s						
MT05	**Renca**	**2.09**	**154**		**Pn**	**22 37 09.2**	**+0.5**
MT05				Sn	**Sb**	**22 37 36.7**	**-1.6**
VA05	**Santo Domingo**	**2.15**	**175**	*eP*	**Pn**	**22 37 09.3**	**-0.2**
VA05				*i* S	**Sn**	**22 37 36.5**	**+1.2**
VA05				IAML		22 37 47.8	
	comp=E,1μm,0.5s						
VA05	**Santo Domingo**	**2.15**	**175**		**Pn**	**22 37 09.1**	**-0.5**
MT09	**Talagante**	**2.37**	**163**	*eP*	**Pn**	**22 37 13.5**	**+0.8**
MT09				*eS*	**Sn**	**22 37 43.0**	**+2.1**
MT09				IAML		22 37 52.0	
	comp=E,602nm,0.2s						
MT09	**Talagante**	**2.37**	**163**		**Pn**	**22 37 13.4**	**+0.7**
MT01	**Popeta**	**2.40**	**169**	⇑*iP*	**Pn**	**22 37 13.0**	**0.0**
MT01				*eS*	**Sn**	**22 37 43.1**	**+1.6**
MT01	**Popeta**	**2.40**	**169**		**Pn**	**22 37 12.9**	**0.0**
LCO	**Las Campanas**	**2.67**	**22**	Pn	**Pn**	**22 37 17.5**	**+0.5**
ZON	**Zonda**	**2.69**	**92**	Pg	**Pb**	**22 37 21.7**	**-1.2**
LMEL	**Las Melosas**	**2.70**	**150**	*eP*	**Pn**	**22 37 18.2**	**+0.9**
LMEL				*i* S	**Sn**	**22 37 52.0**	**+2.8**
LMEL				IAML		22 37 58.6	
	comp=N,806nm,0.2s						
BO01	**Tunca**	**2.94**	**168**		**Pn**	**22 37 21.2**	**+0.8**
AC04	**Llanos de Chal**	**3.36**	**11**		**Pn**	**22 37 27.0**	**+0.8**
BO02	**Sierra Bellavi**	**3.39**	**165**		**Pn**	**22 37 27.1**	**+0.5**
GO05	**Huala**	**3.49**	**181**	IAML		22 38 37.9	
	comp=N,137nm,0.8s						
GO05	**Huala**	**3.49**	**181**		**Pn**	**22 37 27.0**	**-1.1**
GO03	**Copiap**	**4.14**	**20**	Pn	**Pn**	**22 37 38.0**	**+1.1**
ML02	**Panimavida**	**4.26**	**176**		**Pn**	**22 37 38.5**	**0.0**
AC06	**Mina Casimiro**	**4.33**	**18**		**Pn**	**22 37 40.5**	**+0.9**
AC02	**Maricunga**	**5.22**	**28**		**Pn**	**22 37 54.2**	**+2.0**
LC01	**Cunco**	**7.37**	**180**	Pn	**Pn**	**22 38 20.3**	**-1.0**
PB06	**IPOC Station P**	**8.99**	**13**	Pn	**Pn**	**22 38 44.4**	**+0.6**
PLCA	**Paso Flores**	**9.26**	**174**	Pn	**Pn**	**22 38 46.6**	**-0.6**
TRQA	**Tornquist**	**10.40**	**132**	Pn	**Pn**	**22 39 01.9**	**-0.9**
AOPR	**Arecibo Observ**	**49.81**	**6**	P	**P**	**22 45 24.6**	**-1.4**
AOPR				IAmb	IAmb	22 45 33.8	
	comp=Z,5.7nm,0.8s						
SNAA	**Sanae**	**53.82**	**159**	P	**P**	**22 45 55.8**	**+0.3**
SNAA				IAmb	IAmb	22 45 56.4	
	comp=Z,1.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**83.19**	**70**	P	**P**	**22 48 59.0**	**-0.6**
TORD				IAmb	IAmb	22 49 15.1	
	comp=Z,0.9nm,0.9s						

IDC ***17*** *22:39:15.8±0.4,30°.99S×71°.77W,h0km,mb4.9/21, mb1 5.0/27,mb1mx4.9/36,mbtmp4.9/27,ML4.7/6,MS4.7/17, Ms1 4.7/17,ms1mx4.6/22,Error ellipse: s-maj=18.0km s-min=10.5km az=85.0*

SJA ***17*** *22:39:17.6±2.3,30°.96S×72°.35W,h48km±42km, MW5.2(GUC)*

MOS ***17*** *22:39:19.2±1.1,30°.98S×71°.66W,h28km,mb5.4/10,Error ellipse: s-maj=13.1km s-min=6.4km az=92.0*

VAO ***17*** *22:39:19.9±0.3,31°.01S×71°.72W,h21km,mb5.3*

NEIC ***17*** *22:39:20.4±1.6,31°.031S±0°.010×71°.81W±0°.06, h23km±3km,mb5.6/411,Mwr5.0/43,Mwr5.2(GUC),Error ellipse: s-maj=7.3km s-min=0.4km az=100.0*

GUC ***17*** *22:39:20.1±0.8,31°.01S×71°.79W,h37km±3km*

NEIC ***17*** *22:39:20.1,31°.02S×71°.78W,h28km,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}=2.40; $M_{\theta\theta}$=0.14; $M_{\phi\phi}$=2.26; $M_{r\theta}$=-0.52; $M_{r\phi}$=0.63; $M_{\theta\phi}$=-3.33; Fault plane solution: M_0=4.15000×10^{16} NP1:ϕ_s=200.65000°, δ=18.05000°,λ=-79.92000°. NP2:ϕ_s=10.06000°,δ=72.24000°, λ=-93.27000°. Principal axes: T 4.1528, Plg27.0000°, Azm103.0000°; N -0.0079, Plg3.0000°, Azm11.0000°; P -4.1449, Plg63.0000°, Azm275.0000°;*

GCMT ***17*** *22:39:21.4±0.3,31°.12S±0°.02×71°.96W±0°.03,h38km±1km, MW5.1/58,Moment Tensor Solution. s30,c36; s58,c81; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.50±.29; $M_{\theta\theta}$=1.81±.17; $M_{\phi\phi}$=1.68±.21; $M_{r\theta}$=-0.41±.14; $M_{r\phi}$=1.32±.10; $M_{\theta r}$=4.12±.23; Best double couple: $M_0$5.19900×10^{16} NP1:ϕ_s=237.00000°,δ23.00000°,λ-52.00000°. NP2: ϕ_s=17.00000°,δ=72.00000°,λ=-105.00000°. Principal axes: T 4.6110, Plg25.0000°, Azm119.0000°; N 1.1670, Plg14.0000°, Azm22.0000°; P -5.7870, Plg61.0000°, Azm266.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***17*** *22:39:21.0±0.0,31°.00S×71°.80W,h30km,mB5.1/13, Ms5.3/18,Ms7 5.1/19*

ISC 17 22:39:19.9±0.7,31°.03S±0°.02×71°.80W±0°.04,h25km±4km, n800,σ1§09/677,mb5.5/235,MS4.9/21,15C-33D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.38**	**22**	⇓*iP*	**Pb**	**22 39 28.3**	**+0.1**
CO06				*i* S	**Sb**	**22 39 34.2**	**+0.4**
CO06	**Fray Jorge**	**0.38**	**22**		**Pb**	**22 39 28.4**	**+0.2**
CO06					**Sb**	**22 39 34.1**	**+0.3**
CO06	**Fray Jorge**	**0.38**	**22**	⇓*iP*	**Pb**	**22 39 28.3**	**+0.2**
CO06				*i* S	**Sb**	**22 39 34.2**	**+0.4**
CO03	**El Pedregal**	**0.97**	**79**	*eP*	**Pb**	**22 39 38.0**	**-0.1**
CO03				*i* S	**Sb**	**22 39 50.4**	**-0.3**
CO03	**El Pedregal**	**0.97**	**79**	Pn	**Pb**	**22 39 38.1**	**0.0**
CO03				Sn	**Sb**	**22 39 50.4**	**-0.3**
CO03	**El Pedregal**	**0.97**	**79**	⇑*iP*	**Pb**	**22 39 38.0**	**-0.1**
CO03				*i* S	**Sb**	**22 39 49.7**	**-0.9**
CO05	**La Serena**	**1.21**	**24**	⇓*iP*	**Pn**	**22 39 41.4**	**+0.2**
CO05				*i* S	**Sn**	**22 39 56.4**	**-0.3**
CO05	**La Serena**	**1.21**	**24**	Pn	**Pn**	**22 39 41.4**	**+0.2**
CO05				Sn	**Sn**	**22 39 56.0**	**-0.7**
CO05	**La Serena**	**1.21**	**24**	⇓*iP*	**Pn**	**22 39 41.4**	**+0.2**
CO05				*i* S	**Sn**	**22 39 56.3**	**-0.4**
GO04	**Tololo Observa**	**1.21**	**46**	*eP*	**Pn**	**22 39 41.7**	**+0.2**
GO04				*i* S	**Sb**	**22 39 57.5**	**-0.2**
GO04	**Tololo Observa**	**1.21**	**46**	Pn	**Pb**	**22 39 42.0**	**-0.4**
GO04					**Sb**	**22 39 57.5**	**-0.2**
GO04	**Tololo Observa**	**1.21**	**46**	⇑*iP*	**Pb**	**22 39 41.9**	**-0.4**
GO04				*i* S	**Sb**	**22 39 57.7**	**0.0**
VA06	**Catapilco**	**1.59**	**164**	⇓*iP*	**Pn**	**22 39 46.7**	**+0.3**
VA06				*i* S	**S

BO01 Tunca 3.41 170 *e*P Pn 22 40 12.2 +0.7
BO01 Tunca 3.41 170 Pn Pn 22 40 11.9 +0.5
BO03 Pichilemu 3.46 182 *e*P Pn 22 40 11.0 -1.2
GO03 Copiap 3.69 22 *e*P Pn 22 40 14.6 -0.8
GO03 *i*S Sn 22 40 59.1 +1.1
GO03 Copiap 3.69 22 Pn Pn 22 40 15.4 +0.1
GO03 Copiap 3.69 22 *i*P Pn 22 40 16.0 +0.6
BO02 Sierra Bellavi 3.85 167 *e*P Pn 22 40 18.5 +0.8
BO02 Sierra Bellavi 3.85 167 Pn Pn 22 40 18.7 +1.1
BO02 Sierra Bellavi 3.85 167 *i*P Pn 22 40 20.0 +2.4
VCA Vinchina 3.87 55 *i*P Pb 22 40 24.0 -3.5
AC06 Mina Casimiro 3.87 19 *e*P Pn 22 40 17.5 -0.3
AC06 Mina Casimiro 3.87 19 Pn Pn 22 40 17.5 -0.3
GO05 Huala 3.97 182 ||P Pn 22 40 17.2 -2.1
GO05 Huala 3.97 182 Pn Pn 22 40 17.8 -1.4
GO05 Huala 3.97 182 *i*P Pn 22 40 19.0 -0.3
LAMA Las Malvinas 4.46 152 *i*P Pn 22 40 29.0 +3.0
COIS El Sosneado 4.47 156 *i*P Pn 22 40 30.0 +3.9
RFA San Rafael 4.67 144 *i*P Pn 22 40 33.0 +4.1
ML02 Panimavida 4.73 176 *e*P Pn 22 40 29.1 -0.6
ML02 Panimavida 4.73 176 Pn 22 40 29.1 -0.6
AC02 Maricunga 4.79 30 Pn Pn 22 40 31.6 +0.6
MRA San Martin 5.36 107 *i*P Pn 22 40 42.0 +3.5
CYA Choya 5.82 65 *i*P Pn 22 40 47.0 +2.4
H03N1 Juan Fernandez 6.49 246 T T 22 47 52.0
baz=72,slow=72
PB14 IPOC Station P 6.50 11 Pn Pn 22 40 53.2 -1.0
PB14 IPOC Station P 6.50 11 *i*P Pn 22 40 53.0 -1.2
VA04 Juan Fernndez 6.50 244 Pn Pn 22 40 52.1 -1.8
H03N3 Juan Fernandez 6.50 246 T T 22 47 52.1
baz=72,slow=72
H03N2 Juan Fernandez 6.50 246 T T 22 47 40.8
baz=72,slow=72
CANA Caviahue 6.87 175 *i*P Pn 22 41 01.0 +1.8
AHML Horco Molle 7.07 55 *i*P Pn 22 41 03.0 +1.1
FSA Cafayete 7.08 48 *i*P Pn 22 41 05.0 +2.8
PB10 IPOC Station P 7.57 9 *i*P Pn 22 41 10.0 +1.4
LC01 Cunco 7.85 180 Pn Pn 22 41 11.2 -1.3
LC01 Cunco 7.85 180 *i*P Pn 22 41 11.0 -1.5
PB15 IPOC Station P 8.06 15 *i*P Pn 22 41 16.0 +0.4
LVC Limon Verde 8.77 18 Pn Pn 22 41 24.1 -1.4
3.6nm,0.3s,baz=157,slow=8.1,SNR=6.6
LVC LR LR 22 45 07.4
comp=Z,4µm,18.5s,baz=214,slow=40
LVC Limon Verde 8.77 18 *i*P Pn 22 41 25.0 -0.5
PLCA Paso Flores 9.74 174 Pn Pn 22 41 38.4 0.0
3.7nm,0.3s,baz=338,slow=12,SNR=49
PLCA LR LR 22 45 11.9
comp=Z,2µm,19.7s,baz=350,slow=36
PLCA Paso Flores 9.74 174 *e*P Pn 22 41 38.8 +0.4
LL04 Puerto Octay 9.87 183 Pn Pn 22 41 39.1 -1.1
LL03 Petrohue 10.10 183 Pn Pn 22 41 42.9 -0.5
PB01 IPOC Station P 10.16 12 Pn Pn 22 41 44.0 -0.3
LL05 Los Muermos 10.44 187 Pn Pn 22 41 47.8 -0.2
TRQA Tornquist 10.71 134 P P 22 41 52.9 +1.2
TRQA Tornquist 10.71 134 Pn Pn 22 41 52.9 +1.2
TRQA Tornquist 10.71 134 *e*P Pn 22 41 51.6 0.0
TRQA Tornquist 10.71 134 *i*P Pn 22 41 55.0 +3.3
TA02 Huaiquique 10.82 8 Pn Pn 22 41 54.8 +1.6
PB08 IPOC Station P 11.10 13 Pn Pn 22 41 59.5 +2.0
LL01 San Ignacio de 11.34 182 Pn Pn 22 42 00.4 +0.2
PSGCX Pisagua 11.48 8 Pn 22 42 01.9 -0.5
LL07 Hotel Espejo d 11.86 186 Pn Pn 22 42 06.8 -0.5
LL02 Futaleuf 12.14 180 Pn Pn 22 42 12.2 +0.9
GO07 Milladeo Hill, 12.15 186 Pn Pn 22 42 12.0 +0.6
AP01 Chacalluta 12.67 6 Pn Pn 22 42 19.6 +1.1
ITQB Itaqui 13.18 88 Pn Pn 22 42 24.4 -1.1
ITQB Itaqui 13.18 88 *e*P Pn 22 42 24.1 -1.3
CPUP Villa Florida 13.54 73 Pn Pn 22 42 29.5 -0.8
1.3nm,0.3s,baz=254,slow=12,SNR=19
CPUP Villa Florida 13.54 73 P Pn 22 42 28.6 -1.8
CPUP Villa Florida 13.54 73 Pn Pn 22 42 28.6 -1.8
COYC Coyhaique 14.52 181 Pn Pn 22 42 44.8 +1.0
LPAZ La Paz 15.05 14 Pn Pn 22 42 51.7 +0.1
1.5nm,0.3s,baz=190,slow=8.6,SNR=145
LPAZ La Paz 15.05 14 Pn Pn 22 42 52.5 +0.9
LPAZ La Paz 15.05 14 ||*e*P Pn 22 42 52.5 +0.9
LPAZ *e*S Sn 22 45 37.3 -0.6
LPAZ La Paz 15.05 14 *e*P Pn 22 42 51.7 +0.1
PLTB Pedras Altas 15.56 97 Pn Pn 22 42 55.3 -2.3
PLTB Pedras Altas 15.56 97 *e*P Pn 22 42 55.2 -2.4
AQDB Aquidauana 17.89 58 Pn Pn 22 43 25.4 -1.7
SIV San Ignacio 17.89 36 P Pn 22 43 27.2 +0.1
0.9nm,0.3s,baz=223,slow=10,SNR=41
SIV LR LR 22 51 38.9
comp=Z,2µm,19.0s,baz=224,slow=42
CNLB Canela 18.19 90 *e*P Pn 22 43 30.5 -0.3
PTGB Pitanga 18.54 75 *e*P Pn 22 43 35.4 +0.3
TRCB Terra Rica 18.94 69 P P 22 43 39.1 -0.1
TRCB Terra Rica 18.94 69 *e*P P 22 43 39.0 -0.2
PTLB Pontes e Lacer 19.36 40 *e*P P 22 43 43.5 -0.2
NNA Nana 19.51 345 P P 22 43 45.8 +0.3
0.7nm,0.3s,baz=176,slow=12,SNR=14
NNA LR LR 22 49 46.9
comp=Z,2µm,19.5s,baz=173,slow=32
NNA Nana 19.51 345 P P 22 43 45.0 -0.5
NNA pmax pmax
comp=Z,70nm,1.0s
NNA Nana 19.51 345 P P 22 43 45.0 -0.5
TER01 Tubaro-SC 19.83 89 *e*P P 22 43 49.4 +0.6
PCMB Pacaembu 20.63 68 *e*P P 22 43 57.4 -0.2
TIJ01 Guaruva-PR 20.87 80 *e*P P 22 43 59.1 -1.1
VILB Vilhena 20.93 33 *e*P P 22 44 00.7 -0.1
SALV Santo Antonio 21.05 48 *e*P P 22 44 01.5 -0.6
FRTB Fartura 21.19 74 *e*P P 22 44 03.4 -0.2
ETMB Extrema 21.74 15 *e*P P 22 44 09.8 +0.3
MG02 Cerro Sombrero 21.82 176 P P 22 44 10.0 -0.1
MG02 IAmb IAmb 22 44 37.7
comp=Z,391nm,1.2s
GO10 Punta Arenas 22.12 179 P P 22 44 12.3 -1.1
ITRB Iturama 22.37 65 *e*P P 22 44 16.4 0.0
PET01 Itanhaem-SP 22.71 79 *e*P P 22 44 19.9 +0.1
SPB Sao Paulo 22.85 77 P P 22 44 20.5 -0.9
SPB IAmb IAmb 22 44 35.1
comp=Z,190nm,1.2s
EFI East Falkland 22.99 158 *i*P P 22 44 22.5 0.0
EFI pmax pmax
comp=Z,149nm,1.0s
CZSB Cruzeiro do Su 23.20 358 *e*P P 22 44 25.6 +0.7
SAML Samuel 23.39 22 P P 22 44 26.8 -0.1
SAML pmax pmax
comp=Z,40nm,1.0s
SAML Samuel 23.39 22 P P 22 44 26.8 -0.1
SAML Samuel 23.39 22 ||*e*P P 22 44 26.2 -0.6
SAML Samuel 23.39 22 *e*P P 22 44 26.6 -0.2
VAO Valinhos 23.49 76 *e*P P 22 44 28.2 +0.2
USHA Ushuaia 23.91 175 P P 22 44 31.9 +0.3
comp=Z,44nm,0.8s,baz=354,slow=0.2,SNR=8.9
MG01 Puerto William 24.08 174 P P 22 44 33.3 +0.2
PARB Paraibuna 24.47 78 *e*P P 22 44 37.5 +0.3
CLDB Colider 24.95 40 *e*P P 22 44 41.0 -0.4
IPMB Ipameri, GO 25.02 64 *e*P P 22 44 41.4 -0.7
BSCB Bom Sucesso 26.20 74 *e*P P 22 44 53.0 +0.1
BDFB Brasilia 26.59 60 P P 22 44 56.1 -0.3
comp=Z,35nm,0.8s,baz=235,slow=7.8,SNR=35
BDFB LR LR 22 56 33.2
comp=Z,5µm,18.4s,baz=241,slow=39
BDFB Brasilia 26.59 60 P P 22 44 56.3 -0.1
BDFB IAmb IAmb 22 45 03.6
comp=Z,113nm,0.9s
VAS01 Vassouras-RJ 26.74 78 *e*P P 22 44 57.8 +0.1
TBTG Tabatinga, AM 26.76 4 *e*P P 22 44 58.3 +0.6
TBTG Tabatinga, AM 26.76 4 *e*P P 22 44 58.4 +0.6
SNDB Serra Nova Dou 26.81 49 *e*P P 22 44 58.6 +0.4
NPGB Novo Progresso 28.39 36 *e*P P 22 45 11.4 -1.0
CAM01 Campos-RJ 28.43 79 *e*P P 22 45 12.7 0.0
DIAM Diamantina, MG 28.44 70 *e*P P 22 45 12.7 -0.3
PEXB Peixe 28.74 54 *e*P P 22 45 15.5 0.0
MACA Manacapuru-AM 29.64 23 *e*P P 22 45 23.4 0.0
ALF01 Guarapari-ES 29.74 77 *e*P P 22 45 25.0 +0.6
JANB Januaria 29.76 64 *e*P P 22 45 24.0 -0.7
SJMB Sao Joao De Ma 30.26 73 *e*P P 22 45 29.2 +0.2
ITTB Itaituba 30.53 33 *e*P P 22 45 29.8 -1.5
RIB01 Linhares ES 30.62 75 *e*P P 22 45 32.0 -0.2
SDBA SAO DESIDERIO 30.97 59 *e*P P 22 45 35.2 -0.2
PTLC Puerto Leguiza 31.16 354 *e*P P 22 45 35.2 -1.7
SMTB Santa Maria do 31.55 51 *e*P P 22 45 40.5 +0.1
NAN01 Guarapari, ES 31.56 73 *e*P P 22 45 40.6 +0.1
OTAV Otavalo 31.73 347 P P 22 45 43.0 +0.6
OTAV pmax pmax
comp=Z,21nm,1.2s
OTAV Otavalo 31.73 347 P P 22 45 43.0 +0.6
OTAV Otavalo 31.73 347 *e*P P 22 45 43.6 +1.2
OTAV Otavalo 31.73 347 *e*P P 22 45 42.9 +0.5
PAC1 Pacto, Paraso 31.82 347 *e*P P 22 45 49.4 +6.5
PTGA Pitinga 32.15 23 P P 22 45 45.4 -0.2
comp=Z,69nm,0.4s,baz=110,slow=0.1,SNR=9.4
PRPB Parauapebas 32.19 44 *e*P P 22 45 46.6 +0.5
GUA01 Guaratinga, BA 32.47 71 *e*P P 22 45 48.8 +0.3
GCUF Volcan Galeras 32.51 350 *e*P P 22 45 51.7 +2.4
FLOC Florencia 32.64 353 P P 22 45 51.2 +1.3
FLOC Florencia 32.64 353 *e*P P 22 45 49.9 0.0
GARC Garzon, Huila 33.22 353 *e*P P 22 45 57.2 +1.9
BBAC Balboa, Cauca 33.27 350 *e*P P 22 45 56.9 +1.2
SOTA Rioblanco 33.30 351 ||*e*P P 22 45 58.9 +2.7
TUMC Tumaco 33.33 347 P P 22 45 56.7 +0.8
CMC01 Camacan, BA 33.37 70 *e*P P 22 45 55.9 -0.4
GUVC San Jose del G 33.40 358 *e*P P 22 45 56.3 -0.2
MALB Monte Alegre 33.42 33 *e*P P 22 45 56.1 -0.7
PCON Cinco Dias 33.46 352 ||*e*P P 22 45 59.9 +2.2
NBIT Itapeh - BA 33.67 69 *e*P P 22 45 58.3 -0.7
BETC Betania 33.70 353 *e*P P 22 46 01.8 +2.6
POPC Popayan, Colom 33.70 351 ||*e*P P 22 46 00.7 +1.3
MARP Paez Belalcaza 33.91 353 ||*e*P P 22 46 02.1 +0.7
PMSA Palmer Station 34.11 174 P P 22 46 03.2 +0.9
comp=Z,5.4nm,0.8s,baz=3.6,slow=7.4,SNR=12
PMSA Palmer Station 34.11 174 P P 22 46 03.1 +0.9
PMSA Palmer Station 34.11 174 *e*P P 22 46 02.6 +0.4
GDU01 Guandu, BA 34.24 67 *e*P P 22 46 04.1 +0.1
GR1C Gorgona, Isla 34.38 349 *e*P P 22 46 08.0 +3.0
PRAC Prado 34.67 355 ||*e*P P 22 46 09.3 +1.7
ORTC Ortega, Tolima 34.90 354 ||*e*P P 22 46 11.8 +2.2
VILC Villavicencio, 34.99 357 *e*P P 22 46 12.4 +2.0
PTGC Puerto Gaitan, 35.03 359 *e*P P 22 46 11.0 +0.3
YOTC Yotoco, Valle 35.08 352 *e*P P 22 46 12.8 +1.6
NBPN Ponto Novo - B 35.50 62 *e*P P 22 46 14.1 -0.7
CHIC Chingaza 35.51 357 ||*e*P P 22 46 16.5 +1.3
ROSC El Rosal 35.75 356 P P 22 46 18.1 +0.9
comp=Z,7.3nm,0.4s,baz=351,slow=12,SNR=4.9
ROSC LR LR 23 01 51.9
comp=Z,720nm,18.1s,baz=194,slow=38
ROSC El Rosal 35.75 356 P P 22 46 18.7 +1.4
MCPB Macapa, AP 35.79 35 *e*P P 22 46 16.6 -0.6
GUY2C Guyana, Caldas 36.21 354 *e*P P 22 46 22.7 +1.4
NORC Norcasia 36.50 355 *e*P P 22 46 23.1 -0.3
SPBC San Pablo de B 36.54 356 *e*P P 22 46 24.1 +0.3
RUSC La Rusia 36.73 358 ||*e*P P 22 46 27.1 +1.3
CBOC Ciudad Bolivar 36.90 353 *e*P P 22 46 27.7 +0.8
HELC Santa Helena 37.18 354 *e*P P 22 46 30.3 +0.8
TAMC Tame, Arauca 37.25 0 *e*P P 22 46 29.6 -0.1
NBLA Lagarto - SE 37.26 65 *e*P P 22 46 29.9 0.0
BARC Barichara 37.43 358 *e*P P 22 46 21.0 -10
PTBC PUERTO BERRIO, 37.44 356 ||*e*P P 22 46 30.3 -1.0
ELOV Elorza 37.88 4 ||*e*P P 22 46 34.5 -0.5
BRRC Barranca, Sant 37.96 357 *e*P P 22 46 32.2 -3.5
DBBC Dabeiba 38.06 353 ||*e*P P 22 46 38.8 +2.2
ZARC Zaragoza, Cauc 38.41 355 ||*e*P P 22 46 39.3 -0.2
URCC San Jos de Ur 38.72 354 ||*e*P P 22 46 42.3 +0.2
NBMA Muriti-CE 38.82 60 *e*P P 22 46 42.9 -0.2
NBPS Pedro II - PI 38.95 53 *e*P P 22 46 44.3 +0.1
OCAC Ocana 39.07 358 *e*P P 22 46 44.4 -0.8
NBAN Anadia - AL 39.24 65 *e*P P 22 46 46.8 +0.2
AZU Azuaga 39.44 347 *e*P P 22 47 01.1 +13
NBPB Pedra_Branca-C 39.45 57 *e*P P 22 46 48.6 +0.3
SMLC San Martn de 39.66 356 ||*e*P P 22 46 48.6 -1.3
SDV Santo Domingo 39.70 2 P P 22 46 49.1 -1.4
comp=Z,5.2nm,0.3s,baz=192,slow=6.7,SNR=7.8
SDV Santo Domingo 39.70 2 P P 22 46 50.0 -0.5
SDV Santo Domingo 39.70 2 ||*e*P P 22 46 48.4 -2.1
SDV Santo Domingo 39.70 2 *e*P P 22 46 50.5 +0.1
CAPC Capurgana 39.79 351 *e*P P 22 46 51.3 +0.3
CAP2 Capurgana 39.81 351 P P 22 46 51.8 +0.6
MDP Montagnes des 40.32 30 P P 22 46 53.8 -1.7
comp=Z,14nm,0.7s,baz=198,slow=10,SNR=6.4
NBMO Morrinhos-CE 40.70 54 *e*P P 22 46 59.1 +0.4
ARGC Ariguani, Magd 40.72 356 *e*P P 22 46 58.6 -0.1
SJCC San Jacinto, C 40.82 355 P P 22 47 00.5 +0.9
SJCC San Jacinto, C 40.82 355 ||*e*P P 22 46 59.5 -0.1
BRU2 Volcan 40.95 343 P P 22 47 02.4 +1.6
RIOS Rincon, Osa 41.07 342 P P 22 47 02.6 +1.0
NBPA Parau_RN 41.11 59 *e*P P 22 47 02.3 +0.2
DRK0 Durika 41.54 343 P P 22 47 05.9 +0.3
SRBA San Rafael, Bu 41.54 343 P P 22 47 06.2 +0.6
PCRV Puerto La Cruz 41.54 11 P P 22 47 04.0 -1.5
comp=Z,17nm,1.0s,baz=157,slow=7.4,SNR=7.1
RCBR Riachuelo 41.96 61 P P 22 47 09.4 +0.4
RCBR pmax pmax
comp=Z,46nm,1.2s
RCBR Riachuelo 41.96 61 P P 22 47 09.4 +0.4
RCBR Riachuelo 41.96 61 *e*P P 22 47 09.2 +0.1
NBPV Pedro Velho 42.04 62 *e*P P 22 47 09.7 +0.1
RIMA Rio Macho 42.18 342 P P 22 47 11.3 +0.4
JTS Las Juntas de 42.98 341 P P 22 47 16.4 -0.8
comp=Z,3.9nm,0.6s,baz=42,slow=23,SNR=2.3
TOSP Speyside 43.45 16 P P 22 47 21.3 +0.4
MCLT Moule a Chique 45.69 15 P P 22 47 37.5 -1.4
MPOM Morne Pois Mar 46.42 15 P P 22 47 43.9 -0.7
FDF Fort de France 46.63 14 P P 22 47 44.7 -1.6
FDF pmax pmax
comp=Z,46nm,0.7s
FDF Fort de France 46.63 14 P P 22 47 44.7 -1.6
FDF IAmb IAmb 22 47 46.4
comp=Z,46nm,0.7s
ILAM Ilet Lapin Mar 46.73 15 P P 22 47 46.3 -0.7
ILAM IAmb IAmb 22 47 46.9
comp=Z,74nm,0.9s
DLPL La Plaine 47.20 14 P P 22 47 50.7 0.0
TGUH Tegucigalpa,Un 47.23 339 P P 22 47 50.9 -0.2
TGUH IAmb IAmb 22 47 52.4
comp=Z,28nm,0.5s
MLPR Magueyes Islan 48.93 6 P P 22 48 03.8 -0.2
CDVI St. Croix 48.97 9 IAmb IAmb 22 48 05.9
comp=Z,44nm,0.8s
SEUS St. Eustatius 48.98 11 P P 22 48 04.0 -0.4
OBIP Obispado Ponce 49.04 7 P P 22 48 03.8 -1.1
BANI BANI 49.16 2 P P 22 48 05.3 -0.6
SJG San Juan 49.16 7 P P 22 48 04.8 -1.0
SJG pmax pmax
comp=Z,96nm,1.0s
SJG San Juan 49.16 7 P P 22 48 04.8 -1.0
SJG San Juan 49.16 7 ||*e*P P 22 48 04.8 -1.0
MTP Monte Pirata 49.21 8 IAmb IAmb 22 48 06.1
comp=Z,47nm,1.1s
HUMP Col San Antoni 49.22 7 IAmb IAmb 22 48 07.5
comp=Z,81nm,1.4s
AOPR Arecibo Observ 49.33 6 IAmb IAmb 22 48 24.7
comp=Z,52nm,0.9s
GCPR Guaynabo City 49.36 7 IAmb IAmb 22 48 07.2
comp=Z,50nm,0.9s
CUPR Culebra, Puert 49.45 8 P P 22 48 06.0 -2.0
EMPR Esperanza - Ma 49.48 7 P P 22 48 06.3 -1.9
SMRT St. Maarten 49.51 11 IAmb IAmb 22 48 07.7
comp=Z,67nm,1.1s
DR12 Loma Pena Alta 49.58 3 P P 22 48 08.2 -0.9
SDDR Presa de Saban 49.73 1 P P 22 48 09.3 -0.8
ABVI Anegada Island 49.99 9 P P 22 48 10.8 -1.3
ABVI IAmb IAmb 22 48 12.1
comp=Z,86nm,1.0s
SC01 Santiago de Io 50.17 1 P P 22 48 13.2 -0.4
FSCY Frank Sound, G 50.86 349 P P 22 48 17.2 -1.4
CCIG Comitan 50.94 335 P P 22 48 19.9 +0.3
LCCY Blossom Villag 51.03 350 P P 22 48 19.5 -0.4
LCCY IAmb IAmb 22 48 20.9
comp=Z,96nm,1.3s
VNA3 Neumayer Olymp 52.04 159 P P 22 48 27.5 +0.5
GRTK Grand Turk 52.24 1 P P 22 48 28.6 -0.4
GRTK IAmb IAmb 22 48 30.2
comp=Z,102nm,1.1s
VNA1 Neumayer--Stat 52.33 158 P P 22 48 31.2 +2.0
VNA2 Neumayer--Watz 52.68 158 P P 22 48 32.1 +0.4
baz=285,slow=8.3
CMIG Matias Romero 52.74 332 P P 22 48 32.4 -0.4
comp=Z,8.7nm,1.1s,baz=102,slow=4.2,SNR=7.0
SNAA Sanae 54.26 159 P P 22 48 44.1 +0.6
SNAA Sanae 54.26 159 P P 22 48 43.7 +0.3
comp=Z,14nm,0.6s,baz=277,slow=7.0,SNR=145
SNAA Sanae 54.26 159 *ce*P P 22 48 43.9 +0.5
SNAA pmax pmax
comp=Z,36nm,1.3s
SNAA Sanae 54.26 159 P P 22 48 43.7 +0.3
SNAA IAmb IAmb 22 48 58.3
comp=Z,54nm,1.1s
SOR Soroa 54.58 347 IAmb IAmb 22 48 47.3
comp=Z,80nm,1.1s
TLIG Tlapa 54.74 328 P P 22 48 48.0 +0.5
RKT Rikitea 56.16 262 *e*T T 23 49 35.9
comp=Z,15nm,0.3s
QSPA South Pole Qui 59.20 180 P P 22 49 18.7 0.0
QSPA IAmb IAmb 22 49 33.5
comp=Z,38nm,1.1s
ZAIG Zacatecas 61.09 327 P P 22 49 33.4 +1.2
SHEL Horse Pasture 61.62 92 P P 22 49 34.3 -1.5
SHEL pmax pmax
comp=Z,94nm,1.0s
SHEL Horse Pasture 61.62 92 P P 22 49 34.3 -1.5
553A Crawfordville 62.05 348 P P 22 49 38.8 +0.6
451A Vernon 62.72 346 P P 22 49 43.1 +0.5
TIGA Tifton 63.12 349 P P 22 49 44.9 -0.5
TIGA Tifton 63.12 349 P P 22 49 44.9 -0.5
baz=169
BBSR BB Station 63.41 7 P P 22 49 47.1 -0.1
BBSR IAmb IAmb 22 49 48.9
comp=Z,38nm,1.0s
BRAL Brewton 63.53 345 P P 22 49 48.3 +0.2
baz=166
RGRS Roger Stewart 64.08 352 P P 22 49 52.3 +0.6
250A Grady 64.15 346 P P 22 49 51.1 -1.0
250A IAmb IAmb 22 49 55.6
comp=Z,46nm,1.1s
154A Montrose 64.19 349 P P 22 49 51.9 -0.5
NHSC New Hope 64.28 352 P P 22 49 52.5 -0.4
NHSC New Hope 64.28 352 P P 22 49 53.1 +0.2
baz=172
346A Big Creek Wild 64.30 343 P P 22 49 53.3 +0.2
735A Kenedy 64.50 335 P P 22 49 55.5 +1.0
152A Waverly Hall 64.52 348 P P 22 49 54.3 -0.3
152A IAmb IAmb 22 49 55.2
comp=Z,35nm,0.9s
833A Chaparral WMA, 64.62 333 P P 22 49 56.4 +1.1
baz=154,SNR=16
344A Westbrook Farm 64.68 342 P P 22 49 56.4 +0.8
441A DeRidder 64.71 340 P P 22 49 57.5 +1.7
HKT Hockley 64.81 337 *i*P P 22 49 56.6 +0.2
HKT pmax pmax
comp=Z,24nm,1.4s
HKT Hockley 64.81 337 P P 22 49 56.9 +0.5
HKT Hockley 64.81 337 P 22 49 57.2 +0.8
GOGA Godfrey 65.03 349 IAmb IAmb 22 49 58.8
comp=Z,44nm,1.2s
GOGA Godfrey 65.03 349 P P 22 49 57.3 -0.5
baz=169,SNR=7.2
342A Flagon Creek P 65.05 341 P P 22 49 58.9 +0.9
LRAL Lakeview Retre 65.32 346 P P 22 49 59.6 -0.2
LRAL Lakeview Retre 65.32 346 P P 22 49 59.4 -0.3
baz=166,SNR=8.8
VBMS Vicksburg 65.35 343 P P 22 50 00.8 +0.8
VBMS Vicksburg 65.35 343 P P 22 50 01.0 +1.0
baz=162
146A Union 65.39 344 P P 22 50 01.0 +0.8
SLBS Sierra La Lagu 65.54 322 P P 22 50 01.8 +0.3
SLBS IAmb IAmb 22 50 04.2
comp=Z,41nm,1.4s
JSC Jenkinsville 65.57 351 P P 22 50 01.0 -0.4
JSC pmax pmax
comp=Z,37nm,1.1s
JSC Jenkinsville 65.57 351 P P 22 50 00.9 -0.4
JSC IAmb IAmb 22 50 02.5
comp=Z,37nm,1.1s
Y52A Lilburn 65.57 349 P P 22 50 01.3 -0.1
Y52A IAmb IAmb 22 50 02.4
comp=Z,67nm,1.1s
X58A Rowland 65.62 353 P P 22 50 01.3 -0.4
Z47A Carrollton 65.71 345 IAmb IAmb 22 50 03.6
comp=Z,64nm,1.3s
BIRD Birdtown, Kers 65.83 352 IAmb IAmb 22 50 04.3
comp=Z,51nm,1.3s
SBA Scott Base 66.02 191 P P 22 50 05.3 +1.5
SBA pmax pmax
comp=Z,10.0nm,1.1s
SBA Scott Base 66.02 191 P P 22 50 05.3 +1.5
HPIG 66.09 327 P P 22 50 06.2 +1.1
HPIG IAmb IAmb 22 50 07.5
comp=Z,83nm,1.5s
NATX Nacogdoches 66.10 339 P P 22 50 05.8 +1.0
NATX Nacogdoches 66.10 339 P P 22 50 05.8 +1.0
baz=159
CNNC Cliffs of the 66.17 355 P P 22 50 05.6 +0.5
baz=174
435B Jarrell 66.17 336 P P 22 50 06.1 +0.8
baz=156
PAULI Pauline 66.17 351 IAmb IAmb 22 50 06.6
comp=Z,71nm,1.3s
W57A Gilead 66.28 353 IAmb IAmb 22 50 07.0
comp=Z,67nm,1.1s
KMSC Kings Mountain 66.43 351 IAmb IAmb 22 50 08.1
comp=Z,58nm,1.1s
KMSC Kings Mountain 66.43 351 P P 22 50 06.9 0.0
baz=171,SNR=11
BG3 Lake Jocassee 66.50 350 IAmb IAmb 22 50 08.8
comp=Z,67nm,1.2s
FPAL Fort Paine 66.50 348 IAmb IAmb 22 50 08.4
comp=Z,41nm,1.1s
Y45A Yeager Farm, C 66.68 344 P P 22 50 08.9 +0.4
237A Washetta, Mont 66.69 338 P P 22 50 09.6 +1.0
X48A Hartselle 66.70 346 P P 22 50 08.8 +0.2
JCT Junction City 66.71 334 P P 22 50 09.6 +0.8
baz=154,SNR=19
W52A Murphy 66.75 349 IAmb IAmb 22 50 10.4
comp=Z,68nm,1.1s
V58A Windy Hill, Pi 66.82 354 P P 22 50 09.6 +0.2
V58A IAmb IAmb 22 50 10.5
comp=Z,49nm,1.0s
Z41A Richland Creek 66.95 341 P P 22 50 11.1 +0.9
baz=161
TAOE Nuku Hiva Isla 66.96 273 *e*LR LR 23 10 22.9
comp=Z,544nm,22.7s
VNDA Vanda 67.05 191 P P 22 50 11.3 +0.9
comp=Z,1.8nm,0.9s,baz=127,slow=5.4,SNR=7.5
VNDA LR LR 23 14 04.7
comp=Z,159nm,21.2s,baz=130,slow=31
VNDA Vanda 67.05 191 P P 22 50 11.9 +1.5
VNDA pmax pmax
comp=Z,10.0nm,1.3s
VNDA Vanda 67.05 191 P P 22 50 11.9 +1.5
V53A Saluda 67.15 350 IAmb IAmb 22 50 12.6
comp=Z,60nm,1.1s
SWET Sewanee 67.22 347 IAmb IAmb 22 50 13.2
comp=Z,71nm,1.1s
WHTX Lake Whitney, 67.23 336 P P 22 50 12.5 +0.5
WHTX Lake Whitney, 67.23 336 P P 22 50 12.6 +0.7
baz=156,SNR=7.1
TXAR Lajitas Array 67.26 330 P P 22 50 12.7 +0.3
comp=Z,6.7nm,0.9s,baz=152,slow=8.2,SNR=56
TXAR LR LR 23 15 32.4
comp=Z,717nm,18.4s,baz=0.0,slow=32
TX31 Lajitas Ar. Si 67.26 330 IAmb IAmb 22 50 13.9
comp=Z,47nm,1.1s
U59A Littleton 67.26 355 IAmb IAmb 22 50 14.1
comp=Z,71nm,1.1s
OXF Oxford 67.27 344 P P 22 50 12.0 -0.2
baz=164,SNR=14
TKL Tuckaleechee C 67.28 349 IAmb IAmb 22 50 13.2
comp=Z,66nm,1.1s
PLAL Pickwick Lake 67.42 346 IAmb IAmb 22 50 14.2
comp=Z,51nm,1.2s
WLAR White Oak Lake 67.44 341 IAmb IAmb 22 50 15.1
comp=Z,53nm,1.1s
WLAR sP 22 50 26.3 +2.3
U56A King 67.50 353 IAmb IAmb 22 50 15.2
comp=Z,49nm,1.0s
V51A Loudon 67.52 349 P P 22 50 14.0 +0.2
V51A IAmb IAmb 22 50 14.8
comp=Z,61nm,1.0s
U54A Nelsons Funny 67.85 351 P P 22 50 15.9 0.0
T59A Double "B" Far 67.86 355 P P 22 50 16.5 +0.7
T60A Surry 67.97 356 P P 22 50 17.0 +0.5
TZTN Tazewell 68.11 350 P P 22 50 17.4 -0.2
baz=169,SNR=8.7
X40A Basin Creek Fa 68.11 341 P P 22 50 17.4 -0.2
baz=161
CLTN Cedars of Leba 68.15 347 IAmb IAmb 22 50 19.0
comp=Z,55nm,1.0s
TBI Tubuai 68.24 255 *e*S S 22 59 21.1 +3.1
comp=Z,288nm,28.2s
TBI Tubuai 68.24 255 *e*LR LR 23 11 02.1
comp=Z,1µm,24.8s,baz=112
TBI Tubuai 68.24 255 *e*T T 00 04 41.6
comp=Z,23nm,0.2s
BLA Blacksburg 68.36 353 P P 22 50 19.4 +0.3
BLA pmax pmax

comp=Z,38nm,1.2s
BLA Blacksburg 68.36 353 P **P** **22 50 19.4 +0.3**
BLA IAmb IAmb 22 50 21.7
comp=Z,38nm,1.2s
MIAR Mount Ida 68.38 341 IAmb IAmb 22 50 20.8
comp=Z,64nm,1.4s
MIAR Mount Ida 68.38 341 P **P** **22 50 19.4 +0.2**
baz=160,SNR=13
Z35A Perchaven, San 68.38 337 P **P** **22 50 19.9 +0.6**
U49A Red Boiling Sp 68.45 348 IAmb IAmb 22 50 20.7
comp=Z,44nm,1.1s
WVT Waverly 68.48 346 P **P** **22 50 19.6 -0.2**
WVT pmax pmax
comp=Z,98nm,1.1s
WVT Waverly 68.48 346 P **P** **22 50 19.6 -0.2**
WVT Waverly 68.48 346 P **P** **22 50 19.8 0.0**
baz=165
SYO Syowa Base 68.55 159‖ *e*P **P** **22 50 19.8 -0.1**
SYO Syowa Base 68.55 159‖ epP pP 22 50 26.8 -0.9
ABTX Abilene, Hawle 68.57 335 P **P** **22 50 21.2 +0.7**
ABTX Abilene, Hawle 68.57 335 P **P** **22 50 21.0 +0.5**
baz=155,SNR=13
W41B Gary Mavity, V 68.61 342 P **P** **22 50 20.8 +0.2**
baz=161,SNR=9.7
WHAR Wooly Hollow 68.72 342 IAmb IAmb 22 50 22.9
comp=Z,67nm,1.4s
S57A Dark Hollow, R 68.76 354 IAmb IAmb 22 50 23.2
comp=Z,58nm,1.1s
LNXT Lenox 68.81 345 P **P** **22 50 22.3 +0.5**
X37A Clayton 68.94 339 IAmb IAmb 22 50 24.6
comp=Z,64nm,1.4s
LOOK Love County 68.96 338 P **P** **22 50 23.4 +0.5**
LOOK IAmb IAmb 22 50 24.8
comp=Z,39nm,1.0s
W39A Magazine 69.05 341 P **P** **22 50 24.2 +0.9**
baz=160,SNR=32
S54A Dingess, Beckl 69.05 352 P **P** **22 50 22.8 -0.5**
S54A IAmb IAmb 22 50 24.3
comp=Z,58nm,1.1s
CBN Corbin Frederi 69.07 355 P **P** **22 50 24.0 +0.6**
baz=175
HICK Hickman 69.17 345 P **P** **22 50 24.3 +0.2**
LCAR Lake Charles 69.17 343 IAmb IAmb 22 50 25.2
comp=Z,55nm,1.0s
FCAR Ozark Folk Cen 69.25 342 P **P** **22 50 24.6 0.0**
FCAR IAmb IAmb 22 50 25.7
comp=Z,38nm,1.3s
R55A Marlinton 69.39 353 P **P** **22 50 25.9 +0.4**
R55A IAmb IAmb 22 50 27.4
comp=Z,65nm,1.1s
T45A Paducah 69.51 346 P **P** **22 50 26.3 +0.2**
Q61A Milford 69.63 357 P **P** **22 50 28.1 +1.2**
baz=177
R53A Hurricane 69.65 351 IAmb IAmb 22 50 28.0
comp=Z,35nm,1.0s
PBMO Poplar Bluff 69.67 344 IAmb IAmb 22 50 28.4
comp=Z,61nm,1.1s
X34A Smith Ranch, M 69.74 337 P **P** **22 50 28.2 +0.5**
U40A Yellville 69.88 342 IAmb IAmb 22 50 29.8
comp=Z,67nm,1.1s
U40A Yellville 69.88 342 P **P** **22 50 28.6 +0.1**
baz=161,SNR=17
R50A Paris 69.94 350 IAmb IAmb 22 50 29.7
comp=Z,39nm,1.2s
MNTX Cornudas Mount 70.04 330 P **P** **22 50 29.1 -0.5**
baz=150,SNR=35
Q56A Snyder Ridge, 70.05 354 P **P** **22 50 30.1 +0.6**
Q56A IAmb IAmb 22 50 31.6
comp=Z,44nm,1.1s
R49A Shelbyville 70.08 349 IAmb IAmb 22 50 30.4
comp=Z,35nm,1.1s
HHAR Hobbs 70.11 341 P **P** **22 50 29.6 -0.3**
HHAR IAmb IAmb 22 50 31.2
comp=Z,56nm,1.0s
Q54A Coxs Mills 70.16 353 P **P** **22 50 29.8 -0.3**
WMOK Wichita Mounta 70.18 337 P **P** **22 50 30.3 -0.1**
baz=156
FNO Franklin 70.19 338 IAmb IAmb 22 50 32.6
comp=Z,85nm,1.4s
WCI Wyandotte Cave 70.22 348 P **P** **22 50 29.9 -0.6**
WCI pmax pmax
comp=Z,30nm,0.9s
WCI Wyandotte Cave 70.22 348 P **P** **22 50 29.9 -0.6**
WCI IAmb IAmb 22 50 30.5
comp=Z,30nm,0.9s
WCI Wyandotte Cave 70.22 348 P **P** **22 50 29.8 -0.7**
baz=167
TUL1 Leonard 70.30 339 P **P** **22 50 31.0 -0.1**
baz=158,SNR=5.4
U38A Gravette 70.38 341 IAmb IAmb 22 50 32.9
comp=Z,65nm,1.5s
OK025 Westminster Rd 70.47 338 P **P** **22 50 31.7 -0.4**
OK025 IAmb IAmb 22 50 34.0
comp=Z,48nm,1.0s
MGMO Mountain Grove 70.48 343 IAmb IAmb 22 50 33.6
comp=Z,46nm,1.1s
Q51A Peebles 70.52 350 IAmb IAmb 22 50 33.4
comp=Z,63nm,1.0s
P60A Greenville 70.57 357 IAmb IAmb 22 50 34.7
comp=Z,48nm,1.1s
P60A Greenville 70.57 357 P **P** **22 50 33.5 +0.9**
baz=176,SNR=6.9
WUPA West Chester U 70.69 357 P **P** **22 50 34.1 +0.8**
WUPA IAmb IAmb 22 50 35.7
comp=Z,40nm,1.1s
OK029 Liberty Lake 70.71 338 P **P** **22 50 33.4 -0.1**
OK029 IAmb IAmb 22 50 34.2
comp=Z,34nm,0.9s
TIAR Tiarei 70.71 261 *e*T T 00 07 45.7
comp=Z,4.3nm,0.2s
P53A Whipple 70.72 352 IAmb IAmb 22 50 34.8
comp=Z,78nm,1.2s
MCWV Mont Chateau 70.72 353 P **P** **22 50 33.4 -0.1**
MCWV IAmb IAmb 22 50 35.1
comp=Z,64nm,1.2s
MCWV Mont Chateau 70.72 353 P **P** **22 50 34.0 +0.4**
baz=173
MVL Millersville 70.79 356 P **P** **22 50 34.8 +0.8**
MVL IAmb IAmb 22 50 36.4
comp=Z,62nm,1.2s
QUOK Quay 70.82 339 P **P** **22 50 34.2 -0.1**
QUOK IAmb IAmb 22 50 35.8
comp=Z,88nm,1.4s
PPT2 Papeete2 70.89 261 *e*S **S** **22 59 52.6 +3.1**
comp=Z,93nm,23.0s
PPT2 Papeete2 70.89 261 *e*LR LR 23 12 16.5
comp=Z,745nm,23.5s,baz=119
PPT Papeete 70.90 261 LR LR 23 13 07.4
comp=Z,500nm,19.7s,baz=142,slow=29
MSTX Muleshoe 70.95 333 P **P** **22 50 35.6 +0.3**
baz=152,SNR=22
P52A Corning 70.96 352 P **P** **22 50 34.6 -0.4**
baz=171,SNR=15
PAGS Pennsylvania G 71.04 356 IAmb IAmb 22 50 37.5
comp=Z,44nm,1.0s
OLIL Olney 71.05 347 IAmb IAmb 22 50 36.3
comp=Z,68nm,1.1s
CCM Cathedral Cave 71.09 344 P **P** **22 50 35.2 -0.6**
CCM pmax pmax
comp=Z,101nm,1.1s
CCM Cathedral Cave 71.09 344 P **P** **22 50 35.2 -0.6**
CCM Cathedral Cave 71.09 344 P **P** **22 50 36.0 +0.2**
baz=162
BLO Bloomington 71.17 348 IAmb IAmb 22 50 36.4
comp=Z,25nm,0.7s
O56A Blue Knob Stat 71.21 355 IAmb IAmb 22 50 38.6
comp=Z,93nm,1.5s
O56A Blue Knob Stat 71.21 355 P **P** **22 50 37.2 +0.6**
baz=174,SNR=11
P49A Miami Univ. Ec 71.22 349 IAmb IAmb 22 50 37.2
comp=Z,48nm,1.1s
P49A Miami Univ. Ec 71.22 349 P **P** **22 50 35.9 -0.7**
baz=168,SNR=7.2
S39A Bolivar 71.26 342 IAmb IAmb 22 50 38.4
comp=Z,75nm,1.1s
AMTX Amarillo 71.34 334 P **P** **22 50 38.2 +0.6**
baz=153
LUPA Lehigh Univers 71.34 357 P **P** **22 50 37.8 +0.5**
LUPA IAmb IAmb 22 50 39.6
comp=Z,34nm,1.0s
O52A Adamsville 71.39 352 IAmb IAmb 22 50 38.6
comp=Z,36nm,0.9s
Q44A Meyer Farm, Va 71.40 346 IAmb IAmb 22 50 38.3
comp=Z,46nm,1.0s
T35A Sooner Cattle 71.44 339 IAmb IAmb 22 50 39.8
comp=Z,93nm,1.4s
O53A New Philadelph 71.45 352 IAmb IAmb 22 50 39.9
comp=Z,53nm,1.2s
O53A New Philadelph 71.45 352 P **P** **22 50 37.9 -0.1**
baz=172,SNR=6.4
BLOK Blackwell 71.52 339 P **P** **22 50 39.1 +0.7**
319A Douglas 71.52 327 P **P** **22 50 40.1 +1.4**
319A IAmb IAmb 22 50 41.5
comp=Z,61nm,1.3s
CROK Carrier 71.53 338 P **P** **22 50 39.3 +0.8**
CROK IAmb IAmb 22 50 40.1
comp=Z,85nm,1.3s
SSPA Standing Stone 71.53 355 P **P** **22 50 39.1 +0.7**
SSPA IAmb IAmb 22 50 40.3
comp=Z,63nm,1.2s
SSPA Standing Stone 71.53 355 P **P** **22 50 39.1 +0.7**
baz=174
N58A Sunbury 71.65 356 IAmb IAmb 22 50 41.3
comp=Z,56nm,1.1s
ACSO Alum Creek Sta 71.66 351 P **P** **22 50 39.1 -0.1**
baz=170,SNR=20
N59A State Game Lan 71.68 357 IAmb IAmb 22 50 41.9
comp=Z,84nm,1.2s
N59A State Game Lan 71.68 357 P **P** **22 50 40.6 +1.2**
baz=176,SNR=19
PAL Palisades 71.70 358 P **P** **22 50 40.1 +0.7**
baz=178
P46A Rosedale 71.73 348 IAmb IAmb 22 50 40.1
comp=Z,62nm,0.9s
ODNJ Ogdensburg 71.80 358 P **P** **22 50 40.7 +0.7**
ODNJ IAmb IAmb 22 50 42.2
comp=Z,47nm,1.0s
121A Cookes Peak, D 71.81 329 P **P** **22 50 41.0 +0.5**
121A IAmb IAmb 22 50 43.4
comp=Z,70nm,1.1s
121A Cookes Peak, D 71.81 329 P **P** **22 50 42.0 +1.5**
baz=148,SNR=32
TRNY Table Rock, Ra 71.85 358 IAmb IAmb 22 50 42.5
comp=Z,43nm,1.1s
WSPT Westport, CT 71.85 359 P **P** **22 50 41.0 +0.7**
WSPT IAmb IAmb 22 50 42.6
comp=Z,51nm,1.1s
OK032 Salt Plains WL 71.87 338 P **P** **22 50 41.4 +0.8**
OK032 IAmb IAmb 22 50 43.1
comp=Z,59nm,1.2s
N53A Lisbon 71.96 353 IAmb IAmb 22 50 42.4
comp=Z,52nm,1.2s
N54A Moraine State 72.03 353 IAmb IAmb 22 50 43.0
comp=Z,44nm,0.9s
N54A Moraine State 72.03 353 P **P** **22 50 41.8 +0.3**
baz=173,SNR=14
M57A Sunshine Farm, 72.17 356 IAmb IAmb 22 50 44.4
comp=Z,52nm,1.1s
P43A Skaggs, Pawnee 72.21 346 IAmb IAmb 22 50 43.5
comp=Z,82nm,1.0s
N51A Ashland 72.25 352 IAmb IAmb 22 50 43.7
comp=Z,65nm,1.1s
KAN12 Harper NE Stat 72.26 338 P **P** **22 50 43.7 +0.8**
KAN12 IAmb IAmb 22 50 45.6
comp=Z,76nm,1.0s
KSPA Keystone Colle 72.32 357 P **P** **22 50 44.0 +0.8**
KSPA IAmb IAmb 22 50 45.2
comp=Z,60nm,1.5s
M55A Ridgway 72.42 355 IAmb IAmb 22 50 45.4
comp=Z,71nm,1.0s
SFIN Lafayette 72.45 348 P **P** **22 50 43.0 -0.9**
baz=166,SNR=7.0
O44A Mansfield 72.49 347 IAmb IAmb 22 50 44.6
comp=Z,72nm,1.2s
M54A Oil Creek Stat 72.54 354 IAmb IAmb 22 50 45.7
comp=Z,48nm,1.1s
M54A Oil Creek Stat 72.54 354 P **P** **22 50 44.5 0.0**
baz=173,SNR=9.7
M53A WI Miller and 72.57 353 IAmb IAmb 22 50 45.8
comp=Z,72nm,1.1s
M53A WI Miller and 72.57 353 P **P** **22 50 44.5 -0.1**
baz=172,SNR=12
BRYW Bryant College 72.58 0 P **P** **22 50 45.9 +1.2**
L64A Middleborough 72.61 1 IAmb IAmb 22 50 47.1
comp=Z,59nm,1.2s
L64A Middleborough 72.61 1 P **P** **22 50 45.9 +1.1**
baz=181,SNR=8.3
L65A Cape Cod Natio 72.71 1 P **P** **22 50 46.6 +1.1**
baz=182
ALLY Alegheny Colle 72.72 353 IAmb IAmb 22 50 46.8
comp=Z,53nm,1.1s
M52A Chesterland 72.75 352 IAmb IAmb 22 50 46.9
comp=Z,68nm,0.9s
LENM Lemitar 72.84 330 P **P** **22 50 47.6 +0.9**
L59A Walton 72.92 357 IAmb IAmb 22 50 49.0
comp=Z,65nm,1.0s
QUA2 Belchertown 72.95 360 IAmb IAmb 22 50 49.0
comp=Z,62nm,1.1s
BINY Binghamton 72.97 357 IAmb IAmb 22 50 49.0
comp=Z,54nm,1.1s
BINY Binghamton 72.97 357 P **P** **22 50 47.8 +0.8**
baz=176,SNR=11
BCX Boston College 73.00 0 P **P** **22 50 47.2 +0.1**
TUC Tucson 73.01 326 P **P** **22 50 48.7 +1.1**
TUC pmax pmax
comp=Z,27nm,1.3s
TUC Tucson 73.01 326 P **P** **22 50 48.7 +1.1**
TUC Tucson 73.01 326 P **P** **22 50 48.7 +1.1**
baz=146
HDIL Hopedale 73.05 346 IAmb IAmb 22 50 48.4
comp=Z,45nm,0.9s
HDIL Hopedale 73.05 346 P **P** **22 50 47.3 -0.2**
baz=164
WES Weston 73.05 0 P **P** **22 50 48.3 +0.9**
WES pmax pmax
comp=Z,46nm,1.2s
WES Weston 73.05 0 P **P** **22 50 48.3 +0.9**
WES IAmb IAmb 22 50 49.8
comp=Z,46nm,1.2s
L61B Northampton 73.12 359 P **P** **22 50 48.8 +0.9**
baz=179,SNR=18
P38A Dawn 73.14 343 IAmb IAmb 22 50 49.1
comp=Z,49nm,1.0s
HRV Adam Dziewonsk 73.17 0 P **P** **22 50 48.9 +0.7**
HRV pmax pmax
comp=Z,64nm,1.2s
HRV Adam Dziewonsk 73.17 0 P **P** **22 50 48.9 +0.7**
HRV IAmb IAmb 22 50 50.6
comp=Z,64nm,1.2s
HRV Adam Dziewonsk 73.17 0 P **P** **22 50 49.5 +1.3**
baz=180
ERPA Erie 73.17 354 P **P** **22 50 48.4 +0.1**
baz=173,SNR=7.2
ANMO Albuquerque 73.29 331 *ce*P **P** **22 50 50.8 +1.5**
ANMO pmax pmax
comp=Z,44nm,1.3s
ANMO Albuquerque 73.29 331 P **P** **22 50 50.1 +0.8**
ANMO IAmb IAmb 22 50 52.0
comp=Z,57nm,1.4s
ANMO Albuquerque 73.29 331 P **P** **22 50 50.5 +1.2**
baz=150
K62A Royalston 73.33 360 IAmb IAmb 22 50 51.7
comp=Z,83nm,1.3s
K62A Royalston 73.33 360 P **P** **22 50 50.5 +1.4**
baz=180,SNR=9.7
K61A Williamstown 73.35 359 P **P** **22 50 50.6 +1.4**
baz=179,SNR=5.5
KSU1 Kansas State U 73.49 340 P **P** **22 50 50.1 -0.1**
baz=158
R32A Long Quarter, 73.51 338 IAmb IAmb 22 50 53.0
comp=Z,91nm,1.4s
L48A N Adams 73.54 350 IAmb IAmb 22 50 51.0
comp=Z,77nm,1.1s
M44A Midewin, Midew 73.60 347 IAmb IAmb 22 50 51.4
comp=Z,75nm,1.0s
LIC Lamto 73.66 72 *e*P **P** **22 50 52.7 +0.9**
comp=Z,76nm,0.8s
214A Organ Pipe Nat 73.71 324 IAmb IAmb 22 50 54.5
comp=Z,56nm,1.2s
214A Organ Pipe Nat 73.71 324 P **P** **22 50 53.2 +1.6**
baz=144,SNR=18
AAM Ann Arbor 73.78 351 P **P** **22 50 51.4 -0.3**
baz=169
L46A Eue Claire 73.90 349 IAmb IAmb 22 50 52.8
comp=Z,82nm,1.2s
TIC Toumodi 73.90 72 *e*P **P** **22 50 53.7 +0.5**
HQIL Hanson Quary C 73.97 348 IAmb IAmb 22 50 53.6
comp=Z,79nm,1.0s
KIC Kosan Boka 73.97 72 *e*P **P** **22 50 54.2 +0.6**
comp=Z,76nm,0.8s
J61A Chester 74.02 359 P **P** **22 50 54.4 +1.3**
baz=179,SNR=14
DBIC Dimbokro 74.05 72 P **P** **22 50 54.1 +0.1**
comp=Z,18nm,0.9s,baz=206,slow=4.9,SNR=13
DBIC LR LR 23 20 45.7
comp=Z,1μm,20.2s,baz=238,slow=34
DBIC Dimbokro 74.05 72 P **P** **22 50 54.3 +0.2**
DBIC IAmb IAmb 22 51 02.2
comp=Z,38nm,0.8s
ACCN Adirondack Com 74.07 359 IAmb IAmb 22 50 55.7
comp=Z,76nm,1.4s
MEDO Medina 74.08 355 P **P** **22 50 52.9 -0.6**
MEDO IAmb IAmb 22 50 54.0
comp=Z,51nm,1.1s
J56A Wolcott 74.09 356 IAmb IAmb 22 50 54.9
comp=Z,57nm,1.1s
FFD Franklin Falls 74.14 0 P **P** **22 50 55.0 +1.1**
FFD IAmb IAmb 22 50 56.6
comp=Z,88nm,1.1s
J55A Hilton 74.14 355 IAmb IAmb 22 50 55.3
comp=Z,64nm,1.2s
J59A Piesco 74.17 358 IAmb IAmb 22 50 56.0
comp=Z,41nm,1.1s
J57A Williamstown 74.18 357 IAmb IAmb 22 50 55.7
comp=Z,54nm,1.1s
CBKS Cedar Bluff 74.20 338 P **P** **22 50 55.3 +0.9**
CBKS pmax pmax
comp=Z,124nm,1.3s
CBKS Cedar Bluff 74.20 338 P **P** **22 50 55.3 +0.9**
CBKS Cedar Bluff 74.20 338 P **P** **22 50 55.2 +0.9**
baz=155
J54A Appleton 74.20 355 IAmb IAmb 22 50 55.6
comp=Z,63nm,1.1s
L44A Lake County Fo 74.34 348 P **P** **22 50 54.6 -0.5**
baz=166
T25A Trinidad 74.37 333 P **P** **22 50 57.1 +1.5**
baz=151,SNR=40
HNH Hanover 74.37 360 IAmb IAmb 22 50 57.9
comp=Z,58nm,1.1s
L42A Oliver, Polo 74.51 346 IAmb IAmb 22 50 57.0
comp=Z,63nm,1.1s
I60A Shoreham 74.52 359 P **P** **22 50 57.1 +1.0**
baz=179,SNR=18
I62A Tamworth 74.54 0 P **P** **22 50 57.0 +0.9**
I62A IAmb IAmb 22 50 58.8
comp=Z,48nm,1.2s
I62A Tamworth 74.54 0 P **P** **22 50 57.4 +1.3**
baz=180,SNR=7.9
PECO Prince Edward 74.75 356 IAmb IAmb 22 50 59.0
comp=Z,49nm,1.1s
113A Mohawk Valley, 74.84 324 P **P** **22 50 58.8 +0.6**
W18A Petrified Fore 74.85 329 P **P** **22 51 00.1 +1.6**
W18A IAmb IAmb 22 51 01.1
comp=Z,97nm,1.2s
W18A Petrified Fore 74.85 329 P **P** **22 50 59.8 +1.3**
baz=147,SNR=10
N35A Tabor 74.86 341 IAmb IAmb 22 50 59.1
comp=Z,84nm,1.1s
LBNH Lisbon 74.91 360 IAmb IAmb 22 51 00.8
comp=Z,49nm,1.1s
LBNH Lisbon 74.91 360 P **P** **22 50 59.6 +1.3**
baz=180,SNR=12
X16A Lo Mia Camp, P 75.06 327 IAmb IAmb 22 51 02.4
comp=Z,46nm,1.1s
SCIA State Center 75.21 344 IAmb IAmb 22 51 01.6
comp=Z,89nm,1.1s
SCIA State Center 75.21 344 P **P** **22 51 00.2 +0.1**
baz=161
WVL Waterville 75.26 2 IAmb IAmb 22 51 02.9
comp=Z,44nm,1.1s
SDCO Great Sand Dun 75.32 333 P **P** **22 51 02.5 +1.3**
baz=151,SNR=18
LONY Lake Ozonia 75.33 358 IAmb IAmb 22 51 02.6
comp=Z,47nm,1.1s
LONY Lake Ozonia 75.33 358 P **P** **22 51 01.3 +0.6**
baz=178,SNR=17
KSCO Kaye Shedlock' 75.36 336 P **P** **22 51 02.4 +1.2**
baz=153
DELO Deloro Mine 75.37 356 IAmb IAmb 22 51 02.4
comp=Z,51nm,1.3s
Y14A Wickenburg 75.41 326 P **P** **22 51 02.6 +1.1**
EMMW East Machias 75.48 3 P **P** **22 51 02.9 +1.4**
EMMW IAmb IAmb 22 51 04.1
comp=Z,42nm,1.1s
JFWS Jewell Farm 75.51 346 IAmb IAmb 22 51 03.1
comp=Z,78nm,1.1s
JFWS Jewell Farm 75.51 346 P **P** **22 51 01.9 +0.1**
baz=164,SNR=10
FRNY Flat Rock 75.52 359 IAmb IAmb 22 51 03.7
comp=Z,58nm,1.1s
GLA Glamis 75.60 324 P **P** **22 51 03.9 +1.3**
baz=143
SADO Sadowa 75.73 355 IAmb IAmb 22 51 04.3
comp=Z,67nm,1.1s
S22A 4UR Ranch, Cre 75.84 332 P **P** **22 51 05.6 +1.4**
baz=150,SNR=16
PLVO Plevna 75.86 356 IAmb IAmb 22 51 05.4
comp=Z,51nm,1.2s
WUAZ Wupatki 75.93 328 IAmb IAmb 22 51 07.5
comp=Z,69nm,1.1s
WUAZ Wupatki 75.93 328 P **P** **22 51 06.1 +1.5**
baz=146,SNR=30
IKP In-Ko-Pah, Jac 75.95 323 P **P** **22 51 06.2 +1.5**
baz=142,SNR=7.0
G65A Princeton 75.96 3 IAmb IAmb 22 51 06.9
comp=Z,65nm,1.4s
PKME Peaks-Kenny Pk 75.96 2 IAmb IAmb 22 51 06.7
comp=Z,55nm,1.2s
PKME Peaks-Kenny Pk 75.96 2 P **P** **22 51 05.6 +1.3**
baz=182,SNR=7.3
MAW Mawson 75.97 164 P **P** **22 51 04.5 +0.2**
comp=Z,7.5nm,0.5s,baz=206,slow=6.5,SNR=16
MAW LR LR 23 25 23.3
comp=Z,790nm,19.3s,baz=224,slow=36
MAW Mawson 75.97 164 P **P** **22 51 04.9 +0.6**
CBX Cerro Bola 75.97 322 P **P** **22 51 05.3 +0.4**
SWSC Sam W. Stewart 76.02 323 P **P** **22 51 06.2 +1.3**
baz=142,SNR=5.4
BGNE Belgrade 76.07 340 P **P** **22 51 05.7 +0.6**
baz=157
MVCO Mesa Verde 76.08 331 IAmb IAmb 22 51 08.0
comp=Z,57nm,1.1s
MVCO Mesa Verde 76.08 331 P **P** **22 51 06.6 +1.1**
baz=148,SNR=22
L34A Svendsen Farm, 76.08 341 IAmb IAmb 22 51 06.2
comp=Z,69nm,1.1s
I42A Draeger Farm, 76.18 347 IAmb IAmb 22 51 06.9
comp=Z,74nm,1.2s
Q24A Divide 76.24 334 P **P** **22 51 07.8 +1.3**
baz=151,SNR=26
PDMCI Parker Dam,Lak 76.26 325 P **P** **22 51 07.4 +1.2**
baz=144
BAR Barrett 76.27 322 P **P** **22 51 07.1 +0.7**
MONP2 Monument Peak 76.30 323 P **P** **22 51 08.2 +1.4**
baz=142,SNR=7.0
GLMI Grayling 76.39 351 IAmb IAmb 22 51 07.6
comp=Z,53nm,0.8s
BC3 Big Chuckawall 76.40 324 P **P** **22 51 08.5 +1.2**
baz=143,SNR=22
F63A Nahmakanta, Br 76.41 2 IAmb IAmb 22 51 09.5
comp=Z,48nm,1.2s
I40A Norwalk 76.52 346 IAmb IAmb 22 51 08.6
comp=Z,42nm,1.0s
F64A Sherman 76.59 2 IAmb IAmb 22 51 10.4
comp=Z,79nm,1.2s
IRM Iron Mountain 76.64 324 P **P** **22 51 09.9 +1.4**
baz=143,SNR=16
109C Camp Elliot, M 76.66 322 P **P** **22 51 09.6 +1.0**
baz=141
LMN Caledonia Moun 76.78 5 IAmb IAmb 22 51 11.9
comp=Z,89nm,1.3s
NEE2 Needles Airpor 76.87 325 P **P** **22 51 10.9 +1.2**
baz=143
TPFO Pinon Flats 76.88 323 P **P** **22 51 11.6 +1.6**
baz=142,SNR=13
OGNE Ogallala 76.88 337 P **P** **22 51 10.6 +0.8**
baz=154
PFO Pinyon Flats O 76.88 323 P **P** **22 51 11.7 +1.7**
PFO pmax pmax
comp=Z,39nm,1.1s
PFO Pinyon Flats O 76.88 323 P **P** **22 51 11.7 +1.7**
PFO Pinyon Flats O 76.88 323 P **P** **22 51 11.7 +1.7**
baz=142,SNR=14
PV01 Paradox Valley 76.89 331 IAmb IAmb 22 51 12.8
comp=Z,53nm,1.2s
BELC Belle Mtn. Jos 76.95 324 P **P** **22 51 11.8 +1.4**
baz=142,SNR=9.8
PV13 Radium Mtn., P 77.01 331 IAmb IAmb 22 51 13.1
comp=Z,54nm,1.0s
PV15 Paradox Valley 77.03 331 IAmb IAmb 22 51 13.7
comp=Z,59nm,1.3s
PV05 Paradox Valley 77.06 331 IAmb IAmb 22 51 13.3

comp=Z,50nm,1.1s
PV12 **Saucer Basin,** **77.14 331** P **P** **22 51 12.0 +0.6**
ISCO **Idaho Springs** **77.15 334** IAmb IAmb 22 51 14.0
comp=Z,48nm,1.2s
ISCO **Idaho Springs** **77.15 334** P **P** **22 51 12.8 +1.2**
baz=151,SNR=26
PV11 **David Mesa, Pa** **77.15 331** IAmb IAmb 22 51 13.9
comp=Z,74nm,1.4s
PV16 **Nyswonger Mesa** **77.18 331** IAmb IAmb 22 51 14.0
comp=Z,47nm,1.3s
PV20 **West Nyswonger** **77.23 331** P **P** **22 51 13.1 +1.1**
I37A **Lemond, Waseca** **77.25 344** IAmb IAmb 22 51 13.7
comp=Z,53nm,1.0s
MURC **Murrieta** **77.26 322** P **P** **22 51 13.6 +1.6**
baz=141,SNR=8.2
PV10 **Paradox Valley** **77.29 331** IAmb IAmb 22 51 14.1
comp=Z,51nm,1.0s
PQI **Presque Isle** **77.41 3** IAmb IAmb 22 51 14.8
comp=Z,51nm,1.1s
BBRC **Big Bear Solar** **77.63 323** P **P** **22 51 16.4 +2.0**
baz=142
CIS **Catalina Islan** **77.75 322** P **P** **22 51 16.0 +1.3**
baz=140
HEC **Hector,Ludlow** **77.77 324** P **P** **22 51 16.8 +1.9**
baz=142,SNR=21
ECSD **EROS Data Cent** **77.79 342** IAmb IAmb 22 51 16.1
comp=Z,81nm,1.1s
ECSD **EROS Data Cent** **77.79 342** P **P** **22 51 15.0 +0.3**
baz=158,SNR=35
KNB **Kanab** **77.83 327** IAmb IAmb 22 51 18.2
comp=Z,79nm,1.2s
F42A **Maple Grove Fa** **77.85 348** IAmb IAmb 22 51 16.3
comp=Z,40nm,0.9s
FMP **Fort Macarthur** **77.92 322** P **P** **22 51 17.1 +1.4**
baz=141
BFSC **Mount Baldy Ra** **77.99 323** P **P** **22 51 17.5 +1.3**
baz=141,SNR=9.5
TUQ **Turquoise Moun** **78.05 324** P **P** **22 51 18.0 +1.5**
baz=142,SNR=23
BATG **Bathurst New B** **78.11 4** IAmb IAmb 22 51 18.8
comp=Z,73nm,1.5s
RRX **Edison Barstow** **78.15 323** P **P** **22 51 18.7 +1.8**
baz=142
MWC **Mount Wilson** **78.19 322** P **P** **22 51 18.1 +0.7**
MWC pmax pmax
comp=Z,39nm,1.2s
MWC **Mount Wilson** **78.19 322** P **P** **22 51 18.1 +0.7**
N23A **Red Feather La** **78.22 334** P **P** **22 51 18.8 +1.3**
baz=151,SNR=22
LMQ **La Malbaie** **78.23 1** IAmb IAmb 22 51 18.9
comp=Z,94nm,1.2s
SPMN **Marine on St.** **78.26 345** P **P** **22 51 16.8 -0.5**
baz=162,SNR=8.6
E43A **Lone Tree Farm** **78.26 349** IAmb IAmb 22 51 18.5
comp=Z,48nm,0.9s
DECC **Green Verdugo** **78.36 322** P **P** **22 51 19.7 +1.6**
baz=141
MTPU **Mount Pierson** **78.37 329** P **P** **22 51 19.3 +0.7**
GSC **Goldstone, Bar** **78.38 324** P **P** **22 51 19.8 +1.5**
baz=142,SNR=13
PHWY **Pilot Hill** **78.40 335** P **P** **22 51 19.0 +0.5**
PHWY IAmb IAmb 22 51 20.7
comp=Z,55nm,1.1s
SZCU **Shurtz Canyon** **78.42 328** P **P** **22 51 19.5 +0.9**
O20A **White River Ci** **78.46 332** IAmb IAmb 22 51 21.2
comp=Z,82nm,1.2s
O20A **White River Ci** **78.46 332** P **P** **22 51 20.0 +1.3**
baz=149,SNR=31
CCUT **Cedar City** **78.51 327** IAmb IAmb 22 51 22.3
comp=Z,54nm,1.1s
SRU **San Rafael Swe** **78.53 330** IAmb IAmb 22 51 21.2
comp=Z,44nm,1.0s
SHOC **Shoshone, Teco** **78.59 325** P **P** **22 51 20.3 +1.0**
baz=142
Q16A **Castle Valley** **78.65 330** IAmb IAmb 22 51 22.4
comp=Z,56nm,1.1s
EDW2 **Edwards Air Fo** **78.67 323** P **P** **22 51 20.9 +1.1**
baz=141,SNR=13
P17A **Butcher Ranch,** **78.93 330** P **P** **22 51 21.0 -0.3**
P17A IAmb IAmb 22 51 23.5
comp=Z,71nm,1.2s
LRMC **Laurel Mtn Rad** **78.97 323** P **P** **22 51 22.9 +1.3**
baz=141,SNR=15
F36A **Milaca** **79.03 345** IAmb IAmb 22 51 22.3
comp=Z,40nm,1.0s
SUSD **Miller** **79.09 341** P **P** **22 51 22.1 +0.2**
baz=157
PRN **Pahroc Range** **79.19 326** IAmb IAmb 22 51 25.8
comp=Z,66nm,1.1s
KOWA **Kowa** **79.23 66** P **P** **22 51 23.7 +0.4**
ARVC **Arvin** **79.29 322** P **P** **22 51 24.4 +1.3**
baz=140
MPMC **Manual Prospec** **79.32 324** P **P** **22 51 24.7 +1.1**
baz=141,SNR=14
FURC **Furnace Creek,** **79.33 325** P **P** **22 51 24.8 +1.5**
baz=142,SNR=15
RDMU **Red Mountain** **79.36 332** IAmb IAmb 22 51 25.7
comp=Z,58nm,1.0s
RWWY **Rawlins** **79.39 334** IAmb IAmb 22 51 26.1
comp=Z,78nm,1.1s
TPNV **Topopah Spring** **79.40 325** P **P** **22 51 25.0 +1.1**
TPNV pmax pmax
comp=Z,40nm,1.1s
TPNV **Topopah Spring** **79.40 325** P **P** **22 51 25.0 +1.1**
TPNV **Topopah Spring** **79.40 325** P **P** **22 51 25.5 +1.6**
baz=142,SNR=34
ISA **Isabella, Lake** **79.52 323** P **P** **22 51 26.1 +1.6**
baz=141,SNR=15
PKM **Mcpherson Peak** **79.63 322** P **P** **22 51 26.9 +1.7**
baz=140,SNR=16
MPU **Maple Canyon** **79.76 330** P **P** **22 51 26.7 +0.9**
MPU IAmb IAmb 22 51 28.1
comp=Z,40nm,1.0s
TSUM **Tsumeb** **79.84 106** P **P** **22 51 27.1 +0.3**
NLU **North Lily Min** **79.90 330** IAmb IAmb 22 51 29.1
comp=Z,53nm,1.4s
CWC **Cottonwood Cre** **79.92 324** P **P** **22 51 28.2 +1.4**
baz=141
K22A **Casper** **79.96 335** IAmb IAmb 22 51 29.2
comp=Z,101nm,1.2s
K22A **Casper** **79.96 335** P **P** **22 51 27.9 +1.1**
baz=150,SNR=22
VES **Vestal, Richgr** **79.97 323** P **P** **22 51 28.3 +1.5**
baz=140,SNR=13
GRAC **Grapevine Rang** **79.99 325** P **P** **22 51 28.5 +1.5**
baz=142
SMMC **Simmler** **80.05 322** P **P** **22 51 29.3 +1.9**
baz=140,SNR=10
SPR3 **Spring Creek 3** **80.13 328** IAmb IAmb 22 51 30.2
comp=Z,65nm,1.3s
R11A **Troy Canyon, C** **80.19 326** P **P** **22 51 29.7 +1.5**
baz=143,SNR=40
CTU **Camp Tracy** **80.37 330** P **P** **22 51 29.8 +0.6**
RSSD **Black Hills** **80.38 337** P **P** **22 51 29.3 +0.2**
RSSD pmax pmax
comp=Z,31nm,1.0s
RSSD **Black Hills** **80.38 337** P **P** **22 51 29.3 +0.2**
RSSD **Black Hills** **80.38 337** P **P** **22 51 29.9 +0.8**
baz=152
DUG **Dugway, Tooele** **80.42 329** IAmb IAmb 22 51 31.8
comp=Z,53nm,1.2s
DUG **Dugway, Tooele** **80.42 329** P **P** **22 51 30.7 +1.3**
baz=145,SNR=27
TIN **Tinemaha, Big** **80.47 324** P **P** **22 51 31.2 +1.5**
baz=141,SNR=8.2
VOG **Valley Oaks Go** **80.49 323** P **P** **22 51 30.0 +0.3**
baz=140
PAGB **Antelope Grade** **80.50 322** P **P** **22 51 30.2 +0.4**
PAGB IAmb IAmb 22 51 32.6
comp=Z,61nm,1.3s
EYMN **Ely** **80.58 347** P **P** **22 51 29.6 -0.3**
EYMN IAmb IAmb 22 51 30.8
comp=Z,47nm,1.1s
EYMN **Ely** **80.58 347** P **P** **22 51 29.6 -0.3**
baz=163,SNR=8.3
TCUT **Toone Canyon** **80.58 331** P **P** **22 51 31.3 +1.0**
TPH **Tonopah** **80.76 325** P **P** **22 51 32.4 +1.1**
TPH pmax pmax
comp=Z,233nm,1.2s
TPH **Tonopah** **80.76 325** P **P** **22 51 32.4 +1.1**
HWUT **Hardware Ranch** **81.05 331** IAmb IAmb 22 51 34.5
comp=Z,44nm,0.9s
SPUT **South Promonto** **81.18 330** IAmb IAmb 22 51 35.3
comp=Z,57nm,1.1s
BW06 **Boulder Array** **81.21 333** P **P** **22 51 33.7 0.0**
baz=148
PDAR **Pinedale Array** **81.21 333** P **P** **22 51 33.3 -0.3**
comp=Z,14nm,1.1s,baz=145,slow=5.4,SNR=39
PDAR LR LR 23 24 23.4
comp=Z,351nm,19.6s,baz=156,slow=33
MLAC **Mammoth, Mammo** **81.22 324** P **P** **22 51 35.4 +1.6**
baz=141
BOSA **Boshof** **81.28 118** P **P** **22 51 34.4 -0.1**
comp=Z,6.5nm,0.9s,baz=278,slow=4.2,SNR=7.2
BOSA LR LR 23 24 58.0
comp=Z,649nm,18.4s,baz=233,slow=34
NVAR **Mina Array Bea** **81.57 325** P **P** **22 51 36.5 +0.9**
comp=Z,11nm,0.9s,baz=151,slow=5.9,SNR=59
NVAR LR LR 23 21 19.0
comp=Z,253nm,21.4s,baz=104,slow=31
AGMN **Agassiz Nation** **81.86 344** P **P** **22 51 36.6 0.0**
baz=159
MDND **Maddock** **82.39 342** P **P** **22 51 39.8 +0.4**
baz=156,SNR=8.4
TORD **Torodi Ar. Bea** **83.01 70** P **P** **22 51 42.9 -0.5**
comp=Z,6.8nm,0.9s,baz=274,slow=5.0,SNR=22
TORD LR LR 23 26 30.2
comp=Z,1μm,19.7s,baz=240,slow=34
RLMT **Red Lodge** **83.10 334** P **P** **22 51 43.8 +0.4**
baz=148
LAO **LASA Array** **83.37 337** P **P** **22 51 44.9 +0.3**
baz=151
QLMT **Earthquake Lak** **83.68 333** P **P** **22 51 47.0 +0.6**
ULM **Lac du Bonnet** **83.69 345** P **P** **22 51 45.4 -0.6**
comp=Z,35nm,0.9s,baz=156,slow=4.6,SNR=21
ULM **Lac du Bonnet** **83.69 345** *e*P **P** **22 51 45.6 -0.5**
ULM pmax pmax
comp=Z,35nm,0.9s
ULM **Lac du Bonnet** **83.69 345** IAmb IAmb 22 51 46.9
comp=Z,47nm,0.9s
HLID **Hailey** **83.86 330** P **P** **22 51 48.3 +1.0**
baz=144
DGMT **Dagmar** **84.29 339** P **P** **22 51 49.9 +0.7**
baz=152
BOZ **Bozeman (W)** **84.40 333** P **P** **22 51 50.1 +0.1**
baz=147
O02D **Mt. Diablo Mer** **85.16 323** P **P** **22 51 54.4 +0.5**
baz=138,SNR=5.5
SCHQ **Schefferville** **85.62 3** P **P** **22 51 55.2 -0.5**
comp=Z,42nm,1.2s,baz=157,slow=3.1,SNR=11
SCHQ LR LR 23 29 49.0
comp=Z,123nm,20.7s,baz=187,slow=35
N02D **Trinity Center** **85.71 324** P **P** **22 51 56.9 +0.3**
baz=138
EGMT **Eagleton** **85.74 336** P **P** **22 51 56.3 -0.3**
baz=148
M04C **Macdoel** **85.88 325** P **P** **22 51 58.3 +0.8**
baz=139,SNR=15
M02C **Callahan** **86.09 324** P **P** **22 51 59.1 +0.6**
baz=138,SNR=6.6
MSO **Missoula** **86.32 333** P **P** **22 52 00.1 +0.6**
baz=145
L04D **Klamath Falls** **86.44 325** P **P** **22 52 00.3 +0.1**
baz=138,SNR=5.9
K04D **Chiloquin, OR** **86.47 326** P **P** **22 52 01.1 +0.8**
baz=139
J05D **Fort Rock, OR** **86.72 326** P **P** **22 52 02.6 +1.0**
baz=139,SNR=16
L02E **Cave Junction** **87.04 324** P **P** **22 52 03.9 +0.9**
baz=138
J04D **Umpqua Nationa** **87.11 326** P **P** **22 52 04.3 +0.7**
baz=139,SNR=5.1
K02D **Willamette Mer** **87.46 325** P **P** **22 52 06.4 +1.2**
baz=138,SNR=7.2
I05D **Terrebonne, OR** **87.56 327** P **P** **22 52 06.8 +1.2**
baz=139
I04A **Tendick Farm,** **87.67 326** P **P** **22 52 06.3 +0.2**
baz=138
G05D **Wamic, OR** **88.24 327** P **P** **22 52 09.7 +1.0**
baz=139
H04D **Lebanon** **88.36 326** P **P** **22 52 09.7 +0.4**
baz=138
I02D **Swisshome** **88.59 325** P **P** **22 52 11.5 +1.1**
baz=138
NEW **Newport** **88.76 332** P **P** **22 52 10.8 -0.4**
baz=142
F05D **White Salmon** **88.79 328** P **P** **22 52 12.2 +0.9**
baz=139
B05A **Bryant** **90.87 329** P **P** **22 52 20.6 -0.3**
baz=139
A04D **Lummi Island** **91.48 329** P **P** **22 52 24.1 +0.4**
baz=138
ESDC **Sonseca Array** **94.37 46** LR LR 23 34 48.6
comp=Z,311nm,18.8s,baz=250,slow=35
DZM **Mont Dzumac** **103.15 234** *e*LR LR 23 27 10.2
comp=Z,726nm,23.9s
BRTR **Keskin Array B** **120.18 59** PP PP 22 59 38.1 +3.4
comp=Z,5nm,0.4s,baz=224,slow=6.0,SNR=4.2
ASAR **Alice Springs** **120.30 207** PKP **PKPdf** **22 58 07.7 -1.7**
comp=Z,1.9nm,0.7s,baz=155,slow=2.0,SNR=19
WRA **Warramunga Arr** **123.44 210** PKP **PKPdf** **22 58 14.5 -1.1**
comp=Z,4.2nm,0.6s,baz=169,slow=1.9,SNR=36
WRA **Warramunga Arr** **123.44 210** **PKPdf** **22 58 14.7 -0.9**
WRAB **Tennant Creek** **123.45 210** *c i*PKIKP **PKPdf** **22 58 14.2 -1.4**
WRAB pmax pmax
comp=Z,10.0nm,1.7s
OBN **Obninsk** **125.12 42** *de*PKIKP **PKiKP** **22 58 17.9 +0.1**
OBN *e* 22 58 26.9
OBN SS SS 23 17 06.0 +3.5
OBN pmax pmax
comp=Z,13nm,0.7s
OBN MLR MLR
comp=Z,291nm,21.0s
KLMR **Klimovskoe** **126.87 35** *e*PKIKP **PKPdf** **22 58 19.0 -1.6**
KLMR pmax pmax
comp=Z,16nm,1.9s
KLMR **Klimovskoe** **126.87 35** *e*PKPdf **PKPdf** **22 58 19.1 -1.6**
KLMR AMP 22 58 22.3
comp=Z,16nm,1.9s
SHA1 **Shidzhatmaz** **127.66 56** *i* PKIKP **PKPdf** **22 58 22.4 -0.7**
KIV **Kislovodsk** **127.71 56** *i* PKIKP **PKPdf** **22 58 22.7 -0.3**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KBZ **Khabaz** **127.83 56** *i* PKIKP **PKiKP** **22 58 23.8 +0.2**
KBZ pmax pmax
comp=Z,3.0nm,1.1s
GNI **Garni** **128.57 61** *i* PKIKP **PKPdf** **22 58 24.0 -0.8**
PRGR **Permogore** **129.75 33** *e*PKIKP **PKiKP** **22 58 28.4 +1.5**
PRGR pmax pmax
comp=Z,52nm,1.5s
GROC **Groznyy** **129.84 58** *e*P **Pdif** **22 55 07.8 -7.6**
GROC pmax pmax
comp=Z,12nm,0.7s
GROC pmax pmax
comp=Z,13nm,0.2s
GROC MLR MLR
comp=Z,15nm,2.0s
BILL **Bilibino** **130.24 335** *ce*PKIKP **PKiKP** **22 58 28.3 +0.5**
BILL pmax pmax
comp=Z,3.0nm,1.1s
ARU **Arti** **137.33 39** *i* PKIKP **PKPdf** **22 58 40.5 -0.1**
ARU 23 01 24.5
ARU SS SS 23 19 24.7 -6.9
ARU MLR MLR
comp=Z,260nm,18.0s
NRIK **Noril'sk** **139.87 11** *i* PKIKP **PKPdf** **22 58 44.7 -0.2**
NRIK pmax pmax
comp=Z,18nm,3.8s
BRVK **Borovoye** **144.85 40** *c i*PKIKP **PKPdf** **22 58 54.0 -0.2**
BRVK pmax pmax
comp=Z,15nm,1.7s
YAK **Yakutsk** **145.99 342** *e*PKP2 **PKPbc** **22 58 56.7 +0.1**
YAK *e* 23 02 16.4
YAK pmax pmax
comp=Z,32nm,0.8s
YAK pmax pmax
comp=E,12nm,1.1s
YAK pmax pmax
comp=N,11nm,1.0s
POO **Poona** **146.56 104** *e*P PKiKP 22 59 16.0 +13
YSS **Yuzh-Sakhalins** **149.09 311** *c i*PKIKP **PKPdf** **22 59 02.4 +0.9**
YSS pmax pmax
comp=Z,51nm,2.5s
HYB **Hyderabad** **149.87 110** *i* PKP **PKPbc** **22 59 08.0 -0.5**
EKS2 **Erkin-Say** **150.30 57** P **PKiKP** **22 59 09.9 +0.1**
SNR=7.3
AML **Almayashu** **150.34 58** P **PKiKP** **22 59 10.1 -0.1**
SNR=5.6
USP **Ospenovka** **150.69 56** P **PKiKP** **22 59 10.4 0.0**
SNR=7.9
AAK **Ala-Archa** **150.82 57** P **PKiKP** **22 59 11.3 +0.4**
SNR=10
AAK **Ala-Archa** **150.82 57** *c i*PKIKP **PKPdf** **22 59 06.1 +1.5**
AAK pmax pmax
comp=Z,28nm,1.7s
UCH **Uchtor** **150.92 58** P **PKPbc** **22 59 10.5 -0.4**
SNR=11
CHMS **Chumysh** **150.93 56** P **PKiKP** **22 59 11.0 +0.1**
SNR=5.8
ZALV **Zalesovo Beam** **151.58 30** PKPbc **PKPbc** **22 59 11.2 -0.1**
comp=Z,12nm,0.7s,baz=297,slow=3.3,SNR=26
KSH **Kashi** **152.47 63** PKPbc **PKPdf** **22 59 05.4 -1.8**
KSH sPKP 22 59 20.8
KSH PP **PP** **23 03 00.1 +2.7**
KSH AMB AMB
comp=Z,160nm,5.4s
KSH LR LR
comp=Z,290nm,21.8s
KSH LR LR
comp=Z,300nm,25.1s
KSH LR LR
comp=Z,300nm,20.8s
SPMM **Sapulut** **152.69 198** P **PKPbc** **22 59 15.0 -0.2**
BOD **Bodaibo** **152.91 353** *e*PKIKP **PKPab** **22 59 22.5 -2.9**
BOD pmax pmax
comp=Z,40nm,1.2s
ZEA **Zeya** **153.46 334** *e*PKP2 **PKPab** **22 59 28.4 +0.5**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
MJAR **Matsushiro Arr** **154.52 291** PKPab **PKPab** **22 59 31.7 -1.4**
comp=Z,1.6nm,0.4s,baz=100,slow=1.7,SNR=8.2
MKAR **Makanchi Array** **154.58 44** PKP **PKPdf** **22 59 08.3 -1.5**
comp=Z,0.5nm,0.9s,baz=242,slow=4.7,SNR=4.3
MKAR PKPbc **pPKPdf** **22 59 17.9 -0.1**
comp=Z,1.9nm,0.9s,baz=338,slow=2.9,SNR=7.5
MKAR PKPab **sPKPbc** **22 59 31.0 +1.7**
comp=Z,2.4nm,0.8s,baz=301,slow=2.1,SNR=8.1
KLR **Kul'dur** **154.58 322** *c i*PKIKP **PKiKP** **22 59 19.4 +1.2**
WMQ **Urumqi** **159.37 46** *e*PKP **PKPdf** **22 59 16.5 +0.4**
WMQ LR LR
comp=Z,270nm,14.5s
WMQ LR LR
comp=Z,200nm,19.1s
WMQ LR LR
comp=Z,190nm,19.9s
ZAK **Zakamensk** **160.32 9** *e*PKP2 **PKPab** **22 59 56.1 -1.5**
ZAK pmax pmax
comp=Z,11nm,1.5s
KSRS **Korea Array** **162.49 297** PKPab **PKPab** **23 00 07.8 +0.3**
comp=Z,1.9nm,0.7s,baz=97,slow=4.3,SNR=5.8
SONM **Songino Array** **163.16 4** PKP **PKPdf** **22 59 19.0 -1.0**
comp=Z,0.4nm,0.6s,baz=347,slow=6.1,SNR=6.4
SONM PKPab **PKPab** **23 00 10.1 -0.1**
comp=Z,4.0nm,1.2s,baz=321,slow=2.7,SNR=10.0
SONM PP **PP** **23 03 52.7 -1.8**
comp=Z,1.1nm,0.9s,baz=350,slow=7.3,SNR=4.7
SONM **Songino Array** **163.16 4** PKPdf **PKPdf** **22 59 20.7 +0.7**
SONM PKPab **PKPab** **23 00 10.1 -0.1**
CMAR **Chiang Mai Arr** **164.93 144** PKP **PKPdf** **22 59 20.6 -1.7**
comp=Z,1.5nm,0.8s,baz=251,slow=2.9,SNR=9.7
CMAR PKPab **PKPab** **23 00 18.9 +0.3**
comp=Z,3.1nm,1.0s,baz=238,slow=5.9,SNR=4.2
CMAR **Chiang Mai Arr** **164.93 144** **PKPdf** **22 59 22.2 -0.2**
CMAR PKPab **PKPab** **23 00 18.6 0.0**
GTA **Gaotai** **169.19 37** ⇑PKP **PKPdf** **22 59 25.9 +0.8**
GTA pPKP pPKPdf 22 59 34.5 +1.2
GTA sPKP 22 59 39.3
GTA PKPab **PKPab** **23 00 37.3 +0.2**
GTA AMB AMB
comp=Z,54nm,6.7s
GTA LR LR
comp=Z,270nm,21.1s
GTA LR LR
comp=Z,220nm,20.0s
GTA LR LR
comp=Z,280nm,21.1s
HHC **Hu-ho-hao-te** **169.83 345** *e*PKP **PKPdf** **22 59 24.8 -0.6**
HHC SS SS 23 25 27.5 +2.2
HHC LR LR
comp=Z,210nm,21.4s
HHC LR LR
comp=Z,220nm,19.6s
HHC LR LR
comp=Z,320nm,21.1s
NJ2 **Nanjing** **170.85 279** *e*PKP **PKPdf** **22 59 27.3 +1.3**
TIA **Tai'an** **170.94 307** ⇑PKP **PKPdf** **22 59 26.3 +0.3**
KMI **Kunming** **172.40 139** ⇑PKP **PKPdf** **22 59 24.3 -3.0**
LZH **Lanzhou** **173.78 35** *e*PKP **PKPdf** **22 59 28.6 +1.1**
LZH pPKP pPKPdf 22 59 35.9 +0.2
LZH LR LR
comp=Z,190nm,17.3s
LZH LR LR
comp=Z,180nm,17.6s
LZH LR LR
comp=Z,160nm,16.8s
CD2 **Chengdu** **176.18 91** PKP **PKPdf** **22 59 29.0 +0.8**
XAN **Xi'an** **176.94 349** PKP **PKPdf** **22 59 28.6 +0.4**
XAN sPKP 22 59 39.5
XAN PKPab **PKPab** **23 01 10.0 -1.3**

NIC ***17*** *22:40:45.2₀0.0,35°.30N₀27°.88E,h2km±1km,Ml3.8/7*
ISK ***17*** *22:40:46.7,35°.36N₀27°.80E,h13km,ML3.5/25*
ATH ***17*** *22:40:46.7,35°.33N₀27°.81E,h34km±12km,ML3.5/6,Error ellipse: s-maj=13.8km s-min=1.5km az=328.0*
THE ***17*** *22:40:47.8,35°.42N₀27°.78E,h0km±2km,ML3.5/2,Error ellipse: s-maj=3.6km s-min=1.0km az=151.0*
DDA ***17*** *22:40:47.0,35°.35N₀27°.63E,h69km±137km,MW3.7*
HLW ***17*** *22:40:48.8,34°.99N₀28°.04E,h3km±7km,Md3.6,Ml3.7*
IDC ***17*** *22:40:50.1±1.1,35°.28N₀27°.84E,h49km±15km,mb3.5/5, mb1 3.5/12,mb1mx3.3/43,mbtmp3.6/12,ML3.3/7,MS3.0/1, Ms1 3.0/1,ms1mx2.2/49,Error ellipse: s-maj=19.1km s-min=9.0km az=178.0*

ISC 17 22:40:46.5±1.2,35°.32N±0°.03₀27°.82E±0°.03,h18km±5km, n103,σ1°42/126,mb3.6/5,8C,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.58**	**294**	P	**Pg**	**22 40 57.8**	**-0.3**
KARP				S	**Sb**	**22 41 06.8**	**+0.7**
	12μm,0.5s						
KARP	**Karpathos**	**0.58**	**294**	P	**Pg**	**22 40 57.9**	**-0.3**
KARP				S	**Sb**	**22 41 06.4**	**+0.3**
KARP				AML	AML	22 41 07.2	
	comp=N,29102μm,0.5s						
KARP				AML	AML	22 41 08.8	
	comp=E,19402μm,0.5s						
KARP	**Karpathos**	**0.58**	**294**	PG	**Pg**	**22 40 57.9**	**-0.2**
KARP				SG	**Sg**	**22 41 06.3**	**+0.3**
KARP	**Karpathos**	**0.58**	**294**	⇑P	**Pg**	**22 40 57.7**	**-0.3**
KARP				AML	AML	22 41 06.6	
	comp=E,29nm,0.5s						
KARP				AML	AML	22 41 06.6	
	comp=E,29nm,0.5s						
KARP				S	**Sb**	**22 41 06.9**	**+0.8**
KARP				AML	AML	22 41 08.4	
	comp=E,19nm,0.5s						
KARP				AML	AML	22 41 08.4	
	comp=E,19nm,0.5s						
ARG	**Arkhangelos**	**0.93**	**16**	P	**Pb**	**22 41 04.1**	**-0.1**
ARG				S	**Sg**	**22 41 16.8**	**-0.2**
	comp=E,2μm,0.7s						
ARG	**Arkhangelos**	**0.93**	**16**	P	**Pb**	**22 41 03.8**	**-0.4**
ARG				S	**Sg**	**22 41 16.0**	**-1.0**
ARG				AML	AML	22 41 22.7	
	comp=E,4562μm,0.7s						
ARG				AML	AML	22 41 23.4	
	comp=N,2975μm,0.6s						
ARG	**Arkhangelos**	**0.93**	**16**	PG	**Pb**	**22 41 04.2**	**0.0**
ARG				SG	**Sb**	**22 41 17.2**	**+0.9**
ARG	**Arkhangelos**	**0.93**	**16**	⇑P	**Pb**	**22 41 03.5**	**-0.7**
ARG				S	**Sg**	**22 41 16.7**	**-0.4**
ZKR	**Zakros**	**1.32**	**262**	P	**Pn**	**22 41 11.3**	**+1.2**
ZKR	**Zakros**	**1.32**	**262**	P	**Pn**	**22 41 11.3**	**+1.2**
ZKR				S	**Sb**	**22 41 27.6**	**+0.1**
ZKR				AML	AML	22 41 37.2	
	comp=N,1726μm,0.7s						
ZKR				AML	AML	22 41 39.8	
	comp=E,2462μm,0.5s						
ZKR	**Zakros**	**1.32**	**262**	PN	**Pn**	**22 41 11.1**	**+1.0**
ZKR	**Zakros**	**1.32**	**262**	P	**Pn**	**22 41 11.3**	**+1.2**
ZKR				AML	AML	22 41 40.4	
	comp=E,2.4nm,0.7s						
NIS1	**Nisyros Isl.**	**1.39**	**338**	P	**Pn**	**22 41 11.7**	**+0.7**
NIS1	**Nisyros Isl.**	**1.39**	**338**	P	**Pn**	**22 41 11.5**	**+0.5**
NIS1				AML	AML	22 41 36.4	
	comp=E,8951μm,0.6s						
NIS1				AML	AML	22 41 44.4	

	comp=N,4869µm,0.4s							
NIS1	**Nisyros Isl.**	**1.39**	**338**	PN		**Pn**	**22 41 11.7**	**+0.7**
STIA	**Sitia Lasithi**	**1.42**	**266**	P		**Pn**	**22 41 12.5**	**+1.1**
DAT	**Datca**	**1.42**	**352**	P		**Pn**	**22 41 12.7**	**+1.1**
DAT				S		**Sb**	**22 41 31.3**	**+0.8**
DAT	**Datca**	**1.42**	**352**	PN		**Pn**	**22 41 12.0**	**+0.4**
MRSB	**Marmaris-Mugla**	**1.43**	**12**	PN		**Pn**	**22 41 12.7**	**+1.1**
TURN	**Turunc**	**1.50**	**13**	*i* P		**Pb**	**22 41 14.3**	**+0.4**
TURN				*i* S		**Sg**	**22 41 34.2**	**-0.7**
TURN				IAML			22 41 38.0	
	comp=E,398nm,0.5s							
TURN	**Turunc**	**1.50**	**13**	PN		**Pn**	**22 41 13.6**	**+1.1**
KOSK	**Kos Island**	**1.59**	**335**	P		**Pn**	**22 41 14.4**	**+0.7**
KOSK	**Kos Island**	**1.59**	**335**	PN		**Pn**	**22 41 14.4**	**+0.7**
DALY	**Dalyan (Mula)**	**1.65**	**24**	PN		**Pn**	**22 41 15.7**	**+1.2**
KSL	**Kastellorizon**	**1.66**	**59**	P		**Pn**	**22 41 16.0**	**+1.2**
KSL	**Kastellorizon**	**1.66**	**59**	P		**Pn**	**22 41 15.9**	**+1.2**
KSL	**Kastellorizon**	**1.66**	**59**	⇑P		**Pn**	**22 41 15.3**	**+0.5**
KSL				S		**Sb**	**22 41 38.2**	**+0.9**
KSL				AML	AML		22 41 57.8	
	comp=E,0.5nm,0.6s							
KSL				AML	AML		22 41 57.8	
	comp=E,0.5nm,0.6s							
FETY	**Fethiye**	**1.67**	**38**	P		**Pn**	**22 41 15.7**	**+0.8**
FETY	**Fethiye**	**1.67**	**38**	PN		**Pn**	**22 41 16.0**	**+1.1**
AKAS	**Kas**	**1.72**	**57**	PN		**Pn**	**22 41 16.9**	**+1.2**
FRMA	**Ierapetra Chan**	**1.73**	**261**	P		**Pn**	**22 41 16.9**	**+1.2**
BDRM	**Kayabasi**	**1.77**	**350**	*i* P		**Pn**	**22 41 16.9**	**+0.5**
BODT	**Bodrum**	**1.79**	**347**	P		**Pn**	**22 41 17.0**	**+0.4**
BODT	**Bodrum**	**1.79**	**347**	PN		**Pn**	**22 41 17.5**	**+0.9**
NPS	**Neapolis**	**1.80**	**269**	P		**Pb**	**22 41 19.6**	**+0.6**
NPS				AML	AML		22 41 56.4	
	comp=N,2076µm,0.6s							
NPS				AML	AML		22 41 56.7	
	comp=E,2071µm,0.6s							
YER	**Yerkesik**	**1.85**	**12**	P		**Pn**	**22 41 18.9**	**+1.4**
YER	**Yerkesik**	**1.85**	**12**	PN		**Pn**	**22 41 18.8**	**+1.3**
YKAV	**Yalikavak-Bodr**	**1.86**	**347**	PN		**Pn**	**22 41 18.7**	**+1.2**
MLSB	**Milas**	**1.98**	**359**	PN		**Pn**	**22 41 20.2**	**+1.1**
CAME	**Cameli-Denizli**	**2.02**	**36**	PN		**Pn**	**22 41 21.1**	**+1.2**
SANT	**Santorini**	**2.19**	**300**	PN		**Pn**	**22 41 22.8**	**+0.8**
DDIM	**Aydin, Didim**	**2.19**	**348**	*i* P		**Pg**	**22 41 27.9**	**-0.7**
DDIM				*i* S		**Sn**	**22 41 50.2**	**+1.6**
ELL	**Elmali**	**2.22**	**49**	PN		**Pn**	**22 41 23.8**	**+1.2**
HRKL	**Herakleio**	**2.22**	**271**	PN		**Pn**	**22 41 24.0**	**+1.6**
THT2	**Imerovigli**	**2.24**	**301**	PN		**Pn**	**22 41 23.8**	**+1.0**
SNT5	**Nea Kammeni, S**	**2.25**	**300**	P		**Pn**	**22 41 23.9**	**+1.1**
CMBO	**Columbo, Santo**	**2.27**	**301**	P		**Pn**	**22 41 24.7**	**+1.6**
TAVA	**DENIZLI_Tavas**	**2.32**	**22**	*i* P		**Pn**	**22 41 25.3**	**+1.3**
GOLH	**Golhisar**	**2.38**	**36**	*i* P		**Pn**	**22 41 26.0**	**+1.2**
IDI	**Anoyia**	**2.39**	**270**	P		**Pn**	**22 41 27.1**	**+2.3**
	comp=E,7.4nm,0.3s,baz=69,slow=18,SNR=49							
IDI				S		**Sn**	**22 41 56.4**	**+2.7**
	comp=E,12nm,0.3s,baz=312,slow=8.2,SNR=3.7							
IDI	**Anoyia**	**2.39**	**270**	P		**Pn**	**22 41 27.1**	**+2.3**
IDI	**Anoyia**	**2.39**	**270**	P		**Pn**	**22 41 27.2**	**+2.3**
IDI				AML	AML		22 42 07.1	
	comp=E,557µm,0.8s							
IDI				AML	AML		22 42 10.1	
	comp=N,578µm,0.5s							
GCAM	**G?zelcaml?**	**2.43**	**349**	*i* P		**Pn**	**22 41 27.5**	**+2.2**
GCAM	**G?zelcaml?**	**2.43**	**349**	PN		**Pn**	**22 41 26.7**	**+1.4**
SMG	**Samos**	**2.52**	**342**	P		**Pn**	**22 41 27.2**	**+0.7**
APE	**Apeiranthos**	**2.54**	**314**	P		**Pn**	**22 41 28.3**	**+1.3**
APE	**Apeiranthos**	**2.54**	**314**	*i* P		**Pn**	**22 41 27.8**	**+0.9**
APE				*i* S		**Sn**	**22 41 55.8**	**-1.8**
APE	**Apeiranthos**	**2.54**	**314**	PN		**Pn**	**22 41 28.2**	**+1.3**
APE	**Apeiranthos**	**2.54**	**314**	⇑P		**Pn**	**22 41 28.5**	**+1.5**
AYDB	**Zeytinkoy-Aydi**	**2.63**	**1**	PN		**Pn**	**22 41 29.1**	**+0.9**
KORT	**Korkueli**	**2.65**	**50**	PN		**Pn**	**22 41 30.4**	**+1.9**
ANTB	**Antalya**	**2.79**	**55**	PN		**Pn**	**22 41 32.3**	**+2.0**
DGB	**zmir**	**2.83**	**345**	*i* P		**Pn**	**22 41 31.5**	**+0.7**
GVD	**Gavdhos**	**3.09**	**262**	P		**Pn**	**22 41 36.9**	**+2.4**
GVD	**Gavdhos**	**3.09**	**262**	PN		**Pn**	**22 41 36.8**	**+2.3**
IMMV	**Iera Moni Meta**	**3.14**	**274**	P		**Pn**	**22 41 37.7**	**+2.7**
IMMV	**Iera Moni Meta**	**3.14**	**274**	PN		**Pn**	**22 41 37.4**	**+2.4**
BASM	**Basmaki-Afyon**	**3.16**	**34**	PN		**Pn**	**22 41 36.7**	**+1.2**
URLA	**Izmir**	**3.19**	**343**	*i* P		**Pn**	**22 41 36.3**	**+0.4**
URLA	**Izmir**	**3.19**	**343**	PN		**Pn**	**22 41 36.8**	**+0.9**
KULA	**Kula-Manisa**	**3.27**	**12**	PN		**Pn**	**22 41 38.3**	**+1.4**
KNDR	**Palaiochora Ch**	**3.38**	**270**	PN		**Pn**	**22 41 41.6**	**+3.2**
OSC1	**CSNet OBS 1**	**3.39**	**121**	P		**Pn**	**22 41 38.7**	**+0.2**
USAK	**Uak-Merkez**	**3.53**	**15**	*i* P		**Pn**	**22 41 41.0**	**+0.5**
ZEDA	**zmir-Bergama**	**3.69**	**351**	*i* P		**Pn**	**22 41 41.4**	**-1.3**
AKMS	**Akamas**	**3.71**	**93**	P		**Pn**	**22 41 43.4**	**+0.4**
AKMS				S		**Sn**	**22 42 28.4**	**+2.1**
AKMS				AML	AML		22 42 28.6	
	comp=N,0.3nm,0.3s							
AKMS				AML	AML		22 42 28.6	
	comp=N,0.3nm,0.3s							
AKMS				AML	AML		22 42 28.7	
	comp=N,0.3nm,0.2s							
AKMS				AML	AML		22 42 28.7	
	comp=N,0.3nm,0.2s							
ALFC	**Alefka**	**3.92**	**91**	⇑P		**Pn**	**22 41 46.1**	**+0.3**
ALFC				AML	AML		22 42 29.4	
	comp=N,0.3nm,0.8s							
ALFC				AML	AML		22 42 32.4	
	comp=N,0.4nm,0.5s							
NATA	**Nata**	**3.94**	**96**	P		**Pn**	**22 41 46.7**	**+0.6**
KTHA	**Kythira Island**	**3.98**	**285**	PN		**Pn**	**22 41 49.1**	**+2.5**
SZAC	**Souni**	**4.20**	**96**	⇑P		**Pn**	**22 41 50.1**	**+0.5**
SZAC				AML	AML		22 42 39.0	
	comp=N,0.3nm,0.5s							
SZAC				AML	AML		22 42 39.5	
	comp=N,0.5nm,0.7s							
DURS	**Dursunbey**	**4.31**	**7**	*i* P		**Pn**	**22 41 53.5**	**+2.2**
SLUM	**Salum**	**4.39**	**210**	P		**Pn**	**22 41 54.0**	**+1.7**
	baz=215							
SLUM				AMP			22 42 00.0	
	baz=215							
SLUM				S		**Sn**	**22 42 41.6**	**-1.4**
	baz=215							
ASGA	**Asgata**	**4.49**	**95**	P		**Pn**	**22 41 54.0**	**+0.4**
ASGA				AML	AML		22 42 46.2	
	comp=N,0.3nm,0.9s							
ASGA				AML	AML		22 42 47.6	
	comp=N,0.3nm,0.6s							
CSS	**Mathiatis**	**4.53**	**93**	⇑P		**Pn**	**22 41 54.5**	**+0.2**
MVOU	**Mavrovouni**	**4.78**	**92**	⇑P		**Pn**	**22 41 58.2**	**+0.6**
SWA2		**6.38**	**199**	P		**Pn**	**22 42 21.3**	**+1.8**
	baz=202							
SWA2				S		**Sn**	**22 43 29.7**	**-2.2**
	baz=202							
BRTR	**Keskin Array B**	**6.39**	**45**	P		**Pn**	**22 42 22.1**	**+2.2**
	comp=N,0.1nm,0.3s,baz=236,slow=10,SNR=2.3							
BRTR				S		**Sn**	**22 43 35.4**	**+3.1**
	comp=N,0.1nm,0.3s,baz=206,slow=13,SNR=2.7							
BRTR				LR		LR	22 45 39.8	
	comp=N,116nm,18.6s,baz=204,slow=45							
MMAI	**Mount Meron Ar**	**6.70**	**108**	P		**Pn**	**22 42 24.3**	**+0.3**
	comp=N,2.7nm,0.3s,baz=299,slow=13,SNR=11							
MMAI				S		**Sn**	**22 43 40.9**	**+1.0**
	comp=N,2.9nm,0.3s,baz=283,slow=32,SNR=4.9							
SUZ	**Suez**	**6.91**	**141**	P		**Pn**	**22 42 28.3**	**+1.4**
	baz=140							
ASF	**Jabal al Asfar**	**8.19**	**110**	P		**Pn**	**22 42 44.9**	**+0.4**
	comp=N,0.5nm,0.3s,baz=64,slow=7.7,SNR=6.3							
ASF				S		**Sn**	**22 44 14.6**	**-2.1**
	comp=N,0.2nm,0.3s,baz=295,slow=19,SNR=2.0							
EIL	**Elat**	**8.24**	**131**	P		**Pn**	**22 42 46.1**	**+0.9**
	comp=N,1.0nm,0.3s,baz=307,slow=2.9,SNR=13							
EIL				S		**Sn**	**22 44 14.0**	**-3.9**
	comp=N,2.5nm,0.3s,baz=93,slow=18,SNR=11							
HBST	**Basata**	**8.44**	**134**	P		**Pn**	**22 42 48.6**	**+0.7**
	baz=133							
NUB	**Nuweibaa**	**8.53**	**135**	P		**Pn**	**22 42 50.0**	**+0.8**
	baz=135							
TR2	**Tor 2**	**8.54**	**142**	P		**Pn**	**22 42 50.0**	**+0.7**
	baz=142							
HKAT	**Jabal Katrina**	**8.57**	**141**	P		**Pn**	**22 42 50.4**	**+0.5**
	baz=140							
TR1	**Tor 1**	**8.97**	**143**	P		**Pn**	**22 42 55.2**	**+0.1**
	baz=142							
VAE	**Valguarnera**	**11.02**	**285**	P		**Pn**	**22 43 25.9**	**+2.6**
	comp=N,0.3nm,0.3s,baz=90,slow=20,SNR=1.2							
VAE				S		**Sn**	**22 45 21.1**	**-4.9**
	comp=N,0.5nm,0.3s,baz=135,slow=22,SNR=1.9							
GERES	**GERESS Array B**	**17.06**	**327**	P		**P**	**22 44 46.4**	**+0.5**
	comp=N,0.1nm,0.3s,baz=145,slow=16,SNR=2.4							
ESDC	**Sonseca Array**	**25.51**	**289**	P		**P**	**22 46 12.4**	**-1.5**
	comp=N,1.1nm,0.8s,baz=80,slow=10.0,SNR=7.1							
HFS	**Hagfors**	**26.47**	**344**	P		**P**	**22 46 21.8**	**-0.6**
	comp=N,0.5nm,0.3s,baz=137,slow=13,SNR=1.3							
TORD	**Torodi Ar. Bea**	**32.29**	**233**	P		**P**	**22 47 15.4**	**+0.9**
	comp=N,0.8nm,0.4s,baz=39,slow=8.2,SNR=24							
MKAR	**Makanchi Array**	**41.87**	**57**	P		**P**	**22 48 36.2**	**+0.7**
	comp=N,0.3nm,0.5s,baz=271,slow=8.7,SNR=5.7							
ZALV	**Zalesovo Beam**	**43.33**	**46**	P		**P**	**22 48 46.8**	**-0.5**
	comp=N,0.8nm,0.5s,baz=256,slow=5.8,SNR=2.8							

IDC 17 22:41:32.0±3.5, 28°.44S×178°.48W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/21, mbtmp3.9/3, Error ellipse: s-maj=89.4km s-min=17.5km az=40.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
RAO	**Raoul Island**	**0.95**	**149**	Pn	Pn		22 41 53.1	+0.5
	88nm,0.3s,baz=50,slow=18,SNR=12							
RAO				Sn	Sn		22 42 06.5	-0.4
	410nm,0.3s,baz=68,slow=19,SNR=9.9							
STKA	**Stephens Creek**	**34.56**	**254**	P	P		22 48 22.2	-0.2
	1.8nm,0.7s,baz=114,slow=13,SNR=3.6							
ASAR	**Alice Springs**	**42.83**	**265**	P	P		22 49 32.3	+0.3
	0.4nm,0.3s,baz=101,slow=7.1,SNR=6.9							
WRA	**Warramunga Arr**	**43.64**	**270**	P	P		22 49 38.0	-0.5
	0.8nm,0.4s,baz=109,slow=7.8,SNR=12							
FINES	**FINESS Array B**	**143.16**	**341**	PKP	PKPdf		23 01 06.7	-0.6
	1.1nm,0.5s,baz=46,slow=4.0,SNR=8.6							

*TUL **17** 22:48:36±1.7, 36°.845N±0°.008×98°.28W±0°.02, h5km±4km, ML2.5, mb_Lg2.8/53(NEIC), Error ellipse: s-maj=2.6km s-min=1.1km az=80.0*

NEIC 17 22:48:36.4±1.9, 36.84N±0°.01×98°.25W±0.02, h7km±1km, Error ellipse: s-maj=2.6km s-min=1.7km az=101.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
OK032	**Salt Plains WL**	**0.04**	**141**	Pg	Pg		22 48 38.0	+0.1
OK032				Sg	Sg		22 48 39.4	+0.4
KAN14	**Manchester OK**	**0.26**	**62**		Pg		22 48 41.7	+0.2
KAN14				Sg	Sg		22 48 45.8	+0.9
KAN10	**Anthony SW Sta**	**0.31**	**23**		Pg		22 48 42.1	-0.3
KAN10				Sg	Sg		22 48 47.2	+0.7
GC02	**Grant County #**	**0.31**	**88**		Pg		22 48 42.8	+0.3
GC02				Sg	Sg		22 48 47.8	+1.2
CROK	**Carrier**	**0.39**	**148**		Pg		22 48 44.3	+0.2
CROK				Sg	Sg		22 48 50.2	+0.9
KAN05	**Bluff City Nor**	**0.40**	**48**	Pg	Pg		22 48 42.5	-1.8
KAN05				Sg	Sb		22 48 54.2	+2.0
KAN16	**Harper SW Stat**	**0.41**	**20**		Pg		22 48 44.3	-0.1
KAN16				Sg	Sg		22 48 50.2	+0.3
KAN08	**Anthony NE Sta**	**0.45**	**29**	Pg	Pg		22 48 44.6	-0.4
KAN08				Sg	Sg		22 48 51.9	+1.0
KAN12	**Harper NE Stat**	**0.50**	**23**	Pg	Pg		22 48 45.6	-0.4
KAN09	**Caldwell North**	**0.58**	**59**	Pg	Pg		22 48 47.0	-0.7
KAN13	**South Haven SW**	**0.64**	**74**		Pg		22 48 47.4	-1.3
KS20	**Mayfield South**	**0.68**	**55**	Pg	Pg		22 48 48.0	-1.4
U32A	**Winter Ranch,**	**0.76**	**233**	Pg	Pg		22 48 50.2	-0.8
BLOK	**Blackwell**	**0.83**	**95**	Pg	Pg		22 48 52.3	0.0
OK029	**Liberty Lake**	**1.22**	**148**	Pg	Pb		22 48 59.5	-0.2
BCOK	**Bluff Creek, N**	**1.29**	**156**	Pn	Pn		22 48 59.3	-1.5
T35A	**Sooner Cattle**	**1.39**	**86**		Pn		22 49 02.1	-0.1
QUOK	**Quay**	**1.41**	**118**	Pn	Pb		22 49 02.7	-0.3
OK031	**S. Brethren Rd**	**1.44**	**127**	Pn	Pn		22 49 01.7	-1.1
OK025	**Westminster Rd**	**1.45**	**149**	Pn	Pn		22 49 02.8	-0.2
R32A	**Long Quarter,**	**1.62**	**347**		Pn		22 49 05.8	+0.4
FNO	**Franklin**	**1.72**	**156**	Pn	Pn		22 49 05.6	-1.1
WMOK	**Wichita Mounta**	**2.14**	**192**		Pn		22 49 13.4	+0.8
WMOK	**Wichita Mounta**	**2.14**	**192**	Pn	Pn		22 49 13.1	+0.6
X34A	**Smith Ranch, M**	**2.26**	**171**	Pn	Pb		22 49 16.2	-1.3
X37A	**Clayton**	**3.24**	**133**	lAmb_Lg			22 50 22.7	
	comp=Z,9.9nm,1.3s							
AMTX	**Amarillo**	**3.41**	**236**		Pb		22 49 37.4	+0.3
HHAR	**Hobbs**	**3.51**	**98**	Pn	Pn		22 49 32.0	+0.7
HHAR				lAmb_Lg			22 50 34.8	
	comp=Z,16nm,0.9s							
Z35A	**Perchaven, San**	**3.59**	**167**	lAmb_Lg			22 50 31.3	
	comp=Z,32nm,0.9s							
W39A	**Magazine**	**3.97**	**113**	lAmb_Lg			22 50 42.9	
	comp=Z,25nm,0.9s							
S39A	**Bolivar**	**4.02**	**76**	lAmb_Lg			22 50 54.2	
	comp=Z,23nm,1.2s							
ABTX	**Abilene, Hawle**	**4.36**	**196**	lAmb_Lg			22 51 03.5	
	comp=Z,22nm,1.2s							
U40A	**Yellville**	**4.37**	**95**	lAmb_Lg			22 51 00.5	
	comp=Z,16nm,1.1s							
MIAR	**Mount Ida**	**4.43**	**120**	lAmb_Lg			22 51 06.2	
	comp=Z,15nm,1.1s							
N35A	**Tabor**	**4.50**	**26**	lAmb_Lg			22 51 08.9	
	comp=Z,34nm,0.9s							
P38A	**Dawn**	**4.64**	**52**	lAmb_Lg			22 51 04.5	
	comp=Z,15nm,0.8s							
MSTX	**Muleshoe**	**4.68**	**234**	lAmb_Lg			22 51 02.7	
	comp=Z,22nm,1.0s							
MGMO	**Mountain Grove**	**4.79**	**84**	lAmb_Lg			22 51 09.0	
	comp=Z,12nm,0.8s							
R40A	**Maddies Statio**	**4.96**	**71**	lAmb_Lg			22 51 20.0	
	comp=Z,18nm,0.8s							
OGNE	**Ogallala**	**5.05**	**325**	lAmb_Lg			22 51 27.4	
	comp=Z,16nm,0.8s							
WLAR	**White Oak Lake**	**5.25**	**125**	lAmb_Lg			22 51 27.1	
	comp=Z,22nm,1.1s							
P40A	**Paris**	**5.57**	**59**	lAmb_Lg			22 51 40.1	
	comp=Z,17nm,0.8s							
LCAR	**Lake Charles**	**5.77**	**96**	lAmb_Lg			22 51 40.9	
	comp=Z,16nm,1.0s							
FVM	**French Village**	**6.33**	**77**	lAmb_Lg			22 51 56.0	
	comp=Z,16nm,1.1s							
ECSD	**EROS Data Cent**	**7.00**	**10**	lAmb_Lg			22 52 20.2	
	comp=Z,13nm,1.0s							
PHWY	**Pilot Hill**	**7.16**	**311**	lAmb_Lg			22 52 16.9	
	comp=Z,6.8nm,1.0s							
SMCO	**Snowmass**	**7.28**	**291**	lAmb_Lg			22 52 21.3	
	comp=Z,8.7nm,1.0s							
PV13	**Radium Mtn., P**	**8.51**	**282**	lAmb_Lg			22 53 29.6	
	comp=Z,9.3nm,1.2s							
PV22	**Blue Mesa, Par**	**8.53**	**285**	lAmb_Lg			22 53 22.5	
	comp=Z,4.8nm,1.2s							
PV03	**Paradox Valley**	**8.54**	**283**	lAmb_Lg			22 53 11.7	
	comp=Z,6.9nm,1.2s							
PV11	**David Mesa, Pa**	**8.56**	**283**	lAmb_Lg			22 53 00.7	
	comp=Z,7.8nm,1.0s							
PV16	**Nyswonger Mesa**	**8.60**	**283**	lAmb_Lg			22 53 09.3	
	comp=Z,7.3nm,1.2s							
K22A	**Casper**	**8.62**	**315**	lAmb_Lg			22 53 05.0	
	comp=Z,9.6nm,0.9s							
PV10	**Paradox Valley**	**8.70**	**283**	lAmb_Lg			22 53 08.8	
	comp=Z,10nm,0.8s							
PV05	**Paradox Valley**	**8.72**	**281**	lAmb_Lg			22 53 29.7	
	comp=Z,11nm,1.3s							

*IDC **17** 22:59:40.0±1.1, 28°.31N×105°.08E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.6/52, mbtmp4.0/7, ML3.7/1, MS2.7/2, Ms1 2.8/2, ms1mx2.6/42, Error ellipse: s-maj=33.6km s-min=19.7km az=63.0*

*NEIC **17** 22:59:44.2±1.3, 28°.4N±0°.1×104°.9E±0°.1, h30km±6km, mb4.3/13, Error ellipse: s-maj=20.5km s-min=13.3km az=187.0*

ISC 17 22:59:42.3±0.6, 28°.35N±0°.07×104°.8E±0°.1, h19km, n28, σ1§39/34, mb4.2/13, 1C, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
GYA	**Guiyang**	**2.48**	**139**	⇑Pn	**Pb**		**23 00 23.9**	**-2.5**
GYA				Pg	**Pg**		**23 00 30.3**	**+0.3**
GYA				Sn	**Sb**		**23 00 56.5**	**-0.1**
GYA				smax	smax			
	comp=N,660nm,0.6s							
GYA				smax	smax			
	comp=E,520nm,1.0s							
GYA				LR	LR			
	comp=Z,230nm,3.8s							
CD2	**Chengdu**	**2.72**	**340**	Pn	**Pn**		**23 00 26.1**	**+1.0**
CD2				Pg	**Pg**		**23 00 32.9**	**-1.7**
CD2				Sn	**Sn**		**23 01 00.1**	**+2.6**
CD2				Sg	**Sg**		**23 01 08.6**	**-1.3**
CD2				smax	smax			
	comp=N,620nm,0.6s							
CD2				smax	smax			
	comp=E,930nm,0.6s							
ENH	**Enshi**	**4.49**	**64**	Pn	**Pn**		**23 00 51.3**	**+2.0**
CMAR	**Chiang Mai Arr**	**11.23**	**210**	LR	LR		23 06 52.7	
	comp=E,39nm,19.6s,baz=40,slow=38							
SONM	**Songino Array**	**19.49**	**3**	P		**Pn**	**23 04 10.3**	**+0.7**
	comp=E,0.2nm,0.3s,baz=182,slow=11,SNR=4.3							
KSRS	**Korea Array**	**21.36**	**59**	P		**P**	**23 04 27.3**	**-1.1**
	comp=E,1.6nm,0.7s,baz=241,slow=9.9,SNR=4.5							
KSRS				LR		LR	23 14 03.5	
	comp=E,22nm,18.9s,baz=220,slow=41							
MK31	**Makanchi Array**	**25.51**	**322**	P		**P**	**23 05 09.3**	**-0.3**
MK31				lAmb		lAmb	23 05 13.0	
	comp=Z,4.2nm,1.3s							
MKAR	**Makanchi Array**	**25.51**	**322**	P		**P**	**23 05 10.9**	**+1.4**
	comp=Z,1.4nm,0.6s,baz=124,slow=9.3,SNR=8.5							
MKAR	**Makanchi Array**	**25.51**	**322**	P		**P**	**23 05 10.3**	**+0.7**
MAKZ	**Makanchi**	**25.69**	**322**	P		**P**	**23 05 11.7**	**+0.5**
MAKZ				lAmb		lAmb	23 05 14.8	
	comp=Z,4.9nm,1.2s							
USRK	**Ussuriysk Ar.**	**26.84**	**47**	P		**P**	**23 05 20.1**	**-1.3**
	comp=Z,1.3nm,0.5s,baz=245,slow=9.0,SNR=5.5							
USRK	**Ussuriysk Ar.**	**26.84**	**47**	P		**P**	**23 05 19.7**	**-1.8**
KURBB	**Kurchatov Arra**	**29.84**	**325**	P		**P**	**23 05 50.5**	**+2.3**
	comp=Z,2.8nm,0.2s,baz=132,slow=10.0,SNR=5.1							
KURK	**Kurchatov**	**29.86**	**326**	P		**P**	**23 05 50.5**	**+2.2**
ABKAR	**Akbulak array**	**40.01**	**314**	P		**P**	**23 07 14.8**	**-1.1**
ABKAR	**Akbulak array**	**40.01**	**314**	P		**P**	**23 07 16.0**	**+0.2**
ABKAR				lAmb	lAmb		23 07 26.0	
	comp=Z,1.3nm,0.8s							
NRIK	**Noril'sk**	**42.24**	**351**	P		**P**	**23 07 33.2**	**-0.8**
NRIK				lAmb	lAmb		23 07 35.6	
	comp=Z,5.2nm,1.1s							
ONI	**Oni**	**50.94**	**303**	P		**P**	**23 08 43.2**	**+0.6**
ONI				lAmb	lAmb		23 08 48.3	
	comp=Z,4.7nm,1.4s							
WRA	**Warramunga Arr**	**55.83**	**146**	P		**P**	**23 09 18.1**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=334,slow=7.8,SNR=13							
WRA	**Warramunga Arr**	**55.83**	**146**	P		**P**	**23 09 18.5**	**-0.2**
WRA				PcP		**PcP**	**23 10 15.3**	**-2.2**
WB2	**Warramunga Arr**	**55.84**	**146**	P		**P**	**23 09 18.6**	**-0.1**
WB2				lAmb	lAmb		23 09 31.3	
	comp=Z,8.8nm,1.2s							
WB2				PcP		**PcP**	**23 10 19.8**	**+2.3**
WR0	**Warramunga Arr**	**55.95**	**146**	P		**P**	**23 09 19.0**	**-0.4**
WR0				lAmb	lAmb		23 09 26.5	
	comp=Z,4.4nm,1.2s							
WR0				PcP		**PcP**	**23 10 19.9**	**+2.1**
ASAR	**Alice Springs**	**58.81**	**149**	P		**P**	**23 09 39.7**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=332,slow=6.9,SNR=7.5							
FIA1	**FINESS Array S**	**60.21**	**327**	P		**P**	**23 09 49.2**	**+0.4**
FINES	**FINESS Array B**	**60.22**	**327**	P		**P**	**23 09 49.2**	**+0.4**
SPB2	**Spitsbergen Ar**	**62.16**	**347**	P		**P**	**23 10 01.5**	**-0.3**
CTAO	**Charters Tower**	**62.61**	**136**	P		**P**	**23 10 05.2**	**-0.4**
CTAO				lAmb	lAmb		23 10 21.1	
	comp=Z,20nm,1.5s							
ILAR	**Eielson Array**	**72.04**	**25**	LR	LR		23 43 44.7	
	comp=Z,278nm,18.2s,baz=124,slow=37							

IDC 17 23:00:54.2±1.4, 30°.82S×72°.83W, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.6/20, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=90.4km s-min=31.7km az=76.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
H03N1	**Juan Fernandez**	**5.79**	**242**	T	T		23 08 05.2	
	baz=60,slow=72,SNR=20							
H03N2	**Juan Fernandez**	**5.80**	**242**	T	T		23 08 17.8	
	baz=60,slow=72,SNR=16							
H03N3	**Juan Fernandez**	**5.80**	**241**	T	T		23 08 04.5	
	baz=60

WRA				Sn		Sn	23 25 28.1	-7.1
	2.3nm,0.3s,baz=286,slow=17,SNR=7.9							
WRA				LR		LR	23 29 36.2	
	comp=Z,83nm,20.4s,baz=225,slow=43							
WRA	**Warramunga Arr**	**13.93**	**135**	Pn		**Pn**	**23 23 00.5**	**-1.2**
WB2	**Warramunga Arr**	**13.94**	**135**	Pn		**Pn**	**23 23 01.0**	**-0.9**
WR0	**Warramunga Arr**	**14.08**	**135**	Pn		**Pn**	**23 23 02.3**	**-1.5**
GIRL	**Giralia**	**15.43**	**216**			**P**	**23 23 25.5**	**-0.5**
GIRL				IAmb		IAmb	23 23 39.0	
	comp=Z,78nm,1.2s							
AS31	**Alice Springs**	**16.40**	**146**	P		**Pn**	**23 23 35.2**	**+0.8**
ASAR	**Alice Springs**	**16.40**	**146**	Pn		**Pn**	**23 23 34.3**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=320,slow=11,SNR=85							
ASAR				Sn		Sn	23 26 27.8	-7.7
	comp=Z,1.2nm,0.3s,baz=315,slow=22,SNR=14							
ASAR	**Alice Springs**	**16.40**	**146**			**Pn**	**23 23 35.3**	**+0.9**
LEM	**Lembang**	**16.48**	**281**	Pn		**P**	**23 23 38.9**	**+1.1**
	comp=Z,1.8nm,0.3s,baz=90,slow=20,SNR=1.5							
COEN	**Coen**	**19.18**	**103**			**Pn**	**23 24 09.6**	**+1.0**
FORT	**Forrest**	**20.80**	**170**	P		Pn	23 24 26.7	-0.8
FORT				IAmb		IAmb	23 24 41.7	
	comp=Z,15nm,1.1s							
NWAO	**Narrogin (SRO)**	**23.41**	**194**	P		**P**	**23 24 54.4**	**+1.8**
	comp=Z,2.8nm,0.7s,baz=18,slow=18,SNR=1.4							
NWAO				LR		LR	23 35 12.6	
	comp=Z,60nm,20.0s,baz=30,slow=39							
NWAO	**Narrogin (SRO)**	**23.41**	**194**	P		**P**	**23 24 53.8**	**+1.2**
NWAO				IAmb		IAmb	23 25 03.7	
	comp=Z,13nm,1.2s							
CTA	**Charters Tower**	**23.65**	**117**	P		**P**	**23 24 53.5**	**-1.4**
	comp=Z,8.5nm,1.2s,baz=263,slow=16,SNR=2.2							
BBOO	**Buckleboo**	**25.10**	**155**	P		**P**	**23 25 10.3**	**+2.1**
BBOO				IAmb		IAmb	23 25 19.9	
	comp=Z,13nm,1.4s							
STKA	**Stephens Creek**	**27.04**	**145**	P		**P**	**23 25 28.7**	**+2.9**
	comp=Z,0.7nm,0.4s,baz=318,slow=15,SNR=2.0							
CMAR	**Chiang Mai Arr**	**37.69**	**319**	LR		LR	23 44 55.8	
	comp=Z,27nm,18.3s,baz=265,slow=40							
JTU	**Tsushima**	**44.82**	**6**	P		**P**	**23 27 56.3**	**-0.9**
MCQ	**Macquarie Isla**	**52.16**	**155**	P		**P**	**23 28 51.6**	**-1.9**
SONM	**Songino Array**	**59.87**	**346**	P		**P**	**23 29 48.2**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=128,slow=4.4,SNR=1.7							
MKAR	**Makanchi Array**	**67.84**	**330**	P		**P**	**23 30 39.6**	**-1.7**
	comp=Z,0.4nm,0.8s,baz=158,slow=6.2,SNR=2.9							
ZALV	**Zalesovo Beam**	**72.00**	**337**	P		**P**	**23 31 07.9**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=152,slow=6.4,SNR=2.0							

*IDC **17**23:23:11.9±0.9,32.1S×72.1W,h0km,mb3.9/5, mb1 4.0/10,mb1mx3.9/28,mbtmp3.9/10,ML3.7/5,MS3.3/2, Ms1 3.3/2,ms1mx3.0/21,Error ellipse: s-maj=31.2km s-min=18.6km az=91.0*

*NEIC **17**23:23:14.6±1.4,32.39S±0.02×72.21W±0.0,h14km±4km, mb4.5/17,Mwr4.2/40,ML3.9(GUC),Error ellipse: s-maj=8.6km s-min=1.6km az=68.0*

*NEIC **17**23:23:14.7,32.41S×72.22W,h15km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.97; $M_{\theta\theta}$0.38; $M_{\phi\phi}$-2.35; $M_{r\theta}$-0.05; $M_{r\phi}$0.47; $M_{\theta\phi}$-0.73; Fault plane solution: $M_0$2.35000×10^{15} NP1:ϕ_s175.90000°, δ54.22000°,λ96.85000°. NP2:ϕ_s344.30000°,δ36.35000°, λ80.61000°. Principal axes: T 2.0954, Plg79.0000°, Azm113.0000°; N 0.4429, Plg6.0000°, Azm352.0000°; P -2.5383, Plg9.0000°, Azm261.0000°;*

*GUC **17**23:23:16.0±0.7,32.48S×72.15W,h34km±3km,ML3.9*

ISC 17 23:23:13.2±1.6,32.41S±0.03×72.26W±0.05,h10km±10km, n83,σ1°39/87,mb4.3/7,3C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.80**	**140**	⇑*iP*		**Pg**	**23 23 29.3**	**+0.6**
VA01				*eS*		**Sb**	**23 23 40.4**	**+0.3**
VA01	**Torpederas**	**0.80**	**140**			**Pg**	**23 23 29.2**	**+0.5**
VA01						**Sb**	**23 23 40.5**	**+0.3**
VA06	**Catapilco**	**0.83**	**101**	⇑*iP*		**Pg**	**23 23 29.2**	**0.0**
VA06				*i* S		**Sb**	**23 23 40.1**	**-0.8**
VA06				IAML			23 23 49.8	
	comp=E,6μm,0.5s							
ROCH	**El Roble**	**1.20**	**118**	*eP*		**Pb**	**23 23 35.5**	**-0.6**
ROCH				*eS*		**Sb**	**23 23 50.2**	**-1.5**
ROCH				IAML			23 23 55.4	
	comp=E,4μm,0.5s							
VA05	**Santo Domingo**	**1.36**	**157**	*eP*		**Pn**	**23 23 37.9**	**-0.3**
VA05				*i* S		**Sn**	**23 23 54.6**	**-1.7**
VA05				IAML			23 24 04.2	
	comp=E,3μm,0.4s							
VA05	**Santo Domingo**	**1.36**	**157**	Pn		**Pn**	**23 23 38.5**	**+0.3**
VA03	**San Esteban**	**1.49**	**104**	*eP*		**Pn**	**23 23 39.6**	**-0.5**
VA03				*eS*		**Sn**	**23 23 58.0**	**-1.6**
VA03				IAML			23 24 04.8	
	comp=N,3μm,0.5s							
VA03	**San Esteban**	**1.49**	**104**	Pn		**Pn**	**23 23 39.8**	**-0.3**
MT05	**Renca**	**1.62**	**128**	⇑*eP*		**Pn**	**23 23 41.9**	**+0.1**
MT05				*eS*		**Sn**	**23 24 01.2**	**-1.5**
MT05				IAML			23 24 09.2	
	comp=E,4μm,0.4s							
MT05	**Renca**	**1.62**	**128**	Pn		**Pb**	**23 23 42.7**	**-0.5**
MT01	**Popeta**	**1.68**	**150**	*eP*		**Pn**	**23 23 41.9**	**-0.8**
MT01				*eS*		**Sn**	**23 24 03.1**	**-1.2**
MT01				IAML			23 24 10.4	
	comp=E,2μm,0.4s							
MT01	**Popeta**	**1.68**	**150**	Pn		**Pn**	**23 23 43.4**	**+0.7**
MT09	**Talagante**	**1.73**	**142**	*eP*		**Pn**	**23 23 43.7**	**+0.2**
MT09				*eS*		**Sn**	**23 24 05.2**	**-0.6**
MT09				IAML			23 24 17.7	
	comp=N,2μm,0.6s							
MT09	**Talagante**	**1.73**	**142**	Pn		**Pn**	**23 23 44.7**	**+1.2**
CO06	**Fray Jorge**	**1.81**	**17**			**Pn**	**23 23 45.4**	**+1.0**
CO03	**El Pedregal**	**2.06**	**41**	*eP*		**Pb**	**23 23 51.0**	**+0.2**
CO03				*eS*		**Sb**	**23 24 16.3**	**-0.2**
CO03				IAML			23 24 30.3	
	comp=N,752nm,0.5s							
CO03	**El Pedregal**	**2.06**	**41**	Pn		**Pn**	**23 23 47.0**	**-1.0**
BO03	**Pichilemu**	**2.10**	**173**	*eP*		**Pn**	**23 23 48.2**	**-0.2**
BO03				*i* S		**Sn**	**23 24 11.9**	**-2.7**
BO01	**Tunca**	**2.21**	**154**	*eP*		**Pn**	**23 23 50.6**	**+0.7**
BO01				*i* S		**Sn**	**23 24 16.1**	**-1.2**
BO01	**Tunca**	**2.21**	**154**	Pn		**Pn**	**23 23 50.9**	**+0.9**
LMEL	**Las Melosas**	**2.25**	**130**	*eP*		**Pn**	**23 23 51.8**	**+1.2**
LMEL				*eS*		**Sn**	**23 24 18.1**	**-0.4**
LMEL				IAML			23 24 28.1	
	comp=N,757nm,0.3s							
GO04	**Tololo Observa**	**2.56**	**30**	*eP*		**Pn**	**23 23 50.2**	**-4.7**
GO04				*eS*		**Sb**	**23 24 29.0**	**-1.9**
GO04				IAML			23 24 43.2	
	comp=E,2μm,0.5s							
GO04	**Tololo Observa**	**2.56**	**30**	Pn		**Pn**	**23 23 50.6**	**-4.3**
GO05	**Huala**	**2.61**	**174**			**Pn**	**23 23 55.9**	**+0.5**
CO05	**La Serena**	**2.63**	**20**	*eP*		**Pn**	**23 23 55.3**	**-0.4**
CO05				*eS*		**Sb**	**23 24 31.3**	**-1.5**
CO05				IAML			23 24 56.0	
	comp=N,617nm,0.7s							
CO05	**La Serena**	**2.63**	**20**			**Pn**	**23 23 55.4**	**-0.4**
BO02	**Sierra Bellavi**	**2.68**	**153**	Pn		**Pn**	**23 23 57.7**	**+1.2**
ZON	**Zonda**	**3.17**	**75**	Pn		**Pn**	**23 24 04.1**	**+1.0**
ML02	**Panimavida**	**3.42**	**168**	Pn		**Pn**	**23 24 06.8**	**+0.3**
LCO	**Las Campanas**	**3.64**	**22**	Pn		**Pn**	**23 24 10.4**	**+0.5**
AC04	**Llanos de Chal**	**4.31**	**14**	Pn		**Pn**	**23 24 19.8**	**+1.0**
GO03	**Copiap**	**5.11**	**21**	Pn		**Pn**	**23 24 29.8**	**-0.1**
AC06	**Mina Casimiro**	**5.30**	**19**	Pn		**Pn**	**23 24 33.3**	**+0.9**
H03N1	**Juan Fernandez**	**5.69**	**258**	T		T	23 29 47.5	
	baz=83,slow=72,SNR=101							
H03N3	**Juan Fernandez**	**5.70**	**258**	T		T	23 29 42.7	
	baz=83,slow=72,SNR=140							
H03N2	**Juan Fernandez**	**5.70**	**258**	T		T	23 29 48.2	
	baz=83,slow=72,SNR=71							
H03S3	**Juan Fernandez**	**5.75**	**254**	T		T	23 31 12.2	
	baz=83,slow=75,SNR=11							
H03S1	**Juan Fernandez**	**5.75**	**254**	T		T	23 31 14.5	
	baz=83,slow=75,SNR=8.7							
H03S2	**Juan Fernandez**	**5.77**	**254**	T		T	23 31 11.7	
	baz=83,slow=75,SNR=16							
LC01	**Cunco**	**6.48**	**177**	Pn		**Pn**	**23 24 49.2**	**+0.6**
PB14	**IPOC Station P**	**7.92**	**12**	Pn		**Pn**	**23 25 08.9**	**+0.1**
PLCA	**Paso Flores**	**8.42**	**171**	Pn		**Pn**	**23 25 17.9**	**+2.5**
	comp=N,0.2nm,0.3s,baz=360,slow=10.0,SNR=3.8							
PLCA				Lg		Lg	23 27 40.7	
	comp=N,0.1nm,0.3s,baz=90,slow=20,SNR=2.0							
PLCA				LR		LR	23 28 24.4	
	comp=N,137nm,20.4s,baz=350,slow=37							
PLCA	**Paso Flores**	**8.42**	**171**			**Pn**	**23 25 16.9**	**+1.5**
LL05	**Los Muermos**	**9.03**	**186**	Pn		**Pn**	**23 25 24.1**	**+0.5**
PB15	**IPOC Station P**	**9.49**	**16**	Pn		**Pn**	**23 25 30.9**	**+0.7**
LL01	**San Ignacio de**	**9.95**	**181**	Pn		**Pn**	**23 25 35.9**	**-0.3**
TRQA	**Tornquist**	**10.12**	**127**	Pn		**Pn**	**23 25 39.9**	**+1.3**
LVC	**Limon Verde**	**10.20**	**18**	Pn		**Pn**	**23 25 37.6**	**-2.4**
	comp=N,0.4nm,0.3s,baz=102,slow=17,SNR=3.0							
LVC				Sn		**Sn**	**23 27 39.0**	**+4.3**
	comp=N,0.3nm,0.3s,baz=217,slow=15,SNR=2.4							
LVC	**Limon Verde**	**10.20**	**18**	Pn		**Pn**	**23 25 40.4**	**+0.4**
PB04	**IPOC Station P**	**10.21**	**11**	Pn		**Pn**	**23 25 41.2**	**+1.2**
GO07	**Milladeo Hill,**	**10.75**	**186**	Pn		**Pn**	**23 25 48.4**	**+1.4**
CPUP	**Villa Florida**	**14.36**	**69**	Pn		**Pn**	**23 26 35.7**	**-0.8**
	comp=N,0.1nm,0.3s,baz=225,slow=20,SNR=1.1							
CPUP				Sn		**Sn**	**23 29 19.9**	**+4.1**
	comp=N,0.1nm,0.3s,baz=153,slow=18,SNR=1.3							
CPUP				LR		LR	23 32 29.7	
	comp=N,189nm,19.7s,baz=246,slow=39							
LPAZ	**La Paz**	**16.48**	**14**	Pn		**Pn**	**23 27 04.1**	**-1.1**
	comp=N,0.1nm,0.3s,baz=189,slow=9.2,SNR=13							
LPAZ	**La Paz**	**16.48**	**14**	Pn		**Pn**	**23 27 04.8**	**-0.4**
AQDB	**Aquidauana**	**18.98**	**55**	P		**P**	**23 27 34.4**	**-0.4**
AQDB				IAmb		IAmb	23 27 45.2	
	comp=Z,27nm,1.5s							
SIV	**San Ignacio**	**19.25**	**34**	P		**P**	**23 27 36.3**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=220,slow=9.6,SNR=23							
BDFB	**Brasilia**	**27.63**	**59**	P		**P**	**23 28 59.9**	**-1.3**
	comp=Z,3.5nm,0.8s,baz=227,slow=10,SNR=4.0							
BDFB	**Brasilia**	**27.63**	**59**	P		**P**	**23 29 00.2**	**-1.0**
BDFB				IAmb		IAmb	23 29 01.0	
	comp=Z,11nm,1.2s							
VA02	**Isla de Pascua**	**32.57**	**269**	P		**P**	**23 29 45.2**	**+0.5**
ROSC	**El Rosal**	**37.09**	**357**	P		P	23 30 18.1	-6.1
MTDJ	**Mount Denham**	**50.60**	**354**	P		**P**	**23 32 11.7**	**-0.7**
VNA3	**Neumayer Olymp**	**50.90**	**158**	P		**P**	**23 32 15.4**	**+1.3**
VNA2	**Neumayer--Watz**	**51.55**	**158**	P		**P**	**23 32 19.5**	**+0.6**
	baz=285,slow=9.2							
SNAA	**Sanae**	**53.13**	**158**	P		**P**	**23 32 31.5**	**+0.9**
SNAA	**Sanae**	**53.13**	**158**	P		**P**	**23 32 31.6**	**+0.9**
	comp=Z,1.9nm,0.8s,baz=262,slow=6.9,SNR=7.5							
SNAA	**Sanae**	**53.13**	**158**	P		**P**	**23 32 31.1**	**+0.4**
SNAA				IAmb		IAmb	23 32 32.4	
	comp=Z,3.9nm,1.0s							
QSPA	**South Pole Qui**	**57.82**	**180**	P		**P**	**23 33 05.5**	**+0.9**
QSPA				IAmb		IAmb	23 33 20.6	
	comp=Z,7.7nm,1.2s							
BBSR	**BB Station**	**64.83**	**7**	P		**P**	**23 33 52.3**	**+0.2**
BBSR				IAmb		IAmb	23 33 59.9	
	comp=Z,21nm,1.1s							
TXAR	**Lajitas Array**	**68.26**	**331**	P		**P**	**23 34 14.7**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=149,slow=9.7,SNR=5.1							
KS20	**Mayfield South**	**73.19**	**339**	P		**P**	**23 34 41.9**	**-2.2**
NVAR	**Mina Array Bea**	**82.47**	**325**	P		**P**	**23 35 37.2**	**+1.2**
	comp=Z,0.1nm,0.4s,baz=145,slow=3.3,SNR=2.3							
NVAR	**Mina Array Bea**	**82.47**	**325**	P		**P**	**23 35 36.6**	**+0.6**
TORD	**Torodi Ar. Bea**	**83.85**	**70**	P		**P**	**23 35 43.0**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=262,slow=4.5,SNR=12							
TORD	**Torodi Ar. Bea**	**83.85**	**70**	P		**P**	**23 35 43.0**	**-0.4**
TORD				IAmb		IAmb	23 35 43.8	
	comp=Z,2.3nm,0.8s							
WRA	**Warramunga Arr**	**122.05**	**210**	PKP		**PKPdf**	**23 42 08.0**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=175,slow=3.7,SNR=1.9							
H11S2	**WAKE ISLAND Hyl**	**25.59**	**270**	T		T	01 59 01.2	
	baz=115,slow=74,SNR=12							
H11S1	**WAKE ISLAND Hyl**	**25.60**	**270**	T		T	01 59 03.3	
	baz=115,slow=74,SNR=26							
H11S3	**WAKE ISLAND Hyl**	**25.61**	**270**	T		T	01 59 03.4	
	baz=115,slow=74,SNR=13							
H11N3	**WAKE ISLAND Hyl**	**25.96**	**272**	T		T	01 59 27.9	
	baz=117							
H11N1	**WAKE ISLAND Hyl**	**25.98**	**272**	T		T	01 59 29.8	
	baz=117							
H11N2	**WAKE ISLAND Hyl**	**25.98**	**272**	T		T	01 59 28.8	
	baz=117							
ZALV	**Zalesovo Beam**	**152.97**	**30**	PKPbc		**PKPbc**	**23 43 09.8**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=275,slow=1.7,SNR=7.5							
MKAR	**Makanchi Array**	**155.83**	**46**	PKPab		**PKPab**	**23 43 32.4**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=322,slow=4.2,SNR=3.9							

*IDC **17**23:31:40.5±1.8,31.22S×71.77W,h0km,mb3.8/3, mb1 3.8/5,mb1mx3.6/36,mbtmp3.7/5,ML3.5/2,Error ellipse: s-maj=87.7km s-min=27.2km az=101.0*

*GUC **17**23:31:44.0±0.7,31.37S×71.98W,h30km±4km,ML3.8*

ISC 17 23:31:43.7±2.4,31.33S±0.04×72.0W±0.1,h19km±8km,n25, σ1°15/29,mb3.9/3,1C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.72**	**25**	*eP*		**Pn**	**23 31 58.9**	**0.0**
CO06				*i* S		**Sn**	**23 32 10.0**	**+0.6**
CO03	**El Pedregal**	**1.21**	**66**	*eP*		**Pn**	**23 32 05.6**	**-0.1**
CO03				*i* S		**Sb**	**23 32 20.5**	**-0.9**
CO03				IAML			23 32 24.0	
	comp=E,3μm,0.1s							
VA06	**Catapilco**	**1.36**	**155**	*eP*		**Pn**	**23 32 07.0**	**-0.7**
VA06				*i* S		**Sn**	**23 32 23.5**	**-1.7**
VA06				IAML			23 32 27.1	
	comp=N,3μm,0.3s							
GO04	**Tololo Observa**	**1.54**	**42**	*eP*		**Pb**	**23 32 11.2**	**-0.5**
GO04				*eS*		**Sb**	**23 32 31.5**	**+0.5**
CO05	**La Serena**	**1.55**	**25**	*eP*		**Pb**	**23 32 11.2**	**-0.6**
CO05				*eS*		**Sb**	**23 32 31.3**	**+0.3**
CO05				IAML			23 32 37.9	
	comp=E,1μm,0.4s							
ROCH	**El Roble**	**1.83**	**154**	*eP*		**Pn**	**23 32 14.6**	**+0.2**
ROCH				*eS*		**Sn**	**23 32 38.1**	**+0.9**
ROCH				IAML			23 32 45.0	
	comp=E,772nm,0.7s							
VA03	**San Esteban**	**1.88**	**140**	⇑*iP*		**Pn**	**23 32 15.4**	**+0.5**
VA03				*i* S		**Sn**	**23 32 39.0**	**+0.9**
VA03				IAML			23 32 41.3	
	comp=E,2μm,0.4s							
MT05	**Renca**	**2.31**	**153**	*eP*		**Pn**	**23 32 20.9**	**+0.1**
MT05				*eS*		**Sn**	**23 32 49.9**	**+1.2**
MT05				IAML			23 32 55.0	
	comp=E,1μm,0.6s							
VA05	**Santo Domingo**	**2.34**	**172**	IAML			23 33 08.6	
	comp=E,631nm,0.4s							
LCO	**Las Campanas**	**2.56**	**26**	*eP*		**Pn**	**23 32 23.4**	**-1.1**
LCO				*eS*		**Sn**	**23 32 57.5**	**+2.2**
MT09	**Talagante**	**2.58**	**161**	*eP*		**Pn**	**23 32 25.5**	**+0.9**
MT09				*eS*		**Sn**	**23 32 57.2**	**+1.7**
MT09				IAML			23 33 11.2	
	comp=E,445nm,0.3s							
MT09				IAML			23 33 11.2	
	comp=E,859nm,0.3s							
MT01	**Popeta**	**2.60**	**166**	*eP*		**Pn**	**23 32 25.2**	**+0.5**
MT01				IAML			23 33 08.1	
	comp=E,289nm,0.5s							
LMEL	**Las Melosas**	**2.92**	**150**	*eP*		**Pn**	**23 32 28.7**	**-0.7**
LMEL				*eS*		**Sn**	**23 33 05.2**	**+1.1**
LMEL				IAML			23 33 16.2	
	comp=N,326nm,0.3s							
H03N1	**Juan Fernandez**	**6.23**	**248**	T		T	23 39 54.7	
	baz=77,slow=72,SNR=52							
H03N3	**Juan Fernandez**	**6.24**	**248**	T		T	23 40 06.0	
	baz=77,slow=72,SNR=66							
H03N2	**Juan Fernandez**	**6.24**	**248**	T		T	23 39 59.6	
	baz=77,slow=72,SNR=41							
H03S3	**Juan Fernandez**	**6.35**	**245**	T		T	23 40 15.5	
	baz=69							
H03S1	**Juan Fernandez**	**6.36**	**245**	T		T	23 40 17.3	
	baz=69							
H03S2	**Juan Fernandez**	**6.37**	**245**	T		T	23 40 09.1	
	baz=69							
LVC	**Limon Verde**	**9.11**	**18**	Pn		**Pn**	**23 33 52.6**	**-1.9**
	comp=N,0.2nm,0.3s,baz=188,slow=17,SNR=1.1							
PLCA	**Paso Flores**	**9.45**	**173**	Pn		**Pn**	**23 33 58.8**	**-0.1**
	comp=N,0.2nm,0.3s,baz=76,slow=9.7,SNR=2.3							
SNAA	**Sanae**	**54.04**	**159**	P		**P**	**23 41 05.8**	**-0.7**
	comp=N,1.6nm,1.2s,baz=267,slow=23,SNR=2.1							
VNDA	**Vanda**	**66.72**	**191**	P		**P**	**23 42 35.0**	**+2.0**
	comp=N,0.5nm,0.7s,baz=183,slow=16,SNR=4.2							
TORD	**Torodi Ar. Bea**	**83.26**	**70**	P		**P**	**23 44 09.2**	**-0.2**
	comp=N,0.9nm,0.7s,baz=254,slow=4.1,SNR=4.5							
ZALV	**Zalesovo Beam**	**151.92**	**30**	PKPbc		**PKPbc**	**23 51 34.7**	**-2.2**
	comp=N,1.4nm,0.5s,baz=304,slow=3.3,SNR=6.1							

*IDC **17**23:33:48.9±1.2,31.26S×71.29W,h0km,mb3.5/3, mb1 3.7/8,mb1mx3.6/40,mbtmp3.6/8,ML3.6/5,MS4.1/2, Ms1 4.1/2,ms1mx3.3/20,Error ellipse: s-maj=42.4km s-min=24.4km az=91.0*

*NEIC **17**23:33:55.9±1.9,31.15S±0.02×71.58W±0.0,h48km±15km, Error ellipse: s-maj=8.3km s-min=1.7km az=101.0*

*GUC **17**23:33:56.3±0.8,31.13S×71.43W,h46km±4km,ML4.1*

*SJA **17**23:33:59.0,31.15S×71.24W,h10km,ML4.5*

ISC 17 23:33:55.6±1.0,31.15S±0.03×71.61W±0.05,h45km±9km, n69,σ1°70/68,mb3.6/3,2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.48**	**358**	*eP*		**Pn**	**23 34 06.6**	**+0.3**
CO06				*i* S		**Sn**	**23 34 15.2**	**+1.3**
CO06	**Fray Jorge**	**0.48**	**358**			**Pn**	**23 34 06.3**	**+0.1**
CO06				Sn		**Sn**	**23 34 14.9**	**+1.1**
CO03	**El Pedregal**	**0.85**	**69**	⇓*iP*		**Pn**	**23 34 10.0**	**-1.3**
CO03				*i* S		**Sn**	**23 34 20.7**	**-2.0**
CO03				IAML			23 34 22.3	
	comp=N,11μm,0.2s							
CO03	**El Pedregal**	**0.85**	**69**			**Pn**	**23 34 10.0**	**-1.3**
CO03				Sn		**Sn**	**23 34 20.3**	**-2.4**
CO03	**El Pedregal**	**0.85**	**69**	*i* P		**Pn**	**23 34 10.0**	**-1.3**
GO04	**Tololo Observa**	**1.20**	**36**	⇓*iP*		**Pn**	**23 34 15.9**	**-0.2**
GO04				*i* S		**Sn**	**23 34 30.6**	**-0.9**
GO04				IAML			23 34 36.8	
	comp=N,9μm,0.7s							
GO04	**Tololo Observa**	**1.20**	**36**			**Pn**	**23 34 15.6**	**-0.5**
CO05	**La Serena**	**1.27**	**15**	*eP*		**Pn**	**23 34 17.2**	**+0.3**
CO05	**La Serena**	**1.27**	**15**			**Pn**	**23 34 17.1**	**+0.3**
VA06	**Catapilco**	**1.43**	**169**	*eP*		**Pn**	**23 34 18.6**	**-0.4**
VA06				IAML			23 34 41.6	
	comp=E,4μm,0.6s							
VA03	**San Esteban**	**1.84**	**151**	*eP*		**Pn**	**23 34 24.4**	**-0.5**
VA03				IAML			23 34 51.5	
	comp=E,4μm,0.1s							
VA03	**San Esteban**	**1.84**	**151**			**Pn**	**23 34 24.8**	**0.0**
VA01	**Torpederas**	**1.87**	**181**			**Pn**	**23 34 24.4**	**-0.6**
ROCH	**El Roble**	**1.89**	**164**	*eP*		**Pn**	**23 34 25.4**	**-0.1**
ROCH				*i* S		**Sn**	**23 34 48.5**	**+0.3**
ROCH				IAML			23 34 51.5	
	comp=N,2μm,0.4s							
RTLS	**Leoncito**	**2.08**	**109**	*i* P		**Pn**	**23 34 29.0**	**+0.8**
AROD	**Rodeo**	**2.09**	**62**	*i* P		**Pn**	**23 34 30.0**	**+1.6**
AUSP	**Uspallata**	**2.18**	**120**	*i* P		**Pn**	**23 34 31.0**	**+1.4**
ACCO	**Cerro Coronel**	**2.26**	**76**	*i* P		**Pn**	**23 34 33.0**	**+2.3**
LCO	**Las Campanas**	**2.27**	**21**	*eP*		**Pn**	**23 34 31.8**	**+0.9**
LCO				*eS*		**Sn**	**23 34 59.6**	**+1.8**
LCO	**Las Campanas**	**2.27**	**21**			**Pn**	**23 34 31.6**	**+0.7**
MT05	**Renca**	**2.35**	**162**	*eP*		**Pn**	**23 34 33.7**	**+1.9**
MT05				IAML			23 35 05.5	
	comp=E,2μm,0.4s							
MT05	**Renca**	**2.35**	**162**			**Pn**	**23 34 32.9**	**+1.1**
ACDV	**Cuesta del Vie**	**2.36**	**66**	*i* P		**Pn**	**23 34 35.0**	**+3.0**
VA05	**Santo Domingo**	**2.50**	**180**	IAML			23 35 19.3	
	comp=E,1μm,0.3s							
VA05	**Santo Domingo**	**2.50**	**180**			**Pn**	**23 34 33.6**	**-0.1**
ZON	**Zonda**	**2.54**	**100**			**Pn**	**23 34 35.5**	**+1.2**
ZON	**Zonda**	**2.54**	**100**	*i* P		**Pn**	**23 34 36.0**	**+1.7**
MT09	**Talagante**	**2.67**	**169**	*eP*		**Pn**	**23 34 36.7**	**+0.5**
MT09				*i* S		**Sn**	**23 35 10.5**	**+3.1**
MT09				IAML			23 35 21.9	
	comp=N,839nm,0.5s							
MT09	**Talagante**	**2.67**	**169**			**Pn**	**23 34 37.5**	**+1.3**
RTCV	**Cerro Valdivia**	**2.72**	**106**	*i* P		**Pn**	**23 34 39.0**	**+2.2**
MT01	**Popeta**	**2.72**	**174**			**Pn**	**23 34 37.6**	**+0.8**
ARCO	**CERRO ARCO**	**2.83**	**127**	*i* P		**Pn**	**23 34 41.0**	**+2.6**
LMEL	**Las Melosas**	**2.94**	**157**	*eP*		**Pn**	**23 34 41.0**	**+1.1**
LMEL				IAML		

LCO	Las Campanas	2.25	47	Pn		Pn		23 35 37.4	-0.6	
LCO				Sn		Sn		23 36 03.1	-2.8	
VA06	Catapilco	2.26	152	eP		Pn		23 35 38.5	+0.6	
VA06				eS		Sn		23 36 05.7	0.0	
VA06				IAML				23 36 07.2		
	comp=N,8µm,0.5s									
VA01	Torpederas	2.56	162	eP		Pn		23 35 42.5	+0.4	
VA01				eS		Sn		23 36 12.1	-1.1	
VA01	Torpederas	2.56	162	Pn		Pn		23 35 41.4	-0.6	
VA01				Sn		Sn		23 36 11.7	-1.5	
ROCH	El Roble	2.73	151	eS		Sn		23 36 17.6	-0.2	
ROCH				IAML				23 36 24.0		
	comp=E,3µm,0.5s									
VA03	San Esteban	2.78	142	eP		Pn		23 35 46.2	+1.1	
VA03				eS		Sn		23 36 18.7	0.0	
VA03				IAML				23 36 21.7		
	comp=N,5µm,0.3s									
VA03	San Esteban	2.78	142			Pn		23 35 47.0	+1.9	
VA03				Sn		Sn		23 36 20.2	+1.5	
VA05	Santo Domingo	3.18	165	eP		Pn		23 35 51.1	+0.6	
VA05				eS		Sn		23 36 27.1	-1.3	
VA05				IAML				23 36 31.6		
	comp=N,3µm,0.3s									
VA05	Santo Domingo	3.18	165	Pn		Pn		23 35 49.5	-0.9	
VA05				Sn		Sn		23 36 26.2	-2.1	
MT05	Renca	3.21	151	eP		Pn		23 35 51.8	+0.8	
MT05				eS		Sn		23 36 28.9	-0.4	
MT05	Renca	3.21	151	Pn		Pn		23 35 48.9	-2.1	
MT05				Sn		Sn		23 36 29.9	+0.6	
MT09	Talagante	3.46	158	eP		Pn		23 35 55.6	+1.1	
MT09				eS		Sn		23 36 35.4	-0.2	
MT09				IAML				23 36 42.1		
	comp=N,2µm,0.3s									
MT09	Talagante	3.46	158	Pn		Pn		23 35 56.2	+1.7	
MT09				Sn		Sn		23 36 35.1	-0.5	
MT01	Popeta	3.46	162	IAML				23 36 39.9		
	comp=E,925nm,0.6s									
MT01	Popeta	3.46	162	Pn		Pn		23 35 56.0	+1.6	
MT01				Sn		Sn		23 36 34.0	-1.5	
ZON	Zonda	3.48	107	Pn		Pn		23 35 58.1	+3.4	
ZON				Sn		Sn		23 36 39.1	+3.2	
LMEL	Las Melosas	3.83	149	eP		Pn		23 36 00.5	+0.9	
LMEL				eS		Sn		23 36 44.4	-0.4	
LMEL				IAML				23 36 50.6		
	comp=N,1µm,0.3s									
BO03	Pichilemu	3.94	173	eP		Pn		23 36 00.7	-0.3	
BO03				eS		Sn		23 36 43.5	-3.7	
BO03				IAML				23 36 47.2		
	comp=E,1µm,0.4s									
BO01	Tunca	4.01	162	Pn		Pn		23 36 03.3	+1.4	
GO05	Huala	4.46	173	Pn		Pn		23 36 06.9	-1.1	
GO05						Pn		23 36 07.3	-0.7	
GO05				Sn		Sn		23 36 56.4	-3.5	
BO02	Sierra Bellavi	4.47	161	Pn		Pn		23 36 08.7	+0.4	
BO02						Pn		23 36 09.7	+1.4	
AC02	Maricunga	4.80	40	Pn		Pn		23 36 10.6	-2.6	
AC02						Pn		23 36 13.7	+0.5	
ML02	Panimavida	5.26	170	Pn		Pn		23 36 18.1	-1.1	
ML02						Pn		23 36 18.3	-0.8	
VA04	Juan Fernndez	6.13	238	Pn		Pn		23 36 29.1	-1.9	
PB14	IPOC Station P	6.23	18	Pn		Pn		23 36 32.9	+0.1	
PB10	IPOC Station P	7.26	15	Pn		Pn		23 36 48.4	+1.8	
PB15	IPOC Station P	7.84	21	Pn		Pn		23 36 56.5	+1.7	
PB06	IPOC Station P	8.28	20	Pn		Pn		23 37 01.6	+0.8	
LC01	Cunco	8.32	176	Pn		Pn		23 37 00.5	-0.6	
PB04	IPOC Station P	8.49	15	Pn		Pn		23 37 04.4	+0.8	
AF01	San Pedro de A	8.55	28	Pn		Pn		23 37 05.8	+1.3	
LVC	Limon Verde	8.58	23	Pn		Pn		23 37 01.5	-3.6	
	comp=E,1.5nm,0.3s,baz=201,slow=10,SNR=1.3									
LVC	Limon Verde	8.58	23	Pn		Pn		23 37 06.3	+1.2	
LR03	Panguipulli	9.04	179			Pn		23 37 09.0	-2.0	
PB07	IPOC Station P	9.14	16	Pn		Pn		23 37 12.3	-0.2	
PB09	IPOC Station P	9.24	20	Pn		Pn		23 37 15.8	+1.9	
PB01	IPOC Station P	9.89	17	Pn		Pn		23 37 25.9	+3.2	
PLCA	Paso Flores	10.27	171	Pn		Pn		23 37 29.4	+1.6	
	comp=E,1.7nm,0.3s,baz=340,slow=12,SNR=28									
PLCA				LR		LR		23 41 16.5		
	comp=E,185nm,21.1s,baz=358,slow=36									
PLCA	Paso Flores	10.27	171	Pn		Pn		23 37 26.9	-1.0	
LL04	Puerto Octay	10.31	179	Pn		Pn		23 37 27.4	-1.0	
LL05	Los Muermos	10.83	184	Pn		Pn		23 37 34.1	-1.4	
PB11	IPOC Station P	11.09	14	Pn		Pn		23 37 41.5	+2.2	
TRQA	Tornquist	11.50	133	Pn		Pn		23 37 41.8	-2.9	
ITQB	Itaqui	13.83	90			Pn		23 38 14.8	-1.8	
CPUP	Villa Florida	14.06	76	LR		LR		23 44 17.8		
	comp=E,580nm,18.5s,baz=255,slow=40									
CPUP	Villa Florida	14.06	76	Pn		Pn		23 38 18.7	-1.0	
LPAZ	La Paz	14.79	17	Pn		Pn		23 38 30.3	0.0	
	comp=E,0.9nm,0.3s,baz=191,slow=6.9,SNR=33									
LPAZ	La Paz	14.79	17	Pn		Pn		23 38 30.3	0.0	
LPAZ	La Paz	14.79	17	eP		Pn		23 38 30.8	+0.5	
COYC	Coyhaique	14.98	179	Pn		Pn		23 38 30.6	-1.5	
PLTB	Pedras Altas	16.28	99			Pn		23 38 48.8	-0.4	
SIV	San Ignacio	17.93	39	P		Pn		23 39 08.5	-1.5	
	comp=E,2.0nm,0.3s,baz=235,slow=8.6,SNR=40									
AQDB	Aquidauana	18.23	60	P		Pn		23 39 13.2	-0.4	
NNA	Nana	18.92	347	P		Pn		23 39 22.1	0.0	
	comp=E,0.7nm,0.3s,baz=197,slow=13,SNR=4.1									
TRCB	Terra Rica	19.41	71	P		P		23 39 26.2	-0.6	
TRCB				IAmb		IAmb		23 39 28.3		
	comp=Z,42nm,1.0s									
SAML	Samuel	23.23	24	P		P		23 40 07.3	-0.5	
SPB	Sao Paulo	23.41	79	P		P		23 40 07.4	-2.2	
SPB				IAmb		IAmb		23 40 12.1		
	comp=Z,26nm,1.0s									
EFI	East Falkland	23.66	157	P		P		23 40 10.7	-1.1	
EFI				IAmb		IAmb		23 40 18.0		
	comp=Z,44nm,0.7s									
MG01	Puerto William	24.60	173	P		P		23 40 18.4	-2.1	
MG01				IAmb		IAmb		23 40 19.3		
	comp=Z,27nm,0.6s									
BDFB	Brasilia	26.95	62	P		P		23 40 42.6	+0.3	
	comp=Z,12nm,0.5s,baz=236,slow=11,SNR=19									
BDFB				LR		LR		23 52 09.8		
	comp=Z,261nm,19.1s,baz=260,slow=38									
BDFB	Brasilia	26.95	62	P		P		23 40 41.9	-0.5	
BDFB				IAmb		IAmb		23 40 44.7		
	comp=Z,14nm,0.7s									
OTAV	Otavalo	31.15	349	P		P		23 41 21.5	+1.5	
PTGA	Pitinga	32.00	24	P		P		23 41 26.2	-0.8	
FLOC	Florencia	32.11	354	P		P		23 41 28.6	+0.6	
SOTA	Rioblanco	32.76	353	eP		P		23 41 35.9	+1.7	
PRAC	Prado	34.17	356	eP		P		23 41 47.1	+1.1	
ORTC	Ortega, Tolima	34.38	355	eP		P		23 41 49.2	+1.3	
PMSA	Palmer Station	34.63	174	P		P		23 41 48.2	-1.2	
CHIC	Chingaza	35.02	358	eP		P		23 41 54.0	+0.2	
HOPE	Hope Point	35.05	143	P		P		23 41 50.3	-2.9	
NORC	Norcasia	36.00	356	eP		P		23 42 01.7	-0.1	
RUSC	La Rusia	36.26	359	P		P		23 42 04.9	+0.4	
RUSC				IAmb		IAmb		23 42 10.0		
	comp=Z,31nm,1.0s									
RUSC	La Rusia	36.26	359	eP		P		23 42 05.2	+0.6	
HELC	Santa Helena	36.67	355	eP		P		23 42 06.6	-1.2	
DBBC	Dabeiba	37.54	354	eP		P		23 42 16.6	+1.7	
ZARC	Zaragoza, Cauc	37.91	356	eP		P		23 42 17.4	-0.6	
SMLC	San Martn de	39.18	358	eP		P		23 42 27.3	-1.3	
CAP2	Capurgana	39.27	353	P		P		23 42 30.4	+1.0	
CAP2				IAmb		IAmb		23 42 34.1		
	comp=Z,26nm,0.9s									
SDV	Santo Domingo	39.28	3	P		P		23 42 28.9	-0.8	
SJCC	San Jacinto, C	40.32	356	P		P		23 42 38.4	+0.2	
BRU2	Volcan	40.33	344	P		P		23 42 39.2	+0.8	
SRBA	San Rafael, Bu	40.91	344	P		P		23 42 43.4	+0.2	
MTO3	Montecristo	47.55	338	P		P		23 43 36.6	+0.2	
ICMP	Isla Caja de M	48.53	8	P		P		23 43 43.4	-0.3	
MLPR	Magueyes Islan	48.56	7	P		P		23 43 43.5	-0.4	
CRPR	Cabo Rojo, PR	48.59	7	P		P		23 43 43.8	-0.3	
OBIP	Obispado Ponce	48.68	8	P		P		23 43 43.3	-1.6	
PDPR	Patillas Dam,	48.72	8	P		P		23 43 43.8	-1.4	
PDPR				IAmb		IAmb		23 43 44.8		
	comp=Z,19nm,0.8s									
BANI	BANI	48.73	3	P		P		23 43 45.1	-0.3	
SJG	San Juan	48.80	8	P		P		23 43 44.8	-1.0	
SJG				IAmb		IAmb		23 43 45.4		
	comp=Z,18nm,1.1s									
CBYP	Canovanas	48.99	8	P		P		23 43 46.2	-1.2	
ANWB	Willy Bob	49.08	14	P		P		23 43 45.4	-2.5	
EMPR	Esperanza - Ma	49.11	8	P		P		23 43 47.0	-1.1	
CMIG	Matias Romero	52.03	333	P		P		23 44 10.3	0.0	
	comp=Z,3.5nm,0.8s,baz=111,slow=2.6,SNR=5.7									
VNA3	Neumayer Olymp	52.70	159	P		P		23 44 16.4	+1.8	
VNA1	Neumayer--Stat	53.00	158	P		P		23 44 19.1	+2.2	
VNA2	Neumayer--Watz	53.34	158	P		P		23 44 21.2	+1.7	
	baz=290,slow=8.6									
TLIG	Tlapa	54.01	329	P		P		23 44 25.2	+0.2	
TLIG				IAmb		IAmb		23 44 27.3		
	comp=Z,8.6nm,0.7s									
SNAA	Sanae	54.92	159	P		P		23 44 32.2	+1.2	
SNAA	Sanae	54.92	159	P		P		23 44 32.8	+1.8	
	comp=Z,8.3nm,0.7s,baz=284,slow=6.0,SNR=38									
SNAA	Sanae	54.92	159	P		P		23 44 31.1	+0.1	
SNAA				IAmb		IAmb		23 44 45.9		
	comp=Z,18nm,0.8s									
QSPA	South Pole Qui	59.65	180	P		P		23 45 04.9	+0.3	
QSPA				IAmb		IAmb		23 45 20.6		
	comp=Z,8.7nm,0.8s									
BRAL	Brewton	62.93	346	P		P		23 45 25.8	-1.1	
	baz=166									
833A	Chaparral WMA,	63.92	334	P		P		23 45 34.3	+0.7	
	baz=154									
152A	Waverly Hall	63.95	349	IAmb		IAmb		23 45 33.5		
	comp=Z,16nm,1.0s									
344A	Westbrook Farm	64.05	343	P		P		23 45 34.8	+0.4	
HKT	Hockley	64.14	338	P		P		23 45 35.1	+0.4	
HKT				IAmb		IAmb		23 45 36.1		
	comp=Z,4.6nm,0.8s									
HKT	Hockley	64.14	338			P		23 45 35.2	+0.4	
342A	Flagon Creek P	64.40	341	P		P		23 45 37.6	+1.0	
GOGA	Godfrey	64.47	350	P		P		23 45 35.9	-1.1	
	baz=170									
LRAL	Lakeview Retre	64.72	347	P		P		23 45 38.4	-0.3	
	baz=166									
NATX	Nacodoches	65.44	339	P		P		23 45 43.9	+0.5	
	baz=159									
435B	Jarrell	65.49	336	P		P		23 45 44.3	+0.6	
	baz=156									
X51A	Calhoun	65.82	349	P		P		23 45 45.0	-0.7	
KMSC	Kings Mountain	65.89	352	P		P		23 45 45.8	-0.4	
	baz=172									
FPAL	Fort Paine	65.93	348	P		P		23 45 45.9	-0.7	
FPAL				IAmb		IAmb		23 45 46.8		
	comp=Z,16nm,1.1s									
JCT	Junction City	66.01	334	P		P		23 45 47.4	+0.2	
JCT	Junction City	66.01	334	P		P		23 45 47.8	+0.7	
	baz=155									
237A	Washetta, Mont	66.02	338	P		P		23 45 47.3	+0.2	
X48A	Hartselle	66.11	347	P		P		23 45 47.3	-0.3	
Z41A	Richland Creek	66.31	342	P		P		23 45 49.6	+0.6	
	baz=161									
W50A	Signal Mountai	66.52	349	IAmb		IAmb		23 45 50.4		
	comp=Z,12nm,0.7s									
TX32	Lajitas Array	66.54	331	P		P		23 45 50.5	-0.2	
TX32				IAmb		IAmb		23 45 52.1		
	comp=Z,7.6nm,0.8s									
TXAR	Lajitas Array	66.54	331	P		P		23 45 51.0	+0.4	
	comp=Z,6.3nm,0.7s,baz=149,slow=8.4,SNR=46									
WHTX	Lake Whitney,	66.55	337	P		P		23 45 50.8	+0.3	
	baz=157									
V53A	Saluda	66.59	351	IAmb		IAmb		23 45 51.2		
	comp=Z,11nm,0.8s									
CPCT	Cooper Cave	66.63	349	IAmb		IAmb		23 45 51.5		
	comp=Z,12nm,0.9s									
OXF	Oxford	66.66	345	P		P		23 45 50.4	-0.8	
	baz=164									
TKL	Tuckaleechee C	66.72	350	P		P		23 45 51.1	-0.4	
	comp=Z,12nm,0.8s,baz=172,slow=8.2,SNR=12									
V51A	Loudon	66.95	350	IAmb		IAmb		23 45 53.4		
	comp=Z,13nm,0.8s									
V48A	Smith Brothers	67.31	347	IAmb		IAmb		23 45 56.0		
	comp=Z,17nm,1.1s									
VNDA	Vanda	67.36	191	P		P		23 45 57.5	+2.3	
	comp=Z,1.4nm,0.8s,baz=117,slow=4.6,SNR=8.7									
VNDA	Vanda	67.36	191	P		P		23 45 54.9	-0.3	
CLTN	Cedars of Leba	67.56	348	IAmb		IAmb		23 45 57.5		
	comp=Z,11nm,0.7s									
MIAR	Mount Ida	67.73	341	P		P		23 45 57.9	-0.1	
	baz=161									
ABTX	Abilene, Hawle	67.88	336	P		P		23 45 59.3	+0.3	
	baz=155									
WVT	Waverly	67.89	347	P		P		23 45 58.3	-0.6	
WVT				IAmb		IAmb		23 45 58.8		
	comp=Z,9.9nm,0.7s									
WVT	Waverly	67.89	347	P		P		23 45 58.3	-0.6	
	baz=166									
W41B	Gary Mavity, V	67.97	343	P		P		23 45 59.3	-0.2	
	baz=162									
S57A	Dark Hollow, R	68.24	355	IAmb		IAmb		23 46 02.0		
	comp=Z,9.0nm,0.7s									
W39A	Magazine	68.40	341	P		P		23 46 02.5	+0.3	
	baz=160									
CBN	Corbin Frederi	68.57	356	P		P		23 46 03.5	+0.4	
	baz=176									
FCAR	Ozark Folk Cen	68.62	343	IAmb		IAmb		23 46 03.4		
	comp=Z,11nm,0.8s									
PBMO	Poplar Bluff	69.06	345	IAmb		IAmb		23 46 06.4		
	comp=Z,12nm,0.7s									
U40A	Yellville	69.25	343	P		P		23 46 07.5	+0.1	
	baz=162									
MNTX	Cornudas Mount	69.32	330	P		P		23 46 07.4	-0.6	
	baz=171									
WMOK	Wichita Mounta	69.50	337	P		P		23 46 08.7	-0.4	
	baz=156									
WCI	Wyandotte Cave	69.64	349	P		P		23 46 08.9	-0.9	
	baz=168									
TUL1	Leonard	69.64	340	P		P		23 46 09.5	-0.3	
	baz=159									
SIUC	Southern Illin	69.70	346	P		P		23 46 09.7	-0.4	
OK031	S. Brethren Rd	70.00	339	P		P		23 46 11.5	-0.6	
P60A	Greenville	70.09	357	P		P		23 46 12.6	+0.1	
	baz=177									
MCWV	Mont Chateau	70.20	354	P		P		23 46 13.0	-0.3	
	baz=173									
FVM	French Village	70.22	345	IAmb		IAmb		23 46 13.5		
	comp=Z,9.6nm,0.8s									
MSTX	Muleshoe	70.25	334	P		P		23 46 13.8	0.0	
	baz=153									
P52A	Corning	70.42	352	IAmb		IAmb		23 46 14.8		
	comp=Z,15nm,1.1s									
P52A	Corning	70.42	352	P		P		23 46 13.8	-0.8	
	baz=171									
CCM	Cathedral Cave	70.47	344	P		P		23 46 14.7	-0.2	
	baz=163									
PAGS	Pennsylvania G	70.55	357	P		P		23 46 14.9	-0.4	
PAGS				IAmb		IAmb		23 46 16.6		
	comp=Z,13nm,0.8s									
AMTX	Amarillo	70.65	335	P		P		23 46 16.2	0.0	
	baz=154									
P49A	Miami Univ. Ec	70.66	350	P		P		23 46 14.9	-1.1	
	baz=169									
O56A	Blue Knob Stat	70.70	355	P		P		23 46 16.3	0.0	
	baz=175									
319A	Douglas	70.78	327	P		P		23 46 17.7	+0.5	
319A				IAmb		IAmb		23 46 19.3		
	comp=Z,14nm,1.0s									
SSPA	Standing Stone	71.02	356	P		P		23 46 18.0	-0.3	
	baz=175									
121A	Cookes Peak, D	71.08	329	P		P		23 46 19.6	+0.6	
121A				IAmb		IAmb		23 46 20.7		
	comp=Z,8.9nm,0.8s									
121A	Cookes Peak, D	71.08	329	P		P		23 46 20.1	+1.1	
	baz=148									
ACSO	Alum Creek Sta	71.11	352	IAmb		IAmb		23 46 19.1		
	comp=Z,20nm,1.1s									
ACSO	Alum Creek Sta	71.11	352	P		P		23 46 18.5	-0.3	
	baz=171									
N58A	Sunbury	71.16	357	P		P		23 46 18.7	-0.3	
N58A				IAmb		IAmb		23 46 20.5		
	comp=Z,15nm,0.9s									
N59A	State Game Lan	71.19	357	P		P		23 46 20.0	+0.8	
N59A				IAmb		IAmb		23 46 20.6		
	comp=Z,5.8nm,0.8s									
N59A	State Game Lan	71.19	357	P		P		23 46 20.0	+0.8	
	baz=177									
PAL	Palisades	71.23	359	P		P		23 46 19.6	+0.1	
	baz=179									
O49A	Covington	71.25	351	IAmb		IAmb		23 46 19.8		
	comp=Z,15nm,0.9s									
N54A	Moraine State	71.51	354	P		P		23 46 20.8	-0.4	
	baz=173									
P43A	Skaggs, Pawnee	71.61	346	P		P		23 46 21.5	-0.3	
M57A	Sunshine Farm,	71.68	356	IAmb		IAmb		23 46 23.1		
	comp=Z,7.5nm,0.7s									
M55A	Ridgway	71.91	355	IAmb		IAmb		23 46 24.5		
	comp=Z,15nm,0.8s									
BNM	Barren Site	71.96	331	P		P		23 46 25.4	+1.1	
M54A	Oil Creek Stat	72.02	354	P		P		23 46 24.1	-0.1	
	baz=174									
M53A	Wf Miller and	72.05	354	P		P		23 46 24.3	0.0	
	baz=173									
BRYW	Bryant College	72.14	1	P		P		23 46 24.4	-0.5	
BRYW				IAmb		IAmb		23 46 26.7		
	comp=Z,18nm,1.0s									
L64A	Middleborough	72.17	1	P		P		23 46 25.9	+0.9	
	baz=182									
TUC	Tucson	72.27	327	P		P		23 46 26.6	+0.7	
TUC	Tucson	72.27	327	P		P		23 46 26.7	+0.7	
	baz=146									
L59A	Walton	72.44	358	P		P		23 46 26.8	0.0	
L59A				IAmb		IAmb		23 46 28.4		
	comp=Z,12nm,0.8s									
HDIL	Hopedale	72.45	347	P		P		23 46 26.3	-0.5	
	baz=165									
L56A	Greenwood	72.50	356	P		P		23 46 26.9	-0.2	
ANMO	Albuquerque	72.57	331			P		23 46 27.9	0.0	
ANMO				IAmb		IAmb		23 46 30.0		
	comp=Z,12nm,1.1s									
ANMO	Albuquerque	72.57	331	P		P		23 46 27.7	-0.2	
	baz=150									
ERPA	Erie	72.66	354	P		P		23 46 27.8	-0.2	
	baz=173									
L61B	Northampton	72.67	360	P		P		23 46 28.9	+0.8	
	baz=180									
HRV	Adam Dziewonsk	72.73	1	P		P		23 46 29.3	+0.9	
	baz=181									
KSU1	Kansas State U	72.85	341	P		P		23 46 28.8	-0.4	
	baz=159									
K62A	Royalston	72.88	0	P		P		23 46 30.6	+1.3	
	baz=180									
214A	Organ Pipe Nat	72.96	325	P		P		23 46 30.6	+0.5	
214A				IAmb		IAmb		23 46 32.4		
	comp=Z,14nm,1.0s									
214A	Organ Pipe Nat	72.96	325	P		P		23 46 30.7	+0.6	
	baz=144,SNR=7.0									
CBKS	Cedar Bluff	73.53	338	P		P		23 46 33.7	+0.4	
	baz=156									
T25A	Trinidad	73.67	334	P		P		23 46 35.6	+1.3	
	baz=152									
X18A	Snowflake	73.73	329	P		P		23 46 35.5	+0.8	
X18A				IAmb		IAmb		23 46 36.5		
	comp=Z,6.2nm,0.8s									
I60A	Shoreham	74.06	359	P		P		23 46 36.9	+0.7	
	baz=179									
W18A	Petrified Fore	74.12	329	IAmb		IAmb		23 46 38.7		
	comp=Z,10nm,0.8s									
W18A	Petrified Fore	74.12	329	P		P		23 46 38.1	+1.1	
	baz=147									
PECO	Prince Edward	74.26	357	IAmb		IAmb		23 46 37.9		
	comp=Z,8.1nm,0.7s									
X16A	Lo Mia Camp, P	74.32	327	IAmb		IAmb		23 46 40.5		
	comp=Z,13nm,1.1s									
LBNH	Lisbon	74.46	0	P		P		23 46 39.6	+1.1	
	baz=181									
DBIC	Dimbokro	74.55	72	P		P		23 46 40.3	+0.5	
	comp=Z,8.5nm,0.8s,baz=226,slow=5.3,SNR=13									
DBIC	Dimbokro	74.55	72	P		P		23 46 39.7	-0.1	
DBIC				IAmb		IAmb		23 46 42.5		
	comp=Z,11nm,0.8s									
SDCO	Great Sand Dun	74.61	333	P		P		23 46 40.9	+0.9	
	baz=151									
Y14A	Wickenburg	74.66	326	IAmb		IAmb		23 46 42.1		
	comp=Z,6.4nm,0.9s									
GLA	Glamis	74.85	324	P		P		23 46 42.1	+0.9	
	baz=143									
LONY	Lake Ozonia	74.86	359	P		P		23 46 41.0	+0.1	
	baz=178									
JFWS	Jewell Farm	74.91	347	P		P		23 46 41.0	-0.2	
	baz=164									
FRNY	Flat Rock	75.06	359	IAmb		IAmb		23 46 42.8		
	comp=Z,6.1nm,0.8s									
S22A	4UR Ranch, Cre	75.14	333	P		P		23 46 43.6	+0.6	
	baz=150									
IKP	In-Ko-Pah, Jac	75.19	323	P		P		23 46 44.1	+0.9	
	baz=142									
WUAZ	Wupatki	75.19	328	IAmb		IAmb		23 46 45.6		
	comp=Z,17nm,1.1s									
WUAZ	Wupatki	75.19	328	P		P		23 46 44.6	+1.4	
	baz=146									
SADO	Sadowa	75.22	355	P		P		23 46 42.0	-0.9	
	comp=Z,11nm,0.7s,baz=207,slow=3.6,SNR=15									
SADO	Sadowa	75.22	355	IAmb		IAmb		23 46 43.6		
	comp=Z,14nm,0.8s									
SWSC	Sam W. Stewart	75.26	323	P		P		23 46 44.5	+1.1	
	baz=142									
MVCO	Mesa Verde	75.36	331	IAmb		IAmb		23 46 46.3		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=142						
RDMU	**Red Mountain**	**78.65**	**332**	P	**P**	**23 47 02.5**	**-0.2**
RDMU				IAmb	IAmb	23 47 03.8	
	comp=Z,5.9nm,0.8s						
TPNV	**Topopah Spring**	**78.65**	**326**	IAmb	IAmb	23 47 05.2	
	comp=Z,11nm,1.1s						
TPNV	**Topopah Spring**	**78.65**	**326**	P	**P**	**23 47 03.6**	**+0.9**
	baz=143,SNR=8.2						
RWWY	**Rawlins**	**78.69**	**334**	P	**P**	**23 47 02.3**	**-0.6**
RWWY				IAmb	IAmb	23 47 04.8	
	comp=Z,19nm,0.9s						
ISA	**Isabella, Lake**	**78.76**	**323**	P	**P**	**23 47 03.5**	**+0.3**
ISA				IAmb	IAmb	23 47 05.0	
	comp=Z,5.2nm,0.8s						
ISA	**Isabella, Lake**	**78.76**	**323**	P	**P**	**23 47 04.7**	**+1.5**
	baz=141						
PSUT	**Pine Spring**	**78.80**	**328**	P	**P**	**23 47 03.9**	**+0.3**
PKM	**Mcpherson Peak**	**78.86**	**322**	P	**P**	**23 47 05.0**	**+1.0**
	baz=140						
CWC	**Cottonwood Cre**	**79.16**	**324**	P	**P**	**23 47 06.7**	**+1.2**
	baz=141						
NLU	**North Lily Min**	**79.18**	**330**	P	**P**	**23 47 05.2**	**-0.4**
VES	**Vestal, Richgr**	**79.21**	**323**	P	**P**	**23 47 07.1**	**+1.6**
	baz=141						
GRAC	**Grapevine Rang**	**79.24**	**325**	P	**P**	**23 47 07.2**	**+1.5**
	baz=142						
K22A	**Casper**	**79.27**	**335**	P	**P**	**23 47 06.2**	**+0.2**
K22A				IAmb	IAmb	23 47 07.9	
	comp=Z,19nm,1.1s						
K22A	**Casper**	**79.27**	**335**	P	**P**	**23 47 07.0**	**+1.0**
	baz=151						
SMMC	**Simmler**	**79.28**	**322**	P	**P**	**23 47 07.4**	**+1.3**
	baz=140						
SPR3	**Spring Creek 3**	**79.39**	**328**	P	**P**	**23 47 07.1**	**+0.2**
R11A	**Troy Canyon, C**	**79.45**	**327**	P	**P**	**23 47 07.5**	**+0.4**
R11A	**Troy Canyon, C**	**79.45**	**327**	P	**P**	**23 47 07.8**	**+0.8**
	baz=143,SNR=8.1						
JLU	**Jordanelle**	**79.45**	**331**	P	**P**	**23 47 07.3**	**+0.2**
LCH	**Last Change Ra**	**79.56**	**325**	P	**P**	**23 47 08.3**	**+0.6**
DUG	**Dugway, Tooele**	**79.69**	**330**	P	**P**	**23 47 09.1**	**+0.8**
DUG	**Dugway, Tooele**	**79.69**	**330**	P	**P**	**23 47 09.2**	**+0.8**
	baz=146						
RSSD	**Black Hills**	**79.71**	**338**	P	**P**	**23 47 08.7**	**+0.3**
RSSD				IAmb	IAmb	23 47 09.8	
	comp=Z,7.7nm,0.9s						
RSSD	**Black Hills**	**79.71**	**338**	P	**P**	**23 47 08.8**	**+0.4**
	baz=153						
TPH	**Tonopah**	**80.02**	**326**	P	**P**	**23 47 10.2**	**0.0**
TPH				IAmb	IAmb	23 47 11.7	
	comp=Z,18nm,0.8s						
HWUT	**Hardware Ranch**	**80.34**	**331**	P	**P**	**23 47 12.1**	**+0.3**
HWUT				IAmb	IAmb	23 47 12.6	
	comp=Z,6.2nm,0.7s						
PDAR	**Pinedale Array**	**80.51**	**333**	P	**P**	**23 47 11.1**	**-1.7**
	comp=Z,1.2nm,0.7s,baz=107,slow=5.0,SNR=6.1						
BW06	**Boulder Array**	**80.51**	**333**	P	**P**	**23 47 12.3**	**-0.5**
BW06	**Boulder Array**	**80.51**	**333**	P	**P**	**23 47 12.8**	**0.0**
	baz=148						
LHV	**Little Huntoon**	**80.78**	**325**	P	**P**	**23 47 15.0**	**+1.0**
NVAR	**Mina Array Bea**	**80.82**	**325**	P	**P**	**23 47 15.5**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=156,slow=5.7,SNR=13						
NVAR	**Mina Array Bea**	**80.82**	**325**	P	**P**	**23 47 14.6**	**0.0**
B35A	**Bob, Littlefor**	**80.83**	**346**	IAmb	IAmb	23 47 14.0	
	comp=Z,8.9nm,0.7s						
RYN	**Ryan**	**81.08**	**325**	P	**P**	**23 47 16.4**	**+0.5**
ELK	**Elko**	**81.21**	**329**	P	**P**	**23 47 17.0**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=159,slow=4.6,SNR=6.7						
ELK	**Elko**	**81.21**	**329**	P	**P**	**23 47 16.4**	**-0.2**
AGMN	**Agassiz Nation**	**81.25**	**345**	P	**P**	**23 47 16.3**	**0.0**
	baz=160						
REDW	**Red Top Meadow**	**81.52**	**333**	P	**P**	**23 47 18.0**	**-0.2**
LOHW	**Long Hollow**	**81.63**	**333**	P	**P**	**23 47 18.6**	**-0.1**
YERR	**Yerington**	**81.71**	**325**	P	**P**	**23 47 18.8**	**-0.5**
YERR				IAmb	IAmb	23 47 20.9	
	comp=Z,5.4nm,0.9s						
IMW	**Indian Meadow**	**82.00**	**333**	P	**P**	**23 47 20.8**	**+0.1**
FLWY	**Flagg Ranch**	**82.07**	**333**	IAmb	IAmb	23 47 23.8	
	comp=Z,5.8nm,0.8s						
BOSA	**Boshof**	**82.08**	**118**	P	**P**	**23 47 22.5**	**+1.0**
	comp=Z,5.8nm,1.1s,baz=219,slow=6.5,SNR=2.9						
BOSA	**Boshof**	**82.08**	**118**	P	**P**	**23 47 22.5**	**+1.0**
BOSA	**Boshof**	**82.08**	**118**	IAmb	IAmb	23 47 41.0	
	comp=Z,9.2nm,1.1s						
PAHR	**Pah Rah Range**	**82.34**	**325**	P	**P**	**23 47 23.4**	**+1.0**
PAHR				IAmb	IAmb	23 47 24.1	
	comp=Z,4.5nm,0.8s						
RLMT	**Red Lodge**	**82.41**	**335**	P	**P**	**23 47 22.9**	**+0.2**
	baz=149,SNR=5.1						
LAO	**LASA Array**	**82.70**	**337**	P	**P**	**23 47 24.5**	**+0.5**
	baz=151						
YHH	**Holmes Hill**	**82.72**	**334**	P	**P**	**23 47 25.1**	**+0.6**
YHH				IAmb	IAmb	23 47 25.8	
	comp=Z,3.9nm,0.7s						
ULM	**Lac du Bonnet**	**83.08**	**345**	P	**P**	**23 47 25.4**	**-0.4**
	comp=Z,4.5nm,0.7s,baz=172,slow=7.7,SNR=3.9						
HLID	**Hailey**	**83.14**	**331**	P	**P**	**23 47 27.1**	**+0.6**
	baz=145,SNR=6.6						
CASY	**Casey**	**83.43**	**181**	P	**P**	**23 47 29.6**	**+2.0**
CASY				IAmb	IAmb	23 47 31.6	
	comp=Z,9.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**83.49**	**71**	P	**P**	**23 47 29.0**	**+0.2**
	comp=Z,7.9nm,0.9s,baz=277,slow=4.7,SNR=36						
TORD	**Torodi Ar. Bea**	**83.49**	**71**	P	**P**	**23 47 29.4**	**+0.7**
TORD				IAmb	IAmb	23 47 31.4	
	comp=Z,9.1nm,0.8s						
DGMT	**Dagmar**	**83.63**	**339**	P	**P**	**23 47 29.6**	**+0.8**
	baz=153						
BOZ	**Bozeman (W)**	**83.70**	**334**	P	**P**	**23 47 29.7**	**+0.4**
	baz=147						
O03E	**Paynes Creek**	**83.99**	**324**	P	**P**	**23 47 31.1**	**+0.2**
	baz=139						
O02D	**Mt. Diablo Mer**	**84.40**	**324**	P	**P**	**23 47 33.9**	**+0.9**
	baz=138						
N02D	**Trinity Center**	**84.95**	**324**	P	**P**	**23 47 36.7**	**+0.9**
	baz=138						
PLID	**Pearl Lake**	**85.04**	**331**	IAmb	IAmb	23 47 37.5	
	comp=Z,5.8nm,0.8s						
J05D	**Fort Rock, OR**	**85.98**	**327**	P	**P**	**23 47 41.9**	**+1.1**
	baz=140						
L02E	**Cave Junction**	**86.28**	**325**	P	**P**	**23 47 43.4**	**+1.2**
	baz=138						
JTMT	**Jette**	**86.50**	**333**	IAmb	IAmb	23 47 44.4	
	comp=Z,5.5nm,0.7s						
K02D	**Willamette Mer**	**86.71**	**325**	P	**P**	**23 47 45.8**	**+1.4**
	baz=138						
WALA	**Waterton Lakes**	**87.44**	**334**	IAmb	IAmb	23 47 50.1	
	comp=Z,6.9nm,0.9s						
NEW	**Newport**	**88.05**	**332**	P	**P**	**23 47 50.3**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=144,slow=13,SNR=2.3						
NEW	**Newport**	**88.05**	**332**	P	**P**	**23 47 50.3**	**-0.3**
NEW	**Newport**	**88.05**	**332**	IAmb	IAmb	23 47 51.5	
	comp=Z,1.8nm,0.9s						
AKASG	**Malin Array Be**	**120.18**	**46**	PKP	**PKPdf**	**23 53 50.4**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=267,slow=2.7,SNR=7.8						
ASAR	**Alice Springs**	**120.39**	**208**	PKP	**PKPdf**	**23 53 51.8**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=158,slow=2.1,SNR=5.8						
BRTR	**Keskin Array B**	**120.52**	**59**	PKP	**PKPdf**	**23 53 52.5**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=191,slow=2.5,SNR=6.4						
WRA	**Warramunga Arr**	**123.50**	**211**	PKP	**PKPdf**	**23 53 58.2**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=163,slow=1.9,SNR=12						
SEY	**Seymchan**	**136.83**	**332**	PKP	**PKPdf**	**23 54 22.6**	**+0.2**
	comp=Z,2.6nm,0.2s,baz=9.5,slow=6.1,SNR=4.4						
PETK	**Petropavlovsk-**	**137.41**	**317**	PKP	**PKPdf**	**23 54 24.6**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=113,slow=3.3,SNR=4.0						
PETK	**Petropavlovsk-**	**137.41**	**317**		**PKPdf**	**23 54 24.6**	**+0.8**
GEYT	**Alibeck**	**138.98**	**66**	PKP	**PKPdf**	**23 54 27.9**	**+0.7**
	comp=Z,87nm,0.4s,baz=303,slow=14,SNR=2.5						
ABKAR	**Akbulak array**	**139.84**	**48**	PKPdf	**PKPdf**	**23 54 28.2**	**-0.2**
BRVK	**Borovoye**	**144.93**	**39**	PKPdf	**PKPdf**	**23 54 37.7**	**+0.4**
TOLI2	**Tolitoli**	**148.07**	**206**		**PKPbc**	**23 54 46.6**	**-0.4**
KKAR	**Karatay Array**	**148.17**	**57**		**PKPbc**	**23 54 47.2**	**+0.8**
HYB	**Hyderabad**	**150.65**	**110**	*i* PKP	**PKPbc**	**23 54 53.0**	**-0.3**
NIL	**Nilore**	**150.97**	**75**		**PKPbc**	**23 54 54.3**	**+0.6**
AAK	**Ala-Archa**	**151.13**	**56**		**PKiKP**	**23 54 55.3**	**+0.8**
ZALV	**Zalesovo Beam**	**151.51**	**28**	PKP	**PKPdf**	**23 54 48.3**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=222,slow=2.0,SNR=5.8						
ZALV				PKPbc	**PKPbc**	**23 54 54.6**	**+0.4**
	comp=Z,29nm,0.8s,baz=298,slow=3.2,SNR=51						
ZALV	**Zalesovo Beam**	**151.51**	**28**	PKPbc	**PKPbc**	**23 54 54.7**	**+0.5**
KSH	**Kashi**	**152.86**	**62**	PKPbc	**PKPdf**	**23 54 49.9**	**-0.8**
KSH				PP	**PP**	**23 58 43.3**	**+0.9**
MJAR	**Matsushiro Arr**	**153.74**	**291**	PKPab	**PKPab**	**23 55 12.5**	**-0.1**
	comp=Z,4.3nm,0.8s,baz=135,slow=1.1,SNR=6.1						
MK31	**Makanchi Array**	**154.72**	**43**	PKPbc	**PKPbc**	**23 55 01.3**	**-0.3**
MKAR	**Makanchi Array**	**154.72**	**43**	PKP	**PKPdf**	**23 54 53.0**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=308,slow=1.6,SNR=7.1						
MKAR				PKPbc	**PKPbc**	**23 55 01.6**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=243,slow=0.5,SNR=8.9						
MKAR	**Makanchi Array**	**154.72**	**43**		**PKPbc**	**23 55 01.6**	**+0.1**
KSRS	**Korea Array**	**161.69**	**297**	PKPab	**PKPab**	**23 55 48.3**	**+1.4**
	comp=Z,0.8nm,0.4s,baz=20,slow=3.9,SNR=1.8						
SONM	**Songino Array**	**162.75**	**2**	PKP	**PKPdf**	**23 55 03.1**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=306,slow=1.3,SNR=3.8						
SONM				PKPab	**PKPab**	**23 55 51.9**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=337,slow=7.0,SNR=6.1						

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*JMA **17** 23:36:09.3±0.1, 23°.50N×121°.61E, h41km±2km, M3.1*
*TAP **17** 23:36:09.5, 23°.49N×121°.67E, h40km±1km, ML3.7, B*
ISC 17 23:36:08.6±0.8**, 23°.49N**±0°.02×**121°.68E**±0°.02**, h27km, n105,**
σ**1s.09**/197**, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.23**	**270**	*i* P	**Pn**	**23 36 17.8**	**+1.5**
	baz=269						
EGFH	**Guangfu**	**0.29**	**307**	*i* P	**Pn**	**23 36 18.1**	**+0.9**
	baz=308						
EGFH				*i* S	**Sn**	**23 36 24.5**	**+1.9**
	baz=308						
EHY	**Hungye**	**0.33**	**273**	*i* P	**Pn**	**23 36 18.0**	**+0.4**
	baz=272						
EHY				S	**Sn**	**23 36 23.1**	**-0.4**
	baz=272						
EYUL	**Yuli**	**0.36**	**247**	*i* P	**Pn**	**23 36 19.7**	**+1.7**
	baz=245						
EYUL				*i* S	**Sn**	**23 36 26.9**	**+2.6**
	baz=245						
YULB	**Yu-li**	**0.36**	**255**	P	**Pn**	**23 36 18.5**	**+0.3**
	baz=253						
YULB				S	**Sn**	**23 36 24.1**	**-0.3**
	baz=253						
ESL	**Shilin**	**0.39**	**325**	*i* P	**Pn**	**23 36 18.6**	**0.0**
	baz=327						
ESL				*i* S	**Sn**	**23 36 25.2**	**0.0**
	baz=327						
FULB	**Fuli**	**0.46**	**231**	*i* P	**Pn**	**23 36 20.4**	**+1.0**
	baz=229						
FULB				*i* S	**Sn**	**23 36 28.8**	**+2.0**
	baz=229						
CHKT	**Chengkung**	**0.48**	**217**	*i* P	**Pn**	**23 36 20.4**	**+0.6**
	baz=214						
CHKT				*i* S	**Sn**	**23 36 27.9**	**+0.6**
	baz=214						
HWA	**Hwalien**	**0.49**	**352**	*i* P	**Pn**	**23 36 20.6**	**+0.8**
	baz=354						
HWA				*i* S	**Sn**	**23 36 29.8**	**+2.3**
	baz=354						
TWD	**Chiawan**	**0.59**	**353**	*i* P	**Pn**	**23 36 21.5**	**+0.2**
	baz=354						
TWD				*i* S	**Sn**	**23 36 31.1**	**+1.1**
	baz=354						
EDH	**Donghe**	**0.62**	**214**	*i* P	**Pn**	**23 36 22.6**	**+0.9**
	baz=212						
EDH				*i* S	**Sn**	**23 36 31.1**	**+0.4**
	baz=212						
OWD	**Renai**	**0.65**	**315**	*i* P	**Pn**	**23 36 22.3**	**0.0**
	baz=315						
ETL	**Fush Village**	**0.67**	**356**	P	**Pn**	**23 36 23.0**	**+0.7**
	baz=356						
ETL				*e*S	**Sn**	**23 36 32.9**	**+1.0**
	baz=356						
YUS	**Yu-Shan**	**0.67**	**270**	*i* P	**Pn**	**23 36 23.0**	**+0.3**
	baz=269						
YUS				*i* S	**Sb**	**23 36 31.5**	**+0.3**
	baz=269						
ELDTW	**Lidau**	**0.68**	**244**	*i* P	**Pn**	**23 36 22.2**	**-0.3**
	baz=242						
NACB	**Ninganchiao**	**0.69**	**353**	P	**Pn**	**23 36 22.8**	**+0.2**
	baz=354						
NACB				S	**Sn**	**23 36 32.5**	**+0.2**
	baz=354						
SSLB	**Suanglung**	**0.73**	**294**	P	**Pn**	**23 36 22.9**	**-0.2**
	baz=294						
SSLB				S	**Sb**	**23 36 32.4**	**0.0**
	baz=294						
CHGB	**Renai**	**0.73**	**321**	P	**Pn**	**23 36 23.6**	**+0.2**
	baz=321						
CHGB				S	**Sb**	**23 36 33.0**	**+0.3**
	baz=321						
ETLH	**Xiulin Townshi**	**0.74**	**346**	P	**Pb**	**23 36 23.0**	**+0.1**
	baz=346						
ETLH				S	**Sn**	**23 36 33.2**	**-0.5**
	baz=346						
WHF	**Hehuan Shan**	**0.75**	**330**	*i* P	**Pn**	**23 36 23.7**	**-0.2**
	baz=330						
WHF				S	**Sb**	**23 36 33.5**	**0.0**
	baz=330						
LONT	**Longtian**	**0.77**	**221**	*i* P	**Pn**	**23 36 23.7**	**0.0**
	baz=220						
WHYT	**Xinyi Township**	**0.79**	**285**	*i* P	**Pn**	**23 36 24.4**	**+0.5**
	baz=285						
WHYT				*i* S	**Sn**	**23 36 34.4**	**-0.5**
	baz=285						
ALS	**Alishan**	**0.80**	**272**	*i* P	**Pn**	**23 36 25.1**	**+0.7**
	baz=271						
ALS				*i* S	**Sn**	**23 36 35.4**	**-0.2**
	baz=271						
SMLT	**Sun Moon Lake**	**0.81**	**299**	*i* P	**Pn**	**23 36 24.8**	**+0.4**
	baz=299						
LDUT	**Ludao**	**0.84**	**193**	*i* P	**Pn**	**23 36 24.8**	**+0.1**
	baz=192						
LDUT				*i* S	**Sn**	**23 36 35.7**	**-0.3**
	baz=192						
FUSS	**Fushou**	**0.85**	**332**	*i* P	**Pn**	**23 36 25.3**	**+0.2**
	baz=332						
FUSS				*i* S	**Sb**	**23 36 36.0**	**-0.1**
	baz=332						
TYC	**Yuchr**	**0.86**	**299**	*i* P	**Pn**	**23 36 25.3**	**+0.4**
	baz=299						
TYC				S	**Sn**	**23 36 37.1**	**+0.5**
	baz=299						
TWGBT	**Beinan**	**0.87**	**220**	P	**Pn**	**23 36 25.5**	**+0.4**
	baz=218						
TWGBT				S	**Sb**	**23 36 36.0**	**-0.4**
	baz=218						
TWG	**Pinlang**	**0.87**	**220**	*i* P	**Pb**	**23 36 25.7**	**+0.6**
	baz=218						
TWG				S	**Sb**	**23 36 35.7**	**-0.7**
	baz=218						
TWT	**Tachien**	**0.89**	**329**	P	**Pb**	**23 36 26.3**	**+0.8**
	baz=328						
TWT				S	**Sb**	**23 36 36.7**	**-0.4**
	baz=328						
STYH	**Taoyuan**	**0.89**	**249**	P	**Pb**	**23 36 25.4**	**0.0**
	baz=248						
STYH				S	**Sb**	**23 36 36.8**	**-0.1**
	baz=248						
TDCB	**Techi**	**0.90**	**328**	P	**Pb**	**23 36 26.1**	**+0.5**
	baz=328						
TDCB				S	**Sb**	**23 36 36.6**	**-0.7**
	baz=328						
WCS	**Beigang Elemen**	**0.90**	**309**	P	**Pb**	**23 36 25.9**	**+0.2**
	baz=309						
CHN5	**Tsauling**	**0.93**	**277**	P	**Pb**	**23 36 27.1**	**+1.0**
	baz=276						
CHN5				S	**Sn**	**23 36 39.1**	**+0.7**
	baz=276						
WJS	**Zhushan**	**0.93**	**291**	*i* P	**Pb**	**23 36 27.3**	**+1.1**
	baz=290						
WJS				*i* S	**Sn**	**23 36 39.0**	**+0.6**
	baz=290						
ENA	**Nanau**	**0.94**	**3**	P	**Pb**	**23 36 26.5**	**+0.2**
	baz=4.0						
ENA				S	**Sn**	**23 36 39.5**	**+1.0**
	baz=4.0						
EWUT	**Wuta**	**0.95**	**5**	P	**Pb**	**23 36 27.5**	**+0.9**
	baz=6.0						
EWUT				S	**Sn**	**23 36 40.9**	**+1.9**
	baz=6.0						
NNSB	**Datong**	**0.97**	**344**	P	**Pb**	**23 36 26.8**	**-0.2**
	baz=344						
NNSB				S	**Sn**	**23 36 39.6**	**0.0**
	baz=344						
TPUB	**Ta-pu**	**0.98**	**259**	P	**Pb**	**23 36 27.8**	**+0.7**
	baz=258						
TPUB				S	**Sn**	**23 36 40.9**	**+1.2**
	baz=258						
NNS	**Nan Shan**	**0.99**	**344**	*i* P	**Pn**	**23 36 26.9**	**+0.1**
	baz=344						
NNS				*i* S	**Sb**	**23 36 39.2**	**-0.6**
	baz=344						
WNT	**Mingjian**	**0.99**	**293**	P	**Pb**	**23 36 27.1**	**-0.1**
	baz=293						
WNT				S	**Sn**	**23 36 40.6**	**+0.8**
	baz=293						
CHN4	**Tsaushan**	**1.01**	**262**	*i* P	**Pb**	**23 36 28.5**	**+1.0**
	baz=261						
CHN4				*i* S	**Sb**	**23 36 42.6**	**+2.3**
	baz=261						
WTP	**Ta-pu**	**1.01**	**256**	*i* P	**Pb**	**23 36 28.3**	**+0.8**
	baz=255						
WTP				*i* S	**Sn**	**23 36 42.2**	**+1.8**
	baz=255						
WHP	**Taichung City**	**1.03**	**320**	*i* P	**Pb**	**23 36 28.6**	**+0.7**
	baz=319						
WHP				*i* S	**Sb**	**23 36 43.6**	**+2.5**
	baz=319						
WDLH	**Douliu**	**1.07**	**281**	*i* P	**Pb**	**23 36 29.0**	**+0.6**
	baz=280						
WDLH				*i* S	**Sb**	**23 36 42.9**	**+1.0**
	baz=280						
SGST	**Jiashian**	**1.09**	**248**	P	**Pb**	**23 36 29.1**	**+0.3**
	baz=247						
SGST				S	**Sb**	**23 36 42.8**	**+0.2**
	baz=247						
CHN1	**Nanshi**	**1.10**	**254**	*i* P	**Pb**	**23 36 30.1**	**+1.0**
	baz=253						
CHN1				*i* S	**Sb**	**23 36 44.6**	**+1.6**
	baz=253						
ECL	**Taimali**	**1.11**	**217**	P	**Pn**	**23 36 27.5**	**-0.9**
	baz=215						
ECL				S	**Sn**	**23 36 41.1**	**-1.8**
	baz=215						
TWK	**Hsinying**	**1.12**	**259**	P	**Pb**	**23 36 30.0**	**+0.7**
	baz=258						
TWK				S	**Sb**	**23 36 44.6**	**+1.1**
	baz=258						
SNST	**Tainan City**	**1.12**	**256**	*i* P	**Pb**	**23 36 29.9**	**+0.6**
	baz=255						
SNST				*i* S	**Sb**	**23 36 44.3**	**+0.8**
	baz=255						
TWC	**Suao**	**1.12**	**8**	*i* P	**Pb**	**23 36 30.9**	**+1.4**
	baz=9.0						
TWC				*i* S	**Sb**	**23 36 46.5**	**+2.8**
	baz=9.0						
TCU	**Taichung**	**1.13**	**306**	*i* P	**Pb**	**23 36 29.2**	**-0.2**
	baz=305						
TCU				*i* S	**Sb**	**23 36 46.2**	**+2.5**
	baz=305						
NDS	**Dongshan**	**1.14**	**2**	P	**Pn**	**23 36 29.1**	**+0.4**
	baz=2.0						
ENTT	**Nioudou**	**1.15**	**355**	P	**Pb**	**23 36 31.0**	**+1.1**
	baz=355						
ENTT				S	**Sn**	**23 36 44.1**	**+0.3**
	baz=355						
CHY	**Chiayi**	**1.15**	**271**	P	**Pb**	**23 36 30.4**	**+0.5**
	baz=270						
CHY				S	**Sb**	**23 36 44.6**	**+0.1**
	baz=270						
WCHH	**Zhanghua**	**1.18**	**300**	*i* P	**Pb**	**23 36 30.9**	**+0.5**
	baz=299						
WCHH				*i* S	**Sb**	**23 36 46.6**	**+1.3**
	baz=299						
TWQ1	**Liyutan**	**1.19**	**316**	*i* P	**Pb**	**23 36 30.9**	**+0.4**
	baz=316						
TWQ1				*i* S	**Sb**	**23 36 46.6**	**+1.1**
	baz=316						
YHNB	**Yeheng**	**1.21**	**347**	P	**Pb**	**23 36 30.9**	**0.0**
	baz=347						
YHNB				S	**Sn**	**23 36 45.1**	**-0.2**
	baz=347						
NSK	**Sanguang**	**1.22**	**346**	P	**Pb**	**23 36 30.9**	**-0.1**
	baz=346						
NSK				S	**Sb**	**23 36 46.0**	**-0.3**
	baz=346						
SSD	**Sandimen**	**1.22**	**233**	P	**Pb**	**23 36 31.0**	**0.0**
	baz=231						
SSD				S	**Sb**	**23 36 47.1**	**+0.8**
	baz=231						
TWE	**Neicheng**	**1.23**	**359**	*i* P	**Pb**	**23 36 31.0**	**-0.1**
TSMG	**Majia**	**1.23**	**231**	*i* P	**Pb**	**23 36 32.0**	**+0.8**
	baz=230						
TSMG				*i* S	**Sb**	**23 36 47.4**	**+0.7**
	baz=230						
NSY	**Sanyi**	**1.25**	**318**	P	**Pb**	**23 36 31.8**	**+0.3**
	baz=318						
NSY				S	**Sb**	**23 36 48.0**	**+0.8**
	baz=318						
WRL	**Guolierlin Hig**	**1.26**	**289**	*i* P	**Pb**	**23 36 31.5**	**-0.2**
	baz=289						
WRL				*i* S	**Sb**	**23 36 47.3**	**-0.3**
	baz=289						
WDJ	**Dajia District**	**1.28**	**312**	*i* P	**Pb**	**23 36 32.1**	**0.0**
	baz=312						
WDJ				*i* S	**Sb**	**23 36 48.4**	**+0.3**
	baz=312						
NWLT	**Wulai**	**1.29**	**353**	*i* P	**Pb**	**23 36 32.8**	**+0.5**
	baz=353						
NWLT				*i* S	**Sn**	**23 36 47.9**	**+0.5**
	baz=353						
NSTT	**Nanjuang**	**1.29**	**331**	*i* P	**Pb**	**23 36 32.3**	**0.0**
	baz=332						
NSTT				*i* S	**Sb**	**23 36 48.6**	**+0.1**
	baz=332						
LIOB	**Emei**	**1.30**	**332**	*i* P	**Pb**	**23 36 32.5**	**+0.1**
	baz=332						
LIOB				*i* S	**Sb**	**23 36 49.6**	**+0.8**
	baz=332						
MASBT	**Mashibuluo**	**1.30**	**228**	P	**Pb**	**23 36 31.8**	**-0.6**
	baz=227						
MASBT				S	**Sb**	**23 36 49.2**	**+0.5**
	baz=227						
NMLH	**Miaoli**	**1.32**	**322**	*i* P	**Pb**	**23 36 32.5**	**-0.3**
	baz=322						
NMLH				*i* S	**Sb**	**23 36 49.0**	**-0.3**
	baz=322						
CHN8	**Yiju**	**1.36**	**264**	*e*P	**Pb**	**23 36 32.5**	**-0.9**
	baz=263						
CHN8				S	**Sb**	**23 36 49.5**	**-0.8**
	baz=263						
NTC	**Toucheng**	**1.36**	**6**	P	**Pb**	**23 36 33.1**	**-0.4**
	baz=6.0						
NTC				S	**Sb**	**23 36 51.8**	**+1.3**
	baz=6.0						
LAY	**Lan-yu**	**1.45**	**185**	P	**Pn**	**23 36 33.3**	**+0.2**
	baz=183						
NHDH	**Xindian Distri**	**1.47**	**355**	P	**Pb**	**23 36 34.8**	**-0.5**
	baz=354						
NHDH				S	**Sn**	**23 36 52.2**	**+0.5**
	baz=354						
SCZT	**Fangliau**	**1.48**	**221**	P	**Pb**	**23 36 35.9**	**+0.4**
	baz=220						
SCZT				S	**Sb**	**23 36 55.0**	**+1.2**
	baz=220						
TIPB	**Shuangxi**	**1.48**	**5**	*i* P	**Pb**	**23 36 35.6**	**+0.1**
	baz=5.0						
TIPB				*i* S	**Sb**	**23 36 54.0**	**+0.1**
	baz=5.0						
TWA	**Mucha**	**1.49**	**357**	*i* P	**Pb**	**23 36 35.0**	**-0.5**
	baz=357						
TWA				*i* S	**Sb**	**23 36 53.3**	**-0.7**
	baz=357						
JYNG	**Yonagunijimaku**	**1.50**	**50**	*e*S	**Sb**	**23 36 54.4**	**0.0**
SLIU	**Shizi**	**1.51**	**213**	*i* P	**Pn**	**23 36 34.4**	**+0.6**
	baz=212						
TWB1	**Santiao Chiao**	**1.54**	**10**	P	**Pb**	**23 36 36.5**	**+0.1**
	baz=11						
TWB1				S	**Sb**	**23 36 56.6**	**+1.1**
	baz=11						
YOJ	**Yonaguni jima**	**1.55**	**51**	P	**Pb**	**23 36 36.9**	**+0.2**
YOJ				S	**Sb**	**23 36 55.9**	**-0.1**
YOJ	**Yonaguni jima**	**1.55**	**51**	P	**Pb**	**23 36 35.9**	**-0.8**
	baz=51						
YOJ				S	**Sb**	**23 36 55.9**	**-0.1**
	baz=51						
NWF	**Wu-fen Shan**	**1.58**	**3**	*i* P	**Pb**	**23 36 36.1**	**-1.0**
	baz=3.0						
NWF				S	**Sb**	**23 36 56.7**	**0.0**
	baz=3.0						
TWS1	**Kuangyinshan**	**1.62**	**352**	P	**Pn**	**23 36 34.8**	**-0.6**
	baz=352						
TWS1				S	**Sb**	**23 36 57.2**	**-0.7**
	baz=352						
YM01	**YM01**	**1.65**	**357**	P	**Pn**	**23 36 37.0**	**+1.1**
	baz=356						
HEN	**Hengchun**	**1.71**	**211**	S	**Sb**	**23 36 59.1**	**-1.5**
	baz=209						
TWKBT	**Hengchun**	**1.74**	**208**	P	**Pn**	**23 36 37.2**	**+0.2**
	baz=207						
TWKBT				S	**Sn**	**23 36 59.4**	**+1.1**
	baz=207						

TSEB	**Hengchuen, Pin**	**1.74**	**205**	*e*P		**Pb**	**23 36 39.6**	**-0.3**
	baz=205							
TSEB				*e*S		**Sb**	**23 37 00.4**	**-0.9**
	baz=205							
TWK1	**Hengchun**	**1.74**	**208**	P		**Pn**	**23 36 38.1**	**+1.0**
	baz=206							
TWK1				S		**Sn**	**23 36 59.5**	**+1.2**
	baz=206							
WDGT	**Dungji**	**1.87**	**263**	*i* P		**Pn**	**23 36 38.7**	**-0.1**
	baz=262							
WDGT				*i* S		**Sn**	**23 37 00.3**	**-1.3**
	baz=262							
PHUB	**P'eng-hu**	**1.94**	**271**	P		**Pn**	**23 36 38.9**	**-0.8**
	baz=270							
PHUB				S		**Sn**	**23 37 01.6**	**-1.6**
	baz=270							
PNG	**Penghu**	**1.95**	**273**	*i* P		**Pn**	**23 36 39.8**	**-0.2**
	baz=272							
PNG				*i* S		**Sn**	**23 37 02.3**	**-1.3**
	baz=272							
HATJ	**Hateruma jima**	**2.03**	**73**	P		**Pb**	**23 36 43.1**	**-1.7**
HATJ				S		**Sb**	**23 37 07.9**	**-1.6**
IRIF	**Iriomote-Funau**	**2.06**	**65**	P		**Pb**	**23 36 43.8**	**-1.4**
IRIF				*e*S		**Sb**	**23 37 09.0**	**-1.4**
VCHM	**Qimei**	**2.09**	**263**	*e*P		**Pn**	**23 36 40.6**	**-1.2**
	baz=262							
VCHM				*e*S		**Sn**	**23 37 05.2**	**-1.7**
	baz=262							
JKRS	**Kuro-shima**	**2.26**	**70**	P		**Pb**	**23 36 47.3**	**-1.4**
JKRS				*e*S		**Sb**	**23 37 13.9**	**-2.3**
JIJ	**Ishigaki jima**	**2.42**	**68**	P		**Pn**	**23 36 48.2**	**+1.9**
JIJ				S		**Sn**	**23 37 16.5**	**+1.5**
JISG	**Ishigakijimahi**	**2.64**	**65**	P		**Pn**	**23 36 51.2**	**+1.8**
JISG				S		**Sn**	**23 37 21.3**	**+0.7**
JTJ	**Tarama**	**2.99**	**67**	P		**Pn**	**23 36 56.4**	**+2.2**
JTJ				*e*S		**Sn**	**23 37 31.8**	**+2.6**
KNMB	**Chin-men Tao**	**3.16**	**288**	*e*P		**Pn**	**23 36 56.1**	**-0.5**
	baz=287							
KNMB				*e*S		**Sn**	**23 37 30.3**	**-3.2**
	baz=287							
LYJJ	**Jianjiangzhen**	**3.51**	**331**	*e*P		**Pn**	**23 37 01.3**	**-0.1**
	baz=330							
LYJJ				*e*S		**Sn**	**23 37 39.4**	**-2.7**
	baz=330							
MHZQ	**Yeshan**	**3.54**	**318**	*e*P		**Pn**	**23 37 01.7**	**-0.1**
	baz=317							
MHZQ				*e*S		**Sn**	**23 37 40.0**	**-2.9**
	baz=317							
ZPLA	**Ao Xicun**	**3.63**	**278**	*e*P		**Pn**	**23 37 02.1**	**-0.9**
	baz=276							
ZPLA				*e*S		**Sn**	**23 37 41.7**	**-3.3**
	baz=276							
AXDP	**Jialang**	**3.67**	**293**	*e*P		**Pn**	**23 37 03.9**	**+0.3**
	baz=292							
AXDP				*e*S		**Sn**	**23 37 42.4**	**-3.6**
	baz=292							
XPSS	**Dashiqiu**	**3.68**	**339**	*e*P		**Pn**	**23 37 03.6**	**-0.1**
	baz=338							
XPSS				*e*S		**Sn**	**23 37 43.0**	**-3.2**
	baz=338							

TUL ***17*** *23:43:05.1±1.2,36°.51N±0°.04×99°.03W±0°.04,h7km±7km, ML2.8,mb_Lg2.6/44(NEIC),Error ellipse: s-maj=6.4km s-min=4.1km az=149.0*

NEIC 17 23:43:05.6±1.2,36°.54N±0°.04×99°.03W±0°.04,h12km±7km, Error ellipse: s-maj=6.8km s-min=4.5km az=160.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.16**	**172**	Pg	Pg	23 43 08.4	-0.9
U32A				Sg	Sg	23 43 10.7	-1.2
OK032	**Salt Plains WL**	**0.71**	**68**	Sg	Sb	23 43 29.3	-0.3
CROK	**Carrier**	**0.84**	**92**		Pg	23 43 21.2	-0.7
KAN10	**Anthony SW Sta**	**0.95**	**52**		Pg	23 43 23.5	-0.4
KAN10				Sg	Sg	23 43 36.5	+0.1
KAN14	**Manchester OK**	**0.95**	**64**	Pg	Pg	23 43 23.4	-0.5
KAN14				Sg	Sg	23 43 36.4	0.0
GC02	**Grant County #**	**0.99**	**71**		Pg	23 43 24.0	-0.7
GC02				Sg	Sg	23 43 37.6	0.0
KAN08	**Anthony NE Sta**	**1.09**	**51**	Pg	Pb	23 43 25.9	-0.5
KAN12	**Harper NE Stat**	**1.12**	**47**	Pg	Pb	23 43 26.4	-0.5
KAN17	**Caldwell West**	**1.13**	**63**	Pg	Pb	23 43 26.6	-0.5
KAN09	**Caldwell North**	**1.28**	**62**	Pn	Pn	23 43 29.4	0.0
KAN09				IAmb_Lg		23 43 47.7	
	comp=Z,74nm,0.7s						
KAN13	**South Haven SW**	**1.33**	**69**	Pn	Pn	23 43 29.6	-0.5
KS20	**Mayfield South**	**1.37**	**59**	Pn	Pb	23 43 30.9	-0.3
BC0K	**Bluff Creek, N**	**1.45**	**127**		Pn	23 43 31.4	-0.3
OK029	**Liberty Lake**	**1.47**	**120**		Pn	23 43 31.7	-0.3
BLOK	**Blackwell**	**1.48**	**81**		Pn	23 43 32.2	+0.2
OK025	**Westminster Rd**	**1.67**	**124**		Pn	23 43 34.8	+0.1
OKCFA	**Oklahoma City**	**1.70**	**131**	Pn	Pn	23 43 35.1	-0.1
OKCSW	**OKLAHOMA CITY**	**1.71**	**131**		Pn	23 43 35.3	-0.1
WMOK	**Wichita Mounta**	**1.81**	**173**		Pn	23 43 36.3	-0.3
FNO	**Franklin**	**1.84**	**134**		Pn	23 43 37.2	+0.1
OK031	**S. Brethren Rd**	**1.86**	**108**		Pn	23 43 38.0	+0.6
R32A	**Long Quarter,**	**1.90**	**8**		Pb	23 43 39.2	-1.0
QUOK	**Quay**	**1.91**	**100**		Pn	23 43 38.8	+0.8
T35A	**Sooner Cattle**	**2.06**	**79**		Pn	23 43 40.6	+0.6
X34A	**Smith Ranch, M**	**2.16**	**153**	Pn	Pn	23 43 41.3	-0.2
CBKS	**Cedar Bluff**	**2.34**	**346**		Pn	23 43 45.2	+1.2
AMTX	**Amarillo**	**2.72**	**233**		Pb	23 43 54.6	+0.4
LOOK	**Love County**	**2.96**	**149**	Pn	Pn	23 43 52.4	0.0
KSU1	**Kansas State U**	**3.20**	**36**	Pn	Pn	23 43 55.1	-0.6
Z35A	**Perchaven, San**	**3.52**	**155**	Pn	Pn	23 43 59.8	-0.3
X37A	**Clayton**	**3.56**	**122**		Pn	23 44 00.1	-0.5
X37A				IAmb_Lg		23 45 01.8	
	comp=Z,19nm,0.9s						
U38A	**Gravette**	**3.74**	**90**		Pn	23 44 03.8	+0.6
KSCO	**Kaye Shedlock'**	**3.77**	**312**	IAmb_Lg		23 45 09.7	
	comp=Z,12nm,0.7s						
ABTX	**Abilene, Hawle**	**3.94**	**188**		Pn	23 44 04.7	-1.2
HHAR	**Hobbs**	**4.11**	**92**	IAmb_Lg		23 45 15.7	
	comp=Z,14nm,0.7s						
T25A	**Trinidad**	**4.36**	**280**	Pn	Pn	23 44 11.2	-0.6
T25A				IAmb_Lg		23 45 22.8	
	comp=Z,14nm,1.2s						
W39A	**Magazine**	**4.46**	**106**		Pn	23 44 14.2	+1.1
W39A				IAmb_Lg		23 45 32.0	
	comp=Z,11nm,0.8s						
S39A	**Bolivar**	**4.70**	**74**		Pn	23 44 16.1	-0.4
S39A				IAmb_Lg		23 45 34.4	
	comp=Z,11nm,0.7s						
MIAR	**Mount Ida**	**4.87**	**112**	Pn	Pn	23 44 18.9	+0.2
MIAR				IAmb_Lg		23 45 46.6	
	comp=Z,9.4nm,1.0s						
U40A	**Yellville**	**4.98**	**90**	Pn	Pn	23 44 20.1	-0.2
U40A				IAmb_Lg		23 45 48.2	
	comp=Z,11nm,0.8s						
SDCO	**Great Sand Dun**	**5.31**	**285**	Pn	Pn	23 44 23.1	-1.9
P38A	**Dawn**	**5.32**	**53**	Pn	Pn	23 44 25.1	+0.2
P38A				IAmb_Lg		23 46 09.5	
	comp=Z,7.9nm,0.9s						
X40A	**Basin Creek Fa**	**5.45**	**110**	Pn	Pn	23 44 25.7	-1.0
MGMO	**Mountain Grove**	**5.46**	**82**	Pn	Pn	23 44 26.6	-0.2
MGMO				IAmb_Lg		23 46 00.7	
	comp=Z,11nm,0.8s						
WHAR	**Wooly Hollow**	**5.61**	**101**	Pn	Pn	23 44 29.7	+0.8
WHAR				IAmb_Lg		23 46 08.4	
	comp=Z,9.8nm,1.0s						
FCAR	**Ozark Folk Cen**	**5.62**	**95**	IAmb_Lg		23 46 08.9	
	comp=Z,8.2nm,0.8s						
R40A	**Maddies Statio**	**5.66**	**70**	Pn	Pn	23 44 29.9	+0.3
L34A	**Svendsen Farm,**	**5.80**	**20**	IAmb_Lg		23 46 12.1	
	comp=Z,13nm,0.9s						
435B	**Jarrell**	**5.86**	**168**	IAmb_Lg		23 46 27.5	
	comp=Z,10nm,0.7s						
JCT	**Junction City**	**6.08**	**186**	IAmb_Lg		23 46 22.7	
	comp=Z,9.9nm,0.8s						
ANMO	**Albuquerque**	**6.25**	**257**	IAmb_Lg		23 46 29.5	
	comp=Z,4.5nm,0.9s						
ANMO				IAmb_Lg		23 46 29.5	
	comp=Z,4.5nm,0.8s						
LCAR	**Lake Charles**	**6.38**	**92**	IAmb_Lg		23 46 37.7	
	comp=Z,6.4nm,0.9s						
CCM	**Cathedral Cave**	**6.39**	**74**	IAmb_Lg		23 46 32.1	
	comp=Z,13nm,0.7s						
SMCO	**Snowmass**	**6.81**	**295**	IAmb_Lg		23 46 52.4	
	comp=Z,11nm,0.8s						
PHWY	**Pilot Hill**	**6.91**	**315**	IAmb_Lg		23 46 49.3	
	comp=Z,6.5nm,0.8s						
PBMO	**Poplar Bluff**	**6.92**	**85**	IAmb_Lg		23 46 54.3	
	comp=Z,6.0nm,0.7s						
ECSD	**EROS Data Cent**	**7.42**	**14**	IAmb_Lg		23 46 55.6	
	comp=Z,7.0nm,0.8s						
PV05	**Paradox Valley**	**8.17**	**284**	IAmb_Lg		23 47 16.0	
	comp=Z,5.3nm,0.8s						

IDC ***17*** *23:44:12.5±3.0, 32°.73S×178°.26W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/25, mbtmp4.0/4, ML3.6/1, Error ellipse: s-maj=64.2km s-min=36.7km az=117.0*

NEIC ***17*** *23:44:12.2±2.3, 32°.66S±0°.08×178°.04W±0°.04, h10km±2km, mb4.1/7, Error ellipse: s-maj=13.1km s-min=6.4km az=178.0*

ISC 17 23:44:13.2±1.6, 32°.72S±0°.09×178°.1W±0°.2, h20km, n21, σ1§19/23, mb4.1/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.46**	**2**	Pn	**Pn**	**23 45 05.5**	**-0.5**
MXZ	**Matakaoa Point**	**5.67**	**211**	Pn	**Pn**	**23 45 38.5**	**+2.1**
URZ	**Urewera**	**6.79**	**214**	Pn	**Pn**	**23 45 52.5**	**+0.8**
	1.3nm,0.3s,baz=92,slow=16,SNR=1.9						
URZ				Sn	**Sn**	**23 47 07.6**	**-0.8**
	6.0nm,0.3s,baz=149,slow=18,SNR=5.3						
URZ	**Urewera**	**6.79**	**214**	Pn	**Pn**	**23 45 51.6**	**0.0**
URZ				Sn	**Sn**	**23 47 08.8**	**+0.4**
OUZ	**Omahuta**	**7.37**	**248**	Pn	**Pn**	**23 46 00.6**	**+0.9**
BKZ	**Black Stump Fm**	**7.80**	**213**	Pn	**Pn**	**23 46 07.2**	**+1.5**
PLWZ	**Palliser**	**10.31**	**209**	Pn	**Pn**	**23 46 40.4**	**+0.3**
BHW	**Baring Head**	**10.35**	**211**	Pn	**Pn**	**23 46 40.3**	**-0.1**
NNZ	**Nelson**	**10.90**	**216**	Pn	**Pn**	**23 46 49.3**	**+1.4**
QRZ	**Quartz Range**	**11.06**	**220**	Pn	**Pn**	**23 46 48.1**	**-2.1**
OUENC	**Ouen Island, N**	**16.86**	**304**		**P**	**23 48 09.5**	**-0.6**
OUENC				IAmb	IAmb	23 48 23.4	
	comp=Z,18nm,1.1s						
DZM	**Mont Dzumac**	**17.36**	**304**		**P**	**23 48 15.0**	**-0.7**
DZM				IAmb	IAmb	23 48 19.1	
	comp=Z,5.5nm,1.0s						
CTA	**Charters Tower**	**34.20**	**283**	P	**P**	**23 50 59.1**	**+1.6**
	comp=Z,1.6nm,0.5s,baz=46,slow=12,SNR=1.2						
BBOO	**Buckleboo**	**38.35**	**257**	P	**P**	**23 51 31.4**	**-1.5**
BBOO				IAmb	IAmb	23 51 32.7	
	comp=Z,6.3nm,1.1s						
ASAR	**Alice Springs**	**42.99**	**269**	P	**P**	**23 52 12.2**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=108,slow=7.8,SNR=14						
WR0	**Warramunga Arr**	**44.01**	**275**	P	**P**	**23 52 20.1**	**+0.5**
WR0				IAmb	IAmb	23 52 37.7	
	comp=Z,3.2nm,1.1s						
WB2	**Warramunga Arr**	**44.18**	**275**	P	**P**	**23 52 21.3**	**+0.4**
WB2				IAmb	IAmb	23 52 22.0	
	comp=Z,2.6nm,0.9s						
WRA	**Warramunga Arr**	**44.19**	**275**	P	**P**	**23 52 21.6**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=114,slow=7.9,SNR=11						
WRA	**Warramunga Arr**	**44.19**	**275**	P	**P**	**23 52 21.0**	**0.0**
FORT	**Forrest**	**45.45**	**257**	P	**P**	**23 52 28.6**	**-2.3**
FINES	**FINESS Array B**	**147.30**	**339**	PKPbc	**PKPab**	**00 03 56.0**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=49,slow=4.2,SNR=7.0						

IDC ***17*** *23:54:59.3±0.5, 31°.80S×71°.95W, h0km, mb4.5/16, mb1 4.6/20, mb1mx4.6/27, mbtmp4.5/20, ML4.3/4, MS4.2/16, Ms1 4.2/16, ms1mx4.0/33, Error ellipse: s-maj=20.9km s-min=14.2km az=90.0*

NEIC ***17*** *23:55:00.7±1.8, 31°.83S±0°.04×72°.30W±0°.08, h10km±1km, mb4.9/94, Mwr4.8/44, Mwr5.1(GUC), Error ellipse: s-maj=11.2km s-min=6.1km az=283.0*

SJA ***17*** *23:55:00.0±0.6, 31°.90S×72°.31W, h16km±6km, ML5.0, MW4.9*

GUC ***17*** *23:55:00.8±0.8, 31°.81S×72°.18W, h22km±8km, ML5.1*

NEIC ***17*** *23:55:01.2, 31°.84S×72°.27W, h16km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr 1.69; Mθθ 0.09; Mθφ -1.78; Mrθ -0.09; Mφφ -0.02; Mrφ 0.46; Fault plane solution: M₀ 1.80000×10¹⁶ NP1:φs 183.91000°, δ 37.68000°, λ 95.29000°. NP2:φs 357.24000°, δ 52.51000°, λ 85.93000°. Principal axes: T 1.7559, Plg 82.0000°, Azm 246.0000°; N 0.0806, Plg 3.0000°, Azm 360.0000°; P -1.8365, Plg 7.0000°, Azm 90.0000°;*

ISC 17 23:54:59.6±1.7, 31°.82S±0°.02×72°.30W±0°.04, h6km±10km, n244, σ1§45/282, mb4.9/57, MS4.4/15, 27C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**1.12**	**131**	⇓*i*P	**Pb**	**23 55 19.9**	**-1.6**
VA06				*i* S	**Sb**	**23 55 33.5**	**-2.8**
VA06	**Catapilco**	**1.12**	**131**	⇓*i*P	**Pb**	**23 55 19.9**	**-1.6**
VA06				*i* S	**Sb**	**23 55 33.5**	**-3.1**
VA06	**Catapilco**	**1.12**	**131**	⇓*i*P	**Pb**	**23 55 19.9**	**-1.6**
VA06				*i* S	**Sb**	**23 55 33.5**	**-2.8**
VA06				IAML		23 55 39.2	
	comp=E,89μm,0.4s						
CO06	**Fray Jorge**	**1.27**	**27**	⇑*i*P	**Pn**	**23 55 22.6**	**-1.3**
CO06				*i* S	**Sb**	**23 55 38.2**	**-2.4**
CO06	**Fray Jorge**	**1.27**	**27**	Pn	**Pn**	**23 55 23.0**	**-1.0**
CO06	**Fray Jorge**	**1.27**	**27**	⇑*i*P	**Pn**	**23 55 22.6**	**-1.3**
CO06	**Fray Jorge**	**1.27**	**27**	⇑*i*P	**Pn**	**23 55 22.6**	**-1.3**
CO06				*i* S	**Sb**	**23 55 38.2**	**-2.4**
VA01	**Torpederas**	**1.32**	**156**	⇑*i*P	**Pn**	**23 55 23.4**	**-1.2**
VA01				*i* S	**Sb**	**23 55 39.8**	**-2.2**
VA01	**Torpederas**	**1.32**	**156**	Pn	**Pn**	**23 55 23.3**	**-1.2**
VA01	**Torpederas**	**1.32**	**156**	*e*P	**Pn**	**23 55 23.8**	**-0.8**
VA01				*e*S	**Sb**	**23 55 41.0**	**-1.0**
VA01	**Torpederas**	**1.32**	**156**	⇑*i*P	**Pn**	**23 55 23.4**	**-1.2**
VA01				*i* S	**Sb**	**23 55 38.0**	**-3.9**
VA01	**Torpederas**	**1.32**	**156**	⇑*i*P	**Pn**	**23 55 23.4**	**-1.2**
VA01				*i* S	**Sb**	**23 55 39.8**	**-2.2**
ROCH	**El Roble**	**1.58**	**137**	⇑*i*P	**Pn**	**23 55 27.0**	**-1.4**
ROCH				*i* S	**Sn**	**23 55 47.4**	**-1.9**
ROCH	**El Roble**	**1.58**	**137**	⇑*i*P	**Pn**	**23 55 27.2**	**-1.2**
ROCH				*i* S	**Sn**	**23 55 45.8**	**-3.5**
ROCH	**El Roble**	**1.58**	**137**	⇑*i*P	**Pn**	**23 55 27.0**	**-1.4**
ROCH				*i* S	**Sn**	**23 55 47.4**	**-1.9**
ROCH				IAML		23 55 51.8	
	comp=N,31μm,0.2s						
CO03	**El Pedregal**	**1.69**	**55**	⇑*i*P	**Pn**	**23 55 28.7**	**-1.0**
CO03				*i* S	**Sn**	**23 55 49.3**	**-2.4**
CO03	**El Pedregal**	**1.69**	**55**	Pn	**Pn**	**23 55 29.5**	**-0.2**
CO03	**El Pedregal**	**1.69**	**55**	*e*P	**Pn**	**23 55 29.5**	**-0.2**
CO03				*e*S	**Sn**	**23 55 45.5**	**-6.2**
CO03	**El Pedregal**	**1.69**	**55**	⇑*i*P	**Pn**	**23 55 28.7**	**-1.0**
CO03				*i* S	**Sn**	**23 55 49.3**	**-2.4**
CO03	**El Pedregal**	**1.69**	**55**	⇑*i*P	**Pn**	**23 55 28.7**	**-1.0**
CO03				*i* S	**Sn**	**23 55 49.3**	**-2.4**
VA03	**San Esteban**	**1.75**	**123**	⇑*i*P	**Pn**	**23 55 29.5**	**-1.1**
VA03				*i* S	**Sn**	**23 55 51.0**	**-2.3**
VA03	**San Esteban**	**1.75**	**123**		**Pn**	**23 55 29.9**	**-0.7**
VA03	**San Esteban**	**1.75**	**123**	*e*P	**Pn**	**23 55 30.0**	**-0.7**
VA03				*e*S	**Sn**	**23 55 52.5**	**-0.9**
VA03				IAML		23 55 57.7	
	comp=Z,22μm,0.7s						
VA03	**San Esteban**	**1.75**	**123**	⇑*i*P	**Pn**	**23 55 29.5**	**-1.1**
VA03				*i* S	**Sn**	**23 55 50.2**	**-3.1**
VA03	**San Esteban**	**1.75**	**123**	⇑*i*P	**Pn**	**23 55 29.5**	**-1.1**
VA03				*i* S	**Sn**	**23 55 51.0**	**-2.3**
VA03				IAML		23 55 59.2	
	comp=N,36μm,0.4s						
VA05	**Santo Domingo**	**1.92**	**163**	*e*P	**Pn**	**23 55 32.0**	**-0.8**
VA05				*i* S	**Sg**	**23 56 01.2**	**-0.2**
VA05	**Santo Domingo**	**1.92**	**163**	Pn	**Pn**	**23 55 32.4**	**-0.5**
VA05	**Santo Domingo**	**1.92**	**163**	*e*P	**Pn**	**23 55 32.2**	**-0.7**
VA05				*i* S	**Sb**	**23 55 59.8**	**+0.5**
VA05	**Santo Domingo**	**1.92**	**163**	*e*P	**Pn**	**23 55 32.0**	**-0.8**
VA05				*i* S	**Sg**	**23 56 01.2**	**-0.2**
MT05	**Renca**	**2.05**	**140**	⇑*i*P	**Pn**	**23 55 33.9**	**-0.7**
MT05				*i* S	**Sn**	**23 56 00.6**	**0.0**
MT05	**Renca**	**2.05**	**140**	Pn	**Pn**	**23 55 34.0**	**-0.6**
MT05	**Renca**	**2.05**	**140**	⇑*i*P	**Pn**	**23 55 33.8**	**-0.9**
MT05				*i* S	**Sn**	**23 56 00.7**	**+0.2**
MT05	**Renca**	**2.05**	**140**	⇑*i*P	**Pn**	**23 55 33.9**	**-0.7**
MT05				*i* S	**Sn**	**23 56 00.6**	**0.0**
MT05				IAML		23 56 05.1	
	comp=E,35μm,0.3s						
GO04	**Tololo Observa**	**2.08**	**38**	*e*P	**Pn**	**23 55 35.1**	**-0.2**
GO04				*i* S	**Sb**	**23 56 04.4**	**+0.2**
GO04	**Tololo Observa**	**2.08**	**38**	Pn	**Pb**	**23 55 37.4**	**-0.5**
GO04	**Tololo Observa**	**2.08**	**38**	*e*P	**Pn**	**23 55 34.4**	**-0.9**
GO04				*i* S	**Sb**	**23 56 04.7**	**+0.5**
GO04	**Tololo Observa**	**2.08**	**38**	*e*P	**Pn**	**23 55 35.1**	**-0.2**
GO04				*i* S	**Sb**	**23 56 04.4**	**+0.2**
CO05	**La Serena**	**2.10**	**26**	*e*P	**Pn**	**23 55 35.0**	**-0.3**
CO05				*i* S	**Sn**	**23 56 02.0**	**+0.3**
CO05	**La Serena**	**2.10**	**26**	Pn	**Pn**	**23 55 35.0**	**-0.3**
CO05	**La Serena**	**2.10**	**26**	*e*P	**Pn**	**23 55 35.0**	**-0.3**
CO05				*i* S	**Sn**	**23 56 02.0**	**+0.3**
MT01	**Popeta**	**2.22**	**157**	*e*P	**Pn**	**23 55 36.3**	**-0.7**
MT01				*i* S	**Sn**	**23 56 05.9**	**+1.1**
MT01	**Popeta**	**2.22**	**157**		**Pn**	**23 55 36.6**	**-0.4**
MT01	**Popeta**	**2.22**	**157**	*e*P	**Pn**	**23 55 36.3**	**-0.7**
MT01				*i* S	**Sn**	**23 56 05.9**	**+1.1**
FSR	**Penalolen**	**2.23**	**138**	*e*P	**Pn**	**23 55 37.6**	**+0.4**
FSR				*i* S	**Sn**	**23 56 05.4**	**+0.4**
FSR	**Penalolen**	**2.23**	**138**	*e*P	**Pn**	**23 55 37.6**	**+0.4**
FSR				*i* S	**Sn**	**23 56 05.4**	**+0.4**
MT09	**Talagante**	**2.24**	**151**	⇑*i*P	**Pn**	**23 55 37.3**	**-0.1**
MT09				*i* S	**Sn**	**23 56 04.0**	**-1.4**
MT09	**Talagante**	**2.24**	**151**		**Pn**	**23 55 37.6**	**+0.2**
MT09	**Talagante**	**2.24**	**151**	⇑*i*P	**Pn**	**23 55 37.3**	**-0.1**
MT09				*i* S	**Sn**	**23 56 03.6**	**-1.9**
MT09	**Talagante**	**2.24**	**151**	⇑*i*P	**Pn**	**23 55 37.3**	**-0.1**
MT09				*i* S	**Sn**	**23 56 04.0**	**-1.4**
AUSP	**Uspallata**	**2.50**	**100**	*e*P	**Pn**	**23 55 43.0**	**+1.9**
AUSP				*e*S	**Sb**	**23 56 15.1**	**-1.2**
LMEL	**Las Melosas**	**2.68**	**140**	⇑*i*P	**Pn**	**23 55 43.4**	**-0.1**
LMEL				*i* S	**Sn**	**23 56 15.5**	**-0.9**
LMEL	**Las Melosas**	**2.68**	**140**	⇑*i*P	**Pn**	**23 55 43.4**	**-0.1**
LMEL				*i* S	**Sn**	**23 56 15.5**	**-0.9**
BO03	**Pichilemu**	**2.69**	**174**	⇑*i*P	**Pn**	**23 55 42.6**	**-0.7**
BO03	**Pichilemu**	**2.69**	**174**	⇑*i*P	**Pn**	**23 55 42.6**	**-0.7**
BO01	**Tunca**	**2.76**	**159**	*e*P	**Pn**	**23 55 43.9**	**-0.5**
BO01	**Tunca**	**2.76**	**159**	Pn	**Pn**	**23 55 44.4**	**0.0**
BO01	**Tunca**	**2.76**	**159**	*e*P	**Pn**	**23 55 41.0**	**-3.4**
BO01				*e*P	Pb	23 55 45.0	-4.3
BO01				*e*P		23 55 45.5	
BO01				*e*S	**Sn**	**23 56 10.4**	**-7.6**
BO01				IAML		23 56 31.0	
	comp=Z,4μm,0.7s						
BO01	**Tunca**	**2.76**	**159**	*e*P	**Pn**	**23 55 43.9**	**-0.5**
ACCO	**Cerro Coronel**	**3.03**	**67**	*e*P	**Pb**	**23 55 53.0**	**-1.1**
ACCO				*e*S	**Sb**	**23 56 31.9**	**+0.5**
ZON	**Zonda**	**3.10**	**86**	Pn	**Pn**	**23 55 51.2**	**+2.1**
LCO	**Las Campanas**	**3.12**	**27**	*e*P	**Pn**	**23 55 49.0**	**-0.5**
LCO	**Las Campanas**	**3.12**	**27**	Pn	**Pn**	**23 55 48.6**	**-1.0**
LCO	**Las Campanas**	**3.12**	**27**	*e*P	**Pn**	**23 55 49.0**	**-0.5**
RTCV	**Cerro Valdivia**	**3.20**	**92**	*e*P	**Pn**	**23 55 52.8**	**+2.3**
RTCV				*e*S	**Sb**	**23 56 34.0**	**-2.1**
GO05	**Huala**	**3.20**	**175**	*e*P	**Pn**	**23 55 49.6**	**-0.8**
GO05	**Huala**	**3.20**	**175**	Pn	**Pn**	**23 55 50.0**	**-0.4**
GO05	**Huala**	**3.20**	**175**	*e*P	**Pn**	**23 55 49.6**	**-0.8**
BO02	**Sierra Bellavi**	**3.23**	**157**	*e*P	**Pn**	**23 55 51.6**	**+0.7**
BO02	**Sierra Bellavi**	**3.23**	**157**	Pn	**Pn**	**23 55 51.6**	**+0.7**
BO02	**Sierra Bellavi**	**3.23**	**157**	*e*P	**Pn**	**23 55 51.6**	**+0.7**
AC04	**Llanos de Chal**	**3.75**	**17**	*e*P	**Pn**	**23 55 57.0**	**-1.1**
AC04	**Llanos de Chal**	**3.75**	**17**	Pn	**Pn**	**23 55 57.0**	**-1.1**
AC04	**Llanos de Chal**	**3.75**	**17**	*e*P	**Pn**	**23 55 57.0**	**-1.1**
COIS	**El Sosneado**	**3.98**	**146**	*e*P	**Pn**	**23 56 04.0**	**+2.8**
COIS				*e*S	**Sb**	**23 57 01.9**	**+3.3**
ML02	**Panimavida**	**4.00**	**170**	Pn	**Pn**	**23 56 01.0**	**-0.5**
LAMA	**Las Malvinas**	**4.04**	**141**	*e*P	**Pn**	**23 56 04.0**	**+2.0**
LAMA				*e*S	Sn	23 56 34.0	-16
RFA	**San Rafael**	**4.35**	**134**	*e*P	**Pn**	**23 56 09.2**	**+2.8**
RFA				*e*S	**Sb**	**23 57 10.9**	**+1.6**
GO03	**Copiap**	**4.58**	**24**	Pn	**Pn**	**23 56 09.0**	**-0.4**
AC06	**Mina Casimiro**	**4.76**	**21**	Pn	**Pn**	**23 56 13.7**	**+1.9**
BI05	**Punta Hualpn**	**4.97**	**188**	*e*P	**Pn**	**23 56 13.8**	**-1.0**
BI05	**Punta Hualpn**	**4.97**	**188**	*e*P	**Pn**	**23 56 13.8**	**-1.0**
MRA	**San

TBI	**Tubuai**	**67.63**	**256**	*e*LR		LR	00 26 13.0		
	comp=Z,351nm,29.5s								
TXAR	**Lajitas Array**	**67.73**	**331**	P		**P**	**00 06 00.0**	**+2.0**	
	comp=Z,1.2nm,0.7s,baz=153,slow=7.7,SNR=20								
TXAR				LR		LR	00 31 42.7		
	comp=Z,125nm,18.1s,baz=0.0,slow=32								
TXAR	**Lajitas Array**	**67.73**	**331**	P		**P**	**00 05 59.2**	**+1.2**	
TX31	**Lajitas Ar. Si**	**67.73**	**331**	P		**P**	**00 05 59.4**	**+1.3**	
TX32	**Lajitas Array**	**67.73**	**331**	P		**P**	**00 05 59.4**	**+1.3**	
TX32				IAmb		IAmb	00 06 13.2		
	comp=Z,16nm,1.7s								
OXF	**Oxford**	**67.92**	**345**	P		**P**	**00 05 59.6**	**+0.6**	
SYO	**Syowa Base**	**67.97**	**159**⇑	*e*P		**P**	**00 05 58.4**	**-0.6**	
V52A	**Sevierville**	**68.14**	**350**	P		**P**	**00 05 60.0**	**-0.4**	
CLTN	**Cedars of Leba**	**68.83**	**348**	P		**P**	**00 06 04.7**	**+0.1**	
Z35A	**Perchaven, San**	**68.95**	**338**	P		**P**	**00 06 06.5**	**+1.0**	
ABTX	**Abilene, Hawle**	**69.11**	**335**	P		**P**	**00 06 06.9**	**+0.4**	
WVT	**Waverly**	**69.14**	**347**	P		**P**	**00 06 06.6**	**0.0**	
WVT				IAmb		IAmb	00 06 17.7		
	comp=Z,15nm,1.1s								
W39A	**Magazine**	**69.65**	**341**	P		**P**	**00 06 10.0**	**+0.3**	
LCAR	**Lake Charles**	**69.81**	**344**	P		**P**	**00 06 11.0**	**+0.3**	
LCAR				IAmb		IAmb	00 06 21.9		
	comp=Z,14nm,1.2s								
PPT2	**Papeete2**	**70.34**	**261**	*e*S		**S**	**00 15 24.0**	**-3.8**	
	comp=Z,75nm,24.0s								
PPT2	**Papeete2**	**70.34**	**261**	*e*LR		LR	00 27 28.8		
	comp=Z,129nm,25.0s								
U40A	**Yellville**	**70.50**	**342**	P		**P**	**00 06 15.5**	**+0.5**	
U40A				IAmb		IAmb	00 06 16.8		
	comp=Z,12nm,1.0s								
MNTX	**Cornudas Mount**	**70.51**	**330**	P		**P**	**00 06 16.0**	**+0.8**	
MNTX				IAmb		IAmb	00 06 26.5		
	comp=Z,7.0nm,0.9s								
HHAR	**Hobbs**	**70.72**	**342**	P		**P**	**00 06 16.1**	**-0.2**	
HHAR				IAmb		IAmb	00 06 27.7		
	comp=Z,11nm,0.9s								
MSTX	**Muleshoe**	**71.46**	**334**	P		**P**	**00 06 21.9**	**+0.9**	
CCM	**Cathedral Cave**	**71.73**	**344**	P		**P**	**00 06 22.5**	**+0.2**	
CCM				IAmb		IAmb	00 06 24.2		
	comp=Z,11nm,1.0s								
S39A	**Bolivar**	**71.89**	**343**	P		**P**	**00 06 23.5**	**+0.2**	
S39A				IAmb		IAmb	00 06 34.9		
	comp=Z,12nm,1.1s								
R40A	**Maddies Statio**	**72.19**	**344**	P		**P**	**00 06 25.6**	**+0.5**	
R40A				IAmb		IAmb	00 06 36.5		
	comp=Z,18nm,1.1s								
121A	**Cookes Peak, D**	**72.26**	**329**	P		**P**	**00 06 25.9**	**0.0**	
121A				IAmb		IAmb	00 06 39.2		
	comp=Z,9.0nm,1.0s								
P40A	**Paris**	**73.32**	**344**	P		**P**	**00 06 31.8**	**-0.1**	
P40A				IAmb		IAmb	00 06 33.6		
	comp=Z,13nm,0.9s								
P38A	**Dawn**	**73.77**	**343**	P		**P**	**00 06 34.1**	**-0.3**	
P38A				IAmb		IAmb	00 06 45.6		
	comp=Z,17nm,1.2s								
ANMO	**Albuquerque**	**73.77**	**331**	P		**P**	**00 06 35.1**	**+0.2**	
LIC	**Lamto**	**74.30**	**72**	*e*P		**P**	**00 06 37.4**	**-0.8**	
	comp=Z,43nm,0.8s								
TIC	**Toumodi**	**74.55**	**72**	*e*P		**P**	**00 06 38.7**	**-1.0**	
KIC	**Kosan Boka**	**74.61**	**72**	*e*P		**P**	**00 06 39.2**	**-0.8**	
	comp=Z,44nm,0.8s								
DBIC	**Dimbokro**	**74.70**	**72**	P		**P**	**00 06 39.3**	**-1.2**	
	comp=Z,23nm,0.9s,baz=233,slow=4.5,SNR=16								
DBIC				LR		LR	00 35 55.3		
	comp=Z,256nm,21.4s,baz=220,slow=33								
DBIC	**Dimbokro**	**74.70**	**72**	P		**P**	**00 06 39.4**	**-1.1**	
T25A	**Trinidad**	**74.88**	**334**	P		**P**	**00 06 41.8**	**+0.5**	
T25A				IAmb		IAmb	00 06 54.4		
	comp=Z,12nm,0.9s								
MAW	**Mawson**	**75.33**	**164**	P		**P**	**00 06 43.5**	**+0.2**	
	comp=Z,6.9nm,0.9s,baz=231,slow=9.1,SNR=7.0								
MAW				LR		LR	00 39 15.0		
	comp=Z,312nm,20.3s,baz=234,slow=35								
MAW	**Mawson**	**75.33**	**164**	P		**P**	**00 06 43.7**	**+0.4**	
X16A	**Lo Mia Camp, P**	**75.49**	**327**	P		**P**	**00 06 44.5**	**-0.3**	
X16A				IAmb		IAmb	00 06 58.1		
	comp=Z,8.2nm,1.0s								
L40A	**Anamosa**	**75.56**	**346**	P		**P**	**00 06 44.5**	**-0.3**	
L40A				IAmb		IAmb	00 06 55.7		
	comp=Z,16nm,0.9s								
SDCO	**Great Sand Dun**	**75.83**	**333**	P		**P**	**00 06 44.8**	**-2.0**	
WUAZ	**Wupatki**	**76.37**	**328**	P		**P**	**00 06 50.5**	**+0.7**	
WUAZ				IAmb		IAmb	00 07 03.1		
	comp=Z,8.9nm,0.9s								
MVCO	**Mesa Verde**	**76.56**	**331**	P		**P**	**00 06 51.1**	**+0.2**	
MVCO				IAmb		IAmb	00 07 03.2		
	comp=Z,12nm,1.3s								
RAR	**Rarotonga**	**77.07**	**253**	LR		LR	00 33 32.9		
	comp=Z,67nm,19.1s,baz=239,slow=30								
F64A	**Sherman**	**77.40**	**3**	P		**P**	**00 06 56.2**	**+1.1**	
F64A				IAmb		IAmb	00 07 07.1		
	comp=Z,17nm,1.0s								
SMCO	**Snowmass**	**77.64**	**333**	P		**P**	**00 06 57.2**	**0.0**	
SMCO				IAmb		IAmb	00 07 40.1		
	comp=Z,11nm,0.7s								
ISCO	**Idaho Springs**	**77.67**	**334**	P		**P**	**00 06 57.2**	**0.0**	
KNB	**Kanab**	**78.26**	**328**	P		**P**	**00 07 01.1**	**+0.7**	
KNB				IAmb		IAmb	00 07 13.9		
	comp=Z,12nm,1.0s								
ECSD	**EROS Data Cent**	**78.41**	**342**	IAmb		IAmb	00 07 02.6		
	comp=Z,8.9nm,0.8s								
D62A	**Allapoint, All**	**78.59**	**2**	P		**P**	**00 07 03.0**	**+1.2**	
D62A				IAmb		IAmb	00 07 13.9		
	comp=Z,15nm,0.8s								
MTPU	**Mount Pierson**	**78.83**	**329**	P		**P**	**00 07 04.5**	**+0.8**	
CCUT	**Cedar City**	**78.95**	**328**	IAmb		IAmb	00 07 17.9		
	comp=Z,8.9nm,1.0s								
P17A	**Butcher Ranch,**	**79.41**	**331**	P		**P**	**00 07 08.1**	**+1.4**	
PRN	**Pahroc Range**	**79.61**	**327**	P		**P**	**00 07 09.0**	**+1.3**	
PRN				IAmb		IAmb	00 07 21.3		
	comp=Z,14nm,1.0s								
TPNV	**Topopah Spring**	**79.81**	**326**	P		**P**	**00 07 09.3**	**+0.4**	
TPNV				IAmb		IAmb	00 07 22.3		
	comp=Z,7.4nm,0.9s								
RDMU	**Red Mountain**	**79.86**	**332**	P		**P**	**00 07 09.6**	**+0.5**	
KOWA	**Kowa**	**79.94**	**66**	P		**P**	**00 07 09.4**	**-0.5**	
	comp=Z,12nm,0.7s,baz=232,slow=5.4,SNR=28								
KOWA	**Kowa**	**79.94**	**66**	P		**P**	**00 07 09.1**	**-0.8**	
KOWA				IAmb		IAmb	00 07 10.1		
	comp=Z,16nm,0.8s								
NLU	**North Lily Min**	**80.37**	**330**	P		**P**	**00 07 11.9**	**0.0**	
SPR3	**Spring Creek 3**	**80.57**	**328**	P		**P**	**00 07 13.9**	**+0.8**	
R11A	**Troy Canyon, C**	**80.62**	**327**	P		**P**	**00 07 13.8**	**+0.6**	
JLU	**Jordanelle**	**80.65**	**331**	P		**P**	**00 07 13.4**	**0.0**	
LCH	**Last Change Ra**	**80.71**	**325**	P		**P**	**00 07 14.3**	**+0.6**	
DUG	**Dugway, Tooele**	**80.88**	**330**	P		**P**	**00 07 15.0**	**+0.4**	
BOSA	**Boshof**	**81.28**	**118**	P		**P**	**00 07 16.0**	**-1.1**	
	comp=Z,10nm,0.9s,baz=227,slow=4.9,SNR=8.6								
BOSA				LR		LR	00 39 50.7		
	comp=Z,205nm,19.2s,baz=206,slow=33								
BOSA	**Boshof**	**81.28**	**118**	P		**P**	**00 07 16.0**	**-1.1**	
BOSA				IAmb		IAmb	00 07 17.6		
	comp=Z,17nm,1.1s								
HWUT	**Hardware Ranch**	**81.54**	**331**	P		**P**	**00 07 18.4**	**+0.3**	
HWUT				IAmb		IAmb	00 07 29.6		
	comp=Z,8.4nm,1.0s								
SPUT	**South Promonto**	**81.65**	**331**	P		**P**	**00 07 19.8**	**+1.2**	
SPUT				IAmb		IAmb	00 07 30.4		
	comp=Z,5.8nm,0.9s								
PDAR	**Pinedale Array**	**81.72**	**333**	P		**P**	**00 07 19.9**	**+0.8**	
	comp=Z,0.3nm,0.3s,baz=176,slow=4.5,SNR=3.6								
LHV	**Little Huntoon**	**81.93**	**325**	P		**P**	**00 07 21.0**	**+1.1**	
LHV				IAmb		IAmb	00 07 33.5		
	comp=Z,6.7nm,0.9s								
NVAR	**Mina Array Bea**	**81.97**	**325**	P		**P**	**00 07 22.8**	**+2.3**	
	comp=Z,1.4nm,0.8s,baz=165,slow=6.6,SNR=8.9								
NVAR	**Mina Array Bea**	**81.97**	**325**	P		**P**	**00 07 21.2**	**+0.7**	
HVU	**Hansel Valley**	**82.18**	**331**	P		**P**	**00 07 21.6**	**+0.2**	
CASY	**Casey**	**82.19**	**181**	P		**P**	**00 07 22.0**	**+0.9**	
CASY				IAmb		IAmb	00 07 33.8		
	comp=Z,10nm,0.9s								
RYN	**Ryan**	**82.24**	**325**	P		**P**	**00 07 22.2**	**+0.4**	
KVN	**Kaiserville**	**82.36**	**326**	P		**P**	**00 07 22.4**	**0.0**	
KVN				IAmb		IAmb	00 07 35.0		
	comp=Z,8.1nm,1.0s								
ELK	**Elko**	**82.39**	**329**	P		**P**	**00 07 22.4**	**-0.3**	
ELK				IAmb		IAmb	00 07 35.0		
	comp=Z,5.6nm,0.9s								
PAHR	**Pah Rah Range**	**83.50**	**325**	P		**P**	**00 07 29.0**	**+0.8**	
PAHR				IAmb		IAmb	00 07 41.4		
	comp=Z,7.7nm,1.0s								
TORD	**Torodi Ar. Bea**	**83.68**	**70**	P		**P**	**00 07 28.9**	**-0.6**	
	comp=Z,18nm,0.8s,baz=262,slow=4.6,SNR=87								
TORD				LR		LR	00 41 52.2		
	comp=Z,201nm,20.3s,baz=235,slow=34								
TORD	**Torodi Ar. Bea**	**83.68**	**70**	P		**P**	**00 07 28.8**	**-0.7**	
YHH	**Holmes Hill**	**83.93**	**333**	P		**P**	**00 07 31.2**	**+0.7**	
YHH				IAmb		IAmb	00 07 45.6		
	comp=Z,4.6nm,1.0s								
HLID	**Hailey**	**84.33**	**331**	P		**P**	**00 07 33.3**	**+0.8**	
HLID				IAmb		IAmb	00 07 47.8		
	comp=Z,5.8nm,1.2s								
ULM	**Lac du Bonnet**	**84.34**	**345**	P		**P**	**00 07 31.9**	**-0.2**	
	comp=Z,4.5nm,0.8s,baz=132,slow=7.4,SNR=3.9								
MCMT	**McKenzie Canyo**	**84.74**	**332**	P		**P**	**00 07 34.9**	**+0.3**	
J08A	**Circle Bar Ran**	**85.93**	**328**	P		**P**	**00 07 41.5**	**+1.1**	
J08A				IAmb		IAmb	00 07 53.2		
	comp=Z,14nm,1.0s								
SCHQ	**Schefferville**	**86.42**	**3**	P		**P**	**00 07 41.4**	**-1.0**	
	comp=Z,4.4nm,0.9s,baz=217,slow=9.7,SNR=2.7								
SCHQ				LR		LR	00 47 34.0		
	comp=Z,45nm,20.2s,baz=92,slow=36								
ESDC	**Sonseca Array**	**95.22**	**46**	P		**P**	**00 08 23.2**	**-0.9**	
	comp=Z,0.5nm,0.6s,baz=267,slow=4.5,SNR=2.4								
ESDC				LR		LR	00 48 18.2		
	comp=Z,140nm,20.6s,baz=210,slow=34								
DZM	**Mont Dzumac**	**102.34**	**234**	*e*LR		LR	00 42 19.9		
	comp=Z,185nm,26.7s								
GERES	**GERESS Array B**	**110.77**	**45**	PKiKP		**PKiKP**	**00 13 34.3**	**+1.1**	
	comp=Z,0.2nm,0.4s,baz=298,slow=6.3,SNR=2.1								
ASAR	**Alice Springs**	**119.40**	**208**	PKP		**PKPdf**	**00 13 50.2**	**-0.3**	
	comp=Z,0.7nm,0.9s,baz=121,slow=1.7,SNR=4.6								
ASAR	**Alice Springs**	**119.40**	**208**			**PKPdf**	**00 13 49.5**	**-1.1**	
WRA	**Warramunga Arr**	**122.55**	**210**	PKP		**PKPdf**	**00 13 56.7**	**0.0**	
	comp=Z,0.9nm,0.6s,baz=166,slow=2.0,SNR=7.1								
WRA	**Warramunga Arr**	**122.55**	**210**			**PKPdf**	**00 13 56.5**	**-0.1**	
H11S2	**WAKE ISLAND Hyl**	**125.56**	**271**	T		T	02 33 09.5		
	baz=117,slow=75,SNR=23								
H11S1	**WAKE ISLAND Hyl**	**125.57**	**271**	T		T	02 33 11.0		
	baz=117,slow=75,SNR=26								
H11S3	**WAKE ISLAND Hyl**	**125.57**	**271**	T		T	02 33 10.6		
	baz=117,slow=75,SNR=20								
H11N3	**WAKE ISLAND Hyl**	**125.91**	**272**	T		T	02 33 25.4		
	baz=112,slow=74								
H11N1	**WAKE ISLAND Hyl**	**125.93**	**272**	T		T	02 33 37.7		
	baz=112								
H11N2	**WAKE ISLAND Hyl**	**125.93**	**272**	T		T	02 33 26.7		
	baz=112,slow=74								
KLMR	**Klimovskoe**	**127.76**	**35**	*e*PKPdf		**PKPdf**	**00 14 04.4**	**-0.8**	
KLMR				AMP			00 14 07.1		
	comp=Z,15nm,1.5s								
KBZ	**Khabaz**	**128.62**	**57**	PKP		**PKPdf**	**00 14 07.4**	**+0.1**	
	comp=Z,1.6nm,0.9s,baz=212,slow=10.0,SNR=2.5								
HYB	**Hyderabad**	**149.99**	**112**	*i* PKP		**PKPbc**	**00 14 52.0**	**+0.4**	
EKS2	**Erkin-Say**	**151.08**	**58**	P		**PKiKP**	**00 14 54.7**	**+0.5**	
	SNR=6.9								
USP	**Ospenovka**	**151.48**	**57**	P		**PKiKP**	**00 14 55.0**	**+0.1**	
	SNR=6.4								
AAK	**Ala-Archa**	**151.60**	**58**	P		**PKiKP**	**00 14 56.1**	**+0.8**	
	SNR=8.1								
UCH	**Uchtor**	**151.70**	**59**	P		**PKiKP**	**00 14 56.5**	**+0.6**	
	SNR=8.6								
TKM2	**Tokmak 2**	**152.34**	**57**	P		**PKPbc**	**00 14 56.7**	**+0.1**	
	SNR=5.6								
ZALV	**Zalesovo Beam**	**152.47**	**30**	PKP		**PKPdf**	**00 14 49.5**	**+0.2**	
	comp=Z,1.4nm,0.8s,baz=336,slow=3.3,SNR=5.0								
ZALV				PKPbc		**PKPbc**	**00 14 56.3**	**+0.1**	
	comp=Z,9.1nm,0.7s,baz=297,slow=3.5,SNR=29								
ZALV				PKPab		**PKPab**	**00 15 05.9**	**-0.6**	
	comp=Z,7.7nm,0.5s,baz=310,slow=3.4,SNR=12								
KSH	**Kashi**	**153.20**	**64**	PKPbc		**PKPdf**	**00 14 51.4**	**+0.3**	
MKAR	**Makanchi Array**	**155.44**	**45**	PKP		**PKPdf**	**00 14 53.9**	**+0.1**	
	comp=Z,0.6nm,0.7s,baz=204,slow=2.7,SNR=4.9								
MKAR				PKPab		**PKPab**	**00 15 19.5**	**+0.1**	
	comp=Z,4.0nm,0.8s,baz=286,slow=3.2,SNR=14								
WMQ	**Urumqi**	**160.22**	**47**	*e*P		**PKPdf**	**00 15 00.1**	**+0.2**	
WMQ				pmax		pmax			
	comp=Z,130nm,9.1s								
SONM	**Songino Array**	**163.97**	**3**	PKP		**PKPdf**	**00 15 02.5**	**-1.1**	
	comp=Z,0.2nm,0.4s,baz=17,slow=1.5,SNR=1.4								
SONM				PKPab		**PKPab**	**00 15 57.0**	**+0.6**	
	comp=Z,1.0nm,0.8s,baz=340,slow=3.9,SNR=4.9								
CMAR	**Chiang Mai Arr**	**164.52**	**147**	PKP		**PKPdf**	**00 15 05.2**	**+0.4**	
	comp=Z,0.6nm,0.4s,baz=238,slow=1.9,SNR=4.0								
CMAR				PKPab		**PKPab**	**00 15 59.2**	**-0.3**	
	comp=Z,1.2nm,0.3s,baz=197,slow=5.6,SNR=4.4								
GTA	**Gaotai**	**170.07**	**38**	⇑PKP		PKPdf	00 15 19.9	+11	
GTA				pPKP		sPKPdf	00 15 26.8	+17	
GTA				sPKP			00 15 30.8		
GTA				PKPab		sPKPab	00 16 33.4	+8.6	
GTA				PP		PP	00 20 31.5	+18	
HHC	**Hu-ho-hao-te**	**170.47**	**342**	*e*P		**PKPdf**	**00 15 02.9**	**-5.7**	
HHC				LR		LR			
	comp=N,80nm,20.4s								
HHC				LR		LR			
	comp=E,130nm,18.5s								
HHC				LR		LR			
	comp=Z,86nm,18.0s								
CD2	**Chengdu**	**176.50**	**104**	PKP		**PKPdf**	**00 15 09.8**	**-1.3**	

*IDC **18** 00:10:03.6±0.9, 31˚.99S×71˚.94W, h0km, mb4.3/6, mb1 4.2/11, mb1mx4.0/33, mbtmp4.1/11, ML4.1/5, MS3.5/4, Ms1 3.4/4, ms1mx3.2/30, Error ellipse: s-maj=32.8km s-min=20.3km az=105.0*

*NEIC **18** 00:10:06.4, 32˚.00S×71˚.86W, h21km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.96; $M_{\theta\theta}$0.11; $M_{\phi\phi}$-1.07; $M_{r\theta}$0.55; $M_{r\phi}$-0.41; $M_{\theta\phi}$-0.73; Fault plane solution: $M_0$1.43000×10^{15} NP1:ϕ_s43.09000°, δ38.45000°, λ137.90000°. NP2:ϕ_s168.37000°, δ65.36000°, λ59.49000°. Principal axes: T 1.5003, Plg58.0000°, Azm36.0000°; N -0.1584, Plg27.0000°, Azm182.0000°; P -1.3420, Plg15.0000°, Azm280.0000°;*

*GUC **18** 00:10:07.7±0.8, 32˚.08S×71˚.82W, h38km±3km, ML4.2*

*NEIC **18** 00:10:08.5±1.8, 32˚.00S±0˚.02×71˚.86W±0˚.07, h21km±1km, mb4.6/13, Mwr4.0/41, ML4.2(GUC), Error ellipse: s-maj=9.7km s-min=3.1km az=268.0*

ISC 18 00:10:07.0±1.3, 32˚.03S±0˚.02×71˚.93W±0˚.06, h19km±4km, n78, σ1°08/95, mb4.5/7, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.75**	**135**	⇓*i*P		**Pb**	**00 10 21.0**	**-0.5**
VA06				*i* S		**Sb**	**00 10 31.1**	**-0.2**
VA06				IAML			00 10 34.1	
	comp=E,40μm,0.5s							
VA01	**Torpederas**	**1.02**	**167**	*e*P		**Pb**	**00 10 25.5**	**-0.5**
VA01				*i* S		**Sb**	**00 10 39.0**	**0.0**
VA01	**Torpederas**	**1.02**	**167**			**Pb**	**00 10 25.3**	**-0.7**
VA01				Sg		**Sb**	**00 10 39.0**	**0.0**
ROCH	**El Roble**	**1.22**	**141**	⇓*i*P		**Pn**	**00 10 28.7**	**-0.5**
ROCH				*i* S		**Sb**	**00 10 45.0**	**+0.1**
ROCH				IAML			00 10 54.1	
	comp=E,8μm,0.8s							
CO06	**Fray Jorge**	**1.37**	**11**⇑	*i*P		**Pn**	**00 10 30.6**	**-0.5**
CO06				*i* S		**Sn**	**00 10 48.9**	**+0.2**
CO06				IAML			00 10 57.1	
	comp=E,4μm,0.3s							
CO06	**Fray Jorge**	**1.37**	**11**			**Pn**	**00 10 30.6**	**-0.5**
CO06						**Sn**	**00 10 48.1**	**-0.6**
VA03	**San Esteban**	**1.38**	**123**	⇓*i*P		**Pn**	**00 10 31.1**	**-0.1**
VA03				*i* S		**Sn**	**00 10 49.0**	**0.0**
VA03				IAML			00 10 52.1	
	comp=N,6μm,0.5s							
VA03	**San Esteban**	**1.38**	**123**			**Pn**	**00 10 31.1**	**-0.1**
VA03						**Sn**	**00 10 48.6**	**-0.3**
CO03	**El Pedregal**	**1.59**	**42**⇑	*e*P		**Pb**	**00 10 35.1**	**-0.7**
CO03				*i* S		**Sb**	**00 10 56.7**	**+1.3**
CO03				IAML			00 11 01.7	
	comp=N,3μm,0.3s							
CO03	**El Pedregal**	**1.59**	**42**	Pn		**Pb**	**00 10 35.0**	**-0.7**
CO03						**Sb**	**00 10 55.7**	**+0.2**
VA05	**Santo Domingo**	**1.65**	**171**	*e*P		**Pn**	**00 10 34.5**	**-0.4**
VA05				*i* S		**Sb**	**00 10 56.5**	**-0.6**
VA05				IAML			00 11 03.6	
	comp=E,7μm,0.4s							
VA05	**Santo Domingo**	**1.65**	**171**			**Pb**	**00 10 36.6**	**0.0**
VA05				Sn		**Sg**	**00 10 59.4**	**-0.7**
MT05	**Renca**	**1.69**	**144**	*e*P		**Pn**	**00 10 36.0**	**+0.4**
MT05				*i* S		**Sn**	**00 10 57.1**	**+0.4**
MT05				IAML			00 10 59.2	
	comp=E,6μm,0.2s							
MT05	**Renca**	**1.69**	**144**			**Pn**	**00 10 36.3**	**+0.8**
MT05				Sn		**Sb**	**00 10 58.1**	**-0.2**
MT09	**Talagante**	**1.91**	**156**	⇓*i*P		**Pn**	**00 10 40.0**	**+1.3**
MT09				*i* S		**Sn**	**00 11 03.2**	**+0.9**
MT09				IAML			00 11 13.2	
	comp=N,3μm,0.3s							
MT09	**Talagante**	**1.91**	**156**	Pn		**Pn**	**00 10 40.0**	**+1.3**
MT09				Sn		**Sb**	**00 11 04.1**	**-0.8**
MT01	**Popeta**	**1.92**	**163**	*e*P		**Pn**	**00 10 38.7**	**+0.1**
MT01				*i* S		**Sn**	**00 11 03.4**	**+1.2**
MT01				IAML			00 11 12.5	
	comp=N,2μm,0.3s							
MT01	**Popeta**	**1.92**	**163**	Pn		**Pb**	**00 10 40.3**	**-1.0**
MT01				Sn		**Sb**	**00 11 04.4**	**-0.5**
GO04	**Tololo Observa**	**2.09**	**28**	*e*P		**Pn**	**00 10 40.0**	**-1.2**
GO04				*i* S		**Sb**	**00 11 11.4**	**+1.4**
GO04	**Tololo Observa**	**2.09**	**28**			**Pb**	**00 10 43.5**	**-0.8**
GO04				Sn		**Sb**	**00 11 08.8**	**-1.2**
CO05	**La Serena**	**2.18**	**16**	*e*P		**Pn**	**00 10 42.3**	**0.0**
CO05	**La Serena**	**2.18**	**16**			**Pn**	**00 10 44.0**	**+1.8**
CO05				Sn		**Sb**	**00 11 11.7**	**-0.8**
LMEL	**Las Melosas**	**2.32**	**142**⇑	*i*P		**Pn**	**00 10 45.3**	**+1.0**
LMEL				*i* S		**Sn**	**00 11 14.0**	**+1.6**
LMEL				IAML			00 11 24.3	
	comp=N,1μm,0.2s							
BO01	**Tunca**	**2.46**	**164**	*e*P		**Pn**	**00 10 46.3**	**+0.2**
BO01	**Tunca**	**2.46**	**164**			**Pn**	**00 10 47.4**	**+1.4**
BO01				Sn		**Sb**	**00 11 19.4**	**-1.2**
BO03	**Pichilemu**	**2.46**	**181**	*e*P		**Pn**	**00 10 45.1**	**-1.0**
BO03				IAML			00 11 31.1	
	comp=N,622nm,0.5s							
ZON	**Zonda**	**2.81**	**81**	Pn		**Pn**	**00 10 53.0**	**+2.1**
ZON						**Sb**	**00 11 30.1**	**-0.5**
BO02	**Sierra Bellavi**	**2.92**	**161**	*e*P		**Pn**	**00 10 53.6**	**+1.1**
BO02				IAML			00 11 38.2	
	comp=N,2μm,0.4s							
BO02	**Sierra Bellavi**	**2.92**	**161**	Pn		**Pn**	**00 10 54.4**	**+1.9**
BO02						**Pb**	**00 10 55.4**	**-3.0**
BO02				Sn		**Sn**	**00 11 30.3**	**+3.3**
GO05	**Huala**	**2.97**	**180**	Pn		**Pn**	**00 10 55.9**	**+2.7**
LCO	**Las Campanas**	**3.19**	**20**	Pn		**Pn**	**00 10 56.8**	**+0.5**
ML02	**Panimavida**	**3.75**	**174**	Pn		**Pn**	**00 11 07.0**	**+3.2**
AC04	**Llanos de Chal**	**3.88**	**11**	*e*P		**Pn**	**00 11 04.9**	**-0.7**
AC04	**Llanos de Chal**	**3.88**	**11**	Pn		**Pn**	**00 11 06.6**	**+1.0**
GO03	**Copiap**	**4.66**	**19**	*e*P		**Pn**	**00 11 16.5**	**+0.2**
GO03				*i* S		**Sn**	**00 12 12.7**	**+2.9**
GO03	**Copiap**	**4.66**	**19**	Pn		**Pn**	**00 11 17.1**	**+0.8**
AC06	**Mina Casimiro**	**4.85**	**17**	Pn		**Pn**	**00 11 19.5**	**+0.6**
AC02	**Maricunga**	**5.72**	**26**	Pn		**Pn**	**00 11 32.5**	**+1.2**
H03N1	**Juan Fernandez**	**6.05**	**255**	T		T	00 18 03.2	
	baz=83,slow=72							
H03N3	**Juan Fernandez**	**6.07**	**255**	T		T	00 18 03.3	
	baz=83,slow=72							
H03N2	**Juan Fernandez**	**6.07**	**255**	T		T	00 18 08.1	
	baz=83,slow=72							
LC01	**Cunco**	**6.86**	**180**	Pn		**Pn**	**00 11 46.4**	**-0.1**
PLCA	**Paso Flores**	**8.76**	**173**	Pn		**Pn**	**00 12 13.2**	**+0.5**
	comp=N,1.0nm,0.3s,baz=347,slow=12,SNR=13							
PLCA				LR		LR	00 15 38.2	
	comp=N,210nm,21.5s,baz=0.0,slow=38							
PLCA	**Paso Flores**	**8.76**	**173**	Pn		**Pn**	**00 12 13.9**	**+1.3**
LL04	**Puerto Octay**	**8.87**	**182**	Pn		**Pn**	**00 12 15.3**	**+1.2**
PB15	**IPOC Station P**	**9.05

TA02					IAML			00 15 15.2	
	comp=N,3μm,0.1s								
PB03	**IPOC Station P**	**1.47**	**216**	*eP*		**Pn**		**00 14 55.4**	**+0.5**
PB03				*eS*		**Sn**		**00 15 14.7**	**-0.7**
PB03				IAML				00 15 17.9	
	comp=N,944nm,0.2s								
PSGC	**Pisagua**	**1.74**	**316**	*eP*		**Pn**		**00 14 58.5**	**+0.4**
PSGC				*eS*		**Sn**		**00 15 21.5**	**+0.4**
PSGC				IAML				00 15 23.5	
	comp=N,438nm,0.4s								
LVC	**Limon Verde**	**1.75**	**182**	P		**Pn**		**00 14 59.8**	**+1.4**
	comp=N,18nm,0.3s,baz=9.3,slow=8.7,SNR=198								
LVC				S		**Sn**		**00 15 22.6**	**+0.9**
	comp=N,92nm,0.3s,baz=84,slow=22,SNR=24								
PB06	**IPOC Station P**	**1.97**	**200**	*i* P		**Pn**		**00 15 01.8**	**+0.8**
PB06				*eS*		**Sn**		**00 15 26.0**	**-0.2**
PB06				IAML				00 15 28.1	
	comp=E,815nm,0.2s								
LPAZ	**La Paz**	**4.59**	**8**	P		**Pn**		**00 15 39.7**	**+3.8**
	comp=E,0.9nm,0.3s,baz=71,slow=0.1,SNR=21								
LPAZ				S		**Sn**		**00 16 25.4**	**-3.1**
	comp=E,0.3nm,0.3s,baz=69,slow=11,SNR=4.3								
SIV	**San Ignacio**	**8.81**	**58**	P		**Pn**		**00 16 31.7**	**-0.7**
	comp=E,0.5nm,0.3s,baz=264,slow=9.7,SNR=3.2								
CPUP	**Villa Florida**	**11.87**	**120**	P		**Pn**		**00 17 11.2**	**-2.3**
	comp=E,0.3nm,0.3s,baz=280,slow=19,SNR=3.9								
DBIC	**Dimbokro**	**68.48**	**74**	P		**P**		**00 25 17.3**	**-0.8**
	comp=E,3.3nm,0.9s,baz=177,slow=5.6,SNR=2.1								
PDAR	**Pinedale Array**	**73.59**	**330**	P		**P**		**00 25 49.8**	**+1.1**
	comp=E,0.3nm,0.3s,baz=153,slow=6.1,SNR=1.8								
TORD	**Torodi Ar. Bea**	**77.07**	**70**	P		**P**		**00 26 10.1**	**+1.2**
	comp=E,0.4nm,0.4s,baz=252,slow=5.8,SNR=9.8								
MKAR	**Makanchi Array**	**145.07**	**35**	PKPbc		**PKiKP**		**00 33 54.1**	**-1.4**
	comp=E,1.0nm,0.7s,baz=318,slow=1.6,SNR=7.3								

NNC 18 00:14:42.1±3.6, 37.76N×78.16E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=27.6km s-min=23.5km az=113.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.30**	**2**	Pg	Pg	00 16 19.9	-3.7
	3.3nm,0.3s						
SATY				Lg	Lg	00 17 32.3	
	7.7nm,0.7s						
TNSS	**Tian-Shan**	**5.35**	**350**	Pg	Pb	00 16 20.3	+3.6
	2.3nm,0.4s						
TNSS				Lg	Lg	00 17 33.5	
	3.9nm,0.7s						
UZB	**Uzynbulak**	**5.42**	**7**	Pg	Pb	00 16 19.0	+1.2
	4.4nm,0.8s						
UZB				Lg	Lg	00 17 30.6	
	4.7nm,0.7s						
PDGK	**Podgornoye**	**5.66**	**10**	Pg	Pb	00 16 25.1	+3.3
	1.9nm,0.6s						
PDGK				Lg	Lg	00 17 41.1	
	2.6nm,0.9s						
KURS	**Kuram**	**5.72**	**0**	Pg	Pb	00 16 28.0	-3.7
	3.6nm,1.0s						
KURS				Lg	Lg	00 17 46.7	
	5.0nm,0.9s						
MRKS	**Merke**	**6.25**	**324**	Pg	Pb	00 16 35.7	+3.9
	1.9nm,0.5s						
MRKS				Lg	Lg	00 17 59.3	
	3.3nm,0.5s						
KUU	**Kurty**	**6.28**	**348**	Pg	Pb	00 16 36.2	+3.9
	2.0nm,1.3s						
KUU				Lg	Lg	00 18 00.6	
	3.8nm,0.6s						

*NEIC **18** 00:15:00.2±1.2,20.8S±0.1×178.5W±0.1, h514km±10km, mb4.3/20, Error ellipse: s-maj=20.1km s-min=15.1km az=126.0*

*IDC **18** 00:15:06.1±1.7,20.87S×178.70W, h590km±18km, mb3.3/9, mb1 3.6/11, mb1mx3.3/34, mbtmp4.2/11, Error ellipse: s-maj=19.0km s-min=13.7km az=144.0*

ISC 18 00:15:05.1±0.6, 20.9S±0.1×178.7W±0.1, h579km, n61, σ1s09/58, mb3.9/17, 8C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.35**	**315**	P	**P**	**00 16 33.7**	**+2.0**
	1.2nm,0.3s,baz=131,slow=9.0,SNR=4.8						
MSVF	**Nonsavu**	**4.35**	**315**	P	P	00 16 24.1	-7.7
NIUE	**Niue**	**8.47**	**79**	P	**P**	00 16 59.1	-9.2
LIFNC	**LIFOU**	**13.12**	**268**	P	**P**	**00 17 51.5**	**-3.7**
OUZ	**Omahuta**	**15.82**	**204**	P	**P**	**00 18 23.2**	**+1.8**
URZ	**Urewera**	**17.71**	**191**	P	**P**	**00 18 37.3**	**-1.4**
	2.0nm,0.3s,baz=27,slow=4.5,SNR=7.2						
URZ	**Urewera**	**17.71**	**191**	IAmb	IAmb	00 18 39.8	
	comp=Z,13nm,0.8s						
BKZ	**Black Stump Fm**	**18.70**	**192**	P	**P**	**00 18 45.4**	**-2.4**
BKZ				IAmb	IAmb	00 18 56.8	
	comp=Z,6.0nm,0.9s						
QRZ	**Quartz Range**	**21.24**	**199**		**P**	**00 19 11.1**	**+0.3**
PLWZ	**Palliser**	**21.26**	**193**	P	**P**	**00 19 09.4**	**-1.6**
NNZ	**Nelson**	**21.37**	**197**	P	**P**	**00 19 10.8**	**-1.1**
THZ	**Tophouse**	**22.00**	**197**	P	**P**	**00 19 17.1**	**-0.6**
THZ				IAmb	IAmb	00 19 29.3	
	comp=Z,16nm,1.0s						
KHZ	**Kahutara**	**22.45**	**195**	P	**P**	**00 19 20.6**	**-0.9**
LTZ	**Lake Taylor**	**23.12**	**197**	P	**P**	**00 19 25.0**	**-2.6**
LTZ				IAmb	IAmb	00 19 43.5	
	comp=Z,13nm,1.0s						
OXZ	**Oxford**	**23.69**	**197**	P	**P**	**00 19 31.3**	**-1.2**
OXZ				IAmb	IAmb	00 19 35.0	
	comp=Z,9.9nm,0.5s						
MLZ	**Mavora Lakes**	**26.73**	**201**	P	**P**	**00 19 59.7**	**+0.3**
MLZ				IAmb	IAmb	00 20 02.4	
	comp=Z,16nm,1.1s						
WHZ	**Wether Hill Ro**	**27.25**	**201**	P	**P**	**00 20 04.4**	**+0.5**
BBOO	**Buckleboo**	**41.77**	**244**	P	**P**	**00 22 05.3**	**+0.4**
WR0	**Warramunga Arr**	**43.68**	**263**	P	**P**	**00 22 20.5**	**+0.5**
AS31	**Alice Springs**	**43.77**	**257**	P	**P**	**00 22 21.9**	**+1.2**
ASAR	**Alice Springs**	**43.77**	**257**	P	**P**	**00 22 21.6**	**+1.0**
	comp=Z,1.8nm,0.5s,baz=96,slow=7.6,SNR=30						
ASAR				PcP	**PcP**	**00 23 54.7**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=96,slow=3.8,SNR=7.4						
ASAR				S	**S**	**00 28 10.1**	**0.0**
	comp=Z,0.1nm,0.4s,baz=96,slow=16,SNR=5.0						
ASAR	**Alice Springs**	**43.77**	**257**	P	**P**	**00 22 21.2**	**+0.5**
WB0	**Warramunga Arr**	**43.85**	**263**	P	**P**	**00 22 21.6**	**+0.3**
WB0				IAmb	IAmb	00 22 22.3	
	comp=Z,2.8nm,0.6s						
WB2	**Warramunga Arr**	**43.86**	**263**	P	**P**	**00 22 21.6**	**+0.2**
WB2				IAmb	IAmb	00 22 22.1	
	comp=Z,3.1nm,0.8s						
WRA	**Warramunga Arr**	**43.87**	**263**	P	**P**	**00 22 21.4**	**0.0**
	comp=Z,0.6nm,0.3s,baz=96,slow=7.6,SNR=11						
WRA	**Warramunga Arr**	**43.87**	**263**	P	**P**	**00 22 21.7**	**+0.2**
KNRA	**Kununurra**	**49.95**	**267**	P	**P**	**00 23 07.6**	**+0.5**
KNRA				IAmb	IAmb	00 23 16.6	
	comp=Z,7.0nm,1.1s						
FITZ	**Fitzroy Crossi**	**52.30**	**263**	P	**P**	**00 23 24.9**	**+0.8**
PSA00	**Pilbara Seismi**	**56.92**	**257**	P	**P**	**00 23 56.7**	**+0.4**
PSA00				IAmb	IAmb	00 24 09.0	
	comp=Z,7.1nm,1.0s						
GIRL	**Giralia**	**61.80**	**255**	P	**P**	**00 24 30.2**	**+1.5**
QSPA	**South Pole Qui**	**69.21**	**180**	P	**P**	**00 25 15.0**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=69,slow=6.0,SNR=17						
QSPA	**South Pole Qui**	**69.21**	**180**	P	**P**	**00 25 15.3**	**+0.9**
PETK	**Petropavlovsk-**	**76.45**	**346**	P	**P**	**00 25 55.9**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=147,slow=8.8,SNR=6.4						
NVAR	**Mina Array Bea**	**81.76**	**44**	P	**P**	**00 26 24.9**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=223,slow=8.1,SNR=6.4						
NVAR	**Mina Array Bea**	**81.76**	**44**	P	**P**	**00 26 24.5**	**+0.1**
TXAR	**Lajitas Array**	**87.83**	**58**	P	**P**	**00 26 54.8**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=227,slow=4.8,SNR=11						
TXAR	**Lajitas Array**	**87.83**	**58**	P	**P**	**00 26 54.6**	**+0.8**
ILAR	**Eielson Array**	**88.82**	**13**	P	**P**	**00 26 56.5**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=232,slow=6.2,SNR=5.6						
CMAR	**Chiang Mai Arr**	**89.59**	**290**	P	**P**	**00 27 03.0**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=127,slow=1.6,SNR=4.2						
PDAR	**Pinedale Array**	**89.69**	**43**	P	**P**	**00 27 01.1**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=316,slow=2.5,SNR=6.2						
CCIG	**Comitan**	**92.60**	**74**		pwP	00 29 12.9	-12
ARCES	**ARCESS Array B**	**129.15**	**349**	PKP	**PKPdf**	**00 33 06.5**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=340,slow=1.4,SNR=6.8						
FINES	**FINESS Array B**	**135.92**	**343**	PKP	**PKPdf**	**00 33 21.1**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=54,slow=3.3,SNR=5.5						
AKASG	**Malin Array Be**	**142.99**	**330**	PKP		00 33 30.3	
	comp=Z,1.7nm,0.5s,baz=43,slow=4.4,SNR=25						
BRTR	**Keskin Array B**	**146.57**	**311**	PKPbc	**PKPbc**	**00 33 41.8**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=134,slow=5.3,SNR=4.8						
BURAR	**Bucovina Array**	**147.03**	**330**	⇑P	**PKPbc**	**00 33 44.1**	**+0.5**
BIZ	**Bicaz**	**147.08**	**328**	⇑P	**PKPbc**	**00 33 42.6**	**-1.0**
TPGR	**Topolog**	**147.22**	**323**	⇑P	**PKPbc**	**00 33 44.3**	**+0.2**
VRI	**Vrincioaia**	**147.49**	**326**	⇑P	**PKPbc**	**00 33 43.1**	**-1.6**
OSTC	**Ostas**	**148.11**	**342**	*e*PKP	**PKiKP**	**00 33 46.9**	**-0.5**
DOPR	**Dopca**	**148.11**	**327**	⇑P	**PKiKP**	**00 33 47.1**	**-0.5**
MLR	**Muntele Rosu**	**148.15**	**326**	⇑P	**PKPbc**	**00 33 46.7**	**+0.2**
CLL	**Collm**	**148.25**	**346**	*i* PKPbc	**PKPbc**	**00 33 46.2**	**-0.2**
	comp=Z,4.0nm,0.9s						
CLL				Lm	MLR	01 03 00.0	
	comp=Z,100nm,18.1s						
DPC	**Dobruska-Polom**	**148.26**	**342**	*e*PKP	**PKPbc**	**00 33 46.5**	**-0.1**
ARR	**Arges**	**148.91**	**327**	⇑P	**PKiKP**	**00 33 49.0**	**-0.3**
KHC	**Kasperske Hory**	**150.13**	**344**	*e*PKP	**PKPbc**	**00 33 50.9**	**-0.2**
KHC				*ex*	x	00 34 00.1	
BZS	**Buzias**	**150.18**	**331**	⇑P	**PKPbc**	**00 33 51.2**	**0.0**
CKRC	**Cesky Krumlov**	**150.21**	**343**	*e*PKP	**PKPbc**	**00 33 51.0**	**-0.3**
HERR	**Herculane**	**150.35**	**329**	⇓P	**PKPbc**	**00 33 51.2**	**-0.5**
GERES	**GERESS Array B**	**150.36**	**343**	PKPbc	**PKPbc**	**00 33 51.5**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=41,slow=2.5,SNR=8.4						
TORD	**Torodi Ar. Bea**	**172.32**	**183**	PKP	**PKPdf**	**00 34 07.1**	**-1.8**
	comp=Z,0.8nm,1.1s,baz=5.1,slow=1.6,SNR=2.8						

MEX 18 00:15:25.4±0.3, 15.65N×96.12W, h26km±14km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEIG	**Puerto Escondi**	**1.05**	**290**	*e*P	Pn	00 15 41.6	-2.8
PEIG				*i* S	Sb	00 15 54.6	-3.6
VHO	**Vista Hermosa**	**1.53**	**338**	*e*P	Pn	00 15 46.4	-4.9
VHO				*i* S	Sn	00 16 03.9	-6.6
CMIG	**Matias Romero**	**1.86**	**39**	*e*P	Pn	00 15 53.5	-2.2
CMIG				*i* S	Sn	00 16 15.2	-3.2
PNIG	**Pinotepa**	**2.06**	**291**	*i* P	Pn	00 15 56.3	-2.1
PNIG				*i* S	Sn	00 16 17.3	-6.1
TXIG	**Tlaxiaco**	**2.25**	**316**	*e*P	Pn	00 15 59.8	-1.4
TXIG				*e*S	Sn	00 16 25.4	-2.7

*IDC **18** 00:19:52.5±1.3,31.59S×72.02W, h0km, mb3.7/3, mb1 3.8/6, mb1mx3.7/29, mbtmp3.7/6, ML3.8/3, Error ellipse: s-maj=47.2km s-min=25.3km az=85.0*

*GUC **18** 00:19:55.9±0.8,31.74S×71.97W, h36km±5km, ML3.8*

ISC 18 00:19:52.8±2.1, 31.63S±0.06×72.15W±0.09, h6km±13km, n26, σ0s73/30, mb3.9/3, 2C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**1.18**	**142**	⇑*i*P	**Pb**	**00 20 15.5**	**0.0**
VA06				IAML		00 20 36.7	
	comp=N,7μm,0.5s						
VA01	**Torpederas**	**1.45**	**163**	*e*P	**Pn**	**00 20 19.2**	**-0.4**
CO03	**El Pedregal**	**1.48**	**58**	*e*P	**Pg**	**00 20 21.2**	**-0.1**
CO03				*i* S	**Sg**	**00 20 40.4**	**-0.1**
CO03				IAML		00 20 46.4	
	comp=E,1μm,0.3s						
ROCH	**El Roble**	**1.65**	**144**	*e*P	**Pn**	**00 20 22.7**	**+0.2**
ROCH				*i* S	**Sn**	**00 20 43.5**	**-0.6**
ROCH				IAML		00 20 51.4	
	comp=N,2μm,0.7s						
VA03	**San Esteban**	**1.76**	**130**	*e*P	**Pn**	**00 20 24.2**	**+0.2**
VA03				*i* S	**Sn**	**00 20 45.6**	**-1.3**
VA03				IAML		00 20 52.1	
	comp=E,2μm,0.5s						
GO04	**Tololo Observa**	**1.86**	**39**	*e*P	**Pg**	**00 20 28.5**	**-0.1**
GO04				*i* S	**Sg**	**00 20 54.1**	**+1.3**
CO05	**La Serena**	**1.88**	**25**	*e*P	**Pg**	**00 20 28.5**	**-0.4**
CO05				*i* S	**Sg**	**00 20 53.3**	**0.0**
CO05				IAML		00 21 00.4	
	comp=N,904nm,0.4s						
VA05	**Santo Domingo**	**2.07**	**167**	*e*P	**Pn**	**00 20 27.9**	**-0.2**
VA05				IAML		00 21 09.2	
	comp=E,1μm,0.5s						
MT05	**Renca**	**2.12**	**146**	*e*P	**Pn**	**00 20 29.5**	**+0.6**
MT05				*i* S	**Sn**	**00 20 54.6**	**-1.0**
MT05				IAML		00 21 05.8	
	comp=E,2μm,0.5s						
MT01	**Popeta**	**2.35**	**161**	*e*P	**Pn**	**00 20 32.1**	**+0.1**
MT01				IAML		00 21 15.4	
	comp=N,449nm,0.7s						
MT09	**Talagante**	**2.35**	**156**	⇑*i*P	**Pn**	**00 20 33.0**	**+0.9**
MT09				*i* S	**Sn**	**00 21 01.6**	**+0.1**
LMEL	**Las Melosas**	**2.75**	**144**	⇓*i*P	**Pn**	**00 20 38.9**	**+1.3**
LMEL				IAML		00 21 28.9	
	comp=N,558nm,0.5s						
BO03	**Pichilemu**	**2.86**	**177**	⇓*i*P	**Pn**	**00 20 38.4**	**-0.6**
BO03				IAML		00 21 34.3	
	comp=E,1μm,1.1s						
BO01	**Tunca**	**2.89**	**162**	*e*P	**Pn**	**00 20 39.9**	**+0.4**
LCO	**Las Campanas**	**2.90**	**26**	*e*P	**Pn**	**00 20 39.7**	**-0.1**
BO02	**Sierra Bellavi**	**3.35**	**160**	*e*P	**Pn**	**00 20 46.1**	**+0.3**
BO02				IAML		00 21 47.5	
	comp=N,462nm,0.3s						
H03N1	**Juan Fernandez**	**5.99**	**251**	T	T	00 28 06.6	
	baz=78,slow=72						
H03N3	**Juan Fernandez**	**6.00**	**251**	T	T	00 28 04.8	
	baz=78,slow=72						
H03N2	**Juan Fernandez**	**6.00**	**251**	T	T	00 28 04.0	
	baz=78,slow=72						
PLCA	**Paso Flores**	**9.17**	**172**	Pn	**Pn**	**00 22 06.2**	**+0.4**
	comp=N,0.3nm,0.3s,baz=330,slow=12,SNR=3.7						
LVC	**Limon Verde**	**9.44**	**19**	Pn	**Pn**	**00 22 08.5**	**-1.3**
	comp=N,0.2nm,0.3s,baz=198,slow=12,SNR=1.6						
CPUP	**Villa Florida**	**14.00**	**72**	Pn	**Pn**	**00 23 11.3**	**-0.5**
	comp=N,0.2nm,0.3s,baz=9.2,slow=20,SNR=1.2						
SNAA	**Sanae**	**53.81**	**158**	P	**P**	**00 29 16.7**	**+0.6**
	comp=N,1.5nm,0.7s,baz=269,slow=8.1,SNR=16						
TXAR	**Lajitas Array**	**67.63**	**330**	P	**P**	**00 30 52.2**	**+1.5**
	comp=N,0.1nm,0.4s,baz=167,slow=9.0,SNR=2.0						
TORD	**Torodi Ar. Bea**	**83.50**	**70**	P	**P**	**00 32 22.2**	**+0.2**
	comp=N,0.5nm,0.6s,baz=259,slow=5.4,SNR=5.2						
ZALV	**Zalesovo Beam**	**152.25**	**30**	PKPbc	**PKPbc**	**00 39 48.2**	**-0.8**
	comp=N,1.3nm,0.7s,baz=318,slow=1.9,SNR=4.8						

*NEIC **18** 00:32:32.9±2.5, 15.54S±0.08×173.90W±0.08, h42km±6km, mb4.5/54, Error ellipse: s-maj=12.5km s-min=9.7km az=134.0*

*IDC **18** 00:32:35.0±3.0, 15.50S×173.87W, h65km±26km, mb4.0/9, mb1 4.3/10, mb1mx4.0/32, mbtmp4.3/10, ML4.6/1, Error ellipse: s-maj=30.9km s-min=15.0km az=140.0*

*NOU **18** 00:32:58.0, 14.12S×172.32W, h92km, MLv3.7/5, Samoa Islands*

ISC 18 00:32:33.1±0.4, 15.54S±0.06×173.83W±0.07, h50km, n104, σ0s96/98, mb4.5/36, 10C-4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.56**	**51**	P	**Pn**	**00 33 14.6**	**+2.4**
	124nm,0.3s,baz=34,slow=1.6,SNR=53						
AFI				S	**Sn**	**00 33 40.5**	**-1.7**
	387nm,0.3s,baz=42,slow=21,SNR=24						
AFI	**Afiamalu**	**2.56**	**51**		**Pn**	**00 33 13.9**	**+1.7**
AFI				Sn	**Sn**	**00 33 40.6**	**-1.7**
AFI	**Afiamalu**	**2.56**	**51**	P	**Pn**	**00 33 14.6**	**+2.4**
NIUE	**Niue**	**5.12**	**134**	Pn	**Pn**	**00 33 48.5**	**+1.2**
NIUE					**Sn**	**00 34 42.3**	**-2.9**
MSVF	**Nonsavu**	**8.09**	**253**	Pn	**Pn**	**00 34 27.3**	**-0.8**
QRZ	**Quartz Range**	**27.84**	**203**	P	**P**	**00 38 18.6**	**+0.8**
NNZ	**Nelson**	**27.89**	**201**	P	**P**	**00 38 19.4**	**+1.1**
KHZ	**Kahutara**	**28.91**	**200**	P	**P**	**00 38 27.3**	**0.0**
KHZ				IAmb	IAmb	00 38 36.7	
	comp=Z,16nm,1.1s						
MLZ	**Mavora Lakes**	**33.40**	**203**	P	**P**	**00 39 05.0**	**-1.9**
ARMA	**Armidale**	**34.92**	**239**	P	**P**	**00 39 18.4**	**-1.9**
COEN	**Coen**	**41.56**	**266**	P	**P**	**00 40 17.5**	**+1.2**
COEN				IAmb	IAmb	00 40 18.6	
	comp=Z,14nm,1.2s						
TOO	**Toolangi**	**42.06**	**231**	P	**P**	**00 40 21.0**	**+0.8**
TOO				IAmb	IAmb	00 40 33.4	
	comp=Z,16nm,1.2s						
STKA	**Stephens Creek**	**43.61**	**240**	P	**P**	**00 40 32.7**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=41,slow=9.8,SNR=6.2						
STKA	**Stephens Creek**	**43.61**	**240**	P	**P**	**00 40 31.9**	**-0.8**
MCQ	**Macquarie Isla**	**44.25**	**202**	P	**P**	**00 40 40.8**	**+3.3**
BBOO	**Buckleboo**	**48.39**	**240**	P	**P**	**00 41 09.7**	**-0.7**
WR0	**Warramunga Arr**	**49.22**	**257**	P	**P**	**00 41 16.0**	**-0.9**
WR0				IAmb	IAmb	00 41 18.0	
	comp=Z,8.7nm,1.5s						
WB0	**Warramunga Arr**	**49.37**	**257**	P	**P**	**00 41 18.0**	**-0.1**
WB0				IAmb	IAmb	00 41 20.9	
	comp=Z,3.5nm,0.8s						
WB2	**Warramunga Arr**	**49.40**	**257**	P	**P**	**00 41 18.2**	**-0.1**
WB2				IAmb	IAmb	00 41 28.7	
	comp=Z,4.4nm,1.1s						
WRA	**Warramunga Arr**	**49.41**	**257**	P	**P**	**00 41 18.3**	**0.0**
	comp=Z,1.9nm,0.6s,baz=85,slow=6.0,SNR=26						
WRA				PcP	**PcP**	**00 42 39.6**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=90,slow=3.3,SNR=1.9						
WRA	**Warramunga Arr**	**49.41**	**257**	P	**P**	**00 41 18.1**	**-0.3**
AS31	**Alice Springs**	**49.68**	**252**	P	**P**	**00 41 20.1**	**-0.3**
AS31				IAmb	IAmb	00 41 21.8	
	comp=Z,2.7nm,0.7s						
ASAR	**Alice Springs**	**49.68**	**252**	P	**P**	**00 41 20.1**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=87,slow=8.1,SNR=90						
ASAR	**Alice Springs**	**49.68**	**252**	P	**P**	**00 41 20.3**	**-0.1**
FORT	**Forrest**	**54.99**	**243**	P	**P**	**00 41 58.8**	**-0.8**
SBA	**Scott Base**	**63.08**	**185**	P	**P**	**00 42 56.7**	**+1.8**
PETK	**Petropavlovsk-**	**72.64**	**342**	P	**P**	**00 43 55.4**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=134,slow=8.5,SNR=4.9						
CMB	**Columbia Colle**	**73.14**	**42**	P	**P**	**00 43 59.1**	**+0.5**
YBH	**Yreka Blue Hor**	**73.96**	**37**	P	**P**	**00 44 04.4**	**+1.1**
YBH				IAmb	IAmb	00 44 05.2	
	comp=Z,4.7nm,0.8s						
PNTR	**Pine Nut**	**74.26**	**41**	P	**P**	**00 44 06.5**	**+1.2**
PNTR				IAmb	IAmb	00 44 06.6	
	comp=Z,6.2nm,0.9s						
VCNR	**Virginia City**	**74.34**	**41**	P	**P**	**00 44 06.0**	**+0.2**
VCNR				IAmb	IAmb	00 44 07.0	
	comp=Z,5.5nm,0.9s						
YERR	**Yerington**	**74.42**	**41**	IAmb	IAmb	00 44 07.2	
	comp=Z,4.9nm,0.7s						
QSPA	**South Pole Qui**	**74.50**	**180**	P	**P**	**00 44 06.9**	**+0.6**
	comp=Z,3.6nm,0.9s,baz=22,slow=0.8,SNR=18						
QSPA	**South Pole Qui**	**74.50**	**180**		**P**	**00 44 06.8**	**+0.6**
QSPA				IAmb	IAmb	00 44 11.0	
	comp=Z,7.2nm,1.2s						
DBO	**Dodson Butte**	**74.53**	**36**	P	**P**	**00 44 07.4**	**+0.8**
RYN	**Ryan**	**74.58**	**42**	P	**P**	**00 44 07.7**	**0.0**
RYN				IAmb	IAmb	00 44 08.8	
	comp=Z,3.3nm,0.8s						
NVAR	**Mina Array Bea**	**74.71**	**42**	P	**P**	**00 44 08.4**	**+0.4**
	comp=Z,3.7nm,0.7s,baz=226,slow=10,SNR=26						
PAHR	**Pah Rah Range**	**74.75**	**41**	P	**P**	**00 44 08.2**	**+0.1**
PAHR				IAmb	IAmb	00 44 09.2	
	comp=Z,4.0nm,1.0s						
NV11	**Mina Array Sit**	**74.80**	**42**	P	**P**	**00 44 08.4**	**0.0**
NV11				IAmb	IAmb	00 44 09.6	
	comp=Z,5.7nm,1.1s						
KVN	**Kaiserville**	**75.19**	**42**	P	**P**	**00 44 10.4**	**-0.3**
KVN				IAmb	IAmb	00 44 11.6	
	comp=Z,2.8nm,0.7s						
TPH	**Tonopah**	**75.21**	**43**	P	**P**	**00 44 10.0**	**-0.9**
R11A	**Troy Canyon, C**	**76.44**	**43**	P	**P**	**00 44 17.3**	**-0.6**
BMN	**Battle Mountai**	**76.53**	**41**	P	**P**	**00 44 18.3**	**0.0**
BMN				IAmb	IAmb	00 44 19.2	
	comp=Z,4.4nm,0.8s						
X16A	**Lo Mia Camp, P**	**77.32**	**49**	P	**P**	**00 44 22.8**	**-0.1**
PSUT	**Pine Spring**	**77.69**	**44**	P	**P**	**00 44 24.3**	**-0.6**
ELK	**Elko**	**77.96**	**42**	P	**P**	**00 44 25.9**	**-0.5**
HLID	**Hailey**	**80.00**	**39**	P	**P**	**00 44 37.4**	**0.0**
HVU	**Hansel Valley**	**80.08**	**42**	P	**P**	**00 44 37.1**	**-0.8**
TX31	**Lajitas Ar. Si**	**81.03**	**56**	IAmb	IAmb	00 44 44.5	
	comp=Z,9.5nm,1.1s						
TX32	**Lajitas Array**	**81.03**	**56**	P	**P**	**00 44 43.1**	**-0.1**
TXAR	**Lajitas Array**	**81.03**	**56**	P	**P**	**00 44 43.5**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=217,slow=7.4,SNR=11						
M26K	**Nabesna, AK**	**81.38**	**14**	IAmb	IAmb	00 44 45.2	
	comp=Z,7.6nm,1.0s						
M27K	**Edge Creek, AK**	**81.61**	**14**	IAmb	IAmb	00 44 46.9	
	comp=Z,7.5nm,1.1s						
MLY	**Manley**	**82.22**	**10**	IAmb	IAmb	00 44 48.6	
	comp=Z,4.0nm,1.0s						
DOT	**Dot Lake**	**82.23**	**13**	IAmb	IAmb	00 44 49.3	
	comp=Z,6.5nm,1.1s						
HDA	**Harding

n85,σ2s23/84,mb4.3/6,MS3.9/3,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**1.00**	**22**	*eP*	**Pn**	**00 39 20.1**	**-0.6**
CO06				*eS*	**Sn**	**00 39 31.7**	**-1.9**
CO06				IAML		00 39 34.1	
	comp=E,24μm,0.4s						
CO06	**Fray Jorge**	**1.00**	**22**		**Pn**	**00 39 20.2**	**-0.5**
VA06	**Catapilco**	**1.16**	**146**	*eP*	**Pn**	**00 39 23.6**	**+0.7**
VA06				*eS*	**Sn**	**00 39 37.5**	**-0.2**
VA06				IAML		00 39 43.2	
	comp=E,14μm,0.6s						
CO03	**El Pedregal**	**1.41**	**58**	*eP*	**Pn**	**00 39 24.1**	**-2.3**
CO03				*eS*	**Sn**	**00 39 39.1**	**-4.8**
CO03				IAML		00 39 41.8	
	comp=E,9μm,0.3s						
CO03	**El Pedregal**	**1.41**	**58**	Pn	**Pn**	**00 39 24.3**	**-2.1**
VA01	**Torpederas**	**1.46**	**166**	*eP*	**Pn**	**00 39 28.6**	**+1.5**
VA01	**Torpederas**	**1.46**	**166**	Pn	**Pn**	**00 39 28.2**	**+1.2**
ROCH	**El Roble**	**1.64**	**147**	*eP*	**Pn**	**00 39 31.3**	**+1.7**
ROCH				IAML		00 39 56.2	
	comp=N,4μm,0.6s						
VA03	**San Esteban**	**1.74**	**132**	*eP*	**Pn**	**00 39 32.2**	**+1.3**
VA03				*eS*	**Sn**	**00 39 52.2**	**+0.3**
VA03				IAML		00 39 55.0	
	comp=E,11μm,0.3s						
VA03	**San Esteban**	**1.74**	**132**	Pn	**Pn**	**00 39 31.8**	**+0.9**
GO04	**Tololo Observa**	**1.80**	**38**	*eP*	**Pn**	**00 39 31.4**	**-0.5**
GO04				*eS*	**Sn**	**00 39 52.7**	**-0.9**
GO04				IAML		00 39 56.9	
	comp=N,28μm,0.4s						
GO04	**Tololo Observa**	**1.80**	**38**		**Pn**	**00 39 31.5**	**-0.3**
CO05	**La Serena**	**1.82**	**23**	*eP*	**Pn**	**00 39 32.3**	**+0.4**
CO05				*eS*	**Sn**	**00 39 53.4**	**-0.5**
CO05				IAML		00 39 57.0	
	comp=E,6μm,0.3s						
CO05	**La Serena**	**1.82**	**23**		**Pn**	**00 39 32.8**	**+0.8**
VA05	**Santo Domingo**	**2.09**	**169**	Pn	**Pn**	**00 39 36.2**	**+0.7**
MT05	**Renca**	**2.11**	**148**	*eP*	**Pn**	**00 39 39.3**	**+3.3**
MT05				IAML		00 40 12.5	
	comp=E,5μm,0.3s						
MT05	**Renca**	**2.11**	**148**		**Pn**	**00 39 34.0**	**-2.0**
MT09	**Talagante**	**2.35**	**157**	*eP*	**Pn**	**00 39 41.3**	**+1.9**
MT09				IAML		00 40 17.7	
	comp=N,2μm,0.1s						
MT09	**Talagante**	**2.35**	**157**	Pn	**Pn**	**00 39 39.0**	**-0.4**
MT01	**Popeta**	**2.36**	**163**	Pn	**Pn**	**00 39 40.2**	**+0.9**
AROD	**Rodeo**	**2.66**	**58**	*eP*	**Pn**	**00 39 46.0**	**+2.3**
AROD				*eS*	**Sn**	**00 40 18.4**	**+3.6**
LCO	**Las Campanas**	**2.84**	**25**	Pn	**Pn**	**00 39 45.3**	**-0.9**
LCO	**Las Campanas**	**2.84**	**25**	*eP*	**Pn**	**00 39 48.0**	**+1.8**
ZON	**Zonda**	**2.90**	**90**	Pn	**Pn**	**00 39 43.9**	**-2.9**
BO01	**Tunca**	**2.91**	**164**	Pn	**Pn**	**00 39 47.3**	**+0.5**
ACDV	**Cuesta del Vie**	**2.91**	**61**	*eP*	**Pn**	**00 39 50.0**	**+2.9**
ACDV				*eS*	**Sn**	**00 40 27.1**	**+6.2**
RTCV	**Cerro Valdivia**	**3.02**	**96**	*eP*	**Pn**	**00 39 51.3**	**+2.9**
RTCV				*eS*	Sn	00 40 31.3	+7.8
BO02	**Sierra Bellavi**	**3.36**	**162**		**Pn**	**00 39 50.3**	**-2.8**
GO05	**Huala**	**3.40**	**178**		**Pn**	**00 39 55.0**	**+1.4**
AC04	**Llanos de Chal**	**3.49**	**15**	Pn	**Pn**	**00 39 55.9**	**+1.0**
AC04	**Llanos de Chal**	**3.49**	**15**	*eP*	**Pn**	**00 39 57.0**	**+2.1**
AC04				*eS*	**Sn**	**00 40 35.8**	**+0.8**
AC04				IAML		00 40 53.9	
	comp=Z,906nm,0.5s						
AGUA	**GUANDACOL**	**3.74**	**57**	*eP*	**Pn**	**00 40 01.5**	**+3.1**
AGUA				*eS*	**Sn**	**00 40 47.3**	**+6.0**
AGUA				IAML		00 41 00.2	
	comp=Z,1μm,0.9s						
COIS	**El Sosneado**	**4.07**	**150**	*eP*	Pn	00 40 11.0	+8.2
COIS				*eS*	Sn	00 41 03.8	+15
AVFE	**Valle Fertil**	**4.07**	**78**	*eP*	**Pn**	**00 40 04.5**	**+1.6**
AVFE				*eS*	Sn	00 40 57.7	+8.3
AVFE				IAML		00 40 59.3	
	comp=Z,805nm,0.5s						
ML02	**Panimavida**	**4.19**	**173**	Pn	**Pn**	**00 40 06.2**	**+1.9**
GO03	**Copiap**	**4.30**	**22**	Pn	**Pn**	**00 40 07.6**	**+1.5**
GO03	**Copiap**	**4.30**	**22**	*eP*	**Pn**	**00 40 07.5**	**+1.5**
GO03				*eS*	**Sn**	**00 40 57.3**	**+2.3**
VCA	**Vinchina**	**4.40**	**51**	*eP*	**Pn**	**00 40 11.0**	**+3.5**
VCA				*eS*	**Sn**	**00 41 01.3**	**+3.7**
VCA				IAML		00 41 16.1	
	comp=Z,1μm,0.5s						
AC06	**Mina Casimiro**	**4.49**	**20**	Pn	**Pn**	**00 40 09.6**	**+1.1**
AC02	**Maricunga**	**5.40**	**29**	Pn	**Pn**	**00 40 19.0**	**-2.5**
AC02	**Maricunga**	**5.40**	**29**	*eP*	**Pn**	**00 40 22.5**	**+1.0**
AC02				*eS*	**Sn**	**00 41 24.8**	**+2.1**
H03N1	**Juan Fernandez**	**6.06**	**251**	T	T	00 47 16.3	
	baz=70,slow=72						
H03N3	**Juan Fernandez**	**6.07**	**250**	T	T	00 47 15.2	
	baz=70,slow=72						
H03N2	**Juan Fernandez**	**6.08**	**251**	T	T	00 47 22.5	
	baz=70,slow=72						
CYA	**Choya**	**6.29**	**62**	*eP*	**Pn**	**00 40 33.3**	**0.0**
CYA				*eS*	**Sn**	**00 41 42.8**	**-1.0**
LC01	**Cunco**	**7.28**	**179**	Pn	**Pn**	**00 40 48.6**	**+1.8**
AHML	**Horco Molle**	**7.60**	**53**	*eP*	**Pn**	**00 40 51.0**	**-0.2**
AHML				*eS*	**Sn**	**00 42 14.7**	**-1.4**
FSA	**Cafayete**	**7.65**	**46**	*eP*	**Pn**	**00 40 53.0**	**+1.0**
LR03	**Panguipulli**	**8.02**	**181**		**Pn**	**00 41 00.0**	**+3.1**
PB10	**IPOC Station P**	**8.17**	**10**	Pn	**Pn**	**00 41 01.6**	**+2.6**
PLCA	**Paso Flores**	**9.20**	**173**	Pn	**Pn**	00 41 06.0	-7.2
	comp=Z,0.2nm,0.3s,baz=332,slow=15,SNR=1.7						
PLCA	**Paso Flores**	**9.20**	**173**	Pn	**Pn**	**00 41 16.0**	**+2.9**
LL04	**Puerto Octay**	**9.29**	**182**		**Pn**	**00 41 15.4**	**+1.0**
LVC	**Limon Verde**	**9.39**	**18**	Pn	**Pn**	**00 41 17.3**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=194,slow=14,SNR=1.9						
LVC				LR	LR	00 44 59.5	
	comp=Z,172nm,20.6s,baz=200,slow=38						
PB04	**IPOC Station P**	**9.39**	**11**	Pn	**Pn**	**00 41 17.1**	**+1.2**
TRQA	**Tornquist**	**10.50**	**131**	Pn	**Pn**	**00 41 29.0**	**-1.9**
PB01	**IPOC Station P**	**10.77**	**13**	Pn	**Pn**	**00 41 35.5**	**+0.8**
ITQB	**Itaqui**	**13.45**	**86**	Pn	**Pn**	**00 42 09.8**	**-1.3**
CPUP	**Villa Florida**	**13.93**	**72**	Pn	Pn	00 42 10.5	-7.3
	comp=Z,0.1nm,0.3s,baz=240,slow=18,SNR=1.6						
CPUP				Sn	Sn	00 44 40.9	-10
	comp=Z,0.5nm,0.3s,baz=106,slow=20,SNR=1.8						
CPUP				LR	LR	00 47 36.8	
	comp=Z,103nm,21.5s,baz=258,slow=38						
CPUP	**Villa Florida**	**13.93**	**72**	Pn	**Pn**	**00 42 14.2**	**-3.6**
LPAZ	**La Paz**	**15.66**	**14**	Pn	**Pn**	**00 42 42.8**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=215,slow=6.8,SNR=8.7						
LPAZ	**La Paz**	**15.66**	**14**		**Pn**	**00 42 42.8**	**+1.6**
PLTB	**Pedras Altas**	**15.73**	**95**	Pn	**Pn**	**00 42 36.8**	**-4.7**
SIV	**San Ignacio**	**18.49**	**35**	P	**P**	**00 43 14.9**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=208,slow=9.0,SNR=8.9						
BDFB	**Brasilia**	**27.08**	**60**	P	**P**	**00 44 39.8**	**-1.7**
	comp=Z,6.1nm,0.8s,baz=239,slow=5.2,SNR=7.8						
BDFB	**Brasilia**	**27.08**	**60**	P	**P**	**00 44 41.6**	**+0.1**
BDFB				IAmb	IAmb	00 44 50.7	
	comp=Z,13nm,0.9s						
HOPE	**Hope Point**	**33.98**	**142**	P	**P**	**00 45 43.1**	**+1.4**
SNAA	**Sanae**	**53.82**	**158**	P	**P**	**00 48 17.7**	**-2.9**
	comp=Z,0.6nm,0.6s,baz=226,slow=6.4,SNR=2.2						
SNAA	**Sanae**	**53.82**	**158**	IAmb	IAmb	00 48 41.8	
	comp=Z,4.4nm,1.2s						
QSPA	**South Pole Qui**	**58.63**	**180**	P	**P**	**00 48 52.3**	**-2.8**
	comp=Z,1.1nm,0.9s,baz=222,slow=7.4,SNR=2.3						
DBIC	**Dimbokro**	**74.45**	**72**	P	**P**	**00 50 36.6**	**-0.1**
	comp=Z,4.2nm,0.6s,baz=227,slow=4.7,SNR=8.9						
RAR	**Rarotonga**	**77.32**	**253**	LR	LR	01 17 19.3	
	comp=Z,62nm,20.9s,baz=95,slow=30						
KOWA	**Kowa**	**79.68**	**66**	P	**P**	**00 51 07.0**	**+1.0**
	comp=Z,2.1nm,0.6s,baz=263,slow=3.4,SNR=6.7						
BOSA	**Boshof**	**81.22**	**118**	LR	LR	01 25 59.2	
	comp=Z,25nm,18.1s,baz=18,slow=35						
TORD	**Torodi Ar. Bea**	**83.43**	**70**	P	**P**	**00 51 24.4**	**-1.5**
	comp=Z,2.4nm,0.8s,baz=289,slow=5.3,SNR=6.8						
TORD				LR	LR	01 26 14.2	
	comp=Z,47nm,20.2s,baz=135,slow=34						
TORD	**Torodi Ar. Bea**	**83.43**	**70**	P	**P**	**00 51 24.3**	**-1.5**
TORD				IAmb	IAmb	00 51 28.5	
	comp=Z,4.9nm,0.8s						
H11S2	**WAKE ISLAND Hyd**	**25.74**	**271**	T	T	03 16 56.7	
	baz=116,slow=75,SNR=73						
H11S1	**WAKE ISLAND Hyd**	**25.75**	**271**	T	T	03 16 55.4	
	baz=116,slow=75,SNR=16						
H11S3	**WAKE ISLAND Hyd**	**25.76**	**271**	T	T	03 16 59.2	
	baz=116,slow=75,SNR=69						
H11N3	**WAKE ISLAND Hyd**	**26.09**	**272**	T	T	03 17 21.9	
	baz=116,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hyd**	**26.11**	**272**	T	T	03 17 22.6	
	baz=116,slow=75,SNR=14						
H11N2	**WAKE ISLAND Hyd**	**26.11**	**272**	T	T	03 17 22.8	
	baz=116,slow=75,SNR=14						
ZALV	**Zalesovo Beam**	**152.19**	**30**	PKPbc	**PKiKP**	**00 58 56.1**	**+3.0**
	comp=Z,11nm,0.6s,baz=309,slow=3.1,SNR=30						
KSH	**Kashi**	**152.94**	**64**	PKPbc	**PKPdf**	**00 58 51.4**	**+3.5**
MKAR	**Makanchi Array**	**155.15**	**45**	PKPbc	PKPbc	00 59 01.9	
	comp=Z,0.8nm,0.8s,baz=343,slow=1.3,SNR=6.8						

*NNC **18** 00:42:25.3±3.7,36°.84N×70°.59E,h151km±38km,mb3.0, mpv3.8,Error ellipse: s-maj=34.6km s-min=17.6km az=157.0*

ISC 18 00:42:22.7±0.9,36°.54N±0'.08×70°.79E±0'.07,h188km,n27, σ2s08/27,6C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.02**	**21**	P	**Pn**	**00 43 49.9**	**-0.4**
	SNR=35						
UCH	**Uchtor**	**6.37**	**26**	P	**Pn**	**00 43 54.6**	**-0.3**
	SNR=16						
KK31	**Karatay Array**	**6.56**	**358**	P	**Pn**	**00 43 56.8**	**-0.1**
	2.9nm,0.3s,baz=187,slow=15,SNR=49						
KK31				S	**Sn**	**00 45 07.9**	**-3.7**
	10nm,0.6s,baz=116,slow=25,SNR=19						
AAK	**Ala-Archa**	**6.72**	**24**	P	**Pn**	**00 44 01.2**	**+1.9**
	SNR=10						
AAK	**Ala-Archa**	**6.72**	**24**	⇓P	**Pn**	**00 43 58.4**	**-0.9**
	4.5nm,0.5s						
AAK				⇑S	**Sn**	**00 45 11.7**	**-4.0**
	12nm,0.8s						
KBK	**Karagaybulak**	**6.90**	**26**	P	**Pn**	**00 44 03.6**	**+2.0**
	SNR=5.4						
ULHL	**Ulahol**	**7.09**	**35**	P	**Pn**	**00 44 04.2**	**+0.1**
	SNR=6.7						
CHMS	**Chumysh**	**7.13**	**24**	P	**Pn**	**00 44 05.8**	**+1.3**
	SNR=8.7						
USP	**Ospenovka**	**7.30**	**22**	P	**Pn**	**00 44 05.5**	**-1.1**
	SNR=6.7						
TKM2	**Tokmak 2**	**7.37**	**29**	P	**Pn**	**00 44 08.7**	**+0.9**
	SNR=16						
GYA0B	**ALIBECK ARRAY**	**10.20**	**282**	⇑P	**Pn**	**00 44 44.4**	**-0.3**
GYA0B				⇓S	**Sn**	**00 46 35.4**	**-2.9**
PYUN	**Piuthan**	**13.31**	**126**	*eP*	Pn	00 45 21.2	-3.4
	17nm,0.3s						
MK31	**Makanchi Array**	**13.36**	**36**	⇑P	**Pn**	**00 45 26.3**	**+1.4**
	0.9nm,0.6s,baz=218,slow=11,SNR=6.3						
DANN	**Dangsing**	**13.65**	**123**	*eP*	Pn	00 45 25.6	-3.5
	13nm,0.3s						
KOLN	**Koldanda**	**13.93**	**125**	*eP*	Pn	00 45 29.6	-2.8
	10nm,0.3s						
GKN	**Gorkha**	**14.47**	**122**	*eP*	Pn	00 45 36.8	-2.3
	21nm,0.3s						
AB31	**Akbulak array**	**14.96**	**331**	P	**Pn**	**00 45 47.6**	**+2.9**
	0.3nm,0.2s,baz=147,slow=11,SNR=37						
AB31				⇑S	Sn	00 48 22.3	-10
	1.0nm,0.5s,baz=152,slow=24,SNR=6.5						
KKN	**Kakani**	**15.04**	**121**	*eP*	**Pn**	**00 45 43.7**	**-2.5**
	19nm,0.5s						
KURBB	**Kurchatov Arra**	**15.14**	**19**	⇑P	**Pn**	**00 45 46.7**	**-0.1**
	4.5nm,0.7s						
PKIN	**Phulchoki**	**15.26**	**122**	*eP*	**Pn**	**00 45 47.1**	**-1.8**
	14nm,0.4s						
PKI	**Pulchoki**	**15.27**	**122**	*eP*	**Pn**	**00 45 47.3**	**-1.8**
	16nm,0.4s						
JIRN	**Jiri**	**15.76**	**120**	*eP*	**Pn**	**00 45 53.4**	**-1.6**
	18nm,0.4s						
RAMN	**Ramite**	**16.48**	**121**	*eP*	**P**	**00 46 02.0**	**-1.0**
	13nm,0.3s						
AKTO	**Aktyubinsk**	**16.66**	**330**	⇓P	**P**	**00 46 07.9**	**+3.5**
AKTO	0.2nm,0.3s			⇑S	**S**	**00 49 06.7**	**-1.8**
	1.9nm,0.7s						
TAPN	**Taplejung**	**17.02**	**118**	*eP*	**P**	**00 46 09.6**	**+0.7**
	9.5nm,0.3s						
ODAN	**Odare**	**17.09**	**120**	*eP*	**P**	**00 46 10.2**	**+0.6**
	18nm,0.7s						
ZAA0	**Zalesovo Array**	**19.95**	**25**	⇓P	**P**	**00 46 43.3**	**+3.3**
	0.3nm,0.3s						

*IDC **18** 00:46:23.4±1.0,31°.87S×72°.11W,h0km,mb4.0/5, mb1 4.0/10,mb1mx3.8/40,mbtmp3.9/10,ML3.8/5,Error ellipse: s-maj=35.1km s-min=19.5km az=106.0*

*NEIC **18** 00:46:25.9±3.0,31°.99S±0°.04×71°.91W±0°.05,h17km±6km, Error ellipse: s-maj=6.7km s-min=4.6km az=55.0*

*NEIC **18** 00:46:25,31°.95S×72°.08W,h18km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=5.35; $M_{\theta\theta}$-0.76; $M_{\phi\phi}$-4.59; $M_{r\theta}$-1.43; $M_{\theta\phi}$3.12; $M_{\phi r}$-4.66; Fault plane solution: $M_0$7.66000×10^{14} NP1:φ_s307.39000°, δ35.00000°,λ46.34000°. NP2:φ_s176.74000°,δ65.48000°, λ115.80000°. Principal axes: T 7.9344, Plg61.0000°, Azm126.0000°; N -0.5893, Plg23.0000°, Azm345.0000°; P -7.3452, Plg17.0000°, Azm248.0000°;*

*GUC **18** 00:46:25.1±0.8,31°.95S×72°.08W,h20km±8km,ML4.0*

ISC 18 00:46:24.5±1.6,31°.96S±0°.03×72°.05W±0°.06,h7km±10km, n48,σ1s07/51,mb4.1/5,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**0.88**	**134**	*eP*	**Pb**	**00 46 42.4**	**+0.3**
VA06				*eS*	**Sn**	**00 46 55.6**	**-0.6**
VA06				IAML		00 46 57.8	
	comp=E,20μm,0.5s						
VA01	**Torpederas**	**1.12**	**163**	*eP*	**Pg**	**00 46 46.7**	**+0.8**
VA01	**Torpederas**	**1.12**	**163**		**Pb**	**00 46 46.2**	**+0.1**
VA01					**Sn**	**00 47 01.2**	**-1.0**
CO06	**Fray Jorge**	**1.33**	**15**	*eP*	**Pn**	**00 46 49.1**	**-0.3**
CO06	**Fray Jorge**	**1.33**	**15**		**Pb**	**00 46 49.5**	**-0.2**
ROCH	**El Roble**	**1.34**	**139**	*eP*	**Pb**	**00 46 50.2**	**+0.2**
ROCH				IAML		00 47 20.8	
	comp=N,3μm,0.5s						
VA03	**San Esteban**	**1.50**	**123**	*eP*	**Pb**	**00 46 52.9**	**+0.2**
VA03				*eS*	**Sb**	**00 47 12.6**	**+0.6**
VA03				IAML		00 47 15.5	
	comp=E,3μm,0.3s						
VA03	**San Esteban**	**1.50**	**123**		**Pb**	**00 46 52.8**	**0.0**
CO03	**El Pedregal**	**1.61**	**47**	*eP*	**Pb**	**00 46 54.5**	**-0.1**
CO03				*eS*	**Sb**	**00 47 14.8**	**-0.3**
CO03				IAML		00 47 19.3	
	comp=E,3μm,0.5s						
CO03	**El Pedregal**	**1.61**	**47**		**Pb**	**00 46 54.6**	**0.0**
VA05	**Santo Domingo**	**1.73**	**168**	*eP*	**Pb**	**00 46 55.8**	**-0.9**
VA05				IAML		00 47 28.9	
	comp=N,3μm,0.3s						
VA05	**Santo Domingo**	**1.73**	**168**		**Pn**	**00 46 52.4**	**-2.7**
MT05	**Renca**	**1.81**	**143**	*eP*	**Pb**	**00 46 57.7**	**-0.3**
MT05				IAML		00 47 25.3	
	comp=E,5μm,0.4s						
MT05	**Renca**	**1.81**	**143**		**Pb**	**00 46 57.8**	**-0.2**
MT01	**Popeta**	**2.02**	**161**	*eP*	**Pn**	**00 46 59.6**	**+0.6**
MT01				IAML		00 47 36.6	
	comp=N,1μm,0.5s						
MT01	**Popeta**	**2.02**	**161**		**Pn**	**00 46 58.6**	**-0.3**
MT09	**Talagante**	**2.02**	**154**	*eP*	**Pb**	**00 47 00.8**	**-0.9**
MT09				IAML		00 47 34.3	
	comp=N,1μm,0.4s						
MT09	**Talagante**	**2.02**	**154**		**Pn**	**00 46 57.2**	**-1.9**
GO04	**Tololo Observa**	**2.08**	**31**	*eP*	**Pb**	**00 47 02.5**	**-0.1**
GO04				*eS*	**Sg**	**00 47 30.4**	**-0.8**
GO04	**Tololo Observa**	**2.08**	**31**		**Pn**	**00 47 00.0**	**+0.1**
CO05	**La Serena**	**2.15**	**19**	*eP*	**Pb**	**00 47 03.7**	**0.0**
CO05				IAML		00 47 40.4	
	comp=N,2μm,0.6s						
CO05	**La Serena**	**2.15**	**19**		**Pn**	**00 46 59.9**	**-0.9**
BO01	**Tunca**	**2.56**	**162**	*eP*	**Pn**	**00 47 06.1**	**-0.3**
BO01				IAML		00 47 50.4	
	comp=N,425nm,0.4s						
BO01	**Tunca**	**2.56**	**162**		**Pn**	**00 47 06.3**	**-0.1**
ZON	**Zonda**	**2.90**	**83**		**Pn**	**00 47 07.9**	**-3.2**
BO02	**Sierra Bellavi**	**3.02**	**160**		**Pn**	**00 47 12.3**	**-0.5**
GO05	**Huala**	**3.05**	**178**		**Pn**	**00 47 12.8**	**-0.3**
LCO	**Las Campanas**	**3.16**	**22**		**Pn**	**00 47 12.3**	**-2.6**
ML02	**Panimavida**	**3.83**	**172**		**Pn**	**00 47 23.5**	**-0.4**
AC04	**Llanos de Chal**	**3.83**	**13**		**Pn**	**00 47 22.3**	**-1.6**
GO03	**Copiap**	**4.62**	**20**		**Pn**	**00 47 33.7**	**-1.2**
AC02	**Maricunga**	**5.70**	**27**		**Pn**	**00 47 48.5**	**-1.6**
H03N1	**Juan Fernandez**	**5.97**	**254**	T	T	00 53 53.4	
	baz=82,slow=73						
H03N3	**Juan Fernandez**	**5.99**	**254**	T	T	00 53 51.9	
	baz=82,slow=73						
H03N2	**Juan Fernandez**	**5.99**	**254**	T	T	00 53 54.4	
	baz=82,slow=73						
LC01	**Cunco**	**6.93**	**179**	Pn	**Pn**	**00 48 05.6**	**-0.8**
PLCA	**Paso Flores**	**8.84**	**173**	Pn	**Pn**	**00 48 33.6**	**+0.8**
	comp=N,0.5nm,0.3s,baz=337,slow=12,SNR=8.6						
LVC	**Limon Verde**	**9.72**	**17**	Pn	**Pn**	**00 48 45.1**	**0.0**
	comp=N,0.6nm,0.3s,baz=101,slow=23,SNR=2.6						
CPUP	**Villa Florida**	**14.02**	**70**	Pn	**Pn**	**00 49 44.4**	**+0.7**
	comp=N,0.2nm,0.3s,baz=270,slow=14,SNR=2.2						
CPUP				Sn	**Sn**	**00 52 21.9**	**+2.3**
	comp=N,0.2nm,0.3s,baz=252,slow=19,SNR=1.9						
LPAZ	**La Paz**	**16.00**	**14**	Pn	**Pn**	**00 50 10.6**	**-0.1**
	comp=N,0.1nm,0.3s,baz=50,slow=18,SNR=1.1						
SIV	**San Ignacio**	**18.77**	**35**	P	**P**	**00 50 43.7**	**-0.6**
	comp=N,0.1nm,0.3s,baz=227,slow=16,SNR=1.7						
BDFB	**Brasilia**	**27.24**	**59**	P	**P**	**00 52 08.4**	**-1.0**
	comp=N,5.3nm,1.0s,baz=256,slow=11,SNR=4.5						
SNAA	**Sanae**	**53.48**	**158**	P	**P**	**00 55 46.0**	**+0.9**
	comp=N,0.8nm,0.5s,baz=289,slow=8.5,SNR=8.0						
QSPA	**South Pole Qui**	**58.27**	**180**	P	**P**	**00 56 20.6**	**+1.0**
	comp=N,2.1nm,1.0s,baz=166,slow=2.6,SNR=4.6						
NVAR	**Mina Array Bea**	**82.21**	**325**	P	**P**	**00 58 45.4**	**-1.1**
	comp=N,0.2nm,0.5s,baz=134,slow=7.7,SNR=1.9						
TORD	**Torodi Ar. Bea**	**83.52**	**70**	P	**P**	**00 58 53.7**	**+0.2**
	comp=N,1.6nm,0.7s,baz=283,slow=5.7,SNR=12						
WRA	**Warramunga Arr**	**122.53**	**210**	PKP	**PKiKP**	**01 05 20.7**	**-0.9**
	comp=N,0.2nm,0.4s,baz=153,slow=1.2,SNR=1.5						
ZALV	**Zalesovo Beam**	**152.49**	**30**	PKPbc	**PKiKP**	**01 06 21.7**	**+0.4**
	comp=N,2.9nm,0.6s,baz=298,slow=2.8,SNR=9.2						

*PGC **18** 01:08:48.2±0.0,60°.02N×140°.74W,h1km,ML2.8/11, 107km Wnw of Yakutat, Ak Southeastern Alaska*

*AEIC **18** 01:08:48±1.1,60°.07N±0°.04×140°.67W±0°.05,h9km±6km, ML3.3,ML3.5/102(NEIC),Error ellipse: s-maj=6.2km s-min=2.2km az=204.0*

*NEIC **18** 01:08:48.5±1.3,60°.09N±0°.02×140°.66W±0°.04,h9km±8km, Error ellipse: s-maj=4.0km s-min=2.1km az=215.0*

ISC 18 01:08:48.4±0.8,60°.07N±0°.03×140°.71W±0°.02,h10km±5km, n166,σ0s69/175,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAMH	**Samovar Hills**	**0.07**	**330**	P	**Pg**	**01 08 50.1**	**-0.7**
SAMH				S	**Sg**	**01 08 52.6**	**+0.1**
SAMH	**Samovar Hills**	**0.07**	**330**		**Pg**	**01 08 50.3**	**-0.5**
SAMH					**Sg**	**01 08 52.4**	**-0.1**
CHX	**Chaix Hills**	**0.20**	**269**		**Pg**	**01 08 53.4**	**+0.7**
PCA	**Pinnacle**	**0.23**	**83**	P	**Pg**	**01 08 52.9**	**-0.2**
PCA				S	**Sg**	**01 08 57.4**	**+1.1**
PCA	**Pinnacle**	**0.23**	**83**		**Pg**	**01 08 53.0**	**-0.2**
PCA					**Sg**	**01 08 57.5**	**+1.1**
PINM	**Pinnacle**	**0.23**	**83**	P	**Pg**	**01 08 53.0**	**-0.2**
	baz=266						
PINM				S	**Sg**	**01 08 57.5**	**+1.0**
	baz=266						
RKAV	**Rock Avalanche**	**0.39**	**306**	P	**Pg**	**01 08 56.6**	**+0.4**
RKAV				S	**Sb**	**01 09 04.2**	**+0.5**
RKAV	**Rock Avalanche**	**0.39**	**306**		**Pg**	**01 08 56.5**	**+0.4**
TABL	**Table Mountain**	**0.43**	**330**	P	**Pg**	**01 08 57.1**	**+0.1**
TABL				S	**Sb**	**01 09 04.9**	**+0.1**
TABL	**Table Mountain**	**0.43**	**330**		**Pg**	**01 08 57.0**	**+0.1**
TABL					**Sb**	**01 09 04.8**	**-0.1**
TABL	**Table Mountain**	**0.43**	**330**	IAML		01 09 06.3	
	comp=N,8μm,0.7s						
TABL				IAML		01 09 09.7	
	comp=E,5μm,0.9s						
BCPM	**Bancas Point**	**0.55**	**102**		**Pg**	**01 08 59.0**	**-0.2**
BCPM					**Sb**	**01 09 07.4**	**-0.7**
BCPM	**Bancas Point**	**0.55**	**102**	IAML		01 09 08.6	
	comp=E,3μm,0.4s						
BCPM				IAML		01 09 12.0	
	comp=N,3μm,0.5s						
YAH	**Yahtse**	**0.59**	**300**		**Pb**	**01 09 00.9**	**-0.1**
YAH					**Sn**	**01 09 12.1**	**-0.8**
YAH	**Yahtse**	**0.59**	**300**	IAML		01 09 13.0	
	comp=N,3μm,1.1s						
YAH

YUK3	**Moose Creek**	**1.72**	**4**		**Pn**	**01 09 19.0**	**+0.5**
YUK3	**Moose Creek** baz=184	**1.72**	**4**	P	**Pn**	**01 09 19.0**	**+0.5**
YUK2	**White River**	**1.73**	**358**	Pn	**Pn**	**01 09 19.2**	**+0.6**
YUK2				Sn	**Sb**	**01 09 42.7**	**+0.7**
YUK2	**White River**	**1.73**	**358**		**Pn**	**01 09 18.7**	**+0.2**
MCARA	**McCarthy VSAT**	**1.74**	**320**		**Pn**	**01 09 18.6**	**-0.1**
MCARA	**McCarthy VSAT** baz=138	**1.74**	**320**	P	**Pn**	**01 09 18.6**	**-0.1**
HYT	**Haines Junctio**	**1.76**	**63**	Pn	**Pn**	**01 09 19.1**	**0.0**
HYT				Sn	**Sb**	**01 09 43.5**	**+0.5**
HYT	**Haines Junctio**	**1.76**	**63**		**Pn**	**01 09 18.9**	**-0.1**
HYT	**Haines Junctio** comp=N,382nm,0.6s	**1.76**	**63**	IAML		01 09 46.6	
HYT	**Haines Junctio** baz=246	**1.76**	**63**	P	**Pn**	**01 09 18.9**	**-0.1**
VRDI	**Verde Repeater**	**1.78**	**312**		**Pn**	**01 09 19.0**	**-0.4**
VRDI	**Verde Repeater** comp=N,329nm,0.7s	**1.78**	**312**	IAML		01 09 49.6	
HMT	**Hamilton**	**1.79**	**280**		**Pn**	**01 09 19.9**	**+0.5**
KAIM	**Kayak Island**	**1.87**	**267**	Pn	**Pn**	**01 09 20.7**	**+0.3**
KAIM	comp=E,328nm,2.8s			IAML		01 09 34.5	
KAIM	comp=N,349nm,2.9s			IAML		01 09 54.0	
GLB	**Gilahina Butte**	**2.05**	**314**		**Pn**	**01 09 23.3**	**+0.3**
GLB	**Gilahina Butte** comp=N,240nm,0.8s	**2.05**	**314**	IAML		01 10 02.3	
GOAT	**Goat Mountain**	**2.06**	**286**		**Pn**	**01 09 23.5**	**+0.3**
YUK1	**Sand Pete Hill**	**2.09**	**2**	Pn	**Pn**	**01 09 25.0**	**+1.3**
YUK1				Sg	**Sb**	**01 09 53.5**	**+0.9**
YUK1	**Sand Pete Hill**	**2.09**	**2**		**Pn**	**01 09 24.4**	**+0.8**
BMRM	**Bremner River**	**2.13**	**297**		**Pn**	**01 09 24.1**	**+0.1**
BMRM	**Bremner River** comp=E,331nm,0.7s	**2.13**	**297**	IAML		01 10 04.7	
BMRM	**Bremner River** baz=113	**2.13**	**297**	P	**Pn**	**01 09 24.1**	**+0.1**
BVCY	**Beaver Creek**	**2.35**	**358**	Pn	**Pn**	**01 09 28.7**	**+1.6**
BVCY				Sg	**Sb**	**01 10 01.5**	**+1.4**
M27K	**Edge Creek, AK**	**2.37**	**347**		**Pn**	**01 09 27.9**	**+0.5**
M27K	comp=N,240nm,1.3s			IAML		01 10 09.4	
N25K	**Chitina, Valde**	**2.45**	**311**		**Pn**	**01 09 27.6**	**-0.8**
N25K	**Chitina, Valde** baz=127	**2.45**	**311**	P	**Pn**	**01 09 27.6**	**-0.8**
EYAK	**Cordova Ski Ar**	**2.55**	**283**	Pn	**Pn**	**01 09 30.2**	**+0.4**
M26K	**Nabesna, AK**	**2.59**	**336**		**Pn**	**01 09 30.7**	**+0.3**
M26K	**Nabesna, AK** comp=E,188nm,1.1s	**2.59**	**336**	IAML		01 10 15.3	
M26K	comp=N,162nm,1.0s			IAML		01 10 17.7	
M26K	**Nabesna, AK** baz=153	**2.59**	**336**	P	**Pn**	**01 09 30.7**	**+0.3**
DIV	**Divide**	**2.71**	**295**	Pn	**Pn**	**01 09 32.3**	**+0.2**
DIV	**Divide**	**2.71**	**295**		**Pn**	**01 09 32.2**	**+0.2**
SKAG	**Skagway**	**2.79**	**100**	Pn	**Pn**	**01 09 32.4**	**-0.6**
SKAG	comp=N,145nm,0.8s			IAML		01 10 14.0	
SKAG	comp=E,152nm,1.0s			IAML		01 10 23.8	
KLU	**Klutina**	**2.93**	**301**		**Pn**	**01 09 35.5**	**+0.4**
KLU	**Klutina** comp=E,152nm,0.8s	**2.93**	**301**	IAML		01 10 27.5	
KLU	comp=N,158nm,0.9s			IAML		01 10 27.6	
KLU	**Klutina** baz=116	**2.93**	**301**	P	**Pn**	**01 09 35.5**	**+0.4**
FID	**Port Fidalgo**	**2.94**	**286**	Pn	**Pn**	**01 09 36.2**	**+1.1**
FID	comp=N,108nm,0.7s			IAML		01 10 33.0	
FID	comp=E,107nm,1.3s			IAML		01 10 35.3	
WHY	**Whitehorse**	**2.96**	**76**	Pn	**Pn**	**01 09 35.5**	**0.0**
WHY				Sn	**Sn**	**01 10 11.9**	**+0.9**
WHY	**Whitehorse**	**2.96**	**76**		**Pn**	**01 09 35.5**	**0.0**
WHY	**Whitehorse** comp=N,119nm,0.7s	**2.96**	**76**	IAML		01 10 29.3	
WHY	**Whitehorse** baz=261	**2.96**	**76**	P	**Pn**	**01 09 35.5**	**0.0**
L27K	**Beaver Creek,**	**3.05**	**350**		**Pn**	**01 09 37.2**	**+0.5**
L27K	**Beaver Creek,** baz=169	**3.05**	**350**	P	**Pn**	**01 09 37.2**	**+0.5**
BC03		**3.05**	**351**		**Pn**	**01 09 37.1**	**+0.5**
BCAR	**Beaver Creek A**	**3.05**	**351**		**Pn**	**01 09 36.9**	**+0.2**
JPK	**Jack Peak**	**3.07**	**291**		**Pn**	**01 09 36.9**	**-0.1**
HARP	**HAARP**	**3.18**	**319**		**Pn**	**01 09 39.6**	**+1.2**
HARP	**HAARP** baz=135	**3.18**	**319**	P	**Pn**	**01 09 39.6**	**+1.2**
MENT	**Mentasta**	**3.22**	**335**		**Pn**	**01 09 39.2**	**+0.2**
MENT	comp=E,139nm,0.8s			IAML		01 10 37.3	
L26K	**Log Cabin Wild**	**3.23**	**338**		**Pn**	**01 09 39.4**	**+0.3**
L26K	comp=N,87nm,0.5s			IAML		01 10 28.3	
GLI	**Glacier Island**	**3.26**	**287**	Pn	**Pn**	**01 09 39.6**	**0.0**
GLI	comp=N,105nm,1.0s			IAML		01 10 40.4	
M24K	**Tolsona, Glenn**	**3.35**	**310**		**Pn**	**01 09 41.4**	**+0.6**
M24K	comp=N,93nm,1.6s			IAML		01 10 42.6	
BESE	**Bessie Mountai**	**3.35**	**114**	Pn	**Pn**	**01 09 41.1**	**+0.2**
SCM	**Sheep Creek Mo**	**3.68**	**302**	Pn	**Pn**	**01 09 45.3**	**-0.1**
PAX	**Paxson**	**3.70**	**324**		**Pn**	**01 09 46.2**	**+0.6**
PAX	**Paxson** baz=140	**3.70**	**324**	P	**Pn**	**01 09 46.2**	**+0.6**
JIS	**Juneau Island**	**3.72**	**116**	Pn	**Pn**	**01 09 45.3**	**-0.4**
JIS	comp=E,70nm,0.6s			IAML		01 10 49.2	
JIS	comp=N,66nm,0.6s			IAML		01 10 52.8	
PWL	**Port Wells**	**3.86**	**285**	Pn	**Pn**	**01 09 47.8**	**0.0**
PWL	comp=N,58nm,0.9s			IAML		01 10 53.6	
DOT	**Dot Lake**	**3.93**	**338**	Pn	**Pn**	**01 09 49.0**	**+0.3**
DOT	**Dot Lake**	**3.93**	**338**		**Pn**	**01 09 49.5**	**+0.8**
K27K	**Chicken**	**4.03**	**351**		**Pn**	**01 09 50.4**	**+0.3**
K27K	comp=E,61nm,1.2s			IAML		01 10 55.8	
K27K	comp=N,44nm,1.1s			IAML		01 11 05.4	
KNK	**Knik Glacier**	**4.04**	**293**		**Pn**	**01 09 50.6**	**+0.4**
KNK	**Knik Glacier** comp=N,71nm,0.9s	**4.04**	**293**	IAML		01 10 53.9	
KNK	comp=E,73nm,0.8s			IAML		01 11 07.5	
KNK	**Knik Glacier** baz=106	**4.04**	**293**	P	**Pn**	**01 09 50.6**	**+0.4**
DAWY	**Dawson**	**4.06**	**8**	Pn	**Pn**	**01 09 51.5**	**+1.0**
DAWY				Sg	**Sg**	**01 10 57.9**	**-0.7**
DAWY	**Dawson**	**4.06**	**8**		**Pn**	**01 09 50.0**	**-0.6**
DAWY	**Dawson** comp=E,52nm,0.8s	**4.06**	**8**	IAML		01 10 58.4	
DAWY	comp=N,64nm,0.7s			IAML		01 10 58.8	
DAWY	**Dawson** baz=189	**4.06**	**8**	P	**Pn**	**01 09 50.0**	**-0.6**
SML	**Sawmill**	**4.11**	**298**	Pn	**Pn**	**01 09 52.4**	**+1.2**
SML	comp=N,53nm,0.7s			IAML		01 10 55.8	
SML	comp=E,60nm,1.0s			IAML		01 11 06.0	
RIDG	**Independent Ri**	**4.17**	**334**		**Pn**	**01 09 52.8**	**+0.7**
RIDG	**Independent Ri** comp=E,55nm,1.8s	**4.17**	**334**	IAML		01 11 07.4	
RIDG	**Independent Ri** baz=150	**4.17**	**334**	P	**Pn**	**01 09 52.8**	**+0.7**
SCRK	**Sand Creek**	**4.21**	**340**		**Pn**	**01 09 53.2**	**+0.5**
SCRK	**Sand Creek** baz=157	**4.21**	**340**	P	**Pn**	**01 09 53.2**	**+0.5**
GHO	**Glory Hole Cre**	**4.36**	**297**	Pn	**Pn**	**01 09 55.3**	**+0.6**
DHY	**Denali Highway**	**4.39**	**316**		**Pn**	**01 09 54.5**	**-0.6**
PMR	**Palmer**	**4.40**	**294**	Pn	**Pn**	**01 09 56.1**	**+1.0**
PMR					LR	01 11 06.7	
PMR	comp=E,41nm,0.8s			IAML		01 11 10.4	
O22K	**Cooper Landing**	**4.51**	**279**	Pn	**Pn**	**01 09 56.9**	**+0.2**
RC01	**Rabbit Creek A**	**4.57**	**287**	Pn	**Pn**	**01 09 57.2**	**-0.2**
RC01					LR	01 11 13.6	
RC01	comp=E,38nm,1.5s			IAML		01 11 24.7	
EGAK	**Eagle**	**4.73**	**358**		**Pn**	**01 09 59.7**	**0.0**
J25K	**Salcha River,**	**5.05**	**337**		**Pn**	**01 10 04.3**	**+0.2**
J25K	**Salcha River,** baz=152	**5.05**	**337**	P	**Pn**	**01 10 04.3**	**+0.2**
SUA	**Susitna One**	**5.12**	**290**	Pn	**Pn**	**01 10 05.8**	**+0.7**
SUA	comp=N,33nm,1.6s			IAML		01 11 42.2	
HDA	**Harding Lake**	**5.24**	**329**	Pn	**Pn**	**01 10 07.3**	**+0.6**
HDA	comp=E,18nm,2.2s			IAML		01 11 41.0	
IL31		**5.52**	**331**	Pn	**Pn**	**01 10 10.7**	**+0.2**
SKT	**Skwentna**	**5.60**	**295**	Pn	**Pn**	**01 10 12.5**	**+0.8**
CCB	**Clear Creek Bu**	**5.66**	**327**	Pn	**Pn**	**01 10 12.3**	**0.0**
TRF	**Thorofare Moun**	**5.67**	**311**		**Pn**	**01 10 13.0**	**+0.2**
BWN	**Browne**	**5.81**	**319**	Pn	**Pn**	**01 10 14.0**	**-0.6**
PRP	**Porcupine Dome**	**5.90**	**340**	Pn	**Pn**	**01 10 15.3**	**-0.5**
KTH	**Kantishna Hill**	**5.97**	**310**		**Pn**	**01 10 17.0**	**+0.3**
MDM	**Murphy Dome**	**6.01**	**328**	Pn	**Pn**	**01 10 16.7**	**-0.7**
PPLA	**Purkeypite**	**6.18**	**302**	Pn	**Pn**	**01 10 20.4**	**+0.6**
BPAW	**Bear Paw Mtn.**	**6.29**	**314**	Pn	**Pn**	**01 10 22.0**	**+0.8**
CAST	**Castle Rocks**	**6.36**	**307**	Pn	**Pn**	**01 10 23.0**	**+1.0**
Q19K	**Cape Douglas,**	**6.69**	**266**	Pn	**Pn**	**01 10 27.4**	**+0.9**
MLY	**Manley**	**6.80**	**321**	Pn	**Pn**	**01 10 28.4**	**+0.3**
FYU	**Fort Yukon**	**6.83**	**345**	Pn	**Pn**	**01 10 28.3**	**-0.2**
L19K	**White Mountain**	**7.17**	**293**	Pn	**Pn**	**01 10 33.2**	**+0.1**
BMAR	**Burnt Mountain**	**7.58**	**349**	Pn	**Pn**	**01 10 40.9**	**+2.0**

*DSN **18** 01:10:42.8±2.6,26°.80N×54°.17E,h10km,ML3.1/13,Error ellipse: s-maj=29.4km s-min=11.4km az=159.0*
*THR **18** 01:10:42.9±0.5,26°.72N×54°.20E,h15km±9km,ML3.6*
*TEH **18** 01:10:44.4,26°.74N×54°.19E,h20km,ML3.5*
*OMAN **18** 01:10:44.8±0.5,26°.92N×54°.21E,h72km±20km,Error ellipse: s-maj=12.2km s-min=6.5km az=355.0*

ISC 18 01:10:43.7±1.9,**26°.70N**±0°.05×**54°.20E**±0°.04,**h4**km±16km,
n76,σ0**s84/81,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.98**	**9**	*e*Pg		**Pg**		**01 11 02.2**	**-0.3**
LAR1	comp=Z,19μm,0.4s			*e*				01 11 29.3	
LMD1	**Lamerd** comp=Z,14μm,0.5s	**1.12**	**305**	*e*				01 11 33.5	
LMD1				*e*Pg		**Pg**		**01 11 05.5**	**+0.3**
SHME	**Shamm**	**1.86**	**110**	P		**Pn**		**01 11 14.9**	**-1.5**
SHME	**Shamm**	**1.86**	**110**	*e*Pn		**Pn**		**01 11 15.4**	**-1.0**
SHME	**Shamm**	**1.86**	**110**	P		**Pn**		**01 11 15.3**	**-1.1**
SHME				S		**Sn**		**01 11 39.5**	**-0.8**
JHRM	**Jahrom**	**1.88**	**343**	*e*Pn		**Pn**		**01 11 16.7**	**-0.1**
JHRM	comp=Z,10μm,0.4s			*e*				01 11 22.4	
BNDS	**Bandar-Abbas**	**1.90**	**68**	*e*Pn		**Pn**		**01 11 16.6**	**-0.4**
BNDS				*e*Sg		**Sn**		**01 11 42.5**	**+1.0**
BNDS	comp=N,455nm,0.6s			IAML				01 11 59.8	
BNDS	**Bandar-Abbas**	**1.90**	**68**	*e*Pn		**Pn**		**01 11 16.6**	**-0.4**
GENO	**Geno**	**1.90**	**68**	*e*Pn		**Pn**		**01 11 17.1**	**+0.1**
BANOM	**Banah**	**2.04**	**112**	P		**Pn**		**01 11 17.8**	**-1.1**
BANOM				S		**Sn**		**01 11 44.9**	**0.0**
BANOM	**Banah**	**2.04**	**112**	*e*Pn		**Pn**		**01 11 18.3**	**-0.6**
BANOM	**Banah** SNR=5.7	**2.04**	**112**	P		**Pn**		**01 11 18.1**	**-0.8**
BANOM				S		**Sn**		**01 11 45.1**	**+0.2**
JRN	**Qarnain Island**	**2.13**	**215**	*e*Pn		**Pn**		**01 11 20.5**	**+0.4**
NAZ	**Nazwa, Dubai**	**2.16**	**142**	P		**Pn**		**01 11 20.1**	**-0.4**
NAZ	**Nazwa, Dubai**	**2.16**	**142**	*e*Pn		**Pn**		**01 11 21.4**	**+0.9**
NAZ	**Nazwa, Dubai**	**2.16**	**142**	P		**Pn**		**01 11 21.0**	**+0.6**
NAZ				S		**Sb**		**01 11 49.6**	**-0.8**
MSFE	**Esma-Masafi**	**2.21**	**127**	P		**Pn**		**01 11 21.1**	**-0.2**
MSFE	**Esma-Masafi**	**2.21**	**127**	*e*Pn		**Pn**		**01 11 23.0**	**+1.7**
IBND	**Bandar-abas**	**2.22**	**70**	*e*Pn		**Pn**		**01 11 20.9**	**-0.4**
AJN	**Ajban**	**2.25**	**161**	P		**Pn**		**01 11 22.7**	**+1.1**
AJN	**Ajban**	**2.25**	**161**	*e*Pn		**Pn**		**01 11 22.8**	**+1.1**
AJN	**Ajban**	**2.25**	**161**	P		**Pn**		**01 11 22.6**	**+0.9**
ASUD	**Al Ashush, Dub**	**2.31**	**153**	P		**Pn**		**01 11 23.6**	**+1.1**
ASUD	**Al Ashush, Dub**	**2.31**	**153**	*e*Pn		**Pn**		**01 11 24.1**	**+1.6**
ASUD	**Al Ashush, Dub** SNR=17	**2.31**	**153**	P		**Pn**		**01 11 24.0**	**+1.5**
FAQ	**Al Faqa, Dubai**	**2.32**	**147**	P		**Pn**		**01 11 22.0**	**-0.7**
FAQ	**Al Faqa, Dubai**	**2.32**	**147**	*e*Pn		**Pn**		**01 11 23.8**	**+1.1**
MDH	**Madha**	**2.35**	**126**	P		**Pn**		**01 11 23.3**	**+0.2**
MDH	**Madha**	**2.35**	**126**	*e*Pn		**Pn**		**01 11 25.1**	**+2.0**
MDH	**Madha**	**2.35**	**126**	P		**Pn**		**01 11 22.6**	**-0.5**
UOSS	**Minazif**	**2.52**	**134**	P		**Pn**		**01 11 25.1**	**-0.3**
UOSS	**Minazif**	**2.52**	**134**	*e*Pn		**Pn**		**01 11 27.0**	**+1.6**
UOSS	**Minazif**	**2.52**	**134**	P		**Pn**		**01 11 25.3**	**-0.1**
HATD	**Hatta, Dubai**	**2.56**	**136**	P		**Pn**		**01 11 26.3**	**+0.3**
HATD	**Hatta, Dubai**	**2.56**	**136**	*e*Pn		**Pn**		**01 11 27.0**	**+1.0**
HATD	**Hatta, Dubai**	**2.56**	**136**	P		**Pn**		**01 11 26.2**	**+0.3**
ASHO	**Ashiyiah**	**2.62**	**140**	P		**Pn**		**01 11 27.1**	**+0.3**
ASHO	**Ashiyiah**	**2.62**	**140**	*e*Pn		**Pn**		**01 11 27.7**	**+0.8**
ASHO	**Ashiyiah** SNR=14	**2.62**	**140**	P		**Pn**		**01 11 27.3**	**+0.4**
MZWR	**Madinat Zayed**	**2.94**	**186**	*e*Pn		**Pn**		**01 11 31.8**	**+0.6**
GHWR	**Ruwais**	**2.98**	**204**	*e*Pn		**Pn**		**01 11 31.5**	**-0.2**
GHWR	**Ruwais**	**2.98**	**204**	P		**Pn**		**01 11 30.9**	**-0.8**
ALNE	**Al Ain**	**2.98**	**152**	P		**Pn**		**01 11 29.6**	**-2.3**
ALNE	**Al Ain**	**2.98**	**152**	*e*Pn		**Pn**		**01 11 32.6**	**+0.8**
ALNE	**Al Ain** SNR=6.8	**2.98**	**152**	P		**Pn**		**01 11 32.6**	**+0.8**
SHMA	**Al-Shehemyia**	**3.02**	**255**	P		**Pn**		**01 11 32.5**	**+0.2**
SOHO	**SOHO**	**3.32**	**140**	P		**Pn**		**01 11 36.6**	**+0.2**
SOHO	**SOHO**	**3.32**	**140**	*e*Pn		**Pn**		**01 11 36.3**	**-0.1**
TRNA	**Turayna**	**3.33**	**235**	P		**Pn**		**01 11 36.4**	**-0.1**
AHBU	**AHRAM**	**3.35**	**311**	*e*Pn		**Pn**		**01 11 36.8**	**-0.1**
KHNJ	**Kahnooj**	**3.36**	**68**	*e*Pn		**Pn**		**01 11 36.4**	**-0.7**
NGRK	**Negar Kerman**	**3.69**	**37**	*e*Pn		**Pn**		**01 11 41.7**	**-0.2**
NGRK	comp=Z,278nm,0.2s			*e*				01 12 30.9	
ARQ	**Araqi** SNR=16	**3.96**	**147**	P		**Pn**		**01 11 46.0**	**+0.7**
KRBR	**Kerman**	**3.98**	**34**	*e*Pn		**Pn**		**01 11 45.8**	**+0.1**
UMZA	**Um Al Zommool**	**4.07**	**167**	*e*Pn		**Pn**		**01 11 47.6**	**+0.9**
UMZA	**Um Al Zommool**	**4.07**	**167**	P		**Pn**		**01 11 47.0**	**+0.3**
KHGB	**Koh Gabri**	**4.17**	**28**	*e*Pn		**Pn**		**01 11 49.0**	**+0.6**
CHMN	**Cheshme madani** comp=Z,663nm,0.3s	**4.31**	**42**	*e*		**Pn**		**01 11 53.3**	**+2.9**
KBAM	**BAM**	**4.48**	**56**	*e*Pn		**Pn**		**01 11 53.0**	**+0.5**
IMEH	**Mehriz**	**4.69**	**4**	*e*Pn		**Pn**		**01 11 56.1**	**+0.6**
BSY	**Bisya** SNR=10	**4.79**	**145**	P		**Pn**		**01 11 57.0**	**+0.3**
KLNJ	**Kolanjah**	**4.86**	**333**	*e*Pn		**Pn**		**01 11 57.5**	**-0.5**
IBAF	**Bafgh**	**5.02**	**14**	*e*Pn		**Pn**		**01 11 59.7**	**-0.3**
SMDO	**Samad** SNR=12	**5.04**	**135**	P		**Pn**		**01 12 00.2**	**0.0**
ISAD	**Sadrabad**	**5.21**	**355**	*e*Pn		**Pn**		**01 12 03.1**	**+0.3**
IRAM	**Ramesheh**	**5.33**	**343**	*e*Pn		**Pn**		**01 12 04.1**	**-0.2**
ICHK	**Chekchek**	**5.53**	**2**	*e*Pn		**Pn**		**01 12 07.2**	**+0.2**
YZKH	**Yazd**	**5.68**	**3**	*e*Pn		**Pn**		**01 12 08.8**	**-0.2**
YZKH	**Yazd**	**5.68**	**3**	*e*Pn		**Pn**		**01 12 08.8**	**-0.2**
ZHSF	**Zahedan**	**6.49**	**62**	*e*Pn		**Pn**		**01 12 20.1**	**-0.1**
ZHSF	**Zahedan**	**6.49**	**62**	*e*Pn		**Pn**		**01 12 20.1**	**-0.1**
IPIR	**Pirpir**	**6.62**	**335**	*e*Pn		**Pn**		**01 12 21.4**	**-0.7**
ASAO	**Ashtian**	**8.61**	**336**	*e*Pn		**Pn**		**01 12 49.1**	**-0.2**
ASAO	**Ashtian**	**8.61**	**336**	*e*Pn		**Pn**		**01 12 49.1**	**-0.2**
SHRT	**Shahrakht**	**8.70**	**36**	*e*Pn		**Pn**		**01 12 50.4**	**0.0**
SHRT	**Shahrakht**	**8.70**	**36**	*e*Pn		**Pn**		**01 12 50.4**	**0.0**

*IDC **18** 01:11:32.4±0.9,31°.53S×71°.61W,h0km,mb4.3/6, mb1 4.2/11,mb1mx4.0/26,mbtmp4.0/11,ML3.9/5,MS3.4/4, Ms1 3.4/4,ms1mx3.0/24,Error ellipse: s-maj=26.0km s-min=24.9km az=113.0*
*GUC **18** 01:11:36.7±0.9,31°.42S×71°.64W,h32km±7km, ML4.2*
*NEIC **18** 01:11:37.9±2.3,31°.37S±0°.04×71°.8W±0°.1,h34km±5km, Error ellipse: s-maj=12.8km s-min=5.8km az=95.0*

ISC 18 01:11:36.3±1.2,**31°.41S**±0°.03×**71°.76W**±0°.06,**h27**km±9km,
n90,σ1**s42/89,mb4.5/12,5D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.74**	**8**	*ij*P		**Pb**		**01 11 51.8**	**+1.0**
CO06				*i* S		**Sb**		**01 12 02.0**	**+1.5**
CO06	comp=E,22μm,0.2s			IAML				01 12 03.4	
CO06	**Fray Jorge**	**0.74**	**8**			**Pb**		**01 11 51.6**	**+1.0**
CO03	**El Pedregal**	**1.08**	**58**	*ij*P		**Pn**		**01 11 56.1**	**+0.4**
CO03				*i* S		**Sn**		**01 12 10.1**	**+0.2**
CO03	comp=E,19μm,0.3s			IAML				01 12 13.5	
CO03	**El Pedregal**	**1.08**	**58**			**Pn**		**01 11 56.1**	**+0.4**
VA06	**Catapilco**	**1.21**	**161**	*e*P		**Pn**		**01 11 58.3**	**+0.8**
VA06				*i* S		**Sn**		**01 12 13.8**	**+0.8**
GO04	**Tololo Observa**	**1.48**	**34**	*e*P		**Pn**		**01 12 02.9**	**+1.4**
GO04				*i* S		**Sb**		**01 12 22.3**	**+0.4**
GO04	**Tololo Observa**	**1.48**	**34**			**Pb**		**01 12 03.3**	**-0.1**
CO05	**La Serena**	**1.55**	**17**	*e*P		**Pb**		**01 12 03.9**	**-0.6**
CO05				*i* S		**Sb**		**01 12 24.5**	**+0.8**
CO05	comp=E,6μm,0.3s			IAML				01 12 29.0	
CO05	**La Serena**	**1.55**	**17**			**Pb**		**01 12 04.0**	**-0.4**
VA01	**Torpederas**	**1.61**	**177**	*e*P		**Pn**		**01 12 04.2**	**+1.2**
VA01	**Torpederas**	**1.61**	**177**			**Pn**		**01 12 04.3**	**+1.3**
ROCH	**El Roble**	**1.68**	**158**	*e*P		**Pn**		**01 12 05.7**	**+1.6**
ROCH				*i* S		**Sn**		**01 12 26.9**	**+1.9**
ROCH	comp=N,3μm,0.3s			IAML				01 12 32.2	
ROCH				*e*				01 12 39.9	
VA03	**San Esteban**	**1.69**	**143**	*e*P		**Pn**		**01 12 05.9**	**+1.7**
VA03				*i* S		**Sn**		**01 12 27.4**	**+2.3**
VA03	comp=E,7μm,0.8s			IAML				01 12 29.8	
VA03	**San Esteban**	**1.69**	**143**			**Pn**		**01 12 06.4**	**+2.2**
MT05	**Renca**	**2.15**	**157**	*e*P		**Pn**		**01 12 12.5**	**+2.0**
MT05				*i* S		**Sb**		**01 12 40.8**	**-0.3**
MT05	comp=E,3μm,0.6s			IAML				01 12 55.1	
MT05	**Renca**	**2.15**	**157**			**Pn**		**01 12 12.7**	**+2.2**
VA05	**Santo Domingo**	**2.24**	**177**	*e*P		**Pn**		**01 12 12.5**	**+0.9**
VA05	**Santo Domingo**	**2.24**	**177**			**Pn**		**01 12 12.9**	**+1.2**
MT09	**Talagante**	**2.45**	**165**	*ij*P		**Pn**		**01 12 16.8**	**+2.2**
MT09	comp=E,1μm,0.5s			IAML				01 12 59.5	
MT09	**Talagante**	**2.45**	**165**	Pn		**Pn**		**01 12 16.0**	**+1.4**
MT01	**Popeta**	**2.48**	**170**	*e*P		**Pn**		**01 12 16.4**	**+1.5**
MT01				*i* S		**Sb**		**01 12 49.2**	**-1.2**
MT01	comp=E,886nm,0.6s			IAML				01 12 58.1	
MT01	**Popeta**	**2.48**	**170**	Pn		**Pn**		**01 12 16.8**	**+1.8**
LCO	**Las Campanas**	**2.56**	**21**	*e*P		**Pn**		**01 12 17.7**	**+1.4**
LCO	**Las Campanas**	**2.56**	**21**	Pn		**Pn**		**01 12 17.8**	**+1.4**
LMEL	**Las Melosas**	**2.76**	**152**	*ij*P		**Pn**		**01 12 21.6**	**+2.6**
LMEL				*i* S		**Sn**		**01 12 55.3**	**+3.8**
LMEL	comp=N,1μm,0.3s			IAML				01 13 01.1	
BO01	**Tunca**	**3.02**	**169**	*e*P		**Pn**		**01 12 24.4**	**+1.9**
BO01	comp=N,316nm,0.4s			IAML				01 13 16.5	
BO01	**Tunca**	**3.02**	**169**			**Pn**		**01 12 23.7**	**+1.3**
BO03	**Pichilemu**	**3.08**	**183**	*ij*P		**Pn**		**01 12 23.5**	**+0.3**
BO03	comp=E,246nm,0.2s			IAML				01 13 32.3	
AC04	**Llanos de Chal**	**3.25**	**11**	*e*P		**Pn**		**01 12 26.4**	**+0.9**
AC04	comp=E,938nm,0.2s			IAML				01 13 21.3	
AC04	**Llanos de Chal**	**3.25**	**11**	Pn		**Pn**		**01 12 27.0**	**+1.4**
BO02	**Sierra Bellavi**	**3.47**	**167**	*e*P		**Pn**		**01 12 30.8**	**+2.2**
BO02	**Sierra Bellavi**	**3.47**	**167**	Pn		**Pn**		**01 12 30.4**	**+1.7**
GO05	**Huala**	**3.59**	**182**			**Pn**		**01 12 30.6**	**+0.4**
GO03	**Copiap**	**4.03**	**20**	Pn		**Pn**		**01 12 37.4**	**+1.1**
AC06	**Mina Casimiro**	**4.22**	**17**			**Pn**		**01 12 39.9**	**+0.9**
AC02	**Maricunga**	**5.11**	**27**	Pn		**Pn**		**01 12 53.0**	**+1.5**
H03N1	**Juan Fernandez** baz=76,slow=72,SNR=528	**6.38**	**250**	T		T		01 19 56.7	
H03N3	**Juan Fernandez** baz=76,slow=72,SNR=528	**6.39**	**250**	T		T		01 19 53.7	
H03N2	**Juan Fernandez** baz=76,slow=72,SNR=387	**6.39**	**250**	T		T		01 19 54.0	
H03S3	**Juan Fernandez** baz=82,slow=75,SNR=9.0	**6.50**	**246**	T		T		01 20 03.9	
H03S1	**Juan Fernandez** baz=82,slow=75,SNR=8.3	**6.50**	**246**	T		T		01 20 11.5	
H03S2	**Juan Fernandez** baz=82,slow=75,SNR=11	**6.51**	**246**	T		T		01 20 14.8	
PB14	**IPOC Station P**	**6.87**	**10**	Pn		**Pn**		**01 13 16.6**	**+1.1**
LC01	**Cunco**	**7.47**	**181**	Pn		**Pn**		**01 13 23.8**	**+0.3**
PB15	**IPOC Station P**	**8.42**	**15**	Pn		**Pn**		**01 13 34.7**	**-2.1**
PB06	**IPOC Station P**	**8.89**	**13**	Pn		**Pn**		**01 13 41.5**	**-1.6**
LVC	**Limon Verde** comp=E,0.4nm,0.3s,baz=267,slow=8.7,SNR=2.0	**9.13**	**17**	Pn		**Pn**		**01 13 44.6**	**-2.0**

MKAR	**Makanchi Array**	**154.83**	**45**		**PKPbc**	**01 31 33.4 -1.6**

MEX 18 01:27:14.0±0.4, **14°84'N×93°85'W, h16**km±111km, **MD4.0, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.05**	**35**	*i* P	Pb	01 27 30.1	-3.7
PCIG				*i* S	Sb	01 27 43.2	-4.1
CCIG	**Comitan**	**2.18**	**49**	*e*P	Pn	01 27 47.1	-2.8
CCIG				*i* S	Sn	01 28 12.5	-4.2

*IDC **18** 01:29:45.8±0.9, 31°.45S×71°.93W, h0km, mb4.0/6, mb1 4.0/11, mb1mx3.9/24, mbtmp3.8/11, ML3.7/5, MS3.3/4, Ms1 3.3/4, ms1mx2.9/36, Error ellipse: s-maj=29.1km s-min=22.2km az=110.0*

*NEIC **18** 01:29:47.5±2.1, 31°.54S±0°.04×72°.05W±0°.10, h10km±5km, mb4.3/8, ML4.2(GUC), Error ellipse: s-maj=12.5km s-min=5.1km az=104.0*

*GUC **18** 01:29:47.9±0.7, 31°.53S×72°.10W, h29km±3km, ML4.2*

ISC 18 01:29:45.5±2.2, **31°.51S**±0°.03×**72°.07W**±0°.06, **h0**km±14km, **n75**, **σ0s97/78**, **mb4.0/8**, **4C**, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.92**	**24**	*e*P	**Pb**	**01 30 04.7**	**+0.4**
CO06				*e*S	**Sb**	**01 30 17.2**	**+0.3**
CO06	**Fray Jorge**	**0.92**	**24**		**Pb**	**01 30 05.0**	**+0.7**
VA06	**Catapilco**	**1.23**	**148**	*e*P	**Pb**	**01 30 09.6**	**0.0**
VA06				*e*S	**Sg**	**01 30 25.4**	**+0.3**
VA06				IAML		01 30 34.3	
	comp=E,8μm,0.6s						
CO03	**El Pedregal**	**1.36**	**61**↑	*e*P	**Pn**	**01 30 12.2**	**+0.4**
CO03				*e*S	**Sb**	**01 30 30.2**	**+0.3**
CO03				IAML		01 30 35.2	
	comp=E,4μm,0.7s						
CO03	**El Pedregal**	**1.36**	**61**	Pn	**Pb**	**01 30 12.4**	**+0.5**
VA01	**Torpederas**	**1.55**	**167**	*e*P	**Pn**	**01 30 14.5**	**+0.2**
VA01				*e*S	**Sn**	**01 30 33.7**	**-1.3**
VA01	**Torpederas**	**1.55**	**167**		**Pn**	**01 30 13.9**	**-0.4**
ROCH	**El Roble**	**1.71**	**149**	*e*P	**Pb**	**01 30 17.7**	**-0.2**
ROCH				*e*S	**Sb**	**01 30 40.2**	**+0.2**
ROCH				IAML		01 30 47.1	
	comp=E,4μm,0.7s						
GO04	**Tololo Observa**	**1.73**	**40**↑	*e*P	**Pb**	**01 30 18.2**	**0.0**
GO04				*e*S	**Sb**	**01 30 40.7**	**+0.1**
GO04				IAML		01 30 44.9	
	comp=N,12μm,0.3s						
GO04	**Tololo Observa**	**1.73**	**40**		**Pb**	**01 30 18.0**	**-0.2**
CO05	**La Serena**	**1.75**	**25**	*e*P	**Pn**	**01 30 17.6**	**+0.6**
CO05				*i* S	**Sn**	**01 30 38.7**	**-1.2**
CO05				IAML		01 31 09.6	
	comp=N,3μm,0.5s						
CO05	**La Serena**	**1.75**	**25**		**Pn**	**01 30 16.3**	**-0.6**
VA03	**San Esteban**	**1.79**	**134**↑	*e*P	**Pn**	**01 30 18.5**	**+0.7**
VA03				*e*S	**Sb**	**01 30 41.8**	**-0.5**
VA03				IAML		01 30 50.6	
	comp=E,5μm,0.5s						
VA03	**San Esteban**	**1.79**	**134**		**Pn**	**01 30 17.0**	**-0.7**
VA05	**Santo Domingo**	**2.17**	**170**	*e*P	**Pn**	**01 30 21.5**	**-1.3**
VA05				IAML		01 31 04.9	
	comp=N,3μm,0.4s						
VA05	**Santo Domingo**	**2.17**	**170**		**Pn**	**01 30 21.9**	**-1.0**
MT05	**Renca**	**2.19**	**149**	*e*P	**Pn**	**01 30 24.1**	**+1.0**
MT05				*i* S	**Sn**	**01 30 51.8**	**+0.9**
MT05				IAML		01 31 04.4	
	comp=E,4μm,0.3s						
MT05	**Renca**	**2.19**	**149**		**Pn**	**01 30 23.9**	**+0.8**
MT09	**Talagante**	**2.43**	**158**	*e*P	**Pn**	**01 30 27.9**	**+1.3**
MT09				*i* S	**Sn**	**01 30 58.1**	**+1.0**
MT09				IAML		01 31 11.8	
MT09	**Talagante**	**2.43**	**158**		**Pn**	**01 30 27.2**	**+0.6**
MT01	**Popeta**	**2.44**	**164**	*e*P	**Pn**	**01 30 27.3**	**+0.7**
MT01				*e*S	**Sn**	**01 30 56.0**	**-1.2**
MT01				IAML		01 31 13.4	
	comp=E,763nm,0.4s						
MT01	**Popeta**	**2.44**	**164**	Pn	**Pn**	**01 30 27.3**	**+0.7**
LCO	**Las Campanas**	**2.76**	**26**	*e*P	**Pn**	**01 30 31.3**	**+0.1**
LCO	**Las Campanas**	**2.76**	**26**		**Pn**	**01 30 33.2**	**+2.0**
LMEL	**Las Melosas**	**2.81**	**146**	*e*P	**Pn**	**01 30 33.6**	**+1.8**
LMEL				*i* S	**Sn**	**01 31 07.5**	**+1.1**
LMEL				IAML		01 31 24.3	
	comp=N,1μm,0.5s						
ZON	**Zonda**	**2.90**	**92**		**Pb**	**01 30 36.4**	**-1.7**
BO03	**Pichilemu**	**2.98**	**178**	*e*P	**Pn**	**01 30 33.8**	**-0.1**
BO01	**Tunca**	**2.99**	**164**	*e*P	**Pn**	**01 30 34.8**	**+0.8**
BO01				IAML		01 31 26.7	
	comp=E,292nm,0.6s						
BO01	**Tunca**	**2.99**	**164**		**Pn**	**01 30 34.5**	**+0.4**
AC04	**Llanos de Chal**	**3.41**	**15**	*e*P	**Pn**	**01 30 39.0**	**-0.9**
AC04	**Llanos de Chal**	**3.41**	**15**		**Pn**	**01 30 41.6**	**+1.7**
BO02	**Sierra Bellavi**	**3.44**	**162**	*e*P	**Pn**	**01 30 41.5**	**+1.1**
BO02				IAML		01 31 48.2	
	comp=N,739nm,0.3s						
BO02	**Sierra Bellavi**	**3.44**	**162**	Pn	**Pn**	**01 30 41.7**	**+1.3**
GO05	**Huala**	**3.49**	**178**↑	*i*P	**Pn**	**01 30 40.7**	**-0.2**
GO05				IAML		01 31 52.9	
	comp=E,325nm,0.6s						
GO05	**Huala**	**3.49**	**178**		**Pn**	**01 30 40.9**	**-0.1**
GO03	**Copiap**	**4.22**	**23**	Pn	**Pn**	**01 30 52.9**	**+1.7**
ML02	**Panimavida**	**4.27**	**173**	*e*P	**Pn**	**01 30 52.4**	**+0.7**
ML02	**Panimavida**	**4.27**	**173**		**Pn**	**01 30 52.1**	**+0.4**
AC06	**Mina Casimiro**	**4.41**	**20**		**Pn**	**01 30 55.5**	**+1.9**
AC02	**Maricunga**	**5.33**	**30**		**Pn**	**01 31 07.0**	**+0.3**
H03N1	**Juan Fernandez**	**6.09**	**250**	T	T	01 38 11.7	
	baz=63,slow=73						
H03N3	**Juan Fernandez**	**6.10**	**250**	T	T	01 38 07.5	
	baz=63,slow=73						
H03N2	**Juan Fernandez**	**6.11**	**250**	T	T	01 38 04.1	
	baz=63,slow=73						
PB14	**IPOC Station P**	**7.02**	**13**	Pn	**Pn**	**01 31 31.3**	**+1.5**
LC01	**Cunco**	**7.37**	**179**	Pn	**Pn**	**01 31 33.9**	**-0.3**
LR03	**Panguipulli**	**8.10**	**181**	Pn	**Pn**	**01 31 43.7**	**-0.7**
PLCA	**Paso Flores**	**9.28**	**173**	Pn	**Pn**	**01 32 02.0**	**+1.4**
	comp=E,0.7nm,0.3s,baz=339,slow=12,SNR=14						
PLCA				LR	LR	01 35 30.6	
	comp=E,99nm,20.3s,baz=357,slow=37						
LVC	**Limon Verde**	**9.31**	**18**	Pn	**Pn**	**01 31 59.8**	**-1.4**
	comp=E,0.1nm,0.3s,baz=211,slow=10,SNR=1.6						
LVC				LR	LR	01 35 37.3	
	comp=E,191nm,18.5s,baz=224,slow=38						
TRQA	**Tornquist**	**10.55**	**131**		**Pn**	**01 32 18.9**	**+0.9**
CPUP	**Villa Florida**	**13.90**	**72**	Pn	**Pn**	**01 33 03.2**	**-0.5**
	comp=E,0.1nm,0.3s,baz=210,slow=4.8,SNR=4.3						
CPUP				Sn	**Sn**	**01 35 39.6**	**+0.7**
	comp=E,0.2nm,0.3s,baz=220,slow=18,SNR=1.6						
LPAZ	**La Paz**	**15.58**	**14**	Pn	**Pn**	**01 33 26.8**	**-0.2**
	comp=E,0.1nm,0.3s,baz=250,slow=21,SNR=2.3						
LPAZ	**La Paz**	**15.58**	**14**	Pn	**Pn**	**01 33 27.6**	**+0.6**
SIV	**San Ignacio**	**18.42**	**36**	P	**P**	**01 34 01.6**	**-0.9**
	comp=E,0.1nm,0.3s,baz=222,slow=9.2,SNR=5.6						
SAML	**Samuel**	**23.93**	**22**	P	**P**	**01 35 01.0**	**-0.2**
SAML				IAmb	IAmb	01 35 02.6	
	comp=Z,3.7nm,1.1s						
BDFB	**Brasilia**	**27.04**	**60**	P	**P**	**01 35 27.8**	**-1.8**
	comp=Z,3.3nm,0.8s,baz=229,slow=8.9,SNR=3.4						
RUSC	**La Rusia**	**37.21**	**358**	P	**P**	**01 36 58.9**	**-0.3**
RUSC				IAmb	IAmb	01 37 02.0	
	comp=Z,13nm,1.4s						
VNA3	**Neumayer Olymp**	**51.67**	**159**	P	**P**	**01 38 54.4**	**+0.8**
VNA2	**Neumayer--Watz**	**52.31**	**158**	P	**P**	**01 38 59.2**	**+0.7**
	baz=288,slow=7.5						
SNAA	**Sanae**	**53.90**	**159**	P	**P**	**01 39 10.8**	**+0.6**
SNAA	**Sanae**	**53.90**	**159**	LR	LR	02 00 20.9	
	comp=Z,30nm,19.3s,baz=87,slow=34						
VNDA	**Vanda**	**66.53**	**191**	P	**P**	**01 40 38.3**	**+1.8**
	comp=Z,0.3nm,0.5s,baz=122,slow=4.8,SNR=1.8						
TXAR	**Lajitas Array**	**67.56**	**330**	P	**P**	**01 40 44.4**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=149,slow=7.9,SNR=7.5						
DBIC	**Dimbokro**	**74.42**	**72**	P	**P**	**01 41 25.4**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=188,slow=4.7,SNR=4.8						
DBIC	**Dimbokro**	**74.42**	**72**	IAmb	IAmb	01 41 31.3	
	comp=Z,14nm,1.3s						
NVAR	**Mina Array Bea**	**81.83**	**325**	P	**P**	**01 42 07.7**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=131,slow=4.2,SNR=2.4						
ELK	**Elko**	**82.24**	**328**	LR	LR	02 15 00.4	
	comp=Z,29nm,18.1s,baz=238,slow=33						
TORD	**Torodi Ar. Bea**	**83.40**	**70**	P	**P**	**01 42 15.1**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=265,slow=4.6,SNR=19						
TORD	**Torodi Ar. Bea**	**83.40**	**70**	P	**P**	**01 42 13.4**	**-1.6**
TORD				IAmb	IAmb	01 42 15.6	
	comp=Z,3.9nm,0.8s						
WRA	**Warramunga Arr**	**122.91**	**210**	PKP	**PKPdf**	**01 48 42.2**	**-2.0**
	comp=Z,0.2nm,0.6s,baz=132,slow=1.2,SNR=1.0						
H11S2	**WAKE ISLAND Hyl**	**125.74**	**271**	T	T	04 07 51.8	
	baz=116,slow=75,SNR=8.4						
H11S1	**WAKE ISLAND Hyl**	**125.75**	**271**	T	T	04 08 13.0	
	baz=116,slow=75,SNR=6.1						
H11S3	**WAKE ISLAND Hyl**	**125.76**	**271**	T	T	04 07 49.9	
	baz=116,slow=75,SNR=6.1						
ZALV	**Zalesovo Beam**	**152.12**	**30**	PKPbc	**PKiKP**	**01 49 42.5**	**-0.1**
	comp=Z,5.4nm,0.4s,baz=305,slow=3.2,SNR=23						
ZALV	**Zalesovo Beam**	**152.12**	**30**		**PKPbc**	**01 49 42.2**	**0.0**
MKAR	**Makanchi Array**	**155.09**	**45**	PKPbc	PKPbc	01 49 48.9	
	comp=Z,0.6nm,0.7s,baz=270,slow=2.4,SNR=4.7						

*IDC **18** 01:36:15.7±2.5, 30°.54S×72°.58W, h0km, mb3.5/3, mb1 3.9/6, mb1mx3.8/19, mbtmp3.7/6, ML3.5/3, MS3.4/4, Ms1 3.4/4, ms1mx2.9/22, Error ellipse: s-maj=58.8km s-min=42.2km az=159.0*

ISC 18 01:36:19.5±2.0, **30°.4S**±0°.3×**72°.6W**±0°.3, **h19**km, **n10**, **σ1s09/6**, **mb3.5/3**, **MS3.7/3**, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**8.40**	**24**	Pn	**Pn**	**01 38 20.0**	**-0.6**
	0.5nm,0.3s,baz=350,slow=3.8,SNR=2.4						
LPAZ	**La Paz**	**14.60**	**17**	Pn	**Pn**	**01 39 45.3**	**-0.5**
	0.1nm,0.3s,baz=217,slow=14,SNR=1.7						
SIV	**San Ignacio**	**17.77**	**39**	P	**P**	**01 40 28.2**	**+1.6**
	0.2nm,0.3s,baz=217,slow=12,SNR=7.6						
NNA	**Nana**	**18.73**	**347**	LR	LR	01 45 01.9	
	comp=Z,22nm,20.1s,baz=286,slow=28						
JTS	**Las Juntas de**	**42.16**	**342**	LR	LR	01 58 15.4	
	comp=Z,39nm,18.6s,baz=118,slow=31						
TXAR	**Lajitas Array**	**66.38**	**330**	P	**P**	**01 47 07.3**	**0.0**
	0.3nm,0.7s,baz=157,slow=6.8,SNR=4.2						
ANMO	**Albuquerque**	**72.41**	**331**	LR	LR	02 14 26.1	
	comp=Z,39nm,18.2s,baz=190,slow=32						
RAR	**Rarotonga**	**77.29**	**253**	LR	LR	02 16 00.6	
	comp=Z,98nm,18.9s,baz=20,slow=31						
NVAR	**Mina Array Bea**	**80.68**	**325**	P	**P**	**01 48 31.7**	**+0.3**
	0.2nm,0.5s,baz=147,slow=5.4,SNR=2.3						
TORD	**Torodi Ar. Bea**	**83.40**	**71**	P	**P**	**01 48 45.4**	**-0.6**
	0.3nm,0.5s,baz=275,slow=5.2,SNR=1.5						

*SOME **18** 01:42:28.3, 44°.92N×82°.68E, h10km*

*NNC **18** 01:42:29.6±1.4, 44°.95N×82°.59E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=14.5km s-min=4.8km az=115.0*

ISC 18 01:42:27.3±2.0, **45°.00N**±0°.08×**82°.91E**±0°.08, **h8**km±25km, **n17**, **σ1s06/26**, **2C-2D**, **Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**1.84**	**347**	P	**Pg**	**01 43 03.8**	**+1.1**
	2.2nm,0.4s,baz=162,slow=16,SNR=22						
MK31				S	**Sg**	**01 43 26.7**	**+0.1**
	3.3nm,0.2s,baz=174,slow=28,SNR=35						
MAKZ	**Makanchi**	**1.92**	**341**	⇓P	**Pg**	**01 43 04.9**	**+0.7**
	0.7nm,0.5s						
MAKZ				⇑S	**Sg**	**01 43 28.8**	**-0.3**
	1.9nm,0.5s						
DJR	**Jarkent**	**2.32**	**254**	*e*P	**Pb**	**01 43 08.0**	**-1.5**
	0.1nm,0.1s						
DJR				*e*S	**Sb**	**01 43 37.4**	**-0.9**
	0.4nm,0.1s						
DJR	**Jarkent**	**2.32**	**254**	Pg	**Pb**	**01 43 08.0**	**-1.5**
	0.1nm,0.2s						
DJR				Lg	Lg	01 43 37.3	
	0.3nm,0.2s						
KTMS	**Ketmen**	**2.40**	**231**	*e*P	**Pb**	**01 43 09.9**	**-1.0**
	1.2nm,0.0s						
KTMS				*e*S	**Sb**	**01 43 40.5**	**-0.3**
	8.0nm,0.1s						
KTMS	**Ketmen**	**2.40**	**231**	Pg	**Pb**	**01 43 09.9**	**-1.0**
	0.2nm,0.0s						
KTMS				Lg	Lg	01 43 40.5	
	12nm,0.2s						
KAPS	**Kapalarasan**	**2.53**	**278**	*e*P	**Pb**	**01 43 12.2**	**-0.7**
	0.1nm,0.2s						
KAPS				*e*S	**Sb**	**01 43 44.2**	**0.0**
	0.5nm,0.2s						
KAPS	**Kapalarasan**	**2.53**	**278**	Pg	**Pb**	**01 43 10.9**	**-2.1**
	0.1nm,0.2s						
KAPS				Lg	Lg	01 43 42.5	
	0.6nm,0.1s						
ZSN	**Zaisan**	**2.80**	**28**	*e*P	**Pg**	**01 43 20.2**	**-0.8**
	2.6nm,0.2s						
ZSN				*e*S	**Sg**	**01 43 58.1**	**+0.8**
	2.1nm,0.4s						
PDGK	**Podgornoye**	**2.97**	**237**	Pg	**Pb**	**01 43 19.1**	**-1.5**
	1.1nm,0.4s						
PDGK				Lg	Lg	01 43 56.3	
	5.0nm,0.5s						
PDGK	**Podgornoye**	**2.97**	**237**	⇓Pg	**Pb**	**01 43 20.4**	**-0.2**
	0.8nm,0.3s						
PDGK				⇑Lg	Lg	01 43 55.4	
	2.5nm,0.5s						
SHLS	**Shalkode**	**3.09**	**235**	*e*P	**Pn**	**01 43 17.8**	**+1.3**
	1.2nm,0.1s						
SHLS				*e*S	**Sn**	**01 43 53.7**	**0.0**
	6.0nm,0.3s						
SHLS	**Shalkode**	**3.09**	**235**	Pg	**Pn**	**01 43 17.6**	**+1.1**
	3.5nm,0.2s						
SHLS				Lg	Lg	01 43 53.7	
	6.0nm,0.3s						
UZB	**Uzynbulak**	**3.35**	**238**	*e*P	**Pb**	**01 43 26.2**	**-1.0**
	2.0nm,0.2s						
UZB				*e*S	**Sb**	**01 44 07.8**	**-0.3**
	3.1nm,0.2s						
UZB	**Uzynbulak**	**3.35**	**238**	Pg	**Pb**	**01 43 25.9**	**-1.2**
	2.5nm,0.6s						
UZB				Lg	Lg	01 44 07.9	
	2.6nm,0.3s						
SATY	**Saty**	**3.78**	**241**	*e*P	**Pb**	**01 43 33.8**	**-0.6**
	0.7nm,0.1s						
SATY				*e*S	**Sb**	**01 44 21.3**	**+1.0**
	2.8nm,0.2s						
SATY	**Saty**	**3.78**	**241**	Pg	**Pb**	**01 43 33.4**	**-0.9**
	0.9nm,0.3s						
SATY				Lg	Lg	01 44 21.3	
	3.1nm,0.1s						

*IDC **18** 01:45:41.5±2.0, 1°.38N×126°.72E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/25, mbtmp3.5/3, Error ellipse: s-maj=176.0km s-min=24.3km az=66.0*

*DJA **18** 01:45:55.7±0.8, 2°.N±4°×12°.7E±°, h127km±8km, M3.8/7, mb3.9/1, MLv3.8/7*

ISC 18 01:45:56.1±1.1, **1°.40N**±0°.10×**127°.18E**±0°.09, **h103**km, **n8**, **σ3s74/9**, **mb3.3/3**, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.65**	**163**	P	**Pn**	**01 46 17.0**	**+3.6**
GAMI	**Galela, Maluku**	**0.75**	**54**	P	**Pn**	**01 46 16.4**	**+2.1**
GAMI				S	**Sn**	**01 46 31.6**	**+3.7**
SANI	**Sanana**	**3.62**	**199**	P	**Pn**	**01 46 52.4**	**+2.1**
GTOI	**Gorontalo**	**4.24**	**260**	P	**Pn**	**01 47 02.4**	**+3.9**
APSI	**Ampana**	**5.99**	**248**	P	**Pn**	**01 47 24.3**	**+2.0**
WRA	**Warramunga Arr**	**22.34**	**162**	P	**P**	**01 50 42.1**	**-3.5**
	1.3nm,0.8s,baz=340,slow=11,SNR=11						
ASAR	**Alice Springs**	**25.76**	**166**	P	**P**	**01 51 15.5**	**-1.9**
	0.1nm,0.3s,baz=339,slow=8.9,SNR=1.4						
MKAR	**Makanchi Array**	**59.72**	**326**	P	**P**	**01 55 46.4**	**-3.7**
	1.1nm,0.4s,baz=119,slow=8.2,SNR=21						

*IDC **18** 01:50:18.0±0.6, 31°.42S×71°.60W, h0km, mb4.6/11, mb1 4.6/15, mb1mx4.4/34, mbtmp4.5/15, ML4.3/4, MS4.1/12, Ms1 4.1/12, ms1mx3.7/32, Error ellipse: s-maj=22.8km s-min=16.8km az=85.0*

*NEIC **18** 01:50:21.2±1.9, 31°.43S±0°.04×71°.85W±0°.08, h15km±3km, mb4.8/73, ML4.7(GUC), Error ellipse: s-maj=9.6km s-min=5.7km az=94.0*

*GUC **18** 01:50:21.4±0.9, 31°.44S×71°.68W, h38km±7km, ML4.7*

ISC 18 01:50:21.5±1.0, **31°.46S**±0°.03×**71°.73W**±0°.06, **h23**km±7km, **n162**, **σ0s88/126**, **mb4.8/40**, **MS4.2/11**, **2C**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.79**	**6**	*e*P	**Pn**	**01 50 37.0**	**-0.1**
CO06				*e*S	**Sb**	**01 50 47.4**	**+0.7**
CO06				IAML		01 50 50.0	
	comp=E,39μm,0.5s						
CO06	**Fray Jorge**	**0.79**	**6**		**Pb**	**01 50 36.9**	**+0.4**
CO03	**El Pedregal**	**1.09**	**56**	*e*P	**Pn**	**01 50 41.3**	**-0.1**
CO03				*e*S	**Sn**	**01 50 56.0**	**+0.2**
CO03				IAML		01 51 01.0	
	comp=E,19μm,0.5s						
CO03	**El Pedregal**	**1.09**	**56**		**Pn**	**01 50 41.5**	**+0.1**
VA06	**Catapilco**	**1.16**	**162**	*e*P	**Pb**	**01 50 42.7**	**-0.1**
VA06				*e*S	**Sn**	**01 50 58.3**	**+0.9**
VA06				IAML		01 51 01.2	
	comp=E,31μm,0.3s						
GO04	**Tololo Observa**	**1.51**	**32**	*e*P	**Pn**	**01 50 48.2**	**+0.8**
GO04				*e*S	**Sb**	**01 51 07.7**	**-0.2**
GO04	**Tololo Observa**	**1.51**	**32**		**Pb**	**01 50 48.5**	**-0.5**
VA01	**Torpederas**	**1.56**	**177**	*e*P	**Pn**	**01 50 47.9**	**+0.1**
VA01	**Torpederas**	**1.56**	**177**		**Pn**	**01 50 48.4**	**+0.5**
CO05	**La Serena**	**1.59**	**16**	*e*P	**Pn**	**01 50 48.9**	**+0.7**
CO05				*e*S	**Sb**	**01 51 09.8**	**-0.1**
CO05				IAML		01 51 16.1	
	comp=E,16μm,0.5s						
CO05	**La Serena**	**1.59**	**16**	Pn	**Pb**	**01 50 49.4**	**-0.8**
ROCH	**El Roble**	**1.63**	**158**	*e*P	**Pb**	**01 50 50.3**	**-0.7**
ROCH				IAML		01 51 16.7	
	comp=N,16μm,0.6s						
VA03	**San Esteban**	**1.64**	**143**	*e*P	**Pb**	**01 50 50.5**	**-0.6**
VA03				IAML		01 51 14.9	
	comp=E,35μm,0.5s						
VA03	**San Esteban**	**1.64**	**143**		**Pb**	**01 50 50.9**	**-0.3**
MT05	**Renca**	**2.10**	**157**	*e*P	**Pb**	**01 50 57.1**	**-1.9**
MT05				IAML		01 51 30.7	
	comp=E,11μm,0.4s						
MT05	**Renca**	**2.10**	**157**		**Pb**	**01 50 57.1**	**-1.9**
VA05	**Santo Domingo**	**2.19**	**177**	*e*P	**Pn**	**01 50 56.8**	**+0.3**
VA05	**Santo Domingo**	**2.19**	**177**		**Pn**	**01 50 57.0**	**+0.5**
MT09	**Talagante**	**2.40**	**165**	*e*P	**Pn**	**01 51 00.9**	**+1.4**
MT09				IAML		01 51 43.8	
	comp=E,4μm,0.4s						
MT09	**Talagante**	**2.40**	**165**		**Pn**	**01 51 00.8**	**+1.4**
MT01	**Popeta**	**2.43**	**171**	*e*P	**Pn**	**01 51 00.5**	**+0.7**
MT01				IAML		01 51 42.4	
	comp=E,3μm,0.4s						
MT01	**Popeta**	**2.43**	**171**		**Pn**	**01 51 01.2**	**+1.3**
LCO	**Las Campanas**	**2.60**	**20**	*e*P	**Pn**	**01 51 02.6**	**+0.3**
LCO				*e*S	**Sn**	**01 51 35.9**	**+2.6**
LCO	**Las Campanas**	**2.60**	**20**		**Pn**	**01 51 03.1**	**+0.7**
ZON	**Zonda**	**2.61**	**93**		**Pb**	**01 51 05.9**	**-1.7**
BO01	**Tunca**	**2.98**	**170**	*e*P	**Pn**	**01 51 08.4**	**+1.1**
BO01				IAML		01 51 59.0	
	comp=E,1μm,0.5s						
BO01	**Tunca**	**2.98**	**170**		**Pn**	**01 51 08.9**	**+1.7**
BO03	**Pichilemu**	**3.04**	**184**	*e*P	**Pn**	**01 51 07.7**	**-0.4**
BO03				IAML		01 52 15.7	
	comp=N,851nm,0.6s						
AC04	**Llanos de Chal**	**3.29**	**10**	*e*P	**Pn**	**01 51 11.6**	**-0.1**
AC04				IAML		01 52 08.0	
	comp=E,2μm,0.4s						
AC04	**Llanos de Chal**	**3.29**	**10**		**Pn**	**01 51 11.9**	**+0.3**
BO02	**Sierra Bellavi**	**3.42**	**167**	*e*P	**Pn**	**01 51 14.9**	**+1.4**
BO02				IAML		01 52 07.2	
	comp=N,2μm,0.6s						
BO02	**Sierra Bellavi**	**3.42**	**167**		**Pn**	**01 51 14.9**	**+1.4**
GO05	**Huala**	**3.54**	**183**	*e*P	**Pn**	**01 51 14.5**	**-0.6**
GO05	**Huala**	**3.54**	**183**		**Pn**	**01 51 14.9**	**-0.2**
GO03	**Copiap**	**4.07**	**19**	*e*P	**Pn**	**01 51 22.7**	**+0.3**
GO03	**Copiap**	**4.07**	**19**		**Pn**	**01 51 23.9**	**+1.5**
AC06	**Mina Casimiro**	**4.26**	**17**		**Pn**	**01 51 25.7**	**+0.7**
ML02	**Panimavida**	**4.30**	**177**		**Pn**	**01 51 26.7**	**+1.2**
AC02	**Maricunga**	**5.14**	**27**		**Pn**	**01 51 39.0**	**+1.5**
VA04	**Juan Fernndez**	**6.38**	**248**		**Pn**	**01 51 52.7**	**-1.3**
H03N1	**Juan Fernandez**	**6.38**	**250**	T	T	01 58 39.9	
	baz=78,slow=72						
H03N3	**Juan Fernandez**	**6.40**	**250**	T	T	01 58 37.8	
	baz=78,slow=72						
H03N2	**Juan Fernandez**	**6.40**	**250**	T	T	01 58 37.7	
	baz=78,slow=72						
LVC	**Limon Verde**	**9.16**	**17**	Pn	**Pn**	**01 52 29.8**	**-2.9**
	comp=N,0.8nm,0.3s,baz=227,slow=16,SNR=2.4						
LVC				Sn	**Sn**	**01 54 14.4**	**-0.9**
	comp=N,2.4nm,0.3s,baz=178,slow=4.9,SNR=3.0						
LVC				LR	LR	01 56 14.7	
	comp=N,825nm,21.5s,baz=216,slow=39						
LVC	**Limon Verde**	**9.16**	**17**	Pn	**Pn**	**01 52 33.6**	**+0.9**
PB04	**IPOC Station P**	**9.20**	**9**	Pn	**Pn**	**01 52 32.5**	**-0.4**
PLCA	**Paso Flores**	**9.30**	**174**	LR	LR	01 56 10.5	
	comp=N,102nm,19.7s,baz=347,slow=38						
TRQA	**Tornquist**	**10.37**	**132**	Pn	**Pn**	**01 52 50.7**	**+1.9**
ITQB	**Itaqui**	**13.14**	**86**	Pn	**Pn**	**01 53 26.5**	**-0.2**
CPUP	**Villa Florida**	**13.61**	**72**	Pn	**Pn**	**01 53 31.9**	**-1.2**
	comp=N,0.9nm,0.3s,baz

WVT	**Waverly**	**68.91**	**346**	P	**P**	**02 01 24.1**	**-0.3**
WVT				IAmb	IAmb	02 01 25.4	
	comp=Z,8.3nm,0.9s						
ABTX	**Abilene, Hawle**	**68.98**	**335**	P	**P**	**02 01 22.9**	**-2.1**
ABTX				IAmb	IAmb	02 01 26.7	
	comp=Z,5.2nm,0.9s						
W39A	**Magazine**	**69.47**	**341**	IAmb	IAmb	02 01 29.8	
	comp=Z,7.2nm,0.9s						
T47A	**Sharon Grove**	**69.59**	**347**	IAmb	IAmb	02 01 30.5	
	comp=Z,6.7nm,0.9s						
LCAR	**Lake Charles**	**69.60**	**343**	IAmb	IAmb	02 01 29.6	
	comp=Z,5.4nm,0.8s						
MNTX	**Cornudas Mount**	**70.44**	**330**	P	**P**	**02 01 33.4**	**-0.5**
TIAR	**Tiarei**	**70.70**	**261**	*e*T	T	03 18 49.5	
	comp=Z,2.1nm,0.3s						
S44A	**Carbondale**	**70.72**	**345**	IAmb	IAmb	02 01 36.4	
	comp=Z,6.9nm,0.8s						
PPT2	**Papeete2**	**70.88**	**261**	*e*LR	LR	02 22 56.4	
	comp=Z,64nm,23.8s						
MSTX	**Muleshoe**	**71.36**	**333**	IAmb	IAmb	02 01 41.4	
	comp=Z,8.0nm,0.8s						
CCM	**Cathedral Cave**	**71.51**	**344**	P	**P**	**02 01 39.4**	**-0.9**
CCM				IAmb	IAmb	02 01 41.6	
	comp=Z,9.7nm,1.0s						
R40A	**Maddies Statio**	**71.99**	**343**	IAmb	IAmb	02 01 44.2	
	comp=Z,5.7nm,0.7s						
P40A	**Paris**	**73.11**	**344**	IAmb	IAmb	02 01 51.5	
	comp=Z,7.1nm,0.8s						
L56A	**Greenwood**	**73.43**	**355**	IAmb	IAmb	02 01 53.7	
	comp=Z,10nm,0.9s						
LIC	**Lamto**	**73.74**	**72**	*e*P	**P**	**02 01 53.7**	**-0.4**
	comp=Z,27nm,0.7s						
N41A	**Harden Midland**	**73.95**	**345**	P	**P**	**02 01 54.2**	**-0.4**
TIC	**Toumodi**	**73.98**	**72**	*e*P	**P**	**02 01 55.3**	**-0.2**
KIC	**Kosan Boka**	**74.05**	**72**	*e*P	**P**	**02 01 55.7**	**-0.2**
	comp=Z,37nm,0.7s						
DBIC	**Dimbokro**	**74.13**	**72**	P	**P**	**02 01 56.0**	**-0.3**
	comp=Z,20nm,0.8s,baz=235,slow=5.4,SNR=24						
DBIC				LR	LR	02 31 22.2	
	comp=Z,167nm,21.1s,baz=218,slow=33						
DBIC	**Dimbokro**	**74.13**	**72**	P	**P**	**02 01 56.2**	**-0.2**
J56A	**Wolcott**	**74.52**	**356**	IAmb	IAmb	02 01 59.5	
	comp=Z,7.7nm,0.8s						
T25A	**Trinidad**	**74.78**	**333**	IAmb	IAmb	02 02 02.9	
	comp=Z,4.7nm,0.7s						
PECO	**Prince Edward**	**75.18**	**356**	IAmb	IAmb	02 02 03.4	
	comp=Z,6.4nm,0.8s						
LBNH	**Lisbon**	**75.34**	**360**	IAmb	IAmb	02 02 05.2	
	comp=Z,7.9nm,0.9s						
MAW	**Mawson**	**75.54**	**164**	P	**P**	**02 02 04.3**	**+0.7**
	comp=Z,6.5nm,0.9s,baz=292,slow=9.0,SNR=6.0						
MAW				LR	LR	02 38 21.7	
	comp=Z,124nm,18.3s,baz=234,slow=38						
MAW	**Mawson**	**75.54**	**164**	P	**P**	**02 02 04.4**	**+0.8**
LONY	**Lake Ozonia**	**75.76**	**358**	IAmb	IAmb	02 02 07.1	
	comp=Z,7.3nm,0.8s						
FRNY	**Flat Rock**	**75.95**	**359**	IAmb	IAmb	02 02 07.8	
	comp=Z,8.2nm,0.8s						
SADO	**Sadowa**	**76.17**	**355**	IAmb	IAmb	02 02 08.4	
	comp=Z,10nm,0.9s						
D62A	**Allapoint, All**	**78.22**	**2**	P	**P**	**02 02 18.6**	**-0.2**
ECSD	**EROS Data Cent**	**78.22**	**342**	P	**P**	**02 02 19.1**	**+0.2**
ECSD				IAmb	IAmb	02 02 20.2	
	comp=Z,5.8nm,0.9s						
KOWA	**Kowa**	**79.36**	**66**	P	**P**	**02 02 25.7**	**-0.1**
BOSA	**Boshof**	**81.03**	**118**	P	**P**	**02 02 34.7**	**-0.3**
	comp=Z,6.5nm,0.8s,baz=276,slow=3.6,SNR=8.7						
BOSA				LR	LR	02 36 25.9	
	comp=Z,81nm,18.5s,baz=200,slow=34						
BOSA	**Boshof**	**81.03**	**118**	IAmb	IAmb	02 02 36.4	
	comp=Z,8.6nm,0.9s						
PDAR	**Pinedale Array**	**81.62**	**333**	LR	LR	02 36 42.2	
	comp=Z,60nm,18.1s,baz=116,slow=34						
NVAR	**Mina Array Bea**	**81.96**	**325**	P	**P**	**02 02 41.1**	**+1.6**
	comp=Z,0.7nm,0.8s,baz=163,slow=6.8,SNR=5.6						
ELK	**Elko**	**82.34**	**328**	P	**P**	**02 02 42.2**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=135,slow=5.7,SNR=5.3						
ELK	**Elko**	**82.34**	**328**	IAmb	IAmb	02 03 12.5	
	comp=Z,6.4nm,0.6s						
CASY	**Casey**	**82.56**	**181**	P	**P**	**02 02 42.4**	**+0.3**
CASY				IAmb	IAmb	02 02 44.6	
	comp=Z,8.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**83.10**	**70**	P	**P**	**02 02 45.4**	**-0.4**
	comp=Z,20nm,0.8s,baz=259,slow=4.4,SNR=98						
TORD				LR	LR	02 37 29.7	
	comp=Z,173nm,20.4s,baz=330,slow=34						
TORD	**Torodi Ar. Bea**	**83.10**	**70**	P	**P**	**02 02 45.5**	**-0.2**
LBTB	**Lobatse**	**83.14**	**115**	P	**P**	**02 02 46.2**	**+0.2**
VCNR	**Virginia City**	**83.29**	**325**	P	**P**	**02 02 47.5**	**+1.1**
ULM	**Lac du Bonnet**	**84.12**	**345**	P	**P**	**02 02 49.1**	**-1.0**
	comp=Z,2.8nm,0.6s,baz=243,slow=2.3,SNR=3.1						
ULM	**Lac du Bonnet**	**84.12**	**345**	IAmb	IAmb	02 03 16.0	
	comp=Z,11nm,1.4s						
ESDC	**Sonseca Array**	**94.63**	**46**	LR	LR	02 45 33.0	
	comp=Z,84nm,19.2s,baz=240,slow=35						
DZM	**Mont Dzumac**	**102.94**	**234**	*e*LR	LR	02 38 06.9	
	comp=Z,114nm,22.3s						
AKASG	**Malin Array Be**	**120.27**	**46**	PKP	**PKPdf**	**02 09 09.0**	**-1.2**
	comp=Z,1.7nm,0.6s,baz=271,slow=2.6,SNR=9.6						
BRTR	**Keskin Array B**	**120.35**	**60**	PKP	**PKPdf**	**02 09 10.8**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=108,slow=3.2,SNR=2.4						
WRA	**Warramunga Arr**	**123.10**	**210**	PKP	**PKPdf**	**02 09 16.0**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=48,slow=1.4,SNR=2.8						
H11S2	**WAKE ISLAND Hyl**	**126.03**	**271**	T	T	04 28 15.6	
	baz=116,slow=75,SNR=104						
H11S1	**WAKE ISLAND Hyl**	**126.04**	**271**	T	T	04 28 14.5	
	baz=116,slow=75,SNR=92						
H11S3	**WAKE ISLAND Hyl**	**126.05**	**271**	T	T	04 28 15.0	
	baz=116,slow=75,SNR=102						
H11N3	**WAKE ISLAND Hyl**	**126.38**	**272**	T	T	04 28 36.6	
	baz=116,slow=75,SNR=35						
H11N1	**WAKE ISLAND Hyl**	**126.39**	**272**	T	T	04 28 40.5	
	baz=116,slow=75,SNR=13						
H11N2	**WAKE ISLAND Hyl**	**126.40**	**272**	T	T	04 28 40.7	
	baz=116,slow=75,SNR=52						
KLMR	**Klimovskoe**	**127.19**	**35**	*e*PKPdf	**PKPdf**	**02 09 22.3**	**-0.9**
KLMR				AMP		02 09 24.7	
	comp=Z,9.0nm,1.0s						
PETK	**Petropavlovsk-**	**138.54**	**316**	PKP	**PKiKP**	**02 09 46.0**	**-0.9**
	comp=Z,1.8nm,0.8s,baz=152,slow=9.8,SNR=4.4						
BRVK	**Borovoye**	**145.15**	**41**	PKPbc	**PKPab**	**02 09 56.5**	**+0.2**
CHGR	**Chuyangaron**	**147.38**	**66**	PKPbc	**PKPbc**	**02 10 02.8**	**-0.7**
TOLI2	**Tolitoli**	**147.58**	**204**	PKPbc	**PKPbc**	**02 10 04.3**	**-0.3**
KK31	**Karatay Array**	**148.04**	**58**	PKPbc	**PKPbc**	**02 10 04.1**	**-0.9**
KKAR	**Karatay Array**	**148.04**	**58**	PKPbc	**PKPbc**	**02 10 05.2**	**+0.2**
GAR	**Garm**	**148.28**	**66**	PKPbc	**PKPbc**	**02 10 06.1**	**+0.2**
DRK	**Karamyk**	**149.40**	**65**	PKPbc	**PKPbc**	**02 10 08.7**	**-0.2**
EKS2	**Erkin-Say**	**150.48**	**58**	P	**PKPbc**	**02 10 11.3**	**+0.1**
	SNR=12						
AML	**Almayashu**	**150.52**	**59**	P	**PKPbc**	**02 10 11.9**	**+0.2**
	SNR=6.2						
UCH	**Uchtor**	**151.10**	**59**	P	**PKiKP**	**02 10 14.0**	**+0.3**
	SNR=12						
ZALV	**Zalesovo Beam**	**151.92**	**30**	PKPbc	**PKPbc**	**02 10 13.8**	**-0.2**
	comp=Z,41nm,0.8s,baz=259,slow=1.5,SNR=13						
KSH	**Kashi**	**152.61**	**64**	PKPbc	**PKPdf**	**02 10 08.1**	**-1.1**
MKAR	**Makanchi Array**	**154.85**	**45**	PKP	**PKPdf**	**02 10 12.0**	**0.0**
	comp=Z,0.9nm,0.8s,baz=346,slow=1.5,SNR=6.8						
MKAR				PKPbc	**pPKPdf**	**02 10 19.8**	**+0.2**
	comp=Z,3.6nm,0.8s,baz=314,slow=2.2,SNR=18						
MKAR	**Makanchi Array**	**154.85**	**45**		**PKPdf**	**02 10 11.4**	**-0.7**
MKAR				PKPab	**PKPab**	**02 10 36.5**	**+0.5**

*IDC **18** 01:58:23.7±2.0,3.˚16S×139.˚40E,h72km±20km,mb3.2/4, mb1 3.4/5,mb1mx3.2/26,mbtmp3.6/5, Error ellipse: s-maj=31.5km s-min=15.2km az=127.0*

ISC 18 01:58:21.9±1.0,3.˚3S±0.˚1×139.˚3E±0.˚1,h50km,n7, σ2s38/11,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.61**	**59**	P	**Pn**	**01 58 49.2**	**+1.2**
	12nm,0.3s,baz=226,slow=11,SNR=43						
JAY				S	**Sn**	**01 59 06.3**	**-1.4**
	41nm,0.3s,baz=106,slow=23,SNR=13						
WRA	**Warramunga Arr**	**17.20**	**196**	P	**P**	**02 02 23.1**	**+3.4**
	0.2nm,0.3s,baz=15,slow=13,SNR=12						
WRA				S	**Sn**	**02 05 26.7**	**-2.6**
	0.2nm,0.3s,baz=16,slow=21,SNR=3.5						
FITZ	**Fitzroy Crossi**	**19.86**	**221**	P	**Pn**	**02 02 53.2**	**+2.3**
	0.3nm,0.4s,baz=27,slow=14,SNR=1.9						
FITZ				S	**Sn**	**02 06 32.9**	**-0.7**
	0.8nm,0.3s,baz=213,slow=12,SNR=6.3						
ASAR	**Alice Springs**	**20.87**	**194**	P	Pn	02 03 03.9	+1.0
	0.3nm,0.3s,baz=25,slow=12,SNR=3.2						
ASAR				S	**S**	**02 06 46.4**	**-3.6**
	0.3nm,0.8s,baz=14,slow=24,SNR=2.2						
STKA	**Stephens Creek**	**28.46**	**176**	P	**P**	**02 04 13.1**	**+0.8**
	0.8nm,0.4s,baz=326,slow=7.3,SNR=1.7						
MKAR	**Makanchi Array**	**70.66**	**322**	P	**P**	**02 09 30.6**	**-1.8**
	1.1nm,0.8s,baz=111,slow=6.8,SNR=5.6						
SIV	**San Ignacio**	**152.15**	**134**	PKPbc	**PKPbc**	**02 18 12.2**	**-0.8**
	5.4nm,0.7s,baz=221,slow=9.6,SNR=30						
SIV				PKPab	**pPKPdf**	**02 18 20.9**	**-0.6**
	2.3nm,0.6s,baz=227,slow=9.5,SNR=6.4						

*IDC **18** 02:01:58.8±0.9,30.˚40S×72.˚63W,h0km,mb4.1/9, mb1 4.2/14,mb1mx4.1/38,mbtmp4.0/14,ML3.9/5,MS4.5/2, Ms1 4.5/2,ms1mx3.1/33,Error ellipse: s-maj=26.0km s-min=22.8km az=62.0*

*NEIC **18** 02:02:01.0±2.1,30.˚31S±0.˚05×72.˚60W±0.˚09,h10km±1km, mb4.5/25,Error ellipse: s-maj=13.4km s-min=8.7km az=282.0*

ISC 18 02:02:02.1±0.6,30.˚30S±0.˚05×72.˚60W±0.˚10,h19km,n71, σ1s18/58,mb4.3/18,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**1.24**	**73**		**Pn**	**02 02 22.8**	**-1.6**
GO04	**Tololo Observa**	**1.56**	**86**	Pn	**Pn**	**02 02 29.1**	**-0.1**
LCO	**Las Campanas**	**2.09**	**53**		**Pn**	**02 02 35.3**	**-1.1**
AC04	**Llanos de Chal**	**2.48**	**33**	Pn	**Pn**	**02 02 39.6**	**-1.8**
VA01	**Torpederas**	**2.84**	**164**		**Pn**	**02 02 44.5**	**-1.8**
GO03	**Copiap**	**3.40**	**38**		**Pn**	**02 02 53.8**	**-0.4**
VA05	**Santo Domingo**	**3.45**	**166**		**Pn**	**02 02 53.1**	**-1.7**
MT05	**Renca**	**3.47**	**153**		**Pn**	**02 02 54.8**	**-0.4**
AC06	**Mina Casimiro**	**3.53**	**34**		**Pn**	**02 02 55.5**	**-0.5**
ZON	**Zonda**	**3.59**	**111**	Pn	**Pn**	**02 02 56.9**	**0.0**
MT09	**Talagante**	**3.73**	**159**		**Pn**	**02 02 57.7**	**-1.1**
MT01	**Popeta**	**3.74**	**162**		**Pn**	**02 02 57.3**	**-1.4**
BO01	**Tunca**	**4.28**	**163**		**Pn**	**02 03 06.4**	**+0.2**
AC02	**Maricunga**	**4.61**	**42**		**Pn**	**02 03 10.8**	**-0.3**
BO02	**Sierra Bellavi**	**4.74**	**162**	Pn	**Pn**	**02 03 11.3**	**-1.3**
H03N1	**Juan Fernandez**	**6.22**	**238**	T	T	02 10 04.2	
	baz=73,slow=72,SNR=40						
H03N2	**Juan Fernandez**	**6.23**	**238**	T	T	02 10 05.1	
	baz=73,slow=72,SNR=30						
H03N3	**Juan Fernandez**	**6.23**	**238**	T	T	02 10 01.1	
	baz=73,slow=72,SNR=43						
LVC	**Limon Verde**	**8.34**	**24**	Pn	**Pn**	**02 04 00.7**	**-1.7**
	0.5nm,0.3s,baz=194,slow=12,SNR=6.8						
LVC				Sn	**Sn**	**02 05 33.6**	**-2.6**
	0.9nm,0.3s,baz=247,slow=13,SNR=2.1						
PLCA	**Paso Flores**	**10.54**	**171**	Pn	**Pn**	**02 04 28.9**	**-3.4**
	0.4nm,0.3s,baz=321,slow=13,SNR=6.2						
LL07	**Hotel Espejo d**	**12.53**	**183**	Pn	**Pn**	**02 04 59.7**	**+0.4**
CPUP	**Villa Florida**	**14.02**	**77**	Pn	**Pn**	**02 05 20.9**	**+1.1**
	0.1nm,0.3s,baz=305,slow=12,SNR=1.2						
LPAZ	**La Paz**	**14.53**	**17**	Pn	**Pn**	**02 05 29.2**	**+1.8**
	0.2nm,0.3s,baz=190,slow=7.6,SNR=12						
LPAZ	**La Paz**	**14.53**	**17**	Pn	**Pn**	**02 05 29.4**	**+2.0**
SIV	**San Ignacio**	**17.73**	**39**	P	**Pn**	**02 06 09.1**	**+1.0**
	0.4nm,0.3s,baz=228,slow=12,SNR=15						
BDFB	**Brasilia**	**26.85**	**63**	P	**P**	**02 07 42.3**	**+0.6**
	4.2nm,0.7s,baz=235,slow=10.0,SNR=3.9						
BDFB	**Brasilia**	**26.85**	**63**	IAmb	IAmb	02 07 51.6	
	comp=Z,1.1nm,1.3s						
RPN	**Rapa Nui**	**32.28**	**266**	LR	LR	02 17 56.7	
	comp=Z,3µm,20.9s,baz=230,slow=30						
CVTR	**Volcan Turrial**	**41.50**	**343**	P	**P**	**02 09 48.2**	**-0.4**
CVTR				IAmb	IAmb	02 09 55.4	
	comp=Z,7.1nm,0.6s						
VNA3	**Neumayer Olymp**	**52.97**	**159**	P	**P**	**02 11 16.6**	**-0.4**
VNA1	**Neumayer--Stat**	**53.27**	**158**	P	**P**	**02 11 18.9**	**-0.2**
VNA2	**Neumayer--Watz**	**53.61**	**158**	P	**P**	**02 11 21.1**	**-0.5**
	baz=282,slow=8.2						
SNAA	**Sanae**	**55.19**	**159**	P	**P**	**02 11 32.7**	**-0.6**
SNAA	**Sanae**	**55.19**	**159**	P	**P**	**02 11 32.7**	**-0.6**
QSPA	**South Pole Qui**	**59.93**	**180**	P	**P**	**02 12 06.5**	**-0.2**
QSPA				IAmb	IAmb	02 12 08.6	
	comp=Z,6.1nm,1.1s						
143A	**Socs Landing,**	**65.14**	**343**	P	**P**	**02 12 42.1**	**+0.4**
TXAR	**Lajitas Array**	**66.28**	**331**	P	**P**	**02 12 49.9**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=153,slow=8.7,SNR=12						
TKL	**Tuckaleechee C**	**66.44**	**350**	P	**P**	**02 12 49.3**	**-0.7**
	comp=Z,5.0nm,0.9s,baz=196,slow=6.0,SNR=3.6						
TKL	**Tuckaleechee C**	**66.44**	**350**	IAmb	IAmb	02 12 49.9	
	comp=Z,7.2nm,1.1s						
MNTX	**Cornudas Mount**	**69.06**	**330**	P	**P**	**02 13 06.1**	**-0.6**
MNTX				IAmb	IAmb	02 13 06.9	
	comp=Z,2.8nm,0.8s						
OK009	**Oakdale Elemen**	**69.57**	**339**	P	**P**	**02 13 09.0**	**-0.7**
CCM	**Cathedral Cave**	**70.20**	**344**	P	**P**	**02 13 13.5**	**0.0**
LENM	**Lemitar**	**71.86**	**330**	P	**P**	**02 13 23.9**	**0.0**
L40A	**Anamosa**	**74.02**	**346**	P	**P**	**02 13 36.0**	**-0.3**
X16A	**Lo Mia Camp, P**	**74.07**	**327**	IAmb	IAmb	02 13 40.1	
	comp=Z,3.2nm,1.0s						
WUAZ	**Wupatki**	**74.94**	**328**	P	**P**	**02 13 42.7**	**+0.6**
WUAZ				IAmb	IAmb	02 13 44.8	
	comp=Z,4.6nm,0.9s						
PFO	**Pinyon Flats O**	**75.89**	**323**	P	**P**	**02 13 48.4**	**+1.0**
	comp=Z,3.8nm,0.9s,baz=182,slow=1.6,SNR=3.7						
PFO	**Pinyon Flats O**	**75.89**	**323**	P	**P**	**02 13 47.8**	**+0.3**
PFO				IAmb	IAmb	02 13 49.7	
	comp=Z,6.3nm,1.1s						
KNB	**Kanab**	**76.84**	**328**	P	**P**	**02 13 54.0**	**+1.1**
KNB				IAmb	IAmb	02 13 55.9	
	comp=Z,3.1nm,0.9s						
MAW	**Mawson**	**76.86**	**164**	P	**P**	**02 13 52.1**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=215,slow=12,SNR=2.8						
MAW	**Mawson**	**76.86**	**164**	IAmb	IAmb	02 13 54.0	
	comp=Z,0.5nm,0.8s						
CCUT	**Cedar City**	**77.53**	**328**	IAmb	IAmb	02 13 59.3	
	comp=Z,2.8nm,0.9s						
PRN	**Pahroc Range**	**78.20**	**327**	IAmb	IAmb	02 14 02.8	
	comp=Z,5.4nm,1.0s						
TPNV	**Topopah Spring**	**78.41**	**326**	P	**P**	**02 14 02.6**	**+0.9**
SPUT	**South Promonto**	**80.20**	**331**	IAmb	IAmb	02 14 12.7	
	comp=Z,4.3nm,1.0s						
PDAR	**Pindale Array**	**80.25**	**333**	P	**P**	**02 14 11.4**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=144,slow=6.7,SNR=2.9						
NVAR	**Mina Array Bea**	**80.58**	**325**	P	**P**	**02 14 14.5**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=160,slow=6.4,SNR=4.5						
NVAR	**Mina Array Bea**	**80.58**	**325**	P	**P**	**02 14 13.6**	**+0.2**
ELK	**Elko**	**80.97**	**329**	P	**P**	**02 14 15.2**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=244,slow=2.7,SNR=4.7						
ELK	**Elko**	**80.97**	**329**	IAmb	IAmb	02 14 16.4	
	comp=Z,1.6nm,1.0s						
MCMT	**McKenzie Canyo**	**83.28**	**332**	P	**P**	**02 14 28.7**	**+1.2**
TORD	**Torodi Ar. Bea**	**83.42**	**71**	P	**P**	**02 14 28.4**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=271,slow=3.6,SNR=7.4						
TORD	**Torodi Ar. Bea**	**83.42**	**71**	IAmb	IAmb	02 14 28.8	
	comp=Z,0.6nm,0.8s						
NEW	**Newport**	**87.79**	**332**	LR	LR	02 51 23.1	
	comp=Z,64nm,18.4s,baz=114,slow=34						
ABKAR	**Akbulak array**	**139.67**	**48**	PKPdf	**PKPdf**	**02 21 28.5**	**+0.2**
BRVK	**Borovoye**	**144.74**	**39**	PKPdf	**PKPab**	**02 21 36.9**	**+0.9**
CHGR	**Chuyangaron**	**147.58**	**65**	PKPbc	**PKPdf**	**02 21 44.6**	**+2.0**
KK31	**Karatay Array**	**148.04**	**56**	PKPbc	**PKPdf**	**02 21 45.5**	**+2.3**
KKAR	**Karatay Array**	**148.04**	**56**	PKPbc	**PKPdf**	**02 21 45.6**	**+2.5**
ZALV	**Zalesovo Beam**	**151.27**	**28**	PKPbc	**PKPbc**	**02 21 53.9**	**0.0**
	comp=Z,41nm,0.8s,baz=298,slow=2.5,SNR=13						
ZALV	**Zalesovo Beam**	**151.27**	**28**		**PKPbc**	**02 21 53.5**	**-0.3**

MEX 18 02:05:32.8±3.0,16.˚88N×94.˚93W,h117km±26km,MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.21**	**13**	*i* P	Pn	02 05 48.2	-0.9
CMIG				*i* S	Sn	02 05 59.1	-2.3
VHO	**Vista Hermosa**	**1.73**	**276**	*i* P	Pn	02 06 04.2	+1.2
VHO				*i* S	Sn	02 06 26.3	+0.2
PEIG	**Puerto Escondi**	**2.30**	**248**	*i* P	Pn	02 06 08.0	-2.0
PEIG				*i* S	Sn	02 06 36.0	-2.4
TOIG	**Toxpalan**	**2.37**	**301**	*i* P	Pn	02 06 12.5	+1.7
TOIG				*i* S	Sn	02 06 39.9	-0.2
PNIG	**Pinotepa**	**3.10**	**261**	*i* P	Pn	02 06 19.3	-1.1
PNIG				*i* S	Sn	02 06 53.8	-3.3

*TEH **18** 02:06:09.3,29.˚58N×57.˚56E,h8km,ML4.0*
*THR **18** 02:06:09.7±0.8,29.˚58N×57.˚50E,h14km±8km,ML4.1*
*DSN **18** 02:06:11.8±1.9,29.˚73N×56.˚74E,h10km,ML3.4/9,Error ellipse: s-maj=75.5km s-min=17.6km az=93.0*
*OMAN **18** 02:06:13.1±2.3,29.˚59N×57.˚47E,h20km,ml3.8/7,Error ellipse: s-maj=21.4km s-min=16.8km az=20.0*

ISC 18 02:06:11.1±0.8,29.˚59N±0.˚04×57.˚54E±0.˚04,h10km,n100, σ1s54/115,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMN	**Cheshme madani**	**0.27**	**1**	*e*Pg	**Pg**	**02 06 15.9**	**-0.8**
NGRK	**Negar Kerman**	**0.70**	**275**	*e*Pg	**Pg**	**02 06 23.6**	**-1.2**
KRBR	**Kerman**	**0.78**	**300**	*e*Pg	**Pg**	**02 06 24.2**	**-2.0**
KRBR	**Kerman**	**0.78**	**300**	*e*Pg	**Pg**	**02 06 24.2**	**-2.0**
TVBK	**TV Kerman**	**0.78**	**301**	*e*Pg	**Pg**	**02 06 24.9**	**-1.3**
TVBK				*e*		02 06 39.1	
	comp=Z,92µm,0.2s						
KBAM	**BAM**	**0.92**	**119**	*e*Pg	**Pg**	**02 06 27.2**	**-1.6**
KBAM				*e*Sg	**Sg**	**02 06 39.7**	**-1.1**
KBAM				*e*		02 06 43.7	
	comp=Z,71µm,0.2s						
KHGB	**Koh Gabri**	**1.21**	**311**	*e*Pg	**Pb**	**02 06 32.2**	**-2.0**
KHGB				*e*		02 06 32.9	
	comp=Z,21µm,0.3s						
KHNJ	**Kahnooj**	**1.64**	**175**	*e*Pn	**Pn**	**02 06 38.9**	**-1.2**
KHNJ				*e*		02 07 02.9	
	comp=Z,10µm,0.6s						
IBND	**Bandar-abas**	**2.31**	**203**	*e*Pn	**Pn**	**02 06 50.8**	**+1.6**
IBND				*e*		02 07 33.2	
	comp=Z,10µm,0.4s						
GENO	**Geno**	**2.49**	**209**	*e*Pn	**Pn**	**02 06 53.0**	**+1.1**
GENO				*e*		02 06 59.7	
	comp=Z,5µm,0.6s						
BNDS	**Bandar-Abbas**	**2.49**	**209**	*e*Pn	**Pn**	**02 06 52.2**	**+0.3**
BNDS				*e*Sg	**Sb**	**02 07 27.1**	**+0.2**
BNDS	**Bandar-Abbas**	**2.49**	**209**	*e*Pn	**Pn**	**02 06 52.2**	**+0.3**
IBAF	**Bafgh**	**2.62**	**320**	*e*Pn	**Pn**	**02 06 54.9**	**+1.3**
BSRN	**Basiran**	**2.73**	**30**	*e*Pn	**Pn**	**02 06 55.3**	**+0.1**
BSRN	**Basiran**	**2.73**	**30**	*e*Pn	**Pn**	**02 06 55.3**	**+0.1**
ZHSF	**Zahedan**	**2.82**	**89**	*e*Pn	**Pn**	**02 06 56.5**	**+0.1**
ZHSF	**Zahedan**	**2.82**	**89**	*e*Pn	**Pn**	**02 06 56.5**	**+0.1**
ZHDN	**Zahedan**	**2.86**	**93**	*e*Pn	**Pn**	**02 06 57.5**	**+0.5**
IKOO	**Kooshah**	**3.09**	**24**	*e*Pn	**Pn**	**02 07 00.7**	**+0.5**
IKOO				*e*		02 07 09.4	
	comp=Z,8µm,0.3s						
IMEH	**Mehriz**	**3.10**	**306**	*e*Pn	**Pn**	**02 07 01.1**	**+0.8**
LAR1	**LAR**	**3.37**	**236**	*e*Pn	**Pn**	**02 07 04.6**	**+0.7**
LAR1				*e*		02 08 06.3	
	comp=Z,4µm,0.5s						
ITEG	**Tejag**	**3.46**	**17**	*e*Pn	**Pn**	**02 07 05.6**	**+0.4**
TPRV	**Parvadeh(Tabas**	**3.50**	**348**	*e*Pn	**Pn**	**02 07 06.9**	**+1.2**
IDAH	**Dahanechah**	**3.72**	**32**	*e*Pn	**Pn**	**02 07 10.1**	**+1.2**
SHME	**Shamm**	**3.74**	**200**	P	**Pn**	**02 07 08.7**	**-0.2**
SHME	**Shamm**	**3.74**	**200**	*e*Pn	**Pn**	**02 07 09.4**	**+0.5**
SHME	**Shamm**	**3.74**	**200**	P	**Pn**	**02 07 10.0**	**+1.1**
	SNR=5.5						
SHME				S	**Sn**	**02 07 55.0**	**+2.0**
	SNR=10						
YZKH	**Yazd**	**3.77**	**319**	*e*Pn	**Pn**	**02 07 09.7**	**+0.4**
YZKH				IAML		02 08 17.8	
	comp=N,152nm,0.4s						
YZKH	**Yazd**	**3.77**	**319**	*e*Pn	**Pn**	**02 07 09.7**	**+0.4**
ICHK	**Chekchek**	**3.77**	**315**	*e*Pn	**Pn**	**02 07 10.8**	**+1.3**
BANOM	**Banah**	**3.81**

$M_{\theta\theta}$-1.23; $M_{\phi\phi}$1.31; $M_{r\theta}$-0.32; $M_{\theta r}$-0.42; $M_{\phi r}$-0.05; Fault plane solution: M_o1.38000×10^{14} NP1:ϕ_s35.00000°, δ80.00000°, λ-10.00000°. NP2:ϕ_s127.00000°, δ80.00000°, λ-170.00000°. Principal axes: T 1.3780, Plg0.0000°, Azm261.0000°; N 0.0009, Plg76.0000°, Azm170.0000°; P -1.3789, Plg14.0000°, Azm351.0000°;

NEIC ***18*** *02:12:00.4±1.6,37°47'N±0'.04×98°.96W±0'.04,h5km±8km, mb_Lg3.7/108,Mwr3.4/13(SLM) Error ellipse: s-maj=6.9km s-min=3.8km az=206.0*

ISC 18 02:12:00.8±1.0,**37°49'N**±0'.02×**98°.88W**±0'.02,**h14**km±8km, **n284,σ1^{s}21**/319,**Kansas**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KAN16	**Harper SW Stat**	**0.70**	**112**				**Pg**	**02 12 14.6**	**+0.1**
KAN16					Sg		**Sg**	**02 12 24.8**	**+1.1**
KAN10	**Anthony SW Sta**	**0.72**	**120**				**Pg**	**02 12 15.0**	**+0.1**
KAN10					Sg		**Sg**	**02 12 25.2**	**+0.8**
KAN12	**Harper NE Stat**	**0.73**	**105**				**Pg**	**02 12 15.3**	**+0.4**
KAN08	**Anthony NE Sta**	**0.77**	**109**				**Pg**	**02 12 15.6**	**-0.2**
KAN08					Sg		**Sb**	**02 12 27.1**	**+0.7**
OK032	**Salt Plains WL**	**0.87**	**142**				**Pg**	**02 12 17.1**	**-0.5**
OK032					Sg		**Sg**	**02 12 28.8**	**-0.2**
KAN05	**Bluff City Nor**	**0.89**	**115**				**Pg**	**02 12 17.7**	**-0.3**
KAN14	**Manchester OK**	**0.90**	**126**				**Pg**	**02 12 18.2**	**-0.1**
R32A	**Long Quarter,** baz=192,SNR=405	**0.94**	**8**				**Pn**	**02 12 19.7**	**-0.1**
R32A					Sg		**Sn**	**02 12 33.2**	**+0.1**
R32A	**Long Quarter,** baz=192	**0.94**	**8**	P			**Pn**	**02 12 19.6**	**-0.1**
R32A					S		**Sn**	**02 12 33.2**	**+0.1**
KAN17	**Caldwell West**	**0.99**	**116**				**Pb**	**02 12 19.2**	**-0.7**
KAN17					Sg		**Sg**	**02 12 33.6**	**+0.6**
GC02	**Grant County #**	**1.03**	**128**				**Pb**	**02 12 20.4**	**-0.1**
KAN09	**Caldwell North**	**1.06**	**109**				**Pb**	**02 12 21.4**	**+0.3**
KS20	**Mayfield South**	**1.09**	**103**				**Pb**	**02 12 21.2**	**-0.3**
U32A	**Winter Ranch,** baz=1.6,SNR=149	**1.11**	**185**				**Pb**	**02 12 20.6**	**-1.3**
U32A					Pg		**Pn**	**02 12 23.3**	**-0.2**
U32A	**Winter Ranch,** baz=1.6	**1.11**	**185**	P			**Pb**	**02 12 20.6**	**-1.3**
U32A					S		**Sb**	**02 12 35.0**	**-1.3**
CROK	**Carrier**	**1.22**	**144**				**Pn**	**02 12 23.3**	**-0.2**
KAN13	**South Haven SW**	**1.22**	**113**				**Pn**	**02 12 24.0**	**+0.5**
CBKS	**Cedar Bluff**	**1.49**	**333**				**Pb**	**02 12 28.1**	**-0.2**
CBKS	**Cedar Bluff** baz=156,SNR=445	**1.49**	**333**	P			**Pg**	**02 12 28.8**	**-0.6**
CBKS					S		**Sg**	**02 12 49.0**	**+0.2**
CBKS	**Cedar Bluff** baz=156	**1.49**	**333**	P			**Pg**	**02 12 28.8**	**-0.6**
CBKS					S		**Sg**	**02 12 49.0**	**+0.2**
BLOK	**Blackwell**	**1.52**	**118**				**Pb**	**02 12 29.1**	**+0.3**
T35A	**Sooner Cattle**	**1.97**	**106**				**Pn**	**02 12 35.5**	**+1.6**
T35B	**Sooner Cattle** baz=286,SNR=221	**1.98**	**106**	P			**Pb**	**02 12 36.2**	**-0.4**
T35B					S		**Sb**	**02 13 03.3**	**+2.2**
OK029	**Liberty Lake**	**2.04**	**145**				**Pb**	**02 12 36.6**	**-1.1**
BCOK	**Bluff Creek, N**	**2.09**	**150**				**Pn**	**02 12 37.1**	**+1.5**
QUOK	**Quay**	**2.18**	**126**				**Pn**	**02 12 38.7**	**+1.9**
OK031	**S. Brethren Rd**	**2.24**	**132**				**Pn**	**02 12 38.7**	**+1.1**
OK025	**Westminster Rd**	**2.27**	**146**				**Pn**	**02 12 39.3**	**+1.2**
OKCFA	**Oklahoma City**	**2.37**	**150**				**Pn**	**02 12 40.3**	**+0.9**
OKCFA	**Oklahoma City** baz=329	**2.37**	**150**	P			**Pn**	**02 12 41.0**	**+1.7**
OKCFA					S		**Sb**	**02 13 11.3**	**-1.1**
OKCSW	**OKLAHOMA CITY** baz=329	**2.38**	**150**				**Pn**	**02 12 41.0**	**+1.5**
KSU1	**Kansas State U**	**2.41**	**47**				**Pn**	**02 12 42.1**	**+2.2**
KSU1	**Kansas State U** baz=229,SNR=73	**2.41**	**47**	P			**Pb**	**02 12 42.8**	**-1.2**
KSU1					S		**Sb**	**02 13 14.5**	**+1.0**
KSU1	**Kansas State U** baz=229,SNR=38	**2.41**	**47**	P			**Pb**	**02 12 42.7**	**-1.2**
KSU1					S		**Sb**	**02 13 13.8**	**+0.3**
FNO	**Franklin**	**2.53**	**151**				**Pn**	**02 12 42.7**	**+1.2**
WMOK	**Wichita Mounta**	**2.75**	**178**				**Pn**	**02 12 44.8**	**+0.2**
WMOK	**Wichita Mounta** baz=357,SNR=40	**2.75**	**178**	P			**Pn**	**02 12 45.5**	**+1.0**
WMOK	**Wichita Mounta** baz=357,SNR=43	**2.75**	**178**	P			**Pn**	**02 12 45.4**	**+0.8**
TUL1	**Leonard** baz=302,SNR=71	**2.94**	**121**	P			**Pn**	**02 12 48.8**	**+1.7**
TUL1	**Leonard** baz=302,SNR=40	**2.94**	**121**	P			**Pn**	**02 12 48.9**	**+1.7**
TUL1					S		**Sn**	**02 13 24.6**	**+2.3**
X34A	**Smith Ranch, M**	**3.00**	**163**				**Pn**	**02 12 49.5**	**+1.4**
KSCO	**Kaye Shedlock'**	**3.32**	**298**		Pn		**Pn**	**02 12 53.4**	**+0.8**
KSCO	**Kaye Shedlock'** baz=118,SNR=10	**3.32**	**298**	P			**Pn**	**02 12 54.4**	**+1.8**
KSCO					S		**Sn**	**02 13 33.2**	**+1.3**
AMTX	**Amarillo**	**3.45**	**222**				**Pn**	**02 12 54.9**	**+0.7**
AMTX	comp=Z,180nm,0.8s				IAmb_Lg			02 13 53.3	
AMTX	**Amarillo** baz=40,SNR=14	**3.45**	**222**	P			**Pn**	**02 12 54.6**	**+0.3**
AMTX					S		**Sn**	**02 13 35.8**	**+0.8**
AMTX	**Amarillo** baz=40	**3.45**	**222**	P			**Pn**	**02 12 54.5**	**+0.3**
AMTX					S		**Sn**	**02 13 35.3**	**+0.3**
U38A	**Gravette**	**3.75**	**105**				**Pn**	**02 12 59.9**	**+1.6**
U38A	comp=Z,209nm,0.8s				IAmb_Lg			02 14 03.6	
U38A	**Gravette** baz=287,SNR=43	**3.75**	**105**	P			**Pn**	**02 13 00.4**	**+2.1**
U38A					S		**Sn**	**02 13 44.7**	**+2.4**
LOOK	**Love County**	**3.75**	**158**				**Pn**	**02 12 59.5**	**+1.2**
LOOK	comp=Z,286nm,1.0s				IAmb_Lg			02 14 04.3	
BGNE	**Belgrade**	**3.96**	**8**				**Pn**	**02 13 02.3**	**+1.1**
BGNE	comp=Z,240nm,0.8s				IAmb_Lg			02 14 15.9	
BGNE	**Belgrade** baz=189,SNR=7.0	**3.96**	**8**	P			**Pn**	**02 13 03.3**	**+2.1**
BGNE	**Belgrade** baz=189,SNR=8.2	**3.96**	**8**	P			**Pn**	**02 13 03.1**	**+1.9**
BGNE	baz=189				S		**Sn**	**02 13 50.6**	**+3.2**
X37A	**Clayton**	**4.05**	**134**				**Pn**	**02 13 03.6**	**+1.1**
X37A	**Clayton** baz=315,SNR=99	**4.05**	**134**	P			**Pn**	**02 13 04.1**	**+1.6**
X37A	baz=315				S		**Sn**	**02 13 51.9**	**+2.0**
HHAR	**Hobbs**	**4.14**	**105**				**Pn**	**02 13 05.0**	**+1.3**
HHAR	comp=Z,302nm,0.8s				IAmb_Lg			02 14 15.5	
HHAR	**Hobbs** baz=288	**4.14**	**105**	P			**Pn**	**02 13 05.9**	**+2.2**
N35A	**Tabor**	**4.20**	**36**				**Pn**	**02 13 06.9**	**+2.3**
N35A	**Tabor** baz=218,SNR=11	**4.20**	**36**	P			**Pn**	**02 13 06.4**	**+1.8**
OGNE	**Ogallala**	**4.23**	**326**				**Pn**	**02 13 06.0**	**+1.0**
OGNE	**Ogallala** baz=145	**4.23**	**326**	P			**Pn**	**02 13 06.8**	**+1.8**
OGNE	baz=145,SNR=10				S		**Sn**	**02 13 56.2**	**+1.8**
Z35A	**Perchaven, San**	**4.36**	**162**				**Pn**	**02 13 08.2**	**+1.5**
Z35A	**Perchaven, San** baz=342,SNR=24	**4.36**	**162**	P			**Pn**	**02 13 07.9**	**+1.3**
S39A	**Bolivar**	**4.42**	**86**				**Pn**	**02 13 08.9**	**+1.3**
S39A	comp=Z,90nm,0.9s				IAmb_Lg			02 14 32.3	
S39A	**Bolivar** baz=268,SNR=35	**4.42**	**86**	P			**Pn**	**02 13 09.5**	**+2.0**
T25A	**Trinidad**	**4.42**	**267**	Pn			**Pn**	**02 13 08.7**	**+0.9**
T25A	**Trinidad** baz=84	**4.42**	**267**	P			**Pn**	**02 13 07.9**	**+0.1**
T25A	baz=84				Sb		**Sb**	**02 14 15.2**	**+3.4**
P38A	**Dawn**	**4.70**	**61**				**Pn**	**02 13 12.4**	**+1.0**
P38A	comp=Z,211nm,0.8s				IAmb_Lg			02 14 31.0	
P38A	**Dawn** baz=244,SNR=26	**4.70**	**61**	P			**Pn**	**02 13 13.4**	**+2.0**
W39A	**Magazine**	**4.71**	**118**				**Pn**	**02 13 12.5**	**+1.0**
W39A	comp=Z,252nm,0.8s				IAmb_Lg			02 14 36.0	
W39A	**Magazine** baz=300,SNR=14	**4.71**	**118**	P			**Pn**	**02 13 12.6**	**+1.1**
W39A	**Magazine** baz=300	**4.71**	**118**	P			**Pn**	**02 13 12.4**	**+1.0**
W39A	baz=300				S		**Sn**	**02 14 07.0**	**+1.1**
MSTX	**Muleshoe**	**4.73**	**223**				**Pn**	**02 13 11.9**	**0.0**
MSTX	comp=Z,86nm,0.9s				IAmb_Lg			02 14 33.9	
MSTX	**Muleshoe** baz=41,SNR=12	**4.73**	**223**	P			**Pn**	**02 13 12.7**	**+0.8**
MSTX	**Muleshoe** baz=41,SNR=5.8	**4.73**	**223**	P			**Pn**	**02 13 12.6**	**+0.7**
MSTX	baz=41				S		**Sn**	**02 14 05.9**	**-0.7**
L34A	**Svendsen Farm,**	**4.87**	**23**				**Pn**	**02 13 13.7**	**-0.1**
L34A	**Svendsen Farm,** baz=205,SNR=30	**4.87**	**23**	P			**Pn**	**02 13 14.4**	**+0.7**
ABTX	**Abilene, Hawle**	**4.89**	**188**				**Pn**	**02 13 12.9**	**-1.1**
ABTX	comp=Z,105nm,0.8s				IAmb_Lg			02 14 37.8	
ABTX	**Abilene, Hawle** baz=6.4,SNR=17	**4.89**	**188**	P			**Pn**	**02 13 14.2**	**+0.1**
ABTX	**Abilene, Hawle** baz=6.4,SNR=14	**4.89**	**188**	P			**Pn**	**02 13 14.1**	**+0.1**
ABTX	baz=6.4				Sb		**Sb**	**02 14 28.6**	**+3.5**
U40A	**Yellville**	**4.96**	**101**				**Pn**	**02 13 16.1**	**+1.2**
U40A	comp=Z,241nm,0.7s				IAmb_Lg			02 14 47.5	
U40A	**Yellville** baz=284,SNR=29	**4.96**	**101**	P			**Pn**	**02 13 16.9**	**+1.9**
U40A	**Yellville** baz=284,SNR=37	**4.96**	**101**	P			**Pn**	**02 13 16.5**	**+1.6**
U40A	baz=284				S		**Sn**	**02 14 12.7**	**+0.6**
K31A	**O'Neill**	**5.13**	**1**	Pn			**Pn**	**02 13 17.3**	**0.0**
K31A	**O'Neill** baz=182,SNR=15	**5.13**	**1**	P			**Pn**	**02 13 19.8**	**+2.5**
Q24A	**Divide** baz=106	**5.15**	**289**	P			**Pn**	**02 13 18.9**	**+1.0**
MIAR	**Mount Ida**	**5.21**	**123**				**Pn**	**02 13 19.0**	**+0.7**
MIAR	comp=Z,129nm,0.8s				IAmb_Lg			02 14 56.6	
MIAR	**Mount Ida** baz=305,SNR=12	**5.21**	**123**	P			**Pn**	**02 13 19.9**	**+1.6**
MIAR	**Mount Ida** baz=305	**5.21**	**123**	P			**Pn**	**02 13 19.7**	**+1.4**
MIAR	baz=305				S		**Sn**	**02 14 19.4**	**+1.2**
SDCO	**Great Sand Dun**	**5.26**	**275**				**Pn**	**02 13 19.9**	**+0.4**
SDCO	**Great Sand Dun** baz=91	**5.26**	**275**	P			**Pn**	**02 13 20.8**	**+1.4**
MGMO	**Mountain Grove**	**5.28**	**92**				**Pn**	**02 13 20.9**	**+1.5**
MGMO	comp=Z,123nm,0.8s				IAmb_Lg			02 14 51.1	
Z38A	**Mt. Pleasant**	**5.28**	**142**				**Pn**	**02 13 19.8**	**+0.4**
Z38A	comp=Z,184nm,0.8s				IAmb_Lg			02 15 02.6	
Z38A	**Mt. Pleasant** baz=323,SNR=7.3	**5.28**	**142**	P			**Pn**	**02 13 20.4**	**+1.0**
R40A	**Maddies Statio**	**5.29**	**79**	Pn			**Pn**	**02 13 20.7**	**+1.2**
R40A	comp=Z,75nm,0.7s				IAmb_Lg			02 15 03.0	
R40A	**Maddies Statio** baz=263,SNR=57	**5.29**	**79**	P			**Pn**	**02 13 21.5**	**+2.0**
N38A	**Joes South For**	**5.49**	**51**				**Pn**	**02 13 23.6**	**+1.3**
N38A	**Joes South For** baz=235,SNR=7.6	**5.49**	**51**	P			**Pn**	**02 13 23.5**	**+1.3**
WHTX	**Lake Whitney,**	**5.61**	**168**				**Pn**	**02 13 23.4**	**-0.4**
WHTX	**Lake Whitney,** baz=348,SNR=42	**5.61**	**168**	P			**Pn**	**02 13 24.2**	**+0.4**
WHTX	**Lake Whitney,** baz=348,SNR=14	**5.61**	**168**	P			**Pn**	**02 13 24.5**	**+0.6**
FCAR	**Ozark Folk Cen**	**5.66**	**104**				**Pn**	**02 13 24.9**	**+0.4**
FCAR	comp=Z,204nm,1.2s				IAmb_Lg			02 15 03.4	
P40A	**Paris**	**5.73**	**67**	Pn			**Pn**	**02 13 26.8**	**+1.2**
P40A	comp=Z,104nm,0.7s				IAmb_Lg			02 15 09.8	
P40A	**Paris** baz=251,SNR=8.8	**5.73**	**67**	P			**Pn**	**02 13 27.6**	**+2.0**
X40A	**Basin Creek Fa**	**5.74**	**120**				**Pn**	**02 13 27.2**	**+1.5**
X40A	comp=Z,188nm,0.7s				IAmb_Lg			02 15 06.7	
X40A	**Basin Creek Fa** baz=302	**5.74**	**120**	P			**Pn**	**02 13 27.0**	**+1.3**
X40A	baz=302				S		**Sn**	**02 14 32.1**	**+0.6**
WHAR	**Wooly Hollow**	**5.75**	**110**				**Pn**	**02 13 27.6**	**+1.7**
ISCO	**Idaho Springs**	**5.75**	**296**				**Pn**	**02 13 26.6**	**+0.4**
ISCO	comp=Z,102nm,0.7s				IAmb_Lg			02 15 07.9	
ISCO	**Idaho Springs** baz=112	**5.75**	**296**	P			**Pn**	**02 13 27.8**	**+1.6**
W41B	**Gary Mavity, V** baz=295,SNR=14	**5.83**	**111**	P			**Pn**	**02 13 28.4**	**+1.5**
W41B	**Gary Mavity, V** baz=295	**5.83**	**111**	P			**Pn**	**02 13 28.4**	**+1.5**
W41B	baz=295				S		**Sn**	**02 14 33.4**	**-0.2**
237A	**Washetta, Mont**	**6.03**	**154**				**Pn**	**02 13 28.9**	**-0.8**
237A	comp=Z,60nm,0.8s				IAmb_Lg			02 15 21.4	
237A	**Washetta, Mont** baz=335,SNR=16	**6.03**	**154**	P			**Pn**	**02 13 29.8**	**+0.1**
WLAR	**White Oak Lake**	**6.04**	**127**				**Pn**	**02 13 30.1**	**+0.3**
WLAR	comp=Z,114nm,0.8s				IAmb_Lg			02 15 19.9	
CCM	**Cathedral Cave**	**6.08**	**82**	Pn			**Pn**	**02 13 32.2**	**+1.9**
CCM	**Cathedral Cave** comp=Z,106nm,0.9s	**6.08**	**82**	IAmb_Lg				02 15 15.9	
CCM	**Cathedral Cave** baz=267	**6.08**	**82**	P			**Pn**	**02 13 32.0**	**+1.7**
SCIA	**State Center**	**6.21**	**43**	Pn			**Pn**	**02 13 33.7**	**+1.6**
SCIA	comp=Z,153nm,0.8s				IAmb_Lg			02 15 29.1	
SCIA	**State Center** baz=227	**6.21**	**43**	P			**Pn**	**02 13 34.0**	**+1.9**
SCIA	baz=227				S		**Sn**	**02 14 44.9**	**+2.0**
LCAR	**Lake Charles**	**6.36**	**101**				**Pn**	**02 13 35.4**	**+1.2**
LCAR	comp=Z,165nm,0.8s				IAmb_Lg			02 15 21.6	
LCAR	**Lake Charles** baz=285,SNR=19	**6.36**	**101**	P			**Pn**	**02 13 36.0**	**+1.8**
PHWY	**Pilot Hill**	**6.36**	**309**				**Pn**	**02 13 35.1**	**+0.6**
PHWY	comp=Z,149nm,0.8s				IAmb_Lg			02 15 27.4	
N23A	**Red Feather La** baz=120	**6.46**	**304**	P			**Pn**	**02 13 36.2**	**+0.5**
ECSD	**EROS Data Cent**	**6.47**	**15**	Pn			**Pn**	**02 13 36.5**	**+0.8**
ECSD	comp=Z,55nm,0.8s				IAmb_Lg			02 15 31.2	
ECSD	**EROS Data Cent** baz=197,SNR=44	**6.47**	**15**	P			**Pn**	**02 13 36.3**	**+0.6**
ECSD	**EROS Data Cent** baz=197,SNR=11	**6.47**	**15**	P			**Pn**	**02 13 36.4**	**+0.6**
Z41A	**Richland Creek** baz=312	**6.51**	**129**	P			**Pn**	**02 13 37.4**	**+1.1**
SMCO	**Snowmass**	**6.58**	**287**				**Pn**	**02 13 36.3**	**-1.4**
ANMO	**Albuquerque**	**6.63**	**250**	Pn			**Pn**	**02 13 39.2**	**+1.1**
ANMO	comp=Z,0.2nm,0.3s,baz=69,slow=15,SNR=4.2				Pg		**Pb**	**02 13 60.0**	**+3.9**
ANMO	comp=Z,2.9nm,0.3s,baz=65,slow=12,SNR=16				Lg		Lg	02 15 23.0	
ANMO	comp=Z,4.9nm,0.3s,baz=326,slow=20,SNR=6.3 **Albuquerque**	**6.63**	**250**	Pn			**Pn**	**02 13 38.6**	**+0.6**
ANMO	**Albuquerque** baz=66	**6.63**	**250**	P			**Pn**	**02 13 38.9**	**+0.8**
NATX	**Nacogdoches** comp=Z,56nm,0.9s	**6.69**	**147**	IAmb_Lg				02 15 49.4	
FVM	**French Village**	**6.72**	**83**	Pn			**Pn**	**02 13 39.8**	**+0.6**
FVM	comp=Z,52nm,0.8s				IAmb_Lg			02 15 42.3	
FVM	**French Village** baz=268,SNR=8.8	**6.72**	**83**	P			**Pn**	**02 13 39.5**	**+0.4**
435B	**Jarrell**	**6.77**	**171**	Pn			**Pn**	**02 13 39.7**	**-0.2**
435B							LR	02 15 34.6	
435B	comp=Z,72nm,0.8s				IAmb_Lg			02 15 37.8	
435B	**Jarrell** baz=351	**6.77**	**171**	P			**Pn**	**02 13 40.0**	**+0.1**
PBMO	**Poplar Bluff**	**6.79**	**93**				**Pn**	**02 13 39.8**	**-0.3**
PBMO					IAmb_Lg			02 15 42.3	
	comp=Z,146nm,1.0s								
CCAR	**Cane Creek**	**6.79**	**120**	Pn			**Pn**	**02 13 40.8**	**+0.7**
CCAR	comp=Z,131nm,1.1s				IAmb_Lg			02 15 52.9	
HBAR	**Harrisburg**	**6.90**	**104**	Pn			**Pn**	**02 13 41.4**	**-0.1**
HBAR							**Sn**	**02 14 59.1**	**-0.7**
SLM	**Saint Louis**	**6.92**	**78**	Pn			**Pn**	**02 13 43.0**	**+1.2**
SLM	comp=Z,80nm,0.9s				IAmb_Lg			02 15 37.9	
SUSD	**Miller**	**6.95**	**360**				**Pn**	**02 13 42.6**	**+0.4**
SUSD							**Sn**	**02 15 02.8**	**+1.6**
SUSD	comp=Z,72nm,0.8s				IAmb_Lg			02 15 48.4	
SUSD	**Miller** baz=180,SNR=7.7	**6.95**	**360**	P			**Pn**	**02 13 43.9**	**+1.6**
SUSD	**Miller** baz=180	**6.95**	**360**	P			**Pn**	**02 13 43.7**	**+1.4**
K38A	**Parkersburg**	**6.96**	**40**				**Pg**	**02 14 12.0**	**-2.1**
N41A	**Harden Midland**	**7.02**	**60**	Pn			**Pn**	**02 13 44.3**	**+1.0**
N41A	comp=Z,127nm,0.7s				IAmb_Lg			02 15 53.7	
JCT	**Junction City**	**7.03**	**187**	Pn			**Pn**	**02 13 43.1**	**-0.4**
JCT	comp=Z,91nm,0.8s				IAmb_Lg			02 15 49.1	
JCT	**Junction City** baz=5.5	**7.03**	**187**	P			**Pn**	**02 13 43.4**	**-0.1**
BNM	**Barren Site**	**7.12**	**244**	Pn			**Pn**	**02 13 44.6**	**-0.3**
LPAR	**Lepanto**	**7.16**	**103**	Pn			**Pn**	**02 13 45.0**	**-0.1**
GNAR	**Gosnell**	**7.28**	**99**	Pn			**Pn**	**02 13 48.0**	**+1.2**
GNAR							LR	02 15 51.7	
PARMO	**Parma**	**7.34**	**94**	Pn			**Pn**	**02 13 48.7**	**+1.0**
LENM	**Lemitar**	**7.36**	**246**	Pn			**Pn**	**02 13 47.9**	**-0.3**
PEBM	**Pemiscott Bayo**	**7.36**	**98**	Pn			**Pn**	**02 13 48.4**	**+0.4**
PEBM							LR	02 15 55.0	
Y22D	**IRIS PASSCAL I**	**7.37**	**245**	Pn			**Pn**	**02 13 48.5**	**+0.3**
Y22D							**Sg**	**02 15 54.3**	**-3.0**
L40A	**Anamosa**	**7.46**	**50**	Pn			**Pn**	**02 13 50.1**	**+0.8**
PENMO	**Penman** comp=Z,137nm,0.8s	**7.48**	**95**	IAmb_Lg				02 16 08.3	
HENM	**Henderson Moun**	**7.56**	**93**	Pn			**Pn**	**02 13 51.4**	**+0.8**
HENM							**Sg**	**02 16 04.4**	**+1.1**
PV15	**Paradox Valley**	**7.64**	**279**	Pn			**Pn**	**02 13 52.5**	**+0.5**
PV15							**Sg**	**02 16 03.1**	**-2.8**
P43A	**Skaggs, Pawnee**	**7.64**	**71**				**Pn**	**02 13 53.3**	**+1.5**
S44A	**Carbondale**	**7.64**	**86**				**Pn**	**02 13 53.7**	**+1.9**
S44A	comp=Z,83nm,0.7s				IAmb_Lg			02 16 09.1	
LNXT	**Lenox**	**7.66**	**98**	Pn			**Pn**	**02 13 52.7**	**+0.7**
LNXT							LR	02 16 04.4	
MVCO	**Mesa Verde**	**7.67**	**271**	Pn			**Pn**	**02 13 52.3**	**-0.1**
SIUC	**Southern Illin**	**7.67**	**85**				**Pn**	**02 13 54.1**	**+1.9**
SIUC	comp=Z,85nm,0.8s				IAmb_Lg			02 16 08.4	
RWWY	**Rawlins**	**7.68**	**306**	Pn			**Pn**	**02 13 52.9**	**+0.3**
RWWY	comp=Z,70nm,0.7s				IAmb_Lg			02 16 22.4	
RSSD	**Black Hills**	**7.69**	**331**				**Pn**	**02 13 54.2**	**+1.5**
RSSD	**Black Hills** baz=148,SNR=12	**7.69**	**331**	P			**Pn**	**02 13 55.1**	**+2.4**
RSSD	**Black Hills** baz=148	**7.69**	**331**	P			**Pn**	**02 13 54.7**	**+2.0**
PV01	**Paradox Valley**	**7.70**	**278**	Pn			**Pn**	**02 13 53.6**	**+0.8**
I37A	**Lemond, Waseca** comp=Z,61nm,0.8s	**7.73**	**31**	IAmb_Lg				02 16 13.3	
143A	**Socs Landing,** comp=Z,92nm,0.9s	**7.76**	**126**	IAmb_Lg				02 16 19.0	
O20A	**White River Ci**	**7.77**	**293**	Pn			**Pn**	**02 13 54.5**	**+0.7**
PV07	**Paradox Valley**	**7.78**	**280**	Pn			**Pn**	**02 13 53.3**	**-0.5**
HICK	**Hickman**	**7.78**	**94**	Pn			**Pn**	**02 13 54.7**	**+1.0**
HICK							**Sg**	**02 16 11.6**	**+1.2**
GLAT	**Glass**	**7.78**	**96**	Pn			**Pn**	**02 13 55.2**	**+1.5**
GLAT							LR	02 16 09.9	
K22A	**Casper**	**7.80**	**314**				**Pn**	**02 13 54.4**	**+0.2**
K22A	comp=Z,84nm,0.8s				IAmb_Lg			02 16 17.0	
K22A	**Casper** baz=130	**7.80**	**314**	P			**Pn**	**02 13 55.2**	**+1.0**
HALT	**Halls**	**7.82**	**99**	Pn			**Pn**	**02 13 55.5**	**+1.2**
HALT							LR	02 16 08.1	
PV02	**Paradox Valley**	**7.83**	**278**	Pn			**Pn**	**02 13 54.9**	**+0.2**
MNTX	**Cornudas Mount**	**7.88**	**225**	Pn			**Pn**	**02 13 55.4**	**+0.3**
MNTX	**Cornudas Mount** baz=41	**7.88**	**225**	P			**Pn**	**02 13 55.1**	**0.0**
PV12	**Saucer Basin,**	**7.89**	**279**	Pn			**Pn**	**02 13 56.2**	**+0.8**
PV22	**Blue Mesa, Par**	**7.89**	**281**	Pn			**Pn**	**02 13 56.0**	**+0.6**
Q44A	**Meyer Farm, Va**	**7.89**	**77**				**Pn**	**02 13 57.2**	**+2.0**
Q44A	comp=Z,87nm,0.8s				IAmb_Lg			02 16 19.9	
PV13	**Radium Mtn., P**	**7.90**	**278**	Pn			**Pn**	**02 13 55.8**	**+0.2**
PV03	**Paradox Valley**	**7.92**	**279**	Pn			**Pn**	**02 13 56.4**	**+0.5**
PV11	**David Mesa, Pa**	**7.94**	**279**	Pn			**Pn**	**02 13 56.4**	**+0.3**
PV11	comp=Z,50nm,0.8s				IAmb_Lg			02 16 20.1	
PV18	**Skein Mesa, Pa**	**7.97**	**279**	Pn			**Pn**	**02 13 56.2**	**-0.3**
PV04	**Paradox Valley**	**7.97**	**280**	Pn			**Pn**	**02 13 57.6**	**+1.1**
PV04	comp=Z,42nm,1.2s				IAmb_Lg			02 16 19.6	
PV16	**Nyswonger Mesa**	**7.98**	**279**	Pn			**Pn**	**02 13 57.2**	**+0.5**
PV17	**East Wray Mesa**	**8.01**	**279**	Pn			**Pn**	**02 13 57.1**	**0.0**
PV20	**West Nyswonger**	**8.02**	**279**	Pn			**Pn**	**02 13 58.0**	**+0.8**
PV19	**Morning Glory**	**8.03**	**279**	Pn			**Pn**	**02 13 57.1**	**-0.3**
PV21	**Cone Mtn., Par**	**8.04**	**281**	Pn			**Pn**	**02 13 57.5**	**0.0**
PV23	**Carpenter Ridg**	**8.06**	**280**	Pn			**Pn**	**02 13 58.3**	**+0.5**
HDIL	**Hopedale**	**8.07**	**65**				**Pn**	**02 13 58.6**	**+1.0**
HDIL	**Hopedale** baz=251	**8.07**	**65**	P			**Pn**	**02 13 58.9**	**+1.3**
PV05	**Paradox Valley**	**8.11**	**277**	Pn			**Pn**	**02 13 57.4**	**-1.1**
342A	**Flagon Creek P** comp=Z,44nm,1.1s	**8.15**	**136**	IAmb_Lg				02 16 30.1	
W45A	**Hickory Valley**	**8.16**	**104**	Pn			**Pn**	**02 13 59.0**	**+0.1**
W45A	comp=Z,108nm,0.8s				IAmb_Lg			02 16 23.9	
OXF	**Oxford**	**8.23**	**108**	Pn			**Pn**	**02 14 00.4**	**+0.5**
OXF	comp=Z,75nm,0.7s				IAmb_Lg			02 16 36.1

P46A	**Rosedale**	**9.39**	**73**	Pn	**Pn**	**02 14 15.9**	**+0.2**
146A	**Union**	**9.39**	**118**	Pn	**Pn**	**02 14 16.0**	**+0.2**
146A				IAmb_Lg		02 17 16.9	
	comp=Z,52nm,0.7s						
T47A	**Sharon Grove**	**9.40**	**89**		**Pn**	**02 14 16.5**	**+0.5**
X18A	**Snowflake**	**9.44**	**255**	Pn	**Pn**	**02 14 16.7**	**0.0**
K43A	**Burlington**	**9.61**	**54**	Pn	**Pn**	**02 14 20.4**	**+1.6**
SFIN	**Lafayette**	**9.62**	**69**		**Pn**	**02 14 20.5**	**+1.5**
SFIN	**Lafayette**	**9.62**	**69**	P	**Pn**	**02 14 20.4**	**+1.5**
	baz=256						
PD31	**Pinedale Array**	**9.73**	**306**		**Pn**	**02 14 21.2**	**+0.6**
PDAR	**Pinedale Array**	**9.73**	**306**	Pn	**Pn**	**02 14 21.4**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=122,slow=15,SNR=4.9						
PDAR				Lg	Lg	02 17 01.6	
	comp=Z,1.4nm,0.3s,baz=113,slow=31,SNR=2.1						
Z47A	**Carrollton**	**9.81**	**113**	Pn	**Pn**	**02 14 22.3**	**+0.8**
BLO	**Bloomington**	**9.86**	**76**	Pn	**Pn**	**02 14 22.3**	**+0.1**
I42A	**Draeger Farm,**	**9.90**	**47**	Pn	**Pn**	**02 14 23.9**	**+1.1**
WCI	**Wyandotte Cave**	**9.98**	**82**	Pn	**Pn**	**02 14 24.5**	**+0.6**
WCI	**Wyandotte Cave**	**9.98**	**82**	P	**Pn**	**02 14 25.0**	**+1.1**
	baz=269						
G40A	**Rib Lake**	**10.14**	**37**	Pn	**Pn**	**02 14 27.4**	**+1.4**
G40A					**Sn**	**02 16 19.0**	**-0.6**
CLTN	**Cedars of Leba**	**10.16**	**94**	Pn	**Pn**	**02 14 27.3**	**+1.0**
WUAZ	**Wupatki**	**10.25**	**263**	Pn	**Pn**	**02 14 28.4**	**+0.7**
U49A	**Red Boiling Sp**	**10.52**	**91**	Pn	**Pn**	**02 14 32.3**	**+1.0**
E38A	**The Farm, Brul**	**10.61**	**29**	Pn	**Pn**	**02 14 33.5**	**+1.1**
LRAL	**Lakeview Retre**	**10.68**	**111**	Pn	**Pn**	**02 14 34.8**	**+1.3**
P48A	**Milroy**	**10.73**	**75**		**Pn**	**02 14 34.0**	**-0.1**
Y49A	**Blount Mountai**	**10.77**	**106**	Pn	**Pn**	**02 14 35.5**	**+0.8**
LOHW	**Long Hollow**	**10.81**	**308**	Pn	**Pn**	**02 14 35.8**	**+0.4**
R49A	**Shelbyville**	**10.87**	**82**	Pn	**Pn**	**02 14 37.6**	**+1.7**
RLMT	**Red Lodge**	**10.91**	**318**	Pn	**Pn**	**02 14 36.5**	**-0.3**
AGMN	**Agassiz Nation**	**11.03**	**11**		**Pn**	**02 14 36.4**	**-1.8**
AGMN	**Agassiz Nation**	**11.03**	**11**	P	**Pn**	**02 14 36.8**	**-1.3**
	baz=193						
FXWY	**Fox Creek**	**11.09**	**307**	Pn	**Pn**	**02 14 39.9**	**+0.6**
FPAL	**Fort Paine**	**11.14**	**101**	Pn	**Pn**	**02 14 41.5**	**+1.7**
T50A	**Nancy**	**11.20**	**88**	Pn	**Pn**	**02 14 41.1**	**+0.5**
COWI	**Conover**	**11.26**	**37**	Pn	**Pn**	**02 14 41.9**	**+0.6**
P49A	**Miami Univ. Ec**	**11.29**	**75**	Pn	**Pn**	**02 14 41.3**	**-0.4**
P49A	**Miami Univ. Ec**	**11.29**	**75**	P	**Pn**	**02 14 41.5**	**-0.2**
	baz=264						
B35A	**Bob, Littlefor**	**11.50**	**17**	Pn	**Pn**	**02 14 46.0**	**+1.3**
F42A	**Maple Grove Fa**	**11.52**	**41**		**Sn**	**02 16 52.0**	**-1.4**
DGMT	**Dagmar**	**11.64**	**342**	Pn	**Pn**	**02 14 46.3**	**-0.3**
DGMT	**Dagmar**	**11.64**	**342**	P	**Pn**	**02 14 47.3**	**+0.7**
	baz=159,SNR=5.5						
DGMT	**Dagmar**	**11.64**	**342**	P	**Pn**	**02 14 46.6**	**0.0**
	baz=159						
O49A	**Covington**	**11.66**	**72**		**Pn**	**02 14 46.0**	**-0.8**
CPCT	**Cooper Cave**	**11.74**	**96**	Pn	**Pn**	**02 14 48.9**	**+1.0**
EYMN	**Ely**	**11.77**	**25**	Pn	**Pn**	**02 14 50.2**	**+1.9**
EYMN	**Ely**	**11.77**	**25**	P	**Pn**	**02 14 47.6**	**-0.8**
	baz=210						
V51A	**Loudon**	**11.79**	**94**	Pn	**Pn**	**02 14 50.2**	**+1.5**
L48A	**N Adams**	**11.98**	**64**	Pn	**Pn**	**02 14 50.9**	**-0.3**
TKL	**Tuckaleechee C**	**12.28**	**94**	Pn	**Pn**	**02 14 55.9**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=248,slow=4.8,SNR=7.2						
TKL				Sn	**Sn**	**02 17 09.8**	**-2.3**
	comp=Z,0.5nm,0.3s,baz=14,slow=17,SNR=1.5						
TKL				Lg	Lg	02 18 21.8	
	comp=Z,0.5nm,0.3s,baz=213,slow=22,SNR=2.5						
Q51A	**Peebles**	**12.31**	**78**	Pn	**Pn**	**02 14 56.1**	**+0.4**
Q51A					**Sn**	**02 17 15.3**	**+2.5**
V52A	**Sevierville**	**12.38**	**93**	Pn	**Pn**	**02 14 57.5**	**+0.7**
E43A	**Lone Tree Farm**	**12.52**	**41**	Pn	**Pn**	**02 15 00.8**	**+2.2**
ULM	**Lac du Bonnet**	**12.94**	**9**	Pn	**Pn**	**02 15 01.2**	**-3.1**
	comp=Z,0.8nm,0.3s,baz=189,slow=9.6,SNR=8.8						
ULM				Sn	Sn	02 17 16.4	-12
	comp=Z,0.4nm,0.3s,baz=159,slow=14,SNR=1.5						
ULM				Lg	Lg	02 18 41.1	
	comp=Z,0.3nm,0.3s,baz=169,slow=15,SNR=1.9						
ULM	**Lac du Bonnet**	**12.94**	**9**	Pn	**Pn**	**02 15 04.0**	**-0.3**
V53A	**Saluda**	**13.04**	**93**	Pn	**Pn**	**02 15 07.3**	**+1.5**
Q52A	**Bidwell**	**13.15**	**78**	Pn	**Pn**	**02 15 07.3**	**+0.1**
P52A	**Corning**	**13.28**	**76**	Pn	**Pn**	**02 15 08.3**	**-0.7**
P52A	**Corning**	**13.28**	**76**	P	**Pn**	**02 15 08.3**	**-0.7**
	baz=266						
R53A	**Hurricane**	**13.40**	**81**	Pn	**Pn**	**02 15 11.7**	**+1.1**
U54A	**Nelsons Funny**	**13.67**	**89**	Pn	**Pn**	**02 15 14.8**	**+0.4**
M52A	**Chesterland**	**14.12**	**68**	Pn	**Pn**	**02 15 20.8**	**+0.4**

*IDC **18** 02:15:40.3±6.4, 18°.68S×169°.19E, h214km±95km, mb3.4/3, mb1 3.6/4, mb1mx3.2/32, mbtmp3.9/4, Error ellipse: s-maj=187.4km s-min=34.0km az=153.0*
*NOU **18** 02:15:51.3, 19°.21S×168°.46E, h0km, MLv3.9/9, Vanuatu Islands*
ISC 18 02:15:43.8±3.3, 19°.02S±0°.10×169°.3E±0°.4, h200km, n12, σ1§12/10, mb3.3/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**1.49**	**324**	P	**Pn**	**02 16 18.7**	**+1.2**
DVP	**Devils Point**	**1.69**	**319**	P	**Pn**	**02 16 17.7**	**-1.6**
MARNC	**Mare, Loyalty**	**2.74**	**206**	P	**Pn**	**02 16 29.9**	**-0.6**
YATNC	**Mamie plateau,**	**3.80**	**217**	P	**Pn**	**02 16 41.6**	**-1.5**
DZM	**Mont Dzumac**	**4.07**	**221**	P	**Pn**	**02 16 46.3**	**-0.4**
	2.4nm,0.3s,baz=57,slow=23,SNR=24						
DZM				S	**Sn**	**02 17 37.0**	**+1.0**
	0.3nm,0.3s,baz=299,slow=22,SNR=1.0						
DZM	**Mont Dzumac**	**4.07**	**221**	P	**Pn**	**02 16 46.2**	**-0.4**
OUENC	**Ouen Island, N**	**4.11**	**214**	P	**Pn**	**02 16 47.8**	**+0.8**
NOUC	**Port Laguerre**	**4.18**	**222**	P	**Pn**	**02 16 47.4**	**-0.5**
ONTNC	**Ouen Toro**	**4.25**	**219**	P	**Pn**	**02 16 48.6**	**-0.1**
WRA	**Warramunga Arr**	**32.98**	**262**	P	P	02 21 54.0	-6.1
	0.2nm,0.3s,baz=93,slow=8.3,SNR=9.5						
ASAR	**Alice Springs**	**33.27**	**256**	P	P	02 21 57.6	-5.0
	2.9nm,0.4s,baz=82,slow=8.8,SNR=43						
ILAR	**Eielson Array**	**89.99**	**17**	P	P	02 28 13.4	-6.6
	0.2nm,0.6s,baz=237,slow=5.7,SNR=4.3						

*IDC **18** 02:18:17.9±1.1, 30°.57S×71°.40W, h0km, mb3.6/4, mb1 3.7/8, mb1mx3.6/32, mbtmp3.6/8, ML3.6/4, MS3.4/2, Ms1 3.3/2, ms1mx2.9/25, Error ellipse: s-maj=42.6km s-min=23.1km az=93.0*
ISC 18 02:18:22.7±0.9, 30°.55S±0°.10×71°.4W±0°.2, h33km, n16, σ0§98/9, mb3.8/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N1	**Juan Fernandez**	**7.02**	**244**	T	T	02 26 23.2	
	baz=73,slow=72,SNR=120						
H03N2	**Juan Fernandez**	**7.03**	**244**	T	T	02 26 23.5	
	baz=73,slow=72,SNR=121						
H03N3	**Juan Fernandez**	**7.03**	**244**	T	T	02 26 22.2	
	baz=73,slow=72,SNR=124						
PLCA	**Paso Flores**	**10.18**	**176**	Pn	**Pn**	**02 20 45.9**	**-0.7**
	0.1nm,0.3s,baz=51,slow=19,SNR=1.8						
CPUP	**Villa Florida**	**13.05**	**75**	Pn	**Pn**	**02 21 26.6**	**+0.8**
	0.1nm,0.3s,baz=250,slow=12,SNR=1.3						
CPUP				LR	LR	02 26 41.3	
	comp=Z,81nm,21.4s,baz=1.5,slow=38						
LPAZ	**La Paz**	**14.51**	**13**	Pn	**Pn**	**02 21 45.5**	**-0.8**
	0.1nm,0.3s,baz=142,slow=7.3,SNR=1.8						
SIV	**San Ignacio**	**17.29**	**35**	Pn	**P**	**02 22 22.4**	**-0.6**
	0.4nm,0.3s,baz=242,slow=12,SNR=13						
SNAA	**Sanae**	**54.57**	**159**	P	**P**	**02 27 48.2**	**+0.8**
	0.8nm,0.7s,baz=241,slow=14,SNR=7.6						
QSPA	**South Pole Qui**	**59.67**	**180**	P	**P**	**02 28 23.4**	**-0.3**
	0.8nm,0.8s,baz=189,slow=12,SNR=2.1						
TXAR	**Lajitas Array**	**67.03**	**330**	P	**P**	**02 29 14.1**	**+1.4**
	0.3nm,0.8s,baz=147,slow=7.3,SNR=3.1						
PFO	**Pinyon Flats O**	**76.72**	**323**	LR	LR	02 58 35.2	
	comp=Z,42nm,19.3s,baz=129,slow=32						
TORD	**Torodi Ar. Bea**	**82.51**	**70**	P	**P**	**02 30 42.2**	**-0.2**
	0.6nm,0.9s,baz=234,slow=3.7,SNR=2.9						
H11S2	**WAKE ISLAND Hyl**	**26.32**	**271**	T	T	04 56 00.7	
	baz=114,slow=75,SNR=6.1						
H11S1	**WAKE ISLAND Hyl**	**26.33**	**271**	T	T	04 55 51.3	
	baz=114,slow=75,SNR=6.1						
H11S3	**WAKE ISLAND Hyl**	**26.34**	**271**	T	T	04 56 06.8	
	baz=114,slow=75,SNR=3.6						
ZALV	**Zalesovo Beam**	**150.99**	**29**	PKPbc	**PKPbc**	**02 38 10.7**	**-1.0**
	1.9nm,0.5s,baz=316,slow=4.1,SNR=6.6						

IDC 18 02:31:47.8±3.6, 6°.91S×151°.35E, h0km, mb3.1/2, mb1 3.5/2, mb1mx3.3/37, mbtmp3.2/2, Error ellipse: s-maj=137.5km s-min=49.9km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.98**	**230**	P	P	02 36 32.6	-0.2
	0.3nm,0.4s,baz=56,slow=10,SNR=5.2						
ASAR	**Alice Springs**	**23.63**	**223**	P	P	02 37 00.8	0.0
	0.9nm,0.8s,baz=56,slow=9.5,SNR=10						
TORD	**Torodi Ar. Bea**	**149.50**	**284**	PKPbc	PKPbc	02 51 39.8	-0.4
	0.8nm,0.7s,baz=53,slow=2.4,SNR=4.2						

*IDC **18** 02:34:13.0±1.4, 30°.93S×71°.33W, h0km, mb3.7/4, mb1 3.8/7, mb1mx3.7/28, mbtmp3.6/7, ML3.4/3, Error ellipse: s-maj=42.5km s-min=27.0km az=88.0*
*GUC **18** 02:34:19.7±0.6, 30°.79S×71°.45W, h47km±1km, ML4.0*
ISC 18 02:34:16.6±1.3, 30°.87S±0°.03×71°.42W±0°.05, h24km±11km, n33, σ2§65/40, mb3.8/4, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.27**	**316**	**⇓***i* P	**Pn**	**02 34 27.2**	**+2.0**
CO06				*i* S	**Sn**	**02 34 32.6**	**+2.1**
CO06				IAML		02 34 33.3	
	comp=N,18μm,0.2s						
CO03	**El Pedregal**	**0.63**	**88**	**⇓***i* P	**Pn**	**02 34 32.7**	**+2.5**
CO03				*i* S	**Sn**	**02 34 42.5**	**+3.0**
CO03				IAML		02 34 44.1	
	comp=N,7μm,0.1s						
GO04	**Tololo Observa**	**0.88**	**38**	**⇓***i* P	**Pn**	**02 34 35.5**	**+1.8**
GO04				*i* S	**Sn**	**02 34 47.7**	**+1.9**
GO04				IAML		02 34 51.3	
	comp=E,8μm,0.5s						
CO05	**La Serena**	**0.96**	**9**	*e*P	**Pn**	**02 34 36.1**	**+1.5**
CO05				*i* S	**Sn**	**02 34 48.4**	**+0.9**
CO05				IAML		02 34 55.0	
	comp=E,3μm,0.5s						
VA06	**Catapilco**	**1.69**	**177**	*e*P	**Pb**	**02 34 48.6**	**+1.6**
VA06				*i* S	**Sb**	**02 35 10.2**	**+2.3**
VA06				IAML		02 35 30.9	
	comp=N,3μm,0.5s						
LCO	**Las Campanas**	**1.95**	**19**	*e*P	**Pb**	**02 34 50.7**	**-1.0**
LCO				*i* S	**Sb**	**02 35 14.4**	**-1.3**
VA03	**San Esteban**	**2.03**	**159**	**⇓***i* P	**Pb**	**02 34 54.0**	**+1.1**
VA03				*i* S	**Sb**	**02 35 20.8**	**+3.1**
VA03				IAML		02 35 26.1	
	comp=E,2μm,0.6s						
ROCH	**El Roble**	**2.13**	**171**	*e*P	**Pb**	**02 34 55.9**	**+1.3**
ROCH				*i* S	**Sb**	**02 35 22.6**	**+2.0**
ROCH				IAML		02 35 44.7	
	comp=N,2μm,0.7s						
VA01	**Torpederas**	**2.16**	**185**	IAML		02 35 36.2	
	comp=E,595nm,0.7s						
MT05	**Renca**	**2.58**	**167**	*e*P	**Pb**	**02 35 01.1**	**-1.2**
MT05				*i* S	**Sb**	**02 35 31.2**	**-2.5**
MT05				IAML		02 35 56.6	
	comp=E,2μm,0.5s						
AC04	**Llanos de Chal**	**2.67**	**7**	*e*P	**Pn**	**02 35 00.3**	**+2.1**
AC04				IAML		02 35 41.3	
	comp=E,494nm,0.5s						
VA05	**Santo Domingo**	**2.79**	**183**	*e*P	**Pn**	**02 35 01.7**	**+2.0**
VA05				IAML		02 35 58.6	
	comp=E,1μm,0.6s						
MT09	**Talagante**	**2.92**	**173**	*e*P	**Pb**	**02 35 05.3**	**-2.8**
MT09				IAML		02 36 01.0	
	comp=N,590nm,0.2s						
MT01	**Popeta**	**2.99**	**177**	*e*P	**Pn**	**02 35 05.5**	**+2.9**
MT01				IAML		02 35 53.6	
	comp=N,335nm,0.5s						
LMEL	**Las Melosas**	**3.14**	**161**	*e*P	**Pb**	**02 35 09.7**	**-2.2**
LMEL				*e*S	**Sb**	**02 35 48.0**	**-1.9**
LMEL				IAML		02 35 55.2	
	comp=N,401nm,0.2s						
GO03	**Copiap**	**3.42**	**18**	*e*P	**Pn**	**02 35 11.1**	**+2.5**
GO03				*i* S	**Sn**	**02 35 49.9**	**+1.4**
GO03				IAML		02 36 02.8	
	comp=E,314nm,0.7s						
BO01	**Tunca**	**3.53**	**176**	*e*P	**Pn**	**02 35 13.0**	**+3.1**
BO01				IAML		02 36 12.9	
	comp=E,160nm,0.4s						
AC06	**Mina Casimiro**	**3.62**	**15**	*e*P	**Pn**	**02 35 14.1**	**+2.8**
AC06				*i* S	**Sn**	**02 35 58.2**	**+5.0**
AC06				IAML		02 36 13.7	
	comp=E,273nm,0.4s						
BO03	**Pichilemu**	**3.65**	**187**	*e*P	**Pn**	**02 35 12.8**	**+1.2**
BO02	**Sierra Bellavi**	**3.95**	**172**	*e*P	**Pn**	**02 35 19.8**	**+3.9**
BO02				*i* S	**Sn**	**02 36 05.2**	**+3.7**
H03N1	**Juan Fernandez**	**6.85**	**246**	T	T	02 42 46.4	
	baz=76,slow=72,SNR=46						
H03N3	**Juan Fernandez**	**6.87**	**246**	T	T	02 42 47.3	
	baz=76,slow=72,SNR=44						
H03N2	**Juan Fernandez**	**6.87**	**246**	T	T	02 42 47.0	
	baz=76,slow=72,SNR=50						
PLCA	**Paso Flores**	**9.87**	**176**	Pn	**Pn**	**02 36 34.9**	**-2.2**
	comp=E,0.0nm,0.3s,baz=342,slow=19,SNR=2.2						
PLCA				Sn	**Sn**	**02 38 19.6**	**-7.5**
	comp=E,0.1nm,0.3s,baz=92,slow=8.5,SNR=2.1						
CPUP	**Villa Florida**	**13.18**	**73**	Pn	**Pn**	**02 37 19.3**	**-3.0**
	comp=E,0.2nm,0.3s,baz=221,slow=19,SNR=1.1						
LPAZ	**La Paz**	**14.82**	**12**	Pn	**Pn**	**02 37 45.6**	**+0.2**
	comp=E,0.1nm,0.3s,baz=98,slow=12,SNR=2.4						
SNAA	**Sanae**	**54.29**	**159**	P	**P**	**02 43 40.0**	**-0.6**
	comp=E,0.9nm,0.8s,baz=278,slow=9.0,SNR=9.3						
TXAR	**Lajitas Array**	**67.28**	**330**	P	**P**	**02 45 10.0**	**+0.5**
	comp=E,0.1nm,0.6s,baz=150,slow=9.4,SNR=2.9						
DBIC	**Dimbokro**	**73.69**	**72**	P	**P**	**02 45 49.0**	**+0.2**
	comp=E,1.6nm,0.5s,baz=195,slow=6.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**82.65**	**70**	P	**P**	**02 46 38.5**	**+0.1**
	comp=E,0.3nm,0.4s,baz=270,slow=5.8,SNR=8.7						
H11S2	**WAKE ISLAND Hyl**	**26.29**	**271**	T	T	05 12 11.7	
	baz=115,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hyl**	**26.30**	**271**	T	T	05 12 04.5	
	baz=115,slow=75,SNR=27						
H11S3	**WAKE ISLAND Hyl**	**26.31**	**271**	T	T	05 12 05.0	
	baz=115,slow=75,SNR=17						

IDC 18 02:38:40.1±3.3, 30°.72S×73°.34W, h0km, mb3.9/1, mb1 3.8/3, mb1mx3.5/25, mbtmp3.6/3, ML3.3/2, Error ellipse: s-maj=134.9km s-min=41.0km az=92.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N1	**Juan Fernandez**	**5.45**	**239**	T	T	02 44 27.1	
	baz=72,slow=72,SNR=65						
H03N2	**Juan Fernandez**	**5.46**	**239**	T	T	02 44 26.2	
	baz=72,slow=72,SNR=47						
H03N3	**Juan Fernandez**	**5.46**	**239**	T	T	02 44 24.9	
	baz=72,slow=72,SNR=61						
PLCA	**Paso Flores**	**10.24**	**168**	Pn	Pn	02 41 08.3	-0.1
	0.1nm,0.3s,baz=347,slow=18,SNR=1.2						
LPAZ	**La Paz**	**15.14**	**20**	Pn	Pn	02 42 15.6	-0.3
	0.1nm,0.3s,baz=188,slow=7.1,SNR=4.8						
TORD	**Torodi Ar. Bea**	**84.16**	**71**	P	P	02 51 13.7	+0.1
	0.7nm,0.6s,baz=242,slow=3.1,SNR=4.9						
ZALV	**Zalesovo Beam**	**151.95**	**28**	PKPbc	PKPbc	02 58 36.5	-0.1
	0.9nm,0.4s,baz=318,slow=2.0,SNR=3.5						

*NEIC **18** 02:44:53.1±2.1, 30°.99S±0°.05×72°.73W±0°.05, h10km±1km, mb4.2/7, Error ellipse: s-maj=9.0km s-min=5.7km az=215.0*
*IDC **18** 02:44:53.5±1.2, 31°.09S×72°.63W, h0km, mb3.7/2, mb1 4.1/6, mb1mx3.9/30, mbtmp3.9/6, ML3.8/4, MS2.9/1, Ms1 2.9/1, ms1mx2.4/29, Error ellipse: s-maj=43.6km s-min=25.3km az=100.0*
ISC 18 02:44:53.6±0.7, 30°.98S±0°.06×72°.8W±0°.1, h10km, n42, σ1§68/39, mb4.1/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**1.04**	**73**		**Pb**	**02 45 12.7**	**-1.0**
CO05	**La Serena**	**1.70**	**52**		**Pn**	**02 45 21.7**	**-1.7**
CO03	**El Pedregal**	**1.81**	**86**		**Pn**	**02 45 24.5**	**-0.4**
GO04	**Tololo Observa**	**1.89**	**65**		**Pn**	**02 45 25.7**	**-0.5**
VA01	**Torpederas**	**2.26**	**155**		**Pn**	**02 45 28.5**	**-2.5**
VA03	**San Esteban**	**2.61**	**134**		**Pn**	**02 45 34.0**	**-1.9**
LCO	**Las Campanas**	**2.67**	**43**		**Pn**	**02 45 37.3**	**+0.4**
VA05	**Santo Domingo**	**2.85**	**160**		**Pn**	**02 45 37.6**	**-1.6**
MT05	**Renca**	**2.97**	**145**		**Pn**	**02 45 39.8**	**-1.1**
AC04	**Llanos de Chal**	**3.14**	**29**		**Pn**	**02 45 43.1**	**-0.1**
MT01	**Popeta**	**3.16**	**156**		**Pn**	**02 45 42.2**	**-1.2**
MT09	**Talagante**	**3.18**	**152**		**Pn**	**02 45 42.4**	**-1.4**
ZON	**Zonda**	**3.56**	**100**		**Pn**	**02 45 48.3**	**-0.8**

BO01	**Tunca**	**3.70**	**158**		**Pn**	**02 45 49.7**	**-1.1**
GO05	**Huala**	**4.09**	**170**		**Pn**	**02 45 54.6**	**-1.6**
BO02	**Sierra Bellavi**	**4.16**	**157**		**Pn**	**02 45 56.5**	**-0.8**
AC06	**Mina Casimiro**	**4.19**	**31**		**Pn**	**02 45 57.8**	**+0.2**
AC02	**Maricunga**	**5.22**	**39**		**Pn**	**02 46 12.3**	**0.0**
H03N1	**Juan Fernandez**	**5.74**	**243**	T	T	02 52 12.6	
	baz=60						
H03N2	**Juan Fernandez**	**5.76**	**243**	T	T	02 52 01.6	
	baz=60						
H03N3	**Juan Fernandez**	**5.76**	**243**	T	T	02 52 14.9	
	baz=60						
LC01	**Cunco**	**7.94**	**175**		**Pn**	**02 46 47.6**	**-1.5**
LR03	**Panguipulli**	**8.64**	**178**	Pn	**Pn**	**02 46 57.0**	**-1.7**
LVC	**Limon Verde**	**9.02**	**23**	Pn	**Pn**	**02 47 04.5**	**+0.2**
	0.2nm,0.3s,baz=240,slow=20,SNR=1.1						
LVC				Sn	**Sn**	**02 48 47.9**	**+1.7**
	0.3nm,0.3s,baz=191,slow=23,SNR=1.4						
PLCA	**Paso Flores**	**9.90**	**170**	Pn	**Pn**	**02 47 15.7**	**-0.4**
	0.1nm,0.3s,baz=328,slow=11,SNR=8.8						
LPAZ	**La Paz**	**15.23**	**17**	Pn	**P**	**02 48 33.3**	**-1.2**
	0.3nm,0.3s,baz=185,slow=7.6,SNR=15						
LPAZ	**La Paz**	**15.23**	**17**	Pn	**Pn**	**02 48 25.6**	**-3.8**
LPAZ				IAmb	IAmb	02 48 33.9	
	comp=Z,4.0nm,0.7s						
SIV	**San Ignacio**	**18.36**	**38**	P	**P**	**02 49 09.9**	**+1.3**
	comp=Z,1.2nm,0.3s,baz=232,slow=10,SNR=55						
NNA	**Nana**	**19.27**	**348**	LR	LR	02 54 38.0	
	comp=Z,40nm,21.2s,baz=53,slow=30						
CDVI	**St. Croix**	**49.06**	**10**	P	**P**	**02 53 38.2**	**-2.8**
VNA3	**Neumayer Olymp**	**52.39**	**159**	P	**P**	**02 54 08.8**	**+3.2**
VNA2	**Neumayer--Watz**	**53.04**	**158**	P	**P**	**02 54 13.1**	**+2.6**
	baz=285,slow=7.9						
SNAA	**Sanae**	**54.62**	**159**	P	**P**	**02 54 24.1**	**+2.0**
QSPA	**South Pole Qui**	**59.25**	**180**	P	**P**	**02 54 54.9**	**-0.1**
QSPA				IAmb	IAmb	02 54 59.3	
	comp=Z,3.0nm,0.7s						
TXAR	**Lajitas Array**	**66.79**	**331**	P	**P**	**02 55 48.5**	**+3.0**
	comp=Z,0.8nm,0.7s,baz=154,slow=8.3,SNR=12						
TXAR	**Lajitas Array**	**66.79**	**331**	P	**P**	**02 55 43.9**	**-1.6**
WUAZ	**Wupatki**	**75.43**	**328**	P	**P**	**02 56 37.7**	**-0.2**
WUAZ				IAmb	IAmb	02 56 40.3	
	comp=Z,1.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**83.80**	**71**	P	**P**	**02 57 25.6**	**+2.1**
	comp=Z,0.3nm,0.6s,baz=209,slow=6.6,SNR=2.1						
WRA	**Warramunga Arr**	**123.06**	**211**	PKP	**PKiKP**	**03 03 51.5**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=149,slow=0.5,SNR=5.4						
WRA	**Warramunga Arr**	**123.06**	**211**		**PKPdf**	**03 03 49.5**	**-1.5**
ZALV	**Zalesovo Beam**	**151.95**	**29**	PKPbc	**PKiKP**	**03 04 49.4**	**+0.6**
	comp=Z,2.8nm,0.7s,baz=301,slow=3.2,SNR=7.7						
ZALV	**Zalesovo Beam**	**151.95**	**29**		**PKiKP**	**03 04 50.2**	**+1.4**

MEX 18 02:44:59.6±0.3, 16°.12N×98°.38W, h5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.37**	**42**	*i* P	Pg	02 45 06.4	-0.4
PNIG				*i* S	Sg	02 45 11.9	+0.3
MGIG	**Malinaltepec**	**1.14**	**348**	*i* P	Pg	02 45 18.5	-3.0
MGIG				*i* S	Sg	02 45 32.0	-4.3
TXIG	**Tlaxiaco**	**1.27**	**27**	*i* P	Pg	02 45 20.7	-3.4
TXIG				*i* S	Sg	02 45 38.3	-2.4

*NNC **18** 02:48:57.4±1.8, 44°.10N×68°.44E, h0km, mb3.8, mpv3.3, Error ellipse: s-maj=29.9km s-min=12.8km az=13.0*
*KRNET **18** 02:48:57.6±0.1, 39°.04N×70°.94E, mb3.0*
ISC 18 02:49:00.9±3.3, 39°.2N±0°.2×71°.03E±0°.09, h10km, n11, σ3§24/20, 9C-8D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.66**	**65**	**⇑***i* P	**Pg**	**02 49 12.9**	**-0.9**
	baz=56						
DRK				**⇑***i* S	**Sb**	**02 49 24.3**	**+0.2**
	baz=56						
BTK	**Batken**	**0.87

	baz=338									
ETM	**Tongmen**	**0.46**	**233**	*e*P		**Pb**	**02 50 06.4**	**+0.1**
	baz=230									
TEYL	**Yanliau Villag**	**0.46**	**216**	*e*P		**Pb**	**02 50 06.9**	**+0.7**
	baz=215									
TEYL				*e*S		**Sn**	**02 50 16.0**	**-0.2**
	baz=215									
ENTT	**Nioudou**	**0.50**	**323**	⇓*i*P		**Pg**	**02 50 06.4**	**-0.2**
	baz=323									
ENTT				*e*S		**Sb**	**02 50 13.6**	**-0.2**
	baz=323									
NDT	**Datong Townshi**	**0.50**	**316**	⇓*i*P		**Pg**	**02 50 06.6**	**-0.1**
	baz=315									
NDT				*e*S		**Sb**	**02 50 13.8**	**-0.1**
	baz=315									
NNSB	**Datong**	**0.50**	**291**	⇓*i*P		**Pg**	**02 50 06.8**	**0.0**
	baz=290									
NNSB				S		**Sb**	**02 50 14.0**	**-0.1**
	baz=290									
NNS	**Nan Shan**	**0.52**	**292**	⇓*i*P		**Pg**	**02 50 06.9**	**-0.1**
	baz=291									
NNS				S		**Sb**	**02 50 14.6**	**+0.1**
	baz=291									
TWE	**Neicheng**	**0.52**	**336**	*i* P		**Pg**	**02 50 06.9**	**-0.1**
	baz=338									
TWE				*e*S		**Sg**	**02 50 14.1**	**0.0**
	baz=338									
WHF	**Hehuan Shan**	**0.58**	**260**	⇓*i*P		**Pg**	**02 50 08.3**	**-0.1**
	baz=258									
WHF				*e*S		**Sb**	**02 50 16.9**	**+0.2**
	baz=258									
FUSS	**Fushou**	**0.59**	**270**	⇓*i*P		**Pb**	**02 50 08.6**	**-0.1**
	baz=268									
FUSS				*e*S		**Sb**	**02 50 17.0**	**+0.2**
	baz=268									
ESL	**Shilin**	**0.60**	**225**	P		**Pb**	**02 50 08.8**	**+0.1**
	baz=222									
ESL				*e*S		**Sn**	**02 50 18.9**	**-0.8**
	baz=222									
NTC	**Toucheng**	**0.61**	**354**	*e*P		**Pb**	**02 50 08.6**	**-0.2**
	baz=356									
YHNB	**Yeheng**	**0.64**	**312**	⇓*i*P		**Pb**	**02 50 09.0**	**-0.3**
	baz=311									
YHNB				S		**Sb**	**02 50 17.9**	**0.0**
	baz=311									
NWLT	**Wulai**	**0.64**	**326**	⇓*i*P		**Pb**	**02 50 09.0**	**-0.4**
	baz=326									
NWLT				*e*S		**Sb**	**02 50 17.9**	**-0.1**
	baz=326									
NSK	**Sanguang**	**0.65**	**311**	⇓*i*P		**Pb**	**02 50 09.2**	**-0.3**
	baz=311									
NSK				*e*S		**Sb**	**02 50 18.3**	**-0.1**
	baz=311									
TWT	**Tachien**	**0.66**	**271**	*e*P		**Pg**	**02 50 10.1**	**+0.5**
	baz=269									
TWT				*e*S		**Sb**	**02 50 19.4**	**+0.8**
	baz=269									
TDCB	**Techi**	**0.67**	**271**	P		**Pg**	**02 50 10.1**	**+0.2**
	baz=269									
TDCB				*e*S		**Sg**	**02 50 19.2**	**+0.3**
	baz=269									
CHGB	**Renai**	**0.69**	**255**	⇓*e*P		**Pg**	**02 50 10.2**	**+0.1**
	baz=253									
CHGB				*e*S		**Sb**	**02 50 20.5**	**+1.1**
	baz=253									
EGFH	**Guangfu**	**0.72**	**217**	*e*P		**Pg**	**02 50 10.6**	**-0.1**
	baz=215									
TIPB	**Shuangxi**	**0.73**	**355**	⇑*i*P		**Pb**	**02 50 10.7**	**-0.1**
	baz=356									
TIPB				*e*S		**Sg**	**02 50 21.1**	**+0.6**
	baz=356									
TWB1	**Santiao Chiao**	**0.77**	**6**	*e*P		**Pg**	**02 50 11.5**	**-0.1**
	baz=8.0									
TWA	**Mucha**	**0.79**	**339**	*e*P		**Pn**	**02 50 13.0**	**+0.1**
	baz=340									
TWA				*e*S		**Sg**	**02 50 22.9**	**+0.5**
	baz=340									
NHDH	**Xindian Distri**	**0.79**	**335**	*e*P		**Pn**	**02 50 13.1**	**+0.1**
	baz=335									
NHDH				*e*S		**Sg**	**02 50 22.4**	**-0.2**
	baz=335									
TATO	**Taipei**	**0.82**	**333**	*e*P		**Pg**	**02 50 12.5**	**-0.1**
	baz=333									
TATO				*e*S		**Sg**	**02 50 23.9**	**+0.5**
	baz=333									
NWF	**Wu-fen Shan**	**0.83**	**353**	*e*P		**Pg**	**02 50 13.0**	**+0.2**
	baz=354									
NWF				*e*S		**Sn**	**02 50 25.1**	**-0.3**
	baz=354									
WFSB	**Wu-fen Shan**	**0.83**	**353**	*e*P		**Pg**	**02 50 13.0**	**+0.2**
	baz=354									
WFSB				*e*S		**Sn**	**02 50 24.9**	**-0.4**
	baz=354									
HGSD	**Ruisui**	**0.86**	**210**	*e*P		**Pn**	**02 50 13.7**	**-0.2**
	baz=208									
WHP	**Taichung City**	**0.87**	**272**	*e*P		**Pg**	**02 50 13.7**	**+0.1**
	baz=271									
WHP				*e*S		**Sn**	**02 50 25.7**	**-0.7**
	baz=271									
LIOB	**Emei**	**0.90**	**297**	*e*P		**Pn**	**02 50 14.4**	**0.0**
	baz=296									
NSTT	**Nanjuang**	**0.90**	**295**	*e*P		**Pg**	**02 50 14.2**	**+0.1**
	baz=295									
EHY	**Hungye**	**0.90**	**216**	*e*P		**Pb**	**02 50 12.7**	**-1.1**
	baz=214									
YM01	**YM01**	**0.95**	**342**	*e*P		**Pn**	**02 50 15.3**	**+0.2**
	baz=342									
YM01				*e*S		**Sn**	**02 50 28.9**	**+0.7**
	baz=342									
TWS1	**Kuangyinshan**	**0.96**	**333**	*e*P		**Pb**	**02 50 14.8**	**+0.1**
	baz=334									
TWS1				*e*S		**Sn**	**02 50 28.6**	**+0.1**
	baz=334									
SSLB	**Suanglung**	**0.97**	**242**	*e*P		**Pb**	**02 50 15.0**	**0.0**
	baz=241									
SMLT	**Sun Moon Lake**	**0.98**	**249**	*e*P		**Pg**	**02 50 15.9**	**+0.3**
	baz=247									
YULB	**Yu-li**	**1.01**	**213**	*e*P		**Pb**	**02 50 14.8**	**-0.8**
	baz=212									
YOJ	**Yonaguni jima**	**1.04**	**78**	P		**Pn**	**02 50 16.4**	**+0.1**
YOJ				*e*S		**Sg**	**02 50 31.3**	**+0.9**
WHYT	**Xinyi Township**	**1.10**	**240**	*e*P		**Pg**	**02 50 17.8**	**-0.1**
	baz=239									
IRIF	**Iriomote-Funau**	**1.68**	**87**	P		**Pb**	**02 50 26.4**	**-0.6**
IRIF				*e*S		**Sb**	**02 50 48.0**	**+0.3**
JKRS	**Kuro-shima**	**1.93**	**90**	P		**Pb**	**02 50 30.5**	**-0.8**
JKRS				S		**Sb**	**02 50 55.3**	**+0.3**
JIJ	**Ishigaki jima**	**2.05**	**86**	P		**Pn**	**02 50 30.4**	**+0.1**
JIJ				S		**Sn**	**02 50 56.1**	**+0.6**

MEX 18 02:51:53.7±0.7, 14°34N×93°65W, h26km, MD4.2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.42**	**17**	*i* P	Pn	02 52 17.4	-0.5
PCIG				*i* S	Sn	02 52 32.4	-3.5
THIG		**1.46**	**67**	*i* P	Pn	02 52 15.6	-2.8
THIG				*i* S	Sn	02 52 32.4	-4.3
CCIG	**Comitan**	**2.42**	**37**	*i* P	Pn	02 52 33.1	+1.2
CCIG				*i* S	Sn	02 53 00.9	+0.1
TGIG		**2.48**	**12**	*i* P	Pn	02 52 34.6	+2.0
TGIG				*i* S	Sn	02 53 04.1	+2.0

*IDC **18** 02:58:37.3±1.1, 31°.12S×71°.67W, h0km, mb3.9/3, mb1 3.8/8, mb1mx3.7/30, mbtmp3.7/8, ML3.6/5, Error ellipse: s-maj=33.6km s-min=26.7km az=110.0*
*NEIC **18** 02:58:41.3±2.4, 31°.09S±0°.04×71°.67W±0°.09, h30km±5km, Error ellipse: s-maj=10.8km s-min=5.5km az=94.0*
*GUC **18** 02:58:41.6±1.0, 31°.08S×71°.59W, h39km±7km, ML4.3*
ISC 18 02:58:41.0±1.2, 31°.11S±0°.03×71°.69W±0°.06, h28km±9km, n69, σ1°35/70, mb4.2/8, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.44**	**6**	⇑*e*P	**Pn**	**02 58 51.9**	**+0.5**
CO06				*e*S	**Sn**	**02 58 58.4**	**+0.1**
CO06				IAML		02 59 00.2	
	comp=N,7μm,0.6s						
CO06				⇑*e*		02 59 03.7	
CO06	**Fray Jorge**	**0.44**	**6**		**Pn**	**02 58 51.1**	**-0.3**
CO03	**El Pedregal**	**0.90**	**73**	*e*P	**Pb**	**02 58 57.9**	**-0.1**
CO03				*e*S	**Sb**	**02 59 09.9**	**+0.2**
CO03	**El Pedregal**	**0.90**	**73**	Pn	**Pn**	**02 58 56.9**	**-0.9**
GO04	**Tololo Observa**	**1.21**	**40**	*e*P	**Pb**	**02 59 03.4**	**+0.1**
GO04				*i* S	**Sb**	**02 59 19.2**	**+0.6**
GO04				IAML		02 59 20.4	
	comp=N,48μm,0.4s						
GO04	**Tololo Observa**	**1.21**	**40**		**Pn**	**02 59 00.7**	**-1.5**
CO05	**La Serena**	**1.25**	**18**	*e*P	**Pb**	**02 59 04.1**	**+0.2**
CO05				*e*S	**Sb**	**02 59 19.5**	**0.0**
CO05	**La Serena**	**1.25**	**18**		**Pn**	**02 59 02.7**	**+0.2**
VA06	**Catapilco**	**1.48**	**167**	⇑*e*P	**Pb**	**02 59 08.4**	**+0.5**
VA06				*e*S	**Sb**	**02 59 27.9**	**+1.5**
VA06				IAML		02 59 33.1	
	comp=E,10μm,0.4s						
VA01	**Torpederas**	**1.91**	**179**	*e*P	**Pb**	**02 59 14.2**	**-0.9**
VA01				*e*S	**Sb**	**02 59 39.3**	**+0.8**
VA01				IAML		02 59 45.2	
	comp=E,2μm,0.3s						
VA01	**Torpederas**	**1.91**	**179**		**Pn**	**02 59 11.3**	**-0.3**
VA03	**San Esteban**	**1.91**	**150**	*e*P	**Pb**	**02 59 14.5**	**-0.8**
VA03				*e*S	**Sb**	**02 59 39.6**	**+0.9**
VA03				IAML		02 59 45.1	
	comp=E,5μm,0.2s						
ROCH	**El Roble**	**1.94**	**163**	*e*P	**Pb**	**02 59 15.2**	**-0.6**
ROCH				*e*S	**Sb**	**02 59 41.4**	**+1.6**
ROCH				IAML		02 59 45.6	
	comp=N,2μm,0.2s						
LCO	**Las Campanas**	**2.26**	**22**		**Pn**	**02 59 15.4**	**-1.3**
MT05	**Renca**	**2.41**	**161**	⇑*e*P	**Pn**	**02 59 21.7**	**+3.0**
MT05				*e*S	**Sb**	**02 59 51.7**	**-1.4**
MT05				IAML		03 00 04.8	
	comp=E,4μm,0.3s						
MT05	**Renca**	**2.41**	**161**		**Pn**	**02 59 18.5**	**-0.1**
VA05	**Santo Domingo**	**2.54**	**179**		**Pn**	**02 59 19.7**	**-0.6**
MT09	**Talagante**	**2.72**	**168**		**Pn**	**02 59 24.1**	**+1.1**
MT01	**Popeta**	**2.77**	**172**	IAML		03 00 09.9	
	comp=E,1μm,0.3s						
MT01	**Popeta**	**2.77**	**172**		**Pn**	**02 59 24.0**	**+0.5**
AC04	**Llanos de Chal**	**2.94**	**11**	Pn	**Pn**	**02 59 25.6**	**-0.2**
LMEL	**Las Melosas**	**3.00**	**156**	*e*P	**Pn**	**02 59 30.0**	**+3.2**
LMEL				*e*S	**Sb**	**03 00 07.0**	**-3.2**
LMEL				IAML		03 00 17.5	
	comp=N,2μm,0.3s						
BO01	**Tunca**	**3.31**	**171**		**Pn**	**02 59 33.4**	**+2.5**
GO03	**Copiap**	**3.73**	**20**		**Pn**	**02 59 36.5**	**-0.1**
BO02	**Sierra Bellavi**	**3.75**	**169**		**Pn**	**02 59 37.5**	**+0.5**
GO05	**Huala**	**3.90**	**183**		**Pn**	**02 59 40.1**	**+1.1**
AC06	**Mina Casimiro**	**3.92**	**18**		**Pn**	**02 59 38.0**	**-1.2**
ML02	**Panimavida**	**4.65**	**177**		**Pn**	**02 59 48.8**	**-0.5**
AC02	**Maricunga**	**4.81**	**28**		**Pn**	**02 59 50.2**	**-1.8**
H03N1	**Juan Fernandez**	**6.55**	**247**	T	T	03 07 06.5	
	baz=68,slow=72						
VA04	**Juan Fernndez**	**6.55**	**245**	Pn	**Pn**	**03 00 14.1**	**-1.2**
H03N3	**Juan Fernandez**	**6.56**	**247**	T	T	03 06 59.7	
	baz=68,slow=72						
H03N2	**Juan Fernandez**	**6.56**	**247**	T	T	03 07 02.5	
	baz=68,slow=72						
LC01	**Cunco**	**7.77**	**181**	Pn	**Pn**	**03 00 32.5**	**+0.3**
LVC	**Limon Verde**	**8.82**	**17**	Pn	**Pn**	**03 00 48.3**	**+1.4**
	comp=N,0.2nm,0.3s,baz=228,slow=17,SNR=1.1						
LVC	**Limon Verde**	**8.82**	**17**	Pn	**Pn**	**03 00 48.0**	**+1.1**
PLCA	**Paso Flores**	**9.65**	**175**	Pn	**Pn**	**03 00 59.2**	**+1.3**
	comp=N,0.5nm,0.3s,baz=339,slow=12,SNR=24						
PLCA	**Paso Flores**	**9.65**	**175**	Pn	**Pn**	**03 00 58.4**	**+0.4**
TRQA	**Tornquist**	**10.58**	**134**		**Pn**	**03 01 10.6**	**-0.1**
PB08	**IPOC Station P**	**11.16**	**12**	Pn	**Pn**	**03 01 19.9**	**+0.9**
CPUP	**Villa Florida**	**13.46**	**73**	Pn	**Pn**	**03 01 51.3**	**+1.2**
	comp=N,0.2nm,0.3s,baz=241,slow=13,SNR=1.8						
CPUP				Sn	**Sn**	**03 04 19.1**	**+0.2**
	comp=N,0.5nm,0.3s,baz=253,slow=16,SNR=3.3						
CPUP	**Villa Florida**	**13.46**	**73**		**Pn**	**03 01 47.1**	**-3.1**
LPAZ	**La Paz**	**15.11**	**13**	Pn	**Pn**	**03 02 12.6**	**-0.5**
	comp=N,0.0nm,0.3s,baz=165,slow=11,SNR=2.8						
LPAZ	**La Paz**	**15.11**	**13**	Pn	**Pn**	**03 02 08.5**	**-4.6**
SIV	**San Ignacio**	**17.90**	**35**	P	**P**	**03 02 48.3**	**-0.2**
	comp=N,0.1nm,0.3s,baz=239,slow=17,SNR=2.1						
MTO3	**Montecristo**	**48.33**	**337**	P	**P**	**03 07 20.1**	**-0.3**
VNA3	**Neumayer Olymp**	**51.93**	**159**	P	**P**	**03 07 48.1**	**+1.3**
VNA2	**Neumayer--Watz**	**52.56**	**158**	P	**P**	**03 07 53.0**	**+1.5**
	baz=285,slow=8.2						
SNAA	**Sanae**	**54.15**	**159**	P	**P**	**03 08 04.7**	**+1.4**
TXAR	**Lajitas Array**	**67.38**	**330**	P	**P**	**03 09 34.8**	**+1.1**
	comp=N,0.2nm,0.7s,baz=146,slow=12,SNR=4.2						
T59A	**Double "B" Far**	**67.95**	**355**	P	**P**	**03 09 35.5**	**-1.5**
T59A				IAmb	IAmb	03 09 51.9	
	comp=Z,6.2nm,1.0s						
X37A	**Clayton**	**69.05**	**339**	P	**P**	**03 09 42.5**	**-1.5**
X37A				IAmb	IAmb	03 10 00.1	
	comp=Z,6.3nm,1.4s						
Q56A	**Snyder Ridge,**	**70.14**	**354**	P	**P**	**03 09 48.5**	**-2.1**
121A	**Cookes Peak, D**	**71.92**	**328**	P	**P**	**03 10 01.6**	**-0.2**
121A				IAmb	IAmb	03 10 03.1	
	comp=Z,2.2nm,0.9s						
DBIC	**Dimbokro**	**73.98**	**72**	P	**P**	**03 10 14.6**	**+0.4**
	comp=Z,1.6nm,0.5s,baz=215,slow=6.4,SNR=6.0						
HVU	**Hansel Valley**	**81.82**	**330**	P	**P**	**03 10 56.5**	**-0.9**
HVU				IAmb	IAmb	03 10 57.9	
	comp=Z,4.7nm,0.8s						
KVN	**Kaiserville**	**82.08**	**325**	P	**P**	**03 10 58.8**	**0.0**
CASY	**Casey**	**82.91**	**181**	P	**P**	**03 11 04.0**	**+1.3**
CASY				IAmb	IAmb	03 11 23.4	
	comp=Z,2.2nm,1.1s						
TORD	**Torodi Ar. Bea**	**82.95**	**70**	P	**P**	**03 11 04.0**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=255,slow=4.2,SNR=5.9						
TORD	**Torodi Ar. Bea**	**82.95**	**70**	P	**P**	**03 11 04.7**	**+1.0**
TORD				IAmb	IAmb	03 11 04.9	
	comp=Z,1.2nm,0.8s						
LBTB	**Lobatse**	**83.25**	**115**	P	**P**	**03 11 04.8**	**-0.5**
WRA	**Warramunga Arr**	**123.42**	**210**	PKP	**PKiKP**	**03 17 36.4**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=178,slow=2.0,SNR=7.5						
H11S2	**WAKE ISLAND Hyl**	**26.06**	**271**	T	T	05 36 33.1	
	baz=115,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hyl**	**26.08**	**271**	T	T	05 36 27.5	
	baz=115,slow=75,SNR=42						
H11S3	**WAKE ISLAND Hyl**	**26.08**	**271**	T	T	05 36 34.1	
	baz=115,slow=75,SNR=43						
H11N3	**WAKE ISLAND Hyl**	**26.40**	**273**	T	T	05 36 56.9	
	baz=116,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hyl**	**26.42**	**272**	T	T	05 36 59.1	
	baz=116,slow=75,SNR=7.1						
H11N2	**WAKE ISLAND Hyl**	**26.42**	**273**	T	T	05 37 01.6	
	baz=116,slow=75,SNR=30						
ZALV	**Zalesovo Beam**	**151.60**	**30**	PKPbc	**PKiKP**	**03 18 32.8**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=314,slow=1.6,SNR=3.3						

*NEIC **18** 03:00:37.8±1.5, 31°.47S±0°.04×71°.79W±0°.09, h1km±4km, Error ellipse: s-maj=11.5km s-min=5.5km az=92.0*
*IDC **18** 03:00:38.0±1.1, 31°.55S×71°.54W, h0km, mb4.0/5, mb1 4.0/10, mb1mx3.9/32, mbtmp3.9/10, ML3.8/5, Error ellipse: s-maj=36.9km s-min=23.1km az=105.0*
*GUC **18** 03:00:40.9±0.8, 31°.48S×71°.70W, h20km±7km, ML4.0*
ISC 18 03:00:40.2±1.4, 31°.47S±0°.03×71°.74W±0°.07, h18km±6km, n55, σ0°86/50, mb4.3/6, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.80**	**6**	*e*P	**Pn**	**03 00 56.7**	**+0.2**
CO06				*i* S	**Sn**	**03 01 08.2**	**+0.2**
CO06				IAML		03 01 12.1	
	comp=E,8μm,0.2s						
CO06	**Fray Jorge**	**0.80**	**6**		**Pg**	**03 00 56.1**	**+0.4**
CO03	**El Pedregal**	**1.10**	**55**	*e*P	**Pg**	**03 01 02.4**	**+0.9**
CO03				*i* S	**Sg**	**03 01 17.8**	**+2.0**
CO03				IAML		03 01 18.6	
	comp=E,9μm,0.1s						
CO03	**El Pedregal**	**1.10**	**55**	Pn	**Pn**	**03 01 00.6**	**-0.1**
VA06	**Catapilco**	**1.15**	**161**	*e*P	**Pn**	**03 01 01.4**	**+0.1**
VA06				*i* S	**Sb**	**03 01 16.1**	**-0.1**
VA06				IAML		03 01 20.9	
	comp=E,7μm,0.4s						
GO04	**Tololo Observa**	**1.52**	**32**	*e*P	**Pg**	**03 01 09.1**	**-0.5**
GO04				*i* S	**Sg**	**03 01 30.1**	**+0.6**
GO04	**Tololo Observa**	**1.52**	**32**	Pn	**Pb**	**03 01 07.3**	**-0.8**
VA01	**Torpederas**	**1.55**	**177**	Pn	**Pn**	**03 01 06.5**	**-0.3**
CO05	**La Serena**	**1.60**	**16**	*e*P	**Pb**	**03 01 09.9**	**+0.6**
CO05				IAML		03 01 37.2	
	comp=E,4μm,0.4s						
CO05	**La Serena**	**1.60**	**16**	Pn	**Pb**	**03 01 08.5**	**-0.7**
ROCH	**El Roble**	**1.62**	**158**	*e*P	**Pn**	**03 01 09.4**	**+1.4**
ROCH				*i* S	**Sg**	**03 01 32.6**	**0.0**
ROCH				IAML		03 01 35.5	
	comp=N,4μm,0.5s						
VA03	**San Esteban**	**1.64**	**142**	*e*P	**Pb**	**03 01 10.3**	**+0.4**
VA03				*i* S	**Sg**	**03 01 32.5**	**-0.5**
VA03				IAML		03 01 34.5	
	comp=E,6μm,0.3s						
VA03	**San Esteban**	**1.64**	**142**	Pn	**Pn**	**03 01 08.3**	**+0.1**
MT05	**Renca**	**2.10**	**156**	⇓*i* S	**Sb**	**03 01 45.0**	**+1.6**
MT05				IAML		03 01 50.3	
	comp=E,2μm,0.4s						
MT05	**Renca**	**2.10**	**156**	Pn	**Pn**	**03 01 14.7**	**+0.2**
VA05	**Santo Domingo**	**2.18**	**177**	*i* S	**Sb**	**03 01 47.2**	**+1.4**
VA05				IAML		03 01 50.8	
	comp=E,1μm,0.5s						
VA05	**Santo Domingo**	**2.18**	**177**	Pn	**Pn**	**03 01 15.4**	**-0.2**
MT09	**Talagante**	**2.38**	**165**	IAML		03 01 58.1	
	comp=N,986nm,0.4s						
MT09	**Talagante**	**2.38**	**165**	Pn	**Pn**	**03 01 17.6**	**-0.9**
MT01	**Popeta**	**2.42**	**170**	IAML		03 02 00.3	
	comp=E,607nm,0.3s						
ZON	**Zonda**	**2.61**	**92**	Pn	**Pn**	**03 01 20.4**	**-1.1**
BO01	**Tunca**	**2.96**	**170**	Pn	**Pn**	**03 01 26.1**	**-0.3**
AC06	**Mina Casimiro**	**4.27**	**17**	Pn	**Pn**	**03 01 44.1**	**-0.3**
H03N1	**Juan Fernandez**	**6.38**	**250**	T	T	03 08 51.8	
	baz=78,slow=72,SNR=329						
H03N3	**Juan Fernandez**	**6.39**	**250**	T	T	03 08 51.1	
	baz=78,slow=72,SNR=47						
H03N2	**Juan Fernandez**	**6.39**	**250**	T	T	03 08 52.6	
	baz=78,slow=72,SNR=54						
PB10	**IPOC Station P**	**8.00**	**8**	Pn	**Pn**	**03 02 34.2**	**-1.3**
PB06	**IPOC Station P**	**8.94**	**13**		**Pn**	**03 02 47.4**	**-1.2**
AF01	**San Pedro de A**	**9.05**	**21**		**Pn**	**03 02 48.9**	**-1.4**
LVC	**Limon Verde**	**9.18**	**17**	Pn	**Pn**	**03 02 52.9**	**+0.8**
	comp=E,1.1nm,0.3s,baz=289,slow=21,SNR=3.6						
LVC	**Limon Verde**	**9.18**	**17**		**Pn**	**03 02 51.4**	**-0.7**
PLCA	**Paso Flores**	**9.29**	**174**	Pn	**Pn**	**03 02 52.3**	**-1.0**
	comp=E,0.4nm,0.3s,baz=335,slow=9.6,SNR=4.8						
PB08	**IPOC Station P**	**11.52**	**12**	Pn	**Pn**	**03 03 23.3**	**-0.8**
CPUP	**Villa Florida**	**13.62**	**72**	Pn	**Pn**	**03 03 50.5**	**-1.9**
	comp=E,0.1nm,0.3s,baz=251,slow=12,SNR=2.9						
LPAZ	**La Paz**	**15.47**	**13**	Pn	**Pn**	**03 04 19.0**	**+0.9**
	comp=E,0.2nm,0.3s,baz=178,slow=5.0,SNR=5.6						
LPAZ	**La Paz**	**15.47**	**13**		**Pn**	**03 04 17.4**	**-0.7**
SIV	**San Ignacio**	**18.22**	**35**	P	**P**	**03 04 52.9**	**+0.4**
	comp=E,0.1nm,0.3s,baz=220,slow=11,SNR=3.6						
SAML	**Samuel**	**23.78**	**21**	P	**P**	**03 05 52.0**	**+0.1**
SAML				IAmb	IAmb	03 05 54.6	
	comp=Z,16nm,1.8s						
BDFB	**Brasilia**	**26.77**	**59**	P	**P**	**03 06 19.2**	**0.0**
	comp=Z,2.0nm,0.6s,baz=173,slow=19,SNR=3.2						
BDFB	**Brasilia**	**26.77**	**59**	P	**P**	**03 06 18.2**	**-1.0**
BDFB				IAmb	IAmb	03 06 39.5	
	comp=Z,26nm,1.7s						
QSPA	**South Pole Qui**	**58.76**	**180**	P	**P**	**03 10 37.5**	**+0.6**
	comp=Z,1.2nm,1.0s,baz=118,slow=1.6,SNR=2.4						
TXAR	**Lajitas Array**	**67.67**	**330**	P	**P**	**03 11 37.6**	**+1.4**
	comp=Z,0.1nm,0.6s,baz=140,slow=5.8,SNR=2.2						
TXAR	**Lajitas Array**	**67.67**	**330**	P	**P**	**03 11 36.1**	**-0.2**
DBIC	**Dimbokro**	**74.14**	**72**	P	**P**	**03 12 15.1**	**-0.7**
	comp=Z,4.6nm,1.0s,baz=262,slow=6.2,SNR=4.3						
TORD	**Torodi Ar. Bea**	**83.11**	**70**	P	**P**	**03 13 05.4**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=282,slow=4.8,SNR=11						
TORD	**Torodi Ar. Bea**	**83.11**	**70**	P	**P**	**03 13 06.0**	**+0.8**
TORD				IAmb	IAmb	03 13 06.5	
	comp=Z,1.8nm,0.7s						
H11S2	**WAKE ISLAND Hyl**	**26.03**	**271**	T	T	05 38 33.6	
	baz=116,slow=75,SNR=19						
H11S1	**WAKE ISLAND Hyl**	**26.04**	**271**	T	T	05 38 25.7	
	baz=116,slow=75,SNR=22						
H11S3	**WAKE ISLAND Hyl**	**26.04**	**271**	T	T	05 38 32.7	
	baz=116,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hyl**	**26.38**	**272**	T	T	05 38 57.0	
	baz=116,slow=74						
H11N1	**WAKE ISLAND Hyl**	**26.39**	**272**	T	T	05 38 57.4	
	baz=116						
H11N2	**WAKE ISLAND Hyl**	**26.39**	**272**	T	T	05 38 58.7	
	baz=116,slow=74						
KURBB	**Kurchatov Arra**	**150.82**	**40**	PKPbc	**PKiKP**	**03 20 32.2**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=308,slow=3.1,SNR=6.8						
KURK	**Kurchatov**	**150.82**	**40**		**PKiKP**	**03 20 32.2**	**+0.5**
ZALV	**Zalesovo Beam**	**151.94**	**30**	PKPbc	**PKiKP**	**03 20 34.2**	**+0.3**
	comp=Z,2.5nm,0.5s,baz=291,slow=3.3,SNR=5.1						

*IDC **18** 03:03:13.7±0.9, 31°.72S×71°.88W, h0km, mb4.0/6, mb1 4.1/9, mb1mx3.9/30, mbtmp3.8/9, ML3.7/3, Error ellipse: s-maj=35.0km s-min=22.6km az=86.0*
*GUC **18** 03:03:16.4±0.7, 31°.76S×72°.08W, h38km±3km, ML4.0*
*NEIC **18** 03:03:17.4±1.8, 31°.84S±0°.04×72°.22W±0°.10, h19km±4km, mb4.1/6, Error ellipse: s-maj=11.8km s-min=5.3km az=100.0*
**ISC 18 03:03:14.9±1.4, 31

comp=Z,1.9nm,0.6s,baz=168,slow=1.1,SNR=9.0
QSPA South Pole Qui 58.46 180 IAmb IAmb 03 13 22.1
comp=Z,2.3nm,0.9s
TXAR Lajitas Array 67.79 330 P **P** **03 14 13.7 0.0**
comp=Z,0.4nm,0.7s,baz=159,slow=8.3,SNR=5.3
TXAR Lajitas Array 67.79 330 P **P** **03 14 13.0 -0.6**
TX31 Lajitas Ar. Si 67.79 330 P **P** **03 14 13.4 -0.2**
DBIC Dimbokro 74.48 72 P **P** **03 14 52.9 -1.5**
comp=Z,5.0nm,1.0s,baz=250,slow=7.7,SNR=3.5
PDAR Pinedale Array 81.78 333 P **P** **03 15 34.0 -0.5**
comp=Z,0.3nm,0.7s,baz=111,slow=4.9,SNR=2.7
PDAR Pinedale Array 81.78 333 P **P** **03 15 34.2 -0.3**
NVAR Mina Array Bea 82.06 325 P **P** **03 15 36.4 +0.3**
comp=Z,0.8nm,0.7s,baz=149,slow=5.8,SNR=6.2
TORD Torodi Ar. Bea 83.46 70 P **P** **03 15 42.4 -1.2**
comp=Z,1.2nm,0.7s,baz=256,slow=4.9,SNR=5.6
TORD Torodi Ar. Bea 83.46 70 IAmb IAmb 03 15 44.0
comp=Z,1.0nm,0.7s
H11S2 WAKE ISLAND Hyl 25.77 271 T T 05 41 15.4
baz=117
H11S1 WAKE ISLAND Hyl 25.78 271 T T 05 41 13.0
baz=117
H11S3 WAKE ISLAND Hyl 25.78 271 T T 05 41 13.0
baz=117
ZALV Zalesovo Beam 152.32 30 PKPbc **PKPbc** **03 23 10.7 -0.4**
comp=Z,2.3nm,0.5s,baz=293,slow=2.5,SNR=6.0
MKAR Makanchi Array 155.25 45 PKPab **PKPab** **03 23 33.9 +0.1**
comp=Z,0.5nm,0.8s,baz=310,slow=3.4,SNR=3.0

*IDC **18** 03:04:33.6±0.9, 32°.39S×72°.16W, h0km, mb4.1/7, mb1 4.2/10, mb1mx4.0/29, mbtmp4.1/10, ML3.9/3, Error ellipse: s-maj=31.8km s-min=22.3km az=100.0*
*NEIC **18** 03:04:35.6±2.6, 32°.42S±0°.04×72°.20W±0°.08, h16km±4km, mb4.6/15, ML4.2(GUC), Error ellipse: s-maj=9.4km s-min=5.9km az=87.0*
*GUC **18** 03:04:36.4±0.9, 32°.44S×72°.20W, h35km±28km, ML4.2*
ISC 18 03:04:35.4±0.6, 32°.39S±0°.05×72°.18W±0°.06, h16km, n53, σ1°28/55, mb4.4/8, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**0.76**	**103**	*i*P	**Pb**	**03 04 50.2**	**-0.1**
VA06				*e*S	**Sb**	**03 05 02.0**	**+1.6**
VA06				IAML		03 05 06.9	
	comp=E,28µm,0.4s						
VA01	**Torpederas**	**0.77**	**145**	*e*P	**Pg**	**03 04 50.2**	**-0.3**
VA01				*e*S	**Sb**	**03 05 00.7**	**0.0**
VA01	**Torpederas**	**0.77**	**145**		**Pg**	**03 04 50.5**	**0.0**
ROCH	**El Roble**	**1.14**	**121**	*e*P	**Pb**	**03 04 56.4**	**-0.5**
ROCH				*e*S	**Sb**	**03 05 11.4**	**-0.2**
ROCH				IAML		03 05 17.2	
	comp=N,8µm,0.6s						
VA05	**Santo Domingo**	**1.35**	**160**	*e*P	**Pn**	**03 04 59.3**	**-0.3**
VA05				IAML		03 05 25.5	
	comp=E,4µm,0.4s						
VA05	**Santo Domingo**	**1.35**	**160**	Pn	**Pn**	**03 04 58.6**	**-1.0**
VA03	**San Esteban**	**1.42**	**106**	*e*P	**Pn**	**03 05 01.0**	**+0.4**
VA03				IAML		03 05 23.9	
	comp=N,9µm,0.3s						
VA03	**San Esteban**	**1.42**	**106**	Pn	**Pn**	**03 05 00.1**	**-0.6**
MT05	**Renca**	**1.57**	**130**	*e*P	**Pn**	**03 05 03.5**	**+0.9**
MT05				*e*S	**Sb**	**03 05 24.9**	**+1.2**
MT05				IAML		03 05 29.1	
	comp=E,7µm,0.2s						
MT05	**Renca**	**1.57**	**130**	Pn	**Pn**	**03 05 02.3**	**-0.4**
MT01	**Popeta**	**1.66**	**152**	*e*P	**Pn**	**03 05 03.9**	**0.0**
MT01				IAML		03 05 31.5	
	comp=N,3µm,0.4s						
MT01	**Popeta**	**1.66**	**152**	Pn	**Pn**	**03 05 02.8**	**-1.1**
MT09	**Talagante**	**1.71**	**145**	*e*P	**Pn**	**03 05 05.2**	**+0.6**
MT09				IAML		03 05 37.4	
	comp=N,4µm,0.4s						
MT09	**Talagante**	**1.71**	**145**	Pn	**Pn**	**03 05 03.7**	**-0.9**
CO06	**Fray Jorge**	**1.77**	**15**	*e*P	**Pn**	**03 05 05.0**	**-0.3**
CO06				IAML		03 05 43.2	
	comp=N,3µm,0.5s						
CO06	**Fray Jorge**	**1.77**	**15**		**Pn**	**03 05 05.0**	**-0.3**
CO03	**El Pedregal**	**2.00**	**40**	Pn	**Pn**	**03 05 10.4**	**+1.9**
BO01	**Tunca**	**2.20**	**156**	Pn	**Pn**	**03 05 11.8**	**+0.6**
LMEL	**Las Melosas**	**2.20**	**132**	*e*P	**Pb**	**03 05 14.2**	**-0.8**
LMEL				IAML		03 05 52.7	
	comp=N,5µm,0.9s						
GO04	**Tololo Observa**	**2.50**	**28**	Pn	**Pn**	**03 05 17.2**	**+1.6**
GO05	**Huala**	**2.62**	**176**	Pn	**Pn**	**03 05 17.7**	**+0.6**
ZON	**Zonda**	**3.09**	**75**	Pn	**Pn**	**03 05 23.9**	**+0.4**
AC04	**Llanos de Chal**	**4.28**	**13**	Pn	**Pn**	**03 05 42.1**	**+2.3**
H03S3	**Juan Fernandez**	**5.83**	**254**	T	T	03 12 17.3	
	baz=84						
H03S1	**Juan Fernandez**	**5.83**	**254**	T	T	03 12 19.1	
	baz=84						
H03S2	**Juan Fernandez**	**5.85**	**254**	T	T	03 12 18.7	
	baz=84						
LC01	**Cunco**	**6.50**	**178**	Pn	**Pn**	**03 06 10.1**	**-0.3**
PLCA	**Paso Flores**	**8.43**	**172**	Pn	**Pn**	**03 06 37.2**	**+0.3**
	comp=N,0.3nm,0.3s,baz=339,slow=19,SNR=1.5						
TRQA	**Tornquist**	**10.07**	**127**	Pn	**Pn**	**03 06 58.8**	**-0.6**
LPA	**La Plata**	**12.13**	**106**	*e*P	**Pn**	**03 07 26.1**	**-1.5**
LPA				pP	**P**	**03 07 37.2**	**-3.0**
LPA				S	Sn	03 09 32.5	-10
LPA				sS		03 09 43.3	
LPAZ	**La Paz**	**16.44**	**14**	Pn	**Pn**	**03 08 26.6**	**+0.4**
	comp=N,0.3nm,0.3s,baz=191,slow=4.2,SNR=18						
LPAZ	**La Paz**	**16.44**	**14**	Pn	**Pn**	**03 08 26.5**	**+0.4**
AQDB	**Aquidauana**	**18.90**	**55**	P	**P**	**03 08 54.3**	**-1.0**
AQDB				IAmb	IAmb	03 09 02.2	
	comp=Z,39nm,1.7s						
SIV	**San Ignacio**	**19.19**	**34**	P	**P**	**03 08 59.0**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=230,slow=12,SNR=17						
SAML	**Samuel**	**24.77**	**22**	P	**P**	**03 09 56.7**	**+0.3**
BDFB	**Brasilia**	**27.56**	**58**	P	**P**	**03 10 22.1**	**+0.3**
	comp=Z,4.6nm,0.8s,baz=235,slow=10,SNR=5.2						
BDFB	**Brasilia**	**27.56**	**58**	P	**P**	**03 10 19.2**	**-2.6**
BDFB				IAmb	IAmb	03 10 24.9	
	comp=Z,37nm,1.7s						
RUSC	**La Rusia**	**38.08**	**359**	P	**P**	**03 11 50.8**	**-3.1**
VNA3	**Neumayer Olymp**	**50.89**	**158**	P	**P**	**03 13 37.5**	**+2.3**
VNA2	**Neumayer--Watz**	**51.54**	**158**	P	**P**	**03 13 41.4**	**+1.4**
	baz=286,slow=8.8						
SNAA	**Sanae**	**53.12**	**158**	P	**P**	**03 13 54.1**	**+2.3**
SNAA	**Sanae**	**53.12**	**158**	P	**P**	**03 13 52.0**	**+0.1**
SNAA				IAmb	IAmb	03 14 09.7	
	comp=Z,5.6nm,1.1s						
QSPA	**South Pole Qui**	**57.84**	**180**	P	**P**	**03 14 27.5**	**+1.5**
	comp=Z,2.8nm,0.9s,baz=155,slow=5.1,SNR=4.7						
QSPA	**South Pole Qui**	**57.84**	**180**	P	**P**	**03 14 26.3**	**+0.3**
QSPA				IAmb	IAmb	03 14 40.4	
	comp=Z,10nm,0.9s						
TXAR	**Lajitas Array**	**68.28**	**331**	P	**P**	**03 15 36.9**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=153,slow=8.1,SNR=3.8						
TXAR	**Lajitas Array**	**68.28**	**331**	P	**P**	**03 15 32.9**	**-2.8**
DBIC	**Dimbokro**	**74.78**	**72**	P	**P**	**03 16 15.8**	**+0.7**
	comp=Z,3.0nm,0.9s,baz=207,slow=6.8,SNR=2.0						
BOSA	**Boshof**	**80.92**	**118**	P	**P**	**03 16 50.7**	**+1.3**
	comp=Z,2.8nm,1.0s,baz=233,slow=5.1,SNR=1.8						
NVAR	**Mina Array Bea**	**82.50**	**325**	P	**P**	**03 16 58.6**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=156,slow=6.9,SNR=1.9						
TORD	**Torodi Ar. Bea**	**83.77**	**70**	P	**P**	**03 17 04.8**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=268,slow=4.3,SNR=9.8						
WRA	**Warramunga Arr**	**122.11**	**210**	PKP	**PKPdf**	**03 23 28.5**	**-1.4**
	comp=Z,0.6nm,0.8s,baz=161,slow=1.7,SNR=5.5						
ZALV	**Zalesovo Beam**	**152.91**	**30**	PKPbc	**PKiKP**	**03 24 32.6**	**+1.1**
	comp=Z,1.9nm,0.5s,baz=267,slow=2.7,SNR=4.8						
MKAR	**Makanchi Array**	**155.76**	**46**	PKPab	**PKPab**	**03 24 56.5**	**+1.6**
	comp=Z,1.1nm,0.7s,baz=303,slow=5.1,SNR=7.2						

*IDC **18** 03:05:16.8±1.2, 31°.92S×72°.06W, h0km, mb4.2/4, mb1 4.3/5, mb1mx3.9/27, mbtmp4.1/5, ML3.9/1, Error ellipse: s-maj=39.5km s-min=37.3km az=91.0*
ISC 18 03:05:19.4±1.1, 31°.9S±0°.1×72°.1W±0°.3, h17km, n14, σ0°36/8, mb4.3/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**8.87**	**173**	Pn	**Pn**	**03 07 27.0**	**+0.1**
	0.3nm,0.3s,baz=0.0,slow=13,SNR=2.2						
BDFB	**Brasilia**	**27.23**	**59**	P	**P**	**03 11 02.9**	**+0.1**
	3.9nm,0.6s,baz=234,slow=5.6,SNR=3.4						
TXAR	**Lajitas Array**	**67.93**	**330**	P		**03 16 17.5**	**+0.2**
	0.4nm,0.6s,baz=157,slow=7.3,SNR=4.1						
DBIC	**Dimbokro**	**74.54**	**72**	P	**P**	**03 16 57.2**	**-0.4**
	2.4nm,0.7s,baz=250,slow=6.5,SNR=1.9						
TORD	**Torodi Ar. Bea**	**83.52**	**70**	P	**P**	**03 17 47.1**	**+0.3**
	2.2nm,0.7s,baz=285,slow=5.6,SNR=6.2						
WRA	**Warramunga Arr**	**122.56**	**210**	PKP	**PKPdf**	**03 24 14.1**	**-0.5**
	0.3nm,0.5s,baz=167,slow=2.4,SNR=1.3						
H11S2	**WAKE ISLAND Hyl**	**25.76**	**271**	T	T	05 43 14.2	
	baz=118						
H11S1	**WAKE ISLAND Hyl**	**25.78**	**271**	T	T	05 42 52.0	
	baz=119						
H11S3	**WAKE ISLAND Hyl**	**25.78**	**271**	T	T	05 43 18.0	
	baz=118						
H11N3	**WAKE ISLAND Hyl**	**26.12**	**272**	T	T	05 43 36.7	
	baz=114						
H11N1	**WAKE ISLAND Hyl**	**26.14**	**272**	T	T	05 43 19.9	
	baz=114						
H11N2	**WAKE ISLAND Hyl**	**26.14**	**272**	T	T	05 43 36.1	
	baz=114						
KURBB	**Kurchatov Arra**	**151.34**	**41**	PKPbc	**PKiKP**	**03 25 12.4**	**+0.1**
	0.8nm,0.5s,baz=304,slow=2.9,SNR=2.5						
ZALV	**Zalesovo Beam**	**152.47**	**30**	PKPbc	**PKPbc**	**03 25 14.1**	**-0.1**
	1.2nm,0.5s,baz=326,slow=2.1,SNR=1.6						

*IDC **18** 03:06:02.7±1.1, 31°.90S×72°.28W, h0km, mb3.9/3, mb1 4.1/5, mb1mx3.9/28, mbtmp3.9/5, ML4.3/2, Error ellipse: s-maj=53.0km s-min=27.7km az=93.0*
ISC 18 03:06:04.3±1.0, 31°.9S±0°.1×72°.3W±0°.3, h10km, n10, σ0°64/7, mb4.1/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H03N1	**Juan Fernandez**	**5.80**	**253**	T	T	03 13 27.5	
	baz=80,slow=74						
H03N3	**Juan Fernandez**	**5.82**	**253**	T	T	03 13 29.6	
	baz=80						
H03N2	**Juan Fernandez**	**5.82**	**253**	T	T	03 13 40.0	
	baz=80,slow=74						
PLCA	**Paso Flores**	**8.95**	**172**	Pn	**Pn**	**03 08 14.2**	**+0.5**
	1.2nm,0.3s,baz=326,slow=12,SNR=5.8						
SIV	**San Ignacio**	**18.82**	**35**	P	**Pn**	**03 10 25.2**	**+0.5**
	0.3nm,0.3s,baz=212,slow=8.4,SNR=2.0						
QSPA	**South Pole Qui**	**58.35**	**180**	P	**P**	**03 15 59.2**	**-0.2**
	1.6nm,0.7s,baz=147,slow=8.5,SNR=2.4						
TXAR	**Lajitas Array**	**67.79**	**331**	P	**P**	**03 17 02.9**	**+0.5**
	0.4nm,0.7s,baz=150,slow=9.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**83.69**	**70**	P	**P**	**03 18 33.3**	**-0.4**
	0.9nm,0.7s,baz=242,slow=3.1,SNR=1.7						
WRA	**Warramunga Arr**	**122.50**	**210**	PKP	**PKiKP**	**03 25 00.3**	**-0.5**
	0.5nm,0.8s,baz=147,slow=1.2,SNR=1.8						
ZALV	**Zalesovo Beam**	**152.52**	**30**	PKPbc	**PKiKP**	**03 25 59.9**	**-0.7**
	0.9nm,0.3s,baz=316,slow=4.0,SNR=1.8						

IDC 18 03:06:54.8±1.2, 30°.92S×72°.07W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/26, mbtmp3.7/2, Error ellipse: s-maj=104.7km s-min=39.4km az=82.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QSPA	**South Pole Qui**	**59.31**	**180**	P	P	03 16 59.0	+0.7
	2.4nm,1.0s,baz=141,slow=6.0,SNR=2.7						
TXAR	**Lajitas Array**	**67.05**	**330**	P	P	03 17 50.5	+0.5
	0.1nm,0.4s,baz=142,slow=4.6,SNR=1.8						
WRA	**Warramunga Arr**	**123.42**	**210**	PKP	PKPdf	03 25 52.9	-1.7
	1.2nm,1.1s,baz=173,slow=2.0,SNR=2.7						
H11S2	**WAKE ISLAND Hyl**	**25.73**	**271**	T	T	05 44 00.7	
	baz=117						
H11S1	**WAKE ISLAND Hyl**	**25.75**	**271**	T	T	05 44 03.5	
	baz=117						
H11S3	**WAKE ISLAND Hyl**	**25.75**	**271**	T	T	05 44 04.2	
	baz=117						
H11N3	**WAKE ISLAND Hyl**	**26.07**	**273**	T	T	05 44 28.4	
	baz=114						
H11N1	**WAKE ISLAND Hyl**	**26.08**	**273**	T	T	05 44 29.8	
	baz=114						
H11N2	**WAKE ISLAND Hyl**	**26.09**	**273**	T	T	05 44 33.9	
	baz=114						
KURBB	**Kurchatov Arra**	**150.58**	**40**	PKPbc	PKiKP	03 26 49.3	+0.3
	0.3nm,0.4s,baz=298,slow=2.6,SNR=1.3						
ZALV	**Zalesovo Beam**	**151.60**	**29**	PKPbc	PKPbc	03 26 49.0	-1.6
	0.6nm,0.3s,baz=323,slow=0.7,SNR=1.3						

*IDC **18** 03:14:48.7±0.7, 31°.46S×71°.73W, h0km, mb4.3/8, mb1 4.4/13, mb1mx4.3/30, mbtmp4.2/13, ML4.2/5, Error ellipse: s-maj=24.4km s-min=20.8km az=87.0*
*NEIC **18** 03:14:54.2±1.8, 31°.42S±0°.04×71°.81W±0°.09, h30km±4km, mb4.7/65, Error ellipse: s-maj=10.7km s-min=5.7km az=89.0*
*SJA **18** 03:14:57.1±5.9, 31°.45S×71°.53W, h44km, MW4.9(GUC)*
ISC 18 03:14:51.0±0.4, 31°.40S±0°.04×71°.86W±0°.06, h14km, n150, σ1°26/135, mb4.7/32, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.75**	**15**	Pn	**Pn**	**03 15 07.6**	**+0.4**
CO03	**El Pedregal**	**1.15**	**61**	Pn	**Pg**	**03 15 13.5**	**+0.3**
CO03	**El Pedregal**	**1.15**	**61**	*i*P	**Pg**	**03 15 13.0**	**-0.2**
GO04	**Tololo Observa**	**1.53**	**37**	Pn	**Pb**	**03 15 19.9**	**+0.7**
CO05	**La Serena**	**1.57**	**20**	Pn	**Pb**	**03 15 20.6**	**+0.8**
VA01	**Torpederas**	**1.63**	**174**	Pn	**Pn**	**03 15 19.4**	**+0.2**
VA03	**San Esteban**	**1.76**	**141**	Pn	**Pn**	**03 15 21.3**	**+0.2**
MT05	**Renca**	**2.20**	**155**	Pn	**Pn**	**03 15 27.4**	**+0.2**
AROD	**Rodeo**	**2.40**	**60**	*i*P	**Pb**	**03 15 34.0**	**-0.1**
ACCO	**Cerro Coronel**	**2.54**	**72**	*i*P	**Pb**	**03 15 37.0**	**+0.6**
LCO	**Las Campanas**	**2.58**	**23**	Pn	**Pn**	**03 15 34.2**	**+1.6**
LCO	**Las Campanas**	**2.58**	**23**	*i*P	**Pn**	**03 15 34.0**	**+1.4**
ACDV	**Cuesta del Vie**	**2.66**	**63**	*i*P	**Pb**	**03 15 39.0**	**+0.5**
ZON	**Zonda**	**2.73**	**94**	Pn	**Pn**	**03 15 35.7**	**+1.3**
ZON	**Zonda**	**2.73**	**94**	*i*P	**Pb**	**03 15 39.0**	**-0.5**
ASAL	**Salagasta**	**2.83**	**116**	*i*P	**Pb**	**03 15 42.0**	**+0.6**
RTCV	**Cerro Valdivia**	**2.87**	**100**	*i*P	**Pb**	**03 15 41.0**	**-1.0**
BO01	**Tunca**	**3.06**	**168**	Pn	**Pn**	**03 15 41.1**	**+2.2**
AC04	**Llanos de Chal**	**3.26**	**12**	Pn	**Pn**	**03 15 43.5**	**+1.8**
AC04	**Llanos de Chal**	**3.26**	**12**	*i*P	**Pn**	**03 15 43.0**	**+1.4**
AGUA	**GUANDACOL**	**3.48**	**58**	*i*P	**Pb**	**03 15 50.0**	**-2.4**
BO02	**Sierra Bellavi**	**3.50**	**165**	Pn	**Pn**	**03 15 45.6**	**+0.5**
GO03	**Copiap**	**4.05**	**21**	Pn	**Pn**	**03 15 54.7**	**+2.1**
GO03	**Copiap**	**4.05**	**21**	*i*P	**Pn**	**03 15 55.0**	**+2.4**
VCA	**Vinchina**	**4.13**	**51**	*i*P	**Pb**	**03 15 59.0**	**-4.6**
AC06	**Mina Casimiro**	**4.24**	**18**		**Pn**	**03 15 56.0**	**+0.8**
ML02	**Panimavida**	**4.37**	**175**		**Pn**	**03 15 57.9**	**+1.0**
RFA	**San Rafael**	**4.41**	**141**	*i*P	**Pn**	**03 16 01.0**	**+3.5**
ACLC	**CERRO LA CRUZ**	**4.68**	**66**	*i*P	**Pn**	**03 16 05.0**	**+3.7**
APLL	**PUNTA DE LOS L**	**4.69**	**79**	*i*P	**Pn**	**03 16 05.0**	**+3.6**
AC02	**Maricunga**	**5.14**	**28**	Pn	**Pn**	**03 16 10.1**	**+2.1**
AC02	**Maricunga**	**5.14**	**28**	*i*P	**Pn**	**03 16 10.0**	**+2.1**
MRA	**San Martin**	**5.32**	**103**	*i*P	**Pn**	**03 16 13.0**	**+2.9**
CYA	**Choya**	**6.03**	**62**	*i*P	**Pn**	**03 16 22.0**	**+2.2**
H03N1	**Juan Fernandez**	**6.30**	**249**	T	T	03 23 06.9	
	baz=70						
H03N3	**Juan Fernandez**	**6.31**	**249**	T	T	03 23 04.5	
	baz=70						
H03N2	**Juan Fernandez**	**6.31**	**249**	T	T	03 23 10.0	
	baz=70						
AHML	**Horco Molle**	**7.33**	**53**	*i*P	**Pn**	**03 16 40.0**	**+2.3**
LC01	**Cunco**	**7.48**	**180**	Pn	**Pn**	**03 16 39.6**	**0.0**
LC01	**Cunco**	**7.48**	**180**	*i*P	**Pn**	**03 16 40.0**	**+0.3**
LR03	**Panguipulli**	**8.22**	**183**		**Pn**	**03 16 50.4**	**+0.6**
PB15	**IPOC Station P**	**8.43**	**15**	Pn	**Pn**	**03 16 54.9**	**+2.0**
PB05	**IPOC Station P**	**8.64**	**10**	*i*P	**Pn**	**03 16 54.0**	**-1.7**
LVC	**Limon Verde**	**9.14**	**17**	Pn	**Pn**	**03 17 01.7**	**-1.1**
	0.5nm,0.3s,baz=310,slow=11,SNR=2.3						
LVC	**Limon Verde**	**9.14**	**17**	*i*P	**Pn**	**03 17 04.0**	**+1.2**
PB04	**IPOC Station P**	**9.16**	**10**	Pn	**Pn**	**03 17 04.5**	**+1.6**
PLCA	**Paso Flores**	**9.37**	**174**	Pn	**Pn**	**03 17 06.2**	**+0.5**
	1.7nm,0.3s,baz=333,slow=12,SNR=29						
PLCA	**Paso Flores**	**9.37**	**174**	Pn	**Pn**	**03 17 06.6**	**+0.9**
LL04	**Puerto Octay**	**9.50**	**183**		**Pn**	**03 17 07.9**	**+0.5**
TRQA	**Tornquist**	**10.49**	**132**	Pn	**Pn**	**03 17 22.1**	**+1.1**
TRQA	**Tornquist**	**10.49**	**132**	*i*P	**Pn**	**03 17 23.0**	**+2.0**
PB08	**IPOC Station P**	**11.47**	**13**	Pn	**Pn**	**03 17 36.1**	**+1.3**
ITQB	**Itaqui**	**13.25**	**86**		**Pn**	**03 17 58.2**	**-0.4**
CPUP	**Villa Florida**	**13.70**	**72**	Pn	**Pn**	**03 18 03.4**	**-1.4**
	0.4nm,0.3s,baz=243,slow=11,SNR=5.0						
LPAZ	**La Paz**	**15.42**	**14**	Pn	**Pn**	**03 18 30.2**	**+1.4**
	0.5nm,0.3s,baz=198,slow=7.6,SNR=22						
LPAZ	**La Paz**	**15.42**	**14**	Pn	**Pn**	**03 18 29.3**	**+0.5**
SIV	**San Ignacio**	**18.23**	**35**	P	**Pn**	**03 19 03.6**	**-0.1**
	0.3nm,0.3s,baz=196,slow=7.1,SNR=9.1						
SAML	**Samuel**	**23.75**	**22**	P	**P**	**03 20 03.0**	**0.0**
BDFB	**Brasilia**	**26.82**	**60**	P	**P**	**03 20 29.6**	**-1.6**
	8.2nm,0.9s,baz=248,slow=6.2,SNR=5.6						
BDFB	**Brasilia**	**26.82**	**60**	P	**P**	**03 20 30.4**	**-0.7**
BDFB				IAmb	IAmb	03 20 31.4	
	comp=Z,21nm,1.3s						
OTAV	**Otavalo**	**32.08**	**348**	P	**P**	**03 21 18.8**	**+0.7**
RUSC	**La Rusia**	**37.10**	**358**	P	**P**	**03 22 02.7**	**+1.1**
PDPR	**Patillas Dam,**	**49.45**	**7**	P	**P**	**03 23 40.1**	**-0.6**
CBYP	**Canovanas**	**49.72**	**7**	P	**P**	**03 23 43.2**	**+0.4**
VNA3	**Neumayer Olymp**	**51.71**	**159**	P	**P**	**03 23 57.7**	**+0.4**
VNA1	**Neumayer--Stat**	**52.01**	**158**	P	**P**	**03 24 00.2**	**+0.8**
VNA2	**Neumayer--Watz**	**52.35**	**158**	P	**P**	**03 24 02.4**	**+0.4**
	baz=284,slow=8.2						
SNAA	**Sanae**	**53.94**	**159**	P	**P**	**03 24 14.1**	**+0.3**
SNAA	**Sanae**	**53.94**	**159**	P	**P**	**03 24 13.6**	**-0.2**
SNAA				IAmb	IAmb	03 24 15.1	
	comp=Z,8.9nm,1.1s						
QSPA	**South Pole Qui**	**58.83**	**180**	P	**P**	**03 24 49.7**	**+0.8**
QSPA				IAmb	IAmb	03 24 50.8	
	comp=Z,4.6nm,1.2s						
143A	**Socs Landing,**	**66.38**	**342**	P	**P**	**03 25 40.6**	**+1.3**
X51A	**Calhoun**	**66.75**	**348**	P	**P**	**03 25 42.6**	**+1.0**
JCT	**Junction City**	**67.01**	**334**	P	**P**	**03 25 44.1**	**+0.6**
JCT				IAmb	IAmb	03 25 45.7	
	comp=Z,3.8nm,0.8s						
TXAR	**Lajitas Array**	**67.55**	**330**	P	**P**	**03 25 48.3**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=150,slow=8.0,SNR=11						
TXAR	**Lajitas Array**	**67.55**	**330**	P	**P**	**03 25 47.8**	**+0.8**
TX31	**Lajitas Ar. Si**	**67.55**	**330**	IAmb	IAmb	03 25 49.3	
	comp=Z,6.3nm,1.1s						
TX32	**Lajitas Array**	**67.55**	**330**	P	**P**	**03 25 47.5**	**+0.5**
W45A	**Hickory Valley**	**68.18**	**345**	P	**P**	**03 25 51.7**	**+1.0**
Z35A	**Perchaven, San**	**68.70**	**337**	P	**P**	**03 25 54.5**	**+0.5**
WVT	**Waverly**	**68.83**	**346**	P	**P**	**03 25 54.4**	**-0.3**
WVT				IAmb	IAmb	03 25 55.8	
	comp=Z,7.8nm,0.8s						
W39A	**Magazine**	**69.38**	**341**	IAmb	IAmb	03 26 00.6	
	comp=Z,5.7nm,0.8s						
LCAR	**Lake Charles**	**69.51**	**343**	P	**P**	**03 25 58.7**	**-0.3**
PBMO	**Poplar Bluff**	**70.02**	**344**	P	**P**	**03 26 02.8**	**+0.8**
PBMO				IAmb	IAmb	03 26 03.1	
	comp=Z,4.6nm,0.6s						
U40A	**Yellville**	**70.22**	**342**	P	**P**	**03 26 03.5**	**+0.2**
U40A				IAmb	IAmb	03 26 04.5	
	comp=Z,3.6nm,0.6s						
MNTX	**Cornudas Mount**	**70.33**	**330**	P	**P**	**03 26 04.6**	**+0.4**
HHAR	**Hobbs**	**70.44**	**341**	IAmb	IAmb	03 26 05.8	
	comp=Z,3.5nm,0.7s						
WUPA	**West Chester U**	**71.06**	**357**	P	**P**	**03 26 08.8**	**+0.5**
WUPA				IAmb	IAmb	03 26 11.1	
	comp=Z,4.5nm,1.0s						
MSTX	**Muleshoe**	**71.25**	**333**	P	**P**	**03 26 10.1**	**+0.3**
MSTX				IAmb	IAmb	03 26 11.4	
	comp=Z,8.7nm,0.8s						
CCM	**Cathedral Cave**	**71.43**	**344**	P	**P**	**03 26 11.1**	**+0.5**
CCM				IAmb	IAmb	03 26 12.0	
	comp=Z,5.2nm,0.6s						
R40A	**Maddies Statio**	**71.90**	**343**	IAmb	IAmb	03 26 14.6	
	comp=Z,5.6nm,0.7s						
ACSO	**Alum Creek Sta**	**72.01**	**351**	IAmb	IAmb	03 26 15.1	
	comp=Z,7.4nm,0.8s						
121A	**Cookes Peak, D**	**72.09**	**329**	P	**P**	**03 26 16.0**	**+1.0**
121A				IAmb	IAmb	03 26 18.0	
	comp=Z,5.3nm,1.1s						
OK032	**Salt Plains WL**	**72.20**	**338**	P	**P**	**03 26 16.3**	**+1.0**
M54A	**Oil Creek Stat**	**72.90**	**354**	P	**P**	**03 26 19.6**	**+0.2**
DBIC	**Dimbokro**	**74.22**	**72**	P	**P**	**03 26 27.5**	**-0.3**
	comp=Z,6.3nm,0.6s,baz=225,slow=5.2,SNR=15						
DBIC	**Dimbokro**	**74.22**	**72**	IAmb	IAmb	03 26 28.6	
	comp=Z,13nm,1.2s						
CBKS	**

IDC **18** *03:15:34.3±0.4,31°.46S×71°.48W,h0km,mb4.7/17, mb1 4.8/21,mb1mx4.7/30,mbtmp4.7/21,ML4.6/4,MS4.0/2, Ms1 4.0/2,ms1mx3.5/22,Error ellipse: s-maj=19.5km s-min=13.2km az=83.0*

MOS **18** *03:15:38.6±0.8,31°.37S×71°.46W,h33km,mb5.3/16,Error ellipse: s-maj=12.3km s-min=7.7km az=94.2*

GUC **18** *03:15:39.1±0.7,31°.45S×71°.53W,h44km±4km,ML5.2*

VAO **18** *03:15:39.8±0.5,31°.51S×70°.70W,h31km,mb5.2*

BJI **18** *03:15:39.0±0.0,31°.40S×71°.60W,h35km,mB5.2/2, Ms5.1/5,Ms7 4.9/6*

NEIC **18** *03:15:40.7±1.9,31°.46S±0°.04×71°.58W±0°.07,h37km±3km, mb5.0/233,Mwr4.9/51,ML5.2(GUC),Error ellipse: s-maj=9.1km s-min=5.7km az=92.0*

NEIC **18** *03:15:40.3,31°.51S×71°.68W,h45km,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr2.38; Mθθ0.03; Mϕϕ-2.40; Mrθ0.04; Mθϕ0.34; Mϕr-0.64; Fault plane solution: Mo2.50000×10¹⁶ NP1:ϕs173.42000°, δ52.47000°,λ91.52000°. NP2:ϕs350.93000°,δ37.55000°, λ88.02000°. Principal axes: T 2.4608, Plg82.0000°, Azm92.0000°; N 0.0739, Plg1.0000°, Azm352.0000°; P -2.5347, Plg7.0000°, Azm262.0000°;*

GCMT **18** *03:15:43.7±0.4,31°.44S±0°.03×71°.76W±0°.04,h41km±1km, MW5.0/47,Moment Tensor Solution. s37,c45; s47,c66; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.06±.24; Mθθ-0.10±.16; Mϕϕ-3.96±.17; Mrθ0.51±.13; Mθϕ0.17±.12; Mϕr-1.14±.16; Best double couple: Mo4.20300×10¹⁶ NP1:ϕs3.00000°,δ37.00000°,λ100.00000°. NP2: ϕs171.00000°,δ53.00000°,λ83.00000°. Principal axes: T 4.2730, Plg80.0000°, Azm51.0000°; N -0.1360, Plg6.0000°, Azm176.0000°; P -4.1340, Plg8.0000°, Azm266.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 03:15:38.0±0.4,31°.48S±0°.02×71°.60W±0°.04,h27km±2km, h27km:pP-P,n503,σ2s00/414,mb5.0/131,55C-18D,Fault plane solution: NP1:ϕs188.12166°,δ54.96065°, λ62.17832°. **NP2:**ϕs50.70955°,δ43.60488°,λ123.64669°. **Principal axes:** T Plg66.6358°, Azm41.7981°; N Plg22.4658°, Azm204.9778°; P Plg6.0875°, Azm297.5054°; **Fault plane solution: NP1:** ϕs343.00995°,δ52.30787°,λ67.82600°. **NP2:** ϕs196.69682°,δ42.87971°,λ116.03383°. **Principal axes:** T Plg71.8961°, Azm193.8235°; N Plg17.3769°, Azm357.0026°; P Plg4.9231°, Azm88.5472°; **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.80**	**358**	*eP*	**Pn**	**03 15 54.8**	**+1.2**
CO06				*i* S	**Sn**	**03 16 06.1**	**+1.5**
CO06	**Fray Jorge**	**0.80**	**358**	Pn	**Pn**	**03 15 54.8**	**+1.2**
CO03	**El Pedregal**	**1.01**	**51**	*eP*	**Pb**	**03 15 57.8**	**+0.8**
CO03				*i* S	**Sn**	**03 16 11.2**	**+1.2**
CO03	**El Pedregal**	**1.01**	**51**	Pn	**Pb**	**03 15 58.0**	**+1.0**
VA06	**Catapilco**	**1.11**	**167**	*eP*	**Pb**	**03 16 00.0**	**+1.4**
VA06				*i* S	**Sb**	**03 16 15.4**	**+2.7**
GO04	**Tololo Observa**	**1.47**	**28**	*eP*	**Pb**	**03 16 04.8**	**-0.1**
GO04				*i* S	**Sb**	**03 16 24.6**	**+1.3**
GO04	**Tololo Observa**	**1.47**	**28**	Pn	**Pb**	**03 16 04.8**	**-0.1**
VA01	**Torpederas**	**1.54**	**181**	Pn	**Pb**	**03 16 05.4**	**-0.4**
VA03	**San Esteban**	**1.56**	**145**	*eP*	**Pb**	**03 16 06.6**	**+0.3**
VA03				*i* S	**Sb**	**03 16 27.4**	**+1.7**
VA03	**San Esteban**	**1.56**	**145**	Pn	**Pb**	**03 16 06.6**	**+0.3**
ROCH	**El Roble**	**1.57**	**162**	*i* S	**Sb**	**03 16 28.7**	**+2.6**
CO05	**La Serena**	**1.59**	**12**	Pn	**Pb**	**03 16 07.1**	**+0.4**
MT05	**Renca**	**2.04**	**159**	Pn	**Pb**	**03 16 13.9**	**-0.6**
VA05	**Santo Domingo**	**2.17**	**180**	Pn	**Pb**	**03 16 14.1**	**+1.7**
MT01	**Popeta**	**2.40**	**173**	Pn	**Pn**	**03 16 16.1**	**+0.6**
ZON	**Zonda**	**2.50**	**92**	P	**Pn**	**03 16 18.0**	**+1.0**
ZON	**Zonda**	**2.50**	**92**	Pn	**Pn**	**03 16 18.0**	**+1.0**
BO01	**Tunca**	**2.94**	**172**	Pn	**Pn**	**03 16 23.1**	**+0.2**
AC04	**Llanos de Chal**	**3.29**	**8**	Pn	**Pn**	**03 16 28.7**	**+0.8**
BO02	**Sierra Bellavi**	**3.38**	**168**	Pn	**Pn**	**03 16 30.0**	**+0.9**
GO05	**Huala**	**3.53**	**184**	Pn	**Pn**	**03 16 32.0**	**+0.8**
GO03	**Copiap**	**4.05**	**17**	Pn	**Pn**	**03 16 40.7**	**+2.4**
AC06	**Mina Casimiro**	**4.25**	**15**	Pn	**Pn**	**03 16 43.6**	**+2.5**
ML02	**Panimavida**	**4.28**	**178**	Pn	**Pn**	**03 16 42.0**	**+0.7**
AC02	**Maricunga**	**5.11**	**26**	Pn	**Pn**	**03 16 55.3**	**+2.0**
VA04	**Juan Fernndez**	**6.47**	**249**		**Pn**	**03 17 12.5**	**+1.0**
H03N1	**Juan Fernandez** baz=116,slow=19,SNR=30	**6.48**	**250**	Pn	**Pn**	**03 17 13.0**	**+1.6**
H03N1	baz=68			Sn	**Sn**	**03 18 18.6**	**-5.8**
H03N1	baz=78,slow=72,SNR=1768			T	T	03 23 49.0	
H03N3	**Juan Fernandez** baz=116,slow=19,SNR=26	**6.49**	**250**	Pn	**Pn**	**03 17 13.1**	**+1.5**
H03N3	baz=68			Sn	**Sn**	**03 18 16.3**	**-8.4**
H03N3	baz=78,slow=72,SNR=1508			T	T	03 23 57.1	
H03N2	**Juan Fernandez** baz=116,slow=19,SNR=21	**6.50**	**251**	Pn	**Pn**	**03 17 13.1**	**+1.5**
H03N2	baz=68			Sn	**Sn**	**03 18 17.5**	**-7.1**
H03N2	baz=78,slow=72,SNR=1772			T	T	03 23 56.8	
H03S3	**Juan Fernandez** baz=39,slow=18,SNR=4.7	**6.59**	**247**	Pn	**Pn**	**03 17 14.0**	**+1.1**
H03S3	baz=81			Sn	**Sn**	**03 18 20.8**	**-6.3**
H03S1	**Juan Fernandez** baz=39,slow=18,SNR=4.9	**6.59**	**247**	Pn	**Pn**	**03 17 14.1**	**+1.2**
H03S1	baz=81			Sn	**Sn**	**03 18 20.7**	**-6.4**
H03S2	**Juan Fernandez** baz=39,slow=18,SNR=7.1	**6.61**	**247**	Pn	**Pn**	**03 17 13.8**	**+0.7**
H03S2	baz=81			Sn	**Sn**	**03 18 21.4**	**-6.0**
LC01	**Cunco**	**7.41**	**182**	Pn	**Pn**	**03 17 25.2**	**+0.9**
LR03	**Panguipulli**	**8.16**	**184**	Pn	**Pn**	**03 17 35.8**	**+1.2**
LVC	**Limon Verde** 2.8nm,0.3s,baz=117,slow=4.3,SNR=5.0	**9.15**	**16**	Pn	**Pn**	**03 17 48.8**	**+0.1**
LVC	6.6nm,0.3s,baz=140,slow=24,SNR=2.3			Sn	**Sn**	**03 19 28.5**	**-2.5**
PLCA	**Paso Flores** 1.0nm,0.3s,baz=340,slow=11,SNR=7.9	**9.27**	**175**	Pn	**Pn**	**03 17 52.7**	**+2.6**
PLCA	comp=Z,998nm,20.6s,baz=348,slow=38			LR	LR	03 21 27.3	
PLCA	**Paso Flores**	**9.27**	**175**	P	**Pn**	**03 17 49.8**	**-0.3**
PLCA	**Paso Flores**	**9.27**	**175**	Pn	**Pn**	**03 17 49.8**	**-0.3**
LL04	**Puerto Octay**	**9.43**	**184**	Pn	**Pn**	**03 17 51.8**	**-0.4**
LL03	**Petrohue**	**9.66**	**184**	Pn	**Pn**	**03 17 56.2**	**+1.0**
TRQA	**Tornquist**	**10.28**	**132**	P	**Pn**	**03 18 06.8**	**+3.1**
TRQA	**Tornquist**	**10.28**	**132**	Pn	**Pn**	**03 18 06.8**	**+3.1**
PB08	**IPOC Station P**	**11.50**	**12**	Pn	**Pn**	**03 18 23.3**	**+2.4**
LPA	**La Plata**	**11.95**	**110**	*eP*	Pn	03 18 20.3	-6.3
LPA				PP	**PnPn**	**03 18 32.0**	**-2.3**
LPA				PPP	PPP	03 18 43.6	
LPA				S	**Sn**	**03 20 33.3**	**-5.7**
LPA				SS	**SnSn**	**03 20 47.7**	**-3.3**
LPA				SSS	SSS	03 21 03.6	
LPA				PCP	**PcP**	**03 24 07.8**	**-4.3**
LPA				SCS	**ScS**	**03 31 17.6**	**-1.4**
LPA				PKIKP	**PKiKP**	**03 32 15.8**	**+5.7**
ITQB	**Itaqui**	**13.03**	**86**	Pn	**Pn**	**03 18 45.6**	**+4.2**
CPUP	**Villa Florida** 0.9nm,0.3s,baz=249,slow=12,SNR=7.1	**13.51**	**71**	Pn	**Pn**	**03 18 47.2**	**-0.8**
CPUP	3.4nm,0.3s,baz=328,slow=8.0,SNR=2.2			Sn	**Sn**	**03 21 10.2**	**-7.1**
COYC	**Coyhaique**	**14.08**	**181**	Pn	**Pn**	**03 18 56.4**	**+0.8**
PLTB	**Pedras Altas**	**15.34**	**96**		**Pn**	**03 19 12.0**	**-0.7**
LPAZ	**La Paz** 0.9nm,0.3s,baz=167,slow=7.5,SNR=7.3	**15.45**	**13**	Pn	**Pn**	**03 19 15.3**	**+0.5**
LPAZ	**La Paz** comp=Z,46nm,0.9s	**15.45**	**13**	P pmax	**Pn** pmax	**03 19 14.6**	**-0.2**
LPAZ	**La Paz**	**15.45**	**13**	Pn	**Pn**	**03 19 14.6**	**-0.2**
LPAZ	**La Paz**	**15.45**	**13**	*eP*	**Pn**	**03 19 16.6**	**+1.8**
AQDB	**Aquidauana**	**17.99**	**56**		**Pn**	**03 19 46.0**	**-0.3**
AQDB	**Aquidauana**	**17.99**	**56**	*eP*	**Pn**	**03 19 39.9**	**-6.3**
CNLB	**Canela**	**18.03**	**88**	*eP*	Pn	03 19 38.4	-8.4
SIV	**San Ignacio** comp=Z,4.4nm,0.3s,baz=218,slow=9.0,SNR=26	**18.16**	**34**	P	**P**	**03 19 48.9**	**+0.3**
PTGB	**Pitanga**	**18.50**	**73**	*eP*	P	03 19 45.3	-6.9
TRCB	**Terra Rica**	**18.95**	**67**	*eP*	**P**	**03 19 50.7**	**-6.5**
PTLB	**Pontes e Lacer**	**19.60**	**38**	*eP*	**P**	**03 20 00.6**	**-3.7**
TER01	**Tubaro-SC**	**19.68**	**87**	*eP*	P	03 19 58.1	-7.0
NNA	**Nana** comp=Z,3.5nm,0.3s,baz=213,slow=9.2,SNR=2.1	**19.99**	**345**	P	**Pn**	**03 20 10.1**	**-0.3**
NNA	comp=Z,379nm,20.2s,baz=168,slow=32			LR	LR	03 26 20.5	
PCMB	**Pacaembu**	**20.65**	**67**	*eP*	**P**	**03 20 09.7**	**-6.1**
TIJ01	**Guaruva-PR**	**20.79**	**79**	*eP*	**P**	**03 20 10.5**	**-6.7**
VILB	**Vilhena**	**21.22**	**32**	*eP*	**P**	**03 20 19.0**	**-2.8**
SALV	**Santo Antonio**	**21.23**	**47**	*eP*	**P**	**03 20 17.5**	**-4.5**
ETMB	**Extrema**	**22.13**	**14**	*eP*	**P**	**03 20 31.2**	**-0.4**
ITRB	**Iturama**	**22.42**	**64**	*eP*	**P**	**03 20 28.8**	**-6.0**
EFI	**East Falkland**	**22.51**	**158**	*deP*	**P**	**03 20 37.4**	**+2.0**
EFI	comp=Z,79nm,1.0s			pmax	pmax		
PET01	**Itanhaem-SP**	**22.64**	**78**	*eP*	**P**	03 20 28.8	-8.2
SPB	**Sao Paulo**	**22.80**	**76**	P	**P**	**03 20 39.8**	**+1.1**
SPB	comp=Z,53nm,0.8s			IAmb	IAmb	03 20 55.3	
SPB	**Sao Paulo**	**22.80**	**76**	*eP*	**P**	**03 20 32.2**	**-6.5**
RCLB	**Rio Claro- Sao**	**23.24**	**73**	*eP*	**P**	**03 20 37.2**	**-6.1**
VAO	**Valinhos**	**23.44**	**75**	*eP*	**P**	**03 20 39.3**	**-6.0**
USHA	**Ushuaia** comp=Z,12nm,0.5s,baz=300,slow=4.6,SNR=1.6	**23.45**	**175**	P	**P**	**03 20 47.0**	**+1.9**
CZSB	**Cruzeiro do Su**	**23.65**	**357**	*eP*	**P**	**03 20 49.2**	**+1.9**
SAML	**Samuel**	**23.75**	**21**	P	**P**	**03 20 48.3**	**+0.1**
SAML	comp=Z,54nm,1.2s			pmax	pmax		
SAML	**Samuel**	**23.75**	**21**	P	**P**	**03 20 48.3**	**+0.1**
SAML	comp=Z,54nm,1.2s			IAmb	IAmb	03 21 05.0	
SAML	**Samuel**	**23.75**	**21**	*eP*	**P**	**03 20 47.1**	**-1.2**
PARB	**Paraibuna**	**24.41**	**77**	*eP*	**P**	**03 20 48.7**	**-5.7**
IPMB	**Ipameri, GO**	**25.07**	**63**	*eP*	**P**	**03 20 55.6**	**-4.8**
CLDB	**Colider**	**25.19**	**39**	*eP*	**P**	**03 20 59.1**	**-2.4**
BSCB	**Bom Sucesso**	**26.17**	**73**	*eP*	**P**	**03 21 05.2**	**-5.2**
BDFB	**Brasilia** comp=Z,37nm,0.9s,baz=290,slow=8.1,SNR=14	**26.67**	**59**	P	**P**	**03 21 14.4**	**-0.6**
BDFB	**Brasilia**	**26.67**	**59**	P	**P**	**03 21 14.8**	**-0.2**
VAS01	**Vassouras-RJ**	**26.68**	**77**	*eP*	**P**	**03 21 09.5**	**-5.4**
SNDB	**Serra Nova Dou**	**26.98**	**48**	*eP*	**P**	**03 21 13.9**	**-3.7**
TBTG	**Tabatinga, AM**	**27.20**	**4**	*eP*	**P**	**03 21 20.4**	**+0.9**
DUB01	**Friburgo-RJ**	**27.65**	**77**	*eP*	**P**	**03 21 18.4**	**-5.4**
CAM01	**Campos-RJ**	**28.36**	**78**	*eP*	P	03 21 24.9	-5.1
DIAM	**Diamantina, MG**	**28.44**	**69**	*eP*	P	03 21 25.5	-5.4
NPGB	**Novo Progresso**	**28.66**	**35**	*eP*	**P**	**03 21 29.8**	**-2.9**
PEXB	**Peixe**	**28.87**	**53**	*eP*	**P**	**03 21 30.3**	**-4.3**
MC01	**Montes Claros**	**29.11**	**66**	*eP*	P	03 21 32.0	-4.8
ALF01	**Guarapari-ES**	**29.68**	**76**	*eP*	P	03 21 36.5	-5.2
JANB	**Januaria**	**29.81**	**63**	*eP*	P	03 21 38.4	-4.6
MACA	**Manacapuru-AM**	**29.99**	**22**	*eP*	**P**	**03 21 43.3**	**-1.1**
SJMB	**Sao Joao De Ma**	**30.23**	**72**	*eP*	P	03 21 41.3	-5.3
BSFB	**Barra de Sao F**	**30.44**	**73**	*eP*	P	03 21 43.3	-5.2
RIB01	**Linhares ES**	**30.57**	**74**	*eP*	P	03 21 44.8	-4.9
ITTB	**Itaituba**	**30.82**	**32**	*eP*	**P**	**03 21 49.2**	**-2.6**
SDBA	**SAO DESIDERIO**	**31.06**	**58**	*eP*	P	03 21 49.4	-4.6
NAN01	**Guarapari, ES**	**31.54**	**72**	*eP*	P	03 21 53.2	-5.0
SMTB	**Santa Maria do**	**31.70**	**50**	*eP*	**P**	**03 21 55.3**	**-4.4**
OTAV	**Otavalo**	**32.20**	**347**	P	**P**	**03 22 05.6**	**+1.1**
OTAV	comp=Z,4.0nm,0.9s			pmax	pmax		
OTAV	**Otavalo**	**32.20**	**347**	P	**P**	**03 22 05.6**	**+1.1**
OTAV	**Otavalo**	**32.20**	**347**	*eP*	**P**	**03 22 06.8**	**+2.3**
PRPB	**Paraupebas**	**32.40**	**44**	*eP*	**P**	**03 22 02.5**	**-3.3**
GUA01	**Guaratinga, BA**	**32.46**	**70**	*eP*	P	03 22 01.3	-5.0
CMC01	**Camacan, BA**	**33.37**	**69**	*eP*	P	03 22 09.1	-5.1
PMSA	**Palmer Station** comp=Z,5.6nm,0.9s,baz=27,slow=6.8,SNR=3.0	**33.65**	**174**	P	**P**	**03 22 18.0**	**+2.0**
PMSA	**Palmer Station**	**33.65**	**174**	P	**P**	**03 22 17.8**	**+1.7**
PMSA	comp=Z,24nm,1.1s			IAmb	IAmb	03 22 29.4	
PMSA	**Palmer Station**	**33.65**	**174**	*eP*	**P**	**03 22 16.9**	**+0.8**
NBIT	**Itapeh - BA**	**33.68**	**68**	*eP*	P	03 22 11.1	-5.8
MALB	**Monte Alegre**	**33.71**	**32**	*eP*	**P**	**03 22 14.9**	**-2.2**
GDU01	**Guandu, BA**	**34.27**	**66**	*eP*	P	03 22 17.1	-5.0
BOAV	**Boa Vista**	**35.30**	**19**	*eP*	**P**	**03 22 30.2**	**-0.7**
NBPN	**Ponto Novo - B**	**35.56**	**62**	*eP*	P	03 22 28.5	-4.7
MCPB	**Macapa, AP**	**36.06**	**35**	*eP*	**P**	**03 22 35.2**	**-2.3**
ROSC	**El Rosal** comp=Z,5.6nm,0.5s,baz=288,slow=20,SNR=1.5	**36.21**	**355**	P	**P**	**03 22 39.3**	**+0.2**
TMAB	**Tom-Au,PA,Br**	**36.47**	**42**	*eP*	**P**	**03 22 37.6**	**-3.4**
RUSC	**La Rusia**	**37.19**	**358**	P	**P**	**03 22 48.7**	**+1.1**
NBLA	**Lagarto - SE**	**37.30**	**64**	*eP*	P	03 22 43.4	-4.7
ROSB	**Rosrio**	**38.45**	**48**	*eP*	**P**	**03 22 54.2**	**-3.6**
NBMA	**Muriti-CE**	**38.91**	**59**	*eP*	**P**	**03 22 57.3**	**-4.3**
NBPS	**Pedro II - PI**	**39.09**	**53**	*eP*	**P**	**03 22 59.3**	**-3.9**
NBAN	**Anadia - AL**	**39.29**	**64**	*eP*	P	03 23 00.3	-4.6
NBPB	**Pedra_Branca-C**	**39.56**	**56**	*eP*	**P**	**03 23 03.0**	**-4.1**
SDV	**Santo Domingo** comp=Z,4.8nm,0.2s,baz=202,slow=11,SNR=3.9	**40.15**	**1**	P	**P**	**03 23 12.5**	**+0.4**
SDV	**Santo Domingo**	**40.15**	**1**	*eP*	**P**	**03 23 12.3**	**+0.3**
NBRF	**Rio Formoso -**	**40.78**	**64**	*eP*	P	03 23 12.6	-4.6
NBMO	**Morrinhos-CE**	**40.83**	**53**	*eP*	**P**	**03 23 13.7**	**-3.9**
NBPA	**Parau_RN**	**41.20**	**59**	*eP*	**P**	**03 23 16.5**	**-4.2**
SJCC	**San Jacinto, C**	**41.28**	**355**	P	**P**	**03 23 23.4**	**+2.1**
SJCC	comp=Z,28nm,1.2s			IAmb	IAmb	03 23 35.0	
NBCL	**Cascavel-CE**	**41.40**	**56**	*eP*	**P**	**03 23 18.2**	**-4.1**
RCBR	**Riachuelo**	**42.04**	**60**	P	**P**	**03 23 27.3**	**-0.3**
RCBR	comp=Z,41nm,1.2s			pmax	pmax		
RCBR	**Riachuelo**	**42.04**	**60**	P	**P**	**03 23 27.3**	**-0.3**
RCBR	comp=Z,41nm,1.1s			IAmb	IAmb	03 23 44.1	
RCBR	**Riachuelo**	**42.04**	**60**	*eP*	**P**	**03 23 23.4**	**-4.2**
NBPV	**Pedro Velho**	**42.11**	**61**	*eP*	P	03 23 23.6	-4.5
JTS	**Las Juntas de** comp=Z,3.4nm,0.7s,baz=165,slow=19,SNR=2.4	**43.46**	**341**	P	**P**	**03 23 40.2**	**+1.2**
MPOM	**Morne Pois Mar**	**46.81**	**14**	P	**P**	**03 24 04.7**	**-0.8**
MLPR	**Magueyes Islan**	**49.36**	**6**	P	**P**	**03 24 25.3**	**+0.1**
OBIP	**Obispado Ponce** comp=Z,24nm,0.9s	**49.47**	**6**	IAmb	IAmb	03 24 26.1	
PDPR	**Patillas Dam,**	**49.50**	**7**	P	**P**	**03 24 25.8**	**-0.5**
SJG	**San Juan**	**49.58**	**7**	P	**P**	**03 24 26.3**	**-0.6**
SJG	comp=Z,22nm,0.8s			pmax	pmax		
SJG	**San Juan**	**49.58**	**7**	P	**P**	**03 24 26.3**	**-0.6**
CBYP	**Canovanas** comp=Z,19nm,0.8s	**49.77**	**7**	IAmb	IAmb	03 24 28.4	
GCPR	**Guaynabo City** comp=Z,15nm,0.8s	**49.78**	**7**	IAmb	IAmb	03 24 39.5	
VNA3	**Neumayer Olymp**	**51.56**	**159**	P	**P**	**03 24 42.7**	**+1.4**
VNA3	**Neumayer Olymp**	**51.56**	**159**	pP	pP	03 24 53.2	+3.6
VNA1	**Neumayer--Stat**	**51.85**	**158**	P	**P**	**03 24 44.9**	**+1.5**
VNA1	**Neumayer--Stat**	**51.85**	**158**	pP	pP	03 24 55.8	+4.0
VNA2	**Neumayer--Watz** baz=289,slow=8.0	**52.20**	**158**	P	**P**	**03 24 47.3**	**+1.2**
VNA2	**Neumayer--Watz**	**52.20**	**158**	pP	pP	03 24 58.2	+3.9
SNAA	**Sanae**	**53.78**	**159**	P	**P**	**03 24 58.9**	**+1.1**
SNAA	**Sanae**	**53.78**	**159**	pP	pP	03 25 09.9	+3.8
SNAA	**Sanae**	**53.78**	**159**	*c*	*i*P	**03 24 58.6**	**+0.8**
SNAA	comp=Z,35nm,1.1s			pmax	pmax		
SNAA	**Sanae**	**53.78**	**159**	P	**P**	**03 24 58.9**	**+1.1**
RKT	**Rikitea** comp=Z,7.9nm,0.2s	**56.26**	**262**	*eT*	T	04 25 50.8	
QSPA	**South Pole Qui**	**58.75**	**180**	P	**P**	**03 25 35.1**	**+1.6**
152A	**Waverly Hall** comp=Z,9.7nm,0.9s	**65.00**	**348**	IAmb	IAmb	03 26 16.4	
833A	**Chaparral WMA,** baz=154	**65.10**	**333**	P	**P**	**03 26 18.0**	**+1.7**
HKT	**Hockley**	**65.29**	**337**	*eP*	**P**	**03 26 18.1**	**+0.7**
HKT	comp=Z,2.0nm,1.2s			pmax	pmax		
GOGA	**Godfrey** baz=169	**65.51**	**349**	P	**P**	**03 26 19.2**	**+0.4**
SBA	**Scott Base**	**65.61**	**191**	P	**P**	**03 26 21.1**	**+2.1**
SBA	comp=Z,12nm,1.3s			pmax	pmax		
SBA	**Scott Base**	**65.61**	**191**	P	**P**	**03 26 21.1**	**+2.1**
SBA	comp=Z,12nm,1.3s			IAmb	IAmb	03 26 41.6	
LRAL	**Lakeview Retre** baz=166	**65.80**	**346**	P	**P**	**03 26 21.3**	**+0.6**
Y52A	**Lilburn** comp=Z,17nm,0.9s	**66.05**	**349**	IAmb	IAmb	03 26 23.4	
HPIG		**66.56**	**327**	P	**P**	**03 26 26.9**	**+0.9**
VNDA	**Vanda** comp=Z,1.6nm,0.8s,baz=152,slow=3.6,SNR=5.6	**66.64**	**191**	P	**P**	**03 26 27.6**	**+1.9**
VNDA	**Vanda**	**66.64**	**191**	P	**P**	**03 26 26.9**	**+1.2**
VNDA	comp=Z,9.0nm,1.5s			pmax	pmax		
VNDA	**Vanda**	**66.64**	**191**	P	**P**	**03 26 26.9**	**+1.2**
TAOE	**Nuku Hiva Isla** comp=Z,175nm,26.4s	**67.15**	**274**	*e*	LR	03 46 44.9	
X48A	**Hartselle** comp=Z,19nm,0.8s	**67.17**	**346**	IAmb	IAmb	03 26 31.0	
JCT	**Junction City** comp=Z,20nm,1.1s	**67.18**	**334**	IAmb	IAmb	03 26 42.9	
JCT	**Junction City** baz=154	**67.18**	**334**	P	**P**	**03 26 30.8**	**+1.1**
Z41A	**Richland Creek** baz=160	**67.43**	**341**	P	**P**	**03 26 32.3**	**+1.1**
W50A	**Signal Mountai** comp=Z,16nm,0.8s	**67.57**	**348**	IAmb	IAmb	03 26 33.0	
CPCT	**Cooper Cave** comp=Z,14nm,0.8s	**67.67**	**349**	IAmb	IAmb	03 26 34.0	
SWET	**Sewanee** comp=Z,21nm,0.9s	**67.70**	**347**	IAmb	IAmb	03 26 34.2	
WHTX	**Lake Whitney,** comp=Z,15nm,0.9s	**67.71**	**336**	P	**P**	**03 26 33.0**	**+0.1**
WHTX				IAmb	IAmb	03 26 35.0	
WHTX	**Lake Whitney,** baz=156	**67.71**	**336**	P	**P**	**03 26 32.4**	**-0.5**
TX31	**Lajitas Ar. Si** comp=Z,9.1nm,0.8s	**67.73**	**330**	IAmb	IAmb	03 26 35.2	
TXAR	**Lajitas Array** comp=Z,3.5nm,0.8s,baz=151,slow=7.9,SNR=22	**67.73**	**330**	P PKP2ab	**P**	**03 26 34.6**	**+1.3**
TXAR	comp=Z,0.1nm,0.5s,baz=302,slow=2.0,SNR=2.5					03 54 58.5	
OXF	**Oxford** baz=164	**67.75**	**344**	P	**P**	**03 26 33.3**	**+0.2**
TKL	**Tuckaleechee C** comp=Z,12nm,0.9s	**67.75**	**349**	IAmb	IAmb	03 26 34.1	
PLAL	**Pickwick Lake** comp=Z,16nm,1.1s	**67.90**	**345**	IAmb	IAmb	03 26 35.2	
V52A	**Sevierville** comp=Z,14nm,0.7s	**67.91**	**350**	IAmb	IAmb	03 26 34.7	
WLAR	**White Oak Lake**	**67.92**	**341**	P	**P**	**03 26 35.7**	**+1.5**
V51A	**Loudon** comp=Z,13nm,0.8s	**67.99**	**349**	IAmb	IAmb	03 26 35.7	
SYO	**Syowa Base**	**68.07**	**159**	*eP*	**P**	**03 26 34.4**	**-0.4**
TBI	**Tubuai** comp=Z,240nm,25.2s	**68.29**	**255**	*e*LR	LR	03 47 15.4	
TBI	**Tubuai** comp=Z,9.6nm,0.2s	**68.29**	**255**	*e*T	T	04 40 55.8	
U54A	**Nelsons Funny** comp=Z,23nm,1.1s	**68.32**	**351**	IAmb	IAmb	03 26 37.8	
TZTN	**Tazewell** baz=169	**68.59**	**350**	P	**P**	**03 26 37.8**	**-0.6**
X40A	**Basin Creek Fa** baz=161	**68.59**	**341**	P	**P**	**03 26 38.8**	**+0.4**
CLTN	**Cedars of Leba** comp=Z,16nm,0.6s	**68.62**	**347**	IAmb	IAmb	03 26 40.0	
MIAR	**Mount Ida** comp=Z,12nm,1.2s	**68.86**	**341**	IAmb	IAmb	03 26 52.8	
MIAR	**Mount Ida** baz=160	**68.86**	**341**	P	**P**	**03 26 40.4**	**+0.3**
WVT	**Waverly**	**68.96**	**346**	P	**P**	**03 26 41.0**	**+0.4**
WVT				pP	**sP**	**03 26 51.7**	**-0.4**
WVT	**Waverly** baz=165	**68.96**	**346**	P	**P**	**03 26 40.7**	**+0.1**
ABTX	**Abilene, Hawle** comp=Z,14nm,0.9s	**69.05**	**335**	IAmb	IAmb	03 26 43.5	
ABTX	**Abilene, Hawle** baz=155	**69.05**	**335**	P	**P**	**03 26 42.1**	**+0.8**
W41B	**Gary Mavity, V** baz=161	**69.08**	**342**	P	**P**	**03 26 42.0**	**+0.5**
WHAR	**Wooly Hollow** comp=Z,7.7nm,0.8s	**69.20**	**342**	IAmb	IAmb	03 26 43.4	
R58B	**Mineral** comp=Z,15nm,1.1s	**69.33**	**355**	IAmb	IAmb	03 26 44.7	
W39A	**Magazine** baz=160	**69.53**	**341**	P	**P**	**03 26 45.2**	**+1.0**
T47A	**Sharon Grove** comp=Z,19nm,1.1s	**69.64**	**347**	IAmb	IAmb	03 26 46.1	
LCAR	**Lake Charles**	**69.65**	**343**	P	**P**	**03 26 45.3**	**+0.4**
FCAR	**Ozark Folk Cen** comp=Z,8.5nm,0.7s	**69.73**	**342**	IAmb	IAmb	03 26 46.7	
U40A	**Yellville** comp=Z,16nm,0.8s	**70.36**	**342**	IAmb	IAmb	03 26 50.8	
U40A	**Yellville** baz=161	**70.36**	**342**	P	**P**	**03 26 49.6**	**+0.3**
MNTX	**Cornudas Mount** baz=150,SNR=8.9	**70.51**	**330**	P	**P**	**03 26 50.2**	**-0.2**
R49A	**Shelbyville** comp=Z,9.1nm,0.9s	**70.56**	**349**	IAmb	IAmb	03 26 52.5	
HHAR	**Hobbs** comp=Z,15nm,0.8s	**70.59**	**341**	IAmb	IAmb	03 26 52.2	
WMOK	**Wichita Mounta**	**70.66**	**337**	P	**P**	**03 26 51.9**	**+0.7**
WMOK				*PP	**sP**	**03 27 02.0**	**-0.8**
WMOK	**Wichita Mounta**	**70.66**	**337**	P	**P**	**03 26 51.9**	**+0.7**
WMOK				pP	**sP**	**03 27 02.0**	**-0.8**
WMOK	**Wichita Mounta** baz=156	**70.66**	**337**	P	**P**	**03

comp=Z,19nm,0.8s
N54A Moraine State 72.50 353 P P 03 27 02.2 +0.1
baz=172
KAN08 Anthony NE Sta 72.66 338 IAmb IAmb 03 27 05.2
comp=Z,27nm,1.0s
N51A Ashland 72.72 351 IAmb IAmb 03 27 04.4
comp=Z,23nm,1.1s
M55A Ridgway 72.89 354 IAmb IAmb 03 27 06.0
comp=Z,18nm,0.9s
SFIN Lafayette 72.92 348 P P 03 27 03.8 -0.8
baz=166
O44A Mansfield 72.97 347 IAmb IAmb 03 27 05.5
comp=Z,14nm,0.8s
N49A Columbus Grove 72.97 350 P P 03 27 05.0 +0.1
N49A pP sP 03 27 16.4 -0.1
M54A Oil Creek Stat 73.00 354 P P 03 27 05.0 -0.1
baz=173
M53A WI Miller and 73.04 353 P P 03 27 05.5 +0.2
baz=172
P40A Paris 73.16 344 P P 03 27 06.8 +0.8
P40A pP sP 03 27 17.9 +0.3
N47A Urbana 73.17 349 P P 03 27 05.8 -0.3
N47A pP sP 03 27 17.5 -0.1
L59A Walton 73.38 357 P P 03 27 08.8 +1.4
L59A IAmb IAmb 03 27 09.0
comp=Z,14nm,0.8s
L59A pP sP 03 27 19.8 +0.9
BINY Binghamton 73.43 357 P P 03 27 08.3 +0.7
baz=176
L56A Greenwood 73.46 355 IAmb IAmb 03 27 09.7
comp=Z,26nm,1.0s
WES Weston 73.50 0 P P 03 27 08.2 +0.2
WES pmax pmax
comp=Z,18nm,1.4s
WES Weston 73.50 0 P P 03 27 08.2 +0.2
WES IAmb IAmb 03 27 09.4
comp=Z,18nm,1.4s
HDIL Hopedale 73.52 346 P P 03 27 08.7 +0.5
baz=164
L61B Northampton 73.57 359 P P 03 27 08.7 +0.3
baz=179,SNR=5.3
P38A Dawn 73.62 343 IAmb IAmb 03 27 10.0
comp=Z,18nm,0.8s
HRV Adam Dziewonsk 73.62 0 P P 03 27 09.6 +0.9
baz=180
LIC Lamto 73.64 72 eP P 03 27 09.3 -0.2
comp=Z,83nm,1.2s
ERPA Erie 73.64 354 P P 03 27 09.6 +0.8
baz=172
ANMO Albuquerque 73.76 331⇑ eP P 03 27 11.2 +1.2
ANMO pmax pmax
comp=Z,3.0nm,1.0s
ANMO Albuquerque 73.76 331 P P 03 27 11.3 +1.3
ANMO Albuquerque 73.76 331 P P 03 27 11.2 +1.2
baz=150
K61A Williamstown 73.80 359 P P 03 27 10.9 +1.1
baz=178
TRY Troy 73.87 358 P P 03 27 11.9 +1.8
TRY IAmb IAmb 03 27 12.1
comp=Z,14nm,0.9s
TRY pP sP 03 27 22.7 +1.0
TIC Toumodi 73.89 72 eP P 03 27 10.8 -0.2
KIC Kosan Boka 73.95 72 eP P 03 27 11.3 0.0
comp=Z,64nm,0.7s
DBIC Dimbokro 74.03 72 P P 03 27 11.8 0.0
comp=Z,23nm,0.5s,baz=234,slow=6.1,SNR=32
DBIC Dimbokro 74.03 72 P P 03 27 12.0 +0.2
MMNY Mt. Morris Dam 74.08 355 IAmb IAmb 03 27 13.0
comp=Z,34nm,1.2s
J61A Chester 74.47 359 P P 03 27 14.7 +1.1
baz=179
J56A Wolcott 74.55 356 IAmb IAmb 03 27 15.4
comp=Z,15nm,0.8s
J57A Williamstown 74.63 357 IAmb IAmb 03 27 16.2
comp=Z,15nm,0.9s
CBKS Cedar Bluff 74.68 338 IAmb IAmb 03 27 17.2
comp=Z,16nm,0.8s
CBKS Cedar Bluff 74.68 338 P P 03 27 15.7 +0.7
baz=155
L44A Lake County Fo 74.82 348 P P 03 27 16.3 +0.6
baz=166
HNH Hanover 74.82 359 IAmb IAmb 03 27 18.2
comp=Z,11nm,0.9s
T25A Trinidad 74.84 333 P P 03 27 17.4 +1.1
T25A IAmb IAmb 03 27 19.2
comp=Z,18nm,0.8s
T25A Trinidad 74.84 333 P P 03 27 18.0 +1.8
baz=151,SNR=12
I60A Shoreham 74.98 359 P P 03 27 18.0 +1.5
baz=178
PECO Prince Edward 75.21 356 IAmb IAmb 03 27 19.0
comp=Z,11nm,0.6s
W18A Petrified Fore 75.32 328 IAmb IAmb 03 27 33.0
comp=Z,16nm,1.2s
W18A Petrified Fore 75.32 328 P P 03 27 18.9 -0.1
baz=147
J47A Sunmer 75.34 350 IAmb IAmb 03 27 20.4
comp=Z,22nm,0.8s
LBNH Lisbon 75.36 360 IAmb IAmb 03 27 21.5
comp=Z,11nm,0.8s
LBNH Lisbon 75.36 360 P P 03 27 20.0 +1.2
baz=180
MAW Mawson 75.49 164 P P 03 27 20.5 +1.1
comp=Z,10nm,0.5s,baz=195,slow=5.2,SNR=16
MAW Mawson 75.49 164 P P 03 27 20.5 +1.1
SCIA State Center 75.69 344 IAmb IAmb 03 27 22.8
comp=Z,17nm,0.6s
SCIA State Center 75.69 344 P P 03 27 21.0 +0.2
baz=161
LONY Lake Ozonia 75.78 358 IAmb IAmb 03 27 22.9
comp=Z,11nm,0.9s
LONY Lake Ozonia 75.78 358 P P 03 27 21.5 +0.3
baz=177,SNR=5.4
SDCO Great Sand Dun 75.79 333 P P 03 27 22.8 +1.0
baz=151,SNR=9.2
FRNY Flat Rock 75.97 359 P P 03 27 23.4 +1.2
FRNY IAmb IAmb 03 27 24.1
comp=Z,10nm,0.8s
JFWS Jewell Farm 75.98 346 IAmb IAmb 03 27 23.4
comp=Z,17nm,0.6s
JFWS Jewell Farm 75.98 346 P P 03 27 22.9 +0.5
baz=164
SADO Sadowa 76.19 354 IAmb IAmb 03 27 24.7
comp=Z,17nm,0.7s
PLVO Plevna 76.32 356 IAmb IAmb 03 27 25.9
comp=Z,14nm,0.9s
S22A 4UR Ranch, Cre 76.32 332 P P 03 27 26.0 +1.2
baz=150
G62A West of Eustis 76.34 1 P P 03 27 26.1 +1.8
G62A IAmb IAmb 03 27 26.4
comp=Z,13nm,0.8s
WUAZ Wupatki 76.40 328 P P 03 27 26.7 +1.6
baz=146
MVCO Mesa Verde 76.55 330 P P 03 27 26.3 +0.3
baz=148,SNR=5.0
Q24A Divide 76.72 334 P P 03 27 26.8 -0.3
baz=151,SNR=6.9
BC3 Big Chuckawall 76.86 324 P P 03 27 29.0 +1.3
baz=143
F62A Pittston Farm, 77.03 1 P P 03 27 29.6 +1.4
F62A IAmb IAmb 03 27 30.7
comp=Z,11nm,0.9s
IRM Iron Mountain 77.11 324 P P 03 27 30.5 +1.5
baz=143
PV01 Paradox Valley 77.36 331 P P 03 27 32.1 +1.5
BELC Belle Mtn. Jos 77.41 323 P P 03 27 31.7 +0.9
baz=142
ISCO Idaho Springs 77.62 334 P P 03 27 33.0 +0.9
baz=151,SNR=7.1
PV22 Blue Mesa, Par 77.79 331 P P 03 27 33.3 +0.4
D62A Allapoint, All 78.23 2 P P 03 27 36.0 +1.1
D62A IAmb IAmb 03 27 37.0
comp=Z,14nm,0.9s
ECSD EROS Data Cent 78.27 342 P P 03 27 36.1 +0.8
baz=158
BFSC Mount Baldy Ra 78.45 322 P P 03 27 38.2 +1.5
baz=141
TUQ Turquoise Moun 78.51 324 P P 03 27 37.8 +0.9
baz=143
N23A Red Feather La 78.70 334 P P 03 27 39.3 +1.3
baz=151
E43A Lone Tree Farm 78.73 349 IAmb IAmb 03 27 39.1
comp=Z,22nm,0.8s
SPMN Marine on St. 78.74 345 P P 03 27 37.9 +0.1
SPMN IAmb IAmb 03 27 38.5
comp=Z,20nm,1.1s
GSC Goldstone, Bar 78.84 324 P P 03 27 40.1 +1.4
baz=142
PHWY Pilot Hill 78.88 335 IAmb IAmb 03 27 40.9
comp=Z,7.2nm,0.6s
O20A White River Ci 78.93 332 P P 03 27 40.6 +1.4
baz=149
EDW2 Edwards Air Fo 79.12 323 P P 03 27 40.8 +0.6
baz=141
KOWA Kowa 79.27 66 P P 03 27 41.7 +0.3
KOWA IAmb IAmb 03 27 54.0
comp=Z,22nm,0.8s
F36A Milaca 79.50 345 IAmb IAmb 03 27 42.9
comp=Z,14nm,0.9s
TSUM Tsumeb 79.55 106 P P 03 27 44.0 +0.9
TSUM IAmb IAmb 03 28 00.5
comp=Z,13nm,0.9s
SUSD Miller 79.57 340 IAmb IAmb 03 27 43.7
comp=Z,19nm,0.8s
SUSD Miller 79.57 340 P P 03 27 42.3 0.0
baz=156
MPMC Manual Prospec 79.78 324 P P 03 27 45.2 +1.3
baz=142
FURC Furnace Creek, 79.79 324 P P 03 27 45.7 +2.1
baz=142
TPNV Topopah Spring 79.87 325 P P 03 27 46.5 +2.2
baz=142
ISA Isabella, Lake 79.98 323 P P 03 27 47.0 +2.2
baz=141
PKM Mcpherson Peak 80.09 322 P P 03 27 47.4 +1.8
baz=140
CWC Cottonwood Cre 80.38 324 P P 03 27 49.0 +1.9
baz=141
VES Vestal, Richgr 80.43 323 P P 03 27 49.4 +2.2
baz=140
K22A Casper 80.44 335 IAmb IAmb 03 28 02.6
comp=Z,19nm,1.4s
K22A Casper 80.44 335 P P 03 27 48.5 +1.2
baz=150
GRAC Grapevine Rang 80.45 324 P P 03 27 49.0 +1.6
baz=142
SMMC Simmler 80.51 322 P P 03 27 48.4 +0.7
baz=140
R11A Troy Canyon, C 80.66 326 P P 03 27 49.7 +1.1
baz=143
LCH Last Change Ra 80.78 324 P P 03 27 49.5 +0.3
LCH pP sP 03 28 01.2 +0.4
RSSD Black Hills 80.86 337 P P 03 27 50.9 +1.4
RSSD pmax pmax
comp=Z,6.0nm,0.9s
RSSD Black Hills 80.86 337 P P 03 27 50.9 +1.4
RSSD Black Hills 80.86 337 P P 03 27 51.0 +1.4
baz=152
DUG Dugway, Tooele 80.89 329 P P 03 27 51.2 +1.4
baz=145
BOSA Boshof 80.92 118 P P 03 27 50.0 -0.3
comp=Z,12nm,0.8s,baz=231,slow=3.8,SNR=12
BOSA Boshof 80.92 118 P P 03 27 50.5 +0.1
BOSA IAmb IAmb 03 28 03.1
comp=Z,27nm,1.2s
EYMN Ely 81.06 347 P P 03 27 51.3 +1.0
baz=163
HWUT Hardware Ranch 81.53 331 IAmb IAmb 03 27 55.0
comp=Z,6.9nm,0.7s
SPUT South Promonto 81.65 330 IAmb IAmb 03 28 07.0
comp=Z,16nm,1.3s
PDAR Pinedale Array 81.69 333 P P 03 27 54.8 +0.8
comp=Z,1.0nm,0.6s,baz=144,slow=4.9,SNR=10.0
PDAR Pinedale Array 81.69 333 P P 03 27 54.5 +0.4
B35A Bob, Littlefor 81.91 345 IAmb IAmb 03 27 55.8
comp=Z,18nm,0.8s
E28A Huff 82.02 340 IAmb IAmb 03 27 56.8
comp=Z,13nm,0.6s
NVAR Mina Array Bea 82.04 325 P P 03 27 57.3 +1.4
comp=Z,2.7nm,0.8s,baz=162,slow=6.7,SNR=17
NVAR Mina Array Bea 82.04 325 P P 03 27 57.5 +1.6
AGMN Agassiz Nation 82.34 344 IAmb IAmb 03 27 58.2
comp=Z,10nm,0.7s
AGMN Agassiz Nation 82.34 344 P P 03 27 56.7 -0.3
baz=159,SNR=5.6
CASY Casey 82.54 181 P P 03 27 59.2 +1.2
CASY IAmb IAmb 03 28 00.7
comp=Z,20nm,0.8s
TPAW Teton Pass 82.85 332 P P 03 27 60.0 -0.2
MDND Maddock 82.87 341 P P 03 28 00.1 +0.3
baz=156,SNR=6.1
TORD Torodi Ar. Bea 83.01 70 P P 03 28 01.3 0.0
comp=Z,25nm,0.8s,baz=261,slow=4.7,SNR=39
TORD Torodi Ar. Bea 83.01 70 P P 03 28 01.2 0.0
TORD pP sP 03 28 12.6 -0.5
LBTB Lobatse 83.03 115 P P 03 28 00.8 -0.7
LBTB pmax pmax
comp=Z,15nm,0.8s
LBTB Lobatse 83.03 115 P P 03 28 00.8 -0.7
LBTB IAmb IAmb 03 28 02.3
comp=Z,15nm,0.8s
PNTR Pine Nut 83.19 324 IAmb IAmb 03 28 04.9
comp=Z,9.6nm,0.8s
RLMT Red Lodge 83.58 334 P P 03 28 04.8 +1.0
baz=148
LAO LASA Array 83.85 337 IAmb IAmb 03 28 06.2
comp=Z,7.8nm,0.9s
LAO LASA Array 83.85 337 P P 03 28 05.9 +1.0
baz=151
ULM Lac du Bonnet 84.17 345 P P 03 28 06.0 -0.4
comp=Z,9.1nm,0.8s,baz=176,slow=2.3,SNR=9.4
ULM Lac du Bonnet 84.17 345 P P 03 28 06.0 -0.4
ULM Lac du Bonnet 84.17 345 P P 03 28 06.7 +0.3
ULM IAmb IAmb 03 28 07.3
comp=Z,11nm,0.8s
HLID Hailey 84.33 330 P P 03 28 08.8 +1.2
baz=144
DGMT Dagmar 84.77 339 P P 03 28 10.4 +0.8
baz=152
MFID Camas Ranch 84.82 329 P P 03 28 11.3 +1.3
BOZ Bozeman (W) 84.88 333 P P 03 28 11.6 +1.3
baz=147
O03E Paynes Creek 85.21 324 P P 03 28 12.8 +0.8
baz=139
J08A Circle Bar Ran 85.95 328 IAmb IAmb 03 28 18.3
comp=Z,9.2nm,0.8s
N02D Trinity Center 86.17 324 P P 03 28 17.4 +0.7
baz=138
PLID Pearl Lake 86.23 330 IAmb IAmb 03 28 19.1
comp=Z,5.5nm,0.8s
M02C Callahan 86.56 324 P P 03 28 19.8 +1.1
baz=138
K05A Summer Lake 86.60 326 P P 03 28 20.1 +1.2
K05A IAmb IAmb 03 28 23.8
comp=Z,7.6nm,1.0s
I07A Izee 86.99 328 IAmb IAmb 03 28 34.7
comp=Z,12nm,1.4s
J05D Fort Rock, OR 87.19 326 P P 03 28 23.0 +1.2
baz=139
PINE Pine Mountain 87.43 327 IAmb IAmb 03 28 25.7
comp=Z,8.2nm,0.8s
L02E Cave Junction 87.50 324 P P 03 28 24.4 +1.3
baz=138
J04D Umpqua Nationa 87.57 326 P P 03 28 25.3 +1.6
baz=139
K02D Willamette Mer 87.93 324 P P 03 28 26.3 +1.1
baz=138
I05D Terrebonne, OR 88.03 327 P P 03 28 26.8 +1.1
baz=139
WALA Waterton Lakes 88.61 334 IAmb IAmb 03 28 41.4
comp=Z,13nm,1.2s
HAWA Hanford 88.79 329 IAmb IAmb 03 28 43.5
comp=Z,10nm,1.3s
F05D White Salmon 89.26 328 P P 03 28 32.6 +1.2
baz=139
C09A Chrisman Ranch 89.34 331 P P 03 28 32.5 +0.8
C09A IAmb IAmb 03 28 33.4
comp=Z,5.8nm,0.8s
LSZ Lusaka 90.24 108 P P 03 28 37.3 +0.4
LSZ pmax pmax
comp=Z,14nm,1.1s
LSZ Lusaka 90.24 108 P P 03 28 37.3 +0.4
LSZ IAmb IAmb 03 28 50.9
comp=Z,14nm,1.1s
EDM Edmonton 91.83 336 IAmb IAmb 03 28 42.8
comp=Z,7.3nm,0.9s
ESDC Sonseca Array 94.56 46 P P 03 28 55.9 -0.3
comp=Z,1.4nm,0.9s,baz=241,slow=4.9,SNR=8.4
DZM Mont Dzumac 103.02 234 eLR LR 04 03 21.8
comp=Z,222nm,25.7s
GERES GERESS Array B 110.11 45 PKiKP **PKiKP** 03 34 06.5 -0.5
comp=Z,0.5nm,0.7s,baz=252,slow=2.1,SNR=4.4
ILAR Eielson Array 112.11 333 PKiKP **PKiKP** 03 34 10.3 +0.2
comp=Z,0.7nm,0.9s,baz=151,slow=2.3,SNR=5.6
ASAR Alice Springs 119.97 207 PKP **PKPdf** 03 34 25.9 -0.8
comp=Z,0.9nm,0.6s,baz=136,slow=2.5,SNR=8.0
ASAR PKKPbc **PKKPbc** 03 44 33.9 -1.1
comp=Z,0.6nm,0.6s,baz=329,slow=2.7,SNR=6.0
ASAR Alice Springs 119.97 207 PKPdf **PKPdf** 03 34 26.1 -0.6
SPITS Spitsbergen Ar 120.15 14 PKP **PKPdf** 03 34 25.2 -0.1
comp=Z,3.1nm,0.8s,baz=119,slow=5.2,SNR=6.1
AKASG Malin Array Be 120.20 46 PKP **PKPdf** 03 34 24.8 -1.2
comp=Z,1.6nm,0.5s,baz=267,slow=2.5,SNR=12
AKASG Malin Array Be 120.20 46 PKPdf **PKPdf** 03 34 25.3 -0.8
AKBB Malin Array Si 120.20 46 *c* iPKIKP **PKPdf** 03 34 25.8 -0.3
BRTR Keskin Array B 120.27 59 PKP **PKPdf** 03 34 26.2 -0.5
comp=Z,2.7nm,0.9s,baz=210,slow=4.4,SNR=7.1
FINES FINESS Array B 120.70 34 PKP **PKPdf** 03 34 26.8 +0.1
comp=Z,1.7nm,0.8s,baz=207,slow=2.1,SNR=5.3
FIA1 FINESS Array S 120.70 34 PKPdf **PKPdf** 03 34 25.9 -0.7
ARCES ARCESS Array B 121.58 24 PKP **PKPdf** 03 34 27.6 -0.6
comp=Z,1.1nm,0.5s,baz=252,slow=3.3,SNR=9.1
ARCES PKKPbc **PKKPbc** 03 44 28.8 -0.8
comp=Z,2.5nm,1.0s,baz=97,slow=2.1,SNR=3.8
BNN Bunyan 121.65 61 PKPdf **PKPdf** 03 34 29.4 -0.1
WRA Warramunga Arr 123.13 209 PKP **PKPdf** 03 34 32.5 -0.3
comp=Z,2.4nm,0.6s,baz=170,slow=2.1,SNR=18
WRA Warramunga Arr 123.13 209 PKPdf **PKPdf** 03 34 33.2 +0.4
WRAB Tennant Creek 123.14 209 ||*i* PKIKP **PKPdf** 03 34 33.1 +0.3
OBN Obninsk 125.34 42 *c i* PKIKP **PKPdf** 03 34 36.2 +0.4
OBN *i* 03 34 47.6
OBN *e* 03 36 26.9
OBN pmax pmax
comp=Z,5.0nm,0.5s
OBN MLR MLR
comp=Z,111nm,20.0s
H11S2 WAKE ISLAND Hyl 126.14 271 T T 05 53 35.7
baz=116,slow=75,SNR=245
H11S1 WAKE ISLAND Hyl 126.15 271 T T 05 53 31.2
baz=116,slow=75,SNR=20
H11S3 WAKE ISLAND Hyl 126.16 271 T T 05 53 37.0
baz=116,slow=75,SNR=259
H11N3 WAKE ISLAND Hyl 126.49 272 T T 05 54 00.8
baz=116,slow=75,SNR=106
H11N1 WAKE ISLAND Hyl 126.50 272 T T 05 53 58.1
baz=116,slow=75,SNR=59
H11N2 WAKE ISLAND Hyl 126.51 272 T T 05 53 55.5
baz=116,slow=75,SNR=287
KLMR Klimovskoe 127.14 35 *e* PKIKP **PKPdf** 03 34 38.6 -0.5
KLMR pmax pmax
comp=Z,31nm,1.5s
KLMR Klimovskoe 127.14 35 *e* PKPdf **PKPdf** 03 34 38.7 -0.4
KLMR AMP 03 34 52.5
comp=Z,31nm,1.5s
KIV Kislovodsk 127.82 56 *i* PKIKP **PKiKP** 03 34 45.4 +3.8
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,58nm,25.0s
KBZ Khabaz 127.94 57 PKP **PKiKP** 03 34 41.9 +0.2
comp=Z,3.0nm,0.9s,baz=141,slow=2.6,SNR=4.9
KBZ Khabaz 127.94 57⇑ *i* PKIKP **PKiKP** 03 34 42.3 +0.6
FITZ Fitzroy Crossi 128.00 201 PKP **PKPdf** 03 34 42.2 +0.1
comp=Z,2.5nm,0.7s,baz=187,slow=11,SNR=8.0
BILL Bilibino 130.72 335 *e* PKIKP **PKPdf** 03 34 46.5 +0.8
BILL pmax pmax
comp=Z,5.0nm,0.4s
BELG Belogornoye 131.78 46 PKP **PKPdf** 03 34 48.1 0.0
comp=Z,12nm,0.8s,baz=124,slow=4.2,SNR=4.6
ARU Arti 137.58 39 PKP **PKPdf** 03 34 59.2 +0.3
comp=Z,1.6nm,0.4s,baz=260,slow=1.0,SNR=8.7
ARU Arti 137.58 39 *i* PKIKP **PKPdf** 03 35 00.0 +1.1
ARU 03 37 45.6
ARU Arti 137.58 39 PKPdf **PKPdf** 03 34 59.8 +0.9
AKTO Aktyubinsk 138.41 48 PKP **PKPdf** 03 34 59.4 -1.2
comp=Z,1.6nm,0.7s,baz=237,slow=2.4,SNR=5.3
PETK Petropavlovsk- 138.63 316 PKP **PKPdf** 03 35 01.3 +0.4
comp=Z,5.7nm,0.9s,baz=116,slow=3.4,SNR=8.4
PETK Petropavlovsk- 138.63 316 PKPdf **PKPdf** 03 35 01.8 +0.9
ABKAR Akbulak array 139.80 49 PKPdf **PKPdf** 03 35 03.6 +0.4
MA2 Magadan 140.22 328 ||*i* PKIKP **PKPdf** 03 35 05.2 +1.6
NRIK Noril'sk 140.28 11⇑ *i* PKIKP **PKiKP** 03 35 09.9 +3.9
BRVK Borovoye 145.09 41 *ce* PKIKP **PKPdf** 03 35 12.7 +0.2
BRVK Borovoye 145.09 41 PKPbc **PKPdf** 03 35 13.2 +0.7
BVAR Borovoye Array 145.16 41 PKPbc **PKPdf** 03 35 13.2 +0.6
comp=Z,30nm,0.5s,baz=262,slow=4.5,SNR=68
YAK Yakutsk 146.47 342 PKPbc **PKPdf** 03 35 14.7 +0.2
comp=Z,27nm,0.6s,baz=163,slow=0.6,SNR=8.5
YAK Yakutsk 146.47 342 *e* PKP2 **PKPbc** 03 35 15.8 -0.1
YAK *e* 03 38 41.1
YAK pmax pmax
comp=Z,78nm,1.1s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK pmax pmax
comp=Z,126nm,3.7s
YAK pmax pmax
comp=N,32nm,3.5s
YAK pmax pmax
comp=E,13nm,1.6s
YAK Yakutsk 146.47 342 PKPdf **PKPbc** 03 35 16.3 +0.4
KBL Kabul 147.00 74 PKP2 **PKPab** 03 35 20.0 -0.2
KBL Kabul 147.00 74 PKPbc **PKPab** 03 35 19.9 -0.2
CHGR Chuyangaron 147.28 66 PKPbc **PKPdf** 03 35 18.3 +1.5
KK31 Karatay Array 147.96 58 PKP2 **PKPbc** 03 35 20.8 0.0
KK31 Karatay Array 147.96 58 PKPbc **PKPbc** 03 35 20.8 0.0
KKAR Karatay Array 147.96 58 PKP2 **PKPbc** 03 35 21.0 +0.2
KKAR Karatay Array 147.96 58 PKPbc **PKPbc** 03 35 21.0 +0.2
GAR Garm 148.18 66 PKPbc **PKPbc** 03 35 22.4 +0.8
GSI Gunungsitoli 148.29 159 PKPbc **PKPbc** 03 35 23.0 +0.5
DRK Karamyk 149.31 65 PKPbc **PKPbc** 03 35 24.3 -0.4
YSS Yuzh-Sakhalins 149.51 310⇑ *e* PKP2 **PKPbc** 03 35 24.9 +0.4
YSS pmax pmax
comp=Z,30nm,0.5s
YSS MLR MLR
comp=Z,200nm,18.0s
YSS Yuzh-Sakhalins 149.51 310 PKPbc **PKPbc** 03 35 24.4 -0.1
HYB Hyderabad 149.56 110 *i* PKP **PKPbc** 03 35 24.0 -1.6
RPSI Rantau Prapat 150.01 161 PKPbc **PKPbc** 03 35 26.3 -0.5
PSI Prapat 150.11 161 PKIKP **PKPbc** 03 35 26.3 -0.9
EKS2 Erkin-Say 150.40 58 P **PKiKP** 03 35 27.9 +0.1
SNR=14
AML Almayashu 150.43 59 P **PKiKP** 03 35 28.3 +0.1
SNR=6.4
KURBB Kurchatov Arra 150.75 40 PKPbc **PKPbc** 03 35 27.6 +0.1
comp=Z,18nm,0.7s,baz=300,slow=3.0,SNR=10
KURK Kurchatov 150.76 40 PKIKP **PKPbc** 03 35 27.6 +0.2
KURK Kurchatov 150.76 40 **PKPbc** 03 35 27.6 +0.2
USP Ospenovka 150.80 57 P **PKPbc** 03 35 28.4 +0.5
SNR=10
AAK Ala-Archa 150.92 58 PKPbc **PKiKP** 03 35 29.3 +0.4
comp=Z,22nm,0.8s,baz=212,slow=2.2,SNR=24
AAK Ala-Archa 150.92 58 P **PKPbc** 03 35 28.9 +0.6
SNR=12
AAK Ala-Archa 150.92 58 *c* iPKIKP **PKiKP** 03 35 29.5 +0.6
AAK pmax pmax
comp=Z,114nm,1.3s
AAK Ala-Archa 150.92 58 **PKiKP** 03 35 29.5 +0.6
UCH Uchtor 151.02 59 P **PKiKP** 03 35 30.2 +0.6
SNR=14
KZA Kyzart 151.58 59 P **PKiKP** 03 35 31.4 +0.8
SNR=6.2
TKM2 Tokmak 2 151.66 57 P **PKiKP** 03 35 30.7 +0.2
SNR=9.8
ZALV Zalesovo Beam 151.88 30 PKPbc **PKPbc** 03 35 30.4 +0.5
comp=Z,92nm,0.5s,baz=301,slow=2.7,SNR=43
ULHL Ulahol 152.27 58 P **PKiKP** 03 35 32.7 +0.9
SNR=7.7
KSH Kashi 152.52 64 PKPbc **PKPdf** 03 35 26.8 +1.7
KSH sPKP 03 35 41.8
KSH PP **PP** 03 39 15.0 -0.5
BOD Bodaibo 153.38 353 *e* PKIKP **PKPdf** 03 35 26.0 +0.5
BOD pmax pmax
comp=Z,17nm,1.4s
MKAR Makanchi Array 154.78 45 PKP **PKPdf** 03 35 27.5 -0.5
comp=Z,1.4nm,0.8s,baz=338,slow=2.6,SNR=5.9
MKAR PKPbc **pPKPdf** 03 35 36.5 -0.3
comp=Z,4.6nm,0.6s,baz=280,slow=1.9,SNR=18
KLR Kul'dur 155.04 322 PKP **PKPdf** 03 35 27.5 -0.7
comp=Z,2.1nm,0.7s,baz=5.2,slow=5.4,SNR=7.3
WMQ Urumqi 159.56 47 *e* PKP **PKPdf** 03 35 35.3 +1.2
KSRS Korea Array 162.84 296 PKP **PKPdf** 03 35 37.1 -0.6
comp=Z,1.4nm,0.7s,baz=64,slow=1.7,SNR=4.3
KSRS PKPab **PKPab** 03 36 28.8 +1.9
comp=Z,1.2nm,0.7s,baz=93,slow=4.6,SNR=2.8
SONM Songino Array 163.59 5 PKP **PKPdf** 03 35 37.5 -0.8
comp=Z,1.4nm,0.9s,baz=300,slow=1.2,SNR=4.3

CMAR	**Chiang Mai Arr**	**164.47**	**144**	PKP	**PKPdf**	**03 35 39.5**	**-0.3**
	comp=Z,1.5nm,0.4s,baz=76,slow=0.6,SNR=4.8						
CMAR				PKPab	**PKPab**	**03 36 34.2**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=216,slow=4.5,SNR=1.3						
GTA	**Gaotai**	**169.44**	**39**	⇑PKP	**PKPdf**	**03 35 44.0**	**+0.9**
GTA				sPKP		03 35 56.0	
GTA				PKPab	**PKPab**	**03 36 56.9**	**+0.9**
GTA				LR	LR		
	comp=Z,160nm,20.0s						
GTA				LR	LR		
	comp=Z,140nm,17.8s						
GTA				LR	LR		
	comp=Z,140nm,18.2s						
HHC	**Hu-ho-hao-te**	**170.31**	**346**	*e*PKP	**PKPdf**	**03 35 42.8**	**-0.7**
HHC				LR	LR		
	comp=Z,110nm,13.6s						
HHC				LR	LR		
	comp=Z,130nm,14.5s						
HHC				LR	LR		
	comp=Z,110nm,15.3s						
NJ2	**Nanjing**	**171.08**	**276**	*e*PKP	**PKPdf**	**03 35 43.3**	**-0.7**
LZH	**Lanzhou**	**174.04**	**38**	*e*PKP	**PKPdf**	**03 35 41.0**	**-4.4**
LZH				sPKP		03 35 57.8	
LZH				LR	LR		
	comp=Z,170nm,18.1s						
LZH				LR	LR		
	comp=Z,140nm,19.0s						
LZH				LR	LR		
	comp=Z,100nm,17.9s						
XAN	**Xi'an**	**177.41**	**350**	PKP	**PKPdf**	**03 35 46.9**	**+0.8**
XAN				sPKP		03 35 57.0	

*IDC **18** 03:22:19.6±1.6,29˙20S×71˙60W,h0km,mb3.6/3, mb1 3.9/3,mb1mx3.8/22,mbtmp3.6/3 Error ellipse: s-maj=79.0km s-min=43.3km az=23.0*

ISC 18 03:22:20.6±1.6,29˙3S±0˙5×71˙6W±0˙3,h10km,n14, σ1§40/9,mb3.6/3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**65.86**	**329**	P		**P**	**03 33 06.7**	**+0.1**
	0.1nm,0.5s,baz=150,slow=9.3,SNR=2.2							
NVAR	**Mina Array Bea**	**80.27**	**325**	P		**P**	**03 34 32.4**	**+0.6**
	0.4nm,0.6s,baz=161,slow=5.7,SNR=1.6							
TORD	**Torodi Ar. Bea**	**82.25**	**70**	P		**P**	**03 34 44.1**	**+1.5**
	1.9nm,0.7s,baz=241,slow=2.6,SNR=8.9							
WRA	**Warramunga Arr**	**125.04**	**210**	PKP		**PKiKP**	**03 41 22.2**	**0.0**
	0.4nm,0.7s,baz=158,slow=2.4,SNR=1.9							
H11S2	**WAKE ISLAND Hyl**	**126.11**	**272**	T		T	06 00 13.8	
	baz=114							
H11S1	**WAKE ISLAND Hyl**	**126.12**	**272**	T		T	06 00 12.3	
	baz=114							
H11S3	**WAKE ISLAND Hyl**	**126.12**	**272**	T		T	06 00 15.1	
	baz=114							
H11N3	**WAKE ISLAND Hyl**	**126.40**	**274**	T		T	06 00 29.1	
	baz=117							
H11N1	**WAKE ISLAND Hyl**	**126.41**	**274**	T		T	06 00 36.3	
	baz=117							
H11N2	**WAKE ISLAND Hyl**	**126.42**	**274**	T		T	06 00 35.0	
	baz=117							
BVAR	**Borovoye Array**	**143.47**	**39**	PKP		**PKPdf**	**03 41 55.5**	**+0.4**
	1.9nm,0.6s,baz=258,slow=6.8,SNR=8.8							
KURBB	**Kurchatov Arra**	**149.05**	**38**	PKPbc		**PKiKP**	**03 42 08.2**	**-1.8**
	1.1nm,0.4s,baz=305,slow=3.2,SNR=7.2							
ZALV	**Zalesovo Beam**	**149.97**	**28**	PKPbc		**PKiKP**	**03 42 11.8**	**0.0**
	3.1nm,0.5s,baz=323,slow=2.2,SNR=7.7							
MKAR	**Makanchi Array**	**153.19**	**42**	PKPbc		**PKiKP**	**03 42 18.4**	**-0.3**
	0.2nm,0.6s,baz=318,slow=1.9,SNR=2.0							
MKAR				PKPab		**PKPab**	**03 42 27.9**	**-2.4**
	0.4nm,0.5s,baz=328,slow=3.7,SNR=2.9							

*IDC **18** 03:22:23.2±1.2,31˙87S×72˙07W,h0km,mb3.6/2, mb1 4.1/5,mb1mx3.9/24,mbtmp3.8/5,ML4.0/3,Error ellipse: s-maj=60.6km s-min=31.8km az=84.0*

ISC 18 03:22:23.9±1.0,31˙9S±0˙1×71˙8W±0˙4,h10km,n11, σ1§28/8,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**8.85**	**174**	Pn		**Pn**	**03 24 31.3**	**-0.6**
	0.4nm,0.3s,baz=1.2,slow=18,SNR=1.9							
LVC	**Limon Verde**	**9.62**	**16**	Pn		**Pn**	**03 24 42.4**	**-0.3**
	1.1nm,0.3s,baz=180,slow=8.1,SNR=1.4							
LPAZ	**La Paz**	**15.91**	**13**	Pn		**Pn**	**03 26 07.4**	**-1.2**
	0.2nm,0.3s,baz=192,slow=6.7,SNR=2.7							
TXAR	**Lajitas Array**	**68.04**	**330**	P		**P**	**03 33 22.4**	**-1.3**
	0.2nm,0.5s,baz=146,slow=9.8,SNR=4.1							
NVAR	**Mina Array Bea**	**82.31**	**325**	P		**P**	**03 34 47.1**	**+1.2**
	0.5nm,0.7s,baz=146,slow=5.8,SNR=3.6							
H11S2	**WAKE ISLAND Hyl**	**126.00**	**270**	T		T	05 59 13.3	
	baz=121							
H11S1	**WAKE ISLAND Hyl**	**126.01**	**271**	T		T	05 59 13.1	
	baz=121							
H11S3	**WAKE ISLAND Hyl**	**126.02**	**270**	T		T	05 59 12.8	
	baz=121							
BVAR	**Borovoye Array**	**145.59**	**41**	PKPbc		**PKPab**	**03 42 03.4**	**+1.0**
	2.4nm,0.6s,baz=251,slow=4.4,SNR=8.6							
KURBB	**Kurchatov Arra**	**151.18**	**41**	PKPbc		**PKiKP**	**03 42 19.1**	**+1.5**
	1.1nm,0.3s,baz=300,slow=2.9,SNR=8.1							
ZALV	**Zalesovo Beam**	**152.34**	**30**	PKPbc		**PKiKP**	**03 42 20.1**	**+0.3**
	3.7nm,0.5s,baz=297,slow=3.4,SNR=8.3							

*IDC **18** 03:26:10.4±1.1,5˙84S×151˙37E,h0km,mb4.0/6, mb1 4.2/6,mb1mx3.8/40,mbtmp4.0/6,Error ellipse: s-maj=58.3km s-min=23.5km az=130.0*

*NEIC **18** 03:26:13.1±1.1,6˙2S±0˙1×151˙6E±0˙3,h10km±2km, mb4.0/5,Error ellipse: s-maj=44.1km s-min=18.8km az=108.0*

ISC 18 03:26:16.1±1.2,6˙1S±0˙2×151˙6E±0˙3,h41km,n14, σ0§83/13,mb3.9/9,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.96**	**16**			**Pn**	**03 26 46.5**	**-0.4**
WB0	**Warramunga Arr**	**21.57**	**229**	P		**P**	**03 31 01.8**	**-0.6**
WB0				IAmb		IAmb	03 31 12.1	
	comp=Z,4.2nm,0.8s							
WR0	**Warramunga Arr**	**21.57**	**229**	P		**P**	**03 31 01.5**	**-0.9**
WR0				IAmb		IAmb	03 31 06.5	
	comp=Z,23nm,1.9s							
WB2	**Warramunga Arr**	**21.71**	**229**	P		**P**	**03 31 02.8**	**-1.0**
WB2				IAmb		IAmb	03 31 18.6	
	comp=Z,3.7nm,0.7s							
WRA	**Warramunga Arr**	**21.71**	**229**	P		**P**	**03 31 03.8**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=52,slow=11,SNR=13							
AS31	**Alice Springs**	**24.41**	**222**	P		**P**	**03 31 30.6**	**-0.3**
ASAR	**Alice Springs**	**24.41**	**222**	P		**P**	**03 31 30.9**	**0.0**
	comp=Z,1.7nm,0.5s,baz=54,slow=9.2,SNR=22							
FITZ	**Fitzroy Crossi**	**28.02**	**242**	P		**P**	**03 32 02.9**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=58,slow=8.1,SNR=19							
NJ2	**Nanjing**	**49.12**	**323**	*e*P		**P**	**03 34 59.8**	**0.0**
NJ2				pmax		pmax		
	comp=Z,7.0nm,0.5s							
BJT	**Baijiatuan**	**56.31**	**328**	P		**P**	**03 35 54.5**	**+1.7**
ILAR	**Eielson Array**	**83.79**	**22**	P		**P**	**03 38 40.2**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=248,slow=5.5,SNR=7.4							
QSPA	**South Pole Qui**	**83.88**	**180**	P		**P**	**03 38 42.3**	**+0.8**
	comp=Z,1.8nm,1.0s,baz=0.0,slow=3.0,SNR=6.8							
YKA	**Yellowknife Ar**	**97.11**	**28**	P		Pdif	03 39 45.3	+1.6
	comp=Z,0.9nm,0.6s,baz=284,slow=5.0,SNR=1.9							
TORD	**Torodi Ar. Bea**	**149.55**	**286**	PKPbc		**PKPbc**	**03 46 01.7**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=100,slow=1.8,SNR=0.6							

*IDC **18** 03:31:21.9±2.2,30˙90S×71˙90W,h0km,mb3.8/1, mb1 3.6/5,mb1mx3.5/26,mbtmp3.5/5,ML3.3/4,Error ellipse: s-maj=91.7km s-min=29.3km az=104.0*

*SJA **18** 03:31:26.7±0.6,31˙11S×71˙94W,h51km±9km,ML5.0, MW4.7*

ISC 18 03:31:22.2±1.0,30˙96S±0˙05×72˙09W±0˙07,h12km,n43, σ2§01/37,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO03	**El Pedregal**	**1.21**	**85**	*e*P		**Pn**	**03 31 44.0**	**-1.1**
CO03				IAML			03 33 08.0	
	comp=Z,21μm,0.7s							
VA01	**Torpederas**	**2.10**	**170**	*e*P		**Pn**	**03 31 59.0**	**+1.9**
VA01				*e*S		Sg	03 32 41.8	+12
VA01				IAML			03 33 08.5	
	comp=Z,6μm,0.9s							
VA03	**San Esteban**	**2.23**	**144**	*e*P		**Pn**	**03 32 00.0**	**+0.9**
VA03				IAML			03 33 13.5	
	comp=Z,16μm,0.6s							
LCO	**Las Campanas**	**2.28**	**32**	*e*P		**Pg**	**03 32 05.0**	**-1.0**
AROD	**Rodeo**	**2.39**	**71**	*e*P		**Pb**	**03 32 05.0**	**-0.4**
ACCO	**Cerro Coronel**	**2.63**	**83**	*e*P		**Pn**	**03 32 07.0**	**+2.2**
ACDV	**Cuesta del Vie**	**2.68**	**74**	*e*P		**Pb**	**03 32 09.7**	**-0.5**
ACDV				IAML			03 33 51.2	
	comp=Z,7μm,1.2s							
AC04	**Llanos de Chal**	**2.88**	**18**	*e*P		**Pb**	**03 32 14.0**	**+0.4**
AC04				IAML			03 34 21.3	
	comp=Z,4μm,0.8s							
ZON	**Zonda**	**2.98**	**102**	*e*P		**Pn**	**03 32 11.5**	**+2.1**
ZON				IAML			03 33 53.0	
	comp=Z,8μm,1.3s							
MT01	**Popeta**	**2.99**	**166**	*e*P		**Pn**	**03 32 11.2**	**+1.8**
MT01				IAML			03 33 34.7	
	comp=Z,6μm,0.8s							
RTCV	**Cerro Valdivia**	**3.17**	**107**	*e*P		**Pn**	**03 32 14.0**	**+2.0**
RTCV				IAML			03 34 02.7	
	comp=Z,1μm,2.3s							
ARCO	**CERRO ARCO**	**3.28**	**126**	*e*P		**Pn**	**03 32 16.6**	**+3.0**
ARCO				IAML			03 33 52.1	
	comp=Z,8μm,1.0s							
AGUA	**GUANDACOL**	**3.44**	**66**	*e*P		**Pb**	**03 32 21.0**	**-2.2**
AGUA				IAML			03 34 29.8	
	comp=Z,3μm,0.7s							
AAGR	**Agrelo**	**3.49**	**128**	*e*P		**Pn**	**03 32 19.3**	**+2.8**
AAGR				*e*S		**Sg**	**03 33 14.4**	**0.0**
AAGR				IAML			03 33 55.8	
	comp=Z,3μm,2.7s							
BO01	**Tunca**	**3.53**	**166**	*e*P		**Pn**	**03 32 19.0**	**+2.1**
BO01				IAML			03 33 52.0	
	comp=Z,4μm,1.4s							
GO03	**Copiap**	**3.72**	**26**	*e*P		**Pb**	**03 32 25.9**	**-2.0**
AVFE	**Valle Fertil**	**4.00**	**87**	*e*P		**Pn**	**03 32 24.0**	**+0.6**
AVFE				IAML			03 34 26.8	
	comp=Z,5μm,0.7s							
VCA	**Vinchina**	**4.04**	**58**	*e*P		**Pb**	**03 32 29.7**	**-3.7**
VCA				*e*S		**Sb**	**03 33 22.9**	**+0.7**
GO05	**Huala**	**4.05**	**178**	*e*P		**Pn**	**03 32 25.4**	**+1.4**
GO05				*e*S		**Sn**	**03 33 07.9**	**-3.4**
ACHE	**Chepes**	**4.66**	**94**	*e*P		**Pn**	**03 32 33.4**	**+0.8**
ACHE				*e*S		**Sn**	**03 33 27.0**	**+0.3**
ACLC	**CERRO LA CRUZ**	**4.71**	**72**	*e*P		**Pn**	**03 32 35.0**	**+1.8**
APLL	**PUNTA DE LOS L**	**4.83**	**85**	*e*P		**Pn**	**03 32 35.0**	**+0.2**
AC02	**Maricunga**	**4.86**	**33**	*e*P		Pn	03 32 41.0	+5.4
RFA	**San Rafael**	**4.88**	**142**	*e*P		**Pn**	**03 32 39.1**	**+3.6**
RFA				*e*S		Sn	03 33 25.4	-6.5
RFA				IAML			03 34 35.8	
	comp=Z,3μm,1.6s							
CYA	**Choya**	**6.02**	**67**	*e*P		**Pn**	**03 32 52.8**	**+1.7**
H03N1	**Juan Fernandez**	**6.29**	**245**	T		T	03 39 47.5	
	baz=74							
H03N3	**Juan Fernandez**	**6.30**	**245**	T		T	03 39 43.5	
	baz=74							
H03N2	**Juan Fernandez**	**6.30**	**245**	T		T	03 39 46.4	
	baz=74							
FSA	**Cafayete**	**7.22**	**50**	*e*P		**Pn**	**03 33 12.4**	**+4.6**
FSA				*e*S		Sn	03 34 14.4	-16
AHML	**Horco Molle**	**7.24**	**57**	*e*P		**Pn**	**03 33 09.7**	**+1.8**
AHML				*e*S		Sn	03 34 12.6	-17
AHML				IAML			03 34 41.9	
	comp=Z,181nm,0.6s							
LVC	**Limon Verde**	**8.78**	**20**	Pn		**Pn**	**03 33 29.9**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=201,slow=14,SNR=0.8							
PLCA	**Paso Flores**	**9.84**	**173**	Pn		**Pn**	**03 33 45.2**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=0.0,slow=17,SNR=1.4							
TRQA	**Tornquist**	**10.94**	**133**	*e*P		**Pn**	**03 33 58.0**	**-0.6**
LPAZ	**La Paz**	**15.04**	**15**	Pn		**Pn**	**03 34 53.4**	**-1.9**
	comp=Z,0.0nm,0.3s,baz=202,slow=19,SNR=2.0							
SIV	**San Ignacio**	**17.98**	**37**	P		**P**	**03 35 32.1**	**0.0**
	comp=Z,0.1nm,0.3s,baz=218,slow=12,SNR=2.1							
TORD	**Torodi Ar. Bea**	**83.22**	**70**	P		**P**	**03 43 49.5**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=256,slow=5.5,SNR=6.5							
WRA	**Warramunga Arr**	**123.38**	**210**	PKP		**PKiKP**	**03 50 21.7**	**+1.6**
	comp=Z,0.9nm,1.0s,baz=172,slow=2.3,SNR=1.6							
H11S2	**WAKE ISLAND Hyl**	**125.71**	**271**	T		T	06 09 18.9	
	baz=114							
H11S1	**WAKE ISLAND Hyl**	**125.72**	**271**	T		T	06 09 21.2	
	baz=114							
H11S3	**WAKE ISLAND Hyl**	**125.73**	**271**	T		T	06 09 21.3	
	baz=114							
H11N3	**WAKE ISLAND Hyl**	**126.05**	**273**	T		T	06 09 44.8	
	baz=114							
H11N1	**WAKE ISLAND Hyl**	**126.06**	**273**	T		T	06 09 47.7	
	baz=114							
H11N2	**WAKE ISLAND Hyl**	**126.06**	**273**	T		T	06 09 46.4	
	baz=114							

*IDC **18** 03:32:15.9±0.5,31˙69S×71˙90W,h0km,mb4.8/17, mb1 4.8/22,mb1mx4.8/27,mbtmp4.7/22,ML4.5/5,MS4.5/5, Ms1 4.5/5,ms1mx4.1/17,Error ellipse: s-maj=19.9km s-min=12.2km az=90.0*

*NEIC **18** 03:32:17.7±1.5,31˙75S±0˙03×72˙04W±0˙07,h10km±3km, mb5.0/251,Mwr4.9/57,ML4.9(GUC),Error ellipse: s-maj=8.4km s-min=4.8km az=94.0*

*VAO **18** 03:32:18.9±0.5,31˙68S×71˙82W,h15km,mb5.1*

*GUC **18** 03:32:18.3±0.7,31˙76S×72˙06W,h38km±4km,ML4.9, MW5.3*

*MOS **18** 03:32:18.8±1.4,31˙68S×71˙74W,h28km,mb5.5/5,Error ellipse: s-maj=19.0km s-min=9.4km az=88.1*

*NEIC **18** 03:32:19.2,31˙76S×71˙99W,h15km,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}2.43; $M_{\theta\theta}$0.08; $M_{\phi\phi}$-2.51; $M_{r\theta}$0.01; $M_{r\phi}$0.03; $M_{\theta\phi}$-2.19; Fault plane solution: M_o3.31000×10^{16} NP1:ϕ_s179.71000°, δ65.80000°, λ90.29000°. NP2:ϕ_s359.01000°, δ24.20000°, λ89.36000°. Principal axes: T 3.2640, Plg69.0000°, Azm90.0000°; N 0.0813, Plg0.0000°, Azm360.0000°; P -3.3453, Plg21.0000°, Azm269.0000°;*

*GCMT **18** 03:32:21.7±0.3,31˙85S±0˙02×72˙28W±0˙03,h28km±1km, MW5.2/86,Moment Tensor Solution. s44,c46; s86,c129; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.71±.27; $M_{\theta\theta}$-0.22±.14; $M_{\phi\phi}$-4.49±.18; $M_{r\theta}$0.51±.21; $M_{\theta\phi}$0.36±.08; $M_{r\phi}$-4.85±.29; Best double couple: M_o6.71400×10^{16} NP1:ϕ_s356.00000°, δ22.00000°, λ92.00000°. NP2: ϕ_s174.00000°, δ68.00000°, λ89.00000°. Principal axes: T 6.8100, Plg67.0000°, Azm83.0000°; N -0.1940, Plg1.0000°, Azm175.0000°; P -6.6180, Plg23.0000°, Azm265.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 03:32:20.9±0.4,31˙73S±0˙04×71˙96W±0˙05,h36km±1km, n473,σ1§23/373,mb5.0/143,MS4.6/7,11C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**1.00**	**146**	⇑*i*P		**Pn**	**03 32 37.4**	**-1.0**
VA06				*e*S		**Sn**	**03 32 50.4**	**-0.8**
VA06				IAML			03 32 55.7	
	comp=E,52μm,0.6s							
CO06	**Fray Jorge**	**1.09**	**15**	*e*P		**Pn**	**03 32 38.1**	**-1.5**
CO06				IAML			03 33 00.5	
	comp=E,29μm,0.7s							
CO06	**Fray Jorge**	**1.09**	**15**	Pn		**Pn**	**03 32 39.5**	**-0.1**
VA01	**Torpederas**	**1.31**	**169**	*e*P		**Pn**	**03 32 41.0**	**-1.7**
VA01	**Torpederas**	**1.31**	**169**	Pn		**Pn**	**03 32 41.5**	**-1.3**
CO03	**El Pedregal**	**1.40**	**51**	⇑*i*P		**Pn**	**03 32 44.2**	**+0.2**
CO03				*e*S		**Sn**	**03 33 03.7**	**+2.3**
CO03				IAML			03 33 14.2	
	comp=N,37μm,0.5s							
CO03	**El Pedregal**	**1.40**	**51**	Pn		**Pn**	**03 32 44.2**	**+0.2**
CO03						**Sn**	**03 33 03.9**	**+2.5**
ROCH	**El Roble**	**1.48**	**147**	*e*P		**Pn**	**03 32 44.4**	**-0.7**
ROCH				*e*S		**Sn**	**03 33 04.2**	**+0.9**
ROCH				IAML			03 33 10.5	
	comp=N,23μm,0.6s							
VA03	**San Esteban**	**1.58**	**131**	⇑*i*P		**Pn**	**03 32 46.3**	**-0.1**
VA03				IAML			03 33 13.9	
	comp=N,25μm,0.5s							
VA03	**San Esteban**	**1.58**	**131**	Pn		**Pn**	**03 32 46.6**	**+0.2**
VA03						**Sn**	**03 33 07.3**	**+1.6**
GO04	**Tololo Observa**	**1.84**	**33**	*e*P		**Pn**	**03 32 50.7**	**+0.5**
GO04	**Tololo Observa**	**1.84**	**33**	Pn		**Pn**	**03 32 51.4**	**+1.1**
CO05	**La Serena**	**1.91**	**19**	*e*P		**Pn**	**03 32 52.8**	**+1.9**
CO05				IAML			03 33 23.9	
	comp=N,22μm,0.5s							
VA05	**Santo Domingo**	**1.94**	**172**	*e*P		**Pn**	**03 32 55.1**	**+3.7**
VA05				*e*S		**Sn**	**03 33 19.8**	**+5.3**
VA05				IAML			03 33 25.2	
	comp=E,18μm,0.5s							
VA05	**Santo Domingo**	**1.94**	**172**	Pn		**Pn**	**03 32 50.9**	**-0.5**
MT05	**Renca**	**1.95**	**148**	*e*P		**Pn**	**03 32 51.1**	**-0.4**
MT05				IAML			03 33 25.7	
	comp=E,18μm,0.4s							
MT09	**Talagante**	**2.20**	**158**	*e*P		**Pn**	**03 32 54.2**	**-0.8**
MT09				IAML			03 33 34.1	
	comp=N,11μm,0.6s							
MT01	**Popeta**	**2.21**	**165**	*e*P		**Pn**	**03 32 50.9**	**-4.2**
MT01				IAML			03 33 35.2	
	comp=E,6μm,0.6s							
LMEL	**Las Melosas**	**2.58**	**145**	IAML			03 33 47.5	
	comp=E,4μm,0.4s							
BO01	**Tunca**	**2.75**	**165**	Pn		**Pn**	**03 33 01.4**	**-1.2**
LCO	**Las Campanas**	**2.92**	**22**	*e*P		**Pn**	**03 33 07.3**	**+2.3**
BO02	**Sierra Bellavi**	**3.21**	**162**	Pn		**Pn**	**03 33 08.5**	**-0.4**
GO05	**Huala**	**3.27**	**180**	Pn		**Pn**	**03 33 08.1**	**-1.6**
ML02	**Panimavida**	**4.05**	**174**	Pn		**Pn**	**03 33 18.6**	**-1.8**
AC02	**Maricunga**	**5.47**	**28**	Pn		**Pn**	**03 33 40.5**	**+0.2**
VA04	**Juan Fernndez**	**6.10**	**250**	Pn		**Pn**	**03 33 45.8**	**-2.7**
H03N1	**Juan Fernandez**	**6.11**	**252**	Pn		**Pn**	**03 33 45.9**	**-2.5**
	baz=109							
H03N1				T		T	03 40 45.8	
	baz=78,slow=72,SNR=520							
H03N3	**Juan Fernandez**	**6.13**	**252**	Pn		**Pn**	**03 33 45.6**	**-3.1**
	baz=109							
H03N3				T		T	03 40 32.6	
	baz=78,slow=72,SNR=393							
H03N2	**Juan Fernandez**	**6.13**	**252**	Pn		**Pn**	**03 33 45.4**	**-3.2**
	baz=109							
H03N2				T		T	03 40 33.9	
	baz=78,slow=72,SNR=440							
LC01	**Cunco**	**7.15**	**179**	Pn		**Pn**	**03 34 00.9**	**-2.1**
PB14	**IPOC Station P**	**7.21**	**11**			**Pn**	**03 34 02.6**	**-1.5**
LR03	**Panguipulli**	**7.89**	**182**			**Pn**	**03 34 10.9**	**-2.1**
PLCA	**Paso Flores**	**9.05**	**173**	Pn		**Pn**	**03 34 28.5**	**-0.7**
	comp=E,2.0nm,0.3s,baz=336,slow=11,SNR=33							
PLCA	**Paso Flores**	**9.05**	**173**	Pn		**Pn**	**03 34 27.6**	**-1.6**
LL04	**Puerto Octay**	**9.17**	**182**			**Pn**	**03 34 29.3**	**-1.3**
LL03	**Petrohue**	**9.40**	**182**	Pn		**Pn**	**03 34 33.2**	**-0.5**
LVC	**Limon Verde**	**9.48**	**17**	Pn		**Pn**	**03 34 32.8**	**-2.5**
	comp=E,1.1nm,0.3s,baz=253,slow=6.8,SNR=1.7							
LVC				Sn		**Sn**	**03 36 18.3**	**-2.5**
	comp=E,4.2nm,0.3s,baz=179,slow=16,SNR=1.5							
LVC				LR		LR	03 38 17.5	
	comp=E,2μm,19.0s,baz=200,slow=38							
TRQA	**Tornquist**	**10.34**	**130**	Pn		**Pn**	**03 34 46.7**	**0.0**
TRQA	**Tornquist**	**10.34**	**130**	*e*P		**Pn**	**03 34 46.4**	**-0.2**
LL02	**Futaleuf**	**11.44**	**180**	Pn		**Pn**	**03 35 00.2**	**-1.5**
ITQB	**Itaqui**	**13.35**	**85**	Pn		**Pn**	**03 35 26.0**	**-1.9**
ITQB	**Itaqui**	**13.35**	**85**	*e*P		**Pn**	**03 35 27.3**	**-0.6**
COYC	**Coyhaique**	**13.82**	**180**			**Pn**	**03 35 32.7**	**-1.5**
CPUP	**Villa Florida**	**13.88**	**71**	Pn		**Pn**	**03 35 31.9**	**-3.1**
	comp=E,0.7nm,0.3s,baz=233,slow=12,SNR=8.7							
CPUP				Sn		**Sn**	**03 38 09.7**	**+1.8**
	comp=E,0.8nm,0.3s,baz=253,slow=18,SNR=1.8							
CPUP				Lg		Lg	03 39 38.2	
	comp=E,0.4nm,0.3s,baz=161,slow=19,SNR=2.6							
CPUP				LR		LR	03 41 14.5	
	comp=E,2μm,20.7s,baz=249,slow=39							
CPUP	**Villa Florida**	**13.88**	**71**	Pn		**Pn**	**03 35 34.0**	**-1.1**
PLTB	**Pedras Altas**	**15.62**	**95**	Pn		**Pn**	**03 35 57.3**	**-1.0**
PLTB	**Pedras Altas**	**15.62**	**95**	*e*P		**Pn**	**03 35 57.9**	**-0.5**
LPAZ	**La Paz**	**15.76**	**14**	Pn		**Pn**	**03 36 00.3**	**-0.6**
	comp=E,1.0nm,0.3s,baz=185,slow=7.7,SNR=34							
LPAZ				Sn		**Sn**	**03 38 55.2**	**+0.5**
	comp=E,0.1nm,0.3s,baz=151,slow=15,SNR=2.2							
LPAZ	**La Paz**	**15.76**	**14**			**Pn**	**03 35 59.1**	**-1.8**
LPAZ	**La Paz**	**15.76**	**14**	*e*P		**Pn**	**03 36 01.1**	**+0.2**
AQDB	**Aquidauana**	**18.38**	**56**			**P**	**03 36 31.5**	**-1.2**
SIV	**San Ignacio**	**18.54**	**35**	P		**P**	**03 36 34.0**	**-0.5**
	comp=E,0.7nm,0.3s,baz=232,slow=11,SNR=38							
SIV				LR		LR	03 45 06.7	
	comp=E,2μm,19.9s,baz=225,slow=42							
PTGB	**Pitanga**	**18.86**	**73**	*e*P		**P**	**03 36 38.1**	**+0.1**
PTLB	**Pontes e Lacer**	**19.99**	**39**	*e*P		**P**	**03 36 50.8**	**+0.5**
TER01	**Tubaro-SC**	**20.00**	**87**	*e*P		**P**	**03 36 50.5**	**+0.1**
NNA	**Nana**	**20.16**	**346**	P		**P**	**03 36 52.6**	**+0.3**
	comp=E,5.5nm,0.6s,baz=164,slow=12,SNR=2.1							
NNA	**Nana**	**20.16**	**346**	P		**P**	**03 36 51.8**	**-0.5**
PCMB	**Pacaembu**	**21.03**	**66**	*e*P		**P**	**03 37 00.2**	**-1.5**
VILB	**Vilhena**	**21.59**	**33**	*e*P		**P**	**03 37 07.2**	**-0.4**
SALV	**Santo Antonio**	**21.63**	**47**	*e*P		**P**	**03 37 05.8**	**-2.

	comp=Z,30nm,1.0s							
SJCC	San Jacinto, C	41.51	355	*e*	P	P	03 40 04.9	+0.1
NBPA	Parau_RN	41.59	59	*e*	P	P	03 40 05.8	+0.3
SRBA	San Rafael, Bu	42.17	343		P	P	03 40 10.4	+0.1
NBPV	Pedro Velho	42.49	61	*e*	P	P	03 40 13.6	+0.7
MLPR	Magueyes Islan	49.64	6		P	P	03 41 07.9	-1.1
OBIP	Obispado Ponce	49.75	7		IAmb	IAmb	03 41 10.5	
	comp=Z,29nm,1.0s							
PDPR	Patillas Dam,	49.79	7		P	P	03 41 09.4	-0.7
PDPR					IAmb	IAmb	03 41 10.3	
	comp=Z,26nm,0.9s							
SJG	San Juan	49.87	7		P	P	03 41 10.7	0.0
GCPR	Guaynabo City	50.07	7		IAmb	IAmb	03 41 12.1	
	comp=Z,16nm,0.9s							
VNA3	Neumayer Olymp	51.43	159		P	P	03 41 22.7	+0.6
CCIG	Comitan	51.52	335		P	P	03 41 23.8	+0.4
VNA1	Neumayer--Stat	51.73	158		P	P	03 41 25.1	+0.9
VNA2	Neumayer--Watz	52.08	158		P	P	03 41 27.4	+0.6
	baz=288,slow=8.6							
SNAA	Sanae	53.66	158		P	P	03 41 39.1	+0.5
SNAA	Sanae	53.66	158	*ce*	P	P	03 41 38.8	+0.3
SNAA					pmax	pmax		
	comp=Z,74nm,0.9s							
SNAA	Sanae	53.66	158		P	P	03 41 39.0	+0.5
TLIG	Tlapa	55.26	329		P	P	03 41 50.8	-0.1
TLIG					IAmb	IAmb	03 42 07.2	
	comp=Z,13nm,1.2s							
RKT	Rikitea	55.92	262	*e*	T	T	04 42 32.0	
	comp=Z,2.1nm,0.3s							
QSPA	South Pole Qui	58.50	180		P	P	03 42 14.4	+1.1
	comp=Z,29nm,1.0s,baz=157,slow=1.4,SNR=71							
QSPA	South Pole Qui	58.50	180		P	P	03 42 13.0	-0.3
SBA	Scott Base	65.31	191		P	P	03 42 58.7	0.0
SBA					IAmb	IAmb	03 43 01.9	
	comp=Z,8.8nm,1.2s							
344A	Westbrook Farm	65.31	342		P	P	03 42 58.8	-0.3
344A					IAmb	IAmb	03 43 10.8	
	comp=Z,15nm,1.1s							
HKT	Hockley	65.40	337⇑	*e*	P	P	03 42 59.1	-0.6
HKT					pmax	pmax		
	comp=Z,3.0nm,1.9s							
HKT	Hockley	65.40	337		P	P	03 42 59.7	0.0
VBMS	Vicksburg	65.98	343		P	P	03 43 03.5	0.0
VNDA	Vanda	66.33	191		P	P	03 43 06.5	+1.2
	comp=Z,2.0nm,0.9s,baz=145,slow=5.5,SNR=5.8							
VNDA	Vanda	66.33	191		P	P	03 43 06.1	+0.8
HPIG		66.61	327		P	P	03 43 08.2	+0.2
HPIG					IAmb	IAmb	03 43 23.2	
	comp=Z,11nm,1.2s							
CNNC	Cliffs of the	66.85	355		P	P	03 43 09.8	+0.9
	baz=175							
TAOE	Nuku Hiva Isla	66.87	274	*e*	S	S	03 52 02.3	+1.9
	comp=Z,130nm,24.6s							
TAOE	Nuku Hiva Isla	66.87	274	*e*	LR	LR	04 03 14.6	
	comp=Z,428nm,26.3s							
JCT	Junction City	67.28	334		IAmb	IAmb	03 43 24.8	
	comp=Z,18nm,1.1s							
JCT	Junction City	67.28	334		P	P	03 43 12.7	+0.8
	baz=155							
Z41A	Richland Creek	67.57	341		P	P	03 43 14.3	+0.7
	baz=161							
W50A	Signal Mountai	67.75	348		IAmb	IAmb	03 43 25.2	
	comp=Z,14nm,0.8s							
TXAR	Lajitas Array	67.80	330		P	P	03 43 16.2	+1.0
	comp=Z,1.6nm,0.7s,baz=150,slow=8.1,SNR=24							
WHTX	Lake Whitney,	67.81	337		P	P	03 43 14.8	-0.3
WHTX					IAmb	IAmb	03 43 16.9	
	comp=Z,12nm,0.8s							
WHTX	Lake Whitney,	67.81	337		P	P	03 43 15.5	+0.3
	baz=157							
TBI	Tubuai	67.93	256	*e*	S	S	03 52 15.7	+2.9
	comp=Z,158nm,25.0s							
TBI	Tubuai	67.93	256	*e*	LR	LR	04 03 53.8	
	comp=Z,701nm,26.2s,baz=112							
SYO	Syowa Base	67.95	159⇑	*e*	P	P	03 43 15.8	+0.2
WLAR	White Oak Lake	68.06	341		P	P	03 43 17.5	+0.8
WLAR					IAmb	IAmb	03 43 29.1	
	comp=Z,10nm,0.9s							
V51A	Loudon	68.18	349		IAmb	IAmb	03 43 27.9	
	comp=Z,10nm,0.8s							
CLTN	Cedars of Leba	68.80	348		IAmb	IAmb	03 43 31.6	
	comp=Z,16nm,1.0s							
MIAR	Mount Ida	68.99	341		P	P	03 43 22.0	-0.5
MIAR					IAmb	IAmb	03 43 34.0	
	comp=Z,17nm,1.4s							
WVT	Waverly	69.13	346		P	P	03 43 22.9	-0.4
WVT	Waverly	69.13	346		P	P	03 43 23.2	-0.1
	baz=166							
ABTX	Abilene, Hawle	69.15	335		IAmb	IAmb	03 43 34.8	
	comp=Z,17nm,0.9s							
ABTX	Abilene, Hawle	69.15	335		P	P	03 43 24.2	+0.7
	baz=155							
W39A	Magazine	69.66	341		IAmb	IAmb	03 43 28.6	
	comp=Z,17nm,0.9s							
W39A	Magazine	69.66	341		P	P	03 43 27.3	+0.7
	baz=160,SNR=12							
LCAR	Lake Charles	69.81	344		P	P	03 43 27.1	-0.4
LCAR					IAmb	IAmb	03 43 37.8	
	comp=Z,10nm,0.9s							
T47A	Sharon Grove	69.82	347		IAmb	IAmb	03 43 37.8	
	comp=Z,17nm,0.9s							
SRIG	Santa Rosalia	70.16	322		P	P	03 43 30.0	+0.2
SRIG					IAmb	IAmb	03 43 46.9	
	comp=Z,12nm,1.1s							
PBMO	Poplar Bluff	70.31	344		IAmb	IAmb	03 43 41.0	
	comp=Z,15nm,1.1s							
U40A	Yellville	70.51	342		IAmb	IAmb	03 43 33.0	
	comp=Z,9.6nm,0.8s							
U40A	Yellville	70.51	342		P	P	03 43 31.9	+0.2
	baz=161							
MNTX	Cornudas Mount	70.58	330		P	P	03 43 32.2	-0.1
MNTX					IAmb	IAmb	03 43 48.2	
	comp=Z,7.6nm,0.9s							
MNTX	Cornudas Mount	70.58	330		P	P	03 43 31.7	-0.7
	baz=150,SNR=7.1							
PPTF	Pamatai, Papee	70.63	261		P	P	03 43 32.5	-0.7
PPT2	Papeete2	70.64	261	*e*	S	S	03 52 48.1	+3.0
	comp=Z,151nm,24.2s							
PPT2	Papeete2	70.64	261	*e*	LR	LR	04 05 06.9	
	comp=Z,291nm,24.5s							
HHAR	Hobbs	70.72	341		IAmb	IAmb	03 43 34.2	
	comp=Z,10.0nm,0.8s							
WMOK	Wichita Mounta	70.77	337		P	P	03 43 33.3	-0.1
	baz=156							
HSIG		70.89	324		P	P	03 43 34.7	+0.5
TUL1	Leonard	70.91	340		P	P	03 43 34.3	+0.1
	baz=159							
P57A	Homestead Farm	71.08	355		IAmb	IAmb	03 43 47.2	
	comp=Z,18nm,0.9s							
MGMO	Mountain Grove	71.11	343		IAmb	IAmb	03 43 47.6	
	comp=Z,11nm,1.2s							
P60A	Greenville	71.26	357		P	P	03 43 36.9	+0.6
	baz=177							
WUPA	West Chester U	71.38	357		IAmb	IAmb	03 43 49.0	
	comp=Z,8.9nm,0.9s							
MCWV	Mont Chateau	71.40	354		P	P	03 43 37.9	+0.8
	baz=173							
FVM	French Village	71.47	345		IAmb	IAmb	03 43 48.8	
	comp=Z,18nm,1.1s							
MVL	Millersville	71.48	356		P	P	03 43 38.2	+0.6
MVL					IAmb	IAmb	03 43 49.7	
	comp=Z,19nm,1.1s							
MSTX	Muleshoe	71.51	333		IAmb	IAmb	03 43 55.0	
	comp=Z,22nm,1.0s							
MSTX	Muleshoe	71.51	333		P	P	03 43 38.4	+0.3
	baz=153							
P52A	Corning	71.63	352		P	P	03 43 38.2	-0.3
	baz=171							
CCM	Cathedral Cave	71.72	344		P	P	03 43 39.1	-0.1
CCM					IAmb	IAmb	03 43 49.8	
	comp=Z,18nm,1.0s							
CCM	Cathedral Cave	71.72	344		P	P	03 43 39.0	-0.1
	baz=163							
PAGS	Pennsylvania G	71.73	356		IAmb	IAmb	03 43 50.2	
	comp=Z,18nm,1.0s							
S39A	Bolivar	71.89	342		IAmb	IAmb	03 43 51.5	
	comp=Z,22nm,1.2s							
O56A	Blue Knob Stat	71.90	355		P	P	03 43 41.3	+1.2
	baz=174							
319A	Douglas	72.04	327		IAmb	IAmb	03 43 53.6	
	comp=Z,10nm,1.1s							
T35A	Sooner Cattle	72.05	340		IAmb	IAmb	03 43 52.8	
	comp=Z,21nm,1.1s							
R40A	Maddies Statio	72.19	343		IAmb	IAmb	03 43 52.5	
	comp=Z,17nm,0.9s							
SSPA	Standing Stone	72.21	355		P	P	03 43 43.2	+1.3
	baz=175							
ACSO	Alum Creek Sta	72.33	351		IAmb	IAmb	03 43 53.4	
	comp=Z,17nm,0.8s							
ACSO	Alum Creek Sta	72.33	351		P	P	03 43 43.3	+0.6
	baz=170							
121A	Cookes Peak, D	72.33	329		IAmb	IAmb	03 43 56.1	
	comp=Z,12nm,1.0s							
121A	Cookes Peak, D	72.33	329		P	P	03 43 44.3	+1.2
	baz=149							
U32A	Winter Ranch,	72.34	337		IAmb	IAmb	03 43 44.3	
	comp=Z,15nm,0.7s							
N58A	Sunbury	72.34	356		IAmb	IAmb	03 43 57.3	
	comp=Z,14nm,0.9s							
N59A	State Game Lan	72.37	357		IAmb	IAmb	03 43 55.2	
	comp=Z,23nm,1.1s							
N59A	State Game Lan	72.37	357		P	P	03 43 44.4	+1.5
	baz=177							
PAL	Palisades	72.40	358		P	P	03 43 44.0	+1.0
	baz=178							
ODNJ	Ogdensburg	72.49	358		P	P	03 43 45.2	+1.6
ODNJ					IAmb	IAmb	03 43 54.9	
	comp=Z,19nm,1.2s							
N54A	Moraine State	72.71	354		P	P	03 43 45.7	+0.8
	baz=173							
SFIN	Lafayette	73.11	348		P	P	03 43 48.3	+1.0
	baz=167							
M53A	Wl Miller and	73.25	353		P	P	03 43 49.0	+0.9
	baz=172							
BRYW	Bryant College	73.29	0		IAmb	IAmb	03 44 00.4	
	comp=Z,24nm,1.0s							
L64A	Middleborough	73.31	1		P	P	03 43 50.1	+1.7
	baz=181							
P40A	Paris	73.31	344		IAmb	IAmb	03 43 59.3	
	comp=Z,23nm,0.9s							
TUC	Tucson	73.52	326		P	P	03 43 49.7	-0.3
L59A	Walton	73.61	358		IAmb	IAmb	03 44 02.2	
	comp=Z,18nm,0.9s							
QUA2	Bertown	73.65	360		IAmb	IAmb	03 43 52.6	
	comp=Z,13nm,0.9s							
BINY	Binghamton	73.66	357		P	P	03 43 51.7	+1.1
	baz=176							
WES	Weston	73.75	0		P	P	03 43 51.5	+0.5
WES					IAmb	IAmb	03 43 53.2	
	comp=Z,15nm,1.1s							
P38A	Dawn	73.77	343		IAmb	IAmb	03 44 01.5	
	comp=Z,18nm,1.1s							
L61B	Northampton	73.82	359		P	P	03 43 52.9	+1.4
	baz=175							
ANMO	Albuquerque	73.83	331⇑	*e*	P	P	03 43 51.5	-0.5
ANMO					pmax	pmax		
	comp=Z,4.0nm,1.2s							
ANMO	Albuquerque	73.83	331		P	P	03 43 52.1	+0.2
ANMO	Albuquerque	73.83	331		P	P	03 43 52.8	+0.8
	baz=150							
ERPA	Erie	73.86	354		P	P	03 43 52.5	+0.8
	baz=173							
HRV	Adam Dziewonsk	73.87	0		P	P	03 43 52.2	+0.5
HRV					IAmb	IAmb	03 44 04.0	
	comp=Z,20nm,1.1s							
HRV	Adam Dziewonsk	73.87	0		P	P	03 43 53.6	+1.9
	baz=180							
LIC	Lamto	74.00	72	*e*	P	P	03 43 53.4	+0.2
	comp=Z,92nm,1.1s							
K62A	Royalston	74.03	360		IAmb	IAmb	03 43 55.3	
	comp=Z,18nm,1.1s							
K62A	Royalston	74.03	360		P	P	03 43 54.1	+1.4
	baz=180							
214A	Organ Pipe Nat	74.20	325		P	P	03 43 55.0	+1.0
	baz=145							
TIC	Toumodi	74.25	72	*e*	P	P	03 43 54.9	+0.2
KIC	Kosan Boka	74.31	72	*e*	P	P	03 43 55.2	+0.2
	comp=Z,99nm,0.9s							
DBIC	Dimbokro	74.40	72		P	P	03 43 56.1	+0.6
	comp=Z,40nm,0.9s,baz=226,slow=5.7,SNR=32							
DBIC	Dimbokro	74.40	72		P	P	03 43 54.9	-0.6
J61A	Chester	74.72	360		P	P	03 43 58.2	+1.5
	baz=180							
ACCN	Adirondack Com	74.77	359		IAmb	IAmb	03 44 08.3	
	comp=Z,15nm,1.1s							
J56A	Wolcott	74.78	356		IAmb	IAmb	03 44 08.0	
	comp=Z,13nm,0.8s							
CBKS	Cedar Bluff	74.80	338		IAmb	IAmb	03 44 08.6	
	comp=Z,18nm,0.9s							
CBKS	Cedar Bluff	74.80	338		P	P	03 43 58.0	+0.7
	baz=156							
FFD	Franklin Falls	74.84	0		P	P	03 43 58.2	+0.9
J59A	Pisco	74.87	358		IAmb	IAmb	03 44 09.2	
	comp=Z,15nm,1.1s							
J57A	Williamstown	74.87	357		IAmb	IAmb	03 44 08.9	
	comp=Z,20nm,1.0s							
T25A	Trinidad	74.93	334		IAmb	IAmb	03 44 10.5	
	comp=Z,22nm,1.1s							
T25A	Trinidad	74.93	334		P	P	03 43 59.0	+0.7
	baz=152,SNR=11							
HNH	Hanover	75.07	360		IAmb	IAmb	03 44 10.6	
	comp=Z,17nm,1.0s							
I60A	Shoreham	75.22	359		P	P	03 44 01.3	+1.8
	baz=179							
I62A	Tamworth	75.24	0		IAmb	IAmb	03 44 12.0	
	comp=Z,14nm,1.1s							
I62A	Tamworth	75.24	0		P	P	03 44 01.1	+1.4
	baz=181							
MAW	Mawson	75.33	164		P	P	03 44 00.9	+0.9
	comp=Z,12nm,0.9s,baz=220,slow=4.8,SNR=16							
W18A	Petrified Fore	75.38	329		P	P	03 44 01.6	+0.6
	baz=148							
PECO	Prince Edward	75.44	356		P	P	03 44 01.6	+0.8
PECO					IAmb	IAmb	03 44 11.5	
	comp=Z,29nm,1.3s							
L40A	Anamosa	75.54	345		IAmb	IAmb	03 44 12.2	
	comp=Z,24nm,0.9s							
X16A	Lo Mia Camp, P	75.57	327		IAmb	IAmb	03 44 15.1	
	comp=Z,12nm,1.3s							
LBNH	Lisbon	75.61	0		IAmb	IAmb	03 44 13.9	
	comp=Z,19nm,0.9s							
LBNH	Lisbon	75.61	0		P	P	03 44 03.3	+1.5
	baz=180							
SDCO	Great Sand Dun	75.88	333		P	P	03 44 04.5	+0.7
	baz=151,SNR=8.2							
H62A	Milan	75.94	1		IAmb	IAmb	03 44 06.3	
	comp=Z,12nm,1.1s							
WVL	Waterville	75.96	2		IAmb	IAmb	03 44 15.6	
	comp=Z,14nm,1.0s							
LONY	Lake Ozonia	76.02	358		P	P	03 44 04.5	+0.4
LONY					IAmb	IAmb	03 44 15.7	
	comp=Z,15nm,1.0s							
LONY	Lake Ozonia	76.02	358		P	P	03 44 05.0	+0.8
	baz=178							
JFWS	Jewell Farm	76.16	346		P	P	03 44 04.9	0.0
	baz=164							
FRNY	Flat Rock	76.22	359		IAmb	IAmb	03 44 16.8	
	comp=Z,16nm,0.8s							
S22A	4UR Ranch, Cre	76.40	332		P	P	03 44 07.8	+1.0
	baz=150							
WUAZ	Wupatki	76.45	328		IAmb	IAmb	03 44 19.4	
	comp=Z,14nm,1.2s							
WUAZ	Wupatki	76.45	328		P	P	03 44 07.7	+0.8
	baz=146							
PLVO	Plevna	76.55	356		IAmb	IAmb	03 44 18.0	
	comp=Z,17nm,1.2s							
MVCO	Mesa Verde	76.62	331		IAmb	IAmb	03 44 20.6	
	comp=Z,12nm,1.2s							
MVCO	Mesa Verde	76.62	331		P	P	03 44 08.8	+0.8
	baz=149							
PKME	Peaks-Kenny Pk	76.67	2		P	P	03 44 09.3	+1.6
	baz=182							
BGNE	Belgrade	76.69	340		P	P	03 44 08.4	+0.4
Q24A	Divide	76.81	334		P	P	03 44 10.0	+0.8
	baz=152,SNR=6.9							
BC3	Big Chuckawall	76.89	324		P	P	03 44 10.6	+1.2
	baz=143,SNR=6.4							
F63A	Nahmakanta, Br	77.11	2		IAmb	IAmb	03 44 12.8	
	comp=Z,24nm,1.1s							
IRM	Iron Mountain	77.13	324		P	P	03 44 11.7	+1.0
	baz=144							
TPFO	Pinon Flats	77.35	323		P	P	03 44 13.4	+1.3
	baz=142							
PFO	Pinyon Flats O	77.36	323		P	P	03 44 13.6	+1.5
	baz=142							
BELC	Belle Mtn. Jos	77.44	324		P	P	03 44 13.7	+1.2
	baz=143							
PV01	Paradox Valley	77.44	331		IAmb	IAmb	03 44 24.9	
	comp=Z,18nm,1.5s							
PV13	Radium Mtn., P	77.56	331		IAmb	IAmb	03 44 25.1	
	comp=Z,13nm,1.2s							
PV02	Paradox Valley	77.57	331		IAmb	IAmb	03 44 25.9	
	comp=Z,10nm,1.0s							
ISCO	Idaho Springs	77.72	334		P	P	03 44 14.4	+0.2
ISCO	Idaho Springs	77.72	334		P	P	03 44 15.2	+1.0
	baz=151,SNR=5.8							
HEC	Hector,Ludlow	78.26	324		P	P	03 44 18.5	+1.5
	baz=143							
KNB	Kanab	78.34	328		IAmb	IAmb	03 44 30.1	
	comp=Z,26nm,1.4s							
ECSD	EROS Data Cent	78.42	342		IAmb	IAmb	03 44 28.4	
	comp=Z,20nm,0.9s							
ECSD	EROS Data Cent	78.42	342		P	P	03 44 18.0	+0.4
	baz=159							
BFSC	Mount Baldy Ra	78.47	323		P	P	03 44 19.1	+0.8
	baz=142							
D62A	Allapoint, All	78.49	2		P	P	03 44 18.2	+0.3
TUQ	Turquoise Moun	78.54	325		P	P	03 44 19.8	+1.2
	baz=143,SNR=8.1							
N23A	Red Feather La	78.80	334		P	P	03 44 21.0	+0.9
	baz=151							
GSC	Goldstone, Bar	78.87	324		P	P	03 44 21.9	+1.5
	baz=142							
E43A	Lone Tree Farm	78.92	349		IAmb	IAmb	03 44 31.4	
	comp=Z,17nm,0.8s							
PHWY	Pilot Hill	78.97	335		IAmb	IAmb	03 44 32.7	
	comp=Z,13nm,1.1s							
O20A	White River Ci	79.01	332		IAmb	IAmb	03 44 33.1	
	comp=Z,18nm,1.2s							
O20A	White River Ci	79.01	332		P	P	03 44 22.2	+1.0
	baz=149,SNR=5.3							
CCUT	Cedar City	79.03	328		IAmb	IAmb	03 44 34.1	
	comp=Z,14nm,1.3s							
EDW2	Edwards Air Fo	79.14	323		P	P	03 44 21.8	-0.1
	baz=142							
Q16A	Castle Valley	79.19	330		IAmb	IAmb	03 44 35.0	
	comp=Z,18nm,1.2s							
LRMC	Laurel Mtn Rad	79.45	324		P	P	03 44 24.7	+1.1
	baz=142							
P17A	Butcher Ranch,	79.47	330		IAmb	IAmb	03 44 36.0	
	comp=Z,19nm,1.2s							
KOWA	Kowa	79.64	66		P	P	03 44 25.4	+0.5
F36A	Milaca	79.67	345		IAmb	IAmb	03 44 34.5	
	comp=Z,12nm,0.9s							
PRN	Pahroc Range	79.69	326		IAmb	IAmb	03 44 45.4	
	comp=Z,16nm,1.1s							
TSUM	Tsumeb	79.77	106		P	P	03 44 26.3	+0.4
TSUM					IAmb	IAmb	03 44 27.9	
	comp=Z,22nm,0.9s							
MPMC	Manual Prospec	79.81	324		P	P	03 44 26.3	+0.7
	baz=142,SNR=5.3							
FURC	Furnace Creek,	79.82	325		P	P	03 44 26.7	+1.3
	baz=142							
TPNV	Topopah Spring	79.90	325		IAmb	IAmb	03 44 38.6	
	comp=Z,13nm,1.1s							
TPNV	Topopah Spring	79.90	325		P	P	03 44 27.1	+1.0
	baz=143,SNR=9.6							
RDMU	Red Mountain	79.91	332		IAmb	IAmb	03 44 38.2	
	comp=Z,16nm,1.2s							
RWWY	Rawlins	79.96	334		IAmb	IAmb	03 44 38.1	
	comp=Z,20nm,1.2s							
ISA	Isabella, Lake	80.00	323		IAmb	IAmb	03 44 39.1	
	comp=Z,14nm,1.1s							
ISA	Isabella, Lake	80.00	323		P	P	03 44 27.4	+0.9
	baz=141,SNR=6.4							
PKM	Mcpherson Peak	80.09	322		P	P	03 44 27.9	+0.7
	baz=140							
MPU	Maple Canyon	80.30	330		P	P	03 44 28.6	+0.4
CWC	Cottonwood Cre	80.40	324		P	P	03 44 29.7	+0.9
	baz=142							
VES	Vestal, Richgr	80.45	323		P	P	03 44 30.2	+1.3
	baz=141							
GRAC	Grapevine Rang	80.48	325		P	P	03 44 29.8	+0.8
	baz=142							
SMMC	Simmler	80.52	322		P	P	03 44 30.4	+1.1
	baz=140							
K22A	Casper	80.54	335		IAmb	IAmb	03 44 41.8	
	comp=Z,23nm,1.2s							
K22A	Casper	80.54	335		P	P	03 44 30.0	+0.7
	baz=151							
SPR3	Spring Creek 3	80.65	328		IAmb	IAmb	03 44 42.8	
	comp=Z,22nm,1.4s							
R11A	Troy Canyon, C	80.70	327		P	P	03 44 31.2	+0.8
	baz=144,SNR=10							
DUG	Dugway, Tooele	80.95	330		IAmb	IAmb	03 44 45.0	
	comp=Z,14nm,1.1s							
DUG	Dugway, Tooele	80.95	330		P	P	03 44 31.9	+0.3
	baz=146,SNR=6.5							
RSSD	Black Hills	80.97	337		P	P	03 44 32.2	+0.5
RSSD	Black Hills	80.97	337		P	P	03 44 32.3	+0.5
	baz=153							
BOSA	Boshof	81.07	118		P	P	03 44 33.2	+0.5
	comp=Z,22nm,0.9s,baz=247,slow=4.6,SNR=23							
BOSA	Boshof	81.07	118		P	P	03 44 32.7	0.0
TCUT	Toone Canyon	81.13	331		IAmb	IAmb	03 44 51.9	
	comp=Z,11nm,0.8s							
HWUT	Hardware Ranch	81.60	331		IAmb	IAmb	03 44 48.9	
	comp=Z,8.6nm,0.8s							
BGU	Big Grassy Mou	81.65	330		IAmb	IAmb	03 44 48.2	
	comp=Z,14nm,1.4s							
MLAC	Mammoth, Mammo	81.71	324		P	P	03 44 35.9	0.0
	baz=141							
BW06	Boulder Array	81.78	333		P	P	03 44 36.5	+0.5
	baz=148							
PDAR	Pinedale Array	81.78	333		P	P	03 44 36.3	+0.3
	comp=Z,0.9nm,0.6s,baz=140,slow=7.4,SNR=12							
PDAR	Pinedale Array	81.78	333		P	P	03 44 35.9	-0.1
LHV	Little Hudson	82.03	325		IAmb	IAmb	03 44 51.6	
	comp=Z,9.9nm,0.8s							
NVAR	Mina Array Bea	82.07	325		P	P	03 44 38.8	+1.1
	comp=Z,3.8nm,0.8s,baz=157,slow=5.5,SNR=27							
B35A	Bob, Littlefor	82.08	346		IAmb	IAmb	03 44 47.5	
	comp=Z,17nm,0.9s							
E28A	Huff	82.15	340		IAmb	IAmb	03 44 48.7	
	comp=Z,23nm,1.1s							
HVU	Hansel Valley	82.25	330		IAmb	IAmb	03 44 39.7	
	comp=Z,6.4nm,0.8s							
CASY	Casey	82.29	181		P	P	03 44 39.0	+0.8
CASY					IAmb	IAmb	03 44 49.6	
	comp=Z,9.5nm,0.9s							
KVN	Kaiserville	82.45	326		IAmb	IAmb	03 44 53.1	
	comp=Z,6.7nm,0.8s							
AGMN	Agassiz Nation	82.50	344		P	P	03 44 39.7	+0.3
	baz=160							
SNOW	Snow King Moun	82.83	333		P	P	03 44 41.7	+0.1
YERR	Yerington	82.96	325		IAmb	IAmb	03 44 59.5	
	comp=Z,12nm,0.9s							
MDND	Maddock	83.02	342	

N02D	**Trinity Center**	**86.19**	**324**	P		**P**		**03 44 58.8**	**+0.4**
	baz=139								
PLID	**Pearl Lake**	**86.30**	**330**	IAmb		IAmb		03 45 11.9	
	comp=Z,13nm,1.1s								
SCHQ	**Schefferville**	**86.32**	**3**	P		**P**		**03 44 58.9**	**+0.3**
	comp=Z,8.5nm,1.0s,baz=103,slow=5.3,SNR=4.2								
SCHQ	**Schefferville**	**86.32**	**3**	P		**P**		**03 44 59.0**	**+0.4**
EGMT	**Eagleton**	**86.33**	**336**	P		**P**		**03 44 59.7**	**+0.8**
	baz=149								
M04C	**Macdoel**	**86.38**	**325**	P		**P**		**03 44 59.7**	**+0.4**
	baz=139								
M02C	**Callahan**	**86.58**	**324**	P		**P**		**03 45 00.8**	**+0.5**
	baz=139								
MSO	**Missoula**	**86.88**	**333**	P		**P**		**03 45 02.7**	**+1.0**
	baz=145								
L04D	**Klamath Falls**	**86.93**	**325**	P		**P**		**03 45 02.8**	**+0.7**
	baz=139								
I07A	**Izee**	**87.04**	**328**	IAmb		IAmb		03 45 15.1	
	comp=Z,14nm,1.3s								
J05D	**Fort Rock, OR**	**87.23**	**326**	P		**P**		**03 45 04.3**	**+0.8**
	baz=140								
PINE	**Pine Mountain**	**87.47**	**327**	IAmb		IAmb		03 45 14.7	
	comp=Z,11nm,0.9s								
L02E	**Cave Junction**	**87.53**	**324**	P		**P**		**03 45 06.3**	**+1.5**
	baz=138								
F10A	**Beach Ranch, E**	**87.53**	**330**	P		**P**		**03 45 05.5**	**+0.7**
J04D	**Umpqua Nationa**	**87.61**	**326**	P		**P**		**03 45 06.6**	**+1.2**
	baz=139								
G08A	**Pilot Rock**	**87.74**	**329**	IAmb		IAmb		03 45 17.5	
	comp=Z,7.7nm,1.1s								
JTMT	**Jette**	**87.77**	**333**	IAmb		IAmb		03 45 24.0	
	comp=Z,11nm,1.4s								
K02D	**Willamette Mer**	**87.96**	**325**	P		**P**		**03 45 08.2**	**+1.3**
	baz=138								
I05D	**Terrebonne, OR**	**88.08**	**327**	P		**P**		**03 45 08.7**	**+1.3**
	baz=140								
HAWA	**Hanford**	**88.85**	**329**	IAmb		IAmb		03 45 23.3	
	comp=Z,19nm,1.4s								
D08A	**Wollman Farm,**	**89.10**	**330**	IAmb		IAmb		03 45 24.0	
	comp=Z,9.7nm,1.3s								
NEW	**Newport**	**89.31**	**332**	P		**P**		**03 45 13.6**	**+0.5**
	baz=143								
F05D	**White Salmon**	**89.31**	**328**	P		**P**		**03 45 14.4**	**+1.3**
	baz=140								
C09A	**Chrisman Ranch**	**89.41**	**331**	IAmb		IAmb		03 45 25.3	
	comp=Z,10nm,1.1s								
LSZ	**Lusaka**	**90.45**	**108**	P		**P**		**03 45 20.5**	**+1.1**
AFI	**Afiamalu**	**90.92**	**253**	LR		LR		04 18 17.3	
	comp=Z,112nm,21.8s,baz=120,slow=30								
PMTG	**Montargil**	**92.00**	**44**	*e*P		P		03 45 33.2	+7.4
	comp=Z,24nm,2.1s								
MVO	**Moncorvo**	**94.05**	**43**	*e*P		**P**		**03 45 35.6**	**+0.3**
	comp=Z,29nm,1.6s								
ESDC	**Sonseca Array**	**94.95**	**46**	P		**P**		**03 45 39.4**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=254,slow=4.1,SNR=5.2								
MSVF	**Nonsavu**	**96.85**	**244**	*e*P		**P**		**03 45 44.5**	**-4.3**
MSVF					pmax	pmax			
	comp=Z,8.0nm,1.0s								
DZM	**Mont Dzumac**	**102.63**	**234**	*e*LR		LR		04 20 00.3	
	comp=Z,292nm,22.3s								
GERES	**GERESS Array B**	**110.51**	**45**	PKiKP		**PKiKP**		**03 50 49.3**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=238,slow=5.6,SNR=3.7								
ILAR	**Eielson Array**	**112.20**	**333**	PKiKP		**PKiKP**		**03 50 52.7**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=99,slow=2.8,SNR=2.2								
TOLK	**Toolik Lake Re**	**114.84**	**337**	P		**PKiKP**		**03 50 57.8**	**+1.0**
	baz=114								
NIKH	**Nikolski High**	**118.60**	**317**	P		**PKiKP**		**03 51 05.1**	**+0.6**
	baz=106								
ASAR	**Alice Springs**	**119.61**	**207**	PKP		**PKPdf**		**03 51 06.7**	**-0.8**
	comp=Z,1.2nm,0.9s,baz=140,slow=2.6,SNR=7.8								
ASAR				PKKPbc		**PKKPbc**		**04 01 18.6**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=331,slow=2.9,SNR=7.9								
ASAR	**Alice Springs**	**119.61**	**207**	PKPdf		**PKPdf**		**03 51 07.1**	**-0.4**
NACGM	**Naroch**	**120.14**	**41**	*i* PKP		**PKPdf**		**03 51 03.7**	**-3.6**
AKASG	**Malin Array Be**	**120.60**	**46**	PKPdf		**PKPdf**		**03 51 07.8**	**-0.6**
WRA	**Warramunga Arr**	**122.77**	**210**	PKP		**PKPdf**		**03 51 13.2**	**-0.4**
	comp=Z,3.7nm,1.1s,baz=162,slow=1.4,SNR=15								
WRA	**Warramunga Arr**	**122.77**	**210**	PKPdf		**PKPdf**		**03 51 12.9**	**-0.7**
WRAB	**Tennant Creek**	**122.77**	**210**	*e*PKiKP		**PKPdf**		**03 51 12.1**	**-1.5**
PSA00	**Pilbara Seismi**	**125.81**	**194**	PKPdf		**PKPdf**		**03 51 18.5**	**-0.9**
H11S2	**WAKE ISLAND Hyl**	**125.84**	**271**	T		T		06 10 18.1	
	baz=117,slow=74,SNR=31								
H11S1	**WAKE ISLAND Hyl**	**125.85**	**271**	T		T		06 10 12.6	
	baz=117,slow=74,SNR=18								
H11S3	**WAKE ISLAND Hyl**	**125.86**	**271**	T		T		06 10 19.4	
	baz=117,slow=74,SNR=26								
H11N3	**WAKE ISLAND Hyl**	**126.20**	**272**	T		T		06 10 34.5	
	baz=115,slow=74								
H11N1	**WAKE ISLAND Hyl**	**126.21**	**272**	T		T		06 10 43.8	
	baz=115								
H11N2	**WAKE ISLAND Hyl**	**126.21**	**272**	T		T		06 10 34.2	
	baz=115,slow=74								
KLMR	**Klimovskoe**	**127.52**	**35**	*e*PKiKP		**PKPdf**		**03 51 19.3**	**-2.0**
KLMR					pmax	pmax			
	comp=Z,12nm,1.0s								
KLMR	**Klimovskoe**	**127.52**	**35**	*e*PKPdf		**PKPdf**		**03 51 19.3**	**-2.0**
KLMR					AMP			03 51 32.1	
	comp=Z,12nm,1.0s								
FITZ	**Fitzroy Crossi**	**127.66**	**201**	PKPdf		**PKiKP**		**03 51 24.4**	**+0.9**
KIV	**Kislovodsk**	**128.21**	**57**	*i* PKiKP		**PKPdf**		**03 51 20.4**	**-2.9**
KIV					pmax	pmax			
	comp=Z,7.0nm,1.0s								
KBZ	**Khabaz**	**128.33**	**57**	PKP		**PKiKP**		**03 51 24.5**	**+0.5**
	comp=Z,2.7nm,1.0s,baz=180,slow=6.1,SNR=2.7								
KBZ	**Khabaz**	**128.33**	**57**	*i* PKiKP		**PKPdf**		**03 51 23.2**	**-0.1**
PRGR	**Permogore**	**130.41**	**34**	*e*PKiKP		**PKPdf**		**03 51 26.9**	**+0.2**
PRGR					pmax	pmax			
	comp=Z,53nm,1.3s								
ARU	**Arti**	**137.97**	**39**	*i* PKiKP		**PKiKP**		**03 51 42.3**	**-0.8**
ARU								03 54 29.3	
ARU					SS	SS		04 12 32.2	-5.3
ABKAR	**Akbulak array**	**140.20**	**50**	PKPdf		**PKPdf**		**03 51 40.5**	**-4.9**
HRA	**Herat**	**141.77**	**73**	PKPdf		**PKPdf**		**03 51 49.7**	**+0.7**
BRVK	**Borovoye**	**145.48**	**41**	*c i* PKiKP		**PKPab**		**03 51 55.8**	**+0.8**
BRVK	**Borovoye**	**145.48**	**41**	PKPbc		**PKPab**		**03 51 55.9**	**+0.9**
POO	**Poona**	**146.52**	**105**	*ex*		**PKPab**		**03 51 57.0**	**-3.0**
YAK	**Yakutsk**	**146.61**	**342**	*e*PKP2		**PKPbc**		**03 51 58.2**	**+0.4**
YAK				*e*				03 55 23.9	
YAK					pmax	pmax			
	comp=Z,128nm,1.4s								
YAK					pmax	pmax			
	comp=N,8.0nm,1.9s								
YAK					pmax	pmax			
	comp=E,5.0nm,1.1s								
YAK					pmax	pmax			
	comp=Z,166nm,4.6s								
YAK					pmax	pmax			
	comp=N,24nm,2.0s								
YAK					pmax	pmax			
	comp=E,52nm,5.3s								
TOLI2	**Tolitoli**	**147.25**	**204**	PKPbc		**PKPbc**		**03 52 00.5**	**-0.7**
KBL	**Kabul**	**147.36**	**74**	PKPdf		**PKPdf**		**03 51 58.1**	**-0.6**
TAS	**Tashkent**	**147.65**	**62**	PKPbc		**PKPbc**		**03 52 01.7**	**+0.2**
CHGR	**Chuyangaron**	**147.66**	**67**	PKPbc		**PKPbc**		**03 52 00.9**	**-0.8**
GSI	**Gunungsitoli**	**148.16**	**160**	PKPbc		**PKPbc**		**03 52 04.2**	**+0.6**
KK31	**Karatay Array**	**148.35**	**58**	PKPbc		**PKPbc**		**03 52 03.1**	**-0.2**
KKAR	**Karatay Array**	**148.35**	**58**	PKPbc		**PKPbc**		**03 52 03.9**	**+0.6**
GAR	**Garm**	**148.56**	**66**	PKPbc		**PKPbc**		**03 52 04.3**	**+0.2**
BTK	**Batken**	**148.90**	**64**	PKPbc		**PKPdf**		**03 52 02.7**	**+1.8**
YSS	**Yuzh-Sakhalins**	**149.44**	**310**	*e*PKP2		**PKPab**		**03 52 15.4**	**+4.6**
YSS					pmax	pmax			
	comp=Z,10.0nm,0.7s								
YSS					MLR	MLR			
	comp=Z,200nm,15.0s								
DRK	**Karamyk**	**149.69**	**65**	PKPbc		**PKiKP**		**03 52 08.0**	**-0.2**
HYB	**Hyderabad**	**149.75**	**111**	*i* PKP		**PKiKP**		**03 52 09.0**	**+0.5**
RPSI	**Rantau Prapat**	**149.87**	**162**	PKPbc		**PKPbc**		**03 52 07.8**	**-0.1**
ZALV	**Zalesovo Beam**	**152.25**	**30**	PKPbc		**PKiKP**		**03 52 12.9**	**+0.4**
	comp=Z,20nm,0.5s,baz=300,slow=3.2,SNR=48								
KSH	**Kashi**	**152.90**	**64**	PKPbc		**PKPdf**		**03 52 07.0**	**-0.1**
KSH					PP	**PP**		**03 55 58.1**	**-1.2**
BOD	**Bodaibo**	**153.59**	**353**	*e*PKiKP		**PKPab**		**03 52 22.9**	**-4.8**
BOD					pmax	pmax			
	comp=Z,23nm,1.1s								
MKAR	**Makanchi Array**	**155.17**	**45**	PKP		**PKPdf**		**03 52 10.2**	**+0.3**
	comp=Z,1.0nm,0.9s,baz=264,slow=1.1,SNR=7.0								
MKAR				PKPbc		**pPKPdf**		**03 52 19.4**	**-1.5**
	comp=Z,1.6nm,0.7s,baz=304,slow=2.4,SNR=10								
MKAR				PKPab		**PKPab**		**03 52 35.7**	**+0.8**
	comp=Z,7.2nm,0.8s,baz=302,slow=2.7,SNR=16								
WMQ	**Urumqi**	**159.95**	**47**	*e*P		**PKPdf**		**03 52 17.3**	**+1.2**
WMQ					pmax	pmax			
	comp=Z,190nm,5.1s								
SONM	**Songino Array**	**163.87**	**4**	PKP		**PKPdf**		**03 52 20.3**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=336,slow=3.2,SNR=1.5								
SONM				PKPab		**PKPab**		**03 53 12.3**	**-0.3**
	comp=Z,2.7nm,0.9s,baz=336,slow=3.8,SNR=10								
CMAR	**Chiang Mai Arr**	**164.44**	**146**	PKP		**PKPdf**		**03 52 21.4**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=260,slow=2.6,SNR=5.8								
GTA	**Gaotai**	**169.82**	**39**	PKP		**PKPdf**		**03 52 25.3**	**+0.5**
GTA				pPKP		pPKPdf		03 52 35.3	-0.4
GTA				sPKP				03 52 39.1	
GTA				PKPab		**PKPab**		**03 53 40.3**	**+1.0**
GTA				LR		LR			
	comp=N,170nm,17.1s								
GTA				LR		LR			
	comp=E,180nm,19.3s								
GTA				LR		LR			
	comp=Z,130nm,17.4s								
HHC	**Hu-ho-hao-te**	**170.47**	**344**	*e*P		**PKPdf**		**03 52 21.1**	**-4.0**
NJ2	**Nanjing**	**170.80**	**275**	*e*P		**PKPdf**		**03 52 26.0**	**+0.7**
NJ2					pmax	pmax			
	comp=Z,10.0nm,0.6s								
XAN	**Xi'an**	**177.58**	**342**	PKP		PKPdf		03 52 37.6	+10
XAN				sPKP				03 52 47.8	

*SJA **18** 03:38:09.0±0.7, 31.98S×72.36W, h16km±5km, ML4.4, MW4.5*
*IDC **18** 03:38:09.1±1.2, 31.92S×72.22W, h0km, mb4.7/3, mb1 4.4/6, mb1mx4. 1/20, mbtmp4.4/6, ML3.6/4, Error ellipse: s-maj=38.2km s-min=27.3km az=103.0*
*GUC **18** 03:38:10.2±0.9, 31.91S×71.96W, h35km±5km, ML4.5*
*NEIC **18** 03:38:11.6±1.6, 31.93S±0.03×71.98W±0.08, h10km±1km, mb4.6/9, ML4.9(GUC), Error ellipse: s-maj=12.0km s-min=5.4km az=281.0*

ISC 18 03:38:09.3±1.3, 31.92S±0.02×72.07W±0.04, h1km±8km, n78, σ1s63/95, mb4.7/5, 7C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.92**	**135**	*e*P		**Pg**		**03 38 26.8**	**-0.1**
VA06				*e*S		**Sg**		**03 38 39.1**	**+0.4**
VA01	**Torpederas**	**1.16**	**162**	*e*P		**Pg**		**03 38 31.1**	**-0.4**
VA01				*e*S		**Sg**		**03 38 47.0**	**+0.5**
VA01				IAML				03 38 51.6	
	comp=E,5μm,0.7s								
VA01	**Torpederas**	**1.16**	**162**			**Pg**		**03 38 31.8**	**+0.3**
VA01	**Torpederas**	**1.16**	**162**	*e*P		**Pb**		**03 38 32.0**	**-0.1**
VA01				*e*P		**Pn**		**03 38 37.0**	**+4.3**
CO06	**Fray Jorge**	**1.29**	**17**	*e*S		**Sg**		**03 38 47.1**	**-3.8**
CO06				*e*S		**Sb**		**03 38 50.3**	**-1.3**
CO06	**Fray Jorge**	**1.29**	**17**	Pn		**Pg**		**03 38 33.2**	**-0.9**
ROCH	**El Roble**	**1.38**	**140**	*e*P		**Pn**		**03 38 34.9**	**-1.0**
ROCH				*e*S		**Sg**		**03 38 53.2**	**-0.5**
ROCH				IAML				03 38 56.0	
	comp=E,26μm,0.8s								
VA03	**San Esteban**	**1.54**	**124**	*e*P		**Pn**		**03 38 36.4**	**-1.6**
VA03				*e*S		**Sn**		**03 38 56.7**	**-2.0**
VA03				IAML				03 38 58.6	
	comp=E,37μm,0.7s								
VA03	**San Esteban**	**1.54**	**124**	Pn		**Pn**		**03 38 36.9**	**-1.1**
VA03	**San Esteban**	**1.54**	**124**	*e*P		**Pn**		**03 38 37.0**	**-1.1**
VA03				*e*P		**Pb**		**03 38 38.0**	**-0.3**
VA03				*e*S		**Sn**		**03 38 57.9**	**-0.7**
VA03				IAML				03 39 02.0	
	comp=Z,7μm,0.4s								
CO03	**El Pedregal**	**1.60**	**48**	*i* P		**Pg**		**03 38 41.5**	**+1.6**
CO03				IAML				03 39 07.5	
	comp=E,4μm,0.7s								
CO03	**El Pedregal**	**1.60**	**48**	Pn		**Pn**		**03 38 37.9**	**-0.8**
CO03	**El Pedregal**	**1.60**	**48**	*e*P		**Pg**		**03 38 42.0**	**+2.1**
CO03				*e*S		**Sg**		**03 39 03.5**	**+2.8**
CO03				IAML				03 39 07.6	
	comp=Z,2μm,0.7s								
VA05	**Santo Domingo**	**1.78**	**168**	*e*P		**Pn**		**03 38 40.9**	**-0.2**
VA05				*e*S		**Sn**		**03 39 03.5**	**-0.9**
VA05				IAML				03 39 11.1	
	comp=E,15μm,0.4s								
VA05	**Santo Domingo**	**1.78**	**168**	Pn		**Pb**		**03 38 42.0**	**-0.7**
MT05	**Renca**	**1.85**	**143**	*e*P		**Pn**		**03 38 43.0**	**+0.8**
MT05				*e*S		**Sn**		**03 39 06.2**	**-0.1**
MT05				IAML				03 39 08.1	
	comp=E,14μm,0.3s								
MT05	**Renca**	**1.85**	**143**	Pn		**Pn**		**03 38 42.1**	**-0.1**
MT05	**Renca**	**1.85**	**143**	*e*P		**Pn**		**03 38 43.0**	**+0.8**
GO04	**Tololo Observa**	**2.05**	**32**	*e*P		**Pb**		**03 38 47.7**	**+0.1**
GO04				*i* S		**Sg**		**03 39 18.5**	**+3.2**
GO04	**Tololo Observa**	**2.05**	**32**	Pn		**Pb**		**03 38 47.3**	**-0.2**
MT01	**Popeta**	**2.06**	**161**	*e*P		**Pn**		**03 38 45.1**	**0.0**
MT01				*i* S		**Sn**		**03 39 08.3**	**-3.0**
MT01				IAML				03 39 18.7	
	comp=E,3μm,0.4s								
MT09	**Talagante**	**2.06**	**154**	*i* P		**Pn**		**03 38 46.2**	**+1.0**
MT09				*i* S		**Sn**		**03 39 10.4**	**-1.3**
MT09				IAML				03 39 18.0	
	comp=N,4μm,0.4s								
MT09	**Talagante**	**2.06**	**154**	Pn		**Pn**		**03 38 46.3**	**+1.0**
CO05	**La Serena**	**2.12**	**20**	Pn		**Pb**		**03 38 48.8**	**+0.3**
AUSP	**Uspallata**	**2.30**	**98**	*e*P		**Pb**		**03 38 52.0**	**+0.3**
AUSP				*e*P		**Pg**		**03 38 52.5**	**-0.8**
AUSP				*e*S		**Sg**		**03 39 22.8**	**-0.3**
RTLS	**Leoncito**	**2.36**	**88**	*e*P		**Pg**		**03 38 53.9**	**-0.7**
RTLS				*e*S		**Sg**		**03 39 26.6**	**+1.4**
RTLS				IAML				03 39 28.0	
	comp=Z,2μm,0.8s								
LMEL	**Las Melosas**	**2.48**	**141**	*i* P		**Pn**		**03 38 52.4**	**+1.3**
LMEL				*i* S		**Sn**		**03 39 20.8**	**-1.3**
LMEL				IAML				03 39 34.7	
	comp=E,2μm,0.6s								
BO01	**Tunca**	**2.60**	**162**	Pn		**Pn**		**03 38 54.1**	**+1.6**
ACCO	**Cerro Coronel**	**2.90**	**64**	*e*P		**Pb**		**03 39 02.0**	**+0.1**
ACCO				*e*P		**Pg**		**03 39 02.8**	**-2.0**
ACCO				*e*S		**Sg**		**03 39 40.5**	**-1.9**
ZON	**Zonda**	**2.91**	**84**	Pn		**Pn**		**03 38 56.3**	**-0.5**
ZON	**Zonda**	**2.91**	**84**	*e*P		**Pb**		**03 39 01.9**	**-0.1**
ZON				*e*S		**Sb**		**03 39 39.5**	**+1.2**
ZON				IAML				03 39 52.0	
	comp=Z,563nm,0.8s								
RTCV	**Cerro Valdivia**	**3.00**	**90**	*e*P		**Pb**		**03 39 02.8**	**-0.9**
RTCV				*e*S		**Sg**		**03 39 43.5**	**-2.3**
BO02	**Sierra Bellavi**	**3.06**	**160**	Pn		**Pn**		**03 38 59.6**	**+0.7**
GO05	**Huala**	**3.09**	**178**	*e*P		**Pn**		**03 38 59.2**	**0.0**
GO05				*e*P		**Pb**		**03 39 03.5**	**-1.6**
GO05				*e*S		**Sn**		**03 39 37.0**	**+0.2**
AC04	**Llanos de Chal**	**3.80**	**13**	Pn		**Pn**		**03 39 09.6**	**+0.6**
AC04	**Llanos de Chal**	**3.80**	**13**	*e*P		**Pn**		**03 39 11.7**	**+2.7**
AC04				*e*S		**Sg**		**03 40 13.4**	**+2.0**
AVFE	**Valle Fertil**	**4.14**	**74**	*e*P		**Pn**		**03 39 18.3**	**+4.5**
AVFE				*e*S		**Sb**		**03 40 11.4**	**-2.2**
RFA	**San Rafael**	**4.15**	**134**	*e*P		**Pn**		**03 39 17.6**	**+3.7**
RFA				*e*S		**Sb**		**03 40 15.9**	**+2.2**
GO03	**Copiap**	**4.59**	**21**	Pn		**Pn**		**03 39 21.3**	**+1.3**
VCA	**Vinchina**	**4.61**	**47**	*e*P		Pb		03 39 26.0	-5.0
VCA				*e*P		Pn		03 39 26.2	+6.0
VCA				*e*S		**Sb**		**03 40 22.4**	**-4.6**
ACHE	**Chepes**	**4.68**	**82**	*e*P		Pn		03 39 26.0	+4.8
ACHE				*e*P		Pn		03 39 26.2	+5.0
ACHE				*e*S		**Sb**		**03 40 29.5**	**+0.4**
AC06	**Mina Casimiro**	**4.78**	**19**	Pn		**Pn**		**03 39 23.7**	**+1.1**
ACLC	**CERRO LA CRUZ**	**5.06**	**62**	*e*P		Pn		03 39 31.7	+5.2
ACLC				*e*P		Pb		03 39 32.0	-6.8
ACLC				*e*S		**Sb**		**03 40 39.9**	**-0.3**
MRA	**San Martin**	**5.41**	**97**	*e*P		**Pn**		**03 39 33.6**	**+2.4**
AC02	**Maricunga**	**5.68**	**28**	*e*P		**Pn**		**03 39 39.0**	**+3.8**
VA04	**Juan Fernndez**	**5.95**	**251**	Pn		**Pn**		**03 39 39.5**	**+1.1**
H03N1	**Juan Fernandez**	**5.97**	**253**	T		T		03 46 27.6	
	baz=86,slow=72								
H03N3	**Juan Fernandez**	**5.98**	**253**	T		T		03 46 18.1	
	baz=86,slow=72								
H03N2	**Juan Fernandez**	**5.98**	**253**	T		T		03 46 29.4	
	baz=86,slow=72								
CYA	**Choya**	**6.44**	**59**	*e*P		**Pn**		**03 39 49.0**	**+3.7**
LC01	**Cunco**	**6.97**	**179**	*e*P		**Pn**		**03 39 52.0**	**-0.5**
LR03	**Panguipulli**	**7.70**	**182**	Pn		**Pn**		**03 40 02.7**	**+0.1**
PLCA	**Paso Flores**	**8.88**	**173**	Pn		**Pn**		**03 40 19.4**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=331,slow=12,SNR=9.4								
PLCA	**Paso Flores**	**8.88**	**173**	*e*P		**Pn**		**03 40 19.9**	**+1.1**
LVC	**Limon Verde**	**9.69**	**18**	Pn		**Pn**		**03 40 30.7**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=141,slow=22,SNR=0.4								
LPAZ	**La Paz**	**15.97**	**14**	Pn		**P**		**03 41 58.1**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=195,slow=20,SNR=2.3								
SIV	**San Ignacio**	**18.75**	**35**	P		**Pn**		**03 42 30.7**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=225,slow=10.0,SNR=2.0								
BDFB	**Brasilia**	**27.24**	**59**	P		**P**		**03 43 55.5**	**+0.4**
	comp=Z,16nm,1.1s,baz=234,slow=11,SNR=6.3								
BDFB	**Brasilia**	**27.24**	**59**	P		**P**		**03 43 54.3**	**-0.9**
BDFB					IAmb	IAmb		03 43 57.4	
	comp=Z,19nm,1.0s								
SDV	**Santo Domingo**	**40.60**	**2**	P		**P**		**03 45 51.2**	**+0.3**
SDV					IAmb	IAmb		03 46 10.5	
	comp=Z,4.3nm,0.7s								
VNA3	**Neumayer Olymp**	**51.30**	**158**	P		**P**		**03 47 15.3**	**+0.7**
VNA1	**Neumayer--Stat**	**51.60**	**158**	P		**P**		**03 47 16.4**	**-0.3**
VNA2	**Neumayer--Watz**	**51.94**	**158**	P		**P**		**03 47 20.1**	**+0.7**
	baz=287,slow=8.2								
SNAA	**Sanae**	**53.52**	**158**	P		**P**		**03 47 31.9**	**+0.8**
TXAR	**Lajitas Array**	**67.91**	**330**	P		**P**		**03 49 08.7**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=143,slow=7.6,SNR=2.3								
DBIC	**Dimbokro**	**74.55**	**72**	P		**P**		**03 49 50.8**	**+0.6**
	comp=Z,6.6nm,0.7s,baz=249,slow=5.4,SNR=8.6								
DBIC	**Dimbokro**	**74.55**	**72**	IAmb		IAmb		03 49 51.7	
	comp=Z,8.6nm,0.8s								
TORD	**Torodi Ar. Bea**	**83.53**	**70**	P		**P**		**03 50 39.9**	**+0.6**
	comp=Z,3.6nm,0.8s,baz=267,slow=4.8,SNR=11								
TORD	**Torodi Ar. Bea**	**83.53**	**70**	P		**P**		**03 50 39.3**	**-0.1**
TORD					IAmb	IAmb		03 50 41.0	
	comp=Z,4.5nm,0.8s								
WRA	**Warramunga Arr**	**122.56**	**210**	PKP		**PKPdf**		**03 57 06.7**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=152,slow=1.4,SNR=1.6								
H11S2	**WAKE ISLAND Hyl**	**125.75**	**271**	T		T		06 16 18.4	
	baz=117,slow=75,SNR=17								
H11S1	**WAKE ISLAND Hyl**	**125.76**	**271**	T		T		06 16 24.4	
	baz=117,slow=75,SNR=14								
H11S3	**WAKE ISLAND Hyl**	**125.77**	**271**	T		T		06 16 19.9	
	baz=117,slow=75,SNR=15								
H11N3	**WAKE ISLAND Hyl**	**126.11**	**272**	T		T		06 16 53.9	
	baz=117								
H11N1	**WAKE ISLAND Hyl**	**126.12**	**272**	T		T		06 16 53.0	
	baz=117								
H11N2	**WAKE ISLAND Hyl**	**126.13**	**272**	T		T		06 16 55.7	
	baz=117								
ZALV	**Zalesovo Beam**	**152.46**	**30**	PKPbc		**PKiKP**		**03 58 07.3**	**+0.3**
	comp=Z,2.6nm,0.6s,baz=301,slow=3.7,SNR=5.7								
MKAR	**Makanchi Array**	**155.37**	**46**	PKPab		**PKPab**		**03 58 30.8**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=262,slow=3.5,SNR=4.4								

*ISK **18** 03:38:40.5, 34.13N×25.82E, h74km, ML3.0/17*
*THE **18** 03:38:42.6, 34.27N×25.69E, h6km±5km, ML2.3/2, Error ellipse: s-maj=6.1km s-min=1.5km az=148.0*
*IDC **18** 03:39:02.3±34.0, 37.39N×27.69E, h0km, mb3.7/3, mb1 3.7/3, mb1mx3.3/34, mbtmp3.7/3, MS4.0/1, Ms1 4.0/1, ms1mx2.4/46, Error ellipse: s-maj=667.8km s-min=51.6km az=33.0*

ISC 18 03:38:39.8±2.2, 34.14N±0.10×25.75E±0.05, h14km±11km, n34, σ1s06/37, mb3.7/3, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**1.04**	**21**	P		**Pg**		**03 38 59.7**	**-0.3**
ZKR				S		**S

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.71**	**94**	Pn	**Pn**	**03 57 55.1**	**+1.6**
NIKH				Sn	**Sn**	**03 58 17.4**	**+2.0**
ATKA	**Atka Island**	**1.79**	**240**		**Pn**	**03 57 56.3**	**+1.8**
GSTR	**Great Sitkin T**	**2.86**	**251**		**Pn**	**03 58 10.7**	**+2.1**
UNV	**Unalaska Valle**	**3.18**	**75**		**Pn**	**03 58 16.2**	**+3.5**
ADK	**Adak**	**3.30**	**250**	Pn	**Pn**	**03 58 16.3**	**+1.9**
KIWB	**Kanaga Island**	**3.58**	**252**		**Pn**	**03 58 20.7**	**+2.5**
FALS	**False Pass**	**5.18**	**67**		**Pn**	**03 58 43.8**	**+4.1**
AMKA	**Amchitka**	**5.81**	**256**	Pn	**Pn**	**03 58 49.2**	**+0.9**
SDPT	**Sand Point**	**6.94**	**67**		**Pn**	**03 59 05.5**	**+1.9**
CNBA	**Chernabura Isl**	**7.33**	**72**	Pn	**Pn**	**03 59 08.7**	**-0.3**
CHGN	**Chignik**	**8.32**	**62**	Pn	**Pn**	**03 59 24.6**	**+2.3**
SII	**Sitkinak Islan**	**10.66**	**64**	Pn	**Pn**	**03 59 52.8**	**-1.4**
OHAK	**Old Harbor**	**11.28**	**61**	Pn	**Pn**	**04 00 01.2**	**-1.3**
KDAK	**Kodiak Island** 1.4nm,0.3s,baz=255,slow=5.9,SNR=30	**11.79**	**59**	P	**Pn**	**04 00 07.9**	**-1.4**
KDAK	0.3nm,0.3s,baz=220,slow=7.8,SNR=1.5			S	**Sn**	**04 02 15.8**	**-3.0**
KDAK	**Kodiak Island**	**11.79**	**59**	Pn	**Pn**	**04 00 09.9**	**+0.6**
CCB	**Clear Creek Bu**	**16.77**	**37**		**Pn**	**04 01 14.7**	**+1.6**
HDA	**Harding Lake**	**16.96**	**39**		**Pn**	**04 01 17.1**	**+1.6**
HDA	comp=Z,19nm,1.8s			IAmb	IAmb	04 01 44.4	
IL31		**17.17**	**37**	P	**P**	**04 01 19.1**	**+1.1**
IL31	comp=Z,24nm,2.0s			IAmb	IAmb	04 01 38.3	
ILAR	**Eielson Array** comp=Z,0.8nm,0.3s,baz=228,slow=9.9,SNR=28	**17.17**	**37**	P	**P**	**04 01 19.0**	**+0.9**
RIDG	**Independent Ri**	**17.47**	**42**	P	**P**	**04 01 22.8**	**+1.3**
RIDG	comp=Z,23nm,1.7s			IAmb	IAmb	04 02 05.3	
SCRK	**Sand Creek**	**17.91**	**42**	P	**P**	**04 01 27.0**	**+0.6**
SEY	**Seymchan** comp=Z,3.0nm,0.7s,baz=112,slow=8.3,SNR=6.2	**21.13**	**312**	P	**P**	**04 02 02.4**	**+1.3**
INK	**Inuvik** comp=Z,1.6nm,0.3s,baz=233,slow=7.1,SNR=12	**23.52**	**35**		**P**	**04 02 25.1**	**-0.3**
INK	**Inuvik** comp=Z,18nm,2.0s	**23.52**	**35**	IAmb	IAmb	04 03 10.4	
DLBC	**Dease Lake** comp=Z,2.1nm,0.6s,baz=229,slow=7.0,SNR=7.2	**23.72**	**60**	P	**P**	**04 02 27.7**	**+0.4**
DLBC	**Dease Lake**	**23.72**	**60**	P	**P**	**04 02 28.0**	**+0.6**
PDAR	**Pinedale Array** comp=Z,0.4nm,0.7s,baz=330,slow=3.4,SNR=4.5	**41.63**	**78**	P	**P**	**04 05 02.6**	**-0.5**
SONM	**Songino Array** comp=Z,0.2nm,0.3s,baz=54,slow=7.3,SNR=2.1	**49.71**	**299**	P	**P**	**04 06 06.9**	**+0.5**
SONM	comp=Z,0.5nm,0.6s,baz=39,slow=2.9,SNR=2.6			PcP	**PcP**	**04 07 25.2**	**-0.9**
TXAR	**Lajitas Array** comp=Z,0.1nm,0.5s,baz=288,slow=5.0,SNR=3.4	**54.13**	**88**	P	**P**	**04 06 38.5**	**-0.8**
ZALV	**Zalesovo Beam** comp=Z,0.6nm,0.3s,baz=56,slow=9.3,SNR=2.1	**55.92**	**316**	P	**P**	**04 06 51.5**	**-0.3**
ARCES	**ARCESS Array B** comp=Z,4.3nm,1.1s,baz=24,slow=6.9,SNR=2.1	**57.02**	**353**	P	**P**	**04 06 59.2**	**-0.3**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.5s,baz=52,slow=9.9,SNR=2.6	**62.27**	**312**	P	**P**	**04 07 35.3**	**-0.5**
FINES	**FINESS Array B** comp=Z,0.6nm,0.6s,baz=32,slow=8.2,SNR=1.3	**64.92**	**351**	P	**P**	**04 07 53.0**	**+0.1**
CMAR	**Chiang Mai Arr** comp=Z,2.5nm,0.3s,baz=26,slow=6.8,SNR=5.2	**75.09**	**281**	P	**P**	**04 08 54.1**	**-1.6**
ASAR	**Alice Springs** comp=Z,0.9nm,0.7s,baz=32,slow=4.3,SNR=9.5	**89.82**	**228**	P	**P**	**04 10 09.8**	**-2.1**
KEST	**Kesra** comp=Z,1.5nm,0.5s,baz=56,slow=2.8,SNR=4.1	**91.52**	**359**	P	**P**	**04 10 20.6**	**+0.6**
BOSA	**Boshof** comp=Z,2.4nm,0.4s,baz=261,slow=0.3,SNR=17	**152.52**	**326**	PKPbc	**PKPbc**	**04 17 08.1**	**-1.0**

MEX 18 04:00:38.9±0.7, **14°.04N**×**92°.75W**, **h12**km±999km, **MD3.9, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.31**	**15**	*i* P	Pn	04 01 15.3	-1.7
CCIG				*i* S	Sn	04 01 47.2	+1.8

IDC ***18*** *04:08:42.5*±*3.5, 14°.52N*×*92°.06W, h0*km*, mb3.8/3, mb1 4.1/5, mb1mx3.7/39, mbtmp3.7/5, ML3.5/2, Error ellipse: s-maj=71.3km s-min=30.7km az=25.0*
MEX ***18*** *04:08:57.0*±*0.5, 14°.94N*×*92°.49W, h102*km±*4km, MD4.4*
GCG ***18*** *04:08:58.8*±*0.3, 13°.96N*×*92°.13W, h137*km±*19km, MD4.1*
ISC 18 04:08:57.5±1.1, **15°.02N**±0°.09×**92°.50W**±0°.07, **h87**km, **n13, σ0⁰99/18, mb3.7/3, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.26**	**116**	*i* P	**Pn**	**04 09 10.2**	**-0.2**
THIG				*i* S	**Sn**	**04 09 20.6**	**+0.7**
PCIG		**0.97**	**315**	*i* P	**Pn**	**04 09 16.8**	**+0.2**
PCIG				*i* S	**Sn**	**04 09 32.1**	**+1.1**
CCIG	**Comitan**	**1.30**	**16**	*i* P	**Pn**	**04 09 21.3**	**+0.4**
CCIG				*i* S	**Sn**	**04 09 39.5**	**+1.1**
FUG	**Fuego 3**	**1.71**	**109**	*e*P	**Pn**	**04 09 26.4**	**+0.5**
TGIG		**1.85**	**341**	*e*P	**Pn**	**04 09 26.9**	**-0.7**
PCG	**Pacaya**	**1.94**	**109**	*e*P	**Pn**	**04 09 28.9**	**-0.1**
PCG				*e*S	**Sn**	**04 09 52.4**	**-0.6**
NBG	**Las Nubes**	**2.13**	**101**	*e*P	**Pn**	**04 09 32.5**	**+0.9**
CMIG	**Matias Romero** 1.1nm,0.3s,baz=153,slow=11,SNR=6.2	**3.08**	**312**	Pn	**Pn**	**04 09 43.5**	**-0.6**
CMIG	23nm,0.3s,baz=135,slow=13,SNR=5.1			Sn	**Sn**	**04 10 19.7**	**-0.3**
CMIG	34nm,0.3s,baz=358,slow=17,SNR=5.9			Lg	Lg	04 10 39.6	
CMIG	**Matias Romero**	**3.08**	**312**	*i* P	**Pn**	**04 09 44.5**	**+0.5**
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=149,slow=13,SNR=4.8	**17.58**	**326**	P	**Pn**	**04 12 58.0**	**+1.0**
TKL	**Tuckaleechee C** 1.7nm,0.5s,baz=188,slow=10,SNR=4.4	**21.99**	**19**	P	**P**	**04 13 42.3**	**-2.2**
NVAR	**Mina Array Bea** 1.4nm,0.6s,baz=132,slow=8.8,SNR=18	**32.58**	**321**	P	**P**	**04 15 22.2**	**+1.4**
ILAR	**Eielson Array** 0.4nm,0.7s,baz=129,slow=8.3,SNR=4.2	**61.72**	**337**	P	**P**	**04 19 05.2**	**-1.1**

IDC ***18*** *04:10:56.9*±*1.4, 30°.41S*×*72°.55W, h0*km*, mb3.4/2, mb1 3.8/6, mb1mx3.6/30, mbtmp3.6/6, ML3.6/4, Error ellipse: s-maj=52.4km s-min=29.8km az=96.0*
ISC 18 04:10:59.5±1.2, **30°.4S**±0°.1×**72°.4W**±0°.3, **h19**km, **n11, σ1⁰17/8, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N1	**Juan Fernandez** baz=55,slow=72	**6.29**	**240**	T	T	04 18 34.3	
H03N2	**Juan Fernandez** baz=55,slow=72	**6.30**	**240**	T	T	04 18 37.7	
H03N3	**Juan Fernandez** baz=55,slow=72	**6.31**	**240**	T	T	04 18 40.6	
LVC	**Limon Verde** 0.3nm,0.3s,baz=173,slow=8.8,SNR=6.3	**8.39**	**23**	Pn	**Pn**	**04 12 58.4**	**-2.1**
PLCA	**Paso Flores** 0.4nm,0.3s,baz=331,slow=12,SNR=15	**10.39**	**172**	Pn	**Pn**	**04 13 27.1**	**-0.5**
LPAZ	**La Paz** 0.1nm,0.3s,baz=177,slow=8.9,SNR=3.7	**14.61**	**17**	Pn	**Pn**	**04 14 26.4**	**+0.5**
SIV	**San Ignacio** 0.1nm,0.3s,baz=234,slow=12,SNR=11	**17.73**	**38**	P	**P**	**04 15 07.0**	**+0.7**
TXAR	**Lajitas Array** 0.1nm,0.4s,baz=148,slow=8.6,SNR=2.2	**66.48**	**330**	P	**P**	**04 21 47.8**	**-0.1**
TORD	**Torodi Ar. Bea** 0.5nm,1.0s,baz=270,slow=4.9,SNR=2.0	**83.31**	**71**	P	**P**	**04 23 26.6**	**+1.1**
KURBB	**Kurchatov Arra** 0.4nm,0.6s,baz=298,slow=3.1,SNR=7.2	**150.39**	**39**	PKPbc	**PKiKP**	**04 30 49.8**	**-0.2**
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=316,slow=4.0,SNR=1.7	**151.31**	**28**	PKPbc	**PKiKP**	**04 30 52.3**	**+0.5**

DJA ***18*** *04:12:51.5*±*0.4, 9°.S*×*4°.1E*±*°, h10*km*, M4.2/14, mb4.5/2, mb4.6/1, MLv4.1/14, Mw(mB)3.8/1*
NEIC ***18*** *04:12:54.8*±*1.7, 9°.15S*×*0°.08*×*110°.40E*±*0°.07, h53*km±*9km, mb4.1/10, Error ellipse: s-maj=11.4km s-min=10.4km az=164.0*
IDC ***18*** *04:12:58.1*±*2.4, 9°.05S*×*110°.61E, h82*km±*31km, mb3.6/10, mb1 3.7/12, mb1mx3.5/38, mbtmp3.9/12, Error ellipse: s-maj=51.3km s-min=13.6km az=47.0*
ISC 18 04:12:53.9±0.8, **9°.28S**±0°.07×**110°.40E**±0°.05, **h50**km, **n52, σ1⁰48/49, mb3.9/13, South of Java**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**1.32**	**35**	P	**Pn**	**04 13 13.6**	**-2.4**
UGM	**Wanagama**	**1.36**	**5**		**Pn**	**04 13 15.1**	**-1.6**
UGM	**Wanagama**	**1.36**	**5**	P	**Pn**	**04 13 15.1**	**-1.6**
YOGI	**Yogyakarta**	**1.46**	**356**	P	**Pn**	**04 13 16.4**	**-1.5**
YOGI				S	**Sn**	**04 13 36.9**	**+1.0**
PWJI	**Pagerwojo**	**1.87**	**48**	P	**Pn**	**04 13 22.7**	**-0.8**
PWJI				S	**Sn**	**04 13 47.6**	**+1.7**
SJI	**Sawahan**	**2.04**	**41**	P	**Pn**	**04 13 26.8**	**+0.8**
SJI				S	**Sn**	**04 13 51.9**	**+1.5**
SMRI	**Semarang**	**2.22**	**1**		**Pn**	**04 13 28.4**	**+0.1**
SMRI	**Semarang**	**2.22**	**1**	P	**Pn**	**04 13 28.0**	**-0.3**
KPJI	**Karang Pucung**	**2.42**	**323**	P	**Pn**	**04 13 30.8**	**-0.3**
CMJI	**Cimerak**	**2.44**	**307**	P	**Pn**	**04 13 29.9**	**-1.4**
CTJI	**Waduk Cacaban**	**2.56**	**332**	P	**Pn**	**04 13 33.2**	**+0.2**
TBJI	**Tambak Boyo**	**2.83**	**30**	P	**Pn**	**04 13 37.5**	**+0.8**
CISI	**Cisompet, Garu**	**3.08**	**304**		**Pn**	**04 13 39.7**	**-0.5**
CISI	**Cisompet, Garu**	**3.08**	**304**	P	**Pn**	**04 13 39.5**	**-0.7**
GRJI	**Gresik**	**3.12**	**41**	P	**Pn**	**04 13 41.3**	**+0.6**
GMJI	**Gumukmas**	**3.17**	**72**	P	**Pn**	**04 13 42.2**	**+0.9**
LEM	**Lembang** 11nm,0.3s,baz=92,slow=8.6,SNR=5.1	**3.68**	**311**	P	**Pn**	**04 13 51.2**	**+2.7**
LEM	14nm,0.3s,baz=152,slow=22,SNR=4.4			S	**Sn**	**04 14 37.4**	**+6.6**
CNJI	**Cibinong**	**3.79**	**301**	P	**Pn**	**04 13 48.9**	**-0.9**
JAGI	**Jajag, Banyuwa**	**3.79**	**78**		**Pn**	**04 13 50.7**	**+0.8**
JAGI	**Jajag, Banyuwa**	**3.79**	**78**	P	**Pn**	**04 13 49.9**	**0.0**
ABJI	**Asem Bagus**	**4.07**	**69**	P	Pn	04 14 04.7	+11
XMIS	**Christmas Isla**	**4.83**	**255**	Pn	**Pn**	**04 14 03.5**	**-0.7**
TWSI	**Taliwang, Sumb** 0.1nm438nm16nm,0.6s	**6.42**	**86**	P	**Pn**	**04 14 27.1**	**+1.1**
PLAI	**Plapang**	**7.30**	**87**	P	**Pn**	**04 14 38.3**	**+0.3**
KSI	**Kapahiang**	**9.56**	**305**	P	Pn	04 15 23.8	+15
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=306,slow=8.7,SNR=1.2	**17.19**	**122**	P	**Pn**	**04 16 50.6**	**-0.1**
FITZ	0.1nm,0.3s,baz=301,slow=23,SNR=2.8			S	Sn	04 19 46.1	-15
MTN	**Manton Dam**	**20.65**	**102**	P	**P**	**04 17 30.8**	**+1.2**
MTN	comp=Z,15nm,1.4s			IAmb	IAmb	04 17 43.9	
WB0	**Warramunga Arr**	**25.42**	**117**	P	**P**	**04 18 17.5**	**+0.4**
WB0	comp=Z,4.3nm,1.1s			IAmb	IAmb	04 18 27.4	
WRA	**Warramunga Arr** comp=Z,1.3nm,0.9s,baz=289,slow=11,SNR=20	**25.44**	**117**	P	**P**	**04 18 18.1**	**+0.8**
WR0	**Warramunga Arr**	**25.62**	**117**	P	**P**	**04 18 20.0**	**+1.0**
ASAR	**Alice Springs** comp=Z,0.7nm,0.6s,baz=300,slow=9.2,SNR=11	**26.63**	**125**	P	**P**	**04 18 29.4**	**+1.3**
H08S2	**Diego Garcia H** baz=93,slow=74	**37.52**	**270**	T	T	05 00 05.9	
H08S3	**Diego Garcia H** baz=93,slow=74	**37.53**	**270**	T	T	04 59 58.8	
H08S1	**Diego Garcia H** baz=93	**37.54**	**270**	T	T	05 00 04.0	
KSAR	**Wonju Array Be**	**49.28**	**18**	P	**P**	**04 21 37.9**	**+0.1**
KSRS	**Korea Array** comp=Z,1.5nm,0.8s,baz=195,slow=7.6,SNR=4.6	**49.30**	**18**	P	**P**	**04 21 36.9**	**-1.1**
MJAR	**Matsushiro Arr** comp=Z,1.8nm,0.6s,baz=194,slow=7.8,SNR=6.6	**52.54**	**28**	P	**P**	**04 22 00.6**	**-1.8**
MJAR	**Matsushiro Arr** comp=Z,2.7nm,1.0s	**52.54**	**28**	IAmb	IAmb	04 22 01.0	
MDJ	**Mudjang**	**56.38**	**16**	P	**P**	**04 22 29.0**	**-1.1**
USA0B	**Ussuriysk Arra**	**56.71**	**18**	P	**P**	**04 22 30.7**	**-1.7**
USRK	**Ussuriysk Ar.** comp=Z,4.2nm,0.9s,baz=191,slow=4.4,SNR=6.3	**56.71**	**18**	P	**P**	**04 22 31.1**	**-1.3**
SONM	**Songino Array** comp=Z,0.5nm,0.5s,baz=170,slow=12,SNR=4.2	**56.97**	**357**	P	**P**	**04 22 34.1**	**-0.3**
SONM	**Songino Array** comp=Z,2.2nm,1.4s	**56.97**	**357**	IAmb	IAmb	04 22 40.2	
MK31	**Makanchi Array**	**61.20**	**338**	P	**P**	**04 23 02.3**	**-1.2**
MK31	comp=Z,0.7nm,0.7s			IAmb	IAmb	04 23 03.6	
MKAR	**Makanchi Array** comp=Z,0.9nm,0.5s,baz=152,slow=7.3,SNR=9.0	**61.20**	**338**	P	**P**	**04 23 03.2**	**-0.4**
MKAR	**Makanchi Array**	**61.20**	**338**	P	**P**	**04 23 03.0**	**-0.6**
KURBB	**Kurchatov Arra** comp=Z,0.4nm,0.5s,baz=150,slow=6.6,SNR=4.3	**65.77**	**338**	P	**P**	**04 23 33.0**	**-0.6**
KURK	**Kurchatov**	**65.81**	**338**	P	**P**	**04 23 33.0**	**-0.9**
ZAA0	**Zalesovo Array** comp=Z,3.8nm,1.2s	**66.61**	**344**	P	**P**	**04 23 38.0**	**-0.9**
ZAA0				IAmb	IAmb	04 23 38.5	
ZALV	**Zalesovo Beam** comp=Z,1.1nm,0.5s,baz=185,slow=5.2,SNR=2.4	**66.61**	**344**	P	**P**	**04 23 37.5**	**-1.4**
ABKAR	**Akbulak array**	**73.10**	**328**	P	**P**	**04 24 18.5**	**-0.4**
PETK	**Petropavlovsk-** comp=Z,0.7nm,0.5s,baz=210,slow=4.6,SNR=1.8	**73.99**	**27**	P	**P**	**04 24 23.7**	**-0.4**

IDC ***18*** *04:17:44.0*±*1.0, 29°.86S*×*71°.91W, h0*km*, mb3.6/4, mb1 3.9/8, mb1mx3.7/27, mbtmp3.7/8, ML3.7/4, Error ellipse: s-maj=38.6km s-min=24.2km az=82.0*
GUC ***18*** *04:17:48.2*±*0.6, 29°.93S*×*71°.81W, h27*km±*4km, ML3.9*
ISC 18 04:17:45.0±2.0, **29°.86S**±0°.04×**71°.93W**±0°.07, **h8**km±12km, **n28, σ1⁰45/31, mb3.6/4, 3C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.61**	**95**	*i*P	**Pn**	**04 17 58.8**	**-1.2**
CO05				*i* S	**Sb**	**04 18 06.4**	**-0.2**
CO05	comp=N,11μm,0.4s			IAML		04 18 10.7	
CO06	**Fray Jorge**	**0.85**	**162**	*e*P	**Pn**	**04 18 02.6**	**-0.7**
CO06				*e*S	**Sn**	**04 18 14.4**	**-1.5**
CO06	comp=E,5μm,0.2s			IAML		04 18 21.0	
GO04	**Tololo Observa**	**1.03**	**108**	*e*P	**Pn**	**04 18 06.2**	**+0.2**
GO04				*e*S	**Sn**	**04 18 21.1**	**+0.3**
LCO	**Las Campanas**	**1.37**	**52**	*i*P	**Pn**	**04 18 10.3**	**-0.4**
LCO				*e*S	**Sg**	**04 18 29.7**	**+0.5**
CO03	**El Pedregal**	**1.45**	**132**	*e*P	**Pg**	**04 18 12.9**	**0.0**
CO03				*e*S	**Sg**	**04 18 31.3**	**-0.4**
CO03	comp=E,3μm,0.4s			IAML		04 18 36.0	
AC04	**Llanos de Chal**	**1.82**	**25**	*e*P	**Pn**	**04 18 14.7**	**-2.0**
AC04				*i* S	**Sn**	**04 18 39.4**	**-0.4**
VA06	**Catapilco**	**2.75**	**169**	*e*P	**Pn**	**04 18 29.4**	**+0.1**
VA03	**San Esteban**	**3.12**	**158**	*e*P	**Pn**	**04 18 37.3**	**+2.6**
VA03				*i* S	**Sb**	**04 19 14.9**	**-4.4**
VA03	comp=N,635nm,0.6s			IAML		04 19 28.8	
ROCH	**El Roble**	**3.20**	**166**	*e*P	**Pn**	**04 18 36.6**	**+0.8**
ROCH				*i* S	**Sn**	**04 19 15.0**	**+0.7**
ROCH	comp=N,502nm,0.6s			IAML		04 19 37.9	
MT05	**Renca**	**3.66**	**164**	*e*P	**Pn**	**04 18 42.7**	**+0.7**
LMEL	**Las Melosas**	**4.24**	**160**	*e*P	**Pn**	**04 18 53.4**	**+3.4**
LMEL				*i* S	**Sn**	**04 19 41.7**	**+1.9**
H03N1	**Juan Fernandez** baz=69,slow=72,SNR=121	**6.94**	**237**	T	T	04 26 44.9	
H03N2	**Juan Fernandez** baz=69,slow=72,SNR=31	**6.95**	**237**	T	T	04 26 43.8	
H03N3	**Juan Fernandez** baz=69,slow=72,SNR=21	**6.95**	**237**	T	T	04 26 47.9	
PLCA	**Paso Flores** comp=N,0.3nm,0.3s,baz=336,slow=11,SNR=10	**10.90**	**174**	Pn	**Pn**	**04 20 21.6**	**+0.1**
CPUP	**Villa Florida** comp=N,0.1nm,0.3s,baz=87,slow=20,SNR=1.8	**13.36**	**78**	Pn	**Pn**	**04 20 53.9**	**-1.1**
LPAZ	**La Paz** comp=N,0.1nm,0.3s,baz=216,slow=9.8,SNR=4.9	**13.96**	**15**	Pn	**Pn**	**04 21 05.3**	**+1.6**
SIV	**San Ignacio** comp=N,0.1nm,0.3s,baz=241,slow=11,SNR=13	**17.03**	**38**	P	**Pn**	**04 21 44.4**	**+0.7**
SNAA	**Sanae** comp=N,1.1nm,0.8s,baz=258,slow=7.4,SNR=7.4	**55.39**	**159**	P	**P**	**04 27 19.8**	**+0.5**
TXAR	**Lajitas Array** comp=N,0.1nm,0.6s,baz=145,slow=9.9,SNR=2.2	**66.19**	**330**	P	**P**	**04 28 33.9**	**+0.5**
PDAR	**Pinedale Array** comp=N,0.2nm,0.6s,baz=148,slow=7.1,SNR=1.9	**80.13**	**333**	P	**P**	**04 29 55.2**	**-0.5**
TORD	**Torodi Ar. Bea** comp=N,1.4nm,0.9s,baz=255,slow=4.7,SNR=5.2	**82.73**	**70**	P	**P**	**04 30 09.3**	**-0.5**
H11S2	**WAKE ISLAND Hyl** baz=115	**25.82**	**272**	T	T	06 55 47.1	
H11S1	**WAKE ISLAND Hyl** baz=115	**25.83**	**272**	T	T	06 55 47.6	
H11S3	**WAKE ISLAND Hyl** baz=115	**25.83**	**272**	T	T	06 55 43.4	
KURBB	**Kurchatov Arra** comp=N,0.5nm,0.6s,baz=303,slow=3.6,SNR=5.4	**149.69**	**38**	PKPbc	**PKPbc**	**04 37 34.9**	**-0.1**
ZALV	**Zalesovo Beam** comp=N,2.6nm,0.5s,baz=300,slow=5.1,SNR=7.6	**150.62**	**28**	PKPbc	**PKPbc**	**04 37 37.5**	**+0.4**
MKAR	**Makanchi Array** comp=N,0.3nm,0.7s,baz=252,slow=4.2,SNR=2.4	**153.82**	**43**	PKPbc	**PKPbc**	**04 37 44.6**	**0.0**

SJA ***18*** *04:23:51.1*±*0.7, 31°.20S*×*73°.09W, h9*km*, ML5.1, MW5.3*
IDC ***18*** *04:24:00.9*±*0.4, 31°.32S*×*71°.94W, h0*km*, mb4.9/24, mb1 5.0/30, mb1mx4.9/35, mbtmp4.9/30, ML4.5/5, MS4.8/10, Ms1 4.8/10, ms1mx4.3/33, Error ellipse: s-maj=17.2km s-min=10.5km az=79.0*
GUC ***18*** *04:24:01.8*±*0.7, 31°.33S*×*72°.06W, h12*km±*8km, ML5.0*
NEIC ***18*** *04:24:02.9, 31°.36S*×*72°.06W, h9km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr=0.06; Mθθ=0.65; Mϕϕ=-0.71; Mrθ=0.42; Mrϕ=0.68; Mθϕ=-5.52; Fault plane solution: M0 5.62000×10¹⁶ NP1:ϕ₁285.94000°, δ6.42000°, λ19.47000°. NP2:ϕ₂176.58000°, δ87.86000°, λ96.05000°. Principal axes: T 5.2109, Plg47.0000°, Azm93.0000°; N 0.7404, Plg6.0000°, Azm356.0000°; P -5.9513, Plg43.0000°, Azm261.0000°;*
NEIC ***18*** *04:24:02.1*±*1.5, 31°.36S*±*0°.03×72°.03W*±*0°.06, h6*km±*2km, mb5.4/465, Mwr5.1/57, Mww5.0, ML5.0(GUC) Error ellipse: s-maj=8.3km s-min=0.9km az=117.0*
MOS ***18*** *04:24:04.7*±*1.1, 31°.18S*×*71°.98W, h30*km*, mb5.4/29, Error ellipse: s-maj=14.7km s-min=7.2km az=87.7*
NEIC ***18*** *04:24:05.3, 31°.36S*×*72°.08W, h12km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr=0.46; Mθθ=0.10; Mϕϕ=0.56; Mrθ=1.41; Mrϕ=1.32; Mθϕ=-3.23; Fault plane solution: M0 3.80000×10¹⁶ NP1:ϕ₁249.00000°, δ20.00000°, λ-4.00000°. NP2:ϕ₂343.00000°, δ88.00000°, λ-110.00000°. Principal axes: T 3.3217, Plg40.0000°, Azm92.0000°; N 0.8174, Plg20.0000°, Azm344.0000°; P -4.1390, Plg43.0000°, Azm234.0000°;*
BJI ***18*** *04:24:06.0*±*0.0, 31°.40S*×*72°.10W, h30*km*, mB5.3/10, Ms5.3/18, Ms7 5.0/19*
ISC 18 04:24:02.8±0.8, **31°.34S**±0°.02×**72°.10W**±0°.03, **h15**km±5km, **n707, σ1⁰55/555, mb5.3**/248, **MS4.9**/26, **99C-65D, Fault plane solution: NP1**:ϕ₁261.39972°, δ48.95285°, λ5.56231°. **NP2**:ϕ₂167.74052°, δ85.80792°, λ138.81888°. **Principal axes:** T Plg31.0665°, Azm116.1521°; N Plg48.6440°, Azm342.9641°; P Plg24.3716°, Azm221.9901°; **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.78**	**31**	*e*P	**Pg**	**04 24 16.3**	**-1.6**
CO06				*e*S	**Sg**	**04 24 27.7**	**-0.5**
CO06	**Fray Jorge**	**0.78**	**31**		**Pg**	**04 24 16.7**	**-1.2**
CO06					**Sb**	**04 24 29.4**	**+1.0**
CO03	**El Pedregal**	**1.31**	**68**	*e*P	**Pn**	**04 24 25.1**	**-1.6**
CO03				*e*S	**Sb**	**04 24 42.3**	**-1.5**
CO03	comp=E,42μm,0.3s			IAML		04 24 50.2	
CO03	**El Pedregal**	**1.31**	**68**	Pn	**Pn**	**04 24 25.2**	**-1.4**
CO03					**Sb**	**04 24 43.1**	**-0.8**
VA06	**Catapilco**	**1.39**	**151**	*e*P	**Pn**	**04 24 26.4**	**-1.2**
VA06				*e*S	**Sn**	**04 24 45.7**	**-0.1**
VA06	comp=E,47μm,0.5s			IAML		04 24 54.1	
CO05	**La Serena**	**1.60**	**28**	*e*P	**Pn**	**04 24 29.7**	**-0.9**
CO05				*e*S	**Sn**	**04 24 50.3**	**-0.7**
CO05	comp=N,38μm,0.5s			IAML		04 25 00.5	
CO05	**La Serena**	**1.60**	**28**		**Pn**	**04 24 30.4**	**-0.1**
GO04	**Tololo Observa**	**1.62**	**44**	*e*P	**Pn**	**04 24 30.0**	**-1.0**
GO04				*e*S	**Sn**	**04 24 51.7**	**0.0**
GO04	**Tololo Observa**	**1.62**	**44**		**Pb**	**04 24 32.0**	**-0.4**
GO04	**Tololo Observa**	**1.62**	**44**	*e*P	**Pn**	**04 24 31.0**	**0.0**
GO04				*e*P	**Pg**	**04 24 36.5**	**+2.6**
VA01	**Torpederas**	**1.72**	**167**	*e*P	**Pn**	**04 24 30.4**	**-1.7**
VA01	**Torpederas**	**1.72**	**167**		**Pn**	**04 24 30.7**	**-1.4**
VA01	**Torpederas**	**1.72**	**167**	*e*P	**Pn**	**04 24 31.0**	**-1.1**
VA01				*e*P	**Pg**	**04 24 39.5**	**+3.7**
VA01				*e*S	**Sg**	**04 24 58.5**	**+0.4**
ROCH	**El Roble**	**1.87**	**151**	*e*P	**Pn**	**04 24 33.7**	**-0.7**
ROCH	comp=N,13μm,0.6s			IAML		04 25 10.8	
VA03	**San Esteban**	**1.93**	**137**	*e*P	**Pn**	**04 24 35.1**	**-0.2**
VA03	comp=E,31μm,0.5s			IAML		04 25 09.5	
VA03	**San Esteban**	**1.93**	**137**		**Pn**	**04 24 35.4**	**+0.2**
VA03	**San Esteban**	**1.93**	**137**	*e*P	**Pn**	**04 24 35.0**	**-0.2**
VA03				*e*P	**Pb**	**04 24 36.5**	**-1.3**
VA03	comp=Z,5μm,0.8s			IAML		04 25 24.6	
VA05	**Santo Domingo**	**2.34**	**170**	*e*P	**Pn**	**04 24 39.2**	**-1.5**
VA05	**Santo Domingo**	**2.34**	**170**		**Pn**	**04 24 39.4**	**-1.3**
MT05	**Renca**	**2.35**	**151**	*e*P	**Pn**	**04 24 40.4**	**-0.4**
MT05	comp=E,22μm,0.3s			IAML		04 25 23.8	
MT05	**Renca**	**2.35**	**151**		**Pn**	**04 24 40.7**	**-0.1**
MT05	**Renca**	**2.35**	**151**	*e*P	**Pn**	**04 24 41.0**	**+0.2**
RTLS	**Le

AC06 Mina Casimiro 4.26 21 eP Pn 04 25 05.3 -1.7
AC06 Mina Casimiro 4.26 21 Pn 04 25 06.2 -0.9
VCA Vinchina 4.26 53 eP Pn 04 25 06.5 -0.8
COIS El Sosneado 4.30 151 eP Pn 04 25 06.5 -1.2
ML02 Panimavida 4.44 173 Pn Pn 04 25 08.9 -0.7
RFA San Rafael 4.58 139 eP Pn 04 25 14.0 +2.4
RFA eS Sg 04 26 26.0 -3.9
ACHE Chepes 4.66 89 eP Pn 04 25 17.0 +4.3
ACHE eS Sb 04 26 20.8 +0.5
ACLC CERRO LA CRUZ 4.84 68 eS Sb 04 26 21.5 -4.1
AC02 Maricunga 5.19 31 eP Pn 04 25 20.4 +0.1
AC02 Maricunga 5.19 31 Pn Pn 04 25 20.4 +0.1
AC02 Maricunga 5.19 31 eP Pn 04 25 16.0 -4.3
AC02 eS Sb 04 26 36.0 +0.1
MRA San Martin 5.54 103 eS Sn 04 26 36.0 +7.8
H03N1 Juan Fernandez 6.13 248 Pn Pn 04 25 31.8 -0.7
baz=199,slow=74,SNR=3.4
H03N1 T T 04 32 25.2
baz=75,slow=72,SNR=453
VA04 Juan Fernndez 6.13 246 Pn Pn 04 25 30.5 -2.2
H03N3 Juan Fernandez 6.14 248 Pn Pn 04 25 31.8 -0.9
H03N3 T T 04 32 18.0
baz=75,slow=72,SNR=410
H03N2 Juan Fernandez 6.14 248 Pn Pn 04 25 31.7 -0.9
baz=63,slow=74,SNR=8.0
H03N2 T T 04 32 19.3
baz=75,slow=72,SNR=385
CYA Choya 6.19 64 eP Pn 04 25 35.0 +1.4
H03S3 Juan Fernandez 6.25 245 Pn Pn 04 25 32.1 -2.1
baz=107,slow=80,SNR=16
H03S1 Juan Fernandez 6.26 245 Pn Pn 04 25 31.7 -2.6
baz=107,slow=80,SNR=17
H03S2 Juan Fernandez 6.27 245 Pn Pn 04 25 32.2 -2.3
baz=107,slow=80,SNR=36
FSA Cafayete 7.49 47 eP Pn 04 25 47.5 -4.1
LC01 Cunco 7.54 179 eP Pn 04 25 51.0 -1.1
LVC Limon Verde 9.15 19 Pn Pn 04 26 13.7 -0.9
comp=Z,1.1nm,0.3s,baz=209,slow=9.0,SNR=9.2
LVC Sn Sn 04 27 53.0 -4.6
comp=Z,1.0nm,0.3s,baz=296,slow=12,SNR=1.4
LVC Limon Verde 9.15 19 Pn Pn 04 26 15.0 +0.4
PLCA Paso Flores 9.45 173 Pn Pn 04 26 18.1 -0.4
comp=Z,2.3nm,0.3s,baz=338,slow=12,SNR=85
PLCA Paso Flores 9.45 173 Pn Pn 04 26 17.9 -0.5
LL03 Petrohue 9.78 181 Pn Pn 04 26 22.5 -0.3
LL05 Los Muermos 10.10 186 Pn 04 26 25.3 -1.9
PB01 IPOC Station P 10.52 14 Pn 04 26 31.2 -2.0
TRQA Tornquist 10.69 132 P Pn 04 26 35.2 -0.1
TRQA Tornquist 10.69 132 Pn 04 26 35.2 -0.1
LL02 Futaleuf 11.83 179 Pn 04 26 51.1 +0.3
PSGCX Pisagua 11.83 9 Pn 04 26 50.6 -0.5
LPA La Plata 12.40 110 i P Pn 04 26 49.2 -9.5
LPA sP P 04 26 55.0 -16
LPA PPP PPP 04 27 17.6
LPA S Sn 04 29 15.5 -1.0
LPA SSS SSS 04 29 47.9
LPA SS SbSb 04 30 11.4 +3.5
LPA PKIKP PKiKP 04 40 34.6 -2.2
ITQB Itaqui 13.45 87 Pn 04 27 13.2 +0.2
CPUP Villa Florida 13.88 73 Pn Pn 04 27 17.7 -1.2
comp=Z,0.3nm,0.3s,baz=222,slow=13,SNR=3.2
CPUP LR LR 04 33 00.2
comp=Z,3µm,21.4s,baz=250,slow=39
CPUP Villa Florida 13.88 73 Pn 04 27 18.1 -0.8
COYC Coyhaique 14.21 180 Pn 04 27 23.4 +0.1
LPAZ La Paz 15.42 14 Pn Pn 04 27 40.8 +0.4
comp=Z,1.7nm,0.3s,baz=188,slow=8.6,SNR=74
LPAZ La Paz 15.42 14 eP Pn 04 27 39.4 -1.0
LPAZ La Paz 15.42 14 Pn 04 27 39.4 -1.0
PLTB Pedras Altas 15.78 96 Pn Pn 04 27 42.6 -1.8
AQDB Aquidauana 18.28 58 Pn Pn 04 28 13.7 -2.1
SIV San Ignacio 18.30 36 P Pn 04 28 15.1 -1.1
comp=Z,0.1nm,0.3s,baz=225,slow=10,SNR=3.7
SIV LR LR 04 36 31.8
comp=Z,2µm,18.6s,baz=226,slow=41
NNA Nana 19.75 346 P Pn 04 28 33.6 -0.2
comp=Z,0.9nm,0.3s,baz=197,slow=7.8,SNR=10.0
NNA Nana 19.75 346 P P 04 28 31.9 -0.3
NNA pmax pmax
comp=Z,41nm,1.1s
NNA Nana 19.75 346 P P 04 28 31.9 -0.3
EFI East Falkland 22.80 157⇑ eP P 04 28 58.1 -6.6
EFI pmax pmax
comp=Z,184nm,1.5s
SPB Sao Paulo 23.18 77 P P 04 29 07.7 -1.2
SPB IAmb IAmb 04 29 12.2
comp=Z,93nm,0.9s
USHA Ushuaia 23.62 175 P P 04 29 14.5 +1.5
comp=Z,35nm,0.8s,baz=334,slow=4.6,SNR=3.7
SAML Samuel 23.78 22 P P 04 29 15.3 +0.4
SAML pmax pmax
comp=Z,49nm,1.0s
SAML Samuel 23.78 22 P P 04 29 15.3 +0.4
BDFB Brasilia 26.97 60 P P 04 29 42.6 -1.5
comp=Z,54nm,0.9s,baz=234,slow=8.5,SNR=53
BDFB LR LR 04 41 46.2
comp=Z,7µm,18.8s,baz=229,slow=40
BDFB Brasilia 26.97 60 P P 04 29 43.2 -0.9
BDFB IAmb IAmb 04 29 46.6
comp=Z,80nm,1.1s
OTAV Otavalo 31.98 348 P P 04 30 30.3 +1.4
OTAV pmax pmax
comp=Z,22nm,1.3s
OTAV Otavalo 31.98 348 P P 04 30 30.3 +1.4
RPN Rapa Nui 32.66 268 LR LR 04 40 01.8
comp=Z,1µm,19.1s,baz=116,slow=29
PMSA Palmer Station 33.83 174 P P 04 30 46.0 +2.0
comp=Z,18nm,1.2s,baz=0.6,slow=8.3,SNR=6.8
PMSA Palmer Station 33.83 174 P P 04 30 44.0 0.0
PMSA IAmb IAmb 04 30 47.1
comp=Z,41nm,1.4s
ROSC El Rosal 36.04 356 P P 04 31 06.4 +2.3
comp=Z,15nm,0.9s,baz=262,slow=4.3,SNR=6.7
ROSC El Rosal 36.04 356 P P 04 31 04.2 +0.1
ROSC pmax pmax
comp=Z,22nm,0.9s
ROSC El Rosal 36.04 356 P P 04 31 04.2 +0.1
RUSC La Rusia 37.04 358 P P 04 31 13.0 +0.3
SDV Santo Domingo 40.02 2 P P 04 31 37.9 +0.5
comp=Z,10nm,0.6s,baz=199,slow=6.2,SNR=6.6
SDV Santo Domingo 40.02 2 P P 04 31 36.5 -0.9
MDP Montagnes des 40.73 31 P P 04 31 43.7 +0.7
comp=Z,7.1nm,0.7s,baz=212,slow=11,SNR=2.3
BCIP Isla Barro Col 40.96 348 P P 04 31 44.7 -0.2
BCIP pmax pmax
comp=Z,92nm,1.5s
BCIP Isla Barro Col 40.96 348 P P 04 31 44.7 -0.2
BCIP IAmb IAmb 04 31 47.7
comp=Z,92nm,1.5s
SJCC San Jacinto, C 41.11 355 P P 04 31 46.5 +0.3
DRK0 Durika 41.76 343 P P 04 31 51.9 +0.1
PCRV Puerto La Cruz 41.90 11 P P 04 31 53.7 +1.0
comp=Z,18nm,0.8s,baz=147,slow=5.8,SNR=6.2
JTS Las Juntas de 43.19 341 P P 04 32 04.6 +1.4
comp=Z,9.8nm,0.9s,baz=117,slow=2.3,SNR=5.5
JTS Las Juntas de 43.19 341 IAmb IAmb 04 32 12.4
comp=Z,31nm,1.4s
HATO Hato, Curacao 43.38 4 P P 04 32 04.7 0.0
COVE Coope Vega, Sa 43.45 342 IAmb IAmb 04 32 08.3
comp=Z,62nm,1.1s
TOSP Speyside 43.83 17 P P 04 32 08.4 +0.1
TOSP IAmb IAmb 04 32 11.9
comp=Z,90nm,1.0s
GRGR Grenville 44.38 15 P P 04 32 13.1 +0.4
TGUH Tegucigalpa,Un 47.43 340 IAmb IAmb 04 32 39.0
comp=Z,48nm,1.1s
MTO3 Montecristo 48.41 337 P P 04 32 44.3 -0.3
CDVI St. Croix 49.32 9 IAmb IAmb 04 32 55.6
comp=Z,52nm,0.9s
OBIP Obispado Ponce 49.39 7 IAmb IAmb 04 32 52.8
comp=Z,53nm,0.9s
SJG San Juan 49.50 7 P P 04 32 52.6 -0.1
SJG pmax pmax
comp=Z,63nm,1.0s
SJG San Juan 49.50 7 P P 04 32 52.6 -0.1
MTP Monte Pirata 49.56 8 IAmb IAmb 04 32 53.4
comp=Z,30nm,1.0s
HUMP Col San Antoni 49.57 8 IAmb IAmb 04 33 00.7
comp=Z,29nm,1.1s
AOPR Arecibo Observ 49.67 7 IAmb IAmb 04 33 01.7
comp=Z,46nm,1.1s
CBYP Canovanas 49.69 8 P P 04 32 53.3 -0.9
GCPR Guaynabo City 49.70 8 IAmb IAmb 04 32 54.4
comp=Z,30nm,0.9s
SMRT St. Maarten 49.87 11 IAmb IAmb 04 32 55.2
comp=Z,37nm,0.9s
SC01 Santiago de lo 50.50 2 IAmb IAmb 04 33 15.3
comp=Z,65nm,0.9s
CCIG Comitan 51.11 335 P P 04 33 05.4 +0.2
FSCY Frank Sound, G 51.12 349 IAmb IAmb 04 33 05.8
comp=Z,61nm,0.9s
VNA3 Neumayer Olymp 51.84 159 P P 04 33 10.6 +0.8
VNA1 Neumayer--Stat 52.14 158 P P 04 33 12.6 +0.6
VNA2 Neumayer--Watz 52.48 158 P P 04 33 15.2 +0.6
baz=282,slow=8.3
SNAA Sanae 54.06 159 P P 04 33 26.9 +0.5
SNAA Sanae 54.06 159 P P 04 33 26.8 +0.5
comp=Z,29nm,1.1s,baz=282,slow=6.0,SNR=57
SNAA Sanae 54.06 159⇑ eP P 04 33 21.9 -4.4
SNAA pmax pmax
comp=Z,59nm,1.3s
SNAA Sanae 54.06 159 P P 04 33 26.2 -0.1
SNAA IAmb IAmb 04 33 28.5
comp=Z,57nm,1.2s
SOR Soroa 54.83 348 IAmb IAmb 04 33 33.5
comp=Z,33nm,0.9s
TLIG Tlapa 54.87 329 IAmb IAmb 04 33 35.9
comp=Z,37nm,1.2s
QSPA South Pole Qui 58.88 180 P P 04 34 01.9 +1.1
QSPA IAmb IAmb 04 34 03.4
comp=Z,57nm,1.3s
DWPF Disney Wildern 59.79 350 P P 04 34 07.3 +0.1
baz=171
ZAIG Zacatecas 61.22 328 P P 04 34 18.7 +1.3
TIGA Tifton 63.38 349 P P 04 34 31.3 -0.1
baz=169
BRAL Brewton 63.77 346 P P 04 34 34.1 +0.2
baz=166
NHSC New Hope 64.56 352 P P 04 34 39.7 +0.6
baz=172
152A Waverly Hall 64.78 348 IAmb IAmb 04 34 41.4
comp=Z,20nm,0.9s
833A Chaparral WMA, 64.78 333 P P 04 34 41.9 +1.2
baz=154,SNR=23
HKT Hockley 65.00 337 deP P 04 34 41.5 -0.5
HKT pmax pmax
comp=Z,18nm,1.3s
HKT Hockley 65.00 337 P P 04 34 42.7 +0.7
HKT IAmb IAmb 04 34 44.7
comp=Z,43nm,1.4s
GOGA Godfrey 65.30 350 IAmb IAmb 04 34 44.9
comp=Z,27nm,1.1s
GOGA Godfrey 65.30 350 P P 04 34 45.0 +1.1
baz=169
LRAL Lakeview Retre 65.56 346 IAmb IAmb 04 34 46.9
comp=Z,22nm,1.2s
LRAL Lakeview Retre 65.56 346 P P 04 34 45.6 0.0
baz=166,SNR=6.9
VBMS Vicksburg 65.58 343 P P 04 34 46.9 +1.1
baz=163
SLBS Sierra La Lagu 65.63 322 P P 04 34 47.1 +0.7
SLBS IAmb IAmb 04 34 49.2
comp=Z,35nm,1.0s
SBA Scott Base 65.66 191 P P 04 34 47.2 +1.4
SBA pmax pmax
comp=Z,37nm,1.4s
SBA Scott Base 65.66 191 P P 04 34 47.2 +1.4
SBA IAmb IAmb 04 34 49.5
comp=Z,37nm,1.4s
HODGE Hodges 65.92 351 IAmb IAmb 04 34 49.3
comp=Z,22nm,1.1s
HPIG 66.22 327 P P 04 34 51.2 +0.9
Y49A Blount Mountai 66.24 347 IAmb IAmb 04 34 51.2
comp=Z,20nm,1.1s
NATX Nagdoches 66.30 339 P P 04 34 51.8 +1.3
baz=159
435B Jarrell 66.35 336 IAmb IAmb 04 34 53.2
comp=Z,28nm,1.0s
435B Jarrell 66.35 336 P P 04 34 51.5 +0.7
baz=156
PAULI Pauline 66.45 351 IAmb IAmb 04 34 52.8
comp=Z,40nm,1.2s
CNNC Cliffs of the 66.45 355 P P 04 34 51.6 +0.3
baz=175
VNDA Vanda 66.69 191 P P 04 34 54.4 +1.9
comp=Z,9.0nm,1.1s,baz=140,slow=5.2,SNR=18
VNDA LR LR 05 01 22.0
comp=Z,170nm,18.0s,baz=144,slow=34
VNDA Vanda 66.69 191 P P 04 34 53.8 +1.4
VNDA pmax pmax
comp=Z,23nm,1.3s
VNDA Vanda 66.69 191 P P 04 34 53.8 +1.4
VNDA IAmb IAmb 04 34 55.9
comp=Z,23nm,1.3s
KMSC Kings Mountain 66.70 352 IAmb IAmb 04 34 54.3
comp=Z,32nm,1.1s
KMSC Kings Mountain 66.70 352 P P 04 34 52.8 -0.1
baz=171,SNR=5.1
FPAL Fort Paine 66.76 348 IAmb IAmb 04 34 54.5
comp=Z,39nm,1.2s
JCT Junction City 66.87 334 P P 04 34 55.0 +0.8
baz=154,SNR=19
X48A Hartselle 66.94 347 P P 04 34 55.2 +0.7
V58A Windy Hill, Pi 67.11 354 IAmb IAmb 04 34 56.8
comp=Z,34nm,1.1s
Z41A Richland Creek 67.16 341 P P 04 34 56.9 +1.0
baz=161
TX32 Lajitas Array 67.40 330 IAmb IAmb 04 34 59.9
comp=Z,30nm,1.3s
TXAR Lajitas Array 67.40 330 P P 04 34 58.7 +1.1
comp=Z,7.5nm,0.8s,baz=151,slow=8.6,SNR=93
TXAR Lajitas Array 67.40 330 P P 04 34 58.6 +1.0
WHTX Lake Whitney, 67.41 337 P P 04 34 58.0 +0.4
baz=157
V53A Saluda 67.42 351 IAmb IAmb 04 34 58.9
comp=Z,45nm,1.2s
OXF Oxford 67.50 345 P P 04 34 58.4 +0.4
OXF pmax pmax
comp=Z,113nm,1.0s
OXF Oxford 67.50 345 P P 04 34 58.4 +0.4
OXF Oxford 67.50 345 P P 04 34 57.9 -0.1
baz=164,SNR=24
U59A Littleton 67.55 355 IAmb IAmb 04 35 00.4
comp=Z,43nm,1.3s
WLAR White Oak Lake 67.65 341 IAmb IAmb 04 35 00.9
comp=Z,24nm,1.0s
PLAL Pickwick Lake 67.67 346 IAmb IAmb 04 35 00.2
comp=Z,41nm,1.1s
V51A Loudon 67.78 349 IAmb IAmb 04 35 00.9
comp=Z,35nm,1.1s
U56A King 67.78 353 IAmb IAmb 04 35 01.4
comp=Z,18nm,1.0s
Z38A Mt. Pleasant 67.80 339 IAmb IAmb 04 35 01.5
comp=Z,39nm,1.3s
TBI Tubuai 67.91 255 eLR LR 04 55 32.9
comp=Z,596nm,24.0s,baz=112
W45A Hickory Valley 68.07 345 P P 04 35 02.4 +0.7
X40A Basin Creek Fa 68.33 342 P P 04 35 03.5 +0.3
baz=161
SYO Syowa Base 68.35 159⇑ epP P 04 35 03.9 +0.9
TZTN Tazewell 68.38 350 P P 04 35 03.3 -0.3
baz=170,SNR=5.0
CLTN Cedars of Leba 68.40 348 IAmb IAmb 04 35 05.0
comp=Z,39nm,1.2s
MIAR Mount Ida 68.59 341 IAmb IAmb 04 35 06.6
comp=Z,33nm,1.4s
MIAR Mount Ida 68.59 341 P P 04 35 04.8 0.0
baz=160,SNR=9.4
BLA Blacksburg 68.64 353 P P 04 35 05.4 +0.2
baz=172
U49A Red Boiling Sp 68.71 348 IAmb IAmb 04 35 06.8
comp=Z,34nm,1.2s
WVT Waverly 68.72 346 P P 04 35 05.8 +0.1
WVT pP pwP 04 35 13.6 -0.2
WVT Waverly 68.72 346 P P 04 35 05.1 -0.5
baz=166
ABTX Abilene, Hawle 68.75 335 P P 04 35 06.5 +0.6
baz=155,SNR=14
W41B Gary Mavity, V 68.83 342 P P 04 35 06.4 +0.1
baz=162,SNR=7.5
S57A Dark Hollow, R 69.05 354 IAmb IAmb 04 35 09.4
comp=Z,35nm,1.2s
LNXT Lenox 69.05 345 P P 04 35 08.4 +0.7
X37A Clayton 69.15 340 IAmb IAmb 04 35 10.2
comp=Z,44nm,1.4s
W39A Magazine 69.26 341 P P 04 35 09.9 +0.9
baz=160,SNR=27
S54A Dingess, Beckl 69.32 352 IAmb IAmb 04 35 10.5
comp=Z,42nm,1.2s
CBN Corbin Frederi 69.36 356 P P 04 35 10.5 +0.9
CBN IAmb IAmb 04 35 11.7
comp=Z,42nm,1.4s
CBN Corbin Frederi 69.36 356 P P 04 35 10.4 +0.9
baz=175
LCAR Lake Charles 69.40 344 IAmb IAmb 04 35 11.1
comp=Z,34nm,1.0s
PARMO Parma 69.64 345 P P 04 35 11.7 +0.4
R55A Marlinton 69.67 353 IAmb IAmb 04 35 13.6
comp=Z,34nm,1.1s
SRIG Santa Rosalia 69.78 322 IAmb IAmb 04 35 15.0
comp=Z,48nm,1.3s
PBMO Poplar Bluff 69.91 344 IAmb IAmb 04 35 14.3
comp=Z,32nm,1.1s
Q61A Milford 69.93 357 P P 04 35 14.7 +1.7
baz=177
U40A Yellville 70.10 342 IAmb IAmb 04 35 15.7
comp=Z,42nm,1.1s
U40A Yellville 70.10 342 P P 04 35 14.4 +0.2
baz=161,SNR=9.6
MNTX Cornudas Mount 70.18 330 IAmb IAmb 04 35 15.8
comp=Z,20nm,0.9s
MNTX Cornudas Mount 70.18 330 P P 04 35 14.3 -0.5
baz=150,SNR=31
HHAR Hobbs 70.32 341 P P 04 35 15.9 +0.3
HHAR IAmb IAmb 04 35 17.0
comp=Z,45nm,1.0s
Q56A Snyder Ridge, 70.34 354 IAmb IAmb 04 35 17.9
comp=Z,44nm,1.3s
R49A Shelbyville 70.34 349 IAmb IAmb 04 35 16.6
comp=Z,26nm,1.4s
WMOK Wichita Mounta 70.37 337 IAmb IAmb 04 35 17.2
comp=Z,23nm,1.1s
WMOK Wichita Mounta 70.37 337 P P 04 35 15.7 -0.2
baz=156,SNR=8.2
FNO Franklin 70.39 338 IAmb IAmb 04 35 18.2
comp=Z,46nm,1.2s
Q54A Coxs Mills 70.44 353 IAmb IAmb 04 35 17.2
comp=Z,30nm,1.4s
WCI Wyandotte Cave 70.47 348 P P 04 35 16.5 +0.1
WCI pmax pmax
comp=Z,29nm,1.2s
WCI Wyandotte Cave 70.47 348 P P 04 35 16.5 +0.1
WCI IAmb IAmb 04 35 17.1
comp=Z,29nm,1.2s
WCI Wyandotte Cave 70.47 348 P P 04 35 15.9 -0.5
baz=167
HSIG 70.50 324 IAmb IAmb 04 35 19.3
comp=Z,34nm,1.2s
TUL1 Leonard 70.50 340 P P 04 35 16.6 0.0
baz=159,SNR=15
PPT2 Papeete2 70.58 261 eS S 04 44 33.6 +2.3
comp=Z,121nm,22.5s
PPT2 Papeete2 70.58 261 eLR LR 04 56 49.2
comp=Z,357nm,23.2s,baz=135
Q52A Bidwell 70.58 352 IAmb IAmb 04 35 18.3
comp=Z,38nm,1.1s
PPT Papeete 70.59 261 LR LR 04 57 59.9
comp=Z,188nm,20.5s,baz=132,slow=29
U38A Gravette 70.59 341 IAmb IAmb 04 35 18.6
comp=Z,24nm,1.2s
OK025 Westminster Rd 70.67 338 P P 04 35 17.8 +0.1
P57A Homestead Farm 70.68 355 IAmb IAmb 04 35 20.2
comp=Z,38nm,1.1s
MGMO Mountain Grove 70.71 343 IAmb IAmb 04 35 19.5
comp=Z,30nm,1.1s
Q51A Peebles 70.79 351 IAmb IAmb 04 35 19.5
comp=Z,26nm,1.0s
P60A Greenville 70.87 357 P P 04 35 19.4 +0.6
baz=177
P53A Whipple 71.00 352 IAmb IAmb 04 35 21.0
comp=Z,35nm,1.2s
MCWV Mont Chateau 71.01 354 IAmb IAmb 04 35 21.2
comp=Z,24nm,1.0s
MCWV Mont Chateau 71.01 354 P P 04 35 20.1 +0.5
baz=173
QUOK Quay 71.02 339 IAmb IAmb 04 35 21.4
comp=Z,43nm,1.1s
MVL Millersville 71.09 357 IAmb IAmb 04 35 22.6
comp=Z,29nm,1.3s
MSTX Muleshoe 71.11 333 P P 04 35 20.3 -0.2
baz=153,SNR=40
P51A Williamsport 71.20 351 IAmb IAmb 04 35 21.8
comp=Z,42nm,1.1s
P52A Corning 71.23 352 IAmb IAmb 04 35 22.0
comp=Z,46nm,1.1s
P52A Corning 71.23 352 P P 04 35 20.6 -0.4
baz=171,SNR=7.8
CCM Cathedral Cave 71.32 344 P P 04 35 21.9 +0.3
CCM pmax pmax
comp=Z,54nm,1.1s
CCM Cathedral Cave 71.32 344 P P 04 35 21.9 +0.3
CCM Cathedral Cave 71.32 344 P P 04 35 21.8 +0.2
baz=163
S39A Bolivar 71.48 342 IAmb IAmb 04 35 24.2
comp=Z,48nm,1.1s
P49A Miami Univ. Ec 71.49 350 P P 04 35 23.1 +0.5
baz=169
O56A Blue Knob Stat 71.50 355 P P 04 35 23.5 +0.8
baz=174
AMTX Amarillo 71.52 335 P P 04 35 23.7 +0.7
baz=154
P48A Milroy 71.53 349 IAmb IAmb 04 35 23.4
comp=Z,50nm,1.2s
Q44A Meyer Farm, Va 71.64 346 IAmb IAmb 04 35 32.0
comp=Z,20nm,1.0s
319A Douglas 71.64 327 IAmb IAmb 04 35 26.7
comp=Z,40nm,1.1s
LUPA Lehigh Univers 71.65 357 P P 04 35 24.5 +1.0
T35A Sooner Cattle 71.65 340 IAmb IAmb 04 35 25.5
comp=Z,52nm,1.1s
O52A Adamsville 71.67 352 IAmb IAmb 04 35 24.7
comp=Z,24nm,1.1s
BLOK Blackwell 71.72 339 IAmb IAmb 04 35 25.8
comp=Z,48nm,1.1s
O53A New Philadelph 71.73 353 IAmb IAmb 04 35 26.1
comp=Z,57nm,1.5s
O53A New Philadelph 71.73 353 P P 04 35 23.6 -0.5
baz=172
CPNY Central Park 71.80 359 P P 04 35 24.3 -0.1
SSPA Standing Stone 71.82 355 P P 04 35 25.2 +0.7
SSPA IAmb IAmb 04 35 26.5
comp=Z,51nm,1.4s
SSPA Standing Stone 71.82 355 P P 04 35 24.0 -0.5
baz=175
ACSO Alum Creek Sta 71.93 351 P P 04 35 25.0 -0.2
baz=170,SNR=8.1
U32A Winter Ranch, 71.94 337 IAmb IAmb 04 35 27.3
comp=Z,38nm,1.0s
121A Cookes Peak, D 71.94 329 IAmb IAmb 04 35 28.7
comp=Z,52nm,1.1s
121A Cookes Peak, D 71.94 329 P P 04 35 27.1 +1.4
baz=148,SNR=16
N58A Sunbury 71.95 356 IAmb IAmb 04 35 27.5
comp=Z,22nm,1.1s
N59A State Game Lan 71.98 357 IAmb IAmb 04 35 28.2
comp=Z,35nm,1.2s
N59A State Game Lan 71.98 357 P P 04 35 26.7 +1.2
baz=177,SNR=9.7
P46A Rosedale 71.98 348 IAmb IAmb 04 35 26.1
comp=Z,33nm,1.1s
Q49A Covington 72.07 350 P P 04 35 26.3 +0.2
O49A IAmb IAmb 04 35 27.0
comp=Z,50nm,1.2s
ODNJ Ogdensburg 72.10 358 IAmb IAmb 04 35 37.0
comp=Z,29nm,1.3s
KAN17 Caldwell West 72.15 339 IAmb IAmb 04 35 28.4
comp=Z,50nm,1.1s
WSPT Westport, CT 72.16 359 IAmb IAmb 04 35 37.4
comp=Z,48nm,1.4s
N53A Lisbon 72.24 353 IAmb IAmb 04 35 28.6
comp=Z,35nm,1.4s
N54A Moraine State 72.31 354 IAmb IAmb 04 35 29.1
comp=Z,31nm,1.1s
N54A Moraine State 72.31 354 P P 04 35 27.6 +0.1
baz=173,SNR=6.5
P43A Skaggs, Pawnee 72.45 346 P P 04 35 28.8 +0.4
P43A IAmb IAmb 04 35 29.4
comp=Z,36nm,1.1s
N51A Ashland 72.53 352 IAmb IAmb 04 35 29.8
comp=Z,34nm,1.1s
SFIN Lafayette 72.70 348 P P 04 35 30.3 +0.5
baz=167
M55A Ridgway 72.71 355 IAmb IAmb 04 35 31.5
comp=Z,38nm,1.1s
KSCT Kent School, K 72.72 359 IAmb IAmb 04 35 40.8
comp=Z,29nm,1.4s
M54A Oil Creek Stat 72.83 354 P P 04 35 30.9 +0.3
baz=173
M53A WI Miller and 72.85 353 IAmb IAmb 04 35 32.0

comp=Z,40nm,1.1s
M53A WI Miller and 72.85 353 P P 04 35 30.7 0.0
baz=172,SNR=5.7
BRYW Bryant College 72.90 0 P P 04 35 31.9 +0.9
BRYW IAmb IAmb 04 35 33.5
comp=Z,38nm,1.1s
L64A Middleborough 72.93 1 P P 04 35 32.2 +1.1
baz=181
N47A Urbana 72.95 349 IAmb IAmb 04 35 31.8
comp=Z,39nm,1.1s
M52A Chesterland 73.02 353 IAmb IAmb 04 35 32.9
comp=Z,50nm,1.1s
M50A Fremont 73.09 351 IAmb IAmb 04 35 33.2
comp=Z,53nm,1.2s
TUC Tucson 73.13 326 P P 04 35 33.3 +0.7
TUC pmax pmax
comp=Z,33nm,1.5s
TUC Tucson 73.13 326 P P 04 35 33.3 +0.7
TUC IAmb IAmb 04 35 35.3
comp=Z,33nm,1.5s
TUC Tucson 73.13 326 P P 04 35 33.3 +0.7
baz=146
L59A Walton 73.22 358 IAmb IAmb 04 35 35.2
comp=Z,27nm,1.1s
QUA2 Belchertown 73.26 360 IAmb IAmb 04 35 35.4
comp=Z,27nm,1.2s
BINY Binghamton 73.27 357 IAmb IAmb 04 35 43.6
comp=Z,32nm,1.5s
BINY Binghamton 73.27 357 P P 04 35 34.2 +1.0
baz=176
HDIL Hopedale 73.29 346 IAmb IAmb 04 35 33.8
comp=Z,15nm,0.7s
HDIL Hopedale 73.29 346 P P 04 35 34.3 +1.0
baz=165
L56A Greenwood 73.29 356 IAmb IAmb 04 35 35.2
comp=Z,50nm,1.1s
BCX Boston College 73.32 1 P P 04 35 35.5 +2.1
P38A Dawn 73.36 343 IAmb IAmb 04 35 35.0
comp=Z,38nm,1.1s
L61B Northampton 73.43 360 P P 04 35 35.1 +1.0
baz=179,SNR=8.8
ANMO Albuquerque 73.43 331 P P 04 35 36.0 +1.4
comp=Z,18nm,1.2s,baz=150,slow=8.2,SNR=10
ANMO Albuquerque 73.43 331 eP P 04 35 34.4 -0.1
ANMO pmax pmax
comp=Z,13nm,1.3s
ANMO Albuquerque 73.43 331 P P 04 35 35.8 +1.2
ANMO IAmb IAmb 04 35 37.3
comp=Z,39nm,1.4s
ANMO Albuquerque 73.43 331 P P 04 35 35.7 +1.1
baz=150
ERPA Erie 73.46 354 IAmb IAmb 04 35 35.5
comp=Z,32nm,1.1s
ERPA Erie 73.46 354 P P 04 35 34.3 +0.1
baz=173
HRV Adam Dziewonsk 73.49 0 P P 04 35 36.2 +1.8
HRV pmax pmax
comp=Z,42nm,1.5s
HRV Adam Dziewonsk 73.49 0 P P 04 35 36.2 +1.8
HRV IAmb IAmb 04 35 45.4
comp=Z,42nm,1.4s
HRV Adam Dziewonsk 73.49 0 P P 04 35 35.8 +1.4
baz=180
K62A Royalston 73.65 360 IAmb IAmb 04 35 38.0
comp=Z,31nm,1.3s
K62A Royalston 73.65 360 P P 04 35 36.6 +1.2
baz=180,SNR=5.0
K61A Williamstown 73.66 359 P P 04 35 36.4 +1.0
baz=179
KSU1 Kansas State U 73.70 340 IAmb IAmb 04 35 37.0
comp=Z,26nm,1.0s
KSU1 Kansas State U 73.70 340 P P 04 35 35.5 -0.2
baz=158
TRY Troy 73.73 359 IAmb IAmb 04 35 38.4
comp=Z,35nm,1.1s
L48A N Adams 73.81 350 IAmb IAmb 04 35 37.0
comp=Z,32nm,1.1s
214A Organ Pipe Nat 73.82 325 IAmb IAmb 04 35 39.7
comp=Z,46nm,1.2s
214A Organ Pipe Nat 73.82 325 P P 04 35 38.0 +1.3
baz=145,SNR=18
M44A Midewin, Midew 73.85 348 IAmb IAmb 04 35 37.4
comp=Z,45nm,1.1s
MMNY Mt. Morris Dam 73.91 356 IAmb IAmb 04 35 38.6
comp=Z,46nm,1.2s
LIC Lamto 74.00 72 eP P 04 35 37.9 -0.2
comp=Z,105nm,1.9s
AAM Ann Arbor 74.05 351 P P 04 35 38.7 +1.0
baz=170
SFX San Felipe 74.11 323 P P 04 35 38.5 +0.1
TIC Toumodi 74.25 72 eP P 04 35 40.3 +0.7
KIC Kosan Boka 74.31 72 eP P 04 35 39.9 -0.1
comp=Z,33nm,0.8s
J61A Chester 74.33 360 P P 04 35 40.3 +1.0
baz=180
K50A Casco 74.39 352 IAmb IAmb 04 35 40.3
comp=Z,34nm,0.8s
CBKS Cedar Bluff 74.39 338 P P 04 35 41.2 +1.3
CBKS pmax pmax
comp=Z,71nm,1.0s
CBKS Cedar Bluff 74.39 338 P P 04 35 41.2 +1.3
CBKS Cedar Bluff 74.39 338 P P 04 35 40.6 +0.7
baz=156,SNR=13
DBIC Dimbokro 74.40 72 P P 04 35 40.0 -0.4
comp=Z,14nm,0.8s,baz=228,slow=5.9,SNR=16
DBIC LR LR 05 05 46.9
comp=Z,929nm,20.0s,baz=234,slow=34
DBIC Dimbokro 74.40 72 P P 04 35 40.5 +0.1
FFD Franklin Falls 74.45 0 IAmb IAmb 04 35 42.9
comp=Z,27nm,0.9s
T25A Trinidad 74.53 334 P P 04 35 42.3 +1.4
baz=152,SNR=44
L42A Oliver, Polo 74.76 347 IAmb IAmb 04 35 43.5
comp=Z,39nm,1.3s
I60A Shoreham 74.83 359 P P 04 35 43.1 +0.9
baz=179,SNR=5.7
I62A Tamworth 74.86 1 P P 04 35 44.2 +1.9
I62A Tamworth 74.86 1 P P 04 35 43.6 +1.2
baz=181
W18A Petrified Fore 74.99 329 IAmb IAmb 04 35 46.4
comp=Z,72nm,1.3s
W18A Petrified Fore 74.99 329 P P 04 35 44.8 +1.2
baz=147,SNR=8.1
J47A Sunmer 75.13 350 IAmb IAmb 04 35 45.6
comp=Z,31nm,1.3s
L40A Anamosa 75.14 345 IAmb IAmb 04 35 45.1
comp=Z,56nm,1.1s
X16A Lo Mia Camp, P 75.18 327 IAmb IAmb 04 35 47.6
comp=Z,33nm,1.1s
LBNH Lisbon 75.22 0 P P 04 35 45.0 +0.5
LBNH pmax pmax
comp=Z,31nm,1.4s
LBNH Lisbon 75.22 0 P P 04 35 45.0 +0.5
LBNH Lisbon 75.22 0 P P 04 35 46.0 +1.5
baz=180
SCIA State Center 75.44 344 P P 04 35 46.6 +0.8
SCIA IAmb IAmb 04 35 47.5
comp=Z,38nm,1.1s
SCIA State Center 75.44 344 P P 04 35 46.3 +0.5
baz=161
CPBX Cerro Prieto 75.44 323 IAmb IAmb 04 35 49.3
comp=Z,22nm,0.8s
SDCO Great Sand Dun 75.48 333 P P 04 35 47.7 +1.2
baz=151,SNR=30
KSCO Kaye Shedlock' 75.54 336 P P 04 35 47.8 +1.2
baz=153,SNR=9.5
WVL Waterville 75.58 2 IAmb IAmb 04 35 49.2
comp=Z,32nm,1.3s
LONY Lake Ozonia 75.63 358 P P 04 35 47.3 +0.5
baz=178,SNR=7.1
GLA Glamis 75.70 324 P P 04 35 48.9 +1.3
baz=143
MAW Mawson 75.74 164 P P 04 35 48.0 +0.7
comp=Z,43nm,1.0s,baz=214,slow=6.5,SNR=48
MAW Mawson 75.74 164 P P 04 35 47.9 +0.7
MAW pmax pmax
comp=Z,9.0nm,0.9s
MAW Mawson 75.74 164 P P 04 35 47.9 +0.7
JFWS Jewell Farm 75.75 346 IAmb IAmb 04 35 49.0
comp=Z,60nm,1.3s
JFWS Jewell Farm 75.75 346 P P 04 35 47.6 +0.1
baz=164,SNR=9.0
FRNY Flat Rock 75.83 359 IAmb IAmb 04 35 49.9
comp=Z,19nm,0.9s
S22A 4UR Ranch, Cre 76.00 332 P P 04 35 50.6 +1.1
baz=150,SNR=24
SADO Sadowa 76.02 355 IAmb IAmb 04 35 50.3
comp=Z,30nm,1.1s
IKP In-Ko-Pah, Jac 76.04 323 P P 04 35 51.1 +1.5
baz=142,SNR=6.2
WUAZ Wupatki 76.06 328 IAmb IAmb 04 35 52.7
comp=Z,48nm,1.1s
WUAZ Wupatki 76.06 328 P P 04 35 50.7 +1.0
baz=146,SNR=18
SWSC Sam W. Stewart 76.11 323 P P 04 35 51.2 +1.3
baz=143
G62A West of Eustis 76.21 1 IAmb IAmb 04 35 52.7
comp=Z,30nm,0.9s
MVCO Mesa Verde 76.22 331 IAmb IAmb 04 35 53.3
comp=Z,43nm,1.1s
MVCO Mesa Verde 76.22 331 P P 04 35 52.1 +1.4
baz=149,SNR=22
BGNE Belgrade 76.28 340 P P 04 35 51.2 +0.5
baz=157
PKME Peaks-Kenny Pk 76.29 2 P P 04 35 52.2 +1.7
PKME IAmb IAmb 04 35 53.0
comp=Z,27nm,1.1s
PKME Peaks-Kenny Pk 76.29 2 P P 04 35 51.7 +1.2
baz=182,SNR=5.2
L34A Svendsen Farm, 76.30 342 IAmb IAmb 04 35 51.9
comp=Z,35nm,0.9s
BAR Barrett 76.36 322 IAmb IAmb 04 35 54.1
comp=Z,25nm,1.1s
PDMCI Parker Dam,Lak 76.37 325 P P 04 35 52.6 +1.3
baz=144
MONP2 Monument Peak 76.39 323 P P 04 35 53.3 +1.6
baz=142,SNR=5.5
Q24A Divide 76.41 334 P P 04 35 53.2 +1.4
baz=151,SNR=13
I42A Draeger Farm, 76.44 348 IAmb IAmb 04 35 52.8
comp=Z,35nm,1.2s
BC3 Big Chuckawall 76.50 324 P P 04 35 53.6 +1.4
baz=143,SNR=22
F63A Nahmakanta, Br 76.73 2 IAmb IAmb 04 35 55.7
comp=Z,30nm,1.4s
109C Camp Elliot, M 76.75 322 P P 04 35 54.4 +1.0
baz=142
IRM Iron Mountain 76.75 324 P P 04 35 54.9 +1.4
baz=143,SNR=14
I40A Norwalk 76.76 346 IAmb IAmb 04 35 54.5
comp=Z,23nm,1.1s
F62A Piton Farm, 76.90 2 IAmb IAmb 04 35 56.7
comp=Z,40nm,1.1s
F64A Sherman 76.92 3 IAmb IAmb 04 35 56.7
comp=Z,28nm,1.0s
TPFO Pinon Flats 76.97 323 P P 04 35 56.4 +1.6
baz=142,SNR=12
NEE2 Needles Airpor 76.98 325 P P 04 35 56.3 +1.6
baz=144
PFO Pinyon Flats O 76.98 323 P P 04 35 56.8 +1.9
comp=Z,20nm,1.0s,baz=136,slow=4.2,SNR=16
PFO Pinyon Flats O 76.98 323 P P 04 35 56.2 +1.3
PFO pmax pmax
comp=Z,34nm,1.1s
PFO Pinyon Flats O 76.98 323 P P 04 35 56.2 +1.3
PFO IAmb IAmb 04 35 58.1
comp=Z,34nm,1.1s
PFO Pinyon Flats O 76.98 323 P P 04 35 56.5 +1.6
baz=142,SNR=13
PV01 Paradox Valley 77.04 331 IAmb IAmb 04 35 58.1
comp=Z,35nm,1.3s
BELC Belle Mtn. Jos 77.05 324 P P 04 35 57.0 +1.6
baz=143,SNR=8.9
OGNE Ogallala 77.07 337 IAmb IAmb 04 35 57.5
comp=Z,36nm,1.2s
OGNE Ogallala 77.07 337 P P 04 35 56.5 +1.3
baz=154
LMN Caledonia Moun 77.12 5 IAmb IAmb 04 35 57.6
comp=Z,39nm,0.9s
PV13 Radium Mtn., P 77.16 331 IAmb IAmb 04 35 58.5
comp=Z,33nm,1.0s
PV03 Paradox Valley 77.25 331 IAmb IAmb 04 35 58.9
comp=Z,26nm,1.2s
SMCO Snowmass 77.29 333 P P 04 35 58.2 +1.3
ISCO Idaho Springs 77.32 334 P P 04 35 58.0 +1.1
baz=151,SNR=28
MURC Murrieta 77.35 323 P P 04 35 58.5 +1.6
baz=142,SNR=11
I37A Lemond, Waseca 77.48 344 IAmb IAmb 04 35 59.5
comp=Z,53nm,1.2s
PV23 Center Ridg 77.49 331 IAmb IAmb 04 36 00.4
comp=Z,28nm,1.1s
PV21 Cone Mtn., Par 77.57 331 IAmb IAmb 04 36 00.8
comp=Z,33nm,1.4s
SCI2 San Clemente I 77.58 321 P P 04 35 59.4 +1.3
baz=141
BBRC Big Bear Solar 77.72 323 P P 04 36 01.0 +1.8
baz=142
PQI Presque Isle 77.74 3 IAmb IAmb 04 36 01.1
comp=Z,30nm,1.0s
CIS Catalina Islan 77.83 322 P P 04 36 01.2 +1.6
baz=141
HEC Hector,Ludlow 77.88 324 P P 04 36 01.7 +1.9
baz=142,SNR=12
FMP Fort Macarthur 78.01 322 P P 04 36 02.0 +1.6
baz=141
ECSD EROS Data Cent 78.01 342 IAmb IAmb 04 36 01.8
comp=Z,46nm,1.0s
ECSD EROS Data Cent 78.01 342 P P 04 36 00.6 +0.3
baz=159,SNR=29
BFSC Mount Baldy Ra 78.09 323 P P 04 36 02.5 +1.4
baz=142
D62A Allapoint, All 78.11 2 P P 04 36 01.4 +0.7
D62A IAmb IAmb 04 36 03.1
comp=Z,47nm,1.0s
E46A Sault Ste Mari 78.13 351 IAmb IAmb 04 36 01.9
comp=Z,47nm,1.1s
TUQ Turquoise Moun 78.15 325 P P 04 36 03.0 +1.5
baz=143,SNR=21
RRX Edison Barstow 78.25 324 P P 04 36 03.5 +1.7
baz=142
MWC Mount Wilson 78.28 323 IAmb IAmb 04 36 05.1
comp=Z,26nm,1.1s
PASC Pasadena Art C 78.31 322 IAmb IAmb 04 36 05.2
comp=Z,45nm,1.3s
N23A Red Feather La 78.39 334 P P 04 36 04.0 +1.2
baz=151,SNR=20
DECC Green Verdugo 78.45 322 P P 04 36 04.5 +1.5
baz=141
GSC Goldstone, Bar 78.48 324 P P 04 36 04.8 +1.6
baz=142,SNR=9.9
SPMN Marine on St. 78.50 345 P P 04 36 02.4 -0.5
baz=162
E43A Lone Tree Farm 78.52 350 IAmb IAmb 04 36 04.3
comp=Z,27nm,0.9s
SZCU Shurtz Canyon 78.55 328 IAmb IAmb 04 36 06.7
comp=Z,29nm,1.2s
PHWY Pilot Hill 78.57 335 P P 04 36 05.0 +1.1
PHWY IAmb IAmb 04 36 06.2
comp=Z,31nm,0.9s
O20A White River Ci 78.61 333 IAmb IAmb 04 36 06.6
comp=Z,43nm,1.1s
O20A White River Ci 78.61 333 P P 04 36 05.3 +1.3
baz=149,SNR=23
CCUT Cedar City 78.64 328 IAmb IAmb 04 36 07.5
comp=Z,37nm,1.1s
SRU San Rafael Swe 78.68 330 IAmb IAmb 04 36 06.5
comp=Z,27nm,1.1s
SHOC Shoshone, Teco 78.69 325 P P 04 36 05.7 +1.4
baz=143
EDW2 Edwards Air Fo 78.76 323 P P 04 36 05.9 +1.1
baz=141,SNR=10
Q16A Castle Valley 78.79 330 IAmb IAmb 04 36 07.7
comp=Z,38nm,1.1s
OSI Osito Audit: C 78.93 322 P P 04 36 06.8 +1.1
OSI IAmb IAmb 04 36 08.5
comp=Z,37nm,1.0s
OSI Osito Audit: C 78.93 322 P P 04 36 07.1 +1.5
baz=141
LRMC Laurel Mtn Rad 79.07 324 P P 04 36 07.8 +1.4
baz=142,SNR=14
P17A Butcher Ranch, 79.07 331 IAmb IAmb 04 36 08.8
comp=Z,47nm,1.2s
TMUT Trail Mountain 79.12 330 IAmb IAmb 04 36 09.5
comp=Z,38nm,1.4s
PRN Pahroc Range 79.30 326 IAmb IAmb 04 36 11.0
comp=Z,48nm,1.1s
SUSD Miller 79.31 341 P P 04 36 07.3 -0.1
baz=157
ARVC Arvin 79.38 323 P P 04 36 09.2 +1.2
baz=141
MPMC Manual Prospec 79.42 324 P P 04 36 09.6 +1.1
baz=142,SNR=12
FURC Furnace Creek, 79.43 325 P P 04 36 10.3 +2.1
baz=142,SNR=13
D41A Chassel 79.44 349 IAmb IAmb 04 36 09.8
comp=Z,42nm,0.8s
TPNV Topopah Spring 79.51 325 IAmb IAmb 04 36 12.0
comp=Z,33nm,1.1s
TPNV Topopah Spring 79.51 325 P P 04 36 10.5 +1.6
baz=143,SNR=31
RDMU Red Mountain 79.52 332 IAmb IAmb 04 36 11.1
comp=Z,39nm,1.0s
RWWY Rawlins 79.56 334 IAmb IAmb 04 36 11.6
comp=Z,48nm,1.1s
KOWA Kowa 79.60 66 P P 04 36 09.7 0.0
ISA Isabella, Lake 79.61 323 IAmb IAmb 04 36 12.4
comp=Z,33nm,1.0s
ISA Isabella, Lake 79.61 323 P P 04 36 11.1 +1.7
baz=141,SNR=20
PKM Mcpherson Peak 79.72 322 P P 04 36 11.7 +1.6
baz=140,SNR=12
TSUM Tsumeb 80.00 106 P P 04 36 11.7 -0.4
CWC Cottonwood Cre 80.02 324 P P 04 36 13.1 +1.4
baz=141
NLU North Lily Min 80.04 330 IAmb IAmb 04 36 15.3
comp=Z,42nm,1.5s
VES Vestal, Richgr 80.06 323 P P 04 36 13.1 +1.4
baz=141,SNR=23
GRAC Grapevine Rang 80.10 325 P P 04 36 13.7 +1.8
baz=142,SNR=7.2
SMMC Simmler 80.14 322 P P 04 36 14.1 +1.9
baz=140,SNR=7.8
K22A Casper 80.14 335 IAmb IAmb 04 36 14.7
comp=Z,53nm,1.1s
K22A Casper 80.14 335 P P 04 36 13.0 +0.8
baz=151,SNR=22
SPR3 Spring Creek 3 80.25 328 IAmb IAmb 04 36 16.2
comp=Z,53nm,1.4s
R11A Troy Canyon, C 80.31 327 P P 04 36 14.6 +1.3
baz=143,SNR=36
DUG Dugway, Tooele 80.56 330 IAmb IAmb 04 36 17.9
comp=Z,52nm,1.4s
DUG Dugway, Tooele 80.56 330 P P 04 36 15.8 +1.3
baz=146,SNR=23
RSSD Black Hills 80.57 337 P P 04 36 15.7 +1.2
RSSD pmax pmax
comp=Z,20nm,1.1s
RSSD Black Hills 80.57 337 P P 04 36 15.7 +1.2
RSSD Black Hills 80.57 337 P P 04 36 15.0 +0.4
baz=153
TIN Tinemaha, Big 80.57 324 P P 04 36 16.2 +1.6
baz=141
PAGB Antelope Grade 80.59 322 IAmb IAmb 04 36 17.7
comp=Z,36nm,1.1s
TCUT Toone Canyon 80.73 331 IAmb IAmb 04 36 18.6
comp=Z,32nm,1.1s
EYMN Ely 80.83 347 P P 04 36 14.9 -0.7
baz=163
HWUT Hardware Ranch 81.20 331 IAmb IAmb 04 36 19.8
comp=Z,29nm,0.9s
D32A Dogwood Acres, 81.28 343 IAmb IAmb 04 36 19.4
comp=Z,33nm,1.0s
MLAC Mammoth, Mammo 81.32 324 P P 04 36 20.3 +1.6
baz=141,SNR=7.7
BOSA Boshof 81.36 118 P P 04 36 19.7 +0.5
comp=Z,6.9nm,0.9s,baz=223,slow=4.3,SNR=8.5
BOSA LR LR 05 10 29.8
comp=Z,585nm,18.1s,baz=226,slow=34
BOSA Boshof 81.36 118 P P 04 36 19.5 +0.3
BOSA pmax pmax
comp=Z,25nm,1.3s
BOSA Boshof 81.36 118 P P 04 36 19.5 +0.3
BW06 Boulder Array 81.38 333 P P 04 36 18.8 -0.1
baz=148,SNR=11
PDAR Pinedale Array 81.38 333 P P 04 36 18.9 +0.1
comp=Z,8.2nm,1.1s,baz=128,slow=8.1,SNR=30
LHV Little Huntoon 81.64 325 IAmb IAmb 04 36 23.2
comp=Z,36nm,1.0s
B35A Bob, Littlefor 81.67 346 P P 04 36 19.9 -0.1
NVAR Mina Array Bea 81.68 325 P P 04 36 21.8 +1.2
comp=Z,9.1nm,0.8s,baz=153,slow=6.1,SNR=50
RYN Ryan 81.94 325 IAmb IAmb 04 36 24.5
comp=Z,26nm,1.1s
AHID Auburn Hatcher 81.98 332 IAmb IAmb 04 36 24.6
comp=Z,47nm,1.5s
KVN Kaiserville 82.07 326 IAmb IAmb 04 36 24.8
comp=Z,23nm,1.0s
ELK Elko 82.08 328 P P 04 36 23.6 +0.9
comp=Z,11nm,0.9s,baz=142,slow=2.9,SNR=38
ELK Elko 82.08 328 P P 04 36 23.6 +0.9
AGMN Agassiz Nation 82.09 344 P P 04 36 23.2 +1.0
baz=160
REDW Red Top Meadow 82.38 333 IAmb IAmb 04 36 26.2
comp=Z,24nm,1.3s
YERR Yerington 82.57 325 IAmb IAmb 04 36 28.1
comp=Z,35nm,1.0s
MDND Maddock 82.61 342 P P 04 36 25.5 +0.5
baz=156,SNR=11
CASY Casey 82.67 181 P P 04 36 26.2 +1.0
IMW Indian Meadow 82.87 333 IAmb IAmb 04 36 28.8
comp=Z,26nm,1.4s
FLWY Flagg Ranch 82.93 333 IAmb IAmb 04 36 30.1
comp=Z,29nm,1.4s
EMB Emerald Bay 82.99 324 P P 04 36 29.0 +1.6
VCNR Virginia City 83.01 325 IAmb IAmb 04 36 30.3
comp=Z,21nm,1.2s
RUBR Rubicon Trail 83.08 324 IAmb IAmb 04 36 30.8
comp=Z,34nm,1.0s
RLMT Red Lodge 83.27 334 IAmb IAmb 04 36 32.3
comp=Z,23nm,1.4s
RLMT Red Lodge 83.27 334 P P 04 36 29.4 +0.6
baz=149,SNR=10
TORD Torodi Ar. Bea 83.36 70 P P 04 36 29.6 -0.1
comp=Z,12nm,0.8s,baz=251,slow=4.7,SNR=55
TORD LR LR 05 11 21.6
comp=Z,1μm,19.8s,baz=240,slow=34
TORD Torodi Ar. Bea 83.36 70 P P 04 36 29.2 -0.4
TORD IAmb IAmb 04 36 31.0
comp=Z,23nm,1.1s
LBTB Lobatse 83.47 115 P P 04 36 30.0 -0.3
LBTB pmax pmax
comp=Z,10.0nm,0.9s
LBTB Lobatse 83.47 115 P P 04 36 30.0 -0.3
LAO LASA Array 83.56 337 IAmb IAmb 04 36 31.6
comp=Z,26nm,1.2s
LAO LASA Array 83.56 337 P P 04 36 30.0 +0.1
baz=151,SNR=6.2
YHH Holmes Hill 83.58 333 IAmb IAmb 04 36 33.6
comp=Z,31nm,1.3s
YHL Hebgen Lake 83.77 333 IAmb IAmb 04 36 34.8
comp=Z,29nm,1.4s
BEKR Beckworth 83.80 325 P P 04 36 32.9 +1.4
BEKR IAmb IAmb 04 36 34.1
comp=Z,21nm,1.0s
ULM Lac du Bonnet 83.93 345 P P 04 36 31.7 0.0
comp=Z,12nm,0.8s,baz=134,slow=4.4,SNR=9.2
ULM Lac du Bonnet 83.93 345 IAmb IAmb 04 36 32.5
comp=Z,23nm,1.0s
HLID Hailey 84.00 331 IAmb IAmb 04 36 35.0
comp=Z,30nm,1.4s
HLID Hailey 84.00 331 P P 04 36 33.3 +0.8
baz=145,SNR=26
MFID Camas Ranch 84.49 330 IAmb IAmb 04 36 37.2
comp=Z,34nm,1.5s
DGMT Dagmar 84.49 339 P P 04 36 35.2 +0.6
baz=153
BOZ Bozeman (W) 84.56 333 P P 04 36 36.1 +0.9
BOZ pmax pmax
comp=Z,12nm,1.4s
BOZ Bozeman (W) 84.56 333 P P 04 36 36.1 +0.9
BOZ Bozeman (W) 84.56 333 P P 04 36 35.4 +0.2
baz=147,SNR=8.6
DLMT Dillon 84.74 333 IAmb IAmb 04 36 39.2
comp=Z,29nm,1.4s
O03E Paynes Creek 84.85 324 P P 04 36 36.6 -0.1
baz=139,SNR=13
WVOR Wild Horse Val 84.97 327 IAmb IAmb 04 36 39.6
comp=Z,24nm,1.2s
O02D Mt. Diablo Mer 85.25 324 P P 04 36 39.6 +0.9
baz=138
MOD Modoc Plateau 85.34 326 IAmb IAmb 04 36 41.6
comp=Z,28nm,1.1s
KMRM Mail Ridge 85.76 323 IAmb IAmb 04 36 44.5
comp=Z,47nm,1.2s
N02D Trinity Center 85.81 324 P P 04 36 41.8 +0.3
baz=138
PLID Pearl Lake 85.91 330 P P 04 36 43.1 +1.1
PLID IAmb IAmb 04 36 44.9
comp=Z,24nm,1.1s
EGMT Eagleton 85.92 336 IAmb IAmb 04 36 43.1
comp=Z,31nm,1.5s

EGMT	**Eagleton**	**85.92**	**336**	P	**P**	**04 36 41.9**	**0.0**		
	baz=148,SNR=6.9								
SCHQ	**Schefferville**	**85.94**	**3**	P	**P**	**04 36 41.7**	**0.0**		
	comp=Z,23nm,1.2s,baz=211,slow=2.9,SNR=7.0								
SCHQ	**Schefferville**	**85.94**	**3**	IAmb	IAmb	04 36 43.0			
	comp=Z,45nm,1.3s								
M04C	**Macdoel**	**85.99**	**325**	P	**P**	**04 36 42.7**	**+0.3**		
	baz=139,SNR=8.5								
M02C	**Callahan**	**86.20**	**324**	P	**P**	**04 36 44.1**	**+0.7**		
	baz=138,SNR=5.5								
KHMM	**Horse Mountain**	**86.25**	**323**	IAmb	IAmb	04 36 53.7			
	comp=Z,54nm,1.4s								
YBH	**Yreka Blue Hor**	**86.38**	**325**	P	**P**	**04 36 44.3**	**-0.1**		
	comp=Z,8.2nm,0.9s,baz=109,slow=5.8,SNR=22								
MSO	**Missoula**	**86.48**	**333**	P	**P**	**04 36 45.0**	**+0.3**		
MSO	**Missoula**	**86.48**	**333**	P	**P**	**04 36 45.4**	**+0.7**		
	baz=145,SNR=6.8								
L04D	**Klamath Falls**	**86.54**	**325**	P	**P**	**04 36 45.2**	**+0.1**		
	baz=139								
K04D	**Chiloquin, OR**	**86.58**	**326**	P	**P**	**04 36 46.4**	**+1.0**		
	baz=139								
I07A	**Izee**	**86.65**	**328**	IAmb	IAmb	04 36 48.1			
	comp=Z,44nm,1.4s								
J05D	**Fort Rock, OR**	**86.84**	**326**	P	**P**	**04 36 47.5**	**+0.9**		
	baz=140,SNR=13								
L02E	**Cave Junction**	**87.14**	**324**	P	**P**	**04 36 49.2**	**+1.3**		
	baz=138								
J04D	**Umpqua Nationa**	**87.22**	**326**	P	**P**	**04 36 49.4**	**+0.9**		
	baz=139,SNR=8.5								
G08A	**Pilot Rock**	**87.34**	**329**	IAmb	IAmb	04 36 51.1			
	comp=Z,21nm,1.4s								
K02D	**Willamette Mer**	**87.57**	**325**	P	**P**	**04 36 51.5**	**+1.5**		
	baz=138,SNR=8.5								
DBO	**Dodson Butte**	**87.68**	**325**	IAmb	IAmb	04 36 53.2			
	comp=Z,35nm,1.2s								
I05D	**Terrebonne, OR**	**87.69**	**327**	P	**P**	**04 36 52.0**	**+1.4**		
	baz=140,SNR=10								
J01E	**Myrtle Point**	**88.05**	**325**	P	**P**	**04 36 53.5**	**+1.4**		
	baz=138								
I03D	**Drain, OR**	**88.16**	**326**	P	**P**	**04 36 54.1**	**+1.4**		
	baz=138								
F07A	**Phinny Hill Vi**	**88.24**	**329**	IAmb	IAmb	04 36 55.6			
	comp=Z,16nm,1.1s								
WALA	**Waterton Lakes**	**88.30**	**334**	IAmb	IAmb	04 36 55.1			
	comp=Z,24nm,1.2s								
H04A	**Detroit Lake**	**88.34**	**327**	P	**P**	**04 36 54.6**	**+1.0**		
H04A				IAmb	IAmb	04 36 55.3			
	comp=Z,13nm,0.9s								
G05D	**Wamic, OR**	**88.36**	**328**	P	**P**	**04 36 54.9**	**+1.2**		
	baz=140								
HAWA	**Hanford**	**88.45**	**329**	IAmb	IAmb	04 36 56.3			
	comp=Z,28nm,1.2s								
NEW	**Newport**	**88.91**	**332**	P	**P**	**04 36 55.8**	**-0.4**		
	comp=Z,3.3nm,0.9s,baz=166,slow=5.2,SNR=6.1								
NEW	**Newport**	**88.91**	**332**	P	**P**	**04 36 56.9**	**+0.6**		
	baz=143								
F05D	**White Salmon**	**88.92**	**328**	P	**P**	**04 36 57.3**	**+1.0**		
	baz=140								
C09A	**Chrisman Ranch**	**89.02**	**331**	IAmb	IAmb	04 36 58.4			
	comp=Z,16nm,1.1s								
E04D	**Cinebar**	**89.93**	**328**	P	**P**	**04 37 02.3**	**+1.4**		
	baz=139								
D05A	**Enumclaw**	**90.15**	**329**	IAmb	IAmb	04 37 03.6			
	comp=Z,21nm,1.0s								
LSZ	**Lusaka**	**90.69**	**108**	P	**P**	**04 37 06.2**	**+0.7**		
LSZ				pmax	pmax				
	comp=Z,17nm,1.0s								
LSZ	**Lusaka**	**90.69**	**108**	P	**P**	**04 37 06.2**	**+0.7**		
LSZ				IAmb	IAmb	04 37 08.6			
	comp=Z,17nm,1.0s								
B05A	**Bryant**	**91.01**	**329**	P	**P**	**04 37 06.9**	**+1.0**		
	baz=139								
EDM	**Edmonton**	**91.53**	**337**	IAmb	IAmb	04 37 08.3			
	comp=Z,17nm,1.1s								
A04D	**Lummi Island**	**91.62**	**329**	P	**P**	**04 37 09.6**	**+0.9**		
	baz=139								
ESDC	**Sonseca Array**	**94.78**	**46**	LR	LR	05 20 17.4			
	comp=Z,507nm,18.0s,baz=245,slow=36								
DZM	**Mont Dzumac**	**102.75**	**234**	*e*LR	LR	05 11 44.2			
	comp=Z,412nm,23.7s								
KHC	**Kasperske Hory**	**110.36**	**44**	AMS	AMS	05 29 40.0			
	comp=Z,300nm,19.7s								
PRU	**Pruhonice**	**111.29**	**44**	AMS	AMS	05 32 40.0			
	comp=Z,200nm,17.5s								
PVCC	**Panska Ves**	**111.52**	**43**	AMS	AMS	05 33 00.0			
	comp=Z,300nm,16.1s								
TREC	**Trest**	**111.58**	**45**	AMS	AMS	05 30 20.0			
	comp=Z,400nm,18.9s								
ILAR	**Eielson Array**	**111.80**	**334**	PP	**PP**	**04 43 24.1**	**+4.7**		
	comp=Z,0.8nm,0.9s,baz=120,slow=4.5,SNR=5.3								
MODS	**Modra-Piesok**	**112.31**	**46**	*e*PP	**PP**	**04 43 26.4**	**+2.9**		
UPC	**Upice**	**112.36**	**44**	AMS	AMS	05 28 50.0			
	comp=Z,200nm,18.0s								
CHVC	**Chvalec**	**112.41**	**44**	AMS	AMS	05 33 00.0			
	comp=Z,200nm,19.2s								
DPC	**Dobruska-Polom**	**112.48**	**44**	AMS	AMS	05 41 50.0			
	comp=Z,200nm,16.7s								
OSTC	**Ostas**	**112.50**	**44**	AMS	AMS	05 33 20.0			
	comp=Z,200nm,17.7s								
KRLC	**Kraliky**	**112.65**	**44**	AMS	AMS	05 31 00.0			
	comp=Z,200nm,17.2s								
MLR	**Muntele Rosu**	**116.88**	**51**	PKIKP	**PKPdf**	**04 42 46.5**	**-0.2**		
MLR	**Muntele Rosu**	**116.88**	**51**		**PKPdf**	**04 42 46.5**	**-0.2**		
BURAR	**Bucovina Array**	**117.06**	**49**		**PKiKP**	**04 42 47.4**	**+0.5**		
SUW	**Suwalki**	**117.67**	**42**	PKIKP	**PKiKP**	**04 42 47.8**	**+0.1**		
SUW	**Suwalki**	**117.67**	**42**	PKPdf	**PKiKP**	**04 42 47.8**	**+0.1**		
ASAR	**Alice Springs**	**119.90**	**208**	PKP	**PKPdf**	**04 42 52.2**	**-0.9**		
	comp=Z,0.4nm,0.8s,baz=169,slow=1.9,SNR=4.2								
AKASG	**Malin Array Be**	**120.42**	**46**	PKP	**PKPdf**	**04 42 52.3**	**-0.7**		
	comp=Z,1.9nm,0.7s,baz=267,slow=2.3,SNR=11								
AKASG	**Malin Array Be**	**120.42**	**46**	PKIKP	**PKPdf**	**04 42 51.4**	**-1.7**		
AKASG	**Malin Array Be**	**120.42**	**46**		**PKPdf**	**04 42 51.4**	**-1.7**		
AKBB	**Malin Array Si**	**120.42**	**46**	*c i*PKIKP	**PKPdf**	**04 42 52.9**	**-0.2**		
MNK	**Minsk**	**120.46**	**42**	*i*PKIKP	**PKPdf**	**04 42 49.0**	**-4.0**		
MNK				*i*		04 44 16.7			
MNK				*i*		04 49 58.3			
MNK				*i* SP	SP	04 54 03.7	-4.7		
MNK				*i* PS	**PS**	**04 54 08.0**	**-2.9**		
MNK				*i* SS	**SKKSdf**	**05 00 45.7**	**-0.1**		
MNK				*i* SSS	SSS	05 05 13.5			
MNK				pmax	pmax				
	comp=E,1.0nm,0.9s								
MNK				pmax	pmax				
	comp=N,11nm,0.9s								
MNK				pmax	pmax				
	comp=Z,9.0nm,0.9s								
MNK				MLR	MLR				
	comp=N,156nm,19.0s								
MNK				MLR	MLR				
	comp=E,47nm,20.0s								
MNK				MLR	MLR				
	comp=Z,455nm,20.0s								
MNK	**Minsk**	**120.46**	**42**	*i* PKP	**PKPdf**	**04 42 49.1**	**-4.0**		
	comp=E,1.0nm,0.9s								
MNK				*i* PKP	**PKPdf**	**04 42 49.1**	**-4.0**		
	comp=N,11nm,0.9s								
MNK				*i* PKP	**PKPdf**	**04 42 49.1**	**-4.0**		
	comp=Z,9.0nm,0.9s,baz=258								
MNK				*i* PP	**PP**	**04 44 16.7**	**-3.6**		
MNK				*i* SKP		04 45 20.9			
MNK				*i* PKS	PKSdf	04 45 33.7	-56		
MNK				*i* PPP	PPP	04 46 29.9			
MNK				*i* SKS	**SKSdf**	**04 49 58.4**	**-5.8**		
MNK				*i* SKKS	SKKSac	04 50 49.6	-29		
MNK				*i* SP	**SP**	**04 54 03.8**	**-4.6**		
MNK				*i* PS	**SP**	**04 54 08.1**	**-0.3**		
MNK				*i* SS	**SKKSdf**	**05 00 45.7**	**-0.1**		
MNK				*i* SSS	SSS	05 05 13.6			
MNK				*i* LQ	LQ	05 24 49.2			
MNK				*i* LR	LR	05 29 46.9			
MNK				*i* LRM	MLR	05 34 40.3			
	comp=N,156nm,19.2s								
MNK				*i* LRM	MLR	05 35 51.2			
	comp=E,47nm,20.4s								
MNK				*i* LRM	MLR	05 35 54.4			
	comp=Z,455nm,20.4s								
BRTR	**Keskin Array B**	**120.57**	**60**	PKP	**PKiKP**	**04 42 54.4**	**+0.4**		
	comp=Z,2.2nm,0.7s,baz=169,slow=2.5,SNR=10								
BRTR	**Keskin Array B**	**120.57**	**60**	PKIKP	**PKPdf**	**04 42 53.3**	**-0.7**		
BRTR	**Keskin Array B**	**120.57**	**60**		**PKPdf**	**04 42 53.2**	**-0.7**		
WRA	**Warramunga Arr**	**123.04**	**210**	PKP	**PKPdf**	**04 42 58.6**	**-0.6**		
	comp=Z,1.2nm,0.7s,baz=159,slow=2.0,SNR=15								
ANN	**Anapa**	**124.56**	**55**	*i* PKIKP	**PKiKP**	**04 43 08.3**	**+6.8**		
ANN				*e*SP	SP	04 54 52.0	+6.7		
ANN				pmax	pmax				
	comp=Z,72nm,2.0s								
OBN	**Obninsk**	**125.52**	**42**	*i*PKIKP	**PKPdf**	**04 43 02.4**	**-0.3**		
OBN				*i*		04 43 12.0			
OBN				*e*		04 44 54.1			
OBN				pmax	pmax				
	comp=Z,29nm,1.4s								
OBN	**Obninsk**	**125.52**	**42**	PKPdf	**PKiKP**	**04 43 04.2**	**+1.1**		
H11S2	**WAKE ISLAND Hyd**	**125.71**	**271**	T	T	07 01 56.6			
	baz=116,slow=75,SNR=25								
H11S1	**WAKE ISLAND Hyd**	**125.72**	**271**	T	T	07 02 07.9			
	baz=116,slow=75,SNR=20								
H11S3	**WAKE ISLAND Hyd**	**125.73**	**271**	T	T	07 01 57.4			
	baz=116,slow=75,SNR=19								
SOC	**Sochi**	**125.92**	**56**	*e*PKIKP	**PKPdf**	**04 42 58.1**	**-5.8**		
SOC				*e*PPP	PPP	04 47 35.0			
SOC				*e*PS	**PS**	**04 54 49.4**	**-10**		
SOC				*e*SS	SS	05 01 51.4	-7.3		
SOC				*e*SSS	SSS	05 06 35.8			
SOC				MLR	MLR				
	comp=Z,96nm,19.0s								
H11N3	**WAKE ISLAND Hyd**	**126.06**	**273**	T	T	07 02 13.7			
	baz=115,slow=74,SNR=4.6								
H11N1	**WAKE ISLAND Hyd**	**126.07**	**273**	T	T	07 02 22.9			
	baz=115								
H11N2	**WAKE ISLAND Hyd**	**126.07**	**273**	T	T	07 02 09.7			
	baz=115,slow=74,SNR=10.0								
GURO	**Guroymak-BITLI**	**126.55**	**63**	PKPdf	**PKiKP**	**04 43 06.9**	**+1.0**		
KLMR	**Klimovskoe**	**127.28**	**35**	*e*PKIKP	**PKPdf**	**04 43 05.1**	**-0.8**		
KLMR				pmax	pmax				
	comp=Z,33nm,1.4s								
KLMR	**Klimovskoe**	**127.28**	**35**	*e*PKPdf	**PKPdf**	**04 43 05.2**	**-0.7**		
KLMR				AMP		04 43 08.9			
	comp=Z,33nm,1.4s								
FITZ	**Fitzroy Crossi**	**127.97**	**202**	PKP	**PKPdf**	**04 43 08.8**	**+0.2**		
	comp=Z,2.3nm,0.8s,baz=218,slow=9.0,SNR=4.9								
KIV	**Kislovodsk**	**128.11**	**56**	*i* PKIKP	**PKPdf**	**04 43 06.3**	**-1.9**		
KIV				pmax	pmax				
	comp=Z,13nm,1.1s								
KBZ	**Khabaz**	**128.22**	**57**	PKP	**PKiKP**	**04 43 09.2**	**+0.4**		
	comp=Z,3.3nm,0.8s,baz=57,slow=4.0,SNR=6.5								
KBZ	**Khabaz**	**128.22**	**57**	*i* PKIKP	**PKPdf**	**04 43 08.3**	**+0.1**		
PRGR	**Permogore**	**130.16**	**34**	*e*PKIKP	**PKPdf**	**04 43 11.6**	**+0.2**		
PRGR				pmax	pmax				
	comp=Z,89nm,1.5s								
AKT	**Akhty**	**131.41**	**60**	*e*PKIKP	**PKiKP**	**04 43 15.9**	**+0.4**		
AKT				*e*		04 45 30.6			
AKT				pmax	pmax				
	comp=Z,17nm,1.2s								
SEY	**Seymchan**	**137.69**	**332**	PKP	**PKPdf**	**04 43 26.3**	**+0.8**		
	comp=Z,9.9nm,1.0s,baz=73,slow=2.5,SNR=15								
ARU	**Arti**	**137.74**	**39**	*i* PKIKP	**PKPdf**	**04 43 26.5**	**+0.7**		
ARU						04 46 10.6			
ARU	**Arti**	**137.74**	**39**	PKPdf	**PKPdf**	**04 43 25.9**	**+0.1**		
PEA0B	**Petropavlovsk-**	**138.24**	**316**	*i* PKIKP	**PKPdf**	**04 43 25.3**	**-1.5**		
PETK	**Petropavlovsk-**	**138.24**	**316**	PKP	**PKPdf**	**04 43 27.0**	**+0.2**		
	comp=Z,3.2nm,0.7s,baz=70,slow=8.3,SNR=7.4								
PETK	**Petropavlovsk-**	**138.24**	**316**	PKIKP	**PKPdf**	**04 43 26.4**	**-0.4**		
PETK	**Petropavlovsk-**	**138.24**	**316**	PKPdf	**PKPdf**	**04 43 26.4**	**-0.4**		
AKTO	**Aktyubinsk**	**138.64**	**48**	PKP	**PKPdf**	**04 43 28.3**	**+0.6**		
	comp=Z,2.0nm,0.5s,baz=289,slow=4.8,SNR=8.3								
GEYT	**Alibeck**	**138.91**	**67**	PKP	**PKPdf**	**04 43 28.7**	**+0.1**		
	comp=Z,2.4nm,0.4s,baz=235,slow=4.8,SNR=2.5								
ABKAR	**Akbulak array**	**140.04**	**49**	PKPdf	**PKPdf**	**04 43 30.3**	**+0.1**		
NRIK	**Noril'sk**	**140.23**	**11**	*i* PKIKP	**PKPdf**	**04 43 30.1**	**+0.1**		
HRA	**Herat**	**141.78**	**73**	PKPdf	**PKPdf**	**04 43 34.5**	**+0.4**		
BRVK	**Borovoye**	**145.26**	**40**	*c i*PKIKP	**PKPdf**	**04 43 39.9**	**+0.5**		
BRVK				pmax	pmax				
	comp=Z,43nm,1.7s								
BRVK	**Borovoye**	**145.26**	**40**	PKPbc	**PKPdf**	**04 43 39.3**	**-0.1**		
YAK	**Yakutsk**	**146.21**	**342**	PKPbc	**PKPdf**	**04 43 40.8**	**+0.2**		
	comp=Z,16nm,0.5s,baz=59,slow=1.3,SNR=6.3								
YAK	**Yakutsk**	**146.21**	**342**	*e*PKP2	**PKPbc**	**04 43 41.7**	**0.0**		
YAK				*e*		04 47 05.6			
YAK				pmax	pmax				
	comp=Z,50nm,0.9s								
YAK				pmax	pmax				
	comp=N,3.0nm,1.0s								
YAK				pmax	pmax				
	comp=E,7.0nm,1.2s								
YAK				pmax	pmax				
	comp=Z,89nm,2.8s								
YAK				pmax	pmax				
	comp=N,60nm,2.7s								
YAK				pmax	pmax				
	comp=E,10.0nm,1.5s								
YAK	**Yakutsk**	**146.21**	**342**	PKPbc	**PKPbc**	**04 43 41.9**	**+0.1**		
POO	**Poona**	**146.74**	**104**	*ex*	x	04 43 43.0			
KBL	**Kabul**	**147.37**	**74**	PKP2	**PKPbc**	**04 43 45.4**	**-0.9**		
KBL	**Kabul**	**147.37**	**74**		**PKPbc**	**04 43 45.4**	**-0.9**		
TOLI2	**Tolitoli**	**147.55**	**205**		**PKPbc**	**04 43 46.1**	**-0.9**		
TAS	**Tashkent**	**147.58**	**61**	PKP2	**PKPbc**	**04 43 46.9**	**+0.5**		
TAS	**Tashkent**	**147.58**	**61**	PKPbc	**PKPbc**	**04 43 46.9**	**+0.5**		
KKAR	**Karatay Array**	**148.25**	**58**	PKIKP	**PKPdf**	**04 43 45.6**	**+0.8**		
KKAR	**Karatay Array**	**148.25**	**58**		**PKPdf**	**04 43 45.6**	**+0.8**		
GSI	**Gunungsitoli**	**148.57**	**160**	PKPbc	**PKPbc**	**04 43 48.9**	**-0.8**		
BTK	**Batken**	**148.84**	**63**	PKIKP	**PKPdf**	**04 43 47.2**	**+1.3**		
BTK	**Batken**	**148.84**	**63**		**PKPdf**	**04 43 47.2**	**+1.3**		
YSS	**Yuzh-Sakhalins**	**149.10**	**310**	*e*PKP2	**PKPbc**	**04 43 49.9**	**-0.2**		
YSS				pmax	pmax				
	comp=Z,30nm,0.9s								
YSS				pmax	pmax				
	comp=Z,200nm,2.8s								
YSS				MLR	MLR				
	comp=Z,200nm,13.0s								
YSS	**Yuzh-Sakhalins**	**149.10**	**310**	PKPbc	**PKPbc**	**04 43 49.3**	**-0.8**		
HYB	**Hyderabad**	**150.00**	**111**	*i* PKP	**PKPbc**	**04 43 53.0**	**-0.3**		
RPSI	**Rantau Prapat**	**150.27**	**162**		**PKPbc**	**04 43 51.8**	**-2.2**		
PSI	**Prapat**	**150.37**	**162**	PKIKP	**PKPdf**	**04 43 51.8**	**+2.6**		
EKS2	**Erkin-Say**	**150.69**	**58**	P	**PKPdf**	**04 43 50.6**	**+1.8**		
	SNR=5.4								
AML	**Almayashu**	**150.73**	**59**	P	**PKiKP**	**04 43 55.9**	**+0.4**		
	SNR=6.7								
NIL	**Nilore**	**150.77**	**76**	PKIKP	**PKPbc**	**04 43 53.7**	**-1.0**		
NIL	**Nilore**	**150.77**	**76**		**PKPbc**	**04 43 53.7**	**-1.0**		
USP	**Ospenovka**	**151.08**	**56**	P	**PKiKP**	**04 43 56.2**	**+0.5**		
	SNR=13								
AAK	**Ala-Archa**	**151.21**	**58**	P	**PKiKP**	**04 43 57.0**	**+0.9**		
	SNR=15								
UCH	**Uchtor**	**151.31**	**58**	P	**PKPdf**	**04 43 52.0**	**+1.8**		
	SNR=6.4								
CHMS	**Chumysh**	**151.32**	**57**	P	**PKiKP**	**04 43 56.7**	**+0.5**		
	SNR=7.4								
KZA	**Kyzart**	**151.88**	**58**	P	**PKiKP**	**04 43 58.2**	**+0.4**		
	SNR=5.4								
TKM2	**Tokmak 2**	**151.94**	**57**	P	**PKPdf**	**04 43 51.5**	**+0.6**		
	SNR=6.5								
ZALV	**Zalesovo Beam**	**151.98**	**30**	PKP	**PKPdf**	**04 43 47.9**	**-2.3**		
	comp=Z,5.0nm,0.8s,baz=318,slow=1.9,SNR=12								
ZALV				PKPbc	**PKiKP**	**04 43 57.0**	**-0.1**		
	comp=Z,16nm,0.8s,baz=298,slow=3.2,SNR=29								
ZALV	**Zalesovo Beam**	**151.98**	**30**	PKPdf	**PKPdf**	**04 43 50.0**	**-0.2**		
ZALV				PKPbc	**PKiKP**	**04 43 57.7**	**+0.6**		
ZALV				PKPab	**PKPab**	**04 44 05.1**	**-1.0**		
ULHL	**Ulahol**	**152.56**	**58**	P	**PKPdf**	**04 43 53.4**	**+1.6**		
	SNR=5.4								
KSH	**Kashi**	**152.85**	**64**	PKPbc	**PKPdf**	**04 43 53.0**	**+0.8**		
KSH				PP	**PP**	**04 47 44.4**	**+0.5**		
KSH				LR	LR				
	comp=Z,690nm,32.2s								
KSH				LR	LR				
	comp=Z,340nm,28.9s								
KSH				LR	LR				
	comp=Z,300nm,23.7s								
MJAR	**Matsushiro Arr**	**154.38**	**290**	PKP	**PKPdf**	**04 43 53.3**	**-1.0**		
	comp=Z,2.0nm,0.6s,baz=90,slow=3.6,SNR=5.5								
MJAR				PKPbc	**PKPbc**	**04 44 02.1**	**-0.5**		
	comp=Z,1.3nm,0.5s,baz=199,slow=1.3,SNR=4.6								
MJAR				PKPab	**PKPab**	**04 44 17.8**	**+0.9**		
	comp=Z,2.4nm,0.8s,baz=109,slow=4.1,SNR=5.4								
MJAR	**Matsushiro Arr**	**154.38**	**290**	PKPdf	**PKPdf**	**04 43 54.1**	**-0.2**		
MJAR					**PKPbc**	**04 44 02.3**	**-0.3**		
MJAR				PKPab	**PKPab**	**04 44 16.9**	**0.0**		
MAKZ	**Makanchi**	**154.79**	**45**	PKIKP	**PKPdf**	**04 43 53.8**	**-0.8**		
MAKZ						04 44 02.8			
MAKZ	**Makanchi**	**154.79**	**45**		**PKPdf**	**04 43 53.8**	**-0.8**		
MAKZ					**PKPbc**	**04 44 02.8**	**-0.4**		
MKAR	**Makanchi Array**	**154.99**	**45**	PKP	**PKPdf**	**04 43 54.9**	**+0.1**		
	comp=Z,2.9nm,0.9s,baz=309,slow=1.4,SNR=17								
MKAR				PKPbc	**PKiKP**	**04 44 04.2**	**+0.6**		
	comp=Z,5.3nm,0.8s,baz=282,slow=1.7,SNR=21								
MDJ	**Mudanjiang**	**158.45**	**314**	PKP	**PKPdf**	**04 43 59.3**	**0.0**		
WMQ	**Urumqi**	**159.78**	**46**	*e*PKP	**PKPdf**	**04 44 01.0**	**0.0**		
WMQ				LR	LR				
	comp=Z,320nm,24.5s								
WMQ				LR	LR				
	comp=Z,220nm,22.1s								
WMQ				LR	LR				
	comp=Z,330nm,15.5s								
KSRS	**Korea Array**	**162.40**	**296**	PKPab	**PKPab**	**04 44 53.5**	**+2.0**		
	comp=Z,6.1nm,1.1s,baz=95,slow=4.7,SNR=9.9								
KSAR	**Wonju Array Be**	**162.43**	**296**	PKIKP	**PKPdf**	**04 44 03.0**	**-0.9**		
KSAR						04 44 52.9			
KSAR	**Wonju Array Be**	**162.43**	**296**		**PKPdf**	**04 44 03.0**	**-0.9**		
KSAR				PKPab	**PKPab**	**04 44 52.9**	**+1.2**		
SONM	**Songino Array**	**163.49**	**4**	PKP	**PKPdf**	**04 44 04.5**	**-0.3**		
	comp=Z,0.3nm,0.5s,baz=300,slow=2.9,SNR=5.7								
SONM				PKPab	**PKPab**	**04 44 56.5**	**+0.5**		
	comp=Z,3.0nm,0.9s,baz=334,slow=4.2,SNR=11								
CMAR	**Chiang Mai Arr**	**164.83**	**146**	PKP	**PKPdf**	**04 44 07.7**	**+1.0**		
	comp=Z,1.1nm,0.3s,baz=242,slow=1.9,SNR=6.1								
CMAR				PKPab	**PKPab**	**04 45 02.1**	**-0.4**		
	comp=Z,0.9nm,0.3s,baz=224,slow=3.8,SNR=1.5								
BJI	**Beijing**	**169.02**	**325**	PKP	**PKPdf**	**04 44 09.3**	**+0.1**		
GTA	**Gaotai**	**169.60**	**37**	*i*PKP	**PKPdf**	**04 44 11.0**	**+1.2**		
GTA				pPKP	sPKPdf	04 44 17.3	+1.9		
GTA				sPKP		04 44 21.9			
GTA				PKPab	**PKPab**	**04 45 24.3**	**+1.0**		
GTA				LR	LR				
	comp=Z,230nm,22.9s								
GTA				LR	LR				
	comp=Z,180nm,20.7s								
GTA				LR	LR				
	comp=Z,210nm,18.9s								
HHC	**Hu-ho-hao-te**	**170.06**	**344**	*e*PKP	**PKPdf**	**04 44 05.4**	**-4.6**		
HHC				LR	LR				
	comp=Z,300nm,16.2s								
HHC				LR	LR				
	comp=Z,190nm,15.3s								
HHC				LR	LR				
	comp=Z,330nm,16.2s								
NJ2	**Nanjing**	**170.64**	**277**	*e*PKP	**PKPdf**	**04 44 10.8**	**+0.4**		
LZH	**Lanzhou**	**174.19**	**34**	*e*PKP	**PKPdf**	**04 44 13.8**	**+1.7**		
LZH				pPKP	sPKPdf	04 44 22.1	+4.4		
LZH				sPKP		04 44 29.5			
LZH				LR	LR				
	comp=Z,230nm,18.4s								
LZH				LR	LR				
	comp=Z,230nm,18.4s								
LZH				LR	LR				
	comp=Z,170nm,17.3s								
GYA	**Guiyang**	**175.01**	**167**	*i*PKP	**PKPdf**	**04 44 13.3**	**+0.7**		
CD2	**Chengdu**	**176.43**	**96**	PKP	**PKPdf**	**04 44 12.0**	**-0.7**		
XAN	**Xi'an**	**177.18**	**342**	PKP	PKPdf	04 44 20.9	+8.2		
XAN				PP	**PP**	**04 49 48.3**	**-0.8**		

IDC ***18*** *04:29:00.3±0.5,31°.59S×71°.73W,h0km,mb4.6/21, mb1 4.7/26,mb1mx4.6/43,mbtmp4.6/26,ML4.3/4,MS4.4/5, Ms1 4.3/5,ms1mx3.9/28 Error ellipse: s-maj=19.3km s-min=13.0km az=78.0*

GUC ***18*** *04:29:03.6±0.8,31°.67S×71°.65W,h37km±3km,ML4.9*

MOS ***18*** *04:29:04.6±1.3,31°.49S×71°.53W,h34km,mb5.1/20,Error ellipse: s-maj=21.7km s-min=9.9km az=96.3*

NEIC ***18*** *04:29:05.5±1.6,31°.63S±0°.03×71°.70W±0°.10,h29km±3km, mb5.0/235,Mwr4.7/51,ML5.0(GUC),Error ellipse: s-maj=12.1km s-min=3.3km az=104.0*

NEIC ***18*** *04:29:05.5,31°.63S×71°.73W,h27km,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.30; $M_{\theta\theta}$0.03; $M_{\phi\phi}$-1.33; $M_{r\theta}$0.43; $M_{\theta\phi}$-0.28; $M_{\phi r}$-0.36; Fault plane solution: $M_0$1.46000×10^{16} NP1:ϕ_s172.57000°, δ53.70000°,λ66.36000°. NP2:ϕ_s29.05000°,δ42.41000°, λ118.63000°. Principal axes: T 1.4952, Plg70.0000°, Azm26.0000°; N -0.0798, Plg19.0000°, Azm187.0000°; P -1.4154, Plg6.0000°, Azm279.0000°;*

GCMT ***18*** *04:29:07.6±0.4,31°.59S±0°.03×71°.99W±0°.03,h35km, MW5.1/67,Moment Tensor Solution. s21,c23; s67,c82; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.24±.34; $M_{\theta\theta}$-0.92±.20; $M_{\phi\phi}$-4.32±.20; $M_{r\theta}$-0.04±.19; $

BO02 Sierra Bellavi 3.30 164 *e*P Pn 04 29 54.5 +0.9
BO02 *i* S Sn 04 30 33.2 0.0
BO02 Sierra Bellavi 3.30 164 Pn Pn 04 29 54.3 +0.7
BO02 Sierra Bellavi 3.30 164 *i* P Pn 04 29 55.0 +1.4
GO05 Huala 3.39 180⇑ *i*P Pn 04 29 54.1 -0.6
GO05 IAML 04 30 59.6
comp=E,2µm,0.5s
GO05 Huala 3.39 180 *i* P Pn 04 29 54.0 -0.6
AC04 Llanos de Chal 3.47 12 *e*P Pn 04 29 56.4 +0.6
AC04 Llanos de Chal 3.47 12 Pn Pn 04 29 56.8 +0.9
AVFE Valle Fertil 3.92 77 *i* P Pn 04 30 05.0 +2.9
COIS El Sosneado 3.98 152 *i* P Pn 04 30 07.0 +4.1
ML02 Panimavida 4.16 175 *e*P Pn 04 30 05.6 +0.4
GO03 Copiap 4.26 20 Pn Pn 04 30 07.3 +0.6
GO03 Copiap 4.26 20 *i* P Pn 04 30 08.0 +1.3
RFA San Rafael 4.26 139 *i* P Pn 04 30 10.0 +3.2
VCA Vinchina 4.29 49 *i* P Pb 04 30 13.0 -4.2
AC06 Mina Casimiro 4.45 18 *e*P Pn 04 30 10.0 +0.7
AC06 Mina Casimiro 4.45 18 Pn Pn 04 30 10.8 +1.5
ACHE Chepes 4.50 86 *i* P Pn 04 30 13.0 +2.9
APLL PUNTA DE LOS L 4.76 77 *i* P Pn 04 30 17.0 +3.3
ACLC CERRO LA CRUZ 4.79 64 *i* P Pn 04 30 18.0 +3.9
MRA San Martin 5.31 100 *i* P Pn 04 30 24.0 +2.8
AC02 Maricunga 5.34 28 *e*P Pn 04 30 23.6 +1.6
CYA Choya 6.16 61 *i* P Pn 04 30 35.0 +2.2
H03N1 Juan Fernandez 6.20 251 T T 04 37 13.2
baz=81,slow=72,SNR=715
H03N3 Juan Fernandez 6.21 251 T T 04 37 09.4
baz=81,slow=72,SNR=745
H03N2 Juan Fernandez 6.22 251 T T 04 37 13.0
baz=81,slow=72,SNR=534
PB14 IPOC Station P 7.08 11 Pn Pn 04 30 46.4 +0.6
LC01 Cunco 7.27 180 Pn Pn 04 30 47.4 -0.6
LC01 Cunco 7.27 180 *i* P Pn 04 30 47.0 -1.0
AHML Horco Molle 7.48 52 *i* P Pn 04 30 53.0 +2.0
PB15 IPOC Station P 8.64 15 Pn Pn 04 31 08.8 +1.6
PLCA Paso Flores 9.16 174 Pn Pn 04 31 14.7 +0.7
comp=E,2.3nm,0.3s,baz=334,slow=11,SNR=21
PLCA LR LR 04 34 46.8
comp=E,2µm,19.4s,baz=342,slow=38
PLCA Paso Flores 9.16 174 *i* P Pn 04 31 15.0 +0.9
LL04 Puerto Octay 9.29 182 Pn Pn 04 31 18.1 +2.4
LVC Limon Verde 9.35 17 Pn Pn 04 31 15.6 -1.3
comp=E,0.1nm,0.3s,baz=351,slow=10,SNR=1.6
TRQA Tornquist 10.37 131 *i* P Pn 04 31 34.0 +3.4
CPUP Villa Florida 13.79 71 Pn Pn 04 32 16.6 -0.7
comp=E,0.4nm,0.3s,baz=337,slow=20,SNR=1.0
LPAZ La Paz 15.64 14 Pn Pn 04 32 43.8 +0.9
comp=E,0.3nm,0.3s,baz=228,slow=14,SNR=3.0
AQDB Aquidauana 18.27 57 Pn 04 33 14.0 -1.5
SIV San Ignacio 18.42 35 P Pn 04 33 16.4 -1.0
comp=E,0.3nm,0.3s,baz=260,slow=16,SNR=4.2
NNA Nana 20.06 346 P Pn 04 33 37.9 +0.8
comp=E,14nm,0.9s,baz=197,slow=8.2,SNR=4.6
NNA LR LR 04 39 56.4
comp=E,520nm,18.5s,baz=172,slow=33
NNA Nana 20.06 346 P P 04 33 36.2 +0.8
NNA pmax pmax
comp=Z,56nm,1.3s
NNA Nana 20.06 346 P P 04 33 36.1 +0.8
EFI East Falkland 22.48 157⇑ *e*P P 04 34 00.7 -0.4
EFI pmax pmax
comp=Z,19nm,0.9s
SPB Sao Paulo 23.07 76 P P 04 34 06.5 -1.1
SPB IAmb IAmb 04 34 09.3
comp=Z,55nm,1.1s
USHA Ushuaia 23.34 175 P P 04 34 11.0 +1.0
comp=Z,13nm,0.3s,baz=340,slow=5.8,SNR=2.1
SAML Samuel 23.96 22 P P 04 34 15.5 -1.0
SAML pmax pmax
comp=Z,11nm,1.2s
SAML Samuel 23.96 22 P P 04 34 15.4 -1.0
BDFB Brasilia 26.95 59 P P 04 34 42.6 -1.2
comp=Z,22nm,1.0s,baz=245,slow=8.9,SNR=8.5
BDFB Brasilia 26.95 59 P P 04 34 41.9 -1.9
BDFB pmax pmax
comp=Z,30nm,1.1s
BDFB Brasilia 26.95 59 P P 04 34 41.9 -1.9
BDFB IAmb IAmb 04 34 44.9
comp=Z,30nm,1.1s
PTGA Pitinga 32.72 22 P P 04 35 34.5 -0.3
comp=Z,185nm,0.5s,baz=217,slow=0.1,SNR=2.2
PDPR Patillas Dam, 49.67 7 P P 04 37 53.2 -0.7
PDPR IAmb IAmb 04 37 54.1
comp=Z,22nm,1.2s
SJG San Juan 49.75 7 P P 04 37 53.4 -1.1
comp=Z,15nm,1.1s,baz=202,slow=4.0,SNR=5.1
SJG San Juan 49.75 7 P P 04 37 53.8 -0.7
SJG pmax pmax
comp=Z,34nm,1.3s
SJG San Juan 49.75 7 P P 04 37 53.8 -0.7
CBYP Canovanas 49.94 8 P P 04 37 55.3 -0.7
VNA3 Neumayer Olymp 51.52 159 P P 04 38 08.2 +0.8
VNA3 Neumayer Olymp 51.52 159 pP pP 04 38 15.6 +6.9
VNA1 Neumayer--Stat 51.82 158 P P 04 38 10.1 +0.5
VNA1 Neumayer--Stat 51.82 158 pP pP 04 38 17.6 +6.8
VNA2 Neumayer--Watz 52.16 158 P P 04 38 12.3 +0.1
baz=287,slow=8.1
VNA2 Neumayer--Watz 52.16 158 pP pP 04 38 19.1 +5.7
VNA2 Neumayer--Watz 52.16 158 sP sP 04 38 24.5 +11
SNAA Sanae 53.75 159 P P 04 38 24.0 0.0
SNAA Sanae 53.75 159 P P 04 38 23.9 0.0
comp=Z,14nm,1.1s,baz=284,slow=5.5,SNR=11
SNAA Sanae 53.75 159⇑ *i*P P 04 38 22.6 -1.4
SNAA pmax pmax
comp=Z,9.0nm,1.0s
SNAA Sanae 53.75 159 P P 04 38 23.9 0.0
TLIG Tlapa 55.19 329 P P 04 38 36.5 +1.4
QSPA South Pole Qui 58.62 180 P P 04 38 59.5 +0.6
QSPA IAmb IAmb 04 39 09.2
comp=Z,14nm,0.9s
ZAIG Zacatecas 61.54 328 P P 04 39 21.1 +1.5
833A Chaparral WMA, 65.10 333 P P 04 39 43.9 +1.2
baz=154,SNR=7.3
HKT Hockley 65.31 337⇓ *e*P P 04 39 45.3 +1.3
HKT pmax pmax
comp=Z,5.0nm,1.2s
HKT Hockley 65.31 337 P P 04 39 44.4 +0.4
GOGA Godfrey 65.59 349 P P 04 39 46.6 +0.7
baz=169
BIRD Birdtown, Kers 66.40 352 P P 04 39 51.6 +0.6
VNDA Vanda 66.46 191 P P 04 39 52.3 +1.3
comp=Z,3.1nm,1.2s,baz=120,slow=2.8,SNR=3.1
VNDA Vanda 66.46 191 P P 04 39 52.6 +1.6
HPIG 66.54 327 P P 04 39 53.1 +0.8
HPIG IAmb IAmb 04 39 54.9
comp=Z,16nm,1.3s
NATX Nacogdoches 66.62 339 P P 04 39 53.2 +0.7
JCT Junction City 67.19 334 P P 04 39 57.7 +1.5
JCT pmax pmax
comp=Z,46nm,1.5s
JCT Junction City 67.19 334 P P 04 39 57.7 +1.5
JCT Junction City 67.19 334 P P 04 39 57.0 +0.8
baz=154,SNR=6.8
X48A Hartselle 67.25 346 IAmb IAmb 04 39 57.2
comp=Z,16nm,1.2s
TXAR Lajitas Array 67.72 330 P P 04 40 00.7 +1.0
comp=Z,2.8nm,1.1s,baz=146,slow=9.1,SNR=12
TX32 Lajitas Array 67.72 330 P P 04 40 01.0 +1.3
CPCT Cooper Cave 67.76 349 IAmb IAmb 04 40 00.3
comp=Z,15nm,1.2s
OXF Oxford 67.81 344 P P 04 40 00.3 +0.3
OXF pmax pmax
comp=Z,29nm,1.1s
OXF Oxford 67.81 344 P P 04 40 00.2 +0.3
OXF Oxford 67.81 344 P P 04 40 00.5 +0.5
baz=164
TKL Tuckaleechee C 67.84 350 P P 04 39 59.3 -0.9
comp=Z,8.5nm,1.1s,baz=152,slow=8.3,SNR=4.1
TKL Tuckaleechee C 67.84 350 IAmb IAmb 04 40 01.0
comp=Z,15nm,1.1s
TZTN Tazewell 68.68 350 P P 04 40 05.3 -0.1
baz=169
CLTN Cedars of Leba 68.70 347 IAmb IAmb 04 40 06.9
comp=Z,18nm,1.3s
MIAR Mount Ida 68.90 341 IAmb IAmb 04 40 26.4
comp=Z,14nm,1.4s
MIAR Mount Ida 68.90 341 P P 04 40 07.3 +0.5
baz=160
U49A Red Boiling Sp 69.01 348 IAmb IAmb 04 40 08.6
comp=Z,15nm,1.2s
WVT Waverly 69.03 346 P P 04 40 06.7 -0.9
WVT pmax pmax
comp=Z,15nm,1.0s
WVT Waverly 69.03 346 P P 04 40 07.5 0.0
baz=165
ABTX Abilene, Hawle 69.07 335 P P 04 40 08.0 +0.1
baz=155
W41B Gary Mavity, V 69.14 342 P P 04 40 08.6 +0.4
baz=161
R58B Mineral 69.44 355 IAmb IAmb 04 40 12.4
comp=Z,26nm,1.4s
W39A Magazine 69.57 341 P P 04 40 11.4 +0.5
W39A Magazine 69.57 341 P P 04 40 11.7 +0.8
baz=160,SNR=5.6
LCAR Lake Charles 69.71 343 P P 04 40 11.2 -0.6
U40A Yellville 70.41 342 IAmb IAmb 04 40 17.6
comp=Z,16nm,1.4s
U40A Yellville 70.41 342 P P 04 40 16.2 +0.1
baz=161
MNTX Cornudas Mount 70.50 330 P P 04 40 16.5 -0.2
baz=150,SNR=12
HHAR Hobbs 70.63 341 IAmb IAmb 04 40 18.9
comp=Z,12nm,1.1s
WMOK Wichita Mounta 70.68 337 P P 04 40 18.2 +0.4
baz=156
USIN University of 70.77 347 P P 04 40 18.1 -0.1
TUL1 Leonard 70.81 340 P P 04 40 18.7 +0.1
baz=158
HSIG 70.82 324 P P 04 40 19.3 +0.5
P57A Homestead Farm 70.97 355 IAmb IAmb 04 40 21.1
comp=Z,22nm,1.3s
OK025 Westminster Rd 70.98 338 IAmb IAmb 04 40 20.8
comp=Z,20nm,1.1s
MGMO Mountain Grove 71.02 343 P P 04 40 19.4 -0.3
MGMO IAmb IAmb 04 40 21.4
comp=Z,14nm,1.4s
P60A Greenville 71.15 357 P P 04 40 20.5 0.0
baz=176
OK029 Lilo Lake 71.22 338 IAmb IAmb 04 40 22.4
comp=Z,18nm,1.0s
WUPA West Chester U 71.27 357 IAmb IAmb 04 40 23.5
comp=Z,12nm,1.2s
MCWV Mont Chateau 71.30 354 P P 04 40 21.7 +0.3
baz=173
FVM French Village 71.37 345 IAmb IAmb 04 40 23.4
comp=Z,24nm,1.4s
MVL Millersville 71.37 356 IAmb IAmb 04 40 24.2
comp=Z,27nm,1.4s
MSTX Muleshoe 71.43 333 P P 04 40 22.8 +0.3
baz=152,SNR=14
P52A Corning 71.52 352 P P 04 40 22.2 -0.5
baz=171
CCM Cathedral Cave 71.62 344 P P 04 40 23.9 +0.5
CCM pmax pmax
comp=Z,10.0nm,0.9s
CCM Cathedral Cave 71.62 344 P P 04 40 23.9 +0.5
CCM IAmb IAmb 04 40 40.6
comp=Z,10nm,0.9s
CCM Cathedral Cave 71.62 344 P P 04 40 23.7 +0.3
baz=163
O56A Blue Knob Stat 71.79 355 P P 04 40 24.9 +0.5
baz=174
S39A Bolivar 71.79 342 IAmb IAmb 04 40 26.0
comp=Z,20nm,1.3s
P48A Milroy 71.82 349 IAmb IAmb 04 40 25.2
comp=Z,15nm,1.1s
AMTX Amarillo 71.84 335 IAmb IAmb 04 40 26.9
comp=Z,24nm,1.2s
AMTX Amarillo 71.84 335 P P 04 40 26.0 +1.2
baz=154
T35A Sooner Cattle 71.96 339 IAmb IAmb 04 40 27.9
comp=Z,22nm,1.2s
319A Douglas 71.97 327 IAmb IAmb 04 40 28.7
comp=Z,16nm,1.2s
O53A New Philadelph 72.02 353 P P 04 40 25.8 0.0
baz=172
SSPA Standing Stone 72.10 355 P P 04 40 27.1 +0.9
SSPA IAmb IAmb 04 40 28.1
comp=Z,16nm,1.1s
SSPA Standing Stone 72.10 355 P P 04 40 26.6 +0.4
baz=174
ACSO Alum Creek Sta 72.22 351 P P 04 40 26.4 -0.5
baz=170
N59A State Game Lan 72.26 357 IAmb IAmb 04 40 29.7
comp=Z,30nm,1.3s
N59A State Game Lan 72.26 357 P P 04 40 28.1 +0.9
baz=176,SNR=6.4
121A Cookes Peak, D 72.26 329 IAmb IAmb 04 40 30.6
comp=Z,18nm,1.1s
121A Cookes Peak, D 72.26 329 P P 04 40 29.2 +1.6
baz=148,SNR=7.7
O49A Covington 72.37 350 P P 04 40 27.7 -0.1
O49A IAmb IAmb 04 40 28.7
comp=Z,26nm,1.2s
ODNJ Ogdensburg 72.38 358 IAmb IAmb 04 40 30.0
comp=Z,25nm,1.3s
TRNY Table Rock, Ra 72.43 358 IAmb IAmb 04 40 30.4
comp=Z,27nm,1.5s
N54A Moraine State 72.60 354 IAmb IAmb 04 40 30.7
comp=Z,31nm,1.4s
N54A Moraine State 72.60 354 P P 04 40 29.1 -0.1
baz=173
M55A Ridgway 73.00 355 IAmb IAmb 04 40 33.1
comp=Z,21nm,1.2s
BRYW Bryant College 73.17 0 IAmb IAmb 04 40 34.8
comp=Z,29nm,1.3s
L64A Middleborough 73.19 1 P P 04 40 33.7 +1.0
baz=181
TUC Tucson 73.45 326 P P 04 40 35.5 +0.9
TUC pmax pmax
comp=Z,9.0nm,1.5s
TUC Tucson 73.45 326 P P 04 40 35.5 +0.9
TUC Tucson 73.45 326 P P 04 40 35.4 +0.9
baz=146
L59A Walton 73.50 358 IAmb IAmb 04 40 36.2
comp=Z,17nm,1.1s
BINY Binghamton 73.55 357 IAmb IAmb 04 40 36.8
comp=Z,19nm,1.2s
BINY Binghamton 73.55 357 P P 04 40 35.6 +0.8
baz=176
WES Weston 73.64 0 P P 04 40 37.0 +1.7
WES pmax pmax
comp=Z,23nm,1.5s
WES Weston 73.64 0 P P 04 40 37.0 +1.7
WES IAmb IAmb 04 40 50.1
comp=Z,23nm,1.5s
L61B Northampton 73.70 359 P P 04 40 36.4 +0.7
baz=179,SNR=5.9
ANMO Albuquerque 73.76 331 P P 04 40 37.8 +1.4
comp=Z,4.3nm,1.1s,baz=156,slow=10,SNR=8.4
ANMO Albuquerque 73.76 331⇑ *i*P P 04 40 37.5 +1.1
ANMO pmax pmax
comp=Z,11nm,1.3s
ANMO Albuquerque 73.76 331 P P 04 40 37.2 +0.8
ANMO Albuquerque 73.76 331 P P 04 40 37.8 +1.4
baz=150
HRV Adam Dziewonsk 73.76 0 P P 04 40 36.8 +0.8
baz=180
LIC Lamto 73.92 72 *e*P P 04 40 36.7 -0.9
comp=Z,35nm,0.9s
K62A Royalston 73.92 360 IAmb IAmb 04 40 39.4
comp=Z,25nm,1.4s
K62A Royalston 73.92 360 P P 04 40 38.0 +1.1
baz=180
K61A Williamstown 73.93 359 P P 04 40 38.1 +1.1
baz=179
214A Organ Pipe Nat 74.14 325 P P 04 40 40.3 +1.8
baz=144,SNR=6.7
TIC Toumodi 74.16 72 *e*P P 04 40 38.2 -0.9
KIC Kosan Boka 74.23 72 *e*P P 04 40 38.7 -0.8
comp=Z,18nm,0.7s
DBIC Dimbokro 74.31 72 P P 04 40 39.2 -0.7
comp=Z,8.1nm,0.8s,baz=232,slow=6.1,SNR=11
DBIC Dimbokro 74.31 72 P P 04 40 38.4 -1.5
DBIC pmax pmax
comp=Z,12nm,0.8s
DBIC Dimbokro 74.31 72 P P 04 40 38.4 -1.5
DBIC IAmb IAmb 04 40 47.3
comp=Z,12nm,0.8s
J61A Chester 74.60 360 P P 04 40 42.0 +1.1
baz=179,SNR=5.9
ACCN Adirondack Com 74.65 359 IAmb IAmb 04 40 43.4
comp=Z,17nm,1.2s
J56A Wolcott 74.67 356 IAmb IAmb 04 40 42.6
comp=Z,17nm,1.1s
K50A Casco 74.68 352 P P 04 40 41.0 -0.3
CBKS Cedar Bluff 74.71 338 IAmb IAmb 04 40 43.8
comp=Z,25nm,1.1s
CBKS Cedar Bluff 74.71 338 P P 04 40 42.4 +0.7
baz=156
J59A Piesco 74.75 358 IAmb IAmb 04 40 43.6
comp=Z,20nm,1.2s
J57A Williamstown 74.75 357 IAmb IAmb 04 40 43.3
comp=Z,22nm,1.2s
T25A Trinidad 74.85 334 P P 04 40 43.5 +0.7
T25A Trinidad 74.85 334 P P 04 40 44.3 +1.5
baz=152,SNR=12
HNH Hanover 74.96 360 IAmb IAmb 04 40 45.6
comp=Z,17nm,1.2s
I60A Shoreham 75.11 359 P P 04 40 44.6 +0.8
baz=179,SNR=6.3
W18A Petrified Fore 75.31 329 P P 04 40 46.9 +1.5
baz=147
PECO Prince Edward 75.33 356 IAmb IAmb 04 40 46.6
comp=Z,14nm,1.1s
MAW Mawson 75.43 164 P P 04 40 45.5 0.0
comp=Z,4.5nm,0.8s,baz=229,slow=9.8,SNR=5.7
MAW LR LR 05 14 59.7
comp=Z,408nm,18.2s,baz=230,slow=37
MAW Mawson 75.43 164 P P 04 40 45.2 -0.3
MAW pmax pmax
comp=Z,2.0nm,1.1s
MAW Mawson 75.43 164 P P 04 40 45.2 -0.3
L40A Anamosa 75.44 345 IAmb IAmb 04 40 46.9
comp=Z,21nm,1.1s
LBNH Lisbon 75.49 360 IAmb IAmb 04 40 48.3
comp=Z,20nm,1.1s
LBNH Lisbon 75.49 360 P P 04 40 47.2 +1.2
baz=180
SCIA State Center 75.75 344 P P 04 40 47.3 -0.3
SDCO Great Sand Dun 75.80 333 P P 04 40 49.5 +1.2
baz=151,SNR=6.7
KSCO Kaye Shedlock' 75.86 336 P P 04 40 49.7 +1.2
baz=153
LONY Lake Ozonia 75.91 358 IAmb IAmb 04 40 50.2
comp=Z,22nm,1.2s
LONY Lake Ozonia 75.91 358 P P 04 40 49.0 +0.6
baz=178,SNR=8.1
DELO Deloro Mine 75.95 356 IAmb IAmb 04 40 50.1
comp=Z,19nm,1.4s
GLA Glamis 76.03 324 P P 04 40 50.4 +0.9
baz=143
JFWS Jewell Farm 76.06 346 P P 04 40 49.2 -0.1
baz=164
FRNY Flat Rock 76.10 359 IAmb IAmb 04 40 51.3
comp=Z,28nm,1.3s
SADO Sadowa 76.31 355 P P 04 40 50.5 -0.2
comp=Z,13nm,1.2s,baz=198,slow=3.1,SNR=4.9
SADO Sadowa 76.31 355 IAmb IAmb 04 40 51.8
comp=Z,22nm,1.2s
RMX La Rumorosa 76.31 323 P P 04 40 52.2 +1.1
RMX IAmb IAmb 04 40 53.0
comp=Z,14nm,1.0s
S22A 4UR Ranch, Cre 76.32 332 P P 04 40 52.7 +1.4
baz=150,SNR=6.6
WUAZ Wupatki 76.38 328 IAmb IAmb 04 40 54.6
comp=Z,17nm,1.3s
WUAZ Wupatki 76.38 328 P P 04 40 53.1 +1.6
baz=146,SNR=6.4
PLVO Plevna 76.44 356 IAmb IAmb 04 40 53.1
comp=Z,25nm,1.4s
SWSC Sam W. Stewart 76.44 323 P P 04 40 53.2 +1.6
baz=142
MVCO Mesa Verde 76.55 331 IAmb IAmb 04 40 55.1
comp=Z,15nm,1.2s
MVCO Mesa Verde 76.55 331 P P 04 40 53.7 +1.1
baz=148,SNR=6.5
PKME Peaks-Kenny Pk 76.55 2 IAmb IAmb 04 40 54.8
comp=Z,18nm,1.2s
PKME Peaks-Kenny Pk 76.55 2 P P 04 40 53.1 +1.1
baz=182
Q24A Divide 76.73 334 P P 04 40 54.8 +1.2
baz=151,SNR=8.5
MNTQ Montreal, Queb 76.77 359 IAmb IAmb 04 40 55.0
comp=Z,26nm,1.4s
BC3 Big Chuckawall 76.82 324 P P 04 40 55.3 +1.3
baz=143,SNR=6.4
F63A Nahmakanta, Br 77.00 2 P P 04 40 54.8 +0.3
F63A IAmb IAmb 04 40 56.9
comp=Z,23nm,1.2s
IRM Iron Mountain 77.07 324 P P 04 40 56.6 +1.3
baz=143,SNR=7.0
F62A Pittston Farm, 77.17 1 IAmb IAmb 04 40 58.0
comp=Z,22nm,1.1s
F64A Sherman 77.18 3 P P 04 40 56.7 +1.1
TPFO Pinon Flats 77.29 323 P P 04 40 57.8 +1.1
baz=142
PFO Pinyon Flats O 77.30 323 P P 04 40 58.1 +1.4
comp=Z,5.3nm,1.0s,baz=141,slow=1.3,SNR=4.7
PFO Pinyon Flats O 77.30 323⇓ *i*P P 04 40 58.9 +2.2
PFO pmax pmax
comp=Z,22nm,1.2s
PFO Pinyon Flats O 77.30 323 P P 04 40 58.1 +1.4
PFO IAmb IAmb 04 40 59.9
comp=Z,13nm,1.1s
PFO Pinyon Flats O 77.30 323 P P 04 40 57.8 +1.0
baz=142
SMCO Snowmass 77.61 333 P P 04 40 59.8 +1.1
SMCO IAmb IAmb 04 41 01.8
comp=Z,22nm,1.2s
ISCO Idaho Springs 77.64 334 P P 04 40 60.0 +1.3
baz=151,SNR=7.0
PV22 Blue Mesa, Par 77.79 331 P P 04 41 00.5 +1.1
PV22 IAmb IAmb 04 41 02.1
comp=Z,16nm,1.5s
HEC Hector,Ludlow 78.20 324 P P 04 41 03.7 +2.0
baz=142
KNB Kanab 78.27 328 IAmb IAmb 04 41 05.3
comp=Z,26nm,1.3s
G40A Rib Lake 78.31 347 IAmb IAmb 04 41 03.1
comp=Z,14nm,1.2s
ECSD EROS Data Cent 78.32 342 IAmb IAmb 04 41 03.5
comp=Z,25nm,1.3s
ECSD EROS Data Cent 78.32 342 P P 04 41 02.2 +0.1
baz=159,SNR=9.9
PKCU Pink Cliffs 78.39 328 IAmb IAmb 04 41 05.3
comp=Z,16nm,1.4s
BFSC Mount Baldy Ra 78.41 323 P P 04 41 04.0 +1.1
baz=141
TUQ Turquoise Moun 78.47 325 P P 04 41 04.6 +1.3
baz=143,SNR=7.3
LATQ La Tuque 78.64 359 P P 04 41 04.5 +0.9
LATQ IAmb IAmb 04 41 05.4
comp=Z,12nm,0.8s
N23A Red Feather La 78.72 334 P P 04 41 05.8 +1.2
baz=151,SNR=5.5
GSC Goldstone, Bar 78.81 324 P P 04 41 06.2 +1.2
baz=142
SZCU Shurtz Canyon 78.87 328 IAmb IAmb 04 41 08.6
comp=Z,18nm,1.4s
PHWY Pilot Hill 78.89 335 IAmb IAmb 04 41 07.9
comp=Z,13nm,1.2s
O20A White River Ci 78.94 332 IAmb IAmb 04 41 08.4
comp=Z,20nm,1.4s
O20A White River Ci 78.94 332 P P 04 41 06.9 +1.1
baz=149
CCUT Cedar City 78.96 328 IAmb IAmb 04 41 09.3
comp=Z,15nm,1.2s
SRU San Rafael Swe 79.00 330 IAmb IAmb 04 41 08.3
comp=Z,14nm,1.2s
EDW2 Edwards Air Fo 79.08 323 P P 04 41 07.7 +1.2
baz=141
Q16A Castle Valley 79.11 330 IAmb IAmb 04 41 09.5
comp=Z,26nm,1.5s
LRMC Laurel Mtn Rad 79.39 323 P P 04 41 09.4 +1.1
baz=142,SNR=6.3
P17A Butcher Ranch, 79.40 330 IAmb IAmb 04 41 11.2
comp=Z,17nm,1.3s
TMUT Trail Mountain 79.45 330 IAmb IAmb 04 41 11.2
comp=Z,16nm,1.4s
KOWA Kowa 79.55 66 P P 04 41 08.9 -0.5
KOWA IAmb IAmb 04 41 11.0
comp=Z,26nm,1.2s
SUSD Miller 79.62 341 P P 04 41 09.2 +0.1
baz=157
PRN Pahroc Range 79.63 326 IAmb IAmb 04 41 12.7
comp=Z,18nm,1.1s
MPMC Manual Prospec 79.74 324 P P 04 41 11.3 +1.1
baz=142,SNR=6.2
FURC Furnace Creek, 79.75 325 P P 04 41 11.9 +1.9
baz=142,SNR=5.9
TPNV Topopah Spring 79.83 325 P P 04 41 12.2 +1.5
baz=143,SNR=11
RDMU Red Mountain 79.84 332 P P 04 41 11.0 +0.3
RDMU IAmb IAmb 04 41 12.8

comp=Z,19nm,1.3s
ISA Isabella, Lake 79.94 323 P P 04 41 12.9 +1.8
baz=141,SNR=6.6
PKM Mcpherson Peak 80.04 322 P P 04 41 13.6 +1.8
baz=140,SNR=6.1
CWC Cottonwood Cre 80.34 324 P P 04 41 15.1 +1.6
baz=141
VES Vestal, Richgr 80.39 323 P P 04 41 14.7 +1.3
baz=141,SNR=6.3
K22A Casper 80.46 335 P P 04 41 14.9 +1.0
baz=150,SNR=6.9
SMMC Simmler 80.46 322 P P 04 41 16.0 +2.1
baz=140
SPR3 Spring Creek 3 80.58 328 IAmb IAmb 04 41 17.2
comp=Z,15nm,1.3s
R11A Troy Canyon, C 80.63 327 P P 04 41 16.6 +1.6
baz=143,SNR=13
DUG Dugway, Tooele 80.88 329 IAmb IAmb 04 41 18.9
comp=Z,26nm,1.5s
DUG Dugway, Tooele 80.88 329 P P 04 41 17.3 +1.1
baz=146,SNR=8.7
RSSD Black Hills 80.89 337 P P 04 41 17.3 +1.0
RSSD pmax pmax
comp=Z,9.0nm,1.1s
RSSD Black Hills 80.89 337 P P 04 41 17.3 +1.0
RSSD Black Hills 80.89 337 P P 04 41 16.9 +0.7
baz=153
TCUT Toone Canyon 81.05 331 IAmb IAmb 04 41 19.5
comp=Z,18nm,1.4s
BOSA Boshof 81.07 118 P P 04 41 16.9 -0.8
comp=Z,7.2nm,1.0s,baz=284,slow=12,SNR=5.4
BOSA Boshof 81.07 118 P P 04 41 16.5 -1.2
BOSA pmax pmax
comp=Z,14nm,1.2s
BOSA Boshof 81.07 118 P P 04 41 16.5 -1.2
BOSA IAmb IAmb 04 41 25.2
comp=Z,14nm,1.1s
EYMN Ely 81.13 347 P P 04 41 17.3 +0.1
baz=163
HWUT Hardware Ranch 81.52 331 IAmb IAmb 04 41 21.5
comp=Z,12nm,1.1s
MLAC Mammoth, Mammo 81.64 324 P P 04 41 20.7 +0.3
baz=141
PDAR Pinedale Array 81.70 333 P P 04 41 20.0 -0.6
comp=Z,2.5nm,1.1s,baz=160,slow=2.9,SNR=9.1
NV11 Mina Array Sit 81.93 325 P P 04 41 22.5 +0.7
LHV Little Huntoon 81.96 325 IAmb IAmb 04 41 24.9
comp=Z,19nm,1.2s
B35A Bob, Littlefor 81.98 345 IAmb IAmb 04 41 22.6
comp=Z,31nm,1.4s
NVAR Mina Array Bea 82.00 325 P P 04 41 23.1 +0.8
comp=Z,4.3nm,0.9s,baz=153,slow=6.0,SNR=18
E28A Huff 82.06 340 IAmb IAmb 04 41 24.0
comp=Z,20nm,1.1s
AHID Auburn Hatcher 82.30 332 IAmb IAmb 04 41 25.5
comp=Z,17nm,1.4s
AGMN Agassiz Nation 82.40 344 P P 04 41 23.3 -0.5
ELK Elko 82.40 328 P P 04 41 25.1 +0.7
comp=Z,4.8nm,1.0s,baz=152,slow=3.1,SNR=10
CASY Casey 82.40 181 P P 04 41 23.2 -0.6
CASY IAmb IAmb 04 41 25.9
comp=Z,19nm,1.4s
YERR Yerington 82.89 325 IAmb IAmb 04 41 29.7
comp=Z,25nm,1.3s
MDND Maddock 82.92 342 P P 04 41 27.0 +0.4
baz=156,SNR=7.5
PNTR Pine Nut 83.15 325 IAmb IAmb 04 41 31.1
comp=Z,17nm,1.1s
LBTB Lobatse 83.20 115 P P 04 41 28.3 -0.6
LBTB pmax pmax
comp=Z,19nm,1.4s
LBTB Lobatse 83.20 115 P P 04 41 28.2 -0.6
LBTB IAmb IAmb 04 41 47.0
comp=Z,19nm,1.4s
FLWY Flagg Ranch 83.25 333 IAmb IAmb 04 41 30.9
comp=Z,12nm,1.3s
TORD Torodi Ar. Bea 83.29 70 P P 04 41 28.6 -0.6
comp=Z,11nm,1.0s,baz=262,slow=4.4,SNR=22
TORD Torodi Ar. Bea 83.29 70 P P 04 41 28.4 -0.8
VCNR Virginia City 83.34 325 IAmb IAmb 04 41 32.0
comp=Z,11nm,1.3s
PAHR Pah Rah Range 83.52 325 IAmb IAmb 04 41 32.9
comp=Z,14nm,1.1s
RLMT Red Lodge 83.59 334 P P 04 41 30.5 +0.1
baz=148
YMR Madison River 83.85 333 IAmb IAmb 04 41 34.2
comp=Z,18nm,1.3s
LAO LASA Array 83.88 337 P P 04 41 32.3 +0.7
baz=151
YHH Holmes Hill 83.91 333 IAmb IAmb 04 41 34.4
comp=Z,14nm,1.2s
YHL Hebgen Lake 84.09 333 IAmb IAmb 04 41 35.7
comp=Z,14nm,1.5s
BEKR Beckworth 84.12 325 IAmb IAmb 04 41 35.7
comp=Z,9.5nm,1.2s
ULM Lac du Bonnet 84.23 345 P P 04 41 32.2 -1.0
comp=Z,7.2nm,1.0s,baz=147,slow=8.4,SNR=3.4
ULM LR LR 05 19 42.0
comp=Z,180nm,19.1s,baz=150,slow=36
ULM Lac du Bonnet 84.23 345 IAmb IAmb 04 41 34.1
comp=Z,9.1nm,1.1s
HLID Hailey 84.33 330 IAmb IAmb 04 41 36.6
comp=Z,9.4nm,1.2s
HLID Hailey 84.33 330 P P 04 41 35.4 +1.3
baz=145
ORV Oroville 84.46 324 IAmb IAmb 04 41 37.4
comp=Z,14nm,1.1s
MCMT McKenzie Canyo 84.72 332 P P 04 41 37.0 +0.8
DGMT Dagmar 84.80 339 P P 04 41 36.9 +0.7
baz=153,SNR=7.0
MFID Camas Ranch 84.81 329 IAmb IAmb 04 41 38.7
comp=Z,13nm,1.4s
BOZ Bozeman (W) 84.88 333 P P 04 41 37.0 +0.1
baz=147
DLMT Dillon 85.06 333 IAmb IAmb 04 41 40.5
comp=Z,8.6nm,1.2s
O03E Paynes Creek 85.17 324 P P 04 41 38.6 +0.2
baz=139
WVOR Wild Horse Val 85.29 327 IAmb IAmb 04 41 41.1
comp=Z,14nm,1.4s
LTZ Lake Taylor 85.45 222 P P 04 41 41.7 +1.7
MOD Modoc Plateau 85.66 326 IAmb IAmb 04 41 43.1
comp=Z,11nm,1.1s
N02D Trinity Center 86.13 324 P P 04 41 43.7 +0.6
baz=138
SCHQ Schefferville 86.20 3 P P 04 41 42.3 -0.7
comp=Z,16nm,1.1s,baz=158,slow=4.6,SNR=5.4
SCHQ LR LR 05 21 32.5
comp=Z,145nm,19.4s,baz=204,slow=37
SCHQ Schefferville 86.20 3 P P 04 41 43.1 +0.1
EGMT Eagleton 86.24 336 P P 04 41 44.1 +0.6
baz=148
M04C Macdoel 86.31 325 P P 04 41 44.8 +0.7
baz=139,SNR=6.1
YBH Yreka Blue Hor 86.70 324 P P 04 41 45.5 -0.4
comp=Z,2.4nm,1.0s,baz=162,slow=9.5,SNR=4.8
MSO Missoula 86.80 333 P P 04 41 46.7 +0.4
baz=145
L04D Klamath Falls 86.87 325 P P 04 41 47.4 +0.6
baz=139
I07A Izee 86.97 328 P P 04 41 47.7 +0.5
I07A IAmb IAmb 04 41 49.6
comp=Z,12nm,1.1s
J05D Fort Rock, OR 87.16 326 P P 04 41 48.6 +0.4
baz=140
J04D Umpqua Nationa 87.54 326 P P 04 41 51.2 +1.1
baz=139
G08A Pilot Rock 87.67 329 IAmb IAmb 04 41 51.9
comp=Z,10nm,1.4s
K02D Willamette Mer 87.89 325 P P 04 41 52.5 +0.8
baz=138
I05D Terrebonne, OR 88.01 327 P P 04 41 53.5 +1.4
baz=140
I04A Tendick Farm, 88.10 326 P P 04 41 53.6 +1.0
baz=139
HAWA Hanford 88.77 329 IAmb IAmb 04 41 58.4
comp=Z,12nm,1.1s
NEW Newport 89.23 332 P P 04 41 57.2 -0.6
comp=Z,1.5nm,0.8s,baz=170,slow=4.1,SNR=3.3
C09A Chrisman Ranch 89.34 331 IAmb IAmb 04 41 59.8
comp=Z,9.2nm,1.1s
LTY Liberty 89.94 329 IAmb IAmb 04 42 02.6
comp=Z,12nm,1.4s
LSZ Lusaka 90.43 108 P P 04 42 03.8 -0.6
LSZ pmax pmax
comp=Z,8.0nm,1.2s
LSZ Lusaka 90.43 108 P P 04 42 03.8 -0.6
LSZ IAmb IAmb 04 42 07.0
comp=Z,7.8nm,1.2s
BURAR Bucovina Array 117.10 49 PKPdf PKPdf 04 47 46.0 -1.1
ASAR Alice Springs 119.74 207 PKP PKPdf 04 47 51.6 -1.3
comp=Z,0.7nm,1.0s,baz=145,slow=2.3,SNR=4.7
ASAR Alice Springs 119.74 207 PKPdf PKPdf 04 47 51.5 -1.4
WRA Warramunga Arr 122.89 210 PKP PKPdf 04 47 57.6 -1.4
comp=Z,2.5nm,0.9s,baz=169,slow=1.9,SNR=8.7
WRA Warramunga Arr 122.89 210 PKIKP PKPdf 04 47 58.3 -0.7
WRA Warramunga Arr 122.89 210 PKPdf PKPdf 04 47 58.3 -0.7
WRAB Tennant Creek 122.90 210 i PKIKP PKiKP 04 47 59.3 +0.1
OBN Obninsk 125.61 42 i PKIKP PKiKP 04 48 04.1 +0.8
OBN *e* 04 48 08.7
OBN pmax pmax
comp=Z,6.0nm,1.0s
H11S2 WAKE ISLAND Hyl 25.89 271 T T 07 07 00.3
baz=116,slow=75,SNR=94
H11S1 WAKE ISLAND Hyl 25.91 271 T T 07 07 00.3
baz=116,slow=75,SNR=100
H11S3 WAKE ISLAND Hyl 25.91 271 T T 07 07 05.4
baz=116,slow=75,SNR=77
H11N3 WAKE ISLAND Hyl 26.25 272 T T 07 07 14.9
baz=116,slow=75,SNR=11
H11N1 WAKE ISLAND Hyl 26.26 272 T T 07 07 23.2
baz=116,slow=75,SNR=5.1
H11N2 WAKE ISLAND Hyl 26.26 272 T T 07 07 30.4
baz=116,slow=75,SNR=32
KLMR Klimovskoe 127.40 35 *e* PKIKP **PKPdf 04 48 04.1 -2.1**
KLMR pmax pmax
comp=Z,21nm,1.5s
KLMR Klimovskoe 127.40 35 *e* PKPdf **PKPdf 04 48 04.1 -2.1**
KLMR AMP 04 48 08.5
comp=Z,21nm,1.5s
FITZ Fitzroy Crossi 127.78 201 PKP PKPdf 04 48 07.5 -0.9
comp=Z,3.0nm,1.0s,baz=198,slow=5.5,SNR=4.4
PRGR Permogore 130.28 34 *e* PKIKP **PKPdf 04 48 11.0 -0.7**
PRGR pmax pmax
comp=Z,13nm,0.6s
ARU Arti 137.84 39 *i* PKIKP **PKPdf 04 48 26.0 0.0**
ARU 04 51 11.4
ARU SS SS 05 09 15.7 -8.2
MAZ Magadan 140.20 327 i PKIKP PKiKP 04 48 34.5 +1.8
NRIK Noril'sk 140.46 11 i *e* PKIKP **PKPdf 04 48 29.0 -1.4**
BRVK Borovoye 145.35 41 *e i* PKIKP **PKPdf 04 48 39.5 -0.1**
BRVK Borovoye 145.35 41 *e* PKPbc **PKPdf 04 48 39.7 +0.1**
YAK Yakutsk 146.52 342 *e* PKP2 **PKPbc 04 48 42.7 0.0**
YAK *e* 04 52 08.7
YAK pmax pmax
comp=Z,59nm,1.1s
YAK pmax pmax
comp=N,8.0nm,1.4s
YAK pmax pmax
comp=E,8.0nm,0.9s
YAK pmax pmax
comp=Z,76nm,3.2s
YAK pmax pmax
comp=N,43nm,3.3s
YAK pmax pmax
comp=E,25nm,2.7s
YAK Yakutsk 146.52 342 PKPbc **PKPbc 04 48 42.9 +0.2**
KBL Kabul 147.27 74 PKP2 **PKPbc 04 48 44.8 -1.3**
KBL Kabul 147.27 74 PKPbc **PKPbc 04 48 44.8 -1.3**
TOLI2 Tolitoli 147.38 204 PKPbc **PKPdf 04 48 45.3 +1.0**
CHGR Chuyangaron 147.57 67 PKPbc **PKPbc 04 48 46.2 -0.4**
KK31 Karatay Array 148.24 58 PKP2 **PKPbc 04 48 47.1 -1.1**
KK31 Karatay Array 148.24 58 PKPbc **PKPbc 04 48 47.1 -1.1**
KKAR Karatay Array 148.24 58 PKP2 **PKPbc 04 48 46.8 -1.3**
KKAR Karatay Array 148.24 58 PKPbc **PKPbc 04 48 46.8 -1.3**
GSI Gunungsitoli 148.25 160 PKPbc **PKPbc 04 48 48.0 -1.0**
GAR Garm 148.46 66 PKPbc **PKPbc 04 48 47.5 -1.6**
YSS Yuzh-Sakhalins 149.41 310 PKPbc **PKPbc 04 48 50.6 -0.3**
DRK Karamyk 149.59 65 PKPbc **PKPbc 04 48 51.9 -0.1**
HYB Hyderabad 149.74 111 *i* PKP **PKPbc 04 48 52.0 -0.7**
RPSI Rantau Prapat 149.96 161 PKPbc **PKPbc 04 48 52.8 -0.5**
PSI Prapat 150.06 161 PKP2 **PKPbc 04 48 52.8 -0.9**
ZALV Zalesovo Beam 152.13 30 PKPbc **PKPbc 04 48 57.1 0.0**
comp=E,9.5nm,0.5s,baz=295,slow=3.5,SNR=20
KSH Kashi 152.81 64 PKPbc **PKPdf 04 48 52.8 +0.6**
KSH PP **PP 04 52 42.1 -1.5**
KSH LR LR
comp=N,600nm,35.5s
KSH LR LR
comp=E,310nm,34.1s
MKAR Makanchi Array 155.05 45 PKPbc 04 49 03.2
comp=E,1.4nm,1.0s,baz=307,slow=2.9,SNR=3.5
MKAR Makanchi Array 155.05 45 PKIKP 04 49 02.7
MKAR Makanchi Array 155.05 45 04 49 02.7
WMQ Urumqi 159.83 47 *e*P **PKPdf 04 49 02.5 +1.4**
WMQ pmax pmax
comp=Z,140nm,9.7s
WMQ LR LR
comp=N,370nm,20.3s
WMQ LR LR
comp=E,96nm,17.1s
WMQ LR LR
comp=Z,330nm,21.9s
KSRS Korea Array 162.67 295 PKPab **PKPab 04 49 54.2 +1.5**
comp=Z,1.4nm,0.9s,baz=82,slow=2.6,SNR=4.6
SONM Songino Array 163.75 4 PKPab **PKPab 04 49 58.0 +0.9**
comp=Z,1.1nm,0.8s,baz=352,slow=2.9,SNR=5.0
GTA Gaotai 169.70 39 *e*PKPbc **PKPdf 04 49 10.4 +0.5**
GTA pPKP sPKPdf 04 49 20.8 +9.0
GTA sPKP 04 49 25.3
GTA PKPab **PKPab 04 50 24.5 +0.7**
GTA LR LR
comp=N,220nm,19.6s
GTA LR LR
comp=E,170nm,18.5s
GTA LR LR
comp=Z,190nm,17.8s
HHC Hu-ho-hao-te 170.37 344 *e*P **PKPdf 04 49 07.8 -2.4**
HHC LR LR
comp=N,290nm,15.3s
HHC LR LR
comp=E,240nm,15.3s
HHC LR LR
comp=Z,340nm,16.2s
XAN Xi'an 177.49 344 PKP **PKPdf 04 49 13.0 +0.2**
XAN pPKP sPKPdf 04 49 19.3 +4.6

MEX 18 04:29:16.3±0.4, 15.07N×92.77W, h97km±4km, MD3.6, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.76**	**326**	*e*P	Pn	04 29 32.7	-1.3
PCIG				*i* S	Sn	04 29 45.6	-1.7
CCIG	**Comitan**	**1.35**	**27**	*i* P	Pn	04 29 39.7	-1.1
CCIG				*e*S	Sn	04 29 57.5	-1.7

*IDC **18** 04:34:43.6±1.0, 31.66S×71.69W, h0km, mb4.1/4, mb1 4.3/6, mb1mx3.9/39, mbtmp4.0/6, ML3.9/2, Error ellipse: s-maj=42.2km s-min=24.3km az=81.0*
*NEIC **18** 04:34:48.4±0.9, 31.71S±0.04×71.79W±0.1, h25km±6km, mb4.5/4, Error ellipse: s-maj=13.1km s-min=5.6km az=89.0*

ISC 18 04:34:45.8±0.7, 31.69S±0.04×71.87W±0.09, h14km, n42, σ1§03/32, mb4.5/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**1.03**	**11**	Pn	**Pn**	**04 35 07.4**	**+1.5**
CO03	**El Pedregal**	**1.32**	**50**		**Pg**	**04 35 11.3**	**0.0**
VA01	**Torpederas**	**1.34**	**172**		**Pb**	**04 35 11.3**	**+0.5**
VA03	**San Esteban**	**1.55**	**134**		**Pb**	**04 35 14.1**	**-0.3**
GO04	**Tololo Observa**	**1.77**	**32**		**Pb**	**04 35 18.1**	**-0.1**
CO05	**La Serena**	**1.85**	**17**		**Pb**	**04 35 19.4**	**0.0**
MT05	**Renca**	**1.95**	**151**		**Pb**	**04 35 20.4**	**-0.8**
VA05	**Santo Domingo**	**1.98**	**174**		**Pn**	**04 35 19.8**	**+0.9**
MT09	**Talagante**	**2.21**	**161**		**Pn**	**04 35 23.1**	**+0.8**
MT01	**Popeta**	**2.23**	**167**		**Pn**	**04 35 23.4**	**+1.0**
ZON	**Zonda**	**2.73**	**88**	Pn	**Pn**	**04 35 31.0**	**+1.7**
BO01	**Tunca**	**2.77**	**166**		**Pn**	**04 35 31.4**	**+1.5**
LCO	**Las Campanas**	**2.85**	**21**		**Pg**	**04 35 39.3**	**-1.3**
BO02	**Sierra Bellavi**	**3.23**	**164**		**Pn**	**04 35 37.4**	**+1.2**
GO05	**Huala**	**3.31**	**181**	Pn	**Pn**	**04 35 35.8**	**-1.6**
AC04	**Llanos de Chal**	**3.54**	**11**	Pn	**Pn**	**04 35 38.9**	**-1.6**
H03N1	**Juan Fernandez**	**6.20**	**252**	T	T	04 42 59.5	
	baz=81,slow=72,SNR=53						
H03N3	**Juan Fernandez**	**6.21**	**252**	T	T	04 42 56.1	
	baz=81,slow=72,SNR=55						
H03N2	**Juan Fernandez**	**6.21**	**252**	T	T	04 42 57.5	
	baz=81,slow=72,SNR=77						
H03S3	**Juan Fernandez**	**6.30**	**248**	T	T	04 43 06.5	
	baz=78						
H03S1	**Juan Fernandez**	**6.30**	**248**	T	T	04 43 01.9	
	baz=78						
H03S2	**Juan Fernandez**	**6.32**	**248**	T	T	04 43 03.7	
	baz=78						
LR03	**Panguipulli**	**7.94**	**183**	Pn	**Pn**	**04 36 40.2**	**-0.6**
PLCA	**Paso Flores**	**9.09**	**174**	Pn	**Pn**	**04 36 56.5**	**-0.2**
	0.4nm,0.3s,baz=339,slow=12,SNR=1.1						
LPAZ	**La Paz**	**15.71**	**13**	Pn	**Pn**	**04 38 27.8**	**+0.4**
	0.1nm,0.3s,baz=203,slow=13,SNR=1.3						
BDFB	**Brasilia**	**26.97**	**59**	P	**P**	**04 40 25.3**	**-2.1**
	14nm,0.9s,baz=221,slow=11,SNR=3.7						
BDFB	**Brasilia**	**26.97**	**59**	IAmb	IAmb	04 40 27.5	
	comp=Z,62nm,1.4s						
VNA3	**Neumayer Olymp**	**51.45**	**159**	P	**P**	**04 43 49.6**	**-0.5**
VNA1	**Neumayer--Stat**	**51.74**	**158**	P	**P**	**04 43 52.4**	**0.0**
VNA2	**Neumayer--Watz**	**52.09**	**158**	P	**P**	**04 43 54.1**	**-0.9**
	baz=284,slow=10						
SNAA	**Sanae**	**53.67**	**158**	P	**P**	**04 44 06.6**	**-0.1**
SNAA	**Sanae**	**53.67**	**158**	P	**P**	**04 44 07.0**	**+0.3**
	comp=Z,3.7nm,0.8s,baz=266,slow=8.8,SNR=16						
SNAA	**Sanae**	**53.67**	**158**	P	**P**	**04 44 07.0**	**+0.3**
SNAA				IAmb	IAmb	04 44 07.6	
	comp=Z,3.6nm,0.7s						
JCT	**Junction City**	**67.27**	**334**	P	**P**	**04 45 41.1**	**+1.1**
JCT				IAmb	IAmb	04 45 41.4	
	comp=Z,6.7nm,1.4s						
TXAR	**Lajitas Array**	**67.80**	**330**	P	**P**	**04 45 43.9**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=145,slow=9.8,SNR=1.6						
T35A	**Sooner Cattle**	**72.04**	**339**	P	**P**	**04 46 10.6**	**+1.4**
T35A				IAmb	IAmb	04 46 11.6	
	comp=Z,6.6nm,1.1s						
NVAR	**Mina Array Bea**	**82.08**	**325**	P	**P**	**04 47 06.8**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=157,slow=5.9,SNR=1.1						
WRA	**Warramunga Arr**	**122.84**	**210**	PKP	**PKPdf**	**04 53 40.9**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=172,slow=2.5,SNR=8.3						
H11S2	**WAKE ISLAND Hyl**	**25.92**	**271**	T	T	07 12 43.5	
	baz=117						
H11S1	**WAKE ISLAND Hyl**	**25.93**	**271**	T	T	07 12 43.0	
	baz=117						
H11S3	**WAKE ISLAND Hyl**	**25.93**	**271**	T	T	07 12 44.5	
	baz=117						
ZALV	**Zalesovo Beam**	**152.18**	**30**	PKPbc	**PKPbc**	**04 54 40.4**	**-0.1**
	comp=Z,3.7nm,0.5s,baz=259,slow=2.0,SNR=7.6						

*RSNC **18** 04:35:09.1±1.1, 4.11N×75.87W, h0km±3km, ML4.2, Mw4.7, Fault plane solution: NP1:φs151.00000°, δ68.00000°, λ-2.00000°.*
*NEIC **18** 04:35:09.7±2.2, 4.18N±0.04×75.75W±0.05, h16km±3km, mb4.7/210, Error ellipse: s-maj=7.3km s-min=5.9km az=52.0*
*VAO **18** 04:35:10.8±0.3, 4.18N×75.69W, h23km, mb4.8*
*IDC **18** 04:35:10.8±2.4, 4.21N×75.74W, h34km±17km, mb4.1/26, mb1 4.3/29, mb1mx4.2/50, mbtmp4.3/29, ML4.4/3, MS3.8/4, Ms1 3.8/4, ms1mx3.4/33, Error ellipse: s-maj=16.3km s-min=11.2km az=58.0*

ISC 18 04:35:08.1±0.9, 4.17N±0.02×75.81W±0.02, h13km±6km, n314, σ1§70/304, mb4.7/118, 17C-14D, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANIL	**Santa Ana**	**0.51**	**52**	*e*P	**Pg**	**04 35 17.9**	**-0.4**
ANIL				*e*S	**Sg**	**04 35 25.0**	**-0.1**
YOTC	**Yotoco, Valle**	**0.57**	**251**	*i*P	**Pg**	**04 35 17.6**	**-1.6**
YOTC				*e*S	**Sg**	**04 35 25.1**	**-1.7**
ORTC	**Ortega, Tolima**	**0.62**	**115**	*i*P	**Pg**	**04 35 20.2**	**0.0**
ORTC				*e*S	**Sb**	**04 35 30.7**	**+1.2**
ORTC				*i*		04 35 33.9	
	comp=Z,15μm,0.5s						
CIBA1	**Ibague, SGC**	**0.63**	**65**	*e*P	**Pb**	**04 35 21.1**	**-0.1**
CIBA1				*e*S	**Sb**	**04 35 29.9**	**0.0**
CMAN1	**Manizales, Cal**	**0.94**	**18**	*e*P	**Pg**	**04 35 25.2**	**-1.0**
CMAN1				*e*S	**Sg**	**04 35 38.1**	**-0.5**
PRAC	**Prado**	**1.03**	**116**	*i*P	**Pb**	**04 35 27.6**	**-0.2**
PRAC				*e*S	**Sn**	**04 35 42.5**	**-0.1**
PRAC				*i*		04 35 50.2	
	comp=Z,5μm,0.5s						
RAC02	**Cali,SGC**	**1.07**	**222**	*e*P	**Pb**	**04 35 27.3**	**-1.3**
RAC02				*e*S	**Sb**	**04 35 41.6**	**-1.0**
GUY2C	**Guyana, Caldas**	**1.13**	**23**	*i*P	**Pb**	**04 35 28.2**	**-1.6**
GUY2C				*e*S	**Sg**	**04 35 44.8**	**-0.1**
GUY2C				*i*		04 35 46.6	
	comp=Z,6μm,0.6s						
MARP	**Paez Belalcaza**	**1.33**	**186**	*e*P	**Pn**	**04 35 31.4**	**-1.2**
MARP				*e*S	**Sb**	**04 35 48.9**	**-1.3**
BETC	**Betania**	**1.53**	**166**	*e*P	**Pn**	**04 35 35.2**	**+0.1**
BETC				*e*S	**Sn**	**04 35 54.7**	**-0.2**
BETC				*i*		04 36 24.9	
	comp=Z,2μm,0.6s						
MALC	**Bahia Malaga**	**1.53**	**264**	*i*P	**Pn**	**04 35 35.5**	**+0.4**
MALC				*e*S	**Sb**	**04 35 55.9**	**+0.3**
MALC				*i*		04 36 13.0	
	comp=Z,3μm,0.5s						
ROSC	**El Rosal**	**1.63**	**66**	Pg	**Pg**	**04 35 39.2**	**-0.2**
	comp=Z,2μm,0.3s,baz=160,slow=13,SNR=407						
ROSC				Lg	Lg	04 36 03.0	
	comp=Z,520nm,0.3s,baz=183,slow=20,SNR=9.4						
ROSC				LR	LR	04 36 06.9	
	comp=Z,2μm,20.0s,baz=248,slow=36						
ROSC	**El Rosal**	**1.63**	**66**		**Pg**	**04 35 39.6**	**+0.2**
ROSC	**El Rosal**	**1.63**	**66**	*i*P	**Pg**	**04 35 38.8**	**-0.6**
ROSC				*e*S	**Sg**	**04 36 03.3**	**+2.7**
ROSC				*i*		04 36 08.7	
	comp=Z,2μm,0.5s						
NORC	**Norcasia**	**1.67**	**34**	*e*P	**Pb**	**04 35 38.2**	**-0.5**
NORC				*e*S	**Sg**	**04 36 01.4**	**-0.5**
NORC				*i*		04 36 05.3	
	comp=Z,2μm,0.3s						
CBOC	**Ciudad Bolivar**	**1.69**	**353**	*e*P	**Pn**	**04 35 36.8**	**-0.7**
CBOC				*e*S	**Sn**	**04 35 59.7**	**+0.6**
CBOC				*i*		04 36 00.9	
	comp=Z,3μm,0.6s						
PIZC	**Pizarro, Choco**	**1.73**	**297**	*e*P	**Pn**	**04 35 38.5**	**+0.6**
PIZC				*i*		04 35 57.4	
	comp=Z,2μm,0.5s						
PIZC				*e*S	**Sg**	**04 36 04.1**	**+0.2**
POPC	**Popayan, Colom**	**1.84**	**208**	*i*P	**Pn**	**04 35 39.0**	**-0.6**
POPC				*e*S	**Sn**	**04 36 03.4**	**+0.6**
POPC				*i*		04 36 05.7	
	comp=Z,898nm,0.5s						
PCON	**Cinco Dias**	**1.93**	**198**	*e*P	**Pn**	**04 35 41.6**	**+0.6**
PCON				*e*S	**Sg**	**04 36 15.0**	**+4.8**
PCON				*i*		04 36 30.9	
	comp=Z,2μm,0.5s						
GARC	**Garzon, Huila**	**2.00**	**171**	*e*P	**Pn**	**04 35 43.3**	**+1.5**
GARC				*e*S	**Sg**	**04 36 14.4**	**+2.0**
GARC				*i*		04 36 17.8	
	comp=Z,3μm,0.2s						
HELC	**Santa Helena**	**2.02**	**8**	*i*P	**Pn**	**04 35 42.6**	**+0.4**
HELC				*e*S	**Sb**	**04 36 09.1**	**-1.1**
HELC				*i*		04 36 22.1	
	comp=Z,2μm,0.6s						
VILC	**Villavicencio,**	**2.11**	**92**	*e*P	**Pb**	**04 35 45.8**	**-0.5**
VILC				*e*S	**Sg**	**04 36 16.4**	**+0.3**
CHIC	**Chingaza**	**2.12**	**78**	*e*P	**Pb**	**04 35 46.7**	**+0.1**
CHIC				*e*S	**Sg**	**04 36 15.4**	**-1.0**
CHIC				*i*		04 36 19.5	
	comp=Z,2μm,0.5s						
SOTA	**Rioblanco**	**2.18**	**202**	*e*P	**Pn**	**04 35 45.5**	**+1.1**
SOTA				*e*S	**Sg**	**04 36 21.6**	**+3.4**
SOTA				*i*		04 36 30.5	
	comp=Z,2μm,0.7s						
SPBC	**San Pablo de B**	**2.27**	**50**	*i*P	**Pb**	**04 35 48.2**	**-0.8**
SPBC				*e*S	**Sg**	**04 36 19.1**	**-2.1**
SPBC				*i*		04 36 23.5	
	comp=Z,1μm,0.5s						
BBAC	**Balboa, Cauca**	**2.58**	**214**	*e*P	**Pn**	**04 35 51.2**	**+1.5**
BBAC				*e*S	**Sb**	**04 36 27.2**	**+1.2**
BBAC				*i*		04 36 40.8	
	comp=Z,701nm,0.5s						
FLOC	**Florencia**	**2.58**	**177**	Pn	**Pn**	**04 35 51.7**	**+2.1**
FLOC	**Florencia**	**2.58**	**177**	*e*P	**Pn**	**04 35 50.4**	**+0.8**
FLOC				*e*S	**Sb**	**04 36 24.7**	**-1.2**
FLOC				*i*		04 36 37.6	
	comp=Z,2μm,0.7s						
SOLC	**Bahia Solano**	**2.59**	**322**	*e*P	**Pg**	**04 35 59.2**	**+1.5**
SOLC				*e*S	**Sg**	**04 36 31.4**	**+0.1**
GR1C	**Gorgona, Isla**	**2.62**	**244**	*e*P	**Pn**	**04 35 49.5**	**-0.6**
GR1C				*e*S	**Sn**	**04 36 23.6**	**+1.6**
GR1C				*i*		04 36 31.5	
	comp=Z,5μm,0.7s						

PTBC **PUERTO BERRIO,** 2.71 30⇑ *iP* Pn 04 35 53.2 +1.9
PTBC *eS* Sb 04 36 30.4 +0.8
PTBC *i* 04 36 37.1
comp=Z,1μm,0.6s
MACC **Macarena, Meta** 2.81 136 *eP* Pn 04 35 54.0 +1.3
MACC *eS* Sb 04 36 33.3 +0.7
DBBC **Dabeiba** 2.85 352 *eP* Pn 04 35 55.7 +2.3
DBBC *eS* Sb 04 36 34.0 +0.2
RUSC **La Rusia** 3.21 58 Pn 04 36 01.4 +2.8
RUSC **La Rusia** 3.21 58⇑ *iP* Pn 04 36 01.8 +3.2
RUSC *eS* Sb 04 36 45.5 +1.1
RUSC *i* 04 36 59.1
comp=Z,623nm,0.6s
CPAS2 **Pasto** 3.27 206 *eP* Pb 04 36 04.8 -1.3
CCUFI **Cufio, Nario** 3.31 208 *eP* Pb 04 36 06.3 -0.6
GCUF **Volcan Galeras** 3.31 208 *eP* Pn 04 36 02.5 +2.5
GCUF *i* 04 37 03.9
comp=Z,246nm,0.7s
ZARC **Zaragoza, Cauc** 3.43 16⇑ *eP* Pn 04 36 03.4 +2.1
ZARC *eS* Sb 04 36 49.3 -1.1
BARC **Barichara** 3.55 47⇑ *eP* Pn 04 36 06.2 +3.0
BARC *eS* Sb 04 36 50.0 -4.1
BARC *i* 04 37 05.5
comp=Z,711nm,0.7s
PTAC **Punta Ardita,** 3.56 326 *eP* Pn 04 36 03.9 +0.8
PTAC *eS* Sn 04 36 42.8 -2.2
GUVC **San Jose del G** 3.56 117 *eP* Pn 04 36 05.6 +2.4
GUVC *eP* Pg 04 36 13.9 -2.5
UREC **San Jos de Ur** 3.56 4⇑ *iP* Pn 04 36 05.2 +2.1
UREC *eS* Sn 04 36 49.3 +4.1
UREC *i* 04 37 11.8
comp=Z,378nm,0.6s
BRRC **Barranca, Sant** 3.58 36 *eP* Pn 04 36 05.5 +2.1
BRRC *eS* Sb 04 36 53.3 -1.6
BRRC *i* 04 37 43.0
comp=Z,225nm,0.7s
PTGC **Puerto Gaitan,** 3.67 89 *eP* Pn 04 36 06.7 +2.2
PTGC *i* 04 37 06.7
comp=Z,964nm,0.6s
TUMC **Tumaco** 3.73 231 Pn 04 36 07.0 +1.6
TUMC **Tumaco** 3.73 231 *eP* Pn 04 36 06.7 +1.2
TUMC *eS* Sn 04 36 54.0 +4.7
TULM **Tulcn-Chalpat** 3.96 210 *eP* Pn 04 36 11.5 +2.5
TULM *eS* Sb 04 37 02.3 -3.8
PTLC **Puerto Leguiza** 4.10 166 *eP* Pb 04 36 18.4 -1.8
PTLC *i* 04 37 38.0
comp=Z,979nm,0.5s
PAMC **Pamplona, Colo** 4.41 44⇓ *eP* Pn 04 36 18.2 +3.0
PAMC *eS* Sb 04 37 14.6 -4.5
PAMC *i* 04 37 38.9
comp=Z,286nm,0.6s
TAMC **Tame, Arauca** 4.59 61 *eP* Pn 04 36 20.2 +3.0
TAMC *eS* Sb 04 37 18.4 -5.4
TAMC *i* 04 37 40.0
comp=Z,235nm,0.6s
CUSE **Cuicocha Este** 4.63 214 *eP* Pn 04 36 22.6 +4.4
CUSE *eS* Sb 04 37 19.4 -6.1
CUSE *i* 04 37 33.8
comp=Z,245nm,0.5s
LCBC **Los crdobas,** 4.69 353 *eP* Pn 04 36 21.5 +2.9
CAPC **Capurgana** 4.69 341⇓ *eP* Pn 04 36 21.9 +3.3
CAPC *eS* Sn 04 37 17.1 +4.2
CAPC *i* 04 37 21.9
comp=Z,214nm,0.6s
CAP2 **Capurgana** 4.71 341 Pn 04 36 21.1 +2.2
OTAV **Otavalo** 4.72 214 Pn 04 36 23.3 +3.9
OTAV **Otavalo** 4.72 214 *eP* Pn 04 36 23.1 +3.7
OTAV *eS* Sn 04 37 16.2 +2.0
OTAV **Otavalo** 4.72 214 *eP* Pn 04 36 22.2 +2.9
OCAC **Ocana** 4.74 31 *eP* Pn 04 36 21.2 +1.8
OCAC *eS* Sn 04 37 18.5 +4.2
OCAC *i* 04 38 01.9
comp=Z,839nm,0.6s
UPD2 **Meteti** 4.87 333 *eP* Pn 04 36 22.5 +1.5
UPD2 *eS* Sn 04 37 20.1 +2.8
UPD2 *i* 04 37 27.3
comp=Z,320nm,0.6s
PAC1 **Pacto, Paraso** 4.89 218 *eP* Pn 04 36 23.3 +1.8
PAC1 *eP* Pn 04 36 23.6 +2.1
SMLC **San Martn de** 4.91 21⇑ *eP* Pn 04 36 22.4 +0.8
SMLC *eS* Sn 04 37 22.7 +4.3
SMLC *i* 04 37 45.8
comp=Z,212nm,0.5s
AZU **Azuero** 5.71 309 *eP* Pn 04 36 31.2 -1.5
SJCC **San Jacinto, C** 5.72 6 Pn 04 36 34.5 +1.7
SJCC **San Jacinto, C** 5.72 6 *eP* Pn 04 36 35.4 +2.6
SJCC *i* 04 38 16.8
comp=Z,87nm,0.4s
LL1C **La Loma 1 Cana** 5.78 23 *eP* Pn 04 36 36.4 +2.8
LL1C *eS* Sn 04 37 42.3 +2.4
LL2C **La Loma 2 Cana** 5.84 24 *eP* Pn 04 36 35.9 +1.4
ARGC **Ariguani, Magd** 5.86 15 *eP* Pn 04 36 38.1 +3.4
ARGC *i* 04 38 47.2
comp=Z,74nm,0.6s
BCIP **Isla Barro Col** 6.37 321 Pn 04 36 43.0 +1.3
BCIP **Isla Barro Col** 6.37 321 *eP* Pn 04 36 43.2 +1.5
BCIP *eS* Sn 04 37 56.5 +2.1
BCIP *i* 04 38 15.1
comp=Z,36nm,0.6s
SOCV **Socops** 6.40 50⇑ *eP* Pn 04 36 43.2 +1.1
ELOV **Elorza** 6.89 66⇑ *eP* Pn 04 36 50.8 +1.8
ELOV *eS* Sn 04 38 10.6 +3.3
SDV **Santo Domingo** 6.95 47 Pn Pn 04 36 52.1 +2.2
comp=Z,12nm,0.3s,baz=242,slow=13,SNR=36
SDV Sn Sn 04 38 12.2 +3.2
comp=Z,8.1nm,0.3s,baz=251,slow=21,SNR=2.0
SDV LR LR 04 39 47.8
comp=Z,929nm,18.6s,baz=224,slow=40
SDV **Santo Domingo** 6.95 47 Pn Pn 04 36 52.6 +2.7
SDV **Santo Domingo** 6.95 47 *eP* Pn 04 36 52.7 +2.7
SDV *eS* Sn 04 38 12.8 +3.8
SDV *i* 04 38 24.4
comp=Z,93nm,0.7s
SDV **Santo Domingo** 6.95 47 *eP* Pn 04 36 50.6 +0.7
CRJC **Cerrejon, Guaj** 7.39 23⇓ *eP* Pn 04 36 56.9 +1.0
CRJC *eS* Sn 04 38 21.4 +1.7
CRJC *i* 04 39 08.9
comp=Z,76nm,0.7s
BRU2 **Volcan** 8.23 304 Pn 04 37 09.4 +1.9
URIC **Uribia, Colomb** 8.38 27 Pn Pn 04 37 10.6 +1.2
URIC **Uribia, Colomb** 8.38 27 *eP* Pn 04 37 09.4 +0.1
URIC *eS* Sn 04 38 47.4 +3.6
URIC *i* 04 39 47.2
comp=Z,25nm,0.6s
DRK0 **Durika** 8.95 305 Pn 04 37 18.9 +1.7
SRBA **San Rafael, Bu** 9.03 304 Pn 04 37 21.2 +3.0
PEZE **Perez Zeledon,** 9.37 304 Pn 04 37 25.8 +2.8
RIMA **Rio Macho** 9.73 305 Pn 04 37 31.5 +3.4
CVTR **Volcan Turrial** 9.79 307 Pn 04 37 31.9 +2.8
TBTG **Tabatinga, AM** 10.19 145 *eP* Pn 04 37 33.9 -0.2
COVE **Coope Vega, Sa** 10.71 308 Pn Pn 04 37 43.0 +1.6
JTS **Las Juntas de** 10.91 304 Pn Pn 04 37 49.8 +5.6
comp=Z,0.3nm,0.3s,baz=228,slow=12,SNR=2.3
JTS LR LR 04 42 17.3
comp=Z,199nm,20.2s,baz=213,slow=39
JTS **Las Juntas de** 10.91 304 Pn 04 37 46.0 +1.9
CZSB **Cruzeiro do Su** 12.22 165 *eP* Pn 04 38 02.8 +0.8
PCRV **Puerto La Cruz** 12.58 61 Pn Pn 04 38 07.9 +0.9
comp=Z,2.1nm,0.3s,baz=261,slow=6.0,SNR=8.5
PCRV Sn Sn 04 40 27.0 -0.1
comp=Z,0.6nm,0.3s,baz=216,slow=21,SNR=1.9
PCRV LR LR 04 44 07.3
comp=Z,1μm,18.5s,slow=43
PLCV **Puerto La Cruz** 12.62 61 Sn 04 40 27.0 -1.0
BOAV **Boa Vista** 15.36 96 *eP* Pn 04 38 43.3 -1.5
FSCY **Frank Sound, G** 15.94 341 Pn 04 38 52.8 +0.6
FSCY IAmb IAmb 04 38 58.4
comp=Z,84nm,1.1s
SC01 **Santiago de Io** 15.95 18 Pn 04 38 53.9 +1.5
SC01 IAmb IAmb 04 39 01.8
comp=Z,54nm,0.8s
PCDR **Punta Cana, DR** 16.00 26 Pn Pn 04 38 53.3 +0.4
NNA **Nana** 16.09 184 Pn Pn 04 38 55.9 +1.7
comp=Z,1.0nm,0.3s,baz=231,slow=4.2,SNR=2.1
SJG **San Juan** 16.77 34 Pn Pn 04 39 02.8 0.0
comp=Z,1.6nm,0.3s,baz=227,slow=15,SNR=5.4
SJG LR LR 04 45 55.7
comp=Z,207nm,18.2s,baz=202,slow=39
MACA **Manacapuru-AM** 16.78 116 *eP* Pn 04 39 03.6 +0.6
EMPR **Esperanza - Ma** 16.86 32 Pn Pn 04 39 03.7 -0.3
EMPR IAmb IAmb 04 39 09.3
comp=Z,57nm,0.9s
ETMB **Extrema** 16.87 146 *eP* P 04 39 05.8 -0.4

HUMP **Col San Antoni** 16.96 34 Pn 04 39 03.7 -1.5
CDVI **St. Croix** 17.29 38 IAmb IAmb 04 39 13.4
comp=Z,31nm,0.7s
FDF **Fort de France** 17.85 53 Pn Pn 04 39 15.4 -1.0
FDF IAmb IAmb 04 39 22.2
comp=Z,74nm,1.1s
MPOM **Morne Pois Mar** 17.92 54 Pn Pn 04 39 16.3 -0.9
MPOM IAmb IAmb 04 39 21.8
comp=Z,102nm,1.4s
SAML **Samuel** 18.12 136 Pn 04 39 18.9 -0.8
SMRT **St. Maarten** 18.59 41 P P 04 39 24.2 -1.0
CCIG **Comitan** 20.05 308 P 04 39 40.4 -1.0
LPAZ **La Paz** 21.70 160 P P 04 39 58.4 -1.2
comp=Z,3.9nm,0.9s,baz=338,slow=9.3,SNR=2.5
LPAZ Lg Lg 04 46 37.0
comp=Z,6.5nm,1.1s,baz=39,slow=23,SNR=2.1
LPAZ **La Paz** 21.70 160 P P 04 39 59.2 -0.5
LPAZ **La Paz** 21.70 160 *eP* P 04 39 59.7 0.0
ITTB **Itaituba** 21.78 113 *eP* P 04 40 00.3 +0.5
MALB **Monte Alegre** 22.35 105 *eP* P 04 40 06.5 +0.5
VILB **Vilhena** 23.02 138 *eP* P 04 40 13.4 +0.3
MDP **Montagnes des** 23.11 87 P P 04 40 14.4 +0.4
comp=Z,9.7nm,0.9s,baz=253,slow=2.4,SNR=2.4
NPGB **Novo Progresso** 23.26 119 *eP* P 04 40 16.1 +0.6
MCPB **Macapa, AP** 24.16 100 *eP* P 04 40 24.1 -0.1
PB11 **IPOC Station P** 24.54 166 P P 04 40 30.5 +2.7
SIV **San Ignacio** 24.78 144 P P 04 40 31.1 +1.1
comp=Z,6.5nm,0.7s,baz=332,slow=11,SNR=9.9
CLDB **Colider** 24.91 127 *eP* P 04 40 31.2 +0.1
PB08 **IPOC Station P** 25.03 165 P P 04 40 30.4 -2.1
PTLB **Pontes e Lacer** 25.55 140 *eP* P 04 40 37.6 +0.8
TLIG **Tlapa** 25.96 303 P P 04 40 42.8 +2.0
LVC **Limon Verde** 27.46 166 *eP* P 04 40 55.2 +0.8
PRPB **Parauapebas** 27.92 111 *eP* P 04 40 58.5 +0.2
SALV **Santo Antonio** 28.18 136 *eP* P 04 41 00.3 -0.2
TMAB **Tom-Au,PA,Br** 28.45 103 *eP* P 04 41 03.3 +0.3
SNDB **Serra Nova Dou** 29.18 124 *eP* P 04 41 10.0 +0.4
152A **Waverly Hall** 29.55 345 P P 04 41 12.8 +0.2
152A IAmb IAmb 04 41 15.6
comp=Z,8.7nm,0.8s
BIRD **Birdtown, Kers** 30.62 352 P P 04 41 22.9 +0.9
SMTB **Santa Maria do** 30.97 115 *eP* P 04 41 26.8 +1.4
Z47A **Carrollton** 31.06 340 P P 04 41 26.3 +0.4
BG3 **Lake Jocassee** 31.37 349 P P 04 41 29.9 +1.2
AQDB **Aquidauana** 31.46 142 *eP* P 04 41 30.3 +0.7
FPAL **Fort Paine** 31.56 344 P P 04 41 30.8 +0.4
FPAL IAmb IAmb 04 41 31.4
comp=Z,9.3nm,0.8s
PEXB **Peixe** 31.77 121 *eP* P 04 41 31.6 -0.8
X48A **Hartselle** 31.88 342 P P 04 41 33.5 +0.4
X48A IAmb IAmb 04 41 34.4
comp=Z,23nm,1.4s
V53A **Saluda** 32.00 349 P P 04 41 34.9 +0.7
V53A IAmb IAmb 04 41 36.2
comp=Z,7.3nm,0.8s
W50A **Signal Mountai** 32.10 345 P P 04 41 36.4 +1.2
CPCT **Cooper Cave** 32.15 347 P P 04 41 35.8 +0.3
CPCT IAmb IAmb 04 41 38.9
comp=Z,11nm,1.0s
TKL **Tuckaleechee C** 32.18 348 P P 04 41 36.2 +0.4
comp=Z,3.6nm,0.8s,baz=159,slow=14,SNR=2.3
TKL **Tuckaleechee C** 32.18 348 IAmb IAmb 04 41 38.5
comp=Z,4.6nm,0.8s
V52A **Sevierville** 32.32 348 P P 04 41 38.1 +1.1
V52A IAmb IAmb 04 41 45.5
comp=Z,8.9nm,0.8s
ROSB **Rosrio** 32.43 102 *eP* P 04 41 38.0 -0.2
V51A **Loudon** 32.45 347 P P 04 41 39.1 +1.0
V51A IAmb IAmb 04 41 41.2
comp=Z,11nm,0.8s
U54A **Nelsons Funny** 32.66 351 P P 04 41 41.4 +1.3
TZTN **Tazewell** 32.99 349 P P 04 41 44.3 +1.4
TZTN IAmb IAmb 04 41 46.6
comp=Z,13nm,1.2s
U49A **Red Boiling Sp** 33.47 345 P P 04 41 47.1 +0.1
U49A IAmb IAmb 04 41 47.9
comp=Z,8.2nm,0.8s
S57A **Dark Hollow, R** 33.55 355 P P 04 41 48.7 +0.9
S57A IAmb IAmb 04 41 49.9
comp=Z,12nm,1.1s
T50A **Nancy** 33.72 347 IAmb IAmb 04 41 51.5
comp=Z,9.7nm,0.9s
BDFB **Brasilia** 33.83 126 P P 04 41 50.9 +0.4
comp=Z,6.1nm,0.9s,baz=292,slow=16,SNR=1.9
BDFB **Brasilia** 33.83 126 P P 04 41 51.1 +0.5
R55A **Marlinton** 34.18 354 IAmb IAmb 04 41 55.6
comp=Z,11nm,0.8s
ITRB **Iturama** 34.48 134 *eP* P 04 41 56.8 +0.7
R50A **Paris** 34.83 348 IAmb IAmb 04 42 00.5
comp=Z,13nm,0.8s
SDBA **SAO DESIDERIO** 34.86 119 *eP* P 04 42 00.8 +1.4
Q54A **Coxs Mills** 34.95 353 IAmb IAmb 04 42 01.8
comp=Z,15nm,1.1s
IPMB **Ipameri, GO** 35.01 130 *eP* P 04 42 00.2 -0.5
R49A **Shelbyville** 35.02 347 IAmb IAmb 04 42 01.1
comp=Z,8.6nm,0.8s
PBMO **Poplar Bluff** 35.12 339 IAmb IAmb 04 42 10.1
comp=Z,11nm,0.8s
Q52A **Bidwell** 35.12 351 IAmb IAmb 04 42 03.2
comp=Z,16nm,1.0s
PCMB **Pacaembu** 35.14 138 *eP* P 04 42 03.6 +1.9
P57A **Homestead Farm** 35.20 357 IAmb IAmb 04 42 04.7
comp=Z,15nm,1.1s
WCI **Wyandotte Cave** 35.22 346 P P 04 42 02.5 +0.4
WCI IAmb IAmb 04 42 02.6
comp=Z,11nm,0.7s
NBPS **Pedro II - PI** 35.37 104 *eP* P 04 42 04.5 +0.6
SIUC **Southern Illin** 35.56 342 P P 04 42 04.0 -1.2
SIUC IAmb IAmb 04 42 11.6
comp=Z,11nm,0.8s
U40A **Yellville** 35.66 336 IAmb IAmb 04 42 14.3
comp=Z,18nm,1.2s
MVL **Millersville** 35.67 359 IAmb IAmb 04 42 08.2
comp=Z,20nm,1.3s
HHAR **Hobbs** 36.05 335 IAmb IAmb 04 42 17.6
comp=Z,15nm,1.1s
OLIL **Olney** 36.17 344 IAmb IAmb 04 42 12.5
comp=Z,17nm,1.1s
FVM **French Village** 36.20 340 IAmb IAmb 04 42 19.6
comp=Z,13nm,0.8s
LUPA **Lehigh Univers** 36.27 1 IAmb IAmb 04 42 13.6
comp=Z,18nm,1.2s
TXAR **Lajitas Array** 36.37 317 P P 04 42 13.6 +1.3
comp=Z,1.4nm,1.0s,baz=123,slow=7.6,SNR=3.5
TXAR PcP PcP 04 44 37.1 +0.3
comp=Z,2.6nm,0.7s,baz=139,slow=6.0,SNR=16
HPIG **** 36.41 312 P P 04 42 14.3 +1.5
NBMO **Morrinhos-CE** 36.51 101 *eP* P 04 42 13.3 -0.2
N58A **Sunbury** 36.51 359 IAmb IAmb 04 42 16.5
comp=Z,11nm,1.0s
N59A **State Game Lan** 36.58 0 IAmb IAmb 04 42 15.6
comp=Z,9.7nm,1.0s
TRNY **Table Rock, Ra** 36.84 2 P P 04 42 16.5 +0.5
TRNY IAmb IAmb 04 42 17.7
comp=Z,12nm,0.8s
S39A **Bolivar** 37.01 337 IAmb IAmb 04 42 25.6
comp=Z,9.9nm,0.9s
M57A **Sunshine Farm,** 37.02 358 IAmb IAmb 04 42 19.9
comp=Z,17nm,0.8s
R40A **Maddies Statio** 37.13 338 IAmb IAmb 04 42 26.4
comp=Z,8.3nm,0.8s
KSPA **Keystone Colle** 37.22 0 P P 04 42 18.7 -0.6
KSPA IAmb IAmb 04 42 21.2
comp=Z,12nm,0.9s
SFIN **Lafayette** 37.45 346 IAmb IAmb 04 42 26.7
comp=Z,10.0nm,0.6s
FRTB **Fartura** 37.47 138 *eP* P 04 42 22.2 +0.5
ALLY **Alegheny Colle** 37.51 355 P P 04 42 22.3 +0.5
T35A **Sooner Cattle** 37.72 332 IAmb IAmb 04 42 32.1
comp=Z,20nm,1.1s
BINY **Binghamton** 37.86 360 IAmb IAmb 04 42 27.6
comp=Z,27nm,1.5s
K57A **Scipio Center** 38.40 359 IAmb IAmb 04 42 30.9
comp=Z,16nm,1.1s
NBCL **Cascavel-CE** 38.40 102 *eP* P 04 42 29.9 +0.3
NBPN **Ponto Novo - B** 38.46 113 *eP* P 04 42 30.7 +0.6
P38A **Dawn** 38.77 338 P P 04 42 31.9 -0.4
P38A IAmb IAmb 04 42 32.2
comp=Z,6.8nm,0.6s
MSTX **Muleshoe** 38.83 323 IAmb IAmb 04 42 42.6
comp=Z,14nm,1.1s
MNTX **Cornudas Mount** 38.99 318 P P 04 42 35.0 +0.7
J57A **Williamstown** 39.07 360 IAmb IAmb 04 42 36.3
comp=Z,18nm,0.8s
J59A **Piesco** 39.14 2 P P 04 42 36.7 +1.3

KSU1 **Kansas State U** 39.56 334 IAmb IAmb 04 42 44.5
comp=Z,12nm,0.7s
PECO **Prince Edward** 39.61 359 IAmb IAmb 04 42 40.6
comp=Z,17nm,1.2s
NCB **Newcomb** 39.66 2 P P 04 42 40.5 +0.8
NCB IAmb IAmb 04 42 41.5
comp=Z,15nm,1.1s
LBNH **Lisbon** 40.05 4 P P 04 42 42.9 -0.1
LBNH IAmb IAmb 04 42 45.6
comp=Z,19nm,1.4s
GDU01 **Guandu, BA** 40.11 117 *eP* P 04 42 44.1 +0.2
DELO **Deloro Mine** 40.21 358 IAmb IAmb 04 42 45.4
comp=Z,6.8nm,0.6s
LONY **Lake Ozonia** 40.30 1 P P 04 42 45.0 0.0
LONY IAmb IAmb 04 42 46.6
comp=Z,21nm,1.3s
SADO **Sadowa** 40.54 356 P P 04 42 47.3 +0.3
comp=Z,14nm,0.6s,baz=196,slow=7.2,SNR=24
SADO **Sadowa** 40.54 356 IAmb IAmb 04 42 48.2
comp=Z,16nm,0.7s
PLVO **Plevna** 40.72 359 IAmb IAmb 04 42 49.9
comp=Z,14nm,0.9s
CMC01 **Camacan, BA** 40.84 119 *eP* P 04 42 49.7 -0.2
121A **Cookes Peak, D** 41.12 317 IAmb IAmb 04 42 56.9
comp=Z,12nm,0.8s
MNTQ **Montreal, Queb** 41.21 2 P P 04 42 52.8 +0.3
ANMO **Albuquerque** 41.74 321 P P 04 42 57.6 +0.3
comp=Z,3.0nm,0.7s,baz=132,slow=9.1,SNR=8.2
ANMO **Albuquerque** 41.74 321 P P 04 42 58.1 +0.8
NBRF **Rio Formoso -** 42.53 108 *eP* P 04 43 03.9 +0.1
TUC **Tucson** 43.07 315 P P 04 43 08.4 +0.3
COWI **Conover** 43.34 346 IAmb IAmb 04 43 15.6
comp=Z,12nm,0.9s
ISCO **Idaho Springs** 44.53 327 P P 04 43 20.9 +0.9
PLCA **Paso Flores** 44.95 174 P P 04 43 24.1 +1.1
comp=Z,2.5nm,0.8s,baz=329,slow=12,SNR=2.7
PLCA **Paso Flores** 44.95 174 IAmb IAmb 04 43 33.4
comp=Z,6.2nm,0.9s
LL04 **Puerto Octay** 44.97 176 P P 04 43 23.6 +0.5
LL04 IAmb IAmb 04 43 30.2
comp=Z,9.3nm,0.9s
WUAZ **Wupatki** 45.28 318 P P 04 43 27.1 +1.2
WUAZ IAmb IAmb 04 43 30.6
comp=Z,10nm,1.0s
B35A **Bob, Littlefor** 46.62 344 IAmb IAmb 04 43 42.9
comp=Z,8.2nm,0.9s
SRU **San Rafael Swe** 46.90 323 IAmb IAmb 04 43 47.7
comp=Z,7.4nm,0.9s
RSSD **Black Hills** 46.92 332 P P 04 43 38.8 +0.1
RSSD IAmb IAmb 04 43 47.6
comp=Z,6.6nm,0.8s
P17A **Butcher Ranch,** 47.26 323 IAmb IAmb 04 43 50.5
comp=Z,8.4nm,1.0s
RDMU **Red Mountain** 47.27 325 IAmb IAmb 04 43 50.4
comp=Z,7.1nm,1.0s
MPU **Maple Canyon** 48.13 323 IAmb IAmb 04 43 57.2
comp=Z,6.2nm,1.0s
PD31 **Pinedale Array** 48.73 327 P P 04 43 52.4 -0.4
PDAR **Pinedale Array** 48.73 327 P P 04 43 52.5 -0.3
comp=Z,1.2nm,0.7s,baz=128,slow=8.1,SNR=6.7
PDAR ScP ScP 04 49 10.8 -1.9
comp=Z,1.4nm,0.9s,baz=114,slow=4.4,SNR=7.9
ULM **Lac du Bonnet** 48.94 343 P P 04 43 51.9 -2.1
comp=Z,3.1nm,0.5s,baz=150,slow=9.8,SNR=2.5
DUG **Dugway, Tooele** 48.96 322 IAmb IAmb 04 44 03.7
comp=Z,4.8nm,0.8s
HWUT **Hardware Ranch** 49.09 325 P P 04 43 55.7 +0.2
HWUT IAmb IAmb 04 44 04.1
comp=Z,5.5nm,0.8s
COYC **Coyhaique** 49.64 177 P P 04 44 01.5 +2.2
COYC IAmb IAmb 04 44 09.6
comp=Z,8.0nm,0.9s
REDW **Red Top Meadow** 49.83 327 IAmb IAmb 04 44 10.0
comp=Z,11nm,0.9s
SNOW **Snow King Moun** 49.85 327 IAmb IAmb 04 44 10.2
comp=Z,8.9nm,0.9s
LOHW **Long Hollow** 49.86 327 IAmb IAmb 04 44 10.3
comp=Z,9.4nm,1.1s
TPAW **Teton Pass** 49.97 327 IAmb IAmb 04 44 10.0
comp=Z,6.3nm,0.8s
IMW **Indian Meadow** 50.23 327 IAmb IAmb 04 44 12.9
comp=Z,6.4nm,0.8s
DGMT **Dagmar** 50.36 336 P P 04 44 04.0 -0.9
DGMT IAmb IAmb 04 44 11.3
comp=Z,9.1nm,0.7s
YHL **Hebgen Lake** 51.00 328 IAmb IAmb 04 44 19.9
comp=Z,9.2nm,0.8s
SCHQ **Schefferville** 51.03 7 P P 04 44 08.8 -0.9
comp=Z,6.9nm,0.9s,baz=200,slow=12,SNR=4.0
SCHQ **Schefferville** 51.03 7 P P 04 44 10.8 +1.1
SCHQ IAmb IAmb 04 44 16.8
comp=Z,19nm,1.4s
QLMT **Earthquake Lak** 51.12 328 P P 04 44 11.2 +0.3
NV11 **Mina Array Sit** 51.41 317 P P 04 44 14.4 +1.2
NVAR **Mina Array Bea** 51.51 317 P P 04 44 14.0 0.0
comp=Z,1.9nm,0.7s,baz=113,slow=7.0,SNR=9.9
NVAR PcP PcP 04 45 27.9 -0.2
comp=Z,2.0nm,0.6s,baz=126,slow=4.6,SNR=5.1
NVAR **Mina Array Bea** 51.51 317 P P 04 44 14.8 +0.9
LHV **Little Huntoon** 51.56 317 IAmb IAmb 04 44 22.6
comp=Z,7.5nm,0.9s
MDPB **Devils Postpil** 51.65 316 P P 04 44 15.0 0.0
KVN **Kaiserville** 51.69 318 P P 04 44 16.8 +1.6
YERR **Yerington** 52.42 317 IAmb IAmb 04 44 30.1
comp=Z,12nm,1.2s
SACV **Santiago Islan** 52.46 74 P P 04 44 23.3 +2.2
J08A **Circle Bar Ran** 54.24 322 IAmb IAmb 04 44 42.5
comp=Z,6.1nm,0.9s
F10A **Beach Ranch, E** 55.01 326 IAmb IAmb 04 44 48.0
comp=Z,5.2nm,0.8s
G08A **Pilot Rock** 55.61 324 P P 04 44 43.5 -0.3
G08A IAmb IAmb 04 44 52.7
comp=Z,6.9nm,0.9s
E09A **Wood Farm, Sta** 55.84 326 IAmb IAmb 04 44 54.0
comp=Z,8.4nm,0.9s
YBH **Yreka Blue Hor** 56.08 319 P P 04 44 48.4 +1.2
comp=Z,2.0nm,1.1s,baz=89,slow=7.5,SNR=2.5
YBH **Yreka Blue Hor** 56.08 319 IAmb IAmb 04 44 54.8
comp=Z,5.0nm,1.1s
NEW **Newport** 56.33 328 P P 04 44 50.4 +1.6
comp=Z,2.8nm,0.8s,baz=117,slow=9.0,SNR=4.8
D08A **Wollman Farm,** 56.59 326 IAmb IAmb 04 44 59.5
comp=Z,6.0nm,1.0s
HOOD **Mount Hood Mea** 57.22 323 P P 04 44 57.9 +2.6
B08A **Colville Reser** 57.57 327 IAmb IAmb 04 45 01.9
comp=Z,6.2nm,0.9s
LLLB **Lillooet** 60.23 328 IAmb IAmb 04 45 16.0
comp=Z,5.6nm,0.9s
YKA **Yellowknife Ar** 64.85 341 P P 04 45 45.0 -1.6
comp=Z,3.8nm,0.7s,baz=128,slow=8.1,SNR=7.5
DY2G **Dyce** 65.51 13 *eP* P 04 45 49.9 -1.2
DLBC **Dease Lake** 68.39 333 P P 04 46 08.9 -0.5
comp=Z,3.7nm,0.8s,baz=182,slow=5.1,SNR=6.0
ICESG **Greenland Ices** 69.11 13 *eP* P 04 46 19.0 +5.0
DBIC **Dimbokro** 70.63 84 P P 04 46 22.1 -1.9
comp=Z,4.9nm,0.8s,baz=276,slow=5.0,SNR=5.3
KOWA **Kowa** 71.35 76 P P 04 46 27.1 -1.2
KOWA IAmb IAmb 04 46 27.8
comp=Z,8.0nm,0.8s
SUMG **Summit** 72.07 11 *i* P P 04 46 30.0 -2.1
SUMG IAmb IAmb 04 46 31.9
comp=Z,5.7nm,0.8s
SUMG **Summit** 72.07 11 P P 04 46 32.6 +0.5
SUMG IAmb IAmb 04 46 41.5
comp=Z,7.9nm,0.7s
ESDC **Sonseca Array** 73.39 50 P P 04 46 38.9 -1.3
comp=Z,1.1nm,0.6s,baz=256,slow=5.7,SNR=5.0
ESDC **Sonseca Array** 73.39 50 P P 04 46 39.8 -0.5
NEEM **North Greenlan** 74.41 5 *i* P P 04 46 44.8 -0.9
INK **Inuvik** 74.62 341 P P 04 46 45.2 -1.5
comp=Z,2.9nm,0.6s,baz=100,slow=5.1,SNR=8.7
EPYK **Eagle Plains** 74.83 339 IAmb IAmb 04 46 48.6
comp=Z,12nm,1.2s
BCAR **Beaver Creek A** 75.56 335 P P 04 46 51.7 -0.6
L27K **Beaver Creek,** 75.58 335 P P 04 46 51.8 -0.6
L27K IAmb IAmb 04 46 52.8
comp=Z,5.9nm,0.8s
K27K **Chicken** 76.02 335 IAmb IAmb 04 46 55.1
comp=Z,7.1nm,1.2s
L26K **Log Cabin Wild** 76.22 334 IAmb IAmb 04 46 56.7
comp=Z,6.2nm,1.0s
SCRK **Sand Creek** 76.80 335 P P 04 46 59.1 -0.3
SCRK IAmb IAmb 04 46 59.7
comp=Z,3.9nm,0.7s
TORD **Torodi Ar. Bea** 76.91 78 P P 04 46 58.4 -2.5
comp=Z,1.8nm,0.6s,baz=281,slow=6.4,SNR=9.2

TORD	Torodi Ar. Bea	76.91	78	P		P	04 46 59.1	-1.7
BMAR	Burnt Mountain	78.11	338	P		P	04 47 05.8	-0.8
IL31		78.23	336	IAmb		IAmb	04 47 06.8	
	comp=Z,4.5nm,0.7s							
ILAR	Eielson Array	78.23	336	P		P	04 47 05.8	-1.5
	comp=Z,3.6nm,0.6s,baz=119,slow=4.0,SNR=33							
ILAR				PP		PP	04 50 03.0	-1.0
	comp=Z,0.8nm,1.0s,baz=96,slow=7.5,SNR=4.9							
ILAR	Eielson Array	78.23	336	P		P	04 47 05.9	-1.3
MDM	Murphy Dome	78.83	336	IAmb		IAmb	04 47 10.4	
	comp=Z,7.1nm,1.0s							
H24K	Noodor Dome	78.91	336	P		P	04 47 10.5	-0.6
H24K				IAmb		IAmb	04 47 11.1	
	comp=Z,5.9nm,1.0s							
I23K	Minto, Yukon-K	79.35	336	IAmb		IAmb	04 47 13.3	
	comp=Z,7.4nm,0.8s							
H23K	Yukon River	79.58	336	IAmb		IAmb	04 47 14.6	
	comp=Z,5.4nm,0.9s							
MLY	Manley	79.89	335	IAmb		IAmb	04 47 16.5	
	comp=Z,15nm,1.3s							
COLD	Coldfoot	80.15	338	IAmb		IAmb	04 47 22.5	
	comp=Z,4.7nm,0.8s							
I21K	Tanana	80.44	335	IAmb		IAmb	04 47 18.7	
	comp=Z,7.3nm,1.0s							
DOU	Dourbes	80.66	40	*d*PcP		PcP	04 47 27.4	-0.1
J20K	Nowinta River	81.18	334	IAmb		IAmb	04 47 22.6	
	comp=Z,6.2nm,0.7s							
IMAR	Indian Mountai	81.30	336	P		P	04 47 22.6	-1.3
BHOU	Houvegnez	81.58	40	*d*PcP		PcP	04 47 31.1	-0.5
NOA	NORSAR Array B	84.93	29	P		P	04 47 42.0	-0.8
	comp=Z,1.1nm,1.0s,baz=273,slow=4.9,SNR=2.4							
NOA	NORSAR Array B	84.93	29	P		P	04 47 42.0	-0.8
VNA3	Neumayer Olymp	86.44	163	P		P	04 47 49.5	-0.6
GERES	GERESS Array B	86.57	41	P		P	04 47 50.6	-0.7
	comp=Z,0.4nm,0.7s,baz=249,slow=2.7,SNR=2.2							
VNA1	Neumayer--Stat	86.63	162	P		P	04 47 50.6	-0.3
VNA2	Neumayer--Watz	87.00	162	P		P	04 47 52.0	-0.8
	baz=308,slow=5.8							
SNAA	Sanae	88.64	162	P		P	04 48 00.0	-0.6
SNAA	Sanae	88.64	162	P		P	04 48 00.0	-0.6
	comp=Z,2.7nm,0.7s,baz=269,slow=6.9,SNR=16							
SNAA	Sanae	88.64	162	P		P	04 48 00.1	-0.6
SNAA				IAmb		IAmb	04 48 00.9	
	comp=Z,5.6nm,1.0s							
QSPA	South Pole Qui	94.20	180	P		P	04 48 26.6	-0.1
	comp=Z,2.5nm,0.8s,baz=156,slow=2.2,SNR=3.6							
QSPA	South Pole Qui	94.20	180	IAmb		IAmb	04 48 35.2	
	comp=Z,3.8nm,0.9s							
KSRS	Korea Array	133.06	334	PKP		PKPdf	04 54 23.9	0.0
	comp=Z,2.2nm,0.6s,baz=17,slow=1.7,SNR=7.3							
ENH	Enshi	145.38	352	PKPbc		PKiKP	04 54 50.5	0.0
AS31	Alice Springs	145.40	233			PKPbc	04 54 44.6	-2.1
ASAR	Alice Springs	145.40	233	PKPbc		PKPbc	04 54 44.9	-1.8
	comp=Z,8.6nm,0.5s,baz=117,slow=4.0,SNR=60							
ASAR	Alice Springs	145.40	233			PKPbc	04 54 45.1	-1.5
WR0	Warramunga Arr	146.53	240	PKPbc		PKPdf	04 54 49.2	+0.4
WRA	Warramunga Arr	146.71	239	PKPbc		PKPdf	04 54 48.8	-0.3
	comp=Z,6.7nm,0.7s,baz=115,slow=2.5,SNR=33							
WRA	Warramunga Arr	146.71	239	PKPbc		PKPbc	04 54 51.4	+0.6
SSLB	Suanglung	147.76	330	PKPbc		PKPbc	04 54 53.1	-0.5

GUC 18 04:43:04.3±0.7, 32°.49S×72°.14W, h38km±4km, ML3.7, 3C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
VA01	Torpederas	0.68	142	∥ *i*	P	Pn	04 43 18.1	+0.7
VA01				*e*	S	Sn	04 43 28.2	+1.5
VA06	Catapilco	0.72	96	*e*	P	Pn	04 43 18.2	+0.3
VA06				*e*	S	Sn	04 43 29.8	+2.1
VA06				IAML			04 43 30.8	
	comp=E,6µm,0.6s							
ROCH	El Roble	1.07	117	∥ *i*	P	Pn	04 43 24.6	+1.6
VA05	Santo Domingo	1.25	159	∥ *e*	P	Pn	04 43 27.0	+1.8
VA05				*e*	S	Sn	04 43 42.9	+2.2
VA05				IAML			04 43 50.1	
	comp=E,2µm,0.4s							
VA03	San Esteban	1.37	102	∩ *e*	P	Pn	04 43 29.0	+2.0
VA03				*i*	S	Sn	04 43 48.2	+4.3
VA03				IAML			04 43 50.2	
	comp=N,3µm,0.6s							
MT05	Renca	1.48	128	∩ *i*	P	Pn	04 43 31.5	+2.9
MT05				*i*	S	Sn	04 43 51.4	+4.7
MT05				IAML			04 43 54.7	
	comp=E,1µm,0.4s							
MT01	Popeta	1.56	152	*e*	P	Pn	04 43 31.2	+1.7
MT01				*i*	S	Sn	04 43 52.5	+4.0
MT01				IAML			04 43 58.6	
	comp=E,963nm,0.4s							
MT09	Talagante	1.61	143	∥ *e*	P	Pn	04 43 33.0	+2.8
MT09				*e*	S	Sn	04 43 53.7	+3.9
MT09				IAML			04 43 57.2	
	comp=N,1µm,0.5s							
CO06	Fray Jorge	1.86	14	*e*	P	Pn	04 43 34.1	+0.5
CO03	El Pedregal	2.06	37	*e*	P	Pn	04 43 39.1	+2.7
BO01	Tunca	2.09	155	*e*	P	Pn	04 43 38.8	+2.0
LMEL	Las Melosas	2.12	130	*e*	P	Pn	04 43 40.8	+3.5
BO02	Sierra Bellavi	2.56	154	*e*	P	Pn	04 43 46.3	+2.9
BO02				IAML			04 45 11.1	
	comp=E,1µm,0.4s							

GUC 18 04:43:23.0±0.6, 31°.83S×72°.17W, h40km±3km, ML4.2
IDC 18 04:43:23.1±0.9, 31°.69S×71°.81W, h0km, mb4.1/6, mb1 4.1/9, mb1mx4.0/34, mbtmp4.0/9, ML3.9/3, Error ellipse: s-maj=32.7km s-min=20.9km az=92.0
NEIC 18 04:43:25.9±2.1, 31°.75S±0°.05×71°.6W±0°.1, h16km±2km, mb4.5/5, Error ellipse: s-maj=13.7km s-min=6.7km az=98.0

ISC 18 04:43:24.5±1.8, 31°.75S±0°.03×71°.95W±0°.09, h12km±11km, n56, σ0s94/51, mb4.3/7, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
VA06	Catapilco	0.98	146	*e*	P	Pn	04 43 43.9	-0.2
VA06				*i*	S	Sg	04 43 57.0	+0.8
VA06				IAML			04 44 00.2	
	comp=E,11µm,0.5s							
CO06	Fray Jorge	1.10	14	*e*	P	Pb	04 43 45.2	-0.3
CO06				*i*	S	Sg	04 43 59.8	-0.4
CO06				IAML			04 44 07.7	
	comp=N,3µm,0.6s							
VA01	Torpederas	1.30	169	*e*	S	Sb	04 44 03.4	-2.0
CO03	El Pedregal	1.41	50	∩ *e*	P	Pg	04 43 51.7	+0.1
CO03				*i*	S	Sg	04 44 11.4	+1.5
CO03				IAML			04 44 21.2	
	comp=E,3µm,0.4s							
ROCH	El Roble	1.46	147	*e*	S	Sb	04 44 11.2	+0.9
ROCH				IAML			04 44 17.1	
	comp=N,5µm,0.5s							
VA03	San Esteban	1.56	131	*e*	S	Sg	04 44 14.3	-0.4
VA03				IAML			04 44 23.3	
	comp=E,6µm,0.5s							
GO04	Tololo Observa	1.85	32	*e*	P	Pb	04 43 58.3	-0.2
GO04				*i*	S	Sb	04 44 22.0	+0.2
CO05	La Serena	1.92	19	*e*	P	Pn	04 43 57.8	+0.7
CO05				*i*	S	Sb	04 44 23.8	+0.3
CO05				IAML			04 44 31.1	
	comp=N,3µm,0.5s							
CO05	La Serena	1.92	19			Pn	04 43 57.5	+0.4
VA05	Santo Domingo	1.92	172	*e*	S	Sn	04 44 19.8	-1.5
VA05				IAML			04 44 35.1	
	comp=E,4µm,0.5s							
MT05	Renca	1.93	148	*e*	S	Sn	04 44 22.1	+0.6
MT05				IAML			04 44 34.5	
	comp=E,3µm,0.3s							
MT09	Talagante	2.18	158	*e*	S	Sn	04 44 28.0	+0.2
MT09				IAML			04 44 44.8	
	comp=N,2µm,0.8s							
MT09	Talagante	2.18	158	Pn		Pn	04 44 00.3	-0.5
MT01	Popeta	2.19	165	*i*	S	Sn	04 44 26.7	-1.1
MT01				IAML			04 44 42.2	
	comp=N,1µm,0.5s							
BO01	Tunca	2.73	165	Pn		Pn	04 44 07.0	-1.2
ZON	Zonda	2.80	87	Pn		Pn	04 44 03.3	-5.9
LCO	Las Campanas	2.93	22			Pn	04 44 10.8	-0.5
BO02	Sierra Bellavi	3.19	162	Pn		Pn	04 44 14.4	-0.2
GO05	Huala	3.25	180	Pn		Pn	04 44 15.7	+0.3
AC04	Llanos de Chal	3.61	12			Pn	04 44 19.7	-0.6
GO03	Copiap	4.40	20			Pn	04 44 30.2	-1.0
AC06	Mina Casimiro	4.59	18			Pn	04 44 32.5	-1.3
AC02	Maricunga	5.48	27			Pn	04 44 46.2	-0.3
H03N1	Juan Fernandez	6.11	252	T		T	04 51 44.8	
	baz=77,slow=72,SNR=27							
H03N3	Juan Fernandez	6.13	252	T		T	04 51 41.1	
	baz=77,slow=72,SNR=20							
H03N2	Juan Fernandez	6.13	252	T		T	04 51 50.4	
	baz=77,slow=72,SNR=102							
H03S3	Juan Fernandez	6.22	249	T		T	04 51 46.8	
	baz=84							
H03S1	Juan Fernandez	6.22	249	T		T	04 51 36.3	
	baz=84,slow=74							
H03S2	Juan Fernandez	6.23	249	T		T	04 51 43.6	
	baz=84,slow=74							
LR03	Panguipulli	7.87	182	Pn		Pn	04 45 19.6	+0.7
PLCA	Paso Flores	9.04	173	Pn		Pn	04 45 36.5	+1.7
	comp=N,0.6nm,0.3s,baz=335,slow=12,SNR=8.9							
PB06	IPOC Station P	9.25	14	Pn		Pn	04 45 38.2	+0.3
AF01	San Pedro de A	9.38	22	Pn		Pn	04 45 40.4	+0.5
LVC	Limon Verde	9.49	17	Pn		Pn	04 45 38.9	-2.5
	comp=N,0.3nm,0.3s,baz=298,slow=7.9,SNR=3.5							
LVC	Limon Verde	9.49	17			Pn	04 45 39.8	-1.7
CPUP	Villa Florida	13.88	71	Pn		Pn	04 46 39.5	-1.6
	comp=N,0.2nm,0.3s,baz=60,slow=18,SNR=1.9							
BDFB	Brasilia	27.06	59	P		P	04 49 06.4	-0.8
	comp=N,6.2nm,0.8s,baz=213,slow=6.6,SNR=5.4							
SDV	Santo Domingo	40.42	2	P		P	04 51 02.3	-0.7
SDV				IAmb		IAmb	04 51 07.7	
	comp=Z,7.6nm,0.9s							
VNA3	Neumayer Olymp	51.41	159	P		P	04 52 29.7	+0.8
VNA1	Neumayer--Stat	51.72	158	P		P	04 52 32.5	+1.4
VNA2	Neumayer--Watz	52.06	158	P		P	04 52 34.6	+0.8
	baz=284,slow=8.5							
SNAA	Sanae	53.64	158	P		P	04 52 46.1	+0.6
SNAA	Sanae	53.64	158	P		P	04 52 45.5	0.0
	comp=Z,5.5nm,0.9s,baz=266,slow=9.0,SNR=22							
SNAA	Sanae	53.64	158	P		P	04 52 44.8	-0.7
SNAA				IAmb		IAmb	04 52 47.7	
	comp=Z,5.3nm,0.9s							
QSPA	South Pole Qui	58.48	180	P		P	04 53 21.0	+0.7
	comp=Z,1.4nm,0.7s,baz=281,slow=9.2,SNR=3.0							
QSPA	South Pole Qui	58.48	180	IAmb		IAmb	04 53 27.0	
	comp=Z,3.6nm,1.2s							
TXAR	Lajitas Array	67.82	330	P		P	04 54 23.1	+0.6
	comp=Z,0.2nm,0.7s,baz=159,slow=8.5,SNR=3.0							
NVAR	Mina Array Bea	82.08	325	P		P	04 55 45.7	+0.7
	comp=Z,0.5nm,0.8s,baz=151,slow=6.0,SNR=3.6							
TORD	Torodi Ar. Bea	83.38	70	P		P	04 55 51.8	-0.2
	comp=Z,3.2nm,0.8s,baz=261,slow=4.3,SNR=15							
TORD	Torodi Ar. Bea	83.38	70	P		P	04 55 52.1	+0.2
H11S2	WAKE ISLAND Hyl	25.85	271	T		T	07 21 17.6	
	baz=112							
H11S1	WAKE ISLAND Hyl	25.86	271	T		T	07 21 24.6	
	baz=112							
H11S3	WAKE ISLAND Hyl	25.87	271	T		T	07 21 23.1	
	baz=112							
ZALV	Zalesovo Beam	152.26	30	PKPbc		PKiKP	05 03 19.9	-0.1
	comp=Z,2.1nm,0.5s,baz=300,slow=3.5,SNR=5.6							
MKAR	Makanchi Array	155.18	45	PKPab		PKPab	05 03 42.6	+0.4
	comp=Z,0.7nm,0.7s,baz=314,slow=4.0,SNR=4.5							
MKAR	Makanchi Array	155.18	45	PKPdf		PKPdf	05 03 18.1	+0.7
MKAR						PKPab	05 03 41.5	-0.7

IDC 18 04:51:37.8±1.8, 31°.32S×71°.26W, h0km, mb3.5/2, mb1 3.8/7, mb1mx3.7/26, mbtmp3.6/7, ML3.7/5, Error ellipse: s-maj=44.7km s-min=29.6km az=95.0

ISC 18 04:51:39.3±1.2, 31°.35S±0°.1×71°.2W±0°.2, h10km, n10, σ1s38/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
H03N1	Juan Fernandez	6.84	250	T		T	05 00 02.1	
	baz=76,slow=72,SNR=19							
H03N3	Juan Fernandez	6.86	250	T		T	04 59 53.7	
	baz=76,slow=72,SNR=31							
H03N2	Juan Fernandez	6.86	250	T		T	04 59 57.9	
	baz=76,slow=72,SNR=21							
LVC	Limon Verde	8.92	14	Pn		Pn	04 53 50.3	+1.7
	0.2nm,0.3s,baz=202,slow=16,SNR=0.9							
PLCA	Paso Flores	9.41	177	Pn		Pn	04 53 55.1	+0.1
	0.5nm,0.3s,baz=337,slow=12,SNR=17							
CPUP	Villa Florida	13.15	71	Pn		Pn	04 54 46.2	0.0
	0.1nm,0.3s,baz=266,slow=16,SNR=1.5							
LPAZ	La Paz	15.23	11	Pn		Pn	04 55 13.1	-2.0
	0.1nm,0.3s,baz=188,slow=7.5,SNR=7.5							
SIV	San Ignacio	17.85	34	P		P	04 55 47.8	-0.8
	0.2nm,0.3s,baz=225,slow=8.6,SNR=1.8							
TXAR	Lajitas Array	67.76	330	P		P	05 02 37.3	-0.1
	0.2nm,0.7s,baz=150,slow=6.1,SNR=1.9							
TORD	Torodi Ar. Bea	82.64	70	P		P	05 04 03.3	0.0
	0.6nm,0.7s,baz=259,slow=4.2,SNR=3.2							

IDC 18 04:52:11.2±0.8, 15°.53N×147°.71E, h0km, mb4.0/12, mb1 4.2/13, mb1mx4.0/42, mbtmp4.0/13, ML4.1/1, MS3.9/3, Ms1 3.9/3, ms1mx3.0/46, Error ellipse: s-maj=27.4km s-min=17.9km az=98.0
NEIC 18 04:52:15.6±1.5, 15°.47N±0°.08×147°.70E±0°.09, h26km±6km, mb4.3/14, Error ellipse: s-maj=13.1km s-min=11.4km az=110.0

ISC 18 04:52:15.5±0.7, 15°.48N±0°.08×147°.6E±0°.1, h29km, n41, σ0s82/30, mb4.2/18, MS3.8/3, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ANA2	Anatahan	2.04	295			Pn	04 52 49.2	+1.2
GUMO	Guam	3.27	235	Pn		Pn	04 53 06.0	+1.1
	19nm,0.3s,baz=166,slow=23,SNR=4.6							
GUMO				Sn		Sn	04 53 41.6	-1.3
	50nm,0.3s,baz=30,slow=20,SNR=3.3							
H11S3	WAKE ISLAND Hy	18.47	78	T		T	05 15 20.1	
	baz=262,slow=74							
H11S1	WAKE ISLAND Hy	18.48	78	T		T	05 15 24.9	
	baz=262,slow=74							
H11S2	WAKE ISLAND Hy	18.48	78	T		T	05 15 25.7	
	baz=262							
H11N1	WAKE ISLAND Hy	18.83	74	T		T	05 15 49.0	
	baz=266							
H11N2	WAKE ISLAND Hy	18.84	74	T		T	05 15 47.3	
	baz=266							
H11N3	WAKE ISLAND Hy	18.85	74	T		T	05 15 45.2	
	baz=266							
MJAR	Matsushiro Arr	22.60	340	P		P	04 57 13.4	-0.5
	1.3nm,0.5s,baz=156,slow=12,SNR=1.6							
KSRS	Korea Array	28.00	325	P		P	04 58 03.9	0.0
	0.8nm,0.5s,baz=133,slow=12,SNR=2.2							
SOEI	Soe	34.12	224	P		P	04 58 58.5	+0.3
BATI	Baumata	34.86	224	LR		LR	05 13 37.0	
	comp=Z,76nm,21.9s,baz=324,slow=37							
WB2	Warramunga Arr	37.54	201	P		P	04 59 25.6	-1.8
WB2				IAmb		IAmb	04 59 38.0	
	comp=Z,4.4nm,1.0s							
WRA	Warramunga Arr	37.55	201	P		P	04 59 27.3	-0.1
	comp=Z,1.3nm,0.7s,baz=25,slow=9.5,SNR=8.8							
WRA	Warramunga Arr	37.55	201	IAmb		IAmb	04 59 29.0	
	comp=Z,0.4nm,1.4s							
AS31	Alice Springs	41.15	199	P		P	04 59 58.4	+1.0
ASAR	Alice Springs	41.15	199	P		P	04 59 57.5	+0.1
	comp=Z,0.8nm,0.7s,baz=29,slow=7.4,SNR=8.9							
CMAR	Chiang Mai Arr	46.56	281	P		P	05 00 42.4	+1.2
	comp=Z,1.9nm,0.5s,baz=84,slow=6.6,SNR=5.8							
CMAR	Chiang Mai Arr	46.56	281	P		P	05 00 41.5	+0.4
SONM	Songino Array	46.81	322	P		P	05 00 42.2	-0.6
	comp=Z,0.5nm,0.5s,baz=128,slow=9.3,SNR=4.1							
SONM	Songino Array	46.81	322	IAmb		IAmb	05 00 43.8	
	comp=Z,1.5nm,1.1s							
BBOO	Buckleboo	49.27	193	P		P	05 01 01.6	-0.1
SHL	Shillong	52.85	290	P		P	05 01 28.4	-0.7
SHL				IAmb		IAmb	05 01 29.6	
	comp=Z,3.5nm,0.7s							
SVW2	Sparrevohn	60.77	28	P		P	05 02 24.6	+0.1
MK31	Makanchi Array	62.03	315	P		P	05 02 34.0	+0.6
MK31				IAmb		IAmb	05 02 48.2	
	comp=Z,1.2nm,0.9s							
MKAR	Makanchi Array	62.03	315	P		P	05 02 33.8	+0.4
	comp=Z,0.9nm,0.6s,baz=92,slow=8.5,SNR=8.5							
NRIK	Noril'sk	65.25	340	P		P	05 02 54.2	+0.1
	comp=Z,2.0nm,0.3s,baz=141,slow=7.0,SNR=1.4							
NRIK	Noril'sk	65.25	340	IAmb		IAmb	05 02 55.1	
	comp=Z,8.7nm,1.4s							
IL31		65.73	25	P		P	05 02 56.2	-1.0
IL31				IAmb		IAmb	05 03 02.2	
	comp=Z,4.0nm,1.4s							
ILAR	Eielson Array	65.73	25	P		P	05 02 56.8	-0.6
	comp=Z,0.7nm,0.8s,baz=254,slow=5.4,SNR=4.9							
NIL	Nilore	68.73	300	P		P	05 03 17.7	+0.7
NIL				IAmb		IAmb	05 03 27.4	
	comp=Z,6.5nm,0.9s							
KK31	Karatay Array	70.25	311	P		P	05 03 26.4	+0.2
KK31				IAmb		IAmb	05 03 40.6	
	comp=Z,3.0nm,1.1s							
KKAR	Karatay Array	70.25	311	P		P	05 03 25.6	-0.6
ABKAR	Akbulak array	76.95	318	P		P	05 04 04.8	-0.6
KIRV	Kirov	81.16	328	LR		LR	05 44 47.8	
	comp=Z,332nm,18.2s,baz=275,slow=39							
NVAR	Mina Array Bea	83.65	52	P		P	05 04 42.9	+0.9
	comp=Z,0.4nm,0.8s,baz=264,slow=6.9,SNR=2.6							
ARCES	ARCESS Array B	86.11	343	P		P	05 04 52.6	-0.8
	comp=Z,3.3nm,0.8s,baz=54,slow=6.8,SNR=4.8							
FINES	FINESS Array B	90.57	336	P		P	05 05 13.6	-1.1
	comp=Z,2.0nm,0.5s,baz=58,slow=4.8,SNR=15							
LPIG	La Paz	94.38	64	LR		LR	05 37 34.4	
	comp=Z,34nm,20.3s,baz=84,slow=29							
DBIC	Dimbokro	144.97	307	PKPbc		PKPdf	05 11 50.6	-0.4
	comp=Z,6.2nm,0.8s,baz=51,slow=4.1,SNR=6.1							
LPAZ	La Paz	145.62	96	PKPbc		PKPab	05 11 54.3	+0.9
	comp=Z,0.5nm,0.4s,baz=236,slow=3.6,SNR=7.3							

IDC 18 05:01:37.4±1.3, 31°.17S×72°.63W, h0km, mb3.8/4, mb1 4.0/7, mb1mx3.8/27, mbtmp3.9/7, ML3.9/3, Error ellipse: s-maj=42.5km s-min=23.8km az=91.0

ISC 18 05:01:38.9±1.1, 31°.25S±0°.1×72°.6W±0°.3, h10km, n14, σ0s66/11, mb3.8/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
H03N1	Juan Fernandez	5.79	245	T		T	05 08 31.4	
	baz=73,slow=72,SNR=19							
H03N3	Juan Fernandez	5.81	245	T		T	05 08 27.9	
	baz=73,slow=72,SNR=27							
H03N2	Juan Fernandez	5.81	245	T		T	05 08 30.0	
	baz=73,slow=72,SNR=16							
PLCA	Paso Flores	9.68	171	Pn		Pn	05 03 57.5	-0.8
	0.2nm,0.3s,baz=339,slow=14,SNR=5.8							
LPAZ	La Paz	15.37	16	Pn		Pn	05 05 16.3	-0.3
	0.2nm,0.3s,baz=204,slow=9.7,SNR=12							
SIV	San Ignacio	18.43	38	P		Pn	05 05 53.9	-0.6
	1.5nm,0.3s,baz=217,slow=12,SNR=70							
BDFB	Brasilia	27.27	61	P		P	05 07 23.5	-0.2
	1.7nm,0.4s,baz=218,slow=7.4,SNR=3.7							
VNA3	Neumayer Olymp	52.16	159	P		P	05 10 50.1	+1.0
VNA2	Neumayer--Watz	52.80	158	P		P	05 10 54.7	+0.8
	baz=284,slow=9.1							
SNAA	Sanae	54.38	159	P		P	05 11 05.9	+0.3
SNAA	Sanae	54.38	159	P		P	05 11 05.7	+0.1
	0.9nm,0.7s,baz=268,slow=7.2,SNR=12							
TXAR	Lajitas Array	67.04	331	P		P	05 12 32.3	-0.1
	0.3nm,0.7s,baz=145,slow=7.6,SNR=3.8							
TORD	Torodi Ar. Bea	83.72	71	P		P	05 14 09.2	+0.7
	0.5nm,0.9s,baz=249,slow=3.9,SNR=2.1							
ZALV	Zalesovo Beam	152.05	29	PKPbc		PKiKP	05 21 34.0	-0.3
	0.7nm,0.3s,baz=298,slow=3.1,SNR=2.7							

IDC 18 05:01:58.4±1.6, 1°.46N×129°.46E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/33, mbtmp3.7/5, ML3.5/1, MS3.8/1, Ms1 3.8/1, ms1mx2.7/43, Error ellipse: s-maj=86.5km s-min=22.4km az=63.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SIJI	Sorong	2.94	142	Pn		Pn	05 02 45.8	-0.6
	6.8nm,0.3s,baz=325,slow=18,SNR=13							
SIJI				Sn		Sn	05 03 18.8	-3.6
	8.0nm,0.3s,baz=182,slow=23,SNR=2.3							
WRA	Warramunga Arr	21.80	168	P		P	05 06 50.4	-1.9
	comp=N,0.3nm,baz=348,slow=12,SNR=9.8							
ASAR	Alice Springs	25.35	170	P		P	05 07 27.9	+0.7
	1.6nm,0.7s,baz=350,slow=10,SNR=10							
STKA	Stephens Creek	35.10	162	P		P	05 08 54.7	+1.2
	0.8nm,0.4s,baz=342,slow=9.0,SNR=1.9							
PETK	Petropavlovsk-	56.56	20	LR		LR	05 33 13.4	
	comp=Z,92nm,21.5s,baz=51,slow=33							
MKAR	Makanchi Array	60.96	325	P		P	05 12 13.3	-0.2
	0.5nm,0.5s,baz=120,slow=8.2,SNR=7.2							

IDC 18 05:04:14.7±1.3, 31°.56S×71°.68W, h0km, mb4.1/5, mb1 4.0/8, mb1mx3.8/27, mbtmp3.9/8, ML3.8/3, Error ellipse: s-maj=42.7km s-min=25.6km az=98.0
NEIC 18 05:04:17.8±1.0, 31°.57S±0°.04×71°.96W±0°.09, h21km±3km, mb4.3/7, ML4.2(GUC), Error ellipse: s-maj=10.8km s-min=5.3km az=96.0
GUC 18 05:04:18.9±0.6, 31°.51S×71°.53W, h25km±14km, ML4.2

ISC 18 05:04:16.0±3.2, 31°.55S±0°.03×71°.87W±0°.07, h12km±20km, n56, σ0s94/47, mb4.2/6, Near coast of central Chile

| Code | Station Name | Δ° | AZ° | Phase ID |

BDFB	**Brasilia**	**26.90**	**59**	IAmb	IAmb	05 10 07.6		
	comp=Z,5.9nm,1.1s							
DRK0	**Durika**	**42.01**	**343**	P	**P**	**05 12 06.3**	**-1.4**	
SNAA	**Sanae**	**53.81**	**159**	P	**P**	**05 13 38.1**	**-0.1**	
	comp=Z,0.9nm,0.8s,baz=293,slow=7.1,SNR=3.9							
SNAA	**Sanae**	**53.81**	**159**	IAmb	IAmb	05 13 38.8		
	comp=Z,5.1nm,1.3s							
QSPA	**South Pole Qui**	**58.69**	**180**	P	**P**	**05 14 14.5**	**+1.3**	
QSPA				IAmb	IAmb	05 14 30.5		
	comp=Z,4.4nm,1.4s							
DBIC	**Dimbokro**	**74.27**	**72**	P	**P**	**05 15 53.4**	**-0.2**	
	comp=Z,2.2nm,0.6s,baz=225,slow=5.7,SNR=4.2							
NVAR	**Mina Array Bea**	**81.96**	**325**	P	**P**	**05 16 37.2**	**+1.3**	
	comp=Z,0.2nm,0.4s,baz=119,slow=7.3,SNR=3.0							
TORD	**Torodi Ar. Bea**	**83.25**	**70**	P	**P**	**05 16 42.5**	**-0.3**	
	comp=Z,2.6nm,0.8s,baz=263,slow=4.4,SNR=15							
TORD	**Torodi Ar. Bea**	**83.25**	**70**	P	**P**	**05 16 42.7**	**-0.2**	
TORD				IAmb	IAmb	05 16 43.3		
	comp=Z,2.9nm,0.8s							
H11S2	**WAKE ISLAND Hyl**	**25.91**	**271**	T	T	07 42 10.5		
	baz=116,slow=75,SNR=28							
H11S1	**WAKE ISLAND Hyl**	**25.92**	**271**	T	T	07 42 15.5		
	baz=116,slow=75,SNR=15							
H11S3	**WAKE ISLAND Hyl**	**25.93**	**271**	T	T	07 42 15.0		
	baz=116,slow=75,SNR=12							
ZALV	**Zalesovo Beam**	**152.06**	**30**	PKPbc	**PKPbc**	**05 24 10.9**	**+0.1**	
	comp=Z,4.5nm,0.5s,baz=305,slow=3.0,SNR=12							

*IDC **18** 05:04:43.1±2.0,33˚.19S×178˚.27W,h0km,mb3.8/4, mb1 4.0/5,mb1mx3.7/35,mbtmp3.8/5,ML3.5/1,Error ellipse: s-maj=42.7km s-min=30.8km az=81.0*

ISC 18 05:04:47.8±1.8,33˚.2S±0˚.1×178˚.2W±0˚.2,h35km,n6, σ0§65/7,mb3.8/4,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.31**	**216**	Pn	**Pn**	**05 06 17.5**	**-0.9**
	1.2nm,0.3s,baz=128,slow=20,SNR=5.7						
URZ				Sn	**Sn**	**05 07 30.0**	**+0.7**
	3.5nm,0.3s,baz=144,slow=20,SNR=4.0						
CTA	**Charters Tower**	**34.16**	**283**	P	**P**	**05 11 30.1**	**+0.3**
	1.8nm,0.5s,baz=135,slow=12,SNR=1.9						
ASAR	**Alice Springs**	**42.84**	**270**	P	**P**	**05 12 42.9**	**+0.2**
	0.5nm,0.5s,baz=112,slow=7.9,SNR=9.1						
WRA	**Warramunga Arr**	**44.08**	**275**	P	**P**	**05 12 52.4**	**-0.4**
	0.6nm,0.6s,baz=116,slow=7.8,SNR=8.3						
VNDA	**Vanda**	**45.30**	**186**	P	**P**	**05 13 02.0**	**+0.3**
	0.6nm,0.3s,baz=14,slow=5.5,SNR=5.6						
FINES	**FINESS Array B**	**147.68**	**338**	PKPbc	**PKPbc**	**05 24 27.9**	**0.0**
	2.5nm,0.8s,baz=29,slow=4.4,SNR=6.5						

IDC 18 05:04:53.3±4.4,33˚.64S×178˚.07W,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.8/34,mbtmp4.0/3,Error ellipse: s-maj=175.0km s-min=56.7km az=165.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**34.39**	**284**	P	P	05 11 43.1	+0.8
	2.3nm,0.6s,baz=112,slow=11,SNR=2.6						
ASAR	**Alice Springs**	**42.98**	**270**	P	P	05 12 54.0	-0.4
	1.0nm,0.6s,baz=110,slow=7.7,SNR=12						
WRA	**Warramunga Arr**	**44.26**	**276**	P	P	05 13 04.4	-0.3
	1.2nm,0.5s,baz=118,slow=7.9,SNR=20						
FINES	**FINESS Array B**	**148.15**	**338**	PKPbc	PKPbc	05 24 39.5	-0.7
	1.6nm,0.7s,baz=37,slow=3.5,SNR=4.9						

MEX 18 05:05:09.6±0.4,18˚.45N×106˚.04W,h5km,MD3.7,Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CJM	**Chamela**	**1.41**	**42**	*i* P	Pn	05 05 32.2	-3.7
CJM				*i* S	Sb	05 05 49.8	-4.8
R15V		**2.08**	**69**	*i* P	Pn	05 05 41.7	-3.5
EZ5V		**2.52**	**66**	*i* P	Pn	05 05 49.6	-1.9

*IDC **18** 05:09:45.2±1.6,6˚.87S×147˚.54E,h0km,mb3.9/6, mb1 4.1/7,mb1mx3.8/32,mbtmp3.9/7,ML4.1/1,MS3.2/2, Ms1 3.2/2,ms1mx2.8/42,Error ellipse: s-maj=55.8km s-min=21.8km az=108.0*

ISC 18 05:09:53.7±1.5,6˚.9S±0˚.2×147˚.4E±0˚.4,h65km,n10, σ0§37/8,mb3.6/6,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**8.01**	**303**	LR	LR	05 14 53.3	
	comp=Z,50nm,18.9s,baz=345,slow=38						
WRA	**Warramunga Arr**	**18.12**	**223**	P	**P**	**05 14 00.3**	**-0.4**
	0.7nm,0.3s,baz=53,slow=11,SNR=23						
ASAR	**Alice Springs**	**21.11**	**217**	P	**P**	**05 14 33.4**	**+0.3**
	2.7nm,0.4s,baz=52,slow=9.4,SNR=61						
FITZ	**Fitzroy Crossi**	**23.95**	**240**	P	**P**	**05 15 02.6**	**+0.4**
	7.3nm,0.4s,baz=55,slow=8.8,SNR=76						
STKA	**Stephens Creek**	**25.40**	**192**	P	**P**	**05 15 15.0**	**-0.2**
	0.7nm,0.4s,baz=356,slow=12,SNR=4.0						
KSRS	**Korea Array**	**47.77**	**339**	P	**P**	**05 18 24.2**	**-0.2**
	0.4nm,0.4s,baz=142,slow=8.9,SNR=5.3						
ASAJ	**Asahikawa**	**51.00**	**356**	LR	LR	05 40 44.6	
	comp=Z,77nm,19.9s,baz=147,slow=36						
MKAR	**Makanchi Array**	**78.49**	**320**	P	**P**	**05 21 48.0**	**+0.1**
	0.3nm,0.6s,baz=125,slow=7.6,SNR=4.1						
ILAR	**Eielson Array**	**86.17**	**23**	P	**P**	**05 22 27.8**	**+0.2**
	0.2nm,0.6s,baz=253,slow=4.9,SNR=2.0						
TORD	**Torodi Ar. Bea**	**145.72**	**283**	PKPbc	**PKPab**	**05 29 26.5**	**-0.3**
	1.1nm,0.7s,baz=71,slow=3.4,SNR=7.9						

*JSN **18** 05:23:48.2±0.3,19˚.59N×81˚.18W,h15km±999km,MD4.5 SSNC **18** 05:23:55.2±3.9,19˚.11N×80˚.89W,h25km±67km,MD4.0, ML3.6,MW3.6*

ISC 18 05:23:52.5±4.7,18˚.9N±0˚.2×81˚.1W±0˚.3,h35km,n11, σ1§10/12,1C,North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MGV	**Manicaragua**	**3.37**	**18**	*e*P	Pn	05 24 40.7	-1.9
MGV				*e*Pg		05 24 41.4	
MGV				*e*S	Sn	05 25 19.5	-1.9
MGV				*e*Sg		05 25 20.4	
MGV				IAML		05 25 22.2	
	comp=E,140nm,0.3s						
MGV				IAML		05 25 23.0	
	comp=N,152nm,0.3s						
BBJ	**Bamboo Saint A**	**3.68**	**97**	*i* P	**Pn**	**05 24 46.5**	**-0.6**
BBJ				*i* S	**Sn**	**05 25 30.4**	**+1.1**
CCCC	**Cccc**	**3.89**	**53**	*e*P	Pn	05 24 54.0	+4.2
CCCC				*e*S	Sn	05 25 43.1	+8.8
CCCC				IAML		05 25 48.6	
	comp=N,26nm,0.4s						
CCCC				IAML		05 25 48.8	
	comp=E,34nm,0.4s						
STH	**Stony Hill**	**4.17**	**101**	*i*P	**Pn**	**05 24 53.5**	**-0.1**
HOJ	**Hope**	**4.24**	**101**	*i* P	**Pn**	**05 24 54.5**	**-0.1**
GWJ	**Greenwich**	**4.24**	**100**	*i* P	**Pn**	**05 24 54.6**	**-0.2**
SOR	**Soroa**	**4.26**	**336**	*e*P	Pn	05 24 53.6	-1.3
SOR				*e*S	Sn	05 25 40.8	-2.7
SOR				IAML		05 25 47.3	
	comp=N,42nm,0.4s						
SOR				IAML		05 25 53.0	
	comp=E,54nm,0.3s						
CMJ	**Castle Mountai**	**4.56**	**99**	*i* P	**Pn**	**05 24 58.7**	**-0.4**
RCC	**Rio Carpintero**	**5.23**	**77**	*e*P	**Pn**	**05 25 06.9**	**-1.3**
RCC				*e*S	**Sn**	**05 26 05.4**	**-1.9**
RCC				IAML		05 26 14.6	
	comp=N,17nm,0.3s						
RCC				IAML		05 26 15.6	
	comp=E,12nm,0.2s						
GTMO	**Guantanamo**	**5.75**	**77**	*e*P	**Pn**	**05 25 16.4**	**+0.9**
GTMO				*e*S	**Sn**	**05 26 20.1**	**-0.3**
MASC	**Masc**	**6.61**	**78**	*e*P	**Pn**	**05 25 28.6**	**+1.4**
MASC				*e*S	**Sn**	**05 26 42.3**	**+0.9**
MASC				IAML		05 26 52.4	
	comp=N,28nm,0.6s						
MASC				IAML		05 26 52.8	
	comp=E,13nm,0.6s						

*SJA **18** 05:27:36.5±0.7,31˚.72S×72˚.55W,h32km±6km,ML4.6, MW4.7*
*IDC **18** 05:27:38.5±0.8,31˚.74S×71˚.84W,h0km,mb4.4/7,*
mb1 4.3/12,mb1mx4.2/38,mbtmp4.2/12,ML4.0/5,MS3.7/6, Ms1 3.6/6,ms1mx3.3/30,Error ellipse: s-maj=29.3km s-min=21.6km az=102.0
*VAO **18** 05:27:39.6±0.4,31˚.65S×72˚.18W,h12km,mb4.5*
*NEIC **18** 05:27:39.8±1.0,31˚.71S±0˚.04×72˚.16W±0˚.09,h13km±4km, mb4.6/13,Mwr4.3/41,ML4.3(GUC),Error ellipse: s-maj=10.8km s-min=6.2km az=97.0*
*NEIC **18** 05:27:40.5,31˚.71S×72˚.17W,h19km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr2.98; Mθθ0.42; Mϕϕ-3.40; Mrθ0.62; Mθϕ-0.15; Mϕr-0.53; Fault plane solution: M₀3.31000×10¹⁵ NP1:ϕ₁169.54000°, δ50.98000°,λ73.15000°. NP2:ϕ₂15.24000°,δ41.96000°, λ109.69000°. Principal axes: T 3.1661, Plg76.0000°, Azm21.0000°; N 0.2784, Plg13.0000°, Azm180.0000°; P -3.4445, Plg5.0000°, Azm271.0000°;*
*GUC **18** 05:27:41.4±0.9,31˚.76S×71˚.90W,h45km±28km,ML4.3*

ISC 18 05:27:38.2±2.2,31˚.74S±0˚.03×72˚.32W±0˚.04,h7km±14km, n146,σ1§45/163,mb4.6/7,MS3.8/3,1C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**1.20**	**134**	*i* P	**Pn**	**05 27 59.6**	**-1.7**
VA06				*e*S	**Sb**	**05 28 13.2**	**-3.6**
VA06				IAML		05 28 20.1	
	comp=N,19μm,0.5s						
CO06	**Fray Jorge**	**1.21**	**29**	Pn	**Pn**	**05 28 01.1**	**-0.3**
VA01	**Torpederas**	**1.40**	**156**	*e*P	**Pn**	**05 28 04.1**	**-0.1**
VA01	**Torpederas**	**1.40**	**156**		**Pn**	**05 28 03.7**	**-0.4**
VA01	**Torpederas**	**1.40**	**156**	*e*P	**Pn**	**05 28 03.0**	**-1.1**
ROCH	**El Roble**	**1.66**	**138**	*e*P	**Pn**	**05 28 06.9**	**-1.0**
ROCH				*e*S	**Sn**	**05 28 26.7**	**-2.8**
ROCH				IAML		05 28 37.2	
	comp=E,8μm,0.6s						
CO03	**El Pedregal**	**1.66**	**58**	*e*P	**Pn**	**05 28 05.5**	**-2.2**
CO03				*e*S	**Sn**	**05 28 25.0**	**-4.3**
CO03				IAML		05 28 29.7	
	comp=E,4μm,0.7s						
CO03	**El Pedregal**	**1.66**	**58**		**Pn**	**05 28 06.7**	**-1.0**
VA03	**San Esteban**	**1.82**	**125**	*i* P	**Pn**	**05 28 08.9**	**-1.0**
VA03				*e*S	**Sn**	**05 28 28.9**	**-4.4**
VA03				IAML		05 28 37.1	
	comp=E,7μm,0.7s						
VA03	**San Esteban**	**1.82**	**125**		**Pn**	**05 28 08.7**	**-1.2**
VA03	**San Esteban**	**1.82**	**125**	*e*P	**Pn**	**05 28 09.0**	**-0.9**
VA03				IAML		05 28 44.1	
	comp=Z,3μm,0.5s						
VA05	**Santo Domingo**	**2.01**	**163**	*e*P	**Pb**	**05 28 15.3**	**+0.3**
VA05				IAML		05 28 51.6	
	comp=N,7μm,0.5s						
VA05	**Santo Domingo**	**2.01**	**163**		**Pn**	**05 28 12.7**	**+0.2**
GO04	**Tololo Observa**	**2.03**	**40**	*e*P	**Pn**	**05 28 13.5**	**+0.4**
GO04	**Tololo Observa**	**2.03**	**40**		**Pn**	**05 28 12.4**	**-0.7**
CO05	**La Serena**	**2.04**	**27**	*e*P	**Pn**	**05 28 12.7**	**-0.2**
CO05				IAML		05 28 46.5	
	comp=E,3μm,0.5s						
MT05	**Renca**	**2.12**	**141**	*e*P	**Pn**	**05 28 13.6**	**-0.5**
MT05				IAML		05 28 49.6	
	comp=N,5μm,0.5s						
MT05	**Renca**	**2.12**	**141**		**Pn**	**05 28 14.0**	**-0.1**
MT05	**Renca**	**2.12**	**141**	*e*P	**Pn**	**05 28 14.0**	**-0.1**
MT01	**Popeta**	**2.31**	**157**	*i* P	**Pn**	**05 28 16.2**	**-0.4**
MT01				IAML		05 28 56.3	
	comp=E,2μm,0.5s						
MT01	**Popeta**	**2.31**	**157**		**Pn**	**05 28 16.4**	**-0.2**
MT01	**Popeta**	**2.31**	**157**	*e*P	Pn	05 28 11.2	-5.3
MT01				*e*P	Pb	05 28 16.0	-4.1
MT01				*e*S	**Sn**	**05 28 46.7**	**+1.5**
MT01				IAML		05 28 56.7	
	comp=Z,2μm,0.8s						
MT09	**Talagante**	**2.32**	**151**	*e*P	**Pn**	**05 28 17.3**	**+0.3**
MT09				IAML		05 28 56.6	
	comp=N,3μm,0.5s						
MT09	**Talagante**	**2.32**	**151**		**Pn**	**05 28 17.5**	**+0.5**
AUSP	**Uspallata**	**2.54**	**102**	*e*P	**Pn**	**05 28 21.4**	**+1.3**
AUSP				*e*S	**Sn**	**05 28 48.7**	**-2.6**
RTLS	**Leoncito**	**2.58**	**92**	*e*P	**Pn**	**05 28 21.9**	**+1.4**
RTLS				*e*S	**Sn**	**05 28 49.2**	**-3.0**
RTLS				IAML		05 28 57.2	
	comp=Z,2μm,1.5s						
BO01	**Tunca**	**2.84**	**159**		**Pn**	**05 28 24.0**	**0.0**
BO01	**Tunca**	**2.84**	**159**	*e*P	Pn	05 28 18.7	-5.2
BO01				*e*P	Pb	05 28 24.0	-5.3
BO01				*e*S	**Sn**	**05 28 58.4**	**-0.1**
BO01				IAML		05 29 11.4	
	comp=Z,1μm,1.2s						
AROD	**Rodeo**	**2.90**	**58**	*e*P	**Pn**	**05 28 25.1**	**0.0**
AROD				*e*S	**Sb**	**05 29 05.0**	**-1.2**
LCO	**Las Campanas**	**3.06**	**28**		**Pn**	**05 28 26.9**	**-0.2**
ARCO	**CERRO ARCO**	**3.07**	**112**	*e*P	**Pb**	**05 28 32.0**	**-1.3**
ARCO				*e*S	**Sg**	**05 29 18.7**	**+1.8**
ARCO				IAML		05 29 19.8	
	comp=Z,1μm,0.7s						
ASAL	**Salagasta**	**3.08**	**107**	*e*P	**Pn**	**05 28 29.7**	**+2.4**
ASAL				*e*P	**Pn**	**05 28 30.0**	**+2.7**
ASAL				*e*S	**Sn**	**05 29 07.2**	**+2.9**
ZON	**Zonda**	**3.11**	**87**	*e*P	**Pn**	**05 28 29.0**	**+1.3**
ZON				*e*S	**Sn**	**05 29 06.7**	**+1.6**
ZON				IAML		05 29 14.9	
	comp=Z,1μm,1.1s						
ACDV	**Cuesta del Vie**	**3.16**	**61**	*e*P	**Pn**	**05 28 32.0**	**+3.5**
ACDV				*e*S	**Sn**	**05 29 07.7**	**+1.2**
ACDV				IAML		05 29 13.2	
	comp=Z,833nm,0.8s						
RTCV	**Cerro Valdivia**	**3.22**	**93**	*e*P	**Pn**	**05 28 31.0**	**+1.8**
AAGR	**Agrelo**	**3.25**	**115**	*e*P	**Pn**	**05 28 32.0**	**+2.4**
AAGR				*e*S	**Sb**	**05 29 15.2**	**-0.7**
GO05	**Huala**	**3.28**	**174**		**Pn**	**05 28 30.0**	**0.0**
GO05	**Huala**	**3.28**	**174**	*e*P	**Pn**	**05 28 30.0**	**0.0**
GO05				*e*S	**Sn**	**05 29 06.7**	**-2.6**
GO05				*e*S	**Sn**	**05 29 07.5**	**-1.8**
BO02	**Sierra Bellavi**	**3.31**	**157**		**Pn**	**05 28 31.0**	**+0.5**
BO02	**Sierra Bellavi**	**3.31**	**157**	*e*P	**Pn**	**05 28 30.9**	**+0.5**
BO02				*e*S	**Sn**	**05 29 11.2**	**+1.2**
BO02				IAML		05 29 23.7	
	comp=Z,2μm,0.8s						
AC04	**Llanos de Chal**	**3.68**	**17**	Pn	**Pn**	**05 28 34.2**	**-1.3**
COIS	**El Sosneado**	**4.06**	**147**	*e*P	**Pn**	**05 28 43.0**	**+2.2**
ML02	**Panimavida**	**4.09**	**170**	Pn	**Pn**	**05 28 41.5**	**+0.5**
AVFE	**Valle Fertil**	**4.30**	**77**	*e*P	**Pn**	**05 28 45.2**	**+1.1**
AVFE				*e*S	**Sn**	**05 29 37.7**	**+3.1**
AVFE				IAML		05 29 47.6	
	comp=Z,690nm,0.6s						
RFA	**San Rafael**	**4.42**	**134**	*e*P	**Pn**	**05 28 47.0**	**+1.2**
RFA				*e*P	**Pn**	**05 28 47.5**	**+1.7**
RFA				*e*S	**Sb**	**05 29 50.7**	**+0.9**
RFA				IAML		05 29 57.5	
	comp=Z,339nm,1.2s						
GO03	**Copiap**	**4.51**	**24**	Pn	**Pn**	**05 28 46.6**	**-0.3**
GO03	**Copiap**	**4.51**	**24**	*e*P	**Pn**	**05 28 47.5**	**+0.5**
GO03				*e*S	**Sn**	**05 29 40.1**	**+0.4**
AC06	**Mina Casimiro**	**4.69**	**22**		**Pn**	**05 28 48.3**	**-1.0**
ACHE	**Chepes**	**4.87**	**85**	*e*P	Pn	05 28 46.7	-5.2
ACHE				*e*P	Pb	05 28 53.7	-10
ACHE				*e*S	**Sn**	**05 29 50.7**	**+2.1**
APLL	**PUNTA DE LOS L**	**5.15**	**76**	*e*P	**Pn**	**05 28 57.2**	**+1.5**
APLL				*e*S	**Sn**	**05 29 58.7**	**+3.4**
APLL				IAML		05 30 15.2	
	comp=Z,548nm,0.8s						
ACLC	**CERRO LA CRUZ**	**5.17**	**65**	*e*P	**Pn**	**05 28 57.5**	**+1.4**
ACLC				*e*S	**Sn**	**05 29 58.7**	**+2.6**
ACLC				IAML		05 30 08.2	
	comp=Z,1μm,0.6s						
AC02	**Maricunga**	**5.62**	**31**	Pn	**Pn**	**05 29 02.2**	**-0.4**
AC02	**Maricunga**	**5.62**	**31**	*e*P	**Pn**	**05 29 03.0**	**+0.4**
AC02				*e*S	**Sb**	**05 30 22.2**	**-2.5**
MRA	**San Martin**	**5.65**	**99**	*e*P	**Pn**	**05 29 02.7**	**+0.1**
MRA				*e*S	**Sn**	**05 30 09.2**	**+1.5**
VA04	**Juan Fernndez**	**5.81**	**249**		**Pn**	**05 29 07.2**	**+2.5**
H03N1	**Juan Fernandez**	**5.82**	**251**	T	T	05 35 52.0	
	baz=78,slow=72,SNR=118						
H03N3	**Juan Fernandez**	**5.83**	**251**	T	T	05 35 59.2	
	baz=78,slow=72,SNR=130						
H03N2	**Juan Fernandez**	**5.83**	**251**	T	T	05 36 00.5	
	baz=78,slow=72,SNR=138						
CYA	**Choya**	**6.53**	**61**	*e*P	Pn	05 29 09.2	-5.5
CYA				*e*P	**Pn**	**05 29 15.0**	**+0.3**
CYA				*e*S	**Sn**	**05 30 29.2**	**-0.3**
LC01	**Cunco**	**7.16**	**177**		**Pn**	**05 29 23.0**	**-0.2**
LC01	**Cunco**	**7.16**	**177**	*e*P	**Pn**	**05 29 23.0**	**-0.2**
AHML	**Horco Molle**	**7.84**	**53**	*e*P	**Pn**	**05 29 33.0**	**+0.2**
AHML				*e*P	Pn	05 29 37.7	+5.0
LR03	**Panguipulli**	**7.88**	**180**	Pn	**Pn**	**05 29 34.3**	**+1.1**
FSA	**Cafayete**	**7.89**	**46**	*e*P	**Pn**	**05 29 36.0**	**+2.5**
PLCA	**Paso Flores**	**9.09**	**171**	Pn	**Pn**	**05 29 50.5**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=336,slow=12,SNR=34						
PLCA				LR	LR	05 33 40.5	
	comp=Z,431nm,18.3s,baz=350,slow=40						
PLCA	**Paso Flores**	**9.09**	**171**	*e*P	**Pn**	**05 29 50.8**	**+1.0**
PLCA	**Paso Flores**	**9.09**	**171**	*e*P	**Pn**	**05 29 50.5**	**+0.7**
PLCA	**Paso Flores**	**9.09**	**171**	*e*P	**Pn**	**05 29 49.2**	**-0.6**
LL04	**Puerto Octay**	**9.15**	**180**	Pn	**Pn**	**05 29 51.5**	**+0.9**
LVC	**Limon Verde**	**9.58**	**19**	Pn	**Pn**	**05 29 55.4**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=204,slow=10.0,SNR=2.2						
LVC				LR	LR	05 33 31.7	
	comp=Z,267nm,18.0s,baz=124,slow=37						
LVC	**Limon Verde**	**9.58**	**19**	*e*P	**Pn**	**05 29 55.6**	**-1.3**
LVC	**Limon Verde**	**9.58**	**19**	*e*P	**Pn**	**05 29 56.0**	**-0.9**
LL05	**Los Muermos**	**9.70**	**185**	Pn	**Pn**	**05 30 00.2**	**+2.2**
TRQA	**Tornquist**	**10.57**	**129**	Pn	**Pn**	**05 30 09.2**	**-0.9**
TRQA	**Tornquist**	**10.57**	**129**	*e*P	**Pn**	**05 30 11.6**	**+1.6**
PSGCX	**Pisagua**	**12.25**	**10**	Pn	**Pn**	**05 30 32.2**	**-1.0**
ITQB	**Itaqui**	**13.66**	**85**		**Pn**	**05 30 52.4**	**0.0**
ITQB	**Itaqui**	**13.66**	**85**	*e*P	**Pn**	**05 30 51.6**	**-0.7**
CPUP	**Villa Florida**	**14.17**	**71**	Pn	Pn	05 30 54.9	-4.5
	comp=Z,0.1nm,0.3s,baz=233,slow=11,SNR=3.4						
CPUP	**Villa Florida**	**14.17**	**71**	*e*P	**Pn**	**05 30 58.7**	**-0.6**
LPAZ	**La Paz**	**15.85**	**15**	Pn	**Pn**	**05 31 23.0**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=197,slow=8.4,SNR=20						
LPAZ	**La Paz**	**15.85**	**15**	Pn	**Pn**	**05 31 23.2**	**+0.9**
LPAZ	**La Paz**	**15.85**	**15**	*e*P	**Pn**	**05 31 21.9**	**-0.5**
PLTB	**Pedras Altas**	**15.93**	**95**	Pn	**Pn**	**05 31 21.1**	**-1.7**
PLTB	**Pedras Altas**	**15.93**	**95**	*e*P	**Pn**	**05 31 22.4**	**-0.4**
CPSB	**Cacapava Do Su**	**16.23**	**90**	*e*P	**Pn**	**05 31 28.2**	**+1.5**
AQDB	**Aquidauana**	**18.64**	**57**	*e*P	**P**	**05 31 56.2**	**-0.3**
CNLB	**Canela**	**18.65**	**88**	*e*P	**P**	**05 31 56.5**	**-0.2**
SIV	**San Ignacio**	**18.73**	**36**	P	**P**	**05 31 56.2**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=237,slow=11,SNR=9.0						
SIV				LR	LR	05 40 30.1	
	comp=Z,152nm,20.0s,baz=208,slow=42						
PTGB	**Pitanga**	**19.15**	**74**	*e*P	**P**	**05 32 01.3**	**-0.9**
PTLB	**Pontes e Lacer**	**20.19**	**40**	*e*P	**P**	**05 32 12.2**	**-1.2**
VILB	**Vilhena**	**21.76**	**34**	*e*P	**P**	**05 32 30.0**	**-0.5**
FRTB	**Fartura**	**21.81**	**73**	*e*P	**P**	**05 32 30.0**	**-1.0**
SALV	**Santo Antonio**	**21.86**	**48**	*e*P	**P**	**05 32 31.6**	**+0.1**
ETMB	**Extrema**	**22.54**	**16**	*e*P	**P**	**05 32 38.4**	**-0.3**
ITRB	**Iturama**	**23.08**	**64**	*e*P	**P**	**05 32 44.5**	**0.0**
PET01	**Itanhaem-SP**	**23.29**	**78**	*e*P	**P**	**05 32 45.8**	**-0.8**
SPB	**Sao Paulo**	**23.45**	**76**	*e*P	**P**	**05 32 47.6**	**-0.6**
BB19B	**Bebedouro**	**23.76**	**69**	*e*P	**P**	**05 32 50.1**	**-1.2**
CZSB	**Cruzeiro do Su**	**23.89**	**359**	*e*P	**P**	**05 32 51.9**	**-0.6**
RCLB	**Rio Claro- Sao**	**23.90**	**73**	*e*P	**P**	**05 32 50.6**	**-2.0**
VAO	**Valinhos**	**24.09**	**75**	*e*P	**P**	**05 32 53.0**	**-1.5**
SAML	**Samuel**	**24.21**	**22**	*e*P	**P**	**05 32 55.7**	**+0.2**
CLDB	**Colider**	**25.78**	**40**	*e*P	**P**	**05 33 09.5**	**-0.3**
BSCB	**Bom Sucesso**	**26.83**	**73**	*e*P	**P**	**05 33 17.5**	**-1.9**
BDFB	**Brasilia**	**27.33**	**60**	P	**P**	**05 33 22.2**	**-1.7**
	comp=Z,7.8nm,0.6s,baz=222,slow=10,SNR=13						
BDFB	**Brasilia**	**27.33**	**60**	P	**P**	**05 33 22.2**	**-1.7**
BDFB				IAmb	IAmb	05 33 23.5	
	comp=Z,27nm,1.3s						
VAS01	**Vassouras-RJ**	**27.33**	**77**	*e*P	**P**	**05 33 22.9**	**-0.8**
TBTG	**Tabatinga, AM**	**27.50**	**5**	*e*P	**P**	**05 33 25.2**	**0.0**
SNDB	**Serra Nova Dou**	**27.61**	**49**	*e*P	**P**	**05 33 25.1**	**-1.2**
CAM01	**Campos-RJ**	**29.01**	**78**	*e*P	**P**	**05 33 38.0**	**-0.8**
DIAM	**Diamantina, MG**	**29.10**	**69**	*e*P	**P**	**05 33 38.5**	**-1.3**
NPGB	**Novo Progresso**	**29.23**	**36**	*e*P	**P**	**05 33 39.1**	**-1.6**
PEXB	**Peixe**	**29.51**	**54**	*e*P	**P**	**05 33 42.0**	**-1.2**
MC01	**Montes Claros**	**29.78**	**67**	*e*P	**P**	**05 33 43.9**	**-1.7**
SMTB	**Santa Maria do**	**32.34**	**51**	*e*P	**P**	**05 34 07.7**	**-0.5**
RPN	**Rapa Nui**	**32.46**	**269**	LR	LR	05 44 32.9	
	comp=Z,104nm,18.9s,baz=92,slow=31						
PRPB	**Parauapebas**	**33.01**	**44**	*e*P	**P**	**05 34 12.7**	**-1.4**
BOAV	**Boa Vista**	**35.75**	**20**	*e*P	**P**	**05 34 38.0**	**+0.2**
NBPN	**Ponto Novo - B**	**36

baz=321
ETLH Xiulin Townshi 0.85 287 *e*P **Pb 05 29 26.1 -0.3**
baz=271
ETLH *e*S **Sn 05 29 38.0 -0.6**
baz=271
ESL Shilin 0.87 260 *e*P **Pb 05 29 25.7 -1.1**
baz=248
ESL *e*S **Sb 05 29 37.9 -0.1**
baz=248
NDS Dongshan 0.89 318 *e*P **Pb 05 29 26.9 -0.3**
baz=315
NDS *e*S **Sn 05 29 39.4 -0.3**
baz=315
EGFH Guangfu 0.91 251 *e*S **Sb 05 29 39.7 +0.4**
baz=248
EGS 0.96 336 *e*P **Pn 05 29 28.8 +0.4**
baz=325
EGS *e*S **Sn 05 29 40.5 -0.8**
baz=325
TWE Neicheng 0.99 320 *e*P **Pb 05 29 29.0 +0.2**
baz=325
TWE *e*S **Sn 05 29 42.1 +0.1**
baz=325
HGSD Ruisui 0.99 242 *e*P **Pb 05 29 29.3 +0.5**
baz=238
ENTT Nioudou 0.99 313 *e*P **Pb 05 29 28.9 0.0**
baz=309
ENTT *e*S **Sn 05 29 41.9 -0.3**
baz=309
NDT Datong Townshi 1.01 309 *e*P **Pb 05 29 29.4 +0.2**
baz=305
NDT *e*S **Sn 05 29 42.7 +0.2**
baz=305
NNSB Datong 1.01 297 P **Pn 05 29 29.0 -0.2**
baz=293
NNSB S **Sn 05 29 42.4 -0.4**
baz=293
NTC Toucheng 1.01 331 *e*P **Pb 05 29 29.2 0.0**
baz=328
NTC *e*S **Sn 05 29 42.2 -0.4**
baz=328
NNS Nan Shan 1.02 298 *e*P **Pb 05 29 28.9 -0.5**
baz=294
NNS *e*S **Sn 05 29 42.8 -0.3**
baz=294
WHF Hehuan Shan 1.02 280 *e*P **Pn 05 29 29.1 -0.6**
baz=264
WHF *e*S **Sb 05 29 43.2 +0.3**
baz=264
EHY Hungye 1.06 245 *e*P **Pn 05 29 29.6 -0.3**
baz=242
EHY *e*S **Sb 05 29 43.4 -0.2**
baz=242
FUSS Fushou 1.07 285 *e*P **Pb 05 29 29.8 -0.3**
baz=281
FUSS *e*S **Sn 05 29 44.3 -0.1**
baz=281
OWD Renai 1.09 270 *e*P **Pb 05 29 30.8 +0.1**
baz=266
TWB1 Santiao Chiao 1.09 342 *e*P **Pb 05 29 31.1 +0.5**
baz=325
TWB1 *e*S **Sn 05 29 44.4 -0.2**
baz=325
CHGB Renai 1.10 275 *e*P **Pn 05 29 30.0 -0.5**
baz=260
CHGB *e*S **Sn 05 29 45.2 +0.1**
baz=260
TIPB Shuangxi 1.12 334 P **Pb 05 29 31.1 0.0**
baz=331
TIPB S **Sn 05 29 45.4 +0.2**
baz=331
TWT Tachien 1.13 285 *e*S **Sn 05 29 46.5 +0.8**
baz=271
NWLT Wulai 1.13 316 *e*P **Pb 05 29 30.9 -0.3**
baz=312
NWLT *e*S **Sb 05 29 45.9 +0.4**
baz=312
YULB Yu-li 1.14 240 *e*P **Pn 05 29 30.4 -0.5**
baz=253
YULB *e*S **Sn 05 29 44.9 -0.8**
baz=253
EYUL Yuli 1.14 238 *e*P **Pn 05 29 30.6 -0.3**
baz=235
EYUL *e*S **Sn 05 29 45.6 -0.3**
baz=235
YHNB Yeheng 1.15 308 *e*P **Pn 05 29 31.1 +0.1**
baz=304
YHNB *e*S **Sb 05 29 46.3 +0.2**
baz=304
NSK Sanguang 1.16 308 *e*P **Pb 05 29 31.4 +0.1**
baz=304
NSK *e*S **Sb 05 29 46.6 +0.1**
baz=304
NWF Wu-fen Shan 1.22 334 *e*P **Pn 05 29 32.0 -0.1**
baz=331
NWF *e*S **Sb 05 29 48.7 +0.4**
baz=331
TWA Mucha 1.24 325 *e*P **Pb 05 29 33.3 +0.2**
baz=322
TWA *e*S **Sb 05 29 49.9 +1.3**
baz=322
FULB Fuli 1.25 232 *e*P **Pn 05 29 31.7 -0.8**
baz=219
FULB *e*S **Sn 05 29 48.4 -0.2**
baz=219
NHDH Xindian Distri 1.25 322 *e*S **Sb 05 29 49.6 +0.5**
baz=319
CHKT Chengkung 1.26 227 *e*S **Sn 05 29 47.6 -1.2**
baz=225
IRIF Iriomote-Funau 1.29 73 P **Pb 05 29 33.9 -0.1**
IRIF S **Sn 05 29 49.8 +0.2**
SSLB Suanglung 1.31 262 *e*P **Pb 05 29 34.6 +0.3**
baz=260
HATJ Hateruma jima 1.31 86 P **Pn 05 29 33.7 +0.4**
HATJ *e*S **Sn 05 29 50.2 +0.1**
WHP Taichung City 1.34 284 *e*P **Pb 05 29 35.2 +0.4**
baz=269
WHP *e*S **Sb 05 29 52.2 +0.6**
baz=269
SMLT Sun Moon Lake 1.35 267 *e*P **Pb 05 29 34.9 -0.2**
baz=264
YM01 YM01 1.38 328 *e*P **Pb 05 29 35.5 -0.1**
baz=340
YM01 *e*S **Sb 05 29 53.0 +0.2**
baz=340
TYC Yuchr 1.39 268 *e*P **Pb 05 29 36.0 +0.4**
baz=265
EDH Donghe 1.39 225 *e*S **Sn 05 29 49.6 -2.4**
baz=215
LIOB Emei 1.41 299 *e*P **Pb 05 29 36.0 0.0**
baz=296
LIOB *e*S **Sb 05 29 53.6 +0.1**
baz=296
NSTT Nanjuang 1.41 298 *e*P **Pb 05 29 35.9 -0.2**
baz=295
NSTT *e*S **Sb 05 29 53.7 0.0**
baz=295
WHYT Xinyi Township 1.42 259 *e*P **Pb 05 29 36.1 -0.1**
baz=257
ELDTW Lidau 1.46 238 *e*P **Pb 05 29 37.3 +0.3**
baz=236
ALS Alishan 1.50 253 *e*P **Pb 05 29 37.4 -0.4**
baz=250
TWQ1 Liyutan 1.51 285 *e*S **Sb 05 29 56.4 0.0**
baz=281
WJS Zhushan 1.51 265 *e*P **Pb 05 29 37.7 0.0**
baz=262
JKRS Kuro-shima 1.52 79 P **Pb 05 29 38.2 +0.3**
JKRS *e*S **Sb 05 29 56.6 -0.2**
LDUT Ludao 1.53 213 *e*P **Pn 05 29 35.0 -1.2**
baz=212
WNT Mingjian 1.54 267 *e*S **Sb 05 29 57.3 -0.2**
baz=264
LONT Longtian 1.55 227 *e*S **Sn 05 29 55.8 -0.2**
baz=239
CHN5 Tsauling 1.59 257 *e*P **Pb 05 29 38.9 -0.3**
baz=245
CHN5 *e*S **Sb 05 29 58.6 -0.3**
baz=245
TWGBT Beinan 1.65 226 *e*S **Sn 05 29 58.2 -0.1**
baz=237
TWG Pinlang 1.65 227 *e*S **Sn 05 29 58.4 0.0**
baz=237
STYH Taoyuan 1.66 242 *e*P **Pn 05 29 39.5 +1.4**
baz=229
JIJ Ishigaki jima 1.67 76 P **Pn 05 29 39.1 +1.0**
JIJ *e*S **Sn 05 29 58.4 -0.4**
PCYT Pengchaiyu 1.68 351 *e*P **Pn 05 29 39.2 +0.9**
baz=349
TPUB Ta-pu 1.73 248 *e*P **Pn 05 29 40.4 +1.4**
baz=246
TPUB *e*S **Sb 05 30 02.4 -0.4**
baz=246
CHN4 Tsaushan 1.74 250 *e*P **Pn 05 29 40.6 +1.4**
baz=248
CHN4 *e*S **Sb 05 30 03.6 +0.5**
baz=248
WTP Ta-pu 1.76 246 *e*P **Pb 05 29 41.4 -0.7**
baz=244
WTP *e*S **Sb 05 30 03.4 -0.4**
baz=244
SLGT Liugui 1.86 239 *e*P **Pb 05 29 43.0 -0.6**
baz=229
SLGT *e*S **Sb 05 30 05.7 -0.7**
baz=229
CHN1 Nanshi 1.86 246 *e*P **Pn 05 29 42.5 +1.7**
baz=244
CHN1 *e*S **Sb 05 30 06.2 -0.4**
baz=244
TWK Hsinying 1.86 248 *e*P **Pn 05 29 42.6 +1.8**
baz=246
TWK *e*S **Sb 05 30 06.5 -0.1**
baz=246
JISG Ishigakijimahi 1.88 70 P **Pn 05 29 40.9 -0.1**
JISG S **Sn 05 30 03.1 -0.8**
SSD Sandimen 2.01 233 *e*P **Pn 05 29 44.5 +1.7**
baz=224
MASBT Mashibuluo 2.09 230 *e*P **Pn 05 29 46.0 +2.0**
baz=221
TAW Tawu 2.10 221 *e*P **Pb 05 29 46.6 -1.2**
baz=230
EAST Anshuo 2.11 222 *e*P **Pn 05 29 46.5 +2.2**
baz=221
SSPT Xinbi 2.22 229 *e*P **Pb 05 29 48.4 -1.4**
baz=222
SCZT Fangliau 2.26 226 *e*P **Pn 05 29 48.7 +2.4**
baz=225
SLIU Shizi 2.27 220 *e*P **Pn 05 29 48.7 +2.3**
baz=220
TWKBT Hengchun 2.48 216 *e*P **Pn 05 29 51.4 +2.1**
baz=216
PHUB P'eng-hu 2.60 261 *e*S **Sn 05 30 22.1 +0.2**
baz=258
PNG Penghu 2.61 262 *e*S **Sn 05 30 23.4 +1.4**
baz=259
VWUC VWUC 2.85 292 *e*P **Pn 05 29 52.9 -1.5**
baz=289
MATB Ma-tsu 3.09 315 *e*P **Pn 05 29 57.1 -0.6**
baz=311
PTMZ Houxiangcun 3.15 290 *e*P **Pn 05 29 57.9 -0.6**
baz=286
PTMZ *e*S **Sn 05 30 34.2 -1.1**
baz=286

MEX 18 05:29:23.4±1.1, 14°.15N×93°.53W, h10km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.44**	**58**	*i* P	Pn	05 29 46.0	-3.6
THIG				*i* S	Sn	05 30 03.0	-5.5
PCIG		**1.58**	**11**	*i* P	Pn	05 29 48.2	-3.3
PCIG				*i* S	Sn	05 30 07.0	-5.0
CCIG	**Comitan**	**2.51**	**32**	*i* P	Pn	05 30 03.2	-1.3
TGIG		**2.65**	**8**	*i* P	Pn	05 30 05.3	-0.9
CMIG	**Matias Romero**	**3.21**	**336**	*i* P	Pn	05 30 14.3	+0.4

*IDC **18** 05:29:46.0±4.4, 14°.53N×92°.70W, h0km, mb3.5/2, mb1 4.0/4, mb1mx3.7/41, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=135.3km s-min=55.8km az=42.0*
*MEX **18** 05:29:48.6±0.8, 14°.08N×93°.46W, h10km, MD4.1*
*NEIC **18** 05:29:50.6±1.8, 14°.47N±0°.05×93°.24W±0°.03, h10km±2km, mb4.0/5, Md4.1/15(MEX), Error ellipse: s-maj=9.3km s-min=3.1km az=212.0*

ISC 18 05:29:50.6±1.1, 14°.42N±0°.08×93°.26W±0°.06, h10km, n25, σ1§34/26, mb3.7/5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.08**	**63**	*i* P	**Pg**	**05 30 10.5**	**-0.8**
THIG				*e*S	**Sb**	**05 30 27.8**	**+2.3**
THIG		**1.08**	**63**		**Pg**	**05 30 10.5**	**-0.8**
THIG					**Sb**	**05 30 27.8**	**+2.3**
PCIG		**1.28**	**2**	*e*P	Pn	05 30 12.4	-2.1
PCIG				*i* S	**Sb**	**05 30 32.7**	**+1.3**
PCIG		**1.28**	**2**		Pn	05 30 12.4	-2.1
PCIG					**Sb**	**05 30 32.7**	**+1.3**
CCIG	**Comitan**	**2.15**	**30**	*e*P	**Pn**	**05 30 28.2**	**+1.5**
CCIG				*e*P	**Pb**	**05 30 28.4**	**-1.3**
CCIG	**Comitan**	**2.15**	**30**		**Pn**	**05 30 25.4**	**-1.2**
TGIG		**2.35**	**3**	*e*P	**Pn**	**05 30 29.6**	**+0.2**
CMIG	**Matias Romero**	**3.09**	**330**	Pn	**Pn**	**05 30 39.0**	**-0.4**
	2.4nm,0.3s,baz=135,slow=11,SNR=8.8						
CMIG				Sn	**Sn**	**05 31 19.2**	**+2.8**
	5.4nm,0.3s,baz=144,slow=14,SNR=5.3						
CMIG	**Matias Romero**	**3.09**	**330**	*e*P	Pn	05 30 37.5	-1.9
CMIG	**Matias Romero**	**3.09**	**330**		Pn	05 30 37.5	-1.9
MTO3	**Montecristo**	**3.78**	**90**		**Pn**	**05 30 48.0**	**-1.1**
TLIG	**Tlapa**	**5.99**	**302**	Pn	**Pn**	**05 31 19.0**	**-0.4**
ORTG	**Ortega, Santa**	**8.62**	**117**	Pn	**Pn**	**05 31 55.2**	**-0.4**
RIMA	**Rio Macho**	**10.28**	**116**	Pn	**Pn**	**05 32 20.7**	**+2.2**
SOR	**Soroa**	**12.79**	**48**	Pn	**Pn**	**05 32 51.8**	**-0.9**
TX31	**Lajitas Ar. Si**	**17.70**	**329**	P	**Pn**	**05 33 56.7**	**-0.6**
TX31				IAmb	IAmb	05 34 09.5	
	comp=Z,51nm,1.9s						
TX32	**Lajitas Array**	**17.70**	**329**	P	**Pn**	**05 33 56.8**	**-0.5**
TXAR	**Lajitas Array**	**17.70**	**329**	P	**Pn**	**05 33 57.0**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=154,slow=9.5,SNR=11						
TXAR	**Lajitas Array**	**17.70**	**329**	P	**Pn**	**05 33 56.5**	**-0.8**
MSTX	**Muleshoe**	**21.29**	**338**	P	**P**	**05 34 36.5**	**-1.1**
MSTX				IAmb	IAmb	05 34 45.9	
	comp=Z,6.1nm,1.1s						
ANMO	**Albuquerque**	**23.65**	**332**	P	**P**	**05 35 04.0**	**+1.6**
	comp=Z,0.7nm,0.6s,baz=150,slow=13,SNR=2.6						
T25A	**Trinidad**	**24.72**	**338**	P	**P**	**05 35 12.5**	**+0.2**
SDCO	**Great Sand Dun**	**25.66**	**337**	P	**P**	**05 35 20.6**	**-0.3**
SDCO				IAmb	IAmb	05 35 24.5	
	comp=Z,3.6nm,1.2s						
NVAR	**Mina Array Bea**	**32.59**	**322**	P	**P**	**05 36 21.7**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=129,slow=9.4,SNR=5.9						
ILAR	**Eielson Array**	**61.98**	**337**	P	P	05 40 08.1	-2.5
	comp=Z,0.5nm,0.9s,baz=128,slow=5.9,SNR=4.4						

*IDC **18** 05:33:32.0±0.8, 31°.20S×71°.41W, h0km, mb4.2/5, mb1 4.2/9, mb1mx4.0/33, mbtmp4.1/9, ML3.9/4, Error ellipse: s-maj=35.0km s-min=23.8km az=125.0*
*SJA **18** 05:33:34.0±0.8, 31°.11S×71°.80W, h14km±6km, ML4.5, MW4.2*
*GUC **18** 05:33:37.5±0.8, 31°.15S×71°.38W, h45km±5km, ML4.6*
*NEIC **18** 05:33:38.5±1.5, 31°.15S±0°.03×71°.51W±0°.04, h37km±6km, mb4.5/16, Mwr4.3/25, ML4.6(GUC), Error ellipse: s-maj=5.3km s-min=2.2km az=126.0*
*NEIC **18** 05:33:38.5, 31°.15S×71°.51W, h50km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.36; $M_{\theta\theta}$0.35; $M_{\phi\phi}$-2.72; $M_{r\theta}$0.09; $M_{r\phi}$-0.30; $M_{\theta\phi}$-1.81; Fault plane solution: M_o3.15000×10^{15} NP1:ϕ_s180.12000°, δ62.72000°, λ84.44000°. NP2:ϕ_s12.11000°, δ27.80000°, λ100.64000°. Principal axes: T 2.9522, Plg72.0000°, Azm77.0000°; N 0.3586, Plg5.0000°, Azm183.0000°; P -3.3108, Plg18.0000°, Azm274.0000°;*

ISC 18 05:33:37.5±1.1, 31°.19S±0°.02×71°.46W±0°.04, h34km±8km, n119, σ1§83/140, mb4.5/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.53**	**343**	*e*P	**Pn**	**05 33 49.8**	**+1.1**
CO06				*e*S	**Sn**	**05 33 58.4**	**+1.9**
CO06	**Fray Jorge**	**0.53**	**343**	Pn	**Pn**	**05 33 49.0**	**+0.3**
CO06					**Sn**	**05 33 56.6**	**+0.1**
CO03	**El Pedregal**	**0.75**	**63**	*e*P	**Pb**	**05 33 52.7**	**+0.5**
CO03				*e*S	**Sn**	**05 34 02.7**	**+0.7**
CO03				IAML		05 34 03.9	
	comp=E,44μm,0.3s						
CO03	**El Pedregal**	**0.75**	**63**	Pn	**Pb**	**05 33 52.8**	**+0.6**
CO03					**Sn**	**05 34 03.4**	**+1.4**
CO03	**El Pedregal**	**0.75**	**63**	*e*P	**Pb**	**05 33 53.0**	**+0.8**
GO04	**Tololo Observa**	**1.16**	**30**	*e*P	**Pb**	**05 33 58.5**	**-0.7**
GO04				*e*S	**Sb**	**05 34 14.1**	**0.0**
GO04				IAML		05 34 23.0	
	comp=N,21μm,0.6s						
GO04	**Tololo Observa**	**1.16**	**30**	Pn	**Pn**	**05 33 58.2**	**+0.6**
CO05	**La Serena**	**1.28**	**9**	*e*P	**Pn**	**05 33 59.7**	**+0.7**
CO05				*e*S	**Sb**	**05 34 17.3**	**+0.1**
CO05				IAML		05 34 22.4	
	comp=E,11μm,0.3s						
CO05	**La Serena**	**1.28**	**9**	Pn	**Pn**	**05 33 59.2**	**+0.3**
VA06	**Catapilco**	**1.38**	**174**	*e*P	**Pb**	**05 34 02.7**	**0.0**
VA06				*e*S	**Sb**	**05 34 21.1**	**+1.0**
VA06				IAML		05 34 28.2	
	comp=N,22μm,0.4s						
VA03	**San Esteban**	**1.75**	**154**	*e*P	**Pb**	**05 34 07.9**	**-1.2**
VA03				*e*S	**Sb**	**05 34 30.9**	**+0.1**
VA03				IAML		05 34 35.7	
	comp=N,13μm,0.3s						
VA03	**San Esteban**	**1.75**	**154**		**Pn**	**05 34 07.1**	**+1.5**
ROCH	**El Roble**	**1.82**	**168**	*e*P	**Pb**	**05 34 09.0**	**-1.4**
ROCH				*i* S	**Sb**	**05 34 34.1**	**+1.1**
ROCH				IAML		05 34 37.8	
VA01	**Torpederas**	**1.84**	**185**	*e*P	**Pb**	**05 34 08.6**	**-1.9**
VA01				*e*S	**Sb**	**05 34 33.4**	**+0.2**
VA01	**Torpederas**	**1.84**	**185**		**Pn**	**05 34 08.2**	**+1.6**
AROD	**Rodeo**	**1.99**	**60**	*e*P	**Pb**	**05 34 13.2**	**-0.1**
AROD				*e*S	**Sn**	**05 34 33.7**	**+0.7**
ACCO	**Cerro Coronel**	**2.14**	**74**	*e*P	**Pb**	**05 34 16.0**	**+0.1**
ACDV	**Cuesta del Vie**	**2.25**	**64**	*e*P	**Pb**	**05 34 17.6**	**-0.1**
LCO	**Las Campanas**	**2.27**	**17**	*e*P	**Pn**	**05 34 14.2**	**+1.4**
LCO				*i* S	**Sn**	**05 34 40.7**	**+1.0**
LCO	**Las Campanas**	**2.27**	**17**		**Pn**	**05 34 13.8**	**+1.0**
MT05	**Renca**	**2.28**	**165**	*e*P	**Pb**	**05 34 15.7**	**-2.4**
MT05				*e*S	**Sb**	**05 34 44.4**	**-1.6**
MT05				IAML		05 34 49.2	
	comp=E,6μm,0.5s						
MT05	**Renca**	**2.28**	**165**	Pn	**Pn**	**05 34 14.5**	**+1.6**
MT05	**Renca**	**2.28**	**165**	*e*P	**Pb**	**05 34 16.0**	**-2.1**
ZON	**Zonda**	**2.41**	**99**		**Pn**	**05 34 16.8**	**+2.3**
ZON	**Zonda**	**2.41**	**99**	*e*P	**Pn**	**05 34 10.2**	**-4.3**
ZON				*e*S	Sb	05 35 06.9	+17
ZON				IAML		05 35 08.2	
	comp=Z,1μm,0.5s						
VA05	**Santo Domingo**	**2.47**	**183**	*e*P	**Pn**	**05 34 16.7**	**+1.3**
VA05				IAML		05 34 56.4	
	comp=N,3μm,0.3s						
VA05	**Santo Domingo**	**2.47**	**183**		**Pn**	**05 34 16.8**	**+1.5**
RTCV	**Cerro Valdivia**	**2.58**	**106**	*e*P	**Pb**	**05 34 22.0**	**-1.2**
RTCV				*e*S	**Sb**	**05 34 58.6**	**+4.1**
MT09	**Talagante**	**2.61**	**171**	*e*P	**Pn**	**05 34 20.4**	**+3.0**
MT09				*i* S	**Sb**	**05 34 52.0**	**-3.5**
MT09				IAML		05 35 07.7	
	comp=E,2μm,0.4s						
MT09	**Talagante**	**2.61**	**171**	Pn	**Pn**	**05 34 18.1**	**+0.6**
ASAL	**Salagasta**	**2.63**	**123**	*e*P	**Pb**	**05 34 23.0**	**-1.1**
ASAL				*e*S	**Sb**	**05 35 00.7**	**+4.6**
ASAL				IAML		05 35 07.7	
	comp=Z,829nm,0.5s						
MT01	**Popeta**	**2.68**	**176**	*e*P	**Pn**	**05 34 20.8**	**+2.6**
MT01				IAML		05 35 03.9	
MT01	**Popeta**	**2.68**	**176**	Pn	**Pn**	**05 34 20.1**	**+1.9**
MT01	**Popeta**	**2.68**	**176**	*e*P	**Pn**	**05 34 21.2**	**+3.0**
MT01				*e*S	**Sb**	**05 34 59.5**	**+2.3**
MT01				IAML		05 35 08.6	
	comp=Z,1μm,0.5s						
ARCO	**CERRO ARCO**	**2.71**	**128**	*e*P	**Pb**	**05 34 25.0**	**-0.4**
ARCO				*e*S	**Sb**	**05 35 00.7**	**+2.5**
ARCO				IAML		05 35 09.4	
	comp=Z,1μm,0.4s						
LMEL	**Las Melosas**	**2.86**	**159**	*e*P	**Pn**	**05 34 23.4**	**+2.5**
LMEL				*i* S	**Sb**	**05 34 59.2**	**-3.3**
LMEL				IAML		05 35 09.3	
	comp=N,2μm,0.4s						
AC04	**Llanos de Chal**	**2.99**	**7**	*e*P	**Pn**	**05 34 23.4**	**+0.9**
AC04	**Llanos de Chal**	**2.99**	**7**		**Pn**	**05 34 23.4**	**+0.9**
AGUA	**GUANDACOL**	**3.07**	**57**	*e*P	**Pb**	**05 34 29.0**	**-2.6**
AGUA				IAML		05 35 26.1	
	comp=Z,1μm,0.5s						
BO01	**Tunca**	**3.21**	**174**	*e*P	**Pn**	**05 34 27.7**	**+2.1**
BO01	**Tunca**	**3.21**	**174**		**Pn**	**05 34 27.5**	**+1.9**
BO01	**Tunca**	**3.21**	**174**	*e*P	**Pn**	**05 34 28.0**	**+2.4**
BO01				*e*P	Pb	05 34 29.0	-4.9
BO01				*e*S	**Sn**	**05 35 07.2**	**+4.5**
BO01				IAML		05 35 21.6	
	comp=Z,592nm,0.6s						
BO03	**Pichilemu**	**3.33**	**187**	*e*P	**Pn**	**05 34 26.5**	**-0.7**
AVFE	**Valle Fertil**	**3.48**	**82**	*e*P	**Pn**	**05 34 32.5**	**+3.2**
AVFE				*e*S	**Sb**	**05 35 15.8**	**-4.6**
AVFE				IAML		05 35 21.7	
	comp=Z,823nm,0.5s						
BO02	**Sierra Bellavi**	**3.64**	**171**	*e*P	**Pn**	**05 34 34.2**	**+2.7**
BO02	**Sierra Bellavi**	**3.64**	**171**	Pn	**Pn**	**05 34 34.0**	**+2.4**
BO02	**Sierra Bellavi**	**3.64**	**171**	*e*P	**Pn**	**05 34 35.2**	**+3.4**
BO02				*e*S	**Sb**	**05 35 19.7**	**-5.2**
BO02				IAML		05 35 33.8	
	comp=Z,872nm,0.6s						
GO03	**Copiap**	**3.74**	**17**	*e*P	**Pn**	**05 34 34.7**	**+1.8**
GO03				*i* S	**Sn**	**05 35 18.1**	**+2.4**
GO03	**Copiap**	**3.74**	**17**	Pn	**Pn**	**05 34 34.6**	**+1.8**
GO05	**Huala**	**3.83**	**186**	*e*P	**Pn**	**05 34 34.6**	**+0.5**
GO05	**Huala**	**3.83**	**186**		**Pn**	**05 34 35.1**	**+0.9**
GO05	**Huala**	**3.83**	**186**	*e*P	**Pn**	**05 34 35.0**	**+0.8**
GO05				*e*S	**Sb**	**05 35 32.7**	**+2.3**
AC06	**Mina Casimiro**	**3.94**	**14**	Pn	**Pn**	**05 34 37.2**	**+1.6**
ACHE	**Chepes**	**4.11**	**91**	*e*P	**Pn**	**05 34 41.0**	**+2.9**
ACHE				*e*S	**Sb**	**05 35 40.2**	**+1.7**
LAMA	**Las Malvinas**	**4.19**	**154**	*e*P	**Pn**	**05 34 38.7**	**-0.3**
COIS	**El Sosneado**	**4.21**	**159**	*e*P	**Pn**	**05 34 43.0**	**+3.6**
RFA	**San Rafael**	**4.37**	**146**	*e*P	**Pn**	**05 34 39.7**	**-1.9**
RFA				*e*P	Pb	05 34 45.0	-9.6
ML02	**Panimavida**	**4.56**	**180**	Pn	**Pn**	**05 34 45.5**	**+1.3**
AC02	**Maricunga**	**4.79**	**26**	Pn	**Pn**	**05 34 48.8**	**+1.0**
MRA	**San Martin**	**5.04**	**106**	*e*P	**Pn**	**05 34 54.0**	**+3.2**
MRA				*e*S	**Sb**	**05 35 59.0**	**-6.2**
MRA				IAML		05 35 59.9	
	comp=Z,630nm,0.8s						
CYA	**Choya**	**5.62**	**62**	*e*P	**Pn**	**05 35 01.0**	**+2.2**
CYA				*e*S	**Sn**	**05 36 00.7**	**-1.5**
CYA				IAML		05 36 10.4	
	comp=Z,267nm,1.5s						
PB14	**IPOC Station P**	**6.60**	**8**	Pn	**Pn**	**05 35 12.2**	**-0.3**
VA04	**Juan Ferndez**	**6.70**	**247**	Pn	**Pn**	**05 35 13.4**	**0.0**
H03N1	**Juan Fernandez**	**6.70**	**248**	T	T	05 42 01.0	
	baz=76,slow=72,SNR=1623						
H03N3	**Juan Fernandez**	**6.71**	**248**	T	T	05 42 01.2	
	baz=76,slow=72,SNR=1287						
H03N2	**Juan Fernandez**	**6.71**	**248**	T	T	05 41 59.6	
	baz=76,slow=72,SNR=1493						
AHML	**Horco Molle**	**6.93**	**52**	*e*P	**Pn**	**05 35 18.0**	**+1.3**
FSA	**Cafayete**	**6.98**	**45**	*e*P	**Pn**	**05 35 14.7**	**-2.8**
FSA				*e*S	Sb	05 36 49.7	-11
PB10	**IPOC Station P**	**7.69**	**6**	Pn	**Pn**	**05 35 28.8**	**+1.7**
LC01	**Cunco**	**7.70**	**182**	Pn	**Pn**	**05 35 27.2**	**0.0**
LC01	**Cunco**	**7.70**	**182**	*e*P	**Pn**	**05 35 28.0**	**+0.7**
PB15	**IPOC Station P**	**8.14**	**13**	Pn	**Pn**	**05 35 32.5**	**-1.1**
LR03	**Panguipulli**	**8.46**	**185**	Pn	**Pn**	**05 35 37.6**	**0.0**
PB06	**IPOC Station P**	**8.61**	**12**	Pn	**Pn**	**05 35 39.4**	**-0.5**
LVC	**Limon Verde**	**8.84**	**16**	Pn	**Pn**	**05 35 42.4**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=184,slow=11,SNR=1.4						
LVC	**Limon Verde**	**8.84**	**16**	Pn	**Pn**	**05 35 43.4**	**+0.1**
LVC	**Limon Verde**	**8.84**	**16**	*e*P	**Pn**	**05 35 45.0**	**+1.7**
PLCA	**Paso Flores**	**9.55**	**176**	Pn	**Pn**	**05 35 54.0**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=347,slow=14,SNR=1.5						
PLCA	**Paso Flores**	**9.55**	**176**	Pn	**Pn**	**05 35 53.7**	**+1.0**
PB09	**IPOC Station P**	**9.56**	**12**	Pn	**Pn**	**05 35 53.4**	**+0.4**
LL04	**Puerto Octay**	**9.73**	**184**	Pn	**Pn**	**05 35 55.1**	**0.0**
TRQA	**Tornquist**	**10.39**	**134**	Pn	**Pn**	**05 36 05.9**	**+1.8**
PB08	**IPOC Station P**	**11.19**	**11**	Pn	**Pn**	**05 36 15.6**	**0.0**
PSGCX	**Pisagua**	**11.60**	**6**	Pn	**Pn**	**05 36 20.2**	**-0.7**
CPUP	**Villa Florida**	**13.30**	**72**	Pn	**Pn**	**05 36 41.9**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=246,slow=14,SNR=1.1						
CPUP	**Villa Florida**	**13.30**	**72**	Pn	**Pn**	**05 36 44.0**	**0.0**
LPAZ	**La Paz**	**15.14**	**12**	Pn	**Pn**	**05 37 09.4**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=189,slow=5.7,SNR=7.6						
LPAZ	**La Paz**	**15.14**	**12**	Pn	**Pn**	**05 37 09.4**	**-0.1**
SIV	**San Ignacio**	**17.85**	**34**	P	**Pn**	**05 37 43.0**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=225,slow=12,SNR=11						
SAML	**Samuel**	**23.43**	**21**	P	**P**	**05 38 43.9**	**+0.2**
BDFB	**Brasilia**	**26.42**	**59**	P	**P**	**05 39 10.3**	**-1.0**
	comp=Z,9.1nm,1.1s,baz=264,slow=6.9,SNR=6.0						
BDFB	**Brasilia**	**26.42**	**59**	P	**P**	**05 39 10.8**	**-0.5**
BDFB				IAmb	IAmb	05 39 29.2	
	comp=Z,7.0nm,0.8s						

RUSC	**La Rusia**	**36.90**	**357**	P		**P**	**05 40 44.6**	**+0.9**
VNA3	**Neumayer Olymp**	**51.78**	**159**	P		**P**	**05 42 41.7**	**+0.2**
VNA1	**Neumayer--Stat**	**52.08**	**158**	P		**P**	**05 42 44.9**	**+1.3**
VNA2	**Neumayer--Watz**	**52.42**	**158**	P		**P**	**05 42 46.4**	**+0.2**
	baz=286,slow=9.0							
SNAA	**Sanae**	**54.01**	**159**	P		**P**	**05 42 58.0**	**0.0**
SNAA	**Sanae**	**54.01**	**159**	P		**P**	**05 42 58.3**	**+0.3**
SNAA				IAmb		IAmb	05 43 17.0	
	comp=Z,6.9nm,1.0s							
QSPA	**South Pole Qui**	**59.04**	**180**	P		**P**	**05 43 35.0**	**+1.0**
QSPA				IAmb		IAmb	05 43 35.5	
	comp=Z,3.4nm,0.8s							
VNDA	**Vanda**	**66.95**	**191**	P		**P**	**05 44 27.3**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=212,slow=1.7,SNR=3.8							
TXAR	**Lajitas Array**	**67.54**	**330**	P		**P**	**05 44 30.6**	**0.0**
	comp=Z,0.3nm,0.6s,baz=157,slow=9.5,SNR=4.2							
TXAR	**Lajitas Array**	**67.54**	**330**	P		**P**	**05 44 30.8**	**+0.3**
DBIC	**Dimbokro**	**73.82**	**72**	P		**P**	**05 45 08.8**	**-0.3**
	comp=Z,3.8nm,0.6s,baz=236,slow=4.7,SNR=6.4							
DBIC	**Dimbokro**	**73.82**	**72**	P		**P**	**05 45 08.1**	**-1.0**
KOWA	**Kowa**	**79.03**	**66**	P		**P**	**05 45 37.4**	**-1.1**
KOWA				IAmb		IAmb	05 45 38.9	
	comp=Z,3.7nm,0.7s							
TORD	**Torodi Ar. Bea**	**82.79**	**70**	P		**P**	**05 45 58.1**	**-0.5**
	comp=Z,4.1nm,0.8s,baz=264,slow=4.9,SNR=17							
TORD	**Torodi Ar. Bea**	**82.79**	**70**	P		**P**	**05 45 58.1**	**-0.5**
TORD				IAmb		IAmb	05 45 58.9	
	comp=Z,4.4nm,0.8s							
CASY	**Casey**	**82.83**	**181**	P		**P**	**05 45 58.2**	**+0.2**
WRA	**Warramunga Arr**	**123.45**	**209**	PKP		**PKPdf**	**05 52 30.8**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=132,slow=1.4,SNR=9.6							
H11S2	**WAKE ISLAND Hyl**	**26.26**	**271**	T		T	08 11 24.4	
	baz=116,slow=75,SNR=108							
H11S1	**WAKE ISLAND Hyl**	**26.27**	**271**	T		T	08 11 25.3	
	baz=116,slow=75,SNR=38							
H11S3	**WAKE ISLAND Hyl**	**26.28**	**271**	T		T	08 11 25.7	
	baz=116,slow=75,SNR=60							
BVAR	**Borovoye Array**	**144.86**	**40**	PKP		**PKPab**	**05 53 09.6**	**0.0**
	comp=Z,1.8nm,0.5s,baz=251,slow=4.5,SNR=8.4							
KURBB	**Kurchatov Arra**	**150.45**	**40**	PKPbc		**PKPbc**	**05 53 24.7**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=301,slow=3.0,SNR=14							
KURK	**Kurchatov**	**150.45**	**40**			**PKPbc**	**05 53 24.7**	**-0.4**
AAK	**Ala-Archa**	**150.66**	**57**	PKPbc		**PKPbc**	**05 53 25.9**	**-0.2**
	comp=Z,2.8nm,0.6s,baz=234,slow=3.4,SNR=8.0							
ZALV	**Zalesovo Beam**	**151.57**	**30**	PKPbc		**PKPbc**	**05 53 27.1**	**-0.5**
	comp=Z,4.7nm,0.5s,baz=298,slow=3.2,SNR=3.6							
ZALV	**Zalesovo Beam**	**151.57**	**30**			**PKPbc**	**05 53 26.9**	**-0.7**
MKAR	**Makanchi Array**	**154.49**	**45**	PKPbc		**PKPbc**	**05 53 33.8**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=279,slow=1.7,SNR=5.5							

*IDC **18** 05:33:45.1±1.4,31°.49S×71°.48W,h0km,mb4.0/2, mb1 4.2/2,mb1mx3.8/29,mbtmp4.0/2, Error ellipse: s-maj=72.8km s-min=50.1km az=25.0*
*NEIC **18** 05:33:51.6±1.7,31°.24S±0°.04×71°.6W±0°.2,h37km±5km, mb4.4/9, Error ellipse: s-maj=24.2km s-min=5.7km az=91.0*

ISC 18 05:33:51.0±0.8,31°.23S±0°.10×71°.6W±0°.2,h35km,n21, σ0s66/20,mb4.4/5,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO04	**Tololo Observa**	**1.23**	**32**	Pn	**Pn**	**05 34 12.2**	**+0.3**
CO05	**La Serena**	**1.33**	**12**	Pn	**Pn**	**05 34 13.4**	**+0.4**
BO01	**Tunca**	**3.18**	**173**	Pn	**Pn**	**05 34 38.1**	**-0.4**
PB06	**IPOC Station P**	**8.67**	**12**	Pn	**Pn**	**05 35 54.3**	**+0.2**
PB04	**IPOC Station P**	**8.95**	**8**	Pn	**Pn**	**05 35 56.5**	**-1.4**
PB07	**IPOC Station P**	**9.58**	**9**	Pn	**Pn**	**05 36 08.0**	**+1.5**
PB09	**IPOC Station P**	**9.62**	**13**	Pn	**Pn**	**05 36 07.1**	**0.0**
RUSC	**La Rusia**	**36.94**	**357**	P	**P**	**05 40 57.1**	**-0.2**
SRBA	**San Rafael, Bu**	**41.79**	**342**	P	**P**	**05 41 37.2**	**-0.2**
URIC	**Uribia, Colomb**	**42.68**	**359**	P	**P**	**05 41 44.3**	**-0.2**
QSPA	**South Pole Qui**	**59.00**	**180**	P	**P**	**05 43 47.4**	**+0.5**
QSPA				IAmb	IAmb	05 43 50.0	
	comp=Z,2.8nm,0.8s						
TXAR	**Lajitas Array**	**67.54**	**330**	P	**P**	**05 44 44.7**	**+0.9**
	comp=Z,0.5nm,0.9s,baz=150,slow=7.3,SNR=4.6						
DBIC	**Dimbokro**	**73.91**	**72**	P	**P**	**05 45 23.1**	**+0.3**
DBIC				IAmb	IAmb	05 45 25.0	
	comp=Z,3.6nm,0.8s						
ECSD	**EROS Data Cent**	**78.05**	**342**	P	**P**	**05 45 45.0**	**-0.7**
ECSD				IAmb	IAmb	05 45 46.6	
	comp=Z,4.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**82.88**	**70**	P	**P**	**05 46 11.7**	**-0.6**
	comp=Z,2.6nm,0.7s,baz=253,slow=4.1,SNR=8.8						
TORD	**Torodi Ar. Bea**	**82.88**	**70**	P	**P**	**05 46 12.1**	**-0.2**
TORD				IAmb	IAmb	05 46 13.1	
	comp=Z,2.5nm,0.8s						
WRA	**Warramunga Arr**	**123.38**	**209**	PKP	**PKPdf**	**05 52 44.0**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=174,slow=1.6,SNR=6.8						
BVAR	**Borovoye Array**	**144.94**	**40**	PKPbc	PKPbc	05 53 23.5	+0.3
	comp=Z,1.7nm,0.5s,baz=306,slow=5.0,SNR=5.7						
KURBB	**Kurchatov Arra**	**150.53**	**40**	PKPbc	**PKPbc**	**05 53 38.6**	**0.0**
	comp=Z,0.4nm,0.6s,baz=290,slow=2.5,SNR=4.1						
ZALV	**Zalesovo Beam**	**151.64**	**30**	PKPbc	**PKPbc**	**05 53 41.4**	**+0.3**
	comp=Z,2.1nm,0.5s,baz=331,slow=2.0,SNR=4.8						
MKAR	**Makanchi Array**	**154.57**	**45**	PKPbc	**PKPbc**	**05 53 48.1**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=296,slow=3.3,SNR=7.6						

*IDC **18** 05:33:56.4±2.5,14°.39N×93°.45W,h0km,mb3.9/6, mb1 4.1/9,mb1mx3.9/42,mbtmp3.9/9,ML3.4/3,MS3.4/8, Ms1 3.4/8,ms1mx3.1/46, Error ellipse: s-maj=100.3km s-min=18.3km az=43.0*
*MEX **18** 05:33:57.4±1.2,14°.24N×93°.56W,h10km,MD4.1*
*GCG **18** 05:33:58.1±0.7,13°.52N×93°.23W,h34km,MD4.2*
*NEIC **18** 05:34:02.9±1.6,14°.48N±0°.09×93°.37W±0°.09,h36km±11km, mb4.2/27, Error ellipse: s-maj=15.4km s-min=9.7km az=219.0*

ISC 18 05:33:59.0±4.5,14°.43N±0°.07×93°.42W±0°.06,h15km±29km, n62,σ1s30/62,mb4.2/17,MS3.5/7,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.22**	**67**	*i* P	**Pn**	**05 34 18.8**	**-2.7**
THIG				*i* S	**Sb**	**05 34 36.4**	**-0.8**
PCIG		**1.28**	**9**	*eP*	**Pn**	**05 34 19.8**	**-2.5**
CCIG	**Comitan**	**2.22**	**34**	*eP*	**Pn**	**05 34 36.1**	**+0.7**
CCIG				*i* S	**Sn**	**05 35 03.0**	**+0.4**
CCIG	**Comitan**	**2.22**	**34**	Pn	**Pn**	**05 34 36.5**	**+1.1**
TGBT	**Tuxtla Gutierr**	**2.35**	**8**	*i* P	**Pn**	**05 34 38.1**	**+1.1**
TGBT				*i* S	**Sb**	**05 35 09.5**	**-0.5**
FUG	**Fuego 3**	**2.50**	**89**	*eP*	**Pn**	**05 34 36.7**	**-2.6**
FUG				*eS*	**Sn**	**05 35 07.3**	**-2.4**
PCG	**Pacaya**	**2.73**	**91**	*eP*	**Pn**	**05 34 39.8**	**-2.6**
NBG	**Las Nubes**	**2.98**	**87**	*eP*	**Pn**	**05 34 45.1**	**-0.9**
CMIG	**Matias Romero**	**2.99**	**332**	Pn	**Pn**	**05 34 45.7**	**-0.2**
	3.0nm,0.3s,baz=155,slow=13,SNR=14						
CMIG				Sn	**Sn**	**05 35 23.5**	**+2.0**
	15nm,0.3s,baz=129,slow=3.5,SNR=6.8						
CMIG				LR	LR	05 35 31.2	
	comp=Z,95nm,20.8s,baz=185,slow=31						
CMIG	**Matias Romero**	**2.99**	**332**	*i* P	**Pn**	**05 34 45.8**	**-0.2**
CMIG				*i* S	**Sn**	**05 35 17.7**	**-3.8**
TLIG	**Tlapa**	**5.84**	**303**	Pn	**Pn**	**05 35 26.6**	**+1.4**
TGUH	**Tegucigalpa,Un**	**5.97**	**93**	Pn	**Pn**	**05 35 27.5**	**+0.5**
CNGN	**Cerro Negro**	**6.82**	**106**	Pn	**Pn**	**05 35 39.8**	**+1.3**
MATN	**Matagalpa**	**7.44**	**101**	Pn	**Pn**	**05 35 47.8**	**+0.6**
JTS	**Las Juntas de**	**9.24**	**115**	Pn	**Pn**	**05 36 11.9**	**+0.1**
	0.6nm,0.3s,baz=319,slow=17,SNR=5.7						
JTS				Sn	**Sn**	**05 37 58.9**	**+3.3**
	0.2nm,0.3s,baz=0.0,slow=20,SNR=1.5						
CVTR	**Volcan Turrial**	**10.41**	**114**		**Pn**	**05 36 29.3**	**+1.1**
RIMA	**Rio Macho**	**10.43**	**115**		**Pn**	**05 36 28.4**	**+0.1**
DRK0	**Durika**	**11.21**	**116**		**Pn**	**05 36 38.5**	**-0.4**
HKT	**Hockley**	**15.60**	**352**	Pn	**Pn**	**05 37 39.8**	**+1.5**
344A	**Westbrook Farm**	**17.12**	**8**		**P**	**05 37 59.2**	**-0.2**
344A				IAmb	IAmb	05 38 05.3	
	comp=Z,8.8nm,0.8s						
TX31	**Lajitas Ar. Si**	**17.60**	**329**	P	**P**	**05 38 05.8**	**+0.9**
TX31				IAmb	IAmb	05 38 14.4	
	comp=Z,29nm,1.3s						
TX32	**Lajitas Array**	**17.60**	**329**		**P**	**05 38 05.3**	**+0.5**
TXAR	**Lajitas Array**	**17.60**	**329**	P	**P**	**05 38 04.6**	**-0.2**
	comp=Z,0.0nm,0.3s,baz=137,slow=11,SNR=15						
TXAR	**Lajitas Array**	**17.60**	**329**		**P**	**05 38 05.5**	**+0.7**
MIAR	**Mount Ida**	**20.03**	**360**	P	**Pn**	**05 38 33.0**	**-0.1**
MIAR				IAmb	IAmb	05 38 39.4	
	comp=Z,9.4nm,1.0s						
X37A	**Clayton**	**20.15**	**355**	P	**P**	**05 38 33.1**	**+0.4**
X37A				IAmb	IAmb	05 38 41.8	
	comp=Z,14nm,1.1s						
FNO	**Franklin**	**21.04**	**351**	P	**P**	**05 38 43.8**	**+1.4**

ROSC	**El Rosal**	**21.09**	**115**	P		**P**	**05 38 43.1**	**-0.3**
	comp=Z,9.6nm,0.7s,baz=242,slow=7.4,SNR=4.9							
ROSC	**El Rosal**	**21.09**	**115**	P		**P**	**05 38 43.4**	**0.0**
Y52A	**Lilburn**	**21.12**	**22**	P		**P**	**05 38 45.1**	**+1.8**
MSTX	**Muleshoe**	**21.21**	**338**	P		**P**	**05 38 44.9**	**+0.5**
MSTX				IAmb		IAmb	05 38 50.0	
	comp=Z,9.2nm,1.0s							
FCAR	**Ozark Folk Cen**	**21.40**	**3**	P		**P**	**05 38 47.5**	**+1.4**
FCAR				IAmb		IAmb	05 38 48.5	
	comp=Z,5.9nm,0.8s							
AMTX	**Amarillo**	**21.68**	**341**	P		**P**	**05 38 49.1**	**-0.2**
AMTX				IAmb		IAmb	05 38 51.7	
	comp=Z,12nm,0.8s							
RUSC	**La Rusia**	**21.73**	**111**	P		**P**	**05 38 49.2**	**-1.2**
HHAR	**Hobbs**	**21.76**	**359**	P		**P**	**05 38 50.0**	**-0.1**
121A	**Cookes Peak, D**	**22.27**	**326**	P		**P**	**05 38 57.2**	**+1.4**
121A				IAmb		IAmb	05 39 05.8	
	comp=Z,14nm,1.1s							
PBMO	**Poplar Bluff**	**22.41**	**6**	P		**P**	**05 38 56.0**	**-1.1**
PBMO				IAmb		IAmb	05 38 57.4	
	comp=Z,8.9nm,0.8s							
TKL	**Tuckaleechee C**	**22.84**	**21**	LR		LR	05 49 56.3	
	comp=Z,101nm,18.0s,baz=200,slow=42							
BNM	**Barren Site**	**22.98**	**331**	P		**P**	**05 39 04.4**	**+1.0**
ANMO	**Albuquerque**	**23.56**	**332**	P		**P**	**05 39 09.1**	**0.0**
	comp=Z,1.4nm,0.8s,baz=151,slow=12,SNR=3.2							
TUC	**Tucson**	**23.83**	**321**	P		**P**	**05 39 12.2**	**+0.6**
TUC				IAmb		IAmb	05 39 14.4	
	comp=Z,5.4nm,1.0s							
SDCO	**Great Sand Dun**	**25.58**	**337**	P		**P**	**05 39 27.8**	**0.0**
SJG	**San Juan**	**26.42**	**78**	LR		LR	05 49 51.4	
	comp=Z,65nm,18.2s,baz=227,slow=36							
PV01	**Paradox Valley**	**27.16**	**333**	P		**P**	**05 39 42.6**	**+0.6**
PV01				IAmb		IAmb	05 39 48.7	
	comp=Z,5.1nm,1.0s							
PV13	**Radium Mtn., P**	**27.29**	**333**	P		**P**	**05 39 43.5**	**+0.3**
PV13				IAmb		IAmb	05 39 47.8	
	comp=Z,3.9nm,0.9s							
PV03	**Paradox Valley**	**27.38**	**333**	P		**P**	**05 39 44.1**	**+0.1**
PV03				IAmb		IAmb	05 39 57.7	
	comp=Z,8.6nm,1.4s							
KNB	**Kanab**	**28.37**	**326**	P		**P**	**05 39 52.8**	**0.0**
PDAR	**Pinedale Array**	**31.47**	**337**	P		**P**	**05 40 20.9**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=139,slow=9.8,SNR=4.7							
NVAR	**Mina Array Bea**	**32.48**	**322**	P		**P**	**05 40 29.9**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=130,slow=8.6,SNR=5.3							
REDW	**Red Top Meadow**	**32.48**	**336**	P		**P**	**05 40 30.1**	**+0.9**
LOHW	**Long Hollow**	**32.59**	**337**	P		**P**	**05 40 30.5**	**+0.4**
LOHW				IAmb		IAmb	05 40 31.5	
	comp=Z,2.5nm,0.8s							
MCMT	**McKenzie Canyo**	**34.49**	**335**	P		**P**	**05 40 47.5**	**+0.8**
DLMT	**Dillon**	**34.83**	**336**	P		**P**	**05 40 50.5**	**+0.9**
DLMT				IAmb		IAmb	05 40 51.5	
	comp=Z,4.2nm,1.1s							
ULM	**Lac du Bonnet**	**35.78**	**357**	LR		LR	05 56 55.3	
	comp=Z,48nm,18.3s,baz=160,slow=38							
F10A	**Beach Ranch, E**	**37.28**	**332**	P		**P**	**05 41 09.8**	**-0.6**
SCHQ	**Schefferville**	**45.31**	**21**	LR		LR	06 02 15.3	
	comp=Z,144nm,18.6s,baz=216,slow=38							
YKA	**Yellowknife Ar**	**50.30**	**347**	P		**P**	**05 42 53.8**	**-0.9**
	comp=Z,3.6nm,0.8s,baz=151,slow=7.8,SNR=7.5							
ILAR	**Eielson Array**	**61.90**	**337**	P		**P**	**05 44 17.5**	**-0.1**
	comp=Z,1.2nm,1.0s,baz=131,slow=5.0,SNR=6.3							
NOA	**NORSAR Array B**	**84.42**	**28**	LR		LR	06 23 44.6	
	comp=Z,19nm,18.2s,baz=275,slow=35							
ARCES	**ARCESS Array B**	**86.16**	**18**	LR		LR	06 25 18.9	
	comp=Z,40nm,18.1s,baz=125,slow=36							
FINES	**FINESS Array B**	**90.69**	**25**	LR		LR	06 26 00.2	
	comp=Z,34nm,21.7s,baz=159,slow=34							
CMAR	**Chiang Mai Arr**	**145.12**	**339**	PKPbc		**PKPbc**	**05 53 34.7**	**-1.5**
	comp=Z,1.5nm,0.7s,baz=331,slow=3.3,SNR=5.7							

IDC 18 05:35:47.5±2.1,17°.14S×178°.69W,h584km±20km, mb3.2/5,mb1 3.4/7,mb1mx3.0/41,mbtmp4.1/7,Error ellipse: s-maj=113.3km s-min=21.6km az=154.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.17**	**259**	P	P	05 37 06.6	+0.1
	3.0nm,0.3s,baz=117,slow=6.0,SNR=33						
DZM	**Mont Dzumac**	**14.84**	**248**	P	P	05 38 53.9	-0.9
	0.3nm,0.3s,baz=97,slow=16,SNR=2.7						
STKA	**Stephens Creek**	**38.77**	**240**	P	P	05 42 22.8	-0.4
	2.1nm,0.6s,baz=95,slow=11,SNR=5.4						
WRA	**Warramunga Arr**	**44.52**	**259**	P	P	05 43 08.3	-0.3
	1.5nm,0.4s,baz=93,slow=7.9,SNR=67						
ASAR	**Alice Springs**	**44.75**	**254**	P	P	05 43 10.5	+0.2
	13nm,0.6s,baz=88,slow=8.3,SNR=224						
TXAR	**Lajitas Array**	**85.81**	**58**	P	P	05 47 26.4	0.0
	0.3nm,0.7s,baz=238,slow=5.6,SNR=5.0						
PDAR	**Pinedale Array**	**86.98**	**44**	P	P	05 47 31.6	-0.2
	0.2nm,0.4s,baz=197,slow=2.8,SNR=1.6						

MEX 18 05:36:43.7±2.1,14°.59N×93°.19W,h139km±47km,MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.95**	**70**	*i* P	Pn	05 37 05.2	-1.8
THIG				*eS*	Sn	05 37 22.8	-1.8
PCIG		**1.11**	**359**	*eP*	Pn	05 37 06.9	-1.6
CCIG	**Comitan**	**1.97**	**31**	*eP*	Pn	05 37 22.8	+4.8
CCIG				*i* S	Sn	05 37 52.8	+8.5
TGIG		**2.18**	**2**	*i* P	Pn	05 37 24.3	+3.8
TGIG				*i* S	Sn	05 37 54.3	+5.6

MEX 18 05:38:17.6±0.5,14°.60N×93°.44W,h66km,MD3.9,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.18**	**75**	*i* P	Pn	05 38 36.5	-1.6
THIG				*i* S	Sn	05 38 50.8	-2.7
CCIG	**Comitan**	**2.09**	**37**	*i* P	Pn	05 38 54.1	+3.5
CCIG				*i* S	Sn	05 39 24.1	+8.4

INET 18 05:43:55.1,11°.42N×87°.17W,h15km,MW3.8,Near coast of Nicaragua

*IDC **18** 05:51:37.8±1.3,30°.69S×71°.21W,h0km,mb3.7/3, mb1 3.9/6,mb1mx3.7/33,mbtmp3.8/6,ML3.9/3,MS3.4/6, Ms1 3.4/6,ms1mx3.1/28,Error ellipse: s-maj=54.3km s-min=24.4km az=86.0*
*GUC **18** 05:51:37.6±0.7,30°.66S×72°.10W,h24km±5km,ML4.1*
*NEIC **18** 05:51:39.6±1.4,30°.56S±0°.04×71°.96W±0°.10,h23km±4km, mb4.3/9,Error ellipse: s-maj=12.1km s-min=6.4km az=94.0*

ISC 18 05:51:38.4±1.2,30°.63S±0°.03×72°.06W±0°.06,h19km±3km, n44,σ1s10/47,mb4.0/4,MS3.5/3,2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.37**	**97**	*i* P	**Pg**	**05 51 45.8**	**-0.3**
CO06				*eS*	**Sg**	**05 51 51.3**	**-0.1**
CO06	**Fray Jorge**	**0.37**	**97**	Pg	**Pg**	**05 51 46.0**	**-0.1**
CO06				Sg	**Sg**	**05 51 51.3**	**-0.1**
CO05	**La Serena**	**1.00**	**45**	*eP*	**Pb**	**05 51 55.8**	**-1.4**
CO05				*eS*	**Sb**	**05 52 10.1**	**+0.2**
CO05				IAML		05 52 12.0	
	comp=N,7μm,0.4s						
CO05	**La Serena**	**1.00**	**45**		**Pb**	**05 51 56.4**	**-0.7**
GO04	**Tololo Observa**	**1.18**	**68**	*eP*	**Pn**	**05 51 59.5**	**-0.6**
GO04				*eS*	**Sb**	**05 52 15.8**	**+0.5**
GO04	**Tololo Observa**	**1.18**	**68**	Pn	**Pn**	**05 51 59.8**	**-0.3**
CO03	**El Pedregal**	**1.20**	**100**	*ePb*	**Pn**	**05 51 59.1**	**-1.1**
CO03				*i* S	**Sb**	**05 52 15.8**	**+0.2**
CO03				IAML		05 52 21.1	
	comp=E,6μm,0.4s						
CO03	**El Pedregal**	**1.20**	**100**	Pn	**Pn**	**05 51 59.5**	**-0.7**
LCO	**Las Campanas**	**2.00**	**36**	*eP*	**Pn**	**05 52 11.0**	**-0.4**
LCO				*eS*	**Sn**	**05 52 36.6**	**+0.6**
VA06	**Catapilco**	**2.03**	**162**	*eP*	**Pn**	**05 52 11.6**	**0.0**
VA06				*eS*	**Sn**	**05 52 33.6**	**-2.9**
VA01	**Torpederas**	**2.41**	**172**	Pn	**Pb**	**05 52 19.3**	**-1.8**
VA03	**San Esteban**	**2.48**	**149**	*eP*	**Pn**	**05 52 18.9**	**+0.9**
VA03				*i* S	**Sn**	**05 52 49.5**	**+1.7**

VA03	**San Esteban**	**2.48**	**149**	Pn		**Pn**	**05 52 18.8**	**+0.9**
ROCH	**El Roble**	**2.50**	**159**	*eP*		**Pn**	**05 52 19.2**	**+1.0**
ROCH				*i* S		**Sn**	**05 52 47.6**	**-0.7**
ROCH				IAML			05 52 58.1	
	comp=N,2μm,0.4s							
AC04	**Llanos de Chal**	**2.56**	**20**	Pn		**Pn**	**05 52 17.2**	**-1.8**
MT05	**Renca**	**2.97**	**158**	*eP*		**Pn**	**05 52 26.4**	**+1.7**
MT05				*eS*		**Sn**	**05 53 00.8**	**+1.0**
MT05	**Renca**	**2.97**	**158**	Pn		**Pn**	**05 52 25.8**	**+1.2**
VA05	**Santo Domingo**	**3.04**	**173**	*eP*		**Pn**	**05 52 25.4**	**-0.1**
MT09	**Talagante**	**3.26**	**164**	*eP*		**Pn**	**05 52 29.1**	**+0.4**
MT09				*i* S		**Sn**	**05 53 07.2**	**+0.2**
MT09	**Talagante**	**3.26**	**164**	Pn		**Pn**	**05 52 30.1**	**+1.4**
MT01	**Popeta**	**3.29**	**168**	*eP*		**Pn**	**05 52 28.4**	**-0.6**
MT01				*eS*		**Sn**	**05 53 08.1**	**+0.4**
MT01				IAML			05 53 29.9	
	comp=E,459nm,0.7s							
MT01	**Popeta**	**3.29**	**168**	Pn		**Pn**	**05 52 30.7**	**+1.7**
GO03	**Copiap**	**3.42**	**28**	Pn		**Pn**	**05 52 29.9**	**-0.9**
BO01	**Tunca**	**3.84**	**168**	Pn		**Pn**	**05 52 37.1**	**+0.6**
BO02	**Sierra Bellavi**	**4.29**	**166**	Pn		**Pn**	**05 52 43.5**	**+0.8**
H03N1	**Juan Fernandez**	**6.46**	**243**	T		T	06 00 13.6	
	baz=72,slow=72,SNR=95							
H03N2	**Juan Fernandez**	**6.47**	**243**	T		T	06 00 15.5	
	baz=72,slow=72,SNR=32							
H03N3	**Juan Fernandez**	**6.47**	**242**	T		T	06 00 14.3	
	baz=72,slow=72,SNR=80							
LVC	**Limon Verde**	**8.47**	**20**	LR		LR	05 57 05.6	
	comp=E,180nm,20.2s,baz=164,slow=40							
PLCA	**Paso Flores**	**10.15**	**173**	Pn		**Pn**	**05 54 03.0**	**-0.2**
	comp=E,0.4nm,0.3s,baz=346,slow=14,SNR=8.7							
PLCA				LR		LR	05 58 29.0	
	comp=E,103nm,18.2s,baz=2.5,slow=41							
LPAZ	**La Paz**	**14.72**	**15**	Pn		**Pn**	**05 55 07.0**	**+0.8**
	comp=E,0.2nm,0.3s,baz=186,slow=9.7,SNR=4.2							
SIV	**San Ignacio**	**17.70**	**37**	P		**Pn**	**05 55 41.7**	**-2.3**
	comp=E,0.2nm,0.3s,baz=223,slow=14,SNR=11							
SIV				LR		LR	06 03 47.4	
	comp=E,150nm,18.6s,baz=119,slow=42							
SAML	**Samuel**	**23.11**	**23**	P		**P**	**05 56 44.0**	**+0.7**
RPN	**Rapa Nui**	**32.73**	**267**	LR		LR	06 08 19.5	
	comp=E,92nm,19.1s,baz=324,slow=30							
PMSA	**Palmer Station**	**34.53**	**174**	LR		LR	06 10 35.3	
	comp=E,54nm,19.5s,baz=2.5,slow=33							
RUSC	**La Rusia**	**36.33**	**358**	P		**P**	**05 58 43.1**	**+1.4**
SNAA	**Sanae**	**54.71**	**159**	P		**P**	**06 01 06.4**	**+0.3**
	comp=E,0.9nm,0.5s,baz=281,slow=9.0,SNR=12							
SNAA	**Sanae**	**54.71**	**159**	IAmb		IAmb	06 01 07.4	
	comp=Z,6.3nm,1.5s							
QSPA	**South Pole Qui**	**59.60**	**180**	P		**P**	**06 01 42.0**	**+1.3**
QSPA				IAmb		IAmb	06 01 44.2	
	comp=Z,2.0nm,1.0s							
TXAR	**Lajitas Array**	**66.80**	**330**	P		P	06 02 34.5	+5.6
	comp=Z,0.3nm,0.8s,baz=167,slow=8.2,SNR=3.5							
TORD	**Torodi Ar. Bea**	**83.09**	**70**	P		**P**	**06 04 02.4**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=246,slow=5.8,SNR=2.1							
ESDC	**Sonseca Array**	**94.25**	**46**	LR		LR	06 48 04.1	
	comp=Z,17nm,18.1s,baz=220,slow=36							
ZALV	**Zalesovo Beam**	**151.34**	**29**	PKPbc		**PKiKP**	**06 11 30.8**	**0.0**
	comp=Z,1.7nm,0.5s,baz=304,slow=3.3,SNR=5.5							
ZALV	**Zalesovo Beam**	**151.34**	**29**			**PKPbc**	**06 11 28.7**	**-1.6**

*IDC **18** 05:58:09.8±32.0,5°.61N×126°.34E,h0km,mb3.9/4, mb1 4.1/4,mb1mx3.6/47,mbtmp3.9/4,Error ellipse: s-maj=549.1km s-min=107.

*IDC **18** 06:09:03.6±2.5, 31°.51S×71°.74W, h0km, mb4.4/1, mb1 3.8/4, mb1mx3.6/22, mbtmp3.7/4, ML3.5/3, MS3.4/2, Ms1 3.4/2, ms1mx2.8/29, Error ellipse: s-maj=100.0km s-min=34.6km az=100.0*

*GUC **18** 06:09:06.4±0.7, 31°.52S×71°.77W, h35km±6km, ML3.9*

ISC 18 06:09:04.7±1.8, 31°.56S±0°.03×71°.9W±0°.1, h11km±11km, n23, σ0°.86/26, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**0.90**	**12**	*e*P		**Pn**	**06 09 22.9**	**-0.4**
VA06	**Catapilco**	**1.11**	**155**	*e*P		**Pg**	**06 09 26.6**	**+0.6**
VA06				*i* S		**Sn**	**06 09 41.5**	**+0.1**
VA06				IAML			06 09 45.9	
	comp=E,7μm,0.3s							
CO03	**El Pedregal**	**1.23**	**55**	⇓*i*P		**Pg**	**06 09 28.3**	**0.0**
CO03				*i* S		**Sb**	**06 09 44.1**	**+0.3**
CO03				IAML			06 09 47.8	
	comp=E,2μm,0.4s							
ROCH	**El Roble**	**1.58**	**153**	*e*P		**Pg**	**06 09 34.9**	**-0.2**
ROCH				*i* S		**Sg**	**06 09 56.5**	**+0.9**
ROCH				IAML			06 10 01.0	
	comp=N,2μm,0.7s							
VA03	**San Esteban**	**1.63**	**138**	*e*P		**Pg**	**06 09 36.0**	**-0.1**
VA03				*i* S		**Sg**	**06 09 57.2**	**0.0**
VA03				IAML			06 10 01.9	
	comp=E,4μm,0.6s							
GO04	**Tololo Observa**	**1.65**	**34**	*e*P		**Pb**	**06 09 34.8**	**-0.5**
GO04				*i* S		**Sb**	**06 09 56.6**	**+0.4**
CO05	**La Serena**	**1.72**	**18**	*e*P		**Pb**	**06 09 35.3**	**-1.0**
CO05				*i* S		**Sb**	**06 09 57.7**	**-0.1**
CO05				IAML			06 10 03.9	
	comp=E,3μm,0.6s							
MT05	**Renca**	**2.06**	**153**	*e*P		**Pb**	**06 09 41.8**	**-0.4**
MT05				*i* S		**Sb**	**06 10 08.7**	**+0.9**
MT05				IAML			06 10 15.5	
	comp=E,2μm,0.7s							
FSR	**Penalolen**	**2.22**	**150**	*i* S		**Sb**	**06 10 12.2**	**-0.3**
MT09	**Talagante**	**2.33**	**162**	*e*P		**Pb**	**06 09 45.7**	**-1.1**
MT09				IAML			06 10 30.8	
	comp=N,697nm,0.4s							
MT01	**Popeta**	**2.36**	**168**	*e*P		**Pb**	**06 09 45.6**	**-1.6**
MT01				IAML			06 10 26.6	
	comp=N,395nm,0.5s							
LMEL	**Las Melosas**	**2.67**	**149**	*e*P		**Pb**	**06 09 50.4**	**-2.3**
LMEL				IAML			06 10 35.5	
	comp=N,591nm,0.5s							
LCO	**Las Campanas**	**2.73**	**22**	*e*P		**Pn**	**06 09 49.2**	**+0.5**
LCO				*i* S		**Sn**	**06 10 22.1**	**+0.2**
H03N1	**Juan Fernandez**	**6.25**	**251**	T		T	06 17 18.2	
	baz=78,slow=72,SNR=125							
H03N3	**Juan Fernandez**	**6.27**	**251**	T		T	06 17 21.5	
	baz=78,slow=72,SNR=118							
H03N2	**Juan Fernandez**	**6.27**	**251**	T		T	06 17 19.0	
	baz=78,slow=72,SNR=119							
PLCA	**Paso Flores**	**9.22**	**174**	Pn		**Pn**	**06 11 19.1**	**+1.4**
	comp=N,0.1nm,0.3s,baz=352,slow=14,SNR=1.9							
LVC	**Limon Verde**	**9.29**	**17**	LR		LR	06 14 50.3	
	comp=N,120nm,19.1s,baz=205,slow=38							
LPAZ	**La Paz**	**15.57**	**13**	Pn		**Pn**	**06 12 45.3**	**+0.4**
	comp=N,0.1nm,0.3s,baz=191,slow=9.1,SNR=7.3							
SIV	**San Ignacio**	**18.35**	**35**	P		**P**	**06 13 18.5**	**-0.9**
	comp=N,0.2nm,0.3s,baz=217,slow=12,SNR=4.2							
SJG	**San Juan**	**49.69**	**7**	LR		LR	06 37 57.2	
	comp=N,70nm,20.7s,baz=131,slow=35							
TORD	**Torodi Ar. Bea**	**83.23**	**70**	P		**P**	**06 21 31.6**	**0.0**
	comp=N,2.5nm,0.8s,baz=253,slow=3.2,SNR=14							
ZALV	**Zalesovo Beam**	**152.06**	**30**	PKPbc		**PKiKP**	**06 28 59.8**	**-0.1**
	comp=N,3.4nm,0.5s,baz=309,slow=3.8,SNR=11							

*NOU **18** 06:15:01.4, 30°.50S×138°.29E, h0km, MLv3.2/6, South Australia*

*IDC **18** 06:15:01.4±2.6, 30°.45S±0°.3×138°.61E, h0km, mb1 3.2/3, mb1mx3.1/29, mbtmp2.9/3, ML2.7/3, Error ellipse: s-maj=69.6km s-min=15.1km az=46.0*

ISC 18 06:15:01.9±2.6, 30°.45S±0°.3×138°.4E±0°.3, h10km, n3, σ0°.67/7, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
STKA	**Stephens Creek**	**3.13**	**120**	Pn		**Pn**	**06 15 51.1**	**-0.2**
	0.4nm,0.3s,baz=301,slow=13,SNR=4.4							
STKA				Pg		**Pb**	**06 15 57.8**	**+0.1**
	1.1nm,0.3s,baz=303,slow=17,SNR=8.9							
STKA				Sn		**Sn**	**06 16 29.1**	**+0.3**
	2.4nm,0.3s,baz=204,slow=20,SNR=3.6							
STKA				Lg		Lg	06 16 39.9	
	2.2nm,0.3s,baz=204,slow=19,SNR=3.3							
ASAR	**Alice Springs**	**7.77**	**328**	Pn		**Pn**	**06 16 54.9**	**-0.3**
	0.1nm,0.3s,baz=147,slow=14,SNR=5.4							
ASAR				Sn		**Sn**	**06 18 24.3**	**+1.0**
	0.1nm,0.3s,baz=152,slow=22,SNR=3.6							
WRA	**Warramunga Arr**	**11.00**	**340**	Pn		**Pn**	**06 17 38.6**	**-0.7**
	0.1nm,0.3s,baz=156,slow=13,SNR=8.1							
WRA				Sn		**Sn**	**06 19 42.8**	**+0.3**
	0.1nm,0.3s,baz=158,slow=26,SNR=1.3							

*IDC **18** 06:20:32.4±0.9, 7°.58S×123°.71E, h271km±11km, mb3.4/4, mb1 3.7/8, mb1mx3.4/32, mbtmp4.2/8, Error ellipse: s-maj=29.3km s-min=10.2km az=67.0*

*DJA **18** 06:20:33.5±0.8, 8°.5±6°×12°.4E±°, h271km±10km, M4.0/10, mb3.8/1, MLv4.1/10*

ISC 18 06:20:31.5±0.7, 7°.53S±0°.06×123°.75E±0°.09, h250km, n23, σ2°.02/29, mb3.5/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MMRI	**Maumere**	**1.86**	**234**	P		**Pn**	**06 21 15.4**	**+2.7**
SOEI	**Soe**	**2.27**	**167**	P		**Pn**	**06 21 19.3**	**+2.6**
SOEI				S		**S**	**06 21 54.8**	**+2.4**
EDFI	**Ende, Flores**	**2.37**	**239**	P		**Pn**	**06 21 19.6**	**+2.0**
EDFI				S		**S**	**06 21 55.2**	**+1.2**
BATI	**Baumata**	**2.67**	**182**	P		**Pn**	**06 21 23.1**	**+2.6**
	250nm,0.3s,baz=9.5,slow=1.2,SNR=56							
BATI				S		**S**	**06 22 01.8**	**+2.5**
	148nm,0.3s,baz=71,slow=21,SNR=9.9							
BATI	**Baumata**	**2.67**	**182**	P		**Pn**	**06 21 22.3**	**+1.8**
BATI				S		**S**	**06 22 01.3**	**+2.0**
BSSI	**Bau Bau, Buton**	**3.52**	**293**	P		**Pn**	**06 21 32.0**	**+2.3**
BKSI	**Bulukumba**	**4.22**	**301**	P		**Pn**	**06 21 39.9**	**+2.0**
KAPI	**Kappang**	**4.69**	**302**	P		**Pn**	**06 21 46.7**	**+3.1**
	5.7nm,0.3s,baz=177,slow=3.3,SNR=7.7							
KAPI	**Kappang**	**4.69**	**302**	P		**Pn**	**06 21 46.2**	**+2.6**
BNSI	**Bone**	**4.77**	**310**	P		**Pn**	**06 21 48.0**	**+3.4**
WBSI	**Waikabubak, Su**	**4.79**	**244**	P		**Pn**	**06 21 44.7**	**-0.2**
MKS	**Makassar**	**4.83**	**298**	P		**Pn**	**06 21 46.7**	**+1.4**
TTSI	**Tana Toraja**	**5.93**	**318**	P		Pn	06 22 07.2	+8.4
PLAI	**Plampang**	**6.05**	**257**	P		**Pn**	**06 21 59.7**	**-0.6**
PMSI	**Majene**	**6.26**	**309**	P		**Pn**	**06 22 01.2**	**-1.7**
SIJI	**Sorong**	**9.99**	**49**	P		**Pn**	**06 22 51.8**	**+1.6**
	20nm,0.3s,baz=37,slow=20,SNR=7.1							
FITZ	**Fitzroy Crossi**	**10.67**	**170**	P		**Pn**	**06 22 57.6**	**-0.9**
	0.4nm,0.3s,baz=359,slow=8.9,SNR=29							
FITZ				S		**S**	**06 24 57.5**	**-0.6**
	1.6nm,0.3s,baz=152,slow=15,SNR=7.5							
WRA	**Warramunga Arr**	**16.05**	**141**	P		**P**	**06 24 02.2**	**-0.8**
	3.4nm,0.3s,baz=310,slow=11,SNR=132							
WRA				S		**S**	**06 26 56.2**	**-2.6**
	0.2nm,0.3s,baz=312,slow=22,SNR=3.6							
ASAR	**Alice Springs**	**18.78**	**150**	P		**P**	**06 24 32.3**	**-0.3**
	2.2nm,0.3s,baz=337,slow=14,SNR=94							
ASAR				S		**S**	**06 27 52.3**	**-0.6**
	0.1nm,0.3s,baz=330,slow=20,SNR=3.9							
STKA	**Stephens Creek**	**29.39**	**148**	P		**P**	**06 26 10.8**	**-1.0**
	4.4nm,0.3s,baz=316,slow=8.6,SNR=14							
MJAR	**Matsushiro Arr**	**45.89**	**16**	P		**P**	**06 28 28.2**	**-1.1**
	1.4nm,0.4s,baz=191,slow=9.2,SNR=4.0							
SONM	**Songino Array**	**57.22**	**346**	P		**P**	**06 29 51.9**	**-1.0**
	0.3nm,0.3s,baz=168,slow=7.6,SNR=3.9							
MKAR	**Makanchi Array**	**65.42**	**330**	P		**P**	**06 30 46.2**	**-1.4**
	0.5nm,0.5s,baz=136,slow=7.4,SNR=6.2							

IDC 18 06:22:38.7±3.3, 54°.15N×87°.21E, h0km, mb1 2.5/2, mb1mx2.5/52, mbtmp2.5/2, ML2.1/1, Error ellipse: s-maj=29.0km s-min=18.4km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.43**	**263**	*i*			06 32 20.0	
	baz=81,slow=332,SNR=1.4							
ZALV	**Zalesovo Beam**	**1.43**	**263**	Pg		Pn	06 23 04.5	-1.4
	1.6nm,0.3s,baz=84,slow=17,SNR=12							
ZALV				Lg		Lg	06 23 24.0	
	1.7nm,0.3s,baz=80,slow=26,SNR=8.1							
KURBB	**Kurchatov Arra**	**6.38**	**240**	Pn		Pn	06 24 14.8	+0.9
	0.1nm,0.3s,baz=54,slow=13,SNR=2.9							
MKAR	**Makanchi Array**	**8.01**	**205**	Pn		Pn	06 24 37.5	+1.2
	baz=26,slow=13,SNR=1.4							
MKAR				Lg		Lg	06 26 53.6	
	0.0nm,0.3s,baz=32,slow=33,SNR=2.5							

*TUL **18** 06:24:54.5±0.7, 36°.834N±0°.010×97°.88W±0°.01, h5km±6km, ML2.6, mb_Lg2.5/40(NEIC), Error ellipse: s-maj=1.4km s-min=1.1km az=206.0*

NEIC 18 06:24:54.7±0.4, 36°.821N±0°.010×97°.88W±0°.01, h6km±6km, Error ellipse: s-maj=1.6km s-min=0.9km az=149.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GC02	**Grant County #**	**0.04**	**30**			Pg	06 24 55.9	-0.2
KAN14	**Manchester OK**	**0.15**	**335**			Pg	06 24 57.8	-0.1
KAN17	**Caldwell West**	**0.24**	**23**			Pg	06 24 59.5	0.0
KAN17				Sg		Sg	06 25 03.0	+0.2
OK032	**Salt Plains WL**	**0.26**	**266**			Pg	06 24 60.0	+0.1
OK032				Sg		Sg	06 25 03.9	+0.5
KAN05	**Bluff City Nor**	**0.29**	**2**			Pg	06 25 00.3	-0.1
KAN05				Sg		Sg	06 25 04.3	+0.1
CROK	**Carrier**	**0.33**	**195**			Pg	06 25 01.3	+0.2
CROK				Sg		Sg	06 25 06.2	+0.8
KAN10	**Anthony SW Sta**	**0.35**	**331**			Pg	06 25 01.5	0.0
KAN13	**South Haven SW**	**0.38**	**59**			Pg	06 25 02.0	0.0
KAN09	**Caldwell North**	**0.38**	**34**			Pg	06 25 02.1	0.0
KAN09				Sg		Sg	06 25 07.2	0.0
KAN08	**Anthony NE Sta**	**0.41**	**350**			Pg	06 25 02.7	0.0
KAN16	**Harper SW Stat**	**0.43**	**340**			Pg	06 25 02.9	-0.1
KS20	**Mayfield South**	**0.48**	**33**			Pg	06 25 03.9	-0.2
BLOK	**Blackwell**	**0.54**	**96**			Pg	06 25 05.1	-0.1
U32A	**Winter Ranch,**	**1.00**	**244**			Pg	06 25 13.4	-0.6
OK029	**Liberty Lake**	**1.08**	**161**			Pg	06 25 15.0	-0.4
T35A	**Sooner Cattle**	**1.10**	**85**			Pg	06 25 15.2	-0.6
QUOK	**Quay**	**1.15**	**124**			Pg	06 25 16.2	-0.5
OK031	**S. Brethren Rd**	**1.21**	**136**			Pg	06 25 17.2	-0.7
OK025	**Westminster Rd**	**1.31**	**160**			Pn	06 25 19.1	-0.5
OKCFA	**Oklahoma City**	**1.45**	**166**			Pn	06 25 21.4	0.0
OKCSW	**OKLAHOMA CITY**	**1.46**	**166**			Pn	06 25 21.6	0.0
FNO	**Franklin**	**1.61**	**166**			Pn	06 25 23.9	+0.3
R32A	**Long Quarter,**	**1.73**	**338**			Pn	06 25 25.8	+0.4
X34A	**Smith Ranch, M**	**2.21**	**179**	IAmb_Lg			06 26 07.4	
	comp=Z,17nm,0.8s							
CBKS	**Cedar Bluff**	**2.47**	**324**	IAmb_Lg			06 26 13.9	
	comp=Z,15nm,0.7s							
X37A	**Clayton**	**3.02**	**137**	IAmb_Lg			06 26 35.1	
	comp=Z,15nm,0.7s							
AMTX	**Amarillo**	**3.64**	**239**	IAmb_Lg			06 26 51.2	
	comp=Z,14nm,0.8s							
S39A	**Bolivar**	**3.74**	**75**	IAmb_Lg			06 26 56.1	
	comp=Z,9.2nm,0.8s							
MIAR	**Mount Ida**	**4.17**	**122**	IAmb_Lg			06 27 08.5	
	comp=Z,5.6nm,1.2s							
Z38A	**Mt. Pleasant**	**4.27**	**145**	IAmb_Lg			06 27 14.7	
	comp=Z,12nm,0.8s							
KSCO	**Kaye Shedlock'**	**4.34**	**302**	IAmb_Lg			06 27 18.5	
	comp=Z,12nm,0.7s							
MGMO	**Mountain Grove**	**4.51**	**84**	IAmb_Lg			06 27 18.2	
	comp=Z,12nm,0.8s							
FCAR	**Ozark Folk Cen**	**4.74**	**100**	IAmb_Lg			06 27 26.7	
	comp=Z,7.5nm,0.7s							
T25A	**Trinidad**	**5.24**	**275**	IAmb_Lg			06 27 43.8	
	comp=Z,9.7nm,0.7s							
P40A	**Paris**	**5.33**	**58**	IAmb_Lg			06 27 49.9	
	comp=Z,6.4nm,0.8s							
N38A	**Joes South For**	**5.38**	**41**	IAmb_Lg			06 27 54.9	
	comp=Z,10nm,0.9s							
CCM	**Cathedral Cave**	**5.42**	**75**	IAmb_Lg			06 27 50.2	
	comp=Z,9.5nm,0.8s							
LCAR	**Lake Charles**	**5.47**	**96**	IAmb_Lg			06 27 50.6	
	comp=Z,6.7nm,0.8s							
PBMO	**Poplar Bluff**	**5.98**	**88**	IAmb_Lg			06 28 15.9	
	comp=Z,9.4nm,0.9s							
435B	**Jarrell**	**6.03**	**178**	IAmb_Lg			06 28 13.5	
	comp=Z,7.7nm,0.7s							
FVM	**French Village**	**6.05**	**77**	IAmb_Lg			06 28 06.4	
	comp=Z,6.9nm,0.7s							
JCT	**Junction City**	**6.52**	**195**	IAmb_Lg			06 28 29.9	
	comp=Z,6.0nm,0.7s							
143A	**Socs Landing,**	**6.73**	**126**	IAmb_Lg			06 28 34.8	
	comp=Z,7.0nm,0.7s							

MEX 18 06:25:43.2±0.8, 14°.51N×93°.91W, h12km±241km, MD4.2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
THIG		**1.64**	**76**	*i* P		Pn	06 26 08.2	-3.7
THIG				*i* S		Sn	06 26 26.7	-6.2
CCIG	**Comitan**	**2.46**	**44**	*i* P		Pn	06 26 21.8	-1.5
CCIG				*i* S		Sn	06 26 49.1	-4.3

MEX 18 06:27:54.7±0.7, 14°.40N×93°.69W, h10km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCIG		**1.38**	**19**	*i* P		Pn	06 28 17.1	-2.9
THIG		**1.47**	**70**	*e*P		Pn	06 28 17.3	-3.9
THIG				*i* S		Sn	06 28 35.5	-5.0
CCIG	**Comitan**	**2.40**	**38**	*i* P		Pn	06 28 35.8	+1.6
CCIG				*i* S		Sn	06 29 04.3	+0.5

MEX 18 06:31:31.8±0.9, 14°.43N×94°.00W, h10km±130km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCIG		**1.48**	**30**	*e*P		Pn	06 31 53.7	-4.8
PCIG				*i* S		Sn	06 32 11.0	-6.9
TGIG		**2.49**	**20**	*e*P		Pn	06 32 09.3	-3.1
TGIG				*i* S		Sn	06 32 38.9	-4.1
CCIG	**Comitan**	**2.57**	**44**	*e*P		Pn	06 32 12.0	-1.8
CCIG				*i* S		Sn	06 32 42.8	-2.5

ISC 18 06:44:07.2±1.0, 48°.69N±0°.06×18°.41E±0°.04, h11km±9km, n8, σ0°.55/13, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KOLL	**Kolacno**	**0.11**	**184**	*e*PG		**Pg**	**06 44 09.8**	**-0.2**
KOLL				*e*SG		**Sg**	**06 44 12.5**	**+0.5**
VYHS	**Vyhne**	**0.34**	**125**	*e*PG		**Pg**	**06 44 13.9**	**-0.2**
VYHS				*e*SG		**Sg**	**06 44 18.4**	**-0.2**
JAVC	**Velka Javorina**	**0.52**	**289**	*e*PG		**Pg**	**06 44 17.7**	**+0.3**
JAVC				*e*SG		**Sg**	**06 44 24.6**	**+0.3**
SMOL	**Smolenice**	**0.68**	**255**	*e*SG		**Sb**	**06 44 31.0**	**+0.5**
MODS	**Modra-Piesok**	**0.82**	**248**	*e*PG		**Pb**	**06 44 23.2**	**-0.3**
MODS				*e*SG		**Sb**	**06 44 35.0**	**+0.4**
LANS	**Liptovska Anna**	**0.83**	**56**	*e*PG		**Pn**	**06 44 25.3**	**+0.3**
LANS				*e*SG		**Sb**	**06 44 36.0**	**+0.9**
MORC	**Moravsky Berou**	**1.23**	**333**	*e*SG		**Sb**	**06 44 45.8**	**-0.6**
MORC	**Moravsky Berou**	**1.23**	**333**	*e*PG		**Pn**	**06 44 29.9**	**-0.6**

*IDC **18** 06:44:20.2±1.4, 6°.20S×150°.63E, h0km, mb4.1/5, mb1 4.4/5, mb1mx3.8/49, mbtmp4.1/5, Error ellipse: s-maj=69.1km s-min=25.0km az=123.0*

ISC 18 06:44:27.0±1.3, 6°.2S±0°.3×150°.6E±0°.4, h48km, n7, σ0°.69/8, mb3.9/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**20.84**	**228**	P		**P**	**06 49 04.6**	**-0.3**
	6.8nm,0.5s,baz=54,slow=10,SNR=72							
WRA				PcP		**PcP**	**06 53 13.7**	**+1.4**
	0.7nm,0.7s,baz=90,slow=1.6,SNR=2.7							
ASAR	**Alice Springs**	**23.61**	**221**	P		**P**	**06 49 33.6**	**-0.2**
	2.8nm,0.6s,baz=56,slow=8.8,SNR=39							
STKA	**Stephens Creek**	**26.85**	**197**	P		**P**	**06 50 02.9**	**-0.3**
	2.0nm,0.7s,baz=31,slow=10,SNR=6.1							
FITZ	**Fitzroy Crossi**	**27.03**	**242**	P		**P**	**06 50 05.0**	**+0.1**
	3.8nm,0.5s,baz=65,slow=9.6,SNR=12							
ILAR	**Eielson Array**	**84.32**	**22**	P		**P**	**06 56 53.2**	**-0.4**
	0.5nm,0.9s,baz=252,slow=4.9,SNR=3.4							
GERES	**GERESS Array B**	**124.08**	**327**	PKP		**PKiKP**	**07 03 20.7**	**0.0**
	0.2nm,0.2s,baz=70,slow=3.2,SNR=4.6							
TORD	**Torodi Ar. Bea**	**148.59**	**285**	PKPbc		**PKPbc**	**07 04 09.7**	**-0.1**
	2.0nm,0.5s,baz=77,slow=2.5,SNR=12							

IDC 18 06:45:19.2±2.7, 54°.17N×86°.54E, h0km, mb1 2.9/2, mb1mx2.9/58, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=21.9km s-min=13.5km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.04**	**258**	*i*			06 57 10.0	
	baz=78,slow=330,SNR=9.5							
ZALV	**Zalesovo Beam**	**1.04**	**258**	Pg		Pg	06 45 37.7	-1.4
	1.0nm,0.3s,baz=74,slow=16,SNR=5.3							
ZALV				Lg		Lg	06 45 53.3	
	2.2nm,0.3s,baz=77,slow=30,SNR=12							
KURBB	**Kurchatov Arra**	**6.06**	**237**	Pn		Pn	06 46 51.1	+1.1
	0.1nm,0.3s,baz=55,slow=14,SNR=6.8							
KURBB				Lg		Lg	06 48 32.4	
	0.1nm,0.3s,baz=53,slow=29,SNR=4.6							
MKAR	**Makanchi Array**	**7.87**	**202**	Pn		Pn	06 47 15.9	+1.0
	0.2nm,0.3s,baz=24,slow=12,SNR=6.8							

*IDC **18** 06:47:05.3±1.3, 37°.44N×78°.11E, h0km, mb3.8/8, mb1 3.8/11, mb1mx3.7/55, mbtmp3.8/11, ML3.7/4, MS3.4/5, Ms1 3.4/5, ms1mx2.8/60, Error ellipse: s-maj=21.0km s-min=20.3km az=150.0*

*NNC **18** 06:47:07.2±1.4, 37°.64N×78°.35E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=11.1km s-min=9.5km az=98.0*

ISC 18 06:47:06.6±1.1, 37°.39N±0°.10×78°.39E±0°.07, h10km, n51, σ1°.57/54, mb3.9/9, MS3.4/5, 8C-9D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SATY	**Saty**	**5.66**	**0**	Pg		**Pb**	**06 48 45.8**	**+0.2**
	20nm,1.1s							
SATY				Lg		Lg	06 50 00.7	
	89nm,1.3s							
TNSS	**Tian-Shan**	**5.75**	**349**	Pg		**Pb**	**06 48 47.7**	**+0.6**
	34nm,0.6s							
TNSS				Lg		Lg	06 50 04.7	
	27nm,0.9s							
UZB	**Uzynbulak**	**5.77**	**5**	Pg		**Pb**	**06 48 46.2**	**-1.2**
	11nm,0.6s							
UZB				Lg		Lg	06 50 02.3	
	58nm,0.9s							
IZV	**Izvestkoviy**	**5.80**	**347**	Pg		**Pb**	**06 48 48.1**	**+0.1**
	21nm,0.7s							
IZV				Lg		Lg	06 50 05.2	
	66nm,0.7s							
SHLS	**Shalkode**	**5.82**	**8**	Pg		**Pb**	**06 48 49.9**	**+1.7**
	54nm,0.9s							
SHLS				Lg		Lg	06 50 08.5	
	99nm,0.7s							
MDOK	**Medeo**	**5.86**	**350**	⇓Pg		**Pb**	**06 48 49.6**	**+0.7**
	24nm,0.7s,baz=200,slow=23							
MDOK				⇓Lg		Lg	06 50 05.4	
	92nm,0.6s,baz=200,slow=23							
MDOK	**Medeo**	**5.86**	**350**	Pg		**Pb**	**06 48 48.6**	**-0.3**
	25nm,0.7s							
MDOK				Lg		Lg	06 50 05.9	
	91nm,0.6s							
KOTS	**Kotyrbulak**	**5.92**	**351**	Pg		**Pb**	**06 48 51.1**	**+1.2**
	25nm,0.7s							
KOTS				Lg		Lg	06 50 10.1	
	120nm,0.6s							
KNDC	**Almaty**	**5.92**	**350**	⇓Pg		**Pb**	**06 48 52.0**	**+2.1**
	25nm,0.5s							
KNDC				⇓Lg		Lg	06 50 05.9	
	178nm,0.6s							
TKM2	**Tokmak 2**	**5.92**	**340**	⇑Pn		**Pn**	**06 48 35.2**	**+0.7**
	3.9nm,1.1s,baz=200,slow=23							
TKM2				⇑Pg		**Pb**	**06 48 49.3**	**-0.7**
	13nm,0.8s,baz=200,slow=23							
TKM2				⇑Lg		Lg	06 50 07.3	
	59nm,0.8s,baz=200,slow=23							
MTBS	**Maitube**	**5.92**	**346**	Pg		**Pb**	**06 48 51.0**	**+1.0**
	12nm,0.5s							
MTBS				Lg		Lg	06 50 09.7	
	32nm,0.6s							
KST	**Kastek**	**5.94**	**343**	Pg		**Pb**	**06 48 51.4**	**+1.1**
	6.4nm,0.6s							
KST				Lg		Lg	06 50 10.5	
	19nm,0.6s							
PDGK	**Podgornoye**	**5.99**	**8**	Pg		**Pb**	**06 48 52.4**	**+1.2**
	7.7nm,0.6s							
PDGK				Lg		Lg	06 50 12.4	
	32nm,0.6s							
PDGK	**Podgornoye**	**5.99**	**8**	⇓Pn		**Pn**	**06 48 35.7**	**+0.3**
	11nm,0.7s,baz=200,slow=23							
PDGK				⇓Pg		**Pb**	**06 48 51.0**	**-0.1**
	13nm,0.6s,baz=200,slow=23							
PDGK				⇑Sn		**Sn**	**06 49 42.7**	**-1.5**
	40nm,0.7s,baz=200,slow=23							
PDGK				⇓Lg		Lg	06 50 11.1	
	88nm,0.8s,baz=200,slow=23							
AAK	**Ala-Archa**	**6.03**	**332**	Pn		**Pn**	**06 48 37.1**	**+1.1**
	0.7nm

BTLS					Lg	Lg	06 51 22.6		
	7.5nm,0.6s								
MAKZ	**Makanchi**	**9.78**	**15**	⇑Pn	**Pn**	**06 49 27.1**	**-0.2**		
	8.3nm,0.7s								
MK31	**Makanchi Array**	**9.83**	**16**	Pn	**Pn**	**06 49 27.7**	**-0.3**		
	1.1nm,0.2s,baz=193,slow=13,SNR=78								
MKAR	**Makanchi Array**	**9.83**	**16**	Pn	**Pn**	**06 49 28.3**	**+0.3**		
	1.5nm,0.3s,baz=194,slow=13,SNR=71								
MKAR				Sn	**Sn**	**06 51 14.8**	**-3.6**		
	0.9nm,0.3s,baz=201,slow=24,SNR=7.7								
KURBB	**Kurchatov Arra**	**13.23**	**0**	Pn	**Pn**	**06 50 13.0**	**-1.4**		
	0.1nm,0.3s,baz=188,slow=12,SNR=1.4								
KURBB				Lg	Lg	06 54 03.8			
	baz=186,slow=28,SNR=2.6								
GEYT	**Alibeck**	**16.06**	**278**	Pn	**Pn**	**06 50 49.9**	**-2.6**		
	2.0nm,0.3s,baz=108,slow=9.3,SNR=3.6								
BVAR	**Borovoye Array**	**16.60**	**343**	Pn	**Pn**	**06 51 00.9**	**+1.6**		
	0.2nm,0.3s,baz=171,slow=20,SNR=1.8								
ZALV	**Zalesovo Beam**	**17.15**	**13**	P	**Pn**	**06 51 03.3**	**-2.8**		
	0.2nm,0.3s,baz=243,slow=6.5,SNR=4.9								
AKTO	**Aktyubinsk**	**19.55**	**318**	P	**Pn**	**06 51 37.9**	**+2.4**		
	0.3nm,0.3s,baz=120,slow=12,SNR=13								
SONM	**Songino Array**	**22.99**	**54**	P	**P**	**06 52 12.4**	**+0.9**		
	0.3nm,0.3s,baz=287,slow=9.9,SNR=2.1								
BRTR	**Keskin Array B**	**34.80**	**288**	P	**P**	**06 53 56.9**	**-0.7**		
	1.1nm,0.7s,baz=82,slow=9.3,SNR=4.4								
AKASG	**Malin Array Be**	**37.07**	**307**	P	**P**	**06 54 15.1**	**-1.6**		
	0.3nm,0.3s,baz=74,slow=7.9,SNR=5.5								
KLR	**Kul'dur**	**39.81**	**55**	P	**P**	**06 54 42.5**	**+2.7**		
	1.5nm,0.6s,baz=283,slow=8.9,SNR=4.4								
FINES	**FINESS Array B**	**40.16**	**324**	P	**P**	**06 54 41.0**	**-1.4**		
	2.4nm,0.8s,baz=93,slow=9.7,SNR=2.4								
USRK	**Ussuriysk Ar.**	**40.53**	**63**	LR	LR	07 12 50.7			
	comp=Z,46nm,19.3s,baz=314,slow=38								
ARCES	**ARCESS Array B**	**42.69**	**336**	P	**P**	**06 55 01.8**	**-1.3**		
	1.7nm,0.8s,baz=112,slow=8.8,SNR=2.1								
NB2	**NORSAR Subarra**	**47.26**	**322**	P	**P**	**06 55 38.7**	**-1.1**		
	comp=Z,2.0nm,0.8s,baz=89,slow=7.9								
NOA	**NORSAR Array B**	**47.26**	**322**	P	**P**	**06 55 38.6**	**-1.1**		
	comp=Z,0.8nm,0.8s,baz=100,slow=6.9,SNR=1.9								
NOA				LR	LR	07 16 46.6			
	comp=Z,28nm,20.8s,baz=90,slow=38								
SEY	**Seymchan**	**50.35**	**35**	LR	LR	07 18 56.6			
	comp=Z,50nm,18.6s,baz=34,slow=38								
BORG	**Borgarnes**	**60.75**	**331**	LR	LR	07 25 30.3			
	comp=Z,22nm,18.4s,baz=57,slow=38								
TORD	**Torodi Ar. Bea**	**71.62**	**273**	P	**P**	**06 58 26.9**	**-1.7**		
	comp=Z,1.0nm,0.4s,baz=44,slow=5.7,SNR=11								
ILAR	**Eielson Array**	**72.18**	**19**	P	**P**	**06 58 35.6**	**+4.4**		
	comp=Z,1.1nm,0.8s,baz=316,slow=4.7,SNR=9.3								
PDAR	**Pinedale Array**	**99.89**	**6**	LR	LR	07 51 33.0			
	comp=Z,29nm,18.1s,baz=114,slow=39								

IDC ***18*** *06:49:24.9±0.9, 37°.36N×78°.31E, h0km, mb3.8/9, mb1 4.0/13, mb1mx3.8/53, mbtmp3.8/13, ML3.6/5, MS3.2/6, Ms1 3.2/6, ms1mx2.8/60, Error ellipse: s-maj=20.7km s-min=15.1km az=56.0*

NNC ***18*** *06:49:25.0±1.7, 37°.55N×78°.62E, h0km, mb4.7, mpv4.3, Error ellipse: s-maj=12.9km s-min=11.0km az=60.0*

ISC 18 06:49:26.4±0.9, 37°.43N±0°.08×78°.52E±0°.08, h10km, n51, σ2s16/44, mb3.9/12, MS3.4/6, C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SATY	**Saty**	**5.62**	**359**	Pg		**Pb**	**06 51 06.6**	**+1.9**
	41nm,0.8s							
SATY				Lg		Lg	06 52 23.4	
	160nm,1.1s							
UZB	**Uzynbulak**	**5.72**	**4**	Pg		**Pb**	**06 51 03.7**	**-2.7**
	31nm,0.7s							
UZB				Lg		Lg	06 52 18.5	
	79nm,0.8s							
TNSS	**Tian-Shan**	**5.73**	**348**	Pg		**Pb**	**06 51 07.9**	**+1.2**
TNSS				Lg		Lg	06 52 26.0	
SHLS	**Shalkode**	**5.76**	**7**	Pg		**Pb**	**06 51 10.0**	**+2.9**
	108nm,0.9s							
SHLS				Lg		Lg	06 52 29.0	
	136nm,0.7s							
IZV	**Izvestkoviy**	**5.79**	**346**	Pg		**Pb**	**06 51 10.6**	**+3.2**
	46nm,0.7s							
IZV				Lg		Lg	06 52 30.4	
	102nm,1.5s							
MDOK	**Medeo**	**5.83**	**349**	Pg		**Pb**	**06 51 10.8**	**+2.5**
	28nm,0.6s							
MDOK				⇑Lg		Lg	06 52 24.9	
	137nm,0.8s							
MDOK	**Medeo**	**5.83**	**349**	Pg		**Pb**	**06 51 08.6**	**+0.3**
	42nm,1.1s							
MDOK				Lg		Lg	06 52 26.2	
	107nm,0.7s							
KOTS	**Kotyrbulak**	**5.89**	**350**	Pg		**Pb**	**06 51 10.7**	**+1.4**
KOTS				Lg		Lg	06 52 30.8	
	116nm,1.0s							
MTBS	**Maitube**	**5.91**	**345**	Pg		**Pb**	**06 51 11.8**	**+2.2**
	24nm,0.7s							
MTBS				Lg		Lg	06 52 32.4	
	41nm,0.7s							
TKM2	**Tokmak 2**	**5.92**	**339**	⇓Pg		**Pb**	**06 51 11.8**	**+2.0**
	12nm,0.6s							
TKM2				⇑Lg		Lg	06 52 29.0	
	63nm,0.9s							
KST	**Kastek**	**5.94**	**342**	Pg		**Pb**	**06 51 12.3**	**+2.3**
	19nm,1.1s							
KST				Lg		Lg	06 52 33.3	
	26nm,1.3s							
PDGK	**Podgornoye**	**5.94**	**7**	Pg		**Pb**	**06 51 10.9**	**+0.9**
	18nm,0.7s							
PDGK				Lg		Lg	06 52 31.3	
	62nm,0.9s							
PDGK	**Podgornoye**	**5.94**	**7**	⇑Lg		Lg	06 52 30.8	
	163nm,0.8s							
AAK	**Ala-Archa**	**6.05**	**331**	Pg		**Pb**	**06 51 14.0**	**+2.1**
	5.7nm,0.3s,baz=139,slow=10.0,SNR=5.3							
AAK				Lg		Lg	06 52 36.4	
	4.1nm,0.3s,baz=344,slow=18,SNR=4.5							
AAK				LR		LR	06 53 24.7	
	comp=Z,43nm,20.1s,baz=154,slow=40							
AAK	**Ala-Archa**	**6.05**	**331**	⇑Pg		**Pb**	**06 51 13.2**	**+1.3**
	9.9nm,0.5s							
AAK				⇑Lg		Lg	06 52 30.8	
	140nm,0.9s							
KURS	**Kuram**	**6.06**	**358**	Pg		**Pb**	**06 51 13.7**	**+1.7**
	53nm,0.6s							
KURS				Lg		Lg	06 52 35.2	
	84nm,1.5s							
KTMS	**Ketmen**	**6.17**	**13**	Pg		**Pb**	**06 51 13.5**	**-0.4**
	25nm,0.4s							
KTMS				Lg		Lg	06 52 35.1	
	45nm,0.7s							
DGS	**Degeres**	**6.17**	**341**	Pg		**Pb**	**06 51 17.3**	**+3.3**
	31nm,0.6s							
DGS				Lg		Lg	06 52 41.9	
	44nm,1.1s							
KTBS	**Karatobe**	**6.43**	**348**	Pg		**Pb**	**06 51 21.2**	**+2.9**
	23nm,0.7s							
KTBS				Lg		Lg	06 52 48.0	
	83nm,0.7s							
CHKK	**Chushkaly**	**6.52**	**350**	Pg		**Pb**	**06 51 20.7**	**+0.8**
	23nm,0.7s							
CHKK				Lg		Lg	06 52 47.3	
	33nm,0.6s							
KRBS	**Karabastau**	**6.62**	**342**	Pg		**Pb**	**06 51 24.3**	**+2.7**
	23nm,0.7s							
KRBS				Lg		Lg	06 52 54.6	
	25nm,0.7s							
KUU	**Kurty**	**6.66**	**346**	Pg		**Pb**	**06 51 23.4**	**+1.1**
	12nm,0.5s							
KUU				Lg		Lg	06 52 52.2	
	38nm,0.7s							
MRKS	**Merke**	**6.68**	**324**	Pg		Pb	06 51 25.9	+3.2
	18nm,0.7s							
MRKS				Lg		Lg	06 52 57.3	
	39nm,0.8s							
SGDS	**Sogindy**	**6.71**	**335**	Pg		**Pb**	**06 51 25.8**	**+2.7**
	19nm,0.8s							
SGDS				Lg		Lg	06 52 56.4	
	24nm,1.1s							
KAPS	**Kapalarasan**	**7.87**	**4**	Pg		**Pb**	**06 51 45.0**	**+2.0**
	1.5nm,0.6s							
KAPS				Lg		Lg	06 53 28.8	
	2.8nm,0.9s							
BTLS	**Baital**	**8.31**	**338**	Pg		Pb	06 51 54.5	+4.1
	11nm,0.9s							
BTLS				Lg		Lg	06 53 46.0	
	12nm,1.0s							
MAKZ	**Makanchi**	**9.71**	**14**	⇓Pn		**Pn**	**06 51 45.4**	**-0.7**
	12nm,0.7s							
MK31	**Makanchi Array**	**9.76**	**15**	⇓Pn		**Pn**	**06 51 46.2**	**-0.6**
	15nm,0.9s,baz=208,slow=11,SNR=15							
MK31				⇑Sn		**Sn**	**06 53 33.8**	**-2.8**
	16nm,0.8s,baz=200,slow=22,SNR=3.7							
MKAR	**Makanchi Array**	**9.76**	**15**	Pn		**Pn**	**06 51 48.4**	**+1.6**
	1.9nm,0.3s,baz=196,slow=13,SNR=10							
MKAR				Sn		**Sn**	**06 53 35.0**	**-1.6**
	1.3nm,0.3s,baz=203,slow=18,SNR=5.7							
KURBB	**Kurchatov Arra**	**13.19**	**0**	Pn		**Pn**	**06 52 33.8**	**+0.2**
	0.0nm,0.3s,baz=185,slow=11,SNR=4.3							
KURBB				Sn		**Sn**	**06 54 57.6**	**-2.6**
	baz=188,slow=26,SNR=4.2							
KURBB				Lg		Lg	06 56 26.4	
	0.1nm,0.3s,baz=236,slow=15,SNR=4.2							
GEYT	**Alibeck**	**16.16**	**278**	Pn		**P**	**06 53 13.0**	**-3.9**
	0.7nm,0.3s,baz=154,slow=11,SNR=5.1							
BVAR	**Borovoye Array**	**16.59**	**343**	Pn		**Pn**	**06 53 17.3**	**-1.7**
	0.2nm,0.3s,baz=166,slow=15,SNR=1.8							
ZALV	**Zalesovo Beam**	**17.08**	**13**	P		**Pn**	**06 53 22.6**	**-2.6**
	0.1nm,0.3s,baz=192,slow=13,SNR=4.7							
ZALV				LR		LR	06 59 53.0	
	comp=Z,25nm,20.0s,baz=175,slow=36							
AKTO	**Aktyubinsk**	**19.59**	**318**	P		**Pn**	**06 53 55.4**	**-0.5**
	0.2nm,0.3s,baz=123,slow=12,SNR=8.7							
SONM	**Songino Array**	**22.88**	**54**	P		**P**	**06 54 31.4**	**+1.4**
	1.4nm,0.6s,baz=251,slow=10.0,SNR=2.3							
ARU	**Arti**	**23.23**	**331**	P		**P**	**06 54 38.9**	**+5.4**
	1.2nm,0.4s,baz=143,slow=10,SNR=1.4							
PALK	**Pallekele**	**30.09**	**176**	LR		LR	07 08 05.6	
	comp=Z,77nm,19.5s,baz=98,slow=37							
BRTR	**Keskin Array B**	**34.89**	**288**	P		**P**	**06 56 17.1**	**-1.1**
	1.4nm,0.9s,baz=55,slow=15,SNR=3.7							
KSRS	**Korea Array**	**38.85**	**74**	LR		LR	07 15 04.0	
	comp=Z,34nm,18.8s,baz=165,slow=40							
KLR	**Kul'dur**	**39.70**	**55**	P		**P**	**06 57 00.9**	**+2.3**
	0.9nm,0.6s,baz=280,slow=12,SNR=1.9							
FINES	**FINESS Array B**	**40.19**	**324**	P		**P**	**06 57 01.9**	**-0.6**
	2.8nm,1.0s,baz=101,slow=7.5,SNR=2.1							
ARCES	**ARCESS Array B**	**42.69**	**336**	P		**P**	**06 57 22.9**	**-0.1**
	2.6nm,1.0s,baz=108,slow=5.8,SNR=4.4							
HFS	**Hagfors**	**46.10**	**321**	LR		LR	07 17 17.3	
	comp=Z,23nm,18.9s,baz=90,slow=36							
NB2	**NORSAR Subarra**	**47.30**	**322**	P		P	06 58 04.4	+4.6
	comp=Z,1.6nm,0.6s,baz=88,slow=7.9							
NOA	**NORSAR Array B**	**47.30**	**322**	P		P	06 58 03.9	+4.2
	comp=Z,2.2nm,0.6s,baz=90,slow=7.7,SNR=6.7							
GERES	**GERESS Array B**	**47.30**	**306**	P		**P**	**06 57 59.6**	**-0.4**
	comp=Z,0.3nm,0.2s,baz=57,slow=7.2,SNR=1.5							
SIJI	**Sorong**	**61.79**	**115**	LR		LR	07 28 46.9	
	comp=Z,116nm,19.7s,baz=204,slow=38							
TORD	**Torodi Ar. Bea**	**71.73**	**273**	P		**P**	**07 00 46.9**	**-2.2**
	comp=Z,0.5nm,0.4s,baz=46,slow=5.1,SNR=4.5							
ILAR	**Eielson Array**	**72.10**	**19**	P		P	07 00 55.5	+4.9
	comp=Z,1.8nm,0.8s,baz=318,slow=5.0,SNR=18							
WRA	**Warramunga Arr**	**77.55**	**127**	P		**P**	**07 01 23.6**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=308,slow=3.7,SNR=4.9							
ASAR	**Alice Springs**	**80.03**	**130**	P		**P**	**07 01 36.9**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=314,slow=5.2,SNR=6.9							

GCG ***18*** *06:54:25.5±0.3, 13°.74N×91°.26W, h23km±2km, MD3.6*

SNET ***18*** *06:54:25.5±1.0, 13°.81N×91°.27W, h33km±291km, ML3.1*

ISC 18 06:54:24.3±3.6, 13°.7N±0°.1×91°.4W±0°.2, h28km±17km, n21, σ0s44/35, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FUG	**Fuego 3**	**0.89**	**33**	*eP*		**Pn**	**06 54 41.1**	**0.0**
PCG	**Pacaya**	**0.99**	**46**	*eP*		**Pb**	**06 54 42.9**	**-0.2**
PCG				*eS*		**Sn**	**06 54 56.5**	**+0.7**
NBG	**Las Nubes**	**1.31**	**48**	*eP*		**Pb**	**06 54 48.1**	**-0.4**
NBG				*eS*		**Sb**	**06 55 05.5**	**+0.6**
SLOZ	**Alcaldia de Sa**	**1.55**	**78**	*eP*		**Pn**	**06 54 49.7**	**-0.4**
SLOZ				*eS*		**Sn**	**06 55 09.0**	**-0.3**
CEVE	**Cerro Verde**	**1.68**	**86**	*eP*		**Pn**	**06 54 51.9**	**-0.2**
CEVE				*eS*		**Sn**	**06 55 13.1**	**+0.3**
CEVE				IAML			06 55 20.3	
	comp=Z,538nm,0.2s							
SBLS	**San Blas**	**1.68**	**85**	*eP*		**Pn**	**06 54 52.0**	**0.0**
SBLS				*eS*		**Sn**	**06 55 12.8**	**0.0**
SNJE	**San Jose**	**1.70**	**84**	*eP*		**Pn**	**06 54 52.2**	**-0.1**
UNIC	**Universidad Ca**	**1.77**	**81**	*eP*		**Pn**	**06 54 53.3**	**+0.2**
UNIC				*eS*		**Sn**	**06 55 14.5**	**-0.2**
JAYA	**Jayaque - finc**	**1.84**	**91**	*eP*		**Pn**	**06 54 53.8**	**-0.5**
JAYA				*eS*		**Sn**	**06 55 16.0**	**-0.7**
JAYA				IAML			06 55 19.1	
	comp=Z,395nm,0.2s							
CEDA	**San Andres**	**1.90**	**87**	*eP*		**Pn**	**06 54 54.4**	**-0.5**
CEDA				*eS*		**Sn**	**06 55 18.4**	**+0.5**
TACO	**Tacachico**	**1.95**	**82**	*eP*		**Pn**	**06 54 55.7**	**0.0**
TACO				IAML			06 54 59.4	
	comp=Z,51nm,0.2s							
TACO				*eS*		**Sn**	**06 55 18.6**	**-0.7**
PMON	**Piamonte**	**1.97**	**90**	*eP*		**Pn**	**06 54 55.8**	**-0.2**
MTO3	**Montecristo**	**2.05**	**70**	*eP*		**Pn**	**06 54 56.5**	**-0.6**
UESS	**Universidad de**	**2.08**	**89**	*eP*		**Pn**	**06 54 58.1**	**+0.6**
LFRS	**El Faro**	**2.22**	**92**	*eP*		**Pn**	**06 54 59.7**	**+0.2**
LFRS				*eS*		**Sn**	**06 55 26.2**	**+0.2**
LBRS	**Las Brisas**	**2.24**	**89**	*eP*		**Pn**	**06 55 00.2**	**+0.6**
SJTE	**Alcalda de S**	**2.27**	**92**	*eP*		**Pn**	**06 55 00.6**	**+0.4**
SJTE				*eS*		**Sn**	**06 55 27.7**	**+0.4**
SJTE				IAML			06 55 30.3	
	comp=Z,49nm,0.2s							
PAVA	**Las Pavas**	**2.34**	**90**	*eP*		**Pn**	**06 55 01.2**	**+0.1**
PAVA				*eS*		**Sn**	**06 55 28.9**	**-0.1**
COEG	**Centro de Oper**	**2.40**	**92**	*eP*		**Pn**	**06 55 02.5**	**+0.7**
COEG				*eS*		**Sn**	**06 55 30.3**	**0.0**
COEG				IAML			06 55 38.9	
	comp=Z,135nm,0.3s							
COEB	**Comit de Eme**	**2.75**	**94**	*eP*		**Pn**	**06 55 07.1**	**+0.5**
LCND	**La Caada**	**3.38**	**96**	*eP*		**Pn**	**06 55 15.6**	**+0.3**
LCND				*eS*		**Sn**	**06 55 54.1**	**-0.5**

IDC ***18*** *06:54:31.9±2.5, 31°.24S×71°.49W, h0km, mb4.1/2, mb1 4.0/3, mb1mx3.7/16, mbtmp3.9/3, ML3.2/1, Error ellipse: s-maj=89.0km s-min=41.7km az=111.0*

NEIC ***18*** *06:54:38.5±1.2, 31°.41S±0°.03×71°.47W±0°.07, h43km±3km, mb4.2/3, ML3.6(GUC), Error ellipse: s-maj=8.9km s-min=4.8km az=89.0*

GUC ***18*** *06:54:38.2±0.8, 31°.41S×71°.43W, h47km±4km, ML3.6*

ISC 18 06:54:38.5±1.1, 31°.40S±0°.03×71°.52W±0°.06, h47km±12km, n39, σ0s87/42, mb4.1/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**0.73**	**352**	*eP*		**Pn**	**06 54 52.9**	**+0.3**
CO06				*eS*		**Sn**	**06 55 03.2**	**+0.5**
CO06				IAML			06 55 08.5	
	comp=E,2μm,0.2s							
CO06	**Fray Jorge**	**0.73**	**352**			**Pn**	**06 54 52.7**	**+0.1**
CO06					Sn	**Sn**	**06 55 02.6**	**-0.2**
CO03	**El Pedregal**	**0.91**	**52**	*eP*		**Pn**	**06 54 54.6**	**-0.4**
CO03				*eS*		**Sn**	**06 55 06.4**	**-0.7**
CO03				IAML			06 55 10.3	
	comp=N,3μm,0.1s							
CO03	**El Pedregal**	**0.91**	**52**			**Pn**	**06 54 54.3**	**-0.7**
VA06	**Catapilco**	**1.17**	**171**	*eP*		**Pn**	**06 54 58.2**	**-0.3**
VA06				IAML			06 55 18.5	
	comp=E,2μm,0.4s							
GO04	**Tololo Observa**	**1.37**	**27**	*eP*		**Pn**	**06 55 02.0**	**+0.5**
GO04				*eS*		**Sn**	**06 55 19.1**	**+0.5**
GO04	**Tololo Observa**	**1.37**	**27**			**Pn**	**06 55 01.4**	**-0.1**
CO05	**La Serena**	**1.50**	**9**	*eP*		**Pn**	**06 55 03.9**	**+1.0**
CO05				IAML			06 55 30.4	
	comp=N,882nm,0.1s							
CO05	**La Serena**	**1.50**	**9**			**Pn**	**06 55 03.0**	**+0.1**
VA03	**San Esteban**	**1.58**	**149**	*eP*		**Pn**	**06 55 04.2**	**-0.1**
VA03				IAML			06 55 27.2	
	comp=N,2μm,0.4s							
VA03	**San Esteban**	**1.58**	**149**			**Pn**	**06 55 02.7**	**-1.6**
VA01	**Torpederas**	**1.62**	**184**			**Pn**	**06 55 04.7**	**+0.1**
VA01					Sn	**Sn**	**06 55 23.5**	**-0.8**
ROCH	**El Roble**	**1.62**	**165**	*eP*		**Pn**	**06 55 05.4**	**+0.5**
ROCH				IAML			06 55 28.2	
	comp=N,1μm,0.5s							
MT05	**Renca**	**2.09**	**162**	*eP*		**Pn**	**06 55 11.9**	**+0.8**
MT05				IAML			06 55 51.2	
	comp=E,1μm,0.8s							
MT05	**Renca**	**2.09**	**162**	Pn		**Pn**	**06 55 11.7**	**+0.6**
VA05	**Santo Domingo**	**2.25**	**182**	IAML			06 55 50.0	
	comp=E,554nm,0.5s							
MT09	**Talagante**	**2.41**	**169**	*eP*		**Pn**	**06 55 16.6**	**+1.0**
MT09				IAML			06 55 54.7	
	comp=E,501nm,0.3s							
MT09	**Talagante**	**2.41**	**169**	Pn		**Pn**	**06 55 16.5**	**+0.9**
MT01	**Popeta**	**2.46**	**175**	*eP*		**Pn**	**06 55 16.8**	**+0.5**
MT01				*eS*		**Sn**	**06 55 46.9**	**+1.8**
MT01				IAML			06 55 58.2	
	comp=E,254nm,0.3s							
MT01	**Popeta**	**2.46**	**175**	Pn		**Pn**	**06 55 16.7**	**+0.5**
LCO	**Las Campanas**	**2.49**	**17**	*eP*		**Pn**	**06 55 17.9**	**+1.1**
LCO				*i* S		**Sn**	**06 55 47.3**	**+1.2**
LMEL	**Las Melosas**	**2.68**	**156**	*eP*		**Pn**	**06 55 20.9**	**+1.6**
LMEL				*i* S		**Sn**	**06 55 52.9**	**+2.3**
LMEL				IAML			06 56 05.7	
	comp=N,451nm,0.4s							
BO01	**Tunca**	**3.00**	**173**	*eP*		**Pn**	**06 55 24.1**	**+0.6**
BO01				IAML			06 56 13.0	
	comp=E,101nm,0.5s							
BO01	**Tunca**	**3.00**	**173**	Pn		**Pn**	**06 55 24.2**	**+0.6**
BO03	**Pichilemu**	**3.11**	**187**	*eP*		**Pn**	**06 55 24.4**	**-0.6**
BO03				IAML			06 56 27.1	
	comp=E,74nm,0.5s							
AC04	**Llanos de Chal**	**3.21**	**7**	*eP*		**Pn**	**06 55 27.3**	**+0.8**
AC04				IAML			06 56 21.1	
	comp=N,241nm,0.3s							
BO02	**Sierra Bellavi**	**3.44**	**170**	*eP*		**Pn**	**06 55 30.6**	**+1.0**
BO02				*i* S		**Sn**	**06 56 08.6**	**-0.5**
BO02				IAML			06 56 26.7	
	comp=E,263nm,0.4s							
GO05	**Huala**	**3.61**	**185**	Pn		**Pn**	**06 55 31.1**	**-0.9**
VA04	**Juan Fernndez**	**6.57**	**248**	Pn		**Pn**	**06 56 12.3**	**-0.2**
H03N1	**Juan Fernandez**	**6.57**	**250**	T		T	07 02 56.5	
	baz=77,slow=72,SNR=143							
H03N3	**Juan Fernandez**	**6.59**	**250**	T		T	07 02 56.3	
	baz=77,slow=72,SNR=153							
H03N2	**Juan Fernandez**	**6.59**	**250**	T		T	07 02 57.6	
	baz=77,slow=72,SNR=145							
PLCA	**Paso Flores**	**9.34**	**175**	Pn		**Pn**	**06 56 50.2**	**-0.4**
	comp=E,0.1nm,0.3s,baz=4.4,slow=18,SNR=1.8							
BDFB	**Brasilia**	**26.57**	**59**	P		**P**	**07 00 11.3**	**-1.1**
	comp=E,3.9nm,1.0s,baz=240,slow=14,SNR=3.8							
BDFB	**Brasilia**	**26.57**	**59**	IAmb		IAmb	07 00 12.8	
	comp=Z,11nm,1.2s							
SNAA	**Sanae**	**53.83**	**159**	P		**P**	**07 03 56.2**	**0.0**
SNAA				IAmb		IAmb	07 03 56.9	
	comp=Z,1.5nm,0.9s							
TORD	**Torodi Ar. Bea**	**82.91**	**70**	P		**P**	**07 06 58.4**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=248,slow=3.8,SNR=5.5							
TORD	**Torodi Ar. Bea**	**82.91**	**70**	IAmb		IAmb	07 06 58.9	
	comp=Z,2.2nm,1.1s							
ZALV	**Zalesovo Beam**	**151.78**	**30**	PKPbc		**PKPbc**	**07 14 27.6**	**+0.1**
	comp=Z,3.0nm,0.5s,baz=317,slow=2.9,SNR=5.9							

NEIC ***18*** *07:05:23.3, 30°.41S×72°.11W, h25km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.26; $M_{\theta\theta}$0.27; $M_{\phi\phi}$-2.53; $M_{r\theta}$0.49; $M_{\theta\phi}$0.31; $M_{\phi r}$-0.94; Fault plane solution: $M_0$2.65000×10^{15} NP1:ϕ_s164.52000°, δ56.82000°, λ79.00000°. NP2:ϕ_s4.07000°, δ34.76000°, λ106.26000°. Principal axes: T 2.5212, Plg75.0000°, Azm42.0000°; N 0.2396, Plg9.0000°, Azm171.0000°; P -2.7607, Plg11.0000°, Azm262.0000°;*

IDC ***18*** *07:05:23.5±0.9, 30°.46S×71°.78W, h0km, mb4.2/5, mb1 4.1/10, mb1mx4.0/25, mbtmp4.0/10, ML4.0/5, MS3.8/3, Ms1 3.7/3, ms1mx3.3/17 Error ellipse: s-maj=32.9km s-min=24.0km az=102.0*

NEIC ***18*** *07:05:24.5±1.5, 30°.41S±0°.05×72°.05W±0°.05, h13km±4km, mb4.4/10, Mwr4.2/38, ML4.5(GUC), Error ellipse: s-maj=6.9km s-min=5.9km az=147.0*

GUC ***18*** *07:05:25.4±0.7, 30°.45S×71°.91W, h27km±7km, ML4.5*

VAO ***18*** *07:05:28.0±0.8, 30°.48S×71°.91W, h38km±6km, mb4.3*

ISC 18 07:05:24.0±1.2, 30°.40S±0°.04×72°.05W±0°.06, h11km±6km, n117, σ0s92/118, mb4.3/5, 2C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**0.45**	**128**	⇓*iP*		**Pg**	**07 05 33.5**	**+0.6**
CO06				*i* S		**Sg**	**07 05 39.1**	**+0.2**
CO06				IAML			07 05 40.8	
	comp=

CPUP	**Villa Florida**	**13.58**	**76**	*eP*		**Pn**	**07 08 37.0**	**+0.5**
LPAZ	**La Paz**	**14.50**	**15**	Pn		**Pn**	**07 08 50.8**	**+1.0**
	comp=N,0.2nm,0.3s,baz=206,slow=11,SNR=7.2							
LPAZ	**La Paz**	**14.50**	**15**	*eP*		**Pn**	**07 08 52.5**	**+2.7**
CPSB	**Cacapava Do Su**	**16.06**	**95**	*eP*		**Pn**	**07 09 10.6**	**+0.8**
SIV	**San Ignacio**	**17.52**	**37**	Pn		**Pn**	**07 09 28.3**	**0.0**
	comp=N,0.7nm,0.3s,baz=227,slow=11,SNR=57							
AQDB	**Aquidauana**	**17.75**	**60**	*eP*		**Pn**	**07 09 29.9**	**-1.3**
CNLB	**Canela**	**18.42**	**92**	*eP*		**Pn**	**07 09 39.6**	**+0.2**
PTGB	**Pitanga**	**18.59**	**77**	*eP*		**Pn**	**07 09 42.1**	**+0.5**
PTLB	**Pontes e Lacer**	**19.02**	**41**	*eP*		**P**	**07 09 46.4**	**+0.4**
TER01	**Tubarao-SC**	**20.04**	**90**	*eP*		**P**	**07 09 57.8**	**+0.6**
PP1B	**Ponte de Pedra**	**20.17**	**55**	*eP*		**P**	**07 09 58.3**	**-0.4**
VILB	**Vilhena**	**20.53**	**35**	*eP*		**P**	**07 10 02.6**	**+0.1**
PCMB	**Pacaembu**	**20.61**	**70**	*eP*		**P**	**07 10 02.6**	**-0.8**
SALV	**Santo Antonio**	**20.80**	**50**	*eP*		**P**	**07 10 04.7**	**-0.8**
ETMB	**Extrema**	**21.19**	**16**	*eP*		**P**	**07 10 11.1**	**+1.5**
ITRB	**Iturama**	**22.31**	**67**	*eP*		**P**	**07 10 20.3**	**-1.4**
PET01	**Itanhaem-SP**	**22.81**	**81**	*eP*		**P**	**07 10 26.7**	**-0.3**
SAML	**Samuel**	**22.89**	**23**	P		**P**	**07 10 27.1**	**-0.8**
SAML	**Samuel**	**22.89**	**23**	*eP*		**P**	**07 10 28.3**	**+0.4**
SPB	**Sao Paulo**	**22.93**	**79**	*eP*		**P**	**07 10 27.7**	**-0.5**
VAO	**Valinhos**	**23.56**	**78**	*eP*		**P**	**07 10 34.4**	**-0.3**
CLDB	**Colider**	**24.61**	**41**	*eP*		**P**	**07 10 43.1**	**-1.4**
IPMB	**Ipameri, GO**	**24.95**	**66**	*eP*		**P**	**07 10 46.8**	**-0.8**
BSCB	**Bom Success**	**26.24**	**76**	*eP*		**P**	**07 10 59.2**	**-0.1**
BDFB	**Brasilia**	**26.47**	**62**	P		**P**	**07 11 00.8**	**-0.6**
	comp=N,6.6nm,0.7s,baz=223,slow=8.5,SNR=10							
BDFB	**Brasilia**	**26.47**	**62**	P		**P**	**07 11 00.7**	**-0.8**
BDFB				IAmb		IAmb	07 11 01.1	
	comp=Z,5.9nm,0.6s							
SNDB	**Serra Nova Dou**	**26.57**	**51**	*eP*		**P**	**07 11 02.9**	**+0.7**
VAS01	**Vassouras-RJ**	**26.83**	**79**	*eP*		**P**	**07 11 04.5**	**0.0**
NPGB	**Novo Progresso**	**28.02**	**37**	*eP*		**P**	**07 11 14.5**	**-0.8**
DIAM	**Diamantina, MG**	**28.44**	**71**	*eP*		**P**	**07 11 18.8**	**-0.3**
PEXB	**Peixe**	**28.55**	**56**	*eP*		**P**	**07 11 19.9**	**-0.1**
MC01	**Montes Claros**	**29.05**	**68**	*eP*		**P**	**07 11 24.8**	**+0.3**
JANB	**Januaria**	**29.68**	**65**	*eP*		**P**	**07 11 29.5**	**-0.6**
ALF01	**Guarapari-ES**	**29.82**	**78**	*eP*		**P**	**07 11 31.1**	**-0.1**
SJMB	**Sao Joao De Ma**	**30.29**	**75**	*eP*		**P**	**07 11 34.9**	**-0.6**
BSFB	**Barra de Sao F**	**30.52**	**75**	*eP*		**P**	**07 11 36.5**	**-0.9**
RIB01	**Linhares ES**	**30.67**	**76**	*eP*		**P**	**07 11 38.0**	**-0.8**
SDBA	**SAO DESIDERIO**	**30.84**	**60**	*eP*		**P**	**07 11 39.9**	**-0.5**
SMTB	**Santa Maria do**	**31.32**	**52**	*eP*		**P**	**07 11 44.5**	**0.0**
PRPB	**Parauapebas**	**31.90**	**45**	*eP*		**P**	**07 11 49.3**	**-0.3**
BOAV	**Boa Vista**	**34.42**	**21**	*eP*		**P**	**07 12 12.1**	**+0.6**
NBPN	**Ponto Novo - B**	**35.40**	**63**	*eP*		**P**	**07 12 19.3**	**-0.9**
MCPB	**Macapa, AP**	**35.41**	**36**	*eP*		**P**	**07 12 20.0**	**-0.1**
ROSB	**Rosrio**	**38.03**	**49**	*eP*		**P**	**07 12 42.9**	**+0.4**
NBMA	**Muriti-CE**	**38.69**	**61**	*eP*		**P**	**07 12 48.3**	**+0.1**
NBPS	**Pedro II - PI**	**38.76**	**54**	*eP*		**P**	**07 12 48.5**	**-0.3**
NBAN	**Anadia - AL**	**39.18**	**66**	*eP*		**P**	**07 12 51.4**	**-0.8**
NBRF	**Rio Formoso -**	**40.68**	**66**	*eP*		**P**	**07 13 07.0**	**+2.4**
NBPA	**Parau_RN**	**40.98**	**60**	*eP*		**P**	**07 13 06.7**	**-0.5**
VNA3	**Neumayer Olymp**	**52.70**	**159**	P		**P**	**07 14 38.2**	**0.0**
VNA1	**Neumayer--Stat**	**52.99**	**158**	P		**P**	**07 14 40.3**	**+0.1**
VNA2	**Neumayer--Watz**	**53.34**	**158**	P		**P**	**07 14 42.9**	**+0.1**
	baz=286,slow=8.3							
SNAA	**Sanae**	**54.92**	**159**	P		**P**	**07 14 54.5**	**0.0**
SNAA	**Sanae**	**54.92**	**159**	P		**P**	**07 14 54.7**	**+0.2**
QSPA	**South Pole Qui**	**59.83**	**180**	P		**P**	**07 15 29.8**	**+0.5**
TXAR	**Lajitas Array**	**66.61**	**330**	P		**P**	**07 16 16.8**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=150,slow=9.3,SNR=4.2							
DBIC	**Dimbokro**	**74.06**	**72**	P		**P**	**07 17 00.7**	**+0.3**
	comp=Z,3.1nm,0.7s,baz=240,slow=6.6,SNR=4.9							
DBIC				LR		LR	07 47 19.9	
	comp=Z,94nm,19.4s,baz=230,slow=34							
MAW	**Mawson**	**76.63**	**164**	P		**P**	**07 17 14.5**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=276,slow=20,SNR=2.8							
MAW				LR		LR	07 49 57.4	
	comp=Z,42nm,21.6s,baz=247,slow=35							
TORD	**Torodi Ar. Bea**	**83.00**	**70**	P		**P**	**07 17 49.5**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=263,slow=5.3,SNR=7.8							
TORD	**Torodi Ar. Bea**	**83.00**	**70**	IAmb		IAmb	07 17 51.2	
	comp=Z,2.3nm,0.9s							
H11S2	**WAKE ISLAND Hyl**	**25.73**	**272**	T		T	09 43 21.3	
	baz=115,slow=74,SNR=27							
H11S1	**WAKE ISLAND Hyl**	**25.75**	**272**	T		T	09 43 07.9	
	baz=115,slow=74,SNR=14							
H11S3	**WAKE ISLAND Hyl**	**25.75**	**272**	T		T	09 43 20.1	
	baz=115,slow=74,SNR=8.5							
BVAR	**Borovoye Array**	**144.58**	**39**	PKP		**PKPdf**	**07 25 00.6**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=232,slow=4.9,SNR=5.6							
KURBB	**Kurchatov Arra**	**150.17**	**39**	PKPbc		**PKiKP**	**07 25 15.3**	**-0.1**
	comp=Z,3.1nm,0.8s,baz=297,slow=3.2,SNR=27							
KURK	**Kurchatov**	**150.17**	**39**			**PKiKP**	**07 25 15.3**	**-0.1**
AAK	**Ala-Archa**	**150.66**	**56**	PKPbc		**PKiKP**	**07 25 17.6**	**+0.7**
	comp=Z,7.1nm,0.7s,baz=231,slow=0.2,SNR=19							
ZALV	**Zalesovo Beam**	**151.13**	**29**	PKPbc		**PKiKP**	**07 25 17.8**	**+0.4**
	comp=Z,7.3nm,0.5s,baz=297,slow=2.2,SNR=16							
ZALV				PKPab		**pPKPab**	**07 25 26.3**	**-0.8**
	comp=Z,8.2nm,0.7s,baz=307,slow=3.4,SNR=8.0							
MKAR	**Makanchi Array**	**154.28**	**43**	PKPbc		**PKiKP**	**07 25 24.4**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=320,slow=3.2,SNR=8.7							
MKAR				PKPab		**PKPab**	**07 25 35.6**	**-2.5**
	comp=Z,0.5nm,0.6s,baz=327,slow=2.4,SNR=4.4							

HLW 18 07:10:29.4,34°38N×25°54E, h9km±12km, Md3.8, Ml3.5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLUM	**Salum**	**2.89**	**186**	P	Pn	07 11 14.6	-1.0
	baz=186						
SLUM				AMP		07 11 00.0	
	baz=186						
SLUM				S	Sn	07 11 46.0	-4.5
	baz=186						
SWA2		**5.12**	**181**	P	Pn	07 11 45.3	-1.0
	baz=181						
SWA2				AMP		07 12 00.0	
	baz=181						
SWA2				S	Sn	07 12 38.0	-7.4
	baz=181						
RYAN	**Fayoum**	**6.64**	**141**	P	Pn	07 12 04.8	-2.3
	baz=141						
RYAN				AMP		07 15 00.0	
	baz=141						
GLL	**Jalalah**	**7.09**	**131**	P	Pn	07 12 11.4	-2.0
	baz=130						
NBNS	**Bani Suef**	**7.55**	**138**	P	Pn	07 12 17.9	-1.8
	baz=137						
HFRF	**Wahat Farafira**	**7.59**	**161**	P	Pn	07 12 18.0	-2.2
	baz=161						
HKAT	**Jabal Katrina**	**9.28**	**127**	P	Pn	07 12 40.2	-3.4
	baz=126						

MEX 18 07:15:55.8±0.7, 14°06N×93°41W, h5km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.39**	**52**	*i* P	Pn	07 16 18.3	-3.6
THIG				*i* S	Sb	07 16 35.0	-5.4
PCIG		**1.65**	**6**	*i* P	Pn	07 16 21.6	-3.8
CCIG	**Comitan**	**2.53**	**29**	*i* P	Pn	07 16 35.2	-2.5
CCIG				*eS*	Sn	07 17 04.8	-4.2
TGIG		**2.72**	**6**	*eP*	Pn	07 16 37.8	-2.4
TGIG				*i* S	Sn	07 17 09.1	-4.5

MEX 18 07:17:47.4±0.6, 14°54N×93°25W, h138km±15km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.02**	**69**	*i* P	Pn	07 18 09.3	-1.9
THIG				*i* S	Sn	07 18 27.0	-2.3
PCIG		**1.16**	**1**	*i* P	Pn	07 18 11.3	-1.3
PCIG				*i* S	Sn	07 18 29.7	-2.1
PCIG				*i* S	Sn	07 18 29.7	-2.1
CCIG	**Comitan**	**2.04**	**32**	*i* P	Pn	07 18 28.4	+5.9
CCIG				*i* S	Sn	07 18 58.2	+8.8
TGIG		**2.23**	**3**	*i* P	Pn	07 18 28.5	+3.7
TGIG				*i* S	Sn	07 18 59.4	+6.0

IDC 18 07:18:13.0±3.2, 53°60N×87°95E, h0km, mb1 2.8/2, mb1mx2.8/56, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=27.1km s-min=16.8km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**282**	*i*		07 31 00.0	
	baz=96,slow=334,SNR=3.9						
ZALV	**Zalesovo Beam**	**1.89**	**282**	Pn	Pn	07 18 47.0	+0.4
	0.7nm,0.3s,baz=103,slow=14,SNR=7.4						
ZALV				Lg	Lg	07 19 12.7	
	1.6nm,0.3s,baz=100,slow=30,SNR=8.3						
KURBB	**Kurchatov Arra**	**6.52**	**247**	Pn	Pn	07 19 50.7	+0.6
	0.1nm,0.3s,baz=61,slow=14,SNR=1.9						
KURBB				Lg	Lg	07 21 38.9	
	0.0nm,0.3s,baz=64,slow=34,SNR=5.6						
MKAR	**Makanchi Array**	**7.71**	**210**	Pn	Pn	07 20 07.6	+1.1
	0.1nm,0.3s,baz=23,slow=14,SNR=2.3						
MKAR				Sn	Sn	07 21 34.0	-0.5
	0.0nm,0.3s,baz=30,slow=23,SNR=3.9						

ISC 18 07:19:36.9±1.3, 49°24N±0°07×18°93E±0°05, h10km, n5, σ0°75/9, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANS	**Liptovska Anna**	**0.37**	**104**	*eP*G	**Pb**	**07 19 45.5**	**0.0**
LANS				*eS*G	**Sb**	**07 19 51.6**	**+0.3**
KOLL	**Kolacno**	**0.75**	**208**	*eP*G	**Pg**	**07 19 49.9**	**-1.4**
VYHS	**Vyhne**	**0.75**	**185**	*eP*G	**Pg**	**07 19 52.1**	**+0.7**
VYHS				*eS*G	**Sn**	**07 20 04.7**	**-0.3**
JAVC	**Velka Javorina**	**0.91**	**246**	*eP*G	**Pb**	**07 19 55.6**	**+0.8**
JAVC				*eS*G	**Sn**	**07 20 08.8**	**-0.2**
MORC	**Moravsky Berou**	**1.05**	**301**	*eP*G	**Pb**	**07 19 57.4**	**+0.2**
MORC				*eS*G	**Sn**	**07 20 12.6**	**+0.1**

*DJA **18** 07:23:24.0±0.4, 2°N±4°×12°7E±°, h10km, M4.1/6, mb4.3/2, mB4.8/1, MLv4.0/6, Mw(mB)4.1/1*
*IDC **18** 07:23:26.8±4.2, 2°.31N×126°.91E, h53km±40km, mb3.7/12, mb1 3.8/13, mb1mx3.7/41, mbtmp4.0/13, ML3.8/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/43, Error ellipse: s-maj=39.6km s-min=13.0km az=82.0*
*NEIC **18** 07:23:28.5±1.7, 2°.29N±0°.10×126°.9E±0°.1, h67km±9km, mb4.1/14, Error ellipse: s-maj=20.4km s-min=11.7km az=59.0*

ISC 18 07:23:26.6±0.6, 2°37N±0°06×126°98E±0°07, h53km, n40, σ0°94/38, mb4.1/16, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMI	**Galela, Maluku**	**0.97**	**123**	P	**Pn**	**07 23 43.6**	**-0.4**
GAMI				S	**Sn**	**07 23 57.0**	**+0.2**
TNTI	**Ternate**	**1.63**	**166**		**Pn**	**07 23 53.7**	**+0.7**
TNTI	**Ternate**	**1.63**	**166**	P	**Pn**	**07 23 52.0**	**-1.0**
SGSI	**Sangihe**	**1.95**	**12**	P	**Pn**	**07 23 56.0**	**-1.4**
MNI	**Manado**	**2.33**	**247**	P	**Pn**	**07 24 01.1**	**-1.4**
KMSI	**Cibinong**	**3.48**	**239**	P	Pn	07 24 31.1	+13
GTOI	**Gorontalo**	**4.32**	**247**	P	**Pn**	**07 24 30.1**	**+0.2**
MRSI	**Marisa**	**5.37**	**250**	P	**Pn**	**07 24 44.7**	**+0.4**
	0.3nm892nm54nm,0.7s						
TOLI2	**Tolitoli**	**6.32**	**259**	Pn	**Pn**	**07 24 55.9**	**-1.4**
MPSI	**Mapaga**	**7.36**	**254**	P	**Pn**	**07 25 12.2**	**+0.7**
KAPI	**Kappang**	**10.29**	**225**	P	**Pn**	**07 25 52.0**	**+0.3**
	0.7nm,0.3s,baz=141,slow=10,SNR=1.5						
GENI	**Genyem**	**14.08**	**110**	P	**P**	**07 26 47.3**	**-2.3**
KNRA	**Kununurra**	**18.02**	**174**	P	**Pn**	**07 27 34.2**	**+0.9**
KNRA				IAmb	IAmb	07 27 40.0	
	comp=Z,7.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.38**	**184**	P	**P**	**07 27 58.7**	**-0.4**
	comp=Z,2.8nm,0.5s,baz=336,slow=10.0,SNR=7.2						
FITZ	**Fitzroy Crossi**	**20.38**	**184**	IAmb	IAmb	07 28 04.9	
	comp=Z,3.7nm,0.8s						
COEN	**Coen**	**22.83**	**136**	P	**P**	**07 28 25.3**	**-0.1**
COEN				IAmb	IAmb	07 28 33.3	
	comp=Z,6.0nm,1.2s						
WB0	**Warramunga Arr**	**23.17**	**162**	P	**P**	**07 28 27.6**	**-1.3**
WB0				IAmb	IAmb	07 28 32.3	
	comp=Z,7.3nm,0.6s						
WRA	**Warramunga Arr**	**23.32**	**162**	P	**P**	**07 28 29.1**	**-1.2**
	comp=Z,2.1nm,0.3s,baz=340,slow=11,SNR=27						
WRA				PcP	**PcP**	**07 32 16.3**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=318,slow=2.3,SNR=2.1						
WRA	**Warramunga Arr**	**23.32**	**162**	P	**P**	**07 28 28.8**	**-1.5**
WB2	**Warramunga Arr**	**23.32**	**162**		**P**	**07 28 29.4**	**-0.9**
WB2				IAmb	IAmb	07 28 33.8	
	comp=Z,12nm,1.2s						
WR0	**Warramunga Arr**	**23.40**	**162**		**P**	**07 28 29.4**	**-1.6**
WR0				IAmb	IAmb	07 28 41.6	
	comp=Z,13nm,1.4s						
ASAR	**Alice Springs**	**26.74**	**166**	P	**P**	**07 29 01.0**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=345,slow=11,SNR=12						
ASAR				PcP	**PcP**	**07 32 24.1**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=344,slow=2.5,SNR=4.8						
ASAR	**Alice Springs**	**26.74**	**166**	P	**P**	**07 29 01.0**	**-0.5**
FORT	**Forrest**	**32.98**	**178**	P	**P**	**07 29 56.0**	**-0.6**
JWT	**Wachi**	**33.67**	**12**	P	**P**	**07 30 03.1**	**+0.5**
KSRS	**Korea Array**	**34.93**	**1**	P	**P**	**07 30 14.5**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=176,slow=10,SNR=4.3						
MJAR	**Matsushiro Arr**	**35.55**	**16**	LR	LR	07 42 23.0	
	comp=Z,16nm,21.5s,baz=200,slow=32						
BBOO	**Buckleboo**	**36.03**	**167**	P	**P**	**07 30 22.1**	**-0.8**
BBOO				IAmb	IAmb	07 30 27.4	
	comp=Z,8.9nm,1.1s						
STKA	**Stephens Creek**	**36.78**	**159**	P	**P**	**07 30 29.4**	**+0.1**
	comp=Z,3.8nm,0.6s,baz=333,slow=9.9,SNR=14						
STKA	**Stephens Creek**	**36.78**	**159**	P	**P**	**07 30 29.3**	**0.0**
ARMA	**Armidale**	**40.20**	**146**	P	**P**	**07 30 58.9**	**+0.6**
USRK	**Ussuriysk Ar.**	**41.89**	**5**	P	**P**	**07 31 12.6**	**+0.9**
	comp=Z,1.9nm,0.7s,baz=192,slow=8.4,SNR=5.5						
KLR	**Kul'dur**	**46.87**	**4**	P	**P**	**07 31 52.0**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=214,slow=3.9,SNR=7.4						
SONM	**Songino Array**	**48.66**	**342**	P	**P**	**07 32 06.3**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=141,slow=9.3,SNR=1.9						
SONM	**Songino Array**	**48.66**	**342**	IAmb	IAmb	07 32 27.7	
	comp=Z,2.4nm,1.5s						
PETK	**Petropavlovsk-**	**56.59**	**22**	P	**P**	**07 33 05.1**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=243,slow=6.3,SNR=3.2						
MKAR	**Makanchi Array**	**58.81**	**326**	P	**P**	**07 33 18.8**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=122,slow=8.2,SNR=9.8						
VNDA	**Vanda**	**82.05**	**173**	P	**P**	**07 35 40.8**	**0.0**
	comp=Z,1.3nm,0.8s,baz=325,slow=6.0,SNR=3.5						
VNDA	**Vanda**	**82.05**	**173**	IAmb	IAmb	07 35 45.5	
	comp=Z,2.9nm,1.1s						
MAW	**Mawson**	**82.57**	**200**	P	**P**	**07 35 44.3**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=46,slow=4.0,SNR=2.9						

*SJA **18** 07:32:55.9±0.7, 32°.03S×72°.83W, h20km±10km, ML4.6, MW4.6*
*IDC **18** 07:32:57.0±1.2, 32°.08S×72°.15W, h0km, mb4.1/3, mb1 4.1/8, mb1mx3.9/28, mbtmp3.9/8, ML4.0/5, MS3.5/2, Ms1 3.5/2, ms1mx3.0/31, Error ellipse: s-maj=36.1km s-min=26.9km az=108.0*
*NEIC **18** 07:32:59.4±2.1, 32°.07S±0°.04×72°.2W±0°.1, h15km±5km, mb4.4/8, ML4.2(GUC), Error ellipse: s-maj=14.1km s-min=5.8km az=89.0*
*GUC **18** 07:33:00.1±0.7, 32°.11S×72°.03W, h39km±3km, ML4.1*

ISC 18 07:32:57.7±0.6, 32°06S±0°03×72°20W±0°05, h10km, n77, σ1°29/85, mb4.3/4, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.91**	**123**	*eP*	**Pb**	**07 33 15.3**	**-0.3**
VA06				*eS*	**Sg**	**07 33 26.3**	**-0.9**
VA06				IAML		07 33 31.0	
	comp=E,18µm,0.4s						
VA01	**Torpederas**	**1.07**	**154**	*eP*	**Pn**	**07 33 18.0**	**-0.7**
VA01				*eS*	**Sb**	**07 33 32.3**	**0.0**
VA01	**Torpederas**	**1.07**	**154**		**Pn**	**07 33 18.0**	**-0.7**
VA01	**Torpederas**	**1.07**	**154**	*eP*	**Pn**	**07 33 21.9**	**+3.2**
VA01				*eS*	**Sn**	**07 33 33.1**	**-0.5**
VA01				*eP*	**Sb**	**07 33 32.3**	**+0.9**
ROCH	**El Roble**	**1.35**	**132**	*eP*	**Pb**	**07 33 22.7**	**-0.6**
ROCH				*eS*	**Sb**	**07 33 39.7**	**-1.1**
ROCH				IAML		07 33 46.1	
	comp=E,9µm,0.6s						
CO06	**Fray Jorge**	**1.46**	**19**	*eP*	**Pb**	**07 33 23.7**	**-1.3**
CO06	**Fray Jorge**	**1.46**	**19**	Pn	**Pb**	**07 33 23.9**	**-1.1**
VA03	**San Esteban**	**1.56**	**117**	*eP*	**Pb**	**07 33 25.8**	**-1.0**
VA03				*i* S	**Sn**	**07 33 45.4**	**-0.6**
VA03				IAML		07 33 50.4	
	comp=E,18µm,0.5s						
VA03	**San Esteban**	**1.56**	**117**		**Pb**	**07 33 25.6**	**-1.2**
VA05	**Santo Domingo**	**1.67**	**163**	*eP*	**Pn**	**07 33 26.5**	**-0.5**
VA05				IAML		07 33 57.6	
	comp=E,5µm,0.5s						
VA05	**Santo Domingo**	**1.67**	**163**		**Pn**	**07 33 26.7**	**-0.3**
CO03	**El Pedregal**	**1.77**	**47**	*eP*	**Pb**	**07 33 29.7**	**-0.6**
CO03				*eS*	**Sb**	**07 33 52.6**	**-0.1**
CO03				IAML		07 33 57.3	
	comp=E,2µm,0.9s						
CO03	**El Pedregal**	**1.77**	**47**	Pn	**Pb**	**07 33 29.8**	**-0.6**
MT05	**Renca**	**1.81**	**138**	*i* P	**Pb**	**07 33 29.6**	**-1.4**
MT05				*eS*	**Sn**	**07 33 51.0**	**-1.1**
MT05				IAML		07 33 58.7	
	comp=E,9µm,0.1s						
MT05	**Renca**	**1.81**	**138**		**Pb**	**07 33 29.6**	**-1.4**
MT01	**Popeta**	**1.97**	**156**	*eP*	**Pn**	**07 33 30.9**	**-0.2**
MT01				IAML		07 34 03.8	
	comp=N,2µm,0.5s						
MT01	**Popeta**	**1.97**	**156**		**Pn**	**07 33 30.6**	**-0.5**
MT01	**Popeta**	**1.97**	**156**	*eP*	**Pg**	**07 33 35.0**	**-0.4**
MT01				*eS*	**Sn**	**07 33 54.9**	**-1.0**
MT09	**Talagante**	**1.99**	**150**	*eP*	**Pb**	**07 33 32.5**	**-1.7**
MT09				*i* S	**Sn**	**07 33 57.2**	**+0.5**
MT09				IAML		07 34 06.3	
	comp=E,3µm,0.3s						
MT09	**Talagante**	**1.99**	**150**		**Pb**	**07 33 32.5**	**-1.7**
FSR	**Penalolen**	**2.00**	**136**	*eP*	**Pn**	**07 33 30.7**	**-0.9**
FSR				*i* S	**Sn**	**07 33 57.3**	**+0.7**
GO04	**Tololo Observa**	**2.23**	**33**	*eP*	**Pn**	**07 33 35.3**	**+0.4**
CO05	**La Serena**	**2.29**	**21**	*eP*	**Pn**	**07 33 35.7**	**+0.2**
CO05				IAML		07 34 21.2	
	comp=E,1µm,0.4s						
CO05	**La Serena**	**2.29**	**21**		**Pn**	**07 33 35.7**	**+0.2**
AUSP	**Uspallata**	**2.39**	**95**	*eP*	**Pb**	**07 33 41.0**	**0.0**
AUSP				*eS*	**Sg**	**07 34 13.9**	**-0.7**
BO03	**Pichilemu**	**2.44**	**175**	*iP*	**Pn**	**07 33 37.0**	**-0.6**
BO03				IAML		07 34 25.4	
	comp=E,470nm,0.7s						
LMEL	**Las Melosas**	**2.45**	**137**	*eP*	**Pb**	**07 33 39.2**	**-2.7**
BO01	**Tunca**	**2.51**	**158**	*eP*	**Pn**	**07 33 39.4**	**+0.8**
BO01				*i* S	**Sn**	**07 34 09.6**	**+0.5**
BO01				IAML		07 34 25.9	
	comp=N,617nm,0.6s						
BO01	**Tunca**	**2.51**	**158**		**Pn**	**07 33 39.7**	**+1.2**
ARCO	**CERRO ARCO**	**2.87**	**107**	*eP*	**Pg**	**07 33 50.9**	**-1.8**
ARCO				*eS*	**Sg**	**07 34 31.3**	**+1.3**
ARCO				IAML		07 34 35.2	
	comp=Z,2µm,0.7s						
GO05	**Huala**	**2.95**	**176**	*eP*	**Pn**	**07 33 43.9**	**-0.7**
GO05				IAML		07 34 45.9	
	comp=E,437nm,0.5s						
GO05	**Huala**	**2.95**	**176**		**Pn**	**07 33 44.2**	**-0.5**
BO02	**Sierra Bellavi**	**2.97**	**157**	*eP*	**Pn**	**07 33 46.0**	**+1.1**
BO02				*i* S	**Sn**	**07 34 21.8**	**+1.0**
BO02				IAML		07 34 41.0	
	comp=N,1µm,0.3s						
AAGR	**Agrelo**	**3.02**	**111**	*eP*	**Pb**	**07 33 53.0**	**+1.3**
AAGR				*eS*	**Sg**	**07 34 36.5**	**+1.6**
ZON	**Zonda**	**3.04**	**81**	*eP*	**Pb**	**07 33 52.9**	**+0.9**
ZON				*eP*	**Pg**	**07 33 53.0**	**-3.0**
ZON				*eS*	**Sg**	**07 34 33.2**	**-2.2**
ZON				IAML		07 34 41.9	
	comp=Z,877nm,0.7s						
LCO	**Las Campanas**	**3.30**	**23**	*eP*	**Pn**	**07 33 50.0**	**+0.3**
COIS	**El Sosneado**	**3.74**	**145**	*eP*	**Pb**	**07 33 59.7**	**-4.1**
ML02	**Panimavida**	**3.75**	**170**	Pn	**Pn**	**07 33 55.6**	**0.0**
BI05	**Punta Hualpn**	**4.75**	**190**	*eP*	**Pn**	**07 34 07.5**	**-1.8**
ACHE	**Chepes**	**4.81**	**81**	*eP*	Pb	07 34 16.0	-6.1
ACHE				*eS*	**Sb**	**07 35 19.7**	**-0.4**
H03N1	**Juan Fernandez**	**5.82**	**255**	T	T	07 41 06.2	
	baz=84,slow=73,SNR=76						
H03N3	**Juan Fernandez**	**5.83**	**254**	T	T	07 41 17.2	
	baz=84,slow=73,SNR=78						
H03N2	**Juan Fernandez**	**5.84**	**255**	T	T	07 41 06.3	
	baz=84,slow=73,SNR=59						
H03S3	**Juan Fernandez**	**5.91**	**251**	T	T	07 41 16.2	
	baz=83,slow=75

PSI			P	Pb	07 37 35.4	-4.7
SKJI	**Sukabumi**	**15.38**	**138**	P	Pn	07 40 12.8	-8.5
SJI	**Sawahan**	**19.68**	**128**	P	P	07 41 13.0	-0.5
PWJI	**Pagerwojo**	**19.88**	**129**	P	P	07 41 12.9	-2.8

*IDC **18** 07:44:04.3±0.7,31°.43S×71°.51W,h0km,mb4.4/10, mb1 4.5/14,mb1mx4.4/29,mbtmp4.4/14,ML4.2/4,Error ellipse: s-maj=21.8km s-min=20.6km az=58.0*

*VAO **18** 07:44:05.6±0.3,31°.43S×71°.60W,h10km,mb4.7*

*GUC **18** 07:44:09.7±0.7,31°.38S×71°.56W,h41km±3km,ML4.5*

*NEIC **18** 07:44:10.6±1.8,31°.36S±0°.02×71°.67W±0°.07,h37km±6km, mb4.7/19,Mwr4.4/49,ML4.5(GUC),Error ellipse: s-maj=9.2km s-min=2.7km az=82.0*

*NEIC **18** 07:44:10.7,31°.375S×71°.71W,h47km,Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr5.11; Mθθ0.26; Mϕϕ-5.37; Mrθ1.40; Mθϕ0.95; Mϕr-1.99; Fault plane solution: M0 5.86000×10^15^ NP1:φs159.81000°, δ57.19000°,λ77.52000°. NP2:φs2.02000°,δ34.85000°, λ108.53000°. Principal axes: T 5.7473, Plg74.0000°, Azm35.0000°; N 0.2152, Plg10.0000°, Azm167.0000°; P -5.9625, Plg11.0000°, Azm259.0000°;*

ISC 18 07:44:10.1±0.4,31°.35S±0°.03×71°.59W±0°.05,h40km±3km, n162,σ1§08/169,mb4.7/17,5C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.68**	**356**	⇑*eP*		**Pn**		**07 44 23.5**	**+0.3**
CO06				*eS*		**Sn**		**07 44 32.8**	**+0.2**
CO06				IAML				07 44 36.2	
	comp=E,57μm,0.3s								
CO06	**Fray Jorge**	**0.68**	**356**			**Pn**		**07 44 24.2**	**+1.0**
CO06					Sn	**Sn**		**07 44 32.8**	**+0.2**
CO03	**El Pedregal**	**0.92**	**57**	*eP*		**Pn**		**07 44 27.0**	**+0.3**
CO03				*eS*		**Sn**		**07 44 39.1**	**+0.4**
CO03				IAML				07 44 40.6	
	comp=N,21μm,0.2s								
CO03				IAML				07 44 41.7	
	comp=E,24μm,0.5s								
CO03	**El Pedregal**	**0.92**	**57**	Pn		**Pn**		**07 44 27.5**	**+0.8**
VA06	**Catapilco**	**1.23**	**169**	*eP*		**Pn**		**07 44 30.9**	**0.0**
VA06				*eS*		**Sn**		**07 44 46.8**	**+0.5**
VA06				IAML				07 44 51.9	
	comp=E,15μm,0.6s								
GO04	**Tololo Observa**	**1.35**	**30**	*eP*		**Pn**		**07 44 33.7**	**+0.9**
GO04				*eS*		**Sn**		**07 44 51.2**	**+1.6**
GO04	**Tololo Observa**	**1.35**	**30**			**Pn**		**07 44 34.4**	**+1.7**
CO05	**La Serena**	**1.46**	**12**	*eP*		**Pn**		**07 44 35.2**	**+1.3**
CO05				*eS*		**Sn**		**07 44 54.6**	**+2.8**
CO05				IAML				07 44 59.7	
	comp=E,13μm,0.2s								
CO05	**La Serena**	**1.46**	**12**			**Pn**		**07 44 36.0**	**+2.0**
VA03	**San Esteban**	**1.66**	**148**	*eP*		**Pn**		**07 44 37.6**	**+0.7**
VA03				*eS*		**Sn**		**07 44 58.4**	**+1.4**
VA03				IAML				07 45 00.6	
	comp=E,9μm,0.2s								
VA03	**San Esteban**	**1.66**	**148**			**Pn**		**07 44 38.4**	**+1.5**
VA01	**Torpederas**	**1.67**	**182**	⇑*eP*		**Pn**		**07 44 37.4**	**+0.6**
VA01				*eS*		**Sn**		**07 44 58.2**	**+1.2**
VA01	**Torpederas**	**1.67**	**182**			**Pn**		**07 44 37.2**	**+0.3**
ROCH	**El Roble**	**1.69**	**163**	*eP*		**Pn**		**07 44 38.1**	**+0.8**
ROCH				*eS*		**Sn**		**07 44 59.7**	**+1.8**
ROCH				IAML				07 45 03.3	
	comp=E,6μm,0.3s								
MT05	**Renca**	**2.16**	**161**	*eP*		**Pn**		**07 44 44.8**	**+1.1**
MT05				IAML				07 45 14.9	
	comp=E,7μm,0.6s								
MT05	**Renca**	**2.16**	**161**			**Pn**		**07 44 45.0**	**+1.4**
VA05	**Santo Domingo**	**2.30**	**181**	IAML				07 45 24.8	
	comp=E,4μm,0.4s								
VA05	**Santo Domingo**	**2.30**	**181**			**Pn**		**07 44 45.4**	**-0.2**
LCO	**Las Campanas**	**2.45**	**18**	*eP*		**Pn**		**07 44 49.6**	**+1.7**
LCO				*i* S		**Sn**		**07 45 19.8**	**+3.1**
LCO	**Las Campanas**	**2.45**	**18**			**Pn**		**07 44 50.0**	**+2.1**
MT09	**Talagante**	**2.47**	**168**	⇑*iP*		**Pn**		**07 44 49.2**	**+1.2**
MT09				*i* S		**Sn**		**07 45 18.4**	**+1.3**
MT09				IAML				07 45 30.6	
	comp=N,2μm,0.3s								
MT09	**Talagante**	**2.47**	**168**	Pn		**Pn**		**07 44 48.9**	**+0.8**
MT01	**Popeta**	**2.52**	**174**	*eP*		**Pn**		**07 44 49.4**	**+0.7**
MT01				IAML				07 45 28.1	
	comp=E,2μm,0.5s								
MT01	**Popeta**	**2.52**	**174**			**Pn**		**07 44 49.8**	**+1.1**
LMEL	**Las Melosas**	**2.75**	**155**	⇑*iP*		**Pn**		**07 44 53.7**	**+1.8**
BO01	**Tunca**	**3.06**	**172**	*eP*		**Pn**		**07 44 56.6**	**+0.6**
BO01				IAML				07 45 45.3	
	comp=N,532nm,0.4s								
BO01	**Tunca**	**3.06**	**172**			**Pn**		**07 44 56.6**	**+0.6**
BO03	**Pichilemu**	**3.15**	**186**	⇓*iP*		**Pn**		**07 44 56.6**	**-0.6**
AC04	**Llanos de Chal**	**3.17**	**8**	*eP*		**Pn**		**07 44 58.5**	**+1.1**
AC04	**Llanos de Chal**	**3.17**	**8**	Pn		**Pn**		**07 44 58.6**	**+1.2**
BO02	**Sierra Bellavi**	**3.50**	**169**	*eP*		**Pn**		**07 45 03.4**	**+1.4**
BO02				IAML				07 45 57.6	
	comp=E,2μm,0.2s								
BO02	**Sierra Bellavi**	**3.50**	**169**	Pn		**Pn**		**07 45 03.5**	**+1.4**
GO05	**Huala**	**3.66**	**184**	⇓*iP*		**Pn**		**07 45 03.5**	**-0.7**
GO05	**Huala**	**3.66**	**184**	Pn		**Pn**		**07 45 03.9**	**-0.4**
GO03	**Copiap**	**3.92**	**18**	⇓*iP*		**Pn**		**07 45 09.3**	**+1.4**
GO03				*i* S		**Sn**		**07 45 56.4**	**+3.6**
AC06	**Mina Casimiro**	**4.12**	**15**	*eP*		**Pn**		**07 45 11.6**	**+1.0**
AC06				*i* S		**Sn**		**07 45 59.5**	**+1.9**
AC06	**Mina Casimiro**	**4.12**	**15**			**Pn**		**07 45 10.9**	**+0.3**
ML02	**Panimavida**	**4.40**	**178**	*eP*		**Pn**		**07 45 14.9**	**+0.5**
VA04	**Juan Fernndez**	**6.53**	**248**	Pn		**Pn**		**07 45 43.3**	**-0.4**
H03N1	**Juan Fernandez**	**6.54**	**249**	T		T		07 52 28.0	
	baz=77,slow=72,SNR=1305								
H03N3	**Juan Fernandez**	**6.55**	**249**	T		T		07 52 30.1	
	baz=77,slow=72,SNR=1019								
H03N2	**Juan Fernandez**	**6.55**	**250**	T		T		07 52 28.7	
	baz=77,slow=72,SNR=1093								
PB14	**IPOC Station P**	**6.78**	**9**			**Pn**		**07 45 47.2**	**-0.2**
LC01	**Cunco**	**7.54**	**182**	Pn		**Pn**		**07 45 56.3**	**-1.1**
LR03	**Panguipulli**	**8.29**	**184**			**Pn**		**07 46 07.2**	**-0.5**
LVC	**Limon Verde**	**9.03**	**16**	Pn		**Pn**		**07 46 17.6**	**-0.7**
	comp=E,0.8nm,0.3s,baz=191,slow=15,SNR=1.4								
LVC					Sn	**Sn**		**07 47 56.0**	**-2.8**
	comp=E,5.9nm,0.3s,baz=162,slow=13,SNR=3.7								
PLCA	**Paso Flores**	**9.40**	**175**	Pn		**Pn**		**07 46 23.6**	**+0.6**
	comp=E,0.4nm,0.3s,baz=333,slow=12,SNR=11								
PLCA	**Paso Flores**	**9.40**	**175**	Pn		**Pn**		**07 46 23.5**	**+0.5**
PLCA	**Paso Flores**	**9.40**	**175**	*eP*		**Pn**		**07 46 20.0**	**-3.1**
LL04	**Puerto Octay**	**9.56**	**184**	Pn		**Pn**		**07 46 24.3**	**-0.9**
TRQA	**Tornquist**	**10.35**	**133**	Pn		**Pn**		**07 46 36.3**	**+0.3**
TRQA	**Tornquist**	**10.35**	**133**	*eP*		**Pn**		**07 46 33.2**	**-2.8**
ITQB	**Itaqui**	**13.01**	**86**			**Pn**		**07 47 11.1**	**-1.2**
ITQB	**Itaqui**	**13.01**	**86**	*eP*		**Pn**		**07 47 10.9**	**-1.4**
CPUP	**Villa Florida**	**13.46**	**72**	Pn		**Pn**		**07 47 17.1**	**-1.4**
	comp=E,0.5nm,0.3s,baz=236,slow=12,SNR=9.7								
CPUP					Sn	**Sn**		**07 49 47.5**	**+0.8**
	comp=E,0.6nm,0.3s,baz=270,slow=20,SNR=3.8								
CPUP	**Villa Florida**	**13.46**	**72**			**Pn**		**07 47 17.4**	**-1.0**
CPUP	**Villa Florida**	**13.46**	**72**	*eP*		**Pn**		**07 47 17.5**	**-1.0**
LPAZ	**La Paz**	**15.32**	**13**	Pn		**Pn**		**07 47 44.6**	**+0.4**
	comp=E,0.5nm,0.3s,baz=188,slow=8.2,SNR=21								
LPAZ					Sn	**Sn**		**07 50 34.0**	**+0.9**
	comp=E,0.0nm,0.3s,baz=292,slow=6.5,SNR=1.3								
LPAZ	**La Paz**	**15.32**	**13**	P		**Pn**		**07 47 46.6**	**+2.4**
PLTB	**Pedras Altas**	**15.34**	**96**	Pn		**Pn**		**07 47 44.1**	**+0.4**
PLTB	**Pedras Altas**	**15.34**	**96**	*eP*		**Pn**		**07 47 41.3**	**-2.5**
CPSB	**Cacapava Do Su**	**15.61**	**91**	*eP*		**Pn**		**07 47 44.9**	**-2.5**
AQDB	**Aquidauana**	**17.91**	**57**	*eP*		**P**		**07 48 16.5**	**0.0**
CNLB	**Canela**	**18.01**	**89**	*eP*		**Pn**		**07 48 17.4**	**-0.1**
SIV	**San Ignacio**	**18.05**	**35**	P		**Pn**		**07 48 18.1**	**+0.2**
	comp=E,1.2nm,0.3s,baz=208,slow=8.0,SNR=21								
PTGB	**Pitanga**	**18.44**	**74**	*eP*		**P**		**07 48 20.6**	**-1.8**
PTLB	**Pontes e Lacer**	**19.49**	**39**	*eP*		**P**		**07 48 33.8**	**-0.1**
TER01	**Tubaro-SC**	**19.66**	**88**	*eP*		**P**		**07 48 36.0**	**+0.4**
PP1B	**Ponte de Pedra**	**20.42**	**52**	*eP*		**P**		**07 48 43.9**	**0.0**
PCMB	**Pacaembu**	**20.59**	**67**	*eP*		**P**		**07 48 45.6**	**-0.2**
TIJ01	**Guaruva-PR**	**20.75**	**79**	*eP*		**P**		**07 48 47.0**	**-0.5**
FRTB	**Fartura**	**21.10**	**73**	*eP*		**P**		**07 48 51.7**	**+0.4**
VILB	**Vilhena**	**21.10**	**32**	*eP*		**P**		**07 48 51.4**	**0.0**
SALV	**Santo Antonio**	**21.14**	**47**	*eP*		**P**		**07 48 51.3**	**-0.4**
ETMB	**Extrema**	**22.00**	**14**	*eP*		**P**		**07 49 02.1**	**+1.2**
ITRB	**Iturama**	**22.35**	**64**	*eP*		**P**		**07 49 03.7**	**-1.0**
SPB	**Sao Paulo**	**22.75**	**76**	*eP*		**P**		**07 49 09.8**	**+0.9**
BB19B	**Bebedouro**	**23.04**	**69**	*eP*		**P**		**07 49 11.2**	**-0.8**
RCLB	**Rio Claro- Sao**	**23.19**	**73**	*eP*		**P**		**07 49 12.6**	**-0.9**
VAO	**Valinhos**	**23.39**	**75**	*eP*		**P**		**07 49 15.7**	**+0.2**
CZSB	**Cruzeiro do Su**	**23.52**	**357**	*eP*		**P**		**07 49 16.4**	**-0.3**
SAML	**Samuel**	**23.62**	**21**	P		**P**		**07 49 17.8**	**+0.2**
SAML				IAmb		IAmb		07 49 34.6	
	comp=Z,27nm,1.4s								
SAML	**Samuel**	**23.62**	**21**	*eP*		**P**		**07 49 17.7**	**+0.1**
PARB	**Paraibuna**	**24.36**	**77**	*eP*		**P**		**07 49 24.3**	**-0.3**
IPMB	**Ipameri, GO**	**25.00**	**63**	*eP*		**P**		**07 49 29.3**	**-1.1**
CLDB	**Colider**	**25.08**	**39**	*eP*		**P**		**07 49 30.3**	**-0.7**
BSCB	**Bom Sucesso**	**26.11**	**73**	*eP*		**P**		**07 49 40.8**	**+0.3**
BDFB	**Brasilia**	**26.59**	**59**	P		**P**		**07 49 44.0**	**-0.9**
	comp=Z,17nm,1.0s,baz=240,slow=8.6,SNR=12								
BDFB	**Brasilia**	**26.59**	**59**	P		**P**		**07 49 43.6**	**-1.3**
BDFB				IAmb		IAmb		07 49 46.0	
	comp=Z,17nm,1.0s								
VAS01	**Vassouras-RJ**	**26.63**	**77**	*eP*		**P**		**07 49 44.5**	**-0.5**
SNDB	**Serra Nova Dou**	**26.88**	**49**	*eP*		**P**		**07 49 48.4**	**+1.1**
TBTG	**Tabatinga, AM**	**27.07**	**4**	*eP*		**P**		**07 49 49.0**	**+0.1**
DUB01	**Friburgo-RJ**	**27.61**	**78**	*eP*		**P**		**07 49 53.5**	**-0.4**
CAM01	**Campos-RJ**	**28.32**	**78**	*eP*		**P**		**07 50 00.2**	**0.0**
DIAM	**Diamantina, MG**	**28.38**	**69**	*eP*		**P**		**07 50 00.4**	**-0.5**
NPGB	**Novo Progresso**	**28.55**	**35**	*eP*		**P**		**07 50 01.1**	**-1.1**
PEXB	**Peixe**	**28.78**	**53**	*eP*		**P**		**07 50 04.0**	**-0.3**
MC01	**Montes Claros**	**29.05**	**66**	*eP*		**P**		**07 50 05.9**	**-0.8**
ALF01	**Guarapari-ES**	**29.64**	**76**	*eP*		**P**		**07 50 12.8**	**+1.0**
JANB	**Januaria**	**29.74**	**63**	*eP*		**P**		**07 50 12.1**	**-0.8**
MACA	**Manacapuru-AM**	**29.86**	**22**	*eP*		**P**		**07 50 14.0**	**+0.2**
SJMB	**Sao Joao De Ma**	**30.18**	**73**	*eP*		**P**		**07 50 16.3**	**-0.4**
RIB01	**Linhares ES**	**30.52**	**74**	*eP*		**P**		**07 50 19.4**	**-0.3**
ITTB	**Itaituba**	**30.70**	**32**	*eP*		**P**		**07 50 20.1**	**-1.2**
SDBA	**SAO DESIDERIO**	**30.98**	**58**	*eP*		**P**		**07 50 23.3**	**-0.5**
NAN01	**Guarapari, ES**	**31.48**	**72**	*eP*		**P**		**07 50 27.2**	**-1.0**
SMTB	**Santa Maria do**	**31.61**	**50**	*eP*		**P**		**07 50 28.8**	**-0.6**
OTAV	**Otavalo**	**32.08**	**347**	P		**P**		**07 50 34.2**	**+0.2**
PRPB	**Paraupebas**	**32.30**	**44**	*eP*		**P**		**07 50 34.1**	**-1.2**
GUA01	**Guaratinga, BA**	**32.41**	**70**	*eP*		**P**		**07 50 35.4**	**-0.9**
CMC01	**Camacan, BA**	**33.31**	**69**	*eP*		**P**		**07 50 44.1**	**-0.1**
MALB	**Monte Alegre**	**33.59**	**33**	*eP*		**P**		**07 50 47.3**	**+0.6**
NBIT	**Itapeh - BA**	**33.62**	**68**	*eP*		**P**		**07 50 46.1**	**-0.8**
PMSA	**Palmer Station**	**33.77**	**174**	*eP*		**P**		**07 50 45.5**	**-2.2**
BOAV	**Boa Vista**	**35.17**	**19**	*eP*		**P**		**07 51 00.6**	**+0.3**
NBPN	**Ponto Novo - B**	**35.48**	**62**	*eP*		**P**		**07 51 02.0**	**-1.1**
MCPB	**Macapa, AP**	**35.95**	**35**	*eP*		**P**		**07 51 06.8**	**-0.2**
TMAB	**Tom-Au,PA,Br**	**36.36**	**42**	*eP*		**P**		**07 51 11.7**	**+1.2**
NBLA	**Lagarto - SE**	**37.23**	**65**	*eP*		**P**		**07 51 17.5**	**-0.5**
NBMA	**Muriti-CE**	**38.83**	**59**	*eP*		**P**		**07 51 31.2**	**-0.3**
NBPS	**Pedro II - PI**	**39.00**	**53**	*eP*		**P**		**07 51 32.9**	**0.0**
NBRF	**Rio Formoso -**	**40.72**	**64**	*eP*		**P**		**07 51 46.5**	**-0.6**
NBPA	**Parau_RN**	**41.12**	**59**	*eP*		**P**		**07 51 50.2**	**-0.2**
SJCC	**San Jacinto, C**	**41.16**	**355**	P		**P**		**07 51 51.9**	**+1.2**
SJCC				IAmb		IAmb		07 52 11.2	
	comp=Z,17nm,1.2s								
NBCL	**Cascavel-CE**	**41.31**	**56**	*eP*		**P**		**07 51 50.8**	**-1.3**
RCBR	**Riachuelo**	**41.96**	**60**	*eP*		**P**		**07 51 58.4**	**+1.0**
NBPV	**Pedro Velho**	**42.03**	**61**	*eP*		**P**		**07 51 58.4**	**+0.4**
PDPR	**Patillas Dam,**	**49.37**	**7**	P		**P**		**07 52 55.5**	**-0.2**
VNA3	**Neumayer Olymp**	**51.67**	**159**	P		**P**		**07 53 13.2**	**+0.6**
VNA1	**Neumayer--Stat**	**51.97**	**158**	P		**P**		**07 53 15.6**	**+0.9**
VNA2	**Neumayer--Watz**	**52.31**	**158**	P		**P**		**07 53 17.8**	**+0.5**
	baz=284,slow=8.2								
SNAA	**Sanae**	**53.90**	**159**	P		**P**		**07 53 29.2**	**+0.1**
SNAA	**Sanae**	**53.90**	**159**	P		**P**		**07 53 29.3**	**+0.3**
SNAA				IAmb		IAmb		07 53 41.3	
	comp=Z,7.7nm,0.9s								
QSPA	**South Pole Qui**	**58.88**	**180**	P		**P**		**07 54 05.5**	**+0.8**
QSPA				IAmb		IAmb		07 54 17.5	
	comp=Z,8.1nm,1.0s								
TXAR	**Lajitas Array**	**67.63**	**330**	P		**P**		**07 55 04.3**	**+1.4**
	comp=Z,1.0nm,0.7s,baz=151,slow=8.3,SNR=12								
TKL	**Tuckaleechee C**	**67.63**	**349**	P		**P**		**07 55 02.7**	**0.0**
	comp=Z,6.2nm,0.9s,baz=196,slow=13,SNR=5.3								
LCAR	**Lake Charles**	**69.53**	**343**	P		**P**		**07 55 15.2**	**+0.7**
LCAR				IAmb		IAmb		07 55 15.8	
	comp=Z,7.9nm,0.8s								
LIC	**Lamto**	**73.58**	**72**	*eP*		**P**		**07 55 39.2**	**-0.3**
	comp=Z,50nm,1.2s								
TIC	**Toumodi**	**73.83**	**72**	*eP*		**P**		**07 55 40.9**	**-0.1**
KIC	**Kosan Boka**	**73.89**	**72**	*eP*		**P**		**07 55 41.1**	**-0.2**
	comp=Z,26nm,0.8s								
DBIC	**Dimbokro**	**73.98**	**72**	P		**P**		**07 55 41.8**	**-0.1**
	comp=Z,9.8nm,0.7s,baz=240,slow=6.1,SNR=12								
DBIC	**Dimbokro**	**73.98**	**72**	IAmb		IAmb		07 55 42.6	
	comp=Z,13nm,0.8s								
MAW	**Mawson**	**75.61**	**164**	P		**P**		**07 55 50.8**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=206,slow=6.9,SNR=5.8								
BOSA	**Boshof**	**80.97**	**118**	P		**P**		**07 56 21.0**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=178,slow=8.9,SNR=3.2								
PDAR	**Pinedale Array**	**81.58**	**333**	P		**P**		**07 56 24.7**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=125,slow=4.5,SNR=4.6								
NVAR	**Mina Array Basa**	**81.94**	**325**	P		**P**		**07 56 27.1**	**+1.4**
	comp=Z,1.4nm,0.8s,baz=163,slow=6.0,SNR=11								
TORD	**Torodi Ar. Bea**	**82.95**	**70**	P		**P**		**07 56 31.3**	**+0.1**
	comp=Z,9.0nm,0.8s,baz=258,slow=4.7,SNR=40								
TORD	**Torodi Ar. Bea**	**82.95**	**70**	P		**P**		**07 56 31.4**	**+0.1**
TORD				IAmb		IAmb		07 56 32.2	
	comp=Z,9.8nm,0.8s								
ULM	**Lac du Bonnet**	**84.05**	**345**	P		**P**		**07 56 36.0**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=130,slow=8.6,SNR=3.1								
ASAR	**Alice Springs**	**120.10**	**207**	PKP		**PKPdf**		**08 02 56.6**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=124,slow=1.0,SNR=2.2								
WRA	**Warramunga Arr**	**123.25**	**209**	PKP		**PKPdf**		**08 03 02.8**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=132,slow=1.4,SNR=20								
H11S2	**WAKE ISLAND Hyd**	**126.15**	**271**	T		T		10 21 59.3	
	baz=116,slow=75,SNR=124								
H11S1	**WAKE ISLAND Hyd**	**126.17**	**271**	T		T		10 22 02.6	
	baz=116,slow=75,SNR=158								
H11S3	**WAKE ISLAND Hyd**	**126.17**	**271**	T		T		10 21 59.2	
	baz=116,slow=75,SNR=122								
H11N3	**WAKE ISLAND Hyd**	**126.50**	**272**	T		T		10 22 22.2	
	baz=117,slow=75,SNR=67								
H11N1	**WAKE ISLAND Hyd**	**126.51**	**272**	T		T		10 22 28.0	
	baz=117,slow=75,SNR=26								
H11N2	**WAKE ISLAND Hyd**	**126.52**	**272**	T		T		10 22 24.2	
	baz=117,slow=75,SNR=108								
PETK	**Petropavlovsk-**	**138.55**	**316**	PKP		**PKiKP**		**08 03 33.0**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=189,slow=7.3,SNR=3.4								
ZALV	**Zalesovo Beam**	**151.77**	**30**	PKPbc		**PKPbc**		**08 04 00.4**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=304,slow=3.5,SNR=3.5								
ZALV	**Zalesovo Beam**	**151.77**	**30**			**PKPbc**		**08 04 00.6**	**+0.7**
KSH	**Kashi**	**152.45**	**64**	PKPbc		**PKPdf**		**08 03 55.3**	**+0.1**
KSH				pPKP		pPKPdf		08 04 06.9	-1.1
MKAR	**Makanchi Array**	**154.68**	**45**	PKP		**PKPdf**		**08 03 58.2**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=188,slow=23,SNR=7.8								
MKAR				PKPbc		**PKPbc**		**08 04 06.4**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=288,slow=2.6,SNR=9.2								
MKAR				PKPab		**PKPab**		**08 04 21.2**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=286,slow=4.5,SNR=8.9								

*SJA **18** 07:49:03.1±0.5,31°.52S×73°.29W,h12km,ML4.6,MW4.9*

*NEIC **18** 07:49:13.8±2.4,31°.78S±0°.04×72°.3W±0°.1,h10km±1km, mb4.8/17,Mwr4.6/43,ML4.3(GUC),Error ellipse: s-maj=16.5km s-min=6.3km az=100.0*

*NEIC **18** 07:49:13.8,31°.78S×72°.27W,h15km,Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr0.79; Mθθ0.14; Mϕϕ-0.93; Mrθ-0.01; Mθϕ0.07; Mϕr-0.54; Fault plane solution: M0 1.02000×10^16^ NP1:φs352.35000°, δ29.20000°,λ83.91000°. NP2:φs179.32000°,δ60.98000°, λ93.39000°. Principal axes: T 0.9432, Plg74.0000°, Azm98.0000°; N 0.1461, Plg3.0000°, Azm358.0000°; P -1.0893, Plg16.0000°, Azm267.0000°;*

*IDC **18** 07:49:13.8±0.7,31°.73S×71°.99W,h0km,mb4.3/9, mb1 4.4/13,mb1mx4.3/31,mbtmp4.3/13,ML3.8/4,MS3.8/4, Ms1 3.8/4,ms1mx3.4/37 Error ellipse: s-maj=24.6km s-min=18.5km az=92.0*

*GUC **18** 07:49:14.0±0.8,31°.77S×72°.37W,h33km±4km,ML4.3*

*VAO **18** 07:49:15.1±0.4,31°.825×72°.13W,h13km,mb4.6*

ISC 18 07:49:12.7±2.4,31°.80S±0°.03×72°.39W±0°.05,h1km±14km, n151,σ1§46/167,mb4.6/13,7C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**1.20**	**130**	⇑*iP*		**Pn**		**07 49 35.3**	**-1.4**
VA06				*i* S		**Sb**		**07 49 51.2**	**-1.1**
VA06				IAML				07 49 56.8	
	comp=E,14μm,0.4s								
CO06	**Fray Jorge**	**1.30**	**30**	*eP*		**Pn**		**07 49 36.1**	**-2.0**
CO06	**Fray Jorge**	**1.30**	**30**			**Pn**		**07 49 36.2**	**-1.8**
VA01	**Torpederas**	**1.37**	**153**	*eP*		**Pn**		**07 49 38.1**	**-1.0**
VA01				*eS*		**Sn**		**07 49 54.2**	**-3.7**
VA01	**Torpederas**	**1.37**	**153**			**Pn**		**07 49 37.8**	**-1.2**
VA01	**Torpederas**	**1.37**	**153**	*eP*		**Pn**		**07 49 39.8**	**+0.8**
CO03	**El Pedregal**	**1.74**	**57**	⇑*iP*		**Pn**		**07 49 43.0**	**-1.2**
CO03				*i* S		**Sn**		**07 50 05.0**	**-2.3**
CO03	**El Pedregal**	**1.74**	**57**	Pn		**Pn**		**07 49 43.0**	**-1.2**
CO03	**El Pedregal**	**1.74**	**57**	*eP*		**Pn**		**07 49 43.7**	**-0.5**
CO03				IAML				07 50 17.8	
	comp=Z,3μm,1.4s								
VA03	**San Esteban**	**1.83**	**122**	⇑*iP*		**Pn**		**07 49 44.8**	**-0.7**
VA03				*i* S		**Sn**		**07 50 07.1**	**-2.3**
VA03				IAML				07 50 13.8	
	comp=N,7μm,0.5s								
VA03	**San Esteban**	**1.83**	**122**			**Pn**		**07 49 44.6**	**-0.9**
VA03	**San Esteban**	**1.83**	**122**	*eP*		**Pn**		**07 49 45.1**	**-0.3**
VA03				IAML				07 50 29.3	
	comp=Z,3μm,1.4s								
VA05	**Santo Domingo**	**1.96**	**161**	IAML				07 50 28.0	
	comp=E,3μm,0.4s								
VA05	**Santo Domingo**	**1.96**	**161**			**Pn**		**07 49 46.5**	**-0.7**
MT05	**Renca**	**2.11**	**139**	⇑*iP*		**Pn**		**07 49 48.8**	**-0.5**
MT05				*i* S		**Sn**		**07 50 15.7**	**-0.7**
MT05				IAML				07 50 27.0	
	comp=E,4μm,0.3s								
MT05	**Renca**	**2.11**	**139**			**Pn**		**07 49 48.7**	**-0.6**
MT05	**Renca**	**2.11**	**139**	*eP*		**Pn**		**07 49 50.0**	**+0.7**
CO05	**La Serena**	**2.12**	**28**			**Pn**		**07 49 48.4**	**-1.0**
GO04	**Tololo Observa**	**2.12**	**41**	*eP*		**Pn**		**07 49 48.9**	**-0.7**
GO04				*eS*		**Sn**		**07 50 15.8**	**-1.0**
GO04	**Tololo Observa**	**2.12**	**41**			**Pn**		**07 49 47.8**	**-1.8**
MT01	**Popeta**	**2.27**	**155**	⇑*iP*		**Pn**		**07 49 51.0**	**-0.4**
MT01				*i* S		**Sn**		**07 50 18.2**	**-1.9**
MT01				IAML				07 50 39.1	
	comp=N,1μm,

NBPS	Pedro II - PI	39.82	53	*eP*		P	07 56 46.6	-1.4
NBAN	Anadia - AL	40.03	65	*eP*		P	07 56 48.5	-1.2
NBPB	Pedra_Branca-C	40.30	56	*eP*		P	07 56 50.7	-1.2
NBPA	Parau_RN	41.94	59	*eP*		P	07 57 03.9	-1.4
CVTR	Volcan Turrial	42.98	343	P		P	07 57 12.8	-1.4
VNA3	Neumayer Olymp	51.51	158	P		P	07 58 20.2	+0.6
VNA1	Neumayer--Stat	51.81	158	P		P	07 58 22.8	+0.9
VNA2	Neumayer--Watz	52.15	158	P		P	07 58 24.9	+0.4
	baz=288,slow=8.6							
VNA2	Neumayer--Watz	52.15	158	sP			07 58 30.1	
SNAA	Sanae	53.73	158	P		P	07 58 36.9	+0.7
SNAA	Sanae	53.73	158	P		P	07 58 36.7	+0.6
QSPA	South Pole Qui	58.43	180	P		P	07 59 11.3	+1.4
QSPA				IAmb		IAmb	07 59 21.2	
	comp=Z,14nm,0.8s							
VNDA	Vanda	66.19	191	P		P	08 00 04.0	+2.4
	comp=Z,0.8nm,0.8s,baz=122,slow=9.2,SNR=3.0							
TXAR	Lajitas Array	67.68	331	P		P	08 00 12.9	+1.2
	comp=Z,0.5nm,0.5s,baz=152,slow=8.1,SNR=8.5							
TX32	Lajitas Array	67.68	331	P		P	08 00 12.6	+0.9
TX32				IAmb		IAmb	08 00 15.2	
	comp=Z,5.2nm,1.4s							
MNTX	Cornudas Mount	70.45	330	P		P	08 00 29.6	+0.7
DBIC	Dimbokro	74.77	72	P		P	08 00 54.4	-0.6
	comp=Z,12nm,0.9s,baz=236,slow=5.9,SNR=9.2							
DBIC	Dimbokro	74.77	72	IAmb		IAmb	08 00 55.5	
	comp=Z,20nm,1.0s							
MAW	Mawson	75.37	164	P		P	08 00 58.5	+1.0
	comp=Z,2.3nm,0.9s,baz=183,slow=5.5,SNR=4.1							
ISA	Isabella, Lake	79.83	323	P		P	08 01 23.7	+0.8
KOWA	Kowa	80.01	66	P		P	08 01 23.9	-0.4
KOWA				IAmb		IAmb	08 01 34.9	
	comp=Z,13nm,1.1s							
BOSA	Boshof	81.36	118	P		P	08 01 30.6	-1.0
	comp=Z,4.0nm,0.8s,baz=234,slow=6.1,SNR=4.8							
BOSA	Boshof	81.36	118	IAmb		IAmb	08 01 32.5	
	comp=Z,5.3nm,0.9s							
PDAR	Pinedale Array	81.67	333	P		P	08 01 34.0	+1.1
	comp=Z,0.5nm,0.6s,baz=134,slow=6.4,SNR=6.4							
NVAR	Mina Array Bea	81.91	325	P		P	08 01 36.7	+2.5
	comp=Z,1.5nm,0.7s,baz=156,slow=6.1,SNR=9.6							
TORD	Torodi Ar. Bea	83.75	70	P		P	08 01 43.4	-0.6
	comp=Z,5.9nm,0.8s,baz=258,slow=4.6,SNR=28							
TORD	Torodi Ar. Bea	83.75	70	P		P	08 01 43.9	-0.1
WRA	Warramunga Arr	122.52	210	PKP		PKiKP	08 08 13.1	+2.2
	comp=Z,0.5nm,0.7s,baz=166,slow=3.8,SNR=2.6							
RPSI	Rantau Prapat	149.91	162			PKPbc	08 09 05.9	+0.3
PSI	Prapat	150.02	162	PKPbc		PKPbc	08 09 05.9	-0.1
	comp=Z,6.6nm,0.7s,baz=180,slow=2.0,SNR=4.1							
HYB	Hyderabad	150.07	112	*i* PKP		PKPbc	08 09 06.0	+0.1
AAK	Ala-Archa	151.66	58	PKPbc		PKiKP	08 09 10.5	+1.0
	comp=Z,2.8nm,0.9s,baz=254,slow=3.4,SNR=5.1							
AAK				PKPab		PKPab	08 09 16.6	-1.2
	comp=Z,4.3nm,0.8s,baz=212,slow=1.4,SNR=6.8							
ZALV	Zalesovo Beam	152.50	30	PKPbc		PKiKP	08 09 10.8	+0.3
	comp=Z,2.6nm,0.5s,baz=308,slow=3.0,SNR=5.0							
ZALV				PKPab		PKPab	08 09 20.3	-0.4
	comp=Z,6.7nm,0.5s,baz=305,slow=2.9,SNR=8.5							
ZALV	Zalesovo Beam	152.50	30			PKPbc	08 09 09.8	-0.5
MKAR	Makanchi Array	155.49	45	PKPbc		PKPbc	08 09 20.4	
	comp=Z,0.6nm,0.8s,baz=270,slow=1.4,SNR=2.2							
MKAR				PKPab		PKPab	08 09 33.7	0.0
	comp=Z,2.1nm,0.9s,baz=289,slow=3.7,SNR=8.5							
SONM	Songino Array	163.96	3	PKPab		PKPab	08 10 11.7	+1.2
	comp=Z,0.5nm,0.6s,baz=343,slow=1.5,SNR=2.2							

IDC ***18*** *07:50:56.3±1.7,30.˚71S×72.˚03W, h0km, mb4.3/3, mb1 4.3/7, mb1mx4.0/32, mbtmp4.2/7, ML4.0/4, Error ellipse: s-maj=60.9km s-min=27.4km az=105.0*

GUC ***18*** *07:51:00.5±0.6, 30.˚63S×71.˚82W, h28km±2km, ML4.0*

NEIC ***18*** *07:51:00.7±1.9, 30.˚63S±0.˚03×71.˚9W±0.˚1, h23km±5km, mb4.5/7, Error ellipse: s-maj=14.8km s-min=3.4km az=103.0*

ISC 18 07:51:00.2±1.4,30.˚64S±0.˚04×71.˚93W±0.˚09, h23km±8km, n34, σ0 93/37, mb4.3/4, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**0.26**	**99**	⇓*iP*		**Pb**	**07 51 06.5**	**+0.1**
CO06				*i* S		**Sb**	**07 51 11.1**	**+0.4**
CO06				IAML			07 51 11.6	
	comp=E,15μm,0.4s							
CO06	**Fray Jorge**	**0.26**	**99**			**Pb**	**07 51 06.1**	**-0.4**
CO06				Sg		**Sb**	**07 51 10.9**	**+0.2**
CO05	**La Serena**	**0.93**	**40**	⇑*eP*		**Pb**	**07 51 17.2**	**-0.4**
CO05				*eS*		**Sn**	**07 51 30.0**	**-0.5**
CO05				IAML			07 51 33.8	
	comp=N,11μm,0.5s							
CO05	**La Serena**	**0.93**	**40**	Pn		**Pb**	**07 51 17.0**	**-0.6**
CO05				Sn		**Sn**	**07 51 29.7**	**-0.8**
GO04	**Tololo Observa**	**1.08**	**65**	*eP*		**Pb**	**07 51 19.5**	**-0.8**
GO04				*i* S		**Sn**	**07 51 35.0**	**+0.4**
GO04				IAML			07 51 41.8	
	comp=E,19μm,0.6s							
GO04	**Tololo Observa**	**1.08**	**65**	Pn		**Pn**	**07 51 20.2**	**+0.1**
CO03	**El Pedregal**	**1.09**	**101**	⇑*iP*		**Sn**	**07 51 19.2**	**-1.0**
CO03				*eS*		**Sn**	**07 51 34.3**	**-0.2**
CO03				IAML			07 51 36.7	
	comp=N,5μm,0.4s							
CO03	**El Pedregal**	**1.09**	**101**	Pn		**Pn**	**07 51 19.1**	**-1.0**
VA06	**Catapilco**	**1.99**	**164**	*eP*		**Pb**	**07 51 34.5**	**-1.2**
VA01	**Torpederas**	**2.39**	**174**	Pn		**Pn**	**07 51 39.1**	**+1.2**
ROCH	**El Roble**	**2.46**	**162**	*eP*		**Pb**	**07 51 43.6**	**-0.2**
AC04	**Llanos de Chal**	**2.54**	**17**	Pn		**Pn**	**07 51 39.0**	**-1.0**
GO03	**Copiap**	**3.38**	**27**	Pn		**Pn**	**07 51 51.7**	**+0.1**
AC06	**Mina Casimiro**	**3.55**	**23**	Pn		**Pn**	**07 51 53.5**	**-0.4**
AC02	**Maricunga**	**4.51**	**34**	Pn		**Pn**	**07 52 06.1**	**-1.5**
H03N1	**Juan Fernandez**	**6.55**	**243**	T		T	07 59 30.0	
	baz=71,slow=72,SNR=83							
H03N3	**Juan Fernandez**	**6.57**	**243**	T		T	07 59 29.3	
	baz=71,slow=72,SNR=67							
H03N2	**Juan Fernandez**	**6.57**	**243**	T		T	07 59 30.6	
	baz=71,slow=72,SNR=68							
PB15	**IPOC Station P**	**7.72**	**17**	Pn		**Pn**	**07 52 50.7**	**-0.6**
LC01	**Cunco**	**8.24**	**180**	Pn		**Pn**	**07 52 57.9**	**-0.4**
LVC	**Limon Verde**	**8.44**	**19**	Pn		**Pn**	**07 53 00.6**	**-0.7**
	comp=N,0.4nm,0.3s,baz=200,slow=12,SNR=1.4							
LVC				Sn		**Sn**	**07 54 33.6**	**-2.6**
	comp=N,1.9nm,0.3s,baz=252,slow=20,SNR=3.8							
PLCA	**Paso Flores**	**10.14**	**174**	Pn		**Pn**	**07 53 22.7**	**-1.6**
	comp=N,0.5nm,0.3s,baz=0.0,slow=9.1,SNR=2.0							
LPAZ	**La Paz**	**14.70**	**15**	Pn		**Pn**	**07 54 28.7**	**+1.4**
	comp=N,0.3nm,0.3s,baz=202,slow=12,SNR=1.6							
SIV	**San Ignacio**	**17.64**	**37**	P		**P**	**07 55 05.9**	**+0.5**
	comp=N,0.5nm,0.3s,baz=260,slow=13,SNR=2.7							
BDFB	**Brasilia**	**26.50**	**61**	P		**P**	**07 56 36.0**	**-0.1**
	comp=N,3.5nm,0.8s,baz=255,slow=9.7,SNR=2.0							
BDFB	**Brasilia**	**26.50**	**61**	P		**P**	**07 56 35.9**	**-0.2**
BDFB				IAmb		IAmb	07 56 51.0	
	comp=Z,13nm,1.2s							
RUSC	**La Rusia**	**36.34**	**358**	P		**P**	**07 58 04.6**	**+1.6**
SNAA	**Sanae**	**54.67**	**159**	P		**P**	**08 00 26.7**	**-0.3**
SNAA				IAmb		IAmb	08 00 30.1	
	comp=Z,4.0nm,1.2s							
QSPA	**South Pole Qui**	**59.59**	**180**	P		**P**	**08 01 02.5**	**+0.6**
BOSA	**Boshof**	**81.56**	**118**	P		**P**	**08 03 16.9**	**+0.4**
	comp=Z,5.3nm,1.1s,baz=218,slow=4.3,SNR=3.0							
TORD	**Torodi Ar. Bea**	**82.99**	**70**	P		**P**	**08 03 24.2**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=248,slow=6.1,SNR=3.0							
TORD	**Torodi Ar. Bea**	**82.99**	**70**	IAmb		IAmb	08 03 32.6	
	comp=Z,5.3nm,1.5s							
WRA	**Warramunga Arr**	**123.72**	**210**	PKP		**PKPdf**	**08 09 55.5**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=153,slow=2.3,SNR=2.6							
ZALV	**Zalesovo Beam**	**151.29**	**29**	PKPbc		**PKPbc**	**08 10 51.8**	**+0.5**
	comp=Z,4.7nm,0.6s,baz=306,slow=3.1,SNR=5.4							

IDC ***18*** *08:06:27.2±2.2, 30.˚51S×72.˚31W, h0km, mb3.9/2, mb1 3.8/5, mb1mx3.6/33, mbtmp3.7/5, ML3.7/3, Error ellipse: s-maj=95.1km s-min=26.1km az=97.0*

NEIC ***18*** *08:06:28.8±1.9, 30.˚46S±0.˚04×72.˚17W±0.˚03, h10km±1km, mb4.4/4, Error ellipse: s-maj=8.5km s-min=3.0km az=26.0*

ISC 18 08:06:30.1±0.8,30.˚49S±0.˚06×72.˚10W±0.˚08, h16km, n32, σ1 25/24, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**0.44**	**114**	Pg		**Pg**	**08 06 38.8**	**-0.3**
CO06				Sg		**Sg**	**08 06 45.0**	**-0.1**
CO05	**La Serena**	**0.94**	**53**			**Pb**	**08 06 46.8**	**-1.3**
GO04	**Tololo Observa**	**1.17**	**75**			**Pn**	**08 06 51.0**	**-1.1**
CO03	**El Pedregal**	**1.27**	**106**	Pn		**Pn**	**08 06 53.0**	**-0.2**
LCO	**Las Campanas**	**1.91**	**40**			**Pn**	**08 07 01.8**	**-0.5**
AC04	**Llanos de Chal**	**2.45**	**22**			**Pn**	**08 07 08.2**	**-1.3**
GO03	**Copiap**	**3.32**	**30**	Pn		**Pn**	**08 07 20.3**	**-1.1**
AC06	**Mina Casimiro**	**3.48**	**27**			**Pn**	**08 07 23.0**	**-0.6**
AC02	**Maricunga**	**4.48**	**36**	Pn		**Pn**	**08 07 37.9**	**0.0**
GO05	**Huala**	**4.51**	**178**	Pn		**Pn**	**08 07 36.2**	**-1.6**
H03N1	**Juan Fernandez**	**6.49**	**241**	T		T	08 15 08.0	
	baz=70,slow=72,SNR=164							
H03N2	**Juan Fernandez**	**6.50**	**241**	T		T	08 15 06.9	
	baz=70,slow=72,SNR=42							
H03N3	**Juan Fernandez**	**6.50**	**241**	T		T	08 15 07.8	
	baz=70,slow=72,SNR=185							
VA04	**Juan Fernndez**	**6.52**	**239**	Pn		**Pn**	**08 08 03.2**	**-2.1**
LC01	**Cunco**	**8.39**	**179**	Pn		**Pn**	**08 08 30.0**	**-1.0**
PLCA	**Paso Flores**	**10.30**	**173**	Pn		**Pn**	**08 08 57.1**	**-0.1**
	0.2nm,0.3s,baz=322,slow=9.8,SNR=7.1							
LPAZ	**La Paz**	**14.60**	**15**	Pn		**Pn**	**08 09 58.5**	**+1.9**
	0.1nm,0.3s,baz=186,slow=4.8,SNR=4.6							
SIV	**San Ignacio**	**17.62**	**37**	P		**P**	**08 10 36.1**	**+0.1**
	0.3nm,0.3s,baz=218,slow=10,SNR=12							
VNA3	**Neumayer Olymp**	**52.63**	**159**	P		**P**	**08 15 46.4**	**+3.4**
VNA1	**Neumayer--Stat**	**52.93**	**158**	P		**P**	**08 15 44.1**	**-0.9**
VNA2	**Neumayer--Watz**	**53.27**	**158**	P		**P**	**08 15 48.5**	**+0.8**
	baz=320,slow=14							
SNAA	**Sanae**	**54.86**	**159**	P		P	08 16 10.0	+11
SNAA	**Sanae**	**54.86**	**159**	P		**P**	**08 15 59.3**	**0.0**
	1.0nm,0.5s,baz=284,slow=6.6,SNR=32							
SNAA	**Sanae**	**54.86**	**159**	IAmb		IAmb	08 16 15.0	
	comp=Z,4.5nm,1.3s							
QSPA	**South Pole Qui**	**59.73**	**180**	P		**P**	**08 16 34.8**	**+0.9**
TORD	**Torodi Ar. Bea**	**83.08**	**70**	P		**P**	**08 18 55.6**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=273,slow=5.6,SNR=5.0							
TORD	**Torodi Ar. Bea**	**83.08**	**70**	IAmb		IAmb	08 19 01.9	
	comp=Z,1.4nm,1.2s							
H11S2	**WAKE ISLAND Hyl**	**25.69**	**272**	T		T	10 44 11.8	
	baz=115,slow=75,SNR=9.7							
H11S1	**WAKE ISLAND Hyl**	**25.70**	**272**	T		T	10 44 13.4	
	baz=115,slow=75,SNR=19							
H11S3	**WAKE ISLAND Hyl**	**25.71**	**272**	T		T	10 44 13.2	
	baz=115,slow=75,SNR=15							
ZALV	**Zalesovo Beam**	**151.24**	**29**	PKPbc		**PKiKP**	**08 26 21.8**	**-1.0**
	comp=Z,2.6nm,0.4s,baz=300,slow=3.3,SNR=6.3							
MKAR	**Makanchi Array**	**154.38**	**43**	PKPbc		**PKiKP**	**08 26 29.7**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=251,slow=2.5,SNR=2.2							

MEX 18 08:16:33.9±1.1, 14.˚17N×92.˚80W, h143km±27km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
THIG		**0.90**	**35**	*eP*		Pn	08 16 55.0	-2.1
THIG				*i* P			08 16 55.5	
THIG				*eS*		Sn	08 17 12.7	-2.2
PCIG		**1.58**	**345**	*eP*		Pn	08 16 57.6	-6.2
PCIG				*i* S		Sn	08 17 16.3	-10
CCIG	**Comitan**	**2.20**	**17**	*i* P		Pn	08 17 13.7	+2.5
TGIG		**2.62**	**353**	*eP*		Pn	08 17 15.0	-1.2

NEIC ***18*** *08:18:17.9±1.1, 32.˚23S±0.˚04×72.˚37W±0.˚07, h6km±1km, mb5.1/75, Ms_20 5.1/282, Mwb5.5/28, Mwr5.5/37, Mww5.6, ML5.1(GUC), Mwc5.5(GCMT), Error ellipse: s-maj=11.0km s-min=5.9km az=239.0*

IDC ***18*** *08:18:17.2±0.4, 32.˚22S×72.˚19W, h0km, mb4.5/24, mb1 4.5/28, mb1mx4.5/38, mbtmp4.5/28, ML4.3/4, MS5.0/14, Ms1 5.0/14, ms1mx4.9/22, Error ellipse: s-maj=18.9km s-min=11.8km az=82.0*

SJA ***18*** *08:18:17.8±0.5, 32.˚15S×72.˚33W, h27km±3km, ML4.9, MW5.2*

NEIC ***18*** *08:18:18.7, 32.˚18S×72.˚41W, h11km, Moment Tensor Solution. Moment tensor: Scale 10 17 Nm; Mrr 1.23; Mθθ 0.50; Mϕϕ -1.73; Mrθ 0.37; Mrϕ 0.01; Mθr -1.02; Fault plane solution: M0 1.89000×10 17 NP1:ϕs 19.60000°, δ 30.55000°, λ 121.08000°. NP2:ϕs 164.61000°, δ 64.19000°, λ 73.05000°. Principal axes: T 1.6525, Plg 66.0000°, Azm 44.0000°; N 0.4052, Plg 15.0000°, Azm 172.0000°; P -2.0577, Plg 18.0000°, Azm 267.0000°;*

NEIC ***18*** *08:18:18.7, 32.˚18S×72.˚41W, h8km, Moment Tensor Solution. Moment tensor: Scale 10 17 Nm; Mrr 1.71; Mθθ -0.27; Mϕϕ -1.44; Mrθ -0.13; Mrϕ 0.59; Mθr -1.46; Fault plane solution: M0 2.24000×10 17 NP1:ϕs 174.05000°, δ 65.61000°, λ 103.75000°. NP2:ϕs 323.39000°, δ 27.79000°, λ 62.33000°. Principal axes: T 2.3291, Plg 67.0000°, Azm 109.0000°; N -0.1790, Plg 13.0000°, Azm 348.0000°; P -2.1501, Plg 19.0000°, Azm 254.0000°;*

GUC ***18*** *08:18:19.7±0.7, 32.˚31S×72.˚32W, h37km±2km*

MOS ***18*** *08:18:20.3±1.6, 32.˚24S×72.˚25W, h33km, mb5.3/15, Error ellipse: s-maj=20.5km s-min=9.3km az=105.9*

BJI ***18*** *08:18:21.0±0.0, 32.˚30S×72.˚30W, h30km, mB5.4/17, Ms5.8/12, Ms7 5.6/14*

GCMT ***18*** *08:18:21.9±0.1, 32.˚32S±0.˚01×72.˚60W±0.˚01, h12km, MW5.5/137, Moment Tensor Solution. s106,c173; s137,c269; Duration: 1s3 Moment tensor: Scale 10 17 Nm; Mrr 1.26±.01; Mθθ -0.08±.01; Mϕϕ -1.18±.01; Mrθ 0.15±.04; Mrϕ 0.19±.01; Mθr -1.45±.04; Best double couple: M0 1.91100×10 17 NP1:ϕs 348.00000°, δ 20.00000°, λ 85.00000°. NP2:ϕs 173.00000°, δ 70.00000°, λ 92.00000°. Principal axes: T 1.9360, Plg 65.0000°, Azm 86.0000°; N -0.0500, Plg 2.0000°, Azm 353.0000°; P -1.8870, Plg 25.0000°, Azm 262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

VAO ***18*** *08:18:22.6±0.4, 31.˚93S×71.˚88W, h10km, mb4.9*

NEIC ***18*** *08:18:22, 32.˚35S×72.˚65W, h12km, Moment Tensor Solution. Moment tensor: Scale 10 17 Nm; Mrr 1.26; Mθθ -0.05; Mϕϕ -1.21; Mrθ 0.24; Mrϕ 0.14; Mθr -1.55; Fault plane solution: M0 2.00000×10 17 NP1:ϕs 355.00000°, δ 19.00000°, λ 93.00000°. NP2:ϕs 172.00000°, δ 71.00000°, λ 89.00000°. Principal axes: T 2.0192, Plg 64.0000°, Azm 80.0000°; N -0.0368, Plg 1.0000°, Azm 172.0000°; P -1.9824, Plg 26.0000°, Azm 263.0000°;*

NEIC ***18*** *08:18:24, 32.˚22S×72.˚48W, h16km, Moment Tensor Solution. Moment tensor: Scale 10 17 Nm; Mrr 1.43; Mθθ -0.09; Mϕϕ -1.34; Mrθ 0.48; Mrϕ 0.20; Mθr -2.71; Fault plane solution: M0 3.09000×10 17 NP1:ϕs 352.00000°, δ 13.00000°, λ 92.00000°. NP2:ϕs 170.00000°, δ 76.00000°, λ 89.00000°. Principal axes: T 3.1233, Plg 58.0000°, Azm 79.0000°; N -0.0606, Plg 0.0000°, Azm 170.0000°; P -3.0627, Plg 32.0000°, Azm 260.0000°;*

ISC 18 08:18:17.6±1.5,32.˚27S±0.˚03×72.˚40W±0.˚04, h8km±8km, n556, σ1 6 3/411, mb5.0/60, MS5.1/158, 37C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VA06	**Catapilco**	**0.97**	**108**	⇑*eP*		**Pb**	**08 18 36.2**	**-0.4**
VA06				*eS*		**Sb**	**08 18 48.7**	**-1.0**
VA06	**Catapilco**	**0.97**	**108**	⇑*eP*		**Pb**	**08 18 36.2**	**-0.4**
VA06				*eS*		**Sb**	**08 18 48.7**	**-1.0**
VA01	**Torpederas**	**0.98**	**140**	⇑*eP*		**Pb**	**08 18 36.7**	**-0.1**
VA01				*eS*		**Sb**	**08 18 48.4**	**-1.6**
VA01	**Torpederas**	**0.98**	**140**	Pg		**Pb**	**08 18 36.7**	**-0.1**
VA01						**Sb**	**08 18 50.0**	**0.0**
VA01	**Torpederas**	**0.98**	**140**	*eP*		**Pn**	**08 18 38.0**	**+0.4**
VA01				IAML			08 19 02.9	
	comp=Z,6μm,0.6s							
VA01	**Torpederas**	**0.98**	**140**	⇑*eP*		**Pb**	**08 18 36.7**	**-0.1**
VA01				*eS*		**Sb**	**08 18 48.4**	**-1.6**
ROCH	**El Roble**	**1.36**	**121**	⇑*eP*		**Pn**	**08 18 42.4**	**-0.8**
ROCH				*i* S		**Sn**	**08 18 59.4**	**-2.0**
ROCH	**El Roble**	**1.36**	**121**	⇑*eP*		**Pn**	**08 18 42.4**	**-0.8**
ROCH				*i* S		**Sn**	**08 18 59.4**	**-2.0**
VA05	**Santo Domingo**	**1.53**	**155**	⇑*eP*		**Pn**	**08 18 45.0**	**-0.2**
VA05				*eS*		**Sn**	**08 19 04.6**	**-0.7**
VA05	**Santo Domingo**	**1.53**	**155**	Pn		**Pn**	**08 18 44.9**	**-0.2**
VA05	**Santo Domingo**	**1.53**	**155**	⇑*eP*		**Pn**	**08 18 45.0**	**-0.2**
VA05				*eS*		**Sn**	**08 19 04.6**	**-0.7**
VA03	**San Esteban**	**1.64**	**108**	⇑*eP*		**Pn**	**08 18 46.5**	**-0.2**
VA03				*eS*		**Sn**	**08 19 07.2**	**-0.8**
VA03	**San Esteban**	**1.64**	**108**	Pn		**Pn**	**08 18 46.6**	**-0.2**
VA03	**San Esteban**	**1.64**	**108**	⇑*eP*		**Pn**	**08 18 46.5**	**-0.2**
VA03				*eS*		**Sn**	**08 19 07.2**	**-0.8**
VA03				IAML			08 19 23.2	
	comp=E,55μm,0.4s							
MT05	**Renca**	**1.79**	**129**	⇑*eP*		**Pn**	**08 18 49.0**	**+0.2**
MT05				*eS*		**Sn**	**08 19 10.7**	**-1.1**
MT05	**Renca**	**1.79**	**129**	Pn		**Pn**	**08 18 49.2**	**+0.4**
MT05	**Renca**	**1.79**	**129**	*eP*		**Pn**	**08 18 50.0**	**+1.2**
MT05	**Renca**	**1.79**	**129**	⇑*eP*		**Pn**	**08 18 49.0**	**+0.2**
MT05				*eS*		**Sn**	**08 19 10.7**	**-1.1**
MT05				IAML			08 19 27.0	
	comp=E,70μm,0.8s							
MT01	**Popeta**	**1.86**	**149**	⇑*eP*		**Pn**	**08 18 49.9**	**+0.2**
MT01				*eS*		**Sn**	**08 19 12.7**	**-0.7**
MT01	**Popeta**	**1.86**	**149**	Pn		**Pn**	**08 18 49.5**	**-0.2**
MT01	**Popeta**	**1.86**	**149**	⇑*eP*		**Pn**	**08 18 49.9**	**+0.2**
MT01				*eS*		**Sn**	**08 19 12.7**	**-0.7**
MT09	**Talagante**	**1.91**	**142**	⇑*eP*		**Pn**	**08 18 50.7**	**+0.1**
MT09				*eS*		**Sn**	**08 19 14.8**	**-0.1**
MT09	**Talagante**	**1.91**	**142**	Pn		**Pn**	**08 18 51.0**	**+0.4**
MT09	**Talagante**	**1.91**	**142**	⇑*eP*		**Pn**	**08 18 50.7**	**+0.1**
MT09				*eS*		**Sn**	**08 19 14.8**	**-0.1**
MT09				IAML			08 19 37.6	
	comp=N,35μm,0.8s							
CO03	**El Pedregal**	**2.04**	**46**	⇑*iP*		**Pn**	**08 18 51.9**	**-0.3**
CO03	**El Pedregal**	**2.04**	**46**	⇑*iP*		**Pn**	**08 18 51.9**	**-0.3**
CO03				IAML			08 19 36.0	
	comp=E,26μm,0.6s							
BO03	**Pichilemu**	**2.25**	**171**	⇑*iP*		**Pn**	**08 18 54.8**	**-0.3**
BO03				*eS*		**Sn**	**08 19 19.5**	**-3.5**
BO03	**Pichilemu**	**2.25**	**171**	⇑*iP*		**Pn**	**08 18 54.8**	**-0.3**
BO03				*eS*		**Sn**	**08 19 19.5**	**-3.5**
BO01	**Tunca**	**2.38**	**153**	⇑*eP*		**Pn**	**08 18 56.8**	**-0.1**
BO01	**Tunca**	**2.38**	**153**	Pn		**Pn**	**08 18 57.1**	**+0.2**
BO01	**Tunca**	**2.38**	**153**	*eP*		**Pn**	**08 18 59.0**	**+2.1**
BO01				*eS*		**Sb**	**08 19 29.1**	**-1.2**
BO01				IAML			08 19 49.5	
	comp=Z,5μm,0.7s							
BO01	**Tunca**	**2.38**	**153**	⇑*eP*		**Pn**	**08 18 56.8**	**-0.1**
LMEL	**Las Melosas**	**2.42**	**131**	⇑*iP*		**Pn**	**08 18 58.8**	**+1.2**
LMEL				*i* S		**Sn**	**08 19 27.0**	**-0.6**
LMEL	**Las Melosas**	**2.42**	**131**	⇑*iP*		**Pn**	**08 18 58.8**	**+1.2**
LMEL				*i* S		**Sn**	**08 19 27.0**	**-0.6**
GO04	**Tololo Observa**	**2.50**	**34**	*eP*		**Pn**	**08 18 58.2**	**-0.5**
GO04	**Tololo Observa**	**2.50**	**34**	*eP*		**Pn**	**08 18 58.2**	**-0.5**
GO05	**Huala**	**2.76**	**172**	*eP*		**Pn**	**08 19 01.2**	**-0.9**
GO05	**Huala**	**2.76**	**172**			**Pn**	**08 19 01.8**	**-0.4**
GO05	**Huala**	**2.76**	**172**	*eP*		**Pn**	**08 19 01.2**	**-0.9**
BO02	**Sierra Bellavi**	**2.85**	**152**	*eP*		**Pn**	**08 19 04.1**	**+0.6**
BO02	**Sierra Bellavi**	**2.85**	**152**	Pn		**Pn**	**08 19 04.3**	**+0.9**
BO02	**Sierra Bellavi**	**2.85**	**152**	*eP*		**Pn**	**08 19 04.1**	**+0.6**
RTCV	**Cerro Valdivia**	**3.30**	**84**	*eP*		**Pn**	**08 19 08.1**	**-1.4**
RTCV				*eS*		**Sb**	**08 19 55.4**	**-1.3**
RTCV				IAML			08 20 19.4	
	comp=Z,2μm,2.3s							
LCO	**Las Campanas**	**3.56**	**25**	⇑*iP*		**Pn**	**08 19 12.1**	**-1.3**
LCO				*i* S		**Sn**	**08 19 56.2**	**+0.4**
LCO	**Las Campanas**	**3.56**	**25**	⇑*iP*		**Pn**	**08 19 12.1**	**-1.3**
LCO				*i* S		**Sn**	**08 19 56.2**	**+0.4**
COIS	**El Sosneado**	**3.67**	**141**	*eP*		**Pn**	**08 19 16.6**	**+2.0**
COIS				*eS*		**Sg**	**08 20 18.6**	**+3.2**
LAMA	**Las Malvinas**	**3.76**	**136**	*eP*		**Pn**	**08 19 20.0**	**+4.1**
AC04	**Llanos de Chal**	**4.21**	**16**	*eP*		**Pn**	**08 19 20.4**	**

EFI pmax pmax
comp=Z,41nm,1.0s
EFI East Falkland 22.05 156 IAMs_20 IAMs_20 08 32 52.9
comp=Z,7µm,20.0s
VILB Vilhena 22.25 33 *eP* **P 08 23 14.0 -1.0**
SALV Santo Antonio 22.27 47 *eP* **P 08 23 14.0 -1.2**
USHA Ushuaia 22.73 174 P **P 08 23 20.9 +1.1**
comp=Z,28nm,0.8s,baz=358,slow=3.3,SNR=1.8
USHA LR LR 08 32 48.0
comp=Z,9µm,18.9s,baz=354,slow=38
ETMB Extrema 23.07 16 *eP* **P 08 23 23.7 +0.2**
ITRB Iturama 23.38 63 *eP* **P 08 23 24.9 -1.9**
PET01 Itanhaem-SP 23.47 77 *eP* **P 08 23 28.8 +1.1**
SPB Sao Paulo 23.65 75 P **P 08 23 28.1 -1.3**
SPB IAmb IAmb 08 23 34.0
comp=Z,119nm,1.2s
SPB IAMs_20 IAMs_20 08 32 29.0
comp=Z,6µm,20.0s
SPB Sao Paulo 23.65 75 *eP* **P 08 23 30.0 +0.5**
BB19B Bebedouro 24.02 68 *eP* **P 08 23 32.3 -0.8**
RCLB Rio Claro- Sao 24.12 72 *eP* **P 08 23 33.5 -0.5**
VAO Valinhos 24.30 74 *eP* **P 08 23 35.4 -0.3**
CZSB Cruzeiro do Su 24.42 359 *eP* **P 08 23 37.0 +0.3**
SAML Samuel 24.73 22 P **P 08 23 39.2 -0.3**
SAML pmax pmax
comp=Z,52nm,1.3s
SAML MLR MLR
comp=Z,1µm,22.0s
SAML Samuel 24.73 22 P **P 08 23 39.2 -0.3**
SAML IAmb IAmb 08 23 52.7
comp=Z,52nm,1.2s
PARB Paraibuna 25.25 76 *eP* **P 08 23 45.1 +0.9**
IPMB Ipameri, GO 26.03 63 *eP* **P 08 23 51.2 -0.2**
CLDB Colider 26.23 39 *eP* **P 08 23 52.7 -0.4**
BSCB Bom Sucesso 27.05 72 *eP* **P 08 23 59.9 -0.6**
VAS01 Vassouras-RJ 27.52 76 *eP* **P 08 24 04.6 -0.1**
BDFB Brasilia 27.66 59 P **P 08 24 05.6 -0.5**
comp=Z,49nm,0.8s,baz=224,slow=9.4,SNR=34
BDFB LR LR 08 37 04.7
comp=Z,9µm,20.3s,baz=223,slow=41
BDFB Brasilia 27.66 59 P **P 08 24 04.7 -1.4**
BDFB pmax pmax
comp=Z,140nm,1.2s
BDFB Brasilia 27.66 59 P **P 08 24 04.7 -1.4**
SNDB Serra Nova Dou 28.01 49 *eP* **P 08 24 09.1 0.0**
TBTG Tabatinga, AM 28.04 5 *eP* P 08 24 05.3 -4.0
TBTG Tabatinga, AM 28.04 5 *eP* **P 08 24 09.7 +0.4**
DIAM Diamantina, MG 29.36 69 *eP* **P 08 24 21.0 -0.3**
NPGB Novo Progresso 29.70 36 *eP* **P 08 24 22.9 -1.2**
PEXB Peixe 29.88 53 *eP* **P 08 24 27.2 +1.4**
MC01 Montes Claros 30.05 66 *eP* **P 08 24 28.2 +0.8**
ALF01 Guarapari-ES 30.53 76 *eP* **P 08 24 33.4 +2.0**
JANB Januaria 30.77 63 *eP* **P 08 24 32.6 -1.1**
MACA Manacapuru-AM 30.98 23 *eP* **P 08 24 35.6 +0.1**
SJMB Sao Joao De Ma 31.12 72 *eP* **P 08 24 37.1 +0.4**
BSFB Barra de Sao F 31.32 72 *eP* **P 08 24 36.8 -1.7**
RIB01 Linhares ES 31.44 74 *eP* **P 08 24 41.3 +1.7**
ITTB Itaituba 31.85 33 *eP* **P 08 24 42.0 -1.1**
SDBA SAO DESIDERIO 32.05 58 *eP* **P 08 24 44.4 -0.6**
PTLC Puerto Leguiza 32.35 356 *eP* P 08 24 41.4 -6.1
NAN01 Guarapari, ES 32.43 72 *eP* **P 08 24 49.6 +1.4**
SMTB Santa Maria do 32.73 50 *eP* **P 08 24 51.0 +0.1**
OTAV Otavalo 32.84 348 *eP* **P 08 24 51.8 -0.5**
OTAV Otavalo 32.84 349 *eP* **P 08 24 55.1 +2.9**
PAC1 Pacto, Paraso 32.92 348 *eP* P 08 24 49.1 -3.6
PMSA Palmer Station 32.94 173 *eP* P 08 25 00.3 +8.1
TULM Tulcn-Chalpat 33.20 350 *eP* P 08 24 51.3 -4.2
GUA01 Guaratinga, BA 33.37 70 *eP* **P 08 24 56.8 +0.3**
PRPB Parauapebas 33.44 44 *eP* **P 08 24 56.4 -0.7**
HOPE Hope Point 33.62 142 IAMs_20 IAMs_20 08 38 18.7
comp=Z,6µm,19.0s
GCUF Volcan Galeras 33.64 351 *eP* P 08 25 14.1 +15
FLOC Florencia 33.81 354 *eP* P 08 25 08.4 +8.1
MACC Macarena, Meta 34.26 357 *eP* P 08 24 59.4 -4.7
CMC01 Camacan, BA 34.29 68 *eP* **P 08 25 05.0 +0.5**
BBAC Balboa, Cauca 34.41 351 *eP* P 08 25 01.7 -4.1
NBIT Itapeh - BA 34.60 68 *eP* **P 08 25 05.7 -1.4**
PCON Cinco Dias 34.62 353 *eP* **P 08 25 06.7 -1.2**
MALB Monte Alegre 34.71 33 *eP* **P 08 25 08.3 -0.1**
POPC Popayan, Colom 34.86 353 *eP* **P 08 25 06.2 -3.4**
MARP Paez Belalcaza 35.08 354 *eP* **P 08 25 11.1 -0.5**
GDU01 Guandu, BA 35.21 66 *eP* **P 08 25 11.6 -0.9**
PRAC Prado 35.86 356 *eP* **P 08 25 17.4 -0.6**
ORTC Ortega, Tolima 36.08 355 *eP* **P 08 25 24.2 +4.3**
VILC Villavicencio, 36.20 358 *eP* P 08 25 17.4 -3.6
YOTC Yotoco, Valle 36.25 353 *eP* **P 08 25 19.7 -1.7**
PTGC Puerto Gaitan, 36.27 0 *eP* **P 08 25 24.2 +2.7**
BOAV Boa Vista 36.27 20 *eP* **P 08 25 21.5 0.0**
NBPN Ponto Novo - B 36.53 62 *eP* **P 08 25 22.5 -1.3**
ANIL Santa Ana 36.67 355 *eP* **P 08 25 22.6 -2.6**
CHIC Chingaza 36.72 358 *eP* **P 08 25 26.4 +0.7**
ROSC El Rosal 36.95 357 P **P 08 25 29.1 +1.4**
comp=Z,5.4nm,0.7s,baz=57,slow=23,SNR=1.7
ROSC El Rosal 36.95 357 P **P 08 25 29.1 +1.4**
ROSC pmax pmax
comp=Z,20nm,0.6s
ROSC El Rosal 36.95 357 IAmb IAmb 08 25 44.2
comp=Z,20nm,0.6s
ROSC El Rosal 36.95 357 *eP* P 08 25 23.0 -4.7
MCPB Macapa, AP 37.10 35 *eP* **P 08 25 27.9 -0.6**
GUY2C Guyana, Caldas 37.39 355 *eP* **P 08 25 30.9 -0.6**
TMAB Tom-Au,PA,Br 37.51 42 *eP* **P 08 25 33.0 +0.9**
NORC Norcasia 37.70 356 *eP* P 08 25 24.2 -9.5
SPBC San Pablo de B 37.74 357 *eP* **P 08 25 33.2 -0.9**
RUSC La Rusia 37.95 359 P **P 08 25 37.5 +1.1**
RUSC La Rusia 37.95 359 *eP* P 08 25 28.7 -7.7
CBOC Ciudad Bolivar 38.08 354 *eP* **P 08 25 37.7 +0.7**
NBLA Lagarto - SE 38.25 64 *eP* **P 08 25 37.3 -1.1**
HELC Santa Helena 38.36 355 *eP* P 08 25 35.4 -4.2
TAMC Tame, Arauca 38.49 1 *eP* P 08 25 33.2 -7.2
PTBC PUERTO BERRIO, 38.64 357 *eP* P 08 25 37.7 -3.9
BARC Barichara 38.65 359 *eP* **P 08 25 39.9 -2.0**
BRRC Barranca, Sant 39.18 358 *eP* P 08 25 37.7 -8.4
DBBC Dabeiba 39.24 354 *eP* **P 08 25 46.7 0.0**
PAMC Pamplona, Colo 39.39 360 *eP* P 08 25 37.7 -11
ROSB Rosrio 39.48 48 *eP* **P 08 25 47.4 -1.3**
ZARC Zaragoza, Cauc 39.61 356 *eP* P 08 25 44.4 -5.2
NBMA Muriti-CE 39.89 59 *eP* **P 08 25 51.7 -0.5**
UREC San Jos de Ur 39.91 355 *eP* P 08 25 42.2 -10
NBAN Anadia - AL 40.24 64 *eP* **P 08 25 54.1 -0.9**
OCAC Ocana 40.29 359 *eP* P 08 25 46.7 -8.8
NBPB Pedra_Branca-C 40.56 56 *eP* **P 08 25 57.5 -0.2**
SMLC San Martn de 40.87 357 *eP* P 08 25 55.7 -4.4
SDV Santo Domingo 40.96 3 P **P 08 26 01.7 +0.6**
comp=Z,6.2nm,0.4s,baz=140,slow=4.2,SNR=3.5
SDV Santo Domingo 40.96 3 P **P 08 26 00.2 -0.9**
SDV Santo Domingo 40.96 3 IAMs_20 IAMs_20 08 41 35.1
comp=Z,2µm,21.0s
SDV Santo Domingo 40.96 3 *eP* P 08 25 56.2 -4.9
SDV Santo Domingo 40.96 3 *eP* **P 08 26 02.4 +1.4**
BAUV El Baul 41.19 7 *eP* P 08 25 58.1 -4.7
MDP Montagnes des 41.65 30 P **P 08 26 06.1 -0.5**
comp=Z,24nm,0.9s,baz=217,slow=7.3,SNR=7.7
NBRF Rio Formoso - 41.74 64 *eP* **P 08 26 06.7 -0.7**
ARGC Ariguani, Magd 41.93 357 *eP* **P 08 26 07.0 -1.8**
SJCC San Jacinto, C 42.01 356 *eP* P 08 25 58.0 -12
NBPA Parau_RN 42.19 59 *eP* **P 08 26 10.9 -0.1**
NBCL Cascavel-CE 42.40 56 *eP* **P 08 26 13.3 +0.5**
SRBA San Rafael, Bu 42.58 344 P **P 08 26 13.5 -0.7**
SRBA IAmb IAmb 08 26 26.2
comp=Z,44nm,1.5s
RCBR Riachuelo 43.02 60 IAMs_20 IAMs_20 08 43 58.2
comp=Z,3µm,18.0s
RCBR Riachuelo 43.02 60 *eP* **P 08 26 19.5 +1.7**
NBPV Pedro Velho 43.08 61 *eP* **P 08 26 19.1 +0.9**
SMRC Santa Marta, M 43.22 357 *eP* **P 08 26 16.0 -3.3**
SMRC Santa Marta, M 43.22 357 *eP* **P 08 26 16.0 -3.3**
TRN Trinidad (W) 43.95 16 *eP* **P 08 26 23.3 -1.9**
JTS Las Juntas de 43.99 342 P **P 08 26 25.9 +0.3**
comp=Z,6.6nm,1.0s,baz=233,slow=4.1,SNR=2.5
GRGR Grenville 45.33 15 *eP* **P 08 26 37.3 +1.1**
GRGR Grenville 45.33 15 IAMs_20 IAMs_20 08 45 36.0
comp=Z,3µm,19.0s
GCMP Grenada, Carri 45.73 15 *eP* **P 08 26 36.2 -3.1**
SLBI Saint Lucia, B 47.31 15 *eP* P 08 26 45.3 -6.4
MPOM Morne Pois Mar 47.75 15 *eP* **P 08 26 53.6 -1.5**
BIM Bigot 47.77 15 *eP* P 08 26 50.5 -4.8
FDF Fort de France 47.96 15 *eP* P 08 26 46.6 -10
ILAM Ilet Lapin Mar 48.06 15 *eP* **P 08 26 54.5 -3.1**
TGUH Tegucigalpa,Un 48.22 340 *eP* **P 08 27 00.8 +1.8**
DSLB Salisbury 48.59 14 *eP* P 08 26 53.6 -8.0
CBE Ff, Capester 49.16 14 *eP* P 08 27 01.7 -4.4

ABD La Joyeuse, An 49.58 14 *eP* P 08 27 02.8 -6.4
ANBD Bethesda, Anti 50.08 13 *eP* P 08 27 05.9 -7.2
SKI Saint Kitts 50.18 12 *eP* P 08 27 03.5 -10
SEUS St. Eustatius 50.30 12 *eP* P 08 27 10.5 -4.1
SEUS St. Eustatius 50.30 12 IAMs_20 IAMs_20 08 49 29.6
comp=Z,2µm,19.0s
PDPR Patillas Dam, 50.37 8 P **P 08 27 14.5 -0.7**
PDPR IAmb IAmb 08 27 24.4
comp=Z,46nm,1.3s
SJG San Juan 50.45 8 P **P 08 27 14.4 -1.4**
SJG pmax pmax
comp=Z,62nm,1.6s
SJG San Juan 50.45 8 P **P 08 27 14.4 -1.4**
SJG IAmb IAmb 08 27 24.9
comp=Z,62nm,1.6s
SJG San Juan 50.45 8 *eP* P 08 27 05.5 -10
ANWB Willy Bob 50.69 13 *eP* P 08 27 08.0 -10
ANWB Willy Bob 50.69 13 IAMs_20 IAMs_20 08 49 40.9
comp=Z,2µm,20.0s
SMRT St. Maarten 50.83 11 *eP* P 08 27 08.2 -10
SDDR Presa de Saban 50.97 1 IAMs_20 IAMs_20 08 51 04.6
comp=Z,2µm,18.0s
VNA3 Neumayer Olymp 51.07 158 P **P 08 27 21.1 +1.1**
VNA1 Neumayer--Stat 51.38 157 P **P 08 27 23.7 +1.5**
VNA2 Neumayer--Watz 51.72 158 P **P 08 27 26.0 +1.1**
baz=294,slow=9.3
SNAA Sanae 53.30 158 P **P 08 27 37.7 +1.1**
SNAA Sanae 53.30 158 P **P 08 27 37.7 +1.1**
comp=Z,10nm,0.9s,baz=273,slow=7.7,SNR=43
SNAA Sanae 53.30 158 *eP* **P 08 27 37.1 +0.5**
SNAA pmax pmax
comp=Z,17nm,1.1s
SNAA Sanae 53.30 158 P **P 08 27 37.1 +0.5**
SNAA IAmb IAmb 08 28 04.8
comp=Z,53nm,1.3s
SNAA IAMs_20 IAMs_20 08 48 37.9
comp=Z,2µm,19.0s
UNM Universidad Na 57.36 330 IAMs_20 IAMs_20 08 47 21.2
comp=Z,2µm,20.0s
QSPA South Pole Qui 57.96 180 P **P 08 28 12.2 +1.9**
comp=Z,6.5nm,0.9s,baz=222,slow=1.1,SNR=9.4
SBA Scott Base 64.70 192 IAMs_20 IAMs_20 08 56 06.8
comp=Z,1µm,18.0s
833A Chaparral WMA, 65.50 334 P **P 08 29 02.9 +1.6**
baz=155
VNDA Vanda 65.73 191 P **P 08 29 03.7 +1.5**
comp=Z,0.8nm,0.9s,baz=117,slow=7.8,SNR=2.3
VNDA LR LR 08 55 33.4
comp=Z,1µm,18.0s,baz=133,slow=34
HKT Hockley 65.75 338 *eP* **P 08 29 01.0 -1.8**
HKT pmax pmax
comp=Z,6.0nm,1.7s
HKT Hockley 65.75 338 P **P 08 29 02.0 -0.7**
342A Flagon Creek P 66.05 341 P **P 08 29 03.9 -0.9**
LRAL Lakeview Retre 66.40 347 IAMs_20 IAMs_20 09 03 12.4
comp=Z,870nm,19.0s
TAOE Nuku Hiva Isla 66.53 274 *eS* **S 08 37 57.6 -2.3**
comp=Z,567nm,23.0s
TAOE Nuku Hiva Isla 66.53 274 *eLR* LR 08 49 07.9
comp=Z,2µm,25.6s,baz=132
TBI Tubuai 67.44 256 *eS* **S 08 38 10.7 +0.3**
comp=Z,548nm,22.8s
TBI Tubuai 67.44 256 *eLR* LR 08 49 35.0
comp=Z,4µm,27.0s,baz=111
SYO Syowa Base 67.58 159 *eP* **P 08 29 11.0 -3.1**
SYO Syowa Base 67.58 159 *eSP* **P 08 29 15.4 +1.3**
JCT Junction City 67.60 335 P **P 08 29 14.9 +0.2**
JCT pmax pmax
comp=Z,34nm,1.3s
JCT Junction City 67.60 335 P **P 08 29 14.9 +0.2**
JCT IAmb IAmb 08 29 52.3
comp=Z,34nm,1.3s
JCT Junction City 67.60 335 P **P 08 29 16.7 +1.9**
baz=155
X48A Hartselle 67.78 347 P **P 08 29 14.9 -0.8**
X48A IAmb IAmb 08 29 25.4
comp=Z,24nm,1.3s
TXAR Lajitas Array 68.08 331 P **P 08 29 18.9 +1.1**
comp=Z,1.0nm,0.7s,baz=154,slow=7.6,SNR=13
TXAR LR LR 08 54 51.9
comp=Z,1µm,18.0s,baz=0.0,slow=32
TX31 Lajitas Ar. Si 68.08 331 P **P 08 29 18.0 +0.1**
TX32 Lajitas Array 68.08 331 P **P 08 29 17.7 -0.1**
TX32 IAmb IAmb 08 29 49.1
comp=Z,15nm,1.4s
SWET Sewanee 68.32 348 P **P 08 29 19.2 0.0**
SWET IAmb IAmb 08 29 38.2
comp=Z,16nm,1.0s
V51A Loudon 68.64 350 P **P 08 29 21.9 +0.8**
WVT Waverly 69.56 347 P **P 08 29 26.9 +0.1**
WVT pmax pmax
comp=Z,84nm,1.8s
WVT Waverly 69.56 347 P **P 08 29 26.9 +0.1**
WVT Waverly 69.56 347 P **P 08 29 27.6 +0.8**
baz=166
W39A Magazine 70.05 341 P **P 08 29 29.8 -0.1**
W39A IAmb IAmb 08 29 52.6
comp=Z,22nm,0.8s
W39A Magazine 70.05 341 P **P 08 29 31.1 +1.3**
baz=161
PPT2 Papeete2 70.19 261 *eS* **S 08 38 43.0 -0.4**
comp=Z,803nm,23.0s
PPT2 Papeete2 70.19 261 *eLR* LR 08 50 50.8
comp=Z,1µm,26.0s
PPT Papeete 70.20 261 LR LR 08 52 24.4
comp=Z,322nm,18.4s,baz=150,slow=29
MBO M'Bour 70.46 58 IAMs_20 IAMs_20 09 01 19.6
comp=Z,2µm,18.0s
MNTX Cornudas Mount 70.86 331 P **P 08 29 35.0 +0.1**
MNTX IAMs_20 IAMs_20 08 56 11.8
comp=Z,1µm,19.0s
MNTX Cornudas Mount 70.86 331 P **P 08 29 35.2 +0.3**
baz=151
U40A Yellville 70.91 343 P **P 08 29 35.8 +0.8**
baz=162
EPT El Paso 71.40 330 IAMs_20 IAMs_20 08 56 19.0
comp=Z,1µm,18.0s
MSTX Muleshoe 71.83 334 P **P 08 29 42.1 +1.3**
baz=153
MCWV Mont Chateau 71.90 354 IAMs_20 IAMs_20 09 04 10.8
comp=Z,1µm,20.0s
CCM Cathedral Cave 72.14 344 P **P 08 29 43.1 +0.6**
CCM pmax pmax
comp=Z,19nm,1.1s
CCM MLR MLR
comp=Z,600nm,19.0s
CCM Cathedral Cave 72.14 344 P **P 08 29 43.1 +0.6**
CCM IAmb IAmb 08 30 29.0
comp=Z,19nm,1.1s
CCM Cathedral Cave 72.14 344 P **P 08 29 43.0 +0.6**
baz=163
SSPA Standing Stone 72.72 356 IAMs_20 IAMs_20 09 06 02.6
comp=Z,734nm,18.0s
ACSO Alum Creek Sta 72.80 352 IAMs_20 IAMs_20 09 04 43.8
comp=Z,706nm,18.0s
N59A State Game Lan 72.89 357 IAMs_20 IAMs_20 09 05 13.0
comp=Z,777nm,18.0s
WSPT Westport, CT 73.08 359 IAMs_20 IAMs_20 09 08 12.1
comp=Z,782nm,18.0s
N54A Moraine State 73.20 354 IAMs_20 IAMs_20 09 04 57.4
comp=Z,702nm,18.0s
Y22D IRIS PASSCAL I 73.56 331 IAMs_20 IAMs_20 08 58 18.2
comp=Z,1µm,18.0s
M54A Oil Creek Stat 73.72 354 IAMs_20 IAMs_20 09 06 55.0
comp=Z,761nm,18.0s
P40A Paris 73.73 344 P **P 08 29 51.8 0.0**
P40A IAmb IAmb 08 30 13.3
comp=Z,24nm,1.0s
M53A WI Miller and 73.74 354 IAMs_20 IAMs_20 09 05 17.6
comp=Z,777nm,20.0s
ANMO Albuquerque 74.12 331 P **P 08 29 55.6 +1.1**
comp=Z,1.1nm,0.8s,baz=183,slow=9.7,SNR=4.3
ANMO Albuquerque 74.12 331 *eP* **P 08 29 52.2 -2.3**
ANMO pmax pmax
comp=Z,3.0nm,1.2s
ANMO Albuquerque 74.12 331 P **P 08 29 55.2 +0.6**
ANMO IAMs_20 IAMs_20 08 57 41.2
comp=Z,866nm,20.0s
ANMO Albuquerque 74.12 331 P **P 08 29 56.8 +2.3**
baz=150
BINY Binghamton 74.18 357 IAMs_20 IAMs_20 09 06 08.1
comp=Z,1µm,18.0s
ERPA Erie 74.35 354 IAMs_20 IAMs_20 09 05 06.8
comp=Z,815nm,19.0s
HRV Adam Dziewonsk 74.42 1 IAMs_20 IAMs_20 09 09 04.4
comp=Z,684nm,18.0s

MAW Mawson 74.92 164 P **P 08 29 59.7 +1.1**
comp=Z,3.8nm,0.9s,baz=219,slow=6.5,SNR=6.1
MAW LR LR 09 04 46.5
comp=Z,2µm,18.9s,baz=228,slow=37
MAW Mawson 74.92 164 P **P 08 29 59.4 +0.8**
MAW pmax pmax
comp=Z,6.0nm,1.3s
MAW Mawson 74.92 164 P **P 08 29 59.4 +0.8**
DBIC Dimbokro 74.92 72 P **P 08 29 59.3 -0.1**
comp=Z,8.7nm,0.8s,baz=245,slow=5.6,SNR=7.6
DBIC LR LR 08 58 54.2
comp=Z,1µm,21.8s,baz=215,slow=33
DBIC Dimbokro 74.92 72 P **P 08 29 58.8 -0.6**
DBIC pmax pmax
comp=Z,134nm,1.9s
DBIC Dimbokro 74.92 72 P **P 08 29 58.8 -0.6**
AAM Ann Arbor 74.92 351 IAMs_20 IAMs_20 09 06 08.0
comp=Z,795nm,19.0s
T25A Trinidad 75.25 334 P **P 08 30 02.2 +1.2**
T25A IAmb IAmb 08 30 26.0
comp=Z,26nm,1.1s
T25A Trinidad 75.25 334 P **P 08 30 03.4 +2.4**
baz=152
X16A Lo Mia Camp, P 75.82 328 P **P 08 30 04.3 -0.1**
LBNH Lisbon 76.14 0 IAMs_20 IAMs_20 09 04 26.0
comp=Z,734nm,20.0s
Y14A Wickenburg 76.15 326 P **P 08 30 07.0 +0.9**
SDCO Great Sand Dun 76.19 334 P **P 08 30 06.7 +0.1**
SDCO Great Sand Dun 76.19 334 P **P 08 30 08.1 +1.6**
baz=152
JFWS Jewell Farm 76.59 347 IAMs_20 IAMs_20 09 09 28.1
comp=Z,742nm,18.0s
S22A 4UR Ranch, Cre 76.70 333 P **P 08 30 10.8 +1.4**
baz=151
WUAZ Wupatki 76.71 328 P **P 08 30 11.5 +2.2**
baz=147
MVCO Mesa Verde 76.91 331 P **P 08 30 10.0 -0.5**
MVCO IAmb IAmb 08 30 35.3
comp=Z,12nm,1.1s
MVCO IAMs_20 IAMs_20 09 00 45.9
comp=Z,1µm,19.0s
MVCO Mesa Verde 76.91 331 P **P 08 30 12.5 +2.0**
baz=149
SADO Sadowa 76.92 355 P **P 08 30 12.1 +2.0**
comp=Z,2.4nm,0.6s,baz=144,slow=16,SNR=2.0
IRM Iron Mountain 77.35 325 P **P 08 30 15.2 +2.3**
baz=144
GLMI Grayling 77.53 351 IAMs_20 IAMs_20 09 07 53.9
comp=Z,921nm,19.0s
TPFO Pinon Flats 77.56 324 P **P 08 30 16.5 +2.3**
baz=143
PFO Pinyon Flats O 77.57 324 P **P 08 30 16.4 +2.2**
comp=Z,4.0nm,1.0s,baz=21,slow=2.6,SNR=3.2
PFO Pinyon Flats O 77.57 324 *eP* **P 08 30 13.6 -0.6**
PFO pmax pmax
comp=Z,9.0nm,1.1s
PKCU Pink Cliffs 78.73 329 P **P 08 30 20.5 -0.3**
PKCU IAmb IAmb 08 31 30.5
comp=Z,47nm,2.0s
PASC Pasadena Art C 78.89 323 IAMs_20 IAMs_20 09 02 42.6
comp=Z,652nm,18.0s
CCUT Cedar City 79.28 328 P **P 08 30 24.4 +0.7**
CCUT IAmb IAmb 08 30 35.3
comp=Z,30nm,1.6s
PHWY Pilot Hill 79.31 335 P **P 08 30 24.7 +0.9**
PHWY IAmb IAmb 08 30 34.3
comp=Z,21nm,1.5s
O20A White River Ci 79.32 333 P **P 08 30 24.4 +0.6**
O20A White River Ci 79.32 333 P **P 08 30 25.5 +1.7**
baz=150
SRU San Rafael Swe 79.36 331 P **P 08 30 24.6 +0.6**
SRU pmax pmax
comp=Z,50nm,2.0s
SRU San Rafael Swe 79.36 331 P **P 08 30 24.6 +0.6**
SRU IAmb IAmb 08 30 35.3
comp=Z,50nm,2.0s
COWI Conover 79.46 348 IAMs_20 IAMs_20 09 08 30.1
comp=Z,836nm,19.0s
MSU Marysvale 79.56 329 P **P 08 30 26.2 +1.1**
MSU Marysvale 79.56 329 P **P 08 30 26.2 +1.1**
PRN Pahroc Range 79.94 327 P **P 08 30 27.8 +0.6**
PRN IAmb IAmb 08 30 39.4
comp=Z,35nm,1.6s
TSUM Tsumeb 79.98 106 LR LR 09 00 49.0
comp=Z,377nm,20.4s,baz=257,slow=32
TSUM Tsumeb 79.98 106 IAMs_20 IAMs_20 09 04 38.8
comp=Z,922nm,18.0s
FURC Furnace Creek, 80.04 325 P **P 08 30 29.4 +1.9**
baz=143
TPNV Topopah Spring 80.13 326 IAMs_20 IAMs_20 09 00 37.4
comp=Z,615nm,18.0s
TPNV Topopah Spring 80.13 326 P **P 08 30 31.0 +2.8**
baz=144
ISA Isabella, Lake 80.20 323 P **P 08 30 31.2 +2.6**
baz=142
RDMU Red Mountain 80.21 332 P **P 08 30 29.0 +0.3**
PSUT Pine Spring 80.31 328 P **P 08 30 30.3 +1.1**
PSUT IAmb IAmb 08 30 41.3
comp=Z,33nm,1.9s
MPU Maple Canyon 80.58 331 P **P 08 30 31.1 +0.5**
VES Vestal, Richgr 80.65 323 P **P 08 30 33.2 +2.3**
baz=141
K22A Casper 80.87 335 P **P 08 30 33.3 +1.2**
K22A Casper 80.87 335 P **P 08 30 34.1 +2.0**
baz=151
R11A Troy Canyon, C 80.95 327 P **P 08 30 33.2 +0.6**
R11A IAmb IAmb 08 30 43.9
comp=Z,21nm,1.5s
R11A Troy Canyon, C 80.95 327 P **P 08 30 34.9 +2.3**
baz=144
JLU Jordanelle 81.00 331 P **P 08 30 33.6 +0.7**
BOSA Boshof 81.14 118 P **P 08 30 33.9 -0.1**
comp=Z,12nm,0.9s,baz=245,slow=5.9,SNR=11
BOSA Boshof 81.14 118 P **P 08 30 34.7 +0.7**
BOSA pmax pmax
comp=Z,30nm,1.3s
BOSA Boshof 81.14 118 P **P 08 30 34.7 +0.7**
BOSA IAmb IAmb 08 30 50.7
comp=Z,30nm,1.3s
DUG Dugway, Tooele 81.23 330 IAMs_20 IAMs_20 09 03 51.3
comp=Z,863nm,18.0s
EYMN Ely 81.67 347 IAMs_20 IAMs_20 09 09 42.5
comp=Z,691nm,20.0s
CASY Casey 81.74 181 IAMs_20 IAMs_20 09 05 54.6
comp=Z,1µm,19.0s
HWUT Hardware Ranch 81.89 331 IAMs_20 IAMs_20 09 03 13.8
comp=Z,932nm,19.0s
BW06 Boulder Array 82.09 333 IAMs_20 IAMs_20 09 03 21.9
comp=Z,670nm,19.0s
PDAR Pinedale Array 82.09 333 P **P 08 30 38.8 +0.2**
comp=Z,0.5nm,0.7s,baz=164,slow=2.6,SNR=4.9
PDAR Pinedale Array 82.09 333 P **P 08 30 38.9 +0.3**
NVAR Mina Array Bea 82.29 325 P **P 08 30 41.3 +1.5**
comp=Z,2.1nm,0.9s,baz=160,slow=6.0,SNR=15
NVAR Mina Array Bea 82.29 325 P **P 08 30 40.2 +0.4**
HVU Hansel Valley 82.53 331 P **P 08 30 41.3 +0.4**
HVU pmax pmax
comp=Z,11nm,1.2s
HVU Hansel Valley 82.53 331 P **P 08 30 41.3 +0.4**
AHID Auburn Hatcher 82.68 332 IAMs_20 IAMs_20 09 06 47.7
comp=Z,677nm,18.0s
ELK Elko 82.73 329 P **P 08 30 43.2 +1.1**
comp=Z,2.2nm,0.8s,baz=128,slow=1.3,SNR=11
ELK Elko 82.73 329 P **P 08 30 42.3 +0.3**
ELK pmax pmax
comp=Z,7.0nm,1.0s
ELK Elko 82.73 329 P **P 08 30 42.3 +0.3**
SNOW Snow King Moun 83.14 333 P **P 08 30 44.5 +0.5**
SNOW IAMs_20 IAMs_20 09 04 20.7
comp=Z,682nm,19.0s
LOHW Long Hollow 83.21 333 P **P 08 30 44.8 +0.4**
LOHW IAmb IAmb 08 30 54.4
comp=Z,17nm,1.6s
LOHW IAMs_20 IAMs_20 09 03 56.5
comp=Z,733nm,19.0s
LBTB Lobatse 83.31 115 LR LR 09 04 47.9
comp=Z,450nm,18.8s,baz=238,slow=34
LBTB Lobatse 83.31 115 P **P 08 30 45.5 +0.1**
LBTB pmax pmax
comp=Z,38nm,1.4s
LBTB Lobatse 83.31 115 P **P 08 30 45.5 +0.1**
MOOW Moose Ponds 83.38 333 IAMs_20 IAMs_20 09 03 52.0
comp=Z,677nm,20.0s
IMW Indian Meadow 83.58 333 P **P 08 30 46.9 +0.6**
IMW IAmb IAmb 08 30 56.6
comp=Z,14nm,1.6s

FLWY	**Flagg Ranch**	**83.64**	**333**	IAMs_20	IAMs_20	09 04 12.1			
	comp=Z,779nm,20.0s								
TORD	**Torodi Ar. Bea**	**83.91**	**70**	P	**P**	**08 30 48.4**	**0.0**		
	comp=Z,9.0nm,0.8s,baz=259,slow=4.8,SNR=40								
TORD	**Torodi Ar. Bea**	**83.91**	**70**	P	**P**	**08 30 48.0**	**-0.3**		
TORD				IAmb	IAmb	08 31 03.4			
	comp=Z,26nm,1.1s								
LKWY	**Lake**	**83.94**	**334**	IAMs_20	IAMs_20	09 04 42.9			
	comp=Z,680nm,20.0s								
YMR	**Madison River**	**84.24**	**333**	P	**P**	**08 30 48.4**	**-1.3**		
YHH	**Holmes Hill**	**84.30**	**334**	P	**P**	**08 30 50.5**	**+0.5**		
YHH				IAmb	IAmb	08 31 01.3			
	comp=Z,15nm,1.3s								
HLID	**Hailey**	**84.68**	**331**	P	**P**	**08 30 52.3**	**+0.4**		
HLID				IAmb	IAmb	08 31 02.8			
	comp=Z,16nm,1.4s								
HLID	**Hailey**	**84.68**	**331**	P	**P**	**08 30 53.9**	**+2.0**		
	baz=145								
ULM	**Lac du Bonnet**	**84.75**	**345**	P	**P**	**08 30 53.8**	**+2.0**		
	comp=Z,3.8nm,0.8s,baz=162,slow=3.2,SNR=3.2								
MCMT	**McKenzie Canyo**	**85.10**	**332**	P	**P**	**08 30 55.5**	**+1.5**		
MFID	**Camas Ranch**	**85.16**	**330**	IAMs_20	IAMs_20	09 06 06.3			
	comp=Z,704nm,19.0s								
DGMT	**Dagmar**	**85.26**	**339**	P	**P**	**08 30 55.2**	**+0.7**		
DGMT				IAmb	IAmb	08 31 39.2			
	comp=Z,17nm,1.0s								
DGMT	**Dagmar**	**85.26**	**339**	P	**P**	**08 30 55.9**	**+1.4**		
	baz=153								
BOZ	**Bozeman (W)**	**85.28**	**334**	P	**P**	**08 30 56.2**	**+1.4**		
	baz=148								
LRM	**Limekiln Ridge**	**85.78**	**333**	P	**P**	**08 30 58.0**	**+0.6**		
MOD	**Modoc Plateau**	**85.96**	**326**	P	**P**	**08 30 58.9**	**+0.6**		
MOD				IAmb	IAmb	08 31 10.2			
	comp=Z,15nm,1.4s								
J08A	**Circle Bar Ran**	**86.27**	**328**	P	**P**	**08 31 00.9**	**+1.2**		
J08A				IAmb	IAmb	08 31 10.6			
	comp=Z,24nm,1.2s								
K05A	**Summer Lake**	**86.88**	**326**	P	**P**	**08 31 03.6**	**+0.8**		
K05A				IAmb	IAmb	08 31 13.9			
	comp=Z,27nm,1.3s								
SCHQ	**Schefferville**	**86.88**	**3**	LR	LR	09 10 13.3			
	comp=Z,421nm,20.8s,baz=156,slow=36								
BMO	**Blue Mountains**	**86.95**	**330**	P	**P**	**08 31 03.5**	**+0.5**		
BMO				pmax	pmax				
	comp=Z,5.0nm,1.1s								
BMO	**Blue Mountains**	**86.95**	**330**	P	**P**	**08 31 03.5**	**+0.5**		
BMO				IAMs_20	IAMs_20	09 05 49.6			
	comp=Z,625nm,19.0s								
YBH	**Yreka Blue Hor**	**86.99**	**325**	P	**P**	**08 31 03.9**	**+0.7**		
	comp=Z,1.4nm,0.8s,baz=108,slow=5.2,SNR=4.8								
YBH	**Yreka Blue Hor**	**86.99**	**325**	P	**P**	**08 31 03.9**	**+0.7**		
YBH				pmax	pmax				
	comp=Z,30nm,1.9s								
YBH	**Yreka Blue Hor**	**86.99**	**325**	IAmb	IAmb	08 31 24.1			
	comp=Z,30nm,1.9s								
MSO	**Missoula**	**87.19**	**333**	IAMs_20	IAMs_20	09 06 39.9			
	comp=Z,653nm,18.0s								
J05D	**Fort Rock, OR**	**87.47**	**327**	P	**P**	**08 31 07.5**	**+1.9**		
	baz=140								
PINE	**Pine Mountain**	**87.72**	**327**	P	**P**	**08 31 08.4**	**+1.5**		
PINE				IAmb	IAmb	08 31 18.0			
	comp=Z,20nm,1.3s								
HAWA	**Hanford**	**89.12**	**330**	P	**P**	**08 31 13.9**	**+0.7**		
HAWA				IAmb	IAmb	08 31 23.8			
	comp=Z,19nm,1.4s								
HAWA				IAMs_20	IAMs_20	09 07 39.1			
	comp=Z,670nm,20.0s								
NEW	**Newport**	**89.61**	**332**	IAMs_20	IAMs_20	09 08 07.9			
	comp=Z,620nm,20.0s								
LSZ	**Lusaka**	**90.64**	**108**	IAMs_20	IAMs_20	09 09 35.9			
	comp=Z,1μm,19.0s								
MORF	**Marmelete**	**91.25**	**46**	*e*P	**P**	**08 31 23.6**	**+0.2**		
COI	**Coimbra**	**93.27**	**44**	IAMs_20	IAMs_20	09 21 36.6			
	comp=Z,824nm,19.0s								
MTE	**Manteigas**	**93.91**	**44**	IAMs_20	IAMs_20	09 13 45.3			
	comp=Z,798nm,20.0s								
PAB	**San Pablo**	**95.28**	**46**	IAMs_20	IAMs_20	09 11 14.8			
	comp=Z,859nm,20.0s								
ESDC	**Sonseca Array**	**95.60**	**46**	P	**P**	**08 31 43.1**	**-0.3**		
	comp=Z,0.3nm,0.4s,baz=235,slow=4.5,SNR=2.6								
CART	**Cartagena**	**96.20**	**49**	IAMs_20	IAMs_20	09 19 07.3			
	comp=Z,539nm,19.0s								
MSVF	**Nonsavu**	**96.28**	**245**	IAMs_20	IAMs_20	09 14 37.0			
	comp=Z,828nm,18.0s								
SFJD	**Kangerlussuaq**	**100.33**	**9**	IAMs_20	IAMs_20	09 16 58.6			
	comp=Z,516nm,18.0s								
ANGG	**Ammassalik, Gr**	**101.21**	**14**	IAMs_20	IAMs_20	09 16 46.1			
	comp=Z,718nm,20.0s								
DZM	**Mont Dzumac**	**102.01**	**234**	*e*PS	PS	08 45 31.4	+2.4		
	comp=Z,190nm,24.1s								
DZM				*e*SS	SS	08 51 02.3	+3.2		
	comp=Z,344nm,23.8s								
DZM	**Mont Dzumac**	**102.01**	**234**	*e*LR	LR	09 05 39.4			
	comp=Z,942nm,23.4s,baz=140								
ILULI	**Ilulissat**	**102.39**	**8**	IAMs_20	IAMs_20	09 19 03.1			
	comp=Z,564nm,20.0s								
JIS	**Juneau Island**	**103.94**	**331**	IAMs_20	IAMs_20	09 17 28.0			
	comp=Z,489nm,19.0s								
CLF	**Chambon-Foret**	**104.09**	**42**	IAMs_20	IAMs_20	09 23 06.6			
	comp=Z,847nm,18.0s								
BORG	**Borgarnes**	**104.57**	**20**	IAMs_20	IAMs_20	09 15 55.1			
	comp=Z,616nm,21.0s								
ESK	**Eskdalemuir**	**105.31**	**34**	IAMs_20	IAMs_20	09 29 23.6			
	comp=Z,845nm,18.0s								
KIBK	**Kibwezi**	**105.91**	**103**	IAMs_20	IAMs_20	09 16 48.8			
	comp=Z,1μm,20.0s								
SENIN	**Lac Senin/Sane**	**106.16**	**45**	IAMs_20	IAMs_20	09 23 46.8			
	comp=Z,680nm,19.0s								
LODK	**Lodwar**	**106.83**	**97**	IAMs_20	IAMs_20	09 20 37.7			
	comp=Z,940nm,19.0s								
OSSC	**Osservatorio P**	**107.24**	**49**	IAMs_20	IAMs_20	09 29 36.4			
	comp=Z,889nm,21.0s								
BFO	**Black Forest**	**107.74**	**44**	IAMs_20	IAMs_20	09 29 44.3			
	comp=Z,773nm,19.0s								
AQU	**L'Aquila**	**108.10**	**51**	IAMs_20	IAMs_20	09 23 59.3			
	comp=Z,748nm,18.0s								
CTGM	**Chitina Glacie**	**108.38**	**331**	IAMs_20	IAMs_20	09 29 57.5			
	comp=Z,545nm,19.0s								
GRNC	**Granite Creek**	**108.42**	**331**	IAMs_20	IAMs_20	09 32 13.5			
	comp=Z,443nm,18.0s								
BARN	**Barnard Glacie**	**108.56**	**331**	IAMs_20	IAMs_20	09 28 16.3			
	comp=Z,485nm,20.0s								
SCO	**Scoresbysund**	**108.61**	**16**	IAMs_20	IAMs_20	09 19 19.6			
	comp=Z,678nm,20.0s								
MCARA	**McCarthy VSAT**	**109.30**	**331**	IAMs_20	IAMs_20	09 30 04.6			
	comp=Z,826nm,22.0s								
GLB	**Gilahina Butte**	**109.65**	**331**	IAMs_20	IAMs_20	09 30 01.9			
	comp=Z,437nm,22.0s								
L27K	**Beaver Creek,**	**109.72**	**333**	IAMs_20	IAMs_20	09 30 07.8			
	comp=Z,585nm,19.0s								
BMRM	**Bremner River**	**109.73**	**330**	IAMs_20	IAMs_20	09 32 14.1			
	comp=Z,607nm,20.0s								
EPYK	**Eagle Plains**	**109.77**	**337**	IAMs_20	IAMs_20	09 21 01.9			
	comp=Z,554nm,21.0s								
M26K	**Nabesna, AK**	**109.83**	**332**	IAMs_20	IAMs_20	09 33 08.6			
	comp=Z,506nm,18.0s								
GRFO	**Grafenberg**	**110.05**	**43**	IAMs_20	IAMs_20	09 29 50.6			
	comp=Z,678nm,19.0s								
N25K	**Chitina, Valde**	**110.06**	**331**	IAMs_20	IAMs_20	09 30 48.7			
	comp=Z,438nm,19.0s								
L26K	**Log Cabin Wild**	**110.29**	**333**	IAMs_20	IAMs_20	09 30 22.9			
	comp=Z,549nm,19.0s								
EGAK	**Eagle**	**110.40**	**335**	IAMs_20	IAMs_20	09 32 29.7			
	comp=Z,544nm,20.0s								
FID	**Port Fidalgo**	**110.41**	**330**	IAMs_20	IAMs_20	09 30 47.1			
	comp=Z,560nm,18.0s								
GLI	**Glacier Island**	**110.74**	**330**	IAMs_20	IAMs_20	09 30 16.8			
	comp=Z,741nm,21.0s								
SCRK	**Sand Creek**	**111.03**	**333**	IAMs_20	IAMs_20	09 32 29.3			
	comp=Z,547nm,21.0s								
RIDG	**Independent Ri**	**111.24**	**333**	IAMs_20	IAMs_20	09 23 58.9			
	comp=Z,529nm,18.0s								
PWL	**Port Wells**	**111.26**	**329**	IAMs_20	IAMs_20	09 31 11.6			
	comp=Z,371nm,19.0s								
KNK	**Knik Glacier**	**111.57**	**330**	IAMs_20	IAMs_20	09 32 50.9			
	comp=Z,509nm,18.0s								
O22K	**Cooper Landing**	**111.69**	**329**	IAMs_20	IAMs_20	09 30 44.1			
	comp=Z,589nm,19.0s								
SML	**Sawmill**	**111.70**	**330**	IAMs_20	IAMs_20	09 31 20.4			
	comp=Z,450nm,19.0s								
CLL	**Collm**	**111.78**	**42**	*e*PP	**PP**	**08 37 36.0**	**+0.5**		
CLL				*e*PPP	PPP	08 39 48.0			
CLL				*e*SKSac	**SKSac**	**08 43 36.0**	**+1.9**		
CLL				*e*SKKSac	SKKSac	08 44 48.0	+10		
CLL				*e*Sdif	**Sdif**	**08 45 24.0**	**+8.3**		
CLL				*e*PS	**PS**	**08 47 11.0**	**+3.2**		
CLL				*e*PPS	PPS	08 48 13.0			
CLL				*e*SS	**SS**	**08 53 11.0**	**-1.0**		
CLL				*e*SSS	SSS	08 57 19.0			
CLL				*e*SSSS		09 00 54.0			
CLL				L	L	09 19 00.0			
	comp=Z,500nm,20.3s								
CLL				Lm	MLR	09 25 00.0			
	comp=N,200nm,19.1s								
CLL				Lm	MLR	09 25 00.0			
	comp=E,300nm,18.3s								
CLL	**Collm**	**111.78**	**42**	IAMs_20	IAMs_20	09 30 10.1			
	comp=Z,648nm,21.0s								
KDAK	**Kodiak Island**	**111.80**	**325**	IAMs_20	IAMs_20	09 30 25.1			
	comp=Z,586nm,19.0s								
DHY	**Denali Highway**	**111.91**	**332**	IAMs_20	IAMs_20	09 30 15.7			
	comp=Z,484nm,18.0s								
RC01	**Rabbit Creek A**	**111.97**	**329**	IAMs_20	IAMs_20	09 32 13.5			
	comp=Z,438nm,18.0s								
PDG	**Podgorica**	**112.04**	**53**	IAMs_20	IAMs_20	09 30 27.7			
	comp=Z,994nm,21.0s								
PRP	**Porcupine Dome**	**112.37**	**334**	IAMs_20	IAMs_20	09 29 16.6			
	comp=Z,552nm,18.0s								
HDA	**Harding Lake**	**112.37**	**333**	IAMs_20	IAMs_20	09 31 49.8			
	comp=Z,583nm,19.0s								
SUA	**Susitna One**	**112.58**	**329**	IAMs_20	IAMs_20	09 30 21.5			
	comp=Z,365nm,18.0s								
RND	**Reindeer**	**112.66**	**332**	IAMs_20	IAMs_20	09 32 18.5			
	comp=Z,454nm,19.0s								
FYU	**Fort Yukon**	**112.77**	**336**	IAMs_20	IAMs_20	09 22 53.2			
	comp=Z,490nm,22.0s								
Q19K	**Cape Douglas,**	**112.80**	**326**	IAMs_20	IAMs_20	09 30 30.5			
	comp=Z,591nm,20.0s								
CCB	**Clear Creek Bu**	**112.81**	**333**	IAMs_20	IAMs_20	09 22 54.4			
	comp=Z,452nm,19.0s								
MCK	**McKinley**	**112.83**	**332**	IAMs_20	IAMs_20	09 30 23.2			
	comp=Z,512nm,18.0s								
WRH	**Wood River Hil**	**112.84**	**333**	IAMs_20	IAMs_20	09 31 41.2			
	comp=Z,507nm,19.0s								
POKR	**Poker Flat Res**	**112.89**	**334**	IAMs_20	IAMs_20	09 30 28.4			
	comp=Z,634nm,18.0s								
COLA	**College**	**112.93**	**333**	IAMs_20	IAMs_20	09 32 30.7			
	comp=Z,539nm,18.0s								
TCOL	**CIGO, UAF Yank**	**112.94**	**333**	IAMs_20	IAMs_20	09 30 06.7			
	comp=Z,460nm,19.0s								
MDM	**Murphy Dome**	**113.11**	**333**	IAMs_20	IAMs_20	09 23 14.5			
	comp=Z,386nm,19.0s								
SKT	**Skwentna**	**113.14**	**330**	IAMs_20	IAMs_20	09 33 03.3			
	comp=Z,367nm,18.0s								
BWN	**Browne**	**113.24**	**332**	IAMs_20	IAMs_20	09 32 21.2			
	comp=Z,523nm,18.0s								
TRF	**Thorofare Moun**	**113.25**	**331**	IAMs_20	IAMs_20	09 33 31.3			
	comp=Z,472nm,20.0s								
RGN	**Rugen**	**113.27**	**39**	IAMs_20	IAMs_20	09 27 01.4			
	comp=Z,515nm,20.0s								
NEA2	**Nenana**	**113.27**	**333**	IAMs_20	IAMs_20	09 25 27.7			
	comp=Z,366nm,18.0s								
H24K	**Nord Dome**	**113.38**	**334**	IAMs_20	IAMs_20	09 32 49.4			
	comp=Z,483nm,22.0s								
KTH	**Kantishna Hill**	**113.56**	**331**	IAMs_20	IAMs_20	09 35 25.2			
	comp=Z,580nm,20.0s								
I23K	**Minto, Yukon-K**	**113.63**	**333**	IAMs_20	IAMs_20	09 30 28.0			
	comp=Z,589nm,18.0s								
O19K	**Port Alsworth**	**113.63**	**327**	IAMs_20	IAMs_20	09 32 21.5			
	comp=Z,534nm,20.0s								
BPAW	**Bear Paw Mtn.**	**113.81**	**332**	IAMs_20	IAMs_20	09 31 13.0			
	comp=Z,95nm,19.0s								
N19K	**Bonanza Creek**	**113.95**	**328**	IAMs_20	IAMs_20	09 32 20.9			
	comp=Z,524nm,21.0s								
CAST	**Castle Rocks**	**113.97**	**331**	IAMs_20	IAMs_20	09 33 04.3			
	comp=Z,547nm,20.0s								
H23K	**Yukon River**	**113.99**	**334**	IAMs_20	IAMs_20	09 30 55.6			
	comp=Z,543nm,20.0s								
MLY	**Manley**	**114.11**	**333**	IAMs_20	IAMs_20	09 24 29.8			
	comp=Z,393nm,19.0s								
CNBA	**Chernabura Isl**	**114.16**	**321**	IAMs_20	IAMs_20	09 13 52.1			
	comp=Z,548nm,18.0s								
N18K	**Kilae Creek**	**114.54**	**327**	IAMs_20	IAMs_20	09 30 42.4			
	comp=Z,418nm,18.0s								
I21K	**Tanana**	**114.65**	**333**	IAMs_20	IAMs_20	09 31 10.0			
	comp=Z,641nm,18.0s								
L19K	**White Mountain**	**114.65**	**329**	IAMs_20	IAMs_20	09 33 15.3			
	comp=Z,585nm,19.0s								
K20K	**Telida**	**114.77**	**331**	IAMs_20	IAMs_20	09 33 07.4			
	comp=Z,527nm,21.0s								
J20K	**Nowinta River**	**115.11**	**331**	IAMs_20	IAMs_20	09 30 48.4			
	comp=Z,563nm,18.0s								
H21K	**Melozitna Rive**	**115.15**	**333**	IAMs_20	IAMs_20	09 34 18.4			
	comp=Z,486nm,18.0s								
TOLK	**Toolik Lake Re**	**115.18**	**337**	IAMs_20	IAMs_20	09 24 59.9			
	comp=Z,458nm,19.0s								
ASAR	**Alice Springs**	**118.96**	**208**	PKP	**PKPdf**	**08 37 07.1**	**-0.3**		
	comp=Z,0.4nm,0.9s,baz=133,slow=2.8,SNR=2.6								
ASAR				PKKPbc	**PKKPbc**	**08 47 21.8**	**+0.6**		
	comp=Z,0.5nm,0.9s,baz=306,slow=3.6,SNR=4.1								
CSS	**Mathiatis**	**119.45**	**65**	IAMs_20	IAMs_20	09 31 05.3			
	comp=Z,804nm,22.0s								
KBS	**Kingsbay**	**120.34**	**13**	IAMs_20	IAMs_20	09 34 06.5			
	comp=Z,349nm,18.0s								
AKASG	**Malin Array Be**	**121.24**	**47**	PKP	**PKiKP**	**08 37 12.1**	**+1.3**		
	comp=Z,1.1nm,0.5s,baz=258,slow=3.2,SNR=4.4								
WRA	**Warramunga Arr**	**122.11**	**210**	PKP	**PKiKP**				
	comp=Z,0.9nm,0.6s,baz=163,slow=1.3,SNR=13					**08 37 13.7**	**+0.1**		
WRAB	**Tennant Creek**	**122.12**	**210**	⇑*i*PKiKP	**PKPdf**	**08 37 07.6**	**-5.8**		
H11S2	**WAKE ISLAND Hyd**	**125.47**	**271**	T	T	10 56 34.9			
	baz=117,slow=74,SNR=8.5								
H11S1	**WAKE ISLAND Hyd**	**125.49**	**271**	T	T	10 56 33.0			
	baz=117,slow=74,SNR=6.6								
H11S3	**WAKE ISLAND Hyd**	**125.49**	**271**	T	T	10 56 36.4			
	baz=117,slow=74,SNR=8.7								
SOC	**Sochi**	**126.64**	**57**	*e*PKiKP	**PKPdf**	**08 37 14.9**	**-6.3**		
SOC				*e*PPP	PPP	08 41 57.5			
SOC				MLR	MLR				
	comp=Z,856nm,20.0s								
FITZ	**Fitzroy Crossi**	**127.02**	**202**	PKP	**PKiKP**	**08 37 24.2**	**+0.9**		
	comp=Z,1.4nm,0.7s,baz=217,slow=4.4,SNR=2.7								
KLMR	**Klimovskoe**	**128.18**	**35**	*e*PKiKP	**PKPdf**	**08 37 22.5**	**-1.1**		
KLMR				pmax	pmax				
	comp=Z,23nm,1.6s								
KLMR	**Klimovskoe**	**128.18**	**35**	*e*PKPdf	**PKPdf**	**08 37 22.6**	**-1.1**		
KLMR				AMP		08 37 38.1			
KBZ	**Khabaz**	**128.93**	**57**	⇑*i*PKiKP	**PKPdf**	**08 37 19.5**	**-6.1**		
PRGR	**Permogore**	**131.07**	**34**	*e*PKiKP	**PKiKP**	**08 37 30.1**	**+0.1**		
PRGR				pmax	pmax				
	comp=Z,43nm,1.0s								
MAK	**Makhachkala**	**132.13**	**59**	*e*P	**Pdif**	**08 34 18.1**	**-7.8**		
MAK				*e*		08 44 37.2			
MAK				pmax	pmax				
	comp=Z,131nm,1.1s								
SEY	**Seymchan**	**138.38**	**331**	PKP	**PKPdf**	**08 37 43.7**	**+0.9**		
	comp=Z,1.2nm,0.3s,baz=57,slow=3.8,SNR=4.9								
ARU	**Arti**	**138.62**	**39**	PKP	**PKPdf**	**08 37 44.3**	**+0.9**		
	comp=Z,2.2nm,0.2s,baz=264,slow=6.2,SNR=1.1								
ARU	**Arti**	**138.62**	**39**	*i* PKiKP	**PKPdf**	**08 37 44.0**	**+0.6**		
JAGI	**Jajag, Banyuwa**	**139.01**	**190**	IAMs_20	IAMs_20	09 45 44.9			
	comp=Z,730nm,22.0s								
AKTO	**Aktyubinsk**	**139.44**	**48**	PKP	**PKiKP**	**08 37 46.7**	**-0.7**		
	comp=Z,0.8nm,0.5s,baz=290,slow=12,SNR=4.1								
CISI	**Cisompet, Garu**	**140.40**	**180**	IAMs_20	IAMs_20	09 43 52.3			
	comp=Z,357nm,18.0s								
TNTI	**Ternate**	**143.54**	**215**	IAMs_20	IAMs_20	09 55 02.9			
	comp=Z,396nm,19.0s								
BRVK	**Borovoye**	**146.13**	**41**	*c i* PKP2	**PKPbc**	**08 37 57.8**	**0.0**		
BVAR	**Borovoye Array**	**146.20**	**41**	PKPbc	**PKPab**	**08 37 59.0**	**+0.3**		
	comp=Z,2.5nm,0.4s,baz=243,slow=6.5,SNR=13								
BVAR	**Borovoye Array**	**146.20**	**41**	PKP2	**PKPab**	**08 37 59.0**	**+0.3**		
KUR	**Kuril'sk**	**146.38**	**304**	*e*PKP2	**PKiKP**	**08 38 01.2**	**-0.6**		
KUR				pmax	pmax				
	comp=Z,738nm,5.2s								
KUR				pmax	pmax				
	comp=Z,89nm,1.2s								
YAK	**Yakutsk**	**147.00**	**341**	⇑*e*PKHKP	PKPpre	08 37 55.2			
YAK	**Yakutsk**	**147.00**	**341**	IAMs_20	IAMs_20	09 54 14.6			
	comp=Z,544nm,20.0s								
YUK	**Yuzh-Kuril'sk**	**147.98**	**303**	*e*PKiKP	**PKPdf**	**08 37 59.6**	**-0.6**		
YUK				*e*		08 41 31.1			
YUK				*e*		08 54 08.0			
YUK				*e*SS	SS	09 00 38.3	+0.6		
YUK				*e*SSS	SSS	09 06 12.6			
NKL	**Nikolayevsk**	**148.40**	**321**	*i* PKiKP	**PKPdf**	**08 37 59.7**	**-0.9**		
KK31	**Karatay Array**	**148.95**	**59**	PKP2	**PKiKP**	**08 38 07.7**	**+0.5**		
KK31	**Karatay Array**	**148.95**	**59**	PKPab	**PKiKP**	**08 38 07.7**	**+0.5**		
YSS	**Yuzh-Sakhalins**	**149.49**	**309**	*de*PKHKP	PKPpre	08 38 05.5			
YSS				pmax	pmax				
	comp=Z,200nm,5.1s								
HYB	**Hyderabad**	**149.90**	**112**	*i* PKP	**PKPbc**	**08 38 08.0**	**-1.0**		
KURBB	**Kurchatov Arra**	**151.79**	**41**	PKPbc	**PKiKP**	**08 38 13.4**	**+0.6**		
	comp=Z,8.4nm,0.8s,baz=300,slow=3.0,SNR=34								
KURBB				PKPab	**PKPab**	**08 38 21.8**	**+0.4**		
KURK	**Kurchatov**	**151.80**	**41**	PKIKP	**PKiKP**	**08 38 13.4**	**+0.6**		
KURK	**Kurchatov**	**151.80**	**41**		**PKiKP**	**08 38 13.4**	**+0.6**		
ZALV	**Zalesovo Beam**	**152.91**	**30**	PKPbc	**PKiKP**	**08 38 15.3**	**+0.4**		
	comp=Z,20nm,0.8s,baz=290,slow=3.1,SNR=31								
ZALV				PKPab	**PKPab**	**08 38 25.0**	**-0.9**		
	comp=Z,29nm,0.8s,baz=304,slow=3.4,SNR=9.5								
BOD	**Bodaibo**	**154.08**	**352**	*e*PKIKP	**PKPbc**	**08 38 17.3**	**+0.1**		
BOD				pmax	pmax				
	comp=Z,10.0nm,1.5s								
MKAR	**Makanchi Array**	**155.82**	**46**	PKP	**PKPdf**	**08 38 12.1**	**+0.2**		
	comp=Z,0.6nm,0.8s,baz=270,slow=2.4,SNR=3.5								
MKAR				PKPab	**PKPab**	**08 38 38.0**	**-0.6**		
	comp=Z,6.0nm,0.9s,baz=304,slow=2.8,SNR=11								
MKAR	**Makanchi Array**	**155.82**	**46**	PKIKP	**PKPdf**	**08 38 10.3**	**-1.7**		
MKAR						08 38 38.0			
MKAR	**Makanchi Array**	**155.82**	**46**		**PKPdf**	**08 38 10.3**	**-1.7**		
WMQ	**Urumqi**	**160.59**	**48**	*e*PKP	**PKPdf**	**08 38 17.8**	**-0.1**		
WMQ				LR	LR				
	comp=Z,1μm,21.1s								
ZAK	**Zakamensk**	**161.62**	**9**	*e*PKP2	**PKPab**	**08 39 10.6**	**+6.9**		
ZAK				pmax	pmax				
	comp=Z,6.0nm,1.5s								
NJ2	**Nanjing**	**170.46**	**272**	*e*PKP	**PKPdf**	**08 38 25.4**	**-0.9**		
GTA	**Gaotai**	**170.48**	**39**	*e*PKPbc	**PKPdf**	**08 38 33.4**	**+7.1**		
GTA				pPKP	sPKPdf	08 38 38.3	+10		
GTA				sPKP		08 38 40.8			
GTA				PKPab	**PKPab**	**08 39 44.8**	**+1.6**		
GTA				PP	PP	08 43 47.8	+15		
HHC	**Hu-ho-hao-te**	**170.87**	**341**	*e*PKP	**PKPdf**	**08 38 21.3**	**-5.1**		
HHC				PP	**PP**	**08 43 35.5**	**+0.9**		
HHC				AMB	AMB				
	comp=Z,280nm,10.2s								
HHC				LR	LR				
	comp=Z,1μm,17.0s								
HHC				LR	LR				
	comp=Z,1μm,16.2s								
HHC				LR	LR				
	comp=Z,870nm,17.9s								
GYA	**Guiyang**	**174.15**	**172**	⇑PKP	**PKPdf**	**08 38 23.3**	**-5.0**		
GYA				PP	**PP**	**08 43 50.5**	**-0.1**		
GYA				SKKS		08 50 40.4			
GYA				SS	SS	09 05 09.5	-0.1		
GYA				AMB	AMB				
	comp=Z,200nm,5.3s								
LZH	**Lanzhou**	**175.08**	**38**	*e*PKP	**PKPdf**	**08 38 25.6**	**-2.7**		
LZH				sPKP		08 38 37.6			
LZH				PP	**PP**	**08 43 54.3**	**-1.6**		
LZH				SKKS		08 50 41.8			
LZH				SS	SS	09 05 20.9	+0.9		
LZH				AMB	AMB				
	comp=Z,290nm,4.3s								
LZH				LR	LR				
	comp=Z,860nm,20.6s								
LZH				LR	LR				
	comp=Z,700

KURBB	**Kurchatov Arra**	**6.43**	**240**	Pn		Pn	08 28 54.3	+1.1
	0.1nm,0.3s,baz=56,slow=14,SNR=4.5							
KURBB				Lg		Lg	08 30 41.5	
	0.1nm,0.3s,baz=49,slow=31,SNR=1.8							
MK31	**Makanchi Array**	**8.07**	**205**	⇑Pn		Pn	08 29 16.8	+1.1
	0.1nm,0.3s,baz=27,slow=14,SNR=6.3							
MK31				⇑Sn		Sn	08 30 45.6	-2.0
	0.5nm,0.5s,baz=185,slow=23,SNR=3.7							
MK31				⇓Lg		Lg	08 31 30.1	
	6.2nm,1.4s,baz=30,slow=28,SNR=3.8							
MKAR	**Makanchi Array**	**8.07**	**205**	Pn		Pn	08 29 17.1	+1.3
	0.2nm,0.3s,baz=25,slow=14,SNR=6.5							
MKAR				Sn		Sn	08 30 47.0	-0.7
	0.1nm,0.3s,baz=25,slow=26,SNR=5.1							
MKAR				Lg		Lg	08 31 33.1	
	0.0nm,0.3s,baz=28,slow=32,SNR=2.7							
MAKZ	**Makanchi**	**8.14**	**207**	⇓Sn		Sn	08 30 49.3	0.0
	0.4nm,0.4s							
MAKZ				⇑Lg		Lg	08 31 34.7	
	1.5nm,0.9s							

NNC ***18*** *08:37:12.1±0.7,39.˚72N×75.˚92E,h0km,mb3.7,mpv3.4, Error ellipse: s-maj=4.4km s-min=4.2km az=125.0*
SOME ***18*** *08:37:17.0,39.˚93N×75.˚70E,h5km*
KRNET ***18*** *08:37:17.9±0.1,39.˚86N×75.˚92E,mb3.2*
ISC 18 08:37:14.7±2.9,39.9N±0.1×75.92E±0.04,h1km±17km,n46, σ0§85/70,14C-14D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZA	**Kyzart**	**2.28**	**347**	⇑*i*P	**Pg**	**08 37 59.0**	**+0.6**
	baz=47						
KZA				⇑*i*S	**Sg**	**08 38 29.1**	**+1.1**
	baz=47						
KZA	**Kyzart**	**2.28**	**347**	P	**Pg**	**08 37 59.3**	**+0.9**
	SNR=11						
ARLS	**Aral**	**2.34**	**329**	⇑*i*P	**Pg**	**08 37 59.8**	**+0.1**
	baz=29						
ARLS				⇑*i*S	**Sg**	**08 38 30.6**	**+0.6**
	baz=29						
ULHL	**Ulahol**	**2.40**	**6**	⇓*e*P	**Pg**	**08 38 00.8**	**0.0**
	baz=6.0						
ULHL				⇓*i*S	**Sg**	**08 38 31.9**	**0.0**
	baz=6.0						
ULHL	**Ulahol**	**2.40**	**6**	P	**Pg**	**08 38 01.1**	**+0.3**
	SNR=8.4						
KDJ	**Kajisay**	**2.46**	**22**	⇓*i*P	**Pg**	**08 38 01.7**	**-0.3**
	baz=23						
KDJ				⇓*i*S	**Sg**	**08 38 33.8**	**-0.1**
	baz=23						
UCH	**Uchtor**	**2.60**	**336**	⇑*i*P	**Pg**	**08 38 03.7**	**-0.9**
	baz=36						
UCH				⇑*i*S	**Sg**	**08 38 37.0**	**-1.3**
	baz=36						
UCH	**Uchtor**	**2.60**	**336**	P	**Pg**	**08 38 04.0**	**-0.6**
	SNR=29						
BOOM	**Boomskoye usch**	**2.63**	**0**	⇓*i*P	**Pg**	**08 38 04.5**	**-0.7**
	baz=0.0						
BOOM				⇓*i*S	**Sg**	**08 38 38.0**	**-1.4**
	baz=0.0						
AML	**Almayashu**	**2.83**	**324**	⇑*i*P	**Pb**	**08 38 06.8**	**+0.5**
	baz=24						
AML				⇑*i*S	**Sb**	**08 38 42.3**	**+0.6**
	baz=24						
KBK	**Karagaybulak**	**2.90**	**346**	⇑*i*P	**Pb**	**08 38 07.6**	**+0.3**
	baz=46						
KBK				⇑*i*S	**Sb**	**08 38 44.0**	**+0.8**
	baz=46						
KBK	**Karagaybulak**	**2.90**	**346**	P	**Pg**	**08 38 10.7**	**+0.4**
	SNR=20						
AAK	**Ala-Archa**	**2.98**	**339**	⇓*i*P	**Pb**	**08 38 09.0**	**+0.3**
	baz=39						
AAK				⇓*i*S	**Sb**	**08 38 45.9**	**+0.1**
	baz=39						
AAK	**Ala-Archa**	**2.98**	**339**	P	**Pb**	**08 38 09.0**	**+0.3**
	SNR=16						
AAK	**Ala-Archa**	**2.98**	**339**	⇓Pg	**Pb**	**08 38 09.2**	**+0.5**
	5.7nm,0.5s						
AAK				⇑Lg	Lg	08 38 51.0	
	13nm,0.5s						
TKM2	**Tokmak 2**	**3.07**	**356**	P	**Pb**	**08 38 11.6**	**+1.3**
	SNR=8.7						
TKM2	**Tokmak 2**	**3.07**	**356**	⇓Pg	**Pb**	**08 38 11.1**	**+0.8**
	3.4nm,0.5s						
TKM2				⇑Lg	Lg	08 38 54.1	
	9.1nm,0.5s						
KST	**Kastek**	**3.19**	**1**	*e*P	**Pg**	**08 38 15.5**	**-0.3**
	3.5nm,0.5s						
KST				*e*S	**Sg**	**08 38 58.0**	**+0.9**
	8.0nm,0.7s						
KST	**Kastek**	**3.19**	**1**	Pg	**Pb**	**08 38 12.9**	**+0.7**
	4.9nm,0.8s						
KST				Lg	Lg	08 38 58.5	
	8.0nm,0.7s						
ANVS	**Anan'yevo**	**3.21**	**24**	⇑*i*P	**Pb**	**08 38 12.1**	**-0.5**
	baz=24						
ANVS				⇑*i*S	**Sb**	**08 38 51.3**	**-1.0**
	baz=24						
IZV	**Izvestkoviy**	**3.22**	**9**	*e*P	**Pg**	**08 38 17.0**	**+0.6**
	5.9nm,0.5s						
IZV				*e*S	**Sg**	**08 39 00.8**	**+2.6**
	15nm,0.6s						
IZV	**Izvestkoviy**	**3.22**	**9**	Pg	**Pb**	**08 38 13.4**	**+0.5**
	5.7nm,0.5s						
IZV				Lg	Lg	08 38 59.7	
	15nm,0.6s						
PRZ	**Przheval'sk**	**3.22**	**35**	⇓*i*P	**Pb**	**08 38 12.3**	**-0.6**
	baz=34						
PRZ				⇓*i*S	**Sb**	**08 38 51.7**	**-1.0**
	baz=34						
EKS2	**Erkin-Say**	**3.24**	**331**	⇓*i*P	**Pb**	**08 38 12.3**	**-0.8**
	baz=31						
EKS2				⇓*i*S	**Sb**	**08 38 51.7**	**-1.4**
	baz=31						
EKS2	**Erkin-Say**	**3.24**	**331**	P	**Pb**	**08 38 14.0**	**+0.9**
	SNR=9.8						
TNSS	**Tian-Shan**	**3.27**	**13**	*e*P	**Pg**	**08 38 17.2**	**-0.3**
	2.8nm,0.5s						
TNSS				*e*S	**Sg**	**08 39 00.2**	**+0.4**
	3.7nm,0.7s						
TNSS	**Tian-Shan**	**3.27**	**13**	Pg	**Pb**	**08 38 14.0**	**+0.2**
	3.4nm,0.3s						
TNSS				Lg	Lg	08 39 00.2	
	3.7nm,0.7s						
MTBS	**Maitube**	**3.29**	**6**	*e*P	**Pg**	**08 38 17.3**	**-0.6**
	7.7nm,0.4s						
MTBS				*e*S	**Sg**	**08 39 00.8**	**+0.2**
	13nm,0.6s						
MTBS	**Maitube**	**3.29**	**6**	Pg	**Pb**	**08 38 14.3**	**+0.3**
	7.8nm,0.5s						
MTBS				Lg	Lg	08 39 00.8	
	13nm,0.6s						
DGS	**Degeres**	**3.39**	**358**	*e*P	**Pg**	**08 38 18.7**	**-0.9**
	8.0nm,0.5s						
DGS				*e*S	**Sg**	**08 39 03.9**	**+0.3**
	15nm,0.5s						
DGS	**Degeres**	**3.39**	**358**	Pg	**Pb**	**08 38 15.8**	**+0.2**
	13nm,0.5s						
DGS				Lg	Lg	08 39 03.9	
	15nm,0.5s						
MDOK	**Medeo**	**3.41**	**14**	*e*P	**Pg**	**08 38 18.9**	**-1.2**
	2.5nm,0.6s						
MDOK				*e*S	**Sg**	**08 39 03.9**	**-0.5**
	12nm,0.3s						
MDOK	**Medeo**	**3.41**	**14**	Pg	**Pb**	**08 38 16.4**	**+0.3**
	4.7nm,0.6s						
MDOK				Lg	Lg	08 39 04.4	
	12nm,0.8s						
MRKS	**Merke**	**3.53**	**326**	*e*P	**Pg**	**08 38 21.8**	**-0.6**
	5.6nm,0.5s						
MRKS				*e*S	**Sg**	**08 39 07.9**	**-0.3**
	16nm,0.5s						
MRKS	**Merke**	**3.53**	**326**	Pg	**Pb**	**08 38 18.5**	**+0.4**
	7.8nm,0.6s						
MRKS				Lg	Lg	08 39 07.9	
	16nm,0.5s						
SGDS	**Sogindy**	**3.72**	**345**	Pg	**Pb**	**08 38 21.8**	**+0.5**
	5.0nm,0.6s						
SGDS				Lg	Lg	08 39 13.6	
	7.0nm,0.4s						
KRBS	**Karabastau**	**3.84**	**357**	*e*P	**Pg**	**08 38 27.7**	**-0.7**
	6.3nm,0.7s						
KRBS				*e*S	**Sg**	**08 39 17.7**	**-0.5**
	14nm,0.5s						
KRBS	**Karabastau**	**3.84**	**357**	Pg	**Pb**	**08 38 24.0**	**+0.6**
	6.4nm,1.0s						
KRBS				Lg	Lg	08 39 17.7	
	14nm,0.5s						
KTBS	**Karatobe**	**3.90**	**8**	*e*P	**Pg**	**08 38 28.9**	**-0.5**
	5.0nm,0.5s						
KTBS				*e*S	**Sg**	**08 39 19.9**	**0.0**
	14nm,0.4s						
KTBS	**Karatobe**	**3.90**	**8**	Pg	**Pb**	**08 38 25.7**	**+1.4**
	8.0nm,0.8s						
KTBS				Lg	Lg	08 39 20.3	
	14nm,0.4s						
UZB	**Uzynbulak**	**4.03**	**34**	*e*P	**Pg**	**08 38 31.9**	**0.0**
	2.4nm,0.6s						
UZB				*e*S	**Sg**	**08 39 25.9**	**+1.7**
	5.3nm,1.1s						
UZB	**Uzynbulak**	**4.03**	**34**	Pg	**Pb**	**08 38 28.0**	**+1.4**
	3.2nm,0.4s						
UZB				Lg	Lg	08 39 24.6	
	5.3nm,1.1s						
KUU	**Kurty**	**4.05**	**4**	*e*P	**Pg**	**08 38 31.0**	**-1.3**
	1.8nm,0.4s						
KUU				*e*S	**Sg**	**08 39 24.0**	**-0.8**
	17nm,0.8s						
KUU	**Kurty**	**4.05**	**4**	Pg	**Pb**	**08 38 27.9**	**+1.0**
	5.2nm,0.7s						
KUU				Lg	Lg	08 39 24.0	
	17nm,0.8s						
CHKK	**Chushkaly**	**4.08**	**11**	*e*P	**Pg**	**08 38 31.4**	**-1.4**
	1.0nm,0.2s						
CHKK				*e*S	**Sg**	**08 39 24.7**	**-0.9**
	5.2nm,0.3s						
CHKK	**Chushkaly**	**4.08**	**11**	Pg	**Pb**	**08 38 28.8**	**+1.5**
	2.6nm,0.4s						
CHKK				Lg	Lg	08 39 25.9	
	5.2nm,0.3s						

IDC ***18*** *08:42:53.9±1.2,30.˚28S×72.˚70W,h0km,mb3.7/5, mb1 4.0/9,mb1mx3.9/25,mbtmp3.8/9,ML3.9/3,Error ellipse: s-maj=32.8km s-min=29.4km az=100.0*
ISC 18 08:42:56.8±0.9,30.3S±0.1×72.5W±0.1,h19km,n22, σ1§11/12,mb3.5/5,1C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO05	**La Serena**	**1.18**	**73**	IAML		08 44 00.8	
	comp=E,1μm,0.5s						
CO05	**La Serena**	**1.18**	**73**	⇑*i*P	**Pn**	**08 43 17.7**	**-0.5**
H03N1	**Juan Fernandez**	**6.28**	**238**	T	T	08 51 23.2	
	baz=77,slow=72,SNR=933						
H03N2	**Juan Fernandez**	**6.29**	**238**	T	T	08 51 23.0	
	baz=77,slow=72,SNR=407						
H03N3	**Juan Fernandez**	**6.29**	**238**	T	T	08 51 21.2	
	baz=77,slow=72,SNR=409						
LVC	**Limon Verde**	**8.29**	**24**	Pn	**Pn**	**08 44 54.4**	**-2.0**
	baz=188,slow=14						
PLCA	**Paso Flores**	**10.56**	**172**	Pn	**Pn**	**08 45 26.8**	**-0.3**
	comp=E,0.3nm,0.3s,baz=336,slow=13,SNR=14						
LPAZ	**La Paz**	**14.49**	**17**	Pn	**Pn**	**08 46 21.9**	**+0.4**
	comp=E,0.1nm,0.3s,baz=178,slow=6.5,SNR=13						
SIV	**San Ignacio**	**17.68**	**39**	P	**P**	**08 47 03.7**	**+0.8**
	comp=E,0.4nm,0.3s,baz=233,slow=10,SNR=22						
BDFB	**Brasilia**	**26.79**	**63**	P	**P**	**08 48 37.9**	**+2.1**
	comp=E,2.6nm,0.6s,baz=244,slow=14,SNR=4.2						
TXAR	**Lajitas Array**	**66.29**	**330**	P	**P**	**08 53 44.1**	**+0.1**
	comp=E,0.4nm,0.9s,baz=141,slow=5.8,SNR=2.6						
PDAR	**Pinedale Array**	**80.26**	**333**	P	**P**	**08 55 06.2**	**-0.1**
	comp=E,0.2nm,0.6s,baz=148,slow=5.2,SNR=2.5						
NVAR	**Mina Array Bea**	**80.59**	**325**	P	**P**	**08 55 08.6**	**+0.3**
	comp=E,0.4nm,0.7s,baz=163,slow=5.4,SNR=3.8						
TORD	**Torodi Ar. Bea**	**83.36**	**71**	P	**P**	**08 55 23.6**	**+0.6**
	comp=E,1.0nm,1.1s,baz=237,slow=3.4,SNR=2.9						
H11S2	**WAKE ISLAND Hyl**	**25.31**	**272**	T	T	11 20 44.9	
	baz=116,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hyl**	**25.33**	**272**	T	T	11 20 58.4	
	baz=116,slow=75,SNR=23						
H11S3	**WAKE ISLAND Hyl**	**25.33**	**272**	T	T	11 20 55.9	
	baz=116,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hyl**	**25.63**	**274**	T	T	11 21 23.0	
	baz=113,slow=74						
H11N1	**WAKE ISLAND Hyl**	**25.65**	**274**	T	T	11 21 19.9	
	baz=113						
H11N2	**WAKE ISLAND Hyl**	**25.65**	**274**	T	T	11 21 23.6	
	baz=113,slow=74						
BVAR	**Borovoye Array**	**144.75**	**39**	PKP	**PKPdf**	**09 02 31.4**	**-0.5**
	comp=E,0.8nm,0.5s,baz=302,slow=8.6,SNR=4.7						
KURBB	**Kurchatov Arra**	**150.34**	**39**	PKPbc	**PKiKP**	**09 02 46.3**	**-0.9**
	comp=E,0.5nm,0.6s,baz=299,slow=2.9,SNR=6.0						

NEIC ***18*** *08:43:07.4±2.6,31.˚14S±0.˚06×72.˚36W±0.˚07,h10km±1km, mb4.4/3,ML4.0(GUC),Error ellipse: s-maj=13.6km s-min=5.7km az=314.0*
GUC ***18*** *08:43:12.6±0.7,31.˚37S×72.˚00W,h33km±3km,ML3.9*
ISC 18 08:43:10.4±1.5,31.18S±0.05×72.1W±0.1,h29km±12km, n32,σ1§16/41,mb4.5/3,2C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.65**	**39**	*e*P	**Pb**	**08 43 23.6**	**+0.3**
CO06				*i* S	**Sb**	**08 43 32.2**	**0.0**
CO06	**Fray Jorge**	**0.65**	**39**		**Pb**	**08 43 23.9**	**+0.5**
CO06					**Sb**	**08 43 32.4**	**+0.3**
CO03	**El Pedregal**	**1.27**	**75**	⇑*i*P	Pn	08 43 26.2	-6.1
CO03				*i* S	**Sn**	**08 43 44.8**	**-3.7**
CO03				IAML		08 43 48.7	
	comp=E,5μm,0.7s						
CO03	**El Pedregal**	**1.27**	**75**	Pn	**Pn**	**08 43 32.8**	**+0.4**
CO05	**La Serena**	**1.47**	**31**	Pn	**Pn**	**08 43 34.5**	**-0.5**
GO04	**Tololo Observa**	**1.52**	**49**	Pn	**Pn**	**08 43 35.4**	**-0.4**
VA06	**Catapilco**	**1.54**	**153**	⇓*i*P	**Pn**	**08 43 35.7**	**-0.2**
VA06				*i* S	**Sn**	**08 43 53.3**	**-1.7**
VA06				IAML		08 44 00.2	
	comp=E,5μm,0.5s						
VA01	**Torpederas**	**1.88**	**168**	*e*P	**Pn**	**08 43 41.3**	**+0.7**
VA01				*i* S	**Sn**	**08 44 02.4**	**-1.0**
VA01	**Torpederas**	**1.88**	**168**		**Pn**	**08 43 41.1**	**+0.6**
ROCH	**El Roble**	**2.02**	**153**	*e*P	**Pn**	**08 43 43.2**	**+0.5**
ROCH				*i* S	**Sn**	**08 44 06.9**	**-0.2**
ROCH				IAML		08 44 13.4	
	comp=N,2μm,0.3s						
VA03	**San Esteban**	**2.06**	**140**	⇑*i*P	**Pn**	**08 43 43.9**	**+0.7**
VA03				*i* S	**Sn**	**08 44 07.5**	**-0.6**
VA03				IAML		08 44 11.6	
	comp=E,4μm,0.3s						
VA03	**San Esteban**	**2.06**	**140**		**Pn**	**08 43 44.0**	**+0.7**
MT05	**Renca**	**2.49**	**152**	*e*P	**Pn**	**08 43 49.8**	**+0.7**
MT05				*i* S	**Sn**	**08 44 18.8**	**-0.2**
MT05	**Renca**	**2.49**	**152**		**Pn**	**08 43 49.8**	**+0.7**
VA05	**Santo Domingo**	**2.50**	**170**	*e*P	**Pn**	**08 43 49.9**	**+0.7**
VA05				*e*S	**Sb**	**08 44 22.8**	**-2.3**
VA05				IAML		08 44 36.1	
	comp=N,1μm,0.3s						
VA05	**Santo Domingo**	**2.50**	**170**		**Pn**	**08 43 49.8**	**+0.6**
MT09	**Talagante**	**2.76**	**160**	*e*P	**Pn**	**08 43 54.1**	**+1.3**
MT09				*i* S	**Sn**	**08 44 25.3**	**+0.1**
MT09				IAML		08 44 37.6	
	comp=E,667nm,0.3s						
MT09	**Talagante**	**2.76**	**160**	Pn	**Pn**	**08 43 54.2**	**+1.3**
MT01	**Popeta**	**2.77**	**165**	*e*P	**Pn**	**08 43 53.6**	**+0.7**
MT01				*e*S	**Sn**	**08 44 24.9**	**-0.5**
MT01				IAML		08 44 38.6	
	comp=N,478nm,0.6s						
MT01	**Popeta**	**2.77**	**165**	Pn	**Pn**	**08 43 53.4**	**+0.5**
ZON	**Zonda**	**2.96**	**98**	Pn	**Pn**	**08 43 56.8**	**+1.2**
LMEL	**Las Melosas**	**3.11**	**149**	*e*P	**Pn**	**08 43 58.9**	**+1.1**
LMEL				*i* S	**Sn**	**08 44 33.5**	**-0.5**
LMEL				IAML		08 44 42.4	
	comp=N,556nm,0.3s						
BO01	**Tunca**	**3.32**	**165**		**Pn**	**08 44 01.0**	**+0.6**
BO02	**Sierra Bellavi**	**3.77**	**163**	Pn	**Pn**	**08 44 07.8**	**+1.1**
GO05	**Huala**	**3.82**	**178**	Pn	**Pn**	**08 44 05.0**	**-2.3**
ML02	**Panimavida**	**4.61**	**173**	Pn	**Pn**	**08 44 18.9**	**+0.8**
LC01	**Cunco**	**7.70**	**179**	Pn	**Pn**	**08 44 58.6**	**-2.0**
TRQA	**Tornquist**	**10.80**	**132**	Pn	**Pn**	**08 45 42.9**	**-0.2**
LL02	**Futaleuf**	**11.99**	**179**	Pn	**Pn**	**08 46 00.2**	**+0.9**
SNAA	**Sanae**	**54.22**	**159**	P	P	08 52 28.2	-4.9
SNAA				IAmb	IAmb	08 52 29.9	
	comp=Z,5.9nm,1.3s						
QSPA	**South Pole Qui**	**59.05**	**180**	P	P	08 53 02.1	-5.5
QSPA				IAmb	IAmb	08 53 13.3	
	comp=Z,5.8nm,1.4s						
TORD	**Torodi Ar. Bea**	**83.32**	**70**	P	**P**	**08 55 36.4**	**+1.5**
TORD				IAmb	IAmb	08 55 37.4	
	comp=Z,0.9nm,0.7s						

IDC ***18*** *08:56:18.1±1.0,30.˚40S×72.˚66W,h0km,mb3.6/4, mb1 3.9/7,mb1mx3.8/23,mbtmp3.7/7,ML3.9/3,Error ellipse: s-maj=39.7km s-min=26.9km az=97.0*
NEIC ***18*** *08:56:18.9±1.7,30.˚20S±0.˚04×72.˚64W±0.˚06,h8km±5km, mb4.1/4,Error ellipse: s-maj=7.8km s-min=5.1km az=59.0*
ISC 18 08:56:19.8±0.7,30.20S±0.06×72.57W±0.08,h10km,n30, σ1§50/32,mb3.7/5,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.94**	**121**		**Pg**	**08 56 37.9**	**+0.1**
CO06				Sg	**Sb**	**08 56 51.4**	**+0.8**
CO05	**La Serena**	**1.19**	**77**		**Pn**	**08 56 42.2**	**-0.3**
CO05				Sg	**Sb**	**08 56 58.4**	**+0.6**
GO04	**Tololo Observa**	**1.53**	**89**		**Pn**	**08 56 47.8**	**+0.3**
CO03	**El Pedregal**	**1.74**	**112**		**Pn**	**08 56 50.6**	**+0.4**
AC04	**Llanos de Chal**	**2.38**	**34**		**Pn**	**08 56 57.1**	**-1.8**
VA01	**Torpederas**	**2.92**	**165**	Pn	**Pn**	**08 57 04.5**	**-1.8**
GO03	**Copiap**	**3.31**	**39**		**Pn**	**08 57 11.1**	**-0.6**
AC06	**Mina Casimiro**	**3.44**	**35**		**Pn**	**08 57 12.8**	**-0.6**
VA05	**Santo Domingo**	**3.54**	**167**	Pn	**Pn**	**08 57 13.7**	**-1.2**
MT09	**Talagante**	**3.81**	**160**	Pn	**Pn**	**08 57 18.2**	**-0.5**
AC02	**Maricunga**	**4.52**	**43**		**Pn**	**08 57 28.8**	**+0.1**
LVC	**Limon Verde**	**8.24**	**24**	Pn	**Pn**	**08 58 17.1**	**-2.6**
	0.4nm,0.3s,baz=212,slow=9.1,SNR=2.0						
LVC				Sn	**Sn**	**08 59 48.7**	**-4.5**
	0.7nm,0.3s,baz=5.6,slow=7.6,SNR=2.5						
LC01	**Cunco**	**8.70**	**176**		**Pn**	**08 58 23.5**	**-2.1**
PLCA	**Paso Flores**	**10.64**	**172**	Pn	**Pn**	**08 58 51.0**	**-1.3**
	0.3nm,0.3s,baz=332,slow=11,SNR=12						
LPAZ	**La Paz**	**14.43**	**17**	Pn	**Pn**	**08 59 47.3**	**+2.5**
	0.1nm,0.3s,baz=174,slow=8.1,SNR=8.8						
SIV	**San Ignacio**	**17.64**	**39**	P	**P**	**09 00 27.9**	**+1.1**
	0.3nm,0.3s,baz=231,slow=10,SNR=16						
PTGA	**Pitinga**	**31.66**	**25**	P	**P**	**09 02 45.8**	**+2.4**
	173nm,0.5s,baz=292,slow=0.0,SNR=3.6						
VNA3	**Neumayer Olymp**	**53.05**	**159**	P	**P**	**09 05 36.6**	**0.0**
VNA2	**Neumayer--Watz**	**53.69**	**158**	P	**P**	**09 05 41.2**	**-0.2**
	baz=288,slow=8.2						
SNAA	**Sanae**	**55.27**	**159**	P	**P**	**09 05 52.3**	**-0.7**
SNAA	**Sanae**	**55.27**	**159**	P	**P**	**09 05 52.4**	**-0.7**
QSPA	**South Pole Qui**	**60.02**	**180**	P	**P**	**09 06 26.6**	**0.0**
TXAR	**Lajitas Array**	**66.21**	**330**	P	**P**	**09 07 08.9**	**+0.9**
	0.2nm,0.6s,baz=130,slow=8.4,SNR=3.7						
PDAR	**Pinedale Array**	**80.18**	**333**	P	**P**	**09 08 32.3**	**+1.9**
	0.3nm,0.7s,baz=134,slow=3.9,SNR=2.3						
NVAR	**Mina Array Bea**	**80.52**	**325**	P	**P**	**09 08 32.6**	**+0.3**
	0.6nm,0.8s,baz=159,slow=6.3,SNR=4.0						
TORD	**Torodi Ar. Bea**	**83.36**	**71**	P	**P**	**09 08 48.0**	**+0.4**
	0.6nm,0.8s,baz=249,slow=4.4,SNR=2.5						
TORD	**Torodi Ar. Bea**	**83.36**	**71**	IAmb	IAmb	09 09 03.0	
	comp=Z,0.8nm,0.8s						
ASAR	**Alice Springs**	**120.71**	**208**	PKP	**PKiKP**	**09 15 12.0**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=141,slow=1.8,SNR=1.7						
WRA	**Warramunga Arr**	**123.82**	**211**	PKP	**PKPdf**	**09 15 17.2**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=152,slow=2.0,SNR=1.9						
ZALV	**Zalesovo Beam**	**151.18**	**28**	PKPbc	**PKiKP**	**09 16 12.7**	**-0.7**
	comp=Z,2.9nm,0.6s,baz=312,slow=2.5,SNR=9.0						

GUC ***18*** *09:10:41.3±0.8,32.˚18S×72.˚23W,h7km±6km,ML6.0*
NEIC ***18*** *09:10:44.7±1.9,32.˚37S±0.˚04×72.˚23W±0.˚06,h8km±1km, mb5.7/235,Ms_20 5.9/462,Mwb6.1/73,Mwr6.2/43,Mww6.2, ML6.0(GUC),Mwc6.1(GCMT),Error ellipse: s-maj=8.9km s-min=5.0km az=245.0*
VAO ***18*** *09:10:45.9±0.3,32.˚22S×72.˚00W,h10km,mb5.4*
NEIC ***18*** *09:10:45,32.˚37S×72.˚24W,h8km,Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.10; $M_{\theta\theta}$-0.04; $M_{\phi\phi}$-1.07; $M_{r\theta}$0.50; $M_{r\phi}$0.39; $M_{\theta r}$-1.57; Fault plane solution: $M_0$2.01000×10^{18} NP1:ϕ_s162.20000°, δ72.57000°,λ90.41000°. NP2:ϕ_s340.83000°,δ17.43000°, λ88.70000°. Principal axes: T 1.9632, Plg62.0000°, Azm73.0000°; N 0.0909, Plg0.0000°, Azm342.0000°; P -2.0541, Plg28.0000°, Azm252.0000°;*
NEIC ***18*** *09:10:45,32.˚38S×72.˚23W,h9km,Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}0.95; $M_{\theta\theta}$-0.17; $M_{\phi\phi}$-0.78; $M_{r\theta}$0.67; $M_{r\phi}$0.23; $M_{\theta r}$-1.83; Fault plane solution: $M_0$2.15000×10^{18} NP1:ϕ_s160.12000°, δ77.62000°,λ89.40000°. NP2:ϕ_s342.89000°,δ12.40000°, λ92.71000°. Principal axes: T 2.1964, Plg57.0000°, Azm69.0000°; N -0.0920, Plg1.0000°, Azm160.0000°; P -2.1044, Plg33.0000°, Azm251.0000°;*
IDC ***18*** *09:10:45.1±0.4,32.˚33S×71.˚66W,h0km,mb4.9/27, mb1 5.0/31,mb1mx4.9/43,mbtmp4.9/31,ML4.6/4,MS5.9/18, Ms1 5.9/18,ms1mx5.8/24 Error ellipse: s-maj=17.3km s-min=10.5km az=80.0*
MOS ***18*** *09:10:49.7±1.8,31.˚79S×71.˚94W,h33km,mb5.7/42, MS5.9/23,Error ellipse: s-maj=12.2km s-min=8.0km az=93.2*
BJI ***18*** *09:10:50.0±0.0,32.˚25S×72.˚10W,h25km,mB5.9/57, Ms6.3/82,Ms7 6.3/78*
GCMT ***18*** *09:10:51.7±0.1,32.˚31S±0.˚01×72.˚30W,h13km, MW6.1/157,Moment Tensor Solution. s154,c361; s157,c504; Duration: 2s7 Moment tensor: Scale 10^{18} Nm; M_{rr}1.26±.01; $M_{\theta\theta}$0.04±.01; $M_{\phi\phi}$-1.30±.01; $M_{r\theta}$0.01±.02; $M_{r\phi}$0.18±.01; $M_{\theta r}$-1.21±.03; Best double couple: $M_0$1.77000×10^{18} NP1:ϕ_s347.00000°,δ24.00000°, λ81.00000°. NP2:ϕ_s177.00000°,δ67.00000°

VA05 eS Sg 09 11 31.5 -0.1
VA05 Santo Domingo 1.42 164 Pn Pn 09 11 09.0 -2.5
VA05 Sn Sn 09 11 28.7 -1.5
MT05 Renca 1.58 134 eP Pn 09 11 12.5 -1.2
MT05 eS Sb 09 11 35.0 -0.1
MT05 IAML 09 11 46.4
comp=E,410µm,0.3s
MT05 Renca 1.58 134 Pn Pn 09 11 12.8 -1.0
CO06 Fray Jorge 1.66 14 eP Pn 09 11 09.8 -4.9
CO06 Fray Jorge 1.66 14 Pn Pn 09 11 14.0 -0.7
MT01 Popeta 1.72 156 eP Pn 09 11 13.5 -2.1
MT01 Popeta 1.72 156 Pn Pn 09 11 13.6 -2.1
MT01 Popeta 1.72 156 *i* P Pn 09 11 14.0 -1.6
MT01 IAML 09 11 52.7
comp=Z,46µm,1.4s
MT09 Talagante 1.75 148 eP Pn 09 11 14.4 -1.7
MT09 IAML 09 11 59.5
comp=N,115µm,0.4s
MT09 Talagante 1.75 148 Pn 09 11 14.2 -1.9
CO03 El Pedregal 1.88 40 eP Pn 09 11 17.9 +0.1
CO03 El Pedregal 1.88 40 Pn Pn 09 11 17.4 -0.4
BO03 Pichilemu 2.20 177 eP Pn 09 11 19.1 -3.1
LMEL Las Melosas 2.22 135 eP Pn 09 11 21.0 -1.6
BO01 Tunca 2.26 158 IAML 09 12 14.2
comp=E,125µm,0.9s
BO01 Tunca 2.26 158 Pn 09 11 20.8 -2.2
BO01 Tunca 2.26 158 *i* P Pn 09 11 22.0 -1.0
BO01 IAML 09 12 10.6
comp=Z,26µm,0.7s
GO04 Tololo Observa 2.38 28 eP Pn 09 11 25.6 +0.6
GO04 IAML 09 12 11.8
comp=N,223µm,0.6s
GO04 Tololo Observa 2.38 28 Pn Pn 09 11 26.3 +1.4
CO05 La Serena 2.47 17 eP Pn 09 11 23.0 -2.9
CO05 IAML 09 12 16.0
comp=E,53µm,0.6s
GO05 Huala 2.72 177 eP Pn 09 11 26.4 -3.0
GO05 Huala 2.72 177 Pn 09 11 26.3 -3.3
GO05 Huala 2.72 177 *i* P Pn 09 11 26.3 -3.1
GO05 eS Sg 09 12 15.5 +2.5
BO02 Sierra Bellavi 2.73 157 Pn Pn 09 11 28.2 -1.3
ZON Zonda 2.99 77 P Pn 09 11 35.1 +1.9
ZON Zonda 2.99 77 Pn Pn 09 11 35.1 +1.9
LCO Las Campanas 3.48 20 eP Pn 09 11 34.5 -5.6
ML02 Panimavida 3.51 171 IAML 09 12 50.8
comp=E,44µm,0.5s
ML02 Panimavida 3.51 171 Pn Pn 09 11 38.0 -2.2
GO03 Copiap 4.95 19 Pn Pn 09 11 59.7 -0.4
AC06 Mina Casimiro 5.14 17 Pn Pn 09 12 02.6 -0.1
VA04 Juan Fernndez 5.82 255 eP Pn 09 12 05.0 -7.0
VA04 Juan Fernndez 5.82 255 Pn Pn 09 12 05.5 -6.6
H03N1 Juan Fernandez 5.86 257 T T 09 19 06.9
baz=86,slow=73,SNR=514
H03N3 Juan Fernandez 5.87 257 T T 09 19 04.2
baz=86,slow=73,SNR=799
H03N2 Juan Fernandez 5.87 257 T T 09 19 00.5
baz=86,slow=73,SNR=785
H03S3 Juan Fernandez 5.93 253 T T 09 19 03.0
baz=85,slow=74,SNR=329
H03S1 Juan Fernandez 5.93 253 T T 09 19 00.2
baz=85,slow=74,SNR=467
H03S2 Juan Fernandez 5.94 253 T T 09 19 01.5
baz=85,slow=74,SNR=355
AC02 Maricunga 6.01 26 Pn Pn 09 12 15.9 +0.8
LC01 Cunco 6.60 179 Pn Pn 09 12 20.0 -2.6
LC01 Cunco 6.60 179 *i* P Pn 09 12 20.0 -2.6
LC01 IAML 09 14 12.3
comp=Z,1µm,1.2s
LR03 Panguipulli 7.33 182 Pn 09 12 30.4 -2.4
PB14 IPOC Station P 7.78 11 Pn Pn 09 12 38.6 -0.6
PLCA Paso Flores 8.52 172 Pn Pn 09 12 47.3 -1.8
comp=Z,2.8nm,0.3s,baz=335,slow=11,SNR=75
PLCA LR LR 09 16 02.2
comp=Z,44µm,19.9s,baz=350,slow=38
PLCA Paso Flores 8.52 172 eP Pn 09 12 47.6 -1.5
PLCA pmax pmax
comp=Z,3.0nm,0.3s
PLCA Paso Flores 8.52 172 Pn Pn 09 12 47.4 -1.6
PLCA Paso Flores 8.52 172 ⇑P Pn 09 12 47.5 -1.5
PLCA Paso Flores 8.52 172 eP Pn 09 12 48.4 -0.7
PLCA Paso Flores 8.52 172 *i* P Pn 09 12 47.0 -2.1
PLCA IAML 09 14 45.5
comp=Z,221nm,0.9s
LL04 Puerto Octay 8.61 182 Pn Pn 09 12 48.8 -1.5
LL03 Petrohue 8.84 182 Pn Pn 09 12 51.6 -1.7
PB10 IPOC Station P 8.85 9 Pn Pn 09 12 54.4 +0.9
LL05 Los Muermos 9.17 187 Pn 09 12 54.0 -3.8
AF01 San Pedro de A 9.93 21 Pn Pn 09 13 05.9 -2.7
LVC Limon Verde 10.04 17 LR LR 09 16 43.1
comp=Z,40µm,21.0s,baz=196,slow=36
LVC Limon Verde 10.04 17 eP Pn 09 13 09.5 -0.8
TRQA Tornquist 10.07 128 P Pn 09 13 09.9 -0.5
TRQA Tornquist 10.07 128 Pn Pn 09 13 09.9 -0.5
TRQA Tornquist 10.07 128 ⇑P Pn 09 13 11.6 +1.2
TRQA Tornquist 10.07 128 eP Pn 09 13 11.2 +0.9
PB07 IPOC Station P 10.70 11 Pn Pn 09 13 20.3 +1.1
GO07 Milladeo Hill, 10.88 186 Pn 09 13 20.2 -1.1
LL02 Futaleuf 10.88 179 Pn 09 13 19.6 -1.8
PB01 IPOC Station P 11.44 12 Pn Pn 09 13 28.5 -0.7
LPA La Plata 12.09 106 eP Pn 09 13 31.9 -6.0
LPA PP **PnPn** 09 13 44.6 -1.0
LPA PPP PPP 09 13 58.4
LPA pPP 09 14 37.8
LPA S **Sn** 09 15 52.5 -0.2
LPA SS **SnSn** 09 16 05.1 +0.4
LPA SSS SSS 09 16 17.6
LPA PCP **PcP** 09 19 25.1 +2.6
LPA SCS **ScS** 09 26 29.9 -1.4
LPA PKIKP **PKiKP** 09 27 17.4 -3.0
LPA SKIKP 09 30 44.5
LPA PKIKS 09 30 49.3
TA02 Huaiquique 12.10 9 Pn Pn 09 13 39.7 +1.6
PSGCX Pisagua 12.76 8 Pn Pn 09 13 46.3 -1.0
COYC Coyhaique 13.26 180 Pn 09 13 52.0 -1.9
ITQB Itaqui 13.52 83 Pn Pn 09 13 58.2 +0.7
ITQB Itaqui 13.52 83 eP Pn 09 13 56.8 -0.7
AP01 Chacalluta 13.95 7 Pn Pn 09 14 03.2 -0.2
CPUP Villa Florida 14.18 69 Pn Pn 09 14 03.6 -2.9
comp=Z,0.2nm,0.3s,baz=225,slow=14,SNR=2.8
CPUP LR LR 09 19 43.8
comp=Z,65µm,20.7s,baz=247,slow=39
CPUP Villa Florida 14.18 69 Pn Pn 09 14 04.2 -2.2
CPUP Villa Florida 14.18 69 ⇓P Pn 09 14 07.2 +0.7
CPUP Villa Florida 14.18 69 eP Pn 09 14 05.2 -1.3
PLTB Pedras Altas 15.69 93 Pn Pn 09 14 27.1 +0.3
PLTB Pedras Altas 15.69 93 eP Pn 09 14 26.9 +0.1
CPSB Cacapava Do Su 16.05 88 eP Pn 09 14 29.0 -2.4
LPAZ La Paz 16.33 14 Pn Pn 09 14 36.1 +0.4
comp=Z,1.1nm,0.3s,baz=197,slow=8.7,SNR=7.7
LPAZ La Paz 16.33 14 P Pn 09 14 33.1 -2.6
LPAZ pmax pmax
comp=Z,851nm,1.9s
LPAZ La Paz 16.33 14 Pn Pn 09 14 33.1 -2.6
LPAZ IAmb IAmb 09 15 00.6
comp=Z,851nm,1.9s
LPAZ La Paz 16.33 14 eP Pn 09 14 34.8 -0.9
LPAZ La Paz 16.33 14 ⇓P P 09 14 41.5 +2.9
LPAZ La Paz 16.33 14 eP Pn 09 14 35.0 -0.6
CNLB Canela 18.48 86 eP P 09 15 00.0 -1.8
AQDB Aquidauana 18.79 55 P P 09 15 03.3 -1.8
AQDB Aquidauana 18.79 55 eP P 09 15 05.3 +0.1
SIV San Ignacio 19.06 34 P P 09 15 06.6 -1.7
comp=Z,2.4nm,0.3s,baz=218,slow=14,SNR=7.4
SIV LR LR 09 24 03.1
comp=Z,54µm,19.2s,baz=228,slow=42
PTGB Pitanga 19.13 72 eP Pn 09 15 09.5 -0.3
TRCB Terra Rica 19.65 66 P 09 15 14.3 -0.3
TRCB IAmb IAmb 09 15 25.6
comp=Z,586nm,1.3s
TRCB Terra Rica 19.65 66 eP Pn 09 15 16.9 +0.9
TER01 Tubaro-SC 20.14 85 eP P 09 15 19.7 -0.3
PTLB Pontes e Lacer 20.49 38 eP P 09 15 23.6 -0.2
NNA Nana 20.67 347 P Pn 09 15 27.1 -1.0
comp=Z,13nm,0.7s,baz=180,slow=12,SNR=5.9
NNA LR LR 09 21 53.8
comp=Z,16µm,18.8s,baz=152,slow=32
NNA Nana 20.67 347 P P 09 15 26.0 +0.2
NNA pmax pmax
comp=Z,340nm,1.4s
NNA MLR MLR
comp=Z,18µm,19.0s
NNA Nana 20.67 347 P P 09 15 26.0 +0.2
NNA IAmb IAmb 09 15 45.4
comp=Z,340nm,1.4s
NNA Nana 20.67 347 ⇓P Pn 09 15 30.7 +2.6
PP1B Ponte de Pedra 21.34 51 eP P 09 15 32.0 -1.0
PCMB Pacaembu 21.36 65 eP P 09 15 31.7 -1.4
TIJ01 Guaruva-PR 21.36 77 eP P 09 15 31.8 -1.4
EFI East Falkland 21.93 156⇓eP P 09 15 37.0 -2.0
EFI pmax pmax
comp=Z,301nm,1.3s
EFI MLR MLR
comp=Z,88µm,14.0s
EFI East Falkland 21.93 156 ⇓P P 09 15 46.0 +7.0
SALV Santo Antonio 22.09 46 eP P 09 15 38.3 -2.7
VILB Vilhena 22.12 32 eP P 09 15 39.2 -2.2
USHA Ushuaia 22.68 175 P P 09 15 47.4 +0.4
comp=Z,65nm,1.0s,baz=341,slow=5.1,SNR=3.9
USHA LR LR 09 25 42.5
comp=Z,43µm,18.1s,baz=352,slow=40
MG01 Puerto William 22.86 173 P P 09 15 47.5 -1.3
MG01 IAmb IAmb 09 16 07.1
comp=Z,450nm,1.3s
ETMB Extrema 23.02 15 eP P 09 15 51.2 +0.4
ITRB Iturama 23.15 63 eP P 09 15 51.1 -1.1
PET01 Itanhaem-SP 23.22 76 eP P 09 15 52.0 -0.9
SPB Sao Paulo 23.40 74 P P 09 15 54.3 -0.4
SPB Sao Paulo 23.40 74 ⇑P P 09 15 53.2 -1.5
SPB Sao Paulo 23.40 74 eP P 09 15 54.3 -0.4
BB19B Bebedouro 23.78 68 eP P 09 15 57.1 -1.4
RCLB Rio Claro- Sao 23.88 72 eP P 09 15 59.4 -0.1
VAO Valinhos 24.05 74 eP P 09 15 59.5 -1.7
CZSB Cruzeiro do Su 24.44 359 eP P 09 16 04.3 -0.3
SAML Samuel 24.65 22 P P 09 16 06.5 0.0
SAML pmax pmax
comp=Z,97nm,1.2s
SAML MLR MLR
comp=Z,24µm,22.0s
SAML Samuel 24.65 22 P P 09 16 06.5 0.0
PARB Paraibuna 25.00 76 eP P 09 16 09.2 -0.6
IPMB Ipameri, GO 25.81 62 eP P 09 16 15.3 -1.8
CLDB Colider 26.08 39 eP P 09 16 19.1 -0.3
BSCB Bom Sucesso 26.80 72 eP P 09 16 24.0 -2.1
VAS01 Vassouras-RJ 27.27 76 eP P 09 16 29.4 -0.8
BDFB Brasilia 27.44 59 P P 09 16 30.1 -1.8
comp=Z,99nm,1.0s,baz=226,slow=10,SNR=21
BDFB LR LR 09 28 15.9
comp=Z,57µm,20.0s,baz=232,slow=39
BDFB Brasilia 27.44 59 P P 09 16 29.5 -2.4
BDFB pmax pmax
comp=Z,266nm,0.9s
BDFB MLR MLR
comp=Z,43µm,21.0s
BDFB Brasilia 27.44 59 P P 09 16 29.5 -2.4
BDFB IAMs_20 IAMs_20 09 27 30.1
comp=Z,43µm,21.0s
SNDB Serra Nova Dou 27.82 48 eP P 09 16 33.8 -1.4
TBTG Tabatinga, AM 28.03 5 eP P 09 16 37.7 +0.6
TBTG Tabatinga, AM 28.03 5 eP P 09 16 37.1 +0.1
DUB01 Friburgo-RJ 28.24 76 eP P 09 16 39.8 +0.9
CAM01 Campos-RJ 28.95 77 eP P 09 16 44.7 -0.4
DIAM Diamantina, MG 29.12 68 eP P 09 16 47.4 +0.5
NPGB Novo Progresso 29.56 35 eP P 09 16 49.1 -1.5
PEXB Peixe 29.68 55 eP P 09 16 50.3 -1.5
ALF01 Guaxupari-ES 30.28 75 eP P 09 16 55.9 -1.1
JANB Januaria 30.55 62 eP P 09 16 58.4 -1.1
MACA Manacapuru-AM 30.89 23 eP P 09 17 01.8 -0.6
BSFB Barra de Sao F 31.08 72 eP P 09 17 02.9 -1.2
RIB01 Linhares ES 31.20 73 eP P 09 17 05.6 +0.5
ITTB Itaituba 31.72 32 eP P 09 17 09.3 -0.5
SDBA SAO DESIDERIO 31.84 58 eP P 09 17 10.2 -0.6
NAN01 Guarapari, ES 32.18 71 eP P 09 17 13.1 -0.7
PTLC Puerto Leguiza 32.39 355 eP P 09 17 14.6 -0.9
SMTB Santa Maria do 32.54 50 eP P 09 17 16.1 -0.9
PMSA Palmer Station 32.89 174 P P 09 17 20.0 +0.6
comp=Z,55nm,1.2s,baz=349,slow=7.3,SNR=12
PMSA Palmer Station 32.89 174 P P 09 17 17.9 -1.5
PMSA IAmb IAmb 09 17 36.5
comp=Z,107nm,1.1s
PMSA Palmer Station 32.89 174 IAMs_20 IAMs_20 09 29 25.9
comp=Z,24µm,22.0s
PMSA Palmer Station 32.89 174 ⇑P P 09 17 22.6 +3.2
PMSA Palmer Station 32.89 174 eP P 09 17 22.1 +2.6
OTAV Otavalo 32.91 348 P P 09 17 18.3 -2.3
OTAV pmax pmax
comp=Z,77nm,1.3s
OTAV Otavalo 32.91 348 P P 09 17 18.2 -2.3
OTAV Otavalo 32.91 348 eP P 09 17 18.2 -2.4
OTAV Otavalo 32.91 348 ⇓P P 09 17 22.9 +2.3
CUSE Cuicocha Este 32.96 348 eP P 09 17 22.7 +1.6
PAC1 Pacto, Paraso 32.99 348 eP P 09 17 20.9 -0.2
GUA01 Guaratinga, BA 33.13 70 eP P 09 17 20.8 +0.7
PRPB Parapebas 33.27 43 eP P 09 17 22.3 -1.0
PTGA Pitinga 33.41 22 IAMs_20 IAMs_20 09 33 17.5
comp=Z,40µm,22.0s
HOPE Hope Point 33.44 142 IAMs_20 IAMs_20 09 31 17.1
comp=Z,27µm,19.0s
GCUF Volcan Galeras 33.70 350 eP P 09 17 32.9 +5.2
PTGL Punta Galera 33.74 346 eP P 09 17 40.0 +13
FLOC Florencia 33.86 354 P P 09 17 27.8 -0.7
FLOC IAmb IAmb 09 18 35.8
comp=Z,107nm,1.2s
FLOC Florencia 33.86 354 eP P 09 17 24.3 -4.1
CMC01 Camacan, BA 34.05 68 eP P 09 17 28.8 -1.3
MACC Macarena, Meta 34.29 357 eP P 09 17 17.9 -14
NBIT Itapeh - BA 34.37 68 eP P 09 17 32.7 -0.1
GARC Garzon, Huila 34.44 354 eP P 09 17 27.6 -6.2
BBAC Balboa, Cauca 34.47 351 eP P 09 17 21.1 -13
SOTA Rioblanco 34.50 352 eP P 09 17 35.6 +1.0
TUMC Tumaco 34.51 348 eP P 09 17 40.5 +6.5
MALB Monte Alegre 34.62 33 eP P 09 17 31.8 -3.2
PCON Cinco Dias 34.67 352 eP P 09 17 38.4 +2.3
POPC Popayan, Colom 34.91 352 eP P 09 17 30.8 -7.0
BETC Betania 34.92 354 eP P 09 17 37.2 -0.5
GDU01 Guandu, BA 34.98 66 eP P 09 17 37.5 -0.7
MARP Paez Belalcaza 35.13 353 eP P 09 17 33.8 -6.0
PAYG Puerto Ayora 35.83 328 IAMs_20 IAMs_20 09 29 22.1
comp=Z,15µm,18.0s
PAYG Puerto Ayora 35.83 328 eP P 09 17 44.3 -1.1
ORTG Ortega, Tolima 36.12 355 eP P 09 17 53.4 +5.4
BOAV Boa Vista 36.20 20 eP P 09 17 47.1 -1.5
VILC Villavicencio, 36.23 357 eP P 09 17 53.4 +4.4
PTGC Puerto Gaitan, 36.29 360 eP P 09 17 40.5 -8.9
YOTC Yotoco, Valle 36.30 353 eP P 09 17 56.6 +7.0
NBPN Ponto Novo - B 36.31 61 eP P 09 17 48.3 -1.3
ANIL Santa Ana 36.71 354 eP P 09 17 52.0 -1.3
CHIC Chingaza 36.75 357 eP P 09 17 50.2 -3.6
MCPB Macapa, AP 36.96 35 eP P 09 17 54.7 -0.4
ROSC El Rosal 36.98 356 P P 09 17 59.1 +3.4
comp=Z,14nm,0.8s,baz=153,slow=8.3,SNR=11
ROSC El Rosal 36.98 356 eP P 09 17 55.1 -0.7
TMAB Tom-Au,PA,Br 37.35 42 eP P 09 17 58.4 0.0
GUY2C Guyana, Caldas 37.44 355 eP P 09 17 59.9 +0.2
NORC Norcasia 37.73 355 eP P 09 17 56.6 -5.1
SPBC San Pablo de B 37.78 357 eP P 09 17 59.9 -2.2
RUSC La Rusia 37.98 358 P P 09 18 04.1 -0.2
RUSC La Rusia 37.98 358 eP P 09 18 03.1 -1.2
NBLA Lagarto - SE 38.03 64 eP P 09 18 02.8 -1.4
CBOC Ciudad Bolivar 38.12 354 eP P 09 17 59.9 -5.3
HELC Santa Helena 38.41 354 eP P 09 17 59.9 -7.9
TAMC Tame, Arauca 38.51 0 eP P 09 18 03.1 -5.1
BARC Barichara 38.68 358 eP P 09 18 03.1 -6.8
PTBC PUERTO BERRIO, 38.68 356 eP P 09 18 09.6 -0.1
ELOV Elorza 39.15 4 eP P 09 18 04.5 -9.0
BRRC Barranca, Sant 39.21 357 eP P 09 18 12.8 -1.2
DBBC Dabeiba 39.28 354 eP P 09 18 12.8 -2.0
ROSB Rosrio 39.30 48 eP P 09 18 15.5 +0.6
PAMC Pamplona, Colo 39.41 359 eP P 09 18 09.6 -6.7
PTAC Punta Ardita, 39.59 351 eP P 09 18 12.8 -4.5
ZARC Zaragoza, Cauc 39.65 356 eP P 09 18 16.0 -1.7
NBMA Muriti-CE 39.68 59 eP P 09 18 17.8 -0.3
UREC San Jos de Ur 39.95 355 eP P 09 18 22.5 +2.2
NBAN Anadia - AL 40.01 64 eP P 09 18 19.2 -1.7
CACAO El Cacao, Vera 40.29 346 eP P 09 18 14.0 -9.0
OCAC Ocana 40.32 358 eP P 09 18 12.8 -11
NBPB Pedra_Branca-C 40.36 56 eP P 09 18 23.0 -0.7
SOCV Socops 40.36 2 eP P 09 18 26.1 +2.4
AZU Azuero 40.61 347 eP P 09 18 24.3 -1.4
SMLC San Martn de 40.90 357 eP P 09 18 25.7 -2.4
SDV Santo Domingo 40.97 2 P P 09 18 31.7 +2.8
comp=Z,6.8nm,0.4s,baz=182,slow=8.4,SNR=9.6
SDV Santo Domingo 40.97 2 P P 09 18 27.7 -1.1
SDV Santo Domingo 40.97 2 eP P 09 18 27.9 -1.0
UPD2 Meteti 41.00 351 eP P 09 18 28.3 -0.6
CAPC Capurgana 41.00 352 eP P 09 18 25.7 -3.2
LCBC Los crdobas, 41.12 354 eP P 09 18 28.9 -0.9
PNME Penonome 41.30 348 eP P 09 18 34.4 +3.0
NBRF Rio Formoso - 41.51 64 eP P 09 18 32.7 -0.5
MDP Montagnes des 41.53 30 P P 09 18 31.4 -1.9
comp=Z,59nm,0.8s,baz=201,slow=8.6,SNR=12
LL1C La Loma 1 Cana 41.62 358 eP P 09 18 35.2 +1.2
LL2C La Loma 2 Cana 41.63 358 eP P 09 18 35.8 +1.7
UPA Univ. de Panam 41.65 349 eP P 09 18 28.4 -5.8
NBMO Morrinhos-CE 41.65 53 eP P 09 18 33.8 -0.5
BCIP Isla Barro Col 41.88 348 P P 09 18 35.1 -1.0
BCIP pmax pmax
comp=Z,94nm,1.3s
BCIP Isla Barro Col 41.88 348 P P 09 18 35.1 -1.0
BCIP Isla Barro Col 41.88 348 eP P 09 18 35.2 -0.9
ARGC Ariguani, Magd 41.96 357 eP P 09 18 32.2 -4.6
SJCC San Jacinto, C 42.05 355 P P 09 18 37.5 -0.1
SJCC IAmb IAmb 09 20 07.7
comp=Z,119nm,1.1s
SJCC San Jacinto, C 42.05 355 eP P 09 18 25.7 -12
BRU2 Volcan 42.09 344 P P 09 18 36.1 -1.9
BRU2 IAmb IAmb 09 18 59.4
comp=Z,154nm,1.1s
BRU2 Volcan 42.09 344 eP P 09 18 25.1 -13
NBCL Cascavel-CE 42.20 56 eP P 09 18 38.1 -0.7
SRBA San Rafael, Bu 42.67 343 P P 09 18 42.9 +0.2
DRK0 Durika 42.67 344 P P 09 18 41.0 -1.8
DRK0 IAmb IAmb 09 18 55.6
comp=Z,129nm,1.0s
RCBR Riachuelo 42.80 60 P P 09 18 42.8 -1.0
RCBR pmax pmax
comp=Z,128nm,1.4s
RCBR MLR MLR
comp=Z,23µm,22.0s
RCBR Riachuelo 42.80 60 P P 09 18 42.8 -1.0
RCBR Riachuelo 42.80 60 IAMs_20 IAMs_20 09 36 45.0
comp=Z,23µm,22.0s
RCBR Riachuelo 42.80 60 eP P 09 18 44.3 +0.5
PCRV Puerto La Cruz 42.82 11 P P 09 18 44.6 +0.7
comp=Z,19nm,0.9s,baz=349,slow=1.3,SNR=5.7
NBPV Pedro Velho 42.86 61 eP P 09 18 44.3 +0.1
PEZE Perez Zeledon, 42.89 343 P P 09 18 44.1 -0.3
SMRC Santa Marta, M 43.26 357 eP P 09 18 38.6 -8.7
RIMA Rio Macho 43.31 343 P P 09 18 45.5 -2.5
URIC Uribia, Colomb 43.74 0 P P 09 18 51.7 +0.5
URIC Uribia, Colomb 43.74 0 eP P 09 18 41.9 -9.3
TRN Trinidad (W) 43.90 15 eP P 09 18 49.7 -2.8
JTS Las Juntas de 44.09 342 P P 09 18 57.2 +3.1
comp=Z,4.6nm,0.6s,baz=194,slow=4.5,SNR=3.1
JTS Las Juntas de 44.09 342 P P 09 18 52.4 -1.7
JTS pmax pmax
comp=Z,72nm,1.4s
JTS Las Juntas de 44.09 342 P P 09 18 52.4 -1.7
COVE Coope Vega, Sa 44.36 343 P P 09 18 55.5 -0.7
GRGR Grenville 45.28 14 eP P 09 19 02.3 -1.3
GCMP Grenada, Carri 45.68 15 eP P 09 19 03.6 -3.0
ACON Acoyapa 45.75 342 IAmb IAmb 09 19 21.3
comp=Z,85nm,1.2s
BBGH Gun Hill 46.74 17 eP P 09 19 13.1 -2.0
SLBI Saint Lucia, B 47.26 15 eP P 09 19 14.9 -4.2
MPOM Morne Pois Mar 47.70 15 eP P 09 19 16.9 -5.6
BIM Bigot 47.72 14 eP P 09 19 19.4 -3.3
FDF Fort de France 47.91 14 eP P 09 19 21.6 -2.6
ILAM Ilet Lapin Mar 48.01 15 eP P 09 19 22.4 -2.5
TGUH Tegucigalpa,Un 48.32 340 eP P 09 19 27.9 +0.4
TGUH Tegucigalpa,Un 48.32 340 ⇓P P 09 19 27.9 +0.4
DSLB Salisbury 48.54 14 eP P 09 19 21.7 -7.3
MAGL Barre de l'ile 49.07 14 eP P 09 19 28.4 -4.7
CBE Ff, Capester 49.12 13 eP P 09 19 32.2 -1.3
ABD La Joyeuse, An 49.54 13 eP P 09 19 29.3 -7.3
ANBD Bethesda, Anti 50.04 13 eP P 09 19 32.5 -7.9
ICMP Isla Caja de M 50.17 7 P P 09 19 40.4 -1.0
ICMP IAmb IAmb 09 19 48.4
comp=Z,100nm,0.8s
CRPR Cabo Rojo, PR 50.24 6 P P 09 19 39.7 -2.2
SEUS St. Eustatius 50.26 11 eP P 09 19 39.4 -2.7
PDPR Patillas Dam, 50.36 8 IAmb IAmb 09 19 56.2
comp=Z,132nm,1.2s
SJG San Juan 50.44 7 P P 09 19 41.3 -2.1
SJG pmax pmax
comp=Z,68nm,0.9s
SJG MLR MLR
comp=Z,12µm,19.0s
SJG San Juan 50.44 7 P P 09 19 41.3 -2.1
SJG IAmb IAmb 09 19 57.4
comp=Z,68nm,0.8s
SJG San Juan 50.44 7 IAMs_20 IAMs_20 09 45 04.6
comp=Z,12µm,19.0s
SJG San Juan 50.44 7 eP P 09 19 33.4 -10
SJG San Juan 50.44 7 ⇑P P 09 19 41.8 -1.6
MTDJ Mount Denham 50.50 353 eP P 09 19 57.2 +13
HUMP Col San Antoni 50.50 8 IAmb IAmb 09 20 00.5
comp=Z,231nm,1.9s
GCPR Guaynabo City 50.64 7 IAmb IAmb 09 20 01.5
comp=Z,212nm,1.6s
ANWB Willy Bob 50.65 13 eP P 09 19 38.7 -6.3
ANWB Willy Bob 50.65 13 IAMs_20 IAMs_20 09 43 55.8
comp=Z,16µm,19.0s
SMRT St. Maarten 50.79 11 eP P 09 19 37.1 -9.1
SMRT St. Maarten 50.79 11 IAmb IAmb 09 19 50.9
comp=Z,65nm,0.9s
SMRT IAMs_20 IAMs_20 09 41 30.9
comp=Z,18µm,22.0s
PTCN Pitcairn Islan 50.88 262 IAMs_20 IAMs_20 09 35 31.0
comp=Z,10µm,19.0s
VNA3 Neumayer Olymp 50.96 158 P P 09 19 46.3 -0.5
SDDR Presa de Saban 50.98 1 IAMs_20 IAMs_20 09 44 26.2
comp=Z,11µm,18.0s
VNA1 Neumayer--Stat 51.26 157 P P 09 19 48.7 -0.3
SC01 Santiago de Ic 51.44 2 P P 09 19 50.9 -0.1
VNA2 Neumayer--Watz 51.60 158 P P 09 19 51.1 -0.6
baz=285,slow=7.8
VNA2 Neumayer--Watz 51.60 158 PKiKP **PKiKP** 09 27 50.4 +3.6
GTBY Guantanamo Bay 52.00 356 P P 09 19 53.9 -1.2
GTBY IAmb IAmb 09 20 08.8
comp=Z,145nm,1.4s
GTBY IAMs_20 IAMs_20 09 45 08.8
comp=Z,9µm,18.0s
GTBY Guantanamo Bay 52.00 356 eP P 09 19 41.4 -14
SNAA Sanae 53.18 158 P P 09 20 02.9 -0.6
SNAA Sanae 53.18 158 P P 09 20 02.3 -1.1
comp=Z,64nm,1.1s,baz=272,slow=7.4,SNR=35
SNAA Sanae 53.18 158*c i*P P 09 20 03.2 -0.3
SNAA pmax pmax
comp=Z,154nm,1.5s
SNAA Sanae 53.18 158 P P 09 20 02.3 -1.1
SNAA IAmb IAmb 09 20 11.0
comp=Z,99nm,1.1s
SNAA Sanae 53.18 158 ⇓P P 09 20 02.4 -1.1
GRTK Grand Turk 53.50 1 IAMs_20 IAMs_20 09 46 54.6
comp=Z,8µm,19.0s
CMIG Matias Romero 53.74 333 P P 09 20 10.1 +2.1
comp=Z,6.3nm,1.0s,baz=122,slow=4.1,SNR=4.8
RKT Rikitea 55.74 263 *e*T T 10 20 29.3
comp=Z,3.1nm,0.2s
SOR Soroa 55.76 348 IAmb IAmb 09 20 38.4
comp=Z,103nm,1.1s
UNM Universidad Na 57.51 329 IAMs_20 IAMs_20 09 39 58.8
comp=Z,12µm,20.0s
QSPA South Pole Qui 57.94 180 PKP2bc 09 50 29.8
comp=Z,7.1nm,1.1s,baz=265,slow=2.5,SNR=7.8
QSPA South Pole Qui 57.94 180 P P 09 20 36.9 -1.0
QSPA IAmb IAmb 09 21 11.7
comp=Z,56nm,0.9s
QSPA South Pole Qui 57.94 180 IAMs_20 IAMs_20 09 45 47.4
comp=Z,8µm,19.0s
DWPF Disney Wildern 60.72 351 P P 09 20 56.2 -1.0
baz=171
ZAIG Zacatecas 62.02 328 IAMs_20 IAMs_20 09 42 32.3
comp=Z,8µm,20.0s
TIGA Tifton 64.31 349 P P 09 21 21.7 +0.5
baz=169
BRAL Brewton 64.68 346 P P 09 21 21.5 -2.2
baz=166
NHSC New Hope 65.49 353 P P 09 21 25.8 -3.0
baz=173
833A Chaparral WMA, 65.63 334 P P 09 21 26.6 -3.2
baz=155
152A Waverly Hall 65.70 348 P P 09 21 29.3 -0.9
152A IAmb IAmb 09 21 45.7
comp=Z,140nm,2.0s
VNDA Vanda 65.77 191 P P 09 21 33.3 +3.2
comp=Z,3.1nm,1.0s,baz=154,slow=2.8,SNR=8.8
VNDA PKP2bc 09 50 12.3
comp=Z,1.3nm,0.8s,baz=312,slow=5.7,SNR=4.7

VNDA Vanda 65.77 191 P **P** 09 21 27.9 -2.3
VNDA pmax pmax
comp=Z,71nm,1.7s
VNDA Vanda 65.77 191 P **P** 09 21 27.9 -2.3
VNDA IAmb IAmb 09 22 09.8
comp=Z,71nm,1.6s
HKT Hockley 65.87 337⇑ *e*P **P** 09 21 28.2 -3.1
HKT pmax pmax
comp=Z,95nm,2.2s
HKT MLR MLR
comp=Z,3µm,17.0s
HKT Hockley 65.87 337 P **P** 09 21 28.6 -2.6
HKT IAmb IAmb 09 22 10.8
comp=Z,104nm,1.6s
GOGA Godfrey 66.22 350 P **P** 09 21 30.0 -3.6
baz=170
SLBS Sierra La Lagu 66.38 322 P **P** 09 21 34.6 -0.2
SLBS Sierra La Lagu 66.38 322 ⇓P **P** 09 21 36.4 +1.6
LRAL Lakeview Retre 66.48 346 P **P** 09 21 32.4 -2.8
LRAL IAmb IAmb 09 22 49.1
comp=Z,68nm,1.8s
LRAL Lakeview Retre 66.48 346 P **P** 09 21 32.5 -2.6
baz=166
VBMS Vicksburg 66.48 343 P **P** 09 21 31.9 -3.3
baz=163
Y52A Lilburn 66.76 349 P **P** 09 21 34.9 -2.1
Y52A IAmb IAmb 09 21 52.9
comp=Z,105nm,1.4s
JSC Jenkinsville 66.78 352 P **P** 09 21 37.0 -0.1
JSC pmax pmax
comp=Z,57nm,1.4s
JSC Jenkinsville 66.78 352 P **P** 09 21 37.0 -0.1
JSC IAmb IAmb 09 21 50.8
comp=Z,57nm,1.4s
TAOE Nuku Hiva Isla 66.79 274 *e*S **S** 09 30 30.5 0.0
comp=Z,5µm,22.9s
TAOE Nuku Hiva Isla 66.79 274 *e*LR LR 09 41 45.0
comp=Z,13µm,26.2s,baz=127
X58A Rowland 66.84 353 P **P** 09 21 36.4 -1.0
HODGE Hodges 66.86 351 P **P** 09 21 36.8 -0.8
HODGE IAmb IAmb 09 21 53.5
comp=Z,72nm,1.6s
HPIG 67.02 328 P **P** 09 21 37.8 -1.2
HPIG IAmb IAmb 09 21 51.3
comp=Z,42nm,1.2s
HPIG IAMs_20 IAMs_20 09 45 32.7
comp=Z,8µm,20.0s
NATX Nacogdoches 67.19 339 P **P** 09 21 39.3 -0.4
NATX Nacogdoches 67.19 339 P **P** 09 21 38.4 -1.4
baz=160
435B Jarrell 67.22 336 P **P** 09 21 38.5 -1.5
baz=157
CNNC Cliffs of the 67.39 355 IAMs_20 IAMs_20 09 54 54.4
comp=Z,5µm,19.0s
CNNC Cliffs of the 67.39 355 P **P** 09 21 38.0 -2.9
baz=175
SYO Syowa Base 67.47 159⇑ *e*P **P** 09 21 37.2 -3.9
SYO Syowa Base 67.47 159⇑ *e*pP **P** 09 21 40.8 -0.3
X51A Calhoun 67.58 349 P **P** 09 21 41.4 -0.8
KMSC Kings Mountain 67.64 352 P **P** 09 21 42.5 0.0
KMSC IAmb IAmb 09 21 58.5
comp=Z,65nm,1.2s
KMSC Kings Mountain 67.64 352 P **P** 09 21 40.0 -2.5
baz=172
FPAL Fort Paine 67.68 348 P **P** 09 21 40.6 -2.3
FPAL IAmb IAmb 09 21 58.6
comp=Z,53nm,1.0s
TBI Tubuai 67.69 256 *e*S **S** 09 30 40.9 +0.1
comp=Z,6µm,23.5s
TBI Tubuai 67.69 256 *e*LR LR 09 42 09.3
comp=Z,30µm,27.8s,baz=110
TBI Tubuai 67.69 256 *e*T T 10 35 25.3
comp=Z,8.2nm,0.3s
BG3 Lake Jocassee 67.70 350 P **P** 09 21 42.2 -0.7
BG3 IAmb IAmb 09 21 59.2
comp=Z,99nm,1.4s
JCT Junction City 67.73 334 P **P** 09 21 40.4 -2.9
JCT pmax pmax
comp=Z,78nm,1.1s
JCT Junction City 67.73 334 P **P** 09 21 40.4 -2.9
JCT IAmb IAmb 09 21 55.3
comp=Z,78nm,1.1s
JCT Junction City 67.73 334 P **P** 09 21 40.6 -2.7
baz=155
237A Washetta, Mont 67.76 338 P **P** 09 21 42.2 -1.2
Y45A Yeager Farm, C 67.83 344 P **P** 09 21 42.5 -1.3
W52A Murphy 67.94 350 P **P** 09 21 43.9 -0.6
W52A IAmb IAmb 09 22 29.0
comp=Z,45nm,0.9s
V58A Windy Hill, Pi 68.05 354 P **P** 09 21 46.1 +1.1
V58A IAmb IAmb 09 22 00.9
comp=Z,47nm,1.1s
Z41A Richland Creek 68.06 341 P **P** 09 21 43.4 -1.8
baz=161
TXAR Lajitas Array 68.23 331 LR LR 09 47 11.2
comp=Z,8µm,18.4s,baz=0.0,slow=32
TXAR PKP2bc 09 50 12.5
comp=Z,0.4nm,0.9s,baz=7.6,slow=2.7,SNR=4.4
W50A Signal Mountai 68.27 348 P **P** 09 21 44.2 -2.4
WHTX Lake Whitney, 68.28 337 P **P** 09 21 45.2 -1.5
WHTX Lake Whitney, 68.28 337 P **P** 09 21 42.1 -4.6
baz=157
V55A Taylorsville 68.32 352 P **P** 09 21 47.7 +0.9
V55A IAmb IAmb 09 22 02.9
comp=Z,74nm,1.2s
V53A Saluda 68.35 351 P **P** 09 21 47.7 +0.7
V53A IAmb IAmb 09 22 03.0
comp=Z,108nm,1.4s
CPCT Cooper Cave 68.39 349 P **P** 09 21 47.2 0.0
CPCT IAmb IAmb 09 22 03.3
comp=Z,106nm,1.4s
CCAR Cane Creek 68.41 342 P **P** 09 21 45.5 -1.9
OXF Oxford 68.42 345 P **P** 09 21 46.1 -1.3
OXF pmax pmax
comp=Z,176nm,1.3s
OXF Oxford 68.42 345 P **P** 09 21 46.1 -1.3
OXF Oxford 68.42 345 P P 09 21 39.0 -8.4
baz=164
TKL Tuckaleechee C 68.47 350 P **P** 09 21 50.0 +2.3
comp=Z,8.1nm,0.8s,baz=105,slow=6.8,SNR=4.8
TKL Tuckaleechee C 68.47 350 P **P** 09 21 47.9 +0.1
TKL pmax pmax
comp=Z,69nm,1.3s
TKL Tuckaleechee C 68.47 350 P **P** 09 21 47.9 +0.1
TKL IAmb IAmb 09 22 03.5
comp=Z,69nm,1.3s
U59A Littleton 68.49 355 P **P** 09 21 49.0 +1.1
WLAR White Oak Lake 68.55 341 P **P** 09 21 47.9 -0.4
V52A Sevierville 68.63 350 P **P** 09 21 47.8 -0.9
V51A Loudon 68.71 349 P **P** 09 21 50.0 +0.8
V51A IAmb IAmb 09 22 22.1
comp=Z,39nm,0.8s
U56A King 68.72 353 P **P** 09 21 48.7 -0.6
U56A IAmb IAmb 09 22 05.6
comp=Z,64nm,1.3s
U54A Nelsons Funny 69.06 352 P **P** 09 21 50.5 -1.0
U54A IAmb IAmb 09 23 34.2
comp=Z,48nm,0.8s
V48A Smith Brothers 69.07 347 P **P** 09 21 51.2 -0.3
T59A Double "B" Far 69.09 355 P **P** 09 21 52.3 +0.8
T60A Surry 69.21 356 P **P** 09 21 51.8 -0.5
X40A Basin Creek Fa 69.23 342 P **P** 09 21 51.2 -1.2
baz=162
TZTN Tazewell 69.31 350 P **P** 09 21 53.1 +0.2
TZTN IAmb IAmb 09 22 32.7
comp=Z,71nm,1.2s
TZTN IAMs_20 IAMs_20 09 56 37.8
comp=Z,9µm,18.0s
TZTN Tazewell 69.31 350 P **P** 09 21 50.4 -2.5
baz=170
Z35A Perchaven, San 69.45 338 P **P** 09 21 54.1 +0.2
MIAR Mount Ida 69.48 341 P **P** 09 21 52.3 -1.8
baz=161
BLA Blacksburg 69.58 353 P **P** 09 21 53.2 -1.5
BLA pmax pmax
comp=Z,59nm,0.9s
BLA MLR MLR
comp=Z,4µm,19.0s
BLA Blacksburg 69.58 353 P **P** 09 21 53.2 -1.5
BLA IAmb IAmb 09 23 56.6
comp=Z,59nm,0.9s
BLA Blacksburg 69.58 353 P **P** 09 21 54.2 -0.4
baz=173
ABTX Abilene, Hawle 69.61 335 P **P** 09 21 53.9 -1.0
ABTX IAmb IAmb 09 22 06.8
comp=Z,58nm,1.1s
ABTX Abilene, Hawle 69.61 335 P **P** 09 21 51.8 -3.1
baz=156
WVT Waverly 69.64 346 P **P** 09 21 53.5 -1.5
WVT pmax pmax
comp=Z,110nm,1.1s
WVT Waverly 69.64 346 P **P** 09 21 53.5 -1.5
WVT Waverly 69.64 346 P **P** 09 21 53.4 -1.5
baz=166
W41B Gary Mavity, V 69.73 342 P **P** 09 21 53.3 -2.2
baz=162
WHAR Wooly Hollow 69.85 342 P **P** 09 21 55.4 -0.9
WHAR IAmb IAmb 09 22 13.7
comp=Z,95nm,1.4s
T50A Nancy 69.97 349 P **P** 09 21 56.7 -0.4
T50A IAmb IAmb 09 22 08.0
comp=Z,45nm,1.0s
W39A Magazine 70.15 341 P **P** 09 21 54.8 -3.3
baz=161
S54A Dingess, Beckl 70.26 352 P **P** 09 21 57.7 -1.1
CBN Corbin Frederi 70.31 356 IAMs_20 IAMs_20 09 57 26.5
comp=Z,5µm,18.0s
CBN Corbin Frederi 70.31 356 P **P** 09 21 58.7 -0.3
baz=175
LCAR Lake Charles 70.31 344 P **P** 09 21 58.8 -0.3
LCAR IAmb IAmb 09 22 15.1
comp=Z,48nm,1.1s
R61A Willards 70.32 357 P **P** 09 21 58.5 -0.6
S51A Beattyville 70.39 350 IAMs_20 IAMs_20 09 58 02.4
comp=Z,5µm,18.0s
PAE Paea 70.41 261 *e*P **P** 09 22 03.7 +3.4
comp=Z,30nm,1.0s
PPTF Pamatai, Papee 70.44 261 P **P** 09 21 57.1 -3.4
PPTF IAMs_20 IAMs_20 09 44 31.1
comp=Z,6µm,20.0s
PPT2 Papeete2 70.44 261 *e*P **P** 09 22 04.0 +3.4
comp=Z,80nm,1.1s
PPT2 *e*S **S** 09 31 13.5 -0.3
comp=Z,8µm,23.8s
PPT2 Papeete2 70.44 261 *e*LR LR 09 43 18.5
comp=Z,12µm,26.8s,baz=113
PPT Papeete 70.45 261 LR LR 09 45 12.0
comp=Z,5µm,18.0s,baz=142,slow=29
X34A Smith Ranch, M 70.80 338 P **P** 09 22 01.7 -0.5
X34A IAmb IAmb 09 22 13.9
comp=Z,98nm,1.2s
Q61A Milford 70.87 357 P **P** 09 22 01.2 -1.3
baz=177
U40A Yellville 71.00 342 P **P** 09 22 00.6 -2.8
baz=162
MNTX Cornudas Mount 71.00 330 IAMs_20 IAMs_20 09 48 30.7
comp=Z,9µm,19.0s
MNTX Cornudas Mount 71.00 330 P **P** 09 22 01.7 -1.8
baz=151
WMOK Wichita Mounta 71.24 337 P **P** 09 22 02.8 -2.0
baz=157
TUL1 Leonard 71.39 340 P **P** 09 22 04.9 -0.8
baz=159
WCI Wyandotte Cave 71.39 348 IAMs_20 IAMs_20 09 56 46.9
comp=Z,5µm,20.0s
WCI Wyandotte Cave 71.39 348 P **P** 09 22 03.6 -2.0
baz=168
EPT El Paso 71.55 330 IAMs_20 IAMs_20 09 48 45.6
comp=Z,7µm,20.0s
P60A Greenville 71.81 357 P **P** 09 22 05.8 -2.3
baz=177
WUPA West Chester U 71.93 357 P **P** 09 22 08.9 +0.1
WUPA IAmb IAmb 09 22 29.9
comp=Z,84nm,1.3s
MCWV Mont Chateau 71.95 354 P **P** 09 22 08.0 -1.0
MCWV IAmb IAmb 09 24 19.6
comp=Z,75nm,1.2s
MCWV Mont Chateau 71.95 354 P **P** 09 22 07.0 -1.9
baz=173
MSTX Muleshoe 71.96 334 P **P** 09 22 07.1 -2.3
baz=153
FVM French Village 71.97 345 P **P** 09 22 08.3 -0.9
FVM pmax pmax
comp=Z,75nm,1.3s
FVM French Village 71.97 345 P **P** 09 22 08.3 -0.9
FVM IAmb IAmb 09 22 23.2
comp=Z,75nm,1.2s
P51A Williamsport 72.13 351 P **P** 09 22 08.9 -1.1
P51A IAmb IAmb 09 22 58.7
comp=Z,72nm,0.9s
P52A Corning 72.17 352 P **P** 09 22 07.8 -2.5
baz=171
CCM Cathedral Cave 72.23 344 P **P** 09 22 09.0 -1.7
baz=163
PAGS Pennsylvania G 72.28 356 P **P** 09 22 10.0 -0.9
PAGS IAmb IAmb 09 22 24.8
comp=Z,55nm,1.0s
AMTX Amarillo 72.37 335 P **P** 09 22 12.1 +0.4
AMTX IAmb IAmb 09 22 23.6
comp=Z,46nm,0.9s
AMTX Amarillo 72.37 335 P **P** 09 22 08.5 -3.2
baz=154
P49A Miami Univ. Ec 72.42 350 P **P** 09 22 07.7 -4.1
baz=169
O56A Blue Knob Stat 72.44 355 P **P** 09 22 11.6 -0.4
baz=174
LUPA Lehigh Univers 72.59 357 IAMs_20 IAMs_20 09 56 43.0
comp=Z,5µm,21.0s
O53A New Philadelph 72.67 353 P **P** 09 22 11.8 -1.4
baz=172
121A Cookes Peak, D 72.75 329 P **P** 09 22 10.0 -4.1
baz=149
SSPA Standing Stone 72.76 355 IAMs_20 IAMs_20 09 59 41.4
comp=Z,4µm,18.0s
SSPA Standing Stone 72.76 355 ⇓P **P** 09 22 18.1 +4.3
SSPA Standing Stone 72.76 355 P **P** 09 22 12.9 -0.8
baz=175
ACSO Alum Creek Sta 72.86 351 P **P** 09 22 13.1 -1.3
ACSO IAmb IAmb 09 22 30.2
comp=Z,58nm,0.9s
ACSO IAMs_20 IAMs_20 09 57 55.8
comp=Z,5µm,19.0s
ACSO Alum Creek Sta 72.86 351 P **P** 09 22 12.9 -1.5
baz=170
N58A Sunbury 72.89 356 P **P** 09 22 13.8 -0.7
N58A IAmb IAmb 09 22 28.6
comp=Z,52nm,0.9s
KAN13 South Haven SW 72.91 339 P **P** 09 22 14.4 -0.4
N59A State Game Lan 72.92 357 IAmb IAmb 09 22 31.1
comp=Z,119nm,1.3s
N59A State Game Lan 72.92 357 P **P** 09 22 13.4 -1.4
baz=177
PAL Palisades 72.95 359 P **P** 09 22 13.6 -1.3
baz=178
ODNJ Ogdensburg 73.05 358 IAmb IAmb 09 22 31.4
comp=Z,125nm,1.5s
ODNJ IAMs_20 IAMs_20 10 00 31.1
comp=Z,6µm,18.0s
TRNY Table Rock, Ra 73.10 358 IAmb IAmb 09 22 36.0
comp=Z,128nm,1.6s
TRNY IAMs_20 IAMs_20 10 00 29.5
comp=Z,5µm,18.0s
WSPT Westport, CT 73.10 359 IAMs_20 IAMs_20 09 55 26.8
comp=Z,6µm,21.0s
N54A Moraine State 73.25 354 P **P** 09 22 15.3 -1.4
baz=173
M65A Busby, Falmout 73.50 1 P **P** 09 22 13.8 -4.3
baz=181
KSPA Keystone Colle 73.56 357 IAMs_20 IAMs_20 09 58 27.7
comp=Z,5µm,20.0s
SFIN Lafayette 73.63 348 P **P** 09 22 15.3 -3.6
baz=167
M55A Ridgway 73.65 355 IAmb IAmb 09 22 32.6
comp=Z,60nm,1.0s
KSCT Kent School, K 73.66 359 P **P** 09 22 19.0 -0.1
KSCT IAmb IAmb 09 22 35.2
comp=Z,178nm,1.8s
N49A Columbus Grove 73.70 350 P **P** 09 22 18.0 -1.4
N49A IAmb IAmb 09 22 46.8
comp=Z,67nm,0.9s
Y22D IRIS PASSCAL I 73.70 330 IAMs_20 IAMs_20 09 50 17.8
comp=Z,7µm,19.0s
Y22D IRIS PASSCAL I 73.70 330 P P 09 22 14.2 -5.6
baz=150
M54A Oil Creek Stat 73.76 354 P **P** 09 22 18.4 -1.3
M54A IAmb IAmb 09 24 34.0
comp=Z,65nm,1.2s
M54A Oil Creek Stat 73.76 354 P **P** 09 22 16.8 -3.0
baz=174
M53A WI Miller and 73.79 353 IAMs_20 IAMs_20 09 58 21.6
comp=Z,5µm,19.0s
M53A WI Miller and 73.79 353 P **P** 09 22 17.9 -1.9
baz=173
BRYW Bryant College 73.84 0 P **P** 09 22 19.1 -1.1
L64A Middleborough 73.87 1 P **P** 09 22 20.1 -0.2
baz=181
TUC Tucson 73.92 327 P **P** 09 22 20.4 -0.6
TUC pmax pmax
comp=Z,72nm,2.0s
TUC Tucson 73.92 327 P **P** 09 22 20.4 -0.6
TUC Tucson 73.92 327 IAMs_20 IAMs_20 09 49 55.3
comp=Z,5µm,20.0s
TUC Tucson 73.92 327 ⇑P **P** 09 22 22.2 +1.3
TUC Tucson 73.92 327 P **P** 09 22 19.9 -1.0
baz=147
ALLY Alegheny Colle 73.95 354 P **P** 09 22 19.6 -1.2
ALLY IAMs_20 IAMs_20 10 00 16.7
comp=Z,5µm,21.0s
L65A Cape Cod Natio 73.98 2 P **P** 09 22 18.6 -2.3
baz=182
QUA2 Belchertown 74.20 360 IAmb IAmb 09 22 38.1
comp=Z,89nm,1.3s
HDIL Hopedale 74.21 346 P **P** 09 22 19.2 -3.1
baz=165
BINY Binghamton 74.21 357 IAMs_20 IAMs_20 09 58 56.9
comp=Z,5µm,20.0s
BINY Binghamton 74.21 357 P **P** 09 22 21.0 -1.4
baz=177
ANMO Albuquerque 74.27 331 P **P** 09 22 25.6 +2.5
comp=Z,4.8nm,0.8s,baz=158,slow=9.8,SNR=1.4
ANMO Albuquerque 74.27 331⇑ *e*P **P** 09 22 22.9 -0.2
ANMO pmax pmax
comp=Z,52nm,1.7s
ANMO Albuquerque 74.27 331 IAMs_20 IAMs_20 09 50 27.7
comp=Z,7µm,20.0s
ANMO Albuquerque 74.27 331 P **P** 09 22 22.1 -0.9
baz=150
LIC Lamto 74.28 72 *e*P **P** 09 22 22.8 -0.6
comp=Z,241nm,1.2s
WES Weston 74.31 1 IAMs_20 IAMs_20 09 59 36.9
comp=Z,5µm,19.0s
L61B Northapton 74.38 360 P **P** 09 22 23.2 -0.1
baz=180,SNR=5.8
ERPA Erie 74.40 354 P **P** 09 22 19.4 -4.0
baz=173
HRV Adam Dziewonsk 74.43 0 P **P** 09 22 24.6 +1.0
HRV pmax pmax
comp=Z,116nm,1.4s
HRV MLR MLR
comp=Z,4µm,19.0s
HRV Adam Dziewonsk 74.43 0 P **P** 09 22 24.6 +1.0
HRV IAmb IAmb 09 22 39.7
comp=Z,116nm,1.4s
HRV Adam Dziewonsk 74.43 0 ⇑P **P** 09 22 27.7 +4.2
HRV Adam Dziewonsk 74.43 0 P **P** 09 22 24.4 +0.8
baz=181
TIC Toumodi 74.53 72 *e*P **P** 09 22 24.9 0.0
K62A Royalston 74.59 360 P **P** 09 22 23.5 -0.9
K62A IAmb IAmb 09 22 40.8
comp=Z,138nm,1.4s
K62A Royalston 74.59 360 P P 09 22 19.6 -4.9
baz=180,SNR=6.4
R32A Long Quarter, 74.59 339 P **P** 09 22 24.3 -0.3
R32A IAmb IAmb 09 22 41.6
comp=Z,158nm,1.8s
KIC Kosan Boka 74.59 72 *e*P **P** 09 22 23.4 -1.8
comp=Z,179nm,1.1s
KSU1 Kansas State U 74.59 340 P **P** 09 22 20.2 -4.4
baz=159
214A Organ Pipe Nat 74.59 325 P **P** 09 22 24.1 -0.7
214A Organ Pipe Nat 74.59 325 P **P** 09 22 23.3 -1.6
baz=145
K61A Williamstown 74.60 359 P **P** 09 22 23.8 -0.8
baz=179
TRY Troy 74.67 359 P **P** 09 22 25.1 +0.2
N41A Harden Midland 74.68 345 P **P** 09 22 24.4 -0.6
N41A IAmb IAmb 09 22 40.9
comp=Z,157nm,1.6s
DBIC Dimbokro 74.68 72 P **P** 09 22 24.9 -0.8
comp=Z,31nm,1.0s,baz=231,slow=5.8,SNR=15
DBIC LR LR 09 51 37.8
comp=Z,14µm,21.0s,baz=241,slow=33
DBIC Dimbokro 74.68 72 P **P** 09 22 24.5 -1.2
DBIC pmax pmax
comp=Z,98nm,1.1s
DBIC Dimbokro 74.68 72 P **P** 09 22 24.5 -1.2
DBIC IAmb IAmb 09 22 32.2
comp=Z,98nm,1.1s
DBIC Dimbokro 74.68 72 ⇑P **P** 09 22 25.2 -0.5
MAW Mawson 74.83 164 P **P** 09 22 25.6 -0.1
comp=Z,21nm,1.1s,baz=210,slow=8.4,SNR=19
MAW LR LR 09 54 51.0
comp=Z,23µm,20.4s,baz=228,slow=35
MAW Mawson 74.83 164 P **P** 09 22 25.1 -0.6
MAW pmax pmax
comp=Z,12nm,1.2s
MAW Mawson 74.83 164 P **P** 09 22 25.1 -0.6
MAW Mawson 74.83 164 ⇑P **P** 09 22 26.6 +0.9
AAM Ann Arbor 74.98 351 IAMs_20 IAMs_20 10 00 28.0
comp=Z,5µm,18.0s
AAM Ann Arbor 74.98 351 P **P** 09 22 24.8 -2.0
baz=170
HQIL Hanson Quary C 75.14 348 IAMs_20 IAMs_20 10 00 21.0
comp=Z,5µm,19.0s
CBKS Cedar Bluff 75.27 338 P **P** 09 22 26.1 -2.5
baz=156
J61A Chester 75.27 360 P **P** 09 22 28.7 +0.3
baz=180
J56A Wolcott 75.33 356 P **P** 09 22 29.4 +0.7
J56A IAmb IAmb 09 22 44.7
comp=Z,65nm,1.1s
T25A Trinidad 75.38 334 P **P** 09 22 28.7 -0.8
baz=152
L44A Lake County Fo 75.52 348 IAMs_20 IAMs_20 10 00 41.0
comp=Z,6µm,19.0s
L44A Lake County Fo 75.52 348 P **P** 09 22 25.7 -4.1
baz=166
I60A Shoreham 75.78 359 P **P** 09 22 30.0 -1.3
baz=179
W18A Petrified Fore 75.80 329 P **P** 09 22 31.1 -0.8
W18A IAmb IAmb 09 22 51.9
comp=Z,91nm,1.4s
W18A Petrified Fore 75.80 329 P **P** 09 22 31.4 -0.5
baz=148
I62A Tamworth 75.80 1 P **P** 09 22 29.6 -1.8
baz=181
X16A Lo Mia Camp, P 75.98 327 P **P** 09 22 32.3 -0.7
PECO Prince Edward 75.99 356 IAMs_20 IAMs_20 10 00 14.9
comp=Z,5µm,20.0s
LBNH Lisbon 76.16 0 P **P** 09 22 33.1 -0.4
baz=180,SNR=6.2
SDCO Great Sand Dun 76.33 333 IAMs_20 IAMs_20 09 52 57.4
comp=Z,5µm,18.0s
SDCO Great Sand Dun 76.33 333 P P 09 22 29.9 -5.1
baz=152
SCIA State Center 76.35 344 P **P** 09 22 32.4 -2.2
baz=162
KSCO Kaye Shedlock' 76.41 336 P **P** 09 22 31.4 -3.7
baz=154
GLA Glamis 76.47 324 P **P** 09 22 32.4 -3.2
baz=144
WVL Waterville 76.52 2 IAMs_20 IAMs_20 09 55 48.4
comp=Z,5µm,21.0s
LONY Lake Ozonia 76.58 358 IAmb IAmb 09 22 52.3
comp=Z,92nm,1.3s
LONY Lake Ozonia 76.58 358 P **P** 09 22 31.4 -4.5
baz=178,SNR=8.1
DELO Deloro Mine 76.61 356 IAMs_20 IAMs_20 10 00 35.2
comp=Z,5µm,19.0s
JFWS Jewell Farm 76.67 346 IAMs_20 IAMs_20 10 02 06.3
comp=Z,8µm,18.0s
JFWS Jewell Farm 76.67 346 P **P** 09 22 34.3 -2.1
baz=164
EMMW East Machias 76.75 3 IAMs_20 IAMs_20 10 00 33.2
comp=Z,5µm,19.0s
FRNY Flat Rock 76.77 359 P **P** 09 22 37.1 +0.2
FRNY IAmb IAmb 09 22 52.7
comp=Z,126nm,1.4s
IKP In-Ko-Pah, Jac 76.80 323 P **P** 09 22 36.3 -1.2
baz=143
S22A 4UR Ranch, Cre 76.84 332 P **P** 09 22 38.4 +0.5
baz=151
WUAZ Wupatki 76.86 328 P **P** 09 22 36.0 -1.9
WUAZ IAmb IAmb 09 22 56.0
comp=Z,60nm,1.1s
WUAZ Wupatki 76.86 328 ⇓P **P** 09 22 39.2 +1.4
WUAZ Wupatki 76.86 328 P **P** 09 22 37.3 -0.6
baz=147
SWSC Sam W. Stewart 76.88 323 P **P** 09 22 35.2 -2.6
baz=143

HAL Halifax 76.95 6 IAMs_20 IAMs_20 09 56 50.2
comp=Z,7µm,20.0s
SADO Sadowa 76.96 355 P **P** **09 22 41.3 +3.3**
comp=Z,6.6nm,0.8s,baz=195,slow=6.6,SNR=5.0
SADO Sadowa 76.96 355 P **P** **09 22 37.0 -1.0**
SADO IAmb IAmb 09 22 54.0
comp=Z,81nm,1.2s
SADO IAMs_20 IAMs_20 09 59 25.5
comp=Z,5µm,20.0s
SADO Sadowa 76.96 355 ⇓P **P** **09 22 41.9 +3.9**
MVCO Mesa Verde 77.05 331 P **P** **09 22 39.6 +0.5**
baz=149
RAR Rarotonga 77.11 253 LR LR 09 49 06.7
comp=Z,5µm,18.5s,baz=167,slow=30
RAR Rarotonga 77.11 253 IAMs_20 IAMs_20 09 49 56.3
comp=Z,8µm,18.0s
BAR Barrett 77.11 323 P **P** **09 22 37.6 -1.5**
BAR IAmb IAmb 09 23 18.1
comp=Z,69nm,1.6s
MONP2 Monument Peak 77.15 323 P **P** **09 22 37.7 -1.9**
baz=143
PDMCI Parker Dam,Lak 77.15 325 P **P** **09 22 39.4 +0.1**
baz=145
G62A West of Eustis 77.16 1 P **P** **09 22 38.2 -0.9**
BGNE Belgrade 77.17 340 P **P** **09 22 37.4 -1.9**
baz=158
PKME Peaks-Kenny Pk 77.23 2 IAMs_20 IAMs_20 09 56 31.1
comp=Z,5µm,22.0s
PKME Peaks-Kenny Pk 77.23 2 P **P** **09 22 38.2 -1.3**
baz=182
Q24A Divide 77.26 334 P **P** **09 22 38.8 -1.5**
baz=152
BC3 Big Chuckawall 77.27 324 P **P** **09 22 39.0 -1.2**
baz=144
109C Camp Elliot, M 77.50 322 IAMs_20 IAMs_20 09 50 18.8
comp=Z,5µm,19.0s
109C Camp Elliot, M 77.50 322 P **P** **09 22 39.7 -1.7**
baz=142
IRM Iron Mountain 77.52 325 P **P** **09 22 39.8 -1.7**
baz=144,SNR=7.1
GLMI Grayling 77.59 351 IAMs_20 IAMs_20 10 02 34.8
comp=Z,5µm,19.0s
GLMI Grayling 77.59 351 P P 09 22 36.4 -5.1
baz=169
F63A Nahmakanta, Br 77.67 2 P **P** **09 22 41.8 -0.2**
F63A IAmb IAmb 09 22 58.2
comp=Z,106nm,1.2s
W13A Hualapai Mount 77.67 326 P **P** **09 22 41.4 -1.1**
GAC Glen Almond 77.69 358 ⇓P **P** **09 22 46.4 +4.4**
TPFO Pinon Flats 77.73 323 P **P** **09 22 43.0 +0.2**
baz=143,SNR=7.4
PFO Pinyon Flats O 77.74 323 P **P** **09 22 45.8 +2.9**
comp=Z,7.9nm,1.0s,baz=135,slow=4.8,SNR=9.2
PFO Pinyon Flats O 77.74 323 P **P** **09 22 42.5 -0.4**
PFO IAmb IAmb 09 23 10.8
comp=Z,146nm,1.9s
PFO Pinyon Flats O 77.74 323 IAMs_20 IAMs_20 09 50 07.2
comp=Z,4µm,19.0s
PFO Pinyon Flats O 77.74 323 P **P** **09 22 42.8 0.0**
baz=143,SNR=6.6
NEE2 Needles Airpor 77.76 325 P **P** **09 22 43.3 +0.6**
baz=144
BELC Belle Mtn. Jos 77.82 324 P **P** **09 22 42.5 -0.7**
baz=143
F64A Sherman 77.86 3 P **P** **09 22 43.1 +0.1**
GBN Guysborough 77.92 8 IAMs_20 IAMs_20 09 58 44.1
comp=Z,9µm,21.0s
OGNE Ogallala 77.94 337 P **P** **09 22 41.6 -2.1**
baz=155
LMN Caledonia Moun 78.06 5 P **P** **09 22 43.8 -0.3**
LMN IAMs_20 IAMs_20 09 58 01.3
comp=Z,7µm,20.0s
PV18 Skein Mesa, Pa 78.11 331 IAmb IAmb 09 23 03.5
comp=Z,116nm,1.8s
MURC Murrieta 78.11 323 P P 09 22 39.4 -5.3
baz=142,SNR=5.6
SMCO Snowmass 78.14 333 ⇓P P 09 22 53.9 +8.6
ISCO Idaho Springs 78.17 334 P **P** **09 22 40.7 -4.6**
baz=152
SCI2 San Clemente I 78.32 322 P **P** **09 22 42.1 -3.8**
baz=142
BBRC Big Bear Solar 78.49 323 P **P** **09 22 43.6 -3.5**
baz=143
CIS Catalina Islan 78.58 322 P **P** **09 22 45.1 -2.3**
baz=142
HEC Hector,Ludlow 78.65 324 P **P** **09 22 46.1 -1.7**
baz=143
PQI Presque Isle 78.68 3 IAmb IAmb 09 23 07.8
comp=Z,93nm,1.2s
PQI IAMs_20 IAMs_20 10 01 44.3
comp=Z,4µm,19.0s
KNB Kanab 78.75 328 IAmb IAmb 09 23 08.7
comp=Z,77nm,1.2s
FMP Fort Macarthur 78.76 322 P **P** **09 22 47.1 -1.1**
baz=142
BFSC Mount Baldy Ra 78.84 323 P **P** **09 22 46.6 -2.3**
baz=142,SNR=9.6
PKCU Pink Cliffs 78.88 328 IAmb IAmb 09 23 08.8
comp=Z,98nm,1.6s
ECSD EROS Data Cent 78.91 342 P **P** **09 22 45.5 -3.4**
baz=159
TUQ Turquoise Moun 78.93 325 P **P** **09 22 49.5 +0.2**
baz=144,SNR=10
LCMT Little Creek M 78.94 328 P **P** **09 22 49.1 -0.3**
RRX Edison Barstow 79.01 324 P **P** **09 22 48.1 -1.6**
baz=143
D62A Allapoint, All 79.05 2 P **P** **09 22 49.8 +0.3**
DECC Green Verdugo 79.20 322 P **P** **09 22 49.1 -1.7**
baz=142
N23A Red Feather La 79.25 335 P **P** **09 22 51.3 +0.1**
baz=152
GSC Goldstone, Bar 79.25 324 P **P** **09 22 50.1 -1.0**
GSC pmax pmax
comp=Z,22nm,1.1s
GSC Goldstone, Bar 79.25 324 P **P** **09 22 50.1 -1.0**
GSC Goldstone, Bar 79.25 324 P **P** **09 22 50.9 -0.2**
baz=143,SNR=7.4
MTPU Mount Pierson 79.32 329 P **P** **09 22 50.8 -0.9**
SZCU Shurtz Canyon 79.35 328 P **P** **09 22 50.8 -0.9**
SZCU IAmb IAmb 09 23 11.2
comp=Z,135nm,1.7s
BATG Bathurst New B 79.39 4 P **P** **09 22 51.2 -0.2**
BATG IAmb IAmb 09 23 06.6
comp=Z,109nm,1.3s
SPMN Marine on St. 79.41 345 P **P** **09 22 51.4 -0.1**
baz=162
O20A White River Ci 79.46 333 P **P** **09 22 50.3 -1.9**
baz=150
SHOC Shoshone, Teco 79.47 325 P **P** **09 22 50.1 -2.1**
baz=143
SRU San Rafael Swe 79.50 331 P **P** **09 22 52.4 -0.1**
SRU pmax pmax
comp=Z,27nm,1.0s
SRU San Rafael Swe 79.50 331 P **P** **09 22 52.4 -0.1**
EDW2 Edwards Air Fo 79.52 323 P **P** **09 22 52.7 +0.2**
baz=142,SNR=8.5
COWI Conover 79.54 348 IAMs_20 IAMs_20 10 02 43.3
comp=Z,5µm,19.0s
Q16A Castle Valley 79.61 330 IAmb IAmb 09 23 10.9
comp=Z,126nm,1.6s
OSI Osito Audit: C 79.69 322 P **P** **09 22 49.6 -3.8**
baz=142
MVU Marysvale 79.72 329 IAmb IAmb 09 23 06.5
comp=Z,120nm,1.1s
TSUM Tsumeb 79.72 106 P **P** **09 22 53.9 -0.3**
TSUM IAmb IAmb 09 23 01.4
comp=Z,97nm,1.3s
TSUM Tsumeb 79.72 106 ⇑P **P** **09 22 55.6 +1.3**
LRMC Laurel Mtn Rad 79.83 324 P **P** **09 22 52.5 -1.8**
baz=142
GWY Greenwater Val 79.89 325 P **P** **09 22 54.2 -0.4**
KOWA Kowa 79.97 66 P **P** **09 22 54.5 -0.9**
KOWA Kowa 79.97 66 ⇓P **P** **09 22 54.2 -1.1**
SBC Santa Barbara 80.07 322 P **P** **09 22 53.2 -2.2**
baz=141
PRN Pahroc Range 80.10 327 IAmb IAmb 09 23 16.2
comp=Z,63nm,1.1s
PRN Pahroc Range 80.10 327 ⇓P **P** **09 22 57.3 +1.6**
ARVC Arvin 80.14 323 P **P** **09 22 53.1 -2.7**
baz=142
MPMC Manual Prospec 80.19 324 P **P** **09 22 55.8 -0.5**
baz=143,SNR=7.2
SUSD Miller 80.20 341 P **P** **09 22 53.5 -2.4**
baz=157
FURC Furnace Creek, 80.21 325 P **P** **09 22 55.8 -0.3**
baz=143,SNR=14
TPNV Topopah Spring 80.30 326 P **P** **09 22 55.8 -1.0**
TPNV pmax pmax
comp=Z,45nm,1.2s
TPNV Topopah Spring 80.30 326 P **P** **09 22 55.8 -1.0**
TPNV IAMs_20 IAMs_20 09 53 14.0
comp=Z,5µm,18.0s
TPNV Topopah Spring 80.30 326 ⇓P **P** **09 22 58.3 +1.5**
TPNV Topopah Spring 80.30 326 P **P** **09 22 57.2 +0.4**
baz=144,SNR=12
ISA Isabella, Lake 80.38 323 P **P** **09 22 58.1 +0.9**
baz=142,SNR=9.9
RWWY Rawlins 80.41 334 IAMs_20 IAMs_20 09 56 23.5
comp=Z,4µm,18.0s
PKM Mcpherson Peak 80.46 322 P **P** **09 22 56.9 -0.9**
baz=141
CWC Cottonwood Cre 80.79 324 P **P** **09 22 59.7 +0.2**
baz=142
VES Vestal, Richgr 80.83 323 P **P** **09 22 59.2 -0.2**
baz=141,SNR=10.0
GRAC Grapevine Rang 80.87 325 P **P** **09 22 56.1 -3.7**
baz=143
SMMC Simmler 80.89 322 P **P** **09 22 56.5 -3.3**
baz=141
BOSA Boshof 80.91 118 P **P** **09 23 00.1 -0.3**
comp=Z,51nm,1.1s,baz=236,slow=5.1,SNR=24
BOSA LR LR 09 56 40.0
comp=Z,15µm,18.1s,baz=234,slow=34
BOSA Boshof 80.91 118 P **P** **09 22 59.7 -0.7**
BOSA pmax pmax
comp=Z,122nm,1.3s
BOSA Boshof 80.91 118 P **P** **09 22 59.7 -0.7**
BOSA IAmb IAmb 09 23 07.1
comp=Z,122nm,1.3s
BOSA Boshof 80.91 118 ⇓P **P** **09 23 01.0 +0.5**
K22A Casper 81.00 335 P **P** **09 22 58.1 -2.3**
baz=151
SPR3 Spring Creek 3 81.06 328 P **P** **09 23 00.0 -1.0**
SPR3 IAmb IAmb 09 23 18.5
comp=Z,99nm,1.6s
R11A Troy Canyon, C 81.11 327 P **P** **09 23 00.8 -0.3**
R11A Troy Canyon, C 81.11 327 P **P** **09 23 01.0 -0.2**
baz=144,SNR=19
LCH Last Change Ra 81.20 325 P **P** **09 23 00.3 -1.3**
TIN Tinemaha, Big 81.34 324 P **P** **09 22 59.6 -2.8**
baz=142
VOG Valley Oaks Go 81.35 323 P P 09 22 56.4 -5.8
baz=141
DUG Dugway, Tooele 81.38 330 IAmb IAmb 09 23 21.4
comp=Z,126nm,1.7s
DUG Dugway, Tooele 81.38 330 P **P** **09 23 02.9 +0.4**
baz=146,SNR=12
RSSD Black Hills 81.44 337 IAMs_20 IAMs_20 10 06 12.6
comp=Z,4µm,19.0s
RSSD Black Hills 81.44 337 P **P** **09 23 01.6 -1.3**
baz=153
EYMN Ely 81.75 347 P P 09 22 58.7 -5.3
baz=164
HWUT Hardware Ranch 82.03 331 IAmb IAmb 09 23 24.2
comp=Z,138nm,1.7s
HWUT IAMs_20 IAMs_20 09 55 23.3
comp=Z,8µm,20.0s
BGU Big Grassy Mou 82.08 330 IAmb IAmb 09 23 23.5
comp=Z,97nm,1.9s
MLAC Mammoth, Mammo 82.09 324 P **P** **09 23 02.5 -4.0**
baz=142
CMLA Cha da Macela 82.11 36 IAMs_20 IAMs_20 10 00 19.6
comp=Z,7µm,20.0s
BW06 Boulder Array 82.22 333 IAMs_20 IAMs_20 09 56 00.4
comp=Z,5µm,18.0s
BW06 Boulder Array 82.22 333 P **P** **09 23 05.5 -1.5**
baz=149
PD31 Pinedale Array 82.22 333 ⇓P P 09 23 14.0 +7.0
PDAR Pinedale Array 82.22 333 P **P** **09 23 10.1 +3.2**
comp=Z,2.7nm,0.9s,baz=124,slow=7.7,SNR=4.8
PDAR LR LR 09 56 20.4
comp=Z,4µm,18.4s,baz=146,slow=33
PDAR Pinedale Array 82.22 333 P **P** **09 23 05.8 -1.2**
NVAR Mina Array Bea 82.46 325 P **P** **09 23 09.2 +0.8**
comp=Z,6.0nm,0.9s,baz=150,slow=5.3,SNR=23
NVAR LR LR 09 53 10.5
comp=Z,3µm,21.4s,baz=136,slow=31
NVAR Mina Array Bea 82.46 325 P **P** **09 23 07.8 -0.6**
HVU Hansel Valley 82.68 331 IAmb IAmb 09 23 27.5
comp=Z,127nm,1.8s
RYN Ryan 82.72 325 P **P** **09 23 09.1 -0.5**
RYN IAmb IAmb 09 23 28.8
comp=Z,111nm,1.9s
AHID Auburn Hatcher 82.82 332 IAmb IAmb 09 23 28.1
comp=Z,49nm,1.3s
AHID IAMs_20 IAMs_20 09 57 30.2
comp=Z,5µm,18.0s
ELK Elko 82.89 328 P **P** **09 23 11.1 +0.6**
comp=Z,5.1nm,0.9s,baz=125,slow=4.0,SNR=16
ELK Elko 82.89 328 P **P** **09 23 10.2 -0.3**
ELK pmax pmax
comp=Z,24nm,1.2s
ELK Elko 82.89 328 P **P** **09 23 10.2 -0.3**
ELK IAMs_20 IAMs_20 09 57 28.8
comp=Z,4µm,18.0s
PMOZ Porto Moniz, M 82.92 44 eS S 09 33 48.5 +19
PMOZ Porto Moniz, M 82.92 44 eLR LR 09 50 26.1
comp=Z,7µm,16.0s
AGMN Agassiz Nation 83.00 344 IAMs_20 IAMs_20 10 06 10.7
comp=Z,5µm,18.0s
AGMN Agassiz Nation 83.00 344 P **P** **09 23 08.3 -2.3**
baz=160
LBTB Lobatse 83.06 115 P **P** **09 23 10.8 -1.0**
LBTB pmax pmax
comp=Z,116nm,1.2s
LBTB Lobatse 83.06 115 P **P** **09 23 10.8 -1.0**
LBTB Lobatse 83.06 115 ⇑P **P** **09 23 11.8 0.0**
REDW Red Top Meadow 83.23 333 IAMs_20 IAMs_20 09 56 27.0
comp=Z,4µm,19.0s
SNOW Snow King Moun 83.27 333 IAMs_20 IAMs_20 09 56 29.3
comp=Z,4µm,19.0s
LOHW Long Hollow 83.34 333 IAMs_20 IAMs_20 09 56 33.5
comp=Z,7µm,20.0s
YERR Yerington 83.35 325 IAmb IAmb 09 23 25.9
comp=Z,48nm,1.2s
TPAW Teton Pass 83.37 333 P **P** **09 23 12.2 -0.8**
MDND Maddock 83.51 342 P **P** **09 23 13.2 -0.1**
MDND Maddock 83.51 342 P **P** **09 23 09.8 -3.5**
baz=157
MOOW Moose Ponds 83.51 333 IAMs_20 IAMs_20 09 56 48.6
comp=Z,5µm,20.0s
TORD Torodi Ar. Bea 83.67 70 P **P** **09 23 13.4 -1.4**
comp=Z,22nm,0.9s,baz=259,slow=3.7,SNR=33
TORD LR LR 09 57 35.7
comp=Z,13µm,20.8s,baz=235,slow=34
TORD Torodi Ar. Bea 83.67 70 P **P** **09 23 13.1 -1.8**
TORD IAmb IAmb 09 23 21.3
comp=Z,83nm,1.2s
IMW Indian Meadow 83.71 333 IAMs_20 IAMs_20 09 56 55.9
comp=Z,4µm,20.0s
FLWY Flagg Ranch 83.78 333 P **P** **09 23 13.5 -1.5**
FLWY IAmb IAmb 09 23 34.4
comp=Z,54nm,1.4s
FLWY IAMs_20 IAMs_20 09 56 48.6
comp=Z,7µm,19.0s
PAHR Pah Rah Range 83.98 325 P **P** **09 23 16.5 +0.4**
PAHR IAmb IAmb 09 25 43.2
comp=Z,31nm,0.9s
H17A Grant Village 84.00 333 P **P** **09 23 16.2 0.0**
baz=148
RLMT Red Lodge 84.13 335 IAMs_20 IAMs_20 09 58 23.0
comp=Z,3µm,18.0s
RLMT Red Lodge 84.13 335 P P 09 23 09.6 -7.1
baz=149
SNZO South Karori 84.36 224 IAMs_20 IAMs_20 09 53 42.6
comp=Z,5µm,19.0s
YMR Madison River 84.37 333 P **P** **09 23 17.9 -0.2**
YHH Holmes Hill 84.43 333 P **P** **09 23 18.4 0.0**
YHH IAmb IAmb 09 23 36.0
comp=Z,99nm,1.7s
LAO LASA Array 84.43 337 IAMs_20 IAMs_20 09 59 34.2
comp=Z,3µm,18.0s
LAO LASA Array 84.43 337 P **P** **09 23 15.9 -2.2**
baz=152
MXZ Matakaoa Point 84.44 229 IAMs_20 IAMs_20 09 51 16.8
comp=Z,5µm,22.0s
BEKR Beckworth 84.58 325 IAmb IAmb 09 23 38.1
comp=Z,62nm,1.5s
YHL Hebgen Lake 84.61 333 P **P** **09 23 19.1 -0.3**
YHL IAmb IAmb 09 23 37.1
comp=Z,51nm,1.4s
OXZ Oxford 84.62 221 IAMs_20 IAMs_20 09 52 15.2
comp=Z,5µm,20.0s
URZ Urewera 84.78 228 IAMs_20 IAMs_20 09 53 58.6
comp=Z,6µm,19.0s
HLID Hailey 84.83 331 P **P** **09 23 20.3 0.0**
HLID IAmb IAmb 09 23 38.1
comp=Z,104nm,1.8s
HLID Hailey 84.83 331 P **P** **09 23 20.2 0.0**
baz=145,SNR=20
LTZ Lake Taylor 84.84 222 IAMs_20 IAMs_20 09 51 12.0
comp=Z,4µm,22.0s
ULM Lac du Bonnet 84.84 345 P **P** **09 23 20.2 +0.3**
comp=Z,6.0nm,0.8s,baz=236,slow=9.7,SNR=3.0
ULM Lac du Bonnet 84.84 345 IAmb IAmb 09 23 35.8
comp=Z,83nm,1.4s
ULM IAMs_20 IAMs_20 10 07 07.1
comp=Z,5µm,19.0s
ORV Oroville 84.90 324 P **P** **09 23 20.4 -0.1**
ORV pmax pmax
comp=Z,118nm,1.8s
ORV Oroville 84.90 324 P **P** **09 23 20.4 -0.1**
ORV IAmb IAmb 09 23 38.6
comp=Z,118nm,1.8s
WHZ Wether Hill Ro 85.12 217 IAMs_20 IAMs_20 09 51 56.3
comp=Z,6µm,21.0s
MCMT McKenzie Canyo 85.24 332 P **P** **09 23 21.9 -0.5**
MFID Camas Ranch 85.31 330 P **P** **09 23 21.3 -1.3**
MFID IAmb IAmb 09 23 40.3
comp=Z,111nm,1.9s
DGMT Dagmar 85.37 339 P **P** **09 23 18.6 -4.2**
baz=153
BOZ Bozeman (W) 85.41 333 P **P** **09 23 22.1 -1.0**
BOZ pmax pmax
comp=Z,50nm,1.8s
BOZ Bozeman (W) 85.41 333 P **P** **09 23 22.1 -1.0**
BOZ IAMs_20 IAMs_20 09 57 34.8
comp=Z,5µm,20.0s
BOZ Bozeman (W) 85.41 333 P **P** **09 23 21.7 -1.5**
baz=148
DLMT Dillon 85.58 333 IAMs_20 IAMs_20 09 57 56.4
comp=Z,5µm,21.0s
O03E Paynes Creek 85.62 324 P **P** **09 23 20.9 -3.3**
baz=140
WVOR Wild Horse Val 85.77 327 ⇑P **P** **09 23 26.0 +1.1**
HIZ Hauiti 86.02 226 IAMs_20 IAMs_20 09 53 28.4
comp=Z,7µm,20.0s
O02D Mt. Diablo Mer 86.02 324 P P 09 23 19.7 -6.5
baz=139
MOD Modoc Plateau 86.12 326 P **P** **09 23 26.3 -0.5**
J08A Circle Bar Ran 86.42 328 P **P** **09 23 27.9 -0.3**
J08A IAmb IAmb 09 23 41.4
comp=Z,48nm,1.0s
N02D Trinity Center 86.58 324 P P 09 23 24.0 -4.9
baz=139
PLID Pearl Lake 86.73 331 P **P** **09 23 29.7 -0.1**
PLID IAmb IAmb 09 23 47.1
comp=Z,86nm,1.4s
CRZF Crozet Islands 86.75 145 IAMs_20 IAMs_20 10 03 56.3
comp=Z,4µm,18.0s
M04C Macdoel 86.77 325 P **P** **09 23 26.5 -3.4**
baz=140
EGMT Eagleton 86.79 336 IAMs_20 IAMs_20 10 07 51.4
comp=Z,4µm,18.0s
EGMT Eagleton 86.79 336 P **P** **09 23 25.9 -3.9**
baz=149
SCHQ Schefferville 86.88 3 P **P** **09 23 31.0 +1.0**
comp=Z,35nm,1.1s,baz=202,slow=3.1,SNR=6.7
SCHQ LR LR 10 02 52.6
comp=Z,3µm,20.6s,baz=176,slow=36
SCHQ Schefferville 86.88 3 P **P** **09 23 29.1 -0.9**
SCHQ Schefferville 86.88 3 ⇓P **P** **09 23 34.5 +4.6**
M02C Callahan 86.97 324 P **P** **09 23 27.0 -3.9**
baz=139
BMO Blue Mountains 87.09 330 P **P** **09 23 30.5 -0.9**
BMO pmax pmax
comp=Z,68nm,1.9s
BMO Blue Mountains 87.09 330 P **P** **09 23 30.5 -0.9**
BMO IAmb IAmb 09 23 49.6
comp=Z,68nm,1.9s
BMO IAMs_20 IAMs_20 09 58 26.2
comp=Z,5µm,18.0s
XMAS Kiritimati 87.15 274 IAMs_20 IAMs_20 09 53 20.1
comp=Z,7µm,20.0s
YBH Yreka Blue Hor 87.15 325 P **P** **09 23 32.2 +0.5**
comp=Z,2.9nm,1.0s,baz=110,slow=3.7,SNR=5.8
YBH Yreka Blue Hor 87.15 325 P **P** **09 23 29.5 -2.2**
YBH pmax pmax
comp=Z,37nm,1.5s
YBH Yreka Blue Hor 87.15 325 P **P** **09 23 29.5 -2.2**
L04D Klamath Falls 87.32 325 P **P** **09 23 30.8 -1.9**
baz=140
MSO Missoula 87.33 333 IAMs_20 IAMs_20 09 59 08.4
comp=Z,6µm,19.0s
MSO Missoula 87.33 333 P **P** **09 23 31.0 -1.5**
baz=146
K04D Chiloquin, OR 87.37 326 P P 09 23 26.8 -6.0
baz=140
I07A Izee 87.45 328 P **P** **09 23 33.3 +0.1**
I07A IAmb IAmb 09 23 51.0
comp=Z,82nm,1.7s
J05D Fort Rock, OR 87.63 326 P P 09 23 21.4 -13
baz=140
PINE Pine Mountain 87.88 327 P **P** **09 23 35.1 -0.3**
HUMO Hull Mountain 87.93 325 ⇓P P 09 23 41.3 +5.9
F10A Beach Ranch, E 87.96 330 IAmb IAmb 09 23 52.5
comp=Z,37nm,1.4s
F10A Beach Ranch, E 87.96 330 ⇓P P 09 23 41.3 +5.8
J04D Umpqua Nationa 88.01 326 P **P** **09 23 32.5 -3.5**
baz=140
K02D Willamette Mer 88.35 325 P **P** **09 23 33.5 -3.9**
baz=139
I05D Terrebonne, OR 88.48 327 P P 09 23 32.7 -5.3
baz=140
I04A Tendick Farm, 88.57 326 P **P** **09 23 35.6 -2.8**
baz=140
J01E Myrtle Point 88.82 325 P **P** **09 23 36.8 -2.7**
baz=138
OUZ Omahuta 88.87 228 IAMs_20 IAMs_20 09 58 45.1
comp=Z,4µm,19.0s
I03D Drain, OR 88.94 326 P P 09 23 34.3 -5.8
baz=139
WALA Waterton Lakes 89.15 334 P **P** **09 23 40.5 -0.6**
WALA IAmb IAmb 09 23 58.1
comp=Z,90nm,1.4s
WALA IAMs_20 IAMs_20 10 01 17.4
comp=Z,6µm,18.0s
G05D Wamic, OR 89.17 328 P **P** **09 23 38.0 -3.2**
baz=140
AVE Averroes 89.26 49 P P 09 23 31.9 -10
AVE S S 09 34 21.5 -10
HAWA Hanford 89.27 329 IAMs_20 IAMs_20 09 58 49.7
comp=Z,5µm,20.0s
HAWA Hanford 89.27 329 ⇓P P 09 23 48.3 +6.7
H04D Lebanon 89.28 326 P **P** **09 23 38.9 -2.7**
baz=139
I02D Swisshome 89.49 326 P **P** **09 23 40.4 -2.2**
baz=139
F05D White Salmon 89.72 328 P **P** **09 23 40.0 -3.7**
baz=140
NEW Newport 89.75 332 P **P** **09 23 46.9 +3.1**
comp=Z,4.7nm,1.0s,baz=146,slow=5.4,SNR=4.6
NEW Newport 89.75 332 IAMs_20 IAMs_20 10 00 18.5
comp=Z,4µm,20.0s
NEW Newport 89.75 332 P P 09 23 38.7 -5.1
baz=143
C09A Chrisman Ranch 89.85 331 P **P** **09 23 43.8 -0.4**
C09A IAmb IAmb 09 24 01.2
comp=Z,69nm,1.6s
G03D McMinnville, O 90.04 327 P P 09 23 39.9 -5.2
baz=139
LSZ Lusaka 90.38 108 P **P** **09 23 47.5 -0.3**
LSZ pmax pmax
comp=Z,76nm,1.3s
LSZ Lusaka 90.38 108 P **P** **09 23 47.5 -0.3**
LSZ IAmb IAmb 09 23 55.8
comp=Z,76nm,1.3s
LSZ Lusaka 90.38 108 ⇑P **P** **09 23 50.1 +2.4**
FFC Flin Flon 90.41 343 IAMs_20 IAMs_20 10 12 33.2
comp=Z,4µm,18.0s
LTY Liberty 90.43 329 IAmb IAmb 09 24 25.7
comp=Z,73nm,1.9s
F04D Rainier, OR 90.58 327 P **P** **09 23 44.5 -3.2**
baz=139
AFI Afiamalu 90.65 253 IAMs_20 IAMs_20 09 55 42.3
comp=Z,6µm,19.0s
E04D Cinebar 90.73 328 P **P** **09 23 43.7 -4.7**
baz=140
PFVI Vila Bisbo 90.86 46 eS **S** **09 34 50.2 +4.3**
IFR Ifrane 90.88 50 P **P** **09 23 53.1 +3.4**
IFR S S 09 34 23.1 -23

C06D	**Leavenworth** baz=141	**91.04**	**330**	P		**P**		09 23 44.1		-5.7
MORF	**Marmelete**	**91.08**	**46**	*e*P		**P**		**09 23 50.6**		**+0.3**
MORF				*e*SKSac		**SKSac**		**09 34 22.6**		**+0.3**
MORF				IAMs_20	IAMs_20			10 02 58.0		
	comp=Z,18µm,20.2s									
MORF	**Marmelete**	**91.08**	**46**	*e*P		**P**		**09 23 50.6**		**+0.3**
MORF				*e*				09 34 22.6		
MORF	**Marmelete**	**91.08**	**46**	*e*S		**S**		**09 34 52.0**		**+4.0**
PBDV	**Barranco-do-Ve**	**91.47**	**46**	*e*S		**S**		**09 34 56.8**		**+5.2**
PCVE	**Castro Verde**	**91.66**	**46**	*e*S		**S**		**09 34 59.3**		**+6.1**
PNCL	**Nicolau / Gran**	**91.68**	**45**	*e*S		**S**		**09 34 56.2**		**+2.9**
MESJ	**Messejana**	**91.69**	**45**	*e*P		**P**		**09 23 53.5**		**+0.4**
MESJ				*e*SKSac		**SKSac**		**09 34 26.0**		**+0.5**
MESJ				IAMs_20	IAMs_20			10 06 51.2		
	comp=Z,14µm,16.2s									
MESJ	**Messejana**	**91.69**	**45**	*e*P		**P**		**09 23 53.4**		**+0.4**
MESJ				*e*				09 34 26.0		
LIS	**Lisbon**	**91.70**	**44**	*e*P		**P**		**09 23 53.5**		**+0.4**
LIS				IAMs_20	IAMs_20			10 01 24.5		
	comp=Z,12µm,25.3s									
LIS	**Lisbon**	**91.70**	**44**	*e*P		**P**		**09 23 53.5**		**+0.4**
PVAQ	**Vaqueiros**	**91.71**	**46**	*e*S		S		09 35 02.6		+9.0
PVAQ	**Vaqueiros**	**91.71**	**46**	*e*LR		LR		09 54 54.1		
	comp=Z,19µm,20.0s									
PMAFR	**Mafra**	**91.78**	**44**	*e*S		**S**		**09 34 58.9**		**+4.7**
B05A	**Bryant** baz=140	**91.82**	**329**	P		**P**		**09 23 48.8**		**-4.6**
NLWA	**Neilton Lookou**	**91.95**	**328**	IAMs_20	IAMs_20			10 11 34.7		
	comp=Z,3µm,18.0s									
SFS	**San Fernando**	**92.04**	**47**	P		**P**		**09 23 57.4**		**+2.7**
SFS				S		**SKSac**		**09 34 33.6**		**+6.0**
ARNO	**Arenosillo**	**92.12**	**47**	P		**P**		**09 23 55.6**		**+0.6**
ARNO				S		**SKSac**		**09 34 33.6**		**+5.6**
CEU	**Ceuta**	**92.21**	**48**	P		**P**		**09 23 55.7**		**+0.2**
CEU				S		**SKSac**		**09 34 29.8**		**+1.2**
EVO	**Evora**	**92.26**	**45**	P		**P**		**09 23 54.0**		**-1.6**
EVO				S		**SKSac**		**09 34 30.0**		**+1.2**
A04D	**Lummi Island** baz=139	**92.43**	**329**	P		**P**		**09 23 51.6**		**-4.6**
PSBE	**So Bento**	**92.43**	**44**	*e*S		S		09 35 10.6		+10
PVLZ	**Peæn de**	**92.44**	**49**	P		**P**		**09 23 54.6**		**-2.0**
PVLZ				S		**SKSac**		**09 34 29.9**		**0.0**
PMTG	**Montargil**	**92.48**	**44**	*e*S		**S**		**09 35 04.8**		**+4.3**
FCC	**Fort Churchill**	**92.55**	**349**	IAMs_20	IAMs_20			10 11 13.3		
	comp=Z,5µm,19.0s									
PESTR	**Estremoz**	**92.73**	**45**	*e*S		**S**		**09 35 07.3**		**+4.6**
PCAS	**Casmilo, Conde**	**92.96**	**44**	*e*S		**S**		**09 35 07.8**		**+3.1**
COI	**Coimbra**	**93.11**	**43**	*e*S		**S**		**09 35 11.0**		**+5.0**
PMRV	**Marv??o**	**93.21**	**45**	*e*S		**S**		**09 35 10.6**		**+3.6**
PMRV	**Marv??o**	**93.21**	**45**	*e*LR		LR		09 55 22.5		
	comp=Z,9µm,22.0s									
EMAL	**Malaga-Limoner**	**93.34**	**48**	P		P		09 23 54.9		-5.8
EMAL				S		**SKSac**		**09 34 33.7**		**-1.1**
MELI	**Melilla**	**93.40**	**50**	P		**P**		**09 23 57.2**		**-3.8**
MELI				S		**SKSac**		**09 34 40.9**		**+5.7**
LLLB	**Lillooet**	**93.52**	**331**	IAMs_20	IAMs_20			10 01 59.6		
	comp=Z,3µm,20.0s									
MTE	**Manteigas**	**93.74**	**44**	*e*S		**S**		**09 35 15.7**		**+4.0**
MTE	**Manteigas**	**93.74**	**44**	*e*LR		LR		09 55 10.9		
	comp=Z,9µm,22.0s									
POLO	**Lamas de Olo**	**94.22**	**43**	*e*S		**S**		**09 35 20.3**		**+4.4**
PGAV	**Gavieira, Arco**	**94.33**	**42**	*e*S		**S**		**09 35 21.8**		**+4.9**
PGAV	**Gavieira, Arco**	**94.33**	**42**	*e*LR		LR		09 55 21.8		
	comp=Z,10µm,20.0s									
MVO	**Moncorvo**	**94.53**	**43**	*e*S		**SKSac**		**09 34 48.3**		**+7.0**
MVO	**Moncorvo**	**94.53**	**43**	*e*LR		LR		09 55 24.9		
	comp=Z,9µm,22.0s									
PUH	**Pauahi**	**94.57**	**290**	IAMs_20	IAMs_20			09 57 45.2		
	comp=Z,3µm,18.0s									
KHU	**Kahuku**	**94.82**	**290**	IAMs_20	IAMs_20			10 00 28.8		
	comp=Z,4µm,18.0s									
HMH	**Humu'ula Sheep**	**94.90**	**290**	IAMs_20	IAMs_20			09 59 16.1		
	comp=Z,4µm,19.0s									
POHA	**Pohakuloa**	**95.02**	**290**	IAMs_20	IAMs_20			10 03 50.0		
	comp=Z,4µm,18.0s									
ESDC	**Sonseca Array**	**95.42**	**46**	LR		LR		10 06 24.8		
	comp=Z,13µm,19.1s,baz=255,slow=35									
ESDC	**Sonseca Array**	**95.42**	**46**	P		**P**		**09 24 11.7**		**+1.4**
CART	**Cartagena**	**96.02**	**49**	P		**P**		**09 24 13.5**		**+0.5**
CART				S		**SKSac**		**09 34 50.1**		**+0.9**
CART	**Cartagena**	**96.02**	**49**	IAMs_20	IAMs_20			10 06 55.9		
	comp=Z,6µm,20.0s									
UCM	**Universidad Co**	**96.25**	**46**	P		**P**		**09 24 11.0**		**-3.0**
UCM				S		**SKSac**		**09 34 56.9**		**+6.5**
MSVF	**Nonsavu**	**96.51**	**244**⇑	*e*P		**P**		**09 24 13.9**		**-2.0**
MSVF				pmax	pmax					
	comp=Z,44nm,1.6s									
MSVF				MLR	MLR					
	comp=Z,5µm,16.0s									
MSVF	**Nonsavu**	**96.51**	**244**	IAMs_20	IAMs_20			10 01 19.4		
	comp=Z,3µm,18.0s									
TAU	**Tasmania Unive**	**96.90**	**208**	IAMs_20	IAMs_20			09 58 08.4		
	comp=Z,5µm,20.0s									
KIP	**Kipapa**	**97.87**	**290**	IAMs_20	IAMs_20			10 02 14.4		
	comp=Z,4µm,19.0s									
SFJD	**Kangerlussuaq**	**100.31**	**8**	IAMs_20	IAMs_20			10 12 44.7		
	comp=Z,3µm,19.0s									
VOI	**Vohitsoka**	**100.53**	**124**	IAMs_20	IAMs_20			10 14 43.7		
	comp=Z,4µm,18.0s									
ANGG	**Ammassalik, Gr**	**101.17**	**14**	IAMs_20	IAMs_20			10 06 48.3		
	comp=Z,5µm,21.0s									
WRAK	**Wrangell Islan**	**102.03**	**330**	IAMs_20	IAMs_20			10 19 57.4		
	comp=Z,3µm,19.0s									
TOO	**Toolangi**	**102.15**	**210**	IAMs_20	IAMs_20			10 00 37.5		
	comp=Z,6µm,20.0s									
DZM	**Mont Dzumac**	**102.21**	**234**	*e*SKSac		**SKSac**		**09 35 21.9**		**+0.5**
	comp=Z,2µm,26.1s									
DZM	**Mont Dzumac**	**102.21**	**234**	*e*PS		PS		09 38 02.0		+3.1
	comp=Z,2µm,26.4s									
DZM				*e*SS		SS		09 43 31.7		+2.5
	comp=Z,8µm,27.1s									
DZM	**Mont Dzumac**	**102.21**	**234**	*e*LQ		LQ		09 53 45.8		
	comp=Z,3µm,36.8s									
DZM				*e*LR		LR		09 58 05.1		
	comp=Z,9µm,23.1s,baz=135									
ILULI	**Ilulissat**	**102.37**	**8**	IAMs_20	IAMs_20			10 19 40.5		
	comp=Z,5µm,19.0s									
DLBC	**Dease Lake**	**102.45**	**333**	IAMs_20	IAMs_20			10 19 35.1		
	comp=Z,5µm,19.0s									
CAN	**Canberra**	**102.48**	**213**	IAMs_20	IAMs_20			10 01 08.3		
	comp=Z,4µm,21.0s									
SIT	**Sitka**	**103.70**	**330**	IAMs_20	IAMs_20			10 21 02.6		
	comp=Z,4µm,19.0s									
JIS	**Juneau Island**	**104.08**	**331**	IAMs_20	IAMs_20			10 20 16.6		
	comp=Z,4µm,19.0s									
JOHN	**Johnston Islan**	**104.91**	**281**	IAMs_20	IAMs_20			10 05 25.2		
	comp=Z,5µm,18.0s									
SKAG	**Skagway**	**105.21**	**332**	IAMs_20	IAMs_20			10 21 31.5		
	comp=Z,4µm,18.0s									
SUMG	**Summit**	**107.13**	**10**	IAMs_20	IAMs_20			10 15 50.3		
	comp=Z,5µm,19.0s									
BCPM	**Bancas Point**	**107.25**	**331**	IAMs_20	IAMs_20			10 23 02.5		
	comp=Z,3µm,19.0s									
RES	**Resolute Bay**	**107.76**	**354**	IAMs_20	IAMs_20			10 16 19.8		
	comp=Z,4µm,22.0s									
DAVA	**Damuels**	**107.99**	**45**	*e*P		**PKiKP**		**09 29 13.8**		**+0.5**
	comp=Z,7.3nm,1.0s									
TABL	**Table Mountain**	**108.15**	**331**	IAMs_20	IAMs_20			10 23 38.2		
	comp=Z,3µm,19.0s									
LOGN	**Logan Glacier**	**108.31**	**331**	IAMs_20	IAMs_20			10 23 25.3		
	comp=Z,3µm,19.0s									
MESA	**MESA**	**108.34**	**330**	IAMs_20	IAMs_20			10 24 18.2		
	comp=Z,3µm,18.0s									
YAH	**Yahtse**	**108.36**	**331**	IAMs_20	IAMs_20			10 23 54.6		
	comp=Z,4µm,20.0s									
CTGM	**Chitina Glacie**	**108.52**	**331**	IAMs_20	IAMs_20			10 23 41.0		
	comp=Z,3µm,19.0s									
SCO	**Scoresbysund**	**108.56**	**16**	IAMs_20	IAMs_20			10 11 58.3		
	comp=Z,3µm,20.0s									
GRNC	**Granite Creek**	**108.56**	**331**	IAMs_20	IAMs_20			10 21 43.1		
	comp=Z,3µm,20.0s									
RETA	**Reutte**	**108.61**	**45**	*e*P		**PKiKP**		**09 29 15.0**		**+0.6**
	comp=Z,7.3nm,1.1s									
ISLE	**Juniper Island**	**108.74**	**331**	IAMs_20	IAMs_20			10 16 53.6		
	comp=Z,3µm,20.0s									
MOTA	**Moosalm**	**108.75**	**45**	*e*P		**PKiKP**		**09 29 18.4**		**+3.7**
	comp=Z,9.7nm,1.6s									
WAX	**Waxell Ridge**	**108.87**	**330**	IAMs_20	IAMs_20			10 24 13.1		
	comp=Z,3µm,18.0s									
CRQM	**Cirque**	**109.15**	**331**	IAMs_20	IAMs_20			10 14 00.0		
	comp=Z,3µm,19.0s									
BERG	**Berg Lake**	**109.19**	**330**	IAMs_20	IAMs_20			10 25 34.8		
	comp=Z,4µm,18.0s									
ABTA	**Abfaltersbach**	**109.34**	**47**	*e*P		**PKiKP**		**09 29 18.4**		**+2.5**
	comp=Z,4.5nm,0.6s									
MCARA	**McCarthy VSAT**	**109.44**	**331**	IAMs_20	IAMs_20			10 24 17.2		
	comp=Z,3µm,18.0s									
DAWY	**Dawson**	**109.50**	**335**	IAMs_20	IAMs_20			10 24 27.3		
	comp=Z,4µm,19.0s									
VRDI	**Verde Repeater**	**109.53**	**331**	IAMs_20	IAMs_20			10 22 11.7		
	comp=Z,3µm,21.0s									
L27K	**Beaver Creek,**	**109.86**	**333**	IAMs_20	IAMs_20			10 17 26.4		
	comp=Z,3µm,20.0s									
BMRM	**Bremner River**	**109.88**	**330**	IAMs_20	IAMs_20			10 24 42.7		
	comp=Z,3µm,20.0s									
GRFO	**Grafenberg**	**109.89**	**43**	IAMs_20	IAMs_20			10 13 47.1		
	comp=Z,4µm,20.0s									
GRA1	**Grafenberg Arr**	**109.89**	**43**	IAMs_20	IAMs_20			10 14 17.1		
	comp=Z,4µm,20.0s									
EPYK	**Eagle Plains**	**109.89**	**337**	IAMs_20	IAMs_20			10 13 20.4		
	comp=Z,4µm,20.0s									
M26K	**Nabesna, AK**	**109.96**	**332**	IAMs_20	IAMs_20			10 24 16.1		
	comp=Z,4µm,19.0s									
BBOO	**Buckleboo**	**110.01**	**205**	IAMs_20	IAMs_20			10 05 02.4		
	comp=Z,3µm,20.0s									
N25K	**Chitina, Valde**	**110.20**	**331**	IAMs_20	IAMs_20			10 20 16.3		
	comp=Z,2µm,20.0s									
A36M	**Sachs Harbour**	**110.32**	**345**	IAMs_20	IAMs_20			10 19 16.0		
	comp=Z,4µm,18.0s									
HIN	**Hinchinbrook I**	**110.39**	**329**	IAMs_20	IAMs_20			10 17 40.4		
	comp=Z,3µm,20.0s									
L26K	**Log Cabin Wild**	**110.43**	**333**	IAMs_20	IAMs_20			10 23 52.4		
	comp=Z,3µm,18.0s									
K27K	**Chicken**	**110.47**	**334**	IAMs_20	IAMs_20			10 15 38.5		
	comp=Z,3µm,20.0s									
EGAK	**Eagle**	**110.53**	**335**	IAMs_20	IAMs_20			10 22 14.2		
	comp=Z,3µm,18.0s									
FID	**Port Fidalgo**	**110.56**	**330**	IAMs_20	IAMs_20			10 15 41.8		
	comp=Z,3µm,19.0s									
KLU	**Klutina**	**110.69**	**330**	IAMs_20	IAMs_20			10 23 00.3		
	comp=Z,3µm,20.0s									
SOKA	**Soboth**	**110.87**	**47**	*e*P		**PKiKP**		**09 29 23.9**		**+5.2**
	comp=Z,5.0nm,1.2s									
KHC	**Kasperske Hory**	**111.03**	**45**	*e*PP		PP		09 29 43.5		-14
KHC				*e*SP		SP		09 39 29.6		+2.5
KHC				AMS		AMS		10 20 10.0		
	comp=Z,8µm,17.5s									
M24K	**Tolsona, Glenn**	**111.10**	**331**	IAMs_20	IAMs_20			10 25 16.1		
	comp=Z,3µm,19.0s									
SCRK	**Sand Creek**	**111.16**	**333**	IAMs_20	IAMs_20			10 16 00.9		
	comp=Z,4µm,20.0s									
CKRC	**Cesky Krumlov**	**111.33**	**45**	*e*PP		**PP**		**09 29 55.7**		**-4.4**
CKRC				*e*SP		SP		09 39 27.8		-2.1
RIDG	**Independent Ri**	**111.37**	**333**	IAMs_20	IAMs_20			10 14 24.4		
	comp=Z,3µm,20.0s									
CLL	**Collm**	**111.61**	**42**	*e*Pdif		**Pdif**		**09 25 25.0**		**+2.8**
CLL				*e*				09 25 39.0		
CLL				*e*PP		**PP**		**09 30 03.0**		**+1.0**
CLL				*e*				09 30 25.0		
CLL				*e*				09 30 43.0		
CLL				*e*SKSac		**SKSac**		**09 36 06.0**		**+5.2**
CLL				*e*SKKSac		**SKKSac**		**09 37 06.0**		**+2.2**
CLL				*e*Sdif		**Sdif**		**09 37 41.0**		**-0.7**
CLL				*e*PS		**PS**		**09 39 36.0**		**+1.9**
CLL				*e*PPS		PPS		09 40 43.0		
CLL				Lm		MLR		10 16 00.0		
	comp=N,5µm,19.9s									
CLL				Lm		MLR		10 16 00.0		
	comp=E,6µm,19.7s									
CLL				Lm		MLR		10 16 00.0		
	comp=Z,9µm,19.7s									
CLL				Lm		MLR		14 58 00.0		
	comp=N,100nm,18.9s									
CLL				Lm		MLR		14 58 00.0		
	comp=E,100nm,18.7s									
CLL				Lm		MLR		14 58 00.0		
	comp=Z,100nm,18.1s									
CLL	**Collm**	**111.61**	**42**	*e*P		**Pdif**		**09 25 25.0**		**+2.8**
CLL				*e*				09 30 03.0		
CLL				MLR		MLR				
	comp=Z,9µm,19.7s									
KNK	**Knik Glacier**	**111.72**	**330**	IAMs_20	IAMs_20			10 25 42.5		
	comp=Z,4µm,21.0s									
O22K	**Cooper Landing**	**111.84**	**329**	IAMs_20	IAMs_20			10 26 44.7		
	comp=Z,3µm,18.0s									
CONA	**Conrad Observa**	**111.91**	**46**	*e*P		**PKiKP**		**09 29 19.0**		**-1.7**
	comp=Z,5.7nm,1.5s									
PRA	**Prague**	**111.93**	**44**	*e*SP		SP		09 39 33.2		-2.0
PRA				AMS		AMS		10 17 00.0		
	comp=Z,5µm,19.2s									
PRU	**Pruhonice**	**111.96**	**44**	*e*PP		**PP**		**09 29 59.0**		**-5.5**
PRU				*e*SP		SP		09 39 34.2		-1.3
PRU				AMS		AMS		10 16 20.0		
	comp=Z,4µm,19.4s									
KDAK	**Kodiak Island**	**111.96**	**325**	IAMs_20	IAMs_20			10 11 28.7		
	comp=Z,3µm,18.0s									
BRLK	**Bradley Lake**	**112.04**	**328**	IAMs_20	IAMs_20			10 09 02.9		
	comp=Z,3µm,18.0s									
DHY	**Denali Highway**	**112.05**	**332**	IAMs_20	IAMs_20			10 25 56.3		
	comp=Z,2µm,18.0s									
GHO	**Glory Hole Cre**	**112.08**	**330**	IAMs_20	IAMs_20			10 26 08.1		
	comp=Z,3µm,20.0s									
RC01	**Rabbit Creek A**	**112.12**	**329**	IAMs_20	IAMs_20			10 18 44.1		
	comp=Z,3µm,21.0s									
PVCC	**Panska Ves**	**112.19**	**43**	*e*PP		**PP**		**09 30 02.3**		**-3.9**
PVCC				*e*SP		SP		09 39 33.7		-4.0
PVCC				AMS		AMS		10 17 00.0		
	comp=Z,8µm,19.2s									
SII	**Sitkinak Islan**	**112.22**	**324**	IAMs_20	IAMs_20			10 07 28.6		
	comp=Z,3µm,18.0s									
TREC	**Trest**	**112.23**	**45**	*e*PP		PP		09 29 04.8		-62
TREC				*e*SP		SP		09 39 12.4		-26
TREC				AMS		AMS		10 16 40.0		
	comp=Z,6µm,20.0s									
FIS	**Fire Island**	**112.36**	**329**	IAMs_20	IAMs_20			10 18 50.3		
	comp=Z,3µm,21.0s									
EUNU	**Eureka**	**112.39**	**357**	IAMs_20	IAMs_20			10 21 18.2		
	comp=Z,5µm,20.0s									
PRP	**Porcupine Dome**	**112.50**	**334**	IAMs_20	IAMs_20			10 25 20.2		
	comp=Z,3µm,18.0s									
HDA	**Harding Lake**	**112.51**	**333**	IAMs_20	IAMs_20			10 16 52.4		
	comp=Z,3µm,19.0s									
CAPN	**Captain Cook N**	**112.60**	**329**	IAMs_20	IAMs_20			10 24 05.7		
	comp=Z,3µm,20.0s									
CHIR	**Chirikof Islan**	**112.65**	**323**	IAMs_20	IAMs_20			10 06 58.8		
	comp=Z,4µm,19.0s									
ILAR	**Eielson Array**	**112.65**	**333**	PKiKP		**PKiKP**		**09 29 25.4**		**+4.0**
	comp=Z,0.7nm,0.8s,baz=270,slow=0.9,SNR=5.2									
ILAR	**Eielson Array**	**112.65**	**333**	*i* PKIKP		**PKiKP**		**09 29 21.9**		**+0.5**
ILAR	**Eielson Array**	**112.65**	**333**			**PKiKP**		**09 29 21.9**		**+0.5**
KRUC	**Moravsky**	**112.69**	**45**	*e*PP		**PP**		**09 30 09.1**		**-0.7**
KRUC				*e*PS		**SP**		**09 39 41.3**		**-1.0**
SUA	**Susitna One**	**112.73**	**329**	IAMs_20	IAMs_20			10 26 36.1		
	comp=Z,3µm,20.0s									
RND	**Reindeer**	**112.80**	**332**	IAMs_20	IAMs_20			10 27 20.1		
	comp=Z,2µm,20.0s									
FYU	**Fort Yukon**	**112.89**	**335**	IAMs_20	IAMs_20			10 16 25.7		
	comp=Z,3µm,19.0s									
VRAC	**Vranov**	**112.90**	**45**	*e*PP		**PP**		**09 30 10.9**		**-0.5**
VRAC				*e*PS		**PS**		**09 39 44.7**		**-1.4**
CUT	**Chulitna**	**112.94**	**330**	IAMs_20	IAMs_20			10 26 29.5		
	comp=Z,3µm,20.0s									
CCB	**Clear Creek Bu**	**112.95**	**333**	IAMs_20	IAMs_20			10 15 31.0		
	comp=Z,3µm,20.0s									
MCK	**McKinley**	**112.97**	**332**	IAMs_20	IAMs_20			10 27 28.7		
	comp=Z,3µm,19.0s									
WRH	**Wood River Hil**	**112.98**	**333**	IAMs_20	IAMs_20			10 17 06.8		
	comp=Z,4µm,18.0s									
POKR	**Poker Plat Res**	**113.02**	**334**	IAMs_20	IAMs_20			10 15 50.9		
	comp=Z,2µm,21.0s									
UPC	**Upice**	**113.03**	**44**	*e*PKP		**PKiKP**		**09 29 29.4**		**+6.8**
UPC				*e*SP		SP		09 39 43.2		-2.1
UPC				AMS		AMS		10 17 40.0		
	comp=Z,5µm,18.4s									
COLA	**College**	**113.07**	**333**	IAMs_20	IAMs_20			10 15 54.3		
	comp=Z,3µm,20.0s									
TCOL	**CIGO, UAF Yank**	**113.07**	**333**	IAMs_20	IAMs_20			10 15 54.3		
	comp=Z,3µm,20.0s									
CHVC	**Chvalec**	**113.09**	**44**	AMS	AMS			10 17 30.0		
	comp=Z,5µm,19.3s									
RGN	**Rugen**	**113.12**	**39**	IAMs_20	IAMs_20			10 16 18.2		
	comp=Z,4µm,20.0s									
DPC	**Dobruska-Polom**	**113.15**	**44**	*e*PP		PP		09 30 04.0		-9.1
DPC				*e*SP		SP		09 39 46.8		+0.3
DPC				AMS		AMS		10 18 40.0		
	comp=Z,4µm,20.3s									
OSTC	**Ostas**	**113.17**	**44**	*e*PP		PP		09 29 40.9		-32
OSTC				*e*SP		SP		09 39 43.6		-3.0
OSTC				AMS		AMS		10 17 40.0		
	comp=Z,5µm,19.4s									
MDM	**Murphy Dome**	**113.25**	**333**	IAMs_20	IAMs_20			10 15 59.0		
	comp=Z,3µm,20.0s									
SKT	**Skwentna**	**113.29**	**330**	IAMs_20	IAMs_20			10 25 08.9		
	comp=Z,2µm,19.0s									
KONO	**Kongsberg**	**113.31**	**33**	IAMs_20	IAMs_20			10 14 52.1		
	comp=Z,5µm,20.0s									
KRLC	**Kraliky**	**113.32**	**45**	*e*PP		**PP**		**09 30 10.5**		**-3.8**
KRLC				AMS	AMS			10 16 20.0		
	comp=Z,5µm,18.8s									
BWN	**Browne**	**113.38**	**332**	IAMs_20	IAMs_20			10 27 37.7		
	comp=Z,3µm,19.0s									
JAVC	**Velka Javorina**	**113.38**	**46**	*e*PP		**PP**		**09 30 10.3**		**-4.5**
TRF	**Thorofare Moun**	**113.40**	**331**	IAMs_20	IAMs_20			10 27 39.4		
	comp=Z,3µm,18.0s									
NEA2	**Nenana**	**113.41**	**333**	IAMs_20	IAMs_20			10 17 20.2		
	comp=Z,3µm,19.0s									
H24K	**Noodor Dome**	**113.51**	**334**	IAMs_20	IAMs_20			10 22 00.9		
	comp=Z,4µm,19.0s									
MORC	**Moravsky Berou**	**113.66**	**45**	⇑P		**Pdif**		**09 25 32.9**		**+1.6**
MORC				⇑P		**Pdif**		**09 25 33.0**		**+1.6**
MORC				⇓P		**sPdif**		**09 25 35.9**		**+0.4**
KTH	**Kantishna Hill**	**113.70**	**331**	IAMs_20	IAMs_20			10 28 04.8		
	comp=Z,2µm,18.0s									
I23K	**Minto, Yukon-K**	**113.76**	**333**	IAMs_20	IAMs_20			10 27 01.6		
	comp=Z,2µm,18.0s									
O19K	**Port Alsworth**	**113.79**	**327**	IAMs_20	IAMs_20			10 27 29.1		
	comp=Z,3µm,20.0s									
BPAW	**Bear Paw Mtn.**	**113.95**	**332**	IAMs_20	IAMs_20			10 25 32.6		
	comp=Z,2µm,21.0s									
OKC	**Ostrava-Krasne**	**114.04**	**45**	*e*PP		**PP**		**09 30 13.8**		**-5.6**
OKC				*e*SP		SP		09 39 59.0		+4.4
OKC				AMS		AMS		10 17 30.0		
	comp=Z,6µm,20.0s									
N19K	**Bonanza Creek**	**114.11**	**328**	IAMs_20	IAMs_20			10 28 00.5		
	comp=Z,4µm,19.0s									
CAST	**Castle Rocks**	**114.12**	**331**	IAMs_20	IAMs_20			10 25 41.9		
	comp=Z,3µm,18.0s									
H23K	**Yukon River**	**114.12**	**334**	IAMs_20	IAMs_20			10 25 56.1		
	comp=Z,4µm,18.0s									
MLY	**Manley**	**114.24**	**333**	IAMs_20	IAMs_20			10 16 20.3		
	comp=Z,3µm,19.0s									
CNBA	**Chernabura Isl**	**114.34**	**321**	IAMs_20	IAMs_20			10 06 58.7		
	comp=Z,4µm,20.0s									
M19K	**Big River Lodg**	**114.49**	**329**	IAMs_20	IAMs_20			10 28 29.7		
	comp=Z,3µm,19.0s									
NWAO	**Narrogin (SRO)**	**114.54**	**189**	IAMs_20	IAMs_20			10 15 05.2		
	comp=Z,3µm,19.0s									
ALE	**Alert**	**114.67**	**1**	IAMs_20	IAMs_20		

H11N3	**WAKE ISLAND Hyl**	**26.11**	**272**		T	T		11 49 13.8		
	baz=152,slow=74,SNR=15									
H11N2	**WAKE ISLAND Hyl**	**26.12**	**272**		T	T		11 49 15.1		
	baz=122,slow=74,SNR=27									
WAKE	**Wake Island**	**126.13**	**271**		IAMs_20	IAMs_20		10 13 58.5		
	comp=Z,3μm,19.0s									
OBN	**Obninsk**	**126.21**	**42**		PKP	**PKiKP**		**09 29 49.5**	**+1.4**	
	comp=Z,5.7nm,0.4s,baz=161,slow=22,SNR=4.0									
OBN	**Obninsk**	**126.21**	**42**	⇑	*i*PKIKP	**PKPdf**		**09 29 46.6**	**-1.1**	
OBN					*e*			09 31 51.3		
OBN					*e*PS	**PS**		**09 41 33.0**	**-12**	
OBN					*e*SS	SS		09 48 58.0	+12	
OBN					pmax	pmax				
	comp=Z,12nm,0.4s									
OBN					MLR	MLR				
	comp=Z,7μm,21.0s									
SOC	**Sochi**	**126.43**	**57**		*e*PKIKP	**PKPdf**		**09 29 42.4**	**-6.1**	
SOC					*e*PPP	PPP		09 34 26.6		
SOC					*i* PS	**PS**		**09 41 50.0**	**+2.2**	
SOC					*e*SSS	SSS		09 53 19.2		
MOS	**Moscow**	**126.87**	**42**		*i* PKIKP	**PKPdf**		**09 29 48.0**	**-0.9**	
MOS					*e*			09 31 55.1		
MOS					MLR	MLR				
	comp=Z,6μm,20.0s									
FITZ	**Fitzroy Crossi**	**127.10**	**201**		PKP	**PKiKP**		**09 29 52.2**	**+1.0**	
	comp=Z,2.6nm,0.7s,baz=178,slow=6.4,SNR=3.0									
KLMR	**Klimovskoe**	**128.04**	**35**		*e*PKiKP	**PKiKP**		**09 29 51.5**	**-0.1**	
KLMR					pmax	pmax				
	comp=Z,45nm,1.3s									
KLMR					MLR	MLR				
	comp=Z,4μm,18.0s									
KLMR	**Klimovskoe**	**128.04**	**35**		*e*PKPdf	**PKiKP**		**09 29 51.6**	**-0.1**	
KLMR					AMP			09 30 05.2		
	comp=Z,45nm,1.3s									
KLMR					LQ	LQ		10 10 23.7		
KLMR					LQ	LQ		10 10 23.7		
KLMR					LR	LR		10 12 33.5		
KLMR					AMP			10 27 16.5		
	comp=Z,4μm,17.9s									
KIV	**Kislovodsk**	**128.61**	**57**		*e*P	**Pdif**		**09 26 37.6**	**-0.5**	
KIV					*i*			09 29 52.8		
KIV					*e*			09 31 58.9		
KIV					*e*PS	**PS**		**09 42 07.1**	**0.0**	
KIV					pmax	pmax				
	comp=Z,12nm,1.1s									
KIV					MLR	MLR				
	comp=Z,3μm,23.0s									
KIV	**Kislovodsk**	**128.61**	**57**		IAMs_20	IAMs_20		10 28 11.9		
	comp=Z,2μm,20.0s									
KBZ	**Khabaz**	**128.72**	**57**		PKP	**PKiKP**		**09 29 54.7**	**+1.2**	
	comp=Z,4.5nm,0.9s,baz=237,slow=1.6,SNR=6.1									
KBZ	**Khabaz**	**128.72**	**57**	⇑	*i*PKIKP	**PKiKP**		**09 29 53.8**	**+0.3**	
GNI	**Garni**	**129.38**	**62**	⇓	*i*PKIKP	**PKPdf**		**09 29 52.1**	**-2.4**	
PRGR	**Permogore**	**130.94**	**34**		*e*PKIKP	**PKiKP**		**09 29 57.8**	**+0.4**	
PRGR					pmax	pmax				
	comp=Z,151nm,1.4s									
BILL	**Bilibino**	**131.28**	**335**		*i*PKIKP	**PKPdf**		**09 29 56.7**	**-0.3**	
BILL					*e*SS	SS		09 49 36.8	-11	
BILL					pmax	pmax				
	comp=Z,49nm,1.9s									
BILL					MLR	MLR				
	comp=Z,2μm,17.0s									
AKT	**Akhty**	**131.86**	**61**		*e*PKIKP	**PKiKP**		**09 30 01.1**	**+1.0**	
AKT					*e*			09 32 21.9		
AKT					pmax	pmax				
	comp=Z,28nm,1.0s									
MAK	**Makhachkala**	**131.92**	**59**		*e*P	**Pdif**		**09 26 37.6**	**-15**	
MAK					*e*PPP	PPP		09 35 08.5		
MAK					*e*			09 37 09.0		
MAK					pmax	pmax				
	comp=Z,64nm,1.0s									
BELG	**Belogornoye**	**132.64**	**46**		PKP	**PKiKP**		**09 30 01.4**	**+0.3**	
	comp=Z,11nm,0.9s,baz=301,slow=2.9,SNR=5.2									
KIRV	**Kirov**	**133.21**	**38**		PKP	**PKiKP**		**09 30 02.3**	**+0.2**	
	comp=Z,5.1nm,0.4s,baz=274,slow=3.1,SNR=6.9									
KIRV	**Kirov**	**133.21**	**38**	⇓	*i*PKIKP	**PKPdf**		**09 30 01.0**	**+0.1**	
MMRI	**Maumere**	**137.07**	**201**		IAMs_20	IAMs_20		10 32 56.3		
	comp=Z,3μm,19.0s									
ARU	**Arti**	**138.47**	**39**		PKP	**PKiKP**		**09 30 12.9**	**0.0**	
	comp=Z,2.2nm,0.2s,baz=281,slow=2.2,SNR=7.0									
ARU	**Arti**	**138.47**	**39**		*i* PKIKP	**PKiKP**		**09 30 12.8**	**0.0**	
ARU								09 33 01.0		
ARU								09 43 17.7		
ARU					MLR	MLR				
	comp=Z,4μm,18.0s									
SEY	**Seymchan**	**138.52**	**331**		PKP	**PKiKP**		**09 30 12.1**	**-0.7**	
	comp=Z,8.4nm,1.0s,baz=64,slow=3.5,SNR=8.8									
PETK	**Petropavlovsk-**	**138.92**	**316**		PKiKP	PKPpre		09 30 08.9		
	comp=Z,3.0nm,1.0s,baz=76,slow=6.3,SNR=4.2									
TIXI	**Tiksi**	**139.01**	**350**		PKP	**PKiKP**		**09 30 12.7**	**-0.8**	
	comp=Z,7.2nm,0.9s,baz=137,slow=0.8,SNR=6.0									
TIXI	**Tiksi**	**139.01**	**350**	⇓	*i*PKIKP	**PKPdf**		**09 30 11.0**	**-0.3**	
TIXI	**Tiksi**	**139.01**	**350**			**PKiKP**		**09 30 13.2**	**-0.3**	
JAGI	**Jajag, Banyuwa**	**139.03**	**189**		IAMs_20	IAMs_20		10 28 16.4		
	comp=Z,2μm,21.0s									
AKTO	**Aktyubinsk**	**139.26**	**49**		PKP	**PKPdf**		**09 30 12.9**	**+0.6**	
	comp=Z,2.6nm,0.7s,baz=298,slow=3.2,SNR=8.0									
AKTO	**Aktyubinsk**	**139.26**	**49**		PKiKP	**PKPdf**		**09 30 13.0**	**+0.6**	
GEYT	**Ailbeck**	**139.27**	**68**		PKP	**PKiKP**		**09 30 14.2**	**-1.0**	
	comp=Z,57nm,0.6s,baz=27,slow=45,SNR=1.8									
SVE	**Sverdlovsk**	**139.47**	**38**		*i* PKIKP	**PKiKP**		**09 30 15.0**	**+0.1**	
SVE					pmax	pmax				
	comp=Z,26nm,1.5s									
SVE					MLR	MLR				
	comp=Z,5μm,22.0s									
UGM	**Wanagama**	**139.95**	**184**		IAMs_20	IAMs_20		10 32 10.5		
	comp=Z,3μm,18.0s									
AB31	**Akbulak array**	**140.64**	**50**		*i* PKHKP	PKPpre		09 30 07.5		
MA2	**Magadan**	**140.68**	**327**	⇑	*i*PKIKP	**PKPdf**		**09 30 14.5**	**-0.2**	
MA2	**Magadan**	**140.68**	**327**		IAMs_20	IAMs_20		10 39 54.0		
	comp=Z,2μm,19.0s									
NRIK	**Noril'sk**	**141.16**	**11**		PKP	**PKPdf**		**09 30 15.9**	**+0.6**	
	comp=Z,1.7nm,0.3s,baz=69,slow=4.3,SNR=5.6									
NRIK	**Noril'sk**	**141.16**	**11**	⇑	*i*PKIKP	**PKPdf**		**09 30 14.7**	**-0.6**	
NRIK					MLR	MLR				
	comp=Z,3μm,20.0s									
NRIK	**Noril'sk**	**141.16**	**11**		PKPdf	**PKPdf**		**09 30 14.7**	**-0.6**	
LUWI	**Luwuk**	**143.99**	**206**		IAMs_20	IAMs_20		10 35 51.7		
	comp=Z,3μm,20.0s									
GOA	**Goa**	**144.83**	**110**		*e*P	**PKPab**		**09 30 22.2**	**-0.1**	
BHUJ	**Bhuj**	**145.12**	**95**		*e*P	**PKPdf**		**09 30 23.6**	**-0.1**	
BRVK	**Borovoye**	**145.97**	**41**	*c*	*i*PKP2	**PKPbc**		**09 30 25.0**	**0.0**	
BRVK					pmax	pmax				
	comp=Z,103nm,1.7s									
BRVK					MLR	MLR				
	comp=Z,6μm,19.0s									
BRVK	**Borovoye**	**145.97**	**41**		PKPdf	**PKPbc**		**09 30 24.7**	**-0.2**	
BVAR	**Borovoye Array**	**146.04**	**41**		PKPbc	**PKPbc**		**09 30 25.2**	**0.0**	
	comp=Z,11nm,0.6s,baz=234,slow=5.0,SNR=13									
POO	**Poona**	**146.48**	**106**		*e*P	**PKPdf**		**09 30 24.5**	**-1.7**	
KUR	**Kuril'sk**	**146.61**	**304**		*e*PKP2	**PKPbc**		**09 30 26.8**	**-0.3**	
KUR					*e*SS	SS		09 52 49.2	-0.3	
KUR					pmax	pmax				
	comp=Z,5μm,6.9s									
KUR					pmax	pmax				
	comp=Z,242nm,1.7s									
KUR					pmax	pmax				
	comp=N,67nm,1.1s									
KUR					pmax	pmax				
	comp=E,151nm,1.6s									
KUR					MLR	MLR				
	comp=E,1μm,17.0s									
KUR					MLR	MLR				
	comp=Z,1μm,17.0s									
TOLI2	**Tolitoli**	**146.70**	**204**		IAMs_20	IAMs_20		10 34 01.6		
	comp=Z,3μm,22.0s									
YAK	**Yakutsk**	**147.10**	**341**		PKPbc	**PKPbc**		**09 30 28.0**	**0.0**	
	comp=Z,7.7nm,0.3s,baz=302,slow=1.1,SNR=7.4									
YAK	**Yakutsk**	**147.10**	**341**		*e*PKP2	**PKPbc**		**09 30 27.8**	**-0.2**	
YAK					*e*			09 33 57.2		
YAK					*e*SS	SS		09 52 51.5	-1.8	
YAK					pmax	pmax				
	comp=Z,244nm,1.6s									
YAK					pmax	pmax				
	comp=N,21nm,0.9s									
YAK					pmax	pmax				
	comp=E,26nm,1.0s									
YAK					pmax	pmax				
	comp=Z,1μm,6.5s									
YAK					pmax	pmax				
	comp=N,120nm,2.3s									
YAK					pmax	pmax				
	comp=E,103nm,3.3s									
YAK	**Yakutsk**	**147.10**	**341**			**PKPbc**		**09 30 28.1**	**+0.1**	
YAK					IAMs_20	IAMs_20		10 39 02.4		
	comp=Z,3μm,19.0s									
CHGR	**Chuyangaron**	**147.98**	**68**		PKPbc	**PKPbc**		**09 30 30.2**	**-1.1**	
YUK	**Yuzh-Kuril'sk**	**148.21**	**303**		*e*PKHKP	PKPpre		09 30 26.3		
YUK					*e*			09 33 58.5		
YUK					*e*SS	SS		09 53 06.8	-0.8	
YUK					*e*SSS	SSS		09 58 41.5		
YUK					MLR	MLR				
	comp=N,2μm,18.0s									
YUK					MLR	MLR				
	comp=Z,2μm,18.0s									
YUK					MLR	MLR				
	comp=E,2μm,16.0s									
MDRS	**Chennai**	**148.26**	**121**		*e*P	**PKPdf**		**09 30 26.7**	**-2.5**	
KK31	**Karatay Array**	**148.74**	**59**		PKIKP	**PKPdf**		**09 30 28.8**	**-0.4**	
KK31								09 30 33.1		
KK31								09 30 37.1		
KK31	**Karatay Array**	**148.74**	**59**		PKPdf	**PKPdf**		**09 30 28.8**	**-0.4**	
KK31					PKPbc	**PKPbc**		**09 30 33.1**	**0.0**	
KK31					PKPab	**PKPab**		**09 30 37.1**	**+0.3**	
KKAR	**Karatay Array**	**148.74**	**59**		PKIKP	**PKPdf**		**09 30 29.3**	**+0.1**	
KKAR								09 30 31.7		
KKAR								09 30 37.4		
KKAR								09 30 37.6		
KKAR	**Karatay Array**	**148.74**	**59**		PKPdf	**PKPdf**		**09 30 29.3**	**+0.1**	
KKAR						**sPKPbc**		**09 30 37.6**	**+0.3**	
KKAR	**Karatay Array**	**148.74**	**59**		PKPbc	**PKPbc**		**09 30 31.7**	**-1.3**	
KKAR					PKPab	**sPKPbc**		**09 30 37.4**	**+0.1**	
OTUK	**Ortayu**	**148.86**	**49**		PKP2	**PKPbc**		**09 30 32.3**	**-0.9**	
GAR	**Garm**	**148.88**	**67**		PKPbc	**PKPbc**		**09 30 32.8**	**-0.9**	
BTK	**Batken**	**149.24**	**65**		PKIKP	**PKPdf**		**09 30 32.3**	**+2.1**	
BTK	**Batken**	**149.24**	**65**		PKPbc	**PKPdf**		**09 30 32.3**	**+2.1**	
KSM	**Kuching**	**149.26**	**185**		P	**PKiKP**		**09 30 38.0**	**+1.6**	
RPSI	**Rantau Prapat**	**149.37**	**162**		PKPbc	**PKPbc**		**09 30 33.5**	**-1.9**	
PSI	**Prapat**	**149.47**	**162**		PKHKP	PKPpre		09 30 33.6		
UGL	**Uglegorsk**	**149.47**	**313**		*e*PKHKP	PKPpre		09 30 31.8		
UGL					*e*SS	SS		09 53 57.1	+36	
UGL					pmax	pmax				
	comp=Z,1μm,6.0s									
UGL					pmax	pmax				
	comp=Z,60nm,1.3s									
UGL					MLR	MLR				
	comp=E,2μm,19.0s									
UGL					MLR	MLR				
	comp=N,800nm,17.0s									
UGL					MLR	MLR				
	comp=Z,2μm,20.0s									
HYB	**Hyderabad**	**149.65**	**112**		*e*P	**PKPdf**		**09 30 30.0**	**-1.4**	
HYB					*i* x	x		09 34 13.1		
YSS	**Yuzh-Sakhalins**	**149.71**	**309**	*c*	*i*PKHKP	PKPpre		09 30 32.7		
YSS					*e*			09 34 09.7		
YSS					*e*SSS	SSS		09 58 57.6		
YSS					pmax	pmax				
	comp=Z,40nm,0.8s									
YSS					pmax	pmax				
	comp=Z,1μm,8.8s									
YSS					pmax	pmax				
	comp=E,300nm,8.6s									
YSS					MLR	MLR				
	comp=Z,2μm,19.0s									
YSS	**Yuzh-Sakhalins**	**149.71**	**309**		PKPbc	**PKPbc**		**09 30 34.1**	**-1.1**	
YSS					PKPab	**pPKPab**		**09 30 43.8**	**+0.4**	
DAV	**Davao City (W)**	**149.99**	**217**		IAMs_20	IAMs_20		10 41 05.7		
	comp=Z,3μm,18.0s									
ASAJ	**Asahikawa**	**150.51**	**304**		PKPbc	**PKiKP**		**09 30 38.6**	**+0.6**	
	comp=Z,34nm,1.0s,baz=279,slow=7.6,SNR=5.3									
NIL	**Nilore**	**150.97**	**78**		PKIKP	**PKPbc**		**09 30 37.0**	**-1.8**	
NIL	**Nilore**	**150.97**	**78**			**PKPbc**		**09 30 37.0**	**-1.8**	
KURBB	**Kurchatov Arra**	**151.63**	**41**		PKPbc	**PKPbc**		**09 30 39.3**	**-0.4**	
	comp=Z,14nm,0.8s,baz=299,slow=2.9,SNR=19									
BHPL	**Bhopal**	**151.64**	**101**		*e*P	**PKPdf**		**09 30 33.5**	**-0.9**	
BHPL					*i* x	x		09 34 24.2		
KURK	**Kurchatov**	**151.64**	**41**		PKIKP	**PKPbc**		**09 30 39.3**	**-0.4**	
AAK	**Ala-Archa**	**151.70**	**59**		PKPbc	**PKPbc**		**09 30 40.5**	**+0.1**	
	comp=Z,20nm,0.8s,baz=218,slow=2.7,SNR=19									
AAK	**Ala-Archa**	**151.70**	**59**		PKIKP	**PKPbc**		**09 30 39.0**	**-1.4**	
AAK								09 30 47.3		
AAK	**Ala-Archa**	**151.70**	**59**			**PKPbc**		**09 30 39.0**	**-1.4**	
AAK					PKPab	**PKPab**		**09 30 47.2**	**-2.0**	
GRNR	**Gornyy**	**152.04**	**320**	⇓	*i*PKIKP	**PKiKP**		**09 30 40.9**	**-0.1**	
GRNR					pmax	pmax				
	comp=Z,10.0nm,1.2s									
KULM	**Kulim**	**152.29**	**164**		P	**PKPbc**		**09 30 42.0**	**-0.3**	
TKM2	**Tokmak 2**	**152.44**	**58**		PKIKP	**PKPbc**		**09 30 41.8**	**-0.3**	
ZAA0	**Zalesovo Array**	**152.79**	**30**			**PKPbc**		**09 30 41.1**	**-1.1**	
ZAA0					PKPab	**PKPab**		**09 30 52.5**	**-0.7**	
ZALV	**Zalesovo Beam**	**152.79**	**30**		PKPbc	**PKPbc**		**09 30 42.2**	**0.0**	
	comp=Z,20nm,0.8s,baz=298,slow=3.2,SNR=17									
ZALV	**Zalesovo Beam**	**152.79**	**30**		PKIKP	**PKPbc**		**09 30 40.8**	**-1.4**	
ZALV								09 30 53.0		
ZALV	**Zalesovo Beam**	**152.79**	**30**			**PKPbc**		**09 30 40.8**	**-1.4**	
ZALV					PKPab	**PKPab**		**09 30 53.0**	**-0.2**	
KSH	**Kashi**	**153.24**	**65**		PKPbc	**PKPdf**		**09 30 36.5**	**+0.1**	
KSH					PP	**PP**		**09 34 28.3**	**-1.5**	
KSH					SKKS			09 41 20.4		
KSH					SS	**SS**		**09 54 03.0**	**-1.2**	
KSH					AMB	AMB				
	comp=Z,3μm,13.9s									
KSH					LR	LR				
	comp=Z,5μm,17.1s									
KSH					LR	LR				
	comp=Z,6μm,18.0s									
KSH					LR	LR				
	comp=Z,8μm,17.5s									
DHRM	**DHARAMSHALA**	**153.32**	**82**		*e*P	**PKPdf**		**09 30 36.1**	**-0.7**	
DHRM					*i* x	x		09 34 28.7		
VIS	**Vishakhapatnam**	**153.50**	**117**		*e*P	**PKPdf**		**09 30 36.2**	**-1.0**	
VIS					*i* x	x		09 34 34.3		
KDJ	**Kajisay**	**153.75**	**59**		PKIKP	**PKPbc**		**09 30 42.8**	**-2.2**	
KDJ								09 30 55.1		
KDJ	**Kajisay**	**153.75**	**59**			**PKPbc**		**09 30 42.8**	**-2.2**	
KDJ					PKPab	**PKPab**		**09 30 55.1**	**-2.8**	
SMLA	**Simla**	**153.86**	**84**		*e*P	**PKPdf**		**09 30 37.1**	**-0.3**	
SMLA					*i* x	x		09 34 28.7		
BOD	**Bodaibo**	**154.13**	**353**		*e*PKIKP	**PKPbc**		**09 30 41.0**	**-4.0**	
BOD					pmax	pmax				
	comp=Z,57nm,1.6s									
DDI	**Dehra Dun**	**154.45**	**86**		*e*P	**PKPdf**		**09 30 38.3**	**0.0**	
ZEA	**Zeya**	**154.48**	**333**		*e*PKIKP	**PKPdf**		**09 30 40.3**	**+2.8**	
ZEA					*e*			09 34 39.3		
ZEA					pmax	pmax				
	comp=Z,20nm,1.5s									
MJAR	**Matsushiro Arr**	**154.70**	**288**		PKP	**PKPdf**		**09 30 40.4**	**+2.0**	
	comp=Z,1.2nm,0.6s,baz=197,slow=1.3,SNR=4.4									
MJAR					PKPab	**PKPab**		**09 31 02.4**	**+0.5**	
	comp=Z,4.4nm,1.0s,baz=134,slow=0.8,SNR=4.5									
MAJO	**Matsushiro**	**154.70**	**288**		IAMs_20	IAMs_20		10 30 09.4		
	comp=Z,2μm,21.0s									
MAT	**Matsushiro**	**154.70**	**288**		*e*PKP	**PKPdf**		**09 30 35.0**	**-3.4**	
PDGK	**Podgornoye**	**155.10**	**56**		PKIKP	PKPdf		09 30 47.9	+9.0	
KLR	**Kul'dur**	**155.41**	**320**		PKP	**PKPdf**		**09 30 40.5**	**+1.6**	
	comp=Z,0.6nm,0.3s,baz=55,slow=1.7,SNR=5.9									
MK31	**Makanchi Array**	**155.64**	**46**		PKIKP	**PKPdf**		**09 30 37.9**	**-1.4**	
MK31	**Makanchi Array**	**155.64**	**46**			**PKPdf**		**09 30 37.9**	**-1.4**	
MKAR	**Makanchi Array**	**155.64**	**46**		PKP	**PKPdf**		**09 30 40.9**	**+1.6**	
	comp=Z,3.1nm,1.0s,baz=338,slow=2.9,SNR=7.5									
MKAR					PKPab	**PKPab**		**09 31 06.6**	**+1.0**	
	comp=Z,11nm,0.8s,baz=298,slow=3.1,SNR=10									
MKAR	**Makanchi Array**	**155.64**	**46**		PKIKP	**PKPdf**		**09 30 38.4**	**-0.9**	
MKAR	**Makanchi Array**	**155.64**	**46**		PKPdf	**PKPdf**		**09 30 38.4**	**-0.9**	
INU	**Inuyama**	**155.66**	**285**		IAMs_20	IAMs_20		10 34 02.3		
	comp=Z,2μm,20.0s									
BOK	**Bokaro**	**158.83**	**108**		*i* x	x		09 34 59.9		
MDJ	**Mudanjiang**	**159.10**	**312**		PKP	**PKPdf**		**09 30 44.0**	**+0.3**	
MDJ					PP	**PP**		**09 35 05.9**	**+4.3**	
MDJ					SS	SS		09 55 11.3	+5.2	
MDJ					AMB	AMB				
	comp=Z,610nm,6.6s									
MDJ					LR	LR				
	comp=Z,2μm,17.2s									
MDJ					LR	LR				
	comp=Z,3μm,15.2s									
MDJ					LR	LR				
	comp=Z,4μm,18.4s									
CIT	**Chita**	**159.85**	**350**		*e*PKIKP	**PKPdf**		**09 30 49.6**	**+5.2**	
IRK	**Irkutsk**	**159.88**	**7**		*e*PKIKP	**PKPdf**		**09 30 48.3**	**+3.9**	
IRK					*e*			09 35 04.5		
IRK					pmax	pmax				
	comp=Z,57nm,2.6s									
MOY	**Mondy**	**159.98**	**13**		*e*PKIKP	**PKPdf**		**09 30 48.4**	**+3.7**	
MOY					pmax	pmax				
	comp=Z,72nm,2.7s									
WMQ	**Urumqi**	**160.41**	**48**		*e*PKP	**PKPdf**		**09 30 45.0**	**-0.4**	
WMQ					PKPab	**pPKPab**		**09 31 29.0**	**-0.4**	
WMQ						PP	**PP**	**09 35 12.3**	**+3.5**	
WMQ						SKS	**SKSdf**	**09 37 47.8**	**-2.7**	
WMQ						SS	**SS**	**09 55 21.8**	**+1.7**	
WMQ						AMB	AMB			
	comp=Z,3μm,7.1s									
WMQ						LR	LR			
	comp=Z,3μm,21.9s									
WMQ						LR	LR			
	comp=Z,4μm,21.9s									
WMQ						LR	LR			
	comp=Z,4μm,21.9s									
ZAK	**Zakamensk**	**161.60**	**9**		*e*PKP2	**PKPab**		**09 31 30.6**	**-0.7**	
ZAK					*e*			09 35 17.5		
ZAK					pmax	pmax				
	comp=Z,43nm,1.6s									
ZAK					pmax	pmax				
	comp=Z,17nm,1.8s									
CN2	**Changchun**	**162.07**	**315**		*e*PKP	**PKPdf**		**09 30 47.4**	**+0.4**	
CN2					AMB	AMB				
	comp=Z,200nm,12.0s									
CN2					LR	LR				
	comp=Z,1μm,22.0s									
CN2					LR	LR				
	comp=Z,2μm,22.0s									
CN2					LR	LR				
	comp=Z,2μm,21.0s									
KSRS	**Korea Array**	**162.80**	**293**		PKP	**PKPdf**		**09 30 50.6**	**+2.7**	
	comp=Z,1.9nm,0.8s,baz=54,slow=0.9,SNR=6.0									
KSRS					PKPab	**pPKPab**		**09 31 39.9**	**+0.1**	
	comp=Z,6.1nm,0.9s,baz=86,slow=4.5,SNR=6.4									
CM04	**Chiang Mai Arr**	**164.00**	**148**		PKP	PKPdf		09 31 02.0	+12	
CMAR	**Chiang Mai Arr**	**164.03**	**147**		PKP	**PKPdf**		**09 30 50.9**	**+1.3**	
	comp=Z,1.0nm,0.3s,baz=260,slow=3.6,SNR=4.7									
CMAR					PKPab	**PKPab**		**09 31 44.1**	**+1.5**	
	comp=Z,5.1nm,1.0s,baz=235,slow=4.0,SNR=6.0									
CMAR	**Chiang Mai Arr**	**164.03**	**147**		PKPdf	**PKPdf**		**09 30 49.2**	**-0.5**	
CMAR					PKPab	**PKPab**		**09 31 44.1**	**+1.5**	
UTTA	**Uttaradit**	**164.07**	**154**		PKP	PKPdf		09 31 00.1	+10	
SNY	**Shenyang**	**164.30**	**312**	⇓	PKP	**PKPdf**		**09 30 53.1**	**+3.9**	
SNY					PP	**PP**		**09 35 30.6**	**+1.2**	
SNY					SKKS			09 42 18.1		
SNY					SS	**SS**		**09 56 04.0**	**+3.6**	
SNY					AMB	AMB				
	comp=Z,470nm,10.9s									
SNY					LR	LR				
	comp=Z,2μm,17.6s									
SNY					LR	LR				
	comp=Z,2μm,20.6s									
SNY					LR	LR				
	comp=Z,3μm,20.0s									
SKNT	**Sakolnakorn**	**164.34**	**166**		PKP	PKPdf		09 31 05.1	+15	
CHTO	**Chiang Mai**	**164.34**	**147**		PKP	PKPdf		09 31 04.6	+15	
CMMT	**Chiang Mai**	**164.34**	**147**		PKP	PKPdf		09 31 04.5	+15	
SONM	**Songino Array**	**164.43**	**4**		PKPab	**PKPab**		**09 31 46.8**	**+3.0**	
	comp=Z,7.3nm,1.1s,baz=330,slow=1.4,SNR=6.8									
SONM	**Songino Array**	**164.43**	**4**		PKIKP	**PKPdf**		**09 30 45.6**	**-3.7**	
SONM	**Songino Array**	**164.43**	**4**		PKPdf	**PKPdf**		**09 30 45.6**	**-3.7**	
SONM					PKPab	**pPKPab**		**09 31 46.1**	**-0.5**	
SHL	**Shillong**	**164.46**	**111**		*e*P	**PKPdf**		**09 30 49.3**	**-0.8**	
SHL					*i* x	x		09 35 27.8		
NONG	**Nongkai**	**165.20**	**162**		PKP	PKPdf		09 31 06.1	+15	
LSA	**Lhasa**	**165.39**	**96**		PKP	**PKPdf**		**09 30 55.5**	**+4.3**	
QIZ	**Qiongzhong**	**166.68**	**188**		PKP	**PKPdf**		**09 30 56.5**	**+4.6**	
QIZ					PKPab	**sPKPab**		**09 32 00.8**	**+2.8**	
QIZ					PP	**PP**		**09 35 41.4**	**+0.7**	
QIZ					SKKS		

BTO				LR	LR				
	comp=Z,6μm,18.6s								
KMI	**Kunming**	**171.54**	**146**	⇑PKP	**PKPdf**	**09**	**30**	**53.8**	**-1.2**
TIY	**Taiyuan**	**173.44**	**327**	⇓iPKP	**PKPdf**	**09**	**31**	**00.0**	**+4.7**
TIY				PP	**PP**	**09**	**36**	**22.4**	**+7.1**
TIY				AMB	AMB				
	comp=Z,1μm,9.1s								
TIY				LR	LR				
	comp=Z,4μm,18.4s								
TIY				LR	LR				
	comp=Z,2μm,19.4s								
TIY				LR	LR				
	comp=Z,5μm,18.8s								
GYA	**Guiyang**	**174.09**	**169**	⇑PKP	**PKPdf**	**09**	**30**	**55.4**	**-0.5**
GYA				PKPab	**pPKPab**	**09**	**32**	**29.3**	**-0.5**
GYA				SS	SS	09	57	37.8	+1.4
GYA				AMB	AMB				
	comp=Z,1μm,12.3s								
GYA				LR	LR				
	comp=Z,1μm,20.2s								
GYA				LR	LR				
	comp=Z,2μm,17.8s								
GYA				LR	LR				
	comp=Z,3μm,18.4s								
WHN	**Wuhan**	**174.23**	**254**	⇓PKP	**PKPdf**	**09**	**31**	**01.1**	**+5.4**
WHN				PP	**PP**	**09**	**36**	**22.5**	**+2.2**
WHN				SKKS		09	43	08.6	
WHN				LR	LR				
	comp=Z,13μm,19.0s								
WHN				LR	LR				
	comp=Z,5μm,16.9s								
WHN				LR	LR				
	comp=Z,10μm,18.9s								
LZH	**Lanzhou**	**174.93**	**41**	*e*PKP	**PKPdf**	**09**	**30**	**57.8**	**+1.8**
LZH				pPKP	sPKPdf	09	31	10.3	+10
LZH				sPKP		09	31	13.8	
LZH				PKPab	**sPKPab**	**09**	**32**	**34.8**	**-0.1**
LZH				PKS	**PKSdf**	**09**	**34**	**31.4**	**+3.1**
LZH				PP	**PP**	**09**	**36**	**24.3**	**+1.4**
LZH				SKKS		09	43	12.3	
LZH				SS	**SS**	**09**	**57**	**47.0**	**+1.0**
LZH				AMB	AMB				
	comp=Z,1μm,4.3s								
LZH				LR	LR				
	comp=Z,3μm,18.4s								
LZH				LR	LR				
	comp=Z,2μm,17.3s								
LZH				LR	LR				
	comp=Z,2μm,17.4s								
CD2	**Chengdu**	**176.20**	**110**	PKP	**PKPdf**	**09**	**30**	**55.3**	**-1.0**
CD2				pPKP	sPKPdf	09	31	06.5	+6.3
CD2				PP	**PP**	**09**	**36**	**30.9**	**+1.1**
CD2				SKKS		09	43	14.6	
CD2				SS	**SS**	**09**	**57**	**59.3**	**-0.2**
CD2				AMB	AMB				
	comp=Z,3μm,10.0s								
CD2				LR	LR				
	comp=Z,5μm,17.7s								
CD2				LR	LR				
	comp=Z,3μm,16.7s								
CD2				LR	LR				
	comp=Z,7μm,19.6s								
XAN	**Xi'an**	**178.06**	**334**	PKP	**PKPdf**	**09**	**30**	**58.3**	**+1.8**
XAN				sPKP		09	31	09.9	
XAN				PKPab	sPKPab	09	32	49.6	+1.3
XAN				SKKS		09	43	26.8	
XAN				AMB	AMB				
	comp=Z,3μm,13.4s								
XAN				LR	LR				
	comp=Z,3μm,17.7s								
XAN				LR	LR				
	comp=Z,2μm,17.2s								
XAN				LR	LR				
	comp=Z,4μm,19.6s								

IDC 18 09:16:13.9±2.0, 6°05S×151°61E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.5/50, mbtmp3.7/4 Error ellipse: s-maj=108.0km s-min=27.4km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
WRA	**Warramunga Arr**	**21.73**	**229**	P	P	09	21	07.0	-0.1
	0.3nm,0.4s,baz=56,slow=10,SNR=8.6								
ASAR	**Alice Springs**	**24.43**	**222**	P	P	09	21	35.0	+0.5
	1.6nm,0.7s,baz=54,slow=9.1,SNR=17								
FITZ	**Fitzroy Crossi**	**28.02**	**242**	P	P	09	22	06.4	-0.6
	1.0nm,0.6s,baz=73,slow=11,SNR=5.5								
ILAR	**Eielson Array**	**83.76**	**22**	P	P	09	28	44.5	-0.1
	0.6nm,0.7s,baz=248,slow=5.7,SNR=5.6								
TORD	**Torodi Ar. Bea**	**149.53**	**286**	PKPbc	PKPbc	09	36	06.1	-0.3
	1.0nm,0.7s,baz=70,slow=3.6,SNR=4.5								

*TUL **18** 09:16:55.9±1.6, 35°.99N±0°.02×96°.79W±0°.04, h5km±4km, ML3.5, mb_Lg3.5/142(NEIC), Mwr3.2/7(SLM), Error ellipse: s-maj=5.0km s-min=2.5km az=109.0*

*NEIC **18** 09:16:55.9, 36°.00N×96°.81W, h3km, Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; M_{rr}0.00; $M_{\theta\theta}$7.12; $M_{\phi\phi}$7.12; $M_{r\theta}$0.00; $M_{r\phi}$0.00; $M_{\theta\phi}$-4.11; $M_{\theta r}$0.00; Fault plane solution: M_o8.22000×10^{13} NP1:ϕ_s330.00000°, δ90.00000°, λ0.00000°. NP2:ϕ_s240.00000°, δ90.00000°, λ180.00000°. Principal axes: T 6.4833, Plg0.0000°, Azm45.0000°; N -1.7367, Plg0.0000°, Azm315.0000°; P -4.7467, Plg90.0000°, Azm0.0000°;*

*NEIC **18** 09:16:56.2±1.4, 36°.00N±0°.01×96°.78W±0°.04, h3km±4km Error ellipse: s-maj=4.4km s-min=1.9km az=89.0*

*ANF **18** 09:16:56.2±0.2, 36°.01N×96°.82W, h3km, ML3.9/14, Error ellipse: s-maj=2.5km s-min=1.7km az=160.0*

ISC 18 09:16:56.3±0.9, 36°.01N±0°.02×96°.80W±0°.02, h4km±7km, n167, σ0°98/156, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
OK031	**S. Brethren Rd**	**0.06**	**213**		**Pg**	**09**	**16**	**57.7**	**0.0**
OK031				Sg	**Sg**	**09**	**16**	**58.8**	**+0.1**
QUOK	**Quay**	**0.18**	**24**	Pg	**Pg**	**09**	**17**	**00.2**	**+0.4**
QUOK				Sg	**Sg**	**09**	**17**	**03.1**	**+0.9**
OK005	**Luther M Schoo**	**0.47**	**223**		**Pg**	**09**	**17**	**05.4**	**0.0**
OK005				Sg	**Sg**	**09**	**17**	**12.3**	**+0.7**
OK011	**Prague**	**0.53**	**170**		**Pg**	**09**	**17**	**06.2**	**-0.2**
OK029	**Liberty Lake**	**0.57**	**249**		**Pg**	**09**	**17**	**07.3**	**0.0**
OK029				IAmb_Lg		09	17	14.5	
	comp=Z,480nm,0.8s								
OK029				Sg	**Sg**	**09**	**17**	**15.4**	**+0.7**
OK001	**Jones High Sch**	**0.60**	**222**	Pg	**Pg**	**09**	**17**	**07.3**	**-0.4**
OK025	**Westminster Rd**	**0.61**	**226**		**Pg**	**09**	**17**	**07.9**	**-0.1**
OK025				Sg	**Sg**	**09**	**17**	**16.5**	**+0.6**
OK009	**Oakdale Elemen**	**0.66**	**230**	Pg	**Pg**	**09**	**17**	**08.3**	**-0.7**
BCOK	**Bluff Creek, N**	**0.75**	**242**		**Pg**	**09**	**17**	**10.0**	**-0.6**
BCOK				Sg	**Sg**	**09**	**17**	**20.9**	**+0.7**
OKCFA	**Oklahoma City**	**0.80**	**222**		**Pg**	**09**	**17**	**10.5**	**-1.0**
OKCFA				Sg	**Sg**	**09**	**17**	**21.9**	**+0.1**
OKCFA	**Oklahoma City**	**0.80**	**222**	P	**Pg**	**09**	**17**	**10.9**	**-0.6**
	baz=42,SNR=32								
OKCFA				S	**Sg**	**09**	**17**	**21.9**	**+0.1**
	baz=42								
OKCSW	**OKLAHOMA CITY**	**0.80**	**221**		**Pg**	**09**	**17**	**10.7**	**-0.8**
TUL1	**Leonard**	**0.82**	**96**	P	**Pg**	**09**	**17**	**11.6**	**-0.4**
	baz=276								
TUL1	**Leonard**	**0.82**	**96**	P	**Pg**	**09**	**17**	**11.7**	**-0.3**
	baz=276,SNR=367								
TUL1				S	**Sg**	**09**	**17**	**22.8**	**+0.2**
	baz=276								
BLOK	**Blackwell**	**0.82**	**336**		**Pg**	**09**	**17**	**11.9**	**-0.2**
FNO	**Franklin**	**0.90**	**214**		**Pg**	**09**	**17**	**12.5**	**-0.9**
FNO				IAmb_Lg		09	17	23.9	
	comp=Z,309nm,0.8s								
FNO				Sg	**Sg**	**09**	**17**	**25.1**	**+0.1**
T35A	**Sooner Cattle**	**0.94**	**14**		**Pg**	**09**	**17**	**14.0**	**-0.3**
T35B	**Sooner Cattle**	**0.94**	**14**	P	**Pg**	**09**	**17**	**14.2**	**-0.1**
	baz=195								
CROK	**Carrier**	**1.08**	**298**		**Pg**	**09**	**17**	**16.7**	**-0.2**
KAN13	**South Haven SW**	**1.15**	**332**		**Pg**	**09**	**17**	**18.2**	**0.0**
GC02	**Grant County #**	**1.20**	**315**		**Pg**	**09**	**17**	**19.1**	**-0.2**
KAN17	**Caldwell West**	**1.30**	**323**		**Pn**	**09**	**17**	**20.9**	**-0.2**
KAN09	**Caldwell North**	**1.31**	**330**		**Pn**	**09**	**17**	**20.8**	**-0.5**
KAN14	**Manchester OK**	**1.33**	**316**		**Pn**	**09**	**17**	**21.2**	**-0.5**
KS20	**Mayfield South**	**1.36**	**334**		**Pn**	**09**	**17**	**21.6**	**-0.4**
OK032	**Salt Plains WL**	**1.39**	**305**		**Pn**	**09**	**17**	**22.0**	**-0.4**
KAN05	**Bluff City Nor**	**1.40**	**322**		**Pn**	**09**	**17**	**22.6**	**0.0**
KS21	**Milan North St**	**1.46**	**332**	IAmb_Lg		09	17	43.7	
	comp=Z,415nm,0.7s								
KAN10	**Anthony SW Sta**	**1.53**	**317**	Pn	**Pn**	**09**	**17**	**24.5**	**+0.1**
KAN08	**Anthony NE Sta**	**1.54**	**323**		**Pn**	**09**	**17**	**24.4**	**-0.1**
KAN16	**Harper SW Stat**	**1.59**	**320**		**Pb**	**09**	**17**	**25.6**	**-0.5**
KAN12	**Harper NE Stat**	**1.61**	**323**		**Pb**	**09**	**17**	**26.2**	**-0.3**
X34A	**Smith Ranch, M**	**1.64**	**211**	Pn	**Pn**	**09**	**17**	**26.1**	**+0.3**
U32A	**Winter Ranch,**	**1.82**	**282**		**Pn**	**09**	**17**	**28.7**	**+0.4**
U32A	**Winter Ranch,**	**1.82**	**282**	P	**Pn**	**09**	**17**	**28.3**	**0.0**
	baz=102,SNR=53								
U32A				Sb	**Sg**	**09**	**17**	**54.4**	**-0.4**
	baz=102								
X37A	**Clayton**	**1.83**	**140**		**Pn**	**09**	**17**	**28.4**	**-0.1**
X37A				IAmb_Lg		09	17	57.7	
	comp=Z,475nm,0.8s								
X37A	**Clayton**	**1.83**	**140**	P	**Pn**	**09**	**17**	**28.7**	**+0.3**
	baz=321,SNR=82								
X37A				S	**Sg**	**09**	**17**	**54.7**	**-0.4**
	baz=321								
U38A	**Gravette**	**2.00**	**77**		**Pn**	**09**	**17**	**31.1**	**+0.3**
U38A				IAmb_Lg		09	17	59.8	
	comp=Z,297nm,0.7s								
U38A	**Gravette**	**2.00**	**77**	P	**Pn**	**09**	**17**	**31.1**	**+0.3**
	baz=258,SNR=84								
U38A				S	**Sb**	**09**	**17**	**58.9**	**+0.6**
	baz=258								
LOOK	**Love County**	**2.03**	**189**	Pn	**Pn**	**09**	**17**	**31.7**	**+0.5**
LOOK				IAmb_Lg		09	18	03.9	
	comp=Z,277nm,0.9s								
WMOK	**Wichita Mounta**	**2.06**	**233**		**Pn**	**09**	**17**	**31.9**	**+0.3**
WMOK				IAmb_Lg		09	18	04.9	
	comp=Z,205nm,0.9s								
WMOK	**Wichita Mounta**	**2.06**	**233**	P	**Pn**	**09**	**17**	**32.1**	**+0.5**
	baz=51								
WMOK				S	**Sb**	**09**	**17**	**59.4**	**-0.6**
	baz=51								
WMOK	**Wichita Mounta**	**2.06**	**233**	P	**Pn**	**09**	**17**	**31.9**	**+0.3**
	baz=51								
WMOK				S	**Sb**	**09**	**17**	**59.4**	**-0.6**
	baz=51								
HHAR	**Hobbs**	**2.33**	**82**	Pn	**Pn**	**09**	**17**	**35.7**	**+0.4**
W39A	**Magazine**	**2.58**	**107**		**Pn**	**09**	**17**	**39.1**	**+0.3**
W39A	**Magazine**	**2.58**	**107**	P	**Pn**	**09**	**17**	**39.1**	**+0.3**
	baz=289,SNR=52								
W39A	**Magazine**	**2.58**	**107**	P	**Pn**	**09**	**17**	**38.9**	**+0.1**
	baz=289,SNR=66								
W39A				S	**Sn**	**09**	**18**	**11.3**	**+0.7**
	baz=289								
Z35A	**Perchaven, San**	**2.70**	**188**		**Pn**	**09**	**17**	**40.3**	**-0.1**
Z35A				IAmb_Lg		09	18	25.8	
	comp=Z,90nm,0.8s								
Z35A	**Perchaven, San**	**2.70**	**188**	S	**Sn**	**09**	**18**	**14.9**	**+1.5**
	baz=7.7								
R32A	**Long Quarter,**	**2.85**	**328**	Pn	**Pn**	**09**	**17**	**42.0**	**-0.6**
R32A				IAmb_Lg		09	18	34.8	
	comp=Z,117nm,0.9s								
MIAR	**Mount Ida**	**3.01**	**118**		**Pn**	**09**	**17**	**44.8**	**+0.2**
MIAR	**Mount Ida**	**3.01**	**118**	P	**Pn**	**09**	**17**	**45.2**	**+0.5**
	baz=300,SNR=34								
MIAR				S	**Sn**	**09**	**18**	**22.4**	**+1.2**
	baz=300								
MIAR	**Mount Ida**	**3.01**	**118**	P	**Pn**	**09**	**17**	**44.9**	**+0.2**
	baz=300,SNR=18								
MIAR				S	**Sn**	**09**	**18**	**21.9**	**+0.7**
	baz=300								
KSU1	**Kansas State U**	**3.09**	**3**		**Pn**	**09**	**17**	**45.9**	**+0.1**
KSU1				IAmb_Lg		09	18	41.0	
	comp=Z,164nm,0.7s								
KSU1	**Kansas State U**	**3.09**	**3**	P	**Pn**	**09**	**17**	**45.9**	**+0.1**
	baz=183,SNR=36								
KSU1				Sb	**Sg**	**09**	**18**	**33.4**	**-2.2**
	baz=183								
Z38A	**Mt. Pleasant**	**3.12**	**151**	IAmb_Lg		09	18	42.3	
	comp=Z,232nm,0.8s								
U40A	**Yellville**	**3.21**	**83**		**Pn**	**09**	**17**	**47.6**	**+0.2**
U40A				IAmb_Lg		09	18	42.0	
	comp=Z,88nm,0.8s								
U40A	**Yellville**	**3.21**	**83**	P	**Pn**	**09**	**17**	**47.8**	**+0.3**
	baz=265,SNR=17								
U40A	**Yellville**	**3.21**	**83**	P	**Pn**	**09**	**17**	**47.7**	**+0.3**
	baz=265,SNR=9.1								
U40A				S	**Sn**	**09**	**18**	**27.7**	**+1.6**
	baz=265								
S39A	**Bolivar**	**3.25**	**58**	Pn	**Pn**	**09**	**17**	**49.5**	**+1.4**
S39A	**Bolivar**	**3.25**	**58**	P	**Pn**	**09**	**17**	**48.7**	**+0.7**
	baz=240,SNR=16								
X40A	**Basin Creek Fa**	**3.58**	**114**		**Pn**	**09**	**17**	**53.3**	**+0.8**
X40A				IAmb_Lg		09	18	55.3	
	comp=Z,76nm,0.9s								
X40A	**Basin Creek Fa**	**3.58**	**114**	P	**Pn**	**09**	**17**	**52.2**	**-0.3**
	baz=296,SNR=14								
X40A				S	**Sn**	**09**	**18**	**36.8**	**+1.6**
	baz=296								
CBKS	**Cedar Bluff**	**3.65**	**321**	Pn	**Pn**	**09**	**17**	**53.6**	**0.0**
CBKS	**Cedar Bluff**	**3.65**	**321**	P	**Pn**	**09**	**17**	**54.6**	**+1.1**
	baz=140								
CBKS				S	**Sn**	**09**	**18**	**37.8**	**+0.7**
	baz=140								
WHAR	**Wooly Hollow**	**3.74**	**100**		**Pn**	**09**	**17**	**55.0**	**+0.2**
WHAR				IAmb_Lg		09	18	57.2	
	comp=Z,138nm,0.8s								
FCAR	**Ozark Folk Cen**	**3.79**	**90**		**Pn**	**09**	**17**	**54.9**	**-0.5**
W41B	**Gary Mavity, V**	**3.80**	**101**	P	**Pn**	**09**	**17**	**55.5**	**0.0**
	baz=284,SNR=53								
W41B	**Gary Mavity, V**	**3.80**	**101**	P	**Pn**	**09**	**17**	**55.5**	**0.0**
	baz=284,SNR=18								
W41B				S	**Sn**	**09**	**18**	**40.7**	**+0.1**
	baz=284								
WLAR	**White Oak Lake**	**3.81**	**126**	Pn	**Pn**	**09**	**17**	**55.6**	**0.0**
WLAR				IAmb_Lg		09	19	05.6	
	comp=Z,72nm,0.8s								
MGMO	**Mountain Grove**	**3.82**	**71**		**Pn**	**09**	**17**	**56.2**	**+0.4**
WHTX	**Lake Whitney,**	**4.04**	**188**	Pn	**Pn**	**09**	**17**	**58.7**	**-0.1**
WHTX	**Lake Whitney,**	**4.04**	**188**	P	**Pn**	**09**	**17**	**58.6**	**-0.3**
	baz=7.5,SNR=8.0								
WHTX	**Lake Whitney,**	**4.04**	**188**	P	**Pn**	**09**	**17**	**58.6**	**-0.3**
	baz=7.5								
WHTX				Sb	**Sb**	**09**	**18**	**59.2**	**+2.0**
	baz=7.5								
237A	**Washetta, Mont**	**4.08**	**168**		**Pn**	**09**	**17**	**58.9**	**-0.4**
237A				IAmb_Lg		09	19	08.8	
	comp=Z,70nm,1.1s								
237A	**Washetta, Mont**	**4.08**	**168**	P	**Pn**	**09**	**17**	**59.1**	**-0.3**
	baz=349,SNR=6.3								
ABTX	**Abilene, Hawle**	**4.12**	**216**	IAmb_Lg		09	19	07.2	
	comp=Z,104nm,1.0s								
ABTX	**Abilene, Hawle**	**4.12**	**216**	P	**Pn**	**09**	**17**	**60.0**	**+0.1**
	baz=34								
ABTX				Sb	**Sb**	**09**	**19**	**01.7**	**+2.3**
	baz=34								
AMTX	**Amarillo**	**4.14**	**256**	Pn	**Pn**	**09**	**17**	**59.2**	**-1.1**
AMTX				IAmb_Lg		09	19	13.5	
	comp=Z,112nm,0.8s								
AMTX	**Amarillo**	**4.14**	**256**	Sb	**Sb**	**09**	**19**	**02.9**	**+2.8**
	baz=73								
R40A	**Maddies Statio**	**4.28**	**56**		**Pn**	**09**	**18**	**00.9**	**-1.1**
Z41A	**Richland Creek**	**4.29**	**129**	P	**Pn**	**09**	**18**	**01.9**	**-0.3**
	baz=311								
Z41A				S	**Sn**	**09**	**18**	**51.9**	**-0.7**
	baz=311								
P38A	**Dawn**	**4.44**	**35**	Pn	**Pn**	**09**	**18**	**03.5**	**-0.9**
P38A				IAmb_Lg		09	19	16.8	
	comp=Z,120nm,0.7s								
LCAR	**Lake Charles**	**4.57**	**88**	Pn	**Pn**	**09**	**18**	**05.6**	**-0.5**
LCAR				IAmb_Lg		09	19	27.6	
	comp=Z,109nm,1.2s								
NATX	**Nacogdoches**	**4.59**	**157**	IAmb_Lg		09	19	33.9	
	comp=Z,70nm,0.9s								
NATX	**Nacogdoches**	**4.59**	**157**	S	**Sn**	**09**	**18**	**57.7**	**-2.5**
	baz=338								
CCAR	**Cane Creek**	**4.62**	**115**		**Pn**	**09**	**18**	**07.3**	**+0.5**
CCAR				IAmb_Lg		09	19	33.2	
	comp=Z,52nm,0.7s								
CCM	**Cathedral Cave**	**4.89**	**64**	Pn	**Pn**	**09**	**18**	**07.6**	**-2.9**
CCM				IAmb_Lg		09	19	35.9	
	comp=Z,131nm,0.8s								
CCM	**Cathedral Cave**	**4.89**	**64**	P	**Pn**	**09**	**18**	**11.1**	**+0.6**
	baz=247								
N35A	**Tabor**	**4.93**	**10**		**Pn**	**09**	**18**	**10.4**	**-0.7**
N35A				IAmb_Lg		09	19	46.2	
	comp=Z,119nm,0.7s								
HBAR	**Harrisburg**	**5.01**	**93**	Pn	**Pn**	**09**	**18**	**09.7**	**-2.4**
P40A	**Paris**	**5.15**	**46**	Pn	**Pn**	**09**	**18**	**16.3**	**+2.2**
PBMO	**Poplar Bluff**	**5.19**	**80**	Pn	**Pn**	**09**	**18**	**18.9**	**+4.2**
PBMO				IAmb_Lg		09	19	53.0	
	comp=Z,88nm,0.8s								
435B	**Jarrell**	**5.25**	**187**	Pn	**Pn**	**09**	**18**	**14.9**	**-0.6**
435B	**Jarrell**	**5.25**	**187**	P	**Pn**	**09**	**18**	**15.1**	**-0.4**
	baz=6.9								
LPAR	**Lepanto**	**5.29**	**92**	IAmb_Lg		09	19	44.9	
	comp=Z,67nm,0.7s								
MSTX	**Muleshoe**	**5.31**	**249**	Pn	**Pn**	**09**	**18**	**15.4**	**-0.9**
MSTX	**Muleshoe**	**5.31**	**249**	P	**Pn**	**09**	**18**	**16.8**	**+0.4**
	baz=66								
FVM	**French Village**	**5.47**	**67**	IAmb_Lg		09	19	52.6	
	comp=Z,120nm,0.8s								
BGNE	**Belgrade**	**5.50**	**349**	IAmb_Lg		09	20	02.1	
	comp=Z,129nm,0.7s								
GNAR	**Gosnell**	**5.50**	**88**	Pn	**Pn**	**09**	**18**	**21.1**	**+2.2**
GNAR				IAmb_Lg		09	20	04.7	
	comp=Z,92nm,0.8s								
KSCO	**Kaye Shedlock'**	**5.52**	**305**	Pn	**Pn**	**09**	**18**	**19.4**	**+0.1**
KSCO				IAmb_Lg		09	20	03.2	
	comp=Z,77nm,0.8s								
KSCO	**Kaye Shedlock'**	**5.52**	**305**	P	**Pn**	**09**	**18**	**19.8**	**+0.5**
	baz=121								
N38A	**Joes South For**	**5.54**	**29**	Pn	**Pn**	**09**	**18**	**19.4**	**0.0**
143A	**Socs Landing,**	**5.54**	**125**	Pn	**Pn**	**09**	**18**	**18.9**	**-0.6**
143A				IAmb_Lg		09	20	01.8	
	comp=Z,52nm,0.8s								
PEBM	**Pemiscott Bayo**	**5.62**	**87**	IAmb_Lg		09	20	03.7	
	comp=Z,137nm,0.7s								
MET	**Memphis--Engin**	**5.66**	**97**	Pn	**Pn**	**09**	**18**	**19.8**	**-1.3**
PENMO	**Penman**	**5.81**	**84**	IAmb_Lg		09	20	03.4	
	comp=Z,111nm,0.8s								
L34A	**Svendsen Farm,**	**5.96**	**3**	IAmb_Lg		09	20	08.4	
	comp=Z,127nm,0.7s								
JCT	**Junction City**	**6.06**	**205**	IAmb_Lg		09	20	19.4	
	comp=Z,78nm,0.8s								
JCT	**Junction City**	**6.06**	**205**	P	**Pn**	**09**	**18**	**25.9**	**-0.7**
	baz=24								
OXF	**Oxford**	**6.22**	**102**	Pn	**Pn**	**09**	**18**	**28.0**	**-0.8**
OXF				IAmb_Lg		09	20	16.5	
	comp=Z,58nm,1.1s								
OXF	**Oxford**	**6.22**	**102**	P	**Pn**	**09**	**18**	**27.7**	**-1.1**
	baz=286								
T25A	**Trinidad**	**6.23**	**283**	IAmb_Lg		09	20	21.5	
	comp=Z,54nm,0.8s								
W45A	**Hickory Valley**	**6.26**	**96**	Pn	**Pn**	**09**	**18**	**29.6**	**+0.3**
W45A				IAmb_Lg		09	20	29.2	
	comp=Z,83nm,0.7s								
Y45A	**Yeager Farm, C**	**6.33**	**108**	IAmb_Lg		09	20	30.2	
	comp=Z,39nm,0.8s								
OGNE	**Ogallala**	**6.42**	**322**	IAmb_Lg		09	20	24.7	
	comp=Z,110nm,0.8s								
UTMT	**University of**	**6.42**	**85**	IAmb_Lg		09	20	32.7	
	comp=Z,102nm,0.8s								
SCIA	**State Center**	**6.52**	**24**	Pn	**Pn**	**09**	**18**	**33.3**	**+0.4**
SCIA				IAmb_Lg		09	20	37.0	
	comp=Z,66nm,0.7s								
SCIA	**State Center**	**6.52**	**24**	P	**Pn**	**09**	**18**	**33.3**	**+0.4**
	baz=206								
K31A	**O'Neill**	**6.78**	**348**	IAmb_Lg		09	20	45.9	
	comp=Z,99nm,0.7s								
PLAL	**Pickwick Lake**	**7.19**	**96**	Pn	**Pn**	**09**	**18**	**40.8**	**-1.3**
SDCO	**Great Sand Dun**	**7.19**	**287**		**Pn**	**09**	**18**	**43.7**	**+1.4**
SDCO	**Great Sand Dun**	**7.19**	**287**	P	**Pn**	**09**	**18**	**43.6**	**+1.2**
	baz=102								
WVT	**Waverly**	**7.26**	**86**	Pn	**Pn**	**09**	**18**	**43.1**	**0.0**
Q24A	**Divide**	**7.27**	**296**	P	**Pn**	**09**	**18**	**43.7**	**+0.3**
	baz=112								
K38A	**Parkersburg**	**7.33**	**24**	Pn	**Pn**	**09**	**18**	**43.5**	**-0.4**
K38A				IAmb_Lg		09	20	53.4	
	comp=Z,98nm,1.1s								
L40A	**Anamosa**	**7.44**	**34**	Pn	**Pn**	**09**	**18**	**45.6**	**+0.1**
L40A				IAmb_Lg		09	20	59.1	
	comp=Z,77nm,0.8s								
HDIL	**Hopedale**	**7.45**	**50**	Pn	**Pn**	**09**	**18**	**44.9**	**-0.6**
ECSD	**EROS Data Cent**	**7.72**	**1**	Pn	**Pn**	**09**	**18**	**49.1**	**-0.3**
ECSD	**EROS Data Cent**	**7.72**	**1**	P	**Pn**	**09**	**18**	**48.2**	**-1.1**
	baz=181								
O44A	**Mansfield**	**7.76**	**55**	IAmb_Lg		09	21	14.3	
	comp=Z,83nm,0.8s								
T47A	**Sharon Grove**	**7.87**	**80**	Pn	**Pn**	**09**	**18**	**51.2**	**-0.2**
ISCO	**Idaho Springs**	**7.93**	**301**		**Pn**	**09**	**18**	**53.0**	**+0.4**
ISCO				IAmb_Lg		09	21	14.8	
	comp=Z,24nm,0.8s								
ISCO	**Idaho Springs**	**7.93**	**301**	P	**Pn**	**09**	**18**	**53.4**	**+0.8**
	baz=116								
V48A	**Smith Brothers**	**8.10**	**89**	IAmb_Lg		09	21	22.0	
	comp=Z,25nm,0.8s								
BNM	**Barren Site**	**8.27**	**260**	Pn	**Pn**	**09**	**18**	**56.5**	**-0.6**
MNTX	**Cornudas Mount**	**8.33**	**241**	Pn	**Pn**	**09**	**18**	**58.0**	**+0.2**
MNTX	**Cornudas

comp=Z,213nm,19.4s,baz=230,slow=37
HNR Honiara 9.17 112 Pn **Pn** 09 21 26.9 -0.4
JAY Jayapura 11.17 288 P **Pn** 09 21 58.4 +3.6
298nm10nm,1.1s
COEN Coen 11.26 225 Pn **Pn** 09 21 55.4 -0.7
CTA Charters Tower 14.83 199 Pn **Pn** 09 22 45.1 +0.5
0.1nm,0.3s,baz=37,slow=17,SNR=3.0
SANVU Saraoutou 18.16 122 Pn **P** 09 23 25.1 -1.6
SANVU IAmb IAmb 09 23 37.1
comp=Z,108nm,1.5s
EIDS Eidsvold 19.24 181 P **P** 09 23 37.1 -1.3
SAUI Saumlaki 19.99 263 P **P** 09 23 45.2 -1.6
MTN Manton Dam 21.05 250 P **P** 09 23 57.8 -0.5
MTN IAmb IAmb 09 24 11.3
comp=Z,36nm,1.0s
WB0 Warramunga Arr 21.41 229 P **P** 09 24 01.1 -1.0
WB0 IAmb IAmb 09 24 12.2
comp=Z,79nm,1.4s
WR0 Warramunga Arr 21.42 228 P **P** 09 24 01.8 -0.3
WR0 IAmb IAmb 09 24 12.2
comp=Z,36nm,1.1s
WRAB Tennant Creek 21.54 229 P **P** 09 24 03.1 -0.4
WRAB IAmb IAmb 09 24 19.8
comp=Z,33nm,1.1s
WB2 Warramunga Arr 21.55 228 P **P** 09 24 03.2 -0.3
WB2 IAmb IAmb 09 24 20.0
comp=Z,33nm,1.0s
WRA Warramunga Arr 21.56 229 P **P** 09 24 03.2 -0.4
comp=Z,13nm,0.9s,baz=56,slow=10.0,SNR=54
WRA Warramunga Arr 21.56 229 P **P** 09 24 03.1 -0.6
DZM Mont Dzumac 21.62 139 P **P** 09 24 04.8 +0.4
comp=Z,4.1nm,0.9s,baz=132,slow=20,SNR=2.8
DZM Mont Dzumac 21.62 139 P **P** 09 24 04.7 +0.3
KNRA Kununurra 24.14 245 P **P** 09 24 29.9 -0.1
KNRA IAmb IAmb 09 24 34.7
comp=Z,26nm,0.8s
AS31 Alice Springs 24.28 222 P **P** 09 24 31.1 -0.1
ASAR Alice Springs 24.28 222 P **P** 09 24 31.1 0.0
comp=Z,20nm,0.8s,baz=54,slow=9.4,SNR=129
ASAR S **S** 09 28 56.1 +8.6
comp=Z,1.4nm,0.9s,baz=42,slow=21,SNR=5.4
SOEI Soe 27.07 260 P **P** 09 24 55.5 -1.2
SOEI Soe 27.07 260 P **P** 09 24 57.3 +0.6
comp=Z,50nm,0.8s
STKA Stephens Creek 27.29 198 P **P** 09 24 58.5 +0.2
comp=Z,4.8nm,0.8s,baz=4.4,slow=11,SNR=8.8
STKA Stephens Creek 27.29 198 P **P** 09 24 58.3 0.0
FUNA Funafuti 27.73 97 P **P** 09 25 04.0 +1.5
FITZ Fitzroy Crossi 27.81 242 P **P** 09 25 02.7 -0.4
comp=Z,11nm,0.6s,baz=66,slow=7.9,SNR=55
FITZ Fitzroy Crossi 27.81 242 P **P** 09 25 02.4 -0.7
EDFI Ende, Flores 29.53 263 P **P** 09 25 17.4 -1.2
comp=Z,20nm,0.9s
BBOO Buckleboo 30.22 206 P **P** 09 25 23.5 -0.9
WBSI Waikabubak, Su 31.85 261 P **P** 09 25 39.7 +0.7
comp=Z,70nm,0.9s
FORT Forrest 32.93 219 P **P** 09 25 47.6 -0.7
FORT IAmb IAmb 09 26 07.3
comp=Z,14nm,0.8s
PLAI Plampang 33.40 263 P **P** 09 25 51.2 -1.3
comp=Z,63nm,0.7s
PSA00 Pilbara Seismi 34.17 240 P **P** 09 25 58.4 -0.8
JAGI Jajag, Banyuwa 36.97 264 P **P** 09 26 20.6 -2.7
JAGI Jajag, Banyuwa 36.97 264 P **P** 09 26 26.5 +3.2
PWJI Pagerwojo 39.29 265 P **P** 09 26 43.4 +0.6
comp=Z,42nm,1.1s
SJI Sawahan 39.32 265 P P 09 26 48.9 +5.7
NWAO Narrogin (SRO) 41.50 225 P **P** 09 26 59.9 -1.0
NWAO IAmb IAmb 09 27 00.9
comp=Z,23nm,1.3s
KPJI Karang Pucung 42.14 266 P **P** 09 27 07.9 +1.6
comp=Z,54nm,1.1s
MDSI Maura Dua 46.98 269 P **P** 09 27 45.6 +0.5
KSRS Korea Array 48.46 335 P **P** 09 27 55.8 -0.3
comp=Z,2.0nm,0.9s,baz=158,slow=7.9,SNR=6.4
NJ2 Nanjing 48.91 323 *e*P **P** 09 28 01.8 +2.2
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
ENH Enshi 53.95 314 P **P** 09 28 36.6 -0.8
ENH IAmb IAmb 09 28 48.8
comp=Z,13nm,1.1s
KLR Kul'dur 57.62 345 P **P** 09 29 01.4 -2.0
comp=Z,1.7nm,0.8s,baz=149,slow=2.8,SNR=6.6
HHC Hu-ho-hao-te 59.21 326 *e*P **P** 09 29 16.3 +1.5
HHC pmax pmax
comp=Z,18nm,0.5s
HHC pmax pmax
comp=Z,100nm,5.1s
SONM Songino Array 66.60 329 P **P** 09 30 03.5 -0.3
comp=Z,2.1nm,1.0s,baz=131,slow=5.8,SNR=9.6
SONM Songino Array 66.60 329 P **P** 09 30 03.3 -0.5
VNDA Vanda 71.67 178 P **P** 09 30 34.8 +0.2
PALK Pallekele 71.71 280 P P 09 30 28.5 -7.5
WMQ Urumqi 75.67 318 *e*P **P** 09 31 00.1 +1.4
OHAK Old Harbor 77.29 27 P **P** 09 31 07.7 +0.3
baz=237
O18K Koktuh Hills 77.94 24 P **P** 09 31 10.8 -0.3
baz=235
Q19K Cape Douglas, 78.07 26 P **P** 09 31 11.7 -0.2
baz=236
P19K Oil Pt 78.65 25 P **P** 09 31 15.2 +0.2
baz=236
L19K White Mountain 79.42 23 P **P** 09 31 19.2 -0.1
baz=235
TTA Tatalina 79.43 22 P **P** 09 31 19.4 +0.1
baz=233
L20K Farewell, AK 79.97 23 P **P** 09 31 22.8 +0.6
baz=236
K20K Telida 80.40 22 P **P** 09 31 25.1 +0.6
baz=235
SEW Seward 80.51 26 P **P** 09 31 25.3 +0.2
baz=240
J20K Nowinta River 80.84 21 P **P** 09 31 26.8 0.0
J20K IAmb IAmb 09 31 31.0
comp=Z,11nm,1.0s
J20K Nowinta River 80.84 21 P **P** 09 31 27.5 +0.7
baz=235
CAST Castle Rocks 81.17 22 P **P** 09 31 27.5 -1.2
baz=237
CHUM Lake Minchumin 81.34 22 P **P** 09 31 29.7 +0.3
baz=237
Q23K Middleton Isla 81.56 27 P **P** 09 31 30.8 +0.1
baz=243
SML Sawmill 81.83 25 P **P** 09 31 32.0 -0.2
baz=241
TRF Thorofare Moun 81.88 23 P **P** 09 31 31.6 -1.0
baz=239
BPAW Bear Paw Mtn. 81.95 22 P **P** 09 31 32.0 -0.8
baz=238
H21K Melozitna Rive 82.15 20 P **P** 09 31 34.1 +0.3
baz=236
I21K Tanana 82.17 21 P **P** 09 31 33.6 -0.2
baz=237
WAT6 Susitna Watana 82.45 24 P **P** 09 31 34.5 -1.0
baz=241
MLY Manley 82.54 21 P **P** 09 31 35.7 -0.1
MLY Manley 82.54 21 P **P** 09 31 34.8 -1.0
baz=238,SNR=5.9
MCK McKinley 82.54 23 P **P** 09 31 33.7 -2.2
baz=240,SNR=6.1
KLU Klutina 82.69 25 P **P** 09 31 36.2 -0.5
baz=243
DHY Denali Highway 82.83 24 P **P** 09 31 37.0 -0.5
DHY IAmb IAmb 09 31 44.9
comp=Z,5.9nm,0.9s
DHY Denali Highway 82.83 24 P **P** 09 31 37.2 -0.3
baz=241
M24K Tolsona, Glenn 82.87 25 P **P** 09 31 37.5 -0.1
baz=243
NEA2 Nenana 82.92 22 P **P** 09 31 36.2 -1.6
baz=240,SNR=5.1
I23K Minto, Yukon-K 83.10 21 P **P** 09 31 38.6 0.0
baz=239
H23K Yukon River 83.38 21 P **P** 09 31 39.8 -0.3
H23K IAmb IAmb 09 31 40.9
comp=Z,7.7nm,0.9s
H23K Yukon River 83.38 21 P **P** 09 31 39.8 -0.3
baz=239
CCB Clear Creek Bu 83.42 22 P **P** 09 31 38.6 -1.7
CCB IAmb IAmb 09 31 39.7
comp=Z,7.4nm,0.8s
TCOL CIGO, UAF Yank 83.51 22 P **P** 09 31 39.1 -1.7
baz=241,SNR=6.0
COLA College 83.52 22 P **P** 09 31 39.6 -1.2
baz=241
PAX Paxson 83.55 24 P **P** 09 31 40.6 -0.5
baz=243
CRQE Cirque 83.61 27 P **P** 09 31 41.3 -0.3
baz=246
HDA Harding Lake 83.64 23 P **P** 09 31 40.2 -1.3
baz=242
ILAR Eielson Array 83.83 22 P **P** 09 31 40.2 -2.2
comp=Z,6.9nm,0.7s,baz=248,slow=5.3,SNR=47
ILAR Eielson Array 83.83 22 P **P** 09 31 41.0 -1.5
KURK Kurchatov 83.84 322 P **P** 09 31 43.0 +0.3
KURBB Kurchatov Arra 83.87 322 P **P** 09 31 43.0 +0.1
comp=Z,3.1nm,0.8s,baz=293,slow=3.4,SNR=4.9
COLD Coldfoot 83.88 19 P **P** 09 31 42.5 -0.2
baz=238
MCARA McCarthy VSAT 83.90 26 P **P** 09 31 42.7 -0.1
baz=246
QSPA South Pole Qui 83.94 180 P **P** 09 31 42.9 -0.3
QSPA IAmb IAmb 09 31 47.5
comp=Z,6.4nm,1.1s
H24K Noodor Dome 83.98 21 P **P** 09 31 43.2 -0.1
baz=241
RIDG Independent Ri 84.15 24 P **P** 09 31 43.9 -0.3
baz=244
J25K Salcha River, 84.33 23 P **P** 09 31 43.7 -1.4
baz=243,SNR=14
M26K Nabesna, AK 84.34 25 P **P** 09 31 45.2 0.0
baz=246
DOT Dot Lake 84.42 24 P **P** 09 31 45.2 -0.3
L26K Log Cabin Wild 84.45 25 P **P** 09 31 45.5 -0.1
baz=245
CTG Chitna Glacier 84.48 27 P **P** 09 31 45.6 -0.4
baz=247
SCRK Sand Creek 84.60 24 P **P** 09 31 46.1 -0.4
baz=244
M27K Edge Creek, AK 84.80 25 P **P** 09 31 47.8 +0.3
M27K Edge Creek, AK 84.80 25 P **P** 09 31 47.4 -0.1
baz=246
TOLK Toolik Lake Re 84.82 18 P **P** 09 31 47.3 -0.1
baz=239
L27K Beaver Creek, 85.10 25 P **P** 09 31 48.6 -0.3
L27K IAmb IAmb 09 31 50.1
comp=Z,4.2nm,0.8s
L27K Beaver Creek, 85.10 25 P **P** 09 31 49.2 +0.3
baz=246
YUK3 Moose Creek 85.19 26 P **P** 09 31 49.8 +0.2
baz=248
BVCY Beaver Creek 85.25 26 P **P** 09 31 50.3 +0.6
baz=247
K27K Chicken 85.38 24 P **P** 09 31 51.2 +0.9
baz=246
YUK4 Talbot Arm 85.84 27 P **P** 09 31 53.2 +0.3
baz=250
EGAK Eagle 86.05 23 P **P** 09 31 53.3 -0.2
EGAK IAmb IAmb 09 31 54.5
comp=Z,8.4nm,0.9s
EGAK Eagle 86.05 23 P **P** 09 31 52.7 -0.8
baz=247,SNR=5.2
HYT Haines Junctio 86.18 28 P **P** 09 31 54.9 +0.5
baz=250
DAWY Dawson 86.49 24 P **P** 09 31 56.0 +0.1
DAWY Dawson 86.49 24 P **P** 09 31 55.9 +0.1
baz=249,SNR=6.0
SKAG Skagway 86.78 29 P **P** 09 31 57.5 +0.3
baz=252
CRAG Craig 86.80 34 P **P** 09 31 56.7 -0.7
baz=255
WHY Whitehorse 87.35 28 P **P** 09 32 00.3 +0.1
baz=253
MAYO Mayo, Yukon 87.79 25 P **P** 09 32 02.6 +0.5
baz=252
EPYK Eagle Plains 88.34 23 P **P** 09 32 04.6 -0.1
baz=251
FARO Faro, Yukon 88.50 27 P **P** 09 32 05.0 -0.5
baz=254,SNR=5.8
MMPY Sheldon Lake, 89.54 27 P **P** 09 32 10.5 +0.1
baz=256
INK Inuvik 90.11 21 P **P** 09 32 12.2 -0.6
comp=Z,5.8nm,1.0s,baz=187,slow=1.8,SNR=5.6
INK Inuvik 90.11 21 IAmb IAmb 09 32 14.1
comp=Z,6.1nm,0.9s
INK Inuvik 90.11 21 P **P** 09 32 12.5 -0.3
baz=254
L04D Klamath Falls 91.30 48 P **P** 09 32 18.1 -1.1
baz=263
J04D Umpqua Nationa 91.57 47 P **P** 09 32 20.0 -0.5
baz=263
WRGLY Wrigley 93.16 27 P **P** 09 32 26.8 -0.2
baz=263
EDW2 Edwards Air Fo 93.94 55 P **P** 09 32 31.2 -0.3
baz=265
NVAR Mina Array Bea 93.97 52 P **P** 09 32 31.6 -0.2
comp=Z,1.4nm,0.8s,baz=261,slow=6.3,SNR=10
NVAR Mina Array Bea 93.97 52 P **P** 09 32 31.2 -0.5
LRMC Laurel Mtn Rad 94.24 55 P **P** 09 32 32.9 0.0
baz=266
TPNV Topopah Spring 95.50 54 P **P** 09 32 38.3 -0.4
baz=266
BELC Belle Mtn. Jos 95.53 56 P **P** 09 32 38.5 -0.4
baz=266
BOZ Bozeman (W) 99.18 45 P **Pdif** 09 32 54.5 -0.6
baz=271
IDI Anoyia 122.92 308 PKP **PKiKP** 09 38 10.5 +0.3
comp=Z,7.9nm,0.9s,baz=335,slow=16,SNR=2.3
CKRC Cesky Krumlov 124.00 327 *e*PKPDF **PKiKP** 09 38 11.6 -0.2
KHC Kasperske Hory 124.21 328 *e*PKPDF **PKiKP** 09 38 12.1 -0.2
GERES GERESS Array B 124.32 327 PKP **PKPdf** 09 38 12.1 -0.2
comp=Z,1.9nm,0.8s,baz=106,slow=2.9,SNR=11
LPAZ La Paz 135.09 120 PKP **PKPdf** 09 38 34.0 -0.3
comp=Z,1.0nm,0.6s,baz=205,slow=8.4,SNR=4.7
LPAZ La Paz 135.09 120 **PKPdf** 09 38 33.8 -0.5
MDT Midelt 145.19 323 PKPbc **PKPdf** 09 38 51.9 +0.4
comp=Z,0.9nm,0.5s,baz=82,slow=6.5,SNR=3.5
TORD Torodi Ar. Bea 149.27 286 PKPbc **PKPbc** 09 39 02.0 -0.9
comp=Z,14nm,0.7s,baz=61,slow=3.0,SNR=45
TORD Torodi Ar. Bea 149.27 286 **PKPbc** 09 39 01.8 -1.1
BDFB Brasilia 151.17 139 PKPbc **PKPbc** 09 39 06.7 -0.9
comp=Z,4.5nm,0.7s,baz=175,slow=1.9,SNR=5.1
BDFB Brasilia 151.17 139 **PKPbc** 09 39 05.4 -2.2

IDC 18 09:22:00.0±2.4, 6°36S×152°37E, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.6/46, mbtmp3.6/3, Error ellipse: s-maj=153.0km s-min=32.7km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.12**	**231**	P	P	09 26 58.9	+1.5
	0.7nm,0.7s,baz=57,slow=10.0,SNR=1.3						
ASAR	**Alice Springs**	**24.73**	**224**	P	P	09 27 22.8	-0.6
	1.5nm,0.8s,baz=56,slow=8.9,SNR=3.9						
ILAR	**Eielson Array**	**83.75**	**22**	P	P	09 34 31.6	+0.8
	0.5nm,0.7s,baz=238,slow=5.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**150.35**	**285**	PKPbc	PKPbc	09 41 52.8	-1.7
	0.7nm,0.6s,baz=54,slow=2.4,SNR=3.0						

MEX 18 09:23:31.6±0.9, 14°15N×93°50W, h16km±999km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.42**	**57**	*e*P	Pn	09 23 53.9	-2.8
THIG				eS	Sn	09 24 10.5	-4.4
PCIG		**1.57**	**10**	*e*P	Pn	09 23 55.6	-3.2
PCIG				eS	Sn	09 24 13.7	-5.1
CCIG	**Comitan**	**2.50**	**32**	*e*P	Pn	09 24 11.6	-0.2
CCIG				eS	Sn	09 24 41.4	-0.6

*INET **18** 09:25:02.3, 14.°06N×87.°99W, h99km, MW3.6*
SNET 18 09:25:11.6±1.0, 12°92N×88°75W, h44km±30km, ML3.1, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEB	**Comit de Eme**	**0.61**	**20**	*e*P	Pn	09 25 24.2	+0.1
COEB				eS	Sn	09 25 34.6	+1.6
COEB				IAML		09 25 37.9	
	comp=Z,717nm,0.2s						
TECA	**Tecapa**	**0.62**	**23**	*e*P	Pn	09 25 24.5	+0.2
LCY	**Lacayo**	**0.67**	**41**	*e*P	Pn	09 25 25.3	+0.5
PACA	**Pacayal**	**0.68**	**37**	*e*P	Pn	09 25 25.6	+0.5
VSM	**San Miguel**	**0.68**	**42**	*e*P	Pn	09 25 25.6	+0.4
SNVI	**San Vicente**	**0.69**	**353**	*e*S	Sn	09 25 36.5	+1.5
COEG	**Centro de Oper**	**0.71**	**349**	*e*P	Pn	09 25 25.4	0.0
COEG				eS	Sn	09 25 36.0	+0.8
PQSS	**Presa 15 de Se**	**0.72**	**15**	*i* P	Pn	09 25 25.8	+0.3
PQSS				*e*S	Sn	09 25 36.3	+0.8
SJTE	**Alcalda de S**	**0.73**	**340**	*e*P	Pn	09 25 25.8	+0.1
SJTE				*e*S	Sn	09 25 36.5	+0.6
LFRS	**El Faro**	**0.76**	**336**	*e*P	Pn	09 25 26.3	+0.2
LFRS				*e*S	Sn	09 25 37.3	+0.7
PAVA	**Las Pavas**	**0.81**	**347**	*e*P	Pn	09 25 26.9	+0.2
PAVA				*e*S	Sn	09 25 39.2	+1.5
PAVA				IAML		09 25 42.7	
	comp=Z,566nm,0.5s						
LBRS	**Las Brisas**	**0.86**	**340**	*e*P	Pn	09 25 27.9	+0.5
SNET	**Serv Nac Est T**	**0.90**	**328**	*e*S	Sn	09 25 40.4	+0.6
SNET				IAML		09 25 41.9	
	comp=Z,513nm,0.2s						
OPAM	**Oficina de Pla**	**0.90**	**331**	*e*P	Pn	09 25 27.7	-0.3
OPAM				IAML		09 25 43.4	
	comp=Z,719nm,0.3s						
LCND	**La Caada**	**0.92**	**65**	*e*P	Pn	09 25 28.1	0.0
LCND				*e*S	Sn	09 25 41.2	+1.0
CNCH	**Conchagua**	**0.96**	**68**	*e*P	Pn	09 25 28.6	-0.2
CNCH				*e*S	Sn	09 25 41.9	+0.5
BOQS	**Boqueron**	**0.96**	**327**	*e*P	Pn	09 25 29.0	+0.1
BOQS				*e*S	Sn	09 25 42.4	+0.8
JAYA	**Jayaque - finc**	**1.00**	**317**	*e*P	Pn	09 25 29.2	-0.2
JAYA				*e*S	Sn	09 25 42.9	+0.5
CEDA	**San Andres**	**1.08**	**324**	*e*S	Sn	09 25 45.1	+0.9
TACO	**Tacachico**	**1.20**	**331**	*e*S	Sn	09 25 47.8	+0.7
CEVE	**Cerro Verde**	**1.24**	**317**	*e*P	Pn	09 25 33.6	+0.8
CEVE				*e*S	Sn	09 25 51.4	+2.9

*IDC **18** 09:27:29.6±2.9, 53.°78N×88.°16E, h0km, mb1 3.7/2, mb1mx3.3/71, mbtmp3.7/2, ML3.4/2, Error ellipse: s-maj=25.4km s-min=17.0km az=56.0*
*NNC **18** 09:27:29.1±3.5, 53.°78N×88.°25E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=46.0km s-min=15.4km az=32.0, Suspected Mining explosion.*
ISC 18 09:27:30.5±3.9, 53°8N±0°1×88°1E±0°2, h0km, n8, σ0°48/10, 5C, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.94**	**277**	*i*		09 41 00.0	
	baz=92,slow=322,SNR=3.4						
ZAA0	**Zalesovo Array**	**1.94**	**277**	⇑Pn	**Pn**	**09 28 04.6**	**0.0**
	3.7nm,0.5s						
ZAA0				⇑Sn	**Sb**	**09 28 31.6**	**+0.3**
	10nm,0.5s						
ZALV	**Zalesovo Beam**	**1.94**	**277**	Pn	**Pn**	**09 28 04.5**	**-0.1**
	11nm,0.3s,baz=95,slow=15,SNR=93						
ZALV				Lg	Lg	09 28 32.4	
	16nm,0.3s,baz=96,slow=24,SNR=18						
KURBB	**Kurchatov Arra**	**6.66**	**246**	Pn	**Pn**	**09 29 09.6**	**+0.1**
	0.9nm,0.3s,baz=62,slow=14,SNR=39						
KURBB				Sn	**Sn**	**09 30 25.7**	**-0.3**
	0.2nm,0.3s,baz=65,slow=26,SNR=4.6						
KURBB	**Kurchatov Arra**	**6.66**	**246**	⇑Pn	**Pn**	**09 29 09.3**	**-0.1**
	5.8nm,0.3s						
MK31	**Makanchi Array**	**7.90**	**210**	⇑Pn	**Pn**	**09 29 26.6**	**+0.2**
	0.6nm,0.6s,baz=30,slow=13,SNR=9.8						
MKAR	**Makanchi Array**	**7.90**	**210**	Pn	**Pn**	**09 29 27.3**	**+0.8**
	0.5nm,0.3s,baz=27,slow=14,SNR=9.1						
MKAR				Sn	**Sn**	**09 30 56.5**	**-0.1**
	0.6nm,0.3s,baz=25,slow=18,SNR=7.5						
MAKZ	**Makanchi**	**7.98**	**212**	⇑Pn	**Pn**	**09 29 26.8**	**-0.8**
	2.0nm,0.5s						

MEX 18 09:32:02.2±1.2, 17°48N×95°11W, h104km±11km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.44**	**151**	*i* P	Pn	09 32 16.2	-1.8
CMIG				*i* S	Sn	09 32 27.8	-2.1
TGIG		**2.02**	**110**	*i* P	Pn	09 32 34.7	-0.6
TGIG				*e*S	Sn	09 32 59.0	-1.5

*TUL **18** 09:33:00.3±1.5, 35.°98N±0.°02×96.°80W±0.°03, h4km±3km, ML3.0, mb_Lg2.8/57(NEIC), Error ellipse: s-maj=3.9km s-min=2.0km az=105.0*
NEIC 18 09:33:00.6±1.2, 36°00N±0°02×96°80W±0°03, h4km±4km, Error ellipse: s-maj=3.9km s-min=2.0km az=103.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.06**	**213**		Pg	09 33 01.7	-0.2
OK031				Sg	Sg	09 33 03.0	+0.1
QUOK	**Quay**	**0.19**	**24**	Pg	Pg	09 33 04.6	+0.3
QUOK				Sg	Sg	09 33 07.6	+0.9
OK029	**Liberty Lake**	**0.57**	**249**		Pg	09 33 11.5	0.0
OK029				Sg	Sg	09 33 19.6	+0.6
OK025	**Westminster Rd**	**0.60**	**226**	Pg	Pg	09 33 11.9	-0.3
OK025				Sg	Sg	09 33 20.6	+0.6
BCOK	**Bluff Creek, N**	**0.74**	**243**		Pg	09 33 14.7	-0.1
BCOK				Sg	Sg	09 33 24.9	+0.5
OKCFA	**Oklahoma City**	**0.79**	**222**		Pg	09 33 15.3	-0.4
OKCFA				Sg	Sg	09 33 26.1	+0.1
OKCSW	**OKLAHOMA CITY**	**0.79**	**221**		Pg	09 33 15.2	-0.5
OKCSW				Sg	Sg	09 33 26.0	+0.1
BLOK	**Blackwell**	**0.83**	**336**		Pg	09 33 16.4	-0.1
BLOK				Sg	Sg	09 33 27.7	+0.4
FNO	**Franklin**	**0.89**	**214**		Pg	09 33 16.8	-0.9
FNO				Sg	Sg	09 33 29.2	+0.1
T35A	**Sooner Cattle**	**0.94**	**14**		Pg	09 33 18.4	-0.3
CROK	**Carrier**	**1.08**	**298**		Pg	09 33 20.9	-0.4
CROK				Sg	Sg	09 33 35.7	+0.3
KAN13	**South Haven SW**	**1.15**	**332**		Pg	09 33 22.3	-0.3
KAN13				Sg	Sg	09 33 37.7	+0.2
GC02	**Grant County #**	**1.20**	**315**		Pg	09 33 23.2	-0.5
GC02				Sg	Sg	09 33 39.1	-0.2
KAN17	**Caldwell West**	**1.30**	**324**		Pg	09 33 25.1	-0.4
KAN17				Sg	Sg	09 33 42.1	-0.2
KAN09	**Caldwell North**	**1.31**	**330**		Pn	09 33 25.2	-0.5
KAN14	**Manchester OK**	**1.34**	**316**		Pn	09 33 25.6	-0.4
KS20	**Mayfield South**	**1.37**	**334**	Pn	Pn	09 33 26.4	-0.1
OK032	**Salt Plains WL**	**1.39**	**306**		Pn	09 33 26.2	-0.6
KAN05	**Bluff City Nor**	**1.40**	**322**	Pn	Pn	09 33 26.7	-0.2
KS21	**Milan North St**	**1.46**	**332**	IAmb_Lg		09 33 47.6	
	comp=Z,52nm,0.9s						
KAN10	**Anthony SW Sta**	**1.53**	**317**		Pn	09 33 27.9	-0.9
X34A	**Smith Ranch, M**	**1.63**	**211**		Pn	09 33 29.9	-0.2
X34A				IAmb_Lg		09 33 54.7	
	comp=Z,46nm,0.9s						
U32A	**Winter Ranch,**	**1.82**	**283**		Pn	09 33 33.2	+0.5
X37A	**Clayton**	**1.83**	**140**		Pn	09 33 33.4	+0.6
U38A	**Gravette**	**2.00**	**77**		Pn	09 33 35.9	+0.7
LOOK	**Love County**	**2.03**	**189**		Pn	09 33 36.2	+0.7
LOOK				IAmb_Lg		09 34 08.7	
	comp=Z,38nm,0.9s						
WMOK	**Wichita Mounta**	**2.05**	**233**		Pn	09 33 36.6	+0.7
HHAR	**Hobbs**	**2.33**	**82**	Pn	Pn	09 33 40.5	+0.8
W39A	**Magazine**	**2.59**	**107**	Pn	Pn	09 33 43.3	+0.1
Z35A	**Perchaven, San**	**2.69**	**188**	Pn	Pn	09 33 44.7	+0.1
R32A	**Long Quarter,**	**2.86**	**328**	Pn	Pn	09 33 47.4	+0.4
MIAR	**Mount Ida**	**3.01**	**118**		Pn	09 33 49.8	+0.7
KSU1	**Kansas State U**	**3.10**	**3**	Pn	Pn	09 33 50.5	+0.2
KSU1				IAmb_Lg		09 34 45.0	
	comp=Z,16nm,0.8s						
Z38A	**Mt. Pleasant**	**3.12**	**151**	IAmb_Lg		09 34 46.5	
	comp=Z,30nm,0.8s						
U40A	**Yellville**	**3.21**	**83**	Pn	Pn	09 33 52.3	+0.5
S39A	**Bolivar**	**3.26**	**58**	Pn	Pn	09 33 53.5	+1.0
S39A				IAmb_Lg		09 34 50.6	
	comp=Z,19nm,0.8s						
X40A	**Basin Creek Fa**	**3.58**	**114**	Pn	Pn	09 33 57.6	+0.8
CBKS	**Cedar Bluff**	**3.65**	**321**	Pn	Pn	09 33 58.9	+0.9
WHAR	**Wooly Hollow**	**3.74**	**100**	Pn	Pn	09 33 59.2	+0.1
WHAR				IAmb_Lg		09 35 00.2	
	comp=Z,19nm,0.7s						
FCAR	**Ozark Folk Cen**	**3.80**	**90**	Pn	Pn	09 34 00.4	+0.5
FCAR				IAmb_Lg		09 35 03.4	
	comp=Z,37nm,0.8s						
MGMO	**Mountain Grove**	**3.83**	**71**	Pn	Pn	09 34 01.2	+0.9
MGMO				IAmb_Lg		09 35 03.6	
	comp=Z,28nm,0.7s						
WHTX	**Lake Whitney,**	**4.04**	**188**	Pn	Pn	09 34 02.3	-0.8
237A	**Washetta, Mont**	**4.07**	**168**	Pn	Pn	09 34 02.3	-1.3
ABTX	**Abilene, Hawle**	**4.11**	**216**	Pn	Pn	09 34 02.6	-1.6
ABTX				IAmb_Lg		09 35 12.6	
	comp=Z,11nm,0.8s						

AMTX	**Amarillo**	**4.14**	**256**	lAmb_Lg		09 35 17.1		
	comp=Z,22nm,0.7s							
R40A	**Maddies Statio**	**4.28**	**56**	lAmb_Lg		09 35 19.2		
	comp=Z,29nm,1.1s							
P38A	**Dawn**	**4.45**	**35**	lAmb_Lg		09 35 20.0		
	comp=Z,12nm,0.8s							
CCM	**Cathedral Cave**	**4.90**	**64**	lAmb_Lg		09 35 39.7		
	comp=Z,17nm,0.8s							
N35A	**Tabor**	**4.94**	**10**	lAmb_Lg		09 35 38.9		
	comp=Z,12nm,0.8s							
P40A	**Paris**	**5.16**	**45**	lAmb_Lg		09 35 44.1		
	comp=Z,19nm,0.8s							
PBMO	**Poplar Bluff**	**5.20**	**80**	lAmb_Lg		09 35 57.0		
	comp=Z,17nm,0.8s							
FVM	**French Village**	**5.47**	**67**	lAmb_Lg		09 35 59.5		
	comp=Z,11nm,0.8s							
BGNE	**Belgrade**	**5.50**	**349**	lAmb_Lg		09 36 02.9		
	comp=Z,17nm,0.7s							
KSCO	**Kaye Shedlock'**	**5.52**	**305**	lAmb_Lg		09 36 07.4		
	comp=Z,17nm,0.9s							
N38A	**Joes South For**	**5.54**	**29**	lAmb_Lg		09 36 01.9		
	comp=Z,24nm,0.7s							
SLM	**Saint Louis**	**5.86**	**61**	lAmb_Lg		09 36 04.1		
	comp=Z,20nm,0.7s							
JCT	**Junction City**	**6.05**	**205**	lAmb_Lg		09 36 24.8		
	comp=Z,12nm,1.0s							
OXF	**Oxford**	**6.23**	**102**	Pn	Pn	09 34 32.8		-0.5
W45A	**Hickory Valley**	**6.26**	**96**	lAmb_Lg		09 36 17.7		
	comp=Z,15nm,0.8s							
OGNE	**Ogallala**	**6.42**	**322**	lAmb_Lg		09 36 36.4		
	comp=Z,19nm,0.7s							
K31A	**O'Neill**	**6.78**	**348**	lAmb_Lg		09 36 47.7		
	comp=Z,15nm,0.8s							
P43A	**Skaggs, Pawnee**	**6.81**	**56**	lAmb_Lg		09 36 42.6		
	comp=Z,16nm,0.7s							
WVT	**Waverly**	**7.27**	**86**	Pn	Pn	09 34 47.4		-0.1
BLO	**Bloomington**	**8.75**	**66**	lAmb_Lg		09 37 44.1		
	comp=Z,14nm,0.7s							

IDC ***18*** *09:35:20.4*±*0.7,31°.23S*×*72°.24W, h0*^{km}*, mb4.2/8, mb1 4.3/12, mb1mx4.2/28, mbtmp4.1/12, ML3.9/4, Error ellipse: s-maj=27.6km s-min=18.1km az=93.0*
NEIC ***18*** *09:35:22.1*±*2.7, 31°.32S*±*0°.04*×*72°.30W*±*0°.06, h10*^{km}±*1km, mb4.5/9, Error ellipse: s-maj=9.1km s-min=7.5km az=277.0*

ISC 18 09:35:23.7±0.6,**31°.26S**±0°.06×**72°.32W**±0°.09,**h24**^{km}**, n62,** σ1^{s}**40/58, mb4.3/10, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.83**	**45**		**Pb**	**09 35 38.7**	**-0.7**
CO03	**El Pedregal**	**1.46**	**74**	Pn	**Pn**	**09 35 47.7**	**-1.0**
CO05	**La Serena**	**1.63**	**35**		**Pn**	**09 35 50.1**	**-0.8**
VA01	**Torpederas**	**1.85**	**162**	Pn	**Pn**	**09 35 53.0**	**-0.9**
VA03	**San Esteban**	**2.12**	**135**	Pn	**Pn**	**09 35 54.8**	**-3.0**
VA05	**Santo Domingo**	**2.46**	**166**	Pn	**Pn**	**09 36 00.9**	**-1.5**
MT05	**Renca**	**2.51**	**148**	Pn	**Pn**	**09 36 01.4**	**-1.7**
LCO	**Las Campanas**	**2.64**	**32**		**Pn**	**09 36 04.9**	**-0.2**
LCO					**Pb**	**09 36 11.3**	**+0.7**
MT01	**Popeta**	**2.75**	**161**	Pn	**Pn**	**09 36 04.1**	**-2.2**
MT09	**Talagante**	**2.75**	**156**	Pn	**Pn**	**09 36 05.4**	**-1.0**
ZON	**Zonda**	**3.12**	**96**		**Pn**	**09 36 10.7**	**-0.8**
AC04	**Llanos de Chal**	**3.23**	**20**		**Pn**	**09 36 11.2**	**-1.8**
BO01	**Tunca**	**3.29**	**162**	Pn	**Pn**	**09 36 13.1**	**-0.7**
BO02	**Sierra Bellavi**	**3.75**	**160**	Pn	**Pn**	**09 36 20.0**	**-0.2**
GO05	**Huala**	**3.75**	**175**	Pn	**Pn**	**09 36 18.2**	**-2.0**
GO03	**Copiap**	**4.08**	**27**	Pn	**Pn**	**09 36 23.9**	**-0.8**
AC06	**Mina Casimiro**	**4.25**	**24**		**Pn**	**09 36 25.6**	**-1.4**
ML02	**Panimavida**	**4.55**	**171**		**Pn**	**09 36 29.8**	**-1.3**
AC02	**Maricunga**	**5.22**	**33**	Pn	**Pn**	**09 36 41.1**	**+0.3**
H03N1	**Juan Fernandez**	**5.99**	**247**	T	T	09 43 45.2	
	baz=79,slow=73,SNR=14						
VA04	**Juan Fernndez**	**5.99**	**245**	Pn	**Pn**	**09 36 48.0**	**-2.9**
H03N3	**Juan Fernandez**	**6.00**	**247**	T	T	09 43 41.5	
	baz=79,slow=73,SNR=10						
H03N2	**Juan Fernandez**	**6.00**	**247**	T	T	09 43 42.7	
	baz=79,slow=73,SNR=10						
H03S3	**Juan Fernandez**	**6.12**	**244**	T	T	09 43 56.5	
	baz=69,slow=74						
H03S1	**Juan Fernandez**	**6.13**	**243**	T	T	09 43 50.9	
	baz=69						
H03S2	**Juan Fernandez**	**6.14**	**244**	T	T	09 43 51.1	
	baz=69,slow=74						
LC01	**Cunco**	**7.63**	**177**		**Pn**	**09 37 10.6**	**-2.7**
PB10	**IPOC Station P**	**7.88**	**12**	Pn	**Pn**	**09 37 15.8**	**-1.0**
LR03	**Panguipulli**	**8.35**	**180**		**Pn**	**09 37 21.4**	**-1.9**
PB15	**IPOC Station P**	**8.41**	**18**	Pn	**Pn**	**09 37 22.6**	**-1.7**
LVC	**Limon Verde**	**9.14**	**20**	Pn	**Pn**	**09 37 31.0**	**-3.4**
	0.3nm,0.3s,baz=245,slow=22,SNR=1.0						
LVC	**Limon Verde**	**9.14**	**20**		**Pn**	**09 37 32.7**	**-1.7**
PLCA	**Paso Flores**	**9.56**	**172**	Pn	**Pn**	**09 37 39.4**	**-0.5**
	0.5nm,0.3s,baz=340,slow=10,SNR=13						
PLCA	**Paso Flores**	**9.56**	**172**		**Pn**	**09 37 38.5**	**-1.4**
LL04	**Puerto Octay**	**9.63**	**180**	Pn	**Pn**	**09 37 38.5**	**-2.3**
LL05	**Los Muermos**	**10.17**	**185**	Pn	**Pn**	**09 37 45.0**	**-3.1**
PSGCX	**Pisagua**	**11.78**	**10**		**Pn**	**09 38 11.6**	**+1.2**
LPAZ	**La Paz**	**15.39**	**15**	Pn	**Pn**	**09 38 60.0**	**0.0**
	0.2nm,0.3s,baz=188,slow=7.1,SNR=7.9						
LPAZ	**La Paz**	**15.39**	**15**		**Pn**	**09 39 01.5**	**+1.5**
SIV	**San Ignacio**	**18.34**	**37**	P	**Pn**	**09 39 36.4**	**-0.2**
	0.3nm,0.3s,baz=241,slow=9.3,SNR=6.3						
SPB	**Sao Paulo**	**23.34**	**77**	P	**P**	**09 40 30.4**	**+0.1**
BDFB	**Brasilia**	**27.09**	**61**	P	**P**	**09 41 03.6**	**-1.2**
	19nm,1.0s,baz=234,slow=6.7,SNR=9.7						
BDFB	**Brasilia**	**27.09**	**61**	P	**P**	**09 41 05.3**	**+0.4**
BDFB				lAmb	lAmb	09 41 07.2	
	comp=Z,19nm,1.0s						
VNA3	**Neumayer Olymp**	**51.98**	**159**	P	**P**	**09 44 31.5**	**+0.9**
VNA2	**Neumayer--Watz**	**52.63**	**158**	P	**P**	**09 44 35.6**	**+0.2**
	baz=289,slow=9.3						
SNAA	**Sanae**	**54.21**	**159**	P	**P**	**09 44 47.8**	**+0.8**
SNAA	**Sanae**	**54.21**	**159**	P	**P**	**09 44 47.8**	**+0.8**
SNAA				lAmb	lAmb	09 45 03.9	
	comp=Z,5.4nm,1.2s						
QSPA	**South Pole Qui**	**58.97**	**180**	P	**P**	**09 45 21.8**	**+0.8**
	comp=Z,2.3nm,0.8s,baz=154,slow=1.4,SNR=13						
QSPA	**South Pole Qui**	**58.97**	**180**	P	**P**	**09 45 22.2**	**+1.1**
QSPA				lAmb	lAmb	09 45 38.6	
	comp=Z,7.7nm,1.3s						
TX31	**Lajitas Ar. Si**	**67.24**	**330**	P	**P**	**09 46 17.0**	**+0.7**
TX32	**Lajitas Array**	**67.24**	**330**	P	**P**	**09 46 17.1**	**+0.8**
TX32				lAmb	lAmb	09 46 17.7	
	comp=Z,2.3nm,0.9s						
TXAR	**Lajitas Array**	**67.24**	**330**	P	**P**	**09 46 16.8**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=152,slow=8.0,SNR=16						
DBIC	**Dimbokro**	**74.55**	**72**	P	**P**	**09 47 01.1**	**+0.2**
	comp=Z,3.3nm,0.8s,baz=164,slow=16,SNR=2.2						
MAW	**Mawson**	**75.87**	**164**	P	**P**	**09 47 08.3**	**+0.7**
	comp=Z,3.7nm,0.8s,baz=191,slow=5.5,SNR=7.4						
PDAR	**Pinedale Array**	**81.22**	**333**	P	**P**	**09 47 37.8**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=193,slow=3.7,SNR=3.5						
NVAR	**Mina Array Bea**	**81.51**	**325**	P	**P**	**09 47 40.6**	**+1.3**
	comp=Z,1.3nm,1.1s,baz=146,slow=5.0,SNR=4.4						
TORD	**Torodi Ar. Bea**	**83.51**	**70**	P	**P**	**09 47 51.0**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=261,slow=4.2,SNR=7.3						
TORD	**Torodi Ar. Bea**	**83.51**	**70**	lAmb	lAmb	09 48 00.1	
	comp=Z,2.3nm,0.9s						
WRA	**Warramunga Arr**	**123.02**	**210**	PKP	**PKPdf**	**09 54 18.0**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=156,slow=1.4,SNR=2.0						
BVAR	**Borovoye Array**	**145.39**	**40**	PKPbc	**PKPab**	**09 55 00.1**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=274,slow=4.3,SNR=4.6						
ZALV	**Zalesovo Beam**	**152.00**	**29**	PKPbc	**PKiKP**	**09 55 16.3**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=339,slow=3.7,SNR=4.1						
ZALV	**Zalesovo Beam**	**152.00**	**29**	PKPdf	**PKPdf**	**09 55 09.2**	**-0.5**
ZALV					**PKiKP**	**09 55 17.0**	**+0.4**
ZALV				PKPab	**PKPab**	**09 55 26.4**	**+0.7**

IDC 18 09:38:09.3±3.4,**6°.19S**×**150°.05E, h0**^{km}**, mb3.8/2, mb1 3.9/2, mb1mx3.4/39, mbtmp3.8/2, Error ellipse: s-maj=107.8km s-min=45.6km az=119.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.49**	**227**	P	P	09 42 49.9	+0.8
	2μm,1.0s,baz=52,slow=11,SNR=9.1						
ASAR	**Alice Springs**	**23.30**	**220**	P	P	09 43 18.4	-0.8
	1.4nm,0.7s,baz=53,slow=9.3,SNR=14						
FITZ	**Fitzroy Crossi**	**26.59**	**241**	P	P	09 43 49.4	-0.1
	1.2nm,0.5s,baz=74,slow=7.4,SNR=6.0						
TORD	**Torodi Ar. Bea**	**148.07**	**285**	PKPbc	PKPbc	09 57 57.7	-0.4
	1.3nm,0.6s,baz=66,slow=3.5,SNR=7.8						

IDC ***18*** *09:48:29.5*±*2.1, 32°.13S*×*72°.53W, h0*^{km}*, mb4.0/4, mb1 3.9/9, mb1mx3.7/33, mbtmp3.8/9, ML3.9/5, Error ellipse: s-maj=61.3km s-min=20.1km az=107.0*
NEIC ***18*** *09:48:30.9*±*2.8, 32°.34S*±*0°.03*×*72°.38W*±*0°.08, h10*^{km}±*1km, mb4.4/6, ML4.1(GUC), Error ellipse: s-maj=11.6km s-min=5.3km az=257.0*
GUC ***18*** *09:48:34.5*±*0.8, 32°.48S*×*72°.02W, h29*^{km}±*7km, ML3.9*

ISC 18 09:48:30.1±1.7,**32°.31S**±0°.04×**72°.33W**±0°.06,**h4**^{km}±10^{km}**, n65,** σ1^{s}**79/72, mb4.2/5, 1C-3D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**0.90**	**106**	*i* P	**Pg**	**09 48 47.1**	**-0.3**
VA06				IAML		09 49 00.5	
	comp=E,11μm,0.4s						
VA01	**Torpederas**	**0.91**	**141**	*e*P	**Pg**	**09 48 48.1**	**+0.6**
VA01				*i* S	**Sg**	**09 48 59.5**	**+0.2**
VA01	**Torpederas**	**0.91**	**141**	Pg	**Pg**	**09 48 48.1**	**+0.6**
ROCH	**El Roble**	**1.29**	**121**	*e*P	**Pn**	**09 48 53.6**	**-1.5**
ROCH				*i* S	**Sb**	**09 49 08.6**	**-3.4**
ROCH				IAML		09 49 12.1	
	comp=N,6μm,0.5s						
VA05	**Santo Domingo**	**1.47**	**156**	*e*P	**Pn**	**09 48 57.2**	**-0.2**
VA05				*i* S	**Sn**	**09 49 11.6**	**-5.4**
VA05				IAML		09 49 19.1	
	comp=E,2μm,0.4s						
VA05	**Santo Domingo**	**1.47**	**156**	Pn	**Pn**	**09 48 57.2**	**-0.2**
VA05				Sn	**Sn**	**09 49 15.2**	**-1.9**
VA03	**San Esteban**	**1.56**	**107**	*e*P	**Pn**	**09 48 57.7**	**-1.1**
VA03				*i* S	**Sn**	**09 49 16.0**	**-3.6**
VA03				IAML		09 49 19.4	
	comp=E,8μm,0.5s						
VA03	**San Esteban**	**1.56**	**107**	Pn	**Pn**	**09 48 58.1**	**-0.7**
MT05	**Renca**	**1.72**	**129**	↓*i* P	**Pn**	**09 49 01.1**	**+0.2**
MT05				*i* S	**Sn**	**09 49 20.9**	**-2.3**
MT05				IAML		09 49 24.8	
	comp=E,11μm,0.3s						
MT05	**Renca**	**1.72**	**129**	Pn	**Pn**	**09 49 01.2**	**+0.3**
CO06	**Fray Jorge**	**1.74**	**20**	Pn	**Pn**	**09 49 01.7**	**+0.6**
MT01	**Popeta**	**1.79**	**150**	*e*P	**Pn**	**09 49 01.5**	**-0.3**
MT01				IAML		09 49 28.6	
	comp=E,2μm,0.9s						
MT01	**Popeta**	**1.79**	**150**	Pn	**Pn**	**09 49 01.8**	**-0.1**
MT09	**Talagante**	**1.84**	**143**	*e*P	**Pn**	**09 49 02.2**	**-0.4**
MT09				*i* S	**Sn**	**09 49 23.7**	**-2.8**
MT09				IAML		09 49 35.6	
	comp=N,2μm,0.3s						
MT09	**Talagante**	**1.84**	**143**	Pn	**Pn**	**09 49 03.1**	**+0.5**
CO03	**El Pedregal**	**2.03**	**44**	*e*P	**Pb**	**09 49 07.7**	**+0.1**
CO03				*i* S	**Sn**	**09 49 26.7**	**-4.3**
CO03				IAML		09 49 49.5	
	comp=E,2μm,0.3s						
CO03	**El Pedregal**	**2.03**	**44**	Pn	**Pn**	**09 49 06.2**	**+1.0**
BO01	**Tunca**	**2.32**	**154**	↓*i* P	**Pn**	**09 49 09.2**	**+0.1**
BO01				IAML		09 49 45.9	
	comp=E,393nm,0.4s						
BO01	**Tunca**	**2.32**	**154**		**Pn**	**09 49 09.0**	**-0.1**
LMEL	**Las Melosas**	**2.35**	**131**	*e*P	**Pn**	**09 49 10.4**	**+0.7**
LMEL				*i* S	**Sn**	**09 49 37.9**	**-1.1**
LMEL				IAML		09 49 50.0	
	comp=N,1μm,0.6s						
CO05	**La Serena**	**2.56**	**22**	↓*i* P	**Pn**	**09 49 14.6**	**+2.2**
CO05	**La Serena**	**2.56**	**22**		**Pn**	**09 49 14.6**	**+2.2**
GO05	**Huala**	**2.71**	**173**	*e*P	**Pn**	**09 49 14.5**	**0.0**
GO05				IAML		09 50 04.7	
	comp=N,487nm,0.8s						
GO05	**Huala**	**2.71**	**173**	Pn	**Pn**	**09 49 14.9**	**+0.4**
BO02	**Sierra Bellavi**	**2.79**	**153**	*e*P	**Pn**	**09 49 16.4**	**+0.8**
BO02				IAML		09 49 58.7	
	comp=N,803nm,0.3s						
BO02	**Sierra Bellavi**	**2.79**	**153**		**Pn**	**09 49 16.5**	**+0.9**
ZON	**Zonda**	**3.19**	**77**		**Pn**	**09 49 22.3**	**+1.1**
ML02	**Panimavida**	**3.52**	**168**		**Pn**	**09 49 25.2**	**-0.5**
LCO	**Las Campanas**	**3.58**	**23**	*e*P	**Pn**	**09 49 27.7**	**+1.1**
LCO				*i* S	Sn	09 49 47.8	-22
LCO	**Las Campanas**	**3.58**	**23**		**Pn**	**09 49 28.2**	**+1.6**
AC04	**Llanos de Chal**	**4.24**	**15**	↓*i* P	**Pn**	**09 49 33.5**	**-1.9**
AC04	**Llanos de Chal**	**4.24**	**15**		**Pn**	**09 49 33.9**	**-1.6**
AC06	**Mina Casimiro**	**5.23**	**20**	Pn	**Pn**	**09 49 48.8**	**-0.3**
H03N1	**Juan Fernandez**	**5.66**	**257**	T	T	09 56 03.4	
	baz=85,slow=73,SNR=11						
H03N3	**Juan Fernandez**	**5.67**	**257**	T	T	09 56 02.6	
	baz=85,slow=73,SNR=20						
H03N2	**Juan Fernandez**	**5.67**	**257**	T	T	09 56 04.1	
	baz=85,slow=73,SNR=25						
AC02	**Maricunga**	**6.13**	**28**	Pn	**Pn**	**09 50 03.8**	**+1.9**
LC01	**Cunco**	**6.58**	**177**		**Pn**	**09 50 08.5**	**+0.8**
LR03	**Panguipulli**	**7.30**	**180**		**Pn**	**09 50 17.9**	**+0.3**
PLCA	**Paso Flores**	**8.52**	**171**	Pn	**Pn**	**09 50 35.2**	**+0.8**
	comp=N,0.6nm,0.3s,baz=329,slow=12,SNR=16						
PLCA				Sn	Sn	09 52 20.3	+9.2
	baz=48,slow=18,SNR=1.1						
PLCA	**Paso Flores**	**8.52**	**171**	Pn	**Pn**	**09 50 34.4**	**0.0**
LL04	**Puerto Octay**	**8.58**	**180**	Pn	**Pn**	**09 50 34.0**	**-1.1**
PB15	**IPOC Station P**	**9.41**	**16**	Pn	**Pn**	**09 50 44.9**	**-1.8**
PB06	**IPOC Station P**	**9.88**	**15**	Pn	**Pn**	**09 50 51.1**	**-2.0**
PB04	**IPOC Station P**	**10.13**	**12**	Pn	**Pn**	**09 50 54.9**	**-1.6**
LVC	**Limon Verde**	**10.13**	**18**	Pn	**Pn**	**09 50 53.2**	**-3.5**
	comp=N,0.3nm,0.3s,baz=259,slow=5.0,SNR=1.3						
LVC				Sn	**Sn**	**09 52 50.5**	**-0.5**
	comp=N,1.1nm,0.3s,baz=4.4,slow=19,SNR=2.3						
LVC	**Limon Verde**	**10.13**	**18**		**Pn**	**09 50 56.0**	**-0.7**
TRQA	**Tornquist**	**10.22**	**127**	Pn	**Pn**	**09 50 59.5**	**+1.9**
PB07	**IPOC Station P**	**10.77**	**12**	Pn	**Pn**	**09 51 03.2**	**-2.1**
PB09	**IPOC Station P**	**10.83**	**15**	Pn	**Pn**	**09 51 04.6**	**-1.5**
CPUP	**Villa Florida**	**14.37**	**69**	Pn	**Pn**	**09 51 55.1**	**+0.7**
	comp=N,0.2nm,0.3s,baz=169,slow=20,SNR=2.0						
CPUP				Sn	**Sn**	**09 54 39.8**	**+5.6**
	comp=N,0.1nm,0.3s,baz=208,slow=16,SNR=1.3						
LPAZ	**La Paz**	**16.40**	**14**	Pn	**Pn**	**09 52 19.1**	**-2.8**
	comp=N,0.2nm,0.3s,baz=259,slow=10,SNR=9.6						
LPAZ	**La Paz**	**16.40**	**14**		**Pn**	**09 52 20.7**	**-1.1**
SIV	**San Ignacio**	**19.20**	**35**	P	**P**	**09 52 55.6**	**+0.5**
	comp=N,0.2nm,0.3s,baz=228,slow=9.1,SNR=5.6						
EFI	**East Falkland**	**21.99**	**156**	P	**P**	**09 53 25.6**	**+0.6**
SPB	**Sao Paulo**	**23.60**	**75**	P	**P**	**09 53 41.8**	**-0.3**
SPB				lAmb	lAmb	09 53 52.3	
	comp=Z,17nm,1.3s						
BDFB	**Brasilia**	**27.63**	**59**	P	**P**	**09 54 19.7**	**+0.7**
	comp=Z,1.9nm,0.5s,baz=212,slow=9.5,SNR=2.0						
VNA3	**Neumayer Olymp**	**51.01**	**158**	P	**P**	**09 57 34.2**	**+1.5**
VNA2	**Neumayer--Watz**	**51.66**	**158**	P	**P**	**09 57 39.1**	**+1.5**
	baz=286,slow=8.5						
SNAA	**Sanae**	**53.24**	**158**	P	**P**	**09 57 50.6**	**+1.2**
SNAA	**Sanae**	**53.24**	**158**	P	**P**	**09 57 50.8**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=241,slow=4.2,SNR=9.4						
SNAA	**Sanae**	**53.24**	**158**	lAmb	lAmb	09 58 12.5	
	comp=Z,3.6nm,1.2s						
QSPA	**South Pole Qui**	**57.92**	**180**	P	**P**	**09 58 25.5**	**+2.2**
	comp=Z,1.6nm,1.0s,baz=33,slow=8.8,SNR=1.8						
QSPA	**South Pole Qui**	**57.92**	**180**	P	**P**	**09 58 21.9**	**-1.3**
QSPA				lAmb	lAmb	09 58 36.8	
	comp=Z,3.4nm,1.1s						
TORD	**Torodi Ar. Bea**	**83.87**	**70**	P	**P**	**10 01 01.9**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=267,slow=3.6,SNR=3.0						

KRSC ***18*** *09:51:48.8*±*1.1, 55°.53N*×*161°.33E, h149*^{km}±*11km, ML4.1*
IDC ***18*** *09:51:50.7*±*2.9, 55°.64N*×*160°.90E, h154*^{km}±*25km, mb3.4/5, mb1 3.6/6, mb1mx3.2/41, mbtmp3.8/6, MS3.9/3, Ms1 3.9/3, ms1mx3.5/51, Error ellipse: s-maj=37.2km s-min=20.7km az=102.0*
NEIC ***18*** *09:51:50.1*±*0.9, 55°.72N*±*0°.10*×*160°.8E*±*0°.2, h146*^{km}±*9km, mb4.1/7, Error ellipse: s-maj=16.2km s-min=14.1km az=100.0*

ISC 18 09:51:50.1±0.7,**55°.55N**±0°.04×**161°.20E**±0°.05,**h151**^{km}±5^{km}**, n68,** σ1^{s}**21/85, mb3.8/8, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BZGR	**Bezymyannyi-Gr**	**0.48**	**324**	*e*P	**Pn**	**09 52 11.1**	**-0.5**
BZGR				*e*S	**Sn**	**09 52 28.1**	**0.0**
ZLN	**Zelenaya**	**0.52**	**335**	*e*P	**Pn**	**09 52 11.9**	**+0.1**
ZLN				*e*S	**Sn**	**09 52 29.3**	**+0.9**
BZMR	**Bezymyannaya**	**0.56**	**314**	*e*P	**Pn**	**09 52 11.5**	**-0.6**
BZMR				*e*S	**Sn**	**09 52 28.1**	**-0.7**
TUMD	**Tumrok D**	**0.57**	**233**	*e*P	**Pn**	**09 52 11.5**	**-0.5**
TUMD				*e*S	**Sn**	**09 52 28.2**	**-0.4**
BZWR	**Bezymyannyi-We**	**0.58**	**316**	*e*P	**Pn**	**09 52 11.9**	**-0.3**
BZWR				*e*S	**Sn**	**09 52 28.8**	**-0.2**
KMNR	**Kamenistaya**	**0.58**	**291**	*e*P	**Pn**	**09 52 12.2**	**+0.1**
KMNR				*e*S	**Sn**	**09 52 29.5**	**+0.6**
LGNR	**Loginova**	**0.61**	**332**	*e*P	**Pn**	**09 52 12.8**	**+0.3**
LGNR				*e*S	**Sn**	**09 52 30.0**	**+0.4**
CIRR	**Tsirk**	**0.62**	**336**	*e*P	**Pn**	**09 52 12.3**	**-0.1**
CIRR				*e*S	**Sn**	**09 52 29.6**	**+0.1**
KIRR	**Kirishev**	**0.63**	**310**	*e*P	**Pn**	**09 52 11.8**	**-0.7**
KIRR				*e*S	**Sn**	**09 52 28.8**	**-0.8**
TUMR	**Tumrok**	**0.66**	**247**	*e*P	**Pn**	**09 52 12.6**	**0.0**
TUMR				*e*S	**Sn**	**09 52 30.0**	**+0.3**
KZV	**Kizimen**	**0.68**	**230**	*e*P	**Pn**	**09 52 12.3**	**-0.5**
KPT	**Kopyto**	**0.69**	**307**	*e*P	**Pn**	**09 52 12.1**	**-0.7**
KPT				*e*S	**Sn**	**09 52 29.6**	**-0.5**
KRSR	**Krestovskiy**	**0.76**	**332**	*e*P	**Pn**	**09 52 12.7**	**-0.5**
KRSR				*e*S	**Sn**	**09 52 30.1**	**-0.8**
KLY	**Klyuchi**	**0.83**	**338**	*e*P	**Pn**	**09 52 12.7**	**-0.8**
KLY				*e*S	**Sn**	**09 52 30.5**	**-1.0**
BDR	**Baidarnaya**	**1.02**	**0**	*e*P	**Pn**	**09 52 14.9**	**-0.3**
BDR				*e*S	**Sn**	**09 52 34.6**	**+0.1**
MKZ	**Mys Kozlova**	**1.04**	**163**	*e*P	**Pn**	**09 52 14.6**	**-0.7**
MKZ				*e*S	**Sn**	**09 52 33.5**	**-1.0**
SMKR	**Semkarok**	**1.05**	**8**	*e*P	**Pn**	**09 52 14.9**	**-0.5**
SMKR				*e*S	**Sn**	**09 52 34.1**	**-0.8**
KBG	**Krutoberegovo**	**1.10**	**49**	*e*P	**Pn**	**09 52 15.1**	**-0.7**
KBG				*e*S	**Sn**	**09 52 34.9**	**-0.6**
SRKR	**Sorokina**	**1.11**	**359**	*e*P	**Pn**	**09 52 15.5**	**-0.5**
SRKR				*e*S	**Sn**	**09 52 35.0**	**-0.8**
KBTR	**Krutoberegovo**	**1.12**	**53**	*e*P	**Pn**	**09 52 15.3**	**-0.7**
KBTR				*e*S	**Sn**	**09 52 34.7**	**-1.2**
ESO	**Esso**	**1.46**	**286**	*e*P	**Pn**	**09 52 20.8**	**+1.4**
KII	**Karymskiy**	**1.82**	**215**	*e*P	**Pn**	**09 52 27.0**	**+3.6**
SPN	**Mys Shipunski**	**2.55**	**196**	*e*P	**Pn**	**09 52 30.5**	**-1.4**
SPN				*e*S	**Sn**	**09 53 01.1**	**-3.0**
NLC	**Nalytchevo**	**2.62**	**205**	*e*P	**Pn**	**09 52 32.4**	**-0.3**
NLC				*e*S	**Sn**	**09 53 04.1**	**-1.4**
SDLR	**Sedlovina**	**2.65**	**212**	*e*P	**Pn**	**09 52 34.9**	**+1.7**
KRX	**Arik**	**2.65**	**215**	*e*P	**Pn**	**09 52 34.1**	**+0.8**
GNL	**Ganaly**	**2.65**	**227**	*e*P	**Pn**	**09 52 33.7**	**+0.4**
KRER	**Koryakskii**	**2.67**	**214**	*e*P	**Pn**	**09 52 34.9**	**+1.4**
AVH	**Avacha**	**2.70**	**213**	*e*P	**Pn**	**09 52 35.5**	**+1.6**
KOK	**Koryaka**	**2.71**	**215**	*e*P	**Pn**	**09 52 35.0**	**+1.0**
UGLR	**Uglovaya**	**2.73**	**212**	*e*P	**Pn**	**09 52 34.5**	**+0.3**
BKI	**Bering**	**2.74**	**95**	*e*P	**Pn**	**09 52 34.4**	**+0.2**
BKI				*e*S	**Sn**	**09 53 06.9**	**-1.4**
DALK	**Dalny**	**2.90**	**211**	*e*P	**Pn**	**09 52 36.2**	**0.0**
DALK				*e*S	**Sn**	**09 53 11.4**	**-0.5**
PET	**Petropavlovsk**	**2.94**	**212**	*e*P	**Pn**	**09 52 37.2**	**+0.5**
PET				*e*S	**Sn**	**09 53 13.1**	**+0.4**
PET	**Petropavlovsk**	**2.94**	**212**		**Pn**	**09 52 35.3**	**-1.4**
PEA0B

PCVE				S	Sg	09 56 38.6	0.0		
	67nm,0.1s								
PCVE	**Castro Verde**	**1.14**	**344**	*eP*	**Pb**	**09 56 24.4**	**+0.7**		
PCVE				*eS*	**Sg**	**09 56 38.6**	**0.0**		
PCVE				A	A	09 56 39.7			
	67nm,0.1s								
PTEO	**Sao Teotonio**	**1.33**	**320**	P	**Pn**	**09 56 26.8**	**+0.3**		
PTEO				S	**Sb**	**09 56 43.1**	**-0.9**		
	12nm,0.3s								
PTEO	**Sao Teotonio**	**1.33**	**320**	*eP*	**Pn**	**09 56 26.8**	**+0.3**		
PTEO				*eS*	**Sb**	**09 56 43.1**	**-0.9**		
PTEO				A	A	09 56 52.0			
	24nm,0.3s								
MESJ	**Messejana**	**1.38**	**341**	*eP*	**Pn**	**09 56 27.7**	**+0.4**		
MESJ				*eS*	**Sb**	**09 56 43.9**	**-1.6**		
MESJ				IAML		09 56 45.5			
	comp=N,42nm,0.2s								
MESJ	**Messejana**	**1.38**	**341**	P	**Pn**	**09 56 27.7**	**+0.4**		
MESJ				S	**Sb**	**09 56 44.1**	**-1.4**		
	comp=N,39nm,0.2s								
MESJ	**Messejana**	**1.38**	**341⇓**	*eP*	**Pn**	**09 56 27.7**	**+0.4**		
MESJ				*eS*	**Sb**	**09 56 44.1**	**-1.4**		
MESJ				A	A	09 56 45.6			
	comp=N,39nm,0.2s								
EMIN	**Mina Concepcio**	**1.45**	**32**	P	**Pn**	**09 56 28.3**	**+0.1**		
	comp=N,1.9nm,0.1s,SNR=14								
EMIN				S	**Sn**	**09 56 45.2**	**-2.1**		
	comp=N,10nm,0.1s,SNR=7.6								
ESPR	**Espera**	**1.47**	**76**	**⇑**P	**Pn**	**09 56 28.6**	**+0.1**		
	comp=N,3.7nm,0.1s,SNR=18								
ESPR				S	**Sn**	**09 56 46.4**	**-1.4**		
	comp=N,54nm,0.2s,SNR=9.3								
PBEJ	**Beja**	**1.50**	**353**	P	**Pn**	**09 56 29.3**	**+0.4**		
PBEJ				S	**Sn**	**09 56 47.3**	**-1.2**		
	comp=N,8.1nm,0.3s								
PBEJ	**Beja**	**1.50**	**353⇑**	*eP*	**Pn**	**09 56 29.3**	**+0.4**		
PBEJ				*eS*	**Sn**	**09 56 47.3**	**-1.2**		
PBEJ				A	A	09 56 56.8			
	comp=N,16nm,0.3s								
PNCL	**Nicolau / Gran**	**1.72**	**336**	Pn	**Pn**	**09 56 32.3**	**+0.3**		
PNCL				Sn	**Sn**	**09 56 52.8**	**-1.2**		
	comp=N,24nm,0.7s								
PNCL	**Nicolau / Gran**	**1.72**	**336⇑**	*e*Pn	**Pn**	**09 56 32.3**	**+0.3**		
PNCL				*e*Sn	**Sn**	**09 56 52.8**	**-1.2**		
PNCL				A	A	09 57 02.6			
	comp=N,24nm,0.7s								
EJIF	**Jimena Fronter**	**1.75**	**92**	P	**Pn**	**09 56 33.2**	**+0.8**		
	SNR=7.9								
EJIF				S	Sn	09 56 48.8	-6.0		
	SNR=7.9								
ECEU	**Ceuta**	**1.94**	**109**	P	**Pn**	**09 56 35.7**	**+0.7**		
	comp=N,8.8nm,0.1s,SNR=18								
CEU	**Ceuta**	**1.94**	**108**	P	**Pn**	**09 56 36.3**	**+1.3**		
CEU				S	**Sn**	**09 56 59.7**	**+0.3**		
CEU	**Ceuta**	**1.94**	**108**	P	**Pn**	**09 56 36.3**	**+1.3**		
CEU				S	**Sn**	**09 56 59.7**	**+0.3**		
EVO	**Evora**	**2.01**	**352**	Pn	**Pn**	**09 56 36.6**	**+0.6**		
EVO				Sn	**Sn**	**09 56 59.3**	**-1.9**		
EVO	**Evora**	**2.01**	**352**	P	**Pn**	**09 56 36.4**	**+0.5**		
EVO				S	**Sn**	**09 56 57.5**	**-3.7**		
EVO	**Evora**	**2.01**	**352**	*e*Pn	**Pn**	**09 56 36.6**	**+0.6**		
EVO				*e*Sn	**Sn**	**09 56 59.3**	**-1.9**		
SMIR	**Smir Dam**	**2.02**	**114**	P	**Pn**	**09 56 37.3**	**+1.2**		
SMIR				S	**Sn**	**09 57 01.6**	**+0.2**		
RSA	**Sarsar**	**2.22**	**138**	P	Pn	09 56 37.2	-1.6		
RSA				S	**Sn**	**09 57 02.6**	**-3.7**		
EBAD	**Badajoz**	**2.27**	**13**	P	**Pn**	**09 56 39.6**	**+0.1**		
	comp=N,4.9nm,0.1s,SNR=14								
EBAD				S	**Sn**	**09 57 06.1**	**-1.4**		
	comp=N,15nm,0.2s								
EMIJ	**Mijas**	**2.31**	**88**	P	**Pn**	**09 56 40.4**	**+0.3**		
	comp=N,1.4nm,0.1s,SNR=7.9								
EMIJ				S	**Sn**	**09 57 05.6**	**-3.0**		
	comp=N,3.8nm,0.2s,SNR=7.9								
PESTR	**Estremoz**	**2.33**	**1**	*e*Pn	**Pn**	**09 56 40.6**	**+0.3**		
PESTR				*e*Sn	**Sn**	**09 57 07.5**	**-1.5**		
PESTR				A	A	09 57 19.2			
	comp=N,7.6nm,0.6s								
PESTR	**Estremoz**	**2.33**	**1**	P	**Pn**	**09 56 40.5**	**+0.3**		
PESTR				S	**Sn**	**09 57 10.0**	**+1.0**		
ECAB	**El Cabril**	**2.35**	**48**	P	**Pn**	**09 56 40.6**	**0.0**		
	comp=N,1.1nm,0.1s,SNR=15								
ECAB				S	**Sn**	**09 57 05.9**	**-3.6**		
	comp=N,4.1nm,0.1s,SNR=5.7								
CHEFC	**Chefchaouen**	**2.35**	**127**	P	**Pn**	**09 56 41.2**	**+0.5**		
CHEFC				S	Sn	09 57 04.2	-5.5		
PMAFR	**Mafra**	**2.74**	**332**	P	**Pn**	**09 56 46.7**	**+0.7**		
	comp=N,5.6nm,0.1s,SNR=9.4								
PMAFR				S	**Sn**	**09 57 18.2**	**-1.0**		
	comp=N,69nm,0.3s,SNR=5.7								
EGOR	**Sierra Gorda,**	**2.89**	**78**	P	**Pn**	**09 56 49.1**	**+0.9**		
	comp=N,0.6nm,0.1s,SNR=7.9								
EGOR				S	**Sn**	**09 57 21.6**	**-1.5**		
	comp=N,5.1nm,0.2s,SNR=7.9								
EADA	**Adamuz**	**2.94**	**55**	P	**Pn**	**09 56 49.1**	**+0.5**		
	comp=N,1.6nm,0.1s,SNR=7.9								
EADA				S	**Sn**	**09 57 19.9**	**-4.1**		
	comp=N,6.6nm,0.1s,SNR=7.9								
ZHG	**ZHG**	**3.19**	**165**	P	**Pn**	**09 56 51.7**	**-0.5**		
ZHG				S	**Sn**	**09 57 27.7**	**-2.7**		
ELGU	**Los Guajares,**	**3.24**	**83**	P	**Pn**	**09 56 54.5**	**+1.5**		
	comp=N,1.9nm,0.1s,SNR=7.9								
ELGU				S	**Sn**	**09 57 30.3**	**-1.4**		
	comp=N,7.9nm,0.3s,SNR=7.9								
PALE	**Palemas**	**3.28**	**113**	P	**Pn**	**09 56 53.0**	**-0.5**		
PALE				S	**Sn**	**09 57 31.6**	**-1.0**		
EQUE	**Quentar**	**3.44**	**78**	P	**Pn**	**09 56 56.6**	**+1.0**		
	comp=N,0.7nm,0.1s,SNR=7.9								
EQUE				S	**Sn**	**09 57 34.5**	**-2.0**		
	comp=N,3.7nm,0.2s,SNR=5.2								
EPLA	**Plasencia**	**3.73**	**19**	P	**Pn**	**09 56 59.6**	**0.0**		
	comp=N,2.8nm,0.1s,SNR=7.1								
EPLA				S	**Sn**	**09 57 40.4**	**-3.2**		
	comp=N,1.5nm,0.2s,SNR=7.9								
EBER	**Berja**	**3.84**	**83**	P	**Pn**	**09 57 04.1**	**+2.9**		
	comp=N,0.8nm,0.2s,SNR=7.9								
EBER				S	**Sn**	**09 57 44.6**	**-1.9**		
	comp=N,5.6nm,0.3s,SNR=7.9								
EQES	**Quesada**	**3.86**	**70**	P	**Pn**	**09 57 01.5**	**0.0**		
	comp=N,0.8nm,0.1s,SNR=7.9								
EQES				S	**Sn**	**09 57 44.2**	**-2.9**		
	comp=N,1.5nm,0.1s,SNR=7.9								
PAB	**San Pablo**	**3.97**	**40**	P	**Pn**	**09 57 03.5**	**+0.5**		
	comp=N,2.2nm,0.2s,SNR=7.9								
PAB				S	**Sn**	**09 57 44.3**	**-5.4**		
	comp=N,6.4nm,0.3s,SNR=7.9								
GOG	**Mont Gurugu**	**4.00**	**108**	P	Pn	09 57 00.8	-2.4		
GOG				S	**Sn**	**09 57 46.0**	**-4.2**		
CZD	**Col de Zad**	**4.10**	**148**	P	**Pn**	**09 57 04.8**	**-0.1**		
CZD				S	Sn	09 57 46.7	-6.4		
ESDC	**Sonseca Array**	**4.27**	**42**	P	**Pn**	**09 57 07.4**	**+0.3**		
	comp=N,5.0nm,0.1s,baz=224,slow=13,SNR=12								
ESDC				S	**Sn**	**09 57 51.5**	**-5.4**		
	comp=N,4.2nm,0.4s,baz=226,slow=22,SNR=4.9								
SESP	**Santiago Espad**	**4.36**	**67**	P	**Pn**	**09 57 08.8**	**+0.5**		
	comp=N,1.0nm,0.1s,SNR=7.9								
SESP				S	**Sn**	**09 57 55.7**	**-3.6**		
	comp=N,5.7nm,0.1s,SNR=7.9								
MD31	**MD31**	**4.36**	**146**	P	**Pn**	**09 57 07.4**	**-1.0**		
MD31				S	**Sn**	**09 57 55.2**	**-4.1**		
MDT	**Midelt**	**4.48**	**145**	P	Pn	09 57 08.7	-1.2		
MDT				S	Sn	09 57 56.1	-6.1		
JBK	**JBK**	**4.69**	**116**	P	Pn	09 57 11.3	-1.6		
JBK				S	**Sn**	**09 58 03.1**	**-4.5**		
GUD	**Guadarrama**	**4.93**	**33**	P	**Pn**	**09 57 19.0**	**+2.9**		
	comp=N,1.2nm,0.2s,SNR=7.9								
GUD				S	**Sn**	**09 58 10.5**	**-2.8**		
	comp=N,0.5nm,0.3s,SNR=7.9								
ETOB	**Tobarra**	**5.28**	**65**	P	**Pn**	**09 57 20.5**	**-0.4**		
	comp=N,0.9nm,0.1s,SNR=6.0								
ETOB				S	**Sn**	**09 58 17.4**	**-4.5**		
	comp=N,4.2nm,0.2s,SNR=6.4								
OUK	**Oukaimeden**	**5.32**	**182**	P	**Pn**	**09 57 21.1**	**-0.6**		
OUK				S	Sn	09 58 16.8	-6.4		
ELOB	**Lobios**	**5.33**	**357**	P	**Pn**	**09 57 21.0**	**-0.7**		
	comp=N,0.9nm,0.1s,SNR=6.1								
ELOB				S	**Sn**	**09 58 18.9**	**-4.3**		
	comp=N,1.1nm,0.1s,SNR=7.9								
ECAL	**Calabor**	**5.44**	**7**	P	**Pn**	**09 57 23.4**	**+0.3**		
	comp=N,2.0nm,0.1s,SNR=9.3								
ECAL				S	**Sn**	**09 58 21.0**	**-4.9**		
	comp=N,2.8nm,0.2s,SNR=7.9								
TDRA	**Tendrara**	**5.79**	**125**	P	**Pn**	**09 57 27.0**	**-1.0**		
TDRA				S	Sn	09 58 29.3	-5.3		
TZRR	**Tazzarine**	**5.99**	**163**	P	**Pn**	**09 57 30.7**	**-0.1**		
TZRR				S	**Sn**	**09 58 36.9**	**-2.5**		
TTIG	**Tnine Tigouga,**	**6.01**	**187**	P	Pn	09 57 26.4	-4.7		
TTIG				S	Sn	09 58 31.9	-8.1		
ECHE	**Chera**	**6.08**	**58**	P	**Pn**	**09 57 32.1**	**+0.1**		
	SNR=7.9								
ECHE				S	**Sn**	**09 58 37.3**	**-4.3**		
	comp=N,2.6nm,0.3s,SNR=7.9								
ETOR	**Torete**	**6.11**	**44**	P	**Pn**	**09 57 33.0**	**+0.6**		
	comp=N,14nm,0.2s,SNR=14								
ETOR				S	Sn	09 58 35.9	-6.6		
	comp=N,8.9nm,0.2s,SNR=5.7								
EMOS	**Mosqueruela**	**6.80**	**54**	P	**Pn**	**09 57 43.1**	**+1.2**		
	comp=N,0.5nm,0.2s,SNR=7.9								
EMOS				S	**Sn**	**09 58 55.4**	**-4.1**		
	comp=N,0.5nm,0.1s,SNR=7.9								
EARI	**Arriondas**	**7.01**	**15**	P	**Pn**	**09 57 45.6**	**+0.9**		
	SNR=7.9								
EARI				S	**Sn**	**09 59 00.6**	**-3.9**		
	comp=N,0.2nm,0.2s,SNR=7.9								
ELAN	**Lanestosa**	**7.43**	**25**	P	**Pn**	**09 57 50.7**	**+0.3**		
	SNR=7.9								
ATE	**Arette**	**8.44**	**37**	P	**Pn**	**09 58 03.9**	**-0.4**		
	comp=N,0.4nm,0.1s,SNR=7.9								
ATE				S	**Sn**	**09 59 34.4**	**-5.3**		
	comp=N,0.7nm,0.2s,SNR=7.9								
CSOR	**Sort**	**8.95**	**47**	P	**Pn**	**09 58 12.3**	**+1.0**		
	comp=N,0.1nm,0.1s,SNR=4.0								

*TAP **18** 10:01:30.7,24°.25N×121°.83E,h19km,ML3.7,B*
*JMA **18** 10:01:30.1±0.1,24°.17N×121°.83E,h22km±3km,M2.9*
ISC 18 10:01:30.5±0.8,24°.23N±0°.01×121°.88E±0°.02,h17km±5km,
n111,σ0°62/174,3C-14D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.15**	**303**	*i* P		**Pg**	**10 01 34.6**	**0.0**
	baz=309							
EHP				*e*S		**Sb**	**10 01 38.0**	**+0.3**
	baz=309							
ENA	**Nanau**	**0.23**	**328⇓**	*i*P		**Pg**	**10 01 35.8**	**-0.1**
	baz=337							
ENA				S		**Sg**	**10 01 39.7**	**+0.1**
	baz=337							
EWUT	**Wuta**	**0.23**	**337⇓**	*i*P		**Pg**	**10 01 35.9**	**0.0**
	baz=346							
EWUT				S		**Sg**	**10 01 39.8**	**+0.2**
	baz=346							
ETL	**Fush Village**	**0.24**	**254⇓**	*i*P		**Pg**	**10 01 36.2**	**+0.1**
	baz=245							
ETL				*i* S		**Sb**	**10 01 40.5**	**+0.1**
	baz=245							
NACB	**Ninganchiao**	**0.26**	**258⇓**	*i*P		**Pg**	**10 01 36.3**	**-0.1**
	baz=251							
NACB				*i* S		**Sg**	**10 01 40.8**	**+0.4**
	baz=251							
TWD	**Chiawan**	**0.30**	**240⇓**	*i*P		**Pg**	**10 01 37.0**	**+0.1**
	baz=231							
TWD				*i* S		**Sb**	**10 01 42.2**	**+0.3**
	baz=231							
HWA	**Hwalien**	**0.35**	**225**	P		**Pb**	**10 01 39.0**	**+0.7**
	baz=216							
HWA				*e*S		**Sn**	**10 01 45.6**	**-1.7**
	baz=216							
ETLH	**Xiulin Townshi**	**0.36**	**267⇓**	*i*P		**Pg**	**10 01 37.9**	**-0.2**
	baz=263							
ETLH				*i* S		**Sg**	**10 01 43.2**	**0.0**
	baz=263							
TWC	**Suao**	**0.38**	**356⇓**	*i*P		**Pg**	**10 01 38.5**	**+0.1**
	baz=4.0							
TWC				S		**Sb**	**10 01 44.2**	**-0.1**
	baz=4.0							
NDS	**Dongshan**	**0.43**	**340⇓**	*i*P		**Pg**	**10 01 39.3**	**0.0**
	baz=345							
NDS				S		**Sg**	**10 01 45.2**	**0.0**
	baz=345							
ETM	**Tongmen**	**0.44**	**234**	⇑P		**Pb**	**10 01 39.6**	**-0.1**
	baz=228							
ETM				*e*S		**Sb**	**10 01 46.5**	**+0.5**
	baz=228							
TEYL	**Yanliau Villag**	**0.44**	**216**	*e*P		**Pb**	**10 01 39.9**	**+0.2**
	baz=211							
TEYL				*e*S		**Sb**	**10 01 47.4**	**+1.4**
	baz=211							
NNSB	**Datong**	**0.49**	**294⇓**	*i*P		**Pg**	**10 01 40.4**	**0.0**
	baz=294							
NNSB				*i* S		**Sg**	**10 01 47.2**	**0.0**
	baz=294							
ENTT	**Nioudou**	**0.50**	**325⇓**	*i*P		**Pg**	**10 01 40.4**	**-0.1**
	baz=329							
ENTT				S		**Sb**	**10 01 47.7**	**-0.1**
	baz=329							
NDT	**Datong Townshi**	**0.50**	**318**	P		**Pg**	**10 01 40.6**	**+0.1**
	baz=321							
NDT				S		**Sb**	**10 01 47.8**	**0.0**
	baz=321							
NNS	**Nan Shan**	**0.51**	**295⇓**	*i*P		**Pg**	**10 01 40.6**	**-0.1**
	baz=295							
NNS				S		**Sg**	**10 01 47.5**	**0.0**
	baz=295							
TWE	**Neicheng**	**0.53**	**339⇓**	*i*P		**Pg**	**10 01 41.0**	**0.0**
	baz=344							
TWE				*e*S		**Sb**	**10 01 48.7**	**+0.1**
	baz=344							
WHF	**Hehuan Shan**	**0.57**	**262⇓**	*i*P		**Pg**	**10 01 41.7**	**-0.2**
	baz=259							
WHF				*e*S		**Sg**	**10 01 49.6**	**0.0**
	baz=259							
ESL	**Shilin**	**0.58**	**225**	*e*P		**Pg**	**10 01 41.6**	**-0.3**
	baz=219							
ESL				*e*S		**Sb**	**10 01 50.8**	**+0.8**
	baz=219							
FUSS	**Fushou**	**0.58**	**272⇓**	*i*P		**Pg**	**10 01 42.0**	**-0.1**
	baz=270							
FUSS				S		**Sg**	**10 01 49.9**	**0.0**
	baz=270							
TEGC	**Jichi Village**	**0.60**	**211**	*e*P		**Pb**	**10 01 42.9**	**+0.4**
	baz=206							
NTC	**Toucheng**	**0.62**	**356**	*i* P		**Pb**	**10 01 43.0**	**+0.1**
	baz=360							
NTC				*e*S		**Sb**	**10 01 51.9**	**+0.6**
	baz=360							
YHNB	**Yeheng**	**0.64**	**314**	*i* P		**Pg**	**10 01 43.0**	**-0.1**
	baz=315							
YHNB				*i* S		**Sg**	**10 01 51.7**	**+0.1**
	baz=315							
TWT	**Tachien**	**0.64**	**272**	*e*P		**Pb**	**10 01 43.6**	**+0.3**
	baz=270							
TWT				*e*S		**Sb**	**10 01 52.3**	**+0.3**
	baz=270							
NWLT	**Wulai**	**0.65**	**328**	*i* P		**Pg**	**10 01 43.0**	**-0.2**
	baz=330							
NWLT				S		**Sg**	**10 01 51.9**	**+0.1**
	baz=330							
NSK	**Sanguang**	**0.65**	**313**	*i* P		**Pg**	**10 01 43.1**	**-0.3**
	baz=315							
NSK				S		**Sg**	**10 01 51.9**	**-0.2**
	baz=315							
TDCB	**Techi**	**0.66**	**272**	P		**Pg**	**10 01 43.5**	**+0.1**
	baz=271							
TDCB				*e*S		**Sg**	**10 01 52.1**	**-0.2**
	baz=271							
CHGB	**Renai**	**0.66**	**256⇑**	*i*P		**Pg**	**10 01 43.6**	**0.0**
	baz=253							
CHGB				*e*S		**Sb**	**10 01 52.9**	**+0.2**
	baz=253							
EGFH	**Guangfu**	**0.69**	**217**	P		**Pb**	**10 01 43.8**	**-0.3**
	baz=213							
EGFH				*e*S		**Sb**	**10 01 54.2**	**+0.9**
	baz=213							
OWD	**Renai**	**0.70**	**247⇑**	*i*P		**Pg**	**10 01 44.0**	**-0.2**
	baz=244							
OWD				*e*S		**Sb**	**10 01 53.9**	**+0.3**
	baz=244							
TIPB	**Shuangxi**	**0.74**	**356**	P		**Pg**	**10 01 45.2**	**+0.2**
	baz=360							
TIPB				*e*S		**Sg**	**10 01 55.0**	**0.0**
	baz=360							
TWB1	**Santiao Chiao**	**0.78**	**7**	*e*P		**Pg**	**10 01 46.0**	**+0.2**
	baz=11							
TWB1				*e*S		**Sn**	**10 01 57.1**	**-0.9**
	baz=11							
TWA	**Mucha**	**0.80**	**340**	*e*P		**Pg**	**10 01 46.1**	**+0.1**
	baz=343							
TWA				*e*S		**Sg**	**10 01 57.2**	**+0.6**
	baz=343							
NHDH	**Xindian Distri**	**0.80**	**336**	*e*P		**Pn**	**10 01 46.8**	**-0.1**
	baz=339							
NHDH				*e*S		**Sg**	**10 01 56.7**	**0.0**
	baz=339							
HGSD	**Ruisui**	**0.84**	**210**	P		**Pg**	**10 01 46.8**	**-0.1**
	baz=206							
NWF	**Wu-fen Shan**	**0.84**	**354**	P		**Pn**	**10 01 47.3**	**-0.3**
	baz=357							
NWF				*e*S		**Sn**	**10 01 59.1**	**-0.6**
	baz=357							
WFSB	**Wu-fen Shan**	**0.84**	**354**	P		**Pn**	**10 01 47.3**	**-0.2**
	baz=357							
WFSB				*e*S		**Sn**	**10 01 59.2**	**-0.4**
	baz=357							
WHP	**Taichung City**	**0.85**	**274**	P		**Pb**	**10 01 47.0**	**+0.2**
	baz=272							
WHP				*e*S		**Sg**	**10 01 58.5**	**+0.1**
	baz=272							
WPL	**Puli Township**	**0.87**	**256**	*e*P		**Pb**	**10 01 47.0**	**0.0**
	baz=254							
WPL				*e*S		**Sg**	**10 01 59.0**	**+0.1**
	baz=254							
EHY	**Hungye**	**0.88**	**215**	*e*P		**Pb**	**10 01 46.0**	**-1.2**
	baz=212							
LIOB	**Emei**	**0.89**	**298**	*e*P		**Pg**	**10 01 47.8**	**0.0**
	baz=298							
LIOB				*e*S		**Sg**	**10 01 59.6**	**+0.1**
	baz=298							
DPDB	**Guoxing**	**0.89**	**258**	*e*P		**Pb**	**10 01 47.4**	**0.0**
	baz=256							
DPDB				*e*S		**Sg**	**10 02 00.0**	**+0.4**
	baz=256							
NSTT	**Nanjuang**	**0.89**	**297**	*e*P		**Pb**	**10 01 47.7**	**+0.2**
	baz=297							
NSTT				*e*S		**Sg**	**10 01 59.5**	**-0.2**
	baz=297							
WCS	**Beigang Elemen**	**0.90**	**259**	*e*P		**Pb**	**10 01 47.4**	**-0.2**
	baz=257							
WCS				*e*S		**Sg**	**10 01 59.8**	**0.0**
	baz=257							
TNOU	**National Taiwa**	**0.92**	**354**	*e*P		**Pb**	**10 01 46.2**	**-1.8**
	baz=357							
SSLB	**Suanglung**	**0.95**	**243**	P		**Pb**	**10 01 48.0**	**-0.5**
	baz=240							
SSLB				*e*S		**Sb**	**10 02 01.0**	**+0.2**
	baz=240							
HSN1	**Hsinchu**	**0.96**	**305**	*e*P		**Pn**	**10 01 49.6**	**+0.5**
	baz=306							
YM01	**YM01**	**0.96**	**343**	*e*P		**Pn**	**10 01 49.2**	**+0.1**
	baz=345							
SMLT	**Sun Moon Lake**	**0.96**	**249**	*e*P		**Pb**	**10 01 48.1**	**-0.5**
	baz=247							
SMLT				*e*S		**Sg**	**10 02 01.7**	**0.0**
	baz=247							
TWS1	**Kuangyinshan**	**0.96**	**334**	*e*P		**Pb**	**10 01 48.7**	**0.0**
	baz=336							
TWS1				*e*S		**Sn**	**10 02 02.4**	**-0.1**
	baz=336							
NCU	**National Centr**	**0.97**	**320**	*e*P		**Pg**	**10 01 49.4**	**+0.1**
	baz=321							
NCU				*e*S		**Sn**	**10 02 03.8**	**+1.2**
	baz=321							
NCUH	**Zhongli**	**0.97**	**320**	*e*P		**Pn**	**10 01 49.2**	**0.0**
	baz=321							
TYC	**Yuchr**	**0.99**	**251**	*e*P		**Pb**	**10 01 48.7**	**-0.4**
	baz=249							
TYC				*e*S		**Sb**	**10 02 02.2**	**+0.4**
	baz=249							
YULB	**Yu-li**	**0.99**	**213**	*e*P		**Pb**	**10 01 47.4**	**-1.7**
	baz=210							
YULB				*e*S		**Sg**	**10 02 02.5**	**-0.2**
	baz=210							
ECBN	**Changbin**	**0.99**	**203**	*e*P		**Pb**	**10 01 49.1**	**0.0**
	baz=201							
SBCB	**Hsinchu**	**0.99**	**305**	*e*P		**Pg**	**10 01 50.1**	**+0.4**
	baz=305							
YM08	**YM08**	**0.99**	**345**	*e*P		**Pn**	**10 01 49.5**	**-0.1**
	baz=347							
JYNG	**Yonaguni jima**	**1.00**	**77**	P		**Pg**	**10 01 50.0**	**+0.1**
JYNG				*e*S		**Sn**	**10 02 03.5**	**+0.2**
HSN	**Hsinchu**	**1.01**	**305**	*e*P		**Pn**	**10 01 49.7**	**-0.1**
	baz=308							
ANP	**Anpu**	**1.01**	**341**	*e*P		**Pg**	**10 01 50.4**	**+0.3**
	baz=344							
EYUL	**Yuli**	**1.01**	**210**	*e*P		**Pb**	**10 01 48.4**	**-1.2**
	baz=208							
TWQ1	**Liyutan**	**1.01**	**277**	*e*P		**Pg**	**10 01 50.4**	**+0.2**
	baz=276							
TWF1	**Yuli**	**1.02**	**212**	*e*P		**Pb**	**10 01 48.0**	**-1.6**
	baz=208							
NSY	**Sanyi**	**1.04**	**281**	*e*P		**Pg**	**10 01 51.3**	**+0.7**
	baz=280							
NMLH	**Miaoli**	**1.04**	**287**	*e*P		**Pg**	**10 01 51.4**	**+0.7**
	baz=287							
YOJ	**Yonaguni jima**	**1.06**	**77**	P		**Pg**	**10 01 50.8**	**-0.2**
YOJ	**Yonaguni jima**	**1.06**	**77**	P		**Pg**	**10 01 50.8**	**-0.2**
	baz=78							
YOJ				*e*S		**Sg**	**10 02 06.6**	**+1.7**
	baz=78							
TWY	**Chenhua**	**1.07**	**346**	*e*P		**Pn**	**10 01 50.9**	**+0.2**
	baz=349							
WHYT	**Xinyi Township**	**1.08**	**241**	*e*P		**Pb**	**10 01 50.6**	**-0.1**
	baz=239							
WHYT				*e*S		**Sn**	**10 02 05.1**	**-0.2**
	baz=239							
NHW	**Xinwu Township**	**1.08**	**316**	*e*P		**Pb**	**10 01 49.9**	**-0.8**
	baz=317							
YUS	**Yu-Shan**	**1.12**	**229**	*e*P		**Pb**	**10 01 51.2**	**-0.5**
	baz=227							
YUS				*e*S		**Sn**	**10 02 08.6**	**+1.5**
	baz=227							
WJS	**Zhushan**	**1.13**	**249**	*e*P		**Pg**	**10 01 52.0**	**-0.3**
	baz=247							
WJS				*e*S		**Sg**	**10 02 07.7**	**+0.7**
	baz=247	

	baz=221							
IRIF	**Iriomote-Funau**	**1.69**	**86**	P		**Pn**	**10 01 59.3**	**+0.1**
IRIF				*e*S		**Sb**	**10 02 21.5**	**-0.6**
ICHU	**Yijhu**	**1.70**	**240**	*e*P		**Pn**	**10 02 00.3**	**+1.0**
	baz=238							
ECL	**Taimali**	**1.83**	**208**	*e*P		**Pn**	**10 02 00.1**	**-1.0**
	baz=206							
SCST	**Cishan**	**1.84**	**224**	*e*P		**Pb**	**10 02 03.2**	**-0.4**
	baz=222							
TSMG	**Majia**	**1.89**	**217**	*e*P		**Pb**	**10 02 03.8**	**-0.8**
	baz=215							
TSMG				*e*S		**Sb**	**10 02 28.2**	**+0.4**
	baz=215							
JKRS	**Kuro-shima**	**1.95**	**89**	P		**Pn**	**10 02 03.6**	**+0.9**
JKRS				*e*S		**Sb**	**10 02 29.9**	**+0.5**
MASBT	**Mashibuluo**	**1.97**	**216**	*e*P		**Pn**	**10 02 03.8**	**+0.7**
	baz=214							
MASBT				*e*S		**Sb**	**10 02 30.7**	**+0.5**
	baz=214							
EAST	**Anshuo**	**2.07**	**207**	*e*P		**Pn**	**10 02 05.6**	**+1.2**
	baz=206							
JIJ	**Ishigaki jima**	**2.07**	**86**	P		**Pn**	**10 02 04.7**	**+0.3**
JIJ				*e*S		**Sn**	**10 02 30.4**	**+0.6**
SCZT	**Fangliau**	**2.18**	**212**	*e*P		**Pn**	**10 02 07.7**	**+1.8**
	baz=211							
PHUB	**P'eng-hu**	**2.23**	**252**	*e*P		**Pn**	**10 02 06.5**	**-0.1**
	baz=251							
PHUB				*e*S		**Sn**	**10 02 34.1**	**+0.4**
	baz=251							
SLIU	**Shizi**	**2.23**	**207**	*e*P		**Pn**	**10 02 08.2**	**+1.5**
	baz=205							
JISG	**Ishigakijimahi**	**2.25**	**80**	P		**Pn**	**10 02 07.2**	**+0.4**
PTMZ	**Houxiangcun**	**2.64**	**288**	*e*P		**Pn**	**10 02 11.7**	**-0.5**
	baz=288							
LYJJ	**Jianjiangzhen**	**3.00**	**321**	*e*P		**Pn**	**10 02 16.4**	**-0.8**
	baz=321							
XPSS	**Dashiqiu**	**3.09**	**331**	*e*P		**Pn**	**10 02 17.8**	**-0.7**
	baz=331							

*PGC **18** 10:10:20.2±0.0, 49˚.40N×127˚.87W, h10km, MLSn3.0/44, Mw3.6/44, 131km west of Gold R., Bc Vancouver Island, Canada Region*
*IDC **18** 10:10:21.2±1.1, 49˚.60N×127˚.45W, h0km, mb3.7/1, mb1 3.8/8, mb1mx3.5/62, mbtmp3.6/8, ML3.6/7, Error ellipse: s-maj=20.3km s-min=8.0km az=60.0*
*ANF **18** 10:10:24.9±1.1, 49˚.28N×127˚.25W, h0km, ML3.6/3, Error ellipse: s-maj=11.7km s-min=10.1km az=38.0*

ISC 18 10:10:20.0±1.5, 49˚41N±0˚.04×127˚86W±0˚.05, h26km±12km, n106, σ1§70/146, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**0.67**	**46**	P	**Pb**	**10 10 32.4**	**-0.7**
EDB				S	**Sb**	**10 10 41.5**	**-0.5**
BPBC	**Brooks Peninsu**	**0.75**	**4**	P	**Pb**	**10 10 34.6**	**+0.1**
FHRB	**Fair Harbour**	**0.81**	**37**	P	**Pb**	**10 10 35.1**	**-0.2**
ETB	**Estevan Point**	**0.87**	**92**	P	**Pb**	**10 10 36.1**	**-0.2**
PACB	**Port Alice, BC**	**1.05**	**13**	P	**Pn**	**10 10 38.9**	**-0.2**
PACB				S	**Sb**	**10 10 51.3**	**-1.7**
MAYB	**Maynard**	**1.09**	**24**	P	**Pn**	**10 10 39.8**	**0.0**
WOSB	**Woss**	**1.12**	**48**	P	**Pn**	**10 10 40.1**	**0.0**
HOLB	**Holberg**	**1.24**	**352**	P	**Pn**	**10 10 41.5**	**-0.2**
HOLB				S	**Sn**	**10 10 56.4**	**-1.3**
GDR	**Gold River**	**1.25**	**72**	P	**Pn**	**10 10 41.4**	**-0.4**
TOFB	**Tofino**	**1.30**	**101**	P	**Pn**	**10 10 42.0**	**-0.5**
TOFB				S	**Sn**	**10 10 56.8**	**-2.3**
TLCB	**Telegraph Cove**	**1.32**	**30**	P	**Pn**	**10 10 43.2**	**+0.5**
TLCB				S	**Sn**	**10 10 58.8**	**-0.6**
PHC	**Port Hardy**	**1.33**	**12**	P	**Pn**	**10 10 42.6**	**-0.2**
PHC				S	**Sn**	**10 10 58.4**	**-1.2**
SPLB	**Strathcona Par**	**1.52**	**71**	Pn	**Pn**	**10 10 45.7**	**+0.3**
SPLB				Sn	**Sn**	**10 11 04.4**	**+0.1**
BTB	**Buttle Lake**	**1.53**	**87**	Pn	**Pn**	**10 10 45.7**	**-0.1**
BTB				Sn	**Sn**	**10 11 03.9**	**-1.0**
NCRB	**Newcastle Ridg**	**1.53**	**49**	Pn	**Pn**	**10 10 46.4**	**+0.6**
B012	**Ucluelet**	**1.60**	**107**	Pn	**Pn**	**10 10 47.0**	**+0.4**
B012				Sn	**Sn**	**10 11 03.9**	**-2.4**
OZB	**Mount Ozzard**	**1.62**	**105**	Pn	**Pn**	**10 10 46.8**	**-0.1**
OZB				Sn	**Sn**	**10 11 04.2**	**-2.7**
MWAB	**Mount Washingt**	**1.70**	**78**	Pn	**Pn**	**10 10 48.2**	**+0.2**
MWAB				Sn	**Sn**	**10 11 08.8**	**-0.2**
CBB	**Campbell River**	**1.74**	**68**	Pn	**Pn**	**10 10 49.0**	**+0.5**
CBB				Sn	**Sn**	**10 11 09.5**	**-0.3**
BFSB	**Bamfield**	**1.88**	**107**	Pn	**Pn**	**10 10 51.1**	**+0.7**
BFSB				Sn	**Sn**	**10 11 11.1**	**-2.2**
B928	**Bamfield**	**1.88**	**107**	Pn	**Pn**	**10 10 51.0**	**+0.5**
B928				Sn	**Sn**	**10 11 11.1**	**-2.1**
B927	**Port Alberni**	**2.01**	**94**	Pn	**Pn**	**10 10 52.3**	**+0.2**
B927				Sn	**Sn**	**10 11 14.8**	**-1.5**
MGB	**Mount Grey**	**2.12**	**100**	Pn	**Pn**	**10 10 53.5**	**-0.4**
MGB				Sn	**Sn**	**10 11 16.9**	**-2.5**
TXB	**Texada**	**2.25**	**81**	Pn	**Pn**	**10 10 55.9**	**+0.3**
GHNB	**Nanoose**	**2.37**	**91**	Pn	**Pn**	**10 10 57.7**	**+0.5**
GHNB				Sn	**Sn**	**10 11 24.8**	**-0.6**
PFB	**Port Renfrew**	**2.41**	**109**	Pn	**Pn**	**10 10 58.3**	**+0.6**
PFB				Sn	**Sn**	**10 11 23.8**	**-2.5**
OCP	**Olym-Cheeka Pk**	**2.41**	**116**	Pn	**Pn**	**10 10 58.3**	**+0.6**
B926	**Mesachie Lake**	**2.52**	**102**	Pn	**Pn**	**10 11 00.3**	**+1.0**
B926				Sn	**Sn**	**10 11 27.8**	**-1.3**
NLLB	**Nanaimo Lost L**	**2.54**	**93**	P	**Pn**	**10 11 00.1**	**+0.6**
NLLB				Sn	**Sn**	**10 11 29.8**	**+0.2**
SHB	**Sechelt**	**2.61**	**84**	Pn	**Pn**	**10 11 00.9**	**+0.4**
BBB	**Bella Bella**	**2.78**	**357**	Pn	**Pn**	**10 11 03.3**	**+0.5**
	20nm,0.3s,baz=199,slow=5.9,SNR=478						
BBB				Sn	**Sn**	**10 11 34.8**	**-0.8**
	14nm,0.3s,baz=74,slow=20,SNR=4.0						
BBB	**Bella Bella**	**2.78**	**357**	Pn	**Pn**	**10 11 03.5**	**+0.7**
BBB				Sn	**Sn**	**10 11 34.6**	**-0.9**
OBC	**Olympics--Boni**	**2.86**	**117**	Pn	**Pn**	**10 11 06.3**	**+2.3**
GOBB	**Galiano Island**	**2.89**	**98**	Pn	**Pn**	**10 11 05.8**	**+1.5**
BIB	**Bowen Island**	**2.98**	**88**	Pn	**Pn**	**10 11 05.7**	**+0.2**
B009	**North Saanich**	**3.00**	**103**	Pn	**Pn**	**10 11 07.1**	**+1.2**
B009				Sn	**Sn**	**10 11 39.4**	**-1.5**
B010	**North Saanich**	**3.00**	**103**	Pn	**Pn**	**10 11 06.5**	**+0.7**
B010				Sn	**Sn**	**10 11 39.0**	**-1.9**
PGC	**Sidney**	**3.00**	**103**	Pn	**Pn**	**10 11 06.7**	**+0.9**
PGC				Sn	**Sn**	**10 11 38.9**	**-2.0**
PA12	**PA12 Sannich**	**3.00**	**103**	Pn	**Pn**	**10 11 07.0**	**+1.1**
PA12				Sn	**Sn**	**10 11 39.4**	**-1.6**
B011	**North Saanich**	**3.00**	**103**	Pn	**Pn**	**10 11 07.1**	**+1.2**
B011				Sn	**Sn**	**10 11 38.9**	**-2.0**
PA01	**PA01 North**	**3.00**	**103**	Pn	**Pn**	**10 11 07.7**	**+1.8**
PA01				Sn	**Sn**	**10 11 39.2**	**-1.7**
WPB	**Watts Point**	**3.04**	**84**	Pn	**Pn**	**10 11 07.6**	**+1.2**
STW	**Striped Peak**	**3.04**	**113**	Pn	**Pn**	**10 11 07.4**	**+0.9**
SNB	**Saturna Island**	**3.15**	**100**	Pn	**Pn**	**10 11 10.0**	**+2.1**
VGZ	**Gonzales**	**3.15**	**107**	Pn	**Pn**	**10 11 07.8**	**+2.1**
VGZ				Sn	**Sn**	**10 11 42.7**	**-2.1**
OSD	**Olympics--Snow**	**3.19**	**118**	Pn	**Pn**	**10 11 11.0**	**+2.4**
WSLR	**Whistler**	**3.28**	**76**	Pn	**Pn**	**10 11 11.4**	**+1.7**
MCW	**Mount Constitu**	**3.39**	**101**	Pn	**Pn**	**10 11 13.4**	**+2.1**
A04D	**Lummi Island**	**3.46**	**100**	P	**Pn**	**10 11 14.1**	**+1.9**
	baz=282,SNR=16						
A04D				S	**Sn**	**10 11 52.7**	**+0.5**
	baz=282						
HNBB	**Haney**	**3.46**	**90**	Pn	**Pn**	**10 11 12.9**	**+0.8**
HNBB				Sn	**Sn**	**10 11 51.4**	**-0.9**
WISH	**Wishkah**	**3.57**	**128**	Pn	**Pn**	**10 11 15.3**	**+1.7**
WISH				Sn	**Sn**	**10 11 53.7**	**-1.2**
HG4B	**Hotspring**	**3.58**	**325**	Pn	**Pn**	**10 11 14.1**	**+0.3**
HG4B				Sn	**Sn**	**10 11 52.6**	**-2.5**
BUTB	**Butedale**	**3.68**	**354**	Pn	**Pn**	**10 11 16.1**	**+0.8**
BUTB				Sn	**Sn**	**10 11 56.3**	**-1.4**
VDB	**Vedder Mountai**	**3.79**	**94**	Pn	**Pn**	**10 11 18.2**	**+1.5**
GNW	**Green Mountain**	**3.83**	**117**	Pn	**Pn**	**10 11 20.8**	**+3.6**
MBW	**Mount Baker**	**3.97**	**97**	Pn	**Pn**	**10 11 21.3**	**+2.0**
B05A	**Bryant**	**3.98**	**105**	P	**Pn**	**10 11 21.4**	**+2.1**
	baz=289,SNR=10						
B05A				S	**Sn**	**10 12 04.3**	**-0.7**
	baz=289						
BNB	**Barry Inlet**	**4.01**	**324**	Pn	**Pn**	**10 11 20.4**	**+0.6**
LLLB	**Lillooet**	**4.04**	**70**	Pn	**Pn**	**10 11 21.4**	**+1.2**
D04E	**Lakebay**	**4.07**	**121**	S	**Sn**	**10 12 08.0**	**+0.8**
	baz=307						
E03A	**Lebam**	**4.07**	**133**	Pn	**Pn**	**10 11 22.4**	**+1.9**
BNKB	**Banks Island**	**4.13**	**343**	Pn	**Pn**	**10 11 22.0**	**+0.6**
BNKB				Sn	**Sn**	**10 12 07.1**	**-1.7**
HOPB	**Hope**	**4.21**	**88**	Pn	**Pn**	**10 11 24.2**	**+1.8**
UBRB	**Upper Baezaeko**	**4.22**	**33**	Pn	**Pn**	**10 11 24.8**	**+2.1**
RPW	**Rockport**	**4.29**	**101**	Pn	**Pn**	**10 11 26.1**	**+2.4**
B06A	**Marblemount**	**4.29**	**100**	Pn	**Pn**	**10 11 25.4**	**+1.8**
B06A				Sn	**Sn**	**10 12 13.1**	**+0.2**
BNAB	**Bonilla**	**4.44**	**338**	Pn	**Pn**	**10 11 26.4**	**+0.8**
BNAB				Sn	**Sn**	**10 12 14.2**	**-2.2**
C05A	**Tolt Reservoir**	**4.44**	**110**	Sn	**Sn**	**10 12 16.7**	**+0.1**
D05A	**Enumclaw**	**4.51**	**117**	Sn	**Sn**	**10 12 18.1**	**+0.1**
MOBC	**Moresby Island**	**4.54**	**327**	Pn	**Pn**	**10 11 27.1**	**0.0**
MOBC				Sn	**Sn**	**10 12 17.3**	**-1.7**
E04D	**Cinebar**	**4.56**	**127**	P	**Pn**	**10 11 30.4**	**+3.2**
	baz=313						
E04D				S	**Sn**	**10 12 19.4**	**+0.1**
	baz=313						
GRNB	**Grenville Isla**	**4.63**	**344**	Pn	**Pn**	**10 11 29.3**	**+1.1**
GRNB				Sn	**Sn**	**10 12 20.1**	**-1.0**
KITB	**Kitimat**	**4.70**	**354**	Pn	**Pn**	**10 11 30.7**	**+1.5**
KITB				Sn	**Sn**	**10 12 23.4**	**+0.6**
DIB	**Dawson Inlet,**	**4.78**	**324**	Pn	**Pn**	**10 11 30.2**	**+0.1**
H02S1	**DAWSON INLET T**	**4.78**	**324**	Pn	**Pn**	**10 11 30.4**	**+0.2**
	SNR=281						
H02S1				Sn	**Sn**	**10 12 21.3**	**-3.3**
	SNR=4.0						
FMW	**Mount Fremont**	**4.83**	**119**	Pn	**Pn**	**10 11 34.3**	**+3.1**
H02N1	**VAN INLET T-PH**	**4.84**	**324**	Pn	**Pn**	**10 11 31.8**	**+0.6**
	SNR=25						
H02N1				Sn	**Sn**	**10 12 23.4**	**-2.9**
VIB	**Van Inlet**	**4.84**	**324**	Pn	**Pn**	**10 11 31.2**	**+0.1**
VIB				Sn	**Sn**	**10 12 23.8**	**-2.5**
C06D	**Leavenworth**	**4.85**	**105**	S	**Sn**	**10 12 26.5**	**-0.1**
	baz=290						
LON	**Longmire**	**4.85**	**121**	Pn	**Pn**	**10 11 34.1**	**+2.8**
LON				Sn	**Sn**	**10 12 24.8**	**-1.9**
RUBB	**Prince Rupert**	**5.14**	**344**	Pn	**Pn**	**10 11 36.8**	**+1.6**
G03D	**McMinnville, O**	**5.24**	**142**	P	**Pn**	**10 11 39.1**	**+2.5**
	baz=328,SNR=22						
LTY	**Liberty**	**5.26**	**111**	Pn	**Pn**	**10 11 39.3**	**+2.3**
LTY				Sn	**Sn**	**10 12 36.4**	**-0.3**
PNT	**Penticton**	**5.39**	**88**	Pn	**Pn**	**10 11 40.1**	**+1.4**
FSB	**Fort Saint Jam**	**5.53**	**22**	Pn	**Pn**	**10 11 42.9**	**+2.3**
F05D	**White Salmon**	**5.58**	**127**	S	**Sn**	**10 12 45.0**	**+0.4**
	baz=313						
B08A	**Colville Reser**	**5.72**	**97**	Pn	**Pn**	**10 11 45.1**	**+1.8**
H04D	**Lebanon**	**6.01**	**142**	P	**Pn**	**10 11 51.4**	**+4.1**
	baz=329						
BLBC	**Blue River**	**6.08**	**61**	Pn	**Pn**	**10 11 50.1**	**+1.8**
SLEB	**Sale Mountain**	**6.48**	**71**	Pn	**Pn**	**10 11 55.8**	**+1.9**
MNB	**Mounoet Dainar**	**6.62**	**61**	Pn	**Pn**	**10 11 57.8**	**+2.0**
NEW	**Newport**	**7.18**	**95**	Pn	**Pn**	**10 12 04.9**	**+1.6**
	0.8nm,0.3s,baz=290,slow=13,SNR=16						
NEW				Sn	**Sn**	**10 13 21.4**	**-2.6**
	baz=317,slow=22,SNR=1.2						
YBH	**Yreka Blue Hor**	**8.48**	**153**	Pn	Pn	10 12 27.6	+6.4
	0.3nm,0.3s,baz=339,slow=12,SNR=17						
NBC5	**NorthernBC 5**	**8.69**	**19**	Pn	**Pn**	**10 12 27.1**	**+3.0**
DLBC	**Dease Lake**	**9.13**	**353**	Pn	**Pn**	**10 12 34.0**	**+3.9**
	0.2nm,0.3s,baz=185,slow=12,SNR=15						
DLBC	**Dease Lake**	**9.13**	**353**	Pn	**Pn**	**10 12 34.3**	**+4.2**
NVAR	**Mina Array Bea**	**12.95**	**144**	Pn	**P**	**10 13 29.2**	**-3.6**
	0.1nm,0.3s,baz=324,slow=12,SNR=14						
PDAR	**Pinedale Array**	**14.32**	**111**	Pn	**P**	**10 13 45.5**	**-2.5**
	0.1nm,0.3s,baz=332,slow=5.1,SNR=2.6						
ILAR	**Eielson Array**	**18.41**	**334**	P	**Pn**	**10 14 37.8**	**+4.7**
	0.0nm,0.3s,baz=149,slow=8.8,SNR=9.6						
ULM	**Lac du Bonnet**	**20.57**	**75**	P	Pn	10 14 58.3	-0.6
	2.5nm,0.6s,baz=300,slow=13,SNR=2.1						
H11N2	**WAKE ISLAND Hy**	**59.22**	**265**	T	T	11 24 58.8	
	baz=43,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**59.22**	**265**	T	T	11 24 59.7	
	baz=43,slow=75,SNR=27						
H11N1	**WAKE ISLAND Hy**	**59.23**	**265**	T	T	11 25 01.9	
	baz=43,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy**	**60.23**	**264**	T	T	11 26 10.8	
	baz=34,slow=76,SNR=7.0						
H11S2	**WAKE ISLAND Hy**	**60.24**	**264**	T	T	11 26 06.9	
	baz=34,slow=76,SNR=6.5						
H11S3	**WAKE ISLAND Hy**	**60.24**	**264**	T	T	11 26 09.6	
	baz=34,slow=76,SNR=6.5						

*MOS **18** 10:17:24.8±0.0, 43˚.39N×45˚.97E, h8km, MPVA4.0*
*NORS **18** 10:17:24.7±0.0, 43˚.43N×46˚.03E, h7km, MPVA4.2*
*DRS **18** 10:17:24.9±0.0, 43˚.51N×45˚.89E, h14km*
*TIF **18** 10:17:25.2, 43˚.49N×45˚.93E, h12km±3km*

ISC 18 10:17:26.3±1.0, 43˚48N±0˚.02×46˚00E±0˚.02, h13km±8km, n99, σ1§42/185, 7C-6D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVE	**Vedeno**	**0.53**	**170**	*c i*Pg	**Pg**	**10 17 35.5**	**-1.2**
DVE				*e*S	**Sg**	**10 17 44.2**	**+0.5**
DVE				pmax	pmax		
	comp=Z,221nm,0.5s						
DVE				smax	smax		
	comp=E,713nm,0.5s						
DVE	**Vedeno**	**0.53**	**170**	*e*Pg	**Pg**	**10 17 36.1**	**-0.6**
DVE				*e*Sg	**Sg**	**10 17 44.1**	**+0.3**
DLMR	**Dylym**	**0.61**	**132**	*e*PG	**Pb**	**10 17 38.3**	**-0.6**
DLMR				*e*S	**Sb**	**10 17 46.8**	**-0.6**
DLMR	**Dylym**	**0.61**	**132**	*e*Pg	**Pb**	**10 17 38.3**	**-0.6**
DLMR				*e*Sg	**Sb**	**10 17 46.8**	**-0.6**
DBC	**Dubki**	**0.76**	**127**	*i*PG	**Pb**	**10 17 40.6**	**-0.8**
DBC				*e*S	**Sb**	**10 17 52.1**	**+0.4**
DBC				pmax	pmax		
	comp=Z,85nm,0.5s						
DBC	**Dubki**	**0.76**	**127**	*i*Pg	**Pb**	**10 17 40.7**	**-0.7**
DBC				*e*Sg	**Sb**	**10 17 52.3**	**+0.7**
BTLR	**Botlikh**	**0.83**	**169⇓**	*e*PG	**Pg**	**10 17 41.1**	**-1.2**
BTLR				*e*S	**Sg**	**10 17 52.9**	**-0.4**
BTLR	**Botlikh**	**0.83**	**169**	*e*Pg	**Pg**	**10 17 41.1**	**-1.2**
BTLR				*e*Sg	**Sg**	**10 17 52.9**	**-0.4**
KRNR	**Karanay**	**0.93**	**134**	*e*PG	**Pg**	**10 17 43.2**	**-1.0**
KRNR				*e*S	**Sb**	**10 17 56.5**	**-0.1**
KRNR	**Karanay**	**0.93**	**134**	*e*Pg	**Pg**	**10 17 43.2**	**-1.0**
KRNR				*e*Sg	**Sb**	**10 17 56.5**	**-0.1**
KMGR	**Komgaron**	**0.93**	**243**	*e*PG	**Pg**	**10 17 44.1**	**-0.2**
KMGR				*e*S	**Sb**	**10 17 57.8**	**+1.2**
KMGR	**Komgaron**	**0.93**	**243**	*e*Pg	**Pg**	**10 17 44.1**	**-0.2**
KMGR				*e*Sg	**Sb**	**10 17 57.8**	**+1.2**
TRKR	**Terskaya**	**0.95**	**285**	*e*PG	**Pn**	**10 17 44.9**	**-0.5**
TRKR				*e*S	**Sn**	**10 18 02.9**	**+4.0**
TRKR	**Terskaya**	**0.95**	**285**	*e*Pg	**Pb**	**10 17 44.7**	**0.0**
TRKR				*e*Sg	**Sn**	**10 17 59.3**	**+0.4**
UNCR	**Uncukul**	**0.96**	**143**	*e*PG	**Pg**	**10 17 44.3**	**-0.5**
UNCR				*e*S	**Sb**	**10 17 58.3**	**+0.9**
BUJR	**Buynaksk**	**1.04**	**129**	*e*PG	**Pn**	**10 17 47.4**	**+0.9**
BUJR				*e*S	**Sn**	**10 18 02.9**	**+1.9**
BUJR				pmax	pmax		
	comp=Z,230nm,0.3s						
BUJR	**Buynaksk**	**1.04**	**129**	*e*Pg	**Pn**	**10 17 47.5**	**+0.9**
BUJR				*e*Sg	**Sn**	**10 18 01.2**	**+0.2**
VLKR	**Vladikavkaz**	**1.06**	**246**	*e*PG	**Pb**	**10 17 46.6**	**+0.1**
VLKR				*e*S	**Sn**	**10 18 03.2**	**+1.6**
VLKR	**Vladikavkaz**	**1.06**	**246**	*e*Pg	**Pb**	**10 17 46.6**	**+0.1**
VLKR				*e*Sg	**Sn**	**10 18 03.2**	**+1.6**
XNZR	**Khunzakh**	**1.07**	**151**	*e*PG	**Pg**	**10 17 46.1**	**-0.8**
XNZR				*e*S	**Sb**	**10 18 01.2**	**+0.5**
XNZR				pmax	pmax		
	comp=Z,127nm,0.4s						
XNZR	**Khunzakh**	**1.07**	**151**	*e*Pg	**Pg**	**10 17 46.4**	**-0.5**
XNZR				*e*Sg	**Sb**	**10 18 01.6**	**+0.9**
KANR	**Karaman**	**1.12**	**104**	*e*PG	**Pn**	**10 17 49.8**	**+2.2**
KANR				*e*S	**Sn**	**10 18 05.2**	**+2.3**
KANR	**Karaman**	**1.12**	**104**	*e*Pg	**Pn**	**10 17 49.8**	**+2.2**
KANR				*e*Sg	**Sn**	**10 18 05.2**	**+2.3**
ARKR	**Arakani**	**1.14**	**140⇓**	*i*PG	**Pg**	**10 17 47.4**	**-0.8**
ARKR				*e*S	**Sn**	**10 18 04.4**	**+0.9**
ARKR				pmax	pmax		
	comp=Z,107nm,0.3s						
ARKR	**Arakani**	**1.14**	**140**	*i*Pg	**Pg**	**10 17 47.5**	**-0.8**
ARKR				*e*Sg	**Sb**	**10 18 02.9**	**+0.3**
MAK	**Makhachkala**	**1.21**	**115**	*e*PG	**Pn**	**10 17 50.0**	**+1.1**
MAK				*e*S	**Sn**	**10 18 09.0**	**+3.8**
PRTR	**Priterechnaya**	**1.28**	**283**	*e*PG	**Pb**	**10 17 50.5**	**+0.3**
PRTR				*e*S	**Sn**	**10 18 09.5**	**+2.6**
PRTR	**Priterechnaya**	**1.28**	**283**	*e*Pg	**Pb**	**10 17 50.5**	**+0.3**
PRTR				*e*Sg	**Sn**	**10 18 09.5**	**+2.6**
ARNR	**Ardon**	**1.29**	**257**	*i*PG	**Pb**	**10 17 50.8**	**+0.4**
ARNR				*e*S	**Sn**	**10 18 08.8**	**+1.6**
ARNR	**Ardon**	**1.29**	**257**	*i*Pg	**Pb**	**10 17 50.8**	**+0.4**
ARNR				*e*Sg	**Sn**	**10 18 08.8**	**+1.6**
GNBR	**Gunib**	**1.30**	**147⇓**	*e*PG	**Pb**	**10 17 50.8**	**+0.2**
GNBR				*e*S	**Sn**	**10 18 10.3**	**+2.8**
GNBR	**Gunib**	**1.30**	**147**	*e*Pg	**Pb**	**10 17 50.8**	**+0.2**
GNBR				*e*Sg	**Sn**	**10 18 10.3**	**+2.8**
PNSH	**Pansheti**	**1.32**	**231**	P	**Pn**	**10 17 49.6**	**-1.1**
PNSH				S	**Sg**	**10 18 07.5**	**-1.4**
PNSH	**Pansheti**	**1.32**	**231**	PG	**Pn**	**10 17 49.5**	**-1.1**
PNSH				S	**Sg**	**10 18 07.5**	**-1.4**
MTEO	**Meteo**	**1.34**	**234**	P	**Pn**	**10 17 50.2**	**-0.9**
MTEO				S	**Sg**	**10 18 08.6**	**-1.0**
LACR	**Lac**	**1.41**	**243**	*e*PG	**Pn**	**10 17 51.7**	**-0.1**
LACR				*e*S	**Sb**	**10 18 11.1**	**+0.7**
LACR	**Lac**	**1.41**	**243**	*e*Pg	**Pn**	**10 17 51.6**	**-0.1**
LACR				*e*Sg	**Sb**	**10 18 11.1**	**+0.7**
STDR	**Stavd-Durt**	**1.42**	**266**	*e*PG	**Pg**	**10 17 52.9**	**-0.6**
STDR				*e*S	**Sg**	**10 18 15.1**	**+3.2**
STDR	**Stavd-Durt**	**1.42**	**266**	*i*Pg	**Pg**	**10 17 52.9**	**-0.6**
STDR				*e*Sg	**Sg**	**10 18 14.4**	**+2.5**
KORR	**Kora**	**1.47**	**255**	*e*PG	**Pb**	**10 17 53.4**	**-0.1**
KORR				*e*S	**Sg**	**10 18 13.8**	**+0.3**
KORR	**Kora**	**1.47**	**255**	*e*Pg	**Pb**	**10 17 53.4**	**-0.1**
KORR				*e*Sg	**Sg**	**10 18 13.8**	**+0.3**
GUDG	**Gudauri**	**1.51**	**228**	P	Pn	10 17 48.1	-5.2
GUDG				S	**Sn**	**10 18 08.0**	**-4.9**
GUDG	**Gudauri**	**1.51**	**228**	PG	Pn	10 17 48.1	-5.2
LSNR	**Lesken**	**1.60**	**263**	*e*PG	**Pb**	**10 17 55.6**	**-0.1**
LSNR				*e*S	**Sg**	**10 18 19.0**	**+1.2**
LSNR	**Lesken**	**1.60**	**263**	*e*Pg	**Pn**	**10 17 54.8**	**+0.5**
LSNR				*e*Sg	**Sg**	**10 18 17.8**	**0.0**
ZEI	**Tsey**	**1.69**	**247**	*e*PN	**Pn**	**10 17 55.8**	**+0.1**
ZEI				*e*S	**Sn**	**10 18 18.3**	**+1.0**
ZEI	**Tsey**	**1.69**	**247**	*e*Pg	**Pn**	**10 17 55.7**	**0.0**
ZEI				*e*Sg	**Sn**	**10 18 18.2**	**+0.9**
URKR	**Urkarakh**	**1.78**	**137**	*e*PN	**Pb**	**10 17 58.8**	**0.0**
URKR				*e*S	**Sg**	**10 18 23.3**	**-0.1**
URKR	**Urkarakh**	**1.78**	**137**	*e*Pg	**Pb**	**10 17 58.8**	**0.0**
URKR				*e*Sg	**Sg**	**10 18 23.4**	**-0.1**
DIGR	**Digorskoe uzhe**	**1.86**	**253**	*e*PN	**Pn**	**10 17 58.7**	**+0.6**
DIGR				*e*S	**Sb**	**10 18 23.8**	**+0.2**
DIGR	**Digorskoe uzhe**	**1.86**	**253**	*e*Pg	**Pn**	**10 17 57.9**	**-0.2**
DIGR				*e*Sg	**Sn**	**10 18 22.2**	**+0.5**
BTNK	**Botanikuri**	**2.00**	**207**	P	**Pn**	**10 17 58.3**	**-1.6**
BTNK				S	**Sn**	**10 18 25.4**	**+0.6**
BTNK	**Botanikuri**	**2.00**	**207**	PN	**Pn**	**10 17 58.2**	**-1.6**
DDFL	**Dedoflistskaro**	**2.04**	**178**	P	**Pg**	**10 18 04.2**	**-1.1**
DDFL				S	**Sg**	**10 18 35.7**	**+4.0**
DDFL	**Dedoflistskaro**	**2.04**	**178**	PN	**Pg**	**10 18 04.2**	**-1.1**
DDFL				S	**Sg**	**10 18 35.7**	**+4.0**
ONI	**Oni**	**2.07**	**245**	P	**Pn**	**10 18 02.0**	**+1.2**
ONI				S	**Sb**	**10 18 30.0**	**+0.5**
ONI	**Oni**	**2.07**	**245**	*e*PN	**Pb**	**10 18 02.9**	**-0.9**
ONI				*e*S	**Sb**	**10 18 30.6**	**+1.2**
DGRG	**David-gareji**	**2.08**	**193**	P	**Pb**	**10 18 04.1**	**+0.1**
DGRG				S	**Sg**	**10 18 33.7**	**+0.5**

CO06					*e*S		**Sn**	**10 22 17.8**	**+1.2**
CO06	**Fray Jorge**	**0.93**	**28**				**Pn**	**10 22 05.0**	**+1.7**
CO06						Sn	**Sn**	**10 22 17.8**	**+1.2**
VA06	**Catapilco**	**1.29**	**146**		*e*P		**Pn**	**10 22 07.6**	**-0.6**
VA06					*e*S		**Sb**	**10 22 21.8**	**-3.2**
VA06					IAML			10 22 25.1	
	comp=E,23µm,0.4s								
CO03	**El Pedregal**	**1.41**	**63**	⇑	*i*P		Pg	10 22 17.6	+6.4
CO03					*i* S		Sg	10 22 39.7	+10
VA01	**Torpederas**	**1.58**	**165**		*e*P		**Pn**	**10 22 12.1**	**-0.2**
VA01	**Torpederas**	**1.58**	**165**		Pn		**Pn**	**10 22 11.9**	**-0.4**
CO05	**La Serena**	**1.75**	**27**	⇑	*i*P		Pn	10 22 08.5	-6.1
CO05					IAML			10 22 26.0	
	comp=N,3µm,0.6s								
GO04	**Tololo Observa**	**1.75**	**42**	⇑	*i*P		**Pn**	**10 22 14.4**	**-0.4**
GO04	**Tololo Observa**	**1.75**	**42**		Pn		**Pn**	**10 22 14.4**	**-0.4**
GO04						Sn	**Sn**	**10 22 34.9**	**-2.5**
ROCH	**El Roble**	**1.76**	**147**		*i* P		**Pn**	**10 22 15.6**	**+0.7**
ROCH					*e*S		**Sn**	**10 22 34.6**	**-2.9**
ROCH					IAML			10 22 41.0	
	comp=N,5µm,0.5s								
VA03	**San Esteban**	**1.85**	**134**		*e*P		**Pb**	**10 22 18.1**	**-0.1**
VA03					*e*S		**Sn**	**10 22 38.5**	**-1.1**
VA03					IAML			10 22 41.9	
	comp=N,4µm,0.5s								
VA03	**San Esteban**	**1.85**	**134**		Pn		**Pb**	**10 22 18.0**	**-0.1**
VA05	**Santo Domingo**	**2.21**	**168**	⇑	*i*P		**Pn**	**10 22 20.5**	**-0.3**
VA05					IAML			10 22 54.3	
	comp=N,2µm,0.6s								
VA05	**Santo Domingo**	**2.21**	**168**		Pn		**Pn**	**10 22 20.8**	**-0.1**
MT05	**Renca**	**2.24**	**148**	⇑	*i*P		**Pn**	**10 22 22.8**	**+1.5**
MT05					*e*S		**Sn**	**10 22 47.8**	**-1.3**
MT05					IAML			10 22 49.9	
	comp=E,3µm,0.4s								
MT05	**Renca**	**2.24**	**148**		Pn		**Pn**	**10 22 22.5**	**+1.2**
MT09	**Talagante**	**2.48**	**157**		*i* P		**Pn**	**10 22 25.8**	**+1.1**
MT09					IAML			10 22 59.2	
	comp=N,920nm,0.4s								
MT09	**Talagante**	**2.48**	**157**		Pn		**Pn**	**10 22 25.9**	**+1.1**
MT01	**Popeta**	**2.48**	**163**		*i* P		**Pn**	**10 22 24.9**	**+0.3**
MT01					IAML			10 23 00.8	
	comp=E,643nm,0.6s								
MT01	**Popeta**	**2.48**	**163**		Pn		**Pn**	**10 22 25.0**	**+0.3**
LCO	**Las Campanas**	**2.77**	**27**	⇑	*i*P		Pn	10 22 19.8	-9.1
LMEL	**Las Melosas**	**2.86**	**146**	⇑	*i*P		**Pn**	**10 22 32.5**	**+2.4**
LMEL					IAML			10 23 19.9	
	comp=N,673nm,0.5s								
BO03	**Pichilemu**	**3.00**	**177**	⇑	*i*P		**Pn**	**10 22 31.2**	**-0.6**
BO01	**Tunca**	**3.03**	**163**	⇑	*i*P		**Pn**	**10 22 32.5**	**+0.4**
BO01					IAML			10 23 17.0	
	comp=N,757nm,0.9s								
BO01	**Tunca**	**3.03**	**163**				**Pn**	**10 22 32.7**	**+0.6**
BO02	**Sierra Bellavi**	**3.48**	**161**		Pn		**Pn**	**10 22 39.3**	**+0.8**
GO05	**Huala**	**3.51**	**177**	⇑	*i*P		**Pn**	**10 22 38.1**	**-0.7**
GO05	**Huala**	**3.51**	**177**		Pn		**Pn**	**10 22 38.0**	**-0.9**
ML02	**Panimavida**	**4.30**	**172**		Pn		**Pn**	**10 22 50.0**	**+0.3**
VA04	**Juan Fernndez**	**6.04**	**247**		Pn		**Pn**	**10 23 13.9**	**+0.4**
LC01	**Cunco**	**7.39**	**178**		Pn		**Pn**	**10 23 31.5**	**-0.6**
LR03	**Panguipulli**	**8.12**	**181**		Pn		**Pn**	**10 23 41.0**	**-1.2**
LVC	**Limon Verde**	**9.30**	**19**		Pn		Pn	10 23 43.5	-15
	comp=N,0.3nm,0.3s,baz=276,slow=12,SNR=1.1								
LVC						Sn	Sn	10 25 15.5	-28
	comp=N,0.7nm,0.3s,baz=1.8,slow=21,SNR=1.4								
PLCA	**Paso Flores**	**9.31**	**172**		Pn		**Pn**	**10 23 58.8**	**+0.3**
LL04	**Puerto Octay**	**9.40**	**181**		Pn		**Pn**	**10 23 58.8**	**-0.9**
LL05	**Los Muermos**	**9.95**	**186**		Pn		**Pn**	**10 24 06.9**	**-0.3**
PB08	**IPOC Station P**	**11.62**	**14**		Pn		**Pn**	**10 24 29.3**	**-1.1**
CPUP	**Villa Florida**	**13.96**	**72**		Pn		Pn	**10 25 07.3**	**-2.8**
	comp=N,0.2nm,0.3s,baz=218,slow=14,SNR=2.0								
LPAZ	**La Paz**	**15.57**	**15**		Pn		Pn	10 25 11.7	-13
	comp=N,0.2nm,0.3s,baz=187,slow=7.4,SNR=13								
AQDB	**Aquidauana**	**18.39**	**57**		P		**Pn**	**10 25 58.0**	**-1.3**
SIV	**San Ignacio**	**18.44**	**36**		P		P	10 25 50.2	-10
	comp=N,0.7nm,0.3s,baz=230,slow=8.7,SNR=15								
EFI	**East Falkland**	**22.68**	**157**		P		**P**	**10 26 46.4**	**+0.8**
SAML	**Samuel**	**23.93**	**22**		P		**P**	**10 26 53.0**	**-5.4**
SAML					IAmb		IAmb	10 26 53.8	
	comp=Z,7.5nm,1.2s								
BDFB	**Brasilia**	**27.08**	**60**		P		**P**	**10 27 26.7**	**-0.5**
	comp=Z,8.5nm,0.9s,baz=230,slow=6.5,SNR=8.2								
BDFB	**Brasilia**	**27.08**	**60**		P		**P**	**10 27 26.4**	**-0.8**
BDFB					IAmb		IAmb	10 27 43.0	
	comp=Z,26nm,1.2s								
VNA3	**Neumayer Olymp**	**51.71**	**159**		P		**P**	**10 30 55.1**	**+4.0**
VNA2	**Neumayer--Watz**	**52.36**	**158**		P		**P**	**10 30 59.7**	**+3.8**
	baz=283,slow=8.3								
SNAA	**Sanae**	**53.94**	**159**		P		**P**	**10 31 11.4**	**+3.7**
SNAA	**Sanae**	**53.94**	**159**		P		**P**	**10 31 10.6**	**+3.0**
SNAA					IAmb		IAmb	10 31 13.7	
	comp=Z,6.8nm,1.1s								
QSPA	**South Pole Qui**	**58.74**	**180**		P		**P**	**10 31 46.1**	**+4.1**
QSPA					IAmb		IAmb	10 31 47.1	
	comp=Z,6.5nm,0.9s								
TXAR	**Lajitas Array**	**67.51**	**330**		P		P	10 32 34.1	-6.5
	comp=Z,0.5nm,0.8s,baz=146,slow=8.7,SNR=5.5								
DBIC	**Dimbokro**	**74.48**	**72**		P		**P**	**10 33 25.8**	**+2.7**
	comp=Z,9.6nm,1.0s,baz=348,slow=22,SNR=3.8								
PDAR	**Pinedale Array**	**81.49**	**333**		P		P	10 33 56.2	-5.5
	comp=Z,0.3nm,0.6s,baz=117,slow=0.7,SNR=3.9								
NVAR	**Mina Array Bea**	**81.78**	**325**		P		**P**	**10 33 58.9**	**-4.5**
	comp=Z,0.7nm,0.8s,baz=156,slow=6.1,SNR=7.1								
TORD	**Torodi Ar. Bea**	**83.45**	**70**		P		**P**	**10 34 14.8**	**+2.5**
	comp=Z,5.1nm,0.7s,baz=266,slow=4.9,SNR=7.6								
TORD	**Torodi Ar. Bea**	**83.45**	**70**		P		**P**	**10 34 12.7**	**+0.4**
TORD					IAmb		IAmb	10 34 19.9	
	comp=Z,4.4nm,0.7s								
ASAR	**Alice Springs**	**119.75**	**208**		PKP		**PKiKP**	**10 40 37.7**	**+2.4**
	comp=Z,0.9nm,0.9s,baz=146,slow=2.4,SNR=6.9								
WRA	**Warramunga Arr**	**122.89**	**210**		PKP		**PKiKP**	**10 40 43.9**	**+2.5**
	comp=Z,0.9nm,0.5s,baz=166,slow=2.0,SNR=19								
ZALV	**Zalesovo Beam**	**152.13**	**30**		PKPbc		**PKPbc**	**10 41 39.0**	**-0.4**
	comp=Z,9.4nm,0.8s,baz=312,slow=5.1,SNR=9.5								
MKAR	**Makanchi Array**	**155.12**	**45**		PKPbc		PKPbc	10 41 46.6	
	comp=Z,0.6nm,0.7s,baz=329,slow=2.4,SNR=4.2								

NOU ***18*** *10:55:23.9, 40°.27S × 173°.32E, h223km, MLv3.6/8, Cook Strait, New Zealand*

WEL 18 10:55:27.6±0.6, 40°S±3°×17°3E±°, h190km±4km, M3.5/36, MLv3.5/36, Error ellipse: s-maj=0.0km s-min=0.0km az=94.2, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
DUWZ	**D'Urville Isla**	**0.60**	**139**	P		Pn	10 55 54.8	+0.9
DUWZ				S		Sn	10 56 15.6	+1.1
QRZ	**Quartz Range**	**0.82**	**234**	P		Pn	10 55 55.5	+0.5
QRZ				S		Sn	10 56 16.3	-0.1
NNZ	**Nelson**	**0.87**	**181**	P		Pn	10 55 55.9	+0.6
NNZ				S		Sn	10 56 17.0	+0.5
NMEZ	**Namu Road**	**1.00**	**21**	P		Pn	10 55 56.6	+0.3
NMEZ				S		Sn	10 56 19.8	+1.3
TCW	**Tory Channel**	**1.08**	**143**	P		Pn	10 55 57.8	+1.0
TCW				S		Sn	10 56 19.7	0.0
NBEZ	**Newall Road No**	**1.14**	**18**	P		Pn	10 55 57.5	+0.2
TUWZ	**Tuamarina**	**1.15**	**160**	P		Pn	10 55 58.0	+0.6
TUWZ				S		Sn	10 56 20.7	+0.1
KHEZ	**Kahui Hut**	**1.15**	**24**	P		Pn	10 55 57.8	+0.2
PREZ	**Palmer Road**	**1.16**	**30**	P		Pn	10 55 57.7	+0.1
PREZ				S		Sn	10 56 20.7	-0.1
LREZ	**Lake Rotokare**	**1.17**	**41**	P		Pn	10 55 57.9	+0.3
LREZ				S		Sn	10 56 22.0	+1.3
NEZ	**North Egmont**	**1.20**	**26**	P		Pn	10 55 57.9	-0.1
NEZ				S		Sn	10 56 21.8	+0.4
PKE	**Pukeiti**	**1.24**	**21**	P		Pn	10 55 58.3	+0.1
PKE				S		Sn	10 56 22.1	+0.3
KIW	**Kapiti Island**	**1.25**	**115**	P		Pn	10 55 58.8	+0.6
KIW				S		Sn	10 56 21.4	-0.6
DREZ	**Durham Road**	**1.31**	**28**	P		Pn	10 55 58.9	+0.1
DREZ				S		Sn	10 56 23.2	+0.3
WAZ	**Wanganui**	**1.35**	**64**	P		Pn	10 55 59.9	+0.8
WAZ				S		Sn	10 56 25.5	+2.1
WEL	**Wellington**	**1.39**	**133**	P		Pn	10 55 59.9	+0.6
BSWZ	**Blackbirch Sta**	**1.41**	**166**	P		Pn	10 56 00.0	+0.5
BSWZ				S		Sn	10 56 25.3	+0.8
OGWZ	**Otaki Gorge**	**1.42**	**110**	P		Pn	10 56 00.3	+0.7
OGWZ				S		Sn	10 56 24.4	-0.1
MHEZ	**Mangahewa**	**1.46**	**29**	P		Pn	10 56 00.3	+0.3
MHEZ				S		Sn	10 56 26.0	+0.9
THZ	**Tophouse**	**1.46**	**195**	P		Pn	10 56 00.3	+0.2
OHWZ	**Ohakea**	**1.47**	**85**	P		Pn	10 56 00.8	+0.8
OHWZ				S		Sn	10 56 26.3	+1.1
CAW	**Cannon Point**	**1.47**	**121**	P		Pn	10 56 00.5	+0.4
CAW				S		Sn	10 56 25.7	+0.4
CMWZ	**Cape Campbell**	**1.52**	**157**	P		Pn	10 56 01.3	+0.7
CMWZ				S		Sn	10 56 27.6	+1.3
BHW	**Baring Head**	**1.53**	**134**	P		Pn	10 56 00.9	+0.2
BHW				S		Sn	10 56 25.9	-0.5
VRZ	**Vera Road**	**1.61**	**41**	P		Pn	10 56 00.8	-0.6
MRZ	**Mangatainoka R**	**1.69**	**101**	P		Pn	10 56 02.2	+0.1
HOWZ	**Holdsworth Sta**	**1.69**	**109**	P		Pn	10 56 02.3	+0.1
MSWZ	**Moikau Station**	**1.76**	**128**	P		Pn	10 56 02.9	+0.1
MTW	**Mount Morrison**	**1.78**	**118**	P		Pn	10 56 03.0	-0.1
POWZ	**Post Office Ro**	**1.80**	**92**	P		Pn	10 56 03.4	+0.1
PKVZ	**Pokaka**	**1.83**	**55**	P		Pn	10 56 03.2	-0.5
PAWZ	**Paruwai Farm**	**1.85**	**125**	P		Pn	10 56 03.7	0.0
DSZ	**Denniston Nort**	**1.85**	**220**	P		Pn	10 56 03.4	-0.4
PLWZ	**Palliser**	**1.85**	**132**	P		Pn	10 56 03.7	-0.1
MTVZ	**Mangateitei**	**1.86**	**59**	P		Pn	10 56 03.5	-0.4
TIWZ	**Tintock**	**1.94**	**103**	P		Pn	10 56 04.9	+0.2
TRVZ	**Turoa**	**1.96**	**58**	P		Pn	10 56 04.4	-0.7
PRWZ	**Pori Road**	**1.97**	**97**	P		Pn	10 56 05.4	+0.4
WNVZ	**Wahianoa**	**1.97**	**59**	P		Pn	10 56 04.6	-0.7
TSZ	**Takapari Road**	**1.98**	**82**	P		Pn	10 56 04.8	-0.4
FWVZ	**Far West T-bar**	**1.98**	**57**	P		Pn	10 56 04.6	-0.8
WHVZ	**Whangaehu Hut**	**1.99**	**58**	P		Pn	10 56 04.8	-0.7
TWVZ	**Taurewa**	**2.02**	**51**	P		Pn	10 56 04.6	-1.1
TRWZ	**Traveller**	**2.02**	**122**	P		Pn	10 56 05.6	0.0
TMWZ	**Te Maipa**	**2.03**	**113**	P		Pn	10 56 05.6	-0.1
MOVZ	**Moawhango**	**2.04**	**63**	P		Pn	10 56 04.8	-1.0
TUVZ	**Tukino**	**2.04**	**59**	P		Pn	10 56 05.4	-0.6
NGZ	**Ngauruhoe**	**2.06**	**56**	P		Pn	10 56 05.3	-0.8
KHZ	**Kahutara**	**2.07**	**177**	P		Pn	10 56 05.4	-0.6
SNVZ	**South Ngauruho**	**2.08**	**57**	P		Pn	10 56 05.7	-0.6
WTVZ	**West Tongariro**	**2.09**	**54**	P		Pn	10 56 05.5	-0.9
NNVZ	**North Ngauruho**	**2.09**	**55**	P		Pn	10 56 05.7	-0.8
OTVZ	**Oturere**	**2.11**	**56**	P		Pn	10 56 06.0	-0.7
DVHZ	**Dannevirke**	**2.11**	**89**	P		Pn	10 56 06.2	-0.3
KRVZ	**Karewarewa**	**2.13**	**55**	P		Pn	10 56 06.0	-0.9
ETVZ	**East Tongariro**	**2.15**	**56**	P		Pn	10 56 06.4	-0.7
HIZ	**Hauiti**	**2.15**	**32**	P		Pn	10 56 05.8	-1.2
NTVZ	**North Tongarir**	**2.15**	**55**	P		Pn	10 56 06.3	-0.8
TMVZ	**Te Maari**	**2.16**	**56**	P		Pn	10 56 06.6	-0.6
PNHZ	**Pukenui**	**2.19**	**79**	P		Pn	10 56 06.8	-0.5
BFZ	**Birch Farm**	**2.19**	**100**	P		Pn	10 56 07.1	-0.2
CPWZ	**Castlepoint**	**2.20**	**106**	P		Pn	10 56 07.9	+0.5
BHHZ	**Black Hill Sta**	**2.22**	**68**	P		Pn	10 56 06.6	-1.1
KATZ	**Kakaramea**	**2.24**	**53**	P		Pn	10 56 07.4	-0.7
RITZ	**Rihia Road**	**2.34**	**55**	P		Pn	10 56 08.5	-0.5
WPHZ	**Waipukurau**	**2.34**	**84**	P		Pn	10 56 08.7	-0.4
ANWZ	**Angora Road**	**2.34**	**94**	P		Pn	10 56 09.1	+0.1
RATZ	**Rangitukua**	**2.35**	**52**	P		Pn	10 56 08.6	-0.7
KRHZ	**Kereru**	**2.38**	**74**	P		Pn	10 56 08.7	-0.9
WATZ	**Wairara**	**2.43**	**48**	P		Pn	10 56 09.3	-0.8
KWHZ	**Kaweka Forest**	**2.50**	**69**	P		Pn	10 56 10.2	-0.6
LTZ	**Lake Taylor**	**2.58**	**199**	P		Pn	10 56 10.8	-0.9
TLZ	**Tolley Road**	**2.61**	**40**	P		Pn	10 56 10.4	-1.8
GVZ	**Greta Valley S**	**2.63**	**186**	P		Pn	10 56 11.1	-1.2
KUTZ	**Kaahu Road**	**2.64**	**46**	P		Pn	10 56 11.4	-1.1
BKZ	**Black Stump Fm**	**2.66**	**65**	P		Pn	10 56 11.4	-1.3
PXZ	**Pawanui**	**2.67**	**84**	P		Pn	10 56 12.2	-0.5
MCHZ	**McNeill Hill**	**2.69**	**71**	P		Pn	10 56 12.5	-0.5
KAHZ	**Kahuranaki**	**2.72**	**79**	P		Pn	10 56 13.0	-0.4
MRHZ	**Matea Rd**	**2.78**	**58**	P		Pn	10 56 12.2	-1.9
INZ	**Inchbonnie**	**2.79**	**211**	P		Pn	10 56 12.9	-1.2
AMCZ	**Amberley**	**2.88**	**191**	P		Pn	10 56 14.0	-1.2
CKHZ	**Cape Kidnapper**	**2.90**	**77**	P		Pn	10 56 15.6	0.0
NMHZ	**Naumai**	**2.91**	**66**	P		Pn	10 56 15.2	-0.5
ARHZ	**Aropaoanui**	**2.97**	**70**	P		Pn	10 56 15.4	-0.9
MTHZ	**Maungataniwha**	**3.05**	**62**	P		Pn	10 56 15.7	-1.6
TOZ	**Taturoa Road**	**3.08**	**33**	P		Pn	10 56 15.6	-2.1
OXZ	**Oxford**	**3.14**	**199**	P		Pn	10 56 16.6	-1.7
RAHZ	**Arahi**	**3.18**	**64**	P		Pn	10 56 17.7	-1.2
MUGZ	**Murupara**	**3.21**	**55**	P		Pn	10 56 16.9	-2.3
WHHZ	**Waihua**	**3.21**	**68**	P		Pn	10 56 18.3	-1.0
RTZ	**Ruatahuna**	**3.26**	**59**	P		Pn	10 56 17.9	-2.0
WVZ	**Waitaha Valley**	**3.38**	**215**	P		Pn	10 56 19.4	-1.8
OKCZ	**Okains Bay**	**3.38**	**184**	P		Pn	10 56 19.3	-1.9
MQZ	**McQueen's Vall**	**3.40**	**189**	P		Pn	10 56 19.0	-2.5
SNGZ	**Shannon Statio**	**3.42**	**64**	P		Pn	10 56 20.6	-1.2
MHCZ	**Mount Hutt**	**3.46**	**203**	P		Pn	10 56 20.5	-1.8
RACZ	**Rakaia**	**3.50**	**195**	P		Pn	10 56 21.0	-1.8
MKAZ	**Moumakai**	**3.52**	**23**	P		Pn	10 56 21.8	-1.3
AKCZ	**Akaroa Harbour**	**3.54**	**186**	P		Pn	10 56 21.5	-1.7
KNZ	**Kokohu**	**3.55**	**69**	P		Pn	10 56 21.7	-1.7
URZ	**Urewera**	**3.55**	**55**	P		Pn	10 56 20.6	-2.8
RAGZ	**Rawiri**	**3.62**	**60**	P		Pn	10 56 22.9	-1.4
MHGZ	**Mahia Peninsul**	**3.67**	**72**	P		Pn	10 56 24.8	-1.1
PRGZ	**Parita Road**	**3.74**	**69**	P		Pn	10 56 24.2	-1.6
RIGZ	**Rimuhau**	**3.75**	**65**	P		Pn	10 56 24.2	-1.6
GCSZ	**Gaunt Creek Bo**	**3.75**	**217**	P		Pn	10 56 23.8	-2.0
WACZ	**Wakanui South**	**3.77**	**197**	P		Pn	10 56 24.5	-1.6
MWZ	**Matawai**	**3.78**	**59**	P		Pn	10 56 23.8	-2.5
RPZ	**Rata Peaks**	**3.79**	**207**	P		Pn	10 56 24.3	-2.0
WIAZ	**Waiheke Island**	**3.80**	**21**	P		Pn	10 56 25.5	-1.0
TKGZ	**Te Karaka**	**3.94**	**62**	P		Pn	10 56 26.2	-1.9
ARCZ	**Arundel**	**3.96**	**204**	P		Pn	10 56 26.2	-2.2
KUZ	**Kuaotunu**	**4.03**	**27**	P		Pn	10 56 27.7	-1.7
RUGZ	**Raukumara Rang**	**4.08**	**56**	P		Pn	10 56 26.9	-3.4
FOZ	**Fox Glacier**	**4.16**	**219**	P		Pn	10 56 28.3	-2.6
CNGZ	**Carnagh Statio**	**4.16**	**65**	P		Pn	10 56 29.5	-1.5
TWGZ	**Tauwhareparae**	**4.16**	**60**	P		Pn	10 56 28.9	-2.1
HAZ	**Te Kaha**	**4.28**	**54**	P		Pn	10 56 28.9	-3.6
PKGZ	**Pakihiroa**	**4.39**	**57**	P		Pn	10 56 31.1	-2.8
PUZ	**Puketiti**	**4.40**	**60**	P		Pn	10 56 31.2	-2.9
TMZ	**Timaru**	**4.41**	**203**	P		Pn	10 56 32.1	-2.0
WMGZ	**Waiomatatini S**	**4.64**	**59**	P		Pn	10 56 34.1	-3.1
LBZ	**Lake Benmore**	**4.69**	**210**	P		Pn	10 56 35.0	-2.6
MXZ	**Matakaoa Point**	**4.73**	**55**	P		Pn	10 56 35.3	-2.9
JCZ	**Jackson Bay**	**5.06**	**221**	P		Pn	10 56 40.9	-1.7
ODZ	**Otahua Downs**	**5.11**	**203**	P		Pn	10 56 41.0	-2.1
WKZ	**Wanaka**	**5.52**	**214**	P		Pn	10 56 45.0	-3.4
EAZ	**Earnscleugh**	**5.73**	**210**	P		Pn	10 56 47.6	-3.5
WHZ	**Wether Hill Ro**	**6.83**	**214**	P		Pn	10 57 01.6	-3.8

IDC ***18*** *11:05:55.9±0.7, 31°.58S × 71°.43W, h42km±5km, mb3.7/8, mb1 3.8/12, mb1mx3.8/24, mbtmp3.9/12, ML3.7/4, Error ellipse: s-maj=26.4km s-min=15.3km az=87.0*

GUC ***18*** *11:05:55.5±0.6, 31°.59S × 71°.46W, h38km±2km, ML4.1*

NEIC ***18*** *11:05:56.1±1.6, 31°.554S±0°.004 × 71°.6W±0°.1, h43km±6km, mb4.2/7, ML4.1(GUC), Error ellipse: s-maj=13.6km s-min=0.7km az=90.0*

ISC 18 11:05:55.6±0.6, 31°.57S±0°.04 × 71°.57W±0°.07, h42km±5km, n83, σ1°.01/85, mb4.1/8, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.89**	**356**	*e*P		**Pn**	**11 06 12.3**	**+0.6**
CO06				*e*S		**Sn**	**11 06 24.9**	**+1.4**
CO06	**Fray Jorge**	**0.89**	**356**			**Pn**	**11 06 12.3**	**+0.6**
VA06	**Catapilco**	**1.02**	**167**	⇑	*i*P	**Pn**	**11 06 13.4**	**+0.1**
VA06				*e*S		**Sn**	**11 06 26.7**	**+0.2**
VA06				IAML			11 06 28.9	
	comp=N,11µm,0.2s							
CO03	**El Pedregal**	**1.05**	**46**	⇓	*i*P	**Pn**	**11 06 13.8**	**-0.1**
CO03				*e*S		**Sn**	**11 06 26.9**	**-0.5**
CO03				IAML			11 06 29.8	
	comp=E,9µm,0.3s							
CO03	**El Pedregal**	**1.05**	**46**			**Pn**	**11 06 13.9**	**0.0**
VA01	**Torpederas**	**1.45**	**183**	*e*P		**Pn**	**11 06 20.2**	**+0.9**
VA01	**Torpederas**	**1.45**	**183**			**Pn**	**11 06 20.1**	**+0.7**
VA03	**San Esteban**	**1.47**	**144**	⇓	*i*P	**Pn**	**11 06 20.0**	**+0.3**
VA03				*e*S		**Sn**	**11 06 38.6**	**+0.8**
VA03				IAML			11 06 42.2	
	comp=E,7µm,0.2s							
VA03	**San Esteban**	**1.47**	**144**			**Pn**	**11 06 20.1**	**+0.3**
ROCH	**El Roble**	**1.48**	**161**	*e*P		**Pn**	**11 06 20.5**	**+0.6**
ROCH				*e*S		**Sn**	**11 06 39.2**	**+1.1**
ROCH				IAML			11 06 42.9	
	comp=E,4µm,0.4s							
GO04	**Tololo Observa**	**1.54**	**26**	*e*P		**Pn**	**11 06 22.0**	**+1.2**
GO04				*e*S		**Sn**	**11 06 42.1**	**+2.4**
GO04				IAML			11 06 44.0	
	comp=E,15µm,0.6s							
GO04	**Tololo Observa**	**1.54**	**26**			**Pn**	**11 06 21.7**	**+1.0**
CO05	**La Serena**	**1.67**	**10**	*e*P		**Pn**	**11 06 23.4**	**+1.1**
CO05				IAML			11 06 49.3	
	comp=E,2µm,0.4s							
CO05	**La Serena**	**1.67**	**10**			**Pn**	**11 06 23.2**	**+0.9**
MT05	**Renca**	**1.95**	**159**	*e*P		**Pn**	**11 06 27.3**	**+1.1**
MT05				*e*S		**Sn**	**11 06 51.2**	**+1.7**
MT05				IAML			11 06 57.0	
	comp=E,4µm,0.3s							
MT05	**Renca**	**1.95**	**159**			**Pn**	**11 06 27.4**	**+1.1**
VA05	**Santo Domingo**	**2.08**	**181**	*e*P		**Pn**	**11 06 28.6**	**+0.6**
VA05				IAML			11 07 08.6	
	comp=E,2µm,0.4s							
VA05	**Santo Domingo**	**2.08**	**181**			**Pn**	**11 06 28.7**	**+0.7**
MT09	**Talagante**	**2.25**	**168**	*e*P		**Pn**	**11 06 31.9**	**+1.4**
MT09				IAML			11 07 06.4	
	comp=N,2µm,0.3s							
MT09	**Talagante**	**2.25**	**168**	Pn		**Pn**	**11 06 32.0**	**+1.4**
MT01	**Popeta**	**2.31**	**173**	*e*P		**Pn**	**11 06 32.1**	**+1.1**
MT01				IAML			11 07 08.4	
	comp=E,2µm,0.2s							
MT01	**Popeta**	**2.31**	**173**	Pn		**Pn**	**11 06 32.3**	**+1.2**
ZON	**Zonda**	**2.47**	**90**			**Pn**	**11 06 35.9**	**+2.6**
LCO	**Las Campanas**	**2.66**	**17**	*i* P		**Pn**	**11 06 37.4**	**+1.2**
LCO	**Las Campanas**	**2.66**	**17**			**Pn**	**11 06 37.7**	**+1.6**
BO01	**Tunca**	**2.84**	**172**	*e*P		**Pn**	**11 06 39.4**	**+0.9**
BO01				IAML			11 07 20.4	
	comp=E,378nm,0.2s							
BO01	**Tunca**	**2.84**	**172**			**Pn**	**11 06 39.5**	**+1.0**
BO02	**Sierra Bellavi**	**3.28**	**169**	Pn		**Pn**	**11 06 46.2**	**+1.6**
AC04	**Llanos de Chal**	**3.38**	**7**	Pn		**Pn**	**11 06 46.2**	**+0.3**
GO05	**Huala**	**3.44**	**185**			**Pn**	**11 06 46.7**	**0.0**
GO03	**Copiap**	**4.13**	**17**	Pn		**Pn**	**11 06 57.0**	**+0.8**
ML02	**Panimavida**	**4.18**	**178**	Pn		**Pn**	**11 06 57.7**	**+0.8**
AC06	**Mina Casimiro**	**4.33**	**14**			**Pn**	**11 06 59.3**	**+0.4**
AC02	**Maricunga**	**5.18**	**25**	Pn		**Pn**	**11 07 12

PBSI	**Pulau Batu**	**3.54**	**146**	P	**Pn**	**11 11 19.5**	**+1.4**
MNSI	**Mandailing Nat**	**3.89**	**122**	P	**Pn**	**11 11 24.1**	**+1.1**
CMAR	**Chiang Mai Arr**	**15.69**	**9**	Pn	**P**	**11 14 06.2**	**-1.7**
	0.2nm,0.3s,baz=202,slow=11,SNR=1.8						
H08S2	**Diego Garcia H**	**25.95**	**246**	T	T	11 42 31.2	
	baz=68,slow=76,SNR=7.4						
H08S3	**Diego Garcia H**	**25.95**	**246**	T	T	11 42 32.3	
	baz=68,slow=76,SNR=42						
H08S1	**Diego Garcia H**	**25.97**	**246**	T	T	11 42 32.0	
	baz=68,slow=76,SNR=39						
H01W3	**Cape Leeuwin H**	**41.15**	**157**	T	T	12 01 27.2	
	baz=332,slow=76,SNR=28						
H01W2	**Cape Leeuwin H**	**41.16**	**158**	T	T	12 01 28.2	
	baz=332,slow=76,SNR=24						
H01W1	**Cape Leeuwin H**	**41.16**	**157**	T	T	12 01 26.7	
	baz=332,slow=76,SNR=29						
WB0	**Warramunga Arr**	**43.67**	**123**	P	**P**	**11 18 27.3**	**-0.2**
WRA	**Warramunga Arr**	**43.70**	**123**	P	**P**	**11 18 27.5**	**-0.3**
	0.9nm,0.3s,baz=313,slow=10,SNR=21						
WRA	**Warramunga Arr**	**43.70**	**123**	P	**P**	**11 18 27.4**	**-0.3**
WRAB	**Tennant Creek**	**43.71**	**123**	P	**P**	**11 18 27.7**	**-0.1**
WB2	**Warramunga Arr**	**43.71**	**123**	P	**P**	**11 18 27.8**	**-0.1**
WB2				IAmb	IAmb	11 18 48.2	
	comp=Z,4.1nm,1.1s						
WR0	**Warramunga Arr**	**43.88**	**123**	P	**P**	**11 18 28.9**	**-0.3**
WR0				IAmb	IAmb	11 18 47.2	
	comp=Z,3.2nm,0.9s						
ASAR	**Alice Springs**	**45.14**	**128**	P	**P**	**11 18 38.9**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=299,slow=7.8,SNR=12						
AS31	**Alice Springs**	**45.14**	**128**	P	**P**	**11 18 39.0**	**-0.2**
MK31	**Makanchi Array**	**45.39**	**346**	P	**P**	**11 18 40.6**	**-0.3**
MK31				IAmb	IAmb	11 18 43.4	
	comp=Z,1.3nm,0.7s						
MKAR	**Makanchi Array**	**45.39**	**346**	P	**P**	**11 18 40.6**	**-0.2**
	comp=Z,3.6nm,1.0s,baz=158,slow=8.3,SNR=11						
MKAR	**Makanchi Array**	**45.39**	**346**	P	**P**	**11 18 39.8**	**-1.1**
MAKZ	**Makanchi**	**45.48**	**346**	P	**P**	**11 18 41.3**	**-0.3**
MAKZ				IAmb	IAmb	11 19 03.2	
	comp=Z,2.2nm,1.1s						
SONM	**Songino Array**	**45.61**	**10**	P	**P**	**11 18 42.3**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=195,slow=7.3,SNR=4.4						
SONM	**Songino Array**	**45.61**	**10**	IAmb	IAmb	11 18 56.3	
	comp=Z,3.7nm,1.4s						
GEYT	**Alibeck**	**49.34**	**320**	P	**P**	**11 19 12.9**	**+1.1**
	comp=Z,43nm,0.4s,baz=53,slow=7.7,SNR=2.7						
ZALV	**Zalesovo Beam**	**51.76**	**351**	P	**P**	**11 19 29.8**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=165,slow=6.0,SNR=1.3						
AKASG	**Malin Array Be**	**73.37**	**322**	P	**P**	**11 21 53.4**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=89,slow=4.0,SNR=1.4						
ARCES	**ARCESS Array B**	**80.65**	**340**	P	**P**	**11 22 34.4**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=69,slow=4.0,SNR=5.0						

*IDC **18** 11:19:44.2±9.4, 51.52N×150.53E, h439km±81km, mb2.7/4, mb1 2.9/5, mb1mx2.6/36, mbtmp3.5/5, Error ellipse: s-maj=279.4km s-min=20.6km az=117.0*
*KRSC **18** 11:19:45.9±2.5, 50.46N×153.44E, h560km±27km, ML4.4*
ISC 18 11:19:50.9±1.4, 50.9N±0.2×152.9E±0.2, h500km, n22, σ1s40/26, mb3.1/4, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**3.38**	**71**	*e*P	**P**	**11 21 03.6**	**-0.8**
KDTR				*e*S	**S**	**11 22 03.7**	**-0.8**
ASAK	**Asacha**	**3.47**	**62**	*e*P	**P**	**11 21 08.4**	**+0.2**
PETK	**Petropavlovsk-**	**3.73**	**51**	P	**P**	**11 21 04.7**	**-2.4**
	0.3nm,0.3s,baz=234,slow=5.0,SNR=1.5						
RUS	**Russkaya**	**3.83**	**63**	*e*S	**S**	**11 22 12.4**	**+1.7**
GNL	**Ganaly**	**4.21**	**45**	*e*P	**P**	**11 21 09.4**	**-1.6**
DALK	**Dalny**	**4.23**	**57**	*e*P	**P**	**11 21 11.5**	**+0.5**
KOK	**Koryaka**	**4.30**	**53**	*e*P	**P**	**11 21 11.7**	**0.0**
AVH	**Avacha**	**4.34**	**54**	*e*P	**P**	**11 21 14.2**	**+2.2**
KRX	**Arik**	**4.34**	**52**	*e*P	**P**	**11 21 12.1**	**0.0**
UGLR	**Uglovaya**	**4.35**	**55**	*e*P	**P**	**11 21 13.3**	**+1.1**
KRER	**Koryakskii**	**4.36**	**53**	*e*P	**P**	**11 21 12.4**	**0.0**
SMAR	**Somma**	**4.37**	**54**	*e*P	**P**	**11 21 12.9**	**+0.4**
SDLR	**Sedlovina**	**4.42**	**54**	*e*P	**P**	**11 21 13.4**	**+0.6**
SDLR				*e*S	**S**	**11 22 22.8**	**+3.1**
SPN	**Mys Shipunski**	**4.94**	**60**	*e*P	**P**	**11 21 16.5**	**-0.7**
SPN				*e*S	**S**	**11 22 25.7**	**-2.1**
KZV	**Kizimen**	**6.17**	**43**	*e*P	**P**	**11 21 29.2**	**+0.3**
TUMR	**Tumrok**	**6.22**	**42**	*e*P	**P**	**11 21 29.4**	**+0.1**
TUMD	**Tumrok D**	**6.28**	**43**	*e*P	**P**	**11 21 29.9**	**+0.1**
MKZ	**Mys Kozova**	**6.52**	**52**	*e*P	**P**	**11 21 31.6**	**-0.5**
MKZ				*e*S	**S**	**11 22 52.4**	**-2.7**
ILAR	**Eielson Array**	**33.51**	**42**	P	**P**	**11 25 49.6**	**+1.8**
	0.1nm,0.5s,baz=280,slow=10.0,SNR=6.8						
INK	**Inuvik**	**38.31**	**35**	P	**P**	**11 26 26.9**	**-0.6**
	2.4nm,1.0s,baz=290,slow=7.3,SNR=5.6						
WRA	**Warramunga Arr**	**72.36**	**198**	P	**P**	**11 30 25.0**	**-0.6**
	0.4nm,0.5s,baz=16,slow=5.3,SNR=6.3						
ASAR	**Alice Springs**	**76.06**	**193**	P	**P**	**11 30 46.8**	**+0.3**
	0.3nm,0.7s,baz=10,slow=5.7,SNR=4.1						

*TUL **18** 11:20:37±1.9, 35.98N×100.02×96.79W±0.04, h4km±1km, ML2.5, mb_Lg2.3/28(NEIC), Error ellipse: s-maj=4.3km s-min=2.3km az=112.0*
NEIC 18 11:20:37.3±1.2, 36.00N±0.01×96.84W±0.03, h3km±5km, Error ellipse: s-maj=3.3km s-min=2.2km az=94.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.04**	**182**		Pg	11 20 37.1	-1.2
OK031					Sg	11 20 39.2	+0.3
QUOK	**Quay**	**0.20**	**31**		Pg	11 20 41.4	+0.1
OK029	**Liberty Lake**	**0.54**	**249**	Pg	Pg	11 20 48.2	+0.5
OK025	**Westminster Rd**	**0.58**	**225**		Pg	11 20 48.9	+0.5
BCOK	**Bluff Creek, N**	**0.71**	**242**	Pg	Pg	11 20 50.3	-0.7
BLOK	**Blackwell**	**0.82**	**338**		Pg	11 20 53.4	+0.3
FNO	**Franklin**	**0.87**	**212**		Pg	11 20 53.7	-0.2
T35A	**Sooner Cattle**	**0.96**	**16**		Pg	11 20 55.6	-0.1
CROK	**Carrier**	**1.06**	**299**		Pg	11 20 57.8	+0.2
GC02	**Grant County #**	**1.19**	**316**		Pg	11 21 00.0	-0.1
KAN17	**Caldwell West**	**1.29**	**325**		Pg	11 21 01.3	-0.7
KAN14	**Manchester OK**	**1.32**	**317**		Pg	11 21 02.5	-0.1
KAN14					Sn	11 21 20.6	-0.2
OK032	**Salt Plains WL**	**1.37**	**306**		Pn	11 21 03.0	-0.4
X34A	**Smith Ranch, M**	**1.61**	**211**		Pn	11 21 06.7	0.0
X34A					Sn	11 21 26.4	-1.5
X37A	**Clayton**	**1.84**	**139**		Pn	11 21 10.2	+0.3
X37A				IAmb_Lg		11 21 35.6	
	comp=Z,12nm,1.1s						
LOOK	**Love County**	**2.02**	**188**		Pn	11 21 13.3	+1.1
WMOK	**Wichita Mounta**	**2.02**	**232**		Pn	11 21 12.9	+0.5
WMOK				IAmb_Lg		11 21 46.5	
	comp=Z,9.1nm,0.8s						
U38A	**Gravette**	**2.03**	**77**		Pn	11 21 12.5	+0.1
HHAR	**Hobbs**	**2.36**	**82**		Pn	11 21 17.9	+0.9
W39A	**Magazine**	**2.61**	**107**		Pn	11 21 20.4	0.0
W39A				IAmb_Lg		11 22 01.4	
	comp=Z,16nm,1.2s						
MIAR	**Mount Ida**	**3.04**	**118**		Pn	11 21 24.6	-1.6
KSU1	**Kansas State U**	**3.11**	**3**		Pn	11 21 24.3	-2.9
KSU1				IAmb_Lg		11 22 24.2	
	comp=Z,7.8nm,0.8s						
S39A	**Bolivar**	**3.29**	**58**	IAmb_Lg		11 22 27.1	
	comp=Z,11nm,1.0s						
X40A	**Basin Creek Fa**	**3.60**	**114**		Pn	11 21 34.5	+0.5
X40A				IAmb_Lg		11 22 32.9	
	comp=Z,6.7nm,0.9s						
WHAR	**Wooly Hollow**	**3.77**	**99**		Pn	11 21 36.1	-0.3
WHAR				IAmb_Lg		11 22 39.4	
	comp=Z,11nm,1.0s						
ABTX	**Abilene, Hawle**	**4.09**	**215**	IAmb_Lg		11 22 49.2	
	comp=Z,5.5nm,0.7s						
AMTX	**Amarillo**	**4.11**	**256**	IAmb_Lg		11 22 55.9	
	comp=Z,6.8nm,0.8s						
R40A	**Maddies Statio**	**4.31**	**57**	IAmb_Lg		11 22 54.3	
	comp=Z,8.5nm,0.8s						
P38A	**Dawn**	**4.47**	**35**		Pg	11 21 59.8	-3.1
LCAR	**Lake Charles**	**4.61**	**87**	IAmb_Lg		11 23 05.2	
	comp=Z,6.0nm,0.8s						
T42A	**Van Buren**	**4.74**	**76**	IAmb_Lg		11 23 08.8	
	comp=Z,5.8nm,0.8s						
PBMO	**Poplar Bluff**	**5.23**	**80**	IAmb_Lg		11 23 33.5	
	comp=Z,7.5nm,0.8s						
JCT	**Junction City**	**6.04**	**205**	IAmb_Lg		11 24 00.2	
	comp=Z,4.6nm,0.7s						

MEX 18 11:35:32.9±1.0, 19.76N×106.14W, h12km±999km, MD3.9, 1D, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**1.06**	**104**	*i* P	Pb	11 35 49.4	-3.8
CJM				*i* S	Sb	11 36 02.5	-4.6
R15V		**2.11**	**106**	*i* P	Pn	11 36 05.0	-3.3
R15V				*i* P	Pb	11 36 05.1	-6.1
R15V				*i* S	Sn	11 36 30.0	-4.5
COIG	**Colima**	**2.38**	**104**	*i* P	Pn	11 36 09.1	-2.8
COIG				*i* S	Sn	11 36 37.3	-3.7
EZ5V		**2.40**	**96**	⇓*e*P	Pn	11 36 08.7	-3.7
EZ5V				*e*S	Sn	11 36 39.9	-2.0

*TUL **18** 11:47:38.7±1.4, 36.03N±0.01×97.12W±0.02, h5km±7km, ML2.8, mb_Lg2.6/36(NEIC), Error ellipse: s-maj=2.0km s-min=1.3km az=123.0*
NEIC 18 11:47:39.0±1.0, 36.04N±0.01×97.13W±0.02, h5km±2km, Error ellipse: s-maj=3.1km s-min=2.2km az=123.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.25**	**111**	Pg	Pg	11 47 43.8	-0.1
OK031				Sg	Sg	11 47 47.4	+0.2
QUOK	**Quay**	**0.36**	**69**	Pg	Pg	11 47 46.0	0.0
QUOK				Sg	Sg	11 47 51.1	+0.3
OK029	**Liberty Lake**	**0.36**	**227**		Pg	11 47 46.1	0.0
OK029				Sg	Sg	11 47 51.2	+0.3
OK025	**Westminster Rd**	**0.49**	**201**	Pg	Pg	11 47 48.4	-0.1
OK025				Sg	Sg	11 47 55.2	+0.3
BCOK	**Bluff Creek, N**	**0.55**	**226**		Pg	11 47 49.5	-0.2
BCOK				Sg	Sg	11 47 57.2	+0.4
OKCFA	**Oklahoma City**	**0.68**	**203**		Pg	11 47 51.7	-0.4
OKCFA				Sg	Sg	11 48 01.3	+0.4
OKCSW	**OKLAHOMA CITY**	**0.69**	**202**		Pg	11 47 51.8	-0.4
OKCSW				Sg	Sg	11 48 01.4	+0.3
BLOK	**Blackwell**	**0.72**	**354**	Pg	Pg	11 47 52.8	-0.1
BLOK				Sg	Sg	11 48 02.7	+0.5
FNO	**Franklin**	**0.81**	**196**	Pg	Pg	11 47 54.0	-0.7
FNO				Sg	Sg	11 48 05.4	+0.1
CROK	**Carrier**	**0.83**	**304**	Pg	Pg	11 47 54.8	-0.2
CROK				Sg	Sg	11 48 06.3	+0.5
GC02	**Grant County #**	**1.00**	**324**	Pg	Pg	11 47 57.9	-0.3
GC02				Sg	Sg	11 48 11.6	+0.4
T35A	**Sooner Cattle**	**1.00**	**29**	Pg	Pg	11 47 57.8	-0.5
T35A				Sg	Sg	11 48 11.5	+0.2
KAN13	**South Haven SW**	**1.01**	**344**	Pg	Pg	11 47 57.9	-0.5
KAN13				Sg	Sg	11 48 11.8	+0.3
KAN17	**Caldwell West**	**1.12**	**333**	Pg	Pg	11 48 00.1	-0.5
KAN17				Sg	Sg	11 48 15.3	+0.1
KAN14	**Manchester OK**	**1.13**	**324**	Pg	Pg	11 48 00.5	-0.4
KAN14				Sg	Sg	11 48 15.5	0.0
OK032	**Salt Plains WL**	**1.16**	**311**	Pg	Pg	11 48 00.7	-0.6
OK032				Sg	Sg	11 48 16.4	+0.1
KAN09	**Caldwell North**	**1.16**	**340**	Pg	Pg	11 48 00.7	-0.6
KAN09				Sg	Sg	11 48 16.2	-0.1
KAN09				IAmb_Lg		11 48 16.4	
	comp=Z,41nm,1.0s						
KAN05	**Bluff City Nor**	**1.22**	**331**	Pg	Pg	11 48 02.0	-0.5
KAN05				Sg	Sb	11 48 18.6	-0.1
KS20	**Mayfield South**	**1.23**	**344**	Pg	Pg	11 48 02.3	-0.4
KS20				Sg	Sg	11 48 18.6	-0.1
KAN10	**Anthony SW Sta**	**1.33**	**324**	Pn	Pn	11 48 03.9	-0.4
KAN08	**Anthony NE Sta**	**1.36**	**330**	Pn	Pn	11 48 04.2	-0.6
KAN16	**Harper SW Stat**	**1.40**	**328**	Pn	Pn	11 48 05.0	-0.3
KAN12	**Harper NE Stat**	**1.44**	**331**	Pn	Pn	11 48 05.3	-0.5
X34A	**Smith Ranch, M**	**1.55**	**202**	Pn	Pn	11 48 07.1	-0.2
U32A	**Winter Ranch,**	**1.55**	**283**	Pn	Pn	11 48 07.2	-0.2
U32A				IAmb_Lg		11 48 32.3	
	comp=Z,35nm,1.0s						
WMOK	**Wichita Mounta**	**1.88**	**227**		Pn	11 48 12.1	+0.2
X37A	**Clayton**	**2.04**	**135**	Pn	Pn	11 48 14.3	+0.3
X37A				IAmb_Lg		11 48 46.1	
	comp=Z,37nm,0.7s						
LOOK	**Love County**	**2.05**	**181**	Pn	Pn	11 48 14.9	+0.7
U38A	**Gravette**	**2.25**	**79**	Pn	Pn	11 48 18.0	+1.0
HHAR	**Hobbs**	**2.59**	**84**	Pn	Pn	11 48 22.7	+1.1
R32A	**Long Quarter,**	**2.69**	**332**	Pn	Pn	11 48 23.0	0.0
Z35A	**Perchaven, San**	**2.71**	**182**	Pn	Pn	11 48 22.8	0.4
W39A	**Magazine**	**2.85**	**106**	Pn	Pn	11 48 25.9	+0.7
KSU1	**Kansas State U**	**3.08**	**8**		Pn	11 48 28.4	0.0
MIAR	**Mount Ida**	**3.27**	**116**	Pn	Pn	11 48 31.8	+0.9
Z38A	**Mt. Pleasant**	**3.29**	**147**	IAmb_Lg		11 49 28.1	
	comp=Z,15nm,0.7s						
S39A	**Bolivar**	**3.46**	**61**	Pn	Pn	11 48 35.5	+1.9
S39A				IAmb_Lg		11 49 36.3	
	comp=Z,14nm,0.8s						
U40A	**Yellville**	**3.47**	**84**	Pn	Pn	11 48 33.1	-0.6
X40A	**Basin Creek Fa**	**3.84**	**113**	Pn	Pn	11 48 40.4	+1.6
X40A				IAmb_Lg		11 49 46.7	
	comp=Z,10nm,0.8s						
AMTX	**Amarillo**	**3.89**	**254**	Pn	Pn	11 48 39.9	+0.3
AMTX				IAmb_Lg		11 49 51.4	
	comp=Z,11nm,0.9s						
ABTX	**Abilene, Hawle**	**4.00**	**212**	Pn	Pn	11 48 41.9	+0.9
ABTX				IAmb_Lg		11 49 45.8	
	comp=Z,14nm,1.1s						
WHAR	**Wooly Hollow**	**4.01**	**99**	Pn	Pn	11 48 41.1	0.0
FCAR	**Ozark Folk Cen**	**4.06**	**91**	IAmb_Lg		11 49 52.9	
	comp=Z,13nm,1.1s						
MGMO	**Mountain Grove**	**4.06**	**73**	Pn	Pn	11 48 41.9	0.0
MGMO				IAmb_Lg		11 49 52.1	
	comp=Z,16nm,0.7s						
P38A	**Dawn**	**4.57**	**37**	IAmb_Lg		11 50 16.7	
	comp=Z,12nm,0.7s						
CCM	**Cathedral Cave**	**5.12**	**65**	IAmb_Lg		11 50 19.0	
	comp=Z,13nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.28**	**306**	IAmb_Lg		11 50 30.7	
	comp=Z,8.0nm,0.7s						
P40A	**Paris**	**5.32**	**48**	IAmb_Lg		11 50 31.2	
	comp=Z,10.0nm,0.8s						
PBMO	**Poplar Bluff**	**5.45**	**80**	IAmb_Lg		11 50 38.8	
	comp=Z,10nm,0.8s						
N38A	**Joes South For**	**5.64**	**32**	IAmb_Lg		11 50 38.7	
	comp=Z,13nm,0.7s						
FVM	**French Village**	**5.70**	**68**	IAmb_Lg		11 50 39.5	
	comp=Z,11nm,0.8s						
JCT	**Junction City**	**5.98**	**203**	IAmb_Lg		11 50 54.7	
	comp=Z,8.6nm,0.8s						
SDCO	**Great Sand Dun**	**6.92**	**287**	Pn	Pn	11 49 22.8	+1.4

*NEIC **18** 11:54:52.0±1.5, 31.55S±0.04×72.02W±0.09, h10km±1km, mb4.2/1, ML4.1(GUC), Error ellipse: s-maj=12.9km s-min=6.8km az=273.0*
*IDC **18** 11:54:51.0±1.7, 31.54S×71.75W, h0km, mb3.9/1, mb1 3.7/2, mb1mx3.4/25, mbtmp3.6/2, ML3.5/1, Error ellipse: s-maj=93.7km s-min=44.3km az=101.0*
*GUC **18** 11:54:54.4±0.8, 31.58S×71.77W, h32km±3km, ML4.1*
ISC 18 11:54:51.7±1.4, 31.54S±0.03×71.83W±0.06, h8km±9km, n51, σ1s13/54, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.88**	**11**	*i* S	**Sn**	**11 55 23.8**	**+0.4**
CO06	**Fray Jorge**	**0.88**	**11**	Pn	**Pn**	**11 55 12.4**	**+2.0**
VA06	**Catapilco**	**1.11**	**156**	*e*P	**Pb**	**11 55 13.2**	**-0.1**
VA06				*i* S	**Sg**	**11 55 26.6**	**-0.9**
VA06				IAML		11 55 30.2	
	comp=E,9μm,0.6s						
CO03	**El Pedregal**	**1.20**	**55**	*e*P	**Pn**	**11 55 15.2**	**+0.3**
CO03				*i* S	**Sn**	**11 55 30.9**	**-0.6**
CO03	**El Pedregal**	**1.20**	**55**	Pn	**Pn**	**11 55 16.5**	**+1.6**
VA01	**Torpederas**	**1.49**	**174**	*e*P	**Pb**	**11 55 19.4**	**-0.3**
VA01	**Torpederas**	**1.49**	**174**	Pn	**Pb**	**11 55 19.6**	**0.0**
ROCH	**El Roble**	**1.59**	**154**	*e*P	**Pb**	**11 55 20.9**	**-0.6**
ROCH				*e*S	**Sn**	**11 55 41.1**	**-0.1**
ROCH				IAML		11 55 43.5	
	comp=N,2μm,0.4s						
GO04	**Tololo Observa**	**1.62**	**33**	*i* P	**Pg**	**11 55 22.8**	**-0.1**
GO04				*i* S	**Sg**	**11 55 44.4**	**+0.5**
GO04				IAML		11 55 48.7	
	comp=N,6μm,0.4s						
GO04	**Tololo Observa**	**1.62**	**33**	Pn	**Pg**	**11 55 23.3**	**+0.5**
VA03	**San Esteban**	**1.63**	**139**	*e*P	**Pn**	**11 55 21.2**	**+0.3**
VA03				*i* S	**Sn**	**11 55 41.6**	**-0.6**
VA03				IAML		11 55 43.5	
	comp=E,5μm,0.3s						
VA03	**San Esteban**	**1.63**	**139**	Pn	**Pb**	**11 55 22.2**	**0.0**
CO05	**La Serena**	**1.69**	**18**	*e*P	**Pg**	**11 55 25.0**	**+0.8**
CO05				*e*S	**Sg**	**11 55 45.8**	**-0.4**
CO05	**La Serena**	**1.69**	**18**	Pn	**Pn**	**11 55 20.1**	**-1.5**
MT05	**Renca**	**2.06**	**154**	*e*P	**Pn**	**11 55 27.7**	**+0.9**
MT05				*e*S	**Sb**	**11 55 53.7**	**-1.7**
MT05				IAML		11 55 55.9	
	comp=E,4μm,0.3s						
MT05	**Renca**	**2.06**	**154**	Pn	**Pn**	**11 55 26.7**	**-0.1**
VA05	**Santo Domingo**	**2.12**	**175**	*e*P	**Pn**	**11 55 28.4**	**+0.9**
VA05				*e*S	**Sb**	**11 55 56.3**	**-0.6**
VA05				IAML		11 56 01.7	
	comp=E,2μm,0.4s						
FSR	**Penalolen**	**2.22**	**151**	*e*P	**Pb**	**11 55 31.9**	**-0.3**
FSR				*e*S	**Sn**	**11 55 57.5**	**+0.8**
MT09	**Talagante**	**2.34**	**163**	*e*P	**Pn**	**11 55 32.0**	**+1.3**
MT09				*e*S	**Sn**	**11 55 59.5**	**-0.2**
MT09				IAML		11 56 09.9	
	comp=E,873nm,0.3s						
MT01	**Popeta**	**2.37**	**168**	*e*P	**Pn**	**11 55 32.3**	**+1.3**
MT01				*e*S	**Sb**	**11 56 01.9**	**-2.1**
MT01				IAML		11 56 09.0	
	comp=E,620nm,0.2s						
MT01	**Popeta**	**2.37**	**168**	Pn	**Pb**	**11 55 34.4**	**-0.3**
LMEL	**Las Melosas**	**2.68**	**150**	*e*P	**Pn**	**11 55 36.5**	**+1.2**
LMEL				*i* S	**Sn**	**11 56 08.9**	**+0.8**
LMEL				IAML		11 56 17.3	
	comp=N,995nm,0.2s						
ZON	**Zonda**	**2.69**	**91**	Pn	**Pb**	**11 55 38.0**	**-2.2**
LCO	**Las Campanas**	**2.70**	**21**	*e*P	**Pn**	**11 55 37.9**	**+2.1**
LCO				*e*S	**Sb**	**11 56 11.5**	**-2.4**
BO01	**Tunca**	**2.91**	**168**	Pn	**Pn**	**11 55 38.3**	**-0.1**
BO02	**Sierra Bellavi**	**3.36**	**165**	*e*S	**Sn**	**11 56 26.2**	**+1.4**
BO02				IAML		11 56 36.3	
	comp=E,441nm,0.3s						
BO02	**Sierra Bellavi**	**3.36**	**165**	Pn	**Pn**	**11 55 45.0**	**+0.4**
GO05	**Huala**	**3.46**	**181**		**Pn**	**11 55 45.8**	**-0.3**
ML02	**Panimavida**	**4.23**	**175**		**Pn**	**11 55 56.2**	**-0.2**
AC06	**Mina Casimiro**	**4.36**	**17**	Pn	**Pn**	**11 55 59.0**	**+0.7**
VA04	**Juan Fernndez**	**6.27**	**249**	Pn	**Pn**	**11 56 21.9**	**-2.6**
H03N1	**Juan Fernandez**	**6.28**	**251**	T	T	12 03 06.9	
	baz=79,slow=72,SNR=1191						
H03N3	**Juan Fernandez**	**6.29**	**250**	T	T	12 03 00.5	
	baz=79,slow=72,SNR=1192						
H03N2	**Juan Fernandez**	**6.30**	**251**	T	T	12 03 01.8	
	baz=79,slow=72,SNR=1110						
LC01	**Cunco**	**7.34**	**180**	Pn	**Pn**	**11 56 38.9**	**-0.4**
PB15	**IPOC Station P**	**8.56**	**15**	Pn	**Pn**	**11 56 57.5**	**+1.3**
PLCA	**Paso Flores**	**9.23**	**174**	Pn	**Pn**	**11 57 06.3**	**+1.1**
	comp=E,0.1nm,0.3s,baz=352,slow=18,SNR=1.6						
PLCA	**Paso Flores**	**9.23**	**174**		**Pn**	**11 57 04.6**	**-0.7**
TRQA	**Tornquist**	**10.38**	**131**		**Pn**	**11 57 23.6**	**+2.7**
TORD	**Torodi Ar. Bea**	**83.21**	**70**	P	**P**	**12 07 18.6**	**-0.4**
	comp=E,0.8nm,0.8s,baz=252,slow=3.9,SNR=4.7						
TORD	**Torodi Ar. Bea**	**83.21**	**70**	IAmb	IAmb	12 07 31.3	
	comp=Z,2.1nm,1.4s						
WRA	**Warramunga Arr**	**122.99**	**210**	PKP	**PKPdf**	**12 13 48.9**	**-0.5**
	comp=Z,1.0nm,1.2s,baz=168,slow=2.8,SNR=2.5						
H11S2	**WAKE ISLAND Hyl**	**25.95**	**271**	T	T	14 32 50.3	
	baz=117,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hyl**	**25.96**	**271**	T	T	14 32 49.7	
	baz=117,slow=75,SNR=9.5						
H11S3	**WAKE ISLAND Hyl**	**25.97**	**271**	T	T	14 32 43.4	
	baz=117,slow=75,SNR=9.2						
H11N3	**WAKE ISLAND Hyl**	**26.30**	**272**	T	T	14 33 04.6	
	baz=116						
H11N1	**WAKE ISLAND Hyl**	**26.32**	**272**	T	T	14 33 08.6	
	baz=116						
H11N2	**WAKE ISLAND Hyl**	**26.32**	**272**	T	T	14 33 11.7	
	baz=116						
BVAR	**Borovoye Array**	**145.33**	**41**	PKPbc	**PKPdf**	**12 14 30.4**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=287,slow=2.4,SNR=7.3						
ZALV	**Zalesovo Beam**	**152.03**	**30**	PKPbc	**PKiKP**	**12 14 47.5**	**+0.1**
	comp=Z,3.8nm,0.5s,baz=304,slow=1.9,SNR=7.9						
ZALV	**Zalesovo Beam**	**152.03**	**30**		**PKPbc**	**12 14 46.9**	**-0.2**

*SOME **18** 12:04:03.2, 40.55N×72.57E, h5km*
*KRNET **18** 12:04:03.3±0.1, 40.48N×72.60E, h14km, mb2.6*
*NNC **18** 12:04:04.1±1.5, 40.49N×72.64E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=12

MEIG				*e*S	Sn	12 07 24.3	-2.6
MGIG	**Malinaltepec**	**1.27**	**86**	*i* P	Pn	12 07 20.3	-1.6
MGIG				*i* S	Sn	12 07 35.8	-2.0
PLIG	**Platanillo**	**1.30**	**19**	*e*P	Pn	12 07 21.6	-0.8
PLIG				*i* S	Sn	12 07 37.7	-0.9
TLIG	**Tlapa**	**1.39**	**73**	*e*P	Pn	12 07 21.5	-2.1
TLIG				*e*S	Sn	12 07 37.7	-3.0
FTIG	**Fresnillo de T**	**1.89**	**66**	*e*P	Pn	12 07 29.3	-1.2
FTIG				*e*S	Sn	12 07 51.4	-1.8

MEX 18 12:08:24.5±0.9, 13°74N×93°14W, h15km±152km, MD4.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.95**	**358**	*i* P	Pn	12 08 53.3	-3.8
CCIG	**Comitan**	**2.71**	**21**	*e*P	Pn	12 09 05.4	-2.2
TGIG		**3.02**	**0**	*i* P	Pn	12 09 09.7	-2.1

*IDC **18** 12:13:49.1±1.2, 30°.39S×71°.95W, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.6/23, mbtmp3.5/5, ML3.6/2, Error ellipse: s-maj=62.7km s-min=28.3km az=88.0*

ISC 18 12:13:51.5±1.0, 30°.4S±0°.1×72°.0W±0°.4, h16km, n13, σ0°74/7, mb3.7/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N1	**Juan Fernandez**	**6.60**	**241**	T	T	12 22 30.8	
	baz=70,slow=72,SNR=121						
H03N2	**Juan Fernandez**	**6.61**	**241**	T	T	12 22 32.1	
	baz=70,slow=72,SNR=135						
H03N3	**Juan Fernandez**	**6.61**	**241**	T	T	12 22 30.9	
	baz=70,slow=72,SNR=98						
PLCA	**Paso Flores**	**10.34**	**174**	Pn	**Pn**	**12 16 18.9**	**-0.3**
	0.1nm,0.3s,baz=2.2,slow=13,SNR=4.5						
LPAZ	**La Paz**	**14.53**	**15**	Pn	**Pn**	**12 17 17.6**	**+0.6**
	0.1nm,0.3s,baz=201,slow=10,SNR=4.1						
QSPA	**South Pole Qui**	**59.78**	**180**	P	**P**	**12 23 56.7**	**+1.0**
	0.7nm,0.8s,baz=157,slow=5.3,SNR=1.7						
TXAR	**Lajitas Array**	**66.67**	**330**	P	**P**	**12 24 41.2**	**-0.4**
	0.2nm,0.8s,baz=165,slow=7.5,SNR=2.2						
TORD	**Torodi Ar. Bea**	**82.97**	**70**	P	**P**	**12 26 15.8**	**-0.4**
	0.5nm,0.8s,baz=232,slow=4.6,SNR=2.6						
H11S2	**WAKE ISLAND Hyl**	**25.78**	**272**	T	T	14 51 34.3	
	baz=114,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hyl**	**25.80**	**272**	T	T	14 51 34.2	
	baz=114,slow=75,SNR=9.6						
H11S3	**WAKE ISLAND Hyl**	**25.80**	**272**	T	T	14 51 36.6	
	baz=114,slow=75,SNR=8.2						
KURBB	**Kurchatov Arra**	**150.17**	**39**	PKPbc	**PKPbc**	**12 33 40.6**	**-0.6**
	0.4nm,0.2s,baz=288,slow=3.6,SNR=1.5						
ZALV	**Zalesovo Beam**	**151.15**	**29**	PKPbc	**PKiKP**	**12 33 43.8**	**-0.2**
	2.3nm,0.7s,baz=316,slow=4.1,SNR=6.5						

*IDC **18** 12:17:18.3±1.8, 31°.50S×71°.67W, h0km, mb3.9/2, mb1 3.8/3, mb1mx3.5/23, mbtmp3.7/3, ML3.6/1, Error ellipse: s-maj=103.7km s-min=33.2km az=101.0*
*NEIC **18** 12:17:21.4±1.7, 31°.61S±0°.02×71°.79W±0°.08, h11km±5km, mb4.2/3, ML4.0(GUC), Error ellipse: s-maj=9.9km s-min=2.2km az=90.0*
*GUC **18** 12:17:23.2±0.6, 31°.68S×71°.95W, h42km±3km, ML4.0*

ISC 18 12:17:19.8±1.5, 31°.60S±0°.03×71°.87W±0°.07, h8km±9km, n49, σ1°00/57, mb4.3/3, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.94**	**12**		**Pg**	**12 17 38.0**	**0.0**
CO06				Sg	**Sn**	**12 17 52.5**	**-0.5**
VA06	**Catapilco**	**1.07**	**153** ⇓	*i*P	**Pn**	**12 17 41.7**	**+0.6**
VA06				*i* S	**Sn**	**12 17 56.4**	**+0.2**
VA06				IAML		12 18 00.1	
	comp=N,7μm,0.3s						
CO03	**El Pedregal**	**1.26**	**53**	Pn	**Pn**	**12 17 43.2**	**-0.6**
CO03				Sg	**Sb**	**12 17 59.4**	**-1.0**
VA01	**Torpederas**	**1.43**	**173**	*e*P	**Pb**	**12 17 46.9**	**+0.2**
VA01				*e*S	**Sn**	**12 18 04.7**	**-0.3**
VA01	**Torpederas**	**1.43**	**173**		**Pb**	**12 17 47.0**	**+0.2**
ROCH	**El Roble**	**1.55**	**152** ⇓	*e*P	**Pg**	**12 17 49.4**	**-0.2**
ROCH				*e*S	**Sg**	**12 18 09.4**	**-0.3**
ROCH				IAML		12 18 15.9	
	comp=N,3μm,0.8s						
VA03	**San Esteban**	**1.61**	**136** ⇑	*i*P	**Pb**	**12 17 50.2**	**+0.4**
VA03				*i* S	**Sg**	**12 18 11.5**	**-0.1**
VA03				IAML		12 18 17.3	
	comp=E,4μm,0.2s						
VA03	**San Esteban**	**1.61**	**136**		**Pb**	**12 17 50.2**	**+0.4**
GO04	**Tololo Observa**	**1.69**	**33**	Pn	**Pn**	**12 17 50.8**	**+0.9**
CO05	**La Serena**	**1.76**	**18**	Pn	**Pn**	**12 17 51.4**	**+0.8**
MT05	**Renca**	**2.03**	**152**	*e*P	**Pb**	**12 17 55.9**	**-1.1**
MT05				*e*S	**Sn**	**12 18 20.5**	**+0.7**
MT05				IAML		12 18 27.1	
	comp=E,2μm,0.3s						
MT05	**Renca**	**2.03**	**152**		**Pn**	**12 17 55.4**	**+1.0**
VA05	**Santo Domingo**	**2.06**	**174**	*e*P	**Pn**	**12 17 53.7**	**-1.0**
VA05				*e*S	**Sn**	**12 18 20.9**	**+0.2**
VA05				IAML		12 18 31.0	
	comp=E,1μm,0.4s						
VA05	**Santo Domingo**	**2.06**	**174**		**Pn**	**12 17 53.8**	**-1.0**
FSR	**Penalolen**	**2.19**	**149**	*e*P	**Pb**	**12 17 59.5**	**-0.2**
FSR				*e*S	**Sb**	**12 18 26.1**	**-0.9**
MT09	**Talagante**	**2.29**	**161**	*e*P	**Pn**	**12 17 58.7**	**+0.6**
MT09				*e*S	**Sn**	**12 18 27.3**	**+0.7**
MT09				IAML		12 18 42.5	
	comp=N,663nm,0.5s						
MT09	**Talagante**	**2.29**	**161**	Pn	**Pn**	**12 17 58.7**	**+0.6**
MT01	**Popeta**	**2.32**	**167**	*e*P	**Pn**	**12 17 58.6**	**+0.3**
MT01				*e*S	**Sn**	**12 18 27.1**	**+0.2**
MT01	**Popeta**	**2.32**	**167**		**Pn**	**12 17 58.6**	**+0.3**
LMEL	**Las Melosas**	**2.65**	**148**	*e*P	**Pn**	**12 18 05.1**	**+2.2**
LMEL				*e*S	**Sn**	**12 18 36.6**	**+1.4**
LMEL				IAML		12 18 46.8	
	comp=N,1μm,0.2s						
ZON	**Zonda**	**2.72**	**90**		**Pn**	**12 18 04.3**	**+0.4**
BO01	**Tunca**	**2.86**	**167**	*e*P	**Pn**	**12 18 07.6**	**+1.9**
BO01				*e*S	**Sb**	**12 18 45.0**	**-1.3**
BO01	**Tunca**	**2.86**	**167**		**Pn**	**12 18 05.8**	**0.0**
BO02	**Sierra Bellavi**	**3.31**	**164**	*e*P	**Pn**	**12 18 13.5**	**+1.5**
BO02				*e*S	**Sn**	**12 18 51.9**	**+0.3**
BO02				IAML		12 19 10.7	
	comp=N,472nm,0.4s						
BO02	**Sierra Bellavi**	**3.31**	**164**		**Pn**	**12 18 12.5**	**+0.5**
GO05	**Huala**	**3.40**	**181**	Pn	**Pn**	**12 18 14.8**	**+1.6**
AC04	**Llanos de Chal**	**3.45**	**12**		**Pn**	**12 18 16.6**	**+2.7**
ML02	**Paninmavida**	**4.17**	**175**	Pn	**Pn**	**12 18 23.4**	**-0.4**
GO03	**Copiap**	**4.24**	**20**	Pn	**Pn**	**12 18 25.1**	**+0.3**
AC06	**Mina Casimiro**	**4.43**	**18**	Pn	**Pn**	**12 18 29.9**	**+2.5**
AC02	**Maricunga**	**5.32**	**27**		**Pn**	**12 18 40.3**	**+0.4**
H03N1	**Juan Fernandez**	**6.23**	**251**	T	T	12 25 33.1	
	baz=79,slow=73,SNR=198						
H03N3	**Juan Fernandez**	**6.24**	**251**	T	T	12 25 31.8	
	baz=79,slow=73,SNR=209						
H03N2	**Juan Fernandez**	**6.24**	**251**	T	T	12 25 33.0	
	baz=79,slow=73,SNR=187						
LC01	**Cunco**	**7.28**	**180**	Pn	**Pn**	**12 19 07.2**	**+0.8**
PLCA	**Paso Flores**	**9.18**	**174**	Pn	**Pn**	**12 19 33.7**	**+1.2**
	comp=N,0.1nm,0.3s,baz=355,slow=12,SNR=4.7						
TRQA	**Tornquist**	**10.37**	**131**	Pn	**Pn**	**12 19 50.1**	**+1.4**
SNAA	**Sanae**	**53.75**	**159**	P	**P**	**12 26 43.2**	**+1.0**
SNAA				IAmb	IAmb	12 27 08.5	
	comp=Z,6.0nm,1.4s						
QSPA	**South Pole Qui**	**58.63**	**180**	P	**P**	**12 27 17.5**	**+0.3**
	comp=Z,0.8nm,1.0s,baz=78,slow=2.9,SNR=1.7						
QSPA	**South Pole Qui**	**58.63**	**180**	P	**P**	**12 27 17.7**	**+0.5**
QSPA				IAmb	IAmb	12 27 21.6	
	comp=Z,2.4nm,1.2s						
TORD	**Torodi Ar. Bea**	**83.26**	**70**	P	**P**	**12 29 46.0**	**-1.3**
	comp=Z,1.7nm,0.8s,baz=248,slow=6.1,SNR=8.6						
TORD	**Torodi Ar. Bea**	**83.26**	**70**	P	**P**	**12 29 46.5**	**-0.8**
TORD				IAmb	IAmb	12 29 46.8	
	comp=Z,1.5nm,0.8s						
H11S2	**WAKE ISLAND Hyl**	**25.92**	**271**	T	T	14 55 11.3	
	baz=117,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hyl**	**25.93**	**271**	T	T	14 55 12.3	
	baz=117,slow=75,SNR=8.8						
H11S3	**WAKE ISLAND Hyl**	**25.93**	**271**	T	T	14 55 12.7	
	baz=117,slow=75,SNR=6.6						
BVAR	**Borovoye Array**	**145.40**	**41**	PKPbc	**PKPbc**	**12 36 57.4**	**-0.4**
	comp=Z,1.2nm,0.4s,baz=294,slow=4.6,SNR=5.8						
KURBB	**Kurchatov Arra**	**150.99**	**40**	PKPbc	**PKPbc**	**12 37 11.8**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=294,slow=3.1,SNR=6.1						
KURK	**Kurchatov**	**151.00**	**40**		**PKPbc**	**12 37 11.8**	**-1.0**
ZALV	**Zalesovo Beam**	**152.10**	**30**	PKPbc	**PKPbc**	**12 37 14.3**	**-0.9**
	comp=Z,2.6nm,0.4s,baz=308,slow=3.2,SNR=7.3						

WEL 18 12:19:37.0±1.3, 47°S±8°×16°6E±°, h12km, M3.7/7, ML4.0/11, MLv3.7/7, Error ellipse: s-maj=0.0km s-min=0.0km az=18.2, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**1.16**	**20**	P	Pb	12 19 56.6	-2.4
PYZ				S	Sg	12 20 14.2	-0.2
APZ	**The Paps**	**1.35**	**72**	P	Pn	12 20 01.5	-0.1
APZ				S	Sn	12 20 19.6	+0.1
WHZ	**Wether Hill Ro**	**1.86**	**43**	P	Pn	12 20 08.2	-0.5
WHZ				S	Sn	12 20 31.7	-0.3
SYZ	**Scrubby Hill**	**2.19**	**72**	P	Pn	12 20 14.2	+1.0
SYZ				S	Sn	12 20 41.4	+1.2
MLZ	**Mavora Lakes**	**2.34**	**37**	P	Pn	12 20 15.3	-0.1
MLZ				S	Sn	12 20 45.4	+1.3
TUZ	**Tuapeka**	**2.75**	**63**	P	Pn	12 20 21.3	+0.4
TUZ				S	Sn	12 20 54.5	+0.5
MSZ	**Milford Sound**	**2.88**	**27**	P	Pn	12 20 24.4	+1.8
EAZ	**Earnscleugh**	**3.00**	**49**	P	Pn	12 20 23.9	-0.4
WKZ	**Wanaka**	**3.16**	**41**	P	Pn	12 20 27.4	+0.8
WKZ				S	Sn	12 21 07.1	+2.9
JCZ	**Jackson Bay**	**3.69**	**31**	P	Pn	12 20 33.8	-0.1
ODZ	**Otahua Downs**	**3.84**	**56**	P	Pn	12 20 34.4	-1.5
ODZ				S	Sn	12 21 20.4	-0.6
LBZ	**Lake Benmore**	**4.04**	**46**	P	Pn	12 20 37.0	-1.7
FOZ	**Fox Glacier**	**4.54**	**36**	P	Pn	12 20 46.5	+1.0
INZ	**Inchbonnie**	**5.90**	**42**	P	Pn	12 21 04.5	+0.4
LTZ	**Lake Taylor**	**6.25**	**46**	P	Pn	12 21 08.5	-0.4
DSZ	**Denniston Nort**	**6.85**	**38**	P	Pn	12 21 17.2	-0.1
THZ	**Tophouse**	**7.33**	**44**	P	Pn	12 21 23.9	+0.1
QRZ	**Quartz Range**	**7.91**	**38**	P	Pn	12 21 31.9	+0.1

INET 18 12:24:03.2, 12°92N×86°59W, h17km, MW3.7, Nicaragua

DJA 18 12:25:39.1±0.9, 2°N±4°×12°1E±°, h17km±7km, M4.4/6, mb5.7/1, MLv3.8/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**1.65**	**208**	P	Pb	12 26 08.2	-0.9
MRSI	**Marisa**	**1.84**	**136**	P	Pn	12 26 11.1	+1.1
MRSI				S	Sn	12 26 33.2	+0.3
APSI	**Ampana**	**2.88**	**160**	P	Pb	12 26 28.1	-1.9
APSI				Pg	Pg	12 26 34.2	-0.1
DAV	**Davao City (W)**	**7.17**	**43**	P	Pn	12 27 23.1	-0.1

MEX 18 12:31:35.1±1.1, 16°63N×99°15W, h15km±10km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAIG	**Los Arroyos**	**0.61**	**309**	*e*P	Pg	12 31 44.9	-2.3
DAIG				*e*S	Sg	12 31 53.0	-2.4
MGIG	**Malinaltepec**	**0.78**	**40**	*i* P	Pg	12 31 46.5	-3.8
MGIG				*i* S	Sg	12 31 57.5	-3.1
PNIG	**Pinotepa**	**1.01**	**104**	*e*P	Pb	12 31 51.1	-3.2
PNIG				*i* S	Sb	12 32 03.1	-4.4
TLIG	**Tlapa**	**1.08**	**31**	*e*P	Pb	12 31 51.5	-4.1
TLIG				*e*S	Sb	12 32 05.1	-4.5
MEIG	**Mezcala**	**1.36**	**341**	*e*P	Pn	12 31 56.0	-3.6
MEIG				*e*S	Sn	12 32 12.7	-4.7
TXIG	**Tlaxiaco**	**1.46**	**65**	*e*P	Pn	12 31 58.0	-3.2
TXIG				*e*S	Sn	12 32 15.2	-5.0
FTIG	**Fresnillo de T**	**1.60**	**37**	*e*P	Pn	12 31 59.2	-3.7
FTIG				*e*S	Sn	12 32 17.9	-5.5
HLIG	**Huajuapan de L**	**1.75**	**47**	*e*P	Pn	12 32 01.4	-3.8
HLIG				*e*S	Sn	12 32 23.0	-4.3
PLIG	**Platanillo**	**1.78**	**349**	*e*P	Pn	12 32 02.8	-2.6
PLIG				*e*S	Sn	12 32 24.0	-3.8
ARIG	**Puente Sto Nin**	**2.00**	**325**	*e*P	Pn	12 32 05.5	-2.8
ARIG				*e*S	Sn	12 32 28.3	-4.7
PEIG	**Puerto Escondi**	**2.03**	**108**	*e*P	Pn	12 32 02.6	-6.1
PEIG				*e*S	Sb	12 32 36.4	-0.3
VHO	**Vista Hermosa**	**2.36**	**79**	*e*P	Pn	12 32 09.4	-4.0
VHO				*e*S	Sn	12 32 41.3	-0.9

*TUL **18** 12:33:16.7±1.2, 35°.98N±0°.01×96°.81W±0°.02, h4km±3km, ML2.6, mb_Lg3.1/91(NEIC), Error ellipse: s-maj=2.7km s-min=1.7km az=118.0*

NEIC 18 12:33:16.7±1.1, 35°.99N±0°.01×96°.80W±0°.02, h2km±3km, Error ellipse: s-maj=3.0km s-min=1.7km az=117.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.05**	**224**		Pg	12 33 18.1	+0.3
OK031				Sg	Sg	12 33 19.0	+0.5
QUOK	**Quay**	**0.19**	**21**		Pg	12 33 21.3	+0.8
QUOK					Sg	12 33 21.3	-1.8
OK029	**Liberty Lake**	**0.57**	**250**	Pg	Pg	12 33 28.1	+0.5
OK029				Sg	Sg	12 33 35.6	+0.6
OK025	**Westminster Rd**	**0.60**	**227**		Pg	12 33 28.2	0.0
OK025				Sg	Sg	12 33 36.7	+0.7
BCOK	**Bluff Creek, N**	**0.74**	**244**	Pg	Pg	12 33 30.8	-0.1
BCOK				Sg	Sg	12 33 41.2	+0.7
OKCFA	**Oklahoma City**	**0.78**	**223**	Pg	Pg	12 33 31.7	-0.1
BLOK	**Blackwell**	**0.84**	**336**	Pg	Pg	12 33 33.1	+0.3
BLOK				Sg	Sg	12 33 43.7	0.0
FNO	**Franklin**	**0.88**	**214**		Pg	12 33 33.4	-0.2
FNO				Sg	Sg	12 33 44.3	-0.7
T35A	**Sooner Cattle**	**0.95**	**14**		Pg	12 33 35.1	+0.1
T35A				Sg	Sg	12 33 47.8	+0.5
CROK	**Carrier**	**1.09**	**298**		Pg	12 33 37.2	-0.4
CROK				Sg	Sg	12 33 52.1	+0.3
KAN13	**South Haven SW**	**1.16**	**332**	Pg	Pg	12 33 38.9	-0.1
KAN13				Sg	Sg	12 33 54.4	+0.4
GC02	**Grant County #**	**1.22**	**315**		Pg	12 33 39.6	-0.4
KAN17	**Caldwell West**	**1.31**	**324**		Pg	12 33 41.5	-0.3
KAN09	**Caldwell North**	**1.32**	**330**	Pn	Pg	12 33 40.3	-1.7
KAN14	**Manchester OK**	**1.35**	**316**	Pn	Pn	12 33 42.1	-0.4
OK032	**Salt Plains WL**	**1.40**	**306**		Pn	12 33 41.7	-1.5
KAN05	**Bluff City Nor**	**1.41**	**322**	Pn	Pn	12 33 42.5	-0.9
KAN10	**Anthony SW Sta**	**1.54**	**318**	Pn	Pn	12 33 45.4	+0.2
X34A	**Smith Ranch, M**	**1.62**	**212**		Pn	12 33 46.6	+0.3
X37A	**Clayton**	**1.82**	**140**		Pn	12 33 49.0	0.0
U32A	**Winter Ranch,**	**1.83**	**283**	Pn	Pn	12 33 48.4	-0.7
LOOK	**Love County**	**2.02**	**189**		Pn	12 33 52.1	+0.4
WMOK	**Wichita Mounta**	**2.05**	**233**		Pn	12 33 52.7	+0.6
HHAR	**Hobbs**	**2.33**	**82**		Pn	12 33 56.2	+0.1
W39A	**Magazine**	**2.58**	**107**	Pn	Pn	12 33 59.3	-0.2
MIAR	**Mount Ida**	**3.00**	**118**	Pn	Pn	12 34 05.5	+0.2
Z38A	**Mt. Pleasant**	**3.11**	**151**	IAmb_Lg		12 35 02.6	
	comp=Z,18nm,0.8s						
KSU1	**Kansas State U**	**3.11**	**3**	Pn	Pn	12 34 06.4	-0.3
S39A	**Bolivar**	**3.26**	**58**	Pn	Pn	12 34 08.7	-0.1
CBKS	**Cedar Bluff**	**3.67**	**321**	Pn	Pn	12 34 13.2	-1.3
WHAR	**Wooly Hollow**	**3.74**	**99**	Pn	Pn	12 34 15.7	+0.3
FCAR	**Ozark Folk Cen**	**3.79**	**90**	IAmb_Lg		12 35 19.8	
	comp=Z,19nm,0.8s						
R40A	**Maddies Statio**	**4.28**	**56**	IAmb_Lg		12 35 35.6	
	comp=Z,17nm,1.1s						
CCM	**Cathedral Cave**	**4.90**	**63**	IAmb_Lg		12 35 58.0	
	comp=Z,11nm,0.8s						
P40A	**Paris**	**5.16**	**45**	IAmb_Lg		12 36 07.9	
	comp=Z,14nm,0.8s						
PBMO	**Poplar Bluff**	**5.20**	**79**	IAmb_Lg		12 36 11.4	
	comp=Z,11nm,0.8s						
FVM	**French Village**	**5.47**	**67**	IAmb_Lg		12 36 10.8	
	comp=Z,16nm,1.2s						
SIUC	**Southern Illin**	**6.32**	**72**	IAmb_Lg		12 36 37.0	
	comp=Z,18nm,0.8s						
OGNE	**Ogallala**	**6.43**	**322**	IAmb_Lg		12 36 54.6	
	comp=Z,12nm,0.8s						
SCIA	**State Center**	**6.53**	**24**	IAmb_Lg		12 36 59.5	
	comp=Z,15nm,0.8s						
P43A	**Skaggs, Pawnee**	**6.81**	**55**	IAmb_Lg		12 37 00.1	
	comp=Z,18nm,0.8s						
Q44A	**Meyer Farm, Va**	**6.84**	**63**	IAmb_Lg		12 37 03.1	
	comp=Z,28nm,1.1s						
PLAL	**Pickwick Lake**	**7.18**	**96**	IAmb_Lg		12 37 22.7	
	comp=Z,12nm,0.9s						
SDCO	**Great Sand Dun**	**7.20**	**287**	IAmb_Lg		12 37 07.9	
	comp=Z,17nm,0.7s						
WVT	**Waverly**	**7.26**	**86**	IAmb_Lg		12 37 25.2	
	comp=Z,8.0nm,1.1s						
K38A	**Parkersburg**	**7.34**	**24**	IAmb_Lg		12 37 07.1	
	comp=Z,22nm,0.8s						
OLIL	**Olney**	**7.45**	**66**	IAmb_Lg		12 37 27.2	
	comp=Z,21nm,1.0s						
L40A	**Anamosa**	**7.45**	**34**	IAmb_Lg		12 37 16.6	
	comp=Z,12nm,0.8s						
HDIL	**Hopedale**	**7.46**	**50**	IAmb_Lg		12 37 20.0	
	comp=Z,25nm,0.7s						
O44A	**Mansfield**	**7.77**	**55**	IAmb_Lg		12 37 27.3	
	comp=Z,23nm,1.2s						
T47A	**Sharon Grove**	**7.87**	**80**	IAmb_Lg		12 37 41.5	
	comp=Z,29nm,1.1s						
ANMO	**Albuquerque**	**7.95**	**265**	IAmb_Lg		12 37 47.4	
	comp=Z,32nm,1.2s						
L42A	**Oliver, Polo**	**8.17**	**41**	IAmb_Lg		12 37 51.8	
	comp=Z,41nm,0.9s						
MNTX	**Cornudas Mount**	**8.32**	**242**	IAmb_Lg		12 37 52.2	
	comp=Z,20nm,0.9s						
P46A	**Rosedale**	**8.41**	**62**	IAmb_Lg		12 37 41.1	
	comp=Z,17nm,0.9s						
CLTN	**Cedars of Leba**	**8.48**	**86**	IAmb_Lg		12 38 00.2	
	comp=Z,9.1nm,1.0s						
JFWS	**Jewell Farm**	**8.57**	**34**	IAmb_Lg		12 37 59.3	
	comp=Z,35nm,1.0s						
PHWY	**Pilot Hill**	**8.60**	**311**	IAmb_Lg		12 38 08.5	
	comp=Z,22nm,0.9s						
LRAL	**Lakeview Retre**	**8.61**	**107**	IAmb_Lg		12 38 01.2	
	comp=Z,14nm,0.9s						
WCI	**Wyandotte Cave**	**8.68**	**72**	IAmb_Lg		12 37 59.0	
	comp=Z,10nm,0.9s						
M44A	**Midewin, Midew**	**8.71**	**49**	IAmb_Lg		12 38 08.1	
	comp=Z,25nm,1.0s						
BLO	**Bloomington**	**8.75**	**66**	IAmb_Lg		12 38 04.6	
	comp=Z,19nm,0.7s						
Y49A	**Blount Mountai**	**8.79**	**101**	IAmb_Lg		12 38 01.2	
	comp=Z,21nm,1.1s						
FPAL	**Fort Paine**	**9.26**	**96**	IAmb_Lg		12 38 07.8	
	comp=Z,9.1nm,0.8s						
250A	**Grady**	**9.61**	**112**	IAmb_Lg		12 38 19.6	
	comp=Z,23nm,1.1s						
PV15	**Paradox Valley**	**9.62**	**288**	IAmb_Lg		12 38 39.9	
	comp=Z,17nm,0.9s						
RSSD	**Black Hills**	**9.83**	**328**	IAmb_Lg		12 38 46.3	
	comp=Z,17nm,1.0s						
F33A	**5 Mile Ranch,**	**9.85**	**2**	IAmb_Lg		12 38 56.2	
	comp=Z,24nm,1.0s						
PV12	**Saucer Basin,**	**9.86**	**287**	IAmb_Lg		12 38 30.7	
	comp=Z,34nm,1.0s						
PV03	**Paradox Valley**	**9.89**	**287**	IAmb_Lg		12 38 27.4	
	comp=Z,25nm,1.1s						
O20A	**White River Ci**	**9.93**	**298**	IAmb_Lg		12 38 34.1	
	comp=Z,19nm,0.8s						
PV18	**Skein Mesa, Pa**	**9.93**	**287**	IAmb_Lg		12 38 51.8	
	comp=Z,21nm,0.8s						
I42A	**Draeger Farm,**	**9.94**	**35**	IAmb_Lg		12 38 44.9	
	comp=Z,30nm,0.9s						
PV04	**Paradox Valley**	**9.96**	**288**	IAmb_Lg		12 38 42.3	
	comp=Z,23nm,1.0s						
PV19	**Morning Glory**	**10.00**	**287**	IAmb_Lg		12 38 54.7	
	comp=Z,20nm,0.9s						
PV05	**Paradox Valley**	**10.06**	**286**	IAmb_Lg		12 38 27.3	
	comp=Z,25nm,0.8s						

*NEIC **18** 12:35:16.6, 35°.99N×96°.80W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.16; $M_{\theta\theta}$=1.57; $M_{\phi\phi}$=-1.41; $M_{r\theta}$=0.50; $M_{\theta\phi}$=-0.80; $M_{r\phi}$=0.31; Fault plane solution: M_o=1.80000×10^{15} NP1:ϕ_s=148.88000°, δ70.48000°, λ=-2.76000°. NP2:ϕ_s=239.81000°, δ87.40000°, λ=-160.46000°. Principal axes: T 1.8583, Plg12.0000°, Azm13.0000°; N -0.1334, Plg70.0000°, Azm247.0000°; P -1.7249, Plg16.0000°, Azm106.0000°;*
*TUL **18** 12:35:16.6±1.7, 35°.99N±0°.02×96°.80W±0°.04, h0km±6km, ML4.1, mb3.7/1(NEIC), mb_Lg4.2/129(NEIC), Mwr4.1/82(NEIC) Error ellipse: s-maj=4.3km s-min=2.3km az=110.0*
*NEIC **18** 12:35:17.5±1.8, 36°.00N±0°.02×96°.82W±0°.03, h5km±1km, Error ellipse: s-maj=4.8km s-min=2.8km az=113.0*
*ANF **18** 12:35:17.5±0.2, 36°.00N×96°.80W, h4km, ML4.7/18, Error ellipse: s-maj=2.4km s-min=2.1km az=129.0*
*IDC **18** 12:35:18.2±0.9, 36°.02N×96°.93W, h0km, mb3.6/2, mb1 3.9/10, mb1mx3.7/63, mbtmp3.7/10, ML3.5/8, MS3.6/17, Ms1 3.6/17, ms1mx3.5/42, Error ellipse: s-maj=12.3km s-min=10.0km az=128.0*

ISC 18 12:35:17.3±0.8, 36°.01N±0°.02×96°.82W±0°.02, h6km±6km, n227, σ1°20/230, MS3.7/9, Oklahoma

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

U38A	**Gravette**	**2.02**	**77**	P		**Pn**	**12 35 52.5**	**+0.7**
	baz=258,SNR=40								
U38A				S		**Sb**	**12 36 20.2**	**+0.5**
	baz=258								
LOOK	**Love County**	**2.03**	**188**	Pn		**Pn**	**12 35 52.8**	**+0.8**
WMOK	**Wichita Mounta**	**2.04**	**232**			**Pn**	**12 35 53.1**	**+1.0**
WMOK				IAmb_Lg			12 36 24.9		
	comp=Z,2μm,0.8s								
WMOK	**Wichita Mounta**	**2.04**	**232**	P		**Pn**	**12 35 53.1**	**+1.0**
	baz=51								
WMOK				S		**Sb**	**12 36 20.1**	**-0.2**
	baz=51								
WMOK	**Wichita Mounta**	**2.04**	**232**	P		**Pn**	**12 35 52.4**	**+0.3**
	baz=51								
WMOK				Sb		**Sb**	**12 36 21.7**	**+1.3**
	baz=51								
HHAR	**Hobbs**	**2.35**	**82**	Pn		**Pn**	**12 35 57.2**	**+0.8**
HHAR	**Hobbs**	**2.35**	**82**	P		**Pn**	**12 35 57.3**	**+1.0**
	baz=264								
W39A	**Magazine**	**2.60**	**107**			**Pn**	**12 35 59.9**	**+0.1**
W39A	**Magazine**	**2.60**	**107**	P		**Pn**	**12 35 60.0**	**+0.1**
	baz=289,SNR=152								
W39A				S		**Sn**	**12 36 33.9**	**+2.2**
	baz=289								
W39A	**Magazine**	**2.60**	**107**	P		**Pn**	**12 35 59.8**	**0.0**
	baz=289,SNR=177								
Z35A	**Perchaven, San**	**2.69**	**188**			**Pn**	**12 36 01.8**	**+0.8**
Z35A				IAmb_Lg			12 36 48.6		
	comp=Z,654nm,1.0s								
Z35A	**Perchaven, San**	**2.69**	**188**	P		**Pn**	**12 36 01.8**	**+0.8**
	baz=7.0,SNR=71								
R32A	**Long Quarter,**	**2.85**	**329**			**Pn**	**12 36 03.7**	**+0.5**
R32A				IAmb_Lg			12 36 54.7		
	comp=Z,492nm,0.9s								
R32A	**Long Quarter,**	**2.85**	**329**	P		**Pn**	**12 36 03.6**	**+0.4**
	baz=148								
MIAR	**Mount Ida**	**3.03**	**118**	Pn		**Pn**	**12 36 06.3**	**+0.6**
MIAR	**Mount Ida**	**3.03**	**118**	P		**Pn**	**12 36 06.2**	**+0.6**
	baz=300,SNR=30								
MIAR	**Mount Ida**	**3.03**	**118**	P		**Pn**	**12 36 06.1**	**+0.4**
	baz=300,SNR=19								
MIAR				S		**Sn**	**12 36 42.9**	**+0.7**
	baz=300								
KSU1	**Kansas State U**	**3.10**	**3**			**Pn**	**12 36 07.5**	**+0.9**
KSU1				IAmb_Lg			12 36 59.0		
	comp=Z,779nm,1.1s								
KSU1	**Kansas State U**	**3.10**	**3**	P		**Pn**	**12 36 07.0**	**+0.4**
	baz=184								
KSU1				Sb		**Sg**	**12 36 54.5**	**-2.2**
	baz=184								
Z38A	**Mt. Pleasant**	**3.13**	**151**			**Pn**	**12 36 08.6**	**+1.5**
Z38A				IAmb_Lg			12 36 57.2		
	comp=Z,1μm,0.9s								
Z38A	**Mt. Pleasant**	**3.13**	**151**	S		**Sn**	**12 36 46.2**	**+1.6**
	baz=331								
U40A	**Yellville**	**3.23**	**83**			**Pn**	**12 36 09.1**	**+0.6**
U40A				IAmb_Lg			12 37 05.5		
	comp=Z,501nm,1.0s								
U40A	**Yellville**	**3.23**	**83**	P		**Pn**	**12 36 09.0**	**+0.6**
	baz=265,SNR=15								
U40A	**Yellville**	**3.23**	**83**	P		**Pn**	**12 36 09.0**	**+0.5**
	baz=265,SNR=10.0								
U40A				Sb		**Sb**	**12 36 57.1**	**+2.6**
	baz=265								
S39A	**Bolivar**	**3.27**	**58**			**Pn**	**12 36 10.2**	**+1.1**
S39A				IAmb_Lg			12 37 07.0		
	comp=Z,407nm,0.8s								
X40A	**Basin Creek Fa**	**3.60**	**114**			**Pn**	**12 36 14.5**	**+1.0**
X40A				IAmb_Lg			12 37 16.4		
	comp=Z,424nm,1.0s								
X40A	**Basin Creek Fa**	**3.60**	**114**	P		**Pn**	**12 36 14.1**	**+0.6**
	baz=296,SNR=38								
X40A	**Basin Creek Fa**	**3.60**	**114**	P		**Pn**	**12 36 14.0**	**+0.6**
	baz=296,SNR=16								
X40A				S		**Sn**	**12 36 57.3**	**+1.1**
	baz=296								
CBKS	**Cedar Bluff**	**3.64**	**321**	Pn		**Pn**	**12 36 14.6**	**+0.5**
CBKS				IAmb_Lg			12 37 15.4		
	comp=Z,636nm,0.8s								
CBKS	**Cedar Bluff**	**3.64**	**321**	P		**Pn**	**12 36 15.0**	**+0.8**
	baz=140								
CBKS				S		**Sn**	**12 36 59.0**	**+1.5**
	baz=140								
WHAR	**Wooly Hollow**	**3.76**	**100**			**Pn**	**12 36 15.6**	**-0.1**
WHAR				IAmb_Lg			12 37 18.5		
	comp=Z,789nm,1.1s								
FCAR	**Ozark Folk Cen**	**3.81**	**90**	Pn		**Pn**	**12 36 17.4**	**+1.0**
FCAR				IAmb_Lg			12 37 18.9		
	comp=Z,560nm,1.0s								
W41B	**Gary Mavity, V**	**3.82**	**101**	P		**Pn**	**12 36 16.7**	**+0.2**
	baz=284,SNR=50								
W41B	**Gary Mavity, V**	**3.82**	**101**	P		**Pn**	**12 36 16.6**	**+0.1**
	baz=284,SNR=17								
W41B				S		**Sn**	**12 37 01.8**	**+0.1**
	baz=284								
WLAR	**White Oak Lake**	**3.83**	**126**			**Pn**	**12 36 17.9**	**+1.2**
WLAR				IAmb_Lg			12 37 25.5		
	comp=Z,498nm,1.1s								
MGMO	**Mountain Grove**	**3.84**	**71**	Pn		**Pn**	**12 36 17.5**	**+0.6**
MGMO				IAmb_Lg			12 37 22.4		
	comp=Z,831nm,1.1s								
WHTX	**Lake Whitney,**	**4.04**	**188**			**Pn**	**12 36 20.0**	**+0.5**
WHTX	**Lake Whitney,**	**4.04**	**188**	P		**Pn**	**12 36 19.7**	**+0.2**
	baz=7.0,SNR=14								
WHTX	**Lake Whitney,**	**4.04**	**188**	P		**Pn**	**12 36 19.6**	**+0.1**
	baz=7.0,SNR=17								
WHTX				S		**Sn**	**12 37 07.7**	**+0.6**
	baz=7.0								
237A	**Washetta, Mont**	**4.08**	**168**			**Pn**	**12 36 20.3**	**+0.2**
237A				IAmb_Lg			12 37 29.8		
	comp=Z,371nm,0.8s								
237A	**Washetta, Mont**	**4.08**	**168**	S		**Sn**	**12 37 08.1**	**-0.1**
	baz=348								
ABTX	**Abilene, Hawle**	**4.10**	**216**			**Pn**	**12 36 20.5**	**0.0**
ABTX				IAmb_Lg			12 37 30.1		
	comp=Z,479nm,0.8s								
ABTX	**Abilene, Hawle**	**4.10**	**216**	P		**Pn**	**12 36 21.1**	**+0.6**
	baz=34,SNR=7.7								
ABTX	**Abilene, Hawle**	**4.10**	**216**	P		**Pn**	**12 36 20.7**	**+0.2**
	baz=34								
ABTX				S		**Sn**	**12 37 09.1**	**+0.3**
	baz=34								
AMTX	**Amarillo**	**4.12**	**256**			**Pn**	**12 36 21.3**	**+0.5**
AMTX	**Amarillo**	**4.12**	**256**	P		**Pn**	**12 36 20.8**	**0.0**
	baz=73								
AMTX				S		**Sn**	**12 37 11.4**	**+2.1**
	baz=73								
R40A	**Maddies Statio**	**4.29**	**57**			**Pn**	**12 36 23.8**	**+0.8**
R40A				IAmb_Lg			12 37 36.7		
	comp=Z,866nm,1.1s								
Z41A	**Richland Creek**	**4.30**	**128**	S		**Sn**	**12 37 13.1**	**-0.4**
	baz=311								
P38A	**Dawn**	**4.45**	**35**			**Pn**	**12 36 25.1**	**-0.1**
P38A				IAmb_Lg			12 37 37.6		
	comp=Z,423nm,1.1s								
LCAR	**Lake Charles**	**4.59**	**88**	IAmb_Lg			12 37 42.7		
	comp=Z,402nm,1.2s								
NATX	**Nacogdoches**	**4.60**	**156**	Pn		**Pn**	**12 36 27.2**	**-0.1**
NATX				IAmb_Lg			12 37 54.3		
	comp=Z,409nm,0.9s								
NATX	**Nacogdoches**	**4.60**	**156**	S		**Sn**	**12 37 19.1**	**-1.9**
	baz=338								
CCAR	**Cane Creek**	**4.64**	**115**			**Pn**	**12 36 28.2**	**+0.4**
CCAR				IAmb_Lg			12 37 55.4		
	comp=Z,322nm,1.2s								
CCAR	**Cane Creek**	**4.64**	**115**	P		**Pn**	**12 36 28.5**	**+0.7**
	baz=298,SNR=12								
CCM	**Cathedral Cave**	**4.91**	**64**	Pn		**Pn**	**12 36 32.2**	**+0.7**
CCM				IAmb_Lg			12 38 03.3		
	comp=Z,688nm,1.2s								
CCM	**Cathedral Cave**	**4.91**	**64**	P		**Pn**	**12 36 32.1**	**+0.6**
	baz=247								
N35A	**Tabor**	**4.94**	**10**			**Pn**	**12 36 32.3**	**+0.4**
N35A				IAmb_Lg			12 38 03.6		
	comp=Z,551nm,0.9s								
N35A	**Tabor**	**4.94**	**10**	P		**Pn**	**12 36 32.4**	**+0.5**
	baz=191,SNR=14								
HBAR	**Harrisburg**	**5.03**	**93**	IAmb_Lg			12 37 59.3		
	comp=Z,459nm,0.8s								
P40A	**Paris**	**5.17**	**46**	IAmb_Lg			12 38 08.2		
	comp=Z,695nm,1.1s								
PBMO	**Poplar Bluff**	**5.21**	**80**	IAmb_Lg			12 38 11.2		
	comp=Z,363nm,0.8s								
435B	**Jarrell**	**5.25**	**187**			**Pn**	**12 36 36.3**	**+0.1**
435B				IAmb_Lg			12 38 05.0		
	comp=Z,420nm,0.8s								
435B	**Jarrell**	**5.25**	**187**	P		**Pn**	**12 36 36.7**	**+0.5**
	baz=6.5								
435B				S		**Sn**	**12 37 36.8**	**-0.2**
	baz=6.5								
MSTX	**Muleshoe**	**5.29**	**249**	Pn		**Pn**	**12 36 38.9**	**+2.0**
MSTX				IAmb_Lg			12 38 18.2		
	comp=Z,255nm,0.7s								
MSTX	**Muleshoe**	**5.29**	**249**	P		**Pn**	**12 36 37.6**	**+0.7**
	baz=66								
MSTX				S		**Sn**	**12 37 37.9**	**-0.3**
	baz=66								
LPAR	**Lepanto**	**5.31**	**92**	IAmb_Lg			12 38 07.7		
	comp=Z,662nm,1.2s								
FVM	**French Village**	**5.49**	**67**	IAmb_Lg			12 38 20.9		
	comp=Z,274nm,1.0s								
BGNE	**Belgrade**	**5.50**	**349**	IAmb_Lg			12 38 24.2		
	comp=Z,597nm,0.8s								
BGNE	**Belgrade**	**5.50**	**349**	P		**Pn**	**12 36 40.3**	**+0.7**
	baz=169								
BGNE				S		**Sn**	**12 37 42.3**	**-0.8**
	baz=169								
KSCO	**Kaye Shedlock'**	**5.51**	**305**	Pn		**Pn**	**12 36 42.6**	**+2.8**
KSCO	**Kaye Shedlock'**	**5.51**	**305**	P		**Pn**	**12 36 40.6**	**+0.7**
	baz=121								
KSCO				S		**Sn**	**12 37 42.5**	**-1.0**
	baz=121								
GNAR	**Gosnell**	**5.52**	**88**	Pn		**Pn**	**12 36 38.2**	**-1.7**
N38A	**Joes South For**	**5.55**	**29**	Pn		**Pn**	**12 36 40.2**	**-0.1**
N38A				IAmb_Lg			12 38 26.9		
	comp=Z,270nm,0.8s								
N38A	**Joes South For**	**5.55**	**29**	P		**Pn**	**12 36 40.7**	**+0.4**
	baz=212,SNR=19								
143A	**Socs Landing,**	**5.56**	**125**	IAmb_Lg			12 38 23.8		
	comp=Z,249nm,0.9s								
PEBM	**Pemiscott Bayo**	**5.64**	**87**	IAmb_Lg			12 38 20.5		
	comp=Z,458nm,0.9s								
MET	**Memphis--Engin**	**5.68**	**97**	IAmb_Lg			12 38 23.0		
	comp=Z,434nm,0.9s								
L34A	**Svendsen Farm,**	**5.96**	**3**	Pn		**Pn**	**12 36 46.5**	**+0.4**
JCT	**Junction City**	**6.05**	**205**	Pn		**Pn**	**12 36 47.4**	**+0.2**
JCT				IAmb_Lg			12 38 42.2		
	comp=Z,640nm,0.9s								
JCT	**Junction City**	**6.05**	**205**	P		**Pn**	**12 36 47.2**	**-0.1**
	baz=23								
441A	**DeRidder**	**6.06**	**149**	Pn		**Pn**	**12 36 47.5**	**+0.2**
T25A	**Trinidad**	**6.21**	**283**	Pn		**Pn**	**12 36 50.8**	**+1.1**
T25A				IAmb_Lg			12 38 37.3		
	comp=Z,482nm,0.7s								
T25A	**Trinidad**	**6.21**	**283**	P		**Pn**	**12 36 50.1**	**+0.4**
	baz=98								
OXF	**Oxford**	**6.24**	**102**	Pn		**Pn**	**12 36 49.0**	**-0.9**
OXF				IAmb_Lg			12 38 40.8		
	comp=Z,263nm,1.1s								
OXF	**Oxford**	**6.24**	**102**	P		**Pn**	**12 36 49.8**	**0.0**
	baz=286,SNR=12								
OXF	**Oxford**	**6.24**	**102**	P		**Pn**	**12 36 49.5**	**-0.3**
	baz=286,SNR=5.5								
W45A	**Hickory Valley**	**6.28**	**96**	Pn		**Pn**	**12 36 46.9**	**-3.4**
W45A				IAmb_Lg			12 38 45.0		
	comp=Z,474nm,1.1s								
S44A	**Carbondale**	**6.30**	**72**	IAmb_Lg			12 38 37.7		
	comp=Z,454nm,0.9s								
Y45A	**Yeager Farm, C**	**6.35**	**108**	Pn		**Pn**	**12 36 52.3**	**+1.0**
OGNE	**Ogallala**	**6.41**	**322**	P		**Pn**	**12 36 53.5**	**+1.4**
	baz=139								
VBMS	**Vicksburg**	**6.45**	**124**	Pn		**Pn**	**12 36 51.0**	**-1.6**
SCIA	**State Center**	**6.53**	**24**			**Pn**	**12 36 54.6**	**+0.8**
SCIA				IAmb_Lg			12 38 51.8		
	comp=Z,214nm,1.0s								
SCIA	**State Center**	**6.53**	**24**	P		**Pn**	**12 36 54.4**	**+0.6**
	baz=207,SNR=9.2								
SCIA	**State Center**	**6.53**	**24**	P		**Pn**	**12 36 53.8**	**0.0**
	baz=207								
K31A	**O'Neill**	**6.78**	**348**	Pn		**Pn**	**12 36 52.8**	**-4.5**
344A	**Westbrook Farm**	**6.81**	**130**	Pn		**Pn**	**12 36 59.5**	**+1.9**
P43A	**Skaggs, Pawnee**	**6.82**	**56**			**Pn**	**12 36 55.1**	**-2.7**
P43A				IAmb_Lg			12 39 00.2		
	comp=Z,453nm,1.0s								
SDCO	**Great Sand Dun**	**7.17**	**287**	Pn		**Pn**	**12 37 04.7**	**+1.8**
SDCO				IAmb_Lg			12 39 18.7		
	comp=Z,119nm,0.8s								
SDCO	**Great Sand Dun**	**7.17**	**287**	P		**Pn**	**12 37 03.5**	**+0.6**
	baz=101,SNR=46								
735A	**Kenedy**	**7.18**	**187**	Pn		**Pn**	**12 37 03.8**	**+1.1**
735A				IAmb_Lg			12 39 20.4		
	comp=Z,190nm,0.8s								
PLAL	**Pickwick Lake**	**7.21**	**96**			**Pn**	**12 37 01.5**	**-1.6**
PLAL				IAmb_Lg			12 39 18.6		
	comp=Z,160nm,1.1s								
146A	**Union**	**7.25**	**115**	Pn		**Pn**	**12 37 03.1**	**-0.5**
Q24A	**Divide**	**7.25**	**297**	P		**Pn**	**12 37 03.8**	**-0.2**
	baz=112,SNR=8.9								
WVT	**Waverly**	**7.28**	**86**	Pn		**Pn**	**12 37 05.0**	**+0.9**
WVT				IAmb_Lg			12 39 08.9		
	comp=Z,250nm,1.3s								
WVT	**Waverly**	**7.28**	**86**	P		**Pn**	**12 37 03.5**	**-0.6**
	baz=272								
K38A	**Parkersburg**	**7.34**	**24**			**Pn**	**12 37 05.2**	**+0.4**
K38A				IAmb_Lg			12 39 29.6		
	comp=Z,337nm,1.2s								
L40A	**Anamosa**	**7.45**	**34**	Pn		**Pn**	**12 37 04.8**	**-1.6**
L40A				IAmb_Lg			12 39 18.0		
	comp=Z,375nm,1.1s								
L40A	**Anamosa**	**7.45**	**34**	P		**Pn**	**12 37 06.4**	**0.0**
	baz=218,SNR=11								
OLIL	**Olney**	**7.46**	**66**	Pn		**Pn**	**12 37 05.6**	**-0.9**
HDIL	**Hopedale**	**7.46**	**50**	Pn		**Pn**	**12 37 04.3**	**-2.2**
HDIL				IAmb_Lg			12 39 30.8		
	comp=Z,415nm,0.9s								
HDIL	**Hopedale**	**7.46**	**50**	P		**Pn**	**12 37 06.8**	**+0.2**
	baz=235								
USIN	**University of**	**7.58**	**72**	Pn		**Pn**	**12 37 05.2**	**-3.0**
ECSD	**EROS Data Cent**	**7.72**	**1**	Pn		**Pn**	**12 37 09.4**	**-0.8**
ECSD	**EROS Data Cent**	**7.72**	**1**	P		**Pn**	**12 37 09.9**	**-0.3**
	baz=181,SNR=6.5								
O44A	**Mansfield**	**7.78**	**55**	Pn		**Pn**	**12 37 10.1**	**-0.9**
O44A				IAmb_Lg			12 39 28.1		
	comp=Z,227nm,0.9s								
T47A	**Sharon Grove**	**7.89**	**80**	Pn		**Pn**	**12 37 13.9**	**+1.5**
ISCO	**Idaho Springs**	**7.92**	**301**	Pn		**Pn**	**12 37 13.7**	**+0.5**
ISCO				IAmb_Lg			12 39 34.6		
	comp=Z,165nm,0.7s								
ISCO	**Idaho Springs**	**7.92**	**301**	P		**Pn**	**12 37 13.8**	**+0.7**
	baz=116,SNR=9.3								
ISCO	**Idaho Springs**	**7.92**	**301**	P		**Pn**	**12 37 13.2**	**+0.1**
	baz=116,SNR=21								
ANMO	**Albuquerque**	**7.93**	**265**	Pn		**Pn**	**12 37 14.3**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=83,slow=12,SNR=4.5								
ANMO				Pg		Pb	12 37 41.7	+6.4	
	comp=Z,1.2nm,0.3s,baz=81,slow=18,SNR=13								
ANMO				Lg		Lg	12 39 27.0		
	comp=Z,6.2nm,0.3s,baz=45,slow=8.6,SNR=4.0								
ANMO				LR		LR	12 40 43.6		
	comp=Z,292nm,19.4s,baz=76,slow=42								
ANMO	**Albuquerque**	**7.93**	**265**	P		**Pn**	**12 37 13.8**	**+0.5**
	baz=80								
833A	**Chaparral WMA,**	**7.96**	**197**	P		**Pn**	**12 37 13.8**	**+0.3**
	baz=15								
L42A	**Oliver, Polo**	**8.18**	**41**	Pn		**Pn**	**12 37 16.7**	**+0.3**
L42A				IAmb_Lg			12 39 40.7		
	comp=Z,236nm,1.1s								
BNM	**Barren Site**	**8.25**	**260**	Pn		**Pn**	**12 37 17.1**	**-0.6**
MNTX	**Cornudas Mount**	**8.31**	**241**	Pn		**Pn**	**12 37 19.1**	**+0.8**
MNTX				IAmb_Lg			12 39 53.4		
	comp=Z,200nm,0.9s								
MNTX	**Cornudas Mount**	**8.31**	**241**	P		**Pn**	**12 37 18.7**	**+0.3**
	baz=56,SNR=8.9								
I37A	**Lemond, Waseca**	**8.42**	**17**			**Pn**	**12 37 20.0**	**+0.3**
I37A				IAmb_Lg			12 40 00.0		
	comp=Z,266nm,1.2s								
P46A	**Rosedale**	**8.42**	**62**	Pn		**Pn**	**12 37 20.2**	**+0.4**
P46A				IAmb_Lg			12 39 44.2		
	comp=Z,376nm,1.0s								
JFWS	**Jewell Farm**	**8.57**	**34**			**Pn**	**12 37 21.1**	**-0.7**
JFWS				IAmb_Lg			12 39 55.0		
	comp=Z,155nm,0.8s								
JFWS	**Jewell Farm**	**8.57**	**34**	P		**Pn**	**12 37 21.4**	**-0.4**
	baz=219								
PHWY	**Pilot Hill**	**8.58**	**311**	Pn		**Pn**	**12 37 22.5**	**+0.3**
PHWY				IAmb_Lg			12 40 07.2		
	comp=Z,166nm,0.8s								
SUSD	**Miller**	**8.59**	**350**	Pn		**Pn**	**12 37 21.5**	**-0.5**
SUSD				IAmb_Lg			12 40 07.7		
	comp=Z,281nm,1.0s								
LRAL	**Lakeview Retre**	**8.63**	**107**	Pn		**Pn**	**12 37 21.9**	**-0.7**
LRAL	**Lakeview Retre**	**8.63**	**107**	P		**Pn**	**12 37 22.3**	**-0.4**
	baz=293								
N23A	**Red Feather La**	**8.66**	**307**	P		**Pn**	**12 37 23.6**	**+0.3**
	baz=122,SNR=7.9								
TXAR	**Lajitas Array**	**8.80**	**223**	Pn		**Pn**	**12 37 23.9**	**-1.3**
	comp=Z,0.8nm,0.3s,baz=45,slow=12,SNR=24								
TXAR				Sn		**Sn**	**12 39 00.2**	**-4.5**
	comp=Z,3.2nm,0.3s,baz=45,slow=17,SNR=3.1								
TXAR				Lg		Lg	12 39 49.5		
	comp=Z,4.9nm,0.3s,baz=44,slow=21,SNR=2.8								
TXAR	**Lajitas Array**	**8.80**	**223**	Pn		**Pn**	**12 37 24.4**	**-0.8**
TX31	**Lajitas Ar. Si**	**8.80**	**223**			**Pn**	**12 37 23.1**	**-2.0**
TX32	**Lajitas Array**	**8.80**	**223**	Pn		**Pn**	**12 37 24.5**	**-0.6**
Y49A	**Blount Mountai**	**8.81**	**101**	Pn		**Pn**	**12 37 26.9**	**+1.8**
U49A	**Red Boiling Sp**	**8.93**	**83**	Pn		**Pn**	**12 37 25.9**	**-0.9**
I40A	**Norwalk**	**9.20**	**29**			**Pn**	**12 37 29.8**	**-0.7**
K43A	**Burlington**	**9.38**	**42**	IAmb_Lg			12 40 20.6		
	comp=Z,252nm,1.1s								
SPMN	**Marine on St.**	**9.70**	**17**	Pn		**Pn**	**12 37 36.0**	**-1.3**
SPMN	**Marine on St.**	**9.70**	**17**	P		**Pn**	**12 37 35.9**	**-1.3**
	baz=200								
RSSD	**Black Hills**	**9.81**	**328**	Pn		**Pn**	**12 37 37.0**	**-2.0**
RSSD				IAmb_Lg			12 40 35.4		
	comp=Z,193nm,0.9s								
F33A	**5 Mile Ranch,**	**9.83**	**2**	Pn		**Pn**	**12 37 37.9**	**-1.2**
K22A	**Casper**	**10.02**	**314**	Pn		**Pn**	**12 37 42.3**	**+0.4**
PV23	**Carpenter Ridg**	**10.02**	**288**	Pn		**Pn**	**12 37 43.9**	**+1.9**
V51A	**Loudon**	**10.12**	**87**	Pn		**Pn**	**12 37 44.0**	**+1.0**
F36A	**Milaca**	**10.16**	**13**	Pn		**Pn**	**12 37 44.3**	**+0.8**
R50A	**Paris**	**10.23**	**73**	Pn		**Pn**	**12 37 44.5**	**0.0**
G40A	**Rib Lake**	**10.53**	**26**	Pn		**Pn**	**12 37 47.9**	**-0.8**
152A	**Waverly Hall**	**10.54**	**105**	Pn		**Pn**	**12 37 48.6**	**-0.3**
TKL	**Tuckaleechee C**	**10.60**	**88**	Pn		**Pn**	**12 37 53.9**	**+4.2**
	comp=Z,0.2nm,0.3s,baz=273,slow=19,SNR=1.5								
TKL				Lg		Lg	12 40 46.3		
	comp=Z,3.1nm,0.3s,baz=323,slow=20,SNR=2.8								
TKL				LR		LR	12 41 55.7		
	comp=Z,280nm,18.1s,baz=274,slow=37								
S51A	**Beattyville**	**10.73**	**77**	Pn		**Pn**	**12 37 51.8**	**+0.4**
H43A	**Windswept, Lux**	**10.92**	**36**	Pn		**Pn**	**12 37 52.2**	**-1.8**
L48A	**N Adams**	**11.31**	**55**	Pn		**Pn**	**12 37 59.4**	**0.0**
COWI	**Conover**	**11.63**	**27**	Pn		**Pn**	**12 38 03.2**	**-0.5**
TMUT	**Trail Mountain**	**11.87**	**290**	Pn		**Pn**	**12 38 10.5**	**+3.3**
553A	**Crawfordville**	**11.89**	**116**	Pn		**Pn**	**12 38 08.5**	**+1.2**
BW06	**Boulder Array**	**11.94**	**308**	Pn		**Pn**	**12 38 09.4**	**+1.3**
PD31	**Pinedale Array**	**11.94**	**308**	Pn		**Pn**	**12 38 08.8**	**+0.6**
PDAR	**Pinedale Array**	**11.94**	**308**	Pn		**Pn**	**12 38 08.6**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=124,slow=15,SNR=6.7								
PDAR				Lg		Lg	12 41 30.2		
	comp=Z,1.9nm,0.3s,baz=120,slow=32,SNR=7.3								
PDAR				LR		LR	12 42 55.0		
	comp=Z,165nm,21.1s,baz=130,slow=38								
AGMN	**Agassiz Nation**	**12.30**	**3**	Pn		**Pn**	**12 38 10.2**	**-2.7**
AGMN	**Agassiz Nation**	**12.30**	**3**	P		**Pn**	**12 38 10.2**	**-2.7**
	baz=184								
B35A	**Bob, Littlefor**	**12.56**	**10**	Pn		**Pn**	**12 38 14.2**	**-2.2**
EYMN	**Ely**	**12.57**	**17**	P		**Pn**	**12 38 13.0**	**-3.5**
	baz=200								
MOOW	**Moose Ponds**	**13.19**	**310**	Pn		**Pn**	**12 38 25.0**	**-0.2**
LCMT	**Little Creek M**	**13.25**	**279**	Pn		**Pn**	**12 38 28.6**	**+2.6**
GCMT	**Greycliff**	**13.77**	**319**	Pn		**Pn**	**12 38 29.1**	**-3.9**
E46A	**Sault Ste Mari**	**13.98**	**38**	Pn		**Pn**	**12 38 33.5**	**-2.3**
ULM	**Lac du Bonnet**	**14.26**	**2**	Pn		Pn	12 38 34.3	-5.2
	comp=Z,0.8nm,0.3s,baz=177,slow=13,SNR=2.7								
ULM				Sn		Sn	12 41 06.5	-11	
	comp=Z,0.9nm,0.3s,baz=192,slow=20,SNR=3.0								
ULM				Lg		Lg	12 42 36.5		
	comp=Z,0.8nm,0.3s,baz=252,slow=19,SNR=1.8								
ULM				LR		LR	12 44 11.7		
	comp=Z,333nm,18.3s,baz=180,slow=38								
ELK	**Elko**	**15.20**	**294**	Pn		**P**	**12 38 55.7**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=108,slow=13,SNR=1.8								
ELK				Lg		Lg	12 43 13.9		
	comp=Z,0.1nm,0.3s,baz=80,slow=11,SNR=1.7								
ELK				LR		LR	12 45 05.5		
	comp=Z,390nm,18.6s,baz=116,slow=39								
**SADO

	comp=Z,13nm,0.9s							
WR0	**Warramunga Arr**	**23.79**	**230**	P		**P**	**12 41 46.8**	**-0.1**
WB0	**Warramunga Arr**	**23.79**	**230**	P		**P**	**12 41 45.7**	**-1.3**
WRAB	**Tennant Creek**	**23.92**	**230**	P		**P**	**12 41 48.3**	**+0.2**
WB2	**Warramunga Arr**	**23.92**	**230**	P		**P**	**12 41 47.3**	**-0.9**
WRA	**Warramunga Arr**	**23.93**	**230**	P		**P**	**12 41 47.2**	**-1.1**
	comp=Z,4.4nm,0.7s,baz=57,slow=9.3,SNR=25							
WRA				PcP		**PcP**	**12 45 29.9**	**+0.1**
	comp=Z,3.5nm,0.5s,baz=71,slow=2.0,SNR=15							
WRA				S		**S**	**12 46 04.0**	**+3.0**
	comp=Z,0.3nm,0.6s,baz=64,slow=17,SNR=1.7							
WRA				ScP		**ScP**	**12 49 04.4**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=62,slow=2.8,SNR=1.9							
WRA				LR		LR	12 50 59.3	
	comp=Z,103nm,20.0s,baz=30,slow=36							
WRA	**Warramunga Arr**	**23.93**	**230**	P		**P**	**12 41 46.8**	**-1.5**
WRA						**PcP**	**12 45 30.3**	**+0.5**
ARMA	**Armidale**	**25.28**	**184**	P		**P**	**12 41 56.8**	**-3.7**
ARMA				IAmb		IAmb	12 42 16.2	
	comp=Z,40nm,1.5s							
AS31	**Alice Springs**	**26.55**	**224**	P		**P**	**12 42 11.3**	**-0.8**
ASAR	**Alice Springs**	**26.55**	**224**	P		**P**	**12 42 11.3**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=54,slow=8.6,SNR=81							
ASAR				PcP		**PcP**	**12 45 35.9**	**+0.2**
	comp=Z,3.1nm,0.6s,baz=59,slow=2.3,SNR=14							
ASAR				S		**S**	**12 46 38.8**	**-3.9**
	comp=Z,0.2nm,0.5s,baz=38,slow=17,SNR=3.4							
ASAR				ScP		**ScP**	**12 49 12.9**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=36,slow=3.8,SNR=3.1							
ASAR	**Alice Springs**	**26.55**	**224**	P		**P**	**12 42 11.0**	**-1.0**
ASAR						**PcP**	**12 45 35.0**	**-0.6**
KNRA	**Kununurra**	**26.64**	**245**	P		**P**	**12 42 12.7**	**-0.2**
KNRA				IAmb		IAmb	12 42 30.3	
	comp=Z,27nm,1.1s							
STKA	**Stephens Creek**	**28.96**	**202**	P		**P**	**12 42 33.4**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=20,slow=13,SNR=6.7							
STKA				LR		LR	12 54 32.0	
	comp=Z,80nm,18.5s,baz=26,slow=37							
STKA	**Stephens Creek**	**28.96**	**202**	P		**P**	**12 42 34.6**	**+1.1**
FITZ	**Fitzroy Crossi**	**30.30**	**242**	P		**P**	**12 42 43.7**	**-1.8**
	comp=Z,3.3nm,0.7s,baz=62,slow=9.1,SNR=14							
FITZ	**Fitzroy Crossi**	**30.30**	**242**	P		**P**	**12 42 44.5**	**-1.0**
FITZ				IAmb		IAmb	12 43 08.1	
	comp=Z,14nm,0.8s							
FORT	**Forrest**	**35.13**	**220**	P		**P**	**12 43 27.0**	**-0.6**
PSA00	**Pilbara Seismi**	**36.65**	**240**	P		**P**	**12 43 41.1**	**+0.4**
URZ	**Urewera**	**39.30**	**150**	P		**P**	**12 44 04.1**	**+1.3**
URZ				IAmb		IAmb	12 44 04.7	
	comp=Z,30nm,1.1s							
BKZ	**Black Stump Fm**	**39.72**	**152**	P		**P**	**12 44 06.6**	**+0.3**
BKZ				IAmb		IAmb	12 44 08.2	
	comp=Z,25nm,1.4s							
JWT	**Wachi**	**43.68**	**338**	P		**P**	**12 44 39.5**	**+0.9**
JNU	**Nakatsue**	**43.72**	**332**	P		**P**	**12 44 38.8**	**-0.3**
JNU				IAmb		IAmb	12 44 48.8	
	comp=Z,31nm,1.2s							
MAJO	**Matsushiro**	**43.87**	**342**	P		**P**	**12 44 38.8**	**-1.3**
MAJO				IAmb		IAmb	12 44 39.6	
	comp=Z,8.9nm,1.2s							
JMM	**Marumori**	**44.38**	**345**	P		**P**	**12 44 46.6**	**+2.4**
CISI	**Cisompet, Garu**	**45.64**	**264**	P		**P**	**12 44 52.7**	**-2.0**
KSRS	**Korea Array**	**48.65**	**333**	P		**P**	**12 45 16.9**	**-0.7**
	comp=Z,3.2nm,1.0s,baz=150,slow=8.8,SNR=11							
NONG	**Nongkai**	**54.89**	**296**	P		**P**	**12 46 05.4**	**+0.9**
	comp=Z,22nm,0.9s							
ENH	**Enshi**	**54.99**	**313**	P		**P**	**12 46 04.9**	**-0.2**
SURT	**Suratani**	**56.47**	**284**	P		**P**	**12 46 19.8**	**+3.9**
	comp=Z,1.4nm,1.2s							
UTTA	**Uttaradit**	**57.12**	**295**	P		**P**	**12 46 21.5**	**+1.1**
	comp=Z,27nm,0.8s							
PEA0B	**Petropavlovsk-**	**58.07**	**3**	P		**P**	**12 46 27.0**	**+0.4**
PEA0B				IAmb		IAmb	12 46 40.2	
	comp=Z,13nm,1.4s							
PETK	**Petropavlovsk-**	**58.07**	**3**	P		**P**	**12 46 26.2**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=174,slow=6.9,SNR=28							
CM04	**Chiang Mai Arr**	**58.74**	**295**	P		**P**	**12 46 34.3**	**+2.4**
	comp=Z,12nm,0.9s							
CM09	**Chiang Mai Arr**	**58.75**	**295**	P		**P**	**12 46 34.5**	**+2.6**
	comp=Z,14nm,0.8s							
CM02	**Chiang Mai Arr**	**58.78**	**295**	P		**P**	**12 46 33.9**	**+1.7**
	comp=Z,11nm,0.8s							
CM31	**Chiang Mai Arr**	**58.79**	**295**	P		**P**	**12 46 32.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**58.79**	**295**	P		**P**	**12 46 32.7**	**+0.5**
	comp=Z,8.2nm,0.8s,baz=113,slow=5.4,SNR=32							
CMAR	**Chiang Mai Arr**	**58.79**	**295**	P		**P**	**12 46 32.8**	**+0.6**
CM15	**Chiang Mai Arr**	**58.81**	**295**	P		**P**	**12 46 33.6**	**+1.3**
	comp=Z,113nmcomp=Z,14nm,0.8s							
CM13	**Chiang Mai Arr**	**58.82**	**295**	P		**P**	**12 46 33.8**	**+1.4**
	comp=Z,12nm,0.9s							
ULN	**Ulaanbaatar**	**66.70**	**328**	P		**P**	**12 47 24.7**	**+0.2**
ULN				IAmb		IAmb	12 47 25.9	
	comp=Z,4.3nm,1.0s							
ULN	**Ulaanbaatar**	**66.70**	**328**	P		**P**	**12 47 24.7**	**+0.2**
	comp=Z,20nm,1.2s							
SONM	**Songino Array**	**67.03**	**327**	P		**P**	**12 47 26.7**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=147,slow=6.9,SNR=12							
SONM	**Songino Array**	**67.03**	**327**	P		**P**	**12 47 26.7**	**+0.1**
SHL	**Shillong**	**67.21**	**300**	P		**P**	**12 47 28.0**	**-0.2**
SHL				IAmb		IAmb	12 47 29.2	
	comp=Z,7.4nm,0.8s							
VNDA	**Vanda**	**72.52**	**178**	P		**P**	**12 48 00.2**	**+0.6**
	comp=Z,4.8nm,0.7s,baz=327,slow=6.2,SNR=23							
VNDA	**Vanda**	**72.52**	**178**	P		**P**	**12 47 59.8**	**+0.2**
VNDA				IAmb		IAmb	12 48 01.1	
	comp=Z,5.6nm,0.8s							
SBA	**Scott Base**	**73.05**	**177**	P		**P**	**12 48 03.9**	**+1.1**
SBA				IAmb		IAmb	12 48 05.5	
	comp=Z,5.5nm,1.0s							
MK31	**Makanchi Array**	**81.12**	**319**	P		**P**	**12 48 48.6**	**-0.1**
MK31				IAmb		IAmb	12 48 49.7	
	comp=Z,7.3nm,1.2s							
MKAR	**Makanchi Array**	**81.12**	**319**	P		**P**	**12 48 48.7**	**+0.1**
	comp=Z,3.0nm,0.5s,baz=94,slow=7.5,SNR=43							
MKAR	**Makanchi Array**	**81.12**	**319**	P		**P**	**12 48 48.4**	**-0.3**
MAKZ	**Makanchi**	**81.33**	**319**	P		**P**	**12 48 49.7**	**-0.1**
MAKZ				IAmb		IAmb	12 48 50.3	
	comp=Z,6.3nm,0.7s							
ZALV	**Zalesovo Beam**	**81.88**	**326**	P		**P**	**12 48 51.6**	**-0.8**
	comp=Z,3.4nm,0.5s,baz=113,slow=6.1,SNR=4.4							
ILAR	**Eielson Array**	**82.09**	**22**	P		**P**	**12 48 51.5**	**-1.9**
	comp=Z,0.8nm,0.6s,baz=252,slow=5.5,SNR=9.3							
ILAR				LR		LR	13 20 31.4	
	comp=Z,33nm,19.8s,baz=202,slow=32							
TARG	**Taragay, Kyrgy**	**82.90**	**313**	P		**P**	**12 48 58.6**	**0.0**
TARG				IAmb		IAmb	12 49 00.4	
	comp=Z,4.0nm,1.0s							
KDJ	**Kajisay**	**83.45**	**313**	P		**P**	**12 49 01.8**	**+0.6**
KURK	**Kurchatov**	**84.53**	**322**	P		**P**	**12 49 05.3**	**-0.9**
KURBB	**Kurchatov Arra**	**84.56**	**322**	P		**P**	**12 49 05.3**	**-1.0**
	comp=Z,3.9nm,0.8s,baz=110,slow=4.1,SNR=25							
NIL	**Nilore**	**84.86**	**304**	P		**P**	**12 49 08.0**	**-0.4**
QSPA	**South Pole Qui**	**84.88**	**180**	P		**P**	**12 49 07.7**	**-0.2**
AAK	**Ala-Archa**	**85.50**	**313**	P		**P**	**12 49 11.4**	**-0.1**
	comp=Z,4.7nm,0.7s,baz=137,slow=4.6,SNR=12							
AAK				LR		LR	13 27 00.0	
	comp=Z,40nm,19.9s,baz=158,slow=35							
AAK	**Ala-Archa**	**85.50**	**313**	P		**P**	**12 49 11.7**	**+0.2**
AAK				IAmb		IAmb	12 49 12.9	
	comp=Z,7.1nm,0.9s							
MAW	**Mawson**	**85.65**	**203**	P		**P**	**12 49 11.5**	**0.0**
	comp=Z,12nm,0.6s,baz=100,slow=5.8,SNR=42							
MAW	**Mawson**	**85.65**	**203**	P		**P**	**12 49 11.3**	**-0.2**
MAW				IAmb		IAmb	12 49 12.2	
	comp=Z,3.0nm,0.6s							
NRIK	**Noril'sk**	**86.52**	**341**	P		**P**	**12 49 15.2**	**-0.5**
	comp=Z,3.0nm,0.6s,baz=132,slow=6.5,SNR=2.2							
NRIK	**Noril'sk**	**86.52**	**341**	P		**P**	**12 49 16.7**	**+1.0**
NRIK				IAmb		IAmb	12 49 19.1	
	comp=Z,3.1nm,0.6s							
GAR	**Garm**	**88.02**	**309**	P		**P**	**12 49 23.9**	**+0.1**
KKAR	**Karatay Array**	**88.46**	**313**	P		**P**	**12 49 25.2**	**-0.5**
CHGR	**Chuyangaron**	**88.88**	**309**	P		**P**	**12 49 27.8**	**0.0**
BVAR	**Borovoye Array**	**89.99**	**323**	P		**P**	**12 49 31.4**	**-1.2**
	comp=Z,6.2nm,0.7s,baz=151,slow=6.4,SNR=31							
BRVK	**Borovoye**	**90.06**	**323**	P		**P**	**12 49 32.0**	**-0.9**
BRVK				IAmb		IAmb	12 49 33.1	
	comp=Z,7.1nm,1.1s							
GEYT	**Alibeck**	**97.49**	**307**	LR		LR	13 38 33.3	
	comp=Z,32nm,18.2s,baz=255,slow=38							
BOSA	**Boshof**	**120.16**	**233**	PKP		**PKPdf**	**12 55 24.2**	**-0.5**
	comp=Z,2.9nm,0.8s,baz=77,slow=1.9,SNR=5.0							
GERES	**GERESS Array B**	**124.75**	**329**	PKP		**PKPdf**	**12 55 31.9**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=107,slow=1.4,SNR=3.9							
TORD	**Torodi Ar. Bea**	**151.23**	**288**	PKPbc		**PKPbc**	**12 56 26.8**	**-0.7**
	comp=Z,9.2nm,0.4s,baz=50,slow=2.2,SNR=135							
TORD				PKPab		**PKPab**	**12 56 35.0**	**-0.4**
	comp=Z,8.1nm,0.7s,baz=75,slow=3.7,SNR=12							
TORD	**Torodi Ar. Bea**	**151.23**	**288**			**PKPbc**	**12 56 26.6**	**-0.9**

GUC 18 12:47:25.4±0.7, 32.36S×71.81W, h24km±5km, ML3.1, 4C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.47**	**115**	*i*P	Pb	12 47 34.8	-0.3
VA06				*i* S	Sb	12 47 41.3	-0.4
VA06				IAML		12 47 44.3	
	comp=N,2μm,0.5s						
VA06	**Catapilco**	**0.47**	**115**	↓*i*P	Pb	12 47 34.8	-0.3
VA06				*i* S	Sb	12 47 42.2	+0.5
VA06	**Catapilco**	**0.47**	**115**	↓*i*P	Pb	12 47 34.8	-0.3
VA06				*i* S	Sb	12 47 42.1	+0.3
VA06				IAML		12 47 44.3	
	comp=N,2μm,0.4s						
VA01	**Torpederas**	**0.67**	**168**	*e*P	Pb	12 47 38.0	-0.4
VA01				*i* S	Sb	12 47 47.8	+0.4
VA01				IAML		12 47 50.9	
	comp=N,759nm,0.2s						
VA01	**Torpederas**	**0.67**	**168**	*e*P	Pb	12 47 38.0	-0.5
VA01				*i* S	Sb	12 47 47.8	+0.4
VA01				IAML		12 47 50.9	
	comp=N,557nm,0.4s						
VA01	**Torpederas**	**0.67**	**168**	↑*i*P	Pb	12 47 37.9	-0.5
VA01				*i* S	Sn	12 47 48.8	-0.4
VA01				IAML		12 47 52.5	
	comp=N,587nm,0.1s						
ROCH	**El Roble**	**0.90**	**132**	*e*P	Pb	12 47 42.0	-0.5
ROCH				*i* S	Sb	12 47 54.3	0.0
ROCH	**El Roble**	**0.90**	**132**	↓*i*P	Pb	12 47 42.0	-0.6
ROCH				*i* S	Sn	12 47 54.9	-0.4
ROCH				IAML		12 47 58.8	
	comp=E,777nm,0.5s						
ROCH	**El Roble**	**0.90**	**132**	*e*P	Pb	12 47 42.4	-0.2
ROCH				*i* S	Sn	12 47 55.0	-0.3
ROCH				IAML		12 47 58.8	
	comp=E,784nm,0.4s						
VA03	**San Esteban**	**1.13**	**111**	↓*i*P	Pn	12 47 45.2	-0.7
VA03				*i* S	Sn	12 48 01.0	+0.2
VA03				IAML		12 48 04.6	
	comp=E,1μm,0.3s						
VA03	**San Esteban**	**1.13**	**111**	↓*i*P	Pn	12 47 45.2	-0.7
VA03				*i* S	Sb	12 48 00.7	0.0
VA03				IAML		12 48 04.6	
	comp=E,1μm,0.3s						
VA03	**San Esteban**	**1.13**	**111**	↓*i*P	Pn	12 47 45.2	-0.7
VA03				*i* S	Sb	12 48 00.7	0.0
VA03				IAML		12 48 04.6	
	comp=N,1μm,0.5s						
VA05	**Santo Domingo**	**1.30**	**173**	*e*P	Pn	12 47 47.8	-0.3
VA05				*i* S	Sn	12 48 04.9	+0.2
VA05				IAML		12 48 11.0	
	comp=E,906nm,0.4s						
VA05	**Santo Domingo**	**1.30**	**173**	*e*P	Pn	12 47 47.8	-0.3
VA05				*i* S	Sn	12 48 04.6	-0.1
VA05				IAML		12 48 11.0	
	comp=E,882nm,0.4s						
VA05	**Santo Domingo**	**1.30**	**173**	↑*i*P	Pn	12 47 48.3	+0.2
VA05				*i* S	Sb	12 48 06.6	+1.2
MT05	**Renca**	**1.36**	**139**	*e*P	Pn	12 47 49.5	+0.5
MT05				*i* S	Sb	12 48 07.4	+0.1
MT05				IAML		12 48 12.0	
	comp=E,848nm,0.4s						
MT05	**Renca**	**1.36**	**139**	*e*P	Pn	12 47 49.5	+0.5
MT05				*i* S	Sb	12 48 07.5	+0.2
MT05				IAML		12 48 12.0	
	comp=E,865nm,0.4s						
MT05	**Renca**	**1.36**	**139**	*i* P	Pb	12 47 50.0	-0.3
MT05				*i* S	Sb	12 48 08.5	+1.2
MT05				IAML		12 48 12.0	
	comp=E,831nm,0.3s						
MT01	**Popeta**	**1.57**	**163**	*e*P	Pn	12 47 52.3	+0.5
MT01				*i* S	Sb	12 48 12.7	-0.5
MT01				IAML		12 48 19.0	
	comp=E,227nm,0.6s						
MT01	**Popeta**	**1.57**	**163**	*e*P	Pn	12 47 52.4	+0.6
MT01				*i* S	Sb	12 48 12.8	-0.3
MT01				IAML		12 48 19.1	
	comp=E,244nm,0.3s						
MT01	**Popeta**	**1.57**	**163**	↑*i*P	Pn	12 47 52.3	+0.5
MT01				*i* S	Sb	12 48 14.0	+0.9
MT01				IAML		12 48 19.0	
	comp=E,245nm,0.2s						
MT09	**Talagante**	**1.57**	**154**	*e*P	Pn	12 47 52.6	+0.6
MT09				*i* S	Sb	12 48 12.6	-0.7
MT09				IAML		12 48 18.4	
	comp=N,432nm,0.4s						
MT09	**Talagante**	**1.57**	**154**	*e*P	Pn	12 47 52.5	+0.6
MT09				*i* S	Sb	12 48 13.1	-0.2
MT09				IAML		12 48 18.5	
	comp=N,436nm,0.5s						
MT09	**Talagante**	**1.57**	**154**	↓*i*P	Pb	12 47 52.9	-0.9
MT09				*i* S	Sb	12 48 14.2	+0.9
MT09				IAML		12 48 18.5	
	comp=N,430nm,0.3s						
CO03	**El Pedregal**	**1.79**	**32**	*e*P	Pn	12 47 54.6	-0.4
CO03	**El Pedregal**	**1.79**	**32**	*e*P	Pn	12 47 54.6	-0.4
CO03				*i* S	Sn	12 48 18.0	+0.9
CO03				IAML		12 48 28.8	
	comp=N,381nm,0.4s						
LMEL	**Las Melosas**	**2.00**	**138**	*e*P	Pb	12 48 00.1	-1.1
LMEL				*i* S	Sb	12 48 25.4	-0.4
LMEL				IAML		12 48 34.4	
	comp=N,265nm,0.3s						
LMEL	**Las Melosas**	**2.00**	**138**	*e*P	Pb	12 47 59.8	-1.4
LMEL				*i* S	Sb	12 48 25.8	+0.1
LMEL				IAML		12 48 34.4	
	comp=N,268nm,0.3s						
LMEL	**Las Melosas**	**2.00**	**138**	*e*P	Pn	12 47 59.3	+1.4
LMEL				*i* S	Sb	12 48 25.9	+0.1
LMEL				IAML		12 48 34.3	
BO01	**Tunca**	**2.11**	**164**	*e*P	Pn	12 47 60.0	+0.7
BO01				IAML		12 48 35.6	
	comp=N,74nm,0.5s						
BO01	**Tunca**	**2.11**	**164**	*e*P	Pn	12 47 60.0	+0.7
BO01				*i* S	Sb	12 48 27.0	-1.7
BO01				IAML		12 48 35.6	
	comp=N,77nm,0.7s						
BO01	**Tunca**	**2.11**	**164**	*e*P	Pn	12 47 60.0	+0.7
BO01				IAML		12 48 34.9	
	comp=N,79nm,0.7s						
BO03	**Pichilemu**	**2.13**	**183**	*e*P	Pn	12 47 58.7	-0.8
BO03	**Pichilemu**	**2.13**	**183**	*e*P	Pn	12 47 58.9	-0.6
BO03				IAML		12 48 37.6	
	comp=N,45nm,0.3s						
BO03	**Pichilemu**	**2.13**	**183**	*e*P	Pn	12 47 58.9	-0.6
BO03				IAML		12 48 37.6	
	comp=N,47nm,0.5s						
GO04	**Tololo Observa**	**2.35**	**22**	*e*P	Pn	12 48 03.5	+0.8
GO04				*i* S	Sn	12 48 32.7	+1.7
BO02	**Sierra Bellavi**	**2.57**	**161**	*e*P	Pn	12 48 07.2	+1.6
BO02				IAML		12 48 46.3	
	comp=N,189nm,0.5s						
BO02	**Sierra Bellavi**	**2.57**	**161**	*e*P	Pn	12 48 07.2	+1.6
BO02				*i* S	Sb	12 48 39.3	-2.8
BO02				IAML		12 48 46.4	
	comp=N,192nm,0.5s						
BO02	**Sierra Bellavi**	**2.57**	**161**	*e*P	Pn	12 48 06.2	+0.6
BO02				*i* S	Sb	12 48 39.6	-2.4
BO02				IAML		12 48 46.4	
	comp=N,201nm,0.5s						
GO05	**Huala**	**2.64**	**182**	*e*P	Pn	12 48 05.5	-1.1
GO05				IAML		12 49 04.4	
GO05	**Huala**	**2.64**	**182**	↑*e*P	Pn	12 48 05.8	-0.8
GO05				IAML		12 49 04.5	
	comp=E,34nm,0.3s						

*IDC **18** 12:50:30.6±1.3, 30.31S×71.90W, h0km, mb3.9/2, mb1 4.0/4, mb1mx3.7/20, mbtmp3.7/4, ML3.7/2, Error ellipse: s-maj=55.7km s-min=34.4km az=85.0*
*NEIC **18** 12:50:32.4±2.5, 30.10S±0.04×72.0W±0.1, h13km±2km, mb4.5/3, Mwr3.8/28, Error ellipse: s-maj=17.3km s-min=6.5km az=271.0*
*NEIC **18** 12:50:33.5, 30.11S×71.98W, h13km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}3.31; $M_{\theta\theta}$2.07; $M_{\phi\phi}$-5.38; $M_{r\theta}$2.45; $M_{\theta\phi}$-1.00; $M_{\phi r}$-3.79; Fault plane solution: $M_0$6.59000×10^{14} NP1:ϕ_s40.07000°, δ35.92000°, λ147.42000°. NP2:ϕ_s157.44000°, δ71.58000°, λ58.60000°. Principal axes: T 6.3593, Plg53.0000°, Azm30.0000°; N 0.4432, Plg30.0000°, Azm168.0000°; P -6.8025, Plg20.0000°, Azm271.0000°;*

IDC 18 12:55:14.1±2.1, 8.60S×128.07E, h0km, mb3.2/1, mb1 3.3/3, mb1mx3.2/29, mbtmp3.1/3, ML2.9/2, Error ellipse: s-maj=162.0km s-min=29.6km az=63.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.80**	**152**	Pn	Pn	12 58 18.2	+0.6
	0.1nm,0.3s,baz=332,slow=12,SNR=9.1						
WRA				Sn	Sn	13 00 40.2	-0.7
	0.1nm,0.3s,baz=331,slow=22,SNR=1.7						
ASAR	**Alice Springs**	**15.99**	**160**	Pn	Pn	12 59 00.8	+0.2
	0.0nm,0.3s,baz=336,slow=9.7,SNR=6.4						
MKAR	**Makanchi Array**	**68.54**	**328**	P	P	13 06 18.6	-0.1
	0.1nm,0.5s,baz=123,slow=5.3,SNR=1.8						

*IDC **18** 12:57:14.3±1.1, 32.22S×72.18W, h0km, mb4.1/3, mb1 4.0/8, mb1mx3.8/35, mbtmp3.9/8, ML3.9/5, MS3.5/4, Ms1 3.5/4, ms1mx3.1/29, Error ellipse: s-maj=55.2km s-min=18.8km az=101.0*
*NEIC **18** 12:57:16.0±2.4, 32.22S±0.03×71.95W±0.05, h11km±5km, mb4.5/4, ML4.1(GUC), Error ellipse: s-maj=6.2km s-min=4.1km az=93.0*
*GUC **18** 12:57:17.8±0.8, 32.32S×71.84W, h38km±3km, ML4.1*

ISC 18 12:50:33.7±0.8, 30.11S±0.08×72.1W±0.1, h25km, n33, σ1°49/27, mb4.3/5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.74**	**75**	Pn	**Pb**	**12 50 47.5**	**-0.4**
GO04	**Tololo Observa**	**1.09**	**94**	Pn	**Pn**	**12 50 53.2**	**-0.5**
CO03	**El Pedregal**	**1.39**	**122**	Pn	**Pn**	**12 50 56.7**	**-0.9**
AC04	**Llanos de Chal**	**2.09**	**25**	Pn	**Pn**	**12 51 05.7**	**-1.4**
VA03	**San Esteban**	**2.94**	**154**	Pn	**Pn**	**12 51 18.0**	**-0.9**
GO03	**Copiap**	**2.98**	**33**	Pn	**Pn**	**12 51 19.7**	**+0.3**
AC06	**Mina Casimiro**	**3.12**	**29**	Pn	**Pn**	**12 51 21.4**	**0.0**
MT05	**Renca**	**3.46**	**161**	Pn	**Pn**	**12 51 24.8**	**-1.2**
MT09	**Talagante**	**3.77**	**166**	Pn	**Pn**	**12 51 30.2**	**-0.1**
MT01	**Popeta**	**3.81**	**170**	Pn	**Pn**	**12 51 29.9**	**-0.9**
AC02	**Maricunga**	**4.16**	**39**	Pn	**Pn**	**12 51 35.7**	**-0.3**
PB14	**IPOC Station P**	**5.66**	**15**	Pn	**Pn**	**12 51 56.2**	**-0.3**
H03N1	**Juan Fernandez**	**6.71**	**239**	T	T	12 59 22.1	
	baz=70,slow=72,SNR=47						
H03N2	**Juan Fernandez**	**6.73**	**239**	T	T	12 59 13.0	
	baz=70,slow=72,SNR=40						
H03N3	**Juan Fernandez**	**6.73**	**239**	T	T	12 59 12.2	
	baz=70,slow=72,SNR=54						
PB15	**IPOC Station P**	**7.25**	**19**	Pn	**Pn**	**12 52 18.7**	**+0.4**
LVC	**Limon Verde**	**7.99**	**21**	Pn	**Pn**	**12 52 25.8**	**-2.7**
PB07	**IPOC Station P**	**8.57**	**14**	Pn	**Pn**	**12 52 34.0**	**-2.5**
LC01	**Cunco**	**8.77**	**179**	Pn	**Pn**	**12 52 37.9**	**-0.9**
PB01	**IPOC Station P**	**9.32**	**15**	Pn	**Pn**	**12 52 44.9**	**-1.7**
PLCA	**Paso Flores**	**10.67**	**174**	Pn	**Pn**	**12 53 03.2**	**-1.8**
	0.2nm,0.3s,baz=349,slow=12,SNR=4.6						
LPAZ	**La Paz**	**14.22**	**16**	Pn	**Pn**	**12 53 57.7**	**+3.6**
	0.1nm,0.3s,baz=196,slow=7.6,SNR=4.5						
LPAZ	**La Paz**	**14.22**	**16**		**Pn**	**12 53 54.7**	**+0.6**
QSPA	**South Pole Qui**	**60.12**	**180**	P	**P**	**13 00 39.7**	**+0.9**
QSPA				IAmb	IAmb	13 00 57.0	
	comp=Z,5.1nm,1.4s						
TXAR	**Lajitas Array**	**66.35**	**330**	P	**P**	**13 01 23.3**	**+2.9**
	comp=Z,0.1nm,0.5s,baz=157,slow=9.4,SNR=2.0						
TX31	**Lajitas Ar. Si**	**66.35**	**330**	P	**P**	**13 01 19.2**	**-1.2**
TX31				IAmb	IAmb	13 01 20.9	
	comp=Z,7.2nm,1.2s						
TX32	**Lajitas Array**	**66.35**	**330**	P	**P**	**13 01 19.0**	**-1.4**
TX32				IAmb	IAmb	13 01 20.9	
	comp=Z,2.2nm,1.2s						
TORD	**Torodi Ar. Bea**	**82.92**	**70**	P	**P**	**13 02 57.5**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=255,slow=4.3,SNR=9.7						
WRA	**Warramunga Arr**	**124.12**	**210**	PKP	**PKPdf**	**13 09 31.0**	**+0.4**
	comp=Z,0.3nm,0.9s,baz=160,slow=2.7,SNR=1.8						
H11S2	**WAKE ISLAND Hyl**	**25.72**	**272**	T	T	15 28 25.4	
	baz=114,slow=74,SNR=10.0						
H11S1	**WAKE ISLAND Hyl**	**25.73**	**272**	T	T	15 28 28.3	
	baz=114,slow=74,SNR=7.7						
H11S3	**WAKE ISLAND Hyl**	**25.73**	**272**	T	T	15 28 22.3	
	baz

	comp=E,559nm,0.7s								
GO05	**Huala**	**2.78**	**179**	Pn	**Pn**	**12 57 59.5**	**-0.7**
LCO	**Las Campanas**	**3.38**	**19**	*eP*	**Pn**	**12 58 10.5**	**+1.8**
ML02	**Panimavida**	**3.56**	**173**	Pn	**Pn**	**12 58 10.1**	**-0.9**
AC04	**Llanos de Chal**	**4.08**	**11**	*eP*	**Pn**	**12 58 19.6**	**+1.6**
AC04	**Llanos de Chal**	**4.08**	**11**	Pn	**Pn**	**12 58 18.9**	**+0.8**
GO03	**Copiap**	**4.85**	**19**	Pn	**Pn**	**12 58 30.9**	**+2.1**
AC06	**Mina Casimiro**	**5.05**	**17**	Pn	**Pn**	**12 58 33.1**	**+1.7**
H03N1	**Juan Fernandez** baz=86,slow=73,SNR=160	**5.96**	**256**	T	T	13 05 28.0	
H03N3	**Juan Fernandez** baz=86,slow=73,SNR=226	**5.97**	**256**	T	T	13 05 24.7	
H03N2	**Juan Fernandez** baz=86,slow=73,SNR=255	**5.97**	**256**	T	T	13 05 25.4	
H03S3	**Juan Fernandez** baz=83,slow=75,SNR=61	**6.04**	**253**	T	T	13 05 17.9	
H03S1	**Juan Fernandez** baz=83,slow=75,SNR=77	**6.04**	**253**	T	T	13 05 13.6	
H03S2	**Juan Fernandez** baz=83,slow=75,SNR=74	**6.05**	**253**	T	T	13 05 18.8	
LC01	**Cunco**	**6.66**	**179**	Pn	**Pn**	**12 58 52.8**	**-0.8**
PLCA	**Paso Flores** comp=E,0.8nm,0.3s,baz=332,slow=12,SNR=29	**8.57**	**173**	Pn	**Pn**	**12 59 20.3**	**+0.4**
LL04	**Puerto Octay**	**8.68**	**182**	Pn	**Pn**	**12 59 21.0**	**-0.3**
PB15	**IPOC Station P**	**9.25**	**15**	Pn	**Pn**	**12 59 26.9**	**-2.4**
PB06	**IPOC Station P**	**9.71**	**13**	Pn	**Pn**	**12 59 34.1**	**-1.5**
AF01	**San Pedro de A**	**9.83**	**21**	Pn	**Pn**	**12 59 37.4**	**+0.1**
LVC	**Limon Verde** comp=E,0.3nm,0.3s,baz=196,slow=21,SNR=1.2	**9.95**	**17**	Pn	**Pn**	**12 59 37.6**	**-1.4**
LVC	**Limon Verde**	**9.95**	**17**	Pn	**Pn**	**12 59 37.5**	**-1.5**
PB04	**IPOC Station P**	**9.98**	**10**	Pn	**Pn**	**12 59 40.3**	**+1.0**
TRQA	**Tornquist**	**10.05**	**128**	Pn	**Pn**	**12 59 42.6**	**+2.6**
PB09	**IPOC Station P**	**10.66**	**14**	Pn	**Pn**	**12 59 46.8**	**-1.8**
TA01	**Diego Aracena**	**11.72**	**8**	Pn	**Pn**	**13 00 01.6**	**-1.3**
TA02	**Huaiquique**	**12.02**	**8**	Pn	**Pn**	**13 00 06.7**	**-0.2**
PSGCX	**Pisagua**	**12.68**	**8**	Pn	**Pn**	**13 00 15.3**	**-0.9**
CPUP	**Villa Florida** comp=E,0.2nm,0.3s,baz=236,slow=15,SNR=1.3	**14.07**	**69**	Pn	**Pn**	**13 00 38.2**	**+3.2**
CPUP				Sn	**Sn**	**13 03 07.7**	**-3.4**
	comp=E,0.3nm,0.3s,baz=228,slow=15,SNR=2.9						
LPAZ	**La Paz** comp=E,0.1nm,0.3s,baz=193,slow=5.8,SNR=5.7	**16.24**	**13**	Pn	**P**	**13 01 07.0**	**-0.7**
SIV	**San Ignacio** comp=E,0.4nm,0.3s,baz=227,slow=12,SNR=6.9	**18.96**	**34**	P	**Pn**	**13 01 38.8**	**+1.1**
NNA	**Nana** comp=E,69nm,20.3s,baz=124,slow=32	**20.63**	**346**	LR	LR	13 08 11.4	
BDFB	**Brasilia** comp=E,116nm,20.4s,baz=148,slow=37	**27.33**	**58**	LR	LR	13 14 17.4	
PMSA	**Palmer Station** comp=E,78nm,18.2s,baz=346,slow=35	**32.95**	**174**	LR	LR	13 16 41.9	
VNA3	**Neumayer Olymp**	**50.99**	**158**	P	**P**	**13 06 18.0**	**+0.9**
VNA2	**Neumayer--Watz** baz=277,slow=8.3	**51.63**	**158**	P	**P**	**13 06 22.9**	**+1.0**
SNAA	**Sanae**	**53.22**	**158**	P	**P**	**13 06 34.4**	**+0.7**
SNAA	**Sanae** comp=E,2.2nm,0.7s,baz=275,slow=7.1,SNR=17	**53.22**	**158**	P	**P**	**13 06 34.2**	**+0.4**
SNAA	**Sanae**	**53.22**	**158**	P	**P**	**13 06 34.6**	**+0.9**
SNAA				IAmb	IAmb	13 06 35.6	
	comp=Z,8.5nm,1.4s						
QSPA	**South Pole Qui** comp=Z,2.2nm,0.9s,baz=154,slow=1.3,SNR=11	**58.01**	**180**	P	**P**	**13 07 09.1**	**+0.8**
QSPA	**South Pole Qui**	**58.01**	**180**	P	**P**	**13 07 09.5**	**+1.1**
QSPA				IAmb	IAmb	13 07 20.2	
	comp=Z,6.3nm,1.4s						
TX31	**Lajitas Ar. Si**	**68.21**	**330**	P	**P**	**13 08 15.7**	**-0.7**
TX32	**Lajitas Array**	**68.21**	**330**	P	**P**	**13 08 15.7**	**-0.7**
MAW	**Mawson** comp=Z,50nm,18.0s,baz=244,slow=38	**74.87**	**164**	LR	LR	13 44 03.4	
TORD	**Torodi Ar. Bea** comp=Z,0.9nm,0.5s,baz=269,slow=4.6,SNR=7.9	**83.56**	**70**	P	**P**	**13 09 44.7**	**+0.4**
WRA	**Warramunga Arr** comp=Z,0.5nm,1.0s,baz=164,slow=1.3,SNR=1.8	**122.33**	**210**	PKP	**PKPdf**	**13 16 11.3**	**-0.2**
H11S2	**WAKE ISLAND Hyl** baz=118,slow=75,SNR=16	**25.83**	**270**	T	T	15 35 25.9	
H11S1	**WAKE ISLAND Hyl** baz=118,slow=75,SNR=12	**25.84**	**270**	T	T	15 35 26.1	
H11S3	**WAKE ISLAND Hyl** baz=118,slow=75,SNR=13	**25.84**	**270**	T	T	15 35 27.2	
BVAR	**Borovoye Array** comp=Z,0.9nm,0.5s,baz=290,slow=4.2,SNR=5.9	**145.93**	**41**	PKPbc	**PKPab**	**13 16 56.3**	**+0.9**
KURBB	**Kurchatov Arra** comp=Z,1.0nm,0.6s,baz=301,slow=3.0,SNR=10	**151.52**	**41**	PKPbc	**PKiKP**	**13 17 10.4**	**+0.5**
ZALV	**Zalesovo Beam** comp=Z,0.7nm,0.3s,baz=282,slow=2.7,SNR=2.2	**152.69**	**30**	PKPbc	**PKPbc**	**13 17 11.3**	**-0.7**
ZALV				PKPab	**PKPab**	**13 17 22.4**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=278,slow=2.9,SNR=2.8						
MKAR	**Makanchi Array** comp=Z,0.5nm,0.6s,baz=301,slow=3.7,SNR=5.6	**155.53**	**46**	PKPab	**PKPab**	**13 17 35.8**	**+0.7**

*IDC **18** 13:01:49.7±1.2,18°.52S×69°.38W,h123km±11km,mb3.4/3, mb1 3.7/6,mb1mx3.4/35,mbtmp4.0/6,Error ellipse: s-maj=23.7km s-min=9.9km az=98.0*
*NEIC **18** 13:01:49.1±1.1,18°.50S±0°.06×69°.44W±0°.10, h146km±12km,Error ellipse: s-maj=13.3km s-min=9.2km az=88.0*
*GUC **18** 13:01:51.2±0.7,18°.55S×69°.45W,h134km±5km,ML3.8*
ISC 18 13:01:49.4±0.7,18°.54S±0°.04×69°.41W±0°.07,h135km±7km, n43,σ1s41/55,5C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**0.90**	**280**	↑*iP*	**Pn**	**13 02 12.2**	**+0.3**
AP01				*i* S	**Sn**	**13 02 29.3**	**+0.4**
AP01	**Chacalluta**	**0.90**	**280**	Pn	**Pn**	**13 02 12.1**	**+0.3**
PB11	**IPOC Station P**	**1.24**	**191**	↑*iP*	**Pn**	**13 02 16.2**	**+1.0**
PB11				*i* S	**Sn**	**13 02 35.6**	**+0.6**
PB11				IAML		13 02 39.0	
	comp=E,1μm,0.2s						
PB11	**IPOC Station P**	**1.24**	**191**	Pn	**Pn**	**13 02 16.3**	**+1.0**
PSGC	**Pisagua**	**1.25**	**212**	↑*iP*	**Pn**	**13 02 15.8**	**+0.5**
PSGC				*eS*	**Sn**	**13 02 34.9**	**-0.2**
PSGC				IAML		13 02 36.6	
	comp=E,1μm,0.3s						
PSGCX	**Pisagua**	**1.25**	**212**	Pn	**Pn**	**13 02 16.0**	**+0.7**
PB08	**IPOC Station P**	**1.62**	**171**	↑*iP*	**Pn**	**13 02 20.6**	**+1.1**
PB08				*i* S	**Sn**	**13 02 43.5**	**+0.9**
PB08				IAML		13 02 48.0	
	comp=N,660nm,0.3s						
PB08	**IPOC Station P**	**1.62**	**171**	Pn	**Pn**	**13 02 20.5**	**+1.0**
TA02	**Huaiquique**	**1.86**	**201**	Pn	**Pn**	**13 02 22.8**	**+1.0**
TA01	**Diego Aracena**	**2.15**	**200**	↓*iP*	**Pn**	**13 02 25.8**	**+0.4**
TA01				*i* S	**Sn**	**13 02 52.0**	**-1.1**
TA01				IAML		13 03 00.6	
	comp=N,247nm,0.2s						
TA01	**Diego Aracena**	**2.15**	**200**	Pn	**Pn**	**13 02 26.3**	**+0.9**
PB01	**IPOC Station P**	**2.50**	**182**	↓*iP*	**Pn**	**13 02 31.0**	**+1.2**
PB01				*i* S	**Sn**	**13 03 00.9**	**-0.1**
PB01				IAML		13 03 02.6	
	comp=E,506nm,0.2s						
PB01	**IPOC Station P**	**2.50**	**182**	Pn	**Pn**	**13 02 30.7**	**+0.9**
LPAZ	**La Paz** comp=E,16nm,0.3s,baz=196,slow=2.8,SNR=287	**2.55**	**29**	P	**Pn**	**13 02 31.3**	**+0.3**
LPAZ				S	**Sn**	**13 03 01.9**	**-1.0**
	comp=E,0.6nm,0.3s,baz=198,slow=20,SNR=1.8						
LPAZ	**La Paz**	**2.55**	**29**		**Pn**	**13 02 29.5**	**-1.5**
PB02	**IPOC Station P**	**2.81**	**189**	*eP*	**Pn**	**13 02 35.0**	**+1.2**
PB02				*i* S	**Sn**	**13 03 07.8**	**-0.2**
PB02				IAML		13 03 20.0	
	comp=E,592nm,0.3s						
PB07	**IPOC Station P**	**3.21**	**188**	*eP*	**Pn**	**13 02 40.5**	**+1.5**
PB07				IAML		13 03 24.1	
	comp=E,218nm,0.4s						
PB09	**IPOC Station P**	**3.25**	**177**	*eP*	**Pn**	**13 02 41.1**	**+1.6**
PB03	**IPOC Station P**	**3.51**	**185**	↑*iP*	**Pn**	**13 02 44.1**	**+1.1**
PB03				*i* S	**Sn**	**13 03 23.9**	**-0.5**
PB04	**IPOC Station P**	**3.84**	**190**	*eP*	**Pn**	**13 02 48.0**	**+0.7**
PB04				*i* S	**Sn**	**13 03 29.2**	**-3.1**
LVC	**Limon Verde** comp=E,3.2nm,0.3s,baz=15,slow=7.5,SNR=27	**4.08**	**173**	P	**Pn**	**13 02 52.8**	**+2.1**
LVC				S	**Sn**	**13 03 38.1**	**-0.1**
	comp=E,18nm,0.3s,baz=288,slow=20,SNR=14						
PB06	**IPOC Station P**	**4.15**	**182**	*eP*	**Pn**	**13 02 52.3**	**+0.9**
PB06				*eS*	**Sn**	**13 03 38.0**	**-1.5**
PB06	**IPOC Station P**	**4.15**	**182**	Pn	**Pn**	**13 02 51.1**	**-0.3**
PB05	**IPOC Station P**	**4.36**	**190**	*eP*	**Pn**	**13 02 54.3**	**+0.2**
PB15	**IPOC Station P**	**4.65**	**181**	Pn	**Pn**	**13 02 58.3**	**+0.3**
PB10	**IPOC Station P**	**5.07**	**192**	Pn	**Pn**	**13 03 03.2**	**-0.2**
PB14	**IPOC Station P**	**6.13**	**188**	Pn	**Pn**	**13 03 17.0**	**-1.0**
AC02	**Maricunga**	**8.27**	**178**	Pn	**Pn**	**13 03 46.8**	**0.0**
SIV	**San Ignacio** comp=E,0.8nm,0.3s,baz=275,slow=12,SNR=10	**8.36**	**74**	P	**Pn**	**13 03 44.5**	**-3.2**
NNA	**Nana** comp=E,3.1nm,0.3s,baz=136,slow=13,SNR=3.1	**9.68**	**311**	P	**Pn**	**13 04 04.8**	**-0.7**
NNA	**Nana**	**9.68**	**311**	Pn	**Pn**	**13 04 04.3**	**-1.2**
SAML	**Samuel**	**11.28**	**33**	Pn	**Pn**	**13 04 26.4**	**-0.3**
CO03	**El Pedregal**	**12.30**	**185**	Pn	**Pn**	**13 04 36.9**	**-3.2**
CPUP	**Villa Florida**	**13.59**	**127**	P	**Pn**	**13 04 58.9**	**+2.2**
PLTB	**Pedras Altas**	**19.42**	**136**	P	**P**	**13 06 00.7**	**-4.5**
PLTB				IAmb	IAmb	13 06 14.8	
	comp=Z,17nm,1.1s						
TRQA	**Tornquist**	**20.51**	**163**	P	**P**	**13 06 16.4**	**-0.4**
TRQA				IAmb	IAmb	13 06 19.5	
	comp=Z,6.1nm,0.8s						
BDFB	**Brasilia** comp=Z,5.5nm,0.4s,baz=278,slow=8.6,SNR=4.8	**20.65**	**85**	P	**P**	**13 06 20.7**	**+2.0**
BDFB	**Brasilia**	**20.65**	**85**	P	**P**	**13 06 17.8**	**-0.9**
BDFB				IAmb	IAmb	13 06 21.2	
	comp=Z,8.0nm,0.6s						
TXAR	**Lajitas Array** comp=Z,0.1nm,0.6s,baz=149,slow=11,SNR=2.1	**57.95**	**325**	P	**P**	**13 11 29.6**	**+1.8**
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,0.4s,baz=251,slow=5.3,SNR=9.9	**76.83**	**71**	P	**P**	**13 13 27.4**	**+0.6**
ASAR	**Alice Springs** comp=Z,0.8nm,1.1s,baz=122,slow=2.2,SNR=4.9	**132.28**	**209**	PKP	**PKiKP**	**13 20 49.6**	**+0.2**
WRA	**Warramunga Arr** comp=Z,0.5nm,0.7s,baz=145,slow=2.0,SNR=2.9	**135.22**	**213**	PKP	**PKiKP**	**13 20 56.1**	**+0.8**
SONM	**Songino Array** comp=Z,0.6nm,0.5s,baz=316,slow=2.7,SNR=4.7	**150.58**	**6**	PKPbc	**PKiKP**	**13 21 27.8**	**+1.7**

*TUL **18** 13:01:51.8±0.7,36°.280N±0°.010×97°.51W±0°.02,h7km±7km, ML2.6,mb_Lg2.8/52(NEIC),Error ellipse: s-maj=1.8km s-min=1.4km az=95.0*
NEIC 18 13:01:51.7±0.8,36°.28N±0°.01×97°.51W±0°.02,h4km±7km, Error ellipse: s-maj=2.6km s-min=1.3km az=54.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.44**	**300**		Pg	13 02 00.5	+0.3
CROK				Sg	Sg	13 02 06.8	+0.8
OK029	**Liberty Lake**	**0.49**	**175**		Pg	13 02 01.3	+0.2
OK029				Sg	Sg	13 02 08.0	+0.7
BLOK	**Blackwell**	**0.53**	**26**		Pg	13 02 02.2	+0.2
BCOK	**Bluff Creek, N**	**0.63**	**187**		Pg	13 02 03.9	+0.1
GC02	**Grant County #**	**0.63**	**334**		Pg	13 02 04.0	+0.1
GC02				Sg	Sg	13 02 12.3	+0.1
OK031	**S. Brethren Rd**	**0.64**	**121**	Pg	Pg	13 02 04.0	0.0
QUOK	**Quay**	**0.66**	**99**		Pg	13 02 04.4	+0.1
OK025	**Westminster Rd**	**0.71**	**169**		Pg	13 02 05.5	+0.1
KAN13	**South Haven SW**	**0.73**	**2**		Pg	13 02 05.8	0.0
OK032	**Salt Plains WL**	**0.77**	**313**	Pg	Pg	13 02 06.4	-0.1
KAN17	**Caldwell West**	**0.79**	**345**		Pg	13 02 06.8	-0.1
KAN09	**Caldwell North**	**0.86**	**354**	Pg	Pg	13 02 08.1	-0.1
OKCFA	**Oklahoma City**	**0.87**	**177**		Pg	13 02 08.1	-0.3
KAN05	**Bluff City Nor**	**0.88**	**341**		Pg	13 02 08.4	-0.1
OKCSW	**OKLAHOMA CITY**	**0.88**	**176**	Pg	Pg	13 02 08.3	-0.3
KS20	**Mayfield South**	**0.95**	**358**		Pg	13 02 09.6	-0.3
KAN10	**Anthony SW Sta**	**0.96**	**331**		Pg	13 02 10.0	-0.2
T35A	**Sooner Cattle**	**1.02**	**51**		Pg	13 02 10.9	-0.5
FNO	**Franklin**	**1.03**	**175**		Pg	13 02 10.9	-0.5
KAN16	**Harper SW Stat**	**1.04**	**335**		Pg	13 02 11.4	-0.3
KAN12	**Harper NE Stat**	**1.09**	**339**	Pg	Pg	13 02 12.2	-0.4
U32A	**Winter Ranch,**	**1.21**	**275**		Pg	13 02 14.3	-0.6
X34A	**Smith Ranch, M**	**1.70**	**189**		Pb	13 02 22.9	-0.6
WMOK	**Wichita Mounta**	**1.86**	**214**		Pn	13 02 24.8	+0.4
LOOK	**Love County**	**2.30**	**173**		Pn	13 02 31.3	+0.9
R32A	**Long Quarter,**	**2.34**	**336**		Pn	13 02 29.4	-1.7
X37A	**Clayton** comp=Z,23nm,0.7s	**2.43**	**133**	IAmb_Lg		13 03 09.6	
CBKS	**Cedar Bluff** comp=Z,16nm,0.8s	**3.09**	**326**	IAmb_Lg		13 03 34.6	
W39A	**Magazine** comp=Z,35nm,0.8s	**3.22**	**109**	IAmb_Lg		13 03 38.5	
S39A	**Bolivar** comp=Z,20nm,0.8s	**3.64**	**66**	IAmb_Lg		13 03 50.0	
MIAR	**Mount Ida** comp=Z,16nm,0.9s	**3.65**	**117**	IAmb_Lg		13 03 57.0	
AMTX	**Amarillo** comp=Z,17nm,0.8s	**3.67**	**249**	IAmb_Lg		13 03 51.7	
U40A	**Yellville** comp=Z,24nm,0.8s	**3.76**	**87**	IAmb_Lg		13 03 52.4	
ABTX	**Abilene, Hawle** comp=Z,15nm,0.7s	**4.05**	**206**	IAmb_Lg		13 04 02.6	
X40A	**Basin Creek Fa** comp=Z,16nm,0.8s	**4.22**	**114**	IAmb_Lg		13 04 10.9	
MGMO	**Mountain Grove** comp=Z,16nm,0.7s	**4.30**	**77**	IAmb_Lg		13 04 07.4	
WHAR	**Wooly Hollow** comp=Z,17nm,0.9s	**4.36**	**102**	IAmb_Lg		13 04 14.5	
P38A	**Dawn** comp=Z,20nm,0.8s	**4.58**	**42**	IAmb_Lg		13 04 19.4	
KSCO	**Kaye Shedlock'** comp=Z,15nm,0.7s	**4.89**	**305**	IAmb_Lg		13 04 35.7	
BGNE	**Belgrade** comp=Z,22nm,0.7s	**5.14**	**355**	IAmb_Lg		13 04 47.0	
CCM	**Cathedral Cave** comp=Z,16nm,0.8s	**5.31**	**69**	IAmb_Lg		13 04 48.5	
P40A	**Paris** comp=Z,22nm,0.7s	**5.40**	**51**	IAmb_Lg		13 04 49.9	
T25A	**Trinidad** comp=Z,8.3nm,0.7s	**5.61**	**281**	IAmb_Lg		13 04 52.5	
PBMO	**Poplar Bluff** comp=Z,19nm,0.7s	**5.72**	**83**	IAmb_Lg		13 04 57.3	
L34A	**Svendsen Farm,** comp=Z,21nm,0.7s	**5.75**	**8**	IAmb_Lg		13 05 07.4	
OGNE	**Ogallala** comp=Z,15nm,0.8s	**5.85**	**324**	IAmb_Lg		13 05 03.9	
FVM	**French Village** comp=Z,7.3nm,0.8s	**5.91**	**71**	IAmb_Lg		13 05 10.5	
JCT	**Junction City** comp=Z,18nm,1.0s	**6.09**	**199**	IAmb_Lg		13 05 10.3	
SCIA	**State Center** comp=Z,15nm,0.7s	**6.54**	**29**	IAmb_Lg		13 05 31.2	
S44A	**Carbondale** comp=Z,16nm,0.8s	**6.76**	**76**	IAmb_Lg		13 05 25.5	
PHWY	**Pilot Hill** comp=Z,8.2nm,0.9s	**7.97**	**311**	IAmb_Lg		13 06 15.9	
K22A	**Casper** comp=Z,7.8nm,0.9s	**9.43**	**315**	IAmb_Lg		13 07 00.0	

*IDC **18** 13:06:11.9±2.0,31°.57S×71°.71W,h0km,mb3.6/2, mb1 3.7/3,mb1mx3.5/22,mbtmp3.6/3,ML4.1/1,MS3.9/1, Ms1 3.9/1,ms1mx2.9/29,Error ellipse: s-maj=122.7km s-min=33.8km az=100.0*
ISC 18 13:06:15.6±1.9,31°.6S±0°.2×71°.8W±0°.7,h25km,n13, σ0s49/6,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N1	**Juan Fernandez** baz=79,slow=72,SNR=445	**6.33**	**251**	T	T	13 14 15.9	
H03N3	**Juan Fernandez** baz=79,slow=72,SNR=365	**6.34**	**251**	T	T	13 14 19.0	
H03N2	**Juan Fernandez** baz=79,slow=72,SNR=411	**6.34**	**251**	T	T	13 14 21.0	
PLCA	**Paso Flores** 0.4nm,0.3s,baz=338,slow=12,SNR=12	**9.17**	**174**	Pn	**Pn**	**13 08 26.2**	**-0.1**
SDV	**Santo Domingo** comp=Z,153nm,20.1s,baz=72,slow=39	**40.27**	**2**	LR	LR	13 32 10.3	
QSPA	**South Pole Qui** 0.4nm,0.6s,baz=152,slow=0.8,SNR=1.3	**58.63**	**180**	P	**P**	**13 16 10.7**	**+0.3**
TORD	**Torodi Ar. Bea** 0.4nm,0.7s,baz=251,slow=3.6,SNR=2.3	**83.16**	**70**	P	**P**	**13 18 39.9**	**0.0**
H11S2	**WAKE ISLAND Hyl** baz=117,slow=75,SNR=6.1	**26.02**	**271**	T	T	15 43 57.6	
H11S1	**WAKE ISLAND Hyl** baz=117,slow=75,SNR=6.0	**26.03**	**271**	T	T	15 44 01.0	
H11S3	**WAKE ISLAND Hyl** baz=117,slow=75,SNR=8.5	**26.04**	**271**	T	T	15 43 57.9	
BVAR	**Borovoye Array** 0.7nm,0.4s,baz=284,slow=5.8,SNR=3.6	**145.33**	**41**	PKPbc	**PKPab**	**13 25 51.3**	**+0.5**
KURBB	**Kurchatov Arra** 0.2nm,0.5s,baz=309,slow=3.2,SNR=2.3	**150.92**	**41**	PKPbc	**PKPbc**	**13 26 05.4**	**-0.2**
ZALV	**Zalesovo Beam** 0.8nm,0.4s,baz=302,slow=2.7,SNR=2.1	**152.05**	**30**	PKPbc	**PKiKP**	**13 26 07.9**	**-0.5**

*ANF **18** 13:10:02.7±0.3,36°.31N×97°.51W,h5km,ML3.7/9,Error ellipse: s-maj=3.6km s-min=2.6km az=168.0*
*NEIC **18** 13:10:02.8±0.6,36°.28N±0°.01×97.52W±0°.02,h5km±2km, mb_Lg3.2/112,Error ellipse: s-maj=3.0km s-min=2.9km az=266.0*
ISC 18 13:10:02.8±1.2,36°.27N±0°.02×97°.51W±0°.02,h1km±12km, n104,σ0s76/65,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.45**	**301**		**Pg**	**13 10 11.6**	**+0.1**
OK029	**Liberty Lake**	**0.48**	**175**		**Pg**	**13 10 12.3**	**+0.4**
OK029				Sg	**Sg**	**13 10 18.8**	**+0.7**
BLOK	**Blackwell**	**0.54**	**26**		**Pg**	**13 10 13.3**	**+0.1**
BLOK				Sg	**Sg**	**13 10 21.0**	**+0.7**
BCOK	**Bluff Creek, N**	**0.62**	**188**		**Pg**	**13 10 14.7**	**0.0**
BCOK				Sg	**Sg**	**13 10 23.9**	**+1.1**
OK031	**S. Brethren Rd**	**0.63**	**120**		**Pg**	**13 10 15.1**	**+0.2**
GC02	**Grant County #**	**0.65**	**334**		**Pg**	**13 10 14.9**	**-0.3**
QUOK	**Quay**	**0.65**	**99**	Pg	**Pg**	**13 10 15.5**	**+0.1**
OK025	**Westminster Rd**	**0.70**	**169**	Pg	**Pg**	**13 10 16.5**	**+0.2**
KAN13	**South Haven SW**	**0.74**	**2**		**Pg**	**13 10 16.9**	**-0.1**
OK032	**Salt Plains WL**	**0.78**	**313**		**Pg**	**13 10 17.5**	**-0.2**
KAN17	**Caldwell West**	**0.80**	**345**		**Pg**	**13 10 17.9**	**-0.2**
OKCFA	**Oklahoma City**	**0.86**	**177**		**Pg**	**13 10 19.2**	**0.0**
OKCFA	**Oklahoma City** baz=356	**0.86**	**177**	P	**Pg**	**13 10 19.3**	**0.0**
KAN09	**Caldwell North**	**0.87**	**354**		**Pg**	**13 10 19.1**	**-0.3**
OKCSW	**OKLAHOMA CITY**	**0.87**	**176**		**Pg**	**13 10 19.6**	**+0.1**
KAN05	**Bluff City Nor**	**0.89**	**341**		**Pg**	**13 10 19.6**	**-0.3**
KS20	**Mayfield South**	**0.96**	**358**		**Pg**	**13 10 20.9**	**-0.2**
KAN10	**Anthony SW Sta**	**0.97**	**331**		**Pg**	**13 10 21.0**	**-0.5**
FNO	**Franklin**	**1.02**	**175**		**Pg**	**13 10 22.1**	**-0.3**
T35A	**Sooner Cattle**	**1.02**	**51**		**Pg**	**13 10 22.1**	**-0.4**
T35B	**Sooner Cattle** baz=232	**1.03**	**51**	P	**Pg**	**13 10 22.2**	**-0.3**
T35B				S	**Sg**	**13 10 35.6**	**-0.2**
	baz=232						
KAN16	**Harper SW Stat**	**1.05**	**335**		**Pg**	**13 10 22.6**	**-0.4**
U32A	**Winter Ranch,**	**1.21**	**276**		**Pg**	**13 10 25.2**	**-0.9**
U32A	**Winter Ranch,** baz=94	**1.21**	**276**	P	**Pg**	**13 10 25.3**	**-0.9**
U32A				S	**Sb**	**13 10 41.9**	**-0.9**
	baz=94						
TUL1	**Leonard** baz=285	**1.43**	**104**	P	**Pn**	**13 10 28.8**	**-1.2**
TUL1				S	**Sb**	**13 10 48.5**	**-0.7**
	baz=285						
TUL1	**Leonard** baz=285	**1.43**	**104**	P	**Pn**	**13 10 28.8**	**-1.2**
TUL1				S	**Sb**	**13 10 48.5**	**-0.7**
	baz=285						
X34A	**Smith Ranch, M**	**1.69**	**189**		**Pn**	**13 10 34.0**	**+0.4**
WMOK	**Wichita Mounta**	**1.85**	**215**		**Pn**	**13 10 35.6**	**-0.2**
WMOK	**Wichita Mounta** baz=33	**1.85**	**215**	P	**Pn**	**13 10 35.8**	**-0.1**
WMOK				S	**Sb**	**13 11 00.5**	**-0.7**
	baz=33						
WMOK	**Wichita Mounta** baz=33	**1.85**	**215**	P	**Pn**	**13 10 35.7**	**-0.1**
WMOK				S	**Sb**	**13 11 00.4**	**-0.7**
	baz=33						
LOOK	**Love County**	**2.29**	**173**	Pn	**Pn**	**13 10 41.8**	**0.0**
LOOK	comp=Z,68nm,1.0s			IAmb_Lg		13 11 15.9	
R32A	**Long Quarter,** baz=156	**2.35**	**336**	P	**Pn**	**13 10 42.5**	**-0.2**
R32A				S	**Sn**	**13 11 11.9**	**-0.3**
	baz=156						
X37A	**Clayton**	**2.42**	**133**	Pn	**Pn**	**13 10 44.3**	**+0.7**
X37A	**Clayton** baz=315	**2.42**	**133**	P	**Pn**	**13 10 43.9**	**+0.4**
U38A	**Gravette**	**2.52**	**85**		**Pn**	**13 10 46.0**	**+1.0**
HHAR	**Hobbs**	**2.88**	**89**	Pn	**Pn**	**13 10 50.9**	**+1.0**
KSU1	**Kansas State U**	**2.91**	**14**		**Pn**	**13 10 52.0**	**+1.7**
KSU1	**Kansas State U** baz=195	**2.91**	**14**	P	**Pg**	**13 10 57.3**	**-1.4**
Z35A	**Perchaven, San** baz=356	**2.94**	**176**	P	**Pn**	**13 10 51.6**	**+0.8**
CBKS	**Cedar Bluff** comp=Z,42nm,1.1s	**3.10**	**326**	IAmb_Lg		13 11 48.4	
CBKS	**Cedar Bluff** baz=145	**3.10**	**326**	Sb	**Sb**	**13 11 39.3**	**+2.3**
W39A	**Magazine**	**3.21**	**108**	Pn	**Pn**	**13 10 55.7**	**+1.3**
W39A	**Magazine** baz=291	**3.21**	**108**	Sb	**Sg**	**13 11 45.6**	**-0.4**
S39A	**Bolivar**	**3.64**	**66**		**Pn**	**13 11 00.2**	**-0.1**
S39A	comp=Z,68nm,1.1s			IAmb_Lg		13 12 00.7	
S39A	**Bolivar** baz=248	**3.64**	**66**	P	**Pn**	**13 11 00.6**	**+0.3**
MIAR	**Mount Ida**	**3.64**	**117**	Pn	**Pn**	**13 11 00.7**	**+0.4**
MIAR	comp=Z,45nm,0.8s			IAmb_Lg		13 12 07.0	
MIAR	**Mount Ida** baz=300	**3.64**	**117**	P	**Pn**	**13 11 00.9**	**+0.5**
MIAR	**Mount Ida** baz=300	**3.64**	**117**	P	**Pn**	**13 11 01.1**	**+0.8**
MIAR

PHWY	**Pilot Hill** comp=Z,30nm,0.9s	**7.99**	**311**	IAmb_Lg		13 14 27.1
I37A	**Lemond, Waseca** comp=Z,34nm,0.8s	**8.35**	**21**	IAmb_Lg		13 14 35.0
L42A	**Oliver, Polo** comp=Z,38nm,0.8s	**8.36**	**44**	IAmb_Lg		13 14 36.5
T47A	**Sharon Grove** comp=Z,29nm,0.9s	**8.39**	**82**	IAmb_Lg		13 14 41.9
JFWS	**Jewell Farm** comp=Z,32nm,0.7s	**8.68**	**38**	IAmb_Lg		13 14 38.3
M44A	**Midewin, Midew** comp=Z,27nm,1.0s	**8.97**	**52**	IAmb_Lg		13 14 42.4
SFIN	**Lafayette** comp=Z,28nm,0.8s	**9.15**	**60**	IAmb_Lg		13 14 59.4
WCI	**Wyandotte Cave** comp=Z,18nm,0.7s	**9.15**	**74**	IAmb_Lg		13 14 53.7
PV13	**Radium Mtn., P** comp=Z,11nm,0.9s	**9.22**	**285**	IAmb_Lg		13 15 08.5
I40A	**Norwalk** comp=Z,17nm,0.8s	**9.26**	**33**	IAmb_Lg		13 15 08.2
121A	**Cookes Peak, D** comp=Z,10nm,1.0s	**9.28**	**249**	IAmb_Lg		13 15 13.7
PV11	**David Mesa, Pa** comp=Z,17nm,1.1s	**9.28**	**286**	IAmb_Lg		13 15 12.6
RWWY	**Rawlins** comp=Z,28nm,1.0s	**9.29**	**309**	IAmb_Lg		13 15 08.0
RSSD	**Black Hills** comp=Z,12nm,0.8s	**9.29**	**330**	IAmb_Lg		13 15 15.8
PV16	**Nyswonger Mesa** comp=Z,12nm,1.3s	**9.32**	**286**	IAmb_Lg		13 15 17.1
PV04	**Paradox Valley** comp=Z,12nm,1.0s	**9.32**	**287**	IAmb_Lg		13 15 12.5
PV20	**West Nyswonger** comp=Z,12nm,1.3s	**9.36**	**286**	IAmb_Lg		13 15 21.5
F33A	**5 Mile Ranch,** comp=Z,18nm,1.2s	**9.60**	**5**	IAmb_Lg		13 15 14.7
SPMN	**Marine on St.** comp=Z,11nm,0.8s	**9.63**	**20**	IAmb_Lg		13 15 23.0

*IDC **18** 13:12:52.0±1.1,31°.11S×71°.79W,h0km,mb3.5/2, mb1 3.8/4,mb1mx3.7/17,mbtmp3.5/4,ML3.5/2,Error ellipse: s-maj=60.1km s-min=33.4km az=86.0*

ISC 18 13:12:54.0±1.0,31°.1S±0°.1×71°.8W±0°.4,h12km,n13, σ0.6 1/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H03N1	**Juan Fernandez** baz=72,slow=72,SNR=240	**6.47**	**247**	T	T	13 21 24.1	
H03N3	**Juan Fernandez** baz=72,slow=72,SNR=246	**6.49**	**247**	T	T	13 21 22.7	
H03N2	**Juan Fernandez** baz=72,slow=72,SNR=239	**6.49**	**247**	T	T	13 21 24.0	
PLCA	**Paso Flores** 0.1nm,0.3s,baz=3.2,slow=18,SNR=2.4	**9.68**	**174**	Pn	**Pn**	**13 15 13.6**	**+0.4**
LPAZ	**La Paz** 0.1nm,0.3s,baz=201,slow=8.9,SNR=5.9	**15.11**	**14**	Pn	**Pn**	**13 16 28.4**	**+0.5**
TXAR	**Lajitas Array** 0.3nm,0.8s,baz=156,slow=6.4,SNR=3.7	**67.31**	**330**	P	**P**	**13 23 49.1**	**+0.2**
TORD	**Torodi Ar. Bea** 0.4nm,0.8s,baz=241,slow=6.1,SNR=1.8	**83.03**	**70**	P	**P**	**13 25 19.4**	**-0.3**
ASAR	**Alice Springs** 0.1nm,0.7s,baz=134,slow=4.0,SNR=2.1	**120.25**	**207**	PKP	**PKPdf**	**13 31 44.8**	**-0.8**
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=167,slow=2.9,SNR=5.2	**123.39**	**210**	PKP	**PKPdf**	**13 31 51.2**	**-0.5**
H11S2	**WAKE ISLAND Hy** baz=115,slow=75,SNR=9.8	**125.97**	**271**	T	T	15 50 43.4	
H11S1	**WAKE ISLAND Hy** baz=115,slow=75,SNR=9.8	**125.98**	**271**	T	T	15 50 42.5	
H11S3	**WAKE ISLAND Hy** baz=115,slow=75,SNR=10	**125.99**	**271**	T	T	15 50 42.7	
ZALV	**Zalesovo Beam** 0.9nm,0.4s,baz=316,slow=4.0,SNR=2.0	**151.63**	**30**	PKPbc	**PKiKP**	**13 32 48.1**	**0.0**

MEX 18 13:24:06.2±1.4,14°.69N×93°.29W,h120km±114km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.01**	**4**	*i* P	Pn	13 24 28.1	-0.3
PCIG				*i* S	Sn	13 24 42.7	-2.4

*IDC **18** 13:28:02.3±1.3,23°.85N×121°.29E,h0km,mb3.5/5, mb1 3.6/6,mb1mx3.4/55,mbtmp3.5/6,ML3.3/1,Error ellipse: s-maj=72.6km s-min=20.8km az=68.0*
*TAP **18** 13:28:02.3,24°.09N×121°.82E,h6km,ML4.1,C*
*JMA **18** 13:28:02.0±0.2,24°.05N×121°.82E,h0km,M3.4*

ISC 18 13:28:03.2±0.8,24°.08N±0°.01×121°.84E±0°.02,h13km±5km, n133,σ1§02/220,mb3.5/5,12C-22D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETL	**Fush Village** baz=291	**0.21**	**293**	*i* P	**Pg**	**13 28 07.0**	**-0.9**
ETL				*i* S	**Sg**	**13 28 11.1**	**+0.1**
TWD	**Chiawan** baz=267	**0.22**	**271**	⇓*i* P	**Pg**	**13 28 07.4**	**-0.6**
TWD				*e*S	**Sg**	**13 28 11.4**	**+0.2**
HWA	**Hwalien** baz=239	**0.23**	**245**	P	**Pg**	**13 28 09.0**	**+0.8**
HWA				*e*S	**Sg**	**13 28 14.6**	**+3.0**
NACB	**Ninganchiao** baz=292	**0.24**	**294**	⇓*i* P	**Pg**	**13 28 07.4**	**-1.0**
NACB				*i* S	**Sg**	**13 28 11.6**	**-0.2**
EHP	**Heping Village** baz=343	**0.25**	**339**	⇓*i* P	**Pg**	**13 28 07.9**	**-0.6**
EHP				S	**Sg**	**13 28 12.3**	**+0.3**
TEYL	**Yanliau Villag** baz=227	**0.30**	**226**	*e*P	**Pb**	**13 28 09.1**	**-1.4**
TEYL				*e*S	**Sb**	**13 28 16.5**	**+1.2**
ETM	**Tongmen** baz=247	**0.33**	**251**	⇓*i* P	**Pb**	**13 28 09.8**	**-1.2**
ETM				*e*S	**Sb**	**13 28 15.7**	**-0.6**
ETLH	**Xiulin Townshi** baz=291	**0.35**	**292**	⇓*i* P	**Pg**	**13 28 09.5**	**-0.9**
ETLH				S	**Sg**	**13 28 14.9**	**-0.2**
ENA	**Nanau** baz=349	**0.36**	**346**	⇓*i* P	**Pg**	**13 28 09.9**	**-0.6**
ENA				S	**Sg**	**13 28 15.6**	**+0.2**
EWUT	**Wuta** baz=354	**0.37**	**352**	⇓*i* P	**Pg**	**13 28 10.2**	**-0.5**
EWUT				*e*S	**Sg**	**13 28 15.5**	**-0.2**
ESL	**Shilin** baz=231	**0.45**	**235**	⇑*i* P	**Pb**	**13 28 12.2**	**-0.9**
ESL				*e*S	**Sb**	**13 28 19.7**	**-0.1**
TEGC	**Jichi Village** baz=213	**0.46**	**217**	*e*P	**Pb**	**13 28 13.9**	**+0.7**
TEGC				*e*S	**Sb**	**13 28 23.1**	**+3.2**
WHF	**Hehuan Shan** baz=276	**0.53**	**278**	⇓*i* P	**Pg**	**13 28 13.0**	**-0.7**
WHF				S	**Sb**	**13 28 20.9**	**-1.4**
TWC	**Suao** baz=4.0	**0.53**	**1**	⇓P	**Pg**	**13 28 13.2**	**-0.4**
TWC				*e*S	**Sb**	**13 28 22.1**	**+0.1**
NNSB	**Datong** baz=310	**0.54**	**310**	⇓*i* P	**Pg**	**13 28 13.2**	**-0.7**
NNSB				*e*S	**Sg**	**13 28 20.9**	**-0.2**
EGFH	**Guangfu** baz=221	**0.55**	**223**	⇑P	**Pb**	**13 28 14.2**	**-0.6**
EGFH				*e*S	**Sb**	**13 28 23.1**	**+0.5**
NNS	**Nan Shan** baz=311	**0.56**	**311**	⇓*i* P	**Pg**	**13 28 13.5**	**-0.7**
NNS				*e*S	**Sb**	**13 28 21.7**	**-1.2**
NDS	**Dongshan** baz=350	**0.56**	**349**	⇓*i* P	**Pg**	**13 28 13.8**	**-0.5**
NDS				S	**Sb**	**13 28 22.6**	**-0.4**
FUSS	**Fushou** baz=287	**0.57**	**288**	⇓*i* P	**Pg**	**13 28 13.9**	**-0.5**
FUSS				S	**Sb**	**13 28 22.4**	**-0.9**
NDT	**Datong Townshi** baz=331	**0.60**	**331**	⇓*i* P	**Pg**	**13 28 14.6**	**-0.4**
NDT				*e*S	**Sb**	**13 28 23.9**	**-0.2**
CHGB	**Renai** baz=267	**0.61**	**269**	⇓*i* P	**Pb**	**13 28 14.8**	**-1.0**
CHGB				*e*S	**Sb**	**13 28 24.0**	**-0.4**
ENTT	**Nioudou** baz=338	**0.61**	**336**	⇓*i* P	**Pg**	**13 28 14.7**	**-0.5**
ENTT				*e*S	**Sb**	**13 28 24.2**	**-0.2**
OWD	**Renai** baz=257	**0.62**	**259**	*i* P	**Pb**	**13 28 15.0**	**-1.0**
OWD				S	**Sb**	**13 28 24.1**	**-0.5**
TWT	**Tachien** baz=285	**0.63**	**286**	P	**Pb**	**13 28 15.6**	**-0.6**
TWT				*e*S	**Sb**	**13 28 24.7**	**-0.4**
TDCB	**Techi** baz=285	**0.64**	**286**	*e*P	**Pb**	**13 28 15.5**	**-0.9**
TDCB				*e*S	**Sb**	**13 28 24.6**	**-0.8**
TWE	**Neicheng** baz=349	**0.66**	**347**	⇓P	**Pg**	**13 28 15.7**	**-0.4**
TWE				*e*S	**Sb**	**13 28 25.7**	**-0.1**
ILA	**Ilan** baz=355	**0.69**	**353**	*e*P	**Pg**	**13 28 16.2**	**-0.5**
ILA				*e*S	**Sb**	**13 28 28.0**	**+1.4**
HGSD	**Ruisui** baz=211	**0.69**	**213**	P	**Pb**	**13 28 17.3**	**+0.1**
HGSD				*e*S	**Sn**	**13 28 31.6**	**+2.1**
YHNB	**Yeheng** baz=325	**0.72**	**325**	⇓*i* P	**Pb**	**13 28 17.0**	**-0.8**
YHNB				S	**Sb**	**13 28 27.4**	**-0.3**
EHY	**Hungye** baz=218	**0.74**	**220**	*e*P	**Pb**	**13 28 17.0**	**-1.0**
NSK	**Sanguang** baz=325	**0.74**	**324**	⇓*i* P	**Pb**	**13 28 17.2**	**-0.8**
NSK				*e*S	**Sb**	**13 28 27.7**	**-0.4**
NWLT	**Wulai** baz=337	**0.76**	**336**	⇓*i* P	**Pb**	**13 28 17.7**	**-0.7**
NWLT				*e*S	**Sb**	**13 28 28.6**	**-0.1**
NTC	**Toucheng** baz=1.0	**0.77**	**360**	*e*P	**Pg**	**13 28 17.7**	**-0.5**
NTC				*e*S	**Sb**	**13 28 29.8**	**+0.8**
WPL	**Puli Township** baz=264	**0.81**	**266**	⇑*e*P	**Pb**	**13 28 18.5**	**-0.7**
WPL				*e*S	**Sb**	**13 28 30.1**	**+0.1**
WHP	**Taichung City** baz=283	**0.84**	**284**	⇑P	**Pb**	**13 28 19.4**	**-0.4**
WHP				*e*S	**Sb**	**13 28 31.3**	**+0.3**
YULB	**Yu-li** baz=215	**0.84**	**216**	*e*P	**Pb**	**13 28 19.1**	**-0.7**
YULB				*e*S	**Sb**	**13 28 31.7**	**+0.7**
WCS	**Beigang Elemen** baz=268	**0.84**	**269**	⇑*i* P	**Pb**	**13 28 19.4**	**-0.4**
WCS				*e*S	**Sb**	**13 28 31.2**	**+0.2**
SSLB	**Suanglung** baz=249	**0.86**	**251**	⇑*i* P	**Pb**	**13 28 19.3**	**-0.8**
SSLB				*e*S	**Sb**	**13 28 30.7**	**-0.8**
EYUL	**Yuli** baz=212	**0.87**	**213**	*e*P	**Pn**	**13 28 20.4**	**-0.8**
TWF1	**Yuli** baz=213	**0.87**	**215**	*e*P	**Pg**	**13 28 19.3**	**-0.9**
TWF1				*e*S	**Sn**	**13 28 35.5**	**+1.5**
SMLT	**Sun Moon Lake** baz=256	**0.88**	**257**	⇑*i* P	**Pb**	**13 28 19.9**	**-0.5**
SMLT				*e*S	**Sb**	**13 28 32.4**	**+0.3**
TIPB	**Shuangxi**	**0.89**	**359**	*e*P	**Pb**	**13 28 20.1**	**-0.5**
TIPB				*e*S	**Sb**	**13 28 32.4**	**-0.1**
TYC	**Yuchr** baz=258	**0.91**	**259**	*e*P	**Pb**	**13 28 20.2**	**-0.8**
TYC				*e*S	**Sb**	**13 28 32.9**	**-0.1**
NHDH	**Xindian Distri** baz=343	**0.93**	**342**	*e*P	**Pb**	**13 28 21.0**	**-0.2**
NHDH				*e*S	**Sb**	**13 28 33.1**	**-0.4**
TWA	**Mucha** baz=347	**0.93**	**346**	*e*P	**Pb**	**13 28 21.0**	**-0.2**
TWA				*e*S	**Sb**	**13 28 33.8**	**+0.3**
TWB1	**Santiao Chiao** baz=10.0	**0.94**	**8**	*e*P	**Pb**	**13 28 21.2**	**-0.2**
TWB1				*e*S	**Sb**	**13 28 34.5**	**+0.8**
LIOB	**Emei** baz=307	**0.94**	**307**	*e*P	**Pb**	**13 28 21.4**	**0.0**
LIOB				*e*S	**Sb**	**13 28 33.8**	**0.0**
NSTT	**Nanjuang** baz=306	**0.94**	**306**	*e*P	**Pb**	**13 28 21.1**	**-0.3**
NSTT				*e*S	**Sb**	**13 28 34.0**	**+0.2**
TATO	**Taipei** baz=341	**0.95**	**341**	P	**Pb**	**13 28 21.4**	**-0.1**
TATO				*e*S	**Sb**	**13 28 33.9**	**-0.2**
WHYT	**Xinyi Township** baz=246	**0.98**	**247**	⇑P	**Pb**	**13 28 21.6**	**-0.4**
WHYT				*e*S	**Sn**	**13 28 35.8**	**-0.6**
NWF	**Wu-fen Shan** baz=358	**0.99**	**357**	⇓*e*P	**Pb**	**13 28 22.4**	**0.0**
NWF				*e*S	**Sb**	**13 28 36.2**	**+0.8**
WFSB	**Wu-fen Shan** baz=358	**0.99**	**357**	⇓*e*P	**Pb**	**13 28 22.3**	**0.0**
WFSB				*e*S	**Sb**	**13 28 36.3**	**+1.0**
TAP1	**Taipei** baz=344	**1.00**	**343**	*e*P	**Pn**	**13 28 23.1**	**+0.1**
YUS	**Yu-Shan** baz=233	**1.00**	**234**	*e*P	**Pb**	**13 28 22.1**	**-0.6**
YUS				*e*S	**Sn**	**13 28 37.1**	**-0.6**
TAP	**Taipei** baz=344	**1.00**	**343**	*e*P	**Pn**	**13 28 23.1**	**+0.1**
FULB	**Fuli** baz=209	**1.01**	**210**	*e*P	**Pn**	**13 28 22.5**	**-0.6**
TWQ1	**Liyutan** baz=285	**1.01**	**286**	*e*P	**Pn**	**13 28 23.0**	**-0.2**
TWQ1				*e*S	**Sn**	**13 28 36.7**	**-0.6**
HSN1	**Hsinchu** baz=313	**1.02**	**313**	*e*P	**Pb**	**13 28 22.7**	**-0.1**
NSY	**Sanyi** baz=289	**1.04**	**289**	*e*P	**Pn**	**13 28 23.9**	**+0.3**
NSY				*e*S	**Sn**	**13 28 40.9**	**+3.0**
WWF	**Wufeng** baz=267	**1.04**	**268**	*e*P	**Pn**	**13 28 24.1**	**+0.6**
WJS	**Zhushan** baz=255	**1.04**	**256**	*e*P	**Pn**	**13 28 23.6**	**0.0**
WJS				*e*S	**Sn**	**13 28 38.5**	**+0.4**
SBCB	**Hsinchu** baz=313	**1.05**	**313**	⇑*e*P	**Pn**	**13 28 24.1**	**+0.3**
SBCB				*e*S	**Sn**	**13 28 38.5**	**+0.2**
NMLH	**Miaoli** baz=295	**1.06**	**296**	*e*P	**Pn**	**13 28 24.5**	**+0.7**
NMLH				*e*S	**Sn**	**13 28 38.8**	**+0.3**
TCU	**Taichung** baz=273	**1.06**	**274**	*e*P	**Pn**	**13 28 24.3**	**+0.5**
TCU				*e*S	**Sn**	**13 28 40.6**	**+2.1**
CHKT	**Chengkung** baz=203	**1.06**	**204**	*e*P	**Pn**	**13 28 23.5**	**-0.4**
NCUH	**Zhongli** baz=326	**1.07**	**326**	⇑*e*P	**Pn**	**13 28 23.9**	**-0.1**
NCUH				*e*S	**Sn**	**13 28 39.0**	**+0.3**
NCU	**National Centr** baz=327	**1.07**	**327**	*e*P	**Pn**	**13 28 23.9**	**-0.1**
NCU				*e*S	**Sn**	**13 28 39.8**	**+1.1**
HSN	**Hsinchu** baz=315	**1.07**	**313**	*e*P	**Pn**	**13 28 24.4**	**+0.5**
HSN				*e*S	**Sn**	**13 28 39.8**	**+1.1**
TNOU	**National Taiwa** baz=358	**1.07**	**357**	*e*P	**Pg**	**13 28 21.3**	**-2.6**
WNT	**Mingjian** baz=258	**1.07**	**260**	*e*P	**Pn**	**13 28 24.2**	**+0.3**
JYNG	**Yonagunijimaku**	**1.08**	**70**	P	**Pb**	**13 28 23.8**	**0.0**
JYNG				S	**Sn**	**13 28 40.3**	**+1.4**
TWS1	**Kuangyinshan** baz=340	**1.09**	**340**	*e*P	**Pg**	**13 28 23.4**	**-0.8**
TWS1				*e*S	**Sn**	**13 28 39.3**	**+0.1**
YM01	**YM01** baz=348	**1.09**	**347**	*e*P	**Pn**	**13 28 24.5**	**+0.2**
YM01				*e*S	**Sn**	**13 28 40.2**	**+0.8**
ALS	**Alishan** baz=238	**1.10**	**239**	⇑*e*P	**Pb**	**13 28 23.9**	**-0.4**
ALS				*e*S	**Sn**	**13 28 39.9**	**0.0**
WDJ	**Dajia District** baz=283	**1.12**	**284**	*e*P	**Pn**	**13 28 25.3**	**+0.6**
WDJ				*e*S	**Sn**	**13 28 42.6**	**+2.5**
YM08	**YM08** baz=349	**1.13**	**349**	*e*P	**Pb**	**13 28 24.5**	**-0.2**
YOJ	**Yonaguni jima**	**1.14**	**70**	P	**Pn**	**13 28 25.1**	**+0.2**
YOJ				*e*S	**Sn**	**13 28 42.1**	**+1.7**
YOJ	**Yonaguni jima** baz=71	**1.14**	**70**	*e*P	**Pb**	**13 28 24.5**	**-0.3**
NTST	**Danshui** baz=342	**1.14**	**342**	*e*P	**Pn**	**13 28 25.1**	**+0.2**
NTST				*e*S	**Sn**	**13 28 42.1**	**+1.7**
ANP	**Anpu** baz=346	**1.14**	**345**	*e*P	**Pn**	**13 28 24.9**	**-0.1**
ELDTW	**Lidau** baz=219	**1.16**	**221**	*e*P	**Pg**	**13 28 23.7**	**-1.9**
CHN5	**Tsauling** baz=245	**1.16**	**246**	⇑*e*P	**Pn**	**13 28 25.4**	**0.0**
CHN5				*e*S	**Sn**	**13 28 43.7**	**+2.6**
WCHH	**Zhanghua** baz=269	**1.17**	**270**	*e*P	**Pn**	**13 28 25.8**	**+0.5**
WCHH				*e*S	**Sn**	**13 28 43.7**	**+2.5**
NHW	**Xinwu Township** baz=322	**1.17**	**322**	*e*P	**Pn**	**13 28 25.4**	**0.0**
EDH	**Donghe** baz=203	**1.20**	**204**	*e*P	**Pg**	**13 28 24.9**	**-1.5**
EDH				*e*S	**Sn**	**13 28 42.2**	**+0.2**
TWY	**Chenhua** baz=351	**1.21**	**350**	*e*P	**Pn**	**13 28 26.3**	**+0.4**
WGK	**Gukeng** baz=251	**1.23**	**252**	*e*P	**Pn**	**13 28 27.3**	**+1.1**
WDLH	**Douliu** baz=251	**1.25**	**252**	*e*P	**Pn**	**13 28 26.9**	**+0.5**
STYH	**Taoyuan** baz=226	**1.33**	**227**	*e*P	**Pn**	**13 28 27.2**	**-0.2**
STYH				*e*S	**Sn**	**13 28 46.6**	**+1.6**
LONT	**Longtian** baz=208	**1.33**	**209**	*e*P	**Pn**	**13 28 26.3**	**-1.3**
STYT	**Tauyuan** baz=226	**1.34**	**228**	*e*P	**Pn**	**13 28 27.6**	**-0.2**
STYT				*e*S	**Sn**	**13 28 47.4**	**+1.8**
WRL	**Guolierlin Hig** baz=262	**1.35**	**263**	*e*P	**Pg**	**13 28 28.2**	**-0.9**
WRL				*e*S	**Sn**	**13 28 48.4**	**+2.8**
CHN4	**Tsaushan** baz=237	**1.35**	**238**	*e*P	**Pg**	**13 28 28.6**	**-0.6**
CHN4				*e*S	**Sn**	**13 28 50.6**	**+5.0**
TPUB	**Ta-pu** baz=234	**1.35**	**235**	*e*P	**Pg**	**13 28 28.3**	**-0.9**
TPUB				*e*S	**Sn**	**13 28 47.5**	**+1.8**
WTK	**Tuku** baz=253	**1.38**	**254**	*e*P	**Pg**	**13 28 29.5**	**-0.3**
WTK				*e*S	**Sn**	**13 28 49.5**	**+3.1**
CHY	**Chiayi** baz=245	**1.42**	**246**	*e*P	**Pg**	**13 28 29.9**	**-0.5**
CHY				*e*S	**Sg**	**13 28 50.5**	**+1.6**
TWGBT	**Beinan** baz=208	**1.43**	**209**	*e*P	**Pn**	**13 28 28.9**	**-0.1**
TWG	**Pinlang** baz=208	**1.43**	**209**	*e*P	**Pn**	**13 28 27.3**	**-1.6**
LDUT	**Ludao** baz=193	**1.44**	**194**	*e*P	**Pn**	**13 28 28.6**	**-0.4**
TWK	**Hsinying** baz=236	**1.48**	**237**	*e*P	**Pg**	**13 28 30.5**	**-1.1**
TWK				*e*S	**Sg**	**13 28 52.2**	**+1.4**
CHN1	**Nanshi** baz=233	**1.49**	**234**	*e*P	**Pg**	**13 28 31.0**	**-0.9**
SNST	**Tainan City** baz=234	**1.50**	**235**	*e*P	**Pg**	**13 28 31.4**	**-0.6**
SGST	**Jiashian** baz=228	**1.52**	**230**	*e*P	**Pn**	**13 28 30.0**	**-0.1**
SLGT	**Liugui** baz=225	**1.54**	**226**	*e*P	**Pg**	**13 28 31.6**	**-1.1**
SLGT				*e*S	**Sg**	**13 28 52.7**	**0.0**
WSF	**Szhu** baz=253	**1.54**	**254**	*e*P	**Pg**	**13 28 31.9**	**-1.0**
WSF				*e*S	**Sg**	**13 28 52.9**	**+0.1**
PCYT	**Pengchaiyu** baz=9.0	**1.56**	**8**	*e*P	**Pn**	**13 28 30.3**	**-0.4**
ICHU	**Yijhu** baz=243	**1.59**	**244**	*e*P	**Pb**	**13 28 32.1**	**-0.4**
CHN8	**Yiju** baz=243	**1.66**	**244**	*e*P	**Pb**	**13 28 33.4**	**-0.2**
SCST	**Cishan** baz=225	**1.71**	**226**	*e*P	**Pg**	**13 28 34.8**	**-1.3**
SSD	**Sandimen** baz=219	**1.73**	**220**	*e*P	**Pb**	**13 28 34.1**	**-0.7**
IRIF	**Iriomote-Funau**	**1.75**	**81**	P	**Pn**	**13 28 33.5**	**+0.2**
IRIF				*e*S	**Sb**	**13 28 57.5**	**+0.4**
TSMG	**Majia** baz=218	**1.75**	**219**	*e*P	**Pg**	**13 28 35.2**	**-1.7**
TSMG				*e*S	**Sg**	**13 28 59.1**	**-0.4**
HATJ	**Hateruma jima**	**1.80**	**90**	*e*S	**Sb**	**13 28 58.6**	**0.0**
MASBT	**Mashibuluo** baz=217	**1.83**	**217**	*e*P	**Pb**	**13 28 36.1**	**-0.5**
MASBT				*e*S	**Sg**	**13 29 00.2**	**-1.9**
EAST	**Anshuo** baz=207	**1.92**	**209**	*e*P	**Pn**	**13 28 35.7**	**0.0**
JKRS	**Kuro-shima**	**1.99**	**85**	P	**Pb**	**13 28 38.0**	**-1.3**
JKRS				*e*S	**Sb**	**13 29 03.9**	**-0.2**
SCZT	**Fangliau** baz=213	**2.03**	**214**	*e*P	**Pb**	**13 28 39.3**	**-0.7**
SLIU	**Shizi** baz=207	**2.08**	**207**	*e*P	**Pg**	**13 28 41.5**	**-1.7**
JIJ	**Ishigaki jima**	**2.12**	**82**	P	**Pn**	**13 28 38.6**	**+0.1**
JIJ				*e*S	**Sn**	**13 29 05.2**	**+0.4**
PHUB	**P'eng-hu** baz=254	**2.15**	**255**	*e*P	**Pn**	**13 28 39.2**	**+0.4**
PHUB				*e*S	**Sb**	**13 29 07.0**	**-1.6**
WDGT	**Dungji** baz=247	**2.15**	**248**	*e*P	**Pn**	**13 28 39.4**	**+0.5**
JISG	**Ishigakijimahi**	**2.31**	**77**	P	**Pn**	**13 28 41.3**	**+0.2**
JISG				*e*S	**Sn**	**13 29 10.4**	**+1.0**
VCHM	**Qimei** baz=248	**2.37**	**249**	*e*P	**Pn**	**13 28 42.4**	**+0.6**
PTMZ	**Houxiangcun** baz=291	**2.65**	**292**	*e*P	**Pn**	**13 28 45.4**	**-0.3**
JTJ	**Tarama**	**2.67**	**77**	S	**Sn**	**13 29 20.0**	**+1.7**

MATB	**Ma-tsu** baz=320	**2.68**	**321**	*e*P	**Pn**	**13 28 44.9**	**-1.3**
LYJJ	**Jianjiangzhen** baz=323	**3.10**	**323**	*e*P	**Pn**	**13 28 51.3**	**-0.5**
KSRS	**Korea Array** 0.1nm,0.3s,baz=198,slow=11,SNR=4.7	**14.32**	**20**	Pn	**P**	**13 31 32.4**	**-0.4**
SONM	**Songino Array** 0.8nm,0.8s,baz=159,slow=9.3,SNR=1.9	**26.70**	**336**	P	**P**	**13 33 42.7**	**+0.4**
MKAR	**Makanchi Array** 0.7nm,0.7s,baz=104,slow=11,SNR=7.5	**38.83**	**316**	P	**P**	**13 35 28.3**	**+0.3**
ZALV	**Zalesovo Beam** 1.1nm,0.7s,baz=120,slow=5.2,SNR=2.0	**40.66**	**327**	P	**P**	**13 35 42.4**	**-0.6**
WRA	**Warramunga Arr** 0.4nm,0.6s,baz=344,slow=8.6,SNR=5.6	**45.42**	**163**	P	**P**	**13 36 22.9**	**+1.0**
ASAR	**Alice Springs** 0.1nm,0.5s,baz=339,slow=6.8,SNR=4.2	**48.88**	**165**	P	**P**	**13 36 48.5**	**-0.4**

*NOU **18** 13:33:39.7,37.74S×176.29E,h322km,mb3.6/10,North Island, New Zealand*
WEL 18 13:33:43.4±0.6,38.S±4.×17.6E±.,h285km±5km,M2.8/48, MLv2.8/48,Error ellipse: s-maj=0.0km s-min=0.0km az=75.2,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGRZ	**Tauranga**	**0.04**	**243**	P	Pn	13 34 19.8	+0.2
OPRZ	**Ohinepanea**	**0.24**	**124**	P	Pn	13 34 19.8	0.0
OMRZ	**Omania**	**0.40**	**172**	P	Pn	13 34 20.5	+0.4
HSRZ	**Hossack Road**	**0.60**	**185**	P	Pn	13 34 21.1	+0.5
TOZ	**Tahuroa Road**	**0.64**	**268**	P	Pn	13 34 21.3	+0.6
RRRZ	**Republican Roa**	**0.65**	**165**	P	Pn	13 34 20.9	+0.1
WPRZ	**Whakapapatarin**	**0.81**	**188**	P	Pn	13 34 21.7	+0.3
URZ	**Urewera**	**0.84**	**131**	P	Pn	13 34 21.2	-0.2
URZ				S	S	13 34 50.6	-1.0
MUGZ	**Murupara**	**0.85**	**155**	P	Pn	13 34 21.4	-0.1
MUGZ				S	S	13 34 51.4	-0.2
TLZ	**Tolley Road**	**0.86**	**224**	P	Pn	13 34 22.1	+0.6
RTZ	**Ruatahuna**	**1.05**	**150**	P	Pn	13 34 22.6	+0.1
RTZ				S	S	13 34 54.5	+1.0
KUZ	**Kuaotunu**	**1.07**	**334**	P	Pn	13 34 22.4	-0.2
MKAZ	**Moumakai**	**1.09**	**303**	P	Pn	13 34 23.2	+0.5
RUGZ	**Raukumara Rang**	**1.12**	**104**	P	Pn	13 34 22.2	-0.7
RUGZ				S	S	13 34 53.1	-1.1
MRHZ	**Matea Rd**	**1.12**	**176**	P	Pn	13 34 22.8	-0.1
MRHZ				S	S	13 34 53.7	-0.4
MWZ	**Matawai**	**1.15**	**123**	P	Pn	13 34 23.0	0.0
MWZ				S	S	13 34 55.4	+1.0
HAZ	**Te Kaha**	**1.17**	**93**	P	Pn	13 34 22.5	-0.5
RAGZ	**Rawiri**	**1.18**	**132**	P	Pn	13 34 23.6	+0.4
RAGZ				S	S	13 34 55.7	+1.1
MTHZ	**Maungataniwha**	**1.22**	**160**	P	Pn	13 34 23.5	+0.1
MTHZ				S	S	13 34 55.1	+0.1
RATZ	**Rangitukua**	**1.23**	**200**	P	Pn	13 34 23.4	0.0
WIAZ	**Waiheke Island**	**1.31**	**314**	P	Pn	13 34 24.1	+0.2
ETAZ	**East Tamaki Re**	**1.33**	**304**	P	Pn	13 34 24.3	+0.3
SNGZ	**Shannon Statio**	**1.34**	**143**	P	Pn	13 34 24.4	+0.4
SNGZ				S	S	13 34 57.5	+1.1
RAHZ	**Arahi**	**1.35**	**153**	P	Pn	13 34 24.6	+0.5
RAHZ				S	S	13 34 57.9	+1.5
HIZ	**Hauiti**	**1.40**	**235**	P	Pn	13 34 24.6	+0.2
TWGZ	**Tauwhareparae**	**1.40**	**110**	P	Pn	13 34 25.1	+0.6
PKGZ	**Pakihiroa**	**1.42**	**98**	P	Pn	13 34 24.8	+0.2
TKGZ	**Te Karaka**	**1.42**	**121**	P	Pn	13 34 24.8	+0.4
NMHZ	**Naumai**	**1.44**	**164**	P	Pn	13 34 25.5	+0.8
NMHZ				S	S	13 35 00.2	+2.6
BKZ	**Black Stump Fm**	**1.46**	**174**	P	Pn	13 34 24.7	-0.1
BKZ				S	S	13 34 57.6	-0.2
MBAZ	**Motutapu North**	**1.46**	**310**	P	Pn	13 34 25.1	+0.2
NTVZ	**North Tongarir**	**1.47**	**199**	P	Pn	13 34 25.2	+0.2
AWAZ	**Awhitu Peninsu**	**1.47**	**295**	P	Pn	13 34 25.3	+0.4
KRVZ	**Karewarewa**	**1.48**	**200**	P	Pn	13 34 25.0	0.0
TMVZ	**Te Maari**	**1.48**	**198**	P	Pn	13 34 25.2	+0.1
ETVZ	**East Tongariro**	**1.50**	**198**	P	Pn	13 34 25.2	0.0
WTVZ	**West Tongariro**	**1.51**	**202**	P	Pn	13 34 25.3	+0.1
RIGZ	**Rimuhau**	**1.52**	**131**	P	Pn	13 34 25.6	+0.4
NNVZ	**North Ngauruho**	**1.52**	**201**	P	Pn	13 34 25.5	+0.1
TWVZ	**Taurewa**	**1.52**	**206**	P	Pn	13 34 25.2	-0.1
OTVZ	**Oturere**	**1.54**	**199**	P	Pn	13 34 25.6	+0.1
OTVZ				S	S	13 35 00.0	+1.1
WHHZ	**Waihua**	**1.55**	**152**	P	Pn	13 34 25.7	+0.4
SNVZ	**South Ngauruho**	**1.56**	**199**	P	Pn	13 34 26.0	+0.3
NGZ	**Ngauruhoe**	**1.56**	**200**	P	Pn	13 34 25.9	+0.2
WTAZ	**Waiataroa**	**1.56**	**299**	P	Pn	13 34 26.3	+0.6
PUZ	**Puketiti**	**1.59**	**104**	P	Pn	13 34 25.7	0.0
MXZ	**Matakaoa Point**	**1.60**	**85**	P	Pn	13 34 25.9	+0.1
GRZ	**Great Barrier**	**1.61**	**335**	P	Pn	13 34 25.7	-0.2
ABAZ	**Army Bay**	**1.62**	**313**	P	Pn	13 34 26.2	+0.3
TUVZ	**Tukino**	**1.64**	**198**	P	Pn	13 34 26.0	-0.2
TUVZ				S	S	13 35 00.0	-0.1
ARHZ	**Aropaoanui**	**1.64**	**161**	P	Pn	13 34 26.4	+0.4
FWVZ	**Far West T-bar**	**1.65**	**201**	P	Pn	13 34 26.2	-0.2
FWVZ				S	S	13 35 00.8	+0.3
RVAZ	**Riverhead Bore**	**1.67**	**304**	P	Pn	13 34 26.4	+0.1
WHVZ	**Whangaehu Hut**	**1.67**	**199**	P	Pn	13 34 26.3	-0.2
WHVZ				S	S	13 35 00.8	+0.1
WMGZ	**Waiomatatini S**	**1.68**	**94**	P	Pn	13 34 26.3	0.0
CNGZ	**Carnagh Statio**	**1.69**	**118**	P	Pn	13 34 26.9	+0.6
KNZ	**Kokohu**	**1.69**	**141**	P	Pn	13 34 26.5	+0.1
WNVZ	**Wahianoa**	**1.71**	**199**	P	Pn	13 34 26.4	-0.3
KWHZ	**Kaweka Forest**	**1.71**	**177**	P	Pn	13 34 26.7	0.0
PRVZ	**Paritu Road**	**1.73**	**135**	P	Pn	13 34 27.1	+0.3
PKVZ	**Pokaka**	**1.75**	**205**	P	Pn	13 34 26.6	-0.3
MOVZ	**Moawhango**	**1.75**	**194**	P	Pn	13 34 26.3	-0.6
MCHZ	**McNeill Hill**	**1.76**	**170**	P	Pn	13 34 27.3	+0.4
BHHZ	**Black Hill Sta**	**1.79**	**186**	P	Pn	13 34 26.8	-0.3
VRZ	**Vera Road**	**1.86**	**220**	P	Pn	13 34 27.7	+0.1
MHGZ	**Mahia Peninsul**	**1.91**	**139**	P	Pn	13 34 28.4	+0.3
KRHZ	**Kereru**	**1.93**	**179**	P	Pn	13 34 28.0	-0.3
CKHZ	**Cape Kidnapper**	**2.04**	**163**	P	Pn	13 34 29.3	+0.3
KAHZ	**Kahuranaki**	**2.13**	**168**	P	Pn	13 34 30.1	+0.2
PNHZ	**Pukenui**	**2.20**	**182**	P	Pn	13 34 30.0	-0.5
WAZ	**Wanganui**	**2.29**	**206**	P	Pn	13 34 30.7	-0.5
NEZ	**North Egmont**	**2.33**	**227**	P	Pn	13 34 31.9	+0.2
PKE	**Pukeiti**	**2.35**	**230**	P	Pn	13 34 32.3	+0.5
WPHZ	**Waipukurau**	**2.35**	**177**	P	Pn	13 34 32.4	+0.6
PXZ	**Pawanui**	**2.36**	**170**	P	Pn	13 34 31.7	-0.1
TSZ	**Takapari Road**	**2.36**	**186**	P	Pn	13 34 31.2	-0.8
WZC	**Waipu Caves**	**2.37**	**318**	P	Pn	13 34 31.7	-0.4
KHEZ	**Kahui Hut**	**2.39**	**228**	P	Pn	13 34 32.6	+0.3
DVHZ	**Dannevirke**	**2.59**	**182**	P	Pn	13 34 33.4	-0.7
POWZ	**Post Office Ro**	**2.71**	**189**	P	Pn	13 34 34.6	-0.6
ANWZ	**Angora Road**	**2.75**	**177**	P	Pn	13 34 35.2	-0.3
PRWZ	**Pori Road**	**2.85**	**185**	P	Pn	13 34 36.1	-0.4
BFZ	**Birch Farm**	**2.97**	**181**	P	Pn	13 34 36.8	-0.9
MRZ	**Mangatainoka R**	**3.00**	**191**	P	Pn	13 34 36.6	-1.4
TIWZ	**Tintock**	**3.08**	**186**	P	Pn	13 34 38.1	-0.7
CPWZ	**Castlepoint**	**3.20**	**181**	P	Pn	13 34 39.8	-0.3
OGWZ	**Otaki Gorge**	**3.22**	**195**	P	Pn	13 34 38.8	-1.6
HOWZ	**Holdsworth Sta**	**3.24**	**191**	P	Pn	13 34 38.9	-1.7
OUZ	**Omahuta**	**3.31**	**318**	P	Pn	13 34 40.3	-1.1
KIW	**Kapiti Island**	**3.33**	**199**	P	Pn	13 34 39.6	-1.8
TMWZ	**Te Maipa**	**3.41**	**185**	P	Pn	13 34 40.8	-1.5
MTW	**Mount Morrison**	**3.50**	**190**	P	Pn	13 34 41.1	-2.1
CAW	**Cannon Point**	**3.52**	**195**	P	Pn	13 34 41.6	-2.0
DUWZ	**D'Urville Isla**	**3.60**	**210**	P	Pn	13 34 42.1	-2.3
TRWZ	**Traveller**	**3.71**	**187**	P	Pn	13 34 43.9	-1.7
PAWZ	**Paruwai Farm**	**3.73**	**190**	P	Pn	13 34 43.7	-2.1
WEL	**Wellington**	**3.76**	**198**	P	Pn	13 34 44.2	-1.9
MSWZ	**Moikau Station**	**3.79**	**192**	P	Pn	13 34 44.2	-2.2
TCW	**Tory Channel**	**3.83**	**204**	P	Pn	13 34 44.6	-2.3
PLWZ	**Palliser**	**3.94**	**192**	P	Pn	13 34 45.8	-2.3
TUWZ	**Tuamarina**	**4.14**	**205**	P	Pn	13 34 47.8	-2.5
NNZ	**Nelson**	**4.17**	**212**	P	Pn	13 34 47.6	-3.0
QRZ	**Quartz Range**	**4.27**	**222**	P	Pn	13 34 48.0	-3.8
BSWZ	**Blackbirch Sta**	**4.42**	**204**	P	Pn	13 34 51.5	-2.0
THZ	**Tophouse**	**4.82**	**212**	P	Pn	13 34 54.8	-3.4
KHZ	**Kahutara**	**5.16**	**203**	P	Pn	13 34 59.2	-2.8
DSZ	**Denniston Nort**	**5.32**	**219**	P	Pn	13 34 59.9	-4.1
LTZ	**Lake Taylor**	**5.93**	**210**	P	Pn	13 35 07.7	-3.7
INZ	**Inchbonnie**	**6.24**	**215**	P	Pn	13 35 11.1	-4.0
MQZ	**McQueen's Vall**	**6.60**	**204**	P	Pn	13 35 15.3	-4.2
RACZ	**Rakaia**	**6.79**	**206**	P	Pn	13 35 18.0	-3.9
WVZ	**Waitaha Valley**	**6.84**	**217**	P	Pn	13 35 18.1	-4.3
MHCZ	**Mount Hutt**	**6.84**	**210**	P	Pn	13 35 18.1	-4.3
WACZ	**Wakanui South**	**7.09**	**207**	P	Pn	13 35 21.5	-3.9
RPZ	**Rata Peaks**	**7.20**	**212**	P	Pn	13 35 22.6	-4.3
GCSZ	**Gaunt Creek Bo**	**7.22**	**217**	P	Pn	13 35 22.6	-4.4
ARCZ	**Arundel**	**7.34**	**210**	P	Pn	13 35 24.3	-4.3
FOZ	**Fox Glacier**	**7.62**	**218**	P	Pn	13 35 27.2	-4.9
TMZ	**Timaru**	**7.77**	**209**	P	Pn	13 35 29.9	-4.1
LBZ	**Lake Benmore**	**8.11**	**213**	P	Pn	13 35 33.5	-4.6
ODZ	**Otahua Downs**	**8.47**	**208**	P	Pn	13 35 39.2	-3.4
WKZ	**Wanaka**	**8.98**	**215**	P	Pn	13 35 43.6	-5.3
EAZ	**Earnscleugh**	**9.16**	**213**	P	Pn	13 35 46.0	-5.1
WHZ	**Wether Hill Ro**	**10.28**	**215**	P	Pn	13 35 59.5	-5.4

*IDC **18** 13:33:44.5±3.3,31.25S×71.86W,h0km,mb3.9/1, mb1 3.7/2,mb1mx3.5/33,mbtmp3.6/2,ML3.2/1,MS3.5/2, Ms1 3.6/2,ms1mx2.9/22,Error ellipse: s-maj=143.1km s-min=48.4km az=96.0*
*GUC **18** 13:33:48.1±0.8,31.15S×71.68W,h19km±5km,ML3.8*
ISC 18 13:33:48.2±2.3,31.16S±0.03×71.8W±0.1,h14km±14km, n21,σ1.933/30,1C-6D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.49**	**14**	⇓*i*P	**Pb**	**13 33 58.7**	**+0.1**
CO06				*i* S	**Sb**	**13 34 05.7**	**-0.1**
CO06				IAML		13 34 07.6	
	comp=E,4μm,0.3s						
CO03	**El Pedregal**	**0.98**	**72**	⇓*i*P	**Pg**	**13 34 07.1**	**-0.1**
CO03				*i* S	**Sg**	**13 34 19.9**	**-0.2**
CO03				IAML		13 34 20.9	
	comp=E,4μm,0.4s						
GO04	**Tololo Observa**	**1.29**	**41**	⇓*i*P	**Pn**	**13 34 11.6**	**-0.3**
GO04				*i* S	**Sb**	**13 34 29.2**	**+0.4**
GO04				IAML		13 34 35.9	
	comp=E,10μm,0.4s						
CO05	**La Serena**	**1.32**	**21**	⇓*i*P	**Pn**	**13 34 11.7**	**-0.4**
CO05				*e*S	**Sb**	**13 34 28.5**	**-0.9**
CO05				IAML		13 34 33.5	
	comp=E,2μm,0.4s						
VA06	**Catapilco**	**1.46**	**164**	*e*P	**Pn**	**13 34 14.1**	**0.0**
VA06				*i* S	**Sb**	**13 34 34.3**	**+0.8**
VA06				IAML		13 34 38.5	
	comp=N,3μm,0.7s						
VA01	**Torpederas**	**1.86**	**177**	*e*P	**Pn**	**13 34 21.2**	**+1.6**
VA01				*i* S	**Sb**	**13 34 46.5**	**+1.3**
VA01				IAML		13 34 51.4	
	comp=E,404nm,0.4s						
VA03	**San Esteban**	**1.91**	**147**	⇑*i*P	**Pn**	**13 34 21.5**	**+1.1**
VA03				*i* S	**Sb**	**13 34 47.1**	**+0.5**
VA03				IAML		13 34 54.1	
	comp=E,2μm,0.3s						
ROCH	**El Roble**	**1.92**	**161**	⇓*i*P	**Pn**	**13 34 22.0**	**+1.3**
ROCH				*i* S	**Sb**	**13 34 48.6**	**+1.5**
ROCH				IAML		13 34 53.7	
	comp=N,1μm,0.5s						
LCO	**Las Campanas**	**2.33**	**24**	*e*P	**Pn**	**13 34 26.5**	**+0.2**
LCO				*i* S	**Sn**	**13 34 56.0**	**+1.1**
MT05	**Renca**	**2.40**	**159**	⇓*i*P	**Pb**	**13 34 30.5**	**-0.6**
MT05				*e*S	**Sb**	**13 35 00.5**	**-0.1**
MT05				IAML		13 35 04.5	
	comp=E,2μm,0.4s						
VA05	**Santo Domingo**	**2.50**	**177**	*e*P	**Pn**	**13 34 30.4**	**+2.1**
VA05				IAML		13 35 13.3	
	comp=E,806nm,0.6s						
MT09	**Talagante**	**2.70**	**166**	*e*P	**Pn**	**13 34 33.6**	**+2.4**
MT09				*e*S	**Sb**	**13 35 08.5**	**-0.7**
MT09				IAML		13 35 20.8	
	comp=N,627nm,0.6s						
MT01	**Popeta**	**2.74**	**171**	*e*P	**Pn**	**13 34 33.7**	**+2.0**
MT01				*i* S	**Sb**	**13 35 09.2**	**-1.1**
MT01				IAML		13 35 17.6	
	comp=N,287nm,0.6s						
LMEL	**Las Melosas**	**2.99**	**154**	*e*P	**Pn**	**13 34 37.4**	**+2.0**
BO01	**Tunca**	**3.28**	**170**	IAML		13 35 36.4	
	comp=E,106nm,0.4s						
BO02	**Sierra Bellavi**	**3.72**	**167**	*e*P	**Pn**	**13 34 45.9**	**+0.6**
PLCA	**Paso Flores**	**9.61**	**174**	Pn	**Pn**	**13 36 02.9**	**-3.2**
	comp=E,0.1nm,0.3s,baz=34,slow=11,SNR=2.0						
LPAZ	**La Paz**	**15.17**	**13**	LR	LR	13 44 00.5	
	comp=E,104nm,18.7s,baz=354,slow=40						
RAR	**Rarotonga**	**77.70**	**253**	LR		14 10 56.6	
	comp=E,50nm,21.7s,baz=170,slow=29						
TORD	**Torodi Ar. Bea**	**83.03**	**70**	P	**P**	**13 46 12.7**	**-0.8**
	comp=E,0.9nm,0.8s,baz=248,slow=5.6,SNR=3.9						
ZALV	**Zalesovo Beam**	**151.68**	**30**	PKPbc	**PKPbc**	**13 53 40.4**	**-1.2**
	comp=E,0.8nm,0.4s,baz=300,slow=2.8,SNR=2.9						

*IDC **18** 13:39:41.8±0.5,48.31N×154.99E,h0km,mb4.1/20, mb1 4.3/25,mb1mx4.1/70,mbtmp4.1/25,ML3.1/4,MS3.4/19, Ms1 3.4/19,ms1mx3.1/58,Error ellipse: s-maj=15.8km s-min=12.5km az=130.0*
*MOS **18** 13:39:43.1±1.1,48.27N×155.08E,h18km,mb4.3/7,Error ellipse: s-maj=8.7km s-min=4.7km az=68.6*
*SKHL **18** 13:39:45.3±0.6,48.20N×155.30E,h43km±5km,mb5.0/13*
*KRSC **18** 13:39:45.8±1.6,48.38N×156.20E,h15km±31km,ML4.7*
*NEIC **18** 13:39:48.0±2.4,48.32N±0.09×155.0E±0.1,h49km±7km, mb4.4/32,Error ellipse: s-maj=15.1km s-min=10.1km az=139.0*
ISC 18 13:39:47.1±0.5,48.27N±0.05×155.16E±0.06,h43km,n189, σ1.940/193,mb4.3/39,MS3.5/13,7C-9D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.49**	**14**	*e*PN	**Pn**	**13 40 23.7**	**-1.4**
SKR				*e*S	**Sn**	**13 40 52.2**	**-2.0**
SKR				pmax	pmax		
	comp=Z,766nm,0.7s						
SKR				smax	smax		
	comp=E,3μm,0.7s						
SKR				smax	smax		
	comp=N,4μm,0.6s						
SKR	**Severo-Kuril's**	**2.49**	**14**	*e*P	**Pn**	**13 40 24.5**	**-0.6**
SKR				*e*S	**Sn**	**13 40 52.8**	**-1.4**
SKR	**Severo-Kuril's**	**2.49**	**14**	*e*P	**Pn**	**13 40 23.7**	**-1.4**
SKR				AMB	AMB	13 40 26.0	
	comp=N,260nm,0.7s						
SKR				*e*S	**Sn**	**13 40 52.0**	**-2.2**
SKR				A	A	13 40 58.5	
	comp=N,720nm,0.5s						
SKR				A	A	13 40 58.5	
	comp=N,780nm,0.5s						
ALID	**Alaid**	**2.61**	**5**	*e*P	**Pn**	**13 40 26.6**	**-0.3**
ALID				*e*S	**Sn**	**13 40 57.6**	**+0.2**
PAU	**Pauzhetka**	**3.37**	**18**	PN	**Pn**	**13 40 37.3**	**+0.1**
PAU	**Pauzhetka**	**3.37**	**18**	*e*P	**Pn**	**13 40 37.3**	**+0.1**
PAU				*e*S	**Sn**	**13 41 1.6**	**-1.3**
PAU	**Pauzhetka**	**3.37**	**18**	*e*P	**Pn**	**13 40 36.7**	**-0.5**
PAU				AMB	AMB	13 40 46.4	
	comp=N,170nm,0.4s						
PAU				*e*S	**Sn**	**13 41 15.7**	**-0.2**
PAU				A	A	13 41 22.7	
	comp=N,550nm,0.6s						
PAU				A	A	13 41 22.7	
	comp=N,430nm,0.6s						
KDTR	**Khodutka, Kamc**	**4.01**	**27**	PN	**Pn**	**13 40 45.1**	**-0.8**
KDTR	**Khodutka, Kamc**	**4.01**	**27**	*e*P	**Pn**	**13 40 45.1**	**-0.8**
KDTR				*e*S	**Sn**	**13 41 29.0**	**-2.6**
MIPR	**Malaya Ipel'ka**	**4.14**	**14**	PN	**Pn**	**13 40 47.8**	**+0.1**
MIPR	**Malaya Ipel'ka**	**4.14**	**14**	*e*P	**Pn**	**13 40 47.8**	**+0.1**
ASAK	**Asacha**	**4.47**	**22**	PN	**Pn**	**13 40 52.8**	**+0.4**
ASAK	**Asacha**	**4.47**	**22**	*e*P	**Pn**	**13 40 52.8**	**+0.4**
MTVR	**Mutnovka**	**4.64**	**24**	PN	**Pn**	**13 40 54.8**	**+0.1**
MTVR	**Mutnovka**	**4.64**	**24**	*e*P	**Pn**	**13 40 54.8**	**+0.1**
GRL	**Gorelyy**	**4.67**	**22**	*e*P	**Pn**	**13 40 55.8**	**+0.7**
RUS	**Russkaya**	**4.69**	**26**	PN	**Pn**	**13 40 54.3**	**-0.9**
RUS	**Russkaya**	**4.69**	**26**	*e*P	**Pn**	**13 40 54.3**	**-0.9**
RUS				*e*S	**Sn**	**13 41 45.3**	**-2.9**
APC	**Apacha**	**4.83**	**15**	PN	**Pn**	**13 40 59.4**	**+2.2**
APC	**Apacha**	**4.83**	**15**	*e*P	**Pn**	**13 40 59.4**	**+2.2**
KRMR	**Karymshinskiy**	**4.94**	**21**	*e*P	**Pn**	**13 41 01.3**	**+2.6**
PEA0B	**Petropavlovsk-**	**5.11**	**17**	*d*iPN	**Pn**	**13 41 02.1**	**+1.1**
PEA0B	**Petropavlovsk-**	**5.11**	**17**	Pn	**Pn**	**13 41 02.1**	**+1.1**
PETK	**Petropavlovsk-**	**5.11**	**17**	Pn	**Pn**	**13 41 01.4**	**+0.5**
	comp=N,4.6nm,0.3s,baz=182,slow=12,SNR=230						
PETK				LR	LR	13 43 16.6	
	comp=N,281nm,18.3s,baz=176,slow=42						
PETK	**Petropavlovsk-**	**5.11**	**17**	Pn	**Pn**	**13 41 01.0**	**0.0**
PET	**Petropavlovsk**	**5.25**	**24**	*d*iPN	**Pn**	**13 41 02.7**	**-0.2**
PET				pmax	pmax		
	comp=Z,24nm,0.7s						
PET	**Petropavlovsk**	**5.25**	**24**	*e*P	**Pn**	**13 41 03.0**	**+0.1**
PET				*e*S	**Sn**	**13 42 00.3**	**-1.8**
PET	**Petropavlovsk**	**5.25**	**24**		**Pn**	**13 41 02.7**	**-0.2**
PET	**Petropavlovsk**	**5.25**	**24**	*e*P	**Pn**	**13 41 02.8**	**-0.2**
PET				AMB	AMB	13 41 03.4	
	comp=Z,60nm,0.6s						
PET				*e*S	**Sn**	**13 42 01.6**	**-0.5**
PET				A	A	13 42 14.5	
	comp=Z,200nm,0.7s						
PET				A	A	13 42 14.5	
	comp=Z,190nm,0.7s						
DALK	**Dalny**	**5.29**	**24**	*e*P	**Pn**	**13 41 03.3**	**-0.1**
DALK				*e*S	**Sn**	**13 42 01.2**	**-1.8**
UGLR	**Uglovaya**	**5.46**	**24**	PN	**Pn**	**13 41 06.7**	**+0.7**
UGLR	**Uglovaya**	**5.46**	**24**	*e*P	**Pn**	**13 41 06.7**	**+0.7**
KOK	**Koryaka**	**5.49**	**22**	*e*P	**Pn**	**13 41 07.6**	**+1.3**
AVH	**Avacha**	**5.49**	**23**	*e*P	**Pn**	**13 41 07.3**	**+1.0**
SMAR	**Somma**	**5.51**	**23**	*e*P	**Pn**	**13 41 07.4**	**+0.8**
KRER	**Koryakskii**	**5.53**	**23**	*e*P	**Pn**	**13 41 07.8**	**+0.8**
SDLR	**Sedlovina**	**5.54**	**24**	*e*P	**Pn**	**13 41 07.4**	**+0.3**
KRX	**Arik**	**5.55**	**22**	PN	**Pn**	**13 41 08.1**	**+0.9**
KRX	**Arik**	**5.55**	**22**	*e*P	**Pn**	**13 41 08.1**	**+0.9**
NLC	**Nalytchevo**	**5.58**	**27**	*e*S	**Sn**	**13 42 07.7**	**-2.5**
GNL	**Ganaly**	**5.71**	**17**	*e*P	**Pn**	**13 41 10.2**	**+0.9**
SPN	**Mys Shipunski**	**5.74**	**31**	*e*P	**Pn**	**13 41 08.6**	**-1.0**
KUR	**Kuril'sk**	**5.86**	**241**	*d*iPN	**Pn**	**13 41 13.5**	**+2.2**
KUR				*e*S	**Sn**	**13 42 19.6**	**+2.5**
KUR				pmax	pmax		
	comp=Z,220nm,0.4s						
KUR				pmax	pmax		
	comp=E,90nm,0.3s						
KUR				pmax	pmax		
	comp=N,49nm,0.4s						
KUR				smax	smax		
	comp=N,1μm,2.2s						
KUR				smax	smax		
	comp=E,1μm,2.2s						
KUR				smax	smax		
	comp=E,193nm,0.6s						
KUR				smax	smax		
	comp=N,158nm,0.2s						
KUR	**Kuril'sk**	**5.86**	**241**	*i* P	**Pn**	**13 41 12.9**	**+1.6**
KUR				AMB	AMB	13 41 15.0	
	comp=N,230nm,0.3s						
KUR				*e*S	**Sn**	**13 42 15.5**	**-1.6**
KUR				A	A	13 42 31.0	
	comp=N,240nm,0.6s						
KUR				A	A	13 42 31.0	
	comp=N,240nm,0.6s						
MKZ	**Mys Kozlova**	**7.51**	**31**	*e*P	**Pn**	**13 41 31.9**	**-2.0**
KZV	**Kizimen**	**7.56**	**23**	*e*P	**Pn**	**13 41 34.4**	**-0.3**
TUMD	**Tumrok D**	**7.66**	**23**	*e*P	**Pn**	**13 41 36.4**	**+0.4**
TUMR	**Tumrok**	**7.67**	**22**	*e*P	**Pn**	**13 41 36.8**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**7.72**	**240**	*c* iPN	**Pn**	**13 41 37.7**	**+0.9**
YUK				pmax	pmax		
	comp=N,69nm,0.3s						
YUK				pmax	pmax		
	comp=E,104nm,0.3s						
YUK				pmax	pmax		
	comp=Z,192nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**7.72**	**240**	*i* P	**Pn**	**13 41 37.4**	**+0.6**
YUK				AMB	AMB	13 41 43.9	
	comp=Z,290nm,0.4s						
YUK				*e*S	**Sn**	**13 43 01.0**	**-1.8**
YUK				A	A	13 43 09.1	
	comp=Z,200nm,0.6s						
YUK				A	A	13 43 09.1	
	comp=Z,260nm,0.6s						
GRPR	**Tuman**	**7.79**	**240**	*c* iPN	**Pn**	**13 41 38.7**	**+0.8**
GRPR				pmax	pmax		
	comp=Z,135nm,0.5s						
GRPR				pmax	pmax		
	comp=N,58nm,0.3s						
GRPR				pmax	pmax		
	comp=E,31nm,0.1s						
GRPR	**Tuman**	**7.79**	**240**	*i* P	**Pn**	**13 41 38.0**	**+0.1**
GRPR				AMB	AMB	13 41 40.0	
	comp=E,135nm,0.4s						
GRPR				*e*S	**Sn**	**13

MDJ	**Mudanjiang**	**17.96**	**268**	P	**Pn**	**13 43 51.6**	**-1.8**
MDJ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,69nm,3.5s						
ZEA	**Zeya**	**18.32**	**298**	*e*P	**P**	**13 43 57.3**	**-0.2**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ZEA				MLR	MLR		
	comp=E,100nm,13.0s						
ZEA				MLR	MLR		
	comp=Z,100nm,15.0s						
ZEA	**Zeya**	**18.32**	**298**	*e*P	**P**	**13 43 57.3**	**-0.2**
ZEA				AMB	AMB	13 44 14.9	
	comp=Z,10.0nm,0.7s						
KROS	**Kirovskiy**	**18.57**	**300**	*e*P	**Pn**	**13 44 02.0**	**+1.3**
KROS				AMB	AMB	13 44 06.5	
	comp=Z,4.0nm,0.5s						
JWT	**Wachi**	**19.56**	**236**	P	**P**	**13 44 11.7**	**+0.6**
JWT				IAmb	IAmb	13 44 16.6	
	comp=Z,31nm,1.1s						
YAK	**Yakutsk**	**19.86**	**323**	P	**P**	**13 44 13.4**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=31,slow=1.6,SNR=8.2						
YAK				LR	LR	13 52 11.6	
	comp=Z,50nm,19.3s,baz=89,slow=38						
YAK	**Yakutsk**	**19.86**	**323**	*e*P	**P**	**13 44 12.9**	**-1.2**
YAK				*e*S	**S**	**13 47 54.1**	**-1.0**
YAK				pmax	pmax		
	comp=Z,19nm,0.9s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.2s						
YAK				smax	smax		
	comp=N,43nm,3.3s						
YAK				smax	smax		
	comp=E,35nm,3.9s						
YAK	**Yakutsk**	**19.86**	**323**		**P**	**13 44 14.1**	**0.0**
YAK				IAmb	IAmb	13 44 16.4	
	comp=Z,17nm,0.8s						
BILL	**Bilibino**	**20.61**	**12**	*de*P	Pn	13 44 25.6	+0.8
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BILL	**Bilibino**	**20.61**	**12**	*e*P	Pn	13 44 25.6	+0.8
JHS	**Saijyo**	**21.05**	**239**	P	**P**	**13 44 27.6**	**+0.2**
JHS				IAmb	IAmb	13 44 38.0	
	comp=Z,36nm,1.4s						
KSRS	**Korea Array**	**22.58**	**251**	P	**P**	**13 44 44.1**	**+0.4**
	comp=Z,7.2nm,0.8s,baz=50,slow=9.8,SNR=17						
KSRS				LR	LR	13 52 57.0	
	comp=Z,96nm,18.0s,baz=32,slow=35						
KSAR	**Wonju Array Be**	**22.62**	**252**	P	**P**	**13 44 42.3**	**-1.7**
KSAR	**Wonju Array Be**	**22.62**	**252**	P	**P**	**13 44 42.3**	**-1.7**
TJN	**Taejon**	**23.60**	**250**⇑	*e*P	**P**	**13 44 58.1**	**+4.2**
TIXI	**Tiksi**	**26.43**	**342**	LR	LR	13 57 03.9	
	comp=Z,67nm,18.3s,baz=244,slow=40						
JOW	**Kunigami**	**29.94**	**234**	LR	LR	13 57 00.4	
	comp=Z,90nm,19.0s,baz=325,slow=35						
H11N2	**WAKE ISLAND Hy**	**30.02**	**157**	T	T	14 17 35.3	
	baz=340,slow=74,SNR=168						
H11N1	**WAKE ISLAND Hy**	**30.03**	**157**	T	T	14 17 37.2	
	baz=340,slow=74,SNR=304						
H11N3	**WAKE ISLAND Hy**	**30.03**	**157**	T	T	14 17 31.9	
	baz=340,SNR=92						
M19K	**Big River Lodg**	**31.04**	**45**	P	**P**	**13 45 58.5**	**-1.9**
M19K				IAmb	IAmb	13 46 14.8	
	comp=Z,8.9nm,1.4s						
H11S1	**WAKE ISLAND Hy**	**31.14**	**158**	T	T	14 18 57.8	
	baz=344,slow=76,SNR=1656						
H11S3	**WAKE ISLAND Hy**	**31.15**	**158**	T	T	14 18 59.8	
	baz=344,slow=76,SNR=1405						
H11S2	**WAKE ISLAND Hy**	**31.16**	**158**	T	T	14 19 01.6	
	baz=344,slow=76,SNR=1281						
IMAR	**Indian Mountai**	**31.72**	**37**	P	**P**	**13 46 05.8**	**-0.5**
ULN	**Ulaanbaatar**	**31.73**	**288**⇑	*e*P	**P**	**13 46 07.4**	**+0.6**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ULN	**Ulaanbaatar**	**31.73**	**288**	*e*P	**P**	**13 46 07.4**	**+0.6**
H21K	**Melozitna Rive**	**32.06**	**38**	P	**P**	**13 46 07.3**	**-2.1**
H21K				IAmb	IAmb	13 46 11.6	
	comp=Z,4.5nm,0.9s						
SONM	**Songino Array**	**32.16**	**288**	P	**P**	**13 46 08.9**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=97,slow=6.1,SNR=1.5						
SONM				LR	LR	14 00 18.5	
	comp=Z,149nm,18.1s,baz=82,slow=39						
H23K	**Yukon River**	**33.42**	**38**	P	**P**	**13 46 20.9**	**-0.3**
H23K				IAmb	IAmb	13 46 23.9	
	comp=Z,3.4nm,0.8s						
NEA2	**Nenana**	**33.55**	**40**	P	**P**	**13 46 22.5**	**+0.1**
NEA2				IAmb	IAmb	13 46 24.9	
	comp=Z,3.4nm,0.7s						
SML	**Sawmill**	**33.91**	**45**	P	**P**	**13 46 25.7**	**+0.1**
MDM	**Murphy Dome**	**33.92**	**40**	P	**P**	**13 46 26.0**	**+0.3**
MDM				IAmb	IAmb	13 46 27.9	
	comp=Z,4.1nm,0.9s						
WRH	**Wood River Hil**	**33.97**	**40**	P	**P**	**13 46 26.9**	**+0.9**
H24K	**Noodor Dome**	**34.10**	**38**	P	**P**	**13 46 27.9**	**+0.7**
H24K				IAmb	IAmb	13 46 32.5	
	comp=Z,7.1nm,1.4s						
DHY	**Denali Highway**	**34.30**	**43**	P	**P**	**13 46 28.8**	**-0.3**
ILAR	**Eielson Array**	**34.49**	**40**	P	**P**	**13 46 31.1**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=264,slow=8.1,SNR=4.3						
BMAR	**Burnt Mountain**	**35.48**	**35**	P	**P**	**13 46 40.4**	**+1.4**
DOT	**Dot Lake**	**35.77**	**42**	P	**P**	**13 46 42.0**	**+0.5**
K27K	**Chicken**	**36.61**	**41**	P	**P**	**13 46 49.0**	**+0.2**
K27K				IAmb	IAmb	13 46 50.5	
	comp=Z,3.7nm,1.0s						
L27K	**Beaver Creek,**	**36.82**	**43**	P	**P**	**13 46 51.0**	**+0.5**
L27K				IAmb	IAmb	13 47 04.0	
	comp=Z,8.2nm,1.1s						
BCAR	**Beaver Creek A**	**36.84**	**43**	P	**P**	**13 46 51.6**	**+0.9**
EGAK	**Eagle**	**36.95**	**40**	P	**P**	**13 46 50.9**	**-0.6**
EGAK				IAmb	IAmb	13 46 53.1	
	comp=Z,5.0nm,0.8s						
INK	**Inuvik**	**39.62**	**34**	P	**P**	**13 47 15.4**	**+1.5**
	comp=Z,1.7nm,0.7s,baz=326,slow=8.7,SNR=1.7						
INK	**Inuvik**	**39.62**	**34**	P	**P**	**13 47 15.2**	**+1.3**
INK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
INK	**Inuvik**	**39.62**	**34**	P	**P**	**13 47 15.2**	**+1.3**
INK				IAmb	IAmb	13 47 26.0	
	comp=Z,3.7nm,0.8s						
ZALV	**Zalesovo Beam**	**42.86**	**305**	P	**P**	**13 47 40.6**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=79,slow=7.5,SNR=2.8						
ZALV				LR	LR	14 06 12.1	
	comp=Z,43nm,19.8s,baz=38,slow=37						
DGZ	**Jazzator, Alta**	**43.09**	**298**⇑	*e*P	**P**	**13 47 41.9**	**-0.9**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MK31	**Makanchi Array**	**47.48**	**297**	P	**P**	**13 48 15.8**	**-1.7**
MK31				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MK31	**Makanchi Array**	**47.48**	**297**	P	**P**	**13 48 15.8**	**-1.7**
MKAR	**Makanchi Array**	**47.48**	**297**	P	**P**	**13 48 16.3**	**-1.2**
	comp=Z,1.9nm,0.7s,baz=63,slow=6.0,SNR=20						
MKAR				LR	LR	14 09 31.0	
	comp=Z,52nm,18.4s,baz=98,slow=38						
MKAR	**Makanchi Array**	**47.48**	**297**	P	**P**	**13 48 16.0**	**-1.5**
BVAR	**Borovoye Array**	**50.96**	**309**	P	**P**	**13 48 44.9**	**+0.9**
	comp=Z,1.6nm,0.5s,baz=90,slow=4.4,SNR=10						
BRVK	**Borovoye**	**51.00**	**309**⇓	*e*P	**P**	**13 48 45.2**	**+1.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRVK	**Borovoye**	**51.00**	**309**	*e*P	**P**	**13 48 45.2**	**+1.0**
CHTO	**Chiang Mai**	**53.81**	**257**	P	**P**	**13 49 06.6**	**+1.1**
CHTO				pmax	pmax		
	comp=Z,12nm,1.3s						
CHTO	**Chiang Mai**	**53.81**	**257**	P	**P**	**13 49 06.6**	**+1.1**
CMAR	**Chiang Mai Arr**	**54.07**	**257**	P	**P**	**13 49 08.4**	**+1.1**
	comp=Z,2.3nm,0.7s,baz=34,slow=7.6,SNR=11						
CMAR				LR	LR	14 13 34.7	
	comp=Z,34nm,18.6s,baz=270,slow=38						
AAK	**Ala-Archa**	**54.40**	**296**	LR	LR	14 13 45.5	
	comp=Z,58nm,19.6s,baz=66,slow=38						
KSH	**Kashi**	**55.35**	**293**	P	P	13 49 22.3	+5.7
KSH				sP	sP	13 49 38.0	+4.2
KSH				pmax	pmax		
	comp=Z,5.0nm,1.1s						
YBH	**Yreka Blue Hor**	**55.81**	**64**	LR	LR	14 09 17.4	
	comp=Z,27nm,21.4s,baz=310,slow=32						
ARCES	**ARCESS Array B**	**56.87**	**341**	LR	LR	14 17 47.1	
	comp=Z,50nm,19.0s,baz=75,slow=40						
PLID	**Pearl Lake**	**57.67**	**57**	P	**P**	**13 49 33.9**	**+0.7**
AKTO	**Aktyubinsk**	**58.74**	**312**	LR	LR	14 16 16.6	
	comp=Z,30nm,18.5s,baz=45,slow=37						
NVAR	**Mina Array Bea**	**60.51**	**64**	P	**P**	**13 49 55.1**	**+2.2**
	comp=Z,0.3nm,0.5s,baz=324,slow=9.0,SNR=4.2						
GCMT	**Greycliff**	**60.70**	**53**	P	**P**	**13 49 53.7**	**-0.2**
PDAR	**Pinedale Array**	**62.74**	**56**	P	**P**	**13 50 08.8**	**+0.9**
	comp=Z,1.0nm,0.4s,baz=306,slow=3.5,SNR=12						
FINES	**FINESS Array B**	**63.24**	**335**	P	**P**	**13 50 09.4**	**-1.1**
	comp=Z,1.3nm,0.5s,baz=46,slow=5.5,SNR=5.4						
FINES	**FINESS Array B**	**63.24**	**335**	*i* P	**P**	**13 50 10.8**	**+0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**67.22**	**342**	P	**P**	**13 50 36.6**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=25,slow=6.3,SNR=1.7						
NOA				LR	LR	14 24 04.4	
	comp=Z,27nm,19.5s,baz=35,slow=40						
HFS	**Hagfors**	**67.50**	**340**	P	**P**	**13 50 38.4**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=87,slow=6.1,SNR=4.9						
MSVF	**Nonsavu**	**68.82**	**157**	LR	LR	14 14 15.5	
	comp=Z,44nm,22.0s,baz=8.4,slow=30						
ANMO	**Albuquerque**	**69.86**	**60**	P	**P**	**13 50 55.2**	**+1.7**
	comp=Z,1.3nm,0.7s,baz=336,slow=6.9,SNR=4.4						
ANMO	**Albuquerque**	**69.86**	**60**⇑	*e*P	**P**	**13 50 55.0**	**+1.5**
ANMO				pmax	pmax		
	comp=Z,6.0nm,2.5s						
WR0	**Warramunga Arr**	**70.38**	**201**	P	**P**	**13 50 57.2**	**+0.8**
WR0				IAmb	IAmb	13 50 58.2	
	comp=Z,5.3nm,0.8s						
WRAB	**Tennant Creek**	**70.40**	**201**⇓	*e*P	**P**	**13 50 57.4**	**+0.9**
WRAB				pmax	pmax		
	comp=Z,9.0nm,1.1s						
WRAB	**Tennant Creek**	**70.40**	**201**	P	**P**	**13 50 57.0**	**+0.5**
WB2	**Warramunga Arr**	**70.41**	**201**	P	**P**	**13 50 56.9**	**+0.3**
WRA	**Warramunga Arr**	**70.42**	**201**	P	**P**	**13 50 57.5**	**+0.9**
	comp=Z,4.6nm,0.7s,baz=18,slow=5.9,SNR=34						
WRA	**Warramunga Arr**	**70.42**	**201**	P	**P**	**13 50 57.3**	**+0.7**
AS31	**Alice Springs**	**74.10**	**200**	P	**P**	**13 51 20.2**	**+1.6**
ASAR	**Alice Springs**	**74.10**	**200**	P	**P**	**13 51 20.4**	**+1.8**
	comp=Z,2.3nm,0.7s,baz=14,slow=5.6,SNR=37						
ASAR	**Alice Springs**	**74.10**	**200**	P	**P**	**13 51 19.8**	**+1.2**
EKA	**Eskdalemuir Ar**	**75.17**	**347**	P	**P**	**13 51 24.6**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=23,slow=5.3,SNR=7.5						
TX31	**Lajitas Ar. Si**	**75.55**	**62**	P	**P**	**13 51 28.6**	**+1.4**
TX32	**Lajitas Array**	**75.55**	**62**	P	**P**	**13 51 28.6**	**+1.4**
TX32				IAmb	IAmb	13 51 29.5	
	comp=Z,3.8nm,0.8s						
TXAR	**Lajitas Array**	**75.55**	**62**	P	**P**	**13 51 28.9**	**+1.7**
	comp=Z,3.2nm,0.7s,baz=298,slow=4.0,SNR=47						
TXAR	**Lajitas Array**	**75.55**	**62**	P	**P**	**13 51 28.7**	**+1.5**
TXAR	**Lajitas Array**	**75.55**	**62**	P	**P**	**13 51 28.7**	**+1.5**
FCAR	**Ozark Folk Cen**	**77.01**	**50**	P	**P**	**13 51 34.7**	**-0.6**
KHC	**Kasperske Hory**	**77.45**	**335**	*e*P	**P**	**13 51 38.1**	**+0.5**
KHC	**Kasperske Hory**	**77.45**	**335**	*e*P	**P**	**13 51 38.1**	**+0.5**
GERES	**GERESS Array B**	**77.68**	**335**	P	**P**	**13 51 39.0**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=34,slow=5.5,SNR=6.0						
GERES	**GERESS Array B**	**77.68**	**335**	P	**P**	**13 51 37.4**	**-1.5**
STKA	**Stephens Creek**	**80.71**	**192**	P	**P**	**13 51 56.6**	**+1.3**
	comp=Z,0.8nm,0.4s,baz=358,slow=8.6,SNR=3.9						
STKA	**Stephens Creek**	**80.71**	**192**	P	**P**	**13 51 56.0**	**+0.7**
SNAA	**Sanae**	**154.40**	**196**	PKPbc	**PKPbc**	**13 59 40.3**	**-1.0**
	comp=Z,1.2nm,0.9s,baz=176,slow=3.9,SNR=6.7						
SNAA				PKPab	**PKPab**	**13 59 56.6**	**+0.8**
	comp=Z,1.0nm,0.9s,baz=81,slow=3.6,SNR=5.9						

IDC 18 13:40:55.8±9.8, 21.90S×176.29W, h0km, mb 3.5/3, mb1 3.8/3, mb1mx3.5/38, mbtmp3.5/3, MS2.8/1, Ms1 2.8/1, ms1mx2.5/21, Error ellipse: s-maj=434.7km s-min=39.8km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**15.38**	**91**	LR	LR	13 50 12.6	
	comp=Z,35nm,18.2s,baz=286,slow=36						
ASAR	**Alice Springs**	**45.77**	**258**	P	P	13 49 18.7	-0.8
	0.2nm,0.6s,baz=102,slow=7.7,SNR=5.3						
WRA	**Warramunga Arr**	**46.00**	**263**	P	P	13 49 21.9	+0.6
	0.6nm,0.9s,baz=97,slow=8.2,SNR=3.6						
ILAR	**Eielson Array**	**89.33**	**12**	P	P	13 53 53.5	0.0
	0.5nm,0.9s,baz=209,slow=7.2,SNR=4.5						
AKASG	**Malin Array Be**	**145.00**	**331**	PKPbc	PKPbc	14 00 33.2	-1.0
	0.4nm,0.3s,baz=41,slow=3.6,SNR=5.8						

MEX 18 13:47:44.3±1.2, 15.95N×98.40W, h10km, MD4.1, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.51**	**30**	*i* P	Pg	13 47 53.0	-1.3
PNIG				*i* S	Sg	13 47 60.0	-1.1
PEIG	**Puerto Escondi**	**1.20**	**87**	*i* P	Pb	13 48 03.6	-3.6
PEIG				*i* S	Sb	13 48 18.5	-4.3
MGIG	**Malinaltepec**	**1.30**	**350**	*i* P	Pn	13 48 04.9	-3.8
MGIG				*e*P	Pb	13 48 04.9	-4.1
MGIG				*e*S	Sb	13 48 20.9	-4.8
TXIG	**Tlaxiaco**	**1.43**	**25**	*e*P	Pn	13 48 07.5	-3.1
TXIG				*e*S	Sn	13 48 24.9	-4.7
DAIG	**Los Arroyos**	**1.61**	**312**	*i* P	Pn	13 48 09.5	-3.3
DAIG				*i* S	Sn	13 48 29.2	-4.5
TLIG	**Tlapa**	**1.61**	**354**	*e*P	Pn	13 48 09.9	-3.1
TLIG				*e*S	Sn	13 48 29.3	-4.7
VHO	**Vista Hermosa**	**1.95**	**55**	*e*P	Pn	13 48 13.5	-4.1
VHO				*e*S	Sn	13 48 39.6	-2.7
HLIG	**Huajuapan de L**	**1.96**	**17**	*i* P	Pn	13 48 15.4	-2.3
HLIG				*i* S	Sn	13 48 37.6	-4.9
FTIG	**Fresnillo de T**	**1.96**	**7**	*e*P	Pn	13 48 15.2	-2.6
FTIG				*e*S	Sn	13 48 37.8	-4.8
MEIG	**Mezcala**	**2.29**	**329**	*i* P	Pn	13 48 19.5	-2.8
MEIG				*i* S	Sn	13 48 47.3	-3.3
TOIG	**Toxpalan**	**2.49**	**31**	*e*P	Pn	13 48 21.8	-3.2
TOIG				*e*S	Sn	13 48 52.1	-3.3
PLIG	**Platanillo**	**2.65**	**337**	*e*P	Pn	13 48 26.0	-1.2
PLIG				*e*S	Sn	13 48 56.5	-3.0

*SJA **18** 13:51:11.7±0.6, 31.44S×72.33W, h6km±6km, ML4.8, MW4.5*

*IDC **18** 13:51:14.8±0.5, 31.39S×71.75W, h0km, mb4.6/11, mb1 4.6/15, mb1mx4.5/30, mbtmp4.5/15, ML4.4/4, MS4.2/12, Ms1 4.1/12, ms1mx4.0/20, Error ellipse: s-maj=22.2km s-min=14.6km az=88.0*

*GUC **18** 13:51:17.0±1.0, 31.44S×71.81W, h30km±8km, MW5.2*

*NEIC **18** 13:51:18, 31.41S×71.90W, h27km, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr0.69; Mθθ-0.04; Mϕϕ-0.65; Mrθ-0.14; Mθϕ-0.14; Mϕr-0.76; Fault plane solution: M0 1.03000×10^16 NP1:ϕs191.19000°, δ69.25000°, λ88.94000°. NP2:ϕs14.17000°, δ20.77000°, λ92.78000°. Principal axes: T 1.0363, Plg66.0000°, Azm99.0000°; N -0.0110, Plg1.0000°, Azm192.0000°; P -1.0253, Plg24.0000°, Azm282.0000°;*

*NEIC **18** 13:51:19.2±1.9, 31.42S±0.03×71.88W±0.05, h35km±1km Error ellipse: s-maj=8.5km s-min=5.3km az=291.0*

*GCMT **18** 13:51:23.0±0.5, 31.48S±0.03×71.90W±0.04, h30km±1km, MW4.9/54, Moment Tensor Solution. s36,c41; s54,c69; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.25±.17; Mθθ-0.17±.10; Mϕϕ-2.08±.12; Mrθ-0.69±.14; Mθϕ-0.14±.07; Mϕr-2.10±.19; Best double couple: M0 3.09400×10^16 NP1:ϕs356.00000°, δ23.00000°, λ74.00000°. NP2: ϕs194.00000°, δ68.00000°, λ97.00000°. Principal axes: T 3.2030, Plg66.0000°, Azm116.0000°; N -0.2230, Plg6.0000°, Azm11.0000°; P -2.9850, Plg23.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 13:51:14.5±1.0, 31.42S±0.02×71.94W±0.04, h5km±6km, n156, σ1ŝ77/164, mb4.8/23, MS4.4/11, 7C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.78**	**20**	*i* P	**Pn**	**13 51 32.5**	**+0.3**
CO06				*i* S	**Sn**	**13 51 43.2**	**-1.1**
CO06	**Fray Jorge**	**0.78**	**20**		**Pn**	**13 51 32.2**	**0.0**
CO06				Sn	**Sn**	**13 51 43.3**	**-1.1**
CO03	**El Pedregal**	**1.22**	**62**	*i* P	**Pn**	**13 51 38.8**	**+0.5**
CO03				*i* S	**Sb**	**13 51 54.0**	**-0.2**
CO03	**El Pedregal**	**1.22**	**62**	Pn	**Pn**	**13 51 38.7**	**+0.5**
CO03				Sn	**Sb**	**13 51 53.9**	**-0.2**
VA06	**Catapilco**	**1.27**	**155**	*i* P	**Pg**	**13 51 39.3**	**+0.5**
VA06				*i* S	**Sg**	**13 51 55.2**	**+0.1**
GO04	**Tololo Observa**	**1.58**	**39**	*i* P	**Pg**	**13 51 45.1**	**+0.4**
GO04				*i* S	**Sg**	**13 52 05.2**	**-0.1**
GO04	**Tololo Observa**	**1.58**	**39**		**Pg**	**13 51 45.1**	**+0.4**
CO05	**La Serena**	**1.61**	**22**		**Pb**	**13 51 45.1**	**+0.4**
VA01	**Torpederas**	**1.62**	**171**⇑	*i* P	**Pn**	**13 51 44.3**	**+0.6**
VA01				*i* S	**Sn**	**13 52 04.0**	**-1.0**
VA01	**Torpederas**	**1.62**	**171**		**Pn**	**13 51 44.4**	**+0.6**
VA01	**Torpederas**	**1.62**	**171**	*e*P	**Pn**	**13 51 44.2**	**+0.5**
VA01				IAML		13 52 12.6	
	comp=Z,5μm,0.3s						
ROCH	**El Roble**	**1.74**	**153**⇑	*i* P	**Pb**	**13 51 47.1**	**0.0**
ROCH				*i* S	**Sg**	**13 52 10.2**	**-0.2**
VA03	**San Esteban**	**1.79**	**139**⇑	*i* P	**Pb**	**13 51 47.8**	**0.0**
VA03				*i* S	**Sb**	**13 52 10.2**	**-0.3**
VA03	**San Esteban**	**1.79**	**139**		**Pb**	**13 51 47.5**	**-0.3**
VA03				Sn	**Sb**	**13 52 10.2**	**-0.3**
MT05	**Renca**	**2.22**	**153**⇑	*i* P	**Pn**	**13 51 53.4**	**+1.4**
MT05				*i* S	**Sb**	**13 52 22.3**	**-0.6**
MT05	**Renca**	**2.22**	**153**		**Pn**	**13 51 53.3**	**+1.4**
MT05	**Renca**	**2.22**	**153**	*e*P	**Pn**	**13 51 53.0**	**+1.0**
VA05	**Santo Domingo**	**2.25**	**173**⇓	*i* P	**Pn**	**13 51 53.0**	**+0.6**
VA05				*i* S	**Sb**	**13 52 23.1**	**-0.7**
VA05	**Santo Domingo**	**2.25**	**173**		**Pn**	**13 51 53.0**	**+0.6**
RTLS	**Leoncito**	**2.29**	**100**	*e*P	**Pb**	**13 51 57.0**	**+0.6**
RTLS				IAML		13 52 38.4	
	comp=Z,1μm,0.5s						
AUSP	**Uspallata**	**2.32**	**111**	*e*P	**Pb**	**13 51 57.0**	**+0.1**
AROD	**Rodeo**	**2.46**	**60**	*e*P	**Pb**	**13 52 00.1**	**+0.7**
MT09	**Talagante**	**2.49**	**161**	Pn	**Pb**	**13 51 57.9**	**-1.9**
MT01	**Popeta**	**2.51**	**167**⇑	*i* P	**Pn**	**13 51 57.1**	**+1.1**
MT01				*i* S	**Sn**	**13 52 29.0**	**+2.0**
MT01	**Popeta**	**2.51**	**167**		**Pn**	**13 51 57.0**	**+1.0**
MT01	**Popeta**	**2.51**	**167**	*e*P	**Pn**	**13 51 56.6**	**+0.6**
MT01				IAML		13 52 39.8	
	comp=Z,9μm,0.5s						
ACCO	**Cerro Coronel**	**2.60**	**72**	*e*P	**Pb**	**13 52 02.0**	**+0.2**
LCO	**Las Campanas**	**2.62**	**24**		**Pn**	**13 51 59.6**	**+1.9**
LCO	**Las Campanas**	**2.62**	**24**	*e*P	**Pn**	**13 52 00.0**	**+2.2**
ACDV	**Cuesta del Vie**	**2.73**	**64**	*e*P	**Pb**	**13 52 03.8**	**0.0**
ACDV				*e*S	**Sg**	**13 52 42.0**	**0.0**
ACDV				IAML		13 52 50.5	
	comp=Z,3μm,0.6s						
ZON	**Zonda**	**2.79**	**94**	*e*P	**Pb**	**13 52 04.4**	**-0.4**
ZON				*e*P	**Pg**	**13 52 06.0**	**-1.9**
ZON				*e*S	**Sg**	**13 52 42.8**	**-1.3**
ZON				IAML		13 52 48.6	
	comp=Z,5μm,2.1s						
LMEL	**Las Melosas**	**2.83**	**149**⇑	*i* P	**Pn**	**13 52 02.7**	**+2.1**
LMEL				*i* S	**Sn**	**13 52 37.1**	**+1.9**
ASAL	**Salagasta**	**2.89**	**115**	*e*P	**Pb**	**13 52 06.0**	**-0.5**
ASAL				*e*S	**Sg**	**13 52 47.1**	**-0.1**
ASAL				IAML		13 52 51.6	
	comp=Z,2μm,0.9s						
ARCO	**CERRO ARCO**	**2.92**	**120**	*e*P	**Pb**	**13 52 07.0**	**-0.1**
ARCO				IAML		13 52 56.7	
	comp=Z,4μm,0.9s						
RTCV	**Cerro Valdivia**	**2.93**	**100**	*e*P	**Pb**	**13 52 06.2**	**-1.1**
RTCV				IAML		13 53 00.6	
	comp=Z,651nm,2.4s						
RTLL	**Cerro Villicun**	**2.96**	**89**	*e*P	**Pb**	**13 52 06.8**	**-1.0**
BO01	**Tunca**	**3.05**	**167**		**Pn**	**13 52 04.6**	**+1.2**
BO01	**Tunca**	**3.05**	**167**	*e*P	**Pn**	**13 52 04.4**	**+1.0**
BO01				IAML		13 53 02.5	
	comp=Z,3μm,0.9s						
AAGR	**Agrelo**	**3.12**	**123**	*e*P	**Pb**	**13 52 09.6**	**-0.9**
AC04	**Llanos de Chal**	**3.29**	**13**		**Pb**	**13 52 07.2**	**+0.6**
BO02	**Sierra Bellavi**	**3.50**	**164**		**Pn**	**13 52 10.7**	**+1.0**
BO02	**Sierra Bellavi**	**3.50**	**164**	*e*P	**Pn**	**13 52 11.2**	**+1.5**
BO02				*e*S	**Sg**	**13 53 04.8**	**-2.3**
GO05	**Huala**	**3.58**	**180**		**Pn**	**13 52 10.1**	**0.0**
GO05	**Huala**	**3.58**	**180**	*e*P	**Pn**	**13 52 10.8**	**0.0**
GO05				*e*S	**Sn**	**13 52 50.4**	**-3.1**
GO03	**Copiap**	**4.09**	**22**	Pn	**Pn**	**13 52 19.0**	**+1.2**
GO03	**Copiap**	**4.09**	**22**	*e*P	**Pn**	**13 52 20.1**	**+2.4**
COIS	**El Sosneado**	**4.17**	**153**	*e*P	**Pn**	**13 52 21.0**	**+2.1**
LAMA	**Las Malvinas**	**4.19**	**148**	*e*P	**Pn**	**13 52 23.0**	**+3.9**
VCA	**Vinchina**	**4.20**	**51**	*e*P	**Pb**	**13 52 25.0**	**-3.9**
VCA				*e*S	**Sg**	**13 53 28.4**	**-0.9**
AC06	**Mina Casimiro**	**4.27**	**19**		**Pn**	**13 52 21.2**	**+0.9**
ML02	**Panimavida**	**4.36**	**174**		**Pn**	**13 52 22.2**	**+0.8**
RFA	**San Rafael**	**4.44**	**140**	*e*P	**Pn**	**13 52 25.8**

comp=Z,11nm,0.9s
MASN Masaya 45.26 340 P **P** **13 59 32.1 -1.0**
VNA3 Neumayer Olymp 51.72 159 P **P** **14 00 23.4 +1.1**
VNA1 Neumayer--Stat 52.02 158 P **P** **14 00 25.7 +1.3**
VNA2 Neumayer--Watz 52.36 158 P **P** **14 00 27.9 +0.9**
baz=286,slow=8.4
SNAA Sanae 53.95 159 P **P** **14 00 39.5 +0.7**
SNAA Sanae 53.95 159 P **P** **14 00 39.6 +0.8**
comp=Z,16nm,0.9s,baz=284,slow=5.6,SNR=42
SNAA Sanae 53.95 159 P **P** **14 00 39.5 +0.7**
RKT Rikitea 55.98 262 *e*T T 15 01 35.0
comp=Z,4.2nm,0.3s
QSPA South Pole Qui 58.81 180 P **P** **14 01 14.5 +0.8**
QSPA IAmb IAmb 14 01 27.8
comp=Z,7.6nm,0.9s
VNDA Vanda 66.65 191 P **P** **14 02 08.0 +2.4**
comp=Z,0.6nm,0.7s,baz=140,slow=5.6,SNR=3.2
TX32 Lajitas Array 67.53 330 P **P** **14 02 11.8 -0.1**
TX32 IAmb IAmb 14 02 26.3
comp=Z,8.6nm,1.5s
TXAR Lajitas Array 67.53 330 P **P** **14 02 13.6 +1.7**
comp=Z,0.8nm,0.7s,baz=153,slow=7.8,SNR=11
TXAR Lajitas Array 67.53 330 P **P** **14 02 12.0 +0.1**
TX31 Lajitas Ar. Si 67.53 330 P **P** **14 02 12.5 +0.6**
TX31 IAmb IAmb 14 02 23.4
comp=Z,8.7nm,0.9s
TBI Tubuai 68.03 255 *e*LR LR 14 22 56.8
comp=Z,266nm,25.5s
TBI Tubuai 68.03 255 *e*T T 15 16 42.6
comp=Z,5.1nm,0.2s
LCAR Lake Charles 69.51 343 P **P** **14 02 24.4 +0.4**
LCAR IAmb IAmb 14 02 25.5
comp=Z,4.9nm,0.7s
TIAR Tiarei 70.53 261 *e*T T 15 19 45.3
comp=Z,1.6nm,0.2s
PPT2 Papeete2 70.71 261 *e*S **S** **14 11 46.0 -1.3**
comp=Z,71nm,25.0s
PPT2 Papeete2 70.71 261 *e*LR LR 14 24 11.3
comp=Z,156nm,25.8s
PPT Papeete 70.72 261 LR LR 14 24 20.1
comp=Z,30nm,18.2s,baz=131,slow=28
LIC Lamto 73.89 72 *e*P **P** **14 02 50.5 -0.4**
comp=Z,54nm,1.2s
TIC Toumodi 74.14 72 *e*P **P** **14 02 51.8 -0.6**
KIC Kosan Boka 74.20 72 *e*P **P** **14 02 52.5 -0.2**
comp=Z,38nm,0.9s
DBIC Dimbokro 74.28 72 P **P** **14 02 53.1 0.0**
comp=Z,13nm,0.9s,baz=240,slow=6.4,SNR=9.6
DBIC LR LR 14 35 14.6
comp=Z,198nm,19.7s,baz=226,slow=36
DBIC Dimbokro 74.28 72 P **P** **14 02 50.8 -2.4**
DBIC IAmb IAmb 14 02 54.2
comp=Z,16nm,1.0s
MAW Mawson 75.63 164 P **P** **14 03 00.9 +0.9**
comp=Z,6.9nm,0.9s,baz=217,slow=5.8,SNR=7.9
MAW LR LR 14 35 11.6
comp=Z,197nm,21.7s,baz=236,slow=35
KOWA Kowa 79.50 66 P **P** **14 03 22.4 -0.1**
KOWA IAmb IAmb 14 03 23.8
comp=Z,20nm,1.1s
BOSA Boshof 81.20 118 P **P** **14 03 31.5 -0.3**
comp=Z,7.9nm,1.0s,baz=258,slow=5.2,SNR=6.4
BOSA LR LR 14 37 26.6
comp=Z,198nm,18.7s,baz=196,slow=34
BOSA Boshof 81.20 118 P **P** **14 03 31.5 -0.3**
BOSA IAmb IAmb 14 03 33.2
comp=Z,9.2nm,0.9s
PDAR Pinedale Array 81.50 333 P **P** **14 03 33.7 +0.7**
comp=Z,0.1nm,0.3s,baz=135,slow=11,SNR=2.5
NVAR Mina Array Bea 81.82 325 P **P** **14 03 36.7 +2.0**
comp=Z,1.1nm,0.7s,baz=153,slow=6.2,SNR=9.2
TORD Torodi Ar. Bea 83.26 70 P **P** **14 03 42.6 +0.1**
comp=Z,15nm,0.8s,baz=259,slow=4.7,SNR=67
TORD LR LR 14 38 19.2
comp=Z,240nm,20.5s,baz=230,slow=34
TORD Torodi Ar. Bea 83.26 70 P **P** **14 03 42.5 0.0**
LBTB Lobatse 83.32 115 P **P** **14 03 41.9 -1.0**
LBTB IAmb IAmb 14 03 43.6
comp=Z,8.6nm,0.9s
SCHQ Schefferville 86.01 3 P **P** **14 03 56.0 +0.6**
comp=Z,5.5nm,0.9s,baz=160,slow=4.8,SNR=3.6
ESDC Sonseca Array 94.73 46 LR LR 14 47 43.7
comp=Z,128nm,18.8s,baz=245,slow=36
DZM Mont Dzumac 102.83 234 *e*LR LR 14 39 11.3
comp=Z,176nm,23.6s
ASAR Alice Springs 119.90 207 PKP **PKPdf** **14 10 05.7 -1.0**
comp=Z,0.2nm,0.7s,baz=125,slow=1.5,SNR=3.4
ASAR PKKPbc **PKKPab** **14 20 24.1 +4.2**
comp=Z,0.1nm,0.7s,baz=324,slow=3.6,SNR=1.6
WRA Warramunga Arr 123.05 210 PKP **PKPdf** **14 10 12.1 -0.6**
comp=Z,0.4nm,0.6s,baz=153,slow=1.2,SNR=9.0
H11S2 WAKE ISLAND Hyl 25.85 271 T T 16 29 08.0
baz=117,slow=75,SNR=42
H11S1 WAKE ISLAND Hyl 25.86 271 T T 16 29 08.7
baz=117,slow=75,SNR=33
H11S3 WAKE ISLAND Hyl 25.87 271 T T 16 29 06.9
baz=117,slow=75,SNR=19
H11N3 WAKE ISLAND Hyl 26.20 272 T T 16 29 33.9
baz=116,slow=75,SNR=31
H11N1 WAKE ISLAND Hyl 26.22 272 T T 16 29 35.1
baz=116,slow=75,SNR=11
H11N2 WAKE ISLAND Hyl 26.22 272 T T 16 29 35.2
baz=116,slow=75,SNR=72
KLMR Klimovskoe 127.26 35 *e*PKPdf **PKPdf** **14 10 19.2 -0.2**
KLMR AMP 14 10 25.8
comp=Z,17nm,1.8s
ARU Arti 137.71 39 PKP **PKPdf** **14 10 39.9 +0.7**
comp=Z,1.3nm,0.3s,baz=355,slow=5.7,SNR=5.2
AKTO Aktyubinsk 138.58 48 PKP **PKPdf** **14 10 41.6 +0.6**
comp=Z,0.9nm,0.6s,baz=288,slow=6.4,SNR=4.0
BVAR Borovoye Array 145.30 40 PKPbc **PKPdf** **14 10 53.6 +0.7**
comp=Z,3.4nm,0.6s,baz=246,slow=6.3,SNR=20
YAK Yakutsk 146.32 342 PKPbc **PKPab** **14 10 56.4 0.0**
comp=Z,5.2nm,0.5s,baz=232,slow=1.6,SNR=5.0
HYB Hyderabad 149.85 111 *i* PKP **PKPbc** **14 11 06.0 -0.4**
KURBB Kurchatov Arra 150.89 40 PKPbc **PKiKP** **14 11 08.5 +0.1**
comp=Z,7.7nm,0.8s,baz=292,slow=3.0,SNR=43
KURK Kurchatov 150.89 40 **PKiKP** **14 11 08.5 +0.1**
AAK Ala-Archa 151.13 58 PKPbc **PKiKP** **14 11 10.0 +0.6**
comp=Z,6.9nm,0.8s,baz=204,slow=1.8,SNR=21
ZALV Zalesovo Beam 151.97 30 PKP **PKPdf** **14 11 05.0 +1.3**
comp=Z,1.4nm,0.6s,baz=343,slow=4.5,SNR=5.5
ZALV PKPbc **PKiKP** **14 11 11.0 +0.4**
comp=Z,20nm,0.7s,baz=297,slow=3.2,SNR=60
ZALV Zalesovo Beam 151.97 30 **PKiKP** **14 11 11.0 +0.4**
KSH Kashi 152.75 64 PKPbc **PKPdf** **14 11 04.5 -1.0**
MKAR Makanchi Array 154.94 45 PKPbc **PKiKP** **14 11 17.4 +0.5**
comp=Z,2.8nm,0.8s,baz=322,slow=2.0,SNR=18
MKAR Makanchi Array 154.94 45 **PKiKP** **14 11 17.0 0.0**
WMQ Urumqi 159.73 47 *e*P **PKPdf** **14 11 13.9 -0.5**
WMQ pmax pmax
comp=Z,92nm,4.7s
SONM Songino Array 163.55 4 PKPab **PKPab** **14 12 11.2 +1.5**
comp=Z,0.9nm,0.9s,baz=347,slow=5.9,SNR=4.0
CMAR Chiang Mai Arr 164.69 145 PKPab **PKPab** **14 12 15.8 +0.5**
comp=Z,0.8nm,0.8s,baz=197,slow=2.8,SNR=4.4
GTA Gaotai 169.57 38 ⇑PKP **PKPdf** **14 11 24.1 +0.9**
GTA pPKP sPKPdf 14 11 33.4 +9.0
GTA sPKP 14 11 37.6
GTA PKPab **pPKPab** **14 12 37.5 +0.1**
GTA LR LR
comp=N,220nm,20.7s
GTA LR LR
comp=E,120nm,19.6s
GTA LR LR
comp=Z,120nm,21.1s
HHC Hu-ho-hao-te 170.17 344 *e*P **PKPdf** **14 11 21.4 -2.1**
HHC LR LR
comp=N,71nm,15.3s
HHC LR LR
comp=E,190nm,16.2s
HHC LR LR
comp=Z,170nm,17.0s
NJ2 Nanjing 170.79 277 *e*P **PKPdf** **14 11 24.4 +0.4**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s

*NEIC **18** 13:53:43.3±1.6,30°.73S±0°.05×72°.67W±0°.04,h10km±1km, mb4.8/24, Error ellipse: s-maj=8.8km s-min=5.9km az=164.0*
*IDC **18** 13:53:46.3±0.6,30°.79S×72°.73W,h26km±3km,mb4.2/8, mb1 4.4/11,mb1mx4.2/31,mbtmp4.4/11,ML4.2/3,MS3.9/2, Ms1 4.0/2,ms1mx3.5/16,Error ellipse: s-maj=23.7km s-min=17.8km az=83.0*

ISC 18 13:53:45.2±0.5,30°.70S±0°.06×72°.60W±0°.06,h19km,n59, σ1s16/67,mb4.7/18,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.83**	**89**	Pg		**Pb**		**13 54 00.3**	**-0.8**
CO06				Sg		**Sb**		**13 54 11.9**	**+0.1**
CO05	**La Serena**	**1.41**	**57**	Pn		**Pn**		**13 54 08.5**	**-1.4**
CO05				Sn		**Sn**		**13 54 26.4**	**-1.5**
GO04	**Tololo Observa**	**1.64**	**72**	Pn		**Pn**		**13 54 13.2**	**-0.1**
CO03	**El Pedregal**	**1.65**	**95**	Pn		**Pn**		**13 54 13.0**	**-0.3**
CO03				Sn		**Sn**		**13 54 33.9**	**-0.2**
VA01	**Torpederas**	**2.46**	**161**	Pn		**Pn**		**13 54 22.5**	**-1.7**
VA05	**Santo Domingo**	**3.07**	**164**	Pn		**Pn**		**13 54 31.1**	**-1.6**
MT01	**Popeta**	**3.36**	**160**	Pn		**Pn**		**13 54 35.8**	**-0.9**
VA04	**Juan Fernndez**	**6.04**	**239**	Pn		Pn		13 55 08.5	-5.1
LC01	**Cunco**	**8.21**	**176**	Pn		**Pn**		**13 55 41.6**	**-1.6**
PLCA	**Paso Flores**	**10.15**	**171**	Pn		**Pn**		**13 56 08.9**	**-1.1**
	0.5nm,0.3s,baz=330,slow=16,SNR=2.2								
TRQA	**Tornquist**	**11.44**	**133**	Pn		**Pn**		**13 56 26.1**	**-1.4**
LPAZ	**La Paz**	**14.91**	**17**	Pn		**Pn**		**13 57 16.6**	**+0.9**
	0.5nm,0.3s,baz=174,slow=7.6,SNR=4.8								
LPAZ						LR	LR	14 02 52.7	
	comp=Z,484nm,19.7s,baz=234,slow=36								
LPAZ	**La Paz**	**14.91**	**17**			**Pn**		**13 57 16.0**	**+0.3**
SIV	**San Ignacio**	**18.04**	**38**	P		**P**		**13 57 56.1**	**+0.7**
	0.6nm,0.3s,baz=239,slow=12,SNR=9.2								
SPB	**Sao Paulo**	**23.46**	**79**	P		**P**		**13 58 53.5**	**0.0**
SPB					IAmb	IAmb		13 58 55.1	
	comp=Z,34nm,1.2s								
BDFB	**Brasilia**	**27.03**	**62**	P		**P**		**13 59 28.4**	**+1.8**
	comp=Z,6.2nm,0.7s,baz=233,slow=9.5,SNR=4.3								
PDPR	**Patillas Dam,**	**48.84**	**8**	P		**P**		**14 02 26.6**	**-2.9**
VNA3	**Neumayer Olymp**	**52.60**	**159**	P		**P**		**14 02 58.2**	**+0.8**
VNA1	**Neumayer--Stat**	**52.90**	**158**	P		**P**		**14 02 59.8**	**+0.3**
VNA2	**Neumayer--Watz**	**53.24**	**158**	P		**P**		**14 03 02.1**	**0.0**
baz=288,slow=6.7									
SNAA	**Sanae**	**54.82**	**159**	P		**P**		**14 03 12.9**	**-0.8**
SNAA	**Sanae**	**54.82**	**159**	P		**P**		**14 03 13.3**	**-0.5**
	comp=Z,4.4nm,0.8s,baz=290,slow=6.6,SNR=4.6								
SNAA						pP	**sP**	**14 03 22.0**	**+2.6**
	comp=Z,4.7nm,0.8s,baz=272,slow=6.1,SNR=4.5								
SNAA	**Sanae**	**54.82**	**159**	P		**P**		**14 03 13.2**	**-0.5**
SNAA					IAmb	IAmb		14 03 14.4	
	comp=Z,6.8nm,0.9s								
JCT	**Junction City**	**66.11**	**334**	P		**P**		**14 04 30.7**	**-0.4**
TXAR	**Lajitas Array**	**66.63**	**331**	P		**P**		**14 04 34.6**	**0.0**
	comp=Z,2.3nm,0.8s,baz=155,slow=8.4,SNR=9.7								
TXAR	**Lajitas Array**	**66.63**	**331**	P		**P**		**14 04 34.1**	**-0.5**
TX31	**Lajitas Ar. Si**	**66.63**	**331**	P		**P**		**14 04 33.9**	**-0.7**
TX32	**Lajitas Array**	**66.63**	**331**	P		**P**		**14 04 33.9**	**-0.7**
VNDA	**Vanda**	**67.24**	**191**	P		**P**		**14 04 38.1**	**+0.3**
	comp=Z,0.8nm,0.9s,baz=90,slow=3.0,SNR=2.2								
MSTX	**Muleshoe**	**70.34**	**334**	P		**P**		**14 04 56.5**	**-1.3**
R40A	**Maddies Statio**	**71.04**	**344**	P		**P**		**14 05 00.4**	**-1.4**
R40A					IAmb	IAmb		14 05 01.9	
	comp=Z,8.1nm,0.8s								
P40A	**Paris**	**72.17**	**344**	P		**P**		**14 05 07.8**	**-0.7**
P38A	**Dawn**	**72.62**	**343**	P		**P**		**14 05 10.4**	**-0.8**
P38A					IAmb	IAmb		14 05 11.0	
	comp=Z,7.5nm,0.8s								
214A	**Organ Pipe Nat**	**73.04**	**325**	P		**P**		**14 05 13.8**	**-0.2**
214A					IAmb	IAmb		14 05 15.6	
	comp=Z,7.8nm,1.1s								
T25A	**Trinidad**	**73.76**	**334**	P		**P**		**14 05 16.8**	**-1.5**
T25A					IAmb	IAmb		14 05 19.9	
	comp=Z,8.5nm,1.1s								
X16A	**Lo Mia Camp, P**	**74.40**	**327**	P		**P**		**14 05 20.6**	**-1.5**
DBIC	**Dimbokro**	**74.61**	**72**	P		**P**		**14 05 24.0**	**+0.5**
	comp=Z,8.1nm,1.1s,baz=266,slow=2.8,SNR=5.0								
WUAZ	**Wupatki**	**75.28**	**328**	P		**P**		**14 05 27.7**	**+0.6**
WUAZ					IAmb	IAmb		14 05 36.9	
	comp=Z,7.2nm,1.0s								
PFO	**Pinyon Flats O**	**76.20**	**323**	P		**P**		**14 05 33.5**	**+1.1**
	comp=Z,2.9nm,0.8s,baz=140,slow=7.9,SNR=4.0								
SMCO	**Snowmass**	**76.52**	**333**	P		**P**		**14 05 34.7**	**+0.3**
SMCO					IAmb	IAmb		14 05 36.1	
	comp=Z,7.5nm,1.1s								
K31A	**O'Neill**	**76.82**	**340**	P		**P**		**14 05 35.3**	**-0.2**
ECSD	**EROS Data Cent**	**77.26**	**342**	P		**P**		**14 05 37.3**	**-0.7**
ECSD					IAmb	IAmb		14 05 38.3	
	comp=Z,8.2nm,0.9s								
SRU	**San Rafael Swe**	**77.91**	**331**	P		**P**		**14 05 42.2**	**+0.3**
PSUT	**Pine Spring**	**78.89**	**328**	P		**P**		**14 05 47.3**	**-0.1**
HWUT	**Hardware Ranch**	**80.43**	**331**	P		**P**		**14 05 54.5**	**-1.2**
HWUT					IAmb	IAmb		14 05 57.6	
	comp=Z,8.1nm,1.2s								
NVAR	**Mina Array Bea**	**80.91**	**325**	P		**P**		**14 05 58.4**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=162,slow=5.8,SNR=4.3								
NVAR						pP	**PcP**	**14 06 07.2**	**+2.4**
	comp=Z,0.8nm,0.7s,baz=153,slow=6.1,SNR=3.7								
CASY	**Casey**	**83.31**	**181**	P		**P**		**14 06 09.8**	**-0.5**
CASY					IAmb	IAmb		14 06 12.1	
	comp=Z,8.4nm,0.9s								
TORD	**Torodi Ar. Bea**	**83.55**	**71**	P		**P**		**14 06 12.7**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=269,slow=4.4,SNR=3.7								
TORD						pP	**sP**	**14 06 21.4**	**+3.1**
	comp=Z,2.4nm,0.8s,baz=279,slow=5.4,SNR=3.4								
FRB	**Frobisher Bay**	**94.17**	**2**	LR		LR		14 50 29.7	
	baz=43nm,18.2s,baz=223,slow=36								
ASAR	**Alice Springs**	**120.27**	**208**	PKP		**PKPdf**		**14 12 34.1**	**-1.6**
	comp=Z,0.8nm,0.9s,baz=139,slow=2.4,SNR=5.4								
WRA	**Warramunga Arr**	**123.38**	**211**	PKP		**PKPdf**		**14 12 40.3**	**-1.4**
	comp=Z,1.6nm,0.9s,baz=162,slow=1.7,SNR=6.2								
WRA						pPKP	**sPKPdf**	**14 12 48.6**	**+0.8**
	comp=Z,2.3nm,1.0s,baz=163,slow=1.9,SNR=5.8								
PETK	**Petropavlovsk-**	**137.47**	**317**	PKP		**PKPdf**		**14 13 07.5**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=180,slow=3.7,SNR=4.9								
BVAR	**Borovoye Array**	**145.11**	**39**	PKPbc		**PKPdf**		**14 13 21.3**	**+0.4**
	comp=Z,6.7nm,0.6s,baz=256,slow=6.0,SNR=14								
BVAR						pPKPbc	**sPKPdf**	**14 13 29.8**	**+2.7**
	comp=Z,3.3nm,0.6s,baz=267,slow=5.5,SNR=6.1								
KURBB	**Kurchatov Arra**	**150.70**	**39**	PKPbc		**PKPbc**		**14 13 36.2**	**+0.5**
	comp=Z,6.9nm,0.8s,baz=294,slow=3.0,SNR=9.6								
KURBB						pPKPbc	**PKPab**	**14 13 44.2**	**+1.5**
	comp=Z,4.5nm,0.7s,baz=302,slow=2.9,SNR=7.1								
AAK	**Ala-Archa**	**151.22**	**56**	PKPbc		**PKiKP**		**14 13 38.1**	**+0.1**
	comp=Z,6.8nm,0.9s,baz=227,slow=2.1,SNR=6.1								
AAK	**Ala-Archa**	**151.22**	**56**			**PKiKP**		**14 13 38.2**	**+0.3**
ZALV	**Zalesovo Beam**	**151.62**	**29**	PKPbc		**PKPbc**		**14 13 37.8**	**0.0**
	comp=Z,10nm,0.7s,baz=295,slow=3.5,SNR=8.8								
ZALV						pPKPbc	**PKPab**	**14 13 46.1**	**-0.3**
	comp=Z,8.8nm,0.6s,baz=302,slow=3.2,SNR=7.0								
KLR	**Kul'dur**	**153.90**	**322**	PKPbc		**PKPbc**		**14 13 42.1**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=12,slow=5.0,SNR=4.5								
SONM	**Songino Array**	**162.87**	**2**	PKPab		**PKPab**		**14 14 35.2**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=0.0,slow=4.3,SNR=3.4								

*IDC **18** 13:56:45.6±0.9,30°.79S×72°.72W,h26km±4km, mb3.7/3, mb1 4.1/6,mb1mx3.8/31,mbtmp4.0/6,ML3.9/3,Error ellipse: s-maj=42.7km s-min=22.3km az=87.0*

ISC 18 13:56:46.6±0.9,30°.8S±0°.1×72°.6W±0°.3,h35km,n11, σ0s89/15,mb4.1/3,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**10.06**	**171**	Pn		**Pn**		**13 59 07.2**	**-1.3**
	0.3nm,0.3s,baz=345,slow=17,SNR=1.2								
LPAZ	**La Paz**	**15.01**	**17**	Pn		**Pn**		**14 00 15.2**	**-1.5**
	0.2nm,0.3s,baz=190,slow=8.1,SNR=2.3								
SIV	**San Ignacio**	**18.13**	**38**	P		**P**		**14 00 55.1**	**-0.6**
	0.5nm,0.3s,baz=224,slow=9.1,SNR=6.1								
SNAA	**Sanae**	**54.73**	**159**	P		**P**		**14 06 13.1**	**+1.0**
	1.1nm,0.7s,baz=277,slow=6.6,SNR=2.9								
SNAA						pP	**pP**	**14 06 21.0**	**+0.2**
	1.4nm,0.6s,baz=267,slow=8.3,SNR=4.0								
TXAR	**Lajitas Array**	**66.71**	**331**	P		**P**		**14 07 34.2**	**+0.1**
	0.6nm,0.6s,baz=154,slow=7.5,SNR=5.1								
TORD	**Torodi Ar. Bea**	**83.60**	**71**	P		**P**		**14 09 12.4**	**+0.7**
	0.7nm,0.5s,baz=285,slow=5.1,SNR=5.8								
TORD						pP	**pP**	**14 09 20.8**	**+0.1**
	0.7nm,0.5s,baz=281,slow=5.2,SNR=3.5								
WRA	**Warramunga Arr**	**123.29**	**211**	PKP		**PKPdf**		**14 15 39.8**	**-0.6**
	0.2nm,0.8s,baz=158,slow=1.2,SNR=4.8								
BVAR	**Borovoye Array**	**145.20**	**40**	PKPbc		**PKPdf**		**14 16 20.9**	**+1.0**
	1.9nm,0.5s,baz=251,slow=4.5,SNR=6.3								
BVAR						pPKPbc	pPKPab	14 16 29.1	+0.3
	3.2nm,0.4s,baz=254,slow=5.6,SNR=12								
KURBB	**Kurchatov Arra**	**150.78**	**39**	PKPbc		**PKPbc**		**14 16 34.4**	**-0.4**
	0.7nm,0.2s,baz=288,slow=2.6,SNR=4.7								
KURBB						pPKPbc	**sPKPdf**	**14 16 43.1**	**+1.2**
	1.2nm,0.5s,baz=294,slow=3.2,SNR=2.6								
AAK	**Ala-Archa**	**151.28**	**57**	PKPbc		**PKPbc**		**14 16 36.6**	**+0.1**
	0.7nm,0.3s,baz=190,slow=6.1,SNR=2.0								
ZALV	**Zalesovo Beam**	**151.72**	**29**	PKPbc		**PKPbc**		**14 16 37.2**	**+0.4**
	2.1nm,0.4s,baz=300,slow=3.3,SNR=4.4								
ZALV						pPKPbc	**PKPab**	**14 16 45.0**	**-0.7**
	3.7nm,0.6s,baz=306,slow=3.3,SNR=5.3								

*IDC **18** 14:08:07.7±0.6,31°.02S×71°.24W,h50km±5km,mb4.0/9, mb1 4.1/14,mb1mx4.0/24,mbtmp4.2/14,MS3.1/3, Ms1 3.1/3,ms1mx2.9/20,Error ellipse: s-maj=22.4km s-min=13.2km az=97.0*
*NEIC **18** 14:08:07.7±3.2,30°.98S±0°.02×71°.43W±0°.06,h35km±1km, Error ellipse: s-maj=8.2km s-min=3.9km az=264.0*
*NEIC **18** 14:08:08.2,30°.99S×71°.45W,h58km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.45; $M_{\theta\theta}$-0.03; $M_{\phi\phi}$-2.42; $M_{r\theta}$-0.01; $M_{\theta\phi}$0.59; $M_{\phi r}$-1.19; Fault plane solution: $M_0$2.77000×10^{15} NP1:ϕ_s172.93000°, δ57.67000°, λ96.64000°. NP2:ϕ_s340.66000°, δ32.93000°, λ79.65000°. Principal axes: T 2.7315, Plg76.0000°, Azm103.0000°; N 0.0839, Plg6.0000°, Azm349.0000°; P -2.8155, Plg12.0000°, Azm258.0000°;*
*GUC **18** 14:08:08.4±0.6,30°.87S×71°.27W,h45km±3km,ML4.5*

ISC 18 14:08:07.6±0.5,30°.96S±0°.04×71°.36W±0°.05,h51km±4km, n91,σ1s24/95,mb4.5/12,4C-6D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.37**	**321**	⇑*i*	P		**Pn**	**14 08 18.2**	**+0.8**
CO06				*i*	S		**Sn**	**14 08 26.0**	**+1.5**
CO06				IAML				14 08 27.2	
	comp=E,35µm,0.2s								
CO06	**Fray Jorge**	**0.37**	**321**				**Pn**	**14 08 18.2**	**+0.8**
CO03	**El Pedregal**	**0.59**	**78**	⇓*i*	P		**Pn**	**14 08 20.5**	**+0.4**
CO03				*i*	S		**Sn**	**14 08 29.1**	**0.0**
CO03				IAML				14 08 30.3	
	comp=E,68µm,0.2s								
CO03	**El Pedregal**	**0.59**	**78**				**Pn**	**14 08 20.4**	**+0.3**
CO03							**Sn**	**14 08 29.6**	**+0.4**
GO04	**Tololo Observa**	**0.93**	**32**	⇓*i*	P		**Pn**	**14 08 25.3**	**+0.7**
GO04				*i*	S		**Sn**	**14 08 38.0**	**+1.0**
GO04				IAML				14 08 40.2	
	comp=E,55µm,0.5s								
GO04	**Tololo Observa**	**0.93**	**32**				**Pn**	**14 08 25.3**	**+0.7**
GO04				Sn			**Sn**	**14 08 38.2**	**+1.2**
CO05	**La Serena**	**1.04**	**6**	⇓*i*	P		**Pn**	**14 08 26.7**	**+0.8**
CO05				*i*	S		**Sn**	**14 08 40.1**	**+0.6**
CO05				IAML				14 08 43.9	
	comp=E,12µm,0.3s								
CO05	**La Serena**	**1.04**	**6**				**Pn**	**14 08 26.7**	**+0.8**
VA06	**Catapilco**	**1.59**	**178**	⇓*i*	P		**Pn**	**14 08 34.4**	**+1.0**
VA06				IAML				14 08 57.3	
	comp=E,14µm,0.4s								
VA03	**San Esteban**	**1.93**	**159**	⇑*i*	P		**Pn**	**14 08 39.5**	**+1.4**
VA03				IAML				14 09 08.6	
	comp=E,6µm,0.7s								
VA03	**San Esteban**	**1.93**	**159**				**Pn**	**14 08 39.6**	**+1.6**
ROCH	**El Roble**	**2.03**	**172**	*e*P			**Pn**	**14 08 40.7**	**+1.2**
ROCH				IAML				14 09 11.1	
	comp=N,3µm,0.3s								
LCO	**Las Campanas**	**2.03**	**17**	*e*P			**Pn**	**14 08 40.5**	**+0.9**
LCO				*i*	S		**Sn**	**14 09 05.2**	**+1.3**
LCO	**Las Campanas**	**2.03**	**17**				**Pn**	**14 08 40.8**	**+1.2**
LCO				Sn			**Sn**	**14 09 05.7**	**+1.8**
VA01	**Torpederas**	**2.07**	**187**	⇓*i*	P		**Pn**	**14 08 40.1**	**+0.2**
VA01				IAML				14 09 13.4	
	comp=E,2µm,0.5s								
VA01	**Torpederas**	**2.07**	**187**				**Pn**	**14 08 40.0**	**+0.2**
ZON	**Zonda**	**2.37**	**105**	Pn			**Pn**	**14 08 47.5**	**+3.4**
MT05	**Renca**	**2.48**	**168**	⇑*i*	P		**Pn**	**14 08 46.9**	**+1.4**
MT05				IAML				14 09 24.2	
	comp=E,5µm,0.1s								
MT05	**Renca**	**2.48**	**168**				**Pn**	**14 08 47.0**	**+1.4**
VA05	**Santo Domingo**	**2.70**	**184**	*e*P			**Pn**	**14 08 48.5**	**0.0**
VA05				IAML				14 09 31.3	
	comp=E,3µm,0.2s								
VA05	**Santo Domingo**	**2.70**	**184**				**Pn**	**14 08 48.4**	**0.0**
AC04	**Llanos de Chal**	**2.76**	**5**	⇑*i*	P		**Pn**	**14 08 50.7**	**+1.3**
AC04				IAML				14 09 36.2	
	comp=N,2µm,0.4s								
AC04	**Llanos de Chal**	**2.76**	**5**	Pn			**Pn**	**14 08 50.7**	**+1.3**
MT09	**Talagante**	**2.82**	**174**	*e*P			**Pn**	**14 08 51.7**	**+1.3**
MT09				IAML				14 09 37.0	
	comp=N,2µm,0.3s								
MT09	**Talagante**	**2.82**	**174**	Pn			**Pn**	**14 08 51.6**	**+1.2**
MT01	**Popeta**	**2.90**	**178**	Pn			**Pn**	**14 08 52.1**	**+0.9**
LMEL	**Las Melosas**	**3.04**	**161**	⇓*i*	P		**Pn**	**14 08 55.9**	**+2.6**
LMEL				*i*	S		**Sn**	**14 09 31.8**	**+3.2**
LMEL				IAML				14 09 38.3	
	comp=N,2µm,0.2s								
BO01	**Tunca**	**3.43**	**176**				**Pn**	**14 08 59.3**	**+0.8**
GO03	**Copiap**	**3.50**	**17**	Pn			**Pn**	**14 09 01.4**	**+1.8**
AC06	**Mina Casimiro**	**3.70**	**14**				**Pn**	**14 09 03.

TXAR	**Lajitas Array**	**67.39**	**330**	P	**P**	**14 18 58.0**	**+0.3**
R40A	**Maddies Statio**	**71.61**	**343**	P	**P**	**14 19 22.6**	**-0.8**
R40A				IAmb	IAmb	14 19 38.9	
	comp=Z,7.5nm,0.7s						
DBIC	**Dimbokro**	**73.67**	**72**	P	**P**	**14 19 35.2**	**-1.1**
	comp=Z,6.8nm,0.8s,baz=251,slow=3.5,SNR=5.2						
MAW	**Mawson**	**75.92**	**164**	P	**P**	**14 19 46.7**	**-1.7**
	comp=Z,3.5nm,0.9s,baz=221,slow=9.3,SNR=4.5						
BOSA	**Boshof**	**80.98**	**118**	P	**P**	**14 20 17.1**	**-0.2**
	comp=Z,2.9nm,0.9s,baz=222,slow=7.3,SNR=2.4						
BOSA	**Boshof**	**80.98**	**118**	P	**P**	**14 20 16.7**	**-0.6**
BOSA				IAmb	IAmb	14 20 20.9	
	comp=Z,9.0nm,1.1s						
NVAR	**Mina Array Bea**	**81.73**	**325**	P	**P**	**14 20 21.4**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=129,slow=7.1,SNR=2.9						
NVAR				pP	**pP**	**14 20 35.8**	**0.0**
	comp=Z,1.0nm,0.8s,baz=151,slow=6.3,SNR=5.7						
TORD	**Torodi Ar. Bea**	**82.64**	**70**	P	**P**	**14 20 26.4**	**+0.5**
	comp=Z,5.5nm,0.7s,baz=280,slow=5.3,SNR=30						
TORD	**Torodi Ar. Bea**	**82.64**	**70**	P	**P**	**14 20 25.6**	**-0.3**
ASAR	**Alice Springs**	**120.53**	**207**	PKP	**PKPdf**	**14 26 53.3**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=128,slow=1.7,SNR=13						
ASAR				pPKP	**pPKPdf**	**14 27 08.2**	**-1.5**
	comp=Z,0.1nm,0.6s,baz=127,slow=1.6,SNR=1.4						
ASAR	**Alice Springs**	**120.53**	**207**		**PKPdf**	**14 26 53.4**	**-0.7**
WRA	**Warramunga Arr**	**123.68**	**209**	PKP	**PKPdf**	**14 26 59.7**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=169,slow=1.9,SNR=5.9						
WRA				pPKP	**pPKPdf**	**14 27 15.0**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=170,slow=1.8,SNR=2.7						
H11S2	**WAKE ISLAND Hyl**	**26.34**	**271**	T	T	16 45 57.6	
	baz=116,slow=75,SNR=46						
H11S1	**WAKE ISLAND Hyl**	**26.35**	**271**	T	T	16 45 57.2	
	baz=116,slow=75,SNR=31						
H11S3	**WAKE ISLAND Hyl**	**26.36**	**271**	T	T	16 45 58.1	
	baz=116,slow=75,SNR=32						
H11N3	**WAKE ISLAND Hyl**	**26.67**	**272**	T	T	16 46 19.8	
	baz=116,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hyl**	**26.69**	**272**	T	T	16 46 22.5	
	baz=116,slow=75,SNR=4.3						
H11N2	**WAKE ISLAND Hyl**	**26.69**	**272**	T	T	16 46 20.8	
	baz=116,slow=75,SNR=20						
ZALV	**Zalesovo Beam**	**151.34**	**30**	PKPbc	**PKiKP**	**14 27 55.1**	**-0.4**
	comp=Z,2.4nm,0.5s,baz=298,slow=2.8,SNR=8.8						
ZALV				pPKPbc	**pPKPbc**	**14 28 10.5**	**0.0**
	comp=Z,1.7nm,0.4s,baz=320,slow=5.1,SNR=3.6						
ZALV	**Zalesovo Beam**	**151.34**	**30**		**PKiKP**	**14 27 55.5**	**0.0**
KSH	**Kashi**	**152.11**	**63**	PKPbc	**PKPdf**	**14 27 53.1**	**+2.3**
KSH				sPKP		14 28 06.9	
MKAR	**Makanchi Array**	**154.27**	**45**	PKPbc	**PKiKP**	**14 28 01.9**	**0.0**
	comp=Z,0.7nm,0.9s,baz=327,slow=2.0,SNR=4.7						
MKAR				pPKPbc	**sPKPdf**	**14 28 16.9**	**+2.1**
	comp=Z,1.1nm,0.7s,baz=295,slow=4.1,SNR=9.6						

*IDC **18** 14:23:46.3±3.0,31°.28S×71°.76W,h0km,mb3.8/1, mb1 3.6/2,mb1mx3.5/16,mbtmp3.5/2,ML3.2/1, Error ellipse: s-maj=132.6km s-min=47.9km az=96.0*

*GUC **18** 14:23:50.1±0.5,31°.43S×71°.79W,h29km±3km,ML3.7*

ISC 18 14:23:46.6±1.7,31°.42S±0°.03×71°.84W±0°.10,h0km±11km, n18,σ0°.95/26,5C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.77**	**14**	*i*P	**Pn**	**14 24 04.2**	**-0.4**
CO06				*i* S	**Sb**	**14 24 14.5**	**+0.7**
CO06				IAML		14 24 17.1	
	comp=E,6μm,0.4s						
CO03	**El Pedregal**	**1.15**	**60**	*i*P	**Pn**	**14 24 09.8**	**-0.2**
CO03				*i* S	**Sb**	**14 24 24.2**	**-0.7**
CO03				IAML		14 24 28.6	
	comp=E,4μm,0.8s						
VA06	**Catapilco**	**1.23**	**158**	*i*P	**Pn**	**14 24 10.8**	**-0.1**
VA06				*i* S	**Sb**	**14 24 26.3**	**-0.7**
GO04	**Tololo Observa**	**1.54**	**36**	*i*P	**Pg**	**14 24 16.4**	**+0.4**
GO04				*i* S	**Sg**	**14 24 36.3**	**+0.3**
GO04				IAML		14 24 40.5	
	comp=N,5μm,0.4s						
CO05	**La Serena**	**1.59**	**19**	*i*P	**Pg**	**14 24 16.9**	**-0.1**
CO05				*i* S	**Sg**	**14 24 37.4**	**-0.2**
CO05				IAML		14 24 43.8	
	comp=E,2μm,0.5s						
ROCH	**El Roble**	**1.70**	**156**	*i*P	**Pb**	**14 24 18.8**	**0.0**
ROCH				*i* S	**Sg**	**14 24 41.0**	**-0.2**
VA03	**San Esteban**	**1.73**	**141**	*e*P	**Pb**	**14 24 19.1**	**-0.2**
VA03				*i* S	**Sb**	**14 24 41.4**	**-0.2**
VA03				IAML		14 24 44.6	
	comp=E,1μm,0.3s						
MT05	**Renca**	**2.17**	**155**	*e*P	**Pb**	**14 24 26.2**	**-0.7**
MT09	**Talagante**	**2.46**	**163**	*e*P	**Pb**	**14 24 30.0**	**-1.7**
MT09				IAML		14 25 14.2	
	comp=N,314nm,0.8s						
MT01	**Popeta**	**2.48**	**169**	*e*P	**Pn**	**14 24 28.7**	**+0.4**
MT01				IAML		14 25 11.0	
	comp=E,129nm,0.4s						
LCO	**Las Campanas**	**2.60**	**23**	*i*P	**Pn**	**14 24 30.7**	**+0.6**
LCO				*i* S	**Sn**	**14 25 02.5**	**0.0**
LMEL	**Las Melosas**	**2.79**	**151**	*e*P	**Pn**	**14 24 34.2**	**+1.6**
LMEL				*i* S	**Sn**	**14 25 08.6**	**+1.5**
LMEL				IAML		14 25 22.2	
	comp=E,177nm,0.4s						
AC04	**Llanos de Chal**	**3.28**	**12**	IAML		14 25 37.9	
	comp=E,295nm,0.5s						
BO02	**Sierra Bellavi**	**3.48**	**165**	*e*P	**Pn**	**14 24 43.7**	**+1.7**
BO02				IAML		14 26 11.5	
	comp=N,179nm,0.7s						
AC06	**Mina Casimiro**	**4.25**	**18**	*e*P	**Pn**	**14 24 54.1**	**+1.4**
PLCA	**Paso Flores**	**9.35**	**174**	Pn	**Pn**	**14 26 04.2**	**+1.5**
	comp=N,0.1nm,0.3s,baz=357,slow=14,SNR=1.8						
TORD	**Torodi Ar. Bea**	**83.18**	**70**	P	**P**	**14 36 14.2**	**-0.8**
	comp=N,0.6nm,0.8s,baz=234,slow=8,SNR=4.2						
ZALV	**Zalesovo Beam**	**151.94**	**30**	PKPbc	**PKPbc**	**14 43 42.2**	**-0.8**
	comp=N,1.6nm,0.7s,baz=291,slow=4.1,SNR=5.7						

MEX 18 14:30:19.4±0.5,14°.42N×92°.68W,h19km±75km,MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.38**	**338**	*e*P	Pn	14 30 40.2	-3.5
PCIG				*i* S	Sn	14 30 56.9	-4.6
CCIG	**Comitan**	**1.93**	**16**	*i* P	Pn	14 30 49.3	-2.1
CCIG				*e*S	Sn	14 31 11.3	-3.9
TGIG		**2.38**	**350**	*e*P	Pn	14 30 55.0	-2.6
TGIG				*e*S	Sn	14 31 20.1	-6.3
CMIG	**Matias Romero**	**3.40**	**322**	*e*P	Pn	14 31 08.8	-2.7
CMIG				*e*S	Sn	14 31 47.2	-4.1

TRN 18 14:31:55.9,12°.90N×59°.56W,h62km,MD3.5,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBSP	**Saint Philip**	**0.23**	**25**	*e*P	Pn	14 32 06.3	+0.6
BBSP				*e*S	Sn	14 32 14.2	+1.4
BBGH	**Gun Hill**	**0.25**	**359**	*e*P	Pn	14 32 06.5	+0.7
BCHC	**Barbados, Cave**	**0.25**	**343**	*e*P	Pn	14 32 06.8	+1.0
BCHC				*e*S	Sn	14 32 15.3	+2.4
MCLT	**Moule a Chique**	**1.57**	**301**	*e*P	Pn	14 32 22.6	+1.0
MCLT				*e*S	Sn	14 32 42.8	+1.7
SVOC	**Richmond Hill,**	**1.64**	**279**	*e*P	Pn	14 32 22.9	+0.3
SSV	**Crater Summit**	**1.65**	**285**	*e*P	Pn	14 32 25.2	+2.5
SSV				*e*S	Sn	14 32 44.0	+0.9
SVV	**Soufriere Volc**	**1.67**	**285**	*e*P	Pn	14 32 25.8	+2.9
SVV				*e*S	Sn	14 32 45.2	+1.8
SVB	**Belmont**	**1.69**	**283**	*e*P	Pn	14 32 23.7	+0.4
SVB				*e*S	Sn	14 32 45.5	+1.5
SLB	**Belfond**	**1.72**	**303**	*e*P	Pn	14 32 26.4	+2.8
SLBI	**Saint Lucia, B**	**1.78**	**309**	*e*P	Pn	14 32 24.8	+0.4
GCMP	**Grenada, Carri**	**1.87**	**258**	*e*P	Pn	14 32 26.0	+0.4
GCMP				*e*S	Sn	14 32 49.3	+1.1
MPOM	**Morne Pois Mar**	**1.99**	**321**	*e*P	Pn	14 32 28.1	+0.8
MPOM				*e*S	Sn	14 32 52.3	+1.1
MVM	**Montagne Vaucl**	**2.10**	**322**	*e*P	Pn	14 32 30.2	+1.4
LPMF	**Morne Lapointe**	**2.16**	**321**	*e*P	Pn	14 32 31.1	+1.5
BIM	**Bigot**	**2.18**	**318**	*e*P	Pn	14 32 31.2	+1.3
BIM	**Bigot**	**2.18**	**318**	*e*P	Pn	14 32 31.5	+1.6
BIM				*e*S	Sn	14 32 57.6	+1.8
GRGR	**Grenville**	**2.19**	**250**	*e*P	Pn	14 32 31.3	+1.4
GRGR				*e*S	Sn	14 32 57.1	+1.2
ZAM	**Aeronautique**	**2.20**	**320**	*e*P	Pn	14 32 31.6	+1.5
ILAM	**Ilet Lapin Mar**	**2.26**	**326**	*e*P	Pn	14 32 32.5	+1.5
FDF	**Fort de France**	**2.40**	**320**	*e*P	Pn	14 32 34.3	+1.5
PML	**Morne Lenard**	**2.45**	**320**	*e*P	Pn	14 32 35.2	+1.7
CXM	**Morne La Croix**	**2.46**	**321**	*e*P	Pn	14 32 35.6	+1.8
DSLB	**Salisbury**	**3.11**	**325**	*e*P	Pn	14 32 44.7	+2.2
MAGL	**Barre de l'ile**	**3.47**	**331**	*e*P	Pn	14 32 48.7	+1.3
MAGL				*e*S	Sn	14 33 27.4	+0.2
TDBA	**Terre de Bas,**	**3.56**	**326**	*e*P	Pn	14 32 50.4	+1.7
TBG	**Guadaloupe-3**	**3.57**	**326**	*e*P	Pn	14 32 51.4	+2.6
CBE	**Ff, Capester**	**3.73**	**328**	*e*P	Pn	14 32 52.8	+1.8
CBE				*e*S	Sn	14 33 33.9	+0.2
ABD	**La Joyeuse, An**	**4.02**	**333**	*e*P	Pn	14 32 56.7	+1.8
ABD				*e*S	Sn	14 33 41.3	+0.5
ANBD	**Bethesda, Anti**	**4.65**	**333**	*e*P	Pn	14 33 04.7	+1.1
ANWB	**Willy Bob**	**5.21**	**336**	*e*P	Pn	14 33 11.9	+0.6
ANWB	**Willy Bob**	**5.21**	**336**	*e*S	Sn	14 34 08.6	-1.4

*TUL **18** 14:43:32.8±1.4,35°.99N±0°.01×96°.79W±0°.03,h5km±3km, ML2.4,mb_Lg2.4/18(NEIC),Error ellipse: s-maj=3.3km s-min=1.7km az=112.0*

NEIC 18 14:43:32.8±1.0,36°.01N±0°.01×96°.81W±0°.02,h3km±5km, Error ellipse: s-maj=3.0km s-min=1.8km az=109.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OK031	**S. Brethren Rd**	**0.06**	**204**	Pg	Pg	14 43 33.9	-0.1
OK031				Sg	Sg	14 43 35.0	+0.2
QUOK	**Quay**	**0.19**	**26**	Pg	Pg	14 43 36.6	+0.2
QUOK				Sg	Sg	14 43 39.5	+0.6
OK029	**Liberty Lake**	**0.56**	**249**	Pg	Pg	14 43 51.5	-0.1
OK029				Sg	Sg	14 43 51.5	+0.6
OK025	**Westminster Rd**	**0.60**	**226**	Pg	Pg	14 43 44.2	-0.1
OK025				Sg	Sg	14 43 52.7	+0.5
BLOK	**Blackwell**	**0.82**	**337**	Pg	Pg	14 43 48.3	-0.3
BLOK				Sg	Sg	14 43 59.4	+0.1
FNO	**Franklin**	**0.89**	**213**	Pg	Pg	14 43 48.9	-0.9
FNO				Sg	Sg	14 44 01.4	+0.1
T35A	**Sooner Cattle**	**0.94**	**15**	Pg	Pg	14 43 50.4	-0.4
T35A				Sg	Sg	14 44 03.7	+0.6
CROK	**Carrier**	**1.07**	**298**	Pg	Pg	14 43 52.9	-0.4
CROK				Sg	Sb	14 44 07.9	-0.6
GC02	**Grant County #**	**1.20**	**315**	Pg	Pg	14 43 55.1	-0.6
GC02				Sg	Sg	14 44 11.4	+0.2
KAN14	**Manchester OK**	**1.33**	**316**	Pn	Pg	14 43 57.7	-0.6
OK032	**Salt Plains WL**	**1.38**	**306**	Pn	Pn	14 43 58.5	-0.6
X34A	**Smith Ranch, M**	**1.63**	**211**	Pn	Pn	14 44 02.0	-0.5
U32A	**Winter Ranch,**	**1.81**	**283**	Pn	Pn	14 44 05.1	+0.1
U38A	**Gravette**	**2.01**	**77**	Pn	Pn	14 44 07.9	+0.2
LOOK	**Love County**	**2.03**	**189**	Pn	Pn	14 44 08.7	+0.7
LOOK				IAmb_Lg		14 44 40.2	
	comp=Z,12nm,0.9s						
WMOK	**Wichita Mounta**	**2.05**	**232**	Pn	Pn	14 44 08.4	+0.2
HHAR	**Hobbs**	**2.34**	**82**	Pn	Pn	14 44 12.7	+0.5
W39A	**Magazine**	**2.59**	**107**	Pn	Pn	14 44 15.5	-0.3
MIAR	**Mount Ida**	**3.02**	**118**	Pn	Pn	14 44 21.7	+0.2
U40A	**Yellville**	**3.22**	**83**	Pn	Pn	14 44 24.9	+0.5
S39A	**Bolivar**	**3.26**	**58**	IAmb_Lg		14 45 24.2	
	comp=Z,7.7nm,0.8s						
X40A	**Basin Creek Fa**	**3.59**	**114**		Pn	14 44 30.0	+0.6
WHAR	**Wooly Hollow**	**3.75**	**100**	Pn	Pn	14 44 31.2	-0.5
WHAR				IAmb_Lg		14 45 38.3	
	comp=Z,8.4nm,1.3s						
FCAR	**Ozark Folk Cen**	**3.80**	**90**	Pn	Pn	14 44 32.1	-0.3
FCAR				IAmb_Lg		14 45 34.2	
	comp=Z,14nm,0.8s						
AMTX	**Amarillo**	**4.13**	**256**	IAmb_Lg		14 45 48.8	
	comp=Z,9.4nm,1.0s						
R40A	**Maddies Statio**	**4.29**	**56**	IAmb_Lg		14 45 47.4	
	comp=Z,8.8nm,0.9s						
P38A	**Dawn**	**4.45**	**35**	IAmb_Lg		14 45 53.0	
	comp=Z,9.3nm,0.9s						
CCM	**Cathedral Cave**	**4.90**	**64**	IAmb_Lg		14 46 09.7	
	comp=Z,6.2nm,0.8s						
P40A	**Paris**	**5.16**	**46**	IAmb_Lg		14 46 23.0	
	comp=Z,7.5nm,0.7s						
PBMO	**Poplar Bluff**	**5.21**	**80**	IAmb_Lg		14 46 29.0	
	comp=Z,6.0nm,0.8s						

TAP 18 14:50:48.6,24°.28N×121°.84E,h19km,ML1.6,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.17**	**329**	P	Pg	14 50 53.4	0.0
	baz=330						
ENA				S	Sg	14 50 57.0	+0.5
	baz=330						
EWUT	**Wuta**	**0.17**	**341**	*e*P	Pg	14 50 53.5	+0.1
	baz=341						
EWUT				*e*S	Sg	14 50 57.0	+0.4
	baz=341						
ETL	**Fush Village**	**0.23**	**239**	*e*P	Pg	14 50 54.4	+0.1
	baz=244						
NACB	**Ninganchiao**	**0.25**	**245**	*e*P	Pg	14 50 54.7	+0.2
	baz=250						
ETLH	**Xiulin Townshi**	**0.34**	**258**	*e*P	Pb	14 50 56.5	+0.4
	baz=258						
NDS	**Dongshan**	**0.37**	**342**	*e*P	Pb	14 50 56.8	+0.1
	baz=342						
NDS				*e*S	Sb	14 51 02.4	+0.3
	baz=342						
ENTT	**Nioudou**	**0.44**	**325**	*e*P	Pb	14 50 58.2	+0.3
	baz=325						
ENTT				*e*S	Sb	14 51 04.6	+0.6
	baz=325						
NNSB	**Datong**	**0.44**	**290**	*e*P	Pb	14 50 58.1	+0.1
	baz=289						
NNSB				*e*S	Sb	14 51 04.2	-0.1
	baz=289						
NNS	**Nan Shan**	**0.46**	**291**	*e*P	Pb	14 50 58.4	+0.2
	baz=291						
NNS				*e*S	Sb	14 51 04.7	+0.1
	baz=291						
TWE	**Neicheng**	**0.47**	**340**	*e*P	Pb	14 50 58.8	+0.5
	baz=341						
TWE				*e*S	Sb	14 51 05.2	+0.4
	baz=341						
WHF	**Hehuan Shan**	**0.54**	**256**	*e*P	Pb	14 50 59.7	0.0
	baz=256						
WHF				*e*S	Sb	14 51 07.6	+0.4
	baz=256						
WHF	**Hehuan Shan**	**0.54**	**256**	*e*S	Sg	14 51 07.2	0.0
	baz=296						
NTC	**Toucheng**	**0.57**	**359**	*e*P	Pn	14 51 01.7	0.0
	baz=359						
NTC				*e*S	Sg	14 51 08.9	+1.0
	baz=359						
YHNB	**Yeheng**	**0.57**	**313**	*e*P	Pg	14 51 00.5	+0.3
	baz=315						
YHNB				*e*S	Sg	14 51 08.6	+0.6
	baz=315						
NSK	**Sanguang**	**0.59**	**312**	*e*S	Sg	14 51 09.0	+0.5
	baz=312						
TWT	**Tachien**	**0.61**	**268**	*e*S	Sg	14 51 10.3	+1.3
	baz=267						
HGSD	**Ruisui**	**0.87**	**206**	*e*P	Pg	14 51 05.8	+0.1
	baz=197						

TAP 18 14:50:53.5,23°.95N×121°.60E,h19km,ML1.4,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.03**	**8**	*e*P	Pg	14 50 57.2	+0.3
	baz=225						
HWA	**Hwalien**	**0.03**	**8**	*e*P	Pg	14 50 57.2	+0.3
	baz=20						
HWA				*e*S	Sg	14 51 01.0	+1.8
	baz=20						
TEYL	**Yanliau Villag**	**0.08**	**181**	*e*P	Pg	14 50 57.4	+0.2
	baz=180						
TEYL				*e*S	Sg	14 51 00.7	+1.1
	baz=180						
ETM	**Tongmen**	**0.10**	**282**	*e*P	Pg	14 50 57.5	+0.1
	baz=282						
ETM				*e*S	Sg	14 51 00.1	+0.2
	baz=282						
TWD	**Chiawan**	**0.13**	**358**	*e*P	Pg	14 50 57.8	+0.1
	baz=353						
TWD				*e*S	Sg	14 51 01.1	+0.5
	baz=353						
ESL	**Shilin**	**0.20**	**230**	*e*P	Pg	14 50 58.7	+0.1
	baz=235						
ESL				*e*S	Sg	14 51 02.1	+0.1
	baz=235						
ETL	**Fush Village**	**0.21**	**6**	*e*P	Pg	14 50 58.8	0.0
	baz=358						
ETL				*e*S	Sg	14 51 02.9	+0.4
	baz=358						
ETL	**Fush Village**	**0.21**	**6**	*e*S	Pg	14 50 58.9	0.0
	baz=244						
NACB	**Ninganchiao**	**0.23**	**359**	*e*P	Pg	14 50 58.8	-0.2
	baz=357						
NACB				*e*S	Sg	14 51 03.0	+0.2
	baz=357						
NACB	**Ninganchiao**	**0.23**	**359**	*e*S	Pg	14 50 58.8	-0.2
	baz=250						
ETLH	**Xiulin Townshi**	**0.28**	**338**	*e*P	Pg	14 51 00.0	+0.1
	baz=336						
ETLH				*e*S	Sg	14 51 05.1	+0.8
	baz=336						
WHF	**Hehuan Shan**	**0.36**	**303**	*e*P	Pb	14 51 01.7	0.0
	baz=296						
OWD	**Renai**	**0.39**	**271**	*e*P	Pb	14 51 02.1	+0.3
	baz=278						
OWD				*e*S	Sb	14 51 07.5	0.0
	baz=278						
CHGB	**Renai**	**0.41**	**286**	*e*P	Pg	14 51 01.8	-0.3
	baz=241						
CHGB	**Renai**	**0.41**	**286**	*e*P	Pg	14 51 01.8	-0.3
	baz=283						
CHGB				*e*S	Sb	14 51 08.1	0.0
	baz=283						
HGSD	**Ruisui**	**0.48**	**200**	*e*S	Sn	14 51 11.8	-1.3
	baz=192						
ENA	**Nanau**	**0.50**	**15**	*e*P	Pg	14 51 03.5	0.0
	baz=5.0						
NNSB	**Datong**	**0.52**	**338**	*e*S	Sg	14 51 10.8	-0.4
	baz=336						
NNS	**Nan Shan**	**0.54**	**337**	*e*S	Sg	14 51 12.1	+0.5
	baz=336						
SSLB	**Suanglung**	**0.61**	**255**	*e*S	Sg	14 51 13.9	-0.1
	baz=263						
YULB	**Yu-li**	**0.62**	**207**	*e*P	Pb	14 51 05.3	-0.2
	baz=215						
YULB				*e*S	Sg	14 51 14.9	+0.9
	baz=215						
ENTT	**Nioudou**	**0.69**	**357**	*e*S	Sg	14 51 17.1	+0.6
	baz=356						
FULB	**Fuli**	**0.79**	**201**	*e*S	Sb	14 51 19.2	+0.2
	baz=215						

*IDC **18** 14:56:20.9±1.3,17°.87S×178°.51W,h572km±15km,mb3.6/6, mb1 3.7/9,mb1mx3.2/32,mbtmp4.5/9,Error ellipse: s-maj=25.1km s-min=17.2km az=141.0*

*NEIC **18** 14:56:21.1±2.0,17°.9S±0°.1×178°.6W±0°.1,h567km±11km, mb4.3/25,Error ellipse: s-maj=21.6km s-min=15.6km az=45.0*

ISC 18 14:56:21.3±0.7,17°.8S±0°.1×178°.55W±0°.10,h579km,n49, σ0°.91/50,mb4.3/18,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.24**	**271**	P	**P**	**14 57 41.0**	**+0.8**
	3.1nm,0.3s,baz=123,slow=5.1,SNR=26						
MSVF	**Nonsavu**	**3.24**	**271**		**P**	**14 57 41.0**	**+0.8**
AFI	**Afiamalu**	**7.59**	**60**	P	**P**	**14 58 14.6**	**-1.5**
	4.2nm,0.3s,baz=344,slow=15,SNR=6.6						
AFI	**Afiamalu**	**7.59**	**60**	P	**P**	**14 58 14.8**	**-1.3**
NIUE	**Niue**	**8.28**	**100**	P	**P**	**14 58 23.2**	**+0.5**
MARNC	**Mare, Loyalty**	**13.15**	**252**	P	**P**	**14 59 09.9**	**-1.8**
SANVU	**Saraoutou**	**13.85**	**278**	P	**P**	**14 59 19.5**	**+0.5**
PINNC	**Pines Island,**	**13.97**	**248**	P	**P**	**14 59 19.5**	**-0.6**
OUENC	**Ouen Island, N**	**14.46**	**249**	P	**P**	**14 59 23.2**	**-1.6**
DZM	**Mont Dzumac**	**14.72**	**251**	P	**P**	**14 59 26.3**	**-1.3**
	1.6nm,0.3s,baz=122,slow=23,SNR=20						
DZM	**Mont Dzumac**	**14.72**	**251**	P	**P**	**14 59 26.4**	**-1.2**
ONTNC	**Ouen Toro**	**14.77**	**250**	P	**P**	**14 59 28.4**	**+0.5**
URZ	**Urewera**	**20.71**	**190**	P	**P**	**15 00 21.3**	**-0.9**
	3.6nm,0.3s,baz=305,slow=19,SNR=8.4						
URZ	**Urewera**	**20.71**	**190**	P	**P**	**15 00 21.3**	**-0.9**
BKZ	**Black Stump Fm**	**21.70**	**190**	P	**P**	**15 00 30.7**	**-0.4**
BKZ				IAmb	IAmb	15 00 45.9	
	comp=Z,4.6nm,1.0s						
EIDS	**Eidsvold**	**29.17**	**250**	P	**P**	**15 01 36.3**	**-0.7**
EIDS				IAmb	IAmb	15 01 45.0	
	comp=Z,9.1nm,1.1s						
ARMA	**Armidale**	**29.86**	**240**	P	**P**	**15 01 44.2**	**+1.1**
CTAO	**Charters Tower**	**33.32**	**260**	P	**P**	**15 02 11.2**	**-1.3**
CTAO				IAmb	IAmb	15 02 12.5	
	comp=Z,4.6nm,0.7s						
CAN	**Canberra**	**33.65**	**232**	P	**P**	**15 02 15.7**	**+0.7**
CAN				IAmb	IAmb	15 02 22.9	
	comp=Z,9.1nm,1.1s						
COEN	**Coen**	**36.97**	**270**	P	**P**	**15 02 42.8**	**0.0**
COEN				IAmb	IAmb	15 02 43.4	
	comp=Z,7.8nm,0.7s						
TOO	**Toolangi**	**37.12**	**231**	P	**P**	**15 02 45.0**	**+1.2**
TOO				IAmb	IAmb	15 02 46.1	
	comp=Z,12nm,1.0s						
STKA	**Stephens Creek**	**38.55**	**241**	P	**P**	**15 02 56.5**	**+1.1**
	comp=Z,5.4nm,0.5s,baz=86,slow=10,SNR=23						
STKA	**Stephens Creek**	**38.55**	**241**	P	**P**	**15 02 56.1**	**+0.7**
JAY	**Jayapura**	**42.75**	**286**	P	**P**	**15 03 29.3**	**+0.3**
	comp=Z,8.6nm,0.8s,baz=140,slow=7.2,SNR=6.4						
BBOO	**Buckleboo**	**43.33**	**241**	P	**P**	**15 03 33.9**	**+0.7**
WB2	**Warramunga Arr**	**44.50**	**259**		**P**	**15 03 41.7**	**-0.8**
WB2				IAmb	IAmb	15 03 42.5	
	comp=Z,6.1nm,0.6s						
WRAB	**Tennant Cre

Azm30.0000°; N 0.7791, Plg14.0000°, Azm170.0000°; P -6.9038, Plg11.0000°, Azm263.0000°;
*NEIC **18** 14:59:44.3±2.4, 31°.03S±0°.04×71°.85W±0°.03, h35km±2km, mb4.7/12, Mwr4.5/46, Mwr4.4(GUC) Error ellipse: s-maj=6.5km s-min=4.5km az=160.0*
*GUC **18** 14:59:44.3±0.7, 31°.01S×71°.67W, h33km±2km, ML4.9, MW4.4*

ISC 18 14:59:41.7±1.0,**31°.05S**±0°.03×**71°.80W**±0°.05,**h19**km±3km, **n100**,σ1§21/93,**mb4.7**/12,**MS4.0**/9,**5C-4D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.40**	**21**	⇓	*i*P	**Pn**	**14 59 52.8**	**+0.2**
CO06					*i* S	**Sn**	**14 59 59.1**	**-0.4**
CO06	**Fray Jorge**	**0.40**	**21**			**Pn**	**14 59 52.7**	**+0.2**
CO06						**Sn**	**14 59 59.2**	**-0.4**
CO03	**El Pedregal**	**0.98**	**78**	⇓	*i*P	**Pg**	**15 00 01.2**	**+0.5**
CO03					*i* S	**Sb**	**15 00 14.1**	**+1.4**
CO03	**El Pedregal**	**0.98**	**78**		Pn	**Pg**	**15 00 01.3**	**+0.5**
CO03					Sn	**Sb**	**15 00 14.1**	**+1.4**
CO05	**La Serena**	**1.23**	**23**	⇓	*i*P	**Pg**	**15 00 05.5**	**-0.1**
CO05					*i* S	**Sg**	**15 00 21.9**	**+0.3**
CO05					IAML		15 00 26.3	
	comp=N,13μm,0.4s							
CO05	**La Serena**	**1.23**	**23**			**Pg**	**15 00 05.5**	**-0.1**
CO05					Sn	**Sg**	**15 00 22.0**	**+0.3**
GO04	**Tololo Observa**	**1.23**	**45**	⇓	*i*P	**Pg**	**15 00 05.4**	**-0.2**
GO04					*i* S	**Sg**	**15 00 22.1**	**+0.3**
GO04					IAML		15 00 27.2	
	comp=N,41μm,0.4s							
GO04	**Tololo Observa**	**1.23**	**45**	Pn		**Pg**	**15 00 06.1**	**+0.5**
VA06	**Catapilco**	**1.56**	**164**	⇑	*i*P	**Pn**	**15 00 09.6**	**+1.1**
VA06					*i* S	**Sb**	**15 00 30.3**	**+0.9**
VA01	**Torpederas**	**1.97**	**176**		IAML		15 00 49.2	
	comp=E,5μm,0.7s							
VA01	**Torpederas**	**1.97**	**176**			**Pn**	**15 00 14.8**	**+0.8**
VA03	**San Esteban**	**2.01**	**148**	⇑	*i*P	**Pn**	**15 00 16.8**	**+2.1**
VA03					*i* S	**Sb**	**15 00 43.4**	**+1.0**
VA03					IAML		15 00 47.5	
	comp=E,13μm,0.5s							
VA03	**San Esteban**	**2.01**	**148**			**Pb**	**15 00 17.0**	**-0.7**
ROCH	**El Roble**	**2.03**	**161**	⇑	*i*P	**Pn**	**15 00 16.5**	**+1.5**
ROCH					*i* S	**Sb**	**15 00 45.2**	**+0.5**
LCO	**Las Campanas**	**2.25**	**25**	⇑	*i*P	**Pn**	**15 00 19.8**	**+1.7**
LCO					*i* S	**Sb**	**15 00 49.5**	**+0.2**
LCO	**Las Campanas**	**2.25**	**25**			**Pn**	**15 00 19.8**	**+1.7**
MT05	**Renca**	**2.50**	**159**		IAML		15 01 00.5	
	comp=E,12μm,0.8s							
MT05	**Renca**	**2.50**	**159**			**Pn**	**15 00 23.6**	**+2.2**
VA05	**Santo Domingo**	**2.60**	**177**		IAML		15 01 07.6	
	comp=N,7μm,0.4s							
VA05	**Santo Domingo**	**2.60**	**177**			**Pn**	**15 00 23.1**	**+0.3**
ZON	**Zonda**	**2.72**	**101**	Pn		**Pb**	**15 00 29.4**	**-0.3**
MT09	**Talagante**	**2.80**	**166**	*e*P		**Pn**	**15 00 26.4**	**+0.8**
MT09					*i* S	**Sb**	**15 01 05.9**	**+0.7**
MT09					IAML		15 01 13.5	
	comp=N,4μm,0.4s							
MT09	**Talagante**	**2.80**	**166**	Pn		**Pn**	**15 00 27.9**	**+2.3**
MT01	**Popeta**	**2.84**	**171**	*e*P		**Pn**	**15 00 27.0**	**+1.0**
MT01	**Popeta**	**2.84**	**171**	Pn		**Pn**	**15 00 27.9**	**+1.8**
AC04	**Llanos de Chal**	**2.91**	**13**	Pn		**Pn**	**15 00 27.9**	**+0.9**
LMEL	**Las Melosas**	**3.10**	**155**	⇑	*i*P	**Pn**	**15 00 32.2**	**+2.5**
LMEL					IAML		15 01 25.8	
	comp=N,3μm,0.5s							
BO01	**Tunca**	**3.38**	**170**			**Pn**	**15 00 34.8**	**+1.3**
GO03	**Copiap**	**3.71**	**22**			**Pn**	**15 00 39.2**	**+1.2**
BO02	**Sierra Bellavi**	**3.83**	**167**	Pn		**Pn**	**15 00 41.2**	**+1.5**
AC06	**Mina Casimiro**	**3.89**	**19**			**Pn**	**15 00 41.4**	**+0.9**
GO05	**Huala**	**3.95**	**182**			**Pn**	**15 00 41.1**	**-0.2**
AC02	**Maricunga**	**4.81**	**30**	Pn		**Pn**	**15 00 55.6**	**+2.0**
H03N1	**Juan Fernandez**	**6.48**	**247**	T		T	15 08 02.8	
	baz=75,slow=72,SNR=3366							
VA04	**Juan Fernndez**	**6.49**	**245**	Pn		**Pn**	**15 01 15.3**	**-0.8**
H03N3	**Juan Fernandez**	**6.49**	**246**	T		T	15 08 00.5	
	baz=75,slow=72,SNR=2922							
H03N2	**Juan Fernandez**	**6.49**	**247**	T		T	15 07 59.9	
	baz=75,slow=72,SNR=2524							
PB14	**IPOC Station P**	**6.52**	**11**			**Pn**	**15 01 14.7**	**-2.3**
H03S3	**Juan Fernandez**	**6.62**	**243**	T		T	15 08 18.9	
	baz=85,slow=74,SNR=20							
H03S1	**Juan Fernandez**	**6.62**	**243**	T		T	15 08 19.4	
	baz=85,slow=74,SNR=19							
H03S2	**Juan Fernandez**	**6.63**	**243**	T		T	15 08 18.1	
	baz=85,slow=74,SNR=18							
LC01	**Cunco**	**7.83**	**180**	Pn		**Pn**	**15 01 33.6**	**-0.9**
LVC	**Limon Verde**	**8.80**	**18**	Pn		**Pn**	**15 01 46.7**	**-1.6**
	comp=N,0.3nm,0.3s,baz=141,slow=14,SNR=1.2							
LVC					Sn	Sn	15 03 39.1	+12
	comp=N,1.6nm,0.3s,baz=164,slow=19,SNR=2.1							
LVC					LR	LR	15 05 23.7	
	comp=N,604nm,20.2s,baz=209,slow=39							
PB04	**IPOC Station P**	**8.81**	**10**	Pn		**Pn**	**15 01 48.2**	**0.0**
PLCA	**Paso Flores**	**9.71**	**174**	Pn		**Pn**	**15 02 01.4**	**+0.9**
	comp=N,1.2nm,0.3s,baz=332,slow=11,SNR=38							
PLCA					LR	LR	15 05 53.0	
	comp=N,570nm,19.9s,baz=349,slow=39							
PLCA	**Paso Flores**	**9.71**	**174**			**Pn**	**15 02 01.6**	**+1.1**
LL04	**Puerto Octay**	**9.85**	**183**			**Pn**	**15 02 02.0**	**-0.2**
TRQA	**Tornquist**	**10.69**	**133**			**Pn**	**15 02 15.2**	**+1.4**
LPA	**La Plata**	**12.26**	**112**	*e*P		**Pn**	**15 02 33.9**	**-1.4**
LPA					pP	**P**	**15 02 44.0**	**-3.5**
LPA					PPP	PPP	15 02 52.3	
LPA					PP	**PbPb**	**15 03 14.7**	**-0.8**
LPA					S	**Sn**	**15 04 48.4**	**-3.0**
LPA					sS		15 05 00.0	
LPA					SSS	SSS	15 05 16.3	
LPA					SS	SbSb	15 05 59.0	+17
LPA					PCP	**PcP**	**15 08 18.2**	**+0.9**
LPA					SCS	**ScS**	**15 15 25.8**	**+0.5**
LPA					PKIKP	**PKiKP**	**15 16 15.5**	**+0.4**
LPA					SKIKP		15 19 36.5	
LPA					PKIKS		15 19 42.4	
LPA					SKIKS		15 23 16.3	
ITQB	**Itaqui**	**13.18**	**88**			**Pn**	**15 02 46.4**	**-1.5**
CPUP	**Villa Florida**	**13.54**	**73**	Pn		**Pn**	**15 02 53.4**	**+0.6**
	comp=N,0.2nm,0.3s,baz=245,slow=13,SNR=3.6							
CPUP					LR	LR	15 08 25.8	
	comp=N,553nm,20.7s,baz=254,slow=39							
LPAZ	**La Paz**	**15.08**	**14**	Pn		**Pn**	**15 03 16.4**	**+2.0**
	comp=N,0.5nm,0.3s,baz=188,slow=8.5,SNR=13							
LPAZ	**La Paz**	**15.08**	**14**	Pn		**Pn**	**15 03 12.0**	**-2.3**
SIV	**San Ignacio**	**17.91**	**36**	P		**Pn**	**15 03 50.5**	**+0.6**
	comp=N,0.6nm,0.3s,baz=230,slow=11,SNR=17							
SIV					LR	LR	15 12 10.3	
	comp=N,513nm,18.7s,baz=245,slow=42							
NNA	**Nana**	**19.54**	**345**		LR	LR	15 09 59.8	
	comp=N,145nm,21.0s,baz=164,slow=32							
SAML	**Samuel**	**23.41**	**22**	P		**P**	**15 04 48.9**	**-0.7**
BDFB	**Brasilia**	**26.60**	**60**	P		**P**	**15 05 19.5**	**+0.4**
	comp=N,8.1nm,0.6s,baz=237,slow=8.3,SNR=9.0							
BDFB					LR	LR	15 17 12.1	
	comp=N,603nm,19.8s,baz=244,slow=40							
BDFB	**Brasilia**	**26.60**	**60**	P		**P**	**15 05 17.5**	**-1.7**
BDFB					IAmb	IAmb	15 05 22.3	
	comp=Z,19nm,1.2s							
RPN	**Rapa Nui**	**32.93**	**267**	LR		LR	15 16 47.6	
	comp=Z,84nm,18.6s,baz=133,slow=31							
MDP	**Montagnes des**	**40.34**	**30**	LR		LR	15 25 08.6	
	comp=Z,62nm,18.2s,baz=224,slow=38							
MPOM	**Morne Pois Mar**	**46.44**	**15**	P		**P**	**15 08 07.0**	**-0.4**
PDPR	**Patillas Dam,**	**49.10**	**7**	P		**P**	**15 08 27.5**	**-0.5**
VNA3	**Neumayer Olymp**	**52.01**	**159**	P		**P**	**15 08 50.3**	**+0.9**
VNA1	**Neumayer--Stat**	**52.31**	**158**	P		**P**	**15 08 52.8**	**+1.2**
VNA2	**Neumayer--Watz**	**52.65**	**158**	P		**P**	**15 08 55.0**	**+0.8**
	baz=288,slow=8.1							
SNAA	**Sanae**	**54.24**	**159**	P		**P**	**15 09 06.7**	**+0.8**
SNAA	**Sanae**	**54.24**	**159**	P		**P**	**15 09 06.8**	**+0.8**
SNAA					IAmb	IAmb	15 09 07.8	
	comp=Z,11nm,1.0s							
RKT	**Rikitea**	**56.15**	**262**	*e*T		T	16 09 52.9	
	comp=Z,3.2nm,0.2s							
QSPA	**South Pole Qui**	**59.17**	**180**	P		**P**	**15 09 42.0**	**+0.8**
QSPA					IAmb	IAmb	15 09 43.5	
	comp=Z,12nm,0.9s							
TXAR	**Lajitas Array**	**67.28**	**330**	P		**P**	**15 10 36.9**	**+1.7**
	comp=Z,0.9nm,0.9s,baz=153,slow=9.4,SNR=6.3							
TXAR					LR	LR	15 36 20.2	
	comp=Z,72nm,18.0s,baz=0.0,slow=33							
TXAR	**Lajitas Array**	**67.28**	**330**	P		**P**	**15 10 35.8**	**+0.6**
TBI	**Tubuai**	**68.23**	**255**	*e*LR		LR	15 31 15.7	
	comp=Z,119nm,26.2s							
TBI	**Tubuai**	**68.23**	**255**	*e*T		T	16 24 58.0	
	comp=Z,8.6nm,0.3s							
MEH	**Mehetia**	**69.47**	**261**	*e*T		T	16 26 32.4	
	comp=Z,55nm,0.4s							
TIAR	**Tiarei**	**70.70**	**261**	*e*T		T	16 28 04.5	
	comp=Z,3.0nm,0.3s							
PPT2	**Papeete2**	**70.88**	**261**	*e*LR		LR	15 32 28.0	
	comp=Z,80nm,24.2s							
LIC	**Lamto**	**73.67**	**72**	*e*P		**P**	**15 11 13.6**	**-0.9**
	comp=Z,46nm,1.2s							
TIC	**Toumodi**	**73.91**	**72**	*e*P		**P**	**15 11 16.2**	**+0.3**
KIC	**Kosan Boka**	**73.98**	**72**	*e*P		**P**	**15 11 16.6**	**+0.3**
	comp=Z,20nm,0.9s							
DBIC	**Dimbokro**	**74.06**	**72**	P		**P**	**15 11 17.4**	**+0.7**
	comp=Z,10.0nm,0.8s,baz=227,slow=6.0,SNR=8.7							
DBIC					LR	LR	15 41 05.0	
	comp=Z,144nm,20.3s,baz=214,slow=34							
MAW	**Mawson**	**75.94**	**164**	P		**P**	**15 11 27.7**	**+1.0**
	comp=Z,4.0nm,0.8s,baz=234,slow=9.0,SNR=7.5							
MAW					LR	LR	15 47 43.9	
	comp=Z,92nm,18.0s,baz=236,slow=38							
MAW	**Mawson**	**75.94**	**164**	P		**P**	**15 11 26.1**	**-0.7**
PDAR	**Pinedale Array**	**81.23**	**333**	P		**P**	**15 11 57.5**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=187,slow=4.5,SNR=5.1							
BOSA	**Boshof**	**81.27**	**118**	P		**P**	**15 11 57.0**	**0.0**
	comp=Z,4.3nm,1.0s,baz=188,slow=8.4,SNR=3.9							
NVAR	**Mina Array Bea**	**81.59**	**325**	P		**P**	**15 12 00.7**	**+2.2**
	comp=Z,0.8nm,0.7s,baz=148,slow=5.8,SNR=6.6							
TORD	**Torodi Ar. Bea**	**83.02**	**70**	P		**P**	**15 12 06.8**	**+0.6**
	comp=Z,6.7nm,0.9s,baz=256,slow=4.6,SNR=26							
TORD	**Torodi Ar. Bea**	**83.02**	**70**	P		**P**	**15 12 04.7**	**-1.5**
TORD					IAmb	IAmb	15 12 07.6	
	comp=Z,7.3nm,0.9s							
DZM	**Mont Dzumac**	**103.13**	**234**	*e*LR		LR	15 47 31.0	
	comp=Z,137nm,22.9s							
ASAR	**Alice Springs**	**120.27**	**207**	PKP		**PKPdf**	**15 18 31.3**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=112,slow=2.0,SNR=7.0							
WRA	**Warramunga Arr**	**123.42**	**210**	PKP		**PKPdf**	**15 18 38.0**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=169,slow=1.9,SNR=14							
H11S2	**WAKE ISLAND Hyd**	**25.97**	**271**	T		T	17 37 30.3	
	baz=116,slow=75,SNR=100							
H11S1	**WAKE ISLAND Hyd**	**25.98**	**271**	T		T	17 37 28.0	
	baz=116,slow=75,SNR=104							
H11S3	**WAKE ISLAND Hyd**	**25.98**	**271**	T		T	17 37 27.9	
	baz=116,slow=75,SNR=85							
H11N3	**WAKE ISLAND Hyd**	**26.30**	**273**	T		T	17 37 54.5	
	baz=116,slow=76,SNR=88							
H11N1	**WAKE ISLAND Hyd**	**26.32**	**273**	T		T	17 37 55.5	
	baz=116,slow=76,SNR=31							
H11N2	**WAKE ISLAND Hyd**	**26.32**	**273**	T		T	17 37 55.8	
	baz=116,slow=76,SNR=85							
HYB	**Hyderabad**	**149.86**	**110**	*i* PKP		**PKPbc**	**15 19 31.0**	**-0.2**
ZALV	**Zalesovo Beam**	**151.60**	**30**	PKPbc		**PKPbc**	**15 19 34.7**	**+0.6**
	comp=Z,4.1nm,0.5s,baz=311,slow=3.1,SNR=14							
KSH	**Kashi**	**152.48**	**63**	PKPbc		**PKPdf**	**15 19 30.8**	**+0.9**
MKAR	**Makanchi Array**	**154.60**	**44**	PKPbc		**PKPbc**	**15 19 40.3**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=333,slow=1.9,SNR=5.6							

*NEIC **18** 15:13:04.8±2.4, 32°.30S±0°.03×72°.36W±0°.09, h10km±1km, mb4.2/5, ML4.1(GUC), Error ellipse: s-maj=13.9km s-min=3.1km az=251.0*
*IDC **18** 15:13:06.6±1.1, 32°.43S×72°.00W, h0km, mb3.9/3, mb1 4.0/6, mb1mx3.8/27, mbtmp3.8/6, ML3.9/3, MS3.2/1, Ms1 3.2/1, ms1mx2.7/32, Error ellipse: s-maj=49.1km s-min=23.9km az=91.0*
*GUC **18** 15:13:08.9±0.8, 32°.45S×72°.07W, h43km±3km, ML4.0*

ISC 18 15:13:05.0±1.8,**32°.37S**±0°.04×**72°.13W**±0°.06,**h2**km±11km, **n47**,σ1§47/57,**mb3.9**/3,**3C-6D**,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.73**	**106**	⇓	*i*P	**Pn**	**15 13 22.3**	**0.0**
VA06					*i* S	**Sn**	**15 13 33.5**	**-0.4**
VA06					IAML		15 13 35.6	
	comp=E,29μm,0.4s							
VA01	**Torpederas**	**0.77**	**149**	⇑	*i*P	**Pn**	**15 13 22.6**	**-0.3**
VA01					*i* S	**Sn**	**15 13 33.8**	**-1.2**
VA01					IAML		15 13 34.8	
	comp=N,6μm,0.4s							
VA01	**Torpederas**	**0.77**	**149**			**Pn**	**15 13 22.3**	**-0.5**
ROCH	**El Roble**	**1.12**	**123**	⇓	*i*P	**Pn**	**15 13 28.6**	**+0.7**
ROCH					*i* S	**Sn**	**15 13 43.8**	**-0.1**
ROCH					IAML		15 13 45.6	
	comp=N,7μm,0.4s							
VA05	**Santo Domingo**	**1.36**	**162**	⇓	*i*P	**Pg**	**15 13 31.8**	**+0.7**
VA05					*i* S	**Sn**	**15 13 48.9**	**-0.6**
VA05					IAML		15 14 03.4	
	comp=E,3μm,0.3s							
VA05	**Santo Domingo**	**1.36**	**162**			**Pg**	**15 13 31.6**	**+0.5**
VA03	**San Esteban**	**1.39**	**107**	⇓	*i*P	**Pg**	**15 13 32.9**	**+1.3**
VA03					*i* S	**Sn**	**15 13 51.1**	**+0.7**
VA03					IAML		15 13 53.4	
	comp=E,17μm,0.2s							
VA03	**San Esteban**	**1.39**	**107**			**Pg**	**15 13 32.8**	**+1.2**
MT05	**Renca**	**1.55**	**132**	⇓	*i*P	**Pg**	**15 13 35.5**	**+0.8**
MT05					*i* S	**Sg**	**15 13 55.0**	**+0.1**
MT05					IAML		15 14 01.2	
	comp=E,7μm,0.4s							
MT05	**Renca**	**1.55**	**132**			**Pg**	**15 13 35.1**	**+0.3**
MT01	**Popeta**	**1.67**	**154**	⇑	*i*P	**Pb**	**15 13 35.9**	**-0.5**
MT01					*i* S	**Sb**	**15 13 57.1**	**-0.7**
MT01					IAML		15 14 01.7	
	comp=E,2μm,0.3s							
MT01	**Popeta**	**1.67**	**154**	Pn		**Pb**	**15 13 36.1**	**-0.3**
MT09	**Talagante**	**1.70**	**146**	⇑	*i*P	**Pg**	**15 13 37.3**	**-0.3**
MT09					*i* S	**Sb**	**15 13 58.5**	**-0.4**
MT09					IAML		15 14 08.6	
	comp=E,3μm,0.4s							
MT09	**Talagante**	**1.70**	**146**	Pn		**Pb**	**15 13 36.8**	**-0.2**
CO06	**Fray Jorge**	**1.74**	**14**			**Pn**	**15 13 35.2**	**-1.0**
CO03	**El Pedregal**	**1.95**	**39**	Pn		**Pn**	**15 13 37.5**	**-1.7**
LMEL	**Las Melosas**	**2.19**	**133**	*i* P		**Pb**	**15 13 45.5**	**+0.1**
LMEL					*i* S	**Sb**	**15 14 11.7**	**-1.3**
LMEL					IAML		15 14 19.8	
	comp=N,2μm,0.5s							
BO01	**Tunca**	**2.20**	**157**	*e*P		**Pn**	**15 13 43.6**	**+1.0**
BO01					*i* S	**Sn**	**15 14 10.7**	**+0.3**
BO01					IAML		15 14 23.3	
	comp=N,597nm,0.3s							
BO01	**Tunca**	**2.20**	**157**			**Pn**	**15 13 43.5**	**+1.0**
GO04	**Tololo Observa**	**2.46**	**28**			**Pn**	**15 13 48.5**	**+2.2**
GO05	**Huala**	**2.64**	**177**			**Pn**	**15 13 49.2**	**+0.5**
BO02	**Sierra Bellavi**	**2.67**	**156**	⇓	*i*P	**Pb**	**15 13 51.1**	**-2.5**
BO02					*i* S	**Sn**	**15 14 23.0**	**+1.0**
BO02					IAML		15 14 35.5	
	comp=E,1μm,0.6s							
BO02	**Sierra Bellavi**	**2.67**	**156**	Pn		**Pn**	**15 13 50.3**	**+1.3**
LCO	**Las Campanas**	**3.56**	**21**	*e*P		**Pn**	**15 14 03.0**	**+1.5**
AC06	**Mina Casimiro**	**5.22**	**18**			**Pn**	**15 14 24.3**	**+0.2**
LC01	**Cunco**	**6.52**	**178**	Pn		**Pn**	**15 14 42.7**	**+0.8**
PLCA	**Paso Flores**	**8.45**	**172**	Pn		**Pn**	**15 15 09.2**	**+0.8**
	comp=E,0.2nm,0.3s,baz=334,slow=12,SNR=2.7							
PLCA	**Paso Flores**	**8.45**	**172**			**Pn**	**15 15 07.7**	**-0.7**
LVC	**Limon Verde**	**10.13**	**17**	LR		LR	15 19 57.0	
	comp=E,130nm,19.9s,baz=212,slow=40							
LPAZ	**La Paz**	**16.41**	**14**	Pn		**P**	**15 16 59.8**	**-0.3**
	comp=E,0.4nm,0.3s,baz=182,slow=6.5,SNR=9.5							
LPAZ	**La Paz**	**16.41**	**14**			**Pn**	**15 16 53.5**	**-3.6**
SIV	**San Ignacio**	**19.14**	**34**	P		**Pn**	**15 17 31.2**	**+0.8**
	comp=E,0.4nm,0.3s,baz=230,slow=9.7,SNR=12							
SAML	**Samuel**	**24.73**	**22**	P		**P**	**15 18 24.6**	**-3.2**
PTGA	**Pitinga**	**33.49**	**22**	P		**P**	**15 19 42.8**	**-3.0**
VNA3	**Neumayer Olymp**	**50.90**	**158**	P		**P**	**15 22 08.9**	**+1.8**
VNA1	**Neumayer--Stat**	**51.20**	**157**	P		**P**	**15 22 10.7**	**+1.4**
VNA2	**Neumayer--Watz**	**51.55**	**158**	P		**P**	**15 22 13.8**	**+1.9**
	baz=290,slow=8.2							
SNAA	**Sanae**	**53.12**	**158**	P		**P**	**15 22 25.4**	**+1.6**
SNAA	**Sanae**	**53.12**	**158**	P		**P**	**15 22 25.3**	**+1.6**
	comp=E,1.3nm,0.8s,baz=279,slow=7.3,SNR=8.2							
SNAA	**Sanae**	**53.12**	**158**	P		**P**		
TXAR	**Lajitas Array**	**68.28**	**331**	P		**P**	**15 24 10.8**	**+3.3**
	comp=E,0.6nm,1.0s,baz=161,slow=8.6,SNR=3.0							
TXAR	**Lajitas Array**	**68.28**	**331**	P		**P**	**15 24 07.6**	**+0.1**
TORD	**Torodi Ar. Bea**	**83.72**	**70**	P		**P**	**15 25 37.4**	**+1.6**
	comp=E,1.3nm,0.6s,baz=268,slow=4.7,SNR=7.3							
TORD	**Torodi Ar. Bea**	**83.72**	**70**	P		**P**	**15 25 32.4**	**-3.5**
TORD					IAmb	IAmb	15 25 38.0	
	comp=Z,1.4nm,0.8s							
WRA	**Warramunga Arr**	**122.15**	**210**	PKP		**PKiKP**	**15 32 02.5**	**+0.4**
	comp=Z,0.5nm,0.9s,baz=163,slow=1.7,SNR=2.6							
ZALV	**Zalesovo Beam**	**152.87**	**31**	PKPbc		**PKiKP**	**15 33 04.7**	**+1.3**
	comp=Z,1.0nm,0.5s,baz=306,slow=3.7,SNR=5.0							
MKAR	**Makanchi Array**	**155.72**	**46**	PKPab		**PKPab**	**15 33 28.5**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=306,slow=3.8,SNR=9.1							

*NEIC **18** 15:13:31.6±3.0, 30°.13S±0°.05×72°.28W±0°.07, h10km±1km, mb4.2/6, Error ellipse: s-maj=10.7km s-min=8.0km az=312.0*
*IDC **18** 15:13:32.0±0.9, 30°.29S×71°.94W, h0km, mb4.3/5, mb1 4.3/8, mb1mx4.0/27, mbtmp4.2/8, ML3.9/3, Error ellipse: s-maj=33.1km s-min=22.1km az=96.0*

ISC 18 15:13:34.3±0.7,**30°.14S**±0°.07×**72°.2W**±0°.1,**h25**km,**n31**, σ1§52/32,**mb4.4/6**,**1C**,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.85**	**75**			**Pb**	**15 13 49.1**	**-1.4**
LCO	**Las Campanas**	**1.71**	**49**			**Pn**	**15 14 03.9**	**+1.0**
AC04	**Llanos de Chal**	**2.16**	**27**	⇑	*i*P	**Pn**	**15 14 09.2**	**+0.5**
AC04	**Llanos de Chal**	**2.16**	**27**	Pn		**Pn**	**15 14 09.3**	**+0.5**
GO03	**Copiap**	**3.06**	**35**	Pn		**Pn**	**15 14 21.9**	**+0.8**
AC02	**Maricunga**	**4.25**	**40**			**Pn**	**15 14 38.6**	**+0.6**
PB14	**IPOC Station P**	**5.71**	**17**			**Pn**	**15 14 56.7**	**-1.2**
VA04	**Juan Fernndez**	**6.64**	**237**			**Pn**	**15 15 08.2**	**-2.1**
PB15	**IPOC Station P**	**7.32**	**20**			**Pn**	**15 15 19.1**	**-0.7**
PB06	**IPOC Station P**	**7.76**	**18**	Pn		**Pn**	**15 15 23.0**	**-2.9**
LVC	**Limon Verde**	**8.05**	**22**	Pn		**Pn**	**15 15 29.2**	**-0.8**
	0.8nm,0.3s,baz=170,slow=8.6,SNR=8.7							
LVC					Sn	**Sn**	**15 16 59.4**	**-1.1**
	0.6nm,0.3s,baz=80,slow=18,SNR=1.0							
LVC	**Limon Verde**	**8.05**	**22**			**Pn**	**15 15 29.0**	**-1.0**
PLCA	**Paso Flores**	**10.65**	**173**	Pn		**Pn**	**15 16 02.9**	**-2.6**
	0.3nm,0.3s,baz=338,slow=15,SNR=3.1							
PLCA	**Paso Flores**	**10.65**	**173**			**Pn**	**15 16 03.7**	**-1.7**
LPAZ	**La Paz**	**14.28**	**16**	P		**P**	**15 17 00.9**	**-1.7**
SIV	**San Ignacio**	**17.39**	**38**	P		**P**	**15 17 37.0**	**+0.5**
	0.5nm,0.3s,baz=236,slow=11,SNR=14							
SAML	**Samuel**	**22.70**	**24**	P		**P**	**15 18 31.0**	**-3.2**
SAML					IAmb	IAmb	15 18 38.3	
	comp=Z,6.1nm,1.0s							
BDFB	**Brasilia**	**26.46**	**62**	P		**P**	**15 19 09.9**	**+0.2**
	comp=Z,3.9nm,0.6s,baz=298,slow=9.3,SNR=3.2							
BDFB	**Brasilia**	**26.46**	**62**	P		**P**	**15 19 09.4**	**-0.2**
BDFB					IAmb	IAmb	15 19 10.8	
	comp=Z,17nm,1.4s							
VNA3	**Neumayer Olymp**	**52.99**	**159**	P		**P**	**15 22 49.3**	**+0.8**
VNA1	**Neumayer--Stat**	**53.28**	**158**	P		**P**	**15 22 51.9**	**+1.4**
VNA2	**Neumayer--Watz**	**53.62**	**158**	P		**P**	**15 22 53.5**	**+0.4**
	baz=287,slow=8.0							
SNAA	**Sanae**	**55.21**	**159**	P		**P**	**15 23 05.1**	**+0.3**
SNAA	**Sanae**	**55.21**	**159**	P		**P**	**15 23 05.2**	**+0.5**
	comp=Z,3.7nm,0.6s,baz=280,slow=8.2,SNR=19							
SNAA	**Sanae**	**55.21**	**159**	P		**P**	**15 23 05.0**	**+0.2**
TXAR	**Lajitas Array**	**66.32**	**330**	P		**P**	**15 24 24.7**	**+3.8**
	comp=Z,0.6nm,0.6s,baz=155,slow=9.5,SNR=8.1							
DBIC	**Dimbokro**	**74.10**	**72**	P		**P**	**15 25

TWB1	**Santiao Chiao** baz=326	**1.16**	**320**	*e*P	**Pn**	**15 26 50.2**	**-0.2**
TWB1	baz=326			*e*S	**Sg**	**15 27 03.4**	**-1.6**
ILA	**Ilan** baz=309	**1.17**	**304**	*e*S	**Sn**	**15 27 06.3**	**-0.4**
TWE	**Neicheng** baz=303	**1.21**	**300**	P	**Pn**	**15 26 52.1**	**+1.1**
TWE	baz=303			S	**Sn**	**15 27 08.0**	**+0.3**
ETM	**Tongmen** baz=258	**1.21**	**263**	P	**Pn**	**15 26 51.7**	**+0.6**
ETM	baz=258			S	**Sg**	**15 27 06.6**	**+0.1**
ETLH	**Xiulin Townshi** baz=269	**1.22**	**275**	P	**Pn**	**15 26 52.0**	**+0.7**
ETLH	baz=269			*e*S	**Sb**	**15 27 07.6**	**+0.5**
TEGC	**Jichi Village** baz=246	**1.23**	**251**	*e*P	**Pn**	**15 26 52.3**	**+1.0**
TEGC	baz=246			*e*S	**Sn**	**15 27 08.5**	**+0.3**
TIPB	**Shuangxi** baz=309	**1.24**	**314**	P	**Pn**	**15 26 51.7**	**+0.2**
TIPB	baz=309			S	**Sg**	**15 27 06.4**	**-1.0**
JIJ	**Ishigaki jima**	**1.24**	**78**	P	**Pn**	**15 26 51.4**	**-0.1**
JIJ				S	**Sg**	**15 27 06.4**	**-1.1**
ENTT	**Nioudou** baz=300	**1.25**	**295**	P	**Pn**	**15 26 52.9**	**+1.3**
ENTT	baz=300			S	**Sn**	**15 27 08.5**	**-0.3**
NDT	**Datong Townshi** baz=276	**1.28**	**293**	P	**Pg**	**15 26 53.4**	**+1.3**
NDT	baz=276			S	**Sn**	**15 27 09.4**	**-0.2**
ESL	**Shilin** baz=251	**1.29**	**257**	P	**Pn**	**15 26 52.6**	**+0.4**
ESL	baz=251			*e*S	**Sb**	**15 27 09.1**	**-0.1**
NWF	**Wu-fen Shan** baz=312	**1.34**	**316**	P	**Pg**	**15 26 53.0**	**-0.2**
NWF	baz=312			*e*S	**Sg**	**15 27 08.8**	**-1.7**
WFSB	**Wu-fen Shan** baz=312	**1.34**	**316**	P	**Pg**	**15 26 53.0**	**-0.2**
WFSB	baz=312			S	**Sb**	**15 27 09.5**	**-0.9**
EGFH	**Guangfu** baz=246	**1.34**	**251**	P	**Pb**	**15 26 53.6**	**+0.5**
EGFH	baz=246			*e*S	**Sb**	**15 27 11.3**	**+0.8**
NNSB	**Datong** baz=269	**1.34**	**284**	P	**Pg**	**15 26 53.8**	**+0.6**
NNSB	baz=269			*e*S	**Sg**	**15 27 10.7**	**+0.1**
NNS	**Nan Shan** baz=269	**1.35**	**284**	P	**Pg**	**15 26 54.0**	**+0.5**
NNS	baz=269			*e*S	**Sg**	**15 27 11.2**	**+0.1**
NWLT	**Wulai** baz=304	**1.36**	**299**	*e*P	**Pg**	**15 26 54.5**	**+0.8**
NWLT	baz=304			*e*S	**Sg**	**15 27 11.2**	**-0.2**
HGSD	**Ruisui** baz=240	**1.41**	**244**	P	**Pn**	**15 26 54.4**	**+0.6**
HGSD	baz=240			*e*S	**Sb**	**15 27 11.4**	**-1.2**
TWA	**Mucha** baz=304	**1.41**	**308**	P	**Pg**	**15 26 54.4**	**-0.2**
TWA	baz=304			S	**Sb**	**15 27 11.1**	**-1.5**
WHF	**Hehuan Shan** baz=255	**1.41**	**272**	P	**Pg**	**15 26 54.9**	**+0.3**
WHF	baz=255			*e*S	**Sn**	**15 27 13.6**	**+0.2**
YHNB	**Yeheng** baz=276	**1.42**	**293**	P	**Pg**	**15 26 55.3**	**+0.5**
YHNB	baz=276			S	**Sg**	**15 27 13.2**	**0.0**
FUSS	**Fushou** baz=271	**1.44**	**276**	*e*P	**Pg**	**15 26 55.4**	**+0.3**
NSK	**Sanguang** baz=277	**1.44**	**293**	P	**Pg**	**15 26 55.4**	**+0.3**
NSK	baz=277			S	**Sb**	**15 27 13.0**	**-0.5**
NHDH	**Xindian Distri** baz=302	**1.44**	**306**	P	**Pg**	**15 26 55.0**	**-0.3**
NHDH	baz=302			*e*S	**Sb**	**15 27 12.4**	**-1.2**
JISG	**Ishigakijimahi**	**1.45**	**71**	P	**Pn**	**15 26 54.0**	**-0.3**
JISG				*e*S	**Sb**	**15 27 11.4**	**-2.3**
ECBN	**Changbin** baz=223	**1.48**	**238**	P	**Pn**	**15 26 55.6**	**+0.9**
ECBN	baz=223			*e*S	**Sn**	**15 27 13.7**	**-0.6**
TATO	**Taipei** baz=301	**1.48**	**306**	*e*P	**Pb**	**15 26 55.1**	**-0.3**
TATO	baz=301			*e*S	**Sn**	**15 27 12.9**	**-1.5**
EHY	**Hungye** baz=253	**1.49**	**246**	P	**Pn**	**15 26 55.8**	**+0.8**
EHY	baz=253			*e*S	**Sn**	**15 27 15.3**	**+0.5**
CHGB	**Renai** baz=254	**1.50**	**268**	P	**Pb**	**15 26 56.2**	**+0.3**
CHGB	baz=254			*e*S	**Sn**	**15 27 15.2**	**0.0**
TWT	**Tachien** baz=261	**1.50**	**276**	*e*P	**Pg**	**15 26 56.7**	**+0.4**
TWT	baz=261			*e*S	**Sn**	**15 27 15.2**	**0.0**
OWD	**Renai** baz=259	**1.50**	**264**	P	**Pb**	**15 26 56.3**	**+0.3**
OWD	baz=259			*e*S	**Sn**	**15 27 14.5**	**-0.8**
TDCB	**Techi** baz=270	**1.52**	**276**	P	**Pg**	**15 26 56.7**	**+0.1**
TDCB	baz=270			*e*S	**Sn**	**15 27 15.1**	**-0.4**
YM01	**YM01** baz=309	**1.53**	**313**	P	**Pn**	**15 26 55.6**	**+0.2**
YM01	baz=309			*e*S	**Sn**	**15 27 14.2**	**-1.6**
YM08	**YM08** baz=300	**1.54**	**314**	*e*P	**Pn**	**15 26 55.6**	**0.0**
YM08	baz=300			*e*S	**Sn**	**15 27 13.1**	**-3.0**
YULB	**Yu-li** baz=251	**1.56**	**243**	P	**Pn**	**15 26 56.8**	**+0.9**
YULB	baz=251			*e*S	**Sn**	**15 27 15.7**	**-0.8**
EYUL	**Yuli** baz=237	**1.56**	**241**	*e*P	**Pb**	**15 26 57.1**	**+0.2**
EYUL	baz=237			*e*S	**Sn**	**15 27 16.9**	**+0.3**
TWF1	**Yuli** baz=237	**1.58**	**242**	*e*P	**Pn**	**15 26 57.2**	**+1.0**
TWF1	baz=237			*e*S	**Sn**	**15 27 17.4**	**+0.4**
TWY	**Chenhua** baz=313	**1.60**	**317**	*e*P	**Pb**	**15 26 56.8**	**-0.7**
TWY	baz=313			*e*S	**Sn**	**15 27 16.6**	**-0.8**
TWS1	**Kuangyinshan** baz=304	**1.60**	**308**	*e*P	**Pn**	**15 26 56.1**	**-0.4**
TWS1	baz=304			*e*S	**Sn**	**15 27 15.6**	**-2.0**
PCYT	**Pengchaiyu** baz=325	**1.65**	**336**	*e*P	**Pn**	**15 26 57.2**	**+0.1**
FULB	**Fuli** baz=224	**1.66**	**237**	*e*P	**Pn**	**15 26 57.8**	**+0.5**
CHKT	**Chengkung** baz=220	**1.67**	**233**	*e*P	**Pn**	**15 26 57.9**	**+0.6**
CHKT	baz=220			*e*S	**Sn**	**15 27 17.5**	**-1.5**
NJD	**Zhudong** baz=278	**1.69**	**292**	*e*P	**Pb**	**15 26 59.4**	**+0.4**
NJD	baz=278			*e*S	**Sb**	**15 27 20.8**	**+0.3**
WPL	**Puli Township** baz=262	**1.70**	**267**	*e*P	**Pb**	**15 26 59.3**	**+0.1**
NCUH	**Zhongli** baz=296	**1.71**	**300**	*e*P	**Pb**	**15 26 59.0**	**-0.4**
NCUH	baz=296			*e*S	**Sn**	**15 27 19.8**	**-0.3**
WHP	**Taichung City** baz=271	**1.71**	**276**	P	**Pb**	**15 27 00.1**	**+0.6**
WHP	baz=271			*e*S	**Sn**	**15 27 20.6**	**+0.3**
LIOB	**Emei** baz=275	**1.72**	**288**	*e*P	**Pb**	**15 26 59.8**	**+0.2**
LIOB	baz=275			*e*S	**Sn**	**15 27 20.9**	**+0.5**
DPDB	**Guoxing** baz=263	**1.72**	**268**	*e*P	**Pb**	**15 26 59.9**	**+0.2**
NSTT	**Nanjuang** baz=275	**1.73**	**288**	P	**Pb**	**15 26 60.0**	**+0.2**
NSTT	baz=275			S	**Sb**	**15 27 21.2**	**-0.5**
SSLB	**Suanglung** baz=255	**1.73**	**260**	*e*P	**Pb**	**15 26 59.5**	**-0.2**
WCS	**Beigang Elemen** baz=264	**1.74**	**269**	*e*P	**Pb**	**15 26 60.0**	**+0.1**
SMLT	**Sun Moon Lake** baz=258	**1.76**	**263**	*e*P	**Pb**	**15 27 00.4**	**0.0**
ECS	**Chishang** baz=223	**1.78**	**236**	*e*P	**Pn**	**15 27 00.1**	**+1.2**
ECS	baz=223			*e*S	**Sn**	**15 27 23.0**	**+1.2**
EDH	**Donghe** baz=220	**1.79**	**231**	*e*P	**Pn**	**15 26 59.6**	**+0.6**
EDH	baz=220			*e*S	**Sn**	**15 27 20.6**	**-1.5**
SBCB	**Hsinchu** baz=288	**1.79**	**293**	*e*P	**Pb**	**15 27 00.5**	**-0.4**
SBCB	baz=288			*e*S	**Sb**	**15 27 22.8**	**-0.8**
TYC	**Yuchr** baz=259	**1.80**	**264**	P	**Pb**	**15 27 00.8**	**-0.1**
JTJ	**Tarama**	**1.80**	**73**	P	**Pn**	**15 26 59.2**	**0.0**
JTJ				S	**Sn**	**15 27 20.8**	**-1.7**
YUS	**Yu-Shan** baz=246	**1.81**	**250**	*e*P	**Pb**	**15 27 01.2**	**-0.2**
YUS	baz=246			*e*S	**Sn**	**15 27 22.9**	**-0.5**
WHYT	**Xinyi Township** baz=253	**1.84**	**257**	*e*P	**Pb**	**15 27 01.9**	**+0.3**
TWQ1	**Liyutan** baz=273	**1.87**	**278**	*e*P	**Pb**	**15 27 03.0**	**+0.8**
TWQ1	baz=273			*e*S	**Sb**	**15 27 25.9**	**-0.1**
ELDTW	**Lidau** baz=237	**1.88**	**241**	P	**Pn**	**15 27 01.2**	**+0.8**
ELDTW	baz=237			*e*S	**Sn**	**15 27 22.8**	**-1.9**
LDUT	**Ludao** baz=210	**1.89**	**221**	*e*P	**Pn**	**15 27 00.7**	**+0.3**
LDUT	baz=210			*e*S	**Sn**	**15 27 22.2**	**-2.4**
NMLH	**Miaoli** baz=279	**1.89**	**283**	*e*P	**Pb**	**15 27 02.5**	**0.0**
NMLH	baz=279			*e*S	**Sn**	**15 27 25.3**	**+0.7**
NSY	**Sanyi** baz=275	**1.89**	**280**	*e*P	**Pb**	**15 27 02.8**	**+0.2**
NSY	baz=275			*e*S	**Sb**	**15 27 26.3**	**-0.2**
WJS	**Zhushan** baz=257	**1.93**	**262**	*e*P	**Pb**	**15 27 04.0**	**+0.9**
WJS	baz=257			*e*S	**Sg**	**15 27 29.3**	**-0.1**
ALS	**Alishan** baz=248	**1.93**	**252**	P	**Pb**	**15 27 03.3**	**-0.1**
WWF	**Wufeng** baz=264	**1.93**	**268**	*e*P	**Pb**	**15 27 03.7**	**+0.5**
WWF	baz=264			*e*S	**Sb**	**15 27 28.9**	**+1.3**
LONT	**Longtian** baz=222	**1.95**	**232**	*e*P	**Pn**	**15 27 02.2**	**+0.9**
LONT	baz=222			*e*S	**Sn**	**15 27 25.6**	**-0.6**
WNT	**Mingjian** baz=259	**1.96**	**264**	*e*P	**Pb**	**15 27 04.3**	**+0.7**
WNT	baz=259			*e*S	**Sb**	**15 27 28.8**	**+0.5**
WNT1	**Nantou City** baz=249	**1.96**	**264**	*e*P	**Pb**	**15 27 04.6**	**+0.9**
WNT1	baz=249			*e*S	**Sb**	**15 27 28.9**	**+0.6**
WDJ	**Dajia District** baz=272	**1.99**	**277**	*e*P	**Pb**	**15 27 03.9**	**-0.4**
WDJ	baz=272			*e*S	**Sb**	**15 27 29.0**	**-0.4**
CHN5	**Tsauling** baz=251	**2.02**	**256**	*e*P	**Pb**	**15 27 04.7**	**0.0**
CHN5	baz=251			*e*S	**Sb**	**15 27 29.7**	**-0.5**
TTN	**Taitung** baz=218	**2.04**	**229**	*e*P	**Pb**	**15 27 04.8**	**-0.2**
TTN	baz=218			*e*S	**Sn**	**15 27 28.9**	**+0.6**
WYL	**Yuanlin Townsh** baz=261	**2.04**	**266**	*e*P	**Pb**	**15 27 05.4**	**+0.3**
WYL	baz=261			*e*S	**Sb**	**15 27 31.0**	**+0.2**
TWGBT	**Beinan** baz=238	**2.05**	**231**	*e*P	**Pn**	**15 27 03.5**	**+0.9**
TWGBT	baz=238			*e*S	**Sn**	**15 27 27.7**	**-0.8**
TWG	**Pinlang** baz=238	**2.05**	**231**	*e*P	**Pn**	**15 27 03.4**	**+0.8**
TWG	baz=238			*e*S	**Sn**	**15 27 27.9**	**-0.7**
WCHH	**Zhanghua** baz=265	**2.06**	**270**	*e*P	**Pb**	**15 27 05.1**	**-0.2**
WCHH	baz=265			*e*S	**Sb**	**15 27 31.7**	**+0.5**
STYH	**Taoyuan** baz=234	**2.09**	**244**	*e*P	**Pb**	**15 27 05.0**	**-0.8**
STYH	baz=234			*e*S	**Sn**	**15 27 30.0**	**+0.5**
WGK	**Gukeng** baz=254	**2.10**	**259**	*e*P	**Pb**	**15 27 06.0**	**-0.1**
STYT	**Tauyuan** baz=233	**2.11**	**244**	P	**Pn**	**15 27 05.4**	**+1.9**
STYT	baz=233			*e*S	**Sn**	**15 27 30.6**	**+0.6**
WDLH	**Douliu** baz=254	**2.12**	**259**	*e*P	**Pb**	**15 27 06.3**	**-0.1**
WDLH	baz=254			*e*S	**Sb**	**15 27 34.0**	**+1.0**
TPUB	**Ta-pu** baz=245	**2.16**	**248**	P	**Pb**	**15 27 06.9**	**-0.1**
TPUB	baz=245			*e*S	**Sb**	**15 27 33.8**	**-0.3**
CHN4	**Tsaushan** baz=245	**2.17**	**250**	P	**Pb**	**15 27 07.0**	**-0.3**
CHN4	baz=245			S	**Sb**	**15 27 34.1**	**-0.3**
WTP	**Ta-pu** baz=243	**2.19**	**247**	P	**Pb**	**15 27 07.3**	**-0.3**
WTP	baz=243			*e*S	**Sb**	**15 27 34.7**	**-0.3**
WRL	**Guolierlin Hig** baz=260	**2.23**	**265**	*e*P	**Pb**	**15 27 07.3**	**-1.0**
WRL	baz=260			*e*S	**Sn**	**15 27 34.6**	**+1.5**
WTK	**Tuku** baz=255	**2.26**	**260**	*e*P	**Pb**	**15 27 08.6**	**-0.1**
WTK	baz=255			*e*S	**Sb**	**15 27 37.5**	**+0.5**
JIRB	**Irabujima**	**2.27**	**71**	P	**Pn**	**15 27 05.9**	**+0.3**
JIRB				S	**Sn**	**15 27 32.7**	**-1.2**
CHY	**Chiayi** baz=250	**2.27**	**255**	*e*P	**Pb**	**15 27 08.6**	**-0.4**
CHY	baz=250			*e*S	**Sb**	**15 27 36.5**	**-0.8**
TWK	**Hsinying** baz=244	**2.29**	**249**	*e*P	**Pb**	**15 27 08.8**	**-0.6**
TWK	baz=244			*e*S	**Sb**	**15 27 37.6**	**-0.3**
JIKM	**Ikemajima**	**2.36**	**70**	P	**Pn**	**15 27 07.0**	**+0.1**
JIKM				*e*S	**Sn**	**15 27 34.4**	**-1.9**
JMJ	**Miyako jima 2** baz=76	**2.37**	**72**	*e*P	**Pn**	**15 27 07.6**	**+0.6**
JMJ	baz=76			*e*S	**Sn**	**15 27 35.6**	**-0.8**
JMJ2	**Miyako jima3**	**2.38**	**74**	P	**Pn**	**15 27 07.6**	**+0.5**
JMJ2				S	**Sn**	**15 27 35.4**	**-1.3**
JOGS	**Gusukube**	**2.45**	**74**	P	**Pn**	**15 27 09.0**	**+0.8**

*SNET **18** 15:33:31.3±1.0, 12°.32N×89°.49W, h16km±4km, ML3.6*
*UCR **18** 15:33:31.5±0.9, 12°.33N×89°.48W, h17km±4km, ML3.6,*
mb4.3(NEIC)
*IDC **18** 15:33:32.6±1.4, 12°.76N×89°.01W, h0km, mb3.9/5, mb1 4.1/7, mb1mx3.8/36, mbtmp3.9/7, ML3.2/2, MS3.6/1, Ms1 3.6/1, ms1mx2.5/37, Error ellipse: s-maj=45.5km s-min=18.8km az=45.0*
*NEIC **18** 15:33:37.5±1.1, 12°.65N±0°.08×89°.19W±0°.02, h43km±21km, mb4.3/9, Error ellipse: s-maj=12.4km s-min=2.1km az=192.0*

ISC 18 15:33:37.2±1.6,**12°.51N**±0°.07×**89°.31W**±0°.07,**h43**km±16km,
n62,σ1°**97**/73,**mb4.1**/9,**2C**,**Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**1.14**	**12**	*e*P	**Pn**	**15 33 55.3**	**-1.5**
LFRS	**El Faro**	**1.14**	**12**	*e*P	**Pn**	**15 33 55.3**	**-1.5**
SJTE	**Alcalda de S**	**1.14**	**15**	*e*P	**Pn**	**15 33 55.2**	**-1.6**
SJTE				*e*S	**Sn**	**15 34 14.3**	**+3.0**
SJTE	**Alcalda de S**	**1.14**	**15**	*e*P	**Pn**	**15 33 55.2**	**-1.6**
SJTE				*e*S	**Sn**	**15 34 14.3**	**+3.0**
JAYA	**Jayaque - finc**	**1.15**	**353**↑	*e*P	**Pn**	**15 33 55.0**	**-2.1**
JAYA	comp=Z,1μm,0.2s			IAML		15 34 21.1	
JAYA	**Jayaque - finc**	**1.15**	**353**↑	*e*P	**Pn**	**15 33 55.0**	**-2.1**
JAYA	comp=Z,1μm,0.2s			IAML		15 34 21.1	
SNET	**Serv Nac Est T**	**1.18**	**4**	Pn	**Pn**	**15 33 55.6**	**-1.8**
COEG	**Centro de Oper**	**1.18**	**21**	*e*P	**Pn**	**15 33 56.0**	**-1.4**
COEG	comp=Z,904nm,0.4s			*e*S	**Sn**	**15 34 16.4**	**+3.9**
COEG				IAML		15 34 28.1	
COEG	**Centro de Oper**	**1.18**	**21**	*e*P	**Pn**	**15 33 56.0**	**-1.4**
COEG	comp=Z,904nm,0.4s			*e*S	**Sn**	**15 34 16.4**	**+3.9**
COEG				IAML		15 34 28.1	
BOQS	**Boqueron**	**1.22**	**1**	*e*P	**Pn**	**15 33 56.7**	**-1.4**
BOQS	**Boqueron**	**1.22**	**1**	*e*P	**Pn**	**15 33 56.7**	**-1.4**
LFU	**La Fuente**	**1.25**	**9**	*e*P	**Pn**	**15 33 57.3**	**-1.0**
LFU	**La Fuente**	**1.25**	**9**	*e*P	**Pn**	**15 33 57.3**	**-1.0**
LBRS	**Las Brisas**	**1.25**	**12**	*e*P	**Pn**	**15 33 57.1**	**-1.2**
LBRS	**Las Brisas**	**1.25**	**12**	*e*P	**Pn**	**15 33 57.1**	**-1.2**
PAVA	**Las Pavas**	**1.25**	**17**	*e*P	**Pn**	**15 33 57.2**	**-1.2**
PAVA	comp=Z,1μm,0.5s			*e*S	**Sn**	**15 34 17.5**	**+3.3**
PAVA				IAML		15 34 21.6	
PAVA	**Las Pavas**	**1.25**	**17**	*e*P	**Pn**	**15 33 57.2**	**-1.2**
PAVA	comp=Z,1μm,0.5s			*e*S	**Sn**	**15 34 17.5**	**+3.3**
PAVA				IAML		15 34 21.6	
SBLS	**San Blas**	**1.36**	**347**	*e*P	**Pn**	**15 33 58.3**	**-1.7**
SBLS	**San Blas**	**1.36**	**347**	*e*P	**Pn**	**15 33 58.3**	**-1.7**
SNJE	**San Jose**	**1.39**	**348**	*e*P	**Pn**	**15 33 58.5**	**-1.9**
SNJE	**San Jose**	**1.39**	**348**	*e*P	**Pn**	**15 33 58.5**	**-1.9**
TACO	**Tacachico**	**1.46**	**358**	*e*P	**Pn**	**15 33 59.8**	**-1.4**
TACO	comp=Z,489nm,0.6s			*e*S	**Sn**	**15 34 20.6**	**+1.5**
TACO				IAML		15 34 27.7	
TACO	**Tacachico**	**1.46**	**358**	*e*P	**Pn**	**15 33 59.8**	**-1.4**
TACO	comp=Z,489nm,0.6s			*e*S	**Sn**	**15 34 20.6**	**+1.5**
TACO				IAML		15 34 27.7	
LCND	**La Caada**	**1.60**	**60**	*e*P	**Pn**	**15 34 01.6**	**-1.4**
LCND	comp=Z,545nm,0.3s			*e*S	**Sn**	**15 34 26.5**	**+4.0**
LCND				IAML		15 34 31.2	
LCND	**La Caada**	**1.60**	**60**	*e*P	**Pn**	**15 34 01.6**	**-1.4**
LCND	comp=Z,545nm,0.3s			*e*S	**Sn**	**15 34 26.5**	**+4.0**
LCND				IAML		15 34 31.2	
CNCH	**Conchagua**	**1.63**	**62**	*e*P	**Pn**	**15 34 02.4**	**-1.2**
CNCH	**Conchagua**	**1.63**	**62**	*e*P	**Pn**	**15 34 02.4**	**-1.2**
MTO3	**Montecristo**	**1.88**	**358**	*e*P	**Pn**	**15 34 06.4**	**-0.7**
MTO3	**Montecristo**	**1.88**	**358**	*e*P	**Pn**	**15 34 06.4**	**-0.7**
MTO3	**Montecristo**	**1.88**	**358**		**Pn**	**15 34 06.3**	**-0.9**
CRIN	**San Cristobal**	**2.21**	**85**	Pn	**Pn**	**15 34 09.1**	**-2.5**
TGUH	**Tegucigalpa,Un**	**2.51**	**52**	Pn	**Pn**	**15 34 13.9**	**-1.8**
CNGN	**Cerro Negro**	**2.55**	**90**	Pn	**Pn**	**15 34 14.4**	**-1.7**
MATN	**Matagalpa**	**3.33**	**82**	Pn	**Pn**	**15 34 23.8**	**-3.1**
HZTE	**Horizontes, Gu**	**4.05**	**116**	Pn	**Pn**	**15 34 36.3**	**-0.5**
ORTG	**Ortega, Santa**	**4.33**	**119**	Pn	**Pn**	**15 34 40.4**	**-0.3**
JTS	**Las Juntas de**	**4.80**	**117**	Pn	**Pn**	**15 34 46.3**	**-0.8**
JTS	comp=Z,1.5nm,0.3s,baz=0.0,slow=20,SNR=4.3			Sn	**Sn**	**15 35 41.6**	**0.0**
JTS	comp=Z,2.5nm,0.3s,baz=8.0,slow=18,SNR=2.6 **Las Juntas de**	**4.80**	**117**		**Pn**	**15 34 46.7**	**-0.5**
JACO	**JACO, Garabito**	**5.37**	**121**	Pn	**Pn**	**15 34 55.7**	**+0.9**
RIMA	**Rio Macho**	**6.00**	**116**		**Pn**	**15 35 04.0**	**+0.3**
SRBA	**San Rafael, Bu**	**6.69**	**119**		**Pn**	**15 35 13.7**	**+0.6**
DRK0	**Durika**	**6.77**	**118**	Pn	**Pn**	**15 35 14.8**	**+0.5**
CMIG	**Matias Romero**	**7.06**	**311**	Pn	**Pn**	**15 35 17.7**	**-0.4**
CMIG	comp=Z,0.3nm,0.3s,baz=132,slow=14,SNR=2.7 **Matias Romero**	**7.06**	**311**		**Pn**	**15 35 16.8**	**-1.3**
SJCC	**San Jacinto, C**	**14.10**	**99**	Pn	**Pn**	**15 36 51.5**	**-3.0**
ROSC	**El Rosal**	**16.65**	**116**	LR	LR	15 44 08.6	
GRTK	comp=Z,177nm,18.1s,baz=64,slow=39 **Grand Turk**	**19.54**	**60**	P	**P**	**15 37 58.7**	**-2.5**
JCT	**Junction City**	**20.35**	**333**	P	**P**	**15 38 08.8**	**-1.3**
JCT	comp=Z,6.3nm,0.4s			IAmb	IAmb	15 38 10.0	
WHTX	**Lake Whitney,**	**20.79**	**340**	P	**P**	**15 38 13.3**	**-1.5**
TX31	**Lajitas Ar. Sí**	**21.42**	**324**	P	**P**	**15 38 21.0**	**-0.7**
TX31	comp=Z,13nm,1.3s			IAmb	IAmb	15 38 22.9	
TX32	**Lajitas Array**	**21.42**	**324**	P	**P**	**15 38 21.4**	**-0.3**
TXAR	**Lajitas Array**	**21.42**	**324**	P	**P**	**15 38 22.7**	**+1.0**
TXAR	comp=Z,1.3nm,0.5s,baz=145,slow=11,SNR=22 **Lajitas Array**	**21.42**	**324**	P	**P**	**15 38 21.3**	**-0.4**
MIAR	**Mount Ida**	**22.28**	**351**	P	**P**	**15 38 28.5**	**-2.3**
MIAR	comp=Z,9.8nm,0.9s			IAmb	IAmb	15 38 32.8	
FCAR	**Ozark Folk Cen**	**23.42**	**354**	P	**P**	**15 38 41.3**	**-1.2**
TKL	**Tuckaleechee C**	**23.59**	**11**	P	**P**	**15 38 43.5**	**-0.6**
S39A	comp=Z,2.8nm,0.7s,baz=164,slow=15,SNR=2.1 **Bolivar**	**25.34**	**353**	P	**P**	**15 38 58.5**	**-1.6**
S39A	comp=Z,9.4nm,1.4s			IAmb	IAmb	15 39 00.6	
CCM	**Cathedral Cave**	**25.50**	**356**	P	**P**	**15 39 00.1**	**-1.5**
CCM	comp=Z,8.8nm,0.7s			IAmb	IAmb	15 39 02.7	
NVAR	**Mina Array Bea**	**36.48**	**320**	P	**P**	**15 40 40.4**	**+1.8**
NVAR	comp=Z,1.0nm,0.9s,baz=141,slow=7.5,SNR=5.8			PcP	**PcP**	**15 43 02.8**	**+0.9**
SIV	comp=Z,0.3nm,0.6s,baz=115,slow=6.1,SNR=2.3 **San Ignacio**	**39.77**	**135**	P	**P**	**15 41 06.8**	**+0.5**
SCHQ	comp=Z,0.8nm,0.5s,baz=291,slow=14,SNR=4.6 **Schefferville**	**45.77**	**18**	P	**P**	**15 41 51.4**	**-2.9**
WRA	comp=Z,1.8nm,0.4s,baz=233,slow=15,SNR=5.8 **Warramunga Arr**	**137.54**	**254**	PKP	**PKiKP**	**15 53 04.3**	**+5.0**
	comp=Z,0.3nm,0.7s,baz=112,slow=2.4,SNR=5.2						

*IDC **18** 15:38:24.9±3.1, 32°.31S×71°.71W, h0km, mb4.1/2, mb1 4.0/3, mb1mx3.7/24, mbtmp4.0/3, ML3.6/1, Error ellipse: s-maj=101.7km s-min=65.2km az=87.0*
*GUC **18** 15:38:30.8±0.8, 31°.63S×71°.66W, h35km±3km, ML3.7*

ISC 18 15:38:29.8±1.0,**31°.60S**±0°.03×**71°.8W**±0°.1,**h20**km±5km,**n19**,
σ0°**72**/27,**2D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.93**	**6**	*e*P	**Pn**	**15 38 48.3**	**+0.7**
CO06				*i* S	**Sn**	**15 39 00.4**	**0.0**
CO06	comp=E,3μm,0.2s			IAML		15 39 04.2	
VA06	**Catapilco**	**1.03**	**158**↓	*i*P	**Pn**	**15 38 48.6**	**-0.5**
VA06				*i* S	**Sb**	**15 39 01.3**	**-0.8**
VA06	comp=N,5μm,0.4s			IAML		15 39 04.3	
CO03	**El Pedregal**	**1.18**	**50**	*i* S	**Sn**	**15 39 06.6**	**-0.2**
CO03	comp=E,4μm,0.4s			IAML		15 39 07.5	
ROCH	**El Roble**	**1.50**	**156**	*e*P	**Pn**	**15 38 55.8**	**0.0**
ROCH				*i* S	**Sn**	**15 39 15.0**	**+0.1**
ROCH	comp=N,1μm,0.5s			IAML		15 39 23.2	
VA03	**San Esteban**	**1.54**	**139**	*e*P	**Pn**	**15 38 56.6**	**+0.4**
VA03				*i* S	**Sn**	**15 39 15.6**	**0.0**
VA03	comp=E,3μm,0.4s			IAML		15 39 18.3	
GO04	**Tololo Observa**	**1.64**	**30**	*e*P	**Pb**	**15 38 59.2**	**-0.3**
GO04				*i* S	**Sb**	**15 39 19.9**	**+0.1**
CO05	**La Serena**	**1.73**	**15**	*e*P	**Pb**	**15 39 00.6**	**-0.3**

CO05				*i* S		**Sb**	15 39 22.8	**+0.6**
CO05				IAML			15 39 28.2	
	comp=E,948nm,0.3s							
MT05	**Renca**	**1.98**	**155**	*e*P		**Pn**	15 39 02.9	**+0.7**
MT05				*i* S		**Sn**	15 39 27.4	**+0.9**
MT05				IAML			15 39 32.1	
	comp=E,1µm,0.5s							
VA05	**Santo Domingo**	**2.05**	**177**	*e*P		**Pn**	15 39 03.3	**+0.1**
VA05				IAML			15 39 42.4	
	comp=E,943nm,0.3s							
MT09	**Talagante**	**2.26**	**164**	*e*P		**Pn**	15 39 07.5	**+1.4**
MT09				IAML			15 39 44.9	
	comp=N,524nm,0.4s							
MT01	**Popeta**	**2.29**	**170**	*e*P		**Pn**	15 39 07.0	**+0.5**
MT01				*i* S		**Sn**	15 39 34.7	**+0.5**
MT01				IAML			15 39 44.4	
	comp=E,646nm,0.9s							
LMEL	**Las Melosas**	**2.59**	**150⇓**	*i* P		**Pn**	15 39 12.5	**+1.8**
LMEL				IAML			15 39 53.4	
	comp=N,485nm,0.4s							
BO01	**Tunca**	**2.84**	**169**	*e*P		**Pn**	15 39 14.7	**+0.8**
BO02	**Sierra Bellavi**	**3.28**	**166**	*e*P		**Pn**	15 39 21.5	**+1.3**
BO02				*i* S		**Sn**	15 39 58.3	**-0.3**
BO02				IAML			15 40 18.5	
	comp=N,284nm,0.1s							
LVC	**Limon Verde**	**9.30**	**16**	Pn		Pn	15 40 49.8	+6.7
	comp=N,0.5nm,0.3s,baz=177,slow=7.8,SNR=1.5							
DBIC	**Dimbokro**	**74.19**	**72**	P		**P**	15 50 04.7	**-0.7**
	comp=N,1.6nm,0.6s,baz=229,slow=9.3,SNR=1.5							
TORD	**Torodi Ar. Bea**	**83.16**	**70**	P		**P**	15 50 54.6	**-0.2**
	comp=N,0.9nm,0.8s,baz=250,slow=3.2,SNR=4.2							
ZALV	**Zalesovo Beam**	**152.05**	**30**	PKPbc		**PKPbc**	15 58 22.8	**-0.2**
	comp=N,2.2nm,0.4s,baz=314,slow=3.3,SNR=8.2							
MKAR	**Makanchi Array**	**154.96**	**45**	PKPab		**PKPab**	15 58 45.1	**-0.1**
	comp=N,0.4nm,0.8s,baz=311,slow=5.2,SNR=3.6							

MEX 18 15:47:21.4±1.2, 18.88N×104.93W, h17km±905km, MD3.8, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.63**	**350**	*i* P		Pg 15 47 31.8	-2.0
CJM				*i* S		Sg 15 47 39.0	-3.2
R15V		**0.94**	**72**	*e*P		Pb 15 47 35.3	-4.0
R15V				*e*S		Sb 15 47 45.2	-6.3
COIG	**Colima**	**1.21**	**76**	*e*P		Pn 15 47 39.9	-3.7
COIG				*e*S		Sb 15 47 54.1	-5.1
EZ5V		**1.39**	**64**	*e*P		Pn 15 47 43.3	-2.9
EZ5V				*i* P		Pb 15 47 43.9	-3.2
EZ5V				*e*S		Sn 15 48 00.0	-4.3
MMIG	**Aquila**	**1.61**	**111**	*i* P		Pn 15 47 47.5	-1.6
MMIG				*i* S		Sn 15 48 07.3	-2.2

KRSC 18 15:48:28.3±1.8, 48.26N×156.08E, h6km±33km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.43**	**1**	P		Pn 15 49 10.2	+1.8
SKR				S		Sn 15 49 40.2	+1.8
ALID	**Alaid**	**2.64**	**353**	*e*P		Pn 15 49 12.7	+1.2
ALID				S		Sn 15 49 44.7	+0.8
PAU	**Pauzhetka**	**3.25**	**8**	S		Sb 15 50 04.3	-1.8
KDTR	**Khodutka, Kamc**	**3.78**	**19**	P		Pn 15 49 30.1	+3.1
KDTR				S		Sn 15 50 16.2	+4.4
MIPR	**Malaya Ipel'ka**	**4.05**	**6**	P		Pn 15 49 33.9	+3.2
ASAK	**Asacha**	**4.29**	**15**	P		Pn 15 49 37.6	+3.5
ASAK				S		Sn 15 50 29.6	+5.1
MTVR	**Mutnovka**	**4.44**	**17**	*e*P		Pn 15 49 39.9	+3.7
MTVR				*e*S		Sn 15 50 33.7	+5.4
RUS	**Russkaya**	**4.46**	**19**	*e*P		Pn 15 49 39.2	+2.8
RUS				*e*S		Sn 15 50 33.4	+4.9
GRL	**Gorelyy**	**4.49**	**16**	*e*P		Pn 15 49 40.8	+4.0
GRL				S		Sn 15 50 35.0	+5.7
DALK	**Dalny**	**5.07**	**19**	P		Pn 15 49 48.9	+4.1
DALK				S		Sn 15 50 49.4	+5.8
SDLR	**Sedlovina**	**5.33**	**18**	P		Pn 15 49 52.3	+3.8
SPN	**Mys Shipunski**	**5.46**	**26**	P		Pn 15 49 55.5	+5.5
SPN				S		Sn 15 50 59.7	+6.7
GNL	**Ganaly**	**5.57**	**11**	P		Pn 15 49 57.0	+5.3
KZV	**Kizimen**	**7.35**	**19**	P		Pn 15 50 22.7	+6.6

*IDC **18** 15:55:47.1±3.0, 21.63S×179.24W, h597km±28km, mb3.1/4, mb1 3.2/7, mb1mx2.8/34, mbtmp4.1/7, Error ellipse: s-maj=53.1km s-min=45.5km az=69.0*

ISC 18 15:55:46.7±2.4, 21.7S±0.2×179.2W±0.3, h600km, n7, σ0.86/8, mb3.8/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.73**	**326**	P		**P** 15 57 17.6	**-0.2**
	1.2nm,0.3s,baz=282,slow=23,SNR=7.3						
DZM	**Mont Dzumac**	**13.34**	**266**	P		**P** 15 58 38.2	**-1.0**
	0.2nm,0.3s,baz=190,slow=17,SNR=1.7						
URZ	**Urewera**	**16.80**	**190**	P		**P** 15 59 10.4	**-0.8**
	0.6nm,0.3s,baz=300,slow=20,SNR=2.5						
CTA	**Charters Tower**	**32.28**	**266**	P		**P** 16 01 28.6	**+0.5**
	2.0nm,0.5s,baz=102,slow=9.3,SNR=1.7						
STKA	**Stephens Creek**	**36.27**	**245**	P		**P** 16 02 02.1	**+1.0**
	0.9nm,0.4s,baz=83,slow=9.9,SNR=7.0						
ASAR	**Alice Springs**	**43.17**	**258**	P		**P** 16 02 56.5	**+0.2**
	1.9nm,0.5s,baz=94,slow=8.2,SNR=75						
ASAR				PcP		**PcP** 16 04 32.6	**+0.6**
	0.2nm,0.5s,baz=109,slow=3.8,SNR=4.3						
WRA	**Warramunga Arr**	**43.35**	**264**	P		**P** 16 02 57.2	**-0.5**
	0.7nm,0.3s,baz=92,slow=7.7,SNR=45						

*TEH **18** 15:56:21.0, 37.32N×54.31E, h18km, ML3.5*
*THR **18** 15:56:21.6±0.4, 37.29N×54.39E, h18km±5km, ML3.6*

ISC 18 15:56:21.2±1.1, 37.32N±0.06×54.31E±0.04, h10km, n46, σ1§14/50, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**0.88**	**93**	*e*Pg		**Pb** 15 56 38.6	**+0.1**
IMND				*e*Sg		**Sb** 15 56 50.1	**-0.2**
IGLO	**Ghaloghah**	**0.90**	**205**	*e*Pg		**Pb** 15 56 38.8	**-0.1**
IGLO				*e*Sg		**Sb** 15 56 51.7	**+0.7**
MRVT	**Maraveh tapeh**	**1.46**	**76**	*e*Pg		**Pn** 15 56 47.6	**-0.1**
MRVT				*e*Sg		**Sn** 15 57 06.5	**-0.4**
MRVT				IAML		15 57 13.2	
	comp=E,1µm,0.3s						
MRVT	**Maraveh tapeh**	**1.46**	**76**	*e*Pg		**Pn** 15 56 47.6	**-0.1**
ISHM	**Shahmirzad**	**1.71**	**209**	*e*Pn		**Pb** 15 56 52.9	**0.0**
ISHM				*e*		15 57 18.4	
	comp=Z,13µm,0.3s						
IANJ	**Anjilo**	**1.87**	**190**	*e*Pg		**Pb** 15 56 55.2	**-0.4**
IANJ				*e*		15 57 24.3	
	comp=Z,4µm,0.4s						
SHRO	**Shahrood**	**1.91**	**133**	*e*Pn		**Pn** 15 56 54.1	**+0.3**
SHRO				*e*Sg		**Sb** 15 57 19.6	**-0.3**
SHRO				IAML		15 57 26.3	
	comp=N,484nm,0.3s						
SHRO				IAML		15 57 33.4	
	comp=E,877nm,0.7s						
SHRO	**Shahrood**	**1.91**	**133**	*e*Pn		**Pn** 15 56 54.1	**+0.3**
IPRN	**Peran**	**1.91**	**236**	*e*Pn		**Pn** 15 56 54.2	**+0.3**
IFIR	**Firoozkooh**	**2.09**	**217**	*e*Pn		**Pn** 15 56 57.6	**+1.1**
IFIR				*e*		15 57 25.4	
	comp=Z,5µm,0.3s						
ILAS	**Lasjerd**	**2.21**	**210**	*e*Pn		**Pb** 15 57 00.0	**-1.4**
ILAS				*e*		15 57 10.2	
	comp=Z,2µm,0.2s						
IDMV	**Damavand**	**2.52**	**227**	*e*		15 57 15.1	
	comp=Z,2µm,0.3s						
IDMV				*e*Pn		**Pn** 15 57 04.4	**+1.9**
DAMV	**Damavand**	**2.52**	**229**	*e*Pn		**Pb** 15 57 04.6	**-2.1**
DAMV	**Damavand**	**2.52**	**229**	*e*Pn		**Pb** 15 57 04.6	**-2.1**
SBZV	**Sabzevar**	**2.81**	**108**	*e*Pn		**Pn** 15 57 06.8	**+0.5**
ISFR	**Sfrayin**	**2.96**	**94**	*e*Pn		**Pn** 15 57 09.8	**+1.3**
ISFR				*e*		15 58 09.7	
	comp=Z,794nm,0.6s						
QALM	**Alamut, Qazvin**	**3.06**	**254**	*e*Pn		**Pn** 15 57 11.1	**+1.2**
QALM				*e*		15 58 07.4	
	comp=Z,1µm,0.5s						
IVRN	**Varamin**	**3.12**	**223**	*e*Pn		**Pn** 15 57 11.7	**+1.3**
IVRN				*e*		15 58 05.2	
	comp=Z,2µm,0.5s						
ISFB	**Sefidab**	**3.40**	**210**	*e*Pn		**Pn** 15 57 14.6	**+0.3**
ISFB				*e*		15 58 16.5	
IEMG	**Emamgholi**	**3.46**	**87**	*e*Pn		**Pn** 15 57 16.4	**+1.0**
IQOM	**Qom**	**3.60**	**228**	*e*Pn		**Pn** 15 57 18.1	**+0.9**
IQOM				*e*		15 58 18.7	
	comp=Z,747nm,0.4s						
IAKL	**Akhelmad**	**3.64**	**100**	*e*Pn		**Pn** 15 57 18.4	**+0.6**
GHVR	**GHOM**	**3.74**	**222**	*e*Pn		**Pn** 15 57 21.4	**+2.4**
GHVR				IAML		15 58 25.2	
	comp=E,49nm,0.7s						
GHVR	**GHOM**	**3.74**	**222**	*e*Pn		**Pn** 15 57 21.4	**+2.4**
KRSH	**Karshahi**	**3.78**	**209**	*e*Pn		**Pn** 15 57 20.1	**+0.5**
IPAY	**Payeh**	**3.86**	**102**	*e*Pn		**Pn** 15 57 21.2	**+0.4**
IKRD	**Kardeh**	**4.20**	**96**	*e*Pn		**Pn** 15 57 27.4	**+1.9**
QAMS	**Qamsar**	**4.29**	**214**	*e*Pn		**Pn** 15 57 26.9	**+0.2**
TKDS	**Koohdasht(Taba**	**4.35**	**147**	*e*Pn		**Pn** 15 57 28.0	**+0.5**
ASTR	**Astara**	**4.53**	**288**	*e*Pn		**Pn** 15 57 28.9	**-0.9**
IKLH	**Kolahrood**	**4.57**	**210**	*e*Pn		**Pn** 15 57 30.6	**0.0**
NDR	**Nardaran**	**4.69**	**315**	*e*Pn		**Pn** 15 57 33.7	**+1.8**
IZEF	**Zefreh**	**4.70**	**201**	*e*Pn		**Pn** 15 57 31.1	**-1.3**
TPRV	**Parvadeh(Tabas**	**4.70**	**155**	*e*Pn		**Pn** 15 57 32.8	**+0.6**
LRK	**Lerik**	**4.90**	**288**	*e*Pn		**Pn** 15 57 34.4	**-0.6**
YRD	**Yardimli**	**5.04**	**290**	*e*Pn		**Pn** 15 57 36.3	**-0.7**
ICHK	**Chekchek**	**5.06**	**179**	*e*Pn		**Pn** 15 57 38.3	**+1.0**
IPIR	**Pirpir**	**5.40**	**212**	*e*Pn		**Pn** 15 57 44.4	**+2.3**
AFRZ	**Afriz**	**5.46**	**134**	*e*Pn		**Pn** 15 57 43.6	**+0.8**
PQL	**Pirkuli**	**5.64**	**310**	*e*Pn		**Pn** 15 57 46.6	**+1.4**
IRAM	**Ramesheh**	**5.72**	**197**	*e*Pn		**Pn** 15 57 47.8	**+1.5**
IBAF	**Bafgh**	**5.81**	**169**	*e*Pn		**Pn** 15 57 48.4	**+0.9**
IHRS	**Heris**	**5.84**	**282**	*e*Pn		**Pn** 15 57 48.5	**+0.5**
IMEH	**Mehriz**	**5.92**	**177**	*e*Pn		**Pn** 15 57 49.7	**+0.6**
IMON	**Monand**	**6.01**	**132**	*e*Pn		**Pn** 15 57 51.2	**+0.8**
IKOO	**Kooshah**	**6.22**	**140**	*e*Pn		**Pn** 15 57 54.0	**+0.7**

*IDC **18** 15:58:32.2±0.9, 30.58S×71.85W, h0km, mb4.5/6, mb1 4.3/10, mb1mx4.1/39, mbtmp4.3/10, ML3.8/4, Error ellipse: s-maj=37.6km s-min=18.3km az=111.0*
*GUC **18** 15:58:36.6±0.7, 30.68S×71.65W, h30km±2km, ML4.6*
*NEIC **18** 15:58:37.6±2.1, 30.66S±0.02×71.75W±0.06, h35km±2km, Error ellipse: s-maj=9.1km s-min=3.1km az=254.0*
*NEIC **18** 15:58:37.4, 30.66S×71.80W, h31km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.88; $M_{\theta\theta}$0.13; $M_{\phi\phi}$-2.00; $M_{r\theta}$0.04; $M_{\theta\phi}$0.14; $M_{\phi r}$-0.78; Fault plane solution: $M_0$2.10000×10^{15} NP1:ϕ_s176.68000°, δ55.96000°, λ90.50000°. NP2:ϕ_s355.79000°, δ34.04000°, λ89.26000°. Principal axes: T 2.0269, Plg79.0000°, Azm89.0000°; N 0.1374, Plg0.0000°, Azm356.0000°; P -2.1643, Plg11.0000°, Azm266.0000°;*
ISC 18 15:58:36.6±0.8, 30.63S±0.03×71.78W±0.06, h30km±5km, n83, σ1§72/87, mb4.5/6, 10C-8D, Fault plane solution: NP1:ϕ_s154.88216°, δ70.82698°, λ70.36755°. NP2: ϕ_s22.24746°, δ27.17408°, λ134.01759°. **Principal axes:** T Plg59.4615°, Azm37.0059°; N Plg18.5026°, Azm161.5642°; P Plg23.3801°, Azm259.8828°; **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.13**	**110**	*i*P		**Pb** 15 58 42.1	**0.0**
CO06				*i* S		**Sb** 15 58 45.7	**-0.1**
CO06				IAML		15 58 46.1	
	comp=N,160µm,0.4s						
CO06	**Fray Jorge**	**0.13**	**110**			**Pb** 15 58 42.3	**+0.2**
CO06						**Sb** 15 58 45.8	**-0.1**
CO05	**La Serena**	**0.85**	**34**	*i* P		**Pn** 15 58 52.8	**+0.2**
CO05				*i* S		**Sn** 15 59 04.6	**+0.6**
CO05				IAML		15 59 06.8	
	comp=N,34µm,0.3s						
CO05	**La Serena**	**0.85**	**34**			**Pn** 15 58 52.9	**+0.4**
CO05				Sn		**Sn** 15 59 04.6	**+0.6**
GO04	**Tololo Observa**	**0.96**	**62**	*i*P		**Pn** 15 58 54.4	**+0.1**
GO04				*i* S		**Sn** 15 59 07.6	**+0.4**
GO04				IAML		15 59 11.1	
	comp=E,95µm,0.2s						
GO04	**Tololo Observa**	**0.96**	**62**			**Pn** 15 58 54.5	**+0.1**
CO03	**El Pedregal**	**0.96**	**103**	*i*P		**Pb** 15 58 53.6	**-1.1**
CO03				*i* S		**Sb** 15 59 05.7	**-1.5**
CO03	**El Pedregal**	**0.96**	**103**			**Pb** 15 58 53.7	**-1.1**
CO03				Sn		**Sb** 15 59 05.8	**-1.4**
LCO	**Las Campanas**	**1.86**	**30⇑**	*i*P		**Pn** 15 59 08.0	**+1.2**
LCO				*i* S		**Sb** 15 59 32.2	**-0.9**
LCO	**Las Campanas**	**1.86**	**30**			**Pn** 15 59 08.3	**+1.2**
VA06	**Catapilco**	**1.97**	**168**	*e*P		**Pn** 15 59 08.3	**+0.4**
VA06				*i* S		**Sn** 15 59 32.5	**+0.8**
VA03	**San Esteban**	**2.37**	**154⇑**	*i*P		**Pn** 15 59 14.8	**+1.2**
VA03				*i* S		**Sb** 15 59 44.5	**-3.1**
VA03				IAML		15 59 50.8	
	comp=E,2µm,0.2s						
VA03	**San Esteban**	**2.37**	**154**			**Pn** 15 59 15.1	**+1.5**
VA01	**Torpederas**	**2.39**	**177**			**Pn** 15 59 13.9	**+0.2**
ROCH	**El Roble**	**2.43**	**165**	*e*P		**Pn** 15 59 15.0	**+0.5**
ROCH				*i* S		**Sb** 15 59 47.4	**-1.8**
ROCH				IAML		15 59 52.2	
	comp=N,7µm,0.9s						
AC04	**Llanos de Chal**	**2.49**	**14⇑**	*i*P		**Pn** 15 59 15.7	**+0.5**
AC04				IAML		16 00 05.8	
	comp=N,5µm,0.9s						
AC04	**Llanos de Chal**	**2.49**	**14**	Pn		**Pn** 15 59 15.8	**+0.6**
MT05	**Renca**	**2.89**	**162**	*e*P		**Pn** 15 59 22.2	**+1.4**
MT05				*i* S		**Sb** 15 59 58.2	**-4.3**
MT05				IAML		16 00 07.1	
	comp=N,2µm,0.7s						
MT05	**Renca**	**2.89**	**162**			**Pn** 15 59 21.8	**+1.0**
VA05	**Santo Domingo**	**3.02**	**177**	*e*P		**Pn** 15 59 22.9	**+0.5**
VA05				*i* S		**Sn** 16 00 01.4	**+3.8**
VA05				IAML		16 00 17.2	
	comp=E,2µm,0.5s						
VA05	**Santo Domingo**	**3.02**	**177**			**Pn** 15 59 22.2	**-0.3**
MT09	**Talagante**	**3.21**	**168⇑**	*i*P		**Pn** 15 59 26.0	**+0.8**
MT09				*i* S		**Sb** 16 00 06.7	**-5.0**
MT09				IAML		16 00 24.7	
	comp=N,954nm,0.3s						
MT09	**Talagante**	**3.21**	**168**	Pn		**Pn** 15 59 25.8	**+0.6**
MT01	**Popeta**	**3.26**	**172**	*e*P		**Pn** 15 59 25.9	**+0.2**
MT01				*i* S		**Sn** 16 00 07.6	**+4.2**
MT01				IAML		16 00 20.7	
	comp=N,865nm,0.8s						
MT01	**Popeta**	**3.26**	**172**	Pn		**Pn** 15 59 26.1	**+0.4**
GO03	**Copiap**	**3.31**	**24**	*e*P		**Pn** 15 59 27.2	**+0.7**
GO03				*i* S		**Sb** 16 00 10.2	**-4.4**
GO03				IAML		16 00 21.7	
	comp=N,2µm,0.8s						
GO03	**Copiap**	**3.31**	**24**	Pn		**Pn** 15 59 27.7	**+1.2**
LMEL	**Las Melosas**	**3.48**	**158**	*e*P		**Pn** 15 59 30.9	**+2.0**
LMEL				*i* S		**Sn** 16 00 12.4	**+3.3**
LMEL				IAML		16 00 27.2	
	comp=N,832nm,0.8s						
AC06	**Mina Casimiro**	**3.49**	**21**	*e*P		**Pn** 15 59 29.6	**+0.7**
AC06				IAML		16 00 31.4	
	comp=E,1µm,0.4s						
AC06	**Mina Casimiro**	**3.49**	**21**			**Pn** 15 59 29.7	**+0.7**
BO01	**Tunca**	**3.80**	**171**			**Pn** 15 59 33.2	**+0.1**
BO02	**Sierra Bellavi**	**4.24**	**169**	Pn		**Pn** 15 59 40.7	**+1.5**
GO05	**Huala**	**4.37**	**182**			**Pn** 15 59 39.4	**-1.6**
AC02	**Maricunga**	**4.44**	**32⇑**	*i*P		**Pn** 15 59 43.9	**+1.5**
AC02				*i* S		**Sn** 16 00 39.5	**+6.1**
AC02	**Maricunga**	**4.44**	**32**	Pn		**Pn** 15 59 44.1	**+1.7**
PB14	**IPOC Station P**	**6.10**	**12**			**Pn** 16 00 03.2	**-1.9**
H03N1	**Juan Fernandez**	**6.67**	**243**	T	T	16 07 08.4	
	baz=71,slow=72,SNR=1733						
H03N3	**Juan Fernandez**	**6.69**	**243**	T	T	16 07 06.6	
	baz=71,slow=72,SNR=1585						
H03N2	**Juan Fernandez**	**6.69**	**243**	T	T	16 07 07.8	
	baz=71,slow=72,SNR=2101						
VA04	**Juan Fernndez**	**6.69**	**241**			**Pn** 16 00 11.1	**-1.8**
H03S3	**Juan Fernandez**	**6.83**	**240**	T	T	16 07 12.2	
	baz=83,slow=75,SNR=36						
H03S1	**Juan Fernandez**	**6.83**	**240**	T	T	16 07 14.4	
	baz=83,slow=75,SNR=33						
H03S2	**Juan Fernandez**	**6.85**	**240**	T	T	16 07 13.9	
	baz=83,slow=75,SNR=43						
PB15	**IPOC Station P**	**7.67**	**16**	Pn		**Pn** 16 00 26.4	**-0.2**
LC01	**Cunco**	**8.25**	**181**			**Pn** 16 00 33.2	**-1.1**
LVC	**Limon Verde**	**8.39**	**18**	Pn		**Pn** 16 00 34.4	**-2.1**
	comp=E,0.2nm,0.3s,baz=336,slow=17,SNR=3.7						
LVC	**Limon Verde**	**8.39**	**18**	Pn		**Pn** 16 00 37.0	**+0.4**
PB04	**IPOC Station P**	**8.39**	**10**	Pn		**Pn** 16 00 34.4	**-2.0**
PLCA	**Paso Flores**	**10.13**	**175**	Pn		**Pn** 16 01 00.3	**+0.2**
	comp=E,0.2nm,0.3s,baz=341,slow=6.3,SNR=5.7						
TRQA	**Tornquist**	**10.97**	**135**			**Pn** 16 01 12.4	**+0.8**
PSGCX	**Pisagua**	**11.09**	**8**	Pn		**Pn** 16 01 11.6	**-1.7**
ITQB	**Itaqui**	**13.15**	**90**	Pn		**Pn** 16 01 39.6	**-1.8**
CPUP	**Villa Florida**	**13.41**	**75**	Pn		**Pn** 16 01 44.5	**-0.4**
	comp=E,0.4nm,0.3s,baz=249,slow=7.6,SNR=4.5						
CPUP	**Villa Florida**	**13.41**	**75**			**Pn** 16 01 44.0	**-1.0**
LPAZ	**La Paz**	**14.66**	**14**	Pn		**Pn** 16 02 05.0	**+2.4**
	comp=E,0.5nm,0.3s,baz=186,slow=9.7,SNR=11						
SIV	**San Ignacio**	**17.56**	**36**	P		**Pn** 16 02 39.5	**+0.2**
	comp=E,0.4nm,0.3s,baz=225,slow=12,SNR=21						
SAML	**Samuel**	**23.02**	**22**	P		**P** 16 03 39.4	**+0.2**
BDFB	**Brasilia**	**26.38**	**61**	P		**P** 16 04 10.3	**-0.3**
	comp=E,5.3nm,0.6s,baz=311,slow=4.8,SNR=6.3						
BDFB	**Brasilia**	**26.38**	**61**	P		**P** 16 04 08.1	**-2.5**
BDFB				IAmb	IAmb	16 04 22.9	
	comp=Z,11nm,0.8s						
TULM	**Tulcn-Chalpat**	**31.69**	**349**	*e*P		**P** 16 04 57.2	**-1.0**
DBBC	**Dabeiba**	**37.67**	**353**	*e*P		**P** 16 05 48.1	**-1.3**
CAPC	**Capurgana**	**39.40**	**351**	*e*P		P 16 05 59.8	-4.0
UPD2	**Meteti**	**39.41**	**350**	*e*P		**P** 16 06 05.9	**+2.0**
VNA3	**Neumayer Olymp**	**52.40**	**159**	P		**P** 16 07 46.4	**+0.6**
VNA2	**Neumayer--Watz**	**53.04**	**158**	P		**P** 16 07 50.9	**+0.4**
	baz=292,slow=8.9						
SNAA	**Sanae**	**54.63**	**159**	P		**P** 16 08 02.5	**+0.4**
SNAA	**Sanae**	**54.63**	**159**	P		**P** 16 08 02.4	**+0.2**
	comp=Z,2.4nm,0.8s,baz=307,slow=11,SNR=28						
SNAA	**Sanae**	**54.63**	**159**	P		**P** 16 08 02.3	**+0.2**
SNAA				IAmb	IAmb	16 08 11.0	
	comp=Z,4.4nm,0.8s						
QSPA	**South Pole Qui**	**59.60**	**180**	P		**P** 16 08 38.4	**+1.0**
	comp=Z,1.5nm,0.6s,baz=193,slow=1.1,SNR=16						
DBIC	**Dimbokro**	**73.91**	**72**	P		**P** 16 10 09.8	**+0.6**
	comp=Z,3.3nm,0.5s,baz=211,slow=3.9,SNR=4.5						
MAW	**Mawson**	**76.34**	**164**	P		**P** 16 10 23.5	**+1.1**
	comp=Z,5.2nm,0.8s,baz=199,slow=6.4,SNR=7.7						
TORD	**Torodi Ar. Bea**	**82.86**	**70**	P		**P** 16 10 59.2	**+0.5**
	comp=Z,2.5nm,0.5s,baz=278,slow=5.4,SNR=7.1						
TORD	**Torodi Ar. Bea**	**82.86**	**70**	IAmb	IAmb	16 11 49.0	
	comp=Z,40nm,1.8s						
ASAR	**Alice Springs**	**120.66**	**208**	PKP		**PKPdf** 16 17 25.1	**-1.1**
	comp=Z,0.2nm,0.6s,baz=130,slow=1.9,SNR=6.2						
WRA	**Warramunga Arr**	**123.80**	**210**	PKP		**PKPdf** 16 17 31.6	**-0.7**
	comp=Z,0.6nm,0.6s,baz=174,slow=2.3,SNR=12						
H11S2	**WAKE ISLAND Hyd**	**25.97**	**271**	T	T	18 36 20.5	
	baz=115,slow=75,SNR=182						
H11S1	**WAKE ISLAND Hyd**	**25.98**	**271**	T	T	18 36 21.4	
	baz=115,slow=75,SNR=187						
H11S3	**WAKE ISLAND Hyd**	**25.99**	**271**	T	T	18 36 21.8	
	baz=115,slow=75,SNR=148						
H11N3	**WAKE ISLAND Hyd**	**26.30**	**273**	T	T	18 36 43.9	
	baz=116,slow=75,SNR=30						
H11N1	**WAKE ISLAND Hyd**	**26.31**	**273**	T	T	18 36 44.5	
	baz=116,slow=75,SNR=12						
H11N2	**WAKE ISLAND Hyd**	**26.32**	**273**	T	T	18 36 44.5	
	baz=116,slow=75,SNR=52						
YAK	**Yakutsk**	**145.62**	**342**	PKPbc		**PKPdf** 16 18 11.7	**+0.5**
	comp=Z,3.7nm,0.5s,baz=108,slow=1.1,SNR=5.4						
ZALV	**Zalesovo Beam**	**151.22**	**29**	PKPbc		**PKiKP** 16 18 27.7	**+0.6**
	comp=Z,7.1nm,0.8s,baz=290,slow=3.2,SNR=13						

*IDC **18** 15:59:39.9±0.3, 15.35N×45.95W, h0km, mb5.0/41, mb1 5.2/44, mb1mx5.1/47, mbtmp5.1/44, ML5.0/3, MS5.6/34, Ms1 5.6/34, ms1mx5.5/38 Error ellipse: s-maj=10.9km s-min=8.5km az=142.0*
*MOS **18** 15:59:40.1±1.2, 15.33N×45.92W, h10km, mb5.8/46, MS5.7/35, Error ellipse: s-maj=7.3km s-min=5.1km az=53.0*
*NEIC **18** 15:59:42.8, 15.23N×45.97W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.16; $M_{\theta\theta}$-2.24; $M_{\phi\phi}$2.08; $M_{r\theta}$0.02; $M_{\theta\phi}$-8.37; $M_{\phi r}$0.09; Fault plane solution: $M_0$8.65000×10^{17} NP1:ϕ_s277.23000°, δ89.36000°, λ-179.94000°. NP2:ϕ_s187.23000°, δ89.94000°, λ-0.

GRGR Grenville 15.51 260 ⇑P **Pn** **16 03 19.1 -1.6**
SMRT St. Maarten 16.57 282 Pn **Pn** **16 03 33.4 -0.9**
TMAB Tom-Au,PA,Br 17.65 187 *eP* **P** **16 03 48.5 -0.2**
ABVI Anegada Island 17.85 284 P **Pn** **16 03 50.2 -0.1**
ABVI IAmb IAmb 16 04 18.9
comp=Z,615nm,1.4s
CDVI St. Croix 18.14 280 **Pn** **16 03 53.8 -0.1**
ROSB Rosrio 18.15 174 *eP* **Pn** **16 03 52.9 -1.1**
STVI Saint Thomas 18.38 282 P **Pn** **16 03 56.4 -0.4**
STVI IAmb IAmb 16 04 24.9
comp=Z,442nm,1.4s
CUPR Culebra, Puert 18.69 282 **P** **16 03 58.9 -1.3**
PCRV Puerto La Cruz 18.85 257 P **P** **16 04 01.0 -1.0**
comp=Z,0.7nm,0.3s,baz=61,slow=6.6,SNR=4.3
MALB Monte Alegre 18.87 206 *eP* **Pn** **16 04 02.8 +0.1**
MTP Monte Pirata 18.92 281 P **P** **16 04 03.1 +0.3**
BOAV Boa Vista 19.19 230 *eP* **P** **16 04 05.7 0.0**
HUMP Col San Antoni 19.20 281 P **Pn** **16 04 07.1 +0.3**
HUMP IAmb IAmb 16 04 25.2
comp=Z,337nm,1.4s
PDPR Patillas Dam, 19.36 281 P **Pn** **16 04 08.7 0.0**
PDPR IAmb IAmb 16 04 26.7
comp=Z,268nm,1.2s
NBMO Morrinhos-CE 19.39 162 *eP* **P** **16 04 08.0 +0.1**
GCPR Guaynabo City 19.44 282 P **Pn** **16 04 09.6 -0.1**
SJG San Juan 19.49 281 P **Pn** **16 04 10.2 0.0**
comp=Z,4.5nm,0.3s,baz=112,slow=8.9,SNR=12
SJG LR LR 16 10 19.7
comp=Z,12µm,20.9s,baz=98,slow=33
SJG San Juan 19.49 281 P **Pn** **16 04 10.1 -0.2**
SJG IAmb IAmb 16 04 26.0
comp=Z,306nm,1.2s
SJG San Juan 19.49 281 *eP* **Pn** **16 04 09.8 -0.4**
EMPR Esperanza - Ma 19.88 282 P **P** **16 04 14.1 +0.8**
EMPR IAmb IAmb 16 04 24.1
comp=Z,376nm,1.4s
OBIP Obispado Ponce 19.91 281 P **P** **16 04 13.8 +0.1**
NBPS Pedro II - PI 20.06 167 *eP* **P** **16 04 15.1 -0.2**
AOPR Arecibo Observ 20.08 282 P Pn 16 04 16.7 -0.6
CRPR Cabo Rojo, PR 20.39 281 P **P** **16 04 16.8 -2.0**
NBCL Cascavel-CE 20.83 158 *eP* **P** **16 04 23.3 -0.3**
PTGA Pitinga 21.05 222 P **P** **16 04 26.0 0.0**
comp=Z,184nm,0.8s,baz=141,slow=0.2,SNR=52
PTGA Pitinga 21.05 222 P **P** **16 04 25.8 -0.2**
PTGA IAMs_20 IAMs_20 16 11 22.5
comp=Z,49µm,22.0s
PCDR Punta Cana, DR 21.63 282 P **P** **16 04 33.1 +0.8**
PRPB Parauapebas 21.63 190 *eP* **P** **16 04 32.9 +0.6**
SACV Santiago Islan 21.64 88 P **P** **16 04 31.1 -1.4**
SACV IAmb IAmb 16 04 39.9
comp=Z,244nm,0.9s
SACV IAMs_20 IAMs_20 16 10 09.7
comp=Z,30µm,18.0s
NBPB Pedra_Branca-C 21.64 162 *eP* **P** **16 04 32.1 -0.3**
ITTB Itaituba 21.75 207 *eP* **P** **16 04 33.7 +0.1**
DR12 Loma Pena Alta 22.60 282 P **P** **16 04 42.3 -0.5**
NBPA Parau_RN 22.67 156 *eP* **P** **16 04 42.4 -1.1**
RCBR Riachuelo 23.24 154 P **P** **16 04 47.5 -1.9**
RCBR pmax pmax
comp=Z,209nm,1.4s
RCBR Riachuelo 23.24 154 P **P** **16 04 47.5 -1.9**
RCBR IAmb IAmb 16 05 02.1
comp=Z,209nm,1.4s
RCBR Riachuelo 23.24 154 IAMs_20 IAMs_20 16 11 25.3
comp=Z,30µm,20.0s
RCBR Riachuelo 23.24 154 ⇓P **P** **16 04 48.5 -0.9**
RCBR Riachuelo 23.24 154 *eP* **P** **16 04 48.7 -0.6**
MACA Manacapuru-AM 23.37 220 *eP* **P** **16 04 51.5 +0.8**
BANI BANI 23.50 281 P **P** **16 04 51.9 -0.1**
NBMA Muriti-CE 23.61 162 *eP* **P** **16 04 52.0 -1.0**
NPGB Novo Progresso 24.02 203 *eP* **P** **16 04 57.0 -0.1**
SMTB Santa Maria do 24.03 184 *eP* **P** **16 04 57.1 +0.1**
NBPV Pedro Velho 24.03 153 *eP* **P** **16 04 56.1 -1.0**
ELOV Elorza 24.42 253 *eP* **P** **16 05 00.5 -0.2**
SDV Santo Domingo 24.88 258 P **P** **16 05 05.5 +0.5**
comp=Z,60nm,0.9s,baz=66,slow=7.8,SNR=18
SDV LR LR 16 16 37.1
comp=Z,4µm,19.1s,baz=71,slow=41
SDV Santo Domingo 24.88 258 P **P** **16 05 05.3 +0.2**
SDV IAmb IAmb 16 05 22.4
comp=Z,145nm,1.1s
SDV Santo Domingo 24.88 258 *eP* **P** **16 05 03.3 -1.7**
SDV Santo Domingo 24.88 258 *eP* **P** **16 05 05.6 +0.5**
SOCV Socops 25.27 257 *eP* **P** **16 05 06.5 -2.0**
URIC Uribia, Colomb 25.50 265 P **P** **16 05 08.8 -1.6**
URIC Uribia, Colomb 25.50 265 *eP* **P** **16 05 09.3 -1.1**
NBRF Rio Formoso - 26.13 155 *eP* **P** **16 05 16.1 0.0**
CRJC Cerrejon, Guaj 26.49 264 *eP* **P** **16 05 16.4 -3.2**
NBPN Ponto Novo - B 26.58 167 *eP* **P** **16 05 20.1 -0.2**
NBAN Anadia - AL 26.59 158 *eP* **P** **16 05 20.1 -0.3**
TAMC Tame, Arauca 26.76 254 *eP* **P** **16 05 16.4 -5.6**
PEXB Peixe 27.29 185 *eP* **P** **16 05 26.7 0.0**
PAMC Pamplona, Colo 27.30 256 *eP* **P** **16 05 23.4 -3.9**
LL2C La Loma 2 Cana 27.36 261 *eP* **P** **16 05 27.8 +0.5**
LL1C La Loma 1 Cana 27.47 261 *eP* **P** **16 05 29.1 +0.8**
SDBA SAO DESIDERIO 27.52 178 *eP* **P** **16 05 28.7 0.0**
SNDB Serra Nova Dou 27.57 191 *eP* **P** **16 05 29.4 +0.3**
OCAC Ocana 27.60 258 *eP* **P** **16 05 26.9 -2.7**
CLDB Colider 27.72 201 *eP* **P** **16 05 30.6 +0.1**
SMRC Santa Marta, M 27.75 265 *eP* **P** **16 05 28.1 -2.7**
CALA Caldeira 27.79 30 *eP* **P** **16 05 33.1 +2.1**
comp=Z,244nm,1.2s
PCAN Candelaria 27.80 30 *eP* **P** **16 05 33.7 +2.7**
comp=Z,193nm,1.7s
PICO Pico 27.86 31 *eP* **P** **16 05 38.2 +6.6**
comp=Z,238nm,1.7s
PTGC Puerto Gaitan, 27.95 249 *eP* **P** **16 05 31.6 -1.0**
BARC Barichara 28.00 255 *eP* **P** **16 05 31.6 -1.7**
ARGC Ariguani, Magd 28.05 262 *eP* **P** **16 05 29.3 -4.3**
GTBY Guantanamo Bay 28.09 284 *eP* **P** **16 05 38.0 +4.2**
MBO M'Bour 28.10 88 P **P** **16 05 31.4 -2.5**
MBO IAMs_20 IAMs_20 16 13 42.0
comp=Z,19µm,18.0s
RUSC La Rusia 28.15 254 P **P** **16 05 36.1 +1.2**
RUSC La Rusia 28.15 254 *eP* **P** **16 05 36.3 +1.4**
SMLC San Martn de 28.16 260 *eP* P 16 05 28.1 -6.4
BRRC Barranca, Sant 28.32 256 *eP* P 16 05 30.4 -5.5
PSMA Santa Maria 28.51 37 *eP* **P** **16 05 35.1 -2.3**
comp=Z,236nm,1.8s
PSMN Pico do Norte, 28.55 37 *eP* **P** **16 05 36.8 -1.0**
comp=Z,194nm,1.3s
PSCM Serra do Cume 28.66 32 *eP* **P** **16 05 37.2 -1.5**
comp=Z,201nm,1.6s
PAGU Agualva, Azore 28.68 32 *eP* **P** **16 05 40.7 +1.8**
comp=Z,256nm,1.4s
PSET Sete Cidades 28.76 35 *eP* **P** **16 05 41.7 +2.1**
comp=Z,253nm,1.6s
GRON Grota Negra 28.82 35 *eP* **P** **16 05 41.1 +0.9**
comp=Z,231nm,1.8s
CMLA Cha da Macela 28.83 35 P **P** **16 05 39.0 -1.2**
CMLA pmax pmax
comp=Z,212nm,1.3s
CMLA Cha da Macela 28.83 35 *eP* **P** **16 05 40.9 +0.7**
comp=Z,312nm,1.5s
CMLA Cha da Macela 28.83 35 P **P** **16 05 39.0 -1.2**
CMLA Cha da Macela 28.83 35 IAMs_20 IAMs_20 16 13 45.3
comp=Z,22µm,20.0s
PCALD Caldeiras da R 28.87 35 *eP* **P** **16 05 42.7 +2.1**
comp=Z,201nm,1.3s
SJCC San Jacinto, C 28.94 263 P **P** **16 05 42.2 +0.7**
SJCC IAmb IAmb 16 06 03.5
comp=Z,78nm,1.1s
SJCC San Jacinto, C 28.94 263 *eP* P 16 05 35.1 -6.3
SPBC San Pablo de B 29.16 254 *eP* **P** **16 05 41.0 -2.4**
PTBC PUERTO BERRIO, 29.21 256 *eP* **P** **16 05 45.7 +1.9**
CHIC Chingaza 29.23 252 *eP* **P** **16 05 43.4 -1.1**
ZARC Zaragoza, Cauc 29.28 258 *eP* **P** **16 05 39.9 -4.6**
VILC Villavicencio, 29.40 251 *eP* **P** **16 05 43.4 -2.3**
SAML Samuel 29.47 216 P **P** **16 05 46.2 +0.1**
SAML pmax pmax
comp=Z,90nm,1.1s
SAML MLR MLR
comp=Z,18µm,20.0s
SAML Samuel 29.47 216 P **P** **16 05 46.1 +0.1**
SAML IAmb IAmb 16 06 06.8
comp=Z,90nm,1.1s
SAML Samuel 29.47 216 *eP* **P** **16 05 41.6 -4.5**
SAML Samuel 29.47 216 *eP* **P** **16 05 46.8 +0.7**
GDU01 Guandu, BA 29.50 167 *eP* **P** **16 05 45.3 -1.0**
ROSC El Rosal 29.69 253 P **P** **16 05 49.3 +0.8**
comp=Z,26nm,0.6s,baz=122,slow=19,SNR=7.3
ROSC LR LR 16 17 50.6
comp=Z,18µm,21.9s,baz=63,slow=37

ROSC El Rosal 29.69 253 P **P** **16 05 48.9 +0.4**
ROSC IAMs_20 IAMs_20 16 19 54.6
comp=Z,27µm,18.0s
ROSC El Rosal 29.69 253 *eP* **P** **16 05 44.5 -4.0**
UREC San Jos de Ur 29.84 259 *eP* P 16 05 43.4 -6.1
NORC Norcasia 29.93 254 *eP* **P** **16 05 48.1 -2.2**
JANB Januaria 30.18 177 *eP* **P** **16 05 52.2 -0.2**
MACI Morro de la Ar 30.21 60 P **P** **16 05 51.9 -0.9**
MTDJ Mount Denham 30.30 280 P **P** **16 05 52.3 -1.3**
MTDJ IAmb IAmb 16 06 04.3
comp=Z,76nm,1.1s
MTDJ Mount Denham 30.30 280 *eP* **P** **16 05 50.6 -3.0**
HELC Santa Helena 30.33 256 *eP* **P** **16 05 50.4 -3.7**
MACC Macarena, Meta 30.38 247 *eP* **P** **16 05 50.4 -3.8**
GUY2C Guyana, Caldas 30.51 254 *eP* P 16 05 50.4 -5.5
TBTG Tabatinga, AM 30.55 233 *eP* **P** **16 05 56.7 +1.0**
TBTG Tabatinga, AM 30.55 233 *eP* **P** **16 05 56.3 +0.6**
PRAC Prado 30.65 251 *eP* **P** **16 05 56.3 -0.3**
NBIT Itapeh - BA 30.71 167 *eP* **P** **16 05 57.3 +0.3**
BDFB Brasilia 30.78 184 P **P** **16 05 58.4 +0.7**
comp=Z,34nm,1.0s,baz=13,slow=9.6,SNR=11
BDFB LR LR 16 17 25.8
comp=Z,9µm,20.3s,baz=4.3,slow=34
BDFB PKP2ab 16 41 43.4
comp=Z,3.6nm,0.5s,baz=242,slow=5.5,SNR=4.9
BDFB Brasilia 30.78 184 P **P** **16 05 58.1 +0.4**
BDFB IAmb IAmb 16 06 09.8
comp=Z,124nm,1.2s
CBOC Ciudad Bolivar 30.89 256 *eP* **P** **16 05 59.8 +0.9**
ORTC Ortega, Tolima 30.90 252 *eP* P 16 05 51.6 -7.2
CMC01 Camacan, BA 31.11 168 *eP* **P** **16 06 00.3 -0.2**
VILB Vilhena 31.36 207 *eP* **P** **16 06 03.1 +0.3**
PMOZ Porto Moniz, M 31.44 51 *eP* **P** **16 06 02.5 -1.0**
comp=Z,371nm,1.6s
PMOZ *e*LR LR 16 13 39.7
comp=Z,12µm,20.0s
BETC Betania 31.58 250 *eP* **P** **16 06 04.5 -0.3**
PMAR Madeira 31.61 51 ⇑*r*P **P** **16 06 03.5 -1.6**
comp=Z,279nm,1.7s
GARC Garzon, Huila 31.84 249 *eP* **P** **16 06 06.9 -0.5**
MC01 Montes Claros 31.84 176 *eP* **P** **16 06 07.1 +0.1**
YOTC Yotoco, Valle 31.88 253 *eP* P 16 06 01.0 -6.6
ETMB Extrema 31.96 220 *eP* **P** **16 06 08.2 +0.2**
MARP Paez Belalcaza 31.98 250 *eP* **P** **16 06 05.7 -2.9**
PTLC Puerto Leguiza 32.14 245 *eP* **P** **16 06 11.6 +1.8**
PTAC Punta Ardita, 32.17 259 *eP* **P** **16 06 11.6 +1.6**
GUA01 Guaratinga, BA 32.24 169 *eP* **P** **16 06 10.4 0.0**
FLOC Florencia 32.24 248 IAmb IAmb 16 06 25.5
comp=Z,84nm,0.9s
FLOC Florencia 32.24 248 *eP* **P** **16 06 08.1 -2.6**
SALV Santo Antonio 32.41 198 *eP* **P** **16 06 12.2 +0.2**
CBCY The Bluff, Cay 32.45 283 P **P** **16 06 12.8 +0.4**
PCON Cinco Dias 32.59 250 *eP* **P** **16 06 11.2 -3.1**
POPC Popayan, Colom 32.76 250 *eP* P 16 06 10.4 -5.0
SOTA Rioblanco 32.86 250 *eP* **P** **16 06 12.8 -3.8**
IPMB Ipameri, GO 33.11 184 *eP* **P** **16 06 17.6 -0.5**
PTLB Pontes e Lacer 33.16 204 *eP* **P** **16 06 18.6 +0.1**
M66A Nantucket 33.27 326 P **P** **16 06 18.4 -0.9**
baz=134
UPA Univ. de Panam 33.33 263 *eP* **P** **16 06 19.6 -0.5**
NAN01 Guarapari, ES 33.41 170 *eP* **P** **16 06 20.1 -0.6**
DIAM Diamantina, MG 33.44 176 *eP* **P** **16 06 21.1 0.0**
BBAC Balboa, Cauca 33.49 250 *eP* **P** **16 06 17.5 -4.3**
BCIP Isla Barro Col 33.57 264 *eP* **P** **16 06 18.3 -4.0**
M65A Busby, Falmout 33.76 326 P **P** **16 06 21.8 -1.7**
baz=134
L65A Cape Cod Natio 33.77 327 P **P** **16 06 22.1 -1.5**
baz=135
PP1B Ponte de Pedra 33.81 195 *eP* **P** **16 06 24.6 +0.3**
GCUF Volcan Galeras 33.92 249 *eP* **P** **16 06 23.8 -2.1**
SJMB Sao Joao De Ma 34.09 172 *eP* **P** **16 06 26.4 -0.2**
L64A Middleborough 34.12 326 P **P** **16 06 26.5 -0.1**
baz=134
PNME Penonome 34.21 263 *eP* **P** **16 06 25.5 -2.3**
AZU Azuero 34.34 261 *eP* **P** **16 06 25.9 -3.0**
SIV San Ignacio 34.44 206 P **P** **16 06 30.3 +0.6**
comp=Z,11nm,0.9s,baz=52,slow=8.3,SNR=15
EMMW East Machias 34.50 333 P **P** **16 06 30.0 +0.1**
UCCT U. Connecticut 34.78 325 P **P** **16 06 32.8 +0.4**
UCCT IAmb IAmb 16 06 49.0
comp=Z,65nm,1.0s
CNNC Cliffs of the 34.79 311 P **P** **16 06 32.1 -0.5**
baz=117
RIB01 Linhares ES 34.81 171 *eP* **P** **16 06 32.8 -0.1**
Q61A Milford 34.86 318 P **P** **16 06 31.5 -1.6**
baz=124
HRV Adam Dziewonsk 34.90 326 P **P** **16 06 33.1 -0.3**
HRV pmax pmax
comp=Z,26nm,1.2s
HRV Adam Dziewonsk 34.90 326 P **P** **16 06 33.1 -0.3**
HRV Adam Dziewonsk 34.90 326 ⇑S **S** **16 11 58.4 -6.3**
HRV Adam Dziewonsk 34.90 326 P **P** **16 06 32.2 -1.2**
baz=133
CZSB Cruzeiro do Su 34.95 231 *eP* **P** **16 06 34.8 +0.6**
P61A Hammonton 34.98 320 P **P** **16 06 35.9 +1.7**
ITRB Iturama 35.02 187 *eP* **P** **16 06 34.5 -0.1**
CACAO El Cacao, Vera 35.02 261 *eP* P 16 06 29.8 -5.0
CPNY Central Park 35.14 322 P **P** **16 06 35.0 -0.5**
CPNY IAmb IAmb 16 06 54.9
comp=Z,111nm,1.4s
DWPF Disney Wildern 35.16 297 P **P** **16 06 38.1 +2.3**
DWPF Disney Wildern 35.16 297 IAMs_20 IAMs_20 16 17 33.1
comp=Z,16µm,21.0s
DRLN Deer Lake 35.17 347 ⇑P **P** **16 06 37.6 +1.9**
QUA2 Belchertown 35.18 325 IAMs_20 IAMs_20 16 17 04.7
comp=Z,17µm,22.0s
U59A Littleton 35.23 313 P **P** **16 06 37.0 +0.6**
PAL Palisades 35.24 322 P **P** **16 06 36.5 0.0**
baz=129,SNR=7.6
CUSE Cuicocha Este 35.27 248 *eP* **P** **16 06 36.7 -0.7**
OTAV Otavalo 35.34 248 P **P** **16 06 39.0 +0.9**
OTAV pmax pmax
OTAV comp=Z,218nm,1.3s MLR MLR
comp=Z,7µm,20.0s
OTAV Otavalo 35.34 248 P **P** **16 06 39.0 +0.9**
OTAV Otavalo 35.34 248 *eP* **P** **16 06 34.0 -4.1**
OTAV Otavalo 35.34 248 ⇑P **P** **16 06 38.9 +0.7**
K62A Royalston 35.37 326 IAMs_20 IAMs_20 16 17 21.9
comp=Z,15µm,21.0s
K62A Royalston 35.37 326 P **P** **16 06 36.6 -0.9**
baz=133
L61B Northampton 35.47 325 P **P** **16 06 37.8 -0.5**
baz=132
TRNY Table Rock, Ra 35.52 322 P **P** **16 06 40.2 +1.4**
TRNY IAmb IAmb 16 06 59.2
comp=Z,94nm,1.2s
P60A Greenville 35.59 319 P **P** **16 06 38.4 -1.0**
P60A IAMs_20 IAMs_20 16 17 25.7
comp=Z,16µm,22.0s
P60A Greenville 35.59 319 P **P** **16 06 37.8 -1.6**
baz=125
WUPA West Chester U 35.64 319 P **P** **16 06 40.4 +0.6**
NHSC New Hope 35.65 306 IAMs_20 IAMs_20 16 18 45.5
comp=Z,16µm,20.0s
NHSC New Hope 35.65 306 P **P** **16 06 39.7 -0.3**
baz=112
ODNJ Ogdensburg 35.71 322 P **P** **16 06 40.0 -0.4**
I62A Tamworth 35.74 328 P **P** **16 06 40.5 -0.1**
baz=135
PKME Peaks-Kenny Pk 35.76 331 IAmb IAmb 16 06 50.1
comp=Z,66nm,1.1s
PKME Peaks-Kenny Pk 35.76 331 P **P** **16 06 39.6 -1.2**
baz=139,SNR=10
F64A Sherman 35.80 333 P **P** **16 06 42.6 +1.5**
CBN Corbin Frederi 35.85 316 P **P** **16 06 41.5 -0.2**
baz=121
LUPA Lehigh Univers 35.88 320 P **P** **16 06 42.4 +0.5**
LUPA IAmb IAmb 16 07 10.9
comp=Z,128nm,1.4s
K61A Williamstown 35.94 325 P **P** **16 06 41.1 -1.3**
baz=131
J61A Chester 36.01 326 P **P** **16 06 41.5 -1.5**
baz=133,SNR=14
ALF01 Guarapari-ES 36.04 172 *eP* **P** **16 06 43.5 +0.1**
BSCB Bom Sucesso 36.06 178 *eP* **P** **16 06 43.5 -0.2**
R58B Mineral 36.07 315 IAmb IAmb 16 07 13.9
comp=Z,94nm,1.3s
H62A Milan 36.14 329 P **P** **16 06 45.1 +0.9**
MVL Millersville 36.15 319 P **P** **16 06 44.7 +0.5**
MVL IAmb IAmb 16 07 13.1
comp=Z,148nm,1.5s
BB19B Bebedouro 36.19 184 *eP* **P** **16 06 45.2 +0.4**
PQI Presque Isle 36.29 334 IAMs_20 IAMs_20 16 18 48.0
comp=Z,17µm,20.0s
LBNH Lisbon 36.30 328 IAMs_20 IAMs_20 16 17 50.2
comp=Z,16µm,22.0s
LBNH Lisbon 36.30 328 P **P** **16 06 44.3 -1.2**
baz=135
G62A West of Eustis 36.31 330 P **P** **16 06 45.9 +0.4**
N59A State Game Lan 36.31 321 IAMs_20 IAMs_20 16 17 48.9
comp=Z,16µm,22.0s
N59A State Game Lan 36.31 321 P **P** **16 06 43.4 -2.3**
baz=126,SNR=11
BIRD Birdtown, Kers 36.45 308 P **P** **16 06 47.1 +0.3**
BIRD IAmb IAmb 16 06 57.8
comp=Z,121nm,1.4s
PTGL Punta Galera 36.53 250 *eP* **P** **16 06 46.2 -1.6**
ACCN Adirondack Com 36.63 325 P **P** **16 06 49.1 +0.8**
S57A Dark Hollow, R 36.72 314 IAmb IAmb 16 07 09.9
comp=Z,87nm,1.1s
I60A Shoreham 36.74 326 P **P** **16 06 47.6 -1.6**
baz=132
AQDB Aquidauana 36.77 195 P **P** **16 06 50.1 +0.5**
N58A Sunbury 36.85 320 P **P** **16 06 51.8 +1.6**
PCMB Pacaembu 37.01 188 *eP* **P** **16 06 51.8 +0.2**
CAM01 Campos-RJ 37.11 173 *eP* **P** **16 06 52.4 -0.1**
BINY Binghamton 37.21 322 P **P** **16 06 53.0 -0.2**
BINY Binghamton 37.21 322 P **P** **16 06 52.6 -0.7**
baz=127
MOQ Mont Orford 37.22 329 P **P** **16 06 52.2 -1.2**
DUB01 Friburgo-RJ 37.29 174 *eP* **P** **16 06 53.9 -0.3**
KMSC Kings Mountain 37.30 309 P **P** **16 06 53.5 -0.6**
baz=113
RIMA Rio Macho 37.31 266 P **P** **16 06 55.5 +0.9**
RIMA IAmb IAmb 16 07 19.7
comp=Z,194nm,1.3s
VAS01 Vassouras-RJ 37.40 176 *eP* **P** **16 06 55.3 +0.2**
SSPA Standing Stone 37.48 319 P **P** **16 06 56.8 +1.2**
SSPA Standing Stone 37.48 319 ⇓P **P** **16 06 56.7 +1.2**
SSPA Standing Stone 37.48 319 P **P** **16 06 54.9 -0.6**
baz=123
BLA Blacksburg 37.50 312 P **P** **16 06 55.2 -0.6**
BLA pmax pmax
comp=Z,66nm,1.1s
BLA Blacksburg 37.50 312 P **P** **16 06 55.2 -0.6**
BLA IAMs_20 IAMs_20 16 18 58.4
comp=Z,13µm,20.0s
BLA Blacksburg 37.50 312 P **P** **16 06 54.1 -1.7**
baz=116
V55A Taylorsville 37.50 310 IAmb IAmb 16 07 07.9
comp=Z,101nm,1.4s
J58A Remsen 37.52 324 P **P** **16 06 56.6 +0.8**
PAULI Pauline 37.55 308 P **P** **16 06 57.0 +0.8**
FRNY Flat Rock 37.57 327 P **P** **16 06 56.2 0.0**
TTIG Tnine Tigouga, 37.61 60 P **P** **16 06 56.0 -1.0**
TTIG Tnine Tigouga, 37.61 60 P **P** **16 06 56.0 -1.0**
TTIG Tnine Tigouga, 37.61 60 P **P** **16 06 56.0 -1.0**
TTIG Tnine Tigouga, 37.61 60 P **P** **16 06 58.0 +1.0**
HODGE Hodges 37.67 307 IAmb IAmb 16 07 07.5
comp=Z,99nm,1.3s
O56A Blue Knob Stat 37.72 318 IAMs_20 IAMs_20 16 18 43.1
comp=Z,17µm,22.0s
O56A Blue Knob Stat 37.72 318 P **P** **16 06 55.4 -2.2**
baz=122,SNR=6.8
R55A Marlinton 37.77 314 IAmb IAmb 16 07 29.6
comp=Z,161nm,1.4s
154A Montrose 37.80 304 P **P** **16 06 58.7 +0.4**
TIGA Tifton 37.84 302 P **P** **16 06 56.3 -2.5**
baz=106
LONY Lake Ozonia 37.95 326 P **P** **16 06 57.8 -1.6**
baz=131
LMQ La Malbaie 37.96 333 P **P** **16 06 59.0 -0.5**
MNTQ Montreal, Queb 38.04 328 P **P** **16 07 00.8 +0.6**
VAO Valinhos 38.05 181 *eP* **P** **16 07 01.1 +0.5**
L56A Greenwood 38.12 321 P **P** **16 07 01.9 +1.0**
ACON Acoyapa 38.16 270 P **P** **16 07 02.3 +0.7**
LPAZ La Paz 38.21 216 P **P** **16 07 03.3 +0.7**
comp=Z,46nm,0.9s,baz=21,slow=9.6,SNR=21
LPAZ LR LR 16 22 27.2
comp=Z,17µm,20.3s,baz=38,slow=36
LPAZ La Paz 38.21 216 IAmb IAmb 16 07 26.0
comp=Z,85nm,0.8s
LPAZ La Paz 38.21 216 *eP* **P** **16 06 58.7 -3.9**
LPAZ La Paz 38.21 216 ⇑P **P** **16 07 03.3 +0.7**
LPAZ La Paz 38.21 216 *eP* **P** **16 07 03.7 +1.1**
MCWV Mont Chateau 38.25 316 P **P** **16 06 59.2 -2.9**
baz=120,SNR=74
JTS Las Juntas de 38.25 267 P **P** **16 07 03.9 +1.5**
comp=Z,1.6nm,0.3s,baz=131,slow=9.3,SNR=1.9
JTS Las Juntas de 38.25 267 *de*P **P** **16 07 04.3 +1.9**
JTS pmax pmax
comp=Z,22nm,1.7s
JTS Las Juntas de 38.25 267 P **P** **16 07 02.7 +0.2**
OUK Oukaimeden 38.26 59 P **P** **16 07 02.2 -0.5**
OUK Oukaimeden 38.26 59 P **P** **16 07 02.2 -0.5**
OUK Oukaimeden 38.26 59 P **P** **16 07 02.2 -0.5**
OUK Oukaimeden 38.26 59 P **P** **16 07 04.1 +1.4**
GOGA Godfrey 38.34 305 IAMs_20 IAMs_20 16 19 58.7
comp=Z,17µm,20.0s
GOGA Godfrey 38.34 305 P **P** **16 06 59.5 -3.4**
baz=109,SNR=5.3
PARB Paraibuna 38.37 179 *eP* **P** **16 07 02.8 -0.5**
TRCB Terra Rica 38.38 190 *eP* **P** **16 07 03.7 +0.3**
BG3 Lake Jocassee 38.46 308 IAmb IAmb 16 07 14.8
comp=Z,89nm,1.0s
FRTB Fartura 38.53 185 *eP* **P** **16 07 04.5 -0.1**
SPB Sao Paulo 38.65 182 P **P** **16 07 06.1 +0.6**
SPB IAmb IAmb 16 07 10.5
comp=Z,153nm,1.2s
SPB Sao Paulo 38.65 182 *eP* **P** **16 07 05.5 +0.1**
H10N3 ASCENSION HYDR 38.77 124 T T 16 47 56.2
baz=306,slow=75,SNR=2764
H10N2 ASCENSION HYDR 38.77 124 T T 16 47 56.5
baz=306,slow=75,SNR=3405
H10N1 ASCENSION HYDR 38.79 124 T T 16 47 57.7
baz=306,slow=75,SNR=2837
352A Blakely 38.95 301 IAmb IAmb 16 07 20.5
comp=Z,154nm,1.1s
N54A Moraine State 39.00 318 IAMs_20 IAMs_20 16 19 45.1
comp=Z,13µm,21.0s
N54A Moraine State 39.00 318 P **P** **16 07 05.5 -2.9**
baz=121
R53A Hurricane 39.08 313 P **P** **16 07 09.2 +0.2**
M54A Oil Creek Stat 39.08 319 P **P** **16 07 09.4 +0.3**
M54A IAMs_20 IAMs_20 16 19 36.1
comp=Z,16µm,22.0s
M54A Oil Creek Stat 39.08 319 P **P** **16 07 06.8 -2.2**
baz=122
P53A Whipple 39.21 315 P **P** **16 07 09.7 -0.5**
AVE Averroes 39.23 56 P **P** **16 07 09.3 -1.1**
AVE S **S** **16 13 11.8 +0.8**
AVE Averroes 39.23 56 P **P** **16 07 11.7 +1.3**
AVE Averroes 39.23 56 P **P** **16 07 11.7 +1.3**
H10S3 ASCENSION HYDR 39.30 126 T T 16 48 43.6
baz=306,slow=74,SNR=1695
H10S2 ASCENSION HYDR 39.32 126 T T 16 48 44.9
baz=274,slow=74,SNR=471
PET01 Itanhaem-SP 39.34 182 *eP* **P** **16 07 11.5 +0.2**
TKL Tuckaleechee C 39.35 308 P **P** **16 07 12.1 +0.7**
comp=Z,12nm,0.9s,baz=112,slow=5.3,SNR=7.7
TKL LR LR 16 21 57.7
comp=Z,12µm,19.0s,baz=106,slow=34
O53A New Philadelph 39.45 316 P **P** **16 07 09.9 -2.3**
baz=119,SNR=6.7
PFVI Vila Bisbo 39.49 49 *eP* **P** **16 07 12.9 +0.4**
comp=Z,250nm,1.8s
PFVI Vila Bisbo 39.49 49 P **P** **16 07 11.7 -0.8**
PFVI IAmb IAmb 16 07 16.5
comp=Z,132nm,1.2s
PFVI IAMs_20 IAMs_20 16 21 03.3
comp=Z,15µm,19.0s
TZTN Tazewell 39.51 310 IAMs_20 IAMs_20 16 20 21.5
comp=Z,15µm,20.0s
TZTN Tazewell 39.51 310 P **P** **16 07 10.9 -1.8**
baz=112,SNR=7.1
DELO Deloro Mine 39.56 324 P **P** **16 07 13.2 +0.3**
PLVO Plevna 39.58 325 P **P** **16 07 12.7 -0.4**
Q52A Bidwell 39.58 314 P **P** **16 07 13.5 +0.3**
ERPA Erie 39.61 319 IAMs_20 IAMs_20 16 19 52.1
comp=Z,15µm,22.0s
ERPA Erie 39.61 319 P **P** **16 07 12.2 -1.3**
baz=122
MORF Marmelete 39.69 49 *eP* **P** **16 07 14.6 +0.3**
MORF *e*S **S** **16 13 18.8 +0.9**
MORF IAMs_20 IAMs_20 16 18 12.9
comp=Z,21µm,29.9s
MORF Marmelete 39.69 49 *eP* **P** **16 07 14.5 +0.3**
MORF *e*S **S** **16 13 18.7 +0.9**

MORF Marmelete 39.69 49 *e*P **P 16 07 13.1 -1.1**
comp=Z,260nm,2.0s
MORF Marmelete 39.69 49 ⇑P **P 16 07 13.9 -0.3**
M53A WI Miller and 39.69 318 IAMs_20 IAMs_20 16 19 55.4
comp=Z,14µm,22.0s
M53A WI Miller and 39.69 318 P **P 16 07 11.3 -2.9**
baz=121
PTEO Sao Teotonio 39.73 49 *e*P **P 16 07 15.1 +0.6**
comp=Z,270nm,1.9s
P52A Corning 39.79 315 P **P 16 07 12.9 -2.1**
baz=117
TGUH Tegucigalpa,Un 39.88 274 *e*P **P 16 07 18.6 +2.4**
ZHG ZHG 39.88 56 P **P 16 07 16.0 0.0**
ZHG ZHG 39.88 56 P **P 16 07 16.0 0.0**
LIS Lisbon 39.91 47 *e*P **P 16 07 16.4 +0.4**
LIS *e*S **S 16 13 22.2 +1.1**
LIS IAMs_20 IAMs_20 16 22 56.2
comp=Z,23µm,19.7s
LIS Lisbon 39.91 47 *e*P **P 16 07 16.4 +0.4**
LIS *e*S **S 16 13 22.2 +1.1**
LIS Lisbon 39.91 47 *e*P **P 16 07 15.3 -0.7**
comp=Z,538nm,1.7s
PMAFR Mafra 39.92 47 *e*P **P 16 07 16.4 +0.3**
comp=Z,246nm,2.1s
PMAFR Mafra 39.92 47 *e*PP PP 16 08 48.2 +0.4
S51A Beattyville 39.97 311 P **P 16 07 16.1 -0.4**
TZRR Tazzarine 40.06 60 P **P 16 07 20.0 +2.5**
TZRR Tazzarine 40.06 60 P **P 16 07 17.1 -0.4**
TZRR Tazzarine 40.06 60 P **P 16 07 17.1 -0.4**
TZRR Tazzarine 40.06 60 P **P 16 07 20.0 +2.5**
PNCL Nicolau / Gran 40.10 48 ⇑*i*P **P 16 07 16.2 -1.4**
comp=Z,133nm,2.0s
PNCL Nicolau / Gran 40.10 48 *e*PP PP 16 08 49.9 +0.1
PTGB Pitanga 40.18 189 *e*P **P 16 07 18.5 +0.2**
M52A Chesterland 40.19 318 P **P 16 07 18.0 -0.2**
PBDV Barranco-do-Ve 40.19 50 ⇑*i*P **P 16 07 17.8 -0.6**
comp=Z,206nm,1.8s
PBDV Barranco-do-Ve 40.19 50 *e*PP PP 16 08 50.4 -0.4
MESJ Messejana 40.21 49 *e*P **P 16 07 19.0 +0.4**
MESJ *e*S **S 16 13 26.6 +1.0**
MESJ IAMs_20 IAMs_20 16 18 12.9
comp=Z,20µm,26.9s
MESJ Messejana 40.21 49 *e*P **P 16 07 18.9 +0.4**
MESJ *e*S **S 16 13 26.6 +1.0**
MESJ Messejana 40.21 49 ⇑*i*P **P 16 07 17.5 -1.0**
comp=Z,154nm,1.8s
MESJ Messejana 40.21 49 *e*PP PP 16 08 50.9 -0.1
PCVE Castro Verde 40.26 49 ⇑*i*P **P 16 07 18.4 -0.5**
comp=Z,356nm,1.8s
PCVE Castro Verde 40.26 49 *e*PP PP 16 08 52.7 +1.1
Q51A Peebles 40.36 313 P **P 16 07 20.6 +0.8**
PVAQ Vaqueiros 40.41 50 ⇑*i*P **P 16 07 18.2 -2.0**
comp=Z,185nm,1.9s
PVAQ Vaqueiros 40.41 50 *e*PP PP 16 08 53.3 +0.1
PVAQ *e*S **S 16 13 29.7 +1.1**
PVAQ *e*LR LR 16 17 48.0
comp=Z,14µm,20.0s
PVAQ Vaqueiros 40.41 50 P **P 16 07 22.4 +2.2**
PVAQ Vaqueiros 40.41 50 P **P 16 07 22.4 +2.2**
TIJ01 Guaruva-PR 40.45 184 *e*P **P 16 07 20.6 -0.1**
PSBE So Bento 40.51 46 *e*P **P 16 07 20.2 -0.8**
comp=Z,258nm,1.9s
PBEJ Beja 40.54 49 *e*P **P 16 07 21.4 +0.1**
comp=Z,112nm,1.8s
PBEJ Beja 40.54 49 *e*PP PP 16 08 56.3 +1.7
KOWA Kowa 40.56 85 P **P 16 07 20.3 -1.4**
comp=Z,70nm,0.8s,baz=283,slow=8.1,SNR=127
KOWA Kowa 40.56 85 P **P 16 07 20.2 -1.5**
KOWA IAmb IAmb 16 07 24.6
comp=Z,94nm,0.8s
KOWA IAMs_20 IAMs_20 16 21 28.2
comp=Z,14µm,18.0s
KOWA Kowa 40.56 85 ⇑P **P 16 07 20.1 -1.5**
KOWA Kowa 40.56 85 P **P 16 07 20.6 -1.1**
KOWA Kowa 40.56 85 P **P 16 07 20.6 -1.1**
SADO Sadowa 40.58 323 P **P 16 07 20.1 -1.4**
comp=Z,5.6nm,0.8s,baz=117,slow=14,SNR=2.1
SADO LR LR 16 20 42.5
comp=Z,9µm,21.9s,baz=137,slow=31
BRAL Brewton 40.63 300 IAMs_20 IAMs_20 16 21 53.6
comp=Z,11µm,20.0s
BRAL Brewton 40.63 300 P **P 16 07 19.9 -2.1**
baz=104
BRAL S **S 16 13 29.3 -2.8**
baz=104
ACSO Alum Creek Sta 40.64 315 P **P 16 07 22.8 +0.7**
ACSO Alum Creek Sta 40.64 315 P **P 16 07 21.8 -0.2**
baz=117
ACSO S **S 16 13 31.0 -1.0**
baz=117
EVO Evora 40.64 48 P **P 16 07 20.7 -1.4**
EVO S **S 16 13 30.9 -1.1**
EVO Evora 40.64 48 ⇑*i*P **P 16 07 21.2 -0.9**
comp=Z,230nm,2.0s
EVO Evora 40.64 48 *e*PP PP 16 08 56.4 +0.7
T50A Nancy 40.64 310 IAMs_20 IAMs_20 16 20 58.9
comp=Z,14µm,21.0s
PMTG Montargil 40.71 47 ⇑*i*P **P 16 07 21.8 -0.8**
comp=Z,200nm,1.7s
PMTG Montargil 40.71 47 *e*PP PP 16 08 58.4 +1.9
NNA Nana 40.80 230 P **P 16 07 22.8 -0.9**
comp=Z,14nm,0.7s,baz=27,slow=4.7,SNR=4.8
NNA Nana 40.80 230 *ce*P **P 16 07 23.7 0.0**
NNA pmax pmax
comp=Z,97nm,1.7s
NNA Nana 40.80 230 P **P 16 07 22.5 -1.2**
SWET Sewanee 40.85 307 P **P 16 07 24.6 +0.7**
PCAS Casmilo, Conde 40.95 46 *e*P **P 16 07 24.4 -0.2**
comp=Z,140nm,1.6s
PCAS Casmilo, Conde 40.95 46 *e*PP PP 16 09 06.8 +7.8
RSA Sarsar 40.97 54 P **P 16 07 27.0 +2.1**
RSA Sarsar 40.97 54 P **P 16 07 27.0 +2.1**
RSA Sarsar 40.97 54 P **P 16 07 29.0 +4.1**
ARNO Arenosillo 41.02 50 P **P 16 07 22.9 -2.3**
ARNO S **S 16 13 39.6 +1.9**
LRAL Lakeview Retre 41.05 303 P **P 16 07 24.8 -0.7**
baz=106,SNR=12
LRAL S **S 16 13 39.5 +1.2**
baz=106
CZD Col de Zad 41.06 57 P **P 16 07 28.0 +2.0**
CZD Col de Zad 41.06 57 P **P 16 07 26.2 +0.3**
CZD Col de Zad 41.06 57 P **P 16 07 28.0 +2.0**
COI Coimbra 41.08 45 *e*P **P 16 07 24.5 -1.1**
comp=Z,176nm,1.5s
COI Coimbra 41.08 45 IAMs_20 IAMs_20 16 20 46.4
comp=Z,20µm,20.0s
PESTR Estremoz 41.08 48 ⇑*i*P **P 16 07 25.3 -0.4**
comp=Z,122nm,1.8s
PESTR Estremoz 41.08 48 *e*PP PP 16 09 00.5 0.0
PESTR Estremoz 41.08 48 P **P 16 07 26.4 +0.6**
PESTR Estremoz 41.08 48 P **P 16 07 27.6 +1.9**
PESTR Estremoz 41.08 48 P **P 16 07 27.6 +1.9**
TIC Toumodi 41.09 97 *e*PKP1 **P 16 07 24.4 -1.7**
IFR Ifrane 41.12 56 P **P 16 07 23.1 -3.2**
IFR S **S 16 13 38.7 -0.9**
SFS San Fernando 41.19 52 P **P 16 07 26.4 -0.2**
SFS S **S 16 13 44.0 +3.8**
LIC Lamto 41.20 98 *e*PKP1 **P 16 07 25.3 -1.7**
comp=Z,251nm,1.2s
DBIC Dimbokro 41.24 97 P **P 16 07 25.9 -1.5**
comp=Z,59nm,0.9s,baz=306,slow=8.1,SNR=28
DBIC LR LR 16 21 47.8
comp=Z,6µm,18.9s,baz=286,slow=32
DBIC Dimbokro 41.24 97 P **P 16 07 25.9 -1.5**
DBIC IAmb IAmb 16 07 36.4
comp=Z,106nm,1.1s
DBIC Dimbokro 41.24 97 ⇑P **P 16 07 25.8 -1.5**
MDT Midelt 41.35 57 P **P 16 07 27.6 -0.6**
comp=Z,18nm,0.8s,baz=266,slow=9.4,SNR=18
MDT Midelt 41.35 57 P **P 16 07 27.9 -0.3**
MDT Midelt 41.35 57 P **P 16 07 27.8 -0.4**
MDT Midelt 41.35 57 P **P 16 07 27.9 -0.3**
LCRM LCR 41.38 56 P **P 16 07 30.0 +1.5**
LCRM LCR 41.38 56 P **P 16 07 30.0 +1.5**
CHEFC Chefchaouen 41.41 54 P **P 16 07 31.0 +2.4**
CHEFC Chefchaouen 41.41 54 P **P 16 07 31.0 +2.4**
CHEFC Chefchaouen 41.41 54 P **P 16 07 33.0 +4.4**
KIC Kosan Boka 41.44 98 *e*PKP1 **P 16 07 24.8 -4.1**
comp=Z,113nm,1.1s
PMRV Marv??o 41.45 47 ⇑*i*P **P 16 07 26.9 -1.9**
comp=Z,150nm,1.9s
PMRV Marv??o 41.45 47 *e*PP PP 16 09 04.2 -0.3
PMRV *e*S **S 16 13 42.9 -1.2**
PMRV *e*LR LR 16 18 18.5
comp=Z,17µm,18.0s
X48A Hartselle 41.49 305 P **P 16 07 30.2 +1.2**
P49A Miami Univ. Ec 41.54 313 P **P 16 07 30.0 +0.6**
P49A IAmb IAmb 16 07 41.5
comp=Z,141nm,1.5s
P49A IAMs_20 IAMs_20 16 21 25.5
comp=Z,12µm,21.0s
P49A Miami Univ. Ec 41.54 313 P **P 16 07 28.4 -1.0**
P49A S **S 16 13 45.8 +0.4**
baz=115
PCBR Castelo Branco 41.56 46 ⇑*e*P **P 16 07 28.3 -1.3**
comp=Z,178nm,1.7s
SMIR Smir Dam 41.56 53 P **P 16 07 32.0 +2.3**
SMIR Smir Dam 41.56 53 P **P 16 07 31.0 +1.3**
CEU Ceuta 41.64 53 P **P 16 07 28.2 -2.1**
CEU S **S 16 13 49.0 +2.1**
PVIS Viseu 41.65 45 ⇑*i*P **P 16 07 28.4 -2.0**
comp=Z,175nm,1.9s
MTE Manteigas 41.76 46 ⇑*e*P **P 16 07 30.2 -1.1**
comp=Z,172nm,2.1s
MTE Manteigas 41.76 46 *e*PP PP 16 09 14.7 +6.9
MTE *e*S **S 16 13 49.7 +1.0**
MTE *e*LR LR 16 18 43.5
comp=Z,21µm,20.0s
MTE Manteigas 41.76 46 P **P 16 07 30.1 -1.2**
MTE IAmb IAmb 16 07 43.6
comp=Z,110nm,1.0s
MTE Manteigas 41.76 46 ⇑P **P 16 07 30.1 -1.1**
MTO3 Montecristo 41.85 275 P **P 16 07 33.2 +0.6**
PB11 IPOC Station P 41.86 214 IAMs_20 IAMs_20 16 24 38.0
comp=Z,17µm,20.0s
PB08 IPOC Station P 41.90 214 IAMs_20 IAMs_20 16 24 30.0
comp=Z,17µm,21.0s
LIJA Lijar 41.95 51 P **P 16 07 34.0 +1.0**
PGAV Gavieira, Arco 41.97 43 *e*P **P 16 07 28.7 -4.4**
comp=Z,176nm,1.7s
PGAV Gavieira, Arco 41.97 43 *e*PP PP 16 09 17.3 +7.1
PGAV *e*S **S 16 13 53.4 +1.5**
PGAV *e*LR LR 16 18 43.6
comp=Z,16µm,20.0s
PSGCX Pisagua 41.98 215 IAMs_20 IAMs_20 16 24 38.3
comp=Z,13µm,20.0s
PCAB Cabril 42.01 44 *e*P **P 16 07 32.3 -1.0**
comp=Z,129nm,1.9s
POLO Lamas de Olo 42.02 44 ⇑*e*P **P 16 07 32.0 -1.4**
comp=Z,61nm,2.0s
AAM Ann Arbor 42.05 317 IAMs_20 IAMs_20 16 21 18.9
comp=Z,15µm,22.0s
AAM Ann Arbor 42.05 317 P **P 16 07 33.1 -0.5**
baz=118
AAM S **S 16 13 53.7 +0.9**
baz=118
WCI Wyandotte Cave 42.16 311 P **P 16 07 36.3 +1.7**
WCI pmax pmax
comp=Z,20nm,0.8s
WCI Wyandotte Cave 42.16 311 P **P 16 07 36.3 +1.7**
WCI Wyandotte Cave 42.16 311 IAMs_20 IAMs_20 16 21 45.9
comp=Z,15µm,21.0s
WCI Wyandotte Cave 42.16 311 P **P 16 07 33.8 -0.8**
baz=112
WCI S **S 16 13 57.5 +2.9**
baz=112
PVLZ Peæn de 42.25 54 P **P 16 07 32.9 -2.4**
PVLZ S **S 16 13 53.8 -2.1**
MVO Moncorvo 42.44 45 ⇑*i*P **P 16 07 35.5 -1.4**
comp=Z,155nm,1.9s
MVO Moncorvo 42.44 45 *e*PP PP 16 09 22.3 +7.1
MVO *e*LR LR 16 18 58.8
comp=Z,15µm,20.0s
PLAL Pickwick Lake 42.45 305 IAMs_20 IAMs_20 16 22 25.7
comp=Z,14µm,20.0s
PALE Palemas 42.54 54 P **P 16 07 39.0 +1.2**
PALE Palemas 42.54 54 P **P 16 07 37.3 -0.5**
PALE Palemas 42.54 54 P **P 16 07 39.0 +1.2**
WVT Waverly 42.60 307 P **P 16 07 38.4 +0.2**
WVT pmax pmax
comp=Z,51nm,1.0s
WVT Waverly 42.60 307 P **P 16 07 38.4 +0.2**
WVT Waverly 42.60 307 ⇑P **P 16 07 39.1 +0.9**
WVT Waverly 42.60 307 P **P 16 07 38.5 +0.2**
baz=108
WVT S **S 16 14 03.3 +2.1**
baz=108
EMAL Malaga-Limoner 42.64 52 P **P 16 07 34.9 -3.6**
EMAL S **S 16 14 00.8 -0.8**
SCHQ Schefferville 42.66 342 P **P 16 07 38.4 0.0**
comp=Z,127nm,1.0s,baz=131,slow=7.2,SNR=19
SCHQ LR LR 16 24 16.4
comp=Z,10µm,18.0s,baz=154,slow=35
SCHQ Schefferville 42.66 342 P **P 16 07 38.8 +0.5**
SCHQ Schefferville 42.66 342 ⇑P **P 16 07 38.5 +0.2**
CPUP Villa Florida 42.79 195 P **P 16 07 40.4 +0.7**
comp=Z,43nm,0.9s,baz=90,slow=6.6,SNR=6.7
CPUP LR LR 16 24 41.6
comp=Z,4µm,21.5s,baz=22,slow=35
CPUP Villa Florida 42.79 195 P **P 16 07 40.0 +0.4**
CPUP Villa Florida 42.79 195 *e*P **P 16 07 39.8 +0.1**
PBRG Braganca 42.91 44 ⇑*i*P **P 16 07 39.6 -1.1**
comp=Z,113nm,1.7s
GOG Mont Gurugu 43.28 55 P **P 16 07 47.0 +3.1**
545A Edgard 43.31 298 IAMs_20 IAMs_20 16 23 07.0
comp=Z,15µm,18.0s
MELI Melilla 43.35 54 P **P 16 07 40.2 -4.1**
MELI S **S 16 14 09.0 -3.1**
W45A Hickory Valley 43.38 305 IAmb IAmb 16 07 58.0
comp=Z,128nm,0.9s
OXF Oxford 43.38 304 IAmb IAmb 16 07 55.8
comp=Z,80nm,1.0s
OXF IAMs_20 IAMs_20 16 22 01.3
comp=Z,12µm,22.0s
OXF Oxford 43.38 304 P **P 16 07 42.8 -1.7**
baz=105,SNR=6.0
OXF S **S 16 14 14.8 +2.2**
baz=105
JBK JBK 43.39 56 P **P 16 07 45.0 +0.2**
JBK JBK 43.39 56 P **P 16 07 45.0 +0.2**
TDRA Tendrara 43.51 58 P **P 16 07 48.0 +2.2**
TDRA Tendrara 43.51 58 P **P 16 07 46.1 +0.3**
TDRA Tendrara 43.51 58 P **P 16 07 46.1 +0.3**
SFIN Lafayette 43.56 313 IAmb IAmb 16 08 06.0
comp=Z,102nm,1.4s
SFIN Lafayette 43.56 313 P **P 16 07 45.9 +0.1**
baz=113
SFIN S **S 16 14 14.8 -0.2**
baz=113
TER01 Tubaro-SC 43.65 184 *e*P **P 16 07 46.4 -0.2**
PAB San Pablo 43.66 48 P **P 16 07 45.8 -1.1**
PAB pmax pmax
comp=Z,84nm,1.3s
PAB MLR MLR
comp=Z,14µm,18.0s
PAB San Pablo 43.66 48 P **P 16 07 45.8 -1.1**
PAB IAmb IAmb 16 08 00.8
comp=Z,84nm,1.3s
PAB San Pablo 43.66 48 IAMs_20 IAMs_20 16 24 07.8
comp=Z,14µm,18.0s
PAB San Pablo 43.66 48 ⇑P **P 16 07 45.6 -1.2**
PAB San Pablo 43.66 48 P **P 16 07 47.7 +0.9**
PAB San Pablo 43.66 48 P **P 16 07 46.7 -0.1**
PAB San Pablo 43.66 48 P **P 16 07 47.7 +0.9**
OLIL Olney 43.67 311 IAmb IAmb 16 08 02.9
comp=Z,156nm,1.4s
VBMS Vicksburg 43.75 301 IAmb IAmb 16 08 08.3
comp=Z,83nm,1.2s
VBMS IAMs_20 IAMs_20 16 25 24.1
comp=Z,10µm,18.0s
VBMS Vicksburg 43.75 301 P **P 16 07 48.3 +0.9**
baz=102
VBMS S **S 16 14 19.2 +1.2**
baz=102
LVC Limon Verde 43.82 211 P **P 16 07 48.5 +0.1**
comp=Z,33nm,1.0s,baz=349,slow=4.1,SNR=3.6
LVC Limon Verde 43.82 211 IAMs_20 IAMs_20 16 25 52.8
comp=Z,14µm,22.0s
LVC Limon Verde 43.82 211 *e*P **P 16 07 48.6 +0.1**
GLMI Grayling 43.89 320 P **P 16 07 49.0 +0.5**
GLMI IAmb IAmb 16 07 58.0
comp=Z,106nm,1.0s
GLMI IAMs_20 IAMs_20 16 22 12.4
comp=Z,15µm,22.0s
GLMI Grayling 43.89 320 P **P 16 07 48.3 -0.2**
baz=120
GLMI S **S 16 14 19.0 -0.8**
baz=120
FIGM Figuig 43.95 59 P **P 16 07 49.0 -0.3**
FIGM Figuig 43.95 59 P **P 16 07 49.0 -0.3**
ES15 SONSECA Array 43.96 48 IAMs_20 IAMs_20 16 24 27.6
comp=Z,14µm,18.0s
ES14 SONSECA Array 43.96 48 IAMs_20 IAMs_20 16 24 27.7
comp=Z,13µm,18.0s
ES16 SONSECA Array 43.97 48 IAMs_20 IAMs_20 16 24 16.9
comp=Z,14µm,18.0s
ES13 SONSECA Array 43.98 48 IAMs_20 IAMs_20 16 24 28.1
comp=Z,14µm,18.0s
ES05 SONSECA Array 43.99 48 IAMs_20 IAMs_20 16 24 27.4
comp=Z,15µm,18.0s
ESDC Sonseca Array 43.99 48 P **P 16 07 48.4 -1.1**
comp=Z,19nm,1.1s,baz=249,slow=7.1,SNR=44
ESDC LR LR 16 21 47.4
comp=Z,13µm,21.9s,baz=255,slow=30
ES12 SONSECA Array 43.99 48 IAMs_20 IAMs_20 16 22 45.5
comp=Z,11µm,20.0s
ESBB Sonseca Array 43.99 48 IAMs_20 IAMs_20 16 24 35.5
comp=Z,12µm,18.0s
ES17 SONSECA Array 43.99 48 IAMs_20 IAMs_20 16 24 17.5
comp=Z,14µm,18.0s
ES04 SONSECA Array 44.00 48 IAMs_20 IAMs_20 16 24 28.6
comp=Z,13µm,18.0s
ES06 SONSECA Array 44.00 48 IAMs_20 IAMs_20 16 24 27.6
comp=Z,14µm,18.0s
ES01 SONSECA Array 44.00 48 IAMs_20 IAMs_20 16 24 27.7
comp=Z,14µm,18.0s
ES07 SONSECA Array 44.00 48 IAMs_20 IAMs_20 16 24 27.8
comp=Z,13µm,18.0s
ES03 SONSECA Array 44.01 48 IAMs_20 IAMs_20 16 24 17.9
comp=Z,14µm,18.0s
ES02 SONSECA Array 44.01 48 IAMs_20 IAMs_20 16 24 18.0
comp=Z,13µm,18.0s
ES11 SONSECA Array 44.01 48 IAMs_20 IAMs_20 16 22 47.0
comp=Z,20µm,20.0s
ES18 SONSECA Array 44.01 48 IAMs_20 IAMs_20 16 24 19.0
comp=Z,14µm,18.0s
ES08 SONSECA Array 44.02 48 IAMs_20 IAMs_20 16 24 18.3
comp=Z,14µm,18.0s
ES10 SONSECA Array 44.03 48 IAMs_20 IAMs_20 16 22 46.4
comp=Z,13µm,20.0s
ES09 SONSECA Array 44.03 48 IAMs_20 IAMs_20 16 24 25.7
comp=Z,14µm,18.0s
ES19 SONSECA Array 44.04 48 IAMs_20 IAMs_20 16 24 19.9
comp=Z,14µm,18.0s
S44A Carbondale 44.18 309 IAmb IAmb 16 08 01.7
comp=Z,164nm,1.4s
PB06 IPOC Station P 44.23 212 IAMs_20 IAMs_20 16 26 27.7
comp=Z,14µm,19.0s
CCIG Comitan 44.32 278 P **P 16 07 52.6 +0.1**
CCIG IAmb IAmb 16 08 10.4
comp=Z,57nm,0.7s
Q44A Meyer Farm, Va 44.40 310 IAmb IAmb 16 08 04.9
comp=Z,138nm,1.2s
O44A Mansfield 44.44 312 IAmb IAmb 16 08 13.2
comp=Z,88nm,1.1s
E46A Sault Ste Mari 44.49 322 P **P 16 07 52.1 -1.1**
E46A IAmb IAmb 16 08 02.5
comp=Z,65nm,0.9s
CNLB Canela 44.57 186 *e*P **P 16 07 54.5 +0.4**
PB15 IPOC Station P 44.60 211 IAmb IAmb 16 08 03.1
comp=Z,110nm,1.0s
PB15 IAMs_20 IAMs_20 16 26 15.4
comp=Z,15µm,22.0s
M44A Midewin, Midew 44.61 314 IAmb IAmb 16 08 04.2
comp=Z,70nm,1.4s
HQIL Hanson Quary C 44.64 315 IAMs_20 IAMs_20 16 22 48.5
comp=Z,11µm,21.0s
UCM Universidad Co 44.73 48 P **P 16 07 53.5 -1.9**
UCM S **S 16 14 30.4 -1.9**
L44A Lake County Fo 44.84 315 IAmb IAmb 16 08 05.6
comp=Z,86nm,1.1s
L44A IAMs_20 IAMs_20 16 22 53.6
comp=Z,14µm,22.0s
L44A Lake County Fo 44.84 315 P **P 16 07 52.4 -3.7**
baz=114
L44A S **S 16 14 34.7 +1.1**
baz=114
P43A Skaggs, Pawnee 45.02 311 IAmb IAmb 16 08 08.8
comp=Z,54nm,1.1s
CCAR Cane Creek 45.14 303 P **P 16 07 59.7 +1.1**
FVM French Village 45.15 309 IAmb IAmb 16 08 18.1
comp=Z,49nm,0.9s
HDIL Hopedale 45.18 313 IAmb IAmb 16 08 18.9
comp=Z,65nm,1.0s
HDIL IAMs_20 IAMs_20 16 23 37.7
comp=Z,10µm,20.0s
HDIL Hopedale 45.18 313 P **P 16 07 57.6 -1.2**
baz=111
HDIL S **S 16 14 38.1 -0.5**
baz=111
KAPO Kapuskasing 45.19 327 ⇓P **P 16 08 00.0 +1.3**
CART Cartagena 45.50 52 P **P 16 07 57.1 -4.3**
CART S **S 16 14 40.4 -2.9**
441A DeRidder 45.73 298 IAMs_20 IAMs_20 16 27 55.0
comp=Z,11µm,19.0s
CCM Cathedral Cave 45.79 309 P **P 16 08 05.0 +1.3**
CCM pmax pmax
comp=Z,69nm,1.2s
CCM MLR MLR
comp=Z,12µm,20.0s
CCM Cathedral Cave 45.79 309 P **P 16 08 05.0 +1.3**
CCM IAmb IAmb 16 08 15.5
comp=Z,69nm,1.2s
CCM Cathedral Cave 45.79 309 IAMs_20 IAMs_20 16 23 57.9
comp=Z,11µm,20.0s
CCM Cathedral Cave 45.79 309 ⇓P **P 16 08 03.9 +0.2**
CCM Cathedral Cave 45.79 309 P **P 16 08 02.2 -1.5**
baz=107
CCM S **S 16 14 46.6 -0.9**
baz=107
W41B Gary Mavity, V 45.81 304 P **P 16 08 02.1 -1.7**
baz=104,SNR=26
W41B S **S 16 14 50.5 +2.6**
baz=104
ITQB Itaqui 45.84 193 IAMs_20 IAMs_20 16 27 04.4
comp=Z,11µm,20.0s
ITQB Itaqui 45.84 193 *e*P **P 16 08 04.3 +0.3**
Z41A Richland Creek 45.84 302 P **P 16 08 04.6 +0.4**
baz=101
Z41A S **S 16 14 52.2 +3.8**
baz=101
FCAR Ozark Folk Cen 45.88 305 IAmb IAmb 16 08 27.4
comp=Z,63nm,1.4s
CPSB Cacapava Do Su 45.97 189 *e*P **P 16 08 05.4 +0.3**
L42A Oliver, Polo 45.97 314 IAmb IAmb 16 08 28.4
comp=Z,73nm,1.1s
X40A Basin Creek Fa 46.12 303 IAmb IAmb 16 08 23.4
comp=Z,46nm,1.1s
X40A IAMs_20 IAMs_20 16 23 58.9
comp=Z,12µm,22.0s
X40A Basin Creek Fa 46.12 303 P **P 16 08 05.6 -0.8**
baz=103,SNR=14
X40A S **S 16 14 55.9 +3.5**
baz=103
TOC7 Torodi Ar. Sit 46.22 86 IAMs_20 IAMs_20 16 25 54.0
comp=Z,12µm,20.0s
TOC5 Torodi Ar. Sit 46.22 86 IAMs_20 IAMs_20 16 25 54.1
comp=Z,14µm,20.0s
TOB5 Torodi Ar. Sit 46.22 86 IAMs_20 IAMs_20 16 25 54.1
comp=Z,13µm,20.0s
TOB4 Torodi Ar. Sit 46.23 86 IAMs_20 IAMs_20 16 25 53.3
comp=Z,12µm,21.0s
TOB1 Torodi Ar. Sit 46.23 86 IAMs_20 IAMs_20 16 25 54.4
comp=Z,12µm,20.0s
TOA3 Torodi Ar. Sit 46.23 86 IAMs_20 IAMs_20 16 24 18.5
comp=Z,12µm,19.0s
TORD Torodi Ar. Bea 46.23 86 P **P 16 08 05.3 -2.2**
comp=Z,45nm,0.9s,baz=289,slow=7.6,SNR=83
TORD LR LR 16 25 11.0
comp=Z,10µm,19.9s,baz=270,slow=33
TORD Torodi Ar. Aa 46.23 86 P **P 16 08 05.7 -1.8**
TOC1 Torodi Ar. Sit 46.24 86 IAMs_20 IAMs_20 16 25 54.6
comp=Z,15µm,20.0s
TOA2 Torodi Ar. Sit 46.24 86 IAMs_20 IAMs_20 16 25 54.7
comp=Z,13µm,20.0s
TOC4 Torodi Ar. Sit 46.24 86 IAMs_20 IAMs_20 16 24 19.0
comp=Z,13µm,19.0s
PB14 IPOC Station P 46.24 211 IAMs_20 IAMs_20 16 27 03.1
comp=Z,10µm,21.0s
TOB3 Torodi Ar. Sit 46.24 86 IAMs_20 IAMs_20 16 25 55.0
comp=Z,12µm,20.0s
TOC2 Torodi Ar. Sit 46.26 86 IAMs_20 IAMs_20 16 24 19.4
comp=Z,12µm,18.0s
TOC3 Torodi Ar. Sit 46.26 86 IAMs_20 IAMs_20 16 25 54.5
comp=Z,13µm,21.0s

N41A Harden Midland 46.34 312 IAmb IAmb 16 08 17.6
comp=Z,78nm,1.1s
U40A Yellville 46.57 306 IAmb IAmb 16 08 15.7
comp=Z,36nm,0.9s
U40A IAMs_20 IAMs_20 16 25 49.6
comp=Z,11µm,20.0s
U40A Yellville 46.57 306 P P 16 08 09.2 -0.7
baz=104,SNR=12
U40A S S 16 15 00.2 +1.3
baz=104
R40A Maddies Statio 46.63 309 IAmb IAmb 16 08 20.9
comp=Z,114nm,1.5s
JFWS Jewell Farm 46.71 315 IAmb IAmb 16 08 39.9
comp=Z,94nm,1.4s
JFWS Jewell Farm 46.71 315 IAMs_20 IAMs_20 16 24 13.3
comp=Z,13µm,22.0s
JFWS Jewell Farm 46.71 315 P P 16 08 10.3 -0.6
baz=112
JFWS S S 16 15 01.4 +0.7
baz=112
MIAR Mount Ida 46.73 303 IAMs_20 IAMs_20 16 24 29.1
comp=Z,11µm,22.0s
MIAR Mount Ida 46.73 303 ⇓P P 16 08 11.8 +0.7
MIAR Mount Ida 46.73 303 P P 16 08 10.6 -0.6
baz=102,SNR=8.2
MIAR S S 16 15 04.4 +3.2
baz=102
P40A Paris 46.83 310 IAmb IAmb 16 08 31.4
comp=Z,84nm,1.2s
P40A IAMs_20 IAMs_20 16 24 41.6
comp=Z,15µm,20.0s
CMIG Matias Romero 46.87 279 P P 16 08 11.2 -1.2
comp=Z,1.4nm,0.4s,baz=61,slow=12,SNR=2.2
CMIG LR LR 16 25 56.3
comp=Z,4µm,21.3s,baz=104,slow=34
W39A Magazine 47.04 304 IAMs_20 IAMs_20 16 24 38.1
comp=Z,12µm,22.0s
W39A Magazine 47.04 304 P P 16 08 11.5 -2.0
baz=102
W39A S S 16 15 06.1 +0.5
baz=102
NATX Nacogdoches 47.13 299 IAMs_20 IAMs_20 16 25 19.6
comp=Z,10µm,21.0s
NATX Nacogdoches 47.13 299 P P 16 08 14.5 +0.2
baz=99
NATX S S 16 15 10.5 +3.5
baz=99
S39A Bolivar 47.27 307 IAmb IAmb 16 08 29.6
comp=Z,58nm,1.1s
COWI Conover 47.30 320 IAmb IAmb 16 08 35.4
comp=Z,68nm,1.3s
COWI IAMs_20 IAMs_20 16 24 16.6
comp=Z,14µm,22.0s
PLTB Pedras Altas 47.33 189 P P 16 08 16.4 +0.7
PLTB Pedras Altas 47.33 189 *eP* P 16 08 15.8 +0.1
HHAR Hobbs 47.40 305 IAMs_20 IAMs_20 16 25 26.9
comp=Z,9µm,21.0s
HKT Hockley 47.89 297 ⇑*i*P P 16 08 21.8 +1.6
HKT pmax pmax
comp=Z,32nm,1.5s
HKT Hockley 47.89 297 P P 16 08 21.9 +1.6
HKT IAmb IAmb 16 08 31.0
comp=Z,74nm,1.5s
HKT Hockley 47.89 297 IAMs_20 IAMs_20 16 30 22.4
comp=Z,10µm,19.0s
CCA1 Carnmenellis 47.92 34 IAMs_20 IAMs_20 16 22 44.8
comp=Z,11µm,19.2s
P38A Dawn 47.95 310 IAmb IAmb 16 08 35.1
comp=Z,88nm,1.2s
X37A Clayton 48.19 303 IAmb IAmb 16 08 33.7
comp=Z,87nm,1.4s
X37A IAMs_20 IAMs_20 16 25 38.7
comp=Z,14µm,21.0s
K38A Parkersburg 48.35 314 IAmb IAmb 16 08 46.1
comp=Z,62nm,1.1s
SCIA State Center 48.42 313 P P 16 08 23.9 -0.2
baz=109
SCIA S S 16 15 25.7 +0.8
baz=109
TUL1 Leonard 48.79 305 P P 16 08 25.5 -1.6
baz=102
TUL1 S S 16 15 30.0 -0.3
baz=102
NUUK Nuuk 49.02 357 *i* P P 16 08 30.0 +1.7
NUUK IAmb IAmb 16 08 33.8
comp=Z,97nm,1.2s
NUUK Nuuk 49.02 357 ⇑P P 16 08 31.0 +2.7
DSB Dublin 49.02 31 ⇓S S 16 15 37.9 +4.9
RSBS Rosebush, Pemb 49.12 33 *eP* P 16 08 29.1 -0.3
RSBS IAmb IAmb 16 08 31.0
comp=Z,553nm,2.2s
RSBS IAMs_20 IAMs_20 16 22 47.8
comp=Z,12µm,24.5s
JSA Saint Aubin 49.14 37 *eP* P 16 08 29.4 -0.2
JSA IAMs_20 IAMs_20 16 24 09.0
comp=Z,6µm,19.7s
SPMN Marine on St. 49.29 317 IAmb IAmb 16 08 45.2
comp=Z,97nm,1.1s
SPMN Marine on St. 49.29 317 P P 16 08 28.6 -2.2
baz=112
SPMN S S 16 15 39.9 +2.7
baz=112
435B Jarrell 49.49 298 IAmb IAmb 16 08 43.3
comp=Z,89nm,1.2s
435B Jarrell 49.49 298 P P 16 08 31.1 -1.5
baz=96
435B S S 16 15 41.3 +0.9
baz=96
WHTX Lake Whitney, 49.52 299 IAmb IAmb 16 08 43.9
comp=Z,73nm,1.1s
WHTX Lake Whitney, 49.52 299 P P 16 08 32.3 -0.4
baz=97
WHTX S S 16 15 42.2 +1.6
baz=97
EYMN Ely 49.55 321 P P 16 08 30.8 -2.0
baz=115
EYMN S S 16 15 41.1 +0.4
baz=115
AC04 Llanos de Chal 49.56 209 P P 16 08 32.4 -0.7
AC04 IAmb IAmb 16 08 55.0
comp=Z,90nm,1.1s
LOOK Love County 49.57 302 IAmb IAmb 16 09 03.7
comp=Z,66nm,1.2s
OK031 S. Brethren Rd 49.63 304 IAMs_20 IAMs_20 16 25 45.7
comp=Z,9µm,22.0s
GMM Mts of Mourne 49.80 30 *eP* P 16 08 33.5 -1.1
OK025 Westminster Rd 49.96 304 IAMs_20 IAMs_20 16 25 54.5
comp=Z,10µm,22.0s
F36A Milaca 50.00 318 IAmb IAmb 16 08 50.2
comp=Z,60nm,1.1s
WLF1 Llynfaes 50.02 31 *eP* P 16 08 35.0 -1.2
WLF1 IAmb IAmb 16 08 37.9
comp=Z,1µm,2.5s
WLF1 IAMs_20 IAMs_20 16 23 41.9
comp=Z,27µm,21.3s
LCO Las Campanas 50.07 208 P P 16 08 38.0 +0.8
LCO MLR MLR
comp=Z,10µm,20.0s
LCO Las Campanas 50.07 208 P P 16 08 38.0 +0.8
LCO Las Campanas 50.07 208 IAMs_20 IAMs_20 16 30 07.2
comp=Z,10µm,20.0s
BLOK Blackwell 50.08 305 IAmb IAmb 16 08 42.7
comp=Z,73nm,1.0s
OK029 Liberty Lake 50.09 304 IAMs_20 IAMs_20 16 26 10.0
comp=Z,9µm,22.0s
KSU1 Kansas State U 50.12 308 IAmb IAmb 16 08 56.0
comp=Z,76nm,1.0s
KSU1 Kansas State U 50.12 308 IAMs_20 IAMs_20 16 27 12.5
comp=Z,8µm,19.0s
KSU1 Kansas State U 50.12 308 ⇑P P 16 08 37.0 -0.3
KSU1 Kansas State U 50.12 308 P P 16 08 34.2 -3.1
baz=104
KSU1 S S 16 15 46.9 -2.1
baz=104
WME Myndd Eilian 50.13 31 *eP* P 16 08 35.9 -1.2
SET Setif 50.16 55 P P 16 08 38.0 +0.3
CLGH Cloghs, Cushen 50.22 29 *eP* P 16 08 36.6 -1.1
CLGH IAMs_20 IAMs_20 16 24 49.6
comp=Z,9µm,17.8s
WIM Isle of Man 50.37 30 *eP* P 16 08 38.4 -0.4
HLM1 Long Mynd 50.39 33 *eP* P 16 08 38.1 -0.9
HLM1 IAmb IAmb 16 08 41.7
comp=Z,1µm,3.2s
HLM1 IAMs_20 IAMs_20 16 23 23.8
comp=Z,14µm,27.9s
STRD Stroud 50.40 34 *eP* P 16 08 38.2 -0.9
STRD IAmb IAmb 16 08 41.6
comp=Z,1µm,2.7s
STRD IAMs_20 IAMs_20 16 23 21.9
comp=Z,13µm,27.7s
FOEL Foel Wylfa 50.42 32 *eP* P 16 08 38.5 -0.8
FOEL IAmb IAmb 16 08 42.1
comp=Z,2µm,2.8s
FOEL IAMs_20 IAMs_20 16 24 14.6
comp=Z,12µm,20.0s
KS20 Mayfield South 50.44 306 IAMs_20 IAMs_20 16 27 31.1
comp=Z,8µm,20.0s
SHEL Horse Pasture 50.45 126 IAMs_20 IAMs_20 16 23 48.8
comp=Z,8µm,19.0s
ISOG Isortoq, Green 50.45 4 *i* P P 16 08 40.4 +1.1
ISOG IAmb IAmb 16 08 49.9
comp=Z,73nm,1.2s
IOMK Kirk Michael 50.48 30 *eP* P 16 08 38.6 -1.1
IOMK IAmb IAmb 16 08 42.4
comp=Z,2µm,2.8s
IOMK IAMs_20 IAMs_20 16 23 56.0
comp=Z,18µm,20.4s
KS21 Milan North St 50.54 306 IAMs_20 IAMs_20 16 27 43.9
comp=Z,9µm,20.0s
KAN17 Caldwell West 50.57 306 IAmb IAmb 16 08 51.4
comp=Z,79nm,1.2s
DFRA Djebel Bou Aff 50.60 55 P P 16 08 40.8 -0.3
ANGG Ammassalik, Gr 50.62 4 *i* P P 16 08 41.7 +1.2
ANGG IAmb IAmb 16 08 42.5
comp=Z,14nm,0.9s
ANGG IAMs_20 IAMs_20 16 26 19.2
comp=Z,3µm,16.8s
ANGG Ammassalik, Gr 50.62 4 IAmb IAmb 16 08 54.9
comp=Z,52nm,1.1s
CROK Carrier 50.64 305 IAmb IAmb 16 08 55.7
comp=Z,98nm,1.2s
KAN05 Bluff City Nor 50.67 306 IAmb IAmb 16 08 46.6
comp=Z,94nm,1.2s
KAN16 Harper SW Stat 50.84 306 IAmb IAmb 16 08 57.9
comp=Z,103nm,1.1s
KAN10 Anthony SW Sta 50.84 306 IAmb IAmb 16 08 51.8
comp=Z,53nm,1.0s
833A Chaparral WMA, 50.86 294 P P 16 08 40.8 -2.2
baz=93
833A S S 16 15 56.9 -2.7
baz=93
OK032 Salt Plains WL 50.88 305 IAmb IAmb 16 08 53.5
comp=Z,58nm,1.2s
FRB Frobisher Bay 50.88 347 P P 16 08 40.1 -2.5
comp=Z,32nm,1.1s,baz=139,slow=9.0,SNR=3.9
FRB LR LR 16 27 48.5
comp=Z,7µm,20.7s,baz=146,slow=33
FRB Frobisher Bay 50.88 347 ⇑P P 16 08 44.5 +1.9
WMOK Wichita Mounta 50.99 302 IAMs_20 IAMs_20 16 27 57.8
comp=Z,12µm,20.0s
WMOK Wichita Mounta 50.99 302 ⇑P P 16 08 43.6 -0.3
WMOK Wichita Mounta 50.99 302 P P 16 08 42.1 -1.8
baz=99
WMOK S S 16 16 00.1 -1.1
baz=99
B35A Bob, Littlefor 51.08 321 IAmb IAmb 16 09 02.5
comp=Z,60nm,1.2s
B35A IAMs_20 IAMs_20 16 26 22.9
comp=Z,10µm,22.0s
NEWG New Galloway 51.12 29 *eP* P 16 08 44.2 -0.4
NEWG IAMs_20 IAMs_20 16 24 15.2
comp=Z,7µm,23.2s
DY2G Dye2 51.16 360 *i* P P 16 08 45.6 +0.6
DY2G IAmb IAmb 16 08 48.1
comp=Z,43nm,1.1s
DY2G IAMs_20 IAMs_20 16 25 10.2
comp=Z,7µm,20.8s
CKFL Kef-Lekhel 51.24 55 P P 16 08 46.2 +0.3
CLF Chambon-Foret 51.31 40 P P 16 08 45.7 -0.3
CLF IAmb IAmb 16 08 57.9
comp=Z,98nm,1.0s
ECSD EROS Data Cent 51.36 314 P P 16 08 43.9 -2.7
baz=107,SNR=11
ECSD S S 16 16 05.2 -0.9
baz=107
JCT Junction City 51.36 297 P P 16 08 45.1 -1.7
baz=95,SNR=8.6
JCT S S 16 16 06.6 +0.1
baz=95
KESW Keswick, Cumbr 51.38 30 *eP* P 16 08 45.6 -0.9
KESW IAmb IAmb 16 08 49.2
comp=Z,85nm,1.0s
KESW IAMs_20 IAMs_20 16 24 21.7
comp=Z,10µm,23.9s
ZON Zonda 51.38 205 IAmb IAmb 16 09 06.1
comp=Z,123nm,1.4s
PGBU Glenifferbraes 51.40 29 *eP* P 16 08 46.2 -0.4
PGBU IAMs_20 IAMs_20 16 25 42.4
comp=Z,9µm,18.6s
U32A Winter Ranch, 51.43 304 IAmb IAmb 16 08 58.5
comp=Z,80nm,1.2s
ABTX Abilene, Hawle 51.43 300 IAmb IAmb 16 09 04.4
comp=Z,82nm,1.2s
ABTX IAMs_20 IAMs_20 16 27 33.6
comp=Z,9µm,22.0s
ABTX Abilene, Hawle 51.43 300 P P 16 08 45.8 -1.5
baz=96,SNR=7.4
ABTX S S 16 16 10.8 +3.5
baz=96
LBWR Ladybower, Pea 51.45 32 *eP* P 16 08 46.2 -0.8
LBWR IAmb IAmb 16 08 50.0
comp=Z,138nm,0.9s
LBWR IAMs_20 IAMs_20 16 25 06.0
comp=Z,12µm,22.7s
R32A Long Quarter, 51.58 307 IAMs_20 IAMs_20 16 27 37.3
comp=Z,14µm,20.0s
CO03 El Pedregal 51.62 207 IAmb IAmb 16 09 10.0
comp=Z,86nm,1.1s
EAB Aberfoyle 51.69 28 *eP* P 16 08 48.3 -0.5
ESK Eskdalemuir 51.72 30 P P 16 08 50.5 +1.5
ESK pmax pmax
comp=Z,52nm,1.2s
ESK MLR MLR
comp=Z,6µm,18.0s
ESK Eskdalemuir 51.72 30 P P 16 08 50.5 +1.5
SFJD Kangerlussuaq 51.77 358 P P 16 08 50.2 +1.1
comp=Z,47nm,1.1s,baz=169,slow=8.8,SNR=7.8
SFJD Kangerlussuaq 51.77 358 *i* P P 16 08 50.0 +0.8
SFJD IAmb IAmb 16 09 00.6
comp=Z,53nm,1.4s
SFJD Kangerlussuaq 51.77 358 ⇑P P 16 08 50.9 +1.7
KPL Plockton 51.78 27 *eP* P 16 08 48.5 -0.9
KPL IAmb IAmb 16 08 51.5
comp=Z,39nm,0.9s
KPL IAMs_20 IAMs_20 16 24 47.1
comp=Z,6µm,23.0s
F33A 5 Mile Ranch, 51.80 317 IAmb IAmb 16 09 03.7
comp=Z,106nm,1.3s
F33A IAMs_20 IAMs_20 16 27 21.0
comp=Z,14µm,22.0s
SSB Saint Sauveur 51.81 44 IAmb IAmb 16 09 02.1
comp=Z,67nm,1.3s
SSB Saint Sauveur 51.81 44 IAMs_20 IAMs_20 16 26 01.6
comp=Z,10µm,22.0s
SSB Saint Sauveur 51.81 44 ⇑P P 16 08 49.8 -0.2
BGNE Belgrade 51.82 311 P P 16 08 47.2 -2.8
baz=104
BGNE S S 16 16 13.0 +0.5
baz=104
ABSA Djebel Ababsia 51.82 56 P P 16 08 49.8 -0.4
CMAH Djebel Manchou 51.83 55 P P 16 08 49.5 -0.8
INVG Invergeldie, C 51.96 28 *eP* P 16 08 50.5 -0.2
INVG IAMs_20 IAMs_20 16 28 31.7
comp=Z,7µm,14.9s
RUSF Rustrel 52.05 46 ⇑P P 16 08 54.8 +3.1
EBL Broad Law 52.05 29 *eP* P 16 08 51.0 -0.5
EDMD Edmundbyers 52.06 31 *eP* P 16 08 50.3 -1.3
EDMD IAMs_20 IAMs_20 16 24 53.0
comp=Z,11µm,23.7s
BORG Borgarnes 52.22 13 P P 16 08 54.6 +2.0
comp=Z,16nm,1.0s,baz=225,slow=4.2,SNR=5.3
WACR West Acre 52.36 34 *eP* P 16 08 53.9 +0.1
WACR IAmb IAmb 16 08 56.1
comp=Z,130nm,0.9s
WACR IAMs_20 IAMs_20 16 25 20.7
comp=Z,9µm,20.7s
AGMN Agassiz Nation 52.38 320 P P 16 08 54.8 +0.8
AGMN Agassiz Nation 52.38 320 P P 16 08 51.3 -2.8
baz=111
AGMN S S 16 16 17.2 -2.6
baz=111
MDO Dochfour 52.40 27 *eP* P 16 08 53.0 -1.1
CBKS Cedar Bluff 52.44 307 IAMs_20 IAMs_20 16 28 46.2
comp=Z,12µm,20.0s
CBKS Cedar Bluff 52.44 307 P P 16 08 52.2 -2.5
baz=101
CBKS S S 16 16 19.8 -1.3
baz=101
K31A O'Neill 52.56 312 IAMs_20 IAMs_20 16 28 00.2
comp=Z,9µm,21.0s
D32A Dogwood Acres, 52.70 318 IAMs_20 IAMs_20 16 28 18.9
comp=Z,12µm,20.0s
DRUM Mains of Drumt 52.94 28 *eP* P 16 08 57.5 -0.6
DRUM IAMs_20 IAMs_20 16 26 10.5
comp=Z,7µm,18.8s
ULM Lac du Bonnet 53.12 322 P P 16 08 58.0 -1.4
comp=Z,38nm,1.0s,baz=108,slow=5.9,SNR=12
ULM LR LR 16 28 06.7
comp=Z,11µm,22.0s,baz=111,slow=32
ULM Lac du Bonnet 53.12 322 IAmb IAmb 16 09 12.2
comp=Z,71nm,1.1s
ULM Lac du Bonnet 53.12 322 ⇑P P 16 08 59.0 -0.5
SUSD Miller 53.18 314 P P 16 08 56.8 -3.3
baz=106
SUSD S S 16 16 29.0 -1.9
baz=106
BNI Bardonecchia 53.19 45 IAmb IAmb 16 09 19.2
comp=Z,152nm,1.5s
BNI IAMs_20 IAMs_20 16 27 13.9
comp=Z,12µm,21.0s
BNI Bardonecchia 53.19 45 ⇑P P 16 09 00.5 +0.2
KEST Kesra 53.24 57 P P 16 08 59.9 -0.9
comp=Z,56nm,1.0s,baz=245,slow=2.3,SNR=22
KEST LR LR 16 28 51.8
comp=Z,11µm,22.0s,baz=216,slow=33
KEST Kesra 53.24 57 IAMs_20 IAMs_20 16 28 29.4
comp=Z,11µm,22.0s
KEST Kesra 53.24 57 P P 16 08 59.9 -0.9
SNR=18
KEST P P 16 08 59.9 -0.9
SNR=18
KEST S S 16 16 34.9 +2.7
KEST S S 16 16 34.9 +2.7
AMTX Amarillo 53.37 302 IAmb IAmb 16 09 12.7
comp=Z,43nm,0.8s
AMTX IAMs_20 IAMs_20 16 28 43.0
comp=Z,10µm,21.0s
AMTX Amarillo 53.37 302 P P 16 08 59.8 -2.0
baz=97
AMTX S S 16 16 34.1 +0.1
baz=97
SNF Seneffe 53.48 38 *dP* P 16 09 01.3 -0.8
DOU Dourbes 53.51 38 *bP* P 16 09 01.3 -1.0
comp=Z,60nm,2.6s
DOU *dx* x 16 11 48.7
DOU *dS* S 16 16 30.9 -4.4
UCC Uccle 53.64 37 *dP* P 16 09 01.6 -1.7
UCC Uccle 53.64 37 IAmb IAmb 16 09 16.6
comp=Z,112nm,1.3s
BMRD Maredsous 53.69 38 *dP* P 16 09 02.7 -1.0
comp=Z,42nm,2.2s
VSL Villasalto 53.85 52 ⇑P P 16 09 03.9 -1.2
TATN Tataouine 53.88 61 ⇑P P 16 09 04.1 -1.4
VA01 Torpederas 53.91 207 IAmb IAmb 16 09 06.7
comp=Z,53nm,0.7s
BGES Gesves 53.91 38 *dP* P 16 09 04.3 -1.0
comp=Z,75nm,2.3s
RCHB Rochefort 53.91 38 *dS* S 16 16 41.7 +1.0
ICESG Greenland Ices 53.94 3 *i* P P 16 09 05.6 -0.1
ICESG IAmb IAmb 16 09 14.9
comp=Z,81nm,1.2s
ICESG IAMs_20 IAMs_20 16 30 34.8
comp=Z,4µm,16.3s
SENIN Lac Senin/Sane 53.98 43 IAmb IAmb 16 09 33.0
comp=Z,71nm,1.5s
ILULI Ilulissat 54.01 358 *eP* P 16 09 05.3 -0.4
ILULI IAmb IAmb 16 09 08.1
comp=Z,13nm,0.9s
BCLA Clavier 54.06 38 *dP* P 16 09 05.4 -1.0
comp=Z,82nm,2.3s
MSTX Muleshoe 54.17 301 IAmb IAmb 16 09 13.6
comp=Z,71nm,0.9s
MSTX IAMs_20 IAMs_20 16 29 21.3
comp=Z,13µm,21.0s
MSTX Muleshoe 54.17 301 P P 16 09 05.6 -2.0
baz=96
MSTX S S 16 16 44.5 -0.5
baz=96
BSTI Sart Tilman 54.27 38 *dP* P 16 09 07.7 -0.2
comp=Z,26nm,2.7s
WLF Walferdange 54.30 39 *dP* P 16 09 07.1 -1.1
WLF *dpP* **sP** 16 09 10.8 +0.1
WLF Walferdange 54.30 39 IAmb IAmb 16 09 18.6
comp=Z,38nm,0.9s
WLF Walferdange 54.30 39 *eP* P 16 09 07.1 -1.1
comp=Z,113nm,1.4s,baz=253,slow=7.1
WLF Walferdange 54.30 39 ⇑P P 16 09 07.5 -0.7
BHOU Houvegnez 54.45 38 *bP* P 16 09 08.5 -0.8
comp=Z,74nm,2.4s
MT01 Popeta 54.46 206 IAmb IAmb 16 09 12.8
comp=Z,70nm,0.8s
MEM Membach 54.54 38 *bP* P 16 09 09.2 -0.7
MEM *dS* S 16 16 49.6 +0.4
OGNE Ogallala 54.58 310 IAmb IAmb 16 09 20.9
comp=Z,112nm,1.4s
OGNE Ogallala 54.58 310 P P 16 09 07.0 -3.4
baz=101
OGNE S S 16 16 49.7 -0.5
baz=101
MDND Maddock 54.59 318 IAMs_20 IAMs_20 16 29 14.9
comp=Z,11µm,21.0s
MDND Maddock 54.59 318 P P 16 09 07.3 -3.0
baz=108
MDND S S 16 16 50.5 +0.5
baz=108
BTNL Ternell 54.61 38 *dP* P 16 09 09.1 -1.3
comp=Z,92nm,2.3s
TXAR Lajitas Array 54.65 295 P P 16 09 11.2 0.0
comp=Z,8.3nm,0.9s,baz=107,slow=7.8,SNR=24
TXAR LR LR 16 33 11.8
comp=Z,3µm,19.5s,baz=0.0,slow=37
TX31 Lajitas Ar. Si 54.65 295 IAmb IAmb 16 09 26.2
comp=Z,37nm,0.8s
TX31 Lajitas Ar. Si 54.65 295 ⇑P P 16 09 11.2 +0.1
KSCO Kaye Shedlock' 54.69 307 IAMs_20 IAMs_20 16 29 35.9
comp=Z,9µm,20.0s
KSCO Kaye Shedlock' 54.69 307 P P 16 09 08.3 -3.1
baz=99
KSCO S S 16 16 52.7 +0.8
baz=99
BO01 Tunca 54.84 205 IAmb IAmb 16 09 15.8
comp=Z,51nm,0.9s
MSSA Maissana 54.95 46 IAMs_20 IAMs_20 16 29 38.8
comp=Z,9µm,20.0s
BO02 Sierra Bellavi 55.07 205 IAmb IAmb 16 09 35.6
comp=Z,69nm,1.1s
TRQA Tornquist 55.12 195 IAMs_20 IAMs_20 16 32 55.7
comp=Z,8µm,20.0s
TRQA Tornquist 55.12 195 *eP* P 16 09 14.4 +0.2
AHRW Bad Neuenahr-A 55.16 38 *eP* P 16 09 13.0 -1.3
comp=Z,274nm,2.2s,baz=253,slow=7.1
BFO Black Forest 55.23 41 P P 16 09 13.6 -1.3
BFO pmax pmax
comp=Z,67nm,1.2s
BFO MLR MLR
comp=Z,4µm,21.0s
BFO Black Forest 55.23 41 P P 16 09 13.6 -1.3
BFO IAmb IAmb 16 09 17.8
comp=Z,67nm,1.2s
BFO Black Forest 55.23 41 *eP* P 16 09 13.6 -1.3
comp=Z,170nm,1.7s,baz=253,slow=7.1
BFO *ep*P **pP** 16 09 16.4 -0.4
baz=253,slow=7.0
VLC Villacollemand 55.52 47 IAmb IAmb 16 09 28.9
comp=Z,98nm,1.2s
VLC Villacollemand 55.52 47 ⇑P P 16 09 16.2 -0.9
BUG Bochum--Univer 55.58 37 *eP* P 16 09 16.4 -1.0
comp=Z,462nm,2.5s,baz=253,slow=7.1
BUG *ep*P **pP** 16 09 19.1 -0.1
baz=253,slow=7.0
GO05 Huala 55.73 206 IAmb IAmb 16 09 26.9
comp=Z,47nm,1.2s
T25A Trinidad 55.83 305 IAmb IAmb 16 09 31.0
comp=Z,51nm,1.2s
T25A IAMs_20 IAMs_20 16 31 31.2
comp=Z,7µm,20.0s
T25A Trinidad 55.83 305 P P 16 09 16.5 -3.3
baz=97
T25A S S 16 17 09.8 +2.4
baz=97
TNS Taunus Mts 55.88 39 *eP* P 16 09 18.9 -0.7

TNS comp=Z,503nm,2.5s,baz=253,slow=7.1 *e*pP **pP** 16 09 21.6 +0.1
STU **Stuttgart** 55.91 41 IAmb IAmb 16 09 29.6
STU comp=Z,61nm,1.0s baz=253,slow=7.1
STU **Stuttgart** 55.91 41 *e*P **P** 16 09 18.2 -1.6
DAVA **Damuels** 55.94 43 *e*P **P** 16 09 19.7 -0.6
FCC **Fort Churchill** 55.98 332 IAmb IAmb 16 09 49.7
IBBN comp=Z,144nm,1.1s,baz=253,slow=7.1 comp=Z,75nm,1.1s baz=253,slow=7.1
IBBN **Ibbenburen** 56.17 37 *e*P **P** 16 09 20.5 -1.0
IBBN comp=Z,615nm,2.5s,baz=253,slow=7.1 *e*pP **pP** 16 09 23.4 0.0
KASTN **Kahler Asten** 56.18 38 *e*P **P** 16 09 20.6 -1.1
KASTN comp=Z,212nm,2.0s,baz=253,slow=7.1 *e*pP **pP** 16 09 23.5 0.0
UBR **Ueberruh** 56.19 42 *e*P **P** 16 09 21.1 -0.9
UBR comp=Z,61nm,1.0s baz=253,slow=7.1 *e*pP **pP** 16 09 23.7 -0.1
MNTX **Cornudas Mount** 56.21 298 IAmb IAmb 16 09 34.7
MNTX comp=Z,40nm,1.0s baz=253,slow=7.1
MNTX **Cornudas Mount** 56.21 298 P **P** 16 09 19.0 -3.3
MNTX baz=92 S **S** 16 17 11.8 -0.4
MILB **Miltenberg** 56.28 40 *e*P **P** 16 09 21.1 -1.3
HPIG comp=Z,62nm,1.3s,baz=253,slow=7.1 comp=Z,33nm,0.9s baz=92
HPIG 56.40 292 IAmb IAmb 16 09 35.1
FETA **Feichten** 56.43 43 *e*P **P** 16 09 23.0 -0.8
CLTB **Caltabellotta** 56.55 55 ⇑P **P** 16 09 24.1 -0.6
RETA **Reutte** 56.57 43 *e*P **P** 16 09 23.3 -1.3
Q24A comp=Z,71nm,2.0s,SNR=10 **Divide** 56.63 307 P **P** 16 09 22.7 -2.9
Q24A baz=97 S **S** 16 17 22.2 +4.1
RSSD **Black Hills** 56.65 313 P **P** 16 09 26.1 +0.6
RSSD comp=Z,21nm,1.0s pmax pmax
RSSD comp=Z,8μm,19.0s MLR MLR
RSSD **Black Hills** 56.65 313 P **P** 16 09 26.1 +0.6
RSSD **Black Hills** 56.65 313 IAMs_20 IAMs_20 16 33 28.5
RSSD comp=Z,8μm,19.0s **Black Hills** 56.65 313 ⇑P **P** 16 09 26.3 +0.8
RSSD **Black Hills** 56.65 313 P **P** 16 09 23.2 -2.3
RSSD baz=102 S **S** 16 17 18.6 +0.6
CORL baz=102 **Corleone** 56.66 55 IAMs_20 IAMs_20 16 30 35.0
MOTA comp=Z,9μm,20.0s **Moosalm** 56.76 43 *e*P **P** 16 09 24.9 -1.2
SDCO comp=Z,99nm,1.1s,SNR=21 **Great Sand Dun** 56.76 305 IAMs_20 IAMs_20 16 31 34.8
SDCO comp=Z,8μm,20.0s **Great Sand Dun** 56.76 305 P **P** 16 09 24.4 -2.1
SDCO baz=96 S **S** 16 17 20.2 +0.3
SQTA baz=96 **Sankt Quirin** 56.80 43 *e*P **P** 16 09 25.1 -1.3
UBBA comp=Z,119nm,1.3s,SNR=26 **Unterbreizbach** 57.01 39 *e*P **P** 16 09 26.6 -0.9
UBBA comp=Z,204nm,2.1s,baz=253,slow=7.1 *e*pP **pP** 16 09 29.3 0.0
WATA baz=253,slow=7.0 **Walderalm** 57.07 43 *e*P **P** 16 09 26.9 -1.4
FUR comp=Z,74nm,1.3s,SNR=25 **Furstenfeldbru** 57.08 42 *e*P **P** 16 09 27.2 -1.0
WTTA comp=Z,174nm,1.3s,baz=253,slow=7.1 **Wattenberg** 57.09 43 *e*P **P** 16 09 27.2 -1.3
ISCO comp=Z,54nm,1.2s,SNR=24 **Idaho Springs** 57.10 308 IAMs_20 IAMs_20 16 31 05.5
ISCO comp=Z,11μm,20.0s **Idaho Springs** 57.10 308 P **P** 16 09 26.3 -2.5
ISCO baz=98 S **S** 16 17 23.3 -1.0
SCO baz=98 **Scoresbysund** 57.13 9 *i* P **P** 16 09 29.0 +0.9
SCO IAMs_20 IAMs_20 16 28 54.9
SCO comp=Z,3μm,15.5s **Scoresbysund** 57.13 9 IAmb IAmb 16 09 59.1
GTTG comp=Z,103nm,1.5s **Gottingen** 57.21 38 *e*P **P** 16 09 28.3 -0.7
NRCA comp=Z,657nm,2.6s,baz=253,slow=7.1 **Norcia** 57.21 49 IAmb IAmb 16 09 40.0
ANMO comp=Z,92nm,1.5s **Albuquerque** 57.29 302*c* *i*P **P** 16 09 31.7 +1.6
ANMO comp=Z,15nm,1.3s pmax pmax
ANMO **Albuquerque** 57.29 302 P **P** 16 09 30.8 +0.7
ANMO **Albuquerque** 57.29 302 IAMs_20 IAMs_20 16 30 57.7
ANMO comp=Z,13μm,22.0s **Albuquerque** 57.29 302 ⇑P **P** 16 09 32.1 +2.0
ANMO **Albuquerque** 57.29 302 P **P** 16 09 29.3 -0.8
ANMO baz=94 S **S** 16 17 28.3 +1.7
AQU baz=94 **L'Aquila** 57.34 49⇑*i*P **P** 16 09 29.4 -0.8
AQU **L'Aquila** 57.34 49 ⇑P **P** 16 09 29.7 -0.5
RAFF **Raffo Rosso** 57.43 55 IAmb IAmb 16 09 37.0
RAFF comp=Z,85nm,1.0s IAMs_20 IAMs_20 16 32 33.3
GRFO comp=Z,8μm,20.0s **Grafenberg** 57.44 40 P **P** 16 09 31.8 +1.1
GRFO comp=Z,80nm,1.4s pmax pmax
GRFO comp=Z,5μm,18.0s MLR MLR
GRFO **Grafenberg** 57.44 40 P **P** 16 09 31.8 +1.1
GRFO comp=Z,80nm,1.4s IAmb IAmb 16 09 40.2
GRA1 **Grafenberg Arr** 57.44 40 IAmb IAmb 16 09 33.6
GRF comp=Z,86nm,1.4s **Grafenberg Arr** 57.44 40 *e*P **P** 16 09 29.5 -1.2
GRF comp=Z,112nm,1.6s,baz=253,slow=7.1 *e*pP **pP** 16 09 31.9 -0.6
GRF baz=253,slow=7.0 *e*S **S** 16 17 32.1 +4.3
GRF *e*L L 16 28 38.9
SUMG comp=Z,4μm,21.6s **Summit** 57.47 3 *i* P **P** 16 09 31.3 +0.4
SUMG IAmb IAmb 16 09 36.0
SUMG comp=Z,71nm,1.2s IAMs_20 IAMs_20 16 31 04.9
SUMG comp=Z,4μm,16.2s **Summit** 57.47 3 ⇑P **P** 16 09 31.5 +0.5
N23A **Red Feather La** 57.49 309 P **P** 16 09 30.1 -1.4
N23A baz=98 S **S** 16 17 30.6 +1.2
CLZ baz=98 **Clausthal** 57.54 38 *e*P **P** 16 09 30.4 -1.0
ABTA baz=253,slow=7.1 **Abfaltersbach** 57.56 44 *e*P **P** 16 09 30.2 -1.4
STAL comp=Z,72nm,1.3s,SNR=20 **STALIGIAL** 57.58 45 IAmb IAmb 16 09 42.0
NRDL comp=Z,83nm,1.2s **Niedersach Rie** 57.59 37 *e*P **P** 16 09 31.3 -0.3
NRDL comp=Z,365nm,2.1s,baz=253,slow=7.1 *e*pP **pP** 16 09 33.8 +0.3
Y22D baz=253,slow=7.0 **IRIS PASSCAL I** 57.62 301 P **P** 16 09 30.4 -2.0
Y22D baz=93 S **S** 16 17 32.2 +1.2
INTR baz=93 **Introdacqua** 57.66 50 IAmb IAmb 16 09 59.4
DGMT comp=Z,97nm,1.2s **Dagmar** 57.72 318 IAMs_20 IAMs_20 16 30 42.6
DGMT comp=Z,12μm,22.0s **Dagmar** 57.72 318 P **P** 16 09 31.2 -1.5
DGMT baz=104 S **S** 16 17 35.9 +4.3
ASSE baz=104 **Asse, Remlinge** 57.81 38 *e*P **P** 16 09 32.6 -0.5
ASSE comp=Z,240nm,2.0s,baz=253,slow=7.1 *e*pP **pP** 16 09 35.2 +0.2
S22A baz=253,slow=7.0 **4UR Ranch, Cre** 57.81 305 P **P** 16 09 31.6 -2.3
S22A baz=95,SNR=31 S **S** 16 17 35.8 +2.1
baz=95

ZOU **Zoufplan** 57.83 44 IAMs_20 IAMs_20 16 31 34.8
MOX comp=Z,11μm,20.0s **Moxa** 57.94 39 *e*P **P** 16 09 33.2 -1.0
MOX comp=Z,384nm,2.6s,baz=253,slow=7.1 *e*pP **pP** 16 09 35.7 -0.3
MOX baz=253,slow=7.0 *e*S **S** 16 17 39.6 +5.2
MOX *e*L L 16 28 54.9
RJOB comp=Z,5μm,21.6s **Jochberg** 57.97 43 *e*P **P** 16 09 32.8 -1.7
PAOL baz=253,slow=7.1 **Paolisi** 58.01 51 IAmb IAmb 16 09 46.0
BRJN comp=Z,76nm,1.2s **Brijuni** 58.03 46 *i* P **P** 16 09 33.4 -1.5
PTCC **Patocco-Chiusa** 58.05 45 ⇑P **P** 16 09 33.5 -1.7
SMCO **Snowmass** 58.07 307 IAMs_20 IAMs_20 16 32 09.3
SMCO comp=Z,11μm,20.0s **Snowmass** 58.07 307 ⇑P **P** 16 09 37.6 +1.8
MANZ **Manzenberg** 58.07 40 *e*P **P** 16 09 34.2 -1.0
ROTZ baz=253,slow=7.1 **Rotzenmuhle** 58.08 41 *e*P **P** 16 09 33.9 -1.3
ROTZ comp=Z,101nm,1.7s,baz=253,slow=7.1 *e*pP **pP** 16 09 36.4 -0.6
ROBS baz=253,slow=7.0 **Robic** 58.12 45 *e*P **P** 16 09 34.1 -1.4
ROBS *e*S **S** 16 17 35.7 -1.1
BSEG **Bad Segeberg** 58.17 35 *e*P **P** 16 09 34.9 -0.8
BSEG comp=Z,280nm,1.7s,baz=253,slow=7.1 *e*pP **pP** 16 09 37.5 -0.1
K22A baz=253,slow=7.0 **Casper** 58.18 311 IAmb IAmb 16 10 01.7
K22A comp=Z,49nm,1.1s IAMs_20 IAMs_20 16 31 30.0
K22A comp=Z,10μm,20.0s **Casper** 58.18 311 P **P** 16 09 34.6 -1.6
K22A baz=99,SNR=8.1 S **S** 16 17 38.3 +0.3
KBA baz=99 **Koelnbreinsper** 58.19 44 *e*P **P** 16 09 34.6 -1.6
TRI comp=Z,50nm,1.1s,SNR=22 **Trieste** 58.19 45 IAmb IAmb 16 09 47.2
TRI comp=Z,93nm,1.2s **Trieste** 58.19 45 ⇑P **P** 16 09 35.0 -1.0
NEUB **Neuenburg** 58.20 39 *e*P **P** 16 09 34.8 -1.1
NEUB comp=Z,88nm,1.2s,baz=253,slow=7.1 *e*pP **pP** 16 09 37.5 -0.3
FLTG baz=253,slow=7.0 **Flechtingen** 58.20 37 *e*P **P** 16 09 34.9 -1.1
FLTG comp=Z,230nm,1.7s,baz=253,slow=7.1 *e*pP **pP** 16 09 37.4 -0.4
FLTG baz=253,slow=7.0 **Flechtingen** 58.20 37 P **P** 16 09 34.9 -1.1
FFC **Flin Flon** 58.22 326 P **P** 16 09 36.7 +0.6
FFC pmax pmax
FFC comp=Z,79nm,1.2s MLR MLR
FFC comp=Z,9μm,21.0s **Flin Flon** 58.22 326 P **P** 16 09 36.7 +0.6
FFC IAmb IAmb 16 09 49.5
FFC comp=Z,79nm,1.2s **Flin Flon** 58.22 326 IAMs_20 IAMs_20 16 31 02.2
BER comp=Z,9μm,21.0s **Bergen** 58.23 27 *e*P **P** 16 09 36.6 +0.7
PLN **Plauen** 58.23 40 *e*P **P** 16 09 35.2 -1.0
PLN comp=Z,202nm,1.9s,baz=253,slow=7.1 *e*pP **pP** 16 09 37.8 -0.2
CADS baz=253,slow=7.0 **Cadrg** 58.27 45 *e*P **P** 16 09 35.5 -1.1
CADS *e*S **S** 16 17 38.1 -0.9
121A **Cookes Peak, D** 58.28 299 P **P** 16 09 36.5 -0.6
121A baz=92,SNR=11 S **S** 16 17 42.0 +2.3
MYKA baz=92 **Terra Mystica** 58.29 44 *i* P **P** 16 09 35.7 -1.1
GUNZ comp=Z,111nm,1.2s,SNR=32 **Gunzen** 58.31 40 *e*P **P** 16 09 35.9 -0.9
GUNZ comp=Z,129nm,1.5s,baz=253,slow=7.1 *e*pP **pP** 16 09 38.4 -0.2
WERD baz=253,slow=7.0 **Werda** 58.32 40 *e*P **P** 16 09 36.0 -0.9
WERD comp=Z,152nm,1.7s,baz=253,slow=7.1 *e*pP **pP** 16 09 38.4 -0.3
WERN baz=253,slow=7.0 **Wernitzgruen** 58.32 40 *e*P **P** 16 09 36.1 -0.8
WERN comp=Z,135nm,1.2s,baz=253,slow=7.1 *e*pP **pP** 16 09 38.6 -0.1
SKDS baz=253,slow=7.0 **Skadanscina** 58.33 46⇑*i*P **P** 16 09 35.2 -1.9
WET **Wettzell** 58.35 41 *e*P **P** 16 09 35.7 -1.4
WET comp=Z,124nm,1.8s,baz=253,slow=7.1 *e*pP **pP** 16 09 38.2 -0.7
TANN baz=253,slow=7.0 **Tannenbergstha** 58.40 40 *e*P **P** 16 09 36.5 -1.0
TANN comp=Z,254nm,2.0s,baz=253,slow=7.1 *e*pP **pP** 16 09 39.1 -0.2
MUD baz=253,slow=7.0 **Monsted U'grnd** 58.43 32 *i* P **P** 16 09 39.9 +2.5
MUD IAmb IAmb 16 09 47.3
MUD comp=Z,141nm,1.3s IAMs_20 IAMs_20 16 29 55.3
JAVS comp=Z,9μm,19.6s **Javornik** 58.43 45 *e*P **P** 16 09 36.8 -1.0
JAVS *e*S **S** 16 17 41.2 +0.1
RWWY **Rawlins** 58.55 310 IAmb IAmb 16 10 02.2
CEY comp=Z,80nm,1.2s **Cerknica** 58.65 46⇑*i*P **P** 16 09 38.2 -1.1
LAO **LASA Array** 58.67 316 IAmb IAmb 16 09 53.1
LAO comp=Z,69nm,1.1s IAMs_20 IAMs_20 16 34 35.8
LAO comp=Z,9μm,19.0s **LASA Array** 58.67 316 P **P** 16 09 39.4 0.0
LAO baz=101,SNR=7.5 S **S** 16 17 46.2 +2.1
CEL baz=101 **Celeste** 58.73 54 IAMs_20 IAMs_20 16 34 02.8
NVLJ comp=Z,10μm,19.0s **Novalja** 58.76 47 *i* P **P** 16 09 38.4 -1.6
LJU **Ljubljana** 58.78 45⇑*i*P **P** 16 09 39.2 -0.9
HOMB **Homborsund** 58.79 30 *e*P **P** 16 09 40.6 +0.7
KHC **Kasperske Hory** 58.79 41 *e*P **P** 16 09 38.5 -1.7
KHC *e* 16 09 44.5
KHC *e*S **S** 16 17 41.0 -4.6
KHC MLR MLR
KHC comp=Z,6μm,17.3s **Kasperske Hory** 58.79 41 *e*P **P** 16 09 38.5 -1.7
KHC *ex* x 16 09 44.5
KHC *e*S **S** 16 17 41.0 -4.6
KHC AMS AMS 16 36 30.0
KHC comp=Z,6μm,17.3s **Kasperske Hory** 58.79 41 ⇑P **P** 16 09 38.8 -1.4
DUGI **Dugi Otok** 58.80 48 *i* P **P** 16 09 38.8 -1.5
GEC2 **GERESS Array S** 58.80 42 IAmb IAmb 16 09 49.5
GEC2 comp=Z,70nm,1.3s IAMs_20 IAMs_20 16 35 15.7
GEC2 comp=Z,8μm,18.0s **GERESS Array S** 58.80 42 *e*P **P** 16 09 38.6 -1.8
GEC2 comp=Z,110nm,1.8s,baz=253,slow=7.1 *e*pP **pP** 16 09 41.3 -1.0
GERES baz=253,slow=7.0 **GERESS Array B** 58.80 42 P **P** 16 09 39.1 -1.3
GERES comp=Z,5.5nm,0.9s,baz=242,slow=5.6,SNR=30 LR LR 16 34 15.3
GERES comp=Z,6μm,18.3s,baz=244,slow=35 PKPPKP 16 39 20.4
GBRS comp=Z,0.8nm,0.9s,baz=345,slow=4.6,SNR=4.5 **Gornja Briga** 58.88 46 *e*P **P** 16 09 40.0 -0.9
OBKA **Obir** 58.88 45 *e*P **P** 16 09 39.8 -1.2
MOA comp=Z,122nm,1.6s,SNR=42 **Molln** 58.96 43 *e*P **P** 16 09 39.7 -1.7
CLL comp=Z,52nm,1.4s,SNR=24 **Collm** 58.97 39 Lmax 16 38 00.0
CLL **Collm** 58.97 39⇑*i*P **P** 16 09 40.3 -1.0
CLL *i* 16 09 46.7
CLL *e*S **S** 16 17 45.0 -2.6
CLL pmax pmax
CLL comp=Z,115nm,1.2s MLR MLR
CLL comp=Z,4μm,19.8s **Collm** 58.97 39 *e*P **P** 16 09 40.2 -1.1
CLL comp=Z,115nm,1.2s,baz=253,slow=7.1 *e*pP **pP** 16 09 42.6 -0.5
CLL baz=253,slow=7.0 **Collm** 58.97 39⇑*i*P **P** 16 09 40.3 -1.0
CLL comp=Z,115nm,1.2s **Collm** 58.97 39 *i* (sP) sP 16 09 46.7 +2.9
CLL **Collm** 58.97 39 *i* P 16 09 49.8 +8.5

CLL **Collm** 58.97 39 *e*PP PP 16 11 49.0 -2.5
CLL **Collm** 58.97 39 *e*S **S** 16 17 45.0 -2.6
CLL comp=N,2μm,27.1s **Collm** 58.97 39 *e*S **S** 16 17 45.0 -2.6
CLL comp=E,4μm,26.9s **Collm** 58.97 39 *e*S **S** 16 17 45.0 -2.6
CLL comp=Z,2μm,19.2s **Collm** 58.97 39 *e*SS SS 16 21 36.0 -5.2
CLL **Collm** 58.97 39 *e*SSS SSS 16 24 18.0
CLL **Collm** 58.97 39 LmV 16 31 00.0
FBE comp=Z,4μm,19.8s **Freiberg** 59.08 39 *e*P **P** 16 09 41.2 -0.9
FBE comp=Z,414nm,2.3s,baz=253,slow=7.1 *e*pP **pP** 16 09 43.9 0.0
MVCO baz=253,slow=7.0 **Mesa Verde** 59.09 304 P **P** 16 09 42.7 0.0
MVCO baz=94,SNR=7.5 S **S** 16 17 52.9 +2.6
O20A baz=94 **White River Ci** 59.14 308 IAmb IAmb 16 09 54.8
O20A comp=Z,92nm,1.4s IAMs_20 IAMs_20 16 34 02.6
O20A comp=Z,8μm,20.0s **White River Ci** 59.14 308 P **P** 16 09 42.7 -0.3
O20A baz=96 S **S** 16 17 55.4 +4.7
PV15 baz=96 **Paradox Valley** 59.16 306 IAmb IAmb 16 10 02.8
PV15 comp=Z,47nm,1.1s IAMs_20 IAMs_20 16 35 03.2
ZIRJ comp=Z,7μm,20.0s **Zirje** 59.17 48 *i* P **P** 16 09 39.6 -3.3
BOJS **Bojanci** 59.18 46⇑*i*P **P** 16 09 42.0 -0.9
PBCC **Pribram** 59.18 41 *e*P **P** 16 09 41.6 -1.3
CKRC **Cesky Krumlov** 59.19 42 *e*P **P** 16 09 41.0 -2.0
CKRC *e*S **S** 16 17 50.0 -0.7
PV01 **Paradox Valley** 59.22 305 IAmb IAmb 16 10 06.8
PV01 comp=Z,57nm,1.1s IAMs_20 IAMs_20 16 33 15.6
SOKA comp=Z,8μm,21.0s **Soboth** 59.24 45 *e*P **P** 16 09 41.7 -1.8
MORI comp=Z,35nm,1.2s,SNR=12 **Morici** 59.24 48 *i* P **P** 16 09 40.6 -2.8
PV07 **Paradox Valley** 59.30 306 IAMs_20 IAMs_20 16 32 47.9
OZLJ comp=Z,7μm,21.0s **Ozalj** 59.35 46 *i* P **P** 16 09 43.1 -0.9
PV02 **Paradox Valley** 59.35 306 IAmb IAmb 16 10 07.7
CRES comp=Z,63nm,1.1s **Cresnjev** 59.38 46⇑*i*P **P** 16 09 43.1 -1.2
UDBI **Udbina** 59.38 47 *i* P **P** 16 09 43.1 -1.3
PV12 **Saucer Basin,** 59.41 306 IAmb IAmb 16 10 04.8
PV12 comp=Z,54nm,1.2s IAMs_20 IAMs_20 16 32 50.9
PV13 comp=Z,10μm,22.0s **Radium Mtn., P** 59.41 305 IAmb IAmb 16 09 52.0
PV22 comp=Z,67nm,1.0s **Blue Mesa, Par** 59.42 306 IAMs_20 IAMs_20 16 33 03.0
BRG comp=Z,8μm,22.0s **Berggiesshubel** 59.43 40 *e*P **P** 16 09 43.6 -0.9
BRG comp=Z,256nm,2.2s,baz=253,slow=7.1 *e*pP **pP** 16 09 46.2 -0.2
BRG baz=253,slow=7.0 **Berggiesshubel** 59.43 40 *e*P **P** 16 09 43.6 -0.9
BRG Amp 16 09 48.7
BRG comp=Z,255nm,2.2s **Berggiesshubel** 59.43 40 Amp 16 09 55.3
BRG comp=Z,77nm,1.7s **Berggiesshubel** 59.43 40 S **S** 16 17 55.0 +1.3
BRG **Berggiesshubel** 59.43 40 SS SS 16 21 50.0 +1.4
BRG Amp 16 36 12.0
BRG comp=N,2.8nm,15.7s Amp 16 36 19.0
BRG comp=Z,5.4nm,15.6s Amp 16 36 24.0
BRG comp=E,4.1nm,16.7s **Berggiesshubel** 59.43 40 P P 16 09 53.5 +9.0
PV11 **David Mesa, Pa** 59.47 306 IAmb IAmb 16 10 08.2
PV11 comp=Z,55nm,1.2s IAMs_20 IAMs_20 16 33 03.3
TIP comp=Z,9μm,21.0s **Timpagrande** 59.48 53 ⇑P **P** 16 09 41.9 -3.4
TIP **Timpagrande** 59.48 53 IAMs_20 IAMs_20 16 34 36.6
TIP comp=Z,8μm,20.0s **Timpagrande** 59.48 53 ⇑P **P** 16 09 41.1 -4.1
PV18 **Skein Mesa, Pa** 59.49 306 IAmb IAmb 16 10 05.5
PV18 comp=Z,50nm,1.1s IAMs_20 IAMs_20 16 33 04.9
PV04 comp=Z,7μm,21.0s **Paradox Valley** 59.50 306 IAmb IAmb 16 09 56.9
PV04 comp=Z,37nm,1.2s IAMs_20 IAMs_20 16 32 54.1
PV16 comp=Z,9μm,22.0s **Nyswonger Mesa** 59.50 306 IAmb IAmb 16 10 05.3
PV16 comp=Z,35nm,1.0s IAMs_20 IAMs_20 16 35 14.2
319A comp=Z,7μm,20.0s **Douglas** 59.53 298 IAmb IAmb 16 10 14.0
PV17 comp=Z,41nm,1.0s **East Wray Mesa** 59.53 306 IAmb IAmb 16 10 00.9
PV17 comp=Z,42nm,1.1s IAMs_20 IAMs_20 16 36 09.1
PV20 comp=Z,9μm,20.0s **West Nyswonger** 59.54 306 IAmb IAmb 16 10 03.9
PRA comp=Z,43nm,1.1s **Prague** 59.55 41 *e*P **P** 16 09 44.7 -0.7
PRA *e*S **S** 16 17 51.4 -3.8
PRA MLR MLR
PRA comp=Z,5μm,16.9s **Prague** 59.55 41 *e*P **P** 16 09 44.7 -0.7
PRA *e*S **S** 16 17 51.4 -3.8
PRA AMS AMS 16 34 20.0
PV19 comp=Z,5μm,16.9s **Morning Glory** 59.55 306 IAmb IAmb 16 09 52.9
PV19 comp=Z,43nm,1.1s IAMs_20 IAMs_20 16 33 05.6
PV21 comp=Z,7μm,22.0s **Cone Mtn., Par** 59.57 306 IAmb IAmb 16 10 08.9
MATE comp=Z,45nm,1.2s **Matera** 59.58 52 ⇑P **P** 16 09 43.1 -2.6
PV23 **Carpenter Ridg** 59.59 306 IAMs_20 IAMs_20 16 33 18.5
PV14 comp=Z,9μm,22.0s **Lion Creek, Pa** 59.59 306 IAmb IAmb 16 10 04.8
PV14 comp=Z,41nm,1.0s IAMs_20 IAMs_20 16 33 07.6
PRU comp=Z,8μm,21.0s **Pruhonice** 59.60 41 *e*P **P** 16 09 44.2 -1.5
PRU *e*S **S** 16 17 56.0 +0.1
PRU MLR MLR
PRU comp=Z,4μm,18.5s **Pruhonice** 59.60 41 *e*P **P** 16 09 44.2 -1.5
PRU *e*S **S** 16 17 56.0 +0.1
PRU AMS AMS 16 33 30.0
PV10 comp=Z,4μm,18.5s **Paradox Valley** 59.60 306 IAmb IAmb 16 10 04.4
PV10 comp=Z,56nm,1.0s IAMs_20 IAMs_20 16 33 28.7
PV05 comp=Z,9μm,22.0s **Paradox Valley** 59.63 305 IAmb IAmb 16 10 03.4
PV05 comp=Z,59nm,1.0s IAMs_20 IAMs_20 16 33 26.0
ARSA comp=Z,7μm,20.0s **Arzberg** 59.68 44 *i* P **P** 16 09 44.7 -1.6
HVAR comp=Z,88nm,1.4s,SNR=26 **Hvar** 59.68 49 *i* P **P** 16 09 44.2 -2.3
PVCC **Panska Ves** 59.74 40 *e*P **P** 16 09 45.4 -1.3
PVCC *e*S **S** 16 17 53.6 -4.1
PVCC MLR MLR
PVCC comp=Z,4μm,17.0s **Panska Ves** 59.74 40 *e*P **P** 16 09 45.4 -1.3
PVCC *e*S **S** 16 17 53.6 -4.1
PVCC AMS AMS 16 33 40.0
RUE comp=Z,4μm,17.0s **Ruedersdorf** 59.74 38 *e*P **P** 16 09 47.0 +0.5
PTJ **Puntijarka** 59.74 46 P **P** 16 09 45.7 -1.3
KIJV **Kijevo** 59.76 48 *i* P **P** 16 09 46.1 -0.9
KONO **Kongsberg** 59.85 29⇑*e*P **P** 16 09 47.7 +0.4
KONO comp=Z,15nm,0.9s pmax pmax
KONO **Kongsberg** 59.85 29 P **P** 16 09 49.1 +1.9
W18A **Petrified Fore** 59.98 302 IAMs_20 IAMs_20 16 32 47.1
W18A comp=Z,8μm,21.0s **Petrified Fore** 59.98 302 P **P** 16 09 47.3 -1.6
W18A baz=92 S **S** 16 18 03.5 +1.7
CONA baz=92 **Conrad Observa** 60.03 43 *e*P **P** 16 09 47.4 -1.4

comp=Z,86nm,1.6s,SNR=45
TREC Trest 60.05 42 *e*S **S 16 18 01.8 0.0**
TREC AMS AMS 16 34 10.0
comp=Z,9μm,18.3s
MAKA Makarska 60.11 49 *i* P **P 16 09 47.8 -1.6**
KALN Kalnik 60.12 45 *i* P **P 16 09 48.0 -1.5**
X18A Snowflake 60.14 301 IAmb IAmb 16 09 56.3
comp=Z,29nm,1.0s
PLCA Paso Flores 60.19 201 P **P 16 09 50.1 +0.2**
comp=Z,27nm,0.8s,baz=35,slow=7.7,SNR=15
PLCA LR LR 16 38 21.0
comp=Z,8μm,19.4s,baz=21,slow=38
PLCA Paso Flores 60.19 201 P **P 16 09 50.1 +0.2**
PLCA Paso Flores 60.19 201 ⇓P **P 16 09 50.4 +0.4**
PLCA Paso Flores 60.19 201 *e*P **P 16 09 49.9 0.0**
RDMU Red Mountain 60.19 308 IAmb IAmb 16 10 05.3
comp=Z,63nm,1.2s
RICI Ricice 60.22 48 *i* P **P 16 09 49.0 -1.1**
MRAK Mrakovica 60.26 47⇑*i*P **P 16 09 49.3 -1.1**
MGRS Mrkonjic Grad 60.30 47 *e*P **P 16 09 50.3 -0.4**
BEHE Becsehely 60.39 45 *e*P **P 16 09 50.8 -0.4**
BEHE Becsehely 60.39 45⇑*i*P **P 16 09 50.6 -0.6**
BW06 Boulder Array 60.41 311 P **P 16 09 50.8 -0.9**
BW06 IAmb IAmb 16 10 05.5
comp=Z,73nm,1.3s
BW06 IAMs_20 IAMs_20 16 33 15.1
comp=Z,7μm,20.0s
BW06 Boulder Array 60.41 311 P **P 16 09 50.5 -1.2**
baz=96,SNR=42
BW06 S **S 16 18 05.6 -1.5**
baz=96
PD31 Pinedale Array 60.41 311 P **P 16 09 50.4 -1.3**
PD31 IAmb IAmb 16 10 05.5
comp=Z,66nm,1.3s
PD31 Pinedale Array 60.41 311 ⇓P **P 16 09 50.9 -0.9**
PDAR Pinedale Array 60.41 311 P **P 16 09 50.6 -1.1**
comp=Z,12nm,0.9s,baz=104,slow=6.3,SNR=43
PDAR LR LR 16 33 15.9
comp=Z,7μm,21.9s,baz=112,slow=33
BLY Banja Luka 60.42 47⇑*i*P **P 16 09 50.4 -1.1**
SLBS Sierra La Lagu 60.43 289 P **P 16 09 51.6 -0.4**
SOP Sopron 60.44 44 *e*P **P 16 09 49.8 -1.8**
RLMT Red Lodge 60.50 313 IAmb IAmb 16 10 06.8
comp=Z,78nm,1.4s
RLMT IAMs_20 IAMs_20 16 33 54.3
comp=Z,6μm,20.0s
RLMT Red Lodge 60.50 313 P **P 16 09 51.6 -0.7**
baz=98,SNR=19
RLMT S **S 16 18 08.5 +0.4**
baz=98
STON Ston 60.56 49 *i* P **P 16 09 49.8 -2.6**
KRUC Moravsky 60.59 42 *e*P **P 16 09 51.0 -1.5**
KRUC *e*S **S 16 18 02.7 -5.9**
UPC Upice 60.63 40 *e*P **P 16 09 51.2 -1.6**
UPC *e*S **S 16 18 07.5 -1.7**
UPC MLR MLR
comp=Z,6μm,17.2s
UPC Upice 60.63 40 *e*P **P 16 09 51.2 -1.6**
UPC *e*S **S 16 18 07.5 -1.7**
UPC AMS AMS 16 35 10.0
comp=Z,6μm,17.2s
CHVC Chvalec 60.67 40 *e*P **P 16 09 51.9 -1.2**
CHVC *e*S **S 16 18 14.1 +4.3**
CHVC AMS AMS 16 35 00.0
comp=Z,6μm,17.5s
LPIG La Paz 60.73 289 LR LR 16 36 44.8
comp=Z,148nm,21.4s,baz=86,slow=37
VRAC Vranov 60.76 42 ⇓P **P 16 09 52.7 -1.0**
VRAC Vranov 60.76 42 *e*P **P 16 09 52.5 -1.2**
VRAC *e*S **S 16 18 06.8 -4.1**
DBG Daneborg 60.77 8 *e*P **P 16 09 54.6 +1.3**
DBG IAmb IAmb 16 10 04.3
comp=Z,37nm,1.0s
DBG IAMs_20 IAMs_20 16 34 13.2
comp=Z,3μm,17.1s
OSTC Ostas 60.77 40 *e*P **P 16 09 52.4 -1.4**
OSTC *e*S **S 16 18 08.8 -2.2**
OSTC AMS AMS 16 35 30.0
comp=Z,6μm,17.8s
DPC Dobruska-Polom 60.79 41 *e*P **P 16 09 52.1 -1.9**
DPC *e*S **S 16 18 05.1 -6.2**
DPC MLR MLR
comp=Z,6μm,18.2s
DPC Dobruska-Polom 60.79 41 *e*P **P 16 09 52.1 -1.9**
DPC *e*S **S 16 18 05.1 -6.2**
DPC AMS AMS 16 34 10.0
comp=Z,6μm,18.2s
TUC Tucson 60.81 299 P **P 16 09 54.8 +0.3**
TUC pmax pmax
comp=Z,28nm,0.9s
TUC MLR MLR
comp=Z,3μm,20.0s
TUC Tucson 60.81 299 P **P 16 09 54.8 +0.3**
TUC IAmb IAmb 16 10 00.7
comp=Z,28nm,0.8s
TUC Tucson 60.81 299⇑P **P 16 09 55.3 +0.8**
TUC Tucson 60.81 299 P **P 16 09 53.9 -0.5**
baz=90
TUC S **S 16 18 15.1 +2.8**
baz=90
SRU San Rafael Swe 60.81 306 IAmb IAmb 16 10 09.5
comp=Z,61nm,1.2s
KSP Ksiaz 60.88 40 *e*P **P 16 09 53.7 -0.7**
KSP *e*L L 16 35 17.6
comp=Z,7μm,17.4s
KSP Ksiaz 60.88 40⇑P **P 16 09 53.7 -0.7**
ZST Bratislava 60.89 43 *e*P **P 16 09 53.6 -1.0**
ZST *e*S **S 16 18 11.3 -1.3**
ZST *e*SS **SS 16 22 15.1 +3.5**
EGYH Egyhazaskeszo 60.92 44 *e*P **P 16 09 50.3 -4.5**
P17A Butcher Ranch, 61.00 307 IAmb IAmb 16 10 13.0
comp=Z,47nm,1.1s
YNE Yellowstone No 61.00 313 IAmb IAmb 16 10 14.9
comp=Z,65nm,1.5s
TREB Trebinje 61.02 49 *e*P **P 16 09 54.9 -0.7**
MPLH Magyarpolny 61.02 44 *e*P **P 16 09 54.6 -0.9**
LL04 Puerto Octay 61.02 203 P **P 16 09 55.0 -0.5**
KRLC Kraliky 61.03 41 *e*P **P 16 09 54.7 -0.9**
KRLC *e*S **S 16 18 14.1 -0.3**
KRLC MLR MLR
comp=Z,8μm,17.1s
KRLC Kraliky 61.03 41 *e*P **P 16 09 54.7 -0.9**
KRLC *e*S S 16 18 14.1 -0.3
KRLC AMS AMS 16 35 10.0
comp=Z,8μm,17.1s
MODS Modra-Piesok 61.04 43 *e*L L 16 34 13.4
MODS Modra-Piesok 61.04 43 *e*P **P 16 09 53.4 -2.3**
MODS Modra-Piesok 61.04 43 *e*S **S 16 18 10.0 -4.5**
HCY Herceg Novi 61.09 50 *e*P **P 16 09 55.1 -1.0**
HCY Herceg Novi 61.09 50⇑*i*P **P 16 09 55.2 -0.9**
NB2 NORSAR Subarra 61.13 28 P **P 16 09 55.3 -0.8**
comp=Z,372nm,2.5s,baz=248,slow=6.9
NB2 NORSAR Subarra 61.13 28 P **P 16 09 55.3 -0.8**
baz=248,slow=6.9
NOA NORSAR Array B 61.13 28 P **P 16 09 55.6 -0.4**
comp=Z,11nm,0.9s,baz=248,slow=7.0,SNR=16
NOA LR LR 16 32 09.0
comp=Z,3μm,18.4s,baz=240,slow=32
SMOL Smolenice 61.16 43 *e*P **P 16 09 55.4 -1.1**
BRY Bratogost 61.17 49⇑*i*P **P 16 09 55.7 -1.1**
BRY Bratogost 61.17 49⇑*i*P **P 16 09 55.8 -1.1**
TIH Tihany 61.22 45 *e*P **P 16 09 56.4 -0.4**
LKWY Lake 61.23 313 IAmb IAmb 16 10 20.1
comp=Z,52nm,1.1s
KOVH Kovagotottos 61.24 46 *e*P **P 16 09 55.9 -1.1**
LOHW Long Hollow 61.26 312 IAmb IAmb 16 10 11.5
comp=Z,53nm,1.2s
NC303 NORSAR Array S 61.27 28 IAmb IAmb 16 10 10.1
comp=Z,52nm,1.1s
EGMT Eagleton 61.27 317 P **P 16 09 56.1 -1.2**
baz=99,SNR=14
EGMT S **S 16 18 18.2 +0.6**
baz=99
Q16A Castle Valley 61.30 306 IAmb IAmb 16 10 20.2
comp=Z,28nm,0.8s
H17A Grant Village 61.33 312 IAmb IAmb 16 10 14.6
comp=Z,34nm,1.1s
H17A Grant Village 61.33 312 P **P 16 09 57.4 -0.6**
baz=97
WUAZ Wupatki 61.33 302 IAmb IAmb 16 10 04.8
comp=Z,39nm,0.9s
WUAZ IAMs_20 IAMs_20 16 33 29.8
comp=Z,7μm,22.0s
WUAZ Wupatki 61.33 302 ⇓P **P 16 09 59.0 +1.0**
WUAZ Wupatki 61.33 302 P **P 16 09 56.9 -1.2**
baz=91,SNR=32
WUAZ S **S 16 18 21.6 +2.6**
baz=91
TMUT Trail Mountain 61.35 307 IAmb IAmb 16 10 20.4
comp=Z,31nm,1.0s
SNOW Snow King Moun 61.36 311 IAmb IAmb 16 10 12.4
comp=Z,38nm,0.9s
BUM Brajici-Budva 61.38 50⇑*i*P **P 16 09 57.5 -0.6**
JAVC Velka Javorina 61.38 42 *e*S **S 16 18 17.2 -1.7**
JAVC Velka Javorina 61.38 42 *e*P **P 16 09 57.1 -0.9**
MOOW Moose Ponds 61.38 312 IAmb IAmb 16 10 12.2
comp=Z,56nm,1.4s
NC405 NORSAR Array S 61.38 28 IAmb IAmb 16 10 07.2
comp=Z,65nm,1.1s
CEME Cevo 61.42 50⇑*i*P **P 16 09 57.4 -1.0**
REDW Red Top Meadow 61.42 311 IAmb IAmb 16 10 11.2
comp=Z,78nm,1.4s
REDW IAMs_20 IAMs_20 16 33 13.7
comp=Z,10μm,22.0s
YNR Norris Junctio 61.44 313 IAmb IAmb 16 10 23.6
comp=Z,52nm,1.4s
MORC Moravsky Berou 61.45 41 IAmb IAmb 16 10 08.4
comp=Z,64nm,1.2s
MORC IAMs_20 IAMs_20 16 34 55.8
comp=Z,10μm,19.0s
MORC Moravsky Berou 61.45 41 *e*P **P 16 09 57.6 -0.9**
MORC *e*S **S 16 18 18.6 -1.2**
MORC Moravsky Berou 61.45 41⇑P **P 16 09 57.6 -0.9**
NKME Niksic 61.46 49⇑*i*P **P 16 09 57.9 -0.8**
UPM Unac-Piva 61.47 49 *e*P **P 16 09 58.3 -0.6**
UPM Unac-Piva 61.47 49⇑*i*P **P 16 09 58.4 -0.5**
TPAW Teton Pass 61.50 311 IAmb IAmb 16 10 12.4
comp=Z,66nm,1.1s
TPAW IAMs_20 IAMs_20 16 33 36.9
comp=Z,10μm,20.0s
CSKK Cskako 61.53 44 *e*P **P 16 09 57.7 -1.3**
AHID Auburn Hatcher 61.54 311 IAmb IAmb 16 10 10.1
comp=Z,61nm,1.3s
FXWY Fox Creek 61.57 312 IAmb IAmb 16 10 10.5
comp=Z,35nm,1.1s
DRME Dracevica, Mon 61.58 50⇑*i*P **P 16 09 59.1 -0.3**
DRME Dracevica, Mon 61.58 50⇑*i*P **P 16 09 58.6 -0.8**
HAPS Han Pijesak,Bl 61.59 48⇑*i*P **P 16 09 59.1 -0.5**
ULC Ulcinj 61.61 50⇑*i*P **P 16 09 58.9 -0.7**
MORH Mrgy, Hungar 61.63 45⇑P **P 16 09 58.6 -1.1**
MORH Mrgy, Hungar 61.63 45 *e*P **P 16 09 58.2 -1.4**
MORH Mrgy, Hungar 61.63 45⇑*i*P **P 16 09 58.5 -1.1**
SRO Srobarova 61.63 44 *e*P **P 16 09 59.1 -0.5**
PDG Podgorica 61.65 50 ⇓P **P 16 09 59.3 -0.5**
PDG Podgorica 61.65 50⇑*i*P **P 16 09 59.4 -0.5**
PDG Podgorica 61.65 50 IAMs_20 IAMs_20 16 36 28.3
comp=Z,6μm,18.0s
PDG Podgorica 61.65 50⇑P **P 16 09 59.4 -0.5**
TTG Podgorica 61.65 50⇑*i*P **P 16 09 59.3 -0.5**
SRO2 Moca 61.68 44 *e*P **P 16 09 58.6 -1.3**
VLO Vlora 61.68 52 IAMs_20 IAMs_20 16 35 31.9
comp=Z,7μm,20.0s
KOLL Kolacno 61.81 43 *e*P **P 16 09 59.5 -1.3**
PLE Pljevlja 61.83 49⇑*i*P **P 16 10 00.5 -0.8**
LL05 Los Muermos 61.85 203 P **P 16 10 01.5 +0.5**
RUDO Rudo 61.85 48⇑*i*P **P 16 09 59.6 -1.6**
OKC Ostrava-Krasne 61.85 41 *e*P **P 16 09 59.8 -1.3**
OKC *e*S **S 16 18 25.9 +1.2**
OKC MLR MLR
comp=Z,7μm,17.6s
OKC Ostrava-Krasne 61.85 41 *e*P **P 16 09 59.8 -1.3**
OKC *e*S **S 16 18 25.9 +1.2**
OKC AMS AMS 16 36 50.0
comp=Z,7μm,17.6s
CTU Camp Tracy 61.86 308 IAmb IAmb 16 10 24.4
comp=Z,41nm,1.2s
KEK Kerkira 61.87 53 P **P 16 10 00.8 -0.6**
KEK Kerkira 61.87 53⇑P **P 16 10 00.9 -0.6**
KOME Kolasin 61.88 49⇑*i*P **P 16 10 01.4 -0.2**
BBLS Lazići 61.90 48⇑*i*P **P 16 10 01.1 -0.5**
GKP Gorka Klasztor 61.96 37 *e*P **P 16 10 03.3 +1.5**
GKP *e*L L 16 38 03.4
comp=Z,6μm,17.3s
TIR Tirane 62.02 51 ⇓P **P 16 10 01.7 -0.7**
TIR Tirane 62.02 51 P **P 16 10 02.5 +0.1**
SRN Sarande 62.03 53 P **P 16 10 01.9 -0.6**
TEKS Tekeris 62.06 47 *e*P **P 16 10 03.0 +0.4**
MTPU Mount Pierson 62.06 305 IAmb IAmb 16 10 18.6
comp=Z,58nm,1.3s
NLU North Lily Min 62.06 307 IAmb IAmb 16 10 14.5
comp=Z,47nm,1.4s
BUD Budapest 62.06 44 *e*P **P 16 10 02.5 0.0**
VYHS Vyhne 62.08 43 *e*P **P 16 10 01.7 -1.0**
VYHS *e*L L 16 34 53.5
IVA Berane 62.16 49⇑*i*P **P 16 10 02.9 -0.5**
PVY Plav 62.19 50⇑*i*P **P 16 10 03.4 -0.2**
BOZ Bozeman (W) 62.21 314 IAMs_20 IAMs_20 16 34 57.6
comp=Z,7μm,19.0s
BOZ Bozeman (W) 62.21 314 P **P 16 10 02.3 -1.5**
baz=96
BOZ S **S 16 18 32.7 +2.9**
baz=96
NEEM North Greenlan 62.24 359 *i* P **P 16 10 04.6 +0.9**
NEEM IAMs_20 IAMs_20 16 32 39.9
comp=Z,5μm,18.2s
IGT Igoumenitsa 62.27 53 P **P 16 10 03.3 -0.8**
TCRU Three Creeks R 62.29 306 IAmb IAmb 16 10 22.3
comp=Z,56nm,1.2s
KEF4 Livadi, Kephal 62.29 55 P **P 16 10 03.6 -0.6**
FRGS Fruska Gora 62.32 47⇑P **P 16 10 03.5 -0.9**
FRGS Fruska Gora 62.32 47⇑*i*P **P 16 10 03.4 -0.9**
DIVS Divibare 62.34 48⇑*i*P **P 16 10 04.0 -0.6**
DIVS Divibare 62.34 48⇑P **P 16 10 04.2 -0.5**
FSK Fiskardo 62.40 54 P **P 16 10 03.4 -1.6**
TULEG Thule 62.42 354 *e*P **P 16 10 06.3 +1.9**
TULEG IAmb IAmb 16 10 16.8
comp=Z,130nm,1.4s
VLMS Volimes, Zakyn 62.46 55 P **P 16 10 03.5 -2.0**
PHP Peshkopia 62.48 51 P **P 16 10 05.0 -0.5**
EVGI Lefkada island 62.48 54 P **P 16 10 04.5 -1.0**
LKD2 Lefkada island 62.49 54 P **P 16 10 04.7 -0.9**
LSK Leskovik 62.51 52 P **P 16 10 04.4 -1.4**
KNB Kanab 62.53 304 IAmb IAmb 16 10 17.4
comp=Z,34nm,1.0s
214A Organ Pipe Nat 62.54 298 IAmb IAmb 16 10 12.6
comp=Z,27nm,0.9s
214A Organ Pipe Nat 62.54 298 P **P 16 10 04.7 -1.3**
baz=89,SNR=22
214A S **S 16 18 36.4 +2.3**
baz=89
LANS Liptovska Anna 62.59 42 *e*P **P 16 10 08.0 +1.9**
DUG Dugway, Tooele 62.64 308 IAmb IAmb 16 10 22.3
comp=Z,62nm,1.4s
DUG Dugway, Tooele 62.64 308 P **P 16 10 04.7 -2.0**
baz=93,SNR=27
DUG S **S 16 18 37.0 +1.7**
baz=93
Y14A Wickenburg 62.67 301 IAMs_20 IAMs_20 16 34 43.2
comp=Z,10μm,20.0s
KBN Korca 62.67 52 P **P 16 10 06.9 0.0**
JAN Janina 62.68 53 P **P 16 10 06.7 -0.2**
HVU Hansel Valley 62.70 309 IAmb IAmb 16 10 20.4
comp=Z,33nm,1.2s
PSZ Piszkesteto 62.70 44 ⇓P **P 16 10 06.0 -0.9**
PSZ Piszkesteto 62.70 44 *e*P **P 16 10 05.9 -1.0**
PSZ Piszkesteto 62.70 44 IAmb IAmb 16 10 10.0
comp=Z,63nm,1.3s
PSZ IAMs_20 IAMs_20 16 34 10.8
comp=Z,6μm,20.0s
PSZ Piszkesteto 62.70 44⇑P **P 16 10 06.0 -0.9**
OHR Ohrid 62.71 51 *i* P **P 16 10 08.7 +1.6**
OHR *i* S **S 16 18 36.7 +0.7**
SZCU Shurtz Canyon 62.76 305 IAmb IAmb 16 10 27.0
comp=Z,56nm,1.3s
NSS Namsos 62.79 24 *e*P **P 16 10 08.0 +0.9**
LL02 Futaleuf 62.81 201 IAmb IAmb 16 10 16.6
comp=Z,34nm,1.2s
NEST Nestorio 62.86 52 P **P 16 10 08.2 0.0**
OJC Ojcow 62.96 41 *e*P **P 16 10 08.1 -0.4**
OJC *e*S **S 16 18 42.3 +3.5**
OJC *e*L L 16 34 00.3
comp=Z,5μm,21.0s
OJC Ojcow 62.96 41⇑P **P 16 10 08.1 -0.4**
CCUT Cedar City 62.98 305 IAmb IAmb 16 10 27.5
comp=Z,61nm,1.1s
AMBH Ambrzfalva 63.08 46 *e*P **P 16 10 09.1 -0.3**
KPRO Kipourio 63.08 53 P **P 16 10 09.6 0.0**
RLS Riolos of Patr 63.10 55 P **P 16 10 08.5 -1.2**
DAG Danmarks Havn 63.12 7 *i* P **P 16 10 08.2 -0.9**
DAG IAmb IAmb 16 10 13.4
comp=Z,60nm,1.3s
DAG IAMs_20 IAMs_20 16 36 57.1
comp=Z,3μm,15.1s
DAG Danmarks Havn 63.12 7⇑P **P 16 10 09.8 +0.6**
FNA Florina 63.13 52 P **P 16 10 08.9 -1.0**
FNA Florina 63.13 52 IAmb IAmb 16 10 35.8
comp=Z,49nm,1.1s
FNA Florina 63.13 52⇑P **P 16 10 09.3 -0.6**
KECS Kecovo 63.17 43 *e*P **P 16 10 10.9 +1.0**
NIE Niedzica 63.17 42 *e*P **P 16 10 10.9 +0.9**
NIE *e*S **S 16 18 47.1 +5.7**
NIE *e*L L 16 35 14.9
comp=Z,7μm,20.6s
SKO Skopje 63.24 50 *i* P **P 16 10 09.9 -0.6**
SKO *i* S **S 16 18 43.7 +1.2**
SKO *i* S S 16 18 48.7 +6.3
DRO Drossia 63.29 55 P **P 16 10 10.6 -0.4**
W13A Hualapai Mount 63.38 302 IAMs_20 IAMs_20 16 34 57.1
comp=Z,10μm,22.0s
PSUT Pine Spring 63.39 306 IAmb IAmb 16 10 30.2
comp=Z,33nm,0.9s
EVR Evrytania 63.39 54 P **P 16 10 11.5 -0.2**
KZN Kozani 63.41 52 P **P 16 10 11.0 -0.8**
ITM Ithomi 63.45 56 P **P 16 10 11.1 -1.0**
ITM Ithomi 63.45 56 IAMs_20 IAMs_20 16 37 42.9
comp=Z,6μm,20.0s
ITM Ithomi 63.45 56⇑P **P 16 10 11.3 -0.8**
EFP Efpalio 63.46 54 P **P 16 10 11.6 -0.4**
ANX Ano Chora 63.47 54 P **P 16 10 12.0 -0.3**
LAKA Lakka 63.51 55 P **P 16 10 11.1 -1.3**
BOVS Bovan 63.54 49⇑P **P 16 10 11.3 -1.1**
THL Klokotos Trika 63.57 53 P **P 16 10 11.4 -1.3**
SERG Sergoula 63.58 54 P **P 16 10 12.4 -0.4**
TRIZ Trizonia 63.59 55 P **P 16 10 12.5 -0.4**
PDMCI Parker Dam,Lak 63.60 301 P **P 16 10 13.3 +0.2**
baz=89,SNR=12
PDMCI S **S 16 18 48.7 +1.4**
baz=89
MDVR Moldovita 63.63 47⇑P **P 16 10 12.1 -1.1**
BZS Buzias 63.63 46 ⇓P **P 16 10 12.6 -0.5**
KLV Kalavryta, Ach 63.64 55 P **P 16 10 12.8 -0.5**
SIRR Siria 63.72 46⇑P **P 16 10 13.0 -0.6**
SPR3 Spring Creek 3 63.77 306 IAmb IAmb 16 10 30.4
comp=Z,67nm,1.2s
SPR3 IAMs_20 IAMs_20 16 36 16.2
comp=Z,8μm,20.0s
STIP Stip 63.78 51⇑*i*P **P 16 10 14.3 +0.1**
AGG Agios Georgios 63.80 54 P **P 16 10 13.4 -0.9**
AGG Agios Georgios 63.80 54⇑P **P 16 10 14.0 -0.3**
CRVS Cervenica-Dubn 63.86 43 *e*P **P 16 10 14.5 0.0**
CRVS *e*S **S 16 18 55.6 +5.6**
CRVS *e*L L 16 35 50.1
GRG Griva 63.91 52 P **P 16 10 14.2 -0.8**
MSO Missoula 63.94 315 IAMs_20 IAMs_20 16 35 26.2
comp=Z,9μm,20.0s
MSO Missoula 63.94 315 P **P 16 10 14.2 -1.0**
baz=95
MSO S **S 16 18 50.8 -0.4**
baz=95
KLNR Kaliningrad 63.95 36*de*P **P 16 10 15.5 +0.6**
LTVH Ltavrtes, Hu 63.99 44⇑P **P 16 10 15.3 -0.1**
NEE2 Needles Airpor 63.99 301 P **P 16 10 15.2 -0.4**
baz=89
NEE2 S **S 16 18 54.9 +2.9**
baz=89
KONS Konsvik 64.00 23 *e*P **P 16 10 15.8 +0.7**
HLID Hailey 64.02 311 P **P 16 10 15.0 -0.9**
baz=93,SNR=30
HLID S **S 16 18 55.8 +3.3**
baz=93
THAL Thalero 64.05 55 P **P 16 10 14.5 -1.4**
VAY Valandovo 64.06 51 *i* P **P 16 10 15.3 -0.6**
VAY *i* S **S 16 18 52.0 -0.6**
HERR Herculane 64.14 47⇑P **P 16 10 15.8 -0.5**
WALA Waterton Lakes 64.15 317 IAmb IAmb 16 10 29.9
comp=Z,30nm,1.2s
DJES Djerdap 64.19 48⇑P **P 16 10 17.0 +0.2**
GLA Glamis 64.21 300 IAmb IAmb 16 10 41.0
comp=Z,41nm,1.4s
GLA IAMs_20 IAMs_20 16 37 02.0
comp=Z,6μm,19.0s
GLA Glamis 64.21 300 P **P 16 10 16.4 -0.7**
baz=88
GLA S **S 16 18 59.3 +4.4**
baz=88
JTMT Jette 64.25 316 IAmb IAmb 16 10 30.4
comp=Z,46nm,1.1s
VLI Veliai 64.26 56 P **P 16 10 16.7 -0.7**
KNT Kendrikon 64.30 51 P **P 16 10 17.0 -0.5**
LKR Lokris 64.32 54 P **P 16 10 16.4 -1.3**
PRN Pahroc Range 64.32 304 IAmb IAmb 16 10 41.5
comp=Z,58nm,1.1s
PRN IAMs_20 IAMs_20 16 38 50.8
comp=Z,6μm,20.0s
PRN Pahroc Range 64.32 304⇑P **P 16 10 19.4 +1.5**
THE Thessaloniki 64.33 52 P **P 16 10 16.4 -1.3**
KTHA Kythira Island 64.37 57 P **P 16 10 17.4 -0.7**
MOR8 Moi Rana 64.38 23 *e*P **P 16 10 17.8 +0.2**
UZH Uzhgorod 64.38 43⇑*i*P **P 16 10 17.6 -0.3**
UZH *i* 16 10 23.3
UZH *e* 16 10 48.7
UZH *e* 16 12 39.3
UZH *e*PPP PPP 16 14 06.7
UZH *i* S **S 16 18 52.7 -3.6**
UZH *i* SP **SPn 16 19 14.4 +2.4**
KOLS Kolonicke sedl 64.40 43 *e*P **P 16 10 19.0 +1.0**
KOLS *e*S **S 16 18 58.3 +1.7**
KOLS *e*SS **SS 16 23 03.8 -2.6**
KOLS *e*L L 16 36 08.6
GZR Gura Zlata 64.43 47⇑P **P 16 10 17.7 -0.7**
KRND KRANIDI 64.43 56 P **P 16 10 17.0 -1.4**
HORT Hortiatis 64.43 52 P **P 16 10 17.3 -1.2**
IRM Iron Mountain 64.44 301 P **P 16 10 18.3 -0.3**
baz=88,SNR=22
IRM S **S 16 19 00.1 +2.4**
baz=88
PUNG Punghina 64.47 48⇑P **P 16 10 17.8 -0.8**
XOR Xorichti 64.48 53 P **P 16 10 16.8 -2.0**
DRGR 64.49 45⇑P **P 16 10 18.3 -0.4**
TRPA Tarpa 64.49 44⇑P **P 16 10 17.2 -1.0**
TRPA Tarpa 64.49 44 *e*P **P 16 10 17.2 -1.5**
NEO Neokhori 64.50 53 P **P 16 10 17.1 -1.8**
DEV Deva 64.55 46⇑P **P 16 10 18.4 -0.7**
VILL Villia 64.56 55 P **P 16 10 18.1 -1.3**
ANKY Antikythira Is 64.56 57 P **P 16 10 20.1 +0.7**
VTS Vitosha 64.60 50⇑P **P 16 10 18.3 -1.4**
VTS Vitosha 64.60 50 IAmb IAmb 16 10 31.8
comp=Z,53nm,1.2s
VTS Vitosha 64.60 50⇑P **P 16 10 19.3 -0.4**
SOH Sokhos 64.63 52 P **P 16 10 19.2 -0.6**
SRE Strehaia 64.68 48 ⇓P **P 16 10 19.3 -0.7**
BC3 Big Chuckawall 64.71 300 P **P 16 10 20.3 -0.2**
baz=88,SNR=9.4
BC3 S **S 16 19 04.1 +2.9**
baz=88
R11A Troy Canyon, C 64.74 305 IAMs_20 IAMs_20 16 37 36.0
comp=Z,6μm,20.0s
R11A Troy Canyon, C 64.74 305 P **P 16 10 20.1 -0.6**
baz=90
R11A S **S 16 19 04.3 +2.7**
baz=90
KWP Kalwaria Pacla 64.75 42 *e*P **P 16 10 20.6 +0.2**
KWP *e*S **S 16 19 06.9 +5.9**
KWP *e*L L 16 34 48.3
comp=Z,8μm,22.9s
KWP Kalwaria Pacla 64.75 42⇑P **P 16 10 20.4 0.0**
LOF Lofoten 64.80 21 *e*P **P 16 10 19.5 -0.7**
SRS Serrai 64.82 51 P **P 16 10 20.4 -0.5**
COYC Coyhaique 65.00 200 P **P 16 10 22.0 +0.3**
COYC IAmb IAmb 16 10 31.1
comp=Z,34nm,1.0s
NVR Nevrokopi 65.03 51 P **P 16 10 22.0 -0.3**
SWSC Sam W. Stewart 65.03 299 P **P 16 10 22.0 -0.5**
baz=88
SWSC S **S 16 19 11.4 +6.5**
baz=88
MFID Camas Ranch 65.04 311 IAmb IAmb 16 10 33.6
comp=Z,61nm,1.2s
TUQ Turquoise Moun 65.05 302 P **P 16 10 22.5 -0.2**
baz=89,SNR=14
TUQ S **S 16 19 07.8 +2.4**
baz=89
CJR Cluj-Napoca 65.09 45 ⇓P **P 16 10 21.9 -0.7**

OUR	**Ouranopolis**	65.10	52	P		**P**		**16 10 21.5**	**-1.2**
FAUS	**Fauske**	65.13	22	*e*P		**P**		**16 10 23.7**	**+1.3**
BELC	**Belle Mtn. Jos**	65.15	301	P		**P**		**16 10 22.3**	**-1.1**
	baz=88,SNR=18								
BELC				S		**S**		**16 19 10.7**	**+4.0**
	baz=88								
TPNV	**Topopah Spring**	65.28	304	IAmb		IAmb		16 10 44.2	
	comp=Z,30nm,1.1s								
TPNV	**Topopah Spring**	65.28	304	⇑P		**P**		**16 10 25.5**	**+1.3**
TPNV	**Topopah Spring**	65.28	304	P		**P**		**16 10 24.2**	**0.0**
	baz=89,SNR=22								
TPNV				S		**S**		**16 19 13.7**	**+5.5**
	baz=89								
IKP	**In-Ko-Pah, Jac**	65.30	299	P		**P**		**16 10 22.7**	**-1.6**
	baz=87								
IKP				S		**S**		**16 19 11.7**	**+3.2**
	baz=87								
STEI	**Steigen**	65.31	21	*e*P		**P**		**16 10 23.2**	**-0.3**
SHOC	**Shoshone, Teco**	65.32	303	P		**P**		**16 10 23.4**	**-0.9**
	baz=89								
SHOC				S		**S**		**16 19 11.8**	**+3.3**
	baz=89								
HEC	**Hector,Ludlow**	65.40	302	P		**P**		**16 10 24.0**	**-1.0**
	baz=88								
HEC				S		**S**		**16 19 14.5**	**+4.9**
	baz=88								
KAVA	**Kavala**	65.51	52	P		**P**		**16 10 24.8**	**-0.6**
TPFO	**Pinon Flats**	65.55	300	P		**P**		**16 10 25.7**	**-0.2**
	baz=88,SNR=8.8								
TPFO				S		**S**		**16 19 17.0**	**+5.4**
	baz=88								
PFO	**Pinyon Flats O**	65.55	300	⇓*e*P		**P**		**16 10 26.6**	**+0.6**
PFO				pmax		pmax			
	comp=Z,13nm,0.9s								
PFO	**Pinyon Flats O**	65.55	300	P		**P**		**16 10 26.5**	**+0.5**
PFO	**Pinyon Flats O**	65.55	300	IAMs_20		IAMs_20		16 36 29.5	
	comp=Z,6µm,21.0s								
PFO	**Pinyon Flats O**	65.55	300	P		**P**		**16 10 26.0**	**0.0**
	baz=88,SNR=12								
PFO				S		**S**		**16 19 15.5**	**+3.9**
	baz=88								
MONP2	**Monument Peak**	65.55	299	P		**P**		**16 10 25.8**	**-0.3**
	baz=87,SNR=10								
MONP2				S		**S**		**16 19 16.3**	**+4.5**
	baz=87								
SUW	**Suwalki**	65.57	37	*e*P		**P**		**16 10 26.2**	**+0.6**
SUW				*e*S		**S**		**16 19 11.7**	**+0.8**
SUW				*e*L		L		16 35 54.0	
	comp=Z,7µm,20.9s								
SUW	**Suwalki**	65.57	37	*e*P		**P**		**16 10 25.6**	**+0.1**
SUW	**Suwalki**	65.57	37	IAMs_20		IAMs_20		16 36 54.6	
	comp=Z,8µm,19.0s								
LVV	**L'vov**	65.63	42	*e*P		**P**		**16 10 25.0**	**-1.0**
LVV				*e*S		**S**		**16 19 06.0**	**-5.7**
LVV				MLR		MLR			
	comp=Z,1µm,16.0s								
ARCR	**ARCALIA**	65.63	45	⇓P		**P**		**16 10 25.1**	**-1.0**
GWY	**Greenwater Val**	65.63	303	IAmb		IAmb		16 10 50.1	
	comp=Z,43nm,1.1s								
THAS	**Thassos island**	65.67	52	P		**P**		**16 10 25.4**	**-1.0**
ARR	**Arges**	65.73	47	⇓P		**P**		**16 10 26.2**	**-0.7**
GSC	**Goldstone, Bar**	65.77	302	IAmb		IAmb		16 10 33.7	
	comp=Z,40nm,0.9s								
GSC				IAMs_20		IAMs_20		16 36 21.3	
	comp=Z,9µm,22.0s								
GSC	**Goldstone, Bar**	65.77	302	P		**P**		**16 10 27.2**	**-0.1**
	baz=88,SNR=17								
GSC				S		**S**		**16 19 16.9**	**+2.8**
	baz=88								
BAR	**Barrett**	65.78	299	P		**P**		**16 10 27.1**	**-0.2**
FURC	**Furnace Creek,**	65.78	303	P		**P**		**16 10 26.6**	**-0.6**
	baz=88								
FURC				S		**S**		**16 19 19.2**	**+5.2**
	baz=88								
IDI	**Anoyia**	65.87	58	P		**P**		**16 10 26.5**	**-1.5**
BBRC	**Big Bear Solar**	65.91	301	P		**P**		**16 10 26.8**	**-1.6**
	baz=88								
BBRC				S		**S**		**16 19 21.5**	**+5.4**
	baz=88								
HUMR	**Humele**	65.94	48	⇑P		**P**		**16 10 27.5**	**-0.6**
RRX	**Edison Barstow**	65.94	302	P		**P**		**16 10 27.5**	**-0.9**
	baz=88								
RRX				S		**S**		**16 19 18.8**	**+2.6**
	baz=88								
BMN	**Battle Mountai**	66.02	308	IAmb		IAmb		16 10 43.3	
	comp=Z,45nm,1.2s								
VOIR		66.03	47	⇓P		**P**		**16 10 27.5**	**-1.3**
109C	**Camp Elliot, M**	66.13	299	P		**P**		**16 10 28.2**	**-1.3**
	baz=87								
109C				S		**S**		**16 19 19.2**	**+0.9**
	baz=87								
F10A	**Beach Ranch, E**	66.14	314	IAMs_20		IAMs_20		16 37 06.7	
	comp=Z,7µm,20.0s								
F10A	**Beach Ranch, E**	66.14	314	⇓P		**P**		**16 10 29.9**	**+0.4**
MURC	**Murrieta**	66.17	300	P		**P**		**16 10 28.9**	**-0.9**
	baz=87								
MURC				S		**S**		**16 19 22.4**	**+3.5**
	baz=87								
GRAC	**Grapevine Rang**	66.17	304	P		**P**		**16 10 28.3**	**-1.5**
	baz=88								
GRAC				S		**S**		**16 19 19.5**	**+0.6**
	baz=88								
NEW	**Newport**	66.20	316	IAMs_20		IAMs_20		16 36 43.9	
	comp=Z,8µm,20.0s								
NEW	**Newport**	66.20	316	P		**P**		**16 10 28.7**	**-1.1**
	baz=94								
NEW				S		**S**		**16 19 18.1**	**-0.7**
	baz=94								
PABE	**Paberze**	66.22	36	*e*P		**P**		**16 10 29.8**	**+0.1**
PABE	**Paberze**	66.22	36	IAMs_20		IAMs_20		16 39 29.9	
	comp=Z,7µm,18.0s								
BUR08	**Bucovina Ar. S**	66.24	44	IAmb		IAmb		16 10 50.6	
	comp=Z,65nm,1.3s								
BURAR	**Bucovina Array**	66.25	44	⇑P		**P**		**16 10 29.7**	**-0.5**
SMTH	**Samothraki Isl**	66.28	52	P		**P**		**16 10 28.9**	**-1.5**
DOPR	**Dopca**	66.29	46	⇓P		**P**		**16 10 29.8**	**-0.6**
RDO	**Rodhopi**	66.29	51	P		**P**		**16 10 29.9**	**-0.5**
RDO	**Rodhopi**	66.29	51	⇑P		**P**		**16 10 29.9**	**-0.5**
SANT	**Santorini**	66.30	57	⇑P		**P**		**16 10 28.5**	**-2.1**
MPMC	**Manual Prospec**	66.30	303	P		**P**		**16 10 30.0**	**-0.9**
	baz=88								
MPMC				S		**S**		**16 19 23.3**	**+2.5**
	baz=88								
LCH	**Last Change Ra**	66.39	304	IAMs_20		IAMs_20		16 39 10.6	
	comp=Z,5µm,21.0s								
LRMC	**Laurel Mtn Rad**	66.48	302	P		**P**		**16 10 30.1**	**-1.9**
	baz=88								
LRMC				S		**S**		**16 19 26.7**	**+3.8**
	baz=88								
BFSC	**Mount Baldy Ra**	66.52	301	P		**P**		**16 10 31.8**	**-0.4**
	baz=87,SNR=13								
BFSC				S		**S**		**16 19 26.2**	**+2.8**
	baz=87								
OZUR		66.57	46	⇓P		**P**		**16 10 31.2**	**-1.0**
MTSE	**Matsula**	66.62	32	*e*P		**P**		**16 10 33.2**	**+1.1**
SGRR	**Singureni**	66.65	48	⇑P		**P**		**16 10 31.9**	**-0.8**
MLR	**Muntele Rosu**	66.66	47	⇑P		**P**		**16 10 32.3**	**-0.5**
ALN	**Alexandroupoli**	66.67	52	P		**P**		**16 10 31.9**	**-1.0**
KVN	**Kaiserville**	66.70	306	IAMs_20		IAMs_20		16 38 28.9	
	comp=Z,7µm,20.0s								
YKA	**Yellowknife Ar**	66.71	332	P		**P**		**16 10 32.2**	**-0.5**
	comp=Z,17nm,1.0s,baz=105,slow=8.0,SNR=12								
YKA				LR		LR		16 37 41.7	
	comp=Z,10µm,19.4s,baz=0.0,slow=34								
YKA	**Yellowknife Ar**	66.71	332	*ce*P		**P**		**16 10 34.9**	**+2.2**
YKA				pmax		pmax			
	comp=Z,17nm,1.0s								
ENEZ	**Enez**	66.76	52	P		**P**		**16 10 31.8**	**-1.6**
EDW2	**Edwards Air Fo**	66.76	302	P		**P**		**16 10 32.5**	**-1.2**
	baz=87								
EDW2				S		**S**		**16 19 30.0**	**+3.8**
	baz=87								
CWC	**Cottonwood Cre**	66.76	303	P		**P**		**16 10 32.7**	**-1.1**
	baz=88								
CWC				S		**S**		**16 19 31.4**	**+5.1**
	baz=88								
E09A	**Wood Farm, Sta**	66.80	314	IAMs_20		IAMs_20		16 41 46.1	
	comp=Z,7µm,18.0s								
BIZ	**Bicaz**	66.82	45	⇑P		**P**		**16 10 32.9**	**-0.8**
MWC	**Mount Wilson**	66.85	301	IAmb		IAmb		16 10 53.5	
	comp=Z,44nm,1.2s								
COVR	**Voineasa-Covas**	66.85	46	⇑P		**P**		**16 10 33.4**	**-0.6**
TIN	**Tinemaha, Big**	66.86	304	P		**P**		**16 10 33.7**	**-0.6**
	baz=88								
TIN				S		**S**		**16 19 32.8**	**+5.4**
	baz=88								
PRK	**Paraskevi**	66.87	54	P		**P**		**16 10 34.3**	**+0.2**
NVAR	**Mina Array Bea**	66.88	306	P		**P**		**16 10 34.9**	**+0.4**
	comp=Z,7.2nm,0.9s,baz=86,slow=5.8,SNR=19								
NVAR				LR		LR		16 38 32.0	
	comp=Z,4µm,19.6s,baz=107,slow=35								
NVAR				PKP2ab				16 39 07.5	
	comp=Z,0.9nm,1.0s,baz=264,slow=6.1,SNR=5.1								
EZN	**Ezine**	66.90	53	P		**P**		**16 10 33.2**	**-1.1**
C09A	**Chrisman Ranch**	66.94	316	IAmb		IAmb		16 10 47.1	
	comp=Z,24nm,0.9s								
PASC	**Pasadena Art C**	66.96	301	IAMs_20		IAMs_20		16 37 25.8	
	comp=Z,9µm,21.0s								
J08A	**Circle Bar Ran**	66.97	311	IAmb		IAmb		16 10 45.9	
	comp=Z,37nm,1.2s								
LHV	**Little Huntoon**	67.04	305	IAmb		IAmb		16 10 54.7	
	comp=Z,36nm,1.2s								
LHV				IAMs_20		IAMs_20		16 39 08.8	
	comp=Z,5µm,20.0s								
ISR	**Istrita**	67.07	47	⇓P		**P**		**16 10 34.2**	**-1.3**
FMP	**Fort Macarthur**	67.07	300	P		**P**		**16 10 35.9**	**+0.3**
	baz=86								
FMP				S		**S**		**16 19 37.2**	**+7.4**
	baz=86								
DECC	**Green Verdugo**	67.08	301	P		**P**		**16 10 34.7**	**-0.9**
	baz=87								
DECC				S		**S**		**16 19 32.7**	**+2.8**
	baz=87								
WVOR	**Wild Horse Val**	67.08	310	IAMs_20		IAMs_20		16 37 21.6	
	comp=Z,9µm,20.0s								
WVOR	**Wild Horse Val**	67.08	310	⇑P		**P**		**16 10 36.5**	**+0.8**
ISA	**Isabella, Lake**	67.12	303	IAmb		IAmb		16 10 59.4	
	comp=Z,56nm,1.1s								
ISA	**Isabella, Lake**	67.12	303	P		**P**		**16 10 36.0**	**+0.1**
	baz=87								
ISA				S		**S**		**16 19 35.9**	**+5.5**
	baz=87								
MEF	**Metsahovi**	67.15	31	*e*P		**P**		**16 10 37.6**	**+2.0**
TRO	**Tromso**	67.16	20	*e*P		**P**		**16 10 34.9**	**-0.5**
PLOR	**Plostina**	67.16	46	⇑P		**P**		**16 10 35.2**	**-0.7**
TESR	**Tescani**	67.18	46	⇓P		**P**		**16 10 35.2**	**-0.8**
CIS	**Catalina Islan**	67.19	300	P		**P**		**16 10 35.7**	**-0.7**
	baz=86								
CIS				S		**S**		**16 19 36.4**	**+5.1**
	baz=86								
EDRB	**Edirne**	67.19	51	P		**P**		**16 10 35.1**	**-1.1**
BISRR	**Bisoca**	67.20	47	⇑P		**P**		**16 10 35.8**	**-0.5**
VRI	**Vrincioaia**	67.22	46	⇑P		**P**		**16 10 35.6**	**-0.7**
EUNU	**Eureka**	67.32	353	⇑P		**P**		**16 10 37.9**	**+1.4**
MLAC	**Mammoth, Mammo**	67.32	305	P		**P**		**16 10 37.5**	**+0.1**
	baz=88								
SCI2	**San Clemente I**	67.33	300	P		**P**		**16 10 36.3**	**-0.9**
	baz=86								
SCI2				S		**S**		**16 19 35.8**	**+2.9**
	baz=86								
G08A	**Pilot Rock**	67.34	313	IAMs_20		IAMs_20		16 38 11.3	
	comp=Z,6µm,20.0s								
D08A	**Wollman Farm,**	67.35	315	IAmb		IAmb		16 10 50.2	
	comp=Z,40nm,1.1s								
D08A				IAMs_20		IAMs_20		16 36 49.6	
	comp=Z,9µm,21.0s								
OSI	**Osito Audit: C**	67.38	301	IAMs_20		IAMs_20		16 37 40.8	
	comp=Z,8µm,21.0s								
OSI	**Osito Audit: C**	67.38	301	P		**P**		**16 10 37.0**	**-0.6**
	baz=87								
OSI				S		**S**		**16 19 39.1**	**+5.5**
	baz=87								
ARVC	**Arvin**	67.43	302	P		**P**		**16 10 37.2**	**-0.7**
	baz=87								
ARVC				S		**S**		**16 19 40.2**	**+6.0**
	baz=87								
E08A	**Dider Farm, El**	67.43	314	IAmb		IAmb		16 11 06.3	
	comp=Z,70nm,1.4s								
E08A				IAMs_20		IAMs_20		16 42 13.8	
	comp=Z,6µm,18.0s								
ISAL	**Salakas**	67.45	36	*e*P		**P**		**16 10 38.1**	**+0.6**
IIGN	**Ignalina**	67.48	36	*e*P		**P**		**16 10 38.4**	**+0.6**
EFI	**East Falkland**	67.48	188	⇓*e*P		**P**		**16 10 38.1**	**+0.5**
EFI				pmax		pmax			
	comp=Z,68nm,1.0s								
BLCB	**Balcova**	67.49	54	P		**P**		**16 10 37.1**	**-1.0**
NOR	**Nord**	67.50	4	*i* P		**P**		**16 10 38.0**	**+0.5**
NOR				IAmb		IAmb		16 10 49.5	
	comp=Z,55nm,1.0s								
NOR				IAMs_20		IAMs_20		16 35 21.8	
	comp=Z,4µm,18.4s								
NOR	**Nord**	67.50	4	⇑P		**P**		**16 10 37.6**	**+0.1**
MDPB	**Devils Postpil**	67.52	305	IAmb		IAmb		16 11 02.5	
	comp=Z,38nm,1.1s								
YERR	**Yerington**	67.59	306	IAMs_20		IAMs_20		16 38 58.4	
	comp=Z,6µm,19.0s								
ALE	**Alert**	67.60	358	IAMs_20		IAMs_20		16 34 32.8	
	comp=Z,6µm,20.0s								
VES	**Vestal, Richgr**	67.60	303	P		**P**		**16 10 39.0**	**+0.1**
	baz=87								
JETT	**Jettan, Norway**	67.63	20	*e*P		**P**		**16 10 37.9**	**-0.6**
B08A	**Colville Reser**	67.67	316	IAmb		IAmb		16 11 09.0	
	comp=Z,40nm,1.5s								
I07A	**Izee**	67.72	312	IAMs_20		IAMs_20		16 37 05.4	
	comp=Z,7µm,21.0s								
KARP	**Karpathos**	67.72	58	P		**P**		**16 10 38.2**	**-1.4**
KARP	**Karpathos**	67.72	58	⇑P		**P**		**16 10 38.3**	**-1.4**
BODT	**Bodrum**	67.76	56	P		**P**		**16 10 37.8**	**-2.1**
HAWA	**Hanford**	67.76	314	IAmb		IAmb		16 10 53.7	
	comp=Z,48nm,1.2s								
HAWA				IAMs_20		IAMs_20		16 38 08.4	
	comp=Z,5µm,20.0s								
HAWA	**Hanford**	67.76	314	⇓P		**P**		**16 10 41.1**	**+1.4**
NACGM	**Naroch**	67.76	37	*i* P		**P**		**16 10 39.0**	**-0.5**
VOG	**Valley Oaks Go**	67.82	303	P		**P**		**16 10 39.6**	**-0.6**
	baz=87								
PNTR	**Pine Nut**	67.87	306	IAMs_20		IAMs_20		16 39 06.7	
	comp=Z,5µm,19.0s								
VCNR	**Virginia City**	67.90	307	IAMs_20		IAMs_20		16 38 11.6	
	comp=Z,5µm,20.0s								
ICOR	**Ion Corvin**	67.96	48	⇑P		**P**		**16 10 40.3**	**-0.7**
E07A	**Sunnyside**	67.98	314	IAmb		IAmb		16 10 54.5	
	comp=Z,51nm,1.1s								
E07A				IAMs_20		IAMs_20		16 37 42.3	
	comp=Z,8µm,21.0s								
DAT	**Datca**	67.99	56	P		**P**		**16 10 38.8**	**-2.7**
F07A	**Phinny Hill Vi**	68.03	314	IAmb		IAmb		16 11 11.8	
	comp=Z,35nm,1.2s								
F07A				IAMs_20		IAMs_20		16 39 32.5	
	comp=Z,8µm,20.0s								
HARR	**Harsova**	68.05	48	⇑P		**P**		**16 10 40.0**	**-1.5**
VSU	**Vasula**	68.10	33	*e*P		**P**		**16 10 42.7**	**+1.2**
VSU	**Vasula**	68.10	33	⇓*e*P		**P**		**16 10 40.0**	**-1.5**
VSU				pmax		pmax			
	comp=Z,250nm,1.4s								
VSU	**Vasula**	68.10	33	⇑P		**P**		**16 10 40.9**	**-0.7**
FINES	**FINESS Array B**	68.16	30	P		**P**		**16 10 40.3**	**-1.6**
	comp=Z,20nm,1.0s,baz=258,slow=3.9,SNR=19								
FINES				LR		LR		16 35 17.0	
	comp=Z,5µm,21.9s,baz=259,slow=31								
CFR	**Carcaliu**	68.20	47	⇑P		**P**		**16 10 40.9**	**-1.5**
SBC	**Santa Barbara**	68.20	301	P		**P**		**16 10 40.7**	**-2.0**
	baz=86								
SBC				S		**S**		**16 19 48.0**	**+4.7**
	baz=86								
PKM	**Mcpherson Peak**	68.25	302	P		**P**		**16 10 41.5**	**-1.7**
	baz=86								
PKM				S		**S**		**16 19 51.3**	**+6.9**
	baz=86								
RUBR	**Rubicon Trail**	68.30	306	IAMs_20		IAMs_20		16 39 22.2	
	comp=Z,6µm,19.0s								
MOD	**Modoc Plateau**	68.33	309	IAmb		IAmb		16 10 58.3	
	comp=Z,37nm,1.1s								
MNK	**Minsk**	68.37	37	*i* P		**P**		**16 10 41.4**	**-1.9**
MNK				*i*				16 11 03.5	
MNK				*i*				16 13 12.9	
MNK				*i* PPP		PPP		16 14 51.4	
MNK				*i* S		**S**		**16 19 43.1**	**-1.5**
MNK				*i*				16 20 40.8	
MNK				pmax		pmax			
	comp=N,15nm,0.9s								
MNK				pmax		pmax			
	comp=E,9.0nm,0.9s								
MNK				pmax		pmax			
	comp=Z,114nm,0.9s								
MNK				MLR		MLR			
	comp=Z,10µm,19.0s								
MNK				MLR		MLR			
	comp=E,1µm,19.0s								
MNK				MLR		MLR			
	comp=N,3µm,19.0s								
MNK	**Minsk**	68.37	37	*i* P		**P**		**16 10 41.4**	**-1.9**
	comp=E,9.0nm,0.9s								
MNK				*i* P		**P**		**16 10 41.4**	**-1.9**
	comp=N,15nm,0.9s								
MNK				*i* P		**P**		**16 10 41.4**	**-1.9**
	comp=Z,114nm,0.9s,baz=266								
MNK				*i* PcP		**PcP**		**16 11 03.5**	**-5.3**
MNK				*i* PP		**PP**		**16 13 12.9**	**-1.1**
MNK				*i* PPP		PPP		16 14 51.4	
MNK				*i* S		**S**		**16 19 43.1**	**-1.4**
MNK				*i* ScS		**SKSac**		**16 20 40.8**	**-1.5**
MNK				*i* SS		SS		16 23 53.1	-15
MNK				*i* SSS		SSS		16 27 23.4	
MNK				*i* LQ		LQ		16 32 17.8	
MNK				*i* LR		LR		16 34 43.5	
MNK				*i* LRM		MLR		16 41 14.1	
	comp=Z,10µm,18.7s								
MNK				*i* LRM		MLR		16 41 19.9	
	comp=E,1µm,18.7s								
MNK				*i* LRM		MLR		16 42 05.0	
	comp=N,3µm,19.0s								
SMMC	**Simmler**	68.38	302	P		**P**		**16 10 42.7**	**-1.2**
	baz=86								
SMMC				S		**S**		**16 19 51.3**	**+5.8**
	baz=86								
SORM	**Soroca**	68.38	44	⇓P		**P**		**16 10 42.0**	**-1.5**
TPGR	**Topolog**	68.40	47	⇑P		**P**		**16 10 42.0**	**-1.7**
BEKR	**Beckworth**	68.43	307	IAMs_20		IAMs_20		16 41 32.5	
	comp=Z,7µm,19.0s								
KTK1	**Kautokeino**	68.45	21	*e*P		**P**		**16 10 43.2**	**-0.4**
ARG	**Arkhangelos**	68.46	57	⇑P		**P**		**16 10 42.6**	**-1.7**
CMB	**Columbia Colle**	68.53	305	IAmb		IAmb		16 11 08.1	
	comp=Z,43nm,1.5s								
CMB				IAMs_20		IAMs_20		16 39 21.3	
	comp=Z,5µm,20.0s								
LTY	**Liberty**	68.55	315	IAMs_20		IAMs_20		16 40 19.2	
	comp=Z,8µm,19.0s								
MILM	**Milestii Mici**	68.67	45	⇑P		**P**		**16 10 44.0**	**-1.4**
KIS	**Kishinev**	68.68	45	*i* P		**P**		**16 10 43.0**	**-2.4**
	comp=Z,280nm,3.2s								
KIS	**Kishinev**	68.68	45	*e*PP		PP		16 13 18.0	+1.1
KIS				*e*S		**S**		**16 19 40.0**	**-8.6**
KIS	**Kishinev**	68.68	45	*e*P		**P**		**16 10 43.0**	**-2.4**
KIS				*e*				16 13 18.0	
KIS				*e*S		**S**		**16 19 40.0**	**-8.6**
KIS				pmax		pmax			
	comp=Z,280nm,3.2s								
C06D	**Leavenworth**	68.71	316	P		**P**		**16 10 44.1**	**-1.5**
	baz=91								
KULA	**Kula-Manisa**	68.76	54	P		**P**		**16 10 44.9**	**-1.3**
PINE	**Pine Mountain**	68.76	311	IAMs_20		IAMs_20		16 37 50.9	
	comp=Z,8µm,22.0s								
BJO1	**Bjornoya**	68.80	15	*e*P		**P**		**16 10 46.2**	**+0.6**
HSPB	**Hornsund (broa**	68.96	12	*e*P		**P**		**16 10 48.6**	**+1.9**
HSPB				*e*S		**S**		**16 19 57.5**	**+6.6**
HSPB				*e*L		L		16 32 42.4	
	comp=Z,7µm,25.0s								
PMPB	**Monarch Peak**	68.97	303	IAmb		IAmb		16 10 53.5	
	comp=Z,41nm,0.9s								
J05D	**Fort Rock, OR**	68.98	311	P		**P**		**16 10 46.2**	**-1.4**
	baz=89,SNR=8.2								
J05D				S		**S**		**16 19 56.5**	**+3.9**
	baz=89								
HAMF	**Hammerfest**	69.00	20	*e*P		**P**		**16 10 47.2**	**+0.3**
G05D	**Wamic, OR**	69.00	313	P		**P**		**16 10 46.2**	**-1.4**
	baz=89								
G05D				S		**S**		**16 19 55.9**	**+3.3**
	baz=89								
AKASG	**Malin Array Be**	69.00	41	P		**P**		**16 10 45.6**	**-1.8**
	comp=Z,30nm,1.0s,baz=271,slow=5.6,SNR=29								
AKASG				LR		LR		16 38 06.3	
	comp=Z,3µm,20.0s,baz=255,slow=34								
AKASG	**Malin Array Be**	69.00	41	IAmb		IAmb		16 10 55.3	
	comp=Z,44nm,1.5s								
AKBB	**Malin Array Si**	69.00	41	IAmb		IAmb		16 10 55.6	
	comp=Z,42nm,1.0s								
I05D	**Terrebonne, OR**	69.03	312	P		**P**		**16 10 46.5**	**-1.3**
	baz=89,SNR=7.7								
I05D				S		**S**		**16 19 56.8**	**+3.8**
	baz=89								
F05D	**White Salmon**	69.10	314	P		**P**		**16 10 46.9**	**-1.2**
	baz=89,SNR=13								
F05D				S		**S**		**16 19 56.5**	**+2.8**
	baz=89								
KBS	**Kingsbay**	69.16	10	*i* P		**P**		**16 10 49.9**	**+2.0**
KBS				IAmb		IAmb		16 10 54.2	
	comp=Z,259nm,1.1s								
KBS				IAMs_20		IAMs_20		16 40 43.0	
	comp=Z,4µm,17.5s								
KBS	**Kingsbay**	69.16	10	*ce*P		**P**		**16 10 49.8**	**+2.0**
KBS				pmax		pmax			
	comp=Z,85nm,1.1s								
KBS	**Kingsbay**	69.16	10	P		**P**		**16 10 48.7**	**+0.8**
ORV	**Oroville**	69.32	307	IAmb		IAmb		16 11 12.8	
	comp=Z,46nm,1.2s								
ORV				IAMs_20		IAMs_20		16 39 44.2	
	comp=Z,7µm,20.0s								
LON	**Longmire**	69.33	315	IAMs_20		IAMs_20		16 38 36.0	
	comp=Z,9µm,21.0s								
ARCES	**ARCESS Array B**	69.36	21	P		**P**		**16 10 48.3**	**-0.9**
	comp=Z,16nm,1.0s,baz=249,slow=3.7,SNR=23								

baz=88
F04D S **S** **16 20 08.3 +2.1**
baz=88
M02C Callahan 70.26 309 P **P** **16 10 53.2 -2.2**
baz=87
M02C S **S** **16 20 08.8 +1.3**
baz=87
HUMO Hull Mountain 70.27 310 ⇓P **P** **16 10 54.9 -0.5**
O02D Mt. Diablo Mer 70.28 308 P **P** **16 10 54.6 -1.0**
baz=86
O02D S **S** **16 20 06.0 -1.9**
baz=86
GDXM Geysers 70.37 306 IAMs_20 IAMs_20 16 39 59.0
comp=Z,5μm,21.0s
G03D McMinnville, O 70.38 313 P **P** **16 10 53.9 -2.0**
baz=88,SNR=9.8
G03D S **S** **16 20 10.3 +1.6**
baz=88
PGC Sidney 70.42 317 IAmb IAmb 16 11 08.5
comp=Z,37nm,1.0s
COR Corvallis 70.43 312 P **P** **16 10 56.1 -0.2**
COR pmax pmax
comp=Z,182nm,1.5s
COR MLR MLR
comp=Z,4μm,22.0s
COR Corvallis 70.43 312 P **P** **16 10 56.1 -0.2**
DBO Dodson Butte 70.45 311 IAmb IAmb 16 11 18.4
comp=Z,58nm,1.5s
MCCM Marconi Confer 70.49 305 IAMs_20 IAMs_20 16 39 34.1
comp=Z,5μm,21.0s
I03D Drain, OR 70.50 311 P **P** **16 10 54.9 -1.8**
baz=87
I03D S **S** **16 20 12.6 +2.4**
baz=87
HOPS Hopland Field 70.58 306 IAMs_20 IAMs_20 16 40 26.3
comp=Z,6μm,19.0s
MDUB Mudurnu 70.60 52 IAMs_20 IAMs_20 16 44 36.1
comp=Z,8μm,19.0s
NLWA Neilton Lookou 70.73 315 IAmb IAmb 16 11 27.1
comp=Z,73nm,1.3s
L02E Cave Junction 70.77 310 P **P** **16 10 57.3 -1.2**
baz=87
L02E S **S** **16 20 13.4 0.0**
baz=87
K02D Willamette Mer 70.79 310 P **P** **16 10 57.9 -0.7**
baz=87,SNR=10.0
K02D S **S** **16 20 15.0 +1.3**
baz=87
WRGLY Wrigley 70.83 332 P **P** **16 10 56.7 -1.6**
baz=94
WRGLY S **S** **16 20 11.4 -1.8**
baz=94
I02D Swisshome 70.84 312 P **P** **16 10 58.2 -0.6**
baz=87
I02D S **S** **16 20 15.4 +1.3**
baz=87
KCPM Cahto Peak 70.92 307 IAMs_20 IAMs_20 16 41 26.4
comp=Z,7μm,20.0s
J01E Myrtle Point 70.95 311 P **P** **16 10 59.8 +0.3**
baz=87,SNR=9.3
J01E S **S** **16 20 18.3 +2.8**
baz=87
JCC Jacoby Creek, 71.18 308 IAMs_20 IAMs_20 16 43 04.2
comp=Z,7μm,19.0s
TSUM Tsumeb 71.34 117 P **P** **16 11 01.6 -0.8**
TSUM IAmb IAmb 16 11 12.5
comp=Z,68nm,1.3s
TSUM Tsumeb 71.34 117 IAMs_20 IAMs_20 16 35 13.1
comp=Z,6μm,20.0s
CBB Campbell River 71.63 318 IAmb IAmb 16 11 17.9
comp=Z,79nm,1.4s
OZB Mount Ozzard 71.76 317 IAMs_20 IAMs_20 16 41 18.0
comp=Z,6μm,21.0s
ANTO Ankara 71.87 53 P **P** **16 11 04.5 -0.7**
ANTO pmax pmax
comp=Z,77nm,1.3s
ANTO MLR MLR
comp=Z,3μm,20.0s
ANTO Ankara 71.87 53 P **P** **16 11 04.5 -0.7**
ANTO IAmb IAmb 16 11 14.4
comp=Z,77nm,1.3s
APA Apatity 71.96 23⇓*i*P P 16 11 10.1 +5.0
A36M Sachs Harbour 72.25 341 P **P** **16 11 05.9 -0.9**
baz=95
LEF Lefka 72.42 58 ⇑P **P** **16 11 06.8 -1.7**
SIM Simferopol' 72.44 47 *e*P **P** **16 11 06.2 -2.3**
SIM *e* 16 11 20.0
SIM S **S** **16 20 25.0 -7.5**
SIM pmax pmax
comp=Z,119nm,1.9s
LVZ Lovozero 72.45 23⇑*e*P **P** **16 11 08.3 +0.2**
LVZ pmax pmax
comp=Z,15nm,0.9s
ILGA Ilgaz 72.47 51 P **P** **16 11 07.5 -1.4**
ILGA IAmb IAmb 16 11 18.1
comp=Z,54nm,1.1s
BR131 Keskin Array S 72.53 53 P **P** **16 11 08.3 -1.0**
SNR=27
BR131 P **P** **16 11 08.3 -1.0**
SNR=27
BRTR Keskin Array B 72.53 53 P **P** **16 11 08.1 -1.2**
comp=Z,25nm,0.9s,baz=257,slow=5.8,SNR=32
BRTR LR LR 16 41 03.4
comp=Z,3μm,20.9s,baz=266,slow=34
CSS Mathiatis 72.80 58 IAmb IAmb 16 11 29.3
comp=Z,52nm,1.2s
TGTN Hyland Airport 73.02 330 P **P** **16 11 10.9 -0.8**
baz=89
TGTN S **S** **16 20 37.9 -0.7**
baz=89
OBN Obninsk 73.40 36⇓*e*P **P** **16 11 13.6 -0.3**
OBN *i* 16 11 20.8
OBN *e* 16 14 01.5
OBN *i* S **S** **16 20 43.9 +0.9**
OBN *i* SS **SS** **16 25 28.9 +4.1**
OBN pmax pmax
comp=Z,208nm,1.7s
OBN MLR MLR
comp=Z,6μm,16.0s
OBN Obninsk 73.40 36 P **P** **16 11 13.3 -0.6**
OBN IAMs_20 IAMs_20 16 41 51.5
comp=Z,5μm,18.0s
DIKM Dikmen 73.56 51 ⇑P **P** **16 11 14.3 -0.9**
MOS Moscow 73.96 36 *e*P **P** **16 11 16.5 -0.7**
MOS *e* 16 14 00.4
MOS *e*S **S** **16 20 50.0 +0.6**
MOS *e* 16 21 27.0
MOS pmax pmax
comp=Z,192nm,1.4s
MOS pmax pmax
comp=Z,600nm,2.6s
MOS smax smax
comp=E,800nm,4.4s
MOS smax smax
comp=N,800nm,3.7s
MOS MLR MLR
comp=Z,5μm,19.0s
DLBC Dease Lake 74.00 327 IAmb IAmb 16 11 36.4
comp=Z,89nm,1.4s
MMPY Sheldon Lake, 74.39 331 P **P** **16 11 19.2 -0.5**
baz=87
MMPY S **S** **16 20 51.1 -3.0**
baz=87
KLMR Klimovskoe 74.64 30 *e*P **P** **16 11 19.8 -1.2**
KLMR pmax pmax
comp=Z,185nm,1.2s
KLMR Klimovskoe 74.64 30 *e*P **P** **16 11 19.8 -1.2**
KLMR AMP 16 11 30.6
comp=Z,185nm,1.2s
ANN Anapa 74.80 47 *e*P **P** **16 11 21.3 -1.0**
ANN *e*S **S** **16 20 57.2 -2.0**
ANN pmax pmax
comp=Z,70nm,1.7s
EIL Elat 74.89 63 ⇑P **P** **16 11 22.3 -0.8**
INK Inuvik 75.01 337 IAmb IAmb 16 11 35.2
comp=Z,59nm,1.0s
INK Inuvik 75.01 337⇓P **P** **16 11 23.6 +0.5**
INK Inuvik 75.01 337 P **P** **16 11 22.3 -0.8**
baz=86
INK S **S** **16 20 57.7 -3.0**
baz=86
GHAJ Ghor Haditha 75.16 61 IAMs_20 IAMs_20 16 44 50.9
comp=Z,4μm,20.0s
VORR Voronezh 75.24 40 *e*P **P** **16 11 23.0 -1.7**
VORR pmax pmax
comp=Z,300nm,2.0s
VORD Divnogorie 75.37 41 *e*P **P** **16 11 22.9 -2.5**
VORD pmax pmax
comp=Z,90nm,0.9s
FARO Faro, Yukon 75.38 331 P **P** **16 11 25.7 +0.3**
baz=85,SNR=7.6
FARO S **S** **16 21 02.8 -2.4**
baz=85
WRAK Wrangell Islan 75.41 325 IAMs_20 IAMs_20 16 44 11.6
comp=Z,6μm,19.0s
WRAK Wrangell Islan 75.41 325 S **S** **16 21 07.5 +2.0**
baz=84
CRAG Craig 75.94 324 P **P** **16 11 27.7 -0.9**
baz=84
WHY Whitehorse 76.28 330 S **S** **16 21 11.6 -3.6**
baz=83
JIS Juneau Island 76.30 327 IAMs_20 IAMs_20 16 43 53.2
comp=Z,6μm,19.0s
MAYO Mayo, Yukon 76.40 333 P **P** **16 11 32.0 +0.8**
baz=83
MAYO S **S** **16 21 16.0 -0.3**
baz=83
EPYK Eagle Plains 76.42 336 IAmb IAmb 16 11 49.7
comp=Z,53nm,1.1s
SOC Sochi 76.59 48 *e*P **P** **16 11 30.9 -1.7**
SOC *e*PPP PPP 16 16 15.9
SOC *e*S **S** **16 21 18.0 -1.0**
SOC pmax pmax
comp=Z,82nm,0.8s
SOC MLR MLR
comp=Z,1μm,17.0s
SKAG Skagway 76.64 328 IAmb IAmb 16 11 46.1
comp=Z,55nm,1.0s
SKAG Skagway 76.64 328 P **P** **16 11 32.1 -0.5**
baz=83
SKAG S **S** **16 21 20.4 +1.4**
baz=83
VRH Novokhopyorsk 76.86 40 *e*P **P** **16 11 33.3 -0.6**
VRH pmax pmax
comp=Z,100nm,1.1s
SIT Sitka 76.96 326 P **P** **16 11 33.2 -1.1**
baz=82
SIT S **S** **16 21 24.4 +1.9**
baz=82
MBAR Mbarara 77.39 94*de*P **P** **16 11 38.9 +1.1**
MBAR Mbarara 77.39 94 P **P** **16 11 38.1 +0.3**
MBAR IAmb IAmb 16 11 46.8
comp=Z,91nm,1.4s
MBAR Mbarara 77.39 94 IAMs_20 IAMs_20 16 44 24.6
comp=Z,4μm,18.0s
MBAR Mbarara 77.39 94 P **P** **16 11 38.4 +0.5**
MBAR P **P** **16 11 38.4 +0.5**
PRGR Permogore 77.48 29*d i*P **P** **16 11 37.2 0.0**
PRGR *e* 16 14 27.0
PRGR *e*SS SS 16 26 30.2 +3.7
PRGR pmax pmax
comp=Z,1μm,1.7s
HYT Haines Junctio 77.53 330 IAmb IAmb 16 11 51.1
comp=Z,40nm,1.1s
HYT Haines Junctio 77.53 330 P **P** **16 11 37.2 -0.5**
baz=81,SNR=7.6
HYT S **S** **16 21 27.6 -1.4**
baz=81
DAWY Dawson 77.87 333 P **P** **16 11 39.6 +0.2**
DAWY IAmb IAmb 16 11 56.5
comp=Z,36nm,1.1s
DAWY Dawson 77.87 333 P **P** **16 11 38.3 -1.1**
baz=80
DAWY S **S** **16 21 30.2 -2.2**
baz=80
YUK6 Outpost Mounta 77.93 330 P **P** **16 11 39.2 -0.9**
baz=80
YUK6 S **S** **16 21 31.3 -2.2**
baz=80
YUK4 Talbot Arm 77.99 331 P **P** **16 11 39.0 -1.4**
baz=80,SNR=7.5
YUK4 S **S** **16 21 34.3 +0.2**
baz=80
BCA Borcka 78.32 50 ⇑P **P** **16 11 41.7 -0.7**
BATM Batumi 78.35 50 ⇑P **P** **16 11 43.1 +0.6**
MARD Mardin 78.41 54 IAmb IAmb 16 11 46.3
comp=Z,47nm,0.9s
CHVG Ch'k'valeri 78.44 49 ⇓P **P** **16 11 43.7 +0.7**
EGAK Eagle 78.49 334 IAMs_20 IAMs_20 16 45 29.7
comp=Z,6μm,19.0s
EGAK Eagle 78.49 334 P **P** **16 11 41.9 -0.9**
baz=79
EGAK S **S** **16 21 37.4 -1.6**
baz=79
KIV Kislovodsk 78.65 47 *e*P **P** **16 11 44.8 +0.6**
KIV *e* 16 14 39.1
KIV *e*S **S** **16 21 41.8 +0.2**
KIV pmax pmax
comp=Z,60nm,1.1s
KIV pmax pmax
comp=Z,74nm,4.0s
KIV Kislovodsk 78.65 47 P **P** **16 11 44.1 -0.1**
KIV IAmb IAmb 16 11 53.8
comp=Z,113nm,1.4s
KIV Kislovodsk 78.65 47 P **P** **16 11 45.0 +0.7**
GOF Gofitskoye 78.71 46⇑*e*P P 16 11 51.9 +7.5
GOF pmax pmax
comp=Z,154nm,1.3s
YUK3 Moose Creek 78.77 331 P **P** **16 11 43.0 -1.7**
baz=79,SNR=8.4
YUK3 S **S** **16 21 41.1 -1.3**
baz=79
NEY Neytrino 78.80 48⇑*e*P **P** **16 11 43.1 -2.1**
NEY pmax pmax
comp=Z,2.0nm,0.9s
BVCY Beaver Creek 78.83 332 P **P** **16 11 43.7 -1.0**
baz=79,SNR=5.1
BVCY S **S** **16 21 40.0 -2.7**
baz=79
KBZ Khabaz 78.84 48 P **P** **16 11 44.5 -0.6**
comp=Z,23nm,0.9s,baz=282,slow=3.9,SNR=30
KBZ LR LR 16 46 39.4
comp=Z,939nm,19.7s,baz=294,slow=36
KBZ Khabaz 78.84 48*ce*P **P** **16 11 45.0 -0.1**
KBZ pmax pmax
comp=Z,40nm,1.1s
PINM Pinnacle 79.00 329 P **P** **16 11 45.3 -0.5**
baz=79
PINM S **S** **16 21 43.9 -0.8**
baz=79
L27K Beaver Creek, 79.13 333 IAmb IAmb 16 11 59.2
comp=Z,42nm,1.0s
L27K Beaver Creek, 79.13 333 P **P** **16 11 45.0 -1.5**
baz=78
L27K S **S** **16 21 45.3 -0.6**
baz=78
GURO Guroymak-BITLI 79.16 53 IAmb IAmb 16 11 50.8
comp=Z,47nm,1.0s
LOGN Logan Glacier 79.22 330 IAmb IAmb 16 12 00.6
comp=Z,76nm,1.0s
M27K Edge Creek, AK 79.30 332 IAmb IAmb 16 12 09.9
comp=Z,58nm,1.2s
M27K IAMs_20 IAMs_20 16 45 13.2
comp=Z,6μm,19.0s
M27K Edge Creek, AK 79.30 332 P **P** **16 11 46.5 -1.0**
baz=78
M27K S **S** **16 21 47.7 -0.2**
baz=78
LSZ Lusaka 79.34 109 P **P** **16 11 48.6 +0.1**
LSZ pmax pmax
comp=Z,104nm,1.2s
LSZ MLR MLR
comp=Z,6μm,21.0s
LSZ Lusaka 79.34 109 P **P** **16 11 48.6 +0.1**
LSZ IAmb IAmb 16 11 59.5
comp=Z,104nm,1.2s
LSZ Lusaka 79.34 109 IAMs_20 IAMs_20 16 40 08.2
comp=Z,5μm,21.0s
LSZ Lusaka 79.34 109 P **P** **16 11 49.9 +1.4**
LSZ P **P** **16 11 49.9 +1.4**
LSZ S **S** **16 21 54.6 +4.8**
LSZ S **S** **16 21 54.6 +4.8**
LSZ Lusaka 79.34 109⇓P **P** **16 11 49.3 +0.8**
CTGM Chitina Glacie 79.34 330 IAmb IAmb 16 12 01.3
comp=Z,60nm,1.0s
CTGM IAMs_20 IAMs_20 16 45 45.5
comp=Z,6μm,19.0s
CTG Chitna Glacier 79.35 330 P **P** **16 11 46.4 -1.4**
baz=78
CTG S **S** **16 21 48.0 -0.5**
baz=78
TABL Table Mountain 79.36 330 IAMs_20 IAMs_20 16 44 28.0
comp=Z,6μm,20.0s
NCK Nalchik 79.39 48⇓*e*P **P** **16 11 48.3 +0.1**
NCK pmax pmax
comp=Z,29nm,1.1s
ONI Oni 79.45 49 IAmb IAmb 16 12 05.7
comp=Z,54nm,1.2s
BARN Barnard Glacie 79.48 331 IAMs_20 IAMs_20 16 44 12.4
comp=Z,6μm,21.0s
AKH Akhalkalaki 79.71 50⇓P **P** **16 11 50.2 0.0**
ZEI Tsey 79.74 48 *e*P **P** **16 11 48.9 -1.5**
ZEI pmax pmax
comp=Z,12nm,1.1s
M26K Nabesna, AK 79.80 332 P **P** **16 11 47.8 -2.4**
baz=77
M26K S **S** **16 21 51.9 -1.1**
baz=77
MESA MESA 79.81 330 P **P** **16 11 49.1 -1.3**
baz=77
MESA S **S** **16 21 56.5 +2.9**
baz=77
L26K Log Cabin Wild 79.82 333 IAMs_20 IAMs_20 16 44 50.7
comp=Z,7μm,20.0s
L26K Log Cabin Wild 79.82 333 P **P** **16 11 48.2 -1.9**
baz=76,SNR=5.3
L26K S **S** **16 21 52.7 -0.4**
baz=76
SCRK Sand Creek 79.87 334 P **P** **16 11 49.4 -1.2**
baz=76,SNR=8.2
SCRK S **S** **16 21 52.3 -1.6**
baz=76
ISLE Juniper Island 79.91 330 IAMs_20 IAMs_20 16 46 03.3
comp=Z,7μm,20.0s
KIRV Kirov 79.92 32*de*P **P** **16 11 49.8 -0.9**
MCARA McCarthy VSAT 80.05 331 IAMs_20 IAMs_20 16 45 21.4
comp=Z,6μm,20.0s
MCARA McCarthy VSAT 80.05 331 P **P** **16 11 50.2 -1.3**
baz=76
MCARA S **S** **16 21 55.5 -0.1**
baz=76
TGL Tana Glacier 80.11 330 IAmb IAmb 16 12 04.9
comp=Z,56nm,1.0s
PRP Porcupine Dome 80.12 335 IAmb IAmb 16 12 04.9
comp=Z,80nm,1.0s
PRP IAMs_20 IAMs_20 16 44 47.7
comp=Z,5μm,21.0s
PRP Porcupine Dome 80.12 335 P **P** **16 11 50.9 -1.0**
baz=75
PRP S **S** **16 21 54.4 -2.2**
baz=75
CRQE Cirque 80.23 330 P **P** **16 11 51.3 -1.2**
baz=76
VRDI Verde Repeater 80.29 331 IAMs_20 IAMs_20 16 45 39.4
comp=Z,6μm,20.0s
J25K Salcha River, 80.30 334 P **P** **16 11 51.4 -1.3**
baz=75
J25K S **S** **16 21 54.6 -3.6**
baz=75
RIDG Independent Ri 80.30 334 IAmb IAmb 16 12 05.3
comp=Z,44nm,1.0s
RIDG Independent Ri 80.30 334 P **P** **16 11 51.6 -1.2**
baz=75,SNR=9.8
RIDG S **S** **16 21 58.3 +0.1**
baz=75
GLB Gilahina Butte 80.41 331 IAMs_20 IAMs_20 16 46 02.4
comp=Z,6μm,19.0s
LBTB Lobatse 80.44 119 IAmb IAmb 16 12 05.1
comp=Z,51nm,1.3s
LBTB Lobatse 80.44 119 ⇓P **P** **16 11 55.1 +0.8**
N25K Chitina, Valde 80.73 331 IAMs_20 IAMs_20 16 46 12.3
comp=Z,5μm,20.0s
N25K Chitina, Valde 80.73 331 P **P** **16 11 53.3 -1.8**
baz=75
N25K S **S** **16 22 01.4 -1.5**
baz=75
TOLK Toolik Lake Re 80.75 339 IAmb IAmb 16 12 23.9
comp=Z,97nm,1.4s
TOLK Toolik Lake Re 80.75 339 P **P** **16 11 54.1 -1.0**
baz=72,SNR=6.5
TOLK S **S** **16 22 00.7 -2.2**
baz=72
PAX Paxson 80.77 333 P **P** **16 11 53.8 -1.5**
baz=75,SNR=8.6
PAX S **S** **16 22 00.1 -3.2**
baz=75
HARP HAARP 80.78 332 P **P** **16 11 54.5 -0.8**
baz=75,SNR=7.7
HARP S **S** **16 22 00.9 -2.4**
baz=75
LODK Lodwar 80.80 89 IAmb IAmb 16 12 16.3
comp=Z,111nm,1.4s
LODK IAMs_20 IAMs_20 16 47 32.0
comp=Z,5μm,19.0s
LODK Lodwar 80.80 89 P **P** **16 11 58.0 +1.5**
SNR=61
ILAR Eielson Array 80.88 335 P **P** **16 11 54.8 -1.0**
comp=Z,22nm,1.0s,baz=72,slow=4.6,SNR=38
ILAR LR LR 16 47 19.5
comp=Z,3μm,19.1s,baz=72,slow=35
GNI Garni 80.89 51*ce*P **P** **16 11 56.5 -0.1**
GNI pmax pmax
comp=Z,108nm,1.7s
GNI Garni 80.89 51 P **P** **16 11 56.3 -0.3**
GNI Garni 80.89 51 S S 16 22 37.2 +32
GNI Garni 80.89 51 ⇑P **P** **16 11 56.5 -0.1**
BMRM Bremner River 80.90 331 P **P** **16 11 56.8 +0.8**
BMRM IAMs_20 IAMs_20 16 45 59.4
comp=Z,7μm,20.0s
BMRM Bremner River 80.90 331 P **P** **16 11 54.5 -1.6**
baz=75
BMRM S **S** **16 22 03.0 -1.6**
baz=75
H24K Noodor Dome 80.97 336 IAmb IAmb 16 12 15.7
comp=Z,106nm,1.4s
H24K Noodor Dome 80.97 336 P **P** **16 11 54.8 -1.5**
baz=73
H24K S **S** **16 22 02.6 -2.6**
baz=73
PMSA Palmer Station 80.98 188 P **P** **16 11 57.7 +1.6**
PMSA Palmer Station 80.98 188 ⇑P P 16 12 00.9 +4.9
PMSA Palmer Station 80.98 188 *e*P **P** **16 11 56.9 +0.9**
POKR Poker Plat Res 81.00 335 P **P** **16 11 56.6 +0.1**
POKR IAmb IAmb 16 12 09.4
comp=Z,41nm,1.1s
POKR IAMs_20 IAMs_20 16 46 42.0
comp=Z,5μm,19.0s
POKR Poker Plat Res 81.00 335 P **P** **16 11 55.9 -0.6**
baz=73
POKR S **S** **16 22 03.5 -2.0**
baz=73
HDA Harding Lake 81.01 334 IAMs_20 IAMs_20 16 47 24.1
comp=Z,6μm,20.0s
HDA Harding Lake 81.01 334 P **P** **16 11 54.6 -1.9**
baz=74,SNR=8.5
HDA S **S** **16 22 03.6 -2.0**
baz=74
HDA S **S** **16 22 03.6 -2.0**
baz=74
GROC Groznyy 81.02 48 *e*P **P** **16 11 54.2 -2.7**
GROC *e* 16 15 01.2
GROC *e*S S 16 21 56.8 -10
GROC *e*SS **SS** **16 27 18.5 -1.9**
GROC pmax pmax
comp=Z,132nm,1.6s
GROC MLR MLR
comp=Z,1μm,16.0s
KAIM Kayak Island 81.08 330 P **P** **16 11 56.9 0.0**
baz=75
COLA College 81.25 335 P **P** **16 11 58.3 +0.6**
COLA pmax pmax
comp=Z,68nm,0.9s
COLA MLR MLR
comp=Z,5μm,20.0s
COLA College 81.25 335 P **P** **16 11 58.3 +0.6**
COLA IAmb IAmb 16 12 10.5
comp=Z,68nm,0.8s
COLA College 81.25 335 IAMs_20 IAMs_20 16 46 59.5
comp=Z,5μm,20.0s
COLA College 81.25 335⇓P **P** **16 11 58.9 +1.2**
COLA College 81.25 335 P **P** **16 11 55.9 -1.8**
baz=73
COLA S **S** **16 22 05.6 -2.3**
baz=73
TCOL CIGO, UAF Yank 81.25 335 P **P** **16 11 57.0 -0.7**
TCOL IAmb IAmb 16 12 10.5
comp=Z,67nm,0.8s
TCOL IAMs_20 IAMs_20 16 46 59.5
comp=Z,5μm,20.0s
TCOL CIGO, UAF Yank 81.25 335 P **P** **16 11 55.6 -2.2**
baz=73

TCOL S S 16 22 04.8 -3.1
baz=73
CCB Clear Creek Bu 81.29 335 IAmb IAmb 16 12 10.6
CCB IAMs_20 IAMs_20 16 47 21.6
comp=Z,58nm,0.9s
M24K Tolsona, Glenn 81.32 332 IAMs_20 IAMs_20 16 46 55.4
comp=Z,4μm,19.0s
M24K Tolsona, Glenn 81.32 332 P P 16 11 56.1 -2.2
comp=Z,5μm,20.0s
M24K S S 16 22 07.5 -1.5
baz=74
KLU Klutina 81.37 331 IAmb IAmb 16 12 12.0
baz=74
KLU Klutina 81.37 331 P P 16 11 56.8 -1.8
comp=Z,49nm,1.0s
KLU S S 16 22 08.5 -1.1
baz=74
MDM Murphy Dome 81.37 335 IAmb IAmb 16 12 06.6
baz=74
MDM IAMs_20 IAMs_20 16 47 10.8
comp=Z,63nm,1.1s
COLD Coldfoot 81.43 338 P P 16 11 59.8 +1.1
comp=Z,5μm,19.0s
COLD Coldfoot 81.43 338 P P 16 11 58.7 0.0
baz=71,SNR=14
COLD S S 16 22 07.3 -2.6
baz=71
WRH Wood River Hil 81.46 335 IAmb IAmb 16 12 11.5
WRH IAMs_20 IAMs_20 16 49 14.1
comp=Z,58nm,0.9s
BOSA Boshof 81.51 123 P P 16 12 00.0 +0.1
comp=Z,4μm,18.0s
comp=Z,22nm,1.0s,baz=290,slow=4.7,SNR=11
BOSA LR LR 16 40 39.9
comp=Z,4μm,21.8s,baz=293,slow=30
BOSA Boshof 81.51 123 ⇑P P 16 12 00.1 +0.2
EYAK Cordova Ski Ar 81.55 330 P P 16 11 59.0 -0.4
baz=74
EYAK S S 16 22 10.2 -1.0
baz=74
H23K Yukon River 81.63 336 P P 16 11 58.9 -0.9
baz=72
H23K S S 16 22 10.5 -1.4
baz=72
I23K Minto, Yukon-K 81.77 335 IAmb IAmb 16 12 13.4
comp=Z,53nm,0.9s
I23K IAMs_20 IAMs_20 16 44 30.2
comp=Z,6μm,21.0s
I23K Minto, Yukon-K 81.77 335 P P 16 12 00.2 -0.3
baz=72
I23K S S 16 22 12.8 -0.6
baz=72
NEA2 Nenana 81.83 335 IAmb IAmb 16 12 13.3
comp=Z,43nm,1.0s
NEA2 IAMs_20 IAMs_20 16 47 46.8
comp=Z,4μm,20.0s
NEA2 Nenana 81.83 335 P P 16 12 01.7 +0.8
baz=72,SNR=10
NEA2 S S 16 22 13.8 -0.2
baz=72
SCM Sheep Creek Mo 81.92 332 IAmb IAmb 16 12 14.5
comp=Z,66nm,1.0s
SCM IAMs_20 IAMs_20 16 49 25.3
comp=Z,4μm,18.0s
MCK McKinley 82.04 334 IAmb IAmb 16 12 21.1
comp=Z,55nm,1.0s
MCK McKinley 82.04 334 P P 16 12 01.3 -0.7
baz=72,SNR=5.5
MCK S S 16 22 13.5 -2.8
baz=72
A21K Barrow 82.05 342 IAMs_20 IAMs_20 16 48 36.1
comp=Z,6μm,20.0s
A21K Barrow 82.05 342 S S 16 22 16.4 +0.4
baz=66
GLI Glacier Island 82.09 331 P P 16 12 01.0 -1.3
baz=73
GLI S S 16 22 13.8 -3.1
baz=73
RND Reindeer 82.11 334 IAmb IAmb 16 12 23.8
comp=Z,55nm,1.2s
RND IAMs_20 IAMs_20 16 47 33.4
comp=Z,6μm,20.0s
BWN Browne 82.13 335 IAMs_20 IAMs_20 16 47 36.8
comp=Z,6μm,19.0s
Q23K Middleton Isla 82.15 329 IAMs_20 IAMs_20 16 44 12.6
comp=Z,7μm,22.0s
Q23K Middleton Isla 82.15 329 P P 16 12 01.5 -1.1
baz=73
MAK Makhachkala 82.29 48 eP P 16 11 57.5 -6.2
MAK ePPP PPP 16 16 59.8
MAK eS S 16 22 11.3 -8.2
MAK eSSS SSS 16 30 57.3
MAK pmax pmax
comp=Z,147nm,1.2s
MAK MLR MLR
comp=Z,2μm,18.0s
MLY Manley 82.36 336 IAmb IAmb 16 12 16.4
comp=Z,34nm,1.0s
MLY IAMs_20 IAMs_20 16 46 06.9
comp=Z,6μm,20.0s
MLY Manley 82.36 336 P P 16 12 01.9 -1.8
baz=70
MLY S S 16 22 17.4 -2.2
baz=70
SML Sawmill 82.38 332 IAmb IAmb 16 12 24.4
comp=Z,35nm,1.0s
SML IAMs_20 IAMs_20 16 47 48.5
comp=Z,5μm,20.0s
SML Sawmill 82.38 332 P P 16 12 02.8 -1.0
baz=72
SML S S 16 22 20.5 +0.5
baz=72
KNK Knik Glacier 82.56 332 IAmb IAmb 16 12 17.7
comp=Z,47nm,1.2s
KNK IAMs_20 IAMs_20 16 46 21.6
comp=Z,5μm,20.0s
KNK Knik Glacier 82.56 332 P P 16 12 04.2 -0.5
baz=72,SNR=6.7
KNK S S 16 22 21.4 -0.3
baz=72
GHO Glory Hole Cre 82.66 332 IAmb IAmb 16 12 20.0
comp=Z,56nm,1.0s
GHO IAMs_20 IAMs_20 16 48 05.9
comp=Z,5μm,20.0s
PWL Port Wells 82.67 331 IAmb IAmb 16 12 18.2
comp=Z,43nm,1.0s
TRF Thorofare Moun 82.71 334 P P 16 12 05.3 -0.3
baz=70,SNR=21
BPAW Bear Paw Mtn. 82.78 335 IAmb IAmb 16 12 18.2
comp=Z,45nm,0.9s
BPAW IAMs_20 IAMs_20 16 50 03.9
comp=Z,4μm,19.0s
BPAW Bear Paw Mtn. 82.78 335 P P 16 12 04.1 -1.8
baz=70,SNR=18
AKT Akhty 82.80 49 eP P 16 12 06.6 0.0
AKT e 16 12 11.6
AKT pmax pmax
comp=Z,30nm,1.1s
I21K Tanana 82.81 336 IAmb IAmb 16 12 19.9
comp=Z,44nm,1.1s
I21K Tanana 82.81 336 P P 16 12 04.5 -1.4
baz=69,SNR=7.9
I21K S S 16 22 23.4 -0.6
baz=69
PMR Palmer 82.81 332 IAmb IAmb 16 12 27.4
comp=Z,72nm,1.4s
PMR Palmer 82.81 332 P P 16 12 04.8 -1.2
baz=71
PMR S S 16 22 21.9 -2.2
baz=71
H21K Melozitna Rive 82.95 336 IAmb IAmb 16 12 15.3
comp=Z,30nm,1.0s
H21K Melozitna Rive 82.95 336 P P 16 12 04.8 -2.0
baz=68
H21K S S 16 22 25.6 +0.1
baz=68
CUT Chulitna 83.05 333 IAMs_20 IAMs_20 16 47 24.1
comp=Z,6μm,19.0s
CUT Chulitna 83.05 333 P P 16 12 06.4 -0.8
baz=70
RC01 Rabbit Creek A 83.25 332 IAMs_20 IAMs_20 16 47 57.9
comp=Z,6μm,21.0s
RC01 Rabbit Creek A 83.25 332 P P 16 12 07.8 -0.5
baz=71
CHUM Lake Minchumin 83.41 335 P P 16 12 07.9 -1.1
baz=69,SNR=10
CHUM S S 16 22 30.2 +0.1
baz=69

SEW Seward 83.44 331 P P 16 12 08.4 -0.9
baz=71
SEW S S 16 22 31.9 +1.3
baz=71
O22K Cooper Landing 83.44 331 P P 16 12 09.0 -0.3
baz=71
FIS Fire Island 83.45 332 IAMs_20 IAMs_20 16 48 33.2
comp=Z,4μm,19.0s
CAST Castle Rocks 83.48 334 IAmb IAmb 16 12 21.7
comp=Z,38nm,1.4s
CAST IAMs_20 IAMs_20 16 50 27.4
comp=Z,4μm,18.0s
CAST Castle Rocks 83.48 334 P P 16 12 08.1 -1.4
baz=69
SUA Susitna One 83.58 332 IAMs_20 IAMs_20 16 48 43.3
comp=Z,4μm,21.0s
SUA Susitna One 83.58 332 P P 16 12 08.8 -1.4
baz=70
PPLA Purkeypile 83.71 334 P P 16 12 09.7 -1.1
baz=69
PPLA S S 16 22 28.8 -4.8
baz=69
SKT Skwentna 83.75 333 IAMs_20 IAMs_20 16 47 54.8
comp=Z,5μm,20.0s
SKT Skwentna 83.75 333 P P 16 12 09.3 -1.6
baz=69,SNR=24
SKT S S 16 22 32.7 -1.1
baz=69
KMBO Kilima Mbogo 83.81 93 P P 16 12 13.0 +0.7
comp=Z,3.2nm,0.8s,baz=316,slow=3.8,SNR=8.7
KMBO LR LR 16 47 46.4
comp=Z,4μm,20.0s,baz=282,slow=34
KMBO Kilima Mbogo 83.81 93 IAMs_20 IAMs_20 16 47 44.5
comp=Z,5μm,19.0s
KMBO Kilima Mbogo 83.81 93 P P 16 12 14.7 +2.3
KMBO P P 16 12 14.7 +2.3
CAPN Captain Cook N 84.01 332 P P 16 12 10.2 -1.9
baz=70
J20K Nowinta River 84.04 335 P P 16 12 14.5 +2.2
J20K IAMs_20 IAMs_20 16 45 51.3
comp=Z,6μm,22.0s
J20K Nowinta River 84.04 335 P P 16 12 10.8 -1.6
baz=67
J20K S S 16 22 35.7 -0.9
baz=67
BRSE Bradley Lake S 84.17 331 P P 16 12 11.5 -1.6
baz=70
K20K Telida 84.33 334 IAMs_20 IAMs_20 16 48 19.9
comp=Z,4μm,22.0s
K20K Telida 84.33 334 P P 16 12 12.2 -1.6
baz=67
K20K S S 16 22 34.9 -4.6
baz=67
SPCR Spurr Chakacha 84.33 332 P P 16 12 13.3 -0.7
baz=69,SNR=6.3
L20K Farewell, AK 84.59 334 P P 16 12 14.6 -0.6
baz=67
L20K S S 16 22 38.4 -3.7
baz=67
HOM Homer 84.63 331 S S 16 22 40.9 -1.6
baz=69
KIBK Kibwezi 84.89 94 IAmb IAmb 16 12 27.3
comp=Z,59nm,1.3s
KIBK IAMs_20 IAMs_20 16 49 50.4
comp=Z,3μm,19.0s
KIBK Kibwezi 84.89 94 P P 16 12 19.7 +2.0
SNR=12
O20K Slope Mountain 84.94 331 S S 16 22 43.2 -2.6
baz=68
M19K Big River Lodg 85.03 333 IAmb IAmb 16 12 32.0
comp=Z,51nm,1.0s
M19K Big River Lodg 85.03 333 P P 16 12 15.6 -1.8
baz=67
M19K S S 16 22 42.2 -4.4
baz=67
L19K White Mountain 85.12 334 IAmb IAmb 16 12 30.3
comp=Z,34nm,1.0s
L19K White Mountain 85.12 334 P P 16 12 16.8 -1.0
baz=66,SNR=6.1
L19K S S 16 22 41.9 -5.6
baz=66
RST Umm Al-Ruwaisa 85.19 61 eP P 16 12 17.2 -1.6
ARU Arti 85.26 33c iP P 16 12 19.1 +0.5
ARU 16 15 37.2
ARU PPP PPP 16 17 26.5
ARU S S 16 22 43.6 -5.3
ARU pmax pmax
comp=Z,60nm,1.5s
ARU Arti 85.26 33 P P 16 12 18.7 +0.1
ARU IAmb IAmb 16 12 47.7
comp=Z,51nm,1.1s
P19K Oil Pt 85.38 331 P P 16 12 18.8 -0.4
baz=68
P19K S S 16 22 44.7 -5.5
baz=68
MIB Mutribah 85.40 61 eP P 16 12 18.6 -1.3
RDOG Red Dog Mine 85.50 340 P P 16 12 18.2 -1.4
baz=60
N19K Bonanza Creek 85.51 332 IAMs_20 IAMs_20 16 51 20.2
comp=Z,4μm,18.0s
N19K Bonanza Creek 85.51 332 P P 16 12 17.9 -2.0
baz=67
N19K S S 16 22 48.2 -3.2
baz=67
O19K Port Alsworth 85.68 332 IAmb IAmb 16 12 33.4
comp=Z,58nm,1.1s
O19K Port Alsworth 85.68 332 P P 16 12 19.3 -1.3
baz=67
O19K S S 16 22 45.4 -7.5
baz=67
KDAK Kodiak Island 85.78 329 P P 16 12 21.4 +0.2
KDAK pmax pmax
comp=Z,65nm,1.0s
KDAK MLR MLR
comp=Z,7μm,20.0s
KDAK Kodiak Island 85.78 329 P P 16 12 21.4 +0.2
UMR Umm Al-Rimmam 85.78 61 eP P 16 12 19.9 -1.8
KBD Kabd 85.86 61 eP P 16 12 21.0 -1.1
Q19K Cape Douglas, 85.86 330 P P 16 12 20.1 -1.5
baz=67
Q19K S S 16 22 51.5 -3.4
baz=67
ATD Arta Tunnel 85.95 79 P P 16 12 21.8 -1.1
ATD S S 16 23 09.0 +12
QRN Al-Qurain 86.16 61 eP P 16 12 22.3 -1.3
SVE Sverdlovsk 86.19 32c eP P 16 12 24.9 +1.7
SVE eS S 16 22 51.0 -7.0
SVE e 16 28 41.4
SVE pmax pmax
comp=Z,82nm,1.3s
SVE MLR MLR
comp=Z,4μm,17.0s
O18K Koktuh Hills 86.22 331 P P 16 12 21.7 -1.7
baz=66
O18K S S 16 22 49.6 -8.8
baz=66
OHAK Old Harbor 86.34 329 P P 16 12 21.9 -2.1
baz=67
OHAK S S 16 22 53.9 -5.6
baz=67
SII Sitkinak Islan 87.05 328 P P 16 12 25.6 -1.9
baz=67
CHIR Chirikof Islan 88.09 328 P P 16 12 31.3 -1.1
baz=65
TNA Tin City 88.52 339 S S 16 23 21.3 +1.2
baz=55
ABKAR Akbulak array 88.64 39 ⇑P P 16 12 34.6 -0.5
NRIK Noril'sk 89.51 15 P P 16 12 40.0 +1.2
comp=Z,12nm,1.0s,baz=19,slow=1.9,SNR=15
NRIK Noril'sk 89.51 15 deP P 16 12 40.3 +1.4
NRIK pmax pmax
comp=Z,37nm,1.3s
NRIK Noril'sk 89.51 15 IAmb IAmb 16 12 51.9
comp=Z,47nm,1.2s
NRIK IAMs_20 IAMs_20 16 50 03.9
comp=Z,3μm,20.0s
VNA1 Neumayer--Stat 89.57 168 P P 16 12 40.0 +1.2
VNA3 Neumayer Olymp 89.78 169 P P 16 12 39.7 -0.3
VNA2 Neumayer--Watz 89.96 168 P P 16 12 41.8 +1.0
baz=325,slow=3.4
CNBA Chernabura Isl 90.57 328 IAMs_20 IAMs_20 16 51 05.5
comp=Z,5μm,20.0s
SDPT Sand Point 90.77 329 IAMs_20 IAMs_20 16 50 51.8
comp=Z,4μm,20.0s
SNAA Sanae 91.47 167 P P 16 12 47.9 0.0
SNAA Sanae 91.47 167 P P 16 12 48.6 +0.8
comp=Z,7.6nm,1.1s,baz=296,slow=3.6,SNR=8.7

SNAA Sanae 91.47 167 deP P 16 12 48.1 +0.3
SNAA pmax pmax
comp=Z,41nm,2.5s
SNAA Sanae 91.47 167 P P 16 12 47.2 -0.6
SNAA IAmb IAmb 16 12 58.2
comp=Z,49nm,1.5s
SNAA Sanae 91.47 167 ⇑P P 16 12 48.4 +0.6
GEYT Alibeck 91.50 50 LR LR 16 54 23.6
comp=Z,2μm,20.4s,baz=315,slow=36
FALS False Pass 92.48 329 P P 16 12 53.1 +0.2
baz=59
BRVK Borovoye 92.83 33⇓eP P 16 12 55.5 +0.9
BRVK pmax pmax
comp=Z,21nm,2.8s
BRVK Borovoye 92.83 33 P P 16 12 53.8 -0.8
BRVK IAmb IAmb 16 13 10.6
comp=Z,30nm,1.4s
TIXI Tiksi 93.22 2 deP P 16 12 56.6 +0.6
TIXI Tiksi 93.22 2 P P 16 12 55.6 -0.4
TIXI IAmb IAmb 16 13 07.8
comp=Z,32nm,1.1s
TIXI Tiksi 93.22 2 ⇑P P 16 12 57.1 +1.0
BILL Bilibino 93.69 348⇓eP P 16 13 00.6 +2.3
BILL i 16 13 09.4
BILL e 16 16 43.2
BILL eS S 16 23 58.7 -8.5
BILL ePS PS 16 25 26.1 +4.6
BILL eSS SS 16 30 24.0 +0.1
BILL pmax pmax
comp=Z,19nm,1.1s
BILL MLR MLR
comp=Z,3μm,21.0s
ASUD Al Ashush, Dub 93.69 63 P P 16 13 05.3 +6.1
SNR=5.2
NAZ Nazwa, Dubai 93.86 63 P P 16 13 04.1 +4.1
SNR=9.8
NAZ P P 16 13 04.1 +4.1
SNR=9.8
ALNE Al Ain 94.24 64 P P 16 13 07.4 +5.6
SNR=14
ALNE P P 16 13 07.4 +5.6
SNR=14
UOSS Minazif 94.34 63 IAMs_20 IAMs_20 16 55 09.0
comp=Z,5μm,21.0s
ARQ Araqi 95.14 64 P P 16 13 08.9 +3.0
SNR=5.0
HRA Herat 95.91 52 P P 16 13 08.5 -0.9
NIKH Nikolski High 96.20 329 P P 16 13 10.5 +0.4
baz=55
TAOE Nuku Hiva Isla 96.24 263 ePS PS 16 25 46.9 -5.1
comp=Z,940nm,27.2s
TAOE Nuku Hiva Isla 96.24 263 eLQ LQ 16 40 13.2
comp=Z,6μm,33.6s
TAOE eLR LR 16 44 08.3
comp=Z,3μm,39.8s
ABPO Ambohimpanom 97.85 108 IAMs_20 IAMs_20 16 52 10.5
comp=Z,3μm,21.0s
TAS Tashkent 97.97 43 IAMs_20 IAMs_20 16 56 19.8
comp=Z,4μm,20.0s
ATKA Atka Island 99.25 331 IAMs_20 IAMs_20 16 55 16.2
comp=Z,4μm,22.0s
ZAA0 Zalesovo Array 99.32 27 IAMs_20 IAMs_20 16 56 29.6
comp=Z,4μm,20.0s
ZALV Zalesovo Beam 99.32 27 P Pdif 16 13 22.9 -1.2
comp=Z,0.5nm,0.3s,baz=302,slow=8.3,SNR=2.2
ZALV LR LR 16 56 31.8
comp=Z,4μm,19.8s,baz=311,slow=34
ADK Adak 100.63 331 IAMs_20 IAMs_20 16 55 36.4
comp=Z,4μm,21.0s
AAK Ala-Archa 100.66 40 IAMs_20 IAMs_20 16 58 05.8
comp=Z,3μm,20.0s
MSEY Mahe Island 102.30 92 IAMs_20 IAMs_20 17 05 29.0
comp=Z,2μm,18.0s
SYO Syowa Base 102.56 158⇓ePdiff Pdif 16 13 36.4 -1.6
MAKZ Makanchi 102.59 34 IAMs_20 IAMs_20 16 57 38.4
comp=Z,4μm,21.0s
KDJ Kajisay 102.60 40 IAMs_20 IAMs_20 16 59 38.5
comp=Z,4μm,18.0s
MKAR Makanchi Array 102.76 34 P Pdif 16 13 40.5 +0.9
comp=Z,1.5nm,1.1s,baz=318,slow=1.9,SNR=7.6
MA2 Magadan 104.18 351 IAMs_20 IAMs_20 17 00 55.9
comp=Z,3μm,22.0s
PPT2 Papeete2 107.12 256 ePP PP 16 18 20.5 -6.0
comp=Z,140nm,25.2s
PPT2 Papeete2 107.12 256 ePS PS 16 27 46.0 -1.6
comp=Z,1μm,27.5s
PPT2 eSS SS 16 33 37.3 +2.5
comp=Z,2μm,27.8s
PPT2 Papeete2 107.12 256 eLQ LQ 16 44 43.9
comp=Z,3μm,31.5s
PPT2 eLR LR 16 49 15.4
comp=Z,3μm,27.5s
TBI Tubuai 108.02 250 ePS PS 16 27 54.4 -2.1
comp=Z,990nm,31.0s
TBI eSS SS 16 33 49.7 +3.0
comp=Z,1μm,29.2s
TBI Tubuai 108.02 250 eLQ LQ 16 44 50.4
comp=Z,2μm,39.8s
TBI eLR LR 16 49 39.7
comp=Z,1μm,36.2s
PET Petropavlovsk 108.73 345 IAMs_20 IAMs_20 17 01 42.5
comp=Z,3μm,22.0s
PETK Petropavlovsk- 108.90 345 PKKPbc PKKPbc 16 29 20.0 -0.9
comp=Z,0.5nm,0.6s,baz=202,slow=1.6,SNR=3.8
SKR Severo-Kuril's 111.52 345 i PKIKP PKiKP 16 18 06.0 -10
SKR pmax pmax
comp=Z,100nm,5.3s
SKR MLR MLR
comp=Z,700nm,20.0s
SONM Songino Array 112.52 20 PKKPab PKKPab 16 29 18.3 0.0
comp=Z,0.5nm,0.6s,baz=138,slow=5.1,SNR=3.7
ULN Ulaanbaatar 112.70 19 IAMs_20 IAMs_20 17 02 30.2
comp=Z,3μm,22.0s
HIA Hailar 114.52 10 IAMs_20 IAMs_20 17 16 15.0
comp=Z,3μm,18.0s
SBA Scott Base 115.32 187 IAMs_20 IAMs_20 17 08 35.7
comp=Z,2μm,20.0s
KLR Kul'dur 115.76 2 PKP PKPdf 16 18 25.0 +0.5
comp=Z,1.0nm,0.8s,baz=18,slow=6.4,SNR=2.1
VNDA Vanda 116.17 187 PKP PKiKP 16 18 24.4 -0.1
comp=Z,1.6nm,1.0s,baz=252,slow=3.1,SNR=6.5
VNDA PP PP 16 19 29.7 +0.2
comp=Z,2.2nm,1.1s,baz=187,slow=3.5,SNR=4.3
GTA Gaotai 116.95 29 ePKP PKiKP 16 18 30.8 +3.5
GTA PP PP 16 19 37.8 +2.5
GTA SS SS 16 35 42.1 -0.6
GTA AMB AMB
comp=Z,240nm,10.2s
GTA LR LR
comp=Z,3μm,21.8s
GTA LR LR
comp=Z,2μm,22.5s
GTA LR LR
comp=Z,4μm,20.7s
YSS Yuzh-Sakhalins 117.56 353 IAMs_20 IAMs_20 17 07 01.7
comp=Z,2μm,20.0s
KUR Kuril'sk 118.48 349 PKIKP PKPdf 16 18 16.2 -14
KUR eSS SS 16 36 13.7 +12
KUR MLR MLR
comp=N,2μm,21.0s
KUR MLR MLR
comp=Z,3μm,21.0s
KUR MLR MLR
comp=E,2μm,20.0s
MDJ Mudanjiang 120.27 4 IAMs_20 IAMs_20 17 16 11.1
comp=Z,2μm,20.0s
JKA Kamikawa-asahi 120.38 353 IAMs_20 IAMs_20 17 16 16.3
comp=Z,3μm,19.0s
HHC Hu-ho-hao-te 120.42 20 eP PKiKP 16 18 41.0 +7.0
HHC Hu-ho-hao-te 120.42 20 ePKP PKPdf 16 18 28.3 -5.6
HHC LR LR
comp=Z,3μm,17.0s
HHC LR LR
comp=Z,2μm,18.7s
HHC LR LR
comp=Z,3μm,19.6s
USA0B Ussuriysk Arra 120.79 2 IAMs_20 IAMs_20 17 10 55.0
comp=Z,2μm,20.0s
USRK Ussuriysk Ar. 120.79 2 PKP PKiKP 16 18 35.3 +0.8
comp=Z,1.2nm,0.5s,baz=2.9,slow=1.7,SNR=6.2
LZH Lanzhou 121.51 28 Pdif Pdif 16 14 51.3 -12
LZH PP PP 16 20 03.5 -3.3
LZH Lanzhou 121.51 28 SS SS 16 36 43.4 +1.8
LZH AMB AMB
comp=Z,170nm,5.4s
LZH LR LR
comp=N,2μm,20.6s

LZH LR LR
comp=E,2µm,19.5s
LZH LR LR
comp=Z,2µm,19.0s
SHL Shillong 122.31 46 IAMs_20 IAMs_20 17 11 42.0
comp=Z,3µm,22.0s
JEM Erimo 122.38 352 IAMs_20 IAMs_20 17 12 06.3
comp=Z,2µm,19.0s
ERM Erimo 122.38 352 IAMs_20 IAMs_20 17 12 06.3
comp=Z,2µm,19.0s
MSHR Mys Shultsa 122.38 2 ⇑iPKIKP PKPdf 16 18 36.5 -1.0
MSHR pmax pmax
comp=Z,8.0nm,1.0s
SNY Shenyang 122.38 9 SS SS 16 37 00.6 +9.1
SNY LR LR
comp=N,2µm,20.1s
SNY LR LR
comp=E,900nm,17.7s
SNY LR LR
comp=Z,2µm,18.4s
BJI Beijing 122.53 16 PKP PKPdf 16 18 37.6 -0.2
BJI PP PP 16 20 19.1 +5.9
BJI AMB AMB
comp=Z,190nm,9.0s
BJI LR LR
comp=Z,4µm,19.9s
BJI LR LR
comp=Z,2µm,22.8s
BJI LR LR
comp=Z,5µm,22.2s
PALK Pallekele 122.66 71 IAMs_20 IAMs_20 17 09 19.7
comp=Z,2µm,21.0s
DL2 Dalian 124.88 12 ePKP PKPdf 16 18 42.1 -0.3
DL2 PP PP 16 20 30.4 +1.5
DL2 AMB AMB
comp=Z,140nm,6.8s
DL2 LR LR
comp=Z,1µm,21.2s
DL2 LR LR
comp=Z,760nm,22.4s
DL2 LR LR
comp=Z,2µm,22.0s
XAN Xi'an 125.46 26 PKP PKiKP 16 18 45.6 +1.5
XAN PKS 16 22 21.1
XAN SKS SKSdf 16 25 57.9 +1.8
XAN SKKS SKKSac 16 27 24.6 -8.6
XAN SS SS 16 37 29.5 -1.8
XAN AMB AMB
comp=Z,300nm,12.2s
XAN LR LR
comp=Z,2µm,18.7s
XAN LR LR
comp=Z,2µm,17.5s
XAN LR LR
comp=Z,2µm,17.9s
CD2 Chengdu 125.66 32 PKP PKPdf 16 18 43.0 -1.2
CD2 SS SS 16 37 34.0 -0.3
CD2 AMB AMB
comp=Z,320nm,5.3s
CD2 LR LR
comp=Z,3µm,20.0s
CD2 LR LR
comp=Z,3µm,23.3s
CD2 LR LR
comp=Z,5µm,19.0s
CASY Casey 126.70 168 PKPdf PKiKP 16 18 45.8 +0.4
JSD Sado 126.82 356 IAMs_20 IAMs_20 17 12 30.8
comp=Z,2µm,22.0s
INCN Inchon 127.08 7 IAMs_20 IAMs_20 17 19 19.4
comp=Z,3µm,20.0s
KSRS Korea Array 127.25 6 PKP PKiKP 16 18 47.2 -0.2
comp=Z,1.0nm,0.8s,baz=357,slow=3.1,SNR=3.7
MJB9 Matsu-Tunnel 128.31 356 IAMs_20 IAMs_20 17 19 20.2
comp=Z,2µm,21.0s
MAJO Matsushiro 128.31 356 ⇑iPKIKP PKPdf 16 18 48.4 -0.7
MAJO Matsushiro 128.31 356 IAMs_20 IAMs_20 17 19 22.2
comp=Z,2µm,20.0s
MAT Matsushiro 128.31 356 ePKP PKPdf 16 18 48.9 -0.2
MJAR Matsushiro Arr 128.31 356 PKP PKiKP 16 18 50.0 +0.3
comp=Z,4.8nm,1.0s,baz=48,slow=1.7,SNR=8.7
MJAR Matsushiro Arr 128.31 356 PKIKP PKPdf 16 18 49.0 -0.1
MJAR Matsushiro Arr 128.31 356 PKPdf 16 18 49.0 -0.1
JYT Yasato 128.45 354 IAMs_20 IAMs_20 17 10 24.8
comp=Z,2µm,22.0s
ENH Enshi 128.94 27 PKPdf 16 18 49.8 -0.7
ENH IAMs_20 IAMs_20 17 15 55.6
comp=Z,2µm,20.0s
KMI Kunming 129.61 38 ⇓PKP PKiKP 16 18 53.3 +0.5
KMI sPKP 16 18 56.3
KMI PP PP 16 21 04.8 +3.6
KMI SS SS 16 38 22.8 -1.3
KMI AMB AMB
comp=Z,260nm,8.4s
KMI LR LR
comp=Z,1µm,23.8s
KMI LR LR
comp=Z,1µm,22.7s
KMI LR LR
comp=Z,2µm,22.7s
JHS Saijyo 130.00 1 IAMs_20 IAMs_20 17 24 07.7
comp=Z,2µm,20.0s
JSG Sagara 130.17 355 IAMs_20 IAMs_20 17 26 06.4
comp=Z,2µm,19.0s
JTU Tsushima 130.29 5 IAMs_20 IAMs_20 17 20 03.3
comp=Z,3µm,20.0s
WHN Wuhan 130.69 22 PKP PKiKP 16 18 58.8 +4.2
WHN PP PP 16 21 11.1 +3.7
WHN SS SS 16 38 38.8 +2.9
WHN LR LR
comp=Z,6µm,19.3s
WHN LR LR
comp=Z,3µm,20.1s
WHN LR LR
comp=Z,8µm,24.6s
GYA Guiyang 130.75 33 ⇑PKP PKiKP 16 18 55.3 +0.3
GYA SKS SKSdf 16 26 01.6 -4.7
GYA SS SS 16 38 35.6 -2.0
GYA AMB AMB
comp=Z,350nm,10.8s
GYA LR LR
comp=Z,2µm,19.8s
GYA LR LR
comp=Z,1µm,20.0s
GYA LR LR
comp=Z,3µm,19.5s
NJ2 Nanjing 130.76 17 eP PKPdf 16 18 42.1 -12
NJ2 Nanjing 130.76 17 eP PKPdf 16 18 53.3 -0.5
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 Nanjing 130.76 17 ePKP PKPdf 16 18 53.4 -0.4
NJ2 PP PP 16 21 12.8 +5.0
NJ2 SS SS 16 38 35.3 -1.3
NJ2 AMB AMB
comp=Z,220nm,7.6s
NJ2 LR LR
comp=Z,3µm,19.9s
NJ2 LR LR
comp=Z,1µm,19.9s
NJ2 LR LR
comp=Z,2µm,19.9s
JMN Monobe 131.28 0 IAMs_20 IAMs_20 17 25 00.5
comp=Z,3µm,22.0s
CHTO Chiang Mai 131.66 47 IAMs_20 IAMs_20 17 18 28.1
comp=Z,2µm,21.0s
CM15 Chiang Mai Arr 131.88 47 PKP PKiKP 16 19 03.6 +6.3
CMAR Chiang Mai Arr 131.89 47 PKP PKPdf 16 18 56.5 +0.2
comp=Z,1.6nm,0.8s,baz=292,slow=3.2,SNR=12
CMAR Chiang Mai Arr 131.89 47 PKIKP PKPdf 16 18 56.0 -0.3
CMAR Chiang Mai Arr 131.89 47 PKPdf PKPdf 16 18 56.0 -0.3
CM05 Chiang Mai Arr 131.93 47 PKP PKiKP 16 19 05.0 +7.6
CM04 Chiang Mai Arr 131.96 47 PKP PKiKP 16 19 09.7 +12
SSE Sheshan 132.29 15 PKP PKiKP 16 18 59.9 +2.1
SSE PP PP 16 21 23.8 +6.2
SSE SS SS 16 39 04.0 +8.9
SSE AMB AMB
comp=Z,76nm,10.1s
SSE LR LR
comp=Z,540nm,24.7s
SSE LR LR
comp=Z,630nm,25.1s
SLVN Son La 133.16 40 IAMs_20 IAMs_20 17 20 23.5
comp=Z,2µm,19.0s
JSU Suzuyama 133.37 4 IAMs_20 IAMs_20 17 23 32.8
comp=Z,2µm,20.0s

PHIT Phitsanulok 133.78 47 PKP PKiKP 16 19 10.5 +9.4
MXZ Matakaoa Point 135.03 232 IAMs_20 IAMs_20 17 09 01.7
comp=Z,3µm,22.0s
NONG Nongkai 135.05 44 PKP PKiKP 16 19 11.4 +7.7
SKNT Sakolnakorn 136.38 44 PKP PKiKP 16 19 12.4 +6.0
THZ Tophouse 137.34 224 IAMs_20 IAMs_20 17 10 55.6
comp=Z,2µm,21.0s
KNMB Chin-men Tao 137.68 21 IAMs_20 IAMs_20 17 21 14.5
comp=Z,2µm,19.0s
JOW Kunigami 137.78 8 IAMs_20 IAMs_20 17 23 50.8
comp=Z,2µm,21.0s
TATO Taipei 138.18 17 IAMs_20 IAMs_20 17 18 45.8
comp=Z,3µm,22.0s
YHNB Yeheng 138.44 17 IAMs_20 IAMs_20 17 20 16.5
comp=Z,3µm,22.0s
QIZ Qiongzhong 138.45 36 PKP PKPdf 16 19 06.3 -2.2
QIZ PP PP 16 21 57.0 -0.2
QIZ SS SS 16 40 10.4 +0.1
QIZ AMB AMB
comp=Z,250nm,2.8s
QIZ LR LR
comp=Z,680nm,19.0s
QIZ LR LR
comp=Z,1µm,18.2s
QIZ LR LR
comp=Z,2µm,18.2s
QIZ Qiongzhong 138.45 36 IAMs_20 IAMs_20 17 25 28.2
comp=Z,2µm,18.0s
NACB Ninganchiao 138.97 17 IAMs_20 IAMs_20 17 19 53.6
comp=Z,3µm,22.0s
TRTT Trang 138.99 58 PKP PKiKP 16 19 18.6 +6.8
YOJ Yonaguni jima 139.08 15 IAMs_20 IAMs_20 17 22 22.3
comp=Z,2µm,20.0s
TPUB Ta-pu 139.50 19 IAMs_20 IAMs_20 17 23 31.7
comp=Z,2µm,19.0s
TWG Pinlang 140.09 19 IAMs_20 IAMs_20 17 23 53.4
comp=Z,2µm,18.0s
ONTNC Ouen Toro 148.52 252 IAMs_20 IAMs_20 17 39 41.1
comp=Z,1µm,20.0s
DZM Mont Dzumac 148.55 253 ePKPbc PKPbc 16 19 29.4 -0.4
comp=Z,180nm,1.1s
DZM Mont Dzumac 148.55 253 eSS SS 16 42 07.7 -1.8
comp=Z,920nm,29.1s
DZM Mont Dzumac 148.55 253 eLR LR 17 08 34.0
comp=Z,2µm,23.9s
PMBI Palembang 148.72 70 IAMs_20 IAMs_20 17 23 22.4
comp=Z,2µm,21.0s
KSM Kuching 151.28 57 P PKPbc 16 19 36.0 -0.6
XMIS Christmas Isla 151.99 84 IAMs_20 IAMs_20 17 20 22.7
comp=Z,2µm,20.0s
SBUM Sibu 152.18 53 P PKiKP 16 19 39.0 0.0
LEM Lembang 152.83 75 PKPbc PKPbc 16 19 39.9 -0.4
comp=Z,33nm,0.9s,baz=18,slow=6.4,SNR=5.7
SPMM Sapulut 153.64 42 P PKiKP 16 19 42.0 0.0
HNR Honiara 153.99 280 IAMs_20 IAMs_20 17 28 16.1
comp=Z,2µm,21.0s
TOO Toolangi 155.56 203 IAMs_20 IAMs_20 17 23 01.8
comp=Z,2µm,20.0s
CAN Canberra 155.91 211 IAMs_20 IAMs_20 17 27 43.5
comp=Z,2µm,22.0s
DAV Davao City (W) 156.29 21 IAMs_20 IAMs_20 17 28 18.8
comp=Z,2µm,22.0s
NWAO Narrogin (SRO) 156.76 142 IAMs_20 IAMs_20 17 38 38.4
comp=Z,2µm,20.0s
RABL Rabaul 158.99 300 IAMs_20 IAMs_20 17 40 27.0
comp=Z,2µm,22.0s
TOLI2 Tolitoli 159.14 40 IAMs_20 IAMs_20 17 36 34.8
comp=Z,2µm,22.0s
JAGI Jajag, Banyuwa 159.47 73 IAMs_20 IAMs_20 17 24 13.4
comp=Z,2µm,22.0s
STKA Stephens Creek 162.07 201 PKP PKPdf 16 19 43.3 -0.7
comp=Z,8.5nm,1.0s,baz=114,slow=1.9,SNR=13
STKA PKPab pPKPab 16 20 32.0 +0.1
comp=Z,5.9nm,0.9s,baz=144,slow=5.8,SNR=4.6
FORT Forrest 163.64 162 PKPdf 16 19 45.3 -0.2
PSA00 Pilbara Seismi 165.20 117 PKPdf 16 19 46.7 -0.5
ASAR Alice Springs 171.65 180 PKP PKPdf 16 19 51.1 -0.3
comp=Z,2.5nm,0.9s,baz=180,slow=0.9,SNR=18
WRA Warramunga Arr 175.34 184 PKP PKPdf 16 19 52.5 -0.4
comp=Z,5.6nm,1.0s,baz=312,slow=1.0,SNR=17

IDC 18 16:00:27.8±1.1, 32°26S×72°19W, h0km, mb4.5/5, mb1 4.4/8, mb1mx4.2/34, mbtmp4.4/8, ML4.3/3, Error ellipse: s-maj=53.1km s-min=20.3km az=104.0
NEIC 18 16:00:29.9, 32°32S×72°15W, h15km, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr4.84; Mθθ0.23; Mφφ-5.07; Mrθ-0.20; Mθφ0.28; Mφr-1.41; Fault plane solution: Mo5.17000×10^15 NP1:φs180.19000°, δ52.92000°, λ93.94000°. NP2:φs353.67000°, δ37.26000°, λ84.80000°. Principal axes: T 5.0506, Plg82.0000°, Azm109.0000°; N 0.2299, Plg3.0000°, Azm358.0000°; P -5.2805, Plg8.0000°, Azm267.0000°;
NEIC 18 16:00:30.1±1.9, 32°34S±0°03×72°17W±0°07, h10km±1km, mb4.4/4, Mwr4.4/35, ML4.3(GUC) Error ellipse: s-maj=10.1km s-min=3.1km az=250.0
GUC 18 16:00:30.2±0.7, 32°32S×72°07W, h38km±4km, ML4.4
ISC 18 16:00:29.6±1.5, 32°29S±0°03×72°08W±0°07, h11km±9km, n45, σ0s74/54, mb4.4/5, 1C-3D, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
VA06 Catapilco 0.72 113 ⇓iP Pb 16 00 43.8 -0.3
VA06 i S Sn 16 00 54.8 -1.9
VA06 IAML 16 00 57.6
comp=N,26µm,0.4s
VA01 Torpederas 0.82 154 eP Pg 16 00 45.4 -0.1
VA01 i S Sb 16 00 57.3 +0.4
VA01 Torpederas 0.82 154 Pg Pg 16 00 45.2 -0.3
VA01 Sb 16 00 57.0 0.0
ROCH El Roble 1.14 127 ⇓iP Pb 16 00 51.1 -0.3
ROCH i S Sn 16 01 07.1 -0.2
ROCH IAML 16 01 14.4
comp=E,29µm,0.9s
VA03 San Esteban 1.38 111 ⇑iP Pb 16 00 55.1 -0.3
VA03 i S Sg 16 01 14.3 +0.2
VA03 IAML 16 01 19.6
comp=N,7µm,0.6s
VA03 San Esteban 1.38 111 Pb 16 00 55.2 -0.3
VA03 Sg 16 01 14.5 +0.4
VA05 Santo Domingo 1.42 164 eP Pn 16 00 55.3 -0.1
VA05 i S Sn 16 01 11.5 -2.5
VA05 IAML 16 01 21.9
comp=E,8µm,0.5s
VA05 Santo Domingo 1.42 164 Pn 16 00 55.8 +0.5
MT05 Renca 1.58 135 ⇓iP Pn 16 00 57.8 +0.2
MT05 i S Sb 16 01 18.7 -0.2
MT05 IAML 16 01 26.2
comp=E,10µm,0.6s
MT05 Renca 1.58 135 Pn 16 00 58.1 +0.5
MT05 Sg 16 01 20.5 0.0
CO06 Fray Jorge 1.65 14 Pn Pg 16 01 01.1 -0.2
MT01 Popeta 1.72 156 eP Pn 16 00 59.0 -0.4
MT01 IAML 16 01 31.3
comp=N,4µm,0.5s
MT01 Popeta 1.72 156 Pb 16 01 01.3 0.0
MT09 Talagante 1.75 149 eP Pn 16 00 59.9 0.0
MT09 i S Sb 16 01 23.2 -0.6
MT09 IAML 16 01 36.8
comp=E,4µm,0.5s
MT09 Talagante 1.75 149 Pn 16 01 00.3 +0.3
FSR Penalolen 1.77 133 eP Pb 16 01 02.3 +0.2
CO03 El Pedregal 1.87 40 eP Pb 16 01 02.8 -1.0
CO03 i S Sb 16 01 27.5 +0.3
CO03 IAML 16 01 35.9
comp=E,4µm,0.6s
CO03 El Pedregal 1.87 40 Pn Pb 16 01 03.3 -0.5
LMEL Las Melosas 2.22 135 IAML 16 01 48.9
comp=E,4µm,0.8s
BO01 Tunca 2.26 159 Pn 16 01 08.7 +1.8
GO04 Tololo Observa 2.38 28 Pn Pb 16 01 11.8 -0.7
CO05 La Serena 2.47 17 eP Pn 16 01 11.1 +1.4
CO05 IAML 16 01 57.8
comp=E,2µm,0.4s
GO05 Huala 2.72 177 Pn Pn 16 01 13.6 +0.4
LC01 Cunco 6.60 179 Pn Pn 16 02 05.2 -1.3
PLCA Paso Flores 8.52 172 Pn Pn 16 02 33.3 +0.4
comp=E,1.0nm,0.3s,baz=335,slow=9.9,SNR=10
LPAZ La Paz 16.33 14 Pn Pn 16 04 20.1 +0.7
comp=E,0.4nm,0.3s,baz=232,slow=4.2,SNR=5.3
LPAZ La Paz 16.33 14 Pn 16 04 19.7 +0.3
LPAZ IAmb IAmb 16 04 27.1
comp=Z,7.1nm,0.8s

SIV San Ignacio 19.06 34 P P 16 04 51.4 -0.6
comp=Z,0.6nm,0.3s,baz=213,slow=9.7,SNR=10
VNA3 Neumayer Olymp 50.96 158 P P 16 09 31.2 +0.6
VNA2 Neumayer--Watz 51.61 158 P P 16 09 35.6 +0.1
baz=288,slow=8.7
SNAA Sanae 53.19 158 P P 16 09 47.8 +0.5
SNAA Sanae 53.19 158 P P 16 09 47.8 +0.5
comp=Z,2.1nm,0.6s,baz=273,slow=8.5,SNR=6.1
QSPA South Pole Qui 57.95 180 P P 16 10 22.2 +0.5
comp=Z,3.5nm,1.0s,baz=291,slow=0.5,SNR=6.0
DBIC Dimbokro 74.67 72 P P 16 12 09.5 0.0
comp=Z,6.4nm,0.6s,baz=271,slow=4.8,SNR=7.0
DBIC Dimbokro 74.67 72 P P 16 12 09.4 0.0
MAW Mawson 74.83 164 P P 16 12 10.1 +0.5
comp=Z,1.3nm,0.5s,baz=246,slow=10.0,SNR=2.2
MAW Mawson 74.83 164 IAmb IAmb 16 12 19.9
comp=Z,1.1nm,1.1s
TORD Torodi Ar. Bea 83.67 70 P P 16 12 58.9 +0.3
comp=Z,4.3nm,0.6s,baz=287,slow=4.3,SNR=11
TORD Torodi Ar. Bea 83.67 70 P P 16 12 58.9 +0.3
TORD IAmb IAmb 16 13 00.7
comp=Z,9.0nm,1.1s
ASAR Alice Springs 119.07 207 PKP PKPdf 16 19 17.6 -1.4
comp=Z,0.1nm,0.5s,baz=124,slow=1.6,SNR=4.2
WRA Warramunga Arr 122.23 210 PKP PKPdf 16 19 24.1 -1.1
comp=Z,0.5nm,0.5s,baz=132,slow=1.4,SNR=7.4
KURBB Kurchatov Arra 151.63 41 PKPbc PKiKP 16 20 24.1 +0.2
comp=Z,2.3nm,0.5s,baz=303,slow=2.8,SNR=12
AAK Ala-Archa 151.69 59 PKPbc PKiKP 16 20 25.1 +0.6
comp=Z,2.4nm,0.6s,baz=214,slow=5.0,SNR=6.0
ZALV Zalesovo Beam 152.78 30 PKPbc PKiKP 16 20 26.7 +0.5
comp=Z,4.1nm,0.6s,baz=316,slow=4.1,SNR=5.1
MKAR Makanchi Array 155.64 46 PKPab PKPab 16 20 49.9 +0.6
comp=Z,1.3nm,0.8s,baz=266,slow=4.0,SNR=4.5

IDC 18 16:02:03.4±3.5, 58°25S×146°28E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.5/25, mbtmp3.4/3, MS3.7/2, Ms1 3.7/2, ms1mx3.3/14, Error ellipse: s-maj=574.3km s-min=29.7km az=76.0, West of Macquarie Island

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
VNDA Vanda 20.07 170 P P 16 06 37.8 0.0
0.8nm,0.8s,baz=331,slow=12,SNR=4.7
VNDA LR LR 16 13 33.3
comp=Z,360nm,19.0s,baz=8.5,slow=34
STKA Stephens Creek 26.57 351 LR LR 16 17 12.5
comp=Z,94nm,20.6s,baz=209,slow=34
H01W1 Cape Leeuwin H 31.63 304 T T 16 43 02.7
baz=146,slow=76,SNR=11
H01W2 Cape Leeuwin H 31.64 304 T T 16 43 04.4
baz=146,slow=76,SNR=9.6
H01W3 Cape Leeuwin H 31.65 304 T T 16 43 03.6
baz=146,slow=76,SNR=7.5
ASAR Alice Springs 35.68 340 P P 16 09 03.5 +0.3
0.4nm,0.8s,baz=163,slow=8.8,SNR=5.8
WRA Warramunga Arr 39.25 342 P P 16 09 32.9 -0.5
0.6nm,0.9s,baz=174,slow=9.1,SNR=4.5

DSN 18 16:04:53.7±0.8, 28°29N×56°56E, h10km, ML2.5/5, Error ellipse: s-maj=27.8km s-min=6.0km az=88.0
THR 18 16:04:57.6±0.4, 28°15N×56°78E, h15km±4km, ML3.0
ISC 18 16:04:57.8±1.2, 28°04N±0°05×56°8E±0°2, h24km, n9, σ1s12/11, Southern Iran

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BNDS Bandar-Abbas 0.83 220 ePg Pn 16 05 15.1 +0.9
KRBR Kerman 1.93 360 ePn Pb 16 05 30.9 -1.6
KRBR eSg Sb 16 05 55.7 -0.6
KRBR IAML 16 06 01.4
comp=N,62nm,0.4s
SHME Shamm 2.06 196 P Pn 16 05 31.4 +0.5
BANOM Banah 2.15 191 P Pn 16 05 32.9 +0.7
BANOM S Sb 16 06 03.0 +0.7
ASHO Ashiyiah 3.40 191 P Pn 16 05 49.9 +0.5
FAQ Al Faqa, Dubai 3.45 198 P Pn 16 05 50.5 +0.5
ASUD Al Ashush, Dub 3.64 201 P Pn 16 05 52.5 -0.1
BSRN Basiran 4.41 27 ePn Pn 16 06 04.8 +1.4
BSRN IAML 16 07 15.7
comp=E,17nm,0.5s
BSRN IAML 16 07 20.2
comp=N,17nm,0.7s
YZKH Yazd 4.72 337 ePn Pn 16 06 09.3 +1.6

ZUR 18 16:07:58.1, 46°54N×8°16E, h4km±2km, MLh1.0/8, 16C-4D, Error ellipse: s-maj=4.0km s-min=0.7km az=152.0, Switzerland

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GRIMS Grimsel Gerste 0.11 72 Pg Pg 16 08 00.8 +0.4
0.2nm,SNR=7.1
GRIMS Pg Pg 16 08 00.8 +0.4
GRIMS Sg Sg 16 08 02.5 +0.4
GRIMS Grimsel Gerste 0.11 72 Pg Pg 16 08 00.8 +0.4
0.2nm,SNR=7.1
GRIMS Pg Pg 16 08 00.8 +0.4
GRIMS Sg Sg 16 08 02.5 +0.4
FIESA Fiescheralp 0.11 199 ⇑Pg Pg 16 08 01.0 +0.6
FIESA ⇑Pg Pg 16 08 01.0 +0.6
0.1nm,SNR=6.5
FIESA Fiescheralp 0.11 199 ⇑Pg Pg 16 08 01.0 +0.6
FIESA ⇑Pg Pg 16 08 01.0 +0.6
0.1nm,SNR=6.5
HASLI Hasliberg/Brie 0.21 358 ⇑Pg Pg 16 08 02.7 +0.4
0.1nm,SNR=2.2
HASLI ⇑Pg Pg 16 08 02.7 +0.4
HASLI Sg Sg 16 08 05.7 +0.6
HASLI Hasliberg/Brie 0.21 358 ⇑Pg Pg 16 08 02.7 +0.4
0.1nm,SNR=2.2
HASLI ⇑Pg Pg 16 08 02.7 +0.4
HASLI Sg Sg 16 08 05.7 +0.6
LAUCH Lauchernalp 0.30 245 ⇑Pg Pg 16 08 04.2 +0.3
0.1nm,SNR=3.7
LAUCH ⇑Pg Pg 16 08 04.2 +0.3
LAUCH Sg Sg 16 08 08.1 +0.2
LAUCH Lauchernalp 0.30 245 ⇑Pg Pg 16 08 04.2 +0.3
0.1nm,SNR=3.7
LAUCH ⇑Pg Pg 16 08 04.2 +0.3
LAUCH Sg Sg 16 08 08.1 +0.2
FUSIO Fusio 0.36 104 ⇓Pg Pg 16 08 05.1 +0.1
0.1nm,SNR=3.0
FUSIO ⇓Pg Pg 16 08 05.1 +0.1
FUSIO Fusio 0.36 104 ⇓Pg Pg 16 08 05.1 +0.1
FUSIO ⇓Pg Pg 16 08 05.1 +0.1
0.1nm,SNR=3.0
BNALP Bannalp 0.37 29 Pg Pg 16 08 05.5 +0.1
BNALP Pg Pg 16 08 05.5 +0.1
SNR=1.1
BNALP Bannalp 0.37 29 Pg Pg 16 08 05.5 +0.1
SNR=1.1
BNALP Pg Pg 16 08 05.5 +0.1
LKBD Leukerbad 0.40 247 ⇑Pg Pg 16 08 06.1 +0.3
0.1nm,SNR=2.2
LKBD ⇑Pg Pg 16 08 06.1 +0.3
LKBD Sg Sg 16 08 11.3 +0.2
LKBD Leukerbad 0.40 247 ⇑Pg Pg 16 08 06.1 +0.3
0.1nm,SNR=2.2
LKBD ⇑Pg Pg 16 08 06.1 +0.3
LKBD Sg Sg 16 08 11.3 +0.2

IDC 18 16:17:07.2±2.2, 6°92S×129°94E, h79km±21km, mb3.9/14, mb1 4.0/18, mb1mx3.9/37, mbtmp4.3/18, MS3.5/1, Ms1 3.5/1, ms1mx2.9/29, Error ellipse: s-maj=23.7km s-min=11.4km az=79.0
DJA 18 16:17:09.7±0.2, 7°S±2°×13°0E±°, h164km±5km, M4.7/12, mB5.2/9, mb4.8/12, MLv4.8/11, Mw(mB)4.5/9
NEIC 18 16:17:10.5±2.2, 6°92S±0°07×130°03E±0°10, h115km±7km, mb4.5/8, Error ellipse: s-maj=13.6km s-min=10.5km az=85.0
ISC 18 16:17:09.3±0.4, 6°85S±0°05×130°00E±0°06, h104km, n68, σ1s85/70, mb4.2/18, Banda Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SAUI Saumlaki 1.71 131 Pn Pn 16 17 40.5 +2.1
SAUI Saumlaki 1.71 131 P Pn 16 17 41.2 +2.8
SAUI S Sn 16 18 04.7 +4.2
BNDI Bandanaira 2.32 358 P Pn 16 17 50.2 +4.0

MSAI	**Masohi**	**3.64**	**343**	P		Pn	16 18 08.5	+4.7
KRAI	**Karang Ratu**	**3.86**	**335**	P		Pn	16 18 11.8	+5.1
FAKI	**Fak Fak**	**4.50**	**30**	Pn		**Pn**	**16 18 16.0**	**+0.5**
FAKI	**Fak Fak**	**4.50**	**30**	P		**Pn**	**16 18 16.0**	**+0.5**
MTN	**Manton Dam**	**6.06**	**169**	Pn		**Pn**	**16 18 35.8**	**-0.7**
SIJI	**Sorong**	**6.08**	**12**	P		**Pn**	**16 18 36.2**	**-0.6**
	16nm,0.3s,baz=44,slow=7.2,SNR=68							
SIJI				S		**Sn**	**16 19 40.0**	**-5.0**
	32nm,0.3s,baz=210,slow=22,SNR=13							
SIJI	**Sorong**	**6.08**	**12**	P		**Pn**	**16 18 36.3**	**-0.5**
SWI	**Sorong**	**6.08**	**12**	P		**Pn**	**16 18 37.4**	**+0.6**
	1.0nm4µm63nm,0.7s							
SANI	**Sanana**	**6.23**	**320**	P		**Pn**	**16 18 42.5**	**+3.7**
	0.1nm24nm,0.6s							
SOEI	**Soe**	**6.36**	**243**	Pn		**Pn**	**16 18 42.4**	**+1.6**
SOEI	**Soe**	**6.36**	**243**	P		**Pn**	**16 18 43.1**	**+2.4**
	1.6nm3µm274nm,0.6s							
BATI	**Baumata**	**7.10**	**242**	P		**Pn**	**16 18 52.2**	**+1.6**
	62nm,0.3s,baz=125,slow=3.5,SNR=69							
BATI				S		**Sn**	**16 20 06.8**	**-3.0**
	34nm,0.3s,baz=90,slow=16,SNR=3.5							
BATI	**Baumata**	**7.10**	**242**	P		**Pn**	**16 18 52.3**	**+1.6**
	0.6nm2µm145nm,0.7s							
MMRI	**Maumere**	**7.89**	**257**	P		**Pn**	**16 19 04.9**	**+3.5**
	2µm72nm,0.6s							
EDFI	**Ende, Flores**	**8.45**	**257**	P		**Pn**	**16 19 12.5**	**+3.5**
	271nm9.4nm,0.9s							
KNRA	**Kununurra**	**8.85**	**188**	Pn		**Pn**	**16 19 12.7**	**-1.8**
MMPI	**Merauke**	**10.42**	**100**	P		**Pn**	**16 19 32.0**	**-3.7**
	284nm,1.1s							
MRSI	**Marisa**	**10.85**	**312**	P		**Pn**	**16 19 43.6**	**+2.0**
	598nm36nm,0.8s							
WBSI	**Waikabubak, Su**	**10.86**	**255**	P		**Pn**	**16 19 43.8**	**+2.0**
	1µm88nm,0.7s							
JAY	**Jayapura**	**11.51**	**69**	P		**Pn**	**16 19 50.5**	**0.0**
	1.1nm,0.3s,baz=203,slow=15,SNR=7.1							
FITZ	**Fitzroy Crossi**	**11.96**	**200**	P		**Pn**	**16 19 52.2**	**-4.2**
	8.7nm,0.3s,baz=28,slow=9.9,SNR=126							
FITZ				S		Sn	16 21 56.7	-11
	8.9nm,0.3s,baz=180,slow=18,SNR=6.8							
FITZ				LR		LR	16 25 27.9	
	comp=Z,228nm,19.6s,baz=207,slow=42							
FITZ	**Fitzroy Crossi**	**11.96**	**200**	Pn		**Pn**	**16 19 52.5**	**-3.9**
WRA	**Warramunga Arr**	**13.68**	**162**	P		**Pn**	**16 20 15.2**	**-3.8**
	6.1nm,0.3s,baz=330,slow=13,SNR=132							
WRA				S		Sn	16 22 36.9	-13
	15nm,0.3s,baz=328,slow=22,SNR=15							
COEN	**Coen**	**14.75**	**120**	Pn		**Pn**	**16 20 31.6**	**-1.3**
AS31	**Alice Springs**	**17.13**	**168**			**Pn**	**16 21 00.7**	**-1.7**
AS31				IAmb		IAmb	16 21 04.9	
	comp=Z,6.3nm,0.8s							
ASAR	**Alice Springs**	**17.13**	**168**	P		**Pn**	**16 21 00.8**	**-1.6**
	comp=Z,4.4nm,0.3s,baz=338,slow=8.4,SNR=237							
ASAR				S		Sn	16 24 00.3	-13
	comp=Z,2.9nm,0.3s,baz=348,slow=26,SNR=15							
ASAR	**Alice Springs**	**17.13**	**168**	P		**Pn**	**16 21 00.9**	**-1.5**
PSA00	**Pilbara Seismi**	**17.62**	**213**	P		**P**	**16 21 07.2**	**-0.6**
PSA00				IAmb		IAmb	16 21 13.5	
	comp=Z,27nm,0.7s							
CTA	**Charters Tower**	**20.54**	**131**	P		**P**	**16 21 40.3**	**+0.6**
	comp=Z,5.5nm,0.7s,baz=301,slow=5.9,SNR=2.9							
STKA	**Stephens Creek**	**27.15**	**158**	P		**P**	**16 22 43.0**	**+0.1**
	comp=Z,3.4nm,0.4s,baz=338,slow=8.2,SNR=19							
STKA	**Stephens Creek**	**27.15**	**158**	P		**P**	**16 22 43.0**	**+0.1**
NWAO	**Narrogin (SRO)**	**28.53**	**203**	P		**P**	**16 22 55.3**	**+0.1**
	comp=Z,4.6nm,0.7s,baz=90,slow=11,SNR=1.6							
CMAR	**Chiang Mai Arr**	**39.64**	**310**	P		**P**	**16 24 32.0**	**+0.8**
	comp=Z,1.3nm,0.5s,baz=138,slow=7.1,SNR=12							
CMAR				PcP		**PcP**	**16 26 37.9**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=170,slow=2.6,SNR=4.9							
KSRS	**Korea Array**	**44.12**	**358**	P		**P**	**16 25 08.3**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=170,slow=9.3,SNR=2.2							
USRK	**Ussuriysk Ar.**	**50.85**	**2**	P		**P**	**16 25 59.9**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=176,slow=6.6,SNR=6.5							
RAMN	**Ramite**	**53.80**	**311**	*eP*		**P**	**16 26 21.8**	**-0.1**
	comp=Z,20nm,0.5s							
JIRN	**Jiri**	**54.49**	**311**	*eP*		**P**	**16 26 26.9**	**-0.1**
	comp=Z,4.8nm,0.2s							
GUN	**Gumba**	**54.86**	**311**	*eP*		**P**	**16 26 29.4**	**-0.2**
PKI	**Pulchoki**	**55.03**	**310**	*eP*		**P**	**16 26 30.6**	**-0.3**
PKIN	**Phulchoki**	**55.04**	**310**	*eP*		**P**	**16 26 30.3**	**-0.6**
GKN	**Gorkha**	**55.84**	**311**	*eP*		**P**	**16 26 35.9**	**-0.6**
	comp=Z,6.4nm,0.3s							
KOLN	**Koldanda**	**56.51**	**310**	*eP*		**P**	**16 26 41.9**	**+0.6**
PYUN	**Piuthan**	**57.14**	**310**	*eP*		**P**	**16 26 46.4**	**+0.7**
SONM	**Songino Array**	**58.30**	**342**	P		**P**	**16 26 54.6**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=151,slow=3.3,SNR=2.8							
PETK	**Petropavlovsk-**	**64.19**	**18**	P		**P**	**16 27 33.4**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=191,slow=6.9,SNR=5.0							
PETK	**Petropavlovsk-**	**64.19**	**18**	P		**P**	**16 27 32.0**	**-0.8**
MK31	**Makanchi Array**	**68.10**	**327**	P		**P**	**16 27 58.6**	**+0.5**
MK31				IAmb		IAmb	16 27 59.4	
	comp=Z,8.7nm,0.9s							
MKAR	**Makanchi Array**	**68.10**	**327**	P		**P**	**16 27 58.9**	**+0.8**
	comp=Z,6.7nm,0.4s,baz=116,slow=8.3,SNR=97							
MKAR	**Makanchi Array**	**68.10**	**327**	P		**P**	**16 27 58.7**	**+0.7**
MAKZ	**Makanchi**	**68.28**	**327**	P		**P**	**16 27 59.6**	**+0.5**
MAKZ				IAmb		IAmb	16 28 00.4	
	comp=Z,11nm,1.1s							
YAK	**Yakutsk**	**68.68**	**360**			**P**	**16 28 00.5**	**-0.7**
AAK	**Ala-Archa**	**70.43**	**320**	P		**P**	**16 28 14.0**	**+1.3**
	comp=Z,1.7nm,0.4s,baz=155,slow=6.6,SNR=8.0							
ZALV	**Zalesovo Beam**	**71.45**	**334**	P		**P**	**16 28 18.2**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=45,slow=2.3,SNR=6.7							
CHGR	**Chuyangaron**	**72.24**	**314**			**P**	**16 28 22.8**	**-0.8**
KURBB	**Kurchatov Arra**	**72.39**	**328**	P		**P**	**16 28 24.4**	**+0.4**
	comp=Z,2.7nm,0.8s,baz=129,slow=4.8,SNR=17							
KURK	**Kurchatov**	**72.39**	**329**	P		**P**	**16 28 24.4**	**+0.3**
VNDA	**Vanda**	**72.59**	**173**	P		**P**	**16 28 24.4**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=337,slow=3.4,SNR=4.6							
VNDA	**Vanda**	**72.59**	**173**	P		**P**	**16 28 24.1**	**-0.8**
MAW	**Mawson**	**75.08**	**201**	P		**P**	**16 28 39.9**	**+0.4**
	comp=Z,2.1nm,0.5s,baz=292,slow=19,SNR=4.8							
GERES	**GERESS Array B**	**112.31**	**320**	PKiKP		**PKiKP**	**16 35 33.1**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=72,slow=3.2,SNR=4.8							
TORD	**Torodi Ar. Bea**	**128.78**	**281**	PKP		**PKPdf**	**16 36 05.5**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=79,slow=2.0,SNR=8.6							
TORD	**Torodi Ar. Bea**	**128.78**	**281**			**PKPdf**	**16 36 05.7**	**+0.1**
CPUP	**Villa Florida**	**146.25**	**168**	PKPbc		**PKPab**	**16 36 39.1**	**-0.3**
	comp=Z,3.1nm,0.6s,baz=133,slow=2.6,SNR=7.4							
LPAZ	**La Paz**	**150.83**	**142**	PKPbc		**PKiKP**	**16 36 52.2**	**+0.1**
	comp=Z,2.2nm,0.4s,baz=15,slow=3.9,SNR=10							
LPAZ	**La Paz**	**150.83**	**142**			**PKiKP**	**16 36 52.5**	**+0.3**

KRSC 18 16:19:28.4±1.4, 48°.10N×156°.45E, h9km±25km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.59**	**355**	*eP*	Pn	16 20 11.6	+1.2
SKR				*eS*	Sn	16 20 43.9	+1.9
ALID	**Alaid**	**2.83**	**348**	*eP*	Pn	16 20 15.1	+1.2
PAU	**Pauzhetka**	**3.38**	**4**	*eS*	Sn	16 21 05.4	+4.0
KDTR	**Khodutka, Kamc**	**3.86**	**15**	*eP*	Pn	16 20 31.7	+3.9
KDTR				*eS*	Sn	16 21 17.7	+4.5
ASAK	**Asacha**	**4.39**	**12**	*eP*	Pn	16 20 39.8	+4.6
MTVR	**Mutnovka**	**4.53**	**14**	*eP*	Pn	16 20 41.5	+4.4
MTVR				*eS*	Sn	16 21 35.2	+5.3
RUS	**Russkaya**	**4.54**	**16**	*eP*	Pn	16 20 40.8	+3.7
RUS				*eS*	Sn	16 21 34.7	+4.8
GRL	**Gorelyy**	**4.58**	**13**	*eP*	Pn	16 20 42.6	+4.8
GRL				*eS*	Sn	16 21 36.9	+5.8
APC	**Apacha**	**4.85**	**5**	*eP*	Pn	16 20 46.1	+4.7
PET	**Petropavlovsk**	**5.13**	**15**	*eP*	Pn	16 20 49.2	+4.0
PET				*eS*	Sn	16 21 49.2	+4.8
DALK	**Dalny**	**5.15**	**16**	*eP*	Pn	16 20 50.0	+4.5
DALK				S	Sn	16 21 51.6	+6.6
KOK	**Koryaka**	**5.38**	**14**	*eP*	Pn	16 20 54.2	+5.4
KRX	**Arik**	**5.45**	**14**	*eP*	Pn	16 20 54.6	+4.8
GNL	**Ganaly**	**5.68**	**9**	P	Pn	16 20 57.6	+4.7

MEX 18 16:23:03.2±0.7, 14°.99N×93°.35W, h53km±12km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.72**	**10**	*eP*	Pn	16 23 15.7	-1.7
PCIG				*i* S	Sn	16 23 25.8	-1.8
THIG		**1.05**	**94**	*i* P	Pn	16 23 19.9	-1.8
THIG				*i* S	Sn	16 23 34.4	-0.9
CCIG	**Comitan**	**1.73**	**42**	*i* P	Pn	16 23 29.7	-1.4
CCIG				*i* S	Sn	16 23 50.0	-2.2
TGIG		**1.79**	**7**	*i* P	Pn	16 23 30.9	-0.9
TGIG				*eS*	Sn	16 23 47.9	-5.6
CMIG	**Matias Romero**	**2.56**	**325**	*eP*	Pn	16 23 40.8	-1.4
CMIG				*eS*	Sn	16 24 06.6	-5.6

DJA 18 16:24:18.3±0.8, 4°.N×7°.×12°.8E±°, h157km±6km, M3.8/7, mb3.9/3, mB4.6/1, MLv3.8/7, Mw(mB)3.9/1, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMI	**Galela, Maluku**	**1.76**	**180**	P	Pn	16 24 50.6	-0.6
GAMI				S	Sn	16 25 17.2	+0.6
SGSI	**Sangihe**	**2.25**	**272**	P	Pn	16 24 57.8	+1.0
TNTI	**Ternate**	**2.85**	**188**	P	Pn	16 25 05.5	+1.4
SWI	**Sorong**	**5.64**	**142**	P	Pn	16 25 41.1	+0.7
	0.1nm13nm,0.7s						
SIJI	**Sorong**	**5.65**	**142**	P	Pn	16 25 40.1	-0.4
SANI	**Sanana**	**5.90**	**198**	P	Pn	16 25 43.1	-0.7
	0.1nm15nm,1.2s						
KBKI	**Kotabaru**	**13.48**	**240**	P	Pn	16 27 23.3	-0.2

*IDC **18** 16:39:09.6±2.5, 29°.76S×72°.29W, h0km, mb4.3/3, mb1 4.0/5, mb1mx3.8/19, mbtmp4.0/5, ML3.6/2, Error ellipse: s-maj=88.4km s-min=39.3km az=96.0*
*GUC **18** 16:39:13.5±0.6, 29°.62S×71°.91W, h60km±6km, ML3.5*
ISC 18 16:39:12.2±2.2, 29°.72S±0°.05×72°.04W±0°.09, h12km±12km, n14, σ1°.01/18, mb4.3/3, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.73**	**106**	*i* P	**Pn**	**16 39 27.8**	**-0.6**
CO05				*i* S	**Sn**	**16 39 39.0**	**-0.4**
CO06	**Fray Jorge**	**1.01**	**160**	*eP*	**Pb**	**16 39 31.3**	**-0.4**
CO06				*i* S	**Sb**	**16 39 44.7**	**-0.4**
CO06				IAML		16 39 46.1	
	comp=E,1µm,0.4s						
GO04	**Tololo Observa**	**1.17**	**113**	*eP*	**Pg**	**16 39 35.0**	**+0.3**
GO04				*i* S	**Sg**	**16 39 50.8**	**+0.7**
LCO	**Las Campanas**	**1.37**	**59**	*eP*	**Pn**	**16 39 36.5**	**-0.9**
LCO				*i* S	**Sg**	**16 39 55.7**	**-0.6**
CO03	**El Pedregal**	**1.62**	**134**	*eP*	**Pb**	**16 39 41.4**	**-0.7**
CO03				*i* S	**Sb**	**16 40 02.6**	**+0.1**
CO03				IAML		16 40 15.9	
	comp=E,765nm,0.6s						
AC04	**Llanos de Chal**	**1.73**	**30**	*i* P	**Pn**	**16 39 40.2**	**-1.9**
AC04				IAML		16 40 19.7	
	comp=E,642nm,0.5s						
GO03	**Copiap**	**2.65**	**37**	IAML		16 40 47.6	
	comp=E,292nm,0.5s						
AC06	**Mina Casimiro**	**2.78**	**33**	*eP*	**Pn**	**16 39 55.5**	**-1.1**
PLCA	**Paso Flores**	**11.06**	**174**	Pn	**Pn**	**16 41 49.9**	**-0.4**
	comp=E,0.1nm,0.3s,baz=333,slow=16,SNR=1.7						
LPAZ	**La Paz**	**13.84**	**16**	Pn	**Pn**	**16 42 31.0**	**+2.1**
	comp=E,0.2nm,0.3s,baz=195,slow=4.7,SNR=5.2						
DBIC	**Dimbokro**	**73.85**	**72**	P	**P**	**16 50 47.5**	**+0.2**
	comp=E,2.1nm,0.6s,baz=223,slow=5.0,SNR=1.7						
KOWA	**Kowa**	**78.90**	**66**	P	**P**	**16 51 16.6**	**+0.7**
	comp=E,1.8nm,0.6s,baz=249,slow=9.0,SNR=4.2						
TORD	**Torodi Ar. Bea**	**82.77**	**70**	P	**P**	**16 51 37.2**	**+0.6**
	comp=E,1.6nm,0.8s,baz=252,slow=5.4,SNR=7.2						
ZALV	**Zalesovo Beam**	**150.54**	**28**	PKPbc	**PKPbc**	**16 59 02.6**	**-0.8**
	comp=E,4.9nm,0.6s,baz=301,slow=3.1,SNR=15						

*IDC **18** 16:49:41.2±1.2, 31°.04S×72°.71W, h0km, mb3.6/2, mb1 3.9/5, mb1mx3.7/30, mbtmp3.7/5, ML3.7/3, Error ellipse: s-maj=48.2km s-min=31.4km az=93.0*
*GUC **18** 16:49:44.2±0.8, 31°.00S×72°.47W, h40km, ML3.4*
ISC 18 16:49:42.6±1.9, 30°.95S±0°.04×72°.61W±0°.06, h12km±11km, n38, σ1°.65/60, 6C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.89**	**72**	*i* P	**Pg**	**16 50 00.0**	**+0.3**
CO06				*i* S	**Sn**	**16 50 11.8**	**-1.9**
CO06				IAML		16 50 12.7	
	comp=N,2µm,0.2s						
CO06	**Fray Jorge**	**0.89**	**72**	*i* P	**Pg**	**16 49 59.8**	**+0.1**
CO06				*i* S	**Sn**	**16 50 11.8**	**-1.9**
CO05	**La Serena**	**1.57**	**50**	*eP*	**Pb**	**16 50 11.0**	**-0.6**
CO05				*i* S	**Sn**	**16 50 28.6**	**-2.0**
CO05				IAML		16 50 32.6	
	comp=N,408nm,0.7s						
CO05	**La Serena**	**1.57**	**50**	*eP*	**Pn**	**16 50 08.9**	**-1.4**
CO05				*i* S	**Sn**	**16 50 28.6**	**-2.0**
CO03	**El Pedregal**	**1.66**	**87**	*i* P	**Pb**	**16 50 12.2**	**-1.0**
CO03				*i* S	**Sb**	**16 50 32.0**	**-2.0**
CO03				IAML		16 50 35.4	
	comp=E,633nm,0.5s						
CO03	**El Pedregal**	**1.66**	**87**	*i* P	**Pb**	**16 50 12.1**	**-1.1**
CO03				*i* S	**Sb**	**16 50 32.8**	**-1.3**
CO03				IAML		16 50 35.4	
	comp=E,630nm,0.6s						
GO04	**Tololo Observa**	**1.75**	**64**	*eP*	**Pn**	**16 50 13.0**	**+0.1**
GO04				*eS*	**Sb**	**16 50 34.6**	**-2.1**
GO04				IAML		16 50 38.7	
	comp=N,2µm,0.6s						
GO04	**Tololo Observa**	**1.75**	**64**	*eP*	**Pn**	**16 50 12.8**	**-0.2**
GO04				*i* S	**Sb**	**16 50 34.6**	**-2.1**
VA06	**Catapilco**	**1.96**	**145**	*i* P	**Pn**	**16 50 15.9**	**+0.1**
VA06				*i* S	**Sn**	**16 50 40.1**	**-0.2**
VA06				IAML		16 50 42.9	
	comp=E,771nm,0.3s						
VA06	**Catapilco**	**1.96**	**145**	*i* P	**Pn**	**16 50 15.9**	**+0.1**
VA06				*i* S	**Sn**	**16 50 39.1**	**-1.2**
VA06				IAML		16 50 42.9	
	comp=E,798nm,0.4s						
ROCH	**El Roble**	**2.44**	**146**	*i* P	**Pn**	**16 50 23.3**	**+0.8**
ROCH				*i* S	**Sn**	**16 50 53.1**	**+0.7**
ROCH				IAML		16 50 56.1	
	comp=E,385nm,0.5s						
ROCH	**El Roble**	**2.44**	**146**	*eP*	**Pn**	**16 50 23.5**	**+1.0**
ROCH				*i* S	**Sn**	**16 50 52.9**	**+0.5**
ROCH				IAML		16 50 56.0	
	comp=E,406nm,0.6s						
VA03	**San Esteban**	**2.52**	**136**	*eP*	**Pn**	**16 50 23.8**	**+0.2**
VA03				*i* S	**Sn**	**16 50 54.5**	**+0.1**
VA03				IAML		16 50 59.9	
	comp=E,234nm,0.1s						
VA03	**San Esteban**	**2.52**	**136**	*eP*	**Pn**	**16 50 24.8**	**+1.3**
VA03				*i* S	**Sn**	**16 50 54.6**	**+0.3**
VA03				IAML		16 50 60.0	
LCO	**Las Campanas**	**2.54**	**41**	*i* P	**Pn**	**16 50 23.1**	**-0.9**
LCO				*i* S	**Sn**	**16 50 53.5**	**-1.5**
VA05	**Santo Domingo**	**2.83**	**163**	*eP*	**Pn**	**16 50 27.6**	**-0.1**
VA05				*i* S	**Sn**	**16 50 59.5**	**-2.3**
VA05				IAML		16 51 09.9	
	comp=E,189nm,0.3s						
VA05	**Santo Domingo**	**2.83**	**163**	*eP*	**Pn**	**16 50 27.6**	**-0.1**
VA05				*i* S	**Sn**	**16 50 59.0**	**-2.7**
MT05	**Renca**	**2.91**	**147**	IAML		16 51 06.7	
	comp=E,173nm,0.2s						
MT01	**Popeta**	**3.13**	**159**	*i* P	**Pn**	**16 50 32.0**	**+0.1**
MT01				*i* S	**Sn**	**16 51 05.8**	**-3.3**
MT09	**Talagante**	**3.14**	**154**	*eP*	**Pn**	**16 50 33.0**	**+0.9**
MT09				*i* S	**Sn**	**16 51 09.3**	**-0.3**
MT09				IAML		16 51 17.0	
	comp=N,175nm,0.7s						
LMEL	**Las Melosas**	**3.54**	**145**	*eP*	**Pn**	**16 50 38.8**	**+1.2**
LMEL				*i* S	**Sn**	**16 51 19.7**	**+0.2**
LMEL				IAML		16 51 25.0	
	comp=N,74nm,0.3s						
BO03	**Pichilemu**	**3.58**	**171**	*i* P	**Pn**	**16 50 37.5**	**-0.5**
BO03				*i* S	**Sn**	**16 51 15.3**	**-5.0**
BO03				IAML		16 51 18.5	
	comp=E,70nm,0.2s						
BO01	**Tunca**	**3.67**	**160**	*eP*	**Pn**	**16 50 39.8**	**+0.6**
BO01				*i* S	**Sn**	**16 51 19.5**	**-2.9**
BO01				IAML		16 51 23.8	
	comp=N,34nm,0.5s						
GO03	**Copiap**	**3.93**	**32**	*eP*	**Pn**	**16 50 41.8**	**-1.1**
AC06	**Mina Casimiro**	**4.08**	**29**	*eP*	**Pn**	**16 50 43.8**	**-1.2**
GO05	**Huala**	**4.09**	**172**	*eP*	**Pn**	**16 50 43.5**	**-1.6**
GO05				*i* S	**Sn**	**16 51 28.0**	**-5.0**
BO02	**Sierra Bellavi**	**4.13**	**159**	*eP*	**Pn**	**16 50 46.8**	**+1.1**
BO02				*i* S	**Sn**	**16 51 31.8**	**-2.2**
PLCA	**Paso Flores**	**9.91**	**171**	Pn	**Pn**	**16 52 05.0**	**0.0**
	comp=N,0.1nm,0.3s,baz=128,slow=17,SNR=1.5						
LPAZ	**La Paz**	**15.15**	**17**	Pn	**Pn**	**16 53 18.5**	**+1.3**
	comp=N,0.1nm,0.3s,baz=185,slow=9.6,SNR=5.9						
SIV	**San Ignacio**	**18.25**	**38**	P	**P**	**16 53 57.7**	**+1.6**
	comp=N,0.6nm,0.3s,baz=224,slow=9.5,SNR=9.1						
VNA3	**Neumayer Olymp**	**52.37**	**159**	P	**P**	**16 58 55.8**	**+1.6**
VNA1	**Neumayer--Stat**	**52.67**	**158**	P	**P**	**16 58 58.2**	**+1.8**
VNA2	**Neumayer--Watz**	**53.01**	**158**	P	**P**	**16 58 59.7**	**+0.8**
	baz=302,slow=8.5						
SNAA	**Sanae**	**54.59**	**159**	P	P	16 59 06.1	-4.5
TXAR	**Lajitas Array**	**66.84**	**331**	P	**P**	**17 00 35.6**	**+1.1**
	comp=N,0.4nm,0.7s,baz=149,slow=9.1,SNR=6.0						
TORD	**Torodi Ar. Bea**	**83.64**	**71**	P	**P**	**17 02 12.4**	**+0.9**
	comp=N,0.3nm,0.5s,baz=254,slow=4.9,SNR=2.0						
WRA	**Warramunga Arr**	**123.16**	**211**	PKP	**PKPdf**	**17 08 39.4**	**-0.6**
	comp=N,0.3nm,0.6s,baz=142,slow=1.3,SNR=4.7						
ZALV	**Zalesovo Beam**	**151.85**	**29**	PKPbc	**PKiKP**	**17 09 37.8**	**+0.6**
	comp=N,1.9nm,0.6s,baz=323,slow=4.7,SNR=6.1						

*IDC **18** 16:54:36.0±3.6, 32°.08S×72°.18W, h0km, mb3.9/1, mb1 3.9/2, mb1mx3.5/27, mbtmp3.8/2, ML3.7/2, Error ellipse: s-maj=150.8km s-min=56.5km az=103.0*
*GUC **18** 16:54:37.4±0.8, 32°.44S×72°.12W, h35km±6km, ML3.6*
ISC 18 16:54:35.4±2.1, 32°.41S±0°.06×72°.25W±0°.08, h6km±12km, n18, σ1°.40/25, 1C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.79**	**140**	*eP*	**Pb**	**16 54 51.5**	**0.0**
VA06	**Catapilco**	**0.81**	**101**	*i* P	**Pg**	**16 54 51.4**	**+0.4**
VA06				*i* S	**Sb**	**16 55 02.6**	**-0.5**
VA06				IAML		16 55 05.0	
	comp=N,6µm,0.2s						
ROCH	**El Roble**	**1.18**	**118**	*i* P	**Pg**	**16 54 57.6**	**-0.4**
ROCH				*i* S	**Sg**	**16 55 13.2**	**-0.2**
ROCH				IAML		16 55 17.2	
	comp=E,2µm,0.3s						
VA05	**Santo Domingo**	**1.35**	**157**	*eP*	**Pn**	**16 55 00.2**	**-0.5**
VA03	**San Esteban**	**1.47**	**104**	*i* P	**Pn**	**16 55 02.0**	**-0.6**
VA03				*i* S	**Sn**	**16 55 21.3**	**-0.9**
VA03				IAML		16 55 23.7	
	comp=E,2µm,0.2s						
MT05	**Renca**	**1.60**	**128**	*i* P	**Pb**	**16 55 04.9**	**-0.4**
MT05				IAML		16 55 29.7	
	comp=E,1µm,0.3s						
MT01	**Popeta**	**1.67**	**150**	*eP*	**Pn**	**16 55 05.1**	**-0.1**
MT01				*i* S	**Sn**	**16 55 27.4**	**+0.5**
MT09	**Talagante**	**1.72**	**143**	*eP*	**Pn**	**16 55 06.6**	**+0.6**
MT09				*i* S	**Sn**	**16 55 28.5**	**+0.1**
MT09				IAML		16 55 37.7	
	comp=N,777nm,0.5s						
BO03	**Pichilemu**	**2.09**	**174**	*i* P	**Pn**	**16 55 11.1**	**+0.1**
BO03				*i* S	**Sn**	**16 55 34.4**	**-2.8**
BO01	**Tunca**	**2.20**	**154**	*eP*	**Pn**	**16 55 13.7**	**+1.2**
LMEL	**Las Melosas**	**2.23**	**130**	*eP*	**Pn**	**16 55 14.5**	**+1.5**
LMEL				IAML		16 55 49.9	
BO02	**Sierra Bellavi**	**2.67**	**153**	*eP*	**Pn**	**16 55 20.2**	**+1.3**
BO02				*eS*	**Sn**	**16 55 53.1**	**+1.5**
BO02				IAML		16 56 07.3	
	comp=N,363nm,0.8s						
LVC	**Limon Verde**	**10.20**	**18**	Pn	**Pn**	**16 57 05.1**	**+2.4**
	comp=N,18nm,0.3s,baz=48,slow=7.4,SNR=18						
LPAZ	**La Paz**	**16.48**	**14**	Pn	**Pn**	**16 58 24.4**	**-3.5**
	comp=N,0.2nm,0.3s,baz=203,slow=10,SNR=4.9						
SIV	**San Ignacio**	**19.24**	**34**	P	**P**	**16 58 58.7**	**-1.8**
	comp=N,0.1nm,0.3s,baz=236,slow=4.3,SNR=4.9						
TORD	**Torodi Ar. Bea**	**83.84**	**70**	P	**P**	**17 07 06.7**	**+0.5**
	comp=N,0.7nm,0.7s,baz=251,slow=4.4,SNR=3.9						
AAK	**Ala-Archa**	**151.88**	**59**	PKPbc	**PKiKP**	**17 14 31.8**	**+0.2**
	comp=N,0.5nm,0.3s,baz=175,slow=

	comp=E,884nm,0.3s								
VA05	**Santo Domingo**	**2.75**	**158**	*e*P		**Pn**	**17 11 01.7**	**-0.2**
VA05				*i* S		**Sn**	**17 11 31.8**	**-3.6**
VA05				IAML			17 11 34.2	
	comp=E,615nm,0.3s							
MT05	**Renca**	**2.89**	**143**	*e*P		**Pn**	**17 11 04.9**	**+0.9**
MT05				*i* S		**Sn**	**17 11 38.7**	**-0.4**
MT05				IAML			17 11 41.8	
	comp=E,364nm,0.3s							
MT01	**Popeta**	**3.06**	**154**⇑	*i*P		**Pn**	**17 11 06.5**	**+0.2**
MT01				*i* S		**Sn**	**17 11 40.1**	**-3.0**
MT01				IAML			17 11 49.4	
	comp=E,119nm,0.3s							
MT09	**Talagante**	**3.09**	**150**⇑	*i*P		**Pn**	**17 11 07.8**	**+1.0**
MT09				*i* S		**Sn**	**17 11 43.2**	**-0.9**
MT09				IAML			17 11 44.7	
	comp=N,187nm,0.2s							
AC04	**Llanos de Chal**	**3.27**	**28**⇑	*i*P		**Pn**	**17 11 07.8**	**-1.4**
AC04				*i* S		**Sn**	**17 11 43.8**	**-4.7**
AC04				IAML			17 11 46.0	
	comp=E,140nm,0.1s							
BO03	**Pichilemu**	**3.46**	**168**⇑	*i*P		**Pn**	**17 11 11.5**	**-0.2**
BO03				*i* S		**Sn**	**17 11 48.0**	**-5.1**
BO03				IAML			17 11 50.7	
	comp=E,210nm,0.4s							
LMEL	**Las Melosas**	**3.52**	**142**⇑	*i*P		**Pn**	**17 11 14.3**	**+1.5**
LMEL				*i* S		**Sn**	**17 11 55.2**	**+0.3**
LMEL				IAML			17 11 57.1	
	comp=N,217nm,0.2s							
BO01	**Tunca**	**3.59**	**156**⇑	*i*P		**Pn**	**17 11 14.6**	**+1.0**
BO01				*i* S		**Sn**	**17 11 53.3**	**-3.0**
BO01				IAML			17 11 55.2	
	comp=N,56nm,0.3s							
BO02	**Sierra Bellavi**	**4.06**	**155**⇓	*i*P		**Pn**	**17 11 21.2**	**+1.1**
BO02				*i* S		**Sn**	**17 12 04.6**	**-3.4**
AC06	**Mina Casimiro**	**4.32**	**31**⇑	*i*P		**Pn**	**17 11 23.2**	**-0.4**
AC06				*i* S		**Sn**	**17 12 11.8**	**-2.4**
H03N1	**Juan Fernandez**	**5.65**	**244**	T		T	17 17 17.4	
	baz=70,slow=71,SNR=5.0							
H03N3	**Juan Fernandez**	**5.66**	**244**	T		T	17 17 20.7	
	baz=70,slow=71,SNR=4.2							
H03N2	**Juan Fernandez**	**5.67**	**244**	T		T	17 17 21.3	
	baz=70,slow=71,SNR=4.0							
PLCA	**Paso Flores**	**9.78**	**170**	Pn		**Pn**	**17 12 38.3**	**-0.3**
	comp=N,0.2nm,0.3s,baz=335,slow=13,SNR=2.1							
LPAZ	**La Paz**	**15.36**	**17**	Pn		**Pn**	**17 13 57.8**	**+2.4**
	comp=N,0.1nm,0.3s,baz=191,slow=6.3,SNR=5.3							
SIV	**San Ignacio**	**18.49**	**38**	P		**P**	**17 14 34.7**	**+0.5**
	comp=N,0.2nm,0.3s,baz=230,slow=10,SNR=19							
TXAR	**Lajitas Array**	**66.89**	**331**	P		**P**	**17 21 12.3**	**+1.9**
	comp=N,0.5nm,0.6s,baz=152,slow=7.9,SNR=8.0							
TORD	**Torodi Ar. Bea**	**83.88**	**71**	P		**P**	**17 22 48.2**	**-0.1**
	comp=N,0.3nm,0.5s,baz=258,slow=5.6,SNR=2.0							
WRA	**Warramunga Arr**	**122.93**	**211**	PKP		**PKPdf**	**17 29 15.1**	**-0.1**
	comp=N,0.4nm,0.8s,baz=174,slow=2.1,SNR=1.7							
KURBB	**Kurchatov Arra**	**151.14**	**39**	PKPbc		**PKPbc**	**17 30 12.1**	**+1.0**
	comp=N,0.7nm,0.7s,baz=307,slow=2.9,SNR=7.1							
ZALV	**Zalesovo Beam**	**152.08**	**29**	PKPbc		**PKPbc**	**17 30 13.8**	**+0.7**
	comp=N,1.7nm,0.6s,baz=305,slow=3.5,SNR=7.2							

MEX 18 17:13:55.6±0.3, 13°98N×92°54W, h15km±131km, MD4.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.84**	**339**	*e*P	Pn	17 14 23.2	-3.4
PCIG				*e*S	Sn	17 14 46.9	-2.7
CCIG	**Comitan**	**2.33**	**10**	*i* P	Pn	17 14 31.0	-2.5
CCIG				*e*S	Sb	17 15 04.3	-1.7
TGIG		**2.84**	**349**	*e*P	Pb	17 14 45.4	-0.7
TGIG				*e*S	Sn	17 15 12.3	-2.1
CMIG	**Matias Romero**	**3.83**	**324**	*e*P	Pn	17 14 46.9	-7.2
CMIG				*e*S	Sn	17 15 35.2	-3.6

IDC ***18*** *17:26:50.0±1.6,30°.41S×72°.45W,h0km,mb3.6/2, mb1 3.8/4,mb1mx3.6/22,mbtmp3.6/4,ML3.7/2,Error ellipse: s-maj=59.0km s-min=34.2km az=85.0*

ISC 18 17:26:52.7±1.3, 30°.6S±0°.1×72°.6W±0°.3, h19km, n6, σ0.36/5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**8.58**	**23**	Pn	Pn	17 28 51.0	-5.3
	0.7nm,0.3s,baz=199,slow=9.3,SNR=13						
PLCA	**Paso Flores**	**10.28**	**171**	Pn	**Pn**	**17 29 19.1**	**-0.1**
	0.2nm,0.3s,baz=347,slow=11,SNR=5.7						
SIV	**San Ignacio**	**17.94**	**39**	P	**Pn**	**17 31 00.9**	**-0.3**
	0.2nm,0.3s,baz=213,slow=12,SNR=7.5						
TXAR	**Lajitas Array**	**66.52**	**331**	P	**P**	**17 37 41.2**	**-0.1**
	0.2nm,0.6s,baz=148,slow=7.1,SNR=2.4						
TORD	**Torodi Ar. Bea**	**83.51**	**71**	P	**P**	**17 39 20.0**	**+0.3**
	0.9nm,0.7s,baz=246,slow=2.9,SNR=4.2						
ZALV	**Zalesovo Beam**	**151.51**	**28**	PKPbc	**PKPbc**	**17 46 45.1**	**+0.1**
	1.5nm,0.6s,baz=298,slow=2.6,SNR=5.1						

IDC ***18*** *17:27:12.9±0.8,31°.10S×71°.73W,h0km,mb4.1/5, mb1 4.2/9,mb1mx4.1/24,mbtmp4.1/9,ML4.1/4,Error ellipse: s-maj=29.7km s-min=23.1km az=103.0*

NEIC ***18*** *17:27:16.6±1.4,31°.07S±0°.04×71°.80W±0°.04,h22km±5km, mb4.6/18,Mwr4.1/22,ML4.3(GUC),Error ellipse: s-maj=5.6km s-min=5.2km az=138.0*

NEIC ***18*** *17:27:17,31°.06S×71°.88W,h24km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.35; Mθθ0.14; Mθφ-1.49; Mrθ-0.48; Mφφ-0.02; Mφr0.93; Fault plane solution: M₀1.77000×10¹⁵ NP1:φs197.05000°, δ30.69000°, λ118.84000°. NP2:φs344.41000°, δ63.45000°, λ74.02000°. Principal axes: T 1.7623, Plg68.0000°, Azm224.0000°; N 0.0131, Plg14.0000°, Azm352.0000°; P -1.7754, Plg17.0000°, Azm86.0000°;*

GUC ***18*** *17:27:17.4±0.6,30°.99S×71°.67W,h30km±2km,ML4.3*

ISC 18 17:27:16.3±1.2, 31°.06S±0°.02×71°.82W±0°.06, h23km±8km, n84, σ0.91/88, mb4.5/12, 7C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.42**	**23**	*e*P	**Pb**	**17 27 25.6**	**+0.4**
CO06				*i* S	**Sb**	**17 27 31.2**	**+0.1**
CO06				IAML		17 27 32.9	
	comp=N,21μm,0.2s						
CO06	**Fray Jorge**	**0.42**	**23**	Pg	**Pb**	**17 27 25.6**	**+0.4**
CO06					**Sb**	**17 27 31.2**	**+0.1**
CO03	**El Pedregal**	**1.00**	**77**⇓	*i*P	**Pn**	**17 27 34.5**	**-0.6**
CO03				*i* S	**Sb**	**17 27 47.1**	**-0.7**
CO03				IAML		17 27 50.5	
	comp=E,8μm,0.1s						
CO03	**El Pedregal**	**1.00**	**77**		**Pn**	**17 27 34.5**	**-0.6**
CO03				Sg	**Sb**	**17 27 47.3**	**-0.6**
CO05	**La Serena**	**1.25**	**24**	*e*P	**Pn**	**17 27 38.6**	**+0.3**
CO05				*i* S	**Sn**	**17 27 54.3**	**-0.1**
CO05				IAML		17 28 01.2	
	comp=E,7μm,0.4s						
CO05	**La Serena**	**1.25**	**24**	Pn	**Pn**	**17 27 38.6**	**+0.3**
CO05				Sn	**Sn**	**17 27 54.2**	**-0.1**
GO04	**Tololo Observa**	**1.25**	**45**	*e*P	**Pn**	**17 27 38.8**	**+0.1**
GO04				*i* S	**Sn**	**17 27 54.7**	**-0.2**
GO04				IAML		17 27 59.8	
	comp=N,26μm,0.5s						
GO04	**Tololo Observa**	**1.25**	**45**	Pn	**Pn**	**17 27 38.7**	**0.0**
VA06	**Catapilco**	**1.56**	**163**⇑	*i*P	**Pn**	**17 27 43.0**	**+0.3**
VA06				*i* S	**Sn**	**17 28 03.3**	**+1.1**
VA06				IAML		17 28 07.8	
	comp=N,13μm,0.4s						
VA06	**Catapilco**	**1.56**	**163**⇑	*i*P	**Pn**	**17 27 42.9**	**+0.3**
VA06				*i* S	**Sn**	**17 28 03.0**	**+0.8**
VA06				IAML		17 28 07.8	
	comp=N,13μm,0.4s						
VA01	**Torpederas**	**1.96**	**176**	*e*P	**Pb**	**17 27 51.4**	**+0.1**
VA01				*e*S	**Sb**	**17 28 17.2**	**+1.8**
VA01	**Torpederas**	**1.96**	**176**		**Pn**	**17 27 47.9**	**-0.3**
VA03	**San Esteban**	**2.01**	**148**⇑	*i*P	**Pn**	**17 27 50.3**	**+1.3**
VA03				*i* S	**Sb**	**17 28 17.8**	**+0.8**
VA03				IAML		17 28 22.2	
	comp=E,4μm,0.4s						
VA03	**San Esteban**	**2.01**	**148**		**Pn**	**17 27 50.0**	**+1.0**
ROCH	**El Roble**	**2.02**	**160**⇑	*i*P	**Pn**	**17 27 49.9**	**+0.6**
ROCH				*i* S	**Sb**	**17 28 17.8**	**+0.3**
ROCH				IAML		17 28 22.2	
	comp=E,3μm,0.4s						

LCO	**Las Campanas**	**2.26**	**26**			**Pn**	**17 27 51.2**	**-1.4**
MT05	**Renca**	**2.50**	**159**⇑	*i*P		**Pn**	**17 27 56.5**	**+0.8**
MT05				*i* S		**Sb**	**17 28 29.1**	**-1.8**
MT05				IAML			17 28 35.6	
	comp=E,3μm,0.7s							
MT05	**Renca**	**2.50**	**159**			**Pn**	**17 27 56.4**	**+0.7**
VA05	**Santo Domingo**	**2.59**	**176**	IAML			17 28 39.8	
	comp=E,2μm,0.7s							
VA05	**Santo Domingo**	**2.59**	**176**			**Pn**	**17 27 56.3**	**-0.6**
ZON	**Zonda**	**2.73**	**101**		Pn	**Pn**	**17 28 00.8**	**+1.9**
MT09	**Talagante**	**2.80**	**166**⇑	*i*P		**Pn**	**17 28 00.8**	**+1.0**
MT09				*i* S		**Sb**	**17 28 40.1**	**+0.5**
MT09				IAML			17 28 46.6	
	comp=E,1μm,0.5s							
MT09	**Talagante**	**2.80**	**166**	Pn		**Pn**	**17 28 00.2**	**+0.4**
MT01	**Popeta**	**2.83**	**170**	*e*P		**Pn**	**17 28 00.2**	**0.0**
MT01				*i* S		**Sb**	**17 28 40.0**	**-0.5**
MT01				IAML			17 28 49.9	
	comp=E,1μm,0.6s							
MT01	**Popeta**	**2.83**	**170**	Pn		**Pn**	**17 28 00.2**	**0.0**
AC04	**Llanos de Chal**	**2.92**	**13**	*e*P		**Pn**	**17 28 01.4**	**-0.1**
AC04				*e*S		**Sn**	**17 28 38.8**	**+3.0**
AC04				IAML			17 28 56.6	
	comp=E,762nm,0.6s							
AC04	**Llanos de Chal**	**2.92**	**13**	Pn		**Pn**	**17 28 01.9**	**+0.5**
LMEL	**Las Melosas**	**3.10**	**154**⇑	*i*P		**Pn**	**17 28 05.5**	**+1.5**
LMEL				*e*S		**Sb**	**17 28 46.4**	**-1.8**
LMEL				IAML			17 28 56.4	
	comp=N,748nm,0.7s							
BO01	**Tunca**	**3.38**	**170**			**Pn**	**17 28 07.8**	**+0.2**
GO03	**Copiap**	**3.72**	**22**	Pn		**Pn**	**17 28 13.1**	**+0.6**
BO02	**Sierra Bellavi**	**3.82**	**167**	Pn		**Pn**	**17 28 14.6**	**+0.7**
AC06	**Mina Casimiro**	**3.91**	**20**			**Pn**	**17 28 15.5**	**+0.4**
GO05	**Huala**	**3.94**	**181**			**Pn**	**17 28 14.2**	**-1.2**
ML02	**Panimavida**	**4.70**	**176**	Pn		**Pn**	**17 28 25.1**	**-0.8**
AC02	**Maricunga**	**4.83**	**30**	Pn		**Pn**	**17 28 29.4**	**+1.4**
H03N1	**Juan Fernandez**	**6.46**	**247**	T		T	17 35 37.6	
	baz=74,slow=72,SNR=675							
VA04	**Juan Fernndez**	**6.46**	**245**	Pn		**Pn**	**17 28 47.5**	**-2.5**
H03N3	**Juan Fernandez**	**6.47**	**247**	T		T	17 35 34.9	
	baz=74,slow=72,SNR=1171							
H03N2	**Juan Fernandez**	**6.47**	**247**	T		T	17 35 38.4	
	baz=74,slow=72,SNR=747							
PB14	**IPOC Station P**	**6.53**	**11**			**Pn**	**17 28 49.8**	**-1.5**
H03S3	**Juan Fernandez**	**6.59**	**243**	T		T	17 35 48.2	
	baz=82,slow=76,SNR=6.4							
H03S1	**Juan Fernandez**	**6.60**	**243**	T		T	17 35 51.7	
	baz=82,slow=76,SNR=7.6							
H03S2	**Juan Fernandez**	**6.61**	**243**	T		T	17 35 47.1	
	baz=82,slow=76,SNR=6.8							
PLCA	**Paso Flores**	**9.71**	**174**	Pn		**Pn**	**17 29 35.0**	**+0.4**
	comp=N,1.5nm,0.3s,baz=335,slow=11,SNR=38							
PLCA	**Paso Flores**	**9.71**	**174**	Pn		**Pn**	**17 29 34.9**	**+0.4**
LL04	**Puerto Octay**	**9.84**	**183**	Pn		**Pn**	**17 29 35.0**	**-1.4**
TRQA	**Tornquist**	**10.70**	**133**	Pn		**Pn**	**17 29 48.8**	**+0.7**
CPUP	**Villa Florida**	**13.56**	**73**	Pn		**Pn**	**17 30 25.3**	**-2.1**
	comp=N,0.1nm,0.3s,baz=260,slow=11,SNR=1.9							
LPAZ	**La Paz**	**15.09**	**14**	Pn		**Pn**	**17 30 50.1**	**+1.4**
	comp=N,0.2nm,0.3s,baz=185,slow=9.1,SNR=8.5							
LPAZ	**La Paz**	**15.09**	**14**	Pn		**Pn**	**17 30 49.3**	**+0.5**
SIV	**San Ignacio**	**17.93**	**36**	P		**Pn**	**17 31 23.9**	**-0.4**
	comp=N,0.2nm,0.3s,baz=228,slow=9.8,SNR=10							
BDFB	**Brasilia**	**26.62**	**60**	P		**P**	**17 32 53.0**	**-0.4**
	comp=N,1.7nm,0.4s,baz=186,slow=12,SNR=3.8							
BDFB	**Brasilia**	**26.62**	**60**	P		**P**	**17 32 52.7**	**-0.7**
BDFB				IAmb		IAmb	17 33 03.1	
	comp=Z,9.9nm,1.0s							
PDPR	**Patillas Dam,**	**49.12**	**7**	P		**P**	**17 36 01.6**	**-0.6**
PDPR				IAmb		IAmb	17 36 02.1	
	comp=Z,6.5nm,0.7s							
SJG	**San Juan**	**49.19**	**7**	P		**P**	**17 36 01.8**	**-1.0**
VNA3	**Neumayer Olymp**	**52.01**	**159**	P		**P**	**17 36 23.7**	**+0.2**
VNA1	**Neumayer--Stat**	**52.31**	**158**	P		**P**	**17 36 26.4**	**+0.7**
VNA2	**Neumayer--Watz**	**52.65**	**158**	P		**P**	**17 36 28.0**	**-0.2**
	baz=286,slow=8.2							
SNAA	**Sanae**	**54.24**	**159**	P		**P**	**17 36 40.1**	**+0.1**
SNAA	**Sanae**	**54.24**	**159**	P		**P**	**17 36 39.9**	**-0.1**
SNAA				IAmb		IAmb	17 36 41.1	
	comp=Z,6.1nm,0.7s							
QSPA	**South Pole Qui**	**59.17**	**180**	P		**P**	**17 37 15.6**	**+0.4**
TXAR	**Lajitas Array**	**67.28**	**330**	P		**P**	**17 38 10.0**	**+0.8**
	comp=Z,3.0nm,0.6s,baz=152,slow=8.0,SNR=4.7							
TXAR	**Lajitas Array**	**67.28**	**330**	P		**P**	**17 38 09.9**	**+0.6**
LCAR	**Lake Charles**	**69.20**	**343**	P		**P**	**17 38 20.7**	**-0.3**
LCAR				IAmb		IAmb	17 38 22.0	
	comp=Z,4.4nm,0.7s							
MNTX	**Cornudas Mount**	**70.06**	**330**	P		**P**	**17 38 25.9**	**-0.6**
MNTX				IAmb		IAmb	17 38 27.8	
	comp=Z,2.1nm,0.9s							
CCM	**Cathedral Cave**	**71.11**	**344**	P		**P**	**17 38 32.7**	**0.0**
CCM				IAmb		IAmb	17 38 34.5	
	comp=Z,6.7nm,0.9s							
S39A	**Bolivar**	**71.29**	**342**	P		**P**	**17 38 33.6**	**-0.2**
S39A				IAmb		IAmb	17 38 35.1	
	comp=Z,5.6nm,1.1s							
R40A	**Maddies Statio**	**71.58**	**343**	P		**P**	**17 38 35.5**	**0.0**
MAW	**Mawson**	**75.94**	**164**	P		**P**	**17 39 01.3**	**+0.5**
	comp=Z,2.8nm,0.7s,baz=208,slow=7.3,SNR=5.3							
ECSD	**EROS Data Cent**	**77.82**	**342**	P		**P**	**17 39 11.9**	**+0.3**
ECSD				IAmb		IAmb	17 39 12.9	
	comp=Z,5.0nm,0.8s							
NVAR	**Mina Array Bea**	**81.59**	**325**	P		**P**	**17 39 33.8**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=155,slow=6.8,SNR=6.1							
TORD	**Torodi Ar. Bea**	**83.04**	**70**	P		**P**	**17 39 39.9**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=268,slow=4.8,SNR=11							
TORD	**Torodi Ar. Bea**	**83.04**	**70**	P		**P**	**17 39 40.2**	**-0.1**
TORD				IAmb		IAmb	17 39 40.9	
	comp=Z,2.7nm,0.8s							
ASAR	**Alice Springs**	**120.26**	**207**	PKP		**PKPdf**	**17 46 05.3**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=140,slow=1.8,SNR=5.0							
WRA	**Warramunga Arr**	**123.40**	**210**	PKP		**PKPdf**	**17 46 11.7**	**-0.5**
	comp=Z,1.2nm,0.9s,baz=163,slow=1.4,SNR=15							
H11S2	**WAKE ISLAND Hyd**	**25.94**	**271**	T		T	20 05 07.3	
	baz=115,slow=75,SNR=118							
H11S1	**WAKE ISLAND Hyd**	**25.96**	**271**	T		T	20 05 01.7	
	baz=115,slow=75,SNR=139							
H11S3	**WAKE ISLAND Hyd**	**25.96**	**271**	T		T	20 05 03.2	
	baz=115,slow=75,SNR=116							
H11N3	**WAKE ISLAND Hyd**	**26.28**	**273**	T		T	20 05 23.4	
	baz=116,slow=75,SNR=43							
H11N1	**WAKE ISLAND Hyd**	**26.30**	**273**	T		T	20 05 26.8	
	baz=116,slow=75,SNR=13							
H11N2	**WAKE ISLAND Hyd**	**26.30**	**273**	T		T	20 05 27.6	
	baz=116,slow=75,SNR=79							
ZALV	**Zalesovo Beam**	**151.62**	**30**	PKPbc		**PKPbc**	**17 47 08.3**	**+0.1**
	comp=Z,3.0nm,0.5s,baz=304,slow=3.4,SNR=11							
ZALV	**Zalesovo Beam**	**151.62**	**30**			**PKPbc**	**17 47 08.0**	**-0.2**
MKAR	**Makanchi Array**	**154.62**	**44**	PKPab		**PKPab**	**17 47 29.8**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=277,slow=3.6,SNR=3.8							

NEIC ***18*** *17:37:53.0±1.9,30°.05S±0°.05×73°.10W±0°.10,h10km±2km, mb4.5/3,Error ellipse: s-maj=14.8km s-min=7.9km az=248.0*

IDC ***18*** *17:37:57.4±3.0,29°.65S×72°.40W,h0km,mb3.9/2, mb1 3.9/4,mb1mx3.7/25,mbtmp3.8/4,ML3.7/2,Error ellipse: s-maj=130.3km s-min=28.8km az=97.0*

ISC 18 17:37:54.3±1.0, 30°.00S±0°.07×73°.0W±0°.2, h10km, n30, σ2.901/28, mb4.4/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**1.37**	**119**		**Pn**	**17 38 16.9**	**-2.6**
CO05	**La Serena**	**1.55**	**87**		**Pn**	**17 38 22.2**	**+0.2**
GO04	**Tololo Observa**	**1.94**	**96**		**Pn**	**17 38 26.8**	**-0.7**
CO03	**El Pedregal**	**2.18**	**113**		**Pn**	**17 38 30.2**	**-0.6**
AC04	**Llanos de Chal**	**2.48**	**44**		**Pn**	**17 38 32.4**	**-2.3**
GO03	**Copiap**	**3.43**	**46**	Pn	**Pn**	**17 38 47.1**	**-0.7**
VA03	**San Esteban**	**3.47**	**143**	Pn	**Pn**	**17 38 46.5**	**-2.0**
AC06	**Mina Casimiro**	**3.53**	**42**	Pn	**Pn**	**17 38 48.1**	**-1.2**
VA05	**Santo Domingo**	**3.83**	**162**	Pn	**Pn**	**17 38 50.7**	**-2.6**
MT05	**Renca**	**3.90**	**151**	Pn	**Pn**	**17 38 50.8**	**-3.5**
ZON	**Zonda**	**4.04**	**113**	Pn	**Pn**	**17 38 55.5**	**-0.9**
MT01	**Popeta**	**4.13**	**159**	Pn	**Pn**	**17 38 53.8**	**-3.7**
MT09	**Talagante**	**4.14**	**156**	Pn	**Pn**	**17 38 55.2**	**-2.5**
BO01	**Tunca**	**4.67**	**160**	Pn	**Pn**	**17 39 03.0**	**-1.9**
GO05	**Huala**	**5.08**	**170**	Pn	**Pn**	**17 39 08.9**	**-1.5**
BO02	**Sierra Bellavi**	**5.14**	**159**	Pn	**Pn**	**17 39 09.5**	**-1.8**
PB04	**IPOC Station P**	**8.06**	**19**	Pn	**Pn**	**17 39 50.3**	**-1.4**
LVC	**Limon Verde**	**8.24**	**28**	Pn	**Pn**	**17 39 51.3**	**-2.9**
	1.4nm,0.3s,baz=168,slow=11,SNR=13						
LVC	**Limon Verde**	**8.24**	**28**		**Pn**	**17 39 51.0**	**-3.3**
PB07	**IPOC Station P**	**8.71**	**20**	Pn	**Pn**	**17 40 00.5**	**-0.1**
PB09	**IPOC Station P**	**8.85**	**23**	Pn	**Pn**	**17 40 02.1**	**-0.4**
PLCA	**Paso Flores**	**10.89**	**170**	Pn	Pn	17 40 36.4	+6.1
	0.1nm,0.3s,baz=321,slow=11,SNR=3.3						
PLCA	**Paso Flores**	**10.89**	**170**		**Pn**	**17 40 28.6**	**-1.7**
TRQA	**Tornquist**	**12.18**	**134**	Pn	**Pn**	**17 40 48.4**	**+0.6**
PMSA	**Palmer Station**	**35.24**	**173**	P	**P**	**17 44 49.8**	**+1.2**
PMSA				IAmb	IAmb	17 45 27.9	
	comp=Z,8.8nm,1.1s						
SNAA	**Sanae**	**55.60**	**159**	P	P	17 47 36.1	+6.3
	comp=Z,0.9nm,0.5s,baz=266,slow=8.6,SNR=7.7						
SNAA	**Sanae**	**55.60**	**159**	P	**P**	**17 47 30.1**	**+0.3**
SNAA				IAmb	IAmb	17 47 37.8	
	comp=Z,5.6nm,1.4s						
QSPA	**South Pole Qui**	**60.22**	**180**	P	**P**	**17 48 03.3**	**+0.9**
QSPA				IAmb	IAmb	17 48 26.4	
	comp=Z,5.3nm,1.2s						
TORD	**Torodi Ar. Bea**	**83.67**	**71**	P	**P**	**17 50 24.6**	**+1.0**
	comp=Z,0.9nm,0.9s,baz=234,slow=4.9,SNR=3.2						
ZALV	**Zalesovo Beam**	**151.19**	**28**	PKPbc	**PKiKP**	**17 57 50.3**	**+2.4**
	comp=Z,1.4nm,0.4s,baz=298,slow=3.9,SNR=4.7						

IDC ***18*** *17:40:02.4±2.8,32°.10S×72°.23W,h0km,mb4.1/3, mb1 4.0/7,mb1mx3.8/27,mbtmp3.9/7,ML3.7/4,Error ellipse: s-maj=101.1km s-min=23.8km az=97.0*

NEIC ***18*** *17:40:04.0±2.2,32°.15S±0°.03×72°.14W±0°.07,h9km±5km, mb4.4/5,Error ellipse: s-maj=9.3km s-min=4.6km az=76.0*

ISC 18 17:40:04.5±0.8, 32°.14S±0°.04×72°.16W±0°.09, h17km, n41, σ1.934/43, mb4.3/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.98**	**154**		**Pb**	**17 40 22.5**	**-0.6**
VA01				Sg	**Sb**	**17 40 34.6**	**-1.2**
VA03	**San Esteban**	**1.50**	**115**		**Pn**	**17 40 31.2**	**+0.4**
VA03				Sn	**Sn**	**17 40 50.3**	**+0.4**
CO06	**Fray Jorge**	**1.52**	**17**		**Pb**	**17 40 32.8**	**+0.5**
VA05	**Santo Domingo**	**1.59**	**163**		**Pn**	**17 40 32.6**	**+0.7**
MT05	**Renca**	**1.73**	**137**		**Pb**	**17 40 35.3**	**-0.6**
MT05				Sn	**Sn**	**17 40 55.9**	**+0.2**
CO03	**El Pedregal**	**1.80**	**45**	Pn	**Pb**	**17 40 36.3**	**-0.8**
MT01	**Popeta**	**1.89**	**156**	Pn	**Pn**	**17 40 35.7**	**-0.2**
MT09	**Talagante**	**1.91**	**149**		**Pn**	**17 40 36.4**	**-0.1**
GO04	**Tololo Observa**	**2.28**	**31**	Pn	**Pn**	**17 40 41.3**	**-0.2**
CO05	**La Serena**	**2.35**	**20**	Pn	**Pn**	**17 40 42.5**	**+0.2**
BO01	**Tunca**	**2.42**	**158**		**Pn**	**17 40 43.2**	**-0.1**
GO05	**Huala**	**2.87**	**176**	Pn	**Pn**	**17 40 49.5**	**-0.1**
BO02	**Sierra Bellavi**	**2.89**	**157**		**Pn**	**17 40 49.7**	**-0.1**
ZON	**Zonda**	**3.02**	**80**	Pn	**Pn**	**17 40 51.6**	**0.0**
ML02	**Panimavida**	**3.67**	**171**		**Pn**	**17 41 01.9**	**+1.4**
AC04	**Llanos de Chal**	**4.03**	**14**	Pn	**Pn**	**17 41 06.7**	**+1.3**
GO03	**Copiap**	**4.82**	**21**	Pn	**Pn**	**17 41 15.7**	**-0.8**
AC06	**Mina Casimiro**	**5.01**	**19**	Pn	**Pn**	**17 41 14.6**	**-4.4**
AC02	**Maricunga**	**5.90**	**27**	Pn	**Pn**	**17 41 29.9**	**-1.7**
LC01	**Lunco**	**6.75**	**178**		**Pn**	**17 41 38.6**	**-4.2**
PLCA	**Paso Flores**	**8.68**	**172**	Pn	**Pn**	**17 42 09.4**	**+0.1**
	0.2nm,0.3s,baz=336,slow=11,SNR=6.3						
LVC	**Limon Verde**	**9.92**	**18**	Pn	**Pn**	**17 42 24.1**	**-2.6**
	0.9nm,0.3s,baz=272,slow=14,SNR=3.0						
PB04	**IPOC Station P**	**9.93**	**11**		**Pn**	**17 42 25.4**	**-1.2**
TRQA	**Tornquist**	**10.22**	**128**		**Pn**	**17 42 31.2**	**+0.9**
PB07	**IPOC Station P**	**10.56**	**12**	Pn	**Pn**	**17 42

MT05 *i* S **Sb** **18 16 40.5 -0.6**
MT05 IAML 18 16 51.1
comp=E,8µm,0.4s
MT05 Renca 2.37 151 Pn 18 16 07.8 -0.1
MT05 Renca 2.37 151 *eP* **Pn 18 16 09.0 +1.1**
VA05 Santo Domingo 2.37 170 *eP* **Pb 18 16 12.4 +0.9**
VA05 *i* S **Sn 18 16 33.4 -3.9**
VA05 Santo Domingo 2.37 170 Pn 18 16 07.2 -0.6
RTLS Leoncito 2.44 102 *eP* **Pb 18 16 12.2 -0.7**
RTLS *eS* **Sn 18 16 39.7 +0.3**
RTLS IAML 18 16 47.8
comp=Z,9µm,0.7s
AUSP Uspallata 2.48 112 *eP* **Pb 18 16 12.4 -1.1**
AUSP *eS* **Sb 18 16 45.0 +0.5**
AROD Rodeo 2.54 64 *eP* **Pb 18 16 14.0 -0.5**
AROD *eP* **Pg 18 16 14.2 -2.7**
AROD *eS* **Sg 18 16 48.3 -1.6**
LCO Las Campanas 2.60 28 Pn 18 16 11.6 +0.5
MT09 Talagante 2.63 159 ⇑ *iP* **Pn 18 16 12.3 +0.8**
MT09 *i* S **Sn 18 16 45.5 +1.7**
MT09 IAML 18 17 00.9
comp=N,4µm,0.6s
MT09 Talagante 2.63 159 Pn Pn 18 16 11.9 +0.4
MT01 Popeta 2.64 164 *eP* **Pn 18 16 11.4 -0.1**
MT01 *i* S **Sn 18 16 45.4 +1.5**
MT01 IAML 18 16 57.3
comp=E,3µm,0.7s
MT01 Popeta 2.64 164 Pn Pn 18 16 11.0 -0.5
MT01 Popeta 2.64 164 *eP* **Pn 18 16 11.5 0.0**
MT01 *eS* **Sb 18 16 47.7 -1.1**
MT01 IAML 18 16 55.7
comp=Z,3µm,0.8s
ACCO Cerro Coronel 2.71 75 *eP* **Pb 18 16 16.0 -1.4**
ACCO *eS* **Sb 18 16 52.5 +1.5**
ACDV Cuesta del Vie 2.81 67 *eP* **Pn 18 16 14.2 +0.3**
ACDV *eP* **Pb 18 16 20.0 +1.0**
ACDV *eS* **Sb 18 16 52.2 -1.6**
ZON Zonda 2.94 95 Pn Pb 18 16 18.2 -2.9
ZON Zonda 2.94 95 *eP* **Pb 18 16 20.0 -1.1**
ZON *eS* **Sg 18 17 01.3 -1.4**
ZON IAML 18 17 04.6
comp=Z,5µm,2.1s
LMEL Las Melosas 2.99 148 ⇑ *iP* **Pn 18 16 17.1 +0.6**
LMEL *i* S **Sn 18 16 52.8 0.0**
LMEL IAML 18 17 03.5
comp=N,3µm,0.6s
ASAL Salagasta 3.06 115 *eP* **Pb 18 16 21.0 -2.2**
ASAL *eS* **Sg 18 17 05.7 -0.8**
RTCV Cerro Valdivia 3.09 101 *eP* **Pb 18 16 21.0 -2.7**
RTCV *eP* **Pn 18 16 21.2 +3.5**
RTCV *eS* **Sg 18 17 09.5 +2.0**
ARCO CERRO ARCO 3.09 120 *eP* **Pb 18 16 22.0 -1.9**
ARCO IAML 18 17 19.8
comp=Z,1µm,1.8s
BO03 Pichilemu 3.17 178 ⇓ *iP* **Pn 18 16 17.7 -1.2**
BO03 *i* S **Sn 18 16 58.8 +1.8**
BO01 Tunca 3.19 165 *eP* **Pn 18 16 18.8 -0.3**
BO01 *i* S **Sn 18 16 58.3 +0.9**
BO01 Tunca 3.19 165 Pn 18 16 18.7 -0.3
BO01 Tunca 3.19 165 *eP* Pn 18 16 14.2 -4.8
BO01 *eP* Pb 18 16 19.0 -6.4
BO01 *eP* Pg 18 16 20.0 -9.4
BO01 *eS* **Sn 18 16 59.5 +2.2**
BO01 IAML 18 17 19.6
comp=Z,2µm,1.2s
AC04 Llanos de Chal 3.23 16 Pn Pn 18 16 19.0 -0.5
AAGR Agrelo 3.29 123 *eP* **Pb 18 16 24.0 -3.2**
AAGR *eS* **Sg 18 17 14.5 +0.5**
AGUA GUANDACOL 3.61 61 *eP* **Pn 18 16 25.9 +1.0**
AGUA IAML 18 17 34.6
comp=Z,2µm,1.0s
BO02 Sierra Bellavi 3.64 163 *eP* **Pn 18 16 25.9 +0.6**
BO02 *eS* **Sn 18 17 09.7 +1.0**
BO02 IAML 18 17 28.9
comp=N,2µm,0.5s
BO02 Sierra Bellavi 3.64 163 Pn Pn 18 16 25.7 +0.4
GO05 Huala 3.69 178 ⇓ *iP* **Pn 18 16 24.5 -1.4**
GO05 *i* S **Sn 18 17 03.2 -6.6**
GO05 IAML 18 17 07.3
comp=N,999nm,0.7s
GO05 Huala 3.69 178 Pn 18 16 24.0 -1.9
AVFE Valle Fertil 4.04 82 *eP* **Pn 18 16 33.0 +2.1**
AVFE *eS* **Sb 18 17 24.2 -5.0**
AVFE IAML 18 17 34.0
comp=Z,2µm,2.0s
GO03 Copiap 4.05 24 Pn Pn 18 16 30.4 -0.5
GO03 Copiap 4.05 24 *eP* **Pn 18 16 26.2 -4.7**
GO03 *eS* **Sb 18 17 29.2 -0.1**
AC06 Mina Casimiro 4.23 22 Pn 18 16 32.9 -0.4
VCA Vinchina 4.25 54 *eP* **Pn 18 16 33.7 0.0**
VCA *eS* **Sb 18 17 38.2 +3.1**
ML02 Panimavida 4.47 173 Pn Pn 18 16 36.6 -0.1
RFA San Rafael 4.61 139 *eP* **Pn 18 16 40.2 +1.7**
RFA *eS* **Sb 18 17 49.7 +4.4**
ACHE Chepes 4.66 90 *eP* **Pn 18 16 42.5 +3.1**
ACHE *eS* **Sb 18 17 43.5 -3.6**
AC02 Maricunga 5.17 31 Pn Pn 18 16 47.0 +0.3
AC02 Maricunga 5.17 31 *eP* **Pn 18 16 48.0 +1.3**
AC02 *eS* **Sb 18 17 58.2 -3.7**
H03N1 Juan Fernandez 6.14 248 T T 18 23 36.0
baz=77,slow=72
VA04 Juan Fernndez 6.14 246 Pn 18 16 59.0 -0.6
H03N3 Juan Fernandez 6.15 248 T T 18 23 37.6
baz=77,slow=72
H03N2 Juan Fernandez 6.15 248 T T 18 23 37.3
baz=77,slow=72
CYA Choya 6.17 64 *eP* **Pn 18 17 02.3 +2.2**
CYA *eS* **Sn 18 18 14.3 +3.2**
PB14 IPOC Station P 6.83 13 Pn 18 17 08.0 -1.4
AHML Horco Molle 7.45 54 *eP* **Pn 18 17 21.0 +3.4**
FSA Cafayete 7.47 48 *eP* **Pn 18 17 16.2 -1.8**
LC01 Cunco 7.57 179 Pn Pn 18 17 18.4 -0.9
PB10 IPOC Station P 7.89 10 Pn Pn 18 17 23.1 -0.5
LR03 Panguipulli 8.30 181 Pn 18 17 29.6 +0.3
PB15 IPOC Station P 8.41 17 Pn Pn 18 17 31.7 +0.8
PB06 IPOC Station P 8.87 15 Pn Pn 18 17 37.8 +0.6
PB04 IPOC Station P 9.11 11 Pn Pn 18 17 40.4 -0.2
LVC Limon Verde 9.12 19 Pn Pn 18 17 39.8 -1.1
comp=Z,0.2nm,0.3s,baz=168,slow=19,SNR=1.4
PLCA Paso Flores 9.48 173 Pn Pn 18 17 46.1 +0.6
comp=Z,0.5nm,0.3s,baz=338,slow=12,SNR=12
PLCA LR LR 18 20 53.0
comp=Z,114nm,18.9s,baz=353,slow=34
PLCA Paso Flores 9.48 173 Pn Pn 18 17 45.5 -0.1
LL04 Puerto Octay 9.58 181 Pn Pn 18 17 46.5 -0.2
PB07 IPOC Station P 9.75 12 Pn 18 17 49.6 +0.3
PB09 IPOC Station P 9.82 16 Pn 18 17 51.8 +1.6
LL05 Los Muermos 10.13 186 Pn Pn 18 17 53.2 -1.1
PB01 IPOC Station P 10.49 14 Pn Pn 18 17 58.1 -1.3
TRQA Tornquist 10.71 132 Pn Pn 18 18 00.8 -1.4
TA01 Diego Aracena 10.84 10 Pn Pn 18 18 02.4 -1.7
PB08 IPOC Station P 11.44 14 Pn Pn 18 18 12.3 -0.4
PB11 IPOC Station P 11.71 11 Pn Pn 18 18 13.7 -2.5
PSGCX Pisagua 11.80 9 Pn Pn 18 18 15.5 -1.9
LPA La Plata 12.41 111 *eP* **Pn 18 18 23.2 -2.3**
LPA PPP PPP 18 18 39.1
LPA PP **PbPb 18 19 07.0 +1.3**
LPA pPP 18 19 20.9
LPA S **Sn 18 20 41.6 -2.5**
LPA SSS SSS 18 21 11.9
LPA SS **SbSb 18 21 46.0 +11**
LPA PCP **PcP 18 24 06.0 -0.4**
LPA SCS **ScS 18 31 10.3 -5.8**
LPA PKIKP **PKiKP 18 32 03.7 -0.3**
LPA SKIKP 18 35 29.9
LPA PKIKS 18 35 34.6
LPA SKIKS 18 39 06.4
ITQB Itaqui 13.45 87 Pn 18 18 35.1 -4.6
CPUP Villa Florida 13.87 73 Pn 18 18 45.2 -0.3
comp=Z,0.3nm,0.3s,baz=241,slow=12,SNR=3.4
CPUP Villa Florida 13.87 73 Pn Pn 18 18 42.4 -3.0
COYC Coyhaique 14.24 180 Pn 18 18 51.2 +0.8
LPAZ La Paz 15.39 15 Pn Pn 18 19 08.2 +1.4
comp=Z,0.4nm,0.3s,baz=186,slow=7.0,SNR=16
LPAZ La Paz 15.39 15 Pn Pn 18 19 08.2 +1.4
PLTB Pedras Altas 15.78 96 Pn Pn 18 19 11.5 +0.2
SIV San Ignacio 18.27 36 P P 18 19 42.9 0.0
comp=Z,0.4nm,0.3s,baz=237,slow=8.5,SNR=8.5
SIV LR LR 18 27 02.7
comp=Z,239nm,20.6s,baz=222,slow=38
NNA Nana 19.73 346 LR LR 18 26 05.7
comp=Z,344nm,18.8s,baz=164,slow=32

NNA Nana 19.73 346 P P 18 19 57.7 -1.2
SAML Samuel 23.75 22 P P 18 20 41.4 -0.2
BDFB Brasilia 26.96 60 P P 18 21 10.5 -0.4
comp=Z,5.8nm,0.7s,baz=208,slow=8.5,SNR=7.2
BDFB LR LR 18 33 02.1
comp=Z,2µm,19.3s,baz=231,slow=39
BDFB Brasilia 26.96 60 P P 18 21 09.7 -1.2
BDFB IAmb IAmb 18 21 43.4
comp=Z,23nm,1.2s
OTAV Otavalo 31.95 348 P P 18 21 55.0 -0.7
RPN Rapa Nui 32.66 268 LR LR 18 31 34.2
comp=Z,452nm,20.2s,baz=138,slow=30
RPN Rapa Nui 32.66 268 P P 18 22 01.2 -0.1
PMSA Palmer Station 33.86 174 LR LR 18 36 28.2
comp=Z,679nm,18.3s,baz=233,slow=37
PMSA Palmer Station 33.86 174 P P 18 22 11.2 -0.1
PMSA IAmb IAmb 18 22 33.4
comp=Z,15nm,1.1s
ROSC El Rosal 36.01 356 P P 18 22 31.0 +0.2
ROSC IAmb IAmb 18 22 37.2
comp=Z,13nm,1.0s
RUSC La Rusia 37.01 358 P P 18 22 39.3 -0.1
SDV Santo Domingo 40.00 2 P P 18 23 02.8 -1.4
SJCC San Jacinto, C 41.08 355 P P 18 23 12.3 -0.7
SRBA San Rafael, Bu 41.73 343 P P 18 23 19.0 +0.5
URIC Uribia, Colomb 42.77 0 P P 18 23 26.1 -0.6
TOSP Speyside 43.80 17 P P 18 23 35.7 +0.6
ICMP Isla Caja de M 49.21 7 P P 18 24 15.7 -1.8
MLPR Magueyes Islan 49.24 6 P P 18 24 18.0 +0.2
OBIP Obispado Ponce 49.36 7 P P 18 24 17.2 -1.4
PDPR Patillas Dam, 49.40 8 P P 18 24 18.3 -0.6
SJG San Juan 49.47 7 P P 18 24 17.8 -1.7
MTP Monte Pirata 49.53 8 P P 18 24 18.7 -1.3
AOPR Arecibo Observ 49.64 7 P P 18 24 18.6 -2.3
CBYP Canovanas 49.66 8 P P 18 24 20.0 -1.1
GCPR Guaynabo City 49.68 8 P P 18 24 19.8 -1.3
SMRT St. Maarten 49.84 11 P P 18 24 21.5 -0.9
SMRT IAmb IAmb 18 24 35.0
comp=Z,15nm,1.1s
STVI Saint Thomas 49.86 9 P P 18 24 21.3 -1.1
STVI IAmb IAmb 18 24 22.7
comp=Z,35nm,1.7s
PETF Flores 50.90 338 P P 18 24 31.3 +0.9
CCIG Comitan 51.09 335 P P 18 24 32.6 +0.6
CCIG IAmb IAmb 18 24 34.5
comp=Z,22nm,1.4s
VNA3 Neumayer Olymp 51.87 159 P P 18 24 37.6 +0.5
VNA2 Neumayer--Watz 52.51 158 P P 18 24 42.3 +0.4
baz=285,slow=9.3
CMIG Matias Romero 52.87 332 P P 18 24 45.6 +0.5
comp=Z,3.2nm,0.8s,baz=130,slow=7.9,SNR=4.2
SNAA Sanae 54.09 159 P P 18 24 53.9 +0.4
SNAA Sanae 54.09 159 P P 18 24 54.0 +0.4
comp=Z,2.2nm,0.7s,baz=270,slow=7.0,SNR=14
SNAA Sanae 54.09 159 P P 18 24 53.6 +0.1
TLIG Tlapa 54.84 329 P P 18 25 01.5 +1.8
TLIG IAmb IAmb 18 25 03.2
comp=Z,29nm,1.7s
QSPA South Pole Qui 58.91 180 P P 18 25 28.8 +0.7
833A Chaparral WMA, 64.76 333 P P 18 26 08.8 +1.2
baz=154
HKT Hockley 64.97 337 P P 18 26 09.6 +0.7
HKT IAmb IAmb 18 26 12.0
comp=Z,13nm,1.4s
SBA Scott Base 65.69 191 P P 18 26 14.8 +1.7
SBA IAmb IAmb 18 26 52.6
comp=Z,12nm,1.4s
Y52A Lilburn 65.80 349 P P 18 26 14.1 -0.2
Y52A IAmb IAmb 18 26 23.1
comp=Z,8.1nm,0.9s
JSC Jenkinsville 65.81 352 P P 18 26 13.9 -0.4
JSC IAmb IAmb 18 26 15.7
comp=Z,11nm,1.0s
HPIG 66.19 327 P P 18 26 18.9 +1.7
Y49A Blount Mountai 66.21 347 P P 18 26 16.5 -0.5
KMSC Kings Mountain 66.67 352 P P 18 26 20.2 +0.4
KMSC Kings Mountain 66.67 352 P P 18 26 20.7 +0.9
baz=171
VNDA Vanda 66.72 191 P P 18 26 21.2 +1.5
comp=Z,2.9nm,1.1s,baz=145,slow=3.5,SNR=8.9
VNDA Vanda 66.72 191 P P 18 26 21.4 +1.7
VNDA IAmb IAmb 18 26 22.7
comp=Z,9.5nm,1.5s
FPAL Fort Paine 66.73 348 P P 18 26 20.6 +0.3
BG3 Lake Jocassee 66.74 350 P P 18 26 21.1 +0.8
JCT Junction City 66.85 334 P P 18 26 21.4 +0.3
JCT Junction City 66.85 334 P P 18 26 22.4 +1.3
baz=154
237A Washetta, Mont 66.86 338 P P 18 26 22.2 +1.1
Y45A Yeager Farm, C 66.89 344 P P 18 26 21.4 +0.2
X48A Hartselle 66.91 347 P P 18 26 21.2 -0.2
X48A IAmb IAmb 18 26 31.6
comp=Z,13nm,1.1s
W52A Murphy 66.99 349 P P 18 26 20.2 -1.7
V58A Windy Hill, Pi 67.08 354 P P 18 26 21.9 -0.5
W50A Signal Mountai 67.32 348 P P 18 26 23.2 -0.8
V55A Taylorsville 67.36 352 P P 18 26 24.2 0.0
V55A IAmb IAmb 18 26 25.8
comp=Z,14nm,1.1s
TXAR Lajitas Array 67.38 330 P P 18 26 26.2 +1.7
comp=Z,2.3nm,0.7s,baz=153,slow=8.4,SNR=29
TXAR Lajitas Array 67.38 330 P P 18 26 25.5 +0.9
TX31 Lajitas Ar. Si 67.38 330 P P 18 26 25.5 +0.9
TX32 Lajitas Array 67.38 330 P P 18 26 25.1 +0.5
WHTX Lake Whitney, 67.39 337 P P 18 26 23.8 -0.7
WHTX Lake Whitney, 67.39 337 P P 18 26 25.6 +1.1
baz=157
V53A Saluda 67.39 351 P P 18 26 24.2 -0.2
V53A IAmb IAmb 18 26 27.6
comp=Z,17nm,1.4s
SWET Sewanee 67.44 348 P P 18 26 24.9 +0.1
OXF Oxford 67.47 345 P P 18 26 24.8 -0.2
PLAL Pickwick Lake 67.64 346 P P 18 26 25.5 -0.4
PLAL IAmb IAmb 18 26 35.3
comp=Z,12nm,1.1s
V52A Sevierville 67.67 350 P P 18 26 25.9 -0.3
V51A Loudon 67.75 349 P P 18 26 26.6 0.0
V51A IAmb IAmb 18 26 38.1
comp=Z,14nm,1.1s
TBI Tubuai 67.92 255 *e*LR LR 18 46 58.2
comp=Z,338nm,25.8s,baz=121
V48A Smith Brothers 68.12 347 P P 18 26 29.4 +0.4
T59A Double "B" Far 68.12 355 P P 18 26 28.9 -0.1
T59A IAmb IAmb 18 26 31.0
comp=Z,15nm,1.1s
SYO Syowa Base 68.38 159 ⇓ *e*P **P 18 26 29.0 -1.3**
MIAR Mount Ida 68.56 341 P P 18 26 31.6 -0.2
MIAR IAmb IAmb 18 26 42.4
comp=Z,15nm,1.4s
MIAR Mount Ida 68.56 341 P P 18 26 31.7 0.0
baz=160
WVT Waverly 68.69 346 P P 18 26 33.0 +0.4
WVT Waverly 68.69 346 P P 18 26 32.7 +0.1
baz=166
ABTX Abilene, Hawle 68.72 335 P P 18 26 33.1 +0.2
baz=155
W41B Gary Mavity, V 68.80 342 P P 18 26 33.4 +0.1
baz=162
W39A Magazine 69.23 341 P P 18 26 36.0 +0.1
W39A Magazine 69.23 341 P P 18 26 36.9 +1.0
baz=160
LCAR Lake Charles 69.37 344 P P 18 26 36.6 -0.1
LCAR IAmb IAmb 18 26 38.2
comp=Z,6.3nm,0.7s
T47A Sharon Grove 69.38 347 P P 18 26 37.0 +0.1
U40A Yellville 70.07 342 P P 18 26 40.7 -0.5
U40A IAmb IAmb 18 26 51.5
comp=Z,9.9nm,0.9s
U40A Yellville 70.07 342 P P 18 26 41.5 +0.4
baz=161
MNTX Cornudas Mount 70.16 330 P P 18 26 41.4 -0.3
MNTX Cornudas Mount 70.16 330 P P 18 26 41.5 -0.3
baz=150
WMOK Wichita Mounta 70.34 337 P P 18 26 42.8 0.0
WMOK IAmb IAmb 18 26 44.5
comp=Z,8.2nm,1.2s
WMOK Wichita Mounta 70.34 337 P P 18 26 43.0 +0.2
baz=156
PPT2 Papeete2 70.58 261 *e*LR LR 18 48 10.0
comp=Z,169nm,22.8s
P57A Homestead Farm 70.65 355 P P 18 26 44.8 +0.2
P57A IAmb IAmb 18 26 47.1
comp=Z,18nm,1.2s
P60A Greenville 70.84 357 P P 18 26 46.6 +0.9
baz=177
MCWV Mont Chateau 70.98 354 P P 18 26 47.8 +1.2
baz=173
MSTX Muleshoe 71.09 333 P P 18 26 47.7 +0.1
MSTX Muleshoe 71.09 333 P P 18 26 48.2 +0.7
baz=153
P52A Corning 71.20 352 P P 18 26 47.9 0.0
baz=171
CCM Cathedral Cave 71.29 344 P P 18 26 48.6 +0.1
CCM IAmb IAmb 18 26 58.8
comp=Z,14nm,1.1s
CCM Cathedral Cave 71.29 344 P P 18 26 49.0 +0.5
baz=163
S39A Bolivar 71.45 342 P P 18 26 49.4 -0.2
S39A IAmb IAmb 18 26 51.3
comp=Z,18nm,1.3s
AMTX Amarillo 71.49 335 P P 18 26 50.7 +0.8
baz=154
319A Douglas 71.62 327 P P 18 26 50.3 -0.5
319A IAmb IAmb 18 26 53.9
comp=Z,18nm,1.4s
T35A Sooner Cattle 71.62 340 P P 18 26 50.1 -0.5
T35A IAmb IAmb 18 26 52.6
comp=Z,19nm,1.2s
O53A New Philadelph 71.70 353 P P 18 26 52.0 +1.0
baz=172
R40A Maddies Statio 71.76 343 P P 18 26 50.9 -0.4
R40A IAmb IAmb 18 27 01.6
comp=Z,15nm,1.0s
SSPA Standing Stone 71.79 355 P P 18 26 52.1 +0.6
baz=175
ACSO Alum Creek Sta 71.90 351 P P 18 26 53.1 +0.9
baz=170
121A Cookes Peak, D 71.91 329 P P 18 26 52.8 +0.1
121A IAmb IAmb 18 26 55.9
comp=Z,17nm,1.2s
121A Cookes Peak, D 71.91 329 P P 18 26 54.2 +1.6
baz=148
N59A State Game Lan 71.95 357 P P 18 26 53.4 +0.9
baz=177
PAL Palisades 71.98 359 P P 18 26 53.3 +0.8
baz=178
M54A Oil Creek Stat 72.80 354 P P 18 26 57.6 +0.1
baz=173
P40A Paris 72.88 344 P P 18 26 57.6 -0.4
P40A IAmb IAmb 18 27 08.5
comp=Z,15nm,0.9s
TUC Tucson 73.10 326 P P 18 27 00.4 +0.8
baz=146
BINY Binghamton 73.24 357 P P 18 27 00.4 +0.3
baz=176
ANMO Albuquerque 73.41 331 P P 18 27 01.0 -0.5
ANMO Albuquerque 73.41 331 P P 18 27 02.6 +1.1
baz=150
214A Organ Pipe Nat 73.79 325 P P 18 27 02.3 -1.3
214A Organ Pipe Nat 73.79 325 P P 18 27 05.0 +1.3
baz=145
DBIC Dimbokro 74.39 72 P P 18 27 07.5 0.0
comp=Z,6.5nm,0.9s,baz=298,slow=3.5,SNR=4.9
DBIC LR LR 18 57 01.8
comp=Z,432nm,20.6s,baz=238,slow=34
DBIC Dimbokro 74.39 72 IAmb IAmb 18 27 46.7
comp=Z,15nm,1.1s
T25A Trinidad 74.50 334 P P 18 27 08.0 +0.1
T25A Trinidad 74.50 334 P P 18 27 09.1 +1.2
baz=152,SNR=9.4
W18A Petrified Fore 74.96 329 P P 18 27 10.0 -0.5
W18A IAmb IAmb 18 27 13.7
comp=Z,24nm,1.4s
W18A Petrified Fore 74.96 329 P P 18 27 11.8 +1.3
baz=147
X16A Lo Mia Camp, P 75.15 327 IAmb IAmb 18 27 14.8
comp=Z,12nm,1.2s
SDCO Great Sand Dun 75.45 333 IAmb IAmb 18 27 16.2
comp=Z,27nm,1.8s
SDCO Great Sand Dun 75.45 333 P P 18 27 14.4 +0.9
baz=151,SNR=11
GLA Glamis 75.68 324 P P 18 27 15.8 +1.3
baz=143
JFWS Jewell Farm 75.72 346 P P 18 27 15.6 +1.1
baz=164
MAW Mawson 75.77 164 P P 18 27 14.1 -0.4
comp=Z,4.6nm,0.8s,baz=209,slow=8.3,SNR=8.3
MAW LR LR 19 01 34.6
comp=Z,195nm,19.1s,baz=234,slow=36
MAW Mawson 75.77 164 P P 18 27 13.6 -0.9
S22A 4UR Ranch, Cre 75.97 332 P P 18 27 17.5 +1.0
baz=150,SNR=5.2
IKP In-Ko-Pah, Jac 76.02 323 P P 18 27 17.9 +1.3
baz=142
WUAZ Wupatki 76.03 328 IAmb IAmb 18 27 19.9
comp=Z,19nm,1.4s
WUAZ Wupatki 76.03 328 P P 18 27 18.6 +1.9
baz=146
MVCO Mesa Verde 76.20 331 IAmb IAmb 18 27 20.5
comp=Z,12nm,1.1s
MVCO Mesa Verde 76.20 331 P P 18 27 19.3 +1.6
baz=149
MONP2 Monument Peak 76.37 323 P P 18 27 20.3 +1.6
baz=142
Q24A Divide 76.39 334 P P 18 27 20.4 +1.6
baz=151,SNR=6.9
BC3 Big Chuckawall 76.48 324 P P 18 27 21.1 +2.0
baz=143
IRM Iron Mountain 76.72 324 P P 18 27 22.2 +1.8
baz=143
W13A Hualapai Mount 76.86 326 P P 18 27 21.4 0.0
W13A IAmb IAmb 18 27 24.6
comp=Z,15nm,1.7s
TPFO Pinon Flats 76.95 323 P P 18 27 23.9 +2.0
baz=142
PFO Pinyon Flats O 76.95 323 P P 18 27 24.5 +2.6
baz=142
BELC Belle Mtn. Jos 77.03 324 P P 18 27 24.2 +1.9
baz=143
PV13 Radium Mtn., P 77.14 331 IAmb IAmb 18 27 25.6
comp=Z,8.5nm,1.0s
PV15 Paradox Valley 77.15 331 IAmb IAmb 18 27 26.2
comp=Z,11nm,1.4s
PV05 Paradox Valley 77.18 331 IAmb IAmb 18 27 25.8
comp=Z,7.6nm,0.9s
PV18 Skein Mesa, Pa 77.25 331 P P 18 27 22.8 -0.7
PV12 Saucer Basin, 77.26 331 IAmb IAmb 18 27 37.5
comp=Z,25nm,1.7s
SMCO Snowmass 77.27 333 IAmb IAmb 18 27 27.1
comp=Z,14nm,0.9s
ISCO Idaho Springs 77.29 334 P P 18 27 22.8 -1.1
ISCO Idaho Springs 77.29 334 P P 18 27 25.4 +1.5
baz=151,SNR=6.1
PV17 East Wray Mesa 77.30 331 P P 18 27 22.6 -1.2
PV16 Nyswonger Mesa 77.31 331 IAmb IAmb 18 27 27.3
comp=Z,12nm,1.6s
PV14 Lion Creek, Pa 77.40 331 P P 18 27 23.8 -0.6
PV14 IAmb IAmb 18 27 36.0
comp=Z,13nm,1.3s
HEC Hector,Ludlow 77.85 324 P P 18 27 29.1 +2.3
baz=142
KNB Kanab 77.93 328 IAmb IAmb 18 27 30.6
comp=Z,23nm,1.5s
ECSD EROS Data Cent 77.98 342 P P 18 27 26.9 -0.3
ECSD IAmb IAmb 18 27 28.8
comp=Z,12nm,1.1s
ECSD EROS Data Cent 77.98 342 P P 18 27 27.9 +0.7
baz=159
BFSC Mount Baldy Ra 78.06 323 P P 18 27 29.9 +1.8
baz=142
TUQ Turquoise Moun 78.13 325 P P 18 27 30.1 +1.6
baz=143
N23A Red Feather La 78.37 334 P P 18 27 31.6 +1.9
baz=151
GSC Goldstone, Bar 78.46 324 IAmb IAmb 18 27 33.4
comp=Z,11nm,1.3s
GSC Goldstone, Bar 78.46 324 P P 18 27 31.9 +1.7
baz=142
MTPU Mount Pierson 78.48 329 P P 18 27 29.4 -1.2
SZCU Shurtz Canyon 78.52 328 IAmb IAmb 18 27 33.9
comp=Z,14nm,1.4s
O20A White River Ci 78.59 333 P P 18 27 30.8 -0.1
O20A IAmb IAmb 18 27 33.7
comp=Z,9.6nm,1.1s
O20A White River Ci 78.59 333 P P 18 27 32.5 +1.6
baz=149
CCUT Cedar City 78.61 328 P P 18 27 30.9 -0.2
CCUT IAmb IAmb 18 27 34.8
comp=Z,16nm,1.4s
EDW2 Edwards Air Fo 78.74 323 P P 18 27 33.0 +1.3
baz=141

Q16A	**Castle Valley**	**78.77**	**330**	P	**P**	**18 27 31.5**	**-0.4**
Q16A				IAmb	IAmb	18 27 34.8	
	comp=Z,12nm,1.2s						
LRMC	**Laurel Mtn Rad**	**79.04**	**324**	P	**P**	**18 27 35.1**	**+1.6**
	baz=142						
P17A	**Butcher Ranch,**	**79.05**	**331**	IAmb	IAmb	18 27 36.0	
	comp=Z,12nm,1.2s						
TMUT	**Trail Mountain**	**79.10**	**330**	P	**P**	**18 27 33.3**	**-0.6**
TMUT				IAmb	IAmb	18 27 45.8	
	comp=Z,19nm,1.7s						
PRN	**Pahroc Range**	**79.28**	**326**	IAmb	IAmb	18 27 38.1	
	comp=Z,13nm,1.1s						
MPMC	**Manual Prospec**	**79.40**	**324**	P	**P**	**18 27 37.2**	**+1.7**
	baz=142						
FURC	**Furnace Creek,**	**79.41**	**325**	P	**P**	**18 27 36.8**	**+1.6**
	baz=142						
TPNV	**Topopah Spring**	**79.49**	**325**	IAmb	IAmb	18 27 39.3	
	comp=Z,14nm,1.4s						
TPNV	**Topopah Spring**	**79.49**	**325**	P	**P**	**18 27 37.5**	**+1.6**
	baz=143,SNR=5.8						
RDMU	**Red Mountain**	**79.49**	**332**	IAmb	IAmb	18 27 38.2	
	comp=Z,9.4nm,1.0s						
RWWY	**Rawlins**	**79.53**	**334**	IAmb	IAmb	18 27 38.7	
	comp=Z,15nm,1.1s						
KOWA	**Kowa**	**79.59**	**66**	P	**P**	**18 27 36.5**	**-0.2**
ISA	**Isabella, Lake**	**79.59**	**323**	IAmb	IAmb	18 27 39.6	
	comp=Z,9.8nm,1.1s						
ISA	**Isabella, Lake**	**79.59**	**323**	P	**P**	**18 27 38.5**	**+2.1**
	baz=141,SNR=6.1						
PKM	**Mcpherson Peak**	**79.69**	**322**	P	**P**	**18 27 37.9**	**+0.8**
	baz=140,SNR=5.3						
CWC	**Cottonwood Cre**	**79.99**	**324**	P	**P**	**18 27 39.9**	**+1.2**
	baz=141						
VES	**Vestal, Richgr**	**80.04**	**323**	P	**P**	**18 27 40.6**	**+1.9**
	baz=141						
GRAC	**Grapevine Rang**	**80.07**	**325**	P	**P**	**18 27 40.9**	**+1.9**
	baz=142						
K22A	**Casper**	**80.11**	**335**	IAmb	IAmb	18 27 41.8	
	comp=Z,9.9nm,0.9s						
K22A	**Casper**	**80.11**	**335**	P	**P**	**18 27 40.1**	**+0.9**
	baz=151						
SMMC	**Simmler**	**80.11**	**322**	P	**P**	**18 27 40.7**	**+1.5**
	baz=140						
SPR3	**Spring Creek 3**	**80.23**	**328**	IAmb	IAmb	18 27 42.8	
	comp=Z,18nm,1.5s						
R11A	**Troy Canyon, C**	**80.29**	**327**	P	**P**	**18 27 41.9**	**+1.6**
	baz=143,SNR=7.9						
LCH	**Last Change Ra**	**80.40**	**325**	IAmb	IAmb	18 27 43.7	
	comp=Z,17nm,1.8s						
DUG	**Dugway, Tooele**	**80.53**	**330**	P	**P**	**18 27 41.8**	**+0.3**
DUG				IAmb	IAmb	18 27 44.3	
	comp=Z,21nm,1.6s						
DUG	**Dugway, Tooele**	**80.53**	**330**	P	**P**	**18 27 42.2**	**+0.8**
	baz=146,SNR=6.0						
RSSD	**Black Hills**	**80.54**	**337**	P	**P**	**18 27 42.3**	**+0.8**
	baz=153						
BGU	**Big Grassy Mou**	**81.23**	**330**	IAmb	IAmb	18 27 48.3	
	comp=Z,15nm,1.7s						
PDAR	**Pinedale Array**	**81.35**	**333**	P	**P**	**18 27 46.0**	**+0.2**
	comp=Z,1.7nm,1.1s,baz=162,slow=4.4,SNR=5.7						
BOSA	**Boshof**	**81.37**	**118**	P	**P**	**18 27 46.6**	**+0.2**
	comp=Z,4.7nm,0.9s,baz=275,slow=8.4,SNR=4.2						
BOSA				LR	LR	19 01 53.8	
	comp=Z,259nm,18.1s,baz=225,slow=34						
BOSA	**Boshof**	**81.37**	**118**	IAmb	IAmb	18 28 04.0	
	comp=Z,27nm,1.5s						
LHV	**Little Huntoon**	**81.61**	**325**	IAmb	IAmb	18 27 50.4	
	comp=Z,9.6nm,1.1s						
NVAR	**Mina Array Bea**	**81.66**	**325**	P	**P**	**18 27 48.6**	**+1.0**
	comp=Z,2.2nm,0.8s,baz=153,slow=5.8,SNR=16						
HVU	**Hansel Valley**	**81.82**	**330**	P	**P**	**18 27 48.0**	**-0.3**
ELK	**Elko**	**82.05**	**328**	P	**P**	**18 27 49.5**	**-0.2**
YERR	**Yerington**	**82.55**	**325**	IAmb	IAmb	18 27 55.2	
	comp=Z,8.6nm,1.0s						
MDND	**Maddock**	**82.58**	**342**	P	**P**	**18 27 53.3**	**+1.4**
	baz=157						
CASY	**Casey**	**82.70**	**181**	P	**P**	**18 27 53.1**	**+0.6**
PNTR	**Pine Nut**	**82.81**	**325**	IAmb	IAmb	18 27 56.7	
	comp=Z,13nm,0.9s						
PAHR	**Pah Rah Range**	**83.18**	**325**	IAmb	IAmb	18 27 58.4	
	comp=Z,17nm,1.4s						
TORD	**Torodi Ar. Bea**	**83.35**	**70**	P	**P**	**18 27 56.5**	**-0.1**
	comp=Z,5.5nm,0.9s,baz=259,slow=4.4,SNR=24						
TORD				LR	LR	19 02 45.8	
	comp=Z,335nm,19.7s,baz=215,slow=34						
TORD	**Torodi Ar. Bea**	**83.35**	**70**	P	**P**	**18 27 56.1**	**-0.6**
TORD				IAmb	IAmb	18 28 02.1	
	comp=Z,7.5nm,0.8s						
YHH	**Holmes Hill**	**83.56**	**333**	IAmb	IAmb	18 28 00.7	
	comp=Z,8.5nm,1.3s						
YHL	**Hebgen Lake**	**83.74**	**333**	P	**P**	**18 27 57.4**	**-1.0**
YHL				IAmb	IAmb	18 28 01.3	
	comp=Z,8.3nm,1.3s						
HLID	**Hailey**	**83.98**	**331**	IAmb	IAmb	18 28 02.2	
	comp=Z,8.6nm,1.4s						
HLID	**Hailey**	**83.98**	**331**	P	**P**	**18 28 00.6**	**+1.1**
	baz=145						
ORV	**Oroville**	**84.11**	**324**	IAmb	IAmb	18 28 03.0	
	comp=Z,8.5nm,1.1s						
MCMT	**McKenzie Canyo**	**84.37**	**332**	P	**P**	**18 28 01.4**	**-0.1**
DGMT	**Dagmar**	**84.46**	**339**	P	**P**	**18 28 02.5**	**+0.9**
	baz=153						
BOZ	**Bozeman (W)**	**84.54**	**333**	P	**P**	**18 28 02.7**	**+0.4**
	baz=147						
O03E	**Paynes Creek**	**84.82**	**324**	P	**P**	**18 28 04.0**	**+0.3**
	baz=139						
WVOR	**Wild Horse Val**	**84.94**	**327**	IAmb	IAmb	18 28 06.7	
	comp=Z,7.9nm,1.4s						
O02D	**Mt. Diablo Mer**	**85.23**	**323**	P	**P**	**18 28 06.4**	**+0.6**
	baz=138						
MOD	**Modoc Plateau**	**85.31**	**326**	IAmb	IAmb	18 28 08.7	
	comp=Z,11nm,1.4s						
J08A	**Circle Bar Ran**	**85.59**	**328**	IAmb	IAmb	18 28 10.1	
	comp=Z,9.2nm,0.9s						
N02D	**Trinity Center**	**85.78**	**324**	P	**P**	**18 28 08.8**	**+0.3**
	baz=139						
EGMT	**Eagleton**	**85.90**	**336**	P	**P**	**18 28 09.2**	**+0.3**
	baz=148						
M04C	**Macdoel**	**85.96**	**325**	P	**P**	**18 28 10.1**	**+0.6**
	baz=139						
K05A	**Summer Lake**	**86.22**	**326**	P	**P**	**18 28 11.4**	**+0.6**
K05A				IAmb	IAmb	18 28 13.7	
	comp=Z,13nm,1.1s						
L04D	**Klamath Falls**	**86.52**	**325**	P	**P**	**18 28 12.9**	**+0.7**
	baz=139						
I07A	**Izee**	**86.62**	**328**	IAmb	IAmb	18 28 15.3	
	comp=Z,7.9nm,1.4s						
J05D	**Fort Rock, OR**	**86.81**	**326**	P	**P**	**18 28 14.8**	**+1.2**
	baz=140						
PINE	**Pine Mountain**	**87.06**	**327**	P	**P**	**18 28 15.7**	**+0.9**
PINE				IAmb	IAmb	18 28 17.7	
	comp=Z,8.0nm,0.9s						
L02E	**Cave Junction**	**87.12**	**324**	P	**P**	**18 28 15.9**	**+0.9**
	baz=138						
K02D	**Willamette Mer**	**87.55**	**325**	P	**P**	**18 28 17.8**	**+0.7**
	baz=138						
I04A	**Tendick Farm,**	**87.76**	**326**	P	**P**	**18 28 19.0**	**+0.9**
	baz=139						
ESDC	**Sonseca Array**	**94.76**	**46**	LR	LR	19 12 02.0	
	comp=Z,188nm,18.3s,baz=280,slow=36						
DZM	**Mont Dzumac**	**102.77**	**234**	*e*LR	LR	19 03 10.0	
	comp=Z,251nm,27.5s						
KDAK	**Kodiak Island**	**111.16**	**325**	P	**PKiKP**	**18 34 02.7**	**+0.5**
	baz=115						
AKASG	**Malin Array Be**	**120.40**	**46**	PKP	**PKPdf**	**18 34 19.2**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=256,slow=3.4,SNR=5.0						
WRA	**Warramunga Arr**	**123.06**	**210**	PKP	**PKPdf**	**18 34 25.5**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=166,slow=1.7,SNR=3.0						
H11S2	**WAKE ISLAND Hyl**	**25.71**	**271**	T	T	20 53 20.2	
	baz=116,slow=75,SNR=31						
H11S1	**WAKE ISLAND Hyl**	**25.72**	**271**	T	T	20 53 20.4	
	baz=116,slow=75,SNR=31						
H11S3	**WAKE ISLAND Hyl**	**25.73**	**271**	T	T	20 53 22.3	
	baz=116,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hyl**	**26.06**	**273**	T	T	20 53 29.6	
	baz=116,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hyl**	**26.07**	**273**	T	T	20 53 51.1	
	baz=116,slow=75,SNR=5.1						
H11N2	**WAKE ISLAND Hyl**	**26.07**	**273**	T	T	20 53 51.4	
	baz=116,slow=75,SNR=36						
KLMR	**Klimovskoe**	**127.25**	**35**	*e*PKPdf	**PKPdf**	**18 34 31.1**	**-1.9**
KLMR				AMP		18 34 42.5	
	comp=Z,18nm,1.5s						
HYB	**Hyderabad**	**150.01**	**111**	*i* PKP	**PKPbc**	**18 35 18.0**	**-2.5**
ZALV	**Zalesovo Beam**	**151.96**	**30**	PKPbc	**PKiKP**	**18 35 24.2**	**+0.1**
	comp=Z,9.1nm,0.6s,baz=299,slow=3.4,SNR=29						
KSH	**Kashi**	**152.83**	**64**	PKPbc	**PKPdf**	**18 35 20.8**	**+1.5**
KSH				PP	**PP**	**18 39 18.1**	**+7.2**
MKAR	**Makanchi Array**	**154.97**	**45**	PKP	**PKPdf**	**18 35 21.7**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=1.6,slow=1.6,SNR=7.6						
MKAR				PKPbc	**PKiKP**	**18 35 30.9**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=311,slow=2.6,SNR=14						
SONM	**Songino Array**	**163.46**	**4**	PKPab	**PKPab**	**18 36 24.5**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=330,slow=5.5,SNR=1.8						

*IDC **18** 18:20:00.2±0.7,28.°31S×70.°83W,h0km,mb4.1/9, mb1 4.3/14,mb1mx4.2/36,mbtmp4.2/14,ML4.1/5 Error ellipse: s-maj=24.9km s-min=17.6km az=90.0*

*NEIC **18** 18:20:07.1±2.6,28.°21S±0.°04×71.°00W±0.°07,h62km±6km, mb4.6/18,ML4.7(GUC), Error ellipse: s-maj=9.5km s-min=4.1km az=116.0*

*GUC **18** 18:20:08.8±0.7,28.°28S×70.°69W,h56km±5km,ML4.7*

*SJA **18** 18:20:09.9±0.8,28.°34S×70.°81W,h40km,ML4.6,MW4.6*

ISC 18 18:20:07.3±0.6,**28.°18S**±0.°03×**70.°98W**±0.°04,**h60**km±5km, **n139,σ1§92**/167,**mb4.3**/12,**11C-4D,Central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AC04	**Llanos de Chal**	**0.09**	**253**	⇓*iP*	**Pn**	**18 20 18.9**	**+2.5**
AC04				*i* S	**Sn**	**18 20 26.1**	**+3.2**
AC04				IAML		18 20 26.6	
	comp=E,87μm,0.2s						
AC04	**Llanos de Chal**	**0.09**	**253**	⇓*iP*	**Pn**	**18 20 18.8**	**+2.5**
AC04				*i* S	**Sn**	**18 20 26.3**	**+3.4**
AC04				IAML		18 20 26.6	
	comp=E,88μm,0.2s						
AC04	**Llanos de Chal**	**0.09**	**253**		**Pn**	**18 20 18.7**	**+2.4**
AC04					**Sn**	**18 20 26.1**	**+3.2**
AC04	**Llanos de Chal**	**0.09**	**253**	*eP*	**Pn**	**18 20 18.6**	**+2.3**
AC04				IAML		18 20 32.9	
	comp=Z,14μm,0.2s						
LCO	**Las Campanas**	**0.86**	**164**	⇓*iP*	**Pn**	**18 20 23.8**	**-0.1**
LCO				*i* S	**Sn**	**18 20 34.7**	**-1.3**
LCO	**Las Campanas**	**0.86**	**164**	⇑*iP*	**Pn**	**18 20 23.2**	**-0.7**
LCO				*i* S	**Sn**	**18 20 35.1**	**-1.0**
LCO	**Las Campanas**	**0.86**	**164**		**Pn**	**18 20 23.6**	**-0.4**
LCO					**Sn**	**18 20 34.8**	**-1.3**
LCO	**Las Campanas**	**0.86**	**164**	*eP*	**Pn**	**18 20 23.0**	**-0.9**
GO03	**Copiap**	**0.88**	**49**	⇑*iP*	**Pn**	**18 20 24.1**	**+0.3**
GO03				*i* S	**Sn**	**18 20 35.6**	**-0.5**
GO03				IAML		18 20 41.3	
	comp=E,15μm,0.4s						
GO03	**Copiap**	**0.88**	**49**	⇑*iP*	**Pn**	**18 20 23.5**	**-0.4**
GO03				*i* S	**Sn**	**18 20 35.8**	**-0.3**
GO03	**Copiap**	**0.88**	**49**		**Pn**	**18 20 24.1**	**+0.3**
GO03					**Sn**	**18 20 35.3**	**-0.7**
GO03	**Copiap**	**0.88**	**49**	*eP*	**Pn**	**18 20 24.2**	**+0.3**
AC06	**Mina Casimiro**	**0.99**	**34**	⇑*iP*	**Pn**	**18 20 26.5**	**+1.2**
AC06				*i* S	**Sn**	**18 20 39.8**	**+1.3**
AC06				IAML		18 20 42.5	
	comp=N,17μm,0.3s						
AC06	**Mina Casimiro**	**0.99**	**34**	⇓*iP*	**Pn**	**18 20 26.1**	**+0.8**
AC06				*i* S	**Sn**	**18 20 39.9**	**+1.3**
AC06	**Mina Casimiro**	**0.99**	**34**	Pn	**Pn**	**18 20 26.4**	**+1.2**
AC06				Sn	**Sn**	**18 20 39.3**	**+0.8**
CO05	**La Serena**	**1.75**	**187**	⇑*iP*	**Pn**	**18 20 36.3**	**+0.9**
CO05				*i* S	**Sn**	**18 20 58.1**	**+1.5**
CO05				IAML		18 21 01.8	
	comp=N,13μm,0.5s						
CO05	**La Serena**	**1.75**	**187**	⇑*iP*	**Pn**	**18 20 36.3**	**+0.9**
CO05				*i* S	**Sn**	**18 20 58.7**	**+2.1**
CO05				IAML		18 21 01.8	
	comp=N,13μm,0.5s						
CO05	**La Serena**	**1.75**	**187**		**Pn**	**18 20 36.0**	**+0.6**
GO04	**Tololo Observa**	**1.99**	**176**	⇑*iP*	**Pn**	**18 20 39.9**	**+1.0**
GO04				*i* S	**Sn**	**18 21 02.7**	**-0.2**
GO04				IAML		18 21 09.9	
	comp=N,30μm,0.6s						
GO04	**Tololo Observa**	**1.99**	**176**	⇑*iP*	**Pn**	**18 20 39.9**	**+1.0**
GO04				*i* S	**Sn**	**18 21 04.3**	**+1.4**
GO04				IAML		18 21 08.0	
	comp=E,32μm,0.4s						
GO04	**Tololo Observa**	**1.99**	**176**		**Pn**	**18 20 39.9**	**+1.0**
GO04	**Tololo Observa**	**1.99**	**176**	*eP*	**Pn**	**18 20 40.2**	**+1.3**
GO04				*eS*	**Sn**	**18 20 57.5**	**-5.4**
AC02	**Maricunga**	**2.12**	**51**	⇑*iP*	**Pn**	**18 20 42.2**	**+1.4**
AC02				*i* S	**Sn**	**18 21 06.7**	**+0.3**
AC02				IAML		18 21 17.1	
	comp=N,6μm,0.3s						
AC02	**Maricunga**	**2.12**	**51**	⇑*iP*	**Pn**	**18 20 42.2**	**+1.4**
AC02				*i* S	**Sn**	**18 21 07.7**	**+1.3**
AC02	**Maricunga**	**2.12**	**51**	Pn	**Pn**	**18 20 42.3**	**+1.4**
AC02	**Maricunga**	**2.12**	**51**	*eP*	**Pn**	**18 20 42.4**	**+1.5**
AC02				*eS*	**Sn**	**18 21 09.2**	**+2.9**
AC02				IAML		18 21 10.2	
	comp=Z,2μm,0.5s						
AROD	**Rodeo**	**2.38**	**147**	*eP*	**Pn**	**18 20 46.0**	**+1.7**
AROD				*eS*	Sn	18 21 01.1	-11
VCA	**Vinchina**	**2.50**	**103**	*eP*	**Pn**	**18 20 48.0**	**+2.2**
VCA				*eS*	**Sn**	**18 21 19.1**	**+3.8**
VCA				IAML		18 21 24.8	
	comp=Z,3μm,0.3s						
AGUA	**GUANDACOL**	**2.54**	**121**	*eP*	**Pn**	**18 20 48.0**	**+1.7**
AGUA				IAML		18 21 23.1	
	comp=Z,3μm,0.6s						
CO06	**Fray Jorge**	**2.55**	**193**	*eP*	**Pn**	**18 20 44.7**	**-1.6**
CO06				*eS*	**Sn**	**18 21 20.9**	**+4.7**
CO06				IAML		18 21 27.4	
	comp=N,4μm,0.2s						
CO06	**Fray Jorge**	**2.55**	**193**	*eP*	**Pn**	**18 20 44.7**	**-1.6**
CO06				*i* S	**Sn**	**18 21 19.3**	**+3.1**
CO06				IAML		18 21 27.4	
	comp=N,5μm,0.2s						
CO06	**Fray Jorge**	**2.55**	**193**		**Pn**	**18 20 45.4**	**-0.9**
ACDV	**Cuesta del Vie**	**2.57**	**141**	*eP*	**Pn**	**18 20 49.1**	**+2.4**
ACDV				*eS*	Sn	18 21 07.0	-10
ACDV				IAML		18 21 24.4	
	comp=Z,1μm,0.7s						
CO03	**El Pedregal**	**2.66**	**175**	*eP*	**Pn**	**18 20 47.5**	**-0.4**
CO03				*i* S	**Sn**	**18 21 18.7**	**-0.4**
CO03				IAML		18 21 30.5	
	comp=E,8μm,0.2s						
CO03	**El Pedregal**	**2.66**	**175**	⇑*iP*	**Pn**	**18 20 48.8**	**+0.8**
CO03				*i* S	**Sn**	**18 21 19.9**	**+0.8**
CO03				IAML		18 21 30.5	
	comp=E,8μm,0.2s						
CO03	**El Pedregal**	**2.66**	**175**		**Pn**	**18 20 47.2**	**-0.7**
CO03	**El Pedregal**	**2.66**	**175**	*eP*	**Pn**	**18 20 49.0**	**+1.1**
CO03				*eS*	**Sn**	**18 21 24.4**	**+5.3**
CO03				IAML		18 21 27.1	
	comp=Z,3μm,0.8s						
ACCO	**Cerro Coronel**	**2.92**	**146**	*eP*	**Pn**	**18 20 53.9**	**+2.2**
TINO	**Tinogasta**	**3.01**	**89**	*eP*	**Pn**	**18 20 54.6**	**+1.9**
TINO				*eS*	Sn	18 21 40.4	+13
PB14	**IPOC Station P**	**3.58**	**8**	Pn	**Pn**	**18 21 01.3**	**+0.7**
PB14	**IPOC Station P**	**3.58**	**8**	*eP*	**Pn**	**18 21 01.0**	**+0.4**
PB14				*eS*	Sn	18 21 56.8	+15
PB14				IAML		18 22 00.3	
	comp=Z,2μm,1.0s						
ZON	**Zonda**	**3.91**	**150**		**Pn**	**18 21 05.2**	**+0.3**
ZON	**Zonda**	**3.91**	**150**	*eP*	**Pn**	**18 21 06.5**	**+1.6**
ZON				*eS*	**Sn**	**18 21 56.0**	**+6.5**
ZON				IAML		18 21 58.3	
	comp=Z,512nm,0.9s						
AVFE	**Valle Fertil**	**3.94**	**130**	*eP*	**Pn**	**18 21 05.4**	**0.0**
AVFE				*eS*	**Sn**	**18 21 50.6**	**+0.1**
AVFE				IAML		18 21 53.6	
	comp=Z,993nm,0.4s						
RTCV	**Cerro Valdivia**	**4.24**	**151**	*eP*	**Pn**	**18 21 10.7**	**+1.3**
AUSP	**Uspallata**	**4.26**	**162**	*eP*	**Pn**	**18 21 12.0**	**+2.1**
VA06	**Catapilco**	**4.38**	**184**	*eP*	**Pn**	**18 21 12.2**	**+0.9**
VA06				*eS*	**Sn**	**18 22 02.1**	**+1.2**
CYA	**Choya**	**4.57**	**95**	*eP*	**Pn**	**18 21 14.2**	**+0.2**
CYA				*eS*	**Sn**	**18 22 07.2**	**+1.3**
CYA				IAML		18 22 08.3	
	comp=Z,634nm,1.2s						
VA03	**San Esteban**	**4.58**	**175**	*eP*	**Pn**	**18 21 13.4**	**-0.8**
VA03				*i* S	**Sn**	**18 22 06.2**	**-0.1**
VA03	**San Esteban**	**4.58**	**175**		**Pn**	**18 21 13.2**	**-1.1**
PB10	**IPOC Station P**	**4.66**	**5**	Pn	**Pn**	**18 21 15.0**	**-0.2**
PB10	**IPOC Station P**	**4.66**	**5**	*eP*	**Pn**	**18 21 15.0**	**-0.2**
PB10				IAML		18 22 38.1	
	comp=Z,669nm,0.5s						
ASAL	**Salagasta**	**4.77**	**158**	*eP*	**Pn**	**18 21 18.4**	**+1.6**
ASAL				*eS*	**Sn**	**18 22 13.4**	**+2.6**
ACHE	**Chepes**	**4.79**	**129**	*eP*	**Pn**	**18 21 17.0**	**-0.1**
VA01	**Torpederas**	**4.86**	**187**		**Pn**	**18 21 16.4**	**-1.5**
VA01	**Torpederas**	**4.86**	**187**	*eP*	**Pn**	**18 21 17.0**	**-0.9**
VA01				*eS*	Sn	18 22 26.2	+13
VA01				IAML		18 22 32.6	
	comp=Z,1μm,0.8s						
FSA	**Cafayete**	**4.91**	**66**	*eP*	**Pn**	**18 21 23.0**	**+4.3**
ARCO	**CERRO ARCO**	**4.97**	**160**	*eP*	**Pn**	**18 21 21.5**	**+1.9**
ARCO				*eS*	Sn	18 22 26.3	+10
ARCO				IAML		18 22 28.5	
	comp=Z,676nm,0.7s						
PB15	**IPOC Station P**	**5.13**	**16**	Pn	**Pn**	**18 21 22.7**	**+0.9**
PB15	**IPOC Station P**	**5.13**	**16**	*eP*	**Pn**	**18 21 23.0**	**+1.1**
MT01	**Renca**	**5.20**	**178**		**Pn**	**18 21 22.7**	**+0.1**
AHML	**Horco Molle**	**5.20**	**76**	*eP*	**Pn**	**18 21 25.7**	**+3.0**
AHML				*eS*	**Sn**	**18 22 26.0**	**+4.6**
AHML				IAML		18 22 29.2	
	comp=Z,153nm,2.1s						
AAGR	**Agrelo**	**5.23**	**160**	*eP*	**Pn**	**18 21 24.8**	**+1.7**
VA05	**Santo Domingo**	**5.49**	**186**		**Pn**	**18 21 24.8**	**-1.6**
MT09	**Talagante**	**5.58**	**180**		**Pn**	**18 21 27.2**	**-0.7**
PB06	**IPOC Station P**	**5.60**	**13**	Pn	**Pn**	**18 21 28.2**	**0.0**
PB06	**IPOC Station P**	**5.60**	**13**	*eP*	**Pn**	**18 21 29.0**	**+0.8**
PB06				IAML		18 23 00.1	
	comp=Z,869nm,0.9s						
MT01	**Popeta**	**5.67**	**182**	Pn	**Pn**	**18 21 27.7**	**-1.4**
MT01	**Popeta**	**5.67**	**182**	*eS*	Sn	18 22 48.8	+16
MT01				IAML		18 22 55.1	
	comp=Z,1μm,0.7s						
LVC	**Limon Verde**	**5.85**	**19**	Pn	**Pn**	**18 21 31.7**	**-0.2**
	comp=Z,3.0nm,0.3s,baz=166,slow=8.7,SNR=14						
LVC	**Limon Verde**	**5.85**	**19**	Pn	**Pn**	**18 21 32.2**	**+0.4**
PB04	**IPOC Station P**	**5.87**	**8**	Pn	**Pn**	**18 21 30.9**	**-1.0**
SLA	**San Lorenzo**	**5.99**	**56**	*eP*	Pn	18 21 38.3	+4.7
SLA				IAML		18 22 52.3	
	comp=Z,108nm,1.3s						
BO01	**Tunca**	**6.19**	**181**		**Pn**	**18 21 34.7**	**-1.5**
BO01	**Tunca**	**6.19**	**181**	*eP*	**Pn**	**18 21 35.0**	**-1.2**
BO01				IAML		18 23 04.4	
	comp=Z,650nm,0.8s						
PB07	**IPOC Station P**	**6.50**	**9**	Pn	**Pn**	**18 21 42.4**	**+1.9**
PB09	**IPOC Station P**	**6.55**	**14**	Pn	**Pn**	**18 21 43.7**	**+2.5**
BO02	**Sierra Bellavi**	**6.60**	**179**	Pn	**Pn**	**18 21 40.4**	**-1.3**
BO02	**Sierra Bellavi**	**6.60**	**179**	*eP*	**Pn**	**18 21 41.3**	**-0.4**
BO02				*eS*	**Sn**	**18 23 02.3**	**+6.7**
AZAP	**Zapla**	**6.61**	**55**	*eP*	**Pn**	**18 21 44.9**	**+2.8**
AZAP				IAML		18 23 05.5	
	comp=Z,130nm,2.2s						
GO05	**Huala**	**6.86**	**187**		**Pn**	**18 21 43.0**	**-2.3**
GO05	**Huala**	**6.86**	**187**	*eP*	**Pn**	**18 21 43.0**	**-2.3**
PB01	**IPOC Station P**	**7.23**	**11**	Pn	**Pn**	**18 21 49.1**	**-1.4**
ML02	**Panimavida**	**7.57**	**183**	Pn	**Pn**	**18 21 52.0**	**-3.0**
TA01	**Diego Aracena**	**7.61**	**6**	Pn	**Pn**	**18 21 56.9**	**+1.2**
TA02	**Huaiquique**	**7.91**	**6**	Pn	**Pn**	**18 21 58.3**	**-1.4**
PB08	**IPOC Station P**	**8.17**	**12**	Pn	**Pn**	**18 22 02.3**	**-1.4**
PB11	**IPOC Station P**	**8.47**	**8**	Pn	**Pn**	**18 22 05.0**	**-2.5**
PSGCX	**Pisagua**	**8.58**	**5**	Pn	**Pn**	**18 22 06.5**	**-2.5**
H03N1	**Juan Fernandez**	**8.60**	**230**	T	T	18 30 53.8	
	baz=54,slow=72						
H03N2	**Juan Fernandez**	**8.62**	**231**	T	T	18 30 52.3	
	baz=54,slow=72						
H03N3	**Juan Fernandez**	**8.62**	**230**	T	T	18 30 54.5	
	baz=54,slow=72						
VA04	**Juan Fernndez**	**8.67**	**229**	Pn	**Pn**	**18 22 09.3**	**-0.7**
LC01	**Cunco**	**10.72**	**184**	Pn	**Pn**	**18 22 34.8**	**-3.3**
LR03	**Panguipulli**	**11.48**	**185**	Pn	**Pn**	**18 22 45.2**	**-3.2**
LPAZ	**La Paz**	**12.12**	**13**	Pn	**Pn**	**18 22 58.1**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=348,slow=9.3,SNR=1.7						
LPAZ	**La Paz**	**12.12**	**13**		**Pn**	**18 22 54.7**	**-3.2**
CPUP	**Villa Florida**	**12.28**	**85**	Pn	**Pn**	**18 22 55.9**	**-3.6**
	comp=Z,0.8nm,0.3s,baz=332,slow=19,SNR=3.4						
CPUP	**Villa Florida**	**12.28**	**85**	Pn	**Pn**	**18 22 56.9**	**-2.6**
TRQA	**Tornquist**	**12.40**	**145**	Pn	**Pn**	**18 22 58.7**	**-2.3**
PLCA	**Paso Flores**	**12.53**	**179**	Pn	**Pn**	**18 22 59.7**	**-3.1**
	comp=Z,0.2nm,0.3s,baz=321,slow=19,SNR=1.3						
PLCA	**Paso Flores**	**12.53**	**179**	Pn	**Pn**	**18 23 01.9**	**-0.9**
ITQB	**Itaqui**	**

Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**1.09**	**27**		**Pg**	**18 26 32.5**	**-0.3**
VA06	**Catapilco**	**1.20**	**140**	⇑*iP*	**Pn**	**18 26 35.8**	**0.0**
VA06				*i* S	**Sb**	**18 26 51.0**	**-0.4**
VA06				IAML		18 26 59.5	
	comp=N,11μm,0.6s						
VA01	**Torpederas**	**1.45**	**161**	*eP*	**Pb**	**18 26 40.4**	**+0.7**
VA01				*i* S	**Sn**	**18 26 58.0**	**-0.9**
VA01	**Torpederas**	**1.45**	**161**		**Pn**	**18 26 39.5**	**+0.2**
VA01				Sn	**Sn**	**18 26 57.9**	**-1.1**
VA01	**Torpederas**	**1.45**	**161**	*eP*	**Pn**	**18 26 39.9**	**+0.6**
VA01				*eS*	**Sb**	**18 26 59.3**	**+0.6**
VA01				IAML		18 27 09.7	
	comp=Z,1μm,1.5s						
CO03	**El Pedregal**	**1.53**	**59**	⇑*iP*	**Pn**	**18 26 39.9**	**-0.5**
CO03				*i* S	**Sn**	**18 26 59.0**	**-2.1**
CO03				IAML		18 27 03.5	
	comp=E,3μm,0.6s						
CO03	**El Pedregal**	**1.53**	**59**		**Pn**	**18 26 39.7**	**-0.8**
CO03				Sn	**Sn**	**18 26 59.0**	**-2.1**
CO03	**El Pedregal**	**1.53**	**59**	*eP*	**Pn**	**18 26 40.2**	**-0.3**
CO03				*eS*	**Sg**	**18 27 02.6**	**+1.4**
CO03				IAML		18 27 04.1	
	comp=Z,2μm,0.8s						
ROCH	**El Roble**	**1.67**	**143**	⇑*iP*	**Pn**	**18 26 43.2**	**+0.7**
ROCH				*i* S	**Sb**	**18 27 05.4**	**+0.3**
ROCH				IAML		18 27 13.5	
	comp=N,4μm,0.4s						
VA03	**San Esteban**	**1.79**	**129**	⇑*iP*	**Pn**	**18 26 44.8**	**+0.7**
VA03				*i* S	**Sn**	**18 27 06.8**	**-0.8**
VA03				IAML		18 27 12.3	
	comp=N,6μm,0.6s						
VA03	**San Esteban**	**1.79**	**129**		**Pn**	**18 26 44.7**	**+0.7**
VA03				Sn	**Sn**	**18 27 06.8**	**-0.8**
VA03	**San Esteban**	**1.79**	**129**	*eP*	**Pn**	**18 26 45.0**	**+0.9**
VA03				IAML		18 27 23.1	
	comp=Z,3μm,0.7s						
GO04	**Tololo Observa**	**1.91**	**40**	*eP*	**Pn**	**18 26 46.7**	**+0.9**
GO04	**Tololo Observa**	**1.91**	**40**		**Pn**	**18 26 46.0**	**+0.3**
CO05	**La Serena**	**1.92**	**26**	*eP*	**Pn**	**18 26 46.3**	**+0.6**
CO05				IAML		18 27 22.2	
	comp=E,1μm,0.6s						
CO05	**La Serena**	**1.92**	**26**		**Pn**	**18 26 45.1**	**-0.6**
VA05	**Santo Domingo**	**2.07**	**166**	*eP*	**Pn**	**18 26 48.0**	**+0.3**
VA05				*i* S	**Sn**	**18 27 13.0**	**-1.1**
VA05				IAML		18 27 28.2	
	comp=E,3μm,0.5s						
VA05	**Santo Domingo**	**2.07**	**166**		**Pn**	**18 26 47.6**	**-0.1**
VA05				Sn	**Sn**	**18 27 11.4**	**-2.7**
MT05	**Renca**	**2.14**	**145**	*eP*	**Pn**	**18 26 50.5**	**+1.7**
MT05	**Renca**	**2.14**	**145**		**Pn**	**18 26 48.8**	**0.0**
MT05	**Renca**	**2.14**	**145**	*eP*	**Pn**	**18 26 50.0**	**+1.2**
MT01	**Popeta**	**2.35**	**160**	*eP*	**Pn**	**18 26 52.0**	**+0.3**
MT01				*i* S	**Sg**	**18 27 28.0**	**+0.5**
MT01				IAML		18 27 37.1	
	comp=E,1μm,0.5s						
MT01	**Popeta**	**2.35**	**160**		**Pn**	**18 26 52.2**	**+0.5**
MT01	**Popeta**	**2.35**	**160**	*eP*	**Pn**	**18 26 52.2**	**+0.5**
MT01				*eS*	**Sn**	**18 27 21.8**	**+0.5**
MT01				IAML		18 27 32.6	
	comp=Z,786nm,0.8s						
MT09	**Talagante**	**2.36**	**154**	⇓*iP*	**Pn**	**18 26 53.5**	**+1.6**
MT09				*i* S	**Sn**	**18 27 23.0**	**+1.4**
MT09				IAML		18 27 40.2	
	comp=E,2μm,0.6s						
MT09	**Talagante**	**2.36**	**154**		**Pn**	**18 26 53.2**	**+1.3**
AUSP	**Uspallata**	**2.47**	**104**	*eP*	**Pb**	**18 26 56.6**	**-0.7**
AUSP				*eS*	**Sn**	**18 27 25.1**	**+0.6**
RTLS	**Leoncito**	**2.49**	**94**	*eP*	**Pb**	**18 26 56.6**	**-1.0**
RTLS				*eP*	**Pn**	**18 26 56.9**	**+3.1**
RTLS				*eS*	**Sb**	**18 27 31.0**	**+2.2**
RTLS				IAML		18 27 34.8	
	comp=Z,2μm,0.8s						
BO03	**Pichilemu**	**2.85**	**176**	⇓*iP*	**Pn**	**18 26 58.4**	**-0.1**
BO03				*eS*	**Sn**	**18 27 30.5**	**-2.9**
BO01	**Tunca**	**2.90**	**161**	*eP*	**Pn**	**18 27 00.7**	**+1.6**
BO01				*eS*	**Sn**	**18 27 33.8**	**-0.8**
BO01				IAML		18 27 50.4	
	comp=E,407nm,0.7s						
BO01	**Tunca**	**2.90**	**161**		**Pn**	**18 26 60.0**	**+0.8**
BO01	**Tunca**	**2.90**	**161**	*eP*	**Pn**	**18 27 00.0**	**+0.8**
BO01				*eS*	**Sb**	**18 27 39.1**	**-1.2**
BO01				IAML		18 27 51.4	
	comp=Z,620nm,0.7s						
LCO	**Las Campanas**	**2.93**	**27**	⇑*iP*	**Pn**	**18 26 58.0**	**-1.9**
LCO				*i* S	**Sn**	**18 27 37.4**	**+1.5**
LCO	**Las Campanas**	**2.93**	**27**		**Pn**	**18 27 02.5**	**+2.6**
ZON	**Zonda**	**3.02**	**89**		**Pn**	**18 27 01.1**	**+0.2**
BO02	**Sierra Bellavi**	**3.36**	**159**	*eP*	**Pn**	**18 27 06.9**	**+1.3**
BO02				IAML		18 28 09.8	
	comp=N,932nm,0.7s						
BO02	**Sierra Bellavi**	**3.36**	**159**		**Pn**	**18 27 06.9**	**+1.3**
BO02	**Sierra Bellavi**	**3.36**	**159**	*eP*	**Pn**	**18 27 06.8**	**+1.3**
BO02				*eP*	Pb	18 27 07.0	-5.3
BO02				*eS*	**Sn**	**18 27 49.5**	**+3.4**
BO02				IAML		18 28 06.4	
	comp=Z,780nm,0.9s						
GO05	**Huala**	**3.36**	**176**	Pn	**Pn**	**18 27 05.4**	**-0.2**
GO05	**Huala**	**3.36**	**176**	*eP*	**Pn**	**18 27 05.6**	**0.0**
GO05				*eS*	**Sg**	**18 27 59.1**	**-0.8**
AC04	**Llanos de Chal**	**3.57**	**16**	*eP*	**Pn**	**18 27 06.7**	**-1.7**
AC04				IAML		18 28 10.1	
	comp=E,226nm,0.5s						
AC04	**Llanos de Chal**	**3.57**	**16**		**Pn**	**18 27 06.5**	**-2.0**
AC04	**Llanos de Chal**	**3.57**	**16**	*eP*	**Pn**	**18 27 07.0**	**-1.4**
AC04				*eS*	**Sb**	**18 28 02.1**	**+2.4**
AC04				IAML		18 28 15.1	
	comp=Z,354nm,1.1s						
AGUA	**GUANDACOL**	**3.86**	**57**	*eP*	**Pn**	**18 27 15.9**	**+3.4**
AGUA				*eS*	**Sn**	**18 27 59.3**	**+0.6**
AGUA				IAML		18 28 22.3	
	comp=Z,1μm,2.4s						
LAMA	**Las Malvinas**	**4.13**	**143**	*eP*	**Pn**	**18 27 15.0**	**-1.1**
LAMA				*eS*	**Sb**	**18 28 12.7**	**-3.1**
ML02	**Panimavida**	**4.16**	**171**		**Pn**	**18 27 15.8**	**-0.7**
AVFE	**Valle Fertil**	**4.19**	**78**	*eP*	**Pn**	**18 27 20.0**	**+2.9**
AVFE				*eS*	**Sb**	**18 28 14.1**	**-3.6**
GO03	**Copiap**	**4.39**	**24**	*eP*	**Pn**	**18 27 19.5**	**-1.3**
GO03				*eS*	**Sn**	**18 28 12.2**	**+0.6**
GO03	**Copiap**	**4.39**	**24**		**Pn**	**18 27 18.4**	**-1.3**
GO03	**Copiap**	**4.39**	**24**	*eP*	**Pn**	**18 27 19.2**	**-0.6**
GO03				*eP*	Pb	18 27 20.0	-10
GO03				*eS*	**Sb**	**18 28 23.1**	**-0.3**
AC06	**Mina Casimiro**	**4.57**	**21**		**Pn**	**18 27 21.1**	**-1.1**
ACHE	**Chepes**	**4.77**	**86**	*eP*	**Pn**	**18 27 28.5**	**+3.5**
ACHE				*eS*	**Sb**	**18 28 30.1**	**-4.2**
AC02	**Maricunga**	**5.50**	**30**		**Pn**	**18 27 34.5**	**-0.9**
AC02	**Maricunga**	**5.50**	**30**	*eP*	**Pn**	**18 27 35.0**	**-0.4**
AC02				*eS*	**Sb**	**18 28 54.6**	**-1.1**
VA04	**Juan Fernndez**	**5.93**	**249**	Pn	**Pn**	**18 27 38.2**	**-2.6**
H03N1	**Juan Fernandez**	**5.94**	**251**	T	T	18 34 18.6	
	baz=78,slow=72						
H03N3	**Juan Fernandez**	**5.95**	**251**	T	T	18 34 19.5	
	baz=78,slow=72						
H03N2	**Juan Fernandez**	**5.95**	**251**	T	T	18 34 20.0	
	baz=78,slow=72						
CYA	**Choya**	**6.41**	**62**	*eP*	**Pn**	**18 27 50.0**	**+2.5**
CYA				*eS*	**Sn**	**18 29 02.6**	**+1.3**
PB14	**IPOC Station P**	**7.17**	**13**		**Pn**	**18 27 55.5**	**-2.8**
LC01	**Cunco**	**7.24**	**178**	Pn	**Pn**	**18 27 58.6**	**-0.3**
LC01	**Cunco**	**7.24**	**178**	*eP*	**Pn**	**18 28 00.0**	**+1.2**
LR03	**Panguipulli**	**7.97**	**181**	Pn	**Pn**	**18 28 10.2**	**+1.3**
PB10	**IPOC Station P**	**8.23**	**11**	Pn	**Pn**	**18 28 12.0**	**-0.5**
PLCA	**Paso Flores**	**9.16**	**172**	Pn	**Pn**	**18 28 26.0**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=349,slow=13,SNR=1.0						
PB06	**IPOC Station P**	**9.21**	**15**	Pn	**Pn**	**18 28 28.6**	**+2.6**
PB04	**IPOC Station P**	**9.46**	**12**	Pn	**Pn**	**18 28 29.3**	**-0.1**
LVC	**Limon Verde**	**9.47**	**19**	Pn	**Pn**	**18 28 29.0**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=219,slow=14,SNR=2.8						
LVC				LR	LR	18 31 49.4	
	comp=Z,178nm,18.2s,baz=166,slow=36						
LVC	**Limon Verde**	**9.47**	**19**	Pn	**Pn**	**18 28 30.0**	**+0.2**
TRQA	**Tornquist**	**10.56**	**130**		**Pn**	**18 28 48.0**	**+3.7**
TA01	**Diego Aracena**	**11.19**	**10**	Pn	**Pn**	**18 28 56.2**	**+3.2**
PSGCX	**Pisagua**	**12.15**	**9**	Pn	**Pn**	**18 29 04.6**	**-1.6**
LPAZ	**La Paz**	**15.74**	**15**	Pn	**Pn**	**18 29 55.0**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=130,slow=11,SNR=2.3						
SIV	**San Ignacio**	**18.60**	**36**	P	**P**	**18 30 27.9**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=222,slow=15,SNR=4.6						
RUSC	**La Rusia**	**37.34**	**359**	P	**P**	**18 33 27.8**	**+1.2**
RUSC				IAmb	IAmb	18 33 37.9	
	comp=Z,19nm,1.3s						
VNA3	**Neumayer Olymp**	**51.59**	**159**	P	**P**	**18 35 20.8**	**+1.4**
VNA2	**Neumayer--Watz**	**52.23**	**158**	P	**P**	**18 35 24.8**	**+0.7**
	baz=280,slow=8.5						
SNAA	**Sanae**	**53.82**	**158**	P	**P**	**18 35 37.1**	**+1.3**
SNAA	**Sanae**	**53.82**	**158**	P	**P**	**18 35 36.4**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=285,slow=5.8,SNR=7.0						
SNAA	**Sanae**	**53.82**	**158**	P	**P**	**18 35 36.7**	**+0.8**
QSPA	**South Pole Qui**	**58.58**	**180**	P	**P**	**18 36 11.4**	**+1.2**
	comp=Z,1.2nm,1.1s,baz=146,slow=4.2,SNR=2.1						
QSPA	**South Pole Qui**	**58.58**	**180**	IAmb	IAmb	18 36 22.3	
	comp=Z,7.5nm,1.0s						
DBIC	**Dimbokro**	**74.58**	**72**	P	**P**	**18 37 51.9**	**-1.0**
	comp=Z,3.4nm,1.0s,baz=234,slow=5.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**83.55**	**70**	P	**P**	**18 38 41.6**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=266,slow=5.3,SNR=7.3						
TORD	**Torodi Ar. Bea**	**83.55**	**70**	P	**P**	**18 38 41.7**	**-0.4**
TORD				IAmb	IAmb	18 38 50.8	
	comp=Z,3.5nm,1.1s						
H11S2	**WAKE ISLAND Hyl**	**25.62**	**271**	T	T	21 04 11.7	
	baz=117,slow=75,SNR=6.9						
H11S1	**WAKE ISLAND Hyl**	**25.64**	**271**	T	T	21 04 05.6	
	baz=117,slow=75,SNR=10						
H11S3	**WAKE ISLAND Hyl**	**25.64**	**271**	T	T	21 04 04.2	
	baz=117,slow=75,SNR=7.3						
H11N3	**WAKE ISLAND Hyl**	**25.98**	**272**	T	T	21 04 32.0	
	baz=116,slow=74						
H11N1	**WAKE ISLAND Hyl**	**25.99**	**272**	T	T	21 04 29.8	
	baz=116						
H11N2	**WAKE ISLAND Hyl**	**26.00**	**272**	T	T	21 04 29.3	
	baz=116,slow=74						
ZALV	**Zalesovo Beam**	**152.29**	**30**	PKPbc	**PKiKP**	**18 46 09.0**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=318,slow=1.9,SNR=6.7						
ZALV	**Zalesovo Beam**	**152.29**	**30**		**PKiKP**	**18 46 08.9**	**-0.3**

*SKHL **18** 18:28:24.3±0.5, 44.40N×148.40E, h49km±4km, mb4.4/3*
*JMA **18** 18:28:24.3±0.3, 44.09N×148.11E, h0km, M4.2*

ISC 18 18:28:17.9±2.9, 44.20N±0.09×148.4E±0.1, h6km±16km, n11, σ1§18/20, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.10**	**341**	*i* P	**Pn**	**18 28 40.0**	**+0.1**
KUR				AMB	AMB	18 28 41.0	
	350nm,0.5s						
KUR				*eS*	**Sg**	**18 28 51.7**	**-1.5**
KUR				A	A	18 28 53.0	
	1μm,0.2s						
KUR				A	A	18 28 53.0	
	1μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.81**	**266**	*i* P	**Pg**	**18 28 53.7**	**+1.1**
YUK				AMB	AMB	18 29 06.6	
	260nm,0.7s						
YUK				*i* S	**Sb**	**18 29 14.6**	**+0.1**
YUK				A	A	18 29 17.3	
	390nm,0.4s						
YUK				A	A	18 29 17.3	
	470nm,0.4s						
GRPR	**Tuman**	**1.88**	**265**	*i* P	**Pg**	**18 28 54.0**	**+0.1**
GRPR				AMB	AMB	18 28 58.0	
	119nm,0.2s						
GRPR				*i* S	**Sb**	**18 29 16.0**	**-0.5**
GRPR				A	A	18 29 20.0	
	567nm,0.2s						
GRPR				A	A	18 29 20.0	
	364nm,0.2s						
NEM2	**Nemuro 2**	**2.08**	**247**	P	**Pg**	**18 28 57.8**	**+0.2**
NEM2				*eS*	**Sb**	**18 29 22.7**	**+0.7**
NMR	**Nemuro--Hokkai**	**2.08**	**248**	*i* P	**Pb**	**18 28 57.0**	**+0.9**
NMR				*eS*	**Sb**	**18 29 22.0**	**-0.2**
GLVR	**Golovnino**	**2.11**	**258**	*eP*	**Pb**	**18 28 58.0**	**+1.5**
GLVR				*eS*	**Sg**	**18 29 25.0**	**-0.6**
GLVR				A	A	18 29 31.0	
	868nm,0.2s						
GLVR				A	A	18 29 31.0	
	155nm,0.2s						
JRA	**Rausu**	**2.35**	**265**	P	**Pb**	**18 29 02.4**	**+1.7**
JRA				*eS*	**Sb**	**18 29 30.3**	**+0.3**
JNSB	**Nemuroshibetsu**	**2.46**	**261**	P	**Pb**	**18 29 03.9**	**+1.3**
JNK	**Nakash**	**2.71**	**258**	P	**Pb**	**18 29 07.3**	**+0.5**
JNK				*eS*	**Sb**	**18 29 38.7**	**-1.5**
JAK	**Akkeshi**	**2.92**	**247**	P	**Pb**	**18 29 09.9**	**-0.5**
JAK				*eS*	**Sb**	**18 29 44.0**	**-2.4**
JAR	**Ashorobuto**	**3.45**	**257**	P	**Pb**	**18 29 18.4**	**-1.0**

*IDC **18** 18:34:25.0±0.9, 31.44N×141.79E, h0km, mb3.8/10,*
mb1 3.9/15, mb1mx3.8/41, mbtmp3.7/15, ML3.2/4, MS2.7/3,
Ms1 2.7/3, ms1mx2.6/38, Error ellipse: s-maj=24.6km
s-min=16.1km az=79.0
*JMA **18** 18:34:26.3±0.5, 31.68N×141.89E, h0km, M3.6*
*NEIC **18** 18:34:28.1±1.4, 31.4N±0.1×141.7E±0.1, h14km±6km,*
mb4.4/23, Error ellipse: s-maj=16.6km s-min=15.5km
az=98.0

ISC 18 18:34:29.5±0.7, 31.45N±0.08×141.77E±0.09, h29km, n60, σ1§09/62, mb4.2/22, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.34**	**316**	P	**Pn**	**18 35 05.9**	**-0.1**
JHJ2				*eS*	**Sn**	**18 35 34.7**	**+0.8**
JHJ2	**Mitsune**	**2.34**	**316**	Pn	**Pn**	**18 35 06.2**	**+0.1**
JHJ	**Hachijo jima 2**	**2.37**	**315**	Pn	**Pn**	**18 35 05.4**	**-1.0**
	11nm,0.3s,baz=55,slow=23,SNR=1.1						
JHJ				Sn	**Sn**	**18 35 34.4**	**-0.2**
	12nm,0.3s,baz=62,slow=16,SNR=1.4						
JHJ				LR	LR	18 36 10.3	
	comp=Z,161nm,19.4s,baz=124,slow=45						
BSO1	**Boso 1**	**3.27**	**348**	P	**Pn**	**18 35 17.2**	**-1.0**
BSO3	**Boso 3**	**3.51**	**343**	P	**Pn**	**18 35 21.0**	**-0.8**
JHU	**Hanno**	**4.86**	**335**	P	**Pn**	**18 35 41.1**	**+0.5**
JRY	**Ryogami san**	**5.15**	**333**	P	**Pn**	**18 35 45.7**	**+1.1**
JRY				*eS*	**Sn**	**18 36 43.6**	**+0.6**
JHO	**Hitachi**	**5.25**	**349**	P	**Pn**	**18 35 44.6**	**-1.3**
JAG	**Ashikaga**	**5.33**	**339**	P	**Pn**	**18 35 46.6**	**-0.4**
JAG				*eS*	**Sn**	**18 36 47.3**	**-0.1**
MJAR	**Matsushiro Arr**	**5.88**	**331**	Pn	**Pn**	**18 35 53.9**	**-0.8**
	0.1nm,0.3s,baz=149,slow=11,SNR=9.4						
MJAR				LR	LR	18 38 11.4	
	comp=Z,76nm,19.4s,baz=250,slow=39						
MJAR	**Matsushiro Arr**	**5.88**	**331**		**Pn**	**18 35 54.6**	**0.0**
MAJO	**Matsushiro**	**5.88**	**331**	Pn	**Pn**	**18 35 55.8**	**+1.1**
JMM	**Marumori**	**6.45**	**353**	Pn	**Pn**	**18 35 60.0**	**-2.5**
JWT	**Wachi**	**6.56**	**307**	Pn	**Pn**	**18 36 00.6**	**-3.4**
JSD	**Sado**	**7.18**	**337**	Pn	**Pn**	**18 36 12.1**	**-0.4**
ASAJ	**Asahikawa**	**12.66**	**3**	Pn	**Pn**	**18 37 25.3**	**-2.3**
	0.3nm,0.3s,baz=215,slow=12,SNR=1.6						
KSRS	**Korea Array**	**12.90**	**301**	LR	LR	18 42 11.5	
	comp=Z,40nm,21.1s,baz=85,slow=36						
USRK	**Ussuriysk Ar.**	**14.88**	**332**	Pn	**Pn**	**18 37 57.4**	**-0.4**
	baz=150,slow=12,SNR=2.2						
KLR	**Kul'dur**	**19.30**	**340**	P	**P**	**18 38 50.8**	**-1.2**
	0.1nm,0.3s,baz=153,slow=14,SNR=2.8						
SONM	**Songino Array**	**31.44**	**312**	P	**P**	**18 40 48.7**	**+0.3**
	1.2nm,0.8s,baz=120,slow=9.7,SNR=6.2						
SONM	**Songino Array**	**31.44**	**312**	P	**P**	**18 40 48.8**	**+0.4**
SEY	**Seymchan**	**32.22**	**9**	P	**P**	**18 40 54.6**	**-0.2**
	0.7nm,0.5s,baz=198,slow=5.5,SNR=4.8						
CMAR	**Chiang Mai Arr**	**40.68**	**262**	P	**P**	**18 42 07.2**	**-0.4**
	0.5nm,0.9s,baz=78,slow=4.4,SNR=4.2						
ZALV	**Zalesovo Beam**	**46.03**	**316**	P	**P**	**18 42 50.4**	**+0.2**
	1.0nm,0.6s,baz=96,slow=10,SNR=3.6						
MK31	**Makanchi Array**	**47.51**	**307**	P	**P**	**18 43 03.0**	**+1.0**
MKAR	**Makanchi Array**	**47.51**	**307**	P	**P**	**18 43 02.4**	**+0.4**
	0.5nm,0.6s,baz=88,slow=9.9,SNR=5.2						
MKAR	**Makanchi Array**	**47.51**	**307**	P	**P**	**18 43 02.6**	**+0.6**
MAKZ	**Makanchi**	**47.73**	**307**	P	**P**	**18 43 05.0**	**+1.3**
KNRA	**Kununurra**	**48.49**	**197**	P	**P**	**18 43 08.6**	**-1.2**
K20K	**Telida**	**50.85**	**32**	P	**P**	**18 43 28.2**	**+1.0**
K20K				IAmb	IAmb	18 44 02.0	
	comp=Z,9.6nm,1.6s						
J20K	**Nowinta River**	**50.92**	**30**	P	**P**	**18 43 29.2**	**+1.5**
J20K				IAmb	IAmb	18 43 35.2	
	comp=Z,11nm,1.6s						
IMAR	**Indian Mountai**	**51.36**	**28**	P	**P**	**18 43 32.0**	**+0.9**
WB0	**Warramunga Arr**	**51.41**	**189**	P	**P**	**18 43 31.8**	**-0.1**
WB0				IAmb	IAmb	18 43 34.2	
	comp=Z,3.4nm,1.1s						
WR0	**Warramunga Arr**	**51.58**	**189**	P	**P**	**18 43 32.6**	**-0.6**
WR0				IAmb	IAmb	18 44 02.7	
	comp=Z,14nm,1.6s						
WB2	**Warramunga Arr**	**51.59**	**189**	P	**P**	**18 43 33.0**	**-0.2**
WB2				IAmb	IAmb	18 43 34.3	
	comp=Z,14nm,1.6s						
WRA	**Warramunga Arr**	**51.59**	**189**	P	**P**	**18 43 32.9**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=3.0,slow=7.3,SNR=9.0						
PPLA	**Purkeypile**	**51.65**	**32**	P	**P**	**18 43 34.2**	**+0.8**
H21K	**Melozitna Rive**	**51.70**	**29**	P	**P**	**18 43 34.3**	**+0.7**
H21K				IAmb	IAmb	18 43 39.8	
	comp=Z,10nm,1.6s						
H24K	**Noodor Dome**	**53.74**	**29**	P	**P**	**18 43 49.3**	**+0.6**
H24K				IAmb	IAmb	18 44 12.3	
	comp=Z,9.5nm,1.6s						
SCM	**Sheep Creek Mo**	**53.86**	**34**	P	**P**	**18 43 50.3**	**+0.6**
ILAR	**Eielson Array**	**54.11**	**30**	P	**P**	**18 43 51.5**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=263,slow=6.5,SNR=8.3						
BMAR	**Burnt Mountain**	**55.12**	**27**	P	**P**	**18 44 00.2**	**+1.5**
BMRM	**Bremner River**	**55.20**	**35**	P	**P**	**18 44 01.2**	**+1.9**
AS31	**Alice Springs**	**55.32**	**189**	P	**P**	**18 44 00.7**	**+0.2**
ASAR	**Alice Springs**	**55.32**	**189**	P	**P**	**18 44 00.6**	**0.0**
	comp=Z,0.5nm,0.5s,baz=3.6,slow=6.6,SNR=15						
ASAR	**Alice Springs**	**55.32**	**189**	P	**P**	**18 43 59.9**	**-0.6**
DOT	**Dot Lake**	**55.34**	**31**	P	**P**	**18 44 00.9**	**+0.6**
DOT				IAmb	IAmb	18 44 02.0	
	comp=Z,3.8nm,1.2s						
SCRK	**Sand Creek**	**55.37**	**31**	P	**P**	**18 44 01.6**	**+1.0**
SCRK				IAmb	IAmb	18 44 08.4	
	comp=Z,2.0nm,1.0s						
KK31	**Karatay Array**	**56.32**	**304**	P	**P**	**18 44 08.0**	**+0.3**
KK31				IAmb	IAmb	18 44 09.3	
	comp=Z,2.6nm,0.8s						
KKAR	**Karatay Array**	**56.32**	**304**	P	**P**	**18 44 07.9**	**+0.2**
KKAR				IAmb	IAmb	18 44 09.4	
	comp=Z,2.6nm,0.8s						
KKAR	**Karatay Array**	**56.32**	**304**	P	**P**	**18 44 08.2**	**+0.6**
BCAR	**Beaver Creek A**	**56.39**	**32**	P	**P**	**18 44 09.9**	**+2.0**
CHGR	**Chuyangaron**	**58.47**	**299**	P	**P**	**18 44 22.9**	**-0.2**
HYT	**Haines Junctio**	**58.66**	**34**	P	**P**	**18 44 27.6**	**+3.6**
ABKAR	**Akbulak array**	**61.85**	**313**	P	**P**	**18 44 45.7**	**-0.2**
ABKAR				IAmb	IAmb	18 44 46.8	
	comp=Z,1.4nm,0.8s						
ABKAR	**Akbulak array**	**61.85**	**313**	P	**P**	**18 44 46.1**	**+0.2**
FINES	**FINESS Array B**	**73.90**	**333**	P	**P**	**18 46 01.5**	**+0.1**
AKASG	**Malin Array Be**	**78.92**	**323**	P	**P**	**18 46 29.4**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=49,slow=5.9,SNR=2.5						
BRTR	**Keskin Array B**	**82.80**	**312**	LR	LR	19 29 15.4	
	comp=Z,184nm,20.0s,baz=242,slow=40						
TXAR	**Lajitas Array**	**93.28**	**53**	P	**P**	**18 47 42.0**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=286,slow=2.5,SNR=7.6						

*IDC **18** 18:50:38.3±1.6, 32.32S×71.48W, h0km, mb4.0/4,*
mb1 4.0/9, mb1mx3.8/37, mbtmp3.9/9, ML3.8/5, Error
ellipse: s-maj=58.7km s-min=19.0km az=105.0
*NEIC **18** 18:50:39.4±2.2, 32.33S±0.03×71.96W±0.06, h14km±4km,*
mb4.1/9, Error ellipse: s-maj=8.1km s-min=3.7km az=81.0
*GUC **18** 18:50:40.2±0.8, 32.33S×71.82W, h32km±3km, ML4.0*

ISC 18 18:50:38.5±1.5, 32.31S±0.03×71.87W±0.06, h12km±9km, n75, σ1§38/85, mb4.1/4, 2C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.54**	**118**	⇓*iP*	**Pn**	**18 50 51.4**	**-0.7**
VA06				*i* S	**Sn**	**18 50 59.1**	**-2.0**
VA06				IAML		18 51 03.6	
	comp=N,11μm,0.5s						
VA01	**Torpederas**	**0.74**	**166**	*eP*	**Pb**	**18 50 53.9**	**+0.6**
VA01				*eS*	**Sb**	**18 51 03.7**	**+0.4**
VA01	**Torpederas**	**0.74**	**166**		**Pb**	**18 50 53.6**	**+0.3**
VA01				Sg	**Sb**	**18 51 03.2**	**-0.2**
ROCH	**El Roble**	**0.98**	**133**	⇓*iP*	**Pn**	**18 50 58.4**	**+0.1**
ROCH				*i* S	**Sn**	**18 51 11.6**	**-0.7**
VA03	**San Esteban**	**1.20**	**113**	⇓*iP*	**Pg**	**18 51 01.9**	**+0.3**
VA03				*i* S	**Sg**	**18 51 18.6**	**+1.3**
VA03				IAML		18 51 21.5	
	comp=E,4μm,0.2s						
**

comp=E,0.3nm,0.3s,baz=186,slow=5.0,SNR=9.7
LPAZ La Paz 16.31 13 Pn 18 54 29.3 +1.3
SIV San Ignacio 18.97 34 P P 18 54 59.8 -0.1
comp=E,0.3nm,0.3s,baz=231,slow=15,SNR=4.6
SAML Samuel 24.60 21 P P 18 55 59.9 +1.2
BDFB Brasilia 27.29 58 P P 18 56 21.8 -1.4
comp=E,2.4nm,0.4s,baz=228,slow=15,SNR=2.2
BDFB Brasilia 27.29 58 P P 18 56 23.6 +0.3
BDFB IAmb IAmb 18 56 42.4
comp=Z,8.0nm,1.4s
SNAA Sanae 53.10 158 P P 18 59 56.5 +1.0
comp=Z,0.9nm,0.6s,baz=261,slow=8.0,SNR=8.6
SNAA Sanae 53.10 158 P P 18 59 56.6 +1.1
QSPA South Pole Qui 57.92 180 P P 19 00 32.1 +1.7
comp=Z,1.8nm,0.8s,baz=119,slow=0.9,SNR=9.3
QSPA South Pole Qui 57.92 180 P P 19 00 31.9 +1.5
TORD Torodi Ar. Bea 83.50 70 P P 19 03 06.7 0.0
comp=Z,0.4nm,0.7s,baz=279,slow=3.4,SNR=4.4
TORD Torodi Ar. Bea 83.50 70 IAmb IAmb 19 03 32.6
comp=Z,5nm,1.4s
H11S2 WAKE ISLAND Hyl 25.92 270 T T 21 28 43.6
baz=118,slow=75,SNR=9.8
H11S1 WAKE ISLAND Hyl 25.94 270 T T 21 28 44.5
baz=118,slow=75,SNR=11
H11S3 WAKE ISLAND Hyl 25.94 270 T T 21 28 43.2
baz=118,slow=75,SNR=12
H11N3 WAKE ISLAND Hyl 26.30 272 T T 21 29 00.2
baz=116,slow=74
H11N1 WAKE ISLAND Hyl 26.31 272 T T 21 29 08.9
baz=116
H11N2 WAKE ISLAND Hyl 26.31 272 T T 21 29 07.9
baz=116,slow=74
ZALV Zalesovo Beam 152.71 31 PKPbc **PKPbc 19 10 35.2 +0.5**
comp=Z,1.3nm,0.7s,baz=357,slow=2.9,SNR=4.3
MKAR Makanchi Array 155.52 46 PKPab **PKPab 19 10 58.0 +0.3**
comp=Z,0.5nm,0.9s,baz=276,slow=3.3,SNR=5.3

*IDC **18** 18:52:08.2±0.8, 31°.83S×72°.03W, h0km, mb4.2/7, mb1 4.2/12, mb1mx4.0/38, mbtmp4.0/12, ML3.7/5, MS3.8/1, Ms1 3.7/1, ms1mx3.0/30, Error ellipse: s-maj=29.2km s-min=18.2km az=100.0*
*NEIC **18** 18:52:09.6±2.9, 31°.88S±0°.03×72°.05W±0°.04, h10km±1km, mb4.5/12, Mwr4.1/32, ML4.2(GUC), Error ellipse: s-maj=6.5km s-min=4.1km az=222.0*
*NEIC **18** 18:52:09.1, 31°.88S×72°.16W, h17km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.73; $M_{\theta\theta}$-0.06; $M_{\phi\phi}$-1.67; $M_{r\theta}$-0.21; $M_{\theta\phi}$0.62; $M_{\phi r}$-0.79; Fault plane solution: $M_0$1.98000×10^{15} NP1:∅s174.71000°, δ56.97000°, λ105.66000°. NP2:∅s327.49000°, δ36.17000°, λ67.45000°. Principal axes: T 1.9619, Plg73.0000°, Azm125.0000°; N 0.0427, Plg13.0000°, Azm346.0000°; P -2.0046, Plg11.0000°, Azm254.0000°;*
*GUC **18** 18:52:11.2±0.8, 31°.88S×72°.04W, h41km±4km, ML4.2*
ISC 18 18:52:08.4±1.7, 31°.87S±0°.03×72°.14W±0°.06, h6km±10km, n75, σ1§18/89, mb4.5/8, 5C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VA06	**Catalpilco**	**0.99**	**134**	⇑*iP*		**Pn**	**18 52 29.1**	**+0.2**
VA06				*i* S		**Sn**	**18 52 42.1**	**-1.1**
VA06				IAML			18 52 47.8	
	comp=E,15μm,0.4s							
VA01	**Torpederas**	**1.22**	**160**	*e*P		**Pg**	**18 52 32.6**	**+0.8**
VA01				*e*S		**Sn**	**18 52 49.5**	**+0.6**
VA01	**Torpederas**	**1.22**	**160**			**Pb**	**18 52 31.3**	**-0.6**
VA01				Sg		**Sb**	**18 52 47.0**	**-0.9**
CO06	**Fray Jorge**	**1.27**	**20**	Pn		**Pn**	**18 52 32.2**	**-0.5**
CO06				Sn		**Sb**	**18 52 47.6**	**-1.7**
ROCH	**El Roble**	**1.46**	**139**	*e*P		**Pb**	**18 52 36.2**	**+0.2**
ROCH				*i* S		**Sg**	**18 52 56.3**	**+1.1**
VA03	**San Esteban**	**1.61**	**124**	⇑*iP*		**Pb**	**18 52 38.4**	**-0.3**
VA03				*i* S		**Sg**	**18 52 59.4**	**-1.0**
VA03				IAML			18 53 05.0	
	comp=N,8μm,0.3s							
VA03	**San Esteban**	**1.61**	**124**			**Pb**	**18 52 38.5**	**-0.2**
CO03	**El Pedregal**	**1.61**	**51**	*e*P		**Pb**	**18 52 38.5**	**-0.2**
CO03				*i* S		**Sb**	**18 52 59.1**	**-0.2**
CO03				IAML			18 53 04.0	
	comp=E,4μm,0.3s							
CO03	**El Pedregal**	**1.61**	**51**	Pn		**Pb**	**18 52 38.2**	**-0.5**
VA05	**Santo Domingo**	**1.83**	**166**	*e*P		**Pn**	**18 52 41.5**	**+1.0**
VA05	**Santo Domingo**	**1.83**	**166**	Pn		**Pn**	**18 52 40.6**	**+0.1**
MT05	**Renca**	**1.92**	**142**	⇑*iP*		**Pb**	**18 52 43.4**	**-0.5**
MT05				*e*S		**Sb**	**18 53 07.2**	**-1.1**
MT05				IAML			18 53 16.6	
	comp=E,4μm,0.3s							
MT05	**Renca**	**1.92**	**142**	Pn		**Pn**	**18 52 42.5**	**+0.7**
GO04	**Tololo Observa**	**2.05**	**35**	*e*P		**Pb**	**18 52 45.9**	**-0.3**
GO04				*i* S		**Sb**	**18 53 12.4**	**+0.3**
GO04	**Tololo Observa**	**2.05**	**35**	Pn		**Pn**	**18 52 45.0**	**+1.3**
CO05	**La Serena**	**2.10**	**22**	*e*P		**Pb**	**18 52 46.8**	**-0.1**
CO05	**La Serena**	**2.10**	**22**	Pn		**Pn**	**18 52 44.4**	**+0.3**
MT01	**Popeta**	**2.12**	**160**	*i* S		**Sb**	**18 53 14.7**	**+0.8**
MT01				IAML			18 53 23.7	
	comp=N,1μm,0.4s							
MT01	**Popeta**	**2.12**	**160**	Pn		**Pn**	**18 52 45.8**	**+1.3**
MT09	**Talagante**	**2.13**	**153**	⇓*iP*		**Pb**	**18 52 46.6**	**-0.9**
MT09				*i* S		**Sb**	**18 53 13.8**	**-0.5**
MT09				IAML			18 53 24.9	
	comp=E,2μm,0.3s							
MT09	**Talagante**	**2.13**	**153**	Pn		**Pn**	**18 52 45.4**	**+0.6**
LMEL	**Las Melosas**	**2.56**	**141**	⇑*iP*		**Pn**	**18 52 52.2**	**+1.6**
LMEL				*i* S		**Sb**	**18 53 24.6**	**-2.1**
LMEL				IAML			18 53 36.0	
	comp=N,2μm,0.3s							
BO03	**Pichilemu**	**2.62**	**177**	⇑*iP*		**Pn**	**18 52 52.0**	**+0.7**
BO03				IAML			18 53 47.1	
	comp=N,520nm,0.6s							
BO01	**Tunca**	**2.66**	**161**	Pn		**Pn**	**18 52 51.5**	**-0.4**
ZON	**Zonda**	**2.97**	**85**	Pn		**Pn**	**18 52 56.3**	**+0.2**
LCO	**Las Campanas**	**3.11**	**24**	Pn		**Pn**	**18 52 57.4**	**-0.9**
BO02	**Sierra Bellavi**	**3.13**	**159**	Pn		**Pn**	**18 52 59.5**	**+1.2**
GO05	**Huala**	**3.13**	**177**	Pn		**Pn**	**18 52 58.7**	**+0.3**
AC04	**Llanos de Chal**	**3.77**	**14**	Pn		**Pn**	**18 53 05.7**	**-1.4**
GO03	**Copiap**	**4.58**	**22**	Pn		**Pn**	**18 53 16.2**	**-2.0**
AC06	**Mina Casimiro**	**4.76**	**20**	Pn		**Pn**	**18 53 19.8**	**-1.0**
AC02	**Maricunga**	**5.67**	**28**	Pn		**Pn**	**18 53 33.7**	**+0.1**
LC01	**Cunco**	**7.01**	**178**	Pn		**Pn**	**18 53 51.3**	**-0.4**
PB14	**IPOC Station P**	**7.38**	**12**	Pn		**Pn**	**18 53 57.9**	**+0.9**
LR03	**Panguipulli**	**7.75**	**181**	Pn		**Pn**	**18 53 59.5**	**-2.2**
LR03						**Sn**	**18 55 27.8**	**-1.9**
PB10	**IPOC Station P**	**8.45**	**10**	Pn		**Pn**	**18 54 13.8**	**+2.4**
PLCA	**Paso Flores**	**8.94**	**172**	Pn		**Pn**	**18 54 19.4**	**+1.3**
	comp=N,0.4nm,0.3s,baz=350,slow=12,SNR=3.9							
PB15	**IPOC Station P**	**8.95**	**16**	Pn		**Pn**	**18 54 18.2**	**-0.2**
LL04	**Puerto Octay**	**9.02**	**181**	Pn		**Pn**	**18 54 17.2**	**-1.9**
PB06	**IPOC Station P**	**9.41**	**15**	Pn		**Pn**	**18 54 26.0**	**+1.2**
AF01	**San Pedro de A**	**9.53**	**23**	Pn		**Pn**	**18 54 24.6**	**-2.2**
LVC	**Limon Verde**	**9.66**	**14**	Pn		**Pn**	**18 54 28.9**	**+0.5**
	comp=N,0.1nm,0.3s,baz=198,slow=21,SNR=1.2							
LVC	**Limon Verde**	**9.66**	**18**	Pn		**Pn**	**18 54 28.4**	**0.0**
TRQA	**Tornquist**	**10.37**	**129**			**Pn**	**18 54 38.5**	**+0.9**
TA01	**Diego Aracena**	**11.40**	**9**	Pn		**Pn**	**18 54 49.4**	**-2.4**
TA02	**Huaiquique**	**11.70**	**9**	Pn		**Pn**	**18 54 53.7**	**-2.2**
PB08	**IPOC Station P**	**11.99**	**14**	Pn		**Pn**	**18 54 57.6**	**-2.7**
PB11	**IPOC Station P**	**12.27**	**11**	Pn		**Pn**	**18 55 00.9**	**-3.0**
CPUP	**Villa Florida**	**14.07**	**71**	Pn		**Pn**	**18 55 28.3**	**-0.1**
	comp=N,0.1nm,0.3s,baz=232,slow=18,SNR=2.4							
PLTB	**Pedras Altas**	**15.76**	**95**	Pn		**Pn**	**18 55 49.9**	**-1.2**
LPAZ	**La Paz**	**15.94**	**14**	Pn		**Pn**	**18 55 54.9**	**+1.0**
	comp=N,0.2nm,0.3s,baz=209,slow=5.1,SNR=2.2							
LPAZ	**La Paz**	**15.94**	**14**	Pn		**Pn**	**18 55 55.0**	**+1.0**
SIV	**San Ignacio**	**18.75**	**35**	P		**P**	**18 56 27.4**	**-0.8**
	comp=N,0.1nm,0.3s,baz=246,slow=12,SNR=2.5							
SPB	**Sao Paulo**	**23.34**	**75**	P		**P**	**18 57 16.7**	**-0.8**
SAML	**Samuel**	**24.28**	**22**	P		**P**	**18 57 25.0**	**-1.6**
BDFB	**Brasilia**	**27.27**	**59**	P		**P**	**18 57 53.3**	**-0.5**
	comp=N,10nm,0.9s,baz=240,slow=6.0,SNR=7.1							
BDFB				LR		LR	19 08 39.2	
	comp=N,167nm,18.5s,baz=105,slow=36							
BDFB	**Brasilia**	**27.27**	**59**	P		**P**	**18 57 52.0**	**-1.8**
BDFB				IAmb		IAmb	18 57 54.9	
	comp=Z,9.7nm,0.8s							
MATN	**Matagalpa**	**46.47**	**341**	P		**P**	**19 00 36.7**	**+0.3**
MATN				IAmb		IAmb	19 00 39.0	
	comp=Z,5.9nm,1.1s							
VNA3	**Neumayer Olymp**	**51.36**	**158**	P		**P**	**19 01 14.5**	**+1.2**
VNA2	**Neumayer--Watz**	**52.01**	**158**	P		**P**	**19 01 19.4**	**+1.2**
	baz=282,slow=8.7							
SNAA	**Sanae**	**53.59**	**158**	P		**P**	**19 01 30.9**	**+1.1**
SNAA	**Sanae**	**53.59**	**158**	P		**P**	**19 01 31.0**	**+1.1**
	comp=Z,3.6nm,0.8s,baz=287,slow=5.8,SNR=12							
SNAA	**Sanae**	**53.59**	**158**	P		**P**	**19 01 31.1**	**+1.1**
SNAA				IAmb		IAmb	19 01 32.1	
	comp=Z,4.4nm,0.8s							
QSPA	**South Pole Qui**	**58.36**	**180**	P		**P**	**19 02 05.8**	**+1.5**
	comp=Z,1.5nm,0.7s,baz=164,slow=1.8,SNR=8.2							
QSPA	**South Pole Qui**	**58.36**	**180**	P		**P**	**19 02 05.7**	**+1.5**
QSPA				IAmb		IAmb	19 02 08.9	
	comp=Z,6.9nm,1.3s							
TXAR	**Lajitas Array**	**67.84**	**330**	P		**P**	**19 03 08.7**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=146,slow=6.9,SNR=3.5							
DBIC	**Dimbokro**	**74.59**	**72**	P		**P**	**19 03 49.0**	**+0.3**
	comp=Z,4.0nm,0.8s,baz=211,slow=7.7,SNR=3.6							
NVAR	**Mina Array Bea**	**82.09**	**325**	P		**P**	**19 04 31.6**	**+1.6**
	comp=Z,0.4nm,0.6s,baz=123,slow=5.5,SNR=4.1							
TORD	**Torodi Ar. Bea**	**83.57**	**70**	P		**P**	**19 04 38.2**	**+0.3**
	comp=Z,3.9nm,0.7s,baz=266,slow=4.5,SNR=20							
TORD	**Torodi Ar. Bea**	**83.57**	**70**	P		**P**	**19 04 37.6**	**-0.3**
TORD				IAmb		IAmb	19 04 39.0	
	comp=Z,3.9nm,0.8s							
WRA	**Warramunga Arr**	**122.56**	**210**	PKP		**PKPdf**	**19 11 04.9**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=161,slow=1.6,SNR=6.1							
ZAA0	**Zalesovo Array**	**152.46**	**30**			**PKPbc**	**19 12 03.6**	**-1.4**
ZALV	**Zalesovo Beam**	**152.46**	**30**	PKPbc		**PKPbc**	**19 12 05.1**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=305,slow=5.2,SNR=6.3							
ZALV				PKPab		**PKPab**	**19 12 15.3**	**+0.1**
	comp=Z,2.3nm,0.5s,baz=311,slow=3.8,SNR=7.2							
ZALV	**Zalesovo Beam**	**152.46**	**30**			**PKPbc**	**19 12 04.2**	**-0.9**
MKAR	**Makanchi Array**	**155.39**	**45**	PKP		**PKPdf**	**19 12 02.3**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=291,slow=4.0,SNR=2.1							
MKAR				PKPab		**PKPab**	**19 12 27.9**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=292,slow=5.2,SNR=6.1							

TAP 18 19:05:15.8, 24°.27N×121°.77E, h19km, ML1.4, 5C-9D, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ENA	**Nanau**	**0.16**	**352**	⇓P		Pg	19 05 20.7	+0.3
	baz=354							
ENA				S		Sg	19 05 24.6	+1.2
	baz=354							
ETL	**Fush Village**	**0.17**	**229**	⇓P		Pg	19 05 21.1	+0.5
	baz=228							
ETL				S		Sg	19 05 24.7	+0.9
	baz=228							
EWUT	**Wuta**	**0.17**	**4**	⇓P		Pg	19 05 20.9	+0.4
	baz=4.0							
EWUT				S		Sg	19 05 25.0	+1.3
	baz=4.0							
NACB	**Ninganchiao**	**0.18**	**238**	⇑P		Pg	19 05 20.8	+0.1
	baz=237							
NACB				S		Sg	19 05 24.9	+0.9
	baz=237							
TWD	**Chiawan**	**0.25**	**219**	⇓P		Pg	19 05 22.1	+0.5
	baz=217							
TWD				S		Sg	19 05 26.6	+1.1
	baz=217							
ETLH	**Xiulin Townshi**	**0.27**	**256**	⇓P		Pg	19 05 22.3	+0.3
	baz=255							
ETLH				S		Sg	19 05 27.1	+0.9
	baz=255							
TWC	**Suao**	**0.34**	**13**	⇓*e*P		Pb	19 05 23.8	+0.3
	baz=14							
TWC				*e*S		Sb	19 05 29.1	+0.5
	baz=14							
NDS	**Dongshan**	**0.36**	**353**	*e*P		Pb	19 05 24.1	+0.3
	baz=352							
NDS				*e*S		Sb	19 05 29.7	+0.6
	baz=352							
NNSB	**Datong**	**0.38**	**294**	⇓P		Pb	19 05 24.5	+0.3
	baz=293							
NNSB				S		Sb	19 05 30.8	+1.1
	baz=293							
ETM	**Tongmen**	**0.39**	**219**	*e*P		Pb	19 05 24.8	+0.5
	baz=219							
ETM				*e*S		Sb	19 05 31.2	+1.2
	baz=219							
NNS	**Nan Shan**	**0.39**	**295**	⇑P		Pb	19 05 24.8	+0.4
	baz=295							
NNS				S		Sb	19 05 31.0	+0.9
	baz=295							
ENTT	**Nioudou**	**0.41**	**334**	⇓*e*P		Pb	19 05 24.9	+0.3
	baz=334							
ENTT				*e*S		Sb	19 05 31.3	+0.9
	baz=334							
TWE	**Neicheng**	**0.46**	**349**	⇓*e*P		Pb	19 05 25.5	+0.2
	baz=350							
TWE				*e*S		Sb	19 05 32.6	+0.9
	baz=350							
WHF	**Hehuan Shan**	**0.47**	**255**	⇑*e*P		Pb	19 05 26.0	+0.2
	baz=254							
WHF				*e*S		Sb	19 05 33.5	+0.9
	baz=254							
FUSS	**Fushou**	**0.48**	**267**	⇑*e*P		Pb	19 05 26.2	+0.4
	baz=266							
FUSS				*e*S		Sb	19 05 33.1	+0.6
	baz=266							
YHNB	**Yeheng**	**0.53**	**318**	⇑P		Pg	19 05 27.2	+0.6
	baz=318							
YHNB				S		Sb	19 05 35.0	+1.1
	baz=318							
TWT	**Tachien**	**0.54**	**268**	*e*S		Sn	19 05 36.2	-1.1
	baz=267							
NSK	**Sanguang**	**0.55**	**317**	*e*P		Pg	19 05 26.9	+0.1
	baz=317							
NSK				*e*S		Sg	19 05 35.1	+0.8
	baz=317							
NWLT	**Wulai**	**0.56**	**335**	*e*S		Sg	19 05 35.4	+0.8
	baz=334							
CHGB	**Renai**	**0.58**	**249**	*e*P		Pg	19 05 28.1	+0.5
	baz=248							
CHGB				*e*S		Sg	19 05 36.5	+1.1
	baz=248							

JMA 18 19:05:47.7±0.3, 24°.93N×123°.42E, h17km, M1.1, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.64**	**222**	*e*S		Sg	19 06 08.9	-0.1
IRIF	**Iriomote-Funau**	**0.66**	**154**	P		Pg	19 06 00.1	-0.5
IRIF				*e*S		Sb	19 06 09.5	0.0
JKRS	**Kuro-shima**	**0.87**	**142**	P		Pb	19 06 04.2	-0.2
JKRS				*e*S		Sb	19 06 15.2	-0.6
JISG	**Ishigakijimahi**	**0.88**	**113**	*e*S		Sb	19 06 15.7	-0.3

*IDC **18** 19:06:54.3±1.6, 30°.63S×71°.87W, h0km, mb4.2/3, mb1 4.0/8, mb1mx3.8/38, mbtmp3.9/8, ML3.8/5, MS3.2/1, Ms1 3.2/1, ms1mx2.7/30, Error ellipse: s-maj=54.7km s-min=24.7km az=107.0*
*NEIC **18** 19:06:54.9±3.0, 30°.42S±0°.05×72°.09W±0°.05, h9km±4km, mb4.3/7, Mwr4.0/31, ML3.8(GUC), Error ellipse: s-maj=7.1km s-min=6.3km az=141.0*
*NEIC **18** 19:06:54, 30°.40S×72°.18W, h20km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.98; $M_{\theta\theta}$0.07; $M_{\phi\phi}$-1.05; $M_{r\theta}$0.43; $M_{\theta\phi}$0.06; $M_{\phi r}$-0.10; Fault plane solution: $M_0$1.11000×10^{15} NP1:∅s156.26000°, δ52.35000°, λ62.49000°. NP2:∅s16.72000°, δ45.39000°, λ120.92000°. Principal axes: T 1.1519, Plg68.0000°, Azm5.0000°; N -0.0936, Plg21.0000°, Azm174.0000°; P -1.0583, Plg4.0000°, Azm265.0000°;*
*GUC **18** 19:06:57.1±0.6, 30°.47S×71°.93W, h20km±2km, ML3.9*
ISC 18 19:06:54.2±1.7, 30°.45S±0°.03×72°.12W±0°.07, h8km±10km, n69, σ1§69/73, mb4.3/4, 3C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.47**	**118**	⇓*iP*		**Pb**	**19 07 04.6**	**-0.1**
CO06				*i* S		**Sg**	**19 07 10.5**	**+0.9**
CO06				IAML			19 07 13.8	
	comp=E,18μm,0.5s							
CO06	**Fray Jorge**	**0.47**	**118**			**Pb**	**19 07 04.7**	**-0.1**
CO06				Sg		**Sg**	**19 07 10.4**	**+0.8**
CO05	**La Serena**	**0.93**	**55**	⇓*iP*		**Pg**	**19 07 12.8**	**+0.8**
CO05				*i* S		**Sn**	**19 07 25.0**	**-1.9**
CO05				IAML			19 07 28.1	
	comp=E,6μm,0.4s							
CO05	**La Serena**	**0.93**	**55**			**Pb**	**19 07 12.7**	**+0.2**
CO05				Sg		**Sb**	**19 07 20.9**	**-4.0**
GO04	**Tololo Observa**	**1.17**	**77**	⇓*iP*		**Pn**	**19 07 16.5**	**-0.6**
GO04				*i* S		**Sg**	**19 07 32.4**	**+0.4**
GO04	**Tololo Observa**	**1.17**	**77**			**Pn**	**19 07 16.5**	**-0.6**
CO03	**El Pedregal**	**1.29**	**108**	⇓*iP*		**Pn**	**19 07 17.9**	**-0.7**
CO03				*i* S		**Sg**	**19 07 34.8**	**-0.9**
CO03				IAML			19 07 38.5	
	comp=E,4μm,0.2s							
CO03	**El Pedregal**	**1.29**	**108**	Pn		**Pn**	**19 07 17.9**	**-0.7**
CO03				Sn		**Sg**	**19 07 34.5**	**-1.2**
LCO	**Las Campanas**	**1.89**	**41**	⇑*iP*		**Pn**	**19 07 27.6**	**+0.7**
LCO				*i* S		**Sb**	**19 07 53.4**	**+0.4**
LCO	**Las Campanas**	**1.89**	**41**	Pn		**Pn**	**19 07 27.6**	**+0.6**
LCO						**Pb**	**19 07 27.8**	**-1.3**
VA06	**Catapilco**	**2.22**	**162**	*e*P		**Pn**	**19 07 33.2**	**+2.0**
VA06				*i* S		**Sg**	**19 08 04.7**	**-0.8**
VA06				IAML			19 08 08.3	
	comp=E,1μm,0.4s							
AC04	**Llanos de Chal**	**2.42**	**22**	⇑*iP*		**Pn**	**19 07 34.1**	**+0.1**
AC04				IAML			19 08 21.6	
	comp=E,328nm,0.4s							
AC04	**Llanos de Chal**	**2.42**	**22**			**Pn**	**19 07 34.0**	**0.0**
VA01	**Torpederas**	**2.59**	**171**	*e*P		**Pg**	**19 07 44.5**	**+0.5**
VA01				*e*S		**Sg**	**19 08 17.7**	**+0.2**
VA01	**Torpederas**	**2.59**	**171**			**Pn**	**19 07 36.9**	**+0.5**
VA03	**San Esteban**	**2.66**	**150**			**Pn**	**19 07 39.5**	**+2.0**
ROCH	**El Roble**	**2.68**	**160**	*e*P		**Pb**	**19 07 41.5**	**-1.1**
ROCH				*e*S		**Sb**	**19 08 16.2**	**+0.4**
ROCH				IAML			19 08 25.6	
	comp=E,586nm,0.3s							
ZON	**Zonda**	**3.15**	**111**			**Pn**	**19 07 45.9**	**+1.8**
MT05	**Renca**	**3.16**	**159**	*e*P		**Pn**	**19 07 47.8**	**+3.6**
MT05				*e*S		**Sb**	**19 08 26.5**	**-2.7**
MT05	**Renca**	**3.16**	**159**			**Pn**	**19 07 46.7**	**+2.5**
VA05	**Santo Domingo**	**3.22**	**173**			**Pn**	**19 07 46.1**	**+1.1**
GO03	**Copiap**	**3.29**	**31**	⇑*iP*		**Pn**	**19 07 46.7**	**+0.6**
GO03				*e*S		**Sb**	**19 08 29.9**	**-3.2**
GO03				IAML			19 08 45.4	
	comp=N,268nm,0.4s							
GO03	**Copiap**	**3.29**	**31**	Pn		**Pn**	**19 07 46.6**	**+0.6**
AC06	**Mina Casimiro**	**3.45**	**27**			**Pn**	**19 07 48.2**	**0.0**
MT09	**Talagante**	**3.45**	**164**	*e*P		**Pn**	**19 07 49.4**	**+1.1**
MT09				*e*S		**Sb**	**19 08 34.7**	**-3.0**
MT09				IAML			19 09 00.3	
	comp=E,305nm,0.6s							
MT09	**Talagante**	**3.45**	**164**	Pn		**Pn**	**19 07 49.9**	**+1.6**
MT01	**Popeta**	**3.48**	**168**	*e*P		**Pn**	**19 07 52.8**	**+4.2**
MT01				*e*S		**Sb**	**19 08 34.5**	**-4.0**
MT01				IAML			19 08 58.5	
	comp=E,275nm,0.5s							
MT01	**Popeta**	**3.48**	**168**	Pn		**Pn**	**19 07 50.4**	**+1.8**
BO01	**Tunca**	**4.02**	**168**			**Pn**	**19 07 56.0**	**-0.1**
AC02	**Maricunga**	**4.46**	**37**	Pn		**Pn**	**19 08 03.2**	**+0.7**
BO02	**Sierra Bellavi**	**4.47**	**166**	Pn		**Pn**	**19 08 00.8**	**-1.5**
GO05	**Huala**	**4.55**	**178**	Pn		**Pn**	**19 08 01.0**	**-2.3**
ML02	**Panimavida**	**5.33**	**174**	Pn		**Pn**	**19 08 12.9**	**-1.1**
PB14	**IPOC Station P**	**6.00**	**15**	Pn		**Pn**	**19 08 21.3**	**-2.2**
H03N1	**Juan Fernandez**	**6.50**	**241**	T		T	19 15 28.1	
	baz=71,slow=72,SNR=216							
H03N2	**Juan Fernandez**	**6.51**	**241**	T		T	19 15 28.7	
	baz=71,slow=72,SNR=263							
H03N3	**Juan Fernandez**	**6.51**	**241**	T		T	19 15 27.9	
	baz=71,slow=72,SNR=184							
VA04	**Juan Fernndez**	**6.53**	**239**	Pn		Pn	19 08 28.7	-1.8
PB15	**IPOC Station P**	**7.59**	**19**			**Pn**	**19 08 44.5**	**-0.8**
PB04	**IPOC Station P**	**8.28**	**13**	Pn		**Pn**	**19 08 52.8**	**-1.8**
LVC	**Limon Verde**	**8.32**	**21**	Pn		**Pn**	**19 08 58.9**	**+3.4**
	comp=E,0.5nm,0.3s,baz=133,slow=16,SNR=1.8							
LVC	**Limon Verde**	**8.32**	**21**	Pn		**Pn**	**19 08 55.5**	**0.0**
LC01	**Cunco**	**8.43**	**179**	Pn		**Pn**	**19 08 53.6**	**-2.9**
PB07	**IPOC Station P**	**8.92**	**14**	Pn		**Pn**	**19 09 00.6**	**-2.8**
PB09	**IPOC Station P**	**9.00**	**17**	Pn		Pn	19 08 59.5	-5.1
PLCA	**Paso Flores**	**10.34**	**173**	Pn		**Pn**	**19 09 21.1**	**-1.7**
	comp=E,0.2nm,0.3s,baz=334,slow=9.6,SNR=7.6							
PLCA				LR		LR	19 13 32.6	
	comp=E,143nm,19.4s,baz=50,slow=39							
PB11	**IPOC Station P**	**10.88**	**12**	Pn		**Pn**	**19 09 28.1**	**-2.2**
PSGCX	**Pisagua**	**10.96**	**10**	Pn		Pn	19 09 27.6	-3.8
TRQA	**Tornquist**	**11.30**	**135**	Pn		**Pn**	**19 09 36.0**	**0.0**
CPUP	**Villa Florida**	**13.65**	**76**	Pn		**Pn**	**19 10 08.3**	**+0.2**
	comp=E,0.2nm,0.3s,baz=72,slow=19,SNR=1.7							
LPAZ	**La Paz**	**14.56**	**15**	Pn		**Pn**	**19 10 23.6**	**+2.4**
	comp=E,0.2nm,0.3s,baz=180,slow=6.1,SNR=2.5							
**LPAZ

QSPA					IAmb	IAmb	19 20 37.0		
	comp=Z,3.4nm,1.2s								
TX31	**Lajitas Ar. Si**	**66.44**	**331**		P	**P**	**19 21 06.0**	**+1.0**	
TXAR	**Lajitas Array**	**66.44**	**331**		P	**P**	**19 21 06.2**	**+1.2**	
	comp=Z,0.2nm,0.5s,baz=153,slow=8.4,SNR=3.9								
DBIC	**Dimbokro**	**74.63**	**73**		P	**P**	**19 21 56.5**	**+1.2**	
TORD	**Torodi Ar. Bea**	**83.56**	**71**		P	**P**	**19 22 45.0**	**+0.8**	
	comp=Z,0.6nm,0.8s,baz=273,slow=5.4,SNR=5.6								
ZALV	**Zalesovo Beam**	**151.50**	**28**		PKPbc	**PKiKP**	**19 30 10.1**	**+0.4**	
	comp=Z,0.9nm,0.6s,baz=298,slow=3.1,SNR=5.1								

*IDC **18** 19:18:06.4±1.0,31°.88S×71°.77W,h0km,mb4.1/7, mb1 4.1/11,mb1mx3.9/38,mbtmp4.0/11,ML3.8/4,MS3.5/1, Ms1 3.5/1,ms1mx2.8/25,Error ellipse: s-maj=37.4km s-min=18.1km az=101.0*

*GUC **18** 19:18:08.3±0.8,31°.87S×71°.98W,h36km±4km,ML4.2*

*NEIC **18** 19:18:08.1±2.6,31°.93S±0°.04×72°.15W±0°.07,h20km±2km, mb4.5/11,ML4.2(GUC),Error ellipse: s-maj=8.8km s-min=5.5km az=97.0*

ISC 18 19:18:06.2±1.5,31°.87S±0°.03×72°.04W±0°.06,h8km±9km, n75,σ1§19/72,mb4.4/9,2C-4D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**0.93**	**138**	⇓*i*P		**Pg**	**19 18 24.6**	**+0.6**
VA06				*i* S		**Sg**	**19 18 35.6**	**-0.5**
VA06				IAML			19 18 38.6	
	comp=E,24μm,0.4s							
VA01	**Torpederas**	**1.19**	**164**	IAML			19 18 45.8	
	comp=E,2μm,0.3s							
VA01	**Torpederas**	**1.19**	**164**	Pn		**Pb**	**19 18 29.1**	**0.0**
VA01				Sn		**Sb**	**19 18 43.3**	**-1.3**
CO06	**Fray Jorge**	**1.25**	**16**	⇑*i*P		**Pg**	**19 18 31.2**	**+1.1**
CO06				*i* S		**Sb**	**19 18 45.7**	**-0.4**
CO06				IAML			19 18 51.9	
	comp=E,5μm,0.4s							
CO06	**Fray Jorge**	**1.25**	**16**			**Pg**	**19 18 31.2**	**+1.1**
ROCH	**El Roble**	**1.40**	**142**	⇓*i*P		**Pn**	**19 18 32.5**	**+0.3**
ROCH				*i* S		**Sb**	**19 18 49.5**	**-1.2**
ROCH				IAML			19 18 51.4	
	comp=E,6μm,0.4s							
VA03	**San Esteban**	**1.54**	**126**	⇓*i*P		**Pn**	**19 18 34.2**	**+0.2**
VA03				*i* S		**Sn**	**19 18 52.9**	**-1.4**
VA03				IAML			19 18 57.1	
	comp=E,10μm,0.2s							
VA03	**San Esteban**	**1.54**	**126**			**Pn**	**19 18 34.2**	**+0.2**
VA03				Sn		**Sn**	**19 18 53.2**	**-1.1**
CO03	**El Pedregal**	**1.55**	**49**	⇓*i*P		**Pb**	**19 18 35.6**	**+0.5**
CO03				*i* S		**Sn**	**19 18 54.4**	**0.0**
CO03				IAML			19 18 58.9	
	comp=E,5μm,0.6s							
CO03	**El Pedregal**	**1.55**	**49**	Pn		**Pb**	**19 18 35.5**	**+0.3**
VA05	**Santo Domingo**	**1.81**	**169**	IAML			19 19 10.3	
	comp=E,5μm,0.6s							
VA05	**Santo Domingo**	**1.81**	**169**			**Pn**	**19 18 38.1**	**+0.4**
MT05	**Renca**	**1.87**	**144**	*e*P		**Pn**	**19 18 39.2**	**+0.7**
MT05				*i* S		**Sn**	**19 19 02.9**	**+0.5**
MT05				IAML			19 19 07.6	
	comp=E,8μm,0.3s							
MT05	**Renca**	**1.87**	**144**			**Pn**	**19 18 39.3**	**+0.7**
MT05				Sn		**Sn**	**19 19 03.3**	**+0.9**
GO04	**Tololo Observa**	**2.00**	**32**	*e*P		**Pn**	**19 18 41.9**	**+1.4**
GO04	**Tololo Observa**	**2.00**	**32**			**Pn**	**19 18 42.0**	**+1.5**
CO05	**La Serena**	**2.07**	**20**	*e*P		**Pn**	**19 18 42.8**	**+1.7**
CO05	**La Serena**	**2.07**	**20**			**Pb**	**19 18 43.1**	**-0.9**
MT01	**Popeta**	**2.09**	**162**	Pn		**Pn**	**19 18 42.2**	**+0.7**
MT09	**Talagante**	**2.09**	**155**	⇑*i*P		**Pn**	**19 18 43.1**	**+1.4**
MT09				*i* S		**Sn**	**19 19 08.5**	**+0.5**
MT09				IAML			19 19 18.0	
	comp=N,3μm,0.2s							
MT09	**Talagante**	**2.09**	**155**	Pn		**Pn**	**19 18 42.7**	**+1.0**
BO01	**Tunca**	**2.63**	**163**			**Pn**	**19 18 49.9**	**+0.9**
ZON	**Zonda**	**2.88**	**84**	Pn		**Pb**	**19 18 56.0**	**-1.9**
LCO	**Las Campanas**	**3.08**	**22**			**Pn**	**19 18 57.5**	**+2.1**
BO02	**Sierra Bellavi**	**3.10**	**160**	Pn		**Pn**	**19 18 56.1**	**+0.7**
GO05	**Huala**	**3.13**	**178**			**Pn**	**19 18 55.6**	**-0.2**
AC04	**Llanos de Chal**	**3.75**	**13**	Pn		**Pn**	**19 19 03.5**	**-0.9**
ML02	**Panimavida**	**3.91**	**173**	Pn		**Pn**	**19 19 07.4**	**+0.9**
GO03	**Copiap**	**4.54**	**21**	Pn		**Pn**	**19 19 16.9**	**+1.6**
AC06	**Mina Casimiro**	**4.73**	**18**			**Pn**	**19 19 19.3**	**+1.4**
AC02	**Maricunga**	**5.63**	**28**			**Pn**	**19 19 32.5**	**+2.0**
VA04	**Juan Fernndez**	**5.99**	**251**	Pn		**Pn**	**19 19 34.8**	**-0.3**
H03N1	**Juan Fernandez** baz=82,slow=73	**6.00**	**253**	T		T	19 26 06.2	
H03N3	**Juan Fernandez** baz=82,slow=73	**6.02**	**253**	T		T	19 26 13.0	
H03N2	**Juan Fernandez** baz=82,slow=73	**6.02**	**253**	T		T	19 26 11.6	
LC01	**Cunco**	**7.01**	**179**			**Pn**	**19 19 48.9**	**-0.3**
PB14	**IPOC Station P**	**7.36**	**12**	Pn		**Pn**	**19 19 54.3**	**0.0**
LR03	**Panguipulli**	**7.75**	**182**	Pn		**Pn**	**19 19 57.8**	**-1.4**
PLCA	**Paso Flores** comp=N,0.6nm,0.3s,baz=332,slow=11,SNR=20	**8.92**	**173**	Pn		**Pn**	**19 20 16.5**	**+1.1**
PB15	**IPOC Station P**	**8.93**	**15**	Pn		**Pn**	**19 20 13.8**	**-1.9**
PB06	**IPOC Station P**	**9.39**	**14**	Pn		**Pn**	**19 20 22.8**	**+0.8**
LVC	**Limon Verde** comp=N,0.3nm,0.3s,baz=219,slow=15,SNR=1.7	**9.64**	**18**	Pn		**Pn**	**19 20 26.3**	**+0.7**
LVC	**Limon Verde**	**9.64**	**18**	Pn		**Pn**	**19 20 23.5**	**-2.0**
PB04	**IPOC Station P**	**9.65**	**10**	Pn		**Pn**	**19 20 24.0**	**-1.6**
PB07	**IPOC Station P**	**10.29**	**11**	Pn		**Pn**	**19 20 34.5**	**+0.2**
TRQA	**Tornquist**	**10.30**	**130**	Pn		**Pn**	**19 20 34.7**	**+0.5**
CPUP	**Villa Florida** comp=N,188nm,19.6s,baz=260,slow=40	**13.99**	**70**	LR		LR	19 27 12.5	
PLTB	**Pedras Altas**	**15.68**	**94**			**Pn**	**19 21 47.7**	**+0.3**
PLTB				IAmb		IAmb	19 21 51.3	
	comp=Z,22nm,0.9s							
LPAZ	**La Paz** comp=Z,0.1nm,0.3s,baz=206,slow=13,SNR=1.8	**15.92**	**14**	Pn		**Pn**	**19 21 51.2**	**0.0**
LPAZ	**La Paz**	**15.92**	**14**			**Pn**	**19 21 51.6**	**+0.4**
SIV	**San Ignacio** comp=Z,0.5nm,0.3s,baz=227,slow=11,SNR=5.9	**18.70**	**35**	P		**P**	**19 22 24.1**	**-1.0**
BDFB	**Brasilia** comp=Z,9.2nm,0.9s,baz=222,slow=8.3,SNR=6.9	**27.19**	**59**	P		**P**	**19 23 50.4**	**-0.2**
BDFB	**Brasilia**	**27.19**	**59**	P		**P**	**19 23 49.5**	**-1.0**
BDFB				IAmb		IAmb	19 23 51.5	
	comp=Z,21nm,1.2s							
OTAV	**Otavalo**	**32.51**	**348**	P		**P**	**19 24 35.5**	**-2.6**
OTAV				IAmb		IAmb	19 24 45.2	
	comp=Z,7.2nm,0.9s							
SJCC	**San Jacinto, C**	**41.64**	**355**	P		**P**	**19 25 53.1**	**-2.1**
SJCC				IAmb		IAmb	19 26 16.0	
	comp=Z,21nm,1.5s							
VNA3	**Neumayer Olymp**	**51.33**	**158**	P		**P**	**19 27 11.6**	**+1.1**
VNA2	**Neumayer--Watz** baz=288,slow=7.8	**51.97**	**158**	P		**P**	**19 27 14.3**	**-1.0**
SNAA	**Sanae**	**53.55**	**158**	P		**P**	**19 27 28.1**	**+1.0**
SNAA	**Sanae** comp=Z,1.5nm,0.7s,baz=272,slow=9.9,SNR=12	**53.55**	**158**	P		**P**	**19 27 28.1**	**+1.0**
SNAA	**Sanae** comp=Z,7.6nm,1.3s	**53.55**	**158**	IAmb		IAmb	19 27 29.1	
QSPA	**South Pole Qui** comp=Z,1.8nm,1.0s,baz=119,slow=2.6,SNR=3.8	**58.36**	**180**	P		**P**	**19 28 03.5**	**+1.8**
TXAR	**Lajitas Array** comp=Z,0.3nm,0.6s,baz=163,slow=9.4,SNR=2.9	**67.89**	**330**	P		**P**	**19 29 08.1**	**+2.9**
DBIC	**Dimbokro** comp=Z,2.3nm,0.6s,baz=248,slow=5.9,SNR=6.0	**74.51**	**72**	P		**P**	**19 29 46.0**	**+0.4**
MAW	**Mawson** comp=Z,1.9nm,0.7s,baz=234,slow=21,SNR=3.6	**75.21**	**164**	P		**P**	**19 29 49.9**	**+1.0**
TORD	**Torodi Ar. Bea** comp=Z,2.7nm,0.9s,baz=268,slow=4.9,SNR=11	**83.49**	**70**	P		**P**	**19 30 35.1**	**+0.3**
WRA	**Warramunga Arr** comp=Z,0.5nm,1.0s,baz=158,slow=0.9,SNR=2.0	**122.61**	**210**	PKP		**PKPdf**	**19 37 03.0**	**0.0**
H11S2	**WAKE ISLAND Hyd** baz=117,slow=75,SNR=45	**25.77**	**271**	T		T	21 56 08.9	
H11S1	**WAKE ISLAND Hyd** baz=117,slow=75,SNR=22	**25.79**	**271**	T		T	21 56 04.6	
H11S3	**WAKE ISLAND Hyd** baz=117,slow=75,SNR=29	**25.79**	**271**	T		T	21 55 55.5	
H11N3	**WAKE ISLAND Hyd** baz=116,slow=75,SNR=19	**26.13**	**272**	T		T	21 56 24.0	
H11N1	**WAKE ISLAND Hyd** baz=116,slow=75,SNR=5.2	**26.15**	**272**	T		T	21 56 21.1	
H11N2	**WAKE ISLAND Hyd** baz=116,slow=75,SNR=36	**26.15**	**272**	T		T	21 56 25.3	
ZALV	**Zalesovo Beam** comp=Z,3.0nm,0.7s,baz=300,slow=4.9,SNR=9.1	**152.41**	**30**	PKPbc		**PKiKP**	**19 38 03.6**	**+1.0**
KSH	**Kashi**	**153.03**	**65**	PKPbc		**PKPdf**	**19 37 54.8**	**-2.2**
MKAR	**Makanchi Array** comp=Z,0.8nm,0.7s,baz=289,slow=4.1,SNR=4.6	**155.32**	**45**	PKPab		**PKPab**	**19 38 26.4**	**+1.2**

*IDC **18** 19:21:50.5±0.9,30°.81S×71°.48W,h0km,mb4.1/6, mb1 4.1/10,mb1mx3.9/38,mbtmp4.0/10,ML3.8/3,Error ellipse: s-maj=35.1km s-min=18.9km az=103.0*

*GUC **18** 19:21:56.3±0.6,30°.85S×71°.35W,h48km±3km,ML4.1*

*NEIC **18** 19:21:57.8±1.6,30°.87S±0°.04×71°.40W±0°.04,h45km±5km, Error ellipse: s-maj=5.7km s-min=4.9km az=53.0*

ISC 18 19:21:57.1±0.7,30°.82S±0°.03×71°.42W±0°.04,h44km±6km, n61,σ1§47/72,mb4.1/7,7C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.23**	**308**	⇑*i*P		**Pn**	**19 22 06.2**	**+1.1**
CO06				*i* S		**Sn**	**19 22 12.7**	**+1.9**
CO06				IAML			19 22 14.0	
	comp=E,20μm,0.2s							
CO06	**Fray Jorge**	**0.23**	**308**			**Pn**	**19 22 06.2**	**+1.1**
CO06						**Sn**	**19 22 12.7**	**+1.9**
CO03	**El Pedregal**	**0.63**	**92**	⇓*i*P		**Pn**	**19 22 10.4**	**+0.4**
CO03				*i* S		**Sn**	**19 22 19.3**	**+0.3**
CO03				IAML			19 22 20.1	
	comp=E,10μm,0.3s							
CO03	**El Pedregal**	**0.63**	**92**			**Pn**	**19 22 10.2**	**+0.4**
CO03						**Sn**	**19 22 19.2**	**+0.2**
GO04	**Tololo Observa**	**0.84**	**40**	*e*P		**Pn**	**19 22 13.4**	**+0.7**
GO04				*i* S		**Sn**	**19 22 26.1**	**+1.9**
GO04				IAML			19 22 28.7	
	comp=E,23μm,0.7s							
GO04	**Tololo Observa**	**0.84**	**40**			**Pn**	**19 22 13.9**	**+1.2**
GO04						**Sn**	**19 22 26.0**	**+1.9**
CO05	**La Serena**	**0.91**	**10**	⇑*i*P		**Pn**	**19 22 14.5**	**+1.0**
CO05				*i* S		**Sn**	**19 22 27.6**	**+2.1**
CO05	**La Serena**	**0.91**	**10**			**Pn**	**19 22 14.8**	**+1.3**
CO05						**Sn**	**19 22 27.5**	**+2.0**
VA06	**Catapilco**	**1.74**	**176**	⇑*i*P		**Pn**	**19 22 25.5**	**+0.7**
VA06				*i* S		**Sn**	**19 22 47.9**	**+2.1**
VA06				IAML			19 22 59.0	
	comp=E,3μm,0.5s							
LCO	**Las Campanas**	**1.91**	**19**	⇓*i*P		**Pn**	**19 22 29.1**	**+1.7**
LCO				*i* S		**Sn**	**19 22 52.8**	**+2.4**
LCO	**Las Campanas**	**1.91**	**19**	Pn		**Pn**	**19 22 29.1**	**+1.7**
VA03	**San Esteban**	**2.08**	**159**	⇑*i*P		**Pn**	**19 22 30.4**	**+0.9**
VA03				*i* S		**Sn**	**19 22 56.3**	**+2.0**
VA03				IAML			19 23 05.0	
	comp=E,3μm,0.5s							
VA03	**San Esteban**	**2.08**	**159**	Pn		**Pn**	**19 22 30.9**	**+1.3**
ROCH	**El Roble**	**2.17**	**171**	*e*P		**Pn**	**19 22 32.2**	**+1.1**
ROCH				*e*S		**Sn**	**19 23 00.0**	**+3.1**
ROCH				IAML			19 23 10.3	
	comp=N,1μm,0.3s							
VA01	**Torpederas**	**2.21**	**185**	*e*P		**Pn**	**19 22 32.0**	**+0.7**
VA01				*i* S		**Sn**	**19 22 59.4**	**+2.1**
VA01				IAML			19 23 05.4	
	comp=E,726nm,0.5s							
VA01	**Torpederas**	**2.21**	**185**			**Pn**	**19 22 31.0**	**-0.2**
ZON	**Zonda**	**2.46**	**108**	Pn		**Pn**	**19 22 38.1**	**+3.3**
AC04	**Llanos de Chal**	**2.62**	**7**			**Pn**	**19 22 38.8**	**+1.8**
MT05	**Renca**	**2.63**	**167**	⇑*i*P		**Pn**	**19 22 39.8**	**+2.6**
MT05				*i* S		**Sn**	**19 23 10.4**	**+2.5**
MT05	**Renca**	**2.63**	**167**			**Pn**	**19 22 38.3**	**+1.2**
VA05	**Santo Domingo**	**2.83**	**183**	⇓*i*P		**Pn**	**19 22 39.4**	**-0.5**
VA05				IAML			19 23 30.3	
	comp=E,868nm,0.6s							
VA05	**Santo Domingo**	**2.83**	**183**			**Pn**	**19 22 39.4**	**-0.5**
MT09	**Talagante**	**2.97**	**173**	⇑*i*P		**Pn**	**19 22 43.1**	**+1.2**
MT09				*e*S		**Sn**	**19 23 16.6**	**+0.2**
MT09				IAML			19 23 32.9	
	comp=N,1μm,0.3s							
MT09	**Talagante**	**2.97**	**173**	Pn		**Pn**	**19 22 43.0**	**+1.1**
MT09				Sn		**Sn**	**19 23 16.7**	**+0.3**
MT01	**Popeta**	**3.04**	**177**	⇑*i*P		**Pn**	**19 22 43.2**	**+0.4**
MT01				*e*S		**Sn**	**19 23 20.1**	**+2.2**
MT01				IAML			19 23 29.3	
	comp=E,502nm,0.4s							
MT01	**Popeta**	**3.04**	**177**	Pn		**Pn**	**19 22 43.0**	**+0.3**
H03N1	**Juan Fernandez** baz=74	**6.87**	**246**	T		T	19 30 25.5	
VA04	**Juan Fernndez**	**6.88**	**244**			**Pn**	**19 23 34.1**	**-1.3**
H03N3	**Juan Fernandez** baz=74,slow=74	**6.88**	**246**	T		T	19 30 25.6	
H03N2	**Juan Fernandez** baz=74,slow=74	**6.88**	**246**	T		T	19 30 25.7	
LC01	**Cunco**	**8.07**	**183**	Pn		**Pn**	**19 23 49.7**	**-2.0**
LVC	**Limon Verde** baz=324,slow=16,SNR=0.6	**8.48**	**16**	Pn		**Pn**	**19 23 55.3**	**-2.4**
PLCA	**Paso Flores** comp=E,0.2nm,0.3s,baz=238,slow=23,SNR=1.6	**9.92**	**176**	Pn		**Pn**	**19 24 15.8**	**-1.3**
ITQB	**Itaqui**	**12.85**	**89**	Pn		**Pn**	**19 24 54.5**	**-2.6**
LPAZ	**La Paz** comp=E,0.2nm,0.3s,baz=187,slow=12,SNR=2.0	**14.78**	**12**	Pn		**Pn**	**19 25 21.6**	**-2.3**
LPAZ	**La Paz**	**14.78**	**12**	Pn		**Pn**	**19 25 21.5**	**-2.4**
SIV	**San Ignacio** comp=E,0.5nm,0.3s,baz=226,slow=12,SNR=6.7	**17.53**	**35**	P		**Pn**	**19 25 58.8**	**+0.4**
MG01	**Puerto William**	**24.25**	**175**	P		**P**	**19 27 11.1**	**+1.4**
BDFB	**Brasilia** comp=E,3.3nm,0.5s,baz=207,slow=4.5,SNR=3.5	**26.20**	**60**	P		**P**	**19 27 27.2**	**-0.7**
BDFB	**Brasilia** comp=Z,3.6nm,0.6s	**26.20**	**60**	IAmb		IAmb	19 27 28.2	
CRPR	**Cabo Rojo, PR**	**48.72**	**5**	P		**P**	**19 30 37.6**	**+0.4**
VNA3	**Neumayer Olymp**	**52.11**	**159**	P		**P**	**19 31 03.0**	**+0.5**
VNA2	**Neumayer--Watz** baz=285,slow=8.2	**52.75**	**158**	P		**P**	**19 31 07.2**	**+0.1**
SNAA	**Sanae**	**54.34**	**159**	P		**P**	**19 31 18.7**	**-0.1**
SNAA	**Sanae** comp=Z,1.3nm,0.6s,baz=276,slow=9.0,SNR=11	**54.34**	**159**	P		**P**	**19 31 18.9**	**0.0**
SNAA	**Sanae**	**54.34**	**159**	P		**P**	**19 31 18.5**	**-0.3**
SNAA				PcP		**PcP**	**19 32 21.6**	**-0.6**
060A	**Indiantown**	**58.16**	**351**	P		**P**	**19 31 47.5**	**+1.1**
QSPA	**South Pole Qui** comp=Z,1.2nm,0.8s,baz=186,slow=2.4,SNR=7.9	**59.41**	**180**	P		**P**	**19 31 55.4**	**+0.5**
QSPA	**South Pole Qui**	**59.41**	**180**	P		**P**	**19 31 55.0**	**+0.1**
QSPA				IAmb		IAmb	19 32 04.8	
	comp=Z,5.5nm,1.4s							
TXAR	**Lajitas Array** comp=Z,0.2nm,0.6s,baz=146,slow=6.6,SNR=3.6	**67.24**	**330**	P		**P**	**19 32 47.6**	**+0.6**
R40A	**Maddies Statio**	**71.45**	**343**	P		**P**	**19 33 13.2**	**+0.4**
R40A				IAmb		IAmb	19 33 14.4	
	comp=Z,4.8nm,0.8s							
DBIC	**Dimbokro** comp=Z,3.8nm,0.6s,baz=238,slow=7.5,SNR=6.1	**73.68**	**72**	P		**P**	**19 33 26.9**	**+0.3**
TORD	**Torodi Ar. Bea** comp=Z,1.1nm,0.7s,baz=280,slow=6.5,SNR=12	**82.64**	**70**	P		**P**	**19 34 16.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**82.64**	**70**	P		**P**	**19 34 15.8**	**-0.3**
ASAR	**Alice Springs** comp=Z,0.2nm,0.6s,baz=117,slow=1.4,SNR=4.3	**120.63**	**207**	PKP		**PKPdf**	**19 40 43.4**	**-1.3**
WRA	**Warramunga Arr** comp=Z,0.3nm,0.5s,baz=132,slow=1.4,SNR=8.7	**123.78**	**209**	PKP		**PKPdf**	**19 40 49.6**	**-1.1**
H11S2	**WAKE ISLAND Hyd** baz=116,slow=75,SNR=69	**26.28**	**271**	T		T	21 59 45.6	
H11S1	**WAKE ISLAND Hyd** baz=116,slow=75,SNR=84	**26.30**	**271**	T		T	21 59 43.6	
H11S3	**WAKE ISLAND Hyd** baz=116,slow=75,SNR=59	**26.30**	**271**	T		T	21 59 44.7	
ZALV	**Zalesovo Beam** comp=Z,1.0nm,0.5s,baz=300,slow=6.7,SNR=4.0	**151.24**	**30**	PKPbc		**PKPbc**	**19 41 45.0**	**-0.1**
ZALV	**Zalesovo Beam**	**151.24**	**30**			**PKPbc**	**19 41 44.0**	**-1.2**

*STR **18** 19:24:48.8±1.8,43°N±5°×1°3E±1°6,h0km,mb3.1/1, mB5.2/2,MLv3.4/7,Mw(mB)4.5/2,smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*

*IASPEI **18** 19:24:52.7±0.8,43°.63N±0°.02×12°.29E±0°.02,h12km±5km, Error ellipse: s-maj=3.3km s-min=2.8km az=22.0,GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*ROM **18** 19:24:52.8±0.1,43°.632N±0°.004×12°.322E±0°.004, h9km,ML3.5/1,Mw3.5,Mw3.5,Error ellipse: s-maj=0.3km s-min=0.3km az=202.0,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=2.05; $M_{\theta\theta}$=1.47; $M_{\phi\phi}$=0.59; $M_{r\theta}$=0.53; $M_{r\phi}$=-1.55; $M_{\theta\phi}$=0.60; Fault plane solution: $M_0$2.47615×10^{14} NP1:φ≡121.00000°, δ≡36.00000°, λ≡-99.00000°. NP2:φ≡312.00000°, δ≡54.00000°, λ≡-83.00000°.*

*LDG **18** 19:24:53.1±0.2,43°.60N×12°.32E,h10km,Md3.6/1, Ml2.9/25 Error ellipse: s-maj=5.5km s-min=3.4km az=37.0*

*PRU **18** 19:24:54.1±0.0,43°.64N×12°.63E,h0km*

ISC 18 19:24:52.9±0.7,43°.62N±0°.02×12°.26E±0°.02,h13km±4km, n153,σ2§29/206,12C,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PARC	**Parchiule**	**0.03**	**329**	⇑P		**Pg**	**19 24 54.9**	**-0.3**
PARC				S		**Sg**	**19 24 56.2**	**-0.7**
PARC				AML	AML			
	comp=E,67650μm,1.5s							
PARC				AML	AML			
	comp=N,71100μm,1.3s							
SSP9	**Sansepolcro**	**0.10**	**242**	⇑P		**Pg**	**19 24 56.6**	**+0.7**
SSP9				S		**Sg**	**19 24 59.8**	**+1.7**
SSP9				AML	AML			
	comp=E,24000μm,1.3s							
SSP9				AML	AML			
	comp=N,27950μm,1.4s							
SSP9				AML	AML			
	comp=N,27900μm,1.4s							
BADI	**Badiali**	**0.11**	**185**	⇑P		**Pg**	**19 24 56.4**	**+0.4**
BADI				S		**Sg**	**19 24 58.9**	**+0.7**
BADI				AML	AML			
	comp=E,73900μm,0.7s							
BADI				AML	AML			
	comp=N,79400μm,0.9s							
BADI				AML	AML			
	comp=E,73850μm,0.7s							
BADI				AML	AML			
	comp=N,79350μm,0.9s							
APEC	**Apecchio**	**0.13**	**119**	P		**Pg**	**19 24 56.0**	**-0.3**
APEC				S		**Sg**	**19 24 58.1**	**-0.6**
APEC				AML	AML			
	comp=N,28550μm,0.7s							
APEC				AML	AML			
	comp=E,32650μm,0.3s							
APEC				AML	AML			
APEC				AML	AML			
APEC				AML	AML			
	comp=N,28600μm,0.7s							
CDCA	**Citt' di Caste**	**0.17**	**186**	P		**Pg**	**19 24 57.4**	**+0.6**
CDCA				S		**Sb**	**19 25 01.2**	**+0.1**
CDCA				AML	AML			
CDCA				AML	AML			
	comp=E,60250μm,0.5s							
CPGN	**Carpegna, Ital**	**0.18**	**14**	⇑P		**Pg**	**19 24 57.6**	**+0.4**
CPGN				AML	AML			
	comp=E,13650μm,0.5s							
CPGN				AML	AML			
	comp=N,11880μm,0.5s							
CPGN				AML	AML			
	comp=E,11900μm,0.5s							
CPGN				AML	AML			
	comp=N,17100μm,0.5s							
CPGN				AML	AML			
	comp=N,11875μm,0.5s							
CPGN				AML	AML			
	comp=N,17135μm,0.5s							
CPGN				AML	AML			
	comp=E,11850μm,0.5s							
CPGN				AML	AML			
	comp=E,13650μm,0.5s							
CPGN				AML	AML			
	comp=N,11915μm,0.5s							
PE3	**Peglio**	**0.19**	**67**	P		**Pg**	**19 24 56.6**	**-0.6**
ATPI	**Pietralunga -**	**0.20**	**149**	P		**Pg**	**19 24 57.4**	**+0.1**
ATPI				S		**Sg**	**19 25 01.1**	**+0.6**
ATPI				AML	AML			
	comp=E,76900μm,0.6s							
ATPI				AML	AML			
	comp=E,76850μm,0.6s							
ATPI				AML	AML			
	comp=N,67400μm,0.9s							
PIEI	**Pieia**	**0.22**	**113**	P		**Pg**	**19 24 57.0**	**-0.6**
PIEI				S		**Sg**	**19 25 00.2**	**-0.7**
PIEI				AML	AML			
	comp=E,55300μm,1.0s							
PIEI				AML	AML			
	comp=N,31100μm,1.1s							
CRE	**Caprese Michel**	**0.22**	**269**	⇑P		**Pg**	**19 24 58.7**	**+0.9**
CRE				S		**Sg**	**19 25 03.1**	**+1.9**
CRE				AML	AML			
	comp=N,7920μm,0.3s							
CRE				AML	AML			
	comp=E,5645μm,1.4s							
NARO	**Abbazia di Nar**	**0.23**	**93**	P		**Pg**	**19 24 57.2**	**-0.7**
NARO				S		**Sg**	**19 25 00.5**	**-0.8**
NARO				AML	AML			
	comp=N,41650μm,0.7s							
NARO				AML	AML			
	comp=E,27500μm,0.3s							
ATVO	**AVT- Monte Val**	**0.26**	**156**	⇑P		**Pg**	**19 24 58.7**	**+0.2**
ATVO				S		**Sg**	**19 25 03.3**	**+1.2**
ATVO				AML	AML			
ATVO				AML	AML			
ATMI	**Monte Miggiano**	**0.29**	**179**	P		**Pg**	**19 24 59.4**	**+0.6**
ATMI				S		**Sg**	**19 25 04.2**	**+1.3**
ATMI				AML	AML			
	comp=N,49150μm,0.4s							
ATMI				AML	AML			
	comp=E,41200μm,1.0s							
RSM	**Repubblica di**	**0.34**	**24**	P		**Pg**	**19 25 00.7**	**+0.9**
RSM				AML	AML			
	comp=N,6580μm,0.7s							
RSM				AML	AML			
	comp=E,5880μm,1.1s							
ATFO	**Monte Foce - G**	**0.34**	**138**	⇑P		**Pg**	**19

ATTE	**AVT- Monte Tez**	**0.43**	**171**	⇑P		**Pg**	**19 25 01.8**	**+0.3**
ATTE				S		**Sg**	**19 25 08.5**	**+1.3**
ATTE				AML	AML			
	comp=E,18650µm,0.3s							
ATTE				AML	AML			
	comp=N,14550µm,1.6s							
FOSV	**Fossato di Vic**	**0.49**	**132**	P		**Pg**	**19 25 02.3**	**-0.3**
FOSV				S		**Sg**	**19 25 09.8**	**+0.7**
FOSV				AML	AML			
	comp=E,7875µm,0.8s							
FOSV				AML	AML			
	comp=N,6705µm,0.4s							
FOSV				AML	AML			
	comp=E,7880µm,0.8s							
ARVD	**Arcevia**	**0.51**	**104**	⇑P		**Pg**	**19 25 02.4**	**-0.6**
ARVD				S		**Sg**	**19 25 09.9**	**+0.1**
ARVD				AML	AML			
	comp=E,8400µm,0.3s							
ARVD				AML	AML			
	comp=N,8025µm,1.5s							
ATCC	**AVT- Casa Cast**	**0.52**	**148**	P		**Pg**	**19 25 03.3**	**+0.2**
ATCC				S		**Sb**	**19 25 11.7**	**+0.4**
ATCC				AML	AML			
	comp=E,25450µm,0.3s							
ATCC				AML	AML			
	comp=N,20250µm,0.8s							
PESA	**Pesaro**	**0.53**	**53**	⇑P		**Pg**	**19 25 02.9**	**-0.3**
PESA				AML	AML			
	comp=E,7525µm,0.2s							
PESA				AML	AML			
	comp=N,6825µm,1.6s							
COR1	**Corinaldo**	**0.54**	**89**	P		**Pg**	**19 25 03.0**	**-0.4**
COR1				AML	AML			
	comp=E,8740µm,0.9s							
COR1				AML	AML			
	comp=N,14550µm,0.7s							
COR1				AML	AML			
	comp=N,14500µm,0.7s							
COR1				AML	AML			
	comp=E,16100µm,0.5s							
COR1				AML	AML			
	comp=N,15950µm,0.7s							
COR1				AML	AML			
	comp=E,8810µm,0.9s							
RUFI	**Rufina**	**0.58**	**292**	P		**Pg**	**19 25 04.8**	**+0.5**
RUFI				AML	AML			
	comp=E,1265µm,1.2s							
RUFI				AML	AML			
	comp=N,1610µm,1.4s							
RUFI				AML	AML			
	comp=E,1286µm,1.2s							
RUFI				AML	AML			
	comp=N,1594µm,1.4s							
LMD	**Lutirano**	**0.60**	**319**	P		**Pg**	**19 25 04.9**	**+0.2**
LMD				AML	AML			
	comp=N,1011µm,1.2s							
LMD				AML	AML			
	comp=E,1150µm,0.6s							
SNTG	**Esanatoglia**	**0.62**	**126**	P		**Pg**	**19 25 04.5**	**-0.5**
SNTG				AML	AML			
	comp=E,688µm,0.6s							
SNTG				AML	AML			
	comp=N,1210µm,1.1s							
SNTG				AML	AML			
	comp=E,5150µm,0.6s							
SNTG				AML	AML			
	comp=N,9215µm,1.1s							
SNTG				AML	AML			
	comp=E,689µm,0.6s							
EL6	**Elcito**	**0.68**	**115**	P		**Pg**	**19 25 05.5**	**-0.6**
EL6				AML	AML			
	comp=E,8680µm,1.3s							
EL6				AML	AML			
	comp=N,8270µm,0.5s							
SENI	**Senigallia**	**0.71**	**83**	P		**Pg**	**19 25 06.4**	**-0.3**
SENI				AML	AML			
	comp=E,16550µm,0.3s							
SENI				AML	AML			
	comp=N,19300µm,0.3s							
SENI				AML	AML			
	comp=E,4030µm,1.0s							
SENI				AML	AML			
	comp=N,4660µm,0.7s							
SENI				AML	AML			
	comp=E,16500µm,0.3s							
MGAB	**Montegabbione**	**0.72**	**189**	P		**Pg**	**19 25 07.1**	**+0.2**
MGAB				AML	AML			
	comp=N,10625µm,0.7s							
MGAB				AML	AML			
	comp=N,11000µm,0.6s							
MGAB				AML	AML			
	comp=E,10315µm,0.5s							
MGAB				AML	AML			
	comp=N,10640µm,0.7s							
MGAB				AML	AML			
	comp=E,10950µm,0.5s							
CSNT	**Castellina Chi**	**0.72**	**258**	P		**Pg**	**19 25 07.5**	**+0.7**
CSNT				AML	AML			
	comp=N,2190µm,1.3s							
CSNT				AML	AML			
	comp=E,2210µm,1.3s							
CSNT				AML	AML			
	comp=N,2195µm,1.3s							
CING	**Cingoli**	**0.72**	**110**	P		**Pg**	**19 25 06.3**	**-0.6**
CING				AML	AML			
	comp=E,3215µm,0.3s							
CING				AML	AML			
	comp=N,4485µm,0.3s							
OSSC	**Osservatorio P**	**0.74**	**263**	P		**Pg**	**19 25 08.5**	**+1.2**
OSSC				AML	AML			
	comp=N,1510µm,0.4s							
OSSC				AML	AML			
	comp=N,1790µm,1.4s							
OSSC				AML	AML			
	comp=E,1805µm,1.3s							
OSSC				AML	AML			
	comp=E,1480µm,0.4s							
OSSC				AML	AML			
	comp=N,1505µm,0.4s							
BRIS	**BRISIGHELLA**	**0.76**	**314**	P		**Pg**	**19 25 07.2**	**-0.4**
BRIS				AML	AML			
	comp=N,1560µm,0.6s							
BRIS				AML	AML			
	comp=E,733µm,0.5s							
CESI	**CESI - Serrava**	**0.78**	**142**	P		**Pg**	**19 25 07.5**	**-0.5**
CESI				AML	AML			
	comp=N,3015µm,0.4s							
CESI				AML	AML			
	comp=E,2595µm,0.4s							
SEI	**Scarperia**	**0.78**	**304**	P		**Pg**	**19 25 08.6**	**+0.5**
SEI				AML	AML			
	comp=E,1730µm,0.5s							
SEI				AML	AML			
	comp=N,2395µm,0.5s							
SEI				AML	AML			
	comp=E,1725µm,0.5s							
SACS	**San Casciano d**	**0.81**	**198**	P		**Pg**	**19 25 08.7**	**+0.1**
SACS				AML	AML			
	comp=N,3925µm,0.5s							
SACS				AML	AML			
	comp=E,3435µm,0.6s							
SACS				AML	AML			
	comp=E,3470µm,0.6s							
SACS				AML	AML			
	comp=N,4005µm,0.5s							
MOMA	**Monte Martano**	**0.85**	**164**	AML	AML			
	comp=E,7170µm,0.6s							
MOMA				AML	AML			
	comp=E,6850µm,1.5s							
MOMA				AML	AML			
	comp=N,5060µm,1.6s							
MOMA				AML	AML			
	comp=N,5060µm,1.6s							
MOMA				AML	AML			
	comp=E,6850µm,1.5s							
MOMA				AML	AML			
	comp=N,5025µm,1.6s							
ARCI	**Arcidosso**	**0.96**	**217**	P		**Pb**	**19 25 11.9**	**+0.4**
ARCI				AML	AML			
	comp=E,1195µm,0.7s							
ARCI				AML	AML			
	comp=N,2045µm,1.0s							
AOI	**Ancona**	**0.98**	**94**	P		**Pb**	**19 25 10.9**	**-0.9**
CESX	**Cesi**	**1.04**	**167**	P		**Pb**	**19 25 12.7**	**-0.1**
CESX				AML	AML			
	comp=E,4770µm,0.8s							
CESX				AML	AML			
	comp=N,3915µm,0.9s							
TRIF	**Trifonti**	**1.11**	**243**	P		**Pn**	**19 25 15.1**	**+0.8**
TRIF				AML	AML			
	comp=E,654µm,1.0s							
TRIF				AML	AML			
	comp=N,620µm,1.2s							
LNSS	**Leonessa**	**1.17**	**150**	P		**Pb**	**19 25 14.8**	**-0.3**
LNSS				AML	AML			
	comp=N,3375µm,1.4s							
LNSS				AML	AML			
	comp=E,3325µm,1.0s							
PII	**Pisa**	**1.26**	**275**	AML	AML			
	comp=N,730µm,1.2s							
PII				AML	AML			
	comp=E,649µm,0.6s							
MAIM	**Mastiano**	**1.31**	**283**	AML	AML			
	comp=N,429µm,1.4s							
MAIM				AML	AML			
	comp=E,368µm,0.4s							
CASP	**Castiglione de**	**1.32**	**231**	P		**Pn**	**19 25 17.1**	**0.0**
CASP				AML	AML			
	comp=E,311µm,1.0s							
CASP				AML	AML			
	comp=N,292µm,1.3s							
GUMA	**Gualdo di Mace**	**1.34**	**114**	P		Pn	19 25 10.9	-6.5
GUMA				AML	AML			
	comp=E,15400µm,0.6s							
GUMA				AML	AML			
	comp=N,17600µm,0.6s							
GUMA				AML	AML			
	comp=E,18600µm,0.7s							
GUMA				AML	AML			
	comp=N,10985µm,0.7s							
CAMP	**Campotosto**	**1.38**	**142**	P		**Pn**	**19 25 18.3**	**+0.3**
CAMP				AML	AML			
	comp=N,2185µm,0.7s							
CAMP				AML	AML			
	comp=E,2095µm,0.6s							
FIAM	**Fiamignano**	**1.49**	**155**	P		**Pn**	**19 25 20.4**	**+0.8**
AQU	**L'Aquila**	**1.52**	**146**	*e*Pn		**Pb**	**19 25 21.0**	**0.0**
BRJN	**Brijuni**	**1.67**	**39**	*i* Pn		**Pn**	**19 25 21.9**	**+0.1**
BRJN				Sn		**Sb**	**19 25 44.7**	**+0.2**
INTR	**Introdacqua**	**2.02**	**143**	P		**Pb**	**19 25 29.4**	**0.0**
DUGI	**Dugi Otok**	**2.06**	**79**	*e*Pn		**Pn**	**19 25 28.0**	**+0.8**
NVLJ	**Novalja**	**2.10**	**63**	*e*Pn		**Pn**	**19 25 27.9**	**+0.1**
NVLJ				Sn		**Sn**	**19 25 55.4**	**+1.6**
CGRP	**Cima Grappa**	**2.28**	**352**	P		**Pn**	**19 25 32.1**	**+1.7**
SKDS	**Skadanscina**	**2.30**	**33**	*e*Pn		**Pn**	**19 25 30.2**	**-0.3**
RIY	**Rijeka**	**2.33**	**42**	*e*Pn		**Pn**	**19 25 31.3**	**+0.4**
RIY				Sn		**Sn**	**19 26 00.9**	**+1.5**
KNDS	**Knezji Dol**	**2.43**	**38**	*e*Pn		**Pn**	**19 25 32.7**	**+0.2**
ZIRJ	**Zirje**	**2.46**	**88**	*e*Pn		**Pn**	**19 25 33.4**	**+0.7**
ZIRJ				Sn		**Sn**	**19 26 03.7**	**+1.2**
MORI	**Morici**	**2.51**	**83**	*e*Pn		**Pn**	**19 25 35.1**	**+1.7**
MORI				Sn		**Sb**	**19 26 06.3**	**-2.4**
JAVS	**Javornik**	**2.61**	**29**	*e*Pn		**Pn**	**19 25 34.8**	**-0.1**
PGF	**Pioggiola**	**2.62**	**247**	*e*Pn		**Pn**	**19 25 35.2**	**+0.2**
PGF				*e*Sn		**Sn**	**19 26 05.0**	**-1.7**
	comp=E,25nm,0.7s							
PGF	**Pioggiola**	**2.62**	**247**	P		**Pn**	**19 25 36.6**	**+1.5**
CEY	**Cerknica**	**2.62**	**35**	*e*Pn		**Pn**	**19 25 34.8**	**-0.2**
STAL	**STALIGIAL**	**2.66**	**7**	AML	AML			
	comp=E,237µm,1.5s							
STAL				AML	AML			
	comp=N,186µm,1.0s							
UDBI	**Udbina**	**2.68**	**69**	*e*Pn		**Pn**	**19 25 37.6**	**+1.8**
UDBI				Sn		**Sn**	**19 26 10.6**	**+2.3**
CIMO	**Cimolais**	**2.69**	**3**	P		**Pn**	**19 25 36.6**	**+0.6**
CIMO				AML	AML			
	comp=N,69µm,0.5s							
CIMO				AML	AML			
	comp=E,56µm,0.5s							
ROBS	**Robic**	**2.77**	**18**	*e*Pn		**Pn**	**19 25 37.1**	**+0.1**
BOJS	**Bojanci**	**2.85**	**48**	*e*Pn		**Pn**	**19 25 38.9**	**+0.8**
LJU	**Ljubljana**	**2.91**	**33**	*e*Pn		**Pn**	**19 25 40.1**	**+1.2**
KIJV	**Kijevo**	**3.02**	**81**	*e*Pn		**Pn**	**19 25 41.9**	**+1.4**
ABTA	**Abfaltersbach**	**3.13**	**3**	*i* Pn		**Pn**	**19 25 44.2**	**+2.2**
	comp=E,3.1nm,0.3s,SNR=9.5							
ABTA				*e*Sn		**Sn**	**19 26 21.8**	**+2.4**
	comp=E,34nm,0.8s							
MYKA	**Terra Mystica**	**3.16**	**18**	*i* Pn		**Pn**	**19 25 45.6**	**+3.1**
	comp=E,2.9nm,0.3s							
MYKA				*i* Sn		**Sn**	**19 26 23.8**	**+3.7**
	comp=E,9.4nm,0.4s							
CRES	**Cresnjev**	**3.17**	**45**	*e*Pn		**Pn**	**19 25 43.0**	**+0.5**
SGRT	**San Giovanni R**	**3.18**	**125**	P		**Pn**	**19 25 44.1**	**+1.5**
OBKA	**Obir**	**3.31**	**29**	*i* Pn		**Pn**	**19 25 45.6**	**+1.1**
	comp=E,4.9nm,0.4s							
SAOF	**Saorge**	**3.42**	**278**	P		**Pn**	**19 25 48.2**	**+2.2**
PTJ	**Puntijarka**	**3.49**	**48**	*e*Pn		**Pn**	**19 25 49.8**	**+2.8**
SBF	**Sospel**	**3.50**	**276**	*e*P		**Pn**	**19 25 49.1**	**+1.9**
SBF				*e*Sn		**Sn**	**19 26 25.6**	**-2.9**
	comp=E,35nm,0.5s							
KBA	**Koelnbreinsper**	**3.54**	**12**	*e*Pn		**Pn**	**19 25 49.7**	**+1.9**
	comp=E,7.3nm,0.3s,SNR=9.9							
KBA				*i* Sn		**Sn**	**19 26 32.3**	**+2.8**
	comp=E,7.8nm,0.5s							
TURF	**col de Turini**	**3.54**	**277**	P		**Pn**	**19 25 50.2**	**+2.4**
RICI	**Ricice**	**3.54**	**90**	*e*Pn		**Pn**	**19 25 50.0**	**+2.3**
RICI				Sn		**Sn**	**19 26 31.6**	**+2.1**
FETA	**Feichten**	**3.56**	**343**	*i* Pn		**Pb**	**19 25 52.8**	**-3.1**
	comp=E,12nm,0.6s,SNR=12							
FETA				*e*Sn		**Sb**	**19 26 37.0**	**-2.2**
	comp=E,10.0nm,0.6s							
MGRS	**Mrkonjic Grad**	**3.57**	**75**	*e*Pn		**Pn**	**19 25 50.7**	**+2.7**
MRAK	**Mrakovica**	**3.61**	**66**	*e*Pn		**Pn**	**19 25 50.1**	**+1.5**
SOKA	**Soboth**	**3.63**	**32**	*e*Pn		**Pn**	**19 25 50.0**	**+1.0**
	comp=E,1.0nm,0.3s							
SOKA				*e*Sn		**Sb**	**19 26 37.2**	**-3.8**
	comp=E,20nm,0.8s							
WTTA	**Wattenberg**	**3.67**	**353**	*i* Pn		Pn	19 25 53.9	+4.4
	comp=E,2.0nm,0.2s,SNR=6.0							
SQTA	**Sankt Quirin**	**3.67**	**349**	*i* Pn		Pn	19 25 53.9	+4.4
	comp=E,15nm,0.4s,SNR=20							
SQTA				*i* Sn		**Sb**	**19 26 39.7**	**-2.5**
	comp=E,11nm,0.3s							
BLY	**Banja Luka**	**3.72**	**71**	*e*Pn		**Pb**	**19 25 58.2**	**-0.2**
TRAV	**Traversella**	**3.74**	**302**	AML	AML			
	comp=E,42µm,1.2s							
TRAV				AML	AML			
	comp=N,36µm,1.1s							
WATA	**Walderalm**	**3.74**	**353**	*e*Pn		**Pn**	**19 25 54.6**	**+4.0**
	comp=N,5.0nm,0.2s							
WATA				*i* Sn		**Sb**	**19 26 41.6**	**-2.7**
	comp=N,8.7nm,0.3s							
MOSL	**Moslavina**	**3.78**	**57**	*e*Pn		**Pn**	**19 25 52.2**	**+1.4**
MOTA	**Moosalm**	**3.81**	**348**	*i* Pn		**Pn**	**19 25 55.5**	**+4.1**
	comp=N,7.3nm,0.5s,SNR=10							
MOTA				*e*Sn		**Sb**	**19 26 43.0**	**-3.2**
	comp=N,9.7nm,0.5s							
CALF	**Calern**	**3.87**	**274**	P		**Pn**	**19 25 54.3**	**+2.1**
KALN	**Kalnik**	**3.90**	**48**	*e*Pn		**Pn**	**19 25 52.0**	**-0.5**
RETA	**Reutte**	**4.00**	**345**	*i* Pn		Pn	19 25 59.0	+5.0
	comp=N,5.7nm,0.3s							
RETA				*i* Sn		**Sn**	**19 26 46.8**	**+5.9**
	comp=N,8.3nm,0.4s							
DAVA	**Damuels**	**4.03**	**336**	*i* Pn		Pn	19 25 58.9	+4.5
	comp=N,7.2nm,0.4s,SNR=6.6							
DAVA				*e*Sn		**Sn**	**19 26 46.8**	**+5.2**
	comp=N,28nm,0.6s							
FRF	**La Foret Royal**	**4.08**	**271**	*e*P		**Pn**	**19 25 57.2**	**+2.2**
FRF				*e*Sn		**Sn**	**19 26 39.4**	**-3.2**
	comp=N,12nm,0.4s							
MBDF	**Montbardon**	**4.10**	**288**	*e*P		**Pn**	**19 25 57.9**	**+2.5**
MBDF				*e*Sn		**Sn**	**19 26 39.9**	**-3.4**
	comp=N,12nm,0.5s							
LMR	**La Mourre**	**4.20**	**268**	*e*P		**Pn**	**19 25 58.6**	**+2.0**
LMR				*e*Sn		**Sn**	**19 26 42.2**	**-3.2**
	comp=N,5.6nm,0.4s							
DIX	**Grande Dixence**	**4.24**	**307**	P		**Pn**	**19 26 00.7**	**+3.4**
ARSA	**Arzberg**	**4.29**	**31**	*e*Pn		**Pn**	**19 25 58.4**	**+0.4**
	comp=N,2.0nm,0.3s							
LPG	**La Plagne**	**4.36**	**297**	*e*P		**Pn**	**19 26 01.5**	**+2.4**
LPG				*e*Sn		**Sn**	**19 26 46.3**	**-3.6**
	comp=N,5.5nm,0.5s							
LPL	**La Plagne**	**4.38**	**298**	*e*P		**Pn**	**19 26 02.0**	**+2.7**
LPL				*e*Sn		**Sn**	**19 26 46.7**	**-3.6**
	comp=N,4.8nm,0.5s							
MOA	**Molln**	**4.45**	**18**	*i* Pn		**Pn**	**19 26 01.8**	**+1.6**
	comp=N,4.2nm,0.3s,SNR=15							
MOA				*i* Sn		**Sn**	**19 26 54.3**	**+2.5**
	comp=N,4.1nm,0.4s							
TREB	**Trebinje**	**4.55**	**99**	*e*Pn		**Pn**	**19 26 03.2**	**+1.8**
BRY	**Bratogost**	**4.64**	**97**	*e*Pn		**Pn**	**19 26 03.5**	**+0.6**
HCY	**Herceg Novi**	**4.72**	**102**	*e*Pn		**Pn**	**19 26 04.8**	**+1.0**
ORIF	**Oris-en-Rattie**	**4.76**	**288**	*e*P		**Pn**	**19 26 07.4**	**+2.9**
ORIF				*e*Sn		**Sn**	**19 26 55.8**	**-3.7**
	comp=N,5.9nm,0.5s							
ORIF	**Oris-en-Rattie**	**4.76**	**288**	P		**Pn**	**19 26 07.8**	**+3.4**
KOVH	**Kovagotottos**	**4.83**	**57**	*e*P		Pb	19 26 12.8	-4.5
SMRF	**Simiane la Rot**	**4.85**	**276**	*e*P		**Pn**	**19 26 08.5**	**+2.9**
SMRF				*e*Sn		**Sn**	**19 26 58.0**	**-3.7**
	comp=N,4.8nm,0.6s							
UPM	**Unac-Piva**	**4.86**	**93**	*e*Pn		**Pn**	**19 26 09.1**	**+3.2**
HAPS	**Han Pijesak,Bl**	**4.86**	**82**	*e*Pn		**Pn**	**19 26 06.1**	**+0.2**
SULZ	**Cheisacher**	**4.87**	**325**	S		**Sn**	**19 27 04.9**	**+2.7**
RUSF	**Rustrel**	**4.92**	**276**	P		**Pn**	**19 26 09.2**	**+2.7**
CONA	**Conrad Observa**	**4.99**	**29**	*e*Pn		**Pn**	**19 26 08.3**	**+0.7**
	comp=N,1.3nm,0.3s							
CONA				*e*Sn		**Sn**	**19 27 04.5**	**-0.6**
	comp=N,4.2nm,0.3s							
RUDO	**Rudo**	**5.16**	**88**	*e*Pn		**Pn**	**19 26 11.9**	**+2.0**
BBLS	**Lazići**	**5.18**	**85**	*e*Pn		**Pn**	**19 26 11.8**	**+1.6**
MORH	**Mrgy, Hungar**	**5.22**	**58**	*e*P		Pn	19 26 16.5	+5.8
MORH	**Mrgy, Hungar**	**5.22**	**58**	*e*Pn		**Pn**	**19 26 10.6**	**-0.1**
PDG	**Podgorica**	**5.26**	**101**	*e*Pn		**Pn**	**19 26 12.1**	**+0.8**
DRME	**Dracevica, Mon**	**5.29**	**103**	*e*Pn		**Pn**	**19 26 13.1**	**+1.5**
KIZ	**Kirchzarten**	**5.29**	**327**	P		**Pn**	**19 26 14.4**	**+2.8**
CABF	**La Chapelle**	**5.29**	**307**	*e*P		**Pn**	**19 26 15.2**	**+3.5**
CABF				*e*Sn		**Sn**	**19 27 08.2**	**-4.4**
	comp=N,1.9nm,0.4s							
CKRC	**Cesky Krumlov**	**5.39**	**15**	*e*PN		**Pn**	**19 26 13.6**	**+0.6**
CKRC				*e*SN		**Sn**	**19 27 14.3**	**-0.6**
KHC	**Kasperske Hory**	**5.58**	**9**	*e*PN		**Pn**	**19 26 16.2**	**+0.5**
KHC				*e*SN		**Sn**	**19 27 19.4**	**-0.3**
KHC				*e*SG		**Sg**	**19 27 58.5**	**+6.4**
VIVF	**Saint-Julien-l**	**5.59**	**285**	*e*P		**Pn**	**19 26 18.9**	**+3.1**
VIVF				*e*Sn		**Sn**	**19 27 15.6**	**-4.3**
	comp=N,2.2nm,0.5s							
DIVS	**Divibare**	**5.61**	**82**	*e*Pn		**Pn**	**19 26 15.1**	**-1.0**
HINF	**Hinteralfeld**	**5.65**	**320**	*e*P		**Pn**	**19 26 19.2**	**+2.6**
HINF				*e*Sn		**Sn**	**19 27 16.4**	**-4.9**
	comp=N,6.0nm,0.4s							
ECH	**Echery**	**5.81**	**324**	P		**Pn**	**19 26 21.5**	**+2.7**
ECH				S		**Sn**	**19 27 27.5**	**+2.2**
CDF	**Champ du Feu**	**5.91**	**326**	*e*P		**Pn**	**19 26 22.5**	**+2.2**
CDF				*e*Sn		**Sn**	**19 27 22.7**	**-5.2**
	comp=N,7.7nm,0.6s							
HAU	**Haudompre**	**6.02**	**319**	*e*P		**Pn**	**19 26 25.0**	**+3.3**
HAU				*e*Sn		**Sn**	**19 27 25.4**	**-5.1**
	comp=N,12nm,0.5s							
LASF	**Ste Croix**	**6.09**	**277**	*e*P		**Pn**	**19 26 25.7**	**+3.0**
LASF				*e*Sn		**Sn**	**19 27 27.7**	**-4.6**
	comp=N,0.5nm,0.3s							
PRU	**Pruhonice**	**6.56**	**13**	*e*PN		**Pn**	**19 26 29.7**	**+0.7**
PRU				*e*SN		**Sn**	**19 27 42.0**	**-1.6**
SMF	**Signal de Mont**	**6.68**	**300**	*e*P		**Pn**	**19 26 33.0**	**+2.3**
SMF				*e*Sn		**Sn**	**19 27 41.4**	**-5.2**
	comp=N,1.6nm,0.3s							
PAGF	**Fort de Pagny**	**6.70**	**320**	*e*P		**Pn**	**19 26 34.2**	**+3.2**
SFTF	**Sexfontaines** baz=135	**6.81**	**315**	*e*P		**Pn**	**19 26 36.0**	**+3.5**
LOR	**Lormes** baz=125	**6.94**	**305**	*e*P		**Pn**	**19 26 37.5**	**+3.2**
LOR				*e*Sn		**Sn**	**19 27 47.6**	**-5.5**
	comp=N,5.1nm,0.4s							
MEZF	**Maizieres J'vi** baz=136	**6.99**	**317**	*e*P		**Pn**	**19 26 38.5**	**+3.5**
SAVF	**Savonnieres en** baz=138	**7.03**	**318**	*e*P		**Pn**	**19 26 38.9**	**+3.3**
AVF	**Avril sur Loir**	**7.04**	**300**	*e*P		**Pn**	**19 26 38.8**	**+3.1**
AVF				*e*Sn		**Sn**	**19 27 50.0**	**-5.6**
	comp=N,0.7nm,0.3s							
SSF	**Saint Saulge**	**7.06**	**302**	*e*P		**Pn**	**19 26 39.0**	**+3.1**
SSF				*e*Sn		**Sn**	**19 27 50.4**	**-5.6**
	comp=N,3.7nm,0.5s							
KRLC	**Kraliky**	**7.16**	**24**	*e*PN		**Pn**	**19 26 37.6**	**+0.3**
BGF	**Bois d'Agland**	**7.28**	**297**	*e*P		**Pn**	**19 26 41.9**	**+3.0**
BGF				*e*Sn		**Sn**	**19 27 55.8**	**-5.6**
	comp=N,3.1nm,0.4s							
MTLF	**Montolieu**	**7.31**	**271**	*e*P		**Pn**	**19 26 41.7**	**+2.3**
MTLF				*e*Sn		Sn	19 27 56.6	-5.6
	comp=N,0.5nm,0.4s							
BRG	**Berggiesshubel**	**7.34**	**8**	*e*r			19 26 45.1	
BRG				r			19 27 57.9	
BRG				r			19 28 43.7	
BRG				Amp			19 29 21.1	
	comp=Z,15nm,1.4s							
CAF	**Calviac**	**7.43**	**284**	*e*P		**Pn**	**19 26 45.0**	**+3.9**
TCF	**Toulx Ste Croi**	**7.61**	**294**	*e*P		**Pn**	**19 26 47.6**	**+4.1**
TCF				*e*Sn		Sn	19 28 03.7	-5.9
	comp=Z,0.9nm,0.6s							

IDC ***18*** *19:25:33.7±0.5,31˚74S×72˚10W,h0km,mb4.6/17, mb1 4.6/22,mb1mx4.5/36,mbtmp4.5/22,ML4.2/4,MS4.1/3, Ms1 4.1/3,ms1mx3.5/19,Error ellipse: s-maj=19.1km s-min=12.5km az=87.0*

NEIC ***18*** *19:25:35.4±1.9,31˚72S±0˚03×72˚17W±0˚07,h10km±1km, mb4.9/125,Mwr4.6/40,ML4.8(GUC),Error ellipse: s-maj=9.7km s-min=4.6km az=270.0*

GUC ***18*** *19:25:35.2±0.6,31˚73S×72˚08W,h34km±6km,ML4.8*

NEIC ***18*** *19:25:35.2,31˚70S×72˚16W,h18km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}6.47; $M_{\theta\theta}$-3.78; $M_{\phi\phi}$-2.69; $M_{r\theta}$-0.32; $M_{r\phi}$-4.74; $M_{\theta\phi}$-5.68; Fault plane solution: $M_0$9.30000×10^{15} NP1:ϕ_s72.65000°, δ35.92000°,λ133.65000°. NP2:ϕ_s202.98000°,δ64.88000°, λ63.43000°. Principal axes: T 9.4491, Plg61.0000°, Azm73.0000°; N -0.2964, Plg24.0000°, Azm215.0000°; P -9.1527, Plg16.0000°, Azm312.0000°;*

ISC 18 19:25:33.8±1.5,31˚71S±0˚02×72˚17W±0˚04,h1km±9km, n288,σ1§28/265,mb4.9/70,29C-10D,Fault plane solution: NP1:ϕ_s195.75922°,δ51.68550°,λ65.53896°. **NP2:**ϕ_s52.02838°,δ44.42278°,λ117.65617°. **Principal axes:** T Plg70.6310°, Azm43.7724°; N Plg18.9590°, Azm211.5093°; P Plg3.8199°, Azm302.8236°; **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**1.13**	**24**	‖*i*P		**Pb**	**19 25 55.7**	**-0.5**
CO06	**Fray Jorge**	**1.13**	**24**			**Pb**	**19 25 55.7**	**-0.5**
CO06					Sn	**Sb**	**19 26 11.0**	**-0.3**
VA06	**Catapilco**	**1.13**	**139**	‖*i*P		**Pb**	**19 25 54.8**	**-1.4**
VA06				*i* S		**Sb**	**19 26 09.7**	**-1.7**
VA06				IAML			19 26 15.7	
	comp=E,46µm,0.5s							
VA01	**Torpederas**	**1.39**	**161**	*e*P		**Pn**	**19 25 59.3**	**-1.

MT01	**Popeta**	**2.29**	**160**	*eP*	**Pn**	**19 26 11.9**	**-0.8**
MT01				*i S*	**Sb**	**19 26 43.0**	**-1.7**
MT01				IAML		19 26 50.6	
	comp=E,5µm,0.5s						
MT01	**Popeta**	**2.29**	**160**	Pn	**Pn**	**19 26 11.9**	**-0.8**
MT01	**Popeta**	**2.29**	**160**	*eP*	Pn	19 26 06.8	-5.9
MT01				*eS*	**Sn**	**19 26 41.9**	**+0.3**
MT01				IAML		19 26 49.2	
	comp=Z,4µm,0.6s						
MT09	**Talagante**	**2.29**	**154** ⇑	*iP*	**Pn**	**19 26 13.3**	**+0.3**
MT09				*i S*	**Sb**	**19 26 43.6**	**-1.4**
MT09				IAML		19 26 55.2	
	comp=N,7µm,0.5s						
MT09	**Talagante**	**2.29**	**154**	Pn	**Pn**	**19 26 13.0**	**+0.1**
AUSP	**Uspallata**	**2.42**	**103**	*eP*	**Pn**	**19 26 12.3**	**-2.5**
RTLS	**Leoncito**	**2.45**	**93**	*eP*	**Pn**	**19 26 13.3**	**-1.9**
RTLS				IAML		19 26 57.5	
	comp=Z,4µm,1.1s						
AROD	**Rodeo**	**2.78**	**57**	*eP*	**Pb**	**19 26 25.2**	**+0.7**
BO03	**Pichilemu**	**2.79**	**176** ⇓	*iP*	**Pn**	**19 26 18.2**	**-1.4**
BO03				*i S*	**Sb**	**19 26 56.8**	**-2.3**
BO01	**Tunca**	**2.83**	**161** ⇑	*iP*	**Pn**	**19 26 19.9**	**-0.3**
BO01				*i S*	**Sn**	**19 26 56.4**	**+1.5**
BO01	**Tunca**	**2.83**	**161**	Pn	**Pn**	**19 26 20.1**	**-0.1**
BO01	**Tunca**	**2.83**	**161**	*eP*	**Pn**	**19 26 16.4**	**-3.8**
BO01				*eS*	**Sb**	**19 26 58.4**	**-2.0**
BO01				IAML		19 27 10.4	
	comp=Z,2µm,1.1s						
ACCO	**Cerro Coronel**	**2.89**	**68**	*eP*	**Pb**	**19 26 26.6**	**+0.2**
ASAL	**Salagasta**	**2.97**	**108**	*eP*	**Pb**	**19 26 27.0**	**-0.6**
ASAL				*eS*	**Sg**	**19 27 10.3**	**+1.2**
LCO	**Las Campanas**	**2.97**	**26**		**Pn**	**19 26 22.9**	**+0.5**
ZON	**Zonda**	**2.99**	**88**	Pn	**Pn**	**19 26 24.9**	**+2.5**
ZON	**Zonda**	**2.99**	**88**	*eP*	**Pb**	**19 26 27.0**	**-0.9**
ZON				*eP*	Pn	19 26 27.2	+4.8
ZON				IAML		19 27 20.2	
	comp=Z,2µm,0.6s						
RTCV	**Cerro Valdivia**	**3.10**	**94**	*eP*	**Pn**	**19 26 22.4**	**-1.6**
RTCV				*eP*	**Pb**	**19 26 28.8**	**-1.0**
AAGR	**Agrelo**	**3.15**	**117**	*eP*	**Pb**	**19 26 28.4**	**-2.2**
AAGR				*eS*	**Sg**	**19 27 16.4**	**+1.5**
BO02	**Sierra Bellavi**	**3.29**	**160**	Pn	**Pn**	**19 26 26.8**	**+0.2**
BO02	**Sierra Bellavi**	**3.29**	**160**	*eP*	**Pn**	**19 26 22.4**	**-4.3**
BO02				*eP*	Pb	19 26 27.0	-6.1
BO02				*eS*	**Sb**	**19 27 11.8**	**-1.8**
BO02				IAML		19 27 19.8	
	comp=Z,5µm,0.6s						
GO05	**Huala**	**3.30**	**177** ⇑	*iP*	**Pn**	**19 26 25.6**	**-1.1**
GO05				*eS*	**Sb**	**19 27 15.2**	**+1.3**
GO05	**Huala**	**3.30**	**177**		**Pn**	**19 26 25.6**	**-1.1**
GO05	**Huala**	**3.30**	**177**	*eP*	**Pn**	**19 26 25.5**	**-1.1**
GO05				*eS*	**Sg**	**19 27 17.9**	**-2.0**
AC04	**Llanos de Chal**	**3.62**	**16**	Pn	**Pn**	**19 26 29.6**	**-1.4**
COIS	**El Sosneado**	**4.02**	**148**	*eP*	Pn	19 26 29.1	-7.5
ML02	**Panimavida**	**4.09**	**177**	Pn	**Pn**	**19 26 37.1**	**-0.5**
AVFE	**Valle Fertil**	**4.18**	**77**	*eP*	**Pn**	**19 26 42.1**	**+3.3**
AVFE				*eS*	**Sg**	**19 27 46.9**	**-1.1**
GO03	**Copiap**	**4.43**	**23**		**Pn**	**19 26 41.9**	**-0.5**
VCA	**Vinchina**	**4.54**	**50**	*eP*	**Pn**	**19 26 44.9**	**+1.0**
VCA				*eS*	**Sb**	**19 27 50.9**	**+1.3**
VCA				*eS*	**Sg**	**19 27 53.4**	**-6.2**
AC06	**Mina Casimiro**	**4.62**	**21**		**Pn**	**19 26 43.2**	**-1.6**
ACHE	**Chepes**	**4.74**	**85**	*eP*	**Pn**	**19 26 50.0**	**+3.4**
ACHE				*eS*	**Sb**	**19 27 53.4**	**-2.2**
AC02	**Maricunga**	**5.54**	**29**	*i*		19 25 37.9	
AC02	**Maricunga**	**5.54**	**29**	Pn	**Pn**	**19 26 57.7**	**-0.2**
VA04	**Juan Fernndez**	**5.93**	**249**	Pn	**Pn**	**19 27 02.9**	**0.0**
H03N1	**Juan Fernandez**	**5.94**	**251**	T	T	19 33 50.9	
	baz=78,slow=72						
H03N3	**Juan Fernandez**	**5.96**	**251**	T	T	19 33 50.2	
	baz=78,slow=72						
H03N2	**Juan Fernandez**	**5.96**	**251**	T	T	19 33 49.3	
	baz=78,slow=72						
CYA	**Choya**	**6.41**	**61**	*eP*	**Pn**	**19 27 12.0**	**+2.5**
CYA				*eP*	**Pn**	**19 27 12.3**	**+2.9**
CYA				*eS*	**Sn**	**19 28 28.9**	**+5.5**
LC01	**Cunco**	**7.18**	**178**	Pn	**Pn**	**19 27 18.5**	**-1.5**
PB14	**IPOC Station P**	**7.23**	**13**	Pn	**Pn**	**19 27 19.4**	**-1.5**
AHML	**Horco Molle**	**7.73**	**52**	*eP*	**Pn**	**19 27 25.4**	**-2.2**
LR03	**Panguipulli**	**7.91**	**181**		**Pn**	**19 27 28.9**	**-1.1**
PLCA	**Paso Flores**	**9.10**	**172**	Pn	**Pn**	**19 27 46.6**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=336,slow=12,SNR=36						
PLCA	**Paso Flores**	**9.10**	**172**		**Pn**	**19 27 46.5**	**+0.1**
PLCA	**Paso Flores**	**9.10**	**172**	*eS*	Sn	19 28 37.0	-53
LL04	**Puerto Octay**	**9.19**	**181**		**Pn**	**19 27 46.6**	**-0.8**
LVC	**Limon Verde**	**9.52**	**19**	Pn	**Pn**	**19 27 53.2**	**+0.8**
	baz=275,slow=15,SNR=0.5						
LVC				LR	LR	19 31 39.2	
	comp=Z,966nm,18.6s,baz=216,slow=38						
LL05	**Los Muermos**	**9.73**	**186**		**Pn**	**19 27 55.3**	**+0.3**
TRQA	**Tornquist**	**10.49**	**130**	*eP*	**Pn**	**19 28 09.0**	**+3.5**
COYC	**Coyhaique**	**13.84**	**180**	Pn	**Pn**	**19 28 49.2**	**-1.9**
CPUP	**Villa Florida**	**14.05**	**71**	Pn	**Pn**	**19 28 53.2**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=303,slow=17,SNR=4.2						
LPAZ	**La Paz**	**15.79**	**14**	Pn	**Pn**	**19 29 18.6**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=178,slow=5.9,SNR=11						
LPAZ	**La Paz**	**15.79**	**14**		**Pn**	**19 29 18.0**	**0.0**
AQDB	**Aquidauana**	**18.52**	**57**	P	**P**	**19 29 50.5**	**-1.3**
SIV	**San Ignacio**	**18.63**	**35**	P	**P**	**19 29 52.7**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=236,slow=13,SNR=12						
NNA	**Nana**	**20.09**	**347**	P	Pn	19 30 11.0	+0.2
	comp=Z,4.2nm,0.3s,baz=208,slow=13,SNR=5.0						
NNA	**Nana**	**20.09**	**347**	IAmb	IAmb	19 30 12.8	
	comp=Z,34nm,1.1s						
SPB	**Sao Paulo**	**23.32**	**76**	P	**P**	**19 30 42.7**	**-0.8**
SPB				IAmb	IAmb	19 30 44.8	
	comp=Z,32nm,0.8s						
SAML	**Samuel**	**24.14**	**22**	P	**P**	**19 30 50.7**	**-0.8**
BDFB	**Brasilia**	**27.21**	**60**	P	**P**	**19 31 18.3**	**-1.2**
	comp=Z,19nm,0.9s,baz=248,slow=6.3,SNR=11						
BDFB				LR	LR	19 43 48.9	
	comp=Z,498nm,21.9s,baz=218,slow=40						
BDFB	**Brasilia**	**27.21**	**60**	P	**P**	**19 31 18.2**	**-1.2**
BDFB				IAmb	IAmb	19 31 24.3	
	comp=Z,22nm,0.9s						
OTAV	**Otavalo**	**32.32**	**348**	P	**P**	**19 32 06.5**	**+1.3**
OTAV				IAmb	IAmb	19 32 08.9	
	comp=Z,21nm,1.6s						
PMSA	**Palmer Station**	**33.47**	**174**	P	**P**	**19 32 13.7**	**-0.5**
	comp=Z,4.3nm,0.8s,baz=319,slow=11,SNR=2.2						
RUSC	**La Rusia**	**37.40**	**359**	P	**P**	**19 32 48.6**	**-0.4**
SDV	**Santo Domingo**	**40.39**	**2**	P	**P**	**19 33 13.9**	**+0.1**
	comp=Z,2.1nm,0.3s,baz=208,slow=4.6,SNR=5.8						
SDV	**Santo Domingo**	**40.39**	**2**	P	**P**	**19 33 16.2**	**+2.4**
SJCC	**San Jacinto, C**	**41.47**	**356**	P	**P**	**19 33 22.3**	**-0.2**
VNA3	**Neumayer Olymp**	**51.52**	**158**	P	**P**	**19 34 41.2**	**+0.3**
VNA1	**Neumayer--Stat**	**51.83**	**158**	P	**P**	**19 34 43.8**	**+0.8**
VNA2	**Neumayer--Watz**	**52.17**	**158**	P	**P**	**19 34 45.9**	**+0.3**
	baz=290,slow=9.1						
CMIG	**Matias Romero**	**53.19**	**333**	P	**P**	**19 34 54.8**	**+1.0**
	comp=Z,2.6nm,0.9s,baz=166,slow=10,SNR=4.1						
SNAA	**Sanae**	**53.75**	**158**	P	**P**	**19 34 57.5**	**+0.2**
SNAA	**Sanae**	**53.75**	**158**	P	**P**	**19 34 57.6**	**+0.2**
	comp=Z,14nm,0.8s,baz=283,slow=5.9,SNR=46						
SNAA				LR	LR	19 56 06.7	
	comp=Z,164nm,20.7s,baz=242,slow=34						
SNAA	**Sanae**	**53.75**	**158**	P	**P**	**19 34 57.2**	**-0.1**
QSPA	**South Pole Qui**	**58.52**	**180**	P	**P**	**19 35 31.7**	**+0.1**
	comp=Z,12nm,0.9s,baz=152,slow=3.4,SNR=26						
QSPA	**South Pole Qui**	**58.52**	**180**	P	**P**	**19 35 31.9**	**+0.3**
TIGA	**Tifton**	**63.73**	**349**	P	**P**	**19 36 08.7**	**+1.6**
	baz=169						
833A	**Chaparral WMA,**	**65.08**	**334**	P	**P**	**19 36 16.9**	**+0.9**
	baz=155						
VNDA	**Vanda**	**66.32**	**191**	P	**P**	**19 36 24.7**	**+1.2**
	comp=Z,1.1nm,0.9s,baz=184,slow=6.8,SNR=5.7						
JCT	**Junction City**	**67.17**	**334**	P	**P**	**19 36 29.9**	**+0.5**
JCT	**Junction City**	**67.17**	**334**	P	**P**	**19 36 30.0**	**+0.5**
	baz=155						
X48A	**Hartselle**	**67.28**	**347**	P	**P**	**19 36 29.2**	**-0.8**
X48A				IAmb	IAmb	19 36 30.9	
	comp=Z,8.7nm,0.8s						
TXAR	**Lajitas Array**	**67.69**	**330**	P	**P**	**19 36 33.4**	**+0.6**
	comp=Z,2.8nm,0.8s,baz=150,slow=8.0,SNR=30						
TX31	**Lajitas Ar. Si**	**67.69**	**330**	P	**P**	**19 36 33.2**	**+0.4**
TX32	**Lajitas Array**	**67.69**	**330**	P	**P**	**19 36 33.3**	**+0.5**
WHTX	**Lake Whitney,**	**67.72**	**337**	P	**P**	**19 36 33.1**	**+0.2**
	baz=157						
OXF	**Oxford**	**67.84**	**345**	P	**P**	**19 36 32.7**	**-0.8**
	baz=164						
X40A	**Basin Creek Fa**	**68.66**	**342**	P	**P**	**19 36 38.4**	**-0.3**
	baz=161						
MIAR	**Mount Ida**	**68.91**	**341**	P	**P**	**19 36 40.1**	**-0.2**
	baz=161						

ABTX	**Abilene, Hawle**	**69.05**	**335**	P	**P**	**19 36 41.5**	**+0.3**
	baz=155						
WVT	**Waverly**	**69.06**	**346**	P	**P**	**19 36 40.8**	**-0.4**
WVT	**Waverly**	**69.06**	**346**	P	**P**	**19 36 40.8**	**-0.4**
	baz=166						
W39A	**Magazine**	**69.58**	**341**	P	**P**	**19 36 44.2**	**-0.2**
	baz=160						
LCAR	**Lake Charles**	**69.73**	**344**	P	**P**	**19 36 45.3**	**-0.1**
LCAR				IAmb	IAmb	19 36 46.0	
	comp=Z,8.7nm,1.0s						
X34A	**Smith Ranch, M**	**70.24**	**338**	P	**P**	**19 36 48.2**	**-0.3**
U40A	**Yellville**	**70.43**	**342**	IAmb	IAmb	19 36 50.5	
	comp=Z,14nm,1.0s						
U40A	**Yellville**	**70.43**	**342**	P	**P**	**19 36 49.4**	**-0.2**
	baz=162						
MNTX	**Cornudas Mount**	**70.47**	**330**	IAmb	IAmb	19 36 50.5	
	comp=Z,7.4nm,0.9s						
MNTX	**Cornudas Mount**	**70.47**	**330**	P	**P**	**19 36 49.3**	**-0.7**
	baz=150,SNR=9.2						
WMOK	**Wichita Mounta**	**70.68**	**337**	P	**P**	**19 36 50.8**	**-0.4**
WMOK				IAmb	IAmb	19 36 52.0	
	comp=Z,7.6nm,1.1s						
WMOK	**Wichita Mounta**	**70.68**	**337**	P	**P**	**19 36 50.4**	**-0.8**
	baz=156						
TUL1	**Leonard**	**70.82**	**340**	P	**P**	**19 36 51.7**	**-0.3**
	baz=159						
MGMO	**Mountain Grove**	**71.04**	**343**	IAmb	IAmb	19 36 54.3	
	comp=Z,12nm,1.1s						
P60A	**Greenville**	**71.23**	**357**	P	**P**	**19 36 54.5**	**+0.1**
	baz=177						
MSTX	**Muleshoe**	**71.41**	**333**	P	**P**	**19 36 55.8**	**0.0**
	baz=153						
P52A	**Corning**	**71.58**	**352**	P	**P**	**19 36 56.6**	**+0.1**
	baz=171						
CCM	**Cathedral Cave**	**71.65**	**344**	P	**P**	**19 36 56.6**	**-0.3**
CCM				IAmb	IAmb	19 36 58.0	
	comp=Z,15nm,1.1s						
CCM	**Cathedral Cave**	**71.65**	**344**	P	**P**	**19 36 56.8**	**-0.2**
	baz=163						
S39A	**Bolivar**	**71.81**	**342**	IAmb	IAmb	19 36 58.9	
	comp=Z,18nm,1.2s						
AMTX	**Amarillo**	**71.82**	**335**	P	**P**	**19 36 58.5**	**+0.3**
	baz=154						
T35A	**Sooner Cattle**	**71.97**	**340**	P	**P**	**19 36 59.4**	**+0.5**
SSPA	**Standing Stone**	**72.18**	**355**	P	**P**	**19 37 00.2**	**+0.1**
	baz=175						
121A	**Cookes Peak, D**	**72.22**	**329**	IAmb	IAmb	19 37 03.2	
	comp=Z,15nm,1.0s						
121A	**Cookes Peak, D**	**72.22**	**329**	P	**P**	**19 37 01.7**	**+1.0**
	baz=149,SNR=6.8						
N59A	**State Game Lan**	**72.34**	**357**	P	**P**	**19 37 01.6**	**+0.5**
	baz=177						
M66A	**Nantucket**	**72.63**	**2**	P	**P**	**19 37 03.1**	**+0.4**
	baz=182						
M54A	**Oil Creek Stat**	**73.18**	**354**	P	**P**	**19 37 08.9**	**+2.8**
	baz=173						
P40A	**Paris**	**73.24**	**344**	P	**P**	**19 37 06.1**	**-0.3**
L64A	**Middleborough**	**73.29**	**1**	P	**P**	**19 37 08.5**	**+1.9**
	baz=181						
BINY	**Binghamton**	**73.63**	**357**	P	**P**	**19 37 10.4**	**+1.7**
	baz=177						
L56A	**Greenwood**	**73.65**	**356**	IAmb	IAmb	19 37 10.0	
	comp=Z,13nm,1.1s						
P38A	**Dawn**	**73.69**	**343**	IAmb	IAmb	19 37 09.7	
	comp=Z,14nm,1.0s						
ANMO	**Albuquerque**	**73.72**	**331**	P	**P**	**19 37 10.2**	**+0.5**
ANMO	**Albuquerque**	**73.72**	**331**	P	**P**	**19 37 10.4**	**+0.8**
	baz=150						
L61B	**Northampton**	**73.80**	**360**	P	**P**	**19 37 09.7**	**0.0**
	baz=180						
HRV	**Adam Dziewonsk**	**73.85**	**0**	P	**P**	**19 37 10.6**	**+0.6**
	baz=181						
214A	**Organ Pipe Nat**	**74.08**	**325**	IAmb	IAmb	19 37 14.1	
	comp=Z,12nm,1.1s						
214A	**Organ Pipe Nat**	**74.08**	**325**	P	**P**	**19 37 12.7**	**+1.1**
	baz=145						
DBIC	**Dimbokro**	**74.57**	**72**	P	**P**	**19 37 14.8**	**-0.1**
	comp=Z,6.4nm,0.8s,baz=214,slow=4.7,SNR=6.4						
DBIC	**Dimbokro**	**74.57**	**72**	IAmb	IAmb	19 37 24.7	
	comp=Z,15nm,1.1s						
T25A	**Trinidad**	**74.83**	**334**	P	**P**	**19 37 16.8**	**+0.7**
	baz=152						
I60A	**Shoreham**	**75.19**	**359**	P	**P**	**19 37 19.0**	**+1.3**
	baz=179						
I62A	**Tamworth**	**75.22**	**1**	P	**P**	**19 37 18.7**	**+0.8**
	baz=181						
W18A	**Petrified Fore**	**75.27**	**329**	P	**P**	**19 37 19.2**	**+0.6**
W18A				IAmb	IAmb	19 37 21.0	
	comp=Z,21nm,1.3s						
W18A	**Petrified Fore**	**75.27**	**329**	P	**P**	**19 37 19.3**	**+0.7**
	baz=148						
MAW	**Mawson**	**75.41**	**164**	P	**P**	**19 37 19.2**	**+0.4**
	comp=Z,3.8nm,0.9s,baz=201,slow=6.8,SNR=4.8						
MAW	**Mawson**	**75.41**	**164**	IAmb	IAmb	19 37 28.7	
	comp=Z,1.5nm,0.9s						
X16A	**Lo Alia Camp, P**	**75.45**	**327**	IAmb	IAmb	19 37 22.1	
	comp=Z,13nm,1.0s						
L40A	**Anamosa**	**75.47**	**345**	IAmb	IAmb	19 37 19.8	
	comp=Z,17nm,1.0s						
LBNH	**Lisbon**	**75.58**	**0**	P	**P**	**19 37 21.3**	**+1.3**
	baz=180						
SCIA	**State Center**	**75.77**	**344**	P	**P**	**19 37 22.3**	**+1.1**
	baz=162						
SDCO	**Great Sand Dun**	**75.78**	**333**	P	**P**	**19 37 22.1**	**+0.5**
SDCO	**Great Sand Dun**	**75.78**	**333**	P	**P**	**19 37 22.3**	**+0.7**
	baz=151						
Y14A	**Wickenburg**	**75.79**	**326**	IAmb	IAmb	19 37 23.7	
	comp=Z,7.1nm,1.0s						
GLA	**Glamis**	**75.96**	**324**	P	**P**	**19 37 23.7**	**+1.2**
	baz=144						
LONY	**Lake Ozonia**	**76.00**	**358**	P	**P**	**19 37 23.4**	**+1.1**
	baz=178						
FRNY	**Flat Rock**	**76.19**	**359**	IAmb	IAmb	19 37 24.7	
	comp=Z,7.0nm,0.9s						
IKP	**In-Ko-Pah, Jac**	**76.29**	**323**	P	**P**	**19 37 24.9**	**+0.4**
	baz=143						
S22A	**4UR Ranch, Cre**	**76.29**	**332**	P	**P**	**19 37 25.2**	**+0.6**
	baz=150						
WUAZ	**Wupatki**	**76.33**	**328**	IAmb	IAmb	19 37 27.2	
	comp=Z,13nm,1.1s						
WUAZ	**Wupatki**	**76.33**	**328**	P	**P**	**19 37 26.0**	**+1.3**
	baz=146,SNR=5.4						
SWSC	**Sam W. Stewart**	**76.37**	**323**	P	**P**	**19 37 25.9**	**+1.2**
	baz=143						
MVCO	**Mesa Verde**	**76.51**	**331**	IAmb	IAmb	19 37 27.8	
	comp=Z,8.6nm,1.1s						
MVCO	**Mesa Verde**	**76.51**	**331**	P	**P**	**19 37 26.7**	**+1.0**
	baz=149						
PDMCI	**Parker Dam,Lak**	**76.63**	**325**	P	**P**	**19 37 27.6**	**+1.4**
	baz=144						
MONP2	**Monument Peak**	**76.64**	**323**	P	**P**	**19 37 27.5**	**+0.9**
	baz=182						
PKME	**Peaks-Kenny Pk**	**76.65**	**2**	P	**P**	**19 37 26.8**	**+0.8**
	baz=182						
Q24A	**Divide**	**76.71**	**334**	P	**P**	**19 37 27.8**	**+0.8**
	baz=152						
BC3	**Big Chuckawall**	**76.76**	**324**	P	**P**	**19 37 28.0**	**+0.9**
	baz=143,SNR=8.3						
IRM	**Iron Mountain**	**77.01**	**325**	P	**P**	**19 37 29.2**	**+0.9**
	baz=144,SNR=5.2						
RAR	**Rarotonga**	**77.20**	**253**	P	**P**	**19 37 29.0**	**-0.8**
	comp=Z,12nm,0.4s,baz=98,slow=2.8,SNR=5.8						
TPFO	**Pinon Flats**	**77.23**	**323**	P	**P**	**19 37 31.1**	**+1.3**
	baz=142						
PFO	**Pinyon Flats O**	**77.23**	**323**	P	**P**	**19 37 29.9**	**+0.2**
PFO				IAmb	IAmb	19 37 32.5	
	comp=Z,14nm,1.1s						
PFO	**Pinyon Flats O**	**77.23**	**323**	P	**P**	**19 37 31.0**	**+1.2**
	baz=142,SNR=6.1						
F62A	**Pittston Farm,**	**77.27**	**2**	IAmb	IAmb	19 37 31.4	
	comp=Z,9.6nm,0.9s						
F64A	**Sherman**	**77.28**	**3**	P	**P**	**19 37 30.1**	**+0.6**
F64A				IAmb	IAmb	19 37 39.9	
	comp=Z,13nm,1.0s						
BELC	**Belle Mtn. Jos**	**77.31**	**324**	P	**P**	**19 37 31.5**	**+1.3**
	baz=143						
PV13	**Radium Mtn., P**	**77.45**	**331**	IAmb	IAmb	19 37 32.9	
	comp=Z,9.1nm,1.1s						
LMN	**Caledonia Moun**	**77.48**	**5**	P	**P**	**19 37 30.9**	**+0.1**
PV05	**Paradox Valley**	**77.50**	**331**	IAmb	IAmb	19 37 33.1	
	comp=Z,15nm,1.3s						
SMCO	**Snowmass**	**77.59**	**333**	IAmb	IAmb	19 37 34.5	
	comp=Z,17nm,1.2s						
MURC	**Murrieta**	**77.60**	**323**	P	**P**	**19 37 33.1**	**+1.4**
	baz=142						
ISCO	**Idaho Springs**	**77.62**	**334**	P	**P**	**19 37 32.8**	**+0.8**
	baz=151						
PV14	**Lion Creek, Pa**	**77.72**	**331**	IAmb	IAmb	19 37 34.3	

	comp=Z,8.6nm,1.2s						
HEC	**Hector,Ludlow**	**78.13**	**324**	P	**P**	**19 37 36.3**	**+1.6**
	baz=143,SNR=5.3						
KNB	**Kanab**	**78.23**	**328**	P	**P**	**19 37 35.8**	**+0.5**
KNB				IAmb	IAmb	19 37 37.9	
	comp=Z,17nm,1.1s						
ECSD	**EROS Data Cent**	**78.34**	**342**	IAmb	IAmb	19 37 36.4	
	comp=Z,12nm,0.8s						
ECSD	**EROS Data Cent**	**78.34**	**342**	P	**P**	**19 37 34.9**	**-0.6**
	baz=159						
BFSC	**Mount Baldy Ra**	**78.34**	**323**	P	**P**	**19 37 37.1**	**+1.2**
	baz=142,SNR=5.2						
TUQ	**Turquoise Moun**	**78.41**	**325**	P	**P**	**19 37 37.6**	**+1.2**
	baz=143						
LCMT	**Little Creek M**	**78.41**	**328**	P	**P**	**19 37 36.7**	**+0.4**
D62A	**Allapoint, All**	**78.48**	**2**	P	**P**	**19 37 36.4**	**+0.2**
D62A				IAmb	IAmb	19 37 37.7	
	comp=Z,17nm,1.0s						
GSC	**Goldstone, Bar**	**78.74**	**324**	IAmb	IAmb	19 37 40.6	
	comp=Z,7.8nm,0.9s						
GSC	**Goldstone, Bar**	**78.74**	**324**	P	**P**	**19 37 39.1**	**+1.0**
	baz=142,SNR=5.0						
CCUT	**Cedar City**	**78.91**	**328**	IAmb	IAmb	19 37 42.0	
	comp=Z,14nm,1.1s						
EDW2	**Edwards Air Fo**	**79.01**	**323**	P	**P**	**19 37 40.3**	**+0.8**
	baz=142,SNR=6.5						
Q16A	**Castle Valley**	**79.08**	**330**	P	**P**	**19 37 40.3**	**+0.4**
Q16A				IAmb	IAmb	19 37 42.2	
	comp=Z,24nm,1.5s						
LRMC	**Laurel Mtn Rad**	**79.32**	**324**	P	**P**	**19 37 42.1**	**+0.8**
	baz=142						
P17A	**Butcher Ranch,**	**79.36**	**331**	IAmb	IAmb	19 37 43.8	
	comp=Z,12nm,1.1s						
GWY	**Greenwater Val**	**79.38**	**325**	P	**P**	**19 37 42.2**	**+0.6**
PRN	**Pahroc Range**	**79.57**	**327**	IAmb	IAmb	19 37 45.4	
	comp=Z,17nm,1.0s						
MPMC	**Manual Prospec**	**79.68**	**324**	P	**P**	**19 37 43.8**	**+0.5**
	baz=142						
FURC	**Furnace Creek,**	**79.69**	**325**	P	**P**	**19 37 44.5**	**+1.4**
	baz=143						
TPNV	**Topopah Spring**	**79.78**	**326**	IAmb	IAmb	19 37 46.4	
	comp=Z,15nm,1.1s						
TPNV	**Topopah Spring**	**79.78**	**326**	P	**P**	**19 37 44.9**	**+1.1**
	baz=143,SNR=13						
KOWA	**Kowa**	**79.80**	**66**	P	**P**	**19 37 43.7**	**-0.5**
KOWA				IAmb	IAmb	19 37 52.7	
	comp=Z,8.1nm,0.8s						
ISA	**Isabella, Lake**	**79.87**	**323**	P	**P**	**19 37 44.2**	**0.0**
ISA				IAmb	IAmb	19 37 46.8	
	comp=Z,11nm,0.9s						
ISA	**Isabella, Lake**	**79.87**	**323**	P	**P**	**19 37 45.5**	**+1.3**
	baz=141,SNR=6.6						
PKM	**Mcpherson Peak**	**79.96**	**322**	P	**P**	**19 37 46.1**	**+1.2**
	baz=140,SNR=5.1						
CWC	**Cottonwood Cre**	**80.28**	**324**	P	**P**	**19 37 47.5**	**+1.0**
	baz=142						
VES	**Vestal, Richgr**	**80.32**	**323**	P	**P**	**19 37 47.2**	**+0.7**
	baz=141						
NLU	**North Lily Min**	**80.33**	**330**	IAmb	IAmb	19 37 48.9	
	comp=Z,14nm,1.5s						
GRAC	**Grapevine Rang**	**80.36**	**325**	P	**P**	**19 37 47.8**	**+1.1**
	baz=142,SNR=6.3						
SPR3	**Spring Creek 3**	**80.53**	**328**	P	**P**	**19 37 48.5**	**+0.5**
SPR3				IAmb	IAmb	19 37 49.9	
	comp=Z,11nm,1.1s						
R11A	**Troy Canyon, C**	**80.58**	**327**	P	**P**	**19 37 49.2**	**+1.1**
	baz=144						
TIN	**Tinemaha, Big**	**80.83**	**324**	P	**P**	**19 37 50.7**	**+1.3**
	baz=142						
DUG	**Dugway, Tooele**	**80.84**	**330**	IAmb	IAmb	19 37 51.5	
	comp=Z,22nm,1.6s						
DUG	**Dugway, Tooele**	**80.84**	**330**	P	**P**	**19 37 50.1**	**+0.7**
	baz=146						
RSSD	**Black Hills**	**80.88**	**337**	P	**P**	**19 37 49.9**	**+0.3**
	baz=153						
TPH	**Tonopah**	**81.14**	**326**	P	**P**	**19 37 51.9**	**+0.7**
EYMN	**Ely**	**81.17**	**347**	P	**P**	**19 37 51.6**	**+0.8**
	baz=164						
BOSA

H11N2	**WAKE ISLAND Hyl**	**26.03**	**272**	T	T		22 04 04.9		
	baz=116,slow=74								
HYB	**Hyderabad**	**149.93**	**111**	*i* PKP	**PKPbc**		**19 45 26.0**	**-0.6**	
ZALV	**Zalesovo Beam**	**152.33**	**30**	PKPbc	**PKPbc**		**19 45 30.7**	**-0.3**	
	comp=Z,4.2nm,0.6s,baz=299,slow=3.5,SNR=17								
ZALV	**Zalesovo Beam**	**152.33**	**30**		**PKPbc**		**19 45 28.9**	**-2.1**	
KSH	**Kashi**	**153.06**	**64**	PKPbc	**PKPdf**		**19 45 26.1**	**+0.1**	
KSH				PP	**PP**		**19 49 23.6**	**+5.1**	
MKAR	**Makanchi Array**	**155.29**	**45**	PKP	**PKPdf**		**19 45 27.8**	**-1.0**	
	comp=Z,0.3nm,0.8s,baz=22,slow=1.3,SNR=3.6								
MKAR				PKPab	**PKPab**		**19 45 53.9**	**0.0**	
	comp=Z,1.6nm,0.8s,baz=288,slow=5.0,SNR=10								
MKAR	**Makanchi Array**	**155.29**	**45**		**PKPdf**		**19 45 26.6**	**-2.2**	
MKAR					**PKPab**		**19 45 53.0**	**-0.8**	
KSRS	**Korea Array**	**162.50**	**295**	PKPab	**PKPab**		**19 46 26.1**	**+0.6**	
	comp=Z,1.6nm,0.9s,baz=46,slow=4.8,SNR=4.6								
SONM	**Songino Array**	**163.86**	**3**	PKPab	**PKPab**		**19 46 31.8**	**+0.7**	
	comp=Z,1.1nm,0.9s,baz=341,slow=3.8,SNR=5.9								
SONM	**Songino Array**	**163.86**	**3**		**PKPab**		**19 46 30.8**	**-0.2**	

*IDC **18** 19:26:45.7±0.8,31°.9S×72°.63W,h0km,mb4.3/5, mb1 4.5/6,mb1mx4.2/32,mbtmp4.4/6,ML4.4/1,MS3.8/1, Ms1 3.8/1,ms1mx3.3/19 Error ellipse: s-maj=44.1km s-min=24.5km az=85.0*

ISC 18 19:26:51.2±0.9,31°.1S±0°.2×72°.6W±0°.3,h35km,n10, σ0°83/9,mb4.4/5,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SIV	**San Ignacio**	**18.31**	**38**	P		**Pn**	**19 31 03.0**	**+0.5**
	1.3nm,0.3s,baz=208,slow=10.0,SNR=6.9							
MDP	**Montagnes des**	**40.69**	**31**	LR		LR	19 51 11.6	
	comp=Z,123nm,18.2s,baz=218,slow=36							
SNAA	**Sanae**	**54.46**	**159**	P		**P**	**19 36 15.1**	**+0.3**
	3.5nm,0.7s,baz=270,slow=9.3,SNR=1.8							
QSPA	**South Pole Qui**	**59.16**	**180**	P		**P**	**19 36 48.9**	**+0.6**
	12nm,1.0s,baz=316,slow=2.3,SNR=7.8							
TXAR	**Lajitas Array**	**66.97**	**331**	P		**P**	**19 37 41.0**	**+0.6**
	2.4nm,0.9s,baz=156,slow=8.1,SNR=7.1							
PDAR	**Pinedale Array**	**80.95**	**333**	P		**P**	**19 39 01.9**	**-0.2**
	0.5nm,0.5s,baz=154,slow=5.0,SNR=1.6							
TORD	**Torodi Ar. Bea**	**83.64**	**71**	P		**P**	**19 39 15.8**	**-0.7**
	2.2nm,0.8s,baz=268,slow=4.8,SNR=0.8							
ASAR	**Alice Springs**	**119.96**	**208**	PKP		**PKPdf**	**19 45 37.5**	**-1.1**
	0.2nm,0.5s,baz=131,slow=1.5,SNR=7.2							
WRA	**Warramunga Arr**	**123.08**	**211**	PKP		**PKPdf**	**19 45 43.5**	**-1.1**
	1.1nm,0.8s,baz=158,slow=1.9,SNR=7.5							
ZALV	**Zalesovo Beam**	**151.93**	**29**	PKPbc		**PKiKP**	**19 46 42.6**	**+0.3**
	5.9nm,0.6s,baz=314,slow=2.8,SNR=4.9							

*SJA **18** 19:39:18.6±0.7,31°.69S×72°.42W,h8km±3km,ML4.7, MW4.4*

*IDC **18** 19:39:21.2±0.8,31°.57S×71°.84W,h0km,mb4.2/7, mb1 4.2/12,mb1mx4.1/34,mbtmp4.0/12,ML3.7/5,MS4.2/10, Ms1 4.2/10,ms1mx3.9/21,Error ellipse: s-maj=26.8km s-min=20.4km az=83.0*

*NEIC **18** 19:39:22.0±1.9,31°.64S±0°.03×72°.09W±0°.07,h6km±3km, mb4.5/34,Mwr4.7/34,ML4.2(GUC),Error ellipse: s-maj=8.6km s-min=3.9km az=106.0*

*NEIC **18** 19:39:21.9,31°.64S×72°.09W,h11km,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.21; $M_{\theta\theta}$0.16; $M_{\phi\phi}$-0.37; $M_{r\theta}$0.17; $M_{r\phi}$-0.02; $M_{\theta\phi}$-1.25; Fault plane solution: M_o1.30000×10^{16} NP1:ϕ=26.29000°, δ7.53000°,λ.124.14000°. NP2:ϕ=171.93000°,δ83.78000°, λ85.76000°. Principal axes: T 1.2224, Plg51.0000°, Azm77.0000°; N 0.1429, Plg4.0000°, Azm172.0000°; P -1.3653, Plg39.0000°, Azm266.0000°;*

*GUC **18** 19:39:23.1±0.7,31°.67S×72°.15W,h38km±4km,ML4.2*

ISC 18 19:39:21.2±1.3,31°.64S±0°.02×72°.10W±0°.04,h5km±8km, n157,σ1°66/188,mb4.5/16,MS4.3/11,14C-5D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**1.04**	**23**	⇑*iP*		**Pg**	**19 39 41.2**	**0.0**
CO06				*i* S		**Sg**	**19 39 55.5**	**+0.9**
CO06	**Fray Jorge**	**1.04**	**23**			**Pg**	**19 39 41.4**	**+0.3**
CO06					Sg	**Sg**	**19 39 55.7**	**+1.0**
VA06	**Catapilco**	**1.15**	**144**	⇑*iP*		**Pg**	**19 39 43.8**	**+0.6**
VA06				*eS*		**Sn**	**19 40 00.8**	**+0.9**
VA06				IAML			19 40 08.3	
	comp=E,11μm,0.4s							
VA06	**Catapilco**	**1.15**	**144**	⇑*iP*		**Pb**	**19 39 43.9**	**+0.4**
VA06				*i* S		**Sn**	**19 40 00.4**	**+0.4**
VA06				IAML			19 40 08.3	
	comp=E,11μm,0.4s							
VA01	**Torpederas**	**1.43**	**164**	*eP*		**Pn**	**19 39 48.5**	**+0.7**
VA01				*eS*		**Sb**	**19 40 07.3**	**+0.4**
VA01	**Torpederas**	**1.43**	**164**	*eP*		**Pn**	**19 39 48.5**	**+0.7**
VA01				*eS*		**Sb**	**19 40 07.3**	**+0.4**
VA01	**Torpederas**	**1.43**	**164**			**Pn**	**19 39 46.8**	**-1.1**
VA01					Sn	**Sb**	**19 40 06.4**	**-0.5**
VA01	**Torpederas**	**1.43**	**164**	*eP*		**Pn**	**19 39 46.8**	**-1.0**
VA01				*eS*		**Sg**	**19 40 15.6**	**+8.3**
CO03	**El Pedregal**	**1.45**	**57**	⇑*iP*		**Pb**	**19 39 49.1**	**+0.3**
CO03				*i* S		**Sg**	**19 40 08.6**	**+0.8**
CO03				IAML			19 40 16.3	
	comp=E,9μm,0.4s							
CO03	**El Pedregal**	**1.45**	**57**	⇓*iP*		**Pb**	**19 39 49.4**	**+0.7**
CO03				*i* S		**Sb**	**19 40 07.9**	**+0.4**
CO03				IAML			19 40 16.3	
	comp=E,9μm,0.4s							
CO03	**El Pedregal**	**1.45**	**57**	Pn		**Pn**	**19 39 48.7**	**+0.6**
CO03				Sn		**Sb**	**19 40 07.7**	**+0.2**
CO03	**El Pedregal**	**1.45**	**57**	*eP*		**Pb**	**19 39 49.0**	**+0.3**
CO03				IAML			19 40 14.5	
	comp=Z,6μm,0.5s							
ROCH	**El Roble**	**1.62**	**145**	⇑*iP*		**Pn**	**19 39 51.7**	**+1.1**
ROCH				*i* S		**Sg**	**19 40 13.8**	**+0.5**
ROCH	**El Roble**	**1.62**	**145**	⇓*iP*		**Pn**	**19 39 51.4**	**+0.8**
ROCH				*i* S		**Sg**	**19 40 13.8**	**+0.5**
ROCH				IAML			19 40 21.9	
	comp=N,5μm,0.3s							
VA03	**San Esteban**	**1.73**	**131**	⇓*iP*		**Pn**	**19 39 52.9**	**+0.9**
VA03				*i* S		**Sg**	**19 40 17.0**	**+0.2**
VA03				IAML			19 40 22.8	
	comp=E,6μm,0.2s							
VA03	**San Esteban**	**1.73**	**131**	⇑*iP*		**Pn**	**19 39 53.1**	**+1.0**
VA03				*i* S		**Sb**	**19 40 16.4**	**+0.9**
VA03				IAML			19 40 22.8	
	comp=E,6μm,0.2s							
VA03	**San Esteban**	**1.73**	**131**			**Pn**	**19 39 52.5**	**+0.5**
VA03					Sn	**Sn**	**19 40 14.4**	**-0.1**
VA03	**San Esteban**	**1.73**	**131**	*eP*		**Pn**	**19 39 53.0**	**+1.0**
VA03				*eS*		**Sg**	**19 40 20.1**	**+3.3**
VA03				IAML			19 40 28.2	
	comp=Z,3μm,0.8s							
GO04	**Tololo Observa**	**1.84**	**38**	*eP*		**Pn**	**19 39 54.6**	**+1.0**
GO04				*i* S		**Sn**	**19 40 18.7**	**+1.3**
GO04	**Tololo Observa**	**1.84**	**38**	⇓*iP*		**Pb**	**19 39 56.0**	**+0.6**
GO04				*i* S		**Sg**	**19 40 21.6**	**+1.2**
GO04	**Tololo Observa**	**1.84**	**38**			**Pn**	**19 39 54.6**	**+1.0**
GO04	**Tololo Observa**	**1.84**	**38**	*eP*		**Pb**	**19 39 56.0**	**+0.6**
CO05	**La Serena**	**1.87**	**24**	⇓*iP*		**Pn**	**19 39 54.2**	**+0.5**
CO05				*i* S		**Sn**	**19 40 18.4**	**+0.7**
CO05				IAML			19 40 34.1	
	comp=E,5μm,0.7s							
CO05	**La Serena**	**1.87**	**24**			**Pn**	**19 39 53.9**	**+0.1**
VA05	**Santo Domingo**	**2.06**	**169**	*eP*		**Pn**	**19 39 57.1**	**+0.8**
VA05				*i* S		**Sg**	**19 40 29.2**	**+2.0**
VA05				IAML			19 40 38.4	
	comp=N,4μm,0.4s							
VA05	**Santo Domingo**	**2.06**	**169**	*eP*		**Pn**	**19 39 56.1**	**-0.2**
VA05				*eS*		**Sg**	**19 40 26.6**	**-0.7**
VA05				IAML			19 40 38.5	
	comp=N,3μm,0.5s							
VA05	**Santo Domingo**	**2.06**	**169**			**Pn**	**19 39 56.0**	**-0.4**
MT05	**Renca**	**2.10**	**147**	*eP*		**Pn**	**19 39 58.6**	**+1.7**
MT05				*eS*		**Sb**	**19 40 26.1**	**+0.1**
MT05				IAML			19 40 35.5	
	comp=E,4μm,0.2s							
MT05	**Renca**	**2.10**	**147**	*eP*		**Pn**	**19 39 58.6**	**+1.7**
MT05				*i* S		**Sb**	**19 40 25.8**	**-0.2**
MT05				IAML			19 40 35.5	
	comp=E,4μm,0.3s							
MT05	**Renca**	**2.10**	**147**			**Pn**	**19 39 57.5**	**+0.5**
MT05	**Renca**	**2.10**	**147**	*eP*		**Pn**	**19 39 58.0**	**+1.0**
MT09	**Talagante**	**2.33**	**157**	*eP*		**Pn**	**19 40 01.1**	**+0.9**
MT09				*i* S		**Sn**	**19 40 29.9**	**+0.6**
MT09				IAML			19 40 44.5	
	comp=E,1μm,0.5s							
MT09	**Talagante**	**2.33**	**157**	⇑*iP*		**Pn**	**19 40 01.7**	**+1.4**
MT09				*eS*		**Sb**	**19 40 31.7**	**-1.2**
MT09				IAML			19 40 44.5	
	comp=E,1μm,0.5s							
MT09	**Talagante**	**2.33**	**157**			**Pn**	**19 40 01.1**	**+0.9**
MT01	**Popeta**	**2.33**	**162**	*eP*		**Pn**	**19 40 00.9**	**+0.8**
MT01				*eS*		**Sn**	**19 40 31.3**	**+2.0**
MT01	**Popeta**	**2.33**	**162**	*eP*		**Pn**	**19 40 01.0**	**+0.8**
MT01				*eS*		**Sb**	**19 40 32.1**	**-0.8**
MT01				IAML			19 40 45.3	
	comp=E,824nm,0.4s							
MT01	**Popeta**	**2.33**	**162**	Pn		**Pn**	**19 39 59.8**	**-0.4**
MT01	**Popeta**	**2.33**	**162**	*eP*		**Pn**	**19 40 00.2**	**0.0**
MT01				*eS*		**Sg**	**19 40 43.4**	**+7.3**
AUSP	**Uspallata**	**2.38**	**105**	*eP*		**Pb**	**19 40 04.7**	**-0.1**
AUSP				*eP*		**Pg**	**19 40 05.0**	**-1.9**
AUSP				*eS*		**Sb**	**19 40 34.7**	**+0.2**
RTLS	**Leoncito**	**2.40**	**95**	*eP*		**Pn**	**19 40 00.2**	**-1.1**
RTLS				*eP*		**Pb**	**19 40 05.0**	**0.0**
RTLS				*eS*		**Sg**	**19 40 38.8**	**+0.5**
RTLS				IAML			19 40 42.5	
	comp=Z,5μm,0.7s							
AROD	**Rodeo**	**2.69**	**58**	*eP*		Pn	19 39 51.3	-14
AROD				*eS*		**Sg**	**19 40 48.7**	**+0.9**
LMEL	**Las Melosas**	**2.72**	**144**	⇑*iP*		**Pn**	**19 40 07.1**	**+1.4**
LMEL				*eS*		**Sn**	**19 40 41.0**	**+1.9**
LMEL				IAML			19 40 54.6	
	comp=N,1μm,0.2s							
LMEL	**Las Melosas**	**2.72**	**144**	⇑*iP*		**Pn**	**19 40 07.1**	**+1.4**
LMEL				*eS*		**Sn**	**19 40 41.4**	**+2.3**
LMEL				IAML			19 40 54.7	
	comp=N,1μm,0.4s							
BO03	**Pichilemu**	**2.85**	**178**	⇑*iP*		**Pn**	**19 40 06.5**	**-0.8**
BO03				*i* S		**Sn**	**19 40 38.5**	**-3.6**
BO03				IAML			19 40 42.1	
	comp=E,369nm,0.2s							
BO03	**Pichilemu**	**2.85**	**178**	*eP*		**Pn**	**19 40 06.5**	**-0.8**
BO03				*eS*		**Sn**	**19 40 39.3**	**-2.8**
BO03				IAML			19 40 42.0	
	comp=E,376nm,0.4s							
BO01	**Tunca**	**2.88**	**163**	*eP*		**Pn**	**19 40 08.6**	**+0.9**
BO01				*eS*		**Sg**	**19 40 53.6**	**0.0**
BO01	**Tunca**	**2.88**	**163**	*eP*		**Pn**	**19 40 08.9**	**+1.2**
BO01				*eS*		**Sg**	**19 40 52.3**	**-1.3**
BO01	**Tunca**	**2.88**	**163**			**Pn**	**19 40 07.8**	**+0.2**
BO01	**Tunca**	**2.88**	**163**	*eP*		Pn	19 40 03.2	-4.4
BO01				*eP*		Pb	19 40 08.2	-4.7
BO01				*eS*		**Sb**	**19 40 47.7**	**-0.7**
ZON	**Zonda**	**2.92**	**89**			**Pn**	**19 40 09.9**	**+1.5**
ZON	**Zonda**	**2.92**	**89**	*eP*		**Pn**	**19 40 08.2**	**-0.1**
ZON				*eP*		**Pb**	**19 40 12.9**	**-0.9**
ZON				*eP*		**Pg**	**19 40 14.0**	**-3.2**
ZON				*eS*		**Sb**	**19 40 51.2**	**+1.3**
ZON				IAML			19 41 00.7	
	comp=Z,2μm,1.1s							
BO02	**Sierra Bellavi**	**3.33**	**161**	⇑*iP*		**Pn**	**19 40 15.2**	**+1.2**
BO02				*eS*		**Sn**	**19 40 54.7**	**+0.6**
BO02				IAML			19 41 13.2	
	comp=E,891nm,0.5s							
BO02	**Sierra Bellavi**	**3.33**	**161**	⇑*iP*		**Pn**	**19 40 15.2**	**+1.2**
BO02				*eS*		**Sn**	**19 40 56.4**	**+2.3**
BO02	**Sierra Bellavi**	**3.33**	**161**	Pn		**Pn**	**19 40 14.4**	**+0.4**
BO02	**Sierra Bellavi**	**3.33**	**161**	*eP*		**Pn**	**19 40 15.0**	**+1.0**
BO02				*eS*		**Sn**	**19 40 55.7**	**+1.7**
BO02				IAML			19 41 14.4	
	comp=Z,649nm,1.1s							
GO05	**Huala**	**3.37**	**178**	⇑*iP*		**Pn**	**19 40 13.5**	**-0.9**
GO05				*eS*		Sn	19 40 46.3	-8.5
GO05				IAML			19 40 55.4	
	comp=E,218nm,0.2s							
GO05	**Huala**	**3.37**	**178**			**Pn**	**19 40 13.3**	**-1.2**
GO05	**Huala**	**3.37**	**178**	*eP*		**Pn**	**19 40 14.0**	**-0.4**
GO05				*eS*		**Sn**	**19 40 54.7**	**0.0**
AC04	**Llanos de Chal**	**3.54**	**15**	Pn		**Pn**	**19 40 16.2**	**-0.5**
AC04	**Llanos de Chal**	**3.54**	**15**	*eP*		**Pn**	**19 40 21.2**	**+4.5**
AC04				*eS*		**Sn**	**19 41 03.2**	**+4.3**
AC04				IAML			19 41 23.8	
	comp=Z,1μm,1.1s							
AGUA	**GUANDACOL**	**3.78**	**56**	*eP*		**Pb**	**19 40 25.0**	**-3.5**
AGUA				*eS*		**Sg**	**19 41 22.7**	**0.0**
AGUA				IAML			19 41 33.3	
	comp=Z,3μm,1.7s							
AVFE	**Valle Fertil**	**4.10**	**77**	*eP*		**Pn**	**19 40 28.0**	**+3.4**
AVFE				*eS*		**Sb**	**19 41 24.7**	**+0.9**
ML02	**Panimavida**	**4.15**	**172**	Pn		**Pn**	**19 40 25.3**	**+0.1**
GO03	**Copiap**	**4.35**	**22**	Pn		**Pn**	**19 40 27.3**	**-0.6**
AC06	**Mina Casimiro**	**4.53**	**20**			**Pn**	**19 40 29.7**	**-0.7**
AC02	**Maricunga**	**5.45**	**29**	Pn		**Pn**	**19 40 43.4**	**-0.1**
VA04	**Juan Fernndez**	**6.01**	**249**	Pn		**Pn**	**19 40 51.9**	**+1.1**
H03N1	**Juan Fernandez**	**6.02**	**251**	T		T	19 47 37.8	
	baz=78,slow=72							
H03N3	**Juan Fernandez**	**6.04**	**251**	T		T	19 47 41.5	
	baz=78,slow=72							
H03N2	**Juan Fernandez**	**6.04**	**251**	T		T	19 47 42.8	
	baz=78,slow=72							
CYA	**Choya**	**6.32**	**61**	*eP*		**Pn**	**19 40 54.7**	**-0.4**
CYA				*eP*		Pb	19 40 59.2	-13
CYA				*eS*		**Sn**	**19 42 14.7**	**+7.0**
PB14	**IPOC Station P**	**7.14**	**13**			**Pn**	**19 41 05.9**	**-0.7**
LC01	**Cunco**	**7.25**	**179**	Pn		**Pn**	**19 41 07.1**	**-0.6**
LC01	**Cunco**	**7.25**	**179**	*eP*		**Pn**	**19 41 08.0**	**+0.3**
AHML	**Horco Molle**	**7.64**	**52**	*eP*		Pn	19 41 18.4	+5.3
LR03	**Panguipulli**	**7.98**	**181**			**Pn**	**19 41 19.4**	**+1.7**
PLCA	**Paso Flores**	**9.16**	**173**	Pn		**Pn**	**19 41 34.6**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=343,slow=11,SNR=11							
PLCA	**Paso Flores**	**9.16**	**173**			**Pn**	**19 41 34.5**	**+0.5**
PB06	**IPOC Station P**	**9.18**	**15**			**Pn**	**19 41 35.3**	**+0.9**
AF01	**San Pedro de A**	**9.33**	**23**			**Pn**	**19 41 33.4**	**-3.1**
PB04	**IPOC Station P**	**9.43**	**11**			**Pn**	**19 41 33.9**	**-3.9**
LVC	**Limon Verde**	**9.43**	**18**	Pn		**Pn**	**19 41 35.6**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=348,slow=23,SNR=0.9							
LVC	**Limon Verde**	**9.43**	**18**			**Pn**	**19 41 35.6**	**-2.5**
PB07	**IPOC Station P**	**10.07**	**12**			**Pn**	**19 41 49.4**	**+2.8**
PB09	**IPOC Station P**	**10.13**	**15**			**Pn**	**19 41 48.1**	**+0.6**
TRQA	**Tornquist**	**10.49**	**130**	Pn		**Pn**	**19 41 53.1**	**+0.8**
PB01	**IPOC Station P**	**10.81**	**13**			**Pn**	**19 41 55.6**	**-1.1**
TA01	**Diego Aracena**	**11.16**	**9**			**Pn**	**19 42 00.4**	**-1.0**
TA02	**Huaiquique**	**11.46**	**9**			**Pn**	**19 42 06.5**	**+1.0**
PB08	**IPOC Station P**	**11.75**	**14**			**Pn**	**19 42 11.4**	**+1.6**
PB11	**IPOC Station P**	**12.03**	**11**	Pn		**Pn**	**19 42 14.0**	**+0.6**
PSGCX	**Pisagua**	**12.12**	**9**	Pn		**Pn**	**19 42 14.6**	**0.0**
ITQB	**Itaqui**	**13.47**	**86**	Pn		**Pn**	**19 42 29.4**	**-3.5**
CPUP	**Villa Florida**	**13.97**	**71**	Pn		**Pn**	**19 42 37.6**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=196,slow=8.4,SNR=2.9							
CPUP					LR	LR	19 48 31.7	
	comp=Z,1μm,19.1s,baz=256,slow=40							
CPUP	**Villa Florida**	**13.97**	**71**			**Pn**	**19 42 37.6**	**-2.2**
LPAZ	**La Paz**	**15.70**	**14**	Pn		**Pn**	**19 43 02.8**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=188,slow=9.7,SNR=3.8							
LPAZ	**La Paz**	**15.70**	**14**	Pn		**Pn**	**19 43 05.1**	**+1.4**
PLTB	**Pedras Altas**	**15.75**	**95**			**Pn**	**19 43 05.1**	**+1.4**
SIV	**San Ignacio**	**18.54**	**35**	P		**P**	**19 43 37.3**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=232,slow=8.8,SNR=7.4							
SIV					LR	LR	19 49 55.5	
	comp=Z,199nm,20.8s,baz=228,slow=35							
SIV	**San Ignacio**	**18.54**	**35**	P		**P**	**19 43 37.3**	**-1.4**
SPB	**Sao Paulo**	**23.25**	**76**	P		**P**	**19 44 29.1**	**-0.3**
SAML	**Samuel**	**24.05**	**22**	P		**P**	**19 44 37.6**	**+0.3**
BDFB	**Brasilia**	**27.12**	**60**	P		**P**	**19 45 03.3**	**-2.0**
	comp=Z,5.9nm,0.9s,baz=190,slow=9.5,SNR=3.1							
BDFB					LR	LR	19 56 40.7	
	comp=Z,567nm,21.1s,baz=213,slow=39							
BDFB	**Brasilia**	**27.12**	**60**	P		**P**	**19 45 03.0**	**-2.4**
OTAV	**Otavalo**	**32.27**	**348**	P		**P**	**19 45 50.5**	**-0.9**
OTAV					IAmb	IAmb	19 45 56.1	
	comp=Z,6.6nm,1.4s							
RPN	**Rapa Nui**	**32.65**	**268**	LR		LR	19 55 39.3	
	comp=Z,2μm,21.5s,baz=243,slow=30							
RUSC	**La Rusia**	**37.33**	**358**	P		**P**	**19 46 36.4**	**+1.3**
SDV	**Santo Domingo**	**40.32**	**2**	P		**P**	**19 46 57.5**	**-2.4**
VNA3	**Neumayer Olymp**	**51.57**	**159**	P		**P**	**19 48 28.4**	**+0.6**
VNA1	**Neumayer--Stat**	**51.87**	**158**	P		**P**	**19 48 30.8**	**+0.8**
VNA2	**Neumayer--Watz**	**52.21**	**158**	P		**P**	**19 48 32.7**	**+0.2**
	baz=295,slow=8.8							
SNAA	**Sanae**	**53.79**	**158**	P		**P**	**19 48 45.3**	**+1.0**
SNAA	**Sanae**	**53.79**	**158**	P		**P**	**19 48 45.3**	**+1.0**
	comp=Z,7.8nm,1.0s,baz=256,slow=4.5,SNR=21							
SNAA	**Sanae**	**53.79**	**158**	P		**P**	**19 48 45.4**	**+1.0**
SNAA					IAmb	IAmb	19 48 47.2	
	comp=Z,7.7nm,0.9s							
QSPA	**South Pole Qui**	**58.59**	**180**	P		**P**	**19 49 19.7**	**+0.9**
TXAR	**Lajitas Array**	**67.66**	**330**	P		**P**	**19 50 19.9**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=150,slow=7.9,SNR=8.8							
TXAR					LR	LR	20 16 37.8	
	comp=Z,95nm,18.0s,baz=0.0,slow=33							
TXAR	**Lajitas Array**	**67.66**	**330**	P		**P**	**19 50 19.7**	**+0.4**
TBI	**Tubuai**	**67.83**	**256**	*e*LR		LR	20 10 52.3	
	comp=Z,163nm,23.5s							
SYO	**Syowa Base**	**68.08**	**159**	⇑*eP*		**P**	**19 50 19.2**	**-2.1**
MNTX	**Cornudas Mount**	**70.44**	**330**	P		**P**	**19 50 36.0**	**-0.4**
PPT2	**Papeete2**	**70.53**	**261**	*e*LR		LR	20 12 03.7	
	comp=Z,88nm,24.0s							
PPT	**Papeete**	**70.54**	**261**	LR		LR	20 14 51.2	
	comp=Z,67nm,18.6s,baz=108,slow=30							
DBIC	**Dimbokro**	**74.49**	**72**	P		**P**	**19 51 01.1**	**+0.1**
	comp=Z,4.3nm,0.8s,baz=233,slow=6.3,SNR=4.0							
DBIC					LR	LR	20 20 48.7	
	comp=Z,194nm,20.7s,baz=214,slow=34							
DBIC	**Dimbokro**	**74.49**	**72**	P		**P**	**19 51 01.1**	**+0.1**
DBIC	**Dimbokro**	**74.49**	**72**	IAmb		IAmb	19 51 09.6	
	comp=Z,12nm,1.1s							
T25A	**Trinidad**	**74.79**	**334**	P		**P**	**19 51 03.1**	**+0.6**
T25A				IAmb		IAmb	19 51 06.0	
	comp=Z,6.1nm,1.0s							
SDCO	**Great Sand Dun**	**75.74**	**333**	P		**P**	**19 51 08.3**	**+0.3**
KNB	**Kanab**	**78.20**	**328**	P		**P**	**19 51 23.0**	**+1.2**
KNB				IAmb		IAmb	19 51 54.1	
	comp=Z,9.5nm,1.4s							
CCUT	**Cedar City**	**78.88**	**328**	P		**P**	**19 51 26.1**	**+0.5**
CCUT				IAmb		IAmb	19 51 29.5	
	comp=Z,5.5nm,1.3s							
MVU	**Marysvale**	**79.15**	**329**	P		**P**	**19 51 27.7**	**+0.6**
PRN	**Pahroc Range**	**79.55**	**327**	P		**P**	**19 51 30.7**	**+1.6**
PRN				IAmb		IAmb	19 51 33.0	
	comp=Z,5.3nm,1.0s							
ISA	**Isabella, Lake**	**79.85**	**323**	P		**P**	**19 51 31.7**	**+1.0**
ISA				IAmb		IAmb	19 51 34.4	
	comp=Z,6.4nm,1.2s							
SPR3	**Spring Creek 3**	**80.50**	**328**	P		**P**	**19 51 33.9**	**-0.6**
R11A	**Troy Canyon, C**	**80.56**	**327**	P		**P**	**19 51 35.8**	**+1.2**
R11A				IAmb		IAmb	19 51 47.1	
	comp=Z,5.4nm,1.4s							
BOSA	**Boshof**	**81.22**	**118**	LR		LR	20 25 56.1	
	comp=Z,118nm,18.0s,baz=192,slow=34							
PDAR	**Pinedale Array**	**81.64**	**333**	P		**P**	**19 51 42.4**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=134,slow=7.7,SNR=1.6							
NVAR	**Mina Array Bea**	**81.92**	**325**	P		**P**	**19 51 44.4**	**+2.4**
	comp=Z,1.0nm,0.9s,baz=158,slow=6.3,SNR=7.8							
NVAR	**Mina Array Bea**	**81.92**	**325**	P		**P**	**19 51 42.9**	**+1.0**
KVN	**Kaiserville**	**82.31**	**326**	P		**P**	**19 51 44.6**	**+0.7**
KVN				IAmb		IAmb	19 51 46.8	
	comp=Z,5.7nm,1.2s							
LBTB	**Lobatse**	**83.35**	**115**	P		**P**	**19 51 50.2**	**+0.5**
TORD	**Torodi Ar. Bea**	**83.46**	**70**	P		**P**	**19 51 50.6**	**+0.5**
	comp=Z,2.7nm,0.7s,baz=262,slow=4.3,SNR=12							
TORD					LR	LR	20 26 34.1	
	comp=Z,195n

MT09	**Talagante**	**2.96**	**167**			**Pn**	**19 42 45.7**	**+2.0**
MT01	**Popeta**	**3.00**	**172**	⇑	*iP*	**Pn**	**19 42 45.6**	**+1.5**
MT01					*iS*	**Sb**	**19 43 23.7**	**-3.9**
MT01					IAML		19 43 34.3	
	comp=E,3μm,0.5s							
MT01	**Popeta**	**3.00**	**172**			**Pn**	**19 42 45.4**	**+1.2**
LMEL	**Las Melosas**	**3.24**	**156**	⇑	*iP*	**Pn**	**19 42 50.5**	**+2.9**
LMEL					*iS*	**Sn**	**19 43 29.5**	**+4.2**
LMEL					IAML		19 43 42.6	
	comp=N,2μm,0.1s							
BO01	**Tunca**	**3.54**	**171**		*eP*	**Sn**	**19 42 54.0**	**+2.4**
BO01					*eS*	**Sn**	**19 43 36.6**	**+4.1**
BO01					IAML		19 43 49.9	
	comp=E,754nm,0.3s							
BO01	**Tunca**	**3.54**	**171**			**Pn**	**19 42 52.7**	**+1.1**
GO03	**Copiap**	**3.55**	**23**	Pn		**Pn**	**19 42 53.1**	**+1.4**
BO03	**Pichilemu**	**3.60**	**182**	⇑	*iP*	**Pn**	**19 42 52.3**	**0.0**
BO03					*eS*	**Sb**	**19 43 45.4**	**+0.7**
AC06	**Mina Casimiro**	**3.73**	**20**	Pn		**Pn**	**19 42 54.6**	**+0.4**
BO02	**Sierra Bellavi**	**3.98**	**168**			**Pn**	**19 42 59.5**	**+1.8**
GO05	**Huala**	**4.11**	**182**			**Pn**	**19 42 59.5**	**0.0**
AC02	**Maricunga**	**4.66**	**31**	Pn		**Pn**	**19 43 07.3**	**-0.1**
ML02	**Panimavida**	**4.87**	**177**	Pn		**Pn**	**19 43 10.7**	**+0.9**
H03N1	**Juan Fernandez**	**6.56**	**245**	T		T	19 50 28.5	
	baz=75,slow=72							
H03N3	**Juan Fernandez**	**6.58**	**245**	T		T	19 50 26.6	
	baz=75,slow=72							
H03N2	**Juan Fernandez**	**6.58**	**245**	T		T	19 50 24.7	
	baz=75,slow=72							
LC01	**Cunco**	**7.99**	**181**	Pn		**Pn**	**19 43 52.3**	**-0.4**
PB06	**IPOC Station P**	**8.38**	**14**	Pn		**Pn**	**19 43 54.5**	**-3.8**
AF01	**San Pedro de A**	**8.53**	**23**	Pn		**Pn**	**19 43 56.1**	**-4.3**
LVC	**Limon Verde**	**8.63**	**18**	Pn		**Pn**	**19 44 00.9**	**-1.0**
	comp=E,2.9nm,0.3s,baz=90,slow=22,SNR=8.7							
LVC	**Limon Verde**	**8.63**	**18**			**Pn**	**19 43 59.0**	**-2.9**
PB04	**IPOC Station P**	**8.64**	**10**	Pn		**Pn**	**19 43 59.6**	**-2.2**
PB07	**IPOC Station P**	**9.28**	**11**	Pn		**Pn**	**19 44 08.3**	**-2.3**
PB09	**IPOC Station P**	**9.34**	**15**	Pn		**Pn**	**19 44 11.1**	**-0.3**
PLCA	**Paso Flores**	**9.88**	**175**	Pn		**Pn**	**19 44 19.1**	**+0.6**
	comp=E,0.8nm,0.3s,baz=335,slow=10,SNR=8.2							
PLCA	**Paso Flores**	**9.88**	**175**	Pn		**Pn**	**19 44 18.6**	**+0.1**
LL04	**Puerto Octay**	**10.01**	**183**	Pn		**Pn**	**19 44 19.4**	**-1.0**
PB01	**IPOC Station P**	**10.02**	**12**	Pn		**Pn**	**19 44 19.2**	**-1.4**
TA01	**Diego Aracena**	**10.38**	**8**	Pn		**Pn**	**19 44 23.7**	**-1.8**
LL05	**Los Muermos**	**10.59**	**187**	Pn		**Pn**	**19 44 26.4**	**-1.8**
TA02	**Huaiquique**	**10.68**	**8**	Pn		**Pn**	**19 44 28.3**	**-1.2**
TRQA	**Tornquist**	**10.79**	**134**	Pn		**Pn**	**19 44 29.4**	**-1.7**
PB08	**IPOC Station P**	**10.96**	**13**	Pn		**Pn**	**19 44 32.4**	**-1.4**
PB11	**IPOC Station P**	**11.24**	**10**	Pn		**Pn**	**19 44 36.8**	**-0.6**
PSGCX	**Pisagua**	**11.34**	**8**	Pn		**Pn**	**19 44 36.3**	**-2.4**
ITQB	**Itaqui**	**13.16**	**89**	Pn		**Pn**	**19 45 00.7**	**-2.8**
CPUP	**Villa Florida**	**13.48**	**74**	Pn		**Pn**	**19 45 07.7**	**-0.1**
	comp=E,0.2nm,0.3s,baz=247,slow=8.6,SNR=2.8							
CPUP	**Villa Florida**	**13.48**	**74**	Pn		**Pn**	**19 45 05.7**	**-2.2**
COYC	**Coyhaique**	**14.66**	**181**	Pn		**Pn**	**19 45 24.7**	**+0.8**
LPAZ	**La Paz**	**14.91**	**14**	Pn		**Pn**	**19 45 29.1**	**+1.1**
	comp=E,0.7nm,0.3s,baz=182,slow=8.0,SNR=14							
LPAZ	**La Paz**	**14.91**	**14**			**Pn**	**19 45 28.4**	**+0.4**
PLTB	**Pedras Altas**	**15.56**	**98**	Pn		**Pn**	**19 45 33.8**	**-2.1**
SIV	**San Ignacio**	**17.77**	**36**	P		**P**	**19 46 05.2**	**+0.7**
	comp=E,0.5nm,0.3s,baz=232,slow=12,SNR=7.2							
NNA	**Nana**	**19.38**	**345**	LR		LR	19 52 14.9	
	comp=E,236nm,18.8s,baz=160,slow=32							
SAML	**Samuel**	**23.25**	**22**	P		**P**	**19 47 03.6**	**0.0**
BDFB	**Brasilia**	**26.51**	**60**	P		**P**	**19 47 33.9**	**+0.1**
	comp=E,7.7nm,0.9s,baz=270,slow=7.2,SNR=4.5							
BDFB	**Brasilia**	**26.51**	**60**	P		**P**	**19 47 33.1**	**-0.7**
PAYG	**Puerto Ayora**	**34.80**	**326**			**P**	**19 48 46.5**	**-0.3**
RUSC	**La Rusia**	**36.59**	**358**	P		**P**	**19 49 03.9**	**+1.2**
SDV	**Santo Domingo**	**39.56**	**2**	P		**P**	**19 49 26.3**	**-1.1**
MDP	**Montagnes des**	**40.19**	**30**	P		**P**	**19 49 31.9**	**-0.6**
	comp=E,10nm,0.8s,baz=211,slow=9.1,SNR=5.0							
URIC	**Uribia, Colomb**	**42.34**	**360**	P		**P**	**19 49 47.7**	**-2.4**
MPOM	**Morne Pois Mar**	**46.28**	**15**	P		**P**	**19 50 19.3**	**-2.2**
FDF	**Fort de France**	**46.50**	**14**	P		**P**	**19 50 22.1**	**-1.2**
ICMP	**Isla Caja de M**	**48.76**	**7**	P		**P**	**19 50 38.6**	**-2.1**
MLPR	**Magueyes Islan**	**48.79**	**6**	P		**P**	**19 50 40.9**	**0.0**
CRPR	**Cabo Rojo, PR**	**48.82**	**6**	P		**P**	**19 50 40.0**	**-1.3**
OBIP	**Obispado Ponce**	**48.90**	**7**	P		**P**	**19 50 40.3**	**-1.6**
PDPR	**Patillas Dam,**	**48.94**	**7**	P		**P**	**19 50 40.9**	**-1.3**
SJG	**San Juan**	**49.02**	**7**	P		**P**	**19 50 40.9**	**-1.9**
SJG					IAmb	IAmb	19 50 43.9	
	comp=Z,16nm,0.8s							
CBYP	**Canovanas**	**49.21**	**7**	P		**P**	**19 50 43.2**	**-1.1**
CBYP					IAmb	IAmb	19 50 45.3	
	comp=Z,17nm,0.9s							
ANWB	**Willy Bob**	**49.22**	**13**	P		**P**	**19 50 42.0**	**-2.3**
VNA3	**Neumayer Olymp**	**52.16**	**159**	P		**P**	**19 51 07.2**	**+1.2**
VNA2	**Neumayer--Watz**	**52.80**	**158**	P		**P**	**19 51 12.1**	**+1.4**
	baz=284,slow=8.1							
SNAA	**Sanae**	**54.39**	**159**	P		**P**	**19 51 23.6**	**+1.2**
SNAA	**Sanae**	**54.39**	**159**	P		**P**	**19 51 23.5**	**+1.2**
	comp=Z,2.1nm,0.6s,baz=301,slow=10,SNR=6.9							
SNAA	**Sanae**	**54.39**	**159**	P		**P**	**19 51 22.8**	**+0.4**
QSPA	**South Pole Qui**	**59.34**	**180**	P		**P**	**19 51 59.4**	**+1.7**
QSPA					IAmb	IAmb	19 52 05.6	
	comp=Z,18nm,1.7s							
X48A	**Hartselle**	**66.56**	**346**	P		**P**	**19 52 45.7**	**-0.1**
X48A					IAmb	IAmb	19 52 48.0	
	comp=Z,10nm,0.9s							
OXF	**Oxford**	**67.14**	**344**	P		**P**	**19 52 50.6**	**+1.2**
TX31	**Lajitas Ar. Si**	**67.14**	**330**	P		**P**	**19 52 48.2**	**-1.5**
TX32	**Lajitas Array**	**67.14**	**330**	P		**P**	**19 52 48.7**	**-1.1**
TXAR	**Lajitas Array**	**67.14**	**330**	P		**P**	**19 52 51.5**	**+1.8**
	comp=Z,0.9nm,0.8s,baz=148,slow=7.4,SNR=9.7							
TXAR	**Lajitas Array**	**67.14**	**330**	P		**P**	**19 52 47.6**	**-2.2**
MIAR	**Mount Ida**	**68.25**	**341**	P		**P**	**19 52 56.4**	**-0.1**
MIAR					IAmb	IAmb	19 52 59.0	
	comp=Z,15nm,1.4s							
WVT	**Waverly**	**68.35**	**346**	P		**P**	**19 52 57.1**	**+0.1**
WVT					IAmb	IAmb	19 52 59.1	
	comp=Z,12nm,0.9s							
W39A	**Magazine**	**68.92**	**341**	P		**P**	**19 53 00.3**	**-0.3**
W39A					IAmb	IAmb	19 53 03.7	
	comp=Z,14nm,0.9s							
T47A	**Sharon Grove**	**69.03**	**347**	P		**P**	**19 53 00.7**	**-0.6**
T47A					IAmb	IAmb	19 53 04.0	
	comp=Z,12nm,0.9s							
LCAR	**Lake Charles**	**69.05**	**343**	P		**P**	**19 53 02.4**	**+1.1**
LCAR					IAmb	IAmb	19 53 03.4	
	comp=Z,7.8nm,0.7s							
U40A	**Yellville**	**69.75**	**342**	P		**P**	**19 53 05.3**	**-0.5**
U40A					IAmb	IAmb	19 53 08.1	
	comp=Z,9.1nm,1.0s							
MNTX	**Cornudas Mount**	**69.92**	**330**	P		**P**	**19 53 06.4**	**-0.5**
HHAR	**Hobbs**	**69.98**	**341**	P		**P**	**19 53 07.5**	**+0.3**
HHAR					IAmb	IAmb	19 53 09.4	
	comp=Z,9.6nm,0.8s							
MGMO	**Mountain Grove**	**70.35**	**343**	P		**P**	**19 53 09.8**	**+0.3**
FVM	**French Village**	**70.69**	**344**	P		**P**	**19 53 10.9**	**-0.6**
FVM					IAmb	IAmb	19 53 13.9	
	comp=Z,14nm,1.1s							
MSTX	**Muleshoe**	**70.83**	**333**	P		**P**	**19 53 11.2**	**-1.3**
MSTX					IAmb	IAmb	19 53 15.1	
	comp=Z,9.2nm,0.9s							
CCM	**Cathedral Cave**	**70.95**	**344**	P		**P**	**19 53 12.5**	**-0.6**
CCM					IAmb	IAmb	19 53 15.4	
	comp=Z,13nm,0.9s							
S39A	**Bolivar**	**71.13**	**342**	P		**P**	**19 53 14.9**	**+0.8**
S39A					IAmb	IAmb	19 53 16.6	
	comp=Z,12nm,1.1s							
R40A	**Maddies Statio**	**71.43**	**343**	P		**P**	**19 53 16.4**	**+0.5**
R40A					IAmb	IAmb	19 53 18.2	
	comp=Z,13nm,0.8s							
ACSO	**Alum Creek Sta**	**71.52**	**351**	P		**P**	**19 53 16.9**	**+0.5**
ACSO					IAmb	IAmb	19 53 18.4	
	comp=Z,14nm,0.9s							
P40A	**Paris**	**72.55**	**344**	P		**P**	**19 53 23.0**	**+0.4**
P40A					IAmb	IAmb	19 53 25.0	
	comp=Z,19nm,0.9s							
L56A	**Greenwood**	**72.86**	**356**	P		**P**	**19 53 25.2**	**+0.7**
L56A					IAmb	IAmb	19 53 27.2	
	comp=Z,20nm,1.0s							
P38A	**Dawn**	**73.01**	**343**	P		**P**	**19 53 25.3**	**0.0**
P38A					IAmb	IAmb	19 53 27.4	
	comp=Z,9.0nm,0.9s							
N41A	**Harden Midland**	**73.39**	**345**	P		**P**	**19 53 28.1**	**+0.6**
DBIC	**Dimbokro**	**73.99**	**72**	P		**P**	**19 53 32.5**	**+0.8**
	comp=Z,9.8nm,1.1s,baz=235,slow=8.9,SNR=3.4							
DBIC	**Dimbokro**	**73.99**	**72**	P		**P**	**19 53 30.3**	**-1.5**
DBIC					IAmb	IAmb	19 53 33.5	
	comp=Z,16nm,1.1s							
MAW	**Mawson**	**76.10**	**164**	P		**P**	**19 53 44.5**	**+1.5**
	comp=Z,1.8nm,0.6s,baz=230,slow=9.1,SNR=4.3							
MAW	**Mawson**	**76.10**	**164**	P		**P**	**19 53 44.1**	**+1.1**
SUR	**Sutherland**	**76.15**	**119**	P		**P**	**19 53 43.8**	**-0.5**
KOWA	**Kowa**	**79.16**	**66**	P		**P**	**19 54 00.7**	**-0.3**
PDAR	**Pinedale Array**	**81.10**	**333**	P		**P**	**19 54 12.7**	**+1.6**
	comp=Z,0.6nm,0.5s,baz=134,slow=4.3,SNR=5.0							
BOSA	**Boshof**	**81.33**	**118**	P		**P**	**19 54 13.8**	**+1.1**
	comp=Z,3.9nm,0.9s,baz=323,slow=7.1,SNR=4.1							
BOSA	**Boshof**	**81.33**	**118**	P		**P**	**19 54 11.6**	**-1.1**
BOSA					IAmb	IAmb	19 54 48.5	
	comp=Z,25nm,1.5s							
NVAR	**Mina Array Bea**	**81.47**	**325**	P		**P**	**19 54 15.7**	**+2.5**
	comp=Z,0.8nm,0.7s,baz=161,slow=6.9,SNR=7.5							
TORD	**Torodi Ar. Bea**	**82.95**	**70**	P		**P**	**19 54 21.8**	**+0.6**
	comp=Z,3.1nm,0.8s,baz=280,slow=6.1,SNR=12							
TORD	**Torodi Ar. Bea**	**82.95**	**70**	P		**P**	**19 54 21.0**	**-0.2**
LBTB	**Lobatse**	**83.42**	**115**	P		**P**	**19 54 23.1**	**-0.5**
LBTB					IAmb	IAmb	19 54 25.4	
	comp=Z,9.6nm,0.9s							
ULM	**Lac du Bonnet**	**83.56**	**345**	P		**P**	**19 54 24.4**	**+0.9**
	comp=Z,4.2nm,0.6s,baz=143,slow=6.0,SNR=4.0							
ASAR	**Alice Springs**	**120.43**	**207**	PKP		**PKPdf**	**20 00 48.0**	**+0.2**
	comp=Z,0.7nm,1.0s,baz=140,slow=1.6,SNR=3.7							
WRA	**Warramunga Arr**	**123.57**	**210**	PKP		**PKPdf**	**20 00 54.1**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=156,slow=1.9,SNR=6.9							
H11S2	**WAKE ISLAND Hyd**	**125.98**	**271**	T		T	22 19 45.9	
	baz=116,slow=75,SNR=222							
H11S1	**WAKE ISLAND Hyd**	**125.99**	**271**	T		T	22 19 47.0	
	baz=116,slow=75,SNR=113							
H11S3	**WAKE ISLAND Hyd**	**126.00**	**271**	T		T	22 19 47.3	
	baz=116,slow=75,SNR=159							
ZALV	**Zalesovo Beam**	**151.45**	**29**	PKPbc		**PKiKP**	**20 01 50.2**	**+0.7**
	comp=Z,3.9nm,0.7s,baz=296,slow=3.0,SNR=6.1							
ZALV	**Zalesovo Beam**	**151.45**	**29**	PKPdf		**PKPdf**	**20 01 40.7**	**-2.3**
ZALV						**pPKPdf**	**20 01 49.9**	**-2.3**

MEX 18 19:48:54.2±1.1, 15.45N×96.59W, h10km±97km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PEIG	**Puerto Escondi**	**0.76**	**316**	*i*	P	Pg	19 49 06.6	-2.4
PEIG					*eS*	Sg	19 49 17.0	-2.0
VHO	**Vista Hermosa**	**1.62**	**355**	*i*	P	Pn	19 49 14.9	-8.0
VHO					*eS*	Sn	19 49 36.2	-7.8
PNIG	**Pinotepa**	**1.75**	**303**	*eP*		Pn	19 49 21.8	-2.9
PNIG					*eS*	Sn	19 49 41.9	-5.0
TXIG	**Tlaxiaco**	**2.12**	**328**	*i*	P	Pn	19 49 29.1	-0.8
CMIG	**Matias Romero**	**2.31**	**45**	*i*	P	Pn	19 49 28.3	-4.1
CMIG					*eS*	Sn	19 49 59.2	-1.7

TIR ***18*** *19:53:26.6, 40.74N×21.19E, h6km±1km, Md3.0, Ml3.5*
SKO ***18*** *19:53:26.8, 40.79N×21.23E, h17km*
BEO ***18*** *19:53:26.4±0.7, 40.74N×21.36E, h0km, ML3.0/14*
ATH ***18*** *19:53:27.3, 40.73N×21.25E, h13km±1km, ML3.5/7, Error ellipse: s-maj=2.1km s-min=0.9km az=315.0*
PDG ***18*** *19:53:27.3±0.6, 40.79N×21.24E, h12km±1km, ML3.3/13, Error ellipse: s-maj=0.7km s-min=1.0km az=0.0*
SOF ***18*** *19:53:28.5, 40.78N×21.43E, h7km, MD3.2*
THE ***18*** *19:53:28.0, 40.71N×21.29E, h0km±1km, ML3.3/10, Error ellipse: s-maj=2.0km s-min=0.6km az=318.0*

ISC 18 19:53:27.2±0.8, 40.74N±0.02×21.23E±0.02, h11km±5km, n178, σ1$24/236, 25C-8D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.12**	**70**	P		**Pg**	**19 53 30.4**	**+0.1**
FNA				S		**Sg**	**19 53 32.8**	**+0.3**
	121μm,0.2s							
FNA	**Florina**	**0.12**	**70**	P		**Pg**	**19 53 30.4**	**+0.1**
FNA				S		**Sg**	**19 53 32.8**	**+0.3**
FNA				AML		AML	19 53 33.0	
FNA				AML		AML	19 53 33.1	
FNA	**Florina**	**0.12**	**70**	P		**Pg**	**19 53 30.4**	**+0.1**
	baz=74							
FNA				S		**Sg**	**19 53 32.7**	**+0.3**
	baz=74							
FNA	**Florina**	**0.12**	**70**	⇓	*iPg*	**Pg**	**19 53 30.4**	**+0.1**
FNA					*iSg*	**Sg**	**19 53 32.9**	**+0.5**
KBN	**Korca**	**0.35**	**251**	P		**Pg**	**19 53 33.4**	**-0.9**
	baz=249							
KBN				S		**Sg**	**19 53 38.4**	**-0.5**
	baz=249							
KBN				AMP				
	comp=E,13nm,0.2s,baz=249							
NEST	**Nestorio**	**0.35**	**202**	P		**Pg**	**19 53 33.7**	**-0.6**
NEST				S		**Sg**	**19 53 39.4**	**+0.4**
	comp=E,20μm,0.3s							
NEST	**Nestorio**	**0.35**	**202**	P		**Pg**	**19 53 33.7**	**-0.6**
NEST				S		**Sg**	**19 53 39.4**	**+0.4**
NEST				AML		AML	19 53 40.0	
	comp=N,38665μm,0.2s							
NEST				AML		AML	19 53 40.2	
	comp=E,71466μm,0.5s							
OHR	**Ohrid**	**0.49**	**319**	⇑	*iPg*	**Pg**	**19 53 36.5**	**-0.3**
OHR					*iSg*	**Sb**	**19 53 44.8**	**-0.4**
OHR					*eLg*	Lg	19 53 45.5	
	comp=N,722nm,0.3s							
OHR					*eLg*	Lg	19 53 46.0	
	comp=E,1μm,0.4s							
PENT	**Pentalofos**	**0.55**	**187**	P		**Pg**	**19 53 37.5**	**-0.4**
PENT				S		**Sb**	**19 53 46.8**	**-0.1**
	comp=E,3μm,0.5s							
PENT	**Pentalofos**	**0.55**	**187**	P		**Pg**	**19 53 37.6**	**-0.4**
PENT				S		**Sg**	**19 53 45.8**	**+0.6**
PENT				AML		AML	19 53 50.2	
	comp=N,6317μm,0.3s							
PENT				AML		AML	19 53 50.6	
	comp=E,6587μm,0.6s							
KZN	**Kozani**	**0.60**	**136**	P		**Pg**	**19 53 38.6**	**-0.3**
KZN				S		**Sg**	**19 53 47.5**	**+0.7**
	comp=E,7μm,0.3s							
KZN	**Kozani**	**0.60**	**136**	P		**Pg**	**19 53 38.5**	**-0.4**
KZN				S		**Sg**	**19 53 47.2**	**+0.4**
KZN				AML		AML	19 53 49.2	
	comp=N,19295μm,0.2s							
KZN				AML		AML	19 53 50.8	
	comp=E,9381μm,0.5s							
LSK	**Leskovik**	**0.76**	**219**	P		**Pg**	**19 53 41.1**	**-0.8**
	baz=218							
LSK				S		**Sg**	**19 53 52.6**	**+0.7**
	baz=218							
LSK				AMP				
	comp=N,9.0nm,0.5s,baz=218							
KPRO	**Kipourio**	**0.79**	**172**	P		**Pg**	**19 53 41.4**	**-1.1**
KPRO	**Kipourio**	**0.79**	**172**	P		**Pg**	**19 53 41.5**	**-1.1**
KPRO				S		**Sg**	**19 53 52.5**	**-0.4**
KPRO				AML		AML	19 53 58.3	
	comp=E,6314μm,0.3s							
KPRO				AML		AML	19 53 59.8	
	comp=N,5124μm,0.3s							
GRG	**Griva**	**0.92**	**76**	P		**Pg**	**19 53 44.5**	**-0.4**
GRG	**Griva**	**0.92**	**76**	*i*	Pg	**Pg**	**19 53 44.5**	**-0.4**
PHP	**Peshkopia**	**1.11**	**328**	P		**Pb**	**19 53 46.6**	**-2.0**
	baz=330							
PHP				S		**Sn**	**19 54 04.6**	**+0.3**
	baz=330							
PHP				AMP				
	comp=N,4.2nm,0.5s,baz=330							
JAN	**Janina**	**1.12**	**195**	P		**Pb**	**19 53 47.3**	**-1.3**
JAN				S		**Sb**	**19 54 02.9**	**-0.4**
JAN				AML		AML	19 54 13.2	
	comp=N,1976μm,0.4s							
JAN				AML		AML	19 54 13.6	
	comp=E,2787μm,0.4s							
VAY	**Valandovo**	**1.17**	**60**	*i*	Pg	**Pb**	**19 53 49.2**	**-0.3**
VAY					*i* Sg	**Sb**	**19 54 03.1**	**-1.6**
VAY					*eLg*	Lg	19 54 10.3	
	comp=N,210nm,0.7s							
VAY					*eLg*	Lg	19 54 12.5	
	comp=E,347nm,0.8s							
VAY	**Valandovo**	**1.17**	**60**	*eP*		**Pb**	**19 53 49.2**	**-0.3**
VAY					*eSn*	**Sb**	**19 54 00.9**	**-3.8**
TIR	**Tirane**	**1.19**	**301**	⇑	P	**Pn**	**19 53 49.6**	**-0.3**
TIR	**Tirane**	**1.19**	**301**	⇑	S	**Sn**	**19 54 09.4**	**+3.2**
TIR	**Tirane**	**1.19**	**301**	P		**Pn**	**19 53 49.1**	**-0.8**
	baz=302							
TIR	**Tirane**	**1.19**	**301**	*i*	Pg	**Pn**	**19 53 49.4**	**-0.5**
TIR	**Tirane**	**1.19**	**301**	*eP*		**Pn**	**19 53 48.9**	**-1.0**
TIR					*eSg*	**Sn**	**19 54 06.9**	**+0.8**
STIP	**Stip**	**1.20**	**37**	*i*	Pg	**Pg**	**19 53 52.3**	**+2.1**
STIP					*i* Sg	**Sn**	**19 54 12.2**	**+5.9**
SKO	**Skopje**	**1.24**	**7**	*i*	Pg	**Pn**	**19 53 50.0**	**-0.5**
SKO					*i* Sg	**Sb**	**19 54 06.6**	**-0.1**
SKO	**Skopje**	**1.24**	**7**	*eP*	g	**Pn**	**19 53 50.1**	**-0.5**
SRN	**Sarande**	**1.27**	**228**	P		**Pn**	**19 53 51.2**	**+0.2**
	baz=227							
SRN				S		**Sg**	**19 54 09.3**	**+1.1**
	baz=227							
SRN				AMP				
	comp=E,3.5nm,0.4s,baz=227							
THL	**Klokotos Trika**	**1.32**	**152**	P		**Pn**	**19 53 50.8**	**-0.8**
THL				S		**Sg**	**19 54 09.9**	**+0.1**
	comp=E,790nm,0.3s							
THL	**Klokotos Trika**	**1.32**	**152**	P		**Pn**	**19 53 50.9**	**-0.8**
THL				AML		AML	19 54 15.9	
	comp=N,1869μm,0.4s							
THL				AML		AML	19 54 16.0	
	comp=E,1332μm,0.3s							
THE	**Thessaloniki**	**1.33**	**94**	P		**Pn**	**19 53 51.6**	**-0.1**
KNT	**Kendrikon**	**1.33**	**71**	P		**Pn**	**19 53 52.0**	**+0.1**
KNT				S		**Sg**	**19 54 10.9**	**+0.7**
KNT	**Kendrikon**	**1.33**	**71**	P		**Pb**	**19 53 52.3**	**-0.1**
KNT	**Kendrikon**	**1.33**	**71**	*i*	Pg	**Pb**	**19 53 52.2**	**-0.1**
KNT				*i*	Sg	**Sg**	**19 54 11.0**	**+0.8**
IGT	**Igoumenitsa**	**1.39**	**210**	P		**Pb**	**19 53 53.5**	**+0.3**
IGT				S		**Sg**	**19 54 14.6**	**+2.7**
	comp=E,800nm,0.4s							
IGT	**Igoumenitsa**	**1.39**	**210**	P		**Pb**	**19 53 53.3**	**+0.1**
IGT	**Igoumenitsa**	**1.39**	**210**	P		**Pb**	**19 53 53.5**	**+0.3**
	baz=209							
IGT				S		**Sg**	**19 54 13.2**	**+1.3**
	baz=209							
KASA	**Kassiopi**	**1.40**	**225**	P		**Pb**	**19 53 53.6**	**+0.2**
HORT	**Hortiatis**	**1.43**	**95**	P		**Pn**	**19 53 53.3**	**0.0**
HORT				S		**Sg**	**19 54 13.4**	**+0.1**
	comp=E,232nm,0.6s							
HORT	**Hortiatis**	**1.43**	**95**	P		**Pn**	**19 53 53.2**	**0.0**
KEK	**Kerkira**	**1.50**	**227**	P		**Pb**	**19 53 55.4**	**+0.3**
KEK	**Kerkira**	**1.50**	**227**	P		**Pn**	**19 53 54.5**	**+0.3**
SOH	**Sokhos**	**1.62**	**86**	P		**Pb**	**19 53 56.5**	**-0.7**
SOH	**Sokhos**	**1.62**	**86**	P		**Pb**	**19 53 56.4**	**-0.7**
SOH	**Sokhos**	**1.62**	**86**	*i*	Pg	**Pb**	**19 53 56.4**	**-0.7**
SOH				*i*	Sg	**Sn**	**19 54 16.4**	**-0.3**
PUK	**Puka**	**1.64**	**323**	P		**Pn**	**19 53 56.7**	**+0.6**
	baz=324							
PLG	**Polygyros**	**1.73**	**102**	P		**Pn**	**19 53 57.9**	**+0.5**
KKB	**Krupnik**	**1.80**	**51**	*i*	P	**Pb**	**19 53 59.4**	**-0.8**
SRS	**Serrai**	**1.83**	**77**	P		**Pn**	**19 53 59.6**	**+0.9**
SRS	**Serrai**	**1.83**	**77**	P		**Pn**	**19 53 59.0**	**+0.3**
BCI	**Bajram Curri**	**1.84**	**332**	P		**Pb**	**19 54 01.4**	**+0.4**
	baz=334							
BCI				AMP				
	comp=N,2.2nm,0.5s,baz=334							
MAKR	**Makrakomi, Fth**	**1.86**	**158**	P		**Pn**	**19 54 00.2**	**+1.1**
MAKR				S		**Sb**	**19 54 25.4**	**+0.8**
	comp=N,1μm,0.5s							
EVR	**Evrytania**	**1.88**	**166**	P		**Pb**	**19 54 00.7**	**-0.9**
EVR				S		**Sb**	**19 54 25.2**	**+0.1**
	comp=N,448nm,0.3s							
EVR	**Evrytania**	**1.88**	**166**	P		**Pn**	**19 54 00.6**	**+1.2**
PRVS	**Prvonek**	**1.88**	**20**	*eP*	n	**Pn**	**19 53 59.9**	**+0.5**
AGG	**Agios Georgios**	**1.92**	**153**	P		**Pn**	**19 54 00.6**	**+0.7**
AGG				S		**Sn**	**19 54 25.0**	**+1.0**
	comp=N,440nm,0.5s							
AGG	**Agios Georgios**	**1.92**	**153**	P		**Pn**	**19 54 00.5**	**+0.6**
ULC	**Ulcinj**	**1.93**	**310**	⇓	*iPn*	**Pn**	**19 54 01.4**	**+1.4**
ULC					*i* Sn	**Sb**	**19 54 26.2**	**-0.3**
TSLK	**Tsoukalades, L**	**1.96

FRGS	**Fruska Gora**	**4.53**	**347**	*e*Pn	**Pn**	**19 54 36.3 +0.4**
MGRS	**Mrkonjic Grad**	**4.78**	**322**	*e*Pn	**Pn**	**19 54 40.7 +1.5**
GZR	**Gura Zlata**	**4.79**	**13**	⇑*i*P	**Pn**	**19 54 39.4 0.0**
KIJV	**Kijevo**	**4.83**	**314**	*e*Pn	**Pn**	**19 54 41.2 +1.3**
KIJV				Sn	**Sn**	**19 55 36.5 +0.5**
BZS	**Buzias**	**4.88**	**3**	⇑P	**Pn**	**19 54 40.1 -0.5**
BLY	**Banja Luka**	**4.99**	**325**	*e*Pn	**Pn**	**19 54 43.8 +1.7**
ZIRJ	**Zirje**	**5.07**	**307**	*e*Pn	**Pn**	**19 54 43.5 +0.4**
MORI	**Morici**	**5.15**	**309**	*e*Pn	**Pn**	**19 54 45.1 +0.8**
MRAK	**Mrakovica**	**5.32**	**325**	*e*Pn	**Pn**	**19 54 48.2 +1.5**
VOIR		**5.46**	**30**	⇑P	**Pn**	**19 54 49.3 +0.6**
UDBI	**Udbina**	**5.53**	**315**	*i* Pn	**Pn**	**19 54 51.3 +1.8**
UDBI				Sn	**Sn**	**19 55 53.1 +0.1**
DUGI	**Dugi Otok**	**5.60**	**307**	*e*Pn	**Pn**	**19 54 50.9 +0.4**
MORH	**Mrgy, Hungar**	**5.78**	**342**	⇑P	**Pn**	**19 54 53.1 +0.1**
MORH	**Mrgy, Hungar**	**5.78**	**342**	*e*Pn	**Pn**	**19 54 52.9 0.0**
MORH	**Mrgy, Hungar**	**5.78**	**342**	*e*Pn	**Pn**	**19 54 52.8 -0.2**
KOVH	**Kovagotottos**	**5.81**	**338**	*e*Pn	**Pn**	**19 54 53.3 0.0**
MOSL	**Moslavina**	**5.86**	**328**	*e*Pn	**Pn**	**19 54 55.5 +1.3**
MLR	**Muntele Rosu**	**5.87**	**34**	⇑P	**Pn**	**19 54 54.7 +0.4**
NVLJ	**Novalja**	**6.04**	**311**	*e*Pn	**Pn**	**19 54 56.3 -0.2**
AQU	**L'Aquila**	**6.09**	**288**	*e*Pn	**Pn**	**19 55 00.2 +3.0**
KALN	**Kalnik**	**6.41**	**329**	*e*Pn	**Pn**	**19 55 03.1 +1.5**
BOJS	**Bojanci**	**6.46**	**319**	*e*Pn	**Pn**	**19 55 03.6 +1.3**
PLOR	**Plostina**	**6.46**	**36**	⇑P	**Pn**	**19 55 02.0 -0.3**
VRI	**Vrincioaia**	**6.51**	**36**	⇑P	**Pn**	**19 55 03.3 +0.4**
CRES	**Cresnjev**	**6.60**	**322**	*e*Pn	**Pn**	**19 55 05.0 +0.8**
BRJN	**Brijuni**	**6.89**	**310**	*e*Pn	**Pn**	**19 55 08.2 +0.1**
CEY	**Cerknica**	**7.04**	**317**	*e*Pn	**Pn**	**19 55 11.1 +0.8**
SKDS	**Skadanscina**	**7.13**	**315**	*e*Pn	**Pn**	**19 55 11.0 -0.5**
LJU	**Ljubljana**	**7.20**	**320**	*e*Pn	**Pn**	**19 55 15.9 +3.5**
PSZ	**Piszkesteto**	**7.24**	**353**	⇑P	**Pn**	**19 55 14.4 +1.3**
SOKA	**Soboth**	**7.44**	**325**	*e*Pn	**Pn**	**19 55 17.5 +1.7**
	comp=N,1.5nm,0.3s,SNR=6.0					
SOKA				*i* Sn	**Sn**	**19 56 39.0 -1.1**
	comp=N,1.1nm,0.6s					
OBKA	**Obir**	**7.53**	**322**	*i* Pn	**Pn**	**19 55 20.4 +3.4**
	comp=N,0.6nm,0.2s					
OBKA				*e*Sn	**Sn**	**19 56 44.2 +1.8**
	comp=N,6.4nm,0.5s					
ARSA	**Arzberg**	**7.69**	**330**	*e*Pn	**Pn**	**19 55 22.1 +2.9**
	comp=N,1.4nm,0.3s					
KBA	**Koelnbreinsper**	**8.51**	**321**	*e*Pn	**Pn**	**19 55 31.5 +0.9**
	comp=N,0.6nm,0.2s					
KBA				*e*Sn	**Sn**	**19 57 04.4 -2.3**
	comp=N,1.8nm,0.6s					
MOA	**Molln**	**8.68**	**327**	*e*Pn	**Pn**	**19 55 32.1 -0.6**
	comp=N,0.5nm,0.3s					
ABTA	**Abfaltersbach**	**8.70**	**316**	*i* Pn	**Pn**	**19 55 34.8 +1.7**
	comp=N,0.9nm,0.2s					
ABTA				*e*Sn	**Sn**	**19 57 10.2 -1.1**
	comp=N,2.1nm,0.4s					
WTTA	**Wattenberg**	**9.49**	**317**	*e*Pn	**Pn**	**19 55 46.2 +2.2**
	comp=N,1.8nm,0.3s					
WTTA				*e*Sn	**Sn**	**19 57 28.3 -2.5**
	comp=N,5.0nm,0.6s					
SQTA	**Sankt Quirin**	**9.69**	**315**	*i* Pn	**Pn**	**19 55 48.0 +1.3**
	comp=N,1.8nm,0.4s					
SQTA				*i* Sn	**Sn**	**19 57 33.3 -2.4**
	comp=N,3.4nm,0.5s					
MOTA	**Moosalm**	**9.83**	**316**	*i* Pn	**Pn**	**19 55 51.0 +2.4**
	comp=N,1.9nm,0.5s					
MOTA				*i* Sn	**Sn**	**19 57 37.5 -1.5**
	comp=N,3.4nm,0.6s					

IDC ***18*** *19:54:43.3±0.6,30°.06S×71°.53W,h0km,mb4.2/10, mb1 4.3/15,mb1mx4.2/23,mbtmp4.1/15,ML4.1/5,MS3.5/5, Ms1 3.5/5,ms1mx3.2/21,Error ellipse: s-maj=23.1km s-min=18.5km az=87.0*

NEIC ***18*** *19:54:46.4±2.6,30°.03S±0°.03×71°.66W±0°.04,h19km±3km, mb4.5/39,ML4.7(GUC),Error ellipse: s-maj=6.3km s-min=3.1km az=128.0*

GUC ***18*** *19:54:47.1±0.5,30°.11S×71°.55W,h16km±3km,ML4.7*

ISC 18 19:54:44.1±1.7,30°.03S±0°.03×71°.68W±0°.05,h7km±10km, n146,σ1§54/130,mb4.5/26,6C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.40**	**74**	⇑*i*P	**Pb**	**19 54 54.6**	**+1.1**
CO05				*i* S	**Sb**	**19 55 00.0**	**+0.2**
CO05				IAML		19 55 00.5	
	comp=N,107μm,0.3s						
CO05	**La Serena**	**0.40**	**74**		**Pb**	**19 54 54.6**	**+1.1**
CO05				Sg	**Sb**	**19 54 60.0**	**+0.2**
CO06	**Fray Jorge**	**0.64**	**176**	⇑*i*P	**Pb**	**19 54 58.8**	**+1.2**
CO06				*i* S	**Sb**	**19 55 07.5**	**+0.7**
CO06	**Fray Jorge**	**0.64**	**176**		**Pb**	**19 54 58.8**	**+1.2**
CO06				Sg	**Sb**	**19 55 06.8**	**0.0**
GO04	**Tololo Observa**	**0.78**	**101**	⇑*i*P	**Pb**	**19 55 00.9**	**+0.9**
GO04				*i* S	**Sn**	**19 55 11.2**	**-2.5**
GO04				IAML		19 55 12.6	
	comp=N,118μm,0.3s						
GO04	**Tololo Observa**	**0.78**	**101**		**Pb**	**19 55 00.9**	**+0.9**
GO04				Sg	**Sn**	**19 55 11.2**	**-2.5**
GO04	**Tololo Observa**	**0.78**	**101**	*i* P	**Pb**	**19 55 01.0**	**+0.9**
CO03	**El Pedregal**	**1.18**	**133**	⇓*i*P	**Pg**	**19 55 07.4**	**+0.7**
CO03				*i* S	**Sn**	**19 55 22.8**	**-0.6**
CO03				IAML		19 55 24.2	
	comp=E,25μm,0.2s						
CO03	**El Pedregal**	**1.18**	**133**	Pn	**Pb**	**19 55 06.7**	**-0.1**
CO03				Sg	**Sn**	**19 55 22.3**	**-1.0**
CO03	**El Pedregal**	**1.18**	**133**	*i* P	**Pg**	**19 55 08.0**	**+1.3**
LCO	**Las Campanas**	**1.33**	**40**	⇑*i*P	**Pn**	**19 55 09.2**	**0.0**
LCO				*i* S	**Sb**	**19 55 26.5**	**-0.3**
LCO	**Las Campanas**	**1.33**	**40**		**Pn**	**19 55 09.0**	**-0.2**
LCO					**Sb**	**19 55 26.3**	**-0.5**
LCO	**Las Campanas**	**1.33**	**40**	*i* P	**Pn**	**19 55 09.0**	**-0.2**
AC04	**Llanos de Chal**	**1.90**	**16**	⇑*i*P	**Pn**	**19 55 17.3**	**+0.5**
AC04				IAML		19 55 49.8	
	comp=E,4μm,0.4s						
AC04	**Llanos de Chal**	**1.90**	**16**	Pn	**Pn**	**19 55 17.3**	**+0.5**
AC04	**Llanos de Chal**	**1.90**	**16**	*i* P	**Pn**	**19 55 17.0**	**+0.2**
AROD	**Rodeo**	**1.92**	**95**	*i* P	**Pb**	**19 55 20.0**	**+0.4**
ACDV	**Cuesta del Vie**	**2.23**	**94**	*i* P	**Pb**	**19 55 26.0**	**+1.3**
ACCO	**Cerro Coronel**	**2.33**	**104**	*i* P	**Pg**	**19 55 28.0**	**-0.8**
VA06	**Catapilco**	**2.54**	**173**	IAML		19 56 08.7	
	comp=N,4μm,0.5s						
GO03	**Copiap**	**2.74**	**28**	*e*P	**Pn**	**19 55 29.2**	**+0.7**
GO03				IAML		19 56 14.9	
	comp=E,3μm,0.7s						
GO03	**Copiap**	**2.74**	**28**	Pn	**Pn**	**19 55 29.5**	**+1.0**
GO03	**Copiap**	**2.74**	**28**	*i* P	**Pn**	**19 55 30.0**	**+1.5**
AGUA	**GUANDACOL**	**2.83**	**80**	*i* P	**Pb**	**19 55 34.0**	**-0.9**
VA03	**San Esteban**	**2.89**	**161**	*e*P	**Pb**	**19 55 33.9**	**-2.1**
VA03				IAML		19 56 20.4	
	comp=N,4μm,0.5s						
VA03	**San Esteban**	**2.89**	**161**		**Pn**	**19 55 32.3**	**+1.7**
AC06	**Mina Casimiro**	**2.91**	**24**	⇑*i*P	**Pn**	**19 55 31.8**	**+1.0**
AC06				IAML		19 56 22.7	
	comp=E,2μm,0.3s						
AC06	**Mina Casimiro**	**2.91**	**24**		**Pn**	**19 55 31.8**	**+1.0**
VA01	**Torpederas**	**2.98**	**179**		**Pn**	**19 55 33.1**	**+1.3**
ROCH	**El Roble**	**2.99**	**169**	*i* P	**Pn**	**19 55 32.1**	**+0.1**
ROCH				*i* S	**Sn**	**19 56 10.3**	**+2.1**
ROCH				IAML		19 56 28.7	
	comp=E,2μm,0.4s						
ZON	**Zonda**	**3.00**	**121**	Pn	**Pn**	**19 55 34.7**	**+2.7**
RTCV	**Cerro Valdivia**	**3.26**	**125**	*i* P	**Pb**	**19 55 40.0**	**-2.3**
VCA	**Vinchina**	**3.30**	**68**	*i* P	**Pb**	**19 55 41.0**	**-2.0**
MT05	**Renca**	**3.45**	**167**	*e*P	**Pn**	**19 55 41.3**	**+3.1**
MT05				IAML		19 56 41.9	
	comp=E,2μm,0.4s						
MT05	**Renca**	**3.45**	**167**		**Pn**	**19 55 39.7**	**+1.5**
VA05	**Santo Domingo**	**3.62**	**179**	IAML		19 56 40.9	
	comp=E,1μm,0.5s						
VA05	**Santo Domingo**	**3.62**	**179**		**Pn**	**19 55 41.5**	**+1.1**
AVFE	**Valle Fertil**	**3.71**	**101**	*i* P	**Pn**	**19 55 45.0**	**+3.2**
MT09	**Talagante**	**3.78**	**171**		**Pn**	**19 55 44.9**	**+2.0**
MT01	**Popeta**	**3.84**	**175**	*e*P	**Pn**	**19 55 45.5**	**+1.9**
MT01				IAML		19 56 54.8	
	comp=E,635nm,0.3s						
MT01	**Popeta**	**3.84**	**175**	Pn	**Pn**	**19 55 45.7**	**+2.1**
AC02	**Maricunga**	**3.90**	**36**	Pn	**Pn**	**19 55 46.5**	**+1.7**
AC02	**Maricunga**	**3.90**	**36**	*i* P	**Pn**	**19 55 47.0**	**+2.2**
LMEL	**Las Melosas**	**4.01**	**162**	*e*P	**Pn**	**19 55 49.1**	**+3.1**
LMEL				*i* S	**Sb**	**19 56 37.3**	**-6.5**
BO01	**Tunca**	**4.38**	**174**		**Pn**	**19 55 52.2**	**+1.3**
ACHE	**Chepes**	**4.47**	**106**	*i* P	**Pn**	**19 55 55.0**	**+2.6**
BO02	**Sierra Bellavi**	**4.81**	**171**	Pn	**Pn**	**19 55 58.7**	**+1.8**
GO05	**Huala**	**4.97**	**182**		**Pn**	**19 55 59.4**	**+0.3**
COIS	**El Sosneado**	**5.36**	**161**	*i* P	**Pn**	**19 56 08.0**	**+3.5**
CYA	**Choya**	**5.38**	**74**	*i* P	**Pn**	**19 56 06.0**	**+1.3**
RFA	**San Rafael**	**5.45**	**151**	*i* P	**Pn**	**19 56 08.0**	**+2.2**
PB14	**IPOC Station P**	**5.50**	**12**		Pn	19 56 04.5	-2.2
PB14	**IPOC Station P**	**5.50**	**12**	*i* P	**Pn**	**19 56 05.0**	**-1.7**
ML02	**Panimavida**	**5.72**	**178**	Pn	**Pn**	**19 56 09.6**	**+0.2**
FSA	**Cafayete**	**6.37**	**54**	*i* P	**Pn**	**19 56 22.0**	**+3.4**
AHML	**Horco Molle**	**6.46**	**62**	*i* P	**Pn**	**19 56 23.0**	**+3.4**
PB10	**IPOC Station P**	**6.57**	**9**	Pn	**Pn**	**19 56 20.4**	**-0.7**
PB10	**IPOC Station P**	**6.57**	**9**	*i* P	**Pn**	**19 56 20.0**	**-1.1**
H03N1	**Juan Fernandez**	**7.03**	**239**	T	T	20 03 50.0	
	baz=72,slow=72						
H03N2	**Juan Fernandez**	**7.05**	**239**	T	T	20 03 51.1	
	baz=72,slow=72						
H03N3	**Juan Fernandez**	**7.05**	**239**	T	T	20 03 49.7	
	baz=72,slow=72						
VA04	**Juan Fernndez**	**7.07**	**238**	Pn	**Pn**	**19 56 26.4**	**-1.5**
PB15	**IPOC Station P**	**7.08**	**17**		**Pn**	**19 56 26.8**	**-1.4**
PB15	**IPOC Station P**	**7.08**	**17**	*i* P	**Pn**	**19 56 27.0**	**-1.3**
PB05	**IPOC Station P**	**7.27**	**11**	*i* P	Pn	19 56 28.0	-2.8
PB06	**IPOC Station P**	**7.54**	**15**	Pn	Pn	19 56 32.0	-2.5
PB04	**IPOC Station P**	**7.79**	**11**		Pn	19 56 34.4	-3.6
PB04	**IPOC Station P**	**7.79**	**11**	*i* P	Pn	19 56 35.0	-3.0
LVC	**Limon Verde**	**7.80**	**19**	Pn	**Pn**	**19 56 37.3**	**-1.0**
	comp=E,1.4nm,0.3s,baz=192,slow=10,SNR=11						
LVC	**Limon Verde**	**7.80**	**19**	Pn	**Pn**	**19 56 37.0**	**-1.3**
LVC	**Limon Verde**	**7.80**	**19**	*i* P	**Pn**	**19 56 37.0**	**-1.3**
PB03	**IPOC Station P**	**8.14**	**13**	*i* P	Pn	19 56 40.0	-2.8
PB07	**IPOC Station P**	**8.43**	**11**		Pn	19 56 43.4	-3.3
PB07	**IPOC Station P**	**8.43**	**11**	*i* P	**Pn**	**19 56 45.0**	**-1.7**
PB09	**IPOC Station P**	**8.49**	**16**	Pn	Pn	19 56 44.2	-3.4
PB02	**IPOC Station P**	**8.82**	**11**	*i* P	**Pn**	**19 56 51.0**	**-1.1**
LC01	**Cunco**	**8.85**	**181**	Pn	**Pn**	**19 56 49.8**	**-2.5**
LC01	**Cunco**	**8.85**	**181**	*i* P	**Pn**	**19 56 53.0**	**+0.7**
PB01	**IPOC Station P**	**9.16**	**13**		Pn	19 56 53.4	-3.4
PB01	**IPOC Station P**	**9.16**	**13**	*i* P	Pn	19 56 53.0	-3.8
TA01	**Diego Aracena**	**9.52**	**9**	Pn	Pn	19 56 59.3	-2.3
PB08	**IPOC Station P**	**10.11**	**14**	Pn	**Pn**	**19 57 08.1**	**-1.9**
PB11	**IPOC Station P**	**10.39**	**11**	Pn	Pn	19 57 11.1	-2.5
PSGCX	**Pisagua**	**10.48**	**8**	Pn	Pn	19 57 10.3	-4.6
PSGCX	**Pisagua**	**10.48**	**8**	*i* P	Pn	19 57 11.0	-3.9
PLCA	**Paso Flores**	**10.72**	**175**	Pn	**Pn**	**19 57 18.9**	**+0.9**
	comp=E,0.3nm,0.3s,baz=339,slow=12,SNR=5.4						
PLCA				LR	LR	20 01 52.7	
	comp=E,241nm,18.4s,baz=349,slow=40						
PLCA	**Paso Flores**	**10.72**	**175**	Pn	**Pn**	**19 57 16.9**	**-1.1**
TRQA	**Tornquist**	**11.35**	**137**	Pn	**Pn**	**19 57 27.4**	**+0.8**
ITQB	**Itaqui**	**13.08**	**92**	Pn	**Pn**	**19 57 50.0**	**-0.3**
CPUP	**Villa Florida**	**13.19**	**77**	Pn	**Pn**	**19 57 51.4**	**-0.3**
	comp=E,0.2nm,0.3s,baz=253,slow=14,SNR=1.9						
CPUP				LR	LR	20 03 16.3	
	comp=E,165nm,18.5s,baz=230,slow=39						
LPAZ	**La Paz**	**14.06**	**14**	Pn	**Pn**	**19 58 03.2**	**-1.1**
	comp=E,0.5nm,0.3s,baz=180,slow=6.3,SNR=16						
LPAZ				LR	LR	20 04 23.3	
	comp=E,152nm,18.1s,baz=143,slow=41						
LPAZ	**La Paz**	**14.06**	**14**	Pn	**Pn**	**19 58 02.6**	**-1.7**
COYC	**Coyhaique**	**15.52**	**181**	P	**Pn**	**19 58 25.0**	**+1.7**
COYC				IAmb	IAmb	19 58 31.1	
	comp=Z,27nm,1.1s						
SIV	**San Ignacio**	**17.03**	**37**	Pn	**Pn**	**19 58 43.9**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=227,slow=11,SNR=16						
SIV				LR	LR	20 06 31.0	
	comp=Z,285nm,19.3s,baz=204,slow=42						
NNA	**Nana**	**18.58**	**344**	LR	LR	20 04 32.9	
	comp=Z,116nm,20.3s,baz=174,slow=32						
SAML	**Samuel**	**22.43**	**23**	P	**P**	**19 59 42.7**	**-0.8**
BDFB	**Brasilia**	**26.02**	**62**	P	**P**	**20 00 17.2**	**-0.8**
	comp=Z,3.9nm,0.6s,baz=250,slow=6.9,SNR=4.5						
BDFB	**Brasilia**	**26.02**	**62**	IAmb	IAmb	20 00 26.5	
	comp=Z,24nm,1.4s						
RUSC	**La Rusia**	**35.74**	**358**	P	**P**	**20 01 42.0**	**-2.1**
PCIG		**49.98**	**333**	P	**P**	**20 03 41.4**	**+2.4**
VNA3	**Neumayer Olymp**	**52.93**	**159**	P	**P**	**20 04 00.6**	**0.0**
VNA1	**Neumayer--Stat**	**53.22**	**158**	P	**P**	**20 04 03.2**	**+0.7**
VNA2	**Neumayer--Watz**	**53.56**	**158**	P	**P**	**20 04 05.3**	**+0.1**
	baz=286,slow=8.4						
SNAA	**Sanae**	**55.15**	**159**	P	**P**	**20 04 17.0**	**+0.2**
SNAA	**Sanae**	**55.15**	**159**	P	**P**	**20 04 15.6**	**-1.2**
QSPA	**South Pole Qui**	**60.20**	**180**	P	**P**	**20 04 53.6**	**+1.1**
QSPA				IAmb	IAmb	20 04 54.3	
	comp=Z,5.3nm,0.7s						
TXAR	**Lajitas Array**	**66.45**	**330**	P	**P**	**20 05 35.6**	**+1.5**
	comp=Z,1.2nm,0.6s,baz=153,slow=8.1,SNR=13						
TX31	**Lajitas Ar. Si**	**66.45**	**330**	P	**P**	**20 05 35.4**	**+1.2**
TX31				IAmb	IAmb	20 05 36.1	
	comp=Z,5.8nm,0.8s						
TX32	**Lajitas Array**	**66.45**	**330**	P	**P**	**20 05 35.1**	**+0.9**
VNDA	**Vanda**	**68.04**	**191**	P	**P**	**20 05 45.1**	**+1.5**
	comp=Z,0.5nm,0.7s,baz=144,slow=7.9,SNR=2.4						
R50A	**Paris**	**68.98**	**349**	P	**P**	**20 05 48.6**	**-1.2**
MNTX	**Cornudas Mount**	**69.23**	**330**		**P**	**20 05 51.6**	**0.0**
MNTX				IAmb	IAmb	20 05 52.7	
	comp=Z,2.7nm,0.7s						
CCM	**Cathedral Cave**	**70.16**	**344**	P	**P**	**20 05 55.5**	**-1.7**
DBIC	**Dimbokro**	**73.65**	**72**	P	**P**	**20 06 18.2**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=286,slow=1.6,SNR=3.4						
X16A	**Lo Mia Camp, P**	**74.28**	**327**	P	**P**	**20 06 22.5**	**+0.4**
X16A				IAmb	IAmb	20 06 25.8	
	comp=Z,4.9nm,1.1s						
WUAZ	**Wupatki**	**75.14**	**327**	P	**P**	**20 06 29.0**	**+1.9**
WUAZ				IAmb	IAmb	20 06 30.4	
	comp=Z,5.1nm,1.0s						
SMCO	**Snowmass**	**76.30**	**332**	P	**P**	**20 06 35.6**	**+1.7**
SMCO				IAmb	IAmb	20 06 37.1	
	comp=Z,7.0nm,0.9s						
PV14	**Lion Creek, Pa**	**76.46**	**331**	P	**P**	**20 06 35.6**	**+0.9**
PV14				IAmb	IAmb	20 06 37.7	
	comp=Z,4.0nm,0.9s						
MAW	**Mawson**	**76.89**	**164**	P	**P**	**20 06 36.5**	**0.0**
	comp=Z,2.0nm,0.8s,baz=225,slow=11,SNR=4.0						
MTPU	**Mount Pierson**	**77.58**	**328**	P	**P**	**20 06 42.5**	**+1.3**
MTPU				IAmb	IAmb	20 06 43.9	
	comp=Z,3.0nm,0.8s						
CCUT	**Cedar City**	**77.73**	**327**	P	**P**	**20 06 42.5**	**+0.7**
CCUT				IAmb	IAmb	20 06 44.9	
	comp=Z,4.0nm,1.0s						
PRN	**Pahroc Range**	**78.42**	**326**	P	**P**	**20 06 46.0**	**+0.5**
PRN				IAmb	IAmb	20 06 48.9	
	comp=Z,4.4nm,0.9s						
TPNV	**Topopah Spring**	**78.64**	**325**	P	**P**	**20 06 47.8**	**+1.0**
HWUT	**Hardware Ranch**	**80.23**	**331**	IAmb	IAmb	20 06 57.5	
	comp=Z,4.2nm,0.9s						
PDAR	**Pinedale Array**	**80.37**	**333**	P	**P**	**20 06 57.1**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=132,slow=2.2,SNR=4.6						
NVAR	**Mina Array Bea**	**80.82**	**325**	P	**P**	**20 07 00.1**	**+1.5**
	comp=Z,1.0nm,0.8s,baz=158,slow=6.6,SNR=10						
HVU	**Hansel Valley**	**80.89**	**330**	P	**P**	**20 07 00.0**	**+1.1**
HVU				IAmb	IAmb	20 07 00.8	
	comp=Z,3.6nm,0.9s						
BOSA	**Boshof**	**81.66**	**118**	P	**P**	**20 07 03.1**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=281,slow=2.9,SNR=4.3						
BOSA	**Boshof**	**81.66**	**118**	IAmb	IAmb	20 07 34.9	
	comp=Z,7.0nm,1.1s						
PAHR	**Pah Rah Range**	**82.33**	**325**	IAmb	IAmb	20 07 09.5	
	comp=Z,6.0nm,1.1s						
TORD	**Torodi Ar. Bea**	**82.58**	**70**	P	**P**	**20 07 08.2**	**-0.1**
	comp=Z,3.9nm,0.9s,baz=268,slow=4.9,SNR=17						
TORD	**Torodi Ar. Bea**	**82.58**	**70**	P	**P**	**20 07 07.7**	**-0.6**
TORD				IAmb	IAmb	20 07 09.2	
	comp=Z,5.7nm,1.1s						
ULM	**Lac du Bonnet**	**82.76**	**345**	P	**P**	**20 07 08.2**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=102,slow=2.7,SNR=3.1						
BEKR	**Beckworth**	**82.94**	**324**	P	**P**	**20 07 10.8**	**+1.1**
BEKR				IAmb	IAmb	20 07 11.9	
	comp=Z,2.4nm,0.8s						
HLID	**Hailey**	**83.04**	**330**	P	**P**	**20 07 10.8**	**+0.6**
HLID				IAmb	IAmb	20 07 12.8	
	comp=Z,5.2nm,1.2s						
ORV	**Oroville**	**83.29**	**324**	IAmb	IAmb	20 07 14.3	
	comp=Z,4.9nm,1.0s						
ASAR	**Alice Springs**	**121.22**	**208**	PKP	**PKPdf**	**20 13 37.6**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=118,slow=1.5,SNR=8.2						
WRA	**Warramunga Arr**	**124.35**	**210**	PKP	**PKPdf**	**20 13 43.7**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=153,slow=2.1,SNR=12						
H11S2	**WAKE ISLAND Hyd**	**26.04**	**272**	T	T	22 32 36.8	
	baz=115,slow=75,SNR=64						
H11S1	**WAKE ISLAND Hyd**	**26.05**	**272**	T	T	22 32 33.6	
	baz=115,slow=75,SNR=64						
H11S3	**WAKE ISLAND Hyd**	**26.06**	**272**	T	T	22 32 35.8	
	baz=115,slow=75,SNR=60						
YAK	**Yakutsk**	**145.07**	**343**	PKPbc	**PKPbc**	**20 14 21.1**	**+0.3**
	comp=Z,4.6nm,0.5s,baz=100,slow=0.7,SNR=9.9						
YAK	**Yakutsk**	**145.07**	**343**		**PKPbc**	**20 14 21.5**	**+0.6**
ZALV	**Zalesovo Beam**	**150.66**	**29**	PKPbc	**PKPbc**	**20 14 36.8**	**+0.4**
	comp=Z,6.7nm,0.5s,baz=297,slow=3.2,SNR=24						
MKAR	**Makanchi Array**	**153.79**	**43**	PKPbc	**PKPbc**	**20 14 43.4**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=338,slow=1.6,SNR=2.4						
SONM	**Songino Array**	**162.16**	**4**	PKPab	**PKPab**	**20 15 33.5**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=324,slow=7.1,SNR=2.4						

JMA 18 20:04:59.0,39°.90N×140°.72E,h5km±1km,M0.2,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAH	**Hinai**	**0.29**	**347**	P	Pg	20 05 05.0	+0.2
JAH				S	Sg	20 05 09.2	+0.5

JMA ***18*** *20:05:14.9±0.1,36°.40N×141°.03E,h47km±1km,M3.9 JMA Felt II J1.*

NIED ***18*** *20:05:15.0,36°.40N×141°.03E,h47km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr1.99; Mθθ2.75; Mϕϕ-4.74; Mrθ-2.69; Mθϕ-2.00; Mϕr4.44; Fault plane solution: Mo6.92000×10¹⁴ NP1: ϕs336.00000°,δ79.00000°,λ53.00000°. NP2: ϕs233.00000°,δ38.00000°,λ163.00000°.*

IDC ***18*** *20:05:15.7±2.0,36°.37N×141°.15E,h44km±19km,mb3.6/7, mb1 3.7/12,mb1mx3.5/56,mbtmp3.8/12,ML3.6/4,MS2.7/2, Ms1 2.7/2,ms1mx2.4/46 Error ellipse: s-maj=19.7km s-min=11.1km az=75.0*

NEIC ***18*** *20:05:16.3±2.6,36°.47N±0°.05×140°.93E±0°.07, h39km±10km,mb4.4/13,Error ellipse: s-maj=9.6km s-min=5.3km az=124.0*

ISC 18 20:05:14.7±0.9,36°.39N±0°.04×141°.16E±0°.06,h36km±2km, n68,σ1§61/70,mb4.2/13,5C-3D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.47**	**264**	P	**Pn**	**20 05 24.5**	**-0.3**
JHYU				S	**Sn**	**20 05 30.9**	**-1.0**
JHO	**Hitachi**	**0.53**	**295**	P	**Pn**	**20 05 24.9**	**-0.9**
JHO				*e*S	**Sn**	**20 05 32.3**	**-1.1**
JIHU	**Itakohorinouch**	**0.67**	**231**	P	**Pn**	**20 05 27.9**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.77**	**338**	P	**Pn**	**20 05 28.5**	**-0.6**
JYT	**Yasato**	**0.80**	**258**	P	**Pn**	**20 05 28.4**	**-1.0**
JYT				*e*S	**Sn**	**20 05 38.0**	**-2.1**
JYT	**Yasato**	**0.80**	**258**		**Pn**	**20 05 28.2**	**-1.2**
JYT				Sn	**Sn**	**20 05 37.7**	**-2.5**
JYT	**Yasato**	**0.80**	**258**	⇓P	**Pn**	**20 05 28.4**	**-1.0**
JFK	**Kawauchi**	**1.00**	**347**	P	**Pn**	**20 05 31.7**	**-0.6**
JFT	**Otama**	**1.30**	**330**	P	**Pn**	**20 05 37.1**	**+0.7**
JFT				S	**Sn**	**20 05 52.6**	**0.0**
JAG	**Ashikaga**	**1.38**	**272**	P	**Pn**	**20

ISC 18 20:07:29.3±1.7, 31°57S±0.03×71°93W±0.10, h7km±11km, n24, σ0°88/30, 8C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
CO06	**Fray Jorge**	**0.93**	**16**	⇑	*i*	P	**Pn**	**20 07 49.2**	**+0.5**
CO06					*i*	S	**Sn**	**20 08 02.0**	**-0.4**
CO06						IAML		20 08 05.7	
	comp=E,2μm,0.2s								
VA06	**Catapilco**	**1.12**	**152**	⇓	*i*	P	**Pg**	**20 07 51.5**	**+0.7**
VA06					*i*	S	**Sb**	**20 08 05.3**	**-0.4**
VA06						IAML		20 08 08.9	
	comp=E,4μm,0.4s								
CO03	**El Pedregal**	**1.29**	**56**	⇑	*i*	P	**Pg**	**20 07 54.3**	**+0.3**
CO03					*i*	S	**Sb**	**20 08 10.1**	**-0.6**
CO03						IAML		20 08 13.7	
	comp=E,1μm,0.2s								
ROCH	**El Roble**	**1.60**	**151**	⇓	*i*	P	**Pb**	**20 07 59.5**	**+0.2**
ROCH					*i*	S	**Sb**	**20 08 19.1**	**-0.6**
ROCH						IAML		20 08 24.8	
	comp=N,1μm,0.4s								
VA03	**San Esteban**	**1.66**	**136**	⇑	*i*	P	**Pb**	**20 08 00.1**	**-0.2**
VA03					*i*	S	**Sb**	**20 08 20.9**	**-0.6**
VA03						IAML		20 08 24.6	
	comp=N,2μm,0.5s								
GO04	**Tololo Observa**	**1.70**	**35**	⇑	*i*	P	**Pg**	**20 08 02.0**	**+0.1**
GO04					*i*	S	**Sb**	**20 08 22.9**	**+0.2**
GO04						IAML		20 08 29.9	
	comp=N,4μm,0.4s								
CO05	**La Serena**	**1.75**	**20**		*e*	P	**Pg**	**20 08 02.9**	**0.0**
CO05					*i*	S	**Sg**	**20 08 25.3**	**-0.3**
CO05						IAML		20 08 29.0	
	comp=E,529nm,0.5s								
MT05	**Renca**	**2.07**	**151**		*e*	P	**Pb**	**20 08 06.4**	**-0.9**
MT05					*i*	S	**Sb**	**20 08 32.7**	**-0.6**
VA05	**Santo Domingo**	**2.10**	**173**	⇑	*i*	P	**Pn**	**20 08 05.3**	**+0.5**
VA05					*i*	S	**Sb**	**20 08 34.4**	**+0.6**
VA05						IAML		20 08 43.2	
	comp=E,901nm,0.1s								
MT09	**Talagante**	**2.33**	**160**	⇓	*i*	P	**Pb**	**20 08 10.1**	**-1.7**
MT09					*e*	S	**Sb**	**20 08 40.8**	**-0.1**
MT09						IAML		20 08 48.2	
	comp=E,515nm,0.5s								
MT01	**Popeta**	**2.35**	**166**	⇑	*i*	P	**Pn**	**20 08 09.4**	**+1.0**
MT01					*i*	S	**Sb**	**20 08 41.8**	**+0.4**
MT01						IAML		20 08 49.0	
	comp=E,288nm,0.4s								
LMEL	**Las Melosas**	**2.69**	**148**	⇑	*i*	P	**Pn**	**20 08 15.3**	**+2.1**
LMEL					*i*	S	**Sb**	**20 08 48.7**	**-2.5**
LMEL						IAML		20 08 55.9	
	comp=N,407nm,0.3s								
BO03	**Pichilemu**	**2.92**	**181**	⇑	*i*	P	**Pn**	**20 08 16.3**	**+0.2**
BO03						IAML		20 09 13.4	
	comp=E,104nm,0.5s								
H03N1	**Juan Fernandez**	**6.19**	**251**		T		T	20 15 40.9	
	baz=79,slow=72,SNR=315								
H03N3	**Juan Fernandez**	**6.20**	**251**		T		T	20 15 38.4	
	baz=79,slow=72,SNR=169								
H03N2	**Juan Fernandez**	**6.21**	**251**		T		T	20 15 39.7	
	baz=79,slow=72,SNR=182								
PLCA	**Paso Flores**	**9.21**	**173**		Pn		**Pn**	**20 09 42.9**	**+0.3**
	comp=E,0.3nm,0.3s,baz=335,slow=15,SNR=5.2								
TORD	**Torodi Ar. Bea**	**83.30**	**70**		P		**P**	**20 19 57.6**	**+0.4**
	comp=E,0.7nm,0.8s,baz=254,slow=5.3,SNR=3.4								
H11N3	**WAKE ISLAND Hyd**	**26.22**	**272**		T		T	22 45 47.8	
	baz=116,slow=75,SNR=9.8								
H11N1	**WAKE ISLAND Hyd**	**26.23**	**272**		T		T	22 45 52.2	
	baz=116,slow=75,SNR=3.6								
H11N2	**WAKE ISLAND Hyd**	**26.24**	**272**		T		T	22 45 51.1	
	baz=116,slow=75,SNR=13								
BVAR	**Borovoye Array**	**145.41**	**41**		PKPbc		**PKPab**	**20 27 08.3**	**+0.6**
	comp=E,1.0nm,0.6s,baz=305,slow=5.2,SNR=6.5								
KURBB	**Kurchatov Arra**	**151.00**	**40**		PKPbc		**PKPbc**	**20 27 21.8**	**-0.7**
	comp=E,0.4nm,0.6s,baz=323,slow=2.3,SNR=3.1								
ZALV	**Zalesovo Beam**	**152.10**	**30**		PKPbc		**PKiKP**	**20 27 25.0**	**-0.2**
	comp=E,1.1nm,0.5s,baz=284,slow=2.1,SNR=4.5								

*TAP **18** 20:07:50.6, 24°25N×121°85E, h18km, ML3.0, C*
*JMA **18** 20:07:50.3, 24°17N×121°83E, h18km±1km, M2.2*

ISC 18 20:07:50.7±0.8, 24°23N±0°01×121°85E±0°02, h17km±6km, n104, σ0°66/191, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
ENA	**Nanau**	**0.22**	**333**		*i*	P	**Pg**	**20 07 55.8**	**-0.1**
	baz=335								
ENA						S	**Sg**	**20 07 59.6**	**+0.2**
	baz=335								
ETL	**Fush Village**	**0.22**	**251**			P	**Pb**	**20 07 56.0**	**-0.3**
	baz=248								
ETL						S	**Sb**	**20 07 59.6**	**-0.5**
	baz=248								
EWUT	**Wuta**	**0.22**	**343**		*i*	P	**Pg**	**20 07 55.8**	**-0.1**
	baz=344								
EWUT						S	**Sg**	**20 07 59.7**	**+0.2**
	baz=344								
NACB	**Ninganchiao**	**0.24**	**257**		*i*	P	**Pg**	**20 07 56.2**	**0.0**
	baz=253								
NACB						S	**Sb**	**20 08 00.6**	**-0.1**
	baz=253								
TWD	**Chiawan**	**0.28**	**237**		*i*	P	**Pb**	**20 07 57.0**	**-0.3**
	baz=238								
TWD						S	**Sb**	**20 08 02.0**	**+0.3**
	baz=238								
ETLH	**Xiulin Townshi**	**0.34**	**266**		*i*	P	**Pg**	**20 07 57.8**	**-0.1**
	baz=271								
ETLH						S	**Sg**	**20 08 03.0**	**+0.2**
	baz=271								
HWA	**Hwalien**	**0.34**	**222**		*e*	P	**Pb**	**20 07 58.8**	**+0.5**
	baz=229								
HWA					*e*	S	**Sn**	**20 08 06.0**	**-1.4**
	baz=229								
TWC	**Suao**	**0.38**	**360**			P	**Pg**	**20 07 58.6**	**0.0**
	baz=6.0								
TWC						S	**Sg**	**20 08 03.3**	**-0.5**
	baz=6.0								
NDS	**Dongshan**	**0.42**	**343**		*i*	P	**Pg**	**20 07 59.3**	**0.0**
	baz=347								
NDS						S	**Sg**	**20 08 04.9**	**-0.2**
	baz=347								
ETM	**Tongmen**	**0.42**	**231**			P	**Pb**	**20 07 59.7**	**0.0**
	baz=229								
ETM						S	**Sb**	**20 08 07.2**	**+1.3**
	baz=229								
TEYL	**Yanliau Villag**	**0.43**	**213**			P	**Pb**	**20 07 59.8**	**-0.1**
	baz=213								
TEYL					*e*	S	**Sb**	**20 08 06.5**	**+0.4**
	baz=213								
NNSB	**Datong**	**0.47**	**295**			P	**Pg**	**20 08 00.3**	**+0.1**
	baz=294								
NNSB						S	**Sb**	**20 08 07.1**	**-0.4**
	baz=294								
NDT	**Datong Townshi**	**0.48**	**320**			P	**Pb**	**20 08 00.6**	**-0.2**
	baz=320								
NDT						S	**Sb**	**20 08 07.9**	**+0.2**
	baz=320								
ENTT	**Nioudou**	**0.48**	**327**		*i*	P	**Pg**	**20 08 00.6**	**+0.1**
	baz=319								
ENTT						S	**Sb**	**20 08 07.5**	**-0.2**
	baz=319								
NNS	**Nan Shan**	**0.48**	**296**			P	**Pg**	**20 08 00.6**	**0.0**
	baz=295								
NNS						S	**Sg**	**20 08 07.4**	**+0.3**
	baz=295								
TWE	**Neicheng**	**0.52**	**341**		*i*	P	**Pg**	**20 08 01.2**	**+0.1**
	baz=343								
TWE					*e*	S	**Sb**	**20 08 08.4**	**-0.3**
	baz=343								
ILA	**Ilan**	**0.54**	**350**		*e*	P	**Pb**	**20 08 02.1**	**+0.3**
	baz=351								
ILA					*e*	S	**Sb**	**20 08 10.6**	**+1.3**
	baz=351								
WHF	**Hehuan Shan**	**0.54**	**261**			P	**Pg**	**20 08 01.6**	**-0.1**
	baz=260								
WHF					*e*	S	**Sb**	**20 08 09.4**	**-0.4**
	baz=260								
FUSS	**Fushou**	**0.56**	**272**			P	**Pg**	**20 08 01.9**	**+0.1**
	baz=271								
FUSS					*e*	S	**Sb**	**20 08 09.9**	**-0.1**
	baz=271								
ESL	**Shilin**	**0.56**	**223**		*e*	P	**Pg**	**20 08 01.8**	**-0.1**
	baz=226								
ESL					*e*	S	**Sb**	**20 08 10.7**	**+0.7**
	baz=226								
YHNB	**Yeheng**	**0.62**	**315**			P	**Pg**	**20 08 02.9**	**-0.1**
	baz=315								
YHNB						S	**Sb**	**20 08 11.4**	**-0.2**
	baz=315								
TWT	**Tachien**	**0.62**	**272**			P	**Pb**	**20 08 03.6**	**+0.3**
	baz=271								
TWT						S	**Sb**	**20 08 12.3**	**+0.6**
	baz=271								
NTC	**Toucheng**	**0.62**	**358**		*e*	S	**Sb**	**20 08 11.7**	**+0.1**
	baz=6.0								
NWLT	**Wulai**	**0.63**	**330**			P	**Pg**	**20 08 03.0**	**-0.2**
	baz=325								
NWLT					*e*	S	**Sb**	**20 08 11.8**	**-0.1**
	baz=325								
NSK	**Sanguang**	**0.63**	**315**			P	**Pg**	**20 08 03.2**	**0.0**
	baz=314								
NSK						S	**Sg**	**20 08 11.7**	**0.0**
	baz=314								
TDCB	**Techi**	**0.63**	**272**			P	**Pb**	**20 08 03.5**	**+0.1**
	baz=271								
TDCB					*e*	S	**Sb**	**20 08 12.2**	**+0.1**
	baz=271								
CHGB	**Renai**	**0.64**	**255**			P	**Pb**	**20 08 03.6**	**-0.1**
	baz=254								
CHGB					*e*	S	**Sb**	**20 08 12.9**	**+0.4**
	baz=254								
OWD	**Renai**	**0.68**	**246**			P	**Pg**	**20 08 03.9**	**-0.1**
	baz=245								
OWD					*e*	S	**Sb**	**20 08 13.6**	**+0.3**
	baz=245								
EGFH	**Guangfu**	**0.68**	**215**			P	**Pn**	**20 08 04.9**	**-0.8**
	baz=228								
EGFH					*e*	S	**Sn**	**20 08 15.0**	**-0.9**
	baz=228								
TIPB	**Shuangxi**	**0.74**	**358**			P	**Pg**	**20 08 05.2**	**0.0**
	baz=359								
TIPB					*e*	S	**Sg**	**20 08 15.4**	**+0.3**
	baz=359								
TWB1	**Santiao Chiao**	**0.78**	**9**		*e*	P	**Pg**	**20 08 06.1**	**+0.1**
	baz=2.0								
TWB1					*e*	S	**Sg**	**20 08 16.9**	**+0.4**
	baz=2.0								
TWA	**Mucha**	**0.79**	**342**			P	**Pb**	**20 08 05.8**	**-0.2**
	baz=342								
TWA					*e*	S	**Sg**	**20 08 17.0**	**+0.5**
	baz=342								
TATO	**Taipei**	**0.81**	**336**			P	**Pb**	**20 08 06.5**	**0.0**
	baz=328								
WHP	**Taichung City**	**0.83**	**273**		*e*	P	**Pg**	**20 08 07.1**	**+0.1**
	baz=273								
WHP					*e*	S	**Sg**	**20 08 18.4**	**+0.5**
	baz=273								
HGSD	**Ruisui**	**0.83**	**208**		*e*	P	**Pg**	**20 08 07.1**	**+0.1**
	baz=199								
HGSD					*e*	S	**Sn**	**20 08 21.4**	**+1.8**
	baz=199								
NWF	**Wu-fen Shan**	**0.84**	**356**		*e*	P	**Pg**	**20 08 07.3**	**+0.1**
	baz=349								
NWF					*e*	S	**Sg**	**20 08 18.6**	**+0.3**
	baz=349								
WFSB	**Wu-fen Shan**	**0.84**	**356**			P	**Pg**	**20 08 07.3**	**+0.2**
	baz=349								
WFSB					*e*	S	**Sb**	**20 08 17.9**	**-0.1**
	baz=349								
WPL	**Puli Township**	**0.85**	**255**			P	**Pn**	**20 08 07.6**	**-0.4**
	baz=255								
WPL					*e*	S	**Sn**	**20 08 20.0**	**0.0**
	baz=255								
TAP	**Taipei**	**0.86**	**339**		*e*	P	**Pb**	**20 08 07.3**	**0.0**
	baz=339								
TAP					*e*	S	**Sg**	**20 08 19.0**	**0.0**
	baz=339								
LIOB	**Emei**	**0.87**	**299**		*e*	P	**Pn**	**20 08 08.2**	**0.0**
	baz=298								
LIOB					*e*	S	**Sg**	**20 08 19.6**	**+0.5**
	baz=298								
EHY	**Hungye**	**0.87**	**214**		*e*	P	**Pb**	**20 08 06.3**	**-1.1**
	baz=223								
EHY					*e*	S	**Sn**	**20 08 20.6**	**0.0**
	baz=223								
WCS	**Beigang Elemen**	**0.88**	**259**		*e*	P	**Pg**	**20 08 07.9**	**+0.1**
	baz=251								
WCS					*e*	S	**Sn**	**20 08 20.6**	**-0.1**
	baz=251								
SSLB	**Suanglung**	**0.93**	**242**		*e*	P	**Pb**	**20 08 08.1**	**-0.5**
	baz=249								
SSLB					*e*	S	**Sn**	**20 08 22.2**	**+0.1**
	baz=249								
HSN1	**Hsinchu**	**0.94**	**306**		*e*	P	**Pb**	**20 08 08.6**	**0.0**
	baz=299								
HSN1					*e*	S	**Sn**	**20 08 21.7**	**-0.4**
	baz=299								
SMLT	**Sun Moon Lake**	**0.94**	**249**			P	**Pn**	**20 08 09.1**	**-0.2**
	baz=248								
SMLT					*e*	S	**Sn**	**20 08 22.5**	**+0.1**
	baz=248								
YM01	**YM01**	**0.95**	**344**			P	**Pn**	**20 08 09.3**	**-0.1**
	baz=327								
YM01					*e*	S	**Sn**	**20 08 22.1**	**-0.4**
	baz=327								
TWS1	**Kuangyinshan**	**0.95**	**336**		*e*	P	**Pb**	**20 08 08.5**	**-0.3**
	baz=335								
TWS1					*e*	S	**Sn**	**20 08 22.5**	**-0.1**
	baz=335								
TYC	**Yuchr**	**0.97**	**251**		*e*	P	**Pb**	**20 08 09.1**	**0.0**
	baz=250								
TYC					*e*	S	**Sn**	**20 08 23.2**	**+0.3**
	baz=250								
YULB	**Yu-li**	**0.98**	**211**		*e*	P	**Pb**	**20 08 07.5**	**-1.7**
	baz=212								
YULB					*e*	S	**Sn**	**20 08 23.9**	**+0.7**
	baz=212								
ECBN	**Changbin**	**0.98**	**202**		*e*	P	**Pg**	**20 08 10.5**	**+0.7**
	baz=202								
ECBN					*e*	S	**Sn**	**20 08 25.0**	**+1.7**
	baz=202								
ANP	**Anpu**	**1.00**	**342**		*e*	P	**Pn**	**20 08 10.0**	**-0.1**
	baz=343								
ANP					*e*	S	**Sn**	**20 08 23.8**	**-0.1**
	baz=343								
EYUL	**Yuli**	**1.01**	**209**		*e*	P	**Pb**	**20 08 08.9**	**-0.8**
	baz=225								
EYUL					*e*	S	**Sn**	**20 08 24.7**	**+0.8**
	baz=225								
JYNG	**Yonagunijimaku**	**1.02**	**77**			P	**Pb**	**20 08 09.8**	**-0.2**
JYNG					*e*	S	**Sb**	**20 08 23.5**	**+0.4**
WHYT	**Xinyi Township**	**1.06**	**240**		*e*	P	**Pb**	**20 08 10.6**	**-0.1**
	baz=246								
WHYT					*e*	S	**Sn**	**20 08 26.5**	**+1.2**
	baz=246								
WWF	**Wufeng**	**1.07**	**260**			P	**Pg**	**20 08 11.3**	**-0.2**
	baz=255								
WWF					*e*	S	**Sg**	**20 08 26.4**	**+0.9**
	baz=255								
TCU	**Taichung**	**1.08**	**266**		*e*	S	**Sg**	**20 08 27.6**	**+1.9**
	baz=265								
YOJ	**Yonaguni jima**	**1.08**	**77**			P	**Pb**	**20 08 10.8**	**-0.2**
YOJ					*e*	S	**Sb**	**20 08 25.1**	**+0.2**
YOJ	**Yonaguni jima**	**1.08**	**77**		*e*	P	**Pb**	**20 08 10.8**	**-0.2**
	baz=68								
YOJ					*e*	S	**Sg**	**20 08 26.9**	**+1.0**
	baz=68								
WJS	**Zhushan**	**1.11**	**249**		*e*	P	**Pg**	**20 08 12.3**	**+0.1**
	baz=244								
WJS					*e*	S	**Sg**	**20 08 28.4**	**+1.8**
	baz=244								
YUS	**Yu-Shan**	**1.11**	**228**		*e*	P	**Pb**	**20 08 11.4**	**-0.3**
	baz=228								
YUS					*e*	S	**Sn**	**20 08 27.6**	**+0.5**
	baz=228								
WDJ	**Dajia District**	**1.11**	**276**		*e*	P	**Pg**	**20 08 12.6**	**+0.4**
	baz=275								
WDJ					*e*	S	**Sg**	**20 08 27.1**	**+0.3**
	baz=275								
WNT1	**Nantou City**	**1.12**	**254**		*e*	P	**Pg**	**20 08 12.2**	**-0.2**
	baz=253								
WNT1					*e*	S	**Sg**	**20 08 28.0**	**+1.0**
	baz=253								
WNT	**Mingjian**	**1.12**	**252**		*e*	P	**Pg**	**20 08 12.7**	**+0.3**
	baz=241								
WNT					*e*	S	**Sg**	**20 08 27.5**	**+0.3**
	baz=241								
FULB	**Fuli**	**1.15**	**207**		*e*	P	**Pb**	**20 08 12.2**	**0.0**
	baz=224								
FULB					*e*	S	**Sg**	**20 08 28.9**	**+0.9**
	baz=224								
WCHH	**Zhanghua**	**1.19**	**263**		*e*	P	**Pg**	**20 08 13.6**	**-0.2**
	baz=262								
WCHH					*e*	S	**Sg**	**20 08 31.2**	**+1.9**
	baz=262								
ALS	**Alishan**	**1.20**	**233**		*e*	P	**Pg**	**20 08 13.7**	**-0.2**
	baz=233								
ALS					*e*	S	**Sg**	**20 08 30.7**	**+1.1**
	baz=233								
CHKT	**Chengkung**	**1.21**	**202**		*e*	P	**Pn**	**20 08 12.3**	**-0.6**
	baz=219								
CHKT					*e*	S	**Sg**	**20 08 30.1**	**+0.1**
	baz=219								
CHN5	**Tsauling**	**1.25**	**240**		*e*	P	**Pg**	**20 08 14.4**	**-0.4**
	baz=240								
CHN5					*e*	S	**Sg**	**20 08 32.0**	**+0.9**
	baz=240								
ELDTW	**Lidau**	**1.29**	**217**		*e*	P	**Pb**	**20 08 14.6**	**-0.1**
	baz=206								
ELDTW					*e*	S	**Sg**	**20 08 32.4**	**-0.1**
	baz=206								
WDLH	**Douliu**	**1.32**	**246**		*e*	P	**Pg**	**20 08 15.6**	**-0.5**
	baz=246								
WDLH					*e*	S	**Sg**	**20 08 35.7**	**+2.4**
	baz=246								
EDH	**Donghe**	**1.35**	**202**		*e*	P	**Pn**	**20 08 14.9**	**0.0**
	baz=190								
EDH					*e*	S	**Sn**	**20 08 31.4**	**-1.0**
	baz=190								
WRL	**Guolierlin Hig**	**1.39**	**257**		*e*	P	**Pb**	**20 08 16.3**	**+0.1**
	baz=256								
WRL					*e*	S	**Sg**	**20 08 35.5**	**-0.1**
	baz=256								
PCYT	**Pengchaiyu**	**1.41**	**8**		*e*	P	**Pb**	**20 08 16.4**	**-0.2**
	baz=6.0								
WTK	**Tuku**	**1.44**	**248**		*e*	P	**Pb**	**20 08 17.4**	**+0.2**
	baz=248								
WTK					*e*	S	**Sg**	**20 08 36.8**	**-0.6**
	baz=248								
STYH	**Taoyuan**	**1.45**	**223**		*e*	P	**Pb**	**20 08 17.2**	**0.0**
	baz=211								
STYH					*e*	S	**Sg**	**20 08 37.3**	**-0.1**
	baz=211								
CHN4	**Tsaushan**	**1.45**	**233**		*e*	P	**Pb**	**20 08 17.4**	**+0.1**
	baz=233								
CHN4					*e*	S	**Sg**	**20 08 37.1**	**-0.4**
	baz=233								
TPUB	**Ta-pu**	**1.45**	**231**			P	**Pb**	**20 08 17.5**	**+0.1**
	baz=231								
TPUB					*e*	S	**Sg**	**20 08 37.3**	**-0.4**
	baz=231								
LONT	**Longtian**	**1.48**	**207**		*e*	P	**Pn**	**20 08 14.8**	**-1.8**
	baz=209								
LONT					*e*	S	**Sg**	**20 08 37.9**	**-0.5**
	baz=209								
WTP	**Ta-pu**	**1.50**	**229**		*e*	P	**Pb**	**20 08 18.0**	**-0.2**
	baz=230								
WTP					*e*	S	**Sg**	**20 08 38.6**	**-0.6**
	baz=230								
TWK	**Hsinying**	**1.58**	**233**		*e*	S	**Sg**	**20 08 41.0**	**-0.6**
	baz=233								
LDUT	**Ludao**	**1.59**	**193**		*e*	P	**Pn**	**20 08 17.2**	**-0.9**
	baz=184								
LDUT					*e*	S	**Sn**	**20 08 36.2**	**-2.1**
	baz=184								
SNST	**Tainan City**	**1.60**	**231**		*e*	S	**Sg**	**20 08 41.8**	**-0.5**
	baz=232								
CHN1	**Nanshi**	**1.60**	**230**		*e*	S	**Sg**	**20 08 42.2**	**-0.2**
	baz=230								
WSF	**Szhu**	**1.60**	**249**		*e*	P	**Pb**	**20 08 19.6**	**-0.4**
	baz=248								
WSF					*e*	S	**Sg**	**20 08 41.7**	**-0.8**
	baz=248								
SGST	**Jiashian**	**1.63**	**226**		*e*	P	**Pn**	**20 08 19.0**	**+0.3**
	baz=226								
SGST					*e*	S	**Sg**	**20 08 42.2**	**-1.2**
	baz=226								
SLGT	**Liugui**	**1.66**	**222**		*e*	P	**Pb**	**20 08 20.5**	**-0.3**
	baz=224								
SLGT					*e*	S	**Sg**	**20 08 44.6**	**+0.5**
	baz=224								
ICHU	**Yijhu**	**1.68**	**239**		*e*	P	**Pb**	**20 08 21.0**	**-0.2**
	baz=240								
IRIF	**Iriomote-Funau**	**1.72**	**86**			P	**Pn**	**20 08 19.8**	**-0.1**
IRIF						S	**Sn**	**20 08 41.8**	**+0.4**
CHN8	**Yiju**	**1.74**	**240**		*e*	S	**Sb**	**20 08 45.2**	**+1.3**
	baz=226								
ECL	**Taimali**	**1.82**	**207**		*e*	S	**Sb**	**20 08 47.1**	**+0.8**
	baz=208								
SSD	**Sandimen**	**1.85**	**217**		*e*	S	**Sb**	**20 08 48.0**	**+0.8**
	baz=221								
TSMG	**Majia**	**1.88**	**216**		*e*	P	**Pb**	**20 08 23.5**	**-1.1**
	baz=220								
TSMG					*e*	S	**Sb**	**20 08 47.8**	**-0.1**
	baz=220								
MASBT	**Mashibuluo**	**1.96**	**215**		*e*	P	**Pb**	**20 08 24.7**	**-1.4**
	baz=219								
MASBT					*e*	S	**Sb**	**20 08 50.2**	**0.0**
	baz=219								
JKRS	**Kuro-shima**	**1.97**	**89**			P	**Pn**	**20 08 23.7**	**+0.3**
EAST	**Anshuo**	**2.06**	**207**		*e*	P	**Pb**	**20 08 27.1**	**-0.6**
	baz=202								
JIJ	**Ishigaki jima**	**2.09**	**86**			P	**Pn**	**20 08 24.8**	**-0.3**
JIJ					*e*	S	**Sn**	**20 08 50.3**	**-0.5**
SSPT	**Xinbi**	**2.10**	**214**		*e*	P	**Pb**	**20 08 27.3**	**-1.1**
	baz=221								
SCZT	**Fangliau**	**2.17**	**212**		*e*	P	**Pn**	**20 08 27.7**	**+1.5**
	baz=216								
SCZT					*e*	S	**Sb**	**20 08 57.6**	**+1.4**
	baz=216								
PHUB	**P'eng-hu**	**2.21**	**252**		*e*	S	**Sb**	**20 08 56.4**	**-0.9**
	baz=251								
WDGT	**Dungji**	**2.23**	**245**		*e*	P	**Pn**	**20 08 27.8**	**+0.9**
	baz=244								
JISG	**Ishigakijimahi**	**2.27**	**80**			P	**Pn**	**20 08 27.5**	**0.0**
VWUC	**VWUC**	**2.31**	**290**		*e*	P	**Pn**	**20 08 27.3**	**-0.8**
	baz=286								
VWUC					*e*	S	**Sn**	**20 08 55.3**	**-0.9**
	baz=286								
PTMZ	**Houxiangcun**	**2.61**	**289**		*e*	P	**Pn**	**20 08 31.6**	**-0.6**
	baz=285								
PTMZ					*e*	S	**Sn**	**20 09 02.5**	**-1.1**
	baz=285								
ZPLA	**Ao Xicun**	**3.76**	**266**		*e*	P	**Pn**	**20 08 47.6**	**-0.4**
	baz=263								
ZPLA					*e*	S	**Sn**	**20 09 32.6**	**+0.7**
	baz=263								

MEX 18 20:11:41.8±0.5, 15°45N×96°57W, h15km±58km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
PEIG	**Puerto Escondi**	**0.78**	**314**		*i*	P	Pg	20 11 54.1	-2.9
PEIG					*i*	S	Sg	20 12 04.2	-3.0
VHO	**Vista Hermosa**	**1.62**	**354**		*i*	P	Pn	20 12 06.7	-3.3
VHO					*i*	S	Sn	20 12 25.6	-5.1
PNIG	**Pinotepa**	**1.77**	**302**		*e*	P	Pn	20 12 08.9	-3.0
PNIG					*e*	S	Sn	20 12 29.1	-5.1
TXIG	**

LHV				IAML			20 12 00.1	
	comp=N,7μm,0.3s							
HCK	**Huntoon Valley**	**0.44**	**205**		**Pg**	**20**	**11**	**57.4** **+0.5**
BONR	**Boundary Peak**	**0.52**	**176**		**Pg**	**20**	**11**	**59.2** **+0.7**
KVN	**Kaiserville**	**0.61**	**19**		**Pg**	**20**	**12**	**00.2** **+0.1**
LUL	**Lundy Lake**	**0.78**	**237**		**Pg**	**20**	**12**	**03.4** **+0.1**
BENR	**Benton**	**0.78**	**193**		**Pg**	**20**	**12**	**03.4** **0.0**
YERR	**Yerington**	**0.86**	**306**		**Pg**	**20**	**12**	**04.6** **-0.2**
YERR				Sg	**Sg**	**20**	**12**	**16.5** **+0.4**
ORC	**Owens River**	**0.87**	**196**		**Pg**	**20**	**12**	**05.1** **0.0**
MLNR	**Milner Canyon**	**0.88**	**180**		**Pg**	**20**	**12**	**05.5** **+0.3**
MLAC	**Mammoth, Mammo** baz=24	**0.93**	**204**	P	**Pg**	**20**	**12**	**06.3** **+0.2**
TPH	**Tonopah**	**0.98**	**114**		**Pg**	**20**	**12**	**07.3** **+0.3**
TPH				Sg	**Sb**	**20**	**12**	**21.2** **+1.0**
MDPB	**Devils Postpil**	**1.02**	**214**		**Pg**	**20**	**12**	**07.6** **-0.3**
MDPB				Sg	**Sg**	**20**	**12**	**20.9** **-0.3**
RCCR	**Rock Creek Can**	**1.03**	**197**		**Pg**	**20**	**12**	**08.1** **0.0**
BFC	**Buffalo Canyon**	**1.07**	**293**		**Pg**	**20**	**12**	**08.4** **-0.4**
POCCA	**Poleta Canyon**	**1.11**	**177**		**Pb**	**20**	**12**	**09.7** **+0.1**
SCHCA	**Scheelite**	**1.15**	**194**		**Pb**	**20**	**12**	**10.1** **-0.1**
PNTR	**Pine Nut**	**1.15**	**303**		**Pb**	**20**	**12**	**09.8** **-0.5**
PNTR				Sg	**Sb**	**20**	**12**	**25.7** **+0.4**
PNTR				IAML			20 12 34.4	
	comp=N,757nm,0.5s							
VCNR	**Virginia City**	**1.30**	**309**		**Pn**	**20**	**12**	**12.5** **0.0**
VCNR				Sg	**Sg**	**20**	**12**	**30.5** **+0.3**
LCH	**Last Change Ra**	**1.36**	**155**	Pn	**Pb**	**20**	**12**	**14.2** **+0.4**
LCH				Sn	**Sg**	**20**	**12**	**32.3** **+0.3**
LCH				IAML			20 12 41.4	
	comp=E,303nm,0.8s							
TIN	**Tinemaha, Big** baz=356	**1.42**	**176**	S	**Sg**	**20**	**12**	**35.1** **+1.1**
EMB	**Emerald Bay**	**1.46**	**291**		**Pn**	**20**	**12**	**15.4** **+0.7**
EMB				Sn	**Sn**	**20**	**12**	**34.1** **+0.2**
PAHR	**Pah Rah Range**	**1.47**	**327**		**Pn**	**20**	**12**	**15.2** **+0.4**
PAHR				Sn	**Sg**	**20**	**12**	**35.6** **+0.2**
PAHR				IAML			20 12 37.9	
	comp=N,275nm,0.4s							
PAHR				IAML			20 12 39.3	
	comp=E,322nm,1.0s							
RUBR	**Rubicon Trail**	**1.52**	**293**		**Pb**	**20**	**12**	**16.5** **-0.1**
RUBR				Sn	**Sb**	**20**	**12**	**36.5** **+0.5**
RUBR				IAML			20 12 40.4	
	comp=N,273nm,0.9s							
RUBR				IAML			20 12 42.9	
	comp=E,365nm,0.5s							
CMB	**Columbia Colle**	**1.66**	**255**		**Pn**	**20**	**12**	**18.2** **+0.9**
CMB				IAML			20 12 43.1	
	comp=N,199nm,0.8s							
GRAC	**Grapevine Rang** baz=332	**1.67**	**152**	P	**Pb**	**20**	**12**	**18.9** **-0.2**
CWC	**Cottonwood Cre** baz=354	**2.04**	**174**	P	**Pn**	**20**	**12**	**24.3** **+1.6**
BEKR	**Beckworth**	**2.09**	**312**		**Pn**	**20**	**12**	**24.4** **+1.1**
BMN	**Battle Mountai**	**2.14**	**24**		**Pn**	**20**	**12**	**24.6** **+0.5**
R11A	**Troy Canyon, C**	**2.18**	**92**		**Pn**	**20**	**12**	**25.4** **+0.9**
R11A				IAML			20 12 58.8	
	comp=N,162nm,0.7s							
R11A				IAML			20 12 59.7	
	comp=E,125nm,0.5s							
R11A	**Troy Canyon, C** baz=274	**2.18**	**92**	P	**Pn**	**20**	**12**	**25.6** **+1.1**
R11A				Sb	**Sg**	**20**	**12**	**58.1** **-0.2**
	baz=274							
TPNV	**Topopah Spring**	**2.26**	**132**		**Pn**	**20**	**12**	**26.7** **+1.1**
TPNV				IAML			20 13 09.4	
	comp=E,168nm,0.8s							
TPNV				IAML			20 13 28.2	
	comp=E,133nm,0.8s							
TPNV	**Topopah Spring** baz=313	**2.26**	**132**	P	**Pn**	**20**	**12**	**27.0** **+1.3**
VOG	**Valley Oaks Go** baz=20	**2.30**	**201**	Sb	**Sg**	**20**	**13**	**01.6** **-0.6**
MPMC	**Manual Prospec** baz=344	**2.51**	**164**	P	**Pn**	**20**	**12**	**30.5** **+1.4**
GWY	**Greenwater Val**	**2.65**	**149**	Pn	**Pn**	**20**	**12**	**32.1** **+1.1**
GWY				IAML			20 13 17.2	
	comp=N,71nm,0.7s							
GWY				IAML			20 13 26.7	
	comp=E,82nm,0.9s							
ORV	**Oroville**	**2.68**	**295**		**Pn**	**20**	**12**	**31.2** **0.0**
VES	**Vestal, Richgr** baz=12	**2.69**	**193**	Sb	**Sg**	**20**	**13**	**13.3** **-1.5**
QSM	**Queen of Sheba**	**2.77**	**154**		**Pn**	**20**	**12**	**33.3** **+0.8**
ISA	**Isabella, Lake**	**2.81**	**182**		**Pn**	**20**	**12**	**33.8** **+0.7**
ISA				IAML			20 13 19.9	
	comp=E,109nm,0.3s							
ISA				IAML			20 13 20.5	
	comp=N,84nm,0.4s							
ISA	**Isabella, Lake** baz=1.7	**2.81**	**182**	Sb	**Sg**	**20**	**13**	**16.9** **-1.6**
PRN	**Pahroc Range**	**2.82**	**111**		**Pn**	**20**	**12**	**34.1** **+0.7**
PMPB	**Monarch Peak**	**2.98**	**222**		**Pn**	**20**	**12**	**36.6** **+1.1**
PMPB				IAML			20 13 28.6	
	comp=N,91nm,1.5s							
PMPB				IAML			20 13 30.4	
	comp=E,88nm,1.0s							
SAO	**San Andreas Ge**	**2.99**	**236**	Pn	**Pn**	**20**	**12**	**35.9** **+0.3**
PAGB	**Antelope Grade**	**3.13**	**210**		**Pn**	**20**	**12**	**38.9** **+1.4**
SPR3	**Spring Creek 3**	**3.19**	**79**		**Pn**	**20**	**12**	**39.0** **+0.5**
SPR3				IAML			20 13 35.3	
	comp=E,90nm,0.5s							
ELK	**Elko**	**3.30**	**46**	Pn	**Pn**	**20**	**12**	**41.0** **+0.9**
ELK				IAML			20 13 36.5	
	comp=E,44nm,0.4s							
ARVC	**Arvin** baz=6.2	**3.37**	**187**	Sb	**Sg**	**20**	**13**	**34.0** **-2.3**
GSC	**Goldstone, Bar**	**3.40**	**158**		**Pn**	**20**	**12**	**41.4** **+0.1**
GSC				IAML			20 13 49.9	
	comp=E,37nm,0.7s							
GDXM	**Geysers**	**3.49**	**277**	Pn	**Pn**	**20**	**12**	**42.1** **-0.4**
GDXM				IAML			20 14 32.9	
	comp=E,55nm,0.1s							
GDXM				IAML			20 14 33.0	
	comp=N,45nm,0.1s							
PSUT	**Pine Spring**	**3.53**	**88**		**Pn**	**20**	**12**	**44.6** **+1.4**
PSUT				IAML			20 13 48.7	
	comp=N,63nm,0.5s							
TUQ	**Turquoise Moun** baz=328	**3.60**	**147**	P	**Pn**	**20**	**12**	**45.5** **+1.4**
HOPS	**Hopland Field**	**3.73**	**279**	Pn	**Pn**	**20**	**12**	**45.9** **+0.2**
HOPS				IAML			20 13 48.3	
	comp=N,42nm,2.8s							
HOPS				IAML			20 14 26.2	
	comp=E,34nm,2.8s							
MOD	**Modoc Plateau**	**3.73**	**337**		**Pn**	**20**	**12**	**46.4** **+0.5**
MOD				IAML			20 13 52.6	
	comp=N,35nm,0.9s							
MOD				IAML			20 13 54.2	
	comp=E,48nm,1.1s							
WDC	**Whiskeytown Da**	**3.86**	**304**	Pn	**Pn**	**20**	**12**	**46.6** **-0.9**
WVOR	**Wild Horse Val**	**3.96**	**357**	Pn	**Pn**	**20**	**12**	**50.3** **+1.3**
WVOR				IAML			20 13 56.2	
	comp=E,26nm,0.8s							
WVOR	**Wild Horse Val**	**3.96**	**357**	P	**Pb**	**20**	**13**	**00.4** **+2.4**
CCUT	**Cedar City**	**4.05**	**102**		**Pn**	**20**	**12**	**51.2** **+0.9**
CCUT				IAML			20 13 59.9	
	comp=N,25nm,0.6s							
CCUT				IAML			20 14 00.9	
	comp=E,24nm,0.9s							
SZCU	**Shurtz Canyon**	**4.25**	**100**		**Pn**	**20**	**12**	**53.2** **+0.1**
SZCU				IAML			20 14 11.7	
	comp=N,34nm,0.7s							
SZCU				IAML			20 14 12.3	
	comp=E,34nm,0.4s							
LCMT	**Little Creek M**	**4.30**	**108**		**Pn**	**20**	**12**	**54.7** **+0.9**
KMRM	**Mail Ridge**	**4.50**	**294**	Pn	**Pn**	**20**	**12**	**55.4** **-1.0**
KMRM				IAML			20 14 46.4	
	comp=N,27nm,4.1s							
KMRM				IAML			20 15 47.4	
	comp=E,27nm,4.2s							
KNB	**Kanab**	**4.62**	**107**		**Pn**	**20**	**12**	**58.9** **+0.7**
KNB				IAML			20 14 26.9	
	comp=N,16nm,0.9s							
DUG	**Dugway, Tooele**	**4.62**	**66**		**Pn**	**20**	**12**	**59.6** **+1.4**
YBH	**Yreka Blue Hor**	**4.66**	**316**		**Pn**	**20**	**12**	**59.0** **+0.4**
K05A	**Summer Lake**	**4.67**	**336**		**Pn**	**20**	**12**	**56.8** **-2.0**
K05A				IAML			20 14 19.3	
	comp=E,20nm,0.8s							
K05A				IAML			20 14 19.8	
	comp=N,33nm,0.8s							
BGU	**Big Grassy Mou**	**4.78**	**58**		**Pn**	**20**	**13**	**01.5** **+1.2**
BGU				IAML			20 14 21.5	
	comp=N,19nm,0.7s							
BGU				IAML			20 14 32.6	
	comp=E,22nm,0.5s							
MVU	**Marysvale**	**4.82**	**88**		**Pn**	**20**	**12**	**59.7** **-1.2**
MSU	**Marysvale**	**4.84**	**88**		**Pn**	**20**	**13**	**01.1** **-0.1**
MTPU	**Mount Pierson**	**4.87**	**93**		**Pn**	**20**	**13**	**01.7** **-0.1**
MTPU				IAML			20 14 27.4	
	comp=E,19nm,0.8s							
MTPU				IAML			20 14 31.0	
	comp=N,16nm,0.7s							
J08A	**Circle Bar Ran**	**4.88**	**359**		**Pn**	**20**	**13**	**00.9** **-0.7**
J08A				IAML			20 14 30.4	
	comp=N,20nm,0.8s							
J08A				IAML			20 14 37.2	
	comp=E,20nm,0.9s							
PKCU	**Pink Cliffs**	**4.88**	**100**		**Pn**	**20**	**13**	**03.2** **+1.3**
W13A	**Hualapai Mount**	**4.92**	**132**		**Pn**	**20**	**13**	**00.4** **-1.9**
JCC	**Jacoby Creek,**	**4.97**	**300**	Pn	**Pn**	**20**	**13**	**01.5** **-1.2**
JCC				IAML			20 15 17.4	
	comp=E,16nm,2.9s							
JCC				IAML			20 16 08.7	
	comp=N,17nm,3.8s							
NLU	**North Lily Min**	**5.09**	**71**		**Pn**	**20**	**13**	**04.0** **-0.7**
NLU				IAML			20 14 32.8	
	comp=N,24nm,2.0s							
NLU				IAML			20 14 38.7	
	comp=E,18nm,1.0s							
MFID	**Camas Ranch**	**5.29**	**20**		**Pn**	**20**	**13**	**06.8** **-0.5**
MFID				IAML			20 14 42.2	
	comp=E,14nm,0.8s							
MFID				IAML			20 14 42.5	
	comp=E,14nm,0.6s							
SPUT	**South Promonto**	**5.35**	**56**	Pn	**Pn**	**20**	**13**	**08.1** **0.0**
SPUT				IAML			20 14 15.5	
	comp=E,14nm,0.5s							
SPUT				IAML			20 14 43.1	
	comp=N,20nm,0.6s							
HVU	**Hansel Valley**	**5.40**	**51**	Pn	**Pn**	**20**	**13**	**08.7** **-0.2**
HUMO	**Hull Mountain**	**5.42**	**321**	Pn	**Pn**	**20**	**13**	**08.1** **-0.8**
TMUT	**Trail Mountain**	**5.63**	**79**		**Pn**	**20**	**13**	**10.9** **-1.3**
PINE	**Pine Mountain**	**5.66**	**341**	Pn	**Pn**	**20**	**13**	**12.1** **-0.3**
I07A	**Izee**	**5.67**	**352**	Pn	**Pn**	**20**	**13**	**10.7** **-1.7**
HLID	**Hailey**	**5.89**	**29**	Pn	**Pn**	**20**	**13**	**14.2** **-1.4**
WUAZ	**Wupatki**	**6.32**	**116**	Pg	**Pg**	**20**	**13**	**45.1** **-4.1**

*IDC **18** 20:25:10.4±0.9,23.°60N×93.°84E, h0km, mb3.9/10, mb1 4.0/11,mb1mx3.6/45,mbtmp3.8/11,ML3.9/1,MS3.5/1, Ms1 3.5/1,ms1mx2.6/43,Error ellipse: s-maj=47.0km s-min=15.9km az=56.0*

*NEIC **18** 20:25:19.3±2.4,23.°7N±0.°1×93.°9E±0.°1, h64km±9km, mb4.0/15,Error ellipse: s-maj=20.0km s-min=9.5km az=48.0*

*NDI **18** 20:25:20.1±2.0,23.°90N×93.°95E, h74km±185km, ML3.3, mb4.0(NEIC)*

ISC 18 20:25:17.3±0.7,23.°64N±0.°07×93.°83E±0.°06, h50km, n39, σ1s92/41, mb3.9/15, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KOHI	**KOHIMA**	**2.08**	**7**	*e*PG		**Pn**	**20 25 50.2**	**+0.2**
KOHI						IAML	20 26 25.9	
	comp=N,199nm,0.6s							
KOHI						IAML	20 26 26.0	
	comp=E,161nm,0.3s							
SHL	**Shillong**	**2.61**	**318**			**Pn**	**20 25 58.9**	**+1.7**
SHL				Sn		**Sn**	**20 26 25.7**	**-2.0**
SHL	**Shillong**	**2.61**	**318**	*e*PG		**Pn**	**20 25 59.2**	**+2.1**
SHL				*e*SG		**Sn**	**20 26 26.6**	**-1.1**
SHL				IAML			20 26 28.4	
	comp=N,275nm,0.2s							
SHL				IAML			20 26 30.4	
	comp=E,275nm,0.1s							
MOKO	**MOKOCHONG**	**2.74**	**13**	*e*PG		**Pn**	**20 25 58.7**	**-0.3**
JORH	**JORHAT**	**3.11**	**7**	*e*SG		**Sn**	**20 26 48.1**	**+8.3**
ITAN	**ITANAGAR**	**3.49**	**358**	*ex*		**Pn**	**20 26 09.3**	**+0.2**
LKP	**Lekhapani**	**4.10**	**26**	*e*PG		**Pn**	**20 26 16.2**	**-1.3**
GTK	**Tadong**	**5.97**	**309**	*e*PG		**Pn**	**20 26 46.0**	**+2.7**
GTK				*e*SG		**Sn**	**20 27 48.4**	**-2.1**
LSA	**Lhasa**	**6.49**	**339**			**Pn**	**20 26 52.3**	**+1.6**
LSA				Sn		**Sn**	**20 28 01.3**	**-2.4**
CHTO	**Chiang Mai**	**6.77**	**134**	Pn		**Pn**	**20 26 57.1**	**+2.8**
CMAR	**Chiang Mai Arr**	**7.03**	**136**	Pn		**Pn**	**20 26 55.6**	**-2.1**
	comp=E,0.6nm,0.3s,baz=312,slow=13,SNR=6.5							
BOK	**Bokaro**	**7.28**	**273**	*e*PG		**Pn**	**20 27 03.6**	**+2.5**
BOK				*e*SG		**Sn**	**20 28 22.3**	**-0.1**
ENH	**Enshi**	**15.44**	**61**			**P**	**20 28 54.5**	**-1.1**
ENH				IAmb		IAmb	20 28 58.9	
	comp=Z,5.0nm,0.7s							
AAK	**Ala-Archa**	**24.81**	**324**	P		**P**	**20 30 36.8**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=153,slow=8.0,SNR=4.0							
AAK	**Ala-Archa**	**24.81**	**324**	IAmb		IAmb	20 30 38.2	
	comp=Z,2.0nm,1.1s							
MK31	**Makanchi Array**	**24.89**	**341**	P		**P**	**20 30 36.0**	**+0.6**
MKAR	**Makanchi Array**	**24.89**	**341**	P		**P**	**20 30 35.9**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=143,slow=11,SNR=24							
MKAR	**Makanchi Array**	**24.89**	**341**	P		**P**	**20 30 35.8**	**+0.3**
MAKZ	**Makanchi**	**25.00**	**341**	P		**P**	**20 30 36.8**	**+0.3**
MAKZ				IAmb		IAmb	20 30 38.4	
	comp=Z,2.2nm,0.6s							
GAR	**Garm**	**25.15**	**313**	P		**P**	**20 30 39.5**	**+1.5**
GAR				IAmb		IAmb	20 30 39.9	
	comp=Z,8.6nm,0.5s							
BTK	**Batken**	**25.38**	**316**	P		**P**	**20 30 40.5**	**+0.5**
BTK				IAmb		IAmb	20 30 44.4	
	comp=Z,3.3nm,0.5s							
SONM	**Songino Array**	**26.14**	**19**	P		**P**	**20 30 46.1**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=201,slow=9.2,SNR=6.0							
SONM	**Songino Array**	**26.14**	**19**	IAmb		IAmb	20 30 48.7	
	comp=Z,1.3nm,1.0s							
KURBB	**Kurchatov Arra**	**29.44**	**340**	P		**P**	**20 31 16.2**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=152,slow=8.8,SNR=4.7							
KURK	**Kurchatov**	**29.49**	**340**	P		**P**	**20 31 16.2**	**-0.4**
ZAA0	**Zalesovo Array**	**31.01**	**350**	P		**P**	**20 31 30.1**	**+0.1**
ZAA0				IAmb		IAmb	20 31 31.4	
	comp=Z,3.7nm,1.2s							
ZALV	**Zalesovo Beam**	**31.01**	**350**	P		**P**	**20 31 30.2**	**+0.2**
	comp=Z,1.3nm,0.4s,baz=161,slow=6.9,SNR=5.5							
ABKAR	**Akbulak array**	**36.86**	**322**	P		**P**	**20 32 22.1**	**+1.3**
ABKAR	**Akbulak array**	**36.86**	**322**	P		**P**	**20 32 22.0**	**+1.3**
ABKAR				IAmb		IAmb	20 32 44.6	
	comp=Z,3.8nm,1.4s							
KAPI	**Kappang**	**38.09**	**135**	LR		LR	20 50 21.3	
	comp=Z,66nm,18.2s,baz=300,slow=40							
TIXI	**Tiksi**	**51.97**	**13**	P		**P**	**20 34 19.7**	**-1.3**
AKASG	**Malin Array Be**	**56.09**	**316**	P		**P**	**20 34 50.2**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=80,slow=6.5,SNR=2.7							
WB0	**Warramunga Arr**	**58.53**	**134**	P		**P**	**20 35 08.5**	**-0.4**
WRA	**Warramunga Arr**	**58.62**	**134**	P		**P**	**20 35 08.3**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=315,slow=7.1,SNR=5.6							
WB2	**Warramunga Arr**	**58.63**	**134**	P		**P**	**20 35 09.4**	**-0.3**
FINES	**FINESS Array B**	**58.90**	**329**	P		**P**	**20 35 09.8**	**-1.1**
	comp=Z,3.8nm,1.0s,baz=102,slow=13,SNR=3.5							
ASAR	**Alice Springs**	**61.04**	**138**	P		**P**	**20 35 26.4**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=322,slow=6.8,SNR=12							
GERES	**GERESS Array B**	**66.22**	**315**	P		**P**	**20 36 00.5**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=77,slow=7.0,SNR=8.9							
GERES	**GERESS Array B**	**66.22**	**315**	P		**P**	**20 35 59.5**	**-0.6**

MEX 18 20:29:52.4±0.6, 15.°41N×96.°53W, h23km±36km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PANG	**Puerto Angel**	**0.27**	**12**	*i* P		Pb	20 29 55.0	-3.8
PANG				*i* S		Sb	20 29 56.5	-6.6
PEIG	**Puerto Escondi**	**0.83**	**315**	*i* P		Pb	20 30 05.5	-2.7
PEIG				*i* S		Sb	20 30 16.3	-2.8
VHO	**Vista Hermosa**	**1.67**	**353**	*i* P		Pn	20 30 17.5	-2.9
VHO				*i* S		Sn	20 30 37.4	-3.8
PNIG	**Pinotepa**	**1.82**	**303**	*e*P		Pn	20 30 20.7	-1.6
PNIG				*e*S		Sn	20 30 41.0	-3.7
CMIG	**Matias Romero**	**2.31**	**43**	*i* P		Pn	20 30 27.0	-2.1
CMIG				*e*S		Sn	20 30 53.4	-3.3
HLIG	**Huajuapan de L**	**2.70**	**333**	*e*P		Pn	20 30 35.5	+0.8
HLIG				*e*S		Sn	20 31 02.7	-4.0
MGIG	**Malinaltepec**	**2.71**	**312**	*e*P		Pb	20 30 38.7	-1.7
MGIG				*e*S		Sn	20 31 09.2	+2.1
TOIG	**Toxpalan**	**2.72**	**349**	*e*P		Pn	20 30 36.1	+1.2
TOIG				*e*S		Sn	20 31 08.2	+1.0

INET 18 20:35:35.3, 11.°31N×87.°01W, h15km, MW3.5, Near coast of Nicaragua

*IDC **18** 20:37:34.5±2.2,30.°65S×71.°89W, h0km, mb3.8/1, mb1 3.8/4,mb1mx3.6/29,mbtmp3.7/4,ML3.7/3,MS3.2/4, Ms1 3.2/4,ms1mx2.9/23,Error ellipse: s-maj=103.0km s-min=34.7km az=100.0*

*NEIC **18** 20:37:38.8±2.0,30.°70S±0.°05×72.°05W±0.°03, h19km±4km, mb4.4/3,Error ellipse: s-maj=7.3km s-min=3.5km az=175.0*

ISC 18 20:37:36.7±0.8, 30.°59S±0.°05×72.°09W±0.°06, h16km, n45, σ1s52/42, mb4.4/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CO06	**Fray Jorge**	**0.40**	**103**			**Pg**	**20 37 45.1**	**+0.2**
CO06				Sg		**Sb**	**20 37 51.5**	**+0.2**
CO05	**La Serena**	**0.99**	**48**			**Pb**	**20 37 54.3**	**-1.2**
CO05				Sg		**Sb**	**20 38 08.3**	**0.0**
GO04	**Tololo Observa**	**1.19**	**70**			**Pg**	**20 37 60.0**	**+0.3**
CO03	**El Pedregal**	**1.23**	**102**	Pn		**Pn**	**20 37 59.2**	**-0.1**
CO03						**Sg**	**20 38 16.6**	**0.0**
LCO	**Las Campanas**	**1.98**	**38**	Pn		**Pb**	**20 38 12.0**	**-0.5**
VA01	**Torpederas**	**2.46**	**171**			**Pn**	**20 38 15.7**	**-0.4**
AC04	**Llanos de Chal**	**2.53**	**21**			**Pb**	**20 38 21.0**	**-0.8**
VA03	**San Esteban**	**2.54**	**149**	Pn		**Pn**	**20 38 15.6**	**-1.7**
MT05	**Renca**	**3.02**	**158**	Pn		**Pn**	**20 38 26.4**	**+2.4**
ZON	**Zonda**	**3.08**	**109**	Pn		**Pb**	**20 38 31.3**	**+0.1**
VA05	**Santo Domingo**	**3.09**	**173**			**Pn**	**20 38 27.5**	**+2.7**
MT09	**Talagante**	**3.31**	**164**			**Pn**	**20 38 28.8**	**+0.8**
MT01	**Popeta**	**3.34**	**168**	Pn		**Pn**	**20 38 28.3**	**-0.1**
GO03	**Copiap**	**3.40**	**29**			**Pn**	**20 38 31.0**	**+1.9**
AC06	**Mina Casimiro**	**3.56**	**26**			**Pn**	**20 38 34.4**	**+3.1**
BO01	**Tunca**	**3.89**	**168**	Pn		**Pn**	**20 38 35.7**	**-0.1**
BO02	**Sierra Bellavi**	**4.34**	**166**			**Pn**	**20 38 43.0**	**+0.9**
GO05	**Huala**	**4.41**	**178**	Pn		**Pn**	**20 38 41.8**	**-1.3**
AC02	**Maricunga**	**4.55**	**36**	Pn		**Pn**	**20 38 50.1**	**+4.7**
ML02	**Panimavida**	**5.19**	**174**	Pn		**Pn**	**20 38 53.9**	**+0.1**
PB14	**IPOC Station P**	**6.12**	**15**	Pn		**Pn**	**20 39 09.9**	**+3.1**
PB15	**IPOC Station P**	**7.71**	**18**			**Pn**	**20 39 30.3**	**+1.7**
LC01	**Cunco**	**8.29**	**179**	Pn		**Pn**	**20 39 35.3**	**-1.0**
PLCA	**Paso Flores**	**10.20**	**173**	Pn		**Pn**	**20 40 01.3**	**-1.2**
	0.2nm,0.3s,baz=347,slow=14,SNR=4.8							
PLCA	**Paso Flores**	**10.20**	**173**			**Pn**	**20 40 02.7**	**+0.2**
CPUP	**Villa Florida**	**13.66**	**76**	LR		LR	20 46 18.2	
	comp=Z,86nm,19.9s,baz=246,slow=39							
LPAZ	**La Paz**	**14.69**	**15**	Pn		**Pn**	**20 41 05.5**	**+1.0**
	0.1nm,0.3s,baz=195,slow=5.1,SNR=4.3							
LPAZ	**La Paz**	**14.69**	**15**	Pn		**P**	**20 41 09.0**	**-1.6**
SIV	**San Ignacio**	**17.69**	**37**	P		**Pn**	**20 41 41.1**	**-1.4**
	0.3nm,0.3s,baz=227,slow=11,SNR=3.8							
SIV				LR		LR	20 48 47.0	
	comp=Z,79nm,18.2s,baz=293,slow=38							
NNA	**Nana**	**19.02**	**346**	LR		LR	20 48 18.5	
	comp=Z,16nm,18.2s,baz=193,slow=34							
VNA3	**Neumayer Olymp**	**52.54**	**159**	P		**P**	**20 46 50.0**	**+1.1**
VNA2	**Neumayer--Watz** baz=280,slow=8.1	**53.18**	**158**	P		**P**	**20 46 54.6**	**+1.0**
SNAA	**Sanae**	**54.76**	**159**	P		**P**	**20 47 06.0**	**+0.8**
SNAA	**Sanae**	**54.76**	**159**	P		**P**	**20 47 05.7**	**+0.5**
SNAA				IAmb		IAmb	20 47 10.4	
	comp=Z,6.5nm,1.5s							
QSPA	**South Pole Qui**	**59.64**	**180**	P		**P**	**20 47 40.6**	**+0.8**
QSPA				IAmb		IAmb	20 47 48.7	
	comp=Z,4.2nm,1.2s							
PPT	**Papeete**	**70.72**	**261**	LR		LR	21 12 40.1	
	comp=Z,51nm,21.0s,baz=282,slow=30							
TORD	**Torodi Ar. Bea**	**83.10**	**70**	P		**P**	**20 50 02.0**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=244,slow=6.5,SNR=3.7							
TORD	**Torodi Ar. Bea**	**83.10**	**70**	P		**P**	**20 49 59.3**	**-2.7**
TORD				IAmb		IAmb	20 50 25.4	
	comp=Z,2.7nm,0.9s							
H11S2	**WAKE ISLAND Hyl**	**25.70**	**272**	T		T	23 15 18.6	
	baz=114,slow=75,SNR=9.4							
H11S1	**WAKE ISLAND Hyl**	**25.72**	**272**	T		T	23 15 19.4	
	baz=114,slow=75,SNR=10							
H11S3	**WAKE ISLAND Hyl**	**25.72**	**272**	T		T	23 15 16.7	
	baz=114,slow=75,SNR=8.0							
ZALV	**Zalesovo Beam**	**151.32**	**29**	PKPbc		**PKiKP**	**20 57 29.5**	**0.0**
	comp=Z,1.9nm,0.6s,baz=306,slow=3.8,SNR=7.0							
ZALV	**Zalesovo Beam**	**151.32**	**29**			**PKiKP**	**20 57 29.5**	**0.0**
MKAR	**Makanchi Array**	**154.44**	**44**	PKPbc		**PKPbc**	**20 57 36.0**	**-0.2**
	comp=Z

$M_{\theta\theta}$-0.55; $M_{\phi\phi}$-1.02; M_{rr}0.60; $M_{\theta\phi}$0.42; $M_{\theta r}$-1.86; Fault plane solution: M_o2.43000×10¹⁵ NP1:ϕ_s159.32000°, δ72.12000°, λ94.38000°. NP2:ϕ_s325.31000°, δ18.39000°, λ76.68000°. Principal axes: T 2.5772, Plg63.0000°, Azm76.0000°; N -0.3299, Plg4.0000°, Azm338.0000°; P -2.2473, Plg27.0000°, Azm246.0000°;

ISC 18 20:39:55.1±0.8, 30.65S±0.03×71.80W±0.04, h31km±5km, n113, σ1.84/118, mb4.4/13, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.14**	**99**	⇑*i*P		**Pb**	**20 40 00.8**	**-0.1**
CO06				*i* S		**Sb**	**20 40 04.4**	**-0.5**
CO06				IAML			20 40 05.3	
	comp=N,81μm,0.5s							
CO06	**Fray Jorge**	**0.14**	**99**	Pg		**Pb**	**20 40 00.9**	**-0.1**
CO06				Sg		**Sb**	**20 40 04.6**	**-0.3**
CO05	**La Serena**	**0.88**	**34**	*e*P		**Pn**	**20 40 10.4**	**-0.9**
CO05				IAML			20 40 25.4	
	comp=E,14μm,0.4s							
CO05	**La Serena**	**0.88**	**34**			**Pb**	**20 40 10.7**	**-1.1**
CO03	**El Pedregal**	**0.97**	**101**	⇓*i*P		**Pb**	**20 40 11.8**	**-1.7**
CO03				*i* S		**Sb**	**20 40 23.5**	**-2.6**
CO03				IAML			20 40 26.0	
	comp=E,22μm,0.3s							
CO03	**El Pedregal**	**0.97**	**101**			**Pb**	**20 40 11.8**	**-1.7**
CO03						**Sb**	**20 40 23.9**	**-2.2**
CO03	**El Pedregal**	**0.97**	**101**	*e*P		**Pb**	**20 40 12.0**	**-1.5**
CO03				*e*P		Pn	20 40 18.7	+6.0
CO03				IAML			20 40 31.9	
	comp=Z,5μm,0.3s							
GO04	**Tololo Observa**	**0.98**	**61**	*e*P		**Pb**	**20 40 11.9**	**-1.9**
GO04				*i* S		**Sb**	**20 40 24.0**	**-2.6**
GO04				IAML			20 40 32.0	
	comp=N,40μm,0.5s							
GO04	**Tololo Observa**	**0.98**	**61**	Pn		**Pb**	**20 40 12.3**	**-1.6**
GO04				Sn		**Sb**	**20 40 25.3**	**-1.3**
LCO	**Las Campanas**	**1.89**	**30**	*e*P		**Pn**	**20 40 26.0**	**+0.5**
LCO				*i* S		**Sb**	**20 40 49.9**	**-2.7**
LCO	**Las Campanas**	**1.89**	**30**	Pn		**Pn**	**20 40 24.1**	**-1.5**
VA06	**Catapilco**	**1.95**	**168**	*e*P		**Pn**	**20 40 27.9**	**+1.9**
VA06				*i* S		**Sb**	**20 40 53.6**	**-0.4**
VA06				IAML			20 41 02.9	
	comp=E,6μm,0.5s							
AROD	**Rodeo**	**2.06**	**77**	*e*P		**Pb**	**20 40 30.5**	**-1.6**
AROD				*e*S		**Sb**	**20 40 56.9**	**-0.6**
VA03	**San Esteban**	**2.36**	**154**	*e*P		**Pb**	**20 40 34.4**	**-2.7**
VA03				*i* S		**Sb**	**20 41 04.1**	**-1.6**
VA03				IAML			20 41 12.5	
	comp=E,5μm,0.4s							
VA03	**San Esteban**	**2.36**	**154**	Pn		**Pb**	**20 40 35.9**	**-1.1**
ACDV	**Cuesta del Vie**	**2.36**	**79**	*e*P		Pn	20 40 21.7	-10
ACDV				*e*S		**Sb**	**20 41 06.1**	**+0.2**
ACDV				IAML			20 41 07.2	
	comp=Z,1μm,0.7s							
VA01	**Torpederas**	**2.37**	**177**	*e*S		**Sb**	**20 41 06.1**	**+0.2**
VA01				IAML			20 41 14.5	
	comp=E,1μm,0.6s							
VA01	**Torpederas**	**2.37**	**177**			**Pb**	**20 40 35.2**	**-1.9**
VA01	**Torpederas**	**2.37**	**177**	*e*P		**Pb**	**20 40 36.3**	**-0.8**
VA01				*e*S		**Sn**	**20 41 03.7**	**+4.0**
VA01				IAML			20 41 12.6	
	comp=Z,527nm,0.8s							
ROCH	**El Roble**	**2.41**	**164**	IAML			20 41 18.9	
	comp=N,3μm,0.5s							
AC04	**Llanos de Chal**	**2.52**	**15**	Pn		**Pn**	**20 40 33.8**	**-0.1**
ZON	**Zonda**	**2.82**	**109**	Pn		**Pb**	**20 40 41.5**	**-3.4**
ZON	**Zonda**	**2.82**	**109**	*e*P		**Pb**	**20 40 42.2**	**-2.6**
ZON				*e*S		**Sb**	**20 41 21.6**	**+2.7**
ZON				IAML			20 41 24.0	
	comp=Z,351nm,0.8s							
MT05	**Renca**	**2.88**	**162**	*e*P		**Pn**	**20 40 42.1**	**+3.2**
MT05				*e*S		**Sb**	**20 41 17.4**	**-3.2**
MT05	**Renca**	**2.88**	**162**	Pn		**Pn**	**20 40 40.7**	**+1.9**
VA05	**Santo Domingo**	**3.00**	**177**	Pn		**Pn**	**20 40 42.9**	**+2.4**
RTCV	**Cerro Valdivia**	**3.04**	**114**	*e*P		**Pb**	**20 40 46.0**	**-2.6**
RTCV				*e*S		**Sb**	**20 41 26.2**	**+1.0**
AGUA	**GUANDACOL**	**3.09**	**69**	*e*P		**Pb**	**20 40 46.7**	**-2.8**
MT09	**Talagante**	**3.19**	**168**	*e*P		**Pn**	**20 40 47.2**	**+3.9**
MT09				*e*S		**Sb**	**20 41 25.5**	**-4.2**
MT09				IAML			20 41 38.6	
	comp=N,1μm,0.4s							
MT09	**Talagante**	**3.19**	**168**	Pn		**Pn**	**20 40 45.4**	**+2.1**
MT01	**Popeta**	**3.24**	**172**	*e*P		**Pn**	**20 40 47.0**	**+3.2**
MT01				*e*S		**Sb**	**20 41 27.6**	**-3.3**
MT01				IAML			20 41 40.2	
	comp=E,830nm,0.3s							
MT01	**Popeta**	**3.24**	**172**	Pn		**Pn**	**20 40 45.6**	**+1.8**
ARCO	**CERRO ARCO**	**3.27**	**133**	*e*P		**Pb**	**20 40 50.0**	**-2.6**
ARCO				*e*S		**Sb**	**20 41 30.2**	**-1.9**
GO03	**Copiap**	**3.34**	**25**	Pn		**Pn**	**20 40 44.7**	**-0.5**
AAGR	**Agrelo**	**3.50**	**135**	*e*P		**Pb**	**20 40 53.4**	**-3.1**
AAGR				*e*S		**Sb**	**20 41 39.2**	**+0.6**
AC06	**Mina Casimiro**	**3.52**	**21**	Pn		**Pn**	**20 40 47.2**	**-0.5**
BO01	**Tunca**	**3.78**	**171**	Pn		**Pn**	**20 40 52.4**	**+1.2**
BO01	**Tunca**	**3.78**	**171**	*e*P		**Pb**	**20 40 57.1**	**-4.0**
BO01				*e*S		**Sb**	**20 41 44.2**	**-2.2**
BO03	**Pichilemu**	**3.84**	**182**	*e*P		**Pn**	**20 40 52.9**	**+0.9**
BO03				*e*S		**Sb**	**20 41 44.9**	**-3.2**
BO02	**Sierra Bellavi**	**4.22**	**169**	Pn		**Pn**	**20 40 59.8**	**+2.4**
BO02	**Sierra Bellavi**	**4.22**	**169**	*e*P		Pn	20 41 03.0	+5.7
BO02				*e*S		**Sb**	**20 41 55.2**	**-3.9**
GO05	**Huala**	**4.35**	**181**	Pn		**Pn**	**20 40 59.0**	**-0.1**
AC02	**Maricunga**	**4.46**	**32**	Pn		**Pn**	**20 41 00.5**	**-0.7**
COIS	**El Sosneado**	**4.81**	**158**	*e*P		Pn	20 41 12.0	+6.5
RFA	**San Rafael**	**4.97**	**147**	*e*P		**Pn**	**20 41 12.0**	**+4.3**
ML02	**Panimavida**	**5.11**	**177**	Pn		**Pn**	**20 41 09.0**	**-0.4**
CYA	**Choya**	**5.67**	**69**	*e*P		**Pn**	**20 41 19.0**	**+1.8**
H03N1	**Juan Fernandez**	**6.65**	**243**	T		T	20 48 26.5	
	baz=71,slow=72,SNR=2157							
H03N3	**Juan Fernandez**	**6.66**	**243**	T		T	20 48 24.5	
	baz=71,slow=72,SNR=1509							
H03N2	**Juan Fernandez**	**6.67**	**243**	T		T	20 48 26.3	
	baz=71,slow=72,SNR=1839							
H03S3	**Juan Fernandez**	**6.81**	**240**	T		T	20 48 33.0	
	baz=82,slow=75,SNR=3.3							
H03S1	**Juan Fernandez**	**6.81**	**240**	T		T	20 48 33.3	
	baz=82,slow=75,SNR=4.4							
H03S2	**Juan Fernandez**	**6.82**	**240**	T		T	20 48 31.6	
	baz=82,slow=75,SNR=4.6							
PB15	**IPOC Station P**	**7.70**	**16**	Pn		**Pn**	**20 41 44.5**	**-0.8**
PB06	**IPOC Station P**	**8.16**	**15**			**Pn**	**20 41 49.0**	**-2.6**
LC01	**Cunco**	**8.23**	**180**	Pn		**Pn**	**20 41 52.3**	**0.0**
LVC	**Limon Verde**	**8.41**	**19**	LR		LR	20 45 22.9	
	comp=E,161nm,19.5s,baz=214,slow=40							
LVC	**Limon Verde**	**8.41**	**19**			**Pn**	**20 41 53.4**	**-1.9**
PB04	**IPOC Station P**	**8.41**	**10**			**Pn**	**20 41 53.4**	**-1.7**
PB09	**IPOC Station P**	**9.11**	**15**	Pn		**Pn**	**20 42 01.6**	**-3.0**
PB01	**IPOC Station P**	**9.79**	**13**	Pn		**Pn**	**20 42 12.2**	**-1.7**
PLCA	**Paso Flores**	**10.11**	**175**	Pn		**Pn**	**20 42 18.9**	**+0.7**
	comp=E,0.1nm,0.3s,baz=130,slow=9.3,SNR=1.0							
PLCA				LR		LR	20 47 00.4	
	comp=E,98nm,18.2s,baz=351,slow=43							
PLCA	**Paso Flores**	**10.11**	**175**	Pn		**Pn**	**20 42 19.1**	**+0.9**
TA01	**Diego Aracena**	**10.15**	**9**	Pn		**Pn**	**20 42 16.7**	**-2.0**
LL04	**Puerto Octay**	**10.25**	**183**	Pn		**Pn**	**20 42 21.2**	**+1.2**
TRQA	**Tornquist**	**10.97**	**135**			**Pn**	**20 42 30.3**	**+0.5**
PB11	**IPOC Station P**	**11.02**	**11**	Pn		**Pn**	**20 42 29.5**	**-1.2**
PSGCX	**Pisagua**	**11.11**	**8**	Pn		**Pn**	**20 42 30.6**	**-1.4**
ITQB	**Itaqui**	**13.17**	**90**	Pn		**Pn**	**20 42 58.5**	**-1.4**
CPUP	**Villa Florida**	**13.43**	**75**	Pn		**Pn**	**20 43 02.1**	**-1.5**
	comp=E,0.2nm,0.3s,baz=268,slow=14,SNR=1.6							
CPUP	**Villa Florida**	**13.43**	**75**	Pn		Pn	20 42 58.0	-5.5
LPAZ	**La Paz**	**14.69**	**14**	Pn		**Pn**	**20 43 21.8**	**+0.5**
	comp=E,0.2nm,0.3s,baz=204,slow=4.3,SNR=6.4							
LPAZ	**La Paz**	**14.69**	**14**			**Pn**	**20 43 22.4**	**+1.1**
SIV	**San Ignacio**	**17.59**	**36**	P		**P**	**20 43 57.7**	**-1.1**
	comp=E,0.1nm,0.3s,baz=224,slow=12,SNR=7.0							
SIV	**San Ignacio**	**17.59**	**36**	P		**P**	**20 43 57.7**	**-1.1**
SAML	**Samuel**	**23.04**	**22**	P		**P**	**20 44 57.6**	**-0.2**
SAML				IAmb		IAmb	20 45 11.1	
	comp=Z,17nm,1.6s							
BDFB	**Brasilia**	**26.40**	**61**	P		**P**	**20 45 28.0**	**-1.1**
	comp=Z,5.6nm,0.6s,baz=223,slow=12,SNR=7.0							
BDFB	**Brasilia**	**26.40**	**61**	P		**P**	**20 45 28.0**	**-1.1**
BDFB	**Brasilia**	**26.40**	**61**	IAmb		IAmb	20 45 29.1	
	comp=Z,5.9nm,0.7s							
PMSA	**Palmer Station**	**34.48**	**174**	P		**P**	**20 46 42.3**	**+2.4**
RUSC	**La Rusia**	**36.36**	**358**	P		**P**	**20 46 58.2**	**+1.2**
RUSC				IAmb		IAmb	20 46 59.6	
	comp=Z,9.4nm,0.9s							
SDV	**Santo Domingo**	**39.33**	**2**	P		**P**	**20 47 22.7**	**+0.9**
	comp=Z,3.2nm,0.5s,baz=315,slow=2.8,SNR=3.7							
SDV	**Santo Domingo**	**39.33**	**2**	P		**P**	**20 47 22.7**	**+0.9**
MLPR	**Magueyes Islan**	**48.56**	**6**	P		**P**	**20 48 34.8**	**-0.7**
CRPR	**Cabo Rojo, PR**	**48.59**	**6**	P		**P**	**20 48 35.6**	**-0.1**
PDPR	**Patillas Dam,**	**48.71**	**7**	P		**P**	**20 48 34.9**	**-1.8**
VNA3	**Neumayer Olymp**	**52.39**	**159**	P		**P**	**20 49 04.7**	**+0.7**
VNA2	**Neumayer--Watz**	**53.02**	**158**	P		**P**	**20 49 09.3**	**+0.6**
	baz=286,slow=8.1							
SNAA	**Sanae**	**54.61**	**159**	P		**P**	**20 49 20.7**	**+0.4**
SNAA	**Sanae**	**54.61**	**159**	P		**P**	**20 49 20.9**	**+0.6**
SNAA				IAmb		IAmb	20 49 21.8	
	comp=Z,3.6nm,0.9s							
060A	**Indiantown**	**57.95**	**351**	P		**P**	**20 49 45.0**	**+0.6**
QSPA	**South Pole Qui**	**59.58**	**180**	P		**P**	**20 49 56.3**	**+0.7**
QSPA				IAmb		IAmb	20 50 00.9	
	comp=Z,8.4nm,1.4s							
TXAR	**Lajitas Array**	**66.93**	**330**	P		**P**	**20 50 45.9**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=153,slow=8.4,SNR=4.2							
TXAR	**Lajitas Array**	**66.93**	**330**	P		**P**	**20 50 45.9**	**+1.2**
DBIC	**Dimbokro**	**73.93**	**72**	P		**P**	**20 51 26.9**	**-0.7**
	comp=Z,4.6nm,0.7s,baz=225,slow=3.9,SNR=6.8							
DBIC	**Dimbokro**	**73.93**	**72**	P		**P**	**20 51 26.9**	**-0.7**
MAW	**Mawson**	**76.33**	**164**	P		**P**	**20 51 41.6**	**+1.0**
	comp=Z,3.1nm,0.6s,baz=213,slow=7.7,SNR=7.0							
MAW				LR		LR	21 26 08.8	
	comp=Z,51nm,19.3s,baz=330,slow=36							
MAW	**Mawson**	**76.33**	**164**	P		**P**	**20 51 41.6**	**+1.0**
MAW	**Mawson**	**76.33**	**164**	IAmb		IAmb	20 51 42.4	
	comp=Z,1.0nm,0.9s							
HWUT	**Hardware Ranch**	**80.72**	**331**	P		**P**	**20 52 06.3**	**+1.0**
HWUT				IAmb		IAmb	20 52 07.7	
	comp=Z,3.2nm,0.8s							
PDAR	**Pinedale Array**	**80.88**	**333**	P		**P**	**20 52 05.9**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=134,slow=8.9,SNR=2.8							
BOSA	**Boshof**	**81.45**	**118**	P		**P**	**20 52 09.9**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=290,slow=3.5,SNR=4.2							
TORD	**Torodi Ar. Bea**	**82.88**	**70**	P		**P**	**20 52 16.7**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=279,slow=5.4,SNR=8.2							
TORD	**Torodi Ar. Bea**	**82.88**	**70**	P		**P**	**20 52 16.6**	**-0.4**
TORD				IAmb		IAmb	20 52 31.0	
	comp=Z,7.0nm,1.1s							
WRA	**Warramunga Arr**	**123.77**	**210**	PKP		**PKPdf**	**20 58 49.7**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=169,slow=1.9,SNR=8.3							
WRA	**Warramunga Arr**	**123.77**	**210**			**PKPdf**	**20 58 49.7**	**-0.8**
H11S2	**WAKE ISLAND Hyl**	**25.96**	**271**	T		T	23 17 35.1	
	baz=115,slow=75,SNR=68							
H11S1	**WAKE ISLAND Hyl**	**25.97**	**271**	T		T	23 17 34.6	
	baz=115,slow=75,SNR=66							
H11S3	**WAKE ISLAND Hyl**	**25.98**	**271**	T		T	23 17 35.2	
	baz=115,slow=75,SNR=62							
ZALV	**Zalesovo Beam**	**151.25**	**29**	PKPbc		**PKiKP**	**20 59 45.5**	**+0.1**
	comp=Z,6.2nm,0.7s,baz=290,slow=2.8,SNR=12							
ZALV	**Zalesovo Beam**	**151.25**	**29**			**PKPbc**	**20 59 45.1**	**+0.2**
MKAR	**Makanchi Array**	**154.31**	**44**	PKPbc		**PKPbc**	**20 59 51.9**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=302,slow=2.7,SNR=4.8							
MKAR	**Makanchi Array**	**154.31**	**44**			**PKPbc**	**20 59 51.9**	**-0.1**

*TAP **18** 20:42:27.4, 24.24N×121.81E, h17km, ML3.4, B*
*JMA **18** 20:42:27.2, 24.18N×121.76E, h19km±1km, M2.6*

ISC 18 20:42:27.3±0.8, 24.22N±0.01×121.83E±0.02, h15km±6km, n103, σ0.77/195, 5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.12**	**319**	P		**Pg**	**20 42 30.9**	**+0.1**
	baz=321							
EHP				*e*S		**Sb**	**20 42 33.7**	**-0.4**
	baz=321							
ETL	**Fush Village**	**0.20**	**253**	P		**Pb**	**20 42 32.2**	**-0.4**
	baz=247							
ETL				*e*S		**Sb**	**20 42 36.0**	**-0.2**
	baz=247							
NACB	**Ninganchiao**	**0.22**	**259**	⇓P		**Pg**	**20 42 32.4**	**+0.1**
	baz=254							
NACB				S		**Sb**	**20 42 36.1**	**-0.7**
	baz=254							
ENA	**Nanau**	**0.23**	**339**	⇓P		**Pg**	**20 42 32.3**	**-0.1**
	baz=342							
ENA				S		**Sg**	**20 42 36.0**	**+0.2**
	baz=342							
EWUT	**Wuta**	**0.23**	**348**	⇓P		**Pg**	**20 42 32.5**	**+0.1**
	baz=350							
EWUT				S		**Sg**	**20 42 36.0**	**+0.1**
	baz=350							
TWD	**Chiawan**	**0.25**	**238**	*i* P		**Pb**	**20 42 33.2**	**-0.4**
	baz=238							
TWD				S		**Sb**	**20 42 37.5**	**-0.3**
	baz=238							
HWA	**Hwalien**	**0.32**	**221**	*e*P		**Pb**	**20 42 35.1**	**+0.5**
	baz=225							
HWA				*e*S		**Sn**	**20 42 42.1**	**-1.6**
	baz=225							
ETLH	**Xiulin Townshi**	**0.32**	**268**	P		**Pg**	**20 42 33.9**	**0.0**
	baz=266							
ETLH				*e*S		**Sg**	**20 42 38.9**	**+0.4**
	baz=266							
TWC	**Suao**	**0.39**	**2**	*i* P		**Pg**	**20 42 35.3**	**+0.1**
	baz=1.0							
TWC				*e*S		**Sg**	**20 42 40.7**	**+0.1**
	baz=1.0							
ETM	**Tongmen**	**0.40**	**231**	*e*P		**Pb**	**20 42 35.7**	**-0.3**
	baz=230							
ETM				*e*S		**Sb**	**20 42 42.1**	**+0.2**
	baz=230							
TEYL	**Yanliau Villag**	**0.41**	**212**	P		**Pb**	**20 42 36.6**	**+0.4**
	baz=220							
TEYL				*e*S		**Sn**	**20 42 44.0**	**-1.9**
	baz=220							
NDS	**Dongshan**	**0.43**	**346**	P		**Pg**	**20 42 36.0**	**+0.1**
	baz=346							
NDS				*e*S		**Sg**	**20 42 42.0**	**+0.3**
	baz=346							
NNSB	**Datong**	**0.46**	**297**	⇓P		**Pg**	**20 42 36.5**	**0.0**
	baz=296							
NNSB				S		**Sg**	**20 42 42.6**	**-0.1**
	baz=296							
NNS	**Nan Shan**	**0.47**	**298**	*i* P		**Pg**	**20 42 36.7**	**0.0**
	baz=297							
NNS				S		**Sg**	**20 42 43.1**	**-0.1**
	baz=297							
NDT	**Datong Townshi**	**0.48**	**323**	*i* P		**Pg**	**20 42 36.9**	**+0.1**
	baz=322							
NDT				*e*S		**Sg**	**20 42 43.5**	**+0.2**
	baz=322							
ENTT	**Nioudou**	**0.49**	**330**	P		**Pg**	**20 42 37.0**	**0.0**
	baz=330							
ENTT				S		**Sg**	**20 42 43.8**	**+0.3**
	baz=330							
WHF	**Hehuan Shan**	**0.52**	**262**	⇓*i*P		**Pg**	**20 42 37.7**	**0.0**
	baz=262							
WHF				S		**Sg**	**20 42 45.0**	**+0.2**
	baz=262							
TWE	**Neicheng**	**0.52**	**343**	P		**Pg**	**20 42 37.7**	**0.0**
	baz=344							
TWE				*e*S		**Sg**	**20 42 44.7**	**0.0**
	baz=344							
FUSS	**Fushou**	**0.54**	**273**	*e*P		**Pb**	**20 42 38.1**	**-0.5**
	baz=273							
FUSS				S		**Sg**	**20 42 45.4**	**+0.2**
	baz=273							
ESL	**Shilin**	**0.54**	**222**	P		**Pb**	**20 42 38.3**	**-0.2**
	baz=228							
ESL				*e*S		**Sb**	**20 42 47.0**	**+0.9**
	baz=228							
ILA	**Ilan**	**0.55**	**352**	P		**Pb**	**20 42 38.5**	**-0.1**
	baz=346							
ILA				*e*S		**Sb**	**20 42 46.3**	**-0.1**
	baz=346							
TEGC	**Jichi Village**	**0.57**	**208**	*e*P		**Pn**	**20 42 39.7**	**-1.2**
	baz=196							
TEGC				*e*S		**Sn**	**20 42 50.3**	**+0.3**
	baz=196							
TWT	**Tachien**	**0.60**	**274**	P		**Pb**	**20 42 39.6**	**+0.1**
	baz=272							
TWT				*e*S		**Sb**	**20 42 47.7**	**-0.2**
	baz=272							
YHNB	**Yeheng**	**0.61**	**317**	P		**Pg**	**20 42 39.4**	**0.0**
	baz=317							
YHNB				*e*S		**Sg**	**20 42 47.4**	**-0.1**
	baz=317							
TDCB	**Techi**	**0.61**	**274**	P		**Pb**	**20 42 39.6**	**-0.2**
	baz=273							
TDCB				S		**Sg**	**20 42 47.5**	**-0.1**
	baz=273							
CHGB	**Renai**	**0.62**	**256**	P		**Pb**	**20 42 39.8**	**-0.1**
	baz=250							
CHGB				*e*S		**Sb**	**20 42 48.2**	**-0.3**
	baz=250							
NSK	**Sanguang**	**0.63**	**317**	P		**Pg**	**20 42 39.5**	**-0.1**
	baz=316							
NSK				*e*S		**Sg**	**20 42 47.6**	**-0.4**
	baz=316							
NWLT	**Wulai**	**0.63**	**332**	P		**Pb**	**20 42 39.9**	**-0.2**
	baz=331							
NWLT				*e*S		**Sg**	**20 42 48.0**	**-0.2**
	baz=331							
NTC	**Toucheng**	**0.64**	**360**	P		**Pb**	**20 42 39.9**	**-0.2**
	baz=359							
NTC				*e*S		**Sb**	**20 42 48.5**	**-0.3**
	baz=359							
OWD	**Renai**	**0.65**	**247**	P		**Pb**	**20 42 40.4**	**-0.1**
	baz=246							
OWD				*e*S		**Sb**	**20 42 50.1**	**+0.7**
	baz=246							
EGFH	**Guangfu**	**0.66**	**214**	P		**Pb**	**20 42 40.6**	**+0.1**
	baz=228							
EGFH				*e*S		**Sn**	**20 42 51.0**	**-1.2**
	baz=228							
TIPB	**Shuangxi**	**0.75**	**360**	P		**Pg**	**20 42 42.1**	**+0.1**
	baz=358							
TIPB				*e*S		**Sg**	**20 42 51.7**	**-0.2**
	baz=358							
TWA	**Mucha**	**0.79**	**344**	*e*P		**Pn**	**20 42 43.4**	**-0.6**
	baz=343							
TWA				*e*S		**Sg**	**20 42 53.3**	**+0.1**
	baz=343							
TWB1	**Santiao Chiao**	**0.80**	**10**	*e*P		**Pg**	**20 42 43.1**	**+0.2**
	baz=9.0							
TWB1				*e*S		**Sg**	**20 42 53.9**	**+0.5**
	baz=9.0							
WHP	**Taichung City**	**0.81**	**274**	*e*P		**Pg**	**20 42 43.2**	**+0.2**
	baz=275							
WHP				*e*S		**Sg**	**20 42 53.9**	**+0.2**
	baz=275							
HGSD	**Ruisui**	**0.81**	**207**	*e*P		**Pn**	**20 42 43.9**	**-0.3**
	baz=195							
HGSD				*e*S		**Sn**	**20 42 57.0**	**+1.0**
	baz=195							
TATO	**Taipei**	**0.82**	**338**	*e*P		**Pg**	**20 42 43.3**	**+0.1**
	baz=336							
TATO				*e*S		**Sg**	**20 42 54.1**	**+0.1**
	baz=336							
WPL	**Puli Township**	**0.82**	**256**	*e*P		**Pg**	**20 42 43.5**	**+0.2**
	baz=257							
WPL				*e*S		**Sg**	**20 42 54.5**	**+0.4**
	baz=257							
DPDB	**Guoxing**	**0.85**	**258**	*e*P		**Pn**	**20 42 44.0**	**-0.7**
	baz=259							
DPDB				*e*S		**Sg**	**20 42 55.4**	**+0.5**
	baz=259							
EHY	**Hungye**	**0.85**	**213**	*e*P		**Pb**	**20 42 42.8**	**-0.9**
	baz=225							
EHY				*e*S		**Sn**	**20 42 56.7**	**-0.2**
	baz=225							
NJD	**Zhudong**	**0.85**	**308**	*e*P		**Pg**	**20 42 44.0**	**+0.2**
	baz=312							
NJD				*e*S		**Sg**	**20 42 55.5**	**+0.5**
	baz=312							
NWF	**Wu-fen Shan**	**0.85**	**357**	*e*P		**Pn**	**20 42 44.2**	**-0.6**
	baz=348							
NWF				*e*S		**Sg**	**20 42 55.1**	**0.0**
	baz=348							
WFSB	**Wu-fen Shan**	**0.85**	**357**	*e*P		**Pg**	**20 42 44.1**	**+0.3**
	baz=348							
WFSB				*e*S		**Sg**	**20 42 55.1**	**+0.1**
	baz=348							
WCS	**Beigang Elemen**	**0.85**	**259**	*e*P		**Pg**	**20 42 44.0**	**+0.2**
	baz=260							
WCS				*e*S		**Sg**	**20 42 55.1**	**0.0**
	baz=260							
LIOB	**Emei**	**0.86**	**300**	*e*P		**Pn**	**20 42 44.2**	**-0.7**
	baz=299							
LIOB				*e*S		**Sg**	**20 42 55.3**	**+0.1**
	baz=299							
TAP1	**Taipei**	**0.86**	**341**	*e*P		**Pg**	**20 42 44.0**	**0.0**
	baz=339							
TAP1				*e*S		**Sn**	**20 42 56.6**	**-0.7**
	baz=339							
TAP	**Taipei**	**0.87**	**340**	*e*P		**Pn**	**20 42 44.5**	**-0.5**
	baz=339							
TAP				*e*S		**Sg**	**20 42 56.2**	**+0.6**
	baz=339							
SSLB	**Suanglung**	**0.91**	**242**	*e*P		**Pg**	**20 42 44.8**	**-0.1**
	baz=252							
SSLB				*e*S		**Sg**	**20 42 56.6**	**-0.3**
	baz=252							
SMLT	**Sun Moon Lake**	**0.91**	**249**	*e*P		**Pg**	**20 42 45.1**	**+0.1**
	baz=250							
SMLT				*e*S		**Sg**	**20 42 57.3**	**+0.3**
	baz=250							
NTY	**Taoyuan**	**0.92**	**328**	*e*P		**Pn**	**20 42 45.4**	**-0.3**
	baz=332

WJS				*e*S		**Sn**	**20 43 03.4**	**+0.7**
	baz=248							
YUS	**Yu-Shan**	**1.08**	**228**	*e*P		**Pb**	**20 42 47.8**	**-0.2**
	baz=231							
YUS				*e*S		**Sn**	**20 43 03.4**	**+0.1**
	baz=231							
WDJ	**Dajia District**	**1.09**	**277**	*e*P		**Pg**	**20 42 48.3**	**-0.1**
	baz=277							
WDJ				*e*S		**Sg**	**20 43 04.3**	**+1.6**
	baz=277							
WNT1	**Nantou City**	**1.10**	**254**	*e*P		**Pg**	**20 42 49.6**	**+1.2**
	baz=253							
WNT1				*e*S		**Sg**	**20 43 06.0**	**+3.3**
	baz=253							
WNT	**Mingjian**	**1.10**	**252**	*e*P		**Pg**	**20 42 49.2**	**+0.7**
	baz=244							
WNT				*e*S		**Sg**	**20 43 05.4**	**+2.5**
	baz=244							
YOJ	**Yonaguni jima**	**1.10**	**77**	P		**Pg**	**20 42 48.4**	**-0.2**
YOJ				*e*S		**Sg**	**20 43 04.6**	**+1.6**
YOJ	**Yonaguni jima**	**1.10**	**77**	P		**Pg**	**20 42 48.5**	**0.0**
	baz=68							
YOJ				*e*S		**Sg**	**20 43 05.3**	**+2.3**
	baz=68							
FULB	**Fuli**	**1.13**	**206**	*e*P		**Pg**	**20 42 48.8**	**-0.2**
	baz=226							
FULB				*e*S		**Sg**	**20 43 04.8**	**+1.1**
	baz=226							
ALS	**Alishan**	**1.17**	**233**	*e*P		**Pg**	**20 42 50.3**	**+0.3**
	baz=224							
CHKT	**Chengkung**	**1.19**	**201**	*e*P		**Pb**	**20 42 49.3**	**-0.3**
	baz=220							
CHKT				*e*S		**Sg**	**20 43 06.8**	**+1.0**
	baz=220							
CHN5	**Tsauling**	**1.22**	**240**	*e*P		**Pg**	**20 42 50.7**	**-0.2**
	baz=242							
CHN5				*e*S		**Sg**	**20 43 09.0**	**+2.2**
	baz=242							
ECS	**Chishang**	**1.25**	**207**	*e*P		**Pn**	**20 42 49.8**	**-0.5**
	baz=210							
ECS				*e*S		**Sg**	**20 43 08.1**	**+0.5**
	baz=210							
ELDTW	**Lidau**	**1.27**	**216**	*e*P		**Pn**	**20 42 49.5**	**-1.0**
	baz=206							
ELDTW				*e*S		**Sg**	**20 43 08.1**	**-0.1**
	baz=206							
WDLH	**Douliu**	**1.29**	**246**	*e*P		**Pg**	**20 42 52.3**	**+0.1**
	baz=249							
WDLH				*e*S		**Sg**	**20 43 12.0**	**+2.9**
	baz=249							
EDH	**Donghe**	**1.33**	**201**	*e*P		**Pn**	**20 42 50.8**	**-0.5**
	baz=186							
EDH				*e*S		**Sb**	**20 43 08.5**	**-0.3**
	baz=186							
WRL	**Guolierlin Hig**	**1.36**	**257**	*e*P		**Pb**	**20 42 52.8**	**+0.2**
	baz=259							
WRL				*e*S		**Sg**	**20 43 12.1**	**+0.7**
	baz=259							
STYH	**Taoyuan**	**1.42**	**223**	*e*P		**Pb**	**20 42 53.7**	**+0.2**
	baz=226							
STYH				*e*S		**Sg**	**20 43 12.5**	**-0.7**
	baz=226							
WTK	**Tuku**	**1.42**	**249**	*e*P		**Pb**	**20 42 53.6**	**+0.1**
	baz=251							
WTK				*e*S		**Sg**	**20 43 14.4**	**+1.3**
	baz=251							
PCYT	**Pengchaiyu**	**1.42**	**9**	P		**Pb**	**20 42 53.0**	**-0.6**
	baz=6.0							
TPUB	**Ta-pu**	**1.43**	**231**	P		**Pb**	**20 42 53.8**	**+0.2**
	baz=234							
TPUB				*e*S		**Sg**	**20 43 13.8**	**+0.4**
	baz=234							
STYT	**Tauyuan**	**1.44**	**223**	*e*P		**Pg**	**20 42 54.4**	**-0.6**
	baz=226							
STYT				*e*S		**Sg**	**20 43 13.2**	**-0.5**
	baz=226							
LONT	**Longtian**	**1.45**	**206**	*e*P		**Pn**	**20 42 52.2**	**-0.9**
	baz=210							
LONT				*e*S		**Sb**	**20 43 12.5**	**+0.1**
	baz=210							
TWK	**Hsinying**	**1.55**	**233**	*e*P		**Pb**	**20 42 55.6**	**-0.1**
	baz=235							
TWK				*e*S		**Sg**	**20 43 17.3**	**-0.1**
	baz=235							
TWG	**Pinlang**	**1.55**	**207**	*e*P		**Pn**	**20 42 54.5**	**+0.1**
	baz=210							
TWG				*e*S		**Sn**	**20 43 13.5**	**-0.8**
	baz=210							
TWGBT	**Beinan**	**1.55**	**206**	*e*S		**Sn**	**20 43 13.5**	**-0.8**
	baz=210							
LDUT	**Ludao**	**1.57**	**192**	*e*S		**Sn**	**20 43 13.3**	**-1.4**
	baz=181							
SNST	**Tainan City**	**1.57**	**231**	*e*S		**Sg**	**20 43 17.7**	**-0.3**
	baz=234							
CHN1	**Nanshi**	**1.57**	**230**	*e*P		**Pb**	**20 42 55.6**	**-0.5**
	baz=233							
CHN1				*e*S		**Sg**	**20 43 17.6**	**-0.5**
	baz=233							
WSF	**Szhu**	**1.58**	**249**	*e*S		**Sg**	**20 43 18.4**	**+0.2**
	baz=251							
SGST	**Jiashian**	**1.61**	**226**	*e*P		**Pb**	**20 42 55.9**	**-0.8**
	baz=229							
SGST				*e*S		**Sg**	**20 43 18.2**	**-0.9**
	baz=229							
IRIF	**Iriomote-Funau**	**1.74**	**86**	P		**Pn**	**20 42 57.1**	**+0.2**
JKRS	**Kuro-shima**	**1.99**	**89**	P		**Pn**	**20 43 01.2**	**+0.8**
JKRS				*e*S		**Sb**	**20 43 26.9**	**-0.9**
JIJ	**Ishigaki jima**	**2.12**	**86**	P		**Pn**	**20 43 02.3**	**+0.2**
JIJ				*e*S		**Sn**	**20 43 28.8**	**+0.6**
JISG	**Ishigakijimahi**	**2.29**	**80**	P		**Pn**	**20 43 04.8**	**+0.3**
JISG				*e*S		**Sn**	**20 43 33.2**	**+0.7**

MEX 18 20:49:53.4±1.1, 15°43'N×96°55'W, h16km±28km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PANG	**Puerto Angel**	**0.25**	**18**	*i* P	Pg	20 49 55.2	-3.7
PANG				*i* S	Sg	20 49 56.7	-6.0
PEIG	**Puerto Escondi**	**0.81**	**315**	*i* P	Pb	20 50 05.9	-3.1
PEIG				*i* S	Sb	20 50 15.8	-4.0
VHO	**Vista Hermosa**	**1.64**	**354**	*e*P	Pn	20 50 18.8	-3.0
VHO				*i* S	Sn	20 50 37.6	-5.2
PNIG	**Pinotepa**	**1.79**	**303**	*i* P	Pn	20 50 18.3	-5.4
PNIG				*i* S	Sn	20 50 40.9	-5.2
TXIG	**Tlaxiaco**	**2.16**	**327**	*e*P	Pn	20 50 26.5	-2.5
TXIG				*e*S	Sn	20 50 51.3	-4.3
CMIG	**Matias Romero**	**2.30**	**44**	*e*P	Pn	20 50 27.0	-3.7
CMIG				*e*S	Sn	20 50 53.5	-5.3
HLIG	**Huajuapan de L**	**2.67**	**334**	*e*P	Pn	20 50 36.8	+0.8
HLIG				*e*S	Sn	20 51 04.3	-3.8
MGIG	**Malinaltepec**	**2.69**	**312**	*e*P	Pb	20 50 38.9	-2.3
MGIG				*e*S	Sn	20 51 06.4	-2.1
TOIG	**Toxpalan**	**2.70**	**350**	*e*P	Pn	20 50 35.6	-0.6
TOIG				*e*S	Sn	20 51 09.8	+1.1
TLIG	**Tlapa**	**2.87**	**318**	*e*P	Pb	20 50 42.0	-2.3
TLIG				*e*S	Sb	20 51 17.3	-2.0
MEIG	**Mezcala**	**3.85**	**311**	*e*P	Pn	20 50 56.4	+4.4
MEIG				*e*S	Sb	20 51 47.7	+0.3
PLIG	**Platanillo**	**4.08**	**317**	*e*P	Pb	20 51 00.1	-4.8
PLIG				*e*S	Sb	20 51 52.5	-1.6

*IDC **18** 20:50:36.3±1.7, 30°.82S×71°.96W, h0km, mb3.7/1, mb1 3.7/2, mb1mx3.5/19, mbtmp3.6/2, ML3.8/1, Error ellipse: s-maj=88.3km s-min=46.6km az=105.0*
*NEIC **18** 20:50:41.2±2.3, 30°.90S±0°.04×71°.94W±0°.04, h25km±5km, mb4.3/4, ML4.1(GUC), Error ellipse: s-maj=7.0km s-min=4.3km az=151.0*
*GUC **18** 20:50:43.1±0.7, 30°.87S×71°.63W, h31km±3km, ML4.1*

ISC 18 20:50:39.4±1.8, 30°.96S±0°.04×71°.87W±0°.07, h15km±12km, n68, σ1°.926/66, 6C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.35**	**36**	⇑*i* P		**Pn**	**20 50 49.7**	**-0.3**
CO06				*i* S		**Sb**	**20 50 54.6**	**+1.9**
CO06				IAML			20 50 55.2	
	comp=N,15μm,0.2s							
CO06	**Fray Jorge**	**0.35**	**36**			**Pn**	**20 50 49.6**	**-0.3**
CO06				Sg		**Sb**	**20 50 54.6**	**+1.9**
CO03	**El Pedregal**	**1.02**	**84**	⇓*i* P		**Pb**	**20 50 59.1**	**+0.2**
CO03				*i* S		**Sb**	**20 51 11.4**	**-0.8**
CO03				IAML			20 51 14.4	
	comp=E,10μm,0.3s							
CO03	**El Pedregal**	**1.02**	**84**	Pn		**Pb**	**20 50 59.0**	**+0.2**
CO03				Sg		**Sb**	**20 51 11.3**	**-0.9**
CO05	**La Serena**	**1.17**	**28**	⇑*i* P		**Pg**	**20 51 02.4**	**+0.4**
CO05				*i* S		**Sn**	**20 51 16.8**	**-0.2**
CO05				IAML			20 51 22.1	
	comp=E,4μm,0.3s							
CO05	**La Serena**	**1.17**	**28**			**Pg**	**20 51 02.3**	**+0.4**
CO05						**Sb**	**20 51 16.4**	**+0.1**
GO04	**Tololo Observa**	**1.21**	**50**	⇓*i* P		**Pb**	**20 51 02.5**	**+0.3**
GO04				*i* S		**Sb**	**20 51 17.6**	**-0.1**
GO04				IAML			20 51 21.1	
	comp=E,15μm,0.7s							
GO04	**Tololo Observa**	**1.21**	**50**			**Pb**	**20 51 02.6**	**+0.3**
GO04						**Sb**	**20 51 17.9**	**+0.1**
VA06	**Catapilco**	**1.67**	**163**	⇑*i* P		**Pn**	**20 51 09.6**	**+1.3**
VA06				*i* S		**Sn**	**20 51 30.6**	**+1.1**
VA06				IAML			20 51 36.4	
	comp=E,4μm,0.8s							
VA01	**Torpederas**	**2.07**	**175**			**Pn**	**20 51 14.5**	**+0.8**
VA03	**San Esteban**	**2.12**	**148**	*e*P		**Pn**	**20 51 15.3**	**+0.7**
VA03				*i* S		**Sb**	**20 51 43.9**	**0.0**
VA03				IAML			20 51 51.7	
	comp=N,3μm,0.5s							
VA03	**San Esteban**	**2.12**	**148**			**Pn**	**20 51 16.3**	**+1.7**
ROCH	**El Roble**	**2.14**	**160**	⇑*i* P		**Pn**	**20 51 16.4**	**+1.6**
ROCH				IAML			20 51 52.2	
	comp=E,2μm,0.7s							
LCO	**Las Campanas**	**2.19**	**28**	⇑*i* P		**Pn**	**20 51 16.7**	**+1.1**
LCO				*i* S		**Sb**	**20 51 45.1**	**-0.9**
LCO	**Las Campanas**	**2.19**	**28**			**Pn**	**20 51 16.9**	**+1.3**
MT05	**Renca**	**2.61**	**159**	*e*P		**Pn**	**20 51 23.1**	**+1.8**
MT05				IAML			20 52 07.1	
	comp=E,2μm,0.3s							
MT05	**Renca**	**2.61**	**159**			**Pn**	**20 51 23.0**	**+1.8**
VA05	**Santo Domingo**	**2.70**	**175**			**Pn**	**20 51 22.9**	**+0.5**
ZON	**Zonda**	**2.79**	**103**			**Pb**	**20 51 27.2**	**-1.9**
AC04	**Llanos de Chal**	**2.83**	**14**			**Pn**	**20 51 24.9**	**+0.7**
MT09	**Talagante**	**2.91**	**165**	⇑*i* P		**Pn**	**20 51 27.4**	**+2.0**
MT09				IAML			20 52 15.8	
	comp=N,858nm,0.2s							
MT09	**Talagante**	**2.91**	**165**			**Pn**	**20 51 26.8**	**+1.5**
MT01	**Popeta**	**2.95**	**170**			**Pn**	**20 51 26.9**	**+1.1**
BO01	**Tunca**	**3.49**	**169**			**Pn**	**20 51 34.3**	**+1.1**
GO03	**Copiap**	**3.64**	**23**			**Pn**	**20 51 36.6**	**+1.2**
AC06	**Mina Casimiro**	**3.82**	**21**			**Pn**	**20 51 38.6**	**+0.7**
BO02	**Sierra Bellavi**	**3.93**	**167**			**Pn**	**20 51 41.3**	**+1.9**
GO05	**Huala**	**4.04**	**181**			**Pn**	**20 51 41.1**	**+0.2**
AC02	**Maricunga**	**4.76**	**31**			**Pn**	**20 51 52.3**	**+1.2**
ML02	**Panimavida**	**4.81**	**176**			**Pn**	**20 51 52.0**	**+0.6**
PB14	**IPOC Station P**	**6.44**	**12**	Pn		**Pn**	**20 52 11.8**	**-2.3**
H03N1	**Juan Fernandez**	**6.46**	**246**	T		T	20 59 06.8	
	baz=73,slow=72,SNR=2136							
VA04	**Juan Fernndez**	**6.47**	**244**	Pn		**Pn**	**20 52 14.2**	**0.0**
H03N3	**Juan Fernandez**	**6.48**	**246**	T		T	20 59 08.2	
	baz=73,slow=72,SNR=1570							
H03N2	**Juan Fernandez**	**6.48**	**246**	T		T	20 59 07.4	
	baz=73,slow=72,SNR=1662							
H03S3	**Juan Fernandez**	**6.61**	**242**	T		T	20 59 17.4	
	baz=242,slow=74,SNR=17							
H03S1	**Juan Fernandez**	**6.61**	**242**	T		T	20 59 20.0	
	baz=242,slow=74,SNR=7.4							
H03S2	**Juan Fernandez**	**6.62**	**242**	T		T	20 59 20.0	
	baz=242,slow=74,SNR=8.2							
PB10	**IPOC Station P**	**7.51**	**9**	Pn		**Pn**	**20 52 30.4**	**+2.0**
LC01	**Cunco**	**7.92**	**180**	Pn		**Pn**	**20 52 34.2**	**+0.1**
PB15	**IPOC Station P**	**8.01**	**16**	Pn		**Pn**	**20 52 33.8**	**-1.7**
PB06	**IPOC Station P**	**8.47**	**15**	Pn		**Pn**	**20 52 41.3**	**-0.5**
LVC	**Limon Verde**	**8.72**	**18**	Pn		**Pn**	**20 52 43.5**	**-1.9**
PB04	**IPOC Station P**	**8.72**	**11**	Pn		**Pn**	**20 52 44.5**	**-0.8**
PB07	**IPOC Station P**	**9.36**	**11**	Pn		**Pn**	**20 52 53.3**	**-0.8**
PB09	**IPOC Station P**	**9.42**	**15**	Pn		**Pn**	**20 52 54.8**	**-0.1**
PLCA	**Paso Flores**	**9.81**	**174**	Pn		**Pn**	**20 53 00.6**	**+0.4**
	comp=N,0.2nm,0.3s,baz=332,slow=7.3,SNR=2.4							
PLCA	**Paso Flores**	**9.81**	**174**	Pn		**Pn**	**20 53 01.4**	**+1.2**
TRQA	**Tornquist**	**10.80**	**134**			**Pn**	**20 53 14.0**	**+0.5**
PB08	**IPOC Station P**	**11.04**	**13**	Pn		**Pn**	**20 53 14.8**	**-2.6**
PB11	**IPOC Station P**	**11.33**	**11**	Pn		**Pn**	**20 53 18.5**	**-2.5**
PSGCX	**Pisagua**	**11.42**	**8**	Pn		**Pn**	**20 53 19.3**	**-2.9**
VNA3	**Neumayer Olymp**	**52.12**	**159**	P		**P**	**20 59 49.8**	**+1.1**
VNA1	**Neumayer--Stat**	**52.42**	**158**	P		**P**	**20 59 50.9**	**0.0**
VNA2	**Neumayer--Watz**	**52.77**	**158**	P		**P**	**20 59 54.1**	**+0.6**
	baz=289,slow=7.5							
SNAA	**Sanae**	**54.35**	**159**	P		**P**	**21 00 05.7**	**+0.5**
SNAA	**Sanae**	**54.35**	**159**	P		**P**	**21 00 06.0**	**+0.8**
SNAA				IAmb		IAmb	21 00 06.7	
	comp=Z,1.9nm,0.7s							
QSPA	**South Pole Qui**	**59.27**	**180**	P		**P**	**21 00 41.6**	**+1.3**
TORD	**Torodi Ar. Bea**	**83.05**	**70**	P		**P**	**21 03 04.4**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=253,slow=4.9,SNR=4.8							
TORD	**Torodi Ar. Bea**	**83.05**	**70**	IAmb		IAmb	21 03 35.4	
	comp=Z,4.5nm,1.4s							
WRA	**Warramunga Arr**	**123.47**	**210**	PKP		**PKPdf**	**21 09 36.4**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=168,slow=1.5,SNR=10.0							
H11S2	**WAKE ISLAND Hyd**	**25.90**	**271**	T		T	23 28 25.7	
	baz=116,slow=75,SNR=79							
H11S1	**WAKE ISLAND Hyd**	**25.92**	**271**	T		T	23 28 28.3	
	baz=116,slow=75,SNR=58							
H11S3	**WAKE ISLAND Hyd**	**25.92**	**271**	T		T	23 28 27.4	
	baz=116,slow=75,SNR=56							
H11N3	**WAKE ISLAND Hyd**	**26.24**	**273**	T		T	23 28 48.3	
	baz=116,slow=76,SNR=14							
H11N1	**WAKE ISLAND Hyd**	**26.25**	**273**	T		T	23 28 52.2	
	baz=116,slow=76,SNR=8.6							
H11N2	**WAKE ISLAND Hyd**	**26.26**	**273**	T		T	23 28 50.0	
	baz=116,slow=76,SNR=26							
ZALV	**Zalesovo Beam**	**151.55**	**29**	PKPbc		**PKPbc**	**21 10 31.1**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=306,slow=3.4,SNR=2.7							

MEX 18 20:53:39.2±0.8, 15°49N×96°54W, h20km±39km, MD4.3, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PANG	**Puerto Angel**	**0.19**	**21**	*i* P	Pb	20 53 40.5	-3.7
PANG				*i* S	Sb	20 53 41.9	-5.7
PEIG	**Puerto Escondi**	**0.77**	**311**	*i* P	Pb	20 53 51.2	-2.8
PEIG				*e*S	Sb	20 54 01.1	-3.0
VHO	**Vista Hermosa**	**1.58**	**353**	*i* P	Pn	20 54 03.1	-3.3
VHO				*i* S	Sn	20 54 22.4	-4.0
PNIG	**Pinotepa**	**1.77**	**301**	*e*P	Pn	20 54 06.2	-2.5
PNIG				*e*S	Sn	20 54 26.0	-4.7
TXIG	**Tlaxiaco**	**2.11**	**326**	*e*P	Pn	20 54 11.4	-2.3
TXIG				*e*S	Sn	20 54 36.5	-2.9
CMIG	**Matias Romero**	**2.25**	**45**	*e*P	Pn	20 54 12.3	-3.1
CMIG				*e*S	Sn	20 54 39.3	-3.3
HLIG	**Huajuapan de L**	**2.62**	**333**	*e*P	Pn	20 54 18.4	-2.2
HLIG				*e*S	Sn	20 54 48.6	-3.4
TOIG	**Toxpalan**	**2.64**	**349**	*e*P	Pn	20 54 18.0	-2.8
TOIG				*e*S	Sn	20 54 49.7	-2.5
MGIG	**Malinaltepec**	**2.65**	**311**	*e*P	Pn	20 54 23.5	+2.5
MGIG				*e*S	Sb	20 54 56.9	-1.5
TPIG	**Tehuac#an**	**3.02**	**345**	*e*P	Pb	20 54 30.0	-2.4
TPIG				*e*S	Sb	20 55 07.0	-1.9
PCIG		**3.21**	**86**	*e*P	Pn	20 54 24.6	-3.9
PCIG				*e*S	Sn	20 55 01.5	-4.7

TAP 18 20:54:21.6, 24°.27N×121°.82E, h14km, ML2.0, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.17**	**336**	P	Pb	20 54 26.4	-0.2
	baz=337						
ENA				S	Sb	20 54 30.1	+0.1
	baz=337						
EWUT	**Wuta**	**0.18**	**348**	P	Pb	20 54 26.5	-0.1
	baz=347						
EWUT				S	Sb	20 54 30.1	0.0
	baz=347						
ETL	**Fush Village**	**0.21**	**239**	P	Pb	20 54 27.0	-0.2
	baz=238						
ETL				*e*S	Sb	20 54 31.3	+0.4
	baz=238						
NACB	**Ninganchiao**	**0.23**	**246**	P	Pb	20 54 27.0	-0.4
	baz=245						
NACB				S	Sb	20 54 31.4	0.0
	baz=245						
TWD	**Chiawan**	**0.28**	**228**	P	Pb	20 54 28.1	-0.2
	baz=226						
TWD				*e*S	Sb	20 54 32.9	+0.1
	baz=226						
ETLH	**Xiulin Townshi**	**0.32**	**259**	*e*P	Pb	20 54 28.7	-0.3
	baz=258						
ETLH				*e*S	Sb	20 54 33.8	-0.2
	baz=258						
TWC	**Suao**	**0.34**	**4**	*e*P	Pg	20 54 29.0	+0.4
	baz=6.0						
TWC				*e*S	Sb	20 54 34.4	-0.3
	baz=6.0						
NDS	**Dongshan**	**0.38**	**345**	P	Pb	20 54 29.9	-0.1
	baz=345						
NDS				*e*S	Sb	20 54 36.0	+0.3
	baz=345						
ETM	**Tongmen**	**0.42**	**225**	P	Pb	20 54 30.7	-0.1
	baz=224						
ETM				*e*S	Sb	20 54 38.0	+0.9
	baz=224						
NNSB	**Datong**	**0.43**	**292**	P	Pb	20 54 30.9	-0.1
	baz=291						
NNSB				*e*S	Sb	20 54 37.5	+0.2
	baz=291						
NDT	**Datong Townshi**	**0.43**	**320**	*e*P	Pb	20 54 31.3	+0.2
	baz=319						
NDT				*e*S	Sb	20 54 38.1	+0.6
	baz=319						
ENTT	**Nioudou**	**0.44**	**328**	P	Pb	20 54 31.2	+0.1
	baz=328						
ENTT				*e*S	Sb	20 54 37.8	+0.3
	baz=328						
NNS	**Nan Shan**	**0.44**	**293**	P	Pb	20 54 31.3	+0.1
	baz=292						
NNS				*e*S	Sb	20 54 37.6	-0.1
	baz=292						
TWE	**Neicheng**	**0.47**	**343**	*e*P	Pb	20 54 31.9	+0.2
	baz=344						
TWE				*e*S	Sb	20 54 38.7	+0.3
	baz=344						
WHF	**Hehuan Shan**	**0.52**	**257**	P	Pb	20 54 32.5	-0.3
	baz=256						
WHF				*e*S	Sb	20 54 40.4	+0.1
	baz=256						
FUSS	**Fushou**	**0.53**	**268**	*e*P	Pb	20 54 32.7	0.0
	baz=267						
FUSS				*e*S	Sb	20 54 40.2	-0.1
	baz=267						
YHNB	**Yeheng**	**0.57**	**315**	*e*P	Pb	20 54 33.5	+0.2
	baz=314						
YHNB				*e*S	Sb	20 54 41.9	+0.5
	baz=314						
ESL	**Shilin**	**0.57**	**218**	*e*P	Pg	20 54 33.0	+0.2
	baz=217						
ESL				*e*S	Sb	20 54 41.8	+0.4
	baz=217						
NWLT	**Wulai**	**0.58**	**330**	*e*P	Pb	20 54 33.4	-0.1
	baz=330						
NWLT				*e*S	Sb	20 54 42.0	+0.2
	baz=330						
NSK	**Sanguang**	**0.58**	**314**	P	Pb	20 54 33.7	+0.1
	baz=314						
NSK				*e*S	Sb	20 54 42.1	+0.3
	baz=314						
TWT	**Tachien**	**0.59**	**269**	*e*P	Pb	20 54 34.0	+0.3
	baz=268						
TWT				*e*S	Sb	20 54 42.6	+0.6
	baz=268						
TDCB	**Techi**	**0.60**	**269**	*e*P	Pb	20 54 33.8	-0.1
	baz=268						
TDCB				*e*S	Sb	20 54 42.2	-0.2
	baz=268						
CHGB	**Renai**	**0.62**	**251**	*e*P	Pb	20 54 34.5	+0.1
	baz=250						
CHGB				*e*S	Sb	20 54 43.9	+0.8
	baz=250						
OWD	**Renai**	**0.67**	**242**	*e*P	Pb	20 54 34.9	-0.2
	baz=242						
OWD				*e*S	Sb	20 54 44.8	+0.6
	baz=242						
EGFH	**Guangfu**	**0.70**	**211**	*e*P	Pg	20 54 35.1	-0.1
	baz=211						
EGFH				*e*S	Sn	20 54 46.8	-0.7
	baz=211						
WHP	**Taichung City**	**0.80**	**271**	*e*P	Pg	20 54 37.1	0.0
	baz=270						
WHP				*e*S	Sn	20 54 49.2	-1.0
	baz=270						
YULB	**Yu-li**	**0.99**	**209**	*e*P	Pb	20 54 40.1	-0.4
	baz=208						
YULB				*e*S	Sn	20 54 54.6	-0.3
	baz=208						

MEX 18 20:55:06.0±0.9, 15°49N×96°68W, h10km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEIG	**Puerto Escondi**	**0.68**	**318**	*e*P	Pg	20 55 17.2	-2.0
PEIG				*e*S	Sg	20 55 26.7	-1.3
VHO	**Vista Hermosa**	**1.57**	**358**	*i* P	Pn	20 55 30.1	-4.0
VHO				*i* S	Sn	20 55 48.8	-5.9
PNIG	**Pinotepa**	**1.66**	**303**	*i* P	Pn	20 55 32.2	-3.0
PNIG				*i* S	Sn	20 55 52.0	-4.6
TXIG	**Tlaxiaco**	**2.04**	**329**	*i* P	Pn	20 55 37.7	-3.0
TXIG				*e*S	Sn	20 56 03.0	-3.4
CMIG	**Matias Romero**	**2.34**	**47**	*i* P	Pn	20 55 43.1	-1.5
CMIG				*e*S	Sn	20 56 10.7	-2.8
HLIG	**Huajuapan de L**	**2.56**	**335**	*i* P	Pn	20 55 48.0	+0.2
HLIG				*e*S	Sn	20 56 16.0	-3.2

JMA 18 20:55:10.2±0.3, 24°.86N×123°.40E, h28km, M1.3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.53**	**222**	P	Pb	20 55 20.9	-0.2
YOJ				S	Sb	20 55 28.0	-0.4
JYNG	**Yonagunijimaku**	**0.58**	**226**	P	Pb	20 55 21.3	-0.6
JYNG				*e*S	Sb	20 55 29.8	0.0
IRIF	**Iriomote-Funau**	**0.60**	**150**	P	Pb	20 55 21.9	-0.3
IRIF				S	Sb	20 55 30.1	-0.3
JKRS	**Kuro-shima**	**0.83**	**138**	P	Pb	20 55 26.1	0.0
JKRS				S	Sb	20 55 36.8	-0.1
JIJ	**Ishigaki jima**	**0.84**	**126**	P	Pn	20 55 25.3	-0.8
JIJ				S

	SNR=5.2							
USP	**Ospenovka**	**6.65**	**22**	P		Pn	21 04 15.6	+0.4
	SNR=5.2							
TKM2	**Tokmak 2**	**6.73**	**30**	P		Pn	21 04 16.4	-0.1
	SNR=24							
TKM2	**Tokmak 2**	**6.73**	**30**	⇑Pn		Pn	21 04 15.8	-0.7
	11nm,0.6s							
KST	**Kastek**	**6.98**	**31**	*e*P		Pn	21 04 23.4	+3.5
	3.7nm,0.5s							
KST				*e*S		Sn	21 05 44.2	+4.1
	3.2nm,0.5s							

TAP 18 21:04:54.9,24.26N×121.76E,h15km,ML1.6,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.16**	**231**	P	Pb	21 05 00.0	+0.3
	baz=231						
ETL				*e*S	Sb	21 05 03.0	+0.2
	baz=231						
ETL	**Fush Village**	**0.16**	**231**	*e*P	Sb	21 05 03.1	+0.3
	baz=232						
ENA	**Nanau**	**0.17**	**354**	P	Pb	21 04 59.7	-0.1
	baz=356						
ENA				*e*S	Sb	21 05 03.4	+0.4
	baz=356						
ENA	**Nanau**	**0.17**	**354**	*e*P	Sb	21 05 03.3	+0.3
	baz=355						
NACB	**Ninganchiao**	**0.17**	**240**	P	Pb	21 04 59.6	-0.2
	baz=240						
NACB				S	Sb	21 05 03.3	+0.1
	baz=240						
NACB	**Ninganchiao**	**0.17**	**240**	*e*P	Sb	21 05 03.2	+0.1
	baz=241						
EWUT	**Wuta**	**0.18**	**5**	P	Pb	21 04 60.0	-0.1
	baz=4.0						
EWUT				S	Sb	21 05 03.5	0.0
	baz=4.0						
EWUT	**Wuta**	**0.18**	**5**	*e*P	Sb	21 05 03.5	+0.1
	baz=3.0						
TWD	**Chiawan**	**0.23**	**220**	P	Pb	21 05 00.7	-0.2
	baz=218						
TWD				*e*S	Sb	21 05 04.8	-0.1
	baz=218						
ETLH	**Xiulin Townshi**	**0.26**	**258**	P	Pb	21 05 01.3	-0.1
	baz=258						
ETLH				S	Sb	21 05 05.6	-0.1
	baz=258						
NDS	**Dongshan**	**0.37**	**354**	P	Pb	21 05 03.2	0.0
	baz=353						
ETM	**Tongmen**	**0.38**	**220**	P	Pb	21 05 03.3	-0.1
	baz=219						
ETM				S	Sb	21 05 10.5	+1.3
	baz=219						
NNSB	**Datong**	**0.38**	**296**	P	Pb	21 05 03.6	+0.1
	baz=295						
NNSB				S	Sb	21 05 09.8	+0.5
	baz=295						
ENTT	**Nioudou**	**0.42**	**335**	*e*P	Pb	21 05 04.1	+0.1
	baz=335						
TEYL	**Yanliau Villag**	**0.42**	**201**	P	Pg	21 05 03.3	-0.1
	baz=202						
WHF	**Hehuan Shan**	**0.47**	**256**	*e*P	Pb	21 05 04.8	-0.3
	baz=255						
FUSS	**Fushou**	**0.47**	**268**	*e*P	Pb	21 05 05.3	+0.2
	baz=268						
FUSS				*e*S	Sb	21 05 12.3	+0.3
	baz=268						
YHNB	**Yeheng**	**0.54**	**319**	*e*P	Pg	21 05 05.5	-0.1
	baz=319						
YHNB				*e*S	Sb	21 05 14.3	+0.6
	baz=319						
NWLT	**Wulai**	**0.56**	**335**	*e*P	Pb	21 05 06.4	-0.2
	baz=335						
NWLT				*e*S	Sb	21 05 15.0	+0.5
	baz=335						
CHGB	**Renai**	**0.57**	**250**	*e*P	Pg	21 05 05.9	-0.4
	baz=249						
CHGB				*e*S	Sb	21 05 15.2	+0.4
	baz=249						

TAP 18 21:04:58.3,24.26N×121.77E,h17km,ML1.6,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.16**	**233**	*e*S	Sb	21 05 06.9	+1.0
	baz=232						
ENA	**Nanau**	**0.17**	**353**	S	Sb	21 05 06.9	+0.8
	baz=355						
NACB	**Ninganchiao**	**0.18**	**241**	S	Sb	21 05 07.0	+0.7
	baz=241						
EWUT	**Wuta**	**0.19**	**4**	*e*S	Sb	21 05 07.2	+0.6
	baz=3.0						
TWD	**Chiawan**	**0.24**	**221**	*e*P	Pb	21 05 04.1	0.0
	baz=219						
TWD				*e*S	Sb	21 05 08.6	+0.7
	baz=219						
ETLH	**Xiulin Townshi**	**0.26**	**259**	*e*P	Pb	21 05 05.0	+0.4
	baz=258						
ETLH				*e*S	Sb	21 05 09.2	+0.4
	baz=258						
TWC	**Suao**	**0.36**	**12**	*e*P	Pb	21 05 06.5	+0.4
	baz=13						
TWC				*e*S	Sb	21 05 11.8	+0.3
	baz=13						
NDS	**Dongshan**	**0.38**	**353**	*e*P	Pb	21 05 06.8	+0.3
	baz=353						
NDS				*e*S	Sb	21 05 13.0	+0.9
	baz=353						
NNSB	**Datong**	**0.39**	**296**	*e*P	Pb	21 05 06.7	-0.1
	baz=295						
NNSB				*e*S	Sb	21 05 13.3	+0.8
	baz=295						
ENTT	**Nioudou**	**0.42**	**334**	*e*P	Pb	21 05 07.9	+0.6
	baz=335						
ENTT				*e*S	Sb	21 05 14.1	+0.7
	baz=335						
FUSS	**Fushou**	**0.48**	**269**	*e*S	Sb	21 05 16.0	+0.9
	baz=268						
YHNB	**Yeheng**	**0.54**	**319**	*e*P	Pb	21 05 09.6	+0.3
	baz=319						
YHNB				*e*S	Sb	21 05 18.0	+1.1
	baz=319						
CHGB	**Renai**	**0.57**	**250**	*e*S	Sb	21 05 18.9	+1.0
	baz=249						

MEX 18 21:05:18.3±1.1,19.33N×105.15W,h10km,MD3.8,Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.19**	**30**	*i* P	Pg	21 05 21.6	-0.8
CJM				*i* S	Sg	21 05 24.7	-0.5
R15V		**1.11**	**98**	*i* P	Pb	21 05 35.6	-4.0
R15V				*i* S	Sg	21 05 49.6	-4.5
COIG	**Colima**	**1.38**	**96**	*i* P	Pn	21 05 39.7	-4.0
COIG				*i* S	Sb	21 05 57.2	-4.9
EZ5V		**1.47**	**84**	*e*P	Pn	21 05 41.9	-3.2
EZ5V				*i* P	Pb	21 05 42.9	-3.0
EZ5V				*i* S	Sn	21 05 59.4	-5.1
MMIG	**Aquila**	**2.00**	**121**	*e*P	Pn	21 05 48.1	-4.0
MMIG				*e*S	Sn	21 06 12.1	-5.0

JMA 18 21:05:39.6±0.1,24.89N×123.41E,h30km,M1.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.56**	**220**	P	Pb	21 05 50.7	-0.3
YOJ				S	Sb	21 05 58.1	-0.7
JYNG	**Yonagunijimaku**	**0.61**	**224**	P	Pb	21 05 51.5	-0.3
JYNG				*e*S	Sb	21 05 59.7	-0.4
IRIF	**Iriomote-Funau**	**0.62**	**152**	P	Pb	21 05 51.8	-0.3
IRIF				S	Sb	21 06 00.7	+0.1
JIJ	**Ishigaki jima**	**0.85**	**128**	P	Pn	21 05 55.1	-0.4
JIJ				*e*S	Sb	21 06 05.5	-1.4
JKRS	**Kuro-shima**	**0.85**	**140**	P	Pn	21 05 55.5	0.0
JKRS				S	Sb	21 06 06.8	-0.1
JISG	**Ishigakijimahi**	**0.87**	**110**	P	Pn	21 05 55.7	-0.1
JISG				S	Sn	21 06 06.5	-1.0
HATJ	**Hateruma jima**	**0.90**	**156**	*e*S	Sn	21 06 08.2	-0.1

MEX 18 21:09:58.5±2.2,15.73N×96.50W,h32km±38km,MD4.1,

Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PANG	**Puerto Angel**	**0.07**	**161**	*e*P	Pb	21 09 58.4	-5.6
PANG				*i* S	Sb	21 10 00.1	-7.7
PEIG	**Puerto Escondi**	**0.68**	**293**	*i* P	Pn	21 10 09.2	-2.7
PEIG				*i* S	Sb	21 10 19.3	-1.9
PEIG	**Puerto Escondi**	**0.68**	**293**	*i* Pg	Pn	21 10 09.0	-2.9
PEIG				*e*S	Sb	21 10 19.4	-1.8
VHO	**Vista Hermosa**	**1.35**	**350**	*e*P	Pn	21 10 21.1	-0.2
VHO				*i* S	Sb	21 10 41.2	+0.7
VHO	**Vista Hermosa**	**1.35**	**350**	*e*P	Pn	21 10 20.6	-0.8
VHO				*e*S	Sb	21 10 40.2	-0.3
PNIG	**Pinotepa**	**1.70**	**293**	*e*P	Pn	21 10 24.3	-1.7
PNIG				*i* S	Sn	21 10 44.3	-2.3
PNIG	**Pinotepa**	**1.70**	**293**	*e*P	Pn	21 10 24.2	-1.7
PNIG				*e*S	Sb	21 10 49.0	-1.3
TXIG	**Tlaxiaco**	**1.94**	**321**	*e*P	Pn	21 10 29.3	-0.2
TXIG				*e*S	Sn	21 10 49.8	-3.2
TXIG	**Tlaxiaco**	**1.94**	**321**	*e*P	Pn	21 10 29.3	-0.2
TXIG				*e*S	Sb	21 10 55.5	-1.9
CMIG	**Matias Romero**	**2.06**	**49**	*e*P	Pn	21 10 29.9	-0.9
CMIG				*e*S	Sn	21 10 56.8	+1.5
CMIG	**Matias Romero**	**2.06**	**49**	*e*P	Pn	21 10 29.6	-1.2
CMIG				*e*S	Sn	21 10 56.6	+1.3
TOIG	**Toxpalan**	**2.41**	**347**	*e*P	Pb	21 10 39.1	-2.3
TOIG				*e*S	Sb	21 11 12.2	+1.4
TOIG	**Toxpalan**	**2.41**	**347**	*e*P	Pb	21 10 39.6	-1.7
TOIG				*e*S	Sb	21 11 09.2	-1.6
HLIG	**Huajuapan de L**	**2.43**	**329**	*e*P	Pb	21 10 40.0	-1.8
HLIG				*e*S	Sb	21 11 12.9	+1.5
HLIG	**Huajuapan de L**	**2.43**	**329**	*e*P	Pb	21 10 39.8	-1.9
HLIG				*e*S	Sb	21 11 13.5	+2.0
MGIG	**Malinaltepec**	**2.54**	**306**	*e*P	Pn	21 10 40.0	+2.4
MGIG				*e*S	Sb	21 11 17.0	+2.6
MGIG	**Malinaltepec**	**2.54**	**306**	*e*P	Pb	21 10 40.6	-2.9
MGIG				*e*S	Sb	21 11 15.7	+1.3
FTIG	**Fresnillo de T**	**2.67**	**324**	*e*P	Pb	21 10 45.6	-0.1
FTIG				*e*S	Sb	21 11 20.9	+2.7
TLIG	**Tlapa**	**2.69**	**313**	*e*P	Pb	21 10 49.1	+3.0
TPIG	**Tehuac#an**	**2.80**	**343**	*e*P	Pb	21 10 46.8	-1.1
TPIG				*e*S	Sb	21 11 22.7	+0.8
PCIG		**3.16**	**90**	*e*P	Pn	21 10 36.3	-10
PPM	**Popocatepetl**	**3.89**	**329**	*e*P	Pb	21 11 07.8	+1.0
PPM				*i* S	Sb	21 12 02.9	+9.3

IDC ***18*** *21:13:07.8±2.6,31.04S×73.08W,h0km,mb3.6/1, mb1 3.8/2,mb1mx3.5/20,mbtmp3.6/2,ML3.7/1,MS3.5/2, Ms1 3.5/2,ms1mx2.8/34,Error ellipse: s-maj=128.7km s-min=82.4km az=103.0*

GUC ***18*** *21:13:14.4±0.6,30.08S×72.52W,h38km±4km,ML3.8*

ISC 18 21:13:12.7±2.3,30.06S±0.04×72.61W±0.09,h6km±12km, n19,σ1.920/25,8C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**1.04**	**126**	⇓*i*P	**Pg**	**21 13 32.5**	**-0.2**
CO06				*i* S	**Sg**	**21 13 46.2**	**0.0**
CO05	**La Serena**	**1.19**	**84**	⇑*i*P	**Pn**	**21 13 35.3**	**-0.6**
CO05				*i* S	**Sg**	**21 13 50.8**	**-0.3**
GO04	**Tololo Observa**	**1.57**	**95**	⇑*i*P	**Pn**	**21 13 41.5**	**+0.2**
GO04				*i* S	**Sn**	**21 14 02.3**	**+0.2**
GO04				IAML		21 14 04.8	
CO03	**El Pedregal**	**1.83**	**116**	⇑*i*P	**Pn**	**21 13 44.8**	**0.0**
CO03				*i* S	**Sn**	**21 14 07.5**	**-0.8**
CO03				IAML		21 14 08.9	
	comp=N,881nm,0.2s						
LCO	**Las Campanas**	**1.96**	**58**	⇑*i*P	**Pn**	**21 13 47.1**	**+0.4**
LCO				*i* S	**Sn**	**21 14 12.2**	**+0.4**
AC04	**Llanos de Chal**	**2.28**	**36**	⇑*i*P	**Pn**	**21 13 50.2**	**-0.7**
AC04				*i* S	**Sn**	**21 14 17.6**	**-1.7**
AC04				IAML		21 14 18.3	
	comp=N,312nm,0.2s						
VA06	**Catapilco**	**2.73**	**156**	*e*P	**Pn**	**21 13 55.1**	**-2.0**
VA06				*i* S	**Sn**	**21 14 31.4**	**+1.0**
VA06				IAML		21 14 38.6	
	comp=E,1μm,0.5s						
ROCH	**El Roble**	**3.21**	**155**	⇑*i*P	**Pn**	**21 14 02.3**	**-1.5**
ROCH				*e*S	**Sn**	**21 14 44.0**	**+1.6**
ROCH				IAML		21 14 51.2	
	comp=N,327nm,0.5s						
VA03	**San Esteban**	**3.22**	**147**	⇑*i*P	**Pn**	**21 14 03.4**	**-0.5**
VA03				*i* S	**Sn**	**21 14 43.0**	**+0.4**
GO03	**Copiap**	**3.22**	**41**	⇑*i*P	**Pn**	**21 14 04.3**	**+0.5**
GO03				*i* S	**Sn**	**21 14 41.5**	**-1.1**
GO03				IAML		21 14 54.5	
	comp=N,104nm,0.5s						
MT05	**Renca**	**3.68**	**155**	IAML		21 15 08.7	
MT09	**Talagante**	**3.95**	**160**	IAML		21 15 14.3	
	comp=N,164nm,0.3s						
MT01	**Popeta**	**3.96**	**163**	*e*P	**Pn**	**21 14 14.5**	**+0.5**
MT01				IAML		21 15 17.2	
	comp=E,110nm,0.3s						
LPAZ	**La Paz**	**14.31**	**18**	Pn	**P**	**21 16 46.6**	**+2.8**
	comp=E,0.1nm,0.3s,baz=195,slow=13,SNR=2.3						
SJG	**San Juan**	**48.29**	**8**	LR	LR	21 43 11.4	
	comp=E,30nm,20.5s,baz=230,slow=37						
RAR	**Rarotonga**	**77.33**	**253**	LR	LR	21 50 18.2	
	comp=E,52nm,21.3s,baz=360,slow=29						
TORD	**Torodi Ar. Bea**	**83.35**	**71**	P	**P**	**21 25 40.8**	**-0.2**
	comp=E,0.4nm,0.7s,baz=254,slow=6.5,SNR=2.3						
KURBB	**Kurchatov Arra**	**150.21**	**38**	PKPbc	**PKPbc**	**21 33 02.2**	**-2.0**
	comp=E,0.5nm,0.5s,baz=308,slow=3.1,SNR=6.3						
ZALV	**Zalesovo Beam**	**151.07**	**28**	PKPbc	**PKPbc**	**21 33 04.8**	**-1.4**
	comp=E,2.0nm,0.7s,baz=307,slow=3.1,SNR=6.3						

NDI ***18*** *21:16:44.2±3.1,23.25N×93.72E,h102km±96km,ML3.7*

IDC ***18*** *21:16:45.8±1.7,23.20N×93.86E,h84km±16km,mb3.6/11, mb1 3.8/13,mb1mx3.5/45,mbtmp3.9/13,Error ellipse: s-maj=18.4km s-min=10.5km az=31.0*

NEIC ***18*** *21:16:45.7±1.0,23.32N±0.07×93.94E±0.08,h80km±8km, mb4.4/23,Error ellipse: s-maj=11.5km s-min=9.7km az=46.0*

ISC 18 21:16:47.0±0.5,23.33N±0.05×93.87E±0.05,h100km,n54, σ1.977/61,mb4.2/22,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**2.15**	**253**	P	**Pn**	**21 17 20.1**	**-1.5**
	41nm,0.3s,baz=255,slow=24,SNR=1.5						
BRDH				S	**Sn**	**21 17 45.2**	**-2.7**
	227nm,0.3s,baz=238,slow=21,SNR=15						
KOHI	**KOHIMA**	**2.39**	**5**	*e*P	**Pn**	**21 17 23.3**	**-1.6**
KOHI				*e*S	**Sn**	**21 17 51.5**	**-2.4**
SHL	**Shillong**	**2.87**	**321**		**Pn**	**21 17 30.1**	**-1.1**
SHL				Sn	**Sn**	**21 18 01.4**	**-3.9**
SHL	**Shillong**	**2.87**	**321**	*e*P	**Pn**	**21 17 29.9**	**-1.4**
SHL				*e*S	**Sn**	**21 18 00.0**	**-5.3**
SHL				IAML		21 18 06.3	
	comp=N,526nm,0.2s						
SHL				IAML		21 18 07.3	
	comp=E,337nm,0.2s						
MOKO	**MOKOCHONG**	**3.04**	**11**	*e*P	**Pn**	**21 17 31.7**	**-1.7**
MOKO				*e*S	**Sn**	**21 18 07.9**	**-1.3**
ITAN	**ITANAGAR**	**3.81**	**358**	*e*P	**Pn**	**21 17 42.0**	**-1.6**
ITAN				*e*S	**Sn**	**21 18 23.0**	**-4.4**
LKP	**Lekhapani**	**4.37**	**24**	*e*P	**Pn**	**21 17 49.4**	**-1.8**
GTK	**Tadong**	**6.21**	**311**	*e*P	**Pn**	**21 18 15.8**	**-0.5**
GTK				*e*S	**Sn**	**21 19 22.1**	**-3.8**
CHTO	**Chiang Mai**	**6.53**	**133**		**Pn**	**21 18 19.0**	**-1.6**
CM31	**Chiang Mai Arr**	**6.78**	**135**		**Pn**	**21 18 21.6**	**-2.3**
CMAR	**Chiang Mai Arr**	**6.78**	**135**	P	**Pn**	**21 18 22.8**	**-1.2**
	comp=E,0.7nm,0.3s,baz=310,slow=13,SNR=21						
CMAR				S	**Sn**	**21 19 37.3**	**-2.4**
	comp=E,0.5nm,0.3s,baz=317,slow=25,SNR=7.2						
CMAR	**Chiang Mai Arr**	**6.78**	**135**		**Pn**	**21 18 21.6**	**-2.3**
LSA	**Lhasa**	**6.80**	**340**		**Pn**	**21 18 24.1**	**-0.6**
BOK	**Bokaro**	**7.34**	**275**	*e*P	**Pn**	**21 18 28.4**	**-3.1**
BOK				*e*S	Sn	21 19 38.9	-14
KBL	**Kabul**	**24.37**	**303**		**PcP**	**21 25 31.8**	**-1.2**
MK31	**Makanchi Array**	**25.20**	**341**		**P**	**21 22 05.1**	**+1.8**
MKAR	**Makanchi Array**	**25.20**	**341**	P	**P**	**21 22 05.3**	**+2.0**
	comp=E,0.7nm,0.4s,baz=150,slow=9.5,SNR=18						
MKAR				PcP	**PcP**	**21 25 33.9**	**-0.5**
	comp=E,0.1nm,0.6s,baz=287,slow=35,SNR=2.2						
MKAR	**Makanchi Array**	**25.20**	**341**		**P**	**21 22 04.9**	**+1.6**
MAKZ	**Makanchi**	**25.31**	**341**	P	**P**	**21 22 05.4**	**+1.1**
GAR	**Garm**	**25.39**	**313**	P	**P**	**21 22 06.1**	**+0.8**
GAR				IAmb	IAmb	21 22 07.7	
	comp=Z,6.6nm,0.6s						
CHGR	**Chuyangaron**	**26.01**	**312**	P	**P**	**21 22 11.5**	**+0.7**
CHGR				IAmb	IAmb	21 22 14.9	
	comp=Z,9.3nm,1.3s						
SONM	**Songino Array**	**26.42**	**19**	P	**P**	**21 22 15.1**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=205,slow=7.9,SNR=5.2						
SONM	**Songino Array**	**26.42**	**19**	P	**P**	**21 22 14.6**	**+0.2**
KURBB	**Kurchatov Arra**	**29.75**	**340**	P	**P**	**21 22 46.3**	**+2.4**
	comp=Z,0.3nm,0.6s,baz=165,slow=6.7,SNR=2.7						
KURBB				PcP	**PcP**	**21 25 46.3**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=174,slow=2.3,SNR=6.0						
ABKAR	**Akbulak array**	**37.14**	**323**	P	**P**	**21 23 48.1**	**+0.2**
ABKAR	**Akbulak array**	**37.14**	**323**	P	**P**	**21 23 48.5**	**+0.6**
ABKAR				IAmb	IAmb	21 23 51.1	
	comp=Z,1.9nm,1.1s						
USRK	**Ussuriysk Ar.**	**37.47**	**47**	P	**P**	**21 23 50.5**	**-0.3**
KNRA	**Kununurra**	**51.64**	**135**	P	**P**	**21 25 43.3**	**-0.4**
TIXI	**Tiksi**	**52.27**	**13**	P	**P**	**21 25 47.9**	**+0.2**
	comp=Z,1.1nm,0.4s,baz=246,slow=5.9,SNR=2.1						
TIXI	**Tiksi**	**52.27**	**13**	IAmb	IAmb	21 26 04.9	
	comp=Z,1.8nm,0.8s						
AKASG	**Malin Array Be**	**56.35**	**316**	P	**P**	**21 26 18.2**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=83,slow=5.7,SNR=2.4						
WB0	**Warramunga Arr**	**58.28**	**134**	P	**P**	**21 26 31.2**	**-0.4**
WB0				IAmb	IAmb	21 26 48.7	
	comp=Z,9.0nm,1.5s						
WRA	**Warramunga Arr**	**58.37**	**134**	P	**P**	**21 26 31.5**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=312,slow=6.4,SNR=18						
WRA	**Warramunga Arr**	**58.37**	**134**	IAmb	IAmb	21 26 32.5	
	comp=Z,0.2nm,0.9s						
KARP	**Karpathos**	**58.38**	**298**	P	**P**	**21 26 32.6**	**+0.4**
WB2	**Warramunga Arr**	**58.38**	**134**	P	**P**	**21 26 31.8**	**-0.5**
WB2				IAmb	IAmb	21 26 42.1	
	comp=Z,6.6nm,1.4s						
MLR	**Muntele Rosu**	**58.48**	**310**	P	**P**	**21 26 35.0**	**+2.2**
MLR				IAmb	IAmb	21 26 36.0	
	comp=Z,3.0nm,0.7s						
WR0	**Warramunga Arr**	**58.52**	**134**	P	**P**	**21 26 32.7**	**-0.5**
WR0				IAmb	IAmb	21 26 49.6	
	comp=Z,2.5nm,1.1s						
ALN	**Alexandroupoli**	**58.68**	**305**	P	**P**	**21 26 35.3**	**+1.2**
BURAR	**Bucovina Array**	**58.91**	**313**	P	**P**	**21 26 35.5**	**-0.3**
FIA1	**FINESS Array S**	**59.19**	**329**	P	**P**	**21 26 37.1**	**-0.2**
KWP	**Kalwaria Pacla**	**60.52**	**315**	P	**P**	**21 26 48.4**	**+1.8**
AS31	**Alice Springs**	**60.78**	**137**	P	**P**	**21 26 48.7**	**-0.1**
AS31				IAmb	IAmb	21 26 49.1	
	comp=Z,0.9nm,0.5s						
ASAR	**Alice Springs**	**60.78**	**137**	P	**P**	**21 26 48.8**	**+0.1**
	comp=Z,1.6nm,0.4s,baz=319,slow=6.9,SNR=42						
ASAR	**Alice Springs**	**60.78**	**137**	P	**P**	**21 26 48.3**	**-0.4**
ARCES	**ARCESS Array B**	**60.81**	**338**	P	**P**	**21 26 49.1**	**+0.9**
	comp=Z,1.3nm,0.8s,baz=110,slow=7.0,SNR=1.0						
ABPO	**Ambohimpanom**	**61.99**	**231**	P	**P**	**21 26 58.2**	**+1.1**
ABPO				IAmb	IAmb	21 27 10.6	
	comp=Z,8.1nm,1.3s						
PUK	**Puka**	**63.15**	**307**	P	**P**	**21 27 05.0**	**+0.6**
PUK				IAmb	IAmb	21 27 08.7	
	comp=Z,3.1nm,1.2s						
VOI	**Vohitsoka**	**64.19**	**229**	P	**P**	**21 27 12.5**	**+0.9**
VOI				IAmb	IAmb	21 27 24.6	
	comp=Z,10nm,1.1s						
GERES	**GERESS Array B**	**66.47**	**315**	P	**P**	**21 27 27.5**	**+1.5**
	comp=Z,1.6nm,0.5s,baz=79,slow=6.7,SNR=20						
BOSA	**Boshof**	**83.85**	**235**	P	**P**	**21 29 07.0**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=34,slow=3.7,SNR=4.9						
TORD	**Torodi Ar. Bea**	**86.85**	**283**	P	**P**	**21 29 22.1**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=77,slow=4.5,SNR=2.0						
TXAR	**Lajitas Array**	**124.99**	**19**	PKP	**PKiKP**	**21 35 37.3**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=349,slow=0.9,SNR=2.1						
BDFB	**Brasilia**	**143.35**	**275**	PKhKP	PKPpre	21 36 07.5	
	comp=Z,2.9nm,0.7s,baz=63,slow=18,SNR=4.3						

IDC ***18*** *21:26:10.9±1.1,32.27S×71.72W,h0km,mb3.8/5, mb1 4.0/9,mb1mx3.8/39,mbtmp3.9/9,ML4.0/4,Error ellipse: s-maj=43.6km s-min=19.4km az=97.0*

NEIC ***18*** *21:26:13.3±1.5,32.31S±0.03×71.89W±0.06,h15km±4km, mb4.2/8,Mwr3.9/26,ML4.2(GUC),Error ellipse: s-maj=8.0km s-min=4.4km az=86.0*

NEIC ***18*** *21:26:13,32.31S×71.89W,h22km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}5.53; $M_{\theta\theta}$1.37; $M_{\phi\phi}$-6.90; $M_{r\theta}$4.10; $M_{\theta\phi}$-2.92; $M_{\phi r}$-2.52; Fault plane solution: M_{o}8.47000×10^{14} NP1:ϕ_s166.97000°, δ59.69000°,λ48.68000°. NP2:ϕ_s47.11000°,δ49.58000°, λ138.47000°. Principal axes: T 8.9101, Plg55.0000°, Azm23.0000°; N -0.9665, Plg35.0000°, Azm191.0000°; P -7.9437, Plg6.0000°, Azm285.0000°;*

GUC ***18*** *21:26:14.5±0.8,32.40S×71.82W,h27km±3km,ML4.1*

ISC 18 21:26:12.2±1.3,32.31S±0.02×71.94W±0.05,h10km±9km, n66,σ0.885/76,mb4.0/5,4C-5D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.60**	**115**	⇓*i*P	**Pn**	**21 26 25.0**	**+0.2**
VA06				*i* S	**Sb**	**21 26 32.6**	**-0.7**
VA06				IAML		21 26 33.3	
	comp=E,20μm,0.4s						
VA01	**Torpederas**	**0.75**	**161**	*e*P	**Pb**	**21 26 27.3**	**0.0**
VA01				*i* S	**Sg**	**21 26 37.1**	**+0.5**
VA01	**Torpederas**	**0.75**	**161**		**Pb**	**21 26 27.3**	**0.0**
VA01					**Sg**	**21 26 37.1**	**+0.5**
ROCH	**El Roble**	**1.03**	**130**	⇓*i*P	**Pg**	**21 26 31.9**	**0.0**
ROCH				*i* S	**Sg**	**21 26 44.9**	**-0.4**
VA03	**San Esteban**	**1.26**	**111**	⇓*i*P	**Pn**	**21 26 35.4**	**-0.5**
VA03				*i* S	**Sb**	**21 26 51.6**	**-0.8**
VA03				IAML		21 26 55.2	
	comp=E,8μm,0.5s						
VA03	**San Esteban**	**1.26**	**111**		**Pn**	**21 26 35.4**	**-0.5**
VA03					**Pb**	**21 26 35.9**	**-0.2**
VA03				Sn	**Sb**	**21 26 51.4**	**-1.0**
VA05	**Santo Domingo**	**1.37**	**168**	*e*P	**Pn**	**21 26 37.3**	**

GO05	**Huala**	**2.69**	**180**	⇓*iP*		**Pn**	**21 26 55.4**	**-0.1**
GO05				*eP*		**Sb**	**21 27 32.3**	**-1.2**
GO05				IAML			21 27 50.8	
	comp=N,524nm,0.7s							
GO05	**Huala**	**2.69**	**180**			**Pn**	**21 26 55.1**	**-0.4**
ZON	**Zonda**	**2.88**	**75**	Pn		**Pn**	**21 26 59.8**	**+1.6**
LCO	**Las Campanas**	**3.46**	**18**			**Pn**	**21 27 07.3**	**+1.0**
ML02	**Panimavida**	**3.47**	**173**			**Pn**	**21 27 06.9**	**+0.7**
AC04	**Llanos de Chal**	**4.16**	**11**	Pn		**Pn**	**21 27 15.7**	**0.0**
GO03	**Copiap**	**4.93**	**18**			**Pn**	**21 27 26.4**	**+0.1**
AC06	**Mina Casimiro**	**5.13**	**16**			**Pn**	**21 27 28.5**	**-0.6**
H03N1	**Juan Fernandez**	**5.97**	**257**	T		T	21 34 15.2	
	baz=87,slow=73,SNR=131							
AC02	**Maricunga**	**5.98**	**25**			**Pn**	**21 27 41.6**	**+0.4**
H03N3	**Juan Fernandez**	**5.98**	**257**	T		T	21 34 13.8	
	baz=87,slow=73,SNR=224							
H03N2	**Juan Fernandez**	**5.99**	**257**	T		T	21 34 16.2	
	baz=87,slow=73,SNR=169							
H03S3	**Juan Fernandez**	**6.04**	**254**	T		T	21 34 17.7	
	baz=83,slow=74,SNR=35							
H03S1	**Juan Fernandez**	**6.04**	**253**	T		T	21 34 15.8	
	baz=83,slow=74,SNR=101							
H03S2	**Juan Fernandez**	**6.06**	**254**	T		T	21 34 12.2	
	baz=83,slow=74,SNR=38							
LC01	**Cunco**	**6.57**	**180**	Pn		**Pn**	**21 27 48.4**	**-0.5**
PB14	**IPOC Station P**	**7.78**	**10**	Pn		**Pn**	**21 28 04.2**	**-1.5**
PLCA	**Paso Flores**	**8.48**	**173**	Pn		**Pn**	**21 28 15.6**	**+0.5**
	comp=N,0.8nm,0.3s,baz=322,slow=9.7,SNR=9.3							
PLCA	**Paso Flores**	**8.48**	**173**	Pn		**Pn**	**21 28 16.4**	**+1.3**
TRQA	**Tornquist**	**9.96**	**128**	Pn		**Pn**	**21 28 37.0**	**+1.7**
LVC	**Limon Verde**	**10.03**	**16**	Pn		**Pn**	**21 28 34.8**	**-1.9**
	comp=N,0.5nm,0.3s,baz=293,slow=9.6,SNR=1.8							
LVC	**Limon Verde**	**10.03**	**16**	Pn		**Pn**	**21 28 37.4**	**+0.7**
LPAZ	**La Paz**	**16.32**	**13**	Pn		**Pn**	**21 30 03.0**	**+0.9**
	comp=N,0.3nm,0.3s,baz=189,slow=4.1,SNR=18							
SIV	**San Ignacio**	**19.01**	**34**	P		**P**	**21 30 33.5**	**-0.7**
	comp=N,0.3nm,0.3s,baz=226,slow=12,SNR=7.1							
SAML	**Samuel**	**24.63**	**21**	P		**P**	**21 31 32.7**	**-0.2**
BDFB	**Brasilia**	**27.35**	**58**	P		**P**	**21 31 56.1**	**-1.5**
	comp=N,2.3nm,0.6s,baz=202,slow=9.1,SNR=2.4							
BDFB	**Brasilia**	**27.35**	**58**	P		**P**	**21 31 56.4**	**-1.3**
BDFB				IAmb	IAmb		21 31 58.8	
	comp=Z,6.9nm,1.0s							
VNA3	**Neumayer Olymp**	**50.89**	**158**	P		**P**	**21 35 13.6**	**+0.7**
VNA2	**Neumayer--Watz**	**51.54**	**158**	P		**P**	**21 35 18.4**	**+0.7**
	baz=291,slow=8.3							
SNAA	**Sanae**	**53.12**	**158**	P		**P**	**21 35 29.9**	**+0.4**
SNAA	**Sanae**	**53.12**	**158**	P		**P**	**21 35 29.9**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=251,slow=9.4,SNR=6.7							
SNAA	**Sanae**	**53.12**	**158**	IAmb		IAmb	21 35 46.5	
	comp=Z,6.9nm,1.5s							
QSPA	**South Pole Qui**	**57.92**	**180**	P		**P**	**21 36 05.1**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=161,slow=2.2,SNR=6.1							
TXAR	**Lajitas Array**	**59.31**	**330**	P		**P**	**21 37 14.7**	**+1.2**
	comp=Z,0.3nm,0.8s,baz=169,slow=1.8,SNR=2.4							
TORD	**Torodi Ar. Bea**	**83.56**	**70**	P		**P**	**21 38 40.5**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=275,slow=4.6,SNR=7.0							
TORD	**Torodi Ar. Bea**	**83.56**	**70**	IAmb		IAmb	21 38 46.0	
	comp=Z,0.8nm,1.3s							
H11S2	**WAKE ISLAND Hyl**	**25.86**	**270**	T		T	00 04 17.2	
	baz=118,slow=75,SNR=4.5							
H11S1	**WAKE ISLAND Hyl**	**25.87**	**270**	T		T	00 04 18.3	
	baz=118,slow=75,SNR=7.0							
H11S3	**WAKE ISLAND Hyl**	**25.88**	**270**	T		T	00 04 19.7	
	baz=118,slow=75,SNR=5.2							
ZALV	**Zalesovo Beam**	**152.75**	**31**	PKPbc		**PKPbc**	**21 46 07.4**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=241,slow=3.1,SNR=5.1							

*IDC **18**21:30:17.3±1.2,30°.25S×71°.00W,h0km,mb4.1/3, mb1 4.0/4,mb1mx3.7/40,mbtmp4.0/4,ML3.9/1,Error ellipse: s-maj=73.8km s-min=25.8km az=99.0*

ISC 18 21:30:17.8±1.6,30°.1S±0°.2×71°.3W±0°.5,h10km,n12, σ1§27/10,mb4.1/3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**10.62**	**177**	Pn	**Pn**	**21 32 49.4**	**-0.6**
	0.2nm,0.3s,baz=336,slow=20,SNR=1.4						
VNA3	**Neumayer Olymp**	**52.72**	**159**	P	P	21 39 35.3	+3.0
VNA2	**Neumayer--Watz**	**53.35**	**158**	P	P	21 39 39.9	+3.0
	baz=289,slow=8.9						
SNAA	**Sanae**	**54.95**	**159**	P	**P**	**21 39 50.9**	**+2.3**
SNAA	**Sanae**	**54.95**	**159**	P	**P**	**21 39 48.9**	**+0.4**
	1.4nm,0.7s,baz=300,slow=9.4,SNR=10.0						
QSPA	**South Pole Qui**	**60.12**	**180**	P	**P**	**21 40 24.8**	**-0.4**
	2.1nm,0.8s,baz=146,slow=2.3,SNR=15						
TORD	**Torodi Ar. Bea**	**82.25**	**70**	P	**P**	**21 42 38.5**	**-1.2**
	1.2nm,0.8s,baz=252,slow=4.5,SNR=8.8						
WRA	**Warramunga Arr**	**124.47**	**210**	PKP	**PKPdf**	**21 49 17.0**	**-0.9**
	0.3nm,0.6s,baz=168,slow=1.4,SNR=4.6						
KURBB	**Kurchatov Arra**	**149.51**	**39**	PKPbc	**PKiKP**	**21 50 09.1**	**+1.0**
	1.1nm,0.6s,baz=302,slow=3.0,SNR=12						
AAK	**Ala-Archa**	**149.92**	**56**	PKPbc	**PKiKP**	**21 50 10.6**	**+1.2**
	2.6nm,0.7s,baz=184,slow=2.9,SNR=7.1						
ZALV	**Zalesovo Beam**	**150.55**	**29**	PKPbc	**PKiKP**	**21 50 10.5**	**+0.4**
	4.0nm,0.6s,baz=300,slow=3.5,SNR=14						
MKAR	**Makanchi Array**	**153.59**	**43**	PKPbc	**PKiKP**	**21 50 17.1**	**+0.5**
	0.2nm,0.7s,baz=299,slow=2.1,SNR=2.7						

*IDC **18**21:34:36.8±1.9,31°.69S×71°.97W,h0km,mb4.0/2, mb1 3.9/3,mb1mx3.6/40,mbtmp3.9/3,ML3.6/1,Error ellipse: s-maj=105.9km s-min=32.1km az=103.0*

ISC 18 21:34:36.6±2.0,31°.71S±0°.04×72°.0W±0°.1,h1km±12km,n20, σ1§18/25,5C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**1.05**	**144**	⇑*iP*	**Pb**	**21 34 57.6**	**+0.1**
VA06				*iS*	**Sb**	**21 35 11.0**	**-0.8**
VA06				IAML		21 35 13.9	
	comp=E,4μm,0.6s						
CO06	**Fray Jorge**	**1.09**	**18**	*eP*	**Pn**	**21 34 60.0**	**+1.0**
CO06				*iS*	**Sg**	**21 35 10.0**	**-1.6**
CO06				IAML		21 35 10.5	
	comp=E,2μm,0.2s						
CO03	**El Pedregal**	**1.44**	**53**	⇑*iP*	**Pb**	**21 35 05.9**	**+1.7**
CO03				IAML		21 35 27.9	
	comp=E,3μm,0.3s						
ROCH	**El Roble**	**1.52**	**146**	⇑*iP*	**Pn**	**21 35 04.7**	**-0.5**
ROCH				*iS*	**Sg**	**21 35 25.3**	**-0.3**
ROCH				IAML		21 35 31.2	
	comp=N,2μm,0.1s						
VA03	**San Esteban**	**1.63**	**130**	⇑*iP*	**Pn**	**21 35 07.0**	**+0.4**
VA03				*iS*	**Sg**	**21 35 28.5**	**-0.7**
VA03				IAML		21 35 33.5	
	comp=N,3μm,0.4s						
GO04	**Tololo Observa**	**1.86**	**35**	*eP*	**Pg**	**21 35 11.9**	**-0.4**
GO04				IAML		21 35 47.5	
	comp=N,6μm,0.6s						
CO05	**La Serena**	**1.91**	**21**	*eP*	**Pb**	**21 35 12.0**	**-0.3**
CO05				IAML		21 35 52.5	
	comp=E,727nm,0.6s						
VA05	**Santo Domingo**	**1.97**	**170**	*eP*	**Pn**	**21 35 09.8**	**-1.3**
VA05				*iS*	**Sg**	**21 35 42.5**	**+2.5**
VA05				IAML		21 35 46.7	
	comp=E,1μm,0.4s						
MT05	**Renca**	**2.00**	**147**	IAML		21 35 44.8	
	comp=E,2μm,0.4s						
MT09	**Talagante**	**2.24**	**157**	*eP*	**Pn**	**21 35 15.0**	**+0.1**
MT09				*iS*	**Sn**	**21 35 40.2**	**-3.1**
MT09				IAML		21 35 53.0	
	comp=N,625nm,0.5s						
LMEL	**Las Melosas**	**2.63**	**145**	⇑*iP*	**Pn**	**21 35 21.0**	**+0.7**
LMEL				IAML		21 36 01.0	
	comp=N,450nm,0.3s						
PLCA	**Paso Flores**	**9.08**	**173**	Pn	**Pn**	**21 36 48.2**	**-0.7**
	comp=N,0.2nm,0.3s,baz=346,slow=15,SNR=1.5						
VNA3	**Neumayer Olymp**	**51.47**	**159**	P	**P**	**21 43 44.1**	**+0.9**
VNA1	**Neumayer--Stat**	**51.78**	**158**	P	**P**	**21 43 46.0**	**+0.7**
VNA2	**Neumayer--Watz**	**52.12**	**158**	P	**P**	**21 43 48.4**	**+0.4**
	baz=285,slow=8.1						
SNAA	**Sanae**	**53.70**	**158**	P	**P**	**21 43 59.6**	**-0.1**
QSPA	**South Pole Qui**	**58.52**	**180**	P	**P**	**21 44 35.2**	**+0.9**
	comp=N,1.6nm,0.9s,baz=135,slow=2.9,SNR=9.9						
TORD	**Torodi Ar. Bea**	**83.43**	**70**	P	**P**	**21 47 06.5**	**+0.4**
	comp=N,1.4nm,0.8s,baz=249,slow=5.2,SNR=7.4						
KURBB	**Kurchatov Arra**	**151.16**	**40**	PKPbc	**PKPbc**	**21 54 30.8**	**-0.4**
	comp=N,0.5nm,0.8s,baz=298,slow=3.3,SNR=5.6						
ZALV	**Zalesovo Beam**	**152.27**	**30**	PKPbc	**PKPbc**	**21 54 33.8**	**+0.2**
	comp=N,1.0nm,0.6s,baz=310,slow=3.7,SNR=4.3						

*NEIC **18**21:34:43.8±0.8,33°.00S±0°.08×177°.6W±0°.2,h10km±2km, mb4.5/11,Error ellipse: s-maj=23.7km s-min=12.5km az=107.0*

*IDC **18**21:34:46.1±1.3,32°.96S×178°.21W,h0km,mb4.4/3, mb1 4.5/5,mb1mx3.9/40,mbtmp4.4/5,ML3.7/2,MS3.6/3, Ms1 3.6/3,ms1mx3.0/31,Error ellipse: s-maj=37.7km s-min=32.1km az=162.0*

ISC 18 21:34:49.8±1.1,33°.01S±0°.08×178°.0W±0°.2,h34km,n36, σ1§22/30,mb4.5/9,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.75**	**2**	Sn	**Sn**	**21 36 24.9**	**-3.2**
	73nm,0.3s,baz=129,slow=22,SNR=2.0						
RAO	**Raoul Island**	**3.75**	**2**	Pn	Pn	21 35 42.0	-3.2
MXZ	**Matakaoa Point**	**5.44**	**212**	Pn	**Pn**	**21 36 07.2**	**-1.2**
URZ	**Urewera**	**6.56**	**216**	Pn	**Pn**	**21 36 23.7**	**-0.1**
	5.0nm,0.3s,baz=283,slow=3.9,SNR=24						
URZ				Sn	**Sn**	**21 37 35.8**	**-1.6**
	11nm,0.3s,baz=45,slow=22,SNR=8.6						
OUZ	**Omahuta**	**7.28**	**250**	Pn	**Pn**	**21 36 34.5**	**+0.8**
BKZ	**Black Stump Fm**	**7.57**	**214**	Pn	**Pn**	**21 36 36.3**	**-1.4**
HIZ	**Hauiti**	**7.97**	**224**	Pn	**Pn**	**21 36 43.8**	**+0.6**
BFZ	**Birch Farm**	**8.92**	**209**	Pn	**Pn**	**21 36 54.6**	**-1.6**
KHZ	**Kahutara**	**11.51**	**213**	Pn	**Pn**	**21 37 30.5**	**-1.2**
MSVF	**Nonsavu**	**15.61**	**346**	LR	LR	21 43 12.2	
	comp=Z,118nm,18.6s,baz=68,slow=33						
WHZ	**Wether Hill Ro**	**16.78**	**216**	P	**P**	**21 38 44.9**	**+0.9**
WHZ				IAmb	IAmb	21 38 56.6	
	comp=Z,74nm,1.4s						
DZM	**Mont Dzumac**	**17.53**	**305**	P	**P**	**21 38 52.2**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=116,slow=13,SNR=4.5						
DZM				LR	LR	21 44 23.6	
	comp=Z,258nm,20.2s,baz=234,slow=33						
STKA	**Stephens Creek**	**33.94**	**261**	LR	LR	21 54 00.2	
	comp=Z,109nm,18.6s,baz=190,slow=34						
CTA	**Charters Tower**	**34.27**	**283**	P	**P**	**21 41 33.9**	**+1.0**
	comp=Z,5.4nm,0.8s,baz=106,slow=8.9,SNR=5.8						
CTAO	**Charters Tower**	**34.27**	**283**		**P**	**21 41 32.6**	**-0.2**
COEN	**Coen**	**40.02**	**289**	P	**P**	**21 42 21.6**	**-0.1**
COEN				IAmb	IAmb	21 42 36.8	
	comp=Z,11nm,1.5s						
AS31	**Alice Springs**	**43.00**	**270**	P	**P**	**21 42 45.6**	**-0.5**
ASAR	**Alice Springs**	**43.00**	**270**	P	**P**	**21 42 45.5**	**-0.6**
	comp=Z,2.5nm,0.7s,baz=109,slow=7.4,SNR=39						
WR0	**Warramunga Arr**	**44.05**	**275**	P	**P**	**21 42 54.0**	**-0.6**
WR0				IAmb	IAmb	21 42 54.6	
	comp=Z,3.9nm,0.8s						
WB2	**Warramunga Arr**	**44.21**	**275**	P	**P**	**21 42 55.4**	**-0.5**
WB2				IAmb	IAmb	21 42 55.7	
	comp=Z,5.5nm,0.5s						
WRA	**Warramunga Arr**	**44.22**	**275**	P	**P**	**21 42 55.2**	**-0.7**
	comp=Z,3.4nm,0.4s,baz=114,slow=7.6,SNR=76						
WRA	**Warramunga Arr**	**44.22**	**275**	P	**P**	**21 42 55.2**	**-0.7**
WB0	**Warramunga Arr**	**44.26**	**275**	P	**P**	**21 42 55.6**	**-0.7**
MTN	**Manton Dam**	**50.40**	**281**	P	**P**	**21 43 44.5**	**+0.4**
MTN				IAmb	IAmb	21 43 49.1	
	comp=Z,10nm,1.1s						
KNRA	**Kununurra**	**50.92**	**276**	P	**P**	**21 43 47.1**	**-0.8**
KNRA				IAmb	IAmb	21 44 04.4	
	comp=Z,11nm,1.1s						
FITZ	**Fitzroy Crossi**	**52.37**	**272**	P	**P**	**21 43 58.2**	**-0.6**
FITZ				IAmb	IAmb	21 43 59.4	
	comp=Z,2.6nm,0.9s						
VNA3	**Neumayer Olymp**	**75.71**	**176**	P	P	21 46 44.2	+13
VNA2	**Neumayer--Watz**	**76.14**	**177**	P	P	21 46 46.3	+13
	baz=171,slow=5.7						
VNA1	**Neumayer--Stat**	**76.38**	**177**	P	P	21 46 47.9	+13
LPAZ	**La Paz**	**97.10**	**114**	LR	LR	22 23 06.8	
	comp=Z,672nm,21.6s,baz=172,slow=30						
FINES	**FINESS Array B**	**147.57**	**339**	PKPbc	**PKPbc**	**21 54 31.1**	**+1.4**
	comp=Z,2.7nm,0.4s,baz=45,slow=4.2,SNR=33						
NB2	**NORSAR Subarra**	**151.31**	**351**	PKP	**PKPbc**	**21 54 40.8**	**+1.7**
	comp=Z,2.0nm,0.8s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**151.31**	**351**	PKPbc	**PKPbc**	**21 54 40.3**	**+1.2**
	comp=Z,1.2nm,0.8s,baz=20,slow=4.7,SNR=4.9						
AKASG	**Malin Array Be**	**153.31**	**320**	PKPbc	**PKPbc**	**21 54 45.0**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=41,slow=3.2,SNR=4.6						
TORD	**Torodi Ar. Bea**	**160.23**	**179**	PKPab	**PKPab**	**21 55 28.6**	**+2.2**
	comp=Z,0.2nm,0.4s,baz=167,slow=3.5,SNR=1.4						
GERES	**GERESS Array B**	**161.90**	**334**	PKPab	**PKPab**	**21 55 33.2**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=72,slow=6.4,SNR=2.5						

NOU 18 21:35:26.7,35°.08S×179°.14E,h218km,mb4.0/4,Off E. Coast of N. Island, N.Z.,Off east coast of North Island

IDC 18 21:35:44.2±2.4,32°.00S×72°.12W,h0km,mb3.9/1, mb1 3.8/2,mb1mx3.5/38,mbtmp3.7/2,ML4.0/1,Error ellipse: s-maj=126.8km s-min=46.5km az=92.0,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H03N1	**Juan Fernandez**	**5.90**	**254**	T	T	21 42 57.0	
	baz=79,slow=73,SNR=13						
H03N3	**Juan Fernandez**	**5.92**	**254**	T	T	21 42 58.2	
	baz=79,slow=73,SNR=67						
H03N2	**Juan Fernandez**	**5.92**	**254**	T	T	21 42 58.2	
	baz=79,slow=73,SNR=69						
PLCA	**Paso Flores**	**8.81**	**172**	Pn	Pn	21 37 53.0	0.0
	0.4nm,0.3s,baz=342,slow=13,SNR=3.7						
TORD	**Torodi Ar. Bea**	**83.59**	**70**	P	P	21 48 14.9	0.0
	0.7nm,0.7s,baz=245,slow=3.8,SNR=3.4						
H11S2	**WAKE ISLAND Hyl**	**25.71**	**271**	T	T	00 12 37.8	
	baz=116,slow=75,SNR=7.2						
H11S1	**WAKE ISLAND Hyl**	**25.72**	**271**	T	T	00 12 38.1	
	baz=116,slow=75,SNR=11						
H11S3	**WAKE ISLAND Hyl**	**25.72**	**271**	T	T	00 12 39.0	
	baz=116,slow=75,SNR=7.6						
KURBB	**Kurchatov Arra**	**151.43**	**41**	PKPbc	PKPbc	21 55 39.2	-0.4
	comp=N,0.7s,baz=293,slow=2.7,SNR=8.9						
ZALV	**Zalesovo Beam**	**152.55**	**30**	PKPbc	PKPbc	21 55 42.2	+0.1
	1.8nm,0.6s,baz=293,slow=3.6,SNR=5.7						

*IDC **18**21:47:21.5±1.4,31°.60S×72°.58W,h0km,mb3.8/4, mb1 3.9/8,mb1mx3.8/35,mbtmp3.7/8,ML3.6/4,Error ellipse: s-maj=36.7km s-min=30.0km az=95.0*

*NEIC **18**21:47:24.1±1.4,31°.73S±0°.05×72°.5W±0°.1,h14km±5km, Mwr4.0/31,ML4.1(GUC),Error ellipse: s-maj=14.8km s-min=6.9km az=97.0*

*GUC **18**21:47:26.2±0.7,31°.71S×72°.12W,h40km±3km,ML4.0*

*NEIC **18**21:47:26,31°.72S×72°.05W,h16km,Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr=0.56; Mθθ=0.02; Mφφ=0.54; Mrθ=0.05; Mrφ=-0.06; Mθφ=-0.95; Fault plane solution: M0=1.10000×10^15^ NP1:φs=171.10000°, δ=15.26000°,λ=-95.46000°. NP2:φs=356.76000°,δ=74.81000°, λ=-88.51000°. Principal axes: T 1.0907, Plg30.0000°, Azm86.0000°; N 0.0166, Plg1.0000°, Azm176.0000°; P -1.1073, Plg60.0000°, Azm269.0000°;*

ISC 18 21:47:24.0±1.9,31°.70S±0°.03×72°.31W±0°.07,h15km±12km, n57,σ1§13/64,mb3.9/4,3C-2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**1.18**	**30**	*eP*	**Pn**	**21 47 46.2**	**+0.2**
CO06				*iS*	**Sb**	**21 48 01.3**	**+0.1**
CO06	**Fray Jorge**	**1.18**	**30**	Pn	**Pg**	**21 47 47.4**	**+0.6**
VA06	**Catapilco**	**1.21**	**135**	⇓*iP*	**Pn**	**21 47 45.7**	**-0.7**
VA06				*iS*	**Sb**	**21 48 00.7**	**-1.5**
VA06				IAML		21 48 05.6	
	comp=E,7μm,0.2s						
VA01	**Torpederas**	**1.43**	**157**	*eP*	**Pn**	**21 47 49.8**	**+0.3**
VA01				*iS*	**Sn**	**21 48 06.0**	**-2.1**
VA01	**Torpederas**	**1.43**	**157**		**Pn**	**21 47 49.1**	**-0.4**
CO03	**El Pedregal**	**1.63**	**59**	*eP*	**Pn**	**21 47 52.9**	**+0.5**
CO03				*iS*	**Sn**	**21 48 11.9**	**-1.3**
CO03				IAML		21 48 16.2	
	comp=E,2μm,0.6s						
CO03	**El Pedregal**	**1.63**	**59**	Pn	**Pn**	**21 47 52.3**	**0.0**
ROCH	**El Roble**	**1.68**	**139**	⇑*iP*	**Pn**	**21 47 53.4**	**+0.3**
ROCH				*iS*	**Sn**	**21 48 13.8**	**-0.6**
ROCH				IAML		21 48 20.6	
	comp=N,3μm,0.4s						
VA03	**San Esteban**	**1.83**	**126**	*eP*	**Pn**	**21 47 54.4**	**-0.7**
VA03				*iS*	**Sn**	**21 48 16.8**	**-1.2**
VA03				IAML		21 48 22.1	
	comp=E,3μm,0.5s						
VA03	**San Esteban**	**1.83**	**126**		**Pn**	**21 47 55.1**	**+0.1**
CO05	**La Serena**	**2.00**	**28**	*eP*	**Pn**	**21 47 58.8**	**+1.5**
CO05				*eS*	**Sn**	**21 48 22.7**	**+0.5**
CO05				IAML		21 48 32.5	
	comp=E,2μm,0.6s						
CO05	**La Serena**	**2.00**	**28**		**Pn**	**21 47 58.8**	**+1.5**
GO04	**Tololo Observa**	**2.00**	**41**	*eP*	**Pn**	**21 47 58.1**	**+0.6**
GO04				*eS*	**Sn**	**21 48 22.4**	**-0.1**
GO04				IAML		21 48 33.7	
	comp=N,8μm,0.6s						
GO04	**Tololo Observa**	**2.00**	**41**		**Pn**	**21 47 59.1**	**+1.6**
VA05	**Santo Domingo**	**2.04**	**163**	*eP*	**Pn**	**21 47 57.9**	**+0.1**
VA05				IAML		21 48 36.8	
	comp=N,2μm,0.5s						
VA05	**Santo Domingo**	**2.04**	**163**		**Pn**	**21 47 57.6**	**-0.2**
MT05	**Renca**	**2.14**	**142**	*eP*	**Pn**	**21 47 59.7**	**+0.3**
MT05				*iS*	**Sn**	**21 48 25.4**	**-0.3**
MT05				IAML		21 48 37.1	
	comp=E,2μm,0.5s						
MT05	**Renca**	**2.14**	**142**		**Pn**	**21 47 59.9**	**+0.5**
MT01	**Popeta**	**2.33**	**158**	⇑*iP*	**Pn**	**21 48 02.3**	**+0.4**
MT01				*iS*	**Sb**	**21 48 33.9**	**-0.6**
MT01				IAML		21 48 45.2	
	comp=E,657nm,0.5s						
MT01	**Popeta**	**2.33**	**158**		**Pn**	**21 48 01.8**	**-0.1**
MT09	**Talagante**	**2.35**	**152**	⇑*iP*	**Pn**	**21 48 03.5**	**+1.2**
MT09				*iS*	**Sn**	**21 48 31.3**	**+0.4**
MT09				IAML		21 48 43.9	
	comp=N,996nm,0.6s						
MT09	**Talagante**	**2.35**	**152**		**Pn**	**21 48 03.2**	**+1.0**
LMEL	**Las Melosas**	**2.78**	**141**	*eP*	**Pn**	**21 48 08.8**	**+0.7**
LMEL				*eS*	**Sn**	**21 48 41.2**	**-0.4**
LMEL				IAML		21 48 54.2	
	comp=N,614nm,0.5s						
BO03	**Pichilemu**	**2.80**	**174**	⇓*iP*	**Pn**	**21 48 08.7**	**+0.4**
BO01	**Tunca**	**2.87**	**159**		**Pn**	**21 48 09.7**	**+0.4**
LCO	**Las Campanas**	**3.02**	**28**		**Pb**	**21 48 15.7**	**-2.0**
ZON	**Zonda**	**3.10**	**88**		**Pn**	**21 48 15.2**	**+2.7**
GO05	**Huala**	**3.31**	**175**		**Pn**	**21 48 15.4**	**0.0**
BO02	**Sierra Bellavi**	**3.34**	**158**	*eP*	**Pn**	**21 48 16.9**	**+1.1**
BO02				*eS*	**Sn**	**21 48 55.6**	**+0.4**
BO02				IAML		21 49 16.4	
	comp=N,590nm,0.4s						
BO02	**Sierra Bellavi**	**3.34**	**158**		**Pn**	**21 48 16.9**	**+1.1**
AC04	**Llanos de Chal**	**3.65**	**17**		**Pn**	**21 48 21.1**	**+1.1**
ML02	**Panimavida**	**4.12**	**170**		**Pn**	**21 48 26.6**	**+0.2**
GO03	**Copiap**	**4.48**	**24**		**Pn**	**21 48 32.9**	**+1.5**
AC06	**Mina Casimiro**	**4.65**	**22**		**Pn**	**21 48 35.3**	**+1.5**
AC02	**Maricunga**	**5.59**	**31**		**Pn**	**21 48 47.8**	**+0.7**
H03N1	**Juan Fernandez**	**5.84**	**251**	T	T	21 55 36.3	
	baz=81,slow=72,SNR=76						
H03N3	**Juan Fernandez**	**5.85**	**251**	T	T	21 55 35.5	
	baz=81,slow=72,SNR=93						
H03N2	**Juan Fernandez**	**5.85**	**251**	T	T	21 55 37.2	
	baz=81,slow=72,SNR=86						
H03S3	**Juan Fernandez**	**5.95**	**247**	T	T	21 55 35.8	
	baz=84,slow=75,SNR=6.9						
H03S1	**Juan Fernandez**	**5.95**	**247**	T	T	21 55 34.7	
	baz=84,slow=75,SNR=5.4						
H03S2	**Juan Fernandez**	**5.96**	**247**	T	T	21 55 35.8	
	baz=84,slow=75,SNR=5.3						
LC01	**Cunco**	**7.19**	**177**		**Pn**	**21 49 08.3**	**-0.3**
PLCA	**Paso Flores**	**9.12**	**172**	Pn	**Pn**	**21 49 36.6**	**+1.4**
	comp=N,0.3nm,0.3s,baz=334,slow=11,SNR=9.0						
PLCA	**Paso Flores**	**9.12**	**172**		**Pn**	**21 49 35.2**	**0.0**
LVC	**Limon Verde**	**9.55**	**19**	Pn	**Pn**	**21 49 39.5**	**-1.9**
	comp=N,0.2nm,0.3s,baz=335,slow=8.5,SNR=2.7						
LVC	**Limon Verde**	**9.55**	**19**		**Pn**	**21 49 41.2**	**-0.2**
TRQA	**Tornquist**	**10.59**	**130**		**Pn**	**21 49 57.4**	**+2.1**
LPAZ	**La Paz**	**15.81**	**15**	Pn	**Pn**	**21 51 05.6**	**-1.2**
	comp=N,0.1nm,0.3s,baz=201,slow=13,SNR=1.9						
SIV	**San Ignacio**	**18.69**	**36**	P	**Pn**	**21 51 43.8**	**+1.5**
	comp=N,0.1nm,0.3s,baz=251,slow=22,SNR=3.3						

UCH				⇑*i*S		**Sn**	**21 54 11.0**	**+0.1**	
	baz=45								
EKS2	**Erkin-Say**	**2.43**	**27**	⇑*i*P		**Pn**	**21 53 42.2**	**+0.5**	
	baz=28								
EKS2				⇑*i*S		**Sn**	**21 54 11.0**	**-0.1**	
	baz=28								
AAK	**Ala-Archa**	**2.69**	**37**	⇓Pg		**Pg**	**21 53 53.0**	**-1.2**	
	0.7nm,0.6s								
AAK				⇑Lg		Lg	21 54 27.2		
	0.7nm,0.3s								
KK31	**Karatay Array**	**2.93**	**333**	Pg		**Pb**	**21 53 55.3**	**+0.9**	
	0.3nm,0.3s,baz=156,slow=17,SNR=5.6								
KK31				⇓Lg		Lg	21 54 28.9		
	0.8nm,0.3s,baz=154,slow=30,SNR=5.3								
KST	**Kastek**	**3.73**	**46**	*e*P		**Pg**	**21 54 11.3**	**-2.8**	
	1.0nm,0.5s								
KST				*e*S		**Sg**	**21 55 01.1**	**-1.3**	
	2.9nm,0.6s								

IDC ***18*** *21:53:25.6±1.1,30.˚39S×72.˚41W,h0km,mb4.1/6, mb1 4.4/9,mb1mx4.1/32,mbtmp4.2/9,ML4.0/3,MS3.5/1, Ms1 3.5/1,ms1mx2.8/31,Error ellipse: s-maj=33.1km s-min=28.0km az=29.0*

NEIC ***18*** *21:53:27.2±2.1,30.˚20S±0.˚04×72.˚45W±0.˚05,h9km±4km, mb4.4/30,Mwr4.1/21, Error ellipse: s-maj=5.8km s-min=5.2km az=77.0*

NEIC ***18*** *21:53:29.6,30.˚22S×72.˚42W,h10km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.33; Mθθ-0.08; Mϕϕ-1.25; Mrθ-0.41; Mϕϕ-0.20; Mθr0.79; Fault plane solution: M₀1.58000×10¹⁵ NP1:ϕs204.31000°, δ32.66000°,λ118.67000°. NP2:ϕs351.30000°,δ61.74000°, λ72.90000°. Principal axes: T 1.6692, Plg68.0000°, Azm227.0000°; N -0.1917, Plg15.0000°, Azm360.0000°; P -1.4775, Plg15.0000°, Azm94.0000°;*

ISC 18 21:53:25.2±2.0,30.˚23S±0.˚05×72.˚48W±0.˚06,h1km±12km, n84,σ1ˢ32/80,mb4.4/15,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.86**	**122**	*e*P	**Pn**	**21 53 43.6**	**-0.9**
CO06	**Fray Jorge**	**0.86**	**122**		**Pn**	**21 53 43.5**	**-0.9**
CO06					**Sb**	**21 53 54.2**	**-0.7**
CO05	**La Serena**	**1.12**	**74**		**Pn**	**21 53 48.2**	**+0.1**
CO05					**Sg**	**21 54 01.9**	**+0.6**
GO04	**Tololo Observa**	**1.46**	**88**	Pn	**Pg**	**21 53 53.7**	**+0.5**
CO03	**El Pedregal**	**1.66**	**112**	Pn	**Pb**	**21 53 56.3**	**-0.4**
CO03				Sn	**Sn**	**21 54 16.6**	**-1.1**
LCO	**Las Campanas**	**1.97**	**52**		**Pn**	**21 54 01.8**	**+1.8**
LCO				Sn	**Sn**	**21 54 25.6**	**0.0**
AC04	**Llanos de Chal**	**2.36**	**32**		**Pn**	**21 54 05.3**	**+0.1**
AC04				Sn	**Sn**	**21 54 32.8**	**-2.0**
VA01	**Torpederas**	**2.88**	**166**	Pn	**Pn**	**21 54 13.1**	**+0.9**
VA03	**San Esteban**	**3.02**	**147**	Pn	**Pn**	**21 54 14.8**	**+0.5**
GO03	**Copiap**	**3.28**	**37**	Pn	**Pn**	**21 54 18.6**	**+0.7**
AC06	**Mina Casimiro**	**3.42**	**34**		**Pn**	**21 54 20.9**	**+1.2**
MT05	**Renca**	**3.49**	**155**		**Pb**	**21 54 25.1**	**-2.7**
VA05	**Santo Domingo**	**3.50**	**168**	Pn	**Pn**	**21 54 23.3**	**+2.5**
ZON	**Zonda**	**3.52**	**113**	Pn	**Pn**	**21 54 22.7**	**+1.5**
MT09	**Talagante**	**3.76**	**161**	Pn	**Pn**	**21 54 24.9**	**+0.3**
MT01	**Popeta**	**3.77**	**164**		**Pn**	**21 54 24.3**	**-0.3**
BO01	**Tunca**	**4.32**	**164**		**Pn**	**21 54 33.1**	**+1.1**
AC02	**Maricunga**	**4.49**	**42**	Pn	**Pn**	**21 54 35.9**	**+1.0**
BO02	**Sierra Bellavi**	**4.77**	**163**	Pn	**Pn**	**21 54 39.7**	**+1.3**
GO05	**Huala**	**4.79**	**175**	Pn	**Pn**	**21 54 39.6**	**+0.9**
ML02	**Panimavida**	**5.59**	**171**	Pn	**Pn**	**21 54 50.8**	**+1.2**
PB14	**IPOC Station P**	**5.88**	**19**	Pn	**Pn**	**21 54 51.4**	**-2.4**
H03N1	**Juan Fernandez**	**6.34**	**238**	T	T	22 02 32.5	
	baz=70,slow=72,SNR=37						
H03N2	**Juan Fernandez**	**6.35**	**238**	T	T	22 02 33.0	
	baz=70,slow=72,SNR=28						
H03N3	**Juan Fernandez**	**6.36**	**238**	T	T	22 02 35.3	
	baz=70,slow=72,SNR=27						
VA04	**Juan Fernndez**	**6.38**	**236**	Pn	**Pn**	**21 55 01.2**	**+0.8**
PB10	**IPOC Station P**	**6.91**	**15**	Pn	**Pn**	**21 55 05.2**	**-2.4**
PB15	**IPOC Station P**	**7.49**	**22**		**Pn**	**21 55 16.2**	**+0.3**
PB06	**IPOC Station P**	**7.93**	**20**	Pn	**Pn**	**21 55 20.8**	**-1.1**
PB04	**IPOC Station P**	**8.13**	**15**	Pn	**Pn**	**21 55 23.3**	**-1.4**
LVC	**Limon Verde**	**8.23**	**24**	Pn	**Pn**	**21 55 25.1**	**-1.2**
	0.6nm,0.3s,baz=199,slow=6.9,SNR=6.2						
LVC	**Limon Verde**	**8.23**	**24**	Pn	**Pn**	**21 55 26.2**	**0.0**
LC01	**Cunco**	**8.66**	**177**	Pn	**Pn**	**21 55 30.6**	**-1.2**
PB07	**IPOC Station P**	**8.78**	**16**	Pn	**Pn**	**21 55 31.1**	**-2.5**
PB09	**IPOC Station P**	**8.89**	**20**	Pn	**Pn**	**21 55 34.8**	**-0.2**
PB01	**IPOC Station P**	**9.54**	**17**	Pn	**Pn**	**21 55 41.5**	**-2.3**
PLCA	**Paso Flores**	**10.60**	**172**	Pn	**Pn**	**21 55 56.9**	**-1.5**
	0.2nm,0.3s,baz=329,slow=11,SNR=5.0						
PLCA	**Paso Flores**	**10.60**	**172**		**Pn**	**21 55 57.6**	**-0.7**
PSGCX	**Pisagua**	**10.80**	**12**	Pn	**Pn**	**21 55 58.5**	**-2.7**
TRQA	**Tornquist**	**11.69**	**135**	Pn	**Pn**	**21 56 14.8**	**+1.7**
CPUP	**Villa Florida**	**13.90**	**77**	LR	LR	22 02 41.2	
	comp=Z,167nm,18.7s,baz=253,slow=40						
LPAZ	**La Paz**	**14.44**	**17**	Pn	**Pn**	**21 56 55.1**	**+3.7**
	0.4nm,0.3s,baz=199,slow=9.2,SNR=12						
LPAZ	**La Paz**	**14.44**	**17**		**Pn**	**21 56 52.3**	**+0.9**
COYC	**Coyhaique**	**15.32**	**179**	Pn	**Pn**	**21 57 03.8**	**+1.1**
COYC				IAmb	IAmb	21 57 09.2	
	comp=Z,14nm,0.9s						
SIV	**San Ignacio**	**17.61**	**39**	P	**Pn**	**21 57 33.5**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=233,slow=10,SNR=36						
AQDB	**Aquidauana**	**17.99**	**61**		**Pn**	**21 57 36.0**	**-0.7**
SAML	**Samuel**	**22.89**	**24**			21 58 31.5	
SAML	**Samuel**	**22.89**	**24**	P	**P**	**21 58 30.0**	**-0.5**
SAML				IAmb	IAmb	21 58 33.6	
	comp=Z,13nm,1.3s						
BDFB	**Brasilia**	**26.73**	**63**	P	**P**	**21 59 07.1**	**+0.5**
	comp=Z,6.8nm,1.0s,baz=258,slow=10,SNR=5.8						
BDFB	**Brasilia**	**26.73**	**63**	P	**P**	**21 59 06.3**	**-0.2**
BDFB				IAmb	IAmb	21 59 17.7	
	comp=Z,6.6nm,0.9s						
RUSC	**La Rusia**	**35.92**	**359**	P	**P**	**22 00 28.3**	**+0.4**
HATO	**Hato, Curacao**	**42.30**	**5**	P	**P**	**22 01 20.3**	**-0.3**
HZTE	**Horizontes, Gu**	**42.62**	**341**	P	**P**	**22 01 22.4**	**-0.8**
MASN	**Masaya**	**43.98**	**341**	P	**P**	**22 01 30.9**	**-3.4**
VNA3	**Neumayer Olymp**	**52.99**	**159**	P	**P**	**22 02 43.5**	**+0.3**
VNA1	**Neumayer--Stat**	**53.29**	**158**	P	**P**	**22 02 46.1**	**+0.8**
VNA2	**Neumayer--Watz**	**53.64**	**158**	P	**P**	**22 02 47.6**	**-0.3**
	baz=289,slow=8.9						
SNAA	**Sanae**	**55.22**	**159**	P	**P**	**22 02 59.0**	**-0.5**
SNAA	**Sanae**	**55.22**	**159**	P	**P**	**22 02 59.5**	**0.0**
TX31	**Lajitas Ar. Si**	**66.27**	**330**	P	**P**	**22 04 14.8**	**-0.5**
TX31				IAmb	IAmb	22 04 18.5	
	comp=Z,5.1nm,1.1s						
TX32	**Lajitas Array**	**66.27**	**330**	P	**P**	**22 04 15.0**	**-0.3**
TXAR	**Lajitas Array**	**66.27**	**330**	P	**P**	**22 04 16.8**	**+1.5**
	comp=Z,0.8nm,0.7s,baz=155,slow=8.2,SNR=10						
TXAR	**Lajitas Array**	**66.27**	**330**	P	**P**	**22 04 15.7**	**+0.4**
MNTX	**Cornudas Mount**	**69.05**	**330**	P	**P**	**22 04 32.8**	**+0.1**
MNTX				IAmb	IAmb	22 04 34.5	
	comp=Z,1.9nm,0.8s						
HHAR	**Hobbs**	**69.16**	**342**	P	**P**	**22 04 33.0**	**-0.2**
HHAR				IAmb	IAmb	22 04 34.9	
	comp=Z,4.1nm,0.9s						
R40A	**Maddies Statio**	**70.62**	**344**	P	**P**	**22 04 42.5**	**+0.3**
P40A	**Paris**	**71.75**	**344**	P	**P**	**22 04 49.5**	**+0.5**
DBIC	**Dimbokro**	**74.37**	**73**	P	**P**	**22 05 05.6**	**+0.5**
	comp=Z,4.1nm,0.7s,baz=235,slow=8.0,SNR=4.8						
SMCO	**Snowmass**	**76.15**	**333**	P	**P**	**22 05 16.6**	**+1.3**
SMCO				IAmb	IAmb	22 05 19.9	
	comp=Z,4.1nm,0.8s						
MTPU	**Mount Pierson**	**77.39**	**329**	P	**P**	**22 05 23.0**	**+0.8**
MTPU				IAmb	IAmb	22 05 26.3	
	comp=Z,3.2nm,0.9s						
CCUT	**Cedar City**	**77.52**	**328**	P	**P**	**22 05 24.4**	**+1.5**
CCUT				IAmb	IAmb	22 05 26.2	
	comp=Z,3.7nm,1.0s						
SRU	**San Rafael Swe**	**77.55**	**331**	P	**P**	**22 05 24.3**	**+1.3**
SRU				IAmb	IAmb	22 05 25.1	
	comp=Z,1.8nm,0.7s						
PRN	**Pahroc Range**	**78.19**	**327**	P	**P**	**22 05 27.6**	**+1.1**
PRN				IAmb	IAmb	22 05 29.7	
	comp=Z,4.4nm,1.1s						
PSUT	**Pine Spring**	**78.54**	**328**	P	**P**	**22 05 29.8**	**+1.3**
HWUT	**Hardware Ranch**	**80.07**	**331**		**P**	**22 05 37.8**	**+1.1**
HWUT				IAmb	IAmb	22 05 38.7	
	comp=Z,3.1nm,0.8s						
PDAR	**Pinedale Array**	**80.23**	**333**	P	**P**	**22 05 38.7**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=143,slow=5.2,SNR=2.6						
NVAR	**Mina Array Bea**	**80.58**	**325**	P	**P**	**22 05 41.5**	**+1.9**
	comp=Z,0.9nm,0.3s,baz=150,slow=7.3,SNR=1.1						
TORD	**Torodi Ar. Bea**	**83.30**	**71**	P	**P**	**22 05 54.5**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=244,slow=5.2,SNR=5.7						
TORD	**Torodi Ar. Bea**	**83.30**	**71**	IAmb	IAmb	22 06 05.6	
	comp=Z,3.7nm,1.4s						
H11S2	**WAKE ISLAND Hy**	**25.35**	**272**	T	T	00 31 40.6	
	baz=114,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**25.36**	**272**	T	T	00 31 41.4	
	baz=114,slow=75,SNR=24						
H11S3	**WAKE ISLAND Hy**	**25.37**	**272**	T	T	00 31 41.0	
	baz=114,slow=75,SNR=16						
ZALV	**Zalesovo Beam**	**151.16**	**28**	PKPbc	**PKPbc**	**22 13 20.5**	**+0.7**
	comp=Z,8.5nm,0.6s,baz=303,slow=3.2,SNR=31						
MKAR	**Makanchi Array**	**154.41**	**43**	PKPbc	**PKPbc**	**22 13 27.7**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=339,slow=1.6,SNR=6.8						

IDC 18 21:55:46.7±3.1,33.˚10S×178.˚32W,h0km,mb3.6/2, mb1 3.8/3,mb1mx3.6/30,mbtmp3.6/3,ML3.4/1,Error ellipse: s-maj=74.7km s-min=36.8km az=118.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.35**	**215**	Pn	Pn	21 57 21.9	+0.3
	0.8nm,0.3s,baz=126,slow=18,SNR=9.6						
URZ				Sn	Sn	21 58 35.8	+1.1
	1.0nm,0.3s,baz=300,slow=21,SNR=2.6						
ASAR	**Alice Springs**	**42.76**	**270**	P	P	22 03 46.2	+0.1
	0.8nm,1.1s,baz=110,slow=8.2,SNR=4.1						
WRA	**Warramunga Arr**	**43.99**	**275**	P	P	22 03 55.8	-0.3
	0.5nm,0.5s,baz=119,slow=7.7,SNR=9.2						
FINES	**FINESS Array B**	**147.56**	**338**	PKPbc	PKPbc	22 15 31.4	-0.8
	7.5nm,1.1s,baz=70,slow=2.0,SNR=5.6						

MEX 18 22:03:28.2±0.7,16.˚35N×98.˚31W,h11km±2km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.18**	**76**	*i* P	Pg	22 03 31.8	-0.4
PNIG				*i* S	Sg	22 03 34.4	-0.6
TXIG	**Tlaxiaco**	**1.04**	**30**	*i* P	Pg	22 03 45.9	-2.4
TXIG				*i* S	Sg	22 03 58.0	-3.8
PEIG	**Puerto Escondi**	**1.17**	**107**	*i* P	Pb	22 03 46.4	-4.1
PEIG				*i* S	Sb	22 04 01.3	-4.3

NEIC ***18*** *22:08:48.0±2.9,31.˚41S±0.˚04×73.˚0W±0.˚1,h8km±5km, mb4.2/12,Error ellipse: s-maj=13.1km s-min=6.1km az=89.0*

IDC ***18*** *22:08:48.4±1.1,31.˚44S×72.˚75W,h0km,mb4.0/5, mb1 4.1/8,mb1mx3.9/36,mbtmp4.0/8,ML4.0/3,Error ellipse: s-maj=44.5km s-min=21.0km az=95.0*

ISC 18 22:08:46.7±2.2,31.˚43S±0.˚04×72.˚91W±0.˚08,h1km±13km, n54,σ1ˢ66/58,mb4.3/6,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**1.33**	**56**	*e*P	**Pg**	**22 09 12.0**	**-0.1**
CO06	**Fray Jorge**	**1.33**	**56**	Pn	**Pg**	**22 09 12.1**	**-0.1**
VA06	**Catapilco**	**1.77**	**130**	*i* S	**Sn**	**22 09 38.0**	**-3.6**
VA06				IAML		22 09 40.2	
	comp=E,2µm,0.3s						
VA01	**Torpederas**	**1.91**	**146**	*i* S	**Sn**	**22 09 42.6**	**-2.5**
VA01	**Torpederas**	**1.91**	**146**		**Pn**	**22 09 20.4**	**0.0**
VA01					**Sn**	**22 09 42.2**	**-2.9**
CO03	**El Pedregal**	**1.99**	**73**	*e*P	**Pn**	**22 09 22.4**	**+0.8**
CO03				*i* S	**Sn**	**22 09 46.7**	**-0.5**
CO03				IAML		22 09 48.2	
	comp=E,1µm,0.3s						
CO03	**El Pedregal**	**1.99**	**73**		**Pn**	**22 09 22.4**	**+0.8**
CO05	**La Serena**	**2.08**	**44**		**Pn**	**22 09 22.9**	**+0.1**
GO04	**Tololo Observa**	**2.21**	**56**		**Pn**	**22 09 25.3**	**+0.6**
ROCH	**El Roble**	**2.22**	**134**	*e*P	**Pn**	**22 09 25.6**	**+0.7**
ROCH				*i* S	**Sn**	**22 09 51.4**	**-1.8**
ROCH				IAML		22 09 52.2	
	comp=N,1µm,0.4s						
VA03	**San Esteban**	**2.40**	**124**	*e*P	**Pn**	**22 09 28.3**	**+1.1**
VA03				*i* S	**Sn**	**22 09 55.6**	**-1.8**
VA03				IAML		22 09 58.1	
	comp=N,2µm,0.5s						
VA03	**San Esteban**	**2.40**	**124**		**Pn**	**22 09 28.4**	**+1.2**
VA05	**Santo Domingo**	**2.47**	**154**	*e*P	**Pn**	**22 09 28.2**	**+0.1**
VA05				*i* S	**Sn**	**22 09 54.8**	**-4.1**
VA05				IAML		22 09 57.2	
	comp=E,907nm,0.3s						
VA05	**Santo Domingo**	**2.47**	**154**		**Pn**	**22 09 28.3**	**+0.2**
MT05	**Renca**	**2.68**	**137**	*e*P	**Pn**	**22 09 32.2**	**+1.2**
MT05				*i* S	**Sn**	**22 10 02.8**	**-1.4**
MT05				IAML		22 10 12.2	
	comp=E,563nm,0.4s						
MT05	**Renca**	**2.68**	**137**		**Pn**	**22 09 32.2**	**+1.2**
MT01	**Popeta**	**2.80**	**150**	*e*P	**Pn**	**22 09 32.8**	**+0.1**
MT01				*i* S	**Sn**	**22 10 03.0**	**-4.1**
MT01				IAML		22 10 12.3	
MT01	**Popeta**	**2.80**	**150**	Pn	**Pn**	**22 09 33.1**	**+0.4**
MT09	**Talagante**	**2.84**	**146**	*e*P	**Pn**	**22 09 34.1**	**+0.7**
MT09				IAML		22 10 12.2	
	comp=N,435nm,0.2s						
MT09	**Talagante**	**2.84**	**146**	Pn	**Pn**	**22 09 34.5**	**+1.1**
LCO	**Las Campanas**	**3.08**	**39**		**Pn**	**22 09 37.4**	**+0.7**
BO03	**Pichilemu**	**3.16**	**166**	IAML		22 10 12.3	
	comp=E,229nm,0.3s						
BO01	**Tunca**	**3.33**	**153**		**Pn**	**22 09 40.9**	**+1.0**
AC04	**Llanos de Chal**	**3.59**	**27**	Pn	**Pn**	**22 09 42.0**	**-1.5**
AC04					**Sn**	**22 10 23.4**	**-3.2**
ZON	**Zonda**	**3.61**	**93**		**Pn**	**22 09 43.8**	**-0.1**
GO05	**Huala**	**3.66**	**167**		**Pn**	**22 09 44.3**	**-0.2**
BO02	**Sierra Bellavi**	**3.80**	**153**	Pn	**Pn**	**22 09 47.6**	**+1.2**
GO03	**Copiap**	**4.48**	**32**		**Pn**	**22 09 56.2**	**+0.4**
AC06	**Mina Casimiro**	**4.63**	**29**		**Pn**	**22 09 58.2**	**+0.4**
AC02	**Maricunga**	**5.65**	**37**		**Pn**	**22 10 13.3**	**+1.1**
PB06	**IPOC Station P**	**9.19**	**20**	Pn	**Pn**	**22 10 58.2**	**-2.3**
PB04	**IPOC Station P**	**9.39**	**16**	Pn	**Pn**	**22 11 03.0**	**-0.3**
PLCA	**Paso Flores**	**9.47**	**169**	Pn	**Pn**	**22 11 05.8**	**+1.4**
	comp=E,0.5nm,0.3s,baz=335,slow=13,SNR=17						
LVC	**Limon Verde**	**9.48**	**23**	Pn	**Pn**	**22 11 01.5**	**-3.2**
PB07	**IPOC Station P**	**10.04**	**16**	Pn	**Pn**	**22 11 12.3**	**+0.1**
LPAZ	**La Paz**	**15.69**	**17**	Pn	**P**	**22 12 32.2**	**-1.7**
	comp=E,0.1nm,0.3s,baz=191,slow=7.0,SNR=10						
LPAZ	**La Paz**	**15.69**	**17**	P	**P**	**22 12 32.2**	**-1.7**
PLTB	**Pedras Altas**	**16.45**	**96**	Pn	**Pn**	**22 12 38.0**	**-0.9**
SIV	**San Ignacio**	**18.78**	**38**	P	**Pn**	**22 13 09.3**	**+1.4**
	comp=E,0.3nm,0.3s,baz=228,slow=12,SNR=28						
PRVC	**Isla de Provid**	**45.28**	**348**	P	**P**	**22 17 03.8**	**-2.3**
PRVC				IAmb	IAmb	22 17 05.2	
	comp=Z,5.7nm,0.8s						
HUMP	**Col San Antoni**	**49.75**	**9**	P	**P**	**22 17 41.3**	**+0.5**
SNAA	**Sanae**	**54.23**	**158**	P	**P**	**22 18 15.4**	**+1.6**
	comp=Z,0.9nm,0.6s,baz=226,slow=8.4,SNR=9.3						
SNAA	**Sanae**	**54.23**	**158**	P	**P**	**22 18 14.6**	**+0.9**
SNAA				IAmb	IAmb	22 18 15.6	
	comp=Z,1.6nm,0.8s						
QSPA	**South Pole Qui**	**58.80**	**180**	P	**P**	**22 18 48.2**	**+1.8**
	comp=Z,1.6nm,0.8s,baz=176,slow=2.1,SNR=9.0						
QSPA	**South Pole Qui**	**58.80**	**180**	IAmb	IAmb	22 18 56.1	
	comp=Z,4.9nm,1.4s						
TXAR	**Lajitas Array**	**67.14**	**331**	P	**P**	**22 19 44.5**	**+2.3**
	comp=Z,0.2nm,0.9s,baz=134,slow=6.4,SNR=2.3						
TXAR	**Lajitas Array**	**67.14**	**331**	P	**P**	**22 19 40.4**	**-1.9**
TKL	**Tuckaleechee C**	**67.51**	**350**	P	**P**	**22 19 44.8**	**+0.5**
DBIC	**Dimbokro**	**75.08**	**72**	P	**P**	**22 20 31.6**	**+1.0**
	comp=Z,3.1nm,0.8s,baz=217,slow=5.1,SNR=2.0						
TORD	**Torodi Ar. Bea**	**84.04**	**71**	P	**P**	**22 21 20.1**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=282,slow=6.6,SNR=23						
TORD	**Torodi Ar. Bea**	**84.04**	**71**	IAmb	IAmb	22 21 21.3	
	comp=Z,1.3nm,0.7s						
LBTB	**Lobatse**	**84.06**	**116**	P	**P**	**22 21 20.7**	**+1.1**
ZALV	**Zalesovo Beam**	**152.39**	**29**	PKPbc	**PKiKP**	**22 28 45.5**	**+1.2**
	comp=Z,3.3nm,0.7s,baz=300,slow=3.7,SNR=12						
MKAR	**Makanchi Array**	**155.53**	**44**	PKPbc	PKPbc	22 28 52.4	
	comp=Z,0.1nm,0.5s,baz=299,slow=2.6,SNR=3.9						

IDC ***18*** *22:10:38.1±2.2,10.˚71S×164.˚82E,h0km,mb3.7/6, mb1 4.0/7,mb1mx3.7/37,mbtmp3.8/7,ML4.3/1,MS3.4/4, Ms1 3.4/4,ms1mx2.9/49,Error ellipse: s-maj=51.7km s-min=32.2km az=70.0*

NEIC ***18*** *22:10:40.6±1.6,10.˚7S±0.˚1×164.˚95E±0.˚09,h18km±10km, mb4.4/11,Error ellipse: s-maj=23.2km s-min=7.7km az=210.0*

ISC 18 22:10:42.0±1.0,10.˚77S±0.˚10×165.˚0E±0.˚1,h31km,n36, σ0ˢ99/29,mb4.0/11,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.11**	**285**	LR	LR	22 14 06.8	
	comp=Z,156nm,18.3s,baz=45,slow=42						
HNR	**Honiara**	**5.11**	**285**	Pn	**Pn**	**22 11 55.9**	**-0.6**
SANVU	**Saraoutou**	**5.13**	**155**		**Pn**	**22 11 56.1**	**-0.6**
LIFNC	**LIFOU**	**10.19**	**168**	Pn	**Pn**	**22 13 06.3**	**+0.2**
DZM	**Mont Dzumac**	**11.32**	**173**	Pn	**Pn**	**22 13 22.1**	**+0.3**
	2.2nm,0.3s,baz=20,slow=9.3,SNR=75						
DZM				Sn	**Sn**	**22 15 26.5**	**-0.9**
	0.1nm,0.3s,baz=307,slow=23,SNR=1.4						
DZM				LR	LR	22 17 32.2	
	comp=Z,90nm,18.4s,baz=214,slow=36						
DZM	**Mont Dzumac**	**11.32**	**173**	P	**Pn**	**22 13 22.5**	**+0.7**
NOUC	**Port Laguerre**	**11.34**	**174**	P	**Pn**	**22 13 23.2**	**+1.3**
YATNC	**Mamie plateau,**	**11.37**	**171**	P	**Pn**	**22 13 22.6**	**+0.2**
ONTNC	**Ouen Toro**	**11.56**	**173**	Pn	**Pn**	**22 13 24.9**	**-0.1**
OUENC	**Ouen Island, N**	**11.72**	**171**	Pn	**Pn**	**22 13 27.9**	**+0.8**
OUENC	**Ouen Island, N**	**11.72**	**171**	P	**Pn**	**22 13 28.8**	**+1.7**
PINNC	**Pines Island,**	**12.01**	**169**	Pn	**Pn**	**22 13 31.3**	**+0.2**
EIDS	**Eidsvold**	**19.59**	**220**	P	**Pn**	**22 15 08.5**	**-0.6**
EIDS				IAmb	IAmb	22 15 14.4	
	comp=Z,25nm,1.5s						
CTAO	**Charters Tower**	**20.25**	**241**	P	**P**	**22 15 14.4**	**-0.5**
CTAO				IAmb	IAmb	22 15 33.1	
	comp=Z,15nm,1.4s						
ARMA	**Armidale**	**23.15**	**210**	P	**P**	**22 15 43.6**	**-2.3**
KNTN	**Kanton**	**24.47**	**73**	P	**P**	**22 15 57.5**	**-1.0**
OUZ	**Omahuta**	**25.57**	**163**	P	**P**	**22 16 09.4**	**+1.1**
OUZ				IAmb	IAmb	22 16 23.4	
	comp=Z,22nm,1.3s						
H11S2	**WAKE ISLAND Hy**	**29.13**	**3**	T	T	22 46 52.4	
	baz=184,slow=76,SNR=36						
H11S3	**WAKE ISLAND Hy**	**29.13**	**3**	T	T	22 47 05.4	
	baz=184,slow=76,SNR=24						
H11S1	**WAKE ISLAND Hy**	**29.15**	**3**	T	T	22 46 54.8	
	baz=184,slow=76,SNR=24						
BKZ	**Black Stump Fm**	**30.09**	**162**	P	**P**	**22 16 48.3**	**-0.4**
STKA	**Stephens Creek**	**30.11**	**222**	P	**P**	**22 16 50.2**	**+1.2**
	comp=Z,1.7nm,0.7s,baz=57,slow=18,SNR=3.6						
STKA				LR	LR	22 28 15.7	
	comp=Z,88nm,18.2s,baz=21,slow=35						
H11N1	**WAKE ISLAND Hy**	**30.36**	**4**	T	T	22 48 21.6	
	baz=182,slow=76,SNR=47						
H11N3	**WAKE ISLAND Hy**	**30.36**	**4**	T	T	22 48 23.5	
	baz=182,slow=76,SNR=19						
H11N2	**WAKE ISLAND Hy**	**30.37**	**4**	T	T	22 48 39.5	
	baz=182,slow=76,SNR=26						
WR0	**Warramunga Arr**	**30.67**	**249**	P	**P**	**22 16 54.1**	**+0.1**
WR0				IAmb	IAmb	22 17 06.5	
	comp=Z,5.0nm,1.3s						
WB0	**Warramunga Arr**	**30.77**	**249**	P	**P**	**22 16 54.7**	**-0.2**
WB0				IAmb	IAmb	22 17 11.6	
	comp=Z,3.6nm,1.1s						
WRA	**Warramunga Arr**	**30.85**	**249**	P	**P**	**22 16 55.1**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=71,slow=8.9,SNR=1.9						
WRA	**Warramunga Arr**	**30.85**	**249**	P	**P**	**22 16 54.0**	**-1.7**
TOO	**Toolangi**	**31.91**	**210**	P	**P**	**22 17 05.8**	**+1.0**
TOO				IAmb	IAmb	22 17 22.3	
	comp=Z,9.7nm,1.2s						
ASAR	**Alice Springs**	**32.23**	**242**	P	**P**	**22 17 07.0**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=64,slow=10,SNR=9.3						
BBOO	**Buckleboo**	**34.45**	**226**	P	**P**	**22 17 28.1**	**+1.0**
BBOO				IAmb	IAmb	22 17 32.3	
	comp=Z,13nm,1.4s						
VNDA

s107,c151; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.39±.14; $M_{\theta\theta}$-0.16±.07; $M_{\phi\phi}$-4.23±.11; $M_{r\theta}$0.20±.17; $M_{\theta\phi}$0.25±.05; $M_{\phi r}$-3.98±.23; Best double couple: M_o5.87500×10^{16} NP1:ϕ_s356.00000°,δ24.00000°, λ89.00000°. NP2:ϕ_s177.00000°,δ66.00000°,λ90.00000°. Principal axes: T 5.9480, Plg69.0000°, Azm88.0000°; N -0.1410, Plg0.0000°, Azm357.0000°; P -5.8030, Plg21.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 18 22:12:16.4±1.4, 30.39S±0.03×72.15W±0.05, h15$^{km}_{\pm 8km}$, n238, σ1§57/229, mb4.9/49, MS4.4/14, 3C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.53**	**122**	⇓	*i*	P	**Pg**	**22 12 26.6**	**-0.2**
CO06					*i*	S	**Sg**	**22 12 33.7**	**-0.2**
CO06	**Fray Jorge**	**0.53**	**122**		Pg		**Pg**	**22 12 26.8**	**0.0**
CO06					Sg		**Sg**	**22 12 33.5**	**-0.4**
CO05	**La Serena**	**0.92**	**60**	⇓	*i*	P	**Pb**	**22 12 32.9**	**-1.2**
CO05					*i*	S	**Sb**	**22 12 44.8**	**-1.4**
CO05	**La Serena**	**0.92**	**60**		Pg		**Pb**	**22 12 33.0**	**-1.1**
CO05					Sg		**Sb**	**22 12 45.5**	**-0.7**
GO04	**Tololo Observa**	**1.19**	**80**	⇓	*i*	P	**Pb**	**22 12 37.4**	**-1.5**
GO04					*i*	S	**Sb**	**22 12 53.0**	**-1.1**
GO04					IAML			22 12 59.5	
	comp=E,40μm,0.5s								
GO04	**Tololo Observa**	**1.19**	**80**		Pn		**Pb**	**22 12 37.9**	**-0.9**
GO04	**Tololo Observa**	**1.19**	**80**	*i*	P		**Pb**	**22 12 37.0**	**-1.8**
GO04					*eS*		**Sn**	**22 12 56.8**	**+1.9**
CO03	**El Pedregal**	**1.34**	**110**	*eP*			**Pn**	**22 12 39.7**	**-1.0**
CO03					*i*	S	**Sb**	**22 12 57.6**	**-0.8**
CO03					IAML			22 13 02.7	
	comp=N,12μm,0.4s								
CO03	**El Pedregal**	**1.34**	**110**		Pn		**Pn**	**22 12 40.2**	**-0.5**
CO03							**Sb**	**22 12 57.9**	**-0.4**
CO03	**El Pedregal**	**1.34**	**110**	*i*	P		**Pn**	**22 12 40.0**	**-0.7**
CO03					*eS*		**Sb**	**22 12 56.8**	**-1.5**
CO03					IAML			22 13 06.3	
	comp=Z,6μm,1.3s								
LCO	**Las Campanas**	**1.87**	**43**	⇑	*i*	P	**Pn**	**22 12 47.4**	**-0.7**
LCO					*i*	S	**Sn**	**22 13 10.6**	**-1.0**
LCO	**Las Campanas**	**1.87**	**43**				**Pn**	**22 12 47.4**	**-0.7**
LCO	**Las Campanas**	**1.87**	**43**	*i*	P		**Pn**	**22 12 47.0**	**-1.1**
LCO					*eS*		**Sb**	**22 13 12.8**	**-0.9**
LCO					IAML			22 13 22.7	
	comp=Z,21μm,1.6s								
VA06	**Catapilco**	**2.29**	**162**	*eP*			**Pn**	**22 12 53.7**	**+0.1**
VA06					*eS*		**Sn**	**22 13 20.1**	**-1.4**
VA06					IAML			22 13 34.6	
	comp=E,7μm,0.5s								
AROD	**Rodeo**	**2.33**	**85**	*i*	P		**Pb**	**22 12 57.0**	**-1.3**
AROD					*eS*		**Sb**	**22 13 26.3**	**-0.7**
AC04	**Llanos de Chal**	**2.37**	**24**	*eP*			**Pn**	**22 12 53.0**	**-1.8**
AC04					IAML			22 13 42.2	
	comp=E,3μm,0.8s								
AC04	**Llanos de Chal**	**2.37**	**24**		Pn		**Pn**	**22 12 53.5**	**-1.4**
AC04	**Llanos de Chal**	**2.37**	**24**	*i*	P		**Pn**	**22 12 53.0**	**-1.8**
AC04					IAML			22 13 36.7	
	comp=Z,2μm,2.4s								
ACDV	**Cuesta del Vie**	**2.63**	**86**	*i*	P		**Pb**	**22 13 02.0**	**-1.4**
ACDV					IAML			22 13 42.5	
	comp=Z,2μm,0.6s								
VA01	**Torpederas**	**2.66**	**171**	*eP*			**Pn**	**22 12 58.4**	**-0.4**
VA01					*eS*		**Sn**	**22 13 28.1**	**-2.6**
VA01					IAML			22 13 49.5	
	comp=N,1μm,0.5s								
VA01	**Torpederas**	**2.66**	**171**		Pn		**Pn**	**22 12 58.2**	**-0.6**
VA03	**San Esteban**	**2.73**	**150**	*eP*			**Pn**	**22 13 01.4**	**+1.5**
VA03					*i*	S	**Sn**	**22 13 33.8**	**+1.0**
VA03					IAML			22 13 47.0	
	comp=E,5μm,0.4s								
VA03	**San Esteban**	**2.73**	**150**		Pn		**Pn**	**22 13 00.6**	**+0.7**
ROCH	**El Roble**	**2.75**	**160**	⇑	*i*	P	**Pn**	**22 13 00.9**	**+0.7**
ROCH					*eS*		**Sb**	**22 13 38.4**	**-0.7**
ROCH					IAML			22 13 49.5	
	comp=N,4μm,0.5s								
RTLS	**Leoncito**	**2.83**	**121**	*eP*			**Pb**	**22 13 05.0**	**-1.8**
RTLS					*eS*		**Sg**	**22 13 44.5**	**-2.7**
RTLS					IAML			22 13 52.6	
	comp=Z,950nm,1.4s								
ZON	**Zonda**	**3.20**	**112**		Pn		**Pn**	**22 13 06.5**	**+0.3**
ZON	**Zonda**	**3.20**	**112**	*i*	P		**Pb**	**22 13 11.0**	**-2.0**
ZON					*eS*		**Sg**	**22 13 56.5**	**-2.7**
ZON					IAML			22 14 07.2	
	comp=Z,2μm,2.1s								
MT05	**Renca**	**3.23**	**158**	*eP*			**Pn**	**22 13 08.8**	**+2.2**
MT05					*eS*		**Sn**	**22 13 48.7**	**+3.9**
MT05	**Renca**	**3.23**	**158**		Pn		**Pn**	**22 13 07.4**	**+0.8**
GO03	**Copiap**	**3.25**	**32**		Pn		**Pn**	**22 13 06.1**	**-0.9**
GO03	**Copiap**	**3.25**	**32**	*i*	P		**Pn**	**22 13 07.0**	**0.0**
VA05	**Santo Domingo**	**3.29**	**172**	*eP*			**Pn**	**22 13 07.8**	**+0.5**
VA05					*i*	S	**Sn**	**22 13 46.7**	**+0.5**
VA05					IAML			22 14 10.3	
	comp=E,2μm,0.5s								
VA05	**Santo Domingo**	**3.29**	**172**		Pn		**Pn**	**22 13 07.6**	**+0.2**
AGUA	**GUANDACOL**	**3.30**	**75**	*i*	P		**Pb**	**22 13 12.0**	**-2.8**
AGUA					IAML			22 14 05.9	
	comp=Z,1μm,3.9s								
AC06	**Mina Casimiro**	**3.41**	**28**	⇑	*i*	P	**Pn**	**22 13 08.2**	**-0.9**
AC06					IAML			22 14 08.2	
	comp=E,798nm,0.6s								
AC06	**Mina Casimiro**	**3.41**	**28**				**Pn**	**22 13 08.3**	**-0.7**
MT09	**Talagante**	**3.52**	**164**	*eP**			**Pn**	**22 13 11.8**	**+1.1**
MT09					*eS*		**Sn**	**22 13 51.6**	**-0.6**
MT09					IAML			22 14 15.9	
	comp=N,2μm,0.6s								
MT09	**Talagante**	**3.52**	**164**		Pn		**Pn**	**22 13 10.8**	**+0.1**
MT01	**Popeta**	**3.55**	**168**	*eP**			**Pn**	**22 13 11.0**	**0.0**
MT01					IAML			22 14 18.1	
	comp=N,696nm,0.6s								
MT01	**Popeta**	**3.55**	**168**		Pn		**Pn**	**22 13 10.2**	**-0.7**
VCA	**Vinchina**	**3.81**	**65**	*i*	P		**Pn**	**22 13 19.0**	**+4.2**
VCA					IAML			22 14 23.6	
	comp=Z,2μm,2.0s								
AAGR	**Agrelo**	**3.90**	**134**	*i*	P		**Pb**	**22 13 22.0**	**-3.0**
AAGR					IAML			22 14 42.9	
	comp=Z,2μm,2.1s								
BO01	**Tunca**	**4.09**	**168**		Pn		**Pn**	**22 13 19.1**	**+0.6**
AC02	**Maricunga**	**4.43**	**38**		Pn		**Pn**	**22 13 23.8**	**+0.2**
AC02	**Maricunga**	**4.43**	**38**	*i*	P		**Pn**	**22 13 24.0**	**+0.5**
AC02					IAML			22 14 43.7	
	comp=Z,659nm,0.8s								
BO02	**Sierra Bellavi**	**4.54**	**166**		Pn		**Pn**	**22 13 24.9**	**+0.2**
GO05	**Huala**	**4.61**	**178**		Pn		**Pn**	**22 13 24.8**	**-0.9**
COIS	**El Sosneado**	**5.17**	**156**	*i*	P		Pn	22 13 39.0	+5.6
ML02	**Panimavida**	**5.39**	**174**		Pn		**Pn**	**22 13 36.2**	**-0.1**
CYA	**Choya**	**5.87**	**72**	*i*	P		**Pn**	**22 13 44.0**	**+1.0**
CYA					IAML			22 15 07.2	
	comp=Z,588nm,2.5s								
PB14	**IPOC Station P**	**5.95**	**16**		Pn		**Pn**	**22 13 42.1**	**-2.1**
PB14	**IPOC Station P**	**5.95**	**16**	*i*	P		**Pn**	**22 13 42.0**	**-2.3**
PB14					IAML			22 15 34.2	
	comp=Z,229nm,1.0s								
H03N1	**Juan Fernandez**	**6.50**	**240**		Pn		**Pn**	**22 13 50.4**	**-0.9**
	baz=110,slow=18,SNR=25								
H03N1					T		T	22 20 56.8	
	baz=70,slow=72,SNR=327								
H03N2	**Juan Fernandez**	**6.51**	**240**		Pn		**Pn**	**22 13 50.7**	**-0.8**
	baz=110,slow=18,SNR=26								
H03N2					T		T	22 21 01.5	
	baz=70,slow=72,SNR=248								
H03N3	**Juan Fernandez**	**6.52**	**240**		Pn		**Pn**	**22 13 50.5**	**-1.1**
	baz=110,slow=18,SNR=27								
H03N3					T		T	22 20 56.8	
	baz=70,slow=72,SNR=533								
VA04	**Juan Fernndez**	**6.53**	**239**		Pn		**Pn**	**22 13 49.9**	**-2.1**
H03S3	**Juan Fernandez**	**6.68**	**237**		Pn		**Pn**	**22 13 52.2**	**-1.5**
	baz=242,slow=74,SNR=58								
H03S3					T		T	22 21 07.7	
	baz=82,slow=74,SNR=3.8								
H03S1	**Juan Fernandez**	**6.68**	**237**		Pn		**Pn**	**22 13 51.2**	**-2.5**
	baz=242,slow=74,SNR=48								
H03S1					T		T	22 21 04.3	
	baz=82,slow=74,SNR=3.6								
H03S2	**Juan Fernandez**	**6.69**	**237**		Pn		**Pn**	**22 13 52.4**	**-1.5**
	baz=242,slow=74,SNR=49								
H03S2					T		T	22 21 05.5	
	baz=82,slow=74,SNR=4.3								
AHML	**Horco Molle**	**6.99**	**61**	*i*	P		**Pn**	**22 14 02.0**	**+3.7**
AHML					IAML			22 15 58.2	
	comp=Z,172nm,1.0s								
PB10	**IPOC Station P**	**7.00**	**12**		Pn		**Pn**	**22 13 57.7**	**-0.7**
PB10	**IPOC Station P**	**7.00**	**12**	*i*	P		**Pn**	**22 13 57.0**	**-1.4**
PB10					IAML			22 16 01.0	
	comp=Z,89nm,1.7s								
PB15	**IPOC Station P**	**7.54**	**19**				**Pn**	**22 14 03.7**	**-2.4**
PB15	**IPOC Station P**	**7.54**	**19**	*i*	P		**Pn**	**22 14 05.0**	**-1.1**
PB15					IAML			22 16 14.7	
	comp=Z,253nm,0.7s								
PB05	**IPOC Station P**	**7.71**	**14**	*i*	P		**Pn**	**22 14 04.0**	**-4.3**
PB05					IAML			22 16 07.7	
	comp=E,55nm,3.0s								
PB06	**IPOC Station P**	**7.99**	**17**		Pn		**Pn**	**22 14 10.4**	**-1.9**
PB06	**IPOC Station P**	**7.99**	**17**	*i*	P		**Pn**	**22 14 10.0**	**-2.2**
PB06					IAML			22 16 14.3	
	comp=Z,157nm,3.3s								
AF01	**San Pedro de A**	**8.22**	**27**		Pn		**Pn**	**22 14 12.8**	**-2.6**
PB04	**IPOC Station P**	**8.22**	**13**		Pn		**Pn**	**22 14 14.7**	**-0.7**
LVC	**Limon Verde**	**8.28**	**21**		Pn		**Pn**	**22 14 13.8**	**-2.5**
	comp=Z,1.5nm,0.3s,baz=148,slow=12,SNR=11								
LVC					Sn		**Sn**	**22 15 45.2**	**-4.6**
	comp=Z,2.1nm,0.3s,baz=339,slow=13,SNR=3.4								
LVC	**Limon Verde**	**8.28**	**21**		Pn		**Pn**	**22 14 16.1**	**-0.1**
LVC	**Limon Verde**	**8.28**	**21**	*i*	P		**Pn**	**22 14 15.0**	**-1.3**
LVC					IAML			22 16 32.0	
	comp=Z,102nm,2.6s								
LC01	**Cunco**	**8.49**	**179**		Pn		**Pn**	**22 14 18.4**	**-0.5**
PB07	**IPOC Station P**	**8.87**	**14**				**Pn**	**22 14 23.6**	**-0.6**
PB09	**IPOC Station P**	**8.95**	**18**		Pn		**Pn**	**22 14 25.1**	**-0.3**
LR03	**Panguipulli**	**9.22**	**181**				**Pn**	**22 14 28.5**	**-0.3**
TA01	**Diego Aracena**	**9.94**	**11**		Pn		**Pn**	**22 14 37.8**	**-1.0**
PLCA	**Paso Flores**	**10.40**	**173**		Pn		**Pn**	**22 14 45.2**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=339,slow=12,SNR=31								
PLCA					LR		LR	22 18 11.9	
	comp=Z,545nm,18.9s,baz=351,slow=34								
PLCA	**Paso Flores**	**10.40**	**173**				**Pn**	**22 14 45.9**	**+0.8**
LL04	**Puerto Octay**	**10.50**	**181**		Pn		**Pn**	**22 14 46.2**	**-0.2**
PB08	**IPOC Station P**	**10.56**	**16**		Pn		**Pn**	**22 14 47.0**	**-0.6**
LL03	**Petrohue**	**10.73**	**181**		Pn		**Pn**	**22 14 48.6**	**-0.8**
PB11	**IPOC Station P**	**10.82**	**13**		Pn		**Pn**	**22 14 50.5**	**-0.5**
LL05	**Los Muermos**	**11.04**	**185**		Pn		**Pn**	**22 14 52.9**	**-0.9**
TRQA	**Tornquist**	**11.37**	**135**		Pn		**Pn**	**22 14 59.2**	**+0.9**
LL07	**Hotel Espejo d**	**12.46**	**185**		Pn		**Pn**	**22 15 11.3**	**-1.9**
ITQB	**Itaqui**	**13.48**	**91**		Pn		**Pn**	**22 15 28.0**	**+0.9**
CPUP	**Villa Florida**	**13.66**	**76**		Pn		**Pn**	**22 15 27.2**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=248,slow=13,SNR=1.3								
CPUP					LR		LR	22 21 04.5	
	comp=Z,3μm,18.5s,baz=258,slow=40								
LPAZ	**La Paz**	**14.51**	**16**		Pn		**Pn**	**22 15 41.3**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=181,slow=5.3,SNR=20								
LPAZ	**La Paz**	**14.51**	**16**		Pn		**Pn**	**22 15 42.8**	**+0.9**
SIV	**San Ignacio**	**17.56**	**38**		P		**Pn**	**22 16 17.7**	**-3.2**
	comp=Z,1.0nm,0.3s,baz=229,slow=10,SNR=42								
SIV					LR		LR	22 24 11.4	
	comp=Z,2μm,18.9s,baz=220,slow=41								
AQDB	**Aquidauana**	**17.82**	**60**		P		**Pn**	**22 16 23.2**	**-0.7**
TRCB	**Terra Rica**	**19.01**	**71**		P		**P**	**22 16 38.1**	**+0.3**
SAML	**Samuel**	**22.92**	**23**		P		**P**	**22 17 19.8**	**-0.1**
SAML	**Samuel**	**22.92**	**23**	*eP*			**P**	**22 17 19.3**	**-0.7**
TBTG	**Tabatinga, AM**	**26.15**	**5**	*eP*			**P**	**22 17 54.8**	**+4.6**
BDFB	**Brasilia**	**26.55**	**62**		P		**P**	**22 17 53.2**	**-0.8**
	comp=Z,11nm,0.6s,baz=237,slow=9.3,SNR=17								
BDFB					LR		LR	22 29 04.7	
	comp=Z,877nm,19.1s,baz=247,slow=38								
BDFB	**Brasilia**	**26.55**	**62**				**P**	**22 17 53.6**	**-0.4**
BDFB					IAmb		IAmb	22 18 06.4	
	comp=Z,33nm,1.2s								
PRAC	**Prado**	**34.01**	**355**	*eP*			**P**	**22 19 02.8**	**+2.9**
ORTC	**Ortega, Tolima**	**34.23**	**355**	*eP*			**P**	**22 19 02.8**	**+1.0**
PMSA	**Palmer Station**	**34.78**	**174**	P			**P**	**22 19 08.1**	**+2.2**
	comp=Z,9.5nm,0.9s,baz=329,slow=5.9,SNR=2.7								
PMSA	**Palmer Station**	**34.78**	**174**		P		**P**	**22 19 06.1**	**+0.2**
ROSC	**El Rosal**	**35.09**	**356**		P		**P**	**22 19 08.7**	**-0.9**
ROSC					IAmb		IAmb	22 19 32.8	
	comp=Z,9.5nm,0.6s								
NORC	**Norcasia**	**35.84**	**355**	*eP*			**P**	**22 19 17.0**	**+1.3**
SPBC	**San Pablo de B**	**35.88**	**357**	*eP*			P	22 19 26.4	+10
RUSC	**La Rusia**	**36.09**	**358**		P		**P**	**22 19 19.0**	**+0.7**
RUSC	**La Rusia**	**36.09**	**358**	*eP*			**P**	**22 19 18.7**	**+0.4**
HELC	**Santa Helena**	**36.52**	**354**	*eP*			**P**	**22 19 22.3**	**+0.5**
PTBC	**PUERTO BERRIO,**	**36.78**	**356**	*eP*			**P**	**22 19 23.8**	**+0.1**
DBBC	**Dabeiba**	**37.40**	**353**	*eP*			**P**	**22 19 31.4**	**+2.5**
ZARC	**Zaragoza, Cauc**	**37.76**	**356**	*eP*			**P**	**22 19 32.5**	**+0.6**
UREC	**San Jos de Ur**	**38.06**	**355**	*eP*			**P**	**22 19 35.9**	**+1.4**
SMLC	**San Martn de**	**39.01**	**357**	*eP*			**P**	**22 19 40.8**	**-1.7**
MDP	**Montagnes des**	**39.93**	**31**		P		**P**	**22 19 48.9**	**-1.4**
	comp=Z,10nm,0.9s,baz=168,slow=7.3,SNR=3.3								
SJCC	**San Jacinto, C**	**40.16**	**355**		P		**P**	**22 19 51.7**	**-0.4**
SJCC					IAmb		IAmb	22 20 09.3	
	comp=Z,27nm,1.1s								
SJCC	**San Jacinto, C**	**40.16**	**355**	*eP*			P	22 20 03.2	+11
CRPR	**Cabo Rojo, PR**	**48.36**	**6**		P		**P**	**22 20 58.0**	**+0.3**
OBIP	**Obispado Ponce**	**48.45**	**7**		P		**P**	**22 20 58.1**	**-0.2**
PDPR	**Patillas Dam,**	**48.49**	**8**		P		**P**	**22 20 58.5**	**-0.1**
PDPR					IAmb		IAmb	22 21 08.2	
	comp=Z,11nm,0.7s								
SJG	**San Juan**	**48.57**	**8**		P		**P**	**22 20 59.1**	**-0.1**
SJG	**San Juan**	**48.57**	**8**	*eP*			**P**	**22 20 58.2**	**-1.1**
CBYP	**Cabanas**	**48.76**	**8**		P		**P**	**22 21 00.9**	**+0.1**
ANWB	**Willy Bob**	**48.81**	**13**		P		**P**	**22 21 00.5**	**-0.6**
ABVI	**Anegada Island**	**49.41**	**10**		P		**P**	**22 21 05.0**	**-0.7**
CMIG	**Matias Romero**	**52.03**	**332**		P		**P**	**22 21 28.0**	**+2.4**
	comp=Z,2.4nm,0.8s,baz=151,slow=13,SNR=2.7								
VNA3	**Neumayer Olymp**	**52.74**	**159**		P		**P**	**22 21 31.0**	**+0.7**
VNA1	**Neumayer--Stat**	**53.03**	**158**		P		**P**	**22 21 34.4**	**+2.0**
VNA2	**Neumayer--Watz**	**53.38**	**158**		P		**P**	**22 21 35.9**	**+0.9**
	baz=285,slow=8.7								
SNAA	**Sanae**	**54.97**	**159**		P		**P**	**22 21 47.3**	**+0.7**
SNAA	**Sanae**	**54.97**	**159**		P		**P**	**22 21 47.4**	**+0.8**
	comp=Z,5.8nm,0.6s,baz=276,slow=6.9,SNR=52								
SNAA	**Sanae**	**54.97**	**159**				**P**	**22 21 47.0**	**+0.4**
RKT	**Rikitea**	**55.95**	**261**	*eT*			T	23 22 42.5	
	comp=Z,2.5nm,0.3s								
QSPA	**South Pole Qui**	**59.84**	**180**		P		**P**	**22 22 22.6**	**+1.5**
	comp=Z,5.8nm,0.8s,baz=144,slow=2.2,SNR=9.6								
QSPA	**South Pole Qui**	**59.84**	**180**				**P**	**22 22 22.2**	**+1.1**
QSPA					IAmb		IAmb	22 22 42.5	
	comp=Z,12nm,1.1s								
HKT	**Hockley**	**64.10**	**337**		P		**P**	**22 22 51.9**	**+2.1**
HKT					IAmb		IAmb	22 22 55.6	
	comp=Z,10.0nm,1.4s								
JCT	**Junction City**	**66.00**	**334**		P		**P**	**22 23 02.6**	**+0.3**
X48A	**Hartselle**	**66.01**	**347**		P		**P**	**22 23 02.0**	**-0.2**
W50A	**Signal Mountai**	**66.41**	**348**		IAmb		IAmb	22 23 09.2	
	comp=Z,9.3nm,0.9s								
V53A	**Saluda**	**66.47**	**351**		IAmb		IAmb	22 23 19.9	
	comp=Z,12nm,1.0s								
SWET	**Sewanee**	**66.54**	**348**		IAmb		IAmb	22 23 19.1	
	comp=Z,11nm,0.9s								
TXAR	**Lajitas Array**	**66.55**	**330**		P		**P**	**22 23 08.0**	**+2.0**
	comp=Z,1.8nm,0.8s,baz=153,slow=7.5,SNR=22								
TX31	**Lajitas Ar. Si**	**66.56**	**330**		IAmb		IAmb	22 23 31.3	
	comp=Z,8.9nm,0.9s								
TKL	**Tuckaleechee C**	**66.60**	**350**		IAmb		IAmb	22 23 19.3	
	comp=Z,11nm,0.9s								
TAOE	**Nuku Hiva Isla**	**66.61**	**273**	*eLR*			LR	22 43 09.7	
	comp=Z,321nm,27.7s								
V48A	**Smith Brothers**	**67.21**	**347**		P		**P**	**22 23 10.9**	**+1.0**
VNDA	**Vanda**	**67.61**	**191**		LR		LR	22 47 35.6	
	comp=Z,100nm,21.2s,baz=132,slow=31								
MIAR	**Mount Ida**	**67.68**	**341**		P		**P**	**22 23 14.4**	**+1.5**
MIAR					IAmb		IAmb	22 23 29.9	
	comp=Z,10nm,1.2s								
WVT	**Waverly**	**67.79**	**346**		P		**P**	**22 23 14.7**	**+1.1**
WVT					IAmb		IAmb	22 23 27.6	
	comp=Z,16nm,1.1s								
ABTX	**Abilene, Hawle**	**67.87**	**335**		P		**P**	**22 23 15.3**	**+1.1**
TBI	**Tubuai**	**68.11**	**255**	*eS*			**S**	**22 32 08.8**	**-6.8**
	comp=Z,137nm,25.0s								
TBI	**Tubuai**	**68.11**	**255**	*eLR*			LR	22 43 48.2	
	comp=Z,400nm,28.8s,baz=116								
TBI	**Tubuai**	**68.11**	**255**	*eT*			T	23 37 51.8	
	comp=Z,5.3nm,0.2s								
W39A	**Magazine**	**68.34**	**341**		P		**P**	**22 23 17.6**	**+0.6**
T47A	**Sharon Grove**	**68.48**	**347**		P		**P**	**22 23 19.0**	**+1.1**
LCAR	**Lake Charles**	**68.48**	**344**		IAmb		IAmb	22 23 28.4	
	comp=Z,8.6nm,1.0s								
X34A	**Smith Ranch, M**	**69.03**	**337**		P		**P**	**22 23 22.3**	**+0.9**
U40A	**Yellville**	**69.18**	**342**		P		**P**	**22 23 22.7**	**+0.4**
U40A					IAmb		IAmb	22 23 31.2	
	comp=Z,13nm,1.2s								
SYO	**Syowa Base**	**69.26**	**159**	⇓	*eP*		**P**	**22 23 22.0**	**-0.4**
MNTX	**Cornudas Mount**	**69.33**	**330**		P		**P**	**22 23 24.0**	**+0.6**
HHAR	**Hobbs**	**69.41**	**341**		P		**P**	**22 23 24.6**	**+1.0**
HHAR					IAmb		IAmb	22 23 34.4	
	comp=Z,10nm,0.9s								
WMOK	**Wichita Mounta**	**69.47**	**337**		P		**P**	**22 23 24.0**	**-0.1**
Q54A	**Coxs Mills**	**69.49**	**353**		P		**P**	**22 23 24.2**	**+0.1**
MSTX	**Muleshoe**	**70.24**	**333**		P		**P**	**22 23 30.2**	**+1.2**
CCM	**Cathedral Cave**	**70.39**	**344**		P		**P**	**22 23 30.3**	**+0.6**
CCM					IAmb		IAmb	22 23 43.5	
	comp=Z,16nm,1.1s								
TIAR	**Tiarei**	**70.51**	**261**	*eT*			T	23 40 50.6	
	comp=Z,1.6nm,0.3s								
S39A	**Bolivar**	**70.56**	**342**		IAmb		IAmb	22 23 39.8	
	comp=Z,14nm,1.2s								
PPT2	**Papeete2**	**70.69**	**261**	*eS*			**S**	**22 32 38.0**	**-8.4**
	comp=Z,421nm,26.2s								
PPT2	**Papeete2**	**70.69**	**261**	*eLR*			LR	22 44 58.9	
	comp=Z,433nm,24.2s,baz=117								
PPT	**Papeete**	**70.70**	**261**		LR		LR	22 46 12.2	
	comp=Z,200nm,21.9s,baz=136,slow=29								
R40A	**Maddies Statio**	**70.86**	**343**		IAmb		IAmb	22 23 46.2	
	comp=Z,14nm,0.9s								
121A	**Cookes Peak, D**	**71.10**	**329**		P		**P**	**22 23 35.6**	**+1.3**
121A					IAmb		IAmb	22 23 52.1	
	comp=Z,10.0nm,1.1s								
M55A	**Ridgway**	**71.76**	**355**		IAmb		IAmb	22 23 51.8	
	comp=Z,13nm,1.1s								
BNM	**Barren Site**	**71.97**	**330**		P		**P**	**22 23 40.6**	**+0.9**
P38A	**Dawn**	**72.44**	**343**		P		**P**	**22 23 42.4**	**+0.4**
P38A					IAmb		IAmb	22 23 52.5	
	comp=Z,9.9nm,0.8s								
ANMO	**Albuquerque**	**72.58**	**331**		LR		LR	22 51 32.9	
	comp=Z,140nm,18.8s,baz=151,slow=32								
ANMO	**Albuquerque**	**72.58**	**331**		P		**P**	**22 23 44.1**	**+0.9**
214A	**Organ Pipe Nat**	**73.02**	**325**		P		**P**	**22 23 46.7**	**+1.0**
214A					IAmb		IAmb	22 24 03.9	
	comp=Z,13nm,1.1s								
T25A	**Trinidad**	**73.66**	**334**		P		**P**	**22 23 49.0**	**-0.5**
T25A					IAmb		IAmb	22 24 07.7	
	comp=Z,19nm,1.2s								
DBIC	**Dimbokro**	**74.15**	**72**		P		**P**	**22 23 53.1**	**+0.4**
	comp=Z,5.2nm,0.8s,baz=235,slow=5.9,SNR=4.5								
DBIC					LR		LR	22 54 14.5	
	comp=Z,738nm,19.3s,baz=243,slow=34								
DBIC	**Dimbokro**	**74.15**	**72**		IAmb		IAmb	22 24 06.1	
	comp=Z,21nm,1.3s								
X16A	**Lo Mia Camp, P**	**74.36**	**327**		P		**P**	**22 23 54.7**	**+1.0**
SDCO	**Great Sand Dun**	**74.61**	**333**		P		**P**	**22 23 55.7**	**+0.5**
Y14A	**Wickenburg**	**74.71**	**326**		P	

*IDC **18** 22:26:02.7±2.8, 33.˚63S×178.˚05W, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.9/34, mbtmp4.1/5, ML3.5/1, Error ellipse: s-maj=66.0km s-min=43.1km az=137.0*

*NEIC **18** 22:26:02.9±1.4, 33.˚1S±0.˚1×177.˚65W±0.˚05, h10km±2km, mb4.4/10, Error ellipse: s-maj=20.4km s-min=7.5km az=9.0*

ISC 18 22:26:06.3±2.1, 33.˚1S±0.˚1×177.˚7W±0.˚2, h35km, n20, σ0§68/21, mb4.3/8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**5.54**	**215**	Pn	**Pn**	**22 27 26.3**	**+0.1**
URZ	**Urewera**	**6.67**	**217**	Pn	Pn	22 27 33.8	-8.0
	1.3nm,0.3s,baz=128,slow=21,SNR=6.4						
URZ				Sn	**Sn**	**22 28 56.0**	**-0.5**
	6.7nm,0.3s,baz=234,slow=22,SNR=8.3						
URZ	**Urewera**	**6.67**	**217**		**Pn**	**22 27 41.8**	**0.0**
URZ				Sn	**Sn**	**22 28 57.2**	**+0.6**
OUZ	**Omahuta**	**7.50**	**251**	Pn	**Pn**	**22 27 53.1**	**-0.1**
BKZ	**Black Stump Fm**	**7.67**	**216**	Pn	**Pn**	**22 27 55.3**	**-0.4**
PINNC	**Pines Island,**	**16.71**	**305**	Pn	**Pn**	**22 29 57.6**	**-0.1**
PINNC				IAmb	IAmb	22 30 13.2	
	comp=Z,28nm,1.0s						
DZM	**Mont Dzumac**	**17.76**	**304**	P	**Pn**	**22 30 10.6**	**-0.4**
CTA	**Charters Tower**	**34.52**	**283**	P	**P**	**22 32 52.1**	**+0.6**
	comp=Z,3.9nm,0.9s,baz=107,slow=11,SNR=5.3						
CTAO	**Charters Tower**	**34.52**	**283**	P	**P**	**22 32 52.5**	**+1.0**
ASAR	**Alice Springs**	**43.25**	**270**	P	**P**	**22 34 04.5**	**0.0**
	comp=Z,1.4nm,0.8s,baz=112,slow=7.6,SNR=11						
WR0	**Warramunga Arr**	**44.30**	**275**	P	**P**	**22 34 12.6**	**-0.4**
WR0				IAmb	IAmb	22 34 28.2	
	comp=Z,5.4nm,1.1s						
WB2	**Warramunga Arr**	**44.47**	**275**	P	**P**	**22 34 14.0**	**-0.3**
WB2				IAmb	IAmb	22 34 14.4	
	comp=Z,3.3nm,0.6s						
WRAB	**Tennant Creek**	**44.47**	**275**	P	**P**	**22 34 15.3**	**+0.9**
WRA	**Warramunga Arr**	**44.48**	**275**	P	**P**	**22 34 14.1**	**-0.4**
	comp=Z,2.2nm,0.5s,baz=118,slow=7.7,SNR=26						
WRA	**Warramunga Arr**	**44.48**	**275**	P	**P**	**22 34 13.8**	**-0.6**
WB0	**Warramunga Arr**	**44.51**	**275**	P	**P**	**22 34 14.2**	**-0.5**
WB0				IAmb	IAmb	22 34 16.6	
	comp=Z,6.4nm,1.2s						
KNRA	**Kununurra**	**51.17**	**276**	P	**P**	**22 35 05.0**	**-1.3**
KNRA				IAmb	IAmb	22 35 22.4	
	comp=Z,10nm,1.2s						
FITZ	**Fitzroy Crossi**	**52.62**	**272**	P	**P**	**22 35 15.5**	**-1.6**
	comp=Z,1.8nm,0.8s,baz=130,slow=7.6,SNR=3.7						
FITZ	**Fitzroy Crossi**	**52.62**	**272**	P	**P**	**22 35 17.0**	**0.0**
FITZ				IAmb	IAmb	22 35 17.5	
	comp=Z,2.1nm,0.8s						
FINES	**FINESS Array B**	**147.70**	**339**	PKPbc	**PKPab**	**22 45 49.0**	**+0.2**
	comp=Z,3.7nm,0.8s,baz=35,slow=3.9,SNR=17						

*IDC **18** 22:30:14.5±1.5, 23.˚72S×175.˚42W, h0km, mb4.0/6, mb1 4.3/7, mb1mx4.0/41, mbtmp4.1/7, ML5.6/1, Error ellipse: s-maj=58.0km s-min=27.6km az=160.0*

*NEIC **18** 22:30:17.4±1.7, 23.˚31S±0.˚09×175.˚0W±0.˚1, h37km±14km, mb4.5/13, Error ellipse: s-maj=14.8km s-min=11.6km az=124.0*

ISC 18 22:30:17.0±0.7, 23.˚4S±0.˚1×175.˚09W±0.˚08, h29km, n37, σ1§68/28, mb4.4/11, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**6.37**	**203**	Pn	**Pn**	**22 31 49.8**	**+0.9**
NIUE	**Niue**	**6.45**	**49**	Pn	**Pn**	**22 31 49.0**	**-1.1**
NIUE				Sn	Sn	22 32 55.4	-7.4
MSVF	**Nonsavu**	**8.54**	**310**	Pn	**Pn**	**22 32 20.3**	**+1.4**
	2.3nm,0.3s,baz=129,slow=14,SNR=29						
MSVF	**Nonsavu**	**8.54**	**310**		**Pn**	**22 32 18.6**	**-0.2**
AFI	**Afiamalu**	**9.94**	**19**	Pn	Pn	22 32 34.2	-3.9
RAR	**Rarotonga**	**14.34**	**84**	Pn	**Pn**	**22 33 36.5**	**-1.7**
OUENC	**Ouen Island, N**	**16.68**	**270**	Pn	**Pn**	**22 34 07.9**	**-0.8**
DZM	**Mont Dzumac**	**17.09**	**271**		**P**	**22 34 16.2**	**+0.6**
KHZ	**Kahutara**	**21.20**	**204**	P	**P**	**22 34 59.5**	**-0.8**
ARMA	**Armidale**	**30.41**	**249**	P	**P**	**22 36 26.2**	**-0.9**
CTA	**Charters Tower**	**35.99**	**268**	P	**P**	**22 37 14.7**	**-1.0**
	2.4nm,0.4s,baz=97,slow=11,SNR=7.2						
CTAO	**Charters Tower**	**35.99**	**268**	P	**P**	**22 37 15.5**	**-0.1**
CTAO				IAmb	IAmb	22 37 18.1	
	comp=Z,9.9nm,1.0s						
STKA	**Stephens Creek**	**39.09**	**248**	P	**P**	**22 37 41.5**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=72,slow=3.2,SNR=2.9						
BBOO	**Buckleboo**	**43.78**	**246**	P	**P**	**22 38 21.3**	**+1.0**
BBOO				IAmb	IAmb	22 38 33.5	
	comp=Z,18nm,1.3s						
ASAR	**Alice Springs**	**46.55**	**259**	P	**P**	**22 38 41.5**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=98,slow=6.9,SNR=8.9						
ASAR	**Alice Springs**	**46.55**	**259**	P	**P**	**22 38 42.2**	**-0.3**
WR0	**Warramunga Arr**	**46.75**	**264**	P	**P**	**22 38 43.5**	**-0.5**
WR0				IAmb	IAmb	22 38 49.2	
	comp=Z,6.6nm,1.4s						
WB2	**Warramunga Arr**	**46.92**	**264**	P	**P**	**22 38 43.4**	**-2.0**
WB2				IAmb	IAmb	22 38 48.8	
	comp=Z,3.4nm,0.8s						
WB0	**Warramunga Arr**	**46.93**	**264**	P	**P**	**22 38 43.3**	**-2.1**
WB0				IAmb	IAmb	22 38 50.1	
	comp=Z,5.0nm,1.0s						
WRA	**Warramunga Arr**	**46.94**	**264**	P	**P**	**22 38 42.9**	**-2.6**
	comp=Z,1.1nm,0.3s,baz=96,slow=8.2,SNR=15						
WRA	**Warramunga Arr**	**46.94**	**264**	P	**P**	**22 38 43.2**	**-2.3**
FORT	**Forrest**	**50.70**	**249**	P	**P**	**22 39 13.7**	**-0.5**
KNRA	**Kununurra**	**53.20**	**268**	P	**P**	**22 39 32.1**	**-0.9**
KNRA				IAmb	IAmb	22 39 50.5	
	comp=Z,7.7nm,0.9s						
FITZ	**Fitzroy Crossi**	**55.36**	**264**	P	**P**	**22 39 48.5**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=93,slow=6.3,SNR=5.4						
FITZ	**Fitzroy Crossi**	**55.36**	**264**	P	**P**	**22 39 49.0**	**+0.3**
FITZ				IAmb	IAmb	22 39 53.1	
	comp=Z,3.6nm,1.0s						
H03S2	**Juan Fernandez**	**82.15**	**123**	T	T	00 14 07.8	
	baz=246,slow=74,SNR=96						
H03S1	**Juan Fernandez**	**82.16**	**123**	T	T	00 14 20.5	
	baz=246,slow=74,SNR=116						
H03S3	**Juan Fernandez**	**82.16**	**123**	T	T	00 14 19.3	
	baz=246,slow=74,SNR=93						
TXAR	**Lajitas Array**	**86.38**	**56**	P	**P**	**22 43 01.1**	**+4.1**
	comp=Z,0.4nm,0.9s,baz=201,slow=6.7,SNR=3.8						
H10S3	**ASCENSION HYDR**	**142.59**	**147**	T	T	01 30 27.1	
	baz=16,SNR=3.4						
H10S2	**ASCENSION HYDR**	**142.59**	**147**	T	T	01 30 26.8	
	baz=204						
H10N3	**ASCENSION HYDR**	**143.62**	**146**	T	T	01 31 45.4	
	baz=206,slow=75,SNR=9.4						
H10N1	**ASCENSION HYDR**	**143.64**	**146**	T	T	01 31 44.5	
	baz=206,slow=75,SNR=9.0						
H10N2	**ASCENSION HYDR**	**143.64**	**146**	T	T	01 31 46.7	
	baz=206,slow=75,SNR=9.6						
AKASG	**Malin Array Be**	**146.83**	**331**	PKPbc	**PKPab**	**22 49 57.2**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=41,slow=4.3,SNR=4.1						
CLL	**Collm**	**151.43**	**349**	*e*PKPab	**PKPab**	**22 50 14.0**	**-2.1**
CLL				Lm	MLR	23 18 00.0	
	comp=N,100nm,18.6s						
CLL				Lm	MLR	23 18 00.0	
	comp=E,200nm,18.5s						
CLL				Lm	MLR	23 18 00.0	
	comp=Z,200nm,18.0s						
GERES	**GERESS Array B**	**153.66**	**347**	PKPbc	**PKiKP**	**22 50 16.9**	**+3.8**
	comp=Z,0.1nm,0.3s,baz=10,slow=6.0,SNR=1.9						

*IDC **18** 22:30:27.6±1.1, 39.˚72N×30.˚46E, h0km, mb3.6/5, mb1 3.6/9, mb1mx3.4/56, mbtmp3.5/9, ML3.5/4, MS3.0/3, Ms1 3.0/3, ms1mx2.4/45, Error ellipse: s-maj=19.6km s-min=11.9km az=13.0*

*IASPEI **18** 22:30:28.9±0.9, 39.˚81N±0.˚02×30.˚45E±0.˚02, h8km±6km, mb3.5/5, Error ellipse: s-maj=3.0km s-min=2.9km az=80.7, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*ISK **18** 22:30:28.3, 39.˚81N×30.˚45E, h9km, ML4.0/46*

*DDA **18** 22:30:28.5, 39.˚81N×30.˚43E, h9km, MW4.0*

ISC 18 22:30:28.9±0.9, 39.˚80N±0.˚01×30.˚45E±0.˚02, h5km±6km, n150, σ0§99/181, mb3.5/5, 25C-18D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORA	**Eskisehir**	**0.09**	**2**	⇓*i*P	**Pg**	**22 30 30.8**	**0.0**
BORA				*i* S	**Sg**	**22 30 32.1**	**-0.2**
BORA	**Eskisehir**	**0.09**	**2**	PG	**Pg**	**22 30 30.8**	**0.0**
SRCK	**Saricakaya, Es**	**0.28**	**29**	PG	**Pg**	**22 30 34.2**	**-0.2**
SRCK				SG	**Sg**	**22 30 38.3**	**+0.2**
AUBOZ	**BOZOYUK**	**0.34**	**290**	⇓*i*P	**Pg**	**22 30 35.6**	**+0.1**
AUBOZ				*i* S	**Sg**	**22 30 40.7**	**+0.7**
AUBOZ	**BOZOYUK**	**0.34**	**290**	PG	**Pg**	**22 30 35.7**	**+0.1**
AUBOZ				SG	**Sg**	**22 30 40.9**	**+0.9**
SGAZ	**Eskisehir, Sey**	**0.40**	**131**	⇑*i*P	**Pg**	**22 30 36.9**	**+0.2**
SGAZ				*i* S	**Sb**	**22 30 43.7**	**-1.2**
ESKT	**Eskisehir**	**0.41**	**132**	PG	**Pg**	**22 30 37.2**	**+0.3**
ESKT				SG	**Sb**	**22 30 43.9**	**-1.4**
GPA	**Golpazari**	**0.51**	**348**	PG	**Pg**	**22 30 38.1**	**-0.5**
ANDZ	**Kutahya, Merke**	**0.51**	**236**	⇑*i*P	**Pg**	**22 30 38.8**	**+0.1**
ANDZ				*i* S	**Sg**	**22 30 46.6**	**+1.2**
KUTH	**Kutahya**	**0.52**	**220**	PG	**Pg**	**22 30 39.0**	**+0.1**
AUKIR	**Kırka- Seyitga**	**0.52**	**173**	⇑*i*P	**Pb**	**22 30 39.4**	**-1.2**
AUKIR				*i* S	**Sb**	**22 30 47.5**	**-1.0**
BILE	**Bilecik/Merkez**	**0.57**	**310**	⇓*i*P	**Pg**	**22 30 39.5**	**-0.4**
BILE				*i* S	**Sg**	**22 30 47.0**	**-0.4**
CAVI	**Cavuskoy**	**0.62**	**311**	PG	**Pg**	**22 30 40.3**	**-0.5**
GULT	**Gulveren**	**0.64**	**4**	PG	**Pg**	**22 30 40.8**	**-0.4**
CIFT	**Cifteler, Eski**	**0.64**	**132**	PG	**Pg**	**22 30 41.4**	**+0.2**
GEYV	**SAKARYA_Geyve**	**0.70**	**350**	⇑*i*P	**Pg**	**22 30 41.9**	**-0.4**
GEYV				*i* S	**Sg**	**22 30 53.5**	**+2.1**
TVSB	**Tavsanli**	**0.84**	**246**	PG	**Pg**	**22 30 44.8**	**-0.2**
ADVT	**Abdulvahap**	**0.84**	**320**	PG	**Pg**	**22 30 44.4**	**-0.6**
BTAS	**Taskesti**	**0.88**	**28**	⇑*i*P	**Pg**	**22 30 45.2**	**-0.6**
BTAS				*i* S	**Sn**	**22 31 01.7**	**+0.5**
MDUB	**Mudurnu**	**0.89**	**40**	PG	**Pg**	**22 30 45.6**	**-0.3**
SVRH	**Sivrihisar-ESK**	**0.90**	**112**	PG	**Pg**	**22 30 45.8**	**-0.3**
AUSIV	**SIVRIHISAR**	**0.91**	**113**	⇓*i*P	**Pg**	**22 30 46.1**	**-0.3**
AUSIV				*i* S	**Sn**	**22 31 02.8**	**+0.7**
AUSIV	**SIVRIHISAR**	**0.91**	**113**	PG	**Pg**	**22 30 46.1**	**-0.3**
SAUV	**Serdivan-Sakar**	**0.95**	**354**	PG	**Pg**	**22 30 46.7**	**-0.4**
AFYO	**Afyonkarahisar**	**1.01**	**187**	⇑*i*P	**Pb**	**22 30 48.6**	**-0.3**
AFYO				*i* S	**Sn**	**22 31 02.6**	**-1.8**
GDZ	**Gediz**	**1.03**	**227**	⇑*i*P	**Pg**	**22 30 48.1**	**-0.5**
GDZ				*i* S	**Sb**	**22 31 02.7**	**-0.4**
IGD	**Bursa**	**1.07**	**296**	⇓*i*P	**Pg**	**22 30 48.2**	**-1.1**
IGD				*i* S	**Sb**	**22 31 04.8**	**+0.8**
ULDT	**Uludag**	**1.07**	**289**	⇓*i*P	**Pg**	**22 30 48.4**	**-1.0**
ULDT				*i* S	**Sg**	**22 31 03.6**	**+0.4**
GEDZ	**Gediz**	**1.10**	**227**	PN	**Pg**	**22 30 49.9**	**-0.1**
SAHE	**Sakarya_HENDEK**	**1.10**	**16**	⇑*i*P	**Pg**	**22 30 49.3**	**-0.7**
SAHE				*i* S	**Sn**	**22 31 06.6**	**0.0**
YUVA	**Yuva-Kibriscik**	**1.12**	**58**	PN	**Pg**	**22 30 49.8**	**-0.6**
YLV	**Yalova**	**1.13**	**313**	PN	**Pb**	**22 30 49.9**	**-1.0**
GEMT	**Gemlik**	**1.16**	**304**	PN	**Pb**	**22 30 51.4**	**0.0**
KAYN	**Sakarya, Kayna**	**1.17**	**356**	*i* P	**Pb**	**22 30 50.8**	**-0.8**
KAYN				*i* S	**Sb**	**22 31 06.1**	**-0.5**
HRT	**Hereke**	**1.19**	**330**	PN	**Pb**	**22 30 51.0**	**-0.9**
ORLT	**Orhaneli**	**1.22**	**282**	PN	**Pb**	**22 30 51.8**	**-0.8**
SHAP	**Saphane-Kutahy**	**1.22**	**231**	PN	**Pb**	**22 30 51.8**	**-0.7**
SHUT	**Suhut-Afyon**	**1.24**	**176**	PN	**Pg**	**22 30 52.8**	**+0.1**
KIBS	**BOLU**	**1.24**	**59**	⇑*i*P	**Pn**	**22 30 52.0**	**-1.0**
KIBS				*i* S	**Sn**	**22 31 09.9**	**-0.3**
TRML	**Termal-Yalova**	**1.27**	**310**	PN	**Pn**	**22 30 52.5**	**-0.8**
MDNY	**Mudanya-Bursa**	**1.33**	**296**	PN	**Pn**	**22 30 53.2**	**-0.9**
SMAA	**Simav-Kutahya**	**1.33**	**239**	PN	**Pn**	**22 30 53.9**	**-0.3**
SIMA	**Simav-Kutahya**	**1.34**	**238**	PN	**Pn**	**22 30 54.1**	**-0.2**
YIGI	**Dzce**	**1.39**	**33**	*i* P	**Pn**	**22 30 54.2**	**-0.7**
YIGI				*i* S	**Sn**	**22 31 13.1**	**-0.6**
DST	**Dursunbey**	**1.43**	**263**	PN	**Pn**	**22 30 55.1**	**-0.3**
KIZT	**Kizilcal**	**1.44**	**129**	PN	**Pn**	**22 30 55.1**	**-0.6**
ARMT	**Armutlu**	**1.44**	**303**	PN	**Pn**	**22 30 54.9**	**-0.7**
SILT	**Sile**	**1.49**	**336**	PN	**Pn**	**22 30 55.9**	**-0.4**
DURS	**Dursunbey**	**1.54**	**263**	*i* P	**Pn**	**22 30 56.8**	**-0.2**
DURS				*i* S	**Sg**	**22 31 20.0**	**+2.0**
DEMI	**Demirci**	**1.54**	**241**	⇓*i*P	**Pn**	**22 30 57.2**	**+0.2**
DEMI				*i* S	**Sg**	**22 31 20.4**	**+2.1**
USAK	**Uak-Merkez**	**1.55**	**226**	*i* P	**Pn**	**22 30 57.2**	**+0.1**
USAK				*i* S	**Sg**	**22 31 21.0**	**+2.3**
KZIL	**AFYON_Kizioren**	**1.55**	**189**	*i* P	**Pb**	**22 30 57.7**	**-0.5**
KZIL				*i* S	**Sg**	**22 31 19.5**	**+0.6**
BCAM	**Yenicaga**	**1.60**	**50**	*i* P	**Pn**	**22 30 57.5**	**-0.5**
BCAM				*i* S	**Sg**	**22 31 22.8**	**+2.5**
PASA	**Karahalli, USA**	**1.63**	**208**	*i* P	**Pn**	**22 30 58.4**	**+0.1**
PASA				*i* S	**Sg**	**22 31 20.4**	**-0.8**
KHL	**Karahalli**	**1.64**	**206**	PN	**Pn**	**22 30 57.1**	**-1.3**
YVAC	**Isparta, Yalva**	**1.64**	**158**	⇓*i*P	**Pb**	**22 30 59.1**	**-0.6**
YVAC				*i* S	**Sg**	**22 31 22.3**	**+0.7**
KAVV	**Kandilli-Istan**	**1.65**	**321**	PN	**Pn**	**22 30 58.2**	**-0.3**
KCTX	**Karacabey (Bur**	**1.67**	**287**	PN	**Pn**	**22 30 58.7**	**-0.1**
GRDE	**Gerede-Bolu**	**1.68**	**53**	PN	**Pn**	**22 30 58.3**	**-0.7**
KDZE	**Karadeniz Ereo**	**1.69**	**26**	⇑*i*P	**Pn**	**22 30 59.0**	**-0.1**
KDZE	**Karadeniz Ereo**	**1.69**	**26**	PN	**Pn**	**22 30 58.4**	**-0.7**
CMDR	**Camlidere-ANKA**	**1.70**	**65**	*i* P	**Pn**	**22 30 59.4**	**+0.1**
DEVR	**Zonguldak/Devr**	**1.78**	**40**	*i* P	**Pn**	**22 31 01.2**	**+1.0**
AVCI	**Avcilar-stanb**	**1.78**	**313**	PN	**Pn**	**22 30 59.9**	**-0.4**
LOD	**Lodumlu**	**1.78**	**86**	PN	**Pn**	**22 31 00.2**	**-0.2**
ANTO	**Ankara**	**1.81**	**87**	PN	**Pn**	**22 31 00.5**	**-0.2**
KLYT	**Kilyos**	**1.81**	**324**	PN	**Pn**	**22 31 00.2**	**-0.4**
KDHN	**Kadinhani**	**1.82**	**134**	*i* P	**Pn**	**22 31 00.7**	**-0.1**
KDHN				*i* S	**Sg**	**22 31 28.9**	**+1.7**
BAGO	**Egridir - ISPA**	**1.82**	**172**	⇓*i*P	**Pb**	**22 31 01.7**	**-1.0**
BAGO				*i* S	**Sg**	**22 31 26.9**	**-0.5**
BGKT	**Bogazkoy**	**1.88**	**318**	PN	**Pn**	**22 31 01.1**	**-0.6**
KULA	**Kula-Manisa**	**1.89**	**228**	PN	**Pn**	**22 31 01.9**	**+0.1**
BASM	**Basmaki-Afyon**	**1.90**	**190**	PN	**Pn**	**22 31 02.1**	**+0.1**
DOGA	**KONYA_Doganhis**	**1.94**	**150**	⇓*i*P	**Pb**	**22 31 03.1**	**-1.6**
DOGA				*i* S	**Sg**	**22 31 34.3**	**+3.2**
MANT	**Manisa**	**1.96**	**229**	*i* P	**Pn**	**22 31 03.0**	**0.0**
ISP	**Isparta**	**1.97**	**178**	PN	**Pn**	**22 31 03.1**	**+0.1**
BALB	**Balikesir**	**1.99**	**266**	PN	**Pn**	**22 31 03.8**	**+0.2**
KKUL	**Konya-Kulu**	**2.01**	**107**	*i* P	**Pn**	**22 31 03.8**	**+0.3**
AFSR	**Afar-Bala (An**	**2.05**	**99**	PN	**Pn**	**22 31 04.2**	**+0.1**
EDC	**Edincik**	**2.06**	**286**	PN	**Pn**	**22 31 03.7**	**-0.4**
CTKS	**Kestanelik-??a**	**2.06**	**315**	PN	**Pn**	**22 31 03.8**	**-0.4**
KULU	**Kulu**	**2.12**	**110**	PN	**Pn**	**22 31 05.0**	**0.0**
BRDR	**BURDUR-Merkez**	**2.12**	**188**	*i* P	**Pn**	**22 31 05.4**	**+0.4**
BRDR				*i* S	**Sg**	**22 31 40.8**	**+3.9**
GONE	**Gonen-Balikesi**	**2.14**	**278**	PN	**Pn**	**22 31 05.1**	**-0.1**
STEP	**BALIKESIR_Sava**	**2.15**	**260**	*i* P	**Pn**	**22 31 05.8**	**+0.4**
LADK	**Ladik-KONYA**	**2.18**	**136**	PN	**Pn**	**22 31 06.1**	**+0.2**
KBUK	**KARABUK-Merkez**	**2.20**	**48**	*i* P	**Pb**	**22 31 09.4**	**+0.3**
SLVT	**Silivri**	**2.23**	**311**	PN	**Pn**	**22 31 06.2**	**-0.2**
KONT	**Konya--Tatoy**	**2.37**	**140**	*i* P	**Pn**	**22 31 08.6**	**+0.2**
ALIN	**Konya, Altinte**	**2.41**	**128**	*i* P	**Pn**	**22 31 04.8**	**-4.2**
BRTR	**Keskin Array B**	**2.46**	**91**	Pn	**Pn**	**22 31 09.7**	**0.0**
	5.7nm,0.3s,baz=254,slow=12,SNR=68						
BRTR				Sn	**Sn**	**22 31 39.9**	**-0.3**
	14nm,0.3s,baz=261,slow=15,SNR=3.7						
BRTR				Lg	Lg	22 31 48.2	
	20nm,0.3s,baz=274,slow=22,SNR=5.0						
SEDI	**Konya, Seydise**	**2.55**	**156**	*i* P	**Pn**	**22 31 11.9**	**+0.9**
PELI	**Kastamonı-Ara**	**2.65**	**54**	*i* P	**Pn**	**22 31 12.0**	**-0.3**
VIZE	**Kirklareli, Vi**	**2.67**	**313**	*i* P	**Pn**	**22 31 12.2**	**-0.2**
KIRS	**Kırehir-Merke**	**2.76**	**103**	*i* P	**Pn**	**22 31 13.9**	**0.0**
KEPZ	**Antalya-Kepez**	**3.03**	**162**	*i* P	**Pn**	**22 31 18.9**	**+1.4**
CDAG	**Cicekdag**	**3.03**	**92**	*i* P	**Pn**	**22 31 17.8**	**+0.3**
ARMN	**Kirklareli, Me**	**3.09**	**313**	*i* P	**Pn**	**22 31 17.9**	**-0.3**
EZN	**Ezine**	**3.18**	**272**	P	**Pn**	**22 31 20.3**	**+0.9**
PRK	**Paraskevi**	**3.28**	**262**	P	**Pn**	**22 31 22.4**	**+1.6**
DGB	**zmir**	**3.28**	**239**	*i* P	**Pg**	**22 31 32.4**	**+0.6**
ENEZ	**Enez**	**3.42**	**287**	P	**Pn**	**22 31 23.1**	**+0.3**
BZK	**Bozkurt**	**3.46**	**50**	⇑P	**Pn**	**22 31 23.4**	**+0.1**
AKUM	**Antalya-Kumluc**	**3.47**	**181**	*i* P	**Pb**	**22 31 26.9**	**-3.9**
EDRB	**Edirne**	**3.48**	**307**	P	**Pn**	**22 31 23.6**	**0.0**
SMG	**Samos**	**3.51**	**235**	P	**Pg**	**22 31 35.0**	**-1.1**
GADA	**Gvkgeada**	**3.52**	**278**	P	**Pn**	**22 31 24.9**	**+0.8**
ALN	**Alexandroupoli**	**3.54**	**290**	P	**Pn**	**22 31 24.5**	**+0.1**
AVNS	**Nevsehir-Avano**	**3.55**	**105**	*i* P	**Pn**	**22 31 25.6**	**+0.9**
SIRC	**Yozgat**	**3.66**	**96**	*i* P	**Pn**	**22 31 28.2**	**+1.9**
GAZI	**Gazipasa**	**3.85**	**157**	*i* P	**Pn**	**22 31 30.5**	**+1.8**
RDO	**Rodhopi**	**3.98**	**291**	P	**Pn**	**22 31 30.9**	**+0.4**
MFTR	**Murfatlar**	**4.63**	**342**	⇑P	**Pn**	**22 31 39.6**	**+0.1**
KAVA	**Kavala**	**4.69**	**287**	P	**Pn**	**22 31 40.3**	**+0.1**
CVDA	**Cernavoda**	**4.88**	**339**	⇑P	**Pn**	**22 31 43.7**	**+0.9**
OUR	**Ouranopolis**	**4.99**	**278**	P	**Pn**	**22 31 43.3**	**-1.1**
TLBR	**Topalu**	**5.07**	**340**	⇓P	**Pn**	**22 31 45.2**	**-0.2**
JURR	**Jurilovca**	**5.10**	**347**	⇓P	**Pn**	**22 31 45.1**	**-0.8**
HARR	**Harsova**	**5.24**	**340**	⇑P	**Pn**	**22 31 47.6**	**-0.2**
NVR	**Nevrokopi**	**5.25**	**289**	P	**Pn**	**22 31 48.4**	**+0.4**
TPGR	**Topolog**	**5.28**	**344**	⇑P	**Pn**	**22 31 47.9**	**-0.5**
SRS	**Serrai**	**5.39**	**286**	P	**Pn**	**22 31 48.8**	**-1.2**
TLCR		**5.52**	**348**	⇑P	**Pn**	**22 31 51.3**	**-0.3**
CFR	**Carcaliu**	**5.64**	**343**	⇑P	**Pn**	**22 31 52.6**	**-0.7**
COPA	**Copaceanca**	**5.83**	**320**	⇑P	**Pn**	**22 31 55.8**	**-0.1**
SCTR	**Scanteiesti**	**6.15**	**344**	⇑P	**Pn**	**22 32 00.9**	**+0.6**
IDI	**Anoyia**	**6.30**	**226**	Pn	**Pn**	**22 32 04.5**	**+2.0**
	0.4nm,0.3s,baz=58,slow=15,SNR=1.4						
AGG	**Agios Georgios**	**6.33**	**266**	P	**Pn**	**22 32 04.0**	**+1.1**
BISRR	**Bisoca**	**6.38**	**336**	⇓P	**Pn**	**22 32 04.7**	**+1.2**
MLR	**Muntele Rosu**	**6.59**	**331**	⇑P	**Pn**	**22 32 07.0**	**+0.6**
MLR	**Muntele Rosu**	**6.59**	**331**	Pn	**Pn**	**22 32 07.3**	**+0.8**
	0.3nm,0.3s,baz=176,slow=13,SNR=2.5						
VRI	**Vrincioaia**	**6.66**	**337**	⇓P	**Pn**	**22 32 07.6**	**+0.4**
PLOR	**Plostina**	**6.67**	**336**	⇑P	**Pn**	**22 32 07.9**	**+0.5**
ANX	**Ano Chora**	**6.73**	**262**	P	**Pn**	**22 32 10.1**	**+1.7**
COVR	**Voineasa-Covas**	**6.80**	**334**	⇓P	**Pn**	**22 32 10.5**	**+1.2**
VOIR		**6.90**	**327**	⇑P	**Pn**	**22 32 10.7**	**0.0**
ARR	**Arges**	**7.03**	**324**	⇑P	**Pn**	**22 32 12.3**	**-0.2**
DOPR	**Dopca**	**7.20**	**331**	⇓P	**Pn**	**22 32 15.1**	**+0.4**
TESR	**Tescani**	**7.26**	**339**	⇓P	**Pn**	**22 32 15.6**	**0.0**
BIZ	**Bicaz**	**7.81**	**338**	⇑P	**Pn**	**22 32 23.7**	**+0.6**
MMAI	**Mount Meron Ar**	**7.86**	**148**	Pn	**Pn**	**22 32 24.4**	**+0.6**
	1.0nm,0.3s,baz=340,slow=12,SNR=4.6						
MMAI				LR	LR	22 35 57.2	
	comp=Z,42nm,19.7s,baz=315,slow=42						
BURAR	**Bucovina Array**	**8.68**	**336**	⇓P	**Pn**	**22 32 36.0**	**+0.8**
DRGR		**8.98**	**324**	⇑P	**Pn**	**22 32 39.9**	**+0.6**
AKASG	**Malin Array Be**	**10.94**	**356**	Pn	**Pn**	**22 33 06.3**	**+0.4**
	1.4nm,0.3s,baz=179,slow=12,SNR=5.7						
AKASG				Sn	**Sn**	**22 35 11.9**	**+3.3**
	1.7nm,0.3s,baz=181,slow=26,SNR=6.2						
AKTO	**Aktyubinsk**	**22.05**	**52**	LR	LR	22 46 02.1	
	comp=Z,24nm,18.6s,baz=140,slow=42						
ARU	**Arti**	**24.82**	**39**

AGUA eS Sb 22 37 10.4 -1.1
AGUA IAML 22 37 28.1
comp=Z,603nm,2.1s
MT09 Talagante 3.77 158 eP Pn **22 36 19.3 +0.9**
MT09 eS Sn **22 36 59.7 -3.5**
MT09 IAML 22 37 05.9
comp=N,348nm,0.3s
MT09 Talagante 3.77 158 Pn 22 36 19.0 +0.6
MT01 Popeta 3.77 161 eP Pn **22 36 17.7 -0.5**
MT01 /S Sn **22 36 57.6 -5.5**
MT01 IAML 22 37 01.0
comp=E,269nm,0.3s
MT01 Popeta 3.77 161 Pn 22 36 18.0 -0.3
RTCV Cerro Valdivia 3.89 115 eP Pn **22 36 24.0 +4.0**
RTCV eS Sb **22 37 13.9 -2.2**
RTCV IAML 22 37 26.5
comp=Z,683nm,3.0s
ARCO CERRO ARCO 4.10 129 eP Pb **22 36 27.9 -4.2**
ARCO eS Sn **22 37 10.9 -0.4**
ARCO IAML 22 37 42.1
comp=Z,539nm,1.0s
VCA Vinchina 4.20 70 eP Pn **22 36 23.9 -0.4**
VCA eS Sn **22 37 17.9 +4.0**
VCA IAML 22 37 41.3
comp=Z,1μm,1.6s
BO01 Tunca 4.32 162 Pn 22 36 26.0 +0.3
BO01 Tunca 4.32 162 eP Pn **22 36 27.0 +1.3**
BO01 eS Sn **22 37 12.4 -4.1**
BO01 IAML 22 37 20.4
comp=Z,168nm,2.9s
AAGR Agrelo 4.32 131 eP Pn **22 36 30.4 +4.6**
AVFE Valle Fertil 4.54 96 eP Pn **22 36 32.0 +3.2**
AVFE eS Sn **22 37 25.5 +3.5**
AVFE IAML 22 37 45.4
comp=Z,390nm,0.7s
AC02 Maricunga 4.65 43 Pn 22 36 31.0 +0.3
AC02 Maricunga 4.65 43 eP Pn **22 36 31.0 +0.3**
AC02 eS Sn **22 37 25.4 0.0**
AC02 IAML 22 37 48.4
comp=Z,466nm,1.5s
GO05 Huala 4.76 172 eP Pn **22 36 31.0 -0.8**
GO05 eS Sn 22 37 17.4 -10
GO05 eS Sn **22 37 21.0 -6.4**
BO02 Sierra Bellavi 4.78 161 Pn 22 36 32.6 +0.4
BO02 Sierra Bellavi 4.78 161 eP Pn **22 36 33.3 +1.2**
BO02 eS Sn **22 37 25.4 -2.5**
BO02 IAML 22 37 29.6
comp=Z,164nm,0.5s
ACHE Chepes 5.26 101 eP Pn **22 36 41.0 +2.1**
ACHE eS Sn **22 37 40.8 +0.7**
COIS El Sosneado 5.47 152 eP Pn **22 36 45.0 +3.4**
ML02 Panimavida 5.57 169 Pn 22 36 42.8 -0.1
RFA San Rafael 5.72 143 eP Pn **22 36 47.1 +2.0**
RFA IAML 22 38 38.1
comp=Z,147nm,3.0s
PB14 IPOC Station P 5.99 20 eP Pn **22 36 45.0 -4.0**
PB14 eS Sn **22 37 52.0 -6.2**
PB14 IAML 22 37 54.6
comp=Z,110nm,0.7s
VA04 Juan Fernndez 6.20 236 Pn 22 36 48.2 -3.4
CYA Choya 6.29 75 eP Pn **22 36 54.7 +1.8**
CYA eS Sn **22 38 06.5 +1.4**
CYA IAML 22 38 45.6
comp=Z,263nm,2.3s
PB10 IPOC Station P 7.01 16 Pn Pn **22 37 00.9 -1.8**
PB10 IPOC Station P 7.01 16 eP Pn **22 36 58.9 -3.8**
PB10 eP Pn **22 36 59.0 -3.8**
PB10 IAML 22 39 32.3
comp=Z,68nm,1.4s
PB15 IPOC Station P 7.61 23 Pn 22 37 08.7 -2.5
PB15 IPOC Station P 7.61 23 eP Pn **22 37 09.0 -2.2**
PB15 IAML 22 39 20.9
comp=Z,164nm,0.4s
PB05 IPOC Station P 7.73 17 eP Pn **22 37 08.0 -4.7**
PB05 IAML 22 39 35.9
comp=Z,67nm,2.5s
PB06 IPOC Station P 8.05 21 eP Pn **22 37 13.6 -3.5**
PB06 eP Pn **22 37 14.0 -3.1**
PB04 IPOC Station P 8.24 17 eP Pn **22 37 15.7 -4.1**
LVC Limon Verde 8.36 25 Pn Pn **22 37 19.0 -2.6**
comp=Z,2.3nm,0.3s,baz=160,slow=8.0,SNR=23
LVC Sn Sn **22 38 50.3 -6.3**
comp=Z,5.1nm,0.3s,baz=241,slow=5.2,SNR=2.6
LVC LR LR 22 40 29.2
comp=Z,362nm,21.8s,baz=190,slow=37
LVC Limon Verde 8.36 25 Pn 22 37 19.1 -2.5
LVC Limon Verde 8.36 25 eP Pn **22 37 19.0 -2.6**
PB03 IPOC Station P 8.61 19 eP Pn **22 37 21.0 -3.9**
LC01 Cunco 8.62 176 Pn Pn **22 37 23.6 -1.2**
LC01 Cunco 8.62 176 eP Pn **22 37 24.0 -0.8**
LR03 Panguipulli 9.33 178 Pn 22 37 33.7 -0.9
PLCA Paso Flores 10.57 171 Pn Pn **22 37 51.9 +0.3**
comp=Z,1.8nm,0.3s,baz=335,slow=12,SNR=51
PLCA LR LR 22 41 39.6
comp=Z,420nm,19.6s,baz=353,slow=36
PLCA Paso Flores 10.57 171 Pn 22 37 52.0 +0.4
PB11 IPOC Station P 10.83 15 Pn 22 37 53.1 -2.2
PSGCX Pisagua 10.89 13 Pn 22 37 56.0 -0.1
TRQA Tornquist 11.77 134 Pn Pn **22 38 09.0 +1.5**
TRQA Tornquist 11.77 134 eP Pn **22 38 09.0 +0.9**
TRQA eP Pn **22 38 09.0 +0.9**
ITQB Itaqui 13.94 92 Pn 22 38 37.4 -0.3
CPUP Villa Florida 14.09 78 Pn Pn **22 38 38.1 -1.6**
comp=Z,0.1nm,0.3s,baz=255,slow=11,SNR=6.3
CPUP LR LR 22 44 29.7
comp=Z,1μm,21.9s,baz=257,slow=40
CPUP Villa Florida 14.09 78 Pn 22 38 39.2 -0.6
LPAZ La Paz 14.54 18 Pn Pn **22 38 46.6 +0.1**
comp=Z,1.2nm,0.3s,baz=185,slow=7.2,SNR=15
LPAZ La Paz 14.54 18 Pn 22 38 45.8 -0.8
LPAZ La Paz 14.54 18 eP Pn **22 38 48.4 +1.9**
PLTB Pedras Altas 16.43 100 Pn 22 39 10.8 +0.1
SIV San Ignacio 17.77 39 P Pn **22 39 26.1 -1.6**
comp=Z,0.7nm,0.3s,baz=248,slow=8.6,SNR=12
AQDB Aquidauana 18.18 61 Pn 22 39 32.1 -0.6
NNA Nana 18.61 347 P Pn **22 39 39.0 +1.0**
comp=Z,1.9nm,0.3s,baz=208,slow=11,SNR=6.7
NNA LR LR 22 44 31.7
comp=Z,412nm,21.9s,baz=100,slow=30
NNA Nana 18.61 347 P P 22 39 37.1 -0.7
TRCB Terra Rica 19.42 72 P P 22 39 47.1 +0.5
SAML Samuel 23.01 25 P P 22 40 25.5 +0.1
SAML Samuel 23.01 25 eP P **22 40 27.6 +2.2**
SPB Sao Paulo 23.46 80 P P 22 40 29.8 0.0
TBTG Tabatinga, AM 26.09 6 eP P **22 40 54.9 +0.7**
BDFB Brasilia 26.91 63 P P 22 41 02.5 +0.8
comp=Z,30nm,1.0s,baz=235,slow=6.3,SNR=25
BDFB LR LR 22 52 41.6
comp=Z,596nm,22.0s,baz=218,slow=39
BDFB Brasilia 26.91 63 P P 22 41 01.6 -0.1
OTAV Otavalo 30.84 349 P P 22 41 37.4 +0.3
OTAV Otavalo 30.84 349 eP P **22 41 40.1 +3.0**
PAC1 Pacto, Paraso 30.93 348 eP P **22 41 39.0 +1.4**
FLOC Florencia 31.81 354 P P 22 41 45.1 -0.1
RPN Rapa Nui 32.21 266 LR LR 22 51 02.6
comp=Z,801nm,20.1s,baz=142,slow=29
MACC Macarena, Meta 32.27 358 eP P **22 41 50.6 +1.5**
BBAC Balboa, Cauca 32.42 351 eP P **22 41 51.8 +1.1**
SOTA Rioblanco 32.45 353 eP P **22 41 53.9 +2.5**
PCON Cinco Dias 32.62 353 eP P **22 41 55.6 +2.7**
POPC Popayan, Colom 32.86 353 eP P **22 41 56.5 +1.9**
PRAC Prado 33.87 356 eP P **22 42 05.2 +2.0**
ORTC Ortega, Tolima 34.09 355 eP P **22 42 07.7 +2.6**
VILC Villavicencio, 34.21 358 eP P **22 42 08.9 +2.6**
CHIC Chingaza 34.73 358 eP P **22 42 12.6 +1.5**
PMSA Palmer Station 34.93 174 P P 22 42 12.6 +0.8
GUY2C Guyana, Caldas 35.40 355 eP P **22 42 18.6 +1.7**
RUSC La Rusia 35.97 359 P P 22 42 23.0 +1.1
RUSC La Rusia 35.97 359 eP P **22 42 23.5 +1.7**
CBOC Ciudad Bolivar 36.08 354 eP P **22 42 23.1 +0.7**
HELC Santa Helena 36.37 355 eP P **22 42 26.2 +1.1**
DBBC Dabeiba 37.24 354 eP P **22 42 34.4 +2.2**
ZARC Zaragoza, Cauc 37.62 356 eP P **22 42 35.5 +0.2**
SMC San Martn de 38.88 358 eP P **22 42 43.9 -2.1**
SDV Santo Domingo 38.99 3 P P 22 42 46.1 -1.0
RIOS Rincon, Osa 40.13 343 P P 22 42 56.8 +0.5
SRBA San Rafael, Bu 40.60 344 P P 22 43 00.1 -0.3
SMRC Santa Marta, M 41.23 358 eP P **22 43 06.9 +1.5**
RIMA Rio Macho 41.24 343 P P 22 43 05.7 -0.1
DUNO Dulce Nombre, 41.98 341 P P 22 43 11.9 +0.3
JTS Las Juntas de 42.03 342 LR LR 22 58 56.4
comp=Z,87nm,18.6s,baz=198,slow=34
ORTG Ortega, Santa 42.24 341 P P 22 43 14.3 +0.5

COVE Coope Vega, Sa 42.30 343 P P 22 43 14.3 +0.2
COVE IAmb IAmb 22 43 17.3
comp=Z,66nm,1.2s
TOSP Speyside 42.97 18 P P 22 43 20.0 +0.4
TOSP IAmb IAmb 22 43 21.4
comp=Z,32nm,1.0s
ACON Acoyapa 43.69 342 P P 22 43 25.3 -0.2
MATN Matagalpa 44.81 342 P P 22 43 33.3 -1.3
MPOM Morne Pois Mar 45.91 16 P P 22 43 42.5 -0.6
TGUH Tegucigalpa,Un 46.27 340 P P 22 43 46.2 0.0
TGUH IAmb IAmb 22 43 48.2
comp=Z,35nm,1.1s
MTO3 Montecristo 47.24 338 P P 22 43 54.0 +0.2
ICMP Isla Caja de M 48.26 8 P P 22 43 60.0 -1.4
MLPR Magueyes Islan 48.28 7 P P 22 44 00.6 -1.0
CRPR Cabo Rojo, PR 48.31 7 P P 22 44 01.4 -0.4
OBIP Obispado Ponce 48.40 8 IAmb IAmb 22 44 02.9
comp=Z,22nm,0.8s
SEUS St. Eustatius 48.41 12 P P 22 44 02.4 -0.2
PDPR Patillas Dam, 48.45 8 P P 22 44 02.6 -0.3
PDPR IAmb IAmb 22 44 03.2
comp=Z,18nm,0.8s
SJG San Juan 48.52 8 P P 22 44 03.2 -0.3
SJG IAmb IAmb 22 44 03.9
comp=Z,31nm,1.1s
SJG San Juan 48.52 8 eP P **22 44 02.5 -1.0**
MTP Monte Pirata 48.59 9 P P 22 44 02.5 -1.4
MTP IAmb IAmb 22 44 04.2
comp=Z,18nm,1.1s
HUMP Col San Antoni 48.59 9 P P 22 44 02.9 -1.2
HUMP IAmb IAmb 22 44 03.6
comp=Z,25nm,1.4s
AOPR Arecibo Observ 48.69 8 P P 22 44 03.6 -1.1
AOPR IAmb IAmb 22 44 11.0
comp=Z,15nm,0.9s
PCDR Punta Cana, DR 48.69 5 P P 22 44 02.5 -2.3
CBYP Canovanas 48.72 9 P P 22 44 03.7 -1.4
GCPR Guaynabo City 48.73 8 IAmb IAmb 22 44 06.4
comp=Z,18nm,1.0s
CUPR Culebra, Puert 48.83 9 P P 22 44 05.5 -0.3
DR12 Loma Pena Alta 48.89 4 P P 22 44 05.9 -0.5
STVI Saint Thomas 48.92 10 P P 22 44 06.2 -0.4
SMRT St. Maarten 48.94 12 IAmb IAmb 22 44 06.2
comp=Z,26nm,1.3s
SDDR Presa de Saban 49.00 2 P P 22 44 04.8 -2.4
SC01 Santiago de lo 49.46 2 P P 22 44 10.0 -0.6
PETF Flores 49.76 338 P P 22 44 12.9 0.0
CCIG Comitan 49.94 335 P P 22 44 14.5 -0.1
CMIG Matias Romero 51.73 333 LR LR 23 01 09.0
comp=Z,131nm,20.6s,baz=142,slow=30
VNA3 Neumayer Olymp 53.01 159 P P 22 44 37.6 +0.8
VNA1 Neumayer--Stat 53.31 158 P P 22 44 40.2 +1.2
VNA2 Neumayer--Watz 53.65 158 P P 22 44 42.3 +0.8
baz=281,slow=8.1
SOR Soroa 53.69 348 P P 22 44 41.7 -0.6
SOR IAmb IAmb 22 44 47.2
comp=Z,20nm,1.1s
TLIG Tlapa 53.70 329 P P 22 44 43.2 +0.6
SNAA Sanae 55.23 159 P P 22 44 53.7 +0.6
SNAA Sanae 55.23 159 P P 22 44 53.2 +0.1
SNAA IAmb IAmb 22 44 54.8
comp=Z,29nm,1.1s
QSPA South Pole Qui 59.94 180 P P 22 45 27.0 +0.6
735A Kenedy 63.50 335 P P 22 45 51.8 +1.2
833A Chaparral WMA, 63.61 334 P P 22 45 52.4 +1.0
baz=154
152A Waverly Hall 63.64 349 P P 22 45 50.3 -1.1
344A Westbrook Farm 63.74 343 P P 22 45 52.2 +0.1
441A DeRidder 63.75 340 P P 22 45 52.4 +0.2
HKT Hockley 63.83 338 pP 22 45 53.6 +1.2
HKT Hockley 63.83 338 P P 22 45 52.4 -0.3
HKT IAmb IAmb 22 45 54.6
comp=Z,7.0nm,1.1s
342A Flagon Creek P 64.09 341 P P 22 45 54.6 +0.2
146A Union 64.47 345 P P 22 45 57.2 +0.3
Y52A Lilburn 64.70 350 P P 22 45 57.8 -0.6
Y52A IAmb IAmb 22 46 01.8
comp=Z,20nm,1.4s
NATX Nacogdoches 65.13 339 P P 22 46 02.3 +1.1
baz=159
435B Jarrell 65.18 336 P P 22 46 02.7 +1.1
baz=156
KMSC Kings Mountain 65.58 352 IAmb IAmb 22 46 04.8
comp=Z,11nm,1.0s
KMSC Kings Mountain 65.58 352 P P 22 46 05.2 +1.1
baz=172
FPAL Fort Paine 65.62 348 P P 22 46 04.3 -0.1
FPAL IAmb IAmb 22 46 05.2
comp=Z,11nm,1.0s
BG3 Lake Jocassee 65.64 351 P P 22 46 04.2 -0.3
JCT Junction City 65.70 334 IAmb IAmb 22 46 06.7
comp=Z,23nm,1.1s
JCT Junction City 65.70 334 P P 22 46 05.7 +0.7
baz=154
237A Washetta, Mont 65.71 339 P P 22 46 05.1 +0.1
Y45A Yeager Farm, C 65.76 345 P P 22 46 05.9 +0.6
X48A Hartselle 65.80 347 P P 22 46 04.9 -0.6
X48A IAmb IAmb 22 46 06.6
comp=Z,17nm,0.9s
Z41A Richland Creek 66.00 342 P P 22 46 07.5 +0.7
baz=161
TAOE Nuku Hiva Isla 66.14 274 eLR LR 23 06 03.1
comp=Z,280nm,34.2s
W50A Signal Mountai 66.21 349 IAmb IAmb 22 46 10.2
comp=Z,10.0nm,0.8s
TXAR Lajitas Array 66.23 331 P P 22 46 09.3 +0.8
comp=Z,4.0nm,0.9s,baz=148,slow=7.8,SNR=43
TXAR LR LR 23 11 06.3
comp=Z,150nm,18.5s,baz=0.0,slow=32
WHTX Lake Whitney, 66.24 337 P P 22 46 08.7 +0.3
WHTX Lake Whitney, 66.24 337 P P 22 46 09.0 +0.6
baz=157
V53A Saluda 66.29 351 IAmb IAmb 22 46 31.4
comp=Z,14nm,1.2s
CPCT Cooper Cave 66.33 349 IAmb IAmb 22 46 09.6
comp=Z,24nm,1.2s
SWET Sewanee 66.33 348 IAmb IAmb 22 46 09.5
comp=Z,10nm,0.8s
OXF Oxford 66.35 345 P P 22 46 08.7 -0.3
baz=164,SNR=8.4
TKL Tuckaleechee C 66.42 350 IAmb IAmb 22 46 10.4
comp=Z,19nm,1.1s
WLAR White Oak Lake 66.49 342 P P 22 46 10.1 +0.2
V51A Loudon 66.65 350 IAmb IAmb 22 46 11.9
comp=Z,14nm,0.9s
V48A Smith Brothers 67.01 348 IAmb IAmb 22 46 15.9
comp=Z,20nm,1.2s
T59A Double "B" Far 67.06 356 P P 22 46 13.4 -0.1
X40A Basin Creek Fa 67.17 342 P P 22 46 13.8 -0.4
baz=161
TZTN Tazewell 67.25 351 P P 22 46 14.3 -0.5
baz=170
CLTN Cedars of Leba 67.26 348 P P 22 46 14.5 -0.3
CLTN IAmb IAmb 22 46 16.0
comp=Z,12nm,0.9s
Z35A Perchaven, San 67.40 338 P P 22 46 16.2 +0.4
MIAR Mount Ida 67.43 341 P P 22 46 16.1 +0.2
MIAR IAmb IAmb 22 46 17.5
comp=Z,12nm,1.1s
MIAR Mount Ida 67.43 341 P P 22 46 16.0 +0.2
baz=160,SNR=5.8
BLA Blacksburg 67.53 353 P P 22 46 16.5 0.0
baz=173
U49A Red Boiling Sp 67.57 349 P P 22 46 16.8 0.0
U49A IAmb IAmb 22 46 17.3
comp=Z,11nm,0.9s
ABTX Abilene, Hawle 67.58 336 P P 22 46 16.3 -0.6
ABTX Abilene, Hawle 67.58 336 P P 22 46 17.4 +0.5
baz=155
WVT Waverly 67.58 347 P P 22 46 16.2 -0.6
WVT IAmb IAmb 22 46 19.2
comp=Z,24nm,1.3s
WVT Waverly 67.58 347 P P 22 46 16.5 -0.4
baz=166
VNDA Vanda 67.63 191 P P 22 46 18.0 +1.2
comp=Z,1.6nm,1.0s,baz=132,slow=5.8,SNR=6.0
VNDA LR LR 23 10 45.0
comp=Z,37nm,20.4s,baz=180,slow=32
VNDA Vanda 67.63 191 P P 22 46 17.5 +0.8
W41B Gary Mavity, V 67.67 343 P P 22 46 17.3 -0.1
baz=162
TBI Tubuai 67.69 255 eLR LR 23 06 45.2
comp=Z,360nm,28.5s,baz=113
R58B Mineral 68.07 356 P P 22 46 20.2 +0.3
W39A Magazine 68.09 341 P P 22 46 21.1 +1.0

baz=160,SNR=15
LCAR Lake Charles 68.25 344 IAmb IAmb 22 46 22.1
comp=Z,17nm,0.9s
CBN Corbin Frederi 68.27 356 P P 22 46 21.8 +0.7
baz=176
R55A Marlinton 68.56 354 P P 22 46 23.4 +0.3
R55A IAmb IAmb 22 46 24.9
comp=Z,24nm,1.2s
PBMO Poplar Bluff 68.75 345 P P 22 46 24.4 +0.2
PBMO IAmb IAmb 22 46 26.7
comp=Z,14nm,0.8s
X34A Smith Ranch, M 68.76 338 P P 22 46 24.7 +0.4
Q61A Milford 68.85 358 P P 22 46 26.0 +1.2
baz=178
U40A Yellville 68.94 343 P P 22 46 25.4 0.0
baz=161,SNR=10
MNTX Cornudas Mount 69.01 330 P P 22 46 25.8 -0.2
baz=150
HHAR Hobbs 69.16 342 IAmb IAmb 22 46 28.1
comp=Z,23nm,1.1s
WMOK Wichita Mounta 69.20 337 P P 22 46 26.9 -0.1
baz=156,SNR=5.5
WCI Wyandotte Cave 69.33 349 P P 22 46 27.1 -0.7
baz=167
TUL1 Leonard 69.33 340 P P 22 46 27.8 0.0
baz=159,SNR=5.3
Q52A Bidwell 69.47 352 IAmb IAmb 22 46 30.1
comp=Z,14nm,0.8s
MGMO Mountain Grove 69.55 343 IAmb IAmb 22 46 30.6
comp=Z,20nm,1.1s
P57A Homestead Farm 69.59 356 P P 22 46 30.2 +0.9
P57A IAmb IAmb 22 46 31.7
comp=Z,28nm,1.1s
P60A Greenville 69.79 358 P P 22 46 31.1 +0.5
baz=177
FVM French Village 69.91 345 IAmb IAmb 22 46 32.8
comp=Z,26nm,1.1s
WUPA West Chester U 69.91 358 P P 22 46 31.9 +0.6
WUPA IAmb IAmb 22 46 33.7
comp=Z,19nm,1.1s
MSTX Muleshoe 69.94 334 P P 22 46 32.2 +0.5
baz=153
MVL Millersville 70.01 357 P P 22 46 32.6 +0.7
MVL IAmb IAmb 22 46 34.3
comp=Z,21nm,1.2s
P52A Corning 70.11 352 IAmb IAmb 22 46 33.4
comp=Z,28nm,1.1s
P52A Corning 70.11 352 P P 22 46 31.9 -0.6
baz=171
CCM Cathedral Cave 70.16 345 P P 22 46 33.5 +0.7
CCM Cathedral Cave 70.16 345 P P 22 46 33.0 +0.1
baz=163
PPT2 Papeete2 70.25 261 eS S **22 55 46.8 -0.1**
comp=Z,92nm,24.0s
PPT2 Papeete2 70.25 261 eLR LR 23 07 55.0
comp=Z,461nm,23.8s,baz=114
PAGS Pennsylvania G 70.25 357 P P 22 46 34.0 +0.6
PAGS IAmb IAmb 22 46 35.4
comp=Z,18nm,0.9s
PPT Papeete 70.26 261 LR LR 23 08 53.7
comp=Z,224nm,19.5s,baz=122,slow=29
S39A Bolivar 70.32 343 IAmb IAmb 22 46 35.4
comp=Z,25nm,1.1s
AMTX Amarillo 70.34 335 P P 22 46 34.7 +0.5
baz=154
O56A Blue Knob Stat 70.41 355 P P 22 46 35.2 +0.8
baz=175
T35A Sooner Cattle 70.48 340 IAmb IAmb 22 46 36.7
comp=Z,28nm,1.2s
319A Douglas 70.48 327 P P 22 46 35.9 +0.8
319A IAmb IAmb 22 46 37.9
comp=Z,13nm,1.0s
BLOK Blackwell 70.55 339 IAmb IAmb 22 46 37.0
comp=Z,21nm,1.0s
O53A New Philadelph 70.62 353 P P 22 46 35.6 -0.1
baz=172
SSPA Standing Stone 70.73 356 P P 22 46 37.1 +0.9
baz=175
121A Cookes Peak, D 70.77 329 P P 22 46 38.2 +1.2
121A IAmb IAmb 22 46 39.9
comp=Z,29nm,1.4s
121A Cookes Peak, D 70.77 329 P P 22 46 38.4 +1.4
baz=148
ACSO Alum Creek Sta 70.81 352 P P 22 46 36.7 -0.1
baz=171
N58A Sunbury 70.86 357 P P 22 46 37.8 +0.8
N58A IAmb IAmb 22 46 39.3
comp=Z,20nm,0.9s
N59A State Game Lan 70.90 358 P P 22 46 38.3 +1.0
N59A IAmb IAmb 22 46 40.0
comp=Z,27nm,1.1s
N59A State Game Lan 70.90 358 P P 22 46 38.6 +1.3
baz=177
PAL Palisades 70.94 359 P P 22 46 38.2 +0.7
baz=179
O49A Covington 70.94 351 IAmb IAmb 22 46 38.5
comp=Z,20nm,1.0s
ODNJ Ogdensburg 71.03 358 P P 22 46 38.7 +0.6
ODNJ IAmb IAmb 22 46 40.5
comp=Z,18nm,1.1s
N54A Moraine State 71.21 354 IAmb IAmb 22 46 40.8
comp=Z,19nm,1.2s
N54A Moraine State 71.21 354 P P 22 46 39.4 +0.2
baz=173
M57A Sunshine Farm, 71.38 356 IAmb IAmb 22 46 50.8
comp=Z,18nm,1.1s
SFIN Lafayette 71.56 348 IAmb IAmb 22 46 41.1
comp=Z,13nm,0.9s
SFIN Lafayette 71.56 348 P P 22 46 40.5 -0.9
baz=167
M55A Ridgway 71.61 355 IAmb IAmb 22 46 43.2
comp=Z,21nm,1.0s
BNM Barren Site 71.65 331 P P 22 46 43.0 +0.7
Y22D IRIS PASSCAL I 71.71 331 P P 22 46 43.5 +0.9
baz=149
M53A WI Miller and 71.75 354 IAmb IAmb 22 46 43.6
comp=Z,27nm,1.1s
M53A WI Miller and 71.75 354 P P 22 46 42.6 +0.2
baz=173
BRYW Bryant College 71.85 1 P P 22 46 44.2 +1.2
BRYW IAmb IAmb 22 46 45.6
comp=Z,29nm,1.1s
L64A Middleborough 71.88 1 P P 22 46 44.0 +0.8
L64A IAmb IAmb 22 46 45.6
comp=Z,30nm,1.1s
L64A Middleborough 71.88 1 P P 22 46 43.5 +0.3
baz=182
TUC Tucson 71.97 327 P P 22 46 45.6 +1.5
TUC Tucson 71.97 327 P P 22 46 44.8 +0.7
baz=146
HDIL Hopedale 72.14 347 P P 22 46 44.8 0.0
baz=165
BINY Binghamton 72.19 357 IAmb IAmb 22 46 46.6
comp=Z,22nm,1.2s
BINY Binghamton 72.19 357 P P 22 46 45.9 +0.8
baz=177
P38A Dawn 72.20 343 IAmb IAmb 22 46 46.3
comp=Z,20nm,0.9s
QUA2 Belchertown 72.20 0 P P 22 46 46.2 +1.1
QUA2 IAmb IAmb 22 46 47.5
comp=Z,23nm,1.1s
ANMO Albuquerque 72.27 331 P P 22 46 47.4 +1.5
comp=Z,8.4nm,1.1s,baz=150,slow=8.1,SNR=17
ANMO Albuquerque 72.27 331 P P 22 46 47.2 +1.3
ANMO IAmb IAmb 22 46 48.7
comp=Z,21nm,1.4s
ANMO Albuquerque 72.27 331 P P 22 46 47.4 +1.5
baz=150
ERPA Erie 72.36 354 P P 22 46 46.0 0.0
baz=173
L61B Northampton 72.37 0 P P 22 46 47.2 +1.0
baz=180
HRV Adam Dziewonsk 72.44 1 P P 22 46 48.5 +2.0
HRV IAmb IAmb 22 46 49.2
comp=Z,20nm,1.1s
HRV Adam Dziewonsk 72.44 1 P P 22 46 47.5 +1.0
baz=181
KSU1 Kansas State U 72.54 341 P P 22 46 47.5 +0.2
baz=158
R32A Long Quarter, 72.54 339 P P 22 46 48.0 +0.7
R32A IAmb IAmb 22 46 49.3
comp=Z,36nm,1.2s
K62A Royalston 72.59 0 P P 22 46 48.9 +1.4
baz=180
K61A Williamstown 72.60 360 P P 22 46 48.8 +1.3
baz=179
TRY Troy 72.66 359 IAmb IAmb 22 46 50.5

comp=Z,25nm,1.0s
214A Organ Pipe Nat 72.66 325 IAmb IAmb 22 46 51.1
comp=Z,24nm,1.1s
214A Organ Pipe Nat 72.66 325 P **P** **22 46 49.6 +1.4**
baz=144
M44A Midewin, Midew 72.71 348 IAmb IAmb 22 46 48.4
comp=Z,18nm,0.9s
K57A Scipio Center 72.74 357 IAmb IAmb 22 46 50.0
comp=Z,20nm,1.0s
AAM Ann Arbor 72.93 352 P **P** **22 46 49.2 -0.3**
baz=170
CBKS Cedar Bluff 73.22 338 P **P** **22 46 52.6 +1.2**
baz=156
J61A Chester 73.27 0 P **P** **22 46 52.8 +1.3**
baz=180
J56A Wolcott 73.30 357 IAmb IAmb 22 46 53.1
comp=Z,23nm,0.9s
T25A Trinidad 73.36 334 IAmb IAmb 22 46 55.2
comp=Z,32nm,1.2s
T25A Trinidad 73.36 334 P **P** **22 46 53.9 +1.5**
baz=152,SNR=11
J57A Williamstown 73.40 357 IAmb IAmb 22 46 53.9
comp=Z,21nm,1.0s
FFD Franklin Falls 73.40 1 P **P** **22 46 53.6 +1.4**
FFD IAmb IAmb 22 46 55.1
comp=Z,21nm,0.9s
X18A Snowflake 73.42 329 P **P** **22 46 53.7 +0.9**
L44A Lake County Fo 73.46 348 P **P** **22 46 51.9 -0.6**
baz=166
L42A Oliver, Polo 73.61 347 IAmb IAmb 22 46 54.6
comp=Z,33nm,1.2s
I60A Shoreham 73.77 360 P **P** **22 46 55.0 +0.7**
baz=179
I62A Tamworth 73.81 1 P **P** **22 46 56.5 +1.9**
I62A IAmb IAmb 22 46 57.4
comp=Z,20nm,1.2s
I62A Tamworth 73.81 1 P **P** **22 46 56.2 +1.6**
baz=181
W18A Petrified Fore 73.82 329 P **P** **22 46 56.5 +1.4**
baz=147
PECO Prince Edward 73.96 357 IAmb IAmb 22 46 57.2
comp=Z,31nm,1.2s
X16A Lo Mia Camp, P 74.02 327 IAmb IAmb 22 46 59.1
comp=Z,22nm,1.1s
LBNH Lisbon 74.17 1 P **P** **22 46 58.5 +1.8**
LBNH IAmb IAmb 22 46 59.3
comp=Z,18nm,1.1s
LBNH Lisbon 74.17 1 P **P** **22 46 57.9 +1.2**
baz=181
SCIA State Center 74.29 344 P **P** **22 46 57.7 +0.2**
baz=162
SDCO Great Sand Dun 74.31 334 P **P** **22 46 59.2 +1.1**
baz=151,SNR=7.2
KSCO Kaye Shedlock' 74.37 336 P **P** **22 46 59.2 +1.0**
baz=153
GLA Glamis 74.55 324 P **P** **22 47 00.5 +1.2**
baz=143
DBIC Dimbokro 74.56 73 P **P** **22 46 57.5 -2.2**
comp=Z,12nm,1.1s,baz=212,slow=5.2,SNR=4.0
DBIC LR LR 23 17 60.0
comp=Z,376nm,19.1s,baz=238,slow=34
DBIC Dimbokro 74.56 73 P **P** **22 46 57.5 -2.2**
DBIC Dimbokro 74.56 73 IAmb IAmb 22 47 01.4
comp=Z,33nm,1.4s
LONY Lake Ozonia 74.56 359 P **P** **22 46 59.7 +0.6**
baz=176
DELO Deloro Mine 74.58 356 IAmb IAmb 22 47 02.2
comp=Z,22nm,1.2s
JFWS Jewell Farm 74.61 347 P **P** **22 46 59.3 0.0**
baz=164
FRNY Flat Rock 74.76 359 IAmb IAmb 22 47 02.2
comp=Z,21nm,1.1s
EMMW East Machias 74.78 4 P **P** **22 47 01.4 +1.1**
EMMW IAmb IAmb 22 47 02.9
comp=Z,18nm,1.1s
S22A 4UR Ranch, Cre 74.83 333 P **P** **22 47 02.6 +1.5**
baz=150,SNR=7.0
WUAZ Wupatki 74.89 328 P **P** **22 47 02.7 +1.3**
WUAZ IAmb IAmb 22 47 04.3
comp=Z,32nm,1.1s
WUAZ Wupatki 74.89 328 P **P** **22 47 02.9 +1.6**
baz=146,SNR=16
IKP In-Ko-Pah, Jac 74.89 323 P **P** **22 47 02.2 +0.9**
baz=142
CBX Cerro Bola 74.92 322 P **P** **22 47 02.3 +0.8**
SADO Sadowa 74.92 355 P **P** **22 47 01.4 +0.3**
comp=Z,23nm,0.9s,baz=204,slow=4.9,SNR=14
SADO Sadowa 74.92 355 IAmb IAmb 22 47 02.5
comp=Z,29nm,0.9s
SWSC Sam W. Stewart 74.96 323 P **P** **22 47 03.0 +1.3**
baz=142
MVCO Mesa Verde 75.05 331 P **P** **22 47 03.2 +0.8**
MVCO IAmb IAmb 22 47 04.9
comp=Z,26nm,1.1s
MVCO Mesa Verde 75.05 331 P **P** **22 47 03.8 +1.4**
baz=148,SNR=14
BGNE Belgrade 75.11 340 P **P** **22 47 02.9 +0.5**
baz=157
L34A Svendsen Farm, 75.14 342 IAmb IAmb 22 47 03.5
comp=Z,29nm,0.9s
G62A West of Eustis 75.17 2 P **P** **22 47 03.1 +0.6**
G62A IAmb IAmb 22 47 05.2
comp=Z,24nm,0.9s
BAR Barrett 75.21 323 P **P** **22 47 03.3 +0.2**
BAR IAmb IAmb 22 47 05.7
comp=Z,16nm,1.1s
PDMCI Parker Dam,Lak 75.21 325 P **P** **22 47 04.2 +1.2**
baz=144
Q24A Divide 75.24 334 P **P** **22 47 04.9 +1.4**
baz=151,SNR=20
MONP2 Monument Peak 75.25 323 P **P** **22 47 04.6 +1.0**
baz=142
PKME Peaks-Kenny Pk 75.25 2 P **P** **22 47 02.8 -0.2**
PKME IAmb IAmb 22 47 05.5
comp=Z,19nm,1.1s
PKME Peaks-Kenny Pk 75.25 2 P **P** **22 47 04.4 +1.5**
baz=183
I42A Draeger Farm, 75.30 348 P **P** **22 47 03.0 -0.3**
I42A IAmb IAmb 22 47 04.6
comp=Z,34nm,1.2s
BC3 Big Chuckawall 75.35 324 P **P** **22 47 05.4 +1.5**
baz=143,SNR=14
IRM Iron Mountain 75.59 325 P **P** **22 47 06.7 +1.4**
baz=143,SNR=1.0
F63A Nahmakanta, Br 75.70 3 P **P** **22 47 06.4 +0.9**
W13A Hualapai Mount 75.73 326 P **P** **22 47 06.2 0.0**
TPFO Pinon Flats 75.82 323 P **P** **22 47 08.3 +1.6**
baz=142,SNR=7.7
PFO Pinyon Flats O 75.83 323 P **P** **22 47 08.9 +2.1**
comp=Z,11nm,0.9s,baz=115,slow=2.9,SNR=10
PFO Pinyon Flats O 75.83 323 P **P** **22 47 08.0 +1.2**
PFO IAmb IAmb 22 47 09.7
comp=Z,22nm,1.1s
PFO Pinyon Flats O 75.83 323 P **P** **22 47 08.3 +1.5**
baz=142,SNR=7.9
F62A Pittston Farm, 75.86 2 P **P** **22 47 07.2 +0.8**
F62A IAmb IAmb 22 47 09.2
comp=Z,19nm,1.0s
PV01 Paradox Valley 75.87 332 P **P** **22 47 08.2 +1.2**
PV01 IAmb IAmb 22 47 09.9
comp=Z,27nm,1.3s
F64A Sherman 75.89 3 IAmb IAmb 22 47 09.3
comp=Z,20nm,1.1s
BELC Belle Mtn. Jos 75.90 324 P **P** **22 47 08.6 +1.5**
baz=142,SNR=5.6
OGNE Ogallala 75.90 337 P **P** **22 47 07.6 +0.7**
baz=154
PV13 Radium Mtn., P 75.99 331 P **P** **22 47 08.8 +1.1**
PV13 IAmb IAmb 22 47 10.2
comp=Z,23nm,1.0s
PV02 Paradox Valley 76.00 331 P **P** **22 47 08.8 +1.1**
PV02 IAmb IAmb 22 47 10.3
comp=Z,15nm,1.0s
PV15 Paradox Valley 76.01 332 P **P** **22 47 09.0 +1.2**
PV15 IAmb IAmb 22 47 10.8
comp=Z,26nm,1.4s
PV05 Paradox Valley 76.04 331 P **P** **22 47 08.8 +0.8**
PV05 IAmb IAmb 22 47 10.3
comp=Z,21nm,1.0s
PV03 Paradox Valley 76.08 331 P **P** **22 47 09.1 +0.8**
PV03 IAmb IAmb 22 47 10.7
comp=Z,24nm,1.3s
PV18 Skein Mesa, Pa 76.10 331 P **P** **22 47 09.0 +0.7**
PV12 Saucer Basin, 76.12 331 P **P** **22 47 09.5 +1.1**
PV12 IAmb IAmb 22 47 11.0
comp=Z,12nm,0.9s
PV11 David Mesa, Pa 76.13 331 IAmb IAmb 22 47 10.3
comp=Z,15nm,1.1s
ISCO Idaho Springs 76.14 334 P **P** **22 47 09.8 +1.1**
baz=151,SNR=12
PV17 East Wray Mesa 76.15 331 IAmb IAmb 22 47 10.4
comp=Z,13nm,0.9s
PV07 Paradox Valley 76.16 332 P **P** **22 47 09.5 +0.8**
PV16 Nyswonger Mesa 76.16 331 P **P** **22 47 09.3 +0.7**
PV19 Morning Glory 76.19 331 P **P** **22 47 09.5 +0.7**
MURC Murrieta 76.20 323 P **P** **22 47 10.5 +1.8**
baz=141,SNR=5.3
PV20 West Nyswonger 76.21 331 IAmb IAmb 22 47 11.3
comp=Z,18nm,1.3s
PV04 Paradox Valley 76.23 331 P **P** **22 47 10.0 +1.0**
PV04 IAmb IAmb 22 47 11.6
comp=Z,21nm,1.2s
PV14 Lion Creek, Pa 76.26 331 P **P** **22 47 09.8 +0.5**
PV14 IAmb IAmb 22 47 11.6
comp=Z,21nm,1.1s
PV10 Paradox Valley 76.27 331 P **P** **22 47 09.7 +0.4**
PV10 IAmb IAmb 22 47 11.2
comp=Z,17nm,0.9s
PV23 Carpenter Ridg 76.32 331 P **P** **22 47 10.9 +1.3**
PV23 IAmb IAmb 22 47 12.1
comp=Z,13nm,1.0s
HEC Hector,Ludlow 76.72 324 P **P** **22 47 13.2 +1.5**
baz=142
ECSD EROS Data Cent 76.85 342 P **P** **22 47 12.5 +0.3**
baz=159
MAW Mawson 76.89 164 P **P** **22 47 11.6 -0.6**
comp=Z,6.3nm,0.7s,baz=218,slow=5.3,SNR=12
MAW LR LR 23 22 55.5
comp=Z,69nm,18.0s,baz=235,slow=37
MAW Mawson 76.89 164 P **P** **22 47 12.9 +0.7**
BFSC Mount Baldy Ra 76.94 323 P **P** **22 47 14.4 +1.4**
baz=141,SNR=12
LCMT Little Creek M 76.98 328 IAmb IAmb 22 47 15.8
comp=Z,16nm,1.1s
TUQ Turquoise Moun 77.00 325 P **P** **22 47 14.8 +1.5**
baz=143,SNR=13
D62A Allapoint, All 77.08 3 IAmb IAmb 22 47 15.6
comp=Z,25nm,1.0s
RRX Edison Barstow 77.09 324 P **P** **22 47 15.9 +2.1**
baz=142
MWC Mount Wilson 77.14 323 IAmb IAmb 22 47 16.9
comp=Z,22nm,1.1s
N23A Red Feather La 77.22 335 P **P** **22 47 15.8 +1.1**
baz=151,SNR=8.9
GSC Goldstone, Bar 77.33 324 IAmb IAmb 22 47 18.1
comp=Z,14nm,1.0s
GSC Goldstone, Bar 77.33 324 P **P** **22 47 16.8 +1.6**
baz=142,SNR=9.8
MTPU Mount Pierson 77.34 329 IAmb IAmb 22 47 18.0
comp=Z,13nm,0.9s
SPMN Marine on St. 77.35 346 IAmb IAmb 22 47 15.8
comp=Z,24nm,1.1s
SPMN Marine on St. 77.35 346 P **P** **22 47 14.5 -0.4**
baz=162
SZCU Shurtz Canyon 77.38 328 IAmb IAmb 22 47 18.5
comp=Z,21nm,1.2s
PHWY Pilot Hill 77.40 335 IAmb IAmb 22 47 18.1
comp=Z,31nm,1.4s
O20A White River Ci 77.44 333 IAmb IAmb 22 47 18.4
comp=Z,31nm,1.1s
O20A White River Ci 77.44 333 P **P** **22 47 17.0 +1.2**
baz=149,SNR=13
CCUT Cedar City 77.47 328 IAmb IAmb 22 47 19.4
comp=Z,26nm,1.0s
COWI Conover 77.47 348 IAmb IAmb 22 47 17.0
comp=Z,25nm,1.2s
SRU San Rafael Swe 77.51 331 IAmb IAmb 22 47 18.3
comp=Z,16nm,0.8s
SHOC Shoshone, Teco 77.54 325 P **P** **22 47 17.6 +1.3**
baz=142
EDW2 Edwards Air Fo 77.61 323 P **P** **22 47 17.9 +1.2**
baz=141,SNR=10
Q16A Castle Valley 77.62 330 IAmb IAmb 22 47 19.6
comp=Z,21nm,1.0s
OSI Osito Audit: C 77.78 323 P **P** **22 47 19.2 +1.5**
baz=140
QSM Queen of Sheba 77.88 325 IAmb IAmb 22 47 20.6
comp=Z,21nm,1.3s
P17A Butcher Ranch, 77.90 331 IAmb IAmb 22 47 20.7
comp=Z,22nm,1.1s
LRMC Laurel Mtn Rad 77.92 324 P **P** **22 47 19.9 +1.4**
baz=141,SNR=9.9
TMUT Trail Mountain 77.95 330 IAmb IAmb 22 47 22.6
comp=Z,24nm,1.4s
GWY Greenwater Val 77.96 325 IAmb IAmb 22 47 21.1
comp=Z,22nm,1.2s
F36A Milaca 78.11 345 IAmb IAmb 22 47 20.1
comp=Z,20nm,1.1s
SUSD Miller 78.14 341 P **P** **22 47 19.8 +0.4**
baz=157
SBC Santa Barbara 78.18 322 P **P** **22 47 20.6 +0.8**
baz=140
ARVC Arvin 78.23 323 P **P** **22 47 20.8 +0.7**
baz=140
MPMC Manual Prospec 78.27 324 P **P** **22 47 21.7 +1.2**
baz=142,SNR=6.9
FURC Furnace Creek, 78.28 325 P **P** **22 47 21.9 +1.7**
baz=142,SNR=7.8
RDMU Red Mountain 78.34 332 IAmb IAmb 22 47 23.0
comp=Z,13nm,0.7s
TPNV Topaph Spring 78.35 326 IAmb IAmb 22 47 24.0
comp=Z,28nm,1.1s
TPNV Topopah Spring 78.35 326 P **P** **22 47 22.6 +1.7**
baz=143,SNR=31
E38A The Farm, Brul 78.41 347 IAmb IAmb 22 47 21.8
comp=Z,21nm,1.1s
ISA Isabella, Lake 78.46 323 IAmb IAmb 22 47 24.3
comp=Z,18nm,0.9s
ISA Isabella, Lake 78.46 323 P **P** **22 47 22.8 +1.4**
baz=141,SNR=15
PSUT Pine Spring 78.50 328 IAmb IAmb 22 47 25.8
comp=Z,15nm,0.9s
PKM Mcpherson Peak 78.57 322 P **P** **22 47 23.9 +1.7**
baz=140,SNR=8.5
MPU Maple Canyon 78.73 331 IAmb IAmb 22 47 25.4
comp=Z,18nm,1.0s
CWC Cottonwood Cre 78.86 324 P **P** **22 47 25.1 +1.3**
baz=141
VES Vestal, Richgr 78.92 323 P **P** **22 47 25.4 +1.5**
baz=140
GRAC Grapevine Rang 78.94 325 P **P** **22 47 25.8 +1.8**
baz=142,SNR=5.3
K22A Casper 78.97 335 P **P** **22 47 25.3 +1.1**
baz=151
SMMC Simmler 78.99 322 P **P** **22 47 26.3 +1.9**
baz=140,SNR=10.0
SPR3 Spring Creek 3 79.09 328 IAmb IAmb 22 47 27.4
comp=Z,18nm,1.1s
R11A Troy Canyon, C 79.15 327 P **P** **22 47 26.9 +1.6**
baz=143,SNR=22
DUG Dugway, Tooele 79.39 330 IAmb IAmb 22 47 29.1
comp=Z,26nm,1.2s
DUG Dugway, Tooele 79.39 330 P **P** **22 47 27.8 +1.3**
baz=146,SNR=15
RSSD Black Hills 79.40 338 P **P** **22 47 27.9 +1.3**
RSSD IAmb IAmb 22 47 28.6
comp=Z,19nm,0.9s
RSSD Black Hills 79.40 338 P **P** **22 47 27.2 +0.6**
baz=153
TIN Tinemaha, Big 79.42 324 P **P** **22 47 28.6 +1.9**
baz=141
VOG Valley Oaks Go 79.44 323 P **P** **22 47 27.2 +0.5**
baz=140
PAGB Antelope Grade 79.44 322 IAmb IAmb 22 47 31.2
comp=Z,32nm,1.2s
EYMN Ely 79.68 347 IAmb IAmb 22 47 28.9
comp=Z,20nm,1.1s
EYMN Ely 79.68 347 P **P** **22 47 27.6 -0.2**
baz=164
HWUT Hardware Ranch 80.03 331 IAmb IAmb 22 47 31.9
comp=Z,22nm,0.9s
SPUT South Promonto 80.15 331 IAmb IAmb 22 47 32.8
comp=Z,34nm,1.2s
MLAC Mammoth, Mammo 80.17 324 P **P** **22 47 32.5 +1.6**
baz=141
BW06 Boulder Array 80.20 333 P **P** **22 47 31.1 +0.1**
baz=148
PDAR Pinedale Array 80.20 333 P **P** **22 47 31.8 +0.8**
comp=Z,2.6nm,0.7s,baz=153,slow=5.0,SNR=22
PDAR LR LR 23 19 38.8
comp=Z,86nm,20.3s,baz=146,slow=33
LHV Little Huntoon 80.48 325 IAmb IAmb 22 47 35.4
comp=Z,25nm,1.1s
NVAR Mina Array Bea 80.52 325 P **P** **22 47 34.2 +1.4**
comp=Z,8.0nm,0.9s,baz=150,slow=5.5,SNR=34
NVAR LR LR 23 17 48.8
comp=Z,63nm,18.8s,baz=134,slow=32
HVU Hansel Valley 80.68 331 IAmb IAmb 22 47 35.3
comp=Z,24nm,1.2s
TSUM Tsumeb 80.79 107 P **P** **22 47 36.5 +1.9**
AHID Auburn Hatcher 80.81 332 IAmb IAmb 22 47 36.1
comp=Z,29nm,1.3s
ELK Elko 80.91 329 P **P** **22 47 35.9 +1.0**
comp=Z,8.2nm,0.9s,baz=138,slow=2.7,SNR=26
AGMN Agassiz Nation 80.94 345 IAmb IAmb 22 47 35.8
comp=Z,34nm,1.4s
AGMN Agassiz Nation 80.94 345 P **P** **22 47 34.7 +0.2**
baz=160
REDW Red Top Meadow 81.21 333 IAmb IAmb 22 47 38.5
comp=Z,18nm,1.2s
TPAW Teton Pass 81.36 333 IAmb IAmb 22 47 38.3
comp=Z,17nm,1.1s
YERR Yerington 81.42 325 IAmb IAmb 22 47 40.3
comp=Z,31nm,1.3s
MDND Maddock 81.45 342 P **P** **22 47 37.9 +0.6**
baz=157
PNTR Pine Nut 81.67 325 IAmb IAmb 22 47 41.8
comp=Z,24nm,0.9s
FLWY Flagg Ranch 81.76 333 IAmb IAmb 22 47 41.6
comp=Z,21nm,1.1s
PAHR Pah Rah Range 82.04 325 IAmb IAmb 22 47 43.6
comp=Z,31nm,1.2s
RLMT Red Lodge 82.10 335 P **P** **22 47 42.0 +1.0**
baz=149
BOSA Boshof 82.31 119 P **P** **22 47 40.8 -1.8**
comp=Z,5.8nm,0.9s,baz=275,slow=4.4,SNR=5.0
BOSA LR LR 23 20 11.0
comp=Z,159nm,19.8s,baz=200,slow=33
BOSA Boshof 82.31 119 IAmb IAmb 22 47 43.7
comp=Z,15nm,1.1s
LAO LASA Array 82.39 337 IAmb IAmb 22 47 44.1
comp=Z,24nm,1.1s
LAO LASA Array 82.39 337 P **P** **22 47 42.8 +0.5**
baz=151
YHH Holmes Hill 82.41 334 IAmb IAmb 22 47 45.2
comp=Z,24nm,1.2s
BEKR Beckworth 82.65 325 IAmb IAmb 22 47 46.5
comp=Z,18nm,1.2s
ULM Lac du Bonnet 82.78 345 P **P** **22 47 43.9 -0.2**
comp=Z,21nm,1.0s,baz=165,slow=5.4,SNR=11
HLID Hailey 82.83 331 IAmb IAmb 22 47 47.4
comp=Z,23nm,1.1s
HLID Hailey 82.83 331 P **P** **22 47 46.3 +1.5**
baz=145
MFID Camas Ranch 83.32 330 IAmb IAmb 22 47 49.5
comp=Z,20nm,1.2s
DGMT Dagmar 83.32 340 P **P** **22 47 47.8 +0.7**
baz=153
BOZ Bozeman (W) 83.39 334 P **P** **22 47 48.3 +0.7**
baz=147
TORD Torodi Ar. Bea 83.49 71 P **P** **22 47 48.6 0.0**
comp=Z,5.8nm,0.8s,baz=264,slow=4.4,SNR=21
TORD LR LR 23 23 35.0
comp=Z,314nm,18.9s,baz=265,slow=35
TORD Torodi Ar. Bea 83.49 71 P **P** **22 47 49.3 +0.6**
TORD IAmb IAmb 22 47 51.6
comp=Z,13nm,1.1s
DLMT Dillon 83.57 333 IAmb IAmb 22 47 50.9
comp=Z,18nm,1.2s
CASY Casey 83.72 181 P **P** **22 47 50.1 +1.1**
CASY IAmb IAmb 22 47 52.3
comp=Z,18nm,1.1s
WVOR Wild Horse Val 83.80 328 IAmb IAmb 22 47 52.0
comp=Z,16nm,1.2s
O02D Mt. Diablo Mer 84.10 324 P **P** **22 47 52.3 +1.0**
baz=138
N02D Trinity Center 84.66 324 P **P** **22 47 56.1 +2.0**
baz=138
PLID Pearl Lake 84.74 331 IAmb IAmb 22 47 56.0
comp=Z,10nm,0.8s
EGMT Eagleton 84.75 336 P **P** **22 47 54.6 +0.2**
baz=148
M04C Macdoel 84.83 325 P **P** **22 47 56.0 +1.0**
baz=139
SCHQ Schefferville 84.92 3 P **P** **22 47 55.5 +0.5**
comp=Z,7.4nm,0.9s,baz=191,slow=3.9,SNR=5.1
M02C Callahan 85.04 325 P **P** **22 47 56.6 +0.6**
baz=138
BMO Blue Mountains 85.11 330 IAmb IAmb 22 47 58.2
comp=Z,16nm,1.4s
YBH Yreka Blue Hor 85.22 325 P **P** **22 47 57.4 +0.5**
comp=Z,5.3nm,0.9s,baz=108,slow=3.1,SNR=12
MSO Missoula 85.31 333 P **P** **22 47 58.1 +0.8**
baz=145
L04D Klamath Falls 85.39 325 P **P** **22 47 58.0 +0.2**
baz=139
K04D Chiloquin, OR 85.42 326 P **P** **22 47 59.0 +1.0**
baz=139
I07A Izee 85.48 328 IAmb IAmb 22 48 00.7
comp=Z,26nm,1.3s
KRMB Red Mountain 85.67 324 IAmb IAmb 22 48 01.9
comp=Z,17nm,1.1s
J05D Fort Rock, OR 85.67 327 P **P** **22 48 00.0 +0.7**
baz=140
PINE Pine Mountain 85.92 327 IAmb IAmb 22 48 03.2
comp=Z,22nm,1.1s
L02E Cave Junction 85.99 325 P **P** **22 48 01.7 +1.1**
baz=138
J04D Umpqua Nationa 86.06 326 P **P** **22 48 02.2 +1.0**
baz=139
G08A Pilot Rock 86.17 329 IAmb IAmb 22 48 03.7
comp=Z,18nm,1.4s
JTMT Jette 86.20 333 IAmb IAmb 22 48 03.5
comp=Z,13nm,0.9s
K02D Willamette Mer 86.41 325 P **P** **22 48 04.1 +1.2**
baz=138
DBO Dodson Butte 86.52 325 IAmb IAmb 22 48 07.3
comp=Z,16nm,1.1s
I05D Terrebonne, OR 86.53 327 P **P** **22 48 04.9 +1.6**
baz=140
I04A Tendick Farm, 86.62 326 P **P** **22 48 04.1 +0.3**
baz=139
J01E Myrtle Point 86.89 325 P **P** **22 48 06.6 +1.6**
baz=138
I03D Drain, OR 87.00 326 P **P** **22 48 06.7 +1.1**
baz=138
HAWA Hanford 87.28 330 P **P** **22 48 07.5 +0.6**
H04D Lebanon 87.32 327 P **P** **22 48 07.8 +0.7**
baz=138
D08A Wollman Farm, 87.54 330 IAmb IAmb 22 48 10.0
comp=Z,9.0nm,1.0s
E07A Sunnyside 87.55 330 IAmb IAmb 22 48 11.8
comp=Z,14nm,1.2s
NEW Newport 87.74 332 P **P** **22 48 08.3 -0.7**
comp=Z,1.5nm,0.5s,baz=170,slow=6.3,SNR=3.7
NEW Newport 87.74 332 P **P** **22 48 09.5 +0.4**
baz=143
F05D White Salmon 87.75 328 P **P** **22 48 10.7 +1.5**
baz=139
C09A Chrisman Ranch 87.85 331 P **P** **22 48 10.0 +0.5**
C09A IAmb IAmb 22 48 11.9
comp=Z,9.7nm,0.9s
LTY Liberty 88.45 330 P **P** **22 48 13.0 +0.5**
LTY IAmb IAmb 22 48 14.1
comp=Z,19nm,1.4s
LON Longmire 88.57 329 P **P** **22 48 12.9 -0.2**
LON IAmb IAmb 22 48 15.8
comp=Z,7.9nm,0.9s
F04D Rainier, OR 88.62 328 P **P** **22 48 14.4 +1.1**
baz=138
B08A Colville Reser 88.73 331 P **P** **22 48 13.6 -0.1**
D04E Lakebay 89.33 328 P **P** **22 48 17.5 +1.0**
baz=138
B05A Bryant 89.84 330 P **P** **22 48 19.5 +0.6**
baz=139
ESDC Sonseca Array 94.41 46 LR LR 23 31 53.8
comp=Z,116nm,18.2s,baz=250,slow=36
DZM Mont Dzumac 102.95 235 eLR LR 23 23 07.0
comp=Z,810nm,22.8s
GERES GERESS Array B 109.92 45 PKiKP **PKiKP** **22 53 51.0 -0.6**
comp=Z,0.4nm,0.6s,baz=292,slow=2.6,SNR=4.5
TOLK Toolik Lake Re 113.26 337 P **PKiKP** **22 53 58.9 +1.6**
baz=114
H21K Meloziina Rive 113.27 334 P **PKiKP** **22 53 59.3 +1.9**
baz=112
UNV Unalaska Valle 115.99 319 P **PKiKP** **22 54 04.0 +1.1**
baz=106
A21K Barrow 116.46 339 P **PKiKP** **22 54 04.6 +1.4**
baz=106
NIKH Nikolski High 117.11 318 P **PKiKP** **22 54 05.8 +0.7**
baz=105
AKASG Malin Array Be 120.05 46 PKP **PKPdf** **22 54 10.1 -0.7**
comp=Z,0.5nm,0.4s,baz=303,slow=2.5,SNR=6.4

ASAR	**Alice Springs**	**120.59**	**208**	PKP		**PKPdf**	**22 54 11.5**	**-1.5**
	comp=Z,1.2nm,1.0s,baz=126,slow=2.4,SNR=6.2							
ASAR				PKKPbc		**PKKPbc**	**23 04 17.9**	**+0.1**
	comp=Z,1.2nm,1.1s,baz=313,slow=2.4,SNR=4.2							
BNN	**Bunyan**	**121.88**	**61**	PKPdf		**PKiKP**	**22 54 15.1**	**0.0**
WRA	**Warramunga Arr**	**123.69**	**211**	PKP		**PKPdf**	**22 54 17.3**	**-1.6**
	comp=Z,2.7nm,1.0s,baz=172,slow=2.5,SNR=10							
KBZ	**Khabaz**	**128.06**	**56**	PKP		**PKPdf**	**22 54 26.4**	**0.0**
	comp=Z,3.0nm,1.0s,baz=262,slow=9.8,SNR=5.5							
FITZ	**Fitzroy Crossi**	**128.76**	**203**	PKP		**PKPdf**	**22 54 27.6**	**-1.0**
	comp=Z,3.6nm,1.0s,baz=167,slow=5.4,SNR=4.1							
FITZ	**Fitzroy Crossi**	**128.76**	**203**			**PKPdf**	**22 54 27.6**	**-1.0**
PETK	**Petropavlovsk-**	**137.12**	**317**	PKP		**PKPdf**	**22 54 43.7**	**+0.5**
	comp=Z,5.6nm,1.0s,baz=180,slow=1.4,SNR=7.0							
PETK	**Petropavlovsk-**	**137.12**	**317**	PKPdf		**PKPdf**	**22 54 43.8**	**+0.6**
NRIK	**Noril'sk**	**139.29**	**11**	PKP		**PKPdf**	**22 54 47.6**	**+0.9**
	comp=Z,1.7nm,0.4s,baz=262,slow=4.6,SNR=3.8							
ABKAR	**Akbulak array**	**139.72**	**48**	PKPdf		**PKiKP**	**22 54 49.4**	**-1.1**
BRVK	**Borovoye**	**144.77**	**39**	PKPdf		**PKPdf**	**22 54 57.4**	**+0.5**
YAK	**Yakutsk**	**145.05**	**342**			**PKPbc**	**22 54 58.1**	**-0.4**
KBL	**Kabul**	**147.55**	**72**	PKPdf		**PKPdf**	**22 55 02.3**	**-0.3**
KBL				PKPab		**PKPab**	**22 55 07.0**	**-0.3**
KK31	**Karatay Array**	**148.10**	**56**			**PKPbc**	**22 55 06.9**	**+0.7**
TOLI2	**Tolitoli**	**148.29**	**206**			**PKPbc**	**22 55 06.3**	**-1.2**
EKS2	**Erkin-Say**	**150.53**	**56**	P		**PKiKP**	**22 55 14.0**	**+0.9**
	SNR=16							
AML	**Almayashu**	**150.60**	**57**	P		**PKiKP**	**22 55 14.3**	**+0.7**
	SNR=16							
HYB	**Hyderabad**	**150.84**	**109**	*i* PKP		**PKPbc**	**22 55 14.0**	**+0.3**
USP	**Ospenovka**	**150.90**	**54**	P		**PKiKP**	**22 55 14.4**	**+0.7**
	SNR=16							
NIL	**Nilore**	**150.99**	**74**			**PKiKP**	**22 55 14.0**	**-0.2**
AAK	**Ala-Archa**	**151.05**	**56**	P		**PKiKP**	**22 55 14.8**	**+0.5**
	SNR=17							
AAK	**Ala-Archa**	**151.05**	**56**	PKPdf		**PKPdf**	**22 55 09.3**	**+1.4**
AAK				PKPbc		**PKiKP**	**22 55 14.9**	**+0.7**
CHMS	**Chumysh**	**151.15**	**55**	P		**PKiKP**	**22 55 14.6**	**+0.4**
	SNR=8.0							
UCH	**Uchtor**	**151.17**	**57**	P		**PKiKP**	**22 55 15.7**	**+0.8**
	SNR=26							
ZAA0	**Zalesovo Array**	**151.30**	**28**	PKPbc		**PKiKP**	**22 55 14.1**	**-0.1**
ZALV	**Zalesovo Beam**	**151.30**	**28**	PKP		**PKPdf**	**22 55 07.9**	**+0.3**
	comp=Z,4.9nm,0.9s,baz=277,slow=2.4,SNR=13							
ZALV				PKPbc		**PKiKP**	**22 55 14.2**	**+0.1**
	comp=Z,26nm,0.7s,baz=304,slow=3.0,SNR=57							
ZALV	**Zalesovo Beam**	**151.30**	**28**	PKPbc		**PKiKP**	**22 55 13.9**	**-0.2**
KBK	**Karagaybulak**	**151.37**	**56**	P		**PKiKP**	**22 55 15.9**	**+1.0**
	SNR=6.3							
RPSI	**Rantau Prapat**	**151.43**	**162**			**PKPbc**	**22 55 14.8**	**-0.4**
KZA	**Kyzart**	**151.74**	**57**	P		**PKiKP**	**22 55 17.3**	**+1.3**
	SNR=5.7							
TKM2	**Tokmak 2**	**151.76**	**55**	P		**PKiKP**	**22 55 16.4**	**+0.7**
	SNR=11							
KSH	**Kashi**	**152.81**	**62**	PKPbc		**PKPdf**	**22 55 11.4**	**+0.8**
KSH				PP		**PP**	**22 59 02.8**	**+0.8**
KSH				SKS		**SKSdf**	**23 02 18.8**	**+0.3**
MJAR	**Matsushiro Arr**	**153.53**	**292**	PKPab		**PKPab**	**22 55 32.1**	**+0.4**
	comp=Z,3.6nm,0.9s,baz=120,slow=3.0,SNR=6.9							
MJAR	**Matsushiro Arr**	**153.53**	**292**	PKPab		**PKPab**	**22 55 32.8**	**+1.1**
MKAR	**Makanchi Array**	**154.57**	**43**	PKP		**PKPdf**	**22 55 12.5**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=29,slow=2.8,SNR=4.6							
MKAR				PKPbc		**pPKPbc**	**22 55 21.4**	**+0.4**
	comp=Z,3.2nm,1.0s,baz=318,slow=1.6,SNR=10							
MKAR	**Makanchi Array**	**154.57**	**43**	PKPdf		**PKPdf**	**22 55 12.4**	**-0.3**
MKAR				PKPbc		**PKPbc**	**22 55 21.1**	**0.0**
MKAR				PKPab		**pPKPab**	**22 55 36.0**	**+0.5**
USRK	**Ussuriysk Ar.**	**156.05**	**312**	PKPab		**PKPab**	**22 55 41.1**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=65,slow=7.8,SNR=3.3							
USRK	**Ussuriysk Ar.**	**156.05**	**312**			**PKPab**	**22 55 41.1**	**-1.0**
WMQ	**Urumqi**	**159.39**	**44**	*eP*		**PKPdf**	**22 55 19.5**	**+0.5**
KSRS	**Korea Array**	**161.47**	**298**	PKPab		**PKPab**	**22 56 07.0**	**+1.2**
	comp=Z,3.2nm,1.0s,baz=92,slow=4.5,SNR=5.0							
ULN	**Ulaanbaatar**	**162.44**	**1**	PKPab		**PKPab**	**22 56 11.4**	**+1.5**
SONM	**Songino Array**	**162.46**	**2**	PKP		**PKPdf**	**22 55 22.6**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=20,slow=4.6,SNR=3.6							
SONM				PKPab		**sPKPab**	**22 56 10.7**	**+1.1**
	comp=Z,3.1nm,0.9s,baz=338,slow=3.3,SNR=7.7							
SONM				PP		**PP**	**22 59 53.7**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=0.0,slow=4.6,SNR=5.0							
SONM	**Songino Array**	**162.46**	**2**	PKPdf		**PKPdf**	**22 55 22.6**	**+0.4**
GTA	**Gaotai**	**169.01**	**32**	⇓PKP		**PKPdf**	**22 55 28.4**	**+0.5**
GTA				pPKP		sPKPdf	22 55 36.0	+8.4
GTA				sPKP			22 55 39.0	
GTA				PKPab		**sPKPab**	**22 56 39.8**	**+1.0**
GTA				LR		LR		
	comp=N,150nm,19.6s							
GTA				LR		LR		
	comp=E,170nm,18.5s							
GTA				LR		LR		
	comp=Z,120nm,18.5s							
NJ2	**Nanjing**	**169.95**	**283**	*eP*		**PKPdf**	**22 55 28.1**	**-0.4**
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.5s							
CD2	**Chengdu**	**176.88**	**78**	PKP		**PKPdf**	**22 55 30.1**	**-1.1**

*NNC **18** 22:35:16.6±18.0, 39°.29N×73°.61E, h0km, mb4.1, mpv3.7,*
Error ellipse: s-maj=141.5km s-min=83.3km az=166.0
*SOME **18** 22:35:20.1, 39°.57N×73°.67E, h0km*
*KRNET **18** 22:35:24.8±0.1, 39°.06N×73°.75E, h35km, mb2.5*
ISC 18 22:35:26.5±3.3, 39°.1N±0°.1×73°.54E±0°.06, h14km±15km,
n15, σ1§80/27, 6C-6D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.90**	**358**	⇓*i*	*P*	**Pb**	**22 35 43.2**	**-0.9**
	baz=49							
SFK				⇓*i*	*S*	**Sg**	**22 35 56.9**	**+1.1**
	baz=49							
DRK	**Karamyk**	**1.40**	**286**	⇑*i*	*P*	**Pn**	**22 35 51.6**	**-0.4**
	baz=86							
DRK				⇑*i*	*S*	**Sb**	**22 36 11.0**	**+0.4**
	baz=86							
OHH	**Osh**	**1.52**	**338**	⇑*i*	*P*	**Pn**	**22 35 52.4**	**-1.1**
	baz=33							
OHH				⇑*i*	*S*	**Sn**	**22 36 12.6**	**-0.6**
	baz=33							
BTK	**Batken**	**2.31**	**295**	⇓*i*	*P*	**Pn**	**22 36 04.1**	**-0.1**
	baz=95							
BTK				⇓*i*	*S*	**Sn**	**22 36 33.2**	**+0.7**
	baz=95							
ARLS	**Aral**	**2.81**	**12**	⇓*i*	*P*	**Pn**	**22 36 09.6**	**-1.6**
	baz=9.0							
ARLS				⇓*i*	*S*	**Sn**	**22 36 41.5**	**-3.4**
	baz=9.0							
TRKS	**Terek-Say**	**3.03**	**323**	⇑*eP*		**Pn**	**22 36 13.2**	**-1.1**
	baz=21							
TRKS				⇑*i*	*S*	**Sn**	**22 36 47.9**	**-2.6**
	baz=21							
MRKS	**Merke**	**3.63**	**356**	*eP*		**Pn**	**22 36 23.5**	**+1.0**
	1.6nm,0.3s							
MRKS				*eS*		**Sn**	**22 37 09.4**	**+4.2**
	8.3nm,0.4s							
MRKS	**Merke**	**3.63**	**356**	Pg		**Pn**	**22 36 22.9**	**+0.4**
	4.3nm,0.2s							
MRKS				Lg		Lg	22 37 09.8	
	8.3nm,0.4s							
IUG	**Iuzhnay**	**4.04**	**320**	*eP*		**Pn**	**22 36 28.9**	**+0.8**
	31nm,0.4s							
IUG				*eS*		**Sn**	**22 37 19.0**	**+3.7**
	5.4nm,0.8s							
IUG	**Iuzhnay**	**4.04**	**320**	Pg		**Pn**	**22 36 27.6**	**-0.4**
	46nm,0.3s							
IUG				Lg		Lg	22 37 18.0	
	3.6nm,0.2s							
DZA	**Taraz**	**4.13**	**337**	*eP*		**Pn**	**22 36 27.4**	**-1.8**
	13nm,0.1s							
DZA				*eS*		**Sn**	**22 37 16.2**	**-1.2**
	38nm,0.1s							
KST	**Kastek**	**4.33**	**24**	*eP*		**Pn**	**22 36 31.3**	**-0.8**
	1.2nm,0.3s							
KST				*eS*		**Sn**	**22 37 22.8**	**+0.4**
	5.4nm,0.1s							
DGS	**Degeres**	**4.45**	**21**	*eP*		**Pn**	**22 36 33.7**	**0.0**
	0.6nm,0.5s							
DGS				*eS*		**Sn**	**22 37 27.1**	**+1.7**
	3.5nm,0.3s							
DGS	**Degeres**	**4.45**	**21**	Pg		**Pn**	**22 36 32.8**	**-0.9**
	1.0nm,0.5s							
DGS				Lg		Lg	22 37 27.0	
	2.5nm,0.8s							
IZV	**Izvestkoviy**	**4.55**	**30**	*eP*		**Pn**	**22 36 35.6**	**+0.4**
	2.2nm,0.4s							
IZV				*eS*		**Sn**	**22 37 30.3**	**+2.3**
	2.5nm,0.2s							

IDC 18 22:37:36.1±4.1, 6°.83S×147°.76E, h0km, mb3.4/2,
mb1 3.7/3, mb1mx3.4/47, mbtmp3.5/3, ML3.6/1, Error
ellipse: s-maj=132.4km s-min=49.8km az=117.0,
Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.43**	**224**	P		P	22 41 54.5	+1.2
	0.2nm,0.3s,baz=49,slow=11,SNR=5.6							
ASAR	**Alice Springs**	**21.39**	**217**	P		P	22 42 25.0	-0.5
	0.9nm,0.7s,baz=46,slow=10.0,SNR=8.9							
FITZ	**Fitzroy Crossi**	**24.30**	**241**	P		P	22 42 54.6	-0.9
	1.0nm,0.7s,baz=61,slow=11,SNR=1.8							
TORD	**Torodi Ar. Bea**	**146.02**	**283**	PKPbc		PKPbc	22 57 18.7	-0.3
	0.3nm,0.6s,baz=79,slow=4.0,SNR=1.9							

*KRSC **18** 22:40:23.6±1.9, 48°.10N×156°.16E, h15km±50km, ML4.4*
*IDC **18** 22:40:26.2±3.9, 48°.29N×154°.30E, h60km±34km, mb3.4/8,*
mb1 3.7/10, mb1mx3.4/63, mbtmp3.7/10, ML2.5/2, MS2.3/1,
Ms1 2.3/1, ms1mx2.2/32, Error ellipse: s-maj=32.6km
s-min=18.7km az=153.0
ISC 18 22:40:23.2±2.0, 48°.1N±0°.1×155°.4E±0°.2, h10km, n36,
σ1§30/26, mb3.6/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.66**	**10**	*eS*		**Sn**	**22 41 38.9**	**+0.5**
ALID	**Alaid**	**2.81**	**2**	*eP*		**Pn**	**22 41 07.7**	**-0.6**
PAU	**Pauzhetka**	**3.53**	**15**	*eP*		**Pn**	**22 41 18.9**	**+0.9**
PAU				*eS*		**Sn**	**22 42 00.4**	**+0.7**
KDTR	**Khodutka, Kamc**	**4.13**	**24**	*eP*		**Pn**	**22 41 26.8**	**+0.5**
KDTR				*eS*		**Sn**	**22 42 13.9**	**-0.7**
MIPR	**Malaya Ipel'ka**	**4.31**	**11**	*eP*		**Pn**	**22 41 29.1**	**+0.4**
ASAK	**Asacha**	**4.61**	**20**	*eP*		**Pn**	**22 41 34.4**	**+1.4**
MTVR	**Mutnovka**	**4.77**	**21**	*eP*		**Pn**	**22 41 36.5**	**+1.3**
MTVR				*eS*		**Sn**	**22 42 31.3**	**+0.7**
GRL	**Gorelyy**	**4.81**	**20**	*eP*		**Pn**	**22 41 37.4**	**+1.7**
RUS	**Russkaya**	**4.81**	**23**	*eP*		**Pn**	**22 41 35.9**	**+0.3**
RUS				*eS*		**Sn**	**22 42 29.3**	**-2.0**
PETK	**Petropavlovsk-**	**5.26**	**15**	P		**Pn**	**22 41 42.7**	**+0.9**
	1.4nm,0.3s,baz=191,slow=14,SNR=20							
PETK				LR		LR	22 43 31.8	
	comp=Z,34nm,21.7s,baz=189,slow=35							
DALK	**Dalny**	**5.41**	**22**	*eS*		**Sn**	**22 42 46.0**	**-0.2**
UGLR	**Uglovaya**	**5.59**	**22**	*eP*		**Pn**	**22 41 48.7**	**+2.2**
AVH	**Avacha**	**5.62**	**21**	*eP*		**Pn**	**22 41 48.2**	**+1.3**
KOK	**Koryaka**	**5.62**	**20**	*eP*		Pn	22 41 49.6	+2.7
KRER	**Koryakskii**	**5.66**	**21**	*eP*		**Pn**	**22 41 49.4**	**+1.9**
SDLR	**Sedlovina**	**5.67**	**22**	*eP*		**Pn**	**22 41 48.9**	**+1.3**
KRX	**Arik**	**5.69**	**20**	*eP*		**Pn**	**22 41 49.9**	**+2.1**
NLC	**Nalytchevo**	**5.70**	**25**	*eS*		**Sn**	**22 42 50.9**	**-2.3**
SPN	**Mys Shipunski**	**5.84**	**29**	*eP*		**Pn**	**22 41 50.6**	**+0.9**
MKZ	**Mys Kozlova**	**7.61**	**29**	*eP*		**Pn**	**22 42 14.7**	**+0.6**
KZV	**Kizimen**	**7.69**	**22**	*eP*		Pn	22 42 17.8	+2.5
USRK	**Ussuriysk Ar.**	**16.66**	**265**	P		Pn	22 44 04.8	-12
	baz=68,slow=16,SNR=1.7							
KSRS	**Korea Array**	**22.67**	**252**	P		P	22 45 16.5	-8.0
	1.4nm,0.7s,baz=51,slow=9.6,SNR=6.1							
H11N2	**WAKE ISLAND Hy**	**29.77**	**158**	T		T	23 18 07.0	
	baz=344,slow=76,SNR=19							
H11N1	**WAKE ISLAND Hy**	**29.78**	**158**	T		T	23 18 07.2	
	baz=344,slow=76,SNR=24							
H11N3	**WAKE ISLAND Hy**	**29.78**	**158**	T		T	23 18 00.5	
	baz=344,slow=76,SNR=19							
H11S1	**WAKE ISLAND Hy**	**30.89**	**159**	T		T	23 19 55.1	
	baz=344,slow=76,SNR=36							
H11S3	**WAKE ISLAND Hy**	**30.90**	**159**	T		T	23 19 40.6	
	baz=344,slow=76,SNR=40							
H11S2	**WAKE ISLAND Hy**	**30.91**	**159**	T		T	23 19 34.7	
	baz=344,slow=76,SNR=28							
ILAR	**Eielson Array**	**34.55**	**40**	P		**P**	**22 47 10.3**	**-1.1**
	0.9nm,1.0s,baz=258,slow=8.2,SNR=4.4							
ZALV	**Zalesovo Beam**	**43.10**	**305**	P		P	22 48 15.1	-8.1
	0.6nm,0.6s,baz=60,slow=8.5,SNR=2.1							
NVAR	**Mina Array Bea**	**60.46**	**64**	P		**P**	**22 50 34.0**	**+0.7**
	0.7nm,0.7s,baz=298,slow=7.6,SNR=5.4							
FINES	**FINESS Array B**	**63.49**	**335**	P		P	22 50 45.6	-7.4
	1.9nm,0.8s,baz=44,slow=5.8,SNR=4.4							
ASAR	**Alice Springs**	**73.97**	**200**	P		P	22 51 54.5	-4.1
	0.3nm,0.7s,baz=11,slow=6.1,SNR=2.7							
TXAR	**Lajitas Array**	**75.50**	**62**	P		**P**	**22 52 07.3**	**-0.5**
	0.7nm,0.7s,baz=294,slow=3.5,SNR=11							
GERES	**GERESS Array B**	**77.93**	**335**	P		P	22 52 14.5	-6.7
	0.3nm,0.5s,baz=47,slow=6.0,SNR=5.3							

*IDC **18** 22:53:09.3±1.9, 31°.27S×70°.93W, h0km, mb4.2/3,*
mb1 4.0/7, mb1mx3.8/29, mbtmp3.9/7, ML3.7/4, Error
ellipse: s-maj=79.0km s-min=24.0km az=103.0
*GUC **18** 22:53:12.7±0.8, 31°.25S×71°.65W, h36km±13km, ML4.2*
*NEIC **18** 22:53:12.6±1.5, 31°.23S±0°.05×72°.03W±0°.05, h49km±29km,*
Error ellipse: s-maj=7.7km s-min=4.5km az=217.0
ISC 18 22:53:12.7±1.1, 31°.23S±0°.04×71°.83W±0°.08, h41km±13km,
n50, σ1§46/44, mb4.2/3, 2C-4D, Near coast of central
Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.58**	**17**	⇑*i*	*P*	**Pn**	**22 53 24.9**	**+0.4**
CO06				*i*	S	**Sn**	**22 53 33.7**	**+0.8**
CO06				IAML			22 53 35.5	
	comp=N,19μm,0.3s							
CO06	**Fray Jorge**	**0.58**	**17**			**Pn**	**22 53 25.0**	**+0.4**
CO03	**El Pedregal**	**1.05**	**68**	⇓*i*	*P*	**Pn**	**22 53 30.9**	**-0.2**
CO03				*i*	S	**Sn**	**22 53 44.2**	**-0.4**
CO03				IAML			22 53 46.4	
	comp=E,9μm,0.2s							
CO03	**El Pedregal**	**1.05**	**68**			**Pn**	**22 53 30.9**	**-0.2**
GO04	**Tololo Observa**	**1.38**	**40**	⇓*i*	*P*	**Pn**	**22 53 36.9**	**+1.3**
GO04				*i*	S	**Sn**	**22 53 54.9**	**+2.0**
GO04				IAML			22 53 58.7	
	comp=E,14μm,0.3s							
GO04	**Tololo Observa**	**1.38**	**40**			**Pn**	**22 53 36.4**	**+0.8**
VA06	**Catapilco**	**1.40**	**161**	⇑*i*	*P*	**Pn**	**22 53 35.8**	**+0.1**
VA06				*i*	S	**Sn**	**22 53 52.5**	**-0.4**
VA06				IAML			22 53 57.1	
	comp=E,13μm,0.4s							
CO05	**La Serena**	**1.41**	**21**	*eP*		**Pn**	**22 53 37.5**	**+1.7**
CO05				*i*	S	**Sn**	**22 53 56.1**	**+3.0**
CO05				IAML			22 54 01.9	
	comp=N,2μm,0.5s							
CO05	**La Serena**	**1.41**	**21**			**Pn**	**22 53 37.2**	**+1.4**
VA01	**Torpederas**	**1.79**	**175**	*eP*		**Pn**	**22 53 40.9**	**-0.2**
VA01				IAML			22 54 10.6	
	comp=E,1μm,0.2s							
VA01	**Torpederas**	**1.79**	**175**			**Pn**	**22 53 40.9**	**-0.2**
VA03	**San Esteban**	**1.87**	**145**	⇓*i*	*P*	**Pn**	**22 53 43.5**	**+1.2**
VA03				*i*	S	**Sn**	**22 54 07.3**	**+2.5**
VA03				IAML			22 54 11.0	
	comp=N,4μm,0.3s							
VA03	**San Esteban**	**1.87**	**145**			**Pn**	**22 53 43.5**	**+1.2**
MT05	**Renca**	**2.34**	**157**	⇓*i*	*P*	**Pn**	**22 53 49.6**	**+0.9**
MT05				*i*	S	**Sn**	**22 54 18.1**	**+1.9**
MT05				IAML			22 54 29.1	
	comp=E,4μm,0.4s							
MT05	**Renca**	**2.34**	**157**			**Pn**	**22 53 49.2**	**+0.5**
LCO	**Las Campanas**	**2.42**	**24**			**Pn**	**22 53 51.8**	**+1.8**
VA05	**Santo Domingo**	**2.42**	**176**			**Pn**	**22 53 49.5**	**-0.3**
MT09	**Talagante**	**2.63**	**165**	IAML			22 54 33.5	
	comp=N,1μm,0.4s							
MT09	**Talagante**	**2.63**	**165**			**Pn**	**22 53 53.9**	**+1.1**
MT01	**Popeta**	**2.67**	**170**	Pn		**Pn**	**22 53 53.5**	**+0.4**
AC04	**Llanos de Chal**	**3.09**	**12**			**Pn**	**22 53 59.8**	**+0.8**
BO01	**Tunca**	**3.21**	**169**			**Pn**	**22 54 00.3**	**-0.3**
BO02	**Sierra Bellavi**	**3.66**	**166**	Pn		**Pn**	**22 54 07.3**	**+0.5**
GO03	**Copiap**	**3.88**	**21**	Pn		**Pn**	**22 54 11.0**	**+1.0**
AC06	**Mina Casimiro**	**4.07**	**19**			**Pn**	**22 54 13.3**	**+0.8**
ML02	**Panimavida**	**4.53**	**176**			**Pn**	**22 54 18.8**	**+0.1**
AC02	**Maricunga**	**4.98**	**29**	Pn		**Pn**	**22 54 26.6**	**+1.2**
H03N1	**Juan Fernandez**	**6.39**	**248**	T		T	23 01 29.6	
	baz=77,slow=72,SNR=980							
VA04	**Juan Fernndez**	**6.39**	**246**	Pn		**Pn**	**22 54 42.8**	**-1.5**
H03N3	**Juan Fernandez**	**6.40**	**248**	T		T	23 01 29.0	
	baz=77,slow=72,SNR=1194							
H03N2	**Juan Fernandez**	**6.40**	**248**	T		T	23 01 28.2	
	baz=77,slow=72,SNR=878							
H03S3	**Juan Fernandez**	**6.51**	**245**	T		T	23 01 56.8	
	baz=84,slow=75,SNR=8.7							
H03S1	**Juan Fernandez**	**6.52**	**245**	T		T	23 01 56.9	
	baz=84,slow=75,SNR=11							
H03S2	**Juan Fernandez**	**6.53**	**245**	T		T	23 01 52.0	
	baz=84,slow=75,SNR=7.8							
LC01	**Cunco**	**7.65**	**180**	Pn		**Pn**	**22 54 59.5**	**-2.0**
LVC	**Limon Verde**	**8.97**	**18**	Pn		**Pn**	**22 55 18.9**	**-1.2**
	comp=N,0.2nm,0.3s,baz=198,slow=13,SNR=0.9							
LVC	**Limon Verde**	**8.97**	**18**			**Pn**	**22 55 18.3**	**-1.8**
PLCA	**Paso Flores**	**9.54**	**174**	Pn		**Pn**	**22 55 27.8**	**+0.4**
	comp=N,0.4nm,0.3s,baz=338,slow=11,SNR=15							
LPAZ	**La Paz**	**15.26**	**14**	Pn		**Pn**	**22 56 46.8**	**+0.9**
	comp=N,0.1nm,0.3s,baz=190,slow=1.3,SNR=4.0							
SIV	**San Ignacio**	**18.07**	**35**	P		**Pn**	**22 57 16.2**	**-4.6**
	comp=N,0.1nm,0.3s,baz=268,slow=2.3,SNR=6.2							
QSPA	**South Pole Qui**	**58.99**	**180**	P		**P**	**23 03 10.1**	**+2.1**
	comp=N,0.7nm,0.6s,baz=147,slow=2.1,SNR=2.2							
DBIC	**Dimbokro**	**74.14**	**72**	P		**P**	**23 04 44.8**	**-0.5**
	comp=N,3.6nm,0.7s,baz=227,slow=4.5,SNR=3.3							
TORD	**Torodi Ar. Bea**	**83.11**	**70**	P		**P**	**23 05 33.1**	**-1.5**
	comp=N,1.8nm,0.7s,baz=261,slow=8.6,SNR=12							
H11S2	**WAKE ISLAND Hy**	**25.94**	**271**	T		T	01 31 00.0	
	baz=116,slow=75,SNR=28							
H11S1	**WAKE ISLAND Hy**	**25.96**	**271**	T		T	01 30 59.1	
	baz=116,slow=75,SNR=28							
H11S3	**WAKE ISLAND Hy**	**25.96**	**271**	T		T	01 30 59.9	
	baz=116,slow=75,SNR=22							
H11N3	**WAKE ISLAND Hy**	**26.29**	**272**	T		T	01 31 22.9	
	baz=116,slow=75,SNR=14							
H11N1	**WAKE ISLAND Hy**	**26.30**	**272**	T		T	01 31 24.1	
	baz=116,slow=75,SNR=6.4							
H11N2	**WAKE ISLAND Hy**	**26.31**	**272**	T		T	01 31 24.2	
	baz=116,slow=75,SNR=18							
ZALV	**Zalesovo Beam**	**151.77**	**30**	PKPbc		**PKiKP**	**23 13 04.1**	**+1.4**
	comp=N,3.2nm,0.5s,baz=299,slow=2.7,SNR=8.9							

*IDC **18** 23:02:22.2±0.9, 48°.12N×154°.97E, h0km, mb4.1/15,*
mb1 4.3/19, mb1mx4.1/39, mbtmp4.1/19, ML3.3/4, MS3.4/8,
Ms1 3.4/8, ms1mx3.1/44, Error ellipse: s-maj=22.4km
s-min=16.1km az=137.0
*SKHL **18** 23:02:24.7±0.5, 47°.80N×155°.50E, h54km±9km, mb5.0/9*
*MOS **18** 23:02:25.8±1.1, 48°.13N×155°.09E, h40km, mb4.6/9, Error*
ellipse: s-maj=8.7km s-min=6.0km az=78.3
*NEIC **18** 23:02:29.2±1.2, 48°.24N±0°.06×154°.8E±0°.1, h46km±5km,*
mb4.6/38, Error ellipse: s-maj=12.8km s-min=8.5km
az=110.0
ISC 18 23:02:25.8±0.5, 47°.93N±0°.06×155°.18E±0°.06, h33km, n222,
σ1§71/209, mb4.5/48, MS3.4/4, 14C-21D, East of Kuril
Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.82**	**12**	*ePN*		**Pn**	**23 03 07.6**	**-1.0**
SKR				pmax		pmax		
	comp=Z,206nm,0.5s							
SKR	**Severo-Kuril's**	**2.82**	**12**	*eP*		**Pn**	**23 03 07.4**	**-1.2**
SKR				AMB		AMB	23 03 13.0	
	comp=Z,206nm,0.5s							
SKR				*eS*		**Sn**	**23 03 39.0**	**-2.4**
SKR				A		A	23 03 51.0	
	comp=Z,518nm,0.4s							
SKR				A		A	23 03 51.0	
	comp=Z,660nm,0.4s							
PAU	**Pauzhetka**	**3.70**	**16**	*eP*		**Pn**	**23 03 20.2**	**-0.4**
PAU				AMB		AMB	23 03 29.3	
	comp=Z,270nm,0.5s							
PAU				*eS*		**Sn**	**23 04 01.5**	**-1.4**
PAU	

JAR	**Ashorobuto**	**9.24 244**	P	**Pn**	**23 04 38.0 +1.3**			
JWK2	**Keihoku**	**9.51 259**	P	Pn	23 04 47.0 +6.7			
JKA	**Kamikawa-asahi**	**9.55 251**	Pn	Pn	23 04 43.9 +3.0			
JKA	**Kamikawa-asahi**	**9.55 251**	*e*P	Pn	23 04 43.9 +3.0			
ASAJ	**Asahikawa**	**9.55 251**	Pn	Pn	23 04 44.7 +3.8			
	comp=Z,3.6nm,0.3s,baz=78,slow=14,SNR=26							
ASAJ			LR	LR	23 08 11.2			
	comp=Z,226nm,19.6s,baz=66,slow=37							
ASAJ	**Asahikawa**	**9.55 251**	P	Pn	23 04 44.6 +3.7			
ASAJ	**Asahikawa**	**9.55 251**	PN	Pn	23 04 43.9 +3.0			
JKK2	**Kamakawa 2**	**9.57 250**	P	**Pn**	**23 04 44.0 +2.8**			
OKH	**Okha**	**9.58 311**	*e*P	**Pn**	**23 04 44.8 +3.5**			
JCH	**Churui**	**9.88 242**	P	**Pn**	**23 04 44.8 -0.6**			
JCH			*e*S	**Sn**	**23 06 29.6 -5.5**			
ERM	**Erimo**	**10.37 240**⇑	*e*PN	**Pn**	**23 04 51.9 -0.2**			
ERM	**Erimo**	**10.37 240**	Pn	**Pn**	**23 04 53.4 +1.4**			
JNBK	**Urakawa-nobuka**	**10.44 242**	P	**Pn**	**23 04 51.5 -1.6**			
JNB	**Noboribetsu**	**11.37 247**	P	**Pn**	**23 05 05.7 -0.1**			
JKB	**Kayabe**	**11.70 244**	P	**Pn**	**23 05 08.8 -1.6**			
MA2	**Magadan**	**11.95 349**	Pn	**Pn**	**23 05 11.9 -1.8**			
	comp=Z,1.1nm,0.3s,baz=36,slow=16,SNR=2.2							
MA2			LR	LR	23 10 27.4			
	comp=Z,169nm,19.0s,baz=168,slow=41							
MA2	**Magadan**	**11.95 349**⇓	*e*PN	**Pn**	**23 05 15.3 +1.6**			
MA2	**Magadan**	**11.95 349**	*e*P	**Pn**	**23 05 15.3 +1.6**			
JYM2	**Yakumo 2**	**11.98 246**	P	**Pn**	**23 05 13.3 -0.8**			
JOSM	**Okushiri--Mats**	**12.55 248**	P	**Pn**	**23 05 21.4 -0.5**			
JRG	**Rokugo**	**13.53 236**	P	**Pn**	**23 05 32.4 -3.0**			
EKMR	**Ekimchan**	**15.03 298**	*e*P	**Pn**	**23 05 56.0 +0.4**			
EKMR			AMB	AMB	23 06 10.0			
	comp=Z,5.0nm,0.6s							
SEY	**Seymchan**	**15.12 355**	Pn	**Pn**	**23 05 54.9 -1.9**			
	comp=Z,0.2nm,0.3s,baz=186,slow=14,SNR=6.4							
KLR	**Kul'dur**	**15.55 284**	Pn	**P**	**23 06 05.0 -1.5**			
	comp=Z,0.2nm,0.3s,baz=86,slow=13,SNR=4.0							
KLR			LR	LR	23 12 17.2			
	comp=Z,165nm,19.0s,baz=66,slow=39							
KLR	**Kul'dur**	**15.55 284**	*de*P	**P**	**23 06 05.4 -1.0**			
KLR	**Kul'dur**	**15.55 284**	*e*P	**Pn**	**23 06 02.6 +0.1**			
JSD	**Sado**	**15.81 238**	Pn	**P**	**23 06 09.2 -0.2**			
JSD			IAmb	IAmb	23 06 28.5			
	comp=Z,71nm,1.4s							
USA0B	**Ussuriysk Arra**	**16.51 266**	P	**Pn**	**23 06 13.9 -0.8**			
USA0B			pmax	pmax				
	comp=Z,14nm,1.4s							
USA0B	**Ussuriysk Arra**	**16.51 266**	Pn	**Pn**	**23 06 13.9 -0.8**			
USRK	**Ussuriysk Ar.**	**16.51 266**	Pn	**P**	**23 06 15.3 -1.7**			
	baz=66,slow=12,SNR=12							
USRK	**Ussuriysk Ar.**	**16.51 266**	Pn	**P**	**23 06 14.6 -2.5**			
MJA0	**Matsu Arr-Jizo**	**16.89 234**	*e*P	**P**	**23 06 24.1 +2.7**			
MJAR	**Matsushiro Arr**	**16.91 234**	Pn	**Pn**	**23 06 18.6 -1.3**			
	comp=Z,0.1nm,0.3s,baz=34,slow=13,SNR=6.0							
MAJO	**Matsushiro**	**16.91 234**⇑	*e*P	**P**	**23 06 21.6 0.0**			
MAJO			pmax	pmax				
	comp=Z,7.0nm,0.9s							
MAJO	**Matsushiro**	**16.91 234**	Pn	**P**	**23 06 20.5 -1.1**			
MAT	**Matsushiro**	**16.91 234**	P	**Pn**	**23 06 18.1 -1.8**			
JWT	**Wachi**	**19.38 237**	P	**Pn**	**23 06 50.1 +0.1**			
JWT			IAmb	IAmb	23 07 06.5			
	comp=Z,48nm,1.3s							
YAK	**Yakutsk**	**20.14 324**	LR	LR	23 14 40.0			
	comp=Z,68nm,21.6s,baz=88,slow=37							
YAK	**Yakutsk**	**20.14 324**	*e*P	Pn	23 06 57.0 -1.8			
YAK			pmax	pmax				
	comp=Z,16nm,1.1s							
YAK			pmax	pmax				
	comp=N,5.0nm,1.5s							
YAK			pmax	pmax				
	comp=E,6.0nm,1.4s							
YAK	**Yakutsk**	**20.14 324**	*e*P	Pn	23 06 57.0 -1.8			
JHS	**Saijyo**	**20.89 240**	P	Pn	23 07 09.1 +1.2			
BILL	**Bilibino**	**20.94 12**⇓	*e*P	**P**	**23 07 03.5 -1.9**			
BILL			pmax	pmax				
	comp=Z,7.0nm,1.0s							
BILL	**Bilibino**	**20.94 12**	*e*P	**P**	**23 07 03.5 -1.9**			
JMN	**Monobe**	**21.38 236**	P	**P**	**23 07 13.1 +2.7**			
JMN			IAmb	IAmb	23 07 13.9			
	comp=Z,31nm,1.3s							
KSRS	**Korea Array**	**22.49 252**	P	**P**	**23 07 23.4 +1.1**			
	comp=Z,7.5nm,0.5s,baz=51,slow=10,SNR=23							
KSRS			LR	LR	23 16 49.5			
	comp=Z,85nm,19.5s,baz=24,slow=39							
KS19	**Wonju Array Si**	**22.50 252**	P	**P**	**23 07 23.4 +0.9**			
KS19			IAmb	IAmb	23 07 29.4			
	comp=Z,26nm,1.3s							
KSAR	**Wonju Array Be**	**22.53 252**	P	**P**	**23 07 23.3 +0.6**			
KSAR	**Wonju Array Be**	**22.53 252**	P	**P**	**23 07 23.3 +0.6**			
TJN	**Taejon**	**23.50 251**⇑	*e*P	**P**	**23 07 35.9 +3.3**			
BJI	**Beijing**	**28.90 269**	P	**P**	**23 08 22.5 +1.0**			
BJI			pmax	pmax				
	comp=Z,6.0nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**29.69 157**	T	T	23 40 09.0			
	baz=344,slow=76,SNR=89							
H11N1	**WAKE ISLAND Hy**	**29.71 157**	T	T	23 40 11.8			
	baz=344,slow=76,SNR=241							
H11N3	**WAKE ISLAND Hy**	**29.71 157**	T	T	23 40 01.1			
	baz=344,slow=76,SNR=78							
H11S1	**WAKE ISLAND Hy**	**30.81 158**	T	T	23 41 39.3			
	baz=344,slow=76,SNR=681							
H11S3	**WAKE ISLAND Hy**	**30.82 158**	T	T	23 41 35.9			
	baz=344,slow=76,SNR=891							
H11S2	**WAKE ISLAND Hy**	**30.83 158**	T	T	23 41 36.6			
	baz=344,slow=76,SNR=716							
NJ2	**Nanjing**	**31.68 253**	*e*P	P	23 08 50.0 +3.9			
NJ2			pmax	pmax				
	comp=Z,5.0nm,0.5s							
SONM	**Songino Array**	**32.28 288**	P	**P**	**23 08 50.6 -0.9**			
	comp=Z,0.5nm,0.3s,baz=97,slow=8.2,SNR=4.5							
SONM			LR	LR	23 22 52.0			
	comp=Z,114nm,19.0s,baz=90,slow=38							
SONM	**Songino Array**	**32.28 288**	*e*P	**P**	**23 08 51.2 -0.2**			
SONM			pmax	pmax				
	comp=Z,1.0nm,0.3s							
SONM	**Songino Array**	**32.28 288**	P	**P**	**23 08 49.5 -1.9**			
ILAR	**Eielson Array**	**34.75 40**	P	**P**	**23 09 14.5 +2.0**			
	comp=Z,0.4nm,0.6s,baz=251,slow=5.6,SNR=3.5							
ILAR	**Eielson Array**	**34.75 40**	P	**P**	**23 09 14.1 +1.6**			
ILAR	**Eielson Array**	**34.75 40**	P	**P**	**23 09 14.1 +1.6**			
GLI	**Glacier Island**	**34.80 46**	P	**P**	**23 09 15.1 +2.1**			
ENH	**Enshi**	**38.96 260**	P	**P**	**23 09 49.7 +1.0**			
ENH			IAmb	IAmb	23 09 50.6			
	comp=Z,7.9nm,1.0s							
GTA	**Gaotai**	**40.18 279**	*e*P	**P**	**23 10 01.3 +2.4**			
GTA			pP	pwP	23 10 10.1 -1.7			
GTA			sP	sP	23 10 14.1 +3.5			
GTA			pmax	pmax				
	comp=Z,3.0nm,1.5s							
ZALV	**Zalesovo Beam**	**43.07 305**	P	**P**	**23 10 20.6 -1.6**			
	comp=Z,1.2nm,0.5s,baz=68,slow=6.3,SNR=5.7							
ZALV	**Zalesovo Beam**	**43.07 305**	P	**P**	**23 10 19.7 -2.5**			
DGZ	**Jazzator, Alta**	**43.27 299**⇑	*i*P	**P**	**23 10 23.7 -0.4**			
DGZ			pmax	pmax				
	comp=Z,2.0nm,0.6s							
WMQ	**Urumqi**	**45.81 291**	*e*P	**P**	**23 10 45.6 +1.2**			
MK31	**Makanchi Array**	**47.65 297**	P	**P**	**23 10 57.3 -1.4**			
MK31			pmax	pmax				
	comp=Z,4.0nm,0.9s							
MK31	**Makanchi Array**	**47.65 297**	P	**P**	**23 10 57.3 -1.4**			
MK31			IAmb	IAmb	23 10 58.7			
	comp=Z,4.4nm,0.8s							
MKAR	**Makanchi Array**	**47.65 297**	P	**P**	**23 10 57.8 -0.9**			
	comp=Z,4.9nm,0.7s,baz=66,slow=7.8,SNR=33							
MKAR	**Makanchi Array**	**47.65 297**	P	**P**	**23 10 57.3 -1.4**			
EUNU	**Eureka**	**47.69 12**	P	**P**	**23 10 59.4 +0.9**			
MAKZ	**Makanchi**	**47.83 297**	P	**P**	**23 10 59.0 -1.1**			
MAKZ			pmax	pmax				
	comp=Z,6.0nm,1.3s							
MAKZ	**Makanchi**	**47.83 297**	P	**P**	**23 10 59.0 -1.1**			
YKA	**Yellowknife Ar**	**49.13 38**	*i*P	**P**	**23 11 08.0 -1.8**			
YKA			pmax	pmax				
	comp=Z,1.0nm,0.5s							
BRVK	**Borovoye**	**51.23 310**	*d*P	**P**	**23 11 24.8 -1.1**			
BRVK			pmax	pmax				
	comp=Z,2.0nm,0.8s							
BRVK	**Borovoye**	**51.23 310**	P	**P**	**23 11 24.2 -1.6**			
BRVK			IAmb	IAmb	23 11 25.4			
	comp=Z,4.0nm,0.6s							
BRVK	**Borovoye**	**51.23 310**	*e*P	**P**	**23 11 24.8 -1.1**			
CHTO	**Chiang Mai**	**53.75 258**	P	**P**	**23 11 45.6 +0.6**			
CHTO			pmax	pmax				
	comp=Z,7.0nm,1.2s							
CHTO	**Chiang Mai**	**53.75 258**	P	**P**	**23 11 45.6 +0.6**			
CHTO			IAmb	IAmb	23 11 48.0			
	comp=Z,6.8nm,1.1s							
SHL	**Shillong**	**53.80 269**	P	**P**	**23 11 45.4 -0.1**			
SHL			pmax	pmax				
	comp=Z,15nm,0.7s							
SHL	**Shillong**	**53.80 269**	P	**P**	**23 11 45.4 -0.1**			
NEEM	**North Greenlan**	**53.83 7**	*i*P	**P**	**23 11 45.0 -0.1**			
NEEM			IAmb	IAmb	23 11 46.9			
	comp=Z,9.8nm,0.7s							
CMAR	**Chiang Mai Arr**	**54.01 257**	P	**P**	**23 11 48.6 +1.8**			
	comp=Z,2.0nm,0.7s,baz=33,slow=6.9,SNR=10							
CMAR	**Chiang Mai Arr**	**54.01 257**	P	**P**	**23 11 47.8 +1.0**			
CMAR	**Chiang Mai Arr**	**54.01 257**	P	**P**	**23 11 47.8 +1.0**			
AAK	**Ala-Archa**	**54.56 297**⇓	*e*P	**P**	**23 11 50.2 -0.6**			
AAK			pmax	pmax				
	comp=Z,10.0nm,0.8s							
AAK	**Ala-Archa**	**54.56 297**	*e*P	**P**	**23 11 50.2 -0.6**			
ARU	**Arti**	**55.09 318**	*d*P	**P**	**23 11 52.7 -1.5**			
ARU			S	**S**	**23 19 33.3 -0.9**			
ARU			SS	**SS**	**23 23 07.6 -10**			
ARU			pmax	pmax				
	comp=Z,5.0nm,0.8s							
ARU	**Arti**	**55.09 318**	*e*P	**P**	**23 11 52.7 -1.5**			
ARCES	**ARCESS Array B**	**57.20 341**	P	**P**	**23 12 09.4 +0.4**			
	comp=Z,3.9nm,0.9s,baz=30,slow=9.8,SNR=3.6							
ARCES	**ARCESS Array B**	**57.20 341**	IAmb	IAmb	23 12 11.1			
	comp=Z,9.4nm,1.1s							
ABKAR	**Akbulak array**	**58.74 310**	P	**P**	**23 12 19.1 -1.0**			
ABKAR	**Akbulak array**	**58.74 310**	P	**P**	**23 12 19.2 -1.0**			
ABKAR			IAmb	IAmb	23 12 19.9			
	comp=Z,3.3nm,0.6s							
GAR	**Garm**	**59.29 295**	P	**P**	**23 12 23.2 -1.0**			
SUMG	**Summit**	**59.42 5**	P	**P**	**23 12 24.9 -0.1**			
SUMG			pmax	pmax				
	comp=Z,11nm,0.8s							
SUMG	**Summit**	**59.42 5**	P	**P**	**23 12 24.9 -0.1**			
YERR	**Yerington**	**59.73 64**	P	**P**	**23 12 29.0 +1.6**			
CHGR	**Chuyangaron**	**60.20 296**	P	**P**	**23 12 29.9 -0.7**			
FINES	**FINESS Array B**	**63.56 335**	P	**P**	**23 12 51.8 -0.8**			
	comp=Z,1.5nm,0.3s,baz=40,slow=8.0,SNR=18							
FINES	**FINESS Array B**	**63.56 335**	*e*P	**P**	**23 12 52.3 -0.3**			
FINES			pmax	pmax				
	comp=Z,2.0nm,0.3s							
NB2	**NORSAR Subarra**	**67.55 342**	P	**P**	**23 13 18.1 -0.4**			
	comp=Z,1.5nm,0.6s,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**67.55 342**	P	**P**	**23 13 18.1 -0.4**			
	comp=Z,1.1nm,0.6s,baz=32,slow=6.8,SNR=5.3							
NOA			LR	LR	23 47 22.2			
	comp=Z,35nm,18.8s,baz=240,slow=40							
WRAB	**Tennant Creek**	**70.09 201**	P	P	23 13 38.8 +4.2			
WRAB			pmax	pmax				
	comp=Z,156nm,1.5s							
WRAB	**Tennant Creek**	**70.09 201**	P	P	23 13 38.8 +4.2			
KBZ	**Khabaz**	**71.04 315**	P	**P**	**23 13 40.4 +0.2**			
	comp=Z,1.4nm,0.7s,baz=83,slow=4.0,SNR=4.0							
KBZ	**Khabaz**	**71.04 315**	*e*P	**P**	**23 13 42.3 +2.1**			
KBZ			pmax	pmax				
	comp=Z,1.0nm,0.7s							
AKASG	**Malin Array Be**	**71.33 327**	P	**P**	**23 13 41.4 -0.5**			
	comp=Z,1.7nm,0.5s,baz=33,slow=6.0,SNR=3.5							
ASAR	**Alice Springs**	**73.79 200**	P	**P**	**23 13 58.3 +1.6**			
	comp=Z,0.6nm,0.8s,baz=12,slow=6.0,SNR=7.0							
KOLS	**Kolonicke sedl**	**75.26 330**	*e*P	**P**	**23 14 05.9 +0.8**			
BUR08	**Bucovina Ar. S**	**75.34 328**	P	**P**	**23 14 05.3 -0.4**			
BUR08			IAmb	IAmb	23 14 06.7			
	comp=Z,5.4nm,0.8s							
BURAR	**Bucovina Array**	**75.36 328**	⇑P	**P**	**23 14 05.9 0.0**			
BURAR	**Bucovina Array**	**75.36 328**	IAmb	IAmb	23 14 07.1			
	comp=Z,6.5nm,0.8s							
KSP	**Ksiaz**	**75.46 334**	*e*P	**P**	**23 14 07.0 +0.8**			
CRVS	**Cervenica-Dubn**	**75.56 330**	*e*P	**P**	**23 14 07.2 +0.4**			
BIZ	**Bicaz**	**75.61 327**	⇓P	**P**	**23 14 07.6 +0.4**			
TX31	**Lajitas Ar. Si**	**75.69 62**	P	**P**	**23 14 09.6 +1.6**			
TX31			IAmb	IAmb	23 14 11.6			
	comp=Z,12nm,1.5s							
TX32	**Lajitas Array**	**75.69 62**	P	**P**	**23 14 08.9 +0.9**			
TXAR	**Lajitas Array**	**75.69 62**	P	**P**	**23 14 09.7 +1.6**			
	comp=Z,1.0nm,0.5s,baz=300,slow=5.0,SNR=30							
TXAR	**Lajitas Array**	**75.69 62**	P	**P**	**23 14 09.5 +1.5**			
TXAR	**Lajitas Array**	**75.69 62**	P	**P**	**23 14 09.5 +1.5**			
OSTC	**Ostas**	**75.74 334**	*e*P	**P**	**23 14 07.9 +0.1**			
CHVC	**Chvalec**	**75.75 335**	*e*P	**P**	**23 14 08.1 +0.2**			
TESR	**Tescani**	**75.77 326**	⇓P	**P**	**23 14 07.9 -0.1**			
VLDR	**Vladesti**	**75.78 325**	⇑P	**P**	**23 14 08.6 +0.5**			
VARL	**Varlezi**	**75.82 325**	⇑P	**P**	**23 14 08.8 +0.5**			
UPC	**Upice**	**75.84 334**	*e*P	**P**	**23 14 08.1 -0.3**			
UPC	**Upice**	**75.84 334**	*e*P	**P**	**23 14 08.1 -0.3**			
TRPA	**Tarpa**	**75.86 329**	⇓P	**P**	**23 14 09.0 +0.5**			
DPC	**Dobruska-Polom**	**75.89 334**	*e*P	**P**	**23 14 09.4 +0.7**			
DPC	**Dobruska-Polom**	**75.89 334**	*e*P	**P**	**23 14 09.4 +0.7**			
CLL	**Collm**	**75.96 337**	*i*P	**P**	**23 14 09.0 0.0**			
	comp=Z,9.0nm,0.9s							
CLL			*e*		23 14 18.0			
CLL	**Collm**	**75.96 337**	*i*P	**P**	**23 14 09.0 0.0**			
CLL			*e*		23 14 18.0			
CLL			pmax	pmax				
	comp=Z,9.0nm,0.9s							
CLL	**Collm**	**75.96 337**	IAmb	IAmb	23 14 10.0			
	comp=Z,7.9nm,0.8s							
LANS	**Liptovska Anna**	**75.99 332**	*e*P	**P**	**23 14 11.1 +1.8**			
KRLC	**Kraliky**	**76.00 334**	*e*P	**P**	**23 14 09.5 +0.2**			
KRLC	**Kraliky**	**76.00 334**	*e*P	**P**	**23 14 09.5 +0.2**			
MORC	**Moravsky Berou**	**76.04 333**	P	**P**	**23 14 09.2 -0.4**			
MORC			pmax	pmax				
	comp=Z,7.0nm,0.9s							
MORC	**Moravsky Berou**	**76.04 333**	P	**P**	**23 14 09.2 -0.4**			
MORC			IAmb	IAmb	23 14 11.6			
	comp=Z,7.3nm,0.9s							
MORC	**Moravsky Berou**	**76.04 333**	*e*P	**P**	**23 14 10.1 +0.5**			
BRG	**Berggiesshubel**	**76.09 336**	*e*P	**P**	**23 14 10.4 +0.6**			
BRG			Amp		23 14 11.0			
	comp=Z,7.5nm,1.2s							
BRG			Amp		23 22 22.0			
	comp=Z,0.2nm,20.6s							
DIKM	**Dikmen**	**76.20 318**	P	**P**	**23 14 10.4 -0.2**			
CFR	**Carcaliu**	**76.31 324**	⇓P	**P**	**23 14 11.4 +0.3**			
TPGR	**Topolog**	**76.47 324**	⇑P	**P**	**23 14 12.6 +0.5**			
U40A	**Yellville**	**76.48 50**	P	**P**	**23 14 12.2 -0.1**			
U40A			IAmb	IAmb	23 14 25.9			
	comp=Z,4.7nm,0.8s							
COVR	**Voineasa-Covas**	**76.49 326**	⇓P	**P**	**23 14 11.1 -1.1**			
PRU	**Pruhonice**	**76.72 335**	*e*P	**P**	**23 14 13.9 +0.5**			
PRU	**Pruhonice**	**76.72 335**	*e*P	**P**	**23 14 13.9 +0.5**			
VRAC	**Vranov**	**76.74 334**	⇓P	**P**	**23 14 14.2 +0.7**			
VRAC	**Vranov**	**76.74 334**	*e*P	**P**	**23 14 14.2 +0.7**			
HARR	**Harsova**	**76.80 324**	⇑P	**P**	**23 14 14.3 +0.4**			
JAVC	**Velka Javorina**	**76.81 333**	*e*P	**P**	**23 14 15.6 +1.6**			
MLR	**Muntele Rosu**	**76.89 326**	⇓P	**P**	**23 14 15.2 +0.6**			
MLR	**Muntele Rosu**	**76.89 326**	P	**P**	**23 14 14.4 -0.2**			
MLR			pmax	pmax				
	comp=Z,6.0nm,0.7s							
MLR	**Muntele Rosu**	**76.89 326**	P	**P**	**23 14 14.4 -0.2**			
MLR			IAmb	IAmb	23 14 16.6			
	comp=Z,5.6nm,0.7s							
DRGR		**76.96 329**	⇓P	**P**	**23 14 15.0 +0.1**			
ISR	**Istrita**	**76.98 325**	⇓P	**P**	**23 14 16.1 +1.1**			
KRUC	**Moravsky**	**77.02 334**	*e*P	**P**	**23 14 15.7 +0.6**			
VOIR		**77.27 327**	⇓P	**P**	**23 14 17.1 +0.5**			
ARR	**Arges**	**77.48 327**	⇑P	**P**	**23 14 18.9 +1.1**			
UOSS	**Minazif**	**77.58 293**	P	**P**	**23 14 18.1 -0.5**			
KHC	**Kasperske Hory**	**77.77 335**	*e*P	**P**	**23 14 19.7 +0.4**			
KHC			*e*		23 14 34.1			
KHC	**Kasperske Hory**	**77.77 335**	*e*P	**P**	**23 14 19.7 +0.4**			
KHC			*e*pP	**pwP**	**23 14 34.1 +1.1**			
CKRC	**Cesky Krumlov**	**77.84 335**	*e*P	**P**	**23 14 20.1 +0.4**			
GERES	**GERESS Array B**	**78.00 335**	P	**P**	**23 14 21.4 +0.7**			
	comp=Z,2.1nm,0.7s,baz=33,slow=5.9,SNR=19							
GZR	**Gura Zlata**	**78.14 329**	⇓P	**P**	**23 14 21.3 -0.1**			
BNN	**Bunyan**	**78.17 316**	P	**P**	**23 14 21.2 -0.6**			
CONA	**Conrad Observa**	**78.19 333**	*e*P	**P**	**23 14 22.8 +1.1**			
	comp=Z,6.9nm,1.4s							
MEM	**Membach**	**78.32 341**	*d*P	**P**	**23 14 22.8 +0.5**			
BZS	**Buzias**	**78.35 329**	⇑P	**P**	**23 14 22.9 +0.3**			
BR131	**Keskin Array S**	**78.48 318**	P	**P**	**23 14 23.4 -0.1**			
BR131			pmax	pmax				
	comp=Z,8.0nm,1.0s							
BR131	**Keskin Array S**	**78.48 318**	P	**P**	**23 14 23.4 -0.1**			
BR131			IAmb	IAmb	23 14 25.1			
	comp=Z,7.7nm,0.9s							
BRTR	**Keskin Array B**	**78.48 318**	P	**P**	**23 14 24.2 +0.7**			
	comp=Z,2.8nm,0.8s,baz=117,slow=1.9,SNR=13							
BRTR	**Keskin Array B**	**78.48 318**	P	**P**	**23 14 24.1 +0.6**			
MOA	**Molln**	**78.73 334**	*e*P	**P**	**23 14 25.2 +0.6**			
	comp=Z,3.3nm,0.8s							
SOKA	**Soboth**	**79.56 333**	*i*P	**P**	**23 14 30.8 +1.5**			
	comp=Z,7.1nm,1.2s							
WATA	**Walderalm**	**79.96 336**	*i*P	**P**	**23 14 33.1 +1.6**			
	comp=Z,8.9nm,1.0s							
WTTA	**Wattenberg**	**80.01 336**	*i*P	**P**	**23 14 33.6 +1.8**			
	comp=Z,10nm,1.1s							
MOTA	**Moosalm**	**80.08 336**	*e*P	**P**	**23 14 34.0 +1.8**			
	comp=Z,11nm,1.1s							
SQTA	**Sankt Quirin**	**80.17 336**	*e*P	**P**	**23 14 34.5 +1.9**			
	comp=Z,7.5nm,1.1s							
DIVS	**Divibare**	**80.24 329**	P	**P**	**23 14 31.5 -1.5**			
VTS	**Vitosha**	**80.36 326**	⇓P	**P**	**23 14 34.5 +0.7**			
VTS	**Vitosha**	**80.36 326**	P	**P**	**23 14 33.6 -0.1**			
VTS			pmax	pmax				
	comp=Z,5.0nm,0.7s							
VTS	**Vitosha**	**80.36 326**	P	**P**	**23 14 33.6 -0.1**			
VTS			IAmb	IAmb	23 14 35.7			
	comp=Z,5.1nm,0.7s							
DAVA	**Damuels**	**80.46 337**	*i*P	**P**	**23 14 35.8 +1.6**			
	comp=Z,4.6nm,1.2s							
TORD	**Torodi Ar. Bea**	**114.77 331**	PKP	PKPdf	23 21 03.1 0.0			
	comp=Z,0.3nm,0.6s,baz=332,slow=1.6,SNR=1.4							
CPUP	**Villa Florida**	**146.66 61**	PKPbc	**PKiKP**	**23 22 05.2 -1.5**			
	comp=Z,0.7nm,0.4s,baz=270,slow=1.0,SNR=1.0							
SNAA	**Sanae**	**154.07 196**	PKPdf	**PKiKP**	**23 22 20.5 -0.2**			
VNA2	**Neumayer--Watz**	**155.49 194**	PKPdf	PKPdf	23 22 22.3 +7.9			

*IDC **18** 23:21:49.3±1.8, 29.96S×71.70W, h0km, mb4.0/4, mb1 4.0/7, mb1mx3.8/27, mbtmp3.9/7, ML3.6/3, MS2.7/2, Ms1 2.7/2, ms1mx2.5/22, Error ellipse: s-maj=65.7km s-min=22.8km az=100.0*

ISC 18 23:21:50.8±1.8, 30.0S±0.1×71.7W±0.4, h10km, n17, σ1°15/11, mb4.0/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H03N1	**Juan Fernandez**	**7.04**	**239**	T	T	23 30 41.7	
	baz=69,slow=72,SNR=30						
H03N2	**Juan Fernandez**	**7.05**	**239**	T	T	23 30 46.1	
	baz=69,slow=72,SNR=26						
H03N3	**Juan Fernandez**	**7.05**	**239**	T	T	23 30 44.1	
	baz=69,slow=72,SNR=32						
LVC	**Limon Verde**	**7.75**	**20**	Pn	**Pn**	**23 23 42.0 -2.0**	
	0.4nm,0.3s,baz=166,slow=4.4,SNR=1.6						
LVC				Sn	**Sn**	**23 25 12.3 +0.3**	
	0.9nm,0.3s,baz=58,slow=19,SNR=3.3						
PLCA	**Paso Flores**	**10.79**	**175**	Pn	**Pn**	**23 24 25.9 +0.5**	
	0.1nm,0.3s,baz=347,slow=11,SNR=5.0						
CPUP	**Villa Florida**	**13.20**	**78**	LR	LR	23 29 40.8	
	comp=Z,1nm,20.2s,baz=234,slow=36						
LPAZ	**La Paz**	**14.01**	**14**	Pn	**Pn**	**23 25 11.6 +1.7**	
	0.2nm,0.3s,baz=200,slow=4.5,SNR=4.7						
SIV	**San Ignacio**	**17.00**	**37**	Pn	**P**	**23 25 51.3 +0.6**	
	0.4nm,0.3s,baz=229,slow=8.2,SNR=14						
SIV				LR	LR	23 32 09.2	
	comp=Z,61nm,18.8s,baz=142,slow=36						
BDFB	**Brasilia**	**26.02**	**62**	P	**P**	**23 27 24.1 -0.2**	
	2.2nm,0.6s,baz=247,slow=10,SNR=3.1						
SNAA	**Sanae**	**55.23**	**159**	P	**P**	**23 31 23.2 -0.4**	
	0.3nm,0.5s,baz=284,slow=11,SNR=6.1						
DBIC	**D

WRA	**Warramunga Arr**	**33.31**	**267**	IAmb	IAmb	23 28 39.4	
	comp=Z,0.1nm,0.8s						
MTN	**Manton Dam**	**38.11**	**277**	P	**P**	**23 29 20.6**	**+0.4**
MTN				IAmb	IAmb	23 29 37.0	
	comp=Z,8.2nm,0.8s						
FORT	**Forrest**	**38.36**	**248**	P	**P**	**23 29 21.1**	**-1.0**
KNRA	**Kununurra**	**39.45**	**272**	P	**P**	**23 29 31.7**	**+0.3**
KNRA				IAmb	IAmb	23 29 50.9	
	comp=Z,16nm,1.1s						
FITZ	**Fitzroy Crossi**	**41.74**	**267**	P	**P**	**23 29 50.7**	**+0.3**
FITZ				IAmb	IAmb	23 30 08.0	
	comp=Z,10nm,0.9s						
NWAO	**Narrogin (SRO)**	**47.60**	**245**	P	**P**	**23 30 37.2**	**+0.2**
TAOE	**Nuku Hiva Isla**	**49.60**	**83**	P	**P**	**23 30 53.7**	**+1.0**
DAV	**Davao City (W)**	**52.29**	**299**	LR	LR	23 52 02.4	
	comp=Z,99nm,18.4s,baz=107,slow=34						
TOLI2	**Tolitoli**	**53.24**	**289**	P	**P**	**23 31 20.2**	**+0.4**
TOLI2				IAmb	IAmb	23 31 37.3	
	comp=Z,8.4nm,1.0s						
JAGI	**Jajag, Banyuwa**	**55.27**	**275**	P	**P**	**23 31 34.0**	**-0.6**
VNDA	**Vanda**	**55.61**	**182**	P	**P**	**23 31 36.5**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=335,slow=7.1,SNR=2.2						
VNDA				LR	LR	23 52 47.6	
	comp=Z,80nm,19.1s,baz=0.0,slow=33						
VNDA	**Vanda**	**55.61**	**182**	P	**P**	**23 31 37.6**	**+1.4**
JCJ	**Chichijima**	**55.82**	**330**	P	**P**	**23 31 38.4**	**+0.1**
SBA	**Scott Base**	**55.83**	**181**	P	**P**	**23 31 39.3**	**+1.6**
SBA				IAmb	IAmb	23 31 40.6	
	comp=Z,3.9nm,1.0s						
CASY	**Casey**	**57.81**	**204**	P	**P**	**23 31 52.9**	**+1.0**
CASY				IAmb	IAmb	23 32 03.8	
	comp=Z,4.0nm,1.1s						
MJAR	**Matsushiro Arr**	**65.60**	**332**	P	**P**	**23 32 44.5**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=165,slow=7.5,SNR=5.2						
QSPA	**South Pole Qui**	**67.97**	**180**	P	**P**	**23 32 59.8**	**0.0**
QSPA				IAmb	IAmb	23 33 05.5	
	comp=Z,4.2nm,1.1s						
KSRS	**Korea Array**	**71.26**	**326**	P	**P**	**23 33 20.9**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=152,slow=6.5,SNR=7.3						
USRK	**Ussuriysk Ar.**	**74.59**	**333**	P	**P**	**23 33 40.5**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=177,slow=7.6,SNR=4.4						
USRK	**Ussuriysk Ar.**	**74.59**	**333**	P	**P**	**23 33 40.0**	**+0.2**
PETK	**Petropavlovsk-**	**75.65**	**352**	P	**P**	**23 33 45.1**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=171,slow=10,SNR=3.9						
PETK				LR	LR	00 03 06.9	
	comp=Z,51nm,18.9s,baz=177,slow=33						
PETK	**Petropavlovsk-**	**75.65**	**352**	P	**P**	**23 33 44.9**	**-0.7**
KLR	**Kul'dur**	**78.76**	**336**	P	**P**	**23 34 02.3**	**-0.8**
	comp=Z,2.3nm,0.9s,baz=313,slow=2.2,SNR=4.8						
CMAR	**Chiang Mai Arr**	**80.33**	**294**	P	**P**	**23 34 14.4**	**+2.0**
	comp=Z,1.2nm,0.3s,baz=119,slow=3.4,SNR=9.0						
SNAA	**Sanae**	**86.35**	**182**	P	**P**	**23 34 41.9**	**-0.8**
SNAA	**Sanae**	**86.35**	**182**	P	**P**	**23 34 41.5**	**-1.1**
	comp=Z,2.7nm,1.0s,baz=167,slow=6.8,SNR=7.1						
VNA3	**Neumayer Olymp**	**86.91**	**180**	P	**P**	**23 34 44.4**	**-0.9**
VNA2	**Neumayer--Watz**	**87.21**	**181**	P	**P**	**23 34 46.3**	**-0.4**
	baz=178,slow=4.2						
VNA1	**Neumayer--Stat**	**87.50**	**181**	P	**P**	**23 34 47.6**	**-0.5**
SONM	**Songino Array**	**89.92**	**323**	P	**P**	**23 35 00.6**	**+0.7**
	comp=Z,3.2nm,1.0s,baz=143,slow=5.5,SNR=13						
NVAR	**Mina Array Bea**	**90.16**	**48**	LR	LR	00 10 19.5	
	comp=Z,38nm,18.2s,baz=259,slow=32						
ILAR	**Eielson Array**	**92.74**	**17**	P	**P**	**23 35 10.5**	**-2.0**
	comp=Z,0.6nm,0.6s,baz=236,slow=5.3,SNR=6.1						
ARR	**Arges**	**143.44**	**318**	⇑P	PKPbc	23 41 33.3	+0.7
DRGR		**143.89**	**321**	⇑P	PKPbc	23 41 34.5	+0.5
LOT	**Lotru**	**143.94**	**318**	⇑P	PKPbc	23 41 34.1	-0.1
GZR	**Gura Zlata**	**144.57**	**319**	⇓P	**PKPab**	**23 41 34.9**	**-1.0**
KPL	**Plockton**	**144.66**	**356**	*e*P	**PKPab**	**23 41 34.8**	**-0.9**
KPL				IAmb	IAmb	23 41 35.0	
	comp=Z,32nm,1.5s						
SIRR	**Siria**	**144.79**	**321**	⇓P	**PKPdf**	**23 41 37.2**	**-0.4**
PSZ	**Piszkesteto**	**144.84**	**324**	⇓P	**PKPdf**	**23 41 37.4**	**-0.4**
MORC	**Moravsky Berou**	**144.87**	**329**	*e*PKP	PKPbc	23 41 37.0	+0.1
OSTC	**Ostas**	**144.96**	**331**	*e*PKP	**PKPdf**	**23 41 37.3**	**-0.5**
CHVC	**Chvalec**	**145.01**	**331**	*e*PKP	**PKPdf**	**23 41 37.5**	**-0.4**
KRLC	**Kraliky**	**145.03**	**330**	*e*PKP	**PKPbc**	**23 41 37.1**	**-0.3**
DPC	**Dobruska-Polom**	**145.06**	**330**	*e*PKP	**PKPdf**	**23 41 37.7**	**-0.3**
UPC	**Upice**	**145.09**	**331**	*e*PKP	**PKPdf**	**23 41 37.9**	**-0.1**
BZS	**Buzias**	**145.16**	**320**	⇓P	**PKPdf**	**23 41 37.9**	**-0.3**
EDU	**Dundee**	**145.21**	**353**	*e*P	**PKPbc**	**23 41 37.2**	**-0.5**
JAVC	**Velka Javorina**	**145.42**	**327**	*e*PKP	**PKPab**	**23 41 40.2**	**+1.3**
JAVC				*e*		23 41 53.6	
INVG	**Invergeldie, C**	**145.43**	**354**	*e*P	**PKPbc**	**23 41 37.1**	**-1.2**
INVG				IAmb	IAmb	23 41 38.7	
	comp=Z,36nm,1.5s						
VRAC	**Vranov**	**145.65**	**329**	⇑P	**PKPab**	**23 41 39.8**	**+0.2**
VRAC	**Vranov**	**145.65**	**329**	*e*PKP	**PKPab**	**23 41 39.7**	**+0.1**
VRAC				*e*		23 41 53.3	
PVCC	**Panska Ves**	**145.72**	**332**	*e*PKP	**PKPab**	**23 41 39.8**	**0.0**
ESY	**Stoneypath**	**145.78**	**353**	*e*P	**PKPdf**	**23 41 38.4**	**-0.6**
CLL	**Collm**	**145.79**	**334**	⇑/PKPbc	**PKPab**	**23 41 39.6**	**-0.5**
	comp=Z,17nm,0.8s						
KRUC	**Moravsky**	**145.91**	**329**	*e*PKP	**PKPab**	**23 41 40.3**	**-0.3**
KRUC				*e*		23 41 53.9	
EBL	**Broad Law**	**145.97**	**353**	*e*P	**PKPdf**	**23 41 39.2**	**-0.2**
PRA	**Prague**	**146.11**	**331**	*e*PKP	**PKPbc**	**23 41 40.7**	**0.0**
PRU	**Pruhonice**	**146.12**	**331**	*e*PKP	**PKPbc**	**23 41 40.6**	**-0.1**
ESK	**Eskdalemuir**	**146.44**	**353**	*e*P	**PKPdf**	**23 41 40.3**	**+0.1**
ESK				IAmb	IAmb	23 41 41.0	
	comp=Z,47nm,1.4s						
PBCC	**Pribram**	**146.59**	**331**	*e*PKP	**PKPbc**	**23 41 41.6**	**-0.6**
NEWG	**New Galloway**	**146.74**	**354**	*e*P	**PKPbc**	**23 41 41.5**	**-0.9**
NEWG				IAmb	IAmb	23 41 41.6	
	comp=Z,9.6nm,0.8s						
EDMD	**Edmundbyers**	**146.76**	**352**	*e*P	**PKPbc**	**23 41 41.6**	**-0.9**
CONA	**Conrad Observa**	**146.94**	**327**	*e*P	**PKPab**	**23 41 44.0**	**-0.7**
	comp=Z,7.8nm,1.6s						
GAL1	**Galloway**	**147.04**	**354**	*e*P	**PKPbc**	**23 41 42.3**	**-0.9**
GAL1				IAmb	IAmb	23 41 43.3	
	comp=Z,8.5nm,0.7s						
CKRC	**Cesky Krumlov**	**147.07**	**330**	*e*PKP	**PKPbc**	**23 41 43.7**	**+0.1**
CKRC				*ex*	x	23 41 56.9	
KHC	**Kasperske Hory**	**147.18**	**331**	*e*PKP	**PKPbc**	**23 41 42.9**	**-1.0**
GERES	**GERESS Array B**	**147.33**	**331**	PKPbc	**PKPbc**	**23 41 43.8**	**-0.6**
	comp=Z,1.9nm,0.6s,baz=46,slow=3.9,SNR=18						
IOMK	**Kirk Michael**	**147.62**	**354**	*e*P	**PKPbc**	**23 41 43.6**	**-1.2**
IOMK				IAmb	IAmb	23 41 43.8	
	comp=Z,44nm,1.1s						
MOA	**Molln**	**147.77**	**329**	*e*P	**PKPbc**	**23 41 44.4**	**-1.2**
	comp=Z,5.0nm,1.2s						
PDG	**Podgorica**	**148.26**	**317**	⇓P	**PKPbc**	**23 41 45.6**	**-1.3**
CWF	**Charnwood Fore**	**148.69**	**350**	*e*P	**PKPbc**	**23 41 47.6**	**-0.1**
ABTA	**Abfaltersbach**	**149.40**	**329**	*i* P	**PKPbc**	**23 41 48.2**	**-1.6**
	comp=Z,3.3nm,0.7s						
WATA	**Walderalm**	**149.40**	**331**	*e*P	**PKPbc**	**23 41 47.8**	**-2.2**
	comp=Z,6.4nm,1.3s						
WTTA	**Wattenberg**	**149.43**	**330**	*e*P	**PKPbc**	**23 41 48.3**	**-1.7**
	comp=Z,5.2nm,1.0s						
MOTA	**Moosalm**	**149.61**	**331**	*e*P	**PKPbc**	**23 41 50.3**	**-0.2**
	comp=Z,3.8nm,0.7s						
RETA	**Reutte**	**149.66**	**332**	*e*P	**PKPbc**	**23 41 50.3**	**-0.2**
	comp=Z,2.4nm,0.9s						
SQTA	**Sankt Quirin**	**149.66**	**331**	*e*P	**PKPbc**	**23 41 50.4**	**-0.1**
	comp=Z,4.3nm,0.7s						
FETA	**Feichten**	**150.02**	**331**	*e*P	**PKPbc**	**23 41 51.2**	**-0.3**
	comp=Z,5.4nm,1.1s						
DAVA	**Damuels**	**150.19**	**332**	*e*P	**PKiKP**	**23 41 52.4**	**-0.3**
	comp=Z,4.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**165.75**	**233**	PKP	**PKPdf**	**23 42 05.3**	**-1.1**
	comp=Z,0.7nm,0.9s,baz=336,slow=1.1,SNR=3.7						

*IDC **18** 23:28:20.2±1.8, 84.83N×3.01E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.3/46, mbtmp3.7/5, ML3.6/1, MS3.3/1, Ms1 3.2/1, ms1mx2.7/30, Error ellipse: s-maj=116.2km s-min=25.9km az=66.0*

*IEPN **18** 23:28:21.0, 85.03N×9.53E, h10km*

ISC 18 23:28:20.9±1.1, **84.80N**±0.09×**9.89E**±0.10, **h10**km, **n33, σ2s49/40, mb3.8/6, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NOR	**Nord**	**4.44**	**238**	*e*P	**Pn**	**23 29 29.1**	**+1.1**
NOR	**Nord**	**4.44**	**238**	Pn	**Pn**	**23 29 29.2**	**+1.2**
NOR	**Nord**	**4.44**	**238**	*i* P	**Pn**	**23 29 31.3**	**+3.3**
KBS	**Kingsbay**	**5.92**	**176**	*i* P	**Pn**	**23 29 50.0**	**+1.7**
KBS	**Kingsbay**	**5.92**	**176**	Pn	**Pn**	**23 29 49.6**	**+1.2**
KBS				Sn	**Sn**	**23 30 55.6**	**-0.4**
KBS	**Kingsbay**	**5.92**	**176**	*e*P	**Pn**	**23 29 50.1**	**+1.7**
KBS				*e*S	**Sn**	**23 30 56.0**	**0.0**
KBS				IAML		23 31 02.0	
	comp=Z,9.6nm,0.5s						
KBS	**Kingsbay**	**5.92**	**176**	*e*P	**Pn**	**23 29 49.2**	**+0.8**
KBS				*e*S	**Sn**	**23 30 53.9**	**-2.2**
SPA0	**Spitsbergen Ar**	**6.72**	**169**	Pn	**Pn**	**23 30 00.8**	**+1.4**
	baz=5.6,slow=14						
SPA0	**Spitsbergen Ar**	**6.72**	**169**	Pn	**Pn**	**23 30 00.8**	**+1.4**
	baz=5.6,slow=14						
SPA0				*e*S	**Sn**	**23 31 14.6**	**-1.3**
SPA0				IAML		23 31 46.1	
	comp=Z,4.3nm,0.7s						
HSPB	**Hornsund (broa**	**7.89**	**171**	Pn	**Pn**	**23 30 18.5**	**+3.1**
HSPB				Sn	**Sn**	**23 31 45.4**	**+0.9**
HSPB	**Hornsund (broa**	**7.89**	**171**	Pn	**Pn**	**23 30 18.5**	**+3.1**
HSPB				Sn	**Sn**	**23 31 45.4**	**+0.9**
HOPEN	**Hopen**	**8.63**	**156**	Pn	**Pn**	**23 30 26.4**	**+0.9**
HOPEN				Sn	**Sn**	**23 32 00.2**	**-2.4**
HOPEN	**Hopen**	**8.63**	**156**	*e*P	**Pn**	**23 30 26.4**	**+0.9**
HOPEN				*e*S	**Sn**	**23 31 58.4**	**-4.3**
HOPEN				IAML		23 32 15.9	
	comp=Z,12nm,0.6s						
HOPEN	**Hopen**	**8.63**	**156**	*e*P	**Pn**	**23 30 26.2**	**+0.7**
HOPEN				*e*S	**Sn**	**23 31 58.4**	**-4.3**
DAG	**Danmarks Havn**	**9.06**	**224**	*e*P	**Pn**	**23 30 33.1**	**+1.7**
DAG	**Danmarks Havn**	**9.06**	**224**	*i* P	**Pn**	**23 30 34.6**	**+3.2**
BJO1	**Bjornoya**	**10.46**	**166**	P	**Pn**	**23 30 52.2**	**+1.7**
BJO1				S	**Sn**	**23 32 42.5**	**-5.0**
NEEM	**North Greenlan**	**11.07**	**265**	*i* P	Pn	23 30 53.9	-5.3
NEEM				*i* S	Sn	23 32 45.5	-17
NEEM				IAML		23 33 02.4	
	comp=Z,1.2nm,0.3s						
DBG	**Daneborg**	**11.56**	**223**	*e*P	Pn	23 31 01.6	-4.0
SUMG	**Summit**	**14.57**	**243**	*i* P	Pn	23 31 43.1	-4.0
SUMG	**Summit**	**14.57**	**243**	*i* P	**Pn**	**23 31 45.6**	**-1.4**
ARA0	**ARCESS Array S**	**15.61**	**159**	P	**Pn**	**23 32 01.0**	**+0.5**
	baz=354,slow=11						
ARA0	**ARCESS Array S**	**15.61**	**159**	P	**Pn**	**23 32 01.0**	**+0.5**
	baz=354,slow=11						
ARCES	**ARCESS Array B**	**15.61**	**159**	Pn	**Pn**	**23 32 03.4**	**+2.8**
	baz=358,slow=10,SNR=8.9						
ARCES				Sn	**Sn**	**23 34 47.1**	**-6.0**
	baz=14,slow=22,SNR=2.1						
LSH	**Leshukonskoye**	**21.23**	**136**	P	**P**	**23 33 09.2**	**+2.9**
	comp=Z,56nm,1.9s						
FIA0	**FINESS Array S**	**23.73**	**161**	P	**P**	**23 33 35.7**	**+3.2**
	baz=7.1,slow=12						
FIA0	**FINESS Array S**	**23.73**	**161**	P	**P**	**23 33 35.7**	**+3.2**
	baz=7.1,slow=12						
FINES	**FINESS Array B**	**23.73**	**161**	P	**P**	**23 33 34.4**	**+1.8**
	comp=Z,2.7nm,0.9s,baz=12,slow=12,SNR=5.9						
NOA	**NORSAR Array B**	**23.89**	**178**	P	**P**	**23 33 36.9**	**+2.7**
	comp=Z,0.7nm,0.6s,baz=0.4,slow=7.3,SNR=1.9						
KLMR	**Klimovskoe**	**24.88**	**145**	*e*P	**P**	**23 33 41.7**	**-1.4**
	comp=Z,18nm,1.4s						
ILAR	**Eielson Array**	**30.26**	**340**	P	**P**	**23 34 29.9**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=7.9,slow=8.6,SNR=2.2						
ULM	**Lac du Bonnet**	**41.62**	**292**	LR	LR	23 54 52.2	
	comp=Z,37nm,18.3s,baz=322,slow=39						
TORD	**Torodi Ar. Bea**	**71.75**	**188**	P	**P**	**23 39 43.5**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=349,slow=7.2,SNR=6.3						

*IDC **18** 23:30:54.8±1.3, 31.77S×71.88W, h0km, mb4.0/4, mb1 4.0/8, mb1mx3.9/25, mbtmp3.8/8, ML3.8/4, MS3.6/1, Ms1 3.6/1, ms1mx2.8/22, Error ellipse: s-maj=31.8km s-min=31.6km az=106.0*

*NEIC **18** 23:30:55.5, 31.855S×72.23W, h20km, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr=1.69; Mθθ=0.29; Mφφ=-1.98; Mrθ=-0.15; Mrφ=-0.41; Mθφ=-0.24; Fault plane solution: M0=1.92000×10^15 NP1:φs=194.46000°, δ=49.16000°, λ=96.11000°. NP2:φs=5.16000°, δ=41.22000°, λ=82.98000°. Principal axes: T 1.7199, Plg=84.0000°, Azm=150.0000°; N 0.3508, Plg=5.0000°, Azm=10.0000°; P -2.0707, Plg=4.0000°, Azm=280.0000°;*

*NEIC **18** 23:30:56.7±2.4, 31.865S×72.14W×0.08, h17km±2km, mb4.2/7, Mwr=4.1/39, ML4.1(GUC) Error ellipse: s-maj=9.2km s-min=2.4km az=91.0*

*GUC **18** 23:30:57.4±0.7, 31.83S×71.99W, h26km±3km, ML4.1*

ISC 18 23:30:54.9±1.4, **31.83S**±0.02×**72.10W**±0.06, **h7**km±9km, **n80, σ1s49/92, mb4.0/4, 1C, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**1.00**	**137**	*e*P	**Pn**	**23 31 15.2**	**-0.1**
VA06				*i* S	**Sn**	**23 31 28.7**	**-0.9**
VA06				IAML		23 31 39.3	
	comp=E,9μm,0.3s						
CO06	**Fray Jorge**	**1.22**	**19**	*e*P	**Pg**	**23 31 19.4**	**+1.1**
CO06	**Fray Jorge**	**1.22**	**19**		**Pn**	**23 31 18.1**	**-0.3**
CO06				Sg	**Sb**	**23 31 33.3**	**-1.1**
VA01	**Torpederas**	**1.25**	**162**	*e*P	**Pn**	**23 31 14.4**	**+0.6**
VA01	**Torpederas**	**1.25**	**162**		**Pn**	**23 31 18.5**	**-0.3**
VA01				Sg	**Sb**	**23 31 33.6**	**-1.5**
ROCH	**El Roble**	**1.46**	**141**	*e*P	**Pg**	**23 31 23.6**	**+0.6**
ROCH				*i* S	**Sg**	**23 31 43.3**	**+1.4**
CO03	**El Pedregal**	**1.56**	**51**	*e*P	**Pb**	**23 31 24.2**	**0.0**
CO03				*i* S	**Sg**	**23 31 44.8**	**-0.3**
CO03				IAML		23 31 47.8	
	comp=E,5μm,0.5s						
CO03	**El Pedregal**	**1.56**	**51**		**Pb**	**23 31 24.6**	**+0.5**
CO03				Sn	**Sg**	**23 31 44.8**	**-0.3**
VA03	**San Esteban**	**1.61**	**126**	*e*P	**Pb**	**23 31 25.1**	**+0.1**
VA03				*i* S	**Sg**	**23 31 46.7**	**+0.1**
VA03				IAML		23 31 54.6	
	comp=E,6μm,0.5s						
VA03	**San Esteban**	**1.61**	**126**		**Pb**	**23 31 25.1**	**+0.2**
VA03				Sn	**Sg**	**23 31 45.7**	**-0.9**
VA05	**Santo Domingo**	**1.87**	**167**	IAML		23 32 07.0	
	comp=E,4μm,0.5s						
VA05	**Santo Domingo**	**1.87**	**167**		**Pn**	**23 31 27.6**	**+0.3**
MT05	**Renca**	**1.94**	**144**	*i* S	**Sg**	**23 31 55.9**	**-1.2**
MT05				IAML		23 32 08.0	
	comp=E,3μm,0.4s						
MT05	**Renca**	**1.94**	**144**		**Pn**	**23 31 27.5**	**-0.8**
MT05				Sn	**Sg**	**23 31 56.6**	**-0.5**
GO04	**Tololo Observa**	**2.00**	**34**	*e*P	**Pb**	**23 31 32.0**	**+0.3**
GO04	**Tololo Observa**	**2.00**	**34**		**Pb**	**23 31 31.1**	**-0.6**
GO04				Sn	**Sg**	**23 32 00.1**	**+1.0**
CO05	**La Serena**	**2.05**	**21**	*e*P	**Pb**	**23 31 32.9**	**+0.5**
CO05				*e*S	**Sb**	**23 31 58.7**	**+0.6**
CO05				IAML		23 32 05.8	
	comp=E,3μm,0.5s						
CO05	**La Serena**	**2.05**	**21**		**Pn**	**23 31 30.8**	**+1.0**
CO05					**Sg**	**23 32 00.1**	**-0.5**
MT01	**Popeta**	**2.15**	**161**	*e*P	**Pn**	**23 31 32.9**	**+1.7**
MT01				*i* S	**Sg**	**23 32 05.3**	**+1.3**
MT01	**Popeta**	**2.15**	**161**		**Pn**	**23 31 31.0**	**-0.2**
MT01					LR	23 32 03.9	
MT09	**Talagante**	**2.15**	**155**	*e*P	**Pb**	**23 31 33.2**	**-1.1**
MT09				*e*S	**Sb**	**23 32 02.5**	**+1.2**
MT09				IAML		23 32 14.6	
	comp=E,1μm,0.5s						
MT09	**Talagante**	**2.15**	**155**		**Pn**	**23 31 31.9**	**+0.5**
MT09				Sn	**Sn**	**23 31 58.7**	**+0.3**
LMEL	**Las Melosas**	**2.57**	**142**	*e*P	**Pb**	**23 31 39.3**	**-2.1**
LMEL				*e*S	**Sb**	**23 32 12.3**	**-1.0**
LMEL				IAML		23 32 22.0	
	comp=N,833nm,0.5s						
BO03	**Pichilemu**	**2.66**	**178**	*e*P	**Pn**	**23 31 37.8**	**-0.3**
BO03				*e*S	**Sb**	**23 32 15.3**	**-0.4**
BO03				IAML		23 32 35.5	
	comp=E,376nm,0.7s						
BO01	**Tunca**	**2.69**	**162**	*e*P	**Pn**	**23 31 41.3**	**+2.6**
BO01				*i* S	**Sb**	**23 32 15.6**	**-1.1**
BO01				IAML		23 32 28.8	
	comp=N,450nm,0.5s						
BO01	**Tunca**	**2.69**	**162**		**Pn**	**23 31 36.6**	**-2.0**
BO01					**Pb**	**23 31 44.4**	**+1.0**
BO01					**Sb**	**23 32 18.8**	**+2.1**
ZON	**Zonda**	**2.93**	**85**	Pn	**Pn**	**23 31 43.8**	**+1.8**
ZON					**Sg**	**23 32 26.2**	**-2.9**
LCO	**Las Campanas**	**3.06**	**24**	⇑*i*P	**Pb**	**23 31 47.2**	**-2.6**
LCO				*e*S	**Sb**	**23 32 24.9**	**-2.7**
LCO	**Las Campanas**	**3.06**	**24**		**Pb**	**23 31 48.8**	**-1.1**
BO02	**Sierra Bellavi**	**3.15**	**160**	*e*P	**Pn**	**23 31 46.5**	**+1.4**
BO02				*i* S	**Sb**	**23 32 26.9**	**-3.1**
BO02				IAML		23 32 46.8	
	comp=N,780nm,0.3s						
BO02	**Sierra Bellavi**	**3.15**	**160**	Pn	**Pn**	**23 31 44.6**	**-0.4**
BO02					**Sb**	**23 32 30.9**	**+0.9**
GO05	**Huala**	**3.17**	**177**	IAML		23 33 00.2	
	comp=E,284nm,0.4s						
GO05	**Huala**	**3.17**	**177**		**Pn**	**23 31 44.6**	**-0.7**
AC04	**Llanos de Chal**	**3.72**	**14**	*e*P	**Pb**	**23 32 01.5**	**+0.5**
AC04				*e*S	**Sg**	**23 32 50.9**	**-3.6**
AC04				IAML		23 33 06.3	
	comp=E,348nm,0.4s						
AC04	**Llanos de Chal**	**3.72**	**14**	Pn	**Pn**	**23 31 53.3**	**+0.5**
AC04					**Sb**	**23 32 50.0**	**+3.6**
ML02	**Panimavida**	**3.96**	**172**	*e*P	**Pb**	**23 32 02.6**	**-2.4**
ML02	**Panimavida**	**3.96**	**172**		**Pn**	**23 31 56.2**	**+0.2**
GO03	**Copiap**	**4.53**	**21**	Pn	**Pn**	**23 32 05.2**	**+1.2**
AC06	**Mina Casimiro**	**4.71**	**19**	Pn	**Pn**	**23 32 08.1**	**+1.7**
AC02	**Maricunga**	**5.61**	**28**	Pn	**Pn**	**23 32 19.9**	**+0.6**
H03N1	**Juan Fernandez**	**5.96**	**253**	T	T	23 39 12.9	
	baz=79,slow=72,SNR=86						
H03N3	**Juan Fernandez**	**5.98**	**252**	T	T	23 39 23.0	
	baz=79,slow=72,SNR=379						
H03N2	**Juan Fernandez**	**5.98**	**253**	T	T	23 39 21.9	
	baz=79,slow=72,SNR=282						
H03S3	**Juan Fernandez**	**6.07**	**249**	T	T	23 39 33.8	
	baz=56,slow=74,SNR=140						
H03S1	**Juan Fernandez**	**6.07**	**249**	T	T	23 39 35.5	
	baz=56,slow=74,SNR=117						
H03S2	**Juan Fernandez**	**6.08**	**249**	T	T	23 39 34.0	
	baz=56,slow=74,SNR=90						
LC01	**Cunco**	**7.05**	**179**	Pn	**Pn**	**23 32 38.4**	**-0.1**
PB14	**IPOC Station P**	**7.33**	**12**	Pn	**Pn**	**23 32 42.3**	**-0.4**
LR03	**Panguipulli**	**7.79**	**181**	Pn	**Pn**	**23 32 48.5**	**-0.1**
PLCA	**Paso Flores**	**8.97**	**172**	Pn	**Pn**	**23 33 05.9**	**+0.9**
	comp=E,0.4nm,0.3s,baz=338,slow=12,SNR=14						
PLCA	**Paso Flores**	**8.97**	**172**		**Pn**	**23 33 05.4**	**+0.5**
LVC	**Limon Verde**	**9.61**	**18**	Pn	**Pn**	**23 33 18.2**	**+4.1**
	comp=E,0.4nm,0.3s,baz=230,slow=7.9,SNR=2.8						
LVC	**Limon Verde**	**9.61**	**18**		**Pn**	**23 33 16.1**	**+2.0**
TRQA	**Tornquist**	**10.37**	**130**		**Pn**	**23 33 28.0**	**+3.9**
PSGCX	**Pisagua**	**12.31**	**9**	Pn	**Pn**	**23 33 50.2**	**-0.6**
ITQB	**Itaqui**	**13.48**	**85**	Pn	**Pn**	**23 34 09.0**	**+2.3**
CPUP	**Villa Florida**	**14.03**	**71**	Pn	**Pn**	**23 34 12.3**	**-1.8**
	comp=E,0.1nm,0.3s,baz=229,slow=11,SNR=2.7						
CPUP				LR	LR	23 40 05.1	
	comp=E,219nm,18.1s,baz=246,slow=40						
CPUP	**Villa Florida**	**14.03**	**71**	Pn	**Pn**	**23 34 12.0**	**-2.1**
PLTB	**Pedras Altas**	**15.73**	**95**	Pn	**Pn**	**23 34 35.5**	**-1.5**
PLTB				IAmb	IAmb	23 35 12.4	
	comp=Z,48nm,1.8s						
LPAZ	**La Paz**	**15.89**	**14**	Pn	**Pn**	**23 34 37.0**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=194,slow=14,SNR=2.2						
LPAZ	**La Paz**	**15.89**	**14**	Pn	**Pn**	**23 34 39.0**	**-0.7**
SIV	**San Ignacio**	**18.70**	**35**	P	**P**	**23 35 13.1**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=222,slow=9.8,SNR=4.8						
EFI	**East Falkland**	**22.35**	**157**	P	**P**	**23 35 52.7**	**-0.6**
BDFB	**Brasilia**	**27.22**	**59**	P	**P**	**23 36 39.0**	**-0.7**
	comp=Z,9.3nm,1.1s,baz=196,slow=5.7,SNR=6.1						
BDFB	**Brasilia**	**27.22**	**59**	P	**P**	**23 36 37.6**	**-2.1**
BDFB				IAmb	IAmb	23 36 40.5	
	comp=Z,12nm,1.2s						
DUNO	**Dulce Nombre,**	**43.60**	**341**	P	**P**	**23 38 59.1**	**-0.8**
VNA3	**Neumayer Olymp**	**51.38**	**158**	P	**P**	**23 40 00.0**	**+0.1**
VNA2

comp=E,33nm,1.0s
TPAW IAML 23 34 36.8
comp=E,28nm,1.2s
YHH Holmes Hill 4.16 286 Pn **Pn 23 33 14.7 +1.8**
YHH IAML 23 34 32.5
comp=N,22nm,0.8s
FXWY Fox Creek 4.20 270 Pn **Pn 23 33 15.0 +1.6**
AHID Auburn Hatcher 4.39 259 Pn **Pn 23 33 16.4 +0.4**
MPU Maple Canyon 6.06 234 Pn **Pn 23 33 40.3 +1.4**
MPU Pg **Pg 23 34 02.4 -1.5**
PV14 Lion Creek, Pa 6.08 209 Pn **Pn 23 33 39.8 +0.6**
PV10 Paradox Valley 6.09 209 Pn **Pn 23 33 39.8 +0.5**
PV20 West Nyswonger 6.09 209 Pn **Pn 23 33 41.5 +2.2**
PV11 David Mesa, Pa 6.10 208 Pn **Pn 23 33 41.1 +1.7**
PV16 Nyswonger Mesa 6.10 208 Pn **Pn 23 33 41.0 +1.6**
PV02 Paradox Valley 6.14 207 Pn **Pn 23 33 42.0 +2.1**
PV18 Skein Mesa, Pa 6.16 208 Pn **Pn 23 33 40.5 +0.3**
TMUT Trail Mountain 6.31 227 Pn **Pn 23 33 43.5 +1.0**
PV05 Paradox Valley 6.37 209 Pn **Pn 23 33 41.6 -1.6**
BGU Big Grassy Mou 6.43 247 Pn **Pn 23 33 46.1 +2.3**
Q16A Castle Valley 6.57 225 Pn **Pn 23 33 44.9 -1.1**
T25A Trinidad 6.63 174 Pn **Pn 23 33 46.9 +0.1**
DUG Dugway, Tooele 6.67 240 Pn **Pn 23 33 47.7 +0.5**
I10CA LAC DU BONNET 9.01 41 *i* 00 26 10.0
baz=223,slow=325,SNR=5.6
ULM Lac du Bonnet 9.12 41 Pn **Pn 23 34 19.2 -1.4**
comp=N,0.5nm,0.3s,baz=222,slow=14,SNR=1.8
ULM Lg Lg 23 36 49.7
comp=N,0.3nm,0.3s,baz=148,slow=21,SNR=1.4

IDC 18 23:36:26.9±3.0, 8°42S×113°37E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/25, mbtmp3.3/3, Error ellipse: s-maj=180.7km s-min=27.2km az=48.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.30**	**122**	P		P	23 41 37.4	+0.7
	0.6nm,0.9s,baz=299,slow=12,SNR=4.9							
ASAR	**Alice Springs**	**24.83**	**130**	P		P	23 41 50.5	-0.6
	0.4nm,0.6s,baz=302,slow=9.4,SNR=6.3							
MKAR	**Makanchi Array**	**61.54**	**336**	P		P	23 46 45.9	0.0
	0.2nm,0.4s,baz=150,slow=6.9,SNR=5.5							

*IDC **18** 23:43:35.2±1.5, 31°61S×71°79W, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.7/16, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=63.6km s-min=41.2km az=77.0*

ISC 18 23:43:37.5±1.2, 31°6S±0°2×71°8W±0°4, h14km, n13, σ0s55/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H03N1	**Juan Fernandez**	**6.25**	**251**	T		T	23 51 35.4	
	baz=73,slow=72,SNR=36							
H03N3	**Juan Fernandez**	**6.26**	**251**	T		T	23 51 33.4	
	baz=73,slow=72,SNR=46							
H03N2	**Juan Fernandez**	**6.27**	**251**	T		T	23 51 34.7	
	baz=73,slow=72,SNR=35							
PLCA	**Paso Flores**	**9.14**	**174**	Pn		**Pn**	**23 45 48.8**	**-0.3**
	0.2nm,0.3s,baz=341,slow=14,SNR=9.1							
VNA3	**Neumayer Olymp**	**51.48**	**159**	P		**P**	**23 52 42.7**	**+0.5**
VNA2	**Neumayer--Watz**	**52.12**	**158**	P		**P**	**23 52 47.3**	**+0.4**
	baz=291,slow=9.1							
SNAA	**Sanae**	**53.71**	**159**	P		**P**	**23 52 58.9**	**+0.2**
NVAR	**Mina Array Bea**	**82.05**	**325**	P		**P**	**23 55 57.7**	**+0.2**
	0.3nm,0.8s,baz=156,slow=7.8,SNR=2.3							
TORD	**Torodi Ar. Bea**	**83.24**	**70**	P		**P**	**23 56 04.0**	**0.0**
	1.5nm,0.8s,baz=261,slow=5.0,SNR=11							
H11S2	**WAKE ISLAND Hyl**	**25.95**	**271**	T		T	02 20 54.7	
	baz=112							
H11S1	**WAKE ISLAND Hyl**	**25.97**	**271**	T		T	02 20 53.7	
	baz=112,slow=74,SNR=6.6							
H11S3	**WAKE ISLAND Hyl**	**25.97**	**271**	T		T	02 20 53.5	
	baz=112,slow=74,SNR=6.1							
ZALV	**Zalesovo Beam**	**152.11**	**30**	PKPbc		**PKiKP**	**00 03 31.5**	**-0.8**
	1.3nm,0.6s,baz=296,slow=4.6,SNR=6.2							

MEX 18 23:48:05.4±0.4, 15°17N×93°03W, h102km±16km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCIG		**0.56**	**341**	*e*P		Pn	23 48 20.2	-1.7
PCIG				*e*S		Sn	23 48 32.4	-1.8

*SJA **18** 23:50:41.3±0.8, 31°53S×72°44W, h20km±9km, ML4.5, MW4.5*

*IDC **18** 23:50:43.8±1.0, 31°49S×71°86W, h0km, mb4.2/5, mb1 4.2/10, mb1mx4.0/23, mbtmp4.0/10, ML3.9/5, MS3.6/11, Ms1 3.6/11, ms1mx3.4/25, Error ellipse: s-maj=28.2km s-min=27.1km az=102.0*

*NEIC **18** 23:50:44.7±1.8, 31°55S±0°04×72°06W±0°07, h10km±1km, mb4.6/14, Mwr4.2/50, ML4.4(GUC), Error ellipse: s-maj=11.0km s-min=6.2km az=284.0*

*NEIC **18** 23:50:44.7, 31°55S×72°05W, h26km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.83; Mθθ-0.96; Mϕϕ-0.86; Mrθ-1.24; Mϕr-1.16; Mθϕ-1.00; Fault plane solution: M₀2.53000×10¹⁵ NP1:φs229.61000°, δ64.65000°, λ93.22000°. NP2:φs42.13000°, δ25.54000°, λ83.24000°. Principal axes: T 2.3984, Plg70.0000°, Azm146.0000°; N 0.2427, Plg3.0000°, Azm48.0000°; P -2.6411, Plg20.0000°, Azm317.0000°;*

*GUC **18** 23:50:46.3±0.9, 31°56S×71°86W, h37km±8km, ML4.4*

ISC 18 23:50:44.1±0.5, 31°58S±0°02×71°99W±0°03, h10km, n129, σ1s71/147, mb4.3/9, MS3.8/6, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.95**	**18**	*i* P		**Pn**	**23 51 03.8**	**+0.2**
CO06				*e*S		**Sn**	**23 51 16.6**	**-0.6**
CO06	**Fray Jorge**	**0.95**	**18**			**Pn**	**23 51 04.0**	**+0.4**
CO06				Sg		**Sn**	**23 51 16.4**	**-0.8**
VA06	**Catapilco**	**1.14**	**149**	||| *i* P	**Pn**	**23 51 06.8**	**+0.7**
VA06				IAML			23 51 30.9	
	comp=E,13μm,0.4s							
CO03	**El Pedregal**	**1.33**	**57**	*e*P		**Pg**	**23 51 09.5**	**-0.1**
CO03				*e*S		**Sb**	**23 51 25.9**	**-0.5**
CO03				IAML			23 51 32.1	
	comp=E,9μm,0.3s							
CO03	**El Pedregal**	**1.33**	**57**			**Pg**	**23 51 09.6**	**-0.1**
CO03				Sg		**Sb**	**23 51 26.3**	**-0.1**
VA01	**Torpederas**	**1.47**	**169**	*i* P		**Pb**	**23 51 11.2**	**-0.2**
VA01	**Torpederas**	**1.47**	**169**			**Pb**	**23 51 11.4**	**0.0**
VA01	**Torpederas**	**1.47**	**169**	*e*P		**Pb**	**23 51 11.0**	**-0.4**
VA01				*e*P		**Pg**	**23 51 11.6**	**-0.6**
ROCH	**El Roble**	**1.61**	**150**	*i* P		**Pb**	**23 51 14.1**	**0.0**
ROCH				*e*S		**Sb**	**23 51 34.7**	**+0.1**
ROCH				IAML			23 51 42.8	
	comp=N,5μm,0.6s							
VA03	**San Esteban**	**1.69**	**134**	*i* P		**Pb**	**23 51 15.4**	**+0.1**
VA03				*e*S		**Sb**	**23 51 37.3**	**+0.5**
VA03	**San Esteban**	**1.69**	**134**			**Pb**	**23 51 15.5**	**+0.1**
VA03	**San Esteban**	**1.69**	**134**	*e*P		**Pg**	**23 51 16.2**	**-0.4**
VA03				IAML			23 51 50.0	
	comp=Z,4μm,0.7s							
GO04	**Tololo Observa**	**1.73**	**36**	*e*P		**Pb**	**23 51 15.9**	**-0.3**
GO04				*e*S		**Sg**	**23 51 39.1**	**-0.8**
GO04	**Tololo Observa**	**1.73**	**36**			**Pb**	**23 51 16.0**	**-0.2**
GO04	**Tololo Observa**	**1.73**	**36**	*e*P		**Pn**	**23 51 15.0**	**+0.5**
CO05	**La Serena**	**1.78**	**21**	*e*P		**Pn**	**23 51 15.4**	**+0.6**
CO05				*e*S		**Sb**	**23 51 39.6**	**+0.5**
CO05				IAML			23 51 46.3	
	comp=E,5μm,0.4s							
CO05	**La Serena**	**1.78**	**21**			**Pb**	**23 51 15.9**	**-0.9**
MT05	**Renca**	**2.09**	**150**	*i* P		**Pb**	**23 51 20.8**	**-1.3**
MT05				IAML			23 52 04.3	
	comp=E,4μm,0.3s							
MT05	**Renca**	**2.09**	**150**			**Pb**	**23 51 20.9**	**-1.2**
MT05	**Renca**	**2.09**	**150**	*e*P		**Pb**	**23 51 21.0**	**-1.2**
VA05	**Santo Domingo**	**2.09**	**172**	*e*P		**Pn**	**23 51 19.8**	**+0.6**
VA05				IAML			23 52 00.7	
	comp=E,5μm,0.5s							
VA05	**Santo Domingo**	**2.09**	**172**			**Pn**	**23 51 20.1**	**+0.9**
AUSP	**Uspallata**	**2.30**	**107**	*e*P		**Pb**	**23 51 26.8**	**+1.0**
AUSP				*e*S		**Sb**	**23 51 52.6**	**-1.8**
RTLS	**Leoncito**	**2.30**	**96**	*e*P		**Pb**	**23 51 26.5**	**+0.6**
RTLS				*e*S		**Sg**	**23 51 58.3**	**+0.3**
RTLS				IAML			23 51 59.2	
	comp=Z,2μm,0.4s							
MT09	**Talagante**	**2.34**	**159**	*e*P		**Pn**	**23 51 24.1**	**+1.3**
MT09				IAML			23 52 08.6	
	comp=N,3μm,0.6s							
MT09	**Talagante**	**2.34**	**159**			**Pn**	**23 51 24.5**	**+1.7**
MT01	**Popeta**	**2.36**	**165**	*i* P		**Pn**	**23 51 23.0**	**+0.2**
MT01				IAML			23 52 05.0	
	comp=E,2μm,0.5s							
MT01	**Popeta**	**2.36**	**165**			**Pn**	**23 51 24.1**	**+1.3**
MT01	**Popeta**	**2.36**	**165**	*e*P		**Pn**	**23 51 24.0**	**+1.1**
MT01				*e*S		**Sg**	**23 51 58.1**	**-1.7**
MT01				IAML			23 52 07.3	
	comp=Z,1μm,0.6s							
ACCO	**Cerro Coronel**	**2.69**	**69**	*e*P		**Pb**	**23 51 33.3**	**+0.7**
ACCO				*e*S		**Sg**	**23 52 09.7**	**-0.9**
LMEL	**Las Melosas**	**2.71**	**147**	||| *i* P	**Pn**	**23 51 30.2**	**+2.3**
LMEL				IAML			23 52 17.3	
	comp=N,2μm,0.4s							
LCO	**Las Campanas**	**2.79**	**24**	*e*P		**Pn**	**23 51 29.5**	**+0.4**
LCO	**Las Campanas**	**2.79**	**24**			**Pn**	**23 51 29.8**	**+0.7**
LCO	**Las Campanas**	**2.79**	**24**	*e*P		**Pn**	**23 51 30.0**	**+0.9**
ZON	**Zonda**	**2.82**	**90**			**Pb**	**23 51 33.6**	**-1.0**
ZON	**Zonda**	**2.82**	**90**	*e*P		**Pb**	**23 51 33.0**	**-1.6**
ZON				*e*S		**Sg**	**23 52 12.6**	**-2.1**
ZON				IAML			23 52 18.9	
	comp=Z,736nm,0.7s							
ASAL	**Salagasta**	**2.86**	**111**	*e*P		**Pb**	**23 51 35.5**	**+0.3**
ASAL				*e*P		**Pg**	**23 51 36.0**	**-2.8**
ASAL				*e*S		**Sg**	**23 52 13.6**	**-2.2**
ARCO	**CERRO ARCO**	**2.88**	**117**	*e*P		**Pn**	**23 51 30.6**	**+0.5**
ARCO				*e*P		**Pb**	**23 51 35.7**	**+0.2**
ARCO				*e*P		**Pg**	**23 51 36.0**	**-3.2**
ARCO				*e*S		**Sb**	**23 52 11.6**	**+0.7**
ARCO				IAML			23 52 25.8	
	comp=Z,1μm,0.7s							
BO01	**Tunca**	**2.90**	**165**	*i* P		**Pn**	**23 51 31.6**	**+1.3**
BO01	**Tunca**	**2.90**	**165**			**Pn**	**23 51 31.4**	**+1.1**
BO01	**Tunca**	**2.90**	**165**	*e*P		**Pn**	**23 51 31.8**	**+1.5**
BO01				*e*S		**Sb**	**23 52 08.6**	**-2.9**
BO01				IAML			23 52 23.4	
	comp=Z,1μm,1.0s							
RTCV	**Cerro Valdivia**	**2.95**	**96**	*e*P		**Pn**	**23 51 30.6**	**-0.4**
RTCV				*e*P		**Pb**	**23 51 36.0**	**-0.7**
RTCV				*e*S		**Sg**	**23 52 17.6**	**-1.2**
AAGR	**Agrelo**	**3.06**	**120**	*e*P		**Pb**	**23 51 38.0**	**-0.7**
AAGR				*e*P		**Pg**	**23 51 38.9**	**-3.9**
AAGR				*e*S		**Sg**	**23 52 24.9**	**+2.4**
BO02	**Sierra Bellavi**	**3.36**	**163**			**Pn**	**23 51 38.6**	**+1.9**
BO02	**Sierra Bellavi**	**3.36**	**163**	*e*P		**Pn**	**23 51 38.9**	**+2.2**
BO02				*e*S		**Sb**	**23 52 25.1**	**+0.5**
BO02				IAML			23 52 33.6	
	comp=Z,997nm,0.6s							
GO05	**Huala**	**3.42**	**179**			**Pn**	**23 51 37.8**	**+0.3**
GO05	**Huala**	**3.42**	**179**	*e*P		**Pn**	**23 51 38.0**	**+0.5**
GO05				*e*S		**Sg**	**23 52 33.6**	**-0.3**
AC04	**Llanos de Chal**	**3.46**	**13**			**Pn**	**23 51 37.9**	**0.0**
AC04	**Llanos de Chal**	**3.46**	**13**	*e*P		**Pn**	**23 51 38.0**	**0.0**
AC04				*e*P		**Pn**	**23 51 38.0**	**0.0**
AC04				*e*S		**Sb**	**23 52 24.6**	**-2.8**
AC04				IAML			23 52 43.0	
	comp=Z,937nm,0.7s							
AGUA	**GUANDACOL**	**3.67**	**56**	*e*P		**Pb**	**23 51 46.0**	**-3.0**
AGUA				*e*S		**Sb**	**23 52 30.1**	**-3.5**
AGUA				IAML			23 52 42.2	
	comp=Z,2μm,0.5s							
AVFE	**Valle Fertil**	**3.99**	**78**	*e*P		**Pb**	**23 51 50.0**	**-4.5**
AVFE				*e*S		**Sb**	**23 52 40.6**	**-2.3**
AVFE				IAML			23 52 55.2	
	comp=Z,854nm,0.7s							
COIS	**El Sosneado**	**4.05**	**151**	*e*P		**Pb**	**23 51 51.0**	**-4.4**
COIS				*e*S		**Sg**	**23 52 51.5**	**-2.5**
ML02	**Panimavida**	**4.20**	**174**			**Pn**	**23 51 48.3**	**+0.2**
GO03	**Copiap**	**4.26**	**21**			**Pn**	**23 51 49.5**	**+0.5**
GO03	**Copiap**	**4.26**	**21**	*e*P		**Pn**	**23 51 50.1**	**+1.1**
GO03				*e*P		Pb	23 51 51.0	-8.1
GO03				*e*S		**Sb**	**23 52 45.1**	**-5.4**
VCA	**Vinchina**	**4.33**	**50**	*e*P		Pn	23 51 55.0	+4.9
VCA				*e*S		**Sb**	**23 52 56.1**	**+3.4**
RFA	**San Rafael**	**4.34**	**138**	*e*P		**Pn**	**23 51 53.6**	**+3.5**
RFA				*e*P		Pb	23 51 53.9	-6.6
AC06	**Mina Casimiro**	**4.44**	**19**			**Pn**	**23 51 51.8**	**+0.3**
ACHE	**Chepes**	**4.57**	**86**	*e*P		**Pn**	**23 51 57.0**	**+3.6**
ACHE				*e*S		**Sb**	**23 52 53.6**	**-6.0**
AC02	**Maricunga**	**5.35**	**29**	*e*P		**Pn**	**23 52 06.0**	**+1.6**
AC02				*e*S		**Sb**	**23 53 24.6**	**+2.3**
VA04	**Juan Fernndez**	**6.13**	**249**	Pn		**Pn**	**23 52 13.1**	**-1.5**
H03N1	**Juan Fernandez**	**6.14**	**251**	T		T	23 59 02.2	
	baz=78,slow=72,SNR=911							
H03N3	**Juan Fernandez**	**6.15**	**250**	T		T	23 58 54.2	
	baz=78,slow=72,SNR=850							
H03N2	**Juan Fernandez**	**6.15**	**251**	T		T	23 58 55.7	
	baz=78,slow=72,SNR=1021							
CYA	**Choya**	**6.21**	**61**	*e*P		**Pn**	**23 52 13.6**	**-2.2**
CYA				*e*P		**Pn**	**23 52 19.3**	**+3.5**
CYA				*e*S		**Sn**	**23 53 30.6**	**+3.8**
H03S3	**Juan Fernandez**	**6.25**	**247**	T		T	23 59 03.5	
	baz=62							
H03S1	**Juan Fernandez**	**6.25**	**247**	T		T	23 59 16.8	
	baz=62,slow=74,SNR=20							
H03S2	**Juan Fernandez**	**6.27**	**247**	T		T	23 59 08.5	
	baz=62,slow=74,SNR=20							
PB14	**IPOC Station P**	**7.07**	**12**			**Pn**	**23 52 27.1**	**-0.8**
LC01	**Cunco**	**7.30**	**179**	Pn		**Pn**	**23 52 30.7**	**-0.1**
LC01	**Cunco**	**7.30**	**179**	*e*P		**Pn**	**23 52 31.0**	**+0.2**
AHML	**Horco Molle**	**7.53**	**52**	*e*P		**Pn**	**23 52 38.0**	**+4.1**
LR03	**Panguipulli**	**8.04**	**182**			**Pn**	**23 52 40.4**	**-0.5**
PB10	**IPOC Station P**	**8.14**	**9**	Pn		**Pn**	**23 52 39.7**	**-2.6**
PB06	**IPOC Station P**	**9.10**	**14**	Pn		**Pn**	**23 52 54.4**	**-1.2**
PLCA	**Paso Flores**	**9.21**	**173**	Pn		**Pn**	**23 52 58.6**	**+1.6**
	comp=Z,1.0nm,0.3s,baz=337,slow=11,SNR=40							
PLCA					LR	LR	23 56 27.8	
	comp=Z,350nm,19.7s,baz=360,slow=37							
PLCA	**Paso Flores**	**9.21**	**173**	Pn		**Pn**	**23 52 58.0**	**+1.1**
AF01	**San Pedro de A**	**9.24**	**22**	Pn		**Pn**	**23 52 59.4**	**+1.8**
LL04	**Puerto Octay**	**9.32**	**182**	Pn		**Pn**	**23 52 58.0**	**-0.4**
LVC	**Limon Verde**	**9.35**	**18**	Pn		**Pn**	**23 52 56.9**	**-2.3**
	comp=Z,0.5nm,0.3s,baz=192,slow=13,SNR=2.2							
LVC					LR	LR	23 56 53.9	
	comp=Z,478nm,18.1s,baz=222,slow=40							
LVC	**Limon Verde**	**9.35**	**18**	*e*P		**Pn**	**23 53 02.0**	**+2.8**
PB04	**IPOC Station P**	**9.36**	**11**	Pn		**Pn**	**23 52 57.5**	**-1.6**
LL05	**Los Muermos**	**9.88**	**187**	Pn		**Pn**	**23 53 07.4**	**+1.3**
PB07	**IPOC Station P**	**9.99**	**11**	Pn		**Pn**	**23 53 06.9**	**-1.0**
PB09	**IPOC Station P**	**10.05**	**15**	Pn		**Pn**	**23 53 09.0**	**+0.3**
TRQA	**Tornquist**	**10.45**	**131**	Pn		**Pn**	**23 53 15.3**	**+1.3**
PB01	**IPOC Station P**	**10.73**	**13**	Pn		**Pn**	**23 53 19.5**	**+1.6**
ITQB	**Itaqui**	**13.37**	**86**			**Pn**	**23 53 54.9**	**+1.0**
CPUP	**Villa Florida**	**13.85**	**72**	Pn		**Pn**	**23 53 59.6**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=258,slow=19,SNR=0.9							
CPUP					LR	LR	23 59 39.2	
	comp=Z,130nm,19.5s,baz=254,slow=39							
CPUP	**Villa Florida**	**13.85**	**72**	Pn		**Pn**	**23 54 00.2**	**-0.3**
LPAZ	**La Paz**	**15.62**	**14**	Pn		**Pn**	**23 54 25.5**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=190,slow=6.3,SNR=12							
LPAZ					LR	LR	00 00 52.6	
	comp=Z,150nm,19.4s,baz=224,slow=39							
LPAZ	**La Paz**	**15.62**	**14**			**Pn**	**23 54 26.6**	**+1.6**
PLTB	**Pedras Altas**	**15.65**	**95**	Pn		**Pn**	**23 54 25.3**	**+0.5**
SIV	**San Ignacio**	**18.43**	**35**	Pn		**P**	**23 54 58.3**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=211,slow=19,SNR=3.4							
SIV					LR	LR	00 01 58.9	
	comp=Z,71nm,18.9s,baz=192,slow=37							
NNA	**Nana**	**20.01**	**346**	LR		LR	00 01 19.6	
	comp=Z,149nm,19.7s,baz=172,slow=32							
EFI	**East Falkland**	**22.54**	**157**	P		**P**	**23 55 43.7**	**-0.3**
SAML	**Samuel**	**23.96**	**22**	P		**P**	**23 55 58.7**	**+0.1**
BDFB	**Brasilia**	**27.00**	**60**	P		**P**	**23 56 26.1**	**-0.4**
	comp=Z,1.6nm,0.3s,baz=201,slow=4.2,SNR=4.1							
BDFB	**Brasilia**	**27.00**	**60**	P		**P**	**23 56 26.0**	**-0.4**
BDFB				IAmb		IAmb	23 56 40.8	
	comp=Z,17nm,1.5s							
FLOC	**Florencia**	**33.17**	**353**	P		**P**	**23 57 21.2**	**+0.3**
FLOC				IAmb		IAmb	23 57 34.2	
	comp=Z,12nm,0.8s							
ROSC	**El Rosal**	**36.29**	**356**	LR		LR	00 13 10.8	
	comp=Z,97nm,20.7s,baz=228,slow=37							
RUSC	**La Rusia**	**37.28**	**358**	P		**P**	**23 57 57.6**	**+0.8**
RUSC				IAmb		IAmb	23 58 01.1	
	comp=Z,36nm,1.5s							
VNA3	**Neumayer Olymp**	**51.58**	**159**	P		**P**	**23 59 51.5**	**+1.4**
VNA1	**Neumayer--Stat**	**51.88**	**158**	P		**P**	**23 59 54.0**	**+1.8**
VNA2	**Neumayer--Watz**	**52.22**	**158**	P		**P**	**23 59 56.3**	**+1.5**
	baz=289,slow=8.5							

SNAA Sanae 53.81 159 P **P 00 00 07.7 +1.1**
TXAR Lajitas Array 67.66 330 P **P 00 01 43.0 +1.5**
comp=Z,0.7nm,0.6s,baz=152,slow=8.2,SNR=8.4
TXAR LR LR 00 27 12.7
comp=Z,62nm,18.4s,baz=0.0,slow=32
TXAR Lajitas Array 67.66 330 P **P 00 01 41.2 -0.2**
WVT Waverly 68.98 346 P **P 00 01 50.2 +0.9**
WVT IAmb IAmb 00 02 02.4
comp=Z,4.2nm,0.9s
KAN05 Bluff City Nor 72.50 339 P **P 00 02 10.6 -0.3**
DBIC Dimbokro 74.37 72 P **P 00 02 23.4 +1.0**
comp=Z,6.0nm,1.0s,baz=237,slow=5.2,SNR=3.8
DBIC Dimbokro 74.37 72 P **P 00 02 22.6 +0.2**
MAW Mawson 75.48 164 LR LR 00 35 30.0
comp=Z,79nm,19.5s,baz=242,slow=36
SMCO Snowmass 77.55 333 P **P 00 02 41.5 +1.0**
SMCO IAmb IAmb 00 02 43.9
comp=Z,2.9nm,0.9s
BOSA Boshof 81.16 118 LR LR 00 36 21.0
comp=Z,37nm,18.3s,baz=7.5,slow=34
PDAR Pinedale Array 81.63 333 LR LR 00 35 43.9
comp=Z,42nm,19.3s,baz=70,slow=33
NVAR Mina Array Bea 81.93 325 P **P 00 03 05.1 +1.0**
comp=Z,0.9nm,0.8s,baz=155,slow=5.2,SNR=6.5
NVAR Mina Array Bea 81.93 325 P **P 00 03 04.2 +0.1**
TORD Torodi Ar. Bea 83.35 70 P **P 00 03 12.6 +0.9**
comp=Z,1.7nm,0.8s,baz=289,slow=7.1,SNR=14
TORD Torodi Ar. Bea 83.35 70 P **P 00 03 11.5 -0.2**
TORD IAmb IAmb 00 03 27.6
comp=Z,1.9nm,0.8s
WRA Warramunga Arr 122.88 210 PKP **PKiKP 00 09 41.6 +0.3**
comp=Z,0.4nm,0.7s,baz=160,slow=2.7,SNR=1.9
H11S2 WAKE ISLAND Hyl 25.82 271 T T 02 28 35.6
baz=116,slow=75,SNR=59
H11S1 WAKE ISLAND Hyl 25.83 271 T T 02 28 39.0
baz=116,slow=75,SNR=38
H11S3 WAKE ISLAND Hyl 25.83 271 T T 02 28 37.2
baz=116,slow=75,SNR=37
H11N3 WAKE ISLAND Hyl 26.17 272 T T 02 29 03.5
baz=116,slow=75,SNR=26
H11N1 WAKE ISLAND Hyl 26.18 272 T T 02 29 01.2
baz=116,slow=75,SNR=8.7
H11N2 WAKE ISLAND Hyl 26.19 272 T T 02 29 06.7
baz=116,slow=75,SNR=42
ZALV Zalesovo Beam 152.14 30 PKPbc **PKiKP 00 10 40.4 +0.8**
comp=Z,3.5nm,0.5s,baz=304,slow=3.1,SNR=18
MKAR Makanchi Array 155.09 45 PKPbc PKPbc 00 10 48.2
comp=Z,0.5nm,0.8s,baz=253,slow=1.5,SNR=3.0

*IASPEI **18** 23:51:56.1±1.1, 36°81N±0°03×97°81W±0°03, h7km±8km, Error ellipse: s-maj=4.0km s-min=3.7km az=160.1, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*ANF **18** 23:51:56.1±0.2, 36°82N×97°81W, h3km, ML3.6/6, Error ellipse: s-maj=2.7km s-min=2.3km az=162.0*

*NEIC **18** 23:51:56.3±0.9, 36°81N±0°01×97°81W±0°03, h3km±1km, mb_Lg3.1/103, Error ellipse: s-maj=3.1km s-min=1.9km az=74.0*

ISC 18 23:51:56.3±0.9, 36°83N±0°02×97°79W±0°02, h5km±7km, n110, σ1s06/89, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GC02	**Grant County #**	**0.06**	**292**			**Pg**	**23 51 57.6**	**-0.1**
GC02				Sg		**Sg**	**23 51 58.6**	**-0.2**
KAN14	**Manchester OK**	**0.18**	**313**			**Pg**	**23 52 00.1**	**0.0**
KAN17	**Caldwell West**	**0.21**	**6**			**Pg**	**23 52 00.7**	**+0.1**
KAN05	**Bluff City Nor**	**0.28**	**347**			**Pg**	**23 52 02.0**	**+0.1**
KAN13	**South Haven SW**	**0.31**	**54**			**Pg**	**23 52 02.7**	**+0.3**
OK032	**Salt Plains WL**	**0.34**	**266**			**Pg**	**23 52 02.6**	**-0.2**
KAN09	**Caldwell North**	**0.34**	**25**			**Pg**	**23 52 03.0**	**+0.1**
KAN09				Sg		**Sg**	**23 52 07.9**	**+0.5**
CROK	**Carrier**	**0.36**	**205**			**Pg**	**23 52 03.3**	**0.0**
KAN10	**Anthony SW Sta**	**0.38**	**321**			**Pg**	**23 52 03.6**	**-0.1**
KAN08	**Anthony NE Sta**	**0.42**	**340**			**Pg**	**23 52 04.5**	**0.0**
KS20	**Mayfield South**	**0.44**	**26**			**Pg**	**23 52 05.0**	**+0.1**
KS20				Sg		**Sg**	**23 52 11.1**	**+0.4**
KAN16	**Harper SW Stat**	**0.45**	**331**			**Pg**	**23 52 05.0**	**0.0**
KAN16				Sg		**Sg**	**23 52 11.5**	**+0.5**
BLOK	**Blackwell**	**0.47**	**98**			**Pg**	**23 52 05.5**	**+0.1**
BLOK				Sg		**Sg**	**23 52 12.2**	**+0.7**
KAN12	**Harper NE Stat**	**0.49**	**341**			**Pg**	**23 52 05.8**	**-0.1**
T35A	**Sooner Cattle**	**1.03**	**85**			**Pg**	**23 52 15.7**	**-0.4**
T35B	**Sooner Cattle**	**1.03**	**85**	P		**Pg**	**23 52 15.8**	**-0.4**
	baz=265,SNR=65							
T35B				S		**Sg**	**23 52 29.6**	**+0.1**
	baz=265							
OK029	**Liberty Lake**	**1.

U40A	**Yellville**	**4.00**	**95**			**Pn**	**23 52 57.9**	**-0.4**
MIAR	**Mount Ida**	**4.12**	**122**			**Pn**	**23 53 00.7**	**+0.8**
MIAR				IAmb_Lg			23 54 17.7	
	comp=Z,35nm,0.8s							
MIAR	**Mount Ida**	**4.12**	**122**	Sb		**Sg**	**23 54 06.1**	**-2.6**
	baz=305							
Z38A	**Mt. Pleasant**	**4.24**	**146**	IAmb_Lg			23 54 22.0	
	comp=Z,34nm,0.7s							
P38A	**Dawn**	**4.36**	**49**	Pn		**Pn**	**23 53 04.2**	**+0.9**
KSCO	**Kaye Shedlock'**	**4.40**	**301**			**Pn**	**23 53 04.1**	**+0.2**
KSCO	**Kaye Shedlock'**	**4.40**	**301**	Sb		**Sg**	**23 54 14.7**	**-2.9**
	baz=118							
ABTX	**Abilene, Hawle**	**4.46**	**200**	Pn		**Pn**	**23 53 04.0**	**-0.6**
R40A	**Maddies Statio**	**4.63**	**70**			**Pn**	**23 53 07.2**	**+0.3**
R40A				IAmb_Lg			23 54 29.8	
	comp=Z,33nm,1.1s							
X40A	**Basin Creek Fa**	**4.67**	**119**			**Pn**	**23 53 08.2**	**+0.8**
X40A				IAmb_Lg			23 54 32.5	
	comp=Z,29nm,0.8s							
FCAR	**Ozark Folk Cen**	**4.67**	**100**			**Pn**	**23 53 08.0**	**+0.5**
FCAR				IAmb_Lg			23 54 25.4	
	comp=Z,50nm,0.8s							
WHAR	**Wooly Hollow**	**4.72**	**107**			**Pn**	**23 53 08.4**	**+0.3**
WHAR				IAmb_Lg			23 54 31.5	
	comp=Z,35nm,0.8s							
WHTX	**Lake Whitney,**	**4.83**	**177**	Pn		**Pn**	**23 53 09.5**	**-0.2**
WHTX	**Lake Whitney,**	**4.83**	**177**	P		**Pn**	**23 53 09.6**	**-0.2**
	baz=357							
WHTX				Sb		**Sb**	**23 54 25.1**	**+5.1**
	baz=357							
WLAR	**White Oak Lake**	**4.95**	**128**	Pn		**Pn**	**23 53 11.5**	**+0.2**
WLAR				IAmb_Lg			23 54 39.1	
	comp=Z,32nm,0.9s							
MSTX	**Muleshoe**	**4.97**	**236**			**Pn**	**23 53 10.3**	**-1.4**
237A	**Washetta, Mont**	**5.09**	**161**	Pn		**Pn**	**23 53 12.6**	**-0.6**
L34A	**Svendsen Farm,**	**5.25**	**12**			**Pn**	**23 53 14.9**	**-0.5**
L34A				IAmb_Lg			23 54 41.6	
	comp=Z,31nm,0.8s							
P40A	**Paris**	**5.27**	**57**	Pg		**Pg**	**23 53 33.3**	**-3.9**
OGNE	**Ogallala**	**5.27**	**322**	Pn		**Pn**	**23 53 16.5**	**+0.6**
OGNE				IAmb_Lg			23 54 46.6	
	comp=Z,34nm,0.7s							
T25A	**Trinidad**	**5.31**	**275**	IAmb_Lg			23 54 50.9	
	comp=Z,45nm,0.7s							
N38A	**Joes South For**	**5.32**	**41**	Pn		**Pn**	**23 53 14.6**	**-1.8**
N38A				IAmb_Lg			23 54 48.3	
	comp=Z,43nm,0.8s							
CCM	**Cathedral Cave**	**5.35**	**75**	IAmb_Lg			23 54 52.1	
	comp=Z,24nm,0.8s							
LCAR	**Lake Charles**	**5.41**	**96**	IAmb_Lg			23 54 47.6	
	comp=Z,31nm,0.7s							
K31A	**O'Neill**	**5.83**	**353**	Pn		**Pn**	**23 53 20.1**	**-3.4**
PBMO	**Poplar Bluff**	**5.91**	**88**	IAmb_Lg			23 55 10.8	
	comp=Z,34nm,0.8s							
FVM	**French Village**	**5.98**	**77**	IAmb_Lg			23 55 08.5	
	comp=Z,26nm,0.8s							
435B	**Jarrell**	**6.03**	**178**	IAmb_Lg			23 55 15.1	
	comp=Z,38nm,0.8s							
SLM	**Saint Louis**	**6.26**	**71**	IAmb_Lg			23 55 15.1	
	comp=Z,36nm,0.8s							
JCT	**Junction City**	**6.55**	**195**	IAmb_Lg			23 55 39.5	
	comp=Z,31nm,0.9s							
143A	**Socs Landing,**	**6.68**	**126**	IAmb_Lg			23 55 35.1	
	comp=Z,25nm,0.7s							
ISCO	**Idaho Springs**	**6.83**	**298**	IAmb_Lg			23 55 32.9	
	comp=Z,19nm,0.7s							
S44A	**Carbondale**	**6.87**	**80**	IAmb_Lg			23 55 46.6	
	comp=Z,29nm,0.7s							
SIUC	**Southern Illin**	**6.90**	**80**	IAmb_Lg			23 55 40.2	
	comp=Z,32nm,0.8s							
ECSD	**EROS Data Cent**	**6.95**	**7**	IAmb_Lg			23 55 38.8	
	comp=Z,14nm,0.8s							
K38A	**Parkersburg**	**6.98**	**32**	IAmb_Lg			23 55 55.1	
	comp=Z,33nm,0.8s							
P43A	**Skaggs, Pawnee**	**7.09**	**64**	IAmb_Lg			23 55 42.8	
	comp=Z,29nm,0.9s							
Q44A	**Meyer Farm, Va**	**7.25**	**71**	IAmb_Lg			23 55 56.8	
	comp=Z,24nm,0.8s							
L40A	**Anamosa**	**7.29**	**42**	Pn		**Pn**	**23 53 43.4**	**-0.1**
PHWY	**Pilot Hill**	**7.45**	**309**	IAmb_Lg			23 56 03.1	
	comp=Z,13nm,0.7s							
OLIL	**Olney**	**7.91**	**73**	IAmb_Lg			23 56 12.3	
	comp=Z,18nm,0.7s							
I37A	**Lemond, Waseca**	**7.92**	**24**	IAmb_Lg			23 56 10.9	
	comp=Z,22nm,1.0s							
735A	**Kenedy**	**7.95**	**180**	IAmb_Lg			23 56 13.9	
	comp=Z,25nm,0.7s							
O44A	**Mansfield**	**8.03**	**63**	IAmb_Lg			23 56 13.0	
	comp=Z,25nm,0.9s							
MNTX	**Cornudas Mount**	**8.10**	**233**	Pn		**Pn**	**23 53 53.5**	**-1.2**
USIN	**University of**	**8.14**	**79**	IAmb_Lg			23 56 18.2	
	comp=Z,24nm,1.0s							
JFWS	**Jewell Farm**	**8.40**	**41**	IAmb_Lg			23 56 35.8	
	comp=Z,20nm,0.7s							
RSSD	**Black Hills**	**8.70**	**329**	IAmb_Lg			23 56 41.5	
	comp=Z,12nm,1.0s							
RWWY	**Rawlins**	**8.77**	**306**	IAmb_Lg			23 56 54.9	
	comp=Z,13nm,1.0s							
P46A	**Rosedale**	**8.79**	**68**	IAmb_Lg			23 56 47.6	
	comp=Z,19nm,0.8s							
M44A	**Midewin, Midew**	**8.84**	**56**	IAmb_Lg			23 56 49.9	
	comp=Z,21nm,1.0s							
PV13	**Radium Mtn., P**	**8.86**	**282**	IAmb_Lg			23 56 52.1	
	comp=Z,10nm,1.0s							
K22A	**Casper**	**8.88**	**314**	IAmb_Lg			23 56 48.6	
	comp=Z,17nm,1.0s							
PV11	**David Mesa, Pa**	**8.92**	**283**	IAmb_Lg			23 56 50.1	
	comp=Z,13nm,1.1s							
I40A	**Norwalk**	**8.93**	**36**	IAmb_Lg			23 56 50.0	
	comp=Z,14nm,1.0s							
X48A	**Hartselle**	**9.07**	**102**	IAmb_Lg			23 56 41.5	
	comp=Z,11nm,0.7s							
SFIN	**Lafayette**	**9.09**	**64**	IAmb_Lg			23 56 50.2	
	comp=Z,12nm,0.7s							
SPMN	**Marine on St.**	**9.19**	**23**	IAmb_Lg			23 56 51.2	
	comp=Z,11nm,0.9s							
WCI	**Wyandotte Cave**	**9.24**	**78**	IAmb_Lg			23 57 03.4	
	comp=Z,11nm,0.8s							
SWET	**Sewanee**	**9.74**	**96**	IAmb_Lg			23 57 11.3	
	comp=Z,9.1nm,0.8s							
W18A	**Petrified Fore**	**9.83**	**264**	IAmb_Lg			23 57 31.7	
	comp=Z,16nm,0.8s							

MEX 19 00:05:58.1±0.5, 18°27'N×100°81'W, h46km±24km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.44**	**88**	*i* P	Pn	00 06 07.0	-1.5
ARIG				*i* S	Sn	00 06 13.9	-1.9
MEIG	**Mezcala**	**1.19**	**107**	*i* P	Pn	00 06 16.4	-1.9
MEIG				*i* S	Sn	00 06 29.7	-3.7
PLIG	**Platanillo**	**1.25**	**84**	*e*P	Pn	00 06 17.8	-1.5
PLIG				*e*S	Sn	00 06 33.0	-2.0
DAIG	**Los Arroyos**	**1.66**	**138**	*i* P	Pn	00 06 22.8	-2.1
MGIG	**Malinaltepec**	**2.32**	**116**	*i* P	Pn	00 06 33.5	-0.5
MGIG				*i* S	Sn	00 06 59.8	-1.6

IDC 19 00:24:11.1±1.5, 2°93S×138°96E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.4/42, mbtmp3.6/3, ML3.7/1, Error ellipse: s-maj=31.7km s-min=22.9km az=151.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.79**	**77**	Pg	Pn	00 24 43.6	+0.3
	10nm,0.3s,baz=246,slow=20,SNR=62						
JAY				Lg	Lg	00 24 59.9	
	42nm,0.3s,baz=252,slow=15,SNR=13						
WRA	**Warramunga Arr**	**17.50**	**195**	P	Pn	00 28 16.9	+0.1
	0.3nm,0.3s,baz=14,slow=12,SNR=8.9						
ASAR	**Alice Springs**	**21.19**	**193**	P	P	00 28 58.2	-0.2
	1.0nm,0.5s,baz=23,slow=9.5,SNR=11						
MKAR	**Makanchi Array**	**70.11**	**322**	P	P	00 35 25.5	+0.1
	0.3nm,0.4s,baz=112,slow=6.4,SNR=5.7						

*IDC **19** 00:24:32.9±1.2, 33°43S×178°41W, h0km, mb4.6/5, mb1 4.6/6, mb1mx4.1/36, mbtmp4.6/6, ML4.2/1, Error ellipse: s-maj=53.4km s-min=23.4km az=163.0*
*NEIC **19** 00:24:33.8±1.3, 33°41S±0°08×178°2W±0°1, h10km±2km, mb4.4/6, Error ellipse: s-maj=22.3km s-min=10.8km az=116.0*

*WEL **19** 00:24:35.4±1.0, 33°S±11°×17°8W±2°7, h33km, M4.3/10, mB4.8/6, ML4.7/12, MLv4.5/10, Mw(mB)4.1/6, Error ellipse: s-maj=0.0km s-min=0.0km az=110.8*

ISC 19 00:24:36.6±0.8, 33°44S±0°07×178°2W±0°1, h34km, n43, σ1°47/57, mb4.4/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.17**	**4**	P	Pn	**00 25 36.2**	**-1.6**
GLKZ				S	Sn	00 26 21.0	-4.4
RAO	**Raoul Island**	**4.18**	**4**	Pn	Pn	**00 25 36.3**	**-1.7**
RAO				Sn	Sn	00 26 23.0	-2.7
MXZ	**Matakaoa Point**	**4.99**	**214**	Pn	Pn	**00 25 49.1**	**0.0**
MXZ				Sn	Sn	00 26 47.4	+1.7
MXZ	**Matakaoa Point**	**4.99**	**214**	P	Pn	**00 25 47.9**	**-1.2**
MXZ				S	Sn	00 26 45.2	-0.5
WMGZ	**Waiomatatini S**	**5.16**	**211**	P	Pn	**00 25 50.6**	**-0.8**
WMGZ				S	Sn	00 26 50.8	+1.1
PKGZ	**Pakihiroa**	**5.36**	**213**	P	Pn	**00 25 52.9**	**-1.4**
PKGZ				S	Sn	00 26 52.6	-2.3
HAZ	**Te Kaha**	**5.40**	**216**	P	Pn	**00 25 54.5**	**-0.2**
HAZ				S	Sn	00 26 57.7	+2.1
PUZ	**Puketiti**	**5.44**	**211**	P	Pn	**00 25 54.0**	**-1.3**
PUZ				S	Sn	00 26 57.0	+0.3
RUGZ	**Raukumara Rang**	**5.61**	**215**	P	Pn	**00 25 56.9**	**-0.9**
RUGZ				S	Sn	00 26 59.9	-1.2
TWGZ	**Tauwhareparae**	**5.64**	**212**	P	Pn	**00 25 58.1**	**0.0**
TWGZ				S	Sn	00 27 01.5	-0.3
CNGZ	**Carnagh Statio**	**5.81**	**209**	P	Pn	**00 25 59.4**	**-0.9**
TKGZ	**Te Karaka**	**5.92**	**211**	P	Pn	**00 26 01.4**	**-0.5**
TKGZ				S	Sn	00 27 07.3	-1.1
MWZ	**Matawai**	**5.98**	**214**	P	Pn	**00 26 01.1**	**-1.6**
MWZ				S	Sn	00 27 07.4	-2.6
OPRZ	**Ohinepanea**	**6.11**	**223**	P	Pn	**00 26 05.9**	**+1.4**
URZ	**Urewera**	**6.12**	**217**	Pn	Pn	**00 26 03.9**	**-0.7**
	6.3nm,0.3s,baz=245,slow=2.9,SNR=31						
URZ				Sn	Sn	**00 27 09.7**	**-3.8**
	4.1nm,0.3s,baz=346,slow=1.1,SNR=9.6						
URZ	**Urewera**	**6.12**	**217**		P	**00 26 04.3**	**-0.3**
RAGZ	**Rawiri**	**6.16**	**214**	P	Pn	**00 26 02.2**	**-3.0**
RAGZ				S	Sn	00 27 13.4	-1.2
RIGZ	**Rimuhau**	**6.18**	**211**	P	Pn	**00 26 03.8**	**-1.7**
RIGZ				S	Sn	00 27 13.7	-1.3
OUZ	**Omahuta**	**7.00**	**253**	Pn	Pn	**00 26 17.7**	**+1.1**
BKZ	**Black Stump Fm**	**7.13**	**215**	Pn	Pn	**00 26 17.3**	**-1.2**
HIZ	**Hauiti**	**7.55**	**226**	Pn	Pn	**00 26 23.6**	**-0.7**
BFZ	**Birch Farm**	**8.47**	**210**	Pn	Pn	**00 26 35.9**	**-1.0**
PPT	**Papeete**	**30.17**	**66**	P	P	**00 30 46.0**	**+2.3**
	23nm,0.5s,baz=67,slow=21,SNR=1.9						
CTA	**Charters Tower**	**34.22**	**284**	P	P	**00 31 19.6**	**+0.4**
	2.4nm,0.5s,baz=123,slow=12,SNR=6.6						
BBOO	**Buckleboo**	**38.05**	**258**	P	P	**00 31 52.6**	**+0.7**
BBOO				IAmb	IAmb	00 32 11.2	
	comp=Z,13nm,1.2s						
AS31	**Alice Springs**	**42.84**	**270**	P	P	**00 32 31.9**	**+0.2**
AS31				IAmb	IAmb	00 32 32.8	
	comp=Z,1.8nm,0.7s						
ASAR	**Alice Springs**	**42.84**	**270**	P	P	**00 32 31.7**	**0.0**
	comp=Z,5.1nm,0.7s,baz=111,slow=7.4,SNR=49						
ASAR				PcP	PcP	**00 34 23.3**	**+0.9**
	comp=Z,1.4nm,0.9s,baz=108,slow=4.0,SNR=4.5						
ASAR	**Alice Springs**	**42.84**	**270**	P	P	**00 32 31.3**	**-0.4**
WR0	**Warramunga Arr**	**43.93**	**276**	P	P	**00 32 40.8**	**+0.4**
WR0				IAmb	IAmb	00 32 54.8	
	comp=Z,7.4nm,1.1s						
WB2	**Warramunga Arr**	**44.10**	**275**	P	P	**00 32 41.8**	**0.0**
WB2				IAmb	IAmb	00 32 42.4	
	comp=Z,6.9nm,0.7s						
WRA	**Warramunga Arr**	**44.11**	**275**	P	P	**00 32 41.2**	**-0.7**
	comp=Z,6.0nm,0.8s,baz=124,slow=7.9,SNR=24						
WRA				PcP	PcP	**00 34 27.8**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=126,slow=4.2,SNR=2.9						
WRA	**Warramunga Arr**	**44.11**	**275**	P	P	**00 32 42.0**	**+0.1**
WB0	**Warramunga Arr**	**44.14**	**276**	P	P	**00 32 42.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**52.23**	**272**	P	P	**00 33 44.6**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=136,slow=12,SNR=4.0						
H03S2	**Juan Fernandez**	**78.96**	**123**	T	T	02 07 59.5	
	baz=242,slow=74,SNR=16						
H03S1	**Juan Fernandez**	**78.97**	**123**	T	T	02 08 00.7	
	baz=242,slow=74,SNR=17						
H03S3	**Juan Fernandez**	**78.97**	**123**	T	T	02 07 59.5	
	baz=242,slow=74,SNR=16						
KBZ	**Khabaz**	**146.56**	**300**	PKPbc	**PKPab**	**00 44 15.1**	**-0.2**
	comp=Z,2.4nm,1.0s,baz=76,slow=5.5,SNR=4.1						
FINES	**FINESS Array B**	**147.91**	**338**	PKPbc	**PKPab**	**00 44 18.9**	**-1.1**
	comp=Z,4.0nm,0.9s,baz=64,slow=4.4,SNR=11						
NOA	**NORSAR Array B**	**151.71**	**350**	PKPbc	**PKiKP**	**00 44 28.9**	**+1.6**
	comp=Z,1.3nm,0.9s,baz=6.9,slow=18,SNR=3.7						
AKASG	**Malin Array Be**	**153.53**	**319**	PKPbc	**PKiKP**	**00 44 31.9**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=58,slow=1.2,SNR=2.1						
BRTR	**Keskin Array B**	**153.75**	**293**	PKPbc	**PKiKP**	**00 44 33.0**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=130,slow=5.3,SNR=4.0						
CLL	**Collm**	**160.35**	**339**	*e*PKPab	**PKPab**	**00 45 12.0**	**-0.9**

*IDC **19** 00:25:44.0±1.0, 31°08S×72°54W, h0km, mb3.9/4, mb1 4.0/8, mb1mx3.8/29, mbtmp3.8/8, ML3.8/4, Error ellipse: s-maj=38.7km s-min=21.8km az=103.0*

ISC 19 00:25:49.2±1.0, 31°03S±0°09×72°3W±0°2, h35km, n13, σ1°74/11, mb3.8/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N1	**Juan Fernandez**	**6.06**	**245**	T	T	00 33 10.5	
	baz=71,slow=71,SNR=7.0						
H03N3	**Juan Fernandez**	**6.08**	**245**	T	T	00 33 09.4	
	baz=71,slow=71,SNR=6.3						
H03N2	**Juan Fernandez**	**6.08**	**245**	T	T	00 33 09.0	
	baz=71,slow=71,SNR=8.6						
LVC	**Limon Verde**	**8.93**	**21**	Pn	Pn	**00 27 54.2**	**-1.8**
	0.2nm,0.3s,baz=190,slow=20,SNR=1.2						
LVC				Sn	Sn	**00 29 33.1**	**-2.5**
	0.3nm,0.3s,baz=1.1,slow=21,SNR=1.6						
PLCA	**Paso Flores**	**9.79**	**172**	Pn	Pn	**00 28 05.7**	**-1.9**
	0.3nm,0.3s,baz=332,slow=11,SNR=8.6						
LPAZ	**La Paz**	**15.17**	**16**	Pn	Pn	**00 29 22.4**	**+1.0**
	0.1nm,0.3s,baz=204,slow=7.1,SNR=4.9						
SIV	**San Ignacio**	**18.17**	**37**	P	P	**00 30 00.1**	**+1.3**
	0.5nm,0.3s,baz=226,slow=11,SNR=22						
BDFB	**Brasilia**	**27.00**	**61**	P	P	**00 31 30.3**	**+2.2**
	1.2nm,0.4s,baz=183,slow=27,SNR=3.1						
QSPA	**South Pole Qui**	**59.20**	**180**	P	P	**00 35 46.8**	**+0.3**
	2.3nm,0.7s,baz=194,slow=0.9,SNR=5.4						
TXAR	**Lajitas Array**	**67.03**	**330**	P	P	**00 36 39.5**	**+0.7**
	0.3nm,0.4s,baz=156,slow=7.3,SNR=5.9						
TORD	**Torodi Ar. Bea**	**83.45**	**71**	P	P	**00 38 14.9**	**+1.4**
	0.3nm,0.7s,baz=283,slow=6.2,SNR=4.7						
WRA	**Warramunga Arr**	**123.21**	**210**	PKP	**PKPdf**	**00 44 42.9**	**+0.1**
	0.4nm,0.5s,baz=156,slow=2.0,SNR=4.9						
ZALV	**Zalesovo Beam**	**151.81**	**29**	PKPbc	**PKPbc**	**00 45 38.7**	**-1.0**
	1.6nm,0.5s,baz=294,slow=3.3,SNR=5.7						

*IDC **19** 00:27:58.6±0.5, 22°02S×170°21E, h0km, mb4.8/19, mb1 4.9/20, mb1mx4.8/30, mbtmp4.8/20, ML4.7/1, MS4.3/16, Ms1 4.3/16, ms1mx4.1/29, Error ellipse: s-maj=17.0km s-min=14.9km az=98.0*
*NOU **19** 00:28:03.0, 22°16S×169°87E, h1km, mb5.1/47, Southeast of Loyalty Islands*
*MOS **19** 00:28:03.6±1.4, 22°05S×169°94E, h33km, mb5.1/20, MS4.4/5, Error ellipse: s-maj=9.9km s-min=9.3km az=172.6*
*NEIC **19** 00:28:04.3±1.9, 22°10S±0°07×169°97E±0°07, h24km±3km, mb5.0/74, Mwr5.0/10, Error ellipse: s-maj=10.5km s-min=9.6km az=177.0*
*BGR **19** 00:28:04.6±0.0, 22°15S×170°86E, h39km, Ms4.5*
*NEIC **19** 00:28:05.5, 22°12S×169°93E, h24km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr0.00; Mθθ-1.75; Mθθ 1.75; Mrθ0.44; Mθφ2.50; Mφr-1.32; Fault plane solution: M₀3.36000×10¹⁶ NP1:φ₀342.52000°, δ89.74000°, λ-155.53000°. NP2:φ₀252.39000°, δ65.53000°, λ-0.29000°. Principal axes: T 3.3461, Plg17.0000°, Azm115.0000°; N 0.0200, Plg66.0000°, Azm343.0000°; P -3.3661, Plg17.0000°, Azm210.0000°;*
*GCMT **19** 00:28:06.3±0.2, 22°09S±0°01×170°00E±0°01, h22km±1km, MW5.0/120, Moment Tensor Solution. s58,c70; s120,c161; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.14±.12; Mθθ0.45±.12; Mθφ-0.59±.11; Mrθ2.27±.23; Mθθ3.57±.08; Mφr-1.22±.18; Best double couple: M₀4.34400×10¹⁶ NP1:φ₀8.00000°, δ58.00000°, λ-173.00000°. NP2:φ₀274.00000°, δ84.00000°, λ-32.00000°. Principal axes: T 3.8280, Plg17.0000°, Azm325.0000°; N 1.0320, Plg58.0000°, Azm85.0000°; P -4.8610, Plg26.0000°, Azm226.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 00:28:04.5±0.4, 22°17S±0°05×170°03E±0°05, h32km±2km, h33km: pP-P, n445, σ1°31/473, mb5.0/95, MS4.5/29, 49C-33D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.98**	**290**	Pn	Pn	**00 28 34.3**	**-1.4**
MARNC	**Mare, Loyalty**	**1.98**	**290**	P	Pn	**00 28 34.3**	**-1.4**
PINNC	**Pines Island,**	**2.43**	**259**	Pn	Pn	**00 28 41.2**	**-0.7**
PINNC	**Pines Island,**	**2.43**	**259**	P	Pn	**00 28 41.7**	**-0.2**
YATNC	**Mamie plateau,**	**2.91**	**272**	P	Pn	**00 28 47.4**	**-1.2**
LIFNC	**LIFOU**	**2.95**	**298**	Pn	Pn	**00 28 47.0**	**-2.0**
LIFNC	**LIFOU**	**2.95**	**298**	P	Pn	**00 28 49.4**	**+0.4**
OUENC	**Ouen Island, N**	**2.96**	**265**	Pn	Pn	**00 28 47.9**	**-1.4**
OUENC	**Ouen Island, N**	**2.96**	**265**	P	Pn	**00 28 49.1**	**-0.1**
ONTNC	**Ouen Toro**	**3.32**	**267**	Pn	Pn	**00 28 53.7**	**-0.4**
ONTNC	**Ouen Toro**	**3.32**	**267**	P	Pn	**00 28 54.4**	**+0.3**
DZM	**Mont Dzumac**	**3.33**	**271**	*e*Pn	Pn	**00 28 54.0**	**-0.4**
	674nm,0.8s						
DZM				*e*Sn	Sn	**00 29 30.0**	**-2.8**
	3µm,0.8s						
DZM				*e*LR	LR	00 29 35.4	
	comp=Z,5µm,22.8s						
DZM	**Mont Dzumac**	**3.33**	**271**	Pn	Pn	**00 28 54.4**	**0.0**
	72nm,0.3s,baz=120,slow=10,SNR=1078						
DZM				Sn	Sn	**00 29 31.7**	**-1.1**
	130nm,0.3s,baz=78,slow=20,SNR=14						
DZM				LR	LR	00 30 06.9	
	comp=Z,3µm,18.2s,baz=104,slow=37						
DZM	**Mont Dzumac**	**3.33**	**271**		Pn	**00 28 53.9**	**-0.4**
DZM	**Mont Dzumac**	**3.33**	**271**	P	Pn	**00 28 54.0**	**-0.4**
NOUC	**Port Laguerre**	**3.46**	**271**	P	Pn	**00 28 56.3**	**+0.3**
RTV	**Rentapao**	**4.51**	**341**	P	Pn	**00 29 23.8**	**+1.5**
DVP	**Devils Point**	**4.75**	**338**	P	Pn	**00 29 15.2**	**+1.3**
KOUNC	**Koumac, New Ca**	**5.59**	**286**	P	Pn	**00 29 25.9**	**+0.5**
NFK	**Norfolk Island**	**7.10**	**195**	P	Pn	**00 29 46.3**	**+0.2**
SANVU	**Saraoutou**	**7.21**	**338**	Pn	Pn	**00 29 46.7**	**-0.9**
SANVU	**Saraoutou**	**7.21**	**338**	P	Pn	**00 29 48.8**	**+1.2**
MSVF	**Nonsavu**	**8.74**	**61**	Pn	Pn	**00 30 08.7**	**0.0**
	0.8nm,0.3s,baz=208,slow=13,SNR=21						
MSVF				LR	LR	00 32 52.5	
	comp=Z,6µm,18.1s,baz=224,slow=34						
MSVF	**Nonsavu**	**8.74**	**61**	*d*P	Pn	**00 30 10.3**	**+1.6**
MSVF				pmax	pmax		
	comp=Z,69nm,1.2s						
MSVF	**Nonsavu**	**8.74**	**61**	Pn	Pn	**00 30 09.7**	**+1.0**
MSVF	**Nonsavu**	**8.74**	**61**	P	Pn	**00 30 12.3**	**+3.6**
RAO	**Raoul Island**	**12.94**	**125**	LR	LR	00 34 01.7	
	comp=Z,134nm,19.0s,baz=346,slow=28						
OUZ	**Omahuta**	**13.37**	**167**		Pn	**00 31 13.2**	**+1.3**
HNR	**Honiara**	**15.95**	**321**	Pn	P	**00 31 49.9**	**+0.1**
	comp=Z,8.8nm,0.3s,baz=246,slow=8.8,SNR=6.7						
HNR				LR	LR	00 37 10.8	
	comp=Z,884nm,19.5s,baz=144,slow=35						
HNR	**Honiara**	**15.95**	**321**	P	Pn	**00 31 46.8**	**+0.3**
HNR				pmax	pmax		
	comp=Z,181nm,0.9s						
HNR	**Honiara**	**15.95**	**321**		Pn	**00 31 46.8**	**+0.3**
FUNA	**Funafuti**	**16.18**	**34**	Pn	Pn	**00 31 50.0**	**+0.5**
FUNA				IAmb	IAmb	00 32 02.1	
	comp=Z,223nm,1.2s						
HIZ	**Hauiti**	**16.80**	**167**		Pn	**00 31 58.0**	**+0.7**
HIZ				IAmb	IAmb	00 32 13.8	
	comp=Z,212nm,1.3s						
URZ	**Urewera**	**17.15**	**161**	P	P	**00 32 03.6**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=7.3,slow=6.4,SNR=8.6						
URZ				LR	LR	00 37 21.6	
	comp=Z,864nm,20.5s,baz=31,slow=33						
URZ	**Urewera**	**17.15**	**161**		Pn	**00 32 00.6**	**-1.0**
EIDS	**Eidsvold**	**17.63**	**256**	P	P	**00 32 08.3**	**-0.1**
BKZ	**Black Stump Fm**	**17.82**	**163**	P	P	**00 32 11.4**	**+1.0**
ARMA	**Armidale**	**18.41**	**240**	P	P	**00 32 17.4**	**+0.3**
AFI	**Afiamalu**	**19.14**	**68**	LR	LR	00 38 23.2	
	comp=Z,425nm,20.6s,baz=238,slow=33						
BFZ	**Birch Farm**	**19.19**	**165**	P	Pn	**00 32 26.3**	**-0.3**
BFZ				IAmb	IAmb	00 32 28.6	
	comp=Z,89nm,1.3s						
TUWZ	**Tuamarina**	**19.48**	**171**	P	Pn	**00 32 30.1**	**+0.1**
THZ	**Tophouse**	**19.68**	**174**	P	Pn	**00 32 33.0**	**+0.6**
THZ				IAmb	IAmb	00 32 44.7	
	comp=Z,174nm,1.5s						
BSWZ	**Blackbirch Sta**	**19.75**	**171**	P	Pn	**00

WB2 IAmb IAmb 00 34 51.1
comp=Z,14nm,0.8s
WRAB Tennant Creek 33.33 267 ⇓*e*P **P** **00 34 38.1 -1.6**
WRAB pmax pmax
comp=Z,8.0nm,0.8s
WRAB Tennant Creek 33.33 267 P **P** **00 34 37.5 -2.2**
WRAB IAmb IAmb 00 34 52.7
comp=Z,16nm,0.9s
WRA Warramunga Arr 33.34 267 P **P** **00 34 38.6 -1.1**
comp=Z,11nm,0.8s,baz=98,slow=7.8,SNR=22
WRA PcP **PcP** **00 37 21.2 -0.2**
comp=Z,1.5nm,0.7s,baz=98,slow=4.3,SNR=3.5
WRA LR LR 00 48 38.9
comp=Z,2µm,18.2s,baz=110,slow=37
WRA Warramunga Arr 33.34 267 P **P** **00 34 38.2 -1.6**
JAY Jayapura 34.54 300 P **P** **00 34 50.5 +0.3**
comp=Z,18nm,1.1s
TBI Tubuai 37.29 100 *e*LQ LQ 00 43 35.8
comp=Z,877nm,31.8s
TBI *e*LR LR 00 45 20.0
comp=Z,265nm,33.0s
MTN Manton Dam 38.14 277 P **P** **00 35 20.3 -0.7**
MTN IAmb IAmb 00 35 23.6
comp=Z,20nm,0.7s
PPT2 Papeete2 38.18 91 *e*LQ LQ 00 44 10.7
comp=Z,1µm,27.2s
PPT2 *e*LR LR 00 45 45.7
comp=Z,170nm,22.2s
PPT Papeete 38.19 91 LR LR 00 46 31.6
comp=Z,166nm,21.8s,baz=254,slow=29
FORT Forrest 38.35 248 P **P** **00 35 22.1 -0.6**
KNRA Kununurra 39.48 272 P **P** **00 35 31.9 -0.3**
KNRA IAmb IAmb 00 35 47.6
comp=Z,20nm,0.8s
FAKI Fak Fak 41.35 292 P **P** **00 35 46.5 -1.2**
FAKI IAmb IAmb 00 35 49.3
comp=Z,33nm,0.9s
FAKI Fak Fak 41.35 292 P **P** **00 35 48.6 +0.9**
comp=Z,43nm,0.9s
FITZ Fitzroy Crossi 41.77 267 P **P** **00 35 51.4 +0.4**
comp=Z,25nm,1.0s,baz=110,slow=9.0,SNR=28
FITZ Fitzroy Crossi 41.77 267 P **P** **00 35 51.2 +0.2**
FITZ IAmb IAmb 00 36 06.0
comp=Z,32nm,0.8s
SIJI Sorong 43.25 294 P **P** **00 36 04.7 +1.5**
comp=Z,28nm,1.2s
BATI Baumata 45.92 277 LR LR 00 55 58.2
comp=Z,763nm,20.0s,baz=136,slow=36
PSA00 Pilbara Seismi 46.40 261 P **P** **00 36 28.2 0.0**
PSA00 Pilbara Seismi 46.40 261 P **P** **00 36 27.8 -0.4**
PSA00 IAmb IAmb 00 36 29.3
comp=Z,19nm,0.8s
SANI Sanana 47.22 289 P **P** **00 36 35.3 +0.6**
comp=Z,968nmcomp=Z,67nm,1.1s
TNTI Ternate 47.43 293 P **P** **00 36 35.7 -0.5**
NWAO Narrogin (SRO) 47.59 245 P **P** **00 36 37.6 +0.2**
comp=Z,43nm,1.0s,baz=93,slow=5.5,SNR=11
NWAO Narrogin (SRO) 47.59 245 P **P** **00 36 37.8 +0.4**
MORW Morawa 48.82 250 P **P** **00 36 46.8 -0.1**
TAOE Nuku Hiva Isla 49.58 83 *e*LR LR 00 51 03.3
comp=Z,262nm,24.3s
MNI Manado 49.94 292 P P 00 37 08.4 +13
WBSI Waikabubak, Su 50.05 276 P **P** **00 36 57.2 +0.7**
comp=Z,46nm,0.9s
LUWI Luwuk 50.52 288 P **P** **00 37 00.2 +0.1**
BKSI Bulukumba 51.02 282 P **P** **00 37 04.6 +0.8**
comp=Z,28nm,0.9s
GTOI Gorontalo 51.12 290 P **P** **00 37 05.8 +1.3**
comp=Z,16nm,0.8s
BNSI Bone 51.42 283 P **P** **00 37 08.0 +1.2**
comp=Z,27nm,1.2s
KAPI Kappang 51.49 282 P **P** **00 37 08.0 +0.8**
comp=Z,9.5nm,0.8s,baz=175,slow=12,SNR=4.0
KAPI Kappang 51.49 282 P **P** **00 37 07.3 0.0**
KAPI pmax pmax
comp=Z,30nm,1.1s
KAPI Kappang 51.49 282 P **P** **00 37 07.2 0.0**
KAPI IAmb IAmb 00 37 09.6
comp=Z,30nm,1.1s
APSI Ampana 51.58 287 P **P** **00 37 09.0 +1.1**
comp=Z,22nm,1.0s
TWSI Taliwang, Sumb 52.69 276 P **P** **00 37 15.9 -0.3**
comp=Z,17nm,1.0s
TOLI2 Tolitoli 53.29 289 P **P** **00 37 20.0 -0.7**
TOLI2 IAmb IAmb 00 37 21.9
comp=Z,25nm,0.9s
MPSI Mapaga 53.70 288 P **P** **00 37 24.9 +1.2**
JAGI Jajag, Banyuwa 55.30 275 P **P** **00 37 35.2 -0.1**
comp=Z,51nm,1.1s
VNDA Vanda 55.54 182 P **P** **00 37 36.7 +0.6**
comp=Z,3.0nm,0.7s,baz=2.9,slow=7.6,SNR=28
VNDA LR LR 00 59 02.6
comp=Z,359nm,18.4s,baz=18,slow=34
SBA Scott Base 55.75 181 P **P** **00 37 38.6 +1.0**
SBA pmax pmax
comp=Z,37nm,1.0s
SBA Scott Base 55.75 181 P **P** **00 37 38.6 +1.0**
CASY Casey 57.76 204 P **P** **00 37 51.0 -1.0**
CASY IAmb IAmb 00 37 53.3
comp=Z,34nm,1.4s
SJI Sawahan 57.77 275 P **P** **00 37 54.3 +1.3**
SPMM Sapulut 58.80 290 P **P** **00 38 02.0 +1.9**
KSM Kuching 62.77 284 P **P** **00 38 28.0 +0.9**
JOW Kunigami 63.30 318 LR LR 01 01 22.4
comp=Z,279nm,21.5s,baz=115,slow=32
MJAR Matsushiro Arr 65.68 332 P **P** **00 38 43.6 -2.1**
comp=Z,6.5nm,0.9s,baz=168,slow=6.6,SNR=12
MJAR Matsushiro Arr 65.68 332 P **P** **00 38 44.8 -1.0**
MJAR IAmb IAmb 00 38 57.0
comp=Z,6.1nm,0.8s
MAJO Matsushiro 65.68 332 ⇓*e*P **P** **00 38 44.3 -1.4**
MAJO pmax pmax
comp=Z,8.0nm,0.9s
MAJO Matsushiro 65.68 332 P **P** **00 38 45.0 -0.8**
MAJO IAmb IAmb 00 38 49.8
comp=Z,16nm,1.1s
MAT Matsushiro 65.68 332 P **P** **00 38 43.5 -2.2**
JWT Wachi 65.91 329 P **P** **00 38 47.2 0.0**
MDSI Maura Dua 65.97 275 P **P** **00 38 47.6 -0.5**
YHNB Yeheng 66.34 312 P **P** **00 38 49.3 -0.9**
QSPA South Pole Qui 67.89 180 P **P** **00 38 59.4 -0.3**
comp=Z,41nm,1.0s,baz=21,slow=2.2,SNR=54
QSPA South Pole Qui 67.89 180 P **P** **00 38 59.9 +0.2**
TJN Taejon 70.83 325 ⇓*e*P **P** **00 39 17.5 -0.4**
KSRS Korea Array 71.34 326 P **P** **00 39 19.4 -1.6**
comp=Z,5.3nm,0.9s,baz=142,slow=6.6,SNR=15
MNSI Mandailing Nat 72.24 278 P **P** **00 39 27.2 +0.2**
IPM Ipoh 72.42 282 P **P** **00 39 29.0 +0.9**
NJ2 Nanjing 72.83 316 *e*P **P** **00 39 31.8 +1.7**
NJ2 pmax pmax
comp=Z,17nm,0.5s
KULM Kulim 73.10 283 P **P** **00 39 33.0 +0.9**
UBPT Khong Chiam 73.38 295 P **P** **00 39 37.7 +4.0**
comp=Z,1µmcomp=Z,8.0nm,1.4s
UBPT Khong Chiam 73.38 295 P **P** **00 39 37.7 +4.0**
comp=Z,1µmcomp=Z,7.7nm,1.4s
RPSI Rantau Prapat 73.60 280 P **P** **00 39 33.6 -1.5**
RPSI IAmb IAmb 00 39 36.1
comp=Z,24nm,1.2s
PSI Prapat 73.65 280 P **P** **00 39 33.6 -1.9**
PSI pmax pmax
comp=Z,24nm,1.2s
PSI Prapat 73.65 280 P **P** **00 39 35.4 -0.1**
comp=Z,22nm,1.2s
GSI Gunungsitoli 74.28 278 P **P** **00 39 38.3 -0.8**
GSI Gunungsitoli 74.28 278 P **P** **00 39 41.0 +1.9**
USRK Ussuriysk Ar. 74.67 333 P **P** **00 39 40.1 -0.5**
comp=Z,5.1nm,0.9s,baz=135,slow=4.3,SNR=8.9
SKNT Sakolnakorn 75.45 295 P **P** **00 39 46.8 +1.1**
comp=Z,38nm,1.0s
SURA Surathani 75.66 286 P **P** **00 39 50.6 +3.6**
comp=Z,24nm,1.2s
PEA0B Petropavlovsk- 75.73 352 *de*P **P** **00 39 45.5 -1.0**
PETK Petropavlovsk- 75.73 352 P **P** **00 39 45.4 -1.1**
comp=Z,7.0nm,1.1s,baz=134,slow=6.4,SNR=7.9
PETK LR LR 01 07 44.8
comp=Z,328nm,21.5s,baz=154,slow=32
PETK Petropavlovsk- 75.73 352 P **P** **00 39 45.6 -0.9**
MAW Mawson 76.01 202 P **P** **00 39 48.3 +0.3**
comp=Z,9.6nm,0.8s,baz=113,slow=7.3,SNR=17
MAW LR LR 01 11 34.2
comp=Z,112nm,18.2s,baz=81,slow=34
MAW Mawson 76.01 202 P **P** **00 39 48.6 +0.5**
MDJ Mudanjiang 76.04 331 P **P** **00 39 52.0 +3.5**
MDJ pP sP 00 40 00.0 -0.3
MDJ sP pwP 00 40 03.9 +0.2
MDJ pmax pmax
comp=Z,14nm,0.9s
MDJ pmax pmax
comp=Z,85nm,7.1s
MDJ LR LR
comp=Z,260nm,23.1s
KHON Khomkaen 76.12 294 P **P** **00 39 51.8 +2.3**
comp=Z,3µmcomp=Z,34nm,0.8s
TIA Tai'an 76.62 318 ⇑P **P** **00 39 51.9 -0.1**
TIA pmax pmax
comp=Z,22nm,1.1s
TIA LR LR
comp=N,150nm,22.4s
TIA LR LR
comp=E,150nm,16.7s
TIA LR LR
comp=Z,140nm,21.1s
CHAI Chaiyaphum 76.63 293 P **P** **00 39 54.1 +1.7**
comp=Z,488nmcomp=Z,18nm,0.9s
NONG Nongkai 76.67 296 P **P** **00 39 54.0 +1.4**
comp=Z,5µmcomp=Z,33nm,1.2s
CN2 Changchun 77.34 329 *e*P **P** **00 39 54.8 -1.0**
CN2 *es*P pwP 00 40 13.0 +2.0
CN2 PP **PP** **00 42 51.8 +1.1**
CN2 *e*S **S** **00 49 41.5 -2.2**
CN2 Changchun 77.34 329 *e*SS SS 00 54 46.3 +3.1
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 LR LR
comp=N,140nm,16.0s
CN2 LR LR
comp=E,170nm,16.0s
CN2 LR LR
comp=Z,250nm,18.0s
SLVN Son La 77.64 299 P **P** **00 39 58.1 0.0**
GYA Guiyang 78.10 305 ⇓P **P** **00 40 01.1 +0.5**
GYA pmax pmax
comp=Z,13nm,1.3s
GYA LR LR
comp=Z,260nm,19.4s
PHIT Phitsanulok 78.56 294 P **P** **00 40 05.6 +2.4**
comp=Z,38nm,0.8s
UTHA Uthaitani 78.64 292 P **P** **00 40 06.4 +2.7**
comp=Z,3µmcomp=Z,22nm,0.8s
UTTA Uttaradit 78.69 294 P **P** **00 40 06.4 +2.5**
comp=Z,11nm,0.9s
KLR Kul'dur 78.84 336 *de*P **P** **00 40 03.9 -0.1**
KLR pmax pmax
comp=Z,6.0nm,1.0s
BJI Beijing 79.67 321 P **P** **00 40 09.3 +0.5**
BJI pP **pP** **00 40 18.3 +0.9**
BJI sP **sP** **00 40 20.1 -0.5**
BJI Beijing 79.67 321 S **S** **00 50 14.8 +5.9**
BJI pmax pmax
comp=Z,13nm,0.7s
BJI LR LR
comp=N,140nm,19.2s
BJI LR LR
comp=E,190nm,25.1s
LAMP Lampang 79.83 295 P **P** **00 40 13.0 +2.9**
comp=E,387nmcomp=E,24nm,0.8s
CM04 Chiang Mai Arr 80.33 294 P **P** **00 40 15.3 +2.5**
comp=E,132nmcomp=E,17nm,1.1s
CM09 Chiang Mai Arr 80.33 294 P **P** **00 40 15.4 +2.5**
comp=E,119nmcomp=E,14nm,1.1s
CM01 Chiang Mai Arr 80.35 294 P **P** **00 40 15.9 +2.9**
comp=E,147nmcomp=E,17nm,1.2s
CM05 Chiang Mai Arr 80.35 294 P **P** **00 40 15.5 +2.5**
comp=E,100nmcomp=E,12nm,1.1s
CM02 Chiang Mai Arr 80.37 294 P **P** **00 40 15.6 +2.5**
comp=E,138nmcomp=E,17nm,1.1s
CM31 Chiang Mai Arr 80.38 294 P **P** **00 40 13.0 -0.1**
CMAR Chiang Mai Arr 80.38 294 P **P** **00 40 14.3 +1.2**
comp=E,11nm,1.0s,baz=137,slow=4.0,SNR=37
CMAR Chiang Mai Arr 80.38 294 P **P** **00 40 13.8 +0.7**
CMAR Chiang Mai Arr 80.38 294 P **P** **00 40 13.8 +0.7**
CM15 Chiang Mai Arr 80.39 294 P **P** **00 40 16.0 +2.8**
comp=E,146nmcomp=E,16nm,1.1s
CM13 Chiang Mai Arr 80.40 294 P **P** **00 40 15.7 +2.5**
comp=E,15nm,1.1s
CMMT Chiang Mai 80.54 295 P **P** **00 40 15.7 +1.7**
comp=E,27nm,1.2s
CMMT Chiang Mai 80.54 295 P **P** **00 40 15.7 +1.7**
comp=E,25nm,1.2s
CHTO Chiang Mai 80.54 295 P **P** **00 40 13.1 -0.9**
CHTO pmax pmax
comp=Z,28nm,1.1s
CHTO Chiang Mai 80.54 295 P **P** **00 40 15.9 +1.9**
comp=Z,27nm,1.2s
CHTO Chiang Mai 80.54 295 P **P** **00 40 13.1 -0.9**
CHTO Chiang Mai 80.54 295 P **P** **00 40 15.9 +1.9**
comp=Z,15nm,1.2s
XAN Xi'an 80.63 313 P **P** **00 40 14.8 +0.6**
XAN pP pP 00 40 22.3 -0.6
XAN sP sP 00 40 26.3 +0.2
XAN Xi'an 80.63 313 S **S** **00 50 20.4 +1.0**
XAN pmax pmax
comp=Z,20nm,1.0s
XAN pmax pmax
comp=Z,92nm,4.1s
XAN LR LR
comp=N,160nm,16.2s
XAN LR LR
comp=E,160nm,18.2s
XAN LR LR
comp=Z,190nm,21.8s
SYO Syowa Base 82.33 196 ⇓*e*P **P** **00 40 22.2 -0.4**
CD2 Chengdu 82.60 307 P **P** **00 40 25.1 +0.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
HHC Hu-ho-hao-te 82.92 319 *e*P **P** **00 40 27.5 +1.3**
HHC Hu-ho-hao-te 82.92 319 S **S** **00 50 41.6 -1.3**
HHC pmax pmax
comp=Z,16nm,0.8s
HHC pmax pmax
comp=Z,110nm,7.4s
HHC LR LR
comp=N,190nm,17.9s
HHC LR LR
comp=E,190nm,17.0s
HHC LR LR
comp=Z,200nm,17.9s
PMSA Palmer Station 83.91 160 P **P** **00 40 30.0 -0.8**
comp=Z,9.4nm,1.0s,baz=242,slow=5.1,SNR=6.1
PMSA Palmer Station 83.91 160 P **P** **00 40 30.4 -0.4**
PMSA IAmb IAmb 00 40 31.8
comp=Z,17nm,1.1s
ZEA Zeya 84.13 336 *e*P **P** **00 40 31.6 -0.3**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
ZEA MLR MLR
comp=Z,100nm,15.0s
LZH Lanzhou 85.23 312 *e*P **P** **00 40 40.0 +1.9**
LZH sP sP 00 40 51.3 +1.2
LZH Lanzhou 85.23 312 SKS **S** **00 51 05.4 -1.0**
LANS Lanzhou 85.23 312 S **S** **00 51 12.8 +6.4**
LZH Lanzhou 85.23 312 sS sS 00 51 23.8 +3.0
LZH pmax pmax
comp=Z,32nm,1.4s
LZH pmax pmax
comp=Z,150nm,6.2s
LZH LR LR
comp=N,320nm,16.8s
LZH LR LR
comp=E,290nm,17.0s
LZH LR LR
comp=Z,310nm,19.2s
SNAA Sanae 86.27 182 P **P** **00 40 42.4 -0.3**
SNAA Sanae 86.27 182 *d*iP **P** **00 40 42.0 -0.7**
SNAA pmax pmax
comp=Z,23nm,1.0s
SNAA Sanae 86.27 182 P **P** **00 40 41.5 -1.2**
VNA3 Neumayer Olymp 86.83 180 P **P** **00 40 45.0 -0.4**
VNA2 Neumayer--Watz 87.14 181 P **P** **00 40 46.7 -0.1**
baz=182,slow=3.8
VNA1 Neumayer--Stat 87.42 181 P **P** **00 40 48.0 -0.1**
CMB Columbia Colle 88.56 48 P **P** **00 40 53.4 -0.7**
CMB pmax pmax
comp=Z,5.0nm,1.2s
CMB Columbia Colle 88.56 48 P **P** **00 40 53.4 -0.7**
ISA Isabella, Lake 88.75 51 P **P** **00 40 54.6 -0.5**
ISA pmax pmax
comp=Z,11nm,1.4s
ISA Isabella, Lake 88.75 51 P **P** **00 40 54.6 -0.5**
ISA IAmb IAmb 00 40 57.0
comp=Z,11nm,1.4s
ULN Ulaanbaatar 89.65 323 *d*iP **P** **00 40 58.8 -0.3**
ULN Ulaanbaatar 89.65 323 P **P** **00 40 57.9 -1.2**
ULN Ulaanbaatar 89.65 323 P **P** **00 40 59.4 +0.3**
GTA Gaotai 89.67 313 ⇓P **P** **00 41 00.0 +0.6**
GTA pP pP 00 41 08.0 -0.2
GTA sP sP 00 41 11.4 0.0
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA pmax pmax
comp=Z,84nm,6.0s
GTA LR LR
comp=N,210nm,20.0s
GTA LR LR
comp=E,200nm,20.4s
GTA LR LR
comp=Z,220nm,20.7s
BILL Bilibino 89.99 359 *e*P **P** **00 40 57.9 -2.1**
BILL *e* 00 44 35.0
BILL *e*PPP PPP 00 46 30.9
BILL pmax pmax
comp=Z,8.0nm,1.0s
BILL MLR MLR
comp=Z,81nm,18.0s
SONM Songino Array 90.00 323 P **P** **00 40 59.8 -1.0**
comp=Z,9.2nm,1.0s,baz=142,slow=4.3,SNR=39
SONM Songino Array 90.00 323 IAmb IAmb 00 41 02.1
comp=Z,14nm,1.1s
LCH Last Change Ra 90.08 50 P **P** **00 41 01.0 -0.5**
NVAR Mina Array Bea 90.19 48 P **P** **00 41 00.5 -1.5**
comp=Z,0.9nm,0.8s,baz=226,slow=7.9,SNR=6.7
NV11 Mina Array Sit 90.29 48 P **P** **00 41 01.9 -0.4**
TPH Tonopah 90.77 49 P **P** **00 41 03.4 -1.3**
TPH pmax pmax
comp=Z,43nm,1.5s
TPH Tonopah 90.77 49 P **P** **00 41 03.4 -1.3**
PINE Pine Mountain 91.06 43 P **P** **00 41 05.9 0.0**
PINE IAmb IAmb 00 41 18.4
comp=Z,4.4nm,0.9s
PRN Pahroc Range 92.00 50 IAmb IAmb 00 41 22.3
comp=Z,3.5nm,0.9s
I07A Izee 92.11 43 **P** **00 41 11.1 +0.5**
ILAR Eielson Array 92.80 17 P **P** **00 41 09.7 -3.5**
comp=Z,0.7nm,0.8s,baz=230,slow=5.5,SNR=6.2
ILAR LR LR 01 21 42.6
comp=Z,122nm,18.2s,baz=238,slow=35
SCRK Sand Creek 93.02 19 P **P** **00 41 14.2 -0.2**
SCRK IAmb IAmb 00 41 31.8
comp=Z,8.0nm,1.4s
ZAK Zakamensk 93.10 324 *e*P **P** **00 41 13.2 -1.8**
ZAK pmax pmax
comp=Z,14nm,1.3s
H03S2 Juan Fernandez 93.96 129 T T 02 25 51.1
baz=239
H03S1 Juan Fernandez 93.97 129 T T 02 25 44.5
baz=239
H03S3 Juan Fernandez 93.98 129 T T 02 25 41.4
baz=239
EFI East Falkland 95.27 152 ⇓*e*P **P** **00 41 24.0 -1.0**
EFI pmax pmax
comp=Z,38nm,1.0s
WMQ Urumqi 99.75 313 *e*P **Pdif** **00 41 47.5 +2.1**
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,100nm,4.3s
WMQ LR LR
comp=N,690nm,29.0s
WMQ LR LR
comp=E,1µm,29.2s
WMQ LR LR
comp=Z,210nm,23.9s
MKAR Makanchi Array 104.33 315 Pdiff **Pdif** **00 42 03.1 -2.5**
comp=Z,0.5nm,0.9s,baz=98,slow=7.4,SNR=2.2
MKAR PP **PP** **00 46 27.8 +3.2**
comp=Z,1.1nm,1.0s,baz=91,slow=7.6,SNR=3.2
BDFB Brasilia 127.07 132 PKP **PKPdf** **00 47 05.7 -0.7**
comp=Z,2.7nm,0.5s,baz=27,slow=3.9,SNR=3.7
PQI Presque Isle 127.58 48 PKPdf **PKPdf** **00 47 04.9 -1.3**
ARCES ARCESS Array B 128.08 345 PKP **PKPdf** **00 47 05.6 -0.9**
comp=Z,3.6nm,0.9s,baz=90,slow=2.7,SNR=5.6
AKT Akhty 128.30 306 *e*PKIKP **PKiKP** **00 47 08.2 -0.3**
AKT *e* 00 49 14.0
AKT pmax pmax
comp=Z,6.0nm,1.2s
KMBO Kilima Mbogo 128.47 250 PKP **PKPdf** **00 47 09.3 +0.1**
comp=Z,4.4nm,0.9s,baz=62,slow=2.4,SNR=9.2
SMRT St. Maarten 130.16 85 PKPdf **PKPdf** **00 47 11.2 -0.8**
GNI Garni 130.65 304 ⇓*i*PKIKP **PKiKP** **00 47 13.0 -0.4**
MOS Moscow 131.53 326 *e*P **Pdif** **00 44 11.5 +5.3**
KIV Kislovodsk 131.73 310 *e*PKIKP **PKiKP** **00 47 15.5 +0.2**
KIV pmax pmax
comp=Z,9.0nm,1.1s
OBN Obninsk 132.34 326 *i* PKIKP **PKiKP** **00 47 16.0 0.0**
OBN *e* 00 49 36.5
OBN *e*PPP PPP 00 52 30.3
OBN pmax pmax
comp=Z,3.0nm,0.9s
FINES FINESS Array B 133.57 337 PKP **PKPdf** **00 47 15.7 -1.4**
comp=Z,4.4nm,0.9s,baz=64,slow=3.2,SNR=2.2
MBAR Mbarara 134.32 246 ⇓*i*PKIKP **PKiKP** **00 47 21.3 -0.3**
AKASG Malin Array Be 138.28 323 PKP **PKPdf** **00 47 25.1 -1.1**
comp=Z,0.5nm,0.5s,baz=47,slow=2.0,SNR=5.4
AKASG Malin Array Be 138.28 323 **PKPdf** **00 47 26.2 0.0**
NOA NORSAR Array B 138.46 345 PKP **PKPdf** **00 47 24.8 -1.5**
comp=Z,1.5nm,1.1s,baz=39,slow=1.8,SNR=2.4
BRTR Keskin Array B 139.16 306 PKP **PKPdf** **00 47 27.5 -0.8**
comp=Z,0.4nm,0.7s,baz=0.0,slow=2.0,SNR=2.0
SORM Soroca 139.97 320 ⇑P **PKPdf** **00 47 28.6 -0.8**
SORM Soroca 139.97 320 ⇑PKIKP **PKPdf** **00 47 28.6 -0.8**
CFR Carcaliu 141.37 316 ⇑P **PKPdf** **00 47 31.8 -0.1**
CFR Carcaliu 141.37 316 ⇑PKIKP **PKPdf** **00 47 31.8 -0.1**
BURAR Bucovina Array 142.08 321 ⇑P **PKPdf** **00 47 34.0 +0.6**
BURAR Bucovina Array 142.08 321 ⇑PKIKP **PKPdf** **00 47 34.0 +0.6**
MLR Muntele Rosu 142.63 317 ⇑P **PKiKP** **00 47 36.3 -1.3**
MLR Muntele Rosu 142.63 317 ⇑PKIKP **PKiKP** **00 47 36.3 -1.3**
ARCR ARCALIA 142.85 320 ⇑P **PKPdf** **00 47 32.0 -2.6**
KOLS Kolonicke sedl 143.04 324 *e* **PKiKP** **00 47 45.6 +7.5**
UZH Uzhgorod 143.20 324 *e*PKIKP **PKPdf** **00 47 35.5 +0.4**
UZH *i* 00 47 41.0
UZH *e* 00 47 50.5
VOIR 143.22 318 ⇑P **PKPdf** **00 47 34.4 -1.0**
VOIR 143.22 318 ⇑PKIKP **PKPdf** **00 47 34.4 -1.0**
TRPA Tarpa 143.35 323 ⇑P PKPbc 00 47 32.5 0.0
CJR Cluj-Napoca 143.49 320 ⇑P PKPbc 00 47 32.8 -0.3
CJR Cluj-Napoca 143.49 320 ⇑PKIKP PKPbc 00 47 32.8 -0.3
CRVS Cervenica-Dubn 143.50 325 *e*PKP **PKiKP** **00 47 37.4 -1.7**
CRVS *e* 00 47 49.1
CRVS *e*PDIFF 01 02 05.4
ARR Arges 143.51 318 ⇑P PKPbc 00 47 33.6 +0.4
HUMR Humele 143.68 316 ⇑P PKPab 00 47 32.2 -0.6
DRGR 143.97 321 ⇑P PKPab 00 47 33.7 -0.3
DRGR 143.97 321 ⇑PKIKP PKPab 00 47 33.7 -0.3
LOT Lotru 144.01 318 ⇑P **PKPab** **00 47 33.2 -1.0**
LANS Liptovska Anna 144.40 326 *e*PKP **PKPdf** **00 47 38.1 +0.8**
KAC Achnashellach 144.55 356 *e*P **PKPab** **00 47 34.2 -1.5**
GZR Gura Zlata 144.65 319 ⇑P **PKPab** **00 47 36.1 -0.5**
GZR Gura Zlata 144.65 319 ⇑PKHKP PKPpre 00 47 36.1
KPL Plockton 144.73 356 *e*P **PKPab** **00 47 34.5 -1.8**
BSEG Bad Segeberg 144.76 339 *e*PKPbc **PKPab** **00 47 36.0 -0.5**
baz=35,slow=2.8
BSEG *e*pPKPbc **pPKPdf** **00 47 47.8 +1.1**
baz=35,slow=2.8
SIRR Siria 144.86 321 ⇑P **PKPdf** **00 47 38.0 -0.2**
PSZ Piszkesteto 144.92 324 ⇑P **PKPab** **00 47 36.8 -0.7**
PSZ Piszkesteto 144.92 324 ⇑PKIKP **PKPab** **00 47 36.8 -0.7**
PSZ Piszkesteto 144.92 324 PKPdf **PKPab** **00 47 36.9 -0.6**
BAIL Bailesti 144.95 316 ⇑P **PKPdf** **00 47 38.6 +0.3**
MORC Moravsky Berou 144.95 329 ⇑P **PKPab** **00 47 37.1 -0.4**
MORC Moravsky Berou 144.95 329 ⇑PKIKP **PKPab** **00 47 37.1 -0.4**
MORC Moravsky Berou 144.95 329 *e*PKP **PKPab** **00 47 36.5 -1.0**
OSTC Ostas 145.04 331 *e*PKP **PKPbc** **00 47 37.3 -0.5**
OSTC *ex* x 00 47 49.5
KARP Karpathos 145.07 301 **PKPbc** **00 47 37.3 -1.1**
CHVC Chvalec 145.09 331 *e*PKP **PKPbc** **00 47 37.5 -0.4**
CHVC *ex* x 00 47 49.2
KRLC Kraliky 145.11 330 *e*PKIKP **PKPbc** **00 47 37.5 -0.5**
KRLC *e* 00 47 48.7
KRLC Kraliky 145.11 330 *e*PKP **PKPbc** **00 47 37.5 -0.5**
KRLC *ep*PKP **pPKPdf** **00 47 48.7 +1.2**
HERR Herculane 145.12 318 ⇑P **PKPbc** **00 47 37.6 -0.5**
VYHS Vyhne 145.13 326 *e*PKP **PKPdf** **00 47 38.5 -0.1**
VYHS *e* 00 47 49.5
DPC Dobruska-Polom 145.14 330 *e*PKIKP **PKPbc** **00 47 37.5 -0.6**
DPC *e* 00 47 49.4

DPC				MLR	MLR		
	comp=Z,100nm,23.4s						
DPC	**Dobruska-Polom**	**145.14**	**330**	*e*PKP	**PKPbc**	**00 47 37.5**	**-0.6**
DPC				*ep*PKP	sPKPab	00 47 49.4	-0.6
DPC				AMS	AMS	01 47 30.0	
	comp=Z,100nm,23.4s						
UPC	**Upice**	**145.17**	**331**	*e*PKIKP	**PKPbc**	**00 47 37.7**	**-0.4**
UPC				*e*		00 47 49.3	
UPC	**Upice**	**145.17**	**331**	*e*PKP	**PKPbc**	**00 47 37.7**	**-0.4**
UPC				*ep*PKP	sPKPab	00 47 49.3	-0.8
BZS	**Buzias**	**145.23**	**320**	⇓P	**PKPbc**	**00 47 38.3**	**-0.2**
BZS	**Buzias**	**145.23**	**320**	⇓PKIKP	**PKPbc**	**00 47 38.3**	**-0.2**
EDU	**Dundee**	**145.29**	**353**	*e*P	**PKPbc**	**00 47 37.2**	**-1.1**
JAVC	**Velka Javorina**	**145.49**	**327**	*e*PKP	**PKPab**	**00 47 40.0**	**+0.4**
JAVC				*e*		00 47 51.4	
INVG	**Invergeldie, C**	**145.51**	**354**	*e*P	**PKPdf**	**00 47 36.5**	**-2.4**
MDVR	**Moldovita**	**145.61**	**319**	⇑P	**PKPbc**	**00 47 39.7**	**-0.1**
VTS	**Vitosha**	**145.65**	**314**	⇑P	**PKPbc**	**00 47 40.1**	**0.0**
VTS	**Vitosha**	**145.65**	**314**	⇑PKP2	**PKPbc**	**00 47 40.1**	**0.0**
VTS	**Vitosha**	**145.65**	**314**		**PKPbc**	**00 47 40.2**	**0.0**
VRAC	**Vranov**	**145.72**	**329**	⇑P	**PKPbc**	**00 47 39.7**	**-0.2**
VRAC	**Vranov**	**145.72**	**329**	⇑PKP2	**PKPbc**	**00 47 39.7**	**-0.2**
VRAC	**Vranov**	**145.72**	**329**	*e*PKP	**PKPdf**	**00 47 39.4**	**-0.1**
VRAC				*e*		00 47 50.9	
FLTG	**Flechtingen**	**145.75**	**337**	*e*PKPbc	**PKPdf**	**00 47 39.2**	**-0.2**
	baz=35,slow=2.8						
FLTG				*ep*PKPbc	**sPKPdf**	**00 47 51.0**	**-0.5**
	baz=35,slow=2.8						
PVCC	**Panska Ves**	**145.80**	**332**	*e*PKP2	**PKPbc**	**00 47 39.9**	**-0.2**
PVCC	**Panska Ves**	**145.80**	**332**	*e*PKP	**PKPbc**	**00 47 39.9**	**-0.2**
PVCC				*ex*	x	00 47 51.2	
BRG	**Berggiesshubel**	**145.81**	**333**	*e*PKPbc	**PKPbc**	**00 47 39.8**	**-0.3**
	baz=35,slow=2.8						
BRG				*ep*PKPbc	**sPKPdf**	**00 47 51.6**	**-0.1**
	baz=35,slow=2.8						
BRG	**Berggiesshubel**	**145.81**	**333**	⇑*i*PKP	**PKPdf**	**00 47 39.5**	**-0.1**
BRG				Amp		00 47 41.3	
	comp=Z,64nm,1.1s						
BRG				*i* pPKP	**sPKPdf**	**00 47 51.3**	**-0.4**
BRG				Amp		00 47 52.3	
	comp=Z,73nm,0.8s						
BRG	**Berggiesshubel**	**145.81**	**333**	P	PKiKP	00 47 58.1	+14
BRG				Amp		00 47 58.8	
	comp=Z,25nm,0.8s						
SRO	**Srobarova**	**145.83**	**325**	*e*	PKiKP	00 47 52.3	+8.5
SMOL	**Smolenice**	**145.84**	**327**	*e*PKP	**PKPab**	**00 47 41.0**	**+0.2**
SMOL				*e*		00 47 52.6	
ESY	**Stoneypath**	**145.86**	**353**	*e*P	**PKPdf**	**00 47 38.6**	**-1.0**
CLL	**Collm**	**145.87**	**334**	*i* PKPbc	**PKPdf**	**00 47 39.4**	**-0.3**
	comp=Z,47nm,1.0s						
CLL				*i* PKiKP	**PKiKP**	**00 47 44.0**	**+0.2**
CLL	**Collm**	**145.87**	**334**	*i* PKPbc	**PKiKP**	**00 47 51.3**	**+7.5**
	comp=Z,81nm,0.8s						
CLL				*e*		00 48 00.0	
CLL	**Collm**	**145.87**	**334**	*i* PKP2	**PKPdf**	**00 47 39.4**	**-0.3**
CLL				pmax	pmax		
	comp=Z,47nm,1.0s						
CLL	**Collm**	**145.87**	**334**	*e*PKPbc	**PKPdf**	**00 47 39.7**	**+0.1**
	baz=35,slow=2.8						
CLL				*ep*PKPbc	**sPKPdf**	**00 47 51.6**	**-0.2**
	baz=35,slow=2.8						
KRUC	**Moravsky**	**145.99**	**329**	*e*PKP	**PKPdf**	**00 47 40.2**	**+0.2**
KRUC				*e*		00 47 51.7	
MODS	**Modra-Piesok**	**146.01**	**327**	*e*PKP	**PKPbc**	**00 47 40.6**	**-0.3**
MODS				*e*		00 47 52.0	
NRDL	**Niedersach Rie**	**146.02**	**338**	*e*PKPbc	**PKPbc**	**00 47 40.4**	**-0.2**
	baz=35,slow=2.8						
NRDL				*ep*PKPbc	**sPKPdf**	**00 47 52.1**	**+0.1**
	baz=35,slow=2.8						
FBE	**Freiberg**	**146.02**	**333**	*e*PKPbc	**PKPbc**	**00 47 40.8**	**0.0**
	baz=35,slow=2.8						
FBE				*ep*PKPbc	**sPKPdf**	**00 47 52.5**	**+0.4**
	baz=35,slow=2.8						
EBL	**Broad Law**	**146.05**	**353**	*e*P	**PKPdf**	**00 47 39.0**	**-0.9**
ASSE	**Asse, Remlinge**	**146.12**	**337**	*e*PKPbc	**PKPbc**	**00 47 40.6**	**-0.3**
	baz=35,slow=2.8						
ASSE				*ep*PKPbc	**sPKPdf**	**00 47 52.3**	**+0.1**
	baz=35,slow=2.8						
PGBU	**Glenifferbraes**	**146.16**	**354**	*e*P	**PKPdf**	**00 47 40.0**	**0.0**
BOVS	**Bovan**	**146.18**	**317**	⇑P	**PKPdf**	**00 47 40.1**	**-0.4**
PRA	**Prague**	**146.19**	**331**	*e*PKP2	**PKPbc**	**00 47 41.4**	**+0.1**
PRA	**Prague**	**146.19**	**331**	*e*PKP	**PKPbc**	**00 47 41.4**	**+0.1**
PRU	**Pruhonice**	**146.20**	**331**	*e*PKP2	**PKPdf**	**00 47 40.7**	**+0.4**
PRU				MLR	MLR		
	comp=Z,100nm,15.8s						
PRU	**Pruhonice**	**146.20**	**331**	*e*PKP	**PKPdf**	**00 47 40.7**	**+0.4**
PRU				*ep*PKP	**sPKPdf**	**00 47 52.3**	**-0.1**
PRU				AMS	AMS	01 56 30.0	
	comp=Z,100nm,15.8s						
SANT	**Santorini**	**146.22**	**303**	⇑P	**PKPdf**	**00 47 39.7**	**-1.1**
TREC	**Trest**	**146.26**	**330**	*e*PKP2	**PKPbc**	**00 47 41.2**	**-0.4**
TREC				MLR	MLR		
	comp=Z,100nm,20.2s						
TREC	**Trest**	**146.26**	**330**	*e*PKP	**PKPbc**	**00 47 41.2**	**-0.4**
TREC				*ep*PKP	**sPKPdf**	**00 47 52.7**	**+0.1**
TREC				AMS	AMS	01 49 50.0	
	comp=Z,100nm,20.2s						
NEUB	**Neuenburg**	**146.44**	**335**	*e*PKPbc	**PKPbc**	**00 47 41.8**	**-0.3**
	baz=35,slow=2.8						
NEUB				*ep*PKPbc	sPKPbc	00 47 53.5	-0.6
	baz=35,slow=2.8						
CLZ	**Clausthal**	**146.46**	**337**	*e*PKPbc	**PKPbc**	**00 47 41.9**	**-0.2**
	baz=35,slow=2.8						
CLZ				*ep*PKPbc	sPKPbc	00 47 53.7	-0.5
	baz=35,slow=2.8						
EKA	**Eskdalemuir Ar**	**146.50**	**353**	PKPbc	**PKPdf**	**00 47 40.3**	**-0.3**
	comp=Z,5.8nm,0.5s,baz=1.5,slow=2.4,SNR=54						
ESK	**Eskdalemuir**	**146.52**	**353**	PKP2	**PKPdf**	**00 47 40.6**	**0.0**
ESK	**Eskdalemuir**	**146.52**	**353**	PKPdf	**PKPdf**	**00 47 40.6**	**0.0**
FRGS	**Fruska Gora**	**146.55**	**320**	⇑P	**PKPbc**	**00 47 42.8**	**+0.2**
FRGS	**Fruska Gora**	**146.55**	**320**	⇑*i*P	**PKPdf**	**00 47 41.3**	**+0.2**
MORH	**Mrgy, Hungar**	**146.62**	**323**	⇑*i*P	**PKPdf**	**00 47 41.7**	**+0.6**
VAY	**Valandovo**	**146.66**	**313**	*i* P	**PKPdf**	**00 47 41.3**	**-0.1**
PBCC	**Pribram**	**146.66**	**331**	*e*PKP	**PKPbc**	**00 47 42.0**	**-0.8**
PBCC				*ex*	x	00 47 53.8	
STIP	**Stip**	**146.76**	**313**	*e*P	**PKPdf**	**00 47 41.9**	**+0.4**
TANN	**Tannenbergstha**	**146.78**	**334**	*e*PKPbc	**PKPbc**	**00 47 42.8**	**-0.3**
	baz=35,slow=2.8						
TANN				*ep*PKPbc	sPKPbc	00 47 54.7	-0.5
	baz=35,slow=2.8						
WERD	**Werda**	**146.82**	**334**	*e*PKPbc	**PKPbc**	**00 47 42.8**	**-0.4**
	baz=35,slow=2.8						
WERD				*ep*PKPbc	sPKPbc	00 47 54.8	-0.5
	baz=35,slow=2.8						
NEWG	**New Galloway**	**146.82**	**354**	*e*P	**PKPdf**	**00 47 41.2**	**0.0**
EDMD	**Edmundbyers**	**146.84**	**352**	*e*P	**PKPdf**	**00 47 41.2**	**0.0**
GTTG	**Gottingen**	**146.85**	**337**	*e*PKPbc	**PKPbc**	**00 47 42.9**	**-0.3**
	baz=35,slow=2.8						
GTTG				*ep*PKPbc	sPKPbc	00 47 54.8	-0.5
	baz=35,slow=2.8						
PLN	**Plauen**	**146.85**	**334**	*e*PKPbc	**PKPbc**	**00 47 42.9**	**-0.4**
	baz=35,slow=2.8						
PLN				*ep*PKPbc	sPKPbc	00 47 54.7	-0.6
	baz=35,slow=2.8						
GUNZ	**Gunzen**	**146.87**	**334**	*e*PKPbc	**PKPbc**	**00 47 43.2**	**-0.1**
	baz=35,slow=2.8						
GUNZ				*ep*PKPbc	sPKPbc	00 47 55.1	-0.4
	baz=35,slow=2.8						
WERN	**Wernitzgruen**	**146.91**	**333**	*e*PKPbc	**PKPbc**	**00 47 43.4**	**-0.1**
	baz=35,slow=2.8						
WERN				*ep*PKPbc	sPKPbc	00 47 55.2	-0.4
	baz=35,slow=2.8						
MOX	**Moxa**	**146.94**	**335**	*e*PKPbc	**PKPbc**	**00 47 43.1**	**-0.4**
	baz=35,slow=2.8						
MOX				*ep*PKPbc	sPKPbc	00 47 54.9	-0.7
	baz=35,slow=2.8						
MOX				*e*L	L	01 53 59.5	
	comp=Z,77nm,21.2s						
IBBN	**Ibbenburen**	**146.96**	**340**	*e*PKPbc	**PKPbc**	**00 47 42.9**	**-0.6**
	baz=35,slow=2.8						
IBBN				*ep*PKPbc	sPKPbc	00 47 54.8	-0.8
	baz=35,slow=2.8						
CONA	**Conrad Observa**	**147.01**	**327**	*e*P	**PKPbc**	**00 47 43.0**	**-0.9**
	comp=Z,17nm,1.4s,SNR=8.7						
CONA				*e*P	**sPKPbc**	**00 47 55.6**	**-0.4**
	comp=Z,10nm,0.8s						
DIVS	**Divibare**	**147.01**	**319**	⇑*i*P	**PKPbc**	**00 47 43.3**	**-0.7**
DIVS	**Divibare**	**147.01**	**319**		**PKPbc**	**00 47 43.0**	**-1.0**
TEKS	**Tekeris**	**147.05**	**320**	*e*P	**PKPbc**	**00 47 43.3**	**-0.8**
GAL1	**Galloway**	**147.12**	**354**	*e*P	**PKPdf**	**00 47 42.2**	**+0.5**
SKO	**Skopje**	**147.13**	**314**	*i* P	**PKPbc**	**00 47 44.3**	**-0.1**
CKRC	**Cesky Krumlov**	**147.15**	**330**	*e*PKP	**PKPbc**	**00 47 43.5**	**-0.7**
CKRC				*ex*	x	00 47 55.6	
MANZ	**Manzenberg**	**147.25**	**333**	*e*PKPbc	**PKPbc**	**00 47 44.2**	**-0.2**
	baz=35,slow=2.8						
MANZ				*ep*PKPbc	**sPKPbc**	**00 47 56.0**	**-0.5**
	baz=35,slow=2.8						
KHC	**Kasperske Hory**	**147.26**	**331**	*e*PKP2	**PKPbc**	**00 47 43.9**	**-0.6**
KHC				MLR	MLR		
	comp=Z,100nm,19.7s						
KHC	**Kasperske Hory**	**147.26**	**331**	*e*PKP	**PKPbc**	**00 47 43.9**	**-0.6**
KHC				*ex*	x	00 47 55.8	
KHC				AMS	AMS	01 58 20.0	
	comp=Z,100nm,19.7s						
ROTZ	**Rotzenmuhle**	**147.38**	**333**	*e*PKPbc	**PKPbc**	**00 47 44.6**	**-0.2**
	baz=35,slow=2.8						
ROTZ				*ep*PKPbc	**sPKPbc**	**00 47 56.4**	**-0.5**
	baz=35,slow=2.8						
GEC2	**GERESS Array S**	**147.41**	**331**	*e*PKPbc	**PKPbc**	**00 47 44.7**	**-0.3**
	baz=35,slow=2.8						
GEC2				*ep*PKPbc	**pPKPab**	**00 47 56.3**	**+0.5**
	baz=35,slow=2.8						
GERES	**GERESS Array B**	**147.41**	**331**	PKPbc	**PKPbc**	**00 47 44.4**	**-0.6**
	comp=Z,4.9nm,0.6s,baz=50,slow=2.3,SNR=48						
GERES	**GERESS Array B**	**147.41**	**331**	PKP2	**PKPbc**	**00 47 44.1**	**-0.9**
GERES	**GERESS Array B**	**147.41**	**331**		**PKPbc**	**00 47 44.0**	**-0.9**
UBBA	**Unterbreizbach**	**147.43**	**336**	*e*PKPbc	**PKPbc**	**00 47 44.7**	**0.0**
	baz=35,slow=2.8						
BBLS	**Lazići**	**147.50**	**319**	⇑*i*P	**PKPbc**	**00 47 44.2**	**-1.2**
WET	**Wettzell**	**147.56**	**332**	*e*PKPbc	**PKPbc**	**00 47 45.1**	**-0.2**
	baz=35,slow=2.8						
WET				*ep*PKPbc	**pPKPab**	**00 47 56.8**	**+0.5**
	baz=35,slow=2.8						
ARSA	**Arzberg**	**147.64**	**327**	*e*P	**PKPbc**	**00 47 45.4**	**-0.2**
	comp=Z,6.9nm,1.6s						
RUDO	**Rudo**	**147.65**	**318**	*e*P	**PKPdf**	**00 47 43.8**	**+0.8**
HAPS	**Han Pijesak,Bl**	**147.65**	**319**	*e*P	**PKPbc**	**00 47 45.5**	**-0.3**
KASTN	**Kahler Asten**	**147.68**	**338**	*e*PKPbc	**PKPbc**	**00 47 45.1**	**-0.5**
	baz=35,slow=2.8						
KASTN				*ep*PKPbc	**pPKPab**	**00 47 56.8**	**+0.1**
	baz=35,slow=2.8						
KOGS	**Kog**	**147.79**	**325**	*i* PKPbc	**PKPbc**	**00 47 45.1**	**-0.9**
KOGS				*i* PKPab	**pPKPdf**	**00 47 51.6**	**-0.5**
KOGS				*i* pPKPbc	**pPKPab**	**00 47 57.1**	**-0.2**
WIM	**Isle of Man**	**147.82**	**354**	*e*P	**PKPdf**	**00 47 43.9**	**+1.0**
GRF	**Grafenberg Arr**	**147.84**	**334**	*e*PKPbc	**PKPbc**	**00 47 45.8**	**-0.3**
	baz=35,slow=2.8						
GRF				*e*L	L	01 56 27.2	
	comp=Z,77nm,18.8s						
MOA	**Molln**	**147.85**	**329**	*i* P	**PKPbc**	**00 47 46.2**	**0.0**
	comp=Z,5.3nm,0.8s						
MOA				*i* P	**pPKPab**	**00 47 57.4**	**-0.1**
	comp=Z,9.0nm,0.8s						
BUG	**Bochum--Univer**	**147.86**	**340**	*e*PKPbc	**PKPbc**	**00 47 45.4**	**-0.6**
	baz=35,slow=2.8						
BUG				*ep*PKPbc	**pPKPab**	**00 47 57.0**	**-0.3**
	baz=35,slow=2.8						
OHR	**Ohrid**	**147.95**	**313**	*i* P	**PKPbc**	**00 47 46.6**	**-0.1**
LBWR	**Ladybower, Pea**	**148.19**	**351**	*e*P	**PKPbc**	**00 47 45.5**	**-1.4**
SOKA	**Soboth**	**148.27**	**326**	*e*P	**PKPbc**	**00 47 47.1**	**-0.3**
	comp=Z,11nm,1.2s						
SOKA				*i* P	**sPKPbc**	**00 47 58.2**	**-1.3**
	comp=Z,12nm,0.8s						
BLY	**Banja Luka**	**148.32**	**322**	⇑*i*P	**PKPbc**	**00 47 46.8**	**-0.6**
MRAK	**Mrakovica**	**148.32**	**322**	⇑*i*P	**PKPbc**	**00 47 46.5**	**-1.0**
PDG	**Podgorica**	**148.34**	**316**	⇑P	**PKPbc**	**00 47 47.2**	**-0.3**
PDG	**Podgorica**	**148.34**	**316**	*e*P	**PKPbc**	**00 47 46.3**	**-1.2**
PDG	**Podgorica**	**148.34**	**316**		**PKPbc**	**00 47 46.8**	**-0.7**
TNS	**Taunus Mts**	**148.49**	**337**	*e*PKPbc	**PKPbc**	**00 47 47.5**	**-0.3**
	baz=35,slow=2.8						
MILB	**Miltenberg**	**148.50**	**336**	*e*PKPbc	**PKPbc**	**00 47 47.4**	**-0.3**
	baz=35,slow=2.8						
MILB				*ep*PKPbc	**sPKPbc**	**00 47 59.1**	**-0.7**
	baz=35,slow=2.8						
DRME	**Dracevica, Mon**	**148.50**	**316**	*e*P	**PKPbc**	**00 47 47.4**	**-0.6**
BRY	**Bratogost**	**148.54**	**318**	*e*P	**PKPbc**	**00 47 47.6**	**-0.7**
MGRS	**Mrkonjic Grad**	**148.57**	**321**	*e*P	**PKPbc**	**00 47 46.4**	**-1.8**
CRES	**Cresnjev**	**148.61**	**325**	⇑*i*P	**PKPbc**	**00 47 47.0**	**-1.2**
OBKA	**Obir**	**148.63**	**327**	*e*P	**PKPab**	**00 47 59.1**	**+7.2**
	comp=Z,8.7nm,1.0s						
ITM	**Ithomi**	**148.69**	**306**		**PKPbc**	**00 47 48.6**	**-0.1**
YRC	**Rhoscolyn**	**148.70**	**354**	*e*P	**PKPbc**	**00 47 47.0**	**-1.1**
YLL	**Llanberis**	**148.77**	**353**	*e*P	**PKPbc**	**00 47 46.3**	**-2.0**
CWF	**Charnwood Fore**	**148.77**	**350**	*e*P	**PKPbc**	**00 47 47.3**	**-1.0**
HCY	**Herceg Novi**	**148.81**	**317**	*e*P	**PKPbc**	**00 47 47.2**	**-1.6**
KBA	**Koelnbreinsper**	**148.84**	**328**	*e*P	**PKPbc**	**00 47 48.2**	**-0.8**
	comp=Z,11nm,1.2s						
KBA				*e*P	**pPKPbc**	**00 47 59.4**	**+1.5**
	comp=Z,11nm,0.8s						
FOEL	**Foel Wylfa**	**148.90**	**352**	*e*P	**PKPbc**	**00 47 47.2**	**-1.4**
BOJS	**Bojanci**	**148.93**	**325**	⇑*i*P	**PKPbc**	**00 47 47.7**	**-1.3**
LJU	**Ljubljana**	**148.96**	**326**	⇑*i*P	**PKPbc**	**00 47 47.7**	**-1.3**
LJU	**Ljubljana**	**148.96**	**326**	*i* PKPbc	**PKPbc**	**00 47 48.2**	**-0.9**
LJU				*i* PKPab	**PKPab**	**00 47 52.9**	**-0.2**
LJU				*i* pPKPdf	**sPKPbc**	**00 48 00.4**	**-0.7**
BTNL	**Ternell**	**148.96**	**340**	*d*PKPdf	**PKPdf**	**00 47 45.0**	**+0.1**
BTNL				*d*PKPbc	**PKPbc**	**00 47 48.3**	**-0.6**
BTNL				*ds*PKPbc	**sPKPbc**	**00 48 00.0**	**-1.0**
MEM	**Membach**	**148.98**	**340**	*d*PKPbc	**PKPbc**	**00 47 48.4**	**-0.6**
MEM				*d*PKPab	**PKPab**	**00 47 52.2**	**-0.8**
MEM				*ds*PKP		00 48 00.0	
FUR	**Furstenfeldbru**	**149.00**	**332**	*e*PKPab	**PKPab**	**00 47 53.5**	**+0.3**
MYKA	**Terra Mystica**	**149.01**	**328**	*i* P	**PKPbc**	**00 47 48.3**	**-0.9**
	comp=Z,7.0nm,0.9s						
MYKA				*e*P	**sPKPbc**	**00 47 59.8**	**-1.6**
	comp=Z,12nm,0.8s						
RICI	**Ricice**	**149.08**	**320**	*i* PKP	**PKPdf**	**00 47 47.0**	**+1.7**
BSTI	**Sart Tilman**	**149.14**	**341**	*d*PKPbc	**PKPbc**	**00 47 48.6**	**-0.7**
BSTI				*ds*PKPbc	**sPKPbc**	**00 48 00.5**	**-0.9**
KIJV	**Kijevo**	**149.21**	**321**	*i* PKP	**PKPbc**	**00 47 48.8**	**-0.9**
CEY	**Cerknica**	**149.21**	**326**	⇑*i*P	**PKPbc**	**00 47 48.4**	**-1.3**
HLM1	**Long Mynd**	**149.22**	**352**	*e*P	**PKPbc**	**00 47 48.6**	**-0.9**
UDBI	**Udbina**	**149.26**	**323**	*i* PKP	**PKPbc**	**00 47 48.7**	**-1.2**
UCC	**Uccle**	**149.31**	**342**	*d*PKPbc	**PKPbc**	**00 47 49.2**	**-0.5**
UCC				*ds*PKPbc	**sPKPbc**	**00 48 00.8**	**-1.0**
BCLA	**Clavier**	**149.37**	**341**	*d*PKPdf	**PKPdf**	**00 47 45.7**	**+0.2**
BCLA				*d*PKPab	**PKPab**	**00 47 53.7**	**-0.9**
STU	**Stuttgart**	**149.39**	**335**	*e*PKPbc	**PKPbc**	**00 47 49.7**	**-0.4**
	baz=35,slow=2.8						
STU				*e*PKPab	**PKPab**	**00 47 54.5**	**-0.3**
STU				*ep*PKPbc	**sPKPbc**	**00 48 01.4**	**-0.7**
	baz=35,slow=2.8						
ABTA	**Abfaltersbach**	**149.47**	**329**	*i* P	**PKPbc**	**00 47 49.6**	**-0.8**
	comp=Z,8.4nm,1.0s						
ABTA				*e*P	**pPKPbc**	**00 48 00.9**	**+1.5**
	comp=Z,14nm,0.7s						
WATA	**Walderalm**	**149.48**	**331**	*e*P	**PKPbc**	**00 47 50.1**	**-0.4**
	comp=Z,19nm,1.5s,SNR=7.1						
WTTA	**Wattenberg**	**149.51**	**330**	*i* P	**PKPbc**	**00 47 50.5**	**-0.2**
	comp=Z,22nm,1.6s,SNR=7.5						
SKDS	**Skadanscina**	**149.55**	**326**	*e*P	**PKPdf**	**00 47 47.8**	**+1.8**
BMRD	**Maredsous**	**149.63**	**341**	*d*PKPbc	**PKPbc**	**00 47 49.9**	**-0.7**
BMRD				*d*PKPab	**pPKPdf**	**00 47 54.5**	**-0.5**
BMRD				*ds*PKPbc	**sPKPbc**	**00 48 01.5**	**-1.1**
MOTA	**Moosalm**	**149.69**	**331**	*e*P	**PKPbc**	**00 47 50.6**	**-0.4**
	comp=Z,12nm,1.0s						
MOTA				*i* P	**sPKPbc**	**00 48 02.0**	**-1.1**
	comp=Z,20nm,0.8s						
RETA	**Reutte**	**149.74**	**332**	*i* P	**PKPbc**	**00 47 50.6**	**-0.4**
	comp=Z,6.4nm,1.1s						
SQTA	**Sankt Quirin**	**149.74**	**331**	*e*P	**PKPbc**	**00 47 50.8**	**-0.3**
	comp=Z,9.6nm,0.8s,SNR=5.6						
SQTA				*i* P	**sPKPbc**	**00 48 02.1**	**-1.1**
	comp=Z,22nm,0.7s						
WLF	**Walferdange**	**149.75**	**339**	*d*PKPbc	**PKPbc**	**00 47 50.9**	**0.0**
WLF	**Walferdange**	**149.75**	**339**	PKP2	**PKPbc**	**00 47 50.2**	**-0.7**
WLF	**Walferdange**	**149.75**	**339**		**PKPbc**	**00 47 50.2**	**-0.7**
WLF	**Walferdange**	**149.75**	**339**	*e*PKPbc	**PKPbc**	**00 47 51.0**	**+0.1**
	baz=35,slow=2.8						
WLF				*e*PKPab	**PKPab**	**00 47 56.1**	**-0.2**
DOU	**Dourbes**	**149.87**	**341**	*d*PKPdf	**PKPdf**	**00 47 47.5**	**+1.2**
UBR	**Ueberruh**	**149.87**	**332**	*e*PKPbc	**PKPbc**	**00 47 50.6**	**-0.8**
	baz=35,slow=2.8						
UBR				*ep*PKPbc	**sPKPbc**	**00 48 02.2**	**-1.2**
	baz=35,slow=2.8						
BFO	**Black Forest**	**150.08**	**335**	*e*PKPbc	**PKPbc**	**00 47 50.9**	**-0.8**
	baz=35,slow=2.8						
BFO				*e*PKPab	**PKPab**	**00 47 57.2**	**-0.5**
FETA	**Feichten**	**150.10**	**331**	*i* P	**PKPbc**	**00 47 50.6**	**-1.5**
	comp=Z,11nm,1.0s						
FETA				*e*P	**pPKPbc**	**00 48 01.9**	**+0.8**
	comp=Z,16nm,0.8s						
DAVA	**Damuels**	**150.27**	**332**	*i* P	**PKPbc**	**00 47 52.0**	**-0.5**
	comp=Z,12nm,1.6s						
CTI	**Castel Tesino**	**150.39**	**329**	PKIKP	**PKPbc**	**00 47 52.0**	**-0.7**
CTI	**Castel Tesino**	**150.39**	**329**		**PKPbc**	**00 47 52.0**	**-0.7**
SGRT	**San Giovanni R**	**150.91**	**318**		**PKPbc**	**00 47 53.5**	**-0.6**
SENIN	**Lac Senin/Sane**	**152.09**	**334**	PKPab	**PKPab**	**00 48 06.1**	**-0.2**
ESDC	**Sonseca Array**	**161.82**	**345**	PKPab	**PKPab**	**00 48 46.6**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=13,slow=4.0,SNR=4.1						
DBIC	**Dimbokro**	**163.81**	**199**	PKPab	**PKPab**	**00 48 57.5**	**+0.2**
	comp=Z,11nm,1.0s,baz=198,slow=3.0,SNR=5.2						
TORD	**Torodi Ar. Bea**	**165.72**	**233**	PKP	**PKPdf**	**00 48 05.8**	**-1.0**
	comp=Z,4.4nm,1.1s,baz=246,slow=0.7,SNR=12						
TORD				PKPab	**PKPab**	**00 49 06.0**	**+0.2**
	comp=Z,1.9nm,0.9s,baz=93,slow=2.6,SNR=3.8						
TORD	**Torodi Ar. Bea**	**165.72**	**233**	PKPdf	**PKPdf**	**00 48 06.2**	**-0.5**

IDC ***19*** *00:31:25.1±0.7,30°.50S×71°.93W,h0km,mb4.3/8, mb1 4.3/13,mb1mx4.2/26,mbtmp4.2/13,ML4.2/5,MS3.8/6, Ms1 3.8/6,ms1mx3.4/24,Error ellipse: s-maj=27.8km s-min=17.4km az=103.0*

SJA ***19*** *00:31:25.0±0.6,30°.38S×72°.25W,h15km,ML4.6,MW4.4*

NEIC ***19*** *00:31:27.2±2.2,30°.52S±0°.04×72°.09W±0°.05,h14km±3km, mb4.7/42,Mwr4.4/48,ML4.9(GUC),Error ellipse: s-maj=6.6km s-min=6.3km az=133.0*

NEIC ***19*** *00:31:27.8,30°.53S×72°.09W,h19km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr3.99; Mθθ0.22; Mϕϕ-4.21; Mrθ 1.37; Mrϕ -0.08; Mθϕ-1.20; Fault plane solution: M₀4.49000×10¹⁵ NP1:ϕs17.61000°, δ39.49000°, λ117.31000°. NP2:ϕs163.82000°, δ55.60000°, λ69.29000°. Principal axes: T 4.5891, Plg71.0000°, Azm24.0000°; N -0.2015, Plg17.0000°, Azm176.0000°; P -4.3876, Plg8.0000°, Azm268.0000°;*

GUC ***19*** *00:31:28.3±0.7,30°.62S×71°.92W,h30km±2km,ML4.9*

ISC 19 00:31:27.8±0.8,30°.59S±0°.03×72°.03W±0°.05,h23km±5km, n130,σ1§66/141,mb4.7/19,MS3.7/3,5C-4D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.35**	**104**	⇓*i*P		**Pb**	**00 31 35.8**	**+0.2**
CO06				*i* S		**Sb**	**00 31 40.9**	**+0.1**
CO06	**Fray Jorge**	**0.35**	**104**			**Pb**	**00 31 35.7**	**+0.2**
CO06				Sg		**Sb**	**00 31 41.2**	**+0.4**
CO05	**La Serena**	**0.96**	**46**	⇓*i*P		**Pn**	**00 31 45.7**	**-0.1**
CO05				*i* S		**Sn**	**00 31 59.0**	**+0.3**
CO05				IAML			00 32 04.8	
	comp=E,48μm,0.5s							
CO05	**La Serena**	**0.96**	**46**			**Pn**	**00 31 45.7**	**-0.1**
CO05						**Sn**	**00 31 59.2**	**+0.5**
GO04	**Tololo Observa**	**1.14**	**69**	*e*P		**Pb**	**00 31 48.8**

PB01	**IPOC Station P**	**9.78**	**14**	Pn		**Pn**	**00 33 43.5**	**-3.6**
PLCA	**Paso Flores**	**10.19**	**174**	Pn		**Pn**	**00 33 53.2**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=337,slow=10,SNR=14							
PLCA				LR		LR	00 38 11.9	
	comp=Z,358nm,20.5s,baz=354,slow=40							
PLCA	**Paso Flores**	**10.19**	**174**	Pn		**Pn**	**00 33 53.3**	**+0.6**
LL04	**Puerto Octay**	**10.30**	**182**	Pn		**Pn**	**00 33 54.7**	**+0.5**
PSGCX	**Pisagua**	**11.08**	**9**	Pn		**Pn**	**00 34 00.6**	**-4.3**
TRQA	**Tornquist**	**11.15**	**135**			**Pn**	**00 34 07.7**	**+1.8**
GO07	**Milladeo Hill,**	**12.57**	**186**	Pn		**Pn**	**00 34 26.6**	**+1.4**
ITQB	**Itaqui**	**13.37**	**90**	Pn		**Pn**	**00 34 35.2**	**-0.9**
CPUP	**Villa Florida**	**13.61**	**75**	Pn		**Pn**	**00 34 37.5**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=248,slow=16,SNR=2.5							
CPUP				Sn		**Sn**	**00 37 05.8**	**-4.1**
	comp=Z,0.1nm,0.3s,baz=273,slow=17,SNR=2.0							
CPUP				LR		LR	00 40 14.4	
	comp=Z,449nm,20.6s,baz=256,slow=39							
LPAZ	**La Paz**	**14.68**	**15**	Pn		**Pn**	**00 34 53.1**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=191,slow=6.7,SNR=12							
LPAZ	**La Paz**	**14.68**	**15**	Pn		**Pn**	**00 34 54.9**	**+0.3**
PLTB	**Pedras Altas**	**15.82**	**99**	Pn		**Pn**	**00 35 08.5**	**-0.6**
SIV	**San Ignacio**	**17.66**	**37**	P		**Pn**	**00 35 29.8**	**-2.6**
	comp=Z,1.2nm,0.3s,baz=228,slow=11,SNR=80							
SIV				LR		LR	00 43 35.7	
	comp=Z,501nm,19.3s,baz=218,slow=42							
TRCB	**Terra Rica**	**18.97**	**70**	P		**Pn**	**00 35 48.4**	**-0.1**
TRCB				IAmb		IAmb	00 35 50.2	
	comp=Z,62nm,1.5s							
SAML	**Samuel**	**23.06**	**23**	P		**P**	**00 36 31.6**	**-0.1**
BDFB	**Brasilia**	**26.55**	**61**	P		**P**	**00 37 03.7**	**-0.5**
	comp=Z,17nm,0.7s,baz=243,slow=8.9,SNR=21							
BDFB				LR		LR	00 48 30.0	
	comp=Z,237nm,19.6s,baz=171,slow=39							
BDFB	**Brasilia**	**26.55**	**61**	P		**P**	**00 37 04.4**	**+0.2**
BDFB				IAmb		IAmb	00 37 05.2	
	comp=Z,15nm,0.7s							
RPN	**Rapa Nui**	**32.76**	**267**	LR		LR	00 47 23.1	
	comp=Z,131nm,20.8s,baz=307,slow=29							
PMSA	**Palmer Station**	**34.57**	**174**	LR		LR	00 52 21.9	
	comp=Z,136nm,18.8s,baz=346,slow=36							
RUSC	**La Rusia**	**36.29**	**358**	P		**P**	**00 38 31.3**	**+1.1**
RUSC				IAmb		IAmb	00 38 34.0	
	comp=Z,31nm,1.1s							
SJCC	**San Jacinto, C**	**40.37**	**355**	P		**P**	**00 39 02.7**	**-1.3**
SJCC				IAmb		IAmb	00 39 08.0	
	comp=Z,14nm,1.0s							
SRBA	**San Rafael, Bu**	**41.06**	**343**	P		**P**	**00 39 09.8**	**-0.1**
SRBA				IAmb		IAmb	00 39 19.2	
	comp=Z,13nm,1.4s							
MPOM	**Morne Pois Mar**	**46.05**	**15**	P		**P**	**00 39 49.8**	**0.0**
ICMP	**Isla Caja de M**	**48.48**	**7**	P		**P**	**00 40 09.1**	**+0.3**
MLPR	**Magueyes Islan**	**48.51**	**6**	P		**P**	**00 40 09.6**	**+0.6**
CRPR	**Cabo Rojo, PR**	**48.55**	**6**	P		**P**	**00 40 09.9**	**-0.1**
OBIP	**Obispado Ponce**	**48.63**	**7**	P		**P**	**00 40 09.2**	**-0.7**
PDPR	**Patillas Dam,**	**48.67**	**8**	P		**P**	**00 40 09.4**	**-0.8**
PDPR				IAmb		IAmb	00 40 11.3	
	comp=Z,15nm,0.9s							
SJG	**San Juan**	**48.75**	**7**	P		**P**	**00 40 10.4**	**-0.4**
MTP	**Monte Pirata**	**48.80**	**8**	P		**P**	**00 40 10.3**	**-0.9**
MTP				IAmb		IAmb	00 40 12.1	
	comp=Z,8.2nm,0.9s							
HUMP	**Col San Antoni**	**48.81**	**8**	P		**P**	**00 40 10.8**	**-0.5**
HUMP				IAmb		IAmb	00 40 48.8	
	comp=Z,8.4nm,1.1s							
CBYP	**Canovanas**	**48.94**	**8**	P		**P**	**00 40 11.9**	**-0.4**
GCPR	**Guaynabo City**	**48.95**	**7**	P		**P**	**00 40 11.0**	**-1.4**
GCPR				IAmb		IAmb	00 40 13.1	
	comp=Z,13nm,0.8s							
ANWB	**Willy Bob**	**48.98**	**13**	P		**P**	**00 40 11.3**	**-1.3**
ABVI	**Anegada Island**	**49.59**	**10**	P		**P**	**00 40 16.4**	**-0.8**
CBCY	**The Bluff, Cay**	**50.59**	**351**	P		**P**	**00 40 22.8**	**-1.9**
QSPA	**South Pole Qui**	**59.64**	**180**	P		**P**	**00 41 31.6**	**+1.8**
	comp=Z,2.8nm,0.7s,baz=313,slow=1.8,SNR=9.1							
QSPA	**South Pole Qui**	**59.64**	**180**	P		**P**	**00 41 30.7**	**+0.8**
QSPA				IAmb		IAmb	00 42 32.8	
	comp=Z,7.0nm,1.1s							
TXAR	**Lajitas Array**	**66.78**	**330**	P		**P**	**00 42 18.7**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=150,slow=8.2,SNR=7.0							
VNDA	**Vanda**	**67.44**	**191**	P		**P**	**00 42 22.3**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=113,slow=14,SNR=1.4							
MSTX	**Muleshoe**	**70.47**	**333**	P		**P**	**00 42 39.5**	**-1.0**
MSTX				IAmb		IAmb	00 42 43.0	
	comp=Z,5.4nm,0.9s							
S39A	**Bolivar**	**70.78**	**342**	P		**P**	**00 42 41.0**	**-1.2**
S39A				IAmb		IAmb	00 42 44.1	
	comp=Z,14nm,1.6s							
R40A	**Maddies Statio**	**71.08**	**343**	P		**P**	**00 42 44.2**	**+0.3**
R40A				IAmb		IAmb	00 42 46.2	
	comp=Z,5.7nm,0.9s							
DBIC	**Dimbokro**	**74.11**	**72**	P		**P**	**00 43 03.0**	**+0.5**
	comp=Z,5.7nm,0.9s,baz=231,slow=3.5,SNR=4.0							
MAW	**Mawson**	**76.44**	**164**	P		**P**	**00 43 16.3**	**+1.2**
	comp=Z,2.1nm,0.5s,baz=207,slow=8.4,SNR=5.0							
SMCO	**Snowmass**	**76.65**	**333**	P		**P**	**00 43 17.3**	**+0.2**
SMCO				IAmb		IAmb	00 43 21.0	
	comp=Z,4.2nm,0.9s							
RDMU	**Red Mountain**	**78.88**	**332**	P		**P**	**00 43 30.2**	**+0.9**
HWIT	**Hardware Ranch**	**80.57**	**331**	P		**P**	**00 43 38.6**	**+0.2**
PDAR	**Pinedale Array**	**80.73**	**333**	P		**P**	**00 43 38.8**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=126,slow=6.1,SNR=2.8							
HVU	**Hansel Valley**	**81.22**	**330**	P		**P**	**00 43 42.3**	**+0.5**
ELK	**Elko**	**81.47**	**328**	P		**P**	**00 43 44.4**	**+1.2**
TORD	**Torodi Ar. Bea**	**83.05**	**70**	P		**P**	**00 43 52.7**	**+0.9**
	comp=Z,5.8nm,0.7s,baz=260,slow=4.7,SNR=37							
TORD	**Torodi Ar. Bea**	**83.05**	**70**	P		**P**	**00 43 51.9**	**+0.1**
TORD				IAmb		IAmb	00 43 53.8	
	comp=Z,5.7nm,0.8s							
HLID	**Hailey**	**83.38**	**330**	P		**P**	**00 43 53.0**	**-0.1**
H11S2	**WAKE ISLAND Hyd**	**25.76**	**272**	T		T	03 09 14.4	
	baz=115,slow=75,SNR=78							
H11S1	**WAKE ISLAND Hyd**	**25.77**	**272**	T		T	03 09 12.3	
	baz=115,slow=75,SNR=87							
H11S3	**WAKE ISLAND Hyd**	**25.77**	**272**	T		T	03 09 13.7	
	baz=115,slow=75,SNR=106							
H11N3	**WAKE ISLAND Hyd**	**26.08**	**273**	T		T	03 09 39.9	
	baz=116,slow=75,SNR=9.1							
H11N1	**WAKE ISLAND Hyd**	**26.10**	**273**	T		T	03 09 41.9	
	baz=116,slow=75,SNR=4.6							
H11N2	**WAKE ISLAND Hyd**	**26.10**	**273**	T		T	03 09 41.7	
	baz=116,slow=75,SNR=16							
ZALV	**Zalesovo Beam**	**151.29**	**29**	PKPbc		**PKiKP**	**00 51 20.6**	**+1.2**
	comp=Z,25nm,0.5s,baz=299,slow=3.2,SNR=79							
ZALV	**Zalesovo Beam**	**151.29**	**29**			**PKiKP**	**00 51 20.5**	**+1.0**
MKAR	**Makanchi Array**	**154.40**	**44**	PKP		**PKPdf**	**00 51 17.8**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=308,slow=3.5,SNR=2.7							
MKAR				PKPbc		**pPKPdf**	**00 51 25.6**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=342,slow=2.1,SNR=9.1							
MKAR				PKPab		**PKPab**	**00 51 41.7**	**+1.3**
	comp=Z,1.8nm,0.8s,baz=298,slow=3.0,SNR=7.4							
MKAR	**Makanchi Array**	**154.40**	**44**	PKPdf		**PKPdf**	**00 51 18.1**	**+0.3**
MKAR						**sPKPdf**	**00 51 27.5**	**+0.6**
MKAR				PKPab		**PKPab**	**00 51 41.8**	**+1.4**
SONM	**Songino Array**	**162.73**	**4**	PKPab		**PKPab**	**00 52 17.4**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=340,slow=3.8,SNR=2.7							

MEX 19 00:32:17.8±0.6, 14°34N×92°32W, h28km±64km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.62**	**328**	*i* P	Pn	00 32 42.7	-1.8
PCIG				*i* S	Sn	00 33 01.1	-3.3

*NEIC **19** 00:37:51.8±1.6, 30.70S±0.05×72.69W±0.02, h10km±1km, mb4.2/5, Mwr4.0/29, ML4.0(GUC), Error ellipse: s-maj=8.2km s-min=3.0km az=181.0*

*IDC **19** 00:37:52.2±1.1, 30.74S×72.60W, h0km, mb4.0/3, mb1 4.1/7, mb1mx4.0/24, mbtmp4.0/7, ML3.8/4, Error ellipse: s-maj=36.2km s-min=29.8km az=98.0*

*GUC **19** 00:37:54.2±0.6, 30.71S×72.55W, h47km±5km, ML4.0*

*NEIC **19** 00:37:54.6, 30.72S×72.67W, h35km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.44; $M_{\theta\theta}$=0.27; $M_{\phi\phi}$=0.71; $M_{r\theta}$=-0.34; $M_{r\phi}$=-0.23; $M_{\theta\phi}$=-0.76; Fault plane solution: $M_0$1.06000×10^{15} NP1:ϕs17.94000°, δ75.64000°, λ-63.13000°. NP2:ϕs134.01000°, δ30.21000°, λ-150.48000°. Principal axes: T 1.0904, Plg26.0000°, Azm87.0000°; N -0.0532, Plg26.0000°, Azm191.0000°; P -1.0372, Plg52.0000°, Azm319.0000°;*

ISC 19 00:37:51.9±1.5, 30.77S±0.04×72.65W±0.06, h9km±9km, n67, σ1s77/85, mb4.1/4, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.88**	**84**	*i* P	**Pb**	**00 38 09.3**	**0.0**
CO06				*eS*	**Sb**	**00 38 20.3**	**-0.8**
CO06	**Fray Jorge**	**0.88**	**84**		**Pn**	**00 38 09.5**	**-1.0**
CO06				Sg	**Sb**	**00 38 20.6**	**-0.5**
CO05	**La Serena**	**1.48**	**55**	*i* P	**Pn**	**00 38 18.2**	**-0.5**
CO05				*eS*	**Sn**	**00 38 35.8**	**-2.5**
CO05	**La Serena**	**1.48**	**55**		**Pn**	**00 38 18.3**	**-0.5**
CO05					**Sn**	**00 38 36.7**	**-1.5**
CO03	**El Pedregal**	**1.68**	**93**	*i* P	**Pn**	**00 38 21.8**	**+0.2**
CO03	**El Pedregal**	**1.68**	**93**	Pn	**Pn**	**00 38 21.9**	**+0.2**
CO03				Sn	**Sb**	**00 38 43.5**	**-1.0**
GO04	**Tololo Observa**	**1.70**	**70**	*eP*	**Pn**	**00 38 21.5**	**-0.5**
GO04				*eS*	**Sn**	**00 38 42.4**	**-1.6**
GO04	**Tololo Observa**	**1.70**	**70**		**Pb**	**00 38 22.4**	**-1.2**
VA06	**Catapilco**	**2.12**	**148**	*eP*	**Pn**	**00 38 27.9**	**+0.3**
VA06				*eS*	**Sn**	**00 38 51.4**	**-2.8**
VA06				IAML		00 38 54.5	
	comp=N,1μm,0.6s						
VA01	**Torpederas**	**2.40**	**160**		**Pn**	**00 38 31.2**	**-0.2**
LCO	**Las Campanas**	**2.43**	**44**	*eP*	**Pn**	**00 38 32.0**	**-0.1**
LCO				*eS*	**Sn**	**00 39 00.1**	**-2.0**
LCO	**Las Campanas**	**2.43**	**44**		**Pn**	**00 38 32.4**	**+0.3**
ROCH	**El Roble**	**2.60**	**148**	*eP*	**Pn**	**00 38 35.1**	**+0.8**
ROCH				*i* S	**Sn**	**00 39 04.2**	**-2.0**
ROCH				IAML		00 39 13.5	
	comp=E,545nm,0.5s						
VA03	**San Esteban**	**2.67**	**139**	*i* P	**Pn**	**00 38 36.0**	**+0.7**
VA03				*eS*	**Sn**	**00 39 06.7**	**-1.2**
VA03				IAML		00 39 08.8	
	comp=N,1μm,0.6s						
VA03	**San Esteban**	**2.67**	**139**		**Pn**	**00 38 36.2**	**+0.9**
AC04	**Llanos de Chal**	**2.90**	**29**	*i* P	**Pn**	**00 38 37.2**	**-1.0**
AC04				IAML		00 39 10.8	
	comp=N,345nm,0.2s						
AC04	**Llanos de Chal**	**2.90**	**29**	Pn	**Pn**	**00 38 37.2**	**-1.0**
VA05	**Santo Domingo**	**3.01**	**163**	*i* P	**Pn**	**00 38 39.8**	**0.0**
VA05				IAML		00 39 19.0	
	comp=E,406nm,0.7s						
VA05	**Santo Domingo**	**3.01**	**163**		**Pn**	**00 38 39.9**	**+0.1**
MT05	**Renca**	**3.08**	**149**	*eP*	**Pn**	**00 38 41.5**	**+0.7**
MT05				*i* S	**Sn**	**00 39 16.3**	**-1.5**
MT05				IAML		00 39 24.8	
	comp=N,371nm,0.4s						
MT05	**Renca**	**3.08**	**149**		**Pn**	**00 38 41.4**	**+0.7**
MT01	**Popeta**	**3.30**	**159**	*eP*	**Pn**	**00 38 43.7**	**-0.1**
MT01				*i* S	**Sn**	**00 39 18.2**	**-5.1**
MT01				IAML		00 39 24.6	
	comp=E,157nm,0.6s						
MT01	**Popeta**	**3.30**	**159**	Pn	**Pn**	**00 38 43.8**	**-0.1**
MT09	**Talagante**	**3.31**	**155**	*eP*	**Pn**	**00 38 45.3**	**+1.3**
MT09				*i* S	**Sn**	**00 39 21.7**	**-1.9**
MT09				IAML		00 39 26.0	
	comp=N,205nm,0.3s						
MT09	**Talagante**	**3.31**	**155**	Pn	**Pn**	**00 38 45.5**	**+1.4**
ZON	**Zonda**	**3.49**	**104**	Pn	**Pn**	**00 38 48.3**	**+1.9**
BO03	**Pichilemu**	**3.76**	**171**	⇑*iP*	**Pn**	**00 38 50.1**	**0.0**
BO03				*i* S	**Sn**	**00 39 29.0**	**-5.5**
GO03	**Copiap**	**3.80**	**34**	*eP*	**Pn**	**00 38 50.5**	**-0.3**
GO03				*i* S	**Sn**	**00 39 30.9**	**-4.7**
GO03	**Copiap**	**3.80**	**34**		**Pn**	**00 38 50.1**	**-0.6**
BO01	**Tunca**	**3.84**	**160**	*eP*	**Pn**	**00 38 52.0**	**+0.7**
BO01	**Tunca**	**3.84**	**160**		**Pn**	**00 38 52.2**	**+0.9**
AC06	**Mina Casimiro**	**3.95**	**31**	*eP*	**Pn**	**00 38 52.2**	**-0.5**
AC06				*i* S	**Sn**	**00 39 36.0**	**-3.1**
AC06	**Mina Casimiro**	**3.95**	**31**		**Pn**	**00 38 52.3**	**-0.5**
GO05	**Huala**	**4.27**	**172**	Pn	**Pn**	**00 38 56.2**	**-1.0**
BO02	**Sierra Bellavi**	**4.31**	**159**	*eP*	**Pn**	**00 38 58.2**	**+0.5**
BO02				*i* S	**Sn**	**00 39 42.0**	**-6.1**
BO02	**Sierra Bellavi**	**4.31**	**159**	Pn	**Pn**	**00 38 58.8**	**+1.1**
AC02	**Maricunga**	**4.99**	**39**	Pn	**Pn**	**00 39 04.5**	**-3.0**
VA04	**Juan Fernndez**	**5.97**	**240**	Pn	**Pn**	**00 39 19.3**	**-1.2**
PB14	**IPOC Station P**	**6.43**	**19**	Pn	**Pn**	**00 39 23.8**	**-3.3**
PB15	**IPOC Station P**	**8.04**	**21**	Pn	**Pn**	**00 39 47.4**	**-1.8**
LC01	**Cunco**	**8.13**	**176**	Pn	**Pn**	**00 39 50.6**	**+0.4**
LVC	**Limon Verde**	**8.78**	**23**	Pn	**Pn**	**00 39 58.2**	**-1.2**
	comp=N,0.4nm,0.3s,baz=199,slow=19,SNR=1.5						
LR03	**Panguipulli**	**8.85**	**178**	Pn	**Pn**	**00 40 00.3**	**+0.4**
PB07	**IPOC Station P**	**9.34**	**16**	Pn	**Pn**	**00 40 05.0**	**-1.9**
PLCA	**Paso Flores**	**10.09**	**171**	Pn	**Pn**	**00 40 18.1**	**+1.1**
	comp=N,0.2nm,0.3s,baz=62,slow=14,SNR=1.5						
PLCA	**Paso Flores**	**10.09**	**171**	Pn	**Pn**	**00 40 17.2**	**+0.2**
PB01	**IPOC Station P**	**10.09**	**17**	Pn	**Pn**	**00 40 14.8**	**-2.4**
LL04	**Puerto Octay**	**10.12**	**179**	Pn	**Pn**	**00 40 17.2**	**-0.3**
PSGCX	**Pisagua**	**11.36**	**12**	Pn	**Pn**	**00 40 33.7**	**-0.8**
TRQA	**Tornquist**	**11.41**	**132**	Pn	**Pn**	**00 40 35.6**	**+0.4**
LL01	**San Ignacio de**	**11.59**	**179**	Pn	**Pn**	**00 40 38.0**	**+0.5**
LPAZ	**La Paz**	**14.99**	**17**	Pn	**Pn**	**00 41 24.4**	**-0.2**
	comp=N,0.3nm,0.3s,baz=190,slow=7.7,SNR=11						
LPAZ	**La Paz**	**14.99**	**17**	P	**P**	**00 41 27.1**	**-3.1**
SIV	**San Ignacio**	**18.12**	**38**	P	**P**	**00 42 05.2**	**+0.9**
	comp=N,0.5nm,0.3s,baz=228,slow=10,SNR=23						
SIV	**San Ignacio**	**18.12**	**38**	P	**P**	**00 42 05.2**	**+0.9**
BDFB	**Brasilia**	**27.10**	**62**	P	**P**	**00 43 37.0**	**+1.7**
	comp=N,3.6nm,0.9s,baz=244,slow=6.6,SNR=4.9						
PMSA	**Palmer Station**	**34.45**	**173**	P	**P**	**00 44 39.9**	**+0.3**
PMSA				IAmb	IAmb	00 44 50.1	
	comp=Z,6.7nm,0.9s						
RUSC	**La Rusia**	**36.45**	**359**	P	**P**	**00 44 58.4**	**+0.5**
VNA3	**Neumayer Olymp**	**52.54**	**159**	P	**P**	**00 47 07.2**	**+2.0**
VNA2	**Neumayer--Watz**	**53.19**	**158**	P	**P**	**00 47 11.4**	**+1.5**
	baz=284,slow=8.1						
SNAA	**Sanae**	**54.77**	**159**	P	**P**	**00 47 22.7**	**+1.1**
TXAR	**Lajitas Array**	**66.67**	**331**	P	**P**	**00 48 45.3**	**+2.1**
	comp=Z,0.7nm,0.7s,baz=149,slow=7.9,SNR=9.3						
TORD	**Torodi Ar. Bea**	**83.61**	**71**	P	**P**	**00 50 22.9**	**+1.8**
	comp=Z,0.9nm,0.7s,baz=282,slow=5.1,SNR=9.7						
BVAR	**Borovoye Array**	**145.19**	**40**	PKPbc	**PKPdf**	**00 57 31.0**	**+1.5**
	comp=Z,1.9nm,0.5s,baz=238,slow=5.1,SNR=8.7						
KURBB	**Kurchatov Arra**	**150.78**	**39**	PKPbc	**PKiKP**	**00 57 46.2**	**+1.2**
	comp=Z,1.7nm,0.6s,baz=298,slow=3.0,SNR=12						
ZALV	**Zalesovo Beam**	**151.71**	**29**	PKPbc	**PKiKP**	**00 57 47.7**	**+0.9**
	comp=Z,4.3nm,0.6s,baz=307,slow=3.2,SNR=13						
MKAR	**Makanchi Array**	**154.90**	**43**	PKPbc	**PKPbc**	**00 57 53.0**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=316,slow=4.0,SNR=5.9						
MKAR				PKPab	**pPKPab**	**00 58 10.5**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=289,slow=3.7,SNR=4.1						

*IDC **19** 00:42:39.5±0.8, 31.60S×71.78W, h0km, mb4.0/6, mb1 4.1/11, mb1mx4.0/24, mbtmp3.9/11, ML3.9/5, MS3.3/1, Ms1 3.3/1, ms1mx2.9/15, Error ellipse: s-maj=26.9km s-min=26.1km az=120.0*

*NEIC **19** 00:42:44, 31.64S×71.66W, h38km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=4.71; $M_{\theta\theta}$=0.47; $M_{\phi\phi}$=-5.18; $M_{r\theta}$=-1.18; $M_{r\phi}$=0.19; $M_{\theta\phi}$=0.93; Fault plane solution: $M_0$5.18000×10^{15} NP1:ϕs191.75000°, δ41.11000°, λ111.15000°. NP2:ϕs344.57000°, δ52.18000°, λ72.52000°. Principal axes: T 5.0837, Plg75.0000°, Azm199.0000°; N 0.1951, Plg14.0000°, Azm355.0000°; P -5.2788, Plg6.0000°, Azm87.0000°;*

*GUC **19** 00:42:44.4±0.8, 31.63S×71.66W, h39km±2km, ML4.3*

*NEIC **19** 00:42:45.1±1.9, 31.63S±0.04×71.80W±0.02, h36km±12km, Error ellipse: s-maj=5.9km s-min=2.7km az=178.0*

ISC 19 00:42:44.4±0.6, 31°64S±0.04×71°83W±0.06, h35km, n83, σ1s43/93, mb3.9/6, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.98**	**10**	*eP*	**Pn**	**00 43 02.2**	**+0.6**
CO06				*eS*	**Sn**	**00 43 14.9**	**+0.6**
CO06				IAML		00 43 36.8	
	comp=E,10μm,0.2s						
CO06	**Fray Jorge**	**0.98**	**10**		**Pn**	**00 43 02.3**	**+0.6**
CO06				Sn	**Sn**	**00 43 15.9**	**+1.6**
VA06	**Catapilco**	**1.02**	**154**	*eP*	**Pn**	**00 43 02.2**	**-0.1**
VA06				*eS*	**Sn**	**00 43 14.7**	**-0.7**
VA06				IAML		00 43 17.6	
	comp=N,18μm,0.5s						
CO03	**El Pedregal**	**1.26**	**51**	*eP*	**Pn**	**00 43 03.6**	**-2.0**
CO03				*eS*	**Sn**	**00 43 20.4**	**-1.0**
CO03				IAML		00 43 21.0	
	comp=E,8μm,0.4s						
CO03	**El Pedregal**	**1.26**	**51**	Pn	**Pn**	**00 43 05.6**	**-0.1**
CO03					**Sn**	**00 43 20.4**	**-1.0**
VA01	**Torpederas**	**1.39**	**174**	*i* P	**Pn**	**00 43 08.1**	**+0.9**
VA01	**Torpederas**	**1.39**	**174**		**Pn**	**00 43 08.2**	**+0.9**
ROCH	**El Roble**	**1.50**	**153**	*eP*	**Pn**	**00 43 09.3**	**+0.3**
ROCH				*eS*	**Sn**	**00 43 27.5**	**0.0**
ROCH				IAML		00 43 30.6	
	comp=N,5μm,0.4s						
VA03	**San Esteban**	**1.56**	**136**	*eP*	**Pn**	**00 43 10.2**	**+0.4**
VA03				*eS*	**Sn**	**00 43 29.1**	**+0.4**
VA03				IAML		00 43 31.2	
	comp=E,16μm,0.2s						
VA03	**San Esteban**	**1.56**	**136**		**Pn**	**00 43 10.5**	**+0.8**
GO04	**Tololo Observa**	**1.71**	**31**	⇑*iP*	**Pn**	**00 43 12.6**	**+0.7**
GO04				*i* S	**Sn**	**00 43 33.6**	**+0.8**
GO04	**Tololo Observa**	**1.71**	**31**		**Pn**	**00 43 12.7**	**+0.7**
CO05	**La Serena**	**1.79**	**17**	*eP*	**Pn**	**00 43 13.5**	**+0.7**
CO05				*eS*	**Sn**	**00 43 36.4**	**+2.0**
CO05				IAML		00 43 52.6	
	comp=N,6μm,0.3s						
CO05	**La Serena**	**1.79**	**17**		**Pn**	**00 43 13.9**	**+1.1**
MT05	**Renca**	**1.97**	**153**	*eP*	**Pn**	**00 43 16.6**	**+1.2**
MT05				*eS*	**Sn**	**00 43 41.1**	**+2.1**
MT05	**Renca**	**1.97**	**153**		**Pn**	**00 43 16.7**	**+1.2**
VA05	**Santo Domingo**	**2.02**	**175**	*eP*	**Pn**	**00 43 16.4**	**+0.4**
VA05				IAML		00 43 52.2	
	comp=E,3μm,0.3s						
VA05	**Santo Domingo**	**2.02**	**175**		**Pn**	**00 43 16.6**	**+0.6**
FSR	**Penalolen**	**2.14**	**149**	*eP*	**Pn**	**00 43 19.2**	**+1.5**
FSR				*i* S	**Sn**	**00 43 46.0**	**+2.9**
MT09	**Talagante**	**2.24**	**162**	*eP*	**Pn**	**00 43 20.4**	**+1.2**
MT09				IAML		00 43 53.4	
	comp=E,2μm,0.3s						
MT09	**Talagante**	**2.24**	**162**		**Pn**	**00 43 20.6**	**+1.3**
MT01	**Popeta**	**2.27**	**168**	*eP*	**Pn**	**00 43 20.3**	**+0.9**
MT01				IAML		00 43 57.1	
	comp=E,1μm,0.2s						
MT01	**Popeta**	**2.27**	**168**		**Pn**	**00 43 20.5**	**+1.1**
LMEL	**Las Melosas**	**2.59**	**149**	⇑*iP*	**Pn**	**00 43 25.3**	**+1.3**
LMEL				*eS*	**Sn**	**00 43 56.1**	**+1.7**
LMEL				IAML		00 44 04.1	
	comp=N,2μm,0.2s						
ZON	**Zonda**	**2.69**	**89**		**Pn**	**00 43 27.6**	**+2.4**
LCO	**Las Campanas**	**2.80**	**21**	⇑*iP*	**Pn**	**00 43 27.7**	**+0.7**
LCO				*i* S	**Sn**	**00 44 00.8**	**+1.2**
LCO	**Las Campanas**	**2.80**	**21**		**Pn**	**00 43 28.0**	**+1.0**
BO01	**Tunca**	**2.81**	**167**	⇑*iP*	**Pn**	**00 43 28.1**	**+1.2**
BO01				*i* S	**Sn**	**00 44 01.9**	**+2.2**
BO01				IAML		00 44 13.3	
	comp=E,499nm,0.3s						
BO01	**Tunca**	**2.81**	**167**		**Pn**	**00 43 27.9**	**+1.0**
BO02	**Sierra Bellavi**	**3.26**	**165**	*eP*	**Pn**	**00 43 34.7**	**+1.5**
BO02				*i* S	**Sn**	**00 44 16.9**	**+6.1**
BO02				IAML		00 44 26.1	
	comp=N,1μm,0.2s						
BO02	**Sierra Bellavi**	**3.26**	**165**		**Pn**	**00 43 34.5**	**+1.3**
GO05	**Huala**	**3.36**	**181**	⇓*iP*	**Pn**	**00 43 34.6**	**+0.1**
GO05				*i* S	**Sn**	**00 44 10.3**	**-2.9**
GO05	**Huala**	**3.36**	**181**		**Pn**	**00 43 34.6**	**+0.1**
AC04	**Llanos de Chal**	**3.49**	**11**	*eP*	**Pn**	**00 43 36.6**	**+0.4**
AC04				*i* S	Sn	00 44 26.1	+10
AC04				IAML		00 44 49.7	
	comp=E,624nm,0

3.0nm,0.6s,baz=236,slow=5.8,SNR=7.0
MAW Mawson 75.81 164 P **P 00 54 55.2 +0.4**
1.4nm,0.5s,baz=190,slow=8.2,SNR=4.0
PDAR Pinedale Array 81.24 333 P **P 00 55 25.3 +0.2**
0.3nm,0.7s,baz=122,slow=3.3,SNR=2.0
NVAR Mina Array Bea 81.50 325 P **P 00 55 27.1 +0.5**
0.4nm,0.7s,baz=151,slow=7.4,SNR=3.9
TORD Torodi Ar. Bea 83.68 71 P **P 00 55 39.2 +0.9**
5.3nm,0.6s,baz=282,slow=5.7,SNR=31
WRA Warramunga Arr 122.86 210 PKP **PKPdf 01 02 04.6 -1.2**
0.6nm,0.7s,baz=126,slow=0.9,SNR=2.0
BVAR Borovoye Array 145.56 40 PKPbc **PKPdf 01 02 47.2 +0.4**
2.0nm,0.4s,baz=267,slow=5.1,SNR=6.4
KURBB Kurchatov Arra 151.15 40 PKPbc **PKiKP 01 03 02.7 +0.3**
6.6nm,0.7s,baz=304,slow=2.9,SNR=26
AAK Ala-Archa 151.50 57 PKPbc **PKiKP 01 03 05.0 +1.3**
6.0nm,0.8s,baz=200,slow=3.0,SNR=10
ZALV Zalesovo Beam 152.16 29 PKPbc **PKiKP 01 03 04.7 +0.3**
9.5nm,0.6s,baz=306,slow=3.9,SNR=12
ZALV PKPab **pPKPbc 01 03 11.6 +1.1**
7.5nm,0.5s,baz=307,slow=2.6,SNR=9.8

IDC ***19*** *00:48:29.3±0.4,3˙.54N×126˙.88E,h0km,mb4.8/40, mb1 4.8/43,mb1mx4.8/50,mbtmp4.8/43,ML4.2/3,MS4.0/10, Ms1 4.0/10,ms1mx3.6/35,Error ellipse: s-maj=18.8km s-min=9.7km az=75.0*

MOS ***19*** *00:48:31.5±0.9,3˙.56N×126˙.86E,h25km,mb5.1/46,Error ellipse: s-maj=9.7km s-min=5.3km az=119.2*

BJI ***19*** *00:48:32.8±0.0,3˙.23N×126˙.99E,h47km,mB4.9/30, mb4.9/56,Ms4.3/30,Ms7 4.0/29*

NEIC ***19*** *00:48:34.4±1.3,3˙.56N±0˙.06×126˙.98E±0˙.07,h29km±4km, mb5.1/130,Error ellipse: s-maj=10.8km s-min=7.7km az=68.0*

DJA ***19*** *00:48:35.5±0.3,4˚N±3˚×12˚7E±˚,h49km±3km,M5.0/41, mb5.0/41,mB5.5/23,MLv4.9/12,Mw(mB)5.0/23, MwMwp5.2/1,Mwp5.4/1*

GCMT ***19*** *00:48:36.4±0.5,3˚.92N±0˚.03×127˚.06E±0˚.03,h37km±1km, MW4.9/65,Moment Tensor Solution. s28,c34; s65,c75; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.96±.20; Mθθ-2.34±.12; Mφφ 1.37±.15; Mrθ-0.53±.11; Mθφ-0.04±.10; Mφr2.22±.18; Best double couple: M0 2.94200×10^16 NP1:φs310.00000°,δ72.00000°,λ137.00000°. Principal axes: T 3.4220, Plg43.0000°, Azm265.0000°; N -0.9670, Plg44.0000°, Azm111.0000°; P -2.4620, Plg13.0000°, Azm7.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

KLM ***19*** *00:48:40,3˙.86N×127˙.09E,h84km,mb4.9*

ISC 19 00:48:36.5±0.4,3˚.50N±0˚.03×127˚.02E±0˚.05,h51km±3km, h51km:pP-P,n485,σ1s37/502,mb5.0/168,MS4.1/22, 32C-14D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.50 277**	P	**Pn**	**00 49 01.3 +0.3**		
GAMI	**Galela, Maluku**	**1.82 155**	P	**Pn**	**00 49 06.5 +1.1**		
TNTI	**Ternate**	**2.73 173**		**Pn**	**00 49 19.3 +1.3**		
TNTI	**Ternate**	**2.73 173**	P	**Pn**	**00 49 19.6 +1.7**		
MNI	**Manado**	**2.99 227**	P	**Pn**	**00 49 23.4 +2.0**		
DAV	**Davao City (W)**	**3.82 338**	Pn	**Pn**	**00 49 33.1 +0.2**		
	35nm,0.3s,baz=117,slow=22,SNR=3.6						
DAV			Sn	**Sn**	**00 50 16.3 -0.3**		
	105nm,0.3s,baz=158,slow=8.8,SNR=3.7						
DAV	**Davao City (W)**	**3.82 338**	Pn	**Pn**	**00 49 32.7 -0.2**		
KCP	**Kidapawan**	**3.98 331**	↓*i* P	**Pn**	**00 49 36.2 +1.2**		
KCP			*i* S	**Sn**	**00 50 25.1 +4.5**		
KMSI	**Cibinong**	**4.21 226**	P	**Pn**	**00 49 40.8 +2.7**		
BUKP	**Musuan**	**4.76 336**	*i* P	**Pn**	**00 49 47.5 +1.6**		
GTOI	**Gorontalo**	**4.92 235**	P	**Pn**	**00 49 49.5 +1.6**		
	0.3nm1μm93nm,1.0s						
SANI	**Sanana**	**5.61 191**	P	**Pn**	**00 49 56.3 -1.1**		
	0.6nm2μm78nm,0.7s						
PAGZ	**Pagadian**	**5.63 320**	*i* P	**Pn**	**00 49 56.5 -1.2**		
MRSI	**Marisa**	**5.90 239**	P	**Pn**	**00 50 04.3 +2.9**		
	1.3nm4μm378nm,1.3s						
SWI	**Sorong**	**6.06 136**	P	**Pn**	**00 50 05.4 +1.8**		
	0.5nm150nm,0.8s						
SIJI	**Sorong**	**6.07 136**	Pn	**Pn**	**00 50 03.0 -0.7**		
	6.0nm,0.3s,baz=353,slow=18,SNR=6.4						
SIJI			Sn	**Sn**	**00 51 10.9 -1.1**		
	1.6nm,0.3s,baz=339,slow=23,SNR=0.9						
SIJI			LR	LR	00 52 46.7		
	comp=Z,1μm,20.0s,baz=324,slow=42						
SIJI	**Sorong**	**6.07 136**	P	**Pn**	**00 50 03.5 -0.2**		
	0.3nm790nm63nm,1.3s						
LUWI	**Luwuk**	**6.20 223**	Pn	**Pn**	**00 50 04.8 -0.7**		
LUWI	**Luwuk**	**6.20 223**	P	**Pn**	**00 50 08.9 +3.4**		
	1.7nm9μm496nm,1.0s						
TOLI2	**Tolitoli**	**6.67 249**	Pn	**Pn**	**00 50 11.7 -0.3**		
KRAI	**Karang Ratu**	**6.91 169**	P	**Pn**	**00 50 16.2 +0.9**		
	0.2nm33nm,0.7s						
MSLP	**Maasin**	**6.93 342**	*i* P	**Pn**	**00 50 16.7 +1.2**		
APSI	**Ampana**	**6.93 231**	P	**Pn**	**00 50 18.9 +3.4**		
	0.8nm2μm234nm,0.7s						
CNOP	**Candoni, Negro**	**7.64 326**	*i* P	**Pn**	**00 50 26.0 +0.7**		
MPSI	**Mapaga**	**7.78 246**	P	**Pn**	**00 50 29.2 +2.0**		
	0.2nm2μm47nm,0.9s						
FAKI	**Fak Fak**	**8.25 141**	Pn	**Pn**	**00 50 33.8 +0.3**		
FAKI	**Fak Fak**	**8.25 141**	P	**Pn**	**00 50 36.0 +2.4**		
	75nm,1.1s						
RCP	**Roxas**	**9.06 332**	↑*e*P	**Pn**	**00 50 48.5 +3.8**		
TTSI	**Tana Toraja**	**9.70 228**	P	**Pn**	**00 50 54.7 +1.2**		
	1μm55nm,0.9s						
MMSI	**Mamuju**	**10.18 233**	P	**Pn**	**00 51 01.3 +1.3**		
	486nm28nm,0.6s						
BNSI	**Bone**	**10.46 221**	P	**Pn**	**00 51 05.4 +1.6**		
	42nm,1.2s						
SPMM	**Sapulut**	**10.60 277**	P	**Pn**	**00 51 08.0 +2.2**		
BKSI	**Bulukumba**	**11.15 218**	P	**Pn**	**00 51 14.9 +1.6**		
	35nm,0.8s						
KAPI	**Kappang**	**11.15 221**	Pn	**Pn**	**00 51 14.1 +0.8**		
	0.9nm,0.3s,baz=60,slow=11,SNR=5.0						
KAPI			Sn	**Sn**	**00 53 15.6 -0.9**		
	0.2nm,0.3s,baz=71,slow=23,SNR=2.1						
KAPI	**Kappang**	**11.15 221**	P	**Pn**	**00 51 12.6 -0.7**		
KAPI	**Kappang**	**11.15 221**	Pn	**Pn**	**00 51 12.6 -0.7**		
KAPI	**Kappang**	**11.15 221**	P	**Pn**	**00 51 15.1 +1.8**		
	18nm,0.7s						
MTKI	**Muara Teweh, K**	**12.90 250**	P	**Pn**	**00 51 39.3 +2.1**		
EDFI	**Ende, Flores**	**13.28 204**	P	**Pn**	**00 51 43.7 +1.2**		
	342nm24nm,1.1s						
BBKI	**Banjar Baru**	**14.00 241**	P	**Pn**	**00 51 55.1 +2.8**		
	5μm50nm,1.1s						
BATI	**Baumata**	**14.02 194**	Pn	**Pn**	**00 51 48.8 -3.7**		
	3.1nm,0.3s,baz=330,slow=4.0,SNR=1.5						
BATI	**Baumata**	**14.02 194**	P	**P**	**00 51 56.2 -2.8**		
	33nm,0.6s						
PKKI	**Palangkaraya**	**14.24 247**	P	**Pn**	**00 51 57.5 +2.1**		
	127nm,0.5s						
SBUM	**Sibu**	**14.82 266**	P	**Pn**	**00 52 05.0 +2.0**		
JAY	**Jayapura**	**14.93 113**	Pn	**Pn**	**00 52 05.0 +0.5**		
	0.3nm,0.3s,baz=340,slow=23,SNR=3.4						
JAY			LR	LR	00 56 43.8		
	comp=Z,794nm,22.0s,baz=271,slow=33						
JAY	**Jayapura**	**14.93 113**	P	**Pn**	**00 52 06.2 +1.7**		
	337nm23nm,1.0s						
WBSI	**Waikabubak, Su**	**15.11 210**	P	**Pn**	**00 52 08.2 +1.3**		
	1μm145nm,0.8s						
PLAI	**Plampang**	**15.33 217**	P	**P**	**00 52 11.9 -1.6**		
	4μm618nm,0.8s						
TWSI	**Taliwang, Sumb**	**15.81 220**	P	**Pn**	**00 52 17.1 +1.2**		
	901nm67nm,0.9s						
STKI	**Sintang**	**15.90 258**	P	**P**	**00 52 20.1 +0.2**		
	9μm91nm,0.8s						
SRBI	**Singaraja**	**16.47 226**	P	**P**	**00 52 28.1 +1.9**		
	2μm227nm,1.2s						
PBKI	**Pangkalan Bun**	**16.54 248**	P	**P**	**00 52 26.8 -0.1**		
	5μm231nm,0.9s						
MTN	**Manton Dam**	**16.75 166**	P	**Pn**	**00 52 26.5 -1.2**		
	baz=17,SNR=5.8						
MTN	**Manton Dam**	**16.75 166**	P	**Pn**	**00 52 26.5 -1.2**		
KSM	**Kuching**	**16.82 264**	P	**P**	**00 52 31.0 +0.9**		
JAGI	**Jajag, Banyuwa**	**17.50 227**		**Pn**	**00 52 36.9 -0.1**		
JAGI	**Jajag, Banyuwa**	**17.50 227**	P	**P**	**00 52 37.7 +0.1**		
	4μm1μm80nm,0.8s						
GMJI	**Gumukmas**	**17.89 229**	P	**P**	**00 52 44.8 +2.9**		
	84nm,1.1s						
PWJI	**Pagerwojo**	**19.01 233**	P	**P**	**00 52 52.6 -1.6**		
	51nm,1.0s						
KNRA	**Kununurra**	**19.13 175**	P	**P**	**00 52 54.9 -0.6**		
	baz=19,SNR=4.0						
KNRA	**Kununurra**	**19.13 175**		**P**	**00 52 55.6 0.0**		
PCJI	**Pacitan**	**19.62 234**	P	**P**	**00 52 59.1 -1.7**		
	109nm,1.1s						
TWG	**Pinlang**	**20.05 344**	P	**P**	**00 53 03.2 -2.3**		
TWG			IAmb	IAmb	00 53 04.9		
	comp=Z,62nm,0.6s						
GUMO	**Guam**	**20.28 59**	LR	LR	00 59 34.6		
	comp=Z,512nm,21.5s,baz=228,slow=33						
YULB	**Yu-li**	**20.53 345**		**P**	**00 53 08.6 -2.1**		
YULB			IAmb	IAmb	00 53 09.7		
	comp=Z,58nm,0.6s						
TPUB	**Ta-pu**	**20.63 343**		**P**	**00 53 09.9 -1.8**		
SSLB	**Suanglung**	**21.00 344**	P	**P**	**00 53 13.7 -2.1**		
KPJI	**Karang Pucung**	**21.02 239**	P	**P**	**00 53 15.1 -0.9**		
	comp=Z,58nm,0.8s						
YOJ	**Yonaguni jima**	**21.19 350**	P	**P**			
YOJ			pmax	pmax			
	comp=Z,112nm,1.2s						
YOJ	**Yonaguni jima**	**21.19 350**	P	**P**	**00 53 13.2 -4.6**		
YOJ			IAmb	IAmb	00 53 45.4		
	comp=Z,112nm,1.2s						
NACB	**Ninganchiao**	**21.21 346**	P	**P**	**00 53 16.2 -1.8**		
FITZ	**Fitzroy Crossi**	**21.51 184**	P	**P**	**00 53 20.5 -0.7**		
	baz=22,SNR=9.6						
FITZ	**Fitzroy Crossi**	**21.51 184**	P	**P**	**00 53 20.6 -0.7**		
	comp=Z,22nm,1.0s,baz=25,slow=9.1,SNR=17						
FITZ	**Fitzroy Crossi**	**21.51 184**	P	**P**	**00 53 20.5 -0.7**		
PPBI	**Pangkal Pinang**	**21.62 255**	P	**P**	**00 53 23.8 +1.3**		
YHNB	**Yeheng**	**21.74 346**	P	**P**	**00 53 22.4 -1.4**		
LEM	**Lembang**	**21.92 242**	P	**P**	**00 53 23.6 -2.3**		
	comp=Z,14nm,0.4s,baz=27,slow=14,SNR=1.9						
LEM	**Lembang**	**21.92 242**	P	**P**	**00 53 26.3 +0.4**		
	comp=Z,40nm,0.9s						
TATO	**Taipei**	**22.00 346**	P	**P**	**00 53 24.9 -1.6**		
TATO			IAmb	IAmb	00 53 29.6		
	comp=Z,46nm,0.6s						
CISI	**Cisompet, Garu**	**22.09 240**	P	**P**	**00 53 26.1 -1.5**		
CBJI	**Citeko**	**22.42 244**	P	**P**	**00 53 31.5 +0.4**		
KNMB	**Chin-men Tao**	**22.44 339**	P	**P**	**00 53 30.0 -1.2**		
CNJI	**Cibinong**	**22.57 242**	P	**P**	**00 53 33.4 +0.7**		
	comp=Z,131nm,1.1s						
DSRI	**Dabo**	**22.78 260**	P	**P**	**00 53 35.6 +0.7**		
	comp=Z,5μmcomp=Z,15nm,1.0s						
QIZ	**Qiongzhong**	**22.81 314**	P	**P**	**00 53 34.3 -0.8**		
QIZ			S	**S**	**00 57 41.1 +0.3**		
QIZ			LR	LR			
	comp=Z,380nm,14.5s						
QIZ			LR	LR			
	comp=Z,190nm,15.4s						
QIZ			LR	LR			
	comp=Z,190nm,11.6s						
QZH	**Quanzhou**	**22.81 340**	*e*P	**P**	**00 53 35.0 -0.1**		
QZH			LR	LR			
	comp=Z,280nm,14.6s						
QZH			LR	LR			
	comp=Z,280nm,13.8s						
JOW	**Kunigami**	**23.23 3**	P	**P**	**00 53 38.1 -1.2**		
	comp=Z,23nm,0.9s,baz=301,slow=23,SNR=2.8						
BTDF	**Bukit Timah Da**	**23.32 265**	P	**P**	**00 53 39.9 -0.5**		
	comp=Z,60nm,0.8s						
BLSI	**Bandar Lampung**	**23.47 248**	P	**P**	**00 53 42.5 +0.7**		
	comp=Z,181nm,1.2s						
COEN	**Coen**	**23.61 138**	P	**P**	**00 53 42.6 -0.5**		
KLI	**Kotabumi**	**23.65 250**	P	**P**	**00 53 44.4 +0.9**		
	comp=Z,9μmcomp=Z,157nm,0.5s						
MDSI	**Maura Dua**	**24.16 251**	P	**P**	**00 53 48.0 -0.2**		
	comp=Z,911nmcomp=Z,24nm,0.9s						
WB0	**Warramunga Arr**	**24.23 163**	P	**P**	**00 53 48.0 -0.7**		
WB0			IAmb	IAmb	00 54 03.1		
	comp=Z,67nm,0.8s						
UBPT	**Khong Chiam**	**24.23 300**	P	**P**	**00 53 47.5 -1.2**		
	comp=Z,935nmcomp=Z,56nm,1.4s						
UBPT	**Khong Chiam**	**24.23 300**	P	**P**	**00 53 47.6 -1.2**		
	comp=Z,935nmcomp=Z,56nm,1.4s						
UBPT	**Khong Chiam**	**24.23 300**	P	**P**	**00 53 48.0 -0.8**		
UBPT			IAmb	IAmb	00 53 48.6		
	comp=Z,53nm,1.0s						
UBPT	**Khong Chiam**	**24.23 300**	P	**P**	**00 53 48.1 -0.7**		
	comp=Z,896nmcomp=Z,54nm,1.4s						
WRAB	**Tennant Creek**	**24.38 163**	*c i*P	**P**	**00 53 49.0 -1.0**		
WRAB			pmax	pmax			
	comp=Z,61nm,1.0s						
WRAB	**Tennant Creek**	**24.38 163**	P	**P**	**00 53 49.5 -0.6**		
WRAB			IAmb	IAmb	00 53 51.0		
	comp=Z,50nm,0.8s						
WRA	**Warramunga Arr**	**24.38 163**	P	**P**	**00 53 49.4 -0.7**		
	comp=Z,51nm,0.8s,baz=342,slow=10,SNR=206						
WRA			PcP	**PcP**	**00 57 29.2 +0.6**		
	comp=Z,1.7nm,0.8s,baz=343,slow=2.6,SNR=2.6						
WRA			ScP	**ScP**	**01 01 10.1 +7.0**		
	comp=Z,1.2nm,1.0s,baz=342,slow=5.2,SNR=2.7						
WRA	**Warramunga Arr**	**24.38 163**	*i* P	**P**	**00 53 49.4 -0.7**		
WRA			pmax	pmax			
	comp=Z,52nm,0.8s						
WB2	**Warramunga Arr**	**24.39 163**	IAmb	IAmb	00 53 51.5		
	comp=Z,69nm,0.8s						
LWLI	**Liwa**	**24.45 250**	P	**P**	**00 53 52.0 +1.1**		
	comp=Z,144nm,0.8s						
WR0	**Warramunga Arr**	**24.46 163**	IAmb	IAmb	00 53 52.2		
	comp=Z,46nm,0.9s						
JRMM	**Jentut**	**24.50 272**	P	**P**	**00 53 52.0 +0.8**		
LHSI	**Lahat**	**24.59 253**	P	**P**	**00 53 51.9 -0.1**		
	comp=Z,36nm,0.6s						
MASI	**Maura Aman, Be**	**25.63 255**	P	**P**	**00 54 02.2 +0.6**		
	comp=Z,92nm,0.8s						
PSA00	**Pilbara Seismi**	**25.89 195**	P	**P**	**00 54 04.6 +0.8**		
PSA00			IAmb	IAmb	00 54 05.8		
	comp=Z,50nm,0.8s						
PSA00	**Pilbara Seismi**	**25.89 195**	IAmb	IAmb	00 54 05.8		
	comp=Z,24nm,0.9s						
SRAK	**Srakaew**	**26.77 294**	P	**P**	**00 54 06.5 -5.3**		
	comp=Z,3μmcomp=Z,308nm,0.8s						
QIS	**Mount Isa**	**26.91 153**	P	**P**	**00 54 14.6 +1.6**		
	baz=27,SNR=8.7						
KHON	**Khomkaen**	**26.99 300**	P	**P**	**00 54 14.5 +0.8**		
	comp=Z,6μmcomp=Z,98nm,0.9s						
KHON	**Khomkaen**	**26.99 300**	P	**P**	**00 54 14.6 +0.8**		
	comp=Z,1μmcomp=Z,24nm,0.9s						
NONG	**Nongkai**	**27.50 303**	P	**P**	**00 54 17.0 -1.3**		
	comp=Z,26nm,1.7s						
NONG	**Nongkai**	**27.50 303**	P	**P**	**00 54 17.1 -1.3**		
	comp=Z,26nm,1.7s						
CHAI	**Chaiyaphum**	**27.53 298**	P	**P**	**00 54 17.7 -0.9**		
	comp=Z,346nmcomp=Z,30nm,0.7s						
CHAI	**Chaiyaphum**	**27.53 298**	P	**P**	**00 54 17.7 -0.9**		
	comp=Z,86nmcomp=Z,7.4nm,0.7s						
JCJ	**Chichijima**	**27.58 30**	LR	LR	01 02 43.1		
	comp=Z,298nm,21.9s,baz=244,slow=31						
AS31	**Alice Springs**	**27.82 166**	P	**P**	**00 54 20.5 -0.6**		
ASAR	**Alice Springs**	**27.82 166**	P	**P**	**00 54 20.7 -0.5**		
	comp=Z,5.0nm,0.7s,baz=340,slow=6.5,SNR=55						
ASAR			PcP	**PcP**	**00 57 37.3 +0.8**		
	comp=Z,2.9nm,0.8s,baz=333,slow=2.5,SNR=5.6						
ASAR	**Alice Springs**	**27.82 166**		**PcP**	**00 57 37.0 +0.5**		
JSU	**Suzuyama**	**28.04 6**	P	**P**	**00 54 22.0 -1.0**		
JSU			IAmb	IAmb	00 54 28.1		
	comp=Z,62nm,1.4s						
PSI	**Prapat**	**28.06 269**	P	**P**	**00 54 22.1 -1.5**		
PSI			pmax	pmax			
	comp=Z,10.0nm,0.9s						
RPSI	**Rantau Prapat**	**28.07 269**	P	**P**	**00 54 22.1 -1.3**		
WRKA	**Warakurna**	**28.40 178**	P	**P**	**00 54 26.4 +0.1**		
	baz=29,SNR=37						
NJ2	**Nanjing**	**29.42 346**	*e*P	**P**	**00 54 36.4 +1.2**		
NJ2			pmax	pmax			
	comp=Z,6.0nm,0.5s						
PHIT	**Phitsanulok**	**29.43 299**	P	**P**	**00 54 35.6 +0.1**		
	comp=Z,5μmcomp=Z,78nm,0.8s						
PHIT	**Phitsanulok**	**29.43 299**	P	**P**	**00 54 35.6 +0.1**		
	comp=Z,1μmcomp=Z,19nm,0.8s						
WHN	**Wuhan**	**29.44 337**	↓P	P	00 54 43.3 +7.9		
GSI	**Gunungsitoli**	**29.50 266**	P	**P**	**00 54 34.1 -2.1**		
GSI			IAmb	IAmb	00 54 44.4		
	comp=Z,22nm,0.6s						
GSI	**Gunungsitoli**	**29.50 266**	P	**P**	**00 54 35.1 -1.1**		
UTHA	**Uthaitani**	**29.67 296**	P	**P**	**00 54 40.0 +2.4**		
	comp=Z,14nm,0.6s						
UTHA	**Uthaitani**	**29.67 296**	P	**P**	**00 54 40.0 +2.4**		
	comp=Z,3.6nm,0.6s						
JNU	**Nakatsue**	**29.69 7**	P	**P**	**00 54 37.2 -0.4**		
	comp=Z,10nm,0.8s,baz=93,slow=3.4,SNR=1.9						
LAMP	**Lampang**	**30.67 301**	P	P	00 54 52.2 +5.7		
LAMP	**Lampang**	**30.67 301**	P	P	00 54 52.0 +5.5		
MEEK	**Meekatharra**	**31.05 195**	P	**P**	**00 54 50.0 +0.3**		
	baz=31,SNR=7.0						
CM36	**Chiang Mai Arr**	**31.13 301**	P	**P**	**00 54 51.0 +0.4**		
CM04	**Chiang Mai Arr**	**31.18 300**	P	**P**	**00 54 52.7 +1.7**		
	comp=Z,7.7nm,0.8s						
CM04	**Chiang Mai Arr**	**31.18 300**	P	**P**	**00 54 52.8 +1.7**		
	comp=Z,7.7nm,0.8s						
CM09	**Chiang Mai Arr**	**31.19 301**	P	**P**	**00 54 53.1 +2.0**		
	comp=Z,12nm,0.8s						
CM09	**Chiang Mai Arr**	**31.19 301**	P	**P**	**00 54 53.1 +2.0**		
	comp=Z,12nm,0.8s						
CM01	**Chiang Mai Arr**	**31.21 300**	P	**P**	**00 54 52.6 +1.4**		
	comp=Z,96nmcomp=Z,10nm,0.8s						
CM01	**Chiang Mai Arr**	**31.21 300**	P	**P**	**00 54 52.6 +1.4**		
	comp=Z,96nmcomp=Z,10nm,0.8s						
CM05	**Chiang Mai Arr**	**31.21 300**	P	**P**	**00 54 53.0 +1.7**		
	comp=Z,6.3nm,0.8s						
CM05	**Chiang Mai Arr**	**31.21 300**	P	**P**	**00 54 53.0 +1.7**		
	comp=Z,6.3nm,0.8s						
CM02	**Chiang Mai Arr**	**31.22 300**	P	**P**	**00 54 52.1 +0.7**		
	comp=Z,9.8nm,0.8s						
CM02	**Chiang Mai Arr**	**31.22 300**	P	**P**	**00 54 52.2 +0.8**		
	comp=Z,9.8nm,0.8s						
CM34	**Chiang Mai Arr**	**31.23 301**	P	**P**	**00 54 51.0 -0.4**		
CM31	**Chiang Mai Arr**	**31.24 301**	P	**P**	**00 54 50.2 -1.3**		
CMAR	**Chiang Mai Arr**	**31.24 301**	P	**P**	**00 54 50.2 -1.3**		
	comp=Z,5.6nm,0.7s,baz=118,slow=7.2,SNR=23						
CMAR			PcP	**PcP**	**00 57 47.3 +2.0**		
	comp=Z,1.1nm,0.3s,baz=134,slow=2.1,SNR=5.2						
CMAR			ScP	**ScP**	**01 01 27.1 +2.9**		
	comp=Z,0.8nm,0.3s,baz=122,slow=3.3,SNR=4.7						
CMAR			LR	LR	01 09 07.1		
	comp=Z,72nm,18.1s,baz=192,slow=40						
CMAR	**Chiang Mai Arr**	**31.24 301**	P	**P**	**00 54 50.3 -1.2**		
CMAR	**Chiang Mai Arr**	**31.24 301**	P	**P**	**00 54 50.3 -1.2**		
CM15	**Chiang Mai Arr**	**31.25 300**	P	**P**	**00 54 52.3 +0.7**		
	comp=Z,9.4nm,0.8s						
CM15	**Chiang Mai Arr**	**31.25 300**	P	**P**	**00 54 52.4 +0.8**		
	comp=Z,9.4nm,0.8s						
CM13	**Chiang Mai Arr**	**31.25 300**	P	**P**	**00 54 52.8 +1.2**		
	comp=Z,8.9nm,0.8s						
CM13	**Chiang Mai Arr**	**31.25 300**	P	**P**	**00 54 52.8 +1.2**		
	comp=Z,8.9nm,0.8s						
ENH	**Enshi**	**31.37 330**	IAmb	IAmb	00 54 53.1		
	comp=Z,22nm,0.8s						
CMMT	**Chiang Mai**	**31.38 301**	P	**P**	**00 54 52.8 0.0**		
	comp=Z,14nm,1.2s						
CMMT	**Chiang Mai**	**31.38 301**	P	**P**	**00 54 52.8 0.0**		
	comp=Z,14nm,1.2s						
CMMT	**Chiang Mai**	**31.38 301**	P	**P**	**00 54 51.6 -1.2**		
	comp=Z,13nm,1.2s						
CHTO	**Chiang Mai**	**31.39 301**	P	**P**	**00 54 51.8 -1.0**		
CHTO			pmax	pmax			
	comp=Z,12nm,1.1s						
CHTO	**Chiang Mai**	**31.39 301**	P	**P**	**00 54 52.9 +0.1**		
	comp=Z,14nm,1.2s						
CHTO	**Chiang Mai**	**31.39 301**	P	**P**	**00 54 51.8 -1.0**		
CHTO	**Chiang Mai**	**31.39 301**	P	**P**	**00 54 51.8 -1.0**		
CM33	**Chiang Mai Arr**	**31.39 301**	P	**P**	**00 54 53.0 +0.2**		
CM32	**Chiang Mai Arr**	**31.40 301**	P	**P**	**00 54 53.0 +0.1**		
MHMT	**Maesarieng**	**32.00 299**	P	**P**	**00 54 58.4 +0.3**		
	comp=Z,995nmcomp=Z,48nm,0.7s						
MHMT	**Maesarieng**	**32.00 299**	P	**P**	**00 54 58.5 +0.3**		
KSRS	**Korea Array**	**33.80 1**	P	**P**	**00 55 13.1 -0.5**		
	comp=Z,2.0nm,0.5s,baz=176,slow=9.6,SNR=5.2						
TIA	**Tai'an**	**33.81 346**	↓P	**P**	**00 55 14.0 +0.3**		
TIA			pmax	pmax			
	comp=Z,21nm,1.0s						
MORW	**Morawa**	**34.06 197**	P	**P**	**00 55 15.8 -0.2**		
FORT	**Forrest**	**34.10 178**	P	**P**	**00 55 16.9 +0.6**		
	baz=34,SNR=8.7						
FORT	**Forrest**	**34.10 178**	P	**P**	**00 55 16.5 +0.2**		
MJAR	**Matsushiro Arr**	**34.46 16**	P	**P**	**00 55 15.5 -3.9**		
	comp=Z,1.1nm,0.4s,baz=182,slow=9.4,SNR=1.9						
XAN	**Xi'an**	**34.75 333**	P	**P**	**00 55 20.8 -1.2**		
XAN			pP	pP	00 55 33.3 -1.9		
XAN			sP	sP	00 55 37.8 -3.5		
XAN			S	**S**	**01 00 47.3 -1.5**		
XAN			pmax	pmax			
	comp=Z,22nm,0.9s						
XAN			pmax	pmax			
	comp=Z,71nm,4.0s						
XAN			LR	LR			
	comp=Z,160nm,16.1s						
XAN			LR	LR			
	comp=Z,160nm,16.7s						
XAN			LR	LR			
	comp=Z,180nm,18.6s						
CD2	**Chengdu**	**35.00 324**	P	**P**	**00 55 23.5 -0.7**		
CD2			pmax	pmax			
	comp=Z,20nm,0.6s						
MUN	**Mundaring**	**36.75 195**	P	**P**	**00 55 39.7 +0.6**		
	baz=37,SNR=3.8						
BBOO	**Buckleboo**	**37.12 167**	P	**P**	**00 55 42.3 +0.1**		
	baz=37,SNR=11						
BBOO	**Buckleboo**	**37.12

MDJ pmax pmax
comp=Z,170nm,5.5s
MDJ LR LR
comp=Z,220nm,23.3s
MDJ LR LR
comp=Z,200nm,23.7s
MDJ LR LR
comp=Z,290nm,20.1s
MDJ Mudanjiang 41.01 3 P P 00 56 14.2 -0.4
ARMA Armidale 41.12 147 P P 00 56 15.5 -0.3
baz=41,SNR=4.0
H11S3 WAKE ISLAND Hy 41.56 66 T T 01 40 53.3
baz=253
H11S1 WAKE ISLAND Hy 41.57 66 T T 01 40 53.0
baz=253
H11S2 WAKE ISLAND Hy 41.57 66 T T 01 40 56.2
baz=253
ARPS Mount Arapiles 42.38 162 P P 00 56 26.9 +1.0
baz=43,SNR=6.7
ASAJ Asahikawa 42.72 17 P P 00 56 28.3 -0.3
comp=Z,6.8nm,0.7s,baz=281,slow=30,SNR=1.5
LSA Lhasa 42.81 311 P P 00 56 30.0 -0.1
LSA Lhasa 42.81 311 P P 00 56 29.4 -0.7
LSA pmax pmax
comp=Z,24nm,0.7s
LSA Lhasa 42.81 311 P P 00 56 29.4 -0.7
LSA IAmb IAmb 00 56 31.8
comp=Z,24nm,0.7s
GTA Gaotai 43.44 329 ⇓P P **00 56 34.3 -0.3**
GTA pP pP 00 56 42.3 -5.8
GTA PcP **PP 00 58 16.5 +0.1**
GTA pmax pmax
comp=Z,7.0nm,1.1s
GTA pmax pmax
comp=Z,66nm,6.0s
GTA LR LR
comp=Z,210nm,19.3s
GTA LR LR
comp=Z,220nm,17.8s
GTA LR LR
comp=Z,220nm,20.0s
KLR Kul'dur 45.74 4⇑*e*P P **00 56 52.2 -0.4**
KLR pmax pmax
comp=Z,8.0nm,1.3s
HIA Hailar 46.02 353⇓*e*P P **00 56 56.4 +1.5**
HIA pmax pmax
comp=Z,14nm,1.0s
ULN Ulaanbaatar 47.42 342*c i*P P **00 57 06.1 +0.1**
ULN pmax pmax
comp=Z,31nm,1.0s
ULN Ulaanbaatar 47.42 342 P P **00 57 06.3 +0.3**
ULN IAmb IAmb 00 57 07.6
comp=Z,26nm,0.9s
SONM Songino Array 47.60 341 P P **00 57 07.4 0.0**
comp=Z,8.1nm,0.7s,baz=160,slow=8.8,SNR=50
SONM PcP **PcP 00 58 37.5 +1.0**
comp=Z,4.4nm,0.8s,baz=162,slow=5.3,SNR=4.9
SONM Songino Array 47.60 341 P P **00 57 07.7 +0.3**
SONM pmax pmax
comp=Z,13nm,0.9s
SONM Songino Array 47.60 341 P P **00 57 07.7 +0.3**
SONM IAmb IAmb 00 57 08.8
comp=Z,12nm,0.9s
ZAK Zakamensk 50.83 341 *e*P P **00 57 30.7 -1.3**
ZAK pmax pmax
comp=Z,6.0nm,1.5s
MOY Mondy 52.69 340 *e*P P **00 57 46.6 +0.7**
MOY pmax pmax
comp=Z,29nm,1.5s
WMQ Urumqi 53.08 325 *e*P P **00 57 51.0 +2.2**
WMQ pP pP 00 58 04.5 +1.9
WMQ pmax pmax
comp=Z,30nm,0.7s
WMQ pmax pmax
comp=Z,110nm,4.1s
WMQ LR LR
comp=Z,280nm,21.7s
WMQ LR LR
comp=Z,220nm,18.5s
WMQ LR LR
comp=Z,120nm,29.2s
BOD Bodaibo 55.13 352 *e*P P **00 58 05.2 +1.8**
BOD pmax pmax
comp=Z,10.0nm,1.3s
PEA0B Petropavlovsk- 55.53 22*de*P P **00 58 06.9 +0.5**
PEA0B Petropavlovsk- 55.53 22 P P **00 58 06.2 -0.1**
PETK Petropavlovsk- 55.53 22 P P **00 58 06.9 +0.5**
comp=Z,21nm,0.8s,baz=198,slow=7.2,SNR=41
PETK Petropavlovsk- 55.53 22 P P **00 58 06.0 -0.4**
PETK Petropavlovsk- 55.53 22 P P **00 58 06.0 -0.4**
PET Petropavlovsk 55.82 23⇑*e*P P **00 58 08.3 -0.1**
PET pmax pmax
comp=Z,27nm,1.7s
PET Petropavlovsk 55.82 23 P P **00 58 07.9 -0.5**
PET IAmb IAmb 00 58 09.7
comp=Z,16nm,0.9s
ZSN Zaisan 56.85 327 *e*P P **00 58 14.7 -1.2**
baz=327
ZSN Zaisan 56.85 327 *e*P P **00 58 14.7 -1.2**
DGZ Jazzator, Alta 56.93 330⇑*i*P P **00 58 16.4 -0.2**
DGZ pmax pmax
comp=Z,4.0nm,0.6s
SHLS Shalkode 57.70 320 *e*P P **00 58 19.1 -3.1**
baz=320
SHLS Shalkode 57.70 320 *e*P P **00 58 19.1 -3.1**
PDGK Podgornoye 57.77 320 P P **00 58 21.9 -0.7**
MK31 Makanchi Array 57.91 325 *i*P P **00 58 22.7 -0.7**
MK31 pmax pmax
comp=Z,9.0nm,0.7s
MK31 Makanchi Array 57.91 325 P P **00 58 22.6 -0.7**
MK31 IAmb IAmb 00 58 36.0
comp=Z,18nm,1.4s
MKAR Makanchi Array 57.91 325 P P **00 58 22.8 -0.6**
comp=Z,8.9nm,0.6s,baz=120,slow=8.2,SNR=68
MKAR LR LR 01 24 49.6
comp=Z,119nm,20.5s,baz=110,slow=38
MKAR Makanchi Array 57.91 325 P P **00 58 22.6 -0.8**
MKAR Makanchi Array 57.91 325 P P **00 58 22.6 -0.8**
UZB Uzynbulak 57.98 320 *e*P P **00 58 22.6 -1.6**
baz=320
UZB Uzynbulak 57.98 320 *e*P P **00 58 22.5 -1.6**
MAKZ Makanchi 58.09 325 P P **00 58 23.7 -1.0**
MAKZ pmax pmax
comp=Z,22nm,1.3s
MAKZ Makanchi 58.09 325 P P **00 58 23.7 -1.0**
MAKZ IAmb IAmb 00 58 37.3
comp=Z,22nm,1.2s
TARG Taragay, Kyrgy 58.11 318 P P **00 58 24.8 -0.6**
NIL Nilore 58.29 308 P P **00 58 24.9 -1.5**
NIL pmax pmax
comp=Z,13nm,1.0s
NIL Nilore 58.29 308 P P **00 58 24.9 -1.5**
NIL IAmb IAmb 00 58 36.7
comp=Z,13nm,0.9s
SATY Saty 58.34 320 *e*P P **00 58 25.5 -1.1**
comp=Z,11nm,1.1s,baz=320
SATY Saty 58.34 320 *e*P P **00 58 25.5 -1.1**
SATY pmax pmax
comp=Z,11nm,1.1s
KPKS Kokpek 58.35 320 *e*P P **00 58 24.9 -1.8**
baz=320
KPKS Kokpek 58.35 320 *e*P P **00 58 24.8 -1.8**
KSH Kashi 58.41 315 P P **00 58 27.9 +0.7**
KSH pP pP 00 58 40.1 -0.9
KSH pmax pmax
comp=Z,11nm,0.7s
YAK Yakutsk 58.43 1 *e*P P **00 58 27.1 +0.5**
YAK *e**PP **pwP 00 58 41.8 -1.2**
YAK *e* 00 59 23.4
YAK *e* 01 00 37.9
YAK *e*S **S 01 06 25.1 -0.7**
YAK *e**SS **sS 01 06 52.1 +3.3**
YAK *e* 01 08 14.9
YAK *e*SS **SS 01 10 20.5 +1.8**
YAK pmax pmax
comp=Z,27nm,0.9s
YAK pmax pmax
comp=N,12nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK pmax pmax
comp=Z,132nm,4.3s
YAK pmax pmax
comp=E,53nm,4.3s
YAK smax smax
comp=N,89nm,3.5s
YAK smax smax
comp=E,40nm,3.2s
YAK Yakutsk 58.43 1 P **P 00 58 26.5 -0.1**
KDJ Kajisay 58.71 318 P **P 00 58 28.5 -0.8**
KDJ pmax pmax
comp=Z,13nm,0.9s
KDJ Kajisay 58.71 318 P **P 00 58 28.4 -0.8**
KDJ IAmb IAmb 00 58 30.1
comp=Z,13nm,0.9s
MA2 Magadan 58.85 14⇑*e*P P **00 58 29.2 -0.5**
MA2 pmax pmax
comp=Z,21nm,1.4s
MA2 Magadan 58.85 14 P **P 00 58 29.7 0.0**
MA2 IAmb IAmb 00 58 37.3
comp=Z,18nm,1.1s
MDOK Medeo 59.26 319 *e*P **P 00 58 31.2 -1.9**
baz=319
MDOK Medeo 59.26 319 *e*P **P 00 58 31.1 -1.9**
TNSS Tian-Shan 59.27 319 *e*P **P 00 58 32.7 -0.7**
baz=319
TDK Taldyqorghan 59.27 322 *e*P **P 00 58 31.2 -1.8**
baz=322
TDK Taldyqorghan 59.27 322 *e*P **P 00 58 31.1 -1.8**
CHKK Chushkaly 59.62 320 *e*P **P 00 58 33.6 -1.7**
baz=320
MTBS Maitube 59.65 319 *e*P **P 00 58 34.2 -1.5**
baz=319
KUU Kurty 60.05 320 *e*P **P 00 58 37.1 -1.3**
comp=Z,26nm,1.2s,baz=320
KUU Kurty 60.05 320 *e*P **P 00 58 37.0 -1.3**
KUU pmax pmax
comp=Z,26nm,1.2s
TKM2 Tokmak 2 60.11 319 *i*P **P 00 58 37.3 -1.7**
TKM2 pmax pmax
comp=Z,6.0nm,0.9s
AAK Ala-Archa 60.72 318 P **P 00 58 41.8 -1.3**
comp=Z,2.0nm,0.5s,baz=167,slow=9.0,SNR=4.7
AAK Ala-Archa 60.72 318⇓*e*P **P 00 58 44.2 +1.1**
AAK pmax pmax
comp=Z,10.0nm,0.9s
AAK Ala-Archa 60.72 318 P **P 00 58 42.8 -0.3**
ZAA0 Zalesovo Array 60.92 333 P **P 00 58 43.1 -0.9**
ZALV Zalesovo Beam 60.92 333 P **P 00 58 42.7 -1.3**
comp=Z,4.2nm,0.6s,baz=119,slow=6.5,SNR=9.9
ZALV Zalesovo Beam 60.92 333 *i*P **P 00 58 43.2 -0.8**
ZALV pmax pmax
comp=Z,4.0nm,0.6s
SGDS Sogindy 60.97 319 *e*P **P 00 58 42.5 -2.2**
baz=319
DRK Karamyk 61.38 314 P **P 00 58 47.2 -0.6**
DRK IAmb IAmb 00 58 54.0
comp=Z,14nm,0.8s
KBL Kabul 61.89 307 P **P 00 58 49.5 -1.7**
KBL pmax pmax
comp=Z,6.0nm,0.7s
KBL Kabul 61.89 307 P **P 00 58 49.5 -1.7**
BTLS Baital 62.03 320 *e*P **P 00 58 50.0 -1.7**
comp=Z,3.4nm,0.7s,baz=320
BTLS Baital 62.03 320 *e*P **P 00 58 50.0 -1.7**
BTLS pmax pmax
comp=Z,3.0nm,0.7s
KURBB Kurchatov Arra 62.09 327 P **P 00 58 51.2 -0.7**
comp=Z,18nm,0.7s,baz=127,slow=6.4,SNR=102
BTK Batken 62.29 314 P **P 00 58 52.2 -1.4**
BTK pmax pmax
comp=Z,13nm,1.0s
BTK Batken 62.29 314 P **P 00 58 52.2 -1.4**
BTK IAmb IAmb 00 59 10.3
comp=Z,13nm,0.9s
GAR Garm 62.29 313 P **P 00 58 52.5 -1.2**
BFZ Birch Farm 62.85 140 P **P 00 58 57.4 +0.2**
CHGR Chuyangaron 63.03 312 P **P 00 58 56.9 -1.7**
CHGR IAmb IAmb 00 59 26.2
comp=Z,14nm,0.8s
AFI Afiamalu 63.10 107 P **P 00 58 58.9 -0.5**
AFI pmax pmax
comp=Z,273nm,1.8s
AFI Afiamalu 63.10 107 P **P 00 58 58.9 -0.5**
KK31 Karatay Array 63.59 317 *i*P **P 00 59 01.2 -1.0**
KK31 Karatay Array 63.59 317 P **P 00 59 01.5 -0.7**
KK31 IAmb IAmb 00 59 03.0
comp=Z,10nm,0.8s
KKAR Karatay Array 63.59 317 P **P 00 59 00.5 -1.7**
KKAR Karatay Array 63.59 317 P **P 00 59 00.5 -1.7**
KKAR Karatay Array 63.59 317 P **P 00 59 00.9 -1.2**
KKAR IAmb IAmb 00 59 03.0
comp=Z,10nm,0.8s
HRA Herat 67.30 306 P **P 00 59 24.6 -1.9**
BVAR Borovoye Array 67.67 327 P **P 00 59 27.7 -0.5**
comp=Z,10.0nm,0.7s,baz=150,slow=12,SNR=32
BRVK Borovoye 67.74 327*c i*P **P 00 59 28.0 -0.6**
BRVK pmax pmax
comp=Z,15nm,0.8s
BRVK Borovoye 67.74 327 P **P 00 59 28.1 -0.5**
BRVK IAmb IAmb 00 59 29.5
comp=Z,14nm,0.7s
TIXI Tiksi 68.06 1*d i*P **P 00 59 31.0 +0.7**
TIXI Tiksi 68.06 1 P **P 00 59 30.5 +0.2**
TIXI IAmb IAmb 00 59 37.9
comp=Z,8.7nm,0.7s
BILL Bilibino 69.70 15 *e*P **P 00 59 41.4 +0.9**
BILL *e* 00 59 55.3
BILL *e* 01 00 03.3
BILL *e* 01 02 15.5
BILL pmax pmax
comp=Z,6.0nm,0.5s
BILL MLR MLR
comp=Z,183nm,20.0s
CASY Casey 70.63 187 P **P 00 59 46.7 +0.5**
CASY IAmb IAmb 00 59 48.7
comp=Z,14nm,0.9s
NRIK Noril'sk 70.72 346 P **P 00 59 47.2 +0.5**
comp=Z,11nm,0.6s,baz=130,slow=5.9,SNR=18
NRIK Noril'sk 70.72 346*c i*P **P 00 59 46.9 +0.2**
NRIK *i* *PP **pP 01 00 02.7 +1.8**
NRIK pmax pmax
comp=Z,12nm,0.7s
NRIK Noril'sk 70.72 346 P **P 00 59 46.6 -0.2**
NRIK IAmb IAmb 00 59 49.4
comp=Z,12nm,0.7s
GEYT Alibeck 71.26 309 P **P 00 59 50.6 -0.1**
comp=Z,110nm,0.5s,baz=194,slow=12,SNR=6.0
GYA0B ALIBECK ARRAY 71.26 309 P **P 00 59 50.4 -0.4**
AB31 Akbulak array 72.51 321 P **P 00 59 56.3 -1.6**
ABKAR Akbulak array 72.51 321 IAmb IAmb 00 59 58.5
comp=Z,12nm,0.6s
AKTO Aktyubinsk 74.02 322 P **P 01 00 06.5 -0.3**
comp=Z,12nm,0.6s,baz=103,slow=8.1,SNR=61
SVE Sverdlovsk 74.31 328⇑*e*P **P 01 00 08.7 +0.4**
SVE pmax pmax
comp=Z,35nm,1.4s
ARU Arti 75.28 328 P **P 01 00 13.6 -0.4**
comp=Z,5.2nm,0.8s,baz=75,slow=3.0,SNR=19
ARU LR LR 01 35 02.4
comp=Z,68nm,21.9s,baz=96,slow=37
ARU Arti 75.28 328*c i*P **P 01 00 13.2 -0.8**
ARU *PP **pP 01 00 28.4 +0.4**
ARU S **S 01 09 48.4 -1.0**
ARU pmax pmax
comp=Z,28nm,1.1s
ARU Arti 75.28 328 P **P 01 00 13.2 -0.8**
ARU IAmb IAmb 01 00 14.4
comp=Z,34nm,1.2s
RSD Rainshed 77.25 71 P **P 01 00 25.3 -0.8**
AKT Akhty 79.67 311 *e*P **P 01 00 38.6 -0.4**
AKT *e* 01 00 46.1
AKT pmax pmax
comp=Z,7.0nm,0.8s
KIRV Kirov 80.57 329 P **P 01 00 42.1 -1.2**
comp=Z,60nm,0.8s,baz=109,slow=2.3,SNR=26
KIRV Kirov 80.57 329*c i*P **P 01 00 43.0 -0.2**
BELG Belogornoye 80.76 322 P **P 01 00 42.9 -1.6**
comp=Z,40nm,1.0s,baz=90,slow=3.1,SNR=14
N19K Bonanza Creek 81.34 29 P **P 01 00 48.0 +0.5**
N19K IAmb IAmb 01 01 05.8
comp=Z,12nm,0.9s
N19K Bonanza Creek 81.34 29 P **P 01 00 49.0 +1.5**
baz=262
L19K White Mountain 81.38 28 P **P 01 00 47.8 +0.2**
L19K White Mountain 81.38 28 P **P 01 00 48.9 +1.3**
baz=261
ABPO Ambohimpanom 81.51 250 P **P 01 00 49.6 +0.3**
ABPO pmax pmax
comp=Z,19nm,1.0s
ABPO Ambohimpanom 81.51 250 P **P 01 00 49.6 +0.3**
ABPO IAmb IAmb 01 00 50.6
comp=Z,19nm,1.0s
M19K Big River Lodg 81.55 28 P **P 01 00 50.0 +1.5**
baz=262
L20K Farewell, AK 81.87 27 P **P 01 00 51.7 +1.5**
baz=262
K20K Telida 81.91 27 P **P 01 00 51.0 +0.6**
K20K IAmb IAmb 01 00 53.0
comp=Z,14nm,1.1s
K20K Telida 81.91 27 P **P 01 00 52.0 +1.6**
baz=262,SNR=7.2
J20K Nowinta River 82.00 26 P **P 01 00 50.4 -0.4**
J20K Nowinta River 82.00 26 P **P 01 00 52.5 +1.8**
baz=262,SNR=6.5
RSO Redoubt South 82.14 30 P **P 01 00 52.6 +0.8**
VOI Vohitsoka 82.25 247 P **P 01 00 53.2 +0.1**
VOI IAmb IAmb 01 00 54.4
comp=Z,26nm,1.3s
ZEI Tsey 82.58 313 *e*P **P 01 00 53.9 -0.7**
ZEI pmax pmax
comp=Z,3.0nm,0.9s
CHUM Lake Minchumin 82.76 26 P **P 01 00 56.4 +1.7**
baz=263
H21K Melozitna Rive 82.77 24 P **P 01 00 56.1 +1.2**
H21K IAmb IAmb 01 00 57.4
comp=Z,15nm,1.1s
H21K Melozitna Rive 82.77 24 P **P 01 00 56.6 +1.8**
baz=262
CAST Castle Rocks 82.80 27 P **P 01 00 55.3 +0.2**
CAST Castle Rocks 82.80 27 P **P 01 00 56.1 +1.0**
baz=264
PRGR Permogore 82.84 332 *e*P **P 01 00 53.8 -1.4**
PRGR pmax pmax
comp=Z,159nm,1.5s
AKH Akhalkalaki 82.84 311⇑P **P 01 00 56.8 +0.8**
SKT Skwentna 82.90 28 P **P 01 00 55.9 +0.4**
baz=264,SNR=6.6
I21K Tanana 83.05 25 P **P 01 00 57.0 +0.7**
I21K IAmb IAmb 01 00 58.9
comp=Z,22nm,1.1s
I21K Tanana 83.05 25 P **P 01 00 58.1 +1.8**
baz=263,SNR=11
KARS Kars 83.14 310 P **P 01 00 57.3 -0.1**
KARS pmax pmax
comp=Z,36nm,1.0s
KARS Kars 83.14 310 P **P 01 00 57.2 -0.1**
VNDA Vanda 83.17 173 P **P 01 00 57.6 +1.0**
comp=Z,6.6nm,0.9s,baz=310,slow=6.0,SNR=32
VNDA Vanda 83.17 173 P **P 01 00 57.3 +0.7**
VNDA pmax pmax
comp=Z,9.0nm,1.0s
VNDA Vanda 83.17 173 P **P 01 00 57.3 +0.7**
SUA Susitna One 83.22 29 P **P 01 00 57.7 +0.3**
baz=265
KBZ Khabaz 83.34 313 P **P 01 00 58.2 0.0**
comp=Z,2.9nm,1.0s,baz=154,slow=5.9,SNR=3.7
KBZ Khabaz 83.34 313⇑*e*P **P 01 00 57.3 -0.9**
KBZ pmax pmax
comp=Z,5.0nm,1.0s
BPAW Bear Paw Mtn. 83.36 26 P **P 01 00 58.0 +0.1**
BPAW IAmb IAmb 01 01 00.5
comp=Z,20nm,1.2s
BPAW Bear Paw Mtn. 83.36 26 P **P 01 00 58.8 +0.9**
baz=264
KVAR Kislovodsk Arr 83.50 314 P **P 01 00 58.8 -0.4**
comp=Z,6.4nm,1.0s,baz=56,slow=3.6,SNR=2.5
KIV Kislovodsk 83.50 314 *e*P **P 01 00 59.4 +0.2**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,63nm,19.0s
MLY Manley 83.56 25 P **P 01 00 59.7 +0.7**
MLY IAmb IAmb 01 01 01.6
comp=Z,13nm,1.0s
MLY Manley 83.56 25 P **P 01 01 00.3 +1.3**
baz=264,SNR=14
TRF Thorofare Moun 83.61 27 IAmb IAmb 01 01 14.8
comp=Z,13nm,1.0s
TRF Thorofare Moun 83.61 27 P **P 01 00 59.9 +0.5**
baz=265
MAW Mawson 83.64 200 P **P 01 00 59.3 +0.1**
comp=Z,2.4nm,0.8s,baz=6.9,slow=5.5,SNR=3.6
RC01 Rabbit Creek A 83.68 29 P **P 01 00 59.8 +0.3**
baz=266
GURO Guroymak-BITLI 83.91 308 P **P 01 01 01.1 -0.4**
GURO IAmb IAmb 01 01 03.2
comp=Z,12nm,0.9s
COLD Coldfoot 83.99 23 P **P 01 01 01.6 +0.6**
COLD IAmb IAmb 01 01 18.0
comp=Z,16nm,0.9s
COLD Coldfoot 83.99 23 P **P 01 01 03.2 +2.2**
baz=265
PMR Palmer 84.00 29 P **P 01 01 00.8 -0.4**
PMR pmax pmax
comp=Z,22nm,1.2s
PMR Palmer 84.00 29 P **P 01 01 00.8 -0.4**
PMR Palmer 84.00 29 P **P 01 01 01.6 +0.5**
baz=266
SBA Scott Base 84.07 172 P **P 01 01 02.7 +1.5**
SBA pmax pmax
comp=Z,8.0nm,1.2s
SBA Scott Base 84.07 172 P **P 01 01 02.7 +1.5**
GHO Glory Hole Cre 84.11 28 P **P 01 01 01.6 -0.3**
GHO IAmb IAmb 01 01 14.2
comp=Z,24nm,1.4s
H23K Yukon River 84.13 24 P **P 01 01 02.6 +0.8**
H23K IAmb IAmb 01 01 04.3
comp=Z,12nm,0.9s
H23K Yukon River 84.13 24 P **P 01 01 03.7 +1.9**
baz=266,SNR=10.0
I23K Minto, Yukon-K 84.15 25 P **P 01 01 03.0 +1.1**
I23K Minto, Yukon-K 84.15 25 P **P 01 01 03.4 +1.6**
baz=266,SNR=7.8
MCK McKinley 84.24 26 P **P 01 01 02.5 +0.1**
MCK pmax pmax
comp=Z,16nm,1.0s
MCK McKinley 84.24 26 P **P 01 01 02.5 +0.1**
MCK IAmb IAmb 01 01 03.6
comp=Z,16nm,1.0s
MCK McKinley 84.24 26 P **P 01 01 02.8 +0.4**
baz=266
NEA2 Nenana 84.24 26 P **P 01 01 02.5 +0.1**
NEA2 IAmb IAmb 01 01 04.9
comp=Z,12nm,1.1s
NEA2 Nenana 84.24 26 P **P 01 01 03.5 +1.1**
baz=266
BCA Borcka 84.25 311⇑P **P 01 01 02.9 -0.1**
RND Reindeer 84.25 27 P **P 01 01 02.5 0.0**
RND pmax pmax
comp=Z,14nm,1.0s
RND Reindeer 84.25 27 P **P 01 01 02.5 0.0**
RND IAmb IAmb 01 01 03.4
comp=Z,14nm,1.0s
KNK Knik Glacier 84.31 29 P **P 01 01 03.0 +0.2**
KNK Knik Glacier 84.31 29 P **P 01 01 03.8 +0.9**
baz=267,SNR=11
VRH Novokhopyorsk 84.34 321 *e*P **P 01 01 02.4 -0.7**
VRH pmax pmax
comp=Z,40nm,1.1s
PWL Port Wells 84.35 29 P **P 01 01 03.5 +0.5**
TOLK Toolik Lake Re 84.35 21 P **P 01 01 03.3 +0.4**
TOLK IAmb IAmb 01 01 06.2
comp=Z,12nm,1.0s
TOLK Toolik Lake Re 84.35 21 P **P 01 01 04.3 +1.4**
baz=265
SML Sawmill 84.40 28 P **P 01 01 03.7 +0.4**
SML Sawmill 84.40 28 P **P 01 01 04.1 +0.8**
baz=267,SNR=9.0
WRH Wood River Hil 84.65 26 P **P 01 01 04.3 -0.1**
WRH IAmb IAmb 01 01 06.0
comp=Z,9.5nm,1.1s
CCB Clear Creek Bu 84.78 26 P **P 01 01 05.0 -0.1**
CCB IAmb IAmb 01 01 06.4
comp=Z,10.0nm,1.2s
H24K Noodor Dome 84.81 24 P **P 01 01 05.8 +0.5**
H24K IAmb IAmb 01 01 29.1
comp=Z,12nm,1.2s
H24K Noodor Dome 84.81 24 P **P 01 01 06.9 +1.6**
baz=267,SNR=7.0
SCM Sheep Creek Mo 84.87 28 P **P 01 01 05.9 +0.2**
SCM pmax pmax
comp=Z,35nm,1.2s
SCM Sheep Creek Mo 84.87 28 P **P 01 01 05.8 +0.2**
GLI Glacier Island 84.95 29 P **P 01 01 06.7 +0.6**
GLI IAmb IAmb 01 01 07.5
comp=Z,12nm,0.7s

KOPT	**Kop Dagi**	**85.10**	**310**	P	**P**	**01 01 09.1**	**+1.5**		
ILAR	**Eielson Array**	**85.18**	**25**	P	**P**	**01 01 06.7**	**-0.4**		
	comp=Z,2.2nm,0.9s,baz=252,slow=5.6,SNR=6.1								
M24K	**Tolsona, Glenn**	**85.43**	**28**	P	**P**	**01 01 09.8**	**+1.4**		
	baz=269,SNR=6.3								
KLU	**Klutina**	**85.53**	**29**	P	**P**	**01 01 10.4**	**+1.3**		
	baz=269,SNR=5.4								
DIV	**Divide**	**85.60**	**29**	P	**P**	**01 01 10.9**	**+1.5**		
KLMR	**Klimovskoe**	**85.74**	**331**	*e*P	**P**	**01 01 08.3**	**-1.6**		
KLMR				pmax	pmax				
	comp=Z,28nm,1.4s								
KLMR	**Klimovskoe**	**85.74**	**331**	*e*P	**P**	**01 01 08.3**	**-1.6**		
KLMR				AMP		01 01 12.5			
	comp=Z,28nm,1.4s								
PAX	**Paxson**	**85.77**	**27**	P	**P**	**01 01 10.2**	**0.0**		
PAX				pmax	pmax				
	comp=Z,15nm,1.4s								
PAX	**Paxson**	**85.77**	**27**	P	**P**	**01 01 10.2**	**0.0**		
PAX				IAmb	IAmb	01 01 11.9			
	comp=Z,15nm,1.4s								
PAX	**Paxson**	**85.77**	**27**	P	**P**	**01 01 11.4**	**+1.2**		
	baz=269,SNR=5.1								
VORD	**Divnogorie**	**85.87**	**321**	*e*P	**P**	**01 01 10.0**	**-0.8**		
VORD				pmax	pmax				
	comp=Z,50nm,1.0s								
RIDG	**Independent Ri**	**86.05**	**26**	P	**P**	**01 01 12.4**	**+0.9**		
	baz=270								
N25K	**Chitina, Valde**	**86.17**	**29**	P	**P**	**01 01 13.1**	**+0.9**		
N25K				IAmb	IAmb	01 01 15.0			
	comp=Z,11nm,1.2s								
N25K	**Chitina, Valde**	**86.17**	**29**	P	**P**	**01 01 13.4**	**+1.2**		
	baz=270								
BMAR	**Burnt Mountain**	**86.17**	**23**	P	**P**	**01 01 13.2**	**+1.2**		
GLB	**Gilahina Butte**	**86.55**	**29**	P	**P**	**01 01 15.0**	**+1.0**		
GLB				IAmb	IAmb	01 01 16.6			
	comp=Z,14nm,1.1s								
J26L	**Joseph Creek**	**86.61**	**26**	P	**P**	**01 01 14.9**	**+0.6**		
	baz=271								
MOS	**Moscow**	**86.79**	**325**	*e*P	**P**	**01 01 14.1**	**-1.1**		
MOS				*e*		01 01 27.0			
MOS				pmax	pmax				
	comp=Z,56nm,0.9s								
ANN	**Anapa**	**87.26**	**315**	*e*P	**P**	**01 01 13.9**	**-3.8**		
ANN				pmax	pmax				
	comp=Z,59nm,1.0s								
OBN	**Obninsk**	**87.41**	**325**	P	**P**	**01 01 17.7**	**-0.5**		
	comp=Z,7.6nm,0.8s,baz=321,slow=0.7,SNR=8.5								
OBN	**Obninsk**	**87.41**	**325**	*ce*P	**P**	**01 01 17.5**	**-0.7**		
OBN				*e*		01 04 44.2			
OBN				*e*PPP	PPP	01 06 39.2			
OBN				pmax	pmax				
	comp=Z,66nm,1.7s								
OBN				MLR	MLR				
	comp=Z,91nm,19.0s								
OBN	**Obninsk**	**87.41**	**325**	P	**P**	**01 01 18.0**	**-0.2**		
L27K	**Beaver Creek,**	**87.43**	**27**	P	**P**	**01 01 19.6**	**+1.3**		
	baz=273								
GAZ	**Gaziantep**	**87.76**	**307**	P	**P**	**01 01 19.6**	**-0.8**		
ASF	**Jabal al Asfar**	**88.26**	**302**	P	**P**	**01 01 23.1**	**+0.1**		
	comp=Z,15nm,0.9s,baz=293,slow=3.8,SNR=16								
BNN	**Bunyan**	**88.74**	**309**	P	**P**	**01 01 24.8**	**-0.3**		
KIBK	**Kibwezi**	**89.12**	**268**	P	**P**	**01 01 27.0**	**-0.4**		
KIBK				IAmb	IAmb	01 01 29.3			
	comp=Z,12nm,1.1s								
MMAI	**Mount Meron Ar**	**89.47**	**303**	P	**P**	**01 01 29.0**	**+0.4**		
	comp=Z,18nm,1.2s,baz=92,slow=8.7,SNR=14								
KMBO	**Kilima Mbogo**	**89.84**	**269**	P	**P**	**01 01 30.9**	**0.0**		
	comp=Z,4.4nm,1.0s,baz=56,slow=7.6,SNR=13								
KMBO	**Kilima Mbogo**	**89.84**	**269**	P	**P**	**01 01 30.9**	**0.0**		
KMBO				pmax	pmax				
	comp=Z,6.0nm,1.0s								
KMBO	**Kilima Mbogo**	**89.84**	**269**	IAmb	IAmb	01 01 32.9			
	comp=Z,5.7nm,0.9s								
EIL	**Elat**	**90.08**	**300**	P	**P**	**01 01 31.8**	**+0.3**		
	comp=Z,7.5nm,0.9s,baz=85,slow=6.7,SNR=7.9								
PUL	**Pulkovo**	**90.38**	**330**	⇓*e*P	**P**	**01 01 31.7**	**-0.4**		
PUL				pmax	pmax				
	comp=Z,57nm,0.6s								
BR131	**Keskin Array S**	**90.39**	**310**	IAmb	IAmb	01 01 34.3			
	comp=Z,10.0nm,0.9s								
BRTR	**Keskin Array B**	**90.39**	**310**	P	**P**	**01 01 32.1**	**-0.7**		
	comp=Z,6.1nm,0.9s,baz=120,slow=4.8,SNR=28								
ARCES	**ARCESS Array B**	**90.76**	**340**	P	**P**	**01 01 33.0**	**-0.7**		
	comp=Z,5.0nm,0.6s,baz=78,slow=6.9,SNR=27								
FARO	**Faro, Yukon**	**91.41**	**28**	P	**P**	**01 01 38.0**	**+1.1**		
	baz=280								
FINES	**FINESS Array B**	**92.17**	**332**	P	**P**	**01 01 38.3**	**-2.1**		
	comp=Z,1.9nm,0.6s,baz=73,slow=6.6,SNR=6.7								
FINES				LR	LR	01 46 42.6			
	comp=Z,148nm,20.3s,baz=61,slow=38								
FINES	**FINESS Array B**	**92.17**	**332**	*i* P	**P**	**01 01 38.7**	**-1.6**		
FINES				pmax	pmax				
	comp=Z,2.0nm,0.7s								
AKASG	**Malin Array Be**	**92.25**	**321**	P	**P**	**01 01 39.9**	**-1.1**		
	comp=Z,6.3nm,0.7s,baz=67,slow=4.8,SNR=21								
AKBB	**Malin Array Si**	**92.25**	**321**	*ce*P	**P**	**01 01 40.4**	**-0.6**		
MNK	**Minsk**	**92.47**	**325**	*i* P	**P**	**01 01 39.3**	**-2.6**		
MNK				*i* *PP	**pP**	**01 01 54.0**	**-2.3**		
MNK				*i*		01 05 20.5			
MNK				*i* PPP	PPP	01 07 19.9			
MNK				*i* S	**SKSac**	**01 12 07.9**	**-3.2**		
MNK				*i* SP	**SP**	**01 13 50.5**	**-1.9**		
MNK				*i* PS	PS	01 13 57.2	-2.1		
MNK				*i* SS	**SS**	**01 18 52.8**	**-0.9**		
MNK				*i* SSS	SSS	01 22 32.2			
MNK				pmax	pmax				
	comp=E,1.0nm,1.1s								
MNK				pmax	pmax				
	comp=N,7.0nm,0.9s								
MNK				pmax	pmax				
	comp=Z,10.0nm,0.9s								
MNK				MLR	MLR				
	comp=N,54nm,22.0s								
MNK				MLR	MLR				
	comp=Z,315nm,22.0s								
MNK				MLR	MLR				
	comp=E,17nm,18.0s								
MNK	**Minsk**	**92.47**	**325**	*i* P	**P**	**01 01 39.3**	**-2.6**		
	comp=E,1.0nm,1.1s								
MNK				*i* P	**P**	**01 01 39.3**	**-2.6**		
	comp=N,7.0nm,0.9s								
MNK				*i* P	**P**	**01 01 39.3**	**-2.6**		
	comp=Z,10.0nm,0.9s,baz=80								
MNK				*i* pP	**pP**	**01 01 54.0**	**-2.3**		
MNK				*i* sP	**pwP**	**01 01 59.8**	**+1.1**		
MNK				*i* PP	**PP**	**01 05 20.6**	**-2.8**		
MNK				*i* PPP	PPP	01 07 20.0			
MNK				*i* S	**SKSac**	**01 12 07.9**	**-3.2**		
MNK				*i* SP	SP	01 13 50.6	-1.8		
MNK				*i* PS	**PS**	**01 13 57.2**	**-2.1**		
MNK				*i* SS	**SS**	**01 18 52.8**	**-0.9**		
MNK				*i* SSS	SSS	01 22 32.3			
MNK				*i* LQ	LQ	01 34 14.7			
MNK				*i* LR	LR	01 39 38.3			
MNK				*i* LRM	MLR	01 44 31.2			
	comp=N,54nm,21.9s								
MNK				*i* LRM	MLR	01 44 36.1			
	comp=Z,315nm,21.9s								
MNK				*i* LRM	MLR	01 45 26.0			
	comp=E,17nm,18.1s								
SORM	**Soroca**	**93.19**	**318**	⇑P	**P**	**01 01 44.1**	**-1.2**		
QSPA	**South Pole Qui**	**93.41**	**180**	P	**P**	**01 01 47.4**	**+1.3**		
QSPA				IAmb	IAmb	01 01 49.2			
	comp=Z,9.9nm,1.1s								
TPGR	**Topolog**	**93.64**	**315**	⇓P	**P**	**01 01 46.6**	**-1.0**		
VLDR	**Vladesti**	**93.73**	**316**	⇑P	**P**	**01 01 47.9**	**0.0**		
CFR	**Carcaliu**	**93.79**	**316**	⇑P	**P**	**01 01 46.7**	**-1.5**		
HARR	**Harsova**	**94.01**	**315**	⇑P	**P**	**01 01 49.1**	**-0.1**		
GRER		**94.57**	**316**	⇑P	**P**	**01 01 50.6**	**-1.2**		
TESR	**Tescani**	**94.60**	**317**	⇑P	**P**	**01 01 51.7**	**-0.3**		
VRI	**Vrincioaia**	**94.66**	**316**	⇑P	**P**	**01 01 52.2**	**0.0**		
PLOR	**Plostina**	**94.71**	**316**	⇓P	**P**	**01 01 52.4**	**-0.1**		
BISRR	**Bisoca**	**94.72**	**316**	⇑P	**P**	**01 01 53.3**	**+0.7**		
NEHR	**Nehoiu**	**95.03**	**316**	⇑P	**P**	**01 01 53.8**	**-0.1**		
MLR	**Muntele Rosu**	**95.26**	**316**	⇑P	**P**	**01 01 54.8**	**-0.3**		
MLR	**Muntele Rosu**	**95.26**	**316**	P	**P**	**01 01 54.5**	**-0.7**		
	comp=Z,5.2nm,0.8s,baz=287,slow=1.9,SNR=14								
MLR	**Muntele Rosu**	**95.26**	**316**	IAmb	IAmb	01 01 55.8			
	comp=Z,7.0nm,0.8s								
OZUR		**95.26**	**317**	⇑P	**P**	**01 01 56.1**	**+1.1**		
BURAR	**Bucovina Array**	**95.36**	**318**	⇓P	**P**	**01 01 55.5**	**0.0**		
BURAR	**Bucovina Array**	**95.36**	**318**	IAmb	IAmb	01 01 56.7			
	comp=Z,7.6nm,0.8s								
BUR08	**Bucovina Ar. S**	**95.37**	**318**	IAmb	IAmb	01 01 56.4			
	comp=Z,5.9nm,0.8s								

ARR	**Arges**	**96.19**	**316**	⇑P	**P**	**01 01 59.0**	**-0.3**		
UZH	**Uzhgorod**	**97.06**	**320**	*e*P	Pdif	01 02 03.3	+0.2		
UZH				*i*		01 02 12.5			
DRGR		**97.20**	**318**	⇓P	**P**	**01 02 03.7**	**-0.2**		
GZR	**Gura Zlata**	**97.47**	**316**	⇑P	**P**	**01 02 04.5**	**-0.6**		
VTS	**Vitosha**	**97.74**	**314**	⇑P	**P**	**01 02 05.6**	**-0.9**		
HERR	**Herculane**	**97.83**	**316**	⇑P	**P**	**01 02 05.9**	**-0.8**		
HFS	**Hagfors**	**98.35**	**332**	P	**P**	**01 02 06.4**	**-2.2**		
	comp=Z,2.0nm,0.7s,baz=69,slow=7.9,SNR=1.8								
NB2	**NORSAR Subarra**	**99.12**	**334**	P	**Pdif**	**01 02 10.9**	**-1.2**		
	comp=Z,1.0nm,0.8s,baz=67,slow=4.8								
NOA	**NORSAR Array B**	**99.12**	**334**	P	**Pdif**	**01 02 10.2**	**-1.9**		
	comp=Z,3.7nm,1.1s,baz=67,slow=4.7,SNR=5.5								
NOA				LR	LR	01 53 11.3			
	comp=Z,69nm,19.2s,baz=25,slow=39								
VRAC	**Vranov**	**100.49**	**321**	P	**Pdif**	**01 02 18.3**	**-0.2**		
	comp=Z,1.5nm,0.6s,baz=97,slow=4.0,SNR=4.2								
CLL	**Collm**	**101.99**	**324**	*e*Pdif	**Pdif**	**01 02 28.0**	**+3.0**		
CLL				*e*PP	**PP**	**01 06 37.0**	**+0.5**		
CLL				LmV		01 37 00.0			
	comp=Z,100nm,20.8s								
CLL				LmV		01 54 00.0			
	comp=Z,100nm,20.7s								
CLL	**Collm**	**101.99**	**324**	*e*P	**Pdif**	**01 02 28.0**	**+3.0**		
CLL				*e*		01 06 37.0			
GERES	**GERESS Array B**	**102.44**	**322**	P	**Pdif**	**01 02 26.8**	**-0.4**		
	comp=Z,0.7nm,0.8s,baz=72,slow=4.3,SNR=5.2								
NVAR	**Mina Array Bea**	**106.84**	**48**	PKKP		01 18 31.6			
	comp=Z,0.5nm,0.7s,baz=112,slow=4.4,SNR=4.3								
TXAR	**Lajitas Array**	**121.51**	**52**	PKP	**PKPdf**	**01 07 25.2**	**0.0**		
	comp=Z,0.3nm,0.8s,baz=259,slow=2.6,SNR=3.7								
TXAR				PKKPab	**PKKPab**	**01 17 26.4**	**-0.3**		
	comp=Z,0.4nm,0.9s,baz=128,slow=8.1,SNR=5.4								
TORD	**Torodi Ar. Bea**	**123.27**	**288**	PKP	**PKiKP**	**01 07 29.1**	**+0.2**		
	comp=Z,4.9nm,0.8s,baz=47,slow=1.8,SNR=24								
DBIC	**Dimbokro**	**130.91**	**282**	PKP	**PKPdf**	**01 07 43.2**	**-0.2**		
	comp=Z,9.7nm,1.1s,baz=137,slow=5.5,SNR=3.6								
PLCA	**Paso Flores**	**139.69**	**159**	PKP	**PKPdf**	**01 07 59.7**	**+0.6**		
	comp=Z,2.4nm,0.9s,baz=106,slow=11,SNR=2.5								
ACON	**Acoyapa**	**144.49**	**64**		**PKPdf**	**01 08 09.1**	**+0.8**		
TRQA	**Tornquist**	**144.64**	**168**	PKIKP	**PKPdf**	**01 08 07.9**	**0.0**		
TRQA	**Tornquist**	**144.64**	**168**		**PKPdf**	**01 08 07.9**	**0.0**		
PLTB	**Pedras Altas**	**151.88**	**179**		**PKiKP**	**01 08 28.1**	**+1.3**		
SJCC	**San Jacinto, C**	**154.19**	**59**		**PKPab**	**01 08 47.9**	**+2.0**		
CPUP	**Villa Florida**	**156.92**	**170**	PKPab	**PKPab**	**01 08 57.0**	**+0.1**		
	comp=Z,5.0nm,0.9s,baz=190,slow=2.6,SNR=6.0								
CPUP	**Villa Florida**	**156.92**	**170**	PKP2	**PKPab**	**01 08 57.0**	**+0.1**		
SAML	**Samuel**	**168.51**	**119**	PKIKP	**PKPdf**	**01 08 40.1**	**+1.4**		
SAML	**Samuel**	**168.51**	**119**		**PKPdf**	**01 08 40.1**	**+1.4**		

GUC 19 00:55:11.3±0.7, 31.33S×71.86W, h41km±3km, ML3.6, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.68**	**17**	*e*P		Pn	00 55 24.4	-0.2
CO06				*e*S		Sn	00 55 34.4	+0.4
CO06				IAML			00 55 36.5	
	comp=E,2μm,0.3s							
CO03	**El Pedregal**	**1.12**	**64**	*e*P		Pn	00 55 31.6	+1.0
CO03				*e*S		Sn	00 55 46.5	+1.6
CO03				IAML			00 55 49.5	
	comp=E,2μm,0.3s							
VA06	**Catapilco**	**1.32**	**159**	*e*P		Pn	00 55 34.5	+1.3
VA06				*e*S		Sn	00 55 50.9	+1.3
VA06				IAML			00 55 54.6	
	comp=N,2μm,0.3s							
GO04	**Tololo Observa**	**1.47**	**39**	*e*P		Pn	00 55 37.0	+1.4
GO04				*e*S		Sn	00 55 56.3	+2.5
GO04				IAML			00 56 01.7	
	comp=N,5μm,0.3s							
CO05	**La Serena**	**1.51**	**21**	*e*P		Pn	00 55 37.0	+1.2
CO05				*e*S		Sn	00 55 56.4	+2.2
CO05				IAML			00 56 01.7	
	comp=N,712nm,0.5s							
ROCH	**El Roble**	**1.79**	**156**	⇓*i*P		Pn	00 55 41.8	+1.9
ROCH				*i* S		Sn	00 56 04.7	+3.2
ROCH				IAML			00 56 11.0	
	comp=N,929nm,0.5s							
VA03	**San Esteban**	**1.81**	**142**	*e*P		Pn	00 55 41.7	+1.6
VA03				*i* S		Sn	00 56 04.7	+2.7
VA03				IAML			00 56 09.1	
	comp=E,1μm,0.2s							
MT05	**Renca**	**2.27**	**155**	*e*P		Pn	00 55 48.1	+1.8
MT05				*e*S		Sn	00 56 16.1	+3.0
MT05				IAML			00 56 27.4	
	comp=E,818nm,0.3s							
VA05	**Santo Domingo**	**2.33**	**175**	*e*P		Pn	00 55 51.2	+4.0
VA05				*e*S		Sn	00 56 17.0	+2.5
MT09	**Talagante**	**2.55**	**163**	⇓*i*P		Pn	00 55 52.5	+2.2
MT09				*i* S		Sn	00 56 20.9	+0.7
MT09				IAML			00 56 37.5	
	comp=N,229nm,0.5s							
MT01	**Popeta**	**2.58**	**169**	*e*P		Pn	00 55 52.2	+1.6
MT01				*i* S		Sn	00 56 23.2	+2.5
MT01				IAML			00 56 34.9	
	comp=E,173nm,0.3s							
AC04	**Llanos de Chal**	**3.19**	**13**	⇑*i*P		Pn	00 55 59.4	+0.4
AC04				*e*S		Sn	00 56 37.8	+2.0
AC04				IAML			00 56 56.6	
	comp=E,104nm,0.7s							

*IDC **19** 00:55:43.2±1.5, 31.56S×71.80W, h0km, mb4.1/4, mb1 4.1/6, mb1mx3.9/21, mbtmp4.0/6, ML4.0/2, MS3.1/2, Ms1 3.0/2, ms1mx2.8/25, Error ellipse: s-maj=42.1km s-min=34.2km az=83.0*

*GUC **19** 00:55:43.1±0.7, 31.58S×71.84W, h42km±3km, ML3.9*

*NEIC **19** 00:55:44.2±1.7, 31.60S±0.03×71.94W±0.04, h9km±5km, mb4.0/7, Mwr3.8/24, ML3.9(GUC), Error ellipse: s-maj=6.0km s-min=3.2km az=119.0*

*NEIC **19** 00:55:45.3, 31.60S×71.96W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.83; $M_{\theta\theta}$-2.17; $M_{\phi\phi}$ 1.34; $M_{r\theta}$1.74; $M_{\theta\phi}$2.17; $M_{r\phi}$-4.23; Fault plane solution: M_o5.41000×10^{14} NP1:ϕ_s254.23000°, δ31.01000°, λ10.15000°. NP2:ϕ_s155.51000°, δ84.79000°, λ120.62000°. Principal axes: T 5.3471, Plg42.0000°, Azm95.0000°; N 0.1158, Plg30.0000°, Azm332.0000°; P -5.4630, Plg33.0000°, Azm220.0000°;*

ISC 19 00:55:45.4±0.9, 31.57S±0.03×71.98W±0.08, h35km, n53, σ1$\hat{}$98/50, mb4.0/5, 7C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.94**	**18**	*e*P		**Pn**	**00 56 00.7**	**-1.5**
CO06				*e*S		**Sn**	**00 56 14.0**	**-0.5**
CO06				IAML			00 56 17.9	
	comp=E,3μm,0.2s							
CO06	**Fray Jorge**	**0.94**	**18**			**Pn**	**00 56 02.2**	**0.0**
CO06						**Sn**	**00 56 14.6**	**+0.1**
VA06	**Catapilco**	**1.14**	**150**	*e*P		**Pn**	**00 56 02.8**	**-2.1**
VA06				*e*S		**Sn**	**00 56 18.4**	**-0.9**
VA06				IAML			00 56 20.3	
	comp=E,6μm,0.5s							
CO03	**El Pedregal**	**1.33**	**57**	⇑*e*P		**Pn**	**00 56 06.1**	**-1.4**
CO03				*e*S		**Sn**	**00 56 23.4**	**-0.6**
CO03				IAML			00 56 25.2	
	comp=N,3μm,0.8s							
CO03	**El Pedregal**	**1.33**	**57**	Pn		**Pn**	**00 56 08.1**	**+0.5**
CO03				Sn		**Sn**	**00 56 24.0**	**0.0**
VA01	**Torpederas**	**1.47**	**169**	Pn		**Pn**	**00 56 07.6**	**-1.9**
ROCH	**El Roble**	**1.62**	**150**	⇑*e*P		**Pn**	**00 56 09.3**	**-2.3**
ROCH				*e*S		**Sn**	**00 56 31.9**	**+0.5**
ROCH				IAML			00 56 37.9	
	comp=E,2μm,0.4s							
VA03	**San Esteban**	**1.69**	**135**	⇑*e*P		**Pn**	**00 56 10.8**	**-1.8**
VA03				*e*S		**Sn**	**00 56 33.0**	**-0.1**
VA03				IAML			00 56 41.4	
	comp=N,3μm,0.4s							
VA03	**San Esteban**	**1.69**	**135**	Pn		Pn	00 56 15.1	+2.5
VA03				Sn		**Sn**	**00 56 37.2**	**+4.0**
GO04	**Tololo Observa**	**1.73**	**36**	⇑*e*P		**Pn**	**00 56 12.4**	**-0.7**
GO04				*e*S		**Sn**	**00 56 34.9**	**+0.8**
GO04				IAML			00 56 41.1	
	comp=E,8μm,0.5s							
GO04	**Tololo Observa**	**1.73**	**36**	Pn		**Pn**	**00 56 14.3**	**+1.2**
GO04				Sn		**Sn**	**00 56 38.6**	**+4.5**
CO05	**La Serena**	**1.77**	**21**	⇑*e*P		**Pn**	**00 56 12.9**	**-0.6**
CO05				*e*S		**Sn**	**00 56 35.6**	**+0.8**
CO05				IAML			00 56 44.3	
	comp=E,2μm,0.5s							
CO05	**La Serena**	**1.77**	**21**	Pn		Pn	00 56 16.0	+2.5
CO05				Sn		**Sn**	**00 56 38.6**	**+3.8**
MT05	**Renca**	**2.09**	**150**	*e*S		**Sn**	**00 56 43.9**	**+1.0**
MT05				IAML			00 56 52.2	
	comp=E,2μm,0.4s							
MT05	**Renca**	**2.09**	**150**	Pn		**Pn**	**00 56 18.9**	**+0.8**
VA05	**Santo Domingo**	**2.10**	**172**	*e*P		**Pn**	**00 56 14.1**	**-3.9**
VA05				*e*S		**Sn**	**00 56 44.6**	**+1.6**
VA05				IAML			00 56 57.3	
	comp=E,956nm,0.5s							
MT09	**Talagante**	**2.35**	**159**	⇑*e*P		**Pn**	**00 56 21.9**	**+0.2**
MT09				*i* S		**Sn**	**00 56 51.0**	**+1.6**
MT09				IAML			00 57 03.3	
	comp=E,495nm,0.4s							
MT09	**Talagante**	**2.35**	**159**	Pn		**Pn**	**00 56 22.4**	**+0.8**
MT09				Sn		**Sn**	**00 56 50.4**	**+1.1**
MT01	**Popeta**	**2.36**	**165**	*e*P		**Pn**	**00 56 21.1**	**-0.6**
MT01				*e*S		**Sn**	**00 56 51.1**	**+1.6**
MT01				IAML			00 57 04.7	
MT01	**Popeta**	**2.36**	**165**	Pn		**Pn**	**00 56 21.9**	**+0.1**
LMEL	**Las Melosas**	**2.72**	**147**	*e*P		Pn	00 56 29.7	+3.0
LMEL				*e*S		**Sn**	**00 56 59.6**	**+1.1**
LMEL				IAML			00 57 10.4	
	comp=E,628nm,0.5s							
LCO	**Las Campanas**	**2.78**	**24**	*e*P		**Pn**	**00 56 28.7**	**+1.0**
LCO				*i* S		**Sn**	**00 57 02.1**	**+1.9**
ZON	**Zonda**	**2.82**	**90**	Pn		Pn	00 56 31.5	+3.5
BO01	**Tunca**	**2.91**	**165**	Pn		**Pn**	**00 56 30.7**	**+1.5**
BO02	**Sierra Bellavi**	**3.36**	**163**	Pn		Pn	00 56 37.9	+2.4
GO05	**Huala**	**3.43**	**179**			**Pn**	**00 56 37.1**	**+0.8**
AC04	**Llanos de Chal**	**3.45**	**13**			Pn	00 56 39.9	+3.3
ML02	**Panimavida**	**4.20**	**174**			**Pn**	**00 56 48.0**	**+1.0**
GO03	**Copiap**	**4.25**	**21**	Pn		Pn	00 56 50.0	+2.3
AC06	**Mina Casimiro**	**4.43**	**19**			Pn	00 56 53.1	+2.9
H03N1	**Juan Fernandez**	**6.15**	**251**	T		T	01 03 25.7	
	baz=77,slow=72,SNR=139							
H03N3	**Juan Fernandez**	**6.16**	**250**	T		T	01 03 26.0	
	baz=77,slow=72,SNR=204							
H03N2	**Juan Fernandez**	**6.16**	**251**	T		T	01 03 26.3	
	baz=77,slow=72,SNR=184							
LC01	**Cunco**	**7.31**	**179**			**Pn**	**00 57 30.2**	**+0.6**
PB06	**IPOC Station P**	**9.09**	**14**	Pn		Pn	**00 57 56.0**	**+1.7**
PLCA	**Paso Flores**	**9.21**	**173**	Pn		**Pn**	**00 57 57.5**	**+1.7**
	comp=E,0.6nm,0.3s,baz=338,slow=12,SNR=16							
LL04	**Puerto Octay**	**9.32**	**182**	Pn		**Pn**	**00 57 58.0**	**+0.8**
LL05	**Los Muermos**	**9.88**	**187**	Pn		**Pn**	**00 58 06.5**	**+1.5**
CPUP	**Villa Florida**	**13.85**	**72**	LR		LR	01 04 46.9	
	comp=E,113nm,19.2s,baz=234,slow=40							
LPAZ	**La Paz**	**15.62**	**14**	Pn		**P**	**00 59 25.6**	**-1.8**
	comp=E,0.1nm,0.3s,baz=204,slow=5.3,SNR=4.2							
LPAZ	**La Paz**	**15.62**	**14**	Pn		**P**	**00 59 24.9**	**-2.5**
LPAZ				IAmb		IAmb	00 59 32.7	
	comp=Z,7.1nm,1.5s							
SAML	**Samuel**	**23.95**	**22**	P		**P**	**01 00 58.2**	**+1.7**
SAML				IAmb		IAmb	01 00 59.8	
	comp=Z,2.3nm,0.7s							
BDFB	**Brasilia**	**27.00**	**60**	P		**P**	**01 01 25.4**	**+1.1**
	comp=Z,3.2nm,0.8s,baz=209,slow=10,SNR=4.3							
BDFB				LR		LR	01 14 05.5	
	comp=Z,26nm,21.2s,baz=65,slow=41							
TXAR	**Lajitas Array**	**67.65**	**330**	P		P	01 06 42.6	+3.6
	comp=Z,0.2nm,0.7s,baz=150,slow=9.3,SNR=2.1							
DBIC	**Dimbokro**	**74.37**	**72**	P		P	01 07 22.5	+2.5
	comp=Z,3.8nm,0.7s,baz=235,slow=6.2,SNR=5.4							
TORD	**Torodi Ar. Bea**	**83.34**	**70**	P		P	01 08 11.8	+2.7
	comp=Z,2.7nm,0.7s,baz=229,slow=2.7,SNR=13							
H11S2	**WAKE ISLAND Hyl**	**25.82**	**271**	T		T	03 33 20.1	
	baz=116,slow=74,SNR=5.3							
H11S1	**WAKE ISLAND Hyl**	**25.83**	**271**	T		T	03 33 39.9	
	baz=116,slow=74,SNR=4.4							
H11S3	**WAKE ISLAND Hyl**	**25.84**	**271**	T		T	03 33 39.9	
	baz=116,slow=74,SNR=4.2							
H11N3	**WAKE ISLAND Hyl**	**26.17**	**272**	T		T	03 33 59.5	
	baz=117							
H11N1	**WAKE ISLAND Hyl**	**26.19**	**272**	T		T	03 34 00.7	
	baz=117							
H11N2

comp=E,95nmcomp=E,12nm,1.0s
CM13 Chiang Mai Arr 11.89 24 P Pn 01 04 17.3 +12
comp=E,108nmcomp=E,8.7nm,0.8s
CM13 Chiang Mai Arr 11.89 24 P Pn 01 04 17.4 +12
comp=E,108nmcomp=E,8.7nm,0.8s
CM04 Chiang Mai Arr 11.90 24 P Pn 01 04 15.8 +10
comp=E,137nmcomp=E,15nm,1.1s
CM04 Chiang Mai Arr 11.90 24 P Pn 01 04 15.9 +10
comp=E,137nmcomp=E,15nm,1.1s
CM01 Chiang Mai Arr 11.91 24 P Pn 01 04 16.0 +10
comp=E,122nmcomp=E,15nm,1.1s
CM01 Chiang Mai Arr 11.91 24 P Pn 01 04 16.1 +10
comp=E,122nmcomp=E,15nm,1.1s
CM02 Chiang Mai Arr 11.92 24 P Pn 01 04 17.7 +12
comp=E,105nmcomp=E,15nm,0.9s
CM02 Chiang Mai Arr 11.92 24 P Pn 01 04 17.8 +12
comp=E,105nmcomp=E,15nm,0.9s
CM31 Chiang Mai Arr 11.94 24 Pn **Pn 01 04 08.4 +2.0**
CMAR Chiang Mai Arr 11.94 24 Pn Pn 01 04 01.4 -5.0
comp=E,0.4nm,0.3s,baz=257,slow=12,SNR=2.2
CMAR Chiang Mai Arr 11.94 24 **Pn 01 04 05.0 -1.4**
CM09 Chiang Mai Arr 11.94 24 P Pn 01 04 15.3 +8.8
comp=E,101nmcomp=E,15nm,0.8s
CM09 Chiang Mai Arr 11.94 24 P Pn 01 04 15.0 +8.5
comp=E,101nmcomp=E,15nm,0.8s
CM32 Chiang Mai Arr 12.07 23 P **P 01 04 24.0 +3.3**
CM35 Chiang Mai Arr 12.22 24 P **P 01 04 19.0 -3.3**
CHTO Chiang Mai 12.26 23 P Pn 01 04 16.8 +6.0
comp=E,8.2nm,0.9s
CHTO Chiang Mai 12.26 23 Pn **Pn 01 04 12.3 +1.4**
CMMT Chiang Mai 12.26 23 P Pn 01 04 16.6 +5.8
comp=E,8.1nm,0.9s
CMMT Chiang Mai 12.26 23 P Pn 01 04 16.6 +5.8
CM33 Chiang Mai Arr 12.26 23 P **Pn 01 04 15.0 +4.1**
CM34 Chiang Mai Arr 12.37 24 P **P** 01 04 32.0 +8.0
PALK Pallekele 13.06 270 Pn **Pn 01 04 23.7 +1.8**
comp=E,0.2nm,0.3s,baz=183,slow=14,SNR=2.4
PALK Sn Sn 01 06 36.8 -9.3
comp=E,1.5nm,0.3s,baz=103,slow=19,SNR=4.7
PALK LR LR 01 08 54.8
comp=E,298nm,20.7s,baz=187,slow=35
NONG Nongkai 13.83 40 P P 01 04 53.2 +13
SLVN Son La 16.81 34 **P 01 05 16.2 +2.9**
SLVN IAmb IAmb 01 05 24.3
comp=Z,18nm,1.0s
BOK Bokaro 17.90 336 *e*P **Pn 01 05 24.5 -0.4**
SHL Shillong 18.04 354 **Pn 01 05 27.1 +0.2**
SHL Shillong 18.04 354 *e*P **Pn 01 05 24.4 -2.4**
KOHI KOHIMA 18.10 1 *e*P **Pn 01 05 24.7 -2.8**
KOHI IAmb IAmb 01 05 30.9
comp=Z,56nm,1.1s
LSA Lhasa 22.21 354 P **P 01 06 13.5 +0.8**
LSA IAmb IAmb 01 06 21.7
comp=Z,12nm,0.7s
H08S3 Diego Garcia H 26.10 235 T T 01 33 46.8
baz=54,slow=75,SNR=335
H08S2 Diego Garcia H 26.11 235 T T 01 33 47.0
baz=54,slow=75,SNR=578
H08S1 Diego Garcia H 26.12 235 T T 01 33 37.0
baz=54,slow=75,SNR=386
XAN Xi'an 29.82 26 P **P 01 07 25.0 +2.4**
XAN Xi'an 29.82 26 pmax pmax
comp=Z,5.0nm,0.9s
LZH Lanzhou 29.86 16 *e*P **P 01 07 27.3 +4.3**
LZH pP sP 01 07 42.3 +5.8
LZH sP pwP 01 07 47.3 +12
LZH pmax pmax
comp=Z,17nm,1.0s
GTA Gaotai 32.19 9 *e*P **P 01 07 44.8 +1.3**
GTA pP pP 01 07 50.6 -2.4
GTA sP pwP 01 07 53.3 -2.3
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,59nm,4.9s
GTA LR LR
comp=N,130nm,16.4s
GTA LR LR
comp=E,96nm,16.0s
GTA LR LR
comp=Z,130nm,15.3s
NIL Nilore 32.24 327 P **P 01 07 41.1 -2.8**
NJ2 Nanjing 33.71 40 *e*P **P 01 08 00.0 +3.3**
NJ2 pmax pmax
comp=Z,13nm,0.5s
KBL Kabul 35.29 323 P **P 01 08 09.7 -0.9**
KBL IAmb IAmb 01 08 18.3
comp=Z,8.7nm,1.2s
WMQ Urumqi 36.56 352 *e*P **P 01 08 24.3 +3.1**
GAR Garm 37.84 329 P **P 01 08 31.3 -0.9**
CHGR Chuyangaron 38.18 328 P **P 01 08 33.6 -1.4**
BTK Batken 38.41 331 P **P 01 08 36.4 -0.5**
BTK IAmb IAmb 01 08 47.0
comp=Z,13nm,1.1s
AAK Ala-Archa 38.92 337 P **P 01 08 41.0 -0.3**
comp=Z,1.9nm,0.8s,baz=191,slow=16,SNR=2.0
AAK PcP **PcP 01 10 52.4 +0.8**
comp=Z,1.2nm,0.5s,baz=207,slow=9.8,SNR=2.2
AAK Ala-Archa 38.92 337 P **P 01 08 41.6 +0.3**
MK31 Makanchi Array 40.37 348 P **P 01 08 54.4 +1.2**
MKAR Makanchi Array 40.37 348 P **P 01 08 52.1 -1.0**
comp=Z,1.1nm,0.7s,baz=163,slow=8.9,SNR=6.4
MAKZ Makanchi 40.45 347 P **P 01 08 53.5 -0.3**
KK31 Karatay Array 40.95 334 P **P 01 08 57.6 -0.4**
KKAR Karatay Array 40.95 334 P **P 01 08 57.2 -0.8**
SONM Songino Array 41.56 13 P **P 01 09 02.5 -0.5**
comp=Z,0.9nm,0.4s,baz=198,slow=7.8,SNR=8.0
SONM PcP **PcP 01 10 59.5 -0.4**
comp=Z,0.4nm,0.5s,baz=193,slow=11,SNR=2.1
SONM Songino Array 41.56 13 P **P 01 09 02.7 -0.3**
KSRS Korea Array 42.90 41 P **P 01 09 13.5 -0.4**
comp=Z,0.4nm,0.4s,baz=242,slow=5.2,SNR=1.2
GEYT Alibeck 44.28 319 P **P 01 09 26.0 +0.8**
comp=Z,258nm,0.5s,baz=113,slow=13,SNR=5.5
GYA0B ALIBECK ARRAY 44.28 319 P **P 01 09 25.5 +0.3**
GYA0B IAmb IAmb 01 09 36.9
comp=Z,7.8nm,0.7s
KURBB Kurchatov Arra 44.82 346 P **P 01 09 28.4 -0.7**
comp=Z,3.0nm,0.7s,baz=168,slow=7.2,SNR=11
KURBB PcP **PcP 01 11 10.1 -0.5**
comp=Z,1.2nm,0.7s,baz=160,slow=2.8,SNR=6.9
ZAA0 Zalesovo Array 46.87 353 P **P 01 09 44.9 -0.3**
ZAA0 IAmb IAmb 01 09 51.3
comp=Z,9.9nm,0.9s
ZALV Zalesovo Beam 46.87 353 P **P 01 09 44.7 -0.5**
comp=Z,2.1nm,0.3s,baz=170,slow=9.0,SNR=13
WRA Warramunga Ar 48.28 125 P **P 01 09 55.1 -1.6**
comp=Z,2.0nm,0.5s,baz=303,slow=8.3,SNR=33
WRA PcP **PcP 01 11 22.5 -1.0**
comp=Z,0.9nm,0.6s,baz=330,slow=3.7,SNR=5.0
BVAR Borovoye Array 49.23 341 P **P 01 10 03.9 +0.4**
comp=Z,0.6nm,0.4s,baz=173,slow=14,SNR=2.4
BVAR PcP **PcP 01 11 26.4 +0.2**
comp=Z,0.8nm,0.5s,baz=186,slow=8.7,SNR=2.4
USRK Ussuriysk Ar. 49.35 36 P **P 01 10 04.7 +0.1**
comp=Z,1.0nm,0.7s,baz=192,slow=5.5,SNR=2.0
MJAR Matsushiro Arr 49.59 48 P **P 01 10 04.8 -1.8**
comp=Z,0.5nm,0.3s,baz=223,slow=7.1,SNR=2.3
MJAR Matsushiro Arr 49.59 48 IAmb IAmb 01 10 08.2
comp=Z,5.8nm,1.4s
AS31 Alice Springs 49.90 130 P **P 01 10 07.3 -1.8**
ASAR Alice Springs 49.90 130 P **P 01 10 07.5 -1.6**
comp=Z,2.8nm,0.6s,baz=302,slow=7.3,SNR=46
ASAR PcP **PcP 01 11 29.1 -0.1**
comp=Z,1.4nm,0.7s,baz=312,slow=3.3,SNR=6.8
FORT Forrest 50.23 141 P **P 01 10 11.0 -0.5**
ABKAR Akbulak array 50.41 332 P **P 01 10 11.6 -1.0**
ABKAR IAmb IAmb 01 10 19.9
comp=Z,3.4nm,0.8s
OPO Ambohidratompo 52.84 240 P **P 01 10 33.5 +2.1**
comp=Z,2.7nm,0.8s,baz=110,slow=10,SNR=2.5
ARU Arti 56.11 337 P **P 01 10 54.3 0.0**
ARU IAmb IAmb 01 11 02.1
comp=Z,14nm,1.5s
EIL Elat 59.37 300 P **P 01 11 19.0 +1.2**
comp=Z,3.3nm,0.8s,baz=121,slow=6.2,SNR=4.4
MMAI Mount Meron Ar 59.59 304 LR LR 01 39 58.5
comp=Z,40nm,18.7s,baz=190,slow=39
STKA Stephens Creek 60.06 133 P **P 01 11 21.7 -0.8**
comp=Z,0.6nm,0.3s,baz=305,slow=16,SNR=1.9
NRIK Noril'sk 61.88 357 PKKP **P 01 11 33.0 -1.1**
comp=Z,2.3nm,0.6s,baz=120,slow=3.0,SNR=3.8
NRIK Noril'sk 61.88 357 P **P 01 11 33.0 -1.1**
comp=Z,1.7nm,0.5s,baz=147,slow=6.8,SNR=3.0
NRIK Noril'sk 61.88 357 P **P 01 11 33.7 -0.4**
NRIK IAmb IAmb 01 11 41.0
comp=Z,5.9nm,1.1s
BR131 Keskin Array S 62.45 311 P **P 01 11 37.1 -1.6**
BR131 IAmb IAmb 01 11 38.0
comp=Z,4.2nm,0.9s
BRTR Keskin Array B 62.45 311 P **P 01 11 37.5 -1.3**
comp=Z,1.2nm,0.7s,baz=126,slow=7.1,SNR=10
BRTR Keskin Array B 62.45 311 P **P 01 11 37.0 -1.8**
ELL Elmali 64.72 307 P **P 01 11 52.7 -1.0**
TIXI Tiksi 67.62 11 P **P 01 12 10.1 -1.5**
TIXI IAmb IAmb 01 12 17.2
comp=Z,6.6nm,1.0s
CFR Carcaliu 67.66 316 ⇑P **P 01 12 10.9 -1.3**
HARR Harsova 67.70 315 ⇑P **P 01 12 16.4 +3.9**
SORM Soroca 68.17 319 ⇑P **P 01 12 13.6 -1.9**
PETR Petresti 68.39 316 ⇑P P 01 12 26.7 +10
IDI Anoyia 68.55 305 P **P 01 12 18.6 +0.4**
comp=Z,5.7nm,0.6s,baz=79,slow=7.3,SNR=8.5
VRI Vrincioaia 68.77 316 ⇑P **P 01 12 19.0 -0.3**
PLOR Plostina 68.82 316 ⇑P **P 01 12 19.3 -0.3**
TESR Tescani 68.95 317 ⇑P **P 01 12 19.4 -0.9**
MLR Muntele Rosu 69.23 316 ⇑P **P 01 12 20.9 -1.4**
MLR Muntele Rosu 69.23 316 P **P 01 12 21.9 -0.4**
comp=Z,3.1nm,0.7s,baz=89,slow=8.9
MLR Muntele Rosu 69.23 316 P **P 01 12 21.6 -0.7**
MLR IAmb IAmb 01 12 23.6
comp=Z,14nm,1.5s
VOIR 69.84 316 ⇑P **P 01 12 24.9 -1.1**
ARR Arges 70.12 315 ⇑P **P 01 12 26.4 -1.3**
VTS Vitosha 70.71 312 ⇑P **P 01 12 30.0 -1.4**
HERR Herculane 71.60 315 ⇓P **P 01 12 35.1 -1.5**
DRGR 71.67 317 ⇑P **P 01 12 36.6 -0.5**
FINES FINESS Array B 72.89 332 P **P 01 12 43.1 -0.8**
comp=Z,5.4nm,0.7s,baz=130,slow=3.0,SNR=9.6
PUK Puka 73.10 312 IAmb IAmb 01 12 45.0
comp=Z,7.7nm,1.2s
PDG Podgorica 73.61 312 ⇑P **P 01 12 47.3 -1.3**
PSZ Piszkesteto 73.72 318 P **P 01 12 47.5 -1.7**
PSZ IAmb IAmb 01 12 49.0
comp=Z,6.9nm,1.4s
BOSA Boshof 75.17 238 P **P 01 12 59.5 +1.4**
comp=Z,6.2nm,0.6s,baz=82,slow=4.2,SNR=22
BOSA Boshof 75.17 238 IAmb IAmb 01 13 00.3
comp=Z,9.4nm,0.7s
ARCES ARCESS Array B 75.50 340 P **P 01 12 58.8 -0.3**
comp=Z,1.6nm,0.6s,baz=90,slow=4.9,SNR=5.4
KRLC Kraliky 75.98 320 *e*P **P 01 13 02.3 +0.1**
KRLC *ex* x 01 13 08.0
DPC Dobruska-Polom 76.30 320 *e*P **P 01 13 03.4 -0.6**
OSTC Ostas 76.39 320 *e*P **P 01 13 04.7 +0.2**
GEC2 GERESS Array S 77.91 318 P **P 01 13 12.3 -0.9**
GEC2 IAmb IAmb 01 13 13.5
comp=Z,2.9nm,0.7s
GERES GERESS Array B 77.91 318 P **P 01 13 12.9 -0.2**
comp=Z,1.8nm,0.6s,baz=78,slow=6.2,SNR=19
GERES GERESS Array B 77.91 318 P **P 01 13 12.2 -0.9**
KHC Kasperske Hory 78.00 319 *e*P **P 01 13 13.3 -0.3**
KHC *ex* x 01 13 19.0
MAW Mawson 78.14 192 P **P 01 13 15.5 +1.7**
comp=Z,1.6nm,0.6s,baz=346,slow=5.1,SNR=5.4
STAL STALIGIAL 78.50 316 P **P 01 13 15.2 -1.2**
STAL IAmb IAmb 01 13 23.1
comp=Z,9.1nm,1.1s
WTTA Wattenberg 79.25 317 *e*P **P 01 13 19.2 -1.5**
comp=Z,2.4nm,0.6s
WATA Walderalm 79.29 317 *e*P **P 01 13 20.0 -0.9**
comp=Z,3.1nm,0.7s
SQTA Sankt Quirin 79.54 317 *e*P **P 01 13 21.6 -0.7**
comp=Z,6.0nm,1.2s
MOTA Moosalm 79.61 317 *i* P **P 01 13 21.0 -1.7**
comp=Z,4.4nm,1.0s
RETA Reutte 79.85 317 *i* P **P 01 13 22.1 -1.8**
comp=Z,9.6nm,1.6s
NB2 NORSAR Subarra 79.90 331 P **P 01 13 22.2 -1.5**
comp=Z,20nm,1.7s,baz=94,slow=5.6
NOA NORSAR Array B 79.90 331 P **P 01 13 22.3 -1.5**
comp=Z,0.2nm,0.5s,baz=143,slow=15,SNR=2.4
SPITS Spitsbergen Ar 80.12 348 P **P 01 13 23.1 -1.6**
comp=Z,4.5nm,0.7s,baz=84,slow=8.5,SNR=2.1
DAVA Damuels 80.45 317 *i* P **P 01 13 26.3 -0.9**
comp=Z,3.7nm,0.8s
DAVOX Davos/Dischmat 80.45 316 P **P 01 13 26.4 -0.8**
comp=Z,2.7nm,0.6s,baz=25,slow=3.3,SNR=7.2
KEST Kesra 81.22 305 P **P 01 13 31.5 0.0**
comp=Z,2.5nm,0.7s,baz=359,slow=8.6,SNR=4.0
EKA Eskdalemuir Ar 87.86 325 P **P 01 14 04.2 -0.2**
comp=Z,1.2nm,0.7s,baz=98,slow=5.6,SNR=7.1
TORD Torodi Ar. Bea 90.42 283 P **P 01 14 17.8 +0.5**
comp=Z,1.9nm,0.8s,baz=96,slow=6.0,SNR=10
ESDC Sonseca Array 91.24 310 P **P 01 14 20.8 +0.1**
comp=Z,1.1nm,0.8s,baz=61,slow=3.9,SNR=12
IMAR Indian Mountai 92.05 22 P **P 01 14 23.0 -0.8**
VNDA Vanda 92.64 168 P **P 01 14 26.7 +0.4**
comp=Z,0.6nm,0.7s,baz=278,slow=7.2,SNR=4.2
VNDA Vanda 92.64 168 IAmb IAmb 01 14 33.8
comp=Z,1.2nm,0.9s
IL31 95.17 22 P **P 01 14 36.8 -1.3**
ILAR Eielson Array 95.17 22 P **P 01 14 35.5 -2.7**
comp=Z,0.3nm,0.7s,baz=236,slow=9.7,SNR=2.6
NVAR Mina Array Bea 125.35 31 PKP **PKPdf 01 20 16.9 +0.2**
comp=Z,0.5nm,0.6s,baz=298,slow=2.1,SNR=5.7
PDAR Pinedale Array 125.59 21 PKP **PKPdf 01 20 14.8 -2.2**
comp=Z,0.4nm,0.4s,baz=291,slow=4.1,SNR=4.0
TXAR Lajitas Array 139.65 24 PKP **PKPdf 01 20 43.2 -0.4**
comp=Z,0.2nm,0.6s,baz=304,slow=0.5,SNR=4.1
CPUP Villa Florida 146.84 232 PKPbc **PKPbc 01 20 58.5 +0.5**
comp=Z,2.9nm,0.7s,baz=145,slow=4.4,SNR=5.3
SIV San Ignacio 154.09 249 PKPbc **PKPbc 01 21 15.5 -0.4**
comp=Z,0.8nm,0.6s,baz=90,slow=4.9,SNR=5.1

*ISU **19** 01:03:52,41.°00N×72.°70E,h5km*
*KRNET **19** 01:03:52.3±0.1,40.°04N×73.°03E,h19km,mb2.9*
*SOME **19** 01:03:53.1,40.°13N×73.°15E,h15km*
*NNC **19** 01:03:59.3±1.6,40.°40N×73.°13E,h0km,mb3.6,mpv3.3,*
Error ellipse: s-maj=12.6km s-min=9.1km az=174.0

ISC 19 01:03:49.9±1.1,40.°10N±0.°03×73.°12E±0.°02,h16km±10km,
n55,σ1s02/91,17C-23D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.31**	**106**	⇑*i*P	**Pn**		**01 03 59.9**	**0.0**
SFK	baz=94			⇑*i*S	**Sb**		**01 04 04.6**	**+2.6**
OHH	**Osh**	**0.50**	**329**	⇑*i*P	**Pn**		**01 04 02.6**	**+0.2**
OHH	baz=39			⇑*i*S	**Sn**		**01 04 09.8**	**-0.9**
OHH	**Osh**	**0.50**	**329**	*e*P	**Pn**		**01 04 02.0**	**-0.4**
OHH				*e*S	**Sn**		**01 04 10.0**	**-0.7**
FRG	**Fergana**	**1.06**	**286**	*e*P	**Pb**		**01 04 12.0**	**-0.2**
FRG				*e*S	**Sg**		**01 04 28.0**	**-0.8**
DRK	**Karamyk**	**1.19**	**239**	⇓*i*P	**Pg**		**01 04 12.8**	**-0.1**
DRK	baz=40			⇓*i*S	**Sb**		**01 04 27.4**	**0.0**
BTK	**Batken**	**1.77**	**269**	⇓*i*P	**Pg**		**01 04 23.0**	**-0.8**
BTK	baz=71			⇓*i*S	**Sg**		**01 04 45.4**	**-1.3**
BTK	**Batken**	**1.77**	**269**	*e*P	**Pg**		**01 04 25.0**	**+1.2**
BTK				*e*S	**Sg**		**01 04 48.0**	**+1.3**
ARLS	**Aral**	**1.98**	**27**	⇑*i*P	**Pg**		**01 04 28.5**	**+0.5**
ARLS	baz=28			⇑*i*S	**Sg**		**01 04 54.9**	**+1.1**
TRKS	**Terek-Say**	**2.07**	**314**	⇑*i*P	**Pb**		**01 04 27.8**	**+0.6**
TRKS	baz=16			⇑*i*S	**Sb**		**01 04 53.3**	**+0.5**
AML	**Almayashu**	**2.08**	**12**	⇓*i*P	**Pg**		**01 04 29.8**	**0.0**
AML	baz=13			⇓*i*S	**Sg**		**01 04 56.9**	**+0.1**
UCH	**Uchtor**	**2.38**	**26**	⇓*i*P	**Pg**		**01 04 34.3**	**-1.2**
UCH	baz=27			⇓*i*S	**Sg**		**01 05 04.6**	**-1.7**
MNAS	**Manas**	**2.43**	**349**	⇑*i*P	**Pb**		**01 04 34.3**	**+1.0**
MNAS	baz=51			⇑*i*S	**Sb**		**01 05 04.6**	**+1.5**
KZA	**Kyzart**	**2.55**	**38**	⇓*e*P	**Pb**		**01 04 36.7**	**+1.2**
KZA	baz=39			⇓*i*S	**Sb**		**01 05 09.0**	**+2.2**
EKS2	**Erkin-Say**	**2.61**	**11**	⇓*i*P	**Pb**		**01 04 37.0**	**+0.7**
EKS2	baz=12			⇓*i*S	**Sb**		**01 05 09.5**	**+1.3**
MRKS	**Merke**	**2.65**	**2**	*e*P	**Pg**		**01 04 41.5**	**+0.9**
MRKS	6.9nm,0.3s			*e*S	**Sg**		**01 05 16.2**	**+1.2**
MRKS	**Merke**	**2.65**	**2**	Pg	**Pg**		**01 04 41.5**	**+0.9**
MRKS	6.9nm,0.3s			Lg	Lg		01 05 16.2	
AAK	**Ala-Archa**	**2.74**	**22**	⇓*e*P	**Pb**		**01 04 39.0**	**+0.4**
AAK	baz=23			⇓*i*S	**Sb**		**01 05 13.2**	**+1.2**
AAK	**Ala-Archa**	**2.74**	**22**	⇓Pn	**Pg**		**01 04 43.3**	**+0.8**
AAK	7.5nm,0.5s			⇓Lg	Lg		01 05 17.8	
KBK	**Karagaybulak**	**2.91**	**28**	⇓*i*P	**Pb**		**01 04 41.5**	**+0.1**
KBK	baz=28			⇓*i*S	**Sb**		**01 05 17.1**	**+0.4**
CHMS	**Chumysh**	**3.15**	**22**	⇑*i*P	**Pb**		**01 04 44.5**	**-0.9**
CHMS	baz=23			⇑*i*S	**Sb**		**01 05 22.4**	**-1.1**
ULHL	**Ulahol**	**3.19**	**47**	⇑*i*P	**Pb**		**01 04 45.5**	**-0.7**
ULHL	baz=47			⇑*i*S	**Sb**		**01 05 24.2**	**-0.7**
TKM2	**Tokmak 2**	**3.38**	**33**	⇓*e*P	**Pb**		**01 04 48.4**	**-1.1**
TKM2	baz=33			⇓*i*S	**Sb**		**01 05 28.5**	**-1.9**
TKM2	**Tokmak 2**	**3.38**	**33**	⇑Pn	**Pg**		**01 04 52.3**	**-2.4**
TKM2	4.5nm,0.5s			⇓Lg	Lg		01 05 39.0	
SGDS	**Sogindy**	**3.54**	**18**	Pg	**Pg**		**01 04 57.4**	**-0.3**
SGDS	8.9nm,0.3s			Lg	Lg		01 05 43.3	
KK31	**Karatay Array**	**3.58**	**328**	⇑Pg	**Pg**		**01 04 58.9**	**+0.4**
KK31	1.4nm,0.4s,baz=131,slow=16,SNR=9.4			⇓Lg	Lg		01 05 42.2	
KST	**Kastek**	**3.64**	**35**	*e*P	**Pg**		**01 04 59.5**	**0.0**
KST	1.8nm,0.3s,baz=146,slow=30,SNR=4.3			*e*S	**Sg**		**01 05 46.9**	**+0.3**
KST	**Kastek**	**3.64**	**35**	Pg	**Pg**		**01 04 59.5**	**0.0**
KST	3.8nm,0.3s			Lg	Lg		01 05 46.9	
DGS	**Degeres**	**3.72**	**31**	*e*P	**Pg**		**01 05 00.9**	**-0.2**
DGS	8.6nm,0.3s			*e*S	**Sg**		**01 05 49.5**	**+0.2**
DGS	**Degeres**	**3.72**	**31**	Pg	**Pg**		**01 05 00.9**	**-0.2**
DGS	4.7nm,0.5s			Lg	Lg		01 05 49.5	
MTBS	**Maitube**	**3.92**	**38**	*e*P	**Pg**		**01 05 04.5**	**-0.4**
MTBS	12nm,0.3s			*e*S	**Sg**		**01 05 55.7**	**0.0**
MTBS	**Maitube**	**3.92**	**38**	Pg	**Pg**		**01 05 04.5**	**-0.4**
MTBS	4.1nm,0.3s			Lg	Lg		01 05 55.7	
IZV	**Izvestkoviy**	**3.94**	**41**	*e*P	**Pg**		**01 05 06.0**	**+0.7**
IZV	9.1nm,0.4s			*e*S	**Sg**		**01 05 57.9**	**+1.6**
IZV	**Izvestkoviy**	**3.94**	**41**	Pg	**Pg**		**01 05 06.0**	**+0.7**
IZV	4.8nm,0.4s			Lg	Lg		01 05 57.9	
KRBS	**Karabastau**	**4.07**	**27**	*e*P	**Pg**		**01 05 07.7**	**-0.2**
KRBS	19nm,0.6s			*e*S	**Sg**		**01 06 01.1**	**+0.5**
KRBS	**Karabastau**	**4.07**	**27**	Pg	**Pg**		**01 05 07.7**	**-0.2**
KRBS	2.1nm,0.3s			Lg	Lg		01 06 01.1	
TNSS	**Tian-Shan**	**4.11**	**43**	*e*P	**Pg**		**01 05 08.7**	**+0.1**
TNSS	4.7nm,0.4s			*e*S	**Sg**		**01 06 02.8**	**+1.0**
TNSS	**Tian-Shan**	**4.11**	**43**	Pg	**Pg**		**01 05 08.7**	**+0.1**
TNSS	2.3nm,0.6s			Lg	Lg		01 06 02.8	
MDOK	**Medeo**	**4.25**	**43**	*e*P	**Pg**		**01 05 11.2**	**-0.1**
MDOK	6.7nm,0.7s			*e*S	**Sg**		**01 06 07.2**	**+0.9**
MDOK	**Medeo**	**4.25**	**43**	Pg	**Pg**		**01 05 15.1**	**+3.9**
MDOK	2.8nm,0.4s			Lg	Lg		01 06 08.0	
KOTS	**Kotyrbulak**	**4.33**	**42**	*e*P	**Pg**		**01 05 12.8**	**-0.1**
KOTS	12nm,0.4s			*e*S	**Sg**		**01 06 10.1**	**+1.1**
KOTS	**Kotyrbulak**	**4.33**	**42**	Pg	**Pg**		**01 05 12.8**	**-0.1**
KOTS	4.9nm,0.4s			Lg	Lg		01 06 10.1	
KTBS	**Karatobe**	**4.49**	**35**	*e*P	**Pg**		**01 05 15.3**	**-0.5**
KTBS	18nm,0.6s			*e*S	**Sg**		**01 06 14.4**	**+0.5**
KTBS	**Karatobe**	**4.49**	**35**	Pg	**Pg**		**01 05 15.3**	**-0.5**
KTBS	1.5nm,0.5s			Lg	Lg		01 06 14.4	
KUU	**Kurty**	**4.49**	**31**	⇑*i*P	**Pg**		**01 05 15.4**	**-0.4**
KUU	11nm,0.6s			⇓*i*S	**Sg**		**01 06 14.6**	**+0.7**
KUU	**Kurty**	**4.49**	**31**	Pg	**Pg**		**01 05 15.4**	**-0.4**
KUU	1.7nm,0.5s			Lg	Lg		01 06 14.6	
CHKK	**Chushkaly**	**4.73**	**36**	*e*P	**Pg**		**01 05 20.1**	**-0.5**
CHKK	8.6nm,0.5s			*e*S	**Sg**		**01 06 22.4**	**+0.6**
CHKK	**Chushkaly**	**4.73**	**36**	Pg	**Pg**		**01 05 20.1**	**-0.5**
CHKK	1.2nm,0.2s			Lg	Lg		01 06 22.4	
SATY	**Saty**	**4.95**	**52**	*e*P	**Pg**		**01 05 24.1**	**-0.5**
SATY	7.5nm,0.2s			*e*S	**Sg**		**01 06 29.3**	**+0.6**
SATY	**Saty**	**4.95**	**52**	Pg	**Pg**		**01 05 24.1**	**-0.5**
SATY	1.9nm,0.2s			Lg	Lg		01 06 29.3	
BTLS	**Baital**	**4.99**	**8**	*e*P	**Pg**		**01 05 24.1**	**-1.2**
BTLS	7.9nm,0.3s			*e*S	**Sg**		**01 06 29.3**	**-0.6**
BTLS	**Baital**	**4.99**	**8**	Pg	**Pg**		**01 05 24.1**	**-1.2**
BTLS	0.8nm,0.2s			Lg	Lg		01 06 29.3	
UZB	**Uzynbulak**	**5.37**	**54**	*e*P	**Pg**		**01 05 31.5**	**-1.3**
UZB	3.2nm,0.3s			*e*S	**Sg**		**01 06 41.9**	**-0.4**
UZB	**Uzynbulak**	**5.37**	**54**	P	**Pb**		**01 05 21.1**	**-2.3**
UZB	4.2nm,0.4s			S	**Pb**		**01 05 24.3**	**+0.9**
UZB	1.6nm,0.1s			Pg	**Pg**		**01 05 31.5**	**-1.3**
UZB	13nm,0.1s			Lg	Lg		01 06 41.9	
	3.0nm,0.3s							
	4.2nm,0.4s							

PDGK	**Podgornoye**	**5.76**	**54**	Pg		**Pg**	**01 05 39.6**	**-0.5**
	0.8nm,0.3s								
PDGK				Lg		Lg	01 06 56.1		
	2.5nm,0.6s								

*IDC **19** 01:09:29.5±1.3, 32°.94S×178°.32W, h0km, mb4.2/2, mb1 4.4/3, mb1mx3.8/28, mbtmp4.2/3, ML3.9/1, MS3.7/4, Ms1 3.7/4, ms1mx3.2/26, Error ellipse: s-maj=53.9km s-min=28.9km az=138.0*

*NEIC **19** 01:09:35.5±0.9, 32°.97S±0°.09×178°.6W±0°.1, h23km±4km, mb4.2/10, Error ellipse: s-maj=19.6km s-min=10.7km az=117.0*

ISC 19 01:09:34.7±0.7, 32°.72S±0°.08×178°.5W±0°.2, h33km, n29, σ1§52/28, mb4.2/8, MS3.6/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**3.50**	**9**	Pn		**Pb**	**01 10 31.9**	**-3.9**
	40nm,0.3s,baz=197,slow=19,SNR=1.8							
RAO				Sn		**Sn**	**01 11 07.2**	**+0.2**
	37nm,0.3s,baz=272,slow=23,SNR=2.6							
URZ	**Urewera**	**6.57**	**211**	Pn		**Pn**	**01 11 07.0**	**-1.9**
	2.7nm,0.3s,baz=43,slow=18,SNR=18							
URZ				Sn		**Sn**	**01 12 19.6**	**-3.0**
	3.0nm,0.3s,baz=106,slow=19,SNR=4.5							
URZ	**Urewera**	**6.57**	**211**			**Pn**	**01 11 07.2**	**-1.7**
BKZ	**Black Stump Fm**	**7.59**	**211**	Pn		**Pn**	**01 11 20.4**	**-2.6**
DZM	**Mont Dzumac**	**17.02**	**305**	LR		LR	01 18 59.6	
	comp=Z,388nm,18.6s,baz=55,slow=33							
PPT	**Papeete**	**30.12**	**67**	LR		LR	01 24 44.8	
	comp=Z,49nm,20.5s,baz=239,slow=30							
STKA	**Stephens Creek**	**33.58**	**260**	LR		LR	01 29 03.9	
	comp=Z,223nm,18.2s,baz=42,slow=35							
CTAO	**Charters Tower**	**33.80**	**283**	P		**P**	**01 16 15.9**	**+2.2**
COEN	**Coen**	**39.53**	**289**	P		**P**	**01 17 04.8**	**+2.1**
COEN				IAmb		IAmb	01 17 06.9	
	comp=Z,3.8nm,0.9s							
AS31	**Alice Springs**	**42.58**	**270**	P		**P**	**01 17 28.6**	**+0.8**
ASAR	**Alice Springs**	**42.58**	**270**	P		**P**	**01 17 29.0**	**+1.2**
	comp=Z,1.5nm,0.6s,baz=109,slow=7.5,SNR=26							
WR0	**Warramunga Arr**	**43.60**	**275**	P		**P**	**01 17 36.9**	**+0.9**
WR0				IAmb		IAmb	01 17 47.8	
	comp=Z,5.6nm,1.1s							
WB2	**Warramunga Arr**	**43.77**	**275**	P		**P**	**01 17 38.0**	**+0.7**
WB2				IAmb		IAmb	01 17 51.5	
	comp=Z,4.5nm,0.9s							
WRA	**Warramunga Arr**	**43.78**	**275**	P		**P**	**01 17 38.3**	**+0.9**
	comp=Z,2.6nm,0.5s,baz=118,slow=7.6,SNR=40							
WRA				LR		LR	01 34 17.2	
	comp=Z,92nm,21.6s,baz=80,slow=34							
FITZ	**Fitzroy Crossi**	**51.94**	**272**	P		**P**	**01 18 41.2**	**+0.5**
FITZ				IAmb		IAmb	01 18 42.1	
	comp=Z,2.8nm,0.9s							
CASY	**Casey**	**52.89**	**209**	P		**P**	**01 18 47.0**	**+0.1**
CASY				IAmb		IAmb	01 18 59.2	
	comp=Z,4.1nm,0.9s							
QSPA	**South Pole Qui**	**57.40**	**180**	P		**P**	**01 19 21.1**	**+1.4**
QSPA				IAmb		IAmb	01 19 31.4	
	comp=Z,3.2nm,0.9s							
ML02	**Panimavida**	**83.61**	**129**	P		**P**	**01 22 01.4**	**+1.5**
KURK	**Kurchatov**	**122.30**	**313**			**PKPdf**	**01 28 25.9**	**+0.1**
KURBB	**Kurchatov Arra**	**122.34**	**313**	PKP		**PKPdf**	**01 28 25.9**	**0.0**
	comp=Z,0.2nm,0.6s,baz=115,slow=2.3,SNR=2.0							
FIA1	**FINESS Array S**	**147.14**	**338**	PKPbc		**PKPab**	**01 29 14.9**	**-0.3**
FINES	**FINESS Array B**	**147.14**	**338**	PKPbc		**PKPbc**	**01 29 14.3**	**+0.7**
	comp=Z,7.2nm,0.9s,baz=30,slow=3.6,SNR=17							
NB2	**NORSAR Subarra**	**150.96**	**350**	PKP		**PKiKP**	**01 29 24.0**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=7,slow=2.6							
NOA	**NORSAR Array B**	**150.96**	**350**	PKPbc		**PKiKP**	**01 29 23.9**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=13,slow=4.1,SNR=3.9							
EIL	**Elat**	**151.26**	**273**	PKPbc		**PKiKP**	**01 29 25.6**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=165,slow=12,SNR=2.2							
HFS	**Hagfors**	**151.41**	**347**	PKPbc		**PKPbc**	**01 29 24.0**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=38,slow=15,SNR=1.5							
MMAI	**Mount Meron Ar**	**151.56**	**280**	PKPbc		**PKiKP**	**01 29 26.6**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=81,slow=6.3,SNR=6.7							
AKASG	**Malin Array Ba**	**152.81**	**320**	PKPbc		**PKiKP**	**01 29 28.7**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=38,slow=15,SNR=2.2							
BRTR	**Keskin Array B**	**153.22**	**294**	PKPbc		**PKPbc**	**01 29 29.3**	**0.0**
	comp=Z,0.5nm,0.5s,baz=141,slow=5.1,SNR=5.0							

*IDC **19** 01:09:35.3±2.4, 31°.40S×71°.50W, h0km, mb3.7/1, mb1 3.7/2, mb1mx3.5/29, mbtmp3.6/2, ML3.6/1, Error ellipse: s-maj=129.0km s-min=45.8km az=95.0*

*GUC **19** 01:09:39.3±0.7, 31°.49S×71°.77W, h36km±5km, ML3.9*

ISC 19 01:09:36.5±1.7, 31°.47S±0°.03×71°.8W±0°.1, h9km±10km, n21, σ1§05/23, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.80**	**9**	*eP*		**Pn**	**01 09 54.5**	**+0.7**
CO06				*i* S		**Sn**	**01 10 05.5**	**-0.4**
CO06				IAML			01 10 07.5	
	comp=E,6μm,0.3s							
CO03	**El Pedregal**	**1.12**	**56**	*eP*		**Pn**	**01 09 59.6**	**+1.2**
CO03				*i* S		**Sn**	**01 10 14.5**	**+0.5**
CO03				IAML			01 10 17.0	
	comp=E,4μm,0.3s							
VA06	**Catapilco**	**1.17**	**160**	⇑ *iP*		**Pb**	**01 09 59.4**	**+0.6**
VA06				*i* S		**Sb**	**01 10 14.4**	**+0.4**
VA06				IAML			01 10 17.3	
	comp=N,4μm,0.5s							
GO04	**Tololo Observa**	**1.54**	**33**	*eP*		**Pg**	**01 10 06.3**	**+0.3**
GO04				*i* S		**Sg**	**01 10 26.9**	**+1.0**
GO04				IAML			01 10 31.6	
	comp=N,8μm,0.5s							
CO05	**La Serena**	**1.61**	**17**	*eP*		**Pg**	**01 10 06.4**	**-0.9**
CO05				*eS*		**Sg**	**01 10 28.6**	**+0.3**
CO05				IAML			01 10 33.2	
	comp=N,3μm,0.9s							
ROCH	**El Roble**	**1.64**	**157**	*eP*		**Pn**	**01 10 03.9**	**-1.7**
ROCH				*i* S		**Sg**	**01 10 29.0**	**-0.2**
VA03	**San Esteban**	**1.66**	**142**	*eP*		**Pg**	**01 10 07.7**	**-0.6**
VA03				*i* S		**Sg**	**01 10 29.1**	**-0.8**
VA03				IAML			01 10 31.7	
	comp=E,4μm,0.4s							
MT05	**Renca**	**2.11**	**156**	*i* S		**Sb**	**01 10 40.0**	**-1.3**
MT05				IAML			01 10 50.6	
	comp=E,935nm,0.5s							
MT09	**Talagante**	**2.40**	**164**	*eP*		**Pn**	**01 10 17.7**	**+1.7**
MT09				*i* S		**Sn**	**01 10 47.0**	**+1.4**
MT01	**Popeta**	**2.43**	**170**	*eP*		**Pn**	**01 10 18.4**	**+2.1**
MT01				*eS*		**Sb**	**01 10 50.6**	**+0.1**
AC04	**Llanos de Chal**	**3.31**	**11**	IAML			01 11 31.6	
	comp=N,163nm,0.6s							
H03N1	**Juan Fernandez**	**6.35**	**250**	T		T	01 17 53.1	
	baz=77,slow=72,SNR=405							
H03N3	**Juan Fernandez**	**6.36**	**250**	T		T	01 17 54.3	
	baz=77,slow=72,SNR=592							
H03N2	**Juan Fernandez**	**6.36**	**250**	T		T	01 17 52.4	
	baz=77,slow=72,SNR=562							
PLCA	**Paso Flores**	**9.30**	**174**	Pn		**Pn**	**01 11 51.4**	**+0.6**
	comp=N,0.1nm,0.3s,baz=347,slow=18,SNR=5.0							
TORD	**Torodi Ar. Bea**	**83.14**	**70**	P		**P**	**01 22 02.3**	**-0.9**
	comp=N,0.4nm,0.7s,baz=232,slow=5.6,SNR=2.9							
H11S2	**WAKE ISLAND Hyl**	**126.00**	**271**	T		T	03 47 28.4	
	baz=116,slow=75,SNR=11							
H11S1	**WAKE ISLAND Hyl**	**126.01**	**271**	T		T	03 47 26.9	
	baz=116,slow=75,SNR=11							
H11S3	**WAKE ISLAND Hyl**	**126.01**	**271**	T		T	03 47 29.6	
	baz=116,slow=75,SNR=8.4							
KURBB	**Kurchatov Arra**	**150.84**	**40**	PKPbc		**PKPbc**	**01 29 28.4**	**-0.5**
	comp=N,0.4nm,0.6s,baz=300,slow=2.8,SNR=4.8							
ZALV	**Zalesovo Beam**	**151.95**	**30**	PKPbc		**PKiKP**	**01 29 31.3**	**-0.4**
	comp=N,1.8nm,0.5s,baz=309,slow=3.6,SNR=5.9							

*IDC **19** 01:19:19.8±0.5, 30°.88S×71°.77W, h0km, mb4.6/13, mb1 4.6/19, mb1mx4.4/35, mbtmp4.5/19, ML4.3/5, MS3.9/10, Ms1 3.9/10, ms1mx3.7/23, Error ellipse: s-maj=20.8km s-min=13.1km az=90.0*

*GUC **19** 01:19:23.8±0.5, 30°.79S×71°.75W, h28km±2km, ML5.0, MW4.9*

*NEIC **19** 01:19:23.1±1.8, 30°.86S±0°.04×71°.90W±0°.05, h20km±3km, mb4.6/50, ML5.0(GUC), Error ellipse: s-maj=7.4km s-min=4.1km az=140.0*

ISC 19 01:19:19.6±1.4, 30°.83S±0°.02×72°.13W±0°.03, h4km±8km, n167, σ1§96/193, mb4.7/35, MS4.1/5, 8C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.45**	**70**	⇓ *iP*		**Pg**	**01 19 29.4**	**+1.2**
CO06				*i* S		**Sg**	**01 19 34.2**	**+0.1**
CO06	**Fray Jorge**	**0.45**	**70**			**Pg**	**01 19 29.5**	**+1.3**
CO06					Sg	**Sg**	**01 19 34.3**	**+0.2**
CO05	**La Serena**	**1.19**	**41**	⇑ *iP*		**Pn**	**01 19 42.1**	**-0.8**
CO05				*i* S		**Sb**	**01 19 56.4**	**-2.0**
CO05	**La Serena**	**1.19**	**41**			**Pn**	**01 19 42.2**	**-0.8**
CO03	**El Pedregal**	**1.24**	**91**	⇓ *iP*		**Pn**	**01 19 41.4**	**-2.3**
CO03				*i* S		**Sb**	**01 19 55.1**	**-4.8**
CO03	**El Pedregal**	**1.24**	**91**	Pn		**Pn**	**01 19 41.5**	**-2.3**
CO03	**El Pedregal**	**1.24**	**91**	*eP*		Pg	01 19 56.4	+13
CO03				*eS*		**Sb**	**01 19 59.1**	**-0.9**
GO04	**Tololo Observa**	**1.32**	**61**	⇓ *iP*		**Pn**	**01 19 43.5**	**-1.5**
GO04				*eS*		**Sb**	**01 19 59.1**	**-3.4**
GO04				IAML			01 20 05.1	
	comp=E,132μm,0.6s							
GO04	**Tololo Observa**	**1.32**	**61**			**Pn**	**01 19 43.6**	**-1.4**
VA06	**Catapilco**	**1.87**	**158**	⇑ *iP*		**Pn**	**01 19 52.1**	**-0.2**
VA06				*eS*		**Sn**	**01 20 14.8**	**-1.6**
VA06				IAML			01 20 22.1	
	comp=N,20μm,0.5s							
LCO	**Las Campanas**	**2.19**	**35**	⇑ *iP*		**Pn**	**01 19 57.2**	**+0.1**
LCO				*i* S		**Sn**	**01 20 23.9**	**-1.0**
LCO	**Las Campanas**	**2.19**	**35**			**Pn**	**01 19 57.6**	**+0.5**
LCO	**Las Campanas**	**2.19**	**35**	*eP*		**Pn**	**01 19 57.0**	**-0.1**
VA01	**Torpederas**	**2.23**	**170**	⇓ *eP*		**Pn**	**01 19 56.6**	**-0.6**
VA01				*eS*		**Sb**	**01 20 30.2**	**+1.9**
VA01	**Torpederas**	**2.23**	**170**			**Pn**	**01 19 57.0**	**-0.2**
VA01	**Torpederas**	**2.23**	**170**	*eP*		**Pn**	**01 19 57.0**	**-0.2**
VA01				*eS*		**Sb**	**01 20 29.2**	**+0.9**
ROCH	**El Roble**	**2.34**	**156**	⇑ *iP*		**Pn**	**01 19 59.0**	**0.0**
ROCH				*eS*		**Sn**	**01 20 27.8**	**-0.6**
ROCH				IAML			01 20 36.0	
	comp=N,8μm,0.4s							
VA03	**San Esteban**	**2.35**	**146**	⇑ *iP*		**Pn**	**01 19 59.5**	**+0.5**
VA03				*eS*		**Sn**	**01 20 28.8**	**+0.3**
VA03				IAML			01 20 39.1	
	comp=E,8μm,0.5s							
VA03	**San Esteban**	**2.35**	**146**			**Pn**	**01 19 59.4**	**+0.3**
VA03	**San Esteban**	**2.35**	**146**	*eP*		**Pn**	**01 19 59.8**	**+0.7**
VA03				*eS*		**Sb**	**01 20 33.1**	**+1.1**
VA03				IAML			01 20 38.0	
	comp=Z,8μm,0.8s							
AROD	**Rodeo**	**2.38**	**75**	*eP*		**Pn**	**01 20 01.8**	**+2.0**
AROD				*eS*		**Sn**	**01 20 32.0**	**+2.4**
RTLS	**Leoncito**	**2.61**	**113**	*eP*		**Pn**	**01 20 05.5**	**+2.6**
RTLS				*eS*		**Sb**	**01 20 39.9**	**+0.2**
RTLS				IAML			01 20 46.6	
	comp=Z,4μm,0.8s							
ACCO	**Cerro Coronel**	**2.65**	**86**	*eP*		**Pn**	**01 20 06.0**	**+2.6**
ACDV	**Cuesta del Vie**	**2.68**	**77**	*eP*		**Pn**	**01 20 01.2**	**-2.5**
ACDV				*eP*		**Pb**	**01 20 06.0**	**-2.2**
ACDV				*eS*		**Sb**	**01 20 40.4**	**-1.1**
ACDV				IAML			01 20 41.8	
	comp=Z,4μm,0.6s							
AUSP	**Uspallata**	**2.72**	**121**	*eP*		**Pn**	**01 20 06.9**	**+2.6**
AUSP				*eP*		**Pn**	**01 20 07.0**	**+2.6**
AUSP				*eS*		**Sn**	**01 20 36.7**	**-1.2**
AC04	**Llanos de Chal**	**2.77**	**20**			**Pn**	**01 20 04.7**	**-0.1**
AC04	**Llanos de Chal**	**2.77**	**20**	*eP*		**Pn**	**01 20 04.7**	**-0.1**
AC04				*eS*		**Sn**	**01 20 41.7**	**+3.0**
MT05	**Renca**	**2.81**	**156**	*eP*		**Pn**	**01 20 05.2**	**-0.3**
MT05				*eS*		**Sn**	**01 20 40.1**	**+0.2**
MT05				IAML			01 20 48.1	
	comp=E,11μm,0.4s							
MT05	**Renca**	**2.81**	**156**			**Pn**	**01 20 05.6**	**+0.2**
MT05	**Renca**	**2.81**	**156**	*eP*		**Pn**	**01 20 06.0**	**+0.6**
VA05	**Santo Domingo**	**2.85**	**171**	*eP*		**Pn**	**01 20 05.6**	**-0.3**
VA05				*eS*		**Sb**	**01 20 46.6**	**+0.2**
VA05				IAML			01 20 57.3	
	comp=E,5μm,0.5s							
VA05	**Santo Domingo**	**2.85**	**171**			**Pn**	**01 20 05.6**	**-0.3**
ZON	**Zonda**	**3.04**	**104**			**Pn**	**01 20 10.3**	**+1.8**
ZON	**Zonda**	**3.04**	**104**	*eP*		**Pn**	**01 20 11.0**	**+2.5**
ZON				*eS*		**Sn**	**01 20 47.7**	**+2.2**
ZON				IAML			01 20 56.4	
	comp=Z,2μm,0.6s							
MT09	**Talagante**	**3.09**	**162**	⇑ *iP*		**Pn**	**01 20 09.7**	**+0.3**
MT09				*eS*		**Sn**	**01 20 45.8**	**-1.0**
MT09				IAML			01 21 04.3	
	comp=N,3μm,0.5s							
MT09	**Talagante**	**3.09**	**162**	Pn		**Pn**	**01 20 09.8**	**+0.5**
MT01	**Popeta**	**3.12**	**166**	⇑ *iP*		**Pn**	**01 20 09.4**	**-0.2**
MT01				*eS*		**Sb**	**01 20 51.9**	**-2.1**
MT01				IAML			01 21 04.6	
	comp=N,2μm,0.5s							
MT01	**Popeta**	**3.12**	**166**	Pn		**Pn**	**01 20 09.5**	**-0.1**
MT01	**Popeta**	**3.12**	**166**	*eP*		Pn	01 20 04.2	-5.4
MT01				*eP*		Pb	01 20 09.7	-5.9
MT01				*eP*			01 20 11.0	
MT01				*eS*		**Sb**	**01 20 53.7**	**-0.3**
RTCV	**Cerro Valdivia**	**3.24**	**109**	*eP*		**Pn**	**01 20 13.9**	**+2.7**
RTCV				*eS*		**Sb**	**01 20 59.9**	**+2.4**
ASAL	**Salagasta**	**3.31**	**123**	*eP*		**Pn**	**01 20 15.0**	**+2.7**
ASAL				*eS*		**Sg**	**01 21 06.7**	**+0.7**
ARCO	**CERRO ARCO**	**3.38**	**127**	*eP*		**Pn**	**01 20 16.9**	**+3.6**
ARCO				*eP*		**Pb**	**01 20 17.0**	**-3.2**
ARCO				*eS*		**Sn**	**01 20 56.7**	**+2.7**
ARCO				IAML			01 21 07.8	
	comp=Z,3μm,0.7s							
AGUA	**GUANDACOL**	**3.42**	**68**	*eP*		**Pn**	**01 20 17.8**	**+4.0**
AGUA				*eS*		**Sb**	**01 21 01.2**	**-1.7**
AGUA				IAML			01 21 16.2	
	comp=Z,3μm,1.1s							
AAGR	**Agrelo**	**3.59**	**130**	*eP*		**Pn**	**01 20 19.9**	**+3.6**
AAGR				*eS*		**Sb**	**01 21 11.7**	**+3.8**
GO03	**Copiap**	**3.62**	**28**			**Pn**	**01 20 16.2**	**-0.3**
GO03	**Copiap**	**3.62**	**28**	*eP*		**Pn**	**01 20 17.0**	**+0.5**
GO03				*eP*		Pb	01 20 17.3	-7.0
GO03				*eS*		**Sn**	**01 21 04.2**	**+4.4**
BO01	**Tunca**	**3.66**	**166**			**Pn**	**01 20 17.2**	**+0.2**
BO01	**Tunca**	**3.66**	**166**	*eP*		**Pn**	**01 20 17.6**	**+0.6**
BO01				*eS*		**Sb**	**01 21 07.2**	**-2.5**
AC06	**Mina Casimiro**	**3.79**	**25**			**Pn**	**01 20 19.0**	**+0.2**
VCA	**Vinchina**	**4.00**	**60**	*eP*		Pn	01 20 12.3	-10
VCA				*eS*		**Sb**	**01 21 19.2**	**-0.3**
VCA				IAML			01 21 27.9	
	comp=Z,3μm,0.5s							
AVFE	**Valle Fertil**	**4.03**	**89**	*eP*		**Pn**	**01 20 23.4**	**+1.3**
AVFE				*eS*		**Sn**	**01 21 09.2**	**-0.6**
AVFE				IAML			01 21 21.8	
	comp=Z,3μm,0.6s							
BO02	**Sierra Bellavi**	**4.11**	**164**	Pn		**Pn**	**01 20 22.8**	**-0.5**
BO02	**Sierra Bellavi**	**4.11**	**164**	*eP*		**Pn**	**01 20 23.9**	**+0.6**
BO02				*eP*		Pb	01 20 24.0	-8.6
BO02				*eS*		**Sb**	**01 21 18.7**	**-4.0**
BO02				IAML			01 21 34.0	
	comp=Z,2μm,0.9s							
GO05	**Huala**	**4.17**	**178**	*eP*		Pn	01 20 18.7	-5.4
GO05				*eP*		Pb	01 20 24.0	-10
GO05				*eS*		**Sn**	**01 21 10.2**	**-3.1**
ACHE	**Chepes**	**4.70**	**95**	*eS*		**Sn**	**01 21 28.1**	**+1.5**
AC02	**Maricunga**	**4.77**	**34**	*eP*		**Pn**	**01 20 33.5**	**+0.8**
AC02				*i* S		**Sn**	**01 21 28.2**	**-0.5**
AC02	**Maricunga**	**4.77**	**34**	*eP*		**Pn**	**01 20 34.0**	**+1.3**
AC02				*eS*		**Sb**	**01 21 41.7**	**-0.3**
COIS	**El Sosneado**	**4.77**	**154**	*eP*		**Pn**	**01 20 35.0**	**+2.7**
RFA	**San Rafael**	**5.00**	**143**	*eP*		**Pn**	**01 20 36.8**	**+1.4**
CYA	**Choya**	**6.00**	**68**	*eS*		**Sn**	**01 21 57.9**	**-0.5**
H03N1	**Juan Fernandez**	**6.32**	**244**	Pn		**Pn**	**01 20 54.8**	**+1.5**
	baz=138,slow=74,SNR=46							
H03N1				Sn		**Sn**	**01 22 00.7**	**-5.0**
H03N1				T		T	01 27 47.0	
	baz=72,slow=72,SNR=2846							
H03N3	**Juan Fernandez**	**6.33**	**244**	Pn		**Pn**	**01 20 54.9**	**+1.4**
	baz=251,slow=74,SNR=56							
H03N3				Sn		**Sn**	**01 22 00.5**	**-5.7**
H03N3				T		T	01 27 51.2	
	baz=72,slow=72,SNR=1897							
H03N2	**Juan Fernandez**	**6.33**	**244**	Pn		**Pn**	**01 20 54.8**	**+1.4**
H03N2				Sn		**Sn**	**01 22 00.7**	**-5.4**
H03N2				T		T	01 27 47.7	
	baz=72,slow=72,SNR=2799							
VA04	**Juan Fernndez**	**6.33**	**242**	Pn		**Pn**	**01 20 55.7**	**+2.0**
PB14	**IPOC Station P**	**6.36**	**14**	*eS*		**Sn**	**01 22 04.7**	**-3.1**
H03S3	**Juan Fernandez**	**6.47**	**241**	Pn		**Pn**	**01 20 55.7**	**+0.3**
	baz=37,slow=18,SNR=10							
H03S3				Sn		**Sn**	**01 22 03.2**	**-6.4**
H03S3				T		T	01 28 00.2	
	baz=83,slow=76							
H03S1	**Juan Fernandez**	**6.48**	**241**	Pn		**Pn**	**01 20 55.5**	**0.0**
	baz=37,slow=18,SNR=9.1							
H03S1				Sn		Sn	01 22 02.9	-6.7
H03S1				T		T	01 27 56.4	
	baz=83,slow=76							
H03S2	**Juan Fernandez**	**6.49**	**241**	Pn		**Pn**	**01 20 55.9**	**+0.2**
	baz=37,slow=18,SNR=13							
H03S2				Sn		Sn	01 22 02.8	-7.2
H03S2				T		T	01 28 05.9	
	baz=83,slow=76							
PB15	**IPOC Station P**	**7.95**	**18**	*eP*		**Pn**	**01 21 15.3**	**-0.9**
PB05	**IPOC Station P**	**8.13**	**13**	*eP*		**Pn**	**01 21 15.0**	**-3.5**
LVC	**Limon Verde**	**8.68**	**20**	Pn		**Pn**	**01 21 24.2**	**-2.0**
	comp=Z,1.0nm,0.3s,baz=168,slow=5.2,SNR=8.4							
LVC				Sn		**Sn**	**01 22 59.9**	**-4.9**
	comp=Z,1.8nm,0.3s,baz=244,slow=14,SNR=1.5							
LVC				LR		LR	01 25 17.6	
	comp=Z,386nm,18.7s,baz=220,slow=42							
LVC	**Limon Verde**	**8.68**	**20**	Pn		**Pn**	**01 21 27.2**	**+1.0**
PB03	**IPOC Station P**	**9.00**	**14**	*eP*		**Pn**	**01 21 29.0**	**-1.5**
PLCA	**Paso Flores**	**9.97**	**173**	Pn		**Pn**	**01 21 43.7**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=332,slow=12,SNR=27							
PLCA				Lg		Lg	01 24 21.0	
	comp=Z,0.1nm,0.3s,baz=304,slow=17,SNR=2.2							
PLCA				LR		LR	01 26 20.1	
	comp=Z,268nm,18.5s,baz=354,slow=42							
LL04	**Puerto Octay**	**10.06**	**181**			**Pn**	**01 21 45.1**	**+0.2**
LL03	**Petrohue**	**10.29**	**181**			**Pn**	**01 21 49.0**	**+1.0**
TRQA	**Tornquist**	**11.05**	**133**	Pn		**Pn**	**01 21 57.2**	**-1.2**
ITQB	**Itaqui**	**13.45**	**89**	Pn		**Pn**	**01 22 28.5**	**-2.8**
CPUP	**Villa Florida**	**13.75**	**75**	Pn		**Pn**	**01 22 32.6**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=317,slow=18,SNR=3.1							
CPUP				Sn		**Sn**	**01 25 03.9**	**-4.7**
	comp=Z,0.2nm,0.3s,baz=254,slow=12,SNR=2.6							
CPUP				Lg		Lg	01 26 12.6	
	comp=Z,0.8nm,0.3s,baz=162,slow=20,SNR=2.1							
CPUP				LR		LR	01 28 17.3	
	comp=Z,788nm,18.3s,baz=250,slow=40							
CPUP	**Villa Florida**	**13.75**	**75**	Pn		**Pn**	**01 22 32.8**	**-2.5**
LPAZ	**La Paz**	**14.93**	**15**	Pn		**Pn**	**01 22 53.6**	**+1.6**
	comp=Z,0.6nm,0.3s,baz=189,slow=8.0,SNR=18							
PLTB	**Pedras Altas**	**15.87**	**98**	Pn		**Pn**	**01 23 01.2**	**-2.6**
SIV	**San Ignacio**	**17.90**	**37**	P		**Pn**	**01 23 29.5**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=229,slow=12,SNR=28							
SIV				LR		LR	01 31 36.0	
	comp=Z,376nm,18.4s,baz=218,slow=42							
TRCB	**Terra Rica**	**19.13**	**70**	P		**P**	**01 23 41.2**	**-2.6**
TRCB				IAmb		IAmb	01 23 52.5	
	comp=Z,31nm,0.6s							
NNA	**Nana**	**19.25**	**346**	P		**Pn**	**01 23 48.6**	**+2.5**
	baz=205,slow=14,SNR=4.3							
NNA				LR		LR	01 29 36.6	
	comp=Z,217nm,20.4s,baz=171,slow=32							
SAML	**Samuel**	**23.31**	**23**	P		**P**	**01 24 29.4**	**+0.6**
USHA	**Ushuaia**	**24.14**	**175**	P		**P**	**01 24 37.6**	**+1.1**
	comp=Z,27nm,0.6s,baz=360,slow=8.4,SNR=2.5							
BDFB	**Brasilia**	**26.74**	**61**	P		**P**	**01 24 59.3**	**-1.3**
	comp=Z,13nm,0.7s,baz=229,slow=8.8,SNR=23							
BDFB				LR		LR	01 36 34.1	
	comp=Z,449nm,19.6s,baz=227,slow=39							
BDFB	**Brasilia**	**26.74**	**61**	P		**P**	**01 24 58.8**	**-1.7**
BDFB				IAmb		IAmb	01 24 59.8	
	comp=Z,14nm,0.7s							
OTAV	**Otavalo**	**31.47**	**348**	P		**P**	**01 25 44.2**	**+1.3**
PRAC	**Prado**	**34.45**	**355**	*eP*		**P**	**01 26 12.1**	**+3.5**
ORTC	**Ortega, Tolima**	**34.67**	**355**	*eP*		**P**	**01 26 14.1**	**+3.7**
CHIC	**Chingaza**	**35.29**	**357**	*eP*	

HLID	**Hailey**	**83.54**	**331**	P	**P**	**01 31 50.6**	**+1.7**
HLID				IAmb	IAmb	01 31 52.2	
	comp=Z,3.4nm,1.1s						
LBTB	**Lobatse**	**83.71**	**115**	P	**P**	**01 31 48.7**	**-1.5**
MMAI	**Mount Meron Ar**	**119.62**	**67**	PKP	**PKiKP**	**01 38 13.4**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=215,slow=1.0,SNR=2.0						
AKASG	**Malin Array Be**	**120.08**	**46**	PKP	**PKPdf**	**01 38 10.5**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=242,slow=13,SNR=1.6						
ASAR	**Alice Springs**	**120.34**	**208**	PKP	**PKPdf**	**01 38 12.3**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=121,slow=1.3,SNR=1.6						
ASAR	**Alice Springs**	**120.34**	**208**		**PKPdf**	**01 38 11.6**	**-1.2**
BNN	**Bunyan**	**121.72**	**61**	PKPdf	**PKPdf**	**01 38 15.1**	**+0.1**
WRA	**Warramunga Arr**	**123.47**	**210**	PKP	**PKPdf**	**01 38 18.3**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=132,slow=1.4,SNR=11						
H11S2	**WAKE ISLAND Hyd**	**25.68**	**271**	T	T	03 57 08.1	
	baz=115,slow=75,SNR=143						
H11S1	**WAKE ISLAND Hyd**	**25.69**	**271**	T	T	03 57 07.8	
	baz=115,slow=75,SNR=184						
H11S3	**WAKE ISLAND Hyd**	**25.70**	**271**	T	T	03 57 06.2	
	baz=115,slow=75,SNR=152						
BRVK	**Borovoye**	**144.88**	**40**	PKPdf	**PKPab**	**01 38 57.0**	**+0.4**
BVAR	**Borovoye Array**	**144.96**	**40**	PKP	**PKPdf**	**01 38 57.8**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=214,slow=5.0,SNR=13						
KURBB	**Kurchatov Arra**	**150.54**	**39**	PKPbc	**PKPbc**	**01 39 12.7**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=296,slow=3.1,SNR=18						
KURK	**Kurchatov**	**150.54**	**39**		**PKPbc**	**01 39 12.7**	**+0.4**
AAK	**Ala-Archa**	**150.95**	**57**	PKPbc	**PKPbc**	**01 39 14.4**	**+0.7**
	comp=Z,2.5nm,0.6s,baz=221,slow=8.2,SNR=7.3						
ZALV	**Zalesovo Beam**	**151.54**	**29**	PKPbc	**PKPbc**	**01 39 14.9**	**+0.4**
	comp=Z,8.2nm,0.7s,baz=298,slow=2.8,SNR=24						
ZALV	**Zalesovo Beam**	**151.54**	**29**		**PKPbc**	**01 39 14.6**	**+0.1**
JHJ	**Hachijo jima 2**	**152.89**	**283**	PKPbc	**PKiKP**	**01 39 19.2**	**+0.8**
	comp=Z,47nm,0.4s,baz=42,slow=3.9,SNR=1.6						
MKAR	**Makanchi Array**	**154.63**	**44**	PKPbc	**PKPbc**	**01 39 21.8**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=325,slow=1.5,SNR=5.2						
MKAR				PKPab	**PKPab**	**01 39 36.8**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=286,slow=4.9,SNR=6.5						
SONM	**Songino Array**	**162.98**	**3**	PKPab	**PKPab**	**01 40 13.1**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=321,slow=3.7,SNR=2.0						
CMAR	**Chiang Mai Arr**	**165.26**	**145**	PKPab	**PKPab**	**01 40 22.4**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=227,slow=5.5,SNR=4.7						
LZH	**Lanzhou**	**173.77**	**32**	*e*PKP	**PKPdf**	**01 39 33.5**	**+2.8**
LZH				pPKP	sPKPdf	01 39 37.1	+6.0
LZH				sPKP		01 39 40.4	

IDC ***19*** *01:22:47.4±3.3,30.61S×71.96W,h0km,mb3.7/1, mb1 4.3/3,mb1mx3.7/28,mbtmp4.2/3,ML2.9/1,MS3.6/1, Ms1 3.6/1,ms1mx2.8/22,Error ellipse: s-maj=137.7km s-min=37.1km az=97.0*

NEIC ***19*** *01:22:55.5±1.5,30.80S±0.05×71.44W±0.04,h39km±13km, mb4.1/1,ML4.0(GUC),Error ellipse: s-maj=7.7km s-min=3.8km az=208.0*

GUC ***19*** *01:22:55.2±0.7,30.79S×71.45W,h47km±2km,ML4.0*

ISC 19 01:22:54.9±0.9,30.78S±0.03×71.46W±0.05,h35km,n51, σ1s42/48,3C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.18**	**305**	⇑*i*P	**Pn**	**01 23 03.0**	**+1.3**
CO06				*e*S	**Sn**	**01 23 08.0**	**+1.9**
CO06				IAML		01 23 08.9	
	comp=E,16μm,0.2s						
CO06	**Fray Jorge**	**0.18**	**305**	Pn	**Pn**	**01 23 02.6**	**+1.0**
CO03	**El Pedregal**	**0.67**	**95**	⇓*i*P	**Pn**	**01 23 08.5**	**+0.4**
CO03				*e*S	**Sn**	**01 23 18.1**	**+0.8**
CO03				IAML		01 23 18.4	
	comp=E,14μm,0.1s						
CO03	**El Pedregal**	**0.67**	**95**	Pn	**Pn**	**01 23 08.3**	**+0.3**
GO04	**Tololo Observa**	**0.83**	**44**	⇓*i*P	**Pn**	**01 23 11.2**	**+0.8**
GO04				*e*S	**Sn**	**01 23 22.8**	**+1.3**
GO04	**Tololo Observa**	**0.83**	**44**	Pn	**Pn**	**01 23 11.2**	**+0.8**
CO05	**La Serena**	**0.88**	**13**	*e*P	**Pn**	**01 23 11.9**	**+1.1**
CO05	**La Serena**	**0.88**	**13**	Pn	**Pn**	**01 23 11.6**	**+0.8**
VA06	**Catapilco**	**1.78**	**175**	*e*P	**Pn**	**01 23 23.5**	**+0.3**
VA06				*e*		01 23 47.9	
LCO	**Las Campanas**	**1.88**	**21**	*e*P	**Pn**	**01 23 25.9**	**+1.0**
LCO				*e*S	**Sn**	**01 23 49.2**	**+1.7**
LCO	**Las Campanas**	**1.88**	**21**	Pn	**Pn**	**01 23 26.1**	**+1.3**
VA03	**San Esteban**	**2.13**	**159**	*e*P	**Pn**	**01 23 29.8**	**+1.7**
VA03				IAML		01 24 02.1	
	comp=E,1μm,0.2s						
VA03	**San Esteban**	**2.13**	**159**	Pn	**Pn**	**01 23 28.8**	**+0.7**
ROCH	**El Roble**	**2.22**	**170**	*e*P	**Pn**	**01 23 30.7**	**+1.2**
ROCH				IAML		01 24 02.9	
	comp=E,729nm,0.4s						
VA01	**Torpederas**	**2.24**	**184**	Pn	**Pn**	**01 23 30.7**	**+1.1**
ZON	**Zonda**	**2.51**	**108**	Pn	**Pn**	**01 23 35.9**	**+2.6**
AC04	**Llanos de Chal**	**2.59**	**8**	⇓*i*P	**Pn**	**01 23 35.6**	**+1.3**
AC04				*e*S	**Sn**	**01 24 06.8**	**+2.2**
AC04				IAML		01 24 20.0	
	comp=N,426nm,0.1s						
AC04	**Llanos de Chal**	**2.59**	**8**	Pn	**Pn**	**01 23 35.7**	**+1.4**
MT05	**Renca**	**2.68**	**167**	*e*P	**Pn**	**01 23 37.0**	**+1.4**
MT05				*e*S	**Sn**	**01 24 08.5**	**+1.7**
MT05				IAML		01 24 15.2	
	comp=E,1μm,0.5s						
MT05	**Renca**	**2.68**	**167**	Pn	**Pn**	**01 23 36.8**	**+1.1**
VA05	**Santo Domingo**	**2.87**	**183**	IAML		01 24 23.0	
	comp=E,623nm,0.4s						
VA05	**Santo Domingo**	**2.87**	**183**	Pn	**Pn**	**01 23 37.9**	**-0.3**
MT09	**Talagante**	**3.02**	**172**	⇓*i*P	**Pn**	**01 23 41.3**	**+1.0**
MT09				*i* S	**Sn**	**01 24 16.5**	**+1.2**
MT09				IAML		01 24 25.9	
	comp=N,392nm,0.3s						
MT09	**Talagante**	**3.02**	**172**	Pn	**Pn**	**01 23 40.5**	**+0.1**
MT01	**Popeta**	**3.08**	**177**	*e*P	**Pn**	**01 23 41.5**	**+0.4**
MT01				*e*S	**Sn**	**01 24 18.9**	**+2.2**
MT01				IAML		01 24 28.9	
	comp=E,274nm,0.5s						
MT01	**Popeta**	**3.08**	**177**	Pn	**Pn**	**01 23 41.1**	**0.0**
LMEL	**Las Melosas**	**3.24**	**161**	IAML		01 24 32.9	
	comp=N,421nm,0.3s						
GO03	**Copiap**	**3.35**	**19**	Pn	**Pn**	**01 23 46.8**	**+1.9**
AC06	**Mina Casimiro**	**3.54**	**16**	⇑*i*P	**Pn**	**01 23 48.9**	**+1.4**
AC06				IAML		01 24 49.1	
	comp=E,256nm,0.2s						
AC06	**Mina Casimiro**	**3.54**	**16**	Pn	**Pn**	**01 23 49.0**	**+1.4**
BO01	**Tunca**	**3.62**	**175**	Pn	**Pn**	**01 23 48.4**	**-0.1**
BO02	**Sierra Bellavi**	**4.04**	**172**	Pn	**Pn**	**01 23 54.6**	**+0.2**
GO05	**Huala**	**4.24**	**185**	Pn	**Pn**	**01 23 56.2**	**-0.8**
AC02	**Maricunga**	**4.43**	**28**	⇑*i*P	**Pn**	**01 24 02.9**	**+2.7**
AC02				*e*S	**Sn**	**01 24 52.2**	**+1.4**
AC02	**Maricunga**	**4.43**	**28**	Pn	**Pn**	**01 24 00.4**	**+0.3**
H03N1	**Juan Fernandez**	**6.85**	**245**	T	T	01 31 26.8	
	baz=61,slow=74						
H03N3	**Juan Fernandez**	**6.87**	**245**	T	T	01 31 28.3	
	baz=61,slow=74						
H03N2	**Juan Fernandez**	**6.87**	**245**	T	T	01 31 28.5	
	baz=61						
H03S3	**Juan Fernandez**	**7.00**	**242**	T	T	01 31 41.0	
	baz=53						
H03S1	**Juan Fernandez**	**7.00**	**242**	T	T	01 31 45.6	
	baz=53						
H03S2	**Juan Fernandez**	**7.01**	**242**	T	T	01 31 40.8	
	baz=53						
LVC	**Limon Verde**	**8.45**	**16**	Pn	**Pn**	**01 24 52.8**	**-2.4**
	baz=133,slow=19,SNR=0.6						
LVC				Sn	**Sn**	**01 26 32.2**	**+2.6**
	comp=E,0.9nm,0.3s,baz=290,slow=23,SNR=0.8						
PLCA	**Paso Flores**	**9.96**	**176**	Pn	**Pn**	**01 25 16.0**	**+0.4**
	comp=E,0.0nm,0.3s,baz=17,slow=11,SNR=1.6						
LPAZ	**La Paz**	**14.74**	**13**	Pn	**Pn**	**01 26 20.0**	**-1.5**
QSPA	**South Pole Qui**	**59.45**	**180**	LR	LR	02 00 23.4	
	comp=E,45nm,18.2s,baz=72,slow=38						
TORD	**Torodi Ar. Bea**	**82.66**	**70**	P	**P**	**01 35 14.6**	**-0.6**
	comp=E,0.5nm,0.7s,baz=232,slow=7.0,SNR=5.8						
TORD	**Torodi Ar. Bea**	**82.66**	**70**	IAmb	IAmb	01 35 16.7	
	comp=Z,3.0nm,1.4s						
H11S2	**WAKE ISLAND Hyd**	**26.25**	**271**	T	T	04 00 38.7	
	baz=115,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hyd**	**26.26**	**271**	T	T	04 00 42.3	
	baz=115,slow=75,SNR=16						
H11S3	**WAKE ISLAND Hyd**	**26.27**	**271**	T	T	04 00 43.6	
	baz=115,slow=75,SNR=10						
ZALV	**Zalesovo Beam**	**151.22**	**30**	PKPbc	**PKPbc**	**01 42 41.7**	**-2.3**
	comp=Z,0.5nm,0.4s,baz=322,slow=3.0,SNR=2.9						

TUL ***19*** *01:31:19.7±0.7,36.50N±0.03×99.00W±0.04,h3km±7km, ML2.7,mb_Lg2.4/25(NEIC),Error ellipse: s-maj=6.3km s-min=2.7km az=134.0*

NEIC 19 01:31:19.5±0.8,36.51N±0.02×99.04W±0.04,h5km±7km,

Error ellipse: s-maj=5.0km s-min=2.3km az=78.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.13**	**167**	Pg	Pg	01 31 22.5	+0.2
OK032	**Salt Plains WL**	**0.73**	**66**	Pg	Pg	01 31 33.1	-0.4
CROK	**Carrier**	**0.85**	**90**		Pg	01 31 35.2	-0.7
KAN14	**Manchester OK**	**0.97**	**62**	Pg	Pg	01 31 37.5	-0.7
KAN14				Sg	Sb	01 31 51.5	-0.5
KAN10	**Anthony SW Sta**	**0.97**	**51**	Pg	Pg	01 31 38.0	-0.3
KAN10				Sg	Sg	01 31 50.7	-0.2
GC02	**Grant County #**	**1.01**	**70**		Pg	01 31 38.0	-0.9
KAN16	**Harper SW Stat**	**1.06**	**47**	Pg	Pg	01 31 39.4	-0.4
KAN05	**Bluff City Nor**	**1.11**	**57**	Pg	Pg	01 31 40.7	-0.2
KAN12	**Harper NE Stat**	**1.15**	**46**	Pg	Pg	01 31 41.6	+0.1
KAN17	**Caldwell West**	**1.15**	**62**	Pg	Pg	01 31 41.3	-0.4
KAN09	**Caldwell North**	**1.30**	**61**	Pg	Pn	01 31 43.7	-0.6
KS20	**Mayfield South**	**1.39**	**58**	Pn	Pn	01 31 45.3	-0.3
BCOK	**Bluff Creek, N**	**1.44**	**126**		Pn	01 31 46.1	-0.1
OK029	**Liberty Lake**	**1.46**	**119**		Pn	01 31 46.2	-0.3
BLOK	**Blackwell**	**1.49**	**80**	Pn	Pn	01 31 47.0	+0.1
OK025	**Westminster Rd**	**1.66**	**123**		Pn	01 31 48.9	-0.4
OKCFA	**Oklahoma City**	**1.69**	**130**	Pn	Pn	01 31 49.9	+0.3
OKCSW	**OKLAHOMA CITY**	**1.70**	**130**	Pn	Pn	01 31 50.0	+0.1
WMOK	**Wichita Mounta**	**1.78**	**173**	Pn	Pn	01 31 50.8	-0.2
FNO	**Franklin**	**1.82**	**133**		Pn	01 31 52.4	+0.9
OK031	**S. Brethren Rd**	**1.86**	**107**		Pn	01 31 52.0	-0.1
QUOK	**Quay**	**1.91**	**99**		Pn	01 31 52.8	+0.1
R32A	**Long Quarter,**	**1.93**	**8**		Pn	01 31 53.5	+0.5
T35A	**Sooner Cattle**	**2.07**	**78**		Pn	01 31 55.7	+0.7
T35A				IAmb_Lg		01 32 27.0	
	comp=Z,14nm,0.8s						
X34A	**Smith Ranch, M**	**2.14**	**152**	Pn	Pn	01 31 56.6	+0.7
CBKS	**Cedar Bluff**	**2.37**	**347**	Pn	Pn	01 31 59.0	-0.1
AMTX	**Amarillo**	**2.69**	**234**	Pn	Pn	01 32 03.2	-0.3
AMTX				IAmb_Lg		01 32 49.5	
	comp=Z,17nm,0.9s						
LOOK	**Love County**	**2.93**	**148**	Pn	Pn	01 32 07.3	+0.5
KSU1	**Kansas State U**	**3.23**	**36**	Pn	Pn	01 32 11.3	+0.5
KSU1				IAmb_Lg		01 33 09.3	
	comp=Z,7.5nm,0.7s						
X37A	**Clayton**	**3.55**	**122**	Pn	Pn	01 32 14.9	-0.4
X37A				IAmb_Lg		01 33 15.6	
	comp=Z,9.5nm,0.8s						
U38A	**Gravette**	**3.75**	**90**	Pn	Pn	01 32 17.9	-0.1
ABTX	**Abilene, Hawle**	**3.91**	**188**	Pn	Pn	01 32 20.4	+0.2
ABTX				IAmb_Lg		01 33 33.1	
	comp=Z,9.2nm,1.2s						
MSTX	**Muleshoe**	**3.97**	**231**	IAmb_Lg		01 33 31.5	
	comp=Z,7.2nm,0.7s						
HHAR	**Hobbs**	**4.12**	**92**	Pn	Pn	01 32 23.3	+0.2
HHAR				IAmb_Lg		01 33 31.2	
	comp=Z,11nm,0.9s						
T25A	**Trinidad**	**4.36**	**280**	Pn	Pn	01 32 26.7	+0.2
W39A	**Magazine**	**4.46**	**106**	Pn	Pn	01 32 27.6	-0.2
WHTX	**Lake Whitney,**	**4.69**	**163**	Pn	Pn	01 32 31.2	+0.3
S39A	**Bolivar**	**4.72**	**74**	Pn	Pn	01 32 31.1	-0.2
S39A				IAmb_Lg		01 33 48.7	
	comp=Z,7.5nm,0.8s						
MIAR	**Mount Ida**	**4.87**	**112**	Pn	Pn	01 32 33.7	+0.4
U40A	**Yellville**	**4.99**	**90**	IAmb_Lg		01 34 01.2	
	comp=Z,4.7nm,0.8s						
OGNE	**Ogallala**	**5.01**	**333**	IAmb_Lg		01 34 03.0	
	comp=Z,15nm,0.8s						
P38A	**Dawn**	**5.34**	**53**	Pn	Pn	01 32 39.6	-0.3
X40A	**Basin Creek Fa**	**5.45**	**110**	Pn	Pn	01 32 40.9	-0.4
MGMO	**Mountain Grove**	**5.47**	**81**	Pn	Pn	01 32 41.2	-0.4
FCAR	**Ozark Folk Cen**	**5.62**	**94**	IAmb_Lg		01 34 18.9	
	comp=Z,4.9nm,0.8s						
JCT	**Junction City**	**6.05**	**186**	IAmb_Lg		01 34 43.4	
	comp=Z,5.7nm,0.8s						
CCM	**Cathedral Cave**	**6.40**	**74**	IAmb_Lg		01 34 47.9	
	comp=Z,7.2nm,0.8s						

MEX 19 01:49:26.7±0.7,18.45N×103.21W,h63km±7km,MD3.7, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.20**	**220**	*i* P	Pn	01 49 35.0	-1.6
MMIG				*e*S	Sn	01 49 42.0	-1.7
COIG	**Colima**	**0.86**	**328**	*e*P	Pn	01 49 41.5	-1.8
COIG				*e*S	Sn	01 49 52.9	-2.5
R15V		**1.03**	**315**	*e*P	Pn	01 49 44.1	-1.2
R15V				*i* S	Sn	01 49 56.9	-2.3
EZ5V		**1.09**	**340**	*e*P	Pn	01 49 44.9	-1.5
EZ5V				*e*S	Sn	01 49 59.7	-1.3

RSNC 19 01:50:11.5±1.0,6.82N×73.14W,h149km±3km,ML3.4, Mw3.7,3C-2D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**191**	⇑*i*P	Pn	01 50 31.6	-0.5
BARC				*e*S	Sn	01 50 47.0	-0.8
BARC				*i*		01 50 48.7	
	comp=Z,511nm,0.2s						
BRRC	**Barranca, Sant**	**0.64**	**297**	⇑*i*P	Pn	01 50 33.5	-0.1
BRRC				*e*S	Sn	01 50 50.9	+0.6
BRRC				*i*		01 50 57.2	
	comp=Z,292nm,0.2s						
PAMC	**Pamplona, Colo**	**0.68**	**40**	⇑*e*P	Pn	01 50 34.4	0.0
PAMC				*e*S	Sn	01 50 51.8	0.0
PAMC				*i*		01 50 56.2	
	comp=Z,171nm,0.4s						
RUSC	**La Rusia**	**0.92**	**176**	*e*P	Pn	01 50 35.6	-0.6
RUSC				*e*S	Sn	01 50 54.4	-0.6
RUSC				*i*		01 50 55.2	
	comp=Z,310nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.34**	**258**	*e*P	Pn	01 50 38.1	-1.3
PTBC				*e*S	Sn	01 50 59.5	-1.1
PTBC				*i*		01 51 07.2	
	comp=Z,341nm,0.4s						
TAMC	**Tame, Arauca**	**1.39**	**106**	⇓*i*P	Pn	01 50 39.7	-0.2
TAMC				*e*S	Sn	01 51 01.2	-0.4
TAMC				*i*		01 51 05.0	
	comp=Z,109nm,0.3s						
OCAC	**Ocana**	**1.43**	**353**	*e*P	Pn	01 50 39.8	-0.6
OCAC				*e*S	Sn	01 51 01.8	-0.8
OCAC				*i*		01 51 07.6	
	comp=Z,692nm,0.2s						
SPBC	**San Pablo de B**	**1.48**	**219**	*e*P	Pn	01 50 40.4	-0.6
SPBC				*e*S	Sn	01 51 02.8	-0.6
SPBC				*i*		01 51 04.8	
	comp=Z,350nm,0.1s						
ZARC	**Zaragoza, Cauc**	**1.83**	**292**	*e*P	Pn	01 50 44.0	-0.7
ZARC				*e*S	Sn	01 51 09.3	-0.8
ZARC				*i*		01 51 16.6	
	comp=Z,425nm,0.3s						
NORC	**Norcasia**	**2.12**	**234**	*e*P	Pn	01 50 47.2	-0.9
NORC				*e*S	Sn	01 51 15.8	-0.5
NORC				*i*		01 51 22.9	
	comp=Z,236nm,0.2s						
SMLC	**San Martn de**	**2.18**	**335**	*e*P	Pn	01 50 48.1	-0.6
SMLC				*e*S	Sn	01 51 17.4	0.0
SMLC				*i*		01 51 19.5	
	comp=Z,227nm,0.1s						
CHIC	**Chingaza**	**2.25**	**195**	*e*P	Pn	01 50 49.5	-0.5
CHIC				*e*S	Sn	01 51 18.9	-0.7
CHIC				*i*		01 51 24.9	
	comp=Z,149nm,0.3s						
ROSC	**El Rosal**	**2.29**	**211**	*e*P	Pn	01 50 51.0	+0.6
ROSC				*e*S	Sn	01 51 21.0	+0.6
ROSC				*i*		01 51 24.9	
	comp=Z,289nm,0.4s						
HELC	**Santa Helena**	**2.45**	**255**	*e*P	Pn	01 50 52.7	+0.3
HELC				*e*S	Sn	01 51 23.0	-0.8
HELC				*i*		01 51 29.9	
	comp=Z,100nm,0.4s						
UREC	**San Jos de Ur**	**2.55**	**292**	*e*P	Pn	01 50 51.4	-1.8
UREC				*e*S	Sn	01 51 22.8	-2.6
UREC				*i*		01 51 35.9	
	comp=Z,240nm,0.3s						
GUY2C	**Guyana, Caldas**	**2.72**	**235**	*e*P	Pn	01 50 55.7	-0.1
GUY2C				*e*S	Sn	01 51 30.5	+0.6
GUY2C				*i*		01 51 40.4	
	comp=Z,123nm,0.3s						
LL2C	**La Loma 2 Cana**	**2.74**	**354**	*e*P	Pn	01 50 55.5	-0.1
LL2C				*e*S	Sn	01 51 30.7	+1.0
LL2C				*i*		01 51 36.8	
	comp=Z,195nm,0.4s						
LL1C	**La Loma 1 Cana**	**2.74**	**351**	*e*P	Pn	01 50 56.4	+0.8
LL1C				*e*S	Sn	01 51 30.7	+1.1
LL1C				*i*		01 51 39.4	
	comp=Z,305nm,0.3s						
VILC	**Villavicencio,**	**2.74**	**192**	*e*P	Pn	01 50 54.9	-0.9
VILC				*e*S	Sn	01 51 29.8	-0.2
VILC				*i*		01 51 35.8	
	comp=Z,159nm,0.4s						
PTGC	**Puerto Gaitan,**	**2.79**	**159**	⇓*i*P	Pn	01 50 54.4	-1.8
PTGC				*e*S	Sn	01 51 27.9	-2.8
PTGC				*i*		01 51 30.3	
	comp=Z,98nm,0.2s						
CBOC	**Ciudad Bolivar**	**3.01**	**252**	*e*P	Pn	01 50 59.1	0.0
CBOC				*e*S	Sn	01 51 35.1	-0.8
CBOC				*i*		01 51 48.1	
	comp=Z,50nm,0.5s						
DBBC	**Dabeiba**	**3.05**	**274**	*e*P	Pn	01 50 59.3	-0.3
DBBC				*e*S	Sn	01 51 35.6	-1.2
ARGC	**Ariguani, Magd**	**3.21**	**340**	*e*P	Pn	01 51 01.6	0.0
ARGC				*e*S	Sn	01 51 40.2	-0.3
ARGC				*i*		01 51 51.4	
	comp=Z,31nm,0.4s						
SDV	**Santo Domingo**	**3.22**	**50**	*e*P	Pn	01 51 00.9	-1.0
SDV				*e*S	Sn	01 51 37.9	-3.0
SDV				*i*		01 51 44.0	
	comp=Z,29nm,0.5s						
ANIL	**Santa Ana**	**3.23**	**224**	*e*P	Pn	01 51 02.0	0.0
ANIL				*e*S	Sn	01 51 41.1	0.0
PRAC	**Prado**	**3.54**	**210**	*e*P	Pn	01 51 05.1	-0.8
PRAC				*e*S	Sn	01 51 47.1	-0.9
PRAC				*i*		01 51 50.9	
	comp=Z,119nm,0.3s						
ORTC	**Ortega, Tolima**	**3.57**	**216**	*e*P	Pn	01 51 05.6	-0.6
ORTC				*e*S	Sn	01 51 48.4	-0.2
ORTC				*i*		01 51 53.4	
	comp=Z,60nm,0.3s						
SJCC	**San Jacinto, C**	**3.67**	**327**	*e*P	Pn	01 51 05.3	-2.2
SJCC				*e*S	Sn	01 51 46.9	-4.0
SJCC				*i*		01 51 59.6	
	comp=Z,42nm,0.3s						
CVALL	**Valledupar, Ce**	**3.67**	**358**	*e*P	Pn	01 51 06.2	-1.3
CVALL				*e*S	Sn	01 51 47.2	-3.8
CRJC	**Cerrejon, Guaj**	**4.18**	**3**	*e*P	Pn	01 51 11.7	-2.6
CRJC				*e*S	Sn	01 52 00.2	-3.0
CRJC				*i*		01 52 05.4	
	comp=Z,49nm,0.2s						
GUVC	**San Jose del G**	**4.27**	**173**	*e*P	Pn	01 51 14.1	-1.3
GUVC				*e*S	Sn	01 52 02.2	-2.9
GUVC				*i*		01 52 08.5	
	comp=Z,94nm,0.2s						
SMRC	**Santa Marta, M**	**4.45**	**346**	*e*P	Pn	01 51 16.7	-1.0
SMRC				*e*S	Sn	01 52 04.8	-4.4
CAPC	**Capurgana**	**4.55**	**294**	*e*P	Pn	01 51 15.8	-3.2
CAPC				*e*S	Sn	01 52 04.6	-6.9
CAPC				*i*		01 52 13.8	
	comp=Z,22nm,0.3s						
MACC	**Macarena, Meta**	**4.69**	**189**	*e*P	Pn	01 51 18.3	-2.6
MACC				*e*S	Sn	01 52 09.8	-5.3
MACC				*i*		01 52 18.7	
	comp=Z,20nm,0.2s						
MARP	**Paez Belalcaza**	**4.84**	**216**	*e*P	Pn	01 51 21.1	-2.0
MARP				*e*S	Sn	01 52 15.8	-3.1
POPC	**Popayan, Colom**	**5.52**	**220**	*e*P	Pn	01 51 31.9	-0.2
POPC				*e*S	Sn	01 52 30.9	-4.1

MEX 19 01:50:57.1±0.8,15.01N×95.41W,h35km±30km,MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEIG	**Puerto Escondi**	**1.95**	**301**	*i* P	Pn	01 51 26.2	-1.5
PEIG				*i* S	Sn	01 51 46.6	-4.4
CMIG	**Matias Romero**	**2.13**	**14**	*e*P	Pn	01 51 28.6	-1.7
CMIG				*e*S	Sn	01 51 53.4	-2.2
PCIG		**2.22**	**71**	*i* P	Pn	01 51 30.2	-1.3
PCIG				*e*S	Sn	01 51 55.1	-2.7
VHO	**Vista Hermosa**	**2.42**	**328**	*i* P	Pn	01 51 33.1	-1.3
VHO				*i* S	Sn	01 52 00.2	-2.7
TGIG		**2.82**	**51**	*e*P	Pn	01 51 38.6	-1.1
TGIG				*e*S	Sn	01 52 10.4	-2.2
PNIG	**Pinotepa**	**2.96**	**298**	*i* P	Pn	01 51 41.2	-0.4
PNIG				*i* S	Sn	01 52 10.8	-5.3
TXIG	**Tlaxiaco**	**3.19**	**315**	*i* P	Pn	01 51 45.8	+0.8
TXIG				*i* S	Sn	01 52 19.8	-2.1
HLIG	**Huajuapan de L**	**3.63**	**321**	*e*P	Pn	01 51 50.1	-1.0
H

PB06	**IPOC Station P**	**2.62**	**188**			**Pn**	**01 56 32.0 +1.0**
AF01	**San Pedro de A**	**2.98**	**162**			**Pn**	**01 56 37.4 +1.5**
PB15	**IPOC Station P**	**3.10**	**185**			**Pn**	**01 56 38.9 +1.3**
LPAZ	**La Paz**	**3.92**	**15**	P		**Pn**	**01 56 52.3 +3.4**
	comp=N,5.7nm,0.3s,baz=204,slow=6.4,SNR=116						
LPAZ				S		**Sn**	**01 57 36.5 +2.4**
	comp=N,0.6nm,0.3s,baz=183,slow=9.3,SNR=4.1						
LPAZ				LR		LR	01 58 29.1
	comp=N,27nm,19.6s,baz=310,slow=40						
LPAZ	**La Paz**	**3.92**	**15**			**Pn**	**01 56 51.4 +2.5**
PB14	**IPOC Station P**	**4.65**	**194**	Pn		**Pn**	**01 56 59.6 +1.1**
GO03	**Copiap**	**7.52**	**187**	Pn		**Pn**	**01 57 37.2 -0.1**
SIV	**San Ignacio**	**8.71**	**63**	P		**Pn**	**01 57 52.3 -1.1**
	comp=N,2.6nm,0.3s,baz=260,slow=8.4,SNR=6.6						
CO05	**La Serena**	**9.95**	**191**	Pn		**Pn**	**01 58 10.7 +0.4**
CO03	**El Pedregal**	**10.78**	**187**	Pn		**Pn**	**01 58 22.3 +0.6**
CPUP	**Villa Florida**	**12.51**	**122**	P		**Pn**	**01 58 43.4 -1.5**
	comp=N,0.8nm,0.3s,baz=309,slow=12,SNR=6.6						
VA03	**San Esteban**	**12.67**	**185**	Pn		**Pn**	**01 58 45.1 -1.9**
BDFB	**Brasilia**	**20.60**	**81**	P		**P**	**02 00 21.0 -1.0**
	comp=N,1.3nm,0.4s,baz=263,slow=12,SNR=3.5						
PLCA	**Paso Flores**	**20.60**	**183**	P		**P**	**02 00 23.8 +2.0**
	comp=N,1.2nm,0.5s,baz=354,slow=11,SNR=5.6						
PLCA	**Paso Flores**	**20.60**	**183**	P		**P**	**02 00 22.2 +0.5**
RUSC	**La Rusia**	**26.12**	**351**	P		**P**	**02 01 15.8 -0.3**
RUSC				IAmb		IAmb	02 01 17.1
	comp=Z,5.8nm,0.5s						
TXAR	**Lajitas Array**	**59.36**	**325**	P		**P**	**02 05 43.0 +0.3**
	comp=Z,0.2nm,0.5s,baz=151,slow=7.3,SNR=1.9						
DBIC	**Dimbokro**	**68.56**	**74**	P		**P**	**02 06 41.8 -1.5**
	comp=Z,5.7nm,1.1s,baz=180,slow=8.1,SNR=2.3						
DBIC	**Dimbokro**	**68.56**	**74**	IAmb		IAmb	02 06 44.2
	comp=Z,18nm,1.4s						
PDAR	**Pinedale Array**	**72.79**	**330**	P		**P**	**02 07 11.3 +2.7**
	comp=Z,0.1nm,0.3s,baz=158,slow=7.3,SNR=2.3						
NVAR	**Mina Array Bea**	**74.26**	**322**	P		**P**	**02 07 18.1 +0.9**
	comp=Z,0.5nm,0.8s,baz=160,slow=7.7,SNR=4.6						
TORD	**Torodi Ar. Bea**	**77.11**	**71**	P		**P**	**02 07 32.5 -1.3**
	comp=Z,0.5nm,0.4s,baz=256,slow=5.0,SNR=19						
TORD				pP		**pP**	**02 08 00.1 +0.2**
	comp=Z,0.3nm,0.4s,baz=247,slow=5.7,SNR=2.0						
TORD	**Torodi Ar. Bea**	**77.11**	**71**	IAmb		IAmb	02 07 52.2
	comp=Z,2.7nm,1.4s						
ESDC	**Sonseca Array**	**85.00**	**45**	P		**P**	**02 08 13.8 -1.4**
	comp=Z,0.5nm,0.9s,baz=316,slow=5.4,SNR=2.7						
ESDC	**Sonseca Array**	**85.00**	**45**	IAmb		IAmb	02 08 25.7
	comp=Z,2.3nm,1.4s						
H11S2	**WAKE ISLAND Hyl**	**27.47**	**278**	T		T	04 34 36.4
	baz=102,slow=74,SNR=48						
H11S1	**WAKE ISLAND Hyl**	**27.47**	**278**	T		T	04 34 37.0
	baz=102,slow=74,SNR=31						
H11S3	**WAKE ISLAND Hyl**	**27.48**	**278**	T		T	04 34 25.1
	baz=102,slow=74,SNR=24						
MKAR	**Makanchi Array**	**144.63**	**35**	PKP		**PKPab**	**02 15 14.8 +0.2**
	comp=Z,0.4nm,0.4s,baz=338,slow=2.5,SNR=7.5						
SONM	**Songino Array**	**152.10**	**6**	PKPbc		**PKPbc**	**02 15 34.4 -0.3**
	comp=Z,0.5nm,0.4s,baz=270,slow=0.3,SNR=3.0						

***MAN* 19 01:58:03.4, 7.74N×124.72E, *h*31km, *mb*4.4, *ML*3.2, *MS*3.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**0.36**	**67**	*e*P	Pn	01 58 13.1	+0.5
BUKP				*i* S	Sn	01 58 20.7	+2.0

THR ***19*** *02:04:00.3±0.4, 30.75N×50.38E, h14km±8km, ML3.1*
TEH ***19*** *02:04:01.0, 30.77N×50.34E, h15km, ML3.1*
KISR ***19*** *02:04:05.7±0.7, 30.59N×49.81E, h125km±63km, ML3.4*
DSN ***19*** *02:04:07.0±1.4, 30.15N×50.60E, h10km, ML3.5/7, Error ellipse: s-maj=46.8km s-min=10.0km az=31.0*
ISC 19 02:04:01.3±1.0, 30.67N±0.05×50.36E±0.04, h22km±6km, n51, σ1$18/54, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABEH	**Behbahan**	**0.12**	**235**	*e*Pg	**Pb**	**02 04 05.4**	**-0.8**
ABEH				*e*Sg	**Sb**	**02 04 08.7**	**-0.8**
AMIS	**Naft Sefid**	**1.36**	**317**	*e*Pg	**Pn**	**02 04 24.1**	**-0.9**
AMIS				*e*		02 05 01.7	
	comp=Z,5μm,0.6s						
KAZ1	**Kazerun**	**1.52**	**133**	*e*Pn	**Pb**	**02 04 30.4**	**+1.6**
KAZ1				*e*		02 04 56.8	
	comp=Z,8μm,0.2s						
AHWZ	**Ahwaz**	**1.62**	**295**	*e*Pg	**Pb**	**02 04 31.1**	**+0.6**
SHK1	**Shahrekord**	**1.71**	**15**	*e*Pn	**Pn**	**02 04 30.6**	**+0.5**
AHBU	**AHRAM**	**1.97**	**155**	*e*Pn	**Pb**	**02 04 36.4**	**-0.1**
IPIR	**Pirpir**	**2.06**	**12**	*e*Pn	**Pn**	**02 04 36.1**	**+1.2**
IPIR				*e*		02 05 06.2	
	comp=Z,1μm,0.4s						
IRAM	**Ramesheh**	**2.07**	**56**	*e*Pn	**Pb**	**02 04 37.5**	**-0.8**
IRAM				*e*		02 05 10.6	
	comp=Z,1μm,0.6s						
IGAR	**Gharneh**	**2.25**	**39**	*e*Pn	**Pn**	**02 04 38.5**	**+1.1**
IGAR				*e*		02 04 45.6	
	comp=Z,771nm,0.3s						
UMR	**Umm Al-Rimmam**	**2.55**	**245**	*e*P	**Pn**	**02 04 43.1**	**+1.8**
KBD	**Kabd**	**2.75**	**238**	*e*P	**Pn**	**02 04 45.7**	**+1.5**
KBD				*e*S	**Sn**	**02 05 15.4**	**-1.3**
KBD				IAML		02 05 20.9	
	comp=Z,162nm,0.3s						
MIB	**Mutribah**	**2.75**	**253**	*e*P	**Pn**	**02 04 44.9**	**+0.7**
IZEF	**Zefreh**	**2.78**	**36**	*e*Pn	**Pn**	**02 04 46.3**	**+1.5**
IKLH	**Kolahrood**	**2.84**	**21**	*e*Pn	**Pn**	**02 04 47.2**	**+1.6**
IKLH				*e*		02 04 54.7	
	comp=Z,513nm,0.3s						
QRN	**Al-Qurain**	**2.86**	**229**	*e*P	**Pn**	**02 04 47.3**	**+1.7**
NASN	**Na'in**	**2.98**	**44**	*e*Pn	**Pn**	**02 04 48.4**	**+0.9**
NASN				IAML		02 05 29.0	
	comp=E,76nm,0.2s						
NASN				IAML		02 05 36.5	
	comp=N,36nm,0.4s						
NASN	**Na'in**	**2.98**	**44**	*e*Pn	**Pn**	**02 04 48.4**	**+0.9**
KHMZ	**Khomeyn**	**3.08**	**354**	*e*Pn	**Pn**	**02 04 49.5**	**+0.6**
KHMZ	**Khomeyn**	**3.08**	**354**	*e*Pn	**Pn**	**02 04 49.5**	**+0.6**
ISAD	**Sadrabad**	**3.10**	**66**	*e*Pn	**Pn**	**02 04 51.9**	**+2.7**
RST	**Umm Al-Ruwaisa**	**3.14**	**249**	*e*P	**Pn**	**02 04 50.4**	**+0.9**
QAMS	**Qamsar**	**3.18**	**16**	*e*Pn	**Pn**	**02 04 52.2**	**+1.9**
QAMS				*e*		02 04 58.8	
	comp=Z,595nm,0.4s						
BMDN	**Meydan**	**3.27**	**337**	*e*Pn	**Pn**	**02 04 50.5**	**-0.9**
BMDN				*e*		02 05 49.7	
	comp=Z,413nm,0.5s						
KRSH	**Karshahi**	**3.62**	**24**	*e*Pn	**Pn**	**02 04 57.5**	**+1.3**
IDOB	**Doab**	**3.62**	**330**	*e*Pn	**Pn**	**02 04 55.4**	**-0.9**
IMEH	**Mehriz**	**3.72**	**78**	*e*Pn	**Pn**	**02 04 59.7**	**+2.1**
ICHK	**Chekchek**	**3.80**	**64**	*e*Pn	**Pn**	**02 05 00.4**	**+1.7**
ICHK				*e*		02 05 48.1	
	comp=Z,297nm,0.2s						
HSAM	**Samen**	**3.83**	**338**	*e*Pn	**Pn**	**02 04 58.4**	**-0.9**
ASAO	**Ashtian**	**3.88**	**356**	*e*Pn	**Pn**	**02 05 00.7**	**+0.8**
ASAO	**Ashtian**	**3.88**	**356**	*e*Pn	**Pn**	**02 05 00.7**	**+0.8**
GHVR	**GHOM**	**3.88**	**11**	*e*Pn	**Pn**	**02 05 00.5**	**+0.7**
GHVR				IAML		02 06 10.7	
	comp=N,50nm,0.6s						
GHVR				IAML		02 06 14.7	
	comp=E,57nm,0.5s						
GHVR	**GHOM**	**3.88**	**11**	*e*Pn	**Pn**	**02 05 00.5**	**+0.7**
YZKH	**Yazd**	**4.00**	**63**	*e*Pn	**Pn**	**02 05 02.9**	**+1.5**
YZKH	**Yazd**	**4.00**	**63**	*e*Pn	**Pn**	**02 05 02.9**	**+1.5**
ISFB	**Sefidab**	**4.00**	**23**	*e*Pn	**Pn**	**02 05 02.1**	**+0.7**
IQOM	**Qom**	**4.21**	**8**	*e*Pn	**Pn**	**02 05 04.4**	**0.0**
HAGD	**Aghdareh**	**4.27**	**346**	*e*Pn	**Pn**	**02 05 05.3**	**+0.1**
HAGD				*e*		02 06 19.6	
	comp=Z,171nm,0.6s						
IVRN	**Varamin**	**4.47**	**15**	*e*Pn	**Pn**	**02 05 08.5**	**+0.7**
IRAZ	**Razeghan**	**4.74**	**356**	*e*Pn	**Pn**	**02 05 11.6**	**0.0**
QABG	**Abgarm-Qazvin**	**5.07**	**353**	*e*Pn	**Pn**	**02 05 15.7**	**-0.5**
IDMV	**Damavand**	**5.09**	**16**	*e*Pn	**Pn**	**02 05 17.0**	**+0.4**
IFIR	**Firoozkooh**	**5.35**	**21**	*e*Pn	**Pn**	**02 05 20.6**	**+0.5**
QALM	**Alamut, Qazvin**	**5.75**	**2**	*e*Pn	**Pn**	**02 05 26.1**	**+0.5**
SHME	**Shamm**	**6.86**	**131**	P	**Pn**	**02 05 41.4**	**+0.8**
BANOM	**Banah**	**7.05**	**131**	P	**Pn**	**02 05 43.8**	**+0.6**
BANOM				S	**Sn**	**02 06 59.7**	**-3.0**
NAZ	**Nazwa, Dubai**	**7.35**	**139**	P	**Pn**	**02 05 48.1**	**+0.9**
MSFE	**Esma-Masafi**	**7.36**	**135**	P	**Pn**	**02 05 47.5**	**-0.1**
MDH	**Madha**	**7.49**	**134**	P	**Pn**	**02 05 49.0**	**-0.2**
UOSS	**Minazif**	**7.70**	**136**	P	**Pn**	**02 05 51.8**	**-0.3**
HATD	**Hatta, Dubai**	**7.74**	**137**	P	**Pn**	**02 05 53.2**	**+0.5**
SOHO	**SOHO**	**8.51**	**138**	P	**Pn**	**02 06 02.7**	**-0.5**

GUC ***19*** *02:06:30.1±0.7, 30.22S×72.69W, h46km±5km, ML3.6*
IDC ***19*** *02:06:30.6±1.6, 30.35S×71.89W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/21, mbtmp3.5/3, ML4.0/1, Error ellipse: s-maj=71.6km s-min=39.0km az=73.0*
ISC 19 02:06:29.5±3.8, 30.24S±0.05×72.69W±0.09, h15km±23km, n20, σ1$00/26, 7C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**1.00**	**116**	⇑*e*P	**Pb**	**02 06 48.2**	**-0.4**
CO06				*e*S	**Sb**	**02 07 01.9**	**+0.2**
CO06				IAML		02 07 04.3	
	comp=E,1μm,0.2s						
CO05	**La Serena**	**1.29**	**76**	⇑*e*P	**Pn**	**02 06 52.8**	**-0.2**
CO05				*e*S	**Sb**	**02 07 09.4**	**-0.5**
CO05				IAML		02 07 12.6	
	comp=E,2μm,0.3s						
GO04	**Tololo Observa**	**1.63**	**88**	⇑*e*P	**Pn**	**02 06 58.2**	**+0.2**
GO04				*e*S	**Sn**	**02 07 19.1**	**+0.3**
GO04				IAML		02 07 24.4	
	comp=E,3μm,0.4s						
CO03	**El Pedregal**	**1.82**	**110**	⇑*e*P	**Pn**	**02 07 00.8**	**+0.4**
CO03				*e*S	**Sn**	**02 07 23.5**	**+0.1**
CO03				IAML		02 07 25.0	
	comp=N,999nm,0.2s						
LCO	**Las Campanas**	**2.12**	**55**	*e*P	**Pn**	**02 07 04.5**	**-0.1**
LCO				*e*S	**Sn**	**02 07 30.1**	**-0.8**
AC04	**Llanos de Chal**	**2.47**	**35**	⇑*e*P	**Pn**	**02 07 08.9**	**-0.4**
AC04				*e*S	**Sn**	**02 07 37.3**	**-1.9**
VA06	**Catapilco**	**2.60**	**153**	⇑*e*P	**Pn**	**02 07 11.0**	**0.0**
VA06				*e*S	**Sn**	**02 07 40.4**	**-2.0**
VA01	**Torpederas**	**2.91**	**163**	*e*P	**Pn**	**02 07 15.1**	**-0.3**
VA01				IAML		02 07 47.6	
	comp=N,140nm,0.1s						
ROCH	**El Roble**	**3.08**	**153**	*e*P	**Pn**	**02 07 17.9**	**+0.2**
ROCH				*e*S	**Sn**	**02 07 52.1**	**-2.4**
ROCH				IAML		02 08 07.7	
	comp=N,93nm,0.5s						
VA03	**San Esteban**	**3.11**	**145**	⇓*i*P	**Pn**	**02 07 19.5**	**+1.4**
VA03				*i* S	**Sn**	**02 07 54.4**	**-0.7**
VA03				IAML		02 07 58.2	
	comp=E,188nm,0.3s						
MT05	**Renca**	**3.55**	**153**	*e*P	**Pn**	**02 07 23.7**	**-0.5**
MT05				IAML		02 08 18.4	
	comp=E,96nm,0.3s						
MT09	**Talagante**	**3.81**	**158**	⇑*i*P	**Pn**	**02 07 28.9**	**+1.1**
MT09				*e*S	**Sn**	**02 08 11.5**	**-0.9**
MT09				IAML		02 08 13.8	
	comp=N,87nm,0.6s						
MT01	**Popeta**	**3.81**	**162**	*e*P	**Pn**	**02 07 27.9**	**+0.2**
MT01				IAML		02 08 14.4	
	comp=E,54nm,0.3s						
H03N1	**Juan Fernandez**	**6.19**	**237**	T	T	02 16 03.3	
	baz=50,slow=77						
H03N2	**Juan Fernandez**	**6.20**	**237**	T	T	02 16 09.3	
	baz=50,slow=77						
H03N3	**Juan Fernandez**	**6.20**	**237**	T	T	02 15 37.3	
	baz=50,slow=77						
PLCA	**Paso Flores**	**10.61**	**171**	Pn	**Pn**	**02 09 01.6**	**+0.5**
	comp=E,0.2nm,0.3s,baz=350,slow=11,SNR=9.1						
TXAR	**Lajitas Array**	**66.20**	**331**	P	P	02 17 23.4	+6.6
	comp=E,0.2nm,0.6s,baz=172,slow=16,SNR=2.3						
TORD	**Torodi Ar. Bea**	**83.47**	**71**	P	**P**	**02 18 57.9**	**+0.9**
	comp=E,0.6nm,0.9s,baz=237,slow=6.5,SNR=2.7						
ZALV	**Zalesovo Beam**	**151.26**	**28**	PKPbc	**PKiKP**	**02 26 23.7**	**+1.2**
	comp=E,1.2nm,0.3s,baz=328,slow=5.1,SNR=1.5						

NEIC ***19*** *02:16:17.7±0.7, 25.23S±0.1×179.5E±0.2, h522km±10km, mb4.1/19, Error ellipse: s-maj=20.8km s-min=19.0km az=65.0*
IDC ***19*** *02:16:17.3±1.1, 25.10S×179.50E, h518km±14km, mb3.2/5, mb1 3.5/8, mb1mx3.2/21, mbtmp4.2/8, Error ellipse: s-maj=23.8km s-min=15.3km az=170.0*
ISC 19 02:16:16.5±0.6, 25.23S±0.08×179.50E±0.08, h507km, n34, σ1$38/35, mb4.0/16, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.62**	**151**	P	**P**	**02 17 43.1**	**+2.7**
	56nm,0.3s,baz=102,slow=9.4,SNR=7.8						
RAO				S	**S**	**02 18 52.9**	**+3.9**
	33nm,0.3s,baz=275,slow=23,SNR=1.8						
RAO	**Raoul Island**	**4.62**	**151**	P	**P**	**02 17 41.8**	**+1.3**
MSVF	**Nonsavu**	**7.58**	**349**	P	**P**	**02 18 08.5**	**-0.5**
	5.4nm,0.3s,baz=166,slow=12,SNR=20						
DZM	**Mont Dzumac**	**12.37**	**282**	P	**P**	**02 19 00.8**	**+1.7**
	0.4nm,0.3s,baz=96,slow=18,SNR=6.7						
DZM				S	**S**	**02 21 14.6**	**+1.5**
	0.1nm,0.3s,baz=211,slow=15,SNR=1.6						
DZM	**Mont Dzumac**	**12.37**	**282**	P	**P**	**02 18 59.8**	**+0.6**
URZ	**Urewera**	**13.15**	**188**	P	**P**	**02 19 05.3**	**-1.7**
	1.5nm,0.3s,baz=329,slow=19,SNR=13						
URZ				S	**S**	**02 21 23.7**	**-3.8**
	0.6nm,0.3s,baz=304,slow=22,SNR=3.5						
URZ	**Urewera**	**13.15**	**188**	P	**P**	**02 19 05.8**	**-1.2**
LTZ	**Lake Taylor**	**18.49**	**197**	P	**P**	**02 19 59.6**	**-1.3**
CTAO	**Charters Tower**	**31.05**	**273**	P	**P**	**02 21 52.6**	**-0.1**
STKA	**Stephens Creek**	**33.82**	**250**	P	**P**	**02 22 16.9**	**+0.8**
	0.5nm,0.3s,baz=87,slow=17,SNR=1.8						
COEN	**Coen**	**35.90**	**281**	P	**P**	**02 22 34.1**	**+0.4**
AS31	**Alice Springs**	**41.38**	**262**	P	**P**	**02 23 16.5**	**-1.7**
ASAR	**Alice Springs**	**41.38**	**262**	P	**P**	**02 23 18.2**	**0.0**
	2.4nm,1.0s,baz=104,slow=8.2,SNR=13						
ASAR				S	**S**	**02 28 56.8**	**+0.6**
	0.4nm,0.6s,baz=93,slow=16,SNR=5.0						
WR0	**Warramunga Arr**	**41.69**	**268**	P	**P**	**02 23 20.1**	**-0.6**
WR0				IAmb	IAmb	02 23 21.0	
	comp=Z,10nm,1.5s						
WB0	**Warramunga Arr**	**41.88**	**268**	P	**P**	**02 23 20.9**	**-1.2**
WB0				IAmb	IAmb	02 23 22.9	
	comp=Z,2.9nm,0.7s						
WRA	**Warramunga Arr**	**41.88**	**268**	P	**P**	**02 23 21.5**	**-0.7**
	comp=Z,1.9nm,0.5s,baz=99,slow=7.7,SNR=40						
WRA	**Warramunga Arr**	**41.88**	**268**	IAmb	IAmb	02 23 22.2	
	comp=Z,0.6nm,1.4s						
KNRA	**Kununurra**	**48.24**	**271**	P	**P**	**02 24 10.2**	**-0.8**
KNRA				IAmb	IAmb	02 24 11.3	
	comp=Z,6.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**50.28**	**267**	P	**P**	**02 24 26.1**	**0.0**
FITZ				IAmb	IAmb	02 24 41.5	
	comp=Z,6.7nm,1.4s						
QSPA	**South Pole Qui**	**64.86**	**180**	P	**P**	**02 26 05.2**	**+0.2**
ISA	**Isabella, Lake**	**84.27**	**46**	P	**P**	**02 27 54.0**	**-0.6**
ISA				IAmb	IAmb	02 27 55.3	
	comp=Z,3.4nm,0.9s						
NVAR	**Mina Array Bea**	**86.02**	**44**	P	**P**	**02 28 03.1**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=221,slow=8.9,SNR=8.3						
TPNV	**Topopah Spring**	**86.47**	**46**	P	**P**	**02 28 05.2**	**-0.2**
TPNV				IAmb	IAmb	02 28 07.0	
	comp=Z,4.4nm,1.1s						
PINE	**Pine Mountain**	**87.71**	**39**	P	**P**	**02 28 11.1**	**0.0**
PINE				IAmb	IAmb	02 28 12.1	
	comp=Z,6.9nm,1.1s						
WVOR	**Wild Horse Val**	**88.21**	**41**	P	**P**	**02 28 13.1**	**-0.2**
WVOR				IAmb	IAmb	02 28 13.9	
	comp=Z,5.4nm,1.2s						
319A	**Douglas**	**88.30**	**54**	P	**P**	**02 28 14.1**	**+0.1**
319A				IAmb	IAmb	02 28 15.5	
	comp=Z,3.4nm,0.8s						
X16A	**Lo Mia Camp, P**	**88.33**	**51**	P	**P**	**02 28 13.7**	**-0.5**
I07A	**Izee**	**88.70**	**39**	P	**P**	**02 28 15.4**	**-0.2**
I07A				IAmb	IAmb	02 28 16.4	
	comp=Z,2.4nm,0.8s						
SEW	**Seward**	**88.75**	**15**	P	**P**	**02 28 13.6**	**-1.6**
J08A	**Circle Bar Ran**	**88.86**	**40**	P	**P**	**02 28 16.1**	**-0.2**
J08A				IAmb	IAmb	02 28 16.9	
	comp=Z,6.5nm,1.2s						
TXAR	**Lajitas Array**	**91.52**	**58**	P	**P**	**02 28 28.8**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=206,slow=8.3,SNR=7.2						
TXAR	**Lajitas Array**	**91.52**	**58**	P	**P**	**02 28 28.4**	**-0.6**
NB2	**NORSAR Subarra**	**143.31**	**350**	PKP	PKPab	02 34 48.6	-1.6
	comp=Z,1.4nm,0.8s,baz=30,slow=2.9						
NOA	**NORSAR Array B**	**143.31**	**350**	PKP	PKPab	02 34 49.1	-1.2
	comp=Z,0.7nm,0.7s,baz=23,slow=5.7,SNR=3.5						

SOME ***19*** *02:37:22.5, 42.35N×83.70E, h10km*
NNC ***19*** *02:37:24.6±1.0, 42.41N×83.60E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=8.0km s-min=4.3km az=154.0*
ISC 19 02:37:25.0±2.4, 42.4N±0.1×83.51E±0.08, h10km, n24, σ2$40/35, 3C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**2.53**	**295**	*e*P	**Pb**	**02 38 12.1**	**+1.4**
KTMS				*e*S	**Sg**	**02 38 48.0**	**+1.6**
	26nm,0.4s						
KTMS	**Ketmen**	**2.53**	**295**	Pg	**Pb**	**02 38 12.1**	**+1.4**
KTMS				Lg	Lg	02 38 48.0	
	26nm,0.4s						
SHLS	**Shalkode**	**3.07**	**285**	*e*P	**Pb**	**02 38 16.7**	**-3.1**
	16nm,0.3s						
SHLS				*e*S	**Sb**	**02 38 55.8**	**-1.6**
	40nm,0.7s						
SHLS	**Shalkode**	**3.07**	**285**	Pg	**Pb**	**02 38 16.7**	**-3.1**
	16nm,0.3s						
SHLS				Lg	Lg	02 38 55.8	
	40nm,0.7s						
PDGK	**Podgornoye**	**3.09**	**288**	Pg	**Pb**	**02 38 22.2**	**+2.0**
	2.3nm,0.5s						
PDGK				Lg	Lg	02 39 05.2	
	5.0nm,0.5s						
PDGK	**Podgornoye**	**3.09**	**288**	⇓Pg	**Pb**	**02 38 22.0**	**+1.9**
	4.0nm,0.7s						
PDGK				⇑Lg	Lg	02 39 05.1	
	10nm,0.7s						
DJR	**Jarkent**	**3.31**	**306**	*e*P	**Pb**	**02 38 26.0**	**+2.1**
	3.9nm,0.4s						
DJR				*e*S	**Sg**	**02 39 11.7**	**+0.3**
	4.4nm,0.3s						
DJR	**Jarkent**	**3.31**	**306**	Pg	**Pb**	**02 38 26.0**	**+2.1**
	3.9nm,0.4s						
DJR				Lg	Lg	02 39 11.7	
	4.4nm,0.3s						
UZB	**Uzynbulak**	**3.38**	**284**	*e*P	**Pb**	**02 38 27.0**	**+1.8**
	2.5nm,0.3s						
UZB				*e*S	**Sg**	**02 39 13.5**	**-0.2**
	11nm,0.4s						
UZB	**Uzynbulak**	**3.38**	**284**	Pg	**Pb**	**02 38 27.0**	**+1.8**
	2.5nm,0.3s						
UZB				Lg	Lg	02 39 13.5	
	11nm,0.4s						
SATY	**Saty**	**3.81**	**281**	*e*P	**Pb**	**02 38 35.4**	**+2.9**
	3.5nm,0.4s						
SATY				*e*S	**Sg**	**02 39 27.9**	**+0.5**
	7.3nm,0.7s						
SATY	**Saty**	**3.81**	**281**	Pg	**Pb**	**02 38 35.4**	**+2.9**
	3.5nm,0.4s						
SATY				Lg	Lg	02 39 27.9	
	7.3nm,0.7s						
KURS	**Kuram**	**4.06**	**287**	*e*P	**Pb**	**02 38 39.7**	**+3.1**
	5.8nm,0.4s						
KURS				*e*S	**Sg**	**02 39 35.4**	**0.0**
	8.6nm,1.0s						
KURS	**Kuram**	**4.06**	**287**	Pg	**Pb**	**02 38 39.7**	**+3.1**
	5.8nm,0.4s						
KURS				Lg	Lg	02 39 35.4	
	8.6nm,1.0s						
KAPS	**Kapalarasan**	**4.14**	**315**	*e*P	**Pg**	**02 38 41.6**	**-2.8**
	5.5nm,0.8s						
KAPS				*e*S	**Sg**	**02 39 38.6**	**+0.6**
	5.1nm,0.5s						
KAPS	**Kapalarasan**	**4.14**	**315**	Pg	**Pg**	**02 38 41.6**	**-2.8**
	5.5nm,0.8s						
KAPS				Lg	Lg	02 39 38.6	
	5.1nm,0.5s						
MK31	**Makanchi Array**	**4.45**	**349**	⇓Pn	**Pn**	**02 38 35.0**	**+2.4**
	0.1nm,0.3s,baz=187,slow=23,SNR=4.0						
MK31				⇑Pg	**Pb**	**02 38 45.1**	**+1.8**
	1.1nm,0.6s,baz=159,slow=16,SNR=9.6						
MK31				Lg	Lg	02 39 48.0	
	6.8nm,0.8s,baz=162,slow=27,SNR=6.7						
MAKZ	**Makanchi**	**4.51**	**346**	⇑Pg	**Pb**	**02 38 46.1**	**+1.7**
	1.7nm,0.8s						
MAKZ				⇓Lg	Lg	02 39 50.3	
	5.2nm,0.8s						
MDOK	**Medeo**	**4.81**	**281**	*e*P	**Pg**	**02 38 53.6**	**-3.6**
	4.1nm,0.1s						
MDOK				*e*S	**Sg**	**02 39 59.3**	**-0.2**
	5.0nm,0.5s						
MDOK	**Medeo**	**4.81**	**281**	Pg	**Pg**	**02 38 53.6**	**-3.6**
	4.1nm,0.1s						
MDOK				Lg	Lg	02 39 59.3	
	5.0nm,0.5s						
ZSN	**Zaisan**	**5.11**	**10**	*e*P	**Pb**	**02 38 56.9**	**+2.3**
	4.9nm,0.2s						
ZSN				*e*S	**Sg**	**02 40 04.9**	**-4.2**
	7.9nm,0.4s						
ZSN	**Zaisan**	**

h26^{km}:pP-P,n389,σ1§64/405,mb5.0/36,MS4.3/17,4D,
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
CO06	**Fray Jorge**	**0.80**	**11**	*eP*	**Pn**	**02 49 56.5**	**+0.1**
CO06				*eS*	**Sn**	**02 50 08.7**	**+1.2**
CO06	**Fray Jorge**	**0.80**	**11**		**Pn**	**02 49 56.7**	**+0.3**
CO06					**Sn**	**02 50 08.7**	**+1.2**
CO03	**El Pedregal**	**1.15**	**58**	*i*P	**Pb**	**02 50 01.0**	**-1.0**
CO03	**El Pedregal**	**1.15**	**58**		**Pb**	**02 50 01.0**	**-1.0**
CO03	**El Pedregal**	**1.15**	**58**	*eP*	**Pb**	**02 50 03.4**	**+1.4**
CO03				*eS*	**Sb**	**02 50 18.0**	**+1.5**
CO03				IAML		02 50 21.1	
	comp=Z,14μm,0.7s						
VA06	**Catapilco**	**1.18**	**158**	*eP*	**Pn**	**02 50 00.4**	**-1.3**
VA06				*eS*	**Sn**	**02 50 14.6**	**-2.3**
VA06				IAML		02 50 16.9	
	comp=N,265μm,0.3s						
GO04	**Tololo Observa**	**1.55**	**34**	*eP*	**Pb**	**02 50 08.1**	**-1.0**
GO04	**Tololo Observa**	**1.55**	**34**		**Pb**	**02 50 08.0**	**-1.0**
GO04	**Tololo Observa**	**1.55**	**34**	*eP*	**Pb**	**02 50 08.0**	**-1.0**
GO04				*eP*	**Pn**	**02 50 08.7**	**+1.7**
GO04				*eS*	**Sb**	**02 50 30.2**	**+1.9**
VA01	**Torpederas**	**1.56**	**175**	*eP*	**Pn**	**02 50 05.9**	**-0.9**
VA01				*eS*	**Sn**	**02 50 23.8**	**-2.5**
VA01	**Torpederas**	**1.56**	**175**		**Pn**	**02 50 05.9**	**-0.9**
VA01	**Torpederas**	**1.56**	**175**	*eP*	**Pn**	**02 50 06.0**	**-0.9**
CO05	**La Serena**	**1.62**	**18**	*eP*	**Pb**	**02 50 09.0**	**-0.9**
CO05				IAML		02 50 41.0	
	comp=E,40μm,0.6s						
CO05	**La Serena**	**1.62**	**18**		**Pn**	**02 50 08.5**	**+0.9**
ROCH	**El Roble**	**1.65**	**156**	*eP*	**Pn**	**02 50 07.7**	**-0.7**
ROCH				*eS*	**Sn**	**02 50 27.6**	**-1.3**
ROCH				IAML		02 50 35.4	
	comp=N,31μm,0.4s						
VA03	**San Esteban**	**1.68**	**141**	*eP*	**Pn**	**02 50 08.3**	**-0.3**
VA03				*eS*	**Sn**	**02 50 29.2**	**-0.3**
VA03				IAML		02 50 32.7	
	comp=E,114μm,0.3s						
VA03	**San Esteban**	**1.68**	**141**		**Pn**	**02 50 08.7**	**0.0**
VA03				Sn	**Sn**	**02 50 29.3**	**-0.2**
VA03	**San Esteban**	**1.68**	**141**	*eP*	**Pn**	**02 50 08.0**	**-0.7**
VA03				IAML		02 50 39.5	
	comp=Z,12μm,0.6s						
MT05	**Renca**	**2.13**	**155**	*eP*	**Pn**	**02 50 14.7**	**-0.1**
MT05				*eS*	**Sn**	**02 50 40.6**	**+0.2**
MT05				IAML		02 50 49.1	
	comp=E,89μm,0.3s						
MT05	**Renca**	**2.13**	**155**		**Pn**	**02 50 14.7**	**-0.1**
MT05	**Renca**	**2.13**	**155**	*eP*	**Pn**	**02 50 15.0**	**+0.3**
RTLS	**Leoncito**	**2.17**	**100**	*eP*	**Pb**	**02 50 18.0**	**-1.6**
VA05	**Santo Domingo**	**2.20**	**176**	*eP*	**Pn**	**02 50 14.5**	**-1.1**
VA05				IAML		02 50 51.8	
	comp=N,41μm,0.5s						
VA05	**Santo Domingo**	**2.20**	**176**		**Pn**	**02 50 14.6**	**-1.0**
AUSP	**Uspallata**	**2.20**	**111**	*eP*	**Pb**	**02 50 18.0**	**-2.1**
AUSP				*eP*	**Pn**	**02 50 18.4**	**+2.5**
AROD	**Rodeo**	**2.39**	**58**	*eP*	**Pb**	**02 50 22.5**	**-0.9**
AROD				*eS*	**Sb**	**02 50 50.3**	**-2.3**
MT09	**Talagante**	**2.41**	**163**	*eP*	**Pn**	**02 50 18.9**	**+0.2**
MT09				IAML		02 50 55.8	
	comp=N,32μm,0.4s						
MT09	**Talagante**	**2.41**	**163**	Pn	**Pn**	**02 50 18.1**	**-0.5**
MT01	**Popeta**	**2.44**	**169**	*eP*	**Pn**	**02 50 18.5**	**-0.5**
MT01	**Popeta**	**2.44**	**169**	Pn	**Pn**	**02 50 18.5**	**-0.5**
MT01	**Popeta**	**2.44**	**169**	*eP*	**Pn**	**02 50 18.0**	**-1.0**
MT01				*eP*	Pb	02 50 18.6	-5.4
MT01				*eS*	**Sb**	**02 50 54.0**	**+0.4**
MT01				IAML		02 50 55.8	
	comp=Z,6μm,0.5s						
ACCO	**Cerro Coronel**	**2.52**	**70**	*eP*	**Pb**	**02 50 24.6**	**-0.9**
LCO	**Las Campanas**	**2.63**	**22**	*i* P	**Pn**	**02 50 22.6**	**+0.8**
LCO	**Las Campanas**	**2.63**	**22**		**Pn**	**02 50 22.8**	**+1.0**
LCO	**Las Campanas**	**2.63**	**22**	*eP*	**Pn**	**02 50 23.0**	**+1.2**
ACDV	**Cuesta del Vie**	**2.65**	**62**	*eP*	**Pb**	**02 50 26.0**	**-1.7**
ACDV				*eS*	**Sb**	**02 50 58.3**	**-1.6**
ACDV				*eS*	Sn	02 51 05.0	+12
ACDV				IAML		02 51 19.9	
	comp=Z,5μm,1.1s						
ZON	**Zonda**	**2.68**	**93**		**Pn**	**02 50 24.9**	**-3.2**
ZON	**Zonda**	**2.68**	**93**	*eP*	**Pb**	**02 50 26.0**	**-2.1**
ZON				IAML		02 51 14.4	
	comp=Z,2μm,0.6s						
LMEL	**Las Melosas**	**2.74**	**151**	*i* P	**Pn**	**02 50 23.8**	**+0.6**
ASAL	**Salagasta**	**2.77**	**115**	*eP*	**Pb**	**02 50 27.0**	**-2.6**
ASAL				*eS*	**Sb**	**02 51 09.1**	**+5.9**
ARCO	**CERRO ARCO**	**2.81**	**120**	*eP*	**Pb**	**02 50 28.0**	**-2.3**
ARCO				*eS*	**Sb**	**02 51 05.8**	**+1.5**
ARCO				IAML		02 51 11.6	
	comp=Z,4μm,0.8s						
RTCV	**Cerro Valdivia**	**2.82**	**99**	*eP*	**Pb**	**02 50 27.0**	**-3.5**
BO01	**Tunca**	**2.99**	**168**	*eP*	**Pn**	**02 50 26.1**	**-0.4**
BO01	**Tunca**	**2.99**	**168**		**Pn**	**02 50 26.0**	**-0.4**
BO01	**Tunca**	**2.99**	**168**	*eP*	**Pn**	**02 50 26.0**	**-0.4**
BO01				*eP*	Pb	02 50 26.0	-7.2
BO01				*eS*	**Sb**	**02 51 08.3**	**-1.0**
BO01				IAML		02 51 12.9	
	comp=Z,3μm,0.6s						
AAGR	**Agrelo**	**3.00**	**123**	*eP*	**Pb**	**02 50 30.9**	**-2.7**
AAGR				*eP*	Pn	02 50 31.0	+4.2
AAGR				*eS*	**Sb**	**02 51 14.3**	**+4.4**
BO03	**Pichilemu**	**3.03**	**182**	*i*P	**Pn**	**02 50 25.4**	**-1.7**
AC04	**Llanos de Chal**	**3.31**	**11**	Pn	**Pn**	**02 50 31.1**	**+0.2**
AC04	**Llanos de Chal**	**3.31**	**11**	*eP*	**Pn**	**02 50 31.0**	**+0.1**
AC04				*eS*	**Sb**	**02 51 16.8**	**-1.8**
AC04				IAML		02 51 32.3	
	comp=Z,4μm,0.7s						
BO02	**Sierra Bellavi**	**3.43**	**166**	Pn	**Pn**	**02 50 32.7**	**0.0**
BO02	**Sierra Bellavi**	**3.43**	**166**	*eP*	**Pn**	**02 50 33.0**	**+0.3**
BO02				*eS*	**Sb**	**02 51 21.5**	**-0.7**
BO02				IAML		02 51 27.1	
	comp=Z,7μm,0.8s						
AGUA	**GUANDACOL**	**3.48**	**56**	*eP*	**Pb**	**02 50 37.9**	**-3.8**
AGUA				*eS*	**Sb**	**02 51 24.3**	**+0.7**
AGUA				IAML		02 51 35.3	
	comp=Z,5μm,1.5s						
GO05	**Huala**	**3.54**	**182**		**Pn**	**02 50 32.3**	**-1.8**
GO05	**Huala**	**3.54**	**182**	*eP*	**Pn**	**02 50 32.8**	**-1.3**
GO05				*eS*	**Sn**	**02 51 12.2**	**-2.9**
AVFE	**Valle Fertil**	**3.83**	**79**	*eP*	**Pn**	**02 50 40.6**	**+2.5**
AVFE				*eS*	**Sb**	**02 51 32.4**	**-1.1**
AVFE				IAML		02 51 43.2	
	comp=Z,5μm,0.7s						
COIS	**El Sosneado**	**4.08**	**154**	*eP*	**Pn**	**02 50 43.0**	**+1.4**
GO03	**Copiap**	**4.09**	**20**	Pn	**Pn**	**02 50 42.5**	**+0.8**
GO03	**Copiap**	**4.09**	**20**	*eP*	**Pn**	**02 50 43.0**	**+1.2**
GO03				*eP*	Pb	02 50 43.0	-9.1
GO03				*eS*	**Sb**	**02 51 45.0**	**+3.8**
LAMA	**Las Malvinas**	**4.09**	**148**	*eP*	**Pn**	**02 50 45.0**	**+3.3**
VCA	**Vinchina**	**4.14**	**50**	*eP*	Pn	02 50 47.0	+4.5
VCA				IAML		02 51 59.2	
	comp=Z,5μm,0.6s						
AC06	**Mina Casimiro**	**4.28**	**18**		**Pn**	**02 50 44.7**	**+0.4**
ML02	**Panimavida**	**4.30**	**176**	Pn	**Pn**	**02 50 43.6**	**-0.9**
RFA	**San Rafael**	**4.33**	**140**	*eP*	**Pn**	**02 50 46.0**	**+0.9**
RFA				IAML		02 52 04.8	
	comp=Z,749nm,0.7s						
ACHE	**Chepes**	**4.42**	**87**	*eP*	**Pn**	**02 50 49.0**	**+2.7**
AC02	**Maricunga**	**5.17**	**28**	Pn	**Pn**	**02 50 57.9**	**+0.9**
AC02	**Maricunga**	**5.17**	**28**	*eP*	**Pn**	**02 50 58.3**	**+1.3**
AC02				*eS*	**Sb**	**02 52 04.8**	**-7.9**
AC02				IAML		02 52 26.7	
	comp=Z,2μm,0.9s						
CYA	**Choya**	**6.02**	**62**	*eS*	**Sn**	**02 52 20.1**	**+3.7**
VA04	**Juan Fernndez**	**6.31**	**248**		**Pn**	**02 51 11.1**	**-1.1**
H03N1	**Juan Fernandez**	**6.32**	**250**	T	T	02 57 55.6	
	baz=83,slow=72,SNR=6750						
H03N3	**Juan Fernandez**	**6.33**	**250**	T	T	02 57 52.6	
	baz=83,slow=72,SNR=4641						
H03N2	**Juan Fernandez**	**6.33**	**250**	T	T	02 57 53.2	
	baz=83,slow=72,SNR=3734						
H03S3	**Juan Fernandez**	**6.43**	**247**	T	T	02 58 09.2	
	baz=84,slow=75,SNR=81						
H03S1	**Juan Fernandez**	**6.43**	**246**	T	T	02 58 07.8	
	baz=84,slow=75,SNR=65						
H03S2	**Juan Fernandez**	**6.45**	**247**	T	T	02 58 07.9	
	baz=84,slow=75,SNR=92						
PB14	**IPOC Station P**	**6.92**	**11**		**Pn**	**02 51 20.6**	**-0.3**
AHML	**Horco Molle**	**7.34**	**52**	*eP*	**Pn**	**02 51 28.0**	**+1.7**
AHML				*eS*	Sn	02 52 57.8	+9.0
FSA	**Cafayete**	**7.39**	**45**	*eP*	**Pn**	**02 51 30.5**	**+3.3**
LC01	**Cunco**	**7.42**	**180**	Pn	**Pn**	**02 51 25.5**	**-1.9**
LR03	**Panguipulli**	**8.16**	**183**		**Pn**	**02 51 35.6**	**-2.0**
PB05	**IPOC Station P**	**8.69**	**10**	*eP*	Pn	02 51 31.6	-13
PB05				*eP*		02 51 43.0	
PB06	**IPOC Station P**	**8.95**	**13**	Pn	**Pn**	**02 51 46.5**	**-2.0**
LVC	**Limon Verde**	**9.19**	**17**	Pn	**Pn**	**02 51 49.6**	**-2.4**
	comp=Z,0.8nm,0.3s,baz=172,slow=7.3,SNR=6.0						
LVC				Sn	**Sn**	**02 53 33.0**	**-1.8**
	comp=Z,7.6nm,0.3s,baz=229,slow=12,SNR=3.0						
LVC				LR	LR	02 55 35.4	
	comp=Z,2μm,20.9s,baz=214,slow=39						
LVC	**Limon Verde**	**9.19**	**17**		**Pn**	**02 51 49.5**	**-2.6**
PLCA	**Paso Flores**	**9.31**	**174**	Pn	**Pn**	**02 51 53.1**	**-0.2**
	comp=Z,2.3nm,0.3s,baz=337,slow=12,SNR=41						
PLCA				Sn	**Sn**	**02 53 39.2**	**+2.0**
	baz=258,slow=6.8,SNR=1.0						
PLCA				LR	LR	02 55 26.2	
	comp=Z,1μm,19.2s,baz=346,slow=38						
PLCA	**Paso Flores**	**9.31**	**174**		**Pn**	**02 51 52.1**	**-1.3**
TRQA	**Tornquist**	**10.42**	**132**		**Pn**	**02 52 07.6**	**-1.0**
TRQA	**Tornquist**	**10.42**	**132**	*eP*	**Pn**	**02 52 08.0**	**-0.6**
PB01	**IPOC Station P**	**10.58**	**12**		**Pn**	**02 52 11.7**	**+0.8**
LPA	**La Plata**	**12.13**	**110**	*eP*	**Pn**	**02 52 35.4**	**+3.5**
LPA				PPP	PPP	02 52 51.5	
LPA				pPP		02 53 19.5	
LPA				S	Sn	02 54 53.8	+7.6
LPA				SS	**SnSn**	**02 55 07.6**	**+9.4**
LPA				SSS	SSS	02 55 20.5	
LPA				PCP	**PcP**	**02 58 14.9**	**-0.3**
LPA				PKIKP	**PKiKP**	**03 06 09.6**	**-3.4**
LPA				SKIKP		03 09 37.9	
LPA				PKIKS		03 09 43.5	
LPA				SKIKS		03 13 08.2	
ITQB	**Itaqui**	**13.21**	**86**	Pn	**Pn**	**02 52 44.8**	**-1.9**
CPUP	**Villa Florida**	**13.68**	**72**	Pn	**Pn**	**02 52 51.0**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=245,slow=11,SNR=6.5						
CPUP				Sn	**Sn**	**02 55 22.4**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=250,slow=12,SNR=3.3						
CPUP				LR	LR	02 58 35.1	
	comp=Z,2μm,18.7s,baz=253,slow=40						
CPUP	**Villa Florida**	**13.68**	**72**	Pn	**Pn**	**02 52 51.6**	**-1.5**
LPAZ	**La Paz**	**15.47**	**13**	Pn	**Pn**	**02 53 19.1**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=201,slow=7.1,SNR=30						
LPAZ				Sn	**Sn**	**02 56 07.1**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=224,slow=17,SNR=1.7						
LPAZ	**La Paz**	**15.47**	**13**	Pn	**Pn**	**02 53 19.0**	**+1.1**
LPAZ	**La Paz**	**15.47**	**13**	*eP*	**Pn**	**02 53 18.6**	**+0.6**
AQDB	**Aquidauana**	**18.13**	**57**	*eP*	**Pn**	**02 53 50.2**	**-0.6**
CNLB	**Canela**	**18.21**	**89**	*eP*	**Pn**	**02 53 50.7**	**-1.2**
SIV	**San Ignacio**	**18.25**	**35**	P	**Pn**	**02 53 51.0**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=225,slow=10,SNR=38						
PTGB	**Pitanga**	**18.66**	**74**	*eP*	**P**	**02 53 56.2**	**-0.8**
TRCB	**Terra Rica**	**19.11**	**68**	P	**P**	**02 54 01.4**	**-0.4**
TRCB				IAmb	IAmb	02 54 14.9	
	comp=Z,73nm,1.0s						
TRCB	**Terra Rica**	**19.11**	**68**	*eP*	**P**	**02 54 00.5**	**-1.3**
PTLB	**Pontes e Lacer**	**19.70**	**39**	*eP*	**P**	**02 54 07.7**	**-0.6**
TER01	**Tubaro-SC**	**19.86**	**87**	*eP*	**P**	**02 54 09.1**	**-0.9**
NNA	**Nana**	**19.93**	**345**	P	**Pn**	**02 54 12.9**	**+0.4**
	comp=Z,3.9nm,0.4s,baz=136,slow=12,SNR=1.9						
NNA				LR	LR	03 00 11.0	
	comp=Z,321nm,20.8s,baz=168,slow=32						
PP1B	**Ponte de Pedra**	**20.64**	**52**	*eP*	**P**	**02 54 17.5**	**-1.0**
PCMB	**Pacaembu**	**20.81**	**67**	*eP*	**P**	**02 54 19.5**	**-0.8**
TIJ01	**Guaruva-PR**	**20.96**	**79**	*eP*	**P**	**02 54 18.6**	**-3.5**
VILB	**Vilhena**	**21.30**	**33**	*eP*	**P**	**02 54 24.6**	**-1.0**
SALV	**Santo Antonio**	**21.36**	**47**	*eP*	**P**	**02 54 24.8**	**-1.4**
ETMB	**Extrema**	**22.16**	**15**	*eP*	**P**	**02 54 35.7**	**+0.9**
ITRB	**Iturama**	**22.57**	**64**	*eP*	**P**	**02 54 37.2**	**-2.1**
PET01	**Itanhaem-SP**	**22.81**	**78**	*eP*	**P**	**02 54 41.4**	**-0.4**
SPB	**Sao Paulo**	**22.97**	**76**	*eP*	**P**	**02 54 43.4**	**0.0**
BB19B	**Bebedouro**	**23.26**	**69**	*eP*	**P**	**02 54 45.5**	**-1.0**
RCLB	**Rio Claro- Sao**	**23.41**	**73**	*eP*	**P**	**02 54 46.0**	**-1.9**
VAO	**Valinhos**	**23.61**	**75**	*eP*	**P**	**02 54 48.6**	**-1.3**
CZSB	**Cruzeiro do Su**	**23.63**	**358**	*eP*	**P**	**02 54 51.8**	**+1.9**
SAML	**Samuel**	**23.80**	**22**	*eP*	**P**	**02 54 51.4**	**-0.1**
IPMB	**Ipameri, GO**	**25.22**	**63**	*eP*	**P**	**02 55 03.1**	**-1.6**
CLDB	**Colider**	**25.29**	**39**	*eP*	**P**	**02 55 04.3**	**-0.9**
ESAR	**Angra dos Reis**	**25.70**	**78**	*eP*	**P**	**02 55 07.8**	**-1.1**
BSCB	**Bom Sucesso**	**26.34**	**73**	*eP*	**P**	**02 55 13.4**	**-1.5**
BDFB	**Brasilia**	**26.82**	**60**	P	**P**	**02 55 18.2**	**-1.0**
	comp=Z,46nm,1.0s,baz=231,slow=8.8,SNR=32						
BDFB				LR	LR	03 07 05.9	
	comp=Z,2μm,19.4s,baz=227,slow=39						
BDFB	**Brasilia**	**26.82**	**60**	P	**P**	**02 55 17.9**	**-1.4**
BDFB				IAmb	IAmb	02 55 19.5	
	comp=Z,55nm,1.1s						
VAS01	**Vassouras-RJ**	**26.85**	**77**	*eP*	**P**	**02 55 18.1**	**-1.3**
SNDB	**Serra Nova Dou**	**27.10**	**49**	*eP*	**P**	**02 55 20.9**	**-0.7**
TBTG	**Tabatinga, AM**	**27.19**	**4**	*eP*	**P**	**02 55 23.6**	**+1.1**
DUB01	**Friburgo-RJ**	**27.82**	**78**	*eP*	**P**	**02 55 26.7**	**-1.5**
CAM01	**Campos-RJ**	**28.54**	**78**	*eP*	**P**	**02 55 33.6**	**-0.8**
DIAM	**Diamantina, MG**	**28.60**	**69**	*eP*	**P**	**02 55 34.6**	**-0.6**
NPGB	**Novo Progresso**	**28.75**	**36**	*eP*	**P**	**02 55 34.7**	**-1.7**
PEXB	**Peixe**	**29.00**	**54**	*eP*	**P**	**02 55 37.7**	**-1.0**
MC01	**Montes Claros**	**29.27**	**66**	*eP*	**P**	**02 55 39.4**	**-1.7**
ALF01	**Guarapari-ES**	**29.85**	**76**	*eP*	P	02 55 38.9	-7.2
JANB	**Januaria**	**29.96**	**63**	*eP*	**P**	**02 55 45.9**	**-1.4**
MACA	**Manacapuru-AM**	**30.04**	**23**	*eP*	**P**	**02 55 47.8**	**0.0**
SJMB	**Sao Joao De Ma**	**30.40**	**73**	*eP*	**P**	**02 55 47.8**	**-3.2**
BSFB	**Barra de Sao F**	**30.61**	**73**	*eP*	**P**	**02 55 51.4**	**-1.5**
RIB01	**Linhares ES**	**30.75**	**74**	*eP*	**P**	**02 55 53.1**	**-0.9**
ITTB	**Itaituba**	**30.90**	**33**	*eP*	**P**	**02 55 54.1**	**-1.3**
SDBA	**SAO DESIDERIO**	**31.20**	**59**	*eP*	**P**	**02 55 56.7**	**-1.5**
NAN01	**Guarapari, ES**	**31.72**	**72**	*eP*	**P**	**02 56 00.9**	**-1.6**
SMTB	**Santa Maria do**	**31.83**	**50**	*eP*	**P**	**02 56 00.4**	**-0.2**
OTAV	**Otavalo**	**32.15**	**347**	P	**P**	**02 56 07.1**	**+0.2**
OTAV	**Otavalo**	**32.15**	**347**	*eP*	**P**	**02 56 09.2**	**+2.3**
OTAV	**Otavalo**	**32.15**	**347**	*eP*	**P**	**02 56 09.9**	**+3.0**
PRPB	**Parauapebas**	**32.51**	**44**	*eP*	**P**	**02 56 08.2**	**-1.4**
GUA01	**Guaratinga, BA**	**32.63**	**71**	*eP*	**P**	**02 56 09.8**	**-0.8**
FLOC	**Florencia**	**33.06**	**353**	P	**P**	**02 56 16.2**	**+1.7**
CMC01	**Camacan, BA**	**33.53**	**69**	*eP*	**P**	**02 56 17.9**	**-0.6**
PMSA	**Palmer Station**	**33.68**	**174**	*eP*	**P**	**02 56 21.5**	**+2.2**
BBAC	**Balboa, Cauca**	**33.70**	**350**	*eP*	**P**	**02 56 22.9**	**+2.8**
SOTA	**Rioblanco**	**33.72**	**351**	*eP*	**P**	**02 56 24.6**	**+3.9**
MALB	**Monte Alegre**	**33.80**	**33**	*eP*	**P**	**02 56 19.7**	**-1.1**
NBIT	**Itapeh - BA**	**33.84**	**68**	*eP*	**P**	**02 56 20.6**	**-0.7**
POPC	**Popayan, Colom**	**34.13**	**351**	*eP*	**P**	**02 56 26.9**	**+3.0**
GDU01	**Guandu, BA**	**34.43**	**66**	*eP*	**P**	**02 56 22.5**	**-3.8**
PRAC	**Prado**	**35.10**	**355**	*eP*	**P**	**02 56 33.7**	**+1.6**
ORTC	**Ortega, Tolima**	**35.33**	**354**	*eP*	**P**	**02 56 37.1**	**+3.0**
BOAV	**Boa Vista**	**35.34**	**20**	*eP*	**P**	**02 56 34.0**	**-0.1**
YOTC	**Yotoco, Valle**	**35.51**	**352**	*eP*	**P**	**02 56 37.8**	**+2.1**
NBPN	**Ponto Novo - B**	**35.71**	**62**	*eP*	**P**	**02 56 34.4**	**-3.0**
CHIC	**Chingaza**	**35.94**	**357**	*eP*	**P**	**02 56 41.4**	**+1.7**
MCPB	**Macapa, AP**	**36.15**	**35**	*eP*	**P**	**02 56 40.2**	**-1.0**
ROSC	**El Rosal**	**36.18**	**356**	P	**P**	**02 56 45.9**	**+4.2**
	comp=Z,6.4nm,0.6s,baz=217,slow=20,SNR=4.9						
ROSC	**El Rosal**	**36.18**	**356**	P	**P**	**02 56 42.4**	**+0.6**
TMAB	**Tom-Au,PA,Br**	**36.58**	**42**	*eP*	**P**	**02 56 44.2**	**-0.6**
GUY2C	**Guyana, Caldas**	**36.64**	**354**	*eP*	**P**	**02 56 48.5**	**+2.7**
NORC	**Norcasia**	**36.93**	**355**	*eP*	**P**	**02 56 50.0**	**+2.3**
RUSC	**La Rusia**	**37.16**	**358**	*eP*	**P**	**02 56 51.9**	**+1.7**
CBOC	**Ciudad Bolivar**	**37.33**	**353**	*eP*	**P**	**02 56 52.9**	**+1.5**
NBLA	**Lagarto - SE**	**37.46**	**65**	*eP*	**P**	**02 56 50.2**	**-2.1**
HELC	**Santa Helena**	**37.61**	**354**	*eP*	**P**	**02 56 55.6**	**+1.8**
DBBC	**Dabeiba**	**38.49**	**353**	*eP*	**P**	**02 57 04.2**	**+3.2**
ZARC	**Zaragoza, Cauc**	**38.84**	**355**	*eP*	**P**	**02 57 03.4**	**-0.5**
NBMA	**Muriti-CE**	**39.05**	**59**	*eP*	**P**	**02 57 04.8**	**-1.0**
NBPS	**Pedro II - PI**	**39.22**	**53**	*eP*	**P**	**02 57 06.1**	**-1.1**
NBAN	**Anadia - AL**	**39.44**	**64**	*eP*	**P**	**02 57 07.8**	**-1.1**
NBPB	**Pedra_Branca-C**	**39.70**	**56**	*eP*	**P**	**02 57 10.5**	**-0.6**
SDV	**Santo Domingo**	**40.13**	**2**	P	**P**	**02 57 14.9**	**0.0**
SDV	**Santo Domingo**	**40.13**	**2**	*eP*	**P**	**02 57 15.7**	**+0.9**
MDP	**Montagnes des**	**40.70**	**30**	LR	LR	03 16 26.5	
	comp=Z,415nm,19.0s,baz=200,slow=40						
NBRF	**Rio Formoso -**	**40.94**	**64**	*eP*	**P**	**02 57 20.9**	**-0.5**
NBMO	**Morrinhos-CE**	**40.97**	**53**	*eP*	**P**	**02 57 20.7**	**-0.9**
NBPA	**Parau_RN**	**41.35**	**59**	*eP*	**P**	**02 57 24.4**	**-0.3**
NBCL	**Cascavel-CE**	**41.54**	**56**	*eP*	**P**	**02 57 25.4**	**-0.9**
NBPV	**Pedro Velho**	**42.26**	**62**	*eP*	**P**	**02 57 31.6**	**-0.5**
TOSP	**Speyside**	**43.87**	**16**	P	**P**	**02 57 43.9**	**-1.2**
BIM	**Bigot**	**46.86**	**14**	P	**P**	**02 58 07.1**	**-1.8**
MLPR	**Magueyes Islan**	**49.36**	**6**	P	**P**	**02 58 27.4**	**-0.7**
CRPR	**Cabo Rojo, PR**	**49.39**	**6**	P	**P**	**02 58 27.5**	**-0.8**
PDPR	**Patillas Dam,**	**49.51**	**7**	P	**P**	**02 58 28.5**	**-0.7**
PDPR				IAmb	IAmb	02 58 29.2	
	comp=Z,19nm,1.0s						
SJG	**San Juan**	**49.59**	**7**	LR	LR	03 18 52.3	
	comp=Z,63nm,20.6s,baz=191,slow=35						
GCPR	**Guaynabo City**	**49.79**	**7**	P	**P**	**02 58 29.6**	**-1.8**
GCPR				IAmb	IAmb	02 58 47.2	
	comp=Z,12nm,0.9s						
VNA3	**Neumayer Olymp**	**51.64**	**159**	P	**P**	**02 58 44.7**	**-0.1**
VNA1	**Neumayer--Stat**	**51.94**	**158**	P	**P**	**02 58 47.2**	**+0.3**
VNA2	**Neumayer--Watz**	**52.28**	**158**	P	**P**	**02 58 49.5**	**-0.1**
	baz=285,slow=8.5						
SNAA	**Sanae**	**53.87**	**159**	P	**P**	**02 59 01.0**	**-0.3**
SNAA	**Sanae**	**53.87**	**159**	P	**P**	**02 59 00.8**	**-0.5**
SNAA				IAmb	IAmb	02 59 02.3	
	comp=Z,19nm,1.0s						
RKT	**Rikitea**	**56.08**	**262**	*eT*	T	03 59 55.9	
	comp=Z,6.3nm,0.3s						
QSPA	**South Pole Qui**	**58.77**	**180**	P	**P**	**02 59 36.9**	**+0.5**
	comp=Z,9.0nm,1.0s,baz=163,slow=1.7,SNR=16						
QSPA	**South Pole Qui**	**58.77**	**180**	P	**P**	**02 59 35.9**	**-0.5**
QSPA				IAmb	IAmb	02 59 52.5	
	comp=Z,29nm,1.5s						
833A	**Chaparral WMA,**	**65.00**	**333**	P	**P**	**03 00 20.5**	**+1.9**
	baz=154						
VBMS	**Vicksburg**	**65.76**	**343**	P	**P**	**03 00 23.4**	**0.0**
143A	**Socs Landing,**	**66.45**	**342**	P	**P**	**03 00 27.8**	**0.0**
VNDA	**Vanda**	**66.62**	**191**	P	**P**	**03 00 28.6**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=122,slow=9.5,SNR=2.7						
VNDA				LR	LR	03 25 50.8	
	comp=Z,47nm,18.9s,baz=148,slow=33						
JCT	**Junction City**	**67.09**	**334**	P	**P**	**03 00 32.3**	**+0.4**
JCT				IAmb	IAmb	03 00 34.1	
	comp=Z,14nm,1.1s						
JCT	**Junction City**	**67.09**	**334**	P	**P**	**03 00 33.0**	**+1.1**
	baz=154						
X48A	**Hartselle**	**67.11**	**346**	P	**P**	**03 00 32.3**	**+0.3**
X48A				IAmb	IAmb	03 00 33.2	
	comp=Z,16nm,0.9s						
TXAR	**Lajitas Array**	**67.62**	**330**	P	**P**	**03 00 36.6**	**+1.2**
	comp=Z,1.8nm,0.8s,baz=153,slow=7.5,SNR=17						
TXAR				LR	LR	03 26 30.9	
	comp=Z,121nm,18.6s,baz=0.0,slow=33						
TXAR	**Lajitas Array**	**67.62**	**330**	P	**P**	**03 00 35.4**	**0.0**
TXAR				pP	**pP**	**03

LBNH	Lisbon	75.34	360	P		P		03 01 23.1	+1.5
	baz=180,SNR=6.0								
MAW	Mawson	75.56	164	P		P		03 01 22.8	+0.1
	comp=Z,8.2nm,0.9s,baz=224,slow=7.0,SNR=12								
MAW				LR		LR		03 37 55.0	
	comp=Z,176nm,18.1s,baz=237,slow=38								
MAW	Mawson	75.56	164	P		P		03 01 23.0	+0.4
LONY	Lake Ozonia	75.76	358	P		P		03 01 24.9	+0.9
	baz=178,SNR=8.4								
JFWS	Jewell Farm	75.92	346	P		P		03 01 25.4	+0.5
	baz=164								
FRNY	Flat Rock	75.95	359	P		P		03 01 25.6	+0.6
FRNY				IAmb		IAmb		03 01 26.8	
	comp=Z,19nm,0.8s								
S22A	4UR Ranch, Cre	76.22	332	P		P		03 01 28.6	+1.5
	baz=150								
WUAZ	Wupatki	76.29	328	P		P		03 01 29.3	+1.9
	baz=146								
PKME	Peaks-Kenny Pk	76.40	2	P		P		03 01 28.6	+1.1
	baz=182								
MVCO	Mesa Verde	76.44	331	P		P		03 01 29.0	+0.7
MVCO	Mesa Verde	76.44	331	P		P		03 01 30.2	+1.8
	baz=148,SNR=6.1								
Q24A	Divide	76.62	334	P		P		03 01 31.2	+1.8
	baz=151,SNR=10								
BC3	Big Chuckawall	76.74	324	P		P		03 01 31.8	+1.9
	baz=143								
IRM	Iron Mountain	76.99	324	P		P		03 01 33.1	+1.9
	baz=143								
ISCO	Idaho Springs	77.53	334	P		P		03 01 36.0	+1.5
	baz=151,SNR=5.4								
HEC	Hector,Ludlow	78.11	324	P		P		03 01 40.1	+2.5
	baz=142								
ECSD	EROS Data Cent	78.20	342	P		P		03 01 38.1	+0.4
	baz=159,SNR=16								
TUQ	Turquoise Moun	78.39	325	P		P		03 01 41.2	+2.1
	baz=143,SNR=5.3								
N23A	Red Feather La	78.61	334	P		P		03 01 42.1	+1.7
	baz=151								
SPMN	Marine on St.	78.67	345	P		P		03 01 39.5	-0.8
SPMN	Marine on St.	78.67	345	P		P		03 01 40.0	-0.3
	baz=162								
GSC	Goldstone, Bar	78.72	324	P		P		03 01 43.0	+2.1
	baz=142								
O20A	White River Ci	78.83	332	P		P		03 01 43.3	+1.8
	baz=149								
EDW2	Edwards Air Fo	79.00	323	P		P		03 01 43.9	+1.5
	baz=141								
LRMC	Laurel Mtn Rad	79.31	323	P		P		03 01 46.3	+2.1
	baz=142								
KOWA	Kowa	79.42	66	P		P		03 01 44.4	-0.7
F36A	Milaca	79.44	345	P		P		03 01 43.4	-1.1
MPMC	Manual Prospec	79.66	324	P		P		03 01 47.6	+1.4
	baz=142								
TSUM	Tsumeb	79.73	106	LR		LR		03 32 26.5	
	comp=Z,164nm,19.6s,baz=226,slow=32								
TSUM	Tsumeb	79.73	106	P		P		03 01 46.2	-0.8
TPNV	Topopah Spring	79.75	325	P		P		03 01 48.4	+1.8
	baz=143								
ISA	Isabella, Lake	79.86	323	P		P		03 01 49.2	+2.1
	baz=141,SNR=6.0								
PKM	Mcpherson Peak	79.96	322	P		P		03 01 49.6	+1.8
	baz=140								
CWC	Cottonwood Cre	80.26	324	P		P		03 01 51.2	+1.8
	baz=141								
VES	Vestal, Richgr	80.31	323	P		P		03 01 51.5	+2.1
	baz=141								
K22A	Casper	80.35	335	P		P		03 01 51.2	+1.5
	baz=151								
R11A	Troy Canyon, C	80.55	327	P		P		03 01 52.8	+2.0
	baz=143,SNR=7.5								
DUG	Dugway, Tooele	80.78	329	P		P		03 01 54.2	+2.2
	baz=146								
TIN	Tinemaha, Big	80.81	324	P		P		03 01 54.9	+2.7
	baz=141								
EYMN	Ely	81.00	347	P		P		03 01 52.7	-0.1
	baz=163								
BOSA	Boshof	81.09	118	P		P		03 01 53.6	-0.5
	comp=Z,11nm,0.9s,baz=234,slow=6.6,SNR=13								
BOSA				LR		LR		03 36 01.0	
	comp=Z,107nm,18.0s,baz=200,slow=34								
BOSA	Boshof	81.09	118	P		P		03 01 52.8	-1.3
BOSA				IAmb		IAmb		03 01 54.4	
	comp=Z,13nm,0.9s								
PDAR	Pinedale Array	81.59	333	P		P		03 01 57.0	+0.5
	comp=Z,1.2nm,0.9s,baz=105,slow=3.4,SNR=7.2								
PDAR				LR		LR		03 34 54.1	
	comp=Z,72nm,19.7s,baz=122,slow=33								
NVAR	Mina Array Bea	81.92	325	P		P		03 01 59.5	+1.3
	comp=Z,3.1nm,0.9s,baz=156,slow=6.2,SNR=19								
AGMN	Agassiz Nation	82.27	344	P		P		03 01 58.8	-0.8
AGMN	Agassiz Nation	82.27	344	P		P		03 01 59.8	+0.3
	baz=160								
CASY	Casey	82.56	181	P		P		03 02 01.5	+0.5
CASY				IAmb		IAmb		03 02 02.7	
	comp=Z,12nm,0.9s								
PNTR	Pine Nut	83.07	325	P		P		03 02 04.1	-0.1
PNTR				IAmb		IAmb		03 02 07.4	
	comp=Z,8.2nm,0.8s								
TORD	Torodi Ar. Bea	83.17	70	P		P		03 02 04.4	-0.6
	comp=Z,31nm,0.8s,baz=260,slow=4.7,SNR=160								
TORD				LR		LR		03 36 38.0	
	comp=Z,178nm,20.8s,baz=220,slow=34								
TORD	Torodi Ar. Bea	83.17	70	P		P		03 02 04.2	-0.8
LBTB	Lobatse	83.20	115	P		P		03 02 03.9	-1.3
LBTB				IAmb		IAmb		03 02 05.3	
	comp=Z,12nm,0.8s								
ULM	Lac du Bonnet	84.10	345	P		P		03 02 08.9	0.0
	comp=Z,4.8nm,1.0s,baz=150,slow=7.0,SNR=4.2								
HLID	Hailey	84.23	330	P		P		03 02 11.5	+1.6
	baz=145								
DGMT	Dagmar	84.69	339	P		P		03 02 13.1	+1.1
	baz=153								
J08A	Circle Bar Ran	85.84	328	P		P		03 02 18.4	+0.4
J08A				IAmb		IAmb		03 02 20.4	
	comp=Z,12nm,1.0s								
SCHQ	Schefferville	86.05	3	P		P		03 02 18.9	+0.3
	comp=Z,9.5nm,1.1s,baz=172,slow=14,SNR=4.2								
SCHQ	Schefferville	86.05	3	IAmb		IAmb		03 02 20.2	
	comp=Z,15nm,1.2s								
M04C	Macdoel	86.22	325	P		P		03 02 21.2	+1.2
	baz=139								
J05D	Fort Rock, OR	87.07	326	P		P		03 02 25.9	+1.8
	baz=140,SNR=5.5								
I05D	Terrebonne, OR	87.92	327	P		P		03 02 29.7	+1.7
	baz=140,SNR=5.6								
LSZ	Lusaka	90.42	108	P		P		03 02 39.9	-0.7
LSZ				IAmb		IAmb		03 02 42.4	
	comp=Z,9.7nm,1.0s								
ESDC	Sonseca Array	94.68	46	P		P		03 02 59.4	-0.2
	comp=Z,0.7nm,0.9s,baz=230,slow=4.5,SNR=4.4								
ESDC				LR		LR		03 44 43.2	
	comp=Z,128nm,18.9s,baz=230,slow=35								
HON	Honolulu	97.75	290	P		Pdif		03 03 15.2	+1.3
DZM	Mont Dzumac	102.88	234	eLR		LR		03 37 18.7	
	comp=Z,163nm,22.4s								
ASAR	Alice Springs	119.91	207	PKP		PKPdf		03 08 28.4	-1.1
	comp=Z,0.8nm,0.9s,baz=116,slow=1.8,SNR=6.3								
AKASG	Malin Array Be	120.32	46	PKP		PKPdf		03 08 28.2	-0.9
	comp=Z,4.7nm,0.9s,baz=272,slow=2.4,SNR=8.2								
BRTR	Keskin Array B	120.41	60	PKP		PKPdf		03 08 29.6	-0.3
	comp=Z,1.4nm,0.8s,baz=214,slow=3.6,SNR=8.8								
FINES	FINESS Array B	120.79	34	PKP		PKPdf		03 08 29.2	-0.6
	comp=Z,4.6nm,1.0s,baz=210,slow=11,SNR=2.1								
ARCES	ARCESS Array B	121.63	24	PKP		PKPdf		03 08 31.0	-0.2
	comp=Z,4.1nm,1.0s,baz=240,slow=1.8,SNR=3.9								
BNN	Bunyan	121.80	61	PKPdf		PKPdf		03 08 31.9	-0.8
WRA	Warramunga Arr	123.06	210	PKP		PKPdf		03 08 34.8	-0.8
	comp=Z,1.9nm,0.9s,baz=126,slow=1.3,SNR=7.5								
KOPT	Kop Dagi	125.58	61	PKPdf		PKiKP		03 08 40.7	+0.3
H11S2	WAKE ISLAND Hyd	125.96	271	T		T		05 27 32.3	
	baz=116,slow=75,SNR=165								
H11S1	WAKE ISLAND Hyd	125.97	271	T		T		05 27 35.9	
	baz=116,slow=75,SNR=147								
H11S3	WAKE ISLAND Hyd	125.98	271	T		T		05 27 36.3	
	baz=116,slow=75,SNR=105								
H11N3	WAKE ISLAND Hyd	126.31	272	T		T		05 28 01.5	
	baz=116,slow=75,SNR=22								
H11N1	WAKE ISLAND Hyd	126.32	272	T		T		05 27 59.7	
	baz=116,slow=75,SNR=12								
H11N2	WAKE ISLAND Hyd	126.33	272	T		T		05 27 58.2	
	baz=116,slow=75,SNR=63								
FITZ	Fitzroy Crossi	127.95	201	PKP		PKPdf		03 08 44.7	-0.2
	comp=Z,3.1nm,0.9s,baz=184,slow=4.8,SNR=5.8								
FITZ	Fitzroy Crossi	127.95	201			PKPdf		03 08 43.7	-1.2
KBZ	Khabaz	128.08	57	PKP		PKPdf		03 08 44.1	-0.1
	comp=Z,2.1nm,0.9s,baz=159,slow=4.8,SNR=4.5								

ARU	Arti	137.68	39	PKPdf		PKPdf		03 09 02.1	+0.1
TIXI	Tiksi	138.23	350	PKP		PKPdf		03 09 02.7	+0.2
	comp=Z,1.5nm,0.3s,baz=309,slow=3.4,SNR=3.9								
TIXI	Tiksi	138.23	350			PKPdf		03 09 02.0	-0.6
PETK	Petropavlovsk-	138.49	316	PKhKP		PKPpre		03 08 58.4	
	comp=Z,2.2nm,0.4s,baz=343,slow=20,SNR=3.9								
PETK				PKP		PKPdf		03 09 04.5	+1.0
	comp=Z,1.4nm,0.5s,baz=100,slow=6.2,SNR=4.2								
PETK	Petropavlovsk-	138.49	316			PKPdf		03 09 02.5	-1.1
AKTO	Aktyubinsk	138.53	48	PKP		PKPdf		03 09 04.3	+0.6
	comp=Z,1.5nm,0.8s,baz=342,slow=1.8,SNR=4.8								
ABKAR	Akbulak array	139.93	49	PKPdf		PKPdf		03 09 06.7	+0.4
BRVK	Borovoye	145.19	41	PKPbc		PKPab		03 09 15.4	+0.1
BVAR	Borovoye Array	145.27	41	PKPbc		PKPdf		03 09 16.0	+0.4
	comp=Z,22nm,0.6s,baz=242,slow=6.0,SNR=106								
YAK	Yakutsk	146.40	342	PKPbc		PKPbc		03 09 18.4	-0.2
KBL	Kabul	147.17	74	PKPbc		PKPdf		03 09 20.8	+1.0
TAS	Tashkent	147.42	61	PKPbc		PKPbc		03 09 22.3	+0.1
CHGR	Chuyangaron	147.44	66	PKPbc		PKPbc		03 09 21.3	-1.2
TOLI2	Tolitoli	147.55	204	PKPbc		PKPdf		03 09 21.2	+0.5
KK31	Karatay Array	148.10	58	PKPbc		PKPbc		03 09 23.4	-0.6
KKAR	Karatay Array	148.10	58	PKPbc		PKPbc		03 09 23.4	-0.6
GAR	Garm	148.34	66	PKPbc		PKPbc		03 09 24.6	-0.3
BTK	Batken	148.67	64	PKPbc		PKPbc		03 09 25.2	-0.5
DRK	Karamyk	149.47	65	PKPbc		PKPbc		03 09 26.7	-1.3
HYB	Hyderabad	149.73	111	*i* PKP		PKPbc		03 09 28.0	-0.9
KURBB	Kurchatov Arra	150.86	40	PKP		PKPdf		03 09 25.6	+0.7
	baz=302,slow=2.7								
KURBB				PKPbc		PKPbc		03 09 30.6	+0.1
	baz=299,slow=3.0								
KURK	Kurchatov	150.86	40			PKPbc		03 09 30.6	+0.1
ZALV	Zalesovo Beam	151.96	30	PKP		PKPdf		03 09 26.5	0.0
	comp=Z,2.8nm,0.7s,baz=222,slow=2.0,SNR=7.2								
ZALV				PKPbc		PKPbc		03 09 33.1	+0.1
	comp=Z,56nm,0.5s,baz=299,slow=3.3,SNR=115								
ZALV				PKPab		pPKPbc		03 09 41.6	+0.4
	comp=Z,12nm,0.5s,baz=319,slow=3.0,SNR=8.9								
KSH	Kashi	152.68	64	PKPbc		PKPdf		03 09 27.3	-0.9
KSH				sPKP				03 09 40.5	
KSH				PP		PP		03 13 17.3	-2.0
KSH				AMB		AMB			
	comp=Z,190nm,9.0s								
MKAR	Makanchi Array	154.90	45	PKP		PKPdf		03 09 30.6	-0.3
	comp=Z,1.0nm,0.8s,baz=294,slow=1.2,SNR=9.0								
MKAR				PKPbc		pPKPdf		03 09 39.5	+0.3
	comp=Z,5.2nm,0.8s,baz=341,slow=2.6,SNR=12								
MKAR				PKPab		PKPab		03 09 55.1	0.0
	comp=Z,5.4nm,0.9s,baz=318,slow=2.7,SNR=11								
WMQ	Urumqi	159.68	47	*e*P		PKPdf		03 09 37.4	+0.2
WMQ				pmax		pmax			
	comp=Z,170nm,3.9s								
WMQ				LR		LR			
	comp=N,140nm,29.1s								
WMQ				LR		LR			
	comp=E,580nm,28.9s								
WMQ				LR		LR			
	comp=Z,210nm,29.0s								
KSRS	Korea Array	162.67	296	PKPab		PKPab		03 10 30.9	+1.8
	comp=Z,0.4nm,0.3s,baz=279,slow=26,SNR=4.4								
SONM	Songino Array	163.59	4	PKP		PKPdf		03 09 41.6	+0.5
	comp=Z,0.7nm,0.7s,baz=206,slow=1.9,SNR=3.7								
SONM				PKPab		PKPab		03 10 33.4	+0.6
	comp=Z,1.6nm,0.8s,baz=322,slow=4.4,SNR=6.3								
CMAR	Chiang Mai Arr	164.59	145	PKPab		PKPab		03 10 37.1	-0.7
	comp=Z,0.9nm,0.3s,baz=208,slow=3.6,SNR=4.2								
GTA	Gaotai	169.54	38	*e*PKPbc		PKPdf		03 09 47.1	+1.1
GTA				sPKP				03 10 00.8	
GTA				PKPab		PKPab		03 11 00.1	+0.7
GTA				PP		PP		03 14 53.4	+4.5
GTA				LR		LR			
	comp=N,150nm,20.0s								
GTA				LR		LR			
	comp=E,140nm,19.6s								
GTA				LR		LR			
	comp=Z,120nm,18.9s								
NJ2	Nanjing	170.90	276	*e*P		PKPdf		03 09 48.3	+1.5
NJ2				pmax		pmax			
	comp=Z,11nm,0.5s								
LZH	Lanzhou	174.14	37	*e*PKP		PKPdf		03 09 48.0	-0.3
LZH				pPKP		pPKPdf		03 09 54.8	-1.8
LZH				LR		LR			
	comp=N,190nm,18.3s								
LZH				LR		LR			
	comp=E,150nm,18.2s								
LZH				LR		LR			
	comp=Z,130nm,20.0s								
CD2	Chengdu	176.17	97	PKP		PKPdf		03 09 48.3	-0.6
XAN	Xi'an	177.35	347	PKPbc		PKPdf		03 09 49.3	+0.3
XAN				PKPab		sPKPab		03 11 48.3	+3.3

IDC ***19*** *02:53:50.7±1.2,30.°25S×72.°57W,h0km,mb3.8/3, mb1 4.1/5,mb1mx3.9/22,mbtmp4.1/5,ML3.9/1,Error ellipse: s-maj=56.7km s-min=30.0km az=109.0*

NEIC ***19*** *02:53:51.6±2.2,30.°09S±0.°04×72.°5W±0.°2,h9km±6km, mb4.2/3,Error ellipse: s-maj=20.5km s-min=5.2km az=86.0*

ISC 19 02:53:54.4±0.9,30.°16S±0.°06×72.°4W±0.°1,h27km,n19, σ1s24/19,mb4.1/4,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	Fray Jorge	0.81	130	Pn	Pn	02 54 10.4	+0.4
CO05	La Serena	1.00	76	Pn	Pb	02 54 13.2	+0.1
GO04	Tololo Observa	1.35	91	Pn	Pb	02 54 19.2	0.0
CO03	El Pedregal	1.59	116	Pn	Pb	02 54 22.6	-0.6
LCO	Las Campanas	1.84	52	Pn	Pn	02 54 24.2	-0.3
AC04	Llanos de Chal	2.25	30	Pn	Pn	02 54 29.2	-0.6
LVC	Limon Verde	8.13	23	Pn	Pn	02 55 50.2	-0.8
	baz=252,slow=13,SNR=0.5						
LVC				Sn	Sn	02 57 20.6	-1.6
	0.1nm,0.3s,baz=104,slow=20,SNR=0.8						
TRQA	Tornquist	11.66	135	Pn	Pn	02 56 37.5	-1.4
SIV	San Ignacio	17.49	39	P	P	02 58 00.1	+2.6
	0.4nm,0.3s,baz=229,slow=11,SNR=4.5						
SNAA	Sanae	55.24	159	P	P	03 03 25.2	+0.5
SNAA				IAmb	IAmb	03 03 26.1	
	comp=Z,2.9nm,1.0s						
QSPA	South Pole Qui	60.07	180	P	P	03 03 58.7	-0.1
	comp=Z,1.3nm,0.6s,baz=174,slow=1.6,SNR=3.1						
QSPA	South Pole Qui	60.07	180	P	P	03 03 58.2	-0.6
QSPA				IAmb	IAmb	03 04 07.5	
	comp=Z,1.3nm,0.8s						
NVAR	Mina Array Bea	80.58	325	P	P	03 06 05.6	+1.0
	comp=Z,0.3nm,0.7s,baz=165,slow=3.7,SNR=2.7						
TORD	Torodi Ar. Bea	83.18	71	P	P	03 06 20.2	+1.8
	comp=Z,0.8nm,0.7s,baz=236,slow=6.6,SNR=2.7						
TORD	Torodi Ar. Bea	83.18	71	IAmb	IAmb	03 06 34.5	
	comp=Z,2.5nm,1.2s						
WRA	Warramunga Arr	123.95	211	PKP	PKiKP	03 12 50.3	-0.7
	comp=Z,0.6nm,1.0s,baz=164,slow=3.4,SNR=2.1						
WRA	Warramunga Arr	123.95	211		PKPdf	03 12 48.2	-2.5
ZALV	Zalesovo Beam	151.05	28	PKPbc	PKiKP	03 13 45.4	+0.5
	comp=Z,3.2nm,0.6s,baz=314,slow=2.8,SNR=5.1						
ZALV	Zalesovo Beam	151.05	28		PKiKP	03 13 45.2	+0.3

UCR ***19*** *03:05:12.9±2.0,8.°39N×82.°79W,h22km±4km,MW4.6, mb4.3(NEIC)*

UPA ***19*** *03:05:12.7±1.2,8.°40N×82.°78W,h16km±1km,MW4.4*

NEIC ***19*** *03:05:15.2±2.0,8.°58N±0.°06×82.°84W±0.°05,h27km±6km, mb4.3/21,Error ellipse: s-maj=10.6km s-min=4.2km az=210.0*

INET ***19*** *03:05:15.9,8.°83N×83.°21W,h23km,MW4.1*

IDC ***19*** *03:05:16.8±3.0,8.°67N×82.°70W,h46km±19km,mb3.3/4, mb1 3.9/7,mb1mx3.6/32,mbtmp3.8/7,ML3.4/3,MS3.3/4, Ms1 3.4/4,ms1mx3.0/19,Error ellipse: s-maj=102.7km s-min=16.3km az=29.0*

ISC 19 03:05:12.9±0.8,8.°38N±0.°03×82.°82W±0.°02,h27km±6km, n182,σ1s31/232,mb4.2/15,MS3.3/3,8C-23D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAGA3	Bagala, Chiriq	0.30	73	*i*P	Pb	03 05 19.7	-0.5
BAGA3				*e*S	Sb	03 05 24.0	-1.1
BAGA3	Bagala, Chiriq	0.30	73	*i*P	Pb	03 05 19.7	-0.5
BAGA3				*e*S	Sb	03 05 24.0	-1.1
DVD	David	0.37	81	*i*P	Pb	03 05 20.2	-0.9
DVD				*e*S	Sb	03 05 25.5	-1.3
DVD	David	0.37	81	*i*P	Pb	03 05 20.2	-0.9
DVD				*e*S	Sb	03 05 25.5	-1.3
LOCO3	Loma Colorada,	0.40	85	*i*P	Pb	03 05 20.7	-0.9
LOCO3				*e*S	Sb	03 05 25.9	-1.5
MLIR3	Monte Lirio, C	0.41	359	eP	Pb	03 05 21.6	-0.3
MLIR3				*e*S	Sb	03 05 27.9	-0.1
BRU2	Volcan	0.43	17	*i*P	Pb	03 05 21.5	-0.8
BRU2				*e*S	Sn	03 05 28.8	-1.8
BRU2	Volcan	0.43	17	*i*P	Pb	03 05 21.5	-0.8
BRU2				*e*S	Sn	03 05 28.8	-1.8
BRU2	Volcan	0.43	17	eP	Pb	03 05 21.5	-0.8
BRU2				*e*S	Sn	03 05 28.8	-1.8
BRU2	Volcan	0.43	17				
BCO2	Palmira	0.44	40	*i*P	Pb	03 05 21.7	-0.7
BCO2				*e*S	Sb	03 05 28.8	-0.1
BCO2	Palmira	0.44	40	*i*P	Pb	03 05 21.7	-0.7
BCO2				*e*S	Sb	03 05 28.8	-0.1
PTAR3	Potrerillos Ar	0.45	46	*i*P	Pb	03 05 21.7	-0.7
PTAR3				*e*S	Sb	03 05 28.4	-0.5
PTAR3	Potrerillos Ar	0.45	46	*i*P	Pb	03 05 21.7	-0.7
PTAR3				*e*S	Sb	03 05 28.4	-0.5
EDSV	San Vito	0.46	341	eP	Pb	03 05 22.3	-0.4
EDSV				*i* S	Sn	03 05 30.4	-0.9
BC3P	Paso Ancho	0.48	25	*i*P	Pb	03 05 22.1	-1.0
BC3P	Paso Ancho	0.48	25	*i*P	Pb	03 05 22.1	-1.0
CHIR3	Chiriqui UPA,	0.48	88	*i*P	Pb	03 05 21.8	-1.2
CHIR3	Chiriqui UPA,	0.48	88	*i*P	Pb	03 05 21.8	-1.2
PTJ1	Puerto Jimnez	0.50	288	eP	Pb	03 05 22.7	-0.6
PTJ1				*e*S	Sn	03 05 31.9	-0.2
PTJ1	Puerto Jimnez	0.50	288	eP	Pb	03 05 22.7	-0.6
PTJ1				*e*S	Sn	03 05 31.9	-0.2
PTJ1	Puerto Jimnez	0.50	288	eP	Pb	03 05 22.4	-0.9
PTJ1				*e*S	Sn	03 05 31.9	-0.2
PSOM3	Paja de Sombre	0.58	58	eP	Pb	03 05 23.2	-1.3
PSOM3				*e*S	Sb	03 05 32.4	0.0
PSOM3	Paja de Sombre	0.58	58	eP	Pb	03 05 23.2	-1.3
PSOM3				*e*S	Sb	03 05 32.4	0.0
POTG	Potrero Grande	0.73	336	eP	Pb	03 05 26.2	-1.0
POTG				*e*S	Sn	03 05 37.5	-0.4
RIOS	Rincon, Osa	0.76	295	eP	Pb	03 05 25.8	-1.8
RIOS				*e*S	Sn	03 05 38.0	-0.4
RIOS	Rincon, Osa	0.76	295	Pn	Pb	03 05 25.6	-2.0
EDPN	Palmar Norte	0.86	313	eP	Pb	03 05 27.7	-1.5
EDPN				*e*S	Sn	03 05 40.1	-0.7
CHGR2	Aguacate	0.87	50	eP	Pb	03 05 27.7	-1.7
CHGR2				*e*S	Sb	03 05 39.4	-1.2
CHGR2	Aguacate	0.87	50	eP	Pb	03 05 27.7	-1.7
CHGR2				*e*S	Sb	03 05 39.4	-1.2
EDBA	Buenos Aires	0.90	330	*i* P	Pb	03 05 29.0	-1.1
EDBA				*i* S	Sn	03 05 42.9	+0.9
REME3	Remedios, Chir	0.99	99	eP	Pb	03 05 29.6	-1.8
REME3				*e*S	Sb	03 05 43.1	-0.9
REME3	Remedios, Chir	0.99	99	eP	Pb	03 05 29.6	-1.8
REME3				*e*S	Sb	03 05 43.1	-0.9
SRBA	San Rafael, Bu	1.00	328		Pb	03 05 29.9	-1.8
CNI2	El Empalme, Bo	1.09	18	eP	Pn	03 05 31.7	-0.8
CNI2				*e*S	Sb	03 05 45.1	-2.0
CNI2	El Empalme, Bo	1.09	18	eP	Pn	03 05 31.7	-0.8
CNI2				*e*S	Sb	03 05 45.1	-2.0
RGM0	Gandoca	1.22	10	eP	Pb	03 05 35.2	-0.1
RGM0				*e*S	Sb	03 05 49.6	-1.2
RGM0	Gandoca	1.22	10	eP	Pb	03 05 35.2	-0.1
RGM0				*e*S	Sb	03 05 49.6	-1.2
RGM0	Gandoca	1.22	10	eP	Pb	03 05 35.3	-0.1
RGM0	Gandoca	1.22	10	Pn	Pb	03 05 34.4	-0.9
PVID3	Puerto Vidal,	1.24	105	eP	Pn	03 05 32.5	-2.0
PVID3				*e*S	Sb	03 05 51.2	-0.1
PVID3	Puerto Vidal,	1.24	105	eP	Pn	03 05 32.5	-2.0
PVID3				*e*S	Sb	03 05 51.2	-0.1
PEZE	Perez Zeledon,	1.31	320	eP	Pn	03 05 34.8	-0.7
PEZE	Perez Zeledon,	1.31	320	Pn	Pn	03 05 34.5	-1.0
CDM	Cerro de Muert	1.50	321	eP	Pn	03 05 37.6	-0.8
RIMA	Rio Macho	1.72	323	eP	Pn	03 05 40.8	-0.5
RIMA	Rio Macho	1.72	323		Pn	03 05 40.7	-0.6
LCR2	La Lucha 2	1.79	319	eP	Pn	03 05 41.9	-0.3
BATAN	Batan	1.79	342	eP	Pb	03 05 43.5	-1.7
BATAN				*e*S	Sb

COLC	Colonia	3.27	314	*i*	P		Pn	03 06 05.1	+2.6
HORNC	Hornillas	3.29	315	*e*	P		Pn	03 06 04.8	+2.1
UPA	Univ. de Panam	3.30	79	*e*	P		Pn	03 06 04.2	+1.4
UPA					*e*	S	Sn	03 06 41.9	+0.6
UPA	Univ. de Panam	3.30	79	*e*	P		Pn	03 06 04.2	+1.4
UPA					*e*	S	Sn	03 06 41.9	+0.6
UPA	Univ. de Panam	3.30	79	*e*	P		Pb	03 06 08.2	-2.6
SAJU	San Juanillo,	3.31	301	*e*	P		Pn	03 06 03.2	+0.3
GUAB	Guayabo de Bag	3.32	314	*i*	P		Pn	03 06 05.3	+2.2
VRLE	La Escondida,	3.47	314	*e*	P		Pn	03 06 07.2	+2.0
BUEV	Buena Vista	3.51	313	*i*	P		Pn	03 06 08.0	+2.2
BUAI	Buenos Aires	3.51	315	*e*	P		Pn	03 06 08.4	+2.7
GB1A	Borinquen Arri	3.51	314	*i*	P		Pn	03 06 07.8	+1.9
HZTE	Horizontes, Gu	3.59	310	*e*	P		Pn	03 06 08.4	+2.9
HZTE	Horizontes, Gu	3.59	310		Pn		Pn	03 06 08.7	+1.9
CONN	Concepcion	4.20	319	*e*	P		Pn	03 06 17.6	+2.3
ACON	Acoyapa	4.25	327	*e*	P		Pn	03 06 17.2	+1.3
ACON	Acoyapa	4.25	327				Pn	03 06 16.6	+0.6
UPD2	Meteti	4.75	88	*e*	P		Pn	03 06 23.3	+0.5
UPD2					*e*	S	Sn	03 07 15.6	-1.5
UPD2	Meteti	4.75	88	*e*	P		Pn	03 06 23.3	+0.5
UPD2					*e*	S	Sn	03 07 15.6	-1.5
UPD2	Meteti	4.75	88	*e*	P		Pn	03 06 24.0	+1.1
PTAC	Punta Ardita,	5.11	104	*e*	P		Pn	03 06 26.9	-0.9
PRVC	Isla de Provid	5.17	16	*e*	P		Pn	03 06 29.3	+0.8
CAPC	Capurgana	5.41	87	*e*	P		Pn	03 06 35.0	+3.1
MATN	Matagalpa	5.46	326		Pn		Pn	03 06 33.5	+0.9
CNGN	Cerro Negro	5.60	317		Pn		Pn	03 06 36.1	+1.6
SOLC	Bahia Solano	5.78	111	*e*	P		Pb	03 06 45.9	-7.1
DBBC	Dabeiba	6.69	101	*e*	P		Pn	03 06 51.4	+1.9
CBOC	Ciudad Bolivar	7.20	110	*e*	P		Pn	03 06 56.7	0.0
SJCC	San Jacinto, C	7.69	78		Pn		Pn	03 07 04.3	+1.1
YOTC	Yotoco, Valle	7.78	124	*e*	P		Pn	03 07 05.3	+0.8
ZARC	Zaragoza, Cauc	7.93	96	*e*	P		Pn	03 07 06.9	+0.3
GUY2C	Guyana, Caldas	8.04	112	*e*	P		Pn	03 07 11.1	+2.7
ANIL	Santa Ana	8.32	117	*e*	P		Pn	03 07 15.7	+3.6
BBAC	Balboa, Cauca	8.40	138	*e*	P		Pn	03 07 16.7	+3.5
POPC	Popayan, Colom	8.43	133	*e*	P		Pn	03 07 16.0	+2.5
ORTC	Ortega, Tolima	8.74	120	*e*	P		Pn	03 07 20.8	+3.1
PCON	Cinco Dias	8.77	133	*e*	P		Pn	03 07 23.8	+5.2
ROSC	El Rosal	9.14	112		P		Pn	03 07 27.3	+3.8
	0.9nm,0.3s,baz=292,slow=19,SNR=6.0								
ROSC	El Rosal	9.14	112		Pn		Pn	03 07 27.5	+4.0
CHIC	Chingaza	9.77	112	*e*	P		Pn	03 07 37.1	+5.0
FLOC	Florencia	9.82	133				Pn	03 07 38.3	+5.8
FLOC	Florencia	9.82	133	*e*	P		Pn	03 07 34.8	+2.3
RUSC	La Rusia	9.97	104		Pn		Pn	03 07 37.5	+2.6
PCRV	Puerto La Cruz	18.03	83		P		P	03 09 22.9	+0.9
	0.4nm,0.3s,baz=164,slow=3.9,SNR=4.2								
PLCV	Puerto La Cruz	18.08	83		P		P	03 09 22.9	+0.4
GCPR	Guaynabo City	19.02	57		P		Pn	03 09 33.5	-0.3
344A	Westbrook Farm	24.11	343		P		P	03 10 27.1	+0.6
342A	Flagon Creek P	24.54	340		P		P	03 10 31.2	+0.9
HKT	Hockley	24.69	332		P		P	03 10 31.5	-0.2
HKT						IAmb	IAmb	03 10 35.1	
	comp=Z,5.7nm,0.9s								
LRAL	Lakeview Retre	24.84	352		P		P	03 10 33.4	+0.4
LRAL						IAmb	IAmb	03 10 35.1	
	comp=Z,23nm,1.4s								
435B	Jarrell	26.21	330		P		P	03 10 46.6	+1.0
435B						IAmb	IAmb	03 10 50.0	
	comp=Z,13nm,0.9s								
JCT	Junction City	27.13	326		P		P	03 10 55.8	+1.9
JCT						IAmb	IAmb	03 10 59.8	
	comp=Z,5.4nm,0.9s								
TKL	Tuckaleechee C	27.17	358		LR		LR	03 21 21.8	
	comp=Z,54nm,18.9s,baz=182,slow=36								
LCAR	Lake Charles	28.59	346		P		P	03 11 06.3	-0.5
LCAR						IAmb	IAmb	03 11 07.2	
	comp=Z,6.0nm,0.8s								
TXAR	Lajitas Array	28.60	320		P		P	03 11 07.9	+0.7
	comp=Z,0.2nm,0.6s,baz=141,slow=10,SNR=2.8								
CCM	Cathedral Cave	30.51	347		P		P	03 11 23.2	-0.6
CCM						IAmb	IAmb	03 11 23.5	
	comp=Z,5.8nm,1.1s								
SIV	San Ignacio	32.40	138		LR		LR	03 26 27.9	
	comp=Z,59nm,18.6s,baz=358,slow=39								
L48A	N Adams	33.46	358		P		P	03 11 47.9	-1.8
N38A	Joes South For	33.58	346		P		P	03 11 50.0	-0.7
113A	Mohawk Valley,	37.54	315		P		P	03 12 26.6	+1.7
PDAR	Pinedale Array	41.53	330		P		P	03 12 57.9	-0.4
	comp=Z,0.4nm,0.6s,baz=134,slow=8.4,SNR=6.6								
PDAR	Pinedale Array	41.53	330		P		P	03 12 57.5	-0.8
REDW	Red Top Meadow	42.61	330		IAmb		IAmb	03 13 07.9	
	comp=Z,5.9nm,1.1s								
IMW	Indian Meadow	43.04	330		P		P	03 13 10.4	-0.3
NVAR	Mina Array Bea	43.75	319		P		P	03 13 18.1	+1.7
	comp=Z,0.9nm,0.8s,baz=132,slow=7.9,SNR=8.2								
NVAR					LR		LR	03 32 20.0	
	comp=Z,58nm,18.6s,baz=142,slow=37								
YHL	Hebgen Lake	43.86	331		P		P	03 13 17.8	+0.5
YHL						IAmb	IAmb	03 13 19.4	
	comp=Z,5.8nm,1.3s								
BMN	Battle Mountai	44.22	322		P		P	03 13 20.3	+0.2
BMN						IAmb	IAmb	03 13 21.8	
	comp=Z,4.9nm,0.8s								
HLID	Hailey	44.60	327		P		P	03 13 23.4	+0.4
BOZ	Bozeman (W)	44.62	331		IAmb		IAmb	03 13 24.1	
	comp=Z,3.2nm,1.0s								
WVOR	Wild Horse Val	46.27	323		IAmb		IAmb	03 13 37.3	
	comp=Z,3.8nm,0.8s								
BCAR	Beaver Creek A	68.83	335		P		P	03 16 15.4	+0.7
ILAR	Eielson Array	71.56	336		P		P	03 16 31.2	-0.2
	comp=Z,0.9nm,0.9s,baz=111,slow=4.7,SNR=10								
KSH	Kashi	128.45	21		PKP		PKiKP	03 24 18.8	+0.3
WRA	Warramunga Arr	142.28	248		PKP		PKPdf	03 24 43.5	-0.4
	comp=Z,0.4nm,0.7s,baz=119,slow=2.9,SNR=2.2								

*GUC **19** 03:14:14.3±0.6,31°.03S×72°.60W,h12km±10km,ML3.8*
*IDC **19** 03:14:16.0±1.0,31°.12S×72°.68W,h0km,mb4.0/5,*
mb1 4.3/10,mb1mx4.1/27,mbtmp4.1/10,ML4.1/5,MS3.0/5,
Ms1 3.0/5,ms1mx2.9/24,Error ellipse: s-maj=29.2km
s-min=25.3km az=92.0
*NEIC **19** 03:14:17.0±2.6,31°.10S±0°.04×72°.54W±0°.09,h18km±6km,*
mb4.4/11,ML3.8(GUC),Error ellipse: s-maj=11.4km
s-min=6.2km az=85.0

ISC 19 03:14:15.3±2.0,31°.13S±0°.04×72°.60W±0°.07,h4km±12km,
n67,σ1°85/77,mb4.2/5,4C-2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.94**	**61**	*eP*	**Pn**	**03 14 36.0**	**+0.6**
CO06				*eS*	**Sg**	**03 14 45.4**	**-0.3**
CO06				IAML		03 14 49.2	
	comp=N,4μm,0.2s						
CO06	**Fray Jorge**	**0.94**	**61**		**Pg**	**03 14 33.3**	**-0.2**
CO03	**El Pedregal**	**1.66**	**80**	*eP*	**Pb**	**03 14 47.1**	**+0.5**
CO03				*eS*	**Sb**	**03 15 08.0**	**0.0**
CO03				IAML		03 15 11.5	
	comp=E,2μm,0.6s						
CO03	**El Pedregal**	**1.66**	**80**	Pn	**Pn**	**03 14 42.1**	**-3.3**
CO05	**La Serena**	**1.68**	**44**	*eP*	**Pn**	**03 14 43.4**	**-2.1**
CO05				*eS*	**Sn**	**03 15 06.6**	**-1.0**
CO05	**La Serena**	**1.68**	**44**		**Pn**	**03 14 45.0**	**-0.6**
VA06	**Catapilco**	**1.80**	**143**	*eP*	**Pn**	**03 14 48.2**	**+1.0**
VA06				*eS*	**Sn**	**03 15 06.4**	**-4.1**
VA06				IAML		03 15 16.7	
	comp=E,1μm,0.5s						
GO04	**Tololo Observa**	**1.82**	**59**	*eP*	**Pn**	**03 14 47.5**	**-0.2**
GO04				*eS*	**Sn**	**03 15 11.0**	**-0.3**
GO04	**Tololo Observa**	**1.82**	**59**		**Pn**	**03 14 48.0**	**+0.3**
VA01	**Torpederas**	**2.05**	**157**	*eP*	**Pn**	**03 14 51.0**	**+0.4**
VA01				*eS*	**Sn**	**03 15 14.4**	**-2.2**
VA01	**Torpederas**	**2.05**	**157**		**Pn**	**03 14 49.8**	**-0.8**
ROCH	**El Roble**	**2.27**	**144**	*eP*	**Pn**	**03 14 53.0**	**-0.9**
ROCH				*iS*	**Sn**	**03 15 23.1**	**+0.6**
ROCH				IAML		03 15 26.0	
	comp=N,853nm,0.7s						
VA03	**San Esteban**	**2.38**	**134**	*eP*	**Pn**	**03 14 57.2**	**+1.9**
VA03				*eS*	**Sn**	**03 15 25.3**	**+0.3**
VA03				IAML		03 15 33.8	
	comp=N,746nm,0.5s						
VA03	**San Esteban**	**2.38**	**134**		**Pn**	**03 14 54.9**	**-0.3**
VA05	**Santo Domingo**	**2.65**	**162**	*eP*	**Pn**	**03 14 59.5**	**+0.7**
VA05				*eS*	**Sn**	**03 15 29.3**	**-2.1**
VA05				IAML		03 15 32.2	
	comp=N,367nm,0.5s						
VA05	**Santo Domingo**	**2.65**	**162**		**Pn**	**03 14 58.2**	**-0.6**
MT05	**Renca**	**2.75**	**146**	*eP*	**Pn**	**03 15 02.4**	**+2.1**
MT05				*eS*	**Sn**	**03 15 34.2**	**+0.3**
MT05				IAML		03 15 42.2	
	comp=E,336nm,0.4s						
MT05	**Renca**	**2.75**	**146**		**Pn**	**03 15 00.5**	**+0.2**
MT01	**Popeta**	**2.95**	**158**	*i*	**Pn**	**03 15 03.6**	**+0.6**
MT01				*i*	**Sn**	**03 15 35.3**	**-3.6**
MT01				IAML		03 15 40.0	
	comp=E,122nm,0.7s						
MT01	**Popeta**	**2.95**	**158**	Pn	**Pn**	**03 15 02.8**	**-0.2**
MT09	**Talagante**	**2.96**	**153**	*i*	**Pn**	**03 15 05.3**	**+1.9**
MT09				*i*	**Sn**	**03 15 38.9**	**-0.5**
MT09				IAML		03 15 41.5	
	comp=N,294nm,0.2s						
MT09	**Talagante**	**2.96**	**153**	Pn	**Pn**	**03 15 03.6**	**+0.3**
AC04	**Llanos de Chal**	**3.21**	**25**	Pn	**Pn**	**03 15 04.3**	**-2.2**
ZON	**Zonda**	**3.38**	**98**	Pn	**Pn**	**03 15 08.1**	**-0.9**
BO03	**Pichilemu**	**3.40**	**171**	*i*	**Pn**	**03 15 09.3**	**+0.2**
BO03				*i*	**Sn**	**03 15 45.9**	**-3.9**
BO03				IAML		03 15 48.3	
	comp=E,184nm,0.3s						
BO01	**Tunca**	**3.49**	**159**	*i*	**Pn**	**03 15 12.1**	**+1.7**
BO01				*eS*	**Sn**	**03 15 50.0**	**-2.2**
BO01				IAML		03 15 53.1	
	comp=N,76nm,0.5s						
BO01	**Tunca**	**3.49**	**159**		**Pn**	**03 15 09.6**	**-0.8**
GO05	**Huala**	**3.91**	**172**		**Pn**	**03 15 16.0**	**-0.2**
BO02	**Sierra Bellavi**	**3.95**	**158**	*i*	**Pn**	**03 15 18.8**	**+1.9**
BO02				*eS*	**Sn**	**03 15 57.3**	**-6.5**
BO02				IAML		03 16 04.3	
	comp=N,148nm,0.2s						
BO02	**Sierra Bellavi**	**3.95**	**158**	Pn	**Pn**	**03 15 17.3**	**+0.4**
GO03	**Copiap**	**4.08**	**31**	Pn	**Pn**	**03 15 17.0**	**-1.7**
AC06	**Mina Casimiro**	**4.24**	**28**		**Pn**	**03 15 18.8**	**-2.0**
ML02	**Panimavida**	**4.72**	**168**		**Pn**	**03 15 27.7**	**+0.4**
H03N1	**Juan Fernandez**	**5.82**	**245**	T	T	03 22 15.5	
	baz=73,slow=72,SNR=15						
H03N3	**Juan Fernandez**	**5.84**	**245**	T	T	03 22 14.5	
	baz=73,slow=72,SNR=14						
H03N2	**Juan Fernandez**	**5.84**	**245**	T	T	03 22 13.4	
	baz=73,slow=72,SNR=11						
PB14	**IPOC Station P**	**6.77**	**17**	Pn	**Pn**	**03 15 54.8**	**-1.0**
LC01	**Cunco**	**7.77**	**176**	Pn	**Pn**	**03 16 09.2**	**0.0**
LVC	**Limon Verde**	**9.10**	**22**	Pn	**Pn**	**03 16 27.0**	**-0.9**
	comp=N,0.4nm,0.3s,baz=216,slow=15,SNR=1.9						
LVC					Sn	**Sn**	**03 18 09.2**	**-1.9**
	comp=N,0.6nm,0.3s,baz=82,slow=23,SNR=1.7						
LVC					LR	LR	03 20 14.8	
	comp=N,81nm,19.3s,baz=188,slow=39						
LVC	**Limon Verde**	**9.10**	**22**	Pn	**Pn**	**03 16 27.7**	**-0.2**
PLCA	**Paso Flores**	**9.72**	**171**	Pn	**Pn**	**03 16 37.9**	**+1.8**
	comp=N,0.3nm,0.3s,baz=336,slow=12,SNR=13						
PLCA					LR	LR	03 20 39.7	
	comp=N,44nm,18.4s,baz=18,slow=39						
PLCA	**Paso Flores**	**9.72**	**171**			**Pn**	**03 16 36.6**	**+0.5**
PB01	**IPOC Station P**	**10.43**	**16**	Pn	**Pn**	**03 16 45.5**	**-0.3**
CPUP	**Villa Florida**	**14.22**	**74**	Pn	**P**	**03 17 41.3**	**-3.8**
	comp=N,0.2nm,0.3s,baz=62,slow=20,SNR=1.8						
CPUP					LR	LR	03 22 38.2	
	comp=N,63nm,20.3s,baz=241,slow=35						
LPAZ	**La Paz**	**15.33**	**16**	Pn	**P**	**03 17 56.0**	**-2.1**
	comp=N,0.7nm,0.3s,baz=181,slow=5.7,SNR=35						
LPAZ	**La Paz**	**15.33**	**16**	Pn	**Pn**	**03 17 53.9**	**+0.7**
LPAZ					IAmb	IAmb	03 17 56.8	
	comp=Z,10.0nm,0.7s						
SIV	**San Ignacio**	**18.38**	**38**	P	**P**	**03 18 32.5**	**+1.1**
	comp=Z,1.6nm,0.3s,baz=225,slow=11,SNR=89						
NNA	**Nana**	**19.45**	**347**	LR	LR	03 23 51.5	
	comp=Z,55nm,19.1s,baz=169,slow=30						
BDFB	**Brasilia**	**27.24**	**61**	P	**P**	**03 20 02.5**	**+1.8**
	comp=Z,3.3nm,0.8s,baz=238,slow=8.8,SNR=4.6						
BDFB	**Brasilia**	**27.24**	**61**	IAmb	IAmb	03 20 13.5	
	comp=Z,9.9nm,1.3s						
RUSC	**La Rusia**	**36.82**	**359**	P	**P**	**03 21 26.5**	**+1.4**
VNA3	**Neumayer Olymp**	**52.19**	**159**	P	**P**	**03 23 29.4**	**+2.6**
VNA2	**Neumayer--Watz**	**52.83**	**158**	P	**P**	**03 23 33.8**	**+2.2**
	baz=293,slow=7.0						
SNAA	**Sanae**	**54.41**	**159**	P	**P**	**03 23 45.4**	**+2.1**
SNAA	**Sanae**	**54.41**	**159**	LR	LR	03 44 56.1	
	comp=Z,18nm,20.1s,baz=80,slow=34						
TX32	**Lajitas Array**	**67.01**	**331**	P	**P**	**03 25 06.6**	**-3.0**
TXAR	**Lajitas Array**	**67.01**	**331**	P	**P**	**03 25 11.0**	**+1.4**
	comp=Z,1.1nm,0.7s,baz=153,slow=8.3,SNR=13						
TXAR	**Lajitas Array**	**67.01**	**331**	P	**P**	**03 25 06.7**	**-2.9**
TX31	**Lajitas Ar. Si**	**67.01**	**331**	P	**P**	**03 25 06.9**	**-2.7**
HDIL	**Hopedale**	**72.99**	**347**	P	**P**	**03 25 43.8**	**-2.2**
GLMI	**Grayling**	**76.39**	**351**	P	**P**	**03 26 04.0**	**-1.5**
ECSD	**EROS Data Cent**	**77.68**	**342**	P	**P**	**03 26 13.5**	**+0.6**
PDAR	**Pinedale Array**	**81.00**	**333**	P	**P**	**03 26 32.3**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=116,slow=6.8,SNR=2.9						
TORD	**Torodi Ar. Bea**	**83.69**	**71**	P	**P**	**03 26 47.0**	**+1.2**
	comp=Z,0.6nm,0.9s,baz=242,slow=4.9,SNR=2.6						
LBTB	**Lobatse**	**83.94**	**115**	P	**P**	**03 26 49.1**	**+1.9**
	comp=Z,2.7nm,0.9s,baz=185,slow=14,SNR=2.7						
WRA	**Warramunga Arr**	**123.01**	**211**	PKP	**PKiKP**	**03 33 13.9**	**0.0**
	comp=Z,0.5nm,0.6s,baz=176,slow=1.6,SNR=7.3						
ZALV	**Zalesovo Beam**	**152.00**	**29**	PKPbc	**PKiKP**	**03 34 13.0**	**+1.4**
	comp=Z,4.3nm,0.8s,baz=272,slow=2.3,SNR=8.7						

*MAN **19** 03:16:18.1,7°.10N×123°.72E,h19km,mb4.8,ML3.7,MS3.7*
*IDC **19** 03:16:51.6±9.2,5°.65N×123°.65E,h287km±96km,mb3.3/6,*
mb1 3.4/6,mb1mx3.1/36,mbtmp3.9/6,MS3.8/1,Ms1 3.7/1,
ms1mx2.6/29,Error ellipse: s-maj=111.9km s-min=17.9km
az=64.0

ISC 19 03:16:15.3±1.0,6°.9N±0°.1×123°.80E±0°.06,h10km,n9,
σ0°68/8,mb3.8/6,2C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**1.29**	**85**	*iP*	**Pn**	**03 16 39.7**	**+0.3**
KCP				*i*	**Sb**	**03 16 56.4**	**0.0**
ZCP	**Zamboanga City**	**1.71**	**271**	*iP*	**Pn**	**03 16 45.1**	**0.0**
ZCP				*i*	**Sn**	**03 17 07.5**	**+0.5**
DCPH	**Dipolog City**	**1.74**	**345**	*eP*	**Pn**	**03 16 45.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**24.90**	**176**	P	**P**	**03 21 38.9**	**+0.4**
	2.1nm,0.8s,baz=19,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**28.61**	**159**	P	P	03 22 11.7	-0.3
	1.0nm,0.8s,baz=334,slow=11,SNR=13						
ASAR	**Alice Springs**	**31.94**	**162**	P	P	03 22 41.2	-0.3
	0.2nm,0.3s,baz=340,slow=7.2,SNR=7.2						
ASAR				PcP	**PcP**	**03 25 30.5**	**-1.3**
	0.3nm,0.4s,baz=350,slow=3.1,SNR=4.1						
STKA	**Stephens Creek**	**42.13**	**157**	P	**P**	**03 24 08.0**	**+0.1**
	4.2nm,0.7s,baz=324,slow=7.6,SNR=11						
STKA					LR	LR	03 43 12.0	
	comp=Z,126nm,19.8s,baz=205,slow=38						
MKAR	**Makanchi Array**	**53.31**	**325**	P	P	03 25 48.4	+14
	1.1nm,0.9s,baz=126,slow=8.2,SNR=6.2						
ZALV	**Zalesovo Beam**	**56.47**	**334**	P	P	03 26 11.0	+14
	1.2nm,0.4s,baz=130,slow=10,SNR=2.1						

TRN 19 03:18:56.5,15°.91N×60°.83W,h30km,MD3.8,1C,
Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAGL	**Barre de l'ile**	**0.44**	**275**	*eP*	Pn	03 19 08.3	+1.5
MAGL				*eS*	Sn	03 19 16.1	+2.4
DLPL	**La Plaine**	**0.70**	**215**	*eP*	Pn	03 19 11.7	+1.3
DLPL				*eS*	Sn	03 19 22.5	+2.2
DSLB	**Salisbury**	**0.74**	**231**	*eP*	Pn	03 19 12.5	+1.5
TDBA	**Terre de Bas,**	**0.78**	**265**	*eP*	Pb	03 19 13.1	+1.5
TDBA				*eS*	Sn	03 19 24.8	+2.6
TBG	**Guadaloupe-3**	**0.79**	**266**	*eP*	Pb	03 19 13.3	+1.6
TBG				*eS*	Sn	03 19 24.9	+2.5
ILAM	**Ilet Lapin Mar**	**1.13**	**182**	*eP*	Pb	03 19 18.2	+0.7
ILAM				*eS*	Sb	03 19 32.5	+0.6
BAMF	**Morne Balai**	**1.13**	**196**	*eP*	Pb	03 19 17.9	+0.4
CXM	**Morne La Croix**	**1.14**	**197**	*eP*	Pb	03 19 18.1	+0.4
PCM	**Pelee Case Pet**	**1.15**	**199**	*eP*	Pb	03 19 17.9	+0.1
PML	**Morne Lenard**	**1.18**	**197**	*eP*	Pb	03 19 18.6	+0.4
FDF	**Fort de France**	**1.21**	**195**	*eP*	Pb	03 19 18.9	0.0
FDF				*eS*	Sb	03 19 34.4	+0.2
LPMF	**Morne Lapointe**	**1.34**	**186**	*eP*	Pb	03 19 20.4	-0.6
TRMF	**Trois Ilets**	**1.39**	**189**	*eP*	Pb	03 19 21.3	-0.5
BIM	**Bigot**	**1.41**	**190**	*eP*	Pb	03 19 22.2	0.0
BIM				*eS*	Sb	03 19 40.4	+0.6
ANBD	**Bethesda, Anti**	**1.44**	**322**	*eP*	Pb	03 19 22.1	-0.7
ANBD				*eS*	Sb	03 19 40.8	0.0
MPOM	**Morne Pois Mar**	**1.46**	**181**	*eP*	Pb	03 19 22.6	-0.4
MPOM				*eS*	Sb	03 19 41.1	-0.2
ANOC	**Antigua Open C**	**1.54**	**321**	*eP*	Pb	03 19 24.1	-0.3
ANOC				*eS*	Sb	03 19 43.4	-0.1
ANWB	**Willy Bob**	**1.97**	**332**	*eP*	Pn	03 19 29.8	+1.9
ANWB				*eS*	Sn	03 19 53.7	+2.1
SKI	**Saint Kitts**	**2.31**	**308**	*eP*	Pb	03 19 35.2	-2.4
SKI				*eS*	Sn	03 20 02.1	+2.0
SVV	**Soufriere Volc**	**2.61**	**188**	*eP*	Pn	03 19 38.8	+2.1
SVV				*eS*	Sn	03 20 09.6	+2.2
SVB	**Belmont**	**2.66**	**189**	*eP*	Pn	03 19 38.7	+1.4

TRN 19 03:25:43.1,10°.49N×62°.48W,h3km,MD3.7,Near coast
of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TPP	**Pointe-a-Pierr**	**1.02**	**100**	*eP*	Pg	03 26 02.9	+0.1
TPP				*eS*	Sb	03 26 18.3	+0.9
TRN	**Trinidad (W)**	**1.07**	**81**	*e*	Pg	03 26 00.2	-3.4
TRN	**Trinidad (W)**	**1.07**	**81**	*eP*	Pg	03 26 03.0	-0.6
TRN	**Trinidad (W)**	**1.07**	**81**	*e*	Pn	03 26 14.5	+10
TBH	**Brigand Hill**	**1.39**	**90**	*e*	Pn	03 26 05.5	-3.9
TBH	**Brigand Hill**	**1.39**	**90**	*eP*	Pn	03 26 09.1	-0.4
GRFF	**Grenada Fort F**	**1.71**	**25**	*eP*	Pb	03 26 15.0	-0.3
GRFF				*eS*	Sb	03 26 37.0	-0.3
TPR	**Prospect**	**1.81**	**67**	*eP*	Pb	03 26 16.2	-0.8
GRGR	**Grenville**	**1.82**	**26**	*eP*	Pn	03 26 16.1	+0.6
GRGR				*eS*	Sb	03 26 40.5	+0.1
BOT	**Bacolet**	**1.85**	**69**	*eP*	Pn	03 26 16.6	+0.8
TOSP	**Speyside**	**2.07**	**67**	*eP*	Pn	03 26 18.4	-0.4
TOSP				*eS*	Sb	03 26 46.6	-0.9
GCMP	**Grenada, Carri**	**2.24**	**27**	*eP*	Pn	03 26 21.1	0.0
GCMP				*eS*	Sn	03 26 49.6	+0.4
MCLT	**Moule a Chique**	**3.54**	**25**	*eP*	Pn	03 26 39.1	+0.1
MCLT				*eS*	Sn	03 27 20.8	-0.6
SLBI	**Saint Lucia, B**	**3.81**	**23**	*eP*	Pn	03 26 43.0	+0.3
BAUV	**El Baul**	**5.70**	**255**	*eP*	Pn	03 27 10.4	+1.6

*TUL **19** 03:50:46.4±1.1,36°.06N±0°.02×97°.21W±0°.05,h4km±7km,*
ML2.8,mb_Lg2.8/63(NEIC),Error ellipse: s-maj=6.1km
s-min=2.6km az=85.0

NEIC 19 03:50:46.5±0.7,36°.09N±0°.02×97°.22W±0°.06,h3km±7km,
Error ellipse: s-maj=6.7km s-min=2.7km az=82.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OK031	**S. Brethren Rd**	**0.34**	**113**		Pg	03 50 52.9	-0.1
OK029	**Liberty Lake**	**0.34**	**213**			03 50 53.3	+0.2
QUOK	**Quay**	**0.42**	**78**			03 50 54.6	0.0
OK025	**Westminster Rd**	**0.51**	**191**			03 50 56.1	-0.2
BCOK	**Bluff Creek, N**	**0.53**	**216**			03 50 56.5	-0.2
BLOK	**Blackwell**	**0.68**	**0**			03 50 59.5	0.0
OKCFA	**Oklahoma City**	**0.69**	**196**			03 50 59.8	0.0
OKCSW	**OKLAHOMA CITY**	**0.70**	**195**			03 50 59.4	-0.5
CROK	**Carrier**	**0.74**	**305**		Pg	03 51 01.0	+0.2
FNO	**Franklin**	**0.84**	**190**			03 51 02.1	-0.4
GC02	**Grant County #**	**0.92**	**326**			03 51 04.3	+0.1
KAN13	**South Hanen SW**	**0.95**	**348**			03 51 05.3	+0.2
T35A	**Soonah Cattle**	**1.01**	**34**			03 51 05.7

comp=Z,7.5nm,1.0s

*IASPEI **19** 03:56:28.2±0.9, 38°.13N±0°.02×20°.58E±0°.03, h19km±2km, Error ellipse: s-maj=4.9km s-min=3.1km az=65.3, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*ATH **19** 03:56:28.5, 38°.13N×20°.55E, h19km±1km, ML3.5/2, Error ellipse: s-maj=2.5km s-min=1.0km az=235.0*

*THE **19** 03:56:28.4, 38°.11N×20°.55E, h17km, ML3.4/3, Error ellipse: s-maj=0.9km s-min=0.3km az=246.0*

ISC 19 03:56:28.0±0.9, 38°.13N±0°.02×20°.57E±0°.03, h18km±1km, n50, σ0°.91/72, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSDA	**Pessada-Kefalo**	**0.02**	**143**	P			**Pg**	**03 56 31.4**	**+0.2**
PSDA				S			**Sg**	**03 56 33.6**	**+0.2**
PSDA	**Pessada-Kefalo**	**0.02**	**143**	P			**Pg**	**03 56 31.4**	**+0.2**
PSDA				S			**Sg**	**03 56 33.6**	**+0.2**
VLS	**Valsamata**	**0.05**	**21**	P			**Pg**	**03 56 31.6**	**+0.2**
VLS				S			**Sg**	**03 56 34.0**	**+0.3**
	26μm,0.1s								
VLS	**Valsamata**	**0.05**	**21**	P			**Pg**	**03 56 31.6**	**+0.2**
VLS				S			**Sg**	**03 56 34.1**	**+0.3**
VLS				AML			AML	03 56 34.2	
	comp=E,55678μm,0.1s								
VLS				AML			AML	03 56 34.3	
	comp=N,41770μm,0.1s								
ARG2	**Argostoli**	**0.08**	**307**	P			**Pg**	**03 56 31.7**	**+0.1**
ARG2				S			**Sg**	**03 56 33.9**	**0.0**
ARGA	**Argostoli. Kep**	**0.08**	**303**	P			**Pg**	**03 56 32.6**	**+1.0**
ARGA				S			**Sg**	**03 56 35.0**	**+1.0**
LXRA	**Lixouri, Kepha**	**0.12**	**304**	P			**Pg**	**03 56 32.4**	**+0.4**
LXRA				S			**Sg**	**03 56 35.6**	**+0.9**
KEF4	**Livadi, Kephal**	**0.17**	**318**	P			**Pg**	**03 56 32.9**	**+0.3**
KEF4				S			**Sg**	**03 56 36.4**	**+0.7**
KEF4	**Livadi, Kephal**	**0.17**	**318**	P			**Pg**	**03 56 32.9**	**+0.3**
KEF4				S			**Sg**	**03 56 36.3**	**+0.7**
DMLN	**Damoulianata-K**	**0.19**	**305**	P			**Pb**	**03 56 33.0**	**+0.8**
DMLN				S			**Sg**	**03 56 36.9**	**+0.8**
DMLN	**Damoulianata-K**	**0.19**	**305**	P			**Pb**	**03 56 33.0**	**+0.8**
DMLN				S			**Sg**	**03 56 36.8**	**+0.7**
KEF3	**Kipouria, Keph**	**0.19**	**293**	P			**Pb**	**03 56 32.8**	**+0.6**
KEF3				S			**Sg**	**03 56 36.3**	**+0.2**
KEF3	**Kipouria, Keph**	**0.19**	**293**	P			**Pb**	**03 56 32.8**	**+0.6**
KEF3				S			**Sg**	**03 56 36.3**	**+0.2**
VLMS	**Volimes, Zakyn**	**0.27**	**164**	P			**Pg**	**03 56 34.2**	**+0.1**
VLMS				S			**Sb**	**03 56 38.5**	**+0.4**
	comp=N,14μm,0.2s								
VLMS	**Volimes, Zakyn**	**0.27**	**164**	P			**Pg**	**03 56 34.1**	**+0.1**
VLMS				S			**Sb**	**03 56 38.6**	**+0.4**
VLMS				AML			AML	03 56 38.7	
	comp=E,29813μm,0.2s								
VLMS				AML			AML	03 56 41.5	
	comp=N,25157μm,0.2s								
FSK	**Fiskardo**	**0.33**	**359**	P			**Pg**	**03 56 35.5**	**+0.4**
FSK				S			**Sb**	**03 56 41.0**	**+0.7**
	comp=N,5μm,0.2s								
ZAK2	**Zakynthos**	**0.43**	**142**	P			**Pg**	**03 56 37.2**	**+0.3**
LTHK	**Lithakia**	**0.47**	**153**	P			**Pg**	**03 56 37.4**	**-0.2**
LTHK				S			**Sg**	**03 56 44.3**	**+0.3**
EVGI	**Lefkada island**	**0.49**	**8**	P			**Pg**	**03 56 38.3**	**+0.3**
EVGI	**Lefkada island**	**0.49**	**8**	P			**Pg**	**03 56 38.2**	**+0.3**
DRAG	**Dragano-Lefkad**	**0.55**	**1**	P			**Pg**	**03 56 39.1**	**0.0**
DRAG				S			**Sb**	**03 56 48.4**	**+1.8**
DRAG	**Dragano-Lefkad**	**0.55**	**1**	P			**Pg**	**03 56 39.1**	**0.0**
NYDR	**Nydri-Lefkada**	**0.59**	**10**	P			**Pg**	**03 56 39.8**	**0.0**
NYDR	**Nydri-Lefkada**	**0.59**	**10**	P			**Pg**	**03 56 39.6**	**-0.2**
LKD2	**Lefkada island**	**0.66**	**6**	P			**Pb**	**03 56 41.0**	**0.0**
LKD2	**Lefkada island**	**0.66**	**6**	P			**Pb**	**03 56 40.9**	**0.0**
TSLK	**Tsoukalades, L**	**0.70**	**6**	P			**Pb**	**03 56 41.8**	**+0.2**
TSLK	**Tsoukalades, L**	**0.70**	**6**	P			**Pb**	**03 56 41.7**	**+0.2**
RLS	**Riolos of Patr**	**0.71**	**96**	P			**Pb**	**03 56 42.1**	**+0.3**
RLS				S			**Sg**	**03 56 53.2**	**+1.7**
RLS	**Riolos of Patr**	**0.71**	**96**	P			**Pb**	**03 56 42.2**	**+0.3**
PVO	**Paravola**	**0.90**	**57**	P			**Pb**	**03 56 45.9**	**+0.9**
DRO	**Drossia**	**0.92**	**101**	P			**Pb**	**03 56 45.7**	**+0.3**
DRO	**Drossia**	**0.92**	**101**	P			**Pb**	**03 56 45.9**	**+0.5**
EFP	**Efpalio**	**1.09**	**74**	P			**Pn**	**03 56 48.8**	**+0.4**
LAKA	**Lakka**	**1.12**	**84**	P			**Pn**	**03 56 49.0**	**+0.3**
KLV	**Kalavryta, Ach**	**1.25**	**94**	P			**Pn**	**03 56 51.4**	**+0.8**
IGT	**Igoumenitsa**	**1.41**	**353**	P			**Pb**	**03 56 54.2**	**+0.4**
ITM	**Ithomi**	**1.44**	**131**	P			**Pb**	**03 56 54.6**	**+0.4**
KEK	**Kerkira**	**1.69**	**339**	P			**Pn**	**03 56 57.8**	**+1.2**
STON	**Ston**	**5.21**	**336**	*e*P			**Pn**	**03 57 44.7**	**-0.3**
MAKA	**Makarska**	**5.81**	**334**	*e*P			**Pn**	**03 57 53.8**	**+0.6**
MAKA				S			**Sn**	**03 58 56.2**	**-3.1**
HVAR	**Hvar**	**5.93**	**329**	*e*P			**Pn**	**03 57 54.6**	**-0.3**
RICI	**Ricice**	**5.96**	**335**	*e*P			**Pn**	**03 57 55.1**	**-0.1**
RICI				S			**Sn**	**03 59 00.3**	**-2.6**
KIJV	**Kijevo**	**6.66**	**333**	*e*P			**Pn**	**03 58 05.4**	**+0.6**
KIJV				S			**Sn**	**03 59 16.0**	**-4.2**
ZIRJ	**Zirje**	**6.66**	**328**	*e*Pn			**Pn**	**03 58 04.3**	**-0.5**
MORI	**Morici**	**6.81**	**329**	*e*Pn			**Pn**	**03 58 07.5**	**+0.7**
DUGI	**Dugi Otok**	**7.18**	**326**	*e*Pn			**Pn**	**03 58 11.8**	**-0.2**
UDBI	**Udbina**	**7.34**	**332**	*e*Pn			**Pn**	**03 58 15.7**	**+1.4**
NVLJ	**Novalja**	**7.72**	**328**	*e*Pn			**Pn**	**03 58 19.5**	**+0.1**
BRJN	**Brijuni**	**8.48**	**325**	*e*Pn			**Pn**	**03 58 29.5**	**-0.3**

MEX 19 03:57:53.1±0.9, 15°.78N×95°.36W, h10km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PCIG		**2.06**	**92**	*i* P			Pn	03 58 23.8	-3.9
PCIG				*i* S			Sn	03 58 48.9	-4.6
TGIG		**2.36**	**65**	*i* P			Pn	03 58 29.3	-2.8
TGIG				*i* S			Sn	03 59 01.1	0.0
CCIG	**Comitan**	**3.14**	**80**	*e*P			Pn	03 58 39.2	-3.5
CCIG				*e*S			Sn	03 59 17.1	-3.3

*IDC **19** 04:12:44.6±1.1, 31°.14S×72°.00W, h0km, mb4.2/6, mb1 4.3/11, mb1mx4.1/27, mbtmp4.1/11, ML4.1/5, MS2.9/2, Ms1 2.8/2, ms1mx2.6/24, Error ellipse: s-maj=29.0km s-min=25.9km az=19.0*

*NEIC **19** 04:12:45.4±1.9, 31°.22S±0°.04×72°.06W±0°.08, h10km±4km, mb4.5/31, ML4.4(GUC), Error ellipse: s-maj=11.2km s-min=3.1km az=115.0*

*GUC **19** 04:12:45.0±0.7, 31°.18S×72°.16W, h36km±3km, ML4.4*

ISC 19 04:12:45.1±2.3, 31°.18S±0°.03×72°.06W±0°.07, h10km±14km, n88, σ1°.40/95, mb4.5/19, 7C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.62**	**36**	*e*P			**Pb**	**04 12 58.0**	**0.0**
CO06				*e*S			**Sb**	**04 13 07.1**	**+0.3**
CO06				IAML				04 13 11.7	
	comp=N,24μm,0.4s								
CO06	**Fray Jorge**	**0.62**	**36**				**Pb**	**04 12 58.0**	**0.0**
CO03	**El Pedregal**	**1.22**	**74**	*e*P			**Pn**	**04 13 07.9**	**-0.4**
CO03				*e*S			**Sg**	**04 13 24.4**	**-0.1**
CO03				IAML				04 13 28.7	
	comp=E,8μm,0.4s								
CO03	**El Pedregal**	**1.22**	**74**	Pn			**Pn**	**04 13 07.5**	**-0.8**
CO05	**La Serena**	**1.44**	**30**	*e*P			**Pn**	**04 13 10.9**	**-0.3**
CO05				*e*S			**Sn**	**04 13 30.1**	**-0.1**
CO05	**La Serena**	**1.44**	**30**				**Pb**	**04 13 11.8**	**-0.3**
GO04	**Tololo Observa**	**1.48**	**48**	*e*P			**Pn**	**04 13 11.8**	**-0.2**
GO04				*e*S			**Sg**	**04 13 32.1**	**-0.6**
GO04				IAML				04 13 39.3	
	comp=N,23μm,0.6s								
GO04	**Tololo Observa**	**1.48**	**48**				**Pb**	**04 13 13.0**	**+0.2**
VA06	**Catapilco**	**1.52**	**155**	*e*P			**Pn**	**04 13 12.0**	**-0.4**
VA06				*e*S			**Sn**	**04 13 32.0**	**-0.2**
VA06				IAML				04 13 40.9	
	comp=E,8μm,0.4s								
VA01	**Torpederas**	**1.87**	**169**	*e*P			**Pn**	**04 13 16.6**	**-0.6**
VA01				*e*S			**Sn**	**04 13 40.3**	**-0.5**
VA01	**Torpederas**	**1.87**	**169**	Pn			**Pn**	**04 13 16.4**	**-0.7**
ROCH	**El Roble**	**2.00**	**154**	*e*P			**Pn**	**04 13 19.4**	**+0.3**
ROCH				*e*S			**Sn**	**04 13 44.8**	**+0.6**
ROCH				IAML				04 13 57.9	
	comp=N,3μm,0.4s								
VA03	**San Esteban**	**2.03**	**141**	*e*P			**Pn**	**04 13 20.0**	**+0.5**
VA03				*e*S			**Sn**	**04 13 46.1**	**+1.1**
VA03				IAML				04 13 52.8	
	comp=E,5μm,0.3s								
VA03	**San Esteban**	**2.03**	**141**	Pn			**Pn**	**04 13 18.9**	**-0.6**
LCO	**Las Campanas**	**2.46**	**29**				**Pn**	**04 13 26.1**	**+0.6**
MT05	**Renca**	**2.47**	**153**	*e*P			**Pn**	**04 13 25.7**	**+0.2**
MT05				*e*S			**Sn**	**04 13 56.8**	**+1.0**
MT05				IAML				04 14 12.6	
	comp=E,3μm,0.3s								
MT05	**Renca**	**2.47**	**153**				**Pn**	**04 13 24.9**	**-0.6**
VA05	**Santo Domingo**	**2.50**	**172**	*e*P			**Pn**	**04 13 25.2**	**-0.5**
VA05				*e*S			**Sn**	**04 13 55.9**	**-0.4**
VA05				IAML				04 14 10.6	
	comp=E,3μm,0.6s								
VA05	**Santo Domingo**	**2.50**	**172**	Pn			**Pn**	**04 13 25.4**	**-0.4**
MT09	**Talagante**	**2.74**	**161**	*e*P			**Pn**	**04 13 27.6**	**-1.7**
MT09				*e*S			**Sn**	**04 14 02.1**	**-0.4**
MT09				IAML				04 14 26.1	
	comp=E,1μm,0.6s								
MT09	**Talagante**	**2.74**	**161**	Pn			**Pn**	**04 13 28.7**	**-0.6**
MT01	**Popeta**	**2.76**	**166**	*e*P			**Pn**	**04 13 28.9**	**-0.5**
MT01				*e*S			**Sn**	**04 14 02.6**	**-0.3**
MT01				IAML				04 14 21.5	
	comp=E,1μm,0.8s								
MT01	**Popeta**	**2.76**	**166**	Pn			**Pn**	**04 13 29.0**	**-0.5**
ZON	**Zonda**	**2.91**	**98**	Pn			**Pn**	**04 13 27.2**	**-4.4**
AC04	**Llanos de Chal**	**3.08**	**16**	*i* P			**Pn**	**04 13 33.1**	**-0.8**
AC04				*e*S			**Sn**	**04 14 09.3**	**-1.6**
AC04	**Llanos de Chal**	**3.08**	**16**				**Pn**	**04 13 32.8**	**-1.1**
BO01	**Tunca**	**3.31**	**166**	*e*P			**Pn**	**04 13 36.8**	**-0.1**
BO01				*i* S			**Sb**	**04 14 24.7**	**+0.6**
BO01				IAML				04 14 33.3	
	comp=N,275nm,0.4s								
BO01	**Tunca**	**3.31**	**166**				**Pn**	**04 13 34.6**	**-2.3**
BO03	**Pichilemu**	**3.31**	**179**	*i* P			**Pn**	**04 13 35.9**	**-1.0**
BO03				*i* S			**Sn**	**04 14 11.6**	**-4.7**
BO03				IAML				04 14 15.1	
	comp=N,328nm,0.6s								
BO02	**Sierra Bellavi**	**3.76**	**164**	*e*P			**Pn**	**04 13 44.3**	**+1.1**
BO02				IAML				04 14 55.0	
	comp=E,771nm,0.7s								
BO02	**Sierra Bellavi**	**3.76**	**164**	Pn			**Pn**	**04 13 41.7**	**-1.5**
GO05	**Huala**	**3.82**	**178**				**Pn**	**04 13 42.5**	**-1.5**
GO03	**Copiap**	**3.91**	**24**	Pn			**Pn**	**04 13 44.6**	**-0.6**
AC06	**Mina Casimiro**	**4.09**	**22**				**Pn**	**04 13 47.5**	**-0.1**
ML02	**Panimavida**	**4.60**	**174**	Pn			**Pn**	**04 13 54.4**	**-0.3**
AC02	**Maricunga**	**5.03**	**31**	Pn			**Pn**	**04 14 01.1**	**+0.1**
H03N1	**Juan Fernandez**	**6.23**	**247**	T			T	04 20 56.8	
	baz=76,slow=72,SNR=773								
H03N3	**Juan Fernandez**	**6.24**	**247**	T			T	04 20 55.3	
	baz=76,slow=72,SNR=756								
H03N2	**Juan Fernandez**	**6.24**	**247**	T			T	04 20 57.4	
	baz=76,slow=72,SNR=511								
LVC	**Limon Verde**	**8.98**	**19**	Pn			**Pn**	**04 14 53.2**	**-2.1**
	comp=E,0.2nm,0.3s,baz=158,slow=4.6,SNR=1.4								
LVC				Sn			**Sn**	**04 16 33.5**	**-3.2**
	comp=E,0.5nm,0.3s,baz=179,slow=8.1,SNR=2.5								
PLCA	**Paso Flores**	**9.61**	**173**	Pn			**Pn**	**04 15 04.2**	**+0.6**
	comp=E,1.1nm,0.3s,baz=332,slow=12,SNR=15								
PLCA				LR			LR	04 18 21.7	
	comp=E,51nm,19.6s,baz=2.5,slow=35								
TRQA	**Tornquist**	**10.77**	**132**	Pn			**Pn**	**04 15 19.7**	**+0.4**
PB11	**IPOC Station P**	**11.57**	**11**	Pn			**Pn**	**04 15 31.2**	**+0.6**
CPUP	**Villa Florida**	**13.79**	**73**	Pn			**Pn**	**04 16 01.2**	**+0.5**
	comp=E,0.1nm,0.3s,baz=146,slow=20,SNR=1.5								
CPUP				LR			LR	04 21 41.4	
	comp=E,55nm,20.0s,baz=248,slow=39								
LPAZ	**La Paz**	**15.25**	**14**	Pn			**Pn**	**04 16 22.7**	**+1.6**
	comp=E,0.6nm,0.3s,baz=188,slow=7.3,SNR=34								
LPAZ	**La Paz**	**15.25**	**14**	Pn			**Pn**	**04 16 20.0**	**-1.2**
SIV	**San Ignacio**	**18.14**	**36**	P			**Pn**	**04 16 57.3**	**0.0**
	comp=E,0.6nm,0.3s,baz=211,slow=19,SNR=9.5								
SAML	**Samuel**	**23.61**	**22**	P			**P**	**04 17 55.5**	**-0.8**
USHA	**Ushuaia**	**23.78**	**175**	LR			LR	04 26 59.0	
	comp=E,2μm,21.8s,baz=241,slow=36								
BDFB	**Brasilia**	**26.86**	**60**	P			**P**	**04 18 26.6**	**+0.4**
	comp=E,2.8nm,0.6s,baz=232,slow=10,SNR=6.9								
BDFB	**Brasilia**	**26.86**	**60**	P			**P**	**04 18 27.7**	**+1.6**
BDFB				IAmb			IAmb	04 18 33.2	
	comp=E,18nm,1.4s								
RUSC	**La Rusia**	**36.88**	**358**	P			**P**	**04 19 55.4**	**+1.0**
RUSC				IAmb			IAmb	04 19 57.6	
	comp=Z,18nm,1.4s								
SJG	**San Juan**	**49.34**	**7**	P			**P**	**04 21 34.1**	**-0.5**
CBYP	**Canovanas**	**49.53**	**8**	P			**P**	**04 21 35.3**	**-0.8**
CBYP				IAmb			IAmb	04 21 36.7	
	comp=Z,7.5nm,0.9s								
VNA3	**Neumayer Olymp**	**51.98**	**159**	P			**P**	**04 21 55.1**	**+1.0**
VNA2	**Neumayer--Watz**	**52.62**	**158**	P			**P**	**04 21 59.7**	**+0.9**
	baz=284,slow=8.2								
SNAA	**Sanae**	**54.20**	**159**	P			**P**	**04 22 11.4**	**+0.9**
SNAA	**Sanae**	**54.20**	**159**	P			**P**	**04 22 10.4**	**-0.1**
SNAA				IAmb			IAmb	04 22 18.6	
	comp=Z,12nm,1.3s								
QSPA	**South Pole Qui**	**59.05**	**180**	P			**P**	**04 22 46.2**	**+1.1**
TXAR	**Lajitas Array**	**67.28**	**330**	P			**P**	**04 23 41.1**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=138,slow=7.8,SNR=9.7								
DBIC	**Dimbokro**	**74.31**	**72**	P			**P**	**04 24 23.6**	**+0.6**
	comp=Z,11nm,1.2s,baz=231,slow=2.6,SNR=3.1								
X16A	**Lo Mia Camp, P**	**75.06**	**327**	P			**P**	**04 24 29.2**	**+2.0**
X16A				IAmb			IAmb	04 24 30.1	
	comp=Z,4.0nm,1.3s								
Y14A	**Wickenburg**	**75.41**	**326**	P			**P**	**04 24 31.0**	**+1.9**
PV03	**Paradox Valley**	**77.13**	**331**	P			**P**	**04 24 40.1**	**+1.2**
PV03				IAmb			IAmb	04 24 41.8	
	comp=Z,3.7nm,1.2s								
KNB	**Kanab**	**77.83**	**328**	P			**P**	**04 24 44.4**	**+1.5**
KNB				IAmb			IAmb	04 24 53.3	
	comp=Z,7.6nm,1.4s								
RDMU	**Red Mountain**	**79.39**	**332**	P			**P**	**04 24 51.6**	**+0.1**
RDMU				IAmb			IAmb	04 24 53.7	
	comp=Z,5.6nm,0.9s								
ISA	**Isabella, Lake**	**79.51**	**323**	P			**P**	**04 24 51.5**	**-0.5**
ISA				IAmb			IAmb	04 24 55.1	
	comp=Z,2.8nm,0.8s								
SPR3	**Spring Creek 3**	**80.14**	**328**	P			**P**	**04 24 56.7**	**+1.1**
HWUT	**Hardware Ranch**	**81.08**	**331**	IAmb			IAmb	04 25 02.4	
	comp=Z,3.4nm,0.8s								
SPUT	**South Promonto**	**81.20**	**330**	IAmb			IAmb	04 25 03.3	
	comp=Z,3.1nm,1.0s								
PDAR	**Pinedale Array**	**81.25**	**333**	P			**P**	**04 25 03.1**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=111,slow=8.1,SNR=4.0								
PDAR	**Pinedale Array**	**81.25**	**333**	P			**P**	**04 25 02.1**	**+0.7**
BOSA	**Boshof**	**81.40**	**118**	P			**P**	**04 25 01.2**	**-1.4**
NVAR	**Mina Array Bea**	**81.57**	**325**	P			**P**	**04 25 04.0**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=154,slow=5.4,SNR=6.9								
NVAR	**Mina Array Bea**	**81.57**	**325**	P			**P**	**04 25 02.2**	**-0.9**
YERR	**Yerington**	**82.46**	**325**	P			**P**	**04 25 08.5**	**+0.7**
YERR				IAmb			IAmb	04 25 18.0	
	comp=Z,9.4nm,1.4s								
PAHR	**Pah Rah Range**	**83.09**	**325**	P			**P**	**04 25 12.5**	**+1.4**
PAHR				IAmb			IAmb	04 25 13.4	
	comp=Z,2.6nm,0.8s								
TORD	**Torodi Ar. Bea**	**83.27**	**70**	P			**P**	**04 25 13.4**	**+1.1**
	comp=Z,2.2nm,0.7s,baz=287,slow=5.5,SNR=15								
TORD	**Torodi Ar. Bea**	**83.27**	**70**	P			**P**	**04 25 12.2**	**-0.1**
TORD				IAmb			IAmb	04 25 15.2	
	comp=Z,2.5nm,0.8s								
HLID	**Hailey**	**83.88**	**330**	P			**P**	**04 25 16.2**	**+1.2**
DGMT	**Dagmar**	**84.35**	**339**	P			**P**	**04 25 16.9**	**-0.2**
PINE	**Pine Mountain**	**86.97**	**327**	P			**P**	**04 25 31.8**	**+1.3**
PINE				IAmb			IAmb	04 25 33.2	
	comp=Z,5.9nm,1.1s								
H11S2	**WAKE ISLAND Hyl**	**25.75**	**271**	T			T	06 50 38.7	
	baz=116,slow=75,SNR=14								
H11S1	**WAKE ISLAND Hyl**	**25.76**	**271**	T			T	06 50 30.6	
	baz=116,slow=75,SNR=6.4								
H11S3	**WAKE ISLAND Hyl**	**25.77**	**271**	T			T	06 50 44.7	
	baz=116,slow=75,SNR=7.1								
ZALV	**Zalesovo Beam**	**151.82**	**29**	PKPbc			**PKiKP**	**04 32 41.0**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=307,slow=4.1,SNR=4.0								
KMI	**Kunming**	**172.42**	**141**	⇓PKP			**PKPdf**	**04 32 56.5**	**+1.5**
WHN	**Wuhan**	**174.46**	**265**	⇓PKP			**PKPdf**	**04 32 48.3**	**-7.0**

*TUL **19** 04:20:12.7±1.3, 36°.33N±0°.02×96°.79W±0°.04, h5km±7km, ML3.1, mb_Lg3.1/109(NEIC), Error ellipse: s-maj=4.6km s-min=2.2km az=75.0*

*NEIC **19** 04:20:12.7±1.3, 36°.339N±0°.008×96°.81W±0°.05, h2km±7km, Error ellipse: s-maj=5.7km s-min=0.6km az=79.0*

*ANF **19** 04:20:13.0±0.2, 36°.32N×96°.81W, h5km, ML3.5/14, Error ellipse: s-maj=2.5km s-min=2.1km az=174.0*

ISC 19 04:20:12.6±1.1, 36°.34N±0°.02×96°.79W±0°.02, h1km±10km, n127, σ0°.70/125, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.18**	**159**	Pg			**Pg**	**04 20 16.5**	**+0.4**
QUOK				Sg			**Sg**	**04 20 18.9**	**+0.5**
OK031	**S. Brethren Rd**	**0.39**	**186**				**Pg**	**04 20 20.4**	**+0.4**
OK031				Sg			**Sg**	**04 20 25.7**	**+0.7**
BLOK	**Blackwell**	**0.54**	**321**				**Pg**	**04 20 23.4**	**+0.5**
T35A	**Sooner Cattle**	**0.61**	**21**				**Pg**	**04 20 24.8**	**+0.4**
T35B	**Sooner Cattle**	**0.62**	**21**	P			**Pg**	**04 20 24.8**	**+0.4**
	baz=201,SNR=125								
T35B				S			**Sg**	**04 20 33.1**	**+0.7**
	baz=201								
OK029	**Liberty Lake**	**0.77**	**225**				**Pg**	**04 20 27.4**	**+0.1**
OK029				Sg			**Sg**	**04 20 37.6**	**+0.4**
KAN13	**South Haven SW**	**0.87**	**321**				**Pg**	**04 20 28.9**	**-0.3**
OK025	**Westminster Rd**	**0.88**	**211**	Pg			**Pg**	**04 20 29.2**	**-0.2**
OK025				Sg			**Sg**	**04 20 40.9**	**+0.1**
TUL1	**Leonard**	**0.92**	**118**	P			**Pg**	**04 20 30.1**	**0.0**
	baz=298,SNR=110								
TUL1				S			**Sg**	**04 20 41.8**	**-0.1**
	baz=298								
TUL1	**Leonard**	**0.92**	**118**	P			**Pg**	**04 20 30.1**	**0.0**
	baz=298								
TUL1				S			**Sg**	**04 20 41.8**	**-0.1**
	baz=298								
BCOK	**Bluff Creek, N**	**0.95**	**224**				**Pg**	**04 20 30.8**	**-0.1**
BCOK				Sg			**Sg**	**04 20 43.3**	**+0.1**
CROK	**Carrier**	**0.98**	**280**				**Pg**	**04 20 31.5**	**+0.3**
GC02	**Grant County #**	**1.00**	**301**				**Pg**	**04 20 31.7**	**0.0**
GC02				Sg			**Sg**	**04 20 44.8**	**+0.1**
KAN09	**Caldwell North**	**1.03**	**320**				**Pg**	**04 20 32.5**	**+0.1**
KAN09				Sg			**Sb**	**04 20 46.7**	**-0.6**
KAN17	**Caldwell West**	**1.05**	**312**				**Pg**	**04 20 32.0**	**-0.7**
KAN17				Sg			**Sg**	**04 20 46.4**	**+0.1**
OKCFA	**Oklahoma City**	**1.07**	**210**				**Pg**	**04 20 32.4**	**-0.7**
OKCFA	**Oklahoma City**	**1.07**	**210**	P			**Pg**	**04 20 32.4**	**-0.7**
	baz=30								
OKCFA				S			**Sg**	**04 20 47.4**	**+0.5**
	baz=30								
OKCSW	**OKLAHOMA CITY**	**1.07**	**210**				**Pg**	**04 20 32.4**	**-0.7**
KS20	**Mayfield South**	**1.08**	**326**				**Pg**	**04 20 32.6**	**-0.6**
KAN14	**Manchester OK**	**1.13**	**303**	Pg			**Pg**	**04 20 33.3**	**-0.8**
KAN05	**Bluff City Nor**	**1.16**	**312**				**Pb**	**04 20 35.0**	**-0.4**
FNO	**Franklin**	**1.19**	**205**				**Pg**	**04 20 34.4**	**-1.0**
OK032	**Salt Plains WL**	**1.23**	**292**				**Pg**	**04 20 36.0**	**-0.2**
KAN08	**Anthony NE Sta**	**1.30**	**313**				**Pb**	**04 20 37.5**	**-0.3**
KAN10	**Anthony SW Sta**	**1.31**	**307**				**Pg**	**04 20 36.7**	**-0.9**
KAN16	**Harper SW Stat**	**1.35**	**311**				**Pn**	**04 20 37.5**	**-1.0**
U32A	**Winter Ranch,**	**1.79**	**272**				**Pb**	**04 20 45.4**	**-0.7**
U32A				IAmb_Lg				04 21 14.2	
	comp=Z,61nm,0.7s								
U32A	**Winter Ranch,**	**1.79**	**272**	Pb			**Pb**	**04 20 46.0**	**-0.1**
	baz=91,SNR=22								
U32A				Sb			**Sg**	**04 21 09.8**	**-0.2**
	baz=91								
X34A	**Smith Ranch, M**	**1.93**	**206**				**Pn**	**04 20 47.0**	**+0.4**
U38A	**Gravette**	**1.94**	**86**				**Pn**	**04 20 46.9**	**+0.2**
U38A				IAmb_Lg				04 21

ABTX	**Abilene, Hawle**	**4.39**	**213**	Pn	**Pn**	**04 21 20.2**	**-0.2**
237A	**Washetta, Mont**	**4.41**	**169**	Pn	**Pn**	**04 21 19.9**	**-0.6**
Z41A	**Richland Creek**	**4.50**	**132**	S	**Sn**	**04 22 13.5**	**-1.2**
	baz=314						
LCAR	**Lake Charles**	**4.56**	**92**	Pn	**Pn**	**04 21 21.7**	**-1.0**
LCAR				IAmb_Lg		04 22 39.0	
	comp=Z,24nm,0.8s						
N35A	**Tabor**	**4.60**	**11**		**Pn**	**04 21 22.4**	**-0.8**
T42A	**Van Buren**	**4.63**	**80**		**Pn**	**04 21 23.1**	**-0.5**
T42A				IAmb_Lg		04 22 40.7	
	comp=Z,26nm,0.8s						
CCM	**Cathedral Cave**	**4.75**	**67**		**Pn**	**04 21 24.4**	**-0.8**
CCM				IAmb_Lg		04 22 42.0	
	comp=Z,24nm,0.7s						
CCAR	**Cane Creek**	**4.77**	**119**	Pn	**Pn**	**04 21 25.6**	**0.0**
CCAR				IAmb_Lg		04 22 55.1	
	comp=Z,49nm,0.9s						
P40A	**Paris**	**4.92**	**48**	Pn	**Pn**	**04 21 27.8**	**+0.3**
P40A				IAmb_Lg		04 22 46.8	
	comp=Z,49nm,0.8s						
PBMO	**Poplar Bluff**	**5.14**	**83**	Pn	**Pn**	**04 21 29.3**	**-1.3**
PBMO					**Sn**	**04 22 29.2**	**-1.3**
PBMO				IAmb_Lg		04 22 59.1	
	comp=Z,35nm,0.8s						
BGNE	**Belgrade**	**5.17**	**349**		**Pn**	**04 21 30.2**	**-0.8**
N38A	**Joes South For**	**5.25**	**31**	Pn	**Pn**	**04 21 31.3**	**-0.8**
FVM	**French Village**	**5.34**	**70**	Pn	**Pn**	**04 21 32.9**	**-0.5**
FVM					**Sn**	**04 22 34.6**	**-0.9**
KSCO	**Kaye Shedlock'**	**5.34**	**302**	Pn	**Pn**	**04 21 33.0**	**-0.5**
KSCO				IAmb_Lg		04 23 14.7	
	comp=Z,26nm,0.7s						
MSTX	**Muleshoe**	**5.44**	**246**	Pn	**Pn**	**04 21 34.9**	**0.0**
435B	**Jarrell**	**5.58**	**187**	IAmb_Lg		04 23 25.5	
	comp=Z,19nm,0.8s						
L34A	**Svendsen Farm,**	**5.63**	**3**	Pn	**Pn**	**04 21 37.0**	**-0.3**
L34A				IAmb_Lg		04 23 23.5	
	comp=Z,45nm,0.8s						
143A	**Socs Landing,**	**5.74**	**128**	IAmb_Lg		04 23 28.2	
	comp=Z,30nm,0.7s						
OGNE	**Ogallala**	**6.16**	**320**	IAmb_Lg		04 23 33.5	
	comp=Z,41nm,0.8s						
T25A	**Trinidad**	**6.17**	**280**	Pn	**Pn**	**04 21 44.4**	**-0.6**
T25A				IAmb_Lg		04 23 36.8	
	comp=Z,30nm,0.9s						
S44A	**Carbondale**	**6.18**	**75**	Pn	**Pn**	**04 21 44.6**	**-0.2**
S44A				IAmb_Lg		04 23 32.6	
	comp=Z,25nm,0.7s						
S44A	**Carbondale**	**6.18**	**75**	P	**Pn**	**04 21 45.1**	**+0.2**
	baz=260,SNR=6.0						
SIUC	**Southern Illin**	**6.21**	**75**		**Pn**	**04 21 44.3**	**-1.0**
SIUC				IAmb_Lg		04 23 29.6	
	comp=Z,32nm,0.9s						
W45A	**Hickory Valley**	**6.29**	**99**	IAmb_Lg		04 23 39.0	
	comp=Z,38nm,0.9s						
OXF	**Oxford**	**6.30**	**105**	Pn	**Pn**	**04 21 47.0**	**+0.6**
OXF				IAmb_Lg		04 23 33.1	
	comp=Z,39nm,0.9s						
JCT	**Junction City**	**6.37**	**204**	Pn	**Pn**	**04 21 47.1**	**-0.4**
JCT				IAmb_Lg		04 23 45.1	
	comp=Z,31nm,0.9s						
N41A	**Harden Midland**	**6.38**	**45**	Pn	**Pn**	**04 21 48.1**	**+0.6**
Y45A	**Yeager Farm, C**	**6.43**	**110**	IAmb_Lg		04 23 38.4	
	comp=Z,28nm,0.8s						
K31A	**O'Neill**	**6.45**	**347**	IAmb_Lg		04 23 43.2	
	comp=Z,32nm,0.8s						
P43A	**Skaggs, Pawnee**	**6.62**	**58**	Pn	**Pn**	**04 21 49.1**	**-1.8**
Q44A	**Meyer Farm, Va**	**6.68**	**65**	IAmb_Lg		04 23 45.8	
	comp=Z,31nm,0.9s						
SDCO	**Great Sand Dun**	**7.11**	**284**	IAmb_Lg		04 24 00.5	
	comp=Z,20nm,1.2s						
ECSD	**EROS Data Cent**	**7.38**	**1**	Pn	**Pn**	**04 22 00.3**	**-1.1**
USIN	**University of**	**7.46**	**75**	IAmb_Lg		04 24 05.2	
	comp=Z,24nm,1.1s						
O44A	**Mansfield**	**7.57**	**57**	IAmb_Lg		04 24 28.1	
	comp=Z,26nm,0.7s						
ISCO	**Idaho Springs**	**7.77**	**299**	Pn	**Pn**	**04 22 07.7**	**+0.6**
T47A	**Sharon Grove**	**7.81**	**82**	Pn	**Pn**	**04 22 07.0**	**-0.2**
T47A	**Sharon Grove**	**7.81**	**82**	P	**Pn**	**04 22 07.1**	**-0.2**
	baz=268,SNR=5.5						
L42A	**Oliver, Polo**	**7.91**	**42**	Pn	**Pn**	**04 22 07.8**	**-0.8**
I37A	**Lemond, Waseca**	**8.09**	**18**	IAmb_Lg		04 24 42.5	
	comp=Z,20nm,1.0s						
X48A	**Hartselle**	**8.18**	**100**	IAmb_Lg		04 24 37.9	
	comp=Z,12nm,0.8s						
P46A	**Rosedale**	**8.24**	**64**	IAmb_Lg		04 24 39.3	
	comp=Z,27nm,1.0s						
SUSD	**Miller**	**8.26**	**349**	IAmb_Lg		04 24 48.8	
	comp=Z,13nm,0.8s						
JFWS	**Jewell Farm**	**8.28**	**36**	IAmb_Lg		04 24 40.7	
	comp=Z,17nm,0.8s						
PHWY	**Pilot Hill**	**8.38**	**309**	IAmb_Lg		04 24 43.0	
	comp=Z,15nm,0.8s						
BLO	**Bloomington**	**8.61**	**68**	IAmb_Lg		04 24 53.0	
	comp=Z,24nm,0.7s						
SFIN	**Lafayette**	**8.61**	**59**	IAmb_Lg		04 24 50.0	
	comp=Z,18nm,0.8s						
I40A	**Norwalk**	**8.90**	**30**	IAmb_Lg		04 25 06.0	
	comp=Z,14nm,0.8s						
FPAL	**Fort Paine**	**9.30**	**98**	IAmb_Lg		04 25 16.1	
	comp=Z,14nm,1.1s						
SPMN	**Marine on St.**	**9.37**	**18**	IAmb_Lg		04 25 20.4	
	comp=Z,9.2nm,0.9s						
P48A	**Milroy**	**9.51**	**67**	IAmb_Lg		04 25 17.4	
	comp=Z,11nm,0.8s						
RSSD	**Black Hills**	**9.54**	**327**	IAmb_Lg		04 25 28.3	
	comp=Z,9.6nm,0.9s						
I42A	**Draeger Farm,**	**9.65**	**36**	IAmb_Lg		04 25 22.5	
	comp=Z,16nm,0.8s						
RWWY	**Rawlins**	**9.71**	**307**	IAmb_Lg		04 25 31.5	
	comp=Z,12nm,1.0s						
K22A	**Casper**	**9.81**	**313**	IAmb_Lg		04 25 37.8	
	comp=Z,16nm,1.2s						

IDC ***19*** *04:23:37.4±1.1,31°.68S×71°.87W,h0km,mb4.1/6, mb1 4.1/11,mb1mx4.0/26,mbtmp3.9/11,ML3.8/5,MS3.4/2, Ms1 3.4/2,ms1mx3.0/23,Error ellipse: s-maj=29.5km s-min=26.0km az=69.0*

NEIC ***19*** *04:23:39.3±1.4,31°.60S±0°.03×72°.08W±0°.08,h10km±1km, mb4.6/10,Mwr4.1/46,ML4.3(GUC),Error ellipse: s-maj=11.8km s-min=5.3km az=278.0*

NEIC ***19*** *04:23:39.3,31°.60S×72°.07W,h23km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.26; Mθθ0.35; Mφφ-1.62; Mrθ-0.35; Mθφ0.07; Mφr-0.90; Fault plane solution: M₀1.76000×10¹⁵ NP1:φs340.07000°, δ31.58000°,λ61.25000°. NP2:φs192.85000°,δ62.67000°, λ106.47000°. Principal axes: T 1.6213, Plg68.0000°, Azm135.0000°; N 0.2539, Plg15.0000°, Azm5.0000°; P -1.8752, Plg16.0000°, Azm271.0000°;*

GUC ***19*** *04:23:40.6±0.7,31°.56S×71°.96W,h38km±3km, ML4.2*

ISC 19 04:23:38.6±1.4,31°.61S±0°.03×72°.00W±0°.06,h10km±9km, n68,σ1♀25/70,mb4.5/6,7C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.98**	**19**	*eP*	**Pg**	**04 23 57.5**	**0.0**
CO06				*eS*	**Sg**	**04 24 10.0**	**-0.3**
CO06	**Fray Jorge**	**0.98**	**19**		**Pg**	**04 23 57.4**	**-0.2**
VA06	**Catapilco**	**1.12**	**148**	*eP*	**Pn**	**04 24 00.8**	**+0.3**
VA06				*eS*	**Sn**	**04 24 16.1**	**+0.1**
VA06				IAML		04 24 21.4	
	comp=E,14μm,0.4s						
CO03	**El Pedregal**	**1.36**	**56**	*i* P	**Pn**	**04 24 03.7**	**-0.1**
CO03				*eS*	**Sb**	**04 24 20.4**	**-1.4**
CO03				IAML		04 24 27.1	
	comp=E,6μm,0.3s						
CO03	**El Pedregal**	**1.36**	**56**	Pn	**Pn**	**04 24 03.7**	**-0.1**
VA01	**Torpederas**	**1.45**	**168**	*eP*	**Pn**	**04 24 05.0**	**+0.1**
VA01	**Torpederas**	**1.45**	**168**		**Pn**	**04 24 05.3**	**+0.4**
ROCH	**El Roble**	**1.60**	**149**	*eP*	**Pn**	**04 24 07.2**	**0.0**
ROCH				*i* S	**Sg**	**04 24 30.3**	**+0.1**
ROCH				IAML		04 24 36.1	
	comp=E,5μm,0.7s						
VA03	**San Esteban**	**1.69**	**134**	*i* P	**Pb**	**04 24 09.7**	**-0.2**
VA03				*eS*	**Sb**	**04 24 31.8**	**+0.5**
VA03				IAML		04 24 35.6	
	comp=E,9μm,0.6s						
GO04	**Tololo Observa**	**1.76**	**36**	*eP*	**Pn**	**04 24 09.8**	**+0.2**
GO04				*i* S	**Sn**	**04 24 32.0**	**-0.1**
GO04	**Tololo Observa**	**1.76**	**36**	Pn	**Pn**	**04 24 10.4**	**+0.9**
CO05	**La Serena**	**1.81**	**22**	*eP*	**Pn**	**04 24 10.1**	**+0.2**
CO05				IAML		04 24 40.1	
	comp=N,4μm,0.4s						
CO05	**La Serena**	**1.81**	**22**	Pn	**Pn**	**04 24 10.6**	**+0.8**
VA05	**Santo Domingo**	**2.07**	**171**	⇑*iP*	**Pn**	**04 24 13.8**	**+0.3**
VA05				IAML		04 24 53.5	
	comp=N,2μm,0.5s						
VA05	**Santo Domingo**	**2.07**	**171**		**Pn**	**04 24 13.5**	**0.0**
MT05	**Renca**	**2.08**	**149**	*eP*	**Pn**	**04 24 14.7**	**+1.1**
MT05				IAML		04 24 52.4	
	comp=E,3μm,0.2s						
MT05	**Renca**	**2.08**	**149**		**Pn**	**04 24 14.9**	**+1.2**
MT09	**Talagante**	**2.33**	**159**	⇑*iP*	**Pn**	**04 24 18.8**	**+1.6**
MT09				*eS*	**Sn**	**04 24 47.4**	**+1.4**
MT09				IAML		04 25 02.6	
	comp=E,2μm,0.6s						
MT09	**Talagante**	**2.33**	**159**	Pn	**Pn**	**04 24 19.0**	**+1.9**
MT01	**Popeta**	**2.34**	**164**	⇑*iP*	**Pn**	**04 24 17.9**	**+0.7**
MT01				*eS*	**Sn**	**04 24 46.2**	**+0.2**
MT01				IAML		04 24 58.9	
	comp=E,1μm,0.2s						
MT01	**Popeta**	**2.34**	**164**	Pn	**Pn**	**04 24 17.6**	**+0.4**
LMEL	**Las Melosas**	**2.70**	**146**	⇑*iP*	**Pn**	**04 24 24.2**	**+1.9**
LMEL				*eS*	**Sn**	**04 24 56.1**	**+0.9**
LMEL				IAML		04 25 11.1	
	comp=N,1μm,0.6s						
ZON	**Zonda**	**2.84**	**90**	Pn	**Pb**	**04 24 28.2**	**-1.3**
BO03	**Pichilemu**	**2.88**	**179**	⇑*iP*	**Pn**	**04 24 24.7**	**+0.1**
BO03				*i* S	**Sn**	**04 24 54.7**	**-4.7**
BO03				IAML		04 25 21.0	
	comp=E,486nm,0.8s						
BO01	**Tunca**	**2.88**	**165**	*eP*	**Pn**	**04 24 26.4**	**+1.7**
BO01				*i* S	**Sn**	**04 25 01.1**	**+1.6**
BO01				IAML		04 25 16.4	
	comp=N,419nm,0.7s						
BO01	**Tunca**	**2.88**	**165**		**Pn**	**04 24 25.7**	**+1.0**
BO02	**Sierra Bellavi**	**3.34**	**162**	⇑*iP*	**Pn**	**04 24 32.2**	**+1.1**
BO02	**Sierra Bellavi**	**3.34**	**162**	Pn	**Pn**	**04 24 31.0**	**0.0**
GO05	**Huala**	**3.40**	**179**	⇑*iP*	**Pn**	**04 24 31.5**	**-0.2**
GO05				*eS*	**Sn**	**04 25 09.3**	**-2.9**
GO05				IAML		04 25 41.1	
	comp=E,254nm,0.4s						
GO05	**Huala**	**3.40**	**179**		**Pn**	**04 24 31.6**	**-0.1**
AC04	**Llanos de Chal**	**3.48**	**14**	Pn	**Pn**	**04 24 32.8**	**-0.2**
ML02	**Panimavida**	**4.17**	**173**		**Pn**	**04 24 43.2**	**+0.8**
GO03	**Copiap**	**4.28**	**22**		**Pn**	**04 24 44.6**	**+0.6**
AC06	**Mina Casimiro**	**4.47**	**19**		**Pn**	**04 24 47.2**	**+0.7**
AC02	**Maricunga**	**5.38**	**29**	Pn	**Pn**	**04 25 00.2**	**+0.8**
VA04	**Juan Fernndez**	**6.11**	**249**	Pn	**Pn**	**04 25 08.2**	**-0.8**
H03N1	**Juan Fernandez**	**6.12**	**251**	T	T	04 31 53.0	
	baz=78,slow=72,SNR=444						
H03N3	**Juan Fernandez**	**6.13**	**251**	T	T	04 31 59.9	
	baz=78,slow=72,SNR=448						
H03N2	**Juan Fernandez**	**6.13**	**251**	T	T	04 31 55.1	
	baz=78,slow=72,SNR=445						
H03S3	**Juan Fernandez**	**6.23**	**247**	T	T	04 31 46.4	
	baz=63						
H03S1	**Juan Fernandez**	**6.23**	**247**	T	T	04 31 53.9	
	baz=63						
H03S2	**Juan Fernandez**	**6.24**	**247**	T	T	04 31 54.5	
	baz=63						
LC01	**Cunco**	**7.28**	**179**	Pn	**Pn**	**04 25 25.1**	**+0.1**
LR03	**Panguipulli**	**8.01**	**182**		**Pn**	**04 25 35.6**	**+0.4**
PLCA	**Paso Flores**	**9.18**	**173**	Pn	**Pn**	**04 25 49.2**	**-2.1**
	comp=E,0.6nm,0.3s,baz=329,slow=19,SNR=9.6						
PLCA	**Paso Flores**	**9.18**	**173**		**Pn**	**04 25 51.6**	**+0.3**
LVC	**Limon Verde**	**9.37**	**18**	Pn	**Pn**	**04 25 55.8**	**+1.6**
	comp=E,0.2nm,0.3s,baz=195,slow=6.2,SNR=2.2						
TRQA	**Tornquist**	**10.45**	**131**	Pn	**Pn**	**04 26 11.1**	**+2.5**
CPUP	**Villa Florida**	**13.88**	**71**	Pn	**Pn**	**04 26 55.5**	**+0.1**
	comp=E,0.2nm,0.3s,baz=236,slow=12,SNR=3.3						
CPUP				Sn	**Sn**	**04 29 25.2**	**-4.4**
	comp=E,0.2nm,0.3s,baz=272,slow=20,SNR=2.1						
CPUP				LR	LR	04 32 42.1	
	comp=E,256nm,19.1s,baz=238,slow=40						
LPAZ	**La Paz**	**15.65**	**14**	Pn	**Pn**	**04 27 20.8**	**+0.8**
	comp=E,0.1nm,0.3s,baz=184,slow=10,SNR=5.4						
SIV	**San Ignacio**	**18.46**	**35**	P	**P**	**04 27 54.3**	**-0.4**
	comp=E,0.1nm,0.3s,baz=228,slow=10,SNR=5.6						
SIV				LR	LR	04 35 30.9	
	comp=E,60nm,18.0s,baz=229,slow=39						
SAML	**Samuel**	**23.99**	**22**	P	**P**	**04 28 53.7**	**+0.1**
BDFB	**Brasilia**	**27.03**	**60**	P	**P**	**04 29 20.0**	**-1.3**
	comp=E,4.0nm,0.8s,baz=239,slow=5.4,SNR=4.5						
BDFB	**Brasilia**	**27.03**	**60**	P	**P**	**04 29 20.7**	**-0.7**
BDFB				IAmb	IAmb	04 30 06.8	
	comp=Z,24nm,1.6s						
TXAR	**Lajitas Array**	**67.67**	**330**	P	**P**	**04 34 37.0**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=142,slow=7.7,SNR=4.6						
KAN13	**South Haven SW**	**72.31**	**339**	P	**P**	**04 35 04.9**	**+0.6**
DBIC	**Dimbokro**	**74.40**	**72**	P	**P**	**04 35 16.9**	**-0.3**
	comp=Z,5.0nm,0.9s,baz=211,slow=6.4,SNR=4.4						
DBIC	**Dimbokro**	**74.40**	**72**	IAmb	IAmb	04 35 18.6	
	comp=Z,65nm,2.0s						
BOSA	**Boshof**	**81.16**	**118**	P	**P**	**04 35 55.9**	**+1.0**
	comp=Z,2.7nm,1.0s,baz=236,slow=7.0,SNR=1.8						
BOSA	**Boshof**	**81.16**	**118**	IAmb	IAmb	04 36 27.0	
	comp=Z,45nm,1.7s						
NVAR	**Mina Array Bea**	**81.94**	**325**	P	**P**	**04 36 00.0**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=129,slow=7.1,SNR=7.4						
TORD	**Torodi Ar. Bea**	**83.37**	**70**	P	**P**	**04 36 06.4**	**0.0**
	comp=Z,9nm,0.8s,baz=289,slow=6.4,SNR=21						
TORD	**Torodi Ar. Bea**	**83.37**	**70**	P	**P**	**04 36 06.4**	**0.0**
TORD				IAmb	IAmb	04 36 16.5	
	comp=Z,3.0nm,0.9s						
QLMT	**Earthquake Lak**	**84.11**	**333**	P	**P**	**04 36 10.8**	**+0.9**
H11S2	**WAKE ISLAND Hyl**	**25.80**	**271**	T	T	07 01 37.5	
	baz=116,slow=74,SNR=6.6						
H11S1	**WAKE ISLAND Hyl**	**25.81**	**271**	T	T	07 01 37.8	
	baz=116,slow=74,SNR=8.4						
H11S3	**WAKE ISLAND Hyl**	**25.82**	**271**	T	T	07 01 45.8	
	baz=116,slow=74,SNR=8.0						
ZALV	**Zalesovo Beam**	**152.16**	**30**	PKPbc	**PKPbc**	**04 43 34.2**	**+0.3**
	comp=Z,4.1nm,0.5s,baz=307,slow=4.0,SNR=11						

NEIC ***19*** *04:24:39.6±1.8,8°.08S±0°.08×117°.68E±0°.07,h214km±8km, mb4.1/10,Error ellipse: s-maj=12.3km s-min=10.3km az=169.0*

DJA ***19*** *04:24:40.1±0.2,8°.S±3°×11°.8E±°,h202km±3km,M4.4/13, mB4.9/4,mb4.3/13,MLv4.5/12,Mw(mB)4.2/4*

IDC ***19*** *04:24:41.4±1.3,7°.99S×117°.91E,h233km±12km,mb3.6/9, mb1 3.7/13,mb1mx3.6/41,mbtmp4.2/13,Error ellipse: s-maj=17.7km s-min=9.1km az=65.0*

ISC 19 04:24:38.5±0.6,8°.12S±0°.06×117°.76E±0°.06,h200km,n50,σ1♀86/58,mb3.9/12,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.70**	**178**	P	**Pn**	**04 25 09.0**	**+2.5**
PLAI				S	**Sn**	**04 25 31.3**	**+2.9**
BSSI	**Bau Bau, Buton**	**3.35**	**54**	P	**Pn**	**04 25 34.4**	**+2.1**
JAGI	**Jajag, Banyuwa**	**3.58**	**264**		**Pn**	**04 25 35.8**	**+0.7**
JAGI	**Jajag, Banyuwa**	**3.58**	**264**	P	**Pn**	**04 25 36.3**	**+1.2**
BKSI	**Bulukumba**	**3.64**	**40**	P	**Pn**	**04 25 38.0**	**+2.2**
KAPI	**Kappang**	**3.67**	**33**	P	**Pn**	**04 25 38.1**	**+1.8**
	7.8nm,0.3s,baz=219,slow=6.9,SNR=32						
KAPI				S	**Sn**	**04 26 22.9**	**+1.4**
	1.0nm,0.3s,baz=206,slow=14,SNR=1.1						
KAPI	**Kappang**	**3.67**	**33**	P	**Pn**	**04 25 38.0**	**+1.8**
EDFI	**Ende, Flores**	**3.94**	**99**	P	**Pn**	**04 25 40.2**	**+0.5**
GMJI	**Gumukmas**	**4.27**	**268**	P	**Pn**	**04 25 45.3**	**+1.7**
BNSI	**Bone**	**4.37**	**32**	P	**Pn**	**04 25 48.0**	**+3.0**
MMRI	**Maumere**	**4.46**	**97**		**Pn**	**04 25 48.5**	**+2.4**
MMRI	**Maumere**	**4.46**	**97**	P	**Pn**	**04 25 48.7**	**+2.6**
TTSI	**Tana Toraja**	**5.44**	**22**	P	**Pn**	**04 26 01.0**	**+2.4**
	0.1nm39nm,0.5s						
PWJI	**Pagerwojo**	**5.89**	**271**	P	**Pn**	**04 26 07.5**	**+3.1**
	0.3nm3μm42nm,1.1s						
SJI	**Sawahan**	**5.94**	**273**	P	**Pn**	**04 26 06.7**	**+1.6**
BATI	**Baumata**	**6.19**	**110**	P	**Pn**	**04 26 09.5**	**+1.2**
	0.4nm1μm62nm,0.8s						
PCJI	**Pacitan**	**6.51**	**269**	P	**Pn**	**04 26 12.9**	**+0.5**
	0.5nm67nm,0.9s						
SOEI	**Soe**	**6.64**	**105**		**Pn**	**04 26 14.8**	**+0.7**
SOEI	**Soe**	**6.64**	**105**	P	**Pn**	**04 26 15.5**	**+1.4**
	0.9nm2μm112nm,0.7s						
UGM	**Wanagama**	**7.17**	**271**	Pn	**Pn**	**04 26 21.4**	**+0.5**
UGM	**Wanagama**	**7.17**	**271**	P	**Pn**	**04 26 21.7**	**+0.8**
	0.6nm82nm,1.7s						
SMRI	**Semarang**	**7.33**	**278**	Pn	**Pn**	**04 26 23.8**	**+0.8**
KPJI	**Karang Pucung**	**8.78**	**275**	P	**Pn**	**04 26 43.9**	**+2.0**
	19nm,0.9s						
FITZ	**Fitzroy Crossi**	**12.54**	**143**	P	**Pn**	**04 27 31.6**	**+1.4**
	0.6nm,0.3s,baz=339,slow=7.4,SNR=40						
FITZ				S	**S**	**04 29 52.1**	**+1.9**
	1.7nm,0.3s,baz=184,slow=22,SNR=9.1						
FITZ	**Fitzroy Crossi**	**12.54**	**143**	Pn	**Pn**	**04 27 29.9**	**-0.3**
KNRA	**Kununurra**	**13.13**	**126**	Pn	**Pn**	**04 27 37.9**	**+0.2**
MTN	**Manton Dam**	**13.97**	**111**	Pn	**Pn**	**04 27 48.7**	**+0.6**
SIJI	**Sorong**	**15.27**	**63**	P	**Pn**	**04 28 04.1**	**0.0**
	1.9nm,0.3s,baz=253,slow=19,SNR=2.9						
FAKI	**Fak Fak**	**15.32**	**71**	P	**Pn**	**04 28 05.2**	**+0.5**
	31nm,1.2s						
WRA	**Warramunga Arr**	**19.90**	**128**	P	**P**	**04 28 55.4**	**+0.4**
	1.4nm,0.3s,baz=296,slow=12,SNR=93						
WRA				S	**S**	**04 32 26.1**	**-1.9**
	0.1nm,0.3s,baz=277,slow=17,SNR=6.9						
WRA				ScP	**ScP**	**04 36 16.6**	**-4.2**
	0.0nm,0.3s,baz=228,slow=25,SNR=2.6						
WRA	**Warramunga Arr**	**19.90**	**128**	P	**P**	**04 28 55.6**	**+0.6**
WRAB	**Tennant Creek**	**19.90**	**128**	P	**P**	**04 28 55.0**	**+0.1**
WRAB				IAmb	IAmb	04 28 58.9	
	comp=Z,8.6nm,0.8s						
WB2	**Warramunga Arr**	**19.91**	**128**	P	**P**	**04 28 55.6**	**+0.6**
WB2				IAmb	IAmb	04 28 58.8	
	comp=Z,12nm,1.1s						
WR0	**Warramunga Arr**	**20.07**	**128**	P	**P**	**04 28 57.1**	**+0.4**
WR0					**S**	**04 32 29.4**	**-1.9**
AS31	**Alice Springs**	**21.88**	**137**	P	**P**	**04 29 16.2**	**+0.6**
AS31				IAmb	IAmb	04 29 17.9	
	comp=Z,2.5nm,0.8s						
ASAR	**Alice Springs**	**21.88**	**137**	P	**P**	**04 29 16.3**	**+0.7**
	comp=Z,8.0nm,0.7s,baz=314,slow=8.7,SNR=64						
ASAR				S	**S**	**04 32 58.1**	**-5.1**
	comp=Z,0.1nm,0.3s,baz=10,slow=36,SNR=4.1						
ASAR				ScP	**ScP**	**04 36 21.3**	**-4.3**
	comp=Z,0.7nm,0.9s,baz=338,slow=3.5,SNR=4.7						
ASAR	**Alice Springs**	**21.88**	**137**	P	**P**	**04 29 16.0**	**+0.4**
NWAO	**Narrogin (SRO)**	**24.69**	**181**	P	**P**	**04 29 41.8**	**+0.6**
	comp=Z,6.7nm,0.6s,baz=1.1,slow=7.2,SNR=7.1						
STKA	**Stephens Creek**	**32.41**	**140**	P	**P**	**04 30 50.9**	**+1.3**
	comp=Z,4.0nm,0.5s,baz=311,slow=8.7,SNR=18						
STKA				PcP	**PcP**	**04 33 31.1**	**-1.2**
	comp=Z,1.2nm,0.4s,baz=8.6,slow=3.4,SNR=3.7						
STKA	**Stephens Creek**	**32.41**	**140**	IAmb	IAmb	04 30 51.6	
	comp=Z,1.2nm,0.9s						
TOO	**Toolangi**	**38.60**	**144**	P	**P**	**04 31 42.7**	**+0.4**
TOO				IAmb	IAmb	04 31 45.5	
	comp=Z,8.0nm,0.8s						
KSRS	**Korea Array**	**46.32**	**11**	P	**P**	**04 32 43.9**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=196,slow=8.5,SNR=2.3						
USRK	**Ussuriysk Ar.**	**53.64**	**13**	P	**P**	**04 33 38.6**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=169,slow=5.6,SNR=4.4						
SONM	**Songino Array**	**56.61**	**351**	P	**P**	**04 33 58.9**	**-1.7**
	comp=Z,1.2nm,0.6s,baz=174,slow=8.3,SNR=6.6						
SONM	**Songino Array**	**56.61**	**351**	IAmb	IAmb	04 34 00.9	
	comp=Z,2.0nm,1.3s						
MK31	**Makanchi Array**	**63.12**	**333**	P	**P**	**04 34 43.0**	**-1.8**
MK31				IAmb	IAmb	04 34 48.0	
	comp=Z,2.6nm,1.4s						
MKAR	**Makanchi Array**	**63.12**	**333**	P	**P**	**04 34 42.2**	**-2.6**
	comp=Z,0.5nm,0.5s,baz=160,slow=7.5,SNR=5.6						
MKAR				pP	**pP**	**04 35 33.5**	**+2.5**
	comp=Z,0.8nm,0.6s,baz=130,slow=7.0,SNR=5.3						
MAW	**Mawson**	**69.64**	**200**	P	**P**	**04 35 25.1**	**-0.7**
	comp=Z,2.5nm,0.6s,baz=85,slow=8.9,SNR=6.7						
VNDA	**Vanda**	**73.05**	**171**	P	**P**	**04 35 47.0**	**+0.9**
	comp=Z,1.3nm,0.4s,baz=312,slow=7.5,SNR=10						
CPUP	**Villa Florida**	**145.43**	**188**	PKPbc	**PKPdf**	**04 43 53.5**	**+0.1**
	comp=Z,2.3nm,0.5s,baz=153,slow=3.6,SNR=6.4						

IDC ***19*** *04:33:47.0±0.5,30°.39S×72°.51W,h0km,mb4.6/11, mb1 4.7/15,mb1mx4.6/23,mbtmp4.6/15,ML4.2/4,MS3.9/8, Ms1 3.9/8,ms1mx3.7/25,Error ellipse: s-maj=20.4km s-min=15.5km az=83.0*

NEIC ***19*** *04:33:48.2±3.0,30°.38S±0°.05×72°.75W±0°.05,h10km±1km, mb5.0/207,ML5.0(GUC),Error ellipse: s-maj=9.7km s-min=4.5km az=319.0*

*GCM

AUSP	**Uspallata**	**3.33**	**123**	*e*P		**Pn**	**04 34 43.0**	**+3.1**
AUSP				*e*S		**Sb**	**04 35 26.2**	**-1.4**
VA05	**Santo Domingo**	**3.34**	**165**	⇑*i*P		**Pn**	**04 34 39.2**	**-0.4**
VA05				*i* S		**Sn**	**04 35 14.1**	**-5.5**
VA05				IAML			04 35 17.7	
	comp=N,6μm,0.4s							
VA05	**Santo Domingo**	**3.34**	**165**			**Pn**	**04 34 39.0**	**-0.7**
MT05	**Renca**	**3.38**	**151**	⇑*i*P		**Pn**	**04 34 40.9**	**+0.6**
MT05				*i* S		**Sn**	**04 35 16.2**	**-4.6**
MT05	**Renca**	**3.38**	**151**			**Pn**	**04 34 40.7**	**+0.4**
MT05	**Renca**	**3.38**	**151**	*e*P		**Pn**	**04 34 41.0**	**+0.7**
GO03	**Copiap**	**3.55**	**38**			**Pn**	**04 34 41.6**	**-1.0**
GO03	**Copiap**	**3.55**	**38**	*e*P		**Pn**	**04 34 42.0**	**-0.6**
GO03				*e*S		**Sn**	**04 35 25.5**	**+0.7**
ZON	**Zonda**	**3.61**	**109**			**Pn**	**04 34 46.6**	**+3.1**
ZON	**Zonda**	**3.61**	**109**	*e*P		**Pn**	**04 34 47.0**	**+3.5**
ZON				*e*S		**Sb**	**04 35 32.1**	**-3.1**
ZON				IAML			04 35 50.5	
	comp=Z,790nm,0.9s							
MT01	**Popeta**	**3.63**	**161**	⇑*i*P		**Pn**	**04 34 43.7**	**0.0**
MT01				*i* S		**Sn**	**04 35 21.7**	**-5.1**
MT01				IAML			04 35 24.9	
	comp=E,2μm,0.5s							
MT01	**Popeta**	**3.63**	**161**			**Pn**	**04 34 43.1**	**-0.5**
MT01	**Popeta**	**3.63**	**161**	*e*P		**Pn**	**04 34 43.0**	**-0.7**
MT01				*e*P		Pb	04 34 43.8	-7.7
MT01				*e*S		Sn	04 35 16.3	-10
MT01				IAML			04 35 25.5	
	comp=Z,2μm,0.5s							
MT09	**Talagante**	**3.63**	**157**	⇓*i*P		**Pn**	**04 34 44.3**	**+0.5**
MT09				*i* S		**Sn**	**04 35 22.3**	**-4.7**
MT09				IAML			04 35 29.1	
	comp=N,4μm,0.8s							
MT09	**Talagante**	**3.63**	**157**	Pn		**Pn**	**04 34 44.3**	**+0.5**
AC06	**Mina Casimiro**	**3.68**	**34**	⇓*i*P		**Pn**	**04 34 43.8**	**-0.6**
AC06				*e*S		**Sn**	**04 35 25.2**	**-2.8**
AC06	**Mina Casimiro**	**3.68**	**34**			**Pn**	**04 34 43.4**	**-1.0**
AGUA	**GUANDACOL**	**3.75**	**77**	*e*P		**Pn**	**04 34 49.0**	**+3.5**
AGUA				*e*S		**Sb**	**04 35 37.5**	**-1.9**
AGUA				IAML			04 35 55.3	
	comp=Z,1μm,1.3s							
RTCV	**Cerro Valdivia**	**3.82**	**113**	*e*P		**Pn**	**04 34 50.0**	**+3.6**
RTCV				*e*S		**Sn**	**04 35 32.8**	**+1.2**
RTCV				*e*S		**Sb**	**04 35 43.8**	**+2.4**
RTCV				IAML			04 35 49.2	
	comp=Z,464nm,3.6s							
ASAL	**Salagasta**	**3.92**	**124**	*e*P		**Pb**	**04 34 52.0**	**-4.6**
ASAL				*e*S		**Sb**	**04 35 39.8**	**-4.5**
ASAL				IAML			04 35 57.1	
	comp=Z,1μm,1.8s							
BO03	**Pichilemu**	**4.10**	**172**	⇓*i*P		**Pn**	**04 34 49.2**	**-0.8**
BO03				*i* S		**Sn**	**04 35 31.5**	**-6.8**
BO01	**Tunca**	**4.17**	**162**	⇓*i*P		**Pn**	**04 34 51.3**	**+0.2**
BO01				*i* S		**Sn**	**04 35 35.5**	**-4.7**
BO01				IAML			04 35 41.1	
	comp=N,624nm,0.8s							
BO01	**Tunca**	**4.17**	**162**			**Pn**	**04 34 50.8**	**-0.4**
BO01	**Tunca**	**4.17**	**162**	*e*P		**Pn**	**04 34 51.3**	**+0.2**
BO01				*e*S		**Sn**	**04 35 37.2**	**-3.0**
BO01				IAML			04 35 41.0	
	comp=Z,518nm,0.6s							
GO05	**Huala**	**4.61**	**172**			**Pn**	**04 34 56.2**	**-0.9**
GO05	**Huala**	**4.61**	**172**	*e*P		**Pn**	**04 34 56.0**	**-1.2**
GO05				*e*S		**Sn**	**04 35 44.5**	**-6.5**
BO02	**Sierra Bellavi**	**4.63**	**160**	⇑*i*P		**Pn**	**04 34 58.1**	**+0.6**
BO02				*i* S		**Sn**	**04 35 47.7**	**-3.9**
BO02				IAML			04 35 55.8	
	comp=N,1μm,0.4s							
BO02	**Sierra Bellavi**	**4.63**	**160**	Pn		**Pn**	**04 34 57.7**	**+0.2**
BO02	**Sierra Bellavi**	**4.63**	**160**	*e*P		**Pn**	**04 34 58.0**	**+0.5**
BO02				*e*S		**Sn**	**04 35 51.8**	**+0.2**
BO02				IAML			04 35 55.7	
	comp=Z,833nm,0.7s							
AC02	**Maricunga**	**4.75**	**42**	⇑*i*P		**Pn**	**04 34 59.9**	**+0.4**
AC02	**Maricunga**	**4.75**	**42**	Pn		**Pn**	**04 34 59.2**	**-0.3**
AC02	**Maricunga**	**4.75**	**42**	*e*P		**Pn**	**04 34 59.9**	**+0.4**
AC02				*e*P		Pb	04 35 00.0	-11
AC02				IAML			04 36 36.0	
	comp=Z,204nm,1.0s							
ACHE	**Chepes**	**5.22**	**100**	*e*P		**Pn**	**04 35 08.0**	**+2.2**
ACHE				*e*S		**Sn**	**04 36 10.0**	**+3.6**
ML02	**Panimavida**	**5.42**	**169**	Pn		**Pn**	**04 35 07.7**	**-0.6**
RFA	**San Rafael**	**5.60**	**142**	*e*P		**Pn**	**04 35 12.0**	**+1.2**
RFA				*e*S		**Sb**	**04 36 37.2**	**+4.7**
RFA				IAML			04 36 50.6	
	comp=Z,180nm,1.7s							
PB14	**IPOC Station P**	**6.13**	**20**			**Pn**	**04 35 15.7**	**-2.6**
PB14	**IPOC Station P**	**6.13**	**20**	*e*P		**Pn**	**04 35 15.2**	**-3.1**
PB14				*e*S		**Sn**	**04 36 23.9**	**-4.9**
VA04	**Juan Fernndez**	**6.13**	**237**	Pn		**Pn**	**04 35 14.9**	**-3.1**
CYA	**Choya**	**6.32**	**73**	*e*P		**Pn**	**04 35 16.8**	**-3.8**
CYA				*e*S		**Sn**	**04 36 35.3**	**+2.2**
CYA				IAML			04 37 08.9	
	comp=Z,138nm,3.1s							
PB10	**IPOC Station P**	**7.15**	**16**	Pn		**Pn**	**04 35 29.4**	**-2.6**
FSA	**Cafayete**	**7.31**	**56**	*e*P		**Pn**	**04 35 37.0**	**+2.6**
AHML	**Horco Molle**	**7.41**	**62**	*e*P		**Pn**	**04 35 32.8**	**-2.8**
PB05	**IPOC Station P**	**7.87**	**17**	*e*S		**Sn**	**04 37 06.4**	**-5.1**
PB05				IAML			04 38 17.0	
	comp=Z,38nm,1.9s							
PB04	**IPOC Station P**	**8.38**	**16**	*e*P		**Pn**	**04 35 45.5**	**-3.6**
PB04				*e*S		**Sn**	**04 37 19.8**	**-4.3**
PB04				IAML			04 38 23.2	
	comp=Z,42nm,2.0s							
AF01	**San Pedro de A**	**8.46**	**29**			**Pn**	**04 35 48.2**	**-2.2**
LC01	**Cunco**	**8.47**	**176**	Pn		**Pn**	**04 35 49.1**	**-1.1**
LC01	**Cunco**	**8.47**	**176**	*e*P		**Pn**	**04 35 49.0**	**-1.2**
LVC	**Limon Verde**	**8.49**	**24**	Pn		**Pn**	**04 35 48.5**	**-2.3**
	comp=Z,1.8nm,0.3s,baz=182,slow=9.6,SNR=20							
LVC					Sn	**Sn**	**04 37 22.6**	**-4.5**
	comp=Z,2.2nm,0.3s,baz=195,slow=10,SNR=1.6							
LVC					LR	LR	04 39 27.4	
	comp=Z,474nm,18.9s,baz=198,slow=41							
LVC	**Limon Verde**	**8.49**	**24**	Pn		**Pn**	**04 35 49.0**	**-1.8**
LVC	**Limon Verde**	**8.49**	**24**	*e*P		**Pn**	**04 35 48.0**	**-2.8**
PB03	**IPOC Station P**	**8.75**	**18**	*e*P		**Pn**	**04 35 50.0**	**-4.2**
PB03				*e*P		**Pn**	**04 35 50.0**	**-4.2**
PB03				*e*P		Pg	04 35 50.3	-44
PB03				*e*S		**Sn**	**04 37 30.8**	**-2.5**
PB07	**IPOC Station P**	**9.03**	**17**	*e*S		**Sn**	**04 37 33.1**	**-6.9**
LR03	**Panguipulli**	**9.18**	**178**			**Pn**	**04 35 59.2**	**-0.8**
PB02	**IPOC Station P**	**9.41**	**16**	*e*P		**Pn**	**04 36 00.0**	**-3.2**
TA01	**Diego Aracena**	**10.08**	**13**	Pn		**Pn**	**04 36 11.2**	**-1.1**
PLCA	**Paso Flores**	**10.42**	**171**	Pn		**Pn**	**04 36 17.4**	**+0.4**
	comp=Z,1.7nm,0.3s,baz=339,slow=13,SNR=31							
PLCA					Sn	**Sn**	**04 38 08.3**	**-5.8**
	comp=Z,0.1nm,0.3s,baz=220,slow=12,SNR=1.3							
PLCA	**Paso Flores**	**10.42**	**171**			**Pn**	**04 36 16.8**	**-0.2**
LL04	**Puerto Octay**	**10.46**	**179**			**Pn**	**04 36 16.8**	**-0.6**
LL03	**Petrohue**	**10.69**	**179**	Pn		**Pn**	**04 36 19.4**	**-1.1**
PSGCX	**Pisagua**	**11.03**	**13**	*e*P		**Pn**	**04 36 21.0**	**-4.4**
TRQA	**Tornquist**	**11.66**	**134**			**Pn**	**04 36 34.1**	**+0.2**
ITQB	**Itaqui**	**13.93**	**91**	Pn		**Pn**	**04 37 04.7**	**-0.2**
CPUP	**Villa Florida**	**14.11**	**77**	Pn		**Pn**	**04 37 05.3**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=243,slow=12,SNR=3.5							
CPUP					LR	LR	04 42 55.2	
	comp=Z,597nm,21.1s,baz=254,slow=39							
CPUP	**Villa Florida**	**14.11**	**77**			**Pn**	**04 37 05.9**	**-1.6**
LPAZ	**La Paz**	**14.68**	**17**	Pn		**Pn**	**04 37 13.5**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=213,slow=3.6,SNR=26							
LPAZ	**La Paz**	**14.68**	**17**			**Pn**	**04 37 13.7**	**-2.1**
PLTB	**Pedras Altas**	**16.39**	**100**	Pn		**Pn**	**04 37 34.9**	**-2.8**
SIV	**San Ignacio**	**17.88**	**39**	P		**Pn**	**04 37 53.4**	**-3.0**
	comp=Z,2.5nm,0.3s,baz=230,slow=11,SNR=77							
SIV					LR	LR	04 45 49.9	
	comp=Z,183nm,18.3s,baz=222,slow=41							
AQDB	**Aquidauana**	**18.24**	**61**	Pn		**Pn**	**04 37 57.0**	**-3.8**
NNA	**Nana**	**18.76**	**347**	LR		LR	04 43 44.3	
	comp=Z,280nm,19.4s,baz=170,slow=32							
SAML	**Samuel**	**23.14**	**24**	P		**P**	**04 38 54.1**	**+0.1**
SPB	**Sao Paulo**	**23.47**	**79**	P		**P**	**04 38 57.1**	**-0.3**
SPB				IAmb		IAmb	04 38 59.5	
	comp=Z,49nm,1.1s							
BDFB	**Brasilia**	**26.97**	**62**	P		**P**	**04 39 29.4**	**-0.2**
	comp=Z,44nm,0.9s,baz=238,slow=8.6,SNR=40							
BDFB					LR	LR	04 51 08.6	
	comp=Z,349nm,19.8s,baz=251,slow=39							
BDFB	**Brasilia**	**26.97**	**62**	P		**P**	**04 39 29.6**	**0.0**
BDFB				IAmb		IAmb	04 39 32.0	
	comp=Z,56nm,1.0s							
OTAV	**Otavalo**	**30.99**	**349**	P		**P**	**04 40 04.1**	**-1.6**
RPN	**Rapa Nui**	**32.21**	**267**	LR		LR	04 49 20.9	
	comp=Z,353nm,20.2s,baz=102,slow=29							

ORTC	**Ortega, Tolima**	**34.24**	**355**	*e*P		**P**	**04 40 36.9**	**+3.2**
PMSA	**Palmer Station**	**34.78**	**174**	P		**P**	**04 40 39.4**	**+1.5**
	comp=Z,10nm,0.9s,baz=357,slow=7.4,SNR=6.9							
PMSA					LR	LR	04 54 55.7	
	comp=Z,163nm,18.4s,baz=12,slow=36							
PMSA	**Palmer Station**	**34.78**	**174**	P		**P**	**04 40 37.7**	**-0.2**
PMSA				IAmb		IAmb	04 40 40.9	
	comp=Z,20nm,1.1s							
CHIC	**Chingaza**	**34.88**	**358**	*e*P		**P**	**04 40 41.5**	**+1.8**
RUSC	**La Rusia**	**36.12**	**359**	*e*P		**P**	**04 40 52.6**	**+2.2**
CBOC	**Ciudad Bolivar**	**36.23**	**354**	*e*P		**P**	**04 40 53.4**	**+2.4**
DBBC	**Dabeiba**	**37.39**	**354**	*e*P		**P**	**04 41 04.3**	**+3.6**
ZARC	**Zaragoza, Cauc**	**37.77**	**356**	*e*P		**P**	**04 41 05.2**	**+1.3**
SMLC	**San Martn de**	**39.03**	**358**	*e*P		**P**	**04 41 14.3**	**-0.2**
TGUH	**Tegucigalpa,Un**	**46.41**	**340**	P		**P**	**04 42 12.9**	**-1.7**
TGUH				IAmb		IAmb	04 42 17.3	
	comp=Z,13nm,0.8s							
MLPR	**Magueyes Islan**	**48.43**	**7**	P		**P**	**04 42 29.9**	**-0.1**
OBIP	**Obispado Ponce**	**48.55**	**8**	IAmb		IAmb	04 42 32.1	
	comp=Z,15nm,0.8s							
PDPR	**Patillas Dam,**	**48.59**	**8**	P		**P**	**04 42 29.7**	**-1.7**
PDPR				IAmb		IAmb	04 42 32.4	
	comp=Z,19nm,0.9s							
SJG	**San Juan**	**48.67**	**8**	P		**P**	**04 42 31.0**	**-0.9**
SJG				IAmb		IAmb	04 42 33.0	
	comp=Z,25nm,1.1s							
HUMP	**Col San Antoni**	**48.74**	**9**	IAmb		IAmb	04 42 33.6	
	comp=Z,26nm,1.4s							
GCPR	**Guaynabo City**	**48.87**	**8**	IAmb		IAmb	04 42 34.2	
	comp=Z,12nm,0.8s							
CUPR	**Culebra, Puert**	**48.98**	**9**	P		**P**	**04 42 33.4**	**-0.9**
VNA3	**Neumayer Olymp**	**52.86**	**159**	P		**P**	**04 43 04.4**	**+1.3**
VNA1	**Neumayer--Stat**	**53.17**	**158**	P		**P**	**04 43 06.9**	**+1.7**
VNA2	**Neumayer--Watz**	**53.51**	**158**	P		**P**	**04 43 09.1**	**+1.2**
	baz=286,slow=8.2							
SNAA	**Sanae**	**55.09**	**159**	P		**P**	**04 43 20.6**	**+1.2**
SNAA	**Sanae**	**55.09**	**159**	LR		LR	05 04 06.7	
	comp=Z,82nm,20.6s,baz=274,slow=33							
SNAA	**Sanae**	**55.09**	**159**	P		**P**	**04 43 19.2**	**-0.1**
QSPA	**South Pole Qui**	**59.79**	**180**	P		**P**	**04 43 53.8**	**+1.0**
250A	**Grady**	**63.39**	**347**	P		**P**	**04 44 16.3**	**-0.8**
250A				IAmb		IAmb	04 44 18.1	
	comp=Z,15nm,0.9s							
342A	**Flagon Creek P**	**64.24**	**341**	P		**P**	**04 44 23.6**	**+0.9**
VBMS	**Vicksburg**	**64.56**	**343**	P		**P**	**04 44 25.1**	**+0.3**
HPIG		**65.19**	**328**	IAmb		IAmb	04 44 32.4	
	comp=Z,7.7nm,1.1s							
143A	**Socs Landing,**	**65.25**	**343**	P		**P**	**04 44 29.7**	**+0.4**
JCT	**Junction City**	**65.84**	**334**	IAmb		IAmb	04 44 38.1	
	comp=Z,17nm,1.0s							
JCT	**Junction City**	**65.84**	**334**	P		**P**	**04 44 35.3**	**+2.1**
	baz=154							
X48A	**Hartselle**	**65.94**	**347**	IAmb		IAmb	04 44 35.6	
	comp=Z,11nm,0.8s							
W50A	**Signal Mountai**	**66.36**	**349**	IAmb		IAmb	04 44 40.3	
	comp=Z,10nm,0.9s							
TXAR	**Lajitas Array**	**66.37**	**331**	P		**P**	**04 44 38.2**	**+1.4**
	comp=Z,3.0nm,0.9s,baz=149,slow=8.0,SNR=28							
TXAR	**Lajitas Array**	**66.37**	**331**	P		**P**	**04 44 37.3**	**+0.5**
WHTX	**Lake Whitney,**	**66.38**	**337**	P		**P**	**04 44 38.4**	**+1.8**
	baz=157							
SBA	**Scott Base**	**66.45**	**191**	P		**P**	**04 44 38.9**	**+2.3**
SBA				IAmb		IAmb	04 44 43.0	
	comp=Z,9.7nm,1.4s							
CPCT	**Cooper Cave**	**66.47**	**349**	IAmb		IAmb	04 44 38.5	
	comp=Z,15nm,1.1s							
SWET	**Sewanee**	**66.48**	**348**	IAmb		IAmb	04 44 39.0	
	comp=Z,13nm,0.9s							
OXF	**Oxford**	**66.50**	**345**	P		**P**	**04 44 37.9**	**+0.6**
	baz=164							
WLAR	**White Oak Lake**	**66.64**	**342**	P		**P**	**04 44 38.7**	**+0.5**
WLAR				IAmb		IAmb	04 44 40.7	
	comp=Z,15nm,0.9s							
PLAL	**Pickwick Lake**	**66.67**	**346**	IAmb		IAmb	04 44 40.6	
	comp=Z,19nm,1.4s							
V52A	**Sevierville**	**66.72**	**350**	IAmb		IAmb	04 44 40.2	
	comp=Z,14nm,0.9s							
VNDA	**Vanda**	**67.49**	**191**	P		**P**	**04 44 45.2**	**+2.0**
	comp=Z,0.9nm,0.9s,baz=122,slow=7.4,SNR=7.2							
VNDA	**Vanda**	**67.49**	**191**	P		**P**	**04 44 44.8**	**+1.6**
Z35A	**Perchaven, San**	**67.55**	**338**	P		**P**	**04 44 45.1**	**+1.0**
MIAR	**Mount Ida**	**67.57**	**341**	P		**P**	**04 44 44.3**	**+0.2**
MIAR				IAmb		IAmb	04 45 02.7	
	comp=Z,7.4nm,1.0s							
MIAR	**Mount Ida**	**67.57**	**341**	P		**P**	**04 44 44.4**	**+0.3**
	baz=161							
TBI	**Tubuai**	**67.66**	**255**	*e*LR		LR	05 05 08.0	
	comp=Z,172nm,27.8s							
ABTX	**Abilene, Hawle**	**67.72**	**336**	P		**P**	**04 44 47.1**	**+1.9**
	baz=155							
WVT	**Waverly**	**67.72**	**347**	P		**P**	**04 44 44.6**	**-0.5**
WVT	**Waverly**	**67.72**	**347**	P		**P**	**04 44 46.0**	**+0.9**
	baz=166							
X37A	**Clayton**	**68.12**	**340**	IAmb		IAmb	04 44 52.1	
	comp=Z,11nm,1.1s							
W39A	**Jazine**	**68.24**	**341**	P		**P**	**04 44 50.4**	**+2.0**
	baz=160,SNR=8.6							
LCAR	**Lake Charles**	**68.39**	**344**	IAmb		IAmb	04 44 51.0	
	comp=Z,11nm,0.9s							
PBMO	**Poplar Bluff**	**68.90**	**345**	P		**P**	**04 44 52.4**	**-0.1**
PBMO				IAmb		IAmb	04 44 54.2	
	comp=Z,10nm,0.9s							
U40A	**Yellville**	**69.09**	**343**	IAmb		IAmb	04 44 55.6	
	comp=Z,14nm,0.9s							
U40A	**Yellville**	**69.09**	**343**	P		**P**	**04 44 54.8**	**+1.2**
	baz=162							
MNTX	**Cornudas Mount**	**69.15**	**330**	IAmb		IAmb	04 44 56.1	
	comp=Z,8.2nm,0.9s							
MNTX	**Cornudas Mount**	**69.15**	**330**	P		**P**	**04 44 55.0**	**+0.9**
	baz=150							
T42A	**Van Buren**	**69.29**	**344**	IAmb		IAmb	04 44 56.6	
	comp=Z,9.9nm,1.4s							
HHAR	**Hobbs**	**69.30**	**342**	IAmb		IAmb	04 44 56.9	
	comp=Z,16nm,0.9s							
SYO	**Syowa Base**	**69.38**	**159**	⇓*e*P		**P**	**04 44 53.5**	**-1.6**
SYO	**Syowa Base**	**69.38**	**159**	⇓*e*pP		pP	04 44 55.6	+0.1
TUL1	**Leonard**	**69.48**	**340**	P		**P**	**04 44 57.3**	**+1.3**
	baz=159,SNR=7.0							
S44A	**Carbondale**	**69.52**	**346**	IAmb		IAmb	04 44 58.1	
	comp=Z,17nm,0.9s							
MGMO	**Mountain Grove**	**69.69**	**343**	IAmb		IAmb	04 44 59.4	
	comp=Z,13nm,1.1s							
P57A	**Homestead Farm**	**69.74**	**356**	P		**P**	**04 44 57.8**	**+0.3**
P57A				IAmb		IAmb	04 45 00.6	
	comp=Z,14nm,1.1s							
OK031	**S. Brethren Rd**	**69.83**	**339**	IAmb		IAmb	04 45 00.6	
	comp=Z,19nm,1.0s							
OK029	**Liberty Lake**	**69.88**	**339**	IAmb		IAmb	04 45 00.4	
	comp=Z,15nm,0.9s							
QUOK	**Quay**	**69.99**	**339**	IAmb		IAmb	04 45 03.4	
	comp=Z,11nm,0.8s							
WUPA	**West Chester U**	**70.06**	**358**	P		**P**	**04 44 59.5**	**0.0**
MSTX	**Muleshoe**	**70.08**	**334**	P		**P**	**04 45 01.5**	**+1.5**
	baz=153							
MVL	**Millersville**	**70.16**	**357**	P		**P**	**04 45 00.7**	**+0.6**
MVL				IAmb		IAmb	04 45 03.0	
	comp=Z,16nm,1.2s							
PPT2	**Papeete2**	**70.24**	**261**	*e*S		**S**	**04 54 12.4**	**-1.5**
	comp=Z,79nm,25.8s							
PPT2	**Papeete2**	**70.24**	**261**	*e*LR		LR	05 06 20.9	
	comp=Z,208nm,24.8s,baz=113							
P52A	**Corning**	**70.26**	**352**	P		**P**	**04 45 01.4**	**+0.6**
	baz=171							
CCM	**Cathedral Cave**	**70.31**	**345**	P		**P**	**04 45 01.0**	**-0.1**
CCM	**Cathedral Cave**	**70.31**	**345**	P		**P**	**04 45 02.2**	**+1.1**
	baz=163							
PAGS	**Pennsylvania G**	**70.40**	**357**	IAmb		IAmb	04 45 04.2	
	comp=Z,9.4nm,0.8s							
S39A	**Bolivar**	**70.47**	**343**	IAmb		IAmb	04 45 04.7	
	comp=Z,20nm,1.1s							
AMTX	**Amarillo**	**70.48**	**335**	P		**P**	**04 45 02.8**	**+0.4**
AMTX				IAmb		IAmb	04 45 07.8	
	comp=Z,25nm,1.4s							
AMTX	**Amarillo**	**70.48**	**335**	P		**P**	**04 45 03.8**	**+1.5**
	baz=154							
T35A	**Sooner Cattle**	**70.62**	**340**	IAmb		IAmb	04 45 06.0	
	comp=Z,18nm,1.1s							
121A	**Cookes Peak, D**	**70.91**	**329**	P		**P**	**04 45 07.8**	**+2.6**
	baz=148							
ACSO	**Alum Creek Sta**	**70.95**	**352**	P		**P**	**04 45 05.5**	**+0.5**
	baz=171							
N58A	**Sunbury**	**71.01**	**357**	IAmb		IAmb	04 45 08.0	
	comp=Z,14nm,1.0s							
N59A	**State Game Lan**	**71.05**	**358**	IAmb		IAmb	04 45 08.9	
	comp=Z,24nm,1.3s							
N59A	**State Game Lan**	**71.05**	**358**	P		**P**	**04 45 07.9**	**+2.3**
	baz=177							
O49A	**Covington**	**71.09**	**351**	IAmb		IAmb	04 45 07.3	
	comp=Z,16nm,1.1s							
ODNJ	**Ogdensburg**	**71.18**	**358**	P		**P**	**04 45 08.2**	**+1.9**
ODNJ				IAmb		IAmb	04 45 10.2	
	comp=Z,11nm,1.3s							
KAN16	**Harper SW Stat**	**71.38**	**339**	P		**P**	**04 45 08.0**	**+0.3**
M57A	**Sunshine Farm,**	**71.53**	**356**	IAmb		IAmb	04 45 11.2	
	comp=Z,16nm,1.1s							
N47A	**Urbana**	**71.97**	**350**	IAmb		IAmb	04 45 12.2	
	comp=Z,22nm,1.1s							
TUC	**Tucson**	**72.10**	**327**	P		**P**	**04 45 13.0**	**+0.8**
TUC	**Tucson**	**72.10**	**327**	P		**P**	**04 45 14.3**	**+2.1**
	baz=146							
P38A	**Dawn**	**72.35**	**343**	IAmb		IAmb	04 45 15.1	
	comp=Z,11nm,0.8s							
ANMO	**Albuquerque**	**72.40**	**331**	P		**P**	**04 45 14.6**	**+0.5**
ANMO				IAmb		IAmb	04 45 20.2	
	comp=Z,9.5nm,1.1s							
ANMO	**Albuquerque**	**72.40**	**331**	P		**P**	**04 45 16.6**	**+2.5**
	baz=150							
R32A	**Long Quarter,**	**72.68**	**339**	IAmb		IAmb	04 45 18.0	
	comp=Z,17nm,1.1s							
214A	**Organ Pipe Nat**	**72.79**	**325**	P		**P**	**04 45 18.9**	**+2.6**
	baz=144							
MMNY	**Mt. Morris Dam**	**72.96**	**356**	IAmb		IAmb	04 45 19.1	
	comp=Z,23nm,1.0s							
CBKS	**Cedar Bluff**	**73.36**	**338**	IAmb		IAmb	04 45 22.1	
	comp=Z,20nm,0.9s							
CBKS	**Cedar Bluff**	**73.36**	**338**	P		**P**	**04 45 21.5**	**+2.0**
	baz=156							
T25A	**Trinidad**	**73.50**	**334**	IAmb		IAmb	04 45 26.1	
	comp=Z,21nm,1.1s							
T25A	**Trinidad**	**73.50**	**334**	P		**P**	**04 45 23.0**	**+2.4**
	baz=152							
W18A	**Petrified Fore**	**73.95**	**329**	IAmb		IAmb	04 45 28.6	
	comp=Z,28nm,1.3s							
W18A	**Petrified Fore**	**73.95**	**329**	P		**P**	**04 45 25.5**	**+2.2**
	baz=147							
LIC	**Lamto**	**74.20**	**73**	*e*P		**P**	**04 45 26.1**	**+1.1**
	comp=Z,56nm,1.2s							
SCIA	**State Center**	**74.43**	**344**	P		**P**	**04 45 26.0**	**+0.3**
SCIA				IAmb		IAmb	04 45 28.4	
	comp=Z,15nm,0.7s							
TIC	**Toumodi**	**74.44**	**73**	*e*P		**P**	**04 45 27.7**	**+1.3**
KSCO	**Kaye Shedlock'**	**74.51**	**336**	P		**P**	**04 45 26.4**	**+0.1**
KSCO				IAmb		IAmb	04 45 31.6	
	comp=Z,32nm,1.3s							
KIC	**Kosan Boka**	**74.51**	**73**	*e*P		**P**	**04 45 28.0**	**+1.2**
	comp=Z,49nm,1.1s							
DBIC	**Dimbokro**	**74.59**	**73**	P		**P**	**04 45 27.9**	**+0.7**
	comp=Z,17nm,1.0s,baz=221,slow=5.9,SNR=7.4							
DBIC	**Dimbokro**	**74.59**	**73**	P		**P**	**04 45 26.9**	**-0.3**
JFWS	**Jewell Farm**	**74.75**	**347**	IAmb		IAmb	04 45 31.6	
	comp=Z,24nm,1.1s							
JFWS	**Jewell Farm**	**74.75**	**347**	P		**P**	**04 45 28.4**	**+0.9**
	baz=164							
RMX	**La Rumorosa**	**74.97**	**323**	P		**P**	**04 45 29.4**	**+0.3**
S22A	**4UR Ranch, Cre**	**74.97**	**333**	P		**P**	**04 45 31.6**	**+2.4**
	baz=150							
WUAZ	**Wupatki**	**75.02**	**328**	P		**P**	**04 45 32.3**	**+2.8**
	baz=

K22A	**Casper**	**79.11**	**335**	P		**P**	**04 45 54.3**	**+2.0**
	baz=151								
SMMC	**Simmler**	**79.12**	**322**	P		**P**	**04 45 54.9**	**+2.6**
	baz=140								
SPR3	**Spring Creek 3**	**79.22**	**328**	IAmb		IAmb	04 45 58.2		
	comp=Z,13nm,1.2s								
R11A	**Troy Canyon, C**	**79.28**	**327**	P		**P**	**04 45 56.0**	**+2.7**
	baz=143,SNR=16								
LCH	**Last Change Ra**	**79.39**	**325**	P		**P**	**04 45 54.4**	**+0.5**
DUG	**Dugway, Tooele**	**79.53**	**330**	IAmb		IAmb	04 45 59.9		
	comp=Z,15nm,1.4s								
DUG	**Dugway, Tooele**	**79.53**	**330**	P		**P**	**04 45 56.8**	**+2.2**
	baz=146,SNR=7.7								
RSSD	**Black Hills**	**79.54**	**338**	P		**P**	**04 45 55.3**	**+0.6**
RSSD	**Black Hills**	**79.54**	**338**	P		**P**	**04 45 56.4**	**+1.8**
	baz=153								
KOWA	**Kowa**	**79.69**	**66**	P		**P**	**04 45 56.3**	**+0.4**
KOWA				IAmb		IAmb	04 45 59.0		
	comp=Z,30nm,1.4s								
TCUT	**Toone Canyon**	**79.69**	**331**	IAmb		IAmb	04 45 59.9		
	comp=Z,14nm,1.1s								
HWUT	**Hardware Ranch**	**80.17**	**331**	IAmb		IAmb	04 46 00.6		
	comp=Z,12nm,1.1s								
SPUT	**South Promonto**	**80.29**	**331**	IAmb		IAmb	04 46 04.2		
	comp=Z,23nm,1.4s								
MLAC	**Mammoth, Mammo**	**80.30**	**324**	P		**P**	**04 46 01.7**	**+2.8**
	baz=141								
BW06	**Boulder Array**	**80.34**	**333**	P		**P**	**04 45 59.3**	**+0.3**
	baz=148								
PD31	**Pinedale Array**	**80.34**	**333**	P		**P**	**04 45 58.3**	**-0.8**
PDAR	**Pinedale Array**	**80.34**	**333**	P		**P**	**04 45 59.9**	**+0.8**
	comp=Z,1.9nm,1.0s,baz=157,slow=4.8,SNR=13								
NVAR	**Mina Array Bea**	**80.65**	**325**	P		**P**	**04 46 03.0**	**+2.2**
	comp=Z,1.7nm,0.9s,baz=150,slow=5.3,SNR=12								
AHID	**Auburn Hatcher**	**80.95**	**332**	P		**P**	**04 46 03.0**	**+0.8**
AHID				IAmb		IAmb	04 46 06.9		
	comp=Z,14nm,1.2s								
AGMN	**Agassiz Nation**	**81.08**	**345**	P		**P**	**04 46 03.4**	**+0.8**
	baz=160								
YERR	**Yerington**	**81.55**	**325**	P		**P**	**04 46 05.8**	**+0.2**
YERR				IAmb		IAmb	04 46 12.6		
	comp=Z,14nm,1.3s								
MDND	**Maddock**	**81.59**	**342**	P		**P**	**04 46 06.8**	**+1.5**
	baz=157								
PAHR	**Pah Rah Range**	**82.17**	**325**	P		**P**	**04 46 10.1**	**+1.4**
PAHR				IAmb		IAmb	04 46 14.3		
	comp=Z,18nm,1.3s								
BOSA	**Boshof**	**82.22**	**118**	P		**P**	**04 46 10.3**	**+0.8**
	comp=Z,9.3nm,1.1s,baz=252,slow=4.2,SNR=4.9								
BOSA	**Boshof**	**82.22**	**118**	P		**P**	**04 46 09.8**	**+0.3**
BOSA				IAmb		IAmb	04 46 11.1		
	comp=Z,23nm,1.3s								
LAO	**LASA Array**	**82.53**	**337**	P		**P**	**04 46 11.8**	**+1.5**
	baz=151								
YHH	**Holmes Hill**	**82.55**	**334**	IAmb		IAmb	04 46 13.7		
	comp=Z,9.0nm,1.1s								
YHL	**Hebgen Lake**	**82.73**	**333**	IAmb		IAmb	04 46 18.0		
	comp=Z,10.0nm,1.3s								
BEKR	**Beckworth**	**82.78**	**325**	IAmb		IAmb	04 46 18.0		
	comp=Z,13nm,1.4s								
ULM	**Lac du Bonnet**	**82.92**	**345**	P		**P**	**04 46 13.1**	**+0.9**
	comp=Z,4.3nm,0.8s,baz=192,slow=6.1,SNR=3.1								
HLID	**Hailey**	**82.97**	**331**	IAmb		IAmb	04 46 18.1		
	comp=Z,12nm,1.3s								
HLID	**Hailey**	**82.97**	**331**	P		**P**	**04 46 15.0**	**+2.2**
	baz=145								
MFID	**Camas Ranch**	**83.45**	**330**	IAmb		IAmb	04 46 26.5		
	comp=Z,11nm,1.4s								
DGMT	**Dagmar**	**83.46**	**340**	P		**P**	**04 46 16.9**	**+1.8**
	baz=153								
TORD	**Torodi Ar. Bea**	**83.53**	**71**	P		**P**	**04 46 17.2**	**+1.1**
	comp=Z,9.7nm,0.9s,baz=264,slow=4.9,SNR=35								
TORD	**Torodi Ar. Bea**	**83.53**	**71**	P		**P**	**04 46 16.3**	**+0.2**
CASY	**Casey**	**83.57**	**181**	P		**P**	**04 46 16.3**	**+0.8**
LBTB	**Lobatse**	**84.31**	**116**	P		**P**	**04 46 20.0**	**-0.3**
M04C	**Macdoel**	**84.96**	**325**	P		**P**	**04 46 24.5**	**+1.5**
	baz=139								
K05A	**Summer Lake**	**85.22**	**327**	IAmb		IAmb	04 46 36.4		
	comp=Z,22nm,1.4s								
I07A	**Izee**	**85.61**	**328**	IAmb		IAmb	04 46 38.2		
	comp=Z,11nm,1.4s								
J05D	**Fort Rock, OR**	**85.81**	**327**	P		**P**	**04 46 29.1**	**+1.9**
	baz=140								
PINE	**Pine Mountain**	**86.05**	**327**	IAmb		IAmb	04 46 31.6		
	comp=Z,6.8nm,0.9s								
K02D	**Willamette Mer**	**86.54**	**325**	P		**P**	**04 46 32.3**	**+1.5**
	baz=138								
DBO	**Dodson Butte**	**86.65**	**325**	IAmb		IAmb	04 46 36.5		
	comp=Z,8.0nm,1.1s								
I05D	**Terrebonne, OR**	**86.66**	**327**	P		**P**	**04 46 32.9**	**+1.6**
	baz=140								
WALA	**Waterton Lakes**	**87.27**	**334**	IAmb		IAmb	04 46 38.6		
	comp=Z,10.0nm,1.1s								
HAWA	**Hanford**	**87.42**	**330**	IAmb		IAmb	04 46 40.6		
	comp=Z,17nm,1.5s								
HOOD	**Mount Hood Mea**	**87.55**	**328**	P		**P**	**04 46 36.0**	**+0.3**
C09A	**Chrisman Ranch**	**87.98**	**331**	P		**P**	**04 46 37.0**	**-0.5**
C09A				IAmb		IAmb	04 46 40.4		
	comp=Z,8.4nm,1.2s								
LSZ	**Lusaka**	**91.44**	**109**	P		**P**	**04 46 55.0**	**+0.3**
LSZ				IAmb		IAmb	04 46 58.2		
	comp=Z,13nm,1.2s								
GERES	**GERESS Array B**	**110.02**	**45**	PKiKP		**PKiKP**	**04 52 20.1**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=292,slow=0.7,SNR=5.1								
AKASG	**Malin Array Be**	**120.15**	**46**	PKP		**PKPdf**	**04 52 38.1**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=274,slow=2.6,SNR=7.8								
AKBB	**Malin Array Si**	**120.15**	**46**			**PKPdf**	**04 52 37.7**	**-0.6**
ASAR	**Alice Springs**	**120.47**	**208**	PKP		**PKPdf**	**04 52 39.1**	**-0.9**
	comp=Z,0.9nm,1.0s,baz=126,slow=1.3,SNR=5.9								
BRTR	**Keskin Array B**	**120.53**	**59**	PKiKP		**PKiKP**	**04 52 40.4**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=197,slow=3.9,SNR=6.9								
BRTR	**Keskin Array B**	**120.53**	**59**	PKPdf		**PKiKP**	**04 52 40.9**	**+1.2**
WRA	**Warramunga Arr**	**123.57**	**211**	PKP		**PKPdf**	**04 52 45.6**	**-0.4**
	comp=Z,1.6nm,1.0s,baz=169,slow=1.9,SNR=9.0								
WRA	**Warramunga Arr**	**123.57**	**211**			**PKPdf**	**04 52 45.1**	**-0.9**
PETK	**Petropavlovsk-**	**137.24**	**317**	PKP		**PKPdf**	**04 53 11.8**	**+1.0**
	comp=Z,2.5nm,0.8s,baz=126,slow=3.8,SNR=4.2								
ARU	**Arti**	**137.34**	**38**			**PKPdf**	**04 53 11.1**	**+0.3**
GYA0B	**ALIBECK ARRAY**	**139.00**	**66**	PKPdf		**PKPdf**	**04 53 14.5**	**0.0**
ABKAR	**Akbulak array**	**139.81**	**48**			**PKPdf**	**04 53 15.7**	**+0.1**
BRVK	**Borovoye**	**144.88**	**39**			**PKPdf**	**04 53 24.1**	**-0.3**
YAK	**Yakutsk**	**145.19**	**342**	PKPbc		**PKPab**	**04 53 24.6**	**+0.2**
KBL	**Kabul**	**147.58**	**73**	PKPbc		**PKPbc**	**04 53 32.8**	**+0.2**
CHGR	**Chuyangaron**	**147.69**	**65**	PKPbc		**PKPdf**	**04 53 31.1**	**+1.3**
TOLI2	**Tolitoli**	**148.16**	**206**	PKPbc		**PKPbc**	**04 53 33.7**	**-0.7**
KK31	**Karatay Array**	**148.17**	**56**	PKPdf		**PKPdf**	**04 53 31.1**	**+0.7**
KK31				PKPbc		**pPKPbc**	**04 53 34.5**	**+0.4**
KKAR	**Karatay Array**	**148.17**	**56**	PKPdf		**PKPdf**	**04 53 29.7**	**-0.6**
KKAR				PKPbc		**sPKPbc**	**04 53 34.8**	**+0.6**
GAR	**Garm**	**148.57**	**64**	PKPbc		**PKPdf**	**04 53 32.8**	**+1.5**
BTK	**Batken**	**148.86**	**62**	PKPbc		**PKPdf**	**04 53 33.5**	**+1.8**
EKS2	**Erkin-Say**	**150.61**	**56**	P		**PKiKP**	**04 53 42.0**	**+1.4**
	SNR=21								
AML	**Almayashu**	**150.67**	**57**	P		**PKiKP**	**04 53 42.2**	**+1.2**
	SNR=8.1								
HYB	**Hyderabad**	**150.78**	**110**	*i* PKP		**PKPbc**	**04 53 41.0**	**+0.1**
USP	**Ospenovka**	**150.97**	**55**	P		**PKiKP**	**04 53 42.4**	**+1.2**
	SNR=14								
CHMS	**Chumysh**	**151.22**	**55**	P		**PKiKP**	**04 53 42.7**	**+1.0**
	SNR=7.5								
UCH	**Uchtor**	**151.24**	**57**	P		**PKiKP**	**04 53 44.0**	**+1.7**
	SNR=25								
ZALV	**Zalesovo Beam**	**151.42**	**28**	PKP		**PKPdf**	**04 53 34.7**	**-0.4**
	comp=Z,5.9nm,1.1s,baz=263,slow=2.5,SNR=8.3								
ZALV				PKPbc		**sPKPbc**	**04 53 42.3**	**+0.6**
	comp=Z,33nm,1.0s,baz=298,slow=3.2,SNR=30								
ZALV				PKPab		**sPKPab**	**04 53 50.5**	**+0.5**
	comp=Z,7.0nm,0.8s,baz=7.8,slow=3.3,SNR=4.3								
KZA	**Kyzart**	**151.81**	**57**	P		**PKiKP**	**04 53 45.3**	**+1.8**
	SNR=5.1								
TKM2	**Tokmak 2**	**151.84**	**55**	P		**PKiKP**	**04 53 44.0**	**+0.8**
	SNR=9.6								
KSH	**Kashi**	**152.87**	**62**	PKPbc		**PKPdf**	**04 53 34.6**	**-3.4**
KSH				pPKP		pPKPbc	04 53 46.1	+0.5
KSH				PP		**PP**	**04 57 31.4**	**+1.8**
MJAR	**Matsushiro Arr**	**153.60**	**292**	PKPab		**PKPab**	**04 54 00.8**	**+1.5**
	comp=Z,2.9nm,0.8s,baz=72,slow=1.6,SNR=4.9								
MKAR	**Makanchi Array**	**154.67**	**43**	PKP		**PKPdf**	**04 53 40.4**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=282,slow=2.4,SNR=7.5								
MKAR				PKPbc		**pPKPbc**	**04 53 49.2**	**+0.1**
	comp=Z,3.4nm,0.9s,baz=236,slow=0.4,SNR=3.9								
MKAR	**Makanchi Array**	**154.67**	**43**	PKPdf		**PKPdf**	**04 53 39.9**	**-0.3**
MKAR						**PKPbc**	**04 53 48.6**	**-0.1**
USRK	**Ussuriysk Ar.**	**156.16**	**312**	PKPab		**PKPab**	**04 54 11.6**	**+1.7**
	comp=Z,1.0nm,0.5s,baz=251,slow=19,SNR=2.4								
WMQ	**Urumqi**	**159.49**	**44**	*e*P		**PKPdf**	**04 53 46.0**	**-0.4**
WMQ						LR	LR		
	comp=N,1μm,29.0s								
WMQ						LR	LR		
	comp=E,890nm,28.8s								
WMQ						LR	LR		
	comp=Z,510nm,29.2s								
KSRS	**Korea Array**	**161.55**	**298**	PKPab		**PKPab**	**04 54 35.2**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=54,slow=5.1,SNR=4.2								
SONM	**Songino Array**	**162.61**	**2**	PKPab		**PKPab**	**04 54 39.2**	**+1.4**
	comp=Z,1.1nm,0.9s,baz=343,slow=4.6,SNR=5.5								
HHC	**Hu-ho-hao-te**	**169.05**	**343**	*e*P		**PKPdf**	**04 53 51.1**	**-4.0**
GTA	**Gaotai**	**169.13**	**32**	*e*PKPbc		**PKPdf**	**04 53 56.6**	**+1.3**
GTA				sPKP			04 54 14.8		
GTA				PKPab		**sPKPab**	**04 55 08.3**	**+0.8**
GTA				LR		LR			
	comp=N,480nm,19.3s								
GTA				LR		LR			
	comp=E,410nm,19.3s								
GTA				LR		LR			
	comp=Z,610nm,18.5s								
NJ2	**Nanjing**	**170.00**	**282**	*e*P		**PKPdf**	**04 53 54.4**	**-1.4**
NJ2				pmax		pmax			
	comp=Z,6.0nm,0.5s								
KMI	**Kunming**	**173.33**	**141**	⇑PKP		**PKPdf**	**04 53 59.3**	**+1.4**
XAN	**Xi'an**	**176.16**	**340**	PKP		**PKPdf**	**04 53 59.3**	**+1.0**
XAN				pPKP		sPKPdf	04 54 05.3	+6.4

IDC ***19*** *04:44:06.2±0.6,30.˚83S×71.˚41W,h0km,mb4.2/10, mb1 4.3/15,mb1mx4.3/23,mbtmp4.2/15,ML4.0/5,MS3.5/3, Ms1 3.5/3,ms1mx3.2/24,Error ellipse: s-maj=22.4km s-min=15.3km az=99.0*

SJA ***19*** *04:44:08.2±0.8,30.˚79S×71.˚74W,h21km±4km,ML4.5, MW4.4*

NEIC ***19*** *04:44:12.8±2.4,30.˚84S±0.˚04×71.˚48W±0.˚05,h42km±4km, Error ellipse: s-maj=7.0km s-min=5.8km az=122.0*

GUC ***19*** *04:44:12.3±0.7,30.˚82S×71.˚39W,h51km±4km,ML4.6*

NEIC ***19*** *04:44:12.5,30.˚81S×71.˚58W,h54km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr2.70; Mθθ0.39; Mϕϕ-3.09; Mrθ0.03; Mrϕ-0.21; Mθϕ0.53; Fault plane solution: M₀2.97000×10¹⁵ NP1:φs183.50000°, δ39.85000°, λ89.99000°. NP2:φs3.51000°, δ50.15000°, λ90.01000°. Principal axes: T 2.7474, Plg85.0000°, Azm274.0000°; N 0.4057, Plg0.0000°, Azm184.0000°; P -3.1531, Plg5.0000°, Azm94.0000°;*

ISC 19 04:44:11.7±0.7,30.˚78S±0.˚04×71.˚62W±0.˚05,h41km±6km, n118,σ1.˚68/123,mb4.4/13,2C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.11**	**354**	*i* P		**Pn**	**04 44 20.7**	**+2.1**
CO06				IAML			04 44 29.8	
	comp=N,56μm,0.2s							
CO06	**Fray Jorge**	**0.11**	**354**	Pn		**Pn**	**04 44 20.8**	**+2.2**
CO03	**El Pedregal**	**0.81**	**94**	*e*P		**Pn**	**04 44 25.1**	**-1.6**
CO03				*e*S		**Sn**	**04 44 34.2**	**-3.4**
CO03				IAML			04 44 35.1	
	comp=E,67μm,0.2s							
CO03	**El Pedregal**	**0.81**	**94**	Pn		**Pn**	**04 44 25.3**	**-1.4**
CO03				Sn		**Sn**	**04 44 35.0**	**-2.6**
CO03	**El Pedregal**	**0.81**	**94**	*e*P		**Pn**	**04 44 25.9**	**-0.9**
CO03				*e*S		Sn	04 44 28.6	-8.9
CO03				IAML			04 44 35.0	
	comp=Z,28μm,0.8s							
CO05	**La Serena**	**0.92**	**21**	*e*P		**Pn**	**04 44 29.2**	**+1.0**
CO05				*e*S		**Sn**	**04 44 41.4**	**+1.1**
CO05	**La Serena**	**0.92**	**21**	Pn		**Pn**	**04 44 29.5**	**+1.2**
GO04	**Tololo Observa**	**0.94**	**50**	*e*P		**Pn**	**04 44 28.4**	**-0.3**
GO04				*e*S		**Sn**	**04 44 40.0**	**-1.0**
GO04	**Tololo Observa**	**0.94**	**50**	Sn		**Sn**	**04 44 41.6**	**+0.6**
GO04	**Tololo Observa**	**0.94**	**50**	*e*P		**Pn**	**04 44 28.0**	**-0.6**
VA06	**Catapilco**	**1.79**	**171**	⇑*i*P		**Pn**	**04 44 40.7**	**+0.5**
VA06				IAML			04 45 07.7	
	comp=E,7μm,0.4s							
LCO	**Las Campanas**	**1.94**	**25**	*e*P		**Pn**	**04 44 43.3**	**+0.9**
LCO	**Las Campanas**	**1.94**	**25**	Pn		**Pn**	**04 44 43.7**	**+1.2**
LCO	**Las Campanas**	**1.94**	**25**	*e*P		**Pn**	**04 44 44.0**	**+1.6**
AROD	**Rodeo**	**1.95**	**72**	*e*P		**Pn**	**04 44 44.0**	**+1.3**
AROD				*e*P			04 44 44.4	
AROD				*e*S		**Sn**	**04 45 08.1**	**+1.9**
VA03	**San Esteban**	**2.17**	**155**	*e*P		**Pn**	**04 44 46.2**	**+0.7**
VA03				IAML			04 45 19.6	
	comp=E,6μm,0.4s							
VA03	**San Esteban**	**2.17**	**155**	Pn		**Pn**	**04 44 46.4**	**+0.9**
ACCO	**Cerro Coronel**	**2.21**	**86**	*e*P		**Pn**	**04 44 48.0**	**+1.8**
RTLS	**Leoncito**	**2.23**	**118**	*e*P		**Pn**	**04 44 48.0**	**+1.5**
RTLS				*e*P			04 44 48.4	
RTLS				*e*S		**Sn**	**04 45 15.2**	**+2.1**
RTLS				IAML			04 45 20.5	
	comp=Z,2μm,0.5s							
VA01	**Torpederas**	**2.23**	**181**	*e*P		**Pn**	**04 44 46.0**	**-0.2**
VA01	**Torpederas**	**2.23**	**181**	Pn		**Pn**	**04 44 46.4**	**+0.2**
ROCH	**El Roble**	**2.24**	**167**	*e*P		**Pn**	**04 44 47.1**	**+0.5**
ROCH				IAML			04 45 21.7	
	comp=N,3μm,0.2s							
ACDV	**Cuesta del Vie**	**2.25**	**75**	*e*P		**Pn**	**04 44 48.8**	**+2.2**
ACDV				*e*S		**Sn**	**04 45 18.1**	**+5.0**
ACDV				IAML			04 45 24.1	
	comp=Z,1μm,0.4s							
AC04	**Llanos de Chal**	**2.61**	**11**	*e*P		**Pn**	**04 44 53.0**	**+1.5**
AC04	**Llanos de Chal**	**2.61**	**11**	Pn		**Pn**	**04 44 53.2**	**+1.7**
AC04	**Llanos de Chal**	**2.61**	**11**	*e*P		**Pn**	**04 44 53.0**	**+1.5**
AC04				IAML			04 45 35.9	
	comp=Z,1μm,0.7s							
ZON	**Zonda**	**2.63**	**108**	Pn		**Pn**	**04 44 53.3**	**+1.5**
ZON	**Zonda**	**2.63**	**108**	*e*P		**Pn**	**04 44 53.0**	**+1.2**
ZON				*e*P			04 44 53.5	
ZON				*e*S		**Sn**	**04 45 27.0**	**+4.4**
ZON				IAML			04 45 46.1	
	comp=Z,1μm,0.6s							
MT05	**Renca**	**2.71**	**164**	*e*P		**Pn**	**04 44 53.4**	**+0.6**
MT05				IAML			04 45 40.0	
	comp=N,4μm,0.2s							
MT05	**Renca**	**2.71**	**164**	Pn		**Pn**	**04 44 53.6**	**+0.8**
RTCV	**Cerro Valdivia**	**2.85**	**113**	*e*P		**Pn**	**04 44 56.6**	**+1.9**
RTCV				*e*S		Sn	04 45 13.3	-14
VA05	**Santo Domingo**	**2.87**	**180**	Pn		**Pn**	**04 44 54.8**	**-0.1**
ASAL	**Salagasta**	**2.98**	**128**	*e*P		**Pn**	**04 44 58.8**	**+2.2**
ASAL				*e*S		**Sn**	**04 45 36.1**	**+5.0**
AGUA	**GUANDACOL**	**3.00**	**65**	*e*P		**Pn**	**04 45 00.0**	**+3.1**
AGUA				IAML			04 45 50.1	
	comp=Z,1μm,0.8s							
MT09	**Talagante**	**3.03**	**170**	*i* P		**Pn**	**04 44 57.8**	**+0.4**
MT09				IAML			04 45 47.6	
	comp=E,2μm,0.4s							
MT09	**Talagante**	**3.03**	**170**	Pn		**Pn**	**04 44 58.1**	**+0.8**
ARCO	**CERRO ARCO**	**3.08**	**133**	*e*P		**Pn**	**04 45 00.8**	**+2.9**
ARCO				*e*S		Sn	04 45 40.6	+7.1
ARCO				IAML			04 45 48.6	
	comp=Z,2μm,0.7s							
MT01	**Popeta**	**3.09**	**174**	Pn		**Pn**	**04 44 58.5**	**+0.5**
LMEL	**Las Melosas**	**3.28**	**159**	*i* P		**Pn**	**04 45 02.3**	**+1.5**
LMEL				IAML			04 45 49.8	
	comp=N,1μm,0.5s							
GO03	**Copiap**	**3.40**	**21**	*e*P		**Pn**	**04 45 04.5**	**+2.1**
GO03	**Copiap**	**3.40**	**21**	Pn		**Pn**	**04 45 04.7**	**+2.4**
GO03	**Copiap**	**3.40**	**21**	*e*P		**Pn**	**04 45 04.0**	**+1.6**
GO03				*e*S		**Sn**	**04 45 44.1**	**+2.6**
AC06	**Mina Casimiro**	**3.59**	**18**	Pn		**Pn**	**04 45 06.8**	**+1.8**
AVFE	**Valle Fertil**	**3.59**	**89**	*e*P		**Pn**	**04 45 05.7**	**+0.7**
AVFE				*e*S		**Sn**	**04 45 48.6**	**+2.5**
AVFE				IAML			04 45 57.8	
	comp=Z,947nm,0.6s							
VCA	**Vinchina**	**3.60**	**56**	*e*P		**Pn**	**04 45 08.0**	**+2.8**
VCA				*e*S		Sn	04 45 55.9	+9.2
VCA				IAML			04 46 04.6	
	comp=Z,1μm,0.6s							
BO01	**Tunca**	**3.63**	**173**	Pn		**Pn**	**04 45 06.4**	**+1.0**
BO02	**Sierra Bellavi**	**4.06**	**170**	Pn		**Pn**	**04 45 12.4**	**+1.0**
GO05	**Huala**	**4.22**	**183**	Pn		**Pn**	**04 45 12.9**	**-0.7**
ACHE	**Chepes**	**4.28**	**96**	*e*P		**Pn**	**04 45 14.6**	**+0.1**
ACHE				*e*S		Sn	04 46 10.2	+7.1
AC02	**Maricunga**	**4.50**	**30**	Pn		**Pn**	**04 45 19.9**	**+2.0**
AC02	**Maricunga**	**4.50**	**30**	*e*P		**Pn**	**04 45 20.1**	**+2.2**
AC02				*e*S		**Sn**	**04 46 08.2**	**-1.1**
AC02				IAML			04 46 30.1	
	comp=Z,362nm,0.9s							
COIS	**El Sosneado**	**4.64**	**159**	*e*P		**Pn**	**04 45 21.1**	**+1.9**
RFA	**San Rafael**	**4.78**	**147**	*e*P		**Pn**	**04 45 22.2**	**+0.9**
ML02	**Panimavida**	**4.97**	**178**	Pn		**Pn**	**04 45 23.9**	**+0.1**
CYA	**Choya**	**5.58**	**67**	*e*P		**Pn**	**04 45 32.5**	**+0.3**
CYA				*e*S		**Sn**	**04 46 35.5**	**+0.3**
CYA				IAML			04 47 12.9	
	comp=Z,155nm,0.6s							
PB14	**IPOC Station P**	**6.23**	**10**	Pn		**Pn**	**04 45 42.2**	**+0.8**
H03N1	**Juan Fernandez**	**6.73**	**245**	T		T	04 52 46.3	
	baz=72,slow=72,SNR=446							
VA04	**Juan Fernndez**	**6.74**	**243**			**Pn**	**04 45 49.2**	**+1.1**
H03N3	**Juan Fernandez**	**6.74**	**245**	T		T	04 52 41.0	
	baz=72,slow=72,SNR=38							
H03N2	**Juan Fernandez**	**6.74**	**245**	T		T	04 52 43.5	
	baz=72,slow=72,SNR=374							
AHML	**Horco Molle**	**6.80**	**56**	*e*P		**Pn**	**04 45 48.0**	**-1.1**
AHML				*e*P			04 45 48.6	
AHML				*e*P			04 45 48.9	
FSA	**Cafayete**	**6.81**	**48**	*e*P		**Pn**	**04 45 50.7**	**+1.4**
H03S3	**Juan Fernandez**	**6.87**	**242**	T		T	04 52 59.9	
	baz=69							
H03S1	**Juan Fernandez**	**6.88**	**242**	T		T	04 52 39.0	
	baz=69							
H03S2	**Juan Fernandez**	**6.89**	**242**	T		T	04 52 57.5	
	baz=69							
PB15	**IPOC Station P**	**7.79**	**15**			**Pn**	**04 46 03.2**	**+0.5**
PB05	**IPOC Station P**	**8.00**	**9**	*e*P		**Pn**	**04 46 06.0**	**+0.4**
LC01	**Cunco**	**8.10**	**181**	Pn		**Pn**	**04 46 05.2**	**-1.5**
PB06	**IPOC Station P**	**8.25**	**13**	Pn		**Pn**	**04 46 08.2**	**-0.8**
LVC	**Limon Verde**	**8.49**	**17**	Pn		**Pn**	**04 46 11.8**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=186,slow=7.4,SNR=10							
LVC				Sn		**Sn**	**04 47 47.5**	**+0.2**
	comp=Z,1.9nm,0.3s,baz=308,slow=16,SNR=3.4							
LVC	**Limon Verde**	**8.49**	**17**	Pn		**Pn**	**04 46 12.6**	**+0.1**
LVC	**Limon Verde**	**8.49**	**17**	*e*P		**Pn**	**04 46 13.0**	**+0.4**
PB04	**IPOC Station P**	**8.52**	**9**	*e*P		**Pn**	**04 46 12.0**	**-0.7**
PB07	**IPOC Station P**	**9.15**	**10**	Pn		**Pn**	**04 46 21.3**	**-0.1**
PB09	**IPOC Station P**	**9.20**	**14**	Pn		**Pn**	**04 46 22.1**	**0.0**
ASTB	**Santa Barbara**	**9.32**	**45**	*e*P		**Pn**	**04 46 26.4**	**+2.7**
PB01	**IPOC Station P**	**9.89**	**12**	Pn		**Pn**	**04 46 30.2**	**-1.2**
PLCA	**Paso Flores**	**9.97**	**175**	Pn		**Pn**	**04 46 31.1**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=343,slow=12,SNR=4.8							
PLCA				LR		LR	04 50 10.6	
	comp=Z,99nm,21.5s,baz=346,slow=37							
LL04	**Puerto Octay**	**10.12**	**183**			**Pn**	**04 46 32.6**	**-1.9**
TRQA	**Tornquist**	**10.77**	**135**	Pn		**Pn**	**04 46 42.1**	**-1.2**
ITQB	**Itaqui**	**13.02**	**89**			**Pn**	**04 47 10.5**	**-3.6**
CPUP	**Villa Florida**	**13.32**	**74**	Pn		**Pn**	**04 47 14.4**	**-3.8**
	comp=Z,0.5nm,0.3s,baz=246,slow=12,SNR=6.2							
CPUP				Sn		**Sn**	**04 49 43.6**	**-1.3**
	comp=Z,0.0nm,0.3s,baz=287,slow=16,SNR=2.0							
CPUP				LR		LR	04 52 23.6	
	comp=Z,121nm,19.7s,baz=282,slow=38							
CPUP	**Villa Florida**	**13.32**	**74**			**Pn**	**04 47 14.6**	**-3.7**
LPAZ	**La Paz**	**14.78**	**13**	Pn		**Pn**	**04 47 38.3**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=176,slow=8.5,SNR=7.3							
**LPAZ

IDC ***19*** *04:53:24.5±0.9,31°.70S×71°.91W,h0km,mb4.1/5, mb1 4.1/9,mb1mx3.9/27,mbtmp4.0/9,ML3.8/4,MS3.2/3, Ms1 3.2/3,ms1mx3.0/28,Error ellipse: s-maj=34.2km s-min=21.2km az=89.0*

NEIC ***19*** *04:53:26.9±1.1,31°.75S±0°.04×72°.09W±0°.08,h16km±4km, mb4.4/7, ML4.2(GUC),Error ellipse: s-maj=10.2km s-min=5.6km az=83.0*

GUC ***19*** *04:53:27.5±0.7,31°.87S×72°.06W,h49km±5km, ML4.1*

ISC 19 04:53:27.2±1.1,31°.75S±0°.04×72°.20W±0°.06,h24km±7km, n66,σ1§39/80,mb4.4/6,4C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**1.11**	**137**	*i*P		**Pn**	**04 53 45.5**	**-1.8**
VA06				*i* S		**Sn**	**04 53 59.4**	**-2.4**
VA06				IAML			04 54 04.7	
	comp=N,14μm,0.4s							
CO06	**Fray Jorge**	**1.18**	**24**	⇑*i*P		**Pn**	**04 53 46.4**	**-1.8**
CO06				*i* S		**Sb**	**04 54 05.8**	**+2.0**
CO06	**Fray Jorge**	**1.18**	**24**			**Pn**	**04 53 46.3**	**-1.8**
VA01	**Torpederas**	**1.35**	**160**	*e*P		**Pn**	**04 53 49.4**	**-1.1**
VA01				*i* S		**Sn**	**04 54 05.7**	**-2.0**
VA01	**Torpederas**	**1.35**	**160**	Pn		**Pn**	**04 53 49.2**	**-1.3**
ROCH	**El Roble**	**1.58**	**141**	*e*P		**Pn**	**04 53 53.0**	**-0.9**
ROCH				*e*S		**Sn**	**04 54 13.0**	**-0.6**
ROCH				IAML			04 54 17.5	
	comp=E,5μm,0.7s							
CO03	**El Pedregal**	**1.58**	**55**	*e*P		**Pn**	**04 53 52.6**	**-1.2**
CO03				*i* S		**Sn**	**04 54 12.1**	**-1.4**
CO03	**El Pedregal**	**1.58**	**55**			**Pn**	**04 53 52.8**	**-1.0**
VA03	**San Esteban**	**1.72**	**126**	⇑*i*P		**Pn**	**04 53 54.9**	**-0.9**
VA03				*i* S		**Sn**	**04 54 15.4**	**-1.6**
VA03				IAML			04 54 20.8	
	comp=E,5μm,0.2s							
VA03	**San Esteban**	**1.72**	**126**			**Pn**	**04 53 55.2**	**-0.6**
VA05	**Santo Domingo**	**1.96**	**166**	*e*P		**Pn**	**04 53 58.0**	**-1.0**
VA05				*i* S		**Sn**	**04 54 20.3**	**-2.5**
VA05				IAML			04 54 35.4	
	comp=N,5μm,0.5s							
VA05	**Santo Domingo**	**1.96**	**166**			**Pn**	**04 53 58.9**	**-0.1**
GO04	**Tololo Observa**	**1.98**	**38**	*e*P		**Pn**	**04 53 58.5**	**-0.9**
GO04				*i* S		**Sn**	**04 54 22.4**	**-1.2**
GO04	**Tololo Observa**	**1.98**	**38**			**Pn**	**04 53 59.4**	**-0.1**
CO05	**La Serena**	**2.00**	**25**	*e*P		**Pn**	**04 53 58.8**	**-1.2**
CO05				*e*S		**Sb**	**04 54 26.9**	**-0.6**
CO05	**La Serena**	**2.00**	**25**			**Pn**	**04 53 58.4**	**-1.2**
MT05	**Renca**	**2.05**	**143**	*e*P		**Pn**	**04 53 59.6**	**-0.6**
MT05				*e*S		**Sn**	**04 54 23.5**	**-1.5**
MT05				IAML			04 54 31.2	
	comp=E,3μm,0.4s							
MT05	**Renca**	**2.05**	**143**	Pn		**Pn**	**04 53 59.8**	**-0.4**
MT01	**Popeta**	**2.25**	**160**	⇑*i*P		**Pn**	**04 54 02.2**	**-0.8**
MT01				*e*S		**Sn**	**04 54 27.1**	**-2.9**
MT01				IAML			04 54 43.2	
	comp=N,1μm,0.6s							
MT01	**Popeta**	**2.25**	**160**			**Pn**	**04 54 02.7**	**-0.3**
MT09	**Talagante**	**2.26**	**154**	*e*P		**Pn**	**04 54 03.0**	**-0.2**
MT09				*i* S		**Sn**	**04 54 30.5**	**+0.1**
MT09				IAML			04 54 45.8	
	comp=N,2μm,0.3s							
MT09	**Talagante**	**2.26**	**154**			**Pn**	**04 54 02.8**	**-0.4**
LMEL	**Las Melosas**	**2.68**	**142**	*e*P		**Pn**	**04 54 08.6**	**-0.4**
LMEL				*e*S		**Sn**	**04 54 40.1**	**-0.7**
LMEL				IAML			04 54 54.4	
	comp=N,1μm,0.6s							
BO03	**Pichilemu**	**2.74**	**176**	⇓*i*P		**Pn**	**04 54 08.8**	**-1.0**
BO03				*i* S		**Sn**	**04 54 39.0**	**-3.1**
BO01	**Tunca**	**2.79**	**161**	⇑*i*P		**Pn**	**04 54 09.7**	**-0.7**
BO01				*e*S		**Sn**	**04 54 41.9**	**-1.4**
BO01				IAML			04 54 55.8	
	comp=E,400nm,0.4s							
BO01	**Tunca**	**2.79**	**161**			**Pn**	**04 54 10.5**	**+0.1**
ZON	**Zonda**	**3.01**	**87**			**Pn**	**04 54 13.7**	**+0.3**
BO02	**Sierra Bellavi**	**3.26**	**159**	*e*P		**Pn**	**04 54 16.4**	**-0.4**
BO02				*e*S		**Sn**	**04 54 54.0**	**-0.8**
BO02				IAML			04 55 12.2	
	comp=E,1μm,0.4s							
BO02	**Sierra Bellavi**	**3.26**	**159**			**Pn**	**04 54 17.1**	**+0.3**
GO05	**Huala**	**3.26**	**176**	*e*P		**Pn**	**04 54 15.7**	**-1.1**
GO05				*e*S		**Sn**	**04 54 50.8**	**-4.1**
GO05				IAML			04 54 57.3	
	comp=N,220nm,0.3s							
GO05	**Huala**	**3.26**	**176**			**Pn**	**04 54 15.8**	**-1.1**
ML02	**Panimavida**	**4.05**	**171**	Pn		**Pn**	**04 54 28.0**	**+0.3**
GO03	**Copiap**	**4.48**	**23**	Pn		**Pn**	**04 54 33.2**	**-0.5**
AC02	**Maricunga**	**5.58**	**29**			**Pn**	**04 54 46.7**	**-2.5**
H03N1	**Juan Fernandez** baz=74	**5.91**	**252**	T		T	05 01 35.9	
H03N3	**Juan Fernandez** baz=74	**5.92**	**252**	T		T	05 01 28.5	
H03N2	**Juan Fernandez** baz=74	**5.93**	**252**	T		T	05 01 44.4	
H03S3	**Juan Fernandez** baz=84,slow=75,SNR=6.8	**6.02**	**248**	T		T	05 01 37.6	
H03S1	**Juan Fernandez** baz=84,slow=75,SNR=5.7	**6.02**	**248**	T		T	05 01 49.5	
H03S2	**Juan Fernandez** baz=84,slow=75,SNR=7.2	**6.04**	**248**	T		T	05 01 44.5	
LC01	**Cunco**	**7.13**	**178**			**Pn**	**04 55 08.6**	**-1.5**
PLCA	**Paso Flores** comp=N,0.7nm,0.3s,baz=334,slow=12,SNR=8.8	**9.06**	**172**	Pn		**Pn**	**04 55 37.1**	**+0.6**
PLCA				LR		LR	04 59 16.6	
	comp=N,194nm,18.3s,baz=347,slow=39							
LVC	**Limon Verde** comp=N,0.6nm,0.3s,baz=125,slow=21,SNR=2.1	**9.56**	**19**	Pn		**Pn**	**04 55 40.1**	**-3.6**
LVC				Sn		**Sn**	**04 57 27.6**	**-3.0**
	baz=250,slow=11,SNR=1.3							
LVC				LR		LR	04 59 34.4	
	comp=N,80nm,21.2s,baz=203,slow=39							
LVC	**Limon Verde**	**9.56**	**19**			**Pn**	**04 55 43.4**	**-0.3**
PB09	**IPOC Station P**	**10.26**	**16**	Pn		**Pn**	**04 55 51.0**	**-2.1**
TRQA	**Tornquist**	**10.48**	**130**			**Pn**	**04 55 55.5**	**-0.4**
CPUP	**Villa Florida** comp=N,0.2nm,0.3s,baz=228,slow=12,SNR=1.9	**14.08**	**71**	Pn		**Pn**	**04 56 45.2**	**0.0**
CPUP				Sn		**Sn**	**04 59 21.6**	**+1.0**
	comp=N,0.2nm,0.3s,baz=225,slow=10,SNR=3.2							
CPUP				LR		LR	05 02 21.5	
	comp=N,149nm,18.7s,baz=212,slow=39							
LPAZ	**La Paz** comp=N,0.1nm,0.3s,baz=205,slow=12,SNR=3.9	**15.83**	**14**	Pn		**Pn**	**04 57 08.7**	**-0.5**
SIV	**San Ignacio** comp=N,0.2nm,0.3s,baz=228,slow=10,SNR=4.6	**18.68**	**35**	P		**P**	**04 57 43.6**	**-0.1**
BDFB	**Brasilia** comp=N,8.7nm,1.0s,baz=255,slow=5.6,SNR=6.4	**27.25**	**60**	P		**P**	**04 59 08.8**	**-1.0**
BDFB	**Brasilia**	**27.25**	**60**	P		**P**	**04 59 08.7**	**-1.1**
BDFB				IAmb		IAmb	04 59 09.2	
	comp=Z,15nm,1.2s							
RUSC	**La Rusia**	**37.44**	**359**	P		**P**	**05 00 40.2**	**+0.9**
RUSC				IAmb		IAmb	05 00 52.7	
	comp=Z,13nm,1.5s							
VNA3	**Neumayer Olymp**	**51.49**	**158**	P		**P**	**05 02 31.1**	**+0.8**
VNA1	**Neumayer--Stat**	**51.79**	**158**	P		**P**	**05 02 33.8**	**+1.2**
VNA2	**Neumayer--Watz** baz=286,slow=8.4	**52.13**	**158**	P		**P**	**05 02 36.0**	**+0.8**
SNAA	**Sanae**	**53.72**	**158**	P		**P**	**05 02 47.5**	**+0.7**
SNAA	**Sanae** comp=Z,4.4nm,0.8s,baz=272,slow=7.5,SNR=24	**53.72**	**158**	P		**P**	**05 02 47.6**	**+0.8**
SNAA	**Sanae**	**53.72**	**158**	P		**P**	**05 02 47.3**	**+0.5**
TXAR	**Lajitas Array** comp=Z,0.1nm,0.5s,baz=159,slow=7.6,SNR=4.0	**67.72**	**330**	P		**P**	**05 04 24.2**	**+1.5**
NVAR	**Mina Array Bea** comp=Z,0.6nm,0.8s,baz=147,slow=6.2,SNR=4.2	**81.97**	**325**	P		**P**	**05 05 47.3**	**+2.1**
TORD	**Torodi Ar. Bea** comp=Z,2.3nm,0.8s,baz=261,slow=4.7,SNR=14	**83.58**	**70**	P		**P**	**05 05 53.1**	**-0.6**
TORD	**Torodi Ar. Bea**	**83.58**	**70**	P		**P**	**05 05 53.2**	**-0.6**
TORD				IAmb		IAmb	05 05 54.3	
	comp=Z,2.4nm,0.8s							
BVAR	**Borovoye Array** comp=Z,1.4nm,0.7s,baz=318,slow=0.9,SNR=6.0	**145.70**	**41**	PKPbc		**PKPab**	**05 13 04.5**	**+0.7**
KURBB	**Kurchatov Arra** comp=Z,1.1nm,0.6s,baz=284,slow=2.9,SNR=10	**151.29**	**40**	PKPbc		**PKPbc**	**05 13 18.8**	**+0.5**
ZALV	**Zalesovo Beam** comp=Z,1.8nm,0.6s,baz=328,slow=5.3,SNR=5.2	**152.37**	**30**	PKPbc		**PKPbc**	**05 13 21.1**	**+0.5**
ZALV				PKPab		**sPKPbc**	**05 13 30.5**	**+0.6**
	comp=Z,2.5nm,0.5s,baz=293,slow=3.4,SNR=6.1							
MKAR	**Makanchi Array** comp=Z,0.5nm,0.7s,baz=298,slow=2.6,SNR=5.2	**155.33**	**45**	PKPab		**PKPab**	**05 13 43.7**	**+0.1**

MEX 19 04:53:37.4±0.9,14°.20N×93°.29W,h10km±999km,MD3.7, Near coast of Chiapas

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

CCIG	**Comitan**	**2.35**	**28**	*e*P		Pn	04 54 16.8	+0.5
CCIG				*e*S		Sn	04 54 45.2	-0.2

MOS ***19*** *04:59:13.3±0.0,43°.00N×45°.61E,h12km,MPVA4.0*

NORS ***19*** *04:59:13.5±0.0,42°.97N×45°.65E,h16km,MPVA4.0*

TIF ***19*** *04:59:14.2,43°.09N×45°.53E,h10km±2km*

DRS ***19*** *04:59:16.1±0.0,42°.94N×45°.64E,h15km*

ISC 19 04:59:15.2±0.9,43°.03N±0°.03×45°.61E±0°.01,h14km±8km, n38,σ1§39/75,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.22**	**39**	*e*Pg		**Pg**	**04 59 20.0**	**0.0**
GROC				*e*Sg		**Sb**	**04 59 24.7**	**-0.2**
DVE	**Vedeno**	**0.39**	**101**	*i* Pg		**Pg**	**04 59 21.9**	**-1.1**
DVE				*e*Sg		**Sg**	**04 59 27.9**	**-0.4**
BTLR	**Botlikh**	**0.58**	**129**	*e*Pg		**Pg**	**04 59 25.9**	**-0.7**
BTLR				*e*Sg		**Sg**	**04 59 34.2**	**-0.2**
VLKR	**Vladikavkaz**	**0.68**	**272**	*e*Pg		**Pg**	**04 59 28.5**	**0.0**
VLKR				*e*Sg		**Sb**	**04 59 39.2**	**+0.9**
DLMR	**Dylym**	**0.75**	**87**	*e*Pg		**Pg**	**04 59 28.9**	**-0.9**
DLMR				*e*Sg		**Sb**	**04 59 40.9**	**+0.7**
PNSH	**Pansheti**	**0.83**	**242**	P		**Pg**	**04 59 29.9**	**-1.4**
PNSH				S		**Sg**	**04 59 42.4**	**+0.1**
BTKR	**Batakoyurt**	**0.85**	**294**	*e*Pg		**Pg**	**04 59 32.2**	**+0.5**
BTKR				*e*Sg		**Sn**	**04 59 45.3**	**+0.1**
MTEO	**Meteo**	**0.87**	**246**	P		**Pg**	**04 59 30.8**	**-1.2**
MTEO				S		**Sg**	**04 59 43.0**	**-0.4**
DBC	**Dubki**	**0.90**	**90**	*e*Pg		**Pb**	**04 59 30.9**	**-1.8**
DBC				*e*Sg		**Sb**	**04 59 44.3**	**-0.2**
TRKR	**Terskaya**	**0.94**	**318**	*e*Pg		**Pn**	**04 59 34.1**	**0.0**
TRKR				*e*Sg		**Sn**	**04 59 47.4**	**0.0**
XNZR	**Khunzakh**	**0.94**	**121**	*e*Pg		**Pb**	**04 59 33.0**	**-0.5**
XNZR				*e*Sg		**Sg**	**04 59 46.2**	**+0.4**
KRNR	**Karanay**	**0.97**	**102**	*e*Pg		**Pb**	**04 59 32.5**	**-1.4**
KRNR				*e*Sg		**Sb**	**04 59 46.5**	**-0.3**
ARNR	**Ardon**	**0.98**	**279**	*e*Pg		**Pb**	**04 59 34.0**	**0.0**
ARNR				*e*Sg		**Sn**	**04 59 48.7**	**+0.3**
LACR	**Lac**	**0.98**	**258**	*i* Pg		**Pb**	**04 59 33.1**	**-1.1**
LACR				*e*Sg		**Sb**	**04 59 47.1**	**0.0**
GUDG	**Gudauri**	**1.01**	**236**	P		Pb	04 59 28.9	-5.7
GUDG				S		**Sb**	**04 59 41.6**	**-6.3**
ARKR	**Arakani**	**1.11**	**112**	*e*Pg		**Pb**	**04 59 34.6**	**-1.6**
ARKR				*e*Sg		**Sn**	**04 59 51.3**	**-0.2**
BUJR	**Buynaksk**	**1.12**	**100**	*e*Pg		**Pb**	**04 59 35.6**	**-0.8**
BUJR				*e*Sg		**Sg**	**04 59 51.9**	**+0.5**
KORR	**Kora**	**1.13**	**273**	*e*Pg		**Pb**	**04 59 36.6**	**0.0**
KORR				*e*Sg		**Sg**	**04 59 53.6**	**+1.8**
STDR	**Stavd-Durt**	**1.18**	**287**	*e*Pg		**Pb**	**04 59 37.5**	**0.0**
STDR				*e*Sg		**Sg**	**04 59 55.5**	**+2.2**
GNBR	**Gunib**	**1.19**	**122**	*e*Pg		**Pn**	**04 59 37.5**	**0.0**
GNBR				*e*Sg		**Sn**	**04 59 53.3**	**-0.2**
ZEI	**Tsey**	**1.28**	**260**	*e*Pg		**Pn**	**04 59 37.8**	**-1.1**
ZEI				*e*Sg		**Sb**	**04 59 54.9**	**-0.7**
LSNR	**Lesken**	**1.33**	**281**	*i* Pg		**Pn**	**04 59 39.5**	**0.0**
LSNR				*e*Sg		**Sg**	**04 59 59.2**	**+1.1**
KANR	**Karaman**	**1.39**	**83**	*e*Pg		**Pb**	**04 59 41.5**	**+0.6**
KANR				*e*Sg		**Sg**	**05 00 01.2**	**+1.3**
MAK	**Makhachkala**	**1.39**	**92**	*e*Pg		**Pb**	**04 59 41.7**	**+0.6**
MAK				*e*Sg		**Sg**	**05 00 02.3**	**+2.2**
DIGR	**Digorskoe uzhe**	**1.50**	**266**	*e*Pg		**Pn**	**04 59 41.5**	**-0.4**
DIGR				*e*Sg		**Sn**	**05 00 01.2**	**-0.1**
NCK	**Nalchik**	**1.54**	**288**	*e*Pg		**Pn**	**04 59 42.2**	**-0.2**
NCK				*e*Sg		**Sb**	**05 00 03.0**	**0.0**
DGRG	**David-gareji**	**1.59**	**186**	P		**Pg**	**04 59 45.3**	**-0.4**
DGRG				S		**Sg**	**05 00 07.6**	**+1.3**
DDFL	**Dedoflistskaro**	**1.63**	**166**	P		**Pg**	**04 59 47.6**	**+1.1**
DDFL				S		**Sg**	**05 00 14.1**	**+6.5**
ONI	**Oni**	**1.65**	**255**	P		**Pb**	**04 59 44.7**	**-0.8**
ONI				S		**Sb**	**05 00 06.4**	**+0.3**
URKR	**Urkarakh**	**1.73**	**119**	*e*Pg		**Pb**	**04 59 46.5**	**-0.4**
URKR				*e*Sg		**Sb**	**05 00 08.3**	**-0.2**
TRLG	**Trialeti**	**1.86**	**217**	P		**Pb**	**04 59 48.8**	**-0.4**
TRLG				S		**Sb**	**05 00 13.6**	**+1.1**
BKRG	**Bakuriani**	**2.00**	**231**	P		**Pb**	**04 59 50.2**	**-1.3**
BKRG				S		**Sb**	**05 00 17.1**	**+0.7**
DMNI	**Dmanisi**	**2.00**	**212**	P		**Pn**	**04 59 49.9**	**+1.1**
DMNI				S		**Sb**	**05 00 16.4**	**+0.1**
KBZ	**Khabaz**	**2.10**	**290**	*e*Pg		**Pn**	**04 59 49.2**	**-0.7**
KBZ				*e*Sg		**Sn**	**05 00 17.2**	**+1.4**
PYA1	**Pyatigorsk**	**2.10**	**300**	*e*Pg		**Pn**	**04 59 49.0**	**-1.0**
PYA1				*e*Sg		**Sn**	**05 00 16.1**	**+0.1**
NEY	**Neytrino**	**2.12**	**277**	*e*Pg		**Pn**	**04 59 50.6**	**+0.1**
NEY				*e*Sg		**Sn**	**05 00 18.3**	**+1.4**
AKT	**Akhty**	**2.21**	**134**	*e*Pg		**Pb**	**04 59 54.0**	**-1.0**
AKT				*e*Sg		**Sn**	**05 00 19.8**	**+0.9**
BEYR	**Belyy Ugol+**	**2.25**	**297**	*e*Pn		**Pn**	**04 59 51.0**	**-1.2**
BEYR				*e*Sn		**Sn**	**05 00 18.7**	**-1.2**

IDC ***19*** *05:01:41.5±0.7,30°.43S×72°.63W,h0km,mb4.0/7, mb1 4.3/11,mb1mx4.2/24,mbtmp4.1/11,ML4.2/4,Error ellipse: s-maj=27.7km s-min=19.9km az=97.0*

NEIC ***19*** *05:01:42.4±2.4,30°.38S±0°.05×72°.66W±0°.04,h10km±1km, mb4.5/13,Error ellipse: s-maj=8.0km s-min=6.0km az=186.0*

ISC 19 05:01:44.0±0.6,30°.38S±0°.06×72°.64W±0°.07,h19km,n62, σ1§35/64,mb4.4/12,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.91**	**109**			**Pb**	**05 00 03.3**	**-0.9**
CO06				Sg		**Sb**	**05 02 12.1**	**-0.9**
CO05	**La Serena**	**1.30**	**69**			**Pn**	**05 02 06.5**	**-0.6**
GO04	**Tololo Observa**	**1.60**	**83**			**Pn**	**05 02 11.7**	**+0.1**
GO04				Sn		**Sb**	**05 02 33.3**	**+0.1**
CO03	**El Pedregal**	**1.74**	**106**	Pn		**Pn**	**05 02 13.2**	**-0.2**
AC04	**Llanos de Chal**	**2.56**	**33**	Pn		**Pn**	**05 02 23.3**	**-1.3**
VA01	**Torpederas**	**2.77**	**162**			**Pn**	**05 02 25.4**	**-1.9**
VA03	**San Esteban**	**2.97**	**144**			**Pn**	**05 02 30.0**	**-0.2**
VA05	**Santo Domingo**	**3.38**	**165**			**Pn**	**05 02 33.8**	**-2.0**
MT05	**Renca**	**3.41**	**152**			**Pn**	**05 02 35.3**	**-0.9**
GO03	**Copiap**	**3.49**	**38**	Pn		**Pn**	**05 02 36.8**	**-0.5**
AC06	**Mina Casimiro**	**3.62**	**34**			**Pn**	**05 02 39.2**	**+0.1**
MT09	**Talagante**	**3.66**	**158**	Pn		**Pn**	**05 02 39.1**	**-0.7**
MT01	**Popeta**	**3.67**	**162**	Pn		**Pn**	**05 02 38.1**	**-1.6**
BO01	**Tunca**	**4.21**	**162**			**Pn**	**05 02 45.6**	**-1.5**
GO05	**Huala**	**4.65**	**173**			**Pn**	**05 02 51.0**	**-2.3**
BO02	**Sierra Bellavi**	**4.67**	**151**			**Pn**	**05 02 52.8**	**-0.8**
AC02	**Maricunga**	**4.69**	**42**			**Pn**	**05 02 54.2**	**-0.1**
ML02	**Panimavida**	**5.46**	**170**	Pn		**Pn**	**05 03 03.5**	**-1.0**
PB14	**IPOC Station P**	**6.07**	**20**	Pn		**Pn**	**05 03 10.3**	**-2.7**
PB15	**IPOC Station P**	**7.69**	**22**			**Pn**	**05 03 33.7**	**-1.5**
PB06	**IPOC Station P**	**8.12**	**20**	Pn		**Pn**	**05 03 38.4**	**-2.7**
AF01	**San Pedro de A**	**8.41**	**29**	Pn		**Pn**	**05 03 44.0**	**-1.2**
LVC	**Limon Verde** 0.6nm,0.3s,baz=130,slow=6.5,SNR=12	**8.43**	**24**	Pn		**Pn**	**05 03 43.7**	**-1.9**
LVC	**Limon Verde**	**8.43**	**24**	Pn		**Pn**	**05 03 44.1**	**-1.4**
PB09	**IPOC Station P**	**9.08**	**20**	Pn		**Pn**	**05 03 52.7**	**-1.5**
LR03	**Panguipulli**	**9.23**	**179**	Pn		**Pn**	**05 03 54.6**	**-1.5**
PB01	**IPOC Station P**	**9.72**	**18**	Pn		**Pn**	**05 03 59.8**	**-3.3**
PLCA	**Paso Flores** 0.7nm,0.3s,baz=333,slow=11,SNR=7.9	**10.47**	**171**	Pn		**Pn**	**05 04 11.4**	**-1.7**
PLCA	**Paso Flores**	**10.47**	**171**	Pn		**Pn**	**05 04 11.7**	**-1.4**
LL04	**Puerto Octay**	**10.51**	**179**	Pn		**Pn**	**05 04 11.7**	**-1.9**
PB08	**IPOC Station P**	**10.67**	**18**	Pn		**Pn**	**05 04 14.9**	**-1.4**
PB11	**IPOC Station P**	**10.91**	**15**	Pn		**Pn**	**05 04 16.6**	**-2.8**
TRQA	**Tornquist**	**11.67**	**134**	Pn		**Pn**	**05 04 29.0**	**-0.6**
LPAZ	**La Paz** 0.4nm,0.3s,baz=192,slow=7.4,SNR=16	**14.62**	**17**	Pn		**Pn**	**05 05 10.8**	**+0.3**
LPAZ	**La Paz**	**14.62**	**17**	Pn		**Pn**	**05 05 10.3**	**-0.3**
SIV	**San Ignacio** 0.9nm,0.3s,baz=233,slow=11,SNR=28	**17.82**	**39**	P		**Pn**	**05 05 50.8**	**-0.2**
SAML	**Samuel**	**23.08**	**24**	P		**P**	**05 06 49.4**	**+0.8**
BDFB	**Brasilia** 10nm,1.1s,baz=225,slow=5.2,SNR=8.9	**26.92**	**62**	P		**P**	**05 07 25.5**	**+1.2**
BDFB	**Brasilia**	**26.92**	**62**	P		**P**	**05 07 25.5**	**+1.2**
BDFB				IAmb		IAmb	05 07 28.8	
	comp=Z,13nm,1.0s							
CAP2	**Capurgana**	**39.07**	**353**	P		**P**	**05 09 07.0**	**-3.0**
VNA3	**Neumayer Olymp**	**52.90**	**159**	P		**P**	**05 10 59.1**	**+0.7**
VNA2	**Neumayer--Watz** baz=286,slow=8.5	**53.54**	**158**	P		**P**	**05 11 03.7**	**+0.6**
SNAA	**Sanae**	**55.12**	**159**	P		**P**	**05 11 15.2**	**+0.5**
SNAA	**Sanae**	**55.12**	**159**	P		**P**	**05 11 14.9**	**+0.2**
SNAA				IAmb		IAmb	05 11 15.6	
	comp=Z,4.0nm,0.8s							
QSPA	**South Pole Qui**	**59.84**	**180**	P		**P**	**05 11 48.9**	**+0.7**
QSPA				IAmb		IAmb	05 11 59.5	

	comp=Z,3.5nm,0.9s							
TXAR	**Lajitas Array**	**66.34**	**331**	P		**P**	**05 12 33.0**	**+1.5**
	comp=Z,1.7nm,0.8s,baz=150,slow=8.4,SNR=16							
VNDA	**Vanda**	**67.54**	**191**	P		**P**	**05 12 39.9**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=114,slow=5.8,SNR=2.0							
LCAR	**Lake Charles**	**68.35**	**344**	P		**P**	**05 12 44.9**	**+0.9**
MNTX	**Cornudas Mount**	**69.12**	**330**	P		**P**	**05 12 49.6**	**+0.7**
MNTX				IAmb		IAmb	05 12 50.2	
	comp=Z,3.7nm,0.7s							
HHAR	**Hobbs**	**69.27**	**342**	P		**P**	**05 12 50.6**	**+0.9**
SDCO	**Great Sand Dun**	**74.42**	**333**	P		**P**	**05 13 21.9**	**+0.9**
SDCO				IAmb		IAmb	05 13 30.8	
	comp=Z,2.3nm,0.9s							
MAW	**Mawson** comp=Z,1.1nm,0.6s,baz=214,slow=4.8,SNR=3.5	**76.78**	**164**	P		**P**	**05 13 34.2**	**+0.3**
MAW	**Mawson**	**76.78**	**164**	P		**P**	**05 13 34.0**	**+0.1**
ECSD	**EROS Data Cent**	**76.96**	**342**	P		**P**	**05 13 36.0**	**+0.9**
ECSD				IAmb		IAmb	05 13 37.0	
	comp=Z,6.7nm,0.8s							
PDAR	**Pinedale Array** comp=Z,0.4nm,0.6s,baz=107,slow=9.5,SNR=4.6	**80.31**	**333**	P		**P**	**05 13 54.9**	**+1.0**
NVAR	**Mina Array Bea** comp=Z,0.4nm,0.6s,baz=148,slow=5.5,SNR=4.8	**80.63**	**325**	P		**P**	**05 13 56.3**	**+0.6**
TORD	**Torodi Ar. Bea** comp=Z,2.1nm,0.6s,baz=270,slow=2.9,SNR=21	**83.48**	**71**	P		**P**	**05 14 11.9**	**+1.0**
TORD	**Torodi Ar. Bea**	**83.48**	**71**	P		**P**	**05 14 12.2**	**+1.3**
TORD				IAmb		IAmb	05 14 15.2	
	comp=Z,2.2nm,0.7s							
WRA	**Warramunga Ar** comp=Z,0.5nm,0.7s,baz=153,slow=2.1,SNR=8.6	**123.63**	**211**	PKP		**PKPdf**	**05 20 39.7**	**-1.3**
KURBB	**Kurchatov Arra** comp=Z,2.8nm,0.8s,baz=299,slow=3.0,SNR=19	**150.48**	**39**	PKPbc		**PKiKP**	**05 21 35.0**	**+0.3**
ZALV	**Zalesovo Beam** comp=Z,5.2nm,0.7s,baz=297,slow=2.5,SNR=11	**151.36**	**28**	PKPbc		**PKiKP**	**05 21 36.5**	**+0.1**
MKAR	**Makanchi Array** comp=Z,0.6nm,0.8s,baz=270,slow=1.2,SNR=4.9	**154.61**	**43**	PKPbc		**PKiKP**	**05 21 43.8**	**+0.3**

IDC ***19*** *05:04:09.0±4.2,6°.35S×146°.00E,h164km±36km,mb3.2/6, mb1 3.4/9,mb1mx3.2/31,mbtmp3.7/9,Error ellipse: s-maj=44.0km s-min=18.7km az=86.0*

ISC 19 05:04:07.7±1.2,6°.3S±0°.1×146°.1E±0°.2,h150km,n9, σ1§05/9,mb3.4/5,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAY	**Jayapura** 1.2nm,0.3s,baz=47,slow=2.5,SNR=1.8	**6.54**	**305**	P		**Pn**	**05 05 42.4**	**+0.7**
CTA	**Charters Tower** 1.5nm,0.3s,baz=359,slow=14,SNR=14	**13.71**	**179**	P		**Pn**	**05 07 17.3**	**+1.4**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=41,slow=10,SNR=23	**17.71**	**219**	P		**P**	**05 08 02.5**	**-1.4**
ASAR	**Alice Springs** 0.7nm,0.5s,baz=33,slow=14,SNR=8.6	**20.86**	**213**	P		**P**	**05 08 37.8**	**-0.2**
FITZ	**Fitzroy Crossi** 2.0nm,1.1s,baz=67,slow=11,SNR=2.2	**23.12

CO05	**La Serena**	**0.73**	**110**			**Pg**	**05 07 02.6**	**-0.3**
CO05					Sg	**Sb**	**05 07 13.6**	**+0.5**
CO06	**Fray Jorge**	**1.06**	**161**		*eP*	**Pb**	**05 07 06.4**	**-2.4**
CO06					*eS*	**Sb**	**05 07 21.4**	**-1.1**
CO06	**Fray Jorge**	**1.06**	**161**			**Pb**	**05 07 07.0**	**-1.8**
CO06					Sg	**Sn**	**05 07 22.4**	**-1.2**
GO04	**Tololo Observa**	**1.18**	**115**		*eP*	**Pb**	**05 07 10.0**	**-1.0**
GO04					*eS*	**Sg**	**05 07 27.1**	**+0.2**
GO04					IAML		05 07 36.0	
	comp=N,543µm,0.7s							
GO04	**Tololo Observa**	**1.18**	**115**			**Pn**	**05 07 10.8**	**-0.3**
GO04	**Tololo Observa**	**1.18**	**115**		*eP*	**Pg**	**05 07 15.9**	**+4.4**
GO04					*eS*	**Sb**	**05 07 20.4**	**-5.9**
LCO	**Las Campanas**	**1.33**	**61**		*eP*	**Pn**	**05 07 12.3**	**-0.9**
LCO	**Las Campanas**	**1.33**	**61**	⇑	*iP*	**Pn**	**05 07 12.2**	**-0.9**
LCO	**Las Campanas**	**1.33**	**61**			**Pn**	**05 07 12.4**	**-0.7**
LCO	**Las Campanas**	**1.33**	**61**	⇑	P	**Pn**	**05 07 12.3**	**-0.9**
LCO	**Las Campanas**	**1.33**	**61**	⇑	*eP*	**Pn**	**05 07 12.0**	**-1.2**
CO03	**El Pedregal**	**1.64**	**136**	⇑	*eP*	**Pn**	**05 07 16.5**	**-0.8**
CO03					*eS*	**Sb**	**05 07 39.0**	**-0.4**
CO03	**El Pedregal**	**1.64**	**136**		Pn	**Pn**	**05 07 17.0**	**-0.3**
CO03	**El Pedregal**	**1.64**	**136**		*eP*	**Pn**	**05 07 17.0**	**-0.3**
CO03					*eP*	**Pb**	**05 07 17.1**	**-1.7**
CO03					*eS*	**Sn**	**05 07 36.9**	**-1.4**
CO03					IAML		05 07 45.1	
	comp=Z,66µm,2.6s							
AC04	**Llanos de Chal**	**1.68**	**30**	⇑	*eP*	**Pn**	**05 07 15.3**	**-2.4**
AC04					*eS*	**Sn**	**05 07 39.0**	**-0.1**
AC04	**Llanos de Chal**	**1.68**	**30**		Pn	**Pn**	**05 07 15.6**	**-2.2**
AC04	**Llanos de Chal**	**1.68**	**30**		*eP*	**Pn**	**05 07 15.0**	**-2.7**
AC04					*eP*	**Pb**	**05 07 15.5**	**-3.9**
AC04					*eS*	**Sn**	**05 07 39.6**	**+0.5**
AROD	**Rodeo**	**2.27**	**103**		*eP*	**Pb**	**05 07 28.4**	**-1.3**
ACDV	**Cuesta del Vie**	**2.57**	**102**		*eP*	**Pn**	**05 07 27.9**	**-2.3**
ACDV					*eP*	**Pb**	**05 07 34.0**	**-0.8**
ACDV					*eS*	**Sg**	**05 08 09.9**	**-1.6**
ACDV					IAML		05 08 18.9	
	comp=Z,20µm,1.3s							
GO03	**Copiap**	**2.60**	**38**		*eP*	**Pn**	**05 07 29.3**	**-1.1**
GO03				⇑	*eP*	Pb	05 07 29.4	-5.8
GO03				⇑	*eS*	**Sn**	**05 08 03.4**	**+1.5**
GO03	**Copiap**	**2.60**	**38**		Pn	**Pn**	**05 07 29.2**	**-1.2**
GO03	**Copiap**	**2.60**	**38**	⇑	P	**Pn**	**05 07 29.5**	**-0.9**
GO03	**Copiap**	**2.60**	**38**		*eP*	Pn	05 07 23.9	-6.5
GO03					*eP*	Pb	05 07 29.1	-6.0
GO03					*eS*	**Sn**	**05 08 03.4**	**+1.5**
ACCO	**Cerro Coronel**	**2.72**	**110**		*eP*	**Pb**	**05 07 36.0**	**-1.4**
ACCO					*eP*	**Pn**	**05 07 36.3**	**+3.9**
AC06	**Mina Casimiro**	**2.73**	**33**	⇑	*eP*	**Pn**	**05 07 30.9**	**-1.3**
AC06					IAML		05 08 28.6	
	comp=E,30µm,0.5s							
AC06	**Mina Casimiro**	**2.73**	**33**			**Pn**	**05 07 31.0**	**-1.3**
VA06	**Catapilco**	**2.95**	**168**		*eP*	**Pn**	**05 07 33.3**	**-1.8**
VA06					*eS*	**Sn**	**05 08 08.6**	**-1.7**
VA06					IAML		05 08 34.6	
	comp=E,42µm,0.6s							
AGUA	**GUANDACOL**	**3.09**	**87**		*eP*	**Pb**	**05 07 40.9**	**-2.5**
AGUA					*eP*	**Pb**	**05 07 41.0**	**-2.5**
AGUA					*eS*	**Sg**	**05 08 25.4**	**-2.5**
RTLS	**Leoncito**	**3.17**	**133**		*eP*	**Pb**	**05 07 42.0**	**-3.0**
RTLS					IAML		05 08 42.2	
	comp=Z,28µm,1.1s							
VA03	**San Esteban**	**3.33**	**158**	⇓	*eP*	**Pn**	**05 07 40.4**	**-0.2**
VA03					IAML		05 08 42.5	
	comp=N,35µm,0.6s							
VA03	**San Esteban**	**3.33**	**158**			**Pn**	**05 07 40.8**	**+0.2**
VA01	**Torpederas**	**3.36**	**175**		*eP*	**Pn**	**05 07 38.8**	**-2.0**
ROCH	**El Roble**	**3.40**	**165**		*eP*	**Pn**	**05 07 40.3**	**-1.3**
ROCH					IAML		05 08 46.7	
	comp=N,16µm,0.7s							
AUSP	**Uspallata**	**3.41**	**139**		*eP*	**Pn**	**05 07 44.4**	**+2.6**
AUSP					*eS*	**Sg**	**05 08 41.0**	**+2.7**
ZON	**Zonda**	**3.44**	**124**		*eP*	**Pb**	**05 07 45.4**	**-4.1**
ZON					*eS*	**Sg**	**05 08 37.9**	**-1.3**
ZON					IAML		05 08 48.6	
	comp=Z,22µm,1.8s							
VCA	**Vinchina**	**3.47**	**75**		*eP*	**Pb**	**05 07 46.8**	**-3.3**
VCA					*eP*	**Pn**	**05 07 47.0**	**+4.5**
VCA					*eS*	**Sg**	**05 08 40.9**	**+0.7**
VCA					IAML		05 08 48.0	
	comp=Z,42µm,1.7s							
RTCV	**Cerro Valdivia**	**3.71**	**127**		*eP*	**Pn**	**05 07 49.0**	**+3.3**
RTCV					*eS*	**Sg**	**05 08 54.0**	**+6.0**
AC02	**Maricunga**	**3.81**	**43**	⇑	*eP*	**Pn**	**05 07 47.3**	**-0.1**
AC02					*eS*	**Sn**	**05 08 32.6**	**+0.3**
AC02	**Maricunga**	**3.81**	**43**		Pn	**Pn**	**05 07 47.2**	**-0.3**
AC02	**Maricunga**	**3.81**	**43**		*eP*	Pn	05 07 41.9	-5.6
AC02					*eP*	Pb	05 07 47.0	-9.0
AC02					*eS*	**Sb**	**05 08 41.9**	**-0.4**
AC02					IAML		05 09 06.8	
	comp=Z,12µm,0.8s							
MT05	**Renca**	**3.87**	**164**		*eP*	**Pn**	**05 07 46.8**	**-1.1**
MT05	**Renca**	**3.87**	**164**			**Pn**	**05 07 47.1**	**-0.8**
MT05	**Renca**	**3.87**	**164**		*eP*	**Pn**	**05 07 47.0**	**-0.8**
VA05	**Santo Domingo**	**3.99**	**175**	⇓	*eP*	**Pn**	**05 07 46.7**	**-2.7**
VA05	**Santo Domingo**	**3.99**	**175**			**Pn**	**05 07 47.6**	**-1.9**
ASAL	**Salagasta**	**4.00**	**138**		*eP*	**Pn**	**05 07 53.0**	**+3.4**
ASAL					*eS*	**Sb**	**05 08 50.4**	**+3.1**
AVFE	**Valle Fertil**	**4.08**	**105**		*eP*	**Pn**	**05 07 53.0**	**+2.2**
AVFE					*eP*	Pb	05 07 53.1	-7.3
AVFE					*eS*	**Sb**	**05 08 53.9**	**+4.3**
AVFE					IAML		05 08 59.2	
	comp=Z,12µm,3.1s							
ARCO	**CERRO ARCO**	**4.12**	**141**		*eP*	**Pn**	**05 07 55.0**	**+3.5**
ARCO					*eS*	**Sb**	**05 08 51.4**	**+0.4**
ARCO					*eS*	**Sg**	**05 08 57.9**	**-3.3**
ARCO					IAML		05 09 10.3	
	comp=Z,20µm,1.6s							
MT09	**Talagante**	**4.19**	**168**	⇓	*eP*	**Pn**	**05 07 51.3**	**-1.0**
MT09					*eS*	**Sn**	**05 08 41.0**	**-0.2**
MT09	**Talagante**	**4.19**	**168**		Pn	**Pn**	**05 07 51.4**	**-0.9**
MT01	**Popeta**	**4.23**	**171**		*eP*	**Pn**	**05 07 51.3**	**-1.5**
MT01	**Popeta**	**4.23**	**171**		Pn	**Pn**	**05 07 51.4**	**-1.5**
MT01	**Popeta**	**4.23**	**171**		*eP*	**Pn**	**05 07 51.6**	**-1.2**
MT01					*eP*	Pb	05 07 52.0	-11
MT01					*eS*	**Sg**	**05 09 00.4**	**-4.3**
MT01					IAML		05 09 07.6	
	comp=Z,11µm,2.7s							
AAGR	**Agrelo**	**4.37**	**142**		*eP*	**Pn**	**05 07 57.9**	**+3.1**
BO01	**Tunca**	**4.78**	**171**			**Pn**	**05 07 58.9**	**-1.4**
BO01	**Tunca**	**4.78**	**171**		*eP*	**Pn**	**05 07 59.0**	**-1.3**
BO01					*eP*	Pb	05 07 59.1	-13
BO01					*eS*	**Sb**	**05 09 08.9**	**-0.7**
BO01					IAML		05 09 28.1	
	comp=Z,7µm,1.3s							
BO03	**Pichilemu**	**4.81**	**179**	⇓	*eP*	**Pn**	**05 07 57.7**	**-3.1**
ACHE	**Chepes**	**4.87**	**109**		*eP*	Pn	05 07 51.7	-10
BO02	**Sierra Bellavi**	**5.21**	**169**		Pn	**Pn**	**05 08 05.3**	**-1.1**
BO02	**Sierra Bellavi**	**5.21**	**169**		*eP*	Pn	05 08 00.4	-6.0
BO02					*eP*	Pb	05 08 05.6	-14
BO02					*eS*	**Sb**	**05 09 23.9**	**+1.6**
PB14	**IPOC Station P**	**5.23**	**16**		*eP*	**Pn**	**05 08 03.0**	**-3.8**
PB14					*eS*	**Sn**	**05 09 03.7**	**-3.4**
PB14					IAML		05 09 45.2	
	comp=Z,7µm,0.8s							
GO05	**Huala**	**5.33**	**179**			**Pn**	**05 08 04.9**	**-3.0**
GO05	**Huala**	**5.33**	**179**		*eP*	Pn	05 08 00.4	-7.5
GO05					*eP*	Pb	05 08 05.1	-16
GO05					*eS*	**Sn**	**05 09 03.7**	**-5.3**
CYA	**Choya**	**5.58**	**79**		*eP*	**Pn**	**05 08 13.4**	**+1.9**
CYA					*eS*	**Sb**	**05 09 27.9**	**-5.0**
LAMA	**Las Malvinas**	**5.76**	**156**		*eP*	**Pn**	**05 08 16.9**	**+3.0**
COIS	**El Sosneado**	**5.80**	**160**		*eP*	**Pn**	**05 08 15.0**	**+0.6**
COIS					*eP*	Pb	05 08 15.9	-14
RFA	**San Rafael**	**5.91**	**150**		*eP*	**Pn**	**05 08 16.9**	**+0.9**
RFA					*eP*	Pb	05 08 17.1	-14
ML02	**Panimavida**	**6.10**	**175**		Pn	**Pn**	**05 08 16.8**	**-1.6**
PB10	**IPOC Station P**	**6.27**	**12**		Pn	**Pn**	**05 08 19.0**	**-1.9**
PB10	**IPOC Station P**	**6.27**	**12**		*eP*	**Pn**	**05 08 17.0**	**-3.9**
PB10					*eS*	**Sn**	**05 09 26.9**	**-5.5**
AHML	**Horco Molle**	**6.57**	**66**		*eP*	**Pn**	**05 08 20.4**	**-4.6**
AHML					*eS*	**Sb**	**05 09 57.9**	**-3.3**
PB15	**IPOC Station P**	**6.83**	**20**			**Pn**	**05 08 27.0**	**-1.8**
H03N1	**Juan Fernandez**	**6.97**	**236**		T	T	05 16 07.1	
	baz=64,slow=72,SNR=544							
PB05	**IPOC Station P**	**6.98**	**14**		*eP*	Pn	05 08 20.4	-10
H03N2	**Juan Fernandez**	**6.99**	**236**		T	T	05 16 05.7	
	baz=64,slow=72,SNR=394							
H03N3	**Juan Fernandez**	**6.99**	**236**		T	T	05 16 04.5	
	baz=64,slow=72,SNR=382							
PB06	**IPOC Station P**	**7.28**	**18**			**Pn**	**05 08 30.9**	**-3.9**

PB04	**IPOC Station P**	**7.50**	**13**		*eS*	**Sn**	**05 09 58.2**	**-4.7**
AF01	**San Pedro de A**	**7.53**	**28**			**Pn**	**05 08 36.7**	**-1.7**
LVC	**Limon Verde**	**7.57**	**22**		Pn	**Pn**	**05 08 35.6**	**-3.4**
	comp=Z,4.8nm,0.3s,baz=158,slow=9.5,SNR=26							
LVC					Sn	**Sn**	**05 10 02.2**	**-2.6**
	comp=Z,22nm,0.3s,baz=159,slow=21,SNR=3.8							
LVC	**Limon Verde**	**7.57**	**22**		P	**Pn**	**05 08 36.0**	**-3.0**
LVC	**Limon Verde**	**7.57**	**22**		Pn	**Pn**	**05 08 36.0**	**-3.0**
LVC	**Limon Verde**	**7.57**	**22**	⇑	P	**Pn**	**05 08 35.8**	**-3.2**
PB07	**IPOC Station P**	**8.14**	**14**			**Pn**	**05 08 42.7**	**-4.1**
PB09	**IPOC Station P**	**8.23**	**18**			**Pn**	**05 08 46.0**	**-2.0**
PB01	**IPOC Station P**	**8.89**	**16**			Pn	05 08 52.1	-4.8
LC01	**Cunco**	**9.21**	**179**		Pn	**Pn**	**05 08 58.7**	**-2.4**
LC01	**Cunco**	**9.21**	**179**		*eP*	**Pn**	**05 08 59.0**	**-2.1**
PLCA	**Paso Flores**	**11.10**	**174**		Pn	**Pn**	**05 09 25.5**	**-1.6**
	comp=Z,2.7nm,0.3s,baz=346,slow=13,SNR=31							
PLCA					LR	LR	05 14 01.8	
	comp=Z,29µm,18.8s,baz=350,slow=39							
PLCA	**Paso Flores**	**11.10**	**174**		*eP*	**Pn**	**05 09 25.8**	**-1.3**
PLCA	**Paso Flores**	**11.10**	**174**		Pn	**Pn**	**05 09 25.1**	**-2.1**
PLCA	**Paso Flores**	**11.10**	**174**	⇑	P	**Pn**	**05 09 25.5**	**-1.6**
LL04	**Puerto Octay**	**11.22**	**181**		Pn	**Pn**	**05 09 26.4**	**-2.2**
TRQA	**Tornquist**	**11.81**	**138**		P	**Pn**	**05 09 36.6**	**-0.2**
TRQA	**Tornquist**	**11.81**	**138**			**Pn**	**05 09 36.6**	**-0.2**
TRQA	**Tornquist**	**11.81**	**138**	⇑	P	**Pn**	**05 09 36.6**	**-0.2**
TRQA	**Tornquist**	**11.81**	**138**		*eP*	**Pn**	**05 09 37.9**	**+1.1**
ITQB	**Itaqui**	**13.40**	**94**			**Pn**	**05 09 57.9**	**-0.6**
ITQB	**Itaqui**	**13.40**	**94**		*eP*	**Pn**	**05 09 58.2**	**-0.2**
CPUP	**Villa Florida**	**13.40**	**79**		Pn	**Pn**	**05 09 58.2**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=260,slow=11,SNR=12							
CPUP					LR	LR	05 15 25.2	
	comp=Z,43µm,19.3s,baz=264,slow=39							
CPUP	**Villa Florida**	**13.40**	**79**		Pn	**Pn**	**05 09 59.2**	**+0.6**
CPUP	**Villa Florida**	**13.40**	**79**	⇑	P	**Pn**	**05 09 54.5**	**-4.1**
CPUP	**Villa Florida**	**13.40**	**79**		*eP*	**Pn**	**05 09 56.8**	**-1.8**
GO07	**Milladeo Hill,**	**13.48**	**185**			**Pn**	**05 09 57.8**	**-1.8**
LL02	**Futaleuf**	**13.49**	**179**			**Pn**	**05 09 57.6**	**-2.1**
LPAZ	**La Paz**	**13.79**	**16**		Pn	**Pn**	**05 10 00.4**	**-4.1**
	comp=Z,0.9nm,0.3s,baz=206,slow=8.3,SNR=22							
LPAZ					LR	LR	05 16 19.7	
	comp=Z,25µm,20.7s,baz=188,slow=42							
LPAZ	**La Paz**	**13.79**	**16**		P	**Pn**	**05 10 00.9**	**-3.6**
LPAZ	**La Paz**	**13.79**	**16**			**Pn**	**05 10 00.9**	**-3.6**
LPAZ	**La Paz**	**13.79**	**16**	⇑	P	**Pn**	**05 10 00.3**	**-4.1**
LPAZ	**La Paz**	**13.79**	**16**		*eP*	**Pn**	**05 10 03.6**	**-0.9**
PLTB	**Pedras Altas**	**15.98**	**102**			**Pn**	**05 10 32.5**	**-0.7**
PLTB	**Pedras Altas**	**15.98**	**102**		*eP*	**Pn**	**05 10 32.2**	**-1.0**
CPSB	**Cacapava Do Su**	**16.12**	**97**		*eP*	**Pn**	**05 10 34.2**	**-0.7**
SIV	**San Ignacio**	**16.93**	**39**		Pn	**Pn**	**05 10 41.9**	**-3.5**
	comp=Z,0.7nm,0.3s,baz=243,slow=7.2,SNR=17							
SIV					LR	LR	05 17 56.8	
	comp=Z,50µm,20.5s,baz=224,slow=40							
AQDB	**Aquidauana**	**17.38**	**62**		P	**Pn**	**05 10 51.4**	**+0.5**
AQDB	**Aquidauana**	**17.38**	**62**		*eP*	**Pn**	**05 10 50.5**	**-0.4**
NNA	**Nana**	**18.16**	**345**		P	**P**	**05 11 02.4**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=194,slow=14,SNR=7.2							
NNA					LR	LR	05 16 21.3	
	comp=Z,10µm,18.5s,baz=165,slow=32							
NNA	**Nana**	**18.16**	**345**		*ceP*	**P**	**05 11 04.9**	**+4.0**
NNA					pmax	pmax		
	comp=Z,85nm,1.0s							
NNA	**Nana**	**18.16**	**345**	⇓	P	**P**	**05 11 03.1**	**+2.2**
PTGB	**Pitanga**	**18.43**	**79**		*eP*	**Pn**	**05 11 04.0**	**+0.1**
CNLB	**Canela**	**18.44**	**94**		*eP*	**P**	**05 11 03.8**	**-0.1**
PTLB	**Pontes e Lacer**	**18.47**	**43**		*eP*	**P**	**05 11 04.2**	**0.0**
TRCB	**Terra Rica**	**18.68**	**73**		P	**P**	**05 11 06.5**	**-0.2**
TRCB					IAmb	IAmb	05 11 17.9	
	comp=Z,2µm,1.6s							
TRCB	**Terra Rica**	**18.68**	**73**		*eP*	**Pn**	**05 11 08.0**	**+1.0**
PP1B	**Ponte de Pedra**	**19.75**	**56**		*eP*	**P**	**05 11 17.5**	**-0.8**
VILB	**Vilhena**	**19.93**	**36**		*eP*	**P**	**05 11 20.1**	**-0.1**
TER01	**Tubaro-SC**	**20.04**	**92**		*eP*	**P**	**05 11 21.3**	**-0.1**
SALV	**Santo Antonio**	**20.33**	**51**		*eP*	**P**	**05 11 23.9**	**-0.7**
PCMB	**Pacaembu**	**20.35**	**72**		*eP*	**P**	**05 11 24.7**	**-0.2**
ETMB	**Extrema**	**20.49**	**17**		*eP*	**P**	**05 11 26.9**	**+0.6**
FRTB	**Fartura**	**21.05**	**78**		*eP*	**P**	**05 11 31.7**	**-0.8**
CZSB	**Cruzeiro do Su**	**21.84**	**358**		*eP*	**P**	**05 11 41.0**	**+0.1**
ITRB	**Iturama**	**22.01**	**68**		*eP*	**P**	**05 11 42.2**	**-0.6**
SAML	**Samuel**	**22.22**	**24**		P	**P**	**05 11 44.2**	**-0.8**
SAML					pmax	pmax		
	comp=Z,155nm,1.0s							
SAML					MLR	MLR		
	comp=Z,26µm,18.0s							
SAML	**Samuel**	**22.22**	**24**		P	**P**	**05 11 44.2**	**-0.8**
SAML	**Samuel**	**22.22**	**24**		IAMs_20	IAMs_20	05 21 00.9	
	comp=Z,26µm,18.0s							
SAML	**Samuel**	**22.22**	**24**		*eP*	**P**	**05 11 44.6**	**-0.4**
PET01	**Itanhaem-SP**	**22.68**	**82**		*eP*	**P**	**05 11 48.6**	**-1.3**
SPB	**Sao Paulo**	**22.78**	**80**		P	**P**	**05 11 49.5**	**-1.4**
SPB					IAmb	IAmb	05 11 54.5	
	comp=Z,222nm,0.9s							
SPB					IAMs_20	IAMs_20	05 21 15.0	
	comp=Z,28µm,21.0s							
SPB	**Sao Paulo**	**22.78**	**80**		*eP*	**P**	**05 11 50.9**	**0.0**
BB19B	**Bebedouro**	**22.86**	**73**		*eP*	**P**	**05 11 51.7**	**-0.2**
RCLB	**Rio Claro- Sao**	**23.14**	**78**		*eP*	**P**	**05 11 54.5**	**-0.2**
MG02	**Cerro Sombrero**	**23.18**	**176**		P	**P**	**05 11 53.7**	**-1.1**
VAO	**Valinhos**	**23.39**	**79**		*eP*	**P**	**05 11 56.9**	**-0.4**
CLDB	**Colider**	**24.06**	**42**		*eP*	**P**	**05 12 02.5**	**-1.2**
EFI	**East Falkland**	**24.32**	**159**		*c iP*	**P**	**05 12 04.7**	**-1.1**
EFI					pmax	pmax		
	comp=Z,310nm,2.0s							
EFI					MLR	MLR		
	comp=Z,32µm,14.0s							
PARB	**Paraibuna**	**24.43**	**81**		*eP*	**P**	**05 12 06.8**	**-0.3**
IPMB	**Ipameri, GO**	**24.64**	**67**		*eP*	**P**	**05 12 07.6**	**-1.5**
USHA	**Ushuaia**	**25.28**	**175**		P	**P**	**05 12 14.3**	**-0.1**
	comp=Z,71nm,0.8s,baz=338,slow=8.2,SNR=8.3							
TBTG	**Tabatinga, AM**	**25.43**	**5**		*eP*	**P**	**05 12 16.2**	**+0.1**
TBTG	**Tabatinga, AM**	**25.43**	**5**		*eP*	**P**	**05 12 16.0**	**-0.1**
ESAR	**Angra dos Reis**	**25.56**	**82**		*eP*	**P**	**05 12 16.8**	**-0.5**
BSCB	**Bom Sucesso**	**26.05**	**77**		*eP*	**P**	**05 12 21.2**	**-0.8**
SNDB	**Serra Nova Dou**	**26.10**	**52**		*eP*	**P**	**05 12 21.2**	**-1.1**
BDFB	**Brasilia**	**26.12**	**63**		P	**P**	**05 12 21.4**	**-1.1**
	comp=Z,211nm,1.1s,baz=234,slow=10,SNR=84							
BDFB					LR	LR	05 22 56.1	
	comp=Z,13µm,20.3s,baz=233,slow=37							
BDFB	**Brasilia**	**26.12**	**63**		P	**P**	**05 12 21.5**	**-1.1**
VAS01	**Vassouras-RJ**	**26.68**	**81**		*eP*	**P**	**05 12 27.9**	**+0.4**
NPGB	**Novo Progresso**	**27.43**	**38**		*eP*	**P**	**05 12 33.5**	**-0.8**
DUB01	**Friburgo-RJ**	**27.68**	**81**		*eP*	**P**	**05 12 37.9**	**+1.4**
PEXB	**Peixe**	**28.13**	**57**		*eP*	**P**	**05 12 40.2**	**-0.3**
DIAM	**Diamantina, MG**	**28.20**	**73**		*eP*	**P**	**05 12 41.8**	**+0.6**
CAM01	**Campos-RJ**	**28.39**	**81**		*eP*	**P**	**05 12 44.2**	**+1.5**
MACA	**Manacapuru-AM**	**28.48**	**24**		*eP*	**P**	**05 12 42.6**	**-0.9**
MC01	**Montes Claros**	**28.77**	**70**		*eP*	**P**	**05 12 45.0**	**-1.3**
JANB	**Januaria**	**29.37**	**66**		*eP*	**P**	**05 12 50.6**	**-1.0**
ITTB	**Itaituba**	**29.52**	**35**		*eP*	**P**	**05 12 51.0**	**-1.8**
ALF01	**Guarapari-ES**	**29.66**	**80**		*eP*	**P**	**05 12 54.2**	**+0.1**
PTLC	**Puerto Leguiza**	**29.79**	**354**		*eP*	**P**	**05 12 53.9**	**-1.3**
SJMB	**Sao Joao De Ma**	**30.09**	**76**		*eP*	**P**	**05 12 58.1**	**+0.2**
BSFB	**Barra de Sao F**	**30.32**	**76**		*eP*	**P**	**05 12 59.3**	**-0.6**
OTAV	**Otavalo**	**30.37**	**347**		P	**P**	**05 12 57.4**	**-3.4**
OTAV					pmax	pmax		
	comp=Z,115nm,1.4s							
OTAV	**Otavalo**	**30.37**	**347**		P	**P**	**05 12 57.4**	**-3.4**
OTAV	**Otavalo**	**30.37**	**347**		*eP*	**P**	**05 13 04.2**	**+3.4**
OTAV	**Otavalo**	**30.37**	**347**	⇑	P	**P**	**05 13 01.8**	**+1.0**
OTAV	**Otavalo**	**30.37**	**347**		*eP*	**P**	**05 13 02.1**	**+1.3**
PAC1	**Pacto, Paraso**	**30.46**	**347**		*eP*	**P**	**05 13 04.5**	**+3.1**
SDBA	**SAO DESIDERIO**	**30.47**	**61**		*eP*	**P**	**05 13 01.3**	**-0.1**
RIB01	**Linhares ES**	**30.49**	**77**		*eP*	**P**	**05 13 00.9**	**-0.5**
TULM	**Tulcn-Chalpat**	**30.71**	**349**		*eP*	**P**	**05 13 07.6**	**+3.7**
SMTB	**Santa Maria do**	**30.86**	**53**		*eP*	**P**	**05 13 04.9**	**+0.1**
GCUF	**Volcan Galeras**	**31.14**	**350**		*eP*	**P**	**05 13 07.1**	**+3.8**
FLOC	**Fllencia**	**31.27**	**353**		*eP*	**P**	**05 13 10.4**	**+3.0**
NAN01	**Guarapari, ES**	**31.38**	**75**		*eP*	**P**	**05 13 08.5**	**-0.8**
PRPB	**Parauapebas**	**31.38**	**46**		*eP*	**P**	**05 13 08.1**	**-1.3**
MACC	**Macarena, Meta**	**31.68**	**357**		*eP*	**P**	**05 13 12.3**	**+0.3**
BBAC	**Balboa, Cauca**	**31.91**	**350**		*eP*	**P**	**05 13 15.2**	**+1.0**
SOTA	**Rioblanco**	**31.93**	**351**		*eP*	**P**	**05 13 18.1**	**+3.4**
PCON	**Cinco Dias**	**32.09**	**352**		*eP*	**P**	**05 13 18.8**	**+2.6**
GUA01	**Guaratinga, BA**	**32.25**	**73**		*eP*	**P**	**05 13 16.4**	**-0.5**
POPC	**Popayan, Colom**	**32.34**	**351**		*eP*	**P**	**05 13 19.9**	**+1.9**
MALB	**Monte Alegre**	**32.41**	**35**		*eP*	**P**	**05 13 17.6**	**-0.7**
MARP	**Paez Belalcaza**	**32.55**	**353**		*eP*	**P**	**05 13 22.4**	**+2.5**
RPN	**Rapa Nui**	**32.83**	**265**		IAMs_20	IAMs_20	05 22 35.9	
	comp=Z,18µm,22.0s							
CMC01	**Camacan, BA**	**33.10**	**72**		*eP*	**P**	**05 13 24.0**	**-0.4**
PRAC	**Prado**	**33.31**	**355**		*eP*	**P**	**05 13 28.0**	**+1.8**
NBIT	**Itapeh - BA**	**33.39**	**71**		*eP*	**P**	**05 13 28.4**	**+1.4**
ORTC	**Ortega, Tolima**	**33.53**	**354**		*eP*	**P**	**05 13 29.6**	**+1.5**

VILC	**Villavicencio,**	**33.63**	**357**		*eP*	**P**	**05 13 31.1**	**+1.9**
YOTC	**Yotoco, Valle**	**33.72**	**352**		*eP*	**P**	**05 13 31.7**	**+1.8**
BOAV	**Boa Vista**	**33.73**	**21**		*eP*	**P**	**05 13 29.8**	**-0.1**
GDU01	**Guandu, BA**	**33.92**	**69**		*eP*	**P**	**05 13 30.9**	**-0.7**
ANIL	**Santa Ana**	**34.12**	**354**		*eP*	**P**	**05 13 38.0**	**+4.5**
CHIC	**Chingaza**	**34.14**	**357**		*eP*	**P**	**05 13 35.7**	**+1.8**
ROSC	**El Rosal**	**34.38**	**356**		P	**P**	**05 13 37.8**	**+1.9**
	comp=Z,28nm,1.0s,baz=123,slow=2.5,SNR=13							
ROSC					LR	LR	05 27 27.1	
	comp=Z,10µm,18.0s,baz=204,slow=36							
ROSC	**El Rosal**	**34.38**	**356**		*eP*	**P**	**05 13 39.9**	**+4.0**
MCPB	**Macapa, AP**	**34.81**	**37**		*eP*	**P**	**05 13 39.5**	**+0.2**
GUY2C	**Guyana, Caldas**	**34.84**	**354**		*eP*	**P**	**05 13 40.8**	**+0.8**
NBPN	**Ponto Novo - B**	**35.07**	**64**		*eP*	**P**	**05 13 40.9**	**-0.7**
NORC	**Norcasia**	**35.14**	**355**		*eP*	**P**	**05 13 42.2**	**+0.1**
SPBC	**San Pablo de B**	**35.17**	**356**		*eP*	**P**	**05 13 43.4**	**+1.0**
RUSC	**La Rusia**	**35.37**	**358**		P	**P**	**05 13 44.9**	**+0

SNAA Sanae 55.60 159 ⇓P **P 05 16 22.7 -0.9**
RKT Rikitea 56.17 261 *e*T T 06 17 17.9
comp=Z,4.7nm,0.3s
DWPF Disney Wildern 58.16 350 IAMs_20 IAMs_20 05 45 37.3
comp=Z,3µm,18.0s
DWPF Disney Wildern 58.16 350 P **P 05 16 43.1 +1.1**
baz=170
DWPF S **S 05 24 41.3 -1.8**
baz=170
QSPA South Pole Qui 60.55 180 P **P 05 16 58.7 +0.2**
QSPA IAmb IAmb 05 17 12.3
comp=Z,99nm,1.0s
QSPA South Pole Qui 60.55 180 IAMs_20 IAMs_20 05 42 57.4
comp=Z,4µm,19.0s
TIGA Tifton 61.76 349 P **P 05 17 07.1 +0.3**
baz=169
TIGA S **S 05 25 30.3 +0.9**
baz=169
SHEL Horse Pasture 61.88 93 IAMs_20 IAMs_20 05 39 18.8
comp=Z,6µm,22.0s
BRAL Brewton 62.17 345 P **P 05 17 10.4 +0.8**
baz=165
BRAL S **S 05 25 34.0 -0.6**
baz=165
250A Grady 62.78 346 P **P 05 17 13.2 -0.5**
NHSC New Hope 62.91 352 P **P 05 17 15.7 +1.3**
baz=172
152A Waverly Hall 63.16 348 P **P 05 17 15.7 -0.5**
833A Chaparral WMA, 63.32 333 P **P 05 17 19.1 +1.7**
baz=154,SNR=22
833A S **S 05 25 50.6 +1.4**
baz=154
HKT Hockley 63.48 337 *c i*P **P 05 17 18.5 +0.3**
HKT pmax pmax
comp=Z,106nm,2.0s
HKT MLR MLR
comp=Z,1µm,17.0s
HKT Hockley 63.48 337 ⇑P **P 05 17 19.0 +0.8**
GOGA Godfrey 63.67 349 P **P 05 17 18.4 -1.1**
GOGA pmax pmax
comp=Z,136nm,1.9s
GOGA Godfrey 63.67 349 P **P 05 17 18.4 -1.1**
GOGA IAmb IAmb 05 17 23.0
comp=Z,136nm,1.9s
GOGA Godfrey 63.67 349 P **P 05 17 19.2 -0.3**
baz=169
GOGA S **S 05 25 49.9 -3.4**
baz=169
LRAL Lakeview Retre 63.96 346 P **P 05 17 21.1 -0.3**
baz=166,SNR=6.1
LRAL S **S 05 25 53.4 -3.5**
baz=166
VBMS Vicksburg 64.00 343 P **P 05 17 23.2 +1.5**
baz=162,SNR=7.6
VBMS S **S 05 25 56.4 -1.1**
baz=162
Z47A Carrollton 64.35 345 P **P 05 17 23.1 -0.9**
Z47A IAmb IAmb 05 17 26.7
comp=Z,118nm,1.5s
SLBS Sierra La Lagu 64.36 321 ⇓P **P 05 17 26.7 +2.4**
BIRD Birdtown, Kers 64.46 352 P **P 05 17 24.2 -0.5**
NATX Nacogdoches 64.77 339 P **P 05 17 28.6 +1.9**
baz=158,SNR=9.0
NATX S **S 05 26 07.4 +0.4**
baz=158
CNNC Cliffs of the 64.80 355 P **P 05 17 27.8 +1.0**
baz=174
CNNC S **S 05 26 08.7 +1.5**
baz=174
435B Jarrell 64.86 336 P **P 05 17 28.8 +1.4**
baz=156
435B S **S 05 26 08.6 +0.5**
baz=156
W57A Gilead 64.91 353 P **P 05 17 27.4 -0.2**
W57A IAmb IAmb 05 17 30.3
comp=Z,42nm,1.1s
X51A Calhoun 65.03 348 P **P 05 17 27.6 -0.8**
KMSC Kings Mountain 65.06 352 P **P 05 17 28.9 +0.3**
baz=171
KMSC S **S 05 26 09.3 -1.2**
baz=171
X48A Hartselle 65.34 346 P **P 05 17 30.0 -0.4**
X48A IAmb IAmb 05 17 39.9
comp=Z,73nm,1.0s
JCT Junction City 65.41 334 P **P 05 17 31.7 +0.7**
JCT pmax pmax
comp=Z,238nm,1.6s
JCT Junction City 65.41 334 P **P 05 17 31.7 +0.7**
JCT Junction City 65.41 334 ⇑P **P 05 17 31.9 +1.0**
JCT Junction City 65.41 334 P **P 05 17 32.6 +1.7**
baz=154,SNR=25
JCT S **S 05 26 16.6 +1.6**
baz=154
V58A Windy Hill, Pi 65.46 354 P **P 05 17 30.4 -0.8**
V58A IAmb IAmb 05 17 33.9
comp=Z,116nm,1.6s
Z41A Richland Creek 65.61 341 P **P 05 17 33.7 +1.6**
baz=160
Z41A S **S 05 26 18.1 +0.9**
baz=160
W50A Signal Mountai 65.73 348 P **P 05 17 32.4 -0.6**
W50A IAmb IAmb 05 17 42.4
comp=Z,83nm,1.1s
V55A Taylorsville 65.75 352 P **P 05 17 32.5 -0.5**
CPCT Cooper Cave 65.83 349 P **P 05 17 33.5 -0.1**
CPCT IAmb IAmb 05 17 43.1
comp=Z,85nm,1.2s
WHTX Lake Whitney, 65.91 336 P **P 05 17 35.3 +1.2**
baz=156,SNR=11
WHTX S **S 05 26 21.3 +0.3**
baz=156
OXF Oxford 65.91 344 P **P 05 17 34.5 +0.5**
baz=164,SNR=14
OXF S **S 05 26 18.1 -2.8**
baz=164
TXAR Lajitas Array 65.99 330 P **P 05 17 35.2 +0.4**
comp=Z,8.3nm,0.9s,baz=151,slow=8.4,SNR=51
TXAR LR LR 05 41 24.4
comp=Z,2µm,20.5s,baz=0.0,slow=31
TXAR PKP2bc 05 46 12.5
comp=Z,1.4nm,1.1s,baz=57,slow=1.5,SNR=6.0
TXAR Lajitas Array 65.99 330 P **P 05 17 34.2 -0.6**
TXAR Lajitas Array 65.99 330 P **P 05 17 34.2 -0.6**
TX31 Lajitas Ar. Si 65.99 330 ⇑P **P 05 17 35.5 +0.7**
V52A Sevierville 66.07 350 P **P 05 17 34.0 -1.1**
V51A Loudon 66.15 349 P **P 05 17 35.1 -0.5**
V51A IAmb IAmb 05 17 38.2
comp=Z,59nm,1.1s
T57A Hurt 66.66 354 P **P 05 17 38.1 -0.7**
T57A IAmb IAmb 05 17 41.8
comp=Z,91nm,1.7s
TAOE Nuku Hiva Isla 66.68 273 *e*S **S 05 26 29.8 -1.6**
comp=Z,3µm,24.7s
TAOE Nuku Hiva Isla 66.68 273 *e*LR LR 05 37 46.8
comp=Z,8µm,29.6s
TZTN Tazewell 66.75 350 P **P 05 17 39.9 +0.4**
baz=169
TZTN S **S 05 26 29.0 -2.0**
baz=169
X40A Basin Creek Fa 66.77 341 P **P 05 17 39.2 -0.3**
baz=160,SNR=6.5
X40A S **S 05 26 30.7 -0.7**
baz=160
CLTN Cedars of Leba 66.78 347 P **P 05 17 40.0 +0.3**
CLTN IAmb IAmb 05 17 42.5
comp=Z,58nm,1.1s
BLA Blacksburg 67.00 353 IAMs_20 IAMs_20 05 48 53.5
comp=Z,2µm,18.0s
BLA Blacksburg 67.00 353 P **P 05 17 42.0 +1.0**
baz=172
BLA S **S 05 26 34.1 0.0**
baz=172
MIAR Mount Ida 67.03 341 P **P 05 17 42.5 +1.2**
baz=160
MIAR S **S 05 26 33.4 -1.2**
baz=160
U49A Red Boiling Sp 67.09 348 P **P 05 17 40.7 -0.9**
U49A IAmb IAmb 05 17 44.2
comp=Z,158nm,1.6s
WVT Waverly 67.12 346 P **P 05 17 41.0 -0.8**
WVT pmax pmax
comp=Z,398nm,2.0s
WVT Waverly 67.12 346 P **P 05 17 41.0 -0.8**
WVT Waverly 67.12 346 ⇑P **P 05 17 41.4 -0.3**
WVT Waverly 67.12 346 P **P 05 17 42.1 +0.4**
baz=165
WVT S **S 05 26 32.3 -3.2**
baz=165
W41B Gary Mavity, V 67.26 342 P **P 05 17 43.8 +1.2**
baz=161
W41B S **S 05 26 37.2 0.0**
baz=161
ABTX Abilene, Hawle 67.26 335 P **P 05 17 44.2 +1.4**
baz=154,SNR=13
ABTX S **S 05 26 37.7 +0.3**
baz=154
S57A Dark Hollow, R 67.39 354 P **P 05 17 42.9 -0.6**
S57A IAmb IAmb 05 17 46.6
comp=Z,141nm,1.8s
T50A Nancy 67.42 349 P **P 05 17 42.8 -0.9**
T50A IAmb IAmb 05 17 46.1
comp=Z,165nm,1.8s
S54A Dingess, Beckl 67.68 352 P **P 05 17 43.9 -1.5**
S54A IAmb IAmb 05 17 47.9
comp=Z,123nm,1.6s
W39A Magazine 67.70 341 P **P 05 17 47.2 +1.7**
baz=160
W39A S **S 05 26 43.4 +0.9**
baz=160
CBN Corbin Frederi 67.71 355 P **P 05 17 46.8 +1.4**
baz=175
CBN S **S 05 26 44.1 +1.6**
baz=175
Q61A Milford 68.27 357 P **P 05 17 50.9 +2.0**
baz=177
Q61A S **S 05 26 53.4 +4.3**
baz=177
PBMO Poplar Bluff 68.32 344 P **P 05 17 48.7 -0.6**
PBMO IAmb IAmb 05 18 05.4
comp=Z,75nm,1.1s
VNDA Vanda 68.34 191 P **P 05 17 50.4 +1.4**
comp=Z,7.5nm,1.2s,baz=136,slow=8.0,SNR=19
VNDA LR LR 05 44 17.2
comp=Z,2µm,18.5s,baz=138,slow=33
VNDA PKP2bc 05 46 01.1
comp=Z,0.9nm,0.8s,baz=316,slow=5.0,SNR=4.6
TBI Tubuai 68.40 255 *e*S **S 05 26 49.6 -2.0**
comp=Z,2µm,24.0s
TBI Tubuai 68.40 255 *e*LR LR 05 38 25.3
comp=Z,11µm,28.0s,baz=106
TBI Tubuai 68.40 255 *e*T T 06 32 32.3
comp=Z,8.6nm,0.3s
U40A Yellville 68.53 342 P **P 05 17 51.6 +0.9**
baz=161
U40A S **S 05 26 50.4 -2.1**
baz=161
MNTX Cornudas Mount 68.77 330 P **P 05 17 51.5 -0.8**
MNTX IAMs_20 IAMs_20 05 43 03.6
comp=Z,3µm,19.0s
MNTX Cornudas Mount 68.77 330 P **P 05 17 52.8 +0.5**
baz=149,SNR=34
MNTX S **S 05 26 56.3 +0.8**
baz=149
Q54A Coxs Mills 68.79 353 P **P 05 17 51.5 -0.7**
Q54A IAmb IAmb 05 17 54.6
comp=Z,87nm,1.7s
WCI Wyandotte Cave 68.85 348 ⇑P **P 05 17 51.8 -0.9**
WCI Wyandotte Cave 68.85 348 P **P 05 17 52.8 +0.2**
baz=167
WCI S **S 05 26 51.8 -4.3**
baz=167
WMOK Wichita Mounta 68.86 337 P **P 05 17 53.2 +0.4**
baz=155
WMOK S **S 05 26 56.0 -0.4**
baz=155
SIUC Southern Illin 68.94 345 P **P 05 17 53.1 -0.1**
SIUC IAmb IAmb 05 17 56.0
comp=Z,91nm,1.0s
TUL1 Leonard 68.96 339 P **P 05 17 54.0 +0.6**
baz=158
TUL1 S **S 05 26 55.7 -1.8**
baz=158
P60A Greenville 69.21 357 P **P 05 17 56.2 +1.4**
baz=177
P60A S **S 05 27 02.0 +1.8**
baz=177
EPT El Paso 69.33 329 IAMs_20 IAMs_20 05 43 29.4
comp=Z,4µm,19.0s
MCWV Mont Chateau 69.36 354 IAMs_20 IAMs_20 05 51 28.1
comp=Z,4µm,21.0s
MCWV Mont Chateau 69.36 354 P **P 05 17 56.1 +0.3**
baz=173
MCWV S **S 05 27 03.2 +1.2**
baz=173
P52A Corning 69.59 352 P **P 05 17 56.6 -0.5**
P52A IAmb IAmb 05 17 59.6
comp=Z,97nm,1.2s
P52A Corning 69.59 352 P **P 05 17 56.7 -0.5**
baz=171,SNR=16
P52A S **S 05 27 02.2 -2.6**
baz=171
MSTX Muleshoe 69.65 333 P **P 05 17 58.8 +0.9**
baz=152,SNR=24
MSTX S **S 05 27 06.6 +0.6**
baz=152
CCM Cathedral Cave 69.73 344 ⇑P **P 05 17 57.6 -0.5**
CCM Cathedral Cave 69.73 344 P **P 05 17 57.7 -0.4**
baz=162
CCM S **S 05 27 05.7 -0.8**
baz=162
O56A Blue Knob Stat 69.85 355 P **P 05 17 59.2 +0.4**
O56A IAmb IAmb 05 18 02.5
comp=Z,138nm,1.6s
O56A Blue Knob Stat 69.85 355 P **P 05 18 00.2 +1.4**
baz=174,SNR=12
O56A S **S 05 27 08.3 +0.4**
baz=174
P49A Miami Univ. Ec 69.86 350 IAMs_20 IAMs_20 05 48 15.1
comp=Z,3µm,22.0s
P49A Miami Univ. Ec 69.86 350 P **P 05 17 57.7 -1.2**
baz=168
P49A S **S 05 27 04.5 -3.4**
baz=168
SYO Syowa Base 69.89 159 ⇑*i*P **P 05 17 57.6 -1.1**
SYO Syowa Base 69.89 159 ⇓*i*pP **P 05 17 59.6 +0.9**
SYO Syowa Base 69.89 159 ⇑*e*PcP **PcP 05 18 17.2 -3.9**
P48A Milroy 69.90 349 P **P 05 17 58.1 -1.0**
O52A Adamsville 70.03 352 P **P 05 17 58.5 -1.4**
O52A IAmb IAmb 05 18 02.4
comp=Z,98nm,1.5s
AMTX Amarillo 70.04 334 P **P 05 18 00.3 +0.1**
baz=153
AMTX S **S 05 27 10.4 -0.1**
baz=153
O53A New Philadelph 70.09 353 P **P 05 18 00.0 -0.2**
baz=172
O53A S **S 05 27 07.7 -2.9**
baz=172
SSPA Standing Stone 70.16 355 P **P 05 18 01.6 +0.9**
SSPA IAmb IAmb 05 18 12.9
comp=Z,88nm,1.5s
SSPA Standing Stone 70.16 355 ⇑P **P 05 18 01.1 +0.4**
SSPA Standing Stone 70.16 355 P **P 05 18 01.4 +0.8**
baz=175
SSPA S **S 05 27 12.3 +0.8**
baz=175
ACSO Alum Creek Sta 70.29 351 P **P 05 18 01.2 -0.3**
ACSO IAmb IAmb 05 18 04.1
comp=Z,72nm,1.1s
ACSO IAMs_20 IAMs_20 05 49 52.6
comp=Z,3µm,22.0s
ACSO Alum Creek Sta 70.29 351 P **P 05 18 01.0 -0.5**
baz=170,SNR=16
ACSO S **S 05 27 10.3 -2.7**
baz=170
N58A Sunbury 70.29 356 P **P 05 18 01.6 +0.2**
N58A IAmb IAmb 05 18 13.8
comp=Z,201nm,1.8s
N59A State Game Lan 70.32 357 IAMs_20 IAMs_20 05 54 48.6
comp=Z,2µm,19.0s
N59A State Game Lan 70.32 357 P **P 05 18 01.8 +0.2**
baz=177,SNR=14
N59A S **S 05 27 16.3 +3.0**
baz=177
PAL Palisades 70.34 358 P **P 05 18 02.4 +0.6**
baz=178
PAL S **S 05 27 15.1 +1.6**
baz=178
WSPT Westport, CT 70.50 359 IAMs_20 IAMs_20 05 52 43.5
comp=Z,2µm,20.0s
121A Cookes Peak, D 70.55 328 P **P 05 18 05.0 +1.5**
baz=148,SNR=11
121A S **S 05 27 20.2 +3.5**
baz=148
M66A Nantucket 70.59 2 P **P 05 18 03.9 +0.7**
baz=182
N54A Moraine State 70.66 354 P **P 05 18 03.9 +0.1**
N54A IAmb IAmb 05 18 06.9
comp=Z,96nm,1.4s
N54A IAMs_20 IAMs_20 05 52 24.6
comp=Z,3µm,19.0s
N54A Moraine State 70.66 354 P **P 05 18 03.6 -0.2**
baz=173,SNR=8.6
N54A S **S 05 27 15.7 -1.7**
baz=173
TIAR Tiarei 70.73 260 *e*T T 06 35 28.8
comp=Z,1.9nm,0.3s
M57A Sunshine Farm, 70.81 356 P **P 05 18 05.1 +0.5**
M57A IAmb IAmb 05 18 16.9
comp=Z,158nm,1.6s
M65A Busby, Falmout 70.89 1 P **P 05 18 04.4 -0.6**
baz=181
M65A S **S 05 27 23.3 +3.4**
baz=181
PPT2 Papeete2 70.92 260 *e*S **S 05 27 19.5 -2.1**
comp=Z,4µm,24.8s
PPT2 Papeete2 70.92 260 *e*LR LR 05 39 36.9
comp=Z,16µm,23.2s,baz=114
PPT Papeete 70.93 260 LR LR 05 40 53.7
comp=Z,8µm,21.9s,baz=99,slow=29
KSPA Keystone Colle 70.95 357 P **P 05 18 05.7 +0.2**
KSPA IAmb IAmb 05 18 10.5
comp=Z,125nm,1.7s
M55A Ridgway 71.06 355 P **P 05 18 06.0 -0.1**
M55A IAmb IAmb 05 18 09.4
comp=Z,64nm,1.1s
SFIN Lafayette 71.08 348 P **P 05 18 04.9 -1.4**
baz=166
SFIN S **S 05 27 17.8 -4.4**
baz=166
UCCT U. Connecticut 71.11 360 P **P 05 18 06.5 +0.1**
N49A Columbus Grove 71.13 350 P **P 05 18 06.2 -0.4**
M54A Oil Creek Stat 71.17 354 P **P 05 18 06.7 -0.1**
M54A IAmb IAmb 05 18 09.7
comp=Z,68nm,1.2s
M54A Oil Creek Stat 71.17 354 P **P 05 18 07.4 +0.5**
baz=173,SNR=8.6
M54A S **S 05 27 20.5 -2.8**
baz=173
M53A WI Miller and 71.20 353 IAMs_20 IAMs_20 05 52 34.9
comp=Z,3µm,21.0s
M53A WI Miller and 71.20 353 P **P 05 18 06.3 -0.7**
baz=172,SNR=6.0
M53A S **S 05 27 21.0 -2.6**
baz=172
L64A Middleborough 71.26 1 P **P 05 18 06.9 -0.4**
baz=181,SNR=6.3
L64A S **S 05 27 27.2 +3.1**
baz=181
N47A Urbana 71.33 349 P **P 05 18 06.5 -1.2**
N47A IAmb IAmb 05 18 09.8
comp=Z,135nm,1.3s
L65A Cape Cod Natio 71.37 2 P **P 05 18 08.4 +0.5**
baz=182
L65A S **S 05 27 29.3 +3.9**
baz=182
M52A Chesterland 71.38 353 P **P 05 18 08.1 0.0**
M52A IAmb IAmb 05 18 10.8
comp=Z,52nm,0.9s
Y22D IRIS PASSCAL I 71.47 330 IAMs_20 IAMs_20 05 44 50.8
comp=Z,3µm,19.0s
Y22D IRIS PASSCAL I 71.47 330 P **P 05 18 10.7 +1.8**
baz=148
Y22D S **S 05 27 32.0 +4.7**
baz=148
L59A Walton 71.56 358 P **P 05 18 09.6 +0.4**
BINY Binghamton 71.61 357 IAMs_20 IAMs_20 05 55 45.8
comp=Z,2µm,20.0s
BINY Binghamton 71.61 357 P **P 05 18 09.8 +0.4**
baz=176
BINY S **S 05 27 29.6 +1.4**
baz=176
L56A Greenwood 71.63 356 P **P 05 18 09.5 -0.1**
L56A IAmb IAmb 05 18 13.2
comp=Z,131nm,1.4s
HDIL Hopedale 71.68 346 P **P 05 18 09.3 -0.6**
baz=164
HDIL S **S 05 27 25.8 -3.3**
baz=164
L61B Northampton 71.77 359 P **P 05 18 11.0 +0.7**
baz=179,SNR=17
L61B S **S 05 27 32.3 +2.3**
baz=179
TUC Tucson 71.78 326 ⇑P **P 05 18 12.3 +1.5**
TUC Tucson 71.78 326 P **P 05 18 12.1 +1.3**
baz=145
TUC S **S 05 27 31.7 +0.9**
baz=145
ERPA Erie 71.81 354 P **P 05 18 11.1 +0.5**
ERPA IAmb IAmb 05 18 13.5
comp=Z,60nm,1.1s
ERPA IAMs_20 IAMs_20 05 51 17.0
comp=Z,3µm,22.0s
ERPA Erie 71.81 354 P **P 05 18 10.0 -0.7**
baz=173,SNR=5.9
ERPA S **S 05 27 27.7 -2.8**
baz=173
HRV Adam Dziewonsk 71.82 0 P **P 05 18 11.0 +0.3**
HRV pmax pmax
comp=Z,90nm,1.4s
HRV Adam Dziewonsk 71.82 0 P **P 05 18 10.9 +0.3**
HRV IAmb IAmb 05 18 23.5
comp=Z,90nm,1.4s
HRV Adam Dziewonsk 71.82 0 ⇑P **P 05 18 10.9 +0.3**
HRV Adam Dziewonsk 71.82 0 P **P 05 18 12.1 +1.4**
baz=180
HRV S **S 05 27 33.7 +3.0**
baz=180
K62A Royalston 71.98 360 P **P 05 18 11.3 -0.3**
baz=180
K62A S **S 05 27 36.3 +3.8**
baz=180
K61A Williamstown 71.99 359 P **P 05 18 12.4 +0.6**
baz=179
K61A S **S 05 27 37.4 +4.8**
baz=179
ANMO Albuquerque 72.01 331 LR LR 05 45 33.7
comp=Z,2µm,20.6s,baz=150,slow=32
ANMO Albuquerque 72.01 331 *c i*P **P 05 18 14.2 +1.9**
ANMO pmax pmax
comp=Z,52nm,1.6s
ANMO Albuquerque 72.01 331 IAMs_20 IAMs_20 05 45 11.4
comp=Z,3µm,20.0s
ANMO Albuquerque 72.01 331 ⇓P **P 05 18 13.8 +1.5**
ANMO Albuquerque 72.01 331 P **P 05 18 13.7 +1.4**
baz=149
ANMO S **S 05 27 35.9 +2.3**
baz=149
KSU1 Kansas State U 72.15 340 P **P 05 18 11.2 -1.6**
baz=158
KSU1 S **S 05 27 33.0 -1.7**
baz=158
K57A Scipio Center 72.16 357 P **P 05 18 11.9 -0.9**
L48A N Adams 72.17 350 P **P 05 18 12.5 -0.4**
MMNY Mt. Morris Dam 72.25 355 P **P 05 18 12.5 -0.7**
AAM Ann Arbor 72.41 351 IAMs_20 IAMs_20 05 51 07.8
comp=Z,3µm,22.0s
AAM Ann Arbor 72.41 351 P **P 05 18 13.5 -0.7**
baz=170
AAM S **S 05 27 34.0 -3.4**
baz=170
214A Organ Pipe Nat 72.50 324 P **P 05 18 16.9 +1.8**
baz=144,SNR=34
214A S **S 05 27 41.0 +2.1**
baz=144
HQIL Hanson Quary C 72.60 348 IAMs_20 IAMs_20 05 52 11.7
comp=Z,3µm,22.0s
J61A Chester 72.66 360 P **P 05 18 16.1 +0.4**
baz=180,SNR=8.4
J61A S **S 05 27 44.1 +3.9**
baz=180
J56A Wolcott 72.72 356 P **P 05 18 14.8 -1.3**
J56A IAmb IAmb 05 18 20.3
comp=Z,176nm,1.8s
J55A Hilton 72.77 356 P **P 05 18 16.3 0.0**
J55A IAmb IAmb 05 18 28.1
comp=Z,176nm,1.9s
J57A Williamstown 72.81 357 P **P 05 18 16.4 -0.2**
CBKS Cedar Bluff 72.87 338 ⇑P **P 05 18 17.3 +0.1**
CBKS Cedar Bluff 72.87 338 P **P 05 18 16.2 -0.9**
baz=155

CBKS S S 05 27 43.3 +0.3
baz=155
L44A Lake County Fo 72.98 348 P P 05 18 17.6 0.0
baz=166
L44A S S 05 27 41.1 -2.8
baz=166
T25A Trinidad 73.07 333 P P 05 18 19.5 +1.0
baz=151,SNR=25
T25A S SKiKP 05 27 49.1 -1.8
baz=151
I60A Shoreham 73.17 359 P P 05 18 19.8 +1.2
baz=179,SNR=8.7
I60A S SKiKP 05 27 49.5 -1.0
baz=179
I62A Tamworth 73.19 1 P P 05 18 19.5 +0.6
baz=181
I62A S SKiKP 05 27 50.0 -0.5
baz=181
PECO Prince Edward 73.39 356 P P 05 18 20.1 +0.1
PECO IAmb IAmb 05 18 24.4
comp=Z,231nm,1.9s
LIC Lamto 73.44 73 *e*P P 05 18 20.8 -0.2
comp=Z,149nm,0.8s
L40A Anamosa 73.54 345 P P 05 18 20.4 -0.5
L40A IAmb IAmb 05 18 23.6
comp=Z,122nm,1.2s
LBNH Lisbon 73.55 0 P P 05 18 22.0 +1.0
baz=180,SNR=9.2
LBNH S SKiKP 05 27 54.5 +3.4
baz=180
W18A Petrified Fore 73.60 328 P P 05 18 23.4 +1.7
baz=146,SNR=24
W18A S S 05 27 55.9 +4.2
baz=146
TIC Toumodi 73.67 72 *e*P P 05 18 22.9 +0.5
KIC Kosan Boka 73.75 73 *e*P P 05 18 22.8 -0.1
comp=Z,129nm,0.7s
DBIC Dimbokro 73.82 72 P P 05 18 23.0 -0.3
comp=Z,78nm,0.7s,baz=237,slow=5.4,SNR=50
DBIC LR LR 05 48 23.3
comp=Z,4µm,19.2s,baz=242,slow=34
DBIC Dimbokro 73.82 72 P P 05 18 22.9 -0.3
DBIC pmax pmax
comp=Z,113nm,0.9s
DBIC Dimbokro 73.82 72 P P 05 18 22.9 -0.4
DBIC IAmb IAmb 05 18 26.1
comp=Z,113nm,0.8s
DBIC Dimbokro 73.82 72 ⇑P P 05 18 23.3 0.0
SCIA State Center 73.86 344 P P 05 18 23.7 +0.8
baz=161
SCIA S SKiKP 05 27 52.3 +0.7
baz=161
WVL Waterville 73.91 2 IAMs_20 IAMs_20 05 50 08.9
comp=Z,3µm,20.0s
LONY Lake Ozonia 73.97 358 P P 05 18 24.1 +0.7
LONY Lake Ozonia 73.97 358 P P 05 18 23.1 -0.4
baz=178
LONY S S 05 27 56.3 +1.2
baz=178
SDCO Great Sand Dun 74.02 333 P P 05 18 25.0 +0.8
SDCO IAmb IAmb 05 18 28.4
comp=Z,111nm,1.7s
SDCO IAMs_20 IAMs_20 05 49 19.5
comp=Z,2µm,18.0s
SDCO Great Sand Dun 74.02 333 P P 05 18 26.0 +1.7
baz=150,SNR=25
SDCO S S 05 27 59.5 +2.9
baz=150
KSCO Kaye Shedlock' 74.05 336 P P 05 18 25.2 +1.0
baz=153
KSCO S S 05 27 58.0 +1.6
baz=153
EMMW East Machias 74.14 3 P P 05 18 25.0 +0.6
JFWS Jewell Farm 74.15 346 P P 05 18 24.1 -0.4
JFWS pmax pmax
comp=Z,312nm,2.0s
JFWS MLR MLR
comp=Z,2µm,22.0s
JFWS Jewell Farm 74.15 346 P P 05 18 24.1 -0.4
JFWS Jewell Farm 74.15 346 P P 05 18 23.6 -0.9
baz=164,SNR=7.4
JFWS S S 05 27 57.1 0.0
baz=164
FRNY Flat Rock 74.16 359 P P 05 18 25.5 +1.0
SADO Sadowa 74.37 355 P P 05 18 25.0 -0.7
GLA Glamis 74.40 324 P P 05 18 27.6 +1.4
baz=142
GLA S S 05 28 04.9 +4.4
baz=142
PLVO Plevna 74.49 356 P P 05 18 27.2 +0.7
PLVO IAmb IAmb 05 18 31.1
comp=Z,130nm,1.9s
G62A West of Eustis 74.54 1 P P 05 18 27.5 +0.7
S22A 4UR Ranch, Cre 74.56 332 P P 05 18 27.9 +0.5
baz=149,SNR=21
S22A S S 05 28 06.4 +3.8
baz=149
PKME Peaks-Kenny Pk 74.62 2 P P 05 18 27.9 +0.8
PKME IAmb IAmb 05 18 31.1
comp=Z,137nm,1.9s
PKME IAMs_20 IAMs_20 05 50 38.7
comp=Z,3µm,20.0s
PKME Peaks-Kenny Pk 74.62 2 P P 05 18 27.2 +0.1
baz=182
PKME S S 05 28 04.9 +2.6
baz=182
WUAZ Wupatki 74.68 328 IAMs_20 IAMs_20 05 46 05.0
comp=Z,3µm,21.0s
WUAZ Wupatki 74.68 328 ⇓P P 05 18 29.9 +1.9
WUAZ Wupatki 74.68 328 P P 05 18 30.0 +2.0
baz=145,SNR=21
WUAZ S S 05 28 08.0 +4.2
baz=145
BGNE Belgrade 74.74 340 P P 05 18 28.0 0.0
baz=157
BGNE S S 05 28 05.2 +1.3
baz=157
IKP In-Ko-Pah, Jac 74.75 323 P P 05 18 30.2 +1.9
baz=141,SNR=7.2
IKP S S 05 28 07.9 +3.3
baz=141
MVCO Mesa Verde 74.80 331 IAMs_20 IAMs_20 05 47 00.1
comp=Z,2µm,19.0s
MVCO Mesa Verde 74.80 331 P P 05 18 29.7 +0.9
baz=148,SNR=25
MVCO S S 05 28 08.4 +3.2
baz=148
SWSC Sam W. Stewart 74.82 323 P P 05 18 30.2 +1.5
baz=142,SNR=7.5
SWSC S S 05 28 10.7 +5.6
baz=142
Q24A Divide 74.94 334 P P 05 18 30.6 +1.0
baz=151,SNR=7.1
Q24A S S 05 28 10.7 +3.8
baz=151
GLMI Grayling 75.02 351 IAMs_20 IAMs_20 05 55 09.9
comp=Z,2µm,21.0s
GLMI Grayling 75.02 351 P P 05 18 29.6 +0.1
baz=169
GLMI S S 05 28 04.3 -2.5
baz=169
PDMCI Parker Dam,Lak 75.04 325 P P 05 18 31.3 +1.4
baz=143
PDMCI S S 05 28 11.0 +3.5
baz=143
MONP2 Monument Peak 75.11 322 P P 05 18 32.7 +2.1
baz=141
MONP2 S S 05 28 13.4 +4.6
baz=141
BC3 Big Chuckawall 75.19 324 P P 05 18 31.0 0.0
baz=142,SNR=20
BC3 S S 05 28 14.9 +5.4
baz=142
F64A Sherman 75.25 3 P P 05 18 31.3 +0.5
IRM Iron Mountain 75.43 324 P P 05 18 33.1 +0.9
baz=142,SNR=13
IRM S S 05 28 14.6 +2.7
baz=142
109C Camp Elliot, M 75.47 322 P P 05 18 34.8 +2.4
baz=141
109C S S 05 28 16.8 +4.5
baz=141
OGNE Ogallala 75.56 337 P P 05 18 32.8 0.0
baz=153
OGNE S S 05 28 16.7 +3.5
baz=153
NEE2 Needles Airpor 75.65 325 P P 05 18 32.2 -1.1
baz=143
TPFO Pinon Flats 75.68 323 S S 05 28 20.4 +5.5
baz=141
PFO Pinyon Flats O 75.68 323 P P 05 18 34.0 +0.2
baz=141,SNR=18
PFO S S 05 28 20.5 +5.5
baz=141
BELC Belle Mtn. Jos 75.75 323 P P 05 18 35.7 +1.6
baz=142,SNR=9.7
BELC S S 05 28 21.2 +5.5
baz=142
ISCO Idaho Springs 75.84 334 P P 05 18 36.3 +1.5
baz=150,SNR=18
ISCO S S 05 28 19.6 +2.8
baz=150
MURC Murrieta 76.06 322 P P 05 18 37.7 +1.9
baz=141,SNR=9.4
MURC S S 05 28 22.3 +3.3
baz=141
PQI Presque Isle 76.07 3 IAMs_20 IAMs_20 05 50 16.0
comp=Z,2µm,22.0s
BBRC Big Bear Solar 76.43 323 P P 05 18 40.6 +2.5
baz=141
BBRC S S 05 28 27.1 +3.7
baz=141
D62A Allapoint, All 76.44 2 P P 05 18 37.5 0.0
ECSD EROS Data Cent 76.44 342 P P 05 18 37.1 -0.7
ECSD IAmb IAmb 05 18 40.9
comp=Z,143nm,1.4s
ECSD EROS Data Cent 76.44 342 P P 05 18 36.9 -0.8
baz=158,SNR=40
ECSD S S 05 28 21.2 -1.5
baz=158
CIS Catalina Islan 76.57 321 P P 05 18 40.3 +1.6
baz=140
CIS S S 05 28 29.5 +5.1
baz=140
HEC Hector,Ludlow 76.57 324 P P 05 18 40.4 +1.6
baz=142,SNR=8.9
HEC S S 05 28 27.5 +3.0
baz=142
FMP Fort Macarthur 76.74 322 P P 05 18 41.3 +1.7
baz=140
BATG Bathurst New B 76.78 4 P P 05 18 40.1 +0.6
BFSC Mount Baldy Ra 76.80 323 P P 05 18 41.6 +1.5
baz=140,SNR=15
BFSC S S 05 28 31.6 +4.3
baz=140
TUQ Turquoise Moun 76.83 324 P P 05 18 41.4 +1.1
baz=142,SNR=25
TUQ S S 05 28 32.1 +4.6
baz=142
SPMN Marine on St. 76.90 345 P P 05 18 39.9 -0.4
baz=162,SNR=7.4
SPMN S S 05 28 25.9 -1.7
baz=162
N23A Red Feather La 76.92 334 P P 05 18 42.0 +1.1
baz=150,SNR=19
N23A S S 05 28 31.9 +3.3
baz=150
SUR Sutherland 76.94 120 ⇑P P 05 18 42.8 +1.6
RRX Edison Barstow 76.94 323 P P 05 18 43.4 +2.6
baz=141
RRX S S 05 28 32.7 +4.2
baz=141
O20A White River Ci 77.17 332 P P 05 18 43.7 +1.6
baz=148,SNR=32
O20A S S 05 28 33.6 +2.4
baz=148
DECC Green Verdugo 77.17 322 P P 05 18 43.7 +1.6
baz=140
DECC S S 05 28 34.3 +3.3
baz=140
GSC Goldstone, Bar 77.17 324 P P 05 18 42.4 +0.3
baz=141,SNR=14
GSC S S 05 28 32.0 +0.8
baz=141
MAW Mawson 77.32 164 P P 05 18 41.5 -1.0
comp=Z,19nm,0.8s,baz=210,slow=6.6,SNR=32
MAW LR LR 05 54 06.7
comp=Z,8µm,18.7s,baz=230,slow=37
MAW Mawson 77.32 164 P P 05 18 42.6 +0.2
MAW Mawson 77.32 164 ⇑P P 05 18 41.6 -0.9
SHOC Shoshone, Teco 77.37 325 P P 05 18 42.7 -0.5
baz=142
SHOC S S 05 28 35.5 +2.4
baz=142
EDW2 Edwards Air Fo 77.47 323 P P 05 18 45.2 +1.4
baz=140,SNR=15
EDW2 S S 05 28 35.7 +1.3
baz=140
OSI Osito Audit: C 77.65 322 P P 05 18 46.0 +1.1
baz=140
OSI S S 05 28 40.4 +4.1
baz=140
F36A Milaca 77.67 345 P P 05 18 43.8 -0.7
F36A IAmb IAmb 05 18 47.1
comp=Z,74nm,1.4s
SUSD Miller 77.75 341 P P 05 18 45.3 +0.3
baz=156
SUSD S S 05 28 37.4 +0.5
baz=156
LRMC Laurel Mtn Rad 77.77 323 P P 05 18 47.1 +1.5
baz=141,SNR=16
LRMC S S 05 28 41.4 +3.8
baz=141
GWY Greenwater Val 77.79 324 P P 05 18 46.4 +0.7
D41A Chassel 77.82 349 P P 05 18 45.0 -0.4
D41A IAmb IAmb 05 18 48.7
comp=Z,108nm,1.1s
RAR Rarotonga 77.93 252 LR LR 05 44 57.4
comp=Z,5µm,18.5s,baz=104,slow=29
PRN Pahroc Range 77.95 326 ⇓P P 05 18 48.5 +2.0
SBC Santa Barbara 78.06 321 S S 05 28 45.7 +5.2
baz=139
RDMU Red Mountain 78.08 332 P P 05 18 47.7 +0.5
RDMU IAmb IAmb 05 18 51.0
comp=Z,97nm,1.4s
ARVC Arvin 78.10 322 P P 05 18 48.0 +0.8
baz=140
ARVC S S 05 28 44.0 +3.0
baz=140
FURC Furnace Creek, 78.11 324 P P 05 18 47.4 +0.2
baz=141,SNR=13
FURC S S 05 28 45.4 +4.5
baz=141
MPMC Manual Prospec 78.11 324 P P 05 18 48.6 +1.1
baz=141,SNR=14
MPMC S S 05 28 45.1 +3.6
baz=141
TPNV Topopah Spring 78.18 325 ⇑P P 05 18 49.3 +1.5
TPNV Topopah Spring 78.18 325 P P 05 18 49.5 +1.7
baz=142,SNR=32
TPNV S S 05 28 45.1 +3.0
baz=142
ISA Isabella, Lake 78.32 323 P P 05 18 49.5 +1.0
baz=140,SNR=21
ISA S S 05 28 47.6 +4.1
baz=140
PKM Mcpherson Peak 78.45 322 P P 05 18 50.7 +1.3
baz=139,SNR=8.7
PKM S S 05 28 49.2 +4.1
baz=139
H07S1 FLORES T-PHASE 78.51 31 *e*P P 05 18 49.9 +0.5
comp=Z,265nm,1.5s
K22A Casper 78.66 335 P P 05 18 51.2 +0.9
K22A IAmb IAmb 05 18 54.3
comp=Z,150nm,1.5s
K22A Casper 78.66 335 P P 05 18 51.7 +1.4
baz=150,SNR=24
K22A S S 05 28 51.1 +4.1
baz=150
CWC Cottonwood Cre 78.71 324 P P 05 18 51.9 +1.2
baz=140
CWC S S 05 28 51.8 +3.9
baz=140
GRAC Grapevine Rang 78.77 325 P P 05 18 52.8 +1.8
baz=141,SNR=15
GRAC S S 05 28 53.5 +5.3
baz=141
VES Vestal, Richgr 78.78 323 P P 05 18 52.5 +1.6
baz=140,SNR=21
VES S S 05 28 52.5 +4.3
baz=140
SMMC Simmler 78.86 322 P P 05 18 53.7 +2.3
baz=139
SMMC S S 05 28 53.3 +4.0
baz=139
KOWA Kowa 78.86 66 P P 05 18 51.1 -0.8
KOWA Kowa 78.86 66 ⇑P P 05 18 51.5 -0.4
KOWA Kowa 78.86 66 P P 05 18 51.6 -0.2
JLU Jordanelle 78.89 330 P P 05 18 51.7 -0.1
JLU IAmb IAmb 05 18 55.6
comp=Z,113nm,1.8s
R11A Troy Canyon, C 78.95 326 P P 05 18 54.4 +2.3
baz=142,SNR=29
R11A S S 05 28 52.9 +2.4
baz=142
RSSD Black Hills 79.06 337 ⇑P P 05 18 53.4 +0.9
RSSD Black Hills 79.06 337 P P 05 18 53.2 +0.7
baz=152
RSSD S S 05 28 53.3 +2.0
baz=152
PICO Pico 79.09 33 *e*P P 05 18 53.7 +1.0
comp=Z,346nm,1.8s
LCH Last Change Ra 79.10 324 P P 05 18 52.8 -0.1
DUG Dugway, Tooele 79.16 329 P P 05 18 53.9 +0.8
DUG pmax pmax
comp=Z,109nm,1.6s
DUG Dugway, Tooele 79.16 329 P P 05 18 53.9 +0.8
DUG IAmb IAmb 05 18 57.2
comp=Z,109nm,1.6s
DUG IAMs_20 IAMs_20 05 49 28.4
comp=Z,3µm,20.0s
DUG Dugway, Tooele 79.16 329 P P 05 18 54.6 +1.5
baz=145,SNR=27
DUG S S 05 28 56.1 +3.7
baz=145
EYMN Ely 79.22 347 P P 05 18 53.3 +0.2
baz=163,SNR=5.3
EYMN S S 05 28 48.6 -3.8
baz=163
TIN Tinemaha, Big 79.26 324 P P 05 18 55.3 +1.7
baz=140,SNR=12
TIN S S 05 28 56.8 +3.3
baz=140
VOG Valley Oaks Go 79.30 323 P P 05 18 55.0 +1.2
baz=140
ROSA Rosais 79.36 33 *e*P P 05 18 54.1 +0.1
comp=Z,231nm,1.0s
PSMN Pico do Norte, 79.61 37 *e*P P 05 18 55.3 -0.2
comp=Z,75nm,1.4s
DRLN Deer Lake 79.63 10 P P 05 18 55.7 +0.5
DRLN IAmb IAmb 05 19 07.5
comp=Z,162nm,1.5s
PGRA Graciosa 79.72 33 *e*P P 05 18 56.2 +0.2
comp=Z,58nm,0.9s
HWUT Hardware Ranch 79.77 331 P P 05 18 56.1 -0.4
HWUT IAMs_20 IAMs_20 05 50 06.7
comp=Z,2µm,20.0s
PSET Sete Cidades 79.90 36 *e*P P 05 18 58.6 +1.6
comp=Z,214nm,1.4s
PAGU Agualva, Azore 79.91 34 *e*P P 05 18 58.3 +1.3
comp=Z,134nm,1.3s
BW06 Boulder Array 79.92 333 P P 05 18 58.3 +1.0
baz=148,SNR=20
BW06 S S 05 29 02.0 +1.4
baz=148
PD31 Pinedale Array 79.92 333 P P 05 18 57.0 -0.3
PD31 Pinedale Array 79.92 333 ⇓P P 05 18 57.9 +0.6
PDAR Pinedale Array 79.92 333 P P 05 18 57.0 -0.3
comp=Z,3.9nm,0.6s,baz=137,slow=5.9,SNR=34
PDAR PKKPbc **PKKPbc 05 37 42.8 -2.0**
comp=Z,1.1nm,0.8s,baz=80,slow=1.7,SNR=9.6
PDAR LR LR 05 51 02.7
comp=Z,952nm,19.8s,baz=155,slow=33
PDAR Pinedale Array 79.92 333 P P 05 18 56.7 -0.6
CMLA Cha da Macela 79.95 36 *e*P P 05 18 58.5 +1.2
comp=Z,137nm,1.6s
MLAC Mammoth, Mammo 80.01 324 P P 05 18 59.7 +1.8
baz=140,SNR=7.0
MLAC S S 05 29 05.4 +3.6
baz=140
LHV Little Huntoon 80.31 325 P P 05 18 58.9 -0.3
NVAR Mina Array Bea 80.35 325 P P 05 19 01.1 +1.3
comp=Z,4.0nm,0.8s,baz=151,slow=6.0,SNR=26
NVAR PKKPbc **PKKPbc 05 37 43.6 +0.2**
comp=Z,1.2nm,0.8s,baz=280,slow=1.8,SNR=9.2
NVAR LR LR 05 47 47.8
comp=Z,1µm,21.3s,baz=136,slow=31
TSUM Tsumeb 80.41 107 ⇑P P 05 19 00.9 +0.4
TSUM Tsumeb 80.41 107 *i*P P 05 19 01.8 +1.3
HVU Hansel Valley 80.43 330 P P 05 18 59.6 -0.4
HVU pmax pmax
comp=Z,109nm,1.6s
HVU Hansel Valley 80.43 330 P P 05 18 59.6 -0.4
HVU IAmb IAmb 05 19 03.4
comp=Z,109nm,1.6s
AGMN Agassiz Nation 80.50 344 P P 05 19 00.1 0.0
AGMN IAmb IAmb 05 19 02.9
comp=Z,119nm,1.6s
AGMN Agassiz Nation 80.50 344 P P 05 18 59.8 -0.2
baz=159,SNR=13
AGMN S S 05 29 03.7 -2.3
baz=159
ELK Elko 80.69 328 LR LR 05 50 01.2
comp=Z,2µm,21.8s,baz=146,slow=32
ELK Elko 80.69 328 IAMs_20 IAMs_20 05 49 40.2
comp=Z,2µm,22.0s
PMOZ Porto Moniz, M 81.00 44 *e*P P 05 19 04.0 +0.8
LOHW Long Hollow 81.04 333 P P 05 19 03.2 -0.1
LOHW IAmb IAmb 05 19 06.9
comp=Z,111nm,1.9s
MDND Maddock 81.05 342 P P 05 19 03.0 0.0
MDND Maddock 81.05 342 P P 05 19 03.3 +0.3
baz=156,SNR=12
MDND S S 05 29 10.3 -1.4
baz=156
FUL Funchal 81.07 44 *e*P P 05 19 06.4 +3.0
comp=Z,147nm,1.7s
PMAR Madeira 81.11 44 *e*P P 05 19 05.2 +1.4
comp=Z,214nm,2.0s
H17A Grant Village 81.69 333 P P 05 19 08.0 +1.2
baz=147
H17A S S 05 29 21.5 +2.5
baz=147
PMPS Porto Santo 81.69 45 *e*P P 05 19 09.6 +2.9
PMPST Porto Santo, M 81.70 44 *e*P P 05 19 08.9 +2.1
comp=Z,287nm,1.4s
LKWY Lake 81.76 333 IAMs_20 IAMs_20 05 46 21.6
comp=Z,2µm,20.0s
RLMT Red Lodge 81.80 334 P P 05 19 08.4 +1.1
baz=148
RLMT S S 05 29 21.2 +1.2
baz=148
YNE Yellowstone No 81.98 334 P P 05 19 07.7 -0.5
LAO LASA Array 82.05 337 P P 05 19 08.4 0.0
LAO IAmb IAmb 05 19 11.8
comp=Z,130nm,1.5s
LAO LASA Array 82.05 337 P P 05 19 09.4 +1.1
baz=150,SNR=18
LAO S S 05 29 23.0 +0.7
baz=150
BOSA Boshof 82.09 118 P P 05 19 09.4 +0.1
comp=Z,49nm,0.9s,baz=236,slow=4.6,SNR=34
BOSA LR LR 05 53 17.2
comp=Z,3µm,18.1s,baz=244,slow=34
BOSA Boshof 82.09 118 P P 05 19 08.8 -0.5
BOSA pmax pmax
comp=Z,323nm,1.9s
BOSA Boshof 82.09 118 P P 05 19 08.8 -0.5
BOSA Boshof 82.09 118 ⇑P P 05 19 09.0 -0.3
ULM Lac du Bonnet 82.33 345 P P 05 19 09.7 +0.1
comp=Z,32nm,1.0s,baz=174,slow=4.2,SNR=16
ULM Lac du Bonnet 82.33 345 P P 05 19 09.3 -0.3
ULM pmax pmax
comp=Z,73nm,1.2s
ULM Lac du Bonnet 82.33 345 P P 05 19 09.3 -0.3
ULM IAmb IAmb 05 19 12.3
comp=Z,72nm,1.1s
HLID Hailey 82.58 330 P P 05 19 10.9 -0.5
HLID IAmb IAmb 05 19 15.5
comp=Z,130nm,1.8s
HLID Hailey 82.58 330 P P 05 19 13.0 +1.7
baz=144,SNR=32
HLID S S 05 29 31.4 +3.3
baz=144
TORD Torodi Ar. Bea 82.74 70 P P 05 19 12.1 -0.5
comp=Z,142nm,0.8s,baz=257,slow=3.9,SNR=130
TORD LR LR 05 53 27.2
comp=Z,6µm,21.7s,baz=240,slow=34
TORD Torodi Ar. Bea 82.74 70 P P 05 19 12.4 -0.3
DGMT Dagmar 82.95 339 P P 05 19 13.0 0.0
DGMT Dagmar 82.95 339 P P 05 19 14.2 +1.2
baz=152,SNR=27

DGMT S S 05 29 33.2 +1.8
baz=152
MFID Camas Ranch 83.08 329 IAMs_20 IAMs_20 05 52 02.3
comp=Z,2µm,20.0s
BOZ Bozeman (W) 83.10 333 P P 05 19 14.8 +0.8
baz=146,SNR=8.9
BOZ S S 05 29 33.8 +0.6
baz=146
O03E Paynes Creek 83.53 324 P P 05 19 16.8 +0.6
baz=138,SNR=9.2
O02D Mt. Diablo Mer 83.95 323 P P 05 19 19.6 +1.2
baz=137
O02D S S 05 29 45.8 +3.8
baz=137
LBTB Lobatse 84.13 115 P P 05 19 19.9 0.0
LBTB pmax pmax
comp=Z,81nm,1.0s
LBTB Lobatse 84.13 115 P P 05 19 19.9 0.0
LBTB IAmb IAmb 05 19 22.7
comp=Z,80nm,0.9s
LBTB Lobatse 84.13 115 ⇑P P 05 19 19.9 0.0
LBTB Lobatse 84.13 115 *i* P P 05 19 18.6 -1.2
SCHQ Schefferville 84.27 3 P P 05 19 19.9 +0.3
comp=Z,16nm,1.1s,baz=193,slow=2.4,SNR=6.6
SCHQ LR LR 05 58 03.0
comp=Z,795nm,20.8s,baz=174,slow=36
CASY Casey 84.34 181 P P 05 19 19.4 -0.6
CASY IAmb IAmb 05 19 23.9
comp=Z,74nm,1.1s
CASY Casey 84.34 181 ⇑P P 05 19 20.8 +0.8
EGMT Eagleton 84.43 336 P P 05 19 20.8 +0.2
baz=148
EGMT S S 05 29 46.1 -0.3
baz=148
PLID Pearl Lake 84.49 330 P P 05 19 20.8 -0.4
PLID IAMs_20 IAMs_20 05 51 52.6
comp=Z,2µm,21.0s
N02D Trinity Center 84.50 324 P P 05 19 21.7 +0.5
baz=138,SNR=6.4
N02D S S 05 29 48.6 +1.2
baz=138
M04C Macdoel 84.66 325 P P 05 19 22.2 +0.2
baz=138,SNR=19
M04C S S 05 29 50.8 +1.7
baz=138
BMO Blue Mountains 84.87 330 IAMs_20 IAMs_20 05 53 28.6
comp=Z,2µm,20.0s
M02C Callahan 84.88 324 P P 05 19 23.1 +0.1
baz=138,SNR=11
M02C S S 05 29 51.5 +0.4
baz=138
MSO Missoula 85.03 333 P P 05 19 25.0 +1.3
baz=144,SNR=7.3
MSO S S 05 29 53.8 +1.4
baz=144
TTIG Tnine Tigouga, 85.13 51 P P 05 19 29.0 +4.4
L04D Klamath Falls 85.21 325 P P 05 19 25.0 +0.2
baz=138,SNR=8.9
L04D S S 05 29 54.9 +0.4
baz=138
K04D Chiloquin, OR 85.24 326 P P 05 19 26.0 +1.1
baz=138
K04D S S 05 29 56.1 +1.3
baz=138
J05D Fort Rock, OR 85.48 326 P P 05 19 26.5 +0.4
baz=139,SNR=26
J05D S S 05 29 59.0 +1.8
baz=139
F10A Beach Ranch, E 85.72 330 ⇑P P 05 19 27.8 +0.7
PINE Pine Mountain 85.72 327 P P 05 19 28.2 +0.9
PINE IAmb IAmb 05 19 31.6
comp=Z,152nm,1.6s
L02E Cave Junction 85.82 324 P P 05 19 29.4 +1.7
baz=137,SNR=8.4
L02E S S 05 30 00.3 0.0
baz=137
J04D Umpqua Nationa 85.88 326 P P 05 19 29.4 +1.3
baz=138,SNR=8.5
JTMT Jette 85.91 333 P P 05 19 28.1 0.0
JTMT IAmb IAmb 05 19 31.6
comp=Z,153nm,1.9s
OUK Oukaimeden 85.92 51 P P 05 19 33.0 +4.2
G08A Pilot Rock 85.95 329 P P 05 19 28.4 0.0
K02D Willamette Mer 86.25 325 P P 05 19 31.9 +2.1
baz=137,SNR=21
K02D S S 05 30 05.8 +1.3
baz=137
I05D Terrebonne, OR 86.32 327 P P 05 19 31.9 +1.8
baz=139,SNR=20
ODZ Otahua Downs 86.33 219 IAMs_20 IAMs_20 05 50 52.1
comp=Z,3µm,20.0s
I04A Tendick Farm, 86.43 326 P P 05 19 31.6 +0.9
baz=138,SNR=9.4
BKZ Black Stump Fm 86.44 226 IAMs_20 IAMs_20 05 48 53.7
comp=Z,3µm,20.0s
URZ Urewera 86.58 227 P P 05 19 32.5 +0.8
comp=Z,5.9nm,0.8s,baz=346,slow=9.5,SNR=4.7
URZ LR LR 05 48 36.8
comp=Z,2µm,22.0s,baz=211,slow=29
URZ Urewera 86.58 227 IAMs_20 IAMs_20 05 49 22.3
comp=Z,3µm,20.0s
OXZ Oxford 86.62 221 IAMs_20 IAMs_20 05 50 46.1
comp=Z,2µm,20.0s
J01E Myrtle Point 86.72 325 P P 05 19 33.8 +1.8
baz=137
J01E S S 05 30 11.9 +3.0
baz=137
I03D Drain, OR 86.82 325 P P 05 19 33.8 +1.3
baz=137,SNR=10
I03D S S 05 30 11.0 +1.2
baz=137
LTZ Lake Taylor 86.82 222 IAMs_20 IAMs_20 05 50 57.5
comp=Z,3µm,21.0s
G05D Wamic, OR 86.99 328 P P 05 19 34.6 +1.3
baz=139,SNR=17
G05D S S 05 30 13.9 +2.4
baz=139
HAWA Hanford 87.05 329 IAMs_20 IAMs_20 05 54 55.3
comp=Z,2µm,19.0s
HAWA Hanford 87.05 329 ⇑P P 05 19 34.4 +0.9
H04D Lebanon 87.13 326 P P 05 19 33.6 -0.4
baz=138
H04D S S 05 30 14.2 +1.4
baz=138
TZRR Tazzarine 87.23 52 P P 05 19 39.1 +4.1
I02D Swisshome 87.36 325 P P 05 19 35.5 +0.3
baz=137
I02D S S 05 30 17.7 +2.7
baz=137
COR Corvallis 87.45 326 ⇑P P 05 19 37.6 +2.1
NEW Newport 87.47 332 LR LR 05 53 20.2
comp=Z,468nm,21.4s,baz=133,slow=32
NEW Newport 87.47 332 IAMs_20 IAMs_20 05 54 50.4
comp=Z,2µm,20.0s
NEW Newport 87.47 332 P P 05 19 35.6 0.0
baz=142,SNR=7.7
NEW S S 05 30 16.7 +0.6
baz=142
AVE Averroes 87.51 49 P P 05 19 35.7 -0.4
AVE S SKSac 05 30 10.4 +6.8
F05D White Salmon 87.54 328 P P 05 19 37.7 +1.7
baz=139,SNR=13
F05D S S 05 30 20.7 +3.9
baz=139
LESE Lesego, Limpop 87.67 117 *i* P P 05 19 36.1 -1.3
G03D McMinnville, O 87.89 327 P P 05 19 39.4 +1.8
baz=137,SNR=6.3
G03D S S 05 30 20.6 +0.5
baz=137
F04A Amboy 88.02 327 P P 05 19 38.5 +0.3
RAO Raoul Island 88.21 237 IAMs_20 IAMs_20 05 48 23.5
comp=Z,3µm,21.0s
LON Longmire 88.35 328 P P 05 19 40.2 +0.3
LON pmax pmax
comp=Z,40nm,1.4s
LON Longmire 88.35 328 P P 05 19 40.2 +0.3
F04D Rainier, OR 88.41 327 P P 05 19 42.0 +1.9
baz=138
F04D S S 05 30 27.5 +2.5
baz=138
E04D Cinebar 88.55 328 P P 05 19 42.0 +1.3
baz=138,SNR=9.7
E04D S S 05 30 27.8 +1.5
baz=138
C06D Leavenworth 88.82 330 P P 05 19 42.4 +0.4
baz=139
C06D S S 05 30 27.8 -1.1
baz=139
CZD Col de Zad 88.93 51 P P 05 19 48.0 +4.7
PFVI Vila Bisbo 88.99 46 *e*P P 05 19 44.2 +1.1
comp=Z,130nm,1.7s
MDT Midelt 89.10 51 P P 05 19 48.0 +4.2
D04E Lakebay 89.11 328 P P 05 19 46.0 +2.7
baz=138
IFR Ifrane 89.17 50 P P 05 19 43.5 -0.7
IFR S SKSac 05 30 15.9 +2.0
MORF Marmelete 89.21 45 *e*P P 05 19 43.7 -0.4
MORF *e*PP PP 05 23 14.1 -1.0
MORF *e*SKSac SKSac 05 30 13.1 -0.7
MORF IAMs_20 IAMs_20 05 58 36.1
comp=Z,5µm,16.0s
MORF Marmelete 89.21 45 *e*P P 05 19 43.7 -0.4
MORF *e* 05 23 14.0
MORF *e* 05 30 13.0
MORF Marmelete 89.21 45 *e*P P 05 19 45.2 +1.0
comp=Z,61nm,1.8s
MORF Marmelete 89.21 45 *e*PP PP 05 23 13.9 -1.2
PTEO Sao Teotonio 89.32 45 *e*P P 05 19 47.0 +2.4
comp=Z,74nm,2.1s
B05A Bryant 89.61 329 P P 05 19 45.1 -0.6
baz=138,SNR=9.6
B05A S S 05 30 35.5 -0.6
baz=138
PBDV Barranco-do-Ve 89.62 46 *e*P P 05 19 47.6 +1.6
comp=Z,71nm,1.7s
PBDV Barranco-do-Ve 89.62 46 *e*PP PP 05 23 16.5 -1.8
PNCL Nicolau / Gran 89.79 45 *e*P P 05 19 47.4 +0.6
comp=Z,44nm,1.6s
PNCL Nicolau / Gran 89.79 45 *e*PP PP 05 23 18.4 -1.2
LIS Lisbon 89.79 44 *e*P P 05 19 46.5 -0.3
LIS *e*PP PP 05 23 18.4 -1.2
LIS *e*SKSac SKSac 05 30 16.3 -0.6
LIS IAMs_20 IAMs_20 05 57 57.9
comp=E,5µm,30.2s
LIS Lisbon 89.79 44 *e*P P 05 19 46.4 -0.3
LIS *e* 05 23 18.4
LIS *e* 05 30 16.3
LIS Lisbon 89.79 44 *e*P P 05 19 49.4 +2.6
comp=E,112nm,1.4s
PCVE Castro Verde 89.80 46 *e*P P 05 19 47.8 +1.0
comp=E,57nm,1.6s
MESJ Messejana 89.81 45 *e*P P 05 19 46.5 -0.4
MESJ *e*PP PP 05 23 18.8 -1.0
MESJ *e*SKSac SKSac 05 30 16.6 -0.5
MESJ IAMs_20 IAMs_20 05 58 26.9
comp=Z,5µm,21.4s
MESJ Messejana 89.81 45 *e*P P 05 19 46.5 -0.4
MESJ *e* 05 23 18.8
MESJ *e* 05 30 16.6
MESJ Messejana 89.81 45 *e*P P 05 19 48.1 +1.2
comp=Z,46nm,1.6s
PVAQ Vaqueiros 89.85 46 *e*P P 05 19 48.2 +1.1
comp=Z,43nm,2.1s
PVAQ Vaqueiros 89.85 46 *e*PP PP 05 23 17.5 -2.6
PMAFR Mafra 89.86 44 *e*P P 05 19 47.9 +0.8
comp=Z,147nm,1.5s
FCC Fort Churchill 90.00 349 P P 05 19 47.6 +0.4
FCC pmax pmax
comp=Z,270nm,1.9s
FCC Fort Churchill 90.00 349 P P 05 19 47.6 +0.4
PBEJ Beja 90.15 45 *e*P P 05 19 50.0 +1.5
comp=Z,30nm,1.6s
A04D Lummi Island 90.22 329 P P 05 19 49.7 +1.2
baz=138,SNR=5.2
SFS San Fernando 90.23 47 P P 05 19 47.0 -1.8
SFS S SKSac 05 30 29.3 +10
ARNO Arenosillo 90.28 47 P P 05 19 48.2 -0.9
ARNO S SKSac 05 30 27.2 +7.4
EVO Evora 90.37 45 P P 05 19 47.3 -2.2
EVO S SKSac 05 30 27.3 +7.0
EVO Evora 90.37 45 *e*P P 05 19 50.3 +0.8
comp=Z,27nm,2.0s
EVO Evora 90.37 45 *e*PP PP 05 23 22.2 -2.0
CEU Ceuta 90.43 48 P P 05 19 49.5 -0.3
CEU S SKSac 05 30 25.6 +4.8
PSBE So Bento 90.51 44 *e*P P 05 19 44.7 -5.4
comp=Z,62nm,1.9s
PSBE So Bento 90.51 44 *e*PP PP 05 23 24.1 -1.2
PMTG Montargil 90.58 44 *e*P P 05 19 51.2 +0.8
comp=Z,49nm,1.6s
PMTG Montargil 90.58 44 *e*PP PP 05 23 24.6 -1.2
PESTR Estremoz 90.84 45 *e*P P 05 19 53.1 +1.4
comp=Z,31nm,1.6s
PESTR Estremoz 90.84 45 *e*PP PP 05 23 25.1 -2.8
TDRA Tendrara 90.99 52 P P 05 19 57.0 +4.2
FIGM Figuig 91.00 53 P P 05 19 56.0 +3.2
PCAS Casmilo, Conde 91.03 43 *e*P P 05 19 52.6 +0.1
comp=Z,44nm,1.8s
LSZ Lusaka 91.15 108 ⇑P P 05 19 55.0 +1.1
LSZ Lusaka 91.15 108 *i* P P 05 19 54.6 +0.7
COI Coimbra 91.17 43 *e*P P 05 19 53.2 0.0
comp=Z,59nm,1.8s
COI Coimbra 91.17 43 *e*PP PP 05 23 29.9 -0.6
PMRV Marv??o 91.31 44 *e*P P 05 19 54.0 +0.2
comp=Z,30nm,1.8s
PMRV Marv??o 91.31 44 *e*PP PP 05 23 30.9 -0.7
PCBR Castelo Branco 91.51 44 *e*P P 05 19 54.0 -0.7
comp=Z,23nm,1.7s
EMAL Malaga-Limoner 91.56 48 P P 05 19 54.3 -0.7
EMAL S SKSac 05 30 31.1 +3.9
MELI Melilla 91.67 50 P P 05 19 53.9 -1.7
PVIS Viseu 91.80 43 *e*P P 05 19 56.3 +0.2
comp=Z,33nm,1.7s
PVIS Viseu 91.80 43 *e*PP PP 05 23 35.4 -0.2
MTE Manteigas 91.81 44 *e*P P 05 19 55.3 -0.9
comp=Z,37nm,1.4s
MTE Manteigas 91.81 44 *e*PP PP 05 23 31.1 -4.6
POLO Lamas de Olo 92.27 43 *e*P P 05 19 58.3 0.0
POLO Lamas de Olo 92.27 43 *e*PP PP 05 23 37.3 -2.0
PCAB Cabril 92.34 42 *e*P P 05 19 59.7 +1.1
comp=Z,41nm,1.5s
PGAV Gavieira, Arco 92.36 42 *e*P P 05 19 59.4 +0.7
comp=Z,46nm,1.6s
PGAV Gavieira, Arco 92.36 42 *e*PP PP 05 23 38.8 -1.2
MVO Moncorvo 92.59 43 *e*P P 05 20 00.3 +0.5
comp=Z,34nm,1.8s
MVO Moncorvo 92.59 43 *e*PP PP 05 23 40.0 -1.8
PBRG Braganca 93.15 43 *e*P P 05 20 01.4 -1.0
comp=Z,31nm,1.8s
PBRG Braganca 93.15 43 *e*PP PP 05 23 44.7 -1.5
ESDC Sonseca Array 93.57 46 P P 05 20 05.3 +0.9
comp=Z,3.2nm,0.9s,baz=230,slow=4.2,SNR=11
ESDC LR LR 06 00 40.5
comp=Z,4µm,18.9s,baz=250,slow=35
CART Cartagena 94.26 49 P P 05 20 01.6 -5.9
CART S SKSac 05 30 41.9 -0.3
CART Cartagena 94.26 49 IAMs_20 IAMs_20 05 59 08.2
comp=Z,2µm,22.0s
UCM Universidad Co 94.39 46 P P 05 20 07.1 -1.0
UCM S SKSac 05 30 46.9 +4.1
KIP Kipapa 97.01 291 ⇑*e*P P 05 20 18.2 -2.2
KIP pmax pmax
comp=Z,39nm,1.0s
MSVF Nonsavu 97.67 245 LR LR 05 55 10.9
comp=Z,2µm,20.9s,baz=117,slow=30
YKA Yellowknife Ar 97.97 342 P Pdif 05 20 23.9 +0.2
comp=Z,3.2nm,0.9s,baz=139,slow=4.6,SNR=5.1
YKA Yellowknife Ar 97.97 342 P Pdif 05 20 24.0 +0.2
ITUM Tunduma 98.36 106 *i* P Pdif 05 20 29.0 +2.0
ISOK Kyela 98.56 106 *i* P Pdif 05 20 31.2 +3.3
PDHT Panda Hill 98.63 105 *i* P Pdif 05 20 29.6 +1.4
MZUN Kiwira 98.78 106 *i* P Pdif 05 20 30.8 +1.9
JILO Lwanjilo 99.04 105 *i* P **Pdif 05 20 34.2 +4.1**
MATAM Matamba 99.25 106 *i* P **Pdif 05 20 35.4 +4.4**
CHML Chimala 99.37 106 *i* P **Pdif 05 20 36.7 +5.2**
KIPE Kipengere 99.47 106 *i* P **Pdif 05 20 32.6 +0.5**
MUDIN Mudindi 99.58 107 *i* P **Pdif 05 20 35.7 +3.3**
GAWA Igawa 99.70 106 *i* P **Pdif 05 20 35.2 +2.3**
WRAK Wrangell Islan 99.79 331 IAMs_20 IAMs_20 06 14 03.1
comp=Z,2µm,20.0s
BANG Mbangamawe 100.04 108 *i* P **Pdif 05 20 41.1 +6.7**
DSB Dublin 100.25 34 IAMs_20 IAMs_20 06 01 04.3
comp=Z,2µm,21.0s
MBAR Mbarara 100.79 97 *i* P **Pdif 05 20 40.0 +2.2**
FUNA Funafuti 101.80 253 IAMs_20 IAMs_20 06 01 41.1
comp=Z,1µm,19.0s
JIS Juneau Island 101.82 331 IAMs_20 IAMs_20 06 04 10.0
comp=Z,2µm,20.0s
DZM Mont Dzumac 103.78 234 *e*SKSac **SKSac 05 31 27.2 -3.8**
comp=Z,1µm,27.1s
DZM Mont Dzumac 103.78 234 *e*PS PS 05 34 14.2 -4.0
comp=Z,964nm,25.1s
DZM *e*SS SS 05 39 52.1 -1.2
comp=Z,4µm,30.6s
DZM Mont Dzumac 103.78 234 *e*LR LR 05 54 45.6
comp=Z,7µm,26.2s,baz=146
SUMG Summit 104.55 10 IAMs_20 IAMs_20 06 08 41.4
comp=Z,2µm,19.0s
CAN Canberra 104.68 214 IAMs_20 IAMs_20 06 00 58.1
comp=Z,2µm,20.0s
BCPM Bancas Point 105.00 331 IAMs_20 IAMs_20 06 15 13.1
comp=Z,1µm,18.0s
BFO Black Forest 105.64 43 IAMs_20 IAMs_20 06 10 42.6
comp=Z,2µm,19.0s
TABL Table Mountain 105.89 331 IAMs_20 IAMs_20 06 15 59.6
comp=Z,1µm,19.0s
TULEG Thule 105.97 1 IAMs_20 IAMs_20 06 07 11.6
comp=Z,1µm,22.0s
SCO Scoresbysund 106.03 16 *e*P PKiKP 05 25 24.1 +13
LOGN Logan Glacier 106.04 332 IAMs_20 IAMs_20 06 10 21.5
comp=Z,1µm,19.0s
MESA MESA 106.10 331 IAMs_20 IAMs_20 06 04 21.0
comp=Z,2µm,22.0s
DAVA Damuels 106.10 45 *e*P **Pdif 05 21 01.3 +0.8**
comp=Z,5.2nm,1.0s
DAVA *e*P **PP 05 25 22.3 -2.5**
comp=Z,6.8nm,1.0s
YAH Yahtse 106.11 331 IAMs_20 IAMs_20 06 04 11.4
comp=Z,1µm,19.0s
CTGM Chitina Glacie 106.25 332 IAMs_20 IAMs_20 06 18 06.2
comp=Z,1µm,18.0s
STU Stuttgart 106.35 43 IAMs_20 IAMs_20 06 08 16.4
comp=Z,2µm,21.0s
UBR Ueberruh 106.41 44 *e*PP **PP 05 25 25.8 -1.2**
baz=244,slow=7.2
BARN Barnard Glacie 106.44 332 IAMs_20 IAMs_20 06 15 18.0
comp=Z,1µm,18.0s
ISLE Juniper Island 106.48 331 IAMs_20 IAMs_20 06 10 40.4
comp=Z,1µm,20.0s
FETA Feichten 106.51 45 *e*P **Pdif 05 21 04.0 +1.6**
comp=Z,6.1nm,1.3s
FETA *e*P **PP 05 25 21.9 -5.9**
comp=Z,6.1nm,1.3s
TNS Taunus Mts 106.56 41 *e*PP **PP 05 25 26.6 -1.3**
baz=244,slow=7.2
WAX Waxell Ridge 106.62 331 IAMs_20 IAMs_20 06 18 58.8
comp=Z,2µm,18.0s
RETA Reutte 106.73 45 *e*P **Pdif 05 21 04.9 +1.6**
comp=Z,7.8nm,1.6s
RETA *e*P **PP 05 25 23.2 -6.1**
comp=Z,6.7nm,1.0s
SUCK Suckling Hills 106.83 330 IAMs_20 IAMs_20 06 05 00.3
comp=Z,1µm,21.0s
MOTA Moosalm 106.88 45 *e*P **Pdif 05 21 03.9 -0.1**
comp=Z,2.7nm,0.8s
MOTA *e*P PKiKP 05 25 21.8 +7.9
comp=Z,8.1nm,1.3s
SQTA Sankt Quirin 106.89 45 *e*P PKiKP 05 25 24.2 +10
comp=Z,12nm,1.5s
CRQM Cirque 106.90 331 IAMs_20 IAMs_20 06 11 01.9
comp=Z,1µm,18.0s
BERG Berg Lake 106.95 330 IAMs_20 IAMs_20 06 03 43.7
comp=Z,1µm,21.0s
KASTN Kahler Asten 106.97 40 *e*PP **PP 05 25 29.6 -1.4**
baz=244,slow=7.2
KAIM Kayak Island 107.03 330 IAMs_20 IAMs_20 06 02 18.9
comp=Z,1µm,21.0s
WATA Walderalm 107.16 45 *e*P **Pdif 05 21 06.2 +0.9**
comp=Z,2.0nm,0.5s
WATA *e*P PKiKP 05 25 23.5 +9.1
comp=Z,6.9nm,1.0s
HMT Hamilton 107.17 330 IAMs_20 IAMs_20 06 05 10.3
comp=Z,1µm,20.0s
WTTA Wattenberg 107.17 45 *e*P **Pdif 05 21 06.8 +1.5**
comp=Z,7.5nm,1.2s
WTTA *e*P PKiKP 05 25 23.2 +8.8
comp=Z,4.1nm,1.0s
ABTA Abfaltersbach 107.50 46 *e*P **Pdif 05 21 08.3 +1.6**
comp=Z,2.0nm,0.6s
ABTA *e*P PP 05 25 25.3 -10
comp=Z,9.1nm,1.2s
GLB Gilahina Butte 107.53 331 IAMs_20 IAMs_20 06 19 03.8
comp=Z,1µm,20.0s
L27K Beaver Creek, 107.55 333 IAMs_20 IAMs_20 06 17 55.4
comp=Z,2µm,19.0s
BMRM Bremner River 107.63 331 IAMs_20 IAMs_20 06 19 31.4
comp=Z,1µm,20.0s
M26K Nabesna, AK 107.68 332 IAMs_20 IAMs_20 06 15 46.7
comp=Z,1µm,20.0s
UBBA Unterbreizbach 107.71 41 *e*PP **PP 05 25 34.9 -1.3**
baz=244,slow=7.2
N25K Chitina, Valde 107.94 331 IAMs_20 IAMs_20 06 16 12.6
comp=Z,1µm,19.0s
GRFO Grafenberg 107.94 43 IAMs_20 IAMs_20 06 17 14.6
comp=Z,2µm,19.0s
GRA1 Grafenberg Arr 107.94 43 IAMs_20 IAMs_20 06 11 55.6
comp=Z,2µm,18.0s
GRF Grafenberg Arr 107.94 43 *e*L L 06 06 12.9
comp=Z,2µm,21.1s
CADS Cadrg 108.05 47 *i* PP PKiKP 05 25 33.2 +17
RJOB Jochberg 108.08 45 *e*PP **PP 05 25 36.7 -2.5**
baz=244,slow=7.2
JAVS Javornik 108.12 47 *e*Pdiff **Pdif 05 21 09.6 +0.1**
JAVS *e*PP **PP 05 25 33.9 -5.7**
JAVS *e*SKSac **SKSac 05 31 51.7 +2.7**
JAVS *e*Sdiff SKKSac 05 33 26.3 +44
JAVS *e*SP SP 05 35 03.5 +2.5
JAVS *e*SS **SS 05 40 50.3 -2.9**
L26K Log Cabin Wild 108.13 333 IAMs_20 IAMs_20 06 17 55.7
comp=Z,2µm,20.0s
K27K Chicken 108.15 334 IAMs_20 IAMs_20 06 07 51.1
comp=Z,1µm,20.0s
KBA Koelnbreinsper 108.15 46 *e*P **Pdif 05 21 10.2 +0.5**
comp=Z,2.5nm,1.0s
KBA *e*P **PP 05 25 33.9 -6.0**
comp=Z,7.3nm,1.2s
MYKA Terra Mystica 108.16 46 *e*P **Pdif 05 21 09.8 +0.2**
comp=Z,1.8nm,0.6s
MYKA *e*P **PP 05 25 33.0 -6.8**
comp=Z,16nm,1.1s
HIN Hinchinbrook I 108.17 330 IAMs_20 IAMs_20 06 20 21.0
comp=Z,1µm,18.0s
EGAK Eagle 108.19 335 IAMs_20 IAMs_20 06 17 29.2
comp=Z,2µm,19.0s
FID Port Fidalgo 108.33 330 IAMs_20 IAMs_20 06 18 52.3
comp=Z,2µm,18.0s
CLZ Clausthal 108.35 40 *e*PP **PP 05 25 39.3 -1.7**
baz=244,slow=7.2
KLU Klutina 108.44 331 IAMs_20 IAMs_20 06 12 00.1
comp=Z,1µm,20.0s
ROTZ Rotzenmuhle 108.56 43 *e*PP **PP 05 25 40.5 -2.1**
baz=244,slow=7.2
MOX Moxa 108.57 42 *e*PP **PP 05 25 40.9 -1.7**
baz=244,slow=7.2
MOX *e*L L 06 09 34.7
comp=Z,3µm,19.7s
MANZ Manzenberg 108.59 43 *e*PP **PP 05 25 41.2 -1.6**
baz=244,slow=7.2
ASSE Asse, Remlinge 108.64 40 *e*PP **PP 05 25 42.1 -0.9**
baz=244,slow=7.2
GLI Glacier Island 108.66 330 IAMs_20 IAMs_20 06 20 15.8
comp=Z,1µm,19.0s
OBKA Obir 108.68 47 *e*P **Pdif 05 21 12.0 0.0**
comp=Z,7.3nm,1.8s
OBKA *e*P **PP 05 25 36.9 -6.7**
comp=Z,21nm,1.8s
WET Wettzell 108.70 44 *e*PP **PP 05 25 41.2 -2.5**
baz=244,slow=7.2
PLN Plauen 108.82 42 *e*PP **PP 05 25 42.3 -2.1**
baz=244,slow=7.2
SCRK Sand Creek 108.85 334 IAMs_20 IAMs_20 06 17 56.7
comp=Z,2µm,18.0s
WERN Wernitzgruen 108.87 42 *e*PP **PP 05 25 43.3 -1.6**
baz=244,slow=7.2
GUNZ Gunzen 108.87 42 *e*PP **PP 05 25 43.3 -1.6**
baz=244,slow=7.2
WERD Werda 108.89 42 *e*PP **PP 05 25 43.4 -1.6**
baz=244,slow=7.2
TANN Tannenbergstha 108.97 42 *e*PP **PP 05 25 44.1 -1.5**
baz=244,slow=7.2
MOA Molln 109.03 45 P **Pdif 05 21 15.2 +1.8**
comp=Z,3.7nm,1.3s
MOA P **PP 05 25 38.8 -7.3**
comp=Z,11nm,1.6s
FLTG Flechtingen 109.04 40 *e*PP **PP 05 25 44.2 -1.7**
baz=244,slow=7.2
SOKA Soboth 109.05 47 P **Pdif 05 21 15.2 +1.6**
comp=Z,2.9nm,1.7s
SOKA *e*P **PP 05 25 39.4 -7.0**

comp=Z,111nm,1.8s
RIDG Independent Ri 109.07 333 IAMs_20 IAMs_20 06 17 44.5
comp=Z,1µm,19.0s
GEC2 GERESS Array S 109.08 44 *e*PP **PP** **05 25 44.4 -2.1**
baz=244,slow=7.2
GERES GERESS Array B 109.08 44 PKiKP **PKiKP** **05 25 18.1 +0.3**
comp=Z,1.3nm,0.7s,baz=180,slow=1.3,SNR=11
KHC Kasperske Hory 109.12 44 *e*P **Pdif** **05 21 16.0 +2.2**
KHC *e* 05 25 43.8
KHC *e* 05 31 55.3
KHC MLR MLR
comp=Z,2µm,17.4s
KHC Kasperske Hory 109.12 44 *e*PDIFF **Pdif** **05 21 16.0 +2.2**
KHC *ex* x 05 25 11.0
KHC *e*PP **PP** **05 25 43.8 -2.9**
KHC *e*SKS **SKSac** **05 31 55.3 +2.3**
KHC AMS AMS 06 15 50.0
comp=Z,2µm,17.4s
CKRC Cesky Krumlov 109.44 44 *e*PDIFF **Pdif** **05 21 15.7 +0.5**
CKRC *e*PP **PP** **05 25 44.3 -4.7**
CKRC *e*SKS **SKSac** **05 31 53.1 -1.2**
CKRC AMS AMS 06 08 10.0
comp=Z,3µm,21.0s
KNK Knik Glacier 109.49 330 IAMs_20 IAMs_20 06 13 50.8
comp=Z,1µm,20.0s
ARSA Arzberg 109.58 46 *e*P **Pdif** **05 21 17.7 +1.8**
comp=Z,3.0nm,1.1s
ARSA P PP 05 25 42.1 -8.0
comp=Z,7.1nm,1.3s
SML Sawmill 109.61 331 IAMs_20 IAMs_20 06 20 10.8
comp=Z,1µm,20.0s
O22K Cooper Landing 109.64 329 IAMs_20 IAMs_20 06 17 36.8
comp=Z,2µm,20.0s
CLL Collm 109.64 42 *e*Pdif **Pdif** **05 21 20.0 +4.1**
CLL *e*PKiKP **PKiKP** **05 25 20.0 +1.3**
CLL *e*PP **PP** **05 25 44.0 -6.3**
comp=Z,34nm,1.9s
CLL *e*SKSac **SKSac** **05 31 58.0 +3.1**
CLL *e*Sdif SKKSac 05 33 31.0 +38
CLL *e*PS PS 05 35 19.0 +0.8
CLL *e*PPS PPS 05 36 26.0
CLL *e*SS **SS** **05 41 18.0 +4.9**
CLL *e*SSS SSS 05 45 18.0
CLL *e*SSSS 05 48 36.0
CLL Lm MLR 06 09 00.0
comp=N,500nm,21.9s
CLL Lm MLR 06 09 00.0
comp=E,2µm,20.4s
CLL Lm MLR 06 09 00.0
comp=Z,3µm,20.3s
CLL Collm 109.64 42 *e*P **Pdif** **05 21 20.0 +4.1**
CLL *e* 05 31 58.0
CLL pmax pmax
comp=Z,34nm,1.9s
CLL MLR MLR
comp=Z,3µm,20.3s
CLL Collm 109.64 42 *e*PP **PP** **05 25 48.6 -1.7**
baz=244,slow=7.2
FBE Freiberg 109.69 42 *e*PP **PP** **05 25 49.1 -1.6**
baz=244,slow=7.2
KOGS Kog 109.74 47 *e*Pdiff **Pdif** **05 21 17.4 +0.9**
KOGS *e*SKSac **SKSac** **05 31 57.8 +2.2**
RC01 Rabbit Creek A 109.90 330 IAMs_20 IAMs_20 06 12 59.8
comp=Z,1µm,19.0s
CNPM China Poot 109.92 328 IAMs_20 IAMs_20 06 19 41.2
comp=Z,1µm,21.0s
PRA Prague 110.00 43 AMS AMS 06 12 30.0
comp=Z,1µm,18.4s
BRG Berggiesshubel 110.02 42 *e*PP **PP** **05 25 51.5 -1.6**
baz=244,slow=7.2
BRG Berggiesshubel 110.02 42 ⇓Pif 05 21 21.0
BRG Amp 05 21 32.0
comp=Z,13nm,1.7s
BRG Berggiesshubel 110.02 42 SP SP 05 35 19.0 -0.8
BRG Berggiesshubel 110.02 42 SS SS 05 41 22.0 +3.8
PRU Pruhonice 110.03 43 *e*P **Pdif** **05 21 20.8 +3.1**
PRU *e* 05 31 56.1
PRU MLR MLR
comp=Z,1µm,17.1s
PRU Pruhonice 110.03 43 *e*PDIFF **Pdif** **05 21 20.8 +3.1**
PRU *e*PP **PP** **05 25 47.5 -5.7**
PRU *e*SKS **SKSac** **05 31 56.1 -0.6**
PRU AMS AMS 06 16 20.0
comp=Z,1µm,17.1s
CONA Conrad Observa 110.06 46 *e*P **Pdif** **05 21 19.1 +1.1**
comp=Z,0.9nm,0.6s
CONA *e*P PP 05 25 45.1 -8.5
comp=Z,21nm,1.7s
FIS Fire Island 110.14 330 IAMs_20 IAMs_20 06 13 07.0
comp=Z,1µm,19.0s
PRP Porcupine Dome 110.16 335 IAMs_20 IAMs_20 06 18 58.7
comp=Z,1µm,19.0s
HDA Harding Lake 110.20 333 IAMs_20 IAMs_20 06 18 57.4
comp=Z,2µm,19.0s
PVCC Panska Ves 110.25 43 *e*PP **PP** **05 25 48.4 -6.4**
PVCC AMS AMS 06 12 50.0
comp=Z,2µm,17.6s
ILAR Eielson Array 110.34 334 PKiKP **PKiKP** **05 25 19.5 -0.1**
comp=Z,0.8nm,0.8s,baz=160,slow=1.0,SNR=5.3
ILAR PKKPbc **PKKPbc** **05 36 19.6 -2.4**
comp=Z,0.7nm,0.7s,baz=284,slow=2.6,SNR=5.4
SUA Susitna One 110.50 330 IAMs_20 IAMs_20 06 20 47.7
comp=Z,2µm,19.0s
RND Reindeer 110.52 332 IAMs_20 IAMs_20 06 18 51.9
comp=Z,2µm,19.0s
FYU Fort Yukon 110.54 336 IAMs_20 IAMs_20 06 19 02.2
comp=Z,2µm,18.0s
CCB Clear Creek Bu 110.64 334 IAMs_20 IAMs_20 06 19 07.9
comp=Z,2µm,18.0s
WRH Wood River Hil 110.67 333 IAMs_20 IAMs_20 06 19 10.9
comp=Z,2µm,18.0s
CUT Chulitna 110.69 331 IAMs_20 IAMs_20 06 21 17.3
comp=Z,1µm,20.0s
MCK McKinley 110.69 332 IAMs_20 IAMs_20 06 19 26.4
comp=Z,1µm,21.0s
POKR Poker Plat Res 110.70 334 IAMs_20 IAMs_20 06 13 00.6
comp=Z,2µm,18.0s
COLA College 110.75 334 IAMs_20 IAMs_20 06 19 10.1
comp=Z,2µm,20.0s
TCOL CIGO, UAF Yank 110.76 334 IAMs_20 IAMs_20 06 19 20.1
comp=Z,2µm,19.0s
KRUC Moravsky 110.81 45 *e*PP **PP** **05 25 55.8 -3.1**
Q19K Cape Douglas, 110.81 327 IAMs_20 IAMs_20 06 20 19.8
comp=Z,1µm,19.0s
ZST Bratislava 110.93 46 *e*PDIFF **Pdif** **05 21 21.7 -0.1**
MDM Murphy Dome 110.94 334 IAMs_20 IAMs_20 06 19 23.9
comp=Z,2µm,18.0s
VRAC Vranov 111.02 45 *e*PP **PP** **05 25 57.2 -3.2**
RGN Rugen 111.05 38 IAMs_20 IAMs_20 06 11 06.8
comp=Z,2µm,20.0s
SKT Skwentna 111.05 330 IAMs_20 IAMs_20 06 20 10.1
comp=Z,1µm,19.0s
BWN Browne 111.09 333 IAMs_20 IAMs_20 06 08 35.2
comp=Z,1µm,20.0s
UPC Upice 111.10 43 *e*PP **PP** **05 25 55.8 -5.2**
UPC *e*SKS **SKSac** **05 32 06.4 +5.3**
UPC AMS AMS 06 14 20.0
comp=Z,2µm,20.3s
NEA2 Nenana 111.11 333 IAMs_20 IAMs_20 06 19 33.4
comp=Z,2µm,18.0s
TRF Thorofare Moun 111.12 332 IAMs_20 IAMs_20 06 22 19.9
comp=Z,1µm,21.0s
CHVC Chvalec 111.16 43 *e*PP **PP** **05 25 58.2 -3.2**
CHVC *e*SKS **SKSac** **05 32 08.4 +7.0**
CHVC AMS AMS 06 14 20.0
comp=Z,2µm,19.8s
H24K Noodor Dome 111.18 335 IAMs_20 IAMs_20 06 19 30.2
comp=Z,1µm,19.0s
DPC Dobruska-Polom 111.23 43 *e*P **Pdif** **05 21 23.6 +0.5**
DPC MLR MLR
comp=Z,2µm,18.9s
DPC Dobruska-Polom 111.23 43 *e*PDIFF **Pdif** **05 21 23.6 +0.5**
DPC *e*PP **PP** **05 25 56.3 -5.6**
DPC *e*SKS **SKSac** **05 32 07.6 +5.9**
DPC AMS AMS 06 14 40.0
comp=Z,2µm,18.9s
OSTC Ostas 111.24 43 *e*PDIFF **Pdif** **05 21 24.1 +1.0**
OSTC *e*PP **PP** **05 25 56.1 -5.9**
OSTC AMS AMS 06 17 00.0
comp=Z,2µm,17.3s
DIVS Divibare 111.32 51 IAMs_20 IAMs_20 06 13 52.9
comp=Z,2µm,19.0s
KRLC Kraliky 111.41 44 *e*PP **PP** **05 25 58.7 -4.5**
KRLC AMS AMS 06 24 00.0
comp=Z,1µm,16.1s
KTH Kantishna Hill 111.43 332 IAMs_20 IAMs_20 06 19 29.9
comp=Z,1µm,19.0s
I23K Minto, Yukon-K 111.45 334 IAMs_20 IAMs_20 06 19 49.4
comp=Z,1µm,20.0s
O19K Port Alsworth 111.61 328 IAMs_20 IAMs_20 06 22 06.1
comp=Z,1µm,19.0s
BPAW Bear Paw Mtn. 111.67 332 IAMs_20 IAMs_20 06 19 52.3
comp=Z,1µm,20.0s
MORC Moravsky Berou 111.76 44 *e*PP PP 05 25 55.4 -10
CAST Castle Rocks 111.85 331 IAMs_20 IAMs_20 06 19 25.2
comp=Z,2µm,20.0s
O18K Koktuh Hills 111.90 327 IAMs_20 IAMs_20 06 22 41.7
comp=Z,1µm,18.0s
N19K Bonanza Creek 111.92 328 IAMs_20 IAMs_20 06 21 48.1
comp=Z,1µm,20.0s
MLY Manley 111.94 333 IAMs_20 IAMs_20 06 19 57.4
comp=Z,1µm,19.0s
VYHS Vyhne 112.11 46 *e*PKP **PKiKP** **05 25 25.9 +2.4**
OKC Ostrava-Krasne 112.15 44 AMS AMS 06 18 20.0
comp=Z,2µm,16.6s
CNBA Chernabura Isl 112.35 321 IAMs_20 IAMs_20 06 02 42.7
comp=Z,2µm,20.0s
SANT Santorini 112.48 60 IAMs_20 IAMs_20 06 15 26.4
comp=Z,2µm,21.0s
I21K Tanana 112.48 333 IAMs_20 IAMs_20 06 20 23.7
comp=Z,2µm,19.0s
N18K Kilae Creek 112.51 328 IAMs_20 IAMs_20 06 20 45.8
comp=Z,1µm,20.0s
L19K White Mountain 112.58 330 IAMs_20 IAMs_20 06 20 34.6
comp=Z,1µm,21.0s
K20K Telida 112.66 331 IAMs_20 IAMs_20 06 20 00.5
comp=Z,1µm,21.0s
TOLK Toolik Lake Re 112.92 337 IAMs_20 IAMs_20 06 19 02.2
comp=Z,2µm,18.0s
H21K Melozitna Rive 112.98 334 IAMs_20 IAMs_20 06 20 51.8
comp=Z,1µm,19.0s
J20K Nowinta River 112.98 332 IAMs_20 IAMs_20 06 23 44.3
comp=Z,1µm,18.0s
KARP Karpathos 113.48 61 IAMs_20 IAMs_20 06 17 51.0
comp=Z,2µm,20.0s
UZH Uzhgorod 114.33 47 *e*P **Pdif** **05 21 39.7 +2.8**
UZH *i* 05 26 21.8
UZH *i* 05 28 51.0
UZH *e* 05 35 51.1
UZH *e*PS **PS** **05 36 03.2 +1.4**
UZH *e*SS SS 05 42 09.1 -6.6
UZH MLR MLR
comp=N,390nm,20.0s
UZH MLR MLR
comp=E,370nm,20.0s
UZH MLR MLR
comp=Z,200nm,20.0s
BURAR Bucovina Array 115.91 48 ⇑P **PKiKP** **05 25 36.9 +6.0**
BURAR Bucovina Array 115.91 48 ⇑PKIKP **PKiKP** **05 25 36.9 +6.0**
A21K Barrow 116.09 339 IAMs_20 IAMs_20 06 19 54.9
comp=Z,2µm,21.0s
SUW Suwalki 116.37 41 IAMs_20 IAMs_20 06 11 12.8
comp=Z,2µm,22.0s
ISP Isparta 116.78 60 IAMs_20 IAMs_20 06 16 02.1
comp=Z,2µm,21.0s
ANM Nome 117.78 331 IAMs_20 IAMs_20 06 24 19.9
comp=Z,2µm,20.0s
KIS Kishinev 118.11 50 *e*P **Pdif** **05 21 55.0 +1.3**
KIS Kishinev 118.11 50 *e*P **Pdif** **05 21 55.0 +1.3**
KIS *e*PS **PKKPdf** **05 36 30.0 +5.8**
KIS *e*PS PS 05 38 03.0 +87
NACGM Naroch 118.62 41 *i* PKP **PKPdf** **05 25 30.9 -4.9**
ANTO Ankara 119.06 58 IAMs_20 IAMs_20 06 20 00.7
comp=Z,2µm,20.0s
MNK Minsk 119.17 41 *i* PKiKP **PKPdf** **05 25 36.3 -0.5**
MNK *i* 05 26 57.4
MNK *i* PPP PPP 05 29 28.9
MNK *i* 05 32 48.4
MNK *i* PS **PS** **05 36 45.9 +0.4**
MNK *i* SS SS 05 43 21.2 +2.7
MNK *i* SSS SSS 05 47 45.8
MNK MLR MLR
comp=Z,2µm,18.0s
MNK MLR MLR
comp=N,926nm,18.0s
MNK MLR MLR
comp=E,212nm,18.0s
MNK Minsk 119.17 41 *i* PKP **PKPdf** **05 25 36.3 -0.5**
MNK *i* PKP **PKPdf** **05 25 36.3 -0.5**
MNK *i* PKP **PKPdf** **05 25 36.3 -0.5**
baz=259
MNK *i* PP **PP** **05 26 57.4 -0.2**
MNK *i* PPP PPP 05 29 29.0
MNK *i* SKS **SKSdf** **05 32 48.4 +0.2**
MNK *i* PS **PS** **05 36 46.0 +0.4**
MNK *i* SS **SS** **05 43 21.2 +2.8**
MNK *i* SSS SSS 05 47 45.9
MNK *i* LQ LQ 06 08 30.9
MNK *i* LR LR 06 11 21.4
MNK *i* LRM MLR 06 15 46.3
comp=Z,2µm,18.4s
MNK *i* LRM MLR 06 15 48.8
comp=N,926nm,18.4s
MNK *i* LRM MLR 06 15 49.5
comp=E,212nm,17.8s
AKASG Malin Array Be 119.21 46 PKP **PKPdf** **05 25 36.3 -0.7**
comp=E,5.7nm,0.8s,baz=265,slow=2.7,SNR=14
AKASG PP **PP** **05 26 54.4 -3.6**
comp=E,0.3nm,0.4s,baz=256,slow=6.6,SNR=5.4
AKBB Malin Array Si 119.21 46 ⇑*i*PKIKP **PKPdf** **05 25 36.9 -0.1**
VSU Vasula 119.25 37 ⇓*i*PKIKP **PKiKP** **05 25 37.4 +0.5**
VSU MLR MLR
comp=Z,5µm,18.0s
FINES FINESS Array B 119.40 33 PKP **PKPdf** **05 25 37.0 0.0**
comp=Z,5.0nm,1.0s,baz=160,slow=18,SNR=4.2
BR131 Keskin Array S 119.65 59*c i*PKIKP **PKiKP** **05 25 38.7 +0.2**
BRTR Keskin Array B 119.65 59 PKP **PKiKP** **05 25 38.9 +0.4**
comp=Z,3.5nm,0.8s,baz=198,slow=2.7,SNR=18
ARCES ARCESS Array B 120.08 24 PKP **PKiKP** **05 25 38.2 0.0**
comp=Z,3.6nm,0.8s,baz=338,slow=2.6,SNR=4.3
GAMB Gambell 120.41 329 IAMs_20 IAMs_20 06 19 09.5
comp=Z,1µm,19.0s
KEV Kevo 120.61 24 IAMs_20 IAMs_20 06 17 39.5
comp=Z,2µm,21.0s
ASAR Alice Springs 121.40 208 PKP **PKPdf** **05 25 40.3 -1.9**
comp=Z,1.5nm,0.7s,baz=153,slow=2.0,SNR=13
ASAR PKKPbc **PKKPbc** **05 35 43.5 +1.0**
comp=Z,1.6nm,0.7s,baz=330,slow=2.7,SNR=13
ADK Adak 121.53 315 IAMs_20 IAMs_20 06 06 19.6
comp=Z,1µm,21.0s
APA Apatity 122.93 26 ⇓*i*PKIKP **PKiKP** **05 25 43.9 0.0**
APA *i* 05 27 23.0
APA pmax pmax
comp=Z,10.0nm,0.8s
LVZ Lovozero 123.39 26 IAMs_20 IAMs_20 06 15 01.1
comp=Z,2µm,20.0s
ANN Anapa 123.52 54 *i* PKIKP **PKiKP** **05 25 46.1 +0.4**
ANN *e* 05 27 25.3
ANN *e* 05 32 47.9
ANN *e*SS SS 05 44 28.5 +14
ANN pmax pmax
comp=Z,39nm,1.0s
ANN MLR MLR
comp=N,1µm,23.0s
ANN MLR MLR
comp=Z,2µm,22.0s
OBN Obninsk 124.23 41*c i*PKIKP **PKiKP** **05 25 47.2 +0.4**
OBN *e* 05 27 32.2
OBN *e*PPP PPP 05 30 11.2
OBN *e* 05 32 46.9
OBN pmax pmax
comp=Z,75nm,1.7s
OBN MLR MLR
comp=Z,3µm,20.0s
WRA Warramunga Arr 124.51 210 PKP **PKPdf** **05 25 47.2 -1.1**
comp=Z,2.6nm,0.5s,baz=132,slow=1.4,SNR=23
WRA PKKPbc **PKKPbc** **05 35 30.8 +0.4**
comp=Z,1.6nm,0.7s,baz=330,slow=3.1,SNR=6.9
WRAB Tennant Creek 124.52 210 ⇓*i*PKIKP **PKPdf** **05 25 48.1 -0.2**
MOS Moscow 124.87 40 *i* PKIKP **PKPdf** **05 25 47.8 +0.1**
MOS *e* 05 27 34.4
MOS MLR MLR
comp=E,2µm,19.0s
MOS MLR MLR
comp=Z,2µm,19.0s
SOC Sochi 124.93 55 *e*PKIKP **PKPdf** **05 25 47.6 -0.6**
SOC *e* 05 27 37.5
SOC *e*PPP PPP 05 30 12.7
SOC *e*PS PS 05 37 35.1 -2.1
SOC pmax pmax
comp=Z,20nm,0.8s
H11S2 WAKE ISLAND Hyd 125.73 272 T T 07 44 47.3
baz=115,slow=74,SNR=40
H11S1 WAKE ISLAND Hyd 125.74 272 T T 07 44 50.7
baz=115,slow=74,SNR=19
H11S3 WAKE ISLAND Hyd 125.75 272 T T 07 44 48.4
baz=115,slow=74,SNR=22
KLMR Klimovskoe 125.87 34 *e*PKIKP **PKPdf** **05 25 47.7 -1.7**
KLMR 05 27 43.0
KLMR pmax pmax
comp=Z,83nm,1.3s
KLMR MLR MLR
comp=Z,2µm,18.0s
KLMR Klimovskoe 125.87 34 *e*PKPdf **PKPdf** **05 25 47.8 -1.7**
KLMR AMP 05 26 01.1
comp=Z,83nm,1.3s
KLMR PP **PP** **05 27 43.0 +0.2**
KLMR LR LR 06 09 38.6
KLMR AMP 06 22 23.9
comp=Z,2µm,18.3s
KIV Kislovodsk 127.12 55 P **PKPdf** **05 25 51.9 -0.6**
KIV Kislovodsk 127.12 55 *e*P **Pdif** **05 22 34.1 +0.1**
KIV *i* 05 25 53.0
KIV *e* 05 27 50.9
KIV *e*PS PS 05 37 56.5 -0.1
KIV *e*SS SS 05 45 00.9 +0.8
KIV pmax pmax
comp=Z,15nm,1.0s
KIV MLR MLR
comp=Z,1µm,23.0s
KIV Kislovodsk 127.12 55 IAMs_20 IAMs_20 06 24 18.6
comp=Z,1µm,22.0s
KBZ Khabaz 127.24 56 PKP **PKiKP** **05 25 52.9 -0.2**
comp=Z,7.1nm,0.8s,baz=96,slow=2.8,SNR=13
AKH Akhalkalaki 127.34 59 ⇑P **PKiKP** **05 25 53.9 +0.2**
GNI Garni 128.08 60 P **PKiKP** **05 25 55.9 +0.7**
GNI Garni 128.08 60 ⇑*i*PKIKP **PKPdf** **05 25 53.6 -1.0**
GNI Garni 128.08 60 IAMs_20 IAMs_20 06 24 59.1
comp=Z,1µm,21.0s
PRGR Permogore 128.73 33 *e*PKIKP **PKiKP** **05 25 56.2 +0.7**
PRGR pmax pmax
comp=Z,284nm,1.4s
BILL Bilibino 128.93 336 *e*PKIKP **PKiKP** **05 25 55.5 -0.3**
BILL *e* 05 28 03.8
BILL *e*PPP PPP 05 30 50.1
BILL *e* 05 33 03.4
BILL *e*SS SS 05 45 21.7 +0.9
BILL pmax pmax
comp=Z,11nm,0.5s
GROC Groznyy 129.27 57 *i* PKIKP **PKPdf** **05 25 54.2 -2.3**
GROC *e* 05 28 07.4
GROC *e* 05 33 06.9
GROC pmax pmax
comp=Z,18nm,0.5s
FITZ Fitzroy Crossi 129.54 202 PKP **PKPdf** **05 25 58.0 +0.1**
comp=Z,5.5nm,0.8s,baz=232,slow=4.4,SNR=8.6
MAK Makhachkala 130.49 57 *i* P **Pdif** **05 22 44.7 -4.2**
MAK *i* 05 25 55.4
MAK *e* 05 32 58.4
MAK pmax pmax
comp=Z,203nm,1.2s
AKT Akhty 130.51 59 *e*PKIKP **PKPdf** **05 25 59.4 +0.3**
AKT *e* 05 28 13.0
AKT pmax pmax
comp=Z,49nm,2.0s
BELG Belogornoye 130.77 45*d i*PKIKP **PKiKP** **05 26 00.3 +0.4**
ASUD Al Ashush, Dub 133.21 83 P **PKPdf** **05 26 05.1 +0.5**
ALNE Al Ain 133.40 84 *i* P **PKPdf** **05 26 05.0 +0.1**
SNR=5.5
FAQ Al Faqa, Dubai 133.48 83 *i* P **PKPdf** **05 26 04.9 -0.2**
SNR=5.4
UMQ Umm Al-Quwin 133.77 82 P **PKiKP** **05 26 06.2 -0.7**
ASHO Ashiyiah 133.86 83 P **PKPdf** **05 26 05.2 -0.7**
HATD Hatta, Dubai 133.97 83 *i* P **PKPdf** **05 26 05.3 -0.8**
SNR=7.3
UOSS Minazif 134.07 83 *i* P **PKPdf** **05 26 05.1 -1.1**
SNR=8.1
SOHO SOHO 134.10 84 *i* P **PKPdf** **05 26 06.6 +0.4**
SNR=7.2
MSFE Esma-Masafi 134.15 82 *i* P **PKPdf** **05 26 06.3 -0.1**
SNR=7.0
MDH Madha 134.25 83 P **PKPdf** **05 26 05.8 -0.8**
SHME Shamm 134.34 81 P **PKPdf** **05 26 06.1 -0.6**
BANOM Banah 134.44 82 P **PKPdf** **05 26 06.5 -0.3**
WSAR Wadi Sarin 135.63 86 PKP **PKPdf** **05 26 08.4 -0.7**
comp=Z,3.5nm,0.8s,baz=272,slow=7.6,SNR=4.2
SAUI Saumlaki 136.35 215 IAMs_20 IAMs_20 06 11 05.1
comp=Z,1µm,20.0s
ARU Arti 136.39 38 *i* PKIKP **PKiKP** **05 26 10.7 -0.5**
ARU 05 28 50.5
ARU SS SS 05 46 43.9 -8.1
ARU MLR MLR
comp=Z,3µm,21.0s
TIXI Tiksi 136.44 351 ⇓*i*PKIKP **PKiKP** **05 26 10.4 -0.5**
TIXI Tiksi 136.44 351 IAMs_20 IAMs_20 06 24 06.5
comp=Z,1µm,22.0s
PET Petropavlovsk 136.52 317 *i* PKIKP **PKPdf** **05 26 10.7 +0.9**
PET *e* 05 28 57.8
PET *e*SS SS 05 46 54.0 +0.2
PET pmax pmax
comp=Z,300nm,17.0s
PET pmax pmax
comp=Z,27nm,1.3s
PET Petropavlovsk 136.52 317 IAMs_20 IAMs_20 06 16 27.0
comp=Z,1µm,20.0s
PEA0B Petropavlovsk- 137.06 318 ⇓*i*PKIKP **PKiKP** **05 26 12.7 0.0**
PETK Petropavlovsk- 137.06 318 PKP **PKiKP** **05 26 12.0 -0.7**
comp=Z,12nm,0.8s,baz=142,slow=5.1,SNR=11
PETK Petropavlovsk- 137.06 318 PKIKP **PKiKP** **05 26 12.0 -0.7**
SVE Sverdlovsk 137.36 37 *i* PKIKP **PKiKP** **05 26 13.2 0.0**
SVE pmax pmax
comp=Z,46nm,1.8s
SVE MLR MLR
comp=Z,3µm,21.0s
GEYT Alibeck 138.17 65 PKP **PKPdf** **05 26 11.9 -1.6**
comp=Z,221nm,1.1s,baz=298,slow=6.4,SNR=5.0
MA2 Magadan 138.50 329 IAMs_20 IAMs_20 06 38 35.7
comp=Z,1µm,19.0s
SKR Severo-Kuril's 138.54 314 *i* PKIKP **PKPdf** **05 26 10.4 -3.2**
SKR *e* 05 29 05.8
SKR *e*SS SS 05 47 15.6 -2.3
SKR pmax pmax
comp=Z,400nm,5.0s
SKR pmax pmax
comp=Z,100nm,9.2s
SKR pmax pmax
comp=Z,300nm,11.9s
SKR MLR MLR
comp=Z,300nm,20.0s
SKR MLR MLR
comp=Z,300nm,21.0s
NRIK Noril'sk 138.58 11 PKP **PKPdf** **05 26 13.7 +0.5**
comp=Z,2.5nm,0.5s,baz=323,slow=3.5,SNR=8.2
AB31 Akbulak array 138.89 48 *i* PKIKP **PKPdf** **05 26 13.5 -0.8**
FAKI Fak Fak 140.12 220 IAMs_20 IAMs_20 06 20 14.2
comp=Z,1µm,22.0s
PWJI Pagerwojo 142.34 186 PKP **PKPdf** **05 26 18.6 -3.1**
CNJI Cibinong 143.23 179 PKP PKPbc 05 26 20.5 +0.4
BKSI Bulukumba 143.31 201 PKP PKPbc 05 26 21.4 +1.0
CTJI Waduk Cacaban 143.51 182 PKP PKPbc 05 26 21.9 +0.9
KAPI Kappang 143.71 200 PKhKP PKPpre 05 26 20.9
comp=Z,12nm,0.8s,baz=319,slow=1.1,SNR=5.9
KAPI Kappang 143.71 200 PKP PKPbc 05 26 21.2 -0.3
LEM Lembang 143.71 179 PKP PKPbc 05 26 22.9 +1.1
comp=Z,112nm,0.8s,baz=161,slow=2.2,SNR=18
LEM Lembang 143.71 179 PKP **PKPdf** **05 26 23.0 -1.4**
BRVK Borovoye 143.94 39*ce*PKIKP **PKPdf** **05 26 22.5 -0.8**
BRVK MLR MLR
comp=Z,3µm,20.0s
SANI Sanana 144.06 212 PKP **PKPdf** **05 26 23.7 -1.1**
BNSI Bone 144.18 201 PKP **PKPdf** **05 26 24.0 -1.0**
YAK Yakutsk 144.64 342 *e*PKIKP **PKPab** **05 26 22.6 -0.2**
YAK *e* 05 29 39.0
YAK pmax pmax
comp=Z,149nm,1.0s
YAK pmax pmax
comp=N,14nm,1.0s
YAK pmax pmax
comp=E,16nm,1.0s
YAK pmax pmax
comp=Z,555nm,2.8s
YAK pmax pmax
comp=E,113nm,3.2s
YAK pmax pmax
comp=N,204nm,2.6s
YAK Yakutsk 144.64 342 IAMs_20 IAMs_20 06 44 57.3

	comp=Z,1μm,22.0s								
BLSI	**Bandar Lampung**	**145.06**	**175**		PKP	**PKPdf**	**05**	**26**	**26.3**	**-0.2**
KUR	**Kuril'sk**	**145.12**	**308**	⇑	*e*PKP2	**PKPbc**	**05**	**26**	**24.9**	**-0.2**
GOA	**Goa**	**145.60**	**107**		*e*P	**PKPab**	**05**	**26**	**27.6**	**-0.2**
PALK	**Pallekele**	**146.03**	**126**		PKPbc	**PKPbc**	**05**	**26**	**28.8**	**-0.1**
	comp=Z,20nm,1.0s,baz=318,slow=4.0,SNR=4.5									
LUWI	**Luwuk**	**146.35**	**207**		IAMs_20	IAMs_20	06	25	46.1	
	comp=Z,1μm,21.0s									
NKL	**Nikolayevsk**	**146.53**	**324**		*i* PKIKP	**PKPdf**	**05**	**26**	**26.5**	**-1.2**
NKL					*e*		05	29	52.0	
NKL					*e*SSS	SSS	05	54	25.5	
YUK	**Yuzh-Kuril'sk**	**146.78**	**306**		*i* PKIKP	**PKPdf**	**05**	**26**	**27.7**	**-0.7**
YUK					SSS	SSS	05	54	24.1	
YUK					MLR	MLR				
	comp=Z,1μm,18.0s									
YUK					MLR	MLR				
	comp=E,1μm,14.0s									
CHGR	**Chuyangaron**	**146.86**	**64**			**PKPbc**	**05**	**26**	**30.2**	**-0.6**
POO	**Poona**	**147.05**	**102**		*e*P	**PKPbc**	**05**	**26**	**30.7**	**-1.1**
IUG	**luzhnay**	**147.11**	**57**		*e*PKP2	**PKPbc**	**05**	**26**	**30.4**	**-1.0**
KK31	**Karatay Array**	**147.28**	**55**		*i* PKP2	**PKPbc**	**05**	**26**	**30.7**	**-1.0**
UGL	**Uglegorsk**	**147.67**	**316**		*e*PKIKP	**PKPbc**	**05**	**26**	**31.7**	**-0.8**
UGL					pmax	pmax				
	comp=Z,70nm,1.0s									
UGL					pmax	pmax				
	comp=Z,3μm,12.5s									
GAR	**Garm**	**147.73**	**63**			**PKPbc**	**05**	**26**	**32.4**	**-0.9**
BTK	**Batken**	**148.00**	**61**		PKP2	**PKPbc**	**05**	**26**	**32.7**	**-1.2**
BTK	**Batken**	**148.00**	**61**			**PKPbc**	**05**	**26**	**32.7**	**-1.2**
YSS	**Yuzh-Sakhalins**	**148.04**	**312**		*i* PKIKP	**PKPdf**	**05**	**26**	**31.2**	**+0.8**
YSS					*e*		05	26	44.5	
YSS					*e*SS	SS	05	49	55.2	+48
YSS					pmax	pmax				
	comp=Z,70nm,1.9s									
YSS	**Yuzh-Sakhalins**	**148.04**	**312**			**PKiKP**	**05**	**26**	**34.8**	**-0.6**
TOLI2	**Tolitoli**	**149.09**	**206**			**PKPdf**	**05**	**26**	**33.7**	**+0.5**
TOLI2					IAMs_20	IAMs_20	06	39	56.4	
	comp=Z,840nm,20.0s									
BTLS	**Baital**	**149.24**	**51**		*e*PKIKP	**PKPdf**	**05**	**26**	**32.9**	**+0.4**
MDRS	**Chennai**	**149.47**	**117**		*e*P	**PKPdf**	**05**	**26**	**35.1**	**+1.4**
KURBB	**Kurchatov Arra**	**149.59**	**38**		PKIKP	**PKPdf**	**05**	**26**	**29.6**	**-3.2**
EKS2	**Erkin-Say**	**149.72**	**55**		P	**PKiKP**	**05**	**26**	**38.8**	**-0.5**
	SNR=28									
AML	**Almayashu**	**149.78**	**56**		P	**PKPab**	**05**	**26**	**42.2**	**-1.9**
	SNR=11									
AML	**Almayashu**	**149.78**	**56**		*i* P	**PKPdf**	**05**	**26**	**34.9**	**+0.9**
	SNR=11									
GRNR	**Gornyy**	**150.04**	**323**	⇓	*i* PKIKP	**PKPbc**	**05**	**26**	**38.6**	**0.0**
GRNR					pmax	pmax				
	comp=Z,30nm,1.0s									
USP	**Ospenovka**	**150.07**	**54**		P	**PKPbc**	**05**	**26**	**37.2**	**-1.7**
	SNR=14									
SGDS	**Sogindy**	**150.11**	**53**		*e*PKHKP	PKPpre	05	26	34.3	
AAK	**Ala-Archa**	**150.23**	**55**		*i* P	**PKPdf**	**05**	**26**	**34.9**	**+0.6**
	SNR=32									
AAK	**Ala-Archa**	**150.23**	**55**		PKIKP	**PKPdf**	**05**	**26**	**32.4**	**-2.0**
AAK	**Ala-Archa**	**150.23**	**55**			**PKPbc**	**05**	**26**	**37.4**	**-2.2**
AAK	**Ala-Archa**	**150.23**	**55**		IAMs_20	IAMs_20	06	42	23.3	
	comp=Z,1μm,19.0s									
CHMS	**Chumysh**	**150.32**	**54**		P	**PKiKP**	**05**	**26**	**41.2**	**+0.9**
	SNR=16									
UCH	**Uchtor**	**150.35**	**56**		P	**PKPdf**	**05**	**26**	**37.2**	**+2.2**
	SNR=22									
ZALV	**Zalesovo Beam**	**150.49**	**28**		PKPbc	**PKiKP**	**05**	**26**	**39.9**	**-0.3**
	comp=Z,132nm,0.7s,baz=292,slow=2.1,SNR=60									
HYB	**Hyderabad**	**150.49**	**108**		*e*P	**PKPdf**	**05**	**26**	**36.5**	**+1.2**
HYB	**Hyderabad**	**150.49**	**108**		*i* PKP	**PKPdf**	**05**	**26**	**36.0**	**+0.7**
HYB					*e*PP	**PP**	**05**	**30**	**18.0**	**+1.3**
KBK	**Karagaybulak**	**150.55**	**55**		P	**PKiKP**	**05**	**26**	**43.8**	**+2.8**
	SNR=8.0									
TKM2	**Tokmak 2**	**150.94**	**54**		P	**PKiKP**	**05**	**26**	**43.0**	**+1.2**
	SNR=16									
TKM2	**Tokmak 2**	**150.94**	**54**		PKIKP	**PKPdf**	**05**	**26**	**34.6**	**-0.9**
BOD	**Bodaibo**	**151.55**	**353**		*e*PKIKP	**PKPdf**	**05**	**26**	**36.2**	**+0.5**
BOD					pmax	pmax				
	comp=Z,144nm,1.9s									
ULHL	**Ulahol**	**151.58**	**55**		P	**PKiKP**	**05**	**26**	**44.8**	**+1.6**
	SNR=8.8									
MDOK	**Medeo**	**151.88**	**53**		PKIKP	**PKPdf**	**05**	**26**	**36.8**	**-0.1**
BHPL	**Bhopal**	**151.96**	**96**		*e*P	**PKPdf**	**05**	**26**	**39.3**	**+1.9**
KSH	**Kashi**	**152.01**	**61**		PKPbc	**PKPdf**	**05**	**26**	**38.1**	**+0.9**
KSH					SKKS		05	37	13.8	
KSH					SS	**SS**	**05**	**49**	**46.4**	**-6.5**
KSH					AMB	AMB				
	comp=Z,3μm,7.8s									
KSH					LR	LR				
	comp=Z,1μm,25.1s									
KSH					LR	LR				
	comp=Z,1μm,25.1s									
KSH					LR	LR				
	comp=Z,3μm,24.2s									
ZEA	**Zeya**	**152.15**	**335**		*e*PKIKP	**PKPdf**	**05**	**26**	**37.5**	**+0.8**
ZEA					*e*		05	30	24.8	
ZEA					pmax	pmax				
	comp=N,200nm,4.4s									
ZEA					pmax	pmax				
	comp=E,100nm,5.7s									
ZEA					pmax	pmax				
	comp=Z,600nm,4.0s									
ZEA					pmax	pmax				
	comp=Z,40nm,1.1s									
SBUM	**Sibu**	**152.63**	**189**		P	**PKiKP**	**05**	**26**	**47.0**	**+1.1**
TEY	**Ternei**	**152.74**	**312**		*e*PKIKP	**PKPdf**	**05**	**26**	**35.9**	**-1.9**
TEY					*e*		05	26	45.4	
DHRM	**DHARAMSHALA**	**152.77**	**76**		*e*P	**PKPdf**	**05**	**26**	**40.2**	**+1.6**
BHK	**Bhakra**	**152.81**	**78**		*ex*	**PKPab**	**05**	**26**	**56.0**	**-0.6**
KPKS	**Kokpek**	**152.91**	**51**		*e*PKIKP	**PKPdf**	**05**	**26**	**38.4**	**+0.1**
UZB	**Uzynbulak**	**153.25**	**52**		*e*PKIKP	**PKPdf**	**05**	**26**	**38.9**	**0.0**
SMLA	**Simla**	**153.43**	**79**		*e*P	**PKPdf**	**05**	**26**	**40.7**	**+1.4**
SMLA					*i* x	**PP**	**05**	**30**	**30.0**	**-3.5**
PDGK	**Podgornoye**	**153.50**	**51**		PKIKP	**PKPdf**	**05**	**26**	**37.3**	**-1.9**
MAKZ	**Makanchi**	**153.54**	**43**		PKIKP	**PKPdf**	**05**	**26**	**35.0**	**-4.0**
MK31	**Makanchi Array**	**153.73**	**42**		*i* PKIKP	**PKPdf**	**05**	**26**	**37.3**	**-2.0**
MKAR	**Makanchi Array**	**153.73**	**42**		PKP	**PKPdf**	**05**	**26**	**40.0**	**+0.7**
	comp=Z,2.7nm,0.8s,baz=343,slow=1.0,SNR=18									
MKAR					PKPbc	**PKiKP**	**05**	**26**	**47.5**	**+0.3**
	comp=Z,16nm,0.7s,baz=337,slow=2.0,SNR=40									
MJAR	**Matsushiro Arr**	**153.83**	**293**		PKPbc	**PKPbc**	**05**	**26**	**47.5**	**-0.2**
	comp=Z,4.6nm,0.9s,baz=85,slow=1.6,SNR=8.8									
MAJO	**Matsushiro**	**153.83**	**293**		IAMs_20	IAMs_20	06	23	16.2	
	comp=Z,986nm,20.0s									
MAT	**Matsushiro**	**153.83**	**293**		PKP	**PKPdf**	**05**	**26**	**38.7**	**-1.1**
IPM	**Ipoh**	**154.10**	**164**		P	**PKPbc**	**05**	**26**	**48.0**	**-0.9**
DDI	**Dehra Dun**	**154.11**	**81**		*e*P	**PKPdf**	**05**	**26**	**42.1**	**+1.7**
VIS	**Vishakhapatnam**	**154.55**	**112**		*e*P	**PKPdf**	**05**	**26**	**41.2**	**-0.1**
VIS					*i* x	**PP**	**05**	**30**	**41.7**	**+2.1**
USRK	**Ussuriysk Ar.**	**156.06**	**314**		PKP	**PKPdf**	**05**	**26**	**43.8**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=315,slow=3.8,SNR=8.1									
USRK					PKPab	**PKPab**	**05**	**27**	**11.6**	**+1.7**
	comp=Z,8.4nm,1.0s,baz=66,slow=4.8,SNR=6.5									
IRK	**Irkutsk**	**157.28**	**6**		*e*PKIKP	**PKPdf**	**05**	**26**	**45.0**	**+1.1**
IRK					*e*		05	30	50.6	
IRK					pmax	pmax				
	comp=Z,180nm,2.0s									
CIT	**Chita**	**157.29**	**351**		*e*PKIKP	**PKPdf**	**05**	**26**	**45.6**	**+1.7**
CIT					*e*		05	26	55.2	
CIT					*e*		05	30	54.7	
MDJ	**Mudanjiang**	**157.30**	**317**		PKP	**PKPdf**	**05**	**26**	**43.3**	**-0.8**
MDJ					PP	**PP**	**05**	**30**	**55.6**	**+1.4**
MDJ					AMB	AMB				
	comp=Z,490nm,8.8s									
MOY	**Mondy**	**157.42**	**11**		*e*PKIKP	**PKPdf**	**05**	**26**	**47.2**	**+3.0**
MOY					pmax	pmax				
	comp=Z,236nm,2.5s									
WMQ	**Urumqi**	**158.55**	**43**		PKP	**PKPdf**	**05**	**26**	**46.0**	**+0.2**
WMQ					pPKP	sPKPdf	05	26	52.3	+1.6
WMQ					PKPab	**PKPab**	**05**	**27**	**23.0**	**+2.2**
WMQ					PP	**PP**	**05**	**30**	**59.5**	**-1.6**
WMQ					SKKS		05	37	49.1	
WMQ					AMB	AMB				
	comp=Z,2μm,9.7s									
WMQ					LR	LR				
	comp=Z,1μm,18.1s									
WMQ					LR	LR				
	comp=Z,1μm,20.5s									
WMQ					LR	LR				
	comp=Z,2μm,22.9s									
ZAK	**Zakamensk**	**159.01**	**8**		*e*PKIKP	**PKPdf**	**05**	**26**	**47.7**	**+1.5**
ZAK					pmax	pmax				
	comp=Z,19nm,2.3s									
BOK	**Bokaro**	**159.44**	**101**		*e*P	**PKPdf**	**05**	**26**	**48.2**	**+0.8**
BOK					*i* x	**PKPab**	**05**	**27**	**24.1**	**-1.1**
CN2	**Changchun**	**160.18**	**320**		*e*PKP	**PKPdf**	**05**	**26**	**46.4**	**-1.2**
CN2					PP	**PP**	**05**	**31**	**11.6**	**+1.9**
CN2					SKKS		05	37	58.6	
CN2					SS	**SS**	**05**	**51**	**20.5**	**+1.1**
CN2					AMB	AMB				
	comp=Z,1μm,14.0s									
CN2					LR	LR				
	comp=Z,380nm,21.0s									
CN2					LR	LR				
	comp=Z,1μm,21.0s									
CN2					LR	LR				
	comp=Z,1μm,22.0s									
KSRS	**Korea Array**	**161.67**	**300**		PKP	**PKPdf**	**05**	**26**	**49.3**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=349,slow=2.5,SNR=2.0									
KSRS					PKPab	**PKPab**	**05**	**27**	**35.8**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=56,slow=4.0,SNR=4.3									
SONM	**Songino Array**	**161.82**	**3**		PKP	**PKPdf**	**05**	**26**	**49.6**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=327,slow=2.5,SNR=7.0									
SONM					PKPab	**PKPab**	**05**	**27**	**36.0**	**+1.1**
	comp=Z,7.2nm,1.1s,baz=343,slow=4.2,SNR=7.7									
SONM					PP	**PP**	**05**	**31**	**17.8**	**-0.2**
	comp=Z,2.4nm,1.1s,baz=353,slow=4.9,SNR=2.9									
SNY	**Shenyang**	**162.50**	**318**	⇑	PKP	**PKPdf**	**05**	**26**	**48.8**	**-1.2**
SNY					AMB	AMB				
	comp=Z,790nm,12.0s									
SNY					LR	LR				
	comp=Z,750nm,21.6s									
SNY					LR	LR				
	comp=Z,490nm,19.1s									
SNY					LR	LR				
	comp=Z,2μm,24.5s									
GTK	**Tadong**	**162.81**	**93**		*e*P	**PKPdf**	**05**	**26**	**51.5**	**+0.5**
SHL	**Shillong**	**165.16**	**102**		*e*P	**PKPdf**	**05**	**26**	**52.5**	**-0.8**
LSA	**Lhasa**	**165.37**	**86**		PKP	**PKPdf**	**05**	**26**	**56.1**	**+2.4**
LSA					LR	LR				
	comp=Z,5μm,34.2s									
LSA					LR	LR				
	comp=Z,6μm,29.9s									
LSA					LR	LR				
	comp=Z,9μm,32.7s									
LSA	**Lhasa**	**165.37**	**86**		P	**PKPdf**	**05**	**26**	**53.3**	**-0.4**
DL2	**Dalian**	**165.44**	**313**		PKP	**PKPdf**	**05**	**26**	**51.6**	**-1.2**
DL2					PKPab	**PKPab**	**05**	**27**	**52.8**	**+1.8**
DL2					PP	**PP**	**05**	**31**	**37.0**	**-0.9**
DL2					SS	SS	05	52	14.3	-0.1
DL2					AMB	AMB				
	comp=Z,570nm,6.7s									
DL2					LR	LR				
	comp=Z,390nm,22.0s									
DL2					LR	LR				
	comp=Z,830nm,20.8s									
DL2					LR	LR				
	comp=Z,1μm,18.9s									
UBPT	**Khong Chiam**	**165.49**	**170**		PKP	**PKPdf**	**05**	**26**	**58.7**	**+5.2**
PHIT	**Phitsanulok**	**165.78**	**149**		PKP	PKPdf	05	27	06.3	+13
CM01	**Chiang Mai Arr**	**166.11**	**142**		PKP	PKPdf	05	27	13.2	+19
CMAR	**Chiang Mai Arr**	**166.13**	**142**		PKP	**PKPdf**	**05**	**26**	**55.5**	**+1.5**
	comp=Z,1.1nm,0.3s,baz=298,slow=0.1,SNR=5.7									
CMAR					PKPab	**PKPab**	**05**	**27**	**54.5**	**+0.1**
	comp=Z,2.8nm,0.5s,baz=234,slow=6.9,SNR=7.5									
IMP	**Imphal**	**166.63**	**108**		*e*P	**PKPdf**	**05**	**26**	**54.3**	**0.0**
IMP					*i* x	**PKPab**	**05**	**27**	**55.9**	**-0.9**
KOHI	**KOHIMA**	**167.10**	**104**		*e*P	**PKPdf**	**05**	**26**	**53.8**	**-0.9**
KOHI					*i* x	**PKPab**	**05**	**27**	**55.9**	**-3.1**
NONG	**Nongkai**	**167.63**	**158**		PKP	**PKPdf**	**05**	**26**	**58.7**	**+3.6**
MOKO	**MOKOCHONG**	**167.65**	**102**		*e*P	**PKPdf**	**05**	**26**	**55.7**	**+0.6**
BJI	**Beijing**	**167.66**	**329**		PKP	**PKPdf**	**05**	**26**	**55.1**	**+0.6**
BJI					pPKP	**sPKPdf**	**05**	**27**	**05.6**	**+6.2**
BJI					sPKP		05	27	09.8	
BJI					PKS		05	30	26.8	
BJI					PP	**PP**	**05**	**31**	**49.0**	**+0.2**
BJI					SKKS		05	38	34.4	
BJI					SS	**SS**	**05**	**52**	**34.8**	**-1.0**
BJI					AMB	AMB				
	comp=Z,890nm,6.6s									
BJI					LR	LR				
	comp=Z,1μm,17.8s									
BJI					LR	LR				
	comp=Z,1μm,19.0s									
BJI					LR	LR				
	comp=Z,2μm,18.4s									
GTA	**Gaotai**	**168.19**	**32**	⇑	PKP	**PKPdf**	**05**	**26**	**56.1**	**+1.0**
GTA					PKPab	**pPKPab**	**05**	**28**	**06.9**	**+0.2**
GTA					PP	**PP**	**05**	**31**	**51.4**	**-0.3**
GTA					SKS	**SKSdf**	**05**	**33**	**57.6**	**-1.0**
GTA					SKKS	**SKKSac**	**05**	**38**	**35.0**	**-4.1**
GTA					SS	**SS**	**05**	**52**	**40.3**	**-1.3**
GTA					AMB	AMB				
	comp=Z,2μm,6.9s									
GTA					LR	LR				
	comp=Z,1μm,20.4s									
GTA					LR	LR				
	comp=Z,2μm,22.5s									
GTA					LR	LR				
	comp=Z,2μm,22.2s									
HHC	**Hu-ho-hao-te**	**168.47**	**346**		*e*PKP	**PKPdf**	**05**	**26**	**53.8**	**-1.4**
HHC					SKKS		05	38	36.9	
HHC					SS	**SS**	**05**	**52**	**37.1**	**-6.3**
HHC					AMB	AMB				
	comp=Z,1μm,9.4s									
HHC					LR	LR				
	comp=Z,990nm,17.0s									
HHC					LR	LR				
	comp=Z,930nm,17.0s									
HHC					LR	LR				
	comp=Z,2μm,18.7s									
SSE	**Sheshan**	**168.50**	**280**		PKP	**PKPdf**	**05**	**26**	**50.3**	**-5.1**
SSE					PP	**PP**	**05**	**31**	**53.6**	**-0.9**
SSE					AMB	AMB				
	comp=Z,230nm,5.6s									
SSE					LR	LR				
	comp=Z,340nm,17.5s									
SSE					LR	LR				
	comp=Z,280nm,18.6s									
BTO	**Baotou**	**168.96**	**352**		*e*PKP	**PKPdf**	**05**	**26**	**55.6**	**+0.1**
BTO					SS	SS	05	52	44.1	-4.1
BTO					LR	LR				
	comp=Z,3μm,22.9s									
BTO					LR	LR				
	comp=Z,3μm,21.0s									
LKP	**Lekhapani**	**169.08**	**99**		*i* x	**PKPab**	**05**	**28**	**09.3**	**+1.8**
QIZ	**Qiongzhong**	**169.27**	**190**		PKP	**PKPdf**	**05**	**26**	**51.9**	**-4.3**
QIZ					PP	**PP**	**05**	**31**	**56.8**	**+0.3**
QIZ					SS	SS	05	52	54.4	+3.3
QIZ					AMB	AMB				
	comp=Z,600nm,13.4s									
QIZ					LR	LR				
	comp=Z,890nm,21.4s									
QIZ					LR	LR				
	comp=Z,650nm,21.6s									
QIZ					LR	LR				
	comp=Z,2μm,31.9s									
QZH	**Quanzhou**	**169.45**	**246**		*i* PKP	**PKPdf**	**05**	**26**	**55.3**	**-0.8**
QZH					PP	**PP**	**05**	**31**	**59.9**	**+0.9**
QZH					SS	SS	05	52	53.3	-2.5
QZH					LR	LR				
	comp=Z,680nm,23.2s									
QZH					LR	LR				
	comp=Z,420nm,17.1s									
QZH					LR	LR				
	comp=Z,2μm,28.4s									
TIA	**Tai'an**	**169.92**	**313**	⇑	P	**PKPdf**	**05**	**26**	**56.4**	**+0.3**
TIA					pmax	pmax				
	comp=Z,28nm,2.4s									
TIA	**Tai'an**	**169.92**	**313**		PKP	**PKPdf**	**05**	**26**	**54.4**	**-1.7**
TIA					SKKS		05	38	49.9	
TIA					AMB	AMB				
	comp=Z,620nm,6.3s									
TIA					LR	LR				
	comp=Z,770nm,18.8s									
TIA					LR	LR				
	comp=Z,1μm,21.6s									
TIA					LR	LR				
	comp=Z,2μm,27.8s									
NJ2	**Nanjing**	**170.35**	**287**		*e*PKP	**PKPdf**	**05**	**26**	**54.3**	**-2.2**
NJ2					PP	**PP**	**05**	**32**	**03.9**	**+0.2**
NJ2					SKS	**SKSdf**	**05**	**34**	**00.5**	**+0.8**
NJ2					SKKS	**SKKSac**	**05**	**38**	**49.8**	**-0.3**
NJ2					SS	**SS**	**05**	**53**	**03.8**	**-1.3**
NJ2					AMB	AMB				
	comp=Z,1μm,5.1s									
NJ2					LR	LR				
	comp=Z,1μm,19.4s									
NJ2					LR	LR				
	comp=Z,1μm,20.8s									
NJ2					LR	LR				
	comp=Z,2μm,20.4s									
TIY	**Taiyuan**	**171.16**	**336**	⇑	*i* PKP	**PKPdf**	**05**	**26**	**57.4**	**+0.6**
TIY					PP	PP	05	32	14.3	+8.0
TIY					SS	SS	05	53	04.0	-6.5
TIY					AMB	AMB				
	comp=Z,1μm,10.2s									
TIY					LR	LR				
	comp=Z,1μm,16.8s									
TIY					LR	LR				
	comp=Z,1μm,20.4s									
TIY					LR	LR				
	comp=Z,2μm,20.5s									
GZH	**Guangzhou**	**171.87**	**218**		PKP	**PKPdf**	**05**	**26**	**54.0**	**-3.5**
GZH					PP	**PP**	**05**	**32**	**11.6**	**+1.5**
GZH					SS	SS	05	53	14.6	-3.4
GZH					LR	LR				
	comp=Z,720nm,18.6s									
GZH					LR	LR				
	comp=Z,570nm,16.5s									
LZH	**Lanzhou**	**172.72**	**27**	⇑	PKP	**PKPdf**	**05**	**26**	**59.5**	**+1.8**
LZH					pPKP	sPKPdf	05	27	03.8	+1.1
LZH					PKPab	**PKPab**	**05**	**28**	**25.0**	**+1.6**
LZH					PP	**PP**	**05**	**32**	**13.1**	**-1.2**
LZH					SKKS		05	39	03.9	
LZH					SS	**SS**	**05**	**53**	**27.5**	**+1.4**
LZH					AMB	AMB				
	comp=Z,1μm,7.6s									
LZH					LR	LR				
	comp=Z,1μm,17.4s									
LZH					LR	LR				
	comp=Z,2μm,17.9s									
LZH					LR	LR				
	comp=Z,2μm,19.5s									
KMI	**Kunming**	**173.51**	**133**	⇑	PKP	**PKPdf**	**05**	**26**	**56.3**	**-2.2**
KMI					SKKS		05	39	02.3	
KMI					SS	**SS**	**05**	**53**	**31.8**	**-3.3**
KMI					LR	LR				
	comp=Z,380nm,25.3s									
KMI					LR	LR				
	comp=Z,1μm,23.0s									
KMI					LR	LR				
	comp=Z,2μm,24.1s									
WHN	**Wuhan**	**174.41**	**281**	⇓	PKP	**PKPdf**	**05**	**26**	**59.6**	**+1.3**
WHN					PKPab	**PKPab**	**05**	**28**	**32.1**	**+1.0**
WHN					PP	**PP**	**05**	**32**	**25.3**	**+1.5**
WHN					SKKS		05	39	04.8	
WHN					LR	LR				
	comp=Z,3μm,24.9s									
WHN					LR	LR				
	comp=Z,1μm,14.5s									
WHN					LR	LR				
	comp=Z,5μm,29.9s									
XAN	**Xi'an**	**175.57**	**350**		PKP	**PKPdf**	**05**	**27**	**00.0**	**+1.4**
XAN					sPKP		05	27	09.3	
XAN					PKPab	**PKPab**	**05**	**28**	**36.3**	**+0.4**
XAN					PP	**PP**	**05**	**32**	**27.6**	**0.0**
XAN					SKS	**SKSdf**	**05**	**33**	**57.5**	**-3.9**
XAN					SKKS	**SKKSac**	**05**	**39**	**09.6**	**-4.9**
XAN					SS	**SS**	**05**	**53**	**49.3**	**-3.4**
XAN					AMB	AMB				
	comp=Z,2μm,7.6s									
XAN					LR	LR				
	comp=Z,920nm,19.9s									
XAN					LR	LR				
	comp=Z,1μm,17.4s									
XAN					LR	LR				
	comp=Z,1μm,18.9s									
CD2	**Chengdu**	**176.15**	**70**		PKP	**PKPdf**	**05**	**26**	**57.8**	**-1.1**
CD2					PKPab	**PKPab**	**05**	**28**	**40.0**	**+1.1**
CD2					PP	**PP**	**05**	**32**	**30.6**	**-1.5**
CD2					SKKS		05	39	15.8	
CD2					SS	**SS**	**05**	**54**	**01.3**	**-0.2**
CD2					AMB	AMB				
	comp=Z,3μm,7.1s									
CD2					LR	LR				
	comp=Z,2μm,25.5s									
CD2					LR	LR				
	comp=Z,2μm,24.0s									
CD2					LR	LR				
	comp=Z,3μm,27.5s									
GYA	**Guiyang**	**176.60**	**160**	⇓	PKP	**PKPdf**	**05**	**26**	**56.3**	**-2.9**
GYA					PKPab	**PKPab**	**05**	**28**	**42.0**	**+1.3**
GYA					SKKS		05	39	20.0	
GYA					SS	**SS**	**05**	**54**	**02.1**	**-0.9**
GYA					AMB	AMB				
	comp=Z,1μm,9.6s									
GYA					LR	LR				
	comp=Z,350nm,16.6s									
GYA					LR	LR				
	comp=Z,300nm,17.4s									
GYA					LR	LR				
	comp=Z,650nm,17.6s									

IDC ***19*** *05:12:17.2±2.5, 31.°18S×72.°05W, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.9/18, mbtmp4.0/3, ML3.6/1, Error ellipse: s-maj=86.3km s-min=64.2km az=26.0*
NEIC ***19*** *05:12:23.7±1.2, 29.°74S±0.°05×71.°96W±0.°05, h18km±5km, mb4.5/4, Error

MT05			*i* S	**Sn**	**05 14 27.0**	**+0.4**
MT05			IAML		05 14 33.1	
	comp=E,7μm,0.3s					
MT05	**Renca**	**1.89 154**	Pn	**Pn**	**05 14 03.2**	**-0.7**
VA05	**Santo Domingo**	**1.96 177**	*e*P	**Pn**	**05 14 05.1**	**+0.3**
VA05			*e*S	**Sn**	**05 14 28.9**	**+0.6**
VA05			IAML		05 14 39.7	
	comp=E,2μm,0.5s					
VA05	**Santo Domingo**	**1.96 177**	Pn	**Pn**	**05 14 03.8**	**-0.9**
MT09	**Talagante**	**2.17 163**	*e*P	**Pn**	**05 14 10.0**	**+2.2**
MT09			*e*S	**Sn**	**05 14 34.9**	**+1.3**
MT09			IAML		05 14 42.3	
	comp=N,1μm,0.3s					
MT09	**Talagante**	**2.17 163**	Pn	**Pn**	**05 14 06.3**	**-1.4**
MT01	**Popeta**	**2.20 170**	*e*P	**Pn**	**05 14 09.0**	**+0.9**
MT01			*e*S	**Sn**	**05 14 35.0**	**+0.7**
MT01			IAML		05 14 43.7	
	comp=E,1μm,0.3s					
MT01	**Popeta**	**2.20 170**	Pn	**Pn**	**05 14 06.1**	**-2.1**
BO01	**Tunca**	**2.75 169**	*e*P	**Pn**	**05 14 15.6**	**+0.1**
BO01			IAML		05 15 04.4	
	comp=E,351nm,0.4s					
BO01	**Tunca**	**2.75 169**	Pn	**Pn**	**05 14 15.0**	**-0.6**
BO03	**Pichilemu**	**2.80 184** ⇓	*i*P	**Pn**	**05 14 16.9**	**+0.5**
BO03			*e*S	**Sb**	**05 14 57.5**	**+0.4**
BO02	**Sierra Bellavi**	**3.19 166** ⇑	*i*P	**Pn**	**05 14 22.5**	**+0.8**
BO02			*e*S	**Sn**	**05 14 58.8**	**+0.1**
BO02			IAML		05 15 11.7	
	comp=E,721nm,0.4s					
BO02	**Sierra Bellavi**	**3.19 166**	Pn	**Pn**	**05 14 22.1**	**+0.3**
GO05	**Huala**	**3.31 183**	Pn	**Pn**	**05 14 23.3**	**-0.1**
ML02	**Panimavida**	**4.07 176**	Pn	**Pn**	**05 14 32.4**	**-1.3**
LC01	**Cunco**	**7.19 181**	Pn	**Pn**	**05 15 15.3**	**-1.3**

NEIC ***19*** *05:16:26.9±1.0, 36°.00N±0°.01×96°.81W±0°.02, h3km±4km, Error ellipse: s-maj=2.6km s-min=1.5km az=112.0*
TUL ***19*** *05:16:26.6±1.4, 35°.99N±0°.01×96°.80W±0°.04, h5km±3km, ML3.0, mb_Lg2.9/54(NEIC), Error ellipse: s-maj=4.2km s-min=1.9km az=104.0*
ANF ***19*** *05:16:27.1±1.0, 35°.98N×96°.77W, h0km±4km, ML2.9/6, Error ellipse: s-maj=19.9km s-min=3.0km az=170.0*

ISC 19 05:16:26.9±1.0, 36°.01N±0°.02×96°.82W±0°.03, h5km±7km, n58, σ0°.46/41, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OK031	**S. Brethren Rd**	**0.06**	**201**		**Pg**	**05 16 28.1**	**-0.2**
OK031				Sg	**Sg**	**05 16 29.2**	**-0.1**
QUOK	**Quay**	**0.19**	**27**		**Pg**	**05 16 30.9**	**+0.2**
QUOK				Sg	**Sg**	**05 16 33.8**	**+0.6**
OK029	**Liberty Lake**	**0.56**	**248**		**Pg**	**05 16 37.8**	**+0.1**
OK025	**Westminster Rd**	**0.60**	**225**		**Pg**	**05 16 38.1**	**-0.3**
OK025				Sg	**Sg**	**05 16 46.8**	**+0.5**
BCOK	**Bluff Creek, N**	**0.73**	**242**		**Pg**	**05 16 40.8**	**-0.2**
BCOK				Sg	**Sg**	**05 16 51.0**	**+0.5**
OKCFA	**Oklahoma City**	**0.78**	**222**		**Pg**	**05 16 41.7**	**-0.3**
OKCFA				Sg	**Sg**	**05 16 52.4**	**+0.3**
OKCSW	**OKLAHOMA CITY**	**0.79**	**220**		**Pg**	**05 16 41.7**	**-0.3**
BLOK	**Blackwell**	**0.82**	**337**		**Pg**	**05 16 42.6**	**-0.1**
BLOK				Sg	**Sg**	**05 16 53.8**	**+0.5**
TUL1	**Leonard** baz=276	**0.83**	**96**	P	**Pg**	**05 16 42.1**	**-0.9**
TUL1				S	**Sg**	**05 16 53.5**	**-0.3**
	baz=276						
FNO	**Franklin**	**0.89**	**213**		**Pg**	**05 16 43.0**	**-1.0**
T35A	**Sooner Cattle**	**0.94**	**15**		**Pg**	**05 16 44.7**	**-0.3**
CROK	**Carrier**	**1.07**	**298**		**Pg**	**05 16 47.1**	**-0.3**
KAN13	**South Haven SW**	**1.14**	**332**		**Pg**	**05 16 48.5**	**-0.3**
GC02	**Grant County #**	**1.19**	**315**		**Pg**	**05 16 49.4**	**-0.4**
KAN17	**Caldwell West**	**1.29**	**324**		**Pg**	**05 16 51.0**	**-0.6**
KAN09	**Caldwell North**	**1.30**	**330**		**Pg**	**05 16 51.4**	**-0.5**
KAN14	**Manchester OK**	**1.33**	**316**		**Pn**	**05 16 51.5**	**-0.7**
KS20	**Mayfield South**	**1.36**	**334**		**Pn**	**05 16 52.1**	**-0.5**
OK032	**Salt Plains WL**	**1.38**	**306**		**Pn**	**05 16 52.6**	**-0.3**
KAN05	**Bluff City Nor**	**1.39**	**323**	Pn	**Pn**	**05 16 53.2**	**+0.1**
X34A	**Smith Ranch, M**	**1.63**	**211**		**Pn**	**05 16 56.5**	**+0.2**
X37A	**Clayton**	**1.84**	**140**		**Pn**	**05 16 59.3**	**+0.1**
U38A	**Gravette**	**2.01**	**77**		**Pn**	**05 17 02.0**	**+0.4**
LOOK	**Love County**	**2.03**	**189**		**Pn**	**05 17 01.8**	**0.0**
WMOK	**Wichita Mounta** baz=52	**2.04**	**232**	P	**Pn**	**05 17 03.0**	**+1.0**
WMOK				S	**Sb**	**05 17 30.1**	**-0.2**
	baz=52						
HHAR	**Hobbs**	**2.34**	**82**		**Pn**	**05 17 06.6**	**+0.5**
W39A	**Magazine**	**2.60**	**107**		**Pn**	**05 17 09.6**	**0.0**
W39A				IAmb_Lg		05 17 47.8	
	comp=Z,45nm,1.1s						
W39A	**Magazine** baz=289	**2.60**	**107**	P	**Pn**	**05 17 10.1**	**+0.5**
MIAR	**Mount Ida**	**3.02**	**118**		**Pn**	**05 17 15.9**	**+0.4**
MIAR				IAmb_Lg		05 18 05.7	
	comp=Z,26nm,1.1s						
MIAR	**Mount Ida** baz=300	**3.02**	**118**	P	**Pn**	**05 17 15.9**	**+0.4**
S39A	**Bolivar** comp=Z,48nm,1.1s	**3.27**	**58**	IAmb_Lg		05 18 14.8	
X40A	**Basin Creek Fa** baz=296	**3.59**	**114**	P	**Pn**	**05 17 23.9**	**+0.6**
CBKS	**Cedar Bluff** comp=Z,27nm,0.7s	**3.64**	**321**	IAmb_Lg		05 18 26.7	
FCAR	**Ozark Folk Cen** comp=Z,21nm,0.8s	**3.81**	**90**	IAmb_Lg		05 18 29.2	
W41B	**Gary Mavity, V** baz=284	**3.81**	**101**	P	**Pn**	**05 17 26.3**	**0.0**
W41B				S	**Sn**	**05 18 11.6**	**+0.1**
	baz=284						
WLAR	**White Oak Lake** comp=Z,28nm,0.8s	**3.82**	**126**	IAmb_Lg		05 18 25.9	
MGMO	**Mountain Grove** comp=Z,38nm,1.1s	**3.83**	**71**	IAmb_Lg		05 18 30.6	
WHTX	**Lake Whitney,** comp=Z,21nm,1.1s	**4.04**	**188**	IAmb_Lg		05 18 32.3	
237A	**Washetta, Mont** comp=Z,39nm,1.1s	**4.08**	**168**	IAmb_Lg		05 18 43.5	
ABTX	**Abilene, Hawle** comp=Z,30nm,1.1s	**4.11**	**216**	IAmb_Lg		05 18 40.1	
AMTX	**Amarillo** comp=Z,27nm,0.9s	**4.13**	**256**	IAmb_Lg		05 18 45.6	
R40A	**Maddies Statio** comp=Z,27nm,0.9s	**4.29**	**57**	IAmb_Lg		05 18 42.9	
LCAR	**Lake Charles** comp=Z,32nm,1.2s	**4.59**	**88**	IAmb_Lg		05 18 50.2	
CCAR	**Cane Creek** comp=Z,29nm,1.1s	**4.64**	**115**	IAmb_Lg		05 19 03.8	
HBAR	**Harrisburg** comp=Z,26nm,0.9s	**5.03**	**93**	IAmb_Lg		05 19 06.6	
PBMO	**Poplar Bluff** comp=Z,26nm,0.8s	**5.21**	**80**	IAmb_Lg		05 19 14.1	
FVM	**French Village** comp=Z,23nm,0.8s	**5.48**	**67**	IAmb_Lg		05 19 20.7	
SLM	**Saint Louis** comp=Z,24nm,0.7s	**5.86**	**61**	IAmb_Lg		05 19 30.3	
L34A	**Svendsen Farm,** comp=Z,26nm,0.7s	**5.96**	**3**	IAmb_Lg		05 19 52.7	
T25A	**Trinidad** comp=Z,15nm,0.9s	**6.22**	**283**	IAmb_Lg		05 19 53.8	
OGNE	**Ogallala** comp=Z,17nm,0.9s	**6.41**	**322**	IAmb_Lg		05 20 07.5	
SCIA	**State Center** comp=Z,13nm,0.8s	**6.53**	**24**	IAmb_Lg		05 19 54.4	
K38A	**Parkersburg** comp=Z,17nm,1.1s	**7.33**	**24**	IAmb_Lg		05 20 41.0	
ECSD	**EROS Data Cent** comp=Z,9.5nm,0.9s	**7.72**	**1**	IAmb_Lg		05 20 30.8	
ISCO	**Idaho Springs** comp=Z,8.9nm,1.2s	**7.92**	**301**	IAmb_Lg		05 20 49.3	
PHWY	**Pilot Hill** comp=Z,7.4nm,1.1s	**8.58**	**311**	IAmb_Lg		05 21 21.1	
RSSD	**Black Hills** comp=Z,6.4nm,1.1s	**9.81**	**328**	IAmb_Lg		05 21 50.9	
F33A	**5 Mile Ranch,** comp=Z,6.3nm,1.1s	**9.83**	**2**	IAmb_Lg		05 21 50.1	

NEIC ***19*** *05:16:55.0±2.1, 5°.65S±0°.1×150°.83E±0°.09, h104km±9km, mb4.2/17, Error ellipse: s-maj=14.9km s-min=12.9km az=196.0*
IDC ***19*** *05:16:54.5±2.8, 5°.50S×150°.73E, h108km±22km, mb3.9/9, mb1 4.0/9, mb1mx3.8/37, mbtmp4.2/9, Error ellipse: s-maj=24.0km s-min=20.1km az=98.0*
DJA ***19*** *05:16:55.7±0.4, 5°.56S×151°.1E±°, h135km±9km, M4.4/11, mB4.6/3, mb4.2/11, MLv4.5/2, Mw(mB)3.8/3*

ISC 19 05:16:54.1±0.7, 5°.53S±0°.09×150°.83E±0°.09, h100km, n31, σ1°.14/34, mb4.1/15, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.88**	**45**		**Pn**	**05 17 25.8**	**+0.6**
MANU	**Manus Island**	**4.89**	**315**	Pn	**Pn**	**05 18 07.2**	**+1.9**
COEN	**Coen**	**11.27**	**221**	Pn	**Pn**	**05 19 32.1**	**+0.1**
CTA	**Charters Tower** 0.4nm,0.3s,baz=24,slow=14,SNR=7.6	**15.14**	**197**	P	**P**	**05 20 26.1**	**+0.7**
CTAO	**Charters Tower**	**15.14**	**197**	P	**P**	**05 20 25.2**	**-0.2**
CTAO				IAmb	IAmb	05 20 28.5	
	comp=Z,11nm,1.0s						
EIDS	**Eidsvold**	**19.73**	**179**	P	**P**	**05 21 17.5**	**+1.6**
WB0	**Warramunga Arr**	**21.35**	**227**	P	**P**	**05 21 32.5**	**-1.0**
WB0				IAmb	IAmb	05 21 36.0	
	comp=Z,10nm,1.1s						
WR0	**Warramunga Arr**	**21.37**	**226**	P	**P**	**05 21 32.8**	**-0.8**
WR0				IAmb	IAmb	05 21 37.3	
	comp=Z,7.2nm,0.9s						
WB2	**Warramunga Arr**	**21.50**	**227**	P	**P**	**05 21 33.9**	**-1.1**
WB2				IAmb	IAmb	05 21 36.9	
	comp=Z,7.3nm,0.9s						
WRA	**Warramunga Arr** comp=Z,1.1nm,1.0s,baz=53,slow=10,SNR=29	**21.50**	**227**	P PcP	**P** **PcP**	**05 21 33.8**	**-1.3**
WRA						**05 25 34.7**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=39,slow=1.8,SNR=2.5						
WRA				ScP	**ScP**	**05 28 59.9**	**-2.5**
	comp=Z,1.0nm,0.9s,baz=61,slow=2.0,SNR=1.6						
WRA	**Warramunga Arr**	**21.50**	**227**	P	**P**	**05 21 34.1**	**-1.0**
DZM	**Mont Dzumac** comp=Z,8.9nm,0.6s,baz=291,slow=6.9,SNR=23	**22.33**	**139**	P	**P**	**05 21 44.5**	**+0.7**
DZM	**Mont Dzumac**	**22.33**	**139**	P	**P**	**05 21 44.3**	**+0.4**
DZM				IAmb	IAmb	05 21 45.1	
	comp=Z,8.8nm,0.6s						
KNRA	**Kununurra**	**23.89**	**243**	P	**P**	**05 21 57.4**	**-1.3**
KNRA				IAmb	IAmb	05 21 59.8	
	comp=Z,13nm,0.9s						
AS31	**Alice Springs**	**24.30**	**220**	P	**P**	**05 22 02.3**	**-0.1**
ASAR	**Alice Springs** comp=Z,6.6nm,0.6s,baz=57,slow=8.5,SNR=95	**24.31**	**220**	P	**P**	**05 22 02.5**	**0.0**
ASAR				ScP	**ScP**	**05 29 07.8**	**-2.0**
	comp=Z,0.4nm,0.5s,baz=43,slow=4.1,SNR=4.4						
ASAR	**Alice Springs**	**24.31**	**220**	P	**P**	**05 22 02.2**	**-0.3**
ARMA	**Armidale**	**24.77**	**178**	P	**P**	**05 22 07.8**	**+1.2**
ARMA				IAmb	IAmb	05 22 15.5	
	comp=Z,18nm,1.4s						
FITZ	**Fitzroy Crossi** comp=Z,5.7nm,0.7s,baz=45,slow=8.9,SNR=23	**27.59**	**241**	P	**P**	**05 22 30.6**	**-1.5**
FITZ	**Fitzroy Crossi**	**27.59**	**241**	P	**P**	**05 22 30.8**	**-1.3**
FITZ				IAmb	IAmb	05 22 32.1	
	comp=Z,5.2nm,0.8s						
STKA	**Stephens Creek** comp=Z,4.6nm,0.7s,baz=38,slow=15,SNR=12	**27.60**	**197**	P	**P**	**05 22 31.2**	**-0.8**
STKA	**Stephens Creek**	**27.60**	**197**	P	**P**	**05 22 32.0**	**0.0**
FORT	**Forrest**	**33.00**	**218**	P	**P**	**05 23 18.8**	**-0.9**
TAU	**Tasmania Unive**	**37.35**	**184**	P	**P**	**05 23 58.1**	**+1.3**
RPZ	**Rata Peaks**	**42.00**	**158**	P	**P**	**05 24 35.9**	**+0.5**
KSRS	**Korea Array** comp=Z,2.0nm,1.0s,baz=154,slow=7.3,SNR=4.2	**47.80**	**335**	P	**P**	**05 25 21.4**	**0.0**
VNDA	**Vanda** comp=Z,0.7nm,0.6s,baz=334,slow=6.8,SNR=7.1	**72.18**	**177**	P	**P**	**05 28 07.7**	**+0.1**
ILAR	**Eielson Array** comp=Z,0.5nm,0.7s,baz=264,slow=4.6,SNR=4.2	**83.57**	**22**	P	**P**	**05 29 09.3**	**-1.5**
MAW	**Mawson** comp=Z,1.2nm,0.7s,baz=107,slow=14,SNR=2.2	**84.14**	**203**	P	**P**	**05 29 13.1**	**-0.6**
QSPA	**South Pole Qui**	**84.44**	**180**	P	**P**	**05 29 15.2**	**-0.2**
QSPA				IAmb	IAmb	05 29 31.6	
	comp=Z,4.3nm,1.3s						
TORD	**Torodi Ar. Bea** comp=Z,1.3nm,0.8s,baz=53,slow=2.3,SNR=6.2	**148.64**	**286**	PKPbc	**PKPdf**	**05 36 28.7**	**+1.9**

GUC 19 05:19:47.1±0.7, 32°.86S×71°.89W, h27km±4km, ML3.2, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VA01	**Torpederas**	**0.26**	**129** ⇓	*i*P	Pb	05 19 54.0	+0.3
VA01				*i* S	Sn	05 19 59.3	-1.0
VA01				IAML		05 19 59.8	
	comp=N,2μm,0.3s						
VA01	**Torpederas**	**0.26**	**129**	*e*P	Pb	05 19 54.0	+0.3
VA01				*e*S	Sn	05 19 59.3	-1.0
VA01				IAML		05 19 59.8	
	comp=N,4μm,0.3s						
VA06	**Catapilco**	**0.58**	**59** ⇓	*i*P	Pb	05 19 59.1	+0.4
VA06				*i* S	Sn	05 20 08.1	-0.1
VA06				IAML		05 20 15.0	
	comp=E,2μm,0.5s						
VA06	**Catapilco**	**0.58**	**59** ⇓	*i*P	Pb	05 19 59.1	+0.4
VA06				*i* S	Sn	05 20 07.5	-0.7
VA06				IAML		05 20 14.8	
	comp=E,5μm,0.5s						
ROCH	**El Roble**	**0.74**	**99** ⇓	*i*P	Pn	05 20 02.4	+0.3
ROCH				*i* S	Sn	05 20 13.8	+1.2
ROCH				IAML		05 20 16.5	
	comp=N,2μm,0.3s						
VA05	**Santo Domingo**	**0.83**	**164**	*e*P	Pb	05 20 02.6	-0.2
VA05				*i* S	Sn	05 20 15.1	+0.8
VA05				IAML		05 20 18.6	
	comp=E,2μm,0.3s						
MT05	**Renca**	**1.10**	**119**	*e*P	Pb	05 20 07.8	+0.3
MT05				*e*S	Sb	05 20 23.8	+2.3
VA03	**San Esteban**	**1.13**	**85** ⇑	*i*P	Pb	05 20 08.6	+0.5
VA03				*e*S	Sb	05 20 24.9	+2.5
MT09	**Talagante**	**1.18**	**141**	*e*P	Pb	05 20 09.5	+0.5
MT09				*e*S	Sb	05 20 26.1	+2.1
MT09				IAML		05 20 30.9	
	comp=N,1μm,0.3s						
LMEL	**Las Melosas**	**1.72**	**125** ⇑	*i*P	Pb	05 20 19.0	+0.9

GUC 19 05:20:01.3±0.5, 30°.64S×71°.58W, h24km±4km, ML3.5, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.06**	**230** ⇑	*i*P	Pb	05 20 05.8	+0.3
CO06				*i* S	Sb	05 20 09.3	+0.9
CO06				IAML		05 20 09.7	
	comp=E,18μm,0.1s						
CO06	**Fray Jorge**	**0.06**	**230** ⇑	*i*P	Pb	05 20 05.8	+0.3
CO05	**La Serena**	**0.78**	**23**	*e*P	Pb	05 20 16.2	+0.1
CO05				*e*S	Sn	05 20 27.3	-0.3
CO03	**El Pedregal**	**0.80**	**105** ⇑	*i*P	Pn	05 20 17.4	+0.2
CO03				*i* S	Sn	05 20 28.9	+0.6
CO03				IAML		05 20 29.9	
	comp=E,3μm,0.3s						
GO04	**Tololo Observa**	**0.82**	**56**	*e*P	Pn	05 20 17.9	+0.2
GO04				*e*S	Sn	05 20 30.9	+1.7
GO04				IAML		05 20 34.0	
	comp=E,4μm,0.3s						

TUL ***19*** *05:20:03±1.0, 35°.99N±0°.02×96°.80W±0°.04, h4km±2km, ML3.1, mb_Lg2.6/21(NEIC), Error ellipse: s-maj=4.7km s-min=1.4km az=115.0*
NEIC ***19*** *05:20:03.2±1.1, 35°.99N±0°.02×96°.80W±0°.03, h4km±2km, Error ellipse: s-maj=4.3km s-min=1.6km az=115.0*
ANF ***19*** *05:20:04.5±0.7, 35°.84N×96°.72W, h0km, ML2.7/5, Error ellipse: s-maj=11.6km s-min=2.5km az=165.0*

ISC 19 05:20:03.3±1.0, 36°.00N±0°.03×96°.81W±0°.03, h5km±7km, n34, σ0°.41/30, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OK031	**S. Brethren Rd**	**0.05**	**205**		**Pg**	**05 20 04.6**	**-0.1**
OK031				Sg	**Sg**	**05 20 05.6**	**-0.1**
QUOK	**Quay**	**0.19**	**26**		**Pg**	**05 20 07.3**	**+0.2**
QUOK				Sg	**Sg**	**05 20 10.2**	**+0.5**
OK029	**Liberty Lake**	**0.56**	**249**		**Pg**	**05 20 14.2**	**+0.1**
OK025	**Westminster Rd**	**0.60**	**226**		**Pg**	**05 20 14.6**	**-0.2**
OK025				Sg	**Sg**	**05 20 23.2**	**+0.6**
BCOK	**Bluff Creek, N**	**0.73**	**242**		**Pg**	**05 20 17.3**	**-0.1**
OKCFA	**Oklahoma City**	**0.78**	**222**		**Pg**	**05 20 18.0**	**-0.3**
OKCFA				Sg	**Sg**	**05 20 28.8**	**+0.3**
OKCSW	**OKLAHOMA CITY**	**0.78**	**221**		**Pg**	**05 20 17.8**	**-0.5**
BLOK	**Blackwell**	**0.82**	**337**		**Pg**	**05 20 19.1**	**-0.1**
TUL1	**Leonard** baz=276	**0.83**	**96**	P	**Pg**	**05 20 18.5**	**-0.8**
TUL1				S	**Sg**	**05 20 29.7**	**-0.4**
	baz=276						
FNO	**Franklin**	**0.88**	**213**		**Pg**	**05 20 19.5**	**-0.8**
T35A	**Sooner Cattle**	**0.94**	**15**		**Pg**	**05 20 21.1**	**-0.4**
CROK	**Carrier**	**1.07**	**298**		**Pg**	**05 20 23.6**	**-0.3**
KAN13	**South Haven SW**	**1.14**	**332**		**Pg**	**05 20 24.9**	**-0.4**
GC02	**Grant County #**	**1.20**	**315**		**Pg**	**05 20 25.8**	**-0.5**
KAN17	**Caldwell West**	**1.29**	**324**		**Pg**	**05 20 27.7**	**-0.5**
KS20	**Mayfield South**	**1.36**	**334**		**Pn**	**05 20 28.6**	**-0.4**
OK032	**Salt Plains WL**	**1.38**	**306**		**Pn**	**05 20 29.1**	**-0.2**
X34A	**Smith Ranch, M**	**1.63**	**211**		**Pn**	**05 20 32.6**	**0.0**
U32A	**Winter Ranch,**	**1.81**	**283**		**Pn**	**05 20 35.4**	**+0.2**
WMOK	**Wichita Mounta** baz=52	**2.04**	**233**	S	**Sb**	**05 21 06.6**	**-0.1**
W39A	**Magazine** comp=Z,12nm,0.7s	**2.59**	**107**	IAmb_Lg		05 21 30.5	
W39A	**Magazine** baz=289	**2.59**	**107**	P	**Pn**	**05 20 46.5**	**+0.6**
W39A				Sb	**Sb**	**05 21 22.5**	**+0.1**
	baz=289						
MIAR	**Mount Ida** comp=Z,9.7nm,0.7s	**3.02**	**118**	IAmb_Lg		05 21 44.1	
MIAR	**Mount Ida** baz=300	**3.02**	**118**	P	**Pn**	**05 20 52.3**	**+0.6**
Z38A	**Mt. Pleasant** comp=Z,29nm,1.1s	**3.12**	**151**	IAmb_Lg		05 21 45.5	
FCAR	**Ozark Folk Cen** comp=Z,17nm,0.9s	**3.81**	**90**	IAmb_Lg		05 22 04.0	
W41B	**Gary Mavity, V** baz=284	**3.81**	**101**	P	**Pn**	**05 21 02.8**	**+0.2**
W41B				S	**Sn**	**05 21 48.0**	**+0.2**
	baz=284						
MGMO	**Mountain Grove** comp=Z,22nm,1.0s	**3.83**	**71**	IAmb_Lg		05 22 03.5	
AMTX	**Amarillo** comp=Z,13nm,0.8s	**4.13**	**256**	IAmb_Lg		05 22 20.4	
P38A	**Dawn** comp=Z,12nm,0.7s	**4.45**	**35**	IAmb_Lg		05 22 29.7	
T42A	**Van Buren** comp=Z,13nm,0.8s	**4.72**	**76**	IAmb_Lg		05 22 31.7	
CCM	**Cathedral Cave** comp=Z,15nm,0.9s	**4.90**	**64**	IAmb_Lg		05 22 41.8	
PBMO	**Poplar Bluff** comp=Z,13nm,0.7s	**5.21**	**80**	IAmb_Lg		05 22 47.9	
N38A	**Joes South For** comp=Z,14nm,0.8s	**5.55**	**29**	IAmb_Lg		05 23 03.9	

JMA ***19*** *05:24:40.6±0.1, 24°.25N×121°.85E, h13km±3km, M2.3*
TAP ***19*** *05:24:40.2, 24°.27N×121°.84E, h17km, ML3.0, C*

ISC 19 05:24:40.4±0.9, 24°.27N±0°.02×121°.86E±0°.02, h14km±7km, n42, σ0°.43/69, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village** baz=295	**0.11**	**291**	*e*P	**Pb**	**05 24 44.2**	**-0.2**
EWUT	**Wuta** baz=342	**0.19**	**338**	*i* P	**Pg**	**05 24 45.1**	**+0.3**
ENA	**Nanau** baz=333	**0.19**	**326**	P	**Pg**	**05 24 44.4**	**-0.4**
ENA				*e*S	**Sg**	**05 24 47.4**	**-0.4**
	baz=333						
ETL	**Fush Village** baz=242	**0.24**	**243**	P	**Pg**	**05 24 45.6**	**0.0**
ETL				*e*S	**Sb**	**05 24 49.9**	**-0.8**
	baz=242						
NACB	**Ninganchiao** baz=247	**0.26**	**248**	*e*P	**Pg**	**05 24 46.1**	**+0.2**
TWD	**Chiawan** baz=234	**0.30**	**232**	P	**Pb**	**05 24 47.1**	**-0.5**
TWD				*e*S	**Sb**	**05 24 52.0**	**-0.5**
	baz=234						
TWC	**Suao** baz=8.0	**0.34**	**359**	P	**Pg**	**05 24 47.5**	**+0.1**
TWC				*e*S	**Sb**	**05 24 53.1**	**-0.4**
	baz=8.0						
ETLH	**Xiulin Townshi** baz=268	**0.35**	**260**	*i* P	**Pg**	**05 24 47.7**	**+0.2**
NDS	**Dongshan** baz=346	**0.39**	**340**	*i* P	**Pg**	**05 24 48.3**	**+0.1**
ETM	**Tongmen** baz=227	**0.45**	**228**	P	**Pb**	**05 24 49.9**	**-0.2**
ETM				*e*S	**Sb**	**05 24 57.1**	**+0.4**
	baz=227						
ENTT	**Nioudou** baz=327	**0.46**	**324**	*i* P	**Pg**	**05 24 49.7**	**+0.2**
NDT	**Datong Townshi** baz=318	**0.46**	**317**	*e*P	**Pb**	**05 24 50.0**	**-0.3**
NNSB	**Datong** baz=292	**0.46**	**290**	P	**Pg**	**05 24 49.9**	**+0.3**
NNSB				*e*S	**Sg**	**05 24 56.4**	**+0.6**
	baz=292						
TEYL	**Yanliau Villag** baz=211	**0.46**	**211**	*e*P	**Pb**	**05 24 49.9**	**-0.4**
TEYL				*e*S	**Sb**	**05 24 56.9**	**-0.2**
	baz=211						
NNS	**Nan Shan** baz=293	**0.47**	**291**	P	**Pg**	**05 24 50.1**	**+0.3**
NNS				*e*S	**Sg**	**05 24 56.5**	**+0.3**
	baz=293						
TWE	**Neicheng** baz=342	**0.48**	**339**	P	**Pg**	**05 24 50.2**	**+0.3**
TWE				*e*S	**Sb**	**05 24 57.2**	**-0.4**
	baz=342						
WHF	**Hehuan Shan** baz=258	**0.56**	**257**	P	**Pg**	**05 24 51.3**	**-0.1**
WHF				S	**Sg**	**05 24 59.3**	**+0.4**
	baz=258						
FUSS	**Fushou** baz=277	**0.56**	**268**	*e*P	**Pb**	**05 24 51.8**	**-0.3**
FUSS				*e*S	**Sb**	**05 24 59.9**	**-0.2**
	baz=277						
NTC	**Toucheng** baz=6.0	**0.58**	**358**	*e*P	**Pg**	**05 24 51.8**	**0.0**
YHNB	**Yeheng** baz=314	**0.59**	**312**	*i* P	**Pg**	**05 24 52.1**	**+0.1**
YHNB	**Yeheng**	**0.59**	**312**		**Pg**	**05 24 52.2**	**+0.1**
ESL	**Shilin** baz=224	**0.60**	**221**	P	**Pg**	**05 24 52.1**	**0.0**
ESL				*e*S	**Sb**	**05 25 01.9**	**+1.0**
	baz=224						
NWLT	**Wulai** baz=324	**0.60**	**328**	P	**Pg**	**05 24 52.1**	**-0.1**
NWLT				*e*S	**Sb**	**05 25 01.1**	**0.0**
	baz=324						
NSK	**Sanguang** baz=313	**0.61**	**312**	P	**Pg**	**05 24 52.4**	**0.0**
NSK				*e*S	**Sb**	**05 25 01.0**	**-0.3**
	baz=313						
CHGB	**Renai** baz=250	**0.66**	**252**	P	**Pb**	**05 24 53.6**	**-0.2**
TIPB	**Shuangxi** baz=360	**0.70**	**358**	P	**Pg**	**05 24 54.1**	**0.0**
TIPB				*e*S	**Sb**	**05 25 04.6**	**+0.7**
	baz=360						
TWA	**Mucha** baz=343	**0.75**	**341**	*e*P

baz=239
CHN5 eS Sg 05 25 21.7 +0.3
baz=239
TPUB Ta-pu 1.48 230 eP Pb 05 25 07.4 -0.3
baz=230
TPUB eS Sg 05 25 27.1 -1.0
baz=230
IRIF Iriomote-Funau 1.71 87 P Pn 05 25 10.1 +0.4
IRIF S Sn 05 25 31.8 +0.4
JKRS Kuro-shima 1.96 90 P Pn 05 25 14.1 +0.9
JKRS S Sb 05 25 39.8 -0.5
JISG Ishigakijimahi 2.26 81 P Pn 05 25 16.4 -0.9

IDC ***19*** *05:35:59.1±1.7,5.97S×151.42E,h20km±10km,mb4.7/30, mb1 4.8/30,mb1mx4.7/46,mbtmp4.8/30,MS4.6/7, Ms1 4.6/7,ms1mx4.2/35,Error ellipse: s-maj=13.0km s-min=9.1km az=110.0*

BJI ***19*** *05:35:59.8±0.0,5.71S×152.13E,h57km,mB5.5/22, mb4.9/43,Ms5.2/22,Ms7 5.0/21*

MOS ***19*** *05:35:59.7±1.1,5.88S×151.38E,h34km,mb5.2/19,Error ellipse: s-maj=10.4km s-min=7.1km az=99.0*

NEIC ***19*** *05:36:02.4±1.6,6.01S±0.07×151.50E±0.07,h47km±6km, mb5.1/91,Error ellipse: s-maj=10.8km s-min=9.8km az=85.0*

DJA ***19*** *05:36:03.4±0.4,6.3S±3×15.2E±°,h69km±4km,M5.3/42, mb5.2/42,mB5.6/12,MLv5.8/2,Mw(mB)5.1/12, MwMwp5.2/2,Mwp5.4/2*

ISC 19 05:36:01.8±0.3,5.97S±0.04×151.43E±0.05,h41km,n456, σ1§13/467,mb5.1/125,MS5.0/13,5C-18D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.91**	**22**	Pn	**Pn**	**05 36 31.0**	**-1.0**
RABL	**Rabaul**	**1.91**	**22**	P	**Pn**	**05 36 31.2**	**-0.7**
MANU	**Manus Island**	**5.63**	**314**		Pn	05 37 28.3	+5.3
HNR	**Honiara**	**9.11**	**113**	Pn	**Pn**	**05 38 13.6**	**+2.8**
	34nm,0.3s,baz=171,slow=1.9,SNR=5.4						
HNR				LR	LR	05 41 16.8	
	comp=Z,3μm,20.9s,baz=252,slow=35						
HNR	**Honiara**	**9.11**	**113**	P	**Pn**	**05 38 10.7**	**-0.1**
HNR	**Honiara**	**9.11**	**113**	Pn	**Pn**	**05 38 10.7**	**-0.1**
JAY	**Jayapura**	**11.24**	**287**	Pn	**Pn**	**05 38 43.3**	**+3.4**
	0.4nm,0.3s,baz=92,slow=4.6,SNR=4.3						
JAY				LR	LR	05 42 32.6	
	comp=Z,5μm,19.1s,baz=94,slow=35						
JAY	**Jayapura**	**11.24**	**287**	P	Pn	05 38 45.2	+5.2
	588nm20nm,1.4s						
COEN	**Coen**	**11.36**	**225**	Pn	**Pn**	**05 38 42.5**	**+0.9**
MTSU	**Mount Surprise**	**13.94**	**209**	P	**Pn**	**05 39 18.3**	**+1.4**
	baz=14,SNR=11						
PATS	**Pohnpei**	**14.46**	**28**	Pn	**Pn**	**05 39 25.6**	**+1.8**
CTA	**Charters Tower**	**14.91**	**199**	Pn	**P**	**05 39 32.5**	**-2.3**
	0.9nm,0.3s,baz=31,slow=14,SNR=17						
CTA				LR	LR	05 45 05.5	
	comp=Z,2μm,18.9s,baz=32,slow=37						
CTAO	**Charters Tower**	**14.91**	**199**	P	**Pn**	**05 39 29.4**	**-0.5**
CTAO	**Charters Tower**	**14.91**	**199**	Pn	**Pn**	**05 39 29.4**	**-0.5**
SANVU	**Saraoutou**	**18.12**	**123**	P	**Pn**	**05 40 09.9**	**-0.6**
QIS	**Mount Isa**	**18.49**	**217**	P	**P**	**05 40 14.1**	**-0.5**
	baz=19,SNR=21						
EIDS	**Eidsvold**	**19.29**	**181**	P	**P**	**05 40 23.4**	**+0.2**
	baz=19,SNR=7.9						
EIDS	**Eidsvold**	**19.29**	**181**	P	**P**	**05 40 23.1**	**-0.2**
KDU	**Kakadu**	**19.85**	**249**	P	**P**	**05 40 29.8**	**+0.3**
	baz=20,SNR=40						
GUMO	**Guam**	**20.50**	**341**	P	**P**	**05 40 37.2**	**+0.7**
	290nm,0.9s,baz=174,slow=6.8,SNR=12						
GUMO	**Guam**	**20.50**	**341**	P	**P**	**05 40 36.1**	**-0.3**
GUMO				pmax	pmax		
	comp=Z,353nm,1.0s						
GUMO	**Guam**	**20.50**	**341**		**P**	**05 40 36.1**	**-0.3**
RMQ	**Roma**	**20.56**	**187**	P	**P**	**05 40 37.9**	**+0.8**
	baz=21,SNR=35						
MTN	**Manton Dam**	**21.15**	**250**	P	**P**	**05 40 43.6**	**0.0**
	baz=21,SNR=3.8						
MTN	**Manton Dam**	**21.15**	**250**	P	**P**	**05 40 43.3**	**-0.3**
MTN				lAmb	lAmb	05 40 57.8	
	comp=Z,66nm,0.9s						
LIFNC	**LIFOU**	**21.25**	**135**	P	**P**	**05 40 43.0**	**-1.5**
LIFNC	**LIFOU**	**21.25**	**135**	P	**P**	**05 40 45.1**	**+0.5**
	comp=Z,116nm,1.5s						
WR0	**Warramunga Arr**	**21.51**	**228**	P	**P**	**05 40 47.6**	**+0.2**
WR0				lAmb	lAmb	05 41 17.9	
	comp=Z,68nm,0.9s						
DZM	**Mont Dzumac**	**21.60**	**139**	P	**P**	**05 40 47.9**	**-0.5**
	comp=Z,18nm,0.7s,baz=332,slow=15,SNR=24						
DZM				LR	LR	05 46 24.0	
	comp=Z,671nm,19.9s,baz=319,slow=29						
DZM	**Mont Dzumac**	**21.60**	**139**	P	**P**	**05 40 48.0**	**-0.5**
	comp=Z,39nm,1.2s						
QLP	**Quilpie**	**21.61**	**198**	P	**P**	**05 40 49.1**	**+0.6**
	baz=22,SNR=37						
WRAB	**Tennant Creek**	**21.64**	**229**	⇓*e*P	**P**	**05 40 48.6**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,70nm,1.0s						
WRAB	**Tennant Creek**	**21.64**	**229**	P	**P**	**05 40 47.9**	**-0.9**
WRAB				lAmb	lAmb	05 41 20.4	
	comp=Z,78nm,0.9s						
WRA	**Warramunga Arr**	**21.65**	**229**	P	**P**	**05 40 49.3**	**+0.4**
	comp=Z,45nm,0.9s,baz=59,slow=9.3,SNR=73						
WRA				S	**S**	**05 44 46.4**	**-0.3**
	comp=Z,9.8nm,1.1s,baz=52,slow=19,SNR=7.4						
WRA				ScP	**ScP**	**05 48 25.6**	**+2.0**
	comp=Z,7.6nm,0.9s,baz=56,slow=2.5,SNR=9.1						
WRA	**Warramunga Arr**	**21.65**	**229**	P	**P**	**05 40 48.8**	**-0.1**
YATNC	**Mamie plateau,**	**21.89**	**138**	P	**P**	**05 40 51.0**	**-0.4**
	comp=Z,64nm,1.5s						
OUENC	**Ouen Island, N**	**22.11**	**139**	P	**P**	**05 40 51.9**	**-1.9**
MARNC	**Mare, Loyalty**	**22.27**	**135**	P	**P**	**05 40 52.9**	**-2.6**
ANA2	**Anatahan**	**22.88**	**346**	P	**P**	**05 41 01.3**	**-0.7**
KNRA	**Kununurra**	**24.24**	**245**	P	**P**	**05 41 15.5**	**+0.4**
	baz=24,SNR=21						
KNRA	**Kununurra**	**24.24**	**245**	P	**P**	**05 41 14.4**	**-0.7**
KNRA				lAmb	lAmb	05 41 57.7	
	comp=Z,57nm,0.8s						
ARMA	**Armidale**	**24.32**	**180**	P	**P**	**05 41 14.9**	**-0.9**
	baz=24,SNR=5.9						
AS31	**Alice Springs**	**24.37**	**222**	P	**P**	**05 41 16.1**	**-0.1**
ASAR	**Alice Springs**	**24.37**	**222**	P	**P**	**05 41 16.2**	**-0.1**
	comp=Z,70nm,0.9s,baz=54,slow=9.2,SNR=268						
ASAR				S	**S**	**05 45 37.3**	**+4.0**
	comp=Z,1.0nm,0.9s,baz=45,slow=24,SNR=1.4						
ASAR				ScP	**ScP**	**05 48 33.9**	**+3.2**
	comp=Z,4.5nm,1.0s,baz=38,slow=2.9,SNR=5.7						
ASAR	**Alice Springs**	**24.37**	**222**	P	**P**	**05 41 16.6**	**+0.3**
CMSA	**Cobar Meteorol**	**26.00**	**191**	P	**P**	**05 41 30.0**	**-0.9**
	baz=26,SNR=40						
SOEI	**Soe**	**27.16**	**260**	P	**P**	**05 41 41.0**	**-0.8**
SOEI	**Soe**	**27.16**	**260**	P	**P**	**05 41 42.6**	**+0.8**
	comp=Z,2μmcomp=Z,117nm,1.2s						
STKA	**Stephens Creek**	**27.37**	**198**	P	**P**	**05 41 42.5**	**-0.7**
	baz=28,SNR=28						
STKA	**Stephens Creek**	**27.37**	**198**	P	**P**	**05 41 42.6**	**-0.7**
	comp=Z,37nm,1.0s,baz=27,slow=13,SNR=16						
STKA	**Stephens Creek**	**27.37**	**198**	P	**P**	**05 41 42.1**	**-1.1**
BATI	**Baumata**	**27.80**	**259**	LR	LR	05 55 18.8	
	comp=Z,2μm,19.9s,baz=102,slow=42						
FITZ	**Fitzroy Crossi**	**27.91**	**242**	P	**P**	**05 41 48.2**	**0.0**
	baz=28,SNR=25						
FITZ	**Fitzroy Crossi**	**27.91**	**242**	P	**P**	**05 41 48.4**	**+0.2**
	comp=Z,20nm,0.6s,baz=56,slow=8.3,SNR=64						
FITZ				LR	LR	05 53 06.9	
	comp=Z,494nm,19.0s,baz=76,slow=37						
FITZ	**Fitzroy Crossi**	**27.91**	**242**	P	**P**	**05 41 47.8**	**-0.5**
FITZ				lAmb	lAmb	05 42 20.7	
	comp=Z,33nm,0.8s						
MSVF	**Nonsavu**	**28.50**	**117**	P	**P**	**05 41 54.1**	**+0.5**
	comp=Z,8.1nm,0.7s,baz=277,slow=10.0,SNR=8.2						
MSVF	**Nonsavu**	**28.50**	**117**	⇑*e*P	**P**	**05 41 53.9**	**+0.3**
MSVF	**Nonsavu**	**28.50**	**117**	P	**P**	**05 41 52.9**	**-0.7**
MSVF	**Nonsavu**	**28.50**	**117**	P	**P**	**05 41 54.6**	**+1.0**
	comp=Z,19nm,0.8s						
WRKA	**Warakurna**	**29.17**	**227**	P	**P**	**05 41 58.9**	**-0.5**
	baz=29,SNR=52						
EDFI	**Ende, Flores**	**29.62**	**263**	P	**P**	**05 42 02.8**	**-0.9**
	comp=Z,49nm,1.1s						
HTT	**Hallett**	**29.69**	**201**	P	**P**	**05 42 03.9**	**0.0**
	baz=30,SNR=21						
BBOO	**Buckleboo**	**30.30**	**206**	P	**P**	**05 42 08.9**	**-0.4**
	baz=30,SNR=14						
BBOO	**Buckleboo**	**30.30**	**206**	P	**P**	**05 42 08.7**	**-0.7**
BBOO				lAmb	lAmb	05 42 09.7	
	comp=Z,41nm,1.1s						
ARPS	**Mount Arapiles**	**31.89**	**195**	P	**P**	**05 42 22.9**	**-0.3**
	baz=32,SNR=7.0						
TOO	**Toolangi**	**31.92**	**189**	P	**P**	**05 42 22.1**	**-1.4**
TOO				pmax	pmax		
	comp=Z,14nm,1.1s						
TOO	**Toolangi**	**31.92**	**189**	P	**P**	**05 42 22.1**	**-1.4**
WBSI	**Waikabubak, Su**	**31.94**	**261**	P	**P**	**05 42 23.5**	**-0.6**
	comp=Z,2μmcomp=Z,158nm,0.9s						
FORT	**Forrest**	**33.03**	**219**	P	**P**	**05 42 33.3**	**0.0**
	baz=33,SNR=24						
FORT	**Forrest**	**33.03**	**219**	P	**P**	**05 42 32.5**	**-0.8**
PLAI	**Plampang**	**33.49**	**263**	P	**P**	**05 42 35.8**	**-1.8**
	comp=Z,80nm,0.5s						
PSA00	**Pilbara Seismi**	**34.27**	**240**	P	**P**	**05 42 43.7**	**-0.6**
PSA00	**Pilbara Seismi**	**34.27**	**240**	P	**P**	**05 42 44.1**	**-0.1**
PSA00				lAmb	lAmb	05 42 57.8	
	comp=Z,48nm,1.6s						
TWSI	**Taliwang, Sumb**	**34.37**	**263**	P	**P**	**05 42 44.4**	**-0.8**
	comp=Z,29nm,1.0s						
BYJI	**Banyuwangi**	**36.85**	**264**	P	**P**	**05 43 06.7**	**+0.2**
	comp=Z,138nm,1.1s						
JAGI	**Jajag, Banyuwa**	**37.06**	**264**	P	**P**	**05 43 06.5**	**-1.8**
JAGI	**Jajag, Banyuwa**	**37.06**	**264**	P	**P**	**05 43 06.1**	**-2.2**
	comp=Z,91nm,0.6s						
MEEK	**Meekatharra**	**37.41**	**233**	P	**P**	**05 43 11.5**	**+0.3**
	baz=38,SNR=42						
GMJI	**Gumukmas**	**37.76**	**264**	P	**P**	**05 43 14.0**	**-0.2**
	comp=Z,31nm,0.9s						
PWJI	**Parewojo**	**39.38**	**265**	P	**P**	**05 43 26.8**	**-1.0**
	comp=Z,66nm,0.9s						
SJI	**Sawahan**	**39.41**	**265**	P	**P**	**05 43 27.9**	**-0.3**
	comp=Z,42nm,0.9s						
URZ	**Urewera**	**39.70**	**148**	P	**P**	**05 43 29.1**	**-1.0**
	comp=Z,8.5nm,0.7s,baz=298,slow=19,SNR=7.9						
PCJI	**Pacitan**	**40.00**	**264**	P	**P**	**05 43 32.8**	**-0.2**
	comp=Z,2μmcomp=Z,164nm,0.8s						
MORW	**Morawa**	**40.55**	**231**	P	**P**	**05 43 37.7**	**+0.3**
	baz=41,SNR=8.6						
MORW	**Morawa**	**40.55**	**231**	P	**P**	**05 43 36.8**	**-0.6**
MORW				lAmb	lAmb	05 43 38.8	
	comp=Z,37nm,0.8s						
YULB	**Yu-li**	**41.45**	**316**	P	**P**	**05 43 44.3**	**-0.5**
YULB				lAmb	lAmb	05 44 21.0	
	comp=Z,66nm,1.3s						
NACB	**Ninganchiao**	**41.76**	**317**	P	**P**	**05 43 46.8**	**-0.5**
NACB				lAmb	lAmb	05 43 54.2	
	comp=Z,40nm,0.9s						
MUN	**Mundaring**	**41.84**	**227**	P	**P**	**05 43 48.4**	**+0.5**
	baz=42,SNR=4.5						
TPUB	**Ta-pu**	**41.86**	**315**	P	**P**	**05 43 46.9**	**-1.2**
TPUB				lAmb	lAmb	05 44 12.3	
	comp=Z,30nm,0.9s						
SSLB	**Suanglung**	**41.95**	**316**	P	**P**	**05 43 48.1**	**-0.8**
SSLB				lAmb	lAmb	05 44 20.6	
	comp=Z,27nm,1.0s						
KPJI	**Karang Pucung**	**42.23**	**266**	P	**P**	**05 43 51.4**	**+0.1**
	comp=Z,116nm,0.7s						
YHNB	**Yeheng**	**42.24**	**317**	P	**P**	**05 43 49.4**	**-2.0**
CMJI	**Cimerak**	**42.70**	**265**	P	**P**	**05 43 54.1**	**-1.1**
	comp=Z,120nm,0.7s						
CISI	**Cisompet, Garu**	**43.33**	**265**	P	**P**	**05 43 59.0**	**-1.4**
CISI	**Cisompet, Garu**	**43.33**	**265**	P	**P**	**05 43 59.3**	**-1.1**
	comp=Z,2μmcomp=Z,83nm,0.6s						
JNU	**Nakatsue**	**43.50**	**335**	P	**P**	**05 44 03.0**	**+1.6**
	comp=Z,23nm,0.7s,baz=42,slow=0.3,SNR=3.1						
JNU	**Nakatsue**	**43.50**	**335**	P	**P**	**05 44 02.2**	**+0.8**
JNU				lAmb	lAmb	05 44 08.4	
	comp=Z,27nm,0.8s						
LEM	**Lembang**	**43.54**	**266**	P	**P**	**05 44 03.1**	**+1.0**
	comp=Z,61nm,0.6s,baz=74,slow=3.9,SNR=7.5						
LEM	**Lembang**	**43.54**	**266**	P	**P**	**05 44 02.8**	**+0.6**
	comp=Z,56nm,0.8s						
JWT	**Wachi**	**43.72**	**341**	P	**P**	**05 44 03.2**	**+0.2**
JWT				lAmb	lAmb	05 45 13.8	
	comp=Z,95nm,1.6s						
CNJI	**Cibinong**	**44.01**	**266**	P	**P**	**05 44 04.7**	**-1.1**
	comp=Z,261nm,1.0s						
MJAR	**Matsushiro Arr**	**44.07**	**345**	P	**P**	**05 44 06.8**	**+0.9**
	comp=Z,1.9nm,0.6s,baz=175,slow=9.4,SNR=7.0						
MJAR				PcP	**PcP**	**05 45 50.2**	**-0.5**
	comp=Z,2.5nm,0.7s,baz=174,slow=3.7,SNR=4.3						
MJAR				ScP	**ScP**	**05 49 41.9**	**+2.4**
	comp=Z,6.3nm,0.9s,baz=169,slow=5.7,SNR=8.3						
MAT	**Matsushiro**	**44.07**	**345**	P	**P**	**05 44 05.1**	**-0.8**
CBJI	**Citeko**	**44.31**	**267**	P	**P**	**05 44 04.5**	**-3.7**
	comp=Z,7μmcomp=Z,116nm,0.5s						
QZH	**Quanzhou**	**44.33**	**315**	⇓*i*P	**P**	**05 44 09.3**	**+1.2**
MDSI	**Maura Dua**	**47.07**	**269**	P	**P**	**05 44 29.3**	**-0.7**
	comp=Z,1μmcomp=Z,22nm,1.1s						
TJN	**Taejon**	**47.79**	**334**	⇓*e*P	**P**	**05 44 35.2**	**+0.1**
KSRS	**Korea Array**	**48.45**	**335**	P	**P**	**05 44 40.0**	**-0.3**
	comp=Z,3.1nm,0.9s,baz=154,slow=9.3,SNR=10.0						
KSRS				ScP	**ScP**	**05 49 59.7**	**+2.0**
	comp=Z,2.2nm,0.8s,baz=154,slow=4.4,SNR=6.2						
KSRS	**Korea Array**	**48.45**	**335**	P	**P**	**05 44 40.0**	**-0.3**
KSAR	**Wonju Array Be**	**48.46**	**335**	P	**P**	**05 44 40.0**	**-0.3**
KSAR	**Wonju Array Be**	**48.46**	**335**	P	**P**	**05 44 40.0**	**-0.3**
KS19	**Wonju Array Si**	**48.52**	**335**	P	**P**	**05 44 40.2**	**-0.6**
KS19				lAmb	lAmb	05 45 17.7	
	comp=Z,54nm,1.9s						
NJ2	**Nanjing**	**48.92**	**323**	*e*P	**P**	**05 44 44.5**	**+0.6**
NJ2				S	**S**	**05 51 50.5**	**+5.4**
NJ2				sS	sS	05 52 13.3	+11
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
NJ2				LR	LR		
	comp=Z,1μm,20.6s						
NJ2				LR	LR		
	comp=Z,1μm,19.1s						
NJ2				LR	LR		
	comp=Z,2μm,17.7s						
INCN	**Inchon**	**49.03**	**334**	P	**P**	**05 44 44.3**	**-0.4**
INCN				pmax	pmax		
	comp=Z,112nm,1.7s						
INCN	**Inchon**	**49.03**	**334**	P	**P**	**05 44 44.3**	**-0.4**
MASI	**Maura Aman, Be**	**49.11**	**271**	P	**P**	**05 44 44.5**	**-1.3**
	comp=Z,79nm,0.6s						
WHN	**Wuhan**	**50.78**	**318**	⇓P	**P**	**05 44 59.3**	**+1.2**
IPM	**Ipoh**	**51.39**	**281**	P	**P**	**05 45 03.0**	**-0.1**
KULM	**Kulim**	**51.92**	**281**	P	**P**	**05 45 07.0**	**0.0**
MNSI	**Mandailing Nat**	**52.20**	**276**	P	**P**	**05 45 08.3**	**-0.8**
	comp=Z,16nm,0.7s						
USRK	**Ussuriysk Ar.**	**52.93**	**343**	P	**P**	**05 45 13.3**	**-0.6**
	comp=Z,2.7nm,0.7s,baz=125,slow=6.7,SNR=4.8						
USRK				ScP	**ScP**	**05 50 19.0**	**+2.2**
	comp=Z,2.9nm,0.9s,baz=163,slow=7.2,SNR=4.2						
USRK	**Ussuriysk Ar.**	**52.93**	**343**	P	**P**	**05 45 13.1**	**-0.8**
NONG	**Nongkai**	**53.29**	**298**	P	**P**	**05 45 22.1**	**+5.1**
SLVN	**Son La**	**53.93**	**302**	P	**P**	**05 45 21.4**	**-0.3**
ENH	**Enshi**	**53.97**	**314**	P	**P**	**05 45 20.9**	**-1.0**
ENH				lAmb	lAmb	05 45 38.1	
	comp=Z,24nm,1.0s						
GYA	**Guiyang**	**54.04**	**309**	⇑P	**P**	**05 45 24.6**	**+2.0**
GYA				pmax	pmax		
	comp=Z,17nm,0.8s						
MDJ	**Mudanjiang**	**54.05**	**341**	P	**P**	**05 45 24.0**	**+1.9**
MDJ				sP	sP	05 45 44.1	+5.5
MDJ				S	**S**	**05 52 50.1**	**-5.4**
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,590nm,6.2s						
MDJ				LR	LR		
	comp=Z,700nm,20.3s						
MDJ				LR	LR		
	comp=Z,960nm,22.2s						
MDJ				LR	LR		
	comp=Z,2μm,23.3s						
GSI	**Gunungsitoli**	**54.26**	**276**	P	**P**	**05 45 22.9**	**-1.3**
	comp=Z,36nm,0.8s						
BJI	**Beijing**	**56.13**	**328**	P	**P**	**05 45 36.6**	**-0.6**
BJI				pmax	pmax		
	comp=Z,7.0nm,1.1s						
XAN	**Xi'an**	**56.55**	**318**	P	**P**	**05 45 40.0**	**-0.4**
XAN				S	**S**	**05 53 29.0**	**-0.4**
XAN				sS	sS	05 53 50.8	+1.4
XAN				SS	**SS**	**05 57 18.4**	**+0.9**
XAN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
XAN				LR	LR		
	comp=Z,520nm,19.2s						
XAN				LR	LR		
	comp=Z,810nm,16.8s						
XAN				LR	LR		
	comp=Z,730nm,18.0s						
CM04	**Chiang Mai Arr**	**57.10**	**296**	P	**P**	**05 45 52.4**	**+7.8**
CM05	**Chiang Mai Arr**	**57.14**	**296**	P	**P**	**05 45 48.7**	**+3.9**
	comp=Z,4.6nm,1.0s						
CMAR	**Chiang Mai Arr**	**57.16**	**296**	P	**P**	**05 45 45.5**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=120,slow=5.0,SNR=8.7						
CMAR				PP	**PP**	**05 47 50.0**	**-2.3**
	comp=Z,1.3nm,0.3s,baz=116,slow=6.5,SNR=4.4						
CMAR				ScP	**ScP**	**05 50 38.1**	**+2.1**
	comp=Z,1.0nm,0.3s,baz=117,slow=2.7,SNR=4.5						
CMAR	**Chiang Mai Arr**	**57.16**	**296**	*i* P	**P**	**05 45 45.0**	**+0.1**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**57.16**	**296**	P	**P**	**05 45 45.0**	**+0.1**
CM13	**Chiang Mai Arr**	**57.18**	**296**	P	**P**	**05 45 49.5**	**+4.4**
	comp=Z,5.7nm,0.9s						
CMMT	**Chiang Mai**	**57.27**	**297**	P	**P**	**05 45 48.4**	**+2.6**
	comp=Z,7.5nm,1.5s						
CMMT	**Chiang Mai**	**57.27**	**297**	P	**P**	**05 45 45.5**	**-0.3**
	comp=Z,7.2nm,1.5s						
CHTO	**Chiang Mai**	**57.28**	**297**	P	**P**	**05 45 46.1**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CHTO	**Chiang Mai**	**57.28**	**297**	P	**P**	**05 45 48.5**	**+2.7**
	comp=Z,7.6nm,1.6s						
CHTO	**Chiang Mai**	**57.28**	**297**	P	**P**	**05 45 46.1**	**+0.3**
CHTO	**Chiang Mai**	**57.28**	**297**	P	**P**	**05 45 45.9**	**+0.1**
	comp=Z,4.3nm,1.6s						
KLR	**Kul'dur**	**57.60**	**345**	P	**P**	**05 45 46.2**	**-1.2**
	comp=Z,4.7nm,0.9s,baz=156,slow=5.9,SNR=11						
KLR	**Kul'dur**	**57.60**	**345**	⇓*i*P	**P**	**05 45 46.5**	**-0.9**
KLR				pmax	pmax		
	comp=Z,15nm,2.3s						
CD2	**Chengdu**	**58.48**	**312**	P	**P**	**05 45 55.0**	**+0.9**
PETK	**Petropavlovsk-**	**59.09**	**4**	P	**P**	**05 45 56.2**	**-1.6**
	comp=Z,2.3nm,0.7s,baz=177,slow=8.5,SNR=5.0						
PETK	**Petropavlovsk-**	**59.09**	**4**	P	**P**	**05 45 56.4**	**-1.5**
PETK	**Petropavlovsk-**	**59.09**	**4**	P	**P**	**05 45 56.4**	**-1.5**
HHC	**Hu-ho-hao-te**	**59.22**	**326**	*e*P	**P**	**05 45 59.9**	**+0.8**
HHC				pmax	pmax		
	comp=Z,20nm,0.8s						
HHC				pmax	pmax		
	comp=Z,180nm,6.8s						
HHC				LR	LR		
	comp=Z,880nm,16.2s						
HHC				LR	LR		
	comp=Z,770nm,17.9s						
HHC				LR	LR		
	comp=Z,1μm,17.9s						
LZH	**Lanzhou**	**61.13**	**317**	*e*P	**P**	**05 46 13.0**	**+0.6**
LZH				pP	sP	05 46 27.8	-1.1
LZH				sP	pP	05 46 33.8	+10
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
HIA	**Hailar**	**61.56**	**337**	*d*iP	**P**	**05 46 14.6**	**-0.2**
HIA				pmax	pmax		
	comp=Z,11nm,0.6s						
MA2	**Magadan**	**65.34**	**360**	P	**P**	**05 46 40.6**	**+1.1**
	comp=Z,9.7nm,0.6s,baz=310,slow=24,SNR=3.5						
GTA	**Gaotai**	**65.60**	**318**	*e*P	**P**	**05 46 42.1**	**+0.3**
GTA				pP	sP	05 47 01.9	+3.4
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,92nm,4.2s						
GTA				LR	LR		
	comp=Z,340nm,19.6s						
GTA				LR	LR		
	comp=Z,430nm,18.9s						
GTA				LR	LR		
	comp=Z,410nm,18.2s						
SHL	**Shillong**	**65.74**	**301**	P	**P**	**05 46 41.7**	**-1.4**
SHL				pmax	pmax		
	comp=Z,11nm,0.7s						
SHL	**Shillong**	**65.74**	**301**	P	**P**	**05 46 41.7**	**-1.4**
SHL				lAmb	lAmb	05 46 43.3	
	comp=Z,11nm,0.7s						
ULN	**Ulaanbaatar**	**66.28**	**329**	⇓*i*P	**P**	**05 46 46.4**	**+0.3**
ULN				pmax	pmax		
	comp=Z,12nm,1.2s						
ULN	**Ulaanbaatar**	**66.28**	**329**	P	**P**	**05 46 45.7**	**-0.4**
ULN				lAmb	lAmb	05 47 02.3	
	comp=Z,18nm,1.4s						
ULN	**Ulaanbaatar**	**66.28**	**329**	P	**P**	**05 46 46.4**	**+0.3**
	comp=Z,35nm,1.2s						
CASY	**Casey**	**66.50**	**197**	P	**P**	**05 46 46.6**	**-0.4**
CASY				lAmb	lAmb	05 46 47.3	
	comp=Z,24nm,1.4s						
SONM	**Songino Array**	**66.60**	**329**	P	**P**	**05 46 48.2**	**+0.1**
	comp=Z,10nm,1.1s,baz=137,slow=5.8,SNR=29						
SONM	**Songino Array**	**66.60**	**329**	P	**P**	**05 46 48.0**	**-0.1**
SONM				pmax	pmax		
	comp=Z,15nm,1.2s						
SONM	**Songino Array**	**66.60**	**329**	P	**P**	**05 46 48.0**	**-0.1**
ZAK	**Zakamensk**	**69.79**	**329**	*e*P	**P**	**05 47 07.1**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,18nm,1.2s						
TAPN	**Taplejung**	**69.85**	**302**	*e*P	**P**	**05 47 08.7**	**-0.4**
YAK	**Yakutsk**	**69.86**	**349**	⇑*e*P	**P**	**05 47 07.6**	**-0.3**
YAK				pmax	pmax		
	comp=Z,12nm,0.5s						
ODAN	**Odare**	**69.97**	**301**	*e*P	**P**	**05 47 09.1**	**-0.7**
	comp=Z,32nm,0.8s						
BOD	**Bodaibo**	**70.40**	**340**	*e*P	**P**	**05 47 10.0**	**-1.4**
BOD				pmax	pmax		
	comp=Z,15nm,1.9s						
**

baz=238,SNR=5.7
L19K White Mountain 79.35 23 P P 05 48 03.0 0.0
L19K lAmb lAmb 05 48 05.4
comp=Z,33nm,1.1s
L19K White Mountain 79.35 23 P P 05 48 03.5 +0.4
baz=235,SNR=16
CNPM China Poot 79.36 26 P P 05 48 03.4 +0.2
M19K Big River Lodg 79.36 23 P P 05 48 04.0 +0.9
baz=235,SNR=7.7
BRLK Bradley Lake 79.63 26 P P 05 48 04.1 -0.6
BRLK lAmb lAmb 05 48 06.0
comp=Z,25nm,0.8s
BRSE Bradley Lake S 79.68 26 P P 05 48 05.4 +0.4
baz=239
L20K Farewell, AK 79.89 23 P P 05 48 06.8 +0.7
baz=235,SNR=10
MK31 Makanchi Array 80.32 319 P P 05 48 07.9 -0.8
MK31 pmax pmax
comp=Z,4.0nm,1.0s
MK31 Makanchi Array 80.32 319 P P 05 48 07.9 -0.8
MKAR Makanchi Array 80.32 319 P P 05 48 08.2 -0.5
comp=Z,2.3nm,0.9s,baz=101,slow=6.3,SNR=12
MKAR Makanchi Array 80.32 319 P P 05 48 07.3 -1.4
K20K Telida 80.32 22 P P 05 48 07.7 -0.6
K20K lAmb lAmb 05 48 10.2
comp=Z,18nm,0.9s
K20K Telida 80.32 22 P P 05 48 09.0 +0.7
baz=235,SNR=8.7
SEW Seward 80.43 26 P P 05 48 08.9 0.0
SEW lAmb lAmb 05 48 10.5
comp=Z,28nm,0.8s
SEW Seward 80.43 26 P P 05 48 09.4 +0.5
baz=240,SNR=9.4
O22K Cooper Landing 80.50 25 P P 05 48 08.2 -1.1
MAKZ Makanchi 80.52 319 P P 05 48 08.9 -0.9
MAKZ pmax pmax
comp=Z,9.0nm,1.3s
MAKZ Makanchi 80.52 319 P P 05 48 08.8 -0.9
SKT Skwentna 80.53 24 P P 05 48 08.4 -1.1
baz=238
SUA Susitna One 80.58 24 P P 05 48 08.9 -1.0
SUA lAmb lAmb 05 48 10.9
comp=Z,18nm,1.0s
SUA Susitna One 80.58 24 P P 05 48 09.4 -0.4
baz=238,SNR=6.8
J20K Nowinta River 80.76 21 P P 05 48 11.0 +0.4
baz=235,SNR=11
PPLA Purkeypile 80.77 23 P P 05 48 11.1 +0.2
baz=237
RC01 Rabbit Creek A 80.80 25 P P 05 48 10.8 -0.1
RC01 lAmb lAmb 05 48 12.8
comp=Z,24nm,0.9s
RC01 Rabbit Creek A 80.80 25 P P 05 48 10.6 -0.3
baz=239
CAST Castle Rocks 81.10 22 P P 05 48 11.6 -0.9
CAST lAmb lAmb 05 48 13.1
comp=Z,18nm,0.9s
CAST Castle Rocks 81.10 22 P P 05 48 11.7 -0.8
baz=237,SNR=14
CUT Chulitna 81.26 24 P P 05 48 13.0 -0.3
baz=239
CHUM Lake Minchumin 81.26 22 P P 05 48 13.7 +0.4
baz=237,SNR=12
PWL Port Wells 81.28 25 P P 05 48 13.6 +0.1
PMR Palmer 81.31 25 P P 05 48 13.5 -0.1
PMR pmax pmax
comp=Z,14nm,1.1s
PMR Palmer 81.31 25 P P 05 48 13.5 -0.1
PMR Palmer 81.31 25 P P 05 48 13.3 -0.3
baz=240,SNR=6.9
ZALV Zalesovo Beam 81.37 327 P P 05 48 12.5 -1.6
comp=Z,2.9nm,0.6s,baz=117,slow=6.2,SNR=9.5
ZALV Zalesovo Beam 81.37 327 P P 05 48 12.4 -1.7
GHO Glory Hole Cre 81.48 25 P P 05 48 14.1 -0.5
KNK Knik Glacier 81.50 25 P P 05 48 15.0 +0.4
baz=241,SNR=5.8
SML Sawmill 81.75 25 P P 05 48 15.8 -0.2
SML Sawmill 81.75 25 P P 05 48 16.0 0.0
baz=241,SNR=15
TRF Thorofare Moun 81.80 23 P P 05 48 15.2 -1.1
TRF Thorofare Moun 81.80 23 P P 05 48 15.6 -0.7
baz=239,SNR=8.0
GLI Glacier Island 81.82 26 P P 05 48 16.5 +0.1
baz=242,SNR=6.4
BPAW Bear Paw Mtn. 81.88 22 P P 05 48 15.8 -0.8
baz=238,SNR=6.5
IMAR Indian Mountai 81.94 20 P P 05 48 16.6 -0.3
H21K Melozitna Rive 82.07 20 P P 05 48 17.5 -0.1
baz=236
I21K Tanana 82.10 21 P P 05 48 18.3 +0.6
baz=237,SNR=12
SCM Sheep Creek Mo 82.18 25 P P 05 48 18.8 +0.5
SCM pmax pmax
comp=Z,27nm,1.0s
SCM Sheep Creek Mo 82.18 25 P P 05 48 18.8 +0.5
SCM lAmb lAmb 05 48 20.0
comp=Z,27nm,1.0s
EYAK Cordova Ski Ar 82.26 26 P P 05 48 19.4 +0.8
baz=243
RND Reindeer 82.33 23 P P 05 48 18.3 -0.7
RND pmax pmax
comp=Z,24nm,0.9s
RND Reindeer 82.33 23 P P 05 48 18.3 -0.7
RND lAmb lAmb 05 48 19.8
comp=Z,24nm,0.9s
WAT6 Susitna Watana 82.37 24 P P 05 48 18.9 -0.4
baz=241
MLY Manley 82.46 21 P P 05 48 19.1 -0.5
MLY lAmb lAmb 05 48 20.6
comp=Z,15nm,0.7s
MLY Manley 82.46 21 P P 05 48 19.1 -0.5
baz=238,SNR=23
MCK McKinley 82.46 23 P P 05 48 18.6 -1.1
baz=240,SNR=22
KLU Klutina 82.61 25 P P 05 48 21.4 +0.8
baz=243,SNR=19
KSH Kashi 82.67 311 P P 05 48 22.4 +1.0
KSH pmax pmax
comp=Z,6.0nm,1.0s
KSH LR LR
comp=Z,1μm,22.3s
KSH LR LR
comp=Z,1μm,25.6s
KSH LR LR
comp=Z,3μm,29.8s
M24K Tolsona, Glenn 82.79 25 P P 05 48 22.2 +0.8
M24K lAmb lAmb 05 48 23.1
comp=Z,28nm,1.0s
M24K Tolsona, Glenn 82.79 25 P P 05 48 22.4 +0.9
baz=243,SNR=8.7
HMT Hamilton 82.83 27 P P 05 48 22.1 +0.5
HMT lAmb lAmb 05 48 23.2
comp=Z,28nm,0.9s
NEA2 Nenana 82.84 22 P P 05 48 21.3 -0.3
NEA2 lAmb lAmb 05 48 21.7
comp=Z,16nm,0.9s
NEA2 Nenana 82.84 22 P P 05 48 20.5 -1.1
baz=240,SNR=15
BMRM Bremner River 82.95 26 P P 05 48 22.2 -0.1
BMRM lAmb lAmb 05 48 24.7
comp=Z,19nm,1.0s
BMRM Bremner River 82.95 26 P P 05 48 23.1 +0.8
baz=244,SNR=7.9
I23K Minto, Yukon-K 83.02 21 P P 05 48 22.3 -0.2
baz=239
WRH Wood River Hil 83.15 22 P P 05 48 22.6 -0.6
WRH lAmb lAmb 05 48 23.8
comp=Z,26nm,1.1s
N25K Chitina, Valde 83.23 26 P P 05 48 23.5 -0.2
N25K lAmb lAmb 05 48 32.1
comp=Z,47nm,1.9s
N25K Chitina, Valde 83.23 26 P P 05 48 24.4 +0.6
baz=244,SNR=5.6
H23K Yukon River 83.30 21 P P 05 48 24.3 +0.4
H23K lAmb lAmb 05 48 25.3
comp=Z,12nm,0.9s
H23K Yukon River 83.30 21 P P 05 48 24.1 +0.2
baz=239,SNR=8.8
CCB Clear Creek Bu 83.34 22 P P 05 48 22.9 -1.3
CCB lAmb lAmb 05 48 24.0
comp=Z,16nm,0.9s
HARP HAARP 83.34 25 P P 05 48 24.5 +0.2
baz=244
TCOL CIGO, UAF Yank 83.44 22 P P 05 48 23.5 -1.1
baz=241
PAX Paxson 83.47 24 P P 05 48 25.5 +0.5
baz=243
CRQM Cirque 83.51 27 P P 05 48 25.7 +0.4
WAX Waxell Ridge 83.51 27 P P 05 48 25.6 +0.4
WAX lAmb lAmb 05 48 27.4
comp=Z,23nm,0.9s
CRQE Cirque 83.53 27 P P 05 48 26.2 +0.9
baz=246,SNR=9.3
HDA Harding Lake 83.56 23 P P 05 48 24.5 -0.8
HDA lAmb lAmb 05 48 27.7
comp=Z,10nm,0.7s
HDA Harding Lake 83.56 23 P P 05 48 24.7 -0.6
baz=242,SNR=10
VRDI Verde Repeater 83.57 26 P P 05 48 25.9 +0.3
VRDI lAmb lAmb 05 48 27.4
comp=Z,20nm,1.1s
IL31 83.75 22 P P 05 48 25.4 -0.8
IL31 lAmb lAmb 05 48 25.9
comp=Z,15nm,0.8s
ILAR Eielson Array 83.75 22 P P 05 48 24.6 -1.7
comp=Z,13nm,0.7s,baz=250,slow=5.2,SNR=99
ILAR Eielson Array 83.75 22 P P 05 48 24.8 -1.5
ILAR Eielson Array 83.75 22 P P 05 48 24.8 -1.5
COLD Coldfoot 83.81 19 P P 05 48 27.4 +0.9
baz=238
MESA MESA 83.81 27 P P 05 48 28.4 +1.4
baz=247
MCARA McCarthy VSAT 83.82 26 P P 05 48 28.0 +1.3
baz=246,SNR=5.1
H24K Noodor Dome 83.90 21 P P 05 48 26.9 -0.2
H24K Noodor Dome 83.90 21 P P 05 48 26.9 -0.2
baz=241,SNR=8.2
MAW Mawson 83.97 203 P P 05 48 27.4 0.0
baz=84,SNR=11
MAW Mawson 83.97 203 P P 05 48 28.0 +0.6
comp=Z,6.6nm,0.7s,baz=101,slow=6.8,SNR=18
MAW Mawson 83.97 203 P P 05 48 28.2 +0.8
QSPA South Pole Qui 84.00 180 P P 05 48 27.9 +0.2
RIDG Independent Ri 84.07 24 P P 05 48 27.9 -0.1
baz=244,SNR=9.1
GRNC Granite Creek 84.12 27 P P 05 48 28.8 +0.2
M26K Nabesna, AK 84.25 25 P P 05 48 29.9 +0.9
baz=245
J25K Salcha River, 84.26 23 P P 05 48 28.3 -0.7
baz=243,SNR=38
DOT Dot Lake 84.34 24 P P 05 48 29.5 +0.1
DOT lAmb lAmb 05 48 30.8
comp=Z,20nm,0.9s
L26K Log Cabin Wild 84.37 25 P P 05 48 30.0 +0.5
L26K lAmb lAmb 05 48 30.8
comp=Z,10nm,0.8s
L26K Log Cabin Wild 84.37 25 P P 05 48 29.9 +0.4
baz=245,SNR=12
CTG Chitna Glacier 84.40 27 P P 05 48 30.7 +0.8
baz=247,SNR=15
CTGM Chitina Glacie 84.40 27 P P 05 48 30.5 +0.6
AAK Ala-Archa 84.48 314 *de*P P 05 48 30.1 -0.6
AAK pmax pmax
comp=Z,42nm,1.5s
SCRK Sand Creek 84.52 24 P P 05 48 30.4 0.0
SCRK Sand Creek 84.52 24 P P 05 48 30.3 0.0
baz=244,SNR=8.9
PINM Pinnacle 84.56 28 P P 05 48 31.5 +0.9
baz=248
M27K Edge Creek, AK 84.71 25 P P 05 48 32.0 +0.7
M27K lAmb lAmb 05 48 33.7
comp=Z,25nm,0.9s
M27K Edge Creek, AK 84.71 25 P P 05 48 32.4 +1.0
baz=246,SNR=28
TOLK Toolik Lake Re 84.75 18 P P 05 48 31.5 +0.2
baz=239
J26L Joseph Creek 84.91 23 P P 05 48 32.4 +0.2
baz=245,SNR=13
L27K Beaver Creek, 85.02 25 P P 05 48 33.5 +0.7
baz=246,SNR=11
BCAR Beaver Creek A 85.03 25 P P 05 48 33.4 +0.5
YUK3 Moose Creek 85.10 26 P P 05 48 34.8 +1.3
baz=248,SNR=9.3
BVCY Beaver Creek 85.17 26 P P 05 48 34.9 +1.3
baz=247,SNR=6.8
K27K Chicken 85.30 24 P P 05 48 35.2 +1.1
K27K lAmb lAmb 05 48 36.2
comp=Z,12nm,0.9s
K27K Chicken 85.30 24 P P 05 48 35.2 +1.1
baz=246
YUK6 Outpost Mounta 85.74 27 P P 05 48 37.4 +0.8
baz=250
YUK4 Talbot Arm 85.75 27 P P 05 48 38.5 +1.8
baz=250,SNR=9.2
BMAR Burnt Mountain 85.81 20 P P 05 48 37.3 +0.6
EGAK Eagle 85.97 23 P P 05 48 38.0 +0.6
baz=247,SNR=13
HYT Haines Junctio 86.10 28 P P 05 48 40.0 +1.7
baz=250,SNR=17
DAWY Dawson 86.41 24 P P 05 48 40.6 +0.9
baz=249
NRIK Noril'sk 86.63 341 LR LR 06 26 32.5
comp=Z,698nm,20.9s,baz=317,slow=35
NRIK Noril'sk 86.63 341‖ *e*P P 05 48 41.2 +0.6
NRIK pmax pmax
comp=Z,11nm,2.0s
SKAG Skagway 86.70 29 P P 05 48 42.2 +1.1
baz=252,SNR=5.6
WHY Whitehorse 87.27 28 P P 05 48 45.0 +0.9
baz=253
WRAK Wrangell Islan 87.38 33 P P 05 48 45.9 +1.5
baz=255
MAYO Mayo, Yukon 87.71 25 P P 05 48 47.3 +1.4
baz=252
EPYK Eagle Plains 88.26 23 P P 05 48 48.9 +0.3
EPYK Eagle Plains 88.26 23 P P 05 48 49.0 +0.4
baz=251
FARO Faro, Yukon 88.42 27 P P 05 48 49.8 +0.4
baz=254
DLBC Dease Lake 89.08 31 P P 05 48 53.6 +1.0
comp=Z,13nm,1.1s,baz=258,slow=5.3,SNR=10
MMPY Sheldon Lake, 89.46 27 P P 05 48 55.1 +0.8
baz=256
INK Inuvik 90.03 21 P P 05 48 56.7 0.0
comp=Z,13nm,1.0s,baz=189,slow=4.2,SNR=7.0
INK Inuvik 90.03 21 P P 05 48 56.8 +0.1
baz=254
J01E Myrtle Point 90.14 47 P P 05 48 59.3 +1.5
baz=262
I03D Drain, OR 90.63 46 P P 05 49 01.4 +1.3
baz=262
YBH Yreka Blue Hor 90.84 48 P P 05 49 02.4 +1.1
comp=Z,2.6nm,0.9s,baz=266,slow=4.6,SNR=7.3
H04D Lebanon 91.17 46 P P 05 49 05.1 +2.5
baz=263
L04D Klamath Falls 91.20 48 P P 05 49 04.6 +1.6
baz=263
I04A Tendick Farm, 91.32 46 P P 05 49 04.5 +1.2
baz=263
J04D Umpqua Nationa 91.47 47 P P 05 49 05.5 +1.2
baz=263,SNR=8.6
M04C Macdoel 91.50 48 P P 05 49 05.5 +1.2
baz=263
J05D Fort Rock, OR 92.11 47 P P 05 49 08.2 +1.0
baz=264,SNR=13
SYO Syowa Base 92.12 200‖ *e*P P 05 49 06.6 +0.1
SYO Syowa Base 92.12 200‖ *e*PcP PcP 05 49 08.7 +1.5
I05D Terrebonne, OR 92.15 46 P P 05 49 08.4 +1.2
baz=264
K05A Summer Lake 92.30 47 P P 05 49 09.2 +1.1
VCNR Virginia City 92.90 51 P P 05 49 09.4 -1.6
VCNR lAmb lAmb 05 49 23.7
comp=Z,10nm,1.2s
EDW2 Edwards Air Fo 93.84 55 P P 05 49 17.6 +2.3
baz=265
NVAR Mina Array Bea 93.87 52 P P 05 49 16.5 +1.0
comp=Z,5.3nm,1.0s,baz=257,slow=5.8,SNR=18
CWC Cottonwood Cre 93.90 54 P P 05 49 16.9 +1.3
baz=265
LRMC Laurel Mtn Rad 94.14 55 P P 05 49 19.2 +2.4
baz=266
MPMC Manual Prospec 94.34 54 P P 05 49 19.4 +1.7
baz=266
GRAC Grapevine Rang 94.51 53 P P 05 49 19.8 +1.5
baz=266
FURC Furnace Creek, 94.88 54 P P 05 49 22.4 +2.5
baz=266
SHOC Shoshone, Teco 95.31 55 P P 05 49 24.7 +2.7
baz=266
NEW Newport 95.37 42 P P 05 49 22.6 +0.7
comp=Z,1.8nm,0.8s,baz=284,slow=1.9,SNR=3.5
NEW Newport 95.37 42 P P 05 49 24.6 +2.7
baz=267
TPNV Topopah Spring 95.40 54 P P 05 49 24.5 +2.0
baz=266
BELC Belle Mtn. Jos 95.43 56 P P 05 49 25.1 +2.5
baz=266
TUQ Turquoise Moun 95.57 55 P P 05 49 25.1 +1.8
baz=267
BC3 Big Chuckawall 95.86 57 P P 05 49 28.5 +3.9
baz=267
R11A Troy Canyon, C 96.00 52 P P 05 49 27.3 +2.1
baz=267
ELK Elko 96.38 50 P P 05 49 28.0 +1.1
comp=Z,0.6nm,0.7s,baz=298,slow=10,SNR=2.4
YKA Yellowknife Ar 97.09 28 P Pdif 05 49 29.4 0.0
comp=Z,2.4nm,0.7s,baz=269,slow=3.6,SNR=6.2
PDAR Pinedale Array 100.64 48 P Pdif 05 49 45.6 -0.4
comp=Z,0.6nm,0.7s,baz=224,slow=4.1,SNR=5.8
SNAA Sanae 100.69 188 Pdiff **Pdif 05 49 44.6 -0.8**
VNA3 Neumayer Olymp 101.92 186 Pdiff **Pdif 05 49 50.2 -0.7**
VNA2 Neumayer--Watz 101.97 187 Pdiff **Pdif 05 49 51.2 +0.2**
TXAR Lajitas Array 105.88 61 PKKP 06 06 02.2
comp=Z,0.6nm,0.9s,baz=96,slow=3.8,SNR=5.3
ARCES ARCESS Array B 107.58 343 PKiKP **PKiKP 05 54 23.8 0.0**
comp=Z,2.7nm,1.1s,baz=108,slow=2.0,SNR=0.9
FINES FINESS Array B 111.54 335 PKiKP **PKiKP 05 54 31.2 -0.2**
comp=Z,2.1nm,0.8s,baz=31,slow=3.2,SNR=1.8
MNK Minsk 113.86 328 *i* PKIKP PKiKP 05 54 47.6 +12
MNK *i* 05 55 27.3
MNK *i* PPP PPP 05 57 51.5
MNK *i* 06 01 40.3
MNK *i* SS SS 06 11 12.9 -2.5
MNK *i* SSS SSS 06 15 27.0
MNK MLR MLR
comp=E,60nm,21.0s
MNK MLR MLR
comp=N,422nm,21.0s
MNK MLR MLR
comp=Z,515nm,21.0s
MNK Minsk 113.86 328 *i* PKP PKiKP 05 54 47.7 +12
MNK *i* PKP PKiKP 05 54 47.7 +12
MNK *i* PKP PKiKP 05 54 47.7 +12
baz=65
MNK *i* PP **PP 05 55 27.3 -2.2**
MNK *i* PP **PP 05 55 27.3 -2.2**
MNK *i* PP **PP 05 55 27.3 -2.2**
MNK *i* PPP PPP 05 57 51.5
MNK *i* PPP PPP 05 57 51.5
MNK *i* SKS **SKSdf 06 01 40.4 -4.5**
MNK *i* SS **SS 06 11 12.9 -2.5**
MNK *i* SSS SSS 06 15 27.0
MNK *i* LQ LQ 06 35 37.2
MNK *i* LR LR 06 38 28.3
MNK *i* LRM MLR 06 41 48.4
comp=E,60nm,21.0s
MNK *i* LRM MLR 06 41 48.4
comp=N,422nm,21.0s
MNK *i* LRM MLR 06 41 49.0
comp=Z,515nm,21.0s
AKASG Malin Array Be 114.64 324 PKP **PKiKP 05 54 37.4 -0.2**
comp=Z,0.8nm,0.5s,baz=66,slow=2.1,SNR=2.1
AKBB Malin Array Si 114.64 324‖ *i*PKIKP **PKiKP 05 54 37.2 -0.5**
BR131 Keskin Array S 115.06 311‖ *i*PKIKP **PKPdf 05 54 39.5 +0.5**
BRTR Keskin Array B 115.06 311 PKP **PKiKP 05 54 38.3 -0.7**
comp=Z,1.5nm,1.0s,baz=111,slow=3.1,SNR=6.2
NOA NORSAR Array B 117.54 339 PKP **PKPdf 05 54 42.2 -0.8**
comp=Z,1.0nm,0.9s,baz=50,slow=2.1,SNR=3.0
KOLS Kolonicke sedl 119.47 324 *e*PKP **PKiKP 05 54 47.9 +0.8**
CRVS Cervenica-Dubn 119.95 324 *e*PKP **PKiKP 05 54 48.9 +0.8**
LANS Liptovska Anna 120.97 325 *e*PKP **PKiKP 05 54 51.5 +1.4**
VYHS Vyhne 121.67 325 *e*PKP **PKPdf 05 54 50.7 -0.6**
MORC Moravsky Berou 121.72 327 *e*PKP **PKPdf 05 54 51.3 -0.1**
KRLC Kraliky 121.97 327 *e*PKiKP **PKiKP 05 54 52.4 +0.3**
KRLC *e* 05 55 03.5
KRLC Kraliky 121.97 327 *e*PKPDF **PKiKP 05 54 52.3 +0.2**
KRLC Kraliky 121.97 327 *e*PKPDF **PKiKP 05 54 52.4 +0.3**
KRLC *ex* x 05 55 03.5
OSTC Ostas 122.00 328 *e*PKPDF **PKiKP 05 54 52.7 +0.6**
OSTC Ostas 122.00 328 *ep*PKP pPKPdf 05 55 03.3 -0.5
CHVC Chvalec 122.07 328 *e*PKPDF **PKiKP 05 54 52.9 +0.7**
CHVC Chvalec 122.07 328 *e*PKPDF **PKiKP 05 54 52.9 +0.7**
JAVC Velka Javorina 122.14 326 *e*PKP **PKiKP 05 54 53.4 +0.9**
VRAC Vranov 122.49 327 *e*PKP **PKiKP 05 54 53.1 0.0**
MODS Modra-Piesok 122.62 325 *e*PKP **PKiKP 05 54 53.5 +0.1**
KRUC Moravsky 122.74 326 *e*PKP **PKPdf 05 54 53.3 0.0**
BSEG Bad Segeberg 122.76 334 *e*PKPdf **PKiKP 05 54 54.5 +1.1**
baz=54,slow=2.0
BRG Berggiesshubel 122.99 329 *e*PKPdf **PKiKP 05 54 54.8 +0.8**
baz=54,slow=2.0
BRG Berggiesshubel 122.99 329 *e*PKP **PKiKP 05 54 54.8 +0.8**
BRG Amp 05 54 55.7
comp=Z,7.9nm,1.0s
BRG Amp 06 07 47.0
comp=N,1.4nm,23.3s
BRG Amp 06 07 49.0
comp=E,1.5nm,21.4s
BRG Amp 06 07 54.0
comp=Z,2.5nm,19.9s
CLL Collm 123.20 330 *e*PKPdf **PKPdf 05 54 53.0 -1.1**
comp=Z,7.0nm,0.8s
CLL *ep*PKPdf **pPKPdf 05 55 06.0 0.0**
CLL Collm 123.20 330 *e*PKiKP **PKPdf 05 54 53.0 -1.1**
CLL *e* 05 55 06.0
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL Collm 123.20 330 *e*PKPdf **PKiKP 05 54 55.0 +0.6**
baz=54,slow=2.0
PRU Pruhonice 123.21 328 *e*PKiKP **PKPdf 05 54 53.9 -0.3**
PRU Pruhonice 123.21 328 *e*PKPDF **PKiKP 05 54 54.6 +0.2**
PRU Pruhonice 123.21 328 *e*PKPDF **PKPdf 05 54 53.9 -0.3**
CONA Conrad Observa 123.66 326 *e*P **PKiKP 05 54 55.4 -0.1**
comp=Z,5.8nm,0.8s
NRDL Niedersach Rie 123.82 333 *e*PKPdf **PKiKP 05 54 56.5 +1.1**
baz=54,slow=2.0
CKRC Cesky Krumlov 124.01 327 *e*PKPDF **PKiKP 05 54 56.6 +0.5**
CKRC Cesky Krumlov 124.01 327 *e*PKPDF **PKiKP 05 54 56.7 +0.6**
TANN Tannenbergstha 124.02 330 *e*PKPdf **PKiKP 05 54 56.9 +0.8**
baz=54,slow=2.0
GUNZ Gunzen 124.12 330 *e*PKPdf **PKiKP 05 54 57.2 +0.9**
baz=54,slow=2.0
CLZ Clausthal 124.13 332 *e*PKPdf **PKiKP 05 54 57.3 +1.0**
baz=54,slow=2.0
PLN Plauen 124.13 330 *e*PKPdf **PKiKP 05 54 57.0 +0.8**
baz=54,slow=2.0
WERN Wernitzgruen 124.14 329 *e*PKPdf **PKiKP 05 54 57.2 +0.9**
baz=54,slow=2.0
KHC Kasperske Hory 124.22 328 *e*PKiKP **PKiKP 05 54 56.4 -0.1**
KHC *e* 05 55 07.9
KHC Kasperske Hory 124.22 328 *e*PKPDF **PKiKP 05 54 56.4 -0.1**
KHC *ep*PKP **pPKPdf 05 55 07.8 -0.3**
KHC Kasperske Hory 124.22 328 *e*PKPDF **PKiKP 05 54 56.4 -0.1**
KHC *ep*PKP **pPKPdf 05 55 07.9 -0.2**
KHC *ex* x 05 55 15.5
ARSA Arzberg 124.22 325 *e*P **PKPdf 05 54 56.3 0.0**
comp=Z,5.4nm,1.2s
MOX Moxa 124.30 330 *e*PKPdf **PKiKP 05 54 57.4 +0.8**
baz=54,slow=2.0
GEC2 GERESS Array S 124.32 327 *e*PKPdf **PKiKP 05 54 57.4 +0.6**
baz=54,slow=2.0
GERES GERESS Array B 124.32 327 PKP **PKiKP 05 54 56.8 0.0**
comp=Z,4.2nm,0.8s,baz=50,slow=2.1,SNR=31
MANZ Manzenberg 124.46 329 *e*PKPdf **PKiKP 05 54 57.7 +0.7**
baz=54,slow=2.0
GTTG Gottingen 124.51 332 *e*PKPdf **PKiKP 05 54 58.0 +1.0**
baz=54,slow=2.0
WET Wettzell 124.58 328 *e*PKPdf **PKiKP 05 54 58.0 +0.7**
baz=54,slow=2.0
MOA Molln 124.59 326 *i* P **PKPdf 05 54 56.4 -0.6**
comp=Z,4.3nm,1.0s
SOKA Soboth 124.81 325 *i* P **PKPdf 05 54 57.6 +0.1**
comp=Z,9.5nm,1.0s
LEGS Legarje 125.05 324 *i* PKPdf **PKPdf 05 54 57.9 0.0**
OBKA Obir 125.19 325 *e*P **PKPdf 05 54 58.4 +0.1**
comp=Z,4.9nm,1.2s
BOJS Bojanci 125.32 323 *i* PKPdf **PKiKP 05 54 59.1 +0.3**
RJOB Jochberg 125.46 327 *e*PKPdf **PKiKP 05 54 59.0 -0.1**
baz=54,slow=2.0
KBA Koelnbreinsper 125.55 326 *e*P **PKPdf 05 54 58.6 -0.4**
comp=Z,6.9nm,1.1s
MILB Miltenberg 125.97 331 *e*PKPdf **PKiKP 05 55 00.6 +0.6**
baz=54,slow=2.0
ABTA Abfaltersbach 126.20 326 *i* P **PKPdf 05 54 59.8 -0.3**
comp=Z,9.8nm,0.9s
WATA Walderalm 126.36 327 *i* P **PKPdf 05 55 00.5 0.0**
comp=Z,9.8nm,0.9s
WTTA Wattenberg 126.38 327 *i* P **PKiKP 05 55 01.0 -0.1**
comp=Z,20nm,1.2s,SNR=6.0

MOTA	**Moosalm**	**126.61**	**327**	*e*P		**PKPdf**	**05 55 01.2**	**+0.2**
	comp=Z,16nm,1.1s,SNR=5.4							
SQTA	**Sankt Quirin**	**126.63**	**327**	*e*P		**PKiKP**	**05 55 01.4**	**-0.1**
	comp=Z,11nm,0.9s							
STU	**Stuttgart**	**126.71**	**330**	*e*PKPdf		**PKiKP**	**05 55 01.8**	**+0.4**
	baz=54,slow=2.0							
RETA	**Reutte**	**126.71**	**328**	*i* P		**PKiKP**	**05 55 01.7**	**+0.1**
	comp=Z,8.5nm,1.2s							
UBR	**Ueberruh**	**126.94**	**328**	*e*PKPdf		**PKiKP**	**05 55 02.2**	**+0.2**
	baz=54,slow=2.0							
BTNL	**Ternell**	**126.94**	**333**	*d*PKiKP		**PKPdf**	**05 55 01.2**	**-0.2**
MEM	**Membach**	**126.98**	**333**	*d*PKiKP		**PKiKP**	**05 55 02.2**	**+0.3**
FETA	**Feichten**	**127.02**	**327**	*e*P		**PKiKP**	**05 55 02.3**	**0.0**
	comp=Z,15nm,1.1s,SNR=7.4							
DAVA	**Damuels**	**127.30**	**328**	*i* P		**PKiKP**	**05 55 02.6**	**-0.3**
	comp=Z,6.8nm,0.9s							
WLF	**Walferdange**	**127.58**	**332**	*d*PKiKP		**PKiKP**	**05 55 04.0**	**+0.9**
WLF	**Walferdange**	**127.58**	**332**	*e*PKPdf		**PKiKP**	**05 55 04.3**	**+1.2**
	baz=54,slow=2.0							
BMRD	**Maredsous**	**127.75**	**334**	*d*PKiKP		**PKiKP**	**05 55 03.8**	**+0.3**
DOU	**Dourbes**	**127.98**	**333**	*d*PKiKP		**PKiKP**	**05 55 04.3**	**+0.4**
KEST	**Kesra**	**134.31**	**316**	PKP		**PKPdf**	**05 55 16.1**	**+0.3**
	comp=Z,9.7nm,1.0s,baz=314,slow=4.9,SNR=6.6							
KEST				SKPbc		**SKPab**	**05 58 44.0**	**-1.5**
	comp=Z,9.7nm,1.0s,baz=269,slow=4.7,SNR=6.6							
LPAZ	**La Paz**	**135.04**	**120**	PKP		**PKPdf**	**05 55 18.8**	**+0.3**
	comp=Z,1.9nm,0.9s,baz=284,slow=0.6,SNR=6.1							
ESDC	**Sonseca Array**	**139.79**	**330**	PKhKP		PKPpre	05 55 21.5	
	comp=Z,0.5nm,0.9s,baz=27,slow=3.2,SNR=2.0							
ESDC				SKPbc		**SKPbc**	**05 58 59.9**	**+1.4**
	comp=Z,0.8nm,0.8s,baz=7.5,slow=3.3,SNR=4.9							
SIV	**San Ignacio**	**141.12**	**125**	PKhKP		PKPpre	05 55 22.9	
	comp=Z,1.0nm,0.8s,baz=206,slow=8.2,SNR=3.7							
SMRT	**St. Maarten**	**144.25**	**67**	PKPdf		**PKPab**	**05 55 31.2**	**-1.1**
TORD	**Torodi Ar. Bea**	**149.34**	**286**	PKPbc		**PKPbc**	**05 55 47.0**	**-0.3**
	comp=Z,23nm,0.6s,baz=60,slow=2.9,SNR=110							
BDFB	**Brasilia**	**151.15**	**138**	PKPbc		**PKPbc**	**05 55 51.6**	**-0.2**
	comp=Z,5.6nm,0.6s,baz=340,slow=1.1,SNR=15							
KIC	**Kosan Boka**	**156.31**	**272**	*e*P		**PKPab**	**05 56 21.2**	**-0.3**
	comp=Z,29nm,1.0s							
DBIC	**Dimbokro**	**156.42**	**273**	PKPab		**PKPab**	**05 56 22.2**	**+0.2**
	comp=Z,11nm,0.9s,baz=145,slow=4.4,SNR=6.1							
TIC	**Toumodi**	**156.59**	**273**	*e*P		**PKPab**	**05 56 22.4**	**-0.3**
LIC	**Lamto**	**156.59**	**272**	*e*P		**PKPab**	**05 56 22.5**	**-0.2**
	comp=Z,91nm,1.8s							

MAN ***19*** *05:36:34.8, 5.°90N×126.°80E, h4km*

IDC 19 05:36:20.7±7.4, 5.°76N×127.°97E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/46, mbtmp4.1/4, ML4.8/1, 1D, Error ellipse: s-maj=191.0km s-min=61.6km az=8.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.71**	**299**	Pn	Pn	05 37 06.0	+0.5
	156nm,0.3s,baz=268,slow=2.0,SNR=13						
DAV				Sn	Sn	05 37 31.1	-7.8
	94nm,0.3s,baz=260,slow=21,SNR=9.5						
KCP	**Kidapawan**	**3.12**	**294**	*ie*P	Pn	05 37 09.6	-1.6
SONM	**Songino Array**	**45.80**	**340**	P	P	05 44 44.6	+0.2
	0.2nm,0.3s,baz=156,slow=7.3,SNR=1.5						
MKAR	**Makanchi Array**	**56.62**	**324**	P	P	05 46 04.8	-0.8
	0.8nm,0.6s,baz=119,slow=7.2,SNR=9.0						
ARCES	**ARCESS Array B**	**88.98**	**340**	P	P	05 49 17.6	+0.5
	2.4nm,0.8s,baz=87,slow=5.5,SNR=3.7						

IDC 19 05:42:31.7±2.9, 31.°67S×71.°21W, h0km, mb3.6/1, mb1 3.7/3, mb1mx3.4/26, mbtmp3.6/3, ML3.4/2, Error ellipse: s-maj=128.7km s-min=38.0km az=103.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**9.06**	**177**	Pn	Pn	05 44 43.6	-0.3
	0.1nm,0.3s,baz=330,slow=20,SNR=1.8						
SIV	**San Ignacio**	**18.13**	**33**	P	Pn	05 46 44.6	-0.5
	0.2nm,0.3s,baz=221,slow=10,SNR=5.7						
TORD	**Torodi Ar. Bea**	**82.75**	**70**	P	P	05 54 58.2	+0.2
	0.4nm,0.8s,baz=254,slow=5.2,SNR=2.3						
ZALV	**Zalesovo Beam**	**151.87**	**31**	PKPbc	PKPbc	06 02 27.9	-0.1
	1.9nm,0.7s,baz=290,slow=3.0,SNR=5.5						

NEIC ***19*** *05:44:27.9±1.0, 36.°34N±0.°01×96.°81W±0.°02, h5km±2km, Error ellipse: s-maj=3.3km s-min=3.0km az=252.0*
TUL ***19*** *05:44:27.8±1.2, 36.°33N±0.°01×96.°78W±0.°03, h6km±6km, ML2.8, mb_Lg3.0/76(NEIC), Error ellipse: s-maj=3.1km s-min=1.9km az=96.0*
ANF ***19*** *05:44:28.5±0.5, 36.°33N×96.°78W, h6km, ML3.3/12, Error ellipse: s-maj=4.6km s-min=3.6km az=120.0*

ISC 19 05:44:28.0±1.1, 36.°34N±0.°02×96.°82W±0.°03, h6km±12km, n79, σ0.°57/49, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QUOK	**Quay**	**0.19**	**151**	Pg	**Pg**	**05 44 31.6**	**0.0**
QUOK				Sg	**Sg**	**05 44 34.4**	**+0.3**
OK031	**S. Brethren Rd**	**0.38**	**182**		**Pg**	**05 44 35.4**	**0.0**
OK031				Sg	**Sg**	**05 44 40.7**	**+0.3**
BLOK	**Blackwell**	**0.53**	**323**		**Pg**	**05 44 38.5**	**+0.3**
T35A	**Sooner Cattle**	**0.63**	**23**		**Pg**	**05 44 39.9**	**-0.2**
T35A				Sg	**Sg**	**05 44 48.0**	**-0.3**
T35B	**Sooner Cattle**	**0.63**	**23**	P	**Pg**	**05 44 39.9**	**-0.2**
	baz=200,SNR=87						
T35B				S	**Sg**	**05 44 48.1**	**-0.2**
	baz=200						
OK029	**Liberty Lake**	**0.74**	**224**		**Pg**	**05 44 42.4**	**+0.1**
KAN13	**South Haven SW**	**0.86**	**322**		**Pg**	**05 44 44.5**	**+0.1**
OK025	**Westminster Rd**	**0.86**	**209**		**Pg**	**05 44 44.2**	**-0.3**
OK025				Sg	**Sg**	**05 44 56.5**	**+0.8**
BCOK	**Bluff Creek, N**	**0.93**	**224**		**Pg**	**05 44 46.0**	**+0.1**
TUL1	**Leonard**	**0.93**	**117**	P	**Pg**	**05 44 45.1**	**-0.8**
	baz=298,SNR=138						
TUL1				S	**Sg**	**05 44 56.9**	**-1.1**
	baz=298						
CROK	**Carrier**	**0.95**	**281**		**Pg**	**05 44 46.4**	**+0.1**
GC02	**Grant County #**	**0.98**	**302**		**Pg**	**05 44 46.9**	**+0.1**
KAN09	**Caldwell North**	**1.02**	**321**		**Pg**	**05 44 47.5**	**-0.1**
KAN17	**Caldwell West**	**1.04**	**313**		**Pg**	**05 44 47.8**	**-0.1**
OKCFA	**Oklahoma City**	**1.05**	**209**		**Pg**	**05 44 47.6**	**-0.6**
OKCFA	**Oklahoma City**	**1.05**	**209**	S	**Sb**	**05 45 02.4**	**-0.2**
	baz=31						
OKCSW	**OKLAHOMA CITY**	**1.05**	**209**		**Pg**	**05 44 47.5**	**-0.8**
KS20	**Mayfield South**	**1.07**	**327**		**Pg**	**05 44 48.2**	**-0.3**
KAN14	**Manchester OK**	**1.11**	**304**		**Pg**	**05 44 48.9**	**-0.3**
KAN05	**Bluff City Nor**	**1.15**	**313**		**Pg**	**05 44 49.9**	**-0.1**
FNO	**Franklin**	**1.18**	**204**		**Pg**	**05 44 49.4**	**-1.1**
OK032	**Salt Plains WL**	**1.21**	**293**		**Pg**	**05 44 50.9**	**-0.3**
KAN10	**Anthony SW Sta**	**1.29**	**308**		**Pn**	**05 44 52.4**	**-0.2**
KAN16	**Harper SW Stat**	**1.34**	**312**		**Pb**	**05 44 53.5**	**0.0**
U32A	**Winter Ranch,**	**1.76**	**272**		**Pn**	**05 44 57.4**	**-1.7**
U32A	**Winter Ranch,**	**1.76**	**272**	P	**Pb**	**05 45 01.1**	**+0.3**
	baz=91,SNR=12						
X34A	**Smith Ranch, M**	**1.92**	**206**		**Pn**	**05 45 00.8**	**-0.4**
U38A	**Gravette**	**1.97**	**86**		**Pn**	**05 45 02.4**	**+0.5**
U38A				IAmb_Lg		05 45 31.7	
	comp=Z,58nm,0.8s						
U38A	**Gravette**	**1.97**	**86**	S	**Sb**	**05 45 29.0**	**0.0**
	baz=267						
X37A	**Clayton**	**2.11**	**145**		**Pn**	**05 45 04.1**	**+0.3**
X37A	**Clayton**	**2.11**	**145**	P	**Pn**	**05 45 04.3**	**+0.5**
	baz=327,SNR=61						
WMOK	**Wichita Mounta**	**2.26**	**226**	P	**Pn**	**05 45 07.3**	**+1.4**
	baz=45,SNR=12						
HHAR	**Hobbs**	**2.33**	**90**		**Pn**	**05 45 07.1**	**+0.2**
HHAR	**Hobbs**	**2.33**	**90**	P	**Pn**	**05 45 07.6**	**+0.7**
	baz=272						
LOOK	**Love County**	**2.36**	**187**	IAmb_Lg		05 45 48.3	
	comp=Z,71nm,0.8s						
R32A	**Long Quarter,**	**2.57**	**325**	IAmb_Lg		05 45 52.3	
	comp=Z,38nm,0.8s						
W39A	**Magazine**	**2.72**	**114**	P	**Pn**	**05 45 12.6**	**+0.4**
	baz=296						
S39A	**Bolivar**	**3.11**	**63**	P	**Pn**	**05 45 18.6**	**+1.0**
	baz=245,SNR=8.5						
MIAR	**Mount Ida**	**3.19**	**123**	Pn	**Pn**	**05 45 18.4**	**-0.3**
MIAR	**Mount Ida**	**3.19**	**123**	P	**Pn**	**05 45 19.2**	**+0.5**
	baz=305,SNR=22						
U40A	**Yellville**	**3.20**	**88**		**Pn**	**05 45 18.6**	**-0.3**
U40A	**Yellville**	**3.20**	**88**	P	**Pn**	**05 45 19.0**	**+0.1**
	baz=271,SNR=25						
CBKS	**Cedar Bluff**	**3.39**	**318**	IAmb_Lg		05 46 24.1	
	comp=Z,31nm,0.8s						
Z38A	**Mt. Pleasant**	**3.42**	**153**	IAmb_Lg		05 46 21.7	
	comp=Z,56nm,0.9s						
X40A	**Basin Creek Fa**	**3.74**	**118**	IAmb_Lg		05 46 28.9	
	comp=Z,37nm,0.8s						
X40A	**Basin Creek Fa**	**3.74**	**118**	P	**Pn**	**05 45 27.1**	**+0.8**
	baz=301,SNR=11						
MGMO	**Mountain Grove**	**3.75**	**76**	IAmb_Lg		05 46 30.7	
	comp=Z,22nm,0.7s						
WHAR	**Wooly Hollow**	**3.83**	**104**	IAmb_Lg		05 46 29.0	
	comp=Z,41nm,0.9s						
W41B	**Gary Mavity, V**	**3.89**	**106**	P	**Pn**	**05 45 28.9**	**+0.5**
	baz=289,SNR=8.0						
WLAR	**White Oak Lake**	**4.03**	**130**	IAmb_Lg		05 46 38.8	
	comp=Z,24nm,0.8s						
237A	**Washetta, Mont**	**4.40**	**169**	IAmb_Lg		05 46 51.0	
	comp=Z,23nm,1.1s						
N35A	**Tabor**	**4.61**	**11**	IAmb_Lg		05 47 01.6	
	comp=Z,41nm,0.7s						
T42A	**Van Buren**	**4.66**	**80**		**Pn**	**05 45 39.2**	**+0.4**
T42A				IAmb_Lg		05 46 55.7	
	comp=Z,18nm,0.8s						
CCM	**Cathedral Cave**	**4.77**	**67**	IAmb_Lg		05 47 03.8	
	comp=Z,19nm,0.8s						
CCAR	**Cane Creek**	**4.79**	**119**	IAmb_Lg		05 47 03.3	
	comp=Z,29nm,0.9s						
P40A	**Paris**	**4.94**	**48**	IAmb_Lg		05 47 00.4	
	comp=Z,34nm,0.8s						
HBAR	**Harrisburg**	**5.06**	**97**	IAmb_Lg		05 47 09.8	
	comp=Z,37nm,0.8s						
PBMO	**Poplar Bluff**	**5.16**	**83**	IAmb_Lg		05 47 14.1	
	comp=Z,24nm,0.7s						
BGNE	**Belgrade**	**5.17**	**349**	IAmb_Lg		05 47 25.1	
	comp=Z,30nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.33**	**302**	IAmb_Lg		05 47 26.1	
	comp=Z,13nm,0.8s						
FVM	**French Village**	**5.37**	**70**	IAmb_Lg		05 47 23.9	
	comp=Z,19nm,0.8s						
435B	**Jarrell**	**5.58**	**187**	IAmb_Lg		05 47 26.6	
	comp=Z,13nm,0.9s						
SLM	**Saint Louis**	**5.72**	**64**	IAmb_Lg		05 47 28.8	
	comp=Z,31nm,0.7s						
143A	**Socs Landing,**	**5.75**	**127**	IAmb_Lg		05 47 34.2	
	comp=Z,17nm,0.7s						
T25A	**Trinidad**	**6.15**	**280**	IAmb_Lg		05 47 46.8	
	comp=Z,26nm,1.2s						
OGNE	**Ogallala**	**6.15**	**320**	IAmb_Lg		05 47 51.7	
	comp=Z,23nm,0.8s						
S44A	**Carbondale**	**6.20**	**75**	IAmb_Lg		05 47 43.4	
	comp=Z,28nm,0.9s						
SCIA	**State Center**	**6.23**	**26**	IAmb_Lg		05 47 52.0	
	comp=Z,29nm,0.7s						
OXF	**Oxford**	**6.32**	**105**	IAmb_Lg		05 47 51.6	
	comp=Z,23nm,1.0s						
W45A	**Hickory Valley**	**6.32**	**98**	IAmb_Lg		05 47 49.9	
	comp=Z,25nm,0.8s						
JCT	**Junction City**	**6.35**	**204**	IAmb_Lg		05 48 00.2	
	comp=Z,19nm,0.9s						
K31A	**O'Neill**	**6.46**	**347**	IAmb_Lg		05 47 56.3	
	comp=Z,21nm,0.8s						
L42A	**Oliver, Polo**	**7.93**	**42**	IAmb_Lg		05 48 40.4	
	comp=Z,16nm,0.8s						
JFWS	**Jewell Farm**	**8.30**	**36**	IAmb_Lg		05 49 03.5	
	comp=Z,14nm,0.8s						
WCI	**Wyandotte Cave**	**8.60**	**74**	IAmb_Lg		05 49 05.2	
	comp=Z,11nm,0.8s						
I40A	**Norwalk**	**8.91**	**30**	IAmb_Lg		05 49 16.2	
	comp=Z,9.6nm,0.8s						
SPMN	**Marine on St.**	**9.39**	**18**	IAmb_Lg		05 49 35.5	
	comp=Z,10nm,1.2s						
RSSD	**Black Hills**	**9.53**	**327**	IAmb_Lg		05 49 33.7	
	comp=Z,9.1nm,1.1s						
K22A	**Casper**	**9.79**	**313**	IAmb_Lg		05 49 52.4	
	comp=Z,14nm,1.2s						

IDC ***19*** *05:47:45.4±1.2, 30.°89S×71.°99W, h0km, mb4.0/5, mb1 3.9/10, mb1mx3.8/30, mbtmp3.8/10, ML3.3/5, Error ellipse: s-maj=37.5km s-min=21.9km az=94.0*
GUC ***19*** *05:47:48.0±0.7, 30.°86S×71.°85W, h32km±4km, ML4.1*
NEIC ***19*** *05:47:49.4±1.2, 30.°88S±0.°04×71.°88W±0.°06, h19km±3km, mb4.3/5, ML4.2(GUC), Error ellipse: s-maj=7.6km s-min=5.1km az=122.0*

ISC 19 05:47:45.8±2.2, 30.°88S±0.°03×72.°00W±0.°08, h3km±13km, n46, σ1.°13/53, mb4.2/5, 2C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.38**	**57**	*ie*P	**Pb**	**05 47 55.6**	**+0.5**
CO06				*i* S	**Sb**	**05 48 00.8**	**-0.6**
CO06				IAML		05 48 01.2	
	comp=N,27μm,0.4s						
CO06	**Fray Jorge**	**0.38**	**57**	Pg	**Pb**	**05 47 55.7**	**+0.5**
CO06					**Sb**	**05 48 00.5**	**-1.0**
CO03	**El Pedregal**	**1.13**	**88**	*ie*P	**Pg**	**05 48 07.8**	**+0.4**
CO03				*e*S	**Sg**	**05 48 21.7**	**-0.3**
CO03	**El Pedregal**	**1.13**	**88**		**Pg**	**05 48 07.8**	**+0.4**
CO03				Sg	**Sg**	**05 48 21.6**	**-0.4**
CO05	**La Serena**	**1.16**	**35**	*ie*P	**Pb**	**05 48 08.6**	**+0.1**
CO05				*i* S	**Sn**	**05 48 23.1**	**-2.4**
CO05	**La Serena**	**1.16**	**35**		**Pb**	**05 48 08.6**	**+0.1**
GO04	**Tololo Observa**	**1.25**	**56**	*e*P	**Pb**	**05 48 09.9**	**-0.4**
GO04				*i* S	**Sg**	**05 48 26.0**	**-0.1**
GO04				IAML		05 48 29.7	
	comp=N,16μm,0.4s						
GO04	**Tololo Observa**	**1.25**	**56**		**Pb**	**05 48 10.1**	**-0.1**
VA06	**Catapilco**	**1.78**	**161**	*e*P	**Pn**	**05 48 18.3**	**+0.8**
VA06				*e*S	**Sb**	**05 48 41.4**	**-0.4**
VA06				IAML		05 48 48.2	
	comp=E,3μm,0.5s						
VA01	**Torpederas**	**2.15**	**172**	*ie*P	**Pn**	**05 48 23.1**	**+0.5**
VA03	**San Esteban**	**2.25**	**147**	*ie*P	**Pb**	**05 48 25.8**	**-1.2**
VA03				*e*S	**Sb**	**05 48 54.1**	**-1.2**
VA03				IAML		05 49 00.1	
	comp=E,2μm,0.5s						
VA03	**San Esteban**	**2.25**	**147**		**Pb**	**05 48 25.9**	**-1.2**
ROCH	**El Roble**	**2.25**	**158**	*ie*P	**Pn**	**05 48 25.4**	**+1.2**
ROCH				*i* S	**Sb**	**05 48 53.6**	**-1.9**
ROCH				IAML		05 49 04.7	
	comp=E,1μm,0.6s						
MT05	**Renca**	**2.72**	**157**	*e*P	**Pb**	**05 48 33.9**	**-1.3**
MT05				*i* S	**Sb**	**05 49 06.4**	**-2.7**
MT05				IAML		05 49 18.9	
	comp=E,2μm,0.4s						
MT05	**Renca**	**2.72**	**157**		**Pn**	**05 48 31.7**	**+1.2**
VA05	**Santo Domingo**	**2.79**	**173**		**Pn**	**05 48 31.6**	**+0.2**
AC04	**Llanos de Chal**	**2.79**	**17**	*ie*P	**Pn**	**05 48 31.1**	**-0.3**
AC04				*e*S	**Sb**	**05 49 08.5**	**-2.3**
AC04	**Llanos de Chal**	**2.79**	**17**		**Pn**	**05 48 31.1**	**-0.3**
MT09	**Talagante**	**3.01**	**164**	*e*P	**Pn**	**05 48 36.6**	**+2.0**
MT09				*i* S	**Sb**	**05 49 18.6**	**+1.2**
MT09				IAML		05 49 25.8	
	comp=N,558nm,0.3s						
MT09	**Talagante**	**3.01**	**164**		**Pn**	**05 48 36.2**	**+1.6**
MT01	**Popeta**	**3.04**	**168**	*e*P	**Pn**	**05 48 36.9**	**+2.1**
MT01				*i* S	**Sn**	**05 49 13.8**	**+2.0**
MT01				IAML		05 49 31.1	
	comp=E,260nm,0.4s						
MT01	**Popeta**	**3.04**	**168**		**Pn**	**05 48 35.9**	**+1.0**
BO01	**Tunca**	**3.58**	**168**		**Pn**	**05 48 43.0**	**+0.7**
GO03	**Copiap**	**3.62**	**26**		**Pn**	**05 48 43.8**	**+0.9**
AC06	**Mina Casimiro**	**3.80**	**23**		**Pn**	**05 48 45.3**	**0.0**
BO02	**Sierra Bellavi**	**4.03**	**166**		**Pn**	**05 48 50.0**	**+1.4**
GO05	**Huala**	**4.12**	**179**		**Pn**	**05 48 49.6**	**-0.1**
AC02	**Maricunga**	**4.75**	**33**		**Pn**	**05 49 00.0**	**+1.2**
H03N1	**Juan Fernandez**	**6.39**	**245**	T	T	05 56 09.8	
	baz=73,slow=72,SNR=633						
H03N3	**Juan Fernandez**	**6.41**	**245**	T	T	05 56 11.2	
	baz=73,slow=72,SNR=588						
H03N2	**Juan Fernandez**	**6.41**	**245**	T	T	05 56 13.4	
	baz=73,slow=72,SNR=544						
LVC	**Limon Verde**	**8.69**	**19**	Pn	**Pn**	**05 49 53.2**	**+0.4**
	comp=E,0.2nm,0.3s,baz=345,slow=8.7,SNR=1.7						
PLCA	**Paso Flores**	**9.90**	**174**	Pn	**Pn**	**05 50 08.4**	**-0.7**
	comp=E,0.1nm,0.3s,baz=9.0,slow=15,SNR=1.7						
CPUP	**Villa Florida**	**13.66**	**74**	Pn	**Pn**	**05 51 00.5**	**0.0**
	comp=E,0.1nm,0.3s,baz=236,slow=12,SNR=1.4						
LPAZ	**La Paz**	**14.95**	**15**	Pn	**Pn**	**05 51 19.6**	**+0.9**
	comp=E,0.1nm,0.3s,baz=201,slow=12,SNR=5.8						
SIV	**San Ignacio**	**17.88**	**36**	P	**P**	**05 51 56.4**	**0.0**
	comp=E,0.1nm,0.3s,baz=240,slow=11,SNR=11						
SAML	**Samuel**	**23.32**	**22**	P	**P**	**05 52 55.8**	**+0.5**
BDFB	**Brasilia**	**26.67**	**61**	P	**P**	**05 53 26.1**	**-0.2**
	comp=E,2.5nm,0.7s,baz=227,slow=9.3,SNR=4.3						
BDFB	**Brasilia**	**26.67**	**61**	IAmb	IAmb	05 53 27.1	
	comp=Z,8.5nm,1.1s						
SNAA	**Sanae**	**54.46**	**159**	P	**P**	**05 57 14.8**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=277,slow=6.5,SNR=10						
SNAA	**Sanae**	**54.46**	**159**	IAmb	IAmb	05 57 15.8	
	comp=Z,3.0nm,0.9s						
TXAR	**Lajitas Array**	**67.05**	**330**	P	**P**	**05 58 41.2**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=154,slow=7.0,SNR=2.2						
BOSA	**Boshof**	**81.50**	**118**	P	**P**	**06 00 05.4**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=222,slow=8.7,SNR=3.4						
TORD	**Torodi Ar. Bea**	**83.12**	**70**	P	**P**	**06 00 13.4**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=259,slow=5.7,SNR=5.0						
TORD	**Torodi Ar. Bea**	**83.12**	**70**	IAmb	IAmb	06 00 23.6	
	comp=Z,2.0nm,1.0s						
ZALV	**Zalesovo Beam**	**151.54**	**29**	PKPbc	**PKPbc**	**06 07 39.4**	**-1.5**
	comp=Z,1.1nm,0.3s,baz=300,slow=3.3,SNR=7.0						

MEX 19 05:47:52.2±1.1, 14.°65N×93.°22W, h176km±23km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.96**	**74**	*i* P	Pn	05 48 16.1	-3.1
THIG				*e*S	Sn	05 48 37.2	-2.9
THIG				*i* S	Sn	05 48 37.7	-2.4
PCIG		**1.05**	**0**	*i* P	Pn	05 48 18.8	-1.2
PCIG				*i* S	Sn	05 48 39.1	-2.4
CCIG	**Comitan**	**1.94**	**33**	*e*P	Pn	05 48 34.6	+6.0
CCIG				*e*S	Sn	05 49 04.9	+8.1
TGIG		**2.12**	**3**	*e*P	Pn	05 48 35.1	+4.6
TGIG				*e*S	Sn	05 49 02.5	+2.3
CMIG	**Matias Romero**	**2.91**	**327**	*e*P	Pn	05 48 40.9	+1.3
CMIG				*e*S	Sn	05 49 12.3	-4.3

IDC ***19*** *05:55:19.2±0.7, 31.°80S×71.°47W, h0km, mb4.2/8, mb1 4.3/13, mb1mx4.1/26, mbtmp4.1/13, ML4.1/5, Error ellipse: s-maj=24.4km s-min=21.2km az=88.0*
GUC ***19*** *05:55:24.9±0.7, 31.°79S×71.°50W, h37km±2km, ML4.6*
NEIC ***19*** *05:55:26.1±1.3, 31.°78S±0.°04×71.°5W±0.°1, h44km±7km, mb4.5/15, ML4.6(GUC), Error ellipse: s-maj=15.0km s-min=6.1km az=90.0*

ISC 19 05:55:23.9±1.2, 31.°78S±0.°02×71.°54W±0.°07, h28km±8km, n78, σ1.°14/81, mb4.4/13, 6C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**0.80**	**165**	*ie*P	**Pn**	**05 55 40.1**	**+0.7**
VA06				*e*S	**Sb**	**05 55 50.6**	**+0.8**
VA06				IAML		05 55 53.9	
	comp=N,59μm,0.7s						
CO06	**Fray Jorge**	**1.11**	**356**	*e*P	**Pb**	**05 55 44.8**	**+0.4**
CO06				*e*S	**Sn**	**05 55 59.4**	**+1.4**
CO06	**Fray Jorge**	**1.11**	**356**		**Pb**	**05 55 44.9**	**+0.5**
CO03	**El Pedregal**	**1.19**	**38**	*ie*P	**Pb**	**05 55 46.1**	**+0.2**
CO03				*e*S	**Sn**	**05 56 01.3**	**+1.2**
CO03	**El Pedregal**	**1.19**	**38**	Pn	**Pb**	**05 55 46.5**	**+0.6**
VA01	**Torpederas**	**1.24**	**184**	*ie*P	**Pn**	**05 55 46.8**	**+1.3**
VA01				*e*S	**Sn**	**05 56 02.8**	**+1.6**
VA01	**Torpederas**	**1.24**	**184**		**Pn**	**05 55 46.6**	**+1.2**
ROCH	**El Roble**	**1.27**	**159**	*ie*P	**Pb**	**05 55 47.0**	**-0.3**
ROCH				*e*S	**Sb**	**05 56 03.8**	**+0.4**
VA03	**San Esteban**	**1.29**	**140**	*ie*P	**Pb**	**05 55 47.4**	**-0.2**
VA03				*e*S	**Sb**	**05 56 03.8**	**-0.1**
VA03				IAML		05 56 06.3	
	comp=N,18μm,0.5s						
VA03	**San Esteban**	**1.29**	**140**		**Pb**	**05 55 47.5**	**-0.2**
GO04	**Tololo Observa**	**1.73**	**22**	*e*P	**Pb**	**05 55 54.2**	**-1.0**
GO04				*e*S	**Sb**	**05 56 16.5**	**0.0**
GO04				IAML		05 56 20.3	
	comp=E,20μm,0.3s						
GO04	**Tololo Observa**	**1.73**	**22**		**Pb**	**05 55 54.5**	**-0.7**
MT05	**Renca**	**1.74**	**157**	*ie*P	**Pb**	**05 55 54.3**	**-1.0**
MT05				*e*S	**Sb**	**05 56 16.5**	**-0.3**
MT05				IAML		05 56 18.4	
	comp=E,19μm,0.4s						

ECSD	**EROS Data Cent**	**78.58**	**342**	P	**P**	**06 07 22.6**	**-0.1**
ECSD				IAmb	IAmb	06 07 23.9	
	comp=Z,5.6nm,1.1s						
BOSA	**Boshof**	**80.73**	**118**	P	**P**	**06 07 34.9**	**-0.2**
	comp=Z,3.1nm,1.0s,baz=52,slow=20,SNR=1.8						
PDAR	**Pinedale Array**	**81.98**	**333**	P	**P**	**06 07 41.2**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=137,slow=7.4,SNR=3.0						
NVAR	**Mina Array Bea**	**82.31**	**325**	P	**P**	**06 07 43.4**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=155,slow=6.7,SNR=8.2						
TORD	**Torodi Ar. Bea**	**83.06**	**70**	P	**P**	**06 07 46.8**	**-0.5**
	comp=Z,4.0nm,0.8s,baz=277,slow=7.1,SNR=20						
TORD	**Torodi Ar. Bea**	**83.06**	**70**	P	**P**	**06 07 46.5**	**-0.8**
TORD				IAmb	IAmb	06 08 03.9	
	comp=Z,4.0nm,0.8s						
ASAR	**Alice Springs**	**119.73**	**207**	PKP	**PKPdf**	**06 14 10.6**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=143,slow=0.9,SNR=3.2						
BRTR	**Keskin Array B**	**120.37**	**60**	PKP	**PKPdf**	**06 14 11.5**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=222,slow=1.9,SNR=1.8						
WRA	**Warramunga Arr**	**122.90**	**209**	PKP	**PKPdf**	**06 14 17.2**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=132,slow=1.2,SNR=3.9						
H11S2	**WAKE ISLAND Hyd**	**126.20**	**270**	T	T	08 33 24.2	
	baz=117,slow=75,SNR=64						
H11S1	**WAKE ISLAND Hyd**	**126.21**	**270**	T	T	08 33 21.7	
	baz=117,slow=75,SNR=21						
H11S3	**WAKE ISLAND Hyd**	**126.22**	**270**	T	T	08 33 28.5	
	baz=117,slow=75,SNR=22						
ZALV	**Zalesovo Beam**	**152.12**	**30**	PKPbc	**PKPbc**	**06 15 15.8**	**-0.4**
	comp=Z,3.9nm,0.5s,baz=298,slow=3.2,SNR=12						
MKAR	**Makanchi Array**	**154.96**	**46**	PKPbc	**PKPbc**	**06 15 21.8**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=312,slow=2.8,SNR=5.1						
MKAR				PKPab	**PKPab**	**06 15 37.8**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=290,slow=4.3,SNR=5.8						

OTT 19 06:03:26.4±0.5, 42°.14N×55°.42W, h18km, ML3.6/6, Atlantic Ocean. 552km south from Grand Bank, NI, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GBN	**Guysborough**	**5.49**	**309**	PN	Pn	06 04 46.7	-0.4
GBN				SN	Sn	06 05 46.7	-3.0
GBN				Trac		06 05 50.4	
	comp=Z,1.0nm,0.1s						
CHEG	**Cheticamp, Nov**	**5.99**	**323**	PN	Pn	06 04 53.6	-0.4
CHEG				SN	Sn	06 05 57.9	-4.2
CHEG				Trac		06 06 12.5	
	comp=Z,35nm,0.8s						
HAL	**Halifax**	**6.46**	**295**	SN	Sn	06 06 07.1	-6.4
DRLN	**Deer Lake**	**7.26**	**349**	SN	Sn	06 06 27.7	-5.7
DRLN				Trac		06 06 31.1	
	comp=Z,6.4nm,0.6s						
LMN	**Caledonia Moun**	**7.71**	**302**	PN	Pn	06 05 16.6	-1.1
LMN				SN	Sn	06 06 38.0	-6.6
LMN				Trac		06 06 41.2	
	comp=Z,4.6nm,0.2s						
SVNB	**Stilesville Qu**	**7.90**	**304**	PN	Pn	06 05 25.0	+4.8
SVNB				SN	Sn	06 06 38.7	-10
SVNB				SN	Sb	06 06 45.5	-31
ELNB	**Elgin, New Bru**	**7.94**	**301**	PN	Pn	06 05 19.4	-1.4
ELNB				SN	Sn	06 06 44.7	-5.3
ELNB				Trac		06 06 51.4	
	comp=Z,1.7nm,0.2s						
WCNB	**Wards Creek**	**8.08**	**299**	PN	Pn	06 05 21.8	-1.0
WCNB				SN	Sn	06 06 47.8	-5.9
WCNB				Trac		06 06 52.3	
	comp=Z,1.9nm,0.1s						
HKNB	**Havelock Quarr**	**8.13**	**301**	PN	Pn	06 05 20.8	-2.6
HKNB				SN	Sn	06 06 48.1	-6.8
HKNB				Trac		06 06 54.8	
	comp=Z,4.7nm,0.2s						
BATG	**Bathurst New B**	**9.15**	**308**	PN	Pn	06 05 35.9	-1.5
BATG				SN	Sn	06 07 12.4	-7.4
BATG				Trac		06 07 20.4	
	comp=Z,1.9nm,0.2s						

*SJA **19** 06:27:05.2±0.7, 28°.68S×72°.20W, h19km±5km, ML5.1, MW4.8*

*IDC **19** 06:27:09.3±0.4, 28°.81S×71°.36W, h0km, mb4.8/13, mb1 4.7/18, mb1mx4.6/27, mbtmp4.6/18, ML4.0/5, MS4.1/8, Ms1 4.1/8, ms1mx3.9/29, Error ellipse: s-maj=19.1km s-min=12.8km az=86.0*

*MOS **19** 06:27:10.3±1.3, 28°.70S×71°.48W, h13km, mb5.2/15, Error ellipse: s-maj=12.9km s-min=8.8km az=97.5*

*NEIC **19** 06:27:12.0±1.8, 28°.81S±0°.03×71°.64W±0°.05, h14km±3km, mb5.1/59, Mwr4.6/27, ML4.9(GUC), Error ellipse: s-maj=7.1km s-min=3.5km az=111.0*

*VAO **19** 06:27:11.1±0.4, 28°.84S×71°.51W, h10km, mb4.7*

*NEIC **19** 06:27:11.9, 28°.81S×71°.65W, h30km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}6.92; $M_{\theta\theta}$0.56; $M_{\phi\phi}$-7.48; $M_{r\theta}$-3.38; $M_{r\phi}$-4.01; $M_{\theta\phi}$2.46; Fault plane solution: $M_0$9.26000×10^{15} NP1:φ±228.92000°, δ48.71000°, λ131.21000°. NP2:φ±355.92000°, δ55.57000°, λ53.12000°. Principal axes: T 9.3078, Plg60.0000°, Azm208.0000°; N -0.1012, Plg30.0000°, Azm19.0000°; P -9.2067, Plg4.0000°, Azm111.0000°;*

*GUC **19** 06:27:13.8±0.9, 28°.85S×71°.31W, h45km±7km, ML5.2, MW5.1*

ISC 19 06:27:09.9±1.1, 28°.79S±0°.02×71°.64W±0°.04, h7km±6km, n380,σ1°56/400, mb5.1/43, 46C-24D, Fault plane solution: NP1:φ±353.63794°, δ64.12447°, λ36.64517°. NP2:φ±245.65212°, δ57.51904°, λ148.84561°. Principal axes: T Plg43.4976°, Azm212.1838°; N Plg46.2122°, Azm24.0368°; P Plg4.0792°, Azm118.3036°**; Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AC04	**Llanos de Chal**	**0.77**	**40**	↑*iP*	**Pn**	**06 27 27.6**	**+0.5**
AC04				*eS*	**Sn**	**06 27 37.5**	**-1.5**
AC04	**Llanos de Chal**	**0.77**	**40**	Pg	**Pn**	**06 27 27.7**	**+0.5**
AC04				Sg	**Sb**	**06 27 36.7**	**+0.5**
AC04	**Llanos de Chal**	**0.77**	**40**	*eP*	**Pn**	**06 27 27.0**	**-0.2**
LCO	**Las Campanas**	**0.85**	**105**	*eP*	**Pn**	**06 27 28.5**	**-0.1**
LCO	**Las Campanas**	**0.85**	**105**	*eP*	**Pb**	**06 27 27.5**	**+0.4**
LCO				*eS*	**Sg**	**06 27 36.9**	**-0.3**
LCO	**Las Campanas**	**0.85**	**105**	Pg	**Pn**	**06 27 28.5**	**-0.1**
CO05	**La Serena**	**1.18**	**163**	↑*iP*	**Pn**	**06 27 33.8**	**+1.0**
CO05				*eS*	**Sb**	**06 27 48.2**	**+0.2**
CO05				IAML		06 27 51.0	
	comp=N,31μm,0.5s						
CO05	**La Serena**	**1.18**	**163**		**Pn**	**06 27 33.8**	**+1.0**
CO05				Sg	**Sg**	**06 27 47.5**	**-0.2**
GO04	**Tololo Observa**	**1.56**	**152**	↑*iP*	**Pb**	**06 27 39.4**	**+0.2**
GO04				*i* S	**Sn**	**06 27 58.5**	**-0.4**
GO04				IAML		06 28 04.8	
	comp=E,89μm,0.5s						
GO04	**Tololo Observa**	**1.56**	**152**		**Pb**	**06 27 39.4**	**+0.2**
GO04				Sn	**Sn**	**06 27 58.6**	**-0.3**
GO04	**Tololo Observa**	**1.56**	**152**	*eP*	**Pb**	**06 27 39.0**	**-0.2**
GO03	**Copiap**	**1.72**	**46**	↓*iP*	**Pb**	**06 27 41.2**	**-0.6**
GO03				*eS*	**Sn**	**06 28 02.3**	**-0.3**
GO03	**Copiap**	**1.72**	**46**	Pn	**Pb**	**06 27 41.6**	**-0.2**
GO03	**Copiap**	**1.72**	**46**	*eP*	**Pn**	**06 27 35.7**	**-4.6**
GO03				*eP*	**Pb**	**06 27 41.0**	**-0.9**
AC06	**Mina Casimiro**	**1.82**	**39**	↓*iP*	**Pb**	**06 27 43.4**	**-0.2**
AC06				*eS*	**Sn**	**06 28 05.1**	**0.0**
AC06	**Mina Casimiro**	**1.82**	**39**		**Pb**	**06 27 43.6**	**0.0**
CO06	**Fray Jorge**	**1.88**	**180**	↑*iP*	**Pn**	**06 27 43.3**	**+0.9**
CO06				*i* S	**Sn**	**06 28 06.1**	**-0.3**
CO06	**Fray Jorge**	**1.88**	**180**		**Pn**	**06 27 43.3**	**+0.9**
CO03	**El Pedregal**	**2.20**	**158**	↑*iP*	**Pn**	**06 27 48.2**	**+1.2**
CO03				*i* S	**Sn**	**06 28 13.6**	**-1.0**
CO03				IAML		06 28 25.6	
	comp=E,10μm,0.3s						
CO03	**El Pedregal**	**2.20**	**158**	Pn	**Pn**	**06 27 48.5**	**+1.5**
AROD	**Rodeo**	**2.33**	**127**	*eP*	**Pb**	**06 27 52.4**	**0.0**
ACDV	**Cuesta del Vie**	**2.59**	**123**	*eP*	**Pb**	**06 27 56.0**	**-0.8**
ACDV				*eS*	**Sg**	**06 28 33.8**	**+0.7**
ACDV				IAML		06 28 37.9	
	comp=Z,7μm,1.6s						
AGUA	**GUANDACOL**	**2.84**	**105**	*eP*	**Pb**	**06 28 01.0**	**0.0**
AGUA				IAML		06 28 53.8	
	comp=Z,5μm,1.5s						
ACCO	**Cerro Coronel**	**2.87**	**129**	*eP*	**Pb**	**06 28 00.0**	**-1.6**
AC02	**Maricunga**	**2.96**	**49**	*eP*	**Pn**	**06 27 59.6**	**+1.9**
AC02				*eS*	**Sn**	**06 28 34.9**	**+1.2**
AC02				IAML		06 28 51.7	
	comp=E,6μm,0.3s						
AC02	**Maricunga**	**2.96**	**49**	Pn	**Pn**	**06 28 00.0**	**+2.3**
AC02	**Maricunga**	**2.96**	**49**	*eP*	**Pn**	**06 28 00.0**	**+2.3**
AC02				*eS*	**Sn**	**06 28 35.7**	**+2.0**
AC02				IAML		06 28 48.9	
	comp=Z,4μm,0.7s						
VCA	**Vinchina**	**3.01**	**90**	*eP*	**Pb**	**06 28 03.0**	**-1.0**
VCA				IAML		06 28 58.0	
	comp=Z,3μm,1.2s						
VA06	**Catapilco**	**3.77**	**176**	IAML		06 29 13.3	
	comp=E,5μm,0.3s						
VA03	**San Esteban**	**4.07**	**167**		**Pn**	**06 28 14.6**	**+1.9**
AVFE	**Valle Fertil**	**4.08**	**118**	*eP*	**Pn**	**06 28 16.0**	**+3.1**
PB14	**IPOC Station P**	**4.29**	**15**		**Pn**	**06 28 15.6**	**-0.3**
PB14	**IPOC Station P**	**4.29**	**15**	*eP*	**Pn**	**06 28 15.0**	**-1.0**
PB14				*eS*	**Sg**	**06 29 23.7**	**-4.1**
MT05	**Renca**	**4.65**	**171**		**Pn**	**06 28 22.0**	**+1.4**
ARCO	**CERRO ARCO**	**4.66**	**151**	*eP*	**Pn**	**06 28 25.0**	**+4.2**
ARCO				*eS*	**Sg**	**06 29 35.7**	**-3.8**
VA05	**Santo Domingo**	**4.85**	**180**		**Pn**	**06 28 23.3**	**0.0**
MT09	**Talagante**	**5.00**	**174**	Pn	**Pn**	**06 28 26.8**	**+1.2**
MT01	**Popeta**	**5.07**	**176**	Pn	**Pn**	**06 28 27.3**	**+1.0**
MT01	**Popeta**	**5.07**	**176**	*eP*	**Pn**	**06 28 27.0**	**+0.7**
MT01				*eS*	**Sn**	**06 29 22.8**	**-2.3**
MT01				IAML		06 29 54.5	
	comp=Z,690nm,0.7s						
CYA	**Choya**	**5.14**	**88**	*eP*	**Pn**	**06 28 23.7**	**-3.6**
CYA				*eP*	**Pn**	**06 28 29.0**	**+1.6**
PB10	**IPOC Station P**	**5.35**	**11**	Pn	**Pn**	**06 28 30.7**	**+0.6**
PB10	**IPOC Station P**	**5.35**	**11**	*eP*	**Pn**	**06 28 27.2**	**-2.9**
BO01	**Tunca**	**5.60**	**175**		**Pn**	**06 28 34.2**	**+0.5**
BO01	**Tunca**	**5.60**	**175**	*eP*	**Pn**	**06 28 35.0**	**+1.3**
FSA	**Cafayete**	**5.69**	**63**	*eP*	Pn	06 28 40.0	+4.9
PB15	**IPOC Station P**	**5.89**	**20**		**Pn**	**06 28 38.4**	**+0.6**
AHML	**Horco Molle**	**5.93**	**72**	*eP*	**Pn**	**06 28 35.7**	**-2.5**
AHML				*eP*	**Pn**	**06 28 41.0**	**+2.8**
BO02	**Sierra Bellavi**	**6.03**	**173**	Pn	**Pn**	**06 28 40.4**	**+0.8**
BO02	**Sierra Bellavi**	**6.03**	**173**	*eS*	**Sn**	**06 29 51.4**	**+2.5**
BO02				*eP*	**Pn**	**06 28 35.7**	**-3.8**
BO02				*eP*	**Pn**	**06 28 42.0**	**+2.4**
PB05	**IPOC Station P**	**6.05**	**13**	*eP*	**Pn**	**06 28 38.0**	**-2.0**
GO05	**Huala**	**6.21**	**182**		**Pn**	**06 28 41.3**	**-0.6**
GO05	**Huala**	**6.21**	**182**	*eS*	**Sn**	**06 29 47.8**	**-5.4**
GO05				*eP*	**Pn**	**06 28 41.0**	**-1.0**
GO05				*eP*	**Pn**	**06 28 41.3**	**-0.6**
COIS	**El Sosneado**	**6.53**	**165**	*eP*	**Pn**	**06 28 50.0**	**+3.5**
RFA	**San Rafael**	**6.54**	**156**	*eP*	**Pn**	**06 28 49.0**	**+2.4**
PB04	**IPOC Station P**	**6.57**	**12**		**Pn**	**06 28 45.7**	**-1.4**
PB04	**IPOC Station P**	**6.57**	**12**	*eP*	**Pn**	**06 28 45.0**	**-2.1**
PB04				*eS*	**Sn**	**06 29 58.1**	**-4.3**
AF01	**San Pedro de A**	**6.60**	**29**		**Pn**	**06 28 48.5**	**+0.9**
LVC	**Limon Verde**	**6.63**	**22**	Pn	**Pn**	**06 28 47.4**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=175,slow=9.3,SNR=20						
LVC				Sn	**Sn**	**06 29 59.9**	**-4.3**
	comp=Z,14nm,0.3s,baz=267,slow=12,SNR=3.1						
LVC				LR	LR	06 31 31.0	
	comp=Z,2μm,21.5s,baz=216,slow=40						
LVC	**Limon Verde**	**6.63**	**22**	*eP*	**Pn**	**06 28 47.0**	**-1.1**
LVC	**Limon Verde**	**6.63**	**22**		**Pn**	**06 28 48.0**	**-0.1**
LVC	**Limon Verde**	**6.63**	**22**	*eP*	**Pn**	**06 28 48.1**	**0.0**
LVC	**Limon Verde**	**6.63**	**22**	*eP*	**Pn**	**06 28 48.0**	**-0.1**
ML02	**Panimavida**	**6.95**	**179**		**Pn**	**06 28 52.2**	**0.0**
PB07	**IPOC Station P**	**7.21**	**13**		**Pn**	**06 28 54.6**	**-1.3**
PB09	**IPOC Station P**	**7.29**	**18**		**Pn**	**06 28 59.1**	**+2.0**
H03N1	**Juan Fernandez**	**7.77**	**232**	T	T	06 37 07.9	
	baz=59,slow=72,SNR=1046						
H03N2	**Juan Fernandez**	**7.78**	**232**	T	T	06 37 04.2	
	baz=59,slow=72,SNR=1416						
H03N3	**Juan Fernandez**	**7.79**	**232**	T	T	06 37 03.2	
	baz=59,slow=72,SNR=858						
VA04	**Juan Fernndez**	**7.83**	**230**		**Pn**	**06 29 03.6**	**-0.6**
PB01	**IPOC Station P**	**7.96**	**15**		**Pn**	**06 29 07.6**	**+1.4**
H03S3	**Juan Fernandez**	**7.99**	**229**	T	T	06 37 15.8	
	baz=20,slow=74,SNR=8.1						
H03S1	**Juan Fernandez**	**8.00**	**229**	T	T	06 37 17.8	
	baz=20,slow=74,SNR=12						
H03S2	**Juan Fernandez**	**8.01**	**229**	T	T	06 37 14.7	
	baz=20,slow=74,SNR=8.6						
ALOL	**LOMAS DE OLMED**	**8.47**	**56**	*eP*	Pn	06 29 18.0	+4.9
LC01	**Cunco**	**10.08**	**181**		**Pn**	**06 29 34.0**	**-1.1**
LC01	**Cunco**	**10.08**	**181**	*eP*	**Pn**	**06 29 34.0**	**-1.1**
LR03	**Panguipulli**	**10.83**	**183**		**Pn**	**06 29 44.1**	**-1.2**
PLCA	**Paso Flores**	**11.95**	**176**	Pn	**Pn**	**06 29 59.5**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=336,slow=12,SNR=6.6						
PLCA				LR	LR	06 34 57.3	
	comp=Z,2μm,18.1s,baz=348,slow=39						
PLCA	**Paso Flores**	**11.95**	**176**	*eP*	**Pn**	**06 30 01.2**	**+0.5**
PLCA	**Paso Flores**	**11.95**	**176**	*eP*	**Pn**	**06 30 00.0**	**-0.7**
LL04	**Puerto Octay**	**12.11**	**183**		**Pn**	**06 30 01.3**	**-1.5**
TRQA	**Tornquist**	**12.26**	**141**	P	**Pn**	**06 30 05.0**	**+0.1**
TRQA	**Tornquist**	**12.26**	**141**		**Pn**	**06 30 05.0**	**+0.1**
TRQA	**Tornquist**	**12.26**	**141**	*eP*	**Pn**	**06 30 05.0**	**+0.1**
LPAZ	**La Paz**	**12.86**	**15**	Pn	**Pn**	**06 30 12.6**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=209,slow=8.6,SNR=3.9						
LPAZ				LR	LR	06 35 07.6	
	comp=Z,691nm,19.8s,baz=164,slow=37						
LPAZ	**La Paz**	**12.86**	**15**	*eP*	**Pn**	**06 30 12.8**	**-1.0**
LPAZ	**La Paz**	**12.86**	**15**	Pn	**Pn**	**06 30 12.8**	**-1.0**
LPAZ	**La Paz**	**12.86**	**15**	*eP*	**Pn**	**06 30 14.6**	**+0.8**
CPUP	**Villa Florida**	**12.93**	**82**	Pn	**Pn**	**06 30 13.1**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=256,slow=12,SNR=7.4						
CPUP				LR	LR	06 35 31.5	
	comp=Z,875nm,18.6s,baz=273,slow=40						
CPUP	**Villa Florida**	**12.93**	**82**	P	**Pn**	**06 30 14.4**	**+0.3**
CPUP	**Villa Florida**	**12.93**	**82**	Pn	**Pn**	**06 30 14.4**	**+0.3**
CPUP	**Villa Florida**	**12.93**	**82**	*eP*	**Pn**	**06 30 14.5**	**+0.3**
ITQB	**Itaqui**	**13.14**	**97**	*eP*	**Pn**	**06 30 15.2**	**-1.8**
GO07	**Milladeo Hill,**	**14.39**	**186**		**Pn**	**06 30 31.4**	**-2.6**
PLTB	**Pedras Altas**	**15.86**	**105**	*eP*	**Pn**	**06 30 53.6**	**0.0**
CPSB	**Cacapava Do Su**	**15.91**	**100**	*eP*	**Pn**	**06 30 53.1**	**-1.2**
SIV	**San Ignacio**	**16.04**	**40**	Pn	**Pn**	**06 30 53.4**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=251,slow=15,SNR=5.2						
SIV				LR	LR	06 36 23.7	
	comp=Z,255nm,21.3s,baz=203,slow=35						
AQDB	**Aquidauana**	**16.68**	**64**		**P**	**06 31 05.8**	**-0.8**
AQDB	**Aquidauana**	**16.68**	**64**	*eP*	**Pn**	**06 31 04.6**	**+0.5**
NNA	**Nana**	**17.41**	**343**	LR	LR	06 35 24.1	
	comp=Z,162nm,20.6s,baz=172,slow=28						
PTLB	**Pontes e Lacer**	**17.60**	**44**	*eP*	**P**	**06 31 17.2**	**+0.4**
PTGB	**Pitanga**	**17.94**	**81**	*eP*	**P**	**06 31 20.6**	**-0.1**
TRCB	**Terra Rica**	**18.11**	**75**	*eP*	**P**	**06 31 22.9**	**+0.3**
CNLB	**Canela**	**18.18**	**97**	*eP*	**Pn**	**06 31 22.3**	**-0.7**
PP1B	**Ponte de Pedra**	**18.98**	**58**	*eP*	**P**	**06 31 32.4**	**+0.3**
VILB	**Vilhena**	**19.02**	**36**	*eP*	**Pn**	**06 31 33.9**	**+0.7**
SALV	**Santo Antonio**	**19.52**	**52**	*eP*	**P**	**06 31 38.5**	**+0.6**
ETMB	**Extrema**	**19.55**	**16**	*eP*	**Pn**	**06 31 39.6**	**+0.1**
TER01	**Tubaro-SC**	**19.75**	**95**	*eP*	**P**	**06 31 39.8**	**-0.6**
PCMB	**Pacaembu**	**19.76**	**73**	*eP*	**P**	**06 31 40.4**	**-0.2**
TIJ01	**Guaruva-PR**	**20.44**	**86**	*eP*	**P**	**06 31 48.1**	**0.0**
CZSB	**Cruzeiro do Su**	**20.98**	**357**	*eP*	Pn	06 31 56.7	+0.3
SAML	**Samuel**	**21.28**	**24**	P	**P**	**06 31 57.6**	**+0.5**
SAML				pmax	pmax		
	comp=Z,12nm,0.9s						
SAML	**Samuel**	**21.28**	**24**	P	**P**	**06 31 57.6**	**+0.5**
SAML	**Samuel**	**21.28**	**24**	*eP*	**P**	**06 31 56.8**	**-0.3**
ITRB	**Iturama**	**21.38**	**70**	*eP*	**P**	**06 31 56.5**	**-1.7**
PET01	**Itanhaem-SP**	**22.24**	**84**	*eP*	**P**	**06 32 09.0**	**+1.6**
BB19B	**Bebedouro**	**22.30**	**75**	*eP*	**P**	**06 32 06.6**	**-1.4**
SPB	**Sao Paulo**	**22.31**	**82**	P	**P**	**06 32 09.6**	**+1.4**
SPB	**Sao Paulo**	**22.31**	**82**	*eP*	**P**	**06 32 08.9**	**+0.7**
RCLB	**Rio Claro- Sao**	**22.62**	**79**	*eP*	**P**	**06 32 12.2**	**+0.7**
VAO	**Valinhos**	**22.91**	**81**	*eP*	**P**	**06 32 13.6**	**-1.0**
PARB	**Paraibuna**	**23.97**	**83**	*eP*	**P**	**06 32 23.9**	**-1.2**
IPMB	**Ipameri, GO**	**24.00**	**68**	*eP*	**P**	**06 32 24.9**	**-0.6**
MG02	**Cerro Sombrero**	**24.03**	**176**	P	**P**	**06 32 26.0**	**+0.7**
TBTG	**Tabatinga, AM**	**24.53**	**4**	*eP*	**P**	**06 32 31.2**	**+1.0**
EFI	**East Falkland**	**25.01**	**160**	↑*eP*	**P**	**06 32 34.9**	**+0.6**
EFI				pmax	pmax		
	comp=Z,115nm,1.2s						
SNDB	**Serra Nova Dou**	**25.30**	**53**	*eP*	**P**	**06 32 36.2**	**-1.0**
BDFB	**Brasilia**	**25.42**	**64**	P	**P**	**06 32 37.4**	**-1.1**
	comp=Z,8.9nm,0.7s,baz=233,slow=10,SNR=17						
BDFB	**Brasilia**	**25.42**	**64**	P	**P**	**06 32 38.0**	**-0.5**
BDFB				pmax	pmax		
	comp=Z,31nm,1.1s						
BDFB	**Brasilia**	**25.42**	**64**	P	**P**	**06 32 38.0**	**-0.5**
BDFB				IAmb	IAmb	06 32 48.3	
	comp=Z,31nm,1.1s						
BSCB	**Bom Sucesso**	**25.53**	**78**	*eP*	**P**	**06 32 40.4**	**+1.0**
NPGB	**Novo Progresso**	**26.54**	**39**	*eP*	**P**	**06 32 47.7**	**-0.7**
PEXB	**Peixe**	**27.37**	**57**	*eP*	**P**	**06 32 55.6**	**-0.3**
DIAM	**Diamantina, MG**	**27.62**	**74**	*eP*	**P**	**06 32 58.0**	**-0.4**
MC01	**Montes Claros**	**28.15**	**71**	*eP*	**P**	**06 33 02.0**	**-1.1**
ITTB	**Itaituba**	**28.60**	**35**	*eP*	**P**	**06 33 08.1**	**+1.2**
JANB	**Januaria**	**28.71**	**67**	*eP*	**P**	**06 33 06.9**	**-1.1**
SJMB	**Sao Joao De Ma**	**29.55**	**77**	*eP*	**P**	**06 33 14.5**	**-0.9**
SDBA	**SAO DESIDERIO**	**29.76**	**62**	*eP*	**P**	**06 33 16.4**	**-0.9**
BSFB	**Barra de Sao F**	**29.79**	**77**	*eP*	**P**	**06 33 16.8**	**-0.7**
SMTB	**Santa Maria do**	**30.07**	**53**	*eP*	**P**	**06 33 21.5**	**+1.5**
PRPB	**Parauapebas**	**30.53**	**47**	*eP*	**P**	**06 33 24.2**	**+0.1**
NAN01	**Guarapari, ES**	**30.83**	**76**	*eP*	**P**	**06 33 25.9**	**-0.8**
BBAC	**Balboa, Cauca**	**31.11**	**349**	*eP*	**P**	**06 33 32.7**	**+3.4**
POPC	**Popayan, Colom**	**31.53**	**350**	*eP*	**P**	**06 33 36.3**	**+3.2**
GUA01	**Guaratinga, BA**	**31.68**	**74**	*eP*	**P**	**06 33 34.7**	**+0.5**
ORTC	**Ortega, Tolima**	**32.70**	**353**	*eP*	**P**	**06 33 46.3**	**+3.2**
BOAV	**Boa Vista**	**32.79**	**21**	*eP*	**P**	**06 33 44.4**	**+0.4**
NBIT	**Itapeh - BA**	**32.79**	**72**	*eP*	**P**	**06 33 44.0**	**0.0**
CHIC	**Chingaza**	**33.29**	**356**	*eP*	**P**	**06 33 49.8**	**+1.0**
GDU01	**Guandu, BA**	**33.30**	**70**	*eP*	**P**	**06 33 47.0**	**-1.4**
MCPB	**Macapa, AP**	**33.91**	**37**	*eP*	**P**	**06 33 55.0**	**+1.3**
GUY2C	**Guyana, Caldas**	**34.01**	**353**	*eP*	**P**	**06 33 58.0**	**+2.9**
NBPN	**Ponto Novo - B**	**34.38**	**65**	*eP*	**P**	**06 33 56.9**	**-1.0**
RUSC	**La Rusia**	**34.51**	**357**	P	**P**	**06 34 01.3**	**+1.8**
RUSC				IAmb	IAmb	06 34 11.2	
	comp=Z,22nm,0.8s						
RUSC	**La Rusia**	**34.51**	**357**	*eP*	**P**	**06 34 01.2**	**+1.8**
TMAB	**Tom-Au,PA,Br**	**34.54**	**45**	*eP*	**P**	**06 33 59.2**	**0.0**
CBOC	**Ciudad Bolivar**	**34.71**	**352**	*eP*	**P**	**06 34 03.3**	**+2.5**
HELC	**Santa Helena**	**34.98**	**353**	*eP*	**P**	**06 34 05.5**	**+2.2**
PTBC	**PUERTO BERRIO,**	**35.23**	**355**	*eP*	**P**	**06 34 05.2**	**0.0**
DBBC	**Dabeiba**	**35.87**	**352**	*eP*	**P**	**06 34 14.2**	**+3.5**
ZARC	**Zaragoza, Cauc**	**36.21**	**355**	*eP*	**P**	**06 34 14.4**	**+0.9**
NBLA	**Lagarto - SE**	**36.24**	**68**	*eP*	**P**	**06 34 13.0**	**-0.8**
PMSA	**Palmer Station**	**36.32**	**175**	P	**P**	**06 34 14.6**	**+0.7**
	comp=Z,18nm,0.9s,baz=6.3,slow=6.5,SNR=9.6						
PMSA	**Palmer Station**	**36.32**	**175**	P	**P**	**06 34 15.1**	**+1.2**
PMSA				IAmb	IAmb	06 34 16.3	
	comp=Z,47nm,1.3s						
PMSA	**Palmer Station**	**36.32**	**175**	*eP*	**P**	**06 34 15.4**	**+1.5**
UREC	**San Jos de Ur**	**36.52**	**354**	*eP*	**P**	**06 34 17.5**	**+1.3**
ROSB	**Rosrio**	**36.72**	**50**	*eP*	**P**	**06 34 16.7**	**-1.2**
SMLC	**San Martn de**	**37.45**	**356**	*eP*	**P**	**06 34 23.4**	**-0.6**
NBPS	**Pedro II - PI**	**37.54**	**55**	*eP*	**P**	**06 34 24.5**	**-0.5**
NBMA	**Muriti-CE**	**37.61**	**62**	*eP*	**P**	**06 34 25.4**	**-0.1**
NBPB	**Pedra_Branca-C**	**38.14**	**59**	*eP*	**P**	**06 34 29.5**	**-0.6**
NBPA	**Parau_RN**	**39.89**	**62**	*eP*	**P**	**06 34 44.3**	**-0.4**
OBIP	**Obispado Ponce**	**46.81**	**7**	P	**

VNDA					PKP2bc	P'P'bc	07 06 24.1	-9.2
	comp=Z,1.8nm,0.7s,baz=307,slow=6.4,SNR=10.0								
VNDA	**Vanda**	**69.26**	**191**		P	**P**	**06 38 18.6**	**+1.5**
VNDA					pmax	pmax			
	comp=Z,6.0nm,1.0s								
VNDA	**Vanda**	**69.26**	**191**		P	**P**	**06 38 18.6**	**+1.5**
VNDA	**Vanda**	**69.26**	**191**		P	P'P'bc	07 06 23.9	-9.5
SSPA	**Standing Stone**	**69.32**	**355**		P	**P**	**06 38 19.3**	**+1.4**
	baz=174								
N59A	**State Game Lan**	**69.46**	**357**		P	**P**	**06 38 20.3**	**+1.5**
	baz=176,SNR=5.3								
R40A	**Maddies Statio**	**69.47**	**343**		P	**P**	**06 38 20.0**	**+1.2**
ACSO	**Alum Creek Sta**	**69.48**	**351**		P	**P**	**06 38 19.4**	**+0.5**
	baz=169								
BRYW	**Bryant College**	**70.36**		**0**	P	**P**	**06 38 25.4**	**+1.2**
BRYW					IAmb	IAmb	06 38 36.0		
	comp=Z,16nm,0.7s								
P40A	**Paris**	**70.58**	**343**		P	**P**	**06 38 26.7**	**+1.1**
L59A	**Walton**	**70.70**	**357**		P	**P**	**06 38 27.9**	**+1.6**
L59A					IAmb	IAmb	06 38 28.9		
	comp=Z,22nm,0.9s								
L56A	**Greenwood**	**70.79**	**355**		P	**P**	**06 38 28.1**	**+1.2**
L56A					IAmb	IAmb	06 38 29.0		
	comp=Z,17nm,0.9s								
L61B	**Northampton**	**70.89**	**359**		P	**P**	**06 38 28.8**	**+1.3**
	baz=179,SNR=5.6								
HDIL	**Hopedale**	**70.92**	**346**		P	**P**	**06 38 28.0**	**+0.4**
HDIL	**Hopedale**	**70.92**	**346**		P	**P**	**06 38 28.5**	**+0.9**
	baz=164								
HRV	**Adam Dziewonsk**	**70.94**		**0**	P	**P**	**06 38 28.6**	**+0.8**
HRV					pmax	pmax			
	comp=Z,12nm,0.8s								
HRV	**Adam Dziewonsk**	**70.94**		**0**	P	**P**	**06 38 28.6**	**+0.8**
HRV					IAmb	IAmb	06 38 39.7		
	comp=Z,12nm,0.8s								
HRV	**Adam Dziewonsk**	**70.94**		**0**	P	**P**	**06 38 29.3**	**+1.6**
	baz=180								
K61A	**Williamstown**	**71.12**	**359**		P	**P**	**06 38 30.3**	**+1.5**
	baz=178								
ANMO	**Albuquerque**	**71.41**	**330**	⇓	*e*P	**P**	**06 38 33.1**	**+2.0**
ANMO					pmax	pmax			
	comp=Z,5.0nm,1.3s								
ANMO	**Albuquerque**	**71.41**	**330**		P	**P**	**06 38 33.7**	**+2.6**
	baz=148								
J61A	**Chester**	**71.79**	**359**		P	**P**	**06 38 34.8**	**+1.9**
	baz=179								
214A	**Organ Pipe Nat**	**71.99**	**324**		P	**P**	**06 38 37.2**	**+2.8**
	baz=143,SNR=8.0								
I60A	**Shoreham**	**72.30**	**359**		P	**P**	**06 38 37.6**	**+1.7**
	baz=178								
T25A	**Trinidad**	**72.44**	**333**		P	**P**	**06 38 39.8**	**+2.6**
	baz=150								
LBNH	**Lisbon**	**72.68**	**360**		P	**P**	**06 38 40.4**	**+2.2**
	baz=180								
L40A	**Anamosa**	**72.78**	**345**		P	**P**	**06 38 39.8**	**+0.9**
LONY	**Lake Ozonia**	**73.11**	**358**		P	**P**	**06 38 41.9**	**+1.2**
	baz=177								
DBIC	**Dimbokro**	**73.23**	**72**		P	**P**	**06 38 41.8**	**-0.4**
	comp=Z,13nm,0.8s,baz=260,slow=5.7,SNR=10.0								
EMMW	**East Machias**	**73.24**		**3**	P	**P**	**06 38 42.5**	**+1.1**
EMMW					IAmb	IAmb	06 38 53.3		
	comp=Z,8.6nm,0.8s								
X16A	**Lo Mia Camp, P**	**73.27**	**326**		P	**P**	**06 38 44.7**	**+2.5**
FRNY	**Flat Rock**	**73.29**	**359**		P	**P**	**06 38 43.0**	**+1.2**
FRNY					IAmb	IAmb	06 38 44.4		
	comp=Z,16nm,1.1s								
JFWS	**Jewell Farm**	**73.38**	**346**		P	**P**	**06 38 43.3**	**+0.9**
	baz=163,SNR=5.5								
G62A	**West of Eustis**	**73.66**		**1**	P	**P**	**06 38 45.7**	**+1.7**
G62A					IAmb	IAmb	06 38 56.0		
	comp=Z,12nm,0.8s								
PKME	**Peaks-Kenny Pk**	**73.73**		**2**	P	**P**	**06 38 45.9**	**+1.5**
	baz=182								
S22A	**4UR Ranch, Cre**	**73.95**	**332**		P	**P**	**06 38 48.5**	**+2.3**
	baz=148								
WUAZ	**Wupatki**	**74.13**	**327**		P	**P**	**06 38 50.0**	**+2.9**
	baz=144,SNR=5.6								
MVCO	**Mesa Verde**	**74.21**	**330**		P	**P**	**06 38 50.0**	**+2.3**
	baz=147								
Q24A	**Divide**	**74.31**	**333**		P	**P**	**06 38 50.5**	**+2.1**
	baz=150,SNR=5.2								
F64A	**Sherman**	**74.36**		**2**	P	**P**	**06 38 48.8**	**+0.8**
F64A					IAmb	IAmb	06 38 50.3		
	comp=Z,12nm,1.0s								
BC3	**Big Chuckawall**	**74.69**	**323**		P	**P**	**06 38 52.6**	**+2.2**
	baz=141								
IRM	**Iron Mountain**	**74.92**	**324**		P	**P**	**06 38 54.2**	**+2.6**
	baz=141								
TPFO	**Pinon Flats**	**75.19**	**323**		P	**P**	**06 38 55.9**	**+2.6**
	baz=140								
ISCO	**Idaho Springs**	**75.21**	**334**		P	**P**	**06 38 55.8**	**+2.3**
	baz=150,SNR=5.7								
BELC	**Belle Mtn. Jos**	**75.25**	**323**		P	**P**	**06 38 56.3**	**+2.7**
	baz=141								
MURC	**Murrieta**	**75.58**	**322**		P	**P**	**06 38 58.3**	**+2.9**
	baz=140								
ECSD	**EROS Data Cent**	**75.72**	**342**		P	**P**	**06 38 57.3**	**+1.3**
ECSD					IAmb	IAmb	06 38 58.0		
	comp=Z,24nm,0.9s								
ECSD	**EROS Data Cent**	**75.72**	**342**		P	**P**	**06 38 57.2**	**+1.2**
	baz=158,SNR=23								
SPMN	**Marine on St.**	**76.15**	**345**		P	**P**	**06 38 58.9**	**+0.6**
SPMN	**Marine on St.**	**76.15**	**345**		P	**P**	**06 38 59.0**	**+0.6**
	baz=161,SNR=9.4								
BFSC	**Mount Baldy Ra**	**76.31**	**322**		P	**P**	**06 39 02.3**	**+2.6**
	baz=140								
TUQ	**Turquoise Moun**	**76.32**	**324**		P	**P**	**06 39 02.1**	**+2.3**
	baz=141								
O20A	**White River Ci**	**76.55**	**332**		P	**P**	**06 39 03.3**	**+2.2**
	baz=148,SNR=9.8								
EDW2	**Edwards Air Fo**	**76.98**	**322**		P	**P**	**06 39 05.3**	**+1.9**
	baz=140								
LRMC	**Laurel Mtn Rad**	**77.27**	**323**		P	**P**	**06 39 08.0**	**+2.9**
	baz=140								
FURC	**Furnace Creek,**	**77.60**	**324**		P	**P**	**06 39 09.5**	**+2.8**
	baz=140								
MPMC	**Manual Prospec**	**77.61**	**323**		P	**P**	**06 39 09.1**	**+2.0**
	baz=140								
TPNV	**Topopah Spring**	**77.66**	**325**		P	**P**	**06 39 10.1**	**+2.8**
	baz=141,SNR=6.7								
ISA	**Isabella, Lake**	**77.83**	**323**		P	**P**	**06 39 10.9**	**+2.8**
	baz=139								
K22A	**Casper**	**78.01**	**334**		P	**P**	**06 39 11.5**	**+2.4**
	baz=149,SNR=8.4								
MAW	**Mawson**	**78.07**	**164**		P	**P**	**06 39 09.0**	**+0.1**
	comp=Z,18nm,0.8s,baz=209,slow=6.1,SNR=33								
MAW					LR	LR	07 13 44.5		
	comp=Z,243nm,18.4s,baz=266,slow=36								
MAW	**Mawson**	**78.07**	**164**		P	**P**	**06 39 09.3**	**+0.3**
MAW					pmax	pmax			
	comp=Z,4.0nm,0.9s								
MAW	**Mawson**	**78.07**	**164**			**P**	**06 39 09.3**	**+0.3**
KOWA	**Kowa**	**78.20**	**66**			**P**	**06 39 10.4**	**-0.2**
KOWA					IAmb	IAmb	06 39 11.1		
	comp=Z,21nm,0.8s								
CWC	**Cottonwood Cre**	**78.21**	**323**		P	**P**	**06 39 12.5**	**+2.1**
	baz=140								
GRAC	**Grapevine Rang**	**78.26**	**324**		P	**P**	**06 39 13.3**	**+2.8**
	baz=140								
VES	**Vestal, Richgr**	**78.29**	**322**		P	**P**	**06 39 13.2**	**+2.6**
	baz=139								
RSSD	**Black Hills**	**78.39**	**337**		P	**P**	**06 39 13.2**	**+2.0**
	baz=151								
SMMC	**Simmler**	**78.39**	**321**		P	**P**	**06 39 14.2**	**+3.0**
	baz=138								
R11A	**Troy Canyon, C**	**78.42**	**326**		P	**P**	**06 39 14.0**	**+2.5**
	baz=142,SNR=6.0								
DUG	**Dugway, Tooele**	**78.58**	**329**		P	**P**	**06 39 14.6**	**+2.3**
	baz=144,SNR=7.5								
TIN	**Tinemaha, Big**	**78.75**	**324**		P	**P**	**06 39 16.1**	**+2.8**
	baz=140								
BW06	**Boulder Array**	**79.30**	**333**		P	**P**	**06 39 17.9**	**+1.6**
	baz=147,SNR=6.1								
PDAR	**Pinedale Array**	**79.30**	**333**		P	**P**	**06 39 17.6**	**+1.3**
	comp=Z,2.0nm,0.5s,baz=133,slow=7.4,SNR=19								
PDAR					PKKPbc	**PKKPbc**	**06 58 04.5**	**-4.0**	
	comp=Z,0.1nm,0.5s,baz=217,slow=0.7,SNR=4.3								
MLAC	**Mammoth, Mammo**	**79.50**	**324**		P	**P**	**06 39 20.3**	**+2.8**
	baz=139								
AGMN	**Agassiz Nation**	**79.76**	**344**		P	**P**	**06 39 19.4**	**+1.1**
	baz=159,SNR=7.7								
NVAR	**Mina Array Bea**	**79.83**	**325**		P	**P**	**06 39 21.5**	**+2.2**
	comp=Z,1.6nm,0.8s,baz=158,slow=6.7,SNR=13								
RLMT	**Red Lodge**	**81.16**	**334**		P	**P**	**06 39 28.1**	**+1.9**
	baz=147								
LAO	**LASA Array**	**81.38**	**337**		P	**P**	**06 39 28.6**	**+1.4**
	baz=150,SNR=7.9								

YHH	**Holmes Hill**	**81.50**	**333**		P	**P**	**06 39 30.3**	**+2.1**
ULM	**Lac du Bonnet**	**81.58**	**345**		P	**P**	**06 39 28.5**	**+0.5**
	comp=Z,9.7nm,0.8s,baz=138,slow=5.9,SNR=7.8								
HLID	**Hailey**	**81.99**	**330**		P	**P**	**06 39 32.7**	**+2.1**
	baz=143,SNR=12								
TORD	**Torodi Ar. Bea**	**82.13**		**70**	P	**P**	**06 39 31.1**	**-0.7**
	comp=Z,15nm,0.8s,baz=261,slow=4.9,SNR=64								
TORD	**Torodi Ar. Bea**	**82.13**		**70**	P	**P**	**06 39 31.4**	**-0.4**
TORD					IAmb	IAmb	06 39 32.1		
	comp=Z,15nm,0.8s								
BOSA	**Boshof**	**82.20**	**118**		P	**P**	**06 39 31.4**	**-0.9**
	comp=Z,13nm,0.9s,baz=241,slow=3.9,SNR=16								
BOSA	**Boshof**	**82.20**	**118**		P	**P**	**06 39 31.5**	**-0.7**
BOSA					pmax	pmax			
	comp=Z,12nm,0.9s								
BOSA	**Boshof**	**82.20**	**118**			**P**	**06 39 31.5**	**-0.7**
BOSA					IAmb	IAmb	06 39 32.4		
	comp=Z,12nm,0.8s								
DGMT	**Dagmar**	**82.26**	**339**		P	**P**	**06 39 33.5**	**+1.8**
	baz=152,SNR=7.1								
O03E	**Paynes Creek**	**83.03**	**324**		P	**P**	**06 39 37.0**	**+1.0**
	baz=137								
M04C	**Macdoel**	**84.14**	**325**		P	**P**	**06 39 43.6**	**+1.8**
	baz=137,SNR=6.2								
J05D	**Fort Rock, OR**	**84.95**	**326**		P	**P**	**06 39 47.7**	**+1.9**
	baz=138								
J04D	**Umpqua Nationa**	**85.34**	**326**		P	**P**	**06 39 49.4**	**+1.6**
	baz=137								
K02D	**Willamette Mer**	**85.73**	**324**		P	**P**	**06 39 51.8**	**+2.1**
	baz=136								
I05D	**Terrebonne, OR**	**85.78**	**327**		P	**P**	**06 39 51.8**	**+2.0**
	baz=138,SNR=5.4								
KIP	**Kipapa**	**97.03**	**290**	*c*	*i*P	Pdif	06 40 46.5	+3.5
KIP					pmax	pmax			
	comp=Z,166nm,1.6s								
KEST	**Kesra**	**99.59**		**55**	LR	LR	07 28 02.8		
	comp=Z,156nm,18.8s,baz=307,slow=37								
GERES	**GERESS Array B**	**109.22**		**44**	PKIKP	**PKiKP**	**06 45 38.3**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=225,slow=0.1,SNR=4.9								
AKASG	**Malin Array Be**	**118.36**		**45**	PKP	**PKPdf**	**06 45 55.8**	**-1.9**
	comp=Z,3.2nm,0.8s,baz=269,slow=2.3,SNR=7.4								
AKBB	**Malin Array Si**	**118.36**		**45**	⇑*i*PKIKP	**PKPdf**	**06 45 56.5**	**-1.3**
FINES	**FINESS Array B**	**118.48**		**33**	PKP	**PKPdf**	**06 45 57.1**	**-0.6**
	comp=Z,3.7nm,1.0s,baz=82,slow=4.0,SNR=3.3								
BR131	**Keskin Array S**	**118.91**		**58**	⇓*i*PKIKP	**PKPdf**	**06 45 59.2**	**-0.2**
BRTR	**Keskin Array B**	**118.91**		**58**	PKP	**PKPdf**	**06 45 59.1**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=186,slow=3.6,SNR=8.7								
ASAR	**Alice Springs**	**122.34**		**208**	PKP	**PKPdf**	**06 46 05.8**	**-0.6**
	comp=Z,4.1nm,0.8s,baz=137,slow=1.7,SNR=48								
ASAR					PKKPbc	**PKKPbc**	**06 56 01.4**	**0.0**	
	comp=Z,0.5nm,0.6s,baz=328,slow=3.2,SNR=7.0								
LVZ	**Lovozero**	**122.46**		**25**	⇓*i*PKIKP	**PKPdf**	**06 46 05.0**	**-0.2**
OBN	**Obninsk**	**123.35**		**41**	*i* PKIKP	**PKPdf**	**06 46 06.4**	**-0.8**
OBN					pmax	pmax			
	comp=Z,12nm,0.5s								
OBN					MLR	MLR			
	comp=Z,103nm,16.0s								
KLMR	**Klimovskoe**	**124.95**		**34**	*e*PKIKP	**PKPdf**	**06 46 09.2**	**-0.9**
KLMR					pmax	pmax			
	comp=Z,18nm,0.9s								
KLMR	**Klimovskoe**	**124.95**		**34**	*e*PKPdf	**PKPdf**	**06 46 09.2**	**-0.9**
KLMR					AMP		06 46 11.1		
	comp=Z,18nm,0.9s								
WRA	**Warramunga Arr**	**125.44**	**210**		PKP	**PKPdf**	**06 46 12.3**	**-0.2**
	comp=Z,9.6nm,0.6s,baz=132,slow=1.4,SNR=140								
WRAB	**Tennant Creek**	**125.44**	**210**	*c*	*i*PKIKP	**PKPdf**	**06 46 12.2**	**-0.3**
KIV	**Kislovodsk**	**126.33**		**55**	*e*PKIKP	**PKPdf**	**06 46 12.3**	**-1.2**
KIV					pmax	pmax			
	comp=Z,10.0nm,1.0s								
KBZ	**Khabaz**	**126.46**		**55**	PKP	**PKPdf**	**06 46 13.3**	**-0.2**
	comp=Z,3.9nm,0.8s,baz=195,slow=2.8,SNR=7.7								
GOF	**Gofitskoye**	**126.71**		**53**	⇑*e*P	**Pdif**	**06 42 59.9**	**+5.5**
BILL	**Bilibino**	**128.27**	**336**		*e*PKIKP	**PKPdf**	**06 46 15.0**	**-1.3**
BILL					*e*		06 48 22.5		
BILL					pmax	pmax			
	comp=Z,6.0nm,1.0s								
BELG	**Belogornoye**	**129.91**		**44**	*de*PKIKP	**PKPdf**	**06 46 17.8**	**-2.0**
KIRV	**Kirov**	**130.19**		**36**	⇓*i*PKIKP	**PKiKP**	**06 46 20.7**	**-0.3**
ARU	**Arti**	**135.49**		**37**	*i* PKIKP	**PKPdf**	**06 46 30.7**	**+0.5**
ARU							06 49 11.0		
SEY	**Seymchan**	**135.63**	**333**		PKP	**PKiKP**	**06 46 31.4**	**-0.5**
	comp=Z,5.6nm,0.8s,baz=30,slow=23,SNR=6.7								
TIXI	**Tiksi**	**135.63**	**351**	⇑	*e*PKIKP	**PKPdf**	**06 46 30.0**	**-0.1**
PETK	**Petropavlovsk-**	**136.64**	**318**		PKP	**PKPdf**	**06 46 33.3**	**+0.7**
	comp=Z,4.2nm,0.9s,baz=110,slow=3.5,SNR=3.5								
MA2	**Magadan**	**137.93**	**329**	⇓	*e*PKIKP	**PKPdf**	**06 46 32.7**	**-2.0**
AB31	**Akbulak array**	**138.04**		**47**	*i* PKIKP	**PKPdf**	**06 46 35.7**	**+0.5**
BRVK	**Borovoye**	**143.04**		**38**	⇑*e*PKIKP	PKPbc	06 46 41.6	+0.7
YAK	**Yakutsk**	**143.91**	**343**		PKhKP	PKPpre	06 46 42.7		
	comp=Z,8.4nm,0.4s,baz=185,slow=1.1,SNR=4.2								
YAK	**Yakutsk**	**143.91**	**343**		*e*PKIKP	PKPab	06 46 42.0	-0.5	
YAK					pmax	pmax			
	comp=Z,26nm,0.8s								
YAK					pmax	pmax			
	comp=N,2.0nm,0.9s								
YAK					pmax	pmax			
	comp=E,2.0nm,0.9s								
KAPI	**Kappang**	**144.65**	**200**		PKIKP	**PKPdf**	**06 46 47.7**	**-0.5**
KAPI	**Kappang**	**144.65**	**200**		PKPdf	**PKPdf**	**06 46 47.7**	**-0.5**
KK31	**Karatay Array**	**146.50**		**55**	*i* PKP2	**PKPbc**	**06 46 51.2**	**-0.7**
KKAR	**Karatay Array**	**146.50**		**55**	PKP2	**PKPbc**	**06 46 52.0**	**+0.1**
KKAR	**Karatay Array**	**146.50**		**55**	PKPdf	**PKPbc**	**06 46 52.0**	**+0.1**
YSS	**Yuzh-Sakhalins**	**147.70**	**314**	⇓	*e*PKP2	**PKPbc**	**06 46 54.5**	**-0.6**
AAK	**Ala-Archa**	**149.45**		**54**	⇑*e*PKIKP	**PKPdf**	**06 46 56.3**	**+0.7**
ZALV	**Zalesovo Beam**	**149.56**		**28**	PKP	**PKPdf**	**06 46 56.0**	**+0.8**
	comp=E,49nm,0.7s,baz=192,slow=2.0,SNR=41								
ZALV					PKPbc	**PKiKP**	**06 47 00.3**	**-0.4**	
	comp=E,43nm,0.6s,baz=308,slow=3.8,SNR=42								
HYB	**Hyderabad**	**150.42**	**106**		*i* PKP	**PKPbc**	**06 47 02.0**	**-0.9**
HYB					*ep*PKP	**sPKPab**	**06 47 13.0**	**+1.4**
BOD	**Bodaibo**	**150.72**	**354**		*e*PKIKP	**PKPbc**	**06 47 01.0**	**-1.3**
BOD					pmax	pmax			
	comp=Z,17nm,1.0s								
KSH	**Kashi**	**151.28**		**60**	PKPbc	**PKPdf**	**06 46 58.9**	**+0.4**
KSH					PP	**PP**	**06 50 45.6**	**+2.2**
KSH					AMB	AMB			
	comp=Z,1μm,15.2s								
MK31	**Makanchi Array**	**152.85**		**41**	*i* PKIKP	**PKPdf**	**06 47 00.0**	**-0.5**
MKAR	**Makanchi Array**	**152.85**		**41**	PKP	**PKPdf**	**06 47 00.4**	**-0.1**
	comp=Z,2.1nm,0.9s,baz=321,slow=1.6,SNR=14								
MKAR					PKPbc	**PKiKP**	**06 47 07.8**	**0.0**	
	comp=Z,14nm,0.7s,baz=330,slow=1.4,SNR=68								
KLR	**Kul'dur**	**152.87**	**325**		PKP	**PKPdf**	**06 47 00.7**	**+0.3**
	comp=Z,2.7nm,0.9s,baz=319,slow=8.0,SNR=5.4								
KLR					PKPbc	**PKPbc**	**06 47 07.6**	**0.0**	
	comp=Z,5.0nm,0.8s,baz=63,slow=2.6,SNR=11								
KLR	**Kul'dur**	**152.87**	**325**	⇑	*e*PKIKP	**PKPdf**	**06 47 00.3**	**0.0**
MJAR	**Matsushiro Arr**	**153.79**	**295**		PKP	**PKPdf**	**06 47 02.2**	**0.0**
	comp=Z,0.6nm,0.4s,baz=253,slow=1.3,SNR=4.1								
MJAR					PKPbc	**PKiKP**	**06 47 10.4**	**+0.3**	
	comp=Z,1.4nm,0.5s,baz=104,slow=2.6,SNR=2.7								
MJAR					PKPab	**PKPab**	**06 47 24.2**	**+1.2**	
	comp=Z,2.2nm,0.5s,baz=83,slow=3.0,SNR=4.0								
WMQ	**Urumqi**	**157.67**		**42**	*e*P	**PKPdf**	**06 47 07.5**	**+0.4**
WMQ					LR	LR			
	comp=N,700nm,29.3s								
WMQ					LR	LR			
	comp=E,1μm,28.9s								
WMQ					LR	LR			
	comp=Z,1μm,28.9s								
ZAK	**Zakamensk**	**158.09**		**9**	*e*PKIKP	**PKPdf**	**06 47 06.4**	**-1.1**
ZAK					pmax	pmax			
	comp=Z,5.0nm,1.2s								
SONM	**Songino Array**	**160.93**		**4**	PKP	**PKPdf**	**06 47 11.5**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=277,slow=0.5,SNR=10								
SONM					PKPab	**PKPab**	**06 47 53.9**	**+0.5**	
	comp=Z,2.0nm,0.9s,baz=313,slow=2.8,SNR=5.7								
KSRS	**Korea Array**	**161.50**	**303**		PKP	**PKPdf**	**06 47 11.6**	**0.0**
	comp=Z,2.5nm,0.9s,baz=136,slow=1.1,SNR=9.4								
CMAR	**Chiang Mai Arr**	**166.58**	**138**		PKP	**PKPdf**	**06 47 16.0**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=266,slow=2.1,SNR=8.1								
CMAR					PKPab	**PKPab**	**06 48 17.0**	**-1.9**	
	comp=Z,0.9nm,0.3s,baz=232,slow=4.4,SNR=1.4								
CMAR	**Chiang Mai Arr**	**166.58**	**138**		PKIKP	**PKPdf**	**06 47 14.4**	**-2.4**
CMAR							06 48 17.0		
CMAR	**Chiang Mai Arr**	**166.58**	**138**			**PKPdf**	**06 47 14.4**	**-2.4**
GTA	**Gaotai**	**167.27**		**31**	*e*PKPbc	**PKPdf**	**06 47 17.8**	**+0.9**
GTA					pPKP	sPKPdf	06 47 28.5	+9.3
GTA					sPKP		06 47 33.5		
HHC	**Hu-ho-hao-te**	**167.69**	**349**		*e*P	**PKPdf**	**06 47 12.6**	**-4.5**
HHC					LR	LR			
	comp=N,120nm,16.2s								
HHC					LR	LR			
	comp=E,120nm,16.2s								
HHC					LR	LR			
	comp=Z,170nm,17.0s								

NJ2	**Nanjing**	**170.38**	**292**		*e*P	**PKPdf**	**06 47 18.1**	**-0.8**
NJ2					pmax	pmax			
	comp=Z,11nm,0.5s								
LZH	**Lanzhou**	**171.79**		**27**	*e*PKP	**PKPdf**	**06 47 17.3**	**-2.5**
LZH					pPKP	sPKPdf	06 47 24.0	+2.0
XAN	**Xi'an**	**174.75**	**355**		P	**PKPdf**	**06 47 20.3**	**-0.5**
XAN					pmax	pmax			
	comp=Z,5.0nm,1.0s								

IDC ***19*** *06:54:42.6±2.0,2°.73S×138°.60E,h58km±23km,mb3.7/7, mb1 4.0/11,mb1mx3.8/30,mbtmp4.1/11,ML4.1/5 Error ellipse: s-maj=20.1km s-min=13.3km az=147.0*
DJA ***19*** *06:54:43.4±0.4,3°.5±7°×13°.9E±°,h54km±15km,M4.5/8, mB5.1/3,mb4.6/8,MLv4.5/6,Mw(mB)4.4/3*
NEIC ***19*** *06:54:43.4±2.1,2°.85S±0°.1×138°.54E±0°.07,h56km±10km, mb4.4/13,Error ellipse: s-maj=14.7km s-min=10.2km az=183.0*

ISC 19 06:54:42.9±0.6,2°.89S±0°.06×138°.54E±0°.07,h62km,n37, σ1s75/41,mb4.2/10,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**1.65**	**80**	P	**Pn**	**06 55 09.8**	**+0.2**
JAY	**Jayapura**	**2.19**	**80**	P	**Pn**	**06 55 16.9**	**-0.1**
	15nm,0.3s,baz=239,slow=11,SNR=52						
JAY				S	**Sn**	**06 55 41.1**	**-2.0**
	27nm,0.3s,baz=20,slow=12,SNR=9.2						
JAY	**Jayapura**	**2.19**	**80**	P	**Pn**	**06 55 16.8**	**-0.2**
SRPI	**Serui, Papua**	**2.51**	**294**	P	**Pn**	**06 55 21.8**	**+0.5**
FAKI	**Fak Fak**	**6.29**	**270**	Pn	**Pn**	**06 56 14.1**	**+1.1**
FAKI	**Fak Fak**	**6.29**	**270**	P	**Pn**	**06 56 14.1**	**+1.1**
	0.2nm16nm,0.6s						
SIJI	**Sorong**	**7.54**	**285**	P	**Pn**	**06 56 29.4**	**-0.8**
	9.8nm,0.3s,baz=146,slow=23,SNR=14						
SIJI	**Sorong**	**7.54**	**285**	P	**Pn**	**06 56 29.4**	**-0.8**
	0.1nm1μm21nm,0.6s						
SWI	**Sorong**	**7.55**	**285**	P	**Pn**	**06 56 30.9**	**+0.6**
	0.3nm1μm62nm,0.5s						
COEN	**Coen**	**11.92**	**158**	Pn	**Pn**	**06 57 30.6**	**+0.5**
MTN	**Manton Dam**	**12.31**	**216**	Pn	**Pn**	**06 57 36.5**	**+1.0**
KNRA	**Kununurra**	**15.95**	**217**	Pn	**Pn**	**06 58 24.4**	**+1.0**
KNRA				IAmb	IAmb	06 58 47.2	
	comp=Z,19nm,0.8s						
WR0	**Warramunga Arr**	**17.41**	**193**		**P**	**06 58 42.4**	**+0.1**
WR0				IAmb	IAmb	06 58 54.8	
	comp=Z,25nm,1.1s						
WRAB	**Tennant Creek**	**17.43**	**193**	P	**P**	**06 58 42.8**	**+0.4**
WRAB				IAmb	IAmb	06 58 55.5	
	comp=Z,25nm,0.8s						
WB2	**Warramunga Arr**	**17.44**	**193**		**P**	**06 58 42.6**	**+0.1**
WB2				IAmb	IAmb	06 58 55.6	
	comp=Z,27nm,0.8s						
WRA	**Warramunga Arr**	**17.44**	**193**	P	**P**	**06 58 43.0**	**+0.4**
	comp=Z,1.7nm,0.3s,baz=14,slow=12,SNR=77						
WRA				S	**Sn**	**07 01 49.7**	**-6.0**
	comp=Z,0.4nm,0.3s,baz=6.9,slow=22,SNR=6.4						
WRA	**Warramunga Arr**	**17.44**	**193**	P	**P**	**06 58 43.0**	**+0.4**
CTA	**Charters Tower**	**18.68**	**157**	P	**Pn**	**06 58 57.9**	**+0.8**
	comp=

MT09	**Talagante**	**2.29**	**155**	⇑ *eP*		**Pn**	**06 59 40.2**	**+0.1**
MT09				*eS*		**Sn**	**07 00 07.3**	**-0.7**
MT09				IAML			07 00 22.5	
	comp=N,1μm,0.3s							
MT09	**Talagante**	**2.29**	**155**	Pn		**Pn**	**06 59 41.0**	**+0.9**
LMEL	**Las Melosas**	**2.69**	**143**	⇓ *iP*		**Pn**	**06 59 46.8**	**+1.2**
LMEL				*i* S		**Sn**	**07 00 18.2**	**+0.1**
LMEL				IAML			07 00 31.4	
	comp=E,620nm,0.5s							
BO03	**Pichilemu**	**2.79**	**177**	⇓ *iP*		**Pn**	**06 59 46.5**	**-0.3**
BO03				*i* S		**Sg**	**07 00 33.1**	**+0.7**
BO03				IAML			07 00 43.1	
	comp=N,268nm,0.6s							
BO01	**Tunca**	**2.83**	**162**	*eP*		**Pn**	**06 59 47.4**	**+0.1**
BO01				*i* S		**Sg**	**07 00 32.3**	**-1.3**
BO01				IAML			07 00 41.4	
	comp=N,300nm,0.7s							
BO01	**Tunca**	**2.83**	**162**			**Pn**	**06 59 47.8**	**+0.4**
BO02	**Sierra Bellavi**	**3.29**	**160**	*eP*		**Pn**	**06 59 54.0**	**+0.3**
BO02				*i* S		**Sb**	**07 00 41.9**	**+1.3**
BO02				IAML			07 00 50.0	
	comp=N,658nm,0.2s							
BO02	**Sierra Bellavi**	**3.29**	**160**	Pn		**Pn**	**06 59 54.5**	**+0.8**
GO05	**Huala**	**3.30**	**177**	⇓ *iP*		**Pn**	**06 59 53.4**	**-0.5**
GO05				IAML			07 00 59.4	
	comp=E,182nm,0.5s							
GO05	**Huala**	**3.30**	**177**			**Pn**	**06 59 53.5**	**-0.4**
ML02	**Panimavida**	**4.10**	**172**	Pn		**Pn**	**07 00 05.0**	**+0.3**
AC06	**Mina Casimiro**	**4.60**	**20**			**Pn**	**07 00 14.0**	**+2.2**
AC02	**Maricunga**	**5.52**	**29**	Pn		**Pn**	**07 00 25.3**	**+0.5**
H03N1	**Juan Fernandez**	**5.97**	**251**	T	T		07 07 19.2	
	baz=86,slow=74,SNR=178							
H03N3	**Juan Fernandez**	**5.98**	**251**	T	T		07 07 21.8	
	baz=86,slow=74,SNR=245							
H03N2	**Juan Fernandez**	**5.99**	**251**	T	T		07 07 20.3	
	baz=86,slow=74,SNR=240							
H03S3	**Juan Fernandez**	**6.08**	**248**	T	T		07 07 22.8	
	baz=83,slow=75,SNR=2.9							
H03S1	**Juan Fernandez**	**6.08**	**248**	T	T		07 07 25.7	
	baz=83,slow=75,SNR=3.4							
H03S2	**Juan Fernandez**	**6.09**	**248**	T	T		07 07 24.0	
	baz=83,slow=75,SNR=4.8							
LC01	**Cunco**	**7.18**	**178**	Pn		**Pn**	**07 00 46.6**	**-0.6**
LR03	**Panguipulli**	**7.92**	**181**			**Pn**	**07 00 57.4**	**+0.2**
PLCA	**Paso Flores**	**9.10**	**172**	Pn		**Pn**	**07 01 14.4**	**+0.8**
	comp=E,0.8nm,0.3s,baz=344,slow=13,SNR=12							
LVC	**Limon Verde**	**9.50**	**18**	Pn		**Pn**	**07 01 18.3**	**-1.1**
	comp=E,0.2nm,0.3s,baz=158,slow=11,SNR=1.7							
TRQA	**Tornquist**	**10.48**	**130**	Pn		**Pn**	**07 01 35.8**	**+3.4**
CPUP	**Villa Florida**	**14.02**	**71**	Pn		**Pn**	**07 02 19.7**	**-1.1**
	comp=E,0.1nm,0.3s,baz=247,slow=17,SNR=2.7							
LPAZ	**La Paz**	**15.77**	**14**	Pn		**Pn**	**07 02 43.9**	**-1.1**
	comp=E,0.1nm,0.3s,baz=199,slow=7.1,SNR=5.9							
LPAZ	**La Paz**	**15.77**	**14**	IAmb	IAmb		07 02 50.0	
	comp=Z,1.7nm,0.8s							
SIV	**San Ignacio**	**18.61**	**35**	P		**P**	**07 03 19.1**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=229,slow=16,SNR=6.3							
BDFB	**Brasilia**	**27.18**	**60**	LR	LR		07 16 38.5	
	comp=Z,267nm,19.1s,baz=124,slow=39							
VNA3	**Neumayer Olymp**	**51.52**	**159**	P		**P**	**07 08 08.9**	**+1.5**
VNA2	**Neumayer--Watz**	**52.16**	**158**	P		**P**	**07 08 13.7**	**+1.5**
	baz=285,slow=7.9							
SNAA	**Sanae**	**53.75**	**158**	P		**P**	**07 08 25.3**	**+1.4**
SNAA	**Sanae**	**53.75**	**158**	P		**P**	**07 08 24.9**	**+1.0**
SNAA				IAmb	IAmb		07 08 25.9	
	comp=Z,2.8nm,0.8s							
QSPA	**South Pole Qui**	**58.53**	**180**	P		**P**	**07 08 59.7**	**+1.4**
QSPA				IAmb	IAmb		07 09 24.2	
	comp=Z,2.3nm,1.1s							
TORD	**Torodi Ar. Bea**	**83.52**	**70**	P		**P**	**07 11 29.2**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=227,slow=5.0,SNR=2.9							
ZALV	**Zalesovo Beam**	**152.31**	**30**	PKPbc		**PKPbc**	**07 18 55.9**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=288,slow=2.6,SNR=1.9							

IDC ***19*** *07:01:30.5±1.9,20°.23S×177°.85W,h560km±20km,mb3.2/9, mb1 3.5/11,mb1mx3.3/27,mbtmp4.2/11,Error ellipse: s-maj=25.8km s-min=16.3km az=143.0*

ISC 19 07:01:31.2±0.6,20°.11S±0°.08×177°.9W±0°.1,h569km,n41, σ1°24/40,mb3.7/9,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.48**	**301**	P	**P**	**07 02 58.3**	**+0.2**
	6.9nm,0.3s,baz=130,slow=22,SNR=40						
MSVF				S	**S**	**07 04 06.7**	**-2.3**
	baz=177,slow=23,SNR=0.7						
AFI	**Afiamalu**	**8.52**	**45**	P	P	07 03 30.1	-4.7
	3.9nm,0.3s,baz=210,slow=8.1,SNR=4.2						
AFI				S	S	07 05 06.1	-10
	2.9nm,0.3s,baz=305,slow=22,SNR=1.9						
GLKZ	**Green Lake**	**9.11**	**180**	P	**P**	**07 03 38.5**	**-1.8**
GLKZ				S	**S**	**07 05 26.8**	**+0.5**
OUZ	**Omahuta**	**16.81**	**205**	P	**P**	**07 04 59.7**	**+2.6**
WCZ	**Waipu Caves**	**17.17**	**202**	P	**P**	**07 05 02.1**	**+1.7**
KUZ	**Kuaotunu**	**17.48**	**197**	P	**P**	**07 05 05.2**	**+2.0**
HAZ	**Te Kaha**	**17.98**	**191**	P	**P**	**07 05 07.0**	**-0.7**
MKAZ	**Moumakai**	**17.98**	**198**	P	**P**	**07 05 09.5**	**+1.8**
PKGZ	**Pakihiroa**	**18.05**	**190**	P	**P**	**07 05 09.9**	**+1.3**
RUGZ	**Raukumara Rang**	**18.20**	**190**	P	**P**	**07 05 09.2**	**-0.7**
PUZ	**Puketiti**	**18.20**	**190**	P	**P**	**07 05 10.2**	**+0.4**
TWGZ	**Tauwhareparae**	**18.35**	**190**	P	**P**	**07 05 12.2**	**+1.0**
MWZ	**Matawai**	**18.58**	**191**	P	**P**	**07 05 13.0**	**-0.4**
URZ	**Urewera**	**18.59**	**192**	P	**P**	**07 05 10.9**	**-2.5**
	9.9nm,0.3s,baz=276,slow=2.6,SNR=72						
URZ	**Urewera**	**18.59**	**192**	P	**P**	**07 05 11.3**	**-2.1**
RAGZ	**Rawiri**	**18.76**	**191**	P	**P**	**07 05 14.9**	**-0.1**
MUGZ	**Murupara**	**18.87**	**193**	P	**P**	**07 05 14.8**	**-1.2**
RIGZ	**Rimuhau**	**18.90**	**190**	P	**P**	**07 05 17.1**	**+0.9**
TLZ	**Tolley Road**	**19.02**	**196**	P	**P**	**07 05 17.9**	**+0.5**
MRHZ	**Matea Rd**	**19.29**	**193**	P	**P**	**07 05 18.6**	**-1.2**
TMVZ	**Te Maari**	**19.72**	**195**	P	**P**	**07 05 23.0**	**-0.8**
MCHZ	**McNeill Hill**	**19.82**	**192**	P	**P**	**07 05 23.9**	**-0.6**
STKA	**Stephens Creek**	**38.02**	**244**	P	**P**	**07 08 02.8**	**+1.1**
	1.9nm,0.8s,baz=91,slow=7.8,SNR=3.6						
ASAR	**Alice Springs**	**44.67**	**256**	P	**P**	**07 08 54.8**	**+0.4**
	0.9nm,0.7s,baz=97,slow=8.0,SNR=6.7						
WRA	**Warramunga Arr**	**44.72**	**262**	P	**P**	**07 08 54.5**	**-0.3**
	0.3nm,0.3s,baz=93,slow=8.1,SNR=14						
MJAR	**Matsushiro Arr**	**69.94**	**324**	P	**P**	**07 11 45.7**	**-0.2**
	1.4nm,0.5s,baz=157,slow=6.8,SNR=2.3						
PETK	**Petropavlovsk-**	**75.91**	**345**	P	**P**	**07 12 19.7**	**0.0**
	1.6nm,0.6s,baz=142,slow=8.5,SNR=3.5						
NVAR	**Mina Array Bea**	**80.70**	**43**	P	**P**	**07 12 46.9**	**+0.9**
	2.1nm,0.9s,baz=226,slow=9.8,SNR=14						
TXAR	**Lajitas Array**	**86.79**	**57**	P	**P**	**07 13 17.3**	**+1.3**
	1.3nm,0.8s,baz=218,slow=6.6,SNR=19						
ILAR	**Eielson Array**	**87.92**	**13**	P	**P**	**07 13 19.6**	**-0.8**
	1.3nm,0.8s,baz=227,slow=4.9,SNR=8.9						
PDAR	**Pinedale Array**	**88.63**	**43**	P	**P**	**07 13 24.2**	**-0.3**
	0.9nm,0.7s,baz=222,slow=2.8,SNR=9.8						
LPAZ	**La Paz**	**102.15**	**112**	P	**Pdif**	**07 14 24.1**	**-2.6**
	1.3nm,0.8s,baz=268,slow=3.1,SNR=7.2						
ARCES	**ARCESS Array B**	**128.55**	**350**	PKP	**PKPdf**	**07 19 33.5**	**+0.2**
	5.7nm,1.1s,baz=69,slow=2.5,SNR=1.6						
FINES	**FINESS Array B**	**135.42**	**344**	PKP	**PKiKP**	**07 19 48.4**	**+0.3**
	1.4nm,0.8s,baz=98,slow=2.8,SNR=3.5						
HFS	**Hagfors**	**139.17**	**351**	PKhKP	PKPpre	07 19 46.0	
	5.0nm,1.0s,baz=70,slow=4.7,SNR=2.3						
AKASG	**Malin Array Be**	**142.71**	**331**	PKhKP	PKPpre	07 19 56.6	
	0.7nm,0.3s,baz=43,slow=4.7,SNR=7.2						
EKA	**Eskdalemuir Ar**	**144.61**	**5**	PKP	**PKPdf**	**07 20 02.8**	**-0.3**
	1.3nm,0.7s,baz=346,slow=3.6,SNR=5.9						
BRTR	**Keskin Array B**	**146.63**	**313**	PKPbc	**PKPbc**	**07 20 10.0**	**+0.1**
	0.9nm,0.5s,baz=137,slow=4.4,SNR=4.6						
MMAI	**Mount Meron Ar**	**147.68**	**300**	PKPbc	**PKPbc**	**07 20 13.3**	**+0.5**
	2.9nm,0.7s,baz=84,slow=5.9,SNR=4.2						
CLL	**Collm**	**147.70**	**347**	*i* PKPbc	**PKPbc**	**07 20 12.3**	**+0.2**
	comp=Z,7.0nm,0.7s						
CLL				*i*		07 20 16.4	
	comp=Z,4.0nm,0.6s						
CLL				Lm	MLR	08 33 00.0	
	comp=Z,100nm,20.3s						
GERES	**GERESS Array B**	**149.84**	**345**	PKPbc	**PKPbc**	**07 20 18.0**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=54,slow=2.3,SNR=9.6						

DDA ***19*** *07:12:08.5,38°.61N×43°.21E,h7km±2km,ML2.5*
ISK ***19*** *07:12:08.6,38°.67N×43°.18E,h10km±1km,ML2.8/6*

ISC 19 07:12:09.5±1.1,38°.68N±0°.03×43°.19E±0°.03,h19km±3km, n18,σ0°57/29,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.17**	**117**	PG	**Pg**	**07 12 13.9**	**-0.3**
VANB				SG	**Sg**	**07 12 18.0**	**+0.5**
AKDM	**Akdamar-Van**	**0.38**	**206**	PG	**Pg**	**07 12 16.6**	**-1.0**
AKDM				SG	**Sg**	**07 12 22.3**	**-0.8**
ADCV	**BITLIS_Adilcev**	**0.39**	**290**	*i* P	**Pg**	**07 12 17.2**	**-0.4**
ADCV				*i* S	**Sb**	**07 12 23.8**	**+0.1**
ADCV				IAML		07 12 25.0	
	comp=E,444nm,0.2s						
VMUR	**Van-Muradiye**	**0.43**	**43**	*i* P	**Pg**	**07 12 18.1**	**-0.4**
VMUR				*i* S	**Sb**	**07 12 25.0**	**+0.1**
MLAZ	**Malazgirt-MUS**	**0.68**	**313**	PG	**Pb**	**07 12 22.3**	**-0.5**
MLAZ				SG	**Sb**	**07 12 32.1**	**+0.1**
CLDR	**Caldiran**	**0.73**	**50**	*i* P	**Pb**	**07 12 23.2**	**-0.6**
CLDR				*i* S	**Sg**	**07 12 34.1**	**+0.3**
CLDR				IAML		07 12 35.0	
	comp=E,147nm,0.3s						
CLDR	**Caldiran**	**0.73**	**50**	PG	**Pb**	**07 12 23.4**	**-0.4**
CLDR				SG	**Sg**	**07 12 34.3**	**+0.5**
BLIS	**Bitlis-Merkez**	**0.88**	**253**	*i* P	**Pb**	**07 12 25.4**	**-0.9**
BLIS				*i* S	**Sb**	**07 12 37.4**	**-0.3**
BLIS				IAML		07 12 40.0	
	comp=E,146nm,0.2s						
BLIS				IAML		07 12 42.0	
	comp=N,158nm,0.3s						
AGRB	**Hanur-Agry**	**0.91**	**350**	PG	**Pb**	**07 12 26.1**	**-0.7**
GURO	**Guroymak-BITLI**	**0.92**	**263**	PG	**Pb**	**07 12 26.5**	**-0.3**
DYDN	**Diyadin**	**0.95**	**24**	*i* P	**Pb**	**07 12 27.0**	**-0.5**
HAKT	**HAKKARI**	**1.19**	**160**	*i* P	**Pb**	**07 12 31.5**	**0.0**
HAKT				*i* S	**Sg**	**07 12 48.9**	**+0.8**
SRTM	**Siirt_Merkez**	**1.21**	**236**	*i* P	**Pg**	**07 12 33.6**	**+0.7**
SRTM				*i* S	**Sg**	**07 12 49.2**	**+0.5**
SRTM				IAML		07 12 55.0	
	comp=E,74nm,0.6s						
EATA	**Eleskirt**	**1.30**	**336**	*i* P	**Pn**	**07 12 33.3**	**+0.3**
EATA				*i* S	**Sg**	**07 12 52.6**	**+0.8**
MUSM	**Mu-Merkez**	**1.31**	**273**	*i* P	**Pb**	**07 12 33.6**	**0.0**
IGDI	**IGDIR**	**1.38**	**30**	*i* P	**Pb**	**07 12 35.2**	**+0.6**
HOMI	**Horasan**	**1.69**	**324**	*i* P	**Pb**	**07 12 40.0**	**-0.1**
HOMI				IAML		07 13 08.0	
	comp=E,37nm,1.2s						
HOMI				IAML		07 13 10.0	
	comp=N,56nm,0.9s						
BTMN	**Batman**	**1.70**	**243**	*i* P	**Pb**	**07 12 40.9**	**+0.7**
BTMN				IAML		07 13 09.0	
	comp=E,43nm,0.5s						
BTMN				IAML		07 13 09.0	
	comp=N,84nm,0.7s						

IDC ***19*** *07:12:04.2±0.7,4°.70S×153°.15E,h0km,mb4.0/17, mb1 4.1/17,mb1mx4.1/43,mbtmp4.0/17,MS3.7/1, Ms1 3.7/1,ms1mx3.0/41,Error ellipse: s-maj=25.6km s-min=16.1km az=93.0*

ISC 19 07:12:11.6±0.7,4°.7S±0°.1×153°.2E±0°.2,h55km,n22, σ0°71/23,mb4.0/17,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**8.20**	**125**	LR	LR	07 17 08.2	
	comp=Z,489nm,21.1s,baz=304,slow=37						
DZM	**Mont Dzumac**	**21.51**	**144**	P	**P**	**07 16 55.8**	**-0.4**
	1.9nm,0.7s,baz=288,slow=19,SNR=1.5						
WRA	**Warramunga Arr**	**23.76**	**229**	P	**P**	**07 17 18.5**	**-0.7**
	2.1nm,0.5s,baz=52,slow=9.8,SNR=25						
WRA				PcP	**PcP**	**07 21 02.3**	**+0.4**
	0.3nm,0.8s,baz=68,slow=3.3,SNR=1.8						
ASAR	**Alice Springs**	**26.44**	**223**	P	**P**	**07 17 43.8**	**+0.3**
	0.5nm,0.6s,baz=57,slow=8.7,SNR=12						
ASAR				PcP	**PcP**	**07 21 08.3**	**+0.5**
	0.3nm,0.8s,baz=50,slow=2.3,SNR=2.2						
FITZ	**Fitzroy Crossi**	**30.00**	**242**	P	**P**	**07 18 13.8**	**-1.5**
	3.6nm,0.6s,baz=56,slow=5.9,SNR=13						
KSRS	**Korea Array**	**48.10**	**333**	P	**P**	**07 20 46.7**	**+0.8**
	0.8nm,0.4s,baz=146,slow=7.3,SNR=2.7						
USRK	**Ussuriysk Ar.**	**52.30**	**341**	P	**P**	**07 21 17.9**	**+0.3**
	1.0nm,0.5s,baz=168,slow=8.8,SNR=4.3						
KLR	**Kul'dur**	**56.88**	**343**	P	**P**	**07 21 50.2**	**-0.5**
	0.7nm,0.4s,baz=137,slow=13,SNR=4.0						
PETK	**Petropavlovsk-**	**57.75**	**3**	P	**P**	**07 21 57.1**	**+0.3**
	0.8nm,0.5s,baz=178,slow=8.3,SNR=4.0						
CMAR	**Chiang Mai Arr**	**58.17**	**295**	P	**P**	**07 22 01.2**	**+0.8**
	2.0nm,0.6s,baz=125,slow=5.8,SNR=5.3						
SONM	**Songino Array**	**66.46**	**328**	P	**P**	**07 22 54.6**	**-0.8**
	0.6nm,0.5s,baz=133,slow=4.6,SNR=4.2						
VNDA	**Vanda**	**72.88**	**197**	P	**P**	**07 23 35.0**	**+0.6**
	0.5nm,0.9s,baz=328,slow=7.1,SNR=4.3						
MKAR	**Makanchi Array**	**80.51**	**319**	P	**P**	**07 24 18.3**	**+0.4**
	1.6nm,0.8s,baz=105,slow=6.2,SNR=12						
ZALV	**Zalesovo Beam**	**81.30**	**326**	P	**P**	**07 24 22.4**	**+0.5**
	1.6nm,0.6s,baz=121,slow=6.9,SNR=4.4						
ILAR	**Eielson Array**	**81.96**	**22**	P	**P**	**07 24 23.7**	**-1.5**
	0.3nm,0.5s,baz=265,slow=4.5,SNR=3.7						
KURBB	**Kurchatov Arra**	**83.97**	**322**	P	**P**	**07 24 35.9**	**+0.1**
	1.1nm,0.7s,baz=116,slow=3.9,SNR=7.2						
AAK	**Ala-Archa**	**84.88**	**313**	P	**P**	**07 24 41.7**	**+0.8**
	2.2nm,0.5s,baz=144,slow=4.8,SNR=6.5						
BVAR	**Borovoye Array**	**89.40**	**323**	P	**P**	**07 25 02.3**	**0.0**
	4.5nm,0.6s,baz=134,slow=4.2,SNR=24						
GERES	**GERESS Array B**	**124.18**	**329**	PKP	**PKPdf**	**07 31 04.4**	**+0.1**
	0.6nm,0.6s,baz=104,slow=4.3,SNR=4.4						
LPAZ	**La Paz**	**134.13**	**118**	PKP	**PKiKP**	**07 31 26.9**	**+0.8**
	0.6nm,0.7s,baz=223,slow=4.2,SNR=2.3						
TORD	**Torodi Ar. Bea**	**150.62**	**288**	PKPbc	**PKPbc**	**07 31 58.6**	**0.0**
	3.8nm,0.7s,baz=67,slow=2.4,SNR=26						
BDFB	**Brasilia**	**150.86**	**134**	PKPbc	**PKiKP**	**07 32 00.0**	**+0.2**
	2.8nm,0.6s,baz=175,slow=5.0,SNR=5.3						

PRU ***19*** *07:12:44.3±0.0,43°.56N×12°.23E,h0km*
IDC ***19*** *07:12:47.9±1.0,43°.80N×11°.92E,h0km,mb3.7/8, mb1 3.9/12,mb1mx3.7/49,mbtmp3.7/12,ML3.4/4,Error ellipse: s-maj=18.1km s-min=11.3km az=82.0*
PDG ***19*** *07:12:47.5±0.7,43°.65N×12°.34E,h10km,ML4.1/12,Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
IASPEI ***19*** *07:12:47.6±0.9,43°.63N±0°.02×12°.32E±0°.02,h9km±5km, mb3.9/8,Error ellipse: s-maj=2.8km s-min=2.3km az=10.9, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seismol. Res. Let., 80, 465-472, 2009*
ROM ***19*** *07:12:47.0±0.0,43°.628N±0°.002×12°.335E±0°.003, h7km,ML3.8/63,Mw3.7,Mw3.7,Error ellipse: s-maj=0.2km s-min=0.1km az=190.0,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-3.79; $M_{\theta\theta}$2.71; $M_{\phi\phi}$1.09; $M_{r\theta}$1.13; $M_{\theta\phi}$-2.87; $M_{\phi r}$-0.96; Fault plane solution: M_o4.58327×10^{14} NP1:ϕ_s125.00000°, δ36.00000°, λ-93.00000°. NP2:ϕ_s309.00000°, δ54.00000°, λ-88.00000°.*
LDG ***19*** *07:12:48.4±0.2,43°.54N×12°.29E,h7km,Ml3.4/27 Error ellipse: s-maj=9.0km s-min=5.4km az=41.0*
STR ***19*** *07:13:06.3±6.8,44°.N±30°×1°.E±5°.8,h10km,MLv3.7/6, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/haslach_taup-2.11*
GEN ***19*** *07:13:10.0,44°.03N×10°.43E,h13km±8km,Ml1.7*

ISC 19 07:12:48.1±0.8,43°.63N±0°.02×12°.31E±0°.01,h6km±5km, n258,σ2°23/353,mb3.9/8,38C-12D,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PARC	**Parchiule**	**0.05**	**289**	⇑ P	**Pg**	**07 12 49.2**	**-0.4**
PARC				S	**Sg**	**07 12 50.6**	**-0.2**
PARC				AML	AML		
PARC				AML	AML		
APEC	**Apecchio**	**0.11**	**132**	P	**Pg**	**07 12 50.0**	**-0.5**
APEC				S	**Sg**	**07 12 52.0**	**-0.1**
APEC				AML	AML		
	comp=E,85600μm,0.6s						
APEC				AML	AML		
APEC				AML	AML		
APEC				AML	AML		
	comp=N,70050μm,0.2s						
APEC				AML	AML		
	comp=N,70100μm,0.2s						
APEC				AML	AML		
APEC				AML	AML		
	comp=E,85550μm,0.6s						
APEC				AML	AML		
BADI	**Badiali**	**0.13**	**201**	P	**Pg**	**07 12 50.6**	**-0.2**
BADI				S	**Sg**	**07 12 53.2**	**+0.6**
BADI				AML	AML		
BADI				AML	AML		
BADI				AML	AML		
SSP9	**Sansepolcro**	**0.14**	**246**	P	**Pg**	**07 12 50.9**	**-0.1**
SSP9				S	**Sg**	**07 12 53.8**	**+0.9**
SSP9				AML	AML		
	comp=E,51150μm,1.4s						
SSP9				AML	AML		
	comp=N,76950μm,1.6s						
SSP9				AML	AML		
	comp=N,76900μm,1.6s						
SSP9				AML	AML		
	comp=N,77000μm,1.6s						
SSP9				AML	AML		
	comp=E,51100μm,1.4s						
PE3	**Peglio**	**0.15**	**64**	⇑ P	**Pg**	**07 12 50.7**	**-0.5**
PE3				S	**Sg**	**07 12 53.4**	**+0.1**
PE3				AML	AML		
PE3				AML	AML		
CPGN	**Carpegna, Ital**	**0.17**	**3**	P	**Pg**	**07 12 51.8**	**+0.2**
CDCA	**Citt' di Caste**	**0.18**	**198**	P	**Pg**	**07 12 51.6**	**-0.1**
CDCA				S	**Sg**	**07 12 55.0**	**+0.9**
PIEI	**Pieia**	**0.19**	**120**	P	**Pg**	**07 12 51.1**	**-0.8**
PIEI				S	**Sg**	**07 12 54.0**	**-0.5**
PIEI				AML	AML		
	comp=N,88600μm,1.3s						
PIEI				AML	AML		
PIEI				AML	AML		
	comp=N,88650μm,1.3s						
ATPI	**Pietralunga -**	**0.19**	**159**	P	**Pg**	**07 12 51.5**	**-0.4**
ATPI				S	**Sg**	**07 12 55.0**	**+0.4**
ATPI				AML	AML		
ATPI				AML	AML		
NARO	**Abbazia di Nar**	**0.20**	**96**	⇑ P	**Pg**	**07 12 51.2**	**-0.8**
NARO				S	**Sg**	**07 12 54.3**	**-0.4**
NARO				AML	AML		
	comp=E,69300μm,0.4s						
NARO				AML	AML		
	comp=N,98750μm,0.4s						
ATVO	**AVT- Monte Val**	**0.26**	**164**	⇑ P	**Pg**	**07 12 52.8**	**-0.4**
ATVO				S	**Sg**	**07 12 57.1**	**+0.5**
ATVO				AML	AML		
ATVO				AML	AML		
CRE	**Caprese Michel**	**0.26**	**268**	⇑ P	**Pg**	**07 12 53.0**	**-0.3**
CRE				S	**Sg**	**07 12 57.7**	**+1.0**
CRE				AML	AML		
	comp=E,15500μm,1.0s						
CRE				AML	AML		
	comp=N,14250μm,1.5s						
ATMI	**Monte Miggiano**	**0.30**	**186**	P	**Pg**	**07 12 53.5**	**-0.4**
ATMI				S	**Sg**	**07 12 58.5**	**+0.6**
ATMI				AML	AML		
ATMI				AML	AML		
RSM	**Repubblica di**	**0.32**	**19**	P	**Pg**	**07 12 54.9**	**+0.6**
RSM				AML	AML		
	comp=E,25400μm,1.0s						
RSM				AML	AML		
	comp=N,26850μm,0.8s						
FRON	**Frontone**	**0.32**	**110**	P	**Pg**	**07 12 53.5**	**-0.9**
FRON				S	**Sg**	**07 12 58.7**	**0.0**
FRON				AML	AML		
	comp=E,50900μm,0.3s						
FRON				AML	AML		
	comp=E,50950μm,0.3s						
FRON				AML	AML		
	comp=N,61300μm,0.5s						
ATFO	**Monte Foce - G**	**0.33**	**144**	⇑ P	**Pg**	**07 12 53.7**	**-0.8**
ATFO				S	**Sg**	**07 12 59.0**	**+0.2**
ATFO				AML	AML		
	comp=N,39150μm,0.7s						
ATFO				AML	AML		
	comp=E,47450μm,0.4s						
MPAG	**Monte Paganucc**	**0.33**	**90**	⇑ P	**Pg**	**07 12 53.6**	**-0.9**
MPAG				S	**Sg**	**07 12 58.9**	**+0.1**
MPAG				AML	AML		
	comp=E,31650μm,0.3s						
MPAG				AML	AML		
	comp=N,71600μm,0.3s						
MPAG				AML	AML		
	comp=E,33300μm,0.2s						
MPAG				AML	AML		
	comp=E,33350μm,0.2s						
MPAG				AML	AML		
	comp=N,71650μm,0.3s						
MPAG				AML	AML		
	comp=N,73600μm,0.3s						
MPAG				AML	AML		
	comp=E,31650μm,0.2s						
FSSB	**Fossombrone**	**0.34**	**80**	⇑ P	**Pg**	**07 12 54.0**	**-0.8**
FSSB				S	**Sg**	**07 12 59.7**	**+0.3**
FSSB				AML	AML		
FSSB				AML	AML		
	comp=N,77350μm,0.4s						
CAFI	**Castiglion Fio**	**0.39**	**220**	P	**Pg**	**07 12 55.4**	**-0.3**
CAFI				S	**Sg**	**07 13 02.1**	**+1.3**
CAFI				AML	AML		
	comp=E,16000μm,0.3s						
CAFI				AML	AML		
	comp=N,13950μm,0.6s						
CAFI				AML	AML		
	comp=N,13900μm,0.6s						
CAFI				AML	AML		
	comp=E,16700μm,0.3s						
CAFI				AML	AML		
	comp=N,14550μm,0.7s						
SSFR	**Montelago di S**	**0.40**	**119**	P	**Pg**	**07 12 55.0**	**-0.8**
SSFR				S	**Sg

ATCC AML AML
comp=N,47350µm,0.8s
MMUR Monte Murano 0.54 110 P **Pg 07 12 57.8 -0.6**
MMUR S **Sg 07 13 06.1 +0.7**
MMUR AML AML
comp=N,50850µm,1.3s
MMUR AML AML
comp=E,63700µm,0.3s
MMUR AML AML
comp=N,50900µm,1.3s
SNTG Esanatoglia 0.59 129 P **Pg 07 12 58.7 -0.8**
SNTG S **Sg 07 13 07.9 +0.6**
SNTG AML AML
comp=E,1850µm,0.3s
SNTG AML AML
comp=N,3005µm,0.2s
SNTG AML AML
comp=E,14950µm,0.3s
SNTG AML AML
comp=N,24500µm,0.2s
SNTG AML AML
comp=E,1845µm,0.3s
RUFI Rufina 0.62 290 P **Pg 07 12 59.6 -0.4**
RUFI S **Sb 07 13 09.5 -0.7**
RUFI AML AML
comp=E,2340µm,0.6s
RUFI AML AML
comp=N,5745µm,1.4s
RUFI AML AML
comp=E,2353µm,0.6s
RUFI AML AML
comp=N,5775µm,1.4s
LMD Lutirano 0.62 316 P **Pg 07 12 59.6 -0.5**
LMD S **Sb 07 13 09.4 -1.1**
LMD AML AML
comp=N,3220µm,1.5s
LMD AML AML
comp=E,3320µm,1.2s
MTL1 Matelica 0.63 126 P **Pg 07 12 59.7 -0.6**
MTL1 AML AML
comp=N,34100µm,0.6s
MTL1 AML AML
comp=E,35250µm,0.4s
MTL1 AML AML
comp=N,34050µm,0.6s
FIU1 Fiuminata 0.63 134 P **Pg 07 12 59.7 -0.6**
FIU1 S **Sg 07 13 09.1 +0.6**
EL6 Elcito 0.65 117 P **Pg 07 12 59.5 -1.1**
EL6 S **Sg 07 13 09.1 0.0**
EL6 AML AML
comp=E,21650µm,1.3s
EL6 AML AML
comp=N,20100µm,0.4s
EL6 AML AML
comp=N,20050µm,0.4s
EL6 AML AML
comp=E,21800µm,1.3s
SENI Senigallia 0.68 83 P **Pg 07 13 00.5 -0.5**
SENI AML AML
comp=E,12745µm,0.4s
SENI AML AML
comp=N,15390µm,1.1s
SENI AML AML
comp=N,15190µm,1.1s
SENI AML AML
comp=N,59000µm,1.3s
SENI AML AML
comp=E,12700µm,0.4s
SENI AML AML
comp=E,78850µm,0.4s
GAG1 Gagliole 0.68 125 P **Pg 07 13 00.6 -0.5**
GAG1 AML AML
comp=E,38300µm,0.4s
GAG1 AML AML
comp=N,37600µm,0.6s
CRM1 Catelraimondo 0.69 127 P **Pg 07 13 00.6 -0.7**
CRM1 AML AML
comp=E,32650µm,0.4s
CRM1 AML AML
comp=N,32800µm,0.3s
CING Cingoli 0.69 111 P **Pg 07 13 00.5 -0.9**
CING AML AML
comp=N,13950µm,0.3s
CING AML AML
comp=E,9000µm,0.6s
MGAB Montegabbione 0.73 191 ⇑P **Pg 07 13 01.4 -0.8**
MGAB AML AML
comp=N,33100µm,0.3s
MGAB AML AML
comp=N,34500µm,0.4s
MGAB AML AML
comp=E,31600µm,0.5s
MGAB AML AML
comp=E,34200µm,0.6s
CSNT Castellina Chi 0.76 258 P **Pg 07 13 01.8 -0.8**
CSNT AML AML
comp=N,4820µm,0.4s
CSNT AML AML
comp=E,6555µm,1.1s
CESI CESI - Serrava 0.76 145 P **Pg 07 13 01.6 -1.1**
CESI S **Sg 07 13 13.0 +0.4**
CESI AML AML
comp=E,6450µm,0.7s
CESI AML AML
comp=N,6380µm,0.5s
BRIS BRISIGHELLA 0.78 312 P **Pg 07 13 01.8 -1.2**
BRIS AML AML
comp=N,4600µm,0.5s
BRIS AML AML
comp=E,2205µm,0.7s
OSSC Osservatorio P 0.78 262 P **Pg 07 13 03.0 -0.1**
OSSC S **Sb 07 13 14.0 -0.9**
OSSC AML AML
comp=E,4545µm,1.3s
OSSC AML AML
comp=E,3680µm,0.6s
OSSC AML AML
comp=N,4495µm,1.3s
OSSC AML AML
comp=N,3735µm,0.6s
SEI Scarperia 0.81 302 P **Pg 07 13 03.5 -0.1**
SEI AML AML
comp=N,7750µm,0.5s
SEI AML AML
comp=E,6025µm,0.5s
SACS San Casciano d 0.83 201 ⇑P **Pg 07 13 03.2 -0.9**
SACS AML AML
comp=E,9080µm,0.4s
SACS AML AML
comp=N,10900µm,0.4s
SACS AML AML
comp=N,11200µm,0.4s
SACS AML AML
comp=E,8900µm,0.4s
SACS AML AML
comp=E,9045µm,0.4s
IMOL Imola, Italy 0.83 331 AML AML
comp=N,4775µm,0.6s
IMOL AML AML
comp=E,5485µm,1.1s
MOMA Monte Martano 0.85 167 ⇑P **Pg 07 13 03.1 -1.3**
MOMA AML AML
comp=N,9600µm,1.0s
MOMA AML AML
comp=N,10070µm,1.0s
MOMA AML AML
comp=E,15050µm,1.6s
MOMA AML AML
comp=E,15950µm,1.6s
FROS Frosini 0.94 244 P **Pg 07 13 05.5 -0.6**
FROS AML AML
comp=E,7705µm,1.1s
FROS AML AML
comp=N,7260µm,0.7s
FROS AML AML
comp=E,7705µm,1.1s
FROS AML AML
comp=N,7255µm,0.8s
AOI Ancona 0.94 94 P **Pg 07 13 05.1 -1.1**
AOI AML AML
comp=E,4875µm,0.7s
AOI AML AML
comp=N,6435µm,1.5s
MCIV Monte Civitell 0.97 209 ⇑P **Pg 07 13 05.7 -1.0**
MCIV AML AML
comp=N,2105µm,0.7s
MCIV AML AML
comp=E,2310µm,1.0s
ARCI Arcidosso 0.99 218 P **Pg 07 13 05.8 -1.2**
ARCI AML AML
comp=E,3555µm,1.0s
ARCI AML AML
comp=N,5390µm,0.9s
NRCA Norcia 0.99 143 ⇓P **Pg 07 13 05.8 -1.3**
NRCA AML AML
comp=N,5460µm,0.1s
NRCA AML AML
comp=E,5785µm,0.4s
NRCA AML AML
comp=N,5945µm,0.1s
NRCA AML AML
comp=E,5390µm,0.4s
MTCR Monte La Croce 1.03 293 P **Pg 07 13 07.3 -0.6**
CESX Cesi 1.04 169 ⇓P **Pg 07 13 07.1 -0.9**
CESX AML AML
comp=E,8365µm,0.9s
CESX AML AML
comp=N,9255µm,1.0s
TRIF Trifonti 1.15 244 P **Pg 07 13 09.3 -0.8**
TRIF AML AML
comp=E,2375µm,0.6s
TRIF AML AML
comp=N,2120µm,0.5s
LNSS Leonessa 1.16 152 ⇑P **Pg 07 13 08.7 -1.6**
LNSS AML AML
comp=E,7790µm,1.4s
LNSS AML AML
comp=N,7630µm,0.5s
PII Pisa 1.30 275 P **Pn 07 13 11.7 -1.0**
PII AML AML
comp=E,2565µm,1.2s
PII AML AML
comp=N,2560µm,0.6s
RM33 Pellescritta (1.30 149 P **Pn 07 13 11.1 -1.8**
RM33 AML AML
comp=N,6125µm,0.5s
RM33 AML AML
comp=E,6170µm,0.5s
BDI Bagni Di Lucca 1.31 290 P **Pn 07 13 11.8 -1.2**
BDI AML AML
comp=E,1132µm,0.6s
BDI AML AML
comp=N,1440µm,0.8s
BDI AML AML
comp=E,1142µm,1.1s
BDI AML AML
comp=N,1310µm,0.8s
MAIM Mastiano 1.35 283 P **Pn 07 13 12.7 -0.8**
MAIM S **Pg 07 13 16.1 +2.2**
MAIM Mastiano 1.35 283 P **Pn 07 13 12.3 -1.1**
CASP Castiglione de 1.35 232 P **Pn 07 13 11.7 -1.7**
CASP AML AML
comp=N,660µm,0.9s
CASP AML AML
comp=E,816µm,0.6s
CAMP Campotosto 1.36 143 P **Pn 07 13 12.4 -1.3**
CAMP AML AML
comp=E,4390µm,0.6s
CAMP AML AML
comp=N,5065µm,1.2s
CARD Cardoso 1.38 287 P **Pn 07 13 12.4 -1.5**
CARD S **Pg 07 13 14.0 -0.6**
TERO Teramo 1.38 136 ⇓P **Pn 07 13 12.8 -1.2**
TERO AML AML
comp=E,6645µm,1.4s
TERO AML AML
comp=N,7115µm,0.6s
TERO AML AML
comp=E,2760µm,1.4s
TERO AML AML
comp=N,2950µm,0.6s
FIAM Fiamignano 1.49 156 P **Pn 07 13 14.2 -1.2**
FIAM AML AML
comp=E,4435µm,0.6s
FIAM AML AML
comp=N,4045µm,0.6s
SARO Sassorosso 1.49 292 P **Pn 07 13 14.0 -1.4**
SARO S **Pg 07 13 17.0 +0.4**
SARO Sassorosso 1.49 292 P **Pn 07 13 14.3 -1.1**
SARO AML AML
comp=E,454µm,0.6s
SARO AML AML
comp=N,672µm,0.6s
AQU L'Aquila 1.51 147 *e*Pn **Pn 07 13 15.2 -0.5**
TOLF Tolfa 1.58 188 P **Pn 07 13 15.7 -1.0**
TOLF AML AML
comp=N,1480µm,1.2s
TOLF AML AML
comp=E,1435µm,0.9s
MTCE Montecelio 1.64 169 P **Pn 07 13 17.1 -0.4**
BRJN Brijuni 1.64 39 *e*Pn **Pn 07 13 16.2 -1.2**
EQUI Equi 1.65 290 P **Pn 07 13 15.0 -2.5**
EQUI S **Pg 07 13 19.0 -0.7**
CERT Cerreto 1.75 163 P **Pn 07 13 18.5 -0.5**
CERT AML AML
comp=E,2790µm,0.6s
CERT AML AML
comp=N,1455µm,0.9s
T0110 Collepietro 1.77 142 P **Pn 07 13 18.8 -0.5**
T0110 AML AML
comp=E,3545µm,1.5s
T0110 AML AML
comp=N,4505µm,0.6s
GRAM Graiana 1.83 299 P **Pn 07 13 20.6 +0.4**
GRAM S **Pg 07 13 27.0 +3.8**
GRAM Graiana 1.83 299 P **Pb 07 13 20.9 -1.1**
RCAV Rocca di Cave 1.84 165 P **Pn 07 13 19.4 -0.9**
RCAV AML AML
comp=E,1337µm,0.9s
RCAV AML AML
comp=N,1130µm,0.6s
INTR Introdacqua 2.00 144 P **Pn 07 13 21.4 -1.0**
VVLD Villa Vallelon 2.01 151 P **Pn 07 13 22.3 -0.3**
DUGI Dugi Otok 2.02 79 *e*Pn **Pn 07 13 21.9 -0.9**
DUGI Sn **Sn 07 13 47.6 -0.6**
NVLJ Novalja 2.07 62 *e*Pn **Pn 07 13 22.4 -0.9**
MSSA Maissana 2.13 290 P **Pn 07 13 23.4 -0.9**
MSSA AML AML
comp=E,396µm,0.8s
MSSA AML AML
comp=N,658µm,0.8s
GIUL Giuliano Di Ro 2.19 161 P **Pn 07 13 24.6 -0.4**
GIUL AML AML
comp=N,956µm,0.9s
GIUL AML AML
comp=E,571µm,1.2s
SKDS Skadanscina 2.27 32 *e*Pn **Pn 07 13 24.3 -1.8**
SKDS Skadanscina 2.27 32 ⇑*i*Pn **Pn 07 13 24.4 -1.7**
SKDS IAML 07 14 06.0
comp=Z,448nm,0.8s
CGRP Cima Grappa 2.28 351 P **Pn 07 13 26.0 -0.4**
CGRP AML AML
comp=N,1104µm,0.9s
CGRP AML AML
comp=E,911µm,0.9s
TRI Trieste 2.32 26 P **Pn 07 13 25.3 -1.6**
TRI AML AML
comp=E,712µm,0.6s
TRI AML AML
comp=N,676µm,0.9s
SALO Salr 2.36 328 P **Pn 07 13 26.8 -0.6**
CERA Filignano 2.39 148 P **Pn 07 13 28.0 +0.2**
KNDS Knezji Dol 2.41 37 ⇑*i*Pn **Pn 07 13 26.9 -1.2**
KNDS IAML 07 14 14.9
comp=Z,491nm,0.7s
ZIRJ Zirje 2.42 88 *e*Pn **Pn 07 13 27.4 -0.8**
ZIRJ Sn **Sn 07 13 57.8 -0.3**
MIDA Miranda 2.45 144 P **Pn 07 13 27.9 -0.7**
MORI Morici 2.47 83 *e*Pn **Pn 07 13 28.6 -0.2**
MORI Sn **Sn 07 13 59.4 0.0**
SABO M.te Sabotino 2.52 21 P **Pn 07 13 28.4 -1.2**
SABO AML AML
comp=E,1238µm,0.7s
SABO AML AML
comp=N,1440µm,0.6s
JAVS Javornik 2.58 28 ⇑*i*Pn **Pn 07 13 28.9 -1.6**
JAVS IAML 07 14 14.0
comp=Z,368nm,0.7s
CEY Cerknica 2.59 35 *e*Pn **Pn 07 13 29.1 -1.5**
CEY Cerknica 2.59 35 ⇑*i*Pn **Pn 07 13 29.2 -1.3**
CEY IAML 07 14 28.9
comp=Z,227nm,0.5s
STAL STALIGIAL 2.64 6 P **Pn 07 13 30.5 -0.8**
STAL AML AML
comp=N,542µm,0.3s
STAL AML AML
comp=E,608µm,0.9s
STAL AML AML
comp=N,544µm,0.3s
STAL AML AML
comp=E,743µm,0.4s
UDBI Udbina 2.65 69 *e*Pn **Pn 07 13 31.3 -0.1**
PGF Pioggiola 2.66 247 *e*P **Pn 07 13 30.9 -0.6**
PGF *e*Sn **Sn 07 13 59.3 -4.7**
comp=E,19nm,0.4s
CIMO Cimolais 2.68 2 P **Pn 07 13 30.9 -0.9**
CIMO AML AML
comp=E,250µm,0.7s
CIMO AML AML
comp=N,232µm,0.6s
SGG Gregorio Mates 2.71 145 P **Pn 07 13 30.7 -1.6**
CADS Cadrg 2.79 21 ⇑*i*Pn **Pn 07 13 32.0 -1.3**
CADS IAML 07 14 08.7
comp=Z,151nm,0.4s
BOJS Bojanci 2.82 47 *e*Pn **Pn 07 13 32.5 -1.1**
BOJS Bojanci 2.82 47 P **Pn 07 13 32.8 -0.8**
BOJS AML AML
comp=N,2050µm,0.9s
BOJS AML AML
comp=E,1895µm,1.2s
LJU Ljubljana 2.88 32 *e*Pn **Pn 07 13 33.7 -0.8**
LJU Ljubljana 2.88 32 P **Pn 07 13 33.5 -1.1**
LJU AML AML
comp=N,4555µm,1.0s
LJU AML AML
comp=E,4580µm,0.9s
GORS Gorjuse 2.94 23 ⇑*i*Pn **Pn 07 13 34.2 -1.2**
GORS IAML 07 14 35.0
comp=Z,271nm,0.9s
ZOU Zoufplan 2.96 9 P **Pn 07 13 35.0 -0.8**
ZOU AML AML
comp=N,750µm,1.0s
ZOU AML AML
comp=E,550µm,0.7s
KIJV Kijevo 2.99 81 *e*Pn **Pn 07 13 35.8 -0.2**
KIJV Sn **Sn 07 14 13.1 +1.0**
VNDS Vrh nad Dolski 3.00 34 ⇑*i*Pn **Pn 07 13 35.3 -0.8**
VNDS IAML 07 14 32.9
comp=Z,284nm,0.8s
OZLJ Ozalj 3.00 48 *e*Pn **Pn 07 13 35.6 -0.6**
HVAR Hvar 3.05 97 *e*Pn **Pn 07 13 35.6 -1.2**
HVAR Sn **Sn 07 14 11.1 -2.5**
ABTA Abfaltersbach 3.12 3 *i* Pn **Pn 07 13 37.8 -0.1**
comp=Z,50nm,0.7s,SNR=15
ABTA *e*Sn **Sn 07 14 15.5 0.0**
comp=Z,128nm,0.7s
CRES Cresnjev 3.14 45 *e*Pn **Pn 07 13 37.2 -0.9**
MYKA Terra Mystica 3.14 17 *e*Pn **Pn 07 13 38.0 -0.2**
comp=Z,13nm,0.4s,SNR=6.2
SGRT San Giovanni R 3.15 125 P **Pn 07 13 38.0 -0.3**
ABSI Aberstueckl 3.17 348 P **Pn 07 13 38.8 0.0**
ABSI AML AML
comp=N,694µm,0.7s
ABSI AML AML
comp=E,741µm,0.8s
MUGIO Muggio 3.27 316 P **Pn 07 13 40.6 +0.8**
OBKA Obir 3.29 28 *e*Pn **Pn 07 13 39.0 -1.2**
comp=E,16nm,0.4s
OBKA *e*Sg **Sg 07 14 33.0 -0.6**
comp=E,402nm,0.7s
ROSI Rosskopf 3.36 349 P **Pn 07 13 40.4 -0.9**
VARE Varese 3.37 313 P **Pn 07 13 40.8 -0.5**
MAKA Makarska 3.45 94 *i* Pn **Pn 07 13 42.4 +0.2**
SAOF Saorge 3.46 278 P **Pn 07 13 42.6 +0.1**
RICI Ricice 3.51 91 *e*Pn **Pn 07 13 44.0 +0.9**
RICI Sn **Sn 07 14 26.0 +1.0**
KBA Koelnbreinsper 3.52 12 *i* Pn **Pn 07 13 43.4 -0.1**
comp=E,13nm,0.4s,SNR=18
KBA *i* Sn **Sn 07 14 27.2 +1.6**
comp=E,41nm,0.5s
MGRS Mrkonjic Grad 3.53 76 *e*Pn **Pn 07 13 43.9 +0.4**
SBF Sospel 3.54 275 *e*P **Pn 07 13 43.3 -0.3**
SBF *e*Sn **Sn 07 14 20.6 -5.2**
comp=E,91nm,0.5s
FETA Feichten 3.57 342 *e*Pn **Pn 07 13 45.5 +1.4**
comp=E,50nm,0.8s,SNR=32
FETA *e*Sn **Sn 07 14 28.4 +1.8**
comp=E,58nm,0.9s
MRAK Mrakovica 3.57 66 *e*Pn **Pb 07 13 50.3 -1.4**
DAVOX Davos/Dischmat 3.59 332 Pg **Pn 07 13 47.3 +3.0**
comp=E,4.3nm,0.3s,baz=147,slow=12,SNR=72
DAVOX Lg Lg 07 14 31.9
comp=E,2.7nm,0.3s,baz=225,slow=20,SNR=9.2
DAVOX Davos/Dischmat 3.59 332 P **Pn 07 13 42.5 -1.9**
SOKA Soboth 3.60 31 *i* Pn **Pn 07 13 43.7 -0.8**
comp=E,0.9nm,0.2s
SOKA *e*Sn **Sn 07 14 26.2 -1.2**
comp=E,32nm,0.5s
SOKA Sg **Sg 07 14 45.2 +1.4**
comp=E,82nm,0.6s
WTTA Wattenberg 3.66 353 *i* Pn **Pn 07 13 47.2 +1.8**
comp=E,7.7nm,0.2s
WTTA *e*Sn **Sn 07 14 29.2 +0.2**
comp=E,106nm,0.8s
SQTA Sankt Quirin 3.67 348 *i* Pn **Pn 07 13 47.9 +2.4**
comp=E,44nm,0.4s,SNR=23
SQTA *i* Sn **Sn 07 14 30.3 +1.2**
comp=E,83nm,0.6s
BLY Banja Luka 3.68 71 *e*Pn **Pn 07 13 46.7 +1.2**
WATA Walderalm 3.74 352 *i* Pn **Pn 07 13 48.3 +1.9**
comp=E,8.0nm,0.2s
WATA *i* Sn **Sn 07 14 34.0 +3.2**
comp=E,50nm,0.7s
TRAV Traversella 3.76 302 P **Pn 07 13 46.2 -0.5**
TRAV AML AML
comp=N,120µm,1.2s
TRAV AML AML
comp=E,142µm,1.0s
MOTA Moosalm 3.81 348 *e*Pn **Pn 07 13 49.3 +1.8**
comp=E,40nm,0.6s,SNR=23
CALF Calern 3.91 274 P **Pn 07 13 50.8 +2.0**
ACER Acerenza 3.92 135 P **Pn 07 13 47.9 -1.0**
ACER AML AML
comp=E,308µm,1.1s
ACER AML AML
comp=N,320µm,0.7s
ACER AML AML
comp=N,300µm,0.7s
ACER AML AML
comp=E,334µm,1.0s
RETA Reutte 4.01 345 *i* Pn **Pn 07 13 52.5 +2.4**
comp=E,10nm,0.4s,SNR=13
RETA *e*Sn **Sn 07 14 38.2 +0.9**
comp=E,34nm,0.6s
STON Ston 4.01 99 *e*Pn **Pn 07 13 48.3 -1.7**
STON Sn **Sn 07 14 36.0 -1.3**
DAVA Damuels 4.04 336 *i* Pn **Pn 07 13 53.2 +2.7**
comp=E,35nm,0.4s,SNR=23
DAVA *i* Sn **Sn 07 14 42.2 +4.1**
comp=E,83nm,0.7s
FRF La Foret Royal 4.11 271 *e*P **Pn 07 13 51.3 -0.1**
FRF *e*Sn **Sn 07 14 34.1 -5.8**
comp=E,54nm,0.7s
MBDF Montbardon 4.13 287 *e*P **Pn 07 13 52.1 +0.3**
MBDF *e*Sn **Sn 07 14 34.6 -5.9**
comp=E,78nm,0.7s
LMR La Mourre 4.23 268 *e*P **Pn 07 13 53.3 +0.2**
LMR *e*Sn **Sn 07 14 37.0 -5.7**
comp=E,21nm,0.6s
ARSA Arzberg 4.27 31 *i* Pn **Pn 07 13 52.3 -1.3**
comp=E,5.0nm,0.3s
ARSA *i* Sn **Sn 07 14 43.0 -0.6**
comp=E,13nm,0.4s
ARSA Arzberg 4.27 31 P **Pn 07 13 52.4 -1.2**
LPG La Plagne 4.39 297 *e*P **Pn 07 13 56.1 +0.6**
LPG *e*Sn **Sn 07 14 41.8 -5.2**
comp=E,80nm,0.8s
LPL La Plagne 4.41 297 *e*P **Pn 07 13 57.2 +1.5**
LPL *e*Sn **Sn 07 14 41.2 -6.2**
comp=E,70nm,0.8s
MATE Matera 4.42 131 ⇓P **Pn 07 13 55.9 +0.3**
MOA Molln 4.44 17 *i* Pn **Pn 07 13 55.8 -0.1**
comp=E,10nm,0.2s,SNR=18
MOA *i* Sn **Sn 07 14 46.6 -1.2**
comp=E,27nm,0.5s
TREB Trebinje 4.51 100 *e*Pn **Pn 07 13 55.9 -1.0**
BRY Bratogost 4.61 97 *e*Pn **Pn 07 13 58.7 +0.3**
BRY Bratogost 4.61 97 ⇑*i*Pn **Pn 07 13 58.7 +0.3**

BRY *i* Sn **Sn** **07 14 52.5 +0.3**
HCY Herceg Novi 4.69 103 *e*Pn **Pn** **07 13 58.5 -0.8**
HCY Herceg Novi 4.69 103 ⇑ *i*Pn **Pn** **07 13 59.5 +0.2**
HCY *i* Sn **Sn** **07 14 53.8 -0.1**
ARTF Artigues 4.72 272 P **Pn** **07 14 03.3 +3.5**
ORIF Oris-en-Rattie 4.79 288 *e*P **Pn** **07 14 02.5 +1.6**
ORIF Oris-en-Rattie 4.79 288 *e*Pn Pb 07 14 07.0 -5.5
ORIF *e*Sn **Sn** **07 14 50.5 -6.2**
comp=E,41nm,0.7s
KOVH Kovagotottos 4.79 57 *e*PN **Pn** **07 14 03.9 +3.1**
KOVH Kovagotottos 4.79 57 *e*P Pb 07 14 07.0 -5.5
HAPS Han Pijesak,Bi 4.82 82 *e*Pn **Pn** **07 14 01.1 -0.2**
UPM Unac-Piva 4.82 93 *e*Pn **Pn** **07 14 02.2 +0.8**
UPM Unac-Piva 4.82 93 ⇓ *i*Pn **Pn** **07 14 02.4 +1.0**
UPM *i* Sn **Sn** **07 14 57.5 -0.1**
SMRF Simiane la Rot 4.89 276 *e*P **Pn** **07 14 02.8 +0.7**
SMRF *e*Sn **Sn** **07 14 52.5 -6.5**
comp=E,36nm,0.8s
BALST Balsthal 4.92 320 P **Pn** **07 14 05.8 +3.2**
NKME Niksic 4.93 98 ⇓ *i*Pn **Pn** **07 14 02.9 +0.1**
NKME *i* Sn **Sn** **07 15 00.1 0.0**
RUSF Rustrel 4.95 276 P **Pn** **07 14 03.6 +0.7**
CEME Cevo 4.96 100 ⇑ *i*Pn **Pn** **07 14 03.4 +0.3**
CEME *i* Sn **Sn** **07 15 00.3 -0.5**
CONA Conrad Observa 4.96 29 *i* Pn **Pn** **07 14 02.1 -1.1**
comp=E,4.1nm,0.4s
CONA *i* Sn **Sn** **07 14 59.8 -1.1**
comp=E,14nm,0.4s
BUM Brajici-Budva 5.01 103 ⇑ *i*Pn **Pn** **07 14 04.0 +0.2**
BUM *i* Sn **Sn** **07 15 02.1 0.0**
RUDO Rudo 5.13 88 *e*Pn **Pn** **07 14 05.5 +0.1**
BBLS Lazići 5.15 85 *e*Pn **Pn** **07 14 06.3 +0.6**
PLE Pljevlja 5.16 91 ⇑ *i*Pn **Pn** **07 14 06.0 +0.1**
PLE *i* Sn **Sn** **07 15 05.6 -0.2**
EGYH Egyhazaskeszo 5.17 41 *e*PN **Pn** **07 14 03.2 -2.8**
BOURR Bourrignon 5.19 318 P **Pn** **07 14 08.7 +2.5**
MORH Mrgy, Hungar 5.19 58 *e*PN **Pn** **07 14 08.1 +1.9**
MORH Mrgy, Hungar 5.19 58 *e*P **Pb** **07 14 16.4 -2.7**
MORH Mrgy, Hungar 5.19 58 *e*Pn **Pn** **07 14 05.6 -0.6**
PDG Podgorica 5.23 101 ⇑P **Pn** **07 14 07.2 +0.4**
PDG Podgorica 5.23 101 *e*Pn **Pn** **07 14 07.7 +0.9**
TTG Podgorica 5.23 101 ⇑ *i*Pn **Pn** **07 14 08.0 +1.2**
TTG *i* Sn **Sn** **07 15 07.4 0.0**
DRME Dracevica, Mon 5.25 104 *e*Pn **Pn** **07 14 07.2 +0.1**
DRME Dracevica, Mon 5.25 104 ⇓ *i*Pn **Pn** **07 14 07.4 +0.3**
DRME *i* Sn **Sn** **07 15 08.0 +0.1**
TEKS Tekeris 5.28 78 *e*Pn **Pn** **07 14 05.7 -1.8**
GERES GERESS Array B 5.30 10 Pn **Pn** **07 14 06.4 -1.5**
comp=E,1.4nm,0.3s,baz=188,slow=12,SNR=12
GERES Sn **Sn** **07 15 07.4 -1.9**
comp=E,1.0nm,0.3s,baz=192,slow=27,SNR=6.2
GERES Lg Lg 07 15 35.1
comp=E,0.5nm,0.3s,baz=187,slow=29,SNR=1.7
KIZ Kirchzarten 5.30 326 P **Pn** **07 14 09.7 +1.9**
CABF La Chapelle 5.32 306 *e*P **Pn** **07 14 09.5 +1.5**
CABF *e*Sn **Sn** **07 15 03.0 -6.6**
comp=E,13nm,0.7s
KOME Kolasin 5.32 96 ⇑ *i*Pn **Pn** **07 14 08.4 +0.3**
KOME *i* Sn **Sn** **07 15 09.6 -0.2**
ULC Ulcinj 5.37 106 ⇑ *i*Pn **Pn** **07 14 08.8 +0.1**
ULC *e*Sn **Sn** **07 15 10.5 -0.3**
CKRC Cesky Krumlov 5.37 14 *e*PN **Pn** **07 14 07.8 -1.0**
CKRC *e*SN **Sn** **07 15 07.7 -3.2**
MOF Molkenrain 5.56 321 P **Pn** **07 14 12.9 +1.5**
TIP Timpagrande 5.56 142 ⇑P Pn 07 14 17.4 +6.0
KHC Kasperske Hory 5.57 9 *e*PN **Pn** **07 14 10.1 -1.4**
KHC *ex* x 07 14 26.5
KHC *e*SN **Sn** **07 15 13.8 -2.0**
KHC *ex* x 07 15 45.0
KHC AMS AMS 07 17 10.0
comp=E,700nm,11.2s
DIVS Divibare 5.57 83 *e*Pn Pn 07 14 03.6 -8.0
FRGS Fruska Gora 5.59 72 ⇓P Pn 07 14 18.4 +6.6
FRGS Fruska Gora 5.59 72 *e*Pn **Pn** **07 14 15.4 +3.7**
IVA Berane 5.59 95 ⇓ *i*Pn **Pn** **07 14 12.1 +0.3**
IVA *e*Sn **Sn** **07 15 15.8 -0.6**
VIVF Saint-Julien-l 5.62 285 *e*P **Pn** **07 14 13.7 +1.5**
VIVF *e*Sn **Sn** **07 15 10.2 -6.9**
comp=E,2.8nm,0.3s
ZST Bratislava 5.66 35 *e*SN **Sn** **07 15 15.2 -2.7**
HINF Hinteralfeld 5.67 320 *e*P **Pn** **07 14 13.9 +1.1**
HINF *e*Sn **Sn** **07 15 11.1 -7.1**
comp=E,9.2nm,0.4s
PVY Plav 5.70 98 ⇑ *i*Pn **Pn** **07 14 13.7 +0.4**
PVY *i* Sn **Sn** **07 15 18.4 -0.6**
MODS Modra-Piesok 5.87 34 *e*PN **Pn** **07 14 13.2 -2.4**
MODS *e*SN **Sn** **07 15 19.8 -3.4**
CDF Champ du Feu 5.93 326 *e*P **Pn** **07 14 17.8 +1.4**
CDF *e*Sn **Sn** **07 15 17.5 -7.2**
comp=E,63nm,0.8s
TIR Tirane 6.03 110 ⇓P **Pn** **07 14 17.4 -0.4**
HAU Haudompre 6.04 318 *e*P **Pn** **07 14 19.3 +1.4**
HAU *e*Sn **Sn** **07 15 20.4 -6.9**
comp=E,54nm,0.6s
TREC Trest 6.08 20 *e*PN **Pn** **07 14 17.3 -1.1**
TREC *e*SN **Sn** **07 15 24.3 -3.9**
KRUC Moravsky 6.12 26 *e*PN **Pn** **07 14 17.8 -1.2**
LASF Ste Croix 6.13 277 *e*P **Pn** **07 14 20.0 +0.9**
LASF *e*Sn **Sn** **07 15 22.4 -7.1**
comp=E,3.7nm,0.5s
VRAC Vranov 6.40 26 Pn **Pn** **07 14 25.0 +2.1**
comp=E,0.5nm,0.3s,baz=227,slow=8.0,SNR=3.7
VRAC Sn **Sn** **07 15 33.4 -2.8**
comp=E,0.8nm,0.3s,baz=156,slow=18,SNR=3.4
VRAC Vranov 6.40 26 *e*PN **Pn** **07 14 21.7 -1.2**
VYHS Vyhne 6.65 41 *e*PN **Pn** **07 14 30.0 +3.7**
VYHS *e*SN **Sn** **07 15 40.9 -1.5**
SMF Signal de Mont 6.70 300 *e*P **Pn** **07 14 27.5 +0.5**
SMF *e*Sn **Sn** **07 15 36.5 -7.2**
comp=E,34nm,0.7s
PAGF Fort de Pagny 6.72 319 *e*P **Pn** **07 14 29.4 +2.1**
baz=139
PAGF *e*Sn **Sn** **07 15 36.3 -7.8**
comp=E,30nm,0.6s
OHR Ohrid 6.77 109 *e*Pn **Pn** **07 14 28.4 +0.4**
BOVS Bovan 6.82 87 ⇓P **Pn** **07 14 23.9 -4.7**
SFTF Sexfontaines 6.83 315 *e*P **Pn** **07 14 30.5 +1.8**
baz=134
SFTF *e*Sn **Sn** **07 15 39.2 -7.5**
comp=E,10nm,0.5s
BZS Buzias 6.93 70 ⇑P **Pn** **07 14 31.4 +1.2**
LOR Lormes 6.97 304 *e*P **Pn** **07 14 31.2 +0.6**
baz=125
LOR *e*Sn **Sn** **07 15 41.9 -8.3**
comp=E,0.7nm,0.2s
MEZF Maizieres J'vi 7.01 317 *e*P **Pn** **07 14 33.4 +2.2**
baz=137
MEZF *e*Sn **Sn** **07 15 43.3 -7.9**
comp=E,5.8nm,0.4s
SAVF Savonnieres en 7.05 317 *e*Sn **Sn** **07 15 44.3 -7.9**
comp=E,7.1nm,0.6s
AVF Avril sur Loir 7.07 300 *e*P **Pn** **07 14 33.2 +1.2**
AVF *e*Sn **Sn** **07 15 44.8 -7.8**
comp=E,1.2nm,0.4s
SSF Saint Saulge 7.09 302 *e*P **Pn** **07 14 32.6 +0.3**
KRLC Kraliky 7.14 24 *e*PN **Pn** **07 14 31.0 -2.0**
DPC Dobruska-Polom 7.26 21 *e*PN **Pn** **07 14 32.4 -2.3**
BGF Bois d'Agland 7.31 297 *e*P **Pn** **07 14 36.7 +1.4**
BRG Berggiesshubel 7.33 8 Pn **Pn** **07 14 35.7 +0.2**
BRG Amp 07 14 38.7
comp=E,2.9nm,0.5s
BRG Berggiesshubel 7.33 8 Sn **Sn** **07 15 55.1 -3.9**
BRG r 07 16 24.8
BRG r 07 16 47.3
BRG Amp 07 16 55.4
comp=E,15nm,1.0s
MTLF Montolieu 7.35 271 *e*P **Pn** **07 14 35.7 -0.1**
HERR Herculane 7.36 77 ⇓P **Pn** **07 14 34.9 -1.1**
OSTC Ostas 7.42 20 *e*PN **Pn** **07 14 34.7 -2.2**
CAF Calviac 7.47 284 *e*P **Pn** **07 14 39.1 +1.6**
STIP Stip 7.53 102 *e*Pn **Pn** **07 14 40.6 +2.2**
TCF Toulx Ste Croi 7.64 294 *e*P **Pn** **07 14 40.8 +0.9**
TCF *e*Sn **Sn** **07 15 58.4 -8.3**
comp=E,2.3nm,0.5s
CLL Collm 7.70 3 *e*Pn **Pn** **07 14 39.0 -1.6**
CLL *e* 07 15 33.0
CLL *e*Sn Sn 07 15 58.0 -10
CLL *e*Sb **Sb** **07 16 28.0 -5.7**
CLL *e*Sg **Sg** **07 16 51.0 -4.0**
comp=E,34nm,1.2s
VAY Valandovo 7.93 103 *e*Pn **Pn** **07 14 44.3 +0.5**
VTS Vitosha 8.06 93 ⇑P **Pn** **07 14 47.8 +2.0**
KEST Kesra 8.21 197 Pn Pn 07 14 53.3 +5.5
comp=E,0.4nm,0.3s,baz=344,slow=13,SNR=6.0
KEST Sn **Sn** **07 16 21.7 +0.8**
baz=139,slow=20,SNR=1.4
GIVF Givet 8.26 324 *e*P **Pn** **07 14 50.2 +1.9**
BAIF Baives 8.49 322 *e*P **Pn** **07 14 53.6 +2.1**
LDF La Druitiere 9.95 304 *e*P **Pn** **07 15 13.6 +2.0**
FLN La Foliniere 10.24 305 *e*P **Pn** **07 15 18.1 +2.6**
baz=125
EKA Eskdalemuir Ar 15.39 325 Pn **Pn** **07 16 25.7 +0.1**
baz=134,slow=14,SNR=4.4
BRTR Keskin Array B 16.40 96 Pn **P** **07 16 45.6 +3.8**
comp=E,0.2nm,0.3s,baz=296,slow=9.2,SNR=6.7
FINES FINESS Array B 19.63 20 P **Pn** **07 17 18.0 -0.4**
comp=E,0.1nm,0.3s,baz=243,slow=12,SNR=3.7
MMAI Mount Meron Ar 20.93 113 P Pn 07 17 36.5 +2.6
comp=E,0.8nm,0.4s,baz=315,slow=14,SNR=2.6
KBZ Khabaz 22.07 79 P **P** **07 17 45.5 +2.0**
comp=Z,1.9nm,0.7s,baz=288,slow=9.6,SNR=1.9
ASF Jabal al Asfar 22.44 112 P **P** **07 17 51.8 +4.1**
comp=Z,1.3nm,0.4s,baz=277,slow=16,SNR=2.2
BELG Belogornoye 24.98 57 P **P** **07 18 14.3 +2.1**
comp=Z,22nm,0.9s,baz=336,slow=3.4,SNR=5.7
TORD Torodi Ar. Bea 31.72 200 P **P** **07 19 12.9 +0.2**
comp=Z,2.3nm,0.7s,baz=11,slow=8.9,SNR=13
MKAR Makanchi Array 47.90 60 P **P** **07 21 27.6 +0.7**
comp=Z,0.3nm,0.6s,baz=297,slow=5.3,SNR=3.7
SONM Songino Array 61.76 50 P **P** **07 23 09.0 +1.6**
comp=Z,0.7nm,0.7s,baz=292,slow=6.4,SNR=3.7
ILAR Eielson Array 70.71 351 P **P** **07 24 04.8 +0.4**
comp=Z,0.6nm,0.8s,baz=14,slow=4.1,SNR=5.0
TXAR Lajitas Array 86.71 308 P **P** **07 25 33.8 +0.7**
comp=Z,0.9nm,1.0s,baz=72,slow=4.1,SNR=6.0

*IDC **19** 07:23:40.1±0.5,2.°92S×136.°34E,h0km,mb4.4/17, mb1 4.5/20,mb1mx4.4/49,mbtmp4.4/20,ML4.6/3,MS4.1/24, Ms1 4.1/24,ms1mx4.0/38,Error ellipse: s-maj=25.5km s-min=12.0km az=71.0*
*DJA **19** 07:23:42.9±0.3,3.°S±3.°×13.°6E±.°,h10km,M4.9/20, mB5.3/11,mb5.0/20,MLv5.1/7,Mw(mB)4.7/11*
*NEIC **19** 07:23:47.2±1.6,3.°03S±0.°09×136.°24E±0.°07,h46km±6km, mb4.8/36,Error ellipse: s-maj=12.8km s-min=9.9km az=191.0*
ISC 19 07:23:45.5±0.3,3.°**16S**±0.°05×**136.°23E**±0.°05,**h33**km,**n152, s**1°**59**/145,**mb4.8**/46,**MS4.2**/23,**1D,Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**1.28**	**0**	P	Pn	07 24 01.8	-5.3
GENI	**Genyem**	**3.97**	**82**	P	**Pn**	**07 24 43.2**	**-0.9**
FAKI	**Fak Fak**	**3.98**	**273**	Pn	Pn	**07 24 44.6**	**+0.3**
FAKI	**Fak Fak**	**3.98**	**273**	P	**Pn**	**07 24 45.3**	**+1.0**
JAY	**Jayapura**	**4.51**	**82**	Pn	**Pn**	**07 24 51.1**	**-0.5**
	12nm,0.3s,baz=255,slow=9.2,SNR=19						
JAY				Sn	**Sn**	**07 25 40.3**	**-2.8**
	47nm,0.3s,baz=120,slow=20,SNR=8.9						
JAY	**Jayapura**	**4.51**	**82**	P	**Pn**	**07 24 51.5**	**-0.1**
SIJI	**Sorong**	**5.46**	**295**	Pn	**Pn**	**07 25 03.1**	**-1.4**
	11nm,0.3s,baz=251,slow=24,SNR=14						
SIJI				Sn	**Sn**	**07 26 02.3**	**-3.9**
	28nm,0.3s,baz=163,slow=19,SNR=11						
SIJI	**Sorong**	**5.46**	**295**	P	**Pn**	**07 25 03.1**	**-1.4**
	0.4nm2µm69nm,0.6s						
SWI	**Sorong**	**5.46**	**295**	P	**Pn**	**07 25 03.9**	**-0.7**
	2.1nm3µm166nm,0.7s						
MMPI	**Merauke**	**6.70**	**142**	P	**Pn**	**07 25 26.0**	**+4.3**
	8.3nm32µm1µm,0.6s						
MTN	**Manton Dam**	**10.87**	**207**	Pn	**Pn**	**07 26 21.9**	**+3.1**
COEN	**Coen**	**12.74**	**148**	Pn	**Pn**	**07 26 45.0**	**+0.6**
SOEI	**Soe**	**13.57**	**241**	P	**Pn**	**07 26 56.4**	**+0.4**
SOEI	**Soe**	**13.57**	**241**	P	**Pn**	**07 26 58.9**	**+3.0**
	942nm72nm,1.4s						
BATI	**Baumata**	**14.31**	**240**	LR	LR	07 34 52.0	
	comp=Z,226nm,18.5s,baz=82,slow=46						
KNRA	**Kununurra**	**14.45**	**210**	Pn	**Pn**	**07 27 08.2**	**+0.4**
DAV	**Davao City (W)**	**14.70**	**314**	LR	LR	07 33 24.3	
	comp=Z,201nm,19.1s,baz=118,slow=40						
EDFI	**Ende, Flores**	**15.49**	**248**	P	**P**	**07 27 24.3**	**-1.5**
	205nm9.1nm,1.4s						
TOLI2	**Tolitoli**	**16.01**	**285**	P	**P**	**07 27 32.7**	**+1.1**
WR0	**Warramunga Arr**	**16.78**	**186**	Pn	**Pn**	**07 27 37.3**	**-0.9**
WR0				lAmb	lAmb	07 27 52.1	
	comp=Z,74nm,0.8s						
WRA	**Warramunga Arr**	**16.79**	**186**	Pn	**Pn**	**07 27 36.5**	**-1.8**
	comp=Z,1.7nm,0.3s,baz=7.4,slow=13,SNR=100						
WRA				Sn	**Sn**	**07 30 38.6**	**-5.2**
	comp=Z,1.6nm,0.3s,baz=9.3,slow=22,SNR=5.1						
WRA				LR	LR	07 34 43.1	
	comp=Z,2µm,19.2s,baz=10.0,slow=39						
FITZ	**Fitzroy Crossi**	**18.12**	**214**	P	**Pn**	**07 27 54.6**	**-0.1**
	comp=Z,1.4nm,0.3s,baz=40,slow=11,SNR=42						
FITZ				S	**Sn**	**07 31 09.8**	**-6.2**
	comp=Z,0.8nm,0.3s,baz=70,slow=15,SNR=4.0						
FITZ				LR	LR	07 35 47.8	
	comp=Z,586nm,19.9s,baz=34,slow=40						
FITZ	**Fitzroy Crossi**	**18.12**	**214**	P	**Pn**	**07 27 53.8**	**-0.9**
GUMO	**Guam**	**18.71**	**27**	LR	LR	07 35 24.5	
	comp=Z,274nm,18.3s,baz=207,slow=38						
PLAI	**Plampang**	**19.19**	**252**	P	**P**	**07 28 05.6**	**-1.1**
	comp=Z,55nm,0.8s						
CTA	**Charters Tower**	**19.47**	**151**	P	**Pn**	**07 28 11.2**	**+0.1**
	comp=Z,2.4nm,0.3s,baz=331,slow=12,SNR=24						
CTA				LR	LR	07 36 13.5	
	comp=Z,880nm,18.6s,baz=1.0,slow=38						
CTAO	**Charters Tower**	**19.47**	**151**		**Pn**	**07 28 10.8**	**-0.2**
CTAO				lAmb	lAmb	07 28 18.1	
	comp=Z,39nm,0.9s						
AS31	**Alice Springs**	**20.51**	**186**	P	Pn	07 28 23.1	-0.2
AS31				lAmb	lAmb	07 28 31.9	
	comp=Z,35nm,0.7s						
ASAR	**Alice Springs**	**20.51**	**186**	P	Pn	07 28 23.1	-0.3
	comp=Z,74nm,0.8s,baz=12,slow=11,SNR=644						
ASAR				S	**S**	**07 32 07.2**	**-1.8**
	comp=Z,16nm,1.0s,baz=10,slow=26,SNR=3.6						
ASAR				LR	LR	07 36 59.4	
	comp=Z,2µm,18.2s,baz=6.0,slow=38						
ASAR	**Alice Springs**	**20.51**	**186**		Pn	07 28 23.0	-0.4
SPMM	**Sapulut**	**21.24**	**291**	P	**P**	**07 28 31.0**	**+2.0**
BBKI	**Banjar Baru**	**21.36**	**269**	P	**P**	**07 28 34.1**	**+3.9**
	comp=Z,33nm,0.6s						
PSA00	**Pilbara Seismi**	**24.27**	**220**	P	**P**	**07 29 00.5**	**+0.6**
HNR	**Honiara**	**24.37**	**106**	LR	LR	07 38 51.1	
	comp=Z,303nm,21.8s,baz=294,slow=37						
SBUM	**Sibu**	**24.64**	**283**	P	**P**	**07 29 05.0**	**+1.7**
SJI	**Sawahan**	**24.77**	**258**	P	**P**	**07 29 08.7**	**+4.1**
	comp=Z,21nm,0.7s						
EIDS	**Eidsvold**	**26.31**	**148**	P	**P**	**07 29 20.2**	**+1.9**
FORT	**Forrest**	**28.54**	**195**	P	**P**	**07 29 38.4**	**+0.1**
LEM	**Lembang**	**28.73**	**262**	LR	LR	07 42 16.1	
	comp=Z,325nm,21.8s,baz=168,slow=39						
STKA	**Stephens Creek**	**29.01**	**171**	P	**P**	**07 29 43.1**	**+0.7**
	comp=Z,2.8nm,0.5s,baz=356,slow=9.8,SNR=5.4						
STKA				LR	LR	07 40 43.6	
	comp=Z,256nm,20.2s,baz=360,slow=35						
STKA	**Stephens Creek**	**29.01**	**171**	P	**P**	**07 29 42.4**	**-0.1**
JOW	**Kunigami**	**30.79**	**346**	LR	LR	07 40 42.3	
	comp=Z,401nm,20.7s,baz=358,slow=33						
SANVU	**Saraoutou**	**32.85**	**114**	P	**P**	**07 30 16.9**	**+0.4**
DZM	**Mont Dzumac**	**34.83**	**125**	P	**P**	**07 30 33.9**	**+0.1**
LIFNC	**LIFOU**	**34.91**	**123**	P	**P**	**07 30 34.1**	**-0.2**
UBPT	**Khong Chiam**	**35.53**	**302**	P	**P**	**07 30 39.7**	**-0.1**
PINNC	**Pines Island,**	**35.91**	**125**	P	**P**	**07 30 42.8**	**-0.1**
JHJ	**Hachijo jima 2**	**36.23**	**5**	LR	LR	07 43 00.6	
	comp=Z,406nm,20.4s,baz=181,slow=32						
RPSI	**Rantau Prapat**	**37.74**	**278**	P	**P**	**07 30 58.5**	**-0.2**
RPSI				lAmb	lAmb	07 30 59.6	
	comp=Z,5.5nm,0.7s						
NJ2	**Nanjing**	**38.71**	**336**	*e*P	**P**	**07 31 06.8**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
MJAR	**Matsushiro Arr**	**39.54**	**3**	LR	LR	07 45 24.5	
	comp=Z,322nm,19.6s,baz=190,slow=33						
GYA	**Guiyang**	**41.03**	**318**	⇓P	**P**	**07 31 27.5**	**+1.4**
GYA				pmax	pmax		
	comp=Z,380nm,13.1s						
KSRS	**Korea Array**	**41.13**	**350**	P	**P**	**07 31 23.9**	**-2.7**
	comp=Z,2.0nm,0.9s,baz=181,slow=8.4,SNR=7.0						
KSRS				LR	LR	07 47 55.9	
	comp=Z,123nm,19.8s,baz=179,slow=36						
CMAR	**Chiang Mai Arr**	**42.54**	**302**	P	**P**	**07 31 37.5**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=120,slow=6.5,SNR=7.0						
XAN	**Xi'an**	**45.07**	**327**	P	**P**	**07 31 58.1**	**-0.4**
XAN				pP	sP	07 32 10.8	-1.9
XAN				sP	pP	07 32 15.9	+7.5
XAN				S	**S**	**07 38 35.5**	**-0.1**
XAN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
XAN				LR	LR		
	comp=Z,220nm,16.5s						
XAN				LR	LR		
	comp=Z,170nm,17.9s						
XAN				LR	LR		
	comp=Z,230nm,17.7s						
CD2	**Chengdu 45.89 320**			P	**P**	**07 32 06.0 +0.9**	
USRK	**Ussuriysk Ar. 47.30 356**			P	**P**	**07 32 14.0 -1.8**	
	comp=Z,2.0nm,0.8s,baz=187,slow=5.7,SNR=2.9						
USRK				LR	LR	07 50 38.4	
	comp=Z,405nm,19.0s,baz=171,slow=34						
ASAJ	**Asahikawa 47.41 6**			LR	LR	07 51 03.5	
	comp=Z,218nm,20.6s,baz=185,slow=35						
CN2	**Changchun 47.74 349**			*e*P	**P**	**07 32 19.0 -0.3**	
HHC	**Hu-ho-hao-te 49.25 335**			*e*P	**P**	**07 32 33.0 +1.9**	
HHC				pmax	pmax		
	comp=Z,21nm,0.9s						
HHC				pmax	pmax		
	comp=Z,180nm,8.7s						
HHC				LR	LR		
	comp=Z,220nm,16.2s						
HHC				LR	LR		
	comp=Z,230nm,17.2s						
HHC				LR	LR		
	comp=Z,330nm,17.0s						
LZH	**Lanzhou 49.39 325**			*e*P	**P**	**07 32 35.3 +3.0**	
LZH				pP	pP	07 32 43.3 +1.0	
LZH				sP	sP	07 32 51.8 +5.2	
LZH				*e*PP	**PP**	**07 34 29.6 +2.9**	
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
LZH				pmax	pmax		
	comp=Z,89nm,5.2s						
LZH				LR	LR		
	comp=Z,180nm,13.6s						
LZH				LR	LR		
	comp=Z,190nm,13.0s						
LZH				LR	LR		
	comp=Z,120nm,16.5s						
TUWZ	**Tuamarina 50.95 144**			P	**P**	**07 32 44.0 +0.2**	
URZ	**Urewera 51.09 139**			P	**P**	**07 32 45.5 +0.4**	
	comp=Z,4.6nm,0.5s,baz=300,slow=20,SNR=2.3						
URZ	**Urewera 51.09 139**			lAmb	lAmb	07 33 04.5	
	comp=Z,12nm,0.8s						
SHL	**Shillong 51.58 306**			P	**P**	**07 32 48.4 -0.7**	
SHL				lAmb	lAmb	07 33 05.9	
	comp=Z,12nm,0.9s						
KLR	**Kul'dur 52.32 356**			P	**P**	**07 32 51.9 -2.0**	
	comp=Z,3.0nm,0.9s,baz=235,slow=2.6,SNR=8.1						
GTA	**Gaotai 53.99 325**			*e*P	**P**	**07 33 09.5 +2.9**	
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GTA				LR	LR		
	comp=Z,150nm,16.7s						
GTA				LR	LR		
	comp=Z,190nm,16.0s						
GTA				LR	LR		
	comp=Z,160nm,15.3s						
JIRN	**Jiri 57.07 306**			*e*P	**P**	**07 33 29.4 +0.1**	
	comp=Z,10nm,0.6s						
SONM	**Songino Array 57.10 336**			P	**P**	**07 33 28.2 -0.6**	
	comp=Z,0.3nm,0.3s,baz=143,slow=5.0,SNR=2.2						
SONM				LR	LR	07 57 29.8	
	comp=Z,263nm,20.6s,baz=157,slow=36						
GUN	**Gumba 57.43 306**			*e*P	**P**	**07 33 31.7 -0.1**	
	comp=Z,30nm,0.8s						
DMN	**Daman 57.93 305**			*e*P	**P**	**07 33 35.5 +0.3**	
	comp=Z,17nm,0.5s						
PETK	**Petropavlovsk- 58.90 15**			LR	LR	07 57 33.9	
	comp=Z,74nm,20.0s,baz=182,slow=35						
KOLN	**Koldanda 59.22 305**			*e*P	**P**	**07 33 44.4 +0.2**	
	comp=Z,34nm,0.9s						
DANN	**Dangsing 59.32 306**			*e*P	**P**	**07 33 45.0 +0.1**	
	comp=Z,31nm,0.9s						
PYUN	**Piuthan 59.85 305**			*e*P	**P**	**07 33 48.9 +0.4**	
HYB	**Hyderabad 60.43 292**			*i* P	**P**	**07 33 52.0 -0.4**	
HYB				*es*P	**sP**	**07 34 12.0 +5.1**	
WMQ	**Urumqi 63.84 323**			*e*P	**P**	**07 34 16.9 +2.0**	
WMQ				LR	LR		
	comp=Z,310nm,29.2s						
WMQ				LR	LR		
	comp=Z,1µm,28.9s						
WMQ				LR	LR		
	comp=Z,430nm,29.0s						
CASY	**Casey 65.54 191**			P	**P**	**07 34 26.3 +0.9**	
CASY				lAmb	lAmb	07 34 27.6	
	comp=Z,13nm,1.1s						
ZSN	**Zaisan 67.48 325**			*e*P	**P**	**07 34 36.8 -1.5**	
	baz=325						
MK31	**Makanchi Array 68.65 323**			P	**P**	**07 34 44.5 -1.1**	
MKAR	**Makanchi Array 68.65 323**			P	**P**	**07 34 45.3 -0.3**	
	comp=Z,5.1nm,0.8s,baz=118,slow=6.8,SNR=24						
MKAR	**Makanchi Array 68.65 323**			P	**P**	**07 34 44.7 -0.9**	
SHLS	**Shalkode 68.70 319**			*e*P	**P**	**07 34 43.8 -2.4**	
	baz=319						
UZB	**Uzynbulak 68.99 319**			*e*P	**P**	**07 34 46.7 -1.2**	
	comp=Z,7.5nm,0.9s,baz=319						
TARG	**Taragay, Kyrgy 69.20 317**			P	**P**	**07 34 49.6 0.0**	
TARG				lAmb	lAmb	07 35 02.8	
	comp=Z,6.7nm,0.8s						
KPKS	**Kokpek 69.35 319**			*e*P	**P**	**07 34 48.9 -1.2**	
	baz=319						
SATY	**Saty 69.36 318**			*e*P	**P**	**07 34 49.7 -0.5**	
	comp=Z,9.3nm,0.9s,baz=318						
KSH	**Kashi 69.60 314**			P	**P**	**07 34 53.3 +1.5**	
KSH				pP	sP	07 35 05.8 -0.3	
KSH				PcP	**PcP**	**07 35 15.3 +0.6**	
KSH				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MDOK	**Medeo 70.30 318**			*e*P	**P**	**07 34 54.2 -1.9**	
	baz=318						
TNSS	**Tian-Shan 70.32 318**			*e*P	**P**	**07 34 56.1 -0.4**	
	baz=318						
MTBS	**Maitube 70.70 318**			*e*P	**P**	**07 34 56.6 -1.8**	
	baz=318						
KUU	**Kurty 71.07 319**			*e*P	**P**	**07 34 59.5 -1.0**	
	comp=Z,17nm,1.4s,baz=319						
KZA	**Kyzart 71.09 317**			P	**P**	**07 35 02.1 +0.9**	
	SNR=9.9						
ZALV	**Zalesovo Beam 71.09 331**			P	**P**	**07 34 58.8 -1.6**	
	comp=Z,1.2nm,0.4s,baz=104,slow=7.3,SNR=1.7						
ZALV				LR	LR	08 05 04.3	
	comp=Z,101nm,21.9s,baz=136,slow=35						
TKM2	**Tokmak 2 71.18 317**			P	**P**	**07 35 01.2 -0.2**	
	SNR=5.1						
SEM	**Semipalatinsk 71.

comp=Z,117nm,20.1s,baz=58,slow=33
MAW Mawson 80.79 202 P P 07 35 56.0 +0.6
GEYT Alibeck 82.58 309 P P 07 36 05.3 -0.3
comp=Z,53nm,0.8s,baz=61,slow=11,SNR=4.9
GEYT LR LR 08 17 55.5
comp=Z,59nm,19.0s,baz=30,slow=39
ABKAR Akbulak array 83.47 320 P P 07 36 08.3 -1.6
IMAR Indian Mountai 84.85 23 P P 07 36 16.2 -0.4
AKTO Aktyubinsk 84.93 321 P P 07 36 16.1 -1.1
comp=Z,1.6nm,0.6s,baz=84,slow=11,SNR=3.9
MLY Manley 85.75 24 P P 07 36 20.7 -0.4
RND Reindeer 86.09 26 P P 07 36 22.0 -0.9
RND IAmb IAmb 07 36 46.9
comp=Z,6.0nm,1.1s
SCM Sheep Creek Mo 86.39 28 P P 07 36 23.2 -1.2
QSPA South Pole Qui 86.79 180 P P 07 36 27.2 +0.8
KLU Klutina 86.97 28 P P 07 36 26.8 -0.5
KLU IAmb IAmb 07 36 30.5
comp=Z,5.3nm,1.0s
ILAR Eielson Array 87.27 25 P P 07 36 25.7 -2.8
comp=Z,1.7nm,0.7s,baz=258,slow=4.6,SNR=14
ILAR LR LR 08 11 19.2
comp=Z,105nm,20.2s,baz=286,slow=33
VRDI Verde Repeater 88.09 29 P P 07 36 31.9 -0.9
VRDI IAmb IAmb 07 36 49.9
comp=Z,9.8nm,1.3s
BMAR Burnt Mountain 88.75 22 P P 07 36 34.9 -0.7
M27K Edge Creek, AK 89.01 28 P P 07 36 36.8 -0.2
M27K IAmb IAmb 07 36 48.6
comp=Z,4.6nm,0.8s
L27K Beaver Creek, 89.14 27 P P 07 36 37.3 -0.2
L27K IAmb IAmb 07 36 44.9
comp=Z,4.2nm,0.9s
BCAR Beaver Creek A 89.16 27 P P 07 36 37.5 -0.1
K27K Chicken 89.17 26 P P 07 36 38.0 +0.4
K27K IAmb IAmb 07 36 45.2
comp=Z,5.4nm,1.0s
ARCES ARCESS Array B 100.11 340 LR LR 08 25 29.7
comp=Z,100nm,21.6s,baz=65,slow=37
SNAA Sanae 100.77 192 Pdiff Pdif 07 37 32.5 +2.1
SNAA Sanae 100.77 192 P Pdif 07 37 31.7 +1.3
comp=Z,1.0nm,1.0s,baz=139,slow=5.7,SNR=5.9
VNA2 Neumayer--Watz 102.28 192 Pdiff Pdif 07 37 37.6 +0.5
TXAR Lajitas Array 117.64 59 PKP PKPdf 07 42 27.9 -1.1
comp=Z,0.1nm,0.6s,baz=318,slow=1.2,SNR=1.7
TORD Torodi Ar. Bea 133.99 285 PKP PKPdf 07 43 00.0 -0.5
comp=Z,1.1nm,1.0s,baz=43,slow=0.9,SNR=6.2
BBAC Balboa, Cauca 146.54 91 eP PKPdf 07 43 22.9 -0.6
YOTC Yotoco, Valle 147.48 88 eP PKPbc 07 43 26.8 -0.7
CBOC Ciudad Bolivar 147.75 84 eP PKPdf 07 43 24.0 -1.4
CPUP Villa Florida 147.89 157 PKPbc PKPbc 07 43 28.5 +0.4
comp=Z,5.4nm,0.8s,baz=190,slow=3.4,SNR=12
SJCC San Jacinto, C 148.10 76 eP PKPdf 07 43 25.6 -0.2
GUY2C Guyana, Caldas 148.43 85 eP PKPdf 07 43 26.3 -0.6
ZARC Zaragoza, Cauc 148.76 81 eP PKPbc 07 43 29.2 -1.5
NORC Norcasia 148.90 84 eP PKPbc 07 43 30.5 -0.7
LPAZ La Paz 149.13 129 PKPbc PKPbc 07 43 32.9 +0.6
comp=Z,4.9nm,0.7s,baz=252,slow=2.5,SNR=20
LPAZ La Paz 149.13 129 PKiKP 07 43 33.2 -0.3
LPAZ La Paz 149.13 129 eP PKPdf 07 43 29.0 +0.9
PTBC PUERTO BERRIO 149.25 83 eP PKPab 07 43 35.3 -1.2
ROSC El Rosal 149.48 86 PKPbc PKPbc 07 43 32.2 -0.9
comp=Z,9.4nm,0.8s,baz=217,slow=20,SNR=4.1
CHIC Chingaza 150.07 86 eP PKPbc 07 43 32.4 -2.1
RUSC La Rusia 150.66 84 eP PKPbc 07 43 34.4 -1.6

*IDC **19** 07:24:28.1±1.1, 30.37S×71.40W, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.7/27, mbtmp3.7/5, ML3.3/2, MS3.0/1, Ms1 3.0/1, ms1mx2.8/23, Error ellipse: s-maj=50.2km s-min=28.1km az=89.0*
*GUC **19** 07:24:33.6±0.7, 30.24S×71.21W, h55km±2km, ML4.2*
*NEIC **19** 07:24:35.0±1.6, 30.29S±0.02×71.40W±0.08, h41km±8km, mb4.2/6, ML4.2(GUC), Error ellipse: s-maj=10.2km s-min=3.5km az=88.0*
ISC 19 07:24:33.2±1.8, 30.26S±0.03×71.51W±0.10, h29km±12km, n47, σ1°49/54, mb3.9/4, 5C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CO05	La Serena	0.42	34	⇑eP		Pn		07 24 44.0	+0.7
CO05				eS		Sn		07 24 51.3	+1.3
CO05				IAML				07 24 51.8	
	comp=E,33μm,0.4s								
CO05	La Serena	0.42	34			Pn		07 24 44.4	+1.1
CO05				Sn		Sn		07 24 51.2	+1.1
CO06	Fray Jorge	0.42	195			Pn		07 24 45.7	+2.3
GO04	Tololo Observa	0.62	82	⇑eP		Pb		07 24 45.6	-0.1
GO04				eS		Sb		07 24 54.3	0.0
GO04				IAML				07 24 55.6	
	comp=E,40μm,0.4s								
GO04	Tololo Observa	0.62	82			Pb		07 24 46.2	+0.5
GO04				Sn		Sb		07 24 54.5	+0.2
CO03	El Pedregal	0.91	129	⇑eP		Pb		07 24 49.3	-1.2
CO03				eS		Sb		07 25 01.2	-1.1
CO03				IAML				07 25 02.0	
	comp=E,14μm,0.2s								
CO03	El Pedregal	0.91	129			Pb		07 24 50.2	-0.3
CO03				Sn		Sb		07 25 01.4	-0.9
LCO	Las Campanas	1.43	30	⇑eP		Pn		07 24 57.5	-0.1
LCO				eS		Sn		07 25 15.3	-0.2
LCO	Las Campanas	1.43	30			Pn		07 24 57.8	+0.3
AC04	Llanos de Chal	2.09	11	⇑eP		Pn		07 25 07.4	+1.1
AC04				eS		Sn		07 25 33.0	+1.6
AC04	Llanos de Chal	2.09	11	Pn		Pn		07 25 07.6	+1.3
VA06	Catapilco	2.30	176	IAML				07 25 59.0	
	comp=N,2μm,0.4s								
VA03	San Esteban	2.62	162	eP		Pn		07 25 13.8	0.0
VA03				eS		Sn		07 25 46.8	+2.1
VA03				IAML				07 26 00.3	
	comp=N,1μm,0.6s								
VA03	San Esteban	2.62	162			Pn		07 25 13.5	-0.2
ROCH	El Roble	2.73	171	eP		Pn		07 25 11.9	-3.5
ROCH				eS		Sb		07 25 51.5	-3.3
ROCH				IAML				07 26 08.9	
	comp=N,903nm,0.6s								
GO03	Copiap	2.88	23	eP		Pn		07 25 17.7	+0.4
GO03				eS		Sn		07 25 51.1	-0.1
GO03				IAML				07 26 02.2	
	comp=N,480nm,0.5s								
GO03	Copiap	2.88	23	Pn		Pn		07 25 18.8	+1.4
AC06	Mina Casimiro	3.07	20			Pn		07 25 20.9	+1.1
MT05	Renca	3.19	168	eP		Pn		07 25 23.0	+1.5
MT05				eS		Sn		07 26 01.2	+2.6
MT05				IAML				07 26 17.5	
	comp=E,895nm,0.4s								
MT05	Renca	3.19	168			Pn		07 25 21.1	-0.4
MT09	Talagante	3.53	173	eP		Pn		07 25 22.4	-3.8
MT09				iS		Sn		07 26 10.3	+3.2
MT09				IAML				07 26 23.1	
	comp=N,334nm,0.4s								
MT01	Popeta	3.60	177	iP		Pn		07 25 21.6	-5.5
MT01				IAML				07 26 24.1	
	comp=E,226nm,0.3s								
MT01	Popeta	3.60	177	Pn		Pn		07 25 26.8	-0.3
AC02	Maricunga	4.01	32	Pn		Pn		07 25 34.5	+1.3
BO01	Tunca	4.13	175			Pn		07 25 34.6	+0.2
BO02	Sierra Bellavi	4.56	172	Pn		Pn		07 25 40.3	-0.1
GO05	Huala	4.75	184			Pn		07 25 43.3	+0.4
H03N1	Juan Fernandez	7.05	241	T		T		07 33 20.0	
	baz=70,slow=72,SNR=158								
H03N2	Juan Fernandez	7.07	241	T		T		07 33 24.2	
	baz=70,slow=72,SNR=127								
H03N3	Juan Fernandez	7.07	241	T		T		07 33 22.9	
	baz=70,slow=72,SNR=96								
LVC	Limon Verde	7.97	18	Pn		Pn		07 26 27.1	-0.4
	comp=E,0.3nm,0.3s,baz=146,slow=5.5,SNR=2.1								
TRQA	Tornquist	11.07	137	Pn		Pn		07 27 12.6	+2.9
CPUP	Villa Florida	13.09	76	LR		LR		07 33 11.6	
	comp=E,68nm,18.8s,baz=124,slow=40								
LPAZ	La Paz	14.25	13	Pn		Pn		07 27 55.8	+2.0
	comp=E,0.2nm,0.3s,baz=195,slow=6.9,SNR=14								
LPAZ	La Paz	14.25	13			Pn		07 27 54.9	+1.1
SIV	San Ignacio	17.13	36	P		Pn		07 28 31.4	+0.7
	comp=E,0.1nm,0.3s,baz=211,slow=13,SNR=10								
SAML	Samuel	22.59	22	P		P		07 29 31.9	+0.3
RUSC	La Rusia	35.98	357	P		P		07 31 32.9	+0.7
RUSC				IAmb		IAmb		07 31 34.0	
	comp=Z,4.2nm,0.7s								
SNAA	Sanae	54.88	159	P		P		07 33 60.0	-0.8
	comp=Z,1.5nm,1.0s,baz=277,slow=9.9,SNR=7.4								
SNAA	Sanae	54.88	159	P		P		07 33 59.8	-0.9
SNAA				IAmb		IAmb		07 34 01.6	
	comp=Z,2.9nm,1.2s								
QSPA	South Pole Qui	59.96	180	P		P		07 34 36.7	-0.1
TXAR	Lajitas Array	66.73	330	P		P		07 35 22.5	+0.7
	comp=Z,0.2nm,0.6s,baz=156,slow=7.8,SNR=2.8								
TORD	Torodi Ar. Bea	82.52	70	P		P		07 36 51.6	-2.0
	comp=Z,0.5nm,0.7s,baz=246,slow=5.5,SNR=4.6								
WRA	Warramunga Arr	124.23	210	PKP		PKPdf		07 43 28.4	-1.5
	comp=Z,0.3nm,0.8s,baz=161,slow=2.8,SNR=1.6								
KURBB	Kurchatov Arra	149.77	39	PKPbc		PKPbc		07 44 19.2	-0.8
	comp=Z,0.8nm,0.5s,baz=309,slow=3.3,SNR=5.1								
AAK	Ala-Archa	150.19	56	PKPbc		PKPbc		07 44 20.9	-0.6
	comp=Z,2.0nm,0.5s,baz=223,slow=4.8,SNR=6.1								
ZALV	Zalesovo Beam	150.79	29	PKPbc		PKPbc		07 44 21.5	-0.8
	comp=Z,2.4nm,0.5s,baz=304,slow=1.5,SNR=6.7								

*IDC **19** 07:26:09.1±2.8, 1.50N×97.25E, h0km, mb4.2/6, mb1 4.3/7, mb1mx3.8/58, mbtmp4.1/7, ML4.1/1, MS4.1/1, Ms1 4.1/1, ms1mx3.0/45, Error ellipse: s-maj=77.7km s-min=30.6km az=57.0*
ISC 19 07:26:14.1±2.7, 1.6N±0.3×97.4E±0.5, h30km, n14, σ0°42/7, mb4.2/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.84	5	Pn		P		07 30 09.4	-0.3
	0.3nm,0.3s,baz=199,slow=12,SNR=4.6								
H08S2	Diego Garcia H	26.43	249	T		T		07 58 49.8	
	baz=71,slow=75,SNR=469								
H08S3	Diego Garcia H	26.43	249	T		T		07 58 50.2	
	baz=71,slow=75,SNR=588								
H08S1	Diego Garcia H	26.45	249	T		T		07 58 51.3	
	baz=71,slow=75,SNR=318								
BATI	Baumata	28.70	115	LR		LR		07 44 03.3	
	comp=Z,310nm,18.4s,baz=14,slow=37								
H01W3	Cape Leeuwin H	39.54	158	T		T		08 14 57.1	
	baz=333,slow=76,SNR=13								
H01W2	Cape Leeuwin H	39.56	158	T		T		08 15 00.9	
	baz=333,slow=76,SNR=16								
H01W1	Cape Leeuwin H	39.56	158	T		T		08 14 58.2	
	baz=333,slow=76,SNR=11								
WRA	Warramunga Arr	42.11	122	P		P		07 34 03.9	-0.1
	3.8nm,0.9s,baz=313,slow=9.8,SNR=0.9								
KSRS	Korea Array	45.45	35	P		P		07 34 30.1	-0.4
	1.6nm,0.8s,baz=222,slow=8.7,SNR=5.3								
SONM	Songino Array	46.73	8	P		P		07 34 40.8	+0.2
	1.2nm,0.4s,baz=185,slow=8.7,SNR=4.6								
MKAR	Makanchi Array	46.91	346	P		P		07 34 41.8	0.0
	6.3nm,0.9s,baz=164,slow=7.7,SNR=21								
ZALV	Zalesovo Beam	53.20	351	P		P		07 35 29.2	-0.2
	1.6nm,0.3s,baz=158,slow=7.2,SNR=1.9								
KLR	Kul'dur	55.85	27	P		P		07 35 49.4	+0.6
	1.2nm,0.6s,baz=218,slow=12,SNR=3.3								

*NNC **19** 07:26:31.1±0.4, 50.03N×78.69E, h0km, mb3.3, mpv3.1, Error ellipse: s-maj=5.3km s-min=2.1km az=65.0, Suspected Mining explosion.*
ISC 19 07:26:30.5±0.8, 50.09N±0.03×78.67E±0.05, h0km, n23, σ1°30/38, 17C-6D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.50	349	⇑P		Pb		07 26 42.1	-0.1
KUR07				⇓S		Sb		07 26 50.8	+0.6
KUR06	Kurchatov Arra	0.52	349	⇑P		Pb		07 26 42.5	-0.1
KUR06				⇓S		Sb		07 26 51.5	+0.8
KUR14	Kurchatov Arra	0.53	354	⇑P		Pb		07 26 42.3	-0.3
KUR14				⇑S		Sb		07 26 51.0	+0.2
KUR15	Kurchatov Arra	0.53	352	⇑P		Pb		07 26 42.6	-0.1
KUR15				⇑S		Sb		07 26 51.6	+0.6
KURBB	Kurchatov Arra	0.54	350	⇑P		Pb		07 26 42.7	-0.2
	18nm,0.3s								
KURBB				⇑S		Sb		07 26 51.5	+0.3
	77nm,0.8s								
KUR16	Kurchatov Arra	0.55	348	⇓P		Pb		07 26 42.8	-0.3
KUR16				⇓S		Sb		07 26 51.4	-0.1
KUR17	Kurchatov Arra	0.56	347	⇑P		Pb		07 26 43.0	-0.1
KUR17				⇑S		Sb		07 26 52.1	+0.4
KUR05	Kurchatov Arra	0.56	351	⇑P		Pb		07 26 43.0	-0.2
KUR05				⇑S		Sb		07 26 51.6	-0.2
KUR04	Kurchatov Arra	0.58	352	⇑P		Pb		07 26 43.3	-0.3
KUR04				⇑S		Sb		07 26 52.2	-0.1
SEM	Semipalatinsk	1.06	72	P		Pb		07 26 53.1	+1.2
	6.9nm,0.1s								
SEM				S		Sg		07 27 06.0	+1.4
	35nm,0.2s								
MAKZ	Makanchi	3.95	145	P		Pn		07 27 33.3	+0.9
MAKZ				S		Sn		07 28 17.3	-2.2
MAKZ	Makanchi	3.95	145	⇓Pn		Pn		07 27 33.5	+1.1
	1.1nm,0.8s								
MAKZ				⇓Pg		Pb		07 27 42.7	+1.6
	1.8nm,0.6s								
MAKZ				⇑Lg		Lg		07 28 35.4	
	5.2nm,0.6s								
UKR	Ust'-Kan	3.98	75	S		Sn		07 28 20.8	+0.4
MK31	Makanchi Array	4.08	143	⇑Pn		Pn		07 27 34.8	+0.5
	0.1nm,0.2s,baz=321,slow=10,SNR=8.9								
MK31				Pg		Pb		07 27 43.9	+0.6
	0.7nm,0.4s,baz=327,slow=14,SNR=14								
MK31				⇑Lg		Lg		07 28 38.4	
	3.8nm,0.4s,baz=323,slow=28,SNR=17								
MKAR	Makanchi Array	4.08	143	P		Pn		07 27 34.9	+0.6
MKAR				S		Sn		07 28 23.6	+0.9
KAPS	Kapalarasan	4.83	174	Pg		Pb		07 27 59.0	+2.9
	0.9nm,0.2s								
KAPS				Lg		Lg		07 28 59.2	
	5.8nm,0.5s								
ZSN	Zaisan	4.87	120	Pg		Pb		07 27 54.3	-2.4
	3.5nm,0.1s								
ZSN				Lg		Lg		07 28 51.1	
	6.8nm,0.4s								
DGZ	Jazzator, Alta	5.67	91	S		Sn		07 29 01.0	-1.1
AKAR	Aktash	5.75	84	S		Sn		07 29 03.5	-0.4
DJR	Jarkent	5.81	172	Pg		Pg		07 28 17.7	-4.2
	1.5nm,0.2s								
DJR				Lg		Lg		07 29 31.8	
	3.3nm,0.4s								
BRVK	Borovoye	6.01	303	S		Sn		07 29 12.0	+1.7
CUR	Chagan-Uzun	6.23	86	P		Pn		07 28 04.7	+0.9
CUR				S		Sn		07 29 17.4	+1.7
KUU	Kurty	6.40	195	Pg		Pg		07 28 31.5	-1.6
	0.9nm,0.2s								
KUU				Lg		Lg		07 29 54.5	
	4.1nm,0.2s								

*INET **19** 07:42:37.0, 11.68N×86.02W, h214km, MW3.5*
*IDC **19** 07:42:45.8±1.1, 11.47N×86.00W, h174km±11km, mb3.4/4, mb1 3.6/4, mb1mx3.2/34, mbtmp3.9/4, Error ellipse: s-maj=55.7km s-min=16.6km az=43.0*
*UCR **19** 07:42:46.3±1.1, 11.64N×86.00W, h172km±5km, MW3.8*
ISC 19 07:42:46.2±0.9, 11.6N±0.1×86.0W±0.1, h179km±7km, n28, σ0°81/35, mb3.7/4, 2C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HZTE	Horizontes, Gu	0.96	154	eP		Pn		07 43 13.8	+0.3
HZTE				eS		Sn		07 43 35.0	+0.3
BUAI	Buenos Aires	0.97	136	⇑eP		Pn		07 43 13.7	0.0
BUAI				iS		Sn		07 43 34.0	-0.9
GB1A	Borinquen Arri	0.97	141	iP		Pn		07 43 13.7	-0.1
GB1A				iS		Sn		07 43 35.5	+0.4
BUEV	Buena Vista	0.98	142	⇓iP		Pn		07 43 13.9	+0.1
BUEV				iS		Sn		07 43 34.9	-0.3
GUAB	Guayabo de Bag	1.17	138	iP		Pn		07 43 15.3	+0.1
GUAB				iS		Sn		07 43 38.8	+1.2
HORNC	Hornillas	1.20	136	iP		Pn		07 43 15.7	+0.2
COLC	Colonia	1.21	139	iP		Pn		07 43 15.9	+0.3
CUI	Cuipilapa	1.25	137	iP		Pn		07 43 16.1	+0.2
CUI				eS		Sn		07 43 39.8	+1.0
GUAI	GUAI	1.40	159	⇑iP		Pn		07 43 17.5	+0.4
SAJU	San Juanillo,	1.54	169	eP		Pn		07 43 18.6	+0.1
JTS	Las Juntas de	1.66	141	P		Pn		07 43 19.4	-0.3
	12nm,0.3s,baz=357,slow=14,SNR=79								
JTS				S		Sn		07 43 42.5	-3.2
	44nm,0.3s,baz=17,slow=21,SNR=12								
JTS	Las Juntas de	1.66	141	eP		Pn		07 43 19.6	-0.1
CEDE	Laguna Cedeo	1.69	130	⇓iP		Pn		07 43 20.1	0.0
ARE1	Arenal 1	1.69	131	eP		Pn		07 43 20.4	+0.3
GRZA	Playa Garza	1.70	167	eP		Pn		07 43 20.3	+0.2
CASO	Castillo	1.70	132	iP		Pn		07 43 20.3	+0.1
FORC	Fortuna	1.73	130	eP		Pn		07 43 20.6	+0.2
INDI	Punta indio, G	1.78	163	eP		Pn		07 43 21.1	+0.2
LAFE	Finca La Fe, P	2.07	148	eP		Pn		07 43 24.3	+0.2
SRA1	San Ramn	2.12	134	eP		Pn		07 43 26.1	+1.4
JACO	JACO, Garabito	2.33	145	eP		Pn		07 43 27.5	+0.6
TGUH	Tegucigalpa,Un	2.75	334	eP		Pn		07 43 31.7	-0.2
PCRV	Puerto La Cruz	21.05	92	P		P		07 47 16.8	+0.3
	4.4nm,0.5s,baz=268,slow=5.8,SNR=1.9								
TXAR	Lajitas Array	24.13	320	P		P		07 47 47.5	+1.6
	0.6nm,0.7s,baz=134,slow=11,SNR=11								
SIV	San Ignacio	36.88	137	P		P		07 49 37.1	-0.7
	5.4nm,0.5s,baz=317,slow=9.7,SNR=37								
NVAR	Mina Array Bea	39.27	318	P		P		07 49 57.3	-0.5
	0.3nm,0.6s,baz=122,slow=7.7,SNR=3.8								
MKAR	Makanchi Array	120.95	9	PKP		PKPdf		08 01 17.4	-0.1
	0.1nm,0.5s,baz=327,slow=2.4,SNR=1.6								
WRA	Warramunga Arr	140.36	253	PKP		PKPdf		08 01 54.8	0.0
	0.4nm,0.7s,baz=103,slow=2.3,SNR=5.1								

IDC 19 07:43:28.5±1.2, 2.76S×139.27E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.6/29, mbtmp3.6/5, ML3.6/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/27, Error ellipse: s-maj=28.5km s-min=14.4km az=160.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAY	Jayapura	1.46	80	Pg		Pn		07 43 55.0	-1.1
	4.8nm,0.3s,baz=222,slow=12,SNR=11								
JAY				Lg		Lg		07 44 14.9	
	12nm,0.3s,baz=332,slow=23,SNR=7.7								
WRA	Warramunga Arr	17.75	195	P		Pn		07 47 36.0	-1.2
	0.2nm,0.3s,baz=13,slow=13,SNR=14								
WRA				S		Sn		07 50 46.8	-8.8
	0.0nm,0.3s,baz=12,slow=25,SNR=1.8								
FITZ	Fitzroy Crossi	20.27	220	P		P		07 48 05.8	0.0
	1.7nm,0.9s,baz=45,slow=10.0,SNR=1.8								
ASAR	Alice Springs	21.42	194	P		P		07 48 18.4	+0.1
	0.4nm,0.4s,baz=25,slow=9.0,SNR=13								
MJAR	Matsushiro Arr	39.11	359	LR		LR		08 06 42.0	
	comp=Z,61nm,18.2s,baz=185,slow=36								
MKAR	Makanchi Array	70.17	322	P		P		07 54 43.0	-0.1
	0.5nm,0.6s,baz=111,slow=7.7,SNR=6.2								
VNDA	Vanda	75.68	175	P		P		07 55 15.8	+0.6
	0.4nm,0.8s,baz=326,slow=7.4,SNR=4.0								

*RHSSO **19** 07:48:46.5±0.8, 42.19N×19.75E, h7km±3km, ML2.2/7*
*PDG **19** 07:48:47.3±0.1, 42.21N×19.60E, h23km, MD2.6/2, ML2.3/13, Error ellipse: s-maj=0.3km s-min=0.2km az=90.0*
*BEO **19** 07:48:48.2±0.4, 42.25N×19.64E, h12km±4km, ML1.9/8*
*TIR **19** 07:48:48.3, 42.23N×19.70E, h25km±9km, Md2.4, Ml2.2*
ISC 19 07:48:46.8±0.9, 42.25N±0.02×19.69E±0.02, h15km±7km, n43, σ1°11/80, 12C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PUK	Puka	0.26	144	P		Pb		07 48 53.8	+0.6
	baz=141								
PUK				S		Sg		07 48 58.5	+2.3
	baz=141								
PUK				AMP					
	comp=E,3.7nm,0.1s,baz=141								
BCI	Bajram Curri	0.30	68	P		Pn		07 48 55.4	-1.4
	baz=63								
BCI				S		Sb		07 49 00.7	+1.9
	baz=63								
BCI				AMP					
	comp=N,1.6nm,0.2s,baz=63								
PDG	Podgorica	0.37	299	⇓iPg		Pb		07 48 54.7	-0.3
PDG				eSg		Sb		07 49 00.9	+0.3
PDG	Podgorica	0.37	299	ePg		Pb		07 48 54.8	-0.3
PDG				eSg		Sb		07 49 00.9	+0.3
TTG	Podgorica	0.37	299	⇑iPg		Pb		07 48 54.7	-0.3
TTG				iSg		Sb		07 49 00.8	+0.2
DRME	Dracevica, Mon	0.38	260	⇑iPg		Pg		07 48 54.2	-0.3
DRME				eSg		Sb		07 49 00.3	-0.7
DRME	Dracevica, Mon	0.38	260	⇑iPg		Pg		07 48 54.2	-0.3
DRME				iSg		Sg		07 48 59.9	+0.1
PVY	Plav	0.40	30	⇓iPg		Pg		07 48 56.7	-1.5
PVY				iSg		Sb		07 49 04.9	+3.2
ULC	Ulcinj	0.44	229	⇑iPg		Pg		07 48 54.9	-0.7
ULC				iSg		Sb		07 49 01.5	-1.2
BUM	Brajici-Budva	0.59	275	⇑iPg		Pg		07 48 57.9	-0.6
BUM				iSg		Sg		07 49 06.5	+0.1
KOME	Kolasin	0.61	348	⇑iPg		Pn		07 48 59.9	-1.2
KOME				iSg		Sn		07 49 10.1	-0.7
IVA	Berane	0.64	14	⇑iPg		Pn		07 49 00.8	-0.7
IVA				iSg		Sn		07 49 12.3	+0.8
CEME	Cevo	0.64	298	⇓iPg		Pg		07 48 58.9	-0.5
CEME				iSg		Sb		07 49 09.0	+0.4
NKME	Niksic	0.75	314	⇓iPg		Pb		07 49 01.2	-0.4
NKME				iSg		Sb		07 49 12.9	+1.2
PHP	Peshkopia	0.80	135	P		Pn		07 49 03.4	-0.2
	baz=134								
PHP				S		Sn		07 49 15.0	-0.3
	baz=134								
PHP				AMP					
	comp=N,0.3nm,0.2s,baz=134								
HCY	Herceg Novi	0.91	283	ePg		Pg		07 49 03.4	-0.9
HCY				eSg		Sn		07 49 17.6	-0.4
HCY	Herceg Novi	0.91	283	⇑iPg		Pg		07 49 03.5	-0.9
HCY				iSg		Sn		07 49 17.5	-0.4
TIR	Tirane	0.91	172	P		Pn		07 49 05.8	+0.7
	baz=

h2km±10km, Error ellipse: s-maj=2.2km s-min=0.5km az=74.0

ISC 19 07:50:03.3±1.1, 36°28N±0°02×97°52W±0°03, h6km±11km, n65, σ0§48/39, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.44**	**301**		**Pg**	**07 50 11.9**	**+0.2**
CROK				Sg	**Sg**	**07 50 18.2**	**+0.7**
OK029	**Liberty Lake**	**0.49**	**174**		**Pg**	**07 50 12.7**	**0.0**
OK029				Sg	**Sg**	**07 50 19.4**	**+0.4**
BLOK	**Blackwell**	**0.54**	**27**		**Pg**	**07 50 13.7**	**+0.1**
BLOK				Sg	**Sg**	**07 50 21.1**	**+0.5**
BCOK	**Bluff Creek, N**	**0.63**	**187**	Pg	**Pg**	**07 50 15.2**	**-0.2**
GC02	**Grant County #**	**0.63**	**334**		**Pg**	**07 50 15.3**	**-0.2**
OK031	**S. Brethren Rd**	**0.64**	**121**		**Pg**	**07 50 15.2**	**-0.3**
QUOK	**Quay**	**0.66**	**99**		**Pg**	**07 50 15.8**	**-0.2**
OK025	**Westminster Rd**	**0.71**	**168**		**Pg**	**07 50 16.8**	**-0.2**
KAN13	**South Haven SW**	**0.73**	**2**		**Pg**	**07 50 17.2**	**-0.1**
KAN14	**Manchester OK**	**0.76**	**332**	Pg	**Pg**	**07 50 17.8**	**-0.2**
OK032	**Salt Plains WL**	**0.76**	**313**		**Pg**	**07 50 17.7**	**-0.3**
KAN17	**Caldwell West**	**0.79**	**345**		**Pg**	**07 50 18.1**	**-0.3**
KAN09	**Caldwell North**	**0.86**	**354**		**Pg**	**07 50 19.5**	**-0.3**
OKCFA	**Oklahoma City**	**0.87**	**177**	Pg	**Pg**	**07 50 19.4**	**-0.4**
OKCFA	**Oklahoma City** baz=357	**0.87**	**177**	P	**Pg**	**07 50 19.5**	**-0.4**
KAN05	**Bluff City Nor**	**0.87**	**341**	Pg	**Pg**	**07 50 19.8**	**-0.3**
OKCSW	**OKLAHOMA CITY**	**0.88**	**176**		**Pg**	**07 50 19.7**	**-0.4**
KAN08	**Anthony NE Sta**	**1.01**	**339**		**Pg**	**07 50 22.4**	**-0.3**
T35A	**Sooner Cattle**	**1.03**	**52**		**Pg**	**07 50 22.7**	**-0.3**
T35B	**Sooner Cattle** baz=232	**1.03**	**52**	P	**Pg**	**07 50 22.5**	**-0.5**
T35B				S	**Sg**	**07 50 35.9**	**-0.4**
FNO	**Franklin**	**1.03**	**175**		**Pg**	**07 50 22.4**	**-0.6**
KAN16	**Harper SW Stat**	**1.04**	**335**		**Pg**	**07 50 23.0**	**-0.3**
KAN12	**Harper NE Stat**	**1.08**	**339**		**Pg**	**07 50 23.6**	**-0.6**
U32A	**Winter Ranch,**	**1.20**	**275**		**Pg**	**07 50 25.6**	**-0.8**
U32A	**Winter Ranch,** baz=94	**1.20**	**275**	P	**Pg**	**07 50 25.6**	**-0.8**
TUL1	**Leonard** baz=285	**1.44**	**104**	P	**Pn**	**07 50 29.1**	**-0.8**
WMOK	**Wichita Mounta** baz=34	**1.85**	**214**	P	**Pn**	**07 50 35.9**	**+0.2**
WMOK				S	**Sb**	**07 51 00.9**	**-0.1**
R32A	**Long Quarter,** baz=156	**2.34**	**336**	S	**Sn**	**07 51 12.1**	**+0.7**
X37A	**Clayton**	**2.43**	**133**	Pn	**Pn**	**07 50 43.7**	**+0.1**
X37A	**Clayton** baz=315	**2.43**	**133**	P	**Pn**	**07 50 44.2**	**+0.7**
KSU1	**Kansas State U**	**2.90**	**14**	Pn	**Pn**	**07 50 49.4**	**-0.7**
Z35A	**Perchaven, San**	**2.95**	**176**	Pn	**Pn**	**07 50 50.3**	**-0.4**
W39A	**Magazine** comp=Z,28nm,0.7s	**3.22**	**109**	IAmb_Lg		07 51 51.6	
MIAR	**Mount Ida** baz=300	**3.65**	**117**	P	**Pn**	**07 51 01.3**	**+0.9**
Z38A	**Mt. Pleasant** comp=Z,20nm,0.8s	**3.66**	**145**	IAmb_Lg		07 52 05.7	
AMTX	**Amarillo** comp=Z,16nm,1.1s	**3.67**	**249**	IAmb_Lg		07 52 04.2	
U40A	**Yellville** comp=Z,19nm,0.8s	**3.77**	**87**	IAmb_Lg		07 52 03.7	
X40A	**Basin Creek Fa**	**4.22**	**114**	Pn	**Pn**	**07 51 08.4**	**+0.2**
MGMO	**Mountain Grove** comp=Z,26nm,0.8s	**4.30**	**77**	IAmb_Lg		07 52 31.0	
WHAR	**Wooly Hollow** comp=Z,22nm,0.9s	**4.36**	**102**	IAmb_Lg		07 52 25.9	
FCAR	**Ozark Folk Cen** comp=Z,36nm,0.8s	**4.38**	**94**	IAmb_Lg		07 52 29.0	
WLAR	**White Oak Lake** comp=Z,13nm,0.8s	**4.45**	**124**	IAmb_Lg		07 52 33.0	
P38A	**Dawn** comp=Z,15nm,0.7s	**4.59**	**42**	IAmb_Lg		07 52 31.1	
R40A	**Maddies Statio** comp=Z,21nm,0.7s	**4.64**	**63**	IAmb_Lg		07 52 28.0	
N35A	**Tabor** comp=Z,20nm,0.8s	**4.80**	**17**	IAmb_Lg		07 52 41.6	
LCAR	**Lake Charles** comp=Z,16nm,0.9s	**5.15**	**90**	IAmb_Lg		07 52 51.5	
T42A	**Van Buren** comp=Z,16nm,0.9s	**5.22**	**80**	IAmb_Lg		07 52 57.4	
CCM	**Cathedral Cave** comp=Z,28nm,1.0s	**5.31**	**69**	IAmb_Lg		07 53 06.4	
P40A	**Paris** comp=Z,16nm,0.8s	**5.40**	**51**	IAmb_Lg		07 53 10.1	
N38A	**Joes South For** comp=Z,11nm,0.7s	**5.62**	**35**	IAmb_Lg		07 53 09.7	
PBMO	**Poplar Bluff** comp=Z,17nm,0.8s	**5.73**	**83**	IAmb_Lg		07 53 06.5	
L34A	**Svendsen Farm,** comp=Z,19nm,0.7s	**5.75**	**9**	IAmb_Lg		07 53 16.0	
FVM	**French Village** comp=Z,29nm,1.0s	**5.91**	**71**	IAmb_Lg		07 53 20.6	
JCT	**Junction City** comp=Z,11nm,1.0s	**6.09**	**199**	IAmb_Lg		07 53 21.1	
143A	**Socs Landing,** comp=Z,9.7nm,0.9s	**6.18**	**124**	IAmb_Lg		07 53 36.5	
SCIA	**State Center** comp=Z,16nm,0.7s	**6.54**	**29**	IAmb_Lg		07 53 36.7	
SIUC	**Southern Illin** comp=Z,25nm,0.8s	**6.79**	**75**	IAmb_Lg		07 53 45.3	
W45A	**Hickory Valley** comp=Z,22nm,1.0s	**6.87**	**97**	IAmb_Lg		07 53 51.8	
P43A	**Skaggs, Pawnee** comp=Z,21nm,1.0s	**7.15**	**60**	IAmb_Lg		07 54 02.5	
L40A	**Anamosa** comp=Z,13nm,1.0s	**7.56**	**38**	IAmb_Lg		07 54 21.7	
O44A	**Mansfield** comp=Z,14nm,0.7s	**8.10**	**59**	IAmb_Lg		07 54 39.9	
SUSD	**Miller** comp=Z,7.9nm,0.7s	**8.22**	**353**	IAmb_Lg		07 54 44.9	
JFWS	**Jewell Farm** comp=Z,11nm,0.9s	**8.68**	**38**	IAmb_Lg		07 54 37.5	
P46A	**Rosedale** comp=Z,18nm,0.9s	**8.80**	**65**	IAmb_Lg		07 54 55.9	
WCI	**Wyandotte Cave** comp=Z,12nm,0.9s	**9.16**	**74**	IAmb_Lg		07 55 02.6	

IDC 19 07:54:06.4±4.6, 5°90S×151°61E, h0km, mb3.0/2, mb1 3.4/2, mb1mx3.2/33, mbtmp3.1/2, Error ellipse: s-maj=204.3km s-min=57.0km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=54,slow=10.0,SNR=1.1	**21.83**	**229**	P	P	07 59 00.4	-0.2
ASAR	**Alice Springs** 0.5nm,0.7s,baz=52,slow=9.8,SNR=4.6	**24.55**	**222**	P	P	07 59 28.4	+0.3
TORD	**Torodi Ar. Bea** 0.3nm,0.7s,baz=65,slow=4.1,SNR=1.8	**149.49**	**286**	PKPbc	PKPbc	08 13 58.1	-0.7

*IDC **19** 08:05:01.1±1.1, 30°44S×72°63W, h0km, mb4.0/4, mb1 4.3/8, mb1mx4.0/23, mbtmp4.1/8, ML4.1/4, Error ellipse: s-maj=32.1km s-min=27.4km az=102.0*
*NEIC **19** 08:05:02.5±2.4, 30°49S±0°03×72°61W±0°08, h10km±1km, mb4.3/7, ML4.0(GUC), Error ellipse: s-maj=11.0km s-min=4.9km az=265.0*
*GUC **19** 08:05:03.2±0.3, 30°40S×72°65W, h40km±3km, ML4.0*
*VAO **19** 08:05:04.4±0.4, 30°55S×72°57W, h10km, mb4.2*

ISC 19 08:05:02.4±1.9, 30°44S±0°04×72°64W±0°06, h7km±11km, n85, σ1§70/91, mb4.3/6, 5C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.90**	**105**	⇑*i*P	**Pg**	**08 05 19.8**	**+0.1**
CO06				*e*S	**Sg**	**08 05 30.5**	**-0.9**
CO06	**Fray Jorge**	**0.90**	**105**		**Pg**	**08 05 19.9**	**+0.1**
CO06				Sn	**Sb**	**08 05 31.8**	**-0.8**
CO05	**La Serena**	**1.32**	**67**	⇑*i*P	**Pn**	**08 05 26.1**	**-1.2**
CO05				*e*S	**Sb**	**08 05 43.3**	**-1.4**
CO05				IAML		08 05 44.1	
CO05	**La Serena** comp=E,8µm,0.4s	**1.32**	**67**	Pn	**Pn**	**08 05 26.1**	**-1.2**
CO05				Sn	**Sb**	**08 05 43.5**	**-1.3**
GO04	**Tololo Observa**	**1.61**	**81**	*e*P	**Pn**	**08 05 31.1**	**-0.5**
GO04				*e*S	**Sn**	**08 05 52.1**	**-0.8**
GO04	**Tololo Observa**	**1.61**	**81**		**Pn**	**08 05 31.2**	**-0.4**
GO04				Sn	**Sb**	**08 05 52.8**	**-0.7**
CO03	**El Pedregal**	**1.73**	**104**	⇑*i*P	**Pn**	**08 05 32.6**	**-0.4**
CO03				*e*S	**Sn**	**08 05 52.0**	**-3.5**
CO03				IAML		08 05 55.4	
	comp=N,1µm,0.3s						
CO03	**El Pedregal**	**1.73**	**104**	Pn	**Pn**	**08 05 32.6**	**-0.4**
CO03				Sn	**Sn**	**08 05 53.6**	**-1.9**
LCO	**Las Campanas**	**2.21**	**50**	*e*P	**Pn**	**08 05 39.0**	**-0.8**
LCO	**Las Campanas**	**2.21**	**50**		**Pn**	**08 05 39.6**	**-0.2**
VA06	**Catapilco**	**2.41**	**152**	⇑*i*P	**Pn**	**08 05 40.8**	**-1.5**
VA06				*e*S	**Sn**	**08 06 07.4**	**-4.7**
VA06				IAML		08 06 11.6	
	comp=N,1µm,0.6s						
AC04	**Llanos de Chal**	**2.61**	**32**	⇓*i*P	**Pn**	**08 05 43.0**	**-2.1**
AC04				*e*S	**Sn**	**08 06 12.7**	**-4.5**
AC04				IAML		08 06 14.1	
	comp=N,710nm,0.5s						
AC04	**Llanos de Chal**	**2.61**	**32**	Pn	**Pn**	**08 05 43.4**	**-1.8**
VA01	**Torpederas**	**2.71**	**162**		**Pn**	**08 05 44.8**	**-1.7**
ROCH	**El Roble**	**2.88**	**152**	*e*P	**Pn**	**08 05 47.7**	**-1.4**
ROCH				IAML		08 06 24.6	
	comp=N,316nm,0.4s						
VA03	**San Esteban**	**2.92**	**143**	⇑*i*P	**Pn**	**08 05 49.1**	**-0.4**
VA03				IAML		08 06 23.5	
	comp=N,483nm,0.3s						
VA03	**San Esteban**	**2.92**	**143**		**Pn**	**08 05 49.0**	**-0.5**
VA05	**Santo Domingo**	**3.33**	**165**	*e*P	**Pn**	**08 05 52.9**	**-2.1**
VA05	**Santo Domingo**	**3.33**	**165**		**Pn**	**08 05 52.8**	**-2.1**
MT05	**Renca**	**3.36**	**152**		**Pn**	**08 05 54.3**	**-1.2**
GO03	**Copiap**	**3.53**	**37**	*e*P	**Pn**	**08 05 56.8**	**-1.0**
GO03				*e*S	**Sn**	**08 06 37.4**	**-2.6**
GO03				IAML		08 06 40.2	
	comp=N,303nm,0.3s						
ZON	**Zonda**	**3.58**	**109**	Pn	**Pn**	**08 06 00.7**	**+2.3**
MT09	**Talagante**	**3.61**	**158**	Pn	**Pn**	**08 05 58.3**	**-0.7**
MT01	**Popeta**	**3.61**	**161**	*e*P	**Pn**	**08 05 57.0**	**-1.9**
MT01				IAML		08 06 37.8	
	comp=E,144nm,0.3s						
MT01	**Popeta**	**3.61**	**161**	Pn	**Pn**	**08 05 57.5**	**-1.3**
AC06	**Mina Casimiro**	**3.67**	**34**	Pn	**Pn**	**08 05 59.3**	**-0.4**
BO01	**Tunca**	**4.16**	**162**		**Pn**	**08 06 04.8**	**-1.5**
GO05	**Huala**	**4.60**	**173**		**Pn**	**08 06 10.4**	**-2.0**
BO02	**Sierra Bellavi**	**4.62**	**161**	Pn	**Pn**	**08 06 12.3**	**-0.5**
LC01	**Cunco**	**8.46**	**176**	Pn	**Pn**	**08 07 03.6**	**-1.8**
LVC	**Limon Verde** comp=E,1.7nm,0.3s,baz=188,slow=7.1,SNR=4.3	**8.48**	**24**	Pn	**Pn**	**08 07 03.8**	**-2.3**
LVC				Sn	**Sn**	**08 08 36.9**	**-5.5**
	comp=E,0.6nm,0.3s,baz=291,slow=20,SNR=2.1						
PLCA	**Paso Flores** comp=E,0.6nm,0.3s,baz=336,slow=12,SNR=11	**10.41**	**171**	Pn	**Pn**	**08 07 31.1**	**-1.1**
PLCA	**Paso Flores**	**10.41**	**171**	Pn	**Pn**	**08 07 30.8**	**-1.4**
PLCA	**Paso Flores**	**10.41**	**171**	*e*P	**Pn**	**08 07 30.8**	**-1.4**
TRQA	**Tornquist**	**11.64**	**134**	*e*P	**Pn**	**08 07 49.5**	**+0.5**
ITQB	**Itaqui**	**13.90**	**91**	*e*P	**Pn**	**08 08 20.9**	**+1.1**
LPAZ	**La Paz** comp=E,0.3nm,0.3s,baz=194,slow=6.4,SNR=21	**14.68**	**17**	Pn	**Pn**	**08 08 30.0**	**-1.2**
LPAZ	**La Paz**	**14.68**	**17**	Pn	**Pn**	**08 08 29.4**	**-1.8**
PLTB	**Pedras Altas**	**16.36**	**100**	*e*P	**Pn**	**08 08 52.1**	**-0.6**
CPSB	**Cacapava Do Su**	**16.57**	**95**	*e*P	**Pn**	**08 08 55.7**	**+0.4**
SIV	**San Ignacio** comp=E,0.4nm,0.3s,baz=232,slow=11,SNR=45	**17.86**	**39**	P	**Pn**	**08 09 10.7**	**-1.0**
AQDB	**Aquidauana**	**18.21**	**61**	*e*P	**P**	**08 09 17.2**	**+1.1**
CNLB	**Canela**	**18.93**	**92**	*e*P	**Pn**	**08 09 25.1**	**+0.5**
PTGB	**Pitanga**	**19.10**	**78**	*e*P	**Pn**	**08 09 27.1**	**+0.3**
PTLB	**Pontes e Lacer**	**19.39**	**43**	*e*P	**Pn**	**08 09 31.1**	**+0.9**
TER01	**Tubaro-SC**	**20.55**	**91**	*e*P	**P**	**08 09 42.4**	**+0.7**
PP1B	**Ponte de Pedra**	**20.62**	**56**	*e*P	Pn	**08 09 43.8**	**-1.0**
VILB	**Vilma**	**20.86**	**36**	*e*P	**P**	**08 09 45.7**	**+0.6**
PCMB	**Pacaembu**	**21.10**	**70**	*e*P	**P**	**08 09 48.2**	**+0.5**
SALV	**Santo Antonio**	**21.22**	**51**	*e*P	**P**	**08 09 49.9**	**+0.9**
ETMB	**Extrema**	**21.38**	**18**	*e*P	**P**	**08 09 51.8**	**+1.2**
TIJ01	**Guaruva-PR**	**21.49**	**82**	*e*P	**P**	**08 09 53.5**	**+1.5**
CZSB	**Cruzeiro do Su**	**22.59**	**360**	*e*P	**P**	**08 10 06.9**	**+3.2**
ITRB	**Iturama**	**22.80**	**67**	*e*P	**P**	**08 10 06.2**	**+0.2**
SAML	**Samuel**	**23.14**	**24**	P	**P**	**08 10 09.5**	**+0.1**
SAML	**Samuel**	**23.14**	**24**	*e*P	**P**	**08 10 10.9**	**+1.5**
PET01	**Itanhaem-SP**	**23.32**	**81**	*e*P	**P**	**08 10 12.9**	**+1.6**
SPB	**Sao Paulo**	**23.44**	**79**	*e*P	**P**	**08 10 13.0**	**+0.5**
BB19B	**Bebedouro**	**23.60**	**72**	*e*P	**P**	**08 10 16.8**	**+2.6**
VAO	**Valinhos**	**24.07**	**78**	*e*P	**P**	**08 10 20.0**	**+1.4**
CLDB	**Colider**	**24.98**	**42**	*e*P	**P**	**08 10 29.0**	**+2.1**
PARB	**Paraibuna**	**25.08**	**80**	*e*P	**P**	**08 10 29.1**	**+1.3**
IPMB	**Ipameri, GO**	**25.43**	**66**	*e*P	**P**	**08 10 32.1**	**+1.0**
TBTG	**Tabatinga, AM**	**26.24**	**6**	*e*P	**P**	**08 10 41.2**	**+2.9**
BSCB	**Bom Sucesso**	**26.75**	**76**	*e*P	**P**	**08 10 44.5**	**+1.5**
BDFB	**Brasilia** comp=E,2.7nm,0.7s,baz=250,slow=7.9,SNR=5.3	**26.94**	**62**	P	**P**	**08 10 44.6**	**-0.2**
BDFB	**Brasilia** comp=Z,8.1nm,1.1s	**26.94**	**62**	IAmb	IAmb	08 10 56.5	
SNDB	**Serra Nova Dou**	**27.00**	**52**	*e*P	**P**	**08 10 47.8**	**+2.6**
NPGB	**Novo Progresso**	**28.36**	**38**	*e*P	**P**	**08 11 00.0**	**+2.6**
MC01	**Montes Claros**	**29.54**	**69**	*e*P	**P**	**08 11 09.0**	**+1.0**
JANB	**Januaria**	**30.16**	**66**	*e*P	**P**	**08 11 14.8**	**+1.3**
SMTB	**Santa Maria do**	**31.75**	**53**	*e*P	**P**	**08 11 29.9**	**+2.4**
NBIT	**Itapeh - BA**	**34.15**	**71**	*e*P	**P**	**08 11 50.2**	**+1.8**
RUSC	**La Rusia**	**36.13**	**359**	P	**P**	**08 12 07.3**	**+1.4**
SNAA	**Sanae**	**55.07**	**159**	P	**P**	**08 14 34.8**	**+0.1**
SNAA	comp=Z,5.1nm,1.1s			IAmb	IAmb	08 14 36.5	
QSPA	**South Pole Qui** comp=Z,4.4nm,1.2s	**59.79**	**180**	P	**P**	**08 15 08.3**	**+0.2**
QSPA				IAmb	IAmb	08 15 16.7	
TXAR	**Lajitas Array** comp=Z,1.0nm,0.7s,baz=152,slow=8.4,SNR=14	**66.39**	**331**	P	**P**	**08 15 52.4**	**+0.1**
PDAR	**Pinedale Array** comp=Z,0.3nm,0.6s,baz=163,slow=6.6,SNR=2.5	**80.36**	**333**	P	**P**	**08 17 14.5**	**-0.1**
TORD	**Torodi Ar. Bea** comp=Z,1.8nm,0.9s,baz=267,slow=4.5,SNR=6.9	**83.50**	**71**	P	**P**	**08 17 31.9**	**+0.4**
TORD	**Torodi Ar. Bea** comp=Z,1.8nm,0.8s	**83.50**	**71**	IAmb	IAmb	08 17 34.2	
WRA	**Warramunga Arr** comp=Z,0.7nm,1.0s,baz=146,slow=2.2,SNR=2.9	**123.58**	**211**	PKP	**PKPdf**	**08 23 59.8**	**-1.6**
H11S2	**WAKE ISLAND Hyd** baz=116,slow=75,SNR=31	**25.22**	**272**	T	T	10 40 33.9	
H11S1	**WAKE ISLAND Hyd** baz=116,slow=75,SNR=28	**25.24**	**272**	T	T	10 40 34.7	
H11S3	**WAKE ISLAND Hyd** baz=116,slow=75,SNR=28	**25.24**	**272**	T	T	10 40 35.2	
ZALV	**Zalesovo Beam** comp=Z,2.5nm,0.6s,baz=287,slow=2.5,SNR=7.6	**151.41**	**28**	PKPbc	**PKPbc**	**08 24 56.7**	**+0.1**

MEX 19 08:07:49.2±0.9, 17°76N×101°23W, h61km±10km, MD3.7, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UON	**La Union**	**0.59**	**290**	*i* P	Pn	08 08 02.4	+0.1
UON				*i* S	Sn	08 08 11.8	0.0
ARIG	**Puente Sto Nin**	**0.99**	**58**	*i* P	Pn	08 08 05.3	-1.8
ARIG				*e*S	Sn	08 08 18.5	-2.0
MEIG	**Mezcala**	**1.54**	**84**	*e*P	Pn	08 08 13.7	-0.9
MEIG				*i* S	Sn	08 08 32.8	-0.9
DAIG	**Los Arroyos**	**1.68**	**116**	*i* P	Pn	08 08 14.6	-1.8
DAIG				*e*S	Sn	08 08 35.1	-1.9

*NNC **19** 08:12:00.1±1.1, 42°25N×71°55E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=12.0km s-min=3.5km az=11.0*
*KRNET **19** 08:12:03.0±0.1, 42°37N×71°67E, h14km, mb3.2*
*SOME **19** 08:12:04.4, 42°53N×71°78E, h5km*

ISC 19 08:12:01.7±1.1, 42°38N±0°03×71°71E±0°02, h8km±10km, n61, σ1§31/95, 28C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZA	**Taraz** baz=34	**0.59**	**331**	*e*P	**Pb**	**08 12 14.2**	**0.0**
DZA				*e*S	**Sg**	**08 12 21.9**	**+1.2**
DZA	**Taraz** 402nm,0.2s	**0.59**	**331**	*e*P	**Pb**	**08 12 14.2**	**0.0**
DZA				*e*S	**Sg**	**08 12 21.9**	**+1.2**
DZA	**Taraz** 402nm,0.2s	**0.59**	**331**	P	**Pb**	**08 12 14.2**	**0.0**
DZA	1µm,0.3s			S	**Sg**	**08 12 21.9**	**+1.2**
MNAS	**Manas** baz=79	**0.59**	**79**	⇑*e*P	**Pb**	**08 12 15.0**	**+0.6**
MNAS	baz=79			⇑*i*S	**Sb**	**08 12 23.5**	**+0.5**
TRKS	**Terek-Say** baz=2.0	**0.95**	**207**	⇑*i*P	**Pn**	**08 12 21.1**	**-0.3**
TRKS	baz=2.0			⇑*i*S	**Sn**	**08 12 35.0**	**-0.2**
KK31	**Karatay Array** 5.1nm,0.2s,baz=128,slow=18,SNR=77	**1.14**	**310**	P	**Pb**	**08 12 23.1**	**-0.6**
KK31	15nm,0.3s,baz=124,slow=29,SNR=18			S	**Sb**	**08 12 38.0**	**-0.8**
MRKS	**Merke** baz=72	**1.18**	**71**	*e*P	**Pg**	**08 12 25.8**	**+1.6**
MRKS				*e*S	**Sn**	**08 12 41.5**	**+0.7**
MRKS	**Merke** 11nm,0.2s	**1.18**	**71**	*e*P	**Pg**	**08 12 25.8**	**+1.6**
MRKS	73nm,0.1s			*e*S	**Sn**	**08 12 41.5**	**+0.7**
MRKS	**Merke** 11nm,0.2s	**1.18**	**71**	P	**Pg**	**08 12 25.8**	**+1.6**
MRKS	73nm,0.1s			S	**Sn**	**08 12 41.5**	**+0.7**
AML	**Almayashu** baz=98	**1.49**	**99**	⇑*i*P	**Pg**	**08 12 31.4**	**+1.1**
AML	baz=98			⇑*i*S	**Sg**	**08 12 51.9**	**+2.2**
AML	**Almayashu** SNR=23	**1.49**	**99**	P	**Pg**	**08 12 32.2**	**+1.9**
EKS2	**Erkin-Say** baz=79	**1.55**	**79**	⇑*i*P	**Pg**	**08 12 32.4**	**+1.0**
EKS2	baz=79			⇑*i*S	**Sg**	**08 12 53.2**	**+1.6**
EKS2	**Erkin-Say** SNR=17	**1.55**	**79**	P	**Pg**	**08 12 32.8**	**+1.3**
ARLS	**Aral** baz=4.0	**2.01**	**104**	⇑*i*P	**Pg**	**08 12 40.0**	**-0.2**
ARLS	baz=4.0			⇑*i*S	**Sg**	**08 13 06.2**	**0.0**
OHH	**Osh** baz=55	**2.02**	**156**	⇑*i*P	**Pg**	**08 12 39.8**	**-0.6**
OHH	baz=55			⇑*i*S	**Sg**	**08 13 05.9**	**-0.7**
UCH	**Uchtor** baz=93	**2.08**	**93**	⇓*i*P	**Pg**	**08 12 41.0**	**-0.6**
UCH	baz=93			⇓*i*S	**Sg**	**08 13 08.5**	**-0.1**
UCH	**Uchtor** SNR=14	**2.08**	**93**	P	**Pg**	**08 12 42.3**	**+0.7**
FRU1	**Bishkek** baz=77	**2.20**	**78**	⇑*e*P	**Pb**	**08 12 42.1**	**+0.4**
FRU1	baz=77			⇑*i*S	**Sb**	**08 13 10.5**	**+1.5**
USP	**Ospenovka** baz=66	**2.23**	**66**	⇑*e*P	**Pb**	**08 12 42.6**	**+0.3**
USP	baz=66			⇑*i*S	**Sb**	**08 13 11.6**	**+1.5**
USP	**Ospenovka** SNR=8.8	**2.23**	**66**	P	**Pb**	**08 12 42.9**	**+0.6**
CHMS	**Chumysh** SNR=8.5	**2.32**	**74**	P	**Sg**	**08 13 17.1**	**+0.8**
SGDS	**Sogindy** 3.2nm,0.1s	**2.40**	**62**	Pg	**Pg**	**08 12 47.6**	**0.0**
SGDS	50nm,0.2s			Lg	Lg	08 13 18.6	
KBK	**Karagaybulak** baz=82	**2.41**	**82**	⇑*i*P	**Pb**	**08 12 45.5**	**+0.2**
KBK	baz=82			⇑*i*S	**Sb**	**08 13 16.1**	**+0.9**
KBK	**Karagaybulak** SNR=9.6	**2.41**	**82**	P	**Pg**	**08 12 46.9**	**-0.9**
BTK	**Batken** baz=96	**2.42**	**197**	⇑*i*P	**Pb**	**08 12 44.8**	**-0.6**
BTK	baz=96			⇑*i*S	**Sb**	**08 13 15.2**	**-0.1**
KZA	**Kyzart** baz=95	**2.64**	**95**	⇑*i*P	**Pb**	**08 12 48.8**	**-0.7**
KZA	baz=95			⇑*i*S	**Sb**	**08 13 22.2**	**0.0**
KZA	**Kyzart** SNR=8.7	**2.64**	**95**	P	**Pg**	**08 12 51.5**	**-0.8**
TKM2	**Tokmak 2** baz=78	**2.92**	**78**	⇓*e*P	**Pb**	**08 12 52.8**	**-1.2**
TKM2	baz=78			⇓*i*S	**Sb**	**08 13 28.4**	**-1.5**
TKM2	**Tokmak 2** SNR=10	**2.92**	**78**	P	**Pb**	**08 12 54.6**	**+0.6**
TKM2	**Tokmak 2** 2.5nm,0.4s	**2.92**	**78**	⇑Pn	**Pb**	**08 12 51.8**	**-2.2**
TKM2	14nm,0.3s			⇓Lg	Lg	08 13 35.9	
DGS	**Degeres** 5.1nm,0.2s	**3.11**	**73**	*e*P	**Pg**	**08 13 00.6**	**-0.6**
DGS	36nm,0.4s			*e*S	**Sg**	**08 13 40.6**	**-0.9**
DGS	**Degeres** 5.1nm,0.2s	**3.11**	**73**	Pg	**Pg**	**08 13 00.6**	**-0.6**
DGS	36nm,0.4s			Lg	Lg	08 13 40.7	
BOOM	**Boomskoye usch** baz=86	**3.13**	**87**	⇑*i*P	**Pb**	**08 12 55.2**	**-2.5**
BOOM	baz=86			⇑*i*S	**Sb**	**08 13 33.4**	**-2.6**
BTLS	**Baital** 3.1nm,0.3s	**3.15**	**32**	*e*P	**Pg**	**08 13 00.6**	**-1.5**
BTLS	23nm,0.4s			*e*S	**Sg**	**08 13 40.7**	**-2.2**
BTLS	**Baital** 3.1nm,0.3s	**3.15**	**32**	Pg	**Pg**	**08 13 00.6**	**-1.5**
BTLS	23nm,0.4s			Lg	Lg	08 13 40.7	
KRBS	**Karabastau** 6.8nm,0.2s	**3.19**	**64**	*e*P	**Pg**	**08 13 01.9**	**-0.8**
KRBS	25nm,0.2s			*e*S	**Sg**	**08 13 42.7**	**-1.3**
KRBS	**Karabastau** 6.8nm,0.2s	**3.19**	**64**	Pg	**Pg**	**08 13 01.9**	**-0.8**
KRBS	25nm,0.2s			Lg	Lg	08 13 42.7	
KST	**Kastek** 9.3nm,0.3s	**3.20**	**77**	*e*P	**Pg**	**08 13 02.4**	**-0.6**
KST	30nm,0.5s			*e*S	**Sg**	**08 13 43.6**	**-0.9**
KST	**Kastek** 9.3nm,0.3s	**3.20**	**77**	Pg	**Pg**	**08 13 02.4**	**-0.6**
KST	30nm,0.5s			Lg	Lg	08 13 43.6	
MTBS	**Maitube** 4.8nm,0.2s	**3.55**	**76**	*e*P	**Pg**	**08 13 09.0**	**-0.7**
MTBS	15nm,0.2s			*e*S	**Sg**	**08 13 55.0**	**-0.7**
MTBS	**Maitube** 4.8nm,0.2s	**3.55**	**76**	Pg	**Pg**	**08 13 09.0**	**-0.7**
MTBS	15nm,0.2s			Lg	Lg	08 13 55.0	
IZV	**Izvestkoviy** 11nm,0.3s	**3.67**	**78**	*e*P	**Pg**	**08 13 10.6**	**-1.4**
IZV	19nm,0.3s			*e*S	**Sg**	**08 13 58.0**	**-1.5**
IZV	**Izvestkoviy** 11nm,0.3s	**3.67**	**78**	Pg	**Pg**	**08 13 10.6**	**

MDOK					Lg	Lg	08 14 09.8		
	12nm,0.3s								
KOTS	**Kotyrbulak**	**4.06**	**76**	*e*P	**Pg**	**Pg**	**08 13 18.5**	**-1.0**	
	4.5nm,0.4s								
KOTS				*e*S	**Sg**	**Sg**	**08 14 11.7**	**-0.4**	
	17nm,0.5s								
KOTS	**Kotyrbulak**	**4.06**	**76**	Pg	**Pg**	**Pg**	**08 13 18.5**	**-1.0**	
	4.5nm,0.4s								
KOTS				Lg	Lg	Lg	08 14 11.7		
	17nm,0.5s								
UZB	**Uzynbulak**	**5.43**	**79**	*e*P	**Pg**	**Pg**	**08 13 43.9**	**-1.8**	
	2.7nm,0.3s								
UZB				*e*S	**Sg**	**Sg**	**08 14 55.3**	**-0.9**	
	3.0nm,0.3s								
UZB	**Uzynbulak**	**5.43**	**79**	Pg	**Pg**	**Pg**	**08 13 43.9**	**-1.8**	
	2.7nm,0.3s								
UZB				Lg	Lg	Lg	08 14 55.3		
	3.0nm,0.3s								
PDGK	**Podgornoye**	**5.79**	**78**	Pg	**Pg**	**Pg**	**08 13 51.2**	**-1.4**	
	0.8nm,0.4s								
PDGK				Lg	Lg	Lg	08 15 07.8		
	1.6nm,0.4s								
PDGK	**Podgornoye**	**5.79**	**78**	⇑Pg	**Pg**	**Pg**	**08 13 50.4**	**-2.2**	
	2.1nm,0.9s								
PDGK				⇑Lg	Lg	Lg	08 15 08.1		
	6.3nm,0.7s								
KAPS	**Kapalarasan**	**6.25**	**60**	*e*P	**Pg**	**Pg**	**08 13 58.8**	**-2.5**	
	4.1nm,1.1s								
KAPS				*e*S	**Sg**	**Sg**	**08 15 20.1**	**-2.0**	
	7.5nm,0.4s								
KAPS	**Kapalarasan**	**6.25**	**60**	Pg	**Pg**	**Pg**	**08 13 58.7**	**-2.5**	
	4.1nm,1.1s								
KAPS				Lg	Lg	Lg	08 15 20.1		
	7.5nm,0.4s								
MK31	**Makanchi Array**	**8.74**	**56**	Pn	**Pn**	**Pn**	**08 14 11.3**	**+3.0**	
	0.5nm,0.5s,baz=240,slow=13,SNR=19								
MK31				⇑Lg	Lg	Lg	08 16 42.2		
	1.5nm,0.6s								

IDC 19 08:22:48.0±3.4, 5°96S×151°45E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/36, mbtmp3.7/3, Error ellipse: s-maj=107.4km s-min=48.7km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.68**	**229**	P	P	08 27 40.6	0.0
	0.7nm,0.5s,baz=54,slow=10,SNR=12						
ASAR	**Alice Springs**	**24.39**	**222**	P	P	08 28 08.3	0.0
	1.1nm,0.6s,baz=55,slow=9.1,SNR=17						
FITZ	**Fitzroy Crossi**	**27.93**	**242**	P	P	08 28 40.3	0.0
	1.1nm,0.5s,baz=57,slow=8.9,SNR=10						
TORD	**Torodi Ar. Bea**	**149.36**	**286**	PKPbc	PKPbc	08 42 39.5	-0.6
	0.8nm,0.7s,baz=73,slow=2.8,SNR=5.5						

MEX 19 08:23:44.0±0.5, 15°42N×96°53W, h16km±14km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEIG	**Puerto Escondi**	**0.83**	**314**	*e*P	Pb	08 24 56.9	-3.1
PEIG				*i* S	Sb	08 24 07.0	-3.9
VHO	**Vista Hermosa**	**1.66**	**353**	*e*P	Pn	08 24 09.4	-3.1
VHO				*e*S	Sn	08 24 28.5	-5.2
PNIG	**Pinotepa**	**1.82**	**302**	*i* P	Pn	08 24 11.6	-3.0
PNIG				*i* S	Sn	08 24 33.0	-4.3
TXIG	**Tlaxiaco**	**2.18**	**327**	*e*P	Pn	08 24 16.6	-3.3
TXIG				*e*S	Sn	08 24 42.7	-3.9
CMIG	**Matias Romero**	**2.29**	**43**	*e*P	Pn	08 24 18.0	-3.2
CMIG				*e*S	Sn	08 24 44.3	-4.8

*MOS **19** 08:23:47.5±0.0, 42°16N×46°02E, h18km, MPVA3.6*
*NORS **19** 08:23:49.6±0.0, 42°13N×46°04E, h18km, MPVA3.4*
*TIF **19** 08:23:49.9, 42°20N×45°73E, h12km±3km*
*DRS **19** 08:23:50.8±0.0, 42°18N×46°03E, h15km*
ISC 19 08:23:49.8±1.0, 42°18N±0°02×45°99E±0°02, h17km±9km, n39, σ1°970/75, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.52**	**19**	*e*Pg	**Pg**	**08 23 59.8**	**-0.4**
BTLR				*e*Sg	**Sb**	**08 24 07.4**	**-0.3**
XNZR	**Khunzakh**	**0.64**	**55**	*e*Pg	**Pg**	**08 24 02.0**	**-0.5**
XNZR				*e*Sg	**Sb**	**08 24 11.0**	**-0.4**
DDFL	**Dedoflistskaro**	**0.73**	**173**	P	**Pb**	**08 24 03.8**	**-0.3**
DDFL				S	**Sn**	**08 24 18.5**	**+2.4**
GNBR	**Gunib**	**0.75**	**73**	*i* Pg	**Pb**	**08 24 03.8**	**-0.6**
GNBR				*e*Sg	**Sg**	**08 24 14.6**	**+0.1**
DVE	**Vedeno**	**0.79**	**7**	*e*Pg	**Pb**	**08 24 04.4**	**-0.6**
DVE				*e*Sg	**Sg**	**08 24 16.2**	**+0.5**
UNCR	**Uncukul**	**0.80**	**48**	*e*Pg	**Pb**	**08 24 04.7**	**-0.5**
UNCR				*e*Sg	**Sg**	**08 24 16.2**	**+0.2**
KMKR	**Kumukh**	**0.82**	**93**	*i* Pg	**Pb**	**08 24 05.2**	**-0.5**
KMKR				*i* Sg	**Sn**	**08 24 17.4**	**-1.2**
ARKR	**Arakani**	**0.86**	**60**	*e*Pg	**Pb**	**08 24 05.7**	**-0.5**
ARKR				*e*Sg	**Sn**	**08 24 18.1**	**-1.1**
DGRG	**David-gareji**	**0.86**	**213**	P	**Pb**	**08 24 05.7**	**-0.5**
DGRG				S	**Sn**	**08 24 19.8**	**+0.5**
KRNR	**Karanay**	**0.94**	**46**	*e*Pg	**Pb**	**08 24 07.4**	**-0.3**
KRNR				*e*Sg	**Sg**	**08 24 20.3**	**-0.2**
DLMR	**Dylym**	**1.01**	**28**	*e*Pg	**Pg**	**08 24 10.6**	**+1.2**
DLMR				*e*Sg	**Sn**	**08 24 23.6**	**+0.7**
BTNK	**Botanikuri**	**1.02**	**242**	P	Pb	08 24 03.0	-5.9
GROC	**Groznyy**	**1.04**	**352**	*e*Pg	**Pg**	**08 24 10.1**	**+0.2**
GROC				*e*Sg	**Sn**	**08 24 25.3**	**+1.7**
DBC	**Dubki**	**1.05**	**36**	*i* Pg	**Pn**	**08 24 09.4**	**-0.3**
DBC				*e*Sg	**Sn**	**08 24 24.4**	**+0.5**
BUJR	**Buynaksk**	**1.05**	**51**	*e*Pg	**Pg**	**08 24 09.8**	**-0.3**
BUJR				*e*Sg	**Sn**	**08 24 25.3**	**+1.4**
PNSH	**Pansheti**	**1.12**	**295**	P	**Pn**	**08 24 08.3**	**-2.5**
PNSH				S	**Sn**	**08 24 21.4**	**-3.6**
GUDG	**Gudauri**	**1.16**	**285**	P	Pn	08 24 04.7	-6.7
GUDG				S	**Sb**	**08 24 18.6**	**-7.7**
MTEO	**Meteo**	**1.19**	**296**	P	**Pn**	**08 24 10.6**	**-1.4**
MTEO				S	**Sb**	**08 24 23.9**	**-3.5**
KMGR	**Komgaron**	**1.21**	**317**	*e*Pg	**Pg**	**08 24 13.4**	**+0.2**
KMGR				*e*Sg	**Sg**	**08 24 31.3**	**+2.2**
LACR	**Lac**	**1.41**	**298**	*e*Pg	**Pn**	**08 24 14.2**	**-0.6**
LACR				*e*Sg	**Sn**	**08 24 31.1**	**-1.9**
KZRT	**Kazreti**	**1.43**	**237**	P	**Pn**	**08 24 13.7**	**-1.2**
KZRT				S	**Sn**	**08 24 32.4**	**-0.9**
AKT	**Akhty**	**1.47**	**118**	*e*Pg	**Pn**	**08 24 15.6**	**+0.1**
AKT				*e*Sg	**Sb**	**08 24 35.2**	**+0.1**
TRLG	**Trialeti**	**1.55**	**246**	P	**Pn**	**08 24 15.8**	**-0.9**
TRLG				S	**Sn**	**08 24 36.4**	**0.0**
DMNI	**Dmanisi**	**1.59**	**239**	P	**Pn**	**08 24 16.3**	**-0.9**
DMNI				S	**Sn**	**08 24 37.0**	**-0.4**
BTKR	**Batakoyurt**	**1.60**	**319**	*e*Pg	**Pb**	**08 24 19.6**	**+0.7**
BTKR				*e*Sg	**Sg**	**08 24 42.3**	**+0.8**
ARNR	**Ardon**	**1.61**	**309**	*e*Pg	**Pb**	**08 24 19.9**	**+0.9**
ARNR				*e*Sg	**Sg**	**08 24 41.5**	**-0.3**
KORR	**Kora**	**1.69**	**303**	*e*Pg	**Pn**	**08 24 14.5**	**-4.0**
KORR				*e*Sg	**Sb**	**08 24 42.8**	**+1.5**
BRNG	**Burnasheti**	**1.71**	**252**	P	**Pn**	**08 24 18.7**	**-0.2**
BRNG				S	**Sn**	**08 24 41.5**	**+1.1**
BKRG	**Bakuriani**	**1.89**	**258**	P	**Pn**	**08 24 22.1**	**+0.8**
BKRG				S	**Sn**	**08 24 46.2**	**+1.4**
DIGR	**Digorskoe uzhe**	**1.92**	**293**	*e*Pg	**Pn**	**08 24 23.6**	**+1.7**
DIGR				*e*Sg	**Sn**	**08 24 47.6**	**+1.9**
ONI	**Oni**	**1.93**	**283**	P	**Pn**	**08 24 22.9**	**+1.1**
ONI				S	**Sn**	**08 24 47.6**	**+2.0**
ONI	**Oni**	**1.93**	**283**	*e*Pg	**Pn**	**08 24 23.0**	**+1.3**
ONI				*e*Sg	**Sn**	**08 24 47.2**	**+1.6**
AKH	**Akhalkalaki**	**2.02**	**249**	P	**Pn**	**08 24 23.6**	**+0.5**
AKH				S	**Sn**	**08 24 49.0**	**+1.0**
TKB	**Tkibuli**	**2.23**	**276**	P	**Pn**	**08 24 27.5**	**+1.6**
TKB				S	**Sb**	**08 24 56.2**	**-0.7**
GNI	**Garni**	**2.23**	**205**	*e*Pn	**Pn**	**08 24 27.6**	**+1.5**
GNI				*e*Sn	**Sb**	**08 24 57.8**	**+0.7**
ABS	**Abastumani**	**2.41**	**261**	P	**Pn**	**08 24 29.1**	**+0.6**
ABS				S	**Sb**	**08 25 00.9**	**-1.2**
NEY	**Neytrino**	**2.64**	**295**	*e*Pn	**Pb**	**08 24 36.1**	**-0.5**
NEY				*e*Sn	**Sb**	**08 25 07.4**	**-1.3**
KBZ	**Khabaz**	**2.75**	**305**	*e*Pn	**Pn**	**08 24 36.1**	**+3.1**
KBZ				*e*Sn	**Sb**	**08 25 09.7**	**-2.1**
SHA1	**Shidzhatmaz**	**2.90**	**304**	*e*Pn	**Pn**	**08 24 38.6**	**+3.2**
SHA1				*e*Sn	**Sn**	**08 25 12.1**	**+2.1**

MEX 19 08:25:46.3±0.9, 14°89N×92°13W, h103km±11km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.13**	**279**	*e*P	Pn	08 25 59.4	-1.2
THIG				*e*S	Sn	08 26 10.1	-1.3
PCIG		**1.33**	**308**	*e*P	Pn	08 26 13.8	+3.2
PCIG				*e*S	Sn	08 26 28.9	-0.2

*BJI **19** 08:31:22.7±0.0, 30°03S×72°65W, h5km, mB5.4/12, Ms5.5/10, Ms7 5.4/10*
*NEIC **19** 08:31:24.1, 30°15S×71°90W, h10km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.17; $M_{\theta\theta}$0.02; $M_{\phi\phi}$-1.19; $M_{r\theta}$-0.22; $M_{\theta\phi}$-0.00; $M_{r\phi}$-1.05; Fault plane solution: $M_0$1.59000×10^{17} NP1:ϕ_s187.89000°, δ66.31000°, λ96.30000°. NP2:ϕ_s352.52000°, δ24.47000°, λ75.95000°. Principal axes: T 1.5947, Plg68.0000°; Azm110.0000°; N -0.0031, Plg6.0000°, Azm5.0000°; P -1.5916, Plg21.0000°, Azm273.0000°;*
*IDC **19** 08:31:24.9±0.5, 30°15S×71°90W, h0km, mb4.8/13, mb1 4.8/18, mb1mx4.7/31, mbtmp4.7/18, ML4.4/5, MS4.9/14, Ms1 4.9/14, ms1mx4.7/26 Error ellipse: s-maj=20.6km s-min=13.9km az=86.0*
*NEIC **19** 08:31:24.6±1.3, 30°10S±0°05×72°23W±0°05, h8km±1km, mb5.4/52, Ms_20 5.0/168, Mwb5.4/48, Mwr5.3/45, Mww5.4, ML5.2(GUC), Error ellipse: s-maj=8.2km s-min=6.4km az=212.0*
*GUC **19** 08:31:25.0±0.8, 30°16S×72°14W, h45km±7km, ML5.3*
*NEIC **19** 08:31:25.8, 30°11S×72°17W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.89; $M_{\theta\theta}$0.03; $M_{\phi\phi}$-0.92; $M_{r\theta}$0.02; $M_{\theta\phi}$-0.05; $M_{r\phi}$-0.69; Fault plane solution: $M_0$1.14000×10^{17} NP1:ϕ_s180.10000°, δ63.62000°, λ87.48000°. NP2:ϕ_s5.77000°, δ26.50000°, λ95.07000°. Principal axes: T 1.1215, Plg71.0000°, Azm85.0000°; N 0.0290, Plg2.0000°, Azm181.0000°; P -1.1505, Plg19.0000°, Azm272.0000°;*
*VAO **19** 08:31:27.4±0.3, 30°10S×71°90W, h10km, mb5.1*
*GCMT **19** 08:31:29.6±0.1, 30°26S±0°01×72°30W±0°01, h14km, MW5.4/138, Moment Tensor Solution. s107,c166; s138,c254; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}1.11±.02; $M_{\theta\theta}$0.02±.01; $M_{\phi\phi}$-1.14±.02; $M_{r\theta}$0.01±.03; $M_{\theta\phi}$-0.00±.01; $M_{r\phi}$-0.99±.05; Best double couple: $M_0$1.49900×10^{17} NP1:ϕ_s0.00000°, δ24.00000°, λ91.00000°. NP2:ϕ_s180.00000°, δ66.00000°, λ90.00000°. Principal axes: T 1.4840, Plg69.0000°, Azm89.0000°; N 0.0240, Plg0.0000°, Azm180.0000°; P -1.5140, Plg21.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **19** 08:31:29, 30°31S×72°13W, h26km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.60; $M_{\theta\theta}$-0.00; $M_{\phi\phi}$-1.60; $M_{r\theta}$0.40; $M_{\theta\phi}$0.02; $M_{r\phi}$-0.68; Fault plane solution: $M_0$1.79000×10^{17} NP1:ϕ_s11.00000°, δ34.00000°, λ110.00000°. NP2:ϕ_s167.00000°, δ58.00000°, λ77.00000°. Principal axes: T 1.8241, Plg74.0000°, Azm42.0000°; N -0.0782, Plg11.0000°, Azm174.0000°; P -1.7459, Plg12.0000°, Azm267.0000°;*
*MOS **19** 08:31:29.9±1.3, 30°17S×71°62W, h33km, mb5.2/11 Error ellipse: s-maj=16.2km s-min=12.8km az=69.7*
ISC 19 08:31:26.8±0.3, 30°18S±0°03×72°14W±0°03, h10km, n591, σ25°00/520, mb5.3/38, MS5.0/102, 10C-8D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.66**	**139**	*e*P	**Pg**	**08 31 38.7**	**-0.9**
CO06	**Fray Jorge**	**0.66**	**139**	Pg	**Pg**	**08 31 39.2**	**-0.3**
CO06				Sg	**Sb**	**08 31 49.0**	**-0.6**
CO05	**La Serena**	**0.82**	**72**	*i* P	**Pg**	**08 31 41.3**	**-1.2**
CO05				*e*S	**Sg**	**08 31 53.4**	**+0.2**
CO05				IAML		08 31 58.2	
	comp=E,93μm,0.4s						
CO05	**La Serena**	**0.82**	**72**		**Pg**	**08 31 41.3**	**-1.2**
CO05				Sg	**Sg**	**08 31 53.1**	**-0.2**
GO04	**Tololo Observa**	**1.16**	**90**	*e*P	**Pb**	**08 31 46.6**	**-2.4**
GO04	**Tololo Observa**	**1.16**	**90**		**Pb**	**08 31 48.1**	**-0.9**
GO04					**Sn**	**08 32 06.5**	**+1.3**
CO03	**El Pedregal**	**1.41**	**118**	*e*P	**Pn**	**08 31 50.8**	**-1.9**
CO03				*e*S	**Sb**	**08 32 09.4**	**-2.0**
CO03				IAML		08 32 15.6	
	comp=N,93μm,0.9s						
CO03	**El Pedregal**	**1.41**	**118**	Pn	**Pn**	**08 31 52.1**	**-0.6**
LCO	**Las Campanas**	**1.71**	**47**	P	**Pn**	**08 31 55.3**	**-1.5**
LCO	**Las Campanas**	**1.71**	**47**	⇑P	**Pn**	**08 31 55.0**	**-1.8**
LCO	**Las Campanas**	**1.71**	**47**		**Pn**	**08 31 55.3**	**-1.5**
LCO	**Las Campanas**	**1.71**	**47**	*i* P	**Pn**	**08 31 55.0**	**-1.8**
LCO				IAML		08 32 26.6	
	comp=E,114μm,0.9s						
AC04	**Llanos de Chal**	**2.17**	**26**	⇑*i* P	Pn	08 32 00.1	-2.9
AC04	**Llanos de Chal**	**2.17**	**26**		**Pn**	**08 32 00.7**	**-2.3**
AC04	**Llanos de Chal**	**2.17**	**26**	*i* P	Pn	08 32 00.0	-3.0
AC04				IAML		08 32 47.6	
	comp=E,4μm,1.6s						
AROD	**Rodeo**	**2.31**	**90**	*i* P	**Pn**	**08 32 06.0**	**+0.9**
VA06	**Catapilco**	**2.48**	**163**	*e*P	**Pn**	**08 32 05.6**	**-1.6**
VA06				IAML		08 32 46.8	
	comp=E,16μm,0.4s						
ACDV	**Cuesta del Vie**	**2.61**	**91**	*i* P	**Pn**	**08 32 11.0**	**+1.8**
ACDV				IAML		08 32 52.5	
	comp=Z,4μm,1.1s						
ACCO	**Cerro Coronel**	**2.68**	**100**	*i* P	**Pn**	**08 32 13.0**	**+2.7**
VA01	**Torpederas**	**2.87**	**172**	*e*P	**Pn**	**08 32 10.5**	**-2.1**
VA01	**Torpederas**	**2.87**	**172**		**Pn**	**08 32 11.7**	**-0.9**
VA01	**Torpederas**	**2.87**	**172**	*i* P	**Pn**	**08 32 11.0**	**-1.6**
VA01				IAML		08 33 05.1	
	comp=Z,2μm,1.2s						
VA03	**San Esteban**	**2.91**	**153**	*i* P	**Pn**	**08 32 12.7**	**-0.6**
VA03				IAML		08 33 03.6	
	comp=N,11μm,0.7s						
VA03	**San Esteban**	**2.91**	**153**		**Pn**	**08 32 13.3**	**0.0**
RTLS	**Leoncito**	**2.92**	**124**	*i* P	**Pn**	**08 32 16.0**	**+2.4**
RTLS				IAML		08 33 05.0	
	comp=Z,2μm,1.1s						
ROCH	**El Roble**	**2.95**	**161**	*e*P	**Pn**	**08 32 12.7**	**-1.2**
ROCH				IAML		08 33 09.9	
	comp=E,4μm,0.5s						
GO03	**Copiap**	**3.06**	**33**	Pn	**Pn**	**08 32 14.7**	**-0.7**
GO03	**Copiap**	**3.06**	**33**	*i* P	**Pn**	**08 32 14.0**	**-1.3**
AUSP	**Usapallata**	**3.12**	**132**	*i* P	**Pn**	**08 32 18.0**	**+1.7**
AC06	**Mina Casimiro**	**3.21**	**30**		**Pn**	**08 32 15.9**	**-1.5**
AGUA	**GUANDACOL**	**3.24**	**79**	*i* P	**Pn**	**08 32 20.0**	**+2.2**
AGUA				IAML		08 33 25.2	
	comp=Z,2μm,1.1s						
ZON	**Zonda**	**3.27**	**116**	*i* P	**Pn**	**08 32 20.0**	**+1.8**
ZON				IAML		08 33 14.6	
	comp=Z,3μm,1.7s						
MT05	**Renca**	**3.42**	**160**		**Pn**	**08 32 19.9**	**-0.3**
MT05	**Renca**	**3.42**	**160**	*i* P	**Pn**	**08 32 20.0**	**-0.3**
VA05	**Santo Domingo**	**3.50**	**173**	*e*P	**Pn**	**08 32 18.9**	**-2.3**
VA05				IAML		08 33 37.5	
	comp=E,5μm,0.3s						
VA05	**Santo Domingo**	**3.50**	**173**		**Pn**	**08 32 20.2**	**-1.0**
RTCV	**Cerro Valdivia**	**3.51**	**119**	*i* P	**Pn**	**08 32 24.0**	**+2.5**
RTCV				IAML		08 33 20.5	
	comp=Z,2μm,3.4s						
ASAL	**Salagasta**	**3.71**	**131**	*i* P	**Pn**	**08 32 27.0**	**+2.8**
ASAL				IAML		08 33 27.9	
	comp=Z,2μm,2.2s						
VCA	**Vinchina**	**3.71**	**68**	*i* P	**Pn**	**08 32 27.0**	**+2.6**
VCA				IAML		08 33 41.3	
	comp=Z,4μm,1.1s						
MT09	**Talagante**	**3.72**	**165**	⇑*i* P	**Pn**	**08 32 23.5**	**-0.9**
MT09				IAML		08 33 25.3	
	comp=N,4μm,0.8s						
MT09	**Talagante**	**3.72**	**165**		**Pn**	**08 32 24.4**	**0.0**
MT01	**Popeta**	**3.75**	**169**		**Pn**	**08 32 23.9**	**-0.8**
MT01	**Popeta**	**3.75**	**169**	*i* P	**Pn**	**08 32 24.0**	**-0.8**
MT01				IAML		08 33 39.6	
	comp=Z,1μm,0.9s						
ARCO	**CERRO ARCO**	**3.81**	**135**	*i* P	**Pn**	**08 32 29.0**	**+3.3**
ARCO				IAML		08 33 30.4	
	comp=Z,4μm,1.9s						
AAGR	**Agrelo**	**4.04**	**137**	*i* P	**Pn**	**08 32 32.0**	**+3.1**
AAGR				IAML		08 33 59.6	
	comp=Z,2μm,2.5s						

AVFE	**Valle Fertil**	**4.07**	**98**	*i* P	**Pn**	**08 32 30.0**	**+0.8**
AVFE				IAML		08 33 39.1	
	comp=Z,3μm,1.6s						
AC02	**Maricunga**	**4.25**	**39**	Pn	**Pn**	**08 32 31.3**	**-0.7**
AC02	**Maricunga**	**4.25**	**39**	*i* P	**Pn**	**08 32 31.0**	**-1.0**
AC02				IAML		08 33 50.2	
	comp=Z,2μm,1.1s						
BO01	**Tunca**	**4.30**	**168**		**Pn**	**08 32 31.7**	**-0.5**
BO01	**Tunca**	**4.30**	**168**	*i* P	**Pn**	**08 32 31.0**	**-1.2**
BO01				IAML		08 34 09.7	
	comp=Z,1μm,1.6s						
BO02	**Sierra Bellavi**	**4.74**	**166**	Pn	**Pn**	**08 32 38.0**	**-0.4**
BO02	**Sierra Bellavi**	**4.74**	**166**	*i* P	**Pn**	**08 32 38.0**	**-0.4**
BO02				IAML		08 34 06.1	
	comp=Z,2μm,0.8s						
ACHE	**Chepes**	**4.81**	**103**	*i* P	**Pn**	**08 32 40.0**	**+0.5**
GO05	**Huala**	**4.82**	**178**	*i* P	**Pn**	**08 32 37.0**	**-2.5**
COIS	**El Sosneado**	**5.37**	**157**	*i* P	**Pn**	**08 32 48.0**	**+1.1**
RFA	**San Rafael**	**5.53**	**147**	*i* P	**Pn**	**08 32 50.0**	**+0.7**
RFA				IAML		08 34 35.1	
	comp=Z,889nm,1.4s						
ML02	**Panimavida**	**5.60**	**174**	Pn	**Pn**	**08 32 48.6**	**-1.6**
PB14	**IPOC Station P**	**5.74**	**16**		Pn	08 32 48.4	-4.0
PB14	**IPOC Station P**	**5.74**	**16**	*i* P	Pn	08 32 48.0	-4.3
PB14				IAML		08 34 38.3	
	comp=Z,754nm,1.1s						
CYA	**Choya**	**5.79**	**74**	*i* P	**Pn**	**08 32 53.0**	**+0.2**
CYA				IAML		08 34 14.8	
	comp=Z,2μm,1.3s						
H03N1	**Juan Fernandez**	**6.62**	**239**	T	T	08 40 13.5	
	baz=71,slow=72,SNR=222						
H03N2	**Juan Fernandez**	**6.64**	**239**	T	T	08 40 10.9	
	baz=71,slow=72,SNR=196						
H03N3	**Juan Fernandez**	**6.64**	**239**	T	T	08 40 06.7	
	baz=71,slow=72,SNR=159						
PB10	**IPOC Station P**	**6.78**	**12**		Pn	08 33 03.1	-3.4
PB10	**IPOC Station P**	**6.78**	**12**	*i* P	**Pn**	**08 33 04.0**	**-2.4**
PB10				IAML		08 35 08.3	
	comp=Z,204nm,1.6s						
AHML	**Horco Molle**	**6.87**	**62**	*i* P	**Pn**	**08 33 09.0**	**+1.3**
AHML				IAML		08 35 15.8	
	comp=Z,382nm,2.4s						
PB15	**IPOC Station P**	**7.34**	**20**		Pn	08 33 10.9	-3.3
PB05	**IPOC Station P**	**7.50**	**14**	*i* P	Pn	08 33 11.0	-5.3
PB05				IAML		08 35 21.3	
	comp=Z,245nm,1.3s						
PB06	**IPOC Station P**	**7.79**	**18**		Pn	08 33 15.6	-4.7
PB04	**IPOC Station P**	**8.01**	**13**		Pn	08 33 18.4	-5.0
PB04	**IPOC Station P**	**8.01**	**13**	*i* P	Pn	08 33 18.0	-5.4
PB04				IAML		08 35 30.3	
	comp=Z,186nm,0.9s						
AF01	**San Pedro de A**	**8.02**	**27**		Pn	08 33 20.2	-3.5
LVC	**Limon Verde**	**8.07**	**22**	Pn	Pn	08 33 20.2	-4.2
	comp=Z,1.3nm,0.3s,baz=168,slow=8.7,SNR=21						
LVC				Sn	Sn	08 34 49.6	-6.3
	comp=Z,6.3nm,0.3s,baz=212,slow=19,SNR=1.8						
LVC	**Limon Verde**	**8.07**	**22**	P	Pn	08 33 20.5	-3.9
LVC	**Limon Verde**	**8.07**	**22**		Pn	08 33 20.5	-3.9
LVC	**Limon Verde**	**8.07**	**22**	*e*P	**Pn**	**08 33 23.1**	**-1.3**
LVC	**Limon Verde**	**8.07**	**22**	*i* P	**Pn**	**08 33 22.0**	**-2.4**
LVC				IAML		08 35 28.4	
	comp=Z,151nm,3.3s						
PB03	**IPOC Station P**	**8.37**	**15**	*i* P	Pn	08 33 25.0	-3.4
PB03				IAML		08 35 42.3	
	comp=Z,159nm,2.9s						
PB07	**IPOC Station P**	**8.65**	**14**		Pn	08 33 27.1	-5.1
LC01	**Cunco**	**8.70**	**179**	Pn	**Pn**	**08 33 30.6**	**-2.1**
LC01	**Cunco**	**8.70**	**179**	*i* P	**Pn**	**08 33 30.0**	**-2.7**
LC01				IAML		08 35 48.5	
	comp=Z,67nm,2.4s						
PB09	**IPOC Station P**	**8.74**	**18**		Pn	08 33 29.2	-4.2
PB02	**IPOC Station P**	**9.05**	**13**	*i* P	Pn	08 33 35.0	-2.6
PB02				IAML		08 35 37.9	
	comp=Z,73nm,1.0s						
PB01	**IPOC Station P**	**9.40**	**15**	*i* P	Pn	08 33 37.0	-5.4
PB01				IAML		08 36 06.2	
	comp=Z,133nm,1.5s						
LR03	**Panguipulli**	**9.44**	**181**		**Pn**	**08 33 41.8**	**-0.9**
TA01	**Diego Aracena**	**9.73**	**11**	Pn	Pn	08 33 42.7	-4.1
PLCA	**Paso Flores**	**10.61**	**173**	Pn	**Pn**	**08 33 57.9**	**-1.0**
	comp=Z,1.8nm,0.3s,baz=340,slow=12,SNR=38						
PLCA				LR	LR	08 38 33.6	
	comp=Z,7μm,19.0s,baz=351,slow=40						
PLCA	**Paso Flores**	**10.61**	**173**	P	**Pn**	**08 33 57.7**	**-1.2**
PLCA	**Paso Flores**	**10.61**	**173**	Pn	**Pn**	**08 33 57.7**	**-1.2**
PLCA	**Paso Flores**	**10.61**	**173**	*e*P	**Pn**	**08 33 59.0**	**+0.1**
LL04	**Puerto Octay**	**10.71**	**181**		**Pn**	**08 33 58.4**	**-1.8**
TRQA	**Tornquist**	**11.51**	**136**	P	**Pn**	**08 34 10.0**	**-1.2**
TRQA	**Tornquist**	**11.51**

BDFB LR LR 08 48 05.1
comp=Z,2µm,20.5s,baz=235,slow=38
BDFB Brasilia 26.43 62 P **P 08 37 00.8 -3.2**
BDFB pmax pmax
comp=Z,95nm,1.2s
BDFB Brasilia 26.43 62 P **P 08 37 00.8 -3.2**
BDFB IAmb IAmb 08 37 04.0
comp=Z,95nm,1.2s
SNDB Serra Nova Dou 26.49 51 *e*P **P 08 37 03.2 -1.3**
VAS01 Vassouras-RJ 26.86 80 *e*P **P 08 37 06.7 -1.1**
DUB01 Friburgo-RJ 27.85 80 *e*P **P 08 37 15.8 -0.9**
NPGB Novo Progresso 27.89 38 *e*P **P 08 37 15.4 -1.6**
DIAM Diamantina, MG 28.44 72 *e*P **P 08 37 21.4 -0.7**
PEXB Peixe 28.49 56 *e*P **P 08 37 21.0 -1.4**
CAM01 Campos-RJ 28.56 80 *e*P **P 08 37 21.9 -1.1**
MACA Manacapuru-AM 28.98 24 *e*P **P 08 37 24.9 -1.7**
MC01 Montes Claros 29.04 69 *e*P **P 08 37 25.1 -2.2**
JANB Januaria 29.66 66 *e*P **P 08 37 30.6 -2.2**
ALF01 Guarapari-ES 29.85 79 *e*P **P 08 37 32.8 -1.5**
ITTB Itaituba 29.98 34 *e*P **P 08 37 33.8 -1.8**
SJMB Sao Joao De Ma 30.31 75 *e*P **P 08 37 37.0 -1.5**
BSFB Barra de Sao F 30.53 76 *e*P **P 08 37 38.8 -1.7**
RIB01 Linhares ES 30.69 77 *e*P **P 08 37 40.7 -1.1**
SDBA SAO DESIDERIO 30.80 61 *e*P **P 08 37 41.1 -1.7**
OTAV Otavalo 30.84 348 *e*P **P 08 37 46.5 +2.9**
OTAV Otavalo 30.84 348 *e*P **P 08 37 45.1 +1.4**
SMTB Santa Maria do 31.25 52 *e*P **P 08 37 46.0 -0.8**
NAN01 Guarapari, ES 31.60 74 *e*P **P 08 37 47.7 -2.2**
PRPB Parauapebas 31.80 46 *e*P **P 08 37 49.8 -1.9**
MACC Macarena, Meta 32.18 357 *e*P **P 08 37 55.9 +0.9**
BBAC Balboa, Cauca 32.39 350 *e*P **P 08 37 58.4 +1.4**
SOTA Rioblanco 32.41 352 *e*P **P 08 37 59.7 +2.1**
GUA01 Guaratinga, BA 32.49 73 *e*P **P 08 37 56.1 -1.6**
RPN Rapa Nui 32.69 266 LR LR 08 47 57.1
comp=Z,1µm,18.7s,baz=114,slow=30
POPC Popayan, Colom 32.82 352 *e*P **P 08 38 02.4 +1.6**
MALB Monte Alegre 32.88 34 *e*P **P 08 38 00.4 -0.7**
CMC01 Camacan, BA 33.35 71 *e*P **P 08 38 04.4 -0.9**
NBIT Itapeh - BA 33.65 70 *e*P **P 08 38 07.0 -0.9**
PRAC Prado 33.80 355 *e*P **P 08 38 10.8 +1.7**
ORTC Ortega, Tolima 34.02 354 *e*P **P 08 38 12.4 +1.4**
VILC Villavicencio, 34.13 357 *e*P **P 08 38 12.6 +0.5**
PTGC Puerto Gaitan, 34.18 0 *e*P **P 08 38 11.2 -1.2**
GDU01 Guandu, BA 34.19 69 *e*P **P 08 38 10.3 -2.3**
YOTC Yotoco, Valle 34.20 353 *e*P **P 08 38 13.3 +0.6**
BOAV Boa Vista 34.24 21 *e*P **P 08 38 11.9 -1.0**
CHIC Chingaza 34.64 357 *e*P **P 08 38 18.0 +1.1**
ROSC El Rosal 34.88 356 LR LR 08 53 24.0
comp=Z,1µm,18.3s,baz=204,slow=38
PMSA Palmer Station 34.99 174 P **P 08 38 19.9 +1.0**
comp=Z,8.1nm,0.9s,baz=51,slow=5.5,SNR=4.3
PMSA LR LR 08 50 50.7
comp=Z,1µm,21.9s,baz=346,slow=33
PMSA Palmer Station 34.99 174 IAMs_20 IAMs_20 08 52 40.5
comp=Z,3µm,19s
PMSA Palmer Station 34.99 174 *e*P **P 08 38 20.3 +1.4**
MCPB Macapa, AP 35.27 36 *e*P **P 08 38 20.0 -1.9**
GUY2C Guyana, Caldas 35.33 354 *e*P **P 08 38 25.1 +2.2**
NBPN Ponto Novo - B 35.37 64 *e*P **P 08 38 21.4 -1.4**
NORC Norcasia 35.63 355 *e*P **P 08 38 25.5 +0.5**
TMAB Tom-Au,PA,Br 35.83 44 *e*P **P 08 38 25.9 -0.8**
RUSC La Rusia 35.87 358 *e*P **P 08 38 28.8 +1.3**
CBOC Ciudad Bolivar 36.03 353 *e*P **P 08 38 29.8 +1.2**
HELC Santa Helena 36.30 354 *e*P **P 08 38 32.0 +0.9**
PTBC PUERTO BERRIO, 36.57 356 *e*P **P 08 38 32.2 -0.9**
NBLA Lagarto - SE 37.18 66 *e*P **P 08 38 36.3 -1.9**
DBBC Dabeiba 37.19 353 *e*P **P 08 38 40.3 +2.0**
PAMC Pamplona, Colo 37.30 359 *e*P **P 08 38 40.0 +0.2**
ZARC Zaragoza, Cauc 37.54 356 *e*P **P 08 38 39.9 -1.3**
URFC San Jos de Ur 37.85 355 *e*P **P 08 38 43.6 -0.3**
ROSB Rosrio 37.94 50 *e*P **P 08 38 43.2 -1.4**
NBMA Muriti-CE 38.65 61 *e*P **P 08 38 49.1 -1.6**
NBPS Pedro II - PI 38.69 55 *e*P **P 08 38 49.2 -1.9**
SMLC San Martn de 38.80 357 *e*P **P 08 38 50.6 -1.2**
SDV Santo Domingo 38.86 2 P **P 08 38 52.0 -0.5**
comp=Z,8.2nm,0.3s,baz=212,slow=4.9,SNR=7.2
SDV Santo Domingo 38.86 2 *e*P **P 08 38 52.4 -0.2**
NBAN Anadia - AL 39.16 66 *e*P **P 08 38 53.2 -1.7**
NBPB Pedra_Branca-C 39.24 58 *e*P **P 08 38 54.5 -1.1**
ARGC Ariguani, Magd 39.85 357 *e*P **P 08 39 00.5 -0.1**
SJCC San Jacinto, C 39.95 355 P P 08 38 58.4 -3.1
SJCC San Jacinto, C 39.95 355 *e*P **P 08 39 02.1 +0.6**
PLCV Puerto La Cruz 40.76 11 P **P 08 39 08.4 +0.3**
PCRV Puerto La Cruz 40.76 11 P **P 08 39 08.4 +0.2**
comp=Z,9.9nm,0.6s,baz=174,slow=4.5,SNR=9.1
NBPA Parau_RN 40.94 61 *e*P **P 08 39 08.5 -1.2**
NBCL Cascavel-CE 41.07 58 *e*P **P 08 39 10.6 -0.2**
RCBR Riachuelo 41.81 62 P **P 08 39 14.8 -2.1**
RCBR pmax pmax
comp=Z,44nm,1.2s
RCBR Riachuelo 41.81 62 P **P 08 39 14.8 -2.1**
RCBR Riachuelo 41.81 62 IAMs_20 IAMs_20 08 54 54.4
comp=Z,2µm,19.0s
RCBR Riachuelo 41.81 62 *e*P **P 08 39 16.8 -0.1**
NBPV Pedro Velho 41.91 63 *e*P **P 08 39 16.3 -1.4**
JTS Las Juntas de 42.08 341‖ *e*P **P 08 39 20.1 +1.1**
JTS pmax pmax
comp=Z,13nm,1.3s
MPOM Morne Pois Mar 45.67 15 P **P 08 39 44.9 -2.9**
BIM Bigot 45.70 15 P P 08 39 44.6 -3.5
FDF Fort de France 45.89 15 IAMs_20 IAMs_20 09 00 16.3
comp=Z,1µm,19.0s
SVN Savane Anatole 45.99 15 IAMs_20 IAMs_20 09 00 07.9
comp=Z,2µm,20.0s
TGUH Tegucigalpa,Un 46.33 339 P **P 08 39 50.4 -2.8**
TGUH Tegucigalpa,Un 46.33 339 *e*P **P 08 39 54.1 +0.9**
ICMP Isla Caja de M 48.09 7 P **P 08 40 04.2 -2.4**
OBIP Obispado Ponce 48.23 7 P P 08 40 04.7 -3.1
PDPR Patillas Dam, 48.27 8 P **P 08 40 05.9 -2.2**
PDPR IAmb IAmb 08 40 07.9
comp=Z,35nm,0.8s
HUMP Col San Antoni 48.42 8 P P 08 40 06.1 -3.1
HUMP IAmb IAmb 08 40 17.9
comp=Z,69nm,1.6s
AOPR Arecibo Observ 48.52 7 P **P 08 40 07.5 -2.6**
AOPR IAmb IAmb 08 40 18.8
comp=Z,44nm,1.1s
CBYP Canovanas 48.55 8 P P 08 40 07.3 -3.0
GCPR Guaynabo City 48.55 8 P **P 08 40 07.8 -2.5**
GCPR IAmb IAmb 08 40 09.8
comp=Z,33nm,0.9s
ANWB Willy Bob 48.60 13 P P 08 40 07.2 -3.4
SMRT St. Maarten 48.73 11 P P 08 40 08.4 -3.3
SMRT IAmb IAmb 08 40 10.5
comp=Z,30nm,1.0s
PETF Flores 49.84 338 P P 08 40 16.1 -4.0
VNA3 Neumayer Olymp 52.93 159 P **P 08 40 42.3 -0.5**
VNA1 Neumayer--Stat 53.23 158 P **P 08 40 44.8 -0.1**
VNA2 Neumayer--Watz 53.57 158 P **P 08 40 46.8 -0.7**
baz=289,slow=8.3
SNAA Sanae 55.16 159 P **P 08 40 58.3 -0.8**
SNAA Sanae 55.16 159*c i*P **P 08 40 57.7 -1.4**
SNAA pmax pmax
comp=Z,88nm,1.0s
SNAA Sanae 55.16 159 P **P 08 40 57.8 -1.3**
SNAA IAMs_20 IAMs_20 09 02 06.1
comp=Z,1µm,20.0s
UNM Universidad Na 55.68 329 IAMs_20 IAMs_20 09 00 06.3
comp=Z,1µm,18.0s
RKT Rikitea 56.00 261 *e*T T 09 41 55.0
comp=Z,1.9nm,0.2s
QSPA South Pole Qui 60.05 180 P **P 08 41 32.7 -1.0**
QSPA IAmb IAmb 08 41 35.3
comp=Z,30nm,1.1s
833A Chaparral WMA, 63.73 333 P **P 08 40 02.2 +1.5**
baz=154
833A S **S 08 50 35.3 +1.9**
baz=154
HKT Hockley 63.91 337‖ *e*P **P 08 42 01.0 +1.3**
HKT pmax pmax
comp=Z,18nm,1.6s
GOGA Godfrey 64.15 349 S **S 08 50 38.8 +0.5**
baz=169
LRAL Lakeview Retre 64.42 346 P **P 08 42 03.2 +0.1**
baz=166
LRAL S **S 08 50 43.9 +2.2**
baz=166
VBMS Vicksburg 64.46 343 P **P 08 42 04.8 +1.5**
baz=162
X58A Rowland 64.74 353 P **P 08 42 02.4 -2.8**
X58A IAmb IAmb 08 42 06.3
comp=Z,23nm,0.8s
NATX Nacogdoches 65.20 339 P **P 08 42 09.5 +1.3**
baz=159
435B Jarrell 65.28 336 P **P 08 42 10.0 +1.3**
baz=156
435B S **S 08 50 53.5 +1.1**
baz=156
X51A Calhoun 65.50 348 P **P 08 42 07.6 -2.6**
X51A IAmb IAmb 08 42 11.3
comp=Z,32nm,0.9s
Y45A Yeager Farm, C 65.79 344 P **P 08 42 09.1 -2.9**
JCT Junction City 65.82 334 P **P 08 42 13.8 +1.5**
baz=154
JCT S **S 08 50 59.5 +0.4**
baz=154
V58A Windy Hill, Pi 65.95 354 P **P 08 42 10.2 -2.7**
V58A IAmb IAmb 08 43 45.1
comp=Z,93nm,1.9s
Z41A Richland Creek 66.05 341 P **P 08 42 15.0 +1.4**
baz=161
WHTX Lake Whitney, 66.33 337 P **P 08 42 16.8 +1.2**
baz=156
WHTX S **S 08 51 05.7 +0.5**
baz=156
OXF Oxford 66.38 344 P **P 08 42 16.0 +0.3**
baz=164
TXAR Lajitas Array 66.38 330 P **P 08 42 16.1 +0.1**
comp=Z,4.4nm,0.7s,baz=151,slow=8.2,SNR=31
TXAR PKP2bc 09 10 51.2
comp=Z,0.7nm,1.2s,baz=318,slow=1.2,SNR=2.2
TXAR Lajitas Array 66.38 330 P P 08 42 12.4 -3.6
TXAR Lajitas Array 66.38 330 P P 08 42 12.4 -3.6
TAOE Nuku Hiva Isla 66.62 273 *e*S **S 08 51 12.4 +2.7**
comp=Z,300nm,22.7s
TAOE Nuku Hiva Isla 66.62 273 *e*LR LR 09 02 22.7
comp=Z,965nm,33.5s
T57A Hurt 67.16 354 P **P 08 42 17.9 -2.7**
T57A IAmb IAmb 08 42 24.8
comp=Z,30nm,1.2s
X40A Basin Creek Fa 67.22 342 S **S 08 51 15.3 -0.5**
baz=161
MIAR Mount Ida 67.48 341 S **S 08 51 17.7 -1.3**
baz=160
WVT Waverly 67.58 346 P **P 08 42 23.7 +0.3**
baz=165
WVT S **S 08 51 16.7 -3.5**
baz=165
ABTX Abilene, Hawle 67.68 335 P **P 08 42 24.7 +0.5**
baz=154
ABTX S **S 08 51 21.6 0.0**
baz=154
W41B Gary Mavity, V 67.71 342 P **P 08 42 24.8 +0.7**
baz=161
W41B S **S 08 51 20.9 -0.8**
baz=161
VNDA Vanda 67.83 191 P **P 08 42 25.6 +1.1**
comp=Z,1.4nm,0.8s,baz=143,slow=4.3,SNR=9.5
W39A Magazine 68.15 341 P **P 08 42 28.1 +1.2**
baz=160,SNR=9.5
W39A S **S 08 51 28.2 +1.2**
baz=160
TBI Tubuai 68.18 255 *e*S **S 08 51 30.5 +2.4**
comp=Z,344nm,23.8s
TBI *e*LQ LQ 09 00 13.8
comp=Z,642nm,32.8s
TBI *e*LR LR 09 03 05.8
comp=Z,844nm,26.8s,baz=100
CBN Corbin Frederi 68.20 356 P **P 08 42 27.8 +0.6**
baz=175
LCAR Lake Charles 68.28 343 P **P 08 42 25.9 -1.8**
LCAR IAmb IAmb 08 42 38.8
comp=Z,36nm,1.5s
Q61A Milford 68.77 357 P **P 08 42 32.5 +1.8**
baz=177
U40A Yellville 68.98 342 P **P 08 42 29.4 -2.8**
U40A IAmb IAmb 08 42 33.4
comp=Z,38nm,1.4s
U40A Yellville 68.98 342 P **P 08 42 32.4 +0.2**
baz=161,SNR=6.1
U40A S **S 08 51 36.2 -0.7**
baz=161
MNTX Cornudas Mount 69.16 330 IAMs_20 IAMs_20 09 08 47.2
comp=Z,690nm,19.0s
MNTX Cornudas Mount 69.16 330 P **P 08 42 33.1 -0.3**
baz=150
Q56A Snyder Ridge, 69.17 354 P **P 08 42 30.9 -2.4**
Q56A IAmb IAmb 08 42 45.3
comp=Z,40nm,1.3s
HHAR Hobbs 69.21 341 P **P 08 42 31.4 -2.2**
HHAR IAmb IAmb 08 42 50.0
comp=Z,16nm,0.9s
WMOK Wichita Mounta 69.28 337 P **P 08 42 34.2 0.0**
baz=156
WMOK S **S 08 51 39.4 -1.2**
baz=156
WCI Wyandotte Cave 69.33 348 P **P 08 42 34.1 -0.2**
baz=167
WCI S **S 08 51 39.2 -1.6**
baz=167
TUL1 Leonard 69.40 340 P **P 08 42 34.7 -0.1**
baz=158,SNR=7.8
TUL1 S **S 08 51 41.6 -0.2**
baz=158
SYO Syowa Base 69.45 159‖ *e*P P 08 42 29.4 -5.3
P60A Greenville 69.71 357 IAMs_20 IAMs_20 09 18 26.3
comp=Z,1µm,19.0s
P60A Greenville 69.71 357 P **P 08 42 37.4 +0.8**
baz=177
P60A S **S 08 51 46.2 +1.0**
baz=177
EPT El Paso 69.71 329 IAMs_20 IAMs_20 09 09 11.9
comp=Z,840nm,19.0s
MCWV Mont Chateau 69.85 354 P **P 08 42 37.5 0.0**
baz=173
MSTX Muleshoe 70.06 333 P **P 08 42 39.3 +0.2**
baz=152
P52A Corning 70.07 352 P **P 08 42 38.2 -0.7**
baz=171
CCM Cathedral Cave 70.19 344 P **P 08 42 39.5 -0.1**
baz=163
CCM S **S 08 51 49.7 -1.3**
baz=163
P49A Miami Univ. Ec 70.34 350 IAMs_20 IAMs_20 09 18 37.8
comp=Z,734nm,21.0s
O56A Blue Knob Stat 70.34 355 P **P 08 42 38.0 -2.6**
O56A IAmb IAmb 08 42 52.4
comp=Z,35nm,1.2s
O56A Blue Knob Stat 70.34 355 P **P 08 42 40.0 -0.6**
baz=174
O56A S **S 08 51 52.6 -0.2**
baz=174
AMTX Amarillo 70.45 335 P **P 08 42 42.8 +1.4**
baz=153
TIAR Tarei 70.56 261 *e*T T 10 00 06.2
comp=Z,1.2nm,0.2s
O53A New Philadelph 70.57 353 P **P 08 42 42.3 +0.4**
baz=172
SSPA Standing Stone 70.66 355 P **P 08 42 43.2 +0.8**
baz=175
SSPA S **S 08 51 57.3 +1.0**
baz=175
R40A Maddies Statio 70.66 343 P **P 08 42 39.8 -2.6**
PPT2 Papeete2 70.74 260 *e*S **S 08 52 01.0 +2.4**
comp=Z,664nm,25.8s
PPT2 Papeete2 70.74 260 *e*LR LR 09 04 16.9
comp=Z,1µm,23.8s,baz=113
ACSO Alum Creek Sta 70.77 351 P **P 08 42 42.7 -0.4**
baz=170
ACSO S **S 08 51 59.3 +1.6**
baz=170
N59A State Game Lan 70.81 357 P **P 08 42 45.0 +1.6**
baz=177
N59A S **S 08 51 59.0 +0.8**
baz=177
PAL Palisades 70.84 359 IAMs_20 IAMs_20 09 18 42.5
comp=Z,699nm,20.0s
PAL Palisades 70.84 359 S **S 08 52 01.6 +3.2**
baz=178
121A Cookes Peak, D 70.93 329 P **P 08 42 46.5 +2.0**
baz=148
OK032 Salt Plains WL 70.98 338 IAMs_20 IAMs_20 09 18 30.5
comp=Z,562nm,18.0s
N54A Moraine State 71.15 354 P **P 08 42 43.0 -2.4**
N54A Moraine State 71.15 354 P **P 08 42 45.7 +0.3**
baz=173
SFIN Lafayette 71.56 348 P **P 08 42 47.3 -0.6**
baz=166
M54A Oil Creek Stat 71.67 354 P **P 08 42 48.7 +0.2**
baz=173
M53A WI Miller and 71.69 353 P **P 08 42 49.1 +0.5**
baz=172
M53A S **S 08 52 05.3 -3.0**
baz=172
BRYW Bryant College 71.74 0 IAMs_20 IAMs_20 09 19 02.2
comp=Z,614nm,19.0s
L64A Middleborough 71.76 1 P **P 08 42 50.5 +1.5**
baz=181
L64A S **S 08 52 11.1 +2.0**
baz=181
Y22D IRIS PASSCAL I 71.86 330 IAMs_20 IAMs_20 09 11 26.7
comp=Z,749nm,18.0s
QUA2 Belchertown 72.10 360 IAMs_20 IAMs_20 09 18 48.7
comp=Z,726nm,19.0s
BINY Binghamton 72.10 357 IAMs_20 IAMs_20 09 18 39.8
comp=Z,924nm,18.0s
BINY Binghamton 72.10 357 P **P 08 42 51.9 +0.8**
baz=177
BINY S **S 08 52 17.5 +4.4**
baz=177
TUC Tucson 72.14 326 P **P 08 42 53.3 +1.6**
baz=146
TUC S **S 08 52 14.7 +0.6**
baz=146
HDIL Hopedale 72.15 346 P **P 08 42 51.4 0.0**
baz=165
L61B Northampton 72.27 360 P **P 08 42 53.3 +1.2**
baz=180
L61B S **S 08 52 16.5 +1.6**
baz=180
ERPA Erie 72.30 354 IAMs_20 IAMs_20 09 18 49.8
comp=Z,670nm,20.0s
ERPA Erie 72.30 354 P **P 08 42 52.8 +0.5**
baz=173
HRV Adam Dziewonsk 72.33 0 IAMs_20 IAMs_20 09 18 50.8
comp=Z,682nm,19.0s
HRV Adam Dziewonsk 72.33 0 P **P 08 42 52.3 -0.1**
baz=181
HRV S **S 08 52 17.6 +2.1**
baz=181
ANMO Albuquerque 72.40 331*c i*P **P 08 42 54.2 +0.9**
ANMO pmax pmax
comp=Z,14nm,1.5s
ANMO Albuquerque 72.40 331 IAMs_20 IAMs_20 09 18 55.2
comp=Z,836nm,19.0s
ANMO Albuquerque 72.40 331 P **P 08 42 55.1 +1.8**
baz=149
ANMO S **S 08 52 18.2 +1.0**
baz=149
K62A Royalston 72.48 360 P **P 08 42 54.2 +0.8**
baz=180
K62A S **S 08 52 20.3 +2.9**
baz=180
K61A Williamstown 72.49 359 S **S 08 52 21.4 +3.9**
baz=179
KSU1 Kansas State U 72.60 340 P **P 08 42 54.7 +0.6**
baz=158
KSU1 S **S 08 52 16.4 -2.4**
baz=158
MMNY Mt. Morris Dam 72.74 356 P **P 08 42 53.2 -1.7**
214A Organ Pipe Nat 72.85 325 P **P 08 42 58.0 +2.1**
baz=144
J61A Chester 73.16 360 S **S 08 52 27.5 +2.4**
baz=180
K50A Casco 73.23 352 P **P 08 42 55.3 -2.4**
K50A IAmb IAmb 08 43 13.4
comp=Z,34nm,0.8s
CBKS Cedar Bluff 73.30 338 IAMs_20 IAMs_20 09 18 57.1
comp=Z,858nm,21.0s
CBKS Cedar Bluff 73.30 338 P **P 08 42 59.4 +1.1**
baz=155,SNR=5.9
CBKS S **S 08 52 26.1 -0.8**
baz=155
J54A Appleton 73.33 355 P **P 08 42 55.7 -2.6**
J54A IAmb IAmb 08 43 09.7
comp=Z,19nm,0.8s
L44A Lake County Fo 73.45 348 S **S 08 52 25.1 -3.2**
baz=166
T25A Trinidad 73.48 334 P **P 08 43 01.4 +1.8**
baz=151,SNR=11
T25A S **S 08 52 31.3 +1.9**
baz=151
I60A Shoreham 73.67 359 P **P 08 43 01.4 +1.1**
baz=179
I60A S **SKiKP 08 52 31.8 +1.4**
baz=179
LIC Lamto 73.68 73 *e*P **P 08 42 59.7 -1.4**
comp=Z,122nm,1.0s
I62A Tamworth 73.69 1 IAMs_20 IAMs_20 09 18 59.0
comp=Z,713nm,19.0s
I62A Tamworth 73.69 1 P **P 08 43 02.5 +2.0**
baz=181
I62A S **S 08 52 33.7 +2.7**
baz=181
TIC Toumodi 73.92 72 *e*P **P 08 43 01.4 -1.1**
W18A Petrified Fore 73.98 329 P **P 08 43 04.6 +2.0**
baz=147
W18A S **S 08 52 36.5 +1.5**
baz=147
KIC Kosan Boka 73.99 73 *e*P **P 08 43 01.8 -1.2**
comp=Z,129nm,0.9s
LBNH Lisbon 74.06 0 P **P 08 43 04.4 +1.8**
baz=180
LBNH S **S 08 52 38.7 +3.5**
baz=180
DBIC Dimbokro 74.07 72 P **P 08 43 02.4 -1.0**
comp=Z,71nm,0.9s,baz=237,slow=5.2,SNR=41
DBIC LR LR 09 13 44.2
comp=Z,2µm,19.0s,baz=264,slow=34
SCIA State Center 74.32 344 P **P 08 43 05.4 +1.2**
baz=161
SDCO Great Sand Dun 74.43 333 IAMs_20 IAMs_20 09 19 16.8
comp=Z,519nm,18.0s
SDCO Great Sand Dun 74.43 333 P **P 08 43 06.9 +1.6**
baz=150,SNR=11
SDCO S **S 08 52 42.8 +2.6**
baz=150
KSCO Kaye Shedlock' 74.47 336 P **P 08 43 06.6 +1.3**
baz=153,SNR=5.7
KSCO S **S 08 52 41.0 +0.7**
baz=153
LONY Lake Ozonia 74.47 358 P **P 08 43 05.7 +0.7**
baz=178
LONY S **S 08 52 41.7 +2.0**
baz=178
JFWS Jewell Farm 74.61 346 P **P 08 43 06.6 +0.7**
baz=164
JFWS S **SKiKP 08 52 38.2 +6.3**
baz=164
GLA Glamis 74.75 324 P **P 08 43 09.0 +2.1**
baz=143
S22A 4UR Ranch, Cre 74.96 332 P **P 08 43 10.3 +1.9**
baz=150,SNR=12
WUAZ Wupatki 75.06 328 P **P 08 43 11.1 +2.3**
baz=146,SNR=8.6
PKME Peaks-Kenny Pk 75.13 2 P **P 08 43 09.6 +0.8**
baz=183
PKME S **S 08 52 50.1 +3.1**
baz=183
SWSC Sam W. Stewart 75.17 323 P **P 08 43 11.0 +1.7**
baz=142
BGNE Belgrade 75.18 340 P **P 08 43 09.6 +0.4**
baz=157
MVCO Mesa Verde 75.19 331 IAMs_20 IAMs_20 09 19 11.0
comp=Z,757nm,19.0s
MVCO Mesa Verde 75.19 331 P **P 08 43 11.6 +1.9**
baz=148,SNR=9.6
MVCO S **S 08 52 52.1 +3.4**
baz=148
Q24A Divide 75.35 334 P **P 08 43 11.8 +1.2**
baz=151
Q24A S **S 08 52 53.1 +2.5**
baz=151
BC3 Big Chuckawall 75.55 324 P **P 08 43 13.3 +1.7**
baz=142,SNR=13
IRM Iron Mountain 75.78 324 P **P 08 43 14.9 +2.0**
baz=143,SNR=8.6
OGNE Ogallala 75.99 337 P **P 08 43 15.4 +1.4**
baz=154
TPFO Pinon Flats 76.02 323 P **P 08 43 15.9 +1.5**
baz=142,SNR=6.5
PFO Pinyon Flats O 76.03 323 P **P 08 43 16.4 +2.0**
baz=142,SNR=6.0
BELC Belle Mtn. Jos 76.10 324 P **P 08 43 16.7 +1.8**
baz=142,SNR=5.5
ISCO Idaho Springs 76.26 334 P **P 08 43 17.3 +1.5**
baz=151,SNR=14
ISCO S **S 08 53 03.5 +3.0**
baz=151

MURC	Murrieta	76.41	323	P		P		08 43 18.6	+2.1
	baz=141								
BBRC	Big Bear Solar	76.78	323	P		P		08 43 21.1	+2.4
	baz=141								
MAW	Mawson	76.86	164	P		P		08 43 18.1	-0.5
	comp=Z,2.3nm,0.8s,baz=183,slow=7.0,SNR=4.8								
MAW				LR		LR		09 16 27.3	
	comp=Z,1µm,20.5s,baz=225,slow=35								
ECSD	EROS Data Cent	76.89	342	P		P		08 43 16.9	-2.0
ECSD				IAmb		IAmb		08 43 20.4	
	comp=Z,39nm,0.9s								
ECSD	EROS Data Cent	76.89	342	P		P		08 43 19.1	+0.1
	baz=158								
ECSD				S		S		08 53 05.5	-1.2
	baz=158								
HEC	Hector,Ludlow	76.92	324	P		P		08 43 21.5	+2.1
	baz=142,SNR=8.9								
BFSC	Mount Baldy Ra	77.14	323	P		P		08 43 22.3	+1.6
	baz=141								
BFSC				S		S		08 53 14.8	+4.8
	baz=141								
TUQ	Turquoise Moun	77.19	325	P		P		08 43 22.9	+1.9
	baz=142,SNR=14								
N23A	Red Feather La	77.33	334	P		P		08 43 23.9	+2.1
	baz=150,SNR=5.4								
N23A				S		S		08 53 14.8	+2.7
	baz=150								
SPMN	Marine on St.	77.36	345	P		P		08 43 21.4	-0.1
	baz=162								
SPMN				S		S		08 53 15.3	+3.6
	baz=162								
COWI	Conover	77.47	348	IAMs_20		IAMs_20		09 19 11.4	
	comp=Z,1µm,21.0s								
PHWY	Pilot Hill	77.51	335	IAMs_20		IAMs_20		09 19 33.3	
	comp=Z,642nm,22.0s								
GSC	Goldstone, Bar	77.53	324	P		P		08 43 24.8	+2.0
	baz=142								
O20A	White River Ci	77.57	332	P		P		08 43 24.7	+1.7
	baz=149,SNR=15								
SHOC	Shoshone, Teco	77.73	325	P		P		08 43 25.6	+1.8
	baz=142								
EDW2	Edwards Air Fo	77.81	323	P		P		08 43 25.3	+0.9
	baz=141								
OSI	Osito Audit: C	77.99	322	P		P		08 43 27.5	+2.1
	baz=140								
LRMC	Laurel Mtn Rad	78.11	323	P		P		08 43 28.0	+1.9
	baz=141,SNR=8.2								
ARVC	Arvin	78.44	322	P		P		08 43 31.0	+3.2
	baz=140								
MPMC	Manual Prospec	78.46	324	P		P		08 43 29.6	+1.4
	baz=141								
FURC	Furnace Creek,	78.47	325	P		P		08 43 30.0	+2.2
	baz=142,SNR=10								
RWWY	Rawlins	78.50	334	IAMs_20		IAMs_20		09 19 26.5	
	comp=Z,656nm,20.0s								
TPNV	Topopah Spring	78.54	325	IAMs_20		IAMs_20		09 23 48.6	
	comp=Z,480nm,18.0s								
TPNV	Topopah Spring	78.54	325	P		P		08 43 30.8	+2.3
	baz=142,SNR=12								
ISA	Isabella, Lake	78.67	323	P		P		08 43 31.0	+1.9
	baz=140,SNR=6.6								
PKM	Mcpherson Peak	78.78	322	P		P		08 43 31.8	+1.9
	baz=139								
CWC	Cottonwood Cre	79.06	324	P		P		08 43 33.3	+1.9
	baz=141								
K22A	Casper	79.07	335	P		P		08 43 32.4	+1.1
	baz=150								
K22A				S		S		08 53 32.7	+2.2
	baz=150								
VES	Vestal, Richgr	79.12	323	P		P		08 43 33.5	+2.0
	baz=140,SNR=5.4								
GRAC	Grapevine Rang	79.13	325	P		P		08 43 33.2	+1.6
	baz=141								
SMMC	Simmler	79.20	322	P		P		08 43 34.6	+2.6
	baz=139								
R11A	Troy Canyon, C	79.32	327	P		P		08 43 30.2	-2.5
R11A	Troy Canyon, C	79.32	327	P		P		08 43 34.9	+2.1
	baz=143,SNR=12								
R11A				S		S		08 53 35.8	+2.4
	baz=143								
RSSD	Black Hills	79.48	337	P		P		08 43 35.0	+1.5
	baz=152								
RSSD				S		S		08 53 35.8	+0.8
	baz=152								
DUG	Dugway, Tooele	79.54	329	IAMs_20		IAMs_20		09 19 34.1	
	comp=Z,640nm,21.0s								
DUG	Dugway, Tooele	79.54	329	P		P		08 43 35.9	+2.0
	baz=145,SNR=11								
TIN	Tinemaha, Big	79.61	324	P		P		08 43 36.6	+2.3
	baz=141								
VOG	Valley Oaks Go	79.64	323	S		S		08 53 36.8	+0.4
	baz=140								
EYMN	Ely	79.69	347	P		P		08 43 34.7	+0.4
	baz=163								
HWUT	Hardware Ranch	80.17	331	P		P		08 43 36.0	-1.3
HWUT				IAMs_20		IAMs_20		09 19 34.7	
	comp=Z,772nm,18.0s								
BW06	Boulder Array	80.33	333	IAMs_20		IAMs_20		09 19 35.9	
	comp=Z,569nm,18.0s								
BW06	Boulder Array	80.33	333	P		P		08 43 38.9	+0.7
	baz=148								
PDAR	Pinedale Array	80.33	333	P		P		08 43 38.2	+0.1
	comp=Z,1.7nm,0.6s,baz=146,slow=5.2,SNR=20								
PDAR				PKKPbc		PKKPbc		09 02 20.0	-2.5
	comp=Z,0.7nm,0.9s,baz=29,slow=2.1,SNR=4.5								
PDAR	Pinedale Array	80.33	333	P		P		08 43 35.1	-3.1
MLAC	Mammoth, Mammo	80.36	324	P		P		08 43 40.8	+2.3
	baz=140								
NVAR	Mina Array Bea	80.71	325	P		P		08 43 41.0	+0.7
	comp=Z,2.0nm,0.8s,baz=153,slow=5.4,SNR=16								
NVAR				PKKPbc		PKKPbc		09 02 20.4	-0.8
	comp=Z,0.6nm,0.8s,baz=267,slow=1.8,SNR=4.4								
NVAR	Mina Array Bea	80.71	325	P		P		08 43 37.3	-3.0
AGMN	Agassiz Nation	80.96	344	P		P		08 43 41.5	+0.3
	baz=160								
ELK	Elko	81.07	328	IAMs_20		IAMs_20		09 25 57.6	
	comp=Z,595nm,18.0s								
REDW	Red Top Meadow	81.34	333	P		P		08 43 40.8	-2.8
REDW				IAMs_20		IAMs_20		09 19 41.7	
	comp=Z,632nm,19.0s								
SNOW	Snow King Moun	81.38	333	IAMs_20		IAMs_20		09 19 41.9	
	comp=Z,692nm,21.0s								
PMOZ	Porto Moniz, M	81.43	44	*e*P		P		08 43 49.1	+5.0
PMOZ	Porto Moniz, M	81.43	44	*e*LR		LR		09 10 25.8	
	comp=Z,904nm,18.0s								
LOHW	Long Hollow	81.45	333	P		P		08 43 40.6	-3.5
LOHW				IAMs_20		IAMs_20		09 19 43.6	
	comp=Z,716nm,22.0s								
MDND	Maddock	81.50	342	P		P		08 43 45.2	+1.2
	baz=156								
MOOW	Moose Ponds	81.62	333	IAMs_20		IAMs_20		09 19 34.1	
	comp=Z,685nm,19.0s								
FXWY	Fox Creek	81.64	333	IAMs_20		IAMs_20		09 27 10.6	
	comp=Z,512nm,21.0s								
FLWY	Flagg Ranch	81.88	333	IAMs_20		IAMs_20		09 19 45.1	
	comp=Z,725nm,20.0s								
BOSA	Boshof	81.93	118	P		P		08 43 45.9	-1.3
	comp=Z,9.5nm,0.8s,baz=238,slow=4.9,SNR=14								
H17A	Grant Village	82.09	333	P		P		08 43 49.3	+1.7
	baz=147								
LKWY	Lake	82.17	333	IAMs_20		IAMs_20		09 25 09.7	
	comp=Z,555nm,19.0s								
RLMT	Red Lodge	82.21	334	IAMs_20		IAMs_20		09 19 59.7	
	comp=Z,451nm,18.0s								
RLMT	Red Lodge	82.21	334	P		P		08 43 49.1	+1.0
	baz=148								
LAO	LASA Array	82.48	337	P		P		08 43 50.1	+0.9
	baz=151								
ULM	Lac du Bonnet	82.80	345	P		P		08 43 50.3	-0.5
	comp=Z,6.6nm,0.7s,baz=136,slow=6.3,SNR=6.8								
HLID	Hailey	82.97	330	IAMs_20		IAMs_20		09 19 51.0	
	comp=Z,582nm,22.0s								
HLID	Hailey	82.97	330	P		P		08 43 52.8	+0.7
	baz=144								
TORD	Torodi Ar. Bea	83.00	70	P		P		08 43 51.5	-1.1
	comp=Z,44nm,0.8s,baz=260,slow=4.7,SNR=149								
TORD				LR		LR		09 19 36.7	
	comp=Z,2µm,18.4s,baz=240,slow=35								
TORD	Torodi Ar. Bea	83.00	70	P		P		08 43 50.6	-2.1
DGMT	Dagmar	83.39	339	P		P		08 43 54.9	+1.0
	baz=153								
MFID	Camas Ranch	83.47	330	IAMs_20		IAMs_20		09 19 53.1	
	comp=Z,673nm,19.0s								
BOZ	Bozeman (W)	83.51	333	IAMs_20		IAMs_20		09 19 54.2	
	comp=Z,646nm,22.0s								
BOZ	Bozeman (W)	83.51	333	P		P		08 43 55.5	+0.7
	baz=146								
DLMT	Dillon	83.70	333	P		P		08 43 53.5	-2.2
DLMT				IAmb		IAmb		08 44 08.7	
	comp=Z,24nm,1.4s								
DLMT				IAMs_20		IAMs_20		09 27 02.1	
	comp=Z,452nm,18.0s								
O03E	Paynes Creek	83.89	324	P		P		08 43 57.6	+0.8
	baz=138								
WVOR	Wild Horse Val	83.97	327	IAMs_20		IAMs_20		09 26 48.4	
	comp=Z,795nm,19.0s								
LBTB	Lobatse	84.00	115	LR		LR		09 18 03.2	
	comp=Z,1µm,18.4s,baz=236,slow=33								
LBTB	Lobatse	84.00	115	P		P		08 43 55.6	-2.3
LBTB				pmax		pmax			
	comp=Z,27nm,1.0s								
LBTB	Lobatse	84.00	115	P		P		08 43 55.6	-2.3
LBTB				IAmb		IAmb		08 43 58.1	
	comp=Z,27nm,1.0s								
O02D	Mt. Diablo Mer	84.30	323	P		P		08 44 00.4	+1.5
	baz=138								
N02D	Trinity Center	84.85	324	P		P		08 44 02.3	+0.7
	baz=138								
EGMT	Eagleton	84.85	336	IAMs_20		IAMs_20		09 19 48.6	
	comp=Z,466nm,20.0s								
M04C	Macdoel	85.02	325	P		P		08 44 03.4	+0.9
	baz=139								
M02C	Callahan	85.23	324	P		P		08 44 04.1	+0.6
	baz=138								
BMO	Blue Mountains	85.26	330	IAMs_20		IAMs_20		09 20 01.4	
	comp=Z,735nm,22.0s								
MSO	Missoula	85.44	333	IAMs_20		IAMs_20		09 20 18.1	
	comp=Z,608nm,21.0s								
MSO	Missoula	85.44	333	P		P		08 44 05.5	+1.0
	baz=145								
L04D	Klamath Falls	85.57	325	P		P		08 44 06.0	+0.8
	baz=138								
K04D	Chiloquin, OR	85.61	326	P		P		08 44 06.8	+1.4
	baz=139								
J05D	Fort Rock, OR	85.85	326	P		P		08 44 07.9	+1.3
	baz=139								
J04D	Umpqua Nationa	86.24	326	P		P		08 44 09.8	+1.2
	baz=138								
J04D				S		S		08 54 45.3	+1.5
	baz=138								
JTMT	Jette	86.32	333	P		P		08 44 06.5	-2.3
K02D	Willamette Mer	86.60	325	P		P		08 44 12.2	+1.9
	baz=137								
K02D				S		S		08 54 48.4	+1.3
	baz=137								
I05D	Terrebonne, OR	86.70	327	P		P		08 44 12.2	+1.5
	baz=139								
I04A	Tendick Farm,	86.80	326	P		P		08 44 10.8	-0.3
	baz=138								
G05D	Wamic, OR	87.37	328	P		P		08 44 14.9	+1.0
	baz=139								
HAWA	Hanford	87.44	329	IAMs_20		IAMs_20		09 20 40.1	
	comp=Z,546nm,20.0s								
NEW	Newport	87.87	332	IAMs_20		IAMs_20		09 20 42.6	
	comp=Z,649nm,18.0s								
NEW	Newport	87.87	332	P		P		08 44 16.1	-0.1
	baz=142								
F05D	White Salmon	87.92	328	S		S		08 55 02.4	+3.0
	baz=139								
MATP	Matopo	88.65	113	LR		LR		09 21 26.2	
	comp=Z,349nm,18.3s,baz=221,slow=34								
E04D	Cinebar	88.93	328	S		S		08 55 11.4	+2.4
	baz=138								
D04E	Lakebay	89.49	328	S		S		08 55 16.9	+2.8
	baz=138								
MORF	Marmelete	89.63	46	*e*SKSac		SKSac		08 54 53.2	-2.1
MORF				IAMs_20		IAMs_20		09 24 52.0	
	comp=Z,1µm,21.3s								
PBDV	Barranco-do-Ve	90.04	46	*e*S		S		08 55 08.7	-11
NLWA	Neilton Lookou	90.15	328	IAMs_20		IAMs_20		09 32 33.8	
	comp=Z,605nm,20.0s								
PCVE	Castro Verde	90.22	46	*e*S		S		08 55 22.6	+1.2
PNCL	Nicolau / Gran	90.22	45	*e*S		S		08 55 30.6	+9.3
MESJ	Messejana	90.23	45	*e*P		P		08 44 25.4	-2.1
MESJ				*e*SKSac		SKSac		08 54 56.7	-2.0
MESJ				IAMs_20		IAMs_20		09 25 30.5	
	comp=Z,1µm,23.7s								
PVAQ	Vaqueiros	90.27	46	*e*P		P		08 44 30.4	+2.7
PVAQ	Vaqueiros	90.27	46	*e*S		S		08 55 27.4	+5.5
PVAQ	Vaqueiros	90.27	46	*e*LR		LR		09 15 44.8	
	comp=Z,764nm,18.0s								
PMAFR	Mafra	90.29	44	*e*S		S		08 55 27.9	+5.8
PSBE	So Bento	90.94	44	*e*S		S		08 55 35.6	+7.6
PMTG	Montargil	91.00	44	*e*S		S		08 55 34.0	+5.5
PESTR	Estremoz	91.26	45	*e*S		S		08 55 16.4	-15
PCAS	Casmilo, Conde	91.46	43	*e*S		S		08 55 40.5	+7.8
COI	Coimbra	91.51	43	*e*S		S		08 55 40.1	+6.1
PMRV	Marv??o	91.73	44	*e*P		P		08 44 39.9	+5.4
PMRV	Marv??o	91.73	44	*e*LR		LR		09 14 39.4	
	comp=Z,654nm,18.0s								
MTE	Manteigas	92.24	44	*e*P		P		08 44 41.0	+4.1
MTE	Manteigas	92.24	44	*e*S		S		08 55 47.3	+7.4
MTE	Manteigas	92.24	44	*e*LR		LR		09 16 36.6	
	comp=Z,1µm,20.0s								
PGAV	Gavieira, Arco	92.79	42	*e*P		P		08 44 41.6	+2.2
PGAV	Gavieira, Arco	92.79	42	*e*S		S		08 55 45.8	+1.0
PGAV	Gavieira, Arco	92.79	42	*e*LR		LR		09 18 33.0	
	comp=Z,996nm,18.0s								
MVO	Moncorvo	93.02	43	*e*P		P		08 44 45.2	+4.7
MVO	Moncorvo	93.02	43	*e*S		S		08 55 51.7	+4.9
MVO	Moncorvo	93.02	43	*e*LR		LR		09 18 32.2	
	comp=Z,963nm,20.0s								
JIS	Juneau Island	102.21	331	IAMs_20		IAMs_20		09 37 49.9	
	comp=Z,435nm,20.0s								
DZM	Mont Dzumac	103.41	234	*e*SS		SS		09 04 30.7	+3.5
	comp=Z,583nm,27.4s								
DZM	Mont Dzumac	103.41	234	*e*LR		LR		09 19 24.8	
	comp=Z,641nm,24.8s,baz=150								
ESK	Eskdalemuir	103.44	33	IAMs_20		IAMs_20		09 33 50.8	
	comp=Z,516nm,18.0s								
BCPM	Bancas Point	105.39	331	IAMs_20		IAMs_20		09 35 17.0	
	comp=Z,411nm,19.0s								
VLC	Villacollemand	105.43	48	IAMs_20		IAMs_20		09 34 47.9	
	comp=Z,379nm,20.0s								
BFO	Black Forest	106.07	43	IAMs_20		IAMs_20		09 36 30.3	
	comp=Z,465nm,20.0s								
CTGM	Chitina Glacie	106.65	332	IAMs_20		IAMs_20		09 36 52.3	
	comp=Z,492nm,21.0s								
BARN	Barnard Glacie	106.84	332	IAMs_20		IAMs_20		09 35 30.1	
	comp=Z,492nm,19.0s								
ISLE	Juniper Island	106.88	331	IAMs_20		IAMs_20		09 35 58.2	
	comp=Z,419nm,22.0s								
WAX	Waxell Ridge	107.02	331	IAMs_20		IAMs_20		09 36 02.8	
	comp=Z,516nm,19.0s								
HMT	Hamilton	107.56	330	IAMs_20		IAMs_20		09 37 24.2	
	comp=Z,455nm,18.0s								
VRDI	Verde Repeater	107.67	331	IAMs_20		IAMs_20		09 35 37.1	
	comp=Z,434nm,21.0s								
GLB	Gilahina Butte	107.92	331	IAMs_20		IAMs_20		09 35 38.9	
	comp=Z,371nm,20.0s								
A36M	Sachs Harbour	108.28	345	IAMs_20		IAMs_20		09 37 09.0	
	comp=Z,455nm,18.0s								
GRFO	Grafenberg	108.38	43	IAMs_20		IAMs_20		09 33 46.3	
	comp=Z,424nm,20.0s								
GRA1	Grafenberg Arr	108.38	43	IAMs_20		IAMs_20		09 33 45.3	
	comp=Z,423nm,20.0s								
L26K	Log Cabin Wild	108.54	333	IAMs_20		IAMs_20		09 43 38.0	
	comp=Z,297nm,18.0s								
K27K	Chicken	108.56	334	IAMs_20		IAMs_20		09 33 46.6	
	comp=Z,397nm,21.0s								
FID	Port Fidalgo	108.72	330	IAMs_20		IAMs_20		09 36 03.9	
	comp=Z,396nm,18.0s								
PWL	Port Wells	109.57	330	IAMs_20		IAMs_20		09 38 25.5	
	comp=Z,305nm,20.0s								
SCM	Sheep Creek Mo	109.59	331	IAMs_20		IAMs_20		09 46 06.8	
	comp=Z,322nm,18.0s								
KNK	Knik Glacier	109.88	330	IAMs_20		IAMs_20		09 35 35.5	
	comp=Z,400nm,18.0s								
SML	Sawmill	110.00	331	IAMs_20		IAMs_20		09 26 39.7	
	comp=Z,350nm,20.0s								
O22K	Cooper Landing	110.02	329	IAMs_20		IAMs_20		09 37 19.3	
	comp=Z,403nm,18.0s								
CLL	Collm	110.08	42	*e*PP		PP		08 50 30.0	-2.2
CLL				*e*SKSac		SKSac		08 56 39.0	+3.1
CLL				*e*Sdif		Sdif		08 58 12.0	+1.8
CLL				*e*PS		PS		08 59 59.0	-2.1
CLL				*e*PPS		PPS		09 01 02.0	
CLL				*e*SS		SS		09 06 00.0	+2.0
CLL				*e*SSS		SSS		09 09 54.0	
CLL				Lm		MLR		09 37 00.0	
	comp=N,400nm,20.4s								
CLL				Lm		MLR		09 37 00.0	
	comp=E,700nm,19.0s								
CLL				Lm		MLR		09 37 00.0	
	comp=Z,700nm,18.6s								
CUT	Chulitna	111.08	331	IAMs_20		IAMs_20		09 37 52.3	
	comp=Z,317nm,18.0s								
BWN	Browne	111.49	333	IAMs_20		IAMs_20		09 45 50.4	
	comp=Z,294nm,18.0s								
DIVS	Divibare	111.72	51	IAMs_20		IAMs_20		09 47 03.5	
	comp=Z,426nm,18.0s								
MLY	Manley	112.35	333	IAMs_20		IAMs_20		09 36 36.8	
	comp=Z,494nm,20.0s								
SANT	Santorini	112.81	60	IAMs_20		IAMs_20		09 46 10.3	
	comp=Z,456nm,20.0s								
H21K	Melozitna Rive	113.39	334	IAMs_20		IAMs_20		09 37 02.2	
	comp=Z,371nm,22.0s								
ISP	Isparta	117.11	60	IAMs_20		IAMs_20		09 48 20.1	
	comp=Z,325nm,21.0s								
CSS	Mathiatis	118.36	64	IAMs_20		IAMs_20		09 43 17.6	
	comp=Z,448nm,19.0s								
KIS	Kishinev	118.50	50	*e*P		Pdif		08 46 29.0	-5.2
KIS	Kishinev	118.50	50	*e*LR		LR		09 48 04.0	
	comp=Z,200nm,18.0s								
ANTO	Ankara	119.41	59	IAMs_20		IAMs_20		09 48 44.9	
	comp=Z,425nm,20.0s								
AKASG	Malin Array Be	119.63	46	PKP		PKPdf		08 50 14.9	-1.6
	comp=Z,0.7nm,0.4s,baz=286,slow=2.4,SNR=4.5								
AKBB	Malin Array Si	119.63	46	*i* PKIKP		PKPdf		08 50 15.3	-1.2
BR131	Keskin Array S	120.00	59	*i* PKIKP		PKPdf		08 50 16.9	-0.9
BRTR	Keskin Array B	120.00	59	PKP		PKPdf		08 50 17.3	-0.5
	comp=Z,1.2nm,0.9s,baz=176,slow=3.3,SNR=5.2								
ASAR	Alice Springs	120.91	208	PKP		PKPdf		08 50 18.4	-1.6
	comp=Z,0.6nm,0.7s,baz=126,slow=1.5,SNR=6.8								
ASAR				PKKPbc		PKKPbc		09 00 22.4	-0.6
	comp=Z,0.3nm,0.8s,baz=306,slow=2.2,SNR=4.3								
ASAR	Alice Springs	120.91	208	PKIKP		PKPdf		08 50 16.3	-3.7
ASAR	Alice Springs	120.91	208	PKPdf		PKPdf		08 50 16.3	-3.7
WRA	Warramunga Arr	124.03	210	PKP		PKPdf		08 50 24.5	-1.6
	comp=Z,1.2nm,0.7s,baz=169,slow=1.9,SNR=16								
OBN	Obninsk	124.67	41	*i* PKIKP		PKPdf		08 50 25.4	-0.6
OBN				pmax		pmax			
	comp=Z,10.0nm,1.1s								
H11S2	WAKE ISLAND Hyl	25.65	272	T		T		11 09 18.6	
	baz=115,slow=75,SNR=52								
H11S1	WAKE ISLAND Hyl	25.67	272	T		T		11 09 22.1	
	baz=115,slow=75,SNR=39								
H11S3	WAKE ISLAND Hyl	25.67	272	T		T		11 09 19.8	
	baz=115,slow=75,SNR=35								
KLMR	Klimovskoe	126.34	34	*e*PKIKP		PKPdf		08 50 27.8	-1.2
KLMR				pmax		pmax			
	comp=Z,26nm,1.4s								
KLMR	Klimovskoe	126.34	34	*e*PKPdf		PKPdf		08 50 27.8	-1.2
KLMR				AMP				08 50 39.6	
	comp=Z,26nm,1.4s								
NEY	Neytrino	127.40	57	⇑*i* PKIKP		PKPdf		08 50 30.0	-1.9
KIV	Kislovodsk	127.48	56	*i* PKIKP		PKPdf		08 50 31.5	-0.4
KIV				pmax		pmax			
	comp=Z,9.0nm,1.0s								
KIV				MLR		MLR			
	comp=Z,208nm,23.0s								
KIV	Kislovodsk	127.48	56	IAMs_20		IAMs_20		09 51 12.2	
	comp=Z,278nm,21.0s								
KBZ	Khabaz	127.60	56	*i* PKIKP		PKPdf		08 50 31.4	-0.6
NCK	Nalchik	128.07	56	*i* PKIKP		PKiKP		08 50 35.6	+2.0
FITZ	Fitzroy Crossi	129.04	202	PKP		PKPdf		08 50 34.9	-0.7
	comp=Z,3.5nm,1.0s,baz=165,slow=7.6,SNR=5.6								
BILL	Bilibino	129.35	336	*e*PKIKP		PKPdf		08 50 35.2	+0.6
BILL				*e*				08 52 45.2	
BILL				pmax		pmax			
	comp=Z,3.0nm,0.8s								
SEY	Seymchan	136.65	332	PKP		PKPdf		08 50 48.9	+0.4
	comp=Z,1.5nm,0.7s,baz=88,slow=5.2,SNR=4.6								
ARU	Arti	136.85	38	PKP		PKPdf		08 50 49.1	0.0
	comp=Z,0.6nm,0.3s,baz=7.7,slow=2.5,SNR=4.0								
ARU	Arti	136.85	38	*i* PKIKP		PKPdf		08 50 49.5	+0.4
ARU								08 53 27.8	
AB31	Akbulak array	139.29	48	*i* PKIKP		PKPdf		08 50 53.0	-0.8
BRVK	Borovoye	144.39	39	*c i* PKIKP		PKPab		08 51 01.3	+0.4
YAK	Yakutsk	145.09	342	*e*PKIKP		PKPbc		08 51 03.3	+0.1
YAK				*e*				08 54 22.0	
YAK				pmax		pmax			
	comp=Z,27nm,1.0s								
YAK				pmax		pmax			
	comp=N,6.0nm,1.1s								
YAK				pmax		pmax			
	comp=E,8.0nm,1.1s								
YAK				pmax		pmax			
	comp=Z,63nm,2.3s								
YAK				pmax		pmax			
	comp=E,45nm,2.3s								
YAK	Yakutsk	145.09	342	PKPbc		PKPbc		08 51 00.2	-2.9
YUK	Yuzh-Kuril'sk	146.99	305	*e*PKHKP		PKPpre		08 51 02.4	
YUK				*e*				08 54 42.0	
YUK				SS		SS		09 13 41.0	+5.8
YUK				MLR		MLR			
	comp=Z,713nm,17.0s								
OTUK	Ortayu	147.47	46	PKP2		PKPdf		08 51 09.2	+1.0
KK31	Karatay Array	147.64	56	*i* PKP2		PK

ML2.7, ML2.8/38(NEIC), **Error ellipse: s-maj=6.5km s-min=4.4km az=217.0, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PS04	**TAPS Pump Stn4**	**0.80**	**267**		Pg	08 33 45.5	+0.2
PS04					Sb	08 33 58.4	+1.2
TOLK	**Toolik Lake Re**	**0.89**	**282**		Pb	08 33 47.6	-0.1
TOLK					Sn	08 34 01.3	-0.7
BM01	**Burnt Mountain**	**1.45**	**134**		Pb	08 33 57.0	-0.3
BM03	**Burnt Mountain**	**1.45**	**136**		Pb	08 33 57.0	-0.2
BMAR	**Burnt Mountain**	**1.45**	**136**		Pn	08 33 56.7	+0.1
COLD	**Coldfoot**	**1.69**	**223**		Pb	08 34 01.3	-0.1
COLD					Sg	08 34 24.8	+0.5
PS01	**TAPS Pump Stn**	**1.86**	**345**		Pb	08 34 03.9	-0.2
PS01					Sg	08 34 29.2	-0.3
PS05	**TAPS Pump Stn5**	**2.13**	**220**		Sb	08 34 35.0	-0.5
H24K	**Noodor Dome**	**2.67**	**186**		Pn	08 34 14.0	+0.6
H24K	**Noodor Dome**	**2.67**	**186**	IAML		08 35 01.8	
	comp=E,43nm,1.1s						
H24K				IAML		08 35 04.0	
	comp=N,34nm,0.9s						
H23K	**Yukon River**	**2.82**	**200**		Pn	08 34 16.2	+0.8
H23K	**Yukon River**	**2.82**	**200**	IAML		08 35 09.5	
	comp=N,41nm,0.9s						
H23K				IAML		08 35 10.7	
	comp=E,49nm,0.9s						
PRP	**Porcupine Dome**	**3.05**	**167**		Pn	08 34 19.2	+0.5
PRP	**Porcupine Dome**	**3.05**	**167**	IAML		08 35 10.3	
	comp=N,25nm,0.5s						
POKR	**Poker Plat Res**	**3.38**	**182**		Pn	08 34 23.8	+0.7
POKR	**Poker Plat Res**	**3.38**	**182**	IAML		08 35 20.4	
	comp=E,20nm,1.2s						
I23K	**Minto, Yukon-K**	**3.45**	**195**		Pn	08 34 25.4	+1.3
I23K	**Minto, Yukon-K**	**3.45**	**195**	IAML		08 35 31.0	
	comp=N,26nm,1.5s						
MDM	**Murphy Dome**	**3.56**	**187**		Pn	08 34 26.9	+1.3
MDM	**Murphy Dome**	**3.56**	**187**	IAML		08 35 29.1	
	comp=N,18nm,1.1s						
MDM				IAML		08 35 38.2	
	comp=E,18nm,1.2s						
IM03		**3.57**	**228**		Pn	08 34 26.3	+0.7
H21K	**Melozitna Rive**	**3.58**	**220**		Pn	08 34 26.8	+0.9
H21K	**Melozitna Rive**	**3.58**	**220**	IAML		08 35 24.9	
	comp=E,23nm,1.1s						
H21K				IAML		08 35 32.9	
	comp=N,22nm,1.1s						
COLA	**College**	**3.63**	**184**		Pn	08 34 27.6	+1.1
TCOL	**CIGO, UAF Yank**	**3.63**	**184**		Pn	08 34 27.1	+0.6
IL31		**3.73**	**178**		Pn	08 34 28.9	+1.1
MLY	**Manley**	**3.73**	**204**		Pn	08 34 28.6	+0.6
MLY	**Manley**	**3.73**	**204**	IAML		08 35 43.5	
	comp=E,16nm,1.3s						
CCB	**Clear Creek Bu**	**3.86**	**184**		Pn	08 34 30.9	+1.2
CCB	**Clear Creek Bu**	**3.86**	**184**	IAML		08 35 40.2	
	comp=E,16nm,1.2s						
J25K	**Salcha River,**	**3.95**	**168**		Pn	08 34 32.2	+1.1
PS08	**TAPS Pump Stn8**	**3.96**	**178**		Pn	08 34 32.6	+1.6
NEA2	**Nenana**	**3.97**	**192**		Pn	08 34 32.7	+1.4
WRH	**Wood River Hil**	**4.04**	**185**		Pn	08 34 33.1	+0.9
WRH	**Wood River Hil**	**4.04**	**185**	IAML		08 35 42.5	
	comp=N,11nm,1.0s						
WRH				IAML		08 35 47.4	
	comp=E,13nm,1.3s						
HDA	**Harding Lake**	**4.09**	**178**		Pn	08 34 33.9	+1.0
HDA	**Harding Lake**	**4.09**	**178**	IAML		08 35 45.9	
	comp=N,16nm,1.0s						
SCRK	**Sand Creek**	**4.71**	**162**		Pn	08 34 42.9	+1.5
MCK	**McKinley**	**4.82**	**189**		Pn	08 34 44.5	+1.6
MCK	**McKinley**	**4.82**	**189**	IAML		08 35 20.6	
	comp=N,7.9nm,2.4s						
MCK				IAML		08 36 14.9	
	comp=E,9.1nm,1.8s						
K27K	**Chicken**	**4.92**	**153**		Pn	08 34 45.3	+0.9
K27K	**Chicken**	**4.92**	**153**	IAML		08 36 18.9	
	comp=N,6.3nm,3.3s						
KTH	**Kantishna Hill**	**5.17**	**199**		Pn	08 34 49.4	+1.6
KTH	**Kantishna Hill**	**5.17**	**199**	IAML		08 36 20.1	
	comp=E,8.1nm,1.1s						
PAX	**Paxson**	**5.58**	**172**		Pn	08 34 55.9	+2.5
L26K	**Log Cabin Wild**	**5.70**	**162**		Pn	08 34 56.1	+1.1
MENT	**Mentasta**	**5.75**	**164**		Pn	08 34 57.0	+1.3
L27K	**Beaver Creek,**	**5.87**	**155**		Pn	08 34 58.3	+0.9
BC03		**5.87**	**155**		Pn	08 34 58.3	+1.0
YUK2	**White River**	**7.23**	**155**		Pn	08 35 18.0	+2.0

IDC ***19*** *08:34:33.9±0.4, 5.°95S×151.°34E, h0km, mb4.8/29, mb1 4.9/31, mb1mx4.8/49, mbtmp4.8/31, ML4.0/2, MS4.4/24, Ms1 4.4/24, ms1mx4.2/44, Error ellipse: s-maj=14.8km s-min=11.4km az=93.0*

NEIC ***19*** *08:34:35.6±1.4, 6.°08S±0.°07×151.°37E±0.°07, h6km±1km, mb5.3/94, Ms_20 5.2/187, Error ellipse: s-maj=9.9km s-min=9.4km az=162.0*

MOS ***19*** *08:34:37.9±1.3, 6.°08S×151.°32E, h39km, mb5.2/30, MS5.3/6, Error ellipse: s-maj=10.4km s-min=7.1km az=107.3*

BJI ***19*** *08:34:39.0±0.0, 6.°10S×151.°40E, h40km, mB5.2/42, mb5.0/60, Ms4.9/41, Ms7 4.6/39*

DJA ***19*** *08:34:40.4±0.4, 6.°S±3.°×15.°1E±.°, h41km±5km, M5.4/49, mb5.4/49, mB5.9/27, MLv5.6/2, Mw(mB)5.4/27, MwMwp5.0/5, Mwp5.3/5*

GCMT ***19*** *08:34:40.6±0.2, 6.°21S±0.°01×151.°49E±0.°01, h15km, MW5.2/119, Moment Tensor Solution. s79,c126; s119,c194; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.72±.02; $M_{\theta\theta}$=0.42±.01; $M_{\phi\phi}$=0.29±.01; $M_{r\theta}$=0.37±.03; $M_{\theta\phi}$=0.29±.01; $M_{\phi r}$=0.24±.03; Best double couple: M_0=0.81600×10^{17} NP1:ϕ_{s}=229.00000°, δ=29.00000°, λ=-95.00000°. NP2:ϕ_{s}=54.00000°, δ=61.00000°, λ=-87.00000°. Principal axes: T 0.7850, Plg16.0000°, Azm142.0000°; N 0.0610, Plg2.0000°, Azm233.0000°; P -0.8460, Plg74.0000°, Azm330.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 08:34:39.8±0.3, 6.°18S±0.°04×151.°43E±0.°05, h39km±4km, h40km: pP-P, n631, σ1=1$41/579, mb5.2/134, MS5.2/135, 13C-23D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.11**	**20**		**Pn**	**08 35 10.1**	**-2.5**
RABL	**Rabaul**	**2.11**	**20**	P	**Pn**	**08 35 14.4**	**+1.8**
MANU	**Manus Island**	**5.78**	**315**		**Pn**	**08 36 01.3**	**-1.7**
HNR	**Honiara**	**9.03**	**111**	Pn	**Pn**	**08 36 48.8**	**+1.2**
	7.5nm,0.3s,baz=219,slow=6.5,SNR=2.1						
HNR				Sn	**Sn**	**08 38 32.6**	**+4.4**
	9.5nm,0.3s,baz=295,slow=23,SNR=0.8						
HNR				LR	LR	08 40 14.4	
	comp=Z,3μm,18.7s,baz=269,slow=37						
HNR	**Honiara**	**9.03**	**111**	P	**Pn**	**08 36 48.2**	**+0.5**
HNR	**Honiara**	**9.03**	**111**	Pn	**Pn**	**08 36 48.2**	**+0.5**
COEN	**Coen**	**11.21**	**226**	Pn	**Pn**	**08 37 15.7**	**-2.0**
MTSU	**Mount Surprise**	**13.76**	**210**	P	**Pn**	**08 37 55.6**	**+3.2**
	baz=14,SNR=14						
CTA	**Charters Tower**	**14.71**	**200**	Pn	**Pn**	**08 38 07.8**	**+2.5**
	0.2nm,0.3s,baz=25,slow=15,SNR=4.8						
CTA				LR	LR	08 43 03.7	
	comp=Z,1μm,18.3s,baz=21,slow=34						
CTAO	**Charters Tower**	**14.71**	**200**	P	**Pn**	**08 38 04.0**	**-1.3**
CTAO	**Charters Tower**	**14.71**	**200**	Pn	**Pn**	**08 38 04.0**	**-1.3**
SANVU	**Saraoutou**	**18.00**	**122**	P	**P**	**08 38 48.1**	**+0.8**
QIS	**Mount Isa**	**18.33**	**218**	P	**Pn**	**08 38 52.6**	**+1.5**
	baz=18,SNR=32						
EIDS	**Eidsvold**	**19.08**	**181**	P	**Pn**	**08 39 01.0**	**+0.8**
	baz=19,SNR=7.7						
EIDS	**Eidsvold**	**19.08**	**181**	P	**P**	**08 38 58.8**	**-0.3**
KDU	**Kakadu**	**19.78**	**250**	P	**P**	**08 39 06.6**	**-0.2**
	baz=20,SNR=27						
RMQ	**Roma**	**20.35**	**187**	P	Pn	08 39 15.6	+0.4
	baz=20,SNR=64						
GUMO	**Guam**	**20.70**	**342**	P	**P**	**08 39 15.7**	**-1.0**
	189nm,1.0s,baz=162,slow=8.1,SNR=6.8						
GUMO				LR	LR	08 47 24.2	
	comp=Z,658nm,18.4s,baz=159,slow=38						
GUMO	**Guam**	**20.70**	**342**	P	**P**	**08 39 15.7**	**-1.0**
GUMO				pmax	pmax		
	comp=Z,307nm,1.1s						
GUMO	**Guam**	**20.70**	**342**		**P**	**08 39 15.7**	**-1.0**
SIJI	**Sorong**	**20.80**	**284**	P	**P**	**08 39 18.4**	**+0.4**
	comp=Z,12nm,0.5s,baz=70,slow=18,SNR=1.6						
SIJI				LR	LR	08 47 49.7	
	comp=Z,776nm,19.2s,baz=104,slow=38						
MTN	**Manton Dam**	**21.08**	**250**	P	**P**	**08 39 20.8**	**-0.1**
	baz=21,SNR=32						
MTN	**Manton Dam**	**21.08**	**250**	P	**P**	**08 39 20.1**	**-0.8**
WR0	**Warramunga Arr**	**21.38**	**229**	P	**P**	**08 39 24.2**	**+0.1**
WR0				IAmb	IAmb	08 39 36.4	
	comp=Z,146nm,1.0s						
QLP	**Quilpie**	**21.42**	**198**	P	**P**	**08 39 27.3**	**+2.9**
	baz=22,SNR=10						
DZM	**Mont Dzumac**	**21.45**	**139**	*e*P	**P**	**08 39 23.4**	**-1.5**
	comp=Z,82nm,1.3s						
DZM				*e*S	**S**	**08 43 16.0**	**-4.9**
	comp=Z,513nm,21.2s						
DZM				*e*LR	LR	08 44 30.0	
	comp=Z,5μm,23.6s						
DZM	**Mont Dzumac**	**21.45**	**139**	P	**P**	**08 39 26.2**	**+1.4**
	comp=Z,19nm,1.0s,baz=334,slow=16,SNR=9.1						
DZM				LR	LR	08 46 27.6	
	comp=Z,3μm,21.9s,baz=320,slow=33						
DZM	**Mont Dzumac**	**21.45**	**139**	P	**P**	**08 39 25.6**	**+0.7**
WRAB	**Tennant Creek**	**21.50**	**229**	i*e*P	**P**	**08 39 25.5**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,123nm,1.3s						
WRAB	**Tennant Creek**	**21.50**	**229**	P	**P**	**08 39 25.0**	**-0.4**
WRAB				IAmb	IAmb	08 39 39.0	
	comp=Z,94nm,0.8s						
WB2	**Warramunga Arr**	**21.51**	**229**	P	**P**	**08 39 24.9**	**-0.6**
WRA	**Warramunga Arr**	**21.52**	**229**	P	**P**	**08 39 25.8**	**+0.2**
	comp=Z,46nm,0.8s,baz=58,slow=9.8,SNR=115						
WRA				S	**S**	**08 43 22.4**	**+0.2**
	comp=Z,10nm,1.1s,baz=53,slow=17,SNR=5.8						
WRA				PcP	**PcP**	**08 43 28.3**	**+0.9**
	comp=Z,8.7nm,0.9s,baz=59,slow=1.9,SNR=5.7						
WRA				ScP	**ScP**	**08 47 05.8**	**+4.2**
	comp=Z,4.3nm,1.1s,baz=68,slow=2.1,SNR=7.9						
WRA				LR	LR	08 48 52.8	
	comp=Z,779nm,18.3s,baz=40,slow=40						
WRA	**Warramunga Arr**	**21.52**	**229**	P	**P**	**08 39 24.8**	**-0.8**
WRA				pmax	pmax		
	comp=Z,26nm,1.3s						
WRA	**Warramunga Arr**	**21.52**	**229**	P	**P**	**08 39 24.8**	**-0.8**
KWAJ	**Kwajalein Atol**	**21.95**	**47**	IAMs_20	IAMs_20	08 47 56.0	
	comp=Z,4μm,20.0s						
KNRA	**Kununurra**	**24.15**	**245**	P	**P**	**08 39 52.2**	**-0.2**
	baz=24,SNR=21						
KNRA	**Kununurra**	**24.15**	**245**	P	**P**	**08 39 51.7**	**-0.7**
AS31	**Alice Springs**	**24.22**	**222**	P	**P**	**08 39 53.2**	**+0.2**
AS31				IAmb	IAmb	08 40 06.1	
	comp=Z,45nm,0.7s						
ASAR	**Alice Springs**	**24.22**	**222**	P	**P**	**08 39 53.3**	**+0.3**
	comp=Z,67nm,0.8s,baz=56,slow=9.0,SNR=214						
ASAR				ScP	**ScP**	**08 47 13.3**	**+4.6**
	comp=Z,2.1nm,1.0s,baz=45,slow=2.8,SNR=5.7						
ASAR	**Alice Springs**	**24.22**	**222**	P	**P**	**08 39 53.6**	**+0.6**
ASAR	**Alice Springs**	**24.22**	**222**	P	**P**	**08 39 53.6**	**+0.6**
CMSA	**Cobar Meteorol**	**25.79**	**191**	P	**P**	**08 40 08.2**	**+1.0**
	baz=26,SNR=22						
SOEI	**Soe**	**27.13**	**261**	P	**P**	**08 40 20.6**	**+1.0**
STKA	**Stephens Creek**	**27.17**	**199**	P	**P**	**08 40 20.6**	**+1.0**
	baz=27,SNR=30						
STKA	**Stephens Creek**	**27.17**	**199**	P	**P**	**08 40 20.1**	**+0.5**
	comp=Z,12nm,0.8s,baz=355,slow=6.8,SNR=25						
STKA				LR	LR	08 50 46.9	
	comp=Z,940nm,20.0s,baz=11,slow=36						
STKA	**Stephens Creek**	**27.17**	**199**	P	**P**	**08 40 20.1**	**+0.5**
STKA				pmax	pmax		
	comp=Z,10.0nm,1.3s						
STKA	**Stephens Creek**	**27.17**	**199**	P	**P**	**08 40 20.1**	**+0.5**
BATI	**Baumata**	**27.77**	**260**	P	**P**	**08 40 25.8**	**+0.6**
	comp=Z,77nm,0.8s,baz=112,slow=19,SNR=5.4						
BATI				LR	LR	08 53 04.6	
	comp=Z,1μm,18.7s,baz=83,slow=40						
BATI	**Baumata**	**27.77**	**260**	P	**P**	**08 40 26.3**	**+1.1**
	comp=Z,1μmcomp=Z,97nm,0.8s						
FITZ	**Fitzroy Crossi**	**27.81**	**243**	P	**P**	**08 40 25.4**	**-0.1**
	baz=28,SNR=57						
FITZ	**Fitzroy Crossi**	**27.81**	**243**	P	**P**	**08 40 25.4**	**-0.1**
	comp=Z,29nm,0.6s,baz=66,slow=7.1,SNR=80						
FITZ				LR	LR	08 52 37.0	
	comp=Z,767nm,19.1s,baz=67,slow=39						
FITZ	**Fitzroy Crossi**	**27.81**	**243**	P	**P**	**08 40 24.8**	**-0.7**
FITZ				IAmb	IAmb	08 40 37.9	
	comp=Z,53nm,0.7s						
MSVF	**Nonsavu**	**28.41**	**116**	P	**P**	**08 40 32.2**	**+1.3**
	comp=Z,6.7nm,1.0s,baz=337,slow=16,SNR=2.2						
MSVF	**Nonsavu**	**28.41**	**116**	i*e*P	**P**	**08 40 31.2**	**+0.3**
MSVF	**Nonsavu**	**28.41**	**116**	IAmb	IAmb	08 41 23.8	
	comp=Z,54nm,1.6s						
DAV	**Davao City (W)**	**28.96**	**297**	LR	LR	08 50 31.2	
	comp=Z,413nm,20.8s,baz=107,slow=33						
WRKA	**Warakurna**	**29.03**	**227**	P	**P**	**08 40 36.1**	**-0.2**
	baz=29,SNR=17						
MMRI	**Maumere**	**29.05**	**263**	P	**P**	**08 40 36.8**	**+0.2**
	comp=Z,192nm,1.0s						
HTT	**Hallett**	**29.50**	**202**	P	**P**	**08 40 41.0**	**+0.6**
	baz=30,SNR=10						
EDFI	**Ende, Flores**	**29.60**	**263**	P	**P**	**08 40 40.0**	**-1.6**
	comp=Z,659nmcomp=Z,69nm,1.2s						
BBOO	**Buckleboo**	**30.11**	**206**	P	**P**	**08 40 47.1**	**+1.3**
	baz=30,SNR=5.7						
BBOO	**Buckleboo**	**30.11**	**206**	P	**P**	**08 40 46.1**	**+0.2**
BSSI	**Bau Bau, Buton**	**30.76**	**268**	P	**P**	**08 40 52.9**	**+1.1**
	comp=Z,66nm,1.5s						
ARPS	**Mount Arapiles**	**31.68**	**195**	P	**P**	**08 41 00.9**	**+1.3**
	baz=32,SNR=13						
WBSI	**Waikabubak, Su**	**31.91**	**262**	P	**P**	**08 41 01.3**	**-0.7**
	comp=Z,2μmcomp=Z,177nm,0.7s						
PLAI	**Plampang**	**33.47**	**263**	P	**P**	**08 41 13.5**	**-2.0**
	comp=Z,1μmcomp=Z,138nm,0.8s						
PSA00	**Pilbara Seismi**	**34.16**	**240**	P	**P**	**08 41 21.3**	**-0.2**
PSA00				IAmb	IAmb	08 41 24.1	
	comp=Z,71nm,1.3s						
PSA00	**Pilbara Seismi**	**34.16**	**240**	P	**P**	**08 41 22.0**	**+0.5**
PSA00				IAmb	IAmb	08 41 24.1	
	comp=Z,38nm,1.3s						
TWSI	**Taliwang, Sumb**	**34.34**	**264**	P	**P**	**08 41 23.2**	**+0.1**
	comp=Z,47nm,1.0s						
SRBI	**Singaraja**	**35.98**	**265**	P	**P**	**08 41 36.3**	**-0.9**
	comp=Z,73nm,0.8s						
DNP	**Denpasar**	**36.00**	**264**	P	**P**	**08 41 36.5**	**-0.9**
	comp=Z,31μmcomp=Z,286nm,1.3s						
TAU	**Tasmania Unive**	**36.76**	**185**	IAMs_20	IAMs_20	08 58 21.0	
	comp=Z,2μm,18.0s						
BYJI	**Banyuwangi**	**36.83**	**265**	P	**P**	**08 41 43.9**	**-0.6**
	comp=Z,11μmcomp=Z,274nm,1.1s						
RAO	**Raoul Island**	**36.92**	**132**	LR	LR	08 54 04.1	
	comp=Z,55nm,21.0s,baz=308,slow=32						
ABJI	**Asan Bagus**	**36.95**	**265**	P	**P**	**08 41 45.6**	**+0.1**
	comp=Z,2μmcomp=Z,116nm,1.1s						
JAGI	**Jajag, Banyuwa**	**37.04**	**264**	P	**P**	**08 41 43.7**	**-2.5**
JAGI	**Jajag, Banyuwa**	**37.04**	**264**	P	**P**	**08 41 43.8**	**-2.5**
	comp=Z,2μmcomp=Z,212nm,1.0s						
MEEK	**Meekatharra**	**37.29**	**233**	P	**P**	**08 41 48.7**	**+0.4**
	baz=37,SNR=12						
GMJI	**Gumukmas**	**37.73**	**264**	P	**P**	**08 41 51.1**	**-1.1**
	comp=Z,1μmcomp=Z,42nm,0.9s						
KRKI	**Karangkates**	**38.72**	**265**	P	**P**	**08 41 59.0**	**-1.4**
	comp=Z,23μmcomp=Z,227nm,0.7s						
PWJI	**Pagerwojo**	**39.36**	**265**	P	**P**	**08 42 04.1**	**-1.7**
	comp=Z,110nm,0.8s						
SJI	**Sawahan**	**39.40**	**265**	P	**P**	**08 42 05.6**	**-0.6**
GIRL	**Giralia**	**39.41**	**242**	P	**P**	**08 42 05.6**	**-0.6**
	baz=39,SNR=5.0						
URZ	**Urewera**	**39.52**	**148**	LR	LR	08 56 17.8	
	comp=Z,491nm,18.6s,baz=31,slow=33						
URZ	**Urewera**	**39.52**	**148**	IAMs_20	IAMs_20	08 58 12.1	
	comp=Z,1μm,18.0s						
JOW	**Kunigami**	**39.75**	**327**	LR	LR	08 55 30.4	
	comp=Z,310nm,19.5s,baz=129,slow=32						
PCJI	**Pacitan**	**39.98**	**265**	P	**P**	**08 42 10.3**	**-0.7**
	comp=Z,3μmcomp=Z,275nm,0.7s						
JHJ	**Hachijo jima 2**	**40.62**	**345**	LR	LR	08 55 35.9	
	comp=Z,402nm,20.5s,baz=178,slow=31						
LTZ	**Lake Taylor**	**40.84**	**156**	IAMs_20	IAMs_20	08 59 38.9	
	comp=Z,2μm,18.0s						
OXZ	**Oxford**	**41.21**	**157**	IAMs_20	IAMs_20	08 56 08.6	
	comp=Z,2μm,21.0s						
WKZ	**Wanaka**	**41.44**	**161**	IAMs_20	IAMs_20	09 01 37.7	
	comp=Z,4μm,18.0s						
YULB	**Yu-li**	**41.60**	**316**	P	**P**	**08 42 22.6**	**-1.6**
YULB				IAmb	IAmb	08 42 35.6	
	comp=Z,47nm,0.7s						
MQZ	**McQueen's Vall**	**41.77**	**157**	IAMs_20	IAMs_20	08 57 23.5	
	comp=Z,1μm,18.0s						
CTJI	**Waduk Cacaban**	**41.97**	**266**	P	**P**	**08 42 28.4**	**+1.0**
	comp=Z,38nm,0.9s						
SCJI	**Gunung Srandil**	**41.97**	**265**	P	**P**	**08 42 27.5**	**+0.1**
	comp=Z,155nm,1.0s						
SSLB	**Suanglung**	**42.10**	**316**	P	**P**	**08 42 27.4**	**-0.9**
SSLB				IAmb	IAmb	08 42 42.5	
	comp=Z,41nm,0.9s						
KPJI	**Karang Pucung**	**42.21**	**266**	P	**P**	**08 42 29.1**	**-0.2**
	comp=Z,2μmcomp=Z,181nm,0.8s						
YHNB	**Yeheng**	**42.40**	**317**	P	**P**	**08 42 29.9**	**-0.9**
YHNB				IAmb	IAmb	08 42 44.9	
	comp=Z,72nm,0.9s						
JSU	**Suzuyama**	**42.50**	**333**	P	**P**	**08 42 31.6**	**+0.2**
CMJI	**Cimerak**	**42.68**	**265**	P	**P**	**08 42 32.4**	**-0.8**
	comp=Z,2μmcomp=Z,253nm,0.8s						
JCJI	**Jatiwangi**	**42.89**	**267**	P	**P**	**08 42 35.2**	**+0.3**
	comp=Z,290nm,0.7s						
CISI	**Cisompet, Garu**	**43.31**	**266**	P	**P**	**08 42 36.9**	**-1.5**
CISI	**Cisompet, Garu**	**43.31**	**266**	P	**P**	**08 42 37.2**	**-1.2**
	comp=Z,1μmcomp=Z,172nm,0.9s						
LEM	**Lembang**	**43.53**	**267**	P	**P**	**08 42 40.2**	**0.0**
	comp=Z,79nm,0.8s						
JNU	**Nakatsue**	**43.69**	**335**	P	**P**	**08 42 42.2**	**+1.1**
JNU				IAmb	IAmb	08 42 47.2	
	comp=Z,39nm,0.8s						
CNJI	**Cibinong**	**44.00**	**266**	P	**P**	**08 42 43.3**	**-0.5**
	comp=Z,3μmcomp=Z,450nm,1.1s						
MJAR	**Matsushiro Arr**	**44.27**	**345**	P	**P**	**08 42 43.5**	**-2.1**
	comp=Z,1.9nm,0.9s,baz=170,slow=7.3,SNR=3.5						
MJAR				LR	LR	08 59 53.1	
	comp=Z,448nm,18.3s,baz=180,slow=34						
MJAR	**Matsushiro Arr**	**44.27**	**345**	P	**P**	**08 42 46.6**	**+1.0**
MJAR				pmax	pmax		
	comp=Z,14nm,1.8s						
MJAR	**Matsushiro Arr**	**44.27**	**345**	P	**P**	**08 42 46.6**	**+1.0**
MAJO	**Matsushiro**	**44.27**	**345**	i*e*P	**P**	**08 42 44.5**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,13nm,1.3s						
MAT	**Matsushiro**	**44.27**	**345**	P	**P**	**08 42 43.2**	**-2.4**
MAT				*e*S	**S**	**08 49 24.4**	**+7.6**
CBJI	**Citeko**	**44.30**	**267**	P	**P**	**08 42 46.4**	**+0.1**
	comp=Z,203nm,0.8s						
DBJI	**Dramaga**	**44.40**	**267**	P	**P**	**08 42 47.1**	**+0.1**
	comp=Z,18μmcomp=Z,61nm,0.5s						
QZH	**Quanzhou**	**44.48**	**315**	i*e*P	**P**	**08 42 47.5**	**0.0**
QZH				S	**S**	**08 49 25.8**	**+5.6**
QZH				sS	**sS**	**08 49 40.3**	**+4.9**
QZH				LR	LR		
	comp=Z,390nm,14.8s						
QZH				LR	LR		
	comp=Z,370nm,16.0s						
QZH				LR	LR		
	comp=Z,500nm,14.0s						
KASI	**Kota Agung**	**46.69**	**268**	P	**P**	**08 43 03.1**	**-2.0**
	comp=Z,111nm,0.9s						
SSE	**Sheshan**	**47.02**	**324**	P	**P**	**08 43 06.3**	**-1.1**
SSE				S	**S**	**08 49 59.8**	**+3.4**
SSE				pmax	pmax		
	comp=Z,12nm,0.7s						
SSE				pmax	pmax		
	comp=Z,140nm,3.4s						
SSE				LR	LR		
	comp=Z,240nm,16.6s						
MDSI	**Maura Dua**	**47.07**	**270**	P	**P**	**08 43 07.2**	**-0.9**
	comp=Z,1μmcomp=Z,26nm,1.0s						
LWLI	**Liwa**	**47.15**	**269**	P	**P**	**08 43 08.9**	**0.0**
	comp=Z,87nm,0.8s						
QIZ	**Qiongzhong**	**48.03**	**302**	P	**P**	**08 43 15.0**	**-0.5**
QIZ				S	**S**	**08 50 14.0**	**+2.8**
QIZ				LR	LR		
	comp=Z,480nm,19.4s						
QIZ				LR	LR		
	comp=Z,540nm,22.6s						
QIZ				LR	LR		
	comp=Z,800nm,26.5s						
KSRS	**Korea Array**	**48.64**	**335**	P	**P**	**08 43 18.5**	**-1.3**
	comp=Z,5.4nm,0.9s,baz=149,slow=8.9,SNR=15						
KSRS				LR	LR	09 02 09.8	
	comp=Z,254nm,20.4s,baz=138,slow=34						
KSAR	**Wonju Array Be**	**48.65**	**335**	P	**P**	**08 43 18.6**	**-1.3**
KSAR	**Wonju Array Be**	**48.65**	**335**	P	**P**	**08 43 18.6**	**-1.3**
KS19	**Wonju Array Si**	**48.71**	**335**	P	**P**	**08 43 21.6**	**+1.2**
KS19				IAmb	IAmb	08 43 42.3	
	comp=Z,77nm,2.0s						
NJ2	**Nanjing**	**49.09**	**323**	*e*P	**P**	**08 43 24.3**	**+0.9**
NJ2				S	**S**	**08 50 28.9**	**+3.1**
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
MASI	**Maura Aman, Be**	**49.11**	**271**	P	**P**	**08 43 23.8**	**-0.2**
	comp=Z,109nm,0.8s						
INCN	**Inchon**	**49.22**	**334**	P	**P**	**08 43 24.6**	**+0.2**
INCN				pmax	pmax		
	comp=Z,40nm,1.2s						
INCN	**Inchon**	**49.22**	**334**	P	**P**	**08 43 24.6**	**+0.2**
INCN				IAmb	IAmb	08 43 25.4	
	comp=Z,40nm,1.1s						
ASAJ	**Asahikawa**	**50.70**	**352**	P	**P**	**08 43 35.8**	**+0.4**
	comp=Z

XAN pmax pmax
comp=Z,170nm,4.0s
XAN LR LR
comp=Z,340nm,17.2s
XAN LR LR
comp=Z,340nm,16.5s
XAN LR LR
comp=Z,500nm,16.8s
CMAR Chiang Mai Arr 57.25 296 P **P** **08 44 23.0 -0.8**
comp=Z,1.6nm,0.6s,baz=121,slow=5.8,SNR=2.2
CMAR LR LR 09 11 07.1
comp=Z,119nm,18.3s,baz=160,slow=38
CMAR Chiang Mai Arr 57.25 296 P **P** **08 44 22.8 -0.9**
CMAR Chiang Mai Arr 57.25 296 P **P** **08 44 22.8 -0.9**
CMMT Chiang Mai 57.37 297 P **P** **08 44 28.4 +3.8**
comp=Z,5.8nm,1.6s
CMMT Chiang Mai 57.37 297 P **P** **08 44 25.0 +0.4**
comp=Z,5.5nm,1.6s
CHTO Chiang Mai 57.37 297 P **P** **08 44 28.6 +4.0**
comp=Z,5.7nm,1.5s
CHTO Chiang Mai 57.37 297 P **P** **08 44 25.4 +0.8**
comp=Z,3.2nm,1.5s
KLR Kul'dur 57.80 345 P **P** **08 44 25.0 -2.0**
comp=Z,5.5nm,0.9s,baz=142,slow=2.9,SNR=15
KLR Kul'dur 57.80 345⇑ *e*P **P** **08 44 25.2 -1.8**
KLR pmax pmax
comp=Z,7.0nm,0.9s
KHLH Kahului Airpor 57.82 61 P **P** **08 44 28.6 +0.9**
CD2 Chengdu 58.62 312 P **P** **08 44 33.1 -0.1**
CD2 S **S** **08 52 38.0 +3.0**
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 LR LR
comp=Z,620nm,18.6s
CD2 LR LR
comp=Z,810nm,15.7s
CD2 LR LR
comp=Z,800nm,18.6s
PET Petropavlovsk 59.30 5 *e*P **P** **08 44 37.1 -0.2**
PET *e*S **S** **08 52 43.8 +1.0**
PET *e*PS 08 53 07.5
PET pmax pmax
comp=Z,100nm,15.1s
PET MLR MLR
comp=Z,300nm,21.0s
PETK Petropavlovsk- 59.30 4 P **P** **08 44 35.3 -2.1**
comp=Z,2.9nm,0.6s,baz=182,slow=7.5,SNR=6.5
PETK LR LR 09 07 00.6
comp=Z,186nm,19.9s,baz=181,slow=33
HHC Hu-ho-hao-te 59.39 326 *e*P **P** **08 44 40.6 +2.2**
HHC S **S** **08 52 46.4 +1.6**
HHC pmax pmax
comp=Z,17nm,0.7s
HHC pmax pmax
comp=Z,130nm,6.4s
HHC LR LR
comp=Z,310nm,17.0s
HHC LR LR
comp=Z,340nm,17.0s
HHC LR LR
comp=Z,600nm,17.0s
LZH Lanzhou 61.29 317 *e*P **P** **08 44 51.6 0.0**
LZH PP **PP** **08 47 07.5 +0.5**
LZH *e*S **S** **08 53 14.9 +5.5**
LZH pmax pmax
comp=Z,31nm,1.3s
LZH pmax pmax
comp=Z,230nm,7.0s
LZH LR LR
comp=Z,450nm,15.7s
LZH LR LR
comp=Z,400nm,16.0s
LZH LR LR
comp=Z,460nm,18.5s
ZEA Zeya 63.08 344 *e*P **P** **08 45 01.9 -1.1**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZEA MLR MLR
comp=E,100nm,13.0s
ZEA MLR MLR
comp=N,200nm,16.0s
ZEA MLR MLR
comp=Z,100nm,17.0s
MA2 Magadan 65.55 360 P **P** **08 45 17.6 -1.5**
comp=Z,4.4nm,0.6s,baz=195,slow=4.2,SNR=5.6
MA2 Magadan 65.55 360⇓ *e*P **P** **08 45 17.4 -1.7**
MA2 pmax pmax
comp=Z,7.0nm,0.7s
GTA Gaotai 65.76 318 *e*P **P** **08 45 20.8 -0.2**
GTA PP **PP** **08 47 44.8 -1.4**
GTA S **S** **08 54 08.3 +3.4**
GTA SS **SS** **08 58 19.8 -0.3**
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA pmax pmax
comp=Z,110nm,5.6s
GTA LR LR
comp=Z,230nm,18.5s
GTA LR LR
comp=Z,310nm,18.9s
GTA LR LR
comp=Z,330nm,17.5s
SHL Shillong 65.85 301 P **P** **08 45 20.8 -1.1**
SHL pmax pmax
comp=Z,16nm,0.8s
SHL Shillong 65.85 301 P **P** **08 45 20.8 -1.1**
SHL IAmb IAmb 08 45 22.9
comp=Z,16nm,0.8s
ULN Ulaanbaatar 66.46 329 *d i*P **P** **08 45 25.5 +0.1**
ULN pmax pmax
comp=Z,14nm,1.3s
ULN Ulaanbaatar 66.46 329 P **P** **08 45 24.6 -0.8**
comp=Z,946nmcomp=Z,46nm,1.0s
SONM Songino Array 66.78 329 P **P** **08 45 25.3 -2.1**
comp=Z,6.7nm,0.9s,baz=136,slow=5.9,SNR=25
SONM LR LR 09 13 52.4
comp=Z,512nm,20.8s,baz=140,slow=35
SONM PKP2ab 09 14 04.1
comp=Z,0.5nm,0.5s,baz=354,slow=4.3,SNR=4.3
SONM Songino Array 66.78 329 P **P** **08 45 26.5 -0.9**
SONM pmax pmax
comp=Z,11nm,1.2s
SONM Songino Array 66.78 329 P **P** **08 45 26.4 -0.9**
SEY Seymchan 68.92 0 LR LR 09 14 35.4
comp=Z,109nm,20.0s,baz=150,slow=35
ZAK Zakamensk 69.97 329 *e*P **P** **08 45 46.1 -1.2**
ZAK pmax pmax
comp=Z,17nm,1.1s
ZAK pmax pmax
comp=Z,11nm,1.3s
YAK Yakutsk 70.06 349⇑ *e*P **P** **08 45 47.0 -0.4**
YAK pmax pmax
comp=Z,16nm,0.5s
VNDA Vanda 71.51 178 P **P** **08 45 57.4 +1.4**
comp=Z,1.7nm,0.8s,baz=326,slow=8.2,SNR=4.3
BILL Bilibino 74.79 6 *d i*P **P** **08 46 17.3 +1.8**
BILL *e* 08 46 29.0
BILL *e* 08 49 03.1
BILL pmax pmax
comp=Z,30nm,1.2s
BILL Bilibino 74.79 6 P **P** **08 46 15.7 +0.3**
BILL IAmb IAmb 08 46 18.4
comp=Z,30nm,1.1s
BILL IAMs_20 IAMs_20 09 16 37.6
comp=Z,2μm,20.0s
HYB Hyderabad 75.67 290 *i* P **P** **08 46 20.0 -1.6**
WMQ Urumqi 75.84 318 *e*P **P** **08 46 23.3 +1.2**
WMQ LR LR
comp=Z,320nm,29.0s
WMQ LR LR
comp=Z,1μm,29.2s
WMQ LR LR
comp=Z,380nm,29.2s
SII Sitkinak Islan 76.61 28 P **P** **08 46 27.7 +1.6**
baz=236
KDAK Kodiak Island 78.02 27 P **P** **08 46 32.5 -1.5**
comp=Z,18nm,0.9s,baz=224,slow=3.6,SNR=6.2
Q19K Cape Douglas, 78.18 26 P **P** **08 46 36.0 +1.1**
baz=236
N18K Kilae Creek 78.25 24 P **P** **08 46 35.5 +0.2**
N18K IAmb IAmb 08 46 38.3
comp=Z,20nm,1.1s
N18K Kilae Creek 78.25 24 P **P** **08 46 36.6 +1.3**
baz=234,SNR=7.3
DGZ Jazzator, Alta 78.37 323⇓ *e*P **P** **08 46 35.0 -1.3**
DGZ pmax pmax
comp=Z,5.0nm,0.9s
O19K Port Alsworth 78.61 24 P **P** **08 46 36.5 -0.6**
O19K Port Alsworth 78.61 24 P **P** **08 46 37.9 +0.7**
baz=235
SVW2 Sparrevohn 78.62 23 P **P** **08 46 37.7 +0.4**
SVW2 IAmb IAmb 08 46 40.1
comp=Z,19nm,0.9s
P19K Oil Pt 78.76 25 P **P** **08 46 37.8 -0.3**
baz=236,SNR=6.6
N19K Bonanza Creek 78.89 24 IAMs_20 IAMs_20 09 15 47.1
comp=Z,386nm,19.0s
N19K Bonanza Creek 78.89 24 P **P** **08 46 39.7 +0.9**
baz=235
ZSN Zaisan 79.06 321 *e*P **P** **08 46 38.8 -1.3**
baz=321
ZSN Zaisan 79.06 321 *e*P **P** **08 46 38.7 -1.3**
HOM Homer 79.44 26 P **P** **08 46 43.2 +1.4**
baz=238
L19K White Mountain 79.54 23 P **P** **08 46 43.4 +1.1**
baz=235,SNR=14
CNPM China Poot 79.54 26 P **P** **08 46 42.0 -0.4**
M19K Big River Lodg 79.56 23 IAMs_20 IAMs_20 09 16 42.5
comp=Z,413nm,21.0s
M19K Big River Lodg 79.56 23 P **P** **08 46 43.0 +0.6**
baz=235
BRLK Bradley Lake 79.82 26 P **P** **08 46 44.0 +0.1**
BRLK IAmb IAmb 08 46 45.6
comp=Z,31nm,0.8s
BRSE Bradley Lake S 79.87 26 P **P** **08 46 45.2 +1.0**
baz=239
L20K Farewell, AK 80.08 23 P **P** **08 46 46.3 +1.0**
baz=236,SNR=6.6
MK31 Makanchi Array 80.47 319 P **P** **08 46 46.1 -1.6**
MK31 pmax pmax
comp=Z,3.0nm,0.8s
MK31 Makanchi Array 80.47 319 P **P** **08 46 46.1 -1.6**
MKAR Makanchi Array 80.47 319 P **P** **08 46 46.4 -1.3**
comp=Z,2.9nm,0.9s,baz=99,slow=7.5,SNR=14
MKAR PKKPbc **PKKPbc** **09 05 30.0 -1.0**
comp=Z,0.7nm,0.7s,baz=242,slow=2.6,SNR=5.1
MKAR Makanchi Array 80.47 319 P **P** **08 46 46.1 -1.6**
MKAR Makanchi Array 80.47 319 P **P** **08 46 46.1 -1.6**
K20K Telida 80.51 22 P **P** **08 46 48.4 +0.9**
baz=235,SNR=12
SEW Seward 80.61 26 P **P** **08 46 48.3 +0.3**
baz=240,SNR=13
MAKZ Makanchi 80.68 319 P **P** **08 46 47.7 -1.1**
MAKZ pmax pmax
comp=Z,7.0nm,1.1s
MAKZ Makanchi 80.68 319 P **P** **08 46 47.6 -1.1**
O22K Cooper Landing 80.69 25 P **P** **08 46 49.0 +0.5**
baz=240
SKT Skwentna 80.72 24 P **P** **08 46 48.1 -0.5**
baz=238
SUA Susitna One 80.77 24 P **P** **08 46 48.8 -0.2**
baz=239,SNR=6.1
J20K Nowinta River 80.96 21 P **P** **08 46 50.5 +0.7**
baz=235,SNR=15
RC01 Rabbit Creek A 80.99 25 P **P** **08 46 50.2 +0.1**
baz=240,SNR=7.6
SHLS Shalkode 81.24 315 *e*P **P** **08 46 48.8 -3.2**
baz=315
SHLS Shalkode 81.24 315 *e*P **P** **08 46 48.8 -3.2**
CAST Castle Rocks 81.29 22 P **P** **08 46 50.6 -1.1**
baz=237,SNR=20
CHUM Lake Minchumin 81.46 22 P **P** **08 46 52.3 -0.2**
baz=237,SNR=19
PWL Port Wells 81.47 25 P **P** **08 46 52.0 -0.6**
PMR Palmer 81.50 25 P **P** **08 46 51.9 -0.8**
baz=240,SNR=9.0
UZB Uzynbulak 81.55 315 *e*P **P** **08 46 51.2 -2.4**
baz=315
UZB Uzynbulak 81.55 315 *e*P **P** **08 46 51.2 -2.4**
ZAA0 Zalesovo Array 81.55 327 P **P** **08 46 50.9 -2.3**
ZALV Zalesovo Beam 81.55 327 P **P** **08 46 51.8 -1.4**
comp=Z,3.1nm,0.6s,baz=100,slow=4.7,SNR=8.3
ZALV LR LR 09 24 38.7
comp=Z,220nm,19.3s,baz=142,slow=37
ZALV Zalesovo Beam 81.55 327 P **P** **08 46 51.4 -1.8**
ZALV Zalesovo Beam 81.55 327 P **P** **08 46 51.4 -1.8**
GHO Glory Hole Cre 81.67 24 P **P** **08 46 54.0 +0.2**
GHO IAmb IAmb 08 46 55.4
comp=Z,19nm,0.8s
KNK Knik Glacier 81.69 25 P **P** **08 46 54.2 +0.4**
KNK Knik Glacier 81.69 25 P **P** **08 46 54.3 +0.5**
baz=241
KTH Kantishna Hill 81.80 22 P **P** **08 46 53.0 -1.4**
KTH IAmb IAmb 08 46 55.4
comp=Z,17nm,0.8s
KPKS Kokpek 81.88 315 *e*P **P** **08 46 53.8 -1.6**
baz=315
KPKS Kokpek 81.88 315 *e*P **P** **08 46 53.7 -1.6**
SML Sawmill 81.94 25 P **P** **08 46 54.4 -0.8**
SML Sawmill 81.94 25 P **P** **08 46 55.4 +0.2**
baz=241,SNR=14
SATY Saty 81.96 315 *e*P **P** **08 46 54.4 -1.5**
baz=315
SATY Saty 81.96 315 *e*P **P** **08 46 54.3 -1.5**
TRF Thorofare Moun 81.99 23 IAMs_20 IAMs_20 09 18 40.8
comp=Z,483nm,21.0s
TRF Thorofare Moun 81.99 23 P **P** **08 46 54.7 -0.9**
baz=239,SNR=9.3
GLI Glacier Island 82.01 26 P **P** **08 46 56.2 +0.7**
GLI Glacier Island 82.01 26 P **P** **08 46 56.5 +1.0**
baz=242,SNR=6.5
BPAW Bear Paw Mtn. 82.07 22 P **P** **08 46 55.3 -0.5**
baz=238,SNR=7.9
H21K Melozitna Rive 82.27 20 P **P** **08 46 57.3 +0.5**
baz=236,SNR=7.3
I21K Tanana 82.29 21 P **P** **08 46 57.2 +0.4**
I21K IAmb IAmb 08 46 59.9
comp=Z,24nm,0.9s
I21K Tanana 82.29 21 P **P** **08 46 57.1 +0.2**
baz=237,SNR=22
SCM Sheep Creek Mo 82.37 25 P **P** **08 46 58.6 +1.1**
SCM pmax pmax
comp=Z,33nm,0.9s
SCM Sheep Creek Mo 82.37 25 P **P** **08 46 58.6 +1.1**
SCM IAmb IAmb 08 46 59.6
comp=Z,33nm,0.9s
TDK Taldyqorghan 82.50 317 *e*P **P** **08 46 56.1 -2.3**
baz=317
TDK Taldyqorghan 82.50 317 *e*P **P** **08 46 56.1 -2.3**
WAT6 Susitna Watana 82.56 24 P **P** **08 46 57.7 -0.9**
baz=241
MCK McKinley 82.66 23 IAMs_20 IAMs_20 09 18 51.4
comp=Z,504nm,21.0s
MCK McKinley 82.66 23 P **P** **08 46 57.6 -1.3**
baz=240,SNR=31
MLY Manley 82.66 21 P **P** **08 46 58.2 -0.6**
baz=238,SNR=33
DIV Divide 82.70 26 P **P** **08 46 59.2 0.0**
DIV IAmb IAmb 08 47 01.5
comp=Z,32nm,1.2s
KLU Klutina 82.80 25 P **P** **08 46 59.9 +0.2**
KLU IAmb IAmb 08 47 02.2
comp=Z,31nm,1.0s
KLU Klutina 82.80 25 P **P** **08 47 00.1 +0.4**
baz=243,SNR=20
KSH Kashi 82.80 311 P **P** **08 47 01.3 +1.0**
KSH pmax pmax
comp=Z,6.0nm,1.0s
KSH pmax pmax
comp=Z,170nm,5.4s
RAGM Ragged Mountai 82.85 27 P **P** **08 47 00.4 +0.4**
MDOK Medeo 82.94 315 *e*P **P** **08 46 59.0 -1.9**
baz=315
MDOK Medeo 82.94 315 *e*P **P** **08 46 59.0 -1.9**
M24K Tolsona, Glenn 82.98 25 P **P** **08 47 00.9 +0.3**
baz=243,SNR=10.0
TNSS Tian-Shan 82.98 315 *e*P **P** **08 46 59.4 -2.1**
baz=315
NEA2 Nenana 83.04 22 IAMs_20 IAMs_20 09 21 10.5
comp=Z,276nm,20.0s
NEA2 Nenana 83.04 22 P **P** **08 46 59.5 -1.3**
baz=240,SNR=25
BMRM Bremner River 83.14 26 P **P** **08 47 02.0 +0.6**
baz=244,SNR=8.1
I23K Minto, Yukon-K 83.22 21 P **P** **08 47 01.9 +0.2**
baz=239,SNR=10
MTBS Maitube 83.37 315 *e*P **P** **08 47 00.2 -2.9**
baz=315
N25K Chitina, Valde 83.42 26 P **P** **08 47 03.6 +0.7**
N25K Chitina, Valde 83.42 26 P **P** **08 47 03.7 +0.8**
baz=244
H23K Yukon River 83.50 21 P **P** **08 47 03.0 -0.2**
baz=239,SNR=8.0
HARP HAARP 83.53 25 P **P** **08 47 03.8 +0.4**
baz=244,SNR=7.0
KUU Kurty 83.63 315 *e*P **P** **08 47 02.3 -2.0**
baz=315
KUU Kurty 83.63 315 *e*P **P** **08 47 02.3 -2.0**
TCOL CIGO, UAF Yank 83.63 22 P **P** **08 47 03.0 -0.8**
TCOL CIGO, UAF Yank 83.63 22 P **P** **08 47 02.4 -1.4**
baz=241,SNR=19
COLA College 83.63 22 IAMs_20 IAMs_20 09 28 29.1
comp=Z,246nm,19.0s
COLA College 83.63 22 P **P** **08 47 02.5 -1.3**
baz=241
NIL Nilore 83.64 305 P **P** **08 47 03.4 -1.2**
NIL pmax pmax
comp=Z,17nm,0.8s
NIL MLR MLR
comp=Z,800nm,22.0s
NIL Nilore 83.64 305 P **P** **08 47 03.4 -1.2**
NIL IAmb IAmb 08 47 06.0
comp=Z,17nm,0.8s
NIL Nilore 83.64 305 IAMs_20 IAMs_20 09 27 10.2
comp=Z,795nm,22.0s
PAX Paxson 83.66 24 P **P** **08 47 04.1 0.0**
PAX pmax pmax
comp=Z,11nm,1.3s
PAX Paxson 83.66 24 P **P** **08 47 04.1 0.0**
PAX Paxson 83.66 24 P **P** **08 47 04.0 -0.2**
baz=243,SNR=6.2
CRQM Cirque 83.69 27 P **P** **08 47 04.9 +0.4**
WAX Waxell Ridge 83.70 27 P **P** **08 47 04.6 +0.2**
WAX IAmb IAmb 08 47 06.8
comp=Z,22nm,0.8s
CRQE Cirque 83.71 27 P **P** **08 47 04.4 -0.1**
baz=246,SNR=12
HDA Harding Lake 83.75 23 IAMs_20 IAMs_20 09 19 03.3
comp=Z,474nm,21.0s
HDA Harding Lake 83.75 23 P **P** **08 47 04.0 -0.4**
baz=242,SNR=17
MAW Mawson 83.78 203 P **P** **08 47 05.5 +1.0**
baz=84,SNR=6.4
MAW Mawson 83.78 203 P **P** **08 47 05.2 +0.6**
comp=Z,7.0nm,1.0s,baz=102,slow=8.1,SNR=8.3
QSPA South Pole Qui 83.79 180 P **P** **08 47 05.1 +0.2**
QSPA IAmb IAmb 08 47 09.9
comp=Z,25nm,0.8s
POKR Poker Plat Res 83.91 22 P **P** **08 47 04.8 -0.4**
baz=241
ILAR Eielson Array 83.94 22 P **P** **08 47 03.4 -2.0**
comp=Z,24nm,0.7s,baz=252,slow=4.9,SNR=119
ILAR Eielson Array 83.94 22 P **P** **08 47 03.0 -2.4**
ILAR Eielson Array 83.94 22 P **P** **08 47 03.0 -2.4**
COLD Coldfoot 84.00 19 P **P** **08 47 06.0 +0.4**
baz=238,SNR=9.9
MCARA McCarthy VSAT 84.01 26 P **P** **08 47 05.9 0.0**
baz=246,SNR=6.8
KURBB Kurchatov Arra 84.05 322 P **P** **08 47 04.6 -1.6**
comp=Z,2.8nm,0.8s,baz=114,slow=3.7,SNR=16
H24K Noodor Dome 84.10 21 P **P** **08 47 06.1 -0.1**
H24K IAmb IAmb 08 47 08.3
comp=Z,11nm,0.8s
H24K Noodor Dome 84.10 21 P **P** **08 47 06.5 +0.2**
baz=241,SNR=14
YAH Yahtse 84.17 27 P **P** **08 47 07.2 +0.3**
RIDG Independent Ri 84.26 24 P **P** **08 47 06.7 -0.4**
baz=244,SNR=14
GRNC Granite Creek 84.31 27 P **P** **08 47 07.9 +0.3**
GRNC IAmb IAmb 08 47 09.9
comp=Z,14nm,0.8s
MENT Mentasta 84.37 25 P **P** **08 47 07.8 +0.1**
MENT IAmb IAmb 08 47 12.3
comp=Z,15nm,0.8s
J25K Salcha River, 84.45 23 P **P** **08 47 06.9 -1.2**
baz=243,SNR=58
BARN Barnard Glacie 84.48 27 P **P** **08 47 09.0 +0.6**
L26K Log Cabin Wild 84.56 25 P **P** **08 47 08.5 -0.1**
L26K IAmb IAmb 08 47 10.8
comp=Z,21nm,0.7s
L26K Log Cabin Wild 84.56 25 P **P** **08 47 08.5 -0.1**
baz=245,SNR=32
CTG Chitna Glacier 84.58 27 P **P** **08 47 09.6 +0.6**
baz=247,SNR=19
CTGM Chitina Glacie 84.59 27 P **P** **08 47 09.6 +0.6**
AAK Ala-Archa 84.63 314 P **P** **08 47 09.2 -0.4**
comp=Z,3.2nm,0.8s,baz=126,slow=6.1,SNR=3.0
AAK Ala-Archa 84.63 314⇑ *i*P **P** **08 47 09.3 -0.3**
AAK pmax pmax
comp=Z,16nm,0.9s
AAK Ala-Archa 84.63 314 IAMs_20 IAMs_20 09 30 42.3
comp=Z,578nm,20.0s
SCRK Sand Creek 84.71 24 P **P** **08 47 08.9 -0.6**
baz=244,SNR=23
SGDS Sogindy 84.72 315 *e*P **P** **08 47 07.6 -2.4**
baz=315
M27K Edge Creek, AK 84.90 25 P **P** **08 47 11.2 +0.6**
M27K Edge Creek, AK 84.90 25 P **P** **08 47 10.4 -0.1**
baz=246,SNR=44
TOLK Toolik Lake Re 84.95 18 IAMs_20 IAMs_20 09 22 52.7
comp=Z,409nm,20.0s
TOLK Toolik Lake Re 84.95 18 P **P** **08 47 11.2 +0.7**
baz=239
J26L Joseph Creek 85.10 23 P **P** **08 47 12.1 +0.7**
baz=245,SNR=24
L27K Beaver Creek, 85.20 25 P **P** **08 47 12.2 +0.3**
L27K IAMs_20 IAMs_20 09 32 45.0
comp=Z,337nm,19.0s
L27K Beaver Creek, 85.20 25 P **P** **08 47 12.7 +0.8**
baz=246,SNR=18
BCAR Beaver Creek A 85.22 25 P **P** **08 47 12.3 +0.3**
YUK3 Moose Creek 85.29 26 P **P** **08 47 13.5 +0.9**
baz=248,SNR=17
BVCY Beaver Creek 85.36 26 P **P** **08 47 14.4 +1.7**
baz=247,SNR=8.3
K27K Chicken 85.49 24 P **P** **08 47 15.2 +1.9**
baz=246
BTLS Baital 85.50 316 *e*P **P** **08 47 11.5 -2.2**
baz=316
BTLS Baital 85.50 316 *e*P **P** **08 47 11.5 -2.2**
YUK6 Outpost Mounta 85.93 27 P **P** **08 47 17.2 +1.4**
baz=250
YUK4 Talbot Arm 85.94 27 P **P** **08 47 16.8 +1.0**
baz=250,SNR=10
EGAK Eagle 86.16 23 P **P** **08 47 16.7 +0.2**
EGAK IAmb IAmb 08 47 18.9
comp=Z,30nm,0.9s
EGAK IAMs_20 IAMs_20 09 20 49.1
comp=Z,372nm,21.0s
EGAK Eagle 86.16 23 P **P** **08 47 16.7 +0.2**
baz=247,SNR=31
HYT Haines Junctio 86.28 28 P **P** **08 47 17.8 +0.4**
HYT Haines Junctio 86.28 28 P **P** **08 47 18.2 +0.8**
baz=250,SNR=24
DAWY Dawson 86.60 24 P **P** **08 47 19.4 +0.6**
baz=249,SNR=21
NRIK Noril'sk 86.83 341 P **P** **08 47 18.1 -1.6**
comp=Z,4.7nm,0.5s,baz=138,slow=5.4,SNR=9.0
NRIK Noril'sk 86.83 341⇑ *i*P **P** **08 47 18.9 -0.8**
NRIK pmax pmax
comp=Z,6.0nm,0.8s
SKAG Skagway 86.88 29 P **P** **08 47 20.8 +0.6**
SKAG IAmb IAmb 08 47 26.1
comp=Z,22nm,1.0s
WHY Whitehorse 87.45 28 P **P** **08 47 23.3 +0.2**
WHY Whitehorse 87.45 28 P **P** **08 47 23.6 +0.5**
baz=253,SNR=18
KKAR Karatay Array 87.59 314 P **P** **08 47 23.2 -0.8**
KKAR Karatay Array 87.59 314 P **P** **08 47 23.2 -0.8**
MAYO Mayo, Yukon 87.90 25 P **P** **08 47 26.5 +1.5**
baz=252,SNR=12
EPYK Eagle Plains 88.46 23 P **P** **08 47 27.6 0.0**
baz=251,SNR=16
FARO Faro, Yukon 88.61 27 P **P** **08 47 28.7 +0.3**
baz=254,SNR=25
DLBC Dease Lake 89.26 31 P **P** **08 47 32.6 +1.0**
comp=Z,16nm,1.0s,baz=274,slow=6.6,SNR=15
BVAR Borovoye Array 89.53 323 P **P** **08 47 30.4 -2.5**
comp=Z,2.7nm,0.8s,baz=139,slow=9.0,SNR=8.6
BRVK Borovoye 89.60 323⇓ *e*P **P** **08 47 30.7 -2.5**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
BRVK Borovoye 89.60 323 IAMs_20 IAMs_20 09 27 02.2
comp=Z,940nm,19.0s
INK Inuvik 90.22 21 P **P** **08 47 35.5 -0.3**
comp=Z,22nm,1.0s,baz=260,slow=6.1,SNR=12
INK Inuvik 90.22 21 P **P** **08 47 35.4 -0.4**
INK pmax pmax

comp=Z,33nm,1.2s
INK Inuvik 90.22 21 P **P** **08 47 35.4 -0.4**
INK IAmb IAmb 08 47 38.0
comp=Z,33nm,1.1s
INK Inuvik 90.22 21 P **P** **08 47 36.4 +0.6**
baz=254
I03D Drain, OR 90.78 46 P **P** **08 47 40.3 +1.3**
baz=262
COR Corvallis 90.93 45 IAMs_20 IAMs_20 09 23 35.4
comp=Z,846nm,18.0s
H04D Lebanon 91.32 46 P **P** **08 47 42.6 +1.2**
baz=263
L04D Klamath Falls 91.34 48 P **P** **08 47 43.1 +1.3**
baz=263
J04D Umpqua Nationa 91.61 47 P **P** **08 47 44.0 +0.9**
baz=263,SNR=11
M04C Macdoel 91.64 48 P **P** **08 47 44.7 +1.5**
baz=263,SNR=7.1
H04A Detroit Lake 91.73 45 P **P** **08 47 43.8 +0.4**
SYO Syowa Base 91.92 200‖ *e*P **P** **08 47 44.6 +0.9**
SYO Syowa Base 91.92 200‖ *ep*P **P** **08 47 47.0 +3.3**
J05D Fort Rock, OR 92.25 47 P **P** **08 47 47.2 +1.2**
baz=264,SNR=14
I05D Terrebonne, OR 92.29 46 P **P** **08 47 47.1 +1.0**
baz=264,SNR=9.3
K05A Summer Lake 92.44 47 P **P** **08 47 46.7 -0.3**
PINE Pine Mountain 92.52 46 P **P** **08 47 48.2 +0.9**
VCNR Virginia City 93.03 51 P **P** **08 47 49.7 -0.1**
VCNR IAmb IAmb 08 47 52.8
comp=Z,8.2nm,0.9s
PNTR Pine Nut 93.05 51 P **P** **08 47 50.4 +0.5**
PNTR IAmb IAmb 08 48 03.3
comp=Z,12nm,0.8s
MDPB Devils Postpil 93.32 53 P **P** **08 47 51.0 -0.2**
MDPB IAmb IAmb 08 48 00.4
comp=Z,11nm,1.1s
I07A Izee 93.58 46 P **P** **08 47 51.9 -0.2**
I07A IAmb IAmb 08 48 05.0
comp=Z,10nm,1.1s
HAWA Hanford 93.76 44 IAMs_20 IAMs_20 09 32 06.3
comp=Z,747nm,19.0s
LHV Little Huntoon 93.83 52 P **P** **08 47 54.5 +1.3**
LHV IAmb IAmb 08 48 07.0
comp=Z,18nm,1.1s
PNT Penticton 93.95 41 P **P** **08 47 50.4 -3.2**
PNT pmax pmax
comp=Z,12nm,0.8s
NVAR Mina Array Bea 94.00 52 P **P** **08 47 54.6 +0.4**
comp=Z,7.9nm,0.8s,baz=254,slow=5.7,SNR=39
NVAR Mina Array Bea 94.00 52 P **P** **08 47 54.8 +0.5**
CWC Cottonwood Cre 94.02 54 P **P** **08 47 55.7 +1.3**
baz=265
WVOR Wild Horse Val 94.07 48 P **P** **08 47 53.5 -0.9**
WVOR pmax pmax
comp=Z,16nm,1.7s
WVOR Wild Horse Val 94.07 48 P **P** **08 47 53.5 -0.9**
NV11 Mina Array Sit 94.12 52 P **P** **08 47 55.6 +0.9**
NV11 IAmb IAmb 08 48 08.1
comp=Z,16nm,1.1s
KVN Kaiserville 94.21 51 P **P** **08 47 54.9 -0.3**
KVN pmax pmax
comp=Z,14nm,1.3s
KVN Kaiserville 94.21 51 P **P** **08 47 54.9 -0.3**
KVN IAmb IAmb 08 48 09.0
comp=Z,14nm,1.3s
LRMC Laurel Mtn Rad 94.26 55 P **P** **08 47 57.2 +1.8**
baz=266,SNR=10
J08A Circle Bar Ran 94.26 47 P **P** **08 47 56.0 +0.7**
J08A IAmb IAmb 08 48 08.8
comp=Z,15nm,1.4s
MPMC Manual Prospec 94.47 54 P **P** **08 47 58.0 +1.5**
baz=266,SNR=7.2
TPH Tonopah 94.83 52 P **P** **08 47 58.6 +0.6**
TPH pmax pmax
comp=Z,57nm,1.3s
TPH Tonopah 94.83 52 P **P** **08 47 58.6 +0.6**
QSM Queen of Sheba 94.96 54 P **P** **08 47 59.0 +0.5**
QSM IAmb IAmb 08 48 13.4
comp=Z,10nm,1.0s
BMO Blue Mountains 95.21 46 IAMs_20 IAMs_20 09 20 00.7
comp=Z,720nm,21.0s
TPNV Topopah Spring 95.52 54 P **P** **08 48 01.6 +0.4**
TPNV pmax pmax
comp=Z,10.0nm,1.1s
TPNV Topopah Spring 95.52 54 P **P** **08 48 01.6 +0.4**
TPNV IAmb IAmb 08 48 07.1
comp=Z,10.0nm,1.1s
TPNV Topopah Spring 95.52 54 P **P** **08 48 02.7 +1.4**
baz=267,SNR=10
NEW Newport 95.53 42 IAMs_20 IAMs_20 09 32 06.8
comp=Z,674nm,18.0s
TUQ Turquoise Moun 95.69 55 P **P** **08 48 03.5 +1.5**
baz=267,SNR=7.2
R11A Troy Canyon, C 96.13 52 P **P** **08 48 05.5 +1.5**
baz=267,SNR=5.5
PLID Pearl Lake 96.14 45 IAMs_20 IAMs_20 09 18 26.5
comp=Z,1µm,22.0s
ELK Elko 96.51 50 P **P** **08 48 06.5 +0.8**
ELK pmax pmax
comp=Z,3.0nm,1.1s
ELK Elko 96.51 50 P **P** **08 48 06.5 +0.8**
ELK IAMs_20 IAMs_20 09 28 12.8
comp=Z,827nm,18.0s
ARU Arti 96.70 326 LR LR 09 30 31.3
comp=Z,233nm,21.0s,baz=94,slow=35
ARU Arti 96.70 326*c i*P **P** **08 48 03.9 -2.0**
ARU 08 51 58.9
ARU S **SKSac** **08 58 36.2 -3.3**
ARU pmax pmax
comp=Z,4.0nm,1.1s
ARU Arti 96.70 326 IAMs_20 IAMs_20 09 29 31.8
comp=Z,563nm,22.0s
AKTO Aktyubinsk 96.90 320 LR LR 09 33 13.8
comp=Z,127nm,18.8s,baz=86,slow=36
SPR3 Spring Creek 3 97.14 52 P Pdif 08 48 09.6 +0.8
SPR3 IAmb IAmb 08 48 22.9
comp=Z,11nm,1.4s
YKA Yellowknife Ar 97.28 28 P **P** **08 48 08.2 -0.1**
comp=Z,6.7nm,0.8s,baz=270,slow=3.8,SNR=9.9
PSUT Pine Spring 97.49 52 P Pdif 08 48 10.7 +0.5
MSO Missoula 97.63 44 IAMs_20 IAMs_20 09 30 30.7
comp=Z,760nm,18.0s
HVU Hansel Valley 98.40 49 P Pdif 08 48 14.3 +0.2
HVU pmax pmax
comp=Z,11nm,1.4s
HVU Hansel Valley 98.40 49 P Pdif 08 48 14.3 +0.2
HVU IAmb IAmb 08 48 27.0
comp=Z,11nm,1.4s
FXWY Fox Creek 99.69 47 IAMs_20 IAMs_20 09 31 05.5
comp=Z,644nm,22.0s
TPAW Teton Pass 99.75 47 IAMs_20 IAMs_20 09 30 04.0
comp=Z,775nm,22.0s
LKWY Lake 100.12 46 IAMs_20 IAMs_20 09 38 06.9
comp=Z,670nm,19.0s
EGMT Eagleton 100.46 42 IAMs_20 IAMs_20 09 19 49.3
comp=Z,466nm,20.0s
SNAA Sanae 100.48 188 Pdiff **Pdif** **08 48 22.2 -0.5**
SNAA Sanae 100.48 188 P **Pdif** **08 48 22.2 -0.5**
comp=Z,2.5nm,1.2s,baz=97,slow=8.1,SNR=6.4
SNAA Sanae 100.48 188‖ *eP* **Pdif** **08 48 22.7 0.0**
SNAA pmax pmax
comp=Z,4.0nm,1.3s
PDAR Pinedale Array 100.78 48 P **Pdif** **08 48 24.9 0.0**
comp=Z,2.1nm,1.0s,baz=220,slow=2.0,SNR=9.2
VOI Vohitsoka 101.17 246 IAMs_20 IAMs_20 09 23 26.5
comp=Z,572nm,19.0s
ABPO Ambohimpanom 101.31 249 IAMs_20 IAMs_20 09 32 01.9
comp=Z,961nm,18.0s
VNA2 Neumayer--Watz 101.76 187 Pdiff **Pdif** **08 48 29.9 +1.6**
TXAR Lajitas Array 105.98 61 Pdiff **Pdif** **08 48 48.5 +0.4**
comp=Z,0.2nm,0.8s,baz=234,slow=3.1,SNR=2.5
TXAR PP **PP** **08 53 08.9 -3.0**
comp=Z,0.5nm,0.9s,baz=291,slow=5.7,SNR=4.5
TXAR PKKPab **PKKPab** **09 04 39.4 +0.2**
comp=Z,0.7nm,0.9s,baz=116,slow=5.7,SNR=6.7
GNI Garni 106.72 310 IAMs_20 IAMs_20 09 28 51.1
comp=Z,308nm,20.0s
AMTX Amarillo 107.36 56 IAMs_20 IAMs_20 09 47 38.6
comp=Z,793nm,19.0s
ARCES ARCESS Array B 107.78 343 PKiKP **PKiKP** **08 53 02.1 -0.3**
comp=Z,5.1nm,1.0s,baz=83,slow=2.2,SNR=2.1
CBKS Cedar Bluff 108.51 51 IAMs_20 IAMs_20 09 35 53.5
comp=Z,704nm,21.0s
OBN Obninsk 109.13 327 IAMs_20 IAMs_20 09 37 20.6
comp=Z,437nm,18.0s
WMOK Wichita Mounta 109.75 55 IAMs_20 IAMs_20 09 46 47.8
comp=Z,901nm,20.0s
OK032 Salt Plains WL 109.96 53 IAMs_20 IAMs_20 09 48 39.2
comp=Z,583nm,22.0s
OK029 Liberty Lake 110.70 54 IAMs_20 IAMs_20 09 38 01.8
comp=Z,696nm,20.0s
OK025 Westminster Rd 110.82 54 IAMs_20 IAMs_20 09 46 20.1
comp=Z,594nm,19.0s
KSU1 Kansas State U 110.88 51 IAMs_20 IAMs_20 09 38 58.3
comp=Z,727nm,20.0s
435B Jarrell 111.15 59 IAMs_20 IAMs_20 09 37 03.6
comp=Z,603nm,20.0s
OK031 S. Brethren Rd 111.17 54 IAMs_20 IAMs_20 09 49 13.4
comp=Z,655nm,20.0s
X37A Clayton 112.55 55 IAMs_20 IAMs_20 09 46 28.1
comp=Z,743nm,22.0s
HKT Hockley 112.74 60 IAMs_20 IAMs_20 09 46 45.7
comp=Z,1µm,22.0s
KIBK Kibwezi 112.95 265 IAMs_20 IAMs_20 09 30 45.5
comp=Z,830nm,20.0s
FURI Furi 113.36 277 IAMs_20 IAMs_20 09 33 56.7
comp=Z,742nm,21.0s
NATX Nacogdoches 113.53 58 IAMs_20 IAMs_20 09 46 41.4
comp=Z,839nm,19.0s
W39A Magazine 113.75 54 IAMs_20 IAMs_20 09 47 06.6
comp=Z,617nm,20.0s
KMBO Kilima Mbogo 113.90 266 IAMs_20 IAMs_20 09 33 16.5
comp=Z,698nm,20.0s
MIAR Mount Ida 114.02 55 IAMs_20 IAMs_20 09 43 41.0
comp=Z,691nm,21.0s
MNK Minsk 114.04 328 *i* PKiKP **PKiKP** **08 53 15.8 +1.2**
MNK *i* 08 54 05.2
MNK *i* PPP PPP 08 56 29.4
MNK *i* 09 00 18.8
MNK *i* PS **PS** **09 03 43.0 -3.9**
MNK *i* SS SS 09 09 52.3 -3.8
MNK *i* SSS SSS 09 14 06.5
MNK MLR MLR
comp=N,100nm,17.0s
MNK MLR MLR
comp=E,18nm,17.0s
MNK MLR MLR
comp=Z,633nm,17.0s
MNK Minsk 114.04 328 *i* PKP **PKiKP** **08 53 15.8 +1.2**
MNK *i* PKP **PKiKP** **08 53 15.8 +1.2**
MNK *i* PKP **PKiKP** **08 53 15.8 +1.2**
baz=65
MNK *i* PP **PP** **08 54 05.2 -3.8**
MNK *i* PPP PPP 08 56 29.4
MNK *i* SKS **SKSdf** **09 00 18.8 -4.8**
MNK *i* PS PKKPbc 09 03 43.0 -15
MNK *i* SS **SS** **09 09 52.3 -3.7**
MNK *i* SSS SSS 09 14 06.5
MNK *i* LQ LQ 09 30 06.9
MNK *i* LR LR 09 36 11.3
MNK *i* LRM MLR 09 43 00.5
comp=E,18nm,17.2s
MNK *i* LRM MLR 09 43 02.5
comp=N,100nm,17.2s
MNK *i* LRM MLR 09 43 04.4
comp=Z,633nm,17.2s
COWI Conover 114.63 42 IAMs_20 IAMs_20 09 34 32.1
comp=Z,628nm,18.0s
X40A Basin Creek Fa 114.64 55 IAMs_20 IAMs_20 09 46 47.2
comp=Z,825nm,20.0s
AKASG Malin Array Be 114.81 324 PKP **PKiKP** **08 53 14.9 -1.3**
comp=Z,1.9nm,0.6s,baz=59,slow=2.6,SNR=8.0
BRTR Keskin Array B 115.19 311 PKP **PKiKP** **08 53 16.7 -0.8**
comp=Z,1.0nm,0.7s,baz=88,slow=4.2,SNR=5.0
CCM Cathedral Cave 115.21 51 IAMs_20 IAMs_20 09 47 41.8
comp=Z,757nm,22.0s
GHAJ Ghor Haditha 115.25 302 IAMs_20 IAMs_20 09 45 07.0
comp=Z,808nm,18.0s
HDIL Hopedale 116.08 48 IAMs_20 IAMs_20 09 53 25.5
comp=Z,742nm,18.0s
LODK Lodwar 116.27 271 IAMs_20 IAMs_20 09 33 12.2
comp=Z,798nm,19.0s
L44A Lake County Fo 116.64 46 IAMs_20 IAMs_20 09 54 17.9
comp=Z,914nm,20.0s
SUW Suwalki 116.72 329 IAMs_20 IAMs_20 09 43 12.1
comp=Z,577nm,20.0s
HQIL Hanson Quary C 116.79 46 IAMs_20 IAMs_20 09 54 07.9
comp=Z,884nm,22.0s
VBMS Vicksburg 116.94 57 IAMs_20 IAMs_20 09 52 10.5
comp=Z,868nm,20.0s
OXF Oxford 117.41 54 IAMs_20 IAMs_20 09 53 53.6
comp=Z,711nm,20.0s
BOSA Boshof 117.71 233 PKP **PKiKP** **08 53 22.9 +0.3**
comp=Z,4.0nm,1.1s,baz=170,slow=6.1,SNR=2.0
NB2 NORSAR Subarra1 117.73 339 PKPdf **PKiKP** **08 53 22.0 +0.4**
comp=Z,4.3nm,1.2s,baz=44,slow=1.9
NOA NORSAR Array B 117.73 339 PKP **PKPdf** **08 53 21.1 -0.5**
comp=Z,3.4nm,0.9s,baz=49,slow=2.0,SNR=6.5
ISP Isparta 118.02 310 IAMs_20 IAMs_20 09 48 19.5
comp=Z,325nm,21.0s
WVT Waverly 118.31 52 IAMs_20 IAMs_20 09 53 26.0
comp=Z,936nm,21.0s
PLAL Pickwick Lake 118.38 54 IAMs_20 IAMs_20 09 54 03.1
comp=Z,711nm,19.0s
MLR Muntele Rosu 118.82 319 PKP **PKPdf** **08 53 24.2 -0.1**
comp=Z,3.3nm,0.7s,baz=48,slow=6.2,SNR=3.5
MLR Muntele Rosu 118.82 319 IAMs_20 IAMs_20 09 48 53.5
comp=Z,572nm,20.0s
WCI Wyandotte Cave 118.95 50 IAMs_20 IAMs_20 09 53 08.6
comp=Z,1µm,20.0s
KWP Kalwaria Pacla 119.06 325 IAMs_20 IAMs_20 09 47 41.3
comp=Z,5µm,21.0s
PLCA Paso Flores 119.48 144 PKP **PKiKP** **08 53 25.9 +0.2**
comp=Z,2.3nm,0.9s,baz=258,slow=5.0,SNR=4.6
KOLS Kolonicke sedl 119.64 324 *e*PKP **PKiKP** **08 53 27.2 +1.6**
LRAL Lakeview Retre 119.69 55 IAMs_20 IAMs_20 09 43 26.1
comp=Z,792nm,21.0s
CRVS Cervenica-Dubn 120.12 324 *e*PKP **PKiKP** **08 53 27.7 +1.1**
NIE Niedzica 120.54 325 *e*PKPdf **PKiKP** **08 53 28.7 +1.3**
ACSO Alum Creek Sta 120.78 46 IAMs_20 IAMs_20 09 48 10.6
comp=Z,1µm,21.0s
LANS Liptovska Anna 121.15 325 *e*PKP **PKiKP** **08 53 30.2 +1.6**
PSZ Piszkesteto 121.51 324 IAMs_20 IAMs_20 09 40 47.3
comp=Z,707nm,19.0s
OKC Ostrava Krasne 121.53 326 AMS AMS 10 09 50.0
comp=Z,2µm,22.9s
P52A Corning 121.60 47 IAMs_20 IAMs_20 09 54 47.3
comp=Z,777nm,19.0s
VTS Vitosha 121.74 317 PKiKP **PKPdf** **08 53 29.9 -0.1**
VTS Vitosha 121.74 317 PKPdf **PKPdf** **08 53 29.9 -0.1**
MORC Moravsky Berou 121.89 327 *e*PKP **PKiKP** **08 53 30.3 +0.2**
KSP Ksiaz 121.98 328 *e*PKPdf **PKiKP** **08 53 31.3 +1.1**
O53A New Philadelph 122.04 46 IAMs_20 IAMs_20 09 48 45.9
comp=Z,1µm,20.0s
KRLC Kraliky 122.14 327 *e*PKiKP **PKiKP** **08 53 30.8 +0.2**
KRLC MLR MLR
comp=Z,1µm,19.8s
KRLC Kraliky 122.14 327 *e*PKPDF **PKiKP** **08 53 30.8 +0.2**
KRLC AMS AMS 10 14 00.0
comp=Z,1µm,19.8s
OSTC Ostas 122.18 328 *e*PKPDF **PKiKP** **08 53 30.7 +0.1**
OSTC *ex* x 09 00 19.7
OSTC AMS AMS 10 18 00.0
comp=Z,800nm,19.6s
DPC Dobruska-Polom 122.24 328 *e*PKiKP **PKiKP** **08 53 31.0 +0.2**
DPC MLR MLR
comp=Z,900nm,16.7s
DPC Dobruska-Polom 122.24 328 *e*PKPDF **PKiKP** **08 53 31.0 +0.2**
DPC *ex* x 08 59 59.6
DPC AMS AMS 10 21 50.0
comp=Z,900nm,16.7s
CHVC Chvalec 122.25 328 *e*PKPDF **PKiKP** **08 53 31.5 +0.8**
CHVC AMS AMS 10 17 50.0
comp=Z,900nm,16.8s
JAVC Velka Javorina 122.31 326 *e*PKP **PKiKP** **08 53 32.1 +1.1**
UPC Upice 122.31 328 *ex* x 09 00 13.2
UPC AMS AMS 10 11 50.0
comp=Z,800nm,19.9s
CNGN Cerro Negro 122.39 79 IAMs_20 IAMs_20 09 42 19.4
comp=Z,787nm,20.0s
VRAC Vranov 122.67 327 PKP **PKiKP** **08 53 32.0 +0.4**
comp=Z,2.1nm,0.4s,baz=95,slow=1.4,SNR=5.3
VRAC Vranov 122.67 327 PKiKP **PKiKP** **08 53 32.0 +0.4**
VRAC Vranov 122.67 327 *e*PKP **PKiKP** **08 53 32.0 +0.4**
MODS Modra-Piesok 122.79 325 *e*PKP **PKPdf** **08 53 31.2 -0.5**
FRGS Fruska Gora 122.88 321 *e*P **PKPdf** **08 53 30.9 -1.1**
KRUC Moravsky 122.91 326 *e*PKP **PKiKP** **08 53 32.0 -0.1**
BSEG Bad Segeberg 122.95 334 *e*PKPdf **PKiKP** **08 53 32.9 +0.9**
baz=52,slow=1.9
ZST Bratislava 122.98 325 *e*PKP **PKiKP** **08 53 34.0 +1.8**
PVCC Panska Ves 123.06 329 AMS AMS 10 11 30.0
comp=Z,2µm,20.5s
IDI Anoyia 123.08 308 PKP **PKiKP** **08 53 33.2 +0.2**
comp=Z,7.8nm,0.7s,baz=72,slow=6.4,SNR=6.2
MORH Mrgy, Hungar 123.09 323 *e*P **PKPdf** **08 53 31.4 -0.9**
BRG Berggiesshubel 123.17 329 *e*PKPdf **PKiKP** **08 53 33.2 +0.7**
baz=52,slow=1.9
BRG Berggiesshubel 123.17 329 *e*PKP **PKiKP** **08 53 32.7 +0.2**
BRG Amp 08 53 34.6
comp=Z,14nm,0.9s
BRG pPKP **pPKPdf** **08 53 43.1 -0.1**
BRG Amp 08 53 45.1
comp=Z,12nm,1.0s
MCWV Mont Chateau 123.24 46 IAMs_20 IAMs_20 09 53 12.6
comp=Z,1µm,21.0s
DIVS Divibare 123.25 320 *e*P **PKPdf** **08 53 32.2 -0.6**
TREC Trest 123.28 327 AMS AMS 10 13 20.0
comp=Z,2µm,19.5s
CLL Collm 123.38 330 *i* PKPdf **PKiKP** **08 53 32.8 -0.1**
comp=Z,13nm,0.9s
CLL *i* 08 53 41.6
CLL Collm 123.38 330 *i* PKiKP **PKiKP** **08 53 32.8 -0.1**
CLL *i* 08 53 41.6
CLL pmax pmax
comp=Z,13nm,0.9s
CLL Collm 123.38 330 IAMs_20 IAMs_20 09 37 56.1
comp=Z,681nm,19.0s
CLL Collm 123.38 330 *e*PKPdf **PKiKP** **08 53 33.4 +0.5**
baz=52,slow=1.9
PRU Pruhonice 123.38 328 *e*PKiKP **PKPdf** **08 53 32.8 +0.1**
PRU MLR MLR
comp=Z,1µm,20.6s
PRU Pruhonice 123.38 328 *e*PKPDF **PKPdf** **08 53 32.8 +0.1**
PRU *ex* x 09 00 04.8
PRU AMS AMS 10 12 50.0
comp=Z,1µm,20.6s
PRA Prague 123.39 328 AMS AMS 10 12 40.0
comp=Z,1µm,19.2s
FBE Freiberg 123.44 330 *e*PKPdf **PKiKP** **08 53 34.0 +1.0**
baz=52,slow=1.9
FLTG Flechtingen 123.59 332 *e*PKPdf **PKiKP** **08 53 33.7 +0.4**
baz=52,slow=1.9
BBLS Lazići 123.73 320 *e*P **PKPdf** **08 53 32.3 -0.5**
CONA Conrad Observa 123.83 325 *e*P **PKiKP** **08 53 34.0 -0.1**
comp=Z,7.8nm,0.9s,SNR=5.2
HAPS Han Pijesak,Bl 123.92 320 *e*P **PKPdf** **08 53 33.6 -0.5**
NRDL Niedersach Rie 124.00 333 *e*PKPdf **PKiKP** **08 53 35.0 +1.0**
baz=52,slow=1.9
BEHE Becsehely 124.08 324 *e*P **PKiKP** **08 53 35.6 +1.1**
CKRC Cesky Krumlov 124.19 327 *e*PKPDF **PKiKP** **08 53 34.5 -0.1**
CKRC AMS AMS 10 07 30.0
comp=Z,2µm,24.0s
TANN Tannenbergstha 124.20 329 *e*PKPdf **PKiKP** **08 53 35.3 +0.7**
baz=52,slow=1.9
WERD Werda 124.26 330 *e*PKPdf **PKiKP** **08 53 35.5 +0.8**
baz=52,slow=1.9
GUNZ Gunzen 124.30 329 *e*PKPdf **PKiKP** **08 53 35.5 +0.7**
baz=52,slow=1.9
PLN Plauen 124.31 330 *e*PKPdf **PKiKP** **08 53 35.5 +0.7**
baz=52,slow=1.9
CLZ Clausthal 124.31 332 *e*PKPdf **PKiKP** **08 53 35.7 +0.9**
baz=52,slow=1.9
WERN Wernitzgruen 124.32 329 *e*PKPdf **PKiKP** **08 53 35.8 +0.9**
baz=52,slow=1.9
ARSA Arzberg 124.39 325 *i* P **PKiKP** **08 53 35.1 0.0**
comp=Z,3.8nm,0.7s
ARSA *e*P **pPKPdf** **08 53 45.0 -0.8**
comp=Z,6.4nm,0.9s
KHC Kasperske Hory 124.39 328 *e*PKiKP **PKPdf** **08 53 34.5 -0.3**
KHC *e* 08 53 43.5
KHC MLR MLR
comp=Z,1µm,17.1s
KHC Kasperske Hory 124.39 328 *e*PKPDF **PKPdf** **08 53 34.5 -0.3**
KHC *ex* x 08 53 43.5
KHC *ex* x 08 58 14.8
KHC *ex* x 08 59 53.1
KHC AMS AMS 10 13 00.0
comp=Z,1µm,17.1s
MOX Moxa 124.48 330 *e*PKPdf **PKiKP** **08 53 35.8 +0.6**
baz=52,slow=1.9
PDG Podgorica 124.48 318 *e*P **PKPdf** **08 53 34.8 -0.2**
PDG Podgorica 124.48 318 IAMs_20 IAMs_20 09 39 35.4
comp=Z,736nm,20.0s
GEC2 GERESS Array S 124.50 327 *e*PKPdf **PKiKP** **08 53 35.7 +0.4**
baz=52,slow=1.9
GERES GERESS Array B 124.50 327 PKP **PKPdf** **08 53 33.8 -1.2**
comp=Z,8.5nm,0.8s,baz=72,slow=1.7,SNR=40
DRME Dracevica, Mon 124.64 318 *e*P **PKPdf** **08 53 34.3 -1.1**
MANZ Manzenberg 124.64 329 *e*PKPdf **PKiKP** **08 53 36.1 +0.6**
baz=52,slow=1.9
GTTG Gottingen 124.70 332 *e*PKPdf **PKiKP** **08 53 36.5 +1.0**
baz=52,slow=1.9
ROTZ Rotzenmuhle 124.73 329 *e*PKPdf **PKiKP** **08 53 36.2 +0.5**
baz=52,slow=1.9
BRY Bratogost 124.74 319 *e*P **PKPdf** **08 53 35.7 0.0**
MRAK Mrakovica 124.75 322 *e*P **PKiKP** **08 53 35.8 -0.1**
WET Wettzell 124.76 328 *e*PKPdf **PKiKP** **08 53 36.5 +0.8**
baz=52,slow=1.9
MOA Molln 124.76 326 *i* P **PKPdf** **08 53 35.4 -0.1**
comp=Z,4.8nm,1.1s
PERS Pernice 124.96 325 *i* PKPdf **PKPdf** **08 53 35.8 -0.2**
PERS *i* pPKPdf **pPKPdf** **08 53 46.1 -0.7**
HCY Herceg Novi 124.98 319 *e*P **PKPdf** **08 53 34.5 -1.5**
SOKA Soboth 124.98 325 *e*P **PKPdf** **08 53 35.9 -0.1**
comp=Z,11nm,1.0s,SNR=5.3
SOKA *i* P **pPKPdf** **08 53 46.2 -0.8**
comp=Z,9.0nm,0.9s
IBBN Ibbenburen 125.19 334 *e*PKPdf **PKiKP** **08 53 37.4 +1.0**
baz=52,slow=1.9
CRES Cresnjev 125.20 324 *e*P **PKPdf** **08 53 36.3 -0.1**
GRF Grafenberg Arr 125.28 329 *e*PKPdf **PKiKP** **08 53 37.3 +0.5**
baz=52,slow=1.9
OBKA Obir 125.36 325 *i* P **PKPdf** **08 53 36.4 -0.4**
comp=Z,5.7nm,1.0s
OBKA *e*P **pPKPdf** **08 53 46.7 -1.0**
comp=Z,7.1nm,1.1s
BOJS Bojanci 125.49 323 *e*P **PKiKP** **08 53 37.1 -0.2**
BOJS Bojanci 125.49 323 *i* PKPdf **PKiKP** **08 53 37.4 +0.1**
LJU Ljubljana 125.62 324 *e*P **PKPdf** **08 53 36.4 -0.8**
KASTN Kahler Asten 125.65 332 *e*PKPdf **PKiKP** **08 53 38.2 +0.7**
baz=52,slow=1.9
KBA Koelnbreinsper 125.72 326 *i* P **PKPdf** **08 53 36.9 -0.7**
comp=Z,9.7nm,0.9s
KBA *i* P **pPKPdf** **08 53 47.3 -1.2**
comp=Z,15nm,1.1s
MYKA Terra Mystica 125.81 325 *i* P **PKiKP** **08 53 38.0 0.0**
comp=Z,6.5nm,0.9s
MYKA *i* P **pPKPdf** **08 53 47.4 -1.2**
comp=Z,7.6nm,1.0s
CEY Cerknica 125.85 324 *e*P **PKPdf** **08 53 37.3 -0.3**
CEY Cerknica 125.85 324 *i* PKPdf **PKiKP** **08 53 37.9 -0.2**
TRY Troy 126.12 40 IAMs_20 IAMs_20 09 49 51.9
comp=Z,1µm,22.0s
MILB Miltenberg 126.15 331 *e*PKPdf **PKiKP** **08 53 39.0 +0.5**
baz=52,slow=1.9
SKDS Skadanscina 126.20 324 *e*P **PKPdf** **08 53 37.4 -0.9**
TNS Taunus Mts 126.30 331 *e*PKPdf **PKiKP** **08 53 39.4 +0.6**
baz=52,slow=1.9
ABTA Abfaltersbach 126.38 326 *e*P **PKPdf** **08 53 38.2 -0.5**
comp=Z,17nm,1.0s,SNR=10
ABTA *i* P **pPKPdf** **08 53 48.6 -1.1**
comp=Z,14nm,1.1s
LBNH Lisbon 126.44 38 IAMs_20 IAMs_20 09 56 16.0
comp=Z,1µm,20.0s
WATA Walderalm 126.54 327 *e*P **PKPdf** **08 53 39.0 -0.1**
comp=Z,18nm,1.1s,SNR=5.5
WATA *e*P **pPKPdf** **08 53 49.3 -0.7**
comp=Z,8.5nm,0.7s
WTTA Wattenberg 126.55 327 *e*P **PKPdf** **08 53 39.3 +0.1**
comp=Z,29nm,0.9s,SNR=14
WTTA *e*P **pPKPdf** **08 53 49.6 -0.5**
comp=Z,27nm,1.1s
AHRW Bad Neuenahr-A 126.72 332 *e*PKPdf **PKiKP** **08 53 40.2 +0.7**
baz=52,slow=1.9
MOTA Moosalm 126.79 327 *e*P **PKPdf** **08 53 39.6 0.0**
comp=Z,24nm,0.9s,SNR=10
MOTA *i* P **pPKPdf** **08 53 49.6 -0.9**
comp=Z,22nm,1.0s
SQTA Sankt Quirin 126.81 327 *e*P **PKPdf** **08 53 39.6 +0.1**
comp=Z,14nm,0.7s,SNR=5.9
SQTA *i* P **pPKPdf** **08 53 50.1 -0.4**
comp=Z,20nm,1.1s
RETA Reutte 126.89 327 *i* P **PKPdf** **08 53 39.5 -0.1**
comp=Z,7.5nm,0.9s
RETA *i* P **pPKPdf** **08 53 50.0 -0.5**
comp=Z,11nm,1.1s
STU Stuttgart 126.89 330 IAMs_20 IAMs_20 09 36 23.9
comp=Z,666nm,20.0s

STU	Stuttgart	126.89	330	*e*PKPdf		PKiKP	08 53 40.2	+0.3
	baz=52,slow=1.9							
EKA	Eskdalemuir Ar	126.94	342	PKP		PKPdf	08 53 39.3	-0.1
	comp=Z,6.8nm,1.0s,baz=43,slow=2.6,SNR=12							
K62A	Royalston	127.06	40	IAMs_20	IAMs_20		09 50 39.8	
	comp=Z,1μm,22.0s							
UBR	Ueberruh	127.11	328	*e*PKPdf		PKiKP	08 53 40.6	0.0
	baz=52,slow=1.9							
BTNL	Ternell	127.12	333	*d*PKP		PKiKP	08 53 40.5	0.0
BTNL				*dx*	x		08 53 50.5	
MEM	Membach	127.16	333	*d*PKP		PKiKP	08 53 40.5	0.0
MEM				*dx*	x		08 53 49.1	
FETA	Feichten	127.19	327	*e*P		PKiKP	08 53 40.7	-0.2
	comp=Z,24nm,0.9s,SNR=15							
BSTI	Sart Tilman	127.38	333	*d*PKP		PKPdf	08 53 40.5	+0.2
PKME	Peaks-Kenny Pk	127.44	35	IAMs_20	IAMs_20		09 55 09.0	
	comp=Z,938nm,20.0s							
DAVA	Damuels	127.48	328	*i* P		PKPdf	08 53 41.1	+0.2
	comp=Z,16nm,0.9s							
DAVA				*i* P		pPKPdf	08 53 51.4	-0.4
	comp=Z,11nm,0.8s							
BCLA	Clavier	127.61	333	*d*PKPdf		PKPdf	08 53 40.6	-0.2
WVL	Waterville	127.62	36	IAMs_20	IAMs_20		09 49 35.0	
	comp=Z,972nm,21.0s							
BGES	Gesves	127.74	333	*d*PKP		PKiKP	08 53 42.0	+0.3
BGES				*dx*	x		08 53 51.6	
WLF	Walferdange	127.76	332	*d*PKP		PKiKP	08 53 42.1	+0.4
WLF				*dx*	x		08 53 52.5	
WLF	Walferdange	127.76	332	IAMs_20	IAMs_20		09 36 48.8	
	comp=Z,832nm,19.0s							
DAVOX	Davos/Dischmat	127.80	327	PKP		PKPdf	08 53 41.7	+0.1
	comp=Z,13nm,0.8s,baz=72,slow=3.2,SNR=16							
BMRD	Maredsous	127.94	333	*d*PKP		PKiKP	08 53 42.0	0.0
BMRD				*dx*	x		08 53 51.8	
SNF	Seneffe	128.00	334	*d*PKP		PKiKP	08 53 42.6	+0.5
SNF				*dx*	x		08 53 52.3	
DOU	Dourbes	128.16	333	*d*PKP		PKiKP	08 53 42.6	+0.1
DOU				*dx*	x		08 53 52.2	
AQU	L'Aquila	128.30	321	IAMs_20	IAMs_20		09 42 47.1	
	comp=Z,693nm,19.0s							
CEL	Celeste	128.66	315	IAMs_20	IAMs_20		09 37 30.3	
	comp=Z,1μm,20.0s							
POPC	Popayan, Colom	131.91	92	*e*P		PKiKP	08 53 51.5	+0.1
YOTC	Yotoco, Valle	132.37	90	*e*P		PKPdf	08 53 51.5	+0.4
CBOC	Ciudad Bolivar	132.83	88	*e*P		PKiKP	08 53 53.2	0.0
GUY2C	Guyana, Caldas	133.43	89	*e*P		PKiKP	08 53 54.7	-0.1
ORTC	Ortega, Tolima	133.46	90	*e*P		PKPdf	08 53 53.4	+0.3
PTLC	Puerto Leguiza	133.48	96	*e*P		PKPdf	08 53 52.8	-0.2
PRAC	Prado	133.80	91	*e*P		PKPdf	08 53 54.4	-0.5
ZARC	Zaragoza, Cauc	134.03	86	*e*P		PKPdf	08 53 50.5	-3.6
ROSC	El Rosal	134.45	89	PKP		PKiKP	08 53 57.1	+0.4
	comp=Z,10nm,0.7s,baz=340,slow=15,SNR=4.9							
ROSC	El Rosal	134.45	89	*e*P		PKiKP	08 53 56.8	+0.1
KEST	Kesra	134.46	316	PKP		PKiKP	08 53 55.8	0.0
	comp=Z,11nm,0.9s,baz=329,slow=4.9,SNR=8.2							
MACC	Macarena, Meta	134.68	93	*e*P		PKPdf	08 53 55.6	+0.3
LPAZ	La Paz	134.93	120	PKhKP		PKPpre	08 53 49.0	
	comp=Z,0.5nm,0.6s,baz=282,slow=3.9,SNR=1.9							
LPAZ				PKP		PKiKP	08 53 57.9	0.0
	comp=Z,4.1nm,1.0s,baz=288,slow=3.1,SNR=11							
LPAZ	La Paz	134.93	120	*e*P		PKiKP	08 53 57.9	0.0
CHIC	Chingaza	135.02	90	*e*P		PKPdf	08 53 55.8	-0.6
RUSC	La Rusia	135.74	88	*e*P		PKPdf	08 53 51.9	-6.0
CPUP	Villa Florida	137.31	140	PKP		PKiKP	08 54 01.5	-0.2
	comp=Z,4.1nm,0.7s,baz=154,slow=1.0,SNR=6.0							
ELOV	Elorza	139.35	86	*e*P		PKPdf	08 54 01.5	-2.4
CART	Cartagena	139.92	325	IAMs_20	IAMs_20		10 00 46.3	
	comp=Z,984nm,22.0s							
ESDC	Sonseca Array	139.97	330	PKP		PKPdf	08 54 04.2	-0.2
	comp=Z,1.5nm,0.9s,baz=31,slow=4.3,SNR=3.9							
ESDC				PP		PP	08 57 00.5	+0.2
	comp=Z,1.5nm,1.1s,baz=23,slow=7.3,SNR=4.3							
PGAV	Gavieira, Arco	140.06	336	*e*PKPdf		PKiKP	08 54 05.8	-1.2
PCAB	Cabril	140.18	336	*e*PKPdf		PKiKP	08 54 06.5	-0.7
MVO	Moncorvo	140.21	334	*e*PKPdf		PKiKP	08 54 06.6	-0.7
POLO	Lamas de Olo	140.36	335	*e*PKPdf		PKiKP	08 54 06.5	-1.1
SIV	San Ignacio	141.00	125	PKhKP		PKPpre	08 54 01.8	
	comp=Z,3.5nm,0.9s,baz=239,slow=7.0,SNR=7.9							
MTE	Manteigas	141.06	334	*e*PKPdf		PKiKP	08 54 07.9	-1.1
PMRV	Marv??o	141.79	333	*e*PKPdf		PKiKP	08 54 12.0	+1.5
PMTG	Montargil	142.46	334	*e*PKPdf		PKiKP	08 54 13.0	+1.2
PBEJ	Beja	143.14	332	*e*PKPdf		PKPdf	08 54 10.0	0.0
PVAQ	Vaqueiros	143.57	331	*e*PKPdf		PKiKP	08 54 13.1	-1.1
SMRT	St. Maarten	144.34	68	PKPdf		PKPab	08 54 10.6	-0.1
MDT	Midelt	145.37	323	PKPbc		PKPbc	08 54 13.9	-0.2
	comp=Z,4.8nm,0.8s,baz=355,slow=1.7,SNR=5.3							
ANWB	Willy Bob	145.62	68	PKPdf		PKPdf	08 54 11.9	-3.0
SVB	Belmont	147.05	75			PKPbc	08 54 18.7	-0.8
TORD	Torodi Ar. Bea	149.40	285	PKPbc		PKPbc	08 54 24.8	-0.9
	comp=Z,39nm,0.7s,baz=61,slow=2.9,SNR=64							
PMPS	Porto Santo	150.94	339	*e*PKPbc		PKiKP	08 54 30.2	+0.7
BDFB	Brasilia	151.00	139	PKPbc		PKiKP	08 54 29.9	-0.3
	comp=Z,26nm,0.7s,baz=303,slow=1.5,SNR=30							
PMOZ	Porto Moniz, M	151.46	340	*e*PKPbc		PKiKP	08 54 32.0	+1.3
KOWA	Kowa	154.50	291	PKPbc		PKPbc	08 54 37.0	-0.2
	comp=Z,8.9nm,0.7s,baz=122,slow=0.3,SNR=14							
KIC	Kosan Boka	156.32	272	*e*PKP2		PKPab	08 55 00.7	+1.0
	comp=Z,21nm,0.8s							
DBIC	Dimbokro	156.43	272	PKPab		PKPab	08 54 59.8	-0.3
	comp=Z,18nm,1.0s,baz=106,slow=4.6,SNR=7.7							
TIC	Toumodi	156.60	272	*e*PKP2		PKPab	08 55 00.6	-0.3
LIC	Lamto	156.60	271	*e*PKP2		PKPab	08 55 01.8	+0.9
	comp=Z,40nm,1.0s							

MEX ***19*** *08:37:14.9±0.4,27.39N×111.29W,h16km±16km,MD3.6*
ECX 19 08:37:14.4±0.4,27.47N×111.36W,h7km±15km,MD2.8,1C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUYB	Guaymas	0.60	45	*i* P	Pg	08 37 25.2	-0.9
GUYB				*i* S	Sg	08 37 33.0	-1.0
GUYB	Guaymas	0.60	45⇑	*e*P	Pg	08 37 25.2	-0.9
GUYB				*e*S	Sg	08 37 33.2	-0.7
SRIG	Santa Rosalia	0.80	259	*i* P	Pg	08 37 28.3	-1.5
SRIG				*i* S	Sg	08 37 38.7	-1.5
SRIG	Santa Rosalia	0.80	259	*e*P	Pg	08 37 28.4	-1.4
SRIG				*e*S	Sg	08 37 39.2	-1.0
HSIG		1.58	13	*e*P	Pn	08 37 40.3	-2.6
HSIG				*e*S	Sn	08 38 02.0	-1.5
HSIG		1.58	13	*e*P	Pn	08 37 41.8	-1.0
HSIG				*e*S	Sn	08 38 02.7	-0.8

IDC ***19*** *08:40:26.0±1.0,30.87S×71.87W,h0km,mb4.1/6, mb1 4.1/9,mb1mx4.0/29,mbtmp4.0/9,ML3.5/3,Error ellipse: s-maj=39.8km s-min=21.5km az=89.0*
GUC ***19*** *08:40:29.8±0.6,30.94S×71.47W,h9km±4km,ML4.1*
NEIC ***19*** *08:40:30.4±1.3,30.85S±0.02×71.90W±0.09,h25km±6km, mb4.1/5,ML4.1(GUC),Error ellipse: s-maj=10.7km s-min=2.2km az=91.0*
ISC 19 08:40:27.9±2.6,30.79S±0.04×71.96W±0.08,h10km±15km, n57,σ1°31/59,mb4.2/6,1C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.30	68		Pb	08 40 36.9	+1.5
CO06				Sg	Sb	08 40 41.5	+1.0
CO05	La Serena	1.07	36	*i* S	Sn	08 41 05.4	+1.6
CO05				IAML		08 41 07.2	
	comp=E,8μm,0.4s						
CO05	La Serena	1.07	36		Pn	08 40 49.9	+0.9
CO05				Sn	Sn	08 41 04.4	+0.6
CO03	El Pedregal	1.10	93	*i* S	Sg	08 41 02.6	-0.7
CO03				IAML		08 41 03.1	
	comp=E,8μm,0.4s						
CO03	El Pedregal	1.10	93		Pb	08 40 48.6	-0.4
CO03				Sn	Sg	08 41 02.7	-0.6
GO04	Tololo Observa	1.18	59	eS	Sn	08 41 06.8	-0.1
GO04				IAML		08 41 16.2	
	comp=E,13μm,0.4s						
GO04	Tololo Observa	1.18	59		Pn	08 40 51.8	+1.1
VA06	Catapilco	1.86	162	*e*P	Pn	08 40 59.6	-0.2
VA06				*e*S	Sn	08 41 22.9	-0.5
VA06				IAML		08 41 30.5	
	comp=E,7μm,0.4s						
LCO	Las Campanas	2.08	32		Pn	08 41 04.5	+1.3
VA01	Torpederas	2.25	173	*e*P	Pn	08 41 08.6	+1.6
VA01				*e*S	Sn	08 41 35.1	+2.2
VA01				IAML		08 41 40.3	
	comp=E,1μm,0.4s						
VA03	San Esteban	2.31	149	*e*P	Pn	08 41 06.0	-0.2
VA03				*e*S	Sn	08 41 33.1	-1.5
VA03				IAML		08 41 42.1	
	comp=N,4μm,0.5s						
VA03	San Esteban	2.31	149		Pn	08 41 07.2	+1.1
ROCH	El Roble	2.32	160	*e*P	Pn	08 41 06.7	+0.3
ROCH				*i* S	Sn	08 41 35.8	+0.6
ROCH				IAML		08 41 42.0	
	comp=E,3μm,0.4s						
AC04	Llanos de Chal	2.69	17	Pn	Pn	08 41 12.2	+1.0
MT05	Renca	2.80	159	*e*P	Pn	08 41 13.4	+0.6
MT05				*i* S	Sn	08 41 47.2	+0.5
MT05	Renca	2.80	159		Pn	08 41 14.1	+1.3
VA05	Santo Domingo	2.88	174	*e*P	Pn	08 41 11.5	-2.3
VA05				*i* S	Sn	08 41 51.9	+3.4
VA05				IAML		08 42 02.7	
	comp=N,1μm,0.5s						
MT09	Talagante	3.09	165	*e*P	Pn	08 41 18.4	+1.5
MT09				*i* S	Sn	08 41 56.0	+2.0
MT09				IAML		08 42 07.2	
	comp=E,1μm,0.4s						
MT09	Talagante	3.09	165		Pn	08 41 17.6	+0.7
MT01	Popeta	3.13	169	*e*P	Pn	08 41 19.3	+2.0
MT01				*i* S	Sn	08 41 56.9	+2.2
MT01				IAML		08 42 07.7	
	comp=E,992nm,0.7s						
LMEL	Las Melosas	3.40	154	*e*P	Pn	08 41 21.5	+0.3
LMEL				*i* S	Sn	08 42 04.7	+3.2
LMEL				IAML		08 42 18.0	
	comp=N,691nm,0.3s						
GO03	Copiap	3.52	26⇑	*i* P	Pn	08 41 24.3	+1.5
GO03				*e*S	Sb	08 42 13.2	-0.1
GO03				IAML		08 42 30.9	
	comp=E,205nm,0.6s						
GO03	Copiap	3.52	26		Pn	08 41 23.8	+1.1
BO01	Tunca	3.67	169		Pn	08 41 24.4	-0.3
AC06	Mina Casimiro	3.69	23	IAML		08 42 35.6	
	comp=E,141nm,0.2s						
AC06	Mina Casimiro	3.69	23		Pn	08 41 25.8	+0.7
AC02	Maricunga	4.66	33		Pn	08 41 39.9	+1.1
ML02	Panimavida	4.98	175		Pn	08 41 43.4	+0.6
H03N1	Juan Fernandez	6.46	244	T	T	08 48 54.1	
	baz=73,slow=72,SNR=283						
H03N3	Juan Fernandez	6.48	244	T	T	08 48 53.9	
	baz=73,slow=72,SNR=264						
H03N2	Juan Fernandez	6.48	244	T	T	08 48 58.2	
	baz=73,slow=72,SNR=238						
LC01	Cunco	8.09	180	Pn	Pn	08 42 24.8	-0.7
LVC	Linn Verde	8.59	19	Pn	Pn	08 42 31.4	-1.3
	comp=E,0.2nm,0.3s,baz=203,slow=7.7,SNR=1.0						
LR03	Panguipulli	8.83	182	Pn	Pn	08 42 35.6	0.0
PLCA	Paso Flores	9.99	174	Pn	Pn	08 42 50.1	-1.4
	comp=E,0.2nm,0.3s,baz=337,slow=16,SNR=1.3						
TRQA	Tornquist	10.97	134		Pn	08 43 06.1	+1.1
LPAZ	La Paz	14.85	14	Pn	Pn	08 44 01.3	+2.6
	comp=E,0.2nm,0.3s,baz=188,slow=7.1,SNR=7.9						
SIV	San Ignacio	17.78	37	P	Pn	08 44 35.9	+0.2
	comp=E,0.1nm,0.3s,baz=257,slow=22,SNR=1.2						
SAML	Samuel	23.22	22	P	P	08 45 36.3	+1.0
SNAA	Sanae	54.54	159	P	P	08 49 54.6	-1.1
	comp=E,1.7nm,0.7s,baz=267,slow=7.8,SNR=12						
SNAA	Sanae	54.54	159	IAmb	IAmb	08 50 00.4	
	comp=Z,3.4nm,1.1s						
QSPA	South Pole Qui	59.44	180	P	P	08 50 30.3	-0.3
TXAR	Lajitas Array	66.98	330	P	P	08 51 22.0	+1.0
	comp=Z,0.3nm,0.6s,baz=154,slow=9.0,SNR=4.8						
DBIC	Dimbokro	74.11	72	P	P	08 52 04.3	-0.5
	comp=Z,3.4nm,0.9s,baz=220,slow=1.2,SNR=2.2						
MAW	Mawson	76.24	164	P	P	08 52 15.4	-0.7
	comp=Z,1.8nm,0.7s,baz=230,slow=7.9,SNR=6.1						
MAW	Mawson	76.24	164	P	P	08 52 15.6	-0.6
MAW				IAmb	IAmb	08 52 30.0	
	comp=Z,1.4nm,1.2s						
BOSA	Boshof	81.51	118	P	P	08 52 45.9	-0.2
	comp=Z,7.4nm,1.2s,baz=234,slow=8.7,SNR=4.3						
TORD	Torodi Ar. Bea	83.06	70	P	P	08 52 53.3	-0.8
	comp=Z,0.3nm,0.5s,baz=263,slow=4.9,SNR=6.0						
TORD	Torodi Ar. Bea	83.06	70	P	P	08 52 53.7	-0.4
TORD				IAmb	IAmb	08 52 54.1	
	comp=Z,1.2nm,0.8s						
WRA	Warramunga Arr	123.58	210	PKP	PKPdf	08 59 24.8	-1.6
	comp=Z,0.4nm,0.6s,baz=158,slow=1.1,SNR=5.8						
H11S2	WAKE ISLAND Hyl	25.82	271	T	T	11 18 15.4	
	baz=116,slow=75,SNR=42						
H11S1	WAKE ISLAND Hyl	25.83	271	T	T	11 18 13.3	
	baz=116,slow=75,SNR=32						
H11S3	WAKE ISLAND Hyl	25.84	271	T	T	11 18 16.8	
	baz=116,slow=75,SNR=40						
H11N3	WAKE ISLAND Hyl	26.15	273	T	T	11 18 44.3	
	baz=117,slow=74						
H11N1	WAKE ISLAND Hyl	26.17	273	T	T	11 18 40.8	
	baz=117						
H11N2	WAKE ISLAND Hyl	26.17	273	T	T	11 18 45.7	
	baz=117,slow=74						
ZALV	Zalesovo Beam	151.44	29	PKPbc	PKPbc	09 00 21.5	-0.1
	comp=Z,3.1nm,0.7s,baz=319,slow=4.2,SNR=6.3						

IDC ***19*** *08:41:54.2±3.2,36.44N×71.01E,h214km±30km,mb3.3/5, mb1 3.3/11,mb1mx3.0/73,mbtmp3.8/11,Error ellipse: s-maj=25.9km s-min=19.3km az=168.0*
NNC ***19*** *08:41:56.0±7.8,37.06N×70.71E,h0km,mb4.5,mpv4.2, Error ellipse: s-maj=67.8km s-min=51.1km az=41.0*
ISC 19 08:41:53.9±1.0,36.6N±0.1×71.0E±0.1,h200km,n18, σ2°19/20,mb3.5/5,4C,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.51	357	⇑P	Pn	08 43 28.9	+1.2
	1.6nm,0.3s,baz=184,slow=14,SNR=11						
KK31				⇑S	Sn	08 44 38.3	-3.8
	6.9nm,0.6s,baz=184,slow=21,SNR=15						
AAK	Ala-Archa	6.60	23	P	Pn	08 43 31.1	+2.1
	2.9nm,0.3s,baz=190,slow=5.6,SNR=23						
AAK				S	Sn	08 44 40.3	-4.1
	1.0nm,0.3s,baz=142,slow=19,SNR=5.4						
TKM2	Tokmak 2	7.23	28	⇑P	Pn	08 43 39.2	+2.0
	9.6nm,0.5s						
TKM2				⇑S	Sn	08 44 58.4	-0.9
	13nm,0.9s						
KST	Kastek	7.48	29	Lg	Lg	08 45 02.8	
	7.3nm,0.6s						
MTBS	Maitube	7.74	31	P	Pn	08 43 46.2	+2.6
	12nm,0.3s						
TNSS	Tian-Shan	7.88	34	P	Pn	08 43 47.8	+1.9
	6.9nm,0.5s						
KOTS	Kotyrbulak	8.11	33	P	Pn	08 43 51.9	+3.3
	7.0nm,0.3s						
GEYT	Alibeck	10.37	281	P	Pn	08 44 18.6	+0.8
	0.8nm,0.3s,baz=106,slow=14,SNR=2.8						
MKAR	Makanchi Array	13.20	36	P	Pn	08 44 55.4	+1.7
	0.2nm,0.3s,baz=214,slow=12,SNR=6.5						
KURBB	Kurchatov Arra	15.03	19	P	Pn	08 45 17.9	+1.7
	0.1nm,0.3s,baz=208,slow=11,SNR=6.2						
BVAR	Borovoye Array	16.43	359	P	P	08 45 33.9	+1.7
	0.5nm,0.3s,baz=165,slow=12,SNR=3.9						
AKTO	Aktyubinsk	16.70	330	P	P	08 45 36.2	+0.9
	0.2nm,0.3s,baz=140,slow=7.9,SNR=3.7						
ZALV	Zalesovo Beam	19.82	25	P	P	08 46 09.7	+0.6
	0.7nm,0.3s,baz=225,slow=11,SNR=6.2						
ARCES	ARCESS Array B	41.06	338	P	P	08 49 18.5	+1.2
	5.5nm,1.2s,baz=119,slow=9.4,SNR=1.3						
TORD	Torodi Ar. Bea	65.73	269	P	P	08 52 15.9	-1.6
	0.6nm,0.6s,baz=54,slow=6.3,SNR=7.0						
ILAR	Eielson Array	74.68	16	P	P	08 53 10.1	-0.9
	0.4nm,0.7s,baz=330,slow=3.1,SNR=2.8						
WRA	Warramunga Arr	82.03	122	P	P	08 53 50.4	-1.5
	0.6nm,0.6s,baz=326,slow=4.7,SNR=7.5						
ASAR	Alice Springs	84.30	125	P	P	08 54 02.2	-1.1
	0.7nm,0.7s,baz=306,slow=5.4,SNR=6.5						

IDC ***19*** *08:44:39.1±1.5,17.49S×178.83W,h581km±17km,mb3.1/7, mb1 3.4/9,mb1mx3.1/40,mbtmp4.0/9,Error ellipse: s-maj=42.8km s-min=17.0km az=154.0*
ISC 19 08:44:37.3±0.9,17.3S±0.2×178.7W±0.1,h550km,n11, σ1°80/11,mb3.2/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.10	262	P	P	08 45 56.6	+3.6
	7.1nm,0.3s,baz=109,slow=4.0,SNR=56						
RAO	Raoul Island	11.88	177	P	P	08 47 14.8	+0.3
	63nm,0.3s,baz=72,slow=19,SNR=2.1						
DZM	Mont Dzumac	14.73	249	P	P	08 47 45.7	+1.5
	0.3nm,0.3s,baz=79,slow=16,SNR=2.8						
STKA	Stephens Creek	38.64	240	P	P	08 51 12.4	-1.6
	3.8nm,0.5s,baz=90,slow=11,SNR=18						
WRA	Warramunga Arr	44.44	259	P	P	08 51 58.4	-1.6
	1.4nm,0.6s,baz=94,slow=6.8,SNR=18						
ASAR	Alice Springs	44.66	254	P	P	08 52 00.2	-1.4
	14nm,0.6s,baz=88,slow=8.3,SNR=246						
ASAR				PcP	PcP	08 53 30.8	-1.6
	0.2nm,0.4s,baz=100,slow=3.8,SNR=1.6						
FITZ	Fitzroy Crossi	52.82	260	P	P	08 53 01.2	-0.9
	0.8nm,0.6s,baz=84,slow=5.8,SNR=1.7						
NVAR	Mina Array Bea	79.22	44	P	P	08 55 45.7	-0.3
	0.5nm,0.7s,baz=215,slow=8.8,SNR=4.5						
TXAR	Lajitas Array	85.95	58	P	P	08 56 20.2	+0.3
	0.3nm,0.6s,baz=218,slow=5.3,SNR=4.7						
PDAR	Pinedale Array	87.15	44	P	P	08 56 25.5	0.0
	0.2nm,0.5s,baz=238,slow=6.2,SNR=1.8						
BRTR	Keskin Array B	144.16	315	PKP	PKPbc	09 03 08.3	-2.4
	0.4nm,0.6s,baz=15,slow=6.0,SNR=2.4						

MEX 19 08:46:23.6±0.6,18.15N×103.39W,h10km,MD3.6,Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.14	16	*i* P	Pg	08 46 26.2	-0.6
MMIG				*i* S	Sg	08 46 28.8	-0.3
COIG	Colima	1.06	344	*i* P	Pg	08 46 40.5	-3.7
COIG				*i* S	Sg	08 46 53.9	-4.1
R15V		1.16	331	*i* P	Pb	08 46 42.2	-3.7
R15V				*i* S	Sb	08 46 57.2	-3.8
EZ5V		1.34	351	*e*P	Pn	08 46 45.5	-3.1
EZ5V				*e*S	Sb	08 47 02.0	-4.2

SJA ***19*** *09:07:03.2±0.7,31.08S×72.07W,h15km,ML5.8,MW5.9*
MOS ***19*** *09:07:05.6±0.9,31.05S×71.45W,h16km,mb5.9/35, MS5.5/27,Error ellipse: s-maj=12.0km s-min=6.3km az=95.7*
VAO ***19*** *09:07:05.6±0.3,31.10S×71.53W,h10km,mb5.8*
GUC ***19*** *09:07:07.8±0.7,31.13S×71.58W,h34km±4km,ML6.0, MW6.1*
IDC ***19*** *09:07:08.8±0.3,31.06S×71.49W,h30km±1km,mb5.4/25, mb1 5.4/31,mb1mx5.4/32,mbtmp5.5/31,ML4.9/6,MS5.4/20, Ms1 5.4/20,ms1mx5.3/26,Error ellipse: s-maj=12.8km s-min=7.7km az=72.0*
NEIC ***19*** *09:07:08.9,31.11S×71.59W,h28km,Moment Tension Solution. Moment tensor: Scale 10¹⁷Nm; Mrr1.88; Mθθ-0.51; Mϕϕ-1.37; Mrθ0.34; Mθϕ0.44; Mϕr-2.24; Fault plane solution: M₀2.86000×10¹⁷ NP1:ϕs168.09000°, δ71.53000°,λ,95.23000°. NP2:ϕs331.97000°,δ19.17000°, λ,74.74000°. Principal axes: T 3.0279, Plg63.0000°, Azm86.0000°; N -0.3712, Plg5.0000°, Azm346.0000°; P -2.6567, Plg26.0000°, Azm254.0000°;*
NEIC ***19*** *09:07:08.9,31.11S×71.59W,h34km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr3.05; Mθθ-0.66; Mϕϕ-2.40; Mrθ0.61; Mθϕ0.45; Mϕr-1.44; Fault plane solution: M₀3.23000×10¹⁷ NP1:ϕs162.24000°, δ59.68000°,λ,86.52000°. NP2:ϕs349.10000°,δ30.50000°, λ,95.92000°. Principal axes: T 3.4710, Plg75.0000°, Azm63.0000°; N -0.5617, Plg3.0000°, Azm164.0000°; P -2.9093, Plg15.0000°, Azm255.0000°;*
NEIC ***19*** *09:07:09.6±2.4,31.10S±0.04×71.59W±0.06,h28km±1km, mb5.9/618,Ms_20 5.4/618,Mwb5.6/60,Mwr5.6/45,Mww5.7, ML6.0(GUC),Mwc5.8(GCMT) Error ellipse: s-maj=8.5km s-min=5.9km az=268.0*
NEIC ***19*** *09:07:11,31.11S×71.73W,h36km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr4.58; Mθθ0.05; Mϕϕ-4.63; Mrθ0.69; Mθϕ-0.10; Mϕr-2.30; Fault plane solution: M₀5.20000×10¹⁷ NP1:ϕs9.00000°, δ32.00000°,λ,104.00000°. NP2:ϕs173.00000°,δ59.00000°, λ,81.00000°. Principal axes: T 5.2160, Plg75.0000°, Azm59.0000°; N -0.0397, Plg7.0000°, Azm178.0000°; P -5.1763, Plg13.0000°, Azm269.0000°;*
GCMT ***19*** *09:07:12.6±0.1,31.20S±0.01×71.86W±0.01,h37km, MW5.8/147,Moment Tensor Solution. s147,c288; s145,c295; Duration: 1s9 Moment tensor: Scale 10¹⁷ Nm; Mrr4.95±.06; Mθθ0.15±.04; Mϕϕ-5.11±.05; Mrθ0.54±.05; Mθϕ0.76±.03; Mϕr-3.12±.07; Best double couple: M₀5.99000×10¹⁷ NP1:ϕs353.00000°,δ29.00000°, λ,92.00000°. NP2:ϕs171.00000°,δ61.00000°,λ,89.00000°. Principal axes: T 5.8560, Plg74.0000°, Azm78.0000°; N 0.2580, Plg1.0000°, Azm171.0000°; P -6.1230, Plg16.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***19*** *09:07:13,31.24S×71.96W,h37km,Moment Tension Solution. Moment tensor: Scale 10

AUSP eP Pn 09 07 47.8 +5.3
ACCO Cerro Coronel 2.22 76 eP **Pb** **09 07 48.0 0.0**
ACCO eP Pn 09 07 48.5 +5.1
LCO Las Campanas 2.25 20 P **Pn** **09 07 45.3 +1.5**
LCO Las Campanas 2.25 20⇑ *i*P **Pn** **09 07 45.0 +1.2**
LCO *i* S **Sn** **09 08 13.1 +2.3**
LCO Las Campanas 2.25 20 eP **Pn** **09 07 45.2 +1.5**
LCO Las Campanas 2.25 20 eP **Pn** **09 07 45.0 +1.2**
ACDV Cuesta del Vie 2.32 66 eP **Pn** **09 07 44.6 -0.1**
ACDV eP **Pb** **09 07 49.0 -0.5**
ACDV IAML 09 08 32.2
comp=Z,25µm,0.8s
MT05 Renca 2.35 163 eP **Pb** **09 07 47.2 -2.9**
MT05 eS **Sb** **09 08 17.2 -1.5**
MT05 Renca 2.35 163 **Sn** **Pb** **09 07 47.2 -2.9**
MT05 Renca 2.35 163 eP **Pn** **09 07 47.0 +1.9**
ZON Zonda 2.51 100 P **Pb** **09 07 52.3 -0.3**
ZON Zonda 2.51 100 **Pb** **09 07 52.3 -0.3**
ZON Zonda 2.51 100 eP **Pb** **09 07 53.0 +0.4**
ZON eS **Sb** **09 08 30.8 +7.7**
ZON IAML 09 08 44.5
comp=Z,34µm,1.0s
VA05 Santo Domingo 2.51 181 eP **Pn** **09 07 47.5 +0.4**
VA05 eS **Sn** **09 08 16.7 -0.1**
VA05 IAML 09 08 31.5
comp=E,154µm,0.6s
VA05 Santo Domingo 2.51 181 **Pn** **09 07 47.9 +0.7**
MT09 Talagante 2.68 170⇑ *i*P **Pn** **09 07 51.7 +2.2**
MT09 *i* S **Sb** **09 08 26.3 -1.8**
MT09 IAML 09 08 37.8
comp=E,65µm,0.4s
MT09 Talagante 2.68 170 Pn **Pn** **09 07 51.8 +2.2**
RTCV Cerro Valdivia 2.69 106 eP **Pb** **09 07 55.0 -0.7**
MT01 Popeta 2.73 174 eP **Pn** **09 07 51.5 +1.4**
MT01 eS **Sb** **09 08 26.6 -2.9**
MT01 IAML 09 08 38.6
comp=N,49µm,0.4s
MT01 Popeta 2.73 174 Pn **Pn** **09 07 51.8 +1.7**
MT01 Popeta 2.73 174 eP **Pn** **09 07 51.0 +0.8**
MT01 eS **Sb** **09 08 27.6 -1.9**
MT01 IAML 09 08 38.5
comp=Z,21µm,0.9s
ASAL Salagasta 2.74 123 eP **Pb** **09 07 56.0 -0.6**
ARCO CERRO ARCO 2.81 128 eP **Pb** **09 07 58.0 +0.1**
ARCO eS **Sb** **09 08 35.1 +3.2**
ARCO IAML 09 08 43.4
comp=Z,30µm,0.9s
LMEL Las Melosas 2.94 157⇑ eP **Pn** **09 07 55.9 +2.7**
LMEL IAML 09 08 45.4
comp=N,29µm,0.3s
AC04 Llanos de Chal 2.96 9⇑ *i*P **Pn** **09 07 53.5 +0.3**
AC04 IAML 09 08 41.9
comp=N,59µm,0.7s
AC04 Llanos de Chal 2.96 9 Pn **Pn** **09 07 53.7 +0.4**
AC04 Llanos de Chal 2.96 9 eP **Pn** **09 07 53.0 -0.3**
AC04 eS **Sn** **09 08 32.1 +4.4**
AC04 IAML 09 08 41.2
comp=Z,56µm,0.7s
AAGR Agrelo 3.03 131 eP **Pb** **09 08 00.0 -1.6**
AGUA GÜANDACOL 3.13 59 eP **Pb** **09 08 01.0 -2.3**
BO01 Tunca 3.27 173⇑ eP **Pn** **09 07 58.9 +1.4**
BO01 Tunca 3.27 173 **Pn** **09 07 59.0 +1.4**
BO01 Tunca 3.27 173 eP **Pn** **09 07 59.0 +1.4**
BO01 eS **Sn** **09 08 39.1 +3.6**
BO01 IAML 09 08 55.8
comp=Z,10µm,3.1s
BO03 Pichilemu 3.37 186⇓ eP **Pn** **09 07 58.5 -0.4**
AVFE Valle Fertil 3.57 83 eP **Pn** **09 08 05.0 +3.2**
AVFE eS **Sb** **09 08 51.6 -2.0**
BO02 Sierra Bellavi 3.70 170⇑ eP **Pn** **09 08 05.1 +1.5**
BO02 Sierra Bellavi 3.70 170 Pn **Pn** **09 08 05.2 +1.6**
BO02 Sierra Bellavi 3.70 170 eP **Pn** **09 08 05.0 +1.4**
BO02 eS **Sb** **09 09 05.3 +7.8**
GO03 Copiap 3.72 19⇑ eP **Pn** **09 08 04.6 +0.7**
GO03 Copiap 3.72 19 Pn **Pn** **09 08 04.7 +0.9**
GO03 Copiap 3.72 19 eP **Pn** **09 08 05.0 +1.1**
GO03 eP Pb 09 08 05.0 -8.3
GO03 eS **Sb** **09 09 03.4 +5.4**
VCA Vinchina 3.78 52 eP **Pb** **09 08 10.0 -4.3**
VCA eS **Sb** **09 09 00.1 +0.4**
GO05 Huala 3.87 184⇓ eP **Pn** **09 08 05.4 -0.5**
GO05 Huala 3.87 184 **Pn** **09 08 05.8 -0.1**
GO05 Huala 3.87 184 eP **Pn** 09 08 00.1 -5.8
GO05 eP Pb 09 08 05.0 -11
GO05 eP 09 08 05.6
GO05 eS **Sb** **09 09 04.1 +1.8**
AC06 Mina Casimiro 3.91 16⇑ eP **Pn** **09 08 07.0 +0.5**
AC06 Mina Casimiro 3.91 16 **Pn** **09 08 07.0 +0.5**
ACHE Chepes 4.21 92 eP **Pn** **09 08 14.0 +3.4**
LAMA Las Malvinas 4.27 153 eP **Pn** **09 08 10.6 -0.8**
LAMA eP Pb 09 08 16.0 -6.7
COIS El Sosneado 4.29 158 eP **Pn** **09 08 15.0 +3.3**
RFA San Rafael 4.46 145 eP **Pn** **09 08 17.0 +2.9**
ML02 Panimavida 4.61 178 Pn **Pn** **09 08 18.9 +2.9**
TINO Tinogasta 4.64 50 eP **Pn** **09 08 21.0 +4.5**
AC02 Maricunga 4.79 27 Pn **Pn** **09 08 21.1 +2.1**
AC02 Maricunga 4.79 27 eP **Pn** **09 08 20.9 +1.9**
AC02 eS **Sb** **09 09 22.6 -6.6**
CYA Choya 5.69 63 eP **Pn** **09 08 33.5 +2.6**
CYA eS **Sn** **09 09 41.1 +5.9**
H03N1 Juan Fernandez 6.63 248 T T 09 15 33.0
baz=74,slow=72,SNR=1963
VA04 Juan Fernndez 6.63 246 Pn **Pn** **09 08 42.0 -1.7**
H03N3 Juan Fernandez 6.64 248 T T 09 15 28.1
baz=74,slow=72,SNR=1382
H03N2 Juan Fernandez 6.64 248 T T 09 15 30.1
baz=74,slow=72,SNR=1659
H03S3 Juan Fernandez 6.75 245 T T 09 15 50.9
baz=84,slow=74,SNR=284
H03S1 Juan Fernandez 6.76 245 T T 09 15 49.7
baz=84,slow=74,SNR=174
H03S2 Juan Fernandez 6.77 245 T T 09 15 43.8
baz=84,slow=74,SNR=277
AHML Horco Molle 6.97 53 eP **Pn** **09 08 50.0 +1.4**
FSA Cafayete 7.01 46 eP **Pn** **09 08 51.0 +1.8**
PB10 IPOC Station P 7.65 7 eP Pn 09 08 51.6 -6.1
LC01 Cunco 7.75 182 **Pn** **09 08 58.9 -0.1**
PB05 IPOC Station P 8.34 9 eP **Pn** **09 09 04.0 -3.4**
LR03 Panguipulli 8.50 184 **Pn** **09 09 08.9 -0.5**
AF01 San Pedro de A 8.70 21 **Pn** **09 09 12.3 -0.1**
LVC Limon Verde 8.82 16 Pn **Pn** **09 09 11.5 -2.6**
comp=Z,3.8nm,0.3s,baz=161,slow=8.2,SNR=35
LVC Sn **Sn** **09 11 00.9 +8.1**
comp=Z,25nm,0.3s,baz=234,slow=8.7,SNR=1.9
LVC LR LR 09 12 50.1
comp=Z,27µm,21.9s,baz=214,slow=39
LVC Limon Verde 8.82 16 P **Pn** **09 09 11.8 -2.4**
LVC Limon Verde 8.82 16 **Pn** **09 09 11.8 -2.4**
LVC Limon Verde 8.82 16 eP **Pn** **09 09 11.7 -2.5**
LVC Limon Verde 8.82 16 eP **Pn** **09 09 11.6 -2.5**
PB04 IPOC Station P 8.86 9 **Pn** **09 09 13.0 -1.5**
PB04 IPOC Station P 8.86 9 eP **Pn** **09 09 12.0 -2.6**
AZAP Zapla 8.98 41 eP **Pn** **09 09 19.6 +3.4**
PB07 IPOC Station P 9.49 10 **Pn** **09 09 22.8 -0.4**
PLCA Paso Flores 9.61 175 Pn **Pn** **09 09 26.1 +1.4**
comp=Z,9.6nm,0.3s,baz=339,slow=11,SNR=133
PLCA Sn Sn 09 11 25.3 +14
comp=Z,0.7nm,0.3s,baz=37,slow=20,SNR=1.4
PLCA LR LR 09 13 07.7
comp=Z,22µm,20.4s,baz=345,slow=37
PLCA Paso Flores 9.61 175 eP **Pn** **09 09 25.2 +0.5**
HJA Humahuaca 9.61 36 eP Pn 09 09 33.1 +8.0
LL04 Puerto Octay 9.78 184 Pn **Pn** **09 09 26.3 -0.5**
ALOL LOMAS DE OLMED 9.93 45 eP **Pn** **09 09 32.6 +3.6**
ALOL eP **Pn** **09 09 32.6 +3.6**
LL03 Petrohue 10.00 184 **Pn** **09 09 29.7 -0.2**
LL05 Los Muermos 10.36 188 **Pn** **09 09 35.4 +0.5**
TRQA Tornquist 10.49 134 P **Pn** **09 09 38.4 +1.7**
TRQA Tornquist 10.49 134 Pn **Pn** **09 09 38.4 +1.7**
TRQA Tornquist 10.49 134 eP **Pn** **09 09 37.0 +0.4**
TA02 Huaiquique 10.90 7 **Pn** **09 09 45.5 +3.2**
PB08 IPOC Station P 11.16 12 **Pn** **09 09 46.9 +0.6**
LPA La Plata 12.05 112 eP **Pn** **09 09 57.0 -1.0**
LPA PP **P** **09 10 08.1 -2.4**
LPA PPP PPP 09 10 51.6
LPA S **Sn** **09 12 07.6 -3.7**
LPA La Plata 12.05 112 SN **Sn** **09 12 13.3 +2.0**
LPA sS 09 12 22.4
LPA SSS SSS 09 12 37.8
LPA SS **SbSb** **09 13 12.3 +10**
LPA PCP **PcP** **09 15 41.5 -0.6**
LPA SCS **ScS** **09 22 40.5 -8.4**

LPA PKIKP **PKiKP** **09 23 44.7 +4.7**
LPA SKIKP 09 27 01.3
LPA PKIKS 09 27 08.5
LPA SKIKS 09 30 41.5
ITQB Itaqui 12.98 87 Pn **Pn** **09 10 10.2 -0.6**
ITQB Itaqui 12.98 87 eP **Pn** **09 10 10.3 -0.5**
CPUP Villa Florida 13.38 73 Pn **Pn** **09 10 13.5 -2.7**
comp=Z,0.6nm,0.3s,baz=251,slow=13,SNR=25
CPUP Sn **Sn** **09 12 39.4 -4.6**
comp=Z,4.6nm,0.3s,baz=205,slow=17,SNR=2.4
CPUP LR LR 09 15 56.4
comp=Z,42µm,18.1s,baz=252,slow=40
CPUP Villa Florida 13.38 73 P **Pn** **09 10 14.4 -1.8**
CPUP Villa Florida 13.38 73 **Pn** **09 10 14.4 -1.8**
CPUP Villa Florida 13.38 73 eP **Pn** **09 10 14.8 -1.4**
LPAZ La Paz 15.11 13 Pn **Pn** **09 10 39.3 -1.1**
comp=Z,2.8nm,0.3s,baz=184,slow=7.7,SNR=314
LPAZ Sn **Sn** **09 13 24.9 -2.3**
comp=Z,0.2nm,0.3s,baz=166,slow=8.3,SNR=2.3
LPAZ La Paz 15.11 13 P **Pn** **09 10 40.5 +0.1**
LPAZ pmax pmax 09 14 27.4
comp=Z,495nm,1.4s
LPAZ La Paz 15.11 13 **Pn** **09 10 40.5 +0.1**
LPAZ La Paz 15.11 13 eP **Pn** **09 10 38.5 -1.9**
PLTB Pedras Altas 15.35 97 **Pn** **09 10 42.0 -0.8**
PLTB Pedras Altas 15.35 97 eP **Pn** **09 10 40.7 -2.2**
CPSB Cacapava Do Su 15.61 92 eP **Pn** **09 10 45.0 -1.2**
AQDB Aquidauana 17.78 57 **Pn** **09 11 12.0 -1.6**
AQDB Aquidauana 17.78 57 eP **Pn** **09 11 11.9 -1.8**
SIV San Ignacio 17.87 35 P **Pn** **09 11 13.4 -1.4**
comp=Z,3.1nm,0.3s,baz=223,slow=9.1,SNR=184
SIV LR LR 09 19 25.4
comp=Z,14µm,20.2s,baz=216,slow=42
CNLB Canela 18.00 90 eP **P** **09 11 16.9 +0.2**
PTGB Pitanga 18.37 74 eP **P** **09 11 20.7 -0.2**
TRCB Terra Rica 18.80 68 **P** **09 11 25.5 0.0**
TRCB IAmb IAmb 09 11 40.5
comp=Z,1µm,1.5s
TRCB Terra Rica 18.80 68 eP **Pn** **09 11 25.9 -0.2**
PTLB Pontes e Lacer 19.32 39 eP **P** **09 11 30.8 -0.4**
NNA Nana 19.67 345 P **P** **09 11 34.6 -0.5**
comp=Z,1.0nm,0.3s,baz=189,slow=12,SNR=16
NNA S **S** **09 15 14.7 -0.9**
comp=Z,0.5nm,0.3s,baz=310,slow=17,SNR=1.1
NNA LR LR 09 17 28.5
comp=Z,8µm,21.9s,baz=166,slow=32
NNA Nana 19.67 345 *ce*P **Pn** **09 11 37.9 +1.2**
NNA pmax pmax
comp=Z,168nm,1.7s
NNA Nana 19.67 345 P **P** **09 11 35.8 +0.7**
PP1B Ponte de Pedra 20.28 52 eP **P** **09 11 41.8 +0.1**
PCMB Pacaembu 20.50 67 eP **P** **09 11 44.1 +0.1**
VILB Vilhena 20.91 33 eP **P** **09 11 48.2 -0.4**
SALV Santo Antonio 20.98 47 eP **P** **09 11 48.8 -0.5**
ETMB Extrema 21.79 14 eP **P** **09 11 58.1 +0.1**
ITRB Iturama 22.24 64 eP **P** **09 12 02.1 -0.8**
PET01 Itanhaem-SP 22.54 78 eP **P** **09 12 05.1 -0.9**
SPB Sao Paulo 22.69 77 P **P** **09 12 07.0 -0.6**
SPB IAmb IAmb 09 12 26.3
comp=Z,806nm,1.2s
SPB Sao Paulo 22.69 77 eP **P** **09 12 06.7 -0.9**
EFI East Falkland 22.81 158 *di*P **P** **09 12 11.9 +3.3**
EFI pmax pmax
comp=Z,509nm,1.7s
EFI MLR MLR
comp=Z,16µm,16.0s
EFI East Falkland 22.81 158 P **P** **09 12 09.3 +0.7**
EFI IAmb IAmb 09 12 24.1
comp=Z,395nm,0.9s
EFI East Falkland 22.81 158 IAMs_20 IAMs_20 09 21 53.0
comp=Z,15µm,19.0s
BB19B Bebedouro 22.95 70 eP **P** **09 12 08.6 -1.8**
RCLB Rio Claro- Sao 23.11 74 eP **P** **09 12 10.2 -1.9**
CZSB Cruzeiro do Su 23.31 357 eP **P** **09 12 14.8 +0.9**
VAO Valinhos 23.32 76 eP **P** **09 12 13.1 -1.1**
SAML Samuel 23.42 21 P **P** **09 12 14.9 -0.2**
SAML pmax pmax
comp=Z,342nm,1.2s
SAML MLR MLR
comp=Z,11µm,20.0s
SAML Samuel 23.42 21 P **P** **09 12 14.8 -0.2**
SAML IAmb IAmb 09 12 16.9
comp=Z,342nm,1.1s
SAML Samuel 23.42 21 IAMs_20 IAMs_20 09 22 04.9
comp=Z,11µm,20.0s
SAML Samuel 23.42 21 eP **P** **09 12 15.2 +0.2**
SAML Samuel 23.42 21 eP **P** **09 12 14.8 -0.3**
USHA Ushuaia 23.79 175 P **P** **09 12 18.7 +0.4**
comp=Z,116nm,0.6s,baz=257,slow=0.3,SNR=24
USHA LR LR 09 23 15.5
comp=Z,15µm,18.1s,baz=360,slow=40
PARB Paraibuna 24.30 78 eP **P** **09 12 22.8 -0.6**
IPMB Ipameri, GO 24.89 69 eP **P** **09 12 27.9 -0.9**
CLDB Colider 24.91 39 eP **P** **09 12 27.9 -1.4**
ESAR Angra dos Reis 25.43 78 eP **P** **09 12 33.1 -0.4**
BSCB Bom Sucesso 26.04 74 eP **P** **09 12 38.5 -0.8**
BDFB Brasilia 26.48 60 P **P** **09 12 42.4 -0.8**
comp=Z,193nm,0.9s,baz=231,slow=7.4,SNR=153
BDFB S **S** **09 17 24.2 +8.7**
comp=Z,33nm,1.1s,baz=79,slow=5.2,SNR=1.8
BDFB LR LR 09 24 25.0
comp=Z,36µm,18.5s,baz=232,slow=39
BDFB Brasilia 26.48 60 P **P** **09 12 42.8 -0.4**
BDFB pmax pmax
comp=Z,350nm,1.1s
BDFB MLR MLR
comp=Z,36µm,18.0s
BDFB Brasilia 26.48 60 P **P** **09 12 42.8 -0.4**
BDFB IAmb IAmb 09 12 58.8
comp=Z,350nm,1.1s
VAS01 Vassouras-RJ 26.57 77 eP **P** **09 12 43.6 -0.3**
SNDB Serra Nova Dou 26.73 49 eP **P** **09 12 44.4 -1.0**
TBTG Tabatinga, AM 26.86 4 eP **P** **09 12 47.6 +1.1**
TBTG Tabatinga, AM 26.86 4 eP **P** **09 12 47.0 +0.6**
DUB01 Friburgo-RJ 27.55 78 eP **P** **09 12 52.9 +0.1**
CAM01 Campos-RJ 28.26 78 eP **P** **09 12 59.1 0.0**
DIAM Diamantina, MG 28.29 70 eP **P** **09 12 59.4 -0.2**
NPGB Novo Progresso 28.37 36 eP **P** **09 12 58.7 -1.4**
PEXB Peixe 28.64 54 eP **P** **09 13 02.2 -0.4**
MC01 Montes Claros 28.95 67 eP **P** **09 13 04.6 -0.8**
ALF01 Guarapari-ES 29.57 77 eP **P** **09 13 10.5 -0.2**
JANB Januaria 29.63 64 eP **P** **09 13 10.9 -0.4**
MACA Manacapuru-AM 29.66 22 eP **P** **09 13 11.4 -0.1**
SJMB Sao Joao De Ma 30.11 73 eP **P** **09 13 15.0 -0.4**
BSFB Barra de Sao F 30.32 73 eP **P** **09 13 16.5 -0.8**
RIB01 Linhares ES 30.46 75 eP **P** **09 13 18.2 -0.4**
ITTB Itaituba 30.52 32 eP **P** **09 13 17.7 -1.4**
SDBA SAO DESIDERIO 30.86 59 eP **P** **09 13 21.6 -0.6**
PTLC Puerto Leguiza 31.29 354 eP **P** **09 13 23.7 -2.2**
NAN01 Guarapari, ES 31.41 72 eP **P** **09 13 26.3 -0.7**
SMTB Santa Maria do 31.46 50 eP **P** **09 13 27.6 +0.1**
OTAV Otavalo 31.88 347 P **P** **09 13 33.6 +2.0**
OTAV pmax pmax
comp=Z,71nm,1.3s
OTAV MLR MLR
comp=Z,3µm,22.0s
OTAV Otavalo 31.88 347 P **P** **09 13 33.6 +2.0**
OTAV Otavalo 31.88 347 eP **P** **09 13 34.3 +2.7**
PAC1 Pacto, Paraso 31.98 346 eP **P** **09 13 34.3 +2.2**
PRPB Parauapebas 32.14 44 eP **P** **09 13 32.3 -1.1**
TULM Tulcn-Chalpat 32.23 348 eP **P** 09 13 43.7 +9.1
GUA01 Guaratinga, BA 32.32 71 eP **P** **09 13 34.5 -0.5**
FLOC Florencia 32.77 352 IAmb IAmb 09 14 00.4
comp=Z,132nm,1.1s
FLOC Florencia 32.77 352 eP **P** **09 13 41.2 +2.3**
MACC Macarena, Meta 33.17 356 eP **P** **09 13 43.6 +1.2**
CMC01 Camacan, BA 33.22 69 eP **P** **09 13 42.6 -0.3**
GARC Garzon, Huila 33.35 353 eP **P** **09 13 46.6 +2.4**
MALB Monte Alegre 33.41 33 eP **P** **09 13 43.4 -1.1**
BBAC Balboa, Cauca 33.42 350 eP **P** **09 13 47.1 +2.3**
SOTA Rioblanco 33.43 351 eP **P** **09 13 47.1 +1.8**
NBIT Itapeh - BA 33.53 69 eP **P** **09 13 45.7 +0.2**
PCON Cinco Dias 33.60 351 eP **P** **09 13 50.2 +3.5**
BETC Betania 33.83 353 eP **P** **09 13 50.9 +2.7**
POPC Popayan, Colom 33.84 351 eP **P** **09 13 50.2 +1.7**
PMSA Palmer Station 33.98 174 P **P** **09 13 50.4 +1.5**
comp=Z,119nm,1.2s,baz=358,slow=7.8,SNR=40
PMSA Palmer Station 33.98 174 P **P** **09 13 50.5 +1.5**
PMSA IAmb IAmb 09 13 52.3
comp=Z,227nm,1.4s
PMSA Palmer Station 33.98 174 IAMs_20 IAMs_20 09 27 07.7
comp=Z,11µm,20.0s
PMSA Palmer Station 33.98 174 eP **P** **09 13 49.0 +0.1**

MARP Paez Belalcaza 34.05 352 eP **P** **09 13 52.0 +1.7**
HOPE Hope Point 34.08 143 P **P** **09 13 51.5 +1.5**
HOPE pmax pmax
comp=Z,186nm,1.1s
HOPE MLR MLR
comp=Z,9µm,22.0s
HOPE Hope Point 34.08 143 P **P** **09 13 51.5 +1.5**
HOPE IAmb IAmb 09 13 52.6
comp=Z,186nm,1.1s
HOPE Hope Point 34.08 143 IAMs_20 IAMs_20 09 27 22.9
comp=Z,9µm,22.0s
GDU01 Guandu, BA 34.11 67 eP **P** **09 13 50.0 -0.6**
PRAC Prado 34.80 354 eP **P** **09 13 59.2 +2.6**
BOAV Boa Vista 34.97 20 eP **P** **09 13 57.9 -0.1**
ORTC Ortega, Tolima 35.03 354 eP **P** **09 14 00.4 +1.9**
PAYG Puerto Ayora 35.11 326 IAMs_20 IAMs_20 09 25 06.6
comp=Z,7µm,19.0s
VILC Villavicencio, 35.11 356 eP **P** **09 14 02.3 +2.9**
PTGC Puerto Gaitan, 35.14 359 eP **P** **09 13 59.9 +0.4**
YOTC Yotoco, Valle 35.22 352 eP **P** **09 14 00.9 +0.6**
NBPN Ponto Novo - B 35.37 62 eP **P** **09 14 00.8 -0.7**
ANIL Santa Ana 35.62 353 eP **P** **09 14 05.5 +1.6**
CHIC Chingaza 35.63 356 eP **P** **09 14 05.8 +1.6**
MCPB Macapa, AP 35.77 35 eP **P** **09 14 04.2 -0.7**
ROSC El Rosal 35.87 355 P **P** **09 14 07.7 +1.5**
comp=Z,49nm,0.9s,baz=187,slow=1.4,SNR=19
ROSC El Rosal 35.87 355 P **P** **09 14 07.3 +1.1**
ROSC IAmb IAmb 09 14 27.4
comp=Z,102nm,0.9s
ROSC El Rosal 35.87 355 eP **P** **09 14 08.5 +2.3**
TMAB Tom-Au,PA,Br 36.20 42 eP **P** **09 14 08.6 0.0**
GUY2C Guyana, Caldas 36.34 354 eP **P** **09 14 11.8 +1.5**
NORC Norcasia 36.63 354 eP **P** **09 14 13.0 +0.7**
SPBC San Pablo de B 36.66 356 eP **P** **09 14 12.8 +0.2**
RUSC La Rusia 36.85 357 P **P** **09 14 15.9 +1.3**
RUSC La Rusia 36.85 357 eP **P** **09 14 15.1 +0.5**
CBOC Ciudad Bolivar 37.04 353 eP **P** **09 14 16.8 +0.9**
NBLA Lagarto - SE 37.13 65 eP **P** **09 14 15.5 -1.1**
HELC Santa Helena 37.31 353 eP **P** **09 14 19.6 +1.2**
TAMC Tame, Arauca 37.36 360 eP **P** **09 14 18.7 +0.2**
TAMC Tame, Arauca 37.36 360 eP **P** **09 14 19.4 +0.9**
PTBC PUERTO BERRIO, 37.57 355 eP **P** **09 14 18.9 -1.2**
SOLC Bahia Solano 37.57 350 eP P 09 14 31.8 +12
BRRC Barranca, Sant 38.08 357 eP **P** **09 14 25.0 +0.4**
DBBC Dabeiba 38.20 353 eP **P** **09 14 28.0 +2.4**
ROSB Rosrio 38.20 48 eP **P** **09 14 24.7 -1.0**
PAMC Pamplona, Colo 38.27 358 eP **P** **09 14 25.0 -1.7**
PTAC Punta Ardita, 38.53 350 eP **P** **09 14 29.4 +1.1**
ZARC Zaragoza, Cauc 38.54 355 eP **P** **09 14 28.9 +0.5**
NBMA Muriti-CE 38.71 59 eP **P** **09 14 29.7 -0.2**
UREC San Jos de Ur 38.85 354 eP **P** **09 14 31.8 +0.8**
NBPS Pedro II - PI 38.86 53 eP **P** **09 14 30.7 -0.5**
NBAN Anadia - AL 39.12 65 eP **P** **09 14 32.4 -0.9**
OCAC Ocana 39.19 357 eP **P** **09 14 33.4 -0.6**
NBPB Pedra_Branca-C 39.35 56 eP **P** **09 14 35.4 -0.1**
AZU Azuero 39.60 346 eP **P** **09 14 39.9 +2.6**
SDV Santo Domingo 39.81 1 P **P** **09 14 38.8 -0.4**
SDV Santo Domingo 39.81 1 IAMs_20 IAMs_20 09 31 51.1
comp=Z,5µm,20.0s
SDV Santo Domingo 39.81 1 eP **P** **09 14 38.5 -0.7**
SDV Santo Domingo 39.81 1 eP **P** **09 14 39.0 -0.2**
CAPC Capurgana 39.93 351 eP **P** **09 14 40.7 +0.7**
UPD2 Meteti 39.94 350 eP **P** **09 14 42.3 +2.2**
NBMO Morrinhos-CE 40.61 53 eP **P** **09 14 45.0 -0.7**
NBRF Rio Formoso - 40.61 64 eP **P** **09 14 44.6 -1.2**
ARGC Ariguani, Magd 40.84 356 eP **P** **09 14 48.3 +0.8**
BCIP Isla Barro Col 40.85 347 P **P** **09 14 48.1 +0.5**
BCIP pmax pmax
comp=Z,133nm,1.0s
BCIP Isla Barro Col 40.85 347 P **P** **09 14 48.1 +0.5**
BCIP Isla Barro Col 40.85 347 eP **P** **09 14 49.5 +1.9**
SJCC San Jacinto, C 40.95 355 P **P** **09 14 48.6 +0.1**
SJCC IAmb IAmb 09 15 05.3
comp=Z,192nm,1.0s
SJCC San Jacinto, C 40.95 355 eP **P** **09 14 49.9 +1.4**
NBPA Parau_RN 41.00 59 eP **P** **09 14 49.0 0.0**
NBCL Cascavel-CE 41.19 56 eP **P** **09 14 50.6 +0.1**
PCRV Puerto La Cruz 41.61 10 P **P** **09 14 53.6 -0.3**
comp=Z,111nm,1.0s,baz=173,slow=2.5,SNR=40
RCBR Riachuelo 41.85 60 P **P** **09 14 55.4 -0.6**
RCBR pmax pmax
comp=Z,209nm,1.2s
RCBR MLR MLR
comp=Z,16µm,19.0s
RCBR Riachuelo 41.85 60 P **P** **09 14 55.4 -0.6**
RCBR IAmb IAmb 09 15 11.0
comp=Z,208nm,1.2s
RCBR Riachuelo 41.85 60 eP **P** **09 14 56.2 +0.3**
NBPV Pedro Velho 41.92 62 eP **P** **09 14 56.8 +0.3**
CRJC Cerrejon, Guaj 41.94 358 eP **P** **09 14 54.1 -2.5**
SMRC Santa Marta, M 42.14 356 eP **P** **09 14 57.5 -0.6**
JACO JACO, Garabito 42.47 341 P **P** **09 15 01.8 +0.9**
URIC Uribia, Colomb 42.59 359 eP **P** **09 14 58.5 -3.4**
TRN Trinidad (W) 42.68 15 eP **P** **09 15 01.4 -1.2**
TRN Trinidad (W) 42.68 15 eP **P** **09 15 01.5 -1.0**
HATO Hato, Curacao 43.14 4 IAmb IAmb 09 15 05.8
comp=Z,168nm,0.9s
HATO IAMs_20 IAMs_20 09 35 00.3
comp=Z,5µm,19.0s
JTS Las Juntas de 43.15 341 P **P** **09 15 08.1 +1.7**
comp=Z,32nm,0.8s,baz=220,slow=3.5,SNR=36
JTS Las Juntas de 43.15 341 *ci*P **P** **09 15 08.4 +2.0**
JTS pmax pmax
comp=Z,153nm,2.1s
JTS MLR MLR
comp=Z,3µm,20.0s
JTS Las Juntas de 43.15 341 P **P** **09 15 07.9 +1.5**
JTS Las Juntas de 43.15 341 eP **P** **09 15 08.8 +2.4**
ORTG Ortega, Santa 43.36 340 P **P** **09 15 08.8 +0.6**
COVE Coope Vega, Sa 43.40 341 IAmb IAmb 09 15 11.5
comp=Z,236nm,1.0s
TOSP Speyside 43.50 16 eP **P** **09 15 08.1 -1.1**
TOSP Speyside 43.50 16 IAmb IAmb 09 15 10.8
comp=Z,459nm,1.2s
GRFF Grenada Fort F 43.97 14 eP **P** **09 15 14.7 +1.7**
GRGR Grenville 44.06 14 eP **P** **09 15 11.8 -1.9**
GRGR Grenville 44.06 14 IAmb IAmb 09 15 31.5
comp=Z,312nm,0.8s
GRGR IAMs_20 IAMs_20 09 36 45.1
comp=Z,6µm,20.0s
GRHS Sauteurs 44.16 14 eP **P** **09 15 14.1 -0.3**
GCMP Grenada, Carri 44.45 14 eP **P** **09 15 15.1 -1.8**
SVB Belmont 45.25 14 *e* **P** **09 15 19.5 -3.7**
SVB Belmont 45.25 14 eP **P** **09 15 20.4 -2.8**
SVB Belmont 45.25 14 IAmb IAmb 09 15 33.0
comp=Z,166nm,0.7s
BBGH Gun Hill 45.51 17 IAMs_20 IAMs_20 09 37 16.6
comp=Z,6µm,21.0s
MCLT Moule a Chique 45.74 14 IAMs_20 IAMs_20 09 35 53.0
comp=Z,3µm,22.0s
MPOM Morne Pois Mar 46.48 14 IAMs_20 IAMs_20 09 38 38.1
comp=Z,3µm,20.0s
FDF Fort de France 46.69 14 eP P 09 15 42.9 +8.3
FDF Fort de France 46.69 14 IAMs_20 IAMs_20 09 36 26.9
comp=Z,5µm,21.0s
ILAM Ilet Lapin Mar 46.79 14 IAMs_20 IAMs_20 09 38 57.4
comp=Z,4µm,20.0s
SVN Savane Anatole 46.80 14 IAMs_20 IAMs_20 09 38 18.3
comp=Z,5µm,20.0s
TGUH Tegucigalpa,Un 47.40 339 IAmb IAmb 09 15 42.3
comp=Z,201nm,1.0s
TGUH Tegucigalpa,Un 47.40 339 eP **P** **09 15 39.4 -0.9**
SNET Serv Nac Est T 47.69 336 P **P** **09 15 43.5 +1.1**
SNET IAmb IAmb 09 16 03.6
comp=Z,142nm,1.0s
ESQI Esquipulas 48.54 337 IAmb IAmb 09 15 51.1
comp=Z,110nm,1.1s
ANBD Bethesda, Anti 48.83 12 eP **P** **09 15 47.5 -3.5**
ICMP Isla Caja de M 48.98 6 P **P** **09 15 51.9 -0.4**
ICMP IAMs_20 IAMs_20 09 38 19.2
comp=Z,4µm,20.0s
CDVI St. Croix 49.05 9 IAmb IAmb 09 16 01.9
comp=Z,161nm,1.0s
SEUS St. Eustatius 49.05 11 IAMs_20 IAMs_20 09 38 06.1
comp=Z,4µm,21.0s
SJG San Juan 49.24 7 P **P** **09 15 53.3 -1.0**
SJG pmax pmax
comp=Z,356nm,0.9s
SJG San Juan 49.24 7 P **P** **09 15 53.2 -1.0**
SJG San Juan 49.24 7 eP **P** **09 15 53.7 -0.6**
HUMP Col San Antoni 49.30 7 IAmb IAmb 09 16 04.0
comp=Z,179nm,1.1s
LGNH Logne 49.37 359 IAmb IAmb 09 15 56.6

comp=Z,142nm,1.2s
MTDJ Mount Denham 49.41 353 IAmb IAmb 09 15 57.5
comp=Z,218nm,1.1s
ANWB Willy Bob 49.43 12 *e*P P 09 15 46.4 -9.2
ANWB Willy Bob 49.43 12 IAMs_20 IAMs_20 09 39 30.1
comp=Z,5µm,21.0s
CUPR Culebra, Puert 49.53 8 IAmb IAmb 09 16 05.7
comp=Z,72nm,0.8s
SMRT St. Maarten 49.58 11 IAMs_20 IAMs_20 09 40 11.2
comp=Z,4µm,19.0s
STVI Saint Thomas 49.61 8 P **P** **09 15 55.5 -1.5**
STVI IAmb IAmb 09 16 08.0
comp=Z,68nm,0.7s
DR12 Loma Pena Alta 49.68 3 P **P** **09 15 57.0 -0.7**
SDDR Presa de Saban 49.83 0 P **P** **09 15 58.3 -0.5**
SDDR IAMs_20 IAMs_20 09 38 51.8
comp=Z,3µm,20.0s
HUEH Huehuetenango 50.01 335 P **P** **09 16 01.5 +1.1**
HUEH IAmb IAmb 09 16 02.6
comp=Z,154nm,0.9s
ABVI Anegada Island 50.07 9 P **P** **09 15 59.1 -1.4**
GTBY Guantanamo Bay 50.89 356 IAmb IAmb 09 16 08.2
comp=Z,195nm,1.0s
PETF Flores 50.91 337 IAmb IAmb 09 16 08.9
comp=Z,175nm,1.0s
CCIG Comitan 51.12 334 IAMs_20 IAMs_20 09 32 57.8
comp=Z,2µm,20.0s
CBCY The Bluff, Cay 51.19 350 IAmb IAmb 09 16 09.7
comp=Z,182nm,1.1s
VNA3 Neumayer Olymp 51.86 159 P **P** **09 16 14.4 +0.9**
VNA1 Neumayer--Stat 52.16 158 P **P** **09 16 17.0 +1.3**
GRTK Grand Turk 52.35 1 IAmb IAmb 09 16 18.7
comp=Z,244nm,0.9s
GRTK IAMs_20 IAMs_20 09 40 31.3
comp=Z,4µm,21.0s
VNA2 Neumayer--Watz 52.50 158 P **P** **09 16 19.1 +0.9**
baz=282,slow=7.3
SNAA Sanae 54.09 159 P **P** **09 16 30.5 +0.5**
SNAA Sanae 54.09 159 P **P** **09 16 30.4 +0.5**
comp=Z,112nm,0.9s,baz=272,slow=5.7,SNR=176
SNAA Sanae 54.09 159 P **P** **09 16 30.3 +0.4**
SNAA IAMs_20 IAMs_20 09 37 29.3
comp=Z,3µm,22.0s
SOR Soroa 54.73 347 P **P** **09 16 34.4 -0.7**
SOR pmax pmax
comp=Z,234nm,1.0s
SOR Soroa 54.73 347 P **P** **09 16 34.4 -0.7**
TLIG Tlapa 54.93 328 IAMs_20 IAMs_20 09 34 21.8
comp=Z,4µm,20.0s
RKT Rikitea 56.34 262 *e*T T 10 17 24.3
comp=Z,17nm,0.2s
UNM Universidad Na 56.76 328 P **P** **09 16 51.9 +1.9**
UNM pmax pmax
comp=Z,255nm,1.1s
UNM Universidad Na 56.76 328 P **P** **09 16 51.9 +1.9**
061Z Ochoppi 57.38 350 P **P** **09 16 54.0 0.0**
ASCN Ascension 57.96 79 IAMs_20 IAMs_20 09 38 54.4
comp=Z,5µm,22.0s
060A Indiantown 58.45 351 IAMs_20 IAMs_20 09 47 04.0
comp=Z,2µm,18.0s
QSPA South Pole Qui 59.09 180 P **P** **09 17 06.6 +0.9**
comp=Z,130nm,1.0s,baz=157,slow=1.0,SNR=181
QSPA South Pole Qui 59.09 180 P **P** **09 17 06.7 +1.0**
QSPA IAmb IAmb 09 17 08.2
comp=Z,147nm,1.1s
DWPF Disney Wildern 59.66 350 P **P** **09 17 09.5 -0.3**
DWPF IAmb IAmb 09 17 11.2
comp=Z,144nm,1.1s
DWPF Disney Wildern 59.66 350 IAMs_20 IAMs_20 09 47 37.0
comp=Z,2µm,20.0s
DWPF Disney Wildern 59.66 350 P **P** **09 17 09.7 -0.1**
baz=170
ZAIG Zacatecas 61.29 327 IAMs_20 IAMs_20 09 38 26.2
comp=Z,4µm,20.0s
H06S1 SOCORRO T 62.37 317 T T 10 24 56.0
SNR=7.8
H06E1 SOCORRO T-PHAS 62.39 317 T T 10 24 58.7
SNR=17
TIGA Tifton 63.27 349 IAmb IAmb 09 17 44.5
comp=Z,135nm,1.0s
TIGA Tifton 63.27 349 P **P** **09 17 33.8 -0.4**
baz=168,SNR=7.1
TIGA S **S** **09 26 03.1 -1.0**
baz=168
257A Skidaway Islan 63.41 351 IAMs_20 IAMs_20 09 48 48.1
comp=Z,2µm,20.0s
BBSR BB Station 63.50 6 P **P** **09 17 35.7 +0.1**
BBSR IAmb IAmb 09 17 46.7
comp=Z,111nm,1.1s
KVTX Kingsville 63.53 334 P **P** **09 17 37.7 +1.8**
255A Hazlehurst 63.57 350 P **P** **09 17 35.6 -0.4**
255A IAmb IAmb 09 17 46.5
comp=Z,197nm,1.2s
BRAL Brewton 63.68 345 P **P** **09 17 37.1 +0.2**
BRAL Brewton 63.68 345 P **P** **09 17 37.0 +0.2**
baz=165,SNR=6.8
250A Grady 64.30 346 IAmb IAmb 09 17 42.0
comp=Z,238nm,1.4s
NHSC New Hope 64.42 352 P **P** **09 17 42.4 +0.8**
baz=172,SNR=6.8
152A Waverly Hall 64.67 348 IAmb IAmb 09 17 53.4
comp=Z,104nm,0.9s
833A Chaparral WMA, 64.81 333 P **P** **09 17 45.6 +1.3**
baz=154,SNR=33
833A S **S** **09 26 24.7 +1.3**
baz=154
441A DeRidder 64.88 339 IAmb IAmb 09 17 47.6
comp=Z,140nm,0.9s
HKT Hockley 64.98 337 *c i*P P **09 17 46.3 +1.0**
HKT pmax pmax
comp=Z,158nm,1.6s
HKT Hockley 64.98 337 P **P** **09 17 46.3 +1.0**
HKT IAmb IAmb 09 17 57.2
comp=Z,188nm,1.5s
SACV Santiago Islan 64.99 52 P **P** **09 17 45.7 -0.1**
SACV IAmb IAmb 09 17 47.9
comp=Z,150nm,1.1s
SACV IAMs_20 IAMs_20 09 44 46.5
comp=Z,3µm,21.0s
GOGA Godfrey 65.18 349 IAmb IAmb 09 17 47.6
comp=Z,108nm,1.2s
GOGA Godfrey 65.18 349 IAMs_20 IAMs_20 09 49 33.1
comp=Z,824nm,19.0s
GOGA Godfrey 65.18 349 P **P** **09 17 46.1 -0.5**
baz=169,SNR=16
GOGA S **S** **09 26 24.3 -3.4**
baz=169
Y57A Sumter 65.34 352 IAmb IAmb 09 17 58.3
comp=Z,132nm,0.9s
Z51A Franklin 65.38 347 IAmb IAmb 09 17 57.8
comp=Z,74nm,1.1s
LRAL Lakeview Retre 65.47 346 IAmb IAmb 09 17 59.0
comp=Z,74nm,1.1s
LRAL Lakeview Retre 65.47 346 P **P** **09 17 48.3 -0.3**
baz=166,SNR=20
LRAL S **S** **09 26 27.8 -3.5**
baz=166
VBMS Vicksburg 65.52 342 P **P** **09 17 49.8 +1.0**
baz=162,SNR=36
VBMS S **S** **09 26 32.8 +0.9**
baz=162
JSC Jenkinsville 65.71 351 IAmb IAmb 09 18 00.6
comp=Z,93nm,1.0s
JSC IAMs_20 IAMs_20 09 48 55.1
comp=Z,2µm,20.0s
Y52A Lilburn 65.72 349 IAmb IAmb 09 18 00.6
comp=Z,174nm,1.1s
SLBS Sierra La Lagu 65.75 321 P **P** **09 17 51.8 +1.1**
HODGE Hodges 65.80 350 IAmb IAmb 09 18 00.6
comp=Z,75nm,1.1s
HODGE IAMs_20 IAMs_20 09 48 42.4
comp=Z,2µm,21.0s
Z47A Carrollton 65.86 345 IAmb IAmb 09 18 01.8
comp=Z,158nm,1.1s
SBA Scott Base 65.95 191 P **P** **09 17 52.8 +1.6**
SBA pmax pmax
comp=Z,91nm,1.4s
SBA Scott Base 65.95 191 P **P** **09 17 52.8 +1.6**
BIRD Birdtown, Kers 65.97 352 IAmb IAmb 09 18 01.8
comp=Z,96nm,1.1s
Y49A Blount Mountai 66.15 347 IAmb IAmb 09 18 03.3
comp=Z,80nm,1.1s
NATX Nacogdoches 66.27 339 P **P** **09 17 54.9 +1.2**
baz=159,SNR=11
NATX S **S** **09 26 42.4 +1.2**
baz=159
CNNC Cliffs of the 66.29 354 P **P** **09 17 54.3 +0.6**
baz=174,SNR=11
CNNC S **S** **09 26 42.0 +0.7**
baz=174
PAULI Pauline 66.31 351 IAmb IAmb 09 18 04.7
comp=Z,157nm,1.1s
PAULI IAMs_20 IAMs_20 09 48 01.1
comp=Z,2µm,21.0s
435B Jarrell 66.35 336 IAmb IAmb 09 18 05.8
comp=Z,106nm,1.2s
435B Jarrell 66.35 336 P **P** **09 17 55.2 +0.9**
baz=156,SNR=7.9
435B S **S** **09 26 42.8 +0.6**
baz=156
W57A Gilead 66.42 352 IAmb IAmb 09 18 05.1
comp=Z,116nm,0.9s
W57A IAMs_20 IAMs_20 09 45 36.8
comp=Z,2µm,22.0s
KMSC Kings Mountain 66.57 351 IAmb IAmb 09 18 06.2
comp=Z,123nm,1.0s
KMSC Kings Mountain 66.57 351 P **P** **09 17 55.4 -0.1**
baz=171,SNR=17
KMSC S **S** **09 26 42.6 -2.0**
baz=171
BG3 Lake Jocassee 66.64 350 IAmb IAmb 09 18 06.9
comp=Z,160nm,1.1s
BG3 IAMs_20 IAMs_20 09 45 25.9
comp=Z,2µm,22.0s
FPAL Fort Paine 66.66 347 IAmb IAmb 09 18 06.6
comp=Z,114nm,1.1s
V61A Roper 66.74 356 IAMs_20 IAMs_20 09 47 56.5
comp=Z,2µm,22.0s
JCT Junction City 66.89 334 IAmb IAmb 09 18 10.1
comp=Z,170nm,1.2s
JCT Junction City 66.89 334 P **P** **09 17 58.5 +0.8**
baz=154,SNR=54
JCT S **S** **09 26 50.6 +1.8**
baz=154
W52A Murphy 66.90 349 IAmb IAmb 09 18 08.6
comp=Z,179nm,1.1s
V58A Windy Hill, Pi 66.96 353 IAmb IAmb 09 18 08.6
comp=Z,120nm,0.8s
VNDA Vanda 66.98 191 P **P** **09 17 59.4 +1.7**
comp=Z,23nm,1.2s,baz=129,slow=4.8,SNR=41
VNDA LR LR 09 43 23.6
comp=Z,720nm,19.8s,baz=140,slow=32
VNDA Vanda 66.98 191 P **P** **09 17 59.4 +1.7**
Z41A Richland Creek 67.12 341 P **P** **09 18 00.1 +1.0**
baz=160,SNR=11
Z41A S **S** **09 26 53.3 +2.0**
baz=160
TAOE Nuku Hiva Isla 67.16 273 *e*S **S** **09 26 59.3 +6.4**
comp=Z,2µm,26.8s
TAOE Nuku Hiva Isla 67.16 273 *e*LR LR 09 38 13.3
comp=Z,3µm,30.0s
V55A Taylorsville 67.25 352 IAmb IAmb 09 18 10.7
comp=Z,171nm,0.9s
V55A IAMs_20 IAMs_20 09 45 40.9
comp=Z,2µm,22.0s
V53A Saluda 67.29 350 IAmb IAmb 09 18 10.8
comp=Z,156nm,0.9s
V53A IAMs_20 IAMs_20 09 45 55.9
comp=Z,2µm,21.0s
U59A Littleton 67.39 355 IAmb IAmb 09 18 12.1
comp=Z,173nm,1.1s
WHTX Lake Whitney, 67.41 336 P **P** **09 18 01.5 +0.5**
baz=156,SNR=22
WHTX S **S** **09 26 55.4 +0.5**
baz=156
TKL Tuckaleechee C 67.43 349 IAMs_20 IAMs_20 09 51 37.6
comp=Z,1µm,18.0s
OXF Oxford 67.43 344 P **P** **09 18 00.7 -0.3**
OXF pmax pmax
comp=Z,395nm,1.0s
OXF Oxford 67.43 344 P **P** **09 18 00.7 -0.3**
OXF Oxford 67.43 344 P **P** **09 18 00.6 -0.3**
baz=164,SNR=17
TXAR Lajitas Array 67.45 330 P **P** **09 18 02.0 +0.6**
comp=Z,20nm,0.8s,baz=147,slow=8.4,SNR=229
TXAR pP **pP** **09 18 10.4 -0.1**
comp=Z,24nm,1.1s,baz=160,slow=6.1,SNR=9.7
TXAR LR LR 09 43 13.8
comp=Z,2µm,18.7s,baz=0.0,slow=32
TXAR PKP2bc 09 46 24.8
comp=Z,7.7nm,1.3s,baz=333,slow=1.4,SNR=7.1
CCAR Cane Creek 67.46 342 P **P** **09 18 02.0 +0.8**
CCAR IAmb IAmb 09 18 12.8
comp=Z,178nm,1.1s
V52A Sevierville 67.58 349 IAMs_20 IAMs_20 09 51 40.6
comp=Z,1µm,18.0s
PLAL Pickwick Lake 67.58 345 IAmb IAmb 09 18 12.4
comp=Z,120nm,1.1s
U56A King 67.64 352 IAmb IAmb 09 18 13.3
comp=Z,139nm,0.8s
V51A Loudon 67.66 349 IAmb IAmb 09 18 12.9
comp=Z,167nm,0.9s
V51A IAMs_20 IAMs_20 09 50 50.8
comp=Z,1µm,19.0s
Z38A Mt. Pleasant 67.77 339 IAmb IAmb 09 18 14.7
comp=Z,207nm,1.2s
T59A Double "B" Far 67.99 355 IAMs_20 IAMs_20 09 48 37.4
comp=Z,2µm,22.0s
T60A Sun 68.09 356 IAMs_20 IAMs_20 09 48 47.2
comp=Z,2µm,21.0s
T57A Hurt 68.16 353 IAmb IAmb 09 18 16.5
comp=Z,62nm,0.8s
TZTN Tazewell 68.26 350 IAmb IAmb 09 18 16.7
comp=Z,258nm,1.4s
TZTN IAMs_20 IAMs_20 09 52 00.6
comp=Z,1µm,19.0s
TZTN Tazewell 68.26 350 P **P** **09 18 05.8 -0.4**
baz=169,SNR=13
TZTN S **S** **09 27 02.4 -2.5**
baz=169
X40A Basin Creek Fa 68.28 341 P **P** **09 18 06.2 -0.2**
baz=160,SNR=8.6
X40A S **S** **09 27 04.0 -1.2**
baz=160
CLTN Cedars of Leba 68.30 347 IAmb IAmb 09 18 17.2
comp=Z,174nm,1.0s
SYO Syowa Base 68.38 159 *i*P P **09 18 06.8 +0.2**
SYO Syowa Base 68.38 159 *ep*P pP 09 18 14.0 -1.9
TBI Tubuai 68.40 255 *e*S **S** **09 27 14.0 +6.6**
comp=Z,2µm,27.5s
TBI Tubuai 68.40 255 *e*LR LR 09 38 51.8
comp=Z,5µm,26.8s,baz=110
TBI Tubuai 68.40 255 *e*T T 10 32 29.3
comp=Z,26nm,0.2s
BLA Blacksburg 68.50 352 IAmb IAmb 09 18 18.1
comp=Z,86nm,1.0s
BLA Blacksburg 68.50 352 P **P** **09 18 07.9 +0.2**
baz=172,SNR=7.0
MIAR Mount Ida 68.55 341 IAmb IAmb 09 18 19.1
comp=Z,156nm,1.2s
MIAR Mount Ida 68.55 341 P **P** **09 18 08.2 +0.1**
baz=160,SNR=40
MIAR S **S** **09 27 07.4 -1.0**
baz=160
S61A Accomac 68.57 357 IAMs_20 IAMs_20 09 50 13.8
comp=Z,1µm,20.0s
U49A Red Boiling Sp 68.60 348 IAmb IAmb 09 18 18.9
comp=Z,115nm,1.0s
WVT Waverly 68.63 346 P **P** **09 18 08.3 -0.3**
WVT pmax pmax
comp=Z,285nm,1.1s
WVT Waverly 68.63 346 P **P** **09 18 08.3 -0.3**
WVT Waverly 68.63 346 P **P** **09 18 08.5 -0.1**
baz=165
WVT S **S** **09 27 06.7 -2.7**
baz=165
LPAR Lepanto 68.68 344 P **P** **09 18 09.0 +0.1**
HBAR Harrisburg 68.72 343 P **P** **09 18 09.2 +0.1**
HBAR IAmb IAmb 09 18 19.9
comp=Z,133nm,1.1s
HALT Halls 68.75 345 P **P** **09 18 09.3 0.0**
ABTX Abilene, Hawle 68.75 335 IAmb IAmb 09 18 21.6
comp=Z,178nm,1.2s
ABTX Abilene, Hawle 68.75 335 P **P** **09 18 10.0 +0.6**
baz=154,SNR=51
ABTX S **S** **09 27 12.1 +1.0**
baz=154
W41B Gary Mavity, V 68.77 342 P **P** **09 18 09.6 +0.2**
baz=161,SNR=24
W41B S **S** **09 27 10.5 -0.5**
baz=161
S57A Dark Hollow, R 68.89 354 IAmb IAmb 09 18 21.3
comp=Z,134nm,0.8s
WHAR Wooly Hollow 68.89 342 IAmb IAmb 09 18 21.1
comp=Z,141nm,1.1s
T50A Nancy 68.93 349 IAmb IAmb 09 18 20.1
comp=Z,73nm,1.1s
X37A Clayton 69.12 339 IAmb IAmb 09 18 22.8
comp=Z,191nm,1.5s
LOOK Love County 69.14 337 IAmb IAmb 09 18 27.0
comp=Z,126nm,1.1s
S54A Dingess, Beckl 69.18 352 IAmb IAmb 09 18 22.4
comp=Z,196nm,0.9s
CBN Corbin Frederi 69.20 355 IAMs_20 IAMs_20 09 49 09.4
comp=Z,1µm,22.0s
CBN Corbin Frederi 69.20 355 P **P** **09 18 12.5 +0.5**
baz=175
CBN S **S** **09 27 16.8 +0.9**
baz=175
W39A Magazine 69.21 341 P **P** **09 18 12.9 +0.8**
baz=160,SNR=101
W39A S **S** **09 27 16.8 +0.5**
baz=160
LCAR Lake Charles 69.34 343 IAmb IAmb 09 18 23.5
comp=Z,169nm,0.9s
S51A Beattyville 69.34 350 IAmb IAmb 09 18 23.4
comp=Z,125nm,0.9s
FCAR Ozark Folk Cen 69.41 342 IAmb IAmb 09 18 24.0
comp=Z,89nm,1.1s
R55A Marlinton 69.52 353 IAmb IAmb 09 18 25.6
comp=Z,178nm,0.9s
MEH Mehetia 69.66 261 *e*T T 10 34 02.3
comp=Z,85nm,0.2s
Q61A Milford 69.75 357 P **P** **09 18 16.7 +1.4**
baz=177
R53A Hurricane 69.79 351 IAmb IAmb 09 18 26.1
comp=Z,89nm,0.9s
PBMO Poplar Bluff 69.83 344 IAmb IAmb 09 18 26.7
comp=Z,185nm,1.1s
X34A Smith Ranch, M 69.91 337 IAmb IAmb 09 18 27.7
comp=Z,195nm,1.1s
U40A Yellville 70.05 342 IAmb IAmb 09 18 28.1
comp=Z,198nm,1.1s
U40A Yellville 70.05 342 P **P** **09 18 17.3 0.0**
baz=161,SNR=36
U40A S **S** **09 27 25.4 -0.7**
baz=161
R50A Paris 70.08 349 IAmb IAmb 09 18 27.9
comp=Z,72nm,1.0s
R50A IAMs_20 IAMs_20 09 50 37.8
comp=Z,2µm,21.0s
Q56A Snyder Ridge, 70.18 354 IAmb IAmb 09 18 29.8
comp=Z,125nm,0.9s
R49A Shelbyville 70.23 349 IAmb IAmb 09 18 28.0
comp=Z,96nm,1.1s
MNTX Cornudas Mount 70.23 330 P **P** **09 18 18.2 -0.4**
baz=150,SNR=81
MNTX S **S** **09 27 28.7 +0.3**
baz=150
T42A Van Buren 70.23 343 IAmb IAmb 09 18 28.9
comp=Z,96nm,1.2s
HHAR Hobbs 70.27 341 IAmb IAmb 09 18 29.5
comp=Z,172nm,0.9s
Q54A Coxs Mills 70.30 352 IAmb IAmb 09 18 29.0
comp=Z,74nm,0.8s
WMOK Wichita Mounta 70.36 336 IAmb IAmb 09 18 30.0
comp=Z,120nm,1.4s
WMOK Wichita Mounta 70.36 336 P **P** **09 18 19.1 -0.2**
baz=156,SNR=24
WMOK S **S** **09 27 29.0 -0.9**
baz=156
WCI Wyandotte Cave 70.36 348 P **P** **09 18 18.3 -0.9**
WCI pmax pmax
WCI comp=Z,106nm,0.9s MLR MLR
comp=Z,1µm,20.0s
WCI Wyandotte Cave 70.36 348 P **P** **09 18 18.2 -0.9**
WCI IAmb IAmb 09 18 29.3
comp=Z,106nm,0.9s
WCI Wyandotte Cave 70.36 348 IAMs_20 IAMs_20 09 53 09.4
comp=Z,1µm,20.0s
WCI Wyandotte Cave 70.36 348 P **P** **09 18 18.4 -0.9**
baz=167
WCI S **S** **09 27 27.2 -2.4**
baz=167
FNO Franklin 70.37 338 IAmb IAmb 09 18 30.9
comp=Z,188nm,1.4s
TUL1 Leonard 70.47 339 P **P** **09 18 19.8 -0.1**
baz=158,SNR=37
TUL1 S **S** **09 27 29.8 -1.2**
baz=158
P61A Hammonton 70.52 357 IAMs_20 IAMs_20 09 53 06.3
comp=Z,2µm,19.0s
OKCFA Oklahoma City 70.53 338 IAmb IAmb 09 18 31.0
comp=Z,159nm,1.2s
U38A Gravette 70.55 341 IAmb IAmb 09 18 31.1
comp=Z,86nm,1.1s
HSIG 70.60 324 IAmb IAmb 09 18 31.8
comp=Z,107nm,1.5s
MGMO Mountain Grove 70.65 343 IAmb IAmb 09 18 31.9
comp=Z,126nm,1.1s
OK025 Westminster Rd 70.65 338 IAmb IAmb 09 18 31.4
comp=Z,169nm,0.9s
P60A Greenville 70.69 357 IAmb IAmb 09 18 32.8
comp=Z,111nm,1.1s
P60A IAMs_20 IAMs_20 09 48 16.0
comp=Z,1µm,21.0s
P60A Greenville 70.69 357 P **P** **09 18 21.8 +0.7**
baz=176,SNR=10
P60A S **S** **09 27 34.6 +1.2**
baz=176
EPT El Paso 70.79 329 IAMs_20 IAMs_20 09 44 48.6
comp=Z,3µm,20.0s
BCOK Bluff Creek, N 70.81 338 IAmb IAmb 09 18 32.7
comp=Z,190nm,1.3s
WUPA West Chester U 70.81 357 IAmb IAmb 09 18 33.7
comp=Z,129nm,1.1s
OK031 S. Brethren Rd 70.83 338 IAmb IAmb 09 18 32.8
comp=Z,174nm,1.1s
MCWV Mont Chateau 70.86 353 IAmb IAmb 09 18 33.2
comp=Z,136nm,0.9s
MCWV Mont Chateau 70.86 353 P **P** **09 18 22.4 +0.3**
baz=172,SNR=12
P53A Whipple 70.86 352 IAmb IAmb 09 18 33.0
comp=Z,179nm,1.1s
OK029 Liberty Lake 70.88 338 IAmb IAmb 09 18 33.1
comp=Z,202nm,1.2s
TIAR Tiarei 70.88 261 *e*T T 10 35 34.9
comp=Z,9.0nm,0.3s
MVL Millersville 70.92 356 IAmb IAmb 09 18 34.5
comp=Z,175nm,1.2s
MVL IAMs_20 IAMs_20 09 50 50.9
comp=Z,2µm,20.0s
PPT2 Papeete2 71.06 261 *e*S **S** **09 27 45.3 +6.3**
comp=Z,2µm,28.5s
PPT2 Papeete2 71.06 261 *e*LR LR 09 40 04.0
comp=Z,3µm,24.2s,baz=120
PPT Papeete 71.07 261 P **P** **09 18 26.4 +2.3**
comp=Z,50nm,0.9s,baz=270,slow=20,SNR=2.3
PPT pP **pP** **09 18 35.0 +1.9**
comp=Z,99nm,0.9s,baz=62,slow=3.4,SNR=4.4
PPT LR LR 09 41 15.5
comp=Z,2µm,20.1s,baz=138,slow=29
P52A Corning 71.09 351 P **P** **09 18 23.3 -0.3**
baz=170,SNR=22
P52A S **S** **09 27 36.1 -2.0**
baz=170
MSTX Muleshoe 71.14 333 P **P** **09 18 24.3 +0.2**
baz=152,SNR=154
MSTX S **S** **09 27 39.5 +0.4**
baz=152
PAGS Pennsylvania G 71.17 356 IAmb IAmb 09 18 35.0
comp=Z,117nm,1.0s
CCM Cathedral Cave 71.25 344 P **P** **09 18 24.8 +0.2**
CCM pmax pmax
comp=Z,328nm,1.1s
CCM Cathedral Cave 71.25 344 P **P** **09 18 24.8 +0.2**
CCM Cathedral Cave 71.25 344 P **P** **09 18 24.7 +0.1**
baz=162
CCM S **S** **09 27 39.1 -0.8**
baz=162
BLO Bloomington 71.32 348 IAmb IAmb 09 18 34.6
comp=Z,93nm,0.8s
O56A Blue Knob Stat 71.34 354 IAmb IAmb 09 18 36.0
comp=Z,123nm,1.1s
O56A IAMs_20 IAMs_20 09 50 42.2
comp=Z,2µm,21.0s
O56A Blue Knob Stat 71.34 354 P **P** **09 18 25.5 +0.3**
baz=174,SNR=15
O56A S **S** **09 27 41.0 -0.1**
baz=174
P49A Miami Univ. Ec 71.37 349 IAmb IAmb 09 18 35.4
comp=Z,148nm,0.9s

P49A IAMs_20 IAMs_20 09 51 26.9
comp=Z,1µm,20.0s
P49A Miami Univ. Ec 71.37 349 P P 09 18 24.6 -0.7
baz=168,SNR=9.5
P49A S S **09 27 38.6 -2.6**
baz=168
P48A Milroy 71.41 349 IAmb IAmb 09 18 35.5
comp=Z,190nm,0.9s
P48A IAMs_20 IAMs_20 09 51 21.1
comp=Z,2µm,22.0s
O54A Avella 71.43 353 IAMs_20 IAMs_20 09 54 03.5
comp=Z,1µm,20.0s
LUPA Lehigh Univers 71.46 357 IAmb IAmb 09 18 37.7
comp=Z,119nm,1.1s
AMTX Amarillo 71.53 334 P P 09 18 26.9 +0.4
baz=153
AMTX S S **09 27 43.9 +0.3**
baz=153
O52A Adamsville 71.53 352 IAmb IAmb 09 18 36.7
comp=Z,115nm,0.8s
Q44A Meyer Farm, Va 71.55 346 IAmb IAmb 09 18 36.5
comp=Z,134nm,1.0s
O53A New Philadelph 71.59 352 IAmb IAmb 09 18 36.6
comp=Z,111nm,1.1s
O53A New Philadelph 71.59 352 P P 09 18 26.4 -0.2
baz=171,SNR=11
CPNY Central Park 71.60 358 IAmb IAmb 09 18 38.1
comp=Z,115nm,1.2s
T35A Sooner Cattle 71.62 339 IAmb IAmb 09 18 38.0
comp=Z,173nm,1.1s
SSPA Standing Stone 71.65 355 P P 09 18 27.2 +0.3
SSPA IAmb IAmb 09 18 37.8
comp=Z,128nm,1.1s
SSPA Standing Stone 71.65 355 IAMs_20 IAMs_20 09 51 18.4
comp=Z,1µm,21.0s
SSPA Standing Stone 71.65 355 P P 09 18 27.4 +0.4
baz=174
SSPA S S **09 27 45.5 +1.0**
baz=174
BLOK Blackwell 71.69 339 P P 09 18 27.4 +0.1
BLOK IAmb IAmb 09 18 38.4
comp=Z,253nm,1.4s
CROK Carrier 71.70 338 IAmb IAmb 09 18 38.3
comp=Z,170nm,1.2s
319A Douglas 71.72 327 IAmb IAmb 09 18 39.9
comp=Z,148nm,1.3s
319A IAMs_20 IAMs_20 09 44 11.4
comp=Z,2µm,21.0s
N58A Sunbury 71.78 356 IAmb IAmb 09 18 39.4
comp=Z,150nm,1.1s
N58A IAMs_20 IAMs_20 09 51 05.7
comp=Z,2µm,21.0s
ACSO Alum Creek Sta 71.80 351 P P 09 18 27.6 -0.3
baz=170,SNR=20
N59A State Game Lan 71.80 357 IAmb IAmb 09 18 40.0
comp=Z,222nm,1.1s
N59A State Game Lan 71.80 357 P P 09 18 28.9 +1.1
baz=176,SNR=33
N59A S S **09 27 49.3 +3.0**
baz=176
PAL Palisades 71.82 358 IAmb IAmb 09 18 39.4
comp=Z,69nm,1.1s
PAL IAMs_20 IAMs_20 09 48 51.7
comp=Z,1µm,22.0s
PAL Palisades 71.82 358 P P 09 18 28.3 +0.4
baz=178,SNR=5.2
ODNJ Ogdensburg 71.92 358 IAmb IAmb 09 18 40.3
comp=Z,137nm,1.0s
ODNJ IAMs_20 IAMs_20 09 52 44.4
comp=Z,1µm,20.0s
U32A Winter Ranch, 71.92 337 IAmb IAmb 09 18 39.9
comp=Z,200nm,1.4s
TRNY Table Rock, Ra 71.96 358 IAmb IAmb 09 18 40.6
comp=Z,114nm,1.1s
TRNY IAMs_20 IAMs_20 09 52 43.7
comp=Z,1µm,21.0s
WSPT Westport, CT 71.97 359 IAmb IAmb 09 18 40.6
comp=Z,162nm,1.1s
WSPT IAMs_20 IAMs_20 09 49 15.7
comp=Z,1µm,22.0s
121A Cookes Peak, D 72.00 328 IAmb IAmb 09 18 41.8
comp=Z,210nm,1.2s
121A Cookes Peak, D 72.00 328 P P 09 18 31.1 +1.6
baz=148,SNR=75
121A S S **09 27 52.7 +3.5**
baz=148
OK032 Salt Plains WL 72.05 338 IAmb IAmb 09 18 40.6
comp=Z,274nm,1.4s
M66A Nantucket 72.05 1 P P 09 18 30.1 +0.8
baz=181
N53A Lisbon 72.10 353 IAmb IAmb 09 18 40.6
comp=Z,136nm,1.2s
YLE Yale 72.10 359 IAMs_20 IAMs_20 09 51 44.3
comp=Z,1µm,22.0s
KAN14 Manchester OK 72.11 338 IAmb IAmb 09 18 40.9
comp=Z,142nm,1.3s
N54A Moraine State 72.16 353 IAmb IAmb 09 18 41.1
comp=Z,128nm,0.8s
N54A Moraine State 72.16 353 P P 09 18 30.1 0.0
baz=172,SNR=15
N54A S S **09 27 48.8 -1.6**
baz=172
KAN09 Caldwell North 72.16 338 IAmb IAmb 09 18 41.3
comp=Z,311nm,1.3s
M63A Gales Ferry 72.18 360 IAMs_20 IAMs_20 09 48 26.4
comp=Z,1µm,21.0s
M57A Sunshine Farm, 72.30 356 IAmb IAmb 09 18 41.9
comp=Z,114nm,1.0s
M57A IAMs_20 IAMs_20 09 51 11.5
comp=Z,2µm,21.0s
KAN10 Anthony SW Sta 72.30 338 IAmb IAmb 09 18 41.5
comp=Z,165nm,1.4s
M65A Busby, Falmout 72.34 1 IAMs_20 IAMs_20 09 56 02.7
comp=Z,1µm,19.0s
M65A Busby, Falmout 72.34 1 P P 09 18 31.4 +0.4
baz=181
M65A S S **09 27 55.4 +3.1**
baz=181
N51A Ashland 72.39 351 IAmb IAmb 09 18 41.8
comp=Z,178nm,1.0s
N51A IAMs_20 IAMs_20 09 48 49.9
comp=Z,1µm,21.0s
KSPA Keystone Colle 72.44 357 IAmb IAmb 09 18 43.4
comp=Z,196nm,1.4s
M55A Ridgway 72.55 354 IAmb IAmb 09 18 43.5
comp=Z,184nm,0.9s
UCCT U. Connecticut 72.57 359 IAMs_20 IAMs_20 09 48 25.8
comp=Z,2µm,22.0s
SFIN Lafayette 72.60 348 IAmb IAmb 09 18 42.5
comp=Z,196nm,1.4s
SFIN IAMs_20 IAMs_20 09 53 56.4
comp=Z,2µm,21.0s
SFIN Lafayette 72.60 348 P P 09 18 31.5 -1.1
baz=166,SNR=5.5
SFIN S S **09 27 51.1 -4.3**
baz=166
O44A Mansfield 72.64 347 IAmb IAmb 09 18 42.8
comp=Z,132nm,0.9s
M54A Oil Creek Stat 72.67 354 IAmb IAmb 09 18 43.8
comp=Z,107nm,0.9s
M54A IAMs_20 IAMs_20 09 55 11.4
comp=Z,1µm,20.0s
M54A Oil Creek Stat 72.67 354 P P 09 18 33.0 -0.1
baz=173,SNR=9.7
M54A S S **09 27 54.3 -1.9**
baz=173
BRYW Bryant College 72.69 0 IAmb IAmb 09 18 45.1
comp=Z,250nm,1.1s
M53A WI Miller and 72.70 353 IAmb IAmb 09 18 44.0
comp=Z,176nm,0.9s
M53A IAMs_20 IAMs_20 09 55 21.3
comp=Z,1µm,18.0s
M53A WI Miller and 72.70 353 P P 09 18 33.0 -0.3
baz=172,SNR=11
L64A Middleborough 72.72 1 IAmb IAmb 09 18 45.1
comp=Z,138nm,1.1s
L64A IAMs_20 IAMs_20 09 56 13.5
comp=Z,1µm,19.0s
L64A Middleborough 72.72 1 P P 09 18 34.0 +0.7
baz=181,SNR=15
L64A S S **09 27 59.9 +3.3**
baz=181
L65A Cape Cod Natio 72.82 1 P P 09 18 34.6 +0.7
baz=181
ALLY Allegheny Colle 72.86 353 IAmb IAmb 09 18 44.9
comp=Z,152nm,0.9s
M52A Chesterland 72.88 352 IAmb IAmb 09 18 45.0
comp=Z,209nm,0.9s

Y22D IRIS PASSCAL I 72.93 330 P P 09 18 36.5 +1.5
baz=149
Y22D S **SKiKP 09 28 05.4 -0.6**
baz=149
M50A Fremont 72.95 351 IAMs_20 IAMs_20 09 48 56.8
comp=Z,1µm,22.0s
L59A Walton 73.04 357 IAmb IAmb 09 18 47.0
comp=Z,217nm,1.0s
L59A IAMs_20 IAMs_20 09 53 21.0
comp=Z,2µm,21.0s
QUA2 Belchertown 73.06 359 IAmb IAmb 09 18 47.1
comp=Z,174nm,1.1s
QUA2 IAMs_20 IAMs_20 09 54 59.6
comp=Z,1µm,18.0s
BINY Binghamton 73.09 357 IAmb IAmb 09 18 47.1
comp=Z,140nm,1.1s
BINY Binghamton 73.09 357 P P 09 18 35.9 +0.4
baz=176,SNR=22
BINY S S **09 28 02.3 +1.4**
baz=176
BCX Boston College 73.11 0 IAMs_20 IAMs_20 09 56 27.1
comp=Z,1µm,20.0s
L56A Greenwood 73.12 355 IAMs_20 IAMs_20 09 51 37.2
comp=Z,2µm,22.0s
WES Weston 73.16 0 IAmb IAmb 09 18 47.7
comp=Z,112nm,1.2s
WES IAMs_20 IAMs_20 09 56 30.4
comp=Z,1µm,19.0s
HDIL Hopedale 73.20 346 IAmb IAmb 09 18 46.1
comp=Z,120nm,0.8s
HDIL Hopedale 73.20 346 P P 09 18 35.8 -0.4
baz=164,SNR=12
HDIL S S **09 27 60.0 -2.2**
baz=164
TUC Tucson 73.21 326 P P **09 18 36.9 +0.3**
TUC pmax pmax
comp=Z,66nm,1.5s
TUC Tucson 73.21 326 P P **09 18 36.9 +0.3**
TUC Tucson 73.21 326 IAMs_20 IAMs_20 09 46 09.0
comp=Z,2µm,19.0s
TUC Tucson 73.21 326 P P 09 18 37.6 +1.0
baz=146
TUC S S **09 28 02.9 0.0**
baz=146
L61B Northampton 73.23 359 P P 09 18 36.9 +0.6
baz=179,SNR=30
L61B S **SKiKP 09 28 04.9 -1.1**
baz=179
HRV Adam Dziewonsk 73.28 0 P P **09 18 37.6 +1.0**
HRV pmax pmax
comp=Z,178nm,1.2s
HRV Adam Dziewonsk 73.28 0 P P 09 18 37.6 +1.0
HRV IAmb IAmb 09 18 48.6
comp=Z,178nm,1.1s
HRV Adam Dziewonsk 73.28 0 IAMs_20 IAMs_20 09 56 43.6
comp=Z,1µm,19.0s
HRV Adam Dziewonsk 73.28 0 P P 09 18 37.6 +1.0
baz=180
HRV S **SKiKP 09 28 06.4 +0.2**
baz=180
P38A Dawn 73.30 342 IAmb IAmb 09 18 47.4
comp=Z,178nm,0.9s
ERPA Erie 73.31 353 P P 09 18 36.5 -0.3
ERPA IAmb IAmb 09 18 47.6
comp=Z,208nm,0.9s
ERPA IAMs_20 IAMs_20 09 51 58.2
comp=Z,2µm,22.0s
ERPA Erie 73.31 353 P P 09 18 36.7 0.0
baz=172,SNR=6.6
K62A Royalston 73.44 359 IAmb IAmb 09 18 49.8
comp=Z,210nm,1.2s
K62A Royalston 73.44 359 P P 09 18 38.6 +1.1
baz=179,SNR=23
K62A S **SKiKP 09 28 07.9 +1.5**
baz=179
K61A Williamstown 73.46 359 P P 09 18 38.5 +0.8
baz=178,SNR=11
K61A S **SKiKP 09 28 09.1 +2.7**
baz=178
ANMO Albuquerque 73.48 331 LR LR 09 46 42.4
comp=Z,3µm,19.8s,baz=156,slow=32
ANMO Albuquerque 73.48 331 *c i* P P **09 18 38.9 +0.7**
ANMO pmax pmax
comp=Z,61nm,1.3s
ANMO MLR MLR
comp=Z,507nm,15.0s
ANMO Albuquerque 73.48 331 P P **09 18 39.2 +0.9**
ANMO IAmb IAmb 09 18 50.4
comp=Z,172nm,1.5s
ANMO Albuquerque 73.48 331 IAMs_20 IAMs_20 09 46 21.8
comp=Z,3µm,20.0s
ANMO Albuquerque 73.48 331 P P 09 18 39.4 +1.2
baz=149
ANMO S **SKiKP 09 28 08.0 +1.1**
baz=149
LIC Lamto 73.51 72 *e* P P **09 18 37.2 -1.4**
comp=Z,598nm,1.1s
K57A Scipio Center 73.65 356 IAmb IAmb 09 18 49.2
comp=Z,114nm,1.1s
K57A IAMs_20 IAMs_20 09 53 39.2
comp=Z,1µm,20.0s
KSU1 Kansas State U 73.66 340 P P **09 18 38.5 -0.5**
KSU1 IAmb IAmb 09 18 56.4
comp=Z,74nm,0.8s
KSU1 Kansas State U 73.66 340 P P 09 18 38.7 -0.3
baz=158,SNR=8.1
KSU1 S **SKiKP 09 28 05.8 -1.0**
baz=158
L48A N Adams 73.68 350 IAmb IAmb 09 18 49.2
comp=Z,212nm,0.9s
R32A Long Quarter, 73.69 338 IAmb IAmb 09 18 50.5
comp=Z,180nm,1.2s
TIC Toumodi 73.75 72 *e* P P **09 18 39.4 -0.7**
M44A Midewin, Midew 73.75 347 IAMs_20 IAMs_20 09 55 06.9
comp=Z,1µm,20.0s
KIC Kosan Boka 73.82 72 *e* P P **09 18 39.2 -1.3**
comp=Z,661nm,1.0s
DBIC Dimbokro 73.90 72 P P **09 18 41.0 0.0**
comp=Z,248nm,0.9s,baz=230,slow=5.5,SNR=146
DBIC pP pP **09 18 50.4 0.0**
comp=Z,87nm,0.8s,baz=238,slow=5.0,SNR=10.0
DBIC LR LR 09 48 26.4
comp=Z,6µm,20.6s,baz=240,slow=34
DBIC Dimbokro 73.90 72 P P **09 18 40.9 0.0**
214A Organ Pipe Nat 73.92 324 IAmb IAmb 09 18 53.0
comp=Z,174nm,1.4s
214A Organ Pipe Nat 73.92 324 P P **09 18 42.0 +1.4**
baz=144,SNR=33
214A S S **09 28 13.6 +2.9**
baz=144
AAM Ann Arbor 73.92 351 IAmb IAmb 09 18 50.9
comp=Z,199nm,1.3s
AAM IAMs_20 IAMs_20 09 49 26.4
comp=Z,2µm,22.0s
AAM Ann Arbor 73.92 351 P P 09 18 39.9 -0.5
baz=169,SNR=5.1
AAM S **SKiKP 09 28 08.0 +0.9**
baz=169
L46A Eue Claire 74.04 349 IAmb IAmb 09 18 51.0
comp=Z,229nm,1.1s
HQIL Hanson Quary C 74.11 347 P P **09 18 41.0 -0.5**
J61A Chester 74.13 359 P P **09 18 42.8 +1.2**
baz=179,SNR=20
J61A S S **09 28 16.5 +3.9**
baz=179
ACCN Adirondack Com 74.19 358 P P **09 18 42.2 +0.3**
ACCN IAmb IAmb 09 18 53.8
comp=Z,249nm,1.4s
MEDO Medina 74.21 355 IAmb IAmb 09 18 52.1
comp=Z,155nm,1.1s
MEDO IAMs_20 IAMs_20 09 52 13.1
comp=Z,1µm,21.0s
J56A Wolcott 74.21 356 IAmb IAmb 09 18 53.0
comp=Z,147nm,0.9s
J56A IAMs_20 IAMs_20 09 52 30.1
comp=Z,2µm,21.0s
J58A Remsen 74.21 357 IAmb IAmb 09 18 53.5
comp=Z,149nm,1.5s
FFD Franklin Falls 74.25 360 IAmb IAmb 09 18 54.6
comp=Z,213nm,1.0s
J55A Hilton 74.26 355 IAmb IAmb 09 18 53.4
comp=Z,208nm,1.2s
J55A IAMs_20 IAMs_20 09 55 16.5
comp=Z,1µm,19.0s
J59A Piesco 74.29 358 IAmb IAmb 09 18 54.0
comp=Z,198nm,1.2s
J57A Williamstown 74.30 357 IAmb IAmb 09 18 53.8
comp=Z,183nm,1.1s

J54A Appleton 74.33 355 IAmb IAmb 09 18 53.8
comp=Z,158nm,1.0s
J54A IAMs_20 IAMs_20 09 52 41.3
comp=Z,1µm,21.0s
CBKS Cedar Bluff 74.38 337 IAmb IAmb 09 18 54.6
comp=Z,210nm,1.0s
CBKS Cedar Bluff 74.38 337 P P 09 18 43.8 +0.6
baz=155,SNR=24
CBKS S S **09 28 15.7 0.0**
baz=155
HNH Hanover 74.48 359 IAmb IAmb 09 18 55.9
comp=Z,158nm,1.1s
L44A Lake County Fo 74.49 347 P P 09 18 43.3 -0.5
baz=166
L44A S S **09 28 13.9 -2.8**
baz=166
T25A Trinidad 74.55 333 IAmb IAmb 09 18 56.7
comp=Z,223nm,1.0s
T25A IAMs_20 IAMs_20 09 48 14.2
comp=Z,1µm,19.0s
T25A Trinidad 74.55 333 P P 09 18 45.8 +1.3
baz=151,SNR=89
T25A S S **09 28 21.3 +3.2**
baz=151
I60A Shoreham 74.64 359 P P 09 18 45.3 +0.8
baz=178,SNR=28
I60A S S **09 28 21.8 +3.6**
baz=178
I62A Tamworth 74.65 0 IAmb IAmb 09 18 56.8
comp=Z,121nm,1.1s
I62A IAMs_20 IAMs_20 09 57 32.7
comp=Z,1µm,19.0s
I62A Tamworth 74.65 0 P P 09 18 45.6 +1.0
baz=180,SNR=14
I62A S S **09 28 22.1 +3.7**
baz=180
X18A Snowflake 74.66 328 IAMs_20 IAMs_20 09 46 31.1
comp=Z,2µm,21.0s
L42A Oliver, Polo 74.67 346 IAmb IAmb 09 18 55.2
comp=Z,255nm,1.1s
L42A IAMs_20 IAMs_20 09 57 07.2
comp=Z,1µm,19.0s
PECO Prince Edward 74.87 356 IAmb IAmb 09 18 56.5
comp=Z,136nm,1.0s
PECO IAMs_20 IAMs_20 09 52 59.6
comp=Z,2µm,21.0s
J47A Sunmer 75.01 350 IAmb IAmb 09 18 56.4
comp=Z,136nm,0.9s
LBNH Lisbon 75.02 360 IAmb IAmb 09 18 58.8
comp=Z,171nm,1.1s
LBNH Lisbon 75.02 360 P P 09 18 47.7 +1.0
baz=180,SNR=23
LBNH S S **09 28 26.9 +4.4**
baz=180
W18A Petrified Fore 75.05 328 IAmb IAmb 09 18 59.5
comp=Z,293nm,1.4s
W18A IAMs_20 IAMs_20 09 47 25.5
comp=Z,3µm,20.0s
W18A Petrified Fore 75.05 328 P P 09 18 48.7 +1.3
baz=147,SNR=17
W18A S S **09 28 27.0 +3.3**
baz=147
K43A Burlington 75.08 347 IAmb IAmb 09 18 57.7
comp=Z,171nm,1.0s
X16A Lo Mia Camp, P 75.25 327 IAmb IAmb 09 19 00.8
comp=Z,94nm,1.1s
X16A IAMs_20 IAMs_20 09 47 25.9
comp=Z,2µm,19.0s
GUVIX Guadalupe Vict 75.34 323 IAMs_20 IAMs_20 09 46 42.4
comp=Z,1µm,19.0s
H62A Milan 75.35 0 IAMs_20 IAMs_20 09 50 21.3
comp=Z,1µm,22.0s
WVL Waterville 75.36 1 IAmb IAmb 09 19 00.9
comp=Z,137nm,1.2s
SCIA State Center 75.37 343 P P 09 18 48.8 0.0
baz=161,SNR=5.8
SCIA S S **09 28 24.7 -1.8**
baz=161
LONY Lake Ozonia 75.44 358 IAmb IAmb 09 19 00.7
comp=Z,158nm,1.1s
LONY IAMs_20 IAMs_20 09 51 15.7
comp=Z,2µm,22.0s
LONY Lake Ozonia 75.44 358 P P 09 18 49.7 +0.5
baz=177,SNR=28
LONY S S **09 28 28.4 +1.2**
baz=177
DELO Deloro Mine 75.50 356 IAmb IAmb 09 19 00.6
comp=Z,169nm,1.3s
DELO IAMs_20 IAMs_20 09 53 32.1
comp=Z,2µm,22.0s
SDCO Great Sand Dun 75.50 333 IAMs_20 IAMs_20 09 48 42.5
comp=Z,2µm,19.0s
SDCO Great Sand Dun 75.50 333 P P 09 18 51.1 +1.0
baz=150,SNR=70
SDCO S S **09 28 31.1 +2.3**
baz=150
KSCO Kaye Shedlock' 75.54 335 IAmb IAmb 09 19 02.0
comp=Z,214nm,1.1s
KSCO Kaye Shedlock' 75.54 335 P P 09 18 51.1 +1.1
baz=153,SNR=24
KSCO S S **09 28 30.2 +1.4**
baz=153
EMMW East Machias 75.58 3 P P 09 18 50.7 +0.9
EMMW IAmb IAmb 09 19 02.1
comp=Z,166nm,1.2s
FRNY Flat Rock 75.63 359 IAmb IAmb 09 19 01.8
comp=Z,159nm,1.0s
JFWS Jewell Farm 75.66 346 IAmb IAmb 09 19 01.3
comp=Z,232nm,1.1s
JFWS Jewell Farm 75.66 346 P P 09 18 50.3 -0.2
baz=164,SNR=16
JFWS S S **09 28 27.9 -1.8**
baz=164
HAL Halifax 75.76 6 IAmb IAmb 09 18 53.2
comp=Z,118nm,1.0s
HAL IAMs_20 IAMs_20 09 55 05.2
comp=Z,2µm,20.0s
MAW Mawson 75.81 164 P P 09 18 51.8 +0.7
comp=Z,100nm,1.1s,baz=215,slow=6.8,SNR=101
MAW pP **pP 09 19 01.5 +1.0**
comp=Z,99nm,0.9s,baz=205,slow=8.3,SNR=23
MAW LR LR 09 53 00.1
comp=Z,4µm,20.3s,baz=230,slow=36
MAW Mawson 75.81 164 P P 09 18 52.0 +0.9
MAW pmax pmax
comp=Z,49nm,1.3s
MAW MLR MLR
comp=Z,800nm,20.0s
MAW Mawson 75.81 164 P P 09 18 52.0 +0.9
GLA Glamis 75.81 324 IAMs_20 IAMs_20 09 48 40.7
comp=Z,1µm,18.0s
GLA Glamis 75.81 324 P P 09 18 52.9 +1.3
baz=143,SNR=7.3
GLA S S **09 28 36.1 +4.3**
baz=143
SADO Sadowa 75.86 354 IAmb IAmb 09 19 02.4
comp=Z,234nm,1.1s
SADO IAMs_20 IAMs_20 09 54 58.7
comp=Z,1µm,20.0s
SUR Sutherland 75.87 119 P P 09 18 53.7 +1.3
comp=Z,60nm,0.9s,baz=257,slow=5.3,SNR=17
SUR pP **PcP 09 19 03.4 -1.4**
comp=Z,22nm,0.7s,baz=224,slow=7.1,SNR=4.8
SUR Sutherland 75.87 119 P P 09 18 53.5 +1.1
SUR IAmb IAmb 09 18 55.1
comp=Z,94nm,1.1s
K38A Parkersburg 75.97 344 IAmb IAmb 09 19 02.6
comp=Z,127nm,0.8s
PLVO Plevna 75.98 356 IAmb IAmb 09 19 03.5
comp=Z,152nm,1.2s
I45A Fountain 76.00 349 IAMs_20 IAMs_20 09 56 38.5
comp=Z,1µm,20.0s
S22A 4UR Ranch, Cre 76.03 332 P P 09 18 54.3 +1.2
baz=149,SNR=38
S22A S S **09 28 37.0 +2.3**
baz=149
G65A Princeton 76.06 3 IAmb IAmb 09 19 04.9
comp=Z,210nm,1.4s
PKME Peaks-Kenny Pk 76.07 2 IAmb IAmb 09 19 04.7
comp=Z,191nm,1.3s
PKME Peaks-Kenny Pk 76.07 2 P P 09 18 53.6 +0.9
baz=182,SNR=20
RMX La Rumorosa 76.10 322 IAMs_20 IAMs_20 09 48 48.7
comp=Z,1µm,18.0s
WUAZ Wupatki 76.13 327 IAmb IAmb 09 19 05.8
comp=Z,155nm,1.1s
WUAZ IAMs_20 IAMs_20 09 47 16.0
comp=Z,1µm,21.0s

WUAZ	**Wupatki**		**76.13**	**327**	P		**P**		**09 18 54.9**	**+1.4**	**RRX**	**Edison Barstow**		**78.35**	**323**	P		**P**		**09 19 07.5**	**+1.6**	**VOG**	**Valley Oaks Go**		**80.70**	**323**	P		**P**		**09 18 18.7**	**+0.2**
WUAZ	baz=146,SNR=58				S		**S**		**09 28 39.8**	**+4.3**	RRX	baz=142				S		**S**		**09 29 03.4**	**+4.0**	**EYMN**	baz=140 **Ely**		**80.73**	**347**	IAmb		IAmb		09 19 29.1	
IKP	baz=146 **In-Ko-Pah, Jac**		**76.15**	**322**	P		**P**		**09 18 55.0**	**+1.3**	**E43A**	**Lone Tree Farm**		**78.41**	**349**	IAmb		IAmb		09 19 16.7		**EYMN**	comp=Z,140nm,1.0s **Ely**		**80.73**	**347**	IAMs_20		IAMs_20		09 56 54.6	
SWSC	baz=142,SNR=15 **Sam W. Stewart**		**76.22**	**323**	P		**P**		**09 18 55.3**	**+1.4**	**N23A**	comp=Z,175nm,0.9s **Red Feather La**		**78.41**	**334**	P		**P**		**09 19 07.2**	**+0.9**	**EYMN**	comp=Z,1µm,22.0s **Ely**		**80.73**	**347**	P		**P**		**09 19 17.9**	**-0.6**
BGNE	baz=142,SNR=13 **Belgrade**		**76.25**	**340**	P		**P**		**09 18 54.0**	**+0.1**	N23A	baz=150,SNR=30				S		**S**		**09 29 02.5**	**+2.2**	EYMN	baz=163,SNR=17				S		**S**		**09 29 20.1**	**-3.9**
BGNE	baz=157,SNR=12				S		**S**		**09 28 35.4**	**-0.8**	**SPMN**	baz=150 **Marine on St.**		**78.42**	**345**	IAmb		IAmb		09 19 16.2		**TCUT**	baz=163 **Toone Canyon**		**80.77**	**331**	IAmb		IAmb		09 19 31.6	
L34A	baz=157 **Svendsen Farm,**		**76.25**	**341**	IAmb		IAmb		09 19 04.4		SPMN	comp=Z,113nm,0.9s				IAMs_20		IAMs_20		09 59 28.4		**DRLN**	comp=Z,69nm,0.8s **Deer Lake**		**81.01**	**9**	IAmb		IAmb		09 19 21.3	
MVCO	comp=Z,171nm,0.8s **Mesa Verde**		**76.27**	**330**	IAmb		IAmb		09 19 06.3		**SPMN**	comp=Z,1µm,19.0s **Marine on St.**		**78.42**	**345**	P		**P**		**09 19 05.2**	**-0.7**	DRLN	comp=Z,112nm,1.1s				IAMs_20		IAMs_20		09 57 44.1	
MVCO	comp=Z,139nm,1.1s				IAMs_20		IAMs_20		09 48 30.7		SPMN	baz=162				S		**S**		**09 28 56.9**	**-2.7**	**BOSA**	comp=Z,2µm,20.0s **Boshof**		**81.05**	**118**	P		**P**		**09 19 20.7**	**-0.3**
MVCO	comp=Z,2µm,20.0s **Mesa Verde**		**76.27**	**330**	P		**P**		**09 18 55.4**	**+1.0**	**COWI**	**Conover**		**78.51**	**348**	IAmb		IAmb		09 19 17.4		BOSA	comp=Z,81nm,1.0s,baz=241,slow=5.5,SNR=54				pP		**pP**		**09 19 31.5**	**+1.0**
MVCO	baz=148,SNR=56				S		**S**		**09 28 40.0**	**+2.9**	COWI	comp=Z,125nm,1.1s				IAMs_20		IAMs_20		09 57 57.8		BOSA	comp=Z,34nm,0.9s,baz=247,slow=5.2,SNR=7.7				LR		LR		09 52 37.4	
MNTQ	baz=148 **Montreal, Queb**		**76.30**	**359**	IAmb		IAmb		09 19 06.3		**DECC**	comp=Z,1µm,18.0s **Green Verdugo**		**78.57**	**322**	P		**P**		**09 19 08.4**	**+1.3**	**BOSA**	comp=Z,3µm,18.6s,baz=245,slow=34 **Boshof**		**81.05**	**118**	IAmb		IAmb		09 19 22.4	
I42A	comp=Z,114nm,1.1s **Draeger Farm,**		**76.33**	**347**	IAmb		IAmb		09 19 05.1		**PHWY**	baz=140 **Pilot Hill**		**78.58**	**335**	IAmb		IAmb		09 19 19.0		**D32A**	comp=Z,110nm,1.1s **Dogwood Acres,**		**81.22**	**343**	IAmb		IAmb		09 19 32.0	
Q24A	comp=Z,283nm,1.3s **Divide**		**76.43**	**334**	P		**P**		**09 18 56.4**	**+1.0**	**GSC**	comp=Z,102nm,0.9s **Goldstone, Bar**		**78.59**	**324**	IAMs_20		IAMs_20		09 46 50.2		**HWUT**	comp=Z,182nm,0.9s **Hardware Ranch**		**81.24**	**331**	IAmb		IAmb		09 19 32.8	
Q24A	baz=151				S		**S**		**09 28 42.2**	**+3.2**	**GSC**	comp=Z,1µm,21.0s **Goldstone, Bar**		**78.59**	**324**	P		**P**		**09 19 08.5**	**+1.3**	**PMPB**	comp=Z,123nm,0.8s **Monarch Peak**		**81.37**	**322**	IAmb		IAmb		09 19 34.9	
PDMCI	baz=151 **Parker Dam,Lak**		**76.46**	**325**	P		**P**		**09 18 56.4**	**+1.2**	GSC	baz=142,SNR=18				S		**S**		**09 29 06.2**	**+4.1**	**SPUT**	comp=Z,116nm,1.2s **South Promonto**		**81.37**	**330**	IAmb		IAmb		09 19 33.6	
PDMCI	baz=144,SNR=7.9				S		**S**		**09 28 41.9**	**+3.0**	**O20A**	baz=142 **White River Ci**		**78.64**	**332**	IAmb		IAmb		09 19 19.5		**BW06**	comp=Z,89nm,0.9s **Boulder Array**		**81.40**	**333**	IAmb		IAmb		09 19 33.6	
BAR	baz=144 **Barrett**		**76.47**	**322**	IAMs_20		IAMs_20		09 45 09.3		O20A	comp=Z,107nm,0.9s				IAMs_20		IAMs_20		09 49 59.6			comp=Z,33nm,1.0s									
MONP2	comp=Z,2µm,22.0s **Monument Peak**		**76.51**	**322**	P		**P**		**09 18 57.1**	**+1.3**	**O20A**	comp=Z,2µm,20.0s **White River Ci**		**78.64**	**332**	P		**P**		**09 19 08.6**	**+1.0**	**BW06**	**Boulder Array**		**81.40**	**333**	P		**P**		**09 19 22.4**	**-0.1**
F63A	baz=142,SNR=14 **Nahmakanta, Br**		**76.51**	**2**	IAmb		IAmb		09 19 07.4		O20A	baz=149,SNR=41				S		**S**		**09 29 05.5**	**+2.8**	BW06	baz=148,SNR=23				S		**S**		**09 29 32.2**	**+0.4**
GLMI	comp=Z,151nm,1.3s **Grayling**		**76.53**	**350**	IAmb		IAmb		09 19 05.8		**CCUT**	baz=149 **Cedar City**		**78.71**	**327**	IAmb		IAmb		09 19 20.7		**PDAR**	baz=148 **Pinedale Array**		**81.40**	**333**	P		**P**		**09 19 22.2**	**-0.2**
GLMI	comp=Z,195nm,0.9s				IAMs_20		IAMs_20		09 50 55.4		**SRU**	comp=Z,106nm,1.0s **San Rafael Swe**		**78.73**	**330**	IAmb		IAmb		09 19 19.5		PDAR	comp=Z,22nm,1.2s,baz=144,slow=5.3,SNR=48				pP		**pP**		**09 19 32.2**	**+0.5**
GLMI	comp=Z,2µm,21.0s **Grayling**		**76.53**	**350**	P		**P**		**09 18 54.8**	**-0.6**	**SHOC**	comp=Z,81nm,0.9s **Shoshone, Teco**		**78.79**	**324**	P		**P**		**09 19 09.2**	**+1.0**	PDAR	comp=Z,12nm,0.7s,baz=149,slow=3.5,SNR=29				PKKPbc		**PKKPbc**		**09 37 56.3**	**-2.1**
BC3	baz=169,SNR=5.0 **Big Chuckawall**		**76.61**	**324**	P		**P**		**09 18 57.5**	**+1.3**	**Q16A**	baz=142,SNR=10 **Castle Valley**		**78.84**	**330**	IAmb		IAmb		09 19 20.7		PDAR	comp=Z,0.6nm,0.8s,baz=15,slow=6.2,SNR=4.8				PKKPbc		**PKKPbc**		**09 37 56.3**	**+3.2**
I40A	baz=142,SNR=40 **Norwalk**		**76.67**	**346**	IAmb		IAmb		09 19 06.9		**EDW2**	comp=Z,114nm,1.0s **Edwards Air Fo**		**78.87**	**323**	P		**P**		**09 19 09.7**	**+1.0**	PDAR	comp=Z,0.7nm,1.0s,baz=99,slow=4.7,SNR=3.7				LR		LR		09 52 03.2	
F62A	comp=Z,162nm,1.0s **Pittston Farm,**		**76.69**	**1**	IAmb		IAmb		09 19 08.4		**OSI**	baz=141,SNR=16 **Osito Audit: C**		**79.05**	**322**	IAmb		IAmb		09 19 21.7		**MLAC**	comp=Z,1µm,20.7s,baz=148,slow=33 **Mammoth, Mammo**		**81.42**	**324**	P		**P**		**09 19 24.1**	**+1.5**
F64A	comp=Z,236nm,1.2s **Sherman**		**76.69**	**2**	IAmb		IAmb		09 19 08.4		**OSI**	comp=Z,89nm,0.9s **Osito Audit: C**		**79.05**	**322**	P		**P**		**09 19 10.9**	**+1.2**	**MDPB**	baz=141,SNR=12 **Devils Postpil**		**81.55**	**324**	IAMs_20		IAMs_20		09 49 31.6	
IRM	comp=Z,259nm,1.4s **Iron Mountain**		**76.85**	**324**	P		**P**		**09 18 58.7**	**+1.3**	**KOWA**	baz=140 **Kowa**		**79.10**	**66**	P		**P**		**09 19 10.7**	**+0.4**	**B35A**	comp=Z,1µm,20.0s **Bob, Littlefor**		**81.59**	**345**	IAMs_20		IAMs_20		10 00 51.4	
109C	baz=143,SNR=36 **Camp Elliot, M**		**76.86**	**322**	P		**P**		**09 18 58.8**	**+1.3**	**P17A**	**Butcher Ranch,**		**79.12**	**330**	IAmb		IAmb		09 19 21.8		**E28A**	comp=Z,1µm,19.0s **Huff**		**81.71**	**340**	IAmb		IAmb		09 19 34.5	
LMN	baz=141 **Caledonia Moun**		**76.87**	**5**	IAmb		IAmb		09 18 59.2		**QSM**	comp=Z,149nm,1.1s **Queen of Sheba**		**79.14**	**324**	IAMs_20		IAMs_20		09 46 58.8		**LHV**	comp=Z,165nm,0.9s **Little Huntoon**		**81.74**	**324**	IAmb		IAmb		09 19 36.4	
LMN	comp=Z,181nm,1.1s				IAMs_20		IAMs_20		09 55 35.6		**LRMC**	comp=Z,1µm,21.0s **Laurel Mtn Rad**		**79.17**	**323**	P		**P**		**09 19 11.7**	**+1.2**	LHV	comp=Z,97nm,1.1s				IAMs_20		IAMs_20		09 48 22.6	
G45A	comp=Z,2µm,19.0s **Suttons Bay**		**76.89**	**350**	IAMs_20		IAMs_20		09 57 54.1		LRMC	baz=141,SNR=24				S		**S**		**09 29 12.0**	**+3.5**	**NVAR**	comp=Z,2µm,22.0s **Mina Array Bea**		**81.78**	**325**	P		**P**		**09 19 25.4**	**+0.9**
OGNE	comp=Z,1µm,20.0s **Ogallala**		**77.06**	**337**	IAmb		IAmb		09 19 10.3		**TMUT**	baz=141 **Trail Mountain**		**79.17**	**330**	IAmb		IAmb		09 19 22.6		NVAR	comp=Z,11nm,0.9s,baz=152,slow=6.0,SNR=12				pP		**pP**		**09 19 35.4**	**+1.6**
OGNE	comp=Z,219nm,1.4s **Ogallala**		**77.06**	**337**	P		**P**		**09 18 59.3**	**+0.7**	**F36A**	comp=Z,137nm,1.4s **Milaca**		**79.18**	**345**	IAmb		IAmb		09 19 20.5		NVAR	comp=Z,20nm,0.8s,baz=153,slow=6.3,SNR=37				PKKPbc		**PKKPbc**		**09 37 56.8**	**-0.4**
NEE2	baz=154,SNR=6.4 **Needles Airpor**		**77.07**	**325**	P		**P**		**09 18 59.6**	**+0.9**	F36A	comp=Z,136nm,0.9s				IAMs_20		IAMs_20		10 00 03.7		NVAR	comp=Z,1.9nm,1.0s,baz=324,slow=2.9,SNR=7.1 comp=Z,0.3nm,0.7s,baz=318,slow=1.2,SNR=2.1				PKPPKP		P'P'df		09 46 06.3	+10
PV01	baz=143,SNR=5.4 **Paradox Valley**		**77.08**	**331**	IAmb		IAmb		09 19 11.1		**SUSD**	comp=Z,1µm,19.0s **Miller**		**79.26**	**340**	IAmb		IAmb		09 19 21.3		NVAR	comp=Z,981nm,21.2s,baz=139,slow=31				LR		LR		09 49 19.0	
PV01	comp=Z,162nm,1.4s				IAMs_20		IAMs_20		09 49 09.2		**SUSD**	comp=Z,125nm,0.8s **Miller**		**79.26**	**340**	P		**P**		**09 19 10.4**	**-0.2**	**PMOZ**	**Porto Moniz, M**		**81.78**	**44**	*e*LR		LR		09 48 00.6	
TPFO	comp=Z,3µm,20.0s **Pinon Flats**		**77.08**	**323**	P		**P**		**09 19 00.3**	**+1.4**	SUSD	baz=156,SNR=7.0				S		**S**		**09 29 08.1**	**-0.6**	**HVU**	comp=Z,2µm,22.0s **Hansel Valley**		**81.90**	**330**	IAmb		IAmb		09 19 36.0	
PFO	baz=142,SNR=27 **Pinyon Flats O**		**77.09**	**323**	LR		LR		09 46 28.1		**PRN**	baz=156 **Pahroc Range**		**79.39**	**326**	IAmb		IAmb		09 19 24.1		**AHID**	comp=Z,67nm,0.8s **Auburn Hatcher**		**82.02**	**332**	IAMs_20		IAMs_20		09 52 21.8	
PFO	comp=Z,2µm,20.6s,baz=150,slow=31 **Pinyon Flats O**		**77.09**	**323**	P		**P**		**09 18 59.6**	**+0.7**	PRN	comp=Z,136nm,1.0s				IAMs_20		IAMs_20		09 51 36.3		**AGMN**	comp=Z,2µm,20.0s **Agassiz Nation**		**82.02**	**344**	IAmb		IAmb		09 19 36.0	
PFO	comp=Z,91nm,1.2s				pmax		pmax				**SBC**	comp=Z,1µm,18.0s **Santa Barbara**		**79.44**	**321**	P		**P**		**09 19 13.0**	**+1.3**	**AGMN**	comp=Z,106nm,0.8s **Agassiz Nation**		**82.02**	**344**	P		**P**		**09 19 25.0**	**-0.3**
PFO	**Pinyon Flats O**		**77.09**	**323**	P		**P**		**09 18 59.6**	**+0.7**	**E38A**	baz=140 **The Farm, Brul**		**79.46**	**346**	IAMs_20		IAMs_20		09 56 21.1		**ELK**	baz=159,SNR=18 **Elko**		**82.14**	**328**	IAMs_20		IAMs_20		09 50 50.3	
PFO	**Pinyon Flats O**		**77.09**	**323**	IAMs_20		IAMs_20		09 46 04.5		**ARVC**	comp=Z,2µm,22.0s **Arvin**		**79.50**	**322**	P		**P**		**09 19 13.4**	**+1.3**	**KVN**	comp=Z,2µm,22.0s **Kaiserville**		**82.16**	**325**	IAMs_20		IAMs_20		09 58 41.6	
PFO	comp=Z,2µm,19.0s **Pinyon Flats O**		**77.09**	**323**	P		**P**		**09 19 00.4**	**+1.5**	ARVC	baz=140				S		**S**		**09 29 15.1**	**+3.5**	**REDW**	comp=Z,1µm,19.0s **Red Top Meadow**		**82.41**	**332**	IAMs_20		IAMs_20		09 52 11.3	
PFO	baz=142,SNR=36				S		**S**		**09 28 50.3**	**+4.2**	**MPMC**	baz=140 **Manual Prospec**		**79.53**	**324**	P		**P**		**09 19 13.4**	**+0.9**	**SNOW**	comp=Z,1µm,20.0s **Snow King Moun**		**82.46**	**332**	IAmb		IAmb		09 19 38.7	
BELC	baz=142 **Belle Mtn. Jos**		**77.16**	**323**	P		**P**		**09 19 00.8**	**+1.5**	MPMC	baz=141,SNR=22				S		**S**		**09 29 14.7**	**+2.5**	SNOW	comp=Z,39nm,1.1s				IAMs_20		IAMs_20		09 52 13.5	
BELC	baz=142,SNR=16				S		**S**		**09 28 50.7**	**+3.9**	**FURC**	baz=141 **Furnace Creek,**		**79.53**	**324**	P		**P**		**09 19 13.6**	**+1.4**	**PMPS**	comp=Z,2µm,21.0s **Porto Santo**		**82.46**	**44**	*e*P		**P**		**09 19 29.3**	**+1.4**
PV13	baz=142 **Radium Mtn., P**		**77.21**	**331**	IAmb		IAmb		09 19 11.5		**RDMU**	baz=142,SNR=27 **Red Mountain**		**79.55**	**332**	IAmb		IAmb		09 19 24.0		**PMPST**	comp=Z,264nm,1.6s **Porto Santo, M**		**82.47**	**44**	*e*P		**P**		**09 19 28.6**	**+0.6**
PV02	comp=Z,111nm,0.9s **Paradox Valley**		**77.21**	**331**	IAmb		IAmb		09 19 11.6		**RWWY**	comp=Z,138nm,0.9s **Rawlins**		**79.57**	**334**	IAmb		IAmb		09 19 24.4		**LOHW**	comp=Z,270nm,1.8s **Long Hollow**		**82.53**	**333**	IAMs_20		IAMs_20		09 52 28.3	
PV05	comp=Z,101nm,1.0s **Paradox Valley**		**77.25**	**330**	IAmb		IAmb		09 19 11.6		RWWY	comp=Z,157nm,0.9s				IAMs_20		IAMs_20		09 50 41.1		**MDND**	comp=Z,2µm,21.0s **Maddock**		**82.56**	**341**	P		**P**		**09 19 28.3**	**+0.2**
PV05	comp=Z,107nm,0.9s				IAMs_20		IAMs_20		09 49 14.9		**TPNV**	comp=Z,1µm,21.0s **Topopah Spring**		**79.60**	**325**	IAMs_20		IAMs_20		09 49 21.1		**TPAW**	baz=156,SNR=19 **Teton Pass**		**82.56**	**332**	IAMs_20		IAMs_20		09 52 52.2	
PV18	comp=Z,2µm,21.0s **Skein Mesa, Pa**		**77.32**	**331**	IAMs_20		IAMs_20		09 49 15.5		**TPNV**	comp=Z,1µm,20.0s **Topopah Spring**		**79.60**	**325**	P		**P**		**09 19 14.3**	**+1.5**	**YERR**	comp=Z,1µm,19.0s **Yerington**		**82.67**	**324**	IAmb		IAmb		09 19 41.3	
ISCO	comp=Z,2µm,19.0s **Idaho Springs**		**77.33**	**334**	IAMs_20		IAMs_20		09 49 29.8		TPNV	baz=142,SNR=40				S		**S**		**09 29 16.1**	**+3.1**	YERR	comp=Z,95nm,1.1s				IAMs_20		IAMs_20		09 49 36.2	
ISCO	comp=Z,1µm,21.0s **Idaho Springs**		**77.33**	**334**	P		**P**		**09 19 01.4**	**+1.0**	**TSUM**	baz=142 **Tsumeb**		**79.62**	**106**	P		**P**		**09 19 14.2**	**+0.8**	**MOOW**	comp=Z,1µm,21.0s **Moose Ponds**		**82.69**	**333**	IAmb		IAmb		09 19 39.6	
ISCO	baz=151,SNR=57				S		**S**		**09 28 49.3**	**+0.5**	TSUM	comp=Z,117nm,1.1s,baz=235,slow=4.5,SNR=53				pP		**pP**		**09 19 23.8**	**+1.0**	MOOW	comp=Z,17nm,1.1s				IAMs_20		IAMs_20		09 52 33.8	
PV12	baz=151 **Saucer Basin,**		**77.33**	**331**	IAmb		IAmb		09 19 12.2		TSUM	comp=Z,34nm,1.0s,baz=230,slow=1.3,SNR=6.2										**FXWY**	comp=Z,2µm,21.0s **Fox Creek**		**82.71**	**332**	IAMs_20		IAMs_20		09 52 21.3	
PV17	comp=Z,85nm,1.0s **East Wray Mesa**		**77.37**	**331**	IAmb		IAmb		09 19 12.2		**TSUM**	**Tsumeb**		**79.62**	**106**	P		**P**		**09 19 14.0**	**+0.6**	**TORD**	comp=Z,1µm,22.0s **Torodi Ar. Bea**		**82.86**	**70**	P		**P**		**09 19 30.3**	**-0.1**
PV16	comp=Z,77nm,0.9s **Nyswonger Mesa**		**77.37**	**331**	IAmb		IAmb		09 19 11.7		TSUM	comp=Z,179nm,1.2s				IAmb		IAmb		09 19 15.5		TORD	comp=Z,178nm,0.9s,baz=254,slow=4.7,SNR=495				pP		**pP**		**09 19 40.6**	**+0.7**
PV16	comp=Z,116nm,1.4s				IAMs_20		IAMs_20		09 49 18.0		**TSUM**	**Tsumeb**		**79.62**	**106**	IAMs_20		IAMs_20		09 49 50.9		TORD	comp=Z,70nm,1.0s,baz=270,slow=5.0,SNR=9.5				LR		LR		09 54 11.0	
PV19	comp=Z,2µm,19.0s **Morning Glory**		**77.40**	**331**	IAMs_20		IAMs_20		09 50 12.7		**ISA**	comp=Z,5µm,20.0s **Isabella, Lake**		**79.72**	**323**	IAMs_20		IAMs_20		09 47 58.3		**CASY**	comp=Z,6µm,20.1s,baz=230,slow=34 **Casey**		**82.88**	**181**	P		**P**		**09 19 30.6**	**+0.9**
I37A	comp=Z,2µm,19.0s **Lemond, Wasatch**		**77.41**	**344**	IAmb		IAmb		09 19 10.6		**ISA**	comp=Z,1µm,20.0s **Isabella, Lake**		**79.72**	**323**	P		**P**		**09 19 15.0**	**+1.6**	CASY	comp=Z,142nm,0.9s				IAmb		IAmb		09 19 41.7	
PV04	comp=Z,164nm,0.8s **Paradox Valley**		**77.44**	**331**	IAmb		IAmb		09 19 12.8		ISA	baz=141,SNR=32				S		**S**		**09 29 17.8**	**+3.7**	**CASY**	**Casey**		**82.88**	**181**	IAMs_20		IAMs_20		09 58 51.8	
MURC	comp=Z,111nm,1.2s **Murrieta**		**77.46**	**322**	P		**P**		**09 19 02.3**	**+1.3**	**PKM**	baz=141 **Mcpherson Peak**		**79.84**	**321**	P		**P**		**09 19 15.5**	**+1.3**	**IMW**	comp=Z,2µm,20.0s **Indian Meadow**		**82.90**	**332**	IAMs_20		IAMs_20		09 52 39.1	
MURC	baz=141,SNR=17				S		**S**		**09 28 53.5**	**+3.6**	**CWC**	baz=140,SNR=14 **Cottonwood Cre**		**80.12**	**324**	P		**P**		**09 19 16.9**	**+1.2**	**PNTR**	comp=Z,2µm,21.0s **Pine Nut**		**82.93**	**324**	IAmb		IAmb		09 19 42.7	
PV14	baz=141 **Lion Creek, Pa**		**77.47**	**331**	IAmb		IAmb		09 19 12.8		CWC	baz=141				S		**S**		**09 29 21.4**	**+2.9**	PNTR	comp=Z,96nm,0.9s				IAMs_20		IAMs_20		09 49 42.1	
PV14	comp=Z,103nm,1.0s				IAMs_20		IAMs_20		09 49 12.6		**K22A**	**Casper**		**80.15**	**335**	IAmb		IAmb		09 19 27.5		**FLWY**	comp=Z,1µm,20.0s **Flagg Ranch**		**82.96**	**333**	IAmb		IAmb		09 19 41.5	
PV10	comp=Z,2µm,21.0s **Paradox Valley**		**77.48**	**331**	IAmb		IAmb		09 19 12.5		**K22A**	comp=Z,176nm,1.0s **Casper**		**80.15**	**335**	P		**P**		**09 19 16.5**	**+0.9**	FLWY	comp=Z,54nm,0.9s				IAMs_20		IAMs_20		09 52 52.7	
PQI	comp=Z,102nm,0.9s **Presque Isle**		**77.51**	**3**	IAmb		IAmb		09 19 12.9		K22A	baz=150,SNR=36				S		**S**		**09 29 20.3**	**+1.8**	**EMB**	comp=Z,2µm,20.0s **Emerald Bay**		**83.09**	**324**	P		**P**		**09 19 32.2**	**+0.8**
BBRC	comp=Z,226nm,1.3s **Big Bear Solar**		**77.83**	**323**	P		**P**		**09 19 04.9**	**+1.7**	**VES**	baz=150 **Vestal, Richgr**		**80.18**	**323**	P		**P**		**09 19 16.9**	**+1.2**	**VCNR**	**Virginia City**		**83.11**	**324**	IAMs_20		IAMs_20		09 50 28.9	
BBRC	baz=142,SNR=9.5				S		**S**		**09 28 58.3**	**+4.0**	**GRAC**	baz=140,SNR=32 **Grapevine Rang**		**80.19**	**324**	P		**P**		**09 19 17.4**	**+1.5**	**LBTB**	comp=Z,1µm,19.0s **Lobatse**		**83.15**	**115**	P		**P**		**09 19 31.9**	**-0.1**
G40A	baz=142 **Rib Lake**		**77.91**	**347**	IAmb		IAmb		09 19 13.9		GRAC	baz=142,SNR=9.4				S		**S**		**09 29 23.0**	**+4.0**	LBTB	comp=Z,106nm,1.0s,baz=243,slow=5.6,SNR=74				pP		**pP**		**09 19 41.6**	**0.0**
CIS	comp=Z,141nm,1.1s **Catalina Islan**		**77.96**	**321**	P		**P**		**09 19 05.0**	**+1.3**	**SMMC**	baz=142 **Simmler**		**80.26**	**322**	P		**P**		**09 19 17.9**	**+1.6**	**LBTB**	comp=Z,29nm,0.7s,baz=241,slow=5.3,SNR=8.1 **Lobatse**		**83.15**	**115**	IAmb		IAmb		09 19 48.3	
ECSD	baz=140 **EROS Data Cent**		**77.96**	**342**	P		**P**		**09 19 03.5**	**+0.1**	**SPR3**	baz=140,SNR=7.7 **Spring Creek 3**		**80.33**	**328**	IAmb		IAmb		09 19 28.6		**H17A**	comp=Z,97nm,0.7s **Grant Village**		**83.17**	**333**	P		**P**		**09 19 32.6**	**+0.9**
ECSD	baz=158,SNR=102				S		**S**		**09 28 53.7**	**-1.0**	SPR3	comp=Z,164nm,1.4s				IAMs_20		IAMs_20		09 49 37.2		**RUBR**	baz=147 **Rubicon Trail**		**83.18**	**324**	IAmb		IAmb		09 19 46.9	
HEC	baz=158 **Hector,Ludlow**		**77.98**	**324**	P		**P**		**09 19 05.3**	**+1.4**	**R11A**	comp=Z,2µm,21.0s **Troy Canyon, C**		**80.39**	**326**	IAMs_20		IAMs_20		09 51 42.9		**RLMT**	comp=Z,78nm,1.0s **Red Lodge**		**83.28**	**334**	IAMs_20		IAMs_20		09 55 31.3	
F42A	baz=142,SNR=19 **Maple Grove Fa**		**78.00**	**348**	IAmb		IAmb		09 19 14.5		**R11A**	comp=Z,1µm,18.0s **Troy Canyon, C**		**80.39**	**326**	P		**P**		**09 19 18.3**	**+1.2**	**RLMT**	comp=Z,1µm,19.0s **Red Lodge**		**83.28**	**334**	P		**P**		**09 19 32.5**	**+0.4**
F42A	comp=Z,135nm,0.8s				IAMs_20		IAMs_20		09 52 27.3		R11A	baz=143,SNR=48				S		**S**		**09 29 24.1**	**+2.8**	**PAHR**	baz=148,SNR=12 **Pah Rah Range**		**83.29**	**325**	IAmb		IAmb		09 19 44.5	
KNB	comp=Z,1µm,21.0s **Kanab**		**78.02**	**327**	IAmb		IAmb		09 19 16.6		**LCH**	baz=143 **Last Change Ra**		**80.52**	**324**	IAMs_20		IAMs_20		09 48 06.3		**LAO**	comp=Z,126nm,1.2s **LASA Array**		**83.55**	**337**	IAmb		IAmb		09 19 43.9	
FMP	comp=Z,153nm,1.1s **Fort Macarthur**		**78.13**	**322**	P		**P**		**09 19 06.0**	**+1.4**	**RSSD**	comp=Z,1µm,21.0s **Black Hills**		**80.56**	**337**	P		**P**		**09 19 17.7**	**-0.2**	**LAO**	comp=Z,61nm,0.9s **LASA Array**		**83.55**	**337**	P		**P**		**09 19 33.3**	**0.0**
BFSC	baz=140 **Mount Baldy Ra**		**78.20**	**322**	P		**P**		**09 19 06.4**	**+1.2**	RSSD	comp=Z,67nm,0.9s				pmax		pmax				**YMR**	baz=151,SNR=23 **Madison River**		**83.55**	**333**	IAmb		IAmb		09 19 45.5	
BFSC	baz=141,SNR=17				S		**S**		**09 29 02.3**	**+4.2**	**RSSD**	**Black Hills**		**80.56**	**337**	P		**P**		**09 19 17.6**	**-0.2**	**ULM**	comp=Z,204nm,1.5s **Lac du Bonnet**		**83.85**	**345**	P		**P**		**09 19 34.1**	**-0.5**
BATG	baz=141 **Bathurst New B**		**78.21**	**4**	IAmb		IAmb		09 19 16.9		**RSSD**	**Black Hills**		**80.56**	**337**	P		**P**		**09 19 18.3**	**+0.4**	ULM	comp=Z,53nm,0.9s,baz=167,slow=4.0,SNR=36 comp=Z,108nm,0.9s,baz=157,slow=4.5,SNR=27				pP		**pP**		**09 19 43.5**	**-0.4**
TUQ	comp=Z,164nm,1.3s **Turquoise Moun**		**78.25**	**324**	P		**P**		**09 19 06.7**	**+1.3**	RSSD	baz=152				S		**S**		**09 29 24.0**	**+1.2**	**ULM**	**Lac du Bonnet**		**83.85**	**345**	IAMs_20		IAMs_20		10 00 16.1	
TUQ	baz=142,SNR=77				S		**S**		**09 29 01.7**	**+3.2**	**DUG**	baz=152 **Dugway, Tooele**		**80.61**	**329**	IAmb		IAmb		09 19 30.1		**HLID**	comp=Z,1µm,20.0s **Hailey**		**84.05**	**330**	IAmb		IAmb		09 19 47.4	
LMQ	baz=142 **La Malbaie**		**78.33**	**1**	IAmb		IAmb		09 19 17.0		DUG	comp=Z,171nm,1.4s				IAMs_20		IAMs_20		09 51 07.8		HLID	comp=Z,46nm,0.9s				IAMs_20		IAMs_20		09 52 18.7	
	comp=Z,199nm,1.2s										**DUG**	comp=Z,2µm,20.

DGMT Dagmar 84.46 339 P **P** **09 19 38.3 +0.4**
baz=152,SNR=35
MFID Camas Ranch 84.54 329 IAmb IAmb 09 19 59.8
MFID IAMs_20 IAMs_20 09 53 12.7
comp=Z,2μm,20.0s
BOZ Bozeman (W) 84.58 333 IAmb IAmb 09 19 49.2
comp=Z,14nm,1.0s
BOZ IAMs_20 IAMs_20 09 53 46.8
comp=Z,1μm,20.0s
BOZ Bozeman (W) 84.58 333 P **P** **09 19 38.6 -0.2**
baz=146,SNR=13
DLMT Dillon 84.77 332 IAmb IAmb 09 19 51.4
comp=Z,102nm,1.4s
DLMT IAMs_20 IAMs_20 09 54 17.2
comp=Z,1μm,20.0s
O03E Paynes Creek 84.95 324 P **P** **09 19 40.3 -0.3**
baz=139,SNR=16
O02D Mt. Diablo Mer 85.36 323 P **P** **09 19 43.1 +0.4**
baz=138,SNR=6.5
KCPM Cahto Peak 85.41 322 IAmb IAmb 09 20 06.2
comp=Z,70nm,1.2s
MXZ Matakaoa Point 85.53 228 IAMs_20 IAMs_20 09 48 22.5
comp=Z,2μm,22.0s
J08A Circle Bar Ran 85.68 328 IAmb IAmb 09 19 56.1
comp=Z,141nm,1.0s
J08A IAMs_20 IAMs_20 09 52 40.9
comp=Z,1μm,20.0s
SCHQ Schefferville 85.72 3 P **P** **09 19 43.5 -0.5**
comp=Z,72nm,1.1s,baz=152,slow=3.8,SNR=18
SCHQ pP **pP** **09 19 52.9 -0.5**
comp=Z,44nm,1.1s,baz=166,slow=4.2,SNR=6.7
SCHQ LR LR 09 57 30.4
comp=Z,729nm,21.9s,baz=198,slow=35
SCHQ Schefferville 85.72 3 IAmb IAmb 09 19 45.0
comp=Z,139nm,1.2s
TTIG Tnine Tigouga, 85.75 51 P **P** **09 19 47.1 +2.2**
N02D Trinity Center 85.91 324 P **P** **09 19 45.1 -0.3**
baz=138,SNR=7.5
EGMT Eagleton 85.92 335 P **P** **09 19 44.9 -0.3**
baz=148,SNR=8.6
PLID Pearl Lake 85.95 330 IAmb IAmb 09 19 56.4
comp=Z,52nm,0.9s
LTZ Lake Taylor 85.99 221 P **P** **09 19 47.1 +1.1**
LTZ IAmb IAmb 09 20 01.8
comp=Z,77nm,1.2s
M04C Macdoel 86.08 325 P **P** **09 19 46.9 +0.6**
baz=139,SNR=18
M04C S **S** **09 30 20.2 +1.5**
baz=139
THZ Tophouse 86.27 223 P **P** **09 19 48.5 +1.1**
THZ IAmb IAmb 09 20 00.5
comp=Z,78nm,1.1s
M02C Callahan 86.30 324 P **P** **09 19 47.7 +0.4**
baz=138,SNR=9.9
BMO Blue Mountains 86.33 329 P **P** **09 19 47.4 0.0**
BMO pmax pmax
comp=Z,39nm,1.5s
BMO Blue Mountains 86.33 329 P **P** **09 19 47.4 0.0**
BMO IAMs_20 IAMs_20 09 54 29.0
comp=Z,2μm,20.0s
K05A Summer Lake 86.33 326 IAmb IAmb 09 19 59.7
K05A IAMs_20 IAMs_20 09 52 06.2
comp=Z,1μm,22.0s
KHMM Horse Mountain 86.36 323 IAmb IAmb 09 19 59.3
comp=Z,54nm,1.0s
MSO Missoula 86.51 332 IAMs_20 IAMs_20 09 55 40.7
comp=Z,2μm,19.0s
MSO Missoula 86.51 332 P **P** **09 19 48.8 +0.5**
baz=145,SNR=10
MSO S **S** **09 30 24.4 +1.8**
baz=145
OUK Oukaimeden 86.55 50 P **P** **09 19 50.1 +0.9**
L04D Klamath Falls 86.64 325 P **P** **09 19 49.0 0.0**
baz=138,SNR=10
L04D S **S** **09 30 24.3 +0.2**
baz=138
K04D Chiloquin, OR 86.67 325 P **P** **09 19 49.9 +0.7**
baz=139
K04D S **S** **09 30 25.7 +1.3**
baz=139
I07A Izee 86.72 328 IAMs_20 IAMs_20 09 52 49.3
comp=Z,1μm,22.0s
J05D Fort Rock, OR 86.92 326 P **P** **09 19 51.1 +0.8**
baz=139,SNR=29
KRMB Red Mountain 86.93 323 IAmb IAmb 09 20 02.4
comp=Z,55nm,1.0s
PINE Pine Mountain 87.16 327 IAmb IAmb 09 20 03.6
comp=Z,89nm,0.9s
F10A Beach Ranch, E 87.18 330 IAMs_20 IAMs_20 09 53 57.5
comp=Z,1μm,21.0s
L02E Cave Junction 87.24 324 P **P** **09 19 52.8 +1.0**
baz=138,SNR=6.3
L02E S **S** **09 30 31.8 +2.2**
baz=138
J04D Umpqua Nationa 87.31 326 P **P** **09 19 52.9 +0.6**
baz=139,SNR=16
J04D S **S** **09 30 31.9 +1.2**
baz=139
JTMT Jette 87.39 333 IAmb IAmb 09 20 03.2
comp=Z,41nm,0.8s
JTMT IAMs_20 IAMs_20 09 55 23.1
comp=Z,1μm,20.0s
G08A Pilot Rock 87.40 329 IAMs_20 IAMs_20 09 54 40.4
comp=Z,2μm,21.0s
K02D Willamette Mer 87.67 324 P **P** **09 19 55.0 +1.0**
baz=138,SNR=12
K02D S **S** **09 30 34.2 +0.3**
baz=138
I05D Terrebonne, OR 87.77 327 P **P** **09 19 55.1 +0.8**
baz=139,SNR=13
I05D S **S** **09 30 35.0 +0.3**
baz=139
DBO Dodson Butte 87.77 325 IAmb IAmb 09 20 05.7
comp=Z,63nm,1.1s
MATP Matopo 87.83 112 P **P** **09 19 55.8 +0.4**
comp=Z,16nm,0.9s,baz=227,slow=13,SNR=19
MATP pP **pP** **09 20 06.2 +1.2**
comp=Z,5.3nm,0.6s,baz=248,slow=8.8,SNR=4.6
I04A Tendick Farm, 87.87 326 P **P** **09 19 54.5 -0.3**
baz=138,SNR=10.0
I04A S **S** **09 30 34.8 -0.8**
baz=138
E09A Wood Farm, Sta 88.00 330 IAMs_20 IAMs_20 09 56 03.2
comp=Z,1μm,20.0s
J01E Myrtle Point 88.14 325 P **P** **09 19 56.9 +0.8**
baz=137
J01E S **S** **09 30 38.7 +0.6**
baz=137
I03D Drain, OR 88.25 325 P **P** **09 19 57.2 +0.6**
baz=138
I03D S **S** **09 30 39.5 +0.4**
baz=138
F07A Phinny Hill Vi 88.30 329 IAMs_20 IAMs_20 09 54 25.2
comp=Z,2μm,20.0s
WALA Waterton Lakes 88.32 334 IAmb IAmb 09 20 07.5
comp=Z,74nm,1.0s
WALA IAMs_20 IAMs_20 09 56 45.5
comp=Z,1μm,19.0s
E08A Dider Farm, El 88.38 329 IAMs_20 IAMs_20 09 55 53.2
comp=Z,2μm,20.0s
H04A Detroit Lake 88.42 327 IAmb IAmb 09 20 08.4
comp=Z,56nm,0.8s
H04A IAMs_20 IAMs_20 09 53 36.5
comp=Z,1μm,20.0s
G05D Wamic, OR 88.44 327 P **P** **09 19 58.4 +1.0**
baz=139,SNR=11
G05D S **S** **09 30 44.5 +3.5**
baz=139
BUCK Buck Mountain 88.44 326 IAmb IAmb 09 20 08.6
comp=Z,76nm,1.1s
HAWA Hanford 88.51 329 IAmb IAmb 09 20 09.3
comp=Z,134nm,1.5s
HAWA IAMs_20 IAMs_20 09 55 25.7
comp=Z,2μm,20.0s
H04D Lebanon 88.57 326 P **P** **09 19 57.9 -0.1**
baz=138
D08A Wollman Farm, 88.76 330 IAMs_20 IAMs_20 09 56 24.2
comp=Z,2μm,18.0s
E07A Sunnyside 88.78 329 IAMs_20 IAMs_20 09 55 33.8
comp=Z,2μm,20.0s
I02D Swisshome 88.79 325 S **S** **09 30 44.4 +0.1**
baz=137
COR Corvallis 88.88 326 P **P** **09 20 00.8 +1.3**
COR pmax pmax
comp=Z,86nm,1.1s
COR Corvallis 88.88 326 P **P** **09 20 00.8 +1.3**
COR IAmb IAmb 09 20 11.7
comp=Z,86nm,1.1s
NEW Newport 88.95 332 P **P** **09 19 58.9 -0.9**
NEW Newport 88.95 332 P **P** **09 19 58.9 -0.9**
NEW Newport 88.95 332 P **P** **09 19 59.0 -0.8**
baz=142,SNR=15
F05D White Salmon 88.99 328 P **P** **09 20 00.8 +0.8**
baz=139,SNR=11
F05D S **S** **09 30 48.2 +2.1**
baz=139
C09A Chrisman Ranch 89.06 331 P **P** **09 20 00.3 +0.1**
C09A IAmb IAmb 09 20 11.4
comp=Z,46nm,0.9s
C09A IAMs_20 IAMs_20 09 55 59.2
comp=Z,1μm,20.0s
G03D McMinnville, O 89.33 326 P **P** **09 20 01.5 -0.1**
baz=138
G03D S **S** **09 30 50.7 +1.4**
baz=138
FFC Flin Flon 89.44 343 P **P** **09 20 01.4 -0.4**
FFC pmax pmax
comp=Z,52nm,1.0s
FFC Flin Flon 89.44 343 P **P** **09 20 01.4 -0.4**
FFC IAmb IAmb 09 20 12.4
comp=Z,52nm,1.0s
FFC Flin Flon 89.44 343 IAMs_20 IAMs_20 10 07 17.9
comp=Z,1μm,18.0s
F04A Amboy 89.47 327 IAmb IAmb 09 20 13.3
comp=Z,46nm,0.7s
F04A IAMs_20 IAMs_20 09 54 14.1
comp=Z,2μm,22.0s
CZD Col de Zad 89.56 50 P **P** **09 20 06.0 +2.6**
LTY Liberty 89.67 329 IAMs_20 IAMs_20 09 56 42.4
comp=Z,2μm,20.0s
MDT Midelt 89.71 51 P **P** **09 20 04.6 +0.8**
LON Longmire 89.80 328 IAMs_20 IAMs_20 09 58 38.9
comp=Z,1μm,18.0s
F04D Rainier, OR 89.85 327 P **P** **09 20 05.0 +1.0**
baz=138
F04D S **S** **09 30 55.2 +1.0**
baz=138
B08A Colville Reser 89.94 330 IAMs_20 IAMs_20 09 56 46.5
comp=Z,1μm,21.0s
MORF Marmelete 89.96 45 *e*P **P** **09 20 05.6 +0.8**
E04D Cinebar 90.00 328 P **P** **09 20 04.9 +0.2**
baz=138,SNR=7.0
PTEO Sao Teotonio 90.07 45 *e*P **P** **09 20 06.0 +0.8**
comp=Z,83nm,1.2s
D05A Enumclaw 90.21 328 P **P** **09 20 05.6 -0.1**
D05A IAmb IAmb 09 20 16.7
comp=Z,60nm,0.9s
D05A IAMs_20 IAMs_20 09 57 00.7
comp=Z,1μm,20.0s
LSZ Lusaka 90.32 108 P **P** **09 20 08.4 +1.2**
LSZ pmax pmax
comp=Z,216nm,1.3s
LSZ Lusaka 90.32 108 P **P** **09 20 08.4 +1.2**
PBDV Barranco-do-Ve 90.36 46 *e*P **P** **09 20 07.8 +1.1**
comp=Z,106nm,1.4s
E03A Lebam 90.45 327 P **P** **09 20 07.4 +0.6**
PCVE Castro Verde 90.54 45 *e*P **P** **09 20 08.6 +1.1**
comp=Z,53nm,2.0s
PNCL Nicolau / Gran 90.55 45 *e*P **P** **09 20 07.9 +0.4**
comp=Z,57nm,1.3s
MESJ Messejana 90.56 45 *e*P **P** **09 20 08.4 +0.9**
comp=Z,55nm,1.6s
PVAQ Vaqueiros 90.59 46 *e*P **P** **09 20 08.4 +0.7**
comp=Z,55nm,1.5s
PVAQ Vaqueiros 90.59 46 *e*LR LR 09 50 49.1
comp=Z,3μm,20.0s
PVAQ Vaqueiros 90.59 46 IAMs_20 IAMs_20 09 59 47.7
comp=Z,2μm,19.0s
PBEJ Beja 90.90 45 *e*P **P** **09 20 09.5 +0.4**
comp=Z,46nm,1.4s
B06A Marblemount 90.99 329 P **P** **09 20 08.9 -0.3**
B06A IAmb IAmb 09 20 19.5
comp=Z,40nm,0.8s
B06A IAMs_20 IAMs_20 09 56 52.3
comp=Z,2μm,20.0s
B05A Bryant 91.06 329 P **P** **09 20 08.8 -0.8**
baz=139,SNR=7.3
NLWA Neilton Lookou 91.22 327 P **P** **09 20 11.5 +1.1**
NLWA IAMs_20 IAMs_20 09 54 54.4
comp=Z,1μm,22.0s
PSBE So Bento 91.30 43 *e*P P 09 20 17.1 +6.1
comp=Z,77nm,1.8s
PMTG Montargil 91.35 44 *e*P **P** **09 20 11.5 +0.3**
comp=Z,75nm,1.3s
FCC Fort Churchill 91.51 348 P **P** **09 20 11.5 +0.1**
FCC pmax pmax
comp=Z,75nm,1.0s
FCC Fort Churchill 91.51 348 P **P** **09 20 11.5 +0.1**
FCC IAmb IAmb 09 20 22.1
comp=Z,75nm,1.0s
FCC IAMs_20 IAMs_20 10 06 35.7
comp=Z,1μm,19.0s
FIGM Figuig 91.56 53 P **P** **09 20 15.0 +2.5**
PESTR Estremoz 91.60 45 *e*P **P** **09 20 13.3 +0.9**
comp=Z,49nm,1.3s
PESTR Estremoz 91.60 45 P **P** **09 20 12.1 -0.3**
PESTR IAMs_20 IAMs_20 09 57 36.4
comp=Z,2μm,22.0s
A04D Lummi Island 91.68 329 P **P** **09 20 12.3 -0.1**
baz=138
PGC Sidney 91.96 329 P **P** **09 20 13.8 +0.2**
PMRV Marv??o 92.08 44 *e*P **P** **09 20 14.2 -0.4**
comp=Z,31nm,1.2s
PMRV Marv??o 92.08 44 *e*LR LR 09 51 19.7
comp=Z,3μm,22.0s
PCBR Castelo Branco 92.29 44 *e*P **P** **09 20 15.6 +0.1**
comp=Z,24nm,1.7s
PVIS Viseu 92.60 43 *e*P **P** **09 20 17.7 +0.7**
MTE Manteigas 92.60 43 *e*P **P** **09 20 16.9 -0.1**
comp=Z,47nm,1.3s
MTE Manteigas 92.60 43 *e*LR LR 09 52 02.9
comp=Z,3μm,22.0s
MTE Manteigas 92.60 43 P **P** **09 20 17.0 0.0**
MTE IAmb IAmb 09 20 17.8
comp=Z,44nm,1.3s
LLLB Lillooet 92.73 331 P **P** **09 20 16.6 -0.7**
LLLB IAMs_20 IAMs_20 09 58 23.4
comp=Z,1μm,20.0s
PGAV Gavieira, Arco 93.18 42 *e*LR LR 09 51 56.7
comp=Z,5μm,22.0s
MVO Moncorvo 93.39 43 *e*P **P** **09 20 20.5 -0.2**
comp=Z,38nm,1.2s
MVO Moncorvo 93.39 43 *e*LR LR 09 53 11.8
comp=Z,3μm,22.0s
PBRG Bragança 93.96 43 *e*P **P** **09 20 23.2 0.0**
comp=Z,40nm,1.5s
PAB San Pablo 93.99 46 P **P** **09 20 23.6 +0.1**
PAB pmax pmax
comp=Z,25nm,1.3s
PAB MLR MLR
comp=Z,3μm,19.0s
PAB San Pablo 93.99 46 P **P** **09 20 23.6 +0.1**
PAB San Pablo 93.99 46 IAMs_20 IAMs_20 10 01 49.7
comp=Z,3μm,19.0s
ESDC Sonseca Array 94.31 46 P **P** **09 20 24.6 -0.3**
comp=Z,6.8nm,1.0s,baz=238,slow=4.2,SNR=24
ESDC LR LR 10 02 21.1
comp=Z,3μm,18.9s,baz=245,slow=35
ESBB Sonseca Array 94.31 46 P **P** **09 20 24.7 -0.2**
KKO Keanakako`i 94.65 290 IAMs_20 IAMs_20 10 11 00.2
comp=Z,2μm,19.0s
BYL Byron's Ledge 94.65 290 IAMs_20 IAMs_20 09 56 24.3
comp=Z,1μm,20.0s
SBLHI Steaming Bluff 94.66 290 IAMs_20 IAMs_20 09 58 54.6
comp=Z,1μm,19.0s
CART Cartagena 94.93 49 IAMs_20 IAMs_20 10 09 45.7
comp=Z,913nm,18.0s
YKA Yellowknife Ar 99.48 341 P **Pdif** **09 20 47.1 -0.5**
comp=Z,1.2nm,0.7s,baz=130,slow=5.7,SNR=4.7
YKA pP **pP** **09 20 57.0 0.0**
comp=Z,5.5nm,0.7s,baz=138,slow=5.0,SNR=9.3
WRAK Wrangell Islan 101.25 330 IAMs_20 IAMs_20 10 02 52.9
comp=Z,927nm,21.0s
DLBC Dease Lake 101.64 333 IAMs_20 IAMs_20 10 04 01.9
comp=Z,1μm,20.0s
VSL Villasalto 102.80 52 IAMs_20 IAMs_20 10 06 46.2
comp=Z,1μm,21.0s
ABPO Ambohimpanom 102.95 122 IAMs_20 IAMs_20 10 03 28.0
comp=Z,1μm,19.0s
DZM Mont Dzumac 103.24 234 *e*SKSac **SKSac** **09 31 47.5 +3.5**
comp=Z,561nm,27.1s
DZM Mont Dzumac 103.24 234 *e*PS PS 09 34 19.9 -10
comp=Z,721nm,29.9s
DZM *e*SS SS 09 40 08.6 +6.9
comp=Z,3μm,28.1s
DZM Mont Dzumac 103.24 234 *e*LR LR 09 54 58.0
comp=Z,4μm,23.1s,baz=133
JIS Juneau Island 103.29 331 IAMs_20 IAMs_20 10 05 11.7
comp=Z,1μm,20.0s
BESE Bessie Mountai 103.67 331 IAMs_20 IAMs_20 10 05 33.8
comp=Z,1μm,19.0s
SKAG Skagway 104.41 332 IAMs_20 IAMs_20 10 04 49.2
comp=Z,1μm,22.0s
WHY Whitehorse 104.96 333 IAMs_20 IAMs_20 10 06 16.8
comp=Z,1μm,20.0s
UCC Uccle 105.39 40 IAMs_20 IAMs_20 10 08 15.0
comp=Z,1μm,20.0s
VLC Villacollemand 105.72 48 IAMs_20 IAMs_20 10 08 53.1
comp=Z,1μm,20.0s
SUMG Summit 105.92 10 *i* P **PKiKP** **09 25 25.0 -3.7**
SUMG IAmb IAmb 09 25 30.2
comp=Z,19nm,1.2s
LODK Lodwar 106.25 96 IAMs_20 IAMs_20 10 08 29.0
comp=Z,1μm,19.0s
ARMA Armidale 106.30 218 IAMs_20 IAMs_20 10 00 11.8
comp=Z,1μm,19.0s
BFO Black Forest 106.43 43 IAMs_20 IAMs_20 10 10 37.8
comp=Z,1μm,19.0s
BCPM Bancas Point 106.47 331 IAMs_20 IAMs_20 10 06 47.7
comp=Z,995nm,21.0s
RES Resolute Bay 106.67 354 IAMs_20 IAMs_20 10 15 56.4
comp=Z,1μm,19.0s
SCO Scoresbysund 107.33 16 IAMs_20 IAMs_20 10 08 55.2
comp=Z,1μm,19.0s
TABL Table Mountain 107.36 331 IAMs_20 IAMs_20 10 05 31.4
comp=Z,934nm,21.0s
TULEG Thule 107.43 1 IAMs_20 IAMs_20 10 11 36.5
comp=Z,1μm,22.0s
LOGN Logan Glacier 107.52 331 IAMs_20 IAMs_20 10 15 45.4
comp=Z,668nm,20.0s
YAH Yahtse 107.58 331 IAMs_20 IAMs_20 10 05 24.0
comp=Z,1μm,22.0s
GRNC Granite Creek 107.78 331 IAMs_20 IAMs_20 10 05 45.3
comp=Z,915nm,20.0s
WAX Waxell Ridge 108.09 330 IAMs_20 IAMs_20 10 16 12.6
comp=Z,863nm,19.0s
TGL Tana Glacier 108.24 331 IAMs_20 IAMs_20 10 06 16.5
comp=Z,903nm,21.0s
BERG Berg Lake 108.42 330 IAMs_20 IAMs_20 10 18 01.4
comp=Z,708nm,19.0s
TRI Trieste 108.56 47 IAMs_20 IAMs_20 10 13 07.2
comp=Z,1μm,19.0s
DAWY Dawson 108.65 335 IAMs_20 IAMs_20 10 10 18.3
comp=Z,1μm,18.0s
M27K Edge Creek, AK 108.69 332 IAMs_20 IAMs_20 10 19 13.3
comp=Z,637nm,19.0s
GRFO Grafenberg 108.75 43 IAMs_20 IAMs_20 10 08 16.0
comp=Z,1μm,22.0s
GRA1 Grafenberg Arr 108.75 43 IAMs_20 IAMs_20 10 08 16.0
comp=Z,1μm,21.0s
GRF Grafenberg Arr 108.75 43 *e*PP **PP** **09 25 58.4 -2.9**
GTTG Gottingen 108.85 41 *e*PP **PP** **09 25 59.3 -2.6**
L27K Beaver Creek, 109.04 333 IAMs_20 IAMs_20 10 08 51.5
comp=Z,1μm,20.0s
BMRM Bremner River 109.09 330 IAMs_20 IAMs_20 10 20 32.2
comp=Z,671nm,20.0s
M26K Nabesna, AK 109.16 332 IAMs_20 IAMs_20 10 19 48.7
comp=Z,900nm,20.0s
CLZ Clausthal 109.21 41 *e*PP **PP** **09 26 01.7 -2.9**
NRDL Niedersach Rie 109.35 40 *e*PP **PP** **09 26 03.4 -2.0**
ROTZ Rotzenmuhle 109.36 43 *e*PP **PP** **09 26 02.7 -3.0**
EYAK Cordova Ski Ar 109.38 330 IAMs_20 IAMs_20 10 05 19.7
comp=Z,816nm,21.0s
MOX Moxa 109.39 42 *e*PP **PP** **09 26 03.1 -2.8**
N25K Chitina, Valde 109.41 331 IAMs_20 IAMs_20 10 21 30.5
comp=Z,619nm,19.0s
ASSE Asse, Remlinge 109.50 40 *e*PP **PP** **09 26 04.3 -2.2**
L26K Log Cabin Wild 109.61 333 IAMs_20 IAMs_20 10 20 11.8
comp=Z,969nm,20.0s
HIN Hinchinbrook I 109.63 329 IAMs_20 IAMs_20 10 20 58.4
comp=Z,763nm,20.0s
K27K Chicken 109.63 334 IAMs_20 IAMs_20 10 09 13.2
comp=Z,1μm,20.0s
PLN Plauen 109.64 42 *e*PP **PP** **09 26 04.8 -2.9**
WERN Wernitzgruen 109.68 43 *e*PP **PP** **09 26 05.3 -2.7**
EGAK Eagle 109.68 335 IAMs_20 IAMs_20 10 12 22.5
comp=Z,837nm,20.0s
GUNZ Gunzen 109.69 43 *e*PP **PP** **09 26 05.2 -2.9**
NEUB Neuenburg 109.72 42 *e*PP **PP** **09 26 05.2 -3.0**
TANN Tannenbergstha 109.78 43 *e*PP **PP** **09 26 06.2 -2.6**
GEC2 GERESS Array S 109.85 44 *e*PP **PP** **09 26 06.4 -3.1**
GERES GERESS Array B 109.85 44 PKiKP **PKiKP** **09 25 35.6 -0.8**
comp=Z,2.6nm,0.9s,baz=194,slow=1.1,SNR=10.0
GERES PKKPbc **PKKPbc** **09 36 39.7 -0.6**
comp=Z,0.4nm,0.7s,baz=35,slow=4.9,SNR=4.4
GERES PKKPab **PKKPab** **09 36 48.9 +0.1**
comp=Z,0.6nm,0.8s,baz=35,slow=3.3,SNR=3.4
FLTG Flechtingen 109.90 40 *e*PP **PP** **09 26 06.6 -2.9**
GLI Glacier Island 110.12 330 IAMs_20 IAMs_20 10 11 54.3
comp=Z,623nm,18.0s
DOT Dot Lake 110.20 333 IAMs_20 IAMs_20 10 09 27.4
comp=Z,1μm,20.0s
SCRK Sand Creek 110.34 333 IAMs_20 IAMs_20 10 10 10.9
comp=Z,1μm,20.0s
PAX Paxson 110.43 332 IAMs_20 IAMs_20 10 08 22.4
comp=Z,1μm,22.0s
CLL Collm 110.47 42 *e*Pdif **Pdif** **09 21 40.0 +3.2**
CLL *e*PKiKP **PKiKP** **09 25 37.0 -0.3**
comp=Z,10.0nm,1.3s
CLL *i* 09 25 54.3
CLL *i* PP **PP** **09 26 09.7 -3.9**
comp=Z,65nm,2.2s
CLL *e* 09 26 19.0
CLL *e*(SSS) 09 45 12.0
CLL *e*(SSSS) 09 49 54.0
CLL Lm MLR 10 11 00.0
comp=N,600nm,20.7s
CLL Lm MLR 10 11 00.0
comp=E,2μm,19.7s
CLL Lm MLR 10 11 00.0
comp=Z,2μm,19.3s
CLL Collm 110.47 42 *e*P **Pdif** **09 21 40.0 +3.2**
CLL *e* 09 25 37.0
CLL *i* 09 26 09.7
CLL pmax pmax
comp=Z,10.0nm,1.3s
CLL pmax pmax
comp=Z,65nm,2.2s
CLL MLR MLR
comp=Z,2μm,19.3s
CLL Collm 110.47 42 *e*PP **PP** **09 26 10.6 -3.0**
RIDG Independent Ri 110.55 333 IAMs_20 IAMs_20 10 10 06.6
comp=Z,1μm,20.0s
PWL Port Wells 110.65 329 IAMs_20 IAMs_20 10 09 27.3
comp=Z,776nm,22.0s
SEW Seward 110.80 328 IAMs_20 IAMs_20 10 22 34.5
comp=Z,704nm,21.0s
BRG Berggiesshubel 110.83 43 *e*PKP **PKiKP** **09 25 38.5 +0.5**
BRG Amp 09 25 41.1
comp=Z,9.0nm,1.4s
BRG PP **PP** **09 26 11.7 -4.6**
BRG Amp 09 26 13.6
comp=Z,9.9nm,1.2s
BRG Amp 09 35 15.0
comp=Z,0.5nm,22.1s
BRG Amp 09 35 18.0
comp=E,0.4nm,19.1s
BRG Amp 09 35 22.0
comp=N,0.2nm,18.8s
BRG Amp 10 09 34.0
comp=Z,2.1nm,22.4s
BRG Amp 10 09 37.0
comp=N,0.4nm,18.1s
BRG Amp 10 09 51.0
comp=E,1.3nm,22.8s
KNK Knik Glacier 110.95 330 IAMs_20 IAMs_20 10 21 05.3
comp=Z,915nm,20.0s
O22K Cooper Landing 111.09 329 IAMs_20 IAMs_20 10 19 40.1
comp=Z,808nm,21.0s
KDAK Kodiak Island 111.27 325 IAMs_20 IAMs_20 10 02 20.9
comp=Z,844nm,22.0s
BRLK Bradley Lake 111.31 328 IAMs_20 IAMs_20 10 18 01.9
comp=Z,693nm,22.0s
PMR Palmer 111.32 330 IAMs_20 IAMs_20 10 20 00.0
comp=Z,784nm,21.0s
RC01 Rabbit Creek A 111.36 329 IAMs_20 IAMs_20 10 23 12.2
comp=Z,639nm,20.0s
KRUC Moravsky 111.56 45 *e*PKIKP **PKiKP** **09 25 38.6 -0.9**
KRUC *e*PP **PP** **09 26 15.2 -6.4**
HOM Homer 111.61 327 IAMs_20 IAMs_20 10 06 49.9

comp=Z,692nm,21.0s
PRP Porcupine Dome 111.65 334 IAMs_20 IAMs_20 10 10 09.6
comp=Z,955nm,21.0s
HDA Harding Lake 111.68 333 IAMs_20 IAMs_20 10 11 03.5
comp=Z,1µm,21.0s
VRAC Vranov 111.78 45 *e*PP **PP** **09 26 16.8 -6.4**
ILAR Eielson Array 111.82 333 pPdiff **pPdif** **09 21 52.0 +0.1**
comp=Z,1.5nm,0.9s,baz=156,slow=3.4,SNR=10
ILAR PKiKP **PKiKP** **09 25 39.2 -0.3**
comp=Z,1.8nm,1.1s,baz=183,slow=2.0,SNR=6.9
ILAR PKKPbc **PKKPbc** **09 36 30.7 -3.5**
comp=Z,1.2nm,1.0s,baz=302,slow=3.8,SNR=5.4
ILAR PKKPab **PKKPab** **09 36 39.8 +0.5**
comp=Z,1.2nm,0.9s,baz=283,slow=3.7,SNR=6.9
RGN Rugen 111.95 39 IAMs_20 IAMs_20 10 13 31.3
comp=Z,1µm,20.0s
SUA Susitna One 111.96 329 IAMs_20 IAMs_20 10 21 59.0
comp=Z,773nm,20.0s
RND Reindeer 112.00 332 IAMs_20 IAMs_20 10 21 01.9
comp=Z,668nm,20.0s
FYU Fort Yukon 112.03 336 IAMs_20 IAMs_20 10 12 29.6
comp=Z,925nm,20.0s
CCB Clear Creek Bu 112.12 333 IAMs_20 IAMs_20 10 11 16.1
comp=Z,1µm,20.0s
CUT Chulitna 112.16 330 IAMs_20 IAMs_20 10 21 54.0
comp=Z,880nm,20.0s
WRH Wood River Hil 112.16 333 IAMs_20 IAMs_20 10 11 18.0
comp=Z,1µm,21.0s
MCK McKinley 112.17 332 IAMs_20 IAMs_20 10 08 39.4
comp=Z,965nm,22.0s
POKR Poker Plat Res 112.19 334 IAMs_20 IAMs_20 10 11 16.8
comp=Z,1µm,19.0s
COLA College 112.24 333 IAMs_20 IAMs_20 10 11 19.3
comp=Z,1µm,20.0s
TCOL CIGO, UAF Yank 112.24 333 IAMs_20 IAMs_20 10 11 20.3
comp=Z,1µm,20.0s
JAVC Velka Javorina 112.26 46 *e*PKiKP **PKiKP** **09 25 41.4 +0.5**
MDM Murphy Dome 112.42 333 IAMs_20 IAMs_20 10 11 25.0
comp=Z,1µm,20.0s
MORC Moravsky Berou 112.53 45 *e*PKiKP **PKiKP** **09 25 41.0 -0.4**
MORC *e*PP **PP** **09 26 23.8 -4.8**
BWN Browne 112.57 332 IAMs_20 IAMs_20 10 10 49.2
comp=Z,976nm,20.0s
NEA2 Nenana 112.59 333 IAMs_20 IAMs_20 10 11 31.5
comp=Z,1µm,20.0s
TRF Thorofare Moun 112.60 331 IAMs_20 IAMs_20 10 12 20.8
comp=Z,965nm,21.0s
H24K Noodor Dome 112.67 334 IAMs_20 IAMs_20 10 11 16.5
comp=Z,1µm,19.0s
VYHS Vyhne 112.85 46 *e*PKP PKiKP 09 25 52.0 +10
I23K Minto, Yukon-K 112.94 333 IAMs_20 IAMs_20 10 11 39.6
comp=Z,1µm,21.0s
O19K Port Alsworth 113.06 327 IAMs_20 IAMs_20 10 24 32.2
comp=Z,648nm,20.0s
BPAW Bear Paw Mtn. 113.15 332 IAMs_20 IAMs_20 10 11 31.3
comp=Z,651nm,20.0s
H23K Yukon River 113.29 334 IAMs_20 IAMs_20 10 12 37.8
comp=Z,1µm,19.0s
CAST Castle Rocks 113.33 331 IAMs_20 IAMs_20 10 22 46.0
comp=Z,770nm,19.0s
N19K Bonanza Creek 113.37 328 IAMs_20 IAMs_20 10 23 33.3
comp=Z,988nm,20.0s
MLY Manley 113.42 333 IAMs_20 IAMs_20 10 11 56.5
comp=Z,1µm,20.0s
CHGN Chignik 113.63 323 IAMs_20 IAMs_20 10 02 30.6
comp=Z,999nm,22.0s
CNBA Chernabura Isl 113.73 321 IAMs_20 IAMs_20 10 02 50.5
comp=Z,1µm,20.0s
KARP Karpathos 113.83 62 IAMs_20 IAMs_20 10 19 52.5
comp=Z,1µm,19.0s
N18K Kilae Creek 113.96 328 IAMs_20 IAMs_20 10 23 45.3
comp=Z,804nm,20.0s
I21K Tanana 113.97 333 IAMs_20 IAMs_20 10 11 33.8
comp=Z,1µm,21.0s
SVW2 Sparrevohn 113.97 328 IAMs_20 IAMs_20 10 21 49.8
comp=Z,742nm,20.0s
L19K White Mountain 114.04 329 IAMs_20 IAMs_20 10 24 39.0
comp=Z,684nm,20.0s
COLD Coldfoot 114.09 335 IAMs_20 IAMs_20 10 11 20.0
comp=Z,772nm,20.0s
TOLK Toolik Lake Re 114.42 337 IAMs_20 IAMs_20 10 13 49.7
comp=Z,782nm,21.0s
H21K Melozitna Rive 114.46 333 IAMs_20 IAMs_20 10 13 17.0
comp=Z,953nm,20.0s
UZH Uzhgorod 115.05 47 *e*P **Pdif** **09 22 02.2 +5.0**
UZH *i* 09 29 12.5
UZH *e* 09 32 26.7
UZH MLR MLR
comp=N,320nm,20.0s
UZH MLR MLR
comp=E,310nm,20.0s
UZH MLR MLR
comp=Z,190nm,20.0s
KLNR Kaliningrad 115.72 40⇓*i*PKiKP **PKPdf** **09 25 47.0 -0.2**
KLNR MLR MLR
comp=Z,1µm,21.0s
AKAS Kas 115.92 62 IAMs_20 IAMs_20 10 21 58.0
comp=Z,1µm,19.0s
LVV L'vov 116.50 46 *e*PKiKP **PKiKP** **09 25 54.6 +5.7**
LVV MLR MLR
comp=Z,2µm,23.0s
BUR08 Bucovina Ar. S 116.58 49 PKPdf **PKiKP** **09 25 49.6 +0.3**
SUW Suwalki 117.21 41 *e*P **PKPdf** **09 25 49.3 -0.8**
A21K Barrow 117.60 339 IAMs_20 IAMs_20 10 23 02.5
comp=Z,769nm,20.0s
PABE Paberze 118.05 40 *e*P **PKPdf** **09 25 51.4 -0.3**
CSS Mathiatis 118.33 64 PKPdf **PKiKP** **09 25 53.2 +0.2**
CSS IAMs_20 IAMs_20 10 17 36.0
comp=Z,1µm,21.0s
KIS Kishinev 118.75 50 *e*P **Pdif** **09 22 08.0 -5.7**
KIS Kishinev 118.75 50 *e*PKP **PKPdf** **09 25 52.0 -1.3**
KIS Kishinev 118.75 50 *e*PP PP 09 27 08.0 -4.3
KIS Kishinev 118.75 50 *e*PS PS 09 36 50.0 -9.4
KIS *e*LR LR 10 10 40.0
comp=Z,500nm,20.0s
KIS Kishinev 118.75 50 *e*P **Pdif** **09 22 08.0 -5.7**
KIS *e* 09 25 52.0
KIS *e* 09 27 08.0
KIS *e*PPP PPP 09 29 43.0
KIS *e*PS **PS** **09 36 50.0 -9.4**
KBS Kingsbay 119.09 13 IAMs_20 IAMs_20 10 14 35.5
comp=Z,574nm,19.0s
ANM Nome 119.25 330 IAMs_20 IAMs_20 10 13 56.6
comp=Z,799nm,22.0s
NACGM Naroch 119.47 41 *i* PKP **PKPdf** **09 25 51.2 -3.2**
AKASG Malin Array Be 119.95 46 PKP **PKPdf** **09 25 53.6 -1.9**
comp=Z,10nm,0.8s,baz=277,slow=2.4,SNR=28
AKASG PP **PP** **09 27 13.7 -6.7**
comp=Z,2.7nm,0.9s,baz=258,slow=7.1,SNR=6.5
AKBB Malin Array Si 119.95 46*c i*PKiKP **PKPdf** **09 25 53.3 -2.2**
AKBB MLR MLR
comp=Z,2µm,22.0s
MNK Minsk 120.01 42 *i* PKiKP **PKPdf** **09 25 54.7 -0.8**
MNK *i* 09 27 19.1
MNK *i* PPP PPP 09 29 53.5
MNK *i* 09 33 04.1
MNK *i* PS **PS** **09 37 10.7 +0.2**
MNK *i* SS SS 09 43 44.1 -1.0
MNK *i* SSS SSS 09 48 10.8
MNK MLR MLR
comp=E,218nm,18.0s
MNK MLR MLR
comp=Z,2µm,18.0s
MNK MLR MLR
comp=N,244nm,18.0s
MNK Minsk 120.01 42 *i* PKP **PKPdf** **09 25 54.8 -0.7**
MNK *i* PKP **PKPdf** **09 25 54.8 -0.7**
MNK *i* PKP **PKPdf** **09 25 54.8 -0.7**
baz=258
MNK *i* PP **PP** **09 27 19.1 -1.6**
MNK *i* SKP 09 29 27.5
MNK *i* PKS 09 29 31.5
MNK *i* PPP PPP 09 29 53.6
MNK *i* SKS **SKSdf** **09 33 04.1 -1.0**
MNK *i* PS PKKPdf 09 37 10.8 +33
MNK *i* SS **SS** **09 43 44.1 -1.0**
MNK *i* SSS SSS 09 48 10.9
MNK *i* LQ LQ 10 02 14.6
MNK *i* LR LR 10 07 55.8
MNK *i* LRM MLR 10 17 06.0
comp=E,218nm,17.9s
MNK *i* LRM MLR 10 17 06.0
comp=N,244nm,17.9s
MNK *i* LRM MLR 10 17 06.0
comp=Z,2µm,17.9s
BR131 Keskin Array S 120.07 59*c i*PKiKP **PKPdf** **09 25 55.5 -0.8**
BRTR Keskin Array B 120.07 59 PKP **PKPdf** **09 25 55.5 -0.8**
comp=Z,7.4nm,0.9s,baz=191,slow=3.1,SNR=27
BRTR pPKP **pPKPdf** **09 26 05.3 -0.8**
comp=Z,4.9nm,0.8s,baz=191,slow=5.8,SNR=9.1
BRTR PP **PP** **09 27 17.8 -4.0**
comp=Z,8.1nm,1.1s,baz=235,slow=4.4,SNR=5.1
VSU Vasula 120.19 37 *e*P **PKPdf** **09 25 55.5 -0.1**
VSU Vasula 120.19 37*c i*PKiKP **PKPdf** **09 25 54.5 -1.2**
VSU MLR MLR
comp=Z,4µm,22.0s
ASAR Alice Springs 120.29 207 PKP **PKPdf** **09 25 55.9 -1.3**
comp=Z,9.2nm,1.0s,baz=150,slow=2.2,SNR=32
ASAR pPKP **pPKPdf** **09 26 06.2 -0.6**
comp=Z,9.0nm,0.8s,baz=145,slow=2.1,SNR=18
ASAR PKKPbc **PKKPbc** **09 36 02.7 -1.1**
comp=Z,1.2nm,0.8s,baz=328,slow=2.7,SNR=7.3
KEV Kevo 121.80 24 IAMs_20 IAMs_20 10 13 55.7
comp=Z,829nm,20.0s
ADK Adak 122.84 315 IAMs_20 IAMs_20 10 09 11.6
comp=Z,1µm,21.0s
WRA Warramunga Arr 123.44 210 PKP **PKPdf** **09 26 02.5 -0.8**
comp=Z,18nm,0.9s,baz=132,slow=1.4,SNR=77
WRA pPKP **pPKPdf** **09 26 12.5 -0.4**
comp=Z,20nm,0.8s,baz=132,slow=1.4,SNR=28
WRA PKKPbc **PKKPbc** **09 35 50.1 -1.5**
comp=Z,1.2nm,0.9s,baz=333,slow=3.6,SNR=6.5
WRAB Tennant Creek 123.45 210*c i*PKiKP **PKPdf** **09 26 02.1 -1.2**
WRAB pmax pmax
comp=Z,40nm,1.3s
WRAB MLR MLR
comp=Z,1µm,16.0s
ANN Anapa 124.06 54 *i* PKiKP **PKPdf** **09 26 03.0 -0.6**
ANN *e*SP SP 09 37 48.2 +5.3
ANN pmax pmax
comp=Z,80nm,1.3s
ANN MLR MLR
comp=Z,1µm,24.0s
ANN MLR MLR
comp=N,1µm,23.0s
COEN Coen 124.10 222 PKPdf **PKPdf** **09 26 04.7 0.0**
LVZ Lovozero 124.54 26 IAMs_20 IAMs_20 10 18 01.4
comp=Z,1µm,21.0s
MARD Mardin 124.79 64 PKPdf **PKiKP** **09 26 05.6 -0.1**
MARD IAMs_20 IAMs_20 10 23 45.8
comp=Z,956nm,21.0s
OBN Obninsk 125.07 42 PKP **PKPdf** **09 26 04.6 -0.5**
comp=Z,4.5nm,0.3s,baz=198,slow=3.6,SNR=12
OBN Obninsk 125.07 42*ce*PKiKP **PKPdf** **09 26 04.2 -0.9**
OBN *e* 09 27 52.9
OBN *e*PPP PPP 09 30 32.7
OBN *e*SSS SSS 09 49 23.3
OBN MLR MLR
comp=Z,2µm,21.0s
OBN Obninsk 125.07 42 **PKPdf** **09 26 04.9 -0.2**
KOPT Kop Dagi 125.24 61 **PKiKP** **09 26 07.3 +0.5**
SOC Sochi 125.43 56 *e*PKiKP **PKPdf** **09 26 05.3 -1.0**
SOC *e* 09 27 55.6
SOC *e*PPP PPP 09 30 34.5
SOC *e*PS **PS** **09 37 54.1 -4.9**
SOC *e*SS SS 09 44 57.9 +3.3
SOC *e*SSS SSS 09 49 38.1
SOC pmax pmax
comp=Z,34nm,1.0s
SOC MLR MLR
comp=Z,470nm,20.0s
RABL Rabaul 125.49 238 IAMs_20 IAMs_20 10 09 26.8
comp=Z,1µm,21.0s
MOS Moscow 125.72 41 *i* PKiKP **PKPdf** **09 26 05.0 -1.4**
MOS pmax pmax
comp=Z,69nm,1.2s
MOS MLR MLR
comp=Z,2.0nm,20.0s
GURO Guroymak-BITLI 126.05 63 **PKiKP** **09 26 08.2 -0.1**
H11S2 WAKE ISLAND Hyl 126.16 271 T T 11 45 01.5
baz=116,slow=75,SNR=2430
H11S1 WAKE ISLAND Hyl 126.18 271 T T 11 44 57.2
baz=116,slow=75,SNR=1714
H11S3 WAKE ISLAND Hyl 126.18 271 T T 11 44 59.9
baz=116,slow=75,SNR=1811
VORD Divnogorie 126.28 47 *e*PKiKP **PKPdf** **09 26 06.4 -1.2**
VORD pmax pmax
comp=Z,30nm,1.2s
H11N3 WAKE ISLAND Hyl 126.50 272 T T 11 45 18.8
baz=117,slow=75,SNR=517
H11N1 WAKE ISLAND Hyl 126.52 272 T T 11 45 22.4
baz=117,slow=75,SNR=122
H11N2 WAKE ISLAND Hyl 126.52 272 T T 11 45 24.3
baz=117,slow=75,SNR=1123
KLMR Klimovskoe 126.85 35 *e*PKiKP **PKPdf** **09 26 07.1 -1.3**
KLMR pmax pmax
comp=Z,102nm,1.3s
KLMR MLR MLR
comp=Z,1µm,19.0s
KLMR Klimovskoe 126.85 35 *e*PKPdf **PKPdf** **09 26 07.1 -1.3**
KLMR AMP 09 26 09.4
comp=Z,102nm,1.3s
KLMR LR LR 10 12 37.5
KLMR AMP 10 22 12.1
comp=Z,1µm,18.9s
NEY Neytrino 127.52 57⇓*i*PKiKP **PKiKP** **09 26 11.1 0.0**
NEY MLR MLR
comp=Z,761nm,21.0s
KIV Kislovodsk 127.61 56 PKPdf **PKPdf** **09 26 10.3 -0.3**
KIV Kislovodsk 127.61 56 *i* PKiKP **PKPdf** **09 26 10.0 -0.6**
KIV *e* 09 28 10.6
KIV *e*PS PS 09 38 16.3 -2.1
KIV *e*SS SS 09 45 20.3 -1.8
KIV pmax pmax
comp=Z,24nm,1.0s
KIV Kislovodsk 127.61 56 IAMs_20 IAMs_20 10 25 05.1
comp=Z,783nm,21.0s
KBZ Khabaz 127.73 57 PKP **PKPdf** **09 26 10.7 +0.1**
comp=Z,14nm,1.0s,baz=252,slow=3.4,SNR=15
KBZ Khabaz 127.73 57*c i*PKiKP **PKPdf** **09 26 10.4 -0.2**
VRH Novokhopyorsk 127.83 47 *e*PKiKP **PKPdf** **09 26 09.8 -0.8**
VRH pmax pmax
comp=Z,20nm,0.7s
ONI Oni 127.94 58 IAMs_20 IAMs_20 10 26 02.8
comp=Z,864nm,21.0s
NCK Nalchik 128.19 57⇓*i*PKiKP **PKiKP** **09 26 12.1 -0.1**
ZEI Tsey 128.30 58 *i* PKiKP **PKPdf** **09 26 11.4 -0.7**
ZEI pmax pmax
comp=Z,10.0nm,1.4s
GNI Garni 128.45 61 PKPdf **PKPdf** **09 26 11.7 -0.7**
GNI Garni 128.45 61*c i*PKiKP **PKPdf** **09 26 12.6 +0.2**
GNI Garni 128.45 61 IAMs_20 IAMs_20 10 26 42.6
comp=Z,892nm,19.0s
PRGR Permogore 129.74 34 *e*PKiKP **PKPdf** **09 26 13.3 -0.6**
PRGR pmax pmax
comp=Z,16nm,1.3s
BILL Bilibino 130.42 335*d i*PKiKP **PKiKP** **09 26 15.9 0.0**
BILL *e* 09 28 30.0
BILL *e*PPP PPP 09 31 16.2
BILL *e* 09 33 24.5
BILL *e*SSS SSS 09 50 46.5
BILL MLR MLR
comp=Z,523nm,18.0s
AKT Akhty 130.91 60 *e*PKiKP **PKiKP** **09 26 17.5 -0.3**
AKT *e* 09 28 30.2
AKT pmax pmax
comp=Z,35nm,0.9s
MAK Makhachkala 130.94 58 *i* P **Pdif** **09 23 07.0 -1.0**
MAK *i* 09 26 15.4
MAK *e*PPP PPP 09 31 19.7
MAK pmax pmax
comp=Z,382nm,1.7s
MTN Manton Dam 131.13 210 PKPdf **PKPdf** **09 26 18.0 -0.1**
BELG Belogornoye 131.52 46 PKP **PKPdf** **09 26 16.8 -0.7**
comp=Z,43nm,1.0s,baz=92,slow=2.2,SNR=12
BELG pPKP **pPKPdf** **09 26 27.9 +0.6**
comp=Z,26nm,0.8s,baz=154,slow=7.5,SNR=3.1
BELG Belogornoye 131.52 46*c i*PKiKP **PKPdf** **09 26 17.0 -0.5**
BELG MLR MLR
comp=Z,225nm,20.0s
KIRV Kirov 132.03 37 PKP **PKPdf** **09 26 18.3 0.0**
comp=Z,12nm,0.7s,baz=293,slow=1.3,SNR=15
KIRV Kirov 132.03 37*c i*PKiKP **PKPdf** **09 26 18.1 -0.2**
ASUD Al Ashush, Dub 132.98 84 *i* PKPdf **PKPdf** **09 26 21.4 +0.2**
SNR=5.9
ALNE Al Ain 133.14 85 *i* PKPdf **PKPdf** **09 26 21.7 +0.1**
SNR=5.0
FAQ Al Faqa, Dubai 133.25 84 *i* PKPdf **PKPdf** **09 26 21.2 -0.5**
SNR=6.2
NAZ Nazwa, Dubai 133.39 84 PKPdf **PKPdf** **09 26 21.6 -0.4**
ASHO Ashiyiah 133.62 84 PKPdf **PKPdf** **09 26 21.6 -0.9**
HATD Hatta, Dubai 133.74 84 PKPdf **PKPdf** **09 26 21.6 -1.0**
UOSS Minazif 133.84 84 PKPdf **PKPdf** **09 26 20.0 -2.8**
SOHO SOHO 133.84 85 *i* PKPdf **PKPdf** **09 26 21.9 -0.9**
SNR=7.8
MSFE Esma-Masafi 133.94 84 PKPdf **PKPdf** **09 26 22.3 -0.8**
MDH Madha 134.04 84 PKPdf **PKPdf** **09 26 22.8 -0.4**
SHME Shamm 134.15 83 *i* PKPdf **PKPdf** **09 26 22.6 -0.8**
SNR=6.3
BANOM Banah 134.25 83 PKPdf **PKPdf** **09 26 20.7 -2.9**
JAY Jayapura 134.58 228 PKP **PKiKP** **09 26 25.6 -0.4**
GENI Genyem 134.86 228 PKP **PKiKP** **09 26 26.1 -0.5**
SOEI Soe 136.59 203 PKP **PKiKP** **09 26 29.4 -0.8**
ARU Arti 137.30 39 PKP **PKPdf** **09 26 28.6 +0.3**
comp=Z,7.0nm,0.8s,baz=287,slow=2.4,SNR=26
ARU Arti 137.30 39 *i* PKiKP **PKPdf** **09 26 28.5 +0.2**
ARU 09 29 10.4
ARU PPP PPP 09 32 10.3
ARU 09 39 42.6
ARU SS SS 09 47 12.8 -5.8
ARU MLR MLR
comp=Z,2µm,22.0s
ARU Arti 137.30 39 PKPdf **PKPdf** **09 26 28.6 +0.3**
SEY Seymchan 137.73 332 PKP **PKPdf** **09 26 29.6 +0.8**
comp=Z,20nm,1.0s,baz=18,slow=20
PET Petropavlovsk 137.86 316 IAMs_20 IAMs_20 10 15 07.6
comp=Z,688nm,21.0s
TIXI Tiksi 137.95 350 PKP **PKPdf** **09 26 29.2 +0.2**
comp=Z,14nm,1.1s,baz=23,slow=3.5,SNR=5.1
TIXI Tiksi 137.95 350⇑*e*PKiKP **PKPdf** **09 26 28.1 -0.9**
TIXI Tiksi 137.95 350 IAMs_20 IAMs_20 10 27 58.1
comp=Z,520nm,22.0s
WBSI Waikabubak, Su 138.11 196 PKP **PKPdf** **09 26 30.9 -0.3**
AKTO Aktyubinsk 138.16 48 PKP **PKPdf** **09 26 29.9 -0.2**
comp=Z,19nm,1.1s,baz=286,slow=6.7,SNR=24
AKTO PP **PP** **09 29 15.8 -3.7**
comp=Z,5.3nm,1.0s,baz=266,slow=7.1,SNR=3.6
SVE Sverdlovsk 138.29 38 *i* PKiKP **PKPdf** **09 26 30.4 +0.3**
SVE pmax pmax
comp=Z,34nm,1.4s
SVE MLR MLR
comp=Z,2µm,24.0s
PEA0B Petropavlovsk- 138.40 317*ce*PKiKP **PKPdf** **09 26 30.7 +0.3**
PEA0B Petropavlovsk- 138.40 317 IAMs_20 IAMs_20 10 15 38.0
comp=Z,690nm,21.0s
PETK Petropavlovsk- 138.40 317 PKP **PKPdf** **09 26 30.6 +0.1**
comp=Z,25nm,1.1s,baz=82,slow=11,SNR=19
GEYT Alibeck 138.41 66 PKP **PKPdf** **09 26 30.2 -0.8**
comp=Z,15nm,0.3s,baz=290,slow=4.4,SNR=11
AB31 Akbulak array 139.56 49 *i* PKiKP **PKPdf** **09 26 32.2 -0.5**
ABKAR Akbulak array 139.56 49 PKPdf **PKPdf** **09 26 32.8 +0.2**
ABKAR Akbulak array 139.56 49 PKPdf **PKPdf** **09 26 33.0 +0.3**
SKR Severo-Kuril's 139.84 313 *i* PKHKP PKPpre 09 26 25.9
SKR *e* 09 29 35.5
SKR pmax pmax
comp=Z,300nm,3.9s
SKR pmax pmax
comp=Z,200nm,11.0s
SKR MLR MLR
comp=Z,200nm,21.0s
SKR MLR MLR
comp=Z,200nm,19.0s
NRIK Noril'sk 139.94 11 PKP **PKPdf** **09 26 33.4 +0.6**
comp=Z,6.3nm,0.9s,baz=333,slow=3.2,SNR=7.8
NRIK Noril'sk 139.94 11*c i*PKiKP **PKPdf** **09 26 32.8 0.0**
NRIK MLR MLR
comp=Z,859nm,23.0s
NRIK Noril'sk 139.94 11 IAMs_20 IAMs_20 10 33 27.6
comp=Z,907nm,21.0s
MA2 Magadan 139.95 328 PKP **PKPdf** **09 26 33.3 +0.3**
comp=Z,18nm,1.1s,baz=143,slow=20,SNR=4.9
MA2 Magadan 139.95 328*c i*PKiKP **PKPdf** **09 26 32.9 -0.2**
MA2 Magadan 139.95 328 IAMs_20 IAMs_20 10 38 40.9
comp=Z,562nm,20.0s
JAGI Jajag, Banyuwa 140.24 189 IAMs_20 IAMs_20 10 19 11.1
comp=Z,696nm,20.0s
JAGI Jajag, Banyuwa 140.24 189 PKP **PKPdf** **09 26 31.5 -3.5**
GMJI Gumukmas 140.52 188 PKP **PKPdf** **09 26 35.2 -0.3**
KRAI Karang Ratu 140.81 213 PKP **PKPdf** **09 26 35.3 -0.8**
SWI Sorong 141.49 219 PKP **PKPdf** **09 26 35.3 -2.0**
CISI Cisompet, Garu 141.52 179 IAMs_20 IAMs_20 10 24 46.0
comp=Z,480nm,22.0s
CISI Cisompet, Garu 141.52 179 PKP **PKPdf** **09 26 36.5 -0.9**
KPJI Karang Pucung 141.75 181 PKP **PKPdf** **09 26 36.9 -0.8**
BKSI Bulukumba 142.06 199 PKP **PKPdf** **09 26 34.1 -4.2**
CTJI Waduk Cacaban 142.06 181 PKP **PKPdf** **09 26 33.9 -4.4**
LEM Lembang 142.24 179 PKP **PKPdf** **09 26 34.6 -4.2**
KAPI Kappang 142.46 199 IAMs_20 IAMs_20 10 22 53.3
comp=Z,865nm,22.0s
KKSI Kolaka, Sulawe 142.69 202 PKP **PKPdf** **09 26 36.2 -3.2**
BNSI Bone 142.94 200 PKP **PKPdf** **09 26 37.4 -2.5**
SANI Sanana 143.01 210 PKP PKPbc 09 26 36.3 -0.4
BLSI Bandar Lampung 143.57 175 PKP PKPab 09 26 37.3 -0.1
LWLI Liwa 143.81 173 PKP PKPab 09 26 37.7 -0.7
KLI Kotabumi 144.04 174 PKP **PKPab** **09 26 39.2 0.0**
TTSI Tana Toraja 144.32 200 PKP **PKPab** **09 26 39.0 -1.2**
MDSI Maura Dua 144.34 173 PKP **PKPab** **09 26 38.7 -1.6**
BHUJ Bhuj 144.77 93 *e*P PKPbc 09 26 41.9 +0.2
GOA Goa 144.79 108 *e*P **PKPab** **09 26 41.4 -0.5**
BRVK Borovoye 144.81 40*c i*PKiKP **PKPab** **09 26 40.7 -0.2**
BRVK MLR MLR
comp=Z,2µm,20.0s
PALK Pallekele 144.85 127 PKiKP **PKPdf** **09 26 42.9 -0.4**
PALK MLR MLR
comp=Z,2µm,20.0s
PALK Pallekele 144.85 127 PKPdf **PKPdf** **09 26 42.9 -0.4**
TNTI Ternate 144.87 214 PKP **PKPab** **09 26 39.1 -3.2**
BVAR Borovoye Array 144.88 40 PKP PKPbc 09 26 41.3 +0.1
comp=Z,15nm,0.5s,baz=256,slow=5.6,SNR=103
BVAR pPKP pPKPdf 09 26 52.0 +0.2
comp=Z,24nm,0.7s,baz=258,slow=5.9,SNR=14
MMSI Mamuju 144.91 198 PKP **PKPab** **09 26 42.2 -0.2**
LHSI Lahat 144.92 171 PKP **PKPab** **09 26 41.8 -0.6**
KSI Kapahiang 144.96 170 PKP **PKPab** **09 26 42.5 -0.1**
KBKI Kotabaru 144.97 194 PKP **PKPab** **09 26 41.7 -0.9**
BBKI Banjar Baru 145.05 191 PKP **PKPbc** **09 26 39.5 -3.4**
LUWI Luwuk 145.22 206 **PKPdf** **09 26 44.3 +0.4**
LUWI IAMs_20 IAMs_20 10 31 09.8
comp=Z,621nm,21.0s
LUWI Luwuk 145.22 206 PKP **PKPbc** **09 26 43.1 -0.3**
MASI Maura Aman, Be 145.40 169 PKP **PKPbc** **09 26 41.9 -2.2**
GAMI Galela, Maluku 145.59 216 PKP **PKPdf** **09 26 42.9 -1.6**
PMBI Palembang 145.95 173 PKP **PKPdf** **09 26 43.9 -1.2**
YAK Yakutsk 146.16 342 PKPbc **PKPbc** **09 26 44.6 -0.3**
comp=Z,98nm,0.8s,baz=7.7,slow=0.9,SNR=27
YAK pPKPbc pPKPbc 09 26 54.9 +0.5
comp=Z,89nm,0.8s,baz=294,slow=0.8,SNR=6.5
YAK Yakutsk 146.16 342 *e*PKP2 **PKPdf** **09 26 44.2 +0.3**
YAK *e* 09 30 14.9
YAK pmax pmax
comp=N,12nm,0.9s
YAK pmax pmax
comp=Z,175nm,0.9s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK pmax pmax
comp=Z,416nm,2.5s
YAK pmax pmax
comp=E,71nm,2.0s
YAK pmax pmax
comp=N,140nm,1.8s
YAK Yakutsk 146.16 342 PKPdf **PKPdf** **09 26 44.0 +0.2**
YAK IAMs_20 IAMs_20 10 43 34.0
comp=Z,564nm,20.0s
PBKI Pangkalan Bun 146.20 186 PKP **PKPbc** **09 26 46.1 -0.4**
KMSI Cibinong 146.22 209 PKP **PKPbc** **09 26 46.2 -0.4**
POO Poona 146.34 104 *e*P **PKPdf** **09 26 45.2 -0.4**
PKKI Palangkaraya 146.39 190 PKP **PKPdf** **09 26 46.1 +0.2**
MNI Manado 146.63 211 PKP **PKPdf** **09 26 45.9 -0.4**
GTOI Gorontalo 146.66 207 PKP **PKPdf** **09 26 45.8 -0.5**
BKPI Balikpapan 146.79 196 PKPab **PKiKP** **09 26 50.3 -0.7**
BKB IAMs_20 IAMs_20 10 25 37.8
comp=Z,919nm,22.0s
BKB Balikpapan 146.79 196 PKP **PKPbc** **09 26 47.4 -0.8**
PPBI Pangkal Pinang 146.81 176 PKP **PKPdf** **09 26 45.6 -1.0**
MRSI Marisa 146.93 205 PKP **PKPdf** **09 26 45.6 -1.1**
TAS Tashkent 147.08 61 IAMs_20 IAMs_20 10 37 22.7
comp=Z,918nm,22.0s
JMBI JAMBI 147.09 171 PKP **PKPdf** **09 26 46.4 -0.6**
PDSI Padang 147.24 165 PKP **PKPdf** **09 26 46.6 -0.7**
MPSI Mapaga 147.49 202 PKP **PKPdf** **09 26 46.7 -1.0**
MTKI Muara Teweh, K 147.51 192 PKP **PKPdf** **09 26 48.4 +0.7**
KK31 Karatay Array 147.75 58 *i* PKiKP **PKPdf** **09 26 46.9 -0.4**
KK31 Karatay Array 147.75 58 PKPbc **PKPbc** **09 26 50.3 +0.2**
KKAR Karatay Array 147.75 58 PKP2 **PKPbc** **09 26 50.5 +0.3**

KKAR	**Karatay Array**	**147.75**	**58**	PKPbc	**PKPbc**	**09 26 50.5**	**+0.3**
OTUK	**Ortayu**	**147.76**	**48**	PKHKP	PKPpre	09 26 44.1	
TOLI2	**Tolitoli**	**147.93**	**204**	PKPdf	**PKPdf**	**09 26 48.1**	**-0.4**
TOLI2				PKPbc	**PKPbc**	**09 26 51.2**	**-0.2**
TOLI2				IAMs_20	IAMs_20	10 33 42.5	
	comp=Z,587nm,22.0s						
YUK	**Yuzh-Kuril'sk**	**147.94**	**304**	*e*PKIKP	**PKPdf**	**09 26 46.8**	**-0.6**
YUK				*e*		09 30 19.8	
YUK				*e*SS	SS	09 49 20.3	-2.3
YUK				MLR	MLR		
	comp=Z,1μm,19.0s						
NKL	**Nikolayevsk**	**147.94**	**323**	*i* PKP2	**PKPbc**	**09 26 49.2**	**-1.0**
NKL				*e*		09 30 18.4	
NKL				*e*SS	SS	09 49 27.5	+5.9
NKL				*e*SSS	SSS	09 54 56.8	
NKL				MLR	MLR		
	comp=E,19nm,11.0s						
NKL				MLR	MLR		
	comp=N,4μm,13.0s						
NKL				MLR	MLR		
	comp=Z,475nm,18.0s						
MDRS	**Chennai**	**148.44**	**118**	*e*P	**PKPdf**	**09 26 50.1**	**+1.0**
GSI	**Gunungsitoli**	**148.60**	**159**		**PKPdf**	**09 26 50.1**	**+0.6**
GSI				PKPbc	**PKiKP**	**09 26 54.0**	**-0.7**
GSI	**Gunungsitoli**	**148.60**	**159**	PKP	**PKPdf**	**09 26 47.1**	**-2.4**
MNSI	**Mandailing Nat**	**148.68**	**163**	PKP	**PKPdf**	**09 26 47.6**	**-2.0**
STKI	**Sintang**	**148.96**	**186**	PKP	**PKPdf**	**09 26 50.5**	**+0.4**
UGL	**Uglegorsk**	**148.99**	**315**	*e*PKHKP	PKPpre	09 26 48.1	
UGL				pmax	pmax		
	comp=Z,1μm,4.0s						
UGL				pmax	pmax		
	comp=Z,80nm,2.0s						
DRK	**Karamyk**	**149.14**	**64**	PKPdf	**PKPdf**	**09 26 50.9**	**+0.9**
DRK					**PKPbc**	**09 26 54.8**	**+0.6**
SBSI	**Sibolga**	**149.22**	**161**	PKP	**PKPdf**	**09 26 49.0**	**-1.5**
YSS	**Yuzh-Sakhalins**	**149.31**	**311**	*e*PKIKP	**PKPdf**	**09 26 50.1**	**+0.5**
YSS				pmax	pmax		
	comp=Z,40nm,1.3s						
YSS	**Yuzh-Sakhalins**	**149.31**	**311**	IAMs_20	IAMs_20	10 45 53.9	
	comp=Z,784nm,20.0s						
HYB	**Hyderabad**	**149.65**	**110**	*e*P	**PKPdf**	**09 26 50.8**	**-0.2**
HYB	**Hyderabad**	**149.65**	**110**	*i* PKP	**PKPdf**	**09 26 51.0**	**-0.1**
HYB				*e*		09 26 55.0	
HYB				*e*pPKP	**pPKPdf**	**09 27 01.0**	**+0.1**
HYB				*e*PP	**PP**	**09 30 28.0**	**-0.9**
TRSI	**Tarutung**	**149.69**	**161**	PKP	**PKPdf**	**09 26 50.2**	**-1.2**
BTDF	**Bukit Timah Da**	**150.06**	**171**	PKP	**PKPdf**	**09 26 50.0**	**-1.9**
EKS2	**Erkin-Say**	**150.19**	**58**	P	**PKPdf**	**09 26 52.1**	**+0.8**
	SNR=12						
JKA	**Kamikawa-asahi**	**150.22**	**305**		**PKPbc**	**09 26 56.6**	**+0.3**
ASAJ	**Asahikawa**	**150.22**	**305**	PKP	**PKPdf**	**09 26 51.9**	**+0.7**
	comp=Z,44nm,1.0s,baz=292,slow=5.4,SNR=4.9						
ASAJ				PKPbc	**PKPbc**	**09 26 56.0**	**-0.3**
	comp=Z,51nm,1.1s,baz=263,slow=6.2,SNR=7.6						
AML	**Almayashu**	**150.23**	**59**	P	**PKPdf**	**09 26 52.3**	**+0.6**
	SNR=7.8						
AML	**Almayashu**	**150.23**	**59**	*i* PKPdf	**PKPdf**	**09 26 52.4**	**+0.6**
	SNR=48						
ERM	**Erimo**	**150.26**	**301**	*d* iPKIKP	**PKPbc**	**09 26 54.6**	**-1.8**
NIL	**Nilore**	**150.28**	**76**	PKIKP	**PKPdf**	**09 26 51.4**	**-0.2**
NIL						09 26 56.9	
NIL	**Nilore**	**150.28**	**76**		**PKPdf**	**09 26 51.4**	**-0.2**
NIL				PKPbc	**PKPbc**	**09 26 56.9**	**+0.1**
TPTI		**150.31**	**157**	PKP	**PKPdf**	**09 26 50.3**	**-1.9**
RPSI	**Rantau Prapat**	**150.32**	**161**		**PKPdf**	**09 26 51.5**	**-0.8**
RPSI				PKPbc	**PKPbc**	**09 26 57.2**	**-0.2**
RPSI				PKPab	**sPKPdf**	**09 27 04.6**	**-0.8**
PSI	**Prapat**	**150.42**	**160**	PKIKP	**PKPdf**	**09 26 51.5**	**-1.1**
PSI						09 26 57.2	
PSI						09 27 04.6	
PSI	**Prapat**	**150.42**	**160**	PKP	**PKPdf**	**09 26 51.3**	**-1.3**
KSM	**Kuching**	**150.44**	**184**	P	**PKPbc**	**09 26 58.0**	**+0.3**
KURBB	**Kurchatov Arra**	**150.48**	**40**	PKP	**PKPdf**	**09 26 51.4**	**+0.1**
	comp=Z,17nm,1.1s,baz=300,slow=2.5,SNR=53						
KURBB				PKPbc	**PKPbc**	**09 26 56.5**	**-0.2**
	comp=Z,56nm,1.1s,baz=293,slow=2.7,SNR=37						
KURBB				PP	**PP**	**09 30 34.7**	**+1.9**
	comp=Z,22nm,1.3s,baz=291,slow=6.4,SNR=5.9						
KURBB	**Kurchatov Arra**	**150.48**	**40**	PKIKP	**PKPdf**	**09 26 47.5**	**-3.8**
KURK	**Kurchatov**	**150.48**	**40**	PKIKP	**PKPdf**	**09 26 51.4**	**+0.1**
KURK						09 26 56.5	
USP	**Ospenovka**	**150.59**	**56**	P	**PKPdf**	**09 26 52.4**	**+0.6**
	SNR=8.2						
AAK	**Ala-Archa**	**150.72**	**57**	PKP	**PKPdf**	**09 26 52.6**	**+0.4**
	comp=Z,9.5nm,0.9s,baz=184,slow=1.6,SNR=17						
AAK				PKPbc	**PKiKP**	**09 26 58.5**	**+0.2**
	comp=Z,104nm,0.9s,baz=215,slow=2.8,SNR=103						
AAK	**Ala-Archa**	**150.72**	**57**	*i* PKPdf	**PKPdf**	**09 26 52.9**	**+0.7**
	SNR=51						
AAK	**Ala-Archa**	**150.72**	**57**	PKPdf	**PKPdf**	**09 26 53.0**	**+0.8**
AAK				PKPbc	**PKiKP**	**09 26 58.6**	**+0.2**
FRU1	**Bishkek**	**150.78**	**57**	PKIKP	**PKPdf**	**09 26 52.8**	**+0.6**
FRU1						09 26 58.7	
FRU1	**Bishkek**	**150.78**	**57**	PKPdf	**PKPdf**	**09 26 52.8**	**+0.6**
FRU1					**PKiKP**	**09 26 58.7**	**+0.3**
FRU1				PKPab	**pPKPbc**	**09 27 06.6**	**-0.9**
UCH	**Uchtor**	**150.81**	**58**	P	**PKPdf**	**09 26 53.3**	**+0.5**
	SNR=23						
CHMS	**Chumysh**	**150.83**	**57**	P	**PKiKP**	**09 26 58.3**	**-0.1**
	SNR=24						
TSI	**Tuntungan**	**150.98**	**159**	PKP	**PKPdf**	**09 26 54.4**	**+1.1**
KBK	**Karagaybulak**	**151.04**	**57**	P	**PKiKP**	**09 26 59.6**	**+0.5**
	SNR=14						
SBUM	**Sibu**	**151.24**	**188**	P	**PKiKP**	**09 27 00.0**	**-0.1**
KZA	**Kyzart**	**151.38**	**58**	P	**PKPdf**	**09 26 54.4**	**+0.9**
	SNR=6.9						
GRNR	**Gornyy**	**151.44**	**321**	⇑*i* PKIKP	**PKPbc**	**09 26 59.1**	**+0.1**
GRNR				pmax	pmax		
	comp=Z,30nm,1.2s						
TKM2	**Tokmak 2**	**151.45**	**56**	P	**PKPdf**	**09 26 53.5**	**+0.1**
	SNR=20						
ZALV	**Zalesovo Beam**	**151.58**	**30**	PKP	**PKPdf**	**09 26 52.6**	**-0.3**
	comp=Z,22nm,0.9s,baz=281,slow=2.4,SNR=33						
ZALV				PKPbc	**PKPbc**	**09 26 58.8**	**-0.4**
	comp=Z,101nm,0.8s,baz=294,slow=1.5,SNR=70						
ZALV	**Zalesovo Beam**	**151.58**	**30**	PKPdf	**PKPdf**	**09 26 53.0**	**0.0**
ZALV				PKPbc	**PKiKP**	**09 26 59.5**	**0.0**
ZALV				PKPab	**pPKPbc**	**09 27 08.4**	**-0.5**
ULHL	**Ulahol**	**152.07**	**58**	P	**PKiKP**	**09 27 01.8**	**+0.5**
	SNR=7.9						
JRMM	**Jerantut**	**152.32**	**167**	P	**PKPbc**	**09 27 01.0**	**-1.1**
KSH	**Kashi**	**152.35**	**63**	PKPbc	**PKPdf**	**09 26 55.0**	**+0.3**
KSH				sPKP		09 27 08.4	
KSH				PP	**PP**	**09 30 43.3**	**-1.1**
KSH				AMB	AMB		
	comp=Z,1μm,6.6s						
KSH				LR	LR		
	comp=Z,820nm,26.3s						
KSH				LR	LR		
	comp=Z,1μm,21.8s						
KSH				LR	LR		
	comp=Z,2μm,21.3s						
IPM	**Ipoh**	**152.58**	**164**	P	**PKPbc**	**09 27 02.0**	**-0.7**
DHRM	**DHARAMSHALA**	**152.69**	**79**	*e*P	**PKPdf**	**09 26 55.0**	**-0.6**
BOD	**Bodaibo**	**153.05**	**353**	*e*PKIKP	**PKPdf**	**09 26 53.6**	**-1.4**
BOD				pmax	pmax		
	comp=Z,83nm,1.6s						
JYT	**Yasato**	**153.16**	**290**	PKPdf	**PKPdf**	**09 26 56.4**	**+0.5**
KULM	**Kulim**	**153.27**	**163**	P	**PKPbc**	**09 27 03.0**	**-1.2**
SMLA	**Simla**	**153.28**	**82**	*e*P	**PKPdf**	**09 26 55.6**	**-0.6**
TARG	**Taragay, Kyrgy**	**153.32**	**58**	PKPdf	**PKPdf**	**09 26 56.9**	**+0.4**
TARG				PKPbc	**PKiKP**	**09 27 04.4**	**+0.3**
TARG				PKPab	**sPKPbc**	**09 27 17.6**	**+0.4**
PRZ	**Przheval'sk**	**153.56**	**56**	PKIKP	**PKPdf**	**09 26 57.1**	**+0.6**
PRZ						09 27 05.3	
PRZ	**Przheval'sk**	**153.56**	**56**	PKPdf	**PKPdf**	**09 26 57.1**	**+0.6**
PRZ					**PKiKP**	**09 27 05.3**	**+1.0**
PRZ					**sPKPbc**	**09 27 18.0**	**+0.6**
ZEA	**Zeya**	**153.65**	**334**	*e*PKIKP	**PKPdf**	**09 26 54.9**	**-1.1**
ZEA				pmax	pmax		
	comp=Z,30nm,1.2s						
TEY	**Ternei**	**154.00**	**310**	*e*PKIKP	**PKPdf**	**09 26 54.7**	**-2.0**
PDGK	**Podgornoye**	**154.08**	**54**	PKIKP	**PKPdf**	**09 26 53.2**	**-3.9**
MK31	**Makanchi Array**	**154.52**	**45**	PKIKP	**PKPdf**	**09 26 56.2**	**-1.3**
MKAR	**Makanchi Array**	**154.52**	**45**	PKP	**PKPdf**	**09 26 56.8**	**-0.7**
	comp=Z,8.6nm,0.9s,baz=300,slow=2.4,SNR=46						
MKAR				PKPbc	**PKPbc**	**09 27 05.2**	**-0.7**
	comp=Z,25nm,0.9s,baz=306,slow=2.2,SNR=36						
MKAR				PKPab	**PKPab**	**09 27 20.4**	**-0.2**
	comp=Z,46nm,0.9s,baz=298,slow=2.6,SNR=18						
MJAR	**Matsushiro Arr**	**154.74**	**290**	PKP	**PKPdf**	**09 26 57.0**	**-1.1**
	comp=Z,10nm,1.1s,baz=139,slow=1.6,SNR=19						
MAJO	**Matsushiro**	**154.74**	**290**	PKIKP	**PKPdf**	**09 26 56.7**	**-1.4**
MAJO						09 27 06.1	
MAJO	**Matsushiro**	**154.74**	**290**	PKPdf	**PKPdf**	**09 26 56.7**	**-1.4**
MAJO					**PKPbc**	**09 27 06.1**	**-0.6**
MAJO	**Matsushiro**	**154.74**	**290**	IAMs_20	IAMs_20	10 23 08.7	
	comp=Z,708nm,20.0s						
MAT	**Matsushiro**	**154.74**	**290**	PKP	**PKPdf**	**09 26 56.4**	**-1.7**
KLR	**Kul'dur**	**154.79**	**322**	PKP	**PKPdf**	**09 26 56.9**	**-0.8**
	comp=Z,15nm,1.0s,baz=358,slow=3.8,SNR=22						
KLR				PKPbc	**PKPbc**	**09 27 05.7**	**-0.6**
	comp=Z,12nm,1.0s,baz=26,slow=2.0,SNR=15						
JGF	**Kuroka**	**155.48**	**288**	IAMs_20	IAMs_20	10 26 24.3	
	comp=Z,810nm,20.0s						
DGZ	**Jazzator, Alta**	**155.66**	**34**	*c i*PKIKP	**PKPdf**	**09 26 58.8**	**-0.3**
INU	**Inuyama**	**155.76**	**288**		**PKPdf**	**09 26 58.7**	**-0.8**
USA0B	**Ussuriysk Arra**	**157.34**	**312**	PKIKP	**PKPdf**	**09 27 00.8**	**-0.4**
USA0B	**Ussuriysk Arra**	**157.34**	**312**		**PKPdf**	**09 27 00.8**	**-0.4**
USA0B				IAMs_20	IAMs_20	10 31 52.5	
	comp=Z,735nm,19.0s						
USRK	**Ussuriysk Ar.**	**157.34**	**312**	PKP	**PKPdf**	**09 27 00.2**	**-1.0**
	comp=Z,4.7nm,1.0s,baz=169,slow=1.0,SNR=11						
USRK				pPKP	**pPKPdf**	**09 27 10.6**	**-0.3**
	comp=Z,4.6nm,1.0s,baz=70,slow=2.2,SNR=3.7						
MDJ	**Mudanjiang**	**158.63**	**315**	PKP	**PKPdf**	**09 27 02.4**	**-0.4**
MDJ				PP	**PP**	**09 31 21.8**	**+3.1**
MDJ				LR	LR		
	comp=Z,530nm,17.5s						
MDJ				LR	LR		
	comp=Z,470nm,22.6s						
MDJ				LR	LR		
	comp=Z,1μm,23.7s						
IRK	**Irkutsk**	**158.69**	**7**	*e*PKIKP	**PKPdf**	**09 27 01.8**	**-0.9**
IRK				*e*		09 31 17.4	
IRK				pmax	pmax		
	comp=Z,84nm,1.8s						
MOY	**Mondy**	**158.77**	**13**	*e*PKIKP	**PKPdf**	**09 27 03.3**	**+0.4**
MOY				pmax	pmax		
	comp=Z,108nm,3.2s						
CIT	**Chita**	**158.80**	**351**	*e*PKP2	**PKPab**	**09 27 37.9**	**-0.7**
WMQ	**Urumqi**	**159.31**	**46**	PKP	**PKPdf**	**09 27 03.8**	**0.0**
WMQ				pPKP	pPKPdf	09 27 13.3	-0.3
WMQ				PKPab	**PKPab**	**09 27 41.3**	**0.0**
WMQ				PP	**PP**	**09 31 26.3**	**+3.8**
WMQ				AMB	AMB		
	comp=Z,440nm,7.7s						
WMQ				LR	LR		
	comp=Z,970nm,19.5s						
WMQ				LR	LR		
	comp=Z,1μm,23.1s						
WMQ				LR	LR		
	comp=Z,1μm,23.1s						
HIA	**Hailar**	**159.98**	**338**	IAMs_20	IAMs_20	10 39 26.7	
	comp=Z,788nm,22.0s						
PHET	**Kaeng Krachan**	**160.13**	**154**	PKP	**PKPdf**	**09 27 06.2**	**+0.8**
ZAK	**Zakamensk**	**160.39**	**10**	*e*PKIKP	**PKPdf**	**09 26 57.2**	**-7.6**
ZAK				pmax	pmax		
	comp=Z,17nm,1.3s						
SRDT	**SRDT**	**161.23**	**151**	PKP	**PKPdf**	**09 27 08.4**	**+1.8**
CN2	**Changchun**	**161.54**	**318**	*e*PKP	**PKPdf**	**09 27 03.4**	**-2.7**
CN2				*e*PP	**PP**	**09 31 34.3**	**-0.1**
CN2				SKKS		09 38 21.3	
CN2				*e*SS	**SS**	**09 51 48.5**	**-1.0**
CN2				AMB	AMB		
	comp=Z,430nm,17.0s						
CN2				LR	LR		
	comp=Z,330nm,22.0s						
CN2				LR	LR		
	comp=Z,600nm,22.0s						
CN2				LR	LR		
	comp=Z,850nm,22.0s						
SRAK	**Srakaew**	**161.97**	**160**	PKP	**PKPdf**	**09 27 09.8**	**+2.4**
GTK	**Tadong**	**162.28**	**97**	*e*P	**PKPdf**	**09 27 07.0**	**-0.6**
GTK				*i* x	x	09 27 54.5	
UTHA	**Uthaitani**	**162.45**	**150**	PKP	**PKPdf**	**09 27 08.5**	**+0.7**
KSRS	**Korea Array**	**162.72**	**297**	PKP	**PKPdf**	**09 27 06.5**	**-0.9**
	comp=Z,4.6nm,1.0s,baz=199,slow=0.7,SNR=22						
KSRS				pPKP	**pPKPdf**	**09 27 15.8**	**-1.3**
	comp=Z,4.4nm,0.9s,baz=86,slow=0.5,SNR=7.0						
UMPA	**Umpang Tak**	**162.76**	**147**	PKP	**PKPdf**	**09 27 09.2**	**+1.0**
SONM	**Songino Array**	**163.25**	**5**	PKP	**PKPdf**	**09 27 07.1**	**-0.7**
	comp=Z,6.4nm,1.0s,baz=314,slow=0.2,SNR=23						
SONM				pPKP	**pPKPdf**	**09 27 17.8**	**+0.1**
	comp=Z,6.0nm,0.9s,baz=223,slow=0.7,SNR=8.2						
SONM				PKPab	**PKPab**	**09 27 57.5**	**-0.8**
	comp=Z,9.4nm,1.1s,baz=334,slow=4.7,SNR=7.8						
SONM				pPKPab	**pPKPab**	**09 28 08.3**	**+0.5**
	comp=Z,3.7nm,0.8s,baz=338,slow=2.3,SNR=2.5						
SONM				PP	**PP**	**09 31 44.4**	**+1.6**
	comp=Z,8.2nm,1.1s,baz=341,slow=4.9,SNR=8.4						
SONM	**Songino Array**	**163.25**	**5**	PKPab	**PKPab**	**09 27 58.5**	**+0.2**
CHAI	**Chaiyaphum**	**163.73**	**157**	PKP	PKPdf	09 27 19.5	+10
SNY	**Shenyang**	**163.83**	**315**	⇑PKP	**PKPdf**	**09 27 07.3**	**-1.1**
SNY				PP	**PP**	**09 31 46.8**	**+0.3**
SNY				AMB	AMB		
	comp=Z,460nm,5.7s						
SNY				LR	LR		
	comp=Z,950nm,20.0s						
MHMT	**Maesarieng**	**163.97**	**141**	PKP	**PKPdf**	**09 27 10.0**	**+0.8**
UBPT	**Khong Chiam**	**163.98**	**170**	PKP	**PKPdf**	**09 27 10.0**	**+0.7**
UBPT	**Khong Chiam**	**163.98**	**170**		**PKPdf**	**09 27 09.1**	**-0.3**
PHIT	**Phitsanulok**	**164.32**	**150**	PKP	**PKPdf**	**09 27 10.4**	**+0.8**
KHON	**Khomkaen**	**164.40**	**160**	PKP	**PKPdf**	**09 27 11.4**	**+1.7**
SHL	**Shillong**	**164.42**	**107**	PKIKP	**PKPdf**	**09 27 09.2**	**-0.5**
SHL						09 28 04.1	
SHL	**Shillong**	**164.42**	**107**		**PKPdf**	**09 27 09.2**	**-0.5**
SHL				PKPab	**PKPab**	**09 28 04.1**	**-0.2**
SHL	**Shillong**	**164.42**	**107**	*e*P	**PKPdf**	**09 27 08.7**	**-1.1**
SHL				*i* x	x	09 28 04.3	
CMAR	**Chiang Mai Arr**	**164.73**	**144**	PKP	**PKPdf**	**09 27 09.0**	**-0.9**
	comp=Z,4.9nm,0.5s,baz=242,slow=2.1,SNR=37						
CMAR				pPKP	**pPKPdf**	**09 27 20.4**	**+0.6**
	comp=Z,6.4nm,0.9s,baz=304,slow=2.6,SNR=3.6						
CMAR				PKPab	**PKPab**	**09 28 04.5**	**-0.9**
	comp=Z,18nm,1.1s,baz=219,slow=4.9,SNR=16						
CMAR	**Chiang Mai Arr**	**164.73**	**144**		**PKPdf**	**09 27 09.0**	**-0.9**
CMAR				PKPab	**PKPab**	**09 28 05.4**	**-0.1**
SILR	**SILCHAR**	**164.82**	**111**	*e*P	**PKPdf**	**09 27 10.8**	**+1.0**
UTTA	**Uttaradit**	**164.87**	**150**	PKP	**PKPdf**	**09 27 10.4**	**+0.4**
LSA	**Lhasa**	**165.02**	**91**	PKPdf	**PKPdf**	**09 27 10.7**	**+0.2**
LSA	**Lhasa**	**165.02**	**91**	PKIKP	**PKPdf**	**09 27 10.7**	**+0.2**
LSA	**Lhasa**	**165.02**	**91**		**PKPdf**	**09 27 10.7**	**+0.2**
LSA					**PKPab**	**09 28 07.8**	**+0.5**
CHTO	**Chiang Mai**	**165.03**	**143**	PKIKP	**PKPdf**	**09 27 09.8**	**-0.4**
CHTO						09 28 06.3	
CHTO	**Chiang Mai**	**165.03**	**143**	PKP	**PKPdf**	**09 27 10.3**	**+0.1**
CHTO	**Chiang Mai**	**165.03**	**143**		**PKPdf**	**09 27 09.8**	**-0.4**
CHTO				PKPab	**PKPab**	**09 28 06.3**	**-0.4**
CMMT	**Chiang Mai**	**165.03**	**143**	PKP	**PKPdf**	**09 27 10.2**	**0.0**
PAYA	**Payao**	**165.96**	**145**	PKP	**PKPdf**	**09 27 12.0**	**+1.0**
NONG	**Nongkai**	**166.13**	**159**	PKP	**PKPdf**	**09 27 11.1**	**0.0**
KOHI	**KOHIMA**	**166.29**	**110**	*e*P	**PKPdf**	**09 27 11.4**	**+0.2**
KOHI				*i* x	x	09 28 12.4	
ITAN	**ITANAGAR**	**166.54**	**104**	*e*P	**PKPdf**	**09 27 10.8**	**-0.4**
ITAN				*i* x	x	09 28 13.0	
DL2	**Dalian**	**166.70**	**309**	PKP	**PKPdf**	**09 27 10.0**	**-0.9**
DL2				PP	**PP**	**09 32 00.8**	**-0.9**
DL2				SS	SS	09 52 42.0	-1.0
DL2				AMB	AMB		
	comp=Z,290nm,6.4s						
DL2				LR	LR		
	comp=Z,730nm,19.4s						
DL2				LR	LR		
	comp=Z,370nm,17.1s						
DL2				LR	LR		
	comp=Z,770nm,18.4s						
JORH	**JORHAT**	**166.84**	**106**	*i* x	**PKPab**	**09 28 15.7**	**+1.0**
MOKO	**MOKOCHONG**	**166.88**	**108**	*ex*	**PKPdf**	**09 27 09.2**	**-2.5**
DIBR	**DIBRUGARH**	**167.65**	**104**	*e*P	**PKPdf**	**09 27 13.6**	**+1.6**
QIZ	**Qiongzhong**	**167.88**	**186**	PKP	**PKPdf**	**09 27 12.5**	**+0.1**
QIZ				PP	**PP**	**09 32 08.9**	**+2.3**
QIZ				SS	SS	09 52 57.0	+4.2
QIZ				AMB	AMB		
	comp=Z,460nm,9.2s						
QIZ				LR	LR		
	comp=Z,500nm,17.7s						
QIZ				LR	LR		
	comp=Z,430nm,20.0s						
QIZ				LR	LR		
	comp=Z,770nm,22.6s						
QIZ	**Qiongzhong**	**167.88**	**186**		**PKPdf**	**09 27 12.4**	**0.0**
LKP	**Lekhapani**	**168.38**	**106**	*e*P	**PKPdf**	**09 27 11.9**	**-0.6**
SSE	**Sheshan**	**169.06**	**273**	PKP	**PKPdf**	**09 27 12.3**	**-0.5**
SSE				SS	SS	09 53 05.3	-2.9
SSE				AMB	AMB		
	comp=Z,180nm,5.0s						
SSE				LR	LR		
	comp=Z,150nm,18.7s						
SSE				LR	LR		
	comp=Z,130nm,22.1s						
QZH	**Quanzhou**	**169.11**	**238**	*i* PKP	**PKPdf**	**09 27 13.8**	**+0.8**
QZH				pPKP	**pPKPdf**	**09 27 23.3**	**+0.4**
QZH				PKPab	**PKPab**	**09 28 26.9**	**+2.1**
QZH				SKKS		09 39 00.8	
QZH				SS	**SS**	**09 53 05.4**	**-2.2**
QZH				LR	LR		
	comp=Z,490nm,18.0s						
QZH				LR	LR		
	comp=Z,480nm,18.0s						
QZH				LR	LR		
	comp=Z,750nm,24.6s						
BJI	**Beijing**	**169.11**	**327**	PKP	**PKPdf**	**09 27 12.4**	**-0.1**
BJI				pPKP	**pPKPdf**	**09 27 21.9**	**-0.5**
BJI				sPKP		09 27 26.0	
BJI				PP	**PP**	**09 32 12.6**	**-0.8**
BJI				SKKS		09 38 57.3	
BJI				SS	**SS**	**09 53 06.3**	**+0.2**
BJI				AMB	AMB		
	comp=Z,630nm,15.2s						
BJI				LR	LR		
	comp=Z,890nm,20.6s						
BJI				LR	LR		
	comp=Z,860nm,20.3s						
BJI				LR	LR		
	comp=Z,1μm,20.3s						
GTA	**Gaotai**	**169.16**	**38**	⇑PKP	**PKPdf**	**09 27 13.3**	**+0.5**
GTA				pPKP	pPKPdf	09 27 23.8	+1.1
GTA				sPKP		09 27 28.1	
GTA				PKPab	**PKPab**	**09 28 25.6**	**+0.9**
GTA				PP	**PP**	**09 32 12.1**	**-1.9**
GTA				SKKS		09 38 59.3	
GTA				SS	**SS**	**09 53 10.3**	**+3.1**
GTA				AMB	AMB		
	comp=Z,450nm,5.8s						
GTA				LR	LR		
	comp=Z,720nm,22.9s						
GTA				LR	LR		
	comp=Z,820nm,20.7s						
GTA				LR	LR		
	comp=Z,1μm,23.6s						
HHC	**Hu-ho-hao-te**	**169.98**	**346**	*e*PKP	**PKPdf**	**09 27 13.3**	**+0.1**
HHC				SS	SS	09 53 17.8	+3.6
HHC				AMB	AMB		
	comp=Z,410nm,7.2s						
HHC				LR	LR		
	comp=Z,1μm,18.7s						
HHC				LR	LR		
	comp=Z,770nm,17.0s						
HHC				LR	LR		
	comp=Z,2μm,18.8s						
NJ2	**Nanjing**	**171.06**	**279**	*e*PKP	**PKPdf**	**09 27 13.8**	**-0.1**
NJ2				sP	**pPKPdf**	**09 27 23.9**	**+0.1**
NJ2				SS	SS	09 53 30.1	+2.2
NJ2				LR	LR		
	comp=Z,650nm,21.1s						
NJ2				LR	LR		
	comp=Z,640nm,21.1s						
NJ2				LR	LR		
	comp=Z,1μm,21.6s						
TIA	**Tai'an**	**171.16**	**307**	PKP	**PKPdf**	**09 27 13.8**	**-0.1**
TIA				AMB	AMB		
	comp=Z,230nm,8.0s						
TIA				LR	LR		
	comp=Z,550nm,21.2s						
TIA				LR	LR		
	comp=Z,500nm,16.7s						
TIA				LR	LR		
	comp=Z,900nm,20.6s						
KMI	**Kunming**	**172.18**	**139**	⇑PKP	**PKPdf**	**09 27 14.8**	**-0.2**
KMI				pPKP	pPKPdf	09 27 23.1	-1.7
KMI				sPKP		09 27 25.1	
TIY	**Taiyuan**	**172.66**	**334**	⇑PKP	**PKPdf**	**09 27 14.6**	**0.0**
TIY				PKPab	**PKPab**	**09 28 42.0**	**+1.9**
TIY				PP	**PP**	**09 32 35.3**	**+4.3**
TIY				AMB	AMB		
	comp=Z,370nm,8.1s						
TIY				LR	LR		
	comp=Z,970nm,19.7s						
TIY				LR	LR		
	comp=Z,740nm,19.9s						
TIY				LR	LR		
	comp=Z,2μm,22.5s						
LZH	**Lanzhou**	**173.76**	**37**	⇑PKP	**PKPdf**	**09 27 14.8**	**-0.4**
LZH				pPKP	pPKPdf	09 27 24.4	-0.7
LZH				sPKP		09 27 28.8	
LZH				PP	**PP**	**09 32 33.8**	**-3.0**
LZH				AMB	AMB		
	comp=Z,800nm,8.1s						
LZH				LR	LR		
	comp=Z,930nm,17.4s						
LZH				LR	LR		
	comp=Z,900nm,17.5s						
LZH				LR	LR		
	comp=Z,820nm,20.6s						
WHN	**Wuhan**	**174.87**

CO05	**La Serena**	**0.96**	**58**	*eP*		**Pn**	**09 25 04.3**	**+0.1**
CO05				*eS*		**Sn**	**09 25 17.2**	**-0.4**
CO05				IAML			09 25 21.3	
	comp=N,12μm,0.5s							
CO05	**La Serena**	**0.96**	**58**			**Pb**	**09 25 01.9**	**-1.8**
GO04	**Tololo Observa**	**1.22**	**78**	*eP*		**Pb**	**09 25 08.0**	**-0.2**
GO04				*eS*		**Sg**	**09 25 24.1**	**-0.8**
GO04	**Tololo Observa**	**1.22**	**78**			**Pb**	**09 25 08.2**	**0.0**
CO03	**El Pedregal**	**1.34**	**108**	*eP*		**Pb**	**09 25 09.4**	**-0.8**
CO03				*eS*		**Sg**	**09 25 27.1**	**-1.7**
CO03				IAML			09 25 33.2	
	comp=E,6μm,0.4s							
CO03	**El Pedregal**	**1.34**	**108**			**Pb**	**09 25 09.5**	**-0.8**
LCO	**Las Campanas**	**1.91**	**42**	*eP*		**Pn**	**09 25 18.6**	**+1.0**
VA06	**Catapilco**	**2.25**	**161**	*eP*		**Pn**	**09 25 22.5**	**+0.5**
VA06				IAML			09 26 12.0	
	comp=N,2μm,0.5s							
AC04	**Llanos de Chal**	**2.42**	**24**	*eP*		**Pn**	**09 25 24.6**	**+0.3**
AC04				IAML			09 26 22.2	
	comp=E,458nm,0.6s							
AC04	**Llanos de Chal**	**2.42**	**24**			**Pn**	**09 25 24.7**	**+0.3**
VA01	**Torpederas**	**2.62**	**170**	*eP*		**Pn**	**09 25 26.9**	**-0.2**
VA01	**Torpederas**	**2.62**	**170**			**Pn**	**09 25 26.9**	**-0.2**
VA03	**San Esteban**	**2.70**	**150**	*eP*		**Pn**	**09 25 30.2**	**+1.9**
VA03	**San Esteban**	**2.70**	**150**			**Pn**	**09 25 26.7**	**-1.6**
ROCH	**El Roble**	**2.72**	**159**	*eP*		**Pn**	**09 25 30.4**	**+1.8**
ROCH				IAML			09 26 18.0	
	comp=E,886nm,0.6s							
MT05	**Renca**	**3.19**	**158**			**Pn**	**09 25 36.2**	**+1.2**
VA05	**Santo Domingo**	**3.25**	**172**			**Pn**	**09 25 34.6**	**-1.1**
GO03	**Copiap**	**3.30**	**31**			**Pn**	**09 25 36.1**	**-0.5**
AC06	**Mina Casimiro**	**3.46**	**28**			**Pn**	**09 25 39.5**	**+0.8**
MT09	**Talagante**	**3.48**	**164**			**Pn**	**09 25 39.7**	**+0.6**
MT01	**Popeta**	**3.51**	**167**			**Pn**	**09 25 39.4**	**+0.1**
BO01	**Tunca**	**4.05**	**167**			**Pn**	**09 25 47.4**	**+0.6**
AC02	**Maricunga**	**4.47**	**37**			**Pn**	**09 25 55.0**	**+1.9**
BO02	**Sierra Bellavi**	**4.50**	**165**			**Pn**	**09 25 54.1**	**+1.1**
GO05	**Huala**	**4.57**	**177**			**Pn**	**09 25 53.3**	**-0.6**
PB14	**IPOC Station P**	**6.00**	**16**	Pn		**Pn**	**09 26 13.2**	**-0.6**
LC01	**Cunco**	**8.45**	**176**	Pn		**Pn**	**09 26 40.6**	**-0.6**
PB01	**IPOC Station P**	**9.66**	**15**	Pn		**Pn**	**09 27 02.5**	**-1.4**
LL04	**Puerto Octay**	**10.45**	**181**	Pn		**Pn**	**09 27 13.5**	**-1.2**
LPAZ	**La Paz**	**14.56**	**16**	Pn		**P**	**09 28 22.8**	**+4.7**
	comp=E,0.3nm,0.3s,baz=186,slow=6.9,SNR=14							
BDFB	**Brasilia**	**26.59**	**62**	P		**P**	**09 30 24.1**	**+0.9**
	comp=E,9.4nm,1.0s,baz=215,slow=12,SNR=2.0							
SJG	**San Juan**	**48.61**	**8**	P		**P**	**09 33 27.4**	**-1.1**
SJG				IAmb		IAmb	09 33 29.1	
	comp=Z,6.0nm,1.0s							
HUMP	**Col San Antoni**	**48.68**	**8**	P		**P**	**09 33 29.0**	**0.0**
HUMP				IAmb		IAmb	09 33 46.5	
	comp=Z,6.6nm,1.2s							
SNAA	**Sanae**	**54.93**	**159**	P		**P**	**09 34 14.9**	**-0.3**
QSPA	**South Pole Qui**	**59.79**	**180**	P		**P**	**09 34 51.3**	**+1.6**
QSPA				IAmb		IAmb	09 35 00.2	
	comp=Z,2.5nm,0.9s							
SHEL	**Horse Pasture**	**61.97**	**93**	P		**P**	**09 35 03.2**	**-1.9**
KVTX	**Kingsville**	**62.68**	**334**	P		**P**	**09 35 09.2**	**-0.1**
KMSC	**Kings Mountain**	**65.80**	**352**	P		**P**	**09 35 28.7**	**-1.0**
TXAR	**Lajitas Array**	**66.58**	**330**	P		P	09 35 47.1	+12
	comp=Z,0.3nm,0.7s,baz=152,slow=7.9,SNR=4.8							
TXAR	**Lajitas Array**	**66.58**	**330**	P		**P**	**09 35 32.8**	**-2.3**
SDMD	**Soldier's Deli**	**69.62**	**356**	P		**P**	**09 35 52.7**	**-1.0**
TORD	**Torodi Ar. Bea**	**83.12**	**70**	P		**P**	**09 37 12.9**	**+2.0**
	comp=Z,1.5nm,0.7s,baz=254,slow=4.7,SNR=9.1							
TORD				pP		**pwP**	**09 37 21.1**	**+1.8**
	comp=Z,1.3nm,0.7s,baz=268,slow=4.5,SNR=5.2							
ZALV	**Zalesovo Beam**	**151.22**	**29**	PKPbc		**PKiKP**	**09 44 40.5**	**+2.4**
	comp=Z,2.0nm,0.5s,baz=301,slow=3.1,SNR=6.9							
ZALV				pPKPbc		**pPKPab**	**09 44 48.8**	**-0.9**
	comp=Z,5.0nm,0.7s,baz=301,slow=2.9,SNR=6.8							
MKAR	**Makanchi Array**	**154.38**	**43**	PKPbc		**PKiKP**	**09 44 47.0**	**+2.1**
	comp=Z,0.2nm,0.6s,baz=321,slow=1.8,SNR=2.5							
MKAR				pPKPbc		**PKPab**	**09 44 55.5**	**-3.6**
	comp=Z,0.7nm,0.8s,baz=259,slow=3.8,SNR=4.1							

*UCR **19** 09:40:19.2±1.5, 13°.85N×92°.06W, h20km±344km, ML3.8, mb4.3(NEIC)*
*SNET **19** 09:40:20.1±1.2, 13°.40N×91°.83W, h4km±271km, ML3.9*
*NEIC **19** 09:40:23.8±1.8, 13°.73N±0°.07×91°.82W±0°.08, h35km±1km, mb4.3/112, Error ellipse: s-maj=15.2km s-min=9.3km az=235.0*
*GCG **19** 09:40:24.5±0.9, 13°.64N×91°.80W, h45km, MD4.1*
*IDC **19** 09:40:27.4±4.1, 14°.21N×91°.43W, h51km±38km, mb4.0/8, mb1 4.3/10, mb1mx3.9/41, mbtmp4.2/10, ML4.0/2, Error ellipse: s-maj=39.1km s-min=19.4km az=55.0*

ISC 19 09:40:23.5±0.6, 13°.66N±0°.07×91°.87W±0°.06, h37km, n153, σ1§42/133, mb4.3/48, 2C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.87**	**11**		**Pn**	**09 40 38.5**	**-0.8**
FUG	**Fuego 3**	**1.27**	**52**	*eP*	**Pn**	**09 40 45.2**	**+0.4**
FUG				*eS*	**Sn**	**09 41 04.7**	**+4.0**
PCG	**Pacaya**	**1.43**	**59**	*eP*	**Pn**	**09 40 48.5**	**+1.5**
HUEH	**Huehuetenango**	**1.68**	**12**		**Pn**	**09 40 50.5**	**-0.1**
NBG	**Las Nubes**	**1.74**	**58**	*eP*	**Pn**	**09 40 52.8**	**+1.4**
SLOZ	**Alcaldia de Sa**	**2.06**	**80**	*eP*	**Pn**	**09 40 54.7**	**-0.9**
SLOZ				*eS*	**Sn**	**09 41 24.4**	**+4.3**
SLOZ				IAML		09 41 35.7	
	comp=Z,396nm,0.5s						
CEVE	**Cerro Verde**	**2.19**	**85**	*eP*	**Pn**	**09 40 56.5**	**-1.0**
CEVE				*eS*	**Sn**	**09 41 25.3**	**+1.7**
CEVE				IAML		09 41 32.0	
	comp=Z,1μm,0.5s						
CEVE	**Cerro Verde**	**2.19**	**85**	*eP*	**Pn**	**09 40 56.5**	**-1.0**
CEVE				*eS*	**Sn**	**09 41 25.3**	**+1.7**
CEVE				IAML		09 41 32.0	
	comp=Z,1μm,0.5s						
JAYA	**Jayaque - finc**	**2.36**	**90**	*eP*	**Pn**	**09 40 59.0**	**-0.8**
JAYA				IAML		09 41 32.7	
	comp=Z,649nm,0.3s						
JAYA	**Jayaque - finc**	**2.36**	**90**	*eP*	**Pn**	**09 40 59.0**	**-0.8**
JAYA				IAML		09 41 32.7	
	comp=Z,649nm,0.3s						
CEDA	**San Andres**	**2.41**	**86**	*eP*	**Pn**	**09 41 00.2**	**-0.2**
CEDA	**San Andres**	**2.41**	**86**	*eP*	**Pn**	**09 41 00.2**	**-0.2**
TACO	**Tacachico**	**2.47**	**83**	*⇓iP*	**Pn**	**09 41 00.5**	**-0.6**
TACO	**Tacachico**	**2.47**	**83**	*⇓iP*	**Pn**	**09 41 00.5**	**-0.6**
SNET	**Serv Nac Est T**	**2.57**	**89**		**Pn**	**09 41 01.9**	**-0.7**
OPAM	**Oficina de Pla**	**2.60**	**89**	*eP*	**Pn**	**09 41 03.0**	**-0.1**
OPAM	**Oficina de Pla**	**2.60**	**89**	*eP*	**Pn**	**09 41 03.0**	**-0.1**
ESQI	**Esquipulas**	**2.61**	**70**		**Pn**	**09 41 03.1**	**-0.1**
CCIG	**Comitan**	**2.62**	**354**	Pn	**Pn**	**09 41 04.4**	**+1.0**
SJTE	**Alcalda de S**	**2.79**	**91**	*eP*	**Pn**	**09 41 05.1**	**-0.5**
SJTE	**Alcalda de S**	**2.79**	**91**	*eP*	**Pn**	**09 41 05.1**	**-0.5**
PAVA	**Las Pavas**	**2.85**	**89**	*eP*	**Pn**	**09 41 06.0**	**-0.5**
PAVA	**Las Pavas**	**2.85**	**89**	*eP*	**Pn**	**09 41 06.0**	**-0.5**
COEG	**Centro de Oper**	**2.91**	**90**	*eP*	**Pn**	**09 41 07.0**	**-0.3**
COEG	**Centro de Oper**	**2.91**	**90**	*eP*	**Pn**	**09 41 07.0**	**-0.3**
PQSS	**Presa 15 de Se**	**3.22**	**90**	*eP*	**Pn**	**09 41 10.9**	**-0.6**
COEB	**Comit de Eme**	**3.25**	**92**	*eP*	**Pn**	**09 41 11.4**	**-0.7**
COEB	**Comit de Eme**	**3.25**	**92**	*eP*	**Pn**	**09 41 11.4**	**-0.7**
PETF	**Flores**	**3.77**	**31**	Pn	**Pn**	**09 41 19.9**	**+0.9**
LCND	**La Caada**	**3.89**	**95**	*eP*	**Pn**	**09 41 20.2**	**-0.6**
LCND	**La Caada**	**3.89**	**95**	*eP*	**Pn**	**09 41 20.2**	**-0.6**
TGUH	**Tegucigalpa,Un**	**4.49**	**84**	Pn	**Pn**	**09 41 28.6**	**-0.4**
CRIN	**San Cristobal**	**4.79**	**101**		**Pn**	**09 41 33.0**	**-0.2**
CNGN	**Cerro Negro**	**5.17**	**102**		**Pn**	**09 41 38.5**	**+0.1**
MATN	**Matagalpa**	**5.83**	**96**	Pn	**Pn**	**09 41 45.8**	**-1.8**
ORTG	**Ortega, Santa**	**7.08**	**117**	Pn	**Pn**	**09 42 04.5**	**-0.1**
DUNO	**Dulce Nombre,**	**7.19**	**119**		**Pn**	**09 42 06.3**	**+0.2**
TLIG	**Tlapa**	**7.52**	**302**		**Pn**	**09 42 10.6**	**-0.2**
JTS	**Las Juntas de**	**7.55**	**116**	P	**Pn**	**09 42 12.0**	**+0.9**
	comp=Z,1.8nm,0.3s,baz=48,slow=20,SNR=9.3						
JTS				S	**Sn**	**09 43 29.8**	**-5.8**
	comp=Z,0.3nm,0.3s,baz=14,slow=19,SNR=1.7						
JTS	**Las Juntas de**	**7.55**	**116**		**Pn**	**09 42 12.1**	**+1.0**
CAO2	**Cobano, Puntar**	**7.71**	**120**	Pn	**Pn**	**09 42 13.4**	**+0.1**
JACO	**JACO, Garabito**	**8.11**	**119**	Pn	**Pn**	**09 42 20.3**	**+1.6**
RIMA	**Rio Macho**	**8.75**	**115**		**Pn**	**09 42 29.3**	**+1.6**
SRBA	**San Rafael, Bu**	**9.43**	**117**	Pn	**Pn**	**09 42 38.4**	**+1.4**
EDBA	**Buenos Aires**	**9.54**	**117**	*eP*	**Pn**	**09 42 39.5**	**+1.1**
SOR	**Soroa**	**12.38**	**42**	Pn	**Pn**	**09 43 17.4**	**+0.2**
HKT	**Hockley**	**16.62**	**348**		**Pn**	**09 44 14.0**	**+0.4**
GTBY	**Guantanamo Bay**	**17.21**	**67**	P	**Pn**	**09 44 19.6**	**-1.5**
GTBY				IAmb	IAmb	09 44 46.1	
	comp=Z,39nm,1.4s						
342A	**Flagon Creek P**	**17.63**	**359**	P	**Pn**	**09 44 25.2**	**-1.1**
435B	**Jarrell**	**17.83**	**344**	P	**P**	**09 44 30.0**	**+0.8**
NATX	**Nacogdoches**	**18.19**	**352**	P	**Pn**	**09 44 32.3**	**-0.8**
JCT	**Junction City**	**18.27**	**338**	P	**P**	**09 44 33.3**	**-0.7**
VBMS	**Vicksburg**	**18.51**	**4**	P	**P**	**09 44 35.2**	**-1.4**
VBMS				IAmb	IAmb	09 44 44.0	
	comp=Z,18nm,0.6s						
352A	**Blakely**	**18.85**	**19**	P	**P**	**09 44 39.4**	**-0.9**
352A				IAmb	IAmb	09 45 05.2	
	comp=Z,36nm,1.3s						
143A	**Socs Landing,**	**18.96**	**1**	P	**P**	**09 44 40.0**	**-1.5**
TXAR	**Lajitas Array**	**19.04**	**327**	P	**Pn**	**09 44 43.5**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=151,slow=7.9,SNR=27						
TXAR	**Lajitas Array**	**19.04**	**327**	P	**Pn**	**09 44 43.6**	**0.0**
TX31	**Lajitas Ar. Si**	**19.05**	**327**	IAmb	IAmb	09 44 53.7	
	comp=Z,23nm,1.1s						
TX32	**Lajitas Array**	**19.05**	**327**	P	**Pn**	**09 44 43.6**	**0.0**
ROSC	**El Rosal**	**19.40**	**115**	P	**P**	**09 44 46.9**	**0.0**
ROSC				IAmb	IAmb	09 45 00.3	
	comp=Z,15nm,1.1s						
Z47A	**Carrollton**	**19.75**	**9**	P	**P**	**09 44 49.5**	**-0.7**
Z47A				IAmb	IAmb	09 44 52.6	
	comp=Z,20nm,0.8s						
LRAL	**Lakeview Retre**	**19.79**	**12**	P	**P**	**09 44 50.0**	**-0.7**
WLAR	**White Oak Lake**	**19.97**	**357**	P	**P**	**09 44 51.0**	**-1.5**
WLAR				IAmb	IAmb	09 45 15.8	
	comp=Z,15nm,0.8s						
152A	**Waverly Hall**	**20.02**	**18**	P	**P**	**09 44 51.9**	**-1.2**
152A				IAmb	IAmb	09 44 58.2	
	comp=Z,12nm,0.9s						
FLOC	**Florencia**	**20.04**	**125**		Pn	09 44 55.3	-0.2
FLOC				IAmb	IAmb	09 45 24.8	
	comp=Z,16nm,1.0s						
RUSC	**La Rusia**	**20.05**	**111**	P	**P**	**09 44 53.3**	**-0.8**
RUSC				IAmb	IAmb	09 45 01.9	
	comp=Z,20nm,1.3s						
ABTX	**Abilene, Hawle**	**20.17**	**341**	P	**P**	**09 44 54.9**	**+0.2**
ABTX				IAmb	IAmb	09 44 56.1	
	comp=Z,10nm,0.8s						
Z35A	**Perchaven, San**	**20.18**	**347**	IAmb	IAmb	09 44 56.4	
	comp=Z,23nm,1.1s						
X40A	**Basin Creek Fa**	**20.75**	**358**	P	**P**	**09 45 00.3**	**-0.7**
LOOK	**Love County**	**20.80**	**348**	P	**P**	**09 45 01.2**	**-0.4**
LOOK				IAmb	IAmb	09 45 21.8	
	comp=Z,12nm,1.0s						
MIAR	**Mount Ida**	**20.85**	**356**	P	**P**	**09 45 01.7**	**-0.4**
OXF	**Oxford**	**20.88**	**6**	P	**P**	**09 45 01.2**	**-1.2**
OXF				IAmb	IAmb	09 45 04.2	
	comp=Z,13nm,0.7s						
X37A	**Clayton**	**21.07**	**352**	P	**P**	**09 45 04.0**	**-0.5**
GOGA	**Godfrey**	**21.10**	**20**	P	**P**	**09 45 03.9**	**-0.9**
X48A	**Hartselle**	**21.16**	**11**	P	**P**	**09 45 05.1**	**-0.3**
X48A				IAmb	IAmb	09 45 16.9	
	comp=Z,12nm,1.1s						
PLAL	**Pickwick Lake**	**21.50**	**9**	P	**P**	**09 45 08.0**	**-1.1**
W39A	**Magazine**	**21.51**	**356**	P	**P**	**09 45 09.3**	**+0.1**
W45A	**Hickory Valley**	**21.54**	**6**	P	**P**	**09 45 08.3**	**-1.2**
FPAL	**Fort Paine**	**21.55**	**14**	P	**P**	**09 45 09.6**	**0.0**
FPAL				IAmb	IAmb	09 45 10.8	
	comp=Z,13nm,0.9s						
MNTX	**Cornudas Mount**	**21.82**	**328**	P	**P**	**09 45 12.7**	**+0.1**
MNTX				IAmb	IAmb	09 45 15.4	
	comp=Z,9.5nm,0.8s						
WMOK	**Wichita Mounta**	**21.89**	**345**	P	**P**	**09 45 11.8**	**-1.6**
WMOK				IAmb	IAmb	09 45 16.9	
	comp=Z,11nm,1.1s						
FNO	**Franklin**	**22.07**	**348**	P	**P**	**09 45 15.8**	**+0.5**
SWET	**Sewanee**	**22.12**	**13**	IAmb	IAmb	09 45 17.1	
	comp=Z,7.7nm,0.7s						
HODGE	**Hodges**	**22.26**	**21**	P	**P**	**09 45 16.6**	**-0.7**
HODGE				IAmb	IAmb	09 45 40.6	
	comp=Z,9.1nm,0.9s						
OK025	**Westminster Rd**	**22.37**	**348**	IAmb	IAmb	09 45 18.1	
	comp=Z,13nm,0.7s						
V48A	**Smith Brothers**	**22.45**	**11**	IAmb	IAmb	09 45 19.1	
	comp=Z,7.3nm,0.7s						
MSTX	**Muleshoe**	**22.51**	**336**	IAmb	IAmb	09 45 20.6	
	comp=Z,12nm,0.7s						
WVT	**Waverly**	**22.66**	**9**	P	**P**	**09 45 19.6**	**-2.0**
WVT				IAmb	IAmb	09 45 20.4	
	comp=Z,8.8nm,0.7s						
CPCT	**Cooper Cave**	**22.68**	**16**	P	**P**	**09 45 20.7**	**-1.1**
CLTN	**Cedars of Leba**	**22.88**	**12**	P	**P**	**09 45 22.3**	**-1.6**
CLTN				IAmb	IAmb	09 45 22.9	
	comp=Z,9.2nm,0.8s						
AMTX	**Amarillo**	**22.91**	**339**	P	**P**	**09 45 23.2**	**-1.1**
PARMO	**Parma**	**22.98**	**4**	P	**P**	**09 45 22.9**	**-2.0**
PBMO	**Poplar Bluff**	**23.06**	**3**	P	**P**	**09 45 23.4**	**-2.3**
TKL	**Tuckaleechee C**	**23.08**	**17**	P	**P**	**09 45 24.1**	**-1.8**
	comp=Z,9.1nm,0.7s,baz=180,slow=8.9,SNR=14						
TKL	**Tuckaleechee C**	**23.08**	**17**	P	**P**	**09 45 25.2**	**-0.7**
TKL				IAmb	IAmb	09 45 25.5	
	comp=Z,13nm,0.8s						
T42A	**Van Buren**	**23.28**	**2**	P	**P**	**09 45 24.9**	**-3.0**
V52A	**Sevierville**	**23.31**	**17**	P	**P**	**09 45 26.8**	**-1.4**
V52A				IAmb	IAmb	09 45 41.2	
	comp=Z,15nm,1.1s						
V53A	**Saluda**	**23.38**	**19**	P	**P**	**09 45 27.8**	**-1.1**
U49A	**Red Boiling Sp**	**23.40**	**12**	P	**P**	**09 45 27.3**	**-1.7**
U49A				IAmb	IAmb	09 45 29.1	
	comp=Z,7.0nm,0.8s						
T47A	**Sharon Grove**	**23.62**	**10**	P	**P**	**09 45 29.3**	**-1.8**
319A	**Douglas**	**23.80**	**321**	P	**P**	**09 45 33.9**	**+0.8**
319A				IAmb	IAmb	09 45 54.8	
	comp=Z,16nm,1.2s						
S39A	**Bolivar**	**23.96**	**357**	P	**P**	**09 45 33.8**	**-0.6**
TZTN	**Tazewell**	**23.98**	**17**	P	**P**	**09 45 33.2**	**-1.3**
S44A	**Carbondale**	**24.05**	**5**	P	**P**	**09 45 33.0**	**-2.1**
SIUC	**Southern Illin**	**24.07**	**5**	P	**P**	**09 45 33.2**	**-2.1**
V55A	**Taylorsville**	**24.09**	**22**	P	**P**	**09 45 34.2**	**-1.3**
V55A				IAmb	IAmb	09 45 51.6	
	comp=Z,14nm,1.2s						
CCM	**Cathedral Cave**	**24.30**	**1**	P	**P**	**09 45 35.1**	**-2.4**
CCM				IAmb	IAmb	09 45 35.6	
	comp=Z,9.9nm,0.8s						
U54A	**Nelsons Funny**	**24.48**	**20**	P	**P**	**09 45 37.2**	**-2.0**
USIN	**University of**	**24.49**	**8**	P	**P**	**09 45 37.0**	**-2.2**
V58A	**Windy Hill, Pi**	**24.85**	**25**	P	**P**	**09 45 41.3**	**-1.2**
V58A				IAmb	IAmb	09 45 41.5	
	comp=Z,9.1nm,0.8s						
ANMO	**Albuquerque**	**24.95**	**331**	P	**P**	**09 45 44.1**	**+0.5**
	comp=Z,4.2nm,0.8s,baz=151,slow=12,SNR=11						
ANMO	**Albuquerque**	**24.95**	**331**	P	**P**	**09 45 43.8**	**+0.1**
WCI	**Wyandotte Cave**	**24.96**	**10**	P	**P**	**09 45 42.0**	**-1.5**
OLIL	**Olney**	**25.19**	**7**	P	**P**	**09 45 44.5**	**-1.0**
T25A	**Trinidad**	**25.92**	**337**	IAmb	IAmb	09 45 57.2	
	comp=Z,7.0nm,0.8s						
Q51A	**Peebles**	**26.36**	**15**	IAmb	IAmb	09 45 54.8	
	comp=Z,11nm,0.8s						
SDCO	**Great Sand Dun**	**26.88**	**336**	P	**P**	**09 46 00.3**	**-0.9**
Q54A	**Coxs Mills**	**27.04**	**19**	P	**P**	**09 46 01.1**	**-1.3**
Q56A	**Snyder Ridge,**	**27.65**	**22**	P	**P**	**09 46 07.0**	**-0.8**
MVCO	**Mesa Verde**	**27.75**	**331**	IAmb	IAmb	09 46 18.8	
	comp=Z,10nm,1.2s						
O54A	**Avella**	**28.28**	**19**	P	**P**	**09 46 11.3**	**-2.1**
PV01	**Paradox Valley**	**28.53**	**332**	IAmb	IAmb	09 46 17.4	
	comp=Z,7.0nm,1.3s						
PV13	**Radium Mtn., P**	**28.67**	**331**	P	**P**	**09 46 18.7**	**+1.6**
PV13				IAmb	IAmb	09 46 27.2	
	comp=Z,9.6nm,1.0s						
PV03	**Paradox Valley**	**28.76**	**331**	IAmb	IAmb	09 46 28.3	
	comp=Z,6.6nm,1.0s						
PV12	**Saucer Basin,**	**28.79**	**332**	IAmb	IAmb	09 46 20.2	
	comp=Z,11nm,1.0s						
PV11	**David Mesa, Pa**	**28.80**	**331**	IAmb	IAmb	09 46 27.8	
	comp=Z,6.8nm,0.8s						
PV17	**East Wray Mesa**	**28.83**	**331**	IAmb	IAmb	09 46 20.1	
	comp=Z,7.8nm,1.0s						
PV16	**Nyswonger Mesa**	**28.83**	**331**	IAmb	IAmb	09 46 20.3	
	comp=Z,12nm,1.2s						
PV04	**Paradox Valley**	**28.89**	**332**	IAmb	IAmb	09 46 29.1	
	comp=Z,12nm,1.3s						
PV14	**Lion Creek, Pa**	**28.93**	**331**	IAmb	IAmb	09 46 29.1	
	comp=Z,5.7nm,1.1s						
P17A	**Butcher Ranch,**	**30.62**	**331**	IAmb	IAmb	09 46 44.1	
	comp=Z,4.4nm,0.9s						
HWUT	**Hardware Ranch**	**32.69**	**332**	IAmb	IAmb	09 46 54.5	
	comp=Z,4.9nm,1.1s						
PDAR	**Pinedale Array**	**32.78**	**336**	P	**P**	**09 46 52.5**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=151,slow=8.3,SNR=2.4						
HVU	**Hansel Valley**	**33.38**	**331**	IAmb	IAmb	09 47 09.0	
	comp=Z,5.7nm,1.1s						
ELK	**Elko**	**33.84**	**327**	P	**P**	**09 47 03.7**	**+1.0**
TPAW	**Teton Pass**	**33.95**	**335**	P	**P**	**09 47 02.5**	**-1.0**
TPAW				IAmb	IAmb	09 47 11.3	
	comp=Z,6.5nm,1.2s						
NVAR	**Mina Array Bea**	**34.01**	**321**	P	**P**	**09 47 05.8**	**+1.6**
	comp=Z,2.4nm,0.8s,baz=135,slow=8.4,SNR=15						
KVN	**Kaiserville**	**34.28**	**322**	IAmb	IAmb	09 47 19.7	
	comp=Z,3.8nm,1.0s						
HLID	**Hailey**	**35.53**	**331**	P	**P**	**09 47 16.7**	**-0.4**
HLID				IAmb	IAmb	09 47 18.7	
	comp=Z,3.0nm,0.9s						
WVOR	**Wild Horse Val**	**36.84**	**326**	IAmb	IAmb	09 47 31.4	
	comp=Z,3.9nm,1.1s						
I07A	**Izee**	**38.43**	**327**	IAmb	IAmb	09 47 43.9	
	comp=Z,4.4nm,1.1s						
PSGCX	**Pisagua**	**39.38**	**147**	P	**P**	**09 47 49.3**	**-0.5**
E09A	**Wood Farm, Sta**	**39.49**	**331**	P	**P**	**09 47 49.3**	**-1.1**
H04A	**Detroit Lake**	**40.26**	**326**	P	**P**	**09 47 57.2**	**+0.3**
H04A				IAmb	IAmb	09 48 01.8	
	comp=Z,4.5nm,0.7s						
C09A	**Chrisman Ranch**	**40.51**	**333**	IAmb	IAmb	09 48 00.3	
	comp=Z,4.1nm,0.7s						
LON	**Longmire**	**41.44**	**329**	P	**P**	**09 48 06.0**	**-0.6**
LON				IAmb	IAmb	09 48 08.9	
	comp=Z,5.5nm,0.9s						
SCHQ	**Schefferville**	**45.49**	**20**	P	**P**	**09 48 35.6**	**-3.5**
	comp=Z,12nm,0.9s,baz=216,slow=7.5,SNR=13						
YKA	**Yellowknife Ar**	**51.38**	**347**	P	**P**	**09 49 23.2**	**-1.0**
	comp=Z,1.6nm,0.5s,baz=145,slow=8.6,SNR=7.2						
CPUP	**Villa Florida**	**52.05**	**140**	P	**P**	**09 49 33.8**	**+4.1**
	comp=Z,3.5nm,0.5s,baz=333,slow=11,SNR=3.7						
ILAR	**Eielson Array**	**63.20**	**337**	P	**P**	**09 50 47.2**	**-0.4**
	comp=Z,3.1nm,1.1s,baz=117,slow=4.5,SNR=12						
WRA	**Warramunga Arr**	**135.43**	**255**	PKhKP	PKPpre	09 59 40.1	
	comp=Z,0.3nm,0.8s,baz=111,slow=2.8,SNR=1.4						
WRA				PKP	**PKiKP**	**09 59 45.6**	**+3.7**
	comp=Z,2.0nm,1.3s,baz=110,slow=2.8,SNR=5.1						
CMAR	**Chiang Mai Arr**	**146.35**	**341**	PKPbc	**PKPdf**	**10 00 00.7**	**+0.6**
	comp=Z,2.3nm,0.5s,baz=345,slow=3.5,SNR=7.4						
CMAR	**Chiang Mai Arr**	**146.35**	**341**		**PKPdf**	**10 00 00.5**	**+0.5**

*SJA **19** 09:41:55.9±0.5, 31°.29S×72°.76W, h40km±11km, ML4.6, MW5.0*
*IDC **19** 09:41:57.7±0.7, 31°.32S×72°.05W, h0km, mb4.2/8, mb1 4.3/13, mb1mx4.2/27, mbtmp4.1/13, ML3.9/5, MS3.8/2, Ms1 3.8/2, ms1mx3.5/25, Error ellipse: s-maj=24.7km s-min=19.1km az=97.0*
*GUC **19** 09:41:58.9±0.7, 31°.33S×72°.13W, h54km±8km, ML4.3*
*NEIC **19** 09:41:59.4±1.8, 31°.35S±0°.04×72°.21W±0°.06, h11km±3km, mb4.7/57, Mwr4.6/47, ML4.3(GUC), Error ellipse: s-maj=8.5km s-min=4.5km az=119.0*
*NEIC **19** 09:42:00.3, 31°.38S×72°.04W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.74; $M_{\theta\theta}$1.24; $M_{\phi\phi}$-4.98; $M_{r\theta}$1.06; $M_{\theta\phi}$1.11; $M_{\phi r}$-8.04; Fault plane solution: $M_{\phi\phi}$9.3300×10^{15} NP1:φ_{ϕ}346.1200°, δ14.46000°, λ83.89000°

comp=Z,0.8nm,0.3s,baz=339,slow=10,SNR=14
PLCA Paso Flores 9.48 173 Pn Pn 09 44 13.9 -1.2
PLCA Paso Flores 9.48 173 *eP* **Pn 09 44 14.7 -0.4**
TRQA Tornquist 10.74 131 Pn **Pn 09 44 31.7 -0.6**
CPUP Villa Florida 13.92 73 Pn **Pn 09 45 15.1 -0.8**
comp=Z,0.1nm,0.3s,baz=241,slow=13,SNR=1.2
CPUP LR LR 09 50 45.6
comp=Z,466nm,21.5s,baz=276,slow=38
LPAZ La Paz 15.42 15 Pn **Pn 09 45 38.9 +2.2**
comp=Z,0.2nm,0.3s,baz=182,slow=6.7,SNR=22
LPAZ La Paz 15.42 15 Pn 09 45 37.5 +0.8
SIV San Ignacio 18.32 36 P **P 09 46 13.4 +0.6**
comp=Z,0.2nm,0.3s,baz=235,slow=12,SNR=13
SAML Samuel 23.79 22 P **P 09 47 11.9 +0.6**
SAML IAmb IAmb 09 47 14.0
comp=Z,12nm,1.0s
BDFB Brasilia 27.01 60 P **P 09 47 40.2 -0.7**
comp=Z,16nm,1.0s,baz=252,slow=7.5,SNR=13
BDFB Brasilia 27.01 60 P **P 09 47 40.7 -0.2**
BDFB IAmb IAmb 09 47 41.7
comp=Z,14nm,0.9s
RPN Rapa Nui 32.60 268 LR LR 09 57 58.9
BBGH Gun Hill 45.84 17 P **P 09 50 19.2 -1.7**
CRIN San Cristobal 46.05 340 P **P 09 50 21.2 -1.4**
BIM Bigot 46.81 15 P **P 09 50 28.7 +0.2**
MLPR Magueyes Islan 49.26 6 P **P 09 50 47.7 +0.3**
CDVI St. Croix 49.31 9 P **P 09 50 47.5 -0.3**
PDPR Patillas Dam, 49.41 8 P **P 09 50 48.5 -0.1**
PDPR IAmb IAmb 09 50 49.7
comp=Z,8.4nm,0.8s
SJG San Juan 49.49 8 P **P 09 50 49.2 +0.1**
SJG IAmb IAmb 09 50 50.3
comp=Z,10nm,0.9s
CBYP Canovanas 49.68 8 P **P 09 50 50.3 -0.4**
CBYP IAmb IAmb 09 50 51.8
comp=Z,11nm,0.9s
VNA3 Neumayer Olymp 51.88 159 P **P 09 51 07.5 +0.9**
VNA2 Neumayer--Watz 52.52 158 P **P 09 51 11.6 +0.3**
baz=286,slow=7.8
SNAA Sanae 54.10 159 P **P 09 51 23.9 +0.9**
SNAA Sanae 54.10 159 P **P 09 51 24.0 +0.9**
SNAA IAmb IAmb 09 51 34.8
comp=Z,15nm,1.4s
DWPF Disney Wildern 59.76 351 P **P 09 52 03.3 -0.3**
SACV Santiago Islan 65.51 53 P **P 09 52 41.8 -0.4**
VBMS Vicksburg 65.55 343 P **P 09 52 41.3 -0.8**
BIRD Birdtown, Kers 66.08 353 P **P 09 52 45.8 +0.3**
PAULI Pauline 66.42 351 P **P 09 52 47.2 -0.4**
VNDA Vanda 66.70 191 P **P 09 52 51.4 +2.4**
comp=Z,0.3nm,0.6s,baz=114,slow=6.5,SNR=2.2
TX32 Lajitas Array 67.36 330 P **P 09 52 54.4 +0.5**
TXAR Lajitas Array 67.36 330 P **P 09 52 55.5 +1.6**
comp=Z,0.9nm,0.8s,baz=152,slow=7.9,SNR=13
TXAR Lajitas Array 67.36 330 P **P 09 52 54.7 +0.7**
TX31 Lajitas Ar. Si 67.36 330 P **P 09 52 54.9 +1.0**
TX31 IAmb IAmb 09 52 57.4
comp=Z,6.8nm,1.2s
MSTX Muleshoe 71.07 333 P **P 09 53 17.7 +0.8**
MSTX IAmb IAmb 09 53 19.3
comp=Z,8.4nm,0.9s
CCM Cathedral Cave 71.28 344 P **P 09 53 18.3 +0.4**
CCM IAmb IAmb 09 53 37.5
comp=Z,12nm,1.4s
R40A Maddies Statio 71.75 343 P **P 09 53 21.3 +0.6**
R40A IAmb IAmb 09 53 22.3
comp=Z,9.3nm,1.1s
P40A Paris 72.88 344 P **P 09 53 28.0 +0.6**
P40A IAmb IAmb 09 53 28.7
comp=Z,12nm,1.1s
DBIC Dimbokro 74.44 72 P **P 09 53 38.1 +0.8**
comp=Z,4.0nm,0.8s,baz=189,slow=3.7,SNR=3.9
DBIC Dimbokro 74.44 72 P **P 09 53 37.4 +0.2**
X16A Lo Mia Camp, P 75.13 327 P **P 09 53 41.9 +0.9**
SDCO Great Sand Dun 75.44 333 P **P 09 53 44.3 +1.5**
Y14A Wickenburg 75.48 326 P **P 09 53 44.3 +1.5**
KSCO Kaye Shedlock' 75.50 336 P **P 09 53 44.5 +1.6**
KSCO IAmb IAmb 09 53 45.8
comp=Z,5.8nm,0.8s
MAW Mawson 75.77 164 P **P 09 53 44.9 +0.9**
comp=Z,3.6nm,0.8s,baz=217,slow=7.1,SNR=7.7
MAW Mawson 75.77 164 P **P 09 53 45.1 +1.1**
WUAZ Wupatki 76.01 328 P **P 09 53 47.8 +1.8**
MVCO Mesa Verde 76.18 331 P **P 09 53 48.5 +1.5**
MVCO IAmb IAmb 09 54 01.6
comp=Z,7.3nm,1.3s
W13A Hualapai Mount 76.84 326 P **P 09 53 52.0 +1.2**
PV01 Paradox Valley 77.00 331 P **P 09 53 51.9 +0.3**
PV01 IAmb IAmb 09 53 54.6
comp=Z,4.0nm,1.2s
SMCO Snowmass 77.25 333 P **P 09 53 54.6 +1.4**
SMCO IAmb IAmb 09 53 56.5
comp=Z,6.6nm,0.9s
ISCO Idaho Springs 77.28 334 P **P 09 53 53.9 +0.7**
K31A O'Neill 77.54 340 P **P 09 53 55.1 +0.8**
E62A Clayton Lake 77.62 2 P **P 09 53 55.6 +1.0**
E62A IAmb IAmb 09 54 24.3
comp=Z,11nm,1.1s
O20A White River Ci 78.57 333 P **P 09 54 01.6 +1.3**
O20A IAmb IAmb 09 54 18.8
comp=Z,6.4nm,1.2s
CCUT Cedar City 78.59 328 P **P 09 54 01.9 +1.4**
Q16A Castle Valley 78.75 330 P **P 09 54 02.8 +1.5**
Q16A IAmb IAmb 09 54 04.2
comp=Z,6.7nm,1.3s
P17A Butcher Ranch, 79.03 331 P **P 09 54 04.1 +1.3**
P17A IAmb IAmb 09 54 05.4
comp=Z,8.9nm,1.4s
PRN Pahroc Range 79.26 327 P **P 09 54 05.1 +1.1**
PRN IAmb IAmb 09 54 07.5
comp=Z,5.3nm,1.0s
ISA Isabella, Lake 79.57 323 P **P 09 54 06.2 +0.5**
ISA IAmb IAmb 09 54 08.5
comp=Z,4.9nm,1.1s
SPR3 Spring Creek 3 80.21 328 P **P 09 54 10.0 +0.5**
TPH Tonopah 80.83 326 P **P 09 54 14.2 +1.6**
TPH IAmb IAmb 09 54 15.5
comp=Z,11nm,1.0s
PDAR Pinedale Array 81.33 333 P **P 09 54 16.6 +1.4**
comp=Z,0.7nm,1.0s,baz=143,slow=3.2,SNR=4.4
NVAR Mina Array Bea 81.63 325 P **P 09 54 17.8 +0.9**
comp=Z,1.1nm,0.8s,baz=162,slow=6.5,SNR=9.6
ELK Elko 82.03 328 P **P 09 54 19.5 +0.5**
YERR Yerington 82.53 325 P **P 09 54 22.9 +1.4**
YERR IAmb IAmb 09 54 24.7
comp=Z,3.9nm,1.0s
CASY Casey 82.69 181 P **P 09 54 22.3 +0.5**
BMN Battle Mountai 82.69 327 P **P 09 54 22.2 -0.1**
IMW Indian Meadow 82.83 333 P **P 09 54 24.1 +1.0**
IMW IAmb IAmb 09 54 32.4
comp=Z,5.0nm,1.4s
TORD Torodi Ar. Bea 83.41 70 P **P 09 54 27.2 +0.8**
comp=Z,4.0nm,0.8s,baz=253,slow=4.4,SNR=18
TORD Torodi Ar. Bea 83.41 70 P **P 09 54 26.2 -0.2**
TORD IAmb IAmb 09 54 36.1
comp=Z,7.1nm,0.9s
J08A Circle Bar Ran 85.57 328 P **P 09 54 37.9 +1.0**
J08A IAmb IAmb 09 54 39.5
comp=Z,5.0nm,1.0s
WRA Warramunga Arr 123.03 210 PKP **PKPdf 10 00 54.3 -1.5**
comp=Z,0.7nm,1.1s,baz=172,slow=2.8,SNR=2.0
H11S2 WAKE ISLAND Hyl 25.66 271 T T 12 20 02.0
baz=116,slow=74,SNR=14
H11S1 WAKE ISLAND Hyl 25.67 271 T T 12 19 55.7
baz=116,slow=74,SNR=12
H11S3 WAKE ISLAND Hyl 25.67 271 T T 12 20 03.2
baz=116,slow=74,SNR=13
ZALV Zalesovo Beam 151.99 29 PKPbc **PKiKP 10 01 54.2 +0.5**
comp=Z,2.4nm,0.5s,baz=306,slow=5.0,SNR=8.3
ZALV Zalesovo Beam 151.99 29 PKPdf **PKPdf 10 01 47.6 +0.8**
ZALV **PKiKP 10 01 54.4 +0.8**
ZALV PKPab **PKPab 10 02 03.5 +0.8**
MKAR Makanchi Array 155.01 45 PKPbc PKPbc 10 02 00.4
comp=Z,0.8nm,0.8s,baz=342,slow=1.5,SNR=3.8

*IDC **19** 09:48:43.2±0.7, 30°59'S×72°61'W, h0km, mb4.1/8, mb1 4.3/12, mb1mx4.2/23, mbtmp4.1/12, ML4.0/4, MS3.9/1, Ms1 3.9/1, ms1mx3.3/28, Error ellipse: s-maj=25.5km s-min=19.5km az=100.0*
*NEIC **19** 09:48:43.5±1.7, 30°51'S±0°05×72°69W±0°04, h8km±4km, mb4.6/37, ML4.1(GUC), Error ellipse: s-maj=7.2km s-min=5.6km az=186.0*

*GUC **19** 09:48:47.7±0.3, 30°55'S×72°39W, h43km±4km, ML4.1*
ISC 19 09:48:44.2±3.0, 30°54'S±0°04×72°63'W±0°06, h14km±18km, n91, σ1s26/95, mb4.6/23, 4C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.87**	**99**	↑	*iP*		**Pn**	**09 49 01.4**	**-0.6**
CO06	**Fray Jorge**	**0.87**	**99**				**Pn**	**09 49 01.4**	**-0.6**
CO06					Sg		**Sb**	**09 49 12.6**	**0.0**
CO05	**La Serena**	**1.36**	**63**	↑	*iP*		**Pb**	**09 49 08.9**	**-0.4**
CO05					*eS*		**Sb**	**09 49 25.6**	**-1.0**
CO05					IAML			09 49 26.6	
	comp=E,14μm,0.3s								
CO05	**La Serena**	**1.36**	**63**				**Pb**	**09 49 09.0**	**-0.4**
CO05					Sn		**Sb**	**09 49 25.9**	**-0.7**
GO04	**Tololo Observa**	**1.63**	**77**	*eP*			**Pb**	**09 49 13.4**	**-0.7**
GO04					*eS*		**Sn**	**09 49 33.2**	**-0.3**
GO04	**Tololo Observa**	**1.63**	**77**		Pn		**Pb**	**09 49 13.6**	**-0.5**
CO03	**El Pedregal**	**1.70**	**101**	↑	*iP*		**Pb**	**09 49 14.2**	**-1.1**
CO03					*eS*		**Sn**	**09 49 34.4**	**-0.8**
CO03					IAML			09 49 37.7	
	comp=E,3μm,0.5s								
CO03	**El Pedregal**	**1.70**	**101**				**Pb**	**09 49 14.2**	**-1.1**
LCO	**Las Campanas**	**2.27**	**48**	↑	*iP*		**Pn**	**09 49 22.1**	**+0.6**
LCO					*eS*		**Sn**	**09 49 49.4**	**0.0**
LCO	**Las Campanas**	**2.27**	**48**				**Pn**	**09 49 22.6**	**+1.0**
VA06	**Catapilco**	**2.31**	**151**	*eP*			**Pn**	**09 49 21.5**	**-0.4**
VA06					*eS*		**Sn**	**09 49 46.8**	**-3.4**
VA06					IAML			09 49 51.3	
	comp=E,2μm,0.5s								
VA01	**Torpederas**	**2.61**	**162**	*eP*			**Pn**	**09 49 24.1**	**-1.8**
VA01					IAML			09 49 55.3	
	comp=N,560nm,0.3s								
VA01	**Torpederas**	**2.61**	**162**				**Pn**	**09 49 25.8**	**-0.2**
AC04	**Llanos de Chal**	**2.70**	**31**	*eP*			**Pn**	**09 49 26.6**	**-0.6**
AC04					IAML			09 49 59.3	
	comp=E,769nm,0.1s								
AC04	**Llanos de Chal**	**2.70**	**31**		Pn		**Pn**	**09 49 26.6**	**-0.6**
ROCH	**El Roble**	**2.79**	**151**	*eS*			**Sn**	**09 49 59.9**	**-2.3**
ROCH					IAML			09 50 01.9	
	comp=N,570nm,0.4s								
VA03	**San Esteban**	**2.84**	**142**	*eS*			**Sn**	**09 50 01.4**	**-1.9**
VA03					IAML			09 50 06.9	
	comp=E,783nm,0.4s								
VA03	**San Esteban**	**2.84**	**142**				**Pn**	**09 49 30.1**	**+0.9**
VA05	**Santo Domingo**	**3.22**	**165**				**Pn**	**09 49 33.8**	**-0.6**
MT09	**Talagante**	**3.51**	**157**				**Pn**	**09 49 40.0**	**+1.5**
MT01	**Popeta**	**3.51**	**161**				**Pn**	**09 49 38.3**	**-0.1**
GO03	**Copiap**	**3.61**	**36**				**Pn**	**09 49 40.4**	**+0.6**
AC06	**Mina Casimiro**	**3.75**	**33**				**Pn**	**09 49 42.1**	**+0.4**
BO01	**Tunca**	**4.06**	**162**		Pn		**Pn**	**09 49 46.2**	**+0.3**
GO05	**Huala**	**4.50**	**173**				**Pn**	**09 49 51.2**	**-0.7**
BO02	**Sierra Bellavi**	**4.52**	**160**				**Pn**	**09 49 51.5**	**-0.7**
AC02	**Maricunga**	**4.81**	**41**		Pn		**Pn**	**09 49 58.1**	**+1.5**
ML02	**Panimavida**	**5.30**	**169**		Pn		**Pn**	**09 50 03.5**	**+0.5**
PB14	**IPOC Station P**	**6.21**	**19**		Pn		**Pn**	**09 50 13.6**	**-2.2**
PB10	**IPOC Station P**	**7.24**	**15**		Pn		**Pn**	**09 50 27.6**	**-2.0**
LC01	**Cunco**	**8.36**	**176**		Pn		**Pn**	**09 50 44.3**	**-0.7**
LVC	**Limon Verde**	**8.57**	**24**		Pn		**Pn**	**09 50 47.1**	**-1.1**
	comp=E,0.5nm,0.3s,baz=154,slow=5.1,SNR=6.1								
LVC					Sn		**Sn**	**09 52 21.4**	**-3.6**
	comp=E,0.7nm,0.3s,baz=54,slow=19,SNR=1.7								
PLCA	**Paso Flores**	**10.31**	**171**		Pn		**Pn**	**09 51 12.1**	**+0.3**
	comp=E,0.5nm,0.3s,baz=335,slow=13,SNR=7.5								
LPAZ	**La Paz**	**14.77**	**17**		Pn		**Pn**	**09 52 16.0**	**+2.6**
	comp=E,0.4nm,0.3s,baz=184,slow=7.0,SNR=25								
LPAZ	**La Paz**	**14.77**	**17**				**Pn**	**09 52 12.9**	**-0.4**
SIV	**San Ignacio**	**17.94**	**39**		P		**P**	**09 52 55.8**	**+1.9**
	comp=E,0.6nm,0.3s,baz=225,slow=10,SNR=36								
NNA	**Nana**	**18.87**	**347**		LR		LR	09 57 34.4	
	comp=E,390nm,19.9s,baz=23,slow=28								
BDFB	**Brasilia**	**26.98**	**62**		P		**P**	**09 54 26.8**	**+1.0**
	comp=E,3.2nm,0.5s,baz=252,slow=5.5,SNR=6.0								
BDFB	**Brasilia**	**26.98**	**62**		P		**P**	**09 54 25.4**	**-0.4**
BDFB					IAmb	IAmb		09 54 28.5	
	comp=Z,9.6nm,1.0s								
RUSC	**La Rusia**	**36.23**	**359**		P		**P**	**09 55 45.6**	**-1.8**
RUSC					IAmb	IAmb		09 55 55.1	
	comp=Z,13nm,1.0s								
MLPR	**Magueyes Islan**	**48.53**	**7**		P		**P**	**09 57 25.8**	**-1.1**
PDPR	**Patillas Dam,**	**48.70**	**8**		P		**P**	**09 57 28.1**	**-0.1**
VNA3	**Neumayer Olymp**	**52.75**	**159**		P		**P**	**09 57 59.6**	**+1.4**
VNA1	**Neumayer--Stat**	**53.05**	**158**		P		**P**	**09 58 02.1**	**+1.7**
VNA2	**Neumayer--Watz**	**53.39**	**158**		P		**P**	**09 58 03.6**	**+0.6**
baz=291,slow=8.8									
SNAA	**Sanae**	**54.98**	**159**		P		**P**	**09 58 15.4**	**+0.8**
SNAA	**Sanae**	**54.98**	**159**		P		**P**	**09 58 15.5**	**+0.8**
SNAA					IAmb	IAmb		09 58 16.2	
	comp=Z,4.7nm,0.8s								
QSPA	**South Pole Qui**	**59.68**	**180**		P		**P**	**09 58 49.8**	**+1.8**
QSPA					IAmb	IAmb		09 58 50.0	
	comp=Z,4.1nm,0.8s								
TXAR	**Lajitas Array**	**66.48**	**331**		P		**P**	**09 59 35.8**	**+2.4**
	comp=Z,1.4nm,0.7s,baz=155,slow=8.2,SNR=20								
TXAR	**Lajitas Array**	**66.48**	**331**		P		**P**	**09 59 32.0**	**-1.5**
TX31	**Lajitas Ar. Si**	**66.48**	**331**		P		**P**	**09 59 32.4**	**-1.1**
TX31					IAmb	IAmb		09 59 36.5	
	comp=Z,4.6nm,0.8s								
TX32	**Lajitas Array**	**66.48**	**331**		P		**P**	**09 59 32.5**	**-0.9**
TX32					IAmb	IAmb		09 59 36.5	
	comp=Z,1.6nm,0.8s								
WHTX	**Lake Whitney,**	**66.50**	**337**		P		**P**	**09 59 32.4**	**-1.0**
V55A	**Taylorsville**	**66.53**	**352**		P		**P**	**09 59 32.9**	**-0.7**
VNDA	**Vanda**	**67.39**	**191**		P		**P**	**09 59 41.1**	**+2.6**
	comp=Z,0.5nm,0.8s,baz=360,slow=0.2,SNR=3.8								
VNDA	**Vanda**	**67.39**	**191**		IAmb	IAmb		09 59 41.5	
	comp=Z,1.0nm,0.9s								
MNTX	**Cornudas Mount**	**69.26**	**330**		P		**P**	**09 59 51.5**	**+0.7**
MNTX					IAmb	IAmb		09 59 53.1	
	comp=Z,3.3nm,0.8s								
HHAR	**Hobbs**	**69.42**	**342**		P		**P**	**09 59 52.3**	**+0.6**
HHAR					IAmb	IAmb		09 59 53.5	
	comp=Z,7.2nm,1.1s								
OK025	**Westminster Rd**	**69.76**	**339**		P		**P**	**09 59 55.0**	**+1.2**
MSTX	**Muleshoe**	**70.19**	**334**		P		**P**	**09 59 56.0**	**-0.6**
P52A	**Corning**	**70.38**	**352**		P		**P**	**09 59 57.2**	**-0.2**
P52A					IAmb	IAmb		10 00 04.8	
	comp=Z,2.6nm,0.9s								
R40A	**Maddies Statio**	**70.89**	**344**		P		**P**	**10 00 01.2**	**+0.6**
R40A					IAmb	IAmb		10 00 02.5	
	comp=Z,4.3nm,0.7s								
M57A	**Sunshine Farm,**	**71.64**	**356**		P		**P**	**10 00 05.3**	**+0.2**
M57A					IAmb	IAmb		10 00 07.4	
	comp=Z,6.8nm,1.1s								
KSPA	**Keystone Colle**	**71.80**	**358**		P		**P**	**10 00 05.7**	**-0.3**
KSPA					IAmb	IAmb		10 00 13.7	
	comp=Z,7.4nm,1.2s								
P40A	**Paris**	**72.02**	**344**		P		**P**	**10 00 07.7**	**+0.3**
P40A					IAmb	IAmb		10 00 10.2	
	comp=Z,9.5nm,1.1s								
ANMO	**Albuquerque**	**72.52**	**331**		P		**P**	**10 00 11.0**	**+0.2**
DBIC	**Dimbokro**	**74.59**	**73**		P		**P**	**10 00 24.3**	**+1.1**
	comp=Z,3.5nm,0.5s,baz=228,slow=8.2,SNR=7.2								
DBIC	**Dimbokro**	**74.59**	**73**		IAmb	IAmb		10 00 25.6	
	comp=Z,6.0nm,0.9s								
Y14A	**Wickenburg**	**74.61**	**326**		P		**P**	**10 00 23.2**	**+0.3**
KSCO	**Kaye Shedlock'**	**74.62**	**336**		P		**P**	**10 00 22.9**	**-0.1**
KSCO					IAmb	IAmb		10 00 25.7	
	comp=Z,6.0nm,1.1s								
PV13	**Radium Mtn., P**	**76.24**	**331**		P		**P**	**10 00 31.8**	**-0.7**
PV13					IAmb	IAmb		10 00 36.5	
	comp=Z,3.4nm,1.2s								
ISCO	**Idaho Springs**	**76.40**	**334**		P		**P**	**10 00 32.9**	**-0.5**
MAW	**Mawson**	**76.63**	**164**		P		**P**	**10 00 34.8**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=230,slow=7.9,SNR=2.7								
MAW	**Mawson**	**76.63**	**164**		P		**P**	**10 00 34.4**	**+0.4**
K31A	**O'Neill**	**76.67**	**340**		P		**P**	**10 00 34.9**	**+0.4**
ECSD	**EROS Data Cent**	**77.11**	**342**		P		**P**	**10 00 37.4**	**+0.4**
ECSD					IAmb	IAmb		10 00 39.4	
	comp=Z,5.0nm,0.8s								
PDAR	**Pinedale Array**	**80.46**	**333**		P		**P**	**10 00 57.1**	**+1.4**
	comp=Z,0.3nm,0.8s,baz=116,slow=4.2,SNR=3.7								
NVAR	**Mina Array Bea**	**80.76**	**325**		P		**P**	**10 00 59.1**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=148,slow=7.6,SNR=5.9								
HVU	**Hansel Valley**	**80.93**	**331**		P		**P**	**10 00 57.5**	**-0.6**
YHL	**Hebgen Lake**	**82.85**	**333**		P		**P**	**10 01 08.0**	**-0.4**
TORD	**Torodi Ar. Bea**	**83.53**	**71**		P		**P**	**10 01 13.8**	**+1.7**
	comp=Z,2.4nm,0.6s,baz=253,slow=2.5,SNR=20								
TORD	**Torodi Ar. Bea**	**83.53**	**71**		IAmb	IAmb		10 01 16.3	
	comp=Z,3.6nm,1.1s								
DGMT	**Dagmar**	**83.58**	**339**		P		**P**	**10 01 11.7**	**+0.1**
RADR	**Rader Ridge**	**89.48**	**327**		P		**P**	**10 01 38.8**	**-1.8**
ASAR	**Alice Springs**	**120.39**	**208**		PKP		**PKPdf**	**10 07 35.6**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=124,slow=2.1,SNR=4.7								
WRA	**Warramunga Arr**	**123.50**	**211**		PKP		**PKPdf**	**10 07 41.7**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=154,slow=1.6,SNR=13								
ZALV	**Zalesovo Beam**	**151.50**	**28**		PKPbc		**PKiKP**	**10 08 38.9**	**+1.2**
	comp=Z,10.0nm,0.7s,baz=295,slow=3.3,SNR=18								
KSH	**Kashi**	**152.89**	**62**		PKPbc		**PKPdf**	**10 08 32.0**	**-1.9**
KSH					pPKP		sPKPbc	10 08 42.3	-2.5
KLR	**Kul'dur**	**153.76**	**322**		PKPbc		**PKPbc**	**10 08 42.6**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=57,slow=6.4,SNR=4.3								
MKAR	**Makanchi Array**	**154.73**	**43**		PKPbc		**PKiKP**	**10 08 46.0**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=308,slow=2.8,SNR=8.4								
LZH	**Lanzhou**	**173.73**	**27**	*e*	PKP		**PKPdf**	**10 08 50.0**	**-3.6**
LZH					pPKP		sPKPdf	10 08 56.3	-0.9
LZH					sPKP			10 08 58.3	

*IDC **19** 10:09:40.6±2.0, 5°91S×151°29E, h32km±8km, mb3.6/4, mb1 3.9/4, mb1mx3.5/30, mbtmp3.8/4, Error ellipse: s-maj=77.3km s-min=27.9km az=128.0*
ISC 19 10:09:41.4±2.0, 5°8S±0°6×151°1E±0°7, h43km, n6, σ1s29/8, mb3.9/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.51**	**228**			P	**P**	**10 14 27.0**	**+0.1**
	1.3nm,0.8s,baz=53,slow=10,SNR=9.4								
WRA						pP	**pP**	**10 14 36.3**	**-1.1**
	2.1nm,0.6s,baz=56,slow=10,SNR=9.1								
ASAR	**Alice Springs**	**24.27**	**221**			P	**P**	**10 14 56.1**	**+1.4**
	2.4nm,0.7s,baz=54,slow=9.5,SNR=28								
ASAR						pP	**pP**	**10 15 05.2**	**-1.3**
	4.6nm,0.7s,baz=53,slow=9.3,SNR=24								
FITZ	**Fitzroy Crossi**	**27.69**	**242**			P	**P**	**10 15 27.3**	**+1.6**
	1.7nm,0.8s,baz=81,slow=5.9,SNR=6.4								
FITZ						pP	**pP**	**10 15 36.2**	**-1.1**
	2.2nm,0.6s,baz=67,slow=9.9,SNR=3.9								
ILAR	**Eielson Array**	**83.73**	**22**			P	**P**	**10 22 05.5**	**-0.1**
	0.6nm,0.7s,baz=242,slow=5.0,SNR=3.5								
GERES	**GERESS Array B**	**124.01**	**327**			pPKP	pPKPdf	10 28 45.8	-3.2
	0.5nm,0.6s,baz=40,slow=1.7,SNR=2.0								
TORD	**Torodi Ar. Bea**	**148.98**	**286**		PKPbc		**PKiKP**	**10 29 27.0**	**-0.1**
	1.0nm,0.7s,baz=87,slow=2.7,SNR=5.8								

MEX 19 10:22:59.9±1.0, 14°36N×93°14W, h98km±83km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		**1.01**	**57**		*i*	P	Pn	10 23 18.7	-1.5
THIG					*i*	S	Sn	10 23 33.5	-2.0
PCIG		**1.34**	**357**		*eP*		Pn	10 23 23.2	-0.9
PCIG					*i*	S	Sn	10 23 40.4	-2.0
CCIG	**Comitan**	**2.14**	**27**		*eP*		Pn	10 23 37.9	+3.5
CCIG					*eS*		Sn	10 23 59.4	-1.4
TGIG		**2.40**	**0**		*eP*		Pn	10 23 38.4	+0.7
TGIG					*eS*		Sn	10 24 06.4	-0.3
CMIG	**Matias Romero**	**3.19**	**329**		*eP*		Pn	10 23 49.5	+1.3
CMIG					*eS*		Sn	10 24 24.4	-1.1

IDC 19 10:28:39.5±68.0, 15°67S×173°03W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.5/42, mbtmp3.9/3, MS4.2/3, Ms1 4.2/3, ms1mx3.3/46, Error ellipse: s-maj=1319.0km s-min=221.5km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.21**	**240**			P	P	10 36 50.7	0.0
	0.6nm,0.6s,baz=65,slow=14,SNR=3.1								
WRA	**Warramunga Arr**	**50.13**	**257**			P	P	10 37 36.9	-0.1
	0.3nm,0.4s,baz=88,slow=6.7,SNR=1.7								
ASAR	**Alice Springs**	**50.37**	**252**			P	P	10 37 38.6	-0.2
	2.3nm,0.5s,baz=88,slow=8.3,SNR=25								
RPN	**Rapa Nui**	**59.85**	**112**			LR	LR	10 56 07.0	
	comp=Z,51nm,21.9s,baz=259,slow=28								
ASAJ	**Asahikawa**	**71.96**	**328**			LR	LR	11 06 11.5	
	comp=Z,457nm,20.9s,baz=306,slow=31								
PFO	**Pinyon Flats O**	**72.84**	**47**			LR	LR	11 03 01.6	
	comp=Z,197nm,20.4s,baz=88,slow=28								

*IDC **19** 10:28:43.6±1.5, 31°78S×71°94W, h0km, mb4.2/4, mb1 4.1/7, mb1mx3.9/27, mbtmp4.0/7, ML3.8/3, MS3.5/3, Ms1 3.5/3, ms1mx3.2/27, Error ellipse: s-maj=41.4km s-min=32.0km az=92.0*
*GUC **19** 10:28:44.8±0.9, 31°79S×72°20W, h40km±5km, ML4.2*
*NEIC **19** 10:28:48.7±2.1, 32°13S±0°04×71°45W±0°08, h35km±2km, mb4.5/18, ML4.2(GUC), Error ellipse: s-maj=11.3km s-min=6.5km az=100.0*
ISC 19 10:28:46.2±0.9, 31°84S±0°04×72°18W±0°08, h22km±6km, n59, σ1s79/57, mb4.5/10, 10C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**1.04**	**134**	↑	*eP*		**Pn**	**10 29 04.3**	**-1.0**
VA06					*eS*		**Sn**	**10 29 18.8**	**-0.4**
VA06					IAML			10 29 25.1	
	comp=E,20μm,0.5s								
CO06	**Fray Jorge**	**1.25**	**22**	↑	*eP*		**Pn**	**10 29 04.0**	**-4.4**
CO06					*eS*		**Sn**	**10 29 21.7**	**-2.8**
CO06					IAML			10 29 28.8	
	comp=E,4μm,0.4s								
VA01	**Torpederas**	**1.26**	**159**	↑	*eP*		**Pn**	**10 29 07.8**	**-0.6**
VA01					*eS*		**Sn**	**10 29 24.9**	**+0.2**
VA01	**Torpederas**	**1.26**	**159**				Pn	10 29 03.3	-5.1
ROCH	**El Ro

TRQA	**Tornquist**	**10.41**	**129**	Pn	Pn	10 31 05.8	-8.4
LPAZ	**La Paz**	**15.92**	**14**	Pn	**Pn**	**10 32 28.2**	**-1.2**
	comp=E,0.1nm,0.3s,baz=240,slow=6.6,SNR=5.5						
LPAZ	**La Paz**	**15.92**	**14**	Pn	**P**	**10 32 29.8**	**-3.1**
SIV	**San Ignacio**	**18.74**	**35**	P	**P**	**10 33 02.8**	**-0.8**
	comp=E,0.1nm,0.3s,baz=229,slow=9.1,SNR=4.2						
SAML	**Samuel**	**24.27**	**22**	P	**P**	**10 34 01.6**	**-0.2**
BDFB	**Brasilia**	**27.28**	**59**	P	**P**	**10 34 28.0**	**-1.3**
	comp=E,3.0nm,0.4s,baz=202,slow=10.0,SNR=4.4						
BDFB				LR	LR	10 45 05.6	
	comp=E,163nm,21.0s,baz=106,slow=36						
BDFB	**Brasilia**	**27.28**	**59**	P	**P**	**10 34 27.1**	**-2.2**
BDFB				IAmb	IAmb	10 34 29.3	
	comp=Z,20nm,1.4s						
PMSA	**Palmer Station**	**33.34**	**174**	P	**P**	**10 35 19.6**	**-2.6**
PMSA				IAmb	IAmb	10 35 34.8	
	comp=Z,7.5nm,1.1s						
TUMC	**Tumaco**	**34.05**	**348**	P	**P**	**10 35 31.0**	**+2.2**
RUSC	**La Rusia**	**37.53**	**359**	P	**P**	**10 36 01.8**	**+2.6**
PETF	**Flores**	**51.36**	**338**	P	P	10 37 52.3	+3.1
PETF				IAmb	IAmb	10 37 54.8	
	comp=Z,3.1nm,0.8s						
SNAA	**Sanae**	**53.63**	**158**	P	**P**	**10 38 04.0**	**-1.4**
SNAA				IAmb	IAmb	10 38 15.2	
	comp=Z,3.9nm,1.2s						
QSPA	**South Pole Qui**	**58.39**	**180**	P	**P**	**10 38 39.0**	**-0.7**
QSPA				IAmb	IAmb	10 38 57.1	
	comp=Z,7.2nm,1.2s						
TXAR	**Lajitas Array**	**67.80**	**330**	P	**P**	**10 39 43.9**	**+1.4**
	comp=Z,0.4nm,1.0s,baz=152,slow=9.9,SNR=3.4						
Z35A	**Perchaven, San**	**69.01**	**338**	P	P	10 39 52.5	+2.7
Z35A				IAmb	IAmb	10 39 58.7	
	comp=Z,5.6nm,0.8s						
S51A	**Beattyville**	**69.94**	**350**	P	P	10 39 58.9	+3.4
SIUC	**Southern Illin**	**71.00**	**346**	P	**P**	**10 40 03.9**	**+2.0**
SIUC				IAmb	IAmb	10 40 13.9	
	comp=Z,7.3nm,1.1s						
DBIC	**Dimbokro**	**74.61**	**72**	P	**P**	**10 40 23.6**	**-0.3**
	comp=Z,7.2nm,1.1s,baz=338,slow=5.4,SNR=3.2						
SUR	**Sutherland**	**75.98**	**119**	LR	LR	11 08 19.3	
	comp=Z,55nm,20.6s,baz=52,slow=31						
TORD	**Torodi Ar. Bea**	**83.59**	**70**	P	**P**	**10 41 13.4**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=267,slow=4.6,SNR=8.3						
ZALV	**Zalesovo Beam**	**152.44**	**30**	PKPbc	**PKiKP**	**10 48 40.6**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=330,slow=5.0,SNR=1.4						
ZALV	**Zalesovo Beam**	**152.44**	**30**	PKPdf	**PKPdf**	**10 48 34.3**	**+1.2**
ZALV					**sPKPdf**	**10 48 40.8**	**-0.8**
ZALV				PKPab	**sPKPbc**	**10 48 49.7**	**+1.2**

*IDC **19** 10:31:35.3±2.3, 4.39S×140.18E, h55km±35km, mb3.4/2, mb1 3.7/3, mb1mx3.2/34, mbtmp3.8/3, ML3.8/1, Error ellipse: s-maj=66.4km s-min=14.6km az=99.0*

ISC 19 10:31:33.5±1.4, 4.5S±0.1×140.2E±0.3, h27km, n5, σ2s 20/8, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.01**	**15**	P	**Pn**	**10 32 06.6**	**+0.9**
	16nm,0.3s,baz=190,slow=11,SNR=63						
JAY				S	**Sn**	**10 32 29.2**	**-0.8**
	14nm,0.3s,baz=265,slow=22,SNR=9.3						
WRA	**Warramunga Arr**	**16.40**	**200**	P	**P**	**10 35 24.5**	**-0.1**
	0.4nm,0.3s,baz=24,slow=12,SNR=18						
WRA				S	**Sn**	**10 38 22.6**	**-0.7**
	0.2nm,0.3s,baz=14,slow=22,SNR=3.2						
FITZ	**Fitzroy Crossi**	**19.65**	**225**	P	**Pn**	**10 36 05.8**	**+3.9**
	0.1nm,0.3s,baz=49,slow=9.3,SNR=2.7						
FITZ				S	**S**	**10 39 39.0**	**-1.7**
	0.2nm,0.3s,baz=53,slow=20,SNR=4.1						
ASAR	**Alice Springs**	**20.02**	**197**	P	Pn	10 36 05.9	-0.4
	0.7nm,0.5s,baz=30,slow=10,SNR=20						
ASAR				S	**S**	**10 39 47.1**	**-1.3**
	0.6nm,0.8s,baz=13,slow=30,SNR=4.0						
MKAR	**Makanchi Array**	**72.08**	**322**	P	**P**	**10 42 53.9**	**-1.6**
	0.7nm,0.5s,baz=122,slow=5.2,SNR=5.7						

*IDC **19** 10:43:57.5±3.4, 45.83N×151.96E, h43km±27km, mb3.6/7, mb1 3.8/11, mb1mx3.5/57, mbtmp3.8/11, ML3.6/2, MS3.6/1, Ms1 3.6/1, ms1mx3.0/61, Error ellipse: s-maj=45.3km s-min=21.4km az=168.0*

ISC 19 10:43:55.8±1.0, 45.4N±0.1×152.1E±0.1, h50km, n35, σ2s 24/28, mb3.6/7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**4.96**	**248**	P	**Pn**	**10 45 05.4**	**-2.3**
NEM2				eS	**Sn**	**10 45 59.7**	**-4.0**
JRA	**Rausu**	**5.16**	**256**	P	**Pn**	**10 45 10.2**	**-0.2**
JNK	**Nakash**	**5.56**	**254**	P	**Pn**	**10 45 15.0**	**-0.9**
JAK	**Akkeshi**	**5.81**	**248**	P	**Pn**	**10 45 17.1**	**-2.2**
JTKR	**Abashiri--Toko**	**5.99**	**259**	P	**Pn**	**10 45 21.4**	**-0.3**
JMP	**Maruseppu**	**6.36**	**261**	P	**Pn**	**10 45 27.5**	**+0.6**
JKK2	**Kamakawa 2**	**6.82**	**261**	P	**Pn**	**10 45 33.7**	**+0.5**
JCH	**Churui**	**6.86**	**249**	P	**Pn**	**10 45 32.5**	**-1.2**
ASAJ	**Asahikawa**	**6.86**	**263**	P	**Pn**	**10 45 34.0**	**+0.2**
	1.3nm,0.3s,baz=66,slow=23,SNR=10						
ASAJ	**Asahikawa**	**6.86**	**263**	P	**Pn**	**10 45 34.7**	**+0.9**
JFR	**Furan**	**7.15**	**255**	P	**Pn**	**10 45 38.8**	**+1.0**
JNBK	**Urakawa-nobuka**	**7.41**	**249**	P	**Pn**	**10 45 39.3**	**-2.0**
PETK	**Petropavlovsk-**	**8.57**	**23**	P	**Pn**	**10 45 54.5**	**-2.6**
	baz=186,slow=12,SNR=1.7						
JANG	**Nango**	**9.22**	**241**	P	Pn	10 46 02.1	-3.9
JANG				eS	Sn	10 47 39.4	-8.9
JOSM	**Okushiri--Mats**	**9.69**	**255**	P	**Pn**	**10 46 11.4**	**-1.1**
JRG	**Rokugo**	**10.35**	**239**	P	**Pn**	**10 46 19.4**	**-2.1**
JIO	**Ouri**	**10.56**	**233**	P	**Pn**	**10 46 21.3**	**-3.1**
JIO				eS	Sn	10 48 11.0	-10
MJAR	**Matsushiro Arr**	**13.68**	**235**	P	**P**	**10 47 15.2**	**+0.8**
	baz=40,slow=8.5,SNR=4.3						
USRK	**Ussuriysk Ar.**	**14.31**	**272**	P	**Pn**	**10 47 17.5**	**+2.1**
	baz=106,slow=11,SNR=4.0						
JHJ	**Hachijo jima 2**	**15.48**	**222**	LR	LR	10 53 19.0	
	comp=Z,227nm,21.7s,baz=328,slow=36						
SEY	**Seymchan**	**17.59**	**0**	P	**Pn**	**10 47 52.8**	**-4.3**
	0.2nm,0.3s,baz=17,slow=19,SNR=2.8						
KSRS	**Korea Array**	**19.71**	**255**	P	**Pn**	**10 48 28.4**	**+5.6**
	0.1nm,0.3s,baz=45,slow=12,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**28.37**	**150**	T	T	11 20 23.0	
	baz=336,slow=74,SNR=29						
H11N1	**WAKE ISLAND Hy**	**28.38**	**150**	T	T	11 20 26.9	
	baz=336						
H11N3	**WAKE ISLAND Hy**	**28.38**	**149**	T	T	11 20 23.9	
	baz=336,slow=74,SNR=25						
H11S1	**WAKE ISLAND Hy**	**29.43**	**151**	T	T	11 21 48.4	
	baz=339,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**29.44**	**151**	T	T	11 21 42.5	
	baz=339,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**29.45**	**151**	T	T	11 21 46.1	
	baz=339,slow=76,SNR=14						
SONM	**Songino Array**	**31.13**	**291**	P	**P**	**10 50 10.3**	**+0.7**
	0.3nm,0.6s,baz=69,slow=7.9,SNR=3.6						
MKAR	**Makanchi Array**	**46.94**	**298**	P	**P**	**10 52 21.6**	**+0.3**
	0.2nm,0.3s,baz=56,slow=7.7,SNR=2.4						
NVAR	**Mina Array Bea**	**63.72**	**61**	P	**P**	**10 54 24.9**	**+2.5**
	0.3nm,0.7s,baz=299,slow=6.0,SNR=3.2						
FINES	**FINESS Array B**	**64.97**	**335**	P	**P**	**10 54 28.9**	**-1.0**
	2.6nm,0.7s,baz=47,slow=7.9,SNR=15						
KBZ	**Khabaz**	**71.29**	**314**	P	**P**	**10 55 11.6**	**+1.9**
	2.1nm,0.7s,baz=135,slow=4.3,SNR=4.2						
AKASG	**Malin Array Be**	**72.28**	**326**	P	**P**	**10 55 15.1**	**-0.5**
	1.5nm,0.5s,baz=37,slow=6.2,SNR=5.3						
TXAR	**Lajitas Array**	**78.81**	**60**	P	**P**	**10 55 54.6**	**+1.1**
	0.5nm,0.7s,baz=307,slow=4.1,SNR=8.5						

IDC 19 10:45:27.1±2.1, 6.75S×129.16E, h0km, mb3.4/1, mb1 3.6/4, mb1mx3.4/42, mbtmp3.4/4, ML3.4/3, Error ellipse: s-maj=91.2km s-min=27.5km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.79**	**197**	Pn	Pn	10 48 16.1	-0.5
	0.3nm,0.3s,baz=21,slow=11,SNR=28						
FITZ				Sn	Sn	10 50 14.5	-14
	0.1nm,0.3s,baz=240,slow=20,SNR=2.3						
WRA	**Warramunga Arr**	**14.04**	**160**	Pn	Pn	10 48 47.6	+0.2
	0.2nm,0.3s,baz=343,slow=14,SNR=14						
WRA				Sn	Sn	10 51 11.9	-12
	0.3nm,0.3s,baz=332,slow=21,SNR=7.0						
ASAR	**Alice Springs**	**17.43**	**165**	P	Pn	10 49 32.1	+0.3
	0.1nm,0.3s,baz=335,slow=9.6,SNR=8.0						
ASAR				S	Sn	10 52 35.9	-11
	0.1nm,0.3s,baz=344,slow=30,SNR=3.5						
MKAR	**Makanchi Array**	**67.56**	**327**	P	P	10 56 25.4	0.0
	0.2nm,0.4s,baz=110,slow=7.2,SNR=2.6						

*GUC **19** 10:46:04.9±0.6, 34.00S×71.20W, h71km±2km, ML4.5*
*NEIC **19** 10:46:04.1±1.2, 33.99S±0.03×71.3W±0.1, h73km±5km, Error ellipse: s-maj=12.7km s-min=4.7km az=93.0*
*IDC **19** 10:46:04.6±0.8, 33.97S×71.08W, h66km±7km, mb3.5/7, mb1 3.7/9, mb1mx3.6/28, mbtmp3.8/9, Error ellipse: s-maj=29.1km s-min=17.5km az=92.0*

ISC 19 10:46:04.1±0.5, 34.00S±0.03×71.22W±0.04, h69km±4km, n73, σ1s 23/93, mb4.1/7, 8C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MT01	**Popeta**	**0.14**	**349**	ep	**Pn**	**10 46 15.0**	**+0.7**
MT01				eS	**Sn**	**10 46 22.2**	**+0.5**
MT01				IAML		10 46 23.1	
	comp=E,90μm,0.3s						
MT01	**Popeta**	**0.14**	**349**		**Pn**	**10 46 15.2**	**+0.9**
MT01				Sn	**Sn**	**10 46 22.6**	**+0.9**
MT09	**Talagante**	**0.29**	**41**	ep	**Pn**	**10 46 15.6**	**+0.4**
MT09				i S	**Sn**	**10 46 23.8**	**+0.5**
MT09				IAML		10 46 25.0	
	comp=N,63μm,0.2s						
MT09	**Talagante**	**0.29**	**41**		**Pn**	**10 46 15.9**	**+0.7**
MT09				Sn	**Sn**	**10 46 24.0**	**+0.6**
BO01	**Tunca**	**0.41**	**164**	ep	**Pn**	**10 46 16.6**	**+0.7**
BO01				eS	**Sn**	**10 46 25.5**	**+0.9**
BO01				IAML		10 46 25.9	
	comp=N,21μm,0.2s						
BO01	**Tunca**	**0.41**	**164**		**Pn**	**10 46 16.9**	**+1.0**
BO01				Sn	**Sn**	**10 46 25.5**	**+0.9**
VA05	**Santo Domingo**	**0.47**	**316**	ep	**Pn**	**10 46 17.3**	**+0.9**
VA05				eS	**Sn**	**10 46 26.7**	**+1.2**
VA05				IAML		10 46 27.9	
	comp=E,102μm,0.3s						
VA05	**Santo Domingo**	**0.47**	**316**		**Pn**	**10 46 17.5**	**+1.1**
VA05				Sn	**Sn**	**10 46 26.8**	**+1.2**
MT05	**Renca**	**0.73**	**34**	eP	**Pn**	**10 46 19.9**	**+0.7**
MT05				i S	**Sn**	**10 46 31.3**	**+0.9**
MT05				IAML		10 46 32.6	
	comp=E,44μm,0.4s						
MT05	**Renca**	**0.73**	**34**		**Pn**	**10 46 20.0**	**+0.7**
MT05				Sn	**Sn**	**10 46 31.5**	**+1.1**
FSR	**Penalolen**	**0.78**	**48**	ep	**Pn**	**10 46 21.0**	**+1.2**
FSR				eS	**Sn**	**10 46 32.5**	**+1.0**
BO03	**Pichilemu**	**0.79**	**231**	ep	**Pn**	**10 46 21.1**	**+1.2**
BO03				eS	**Sn**	**10 46 32.9**	**+1.3**
LMEL	**Las Melosas**	**0.86**	**80**	ep	**Pn**	**10 46 21.6**	**+0.7**
LMEL				eS	**Sn**	**10 46 34.5**	**+1.1**
LMEL				IAML		10 46 35.2	
	comp=N,29μm,0.2s						
BO02	**Sierra Bellavi**	**0.87**	**155**	ep	**Pn**	**10 46 21.7**	**+0.7**
BO02				eS	**Sn**	**10 46 34.1**	**+0.6**
BO02				IAML		10 46 36.5	
	comp=N,16μm,0.4s						
BO02	**Sierra Bellavi**	**0.87**	**155**	Pn	**Pn**	**10 46 22.0**	**+1.0**
BO02				Sn	**Sn**	**10 46 34.9**	**+1.3**
VA01	**Torpederas**	**1.03**	**340**	ep	**Pn**	**10 46 24.1**	**+1.2**
VA01				eS	**Sn**	**10 46 38.2**	**+1.3**
VA01				IAML		10 46 39.1	
	comp=N,12μm,0.2s						
VA01	**Torpederas**	**1.03**	**340**		**Pn**	**10 46 24.4**	**+1.4**
ROCH	**El Roble**	**1.04**	**10**	ep	**Pn**	**10 46 23.9**	**+0.7**
ROCH				eS	**Sn**	**10 46 38.4**	**+1.0**
ROCH				IAML		10 46 40.9	
	comp=E,29μm,0.4s						
GO05	**Huala**	**1.17**	**210**	ep	**Pn**	**10 46 25.6**	**+1.0**
GO05				eS	**Sn**	**10 46 41.3**	**+1.2**
GO05				IAML		10 46 46.4	
	comp=E,5μm,0.5s						
GO05	**Huala**	**1.17**	**210**		**Pn**	**10 46 25.8**	**+1.1**
VA03	**San Esteban**	**1.35**	**25**	ep	**Pn**	**10 46 28.0**	**+0.9**
VA03				eS	**Sn**	**10 46 45.5**	**+1.1**
VA03				IAML		10 46 50.2	
	comp=E,6μm,0.4s						
VA03	**San Esteban**	**1.35**	**25**		**Pn**	**10 46 28.5**	**+1.3**
VA06	**Catapilco**	**1.43**	**357**	ep	**Pn**	**10 46 29.1**	**+1.0**
VA06				eS	**Sn**	**10 46 48.0**	**+1.8**
VA06				IAML		10 46 52.0	
	comp=N,8μm,0.6s						
ML02	**Panimavida**	**1.77**	**185**	ep	**Pn**	**10 46 33.5**	**+0.9**
ML02				eS	**Sn**	**10 46 55.4**	**+1.3**
ML02				IAML		10 47 01.7	
	comp=N,5μm,0.4s						
ML02	**Panimavida**	**1.77**	**185**	Pn	**Pn**	**10 46 33.7**	**+1.1**
CO03	**El Pedregal**	**3.18**	**8**	Pn	**Pn**	**10 46 53.3**	**+1.5**
CO06	**Fray Jorge**	**3.33**	**354**		**Pn**	**10 46 53.8**	**0.0**
LC01	**Cunco**	**4.92**	**186**	Pn	**Pn**	**10 47 16.0**	**+0.5**
LR03	**Panguipulli**	**5.70**	**189**		**Pn**	**10 47 25.8**	**-0.2**
AC04	**Llanos de Chal**	**5.78**	**1**	Pn	**Pn**	**10 47 26.9**	**-0.4**
VA04	**Juan Fernndez**	**6.34**	**271**		**Pn**	**10 47 34.0**	**-1.0**
H03S1	**Juan Fernandez**	**6.39**	**269**	T	T	10 53 46.8	
	baz=87,slow=75,SNR=637						
H03S3	**Juan Fernandez**	**6.39**	**269**	T	T	10 53 51.6	
	baz=87,slow=75,SNR=880						
H03S2	**Juan Fernandez**	**6.41**	**269**	T	T	10 53 49.4	
	baz=87,slow=75,SNR=823						
H03N1	**Juan Fernandez**	**6.43**	**273**	T	T	10 54 51.0	
	baz=86,slow=73,SNR=22						
GO03	**Copiap**	**6.44**	**8**	Pn	**Pn**	**10 47 35.8**	**-0.6**
H03N3	**Juan Fernandez**	**6.44**	**273**	T	T	10 54 50.5	
	baz=86,slow=73,SNR=18						
H03N2	**Juan Fernandez**	**6.45**	**273**	T	T	10 54 50.5	
	baz=86,slow=73,SNR=22						
AC06	**Mina Casimiro**	**6.66**	**7**	Pn	**Pn**	**10 47 38.2**	**-1.1**
PLCA	**Paso Flores**	**6.74**	**176**	P	**Pn**	**10 47 42.0**	**+1.6**
	comp=N,1.1nm,0.3s,baz=342,slow=11,SNR=33						
PLCA	**Paso Flores**	**6.74**	**176**		**Pn**	**10 47 42.3**	**+1.8**
LL04	**Puerto Octay**	**6.96**	**187**	Pn	**Pn**	**10 47 41.9**	**-1.5**
LL03	**Petrohue**	**7.19**	**187**	Pn	**Pn**	**10 47 44.9**	**-1.5**
AC02	**Maricunga**	**7.36**	**15**	Pn	**Pn**	**10 47 48.2**	**-1.2**
LL05	**Los Muermos**	**7.61**	**193**	Pn	**Pn**	**10 47 49.7**	**-2.4**
TRQA	**Tornquist**	**8.51**	**121**		**Pn**	**10 48 05.6**	**+1.0**
LL07	**Hotel Espejo d**	**9.00**	**191**	Pn	**Pn**	**10 48 07.6**	**-3.5**
GO07	**Milladeo Hill,**	**9.30**	**191**	Pn	**Pn**	**10 48 12.3**	**-3.0**
PB15	**IPOC Station P**	**10.86**	**9**	Pn	**Pn**	**10 48 35.2**	**-1.7**
LVC	**Limon Verde**	**11.53**	**11**	Pn	**Pn**	**10 48 43.1**	**-3.0**
LPAZ	**La Paz**	**17.85**	**10**	P	**Pn**	**10 50 10.1**	**+1.6**
	comp=N,0.1nm,0.3s,baz=195,slow=9.7,SNR=6.1						
LPAZ	**La Paz**	**17.85**	**10**	P	**P**	**10 50 06.0**	**-2.3**
EFI	**East Falkland**	**20.07**	**156**	P	**P**	**10 50 31.4**	**-0.2**
SIV	**San Ignacio**	**20.13**	**30**	P	**P**	**10 50 33.2**	**+0.6**
	comp=N,0.6nm,0.5s,baz=200,slow=14,SNR=3.8						
SIV				pP	**pP**	**10 50 46.4**	**-0.7**
	comp=N,2.4nm,0.7s,baz=225,slow=9.8,SNR=7.1						
DUNO	**Dulce Nombre,**	**45.88**	**340**	P	**P**	**10 54 18.6**	**-1.1**
VNA3	**Neumayer Olymp**	**49.10**	**158**	P	**P**	**10 54 45.4**	**+1.3**
VNA1	**Neumayer--Stat**	**49.41**	**157**	P	**P**	**10 54 48.0**	**+1.5**
VNA2	**Neumayer--Watz**	**49.75**	**157**	P	**P**	**10 54 50.0**	**+0.9**
	baz=285,slow=8.3						
SNAA	**Sanae**	**51.33**	**158**	P	**P**	**10 55 01.6**	**+0.6**
SNAA	**Sanae**	**51.33**	**158**	P	**P**	**10 55 00.8**	**-0.2**
SNAA				IAmb	IAmb	10 55 03.0	
	comp=Z,5.6nm,0.8s						
QSPA	**South Pole Qui**	**56.24**	**180**	P	**P**	**10 55 38.7**	**+1.6**
VNDA	**Vanda**	**64.24**	**191**	P	**P**	**10 56 33.0**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=133,slow=7.5,SNR=8.3						
VNDA	**Vanda**	**64.24**	**191**	P	**P**	**10 56 31.1**	**-0.2**
VNDA				IAmb	IAmb	10 56 45.1	
	comp=Z,8.6nm,1.5s						
TXAR	**Lajitas Array**	**70.07**	**330**	P	**P**	**10 57 09.3**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=149,slow=7.9,SNR=4.0						
TXAR				pP	**pP**	**10 57 27.8**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=153,slow=8.5,SNR=7.3						
MAW	**Mawson**	**72.99**	**163**	P	**P**	**10 57 26.9**	**+1.0**
	comp=Z,2.0nm,0.7s,baz=237,slow=6.3,SNR=6.2						
MAW	**Mawson**	**72.99**	**163**	P	**P**	**10 57 25.7**	**-0.1**
BOSA	**Boshof**	**79.47**	**117**	P	**P**	**10 58 03.9**	**+0.4**
	comp=Z,2.5nm,0.9s,baz=167,slow=10,SNR=3.0						
BOSA	**Boshof**	**79.47**	**117**	P	**P**	**10 58 02.3**	**-1.2**
TORD	**Torodi Ar. Bea**	**83.57**	**70**	P	**P**	**10 58 24.5**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=266,slow=4.1,SNR=6.9						
TORD				pP	**pP**	**10 58 43.3**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=252,slow=4.7,SNR=3.1						
TORD	**Torodi Ar. Bea**	**83.57**	**70**	P	**P**	**10 58 23.9**	**-1.2**
TORD				IAmb	IAmb	10 58 53.0	
	comp=Z,1.7nm,0.9s						
NVAR	**Mina Array Bea**	**84.27**	**325**	P	**P**	**10 58 30.1**	**+1.7**
	comp=Z,0.3nm,0.7s,baz=142,slow=4.6,SNR=3.1						
NVAR				pP	**pP**	**10 58 47.8**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=148,slow=7.1,SNR=3.3						
NVAR	**Mina Array Bea**	**84.27**	**325**	P	**P**	**10 58 27.8**	**-0.6**
WRA	**Warramunga Arr**	**121.09**	**208**	PKP	**PKPdf**	**11 04 48.8**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=165,slow=1.1,SNR=5.0						
WRA				pPKP	**pPKPdf**	**11 05 08.7**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=169,slow=1.9,SNR=2.7						

MEX 19 10:55:12.9±0.5, 16.79N×100.61W, h16km±48km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAIG	**Los Arroyos**	**0.95**	**76**	i P	Pb	10 55 27.5	-3.5
DAIG				i S	Sb	10 55 38.8	-4.6
MEIG	**Mezcala**	**1.48**	**40**	i P	Pn	10 55 35.7	-3.2
MEIG				i S	Sn	10 55 52.7	-5.3
ARIG	**Puente Sto Nin**	**1.50**	**10**	i P	Pn	10 55 35.5	-3.8
ARIG				i S	Sn	10 55 53.4	-5.2
PLIG	**Platanillo**	**1.91**	**33**	i P	Pn	10 55 42.8	-2.1
PLIG				eS	Sn	10 56 05.2	-3.6

MEX 19 10:55:16.6±0.6, 15.35N×94.05W, h16km±424km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.87**	**66**	i P	Pb	10 55 30.1	-3.2
PCIG				i S	Sb	10 55 41.2	-3.6
CMIG	**Matias Romero**	**1.91**	**335**	i P	Pn	10 55 43.9	-4.7
CMIG				i S	Sn	10 56 04.5	-7.9
CCIG	**Comitan**	**2.06**	**63**	i P	Pn	10 55 43.3	-7.5
CCIG				i S	Sn	10 56 03.0	-13

MEX 19 10:59:52.1±0.5, 14.11N×93.21W, h15km±94km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.59**	**360**	i P	Pn	11 00 16.2	-3.5
PCIG				i S	Sn	11 00 28.0	-12
CCIG	**Comitan**	**2.40**	**25**	i P	Pn	11 00 31.2	+0.2
CMIG	**Matias Romero**	**3.38**	**332**	i P	Pn	11 00 42.5	-1.8

*IDC **19** 11:01:44.6±0.8, 33.44S×77.95E, h0km, mb4.0/11, mb1 4.1/11, mb1mx3.9/39, mbtmp4.0/11, MS3.9/5, Ms1 3.9/5, ms1mx3.5/34, Error ellipse: s-maj=26.3km s-min=19.6km az=101.0*
*NEIC **19** 11:01:46.7±1.6, 33.6S±0.1×77.9E±0.1, h10km±1km, mb4.6/13, Error ellipse: s-maj=25.7km s-min=8.8km az=308.0*

ISC 19 11:01:46.3±0.6, 33.5S±0.1×77.8E±0.1, h10km, n34, σ0s 87/26, mb4.2/16, MS4.1/5, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**26.19**	**348**	T	T	11 34 13.2	
	baz=170,slow=76,SNR=1168						
H08S1	**Diego Garcia H**	**26.20**	**348**	T	T	11 34 13.4	
	baz=170,slow=76,SNR=1410						
H08S3	**Diego Garcia H**	**26.21**	**348**	T	T	11 34 14.6	
	baz=170,slow=76,SNR=1331						
H01W2	**Cape Leeuwin H**	**29.96**	**103**	T	T	11 39 14.2	
	baz=262,slow=74,SNR=64						
H01W3	**Cape Leeuwin H**	**29.97**	**103**	T	T	11 39 12.9	
	baz=262,slow=74,SNR=52						
H01W1	**Cape Leeuwin H**	**29.98**	**103**	T	T	11 39 11.7	
	baz=262,slow=74,SNR=57						
MORW	**Morawa**	**32.83**	**93**	P	**P**	**11 08 20.0**	**-0.2**
GIRL	**Giralia**	**33.74**	**81**	P	**P**	**11 08 28.2**	**+0.1**
MAW	**Mawson**	**35.24**	**190**	P	**P**	**11 08 41.1**	**+0.6**
	4.1nm,1.0s,baz=14,slow=11,SNR=5.3						
MAW	**Mawson**	**35.24**	**190**	P	**P**	**11 08 40.3**	**-0.3**
JAGI	**Jajag, Banyuwa**	**41.72**	**62**	P	**P**	**11 09 37.4**	**+1.7**
BOSA	**Boshof**	**44.91**	**261**	LR	LR	11 25 20.9	
	comp=Z,129nm,18.4s,baz=86,slow=32						
FITZ	**Fitzroy Crossi**	**45.30**	**82**	P	**P**	**11 10 03.6**	**-0.9**
LSZ	**Lusaka**	**48.23**	**280**	P	**P**	**11 10 26.8**	**-0.9**
LSZ				IAmb	IAmb	11 10 30.0	
	comp=Z,6.4nm,0.8s						
ASAR	**Alice Springs**	**49.70**	**94**	P	**P**	**11 10 37.6**	**-1.2**
	comp=Z,1.6nm,0.8s,baz=245,slow=6.4,SNR=17	

COEN Coen 9.61 217 Pn **Pn** **11 16 37.3 +0.1**
HNR Honiara 11.18 107 P **Pn** **11 17 02.7 +4.0**
4.6nm,0.3s,baz=270,slow=6.1,SNR=3.7
HNR LR LR 11 20 44.9
comp=Z,506nm,21.1s,baz=299,slow=34
HNR Honiara 11.18 107 Pn **11 16 58.6 -0.1**
MTSU Mount Surprise 12.68 201 P **Pn** **11 17 18.9 -0.2**
baz=13,SNR=86
CTA Charters Tower 14.00 191 P **Pn** **11 17 38.3 +1.1**
0.9nm,0.3s,baz=17,slow=15,SNR=9.3
CTAO Charters Tower 14.00 191 Pn **Pn** **11 17 38.0 +0.8**
QIS Mount Isa 16.92 212 P **Pn** **11 18 15.1 +0.3**
baz=17,SNR=24
KDU Kakadu 17.59 248 P **Pn** **11 18 21.7 -1.3**
baz=18,SNR=7.1
SIJI Sorong 18.60 286 LR LR 11 28 11.9
comp=Z,467nm,18.1s,baz=23,slow=45
MTN Manton Dam 18.88 248 P **P** **11 18 38.0 +0.4**
baz=19,SNR=6.2
MTN Manton Dam 18.88 248 P **P** **11 18 37.7 +0.1**
MTN IAmb IAmb 11 18 51.6
comp=Z,28nm,0.7s
EIDS Eidsvold 19.07 175 P **Pn** **11 18 41.4 +0.4**
baz=19,SNR=7.7
EIDS Eidsvold 19.07 175 P **Pn** **11 18 40.7 -0.3**
WB0 Warramunga Arr 19.60 225 P **Pn** **11 18 46.6 -0.7**
WB0 IAmb IAmb 11 18 47.3
comp=Z,61nm,0.7s
WR0 Warramunga Arr 19.63 225 P **P** **11 18 46.5 +0.6**
WR0 IAmb IAmb 11 18 47.6
comp=Z,83nm,1.1s
WRAB Tennant Creek 19.74 225 P **P** **11 18 47.6 +0.6**
WB2 Warramunga Arr 19.75 225 P **P** **11 18 47.6 +0.4**
WRA Warramunga Arr 19.76 225 P **P** **11 18 47.2 0.0**
comp=Z,11nm,0.3s,baz=54,slow=10,SNR=378
WRA S **S** **11 22 22.6 -4.6**
comp=Z,0.4nm,0.3s,baz=38,slow=21,SNR=5.1
WRA PcP **PcP** **11 23 03.9 -0.3**
baz=21,slow=3.8,SNR=5.5
WRA LR LR 11 27 24.9
comp=Z,677nm,18.8s,baz=40,slow=40
WRA Warramunga Arr 19.76 225 P **P** **11 18 47.9 +0.6**
RMQ Roma 20.10 181 P **P** **11 18 51.4 +0.5**
baz=20,SNR=27
GUMO Guam 20.18 348 P **P** **11 18 52.3 +0.4**
comp=Z,43nm,0.6s,baz=157,slow=20,SNR=5.3
GUMO LR LR 11 25 49.7
comp=Z,276nm,19.5s,baz=169,slow=34
GUMO Guam 20.18 348 P **P** **11 18 52.0 +0.1**
KOUNC Koumac, New Ca 20.44 135 P Pn 11 18 57.4 +0.2
QLP Quilpie 20.72 192 P **P** **11 18 58.6 +1.0**
baz=21,SNR=25
KNRA Kununurra 22.03 243 P **P** **11 19 10.9 -0.9**
baz=22,SNR=59
KNRA Kununurra 22.03 243 P **P** **11 19 11.4 -0.4**
AS31 Alice Springs 22.64 219 P **P** **11 19 19.2 +0.9**
AS31 IAmb IAmb 11 19 38.9
comp=Z,45nm,1.2s
ASAR Alice Springs 22.64 219 P **P** **11 19 19.1 +0.8**
comp=Z,24nm,0.5s,baz=55,slow=9.5,SNR=461
ASAR PcP **PcP** **11 23 09.3 -0.4**
comp=Z,6.5nm,0.9s,baz=64,slow=2.2,SNR=6.2
ASAR S **S** **11 23 24.2 +1.5**
comp=Z,30nm,1.1s,baz=28,slow=22,SNR=17
ASAR Alice Springs 22.64 219 P **P** **11 19 18.6 +0.3**
LIFNC LIFOU 22.73 131 P **P** **11 19 18.9 -0.3**
LIFNC LIFOU 22.73 131 P **P** **11 19 22.6 +3.4**
DZM Mont Dzumac 22.95 135 *e*P **P** **11 19 20.8 -0.8**
comp=Z,81nm,0.9s
DZM *e*S **S** **11 23 25.2 -2.9**
comp=Z,380nm,24.7s
DZM *e*LR LR 11 25 10.0
comp=Z,1μm,23.0s
DZM Mont Dzumac 22.95 135 P **P** **11 19 21.3 -0.4**
comp=Z,22nm,0.8s,baz=358,slow=10,SNR=9.2
DZM Mont Dzumac 22.95 135 P **P** **11 19 21.7 +0.1**
DZM IAmb IAmb 11 19 39.7
comp=Z,44nm,1.0s
DZM Mont Dzumac 22.95 135 P **P** **11 19 21.9 +0.3**
YATNC Mamie plateau, 23.26 134 P **P** **11 19 25.1 +0.5**
comp=Z,118nm,1.1s
MARNC Mare, Loyalty 23.74 131 P **P** **11 19 29.8 +0.8**
comp=Z,2.3nm,1.1s
ARMA Armidale 24.13 175 P **P** **11 19 33.6 +1.0**
baz=24,SNR=9.3
ARMA Armidale 24.13 175 P **P** **11 19 33.0 +0.3**
ARMA IAmb IAmb 11 19 52.3
comp=Z,43nm,1.5s
SOEI Soe 24.84 260 P **P** **11 19 39.2 -0.1**
SOEI Soe 24.84 260 P **P** **11 19 39.4 +0.1**
comp=Z,1μmcomp=Z,92nm,0.9s
CMSA Cobar Meteorol 25.33 187 P **P** **11 19 44.3 +0.9**
baz=25,SNR=15
BATI Baumata 25.48 259 P **P** **11 19 45.0 +0.1**
comp=Z,85nm,0.6s,baz=134,slow=2.6,SNR=9.0
BATI LR LR 11 32 39.9
comp=Z,670nm,19.0s,baz=90,slow=43
BATI Baumata 25.48 259 P **P** **11 19 45.1 +0.1**
comp=Z,93nm,0.7s
FITZ Fitzroy Crossi 25.73 241 P **P** **11 19 47.5 +0.3**
baz=26,SNR=88
FITZ Fitzroy Crossi 25.73 241 P **P** **11 19 47.5 +0.3**
comp=Z,45nm,0.5s,baz=58,slow=6.7,SNR=89
FITZ S **S** **11 24 15.8 +3.1**
comp=Z,6.9nm,0.9s,baz=17,slow=14,SNR=5.8
FITZ LR LR 11 30 44.0
comp=Z,441nm,19.6s,baz=65,slow=38
FITZ Fitzroy Crossi 25.73 241 P **P** **11 19 46.9 -0.3**
STKA Stephens Creek 26.42 194 P **P** **11 19 54.8 +1.5**
baz=26,SNR=14
STKA Stephens Creek 26.42 194 P **P** **11 19 54.6 +1.3**
comp=Z,9.8nm,0.9s,baz=5.7,slow=9.0,SNR=16
STKA Stephens Creek 26.42 194 P **P** **11 19 53.4 +0.1**
MMRI Maumere 26.74 263 P **P** **11 19 55.2 -1.2**
MMRI Maumere 26.74 263 P **P** **11 19 55.1 -1.3**
comp=Z,102nm,0.5s
DAV Davao City (W) 26.96 299 LR LR 11 32 28.6
comp=Z,133nm,18.2s,baz=139,slow=40
EDFI Ende, Flores 27.29 263 P **P** **11 19 58.8 -2.7**
comp=Z,291nmcomp=Z,26nm,0.6s
WRKA Warakurna 27.30 225 P **P** **11 20 01.7 +0.3**
baz=27,SNR=142
HTT Hallett 28.62 198 P **P** **11 20 16.0 +2.9**
baz=29,SNR=15
BBOO Buckleboo 29.06 203 P **P** **11 20 16.8 -0.1**
BBOO IAmb IAmb 11 20 43.1
comp=Z,12nm,0.8s
KAPI Kappang 29.24 271 LR LR 11 33 26.0
comp=Z,170nm,21.4s,baz=102,slow=39
WBSI Waikabubak, Su 29.61 262 P **P** **11 20 21.5 -0.6**
comp=Z,64nm,0.9s
MSVF Nonsavu 30.46 115 P **P** **11 20 28.8 -0.7**
ARPS Mount Arapiles 31.07 191 P **P** **11 20 36.2 +1.6**
baz=31,SNR=6.3
TOO Toolangi 31.32 186 P **P** **11 20 38.3 +1.5**
baz=31,SNR=5.5
TOO Toolangi 31.32 186 P **P** **11 20 37.8 +0.9**
TOO IAmb IAmb 11 20 57.9
comp=Z,8.5nm,0.8s
FORT Forrest 31.37 216 P **P** **11 20 38.1 +0.8**
PSA00 Pilbara Seismi 32.12 239 P **P** **11 20 44.3 +0.2**
PSA00 IAmb IAmb 11 20 55.4
comp=Z,18nm,0.8s
PSA00 Pilbara Seismi 32.12 239 P **P** **11 20 43.5 -0.6**
PSA00 IAmb IAmb 11 20 55.4
comp=Z,11nm,0.9s
MEEK Meekatharra 35.40 232 P **P** **11 21 12.9 +0.4**
baz=35,SNR=24
MORW Morawa 38.57 230 P **P** **11 21 39.1 -0.3**
baz=39,SNR=4.2
MORW Morawa 38.57 230 P **P** **11 21 39.5 +0.1**
NWAO Narrogin (SRO) 39.76 224 P **P** **11 21 48.5 -0.8**
NWAO IAmb IAmb 11 22 14.4
comp=Z,30nm,1.2s
KPJI Karang Pucung 39.90 266 P **P** **11 21 51.7 +1.0**
comp=Z,44nm,0.8s
MUN Mundaring 39.95 226 P **P** **11 21 51.3 +0.4**
baz=40,SNR=4.6
JHJ2 Mitsune 40.16 348 P **P** **11 21 53.1 +0.6**
CISI Cisompet, Garu 41.00 266 P **P** **11 21 57.7 -2.2**
comp=Z,45nm,0.8s
BKZ Black Stump Fm 41.01 147 P **P** **11 22 00.1 +0.5**
BKZ IAmb IAmb 11 22 21.8
comp=Z,34nm,1.5s
THZ Tophouse 41.18 153 P **P** **11 22 01.4 +0.4**
THZ IAmb IAmb 11 22 04.0

comp=Z,21nm,0.9s
LEM Lembang 41.22 267 P **P** **11 22 01.4 -0.3**
comp=Z,18nm,0.5s,baz=285,slow=20,SNR=2.1
LEM Lembang 41.22 267 P **P** **11 22 01.6 -0.2**
comp=Z,21nm,0.8s
TUWZ Tuamarina 41.41 151 P **P** **11 22 03.0 +0.3**
CNJI Cibinong 41.69 266 P **P** **11 22 02.9 -2.5**
comp=Z,140nm,0.8s
LTZ Lake Taylor 41.72 154 P **P** **11 22 06.0 +0.7**
LTZ IAmb IAmb 11 22 27.1
comp=Z,16nm,1.0s
BFZ Birch Farm 41.98 149 P **P** **11 22 07.0 -0.4**
PLWZ Palliser 42.15 150 P **P** **11 22 08.6 -0.2**
JNU Nakatsue 42.84 337 P **P** **11 22 12.7 -1.9**
comp=Z,18nm,0.9s,baz=141,slow=5.9,SNR=4.3
MJAR Matsushiro Arr 43.81 347 P **P** **11 22 19.9 -2.4**
comp=Z,3.7nm,0.8s,baz=160,slow=8.0,SNR=14
MJAR LR LR 11 40 17.9
comp=Z,154nm,18.1s,baz=160,slow=36
MJAR Matsushiro Arr 43.81 347 P **P** **11 22 21.6 -0.6**
MAT Matsushiro 43.81 347 P **P** **11 22 20.0 -2.3**
KSRS Korea Array 47.79 337 P **P** **11 22 52.4 -1.3**
comp=Z,4.3nm,0.7s,baz=153,slow=8.5,SNR=18
NJ2 Nanjing 47.80 325 *e*P **P** **11 22 54.9 +1.1**
NJ2 pmax pmax
comp=Z,12nm,0.5s
KSAR Wonju Array Be 47.80 337 P **P** **11 22 53.9 +0.2**
KS19 Wonju Array Si 47.86 337 P **P** **11 22 54.7 +0.5**
KS19 IAmb IAmb 11 22 56.1
comp=Z,14nm,1.1s
ASAJ Asahikawa 50.51 354 P **P** **11 23 14.5 +0.2**
comp=Z,8.2nm,1.0s,baz=240,slow=20,SNR=1.9
USRK Ussuriysk Ar. 52.57 345 P **P** **11 23 28.9 -0.7**
comp=Z,3.2nm,0.7s,baz=194,slow=5.5,SNR=5.4
USRK LR LR 11 43 36.9
comp=Z,152nm,20.2s,baz=147,slow=34
USRK Ussuriysk Ar. 52.57 345 P **P** **11 23 30.6 +0.9**
MDJ Mudanjiang 53.62 343 P **P** **11 23 38.6 +1.2**
MDJ pmax pmax
comp=Z,9.0nm,1.4s
MDJ pmax pmax
comp=Z,140nm,8.7s
CMAR Chiang Mai Arr 55.23 297 LR LR 11 48 04.6
comp=Z,38nm,20.1s,baz=160,slow=37
HHC Hu-ho-hao-te 58.19 327 *e*P **P** **11 24 12.0 +1.6**
HHC LR LR
comp=N,180nm,16.2s
HHC LR LR
comp=E,170nm,17.0s
HHC LR LR
comp=Z,220nm,17.9s
PEA0B Petropavlovsk- 59.61 6 P **P** **11 24 19.3 -0.6**
PETK Petropavlovsk- 59.61 6 P **P** **11 24 18.5 -1.3**
comp=Z,7.4nm,0.6s,baz=167,slow=6.8,SNR=21
PETK LR LR 11 45 57.3
comp=Z,150nm,21.4s,baz=190,slow=32
PETK Petropavlovsk- 59.61 6 P **P** **11 24 19.3 -0.6**
PET Petropavlovsk 59.63 7 P **P** **11 24 19.4 -0.6**
GTA Gaotai 64.31 319 *e*P **P** **11 24 54.1 +2.3**
GTA pP sP 11 25 11.4 -1.1
GTA sP PcP 11 25 18.4 -7.7
GTA pmax pmax
comp=Z,4.0nm,1.1s
ULN Ulaanbaatar 65.38 330 P **P** **11 25 00.6 +2.0**
comp=Z,16nm,0.9s
CASY Casey 65.56 196 P **P** **11 24 58.9 -0.4**
CASY IAmb IAmb 11 25 00.2
comp=Z,18nm,1.1s
SONM Songino Array 65.68 330 P **P** **11 25 01.4 +0.8**
comp=Z,1.4nm,0.6s,baz=140,slow=6.4,SNR=11
SONM Songino Array 65.68 330 P **P** **11 25 00.9 +0.3**
VNDA Vanda 71.52 177 P **P** **11 25 37.1 +0.8**
comp=Z,3.7nm,0.5s,baz=332,slow=6.9,SNR=39
VNDA Vanda 71.52 177 P **P** **11 25 37.1 +0.8**
VNDA IAmb IAmb 11 25 37.6
comp=Z,5.8nm,0.8s
WMQ Urumqi 74.38 319 *e*P **P** **11 25 55.8 +1.9**
MK31 Makanchi Array 79.05 320 P **P** **11 26 20.6 +0.5**
MKAR Makanchi Array 79.05 320 P **P** **11 26 18.9 -1.3**
comp=Z,0.4nm,0.4s,baz=97,slow=8.2,SNR=7.4
MKAR Makanchi Array 79.05 320 P **P** **11 26 20.9 +0.7**
ZAA0 Zalesovo Array 80.37 327 P **P** **11 26 26.4 -0.7**
ZALV Zalesovo Beam 80.37 327 P **P** **11 26 25.9 -1.2**
comp=Z,1.8nm,0.5s,baz=103,slow=5.4,SNR=6.1
ZALV LR LR 11 59 56.5
comp=Z,111nm,21.9s,baz=120,slow=34
ZALV Zalesovo Beam 80.37 327 P **P** **11 26 26.5 -0.6**
L19K White Mountain 80.53 23 P **P** **11 26 27.5 -0.3**
L19K IAmb IAmb 11 26 45.7
comp=Z,12nm,1.4s
M19K Big River Lodg 80.56 24 P **P** **11 26 27.4 -0.5**
M19K IAmb IAmb 11 26 32.5
comp=Z,14nm,1.5s
CNPM China Poot 80.65 26 P **P** **11 26 27.5 -1.0**
CNPM IAmb IAmb 11 26 28.2
comp=Z,13nm,1.0s
KSH Kashi 81.13 311 P **P** **11 26 33.4 +1.7**
KSH sP sP 11 27 01.5 +10
KSH pmax pmax
comp=Z,4.0nm,0.5s
K20K Telida 81.47 22 P **P** **11 26 32.1 -0.7**
K20K IAmb IAmb 11 26 35.8
comp=Z,6.8nm,1.1s
MAW Mawson 82.80 203 P **P** **11 26 39.6 -0.1**
baz=83,SNR=8.2
MAW Mawson 82.80 203 P **P** **11 26 39.1 -0.5**
comp=Z,6.4nm,0.8s,baz=97,slow=6.5,SNR=9.7
MAW LR LR 12 00 38.8
comp=Z,74nm,21.6s,baz=62,slow=34
MAW Mawson 82.80 203 P **P** **11 26 39.9 +0.2**
IMAR Indian Mountai 83.02 20 P **P** **11 26 39.9 -0.9**
RND Reindeer 83.53 24 P **P** **11 26 42.2 -1.4**
RND IAmb IAmb 11 26 43.0
comp=Z,5.4nm,0.8s
MLY Manley 83.59 22 P **P** **11 26 43.1 -0.8**
MCK McKinley 83.65 23 P **P** **11 26 42.8 -1.3**
MCK IAmb IAmb 11 26 45.4
comp=Z,9.1nm,0.8s
QSPA South Pole Qui 83.69 180 P **P** **11 26 45.0 +0.5**
QSPA IAmb IAmb 11 26 45.5
comp=Z,14nm,0.9s
CCB Clear Creek Bu 84.51 23 P **P** **11 26 47.2 -1.2**
COLA College 84.60 22 P **P** **11 26 48.0 -0.8**
COLA IAmb IAmb 11 26 49.3
comp=Z,6.0nm,0.9s
IL31 84.92 23 P **P** **11 26 48.6 -1.9**
ILAR Eielson Array 84.92 23 P **P** **11 26 47.9 -2.6**
comp=Z,2.7nm,0.8s,baz=250,slow=5.2,SNR=35
ILAR LR LR 12 01 31.4
comp=Z,63nm,20.6s,baz=274,slow=33
ILAR Eielson Array 84.92 23 P **P** **11 26 48.4 -2.2**
L26K Log Cabin Wild 85.62 25 P **P** **11 26 53.3 -0.7**
TOLK Toolik Lake Re 85.78 19 P **P** **11 26 54.7 -0.1**
TOLK IAmb IAmb 11 27 22.0
comp=Z,8.9nm,1.4s
KK31 Karatay Array 85.99 314 P **P** **11 26 55.2 -1.1**
KKAR Karatay Array 85.99 314 P **P** **11 26 54.8 -1.6**
KKAR Karatay Array 85.99 314 P **P** **11 26 55.2 -1.2**
KKAR IAmb IAmb 11 27 14.1
comp=Z,2.0nm,0.8s
M27K Edge Creek, AK 85.99 26 P **P** **11 26 56.6 +0.6**
M27K IAmb IAmb 11 27 17.3
comp=Z,3.4nm,0.8s
L27K Beaver Creek, 86.27 25 P **P** **11 26 56.3 -1.0**
BCAR Beaver Creek A 86.29 25 P **P** **11 26 57.0 -0.4**
K27K Chicken 86.53 24 P **P** **11 26 58.0 -0.5**
K27K IAmb IAmb 11 27 01.2
comp=Z,4.8nm,1.1s
HYT Haines Junctio 87.45 28 P **P** **11 27 03.1 -0.1**
HYT IAmb IAmb 11 27 19.9
comp=Z,6.4nm,1.1s
DAWY Dawson 87.64 25 P **P** **11 27 03.6 -0.4**
DAWY IAmb IAmb 11 27 26.1
comp=Z,6.3nm,1.1s
ABKAR Akbulak array 94.17 319 P **P** **11 27 33.8 -0.8**
ARU Arti 95.49 326 LR LR 12 10 05.8
comp=Z,128nm,21.9s,baz=85,slow=35
AKTO Aktyubinsk 95.49 320 LR LR 12 10 42.7
comp=Z,64nm,20.9s,baz=84,slow=35
NVAR Mina Array Bea 95.88 52 P **P** **11 27 42.6 -0.4**
comp=Z,0.5nm,0.8s,baz=241,slow=4.9,SNR=4.5
NVAR LR LR 12 03 34.5
comp=Z,91nm,21.1s,baz=302,slow=31
YKA Yellowknife Ar 98.44 28 LR LR 12 09 13.9
comp=Z,90nm,20.5s,baz=0.0,slow=34

SNAA Sanae 100.05 189 Pdiff **Pdif** **11 27 59.9 -1.0**
PLCA Paso Flores 120.72 146 PKP **PKPdf** **11 33 07.9 -0.3**
comp=Z,3.4nm,0.8s,baz=286,slow=6.8,SNR=4.6
LPAZ La Paz 136.86 122 PKhKP PKPpre 11 33 29.7
comp=Z,1.3nm,0.7s,baz=295,slow=5.5,SNR=4.0
LPAZ PKP **PKPdf** **11 33 39.8 -0.3**
comp=Z,7.6nm,0.9s,baz=342,slow=3.5,SNR=13
LPAZ La Paz 136.86 122 **PKPdf** **11 33 38.0 -2.0**
CPUP Villa Florida 138.66 143 PKhKP PKPpre 11 33 31.4
comp=Z,0.6nm,0.3s,baz=101,slow=5.2,SNR=1.9
CPUP PKP **PKPdf** **11 33 42.0 -0.3**
comp=Z,4.9nm,0.9s,baz=238,slow=2.4,SNR=6.9
CPUP Villa Florida 138.66 143 **PKPdf** **11 33 40.3 -2.0**
SIV San Ignacio 142.82 127 PKhKP PKPpre 11 33 45.1
comp=Z,3.2nm,0.6s,baz=225,slow=2.3,SNR=12
TORD Torodi Ar. Bea 147.19 284 PKPbc **PKPdf** **11 33 58.4 +0.7**
comp=Z,5.4nm,0.7s,baz=47,slow=2.6,SNR=25
TORD Torodi Ar. Bea 147.19 284 **PKPdf** **11 33 57.3 -0.4**
BDFB Brasilia 152.39 142 PKP **PKPdf** **11 34 06.5 +0.5**
comp=Z,5.6nm,0.8s,baz=247,slow=5.2,SNR=6.9
BDFB PKPbc **PKPbc** **11 34 12.8 -0.1**
comp=Z,23nm,0.8s,baz=247,slow=2.9,SNR=19
BDFB PKPab **PKPab** **11 34 22.6 -0.3**
comp=Z,15nm,0.6s,baz=204,slow=4.5,SNR=8.5
DBIC Dimbokro 154.13 272 PKPbc **PKiKP** **11 34 16.9 +0.2**
comp=Z,8.3nm,1.1s,baz=297,slow=4.3,SNR=3.0
DBIC Dimbokro 154.13 272 **PKPbc** **11 34 13.1 -3.5**

NEIC 19 11:18:42.3±1.0, 36°74N±0°02×98°06W±0°02, h9km±6km, mb_Lg2.6/42 Error ellipse: s-maj=2.8km s-min=2.1km az=117.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK032	**Salt Plains WL**	**0.14**	**298**		Pg	11 18 45.3	-0.1
OK032				Sg	Sg	11 18 47.3	-0.3
GC02	**Grant County #**	**0.20**	**54**		Pg	11 18 46.8	+0.4
GC02				Sg	Sg	11 18 49.7	+0.6
KAN14	**Manchester OK**	**0.23**	**19**		Pg	11 18 47.2	+0.1
KAN14				Sg	Sg	11 18 50.1	-0.1
CROK	**Carrier**	**0.24**	**166**		Pg	11 18 47.8	+0.6
CROK				Sg	Sg	11 18 50.5	+0.2
KAN17	**Caldwell West**	**0.39**	**37**		Pg	11 18 50.1	+0.2
KAN17				Sg	Sg	11 18 54.8	-0.2
KAN10	**Anthony SW Sta**	**0.39**	**355**		Pg	11 18 49.9	-0.1
KAN10				Sg	Sg	11 18 54.4	-0.7
KAN05	**Bluff City Nor**	**0.40**	**22**		Pg	11 18 50.3	+0.2
KAN05				Sg	Sg	11 18 54.8	-0.6
KAN16	**Harper SW Stat**	**0.49**	**359**		Pg	11 18 51.8	0.0
KAN16					Sg	11 18 57.4	-0.8
KAN08	**Anthony NE Sta**	**0.49**	**8**		Pg	11 18 51.9	0.0
KAN08				Sg	Sg	11 18 57.9	-0.5
KAN09	**Caldwell North**	**0.53**	**41**		Pg	11 18 52.8	+0.1
KAN09				Sg	Sg	11 18 59.2	-0.4
KAN13	**South Haven SW**	**0.54**	**59**		Pg	11 18 52.9	+0.1
KAN13				Sg	Sg	11 18 59.8	-0.1
KAN12	**Harper NE Stat**	**0.56**	**5**		Pg	11 18 53.1	-0.1
KAN12				Sg	Sg	11 19 00.3	-0.3
KS20	**Mayfield South**	**0.64**	**39**		Pg	11 18 54.6	0.0
KS20				Sg	Sg	11 19 02.8	-0.2
BLOK	**Blackwell**	**0.68**	**88**		Pg	11 18 55.6	+0.2
BLOK				Sg	Sg	11 19 04.6	+0.4
U32A	**Winter Ranch,**	**0.84**	**245**		Pg	11 18 58.2	-0.3
U32A				Sg	Sg	11 19 08.2	-1.3
OK029	**Liberty Lake**	**1.06**	**152**		Pg	11 19 02.7	+0.1
OK029				Sg	Sg	11 19 15.7	-0.7
BCOK	**Bluff Creek, N**	**1.14**	**161**		Pg	11 19 03.9	-0.2
BCOK				Sg	Sg	11 19 18.2	-0.7
QUOK	**Quay**	**1.22**	**117**		Pb	11 19 05.6	-0.1
T35A	**Sooner Cattle**	**1.25**	**81**		Pn	11 19 05.9	-0.2
OK031	**S. Brethren Rd**	**1.26**	**128**		Pn	11 19 06.2	0.0
OK025	**Westminster Rd**	**1.29**	**153**	Pn	Pn	11 19 06.5	-0.1
OK025					Pb	11 19 06.7	-0.2
OKCFA	**Oklahoma City**	**1.41**	**159**	Pn	Pn	11 19 07.9	-0.3
OKCSW	**OKLAHOMA CITY**	**1.42**	**159**		Pb	11 19 08.8	-0.3
FNO	**Franklin**	**1.57**	**160**		Pn	11 19 10.7	+0.3
R32A	**Long Quarter,**	**1.76**	**343**		Pn	11 19 13.1	0.0
WMOK	**Wichita Mounta**	**2.08**	**197**		Pn	11 19 17.8	+0.3
X34A	**Smith Ranch, M**	**2.14**	**175**	Pn	Pn	11 19 19.6	+1.3
CBKS	**Cedar Bluff**	**2.46**	**328**		Pn	11 19 23.2	+0.4
KSU1	**Kansas State U**	**2.62**	**25**		Pn	11 19 24.7	-0.2
KSU1				IAmb_Lg		11 20 08.1	
	comp=Z,30nm,0.9s						
LOOK	**Love County**	**2.83**	**165**	Pn	Pn	11 19 28.6	+0.9
U38A	**Gravette**	**2.97**	**95**		Pn	11 19 29.4	-0.3
X37A	**Clayton**	**3.06**	**134**		Pn	11 19 31.3	+0.4
HHAR	**Hobbs**	**3.35**	**97**		Pn	11 19 35.1	+0.2
HHAR				IAmb_Lg		11 20 32.1	
	comp=Z,15nm,0.8s						
Z35A	**Perchaven, San**	**3.46**	**169**	Pn	Pn	11 19 37.1	+0.6
AMTX	**Amarillo**	**3.48**	**239**		Pn	11 19 36.4	-0.4
AMTX				IAmb_Lg		11 20 39.6	
	comp=Z,14nm,0.9s						
W39A	**Magazine**	**3.79**	**113**	Pn	Pn	11 19 40.3	-0.7
S39A	**Bolivar**	**3.90**	**74**		Pn	11 19 42.9	+0.5
U40A	**Yellville**	**4.21**	**94**		Pn	11 19 45.7	-1.0
U40A				IAmb_Lg		11 21 05.9	
	comp=Z,14nm,0.7s						
MIAR	**Mount Ida**	**4.25**	**120**	Pn	Pn	11 19 47.5	+0.1
KSCO	**Kaye Shedlock'**	**4.27**	**303**		Pn	11 19 47.1	-0.6
Z38A	**Mt. Pleasant**	**4.29**	**143**		Pn	11 19 47.8	0.0
ABTX	**Abilene, Hawle**	**4.31**	**198**	Pn	Pn	11 19 48.0	-0.1
ABTX				IAmb_Lg		11 21 00.1	
	comp=Z,16nm,1.1s						
N35A	**Tabor**	**4.53**	**24**	Pn	Pn	11 19 51.3	+0.1
P38A	**Dawn**	**4.58**	**50**		Pn	11 19 51.3	-0.6
P38A				IAmb_Lg		11 21 10.8	
	comp=Z,15nm,0.9s						
MGMO	**Mountain Grove**	**4.65**	**83**		Pn	11 19 52.2	-0.6
MGMO				IAmb_Lg		11 21 19.5	
	comp=Z,11nm,0.9s						
BGNE	**Belgrade**	**4.67**	**359**	Pn	Pn	11 19 53.3	+0.3
MSTX	**Muleshoe**	**4.74**	**236**		Pn	11 19 53.3	-0.9
WMTX	**Lake Whitney,**	**4.76**	**174**	Pn	Pn	11 19 53.9	-0.4
X40A	**Basin Creek Fa**	**4.81**	**116**	Pn	Pn	11 19 54.5	-0.5
X40A				IAmb_Lg		11 21 18.7	
	comp=Z,17nm,0.7s						
R40A	**Maddies Statio**	**4.86**	**70**		Pn	11 19 56.3	+0.7
FCAR	**Ozark Folk Cen**	**4.86**	**98**	Pn	Pn	11 19 55.0	-0.7
FCAR				IAmb_Lg		11 21 17.8	
	comp=Z,8.2nm,0.8s						
WHAR	**Wooly Hollow**	**4.89**	**105**	Pn	Pn	11 19 56.5	+0.4
WHAR				IAmb_Lg		11 21 28.2	
	comp=Z,15nm,1.2s						
WLAR	**White Oak Lake**	**5.06**	**125**		Pn	11 19 58.0	-0.5
WLAR				IAmb_Lg		11 21 31.2	
	comp=Z,9.1nm,0.7s						
T25A	**Trinidad**	**5.11**	**276**		Pn	11 19 58.8	-0.5
T25A				IAmb_Lg		11 21 26.3	
	comp=Z,14nm,0.8s						
L34A	**Svendsen Farm,**	**5.38**	**13**	Pn	Pn	11 20 03.2	+0.3
P40A	**Paris**	**5.50**	**58**	Pn	Pn	11 20 05.2	+0.9
P40A				IAmb_Lg		11 21 38.6	
	comp=Z,9.0nm,0.9s						
N38A	**Joes South For**	**5.53**	**41**	Pn	Pn	11 20 06.4	+1.5
CCM	**Cathedral Cave**	**5.58**	**74**	Pn	Pn	11 20 06.0	+0.4
CCM				IAmb_Lg		11 21 40.5	
	comp=Z,7.3nm,0.7s						
T42A	**Van Buren**	**5.59**	**85**	Pn	Pn	11 20 05.0	-0.6
T42A				IAmb_Lg		11 21 41.1	
	comp=Z,6.7nm,0.7s						
LCAR	**Lake Charles**	**5.61**	**95**	Pn	Pn	11 20 05.3	-0.7
LCAR				IAmb_Lg		11 21 42.9	
	comp=Z,8.2nm,0.9s						
K31A	**O'Neill**	**5.90**	**355**	Pn	Pn	11 20 10.7	+0.7
435B	**Jarrell**	**5.95**	**176**	IAmb_Lg		11 21 58.7	
	comp=Z,10nm,1.1s						
SDCO	**Great Sand Dun**	**6.03**	**282**	Pn	Pn	11 20 10.9	-1.0
PBMO	**Poplar Bluff**	**6.12**	**87**	Pn	Pn	11 20 12.4	-0.7
PBMO				IAmb_Lg		11 21 58.4	
	comp=Z,10nm,0.7s						
JCT	**Junction City**	**6.41**	**194**	Pn	Pn	11 20 16.2	-0.8
JCT				IAmb_Lg		11 22 10.7	
	comp=Z,13nm,1.1s						
ISCO	**Idaho Springs**	**6.69**	**300**	Pn	Pn	11 20 21.6	+0.5
N41A	**Harden Midland**	**6.88**	**53**	Pn	Pn	11 20 23.9	+0.4
ECSD	**EROS Data Cent**	**7.08**	**9**	Pn	Pn	11 20 25.8	-0.3
HALT	**Halls**	**7.08**	**94**	Pn	Pn	11 20 27.5	+1.3
S44A	**Carbondale**	**7.09**	**80**	Pn	Pn	11 20 26.0	-0.2
SIUC	**Southern Illin**	**7.12**	**79**	IAmb_Lg		11 22 29.1	
	comp=Z,9.8nm,0.9s						
PHWY	**Pilot Hill**	**7.34**	**311**	IAmb_Lg		11 22 48.2	

comp=Z,6.2nm,0.8s
W18A Petrified Fore 9.61 264 IAmb_Lg 11 23 59.4
comp=Z,7.0nm,0.7s

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*IDC **19** 11:30:12.9±2.1,6.°98S×129.°35E,h0km,mb3.7/1, mb1 3.9/3,mb1mx3.5/30,mbtmp3.7/3,ML3.8/2,MS3.7/1, Ms1 3.7/1,ms1mx2.8/33,Error ellipse: s-maj=109.3km s-min=32.2km az=68.0*

*DJA **19** 11:30:25.1±0.5,7.°5S±4.°×12.°9E±.°,h147km±9km,M4.0/6, mB5.4/2,mb3.7/6,MLv4.1/3,Mw(mB)4.9/2*

ISC 19 11:30:25.5±1.0,7.°42S±0.°08×129.°5E±0.°1,h150km,n8, σ3°02/10,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.86**	**108**	P	**Pn**	**11 30 58.8**	**-0.3**
SAUI				S	**Sn**	**11 31 27.2**	**+2.3**
SIJI	**Sorong**	**6.74**	**15**	P	**Pn**	**11 31 58.8**	**-3.4**
	0.1nm519nm9.6nm,0.9s						
WRA	**Warramunga Arr**	**13.30**	**160**	Pn	**Pn**	**11 33 29.5**	**+0.8**
	0.7nm,0.3s,baz=339,slow=13,SNR=16						
WRA				Sn	**Sn**	**11 35 52.5**	**-3.6**
	0.7nm,0.3s,baz=334,slow=22,SNR=9.7						
ASAR	**Alice Springs**	**16.70**	**166**	P	**Pn**	**11 34 14.4**	**+3.6**
	0.2nm,0.3s,baz=344,slow=14,SNR=17						
ASAR				S	**S**	**11 37 12.9**	**-3.7**
	0.1nm,0.3s,baz=350,slow=26,SNR=3.4						
LWLI	**Liwa**	**25.41**	**274**	P	**P**	**11 35 39.0**	**-0.5**
EGSI	**Enggano, Bengk**	**27.13**	**273**	P	**P**	**11 35 55.2**	**+0.3**
AFI	**Afiamalu**	**57.95**	**102**	LR	LR	12 05 07.9	
	comp=Z,62nm,20.5s,baz=108,slow=36						
MKAR	**Makanchi Array**	**68.31**	**327**	P	**P**	**11 41 13.2**	**+2.7**
	0.4nm,0.4s,baz=115,slow=6.8,SNR=4.7						

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*NEIC **19** 11:32:07.6±0.9,30.°43S±0.°05×72.°66W±0.°03,h4km±4km, mb4.7/51,Mwr4.0/29,ML4.1(GUC),Error ellipse: s-maj=8.1km s-min=2.7km az=197.0*

*NEIC **19** 11:32:08,30.°45S×72.°65W,h4km,Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr=1.12000×10^15^ NP1:ϕs=184.03000°, δ44.71000°,λ-106.25000°. NP2:ϕs=26.33000°,δ47.51000°, λ-74.51000°. Principal axes: T 0.9516, Plg1.0000°, Azm105.0000°; N 0.2873, Plg11.0000°, Azm196.0000°; P -1.2389, Plg79.0000°, Azm8.0000°;*

*IDC **19** 11:32:11.7±0.7,30.°51S×72.°61W,h25km±4km,mb4.1/9, mb1 4.3/12,mb1mx4.1/30,mbtmp4.3/12,ML4.1/3,MS3.2/4, Ms1 3.2/4,ms1mx3.0/24 Error ellipse: s-maj=23.0km s-min=16.8km az=88.0*

*GUC **19** 11:32:13.1±0.3,30.°95S×72.°56W,h29km±19km,ML4.1*

ISC 19 11:32:10.1±0.5,30.°45S±0.°06×72.°59W±0.°08,h19km,n95, σ1♀13/97,mb4.6/32,2C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.85**	**105**		**Pb**	**11 32 25.1**	**-1.2**
GO04	**Tololo Observa**	**1.57**	**80**	Pn	**Pn**	**11 32 37.5**	**+0.2**
VA06	**Catapilco**	**2.38**	**153**	*i*P	**Pn**	**11 32 46.4**	**-1.6**
VA06				IAML		11 33 28.1	
	comp=E,2μm,0.2s						
AC04	**Llanos de Chal**	**2.60**	**31**	Pn	**Pn**	**11 32 49.8**	**-1.3**
ROCH	**El Roble**	**2.85**	**152**	*e*P	**Pn**	**11 32 55.0**	**+0.3**
ROCH				IAML		11 33 45.2	
	comp=N,589nm,0.4s						
VA03	**San Esteban**	**2.89**	**143**	*i*P	**Pn**	**11 32 54.8**	**-0.4**
VA03				*e*S	**Sn**	**11 33 26.9**	**-2.6**
VA03				IAML		11 33 42.0	
	comp=E,928nm,0.4s						
VA03	**San Esteban**	**2.89**	**143**		**Pn**	**11 32 55.3**	**+0.1**
VA05	**Santo Domingo**	**3.30**	**166**	*e*P	**Pn**	**11 32 58.9**	**-1.9**
VA05				IAML		11 33 38.9	
	comp=E,1μm,0.3s						
MT05	**Renca**	**3.33**	**152**	IAML		11 33 59.7	
	comp=E,955nm,0.5s						
GO03	**Copiap**	**3.52**	**37**	Pn	**Pn**	**11 33 03.5**	**-0.3**
ZON	**Zonda**	**3.53**	**109**		**Pn**	**11 33 03.8**	**-0.2**
MT09	**Talagante**	**3.58**	**158**	IAML		11 34 05.6	
	comp=N,357nm,0.4s						
MT09	**Talagante**	**3.58**	**158**		**Pn**	**11 33 04.4**	**-0.3**
BO01	**Tunca**	**4.13**	**162**	Pn	**Pn**	**11 33 12.2**	**+0.1**
LC01	**Cunco**	**8.45**	**176**	Pn	**Pn**	**11 34 10.2**	**-1.3**
LVC	**Limon Verde**	**8.48**	**24**	Pn	**Pn**	**11 34 10.1**	**-2.1**
	comp=N,0.6nm,0.3s,baz=176,slow=8.9,SNR=1.4						
LVC				LR	LR	11 37 20.9	
	comp=N,101nm,20.4s,baz=216,slow=36						
PLCA	**Paso Flores**	**10.39**	**171**	P	**Pn**	**11 34 37.4**	**-0.8**
	comp=N,0.6nm,0.3s,baz=346,slow=13,SNR=11						
PLCA				LR	LR	11 38 25.1	
	comp=N,87nm,21.9s,baz=0.5,slow=36						
PLCA	**Paso Flores**	**10.39**	**171**		**Pn**	**11 34 37.6**	**-0.6**
LL04	**Puerto Octay**	**10.44**	**179**	Pn	**Pn**	**11 34 38.1**	**-0.6**
PSGCX	**Pisagua**	**11.04**	**12**	Pn	**Pn**	**11 34 45.8**	**-1.3**
TRQA	**Tornquist**	**11.60**	**134**	Pn	**Pn**	**11 34 54.6**	**0.0**
CPUP	**Villa Florida**	**14.05**	**77**	LR	LR	11 41 34.5	
	comp=N,171nm,18.4s,baz=242,slow=40						
LPAZ	**La Paz**	**14.68**	**17**	Pn	**Pn**	**11 35 39.3**	**+1.9**
	comp=N,0.3nm,0.3s,baz=177,slow=9.3,SNR=8.3						
LPAZ	**La Paz**	**14.68**	**17**	Pn	**Pn**	**11 35 36.4**	**-0.9**
PLTB	**Pedras Altas**	**16.32**	**99**	Pn	**Pn**	**11 35 58.1**	**-0.1**
SIV	**San Ignacio**	**17.85**	**39**	P	**Pn**	**11 36 18.9**	**+1.4**
	comp=N,0.4nm,0.3s,baz=217,slow=9.8,SNR=13						
NNA	**Nana**	**18.79**	**347**	LR	LR	11 41 49.7	
	comp=N,91nm,19.8s,baz=178,slow=31						
SAML	**Samuel**	**23.13**	**24**	P	**P**	**11 37 13.9**	**-1.3**
BDFB	**Brasilia**	**26.91**	**62**	P	**P**	**11 37 51.2**	**+0.9**
	comp=N,3.7nm,0.7s,baz=241,slow=11,SNR=7.6						
BDFB	**Brasilia**	**26.91**	**62**		**P**	**11 37 49.1**	**-1.1**
BDFB				IAmb	IAmb	11 37 52.2	
	comp=Z,10.0nm,0.9s						
RUSC	**La Rusia**	**36.14**	**359**	P	**P**	**11 39 11.0**	**-0.8**
RUSC				IAmb	IAmb	11 39 14.9	
	comp=Z,9.7nm,0.9s						
ORTG	**Ortega, Santa**	**42.42**	**341**	P	**P**	**11 40 02.7**	**-1.1**
MLPR	**Magueyes Islan**	**48.44**	**7**	P	**P**	**11 40 50.9**	**-0.3**
CRPR	**Cabo Rojo, PR**	**48.47**	**7**	P	**P**	**11 40 51.2**	**-0.3**
CBYP	**Canovanas**	**48.87**	**9**	P	**P**	**11 40 54.3**	**-0.4**
CMIG	**Matias Romero**	**51.91**	**333**	P	**P**	**11 41 19.4**	**+1.8**
	comp=Z,2.0nm,0.9s,baz=156,slow=12,SNR=2.3						
VNA3	**Neumayer Olymp**	**52.82**	**159**	P	**P**	**11 41 25.2**	**+1.4**
VNA1	**Neumayer--Stat**	**53.12**	**158**	P	**P**	**11 41 27.7**	**+1.7**
VNA2	**Neumayer--Watz**	**53.46**	**158**	P	**P**	**11 41 29.9**	**+1.3**
	baz=286,slow=8.5						
SNAA	**Sanae**	**55.05**	**159**	P	**P**	**11 41 41.4**	**+1.2**
SNAA	**Sanae**	**55.05**	**159**	P	**P**	**11 41 40.0**	**-0.2**
SNAA				IAmb	IAmb	11 41 42.2	
	comp=Z,11nm,1.0s						
QSPA	**South Pole Qui**	**59.77**	**180**	P	**P**	**11 42 14.8**	**+1.1**
	comp=Z,3.6nm,0.7s,baz=169,slow=1.1,SNR=25						
QSPA	**South Pole Qui**	**59.77**	**180**	P	**P**	**11 42 13.7**	**0.0**
JCT	**Junction City**	**65.89**	**334**	P	**P**	**11 42 53.8**	**-0.9**
TXAR	**Lajitas Array**	**66.42**	**331**	P	**P**	**11 42 59.5**	**+1.4**
	comp=Z,1.5nm,0.7s,baz=150,slow=8.6,SNR=20						
TXAR	**Lajitas Array**	**66.42**	**331**	P	**P**	**11 42 57.3**	**-0.9**
TX31	**Lajitas Ar. Si**	**66.42**	**331**	P	**P**	**11 42 57.3**	**-0.8**
TX31				IAmb	IAmb	11 43 00.4	
	comp=Z,6.0nm,0.9s						
TX32	**Lajitas Array**	**66.42**	**331**	P	**P**	**11 42 57.1**	**-1.0**
TX32				IAmb	IAmb	11 43 00.4	
	comp=Z,4.6nm,1.4s						
ABTX	**Abilene, Hawle**	**67.77**	**336**	P	**P**	**11 43 06.3**	**-0.2**
ABTX				IAmb	IAmb	11 43 08.6	
	comp=Z,6.4nm,0.8s						
W39A	**Magazine**	**68.28**	**341**	P	**P**	**11 43 09.6**	**-0.1**
MNTX	**Cornudas Mount**	**69.20**	**330**	P	**P**	**11 43 15.0**	**-0.5**
MNTX				IAmb	IAmb	11 43 16.5	
	comp=Z,3.7nm,0.8s						
HHAR	**Hobbs**	**69.34**	**342**	P	**P**	**11 43 16.0**	**-0.3**
HHAR				IAmb	IAmb	11 43 25.8	
	comp=Z,5.1nm,0.8s						
MSTX	**Muleshoe**	**70.13**	**334**	P	**P**	**11 43 21.1**	**-0.2**
CCM	**Cathedral Cave**	**70.35**	**344**	P	**P**	**11 43 21.7**	**-0.7**
CCM				IAmb	IAmb	11 43 33.0	
	comp=Z,11nm,1.2s						
S39A	**Bolivar**	**70.51**	**343**	P	**P**	**11 43 23.1**	**-0.3**
S39A				IAmb	IAmb	11 43 33.5	
	comp=Z,7.4nm,1.1s						
R40A	**Maddies Statio**	**70.81**	**344**	P	**P**	**11 43 25.2**	**0.0**
R40A				IAmb	IAmb	11 43 26.7	
	comp=Z,6.5nm,0.8s						
121A	**Cookes Peak, D**	**70.96**	**329**	P	**P**	**11 43 26.2**	**-0.3**
121A				IAmb	IAmb	11 43 37.9	
	comp=Z,9.4nm,1.3s						
P40A	**Paris**	**71.94**	**344**	P	**P**	**11 43 31.7**	**-0.3**
LENM	**Lemitar**	**72.00**	**331**	P	**P**	**11 43 32.5**	**-0.2**
ANMO	**Albuquerque**	**72.45**	**331**	P	**P**	**11 43 34.5**	**-1.0**
214A	**Organ Pipe Nat**	**72.85**	**325**	P	**P**	**11 43 36.9**	**-0.7**
214A				IAmb	IAmb	11 43 49.2	
	comp=Z,5.0nm,0.9s						
T25A	**Trinidad**	**73.55**	**334**	P	**P**	**11 43 40.7**	**-1.3**
T25A				IAmb	IAmb	11 43 44.8	
	comp=Z,12nm,1.3s						
X18A	**Snowflake**	**73.61**	**329**	P	**P**	**11 43 41.4**	**-0.9**
X16A	**Lo Mia Camp, P**	**74.20**	**327**	P	**P**	**11 43 45.6**	**-0.2**
SDCO	**Great Sand Dun**	**74.50**	**333**	P	**P**	**11 43 46.3**	**-1.3**
DBIC	**Dimbokro**	**74.53**	**73**	P	**P**	**11 43 48.8**	**+0.9**
	comp=Z,9.0nm,0.8s,baz=253,slow=5.4,SNR=7.9						
DBIC				pP	**sP**	**11 43 56.5**	**+2.8**
	comp=Z,3.4nm,0.5s,baz=239,slow=4.6,SNR=3.4						
DBIC	**Dimbokro**	**74.53**	**73**	P	**P**	**11 43 46.4**	**-1.5**
MVCO	**Mesa Verde**	**75.24**	**331**	P	**P**	**11 43 51.1**	**-0.7**
MVCO				IAmb	IAmb	11 43 55.2	
	comp=Z,6.2nm,1.2s						
W13A	**Hualapai Mount**	**75.92**	**326**	P	**P**	**11 43 55.0**	**-0.6**
PV01	**Paradox Valley**	**76.06**	**331**	P	**P**	**11 43 55.2**	**-1.2**
PV01				IAmb	IAmb	11 44 00.0	
	comp=Z,5.2nm,1.2s						
K31A	**O'Neill**	**76.60**	**340**	P	**P**	**11 43 58.4**	**-0.7**
MAW	**Mawson**	**76.71**	**164**	P	**P**	**11 43 59.6**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=180,slow=6.4,SNR=7.9						
MAW				pP	**sP**	**11 44 08.5**	**+2.9**
	comp=Z,1.3nm,0.4s,baz=209,slow=6.8,SNR=3.5						
MAW	**Mawson**	**76.71**	**164**	P	**P**	**11 43 58.9**	**-0.6**
KNB	**Kanab**	**76.97**	**328**	P	**P**	**11 44 01.3**	**-0.3**
KNB				IAmb	IAmb	11 44 05.5	
	comp=Z,6.5nm,1.2s						
ECSD	**EROS Data Cent**	**77.03**	**342**	P	**P**	**11 44 01.1**	**-0.5**
ECSD				IAmb	IAmb	11 44 03.9	
	comp=Z,8.1nm,1.1s						
CCUT	**Cedar City**	**77.66**	**328**	P	**P**	**11 44 05.4**	**-0.1**
SRU	**San Rafael Swe**	**77.70**	**331**	P	**P**	**11 44 04.8**	**-0.8**
SRU				IAmb	IAmb	11 44 16.3	
	comp=Z,6.2nm,1.4s						
MVU	**Marysvale**	**77.92**	**329**	P	**P**	**11 44 07.1**	**+0.1**
P17A	**Butcher Ranch,**	**78.09**	**331**	P	**P**	**11 44 07.2**	**-0.5**
P17A				IAmb	IAmb	11 44 18.7	
	comp=Z,6.7nm,1.4s						
TCRU	**Three Creeks R**	**78.11**	**329**	P	**P**	**11 44 06.8**	**-1.2**
PRN	**Pahroc Range**	**78.33**	**327**	P	**P**	**11 44 07.9**	**-1.2**
PRN				IAmb	IAmb	11 44 20.9	
	comp=Z,5.9nm,1.1s						
RDMU	**Red Mountain**	**78.53**	**332**	P	**P**	**11 44 09.1**	**-1.1**
RDMU				IAmb	IAmb	11 44 12.6	
	comp=Z,5.9nm,1.3s						
R11A	**Troy Canyon, C**	**79.34**	**327**	P	**P**	**11 44 14.2**	**-0.5**
TPH	**Tonopah**	**79.90**	**326**	P	**P**	**11 44 17.4**	**-0.3**
TPH				IAmb	IAmb	11 44 39.9	
	comp=Z,16nm,1.3s						
PDAR	**Pinedale Array**	**80.39**	**333**	P	**P**	**11 44 20.1**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=134,slow=6.4,SNR=4.8						
PDAR	**Pinedale Array**	**80.39**	**333**	P	**P**	**11 44 19.6**	**-0.7**
NVAR	**Mina Array Bea**	**80.71**	**325**	P	**P**	**11 44 23.5**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=152,slow=4.8,SNR=5.0						
MCMT	**McKenzie Canyo**	**83.42**	**332**	P	**P**	**11 44 35.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**83.46**	**71**	P	**P**	**11 44 38.2**	**+1.4**
	comp=Z,4.6nm,0.7s,baz=265,slow=4.7,SNR=22						
TORD				pP	**sP**	**11 44 46.5**	**+3.8**
	comp=Z,2.4nm,0.5s,baz=284,slow=5.9,SNR=9.7						
TORD	**Torodi Ar. Bea**	**83.46**	**71**	P	**P**	**11 44 35.5**	**-1.3**
TORD				IAmb	IAmb	11 44 39.2	
	comp=Z,4.6nm,0.8s						
J08A	**Circle Bar Ran**	**84.64**	**328**	P	**P**	**11 44 41.5**	**-0.8**
J08A				IAmb	IAmb	11 44 53.4	
	comp=Z,3.7nm,1.0s						
WRA	**Warramunga Arr**	**123.59**	**211**	PKP	**PKPdf**	**11 51 06.5**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=164,slow=1.7,SNR=5.7						
WRA				pPKP	**sPKPdf**	**11 51 14.3**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=144,slow=1.5,SNR=2.3						
WRA	**Warramunga Arr**	**123.59**	**211**		**PKPdf**	**11 51 04.7**	**-2.2**
ZALV	**Zalesovo Beam**	**151.41**	**28**	PKPbc	**PKPbc**	**11 52 03.0**	**+0.9**
	comp=Z,4.9nm,0.6s,baz=295,slow=3.3,SNR=14						
ZALV				pPKPbc	**PKPab**	**11 52 11.2**	**+0.8**
	comp=Z,5.1nm,0.7s,baz=293,slow=4.1,SNR=7.0						
MKAR	**Makanchi Array**	**154.64**	**43**	PKPbc	**PKPbc**	**11 52 09.5**	**0.0**
	comp=Z,0.7nm,0.7s,baz=18,slow=2.1,SNR=4.1						

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*ATH **19** 11:34:59.0,39.°42N×20.°62E,h32km±4km,ML1.9/5,Error ellipse: s-maj=6.2km s-min=1.1km az=242.0*

THE 19 11:35:00.5,39.°30N×20.°35E,h18km,ML1.7/5,Error ellipse: s-maj=1.4km s-min=0.3km az=56.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.24**	**357**	P	Pg	**11 35 05.9**	**-0.1**
IGT				S	Sb	**11 35 10.1**	**+0.2**
	168nm,0.3s						
IGT	**Igoumenitsa**	**0.24**	**357**	P	Pg	11 35 06.0	0.0
IGT				S	Sb	11 35 10.4	+0.5
IGT				AML	AML	11 35 12.9	
	comp=E,378μm,0.4s						
IGT				AML	AML	11 35 14.7	
	comp=N,372μm,0.3s						
IGT	**Igoumenitsa**	**0.24**	**357**	P	Pg	11 35 05.9	-0.1
IGT				S	Sb	11 35 10.4	+0.5
IGT				AML	AML	11 35 12.7	
	comp=E,378μm,0.4s						
IGT				AML	AML	11 35 14.7	
	comp=N,372μm,0.3s						
TSLK	**Tsoukalades, L**	**0.53**	**153**	P	Pg	11 35 10.9	-0.2
TSLK				S	Sb	11 35 18.9	+0.4
	comp=N,108nm,0.4s						
TSLK	**Tsoukalades, L**	**0.53**	**153**	P	Pg	11 35 11.0	-0.1
TSLK				S	Sb	11 35 19.6	+1.0
TSLK	**Tsoukalades, L**	**0.53**	**153**	P	Pg	11 35 10.7	-0.4
TSLK				AML	AML	11 35 29.2	
	comp=E,232μm,0.4s						
TSLK				AML	AML	11 35 31.7	
	comp=N,231μm,0.4s						
JAN	**Janina**	**0.53**	**47**	P	Pg	11 35 10.8	-0.4
JAN	**Janina**	**0.53**	**47**	P	Pb	11 35 11.8	+0.5
JAN				S	Sn	11 35 20.3	-1.5
JAN				AML	AML	11 35 23.2	
	comp=E,547μm,0.3s						
JAN				AML	AML	11 35 28.3	
	comp=N,580μm,0.3s						
KASA	**Kassiopi**	**0.55**	**325**	P	Pg	11 35 10.9	-0.6
LKD2	**Lefkada island**	**0.56**	**154**	P	Pg	11 35 11.2	-0.5
LKD2				S	Sb	11 35 20.0	+0.5
	comp=N,95nm,0.2s						
LKD2	**Lefkada island**	**0.56**	**154**	P	Pg	11 35 11.1	-0.6
LKD2				S	Sb	11 35 20.7	+1.3
LKD2				AML	AML	11 35 22.0	
	comp=N,182μm,0.2s						
LKD2				AML	AML	11 35 22.2	
	comp=E,192μm,0.2s						
LKD2	**Lefkada island**	**0.56**	**154**	P	Pg	11 35 11.5	-0.2
LKD2				S	Sg	11 35 19.2	-0.1
LKD2				AML	AML	11 35 23.7	
	comp=E,171μm,0.3s						
LKD2				AML	AML	11 35 33.1	
	comp=N,193μm,0.7s						
KEK	**Kerkira**	**0.59**	**315**	P	Pg	11 35 12.3	0.0
KEK				S	Sb	11 35 20.7	+0.3
	comp=N,135nm,0.3s						
KEK	**Kerkira**	**0.59**	**315**	P	Pb	11 35 12.5	+0.1
KEK				S	Sn	11 35 22.5	-0.8
KEK				AML	AML	11 35 28.4	
	comp=E,336μm,0.4s						
KEK				AML	AML	11 35 28.6	
	comp=N,203μm,0.3s						
KEK	**Kerkira**	**0.59**	**315**	P	Pg	11 35 12.3	-0.1
KEK				S	Sb	11 35 20.4	0.0
KEK				AML	AML	11 35 28.6	
	comp=N,203μm,0.3s						
KEK				AML	AML	11 35 28.6	
	comp=E,336μm,0.4s						
DRAG	**Dragano-Lefkad**	**0.64**	**164**	P	Pb	11 35 12.5	-0.6
DRAG	**Dragano-Lefkad**	**0.64**	**164**	P	Pb	11 35 12.4	-0.6
DRAG				S	Sn	11 35 23.4	-1.0
DRAG	**Dragano-Lefkad**	**0.64**	**164**	P	Pb	11 35 12.4	-0.7
NYDR	**Nydri-Lefkada**	**0.64**	**155**	P	Pb	11 35 12.9	-0.3
NYDR	**Nydri-Lefkada**	**0.64**	**155**	P	Pb	11 35 13.0	-0.2
NYDR				S	Sg	11 35 22.4	+0.6
NYDR	**Nydri-Lefkada**	**0.64**	**155**	P	Pb	11 35 12.7	-0.5
EVGI	**Lefkada island**	**0.72**	**160**	P	Pb	11 35 14.0	-0.4
EVGI	**Lefkada island**	**0.72**	**160**	P	Pb	11 35 14.0	-0.4
EVGI	**Lefkada island**	**0.72**	**160**	P	Pb	11 35 13.9	-0.6
FSK	**Fiskardo**	**0.85**	**169**	P	Pb	11 35 16.2	-0.6
FSK				S	Sg	11 35 28.7	+0.3
	comp=E,78nm,0.2s						
FSK	**Fiskardo**	**0.85**	**169**	P	Pb	11 35 16.1	-0.7
FSK				AML	AML	11 35 32.4	
	comp=E,204μm,0.2s						
FSK				AML	AML	11 35 32.9	
	comp=N,101μm,0.2s						
FSK	**Fiskardo**	**0.85**	**169**	P	Pb	11 35 16.2	-0.6
FSK				S	Sb	11 35 27.8	-0.1
FSK				AML	AML	11 35 32.2	
	comp=E,204μm,0.2s						
FSK				AML	AML	11 35 32.9	
	comp=N,101μm,0.2s						
KPRO	**Kipouria**	**1.02**	**50**	P	Pg	11 35 20.8	+0.4
KPRO				AML	AML	11 35 43.0	
	comp=E,175μm,0.4s						
KPRO				AML	AML	11 35 44.4	
	comp=N,120μm,0.4s						
DMLN	**Damoulianata-K**	**1.06**	**179**	P	Pn	11 35 20.5	0.0
DMLN	**Damoulianata-K**	**1.06**	**179**	P	Pb	11 35 19.9	-0.4
KEF3	**Kipouria, Keph**	**1.09**	**180**	P	Pb	11 35 20.2	-0.6
VLS	**Valsamata**	**1.13**	**170**	P	Pg	11 35 22.8	+0.3
VLS				AML	AML	11 35 41.7	
	comp=N,230μm,0.4s						
VLS				AML	AML	11 35 42.9	
	comp=E,251μm,0.3s						
VLS	**Valsamata**	**1.13**	**170**	P	Pn	11 35 21.4	-0.1
VLS				AML	AML	11 35 41.7	
	comp=N,230μm,0.4s						
VLS				AML	AML	11 35 43.1	
	comp=E,251μm,0.3s						
PSDA	**Pessada-Kefalo**	**1.20**	**171**	P	Pn	11 35 22.2	-0.1
NEST	**Nestorio**	**1.24**	**26**	P	Pg	11 35 25.0	+0.5

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*IDC **19** 11:40:34.9±1.6,30.°07S×72.°96W,h0km,mb3.8/3, mb1 3.8/6,mb1mx3.6/31,mbtmp3.8/6,ML3.5/3,Error ellipse: s-maj=77.9km s-min=23.8km az=106.0*

*GUC **19** 11:40:36.2±0.7,30.°18S×72.°70W,h45km±4km,ML3.7*

ISC 19 11:40:36.2±2.2,30.°17S±0.°05×72.°60W±0.°08,h7km±12km, n16,σ1♀35/23,mb3.9/3,5C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.98**	**121**	*e*P	**Pg**	**11 40 55.0**	**-0.1**
CO06				*e*S	**Sb**	**11 41 08.8**	**+0.1**
CO06				IAML		11 41 10.9	
	comp=E,1μm,0.2s						
CO06				IAML		11 41 11.9	
	comp=N,1μm,0.3s						
CO05	**La Serena**	**1.21**	**79**	*e*P	**Pg**	**11 40 58.9**	**-0.6**
CO05				*e*S	**Sg**	**11 41 15.7**	**+0.5**
CO05				IAML		11 41 16.3	
	comp=N,2μm,0.5s						
GO04	**Tololo Observa**	**1.56**	**91**	*e*P	**Pn**	**11 41 04.4**	**-0.3**
GO04				*e*S	**Sn**	**11 41 25.5**	**+0.2**
GO04				IAML		11 41 29.1	
	comp=N,3μm,0.6s						
CO03	**El Pedregal**	**1.78**	**113**	*e*P	**Pn**	**11 41 06.0**	**-1.6**
CO03				*e*S	**Sn**	**11 41 30.7**	**+0.1**
CO03				IAML		11 41 32.0	
	comp=E,2μm,0.4s						
LCO	**Las Campanas**	**2.02**	**56**	*e*P	**Pn**	**11 41 10.8**	**-0.2**
LCO				*e*S	**Sn**	**11 41 36.1**	**-0.5**
AC04	**Llanos de Chal**	**2.37**	**35**	*e*P	**Pn**	**11 41 14.3**	**-1.2**
AC04				*e*S	**Sn**	**11 41 42.0**	**-2.9**
AC04				IAML		11 41 42.6	
	comp=E,555nm,0.1s						
VA06	**Catapilco**	**2.63**	**155**	*e*S	**Sn**	**11 41 49.4**	**-2.1**
ROCH	**El Roble**	**3.11**	**154**	*e*P	**Pn**	**11 41 24.9**	**-1.1**
ROCH				*e*S	**Sn**	**11 42 01.4**	**-2.2**
ROCH				IAML		11 42 03.2	
	comp=N,151nm,0.5s						
LVC	**Limon Verde**	**8.22**	**25**	Pn	**Pn**	**11 42 34.2**	**-2.2**
	comp=N,0.3nm,0.3s,baz=332,slow=18,SNR=1.7						
LPAZ	**La Paz**	**14.41**	**18**	Pn	**Pn**	**11 44 02.3**	**+0.9**
	comp=N,0.1nm,0.3s,baz=235,slow=2.6,SNR=3.0						
SIV	**San Ignacio**	**17.63**	**39**	P	**P**	**11 44 45.1**	**+1.5**
	comp=N,0.4nm,0.3s,baz=241,slow=11,SNR=13						
SNAA	**Sanae**	**55.31**	**159**	P	**P**	**11 50 10.7**	**+0.5**
	comp=N,0.7nm,0.8s,baz=312,slow=9.4,SNR=6.4						
QSPA	**South Pole Qui**	**60.06**	**180**	P	**P**	**11 50 44.7**	**+1.0**
	comp=N,1.2nm,0.9s,baz=288,slow=0.4,SNR=5.5						
TORD	**Torodi Ar. Bea**	**83.38**	**71**	P	**P**	**11 53 05.8**	**+1.2**
	comp=N,0.5nm,0.6s,baz=253,slow=4.0,SNR=3.5						
WRA	**Warramunga Arr**	**123.83**	**211**	PKP	**PKPdf**	**11 59 35.1**	**-0.6**
	comp=N,0.2nm,0.5s,baz=152,slow=1.5,SNR=1.8						
ZALV	**Zalesovo Beam**	**151.16**	**28**	PKPbc	**PKPbc**	**12 00 29.2**	**-0.6**
	comp=N,1.4nm,0.4s,baz=325,slow=2.3,SNR=5.0						

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*IDC **19** 11:40:35.9±13.0,52.°10N×175.°47E,h0km,mb3.2/4, mb1 3.7/4,mb1mx3.4/49,mbtm

ϕ_E37.00000°, δ29.00000°, λ-104.00000°. *NP2:* ϕ_E233.00000°, δ62.00000°, λ-82.00000°. *Principal axes: T 379.4000, Plg17.0000°, Azm317.0000°; N -11.8000, Plg7.0000°, Azm49.0000°; P -367.6000, Plg72.0000°, Azm161.0000°;*

NOU ***19*** *11:47:03.4, 40°.44S×176°.68E, h69km, MLv4.5/10, North Island, New Zealand*

NEIC ***19*** *11:47:05.9±1.4, 40°.30S±0°.05×176°.4E±0°.1, h45km±11km, mb4.6/13, Error ellipse: s-maj=14.1km s-min=2.4km az=116.0*

WEL ***19*** *11:47:06.2, 40°.5±2°.2×17°.6E±°, h45km±4km, M4.5/166, ML4.8/30, MLv4.5/166, Error ellipse: s-maj=0.0km s-min=0.0km az=82.5*

IDC ***19*** *11:47:18.2±1.3, 38°.11S×175°.95E, h97km±16km, mb4.3/3, mb1 4.5/3, mb1mx3.7/31, mbtmp4.6/3, MS3.5/3, Ms1 3.5/3, ms1mx3.1/20, Error ellipse: s-maj=68.2km s-min=23.8km az=20.0*

ISC 19 11:47:06.1±0.7, 40°.32S±0°.03×176°.45E±0°.04, h49km±4km, n215, σ1§06/225, mb4.6/11, MS3.6/4, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANWZ	**Angora Road**	**0.14**	**173**	P	**Pn**	**11 47 14.6**	**+0.6**
ANWZ				S	**Sn**	**11 47 20.8**	**+1.2**
DVHZ	**Dannevirke**	**0.22**	**276**	P	**Pn**	**11 47 14.1**	**-0.4**
DVHZ				S	**Sn**	**11 47 19.7**	**-0.8**
WPHZ	**Waipukurau**	**0.26**	**358**	P	**Pn**	**11 47 14.4**	**-0.4**
BFZ	**Birch Farm**	**0.39**	**204**		**Pn**	**11 47 16.4**	**+0.3**
BFZ	**Birch Farm**	**0.39**	**204**	P	**Pn**	**11 47 16.7**	**+0.6**
BFZ				S	**Sn**	**11 47 24.5**	**+1.2**
PXZ	**Pawanui**	**0.43**	**47**	P	**Pn**	**11 47 16.5**	**+0.1**
PXZ				S	**Sn**	**11 47 24.7**	**+0.9**
PRWZ	**Pori Road**	**0.44**	**237**	P	**Pn**	**11 47 17.1**	**+0.6**
PRWZ				S	**Sn**	**11 47 25.5**	**+1.4**
PNHZ	**Pukenui**	**0.45**	**334**	P	**Pn**	**11 47 16.1**	**-0.6**
PNHZ				S	**Sn**	**11 47 23.3**	**-1.1**
TSZ	**Takapari Road**	**0.46**	**305**	P	**Pn**	**11 47 16.2**	**-0.7**
TSZ				S	**Sn**	**11 47 23.1**	**-1.4**
POWZ	**Post Office Ro**	**0.53**	**262**	P	**Pn**	**11 47 17.7**	**+0.1**
POWZ				S	**Sn**	**11 47 26.1**	**+0.1**
KAHZ	**Kahuranaki**	**0.62**	**32**	P	**Pn**	**11 47 18.9**	**+0.1**
CPWZ	**Castlepoint**	**0.62**	**198**	P	**Pn**	**11 47 20.2**	**+1.4**
TIWZ	**Tintock**	**0.63**	**223**	P	**Pn**	**11 47 19.5**	**+0.6**
TIWZ				S	**Sn**	**11 47 29.6**	**+1.4**
KRHZ	**Kereru**	**0.68**	**355**	P	**Pn**	**11 47 19.1**	**-0.4**
KRHZ				S	**Sn**	**11 47 28.5**	**-0.8**
MRZ	**Mangatainoka R**	**0.75**	**243**	P	**Pn**	**11 47 20.8**	**+0.3**
CKHZ	**Cape Kidnapper**	**0.82**	**36**	P	**Pn**	**11 47 21.1**	**-0.3**
OHWZ	**Ohakea**	**0.88**	**277**	P	**Pn**	**11 47 23.1**	**+0.9**
BHHZ	**Black Hill Sta**	**0.88**	**340**	P	**Pn**	**11 47 22.0**	**-0.3**
TMWZ	**Te Maipa**	**0.89**	**208**	P	**Pn**	**11 47 22.8**	**+0.4**
MCHZ	**McNeill Hill**	**0.90**	**12**	P	**Pn**	**11 47 22.4**	**0.0**
KWHZ	**Kaweka Forest**	**0.90**	**358**	P	**Pn**	**11 47 22.2**	**-0.3**
HOWZ	**Holdsworth Sta**	**0.92**	**231**	P	**Pn**	**11 47 22.8**	**+0.1**
MOVZ	**Moawhango**	**1.06**	**329**	P	**Pn**	**11 47 24.8**	**+0.1**
OGWZ	**Otaki Gorge**	**1.10**	**243**	P	**Pn**	**11 47 25.2**	**+0.1**
MTW	**Mount Morrison**	**1.11**	**221**	P	**Pn**	**11 47 24.9**	**-0.3**
ARHZ	**Aropaoanui**	**1.14**	**22**	P	**Pn**	**11 47 25.7**	**+0.1**
BKZ	**Black Stump Fm**	**1.15**	**1**	Pn	**Pn**	**11 47 25.5**	**-0.4**
BKZ	**Black Stump Fm**	**1.15**	**1**	P	**Pn**	**11 47 25.6**	**-0.4**
WNVZ	**Wahianoa**	**1.19**	**326**	P	**Pn**	**11 47 27.0**	**+0.4**
MTVZ	**Mangateitei**	**1.20**	**321**	P	**Pn**	**11 47 27.3**	**+0.7**
TUVZ	**Tukino**	**1.22**	**329**	P	**Pn**	**11 47 27.5**	**+0.6**
TRWZ	**Traveller**	**1.22**	**208**	P	**Pn**	**11 47 26.7**	**-0.1**
WHVZ	**Whangaehu Hut**	**1.23**	**327**	P	**Pn**	**11 47 27.6**	**+0.4**
TRVZ	**Turoa**	**1.24**	**325**	P	**Pn**	**11 47 27.7**	**+0.5**
NMHZ	**Naumai**	**1.25**	**13**	P	**Pn**	**11 47 27.2**	**0.0**
FWHZ	**Far West T-bar**	**1.27**	**327**	P	**Pn**	**11 47 28.0**	**+0.3**
KIW	**Kapiti Island**	**1.29**	**245**	P	**Pn**	**11 47 27.8**	**+0.1**
SNVZ	**South Ngauruho**	**1.29**	**331**	P	**Pn**	**11 47 28.4**	**+0.4**
OTVZ	**Oturere**	**1.31**	**332**	P	**Pn**	**11 47 28.5**	**+0.4**
CAW	**Cannon Point**	**1.31**	**233**	P	**Pn**	**11 47 27.8**	**-0.3**
ETVZ	**East Tongariro**	**1.31**	**334**	P	**Pn**	**11 47 28.6**	**+0.4**
PAWZ	**Paruwai Farm**	**1.31**	**216**	P	**Pn**	**11 47 27.6**	**-0.5**
NGZ	**Ngauruhoe**	**1.32**	**330**	P	**Pn**	**11 47 28.7**	**+0.5**
TMVZ	**Te Maari**	**1.33**	**334**	P	**Pn**	**11 47 28.8**	**+0.4**
PKVZ	**Pokaka**	**1.34**	**320**	P	**Pn**	**11 47 29.0**	**+0.5**
NNVZ	**North Ngauruho**	**1.35**	**331**	P	**Pn**	**11 47 29.2**	**+0.4**
NTVZ	**North Tongarir**	**1.36**	**334**	P	**Pn**	**11 47 29.1**	**+0.3**
KRVZ	**Karewarewa**	**1.38**	**333**	P	**Pn**	**11 47 29.5**	**+0.5**
WTVZ	**West Tongariro**	**1.38**	**331**	P	**Pn**	**11 47 29.4**	**+0.4**
WHHZ	**Waihua**	**1.38**	**26**	P	**Pn**	**11 47 29.0**	**+0.1**
RITZ	**Rihia Road**	**1.42**	**341**	P	**Pn**	**11 47 30.0**	**+0.5**
MSWZ	**Moikau Station**	**1.43**	**219**		**Pn**	**11 47 28.7**	**-0.8**
MSWZ	**Moikau Station**	**1.43**	**219**	P	**Pn**	**11 47 28.8**	**-0.8**
HATZ	**Hinemaiaia**	**1.46**	**349**	P	**Pn**	**11 47 30.0**	**0.0**
KATZ	**Kakaramea**	**1.47**	**336**	P	**Pn**	**11 47 30.7**	**+0.5**
TWVZ	**Taurewa**	**1.47**	**328**	P	**Pn**	**11 47 30.6**	**+0.3**
MRHZ	**Matea Rd**	**1.48**	**359**	P	**Pn**	**11 47 30.4**	**0.0**
RAHZ	**Arahi**	**1.48**	**19**	P	**Pn**	**11 47 30.1**	**-0.3**
MTHZ	**Maungataniwha**	**1.50**	**12**	P	**Pn**	**11 47 30.0**	**-0.5**
PLWZ	**Palliser**	**1.54**	**216**		**Pn**	**11 47 30.3**	**-0.9**
PLWZ	**Palliser**	**1.54**	**216**	P	**Pn**	**11 47 30.3**	**-0.9**
RATZ	**Rangitukua**	**1.54**	**340**	P	**Pn**	**11 47 31.4**	**+0.2**
WEL	**Wellington**	**1.60**	**233**	P	**Pn**	**11 47 31.5**	**-0.4**
KNZ	**Kokohu**	**1.60**	**36**	P	**Pn**	**11 47 31.3**	**-0.7**
MHGZ	**Mahia Peninsul**	**1.62**	**44**	P	**Pn**	**11 47 31.8**	**-0.3**
BHW	**Baring Head**	**1.62**	**227**		**Pn**	**11 47 31.2**	**-1.0**
BHW	**Baring Head**	**1.62**	**227**	P	**Pn**	**11 47 31.4**	**-0.7**
SNZO	**South Karori**	**1.66**	**233**	Pn	**Pn**	**11 47 32.2**	**-0.4**
SNGZ	**Shannon Statio**	**1.68**	**24**	P	**Pn**	**11 47 32.6**	**-0.5**
WHTZ	**Whakaora**	**1.70**	**347**	P	**Pn**	**11 47 33.5**	**+0.1**
WATZ	**Wairara**	**1.70**	**341**	P	**Pn**	**11 47 33.2**	**-0.2**
RTZ	**Ruatahuna**	**1.75**	**14**	P	**Pn**	**11 47 33.4**	**-0.7**
ALRZ	**Allen Road**	**1.76**	**357**	P	**Pn**	**11 47 33.5**	**-0.6**
VRZ	**Vera Road**	**1.77**	**312**	P	**Pn**	**11 47 34.9**	**+0.6**
PRGZ	**Paritu Road**	**1.78**	**39**	P	**Pn**	**11 47 33.7**	**-0.7**
LREZ	**Lake Rotokare**	**1.80**	**298**	P	**Pn**	**11 47 35.9**	**+1.3**
WPRZ	**Whakapapatarin**	**1.81**	**353**	P	**Pn**	**11 47 34.4**	**-0.5**
PRRZ	**Plateau Road**	**1.82**	**358**	P	**Pn**	**11 47 34.4**	**-0.6**
MUGZ	**Murupara**	**1.86**	**8**	P	**Pn**	**11 47 34.7**	**-0.8**
TCW	**Tory Channel**	**1.88**	**241**	P	**Pn**	**11 47 35.1**	**-0.6**
KUTZ	**Kaahu Road**	**1.89**	**345**	P	**Pn**	**11 47 35.7**	**-0.3**
RIGZ	**Rimuhau**	**1.90**	**33**	P	**Pn**	**11 47 35.5**	**-0.7**
HRRZ	**Handcock Road**	**1.93**	**356**	P	**Pn**	**11 47 36.0**	**-0.5**
RAGZ	**Rawiri**	**1.97**	**23**	P	**Pn**	**11 47 36.2**	**-0.9**
RRRZ	**Republican Roa**	**1.98**	**1**	P	**Pn**	**11 47 36.4**	**-0.8**
GRRZ	**Galatos Road**	**1.99**	**352**	P	**Pn**	**11 47 37.0**	**-0.3**
DUWZ	**D'Urville Isla**	**1.99**	**255**	P	**Pn**	**11 47 36.9**	**-0.3**
HSRZ	**Hossack Road**	**2.01**	**355**	P	**Pn**	**11 47 37.2**	**-0.5**
PRPZ	**Palmer Road**	**2.02**	**295**	P	**Pn**	**11 47 39.4**	**+1.7**
MHEZ	**Mangahewa**	**2.06**	**306**	P	**Pn**	**11 47 40.2**	**+1.9**
HLRZ	**Highlands Stat**	**2.07**	**358**	P	**Pn**	**11 47 38.8**	**+0.5**
DREZ	**Durham Road**	**2.07**	**302**	P	**Pn**	**11 47 39.8**	**+1.4**
TARZ	**Mount Tarawera**	**2.08**	**1**	P	**Pn**	**11 47 38.1**	**-0.5**
NEZ	**North Egmont**	**2.10**	**299**	P	**Pn**	**11 47 40.4**	**+1.5**
TLZ	**Tolley Road**	**2.11**	**340**	P	**Pn**	**11 47 38.4**	**-0.6**
URZ	**Urewera**	**2.12**	**14**	P	**Pn**	**11 47 37.7**	**-1.3**
URZ	119nm,0.3s,baz=232,slow=6.5,SNR=810			S	**Sn**	**11 48 02.2**	**-2.0**
	176nm,0.3s,baz=60,slow=20,SNR=8.3						
URZ	**Urewera**	**2.12**	**14**	P	**Pn**	**11 47 37.7**	**-1.3**
KHEZ	**Kahui Hut**	**2.14**	**298**	P	**Pn**	**11 47 40.7**	**+1.3**
UTU	**Utuhina**	**2.15**	**355**	P	**Pn**	**11 47 39.2**	**-0.3**
MWZ	**Matawai**	**2.15**	**23**	P	**Pn**	**11 47 38.3**	**-1.2**
TKGZ	**Te Karaka**	**2.17**	**30**	P	**Pn**	**11 47 38.6**	**-1.1**
MKRZ	**Makatiti**	**2.18**	**0**	P	**Pn**	**11 47 39.7**	**-0.2**
NMEZ	**Namu Road**	**2.18**	**294**	P	**Pn**	**11 47 41.4**	**+1.6**
HIZ	**Hauiti**	**2.19**	**325**		**Pn**	**11 47 39.6**	**-0.4**
HIZ	**Hauiti**	**2.19**	**325**	P	**Pn**	**11 47 40.2**	**+0.2**
PKE	**Pukeiti**	**2.21**	**300**	P	**Pn**	**11 47 42.0**	**+1.7**
OMRZ	**Omania**	**2.21**	**358**	P	**Pn**	**11 47 39.6**	**-0.8**
EDRZ	**Edgecumbe**	**2.22**	**6**	P	**Pn**	**11 47 39.6**	**-0.9**
NGRZ	**Ngongotaha**	**2.23**	**355**	P	**Pn**	**11 47 40.3**	**-0.2**
NBEZ	**Newall Road No**	**2.25**	**297**	P	**Pn**	**11 47 42.5**	**+1.7**
CNGZ	**Carnagh Statio**	**2.28**	**37**	P	**Pn**	**11 47 40.5**	**-0.8**
KARZ	**Kaharoa**	**2.30**	**356**	P	**Pn**	**11 47 41.1**	**-0.5**
MARZ	**Manawahe**	**2.34**	**4**	P	**Pn**	**11 47 41.4**	**-0.7**
BSWZ	**Blackbirch Sta**	**2.40**	**234**		**Pn**	**11 47 41.6**	**-1.3**
BSWZ	**Blackbirch Sta**	**2.40**	**234**	P	**Pn**	**11 47 41.7**	**-1.1**
TWGZ	**Tauwhareparae**	**2.45**	**29**	P	**Pn**	**11 47 43.0**	**-0.6**
OPRZ	**Ohinepanea**	**2.47**	**2**	P	**Pn**	**11 47 42.6**	**-1.3**
WHRZ	**Whale Island**	**2.50**	**10**	P	**Pn**	**11 47 43.2**	**-1.0**
NNZ	**Nelson**	**2.50**	**248**		**Pn**	**11 47 43.6**	**-0.7**
NNZ	**Nelson**	**2.50**	**248**	P	**Pn**	**11 47 43.5**	**-0.7**
KMRZ	**Kaimai**	**2.50**	**351**	P	**Pn**	**11 47 43.8**	**-0.5**
RUGZ	**Raukumara Rang**	**2.54**	**22**	P	**Pn**	**11 47 43.6**	**-1.3**
TGRZ	**Tauranga**	**2.59**	**357**	P	**Pn**	**11 47 44.7**	**-0.8**
PUZ	**Puketiti**	**2.65**	**33**	P	**Pn**	**11 47 44.6**	**-1.7**
TOZ	**Tahuroa Road**	**2.69**	**344**	P	**Pn**	**11 47 46.3**	**-0.5**
PKGZ	**Pakihiroa**	**2.74**	**28**	P	**Pn**	**11 47 45.4**	**-2.2**
HAZ	**Te Kaha**	**2.76**	**22**	P	**Pn**	**11 47 45.9**	**-1.9**
WMGZ	**Waiomatatini S**	**2.93**	**32**	P	**Pn**	**11 47 48.6**	**-1.5**
KHZ	**Kahutara**	**3.03**	**225**	P	**Pn**	**11 47 49.5**	**-2.0**
QRZ	**Quartz Range**	**3.03**	**259**		**Pn**	**11 47 49.9**	**-1.7**
QRZ	**Quartz Range**	**3.03**	**259**	P	**Pn**	**11 47 50.7**	**-0.9**
MYRZ	**Mayor Island**	**3.04**	**357**	P	**Pn**	**11 47 51.4**	**-0.3**
THZ	**Tophouse**	**3.05**	**241**		**Pn**	**11 47 50.5**	**-1.3**
THZ	**Tophouse**	**3.05**	**241**	P	**Pn**	**11 47 50.3**	**-1.5**
MXZ	**Matakaoa Point**	**3.11**	**28**	Pn	**Pn**	**11 47 51.7**	**-1.0**
MXZ	**Matakaoa Point**	**3.11**	**28**	P	**Pn**	**11 47 51.5**	**-1.1**
AWAZ	**Awhitu Peninsu**	**3.55**	**336**	P	**Pn**	**11 47 58.8**	**+0.2**
ETAZ	**East Tamaki Re**	**3.57**	**340**	P	**Pn**	**11 47 58.7**	**-0.2**
KUZ	**Kuaotunu**	**3.62**	**351**	P	**Pn**	**11 47 59.2**	**-0.4**
WIAZ	**Waiheke Island**	**3.67**	**343**	P	**Pn**	**11 48 00.3**	**0.0**
GVZ	**Greta Valley S**	**3.68**	**223**	P	**Pn**	**11 47 59.6**	**-0.9**
WTAZ	**Waiatarua**	**3.69**	**336**	P	**Pn**	**11 48 00.9**	**+0.3**
EPAZ	**Eden Park BICE**	**3.69**	**338**	P	**Pn**	**11 48 00.7**	**+0.1**
HBAZ	**Herne Bay Bore**	**3.72**	**338**	P	**Pn**	**11 48 01.4**	**+0.4**
MBAZ	**Motutapu North**	**3.75**	**341**	P	**Pn**	**11 48 01.2**	**-0.2**
DSZ	**Denniston Nort**	**3.79**	**246**	P	**Pn**	**11 48 00.6**	**-1.4**
RVAZ	**Riverhead Bore**	**3.84**	**337**	P	**Pn**	**11 48 02.8**	**+0.2**
ABAZ	**Army Bay**	**3.93**	**341**	P	**Pn**	**11 48 03.8**	**0.0**
LTZ	**Lake Taylor**	**3.99**	**231**		**Pn**	**11 48 03.9**	**-0.8**
LTZ	**Lake Taylor**	**3.99**	**231**	P	**Pn**	**11 48 02.5**	**-2.2**
AMCZ	**Amberley**	**4.03**	**224**	P	**Pn**	**11 48 04.7**	**-0.5**
GRZ	**Great Barrier**	**4.14**	**349**	P	**Pn**	**11 48 06.3**	**-0.5**
OKCZ	**Okains Bay**	**4.24**	**216**	P	**Pn**	**11 48 06.0**	**-2.1**
MQZ	**McQueen's Vall**	**4.41**	**219**	P	**Pn**	**11 48 08.6**	**-1.8**
AKCZ	**Akaroa Harbour**	**4.42**	**215**	P	**Pn**	**11 48 09.8**	**-0.8**
OXZ	**Oxford**	**4.46**	**226**		**Pn**	**11 48 09.4**	**-1.7**
OXZ	**Oxford**	**4.46**	**226**	P	**Pn**	**11 48 08.5**	**-2.7**
INZ	**Inchbonnie**	**4.46**	**236**	P	**Pn**	**11 48 08.9**	**-2.2**
WCZ	**Waipu Caves**	**4.68**	**339**	P	**Pn**	**11 48 14.6**	**+0.4**
RACZ	**Rakaia**	**4.68**	**222**	P	**Pn**	**11 48 12.1**	**-2.1**
MHCZ	**Mount Hutt**	**4.86**	**227**	P	**Pn**	**11 48 14.8**	**-1.8**
WACZ	**Wakanui South**	**4.99**	**222**	P	**Pn**	**11 48 16.2**	**-2.1**
RPZ	**Rata Peaks**	**5.26**	**228**	P	**Pn**	**11 48 20.2**	**-2.0**
ARCZ	**Arundel**	**5.34**	**226**	P	**Pn**	**11 48 21.4**	**-1.8**
GCSZ	**Gaunt Creek Bo**	**5.47**	**235**	P	**Pn**	**11 48 24.1**	**-0.8**
OUZ	**Omahuta**	**5.57**	**335**	Pn	**Pn**	**11 48 25.9**	**-0.5**
OUZ	**Omahuta**	**5.57**	**335**	P	**Pn**	**11 48 26.8**	**+0.4**
TMZ	**Timaru**	**5.72**	**223**	P	**Pn**	**11 48 26.4**	**-2.1**
FOZ	**Fox Glacier**	**5.90**	**235**	Pn	**Pn**	**11 48 30.1**	**-0.7**
FOZ	**Fox Glacier**	**5.90**	**235**	P	**Pn**	**11 48 28.4**	**-2.5**
LBZ	**Lake Benmore**	**6.17**	**227**	Pn	**Pn**	**11 48 33.8**	**-0.8**
LBZ	**Lake Benmore**	**6.17**	**227**	P	**Pn**	**11 48 32.7**	**-1.9**
CTZ	**Chatham Island**	**6.18**	**126**	P	**Pn**	**11 48 35.5**	**+0.7**
ODZ	**Otahua Downs**	**6.37**	**220**	Pn	**Pn**	**11 48 36.6**	**-0.7**
ODZ	**Otahua Downs**	**6.37**	**220**	P	**Pn**	**11 48 35.0**	**-2.3**
JCZ	**Jackson Bay**	**6.82**	**234**	P	**Pn**	**11 48 41.2**	**-2.3**
HHSZ	**Highcliff Hill**	**7.02**	**216**	P	**Pn**	**11 48 45.3**	**-0.9**
WKZ	**Wanaka**	**7.10**	**228**	P	**Pn**	**11 48 45.0**	**-2.3**
EAZ	**Earnscleugh**	**7.19**	**225**	P	**Pn**	**11 48 46.1**	**-2.4**
TUZ	**Tuapeka**	**7.52**	**219**	P	**Pn**	**11 48 53.4**	**+0.3**
MLZ	**Mavora Lakes**	**7.93**	**228**	Pn	**Pn**	**11 48 57.3**	**-1.4**
MLZ	**Mavora Lakes**	**7.93**	**228**	P	**Pn**	**11 48 57.4**	**-1.3**
SYZ	**Scrubby Hill**	**8.18**	**218**	P	**Pn**	**11 49 01.6**	**-0.5**
WHZ	**Wether Hill Ro**	**8.35**	**225**	P	**Pn**	**11 49 01.9**	**-2.5**
APZ	**The Paps**	**8.95**	**221**	P	**Pn**	**11 49 11.5**	**-1.1**
TOO	**Toolangi**	**24.18**	**266**	P	**P**	**11 52 17.4**	**-0.4**
STKA	**Stephens Creek**	**29.25**	**276**	LR	LR	12 03 35.8	
	comp=Z,157nm,19.1s,baz=45,slow=34						
BBOO	**Buckleboo**	**33.08**	**270**	P	**P**	**11 53 36.0**	**-1.1**
BBOO				IAmb	IAmb	11 54 02.0	
	comp=Z,120nm,1.2s						
HNR	**Honiara**	**34.08**	**330**	LR	LR	12 05 14.8	
	comp=Z,114nm,21.8s,baz=175,slow=34						
COEN	**Coen**	**39.19**	**303**	P	**P**	**11 54 28.8**	**-0.6**
COEN				IAmb	IAmb	11 54 56.9	
	comp=Z,6.5nm,1.0s						
AS31	**Alice Springs**	**39.31**	**282**	P	**P**	**11 54 29.2**	**-1.3**
ASAR	**Alice Springs**	**39.31**	**282**	P	**P**	**11 54 30.8**	**+0.3**
	comp=Z,2.2nm,0.5s,baz=134,slow=8.6,SNR=37						
ASAR	**Alice Springs**	**39.31**	**282**	P	**P**	**11 54 28.3**	**-2.1**
FORT	**Forrest**	**40.08**	**268**	P	**P**	**11 54 35.0**	**-1.8**
WR0	**Warramunga Arr**	**41.07**	**287**	P	**P**	**11 54 44.8**	**-0.2**
WR0				IAmb	IAmb	11 54 57.7	
	comp=Z,13nm,1.4s						
WB2	**Warramunga Arr**	**41.22**	**287**	P	**P**	**11 54 45.8**	**-0.4**
WB2				IAmb	IAmb	11 54 46.9	
	comp=Z,11nm,0.4s						
WRAB	**Tennant Creek**	**41.23**	**287**	P	**P**	**11 54 45.8**	**-0.4**
WRAB				IAmb	IAmb	11 54 46.9	
	comp=Z,7.4nm,0.5s						
WRA	**Warramunga Arr**	**41.23**	**287**	P	**P**	**11 54 46.5**	**+0.2**
	comp=Z,6.0nm,0.4s,baz=128,slow=8.6,SNR=126						
WRA	**Warramunga Arr**	**41.23**	**287**	P	**P**	**11 54 45.7**	**-0.6**
WB0	**Warramunga Arr**	**41.30**	**287**	P	**P**	**11 54 46.7**	**-0.2**
WB0				IAmb	IAmb	11 54 60.0	
	comp=Z,8.2nm,0.9s						
KNRA	**Kununurra**	**48.02**	**287**	P	**P**	**11 55 40.2**	**-0.3**
MTN	**Manton Dam**	**48.19**	**291**	P	**P**	**11 55 41.0**	**-0.7**
FITZ	**Fitzroy Crossi**	**48.81**	**282**	P	**P**	**11 55 47.1**	**+0.5**
	comp=Z,5.6nm,0.6s,baz=133,slow=7.1,SNR=19						
FITZ	**Fitzroy Crossi**	**48.81**	**282**	P	**P**	**11 55 46.0**	**-0.5**
QSPA	**South Pole Qui**	**49.81**	**180**	P	**P**	**11 55 54.8**	**+1.0**
QSPA				IAmb	IAmb	11 56 00.6	
	comp=Z,8.7nm,1.2s						
SNAA	**Sanae**	**68.31**	**180**	P	**P**	**11 58 03.1**	**+1.5**
VNA3	**Neumayer Olymp**	**68.66**	**178**	P	**P**	**11 58 05.7**	**+2.0**
VNA2	**Neumayer--Watz**	**69.03**	**179**	P	**P**	**11 58 08.4**	**+2.4**
	baz=179,slow=5.3						
VNA1	**Neumayer--Stat**	**69.29**	**178**	P	**P**	**11 58 10.1**	**+2.6**
KSRS	**Korea Array**	**89.28**	**323**	LR	LR	12 36 52.9	
	comp=Z,14nm,19.2s,baz=145,slow=34						
NJ2	**Nanjing**	**89.57**	**314**	*eP*	**P**	**11 59 59.0**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,18nm,0.5s						
HHC	**Hu-ho-hao-te**	**100.01**	**316**	*eP*	**Pdif**	**12 00 45.1**	**-0.6**
HHC				LR	LR		
	comp=N,140nm,16.2s						
HHC				LR	LR		
	comp=E,110nm,16.2s						
HHC				LR	LR		
	comp=Z,86nm,16.2s						
ARCES	**ARCESS Array B**	**146.97**	**342**	PKP	**PKPbc**	**12 06 42.5**	**+0.5**
	comp=Z,7.3nm,1.0s,baz=57,slow=4.5,SNR=9.8						
FINES	**FINESS Array B**	**152.20**	**329**	PKPbc	**PKPbc**	**12 06 55.3**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=346,slow=2.9,SNR=5.5						
TORD	**Torodi Ar. Bea**	**152.54**	**191**	PKP	**PKiKP**	**12 06 58.5**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=155,slow=2.8,SNR=11						
TORD				PKPbc	**sPKPdf**	**12 07 09.6**	**-1.2**
	comp=Z,1.5nm,0.5s,baz=167,slow=3.1,SNR=11						
TORD				PKPab	**pPKPab**	**12 07 21.9**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=168,slow=2.7,SNR=4.9						

IDC ***19*** *11:47:16.6±2.4, 10°.18S×161°.24E, h108km±16km, mb3.4/5, mb1 3.7/6, mb1mx3.4/33, mbtmp3.8/6, Error ellipse: s-maj=27.9km s-min=24.5km az=88.0*

ISC 19 11:47:16.1±1.2, 10°.2S±0°.1×161°.2E±0°.2, h100km, n7, σ0§90/8, mb3.5/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.47**	**300**	P	**Pn**	**11 47 41.8**	**-0.1**
	72nm,0.3s,baz=154,slow=7.6,SNR=21						
HNR				S	**Sn**	**11 48 03.1**	**+1.5**
	117nm,0.3s,baz=204,slow=23,SNR=6.5						
DZM	**Mont Dzumac**	**12.85**	**158**	P	**Pn**	**11 50 16.0**	**+0.9**
	0.5nm,0.3s,baz=29,slow=7.7,SNR=21						
WRA	**Warramunga Arr**	**27.70**	**246**	P	**P**	**11 52 55.1**	**0.0**
	1.2nm,0.6s,baz=76,slow=9.1,SNR=15						
ASAR	**Alice Springs**	**29.33**	**239**	P	**P**	**11 53 08.8**	**-0.8**
	0.3nm,0.4s,baz=62,slow=10,SNR=3.1						
FITZ	**Fitzroy Crossi**	**35.36**	**253**	P	**P**	**11 54 01.8**	**-0.5**
	0.7nm,0.4s,baz=82,slow=5.7,SNR=7.3						
SONM	**Songino Array**	**75.38**	**325**	P	**P**	**11 58 48.8**	**-0.2**
	0.4nm,0.5s,baz=132,slow=4.3,SNR=2.8						
ILAR	**Eielson Array**	**84.14**	**20**	P	**P**	**11 59 35.5**	**-0.2**
	0.2nm,0.4s,baz=245,slow=5.1,SNR=4.3						

IDC ***19*** *11:50:21.0±1.3, 30°.88S×71°.85W, h0km, mb3.7/3, mb1 3.8/6, mb1mx3.7/27, mbtmp3.6/6, ML3.7/3, Error ellipse: s-maj=53.9km s-min=25.4km az=96.0*

GUC ***19*** *11:50:23.0±0.6, 30°.88S×71°.87W, h32km±3km, ML4.2*

NEIC ***19*** *11:50:25.4±3.1, 30°.85S±0°.04×71°.9W±0°.1, h28km±6km, mb4.2/3, ML4.2(GUC), Error ellipse: s-maj=13.0km s-min=4.8km az=98.0*

ISC 19 11:50:25.3±1.0, 30°.85S±0°.04×71°.83W±0°.08, h27km±7km, n39, σ1§32/52, mb4.1/4, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.24**	**45**	⇑*iP*	**Pb**	**11 50 31.2**	**-0.5**
CO06				*i* S	**Sb**	**11 50 36.4**	**+0.4**
CO06	**Fray Jorge**	**0.24**	**45**	Pg	**Pb**	**11 50 31.1**	**-0.5**
CO06				Sg	**Sb**	**11 50 36.0**	**0.0**
CO03	**El Pedregal**	**0.98**	**90**	⇓*iP*	**Pn**	**11 50 43.0**	**-0.4**
CO03				*i* S	**Sn**	**11 50 57.1**	**+0.5**
CO03				IAML		11 50 57.6	
	comp=E,5μm,0.3s						
CO03	**El Pedregal**	**0.98**	**90**		**Pn**	**11 50 42.7**	**-0.7**
CO05	**La Serena**	**1.06**	**29**	⇑*iP*	**Pn**	**11 50 44.2**	**-0.2**
CO05				*eS*	**Sn**	**11 50 58.6**	**+0.4**
GO04	**Tololo Observa**	**1.12**	**53**	*eP*	**Pn**	**11 50 45.2**	**-0.2**
GO04				*eS*	**Sb**	**11 51 02.2**	**+1.8**
GO04				IAML		11 51 10.1	
	comp=N,10μm,0.5s						
VA06	**Catapilco**	**1.77**	**165**	*eP*	**Pn**	**11 50 52.6**	**-1.6**
VA06				*eS*	**Sn**	**11 51 16.5**	**+0.7**
VA06				IAML		11 51 21.7	
	comp=N,3μm,0

comp=E,1.2nm,0.3s,baz=344,slow=12,SNR=37
PLCA Paso Flores 10.39 171 Pn **Pn 11 59 49.6 0.0**
CPUP Villa Florida 14.03 77 Pn **Pn 12 00 39.2 -0.2**
comp=E,0.6nm,0.3s,baz=307,slow=3.9,SNR=3.8
CPUP LR LR 12 06 15.9
comp=E,125nm,21.2s,baz=290,slow=38
LPAZ La Paz 14.68 17 Pn **P 12 00 52.2 -2.9**
comp=E,0.3nm,0.3s,baz=197,slow=9.2,SNR=13
SIV San Ignacio 17.84 39 P **P 12 01 31.3 +1.7**
comp=E,0.2nm,0.3s,baz=233,slow=11,SNR=38
BDFB Brasilia 26.90 62 P **P 12 03 03.4 +1.6**
comp=E,9.6nm,0.9s,baz=242,slow=6.9,SNR=9.4
BDFB Brasilia 26.90 62 P **P 12 03 00.8 -1.0**
ROSC El Rosal 35.13 357 LR LR 12 18 51.5
comp=E,82nm,20.8s,baz=52,slow=37
VNA3 Neumayer Olymp 52.81 159 P **P 12 06 37.4 +2.0**
VNA1 Neumayer--Stat 53.11 158 P **P 12 06 39.9 +2.3**
VNA2 Neumayer--Watz 53.45 158 P **P 12 06 41.9 +1.7**
SNAA Sanae 55.04 159 P **P 12 06 53.4 +1.6**
SNAA Sanae 55.04 159 P **P 12 06 51.2 -0.5**
SNAA IAmb IAmb 12 06 54.4
comp=Z,15nm,1.2s
QSPA South Pole Qui 59.77 180 P **P 12 07 25.2 -0.1**
TXAR Lajitas Array 66.43 331 P **P 12 08 12.7 +2.8**
comp=Z,1.6nm,0.8s,baz=148,slow=7.5,SNR=17
TXAR Lajitas Array 66.43 331 P **P 12 08 09.5 -0.4**
VNDA Vanda 67.48 191 P **P 12 08 19.0 +3.1**
comp=Z,0.7nm,0.9s,baz=118,slow=6.5,SNR=2.7
HENM Henderson Moun 68.67 345 P **P 12 08 23.3 -0.4**
MNTX Cornudas Mount 69.21 330 P **P 12 08 27.3 0.0**
MNTX IAmb IAmb 12 08 31.0
comp=Z,3.7nm,0.9s
MSTX Muleshoe 70.14 334 P **P 12 08 32.9 -0.1**
R40A Maddies Statio 70.82 344 P **P 12 08 36.3 -0.7**
R40A IAmb IAmb 12 08 41.2
comp=Z,12nm,1.1s
P40A Paris 71.95 344 P **P 12 08 43.0 -0.7**
P40A IAmb IAmb 12 08 48.1
comp=Z,10.0nm,1.0s
DBIC Dimbokro 74.51 73 P **P 12 09 01.6 +2.2**
comp=E,6.8nm,0.8s,baz=228,slow=6.0,SNR=5.6
DBIC Dimbokro 74.51 73 P **P 12 08 58.7 -0.8**
DBIC IAmb IAmb 12 09 02.3
comp=E,14nm,1.1s
MAW Mawson 76.70 164 P **P 12 09 13.1 +1.9**
comp=E,1.4nm,0.4s,baz=216,slow=7.0,SNR=9.9
MAW Mawson 76.70 164 P **P 12 09 12.2 +1.1**
PDAR Pinedale Array 80.40 333 P **P 12 09 35.6 +3.5**
comp=E,2.0nm,0.6s,baz=152,slow=4.1,SNR=4.5
TORD Torodi Ar. Bea 83.45 71 P **P 12 09 50.5 +2.0**
comp=E,4.5nm,0.7s,baz=264,slow=4.8,SNR=19
TORD Torodi Ar. Bea 83.45 71 P **P 12 09 47.2 -1.2**
TORD IAmb IAmb 12 09 51.2
comp=E,5.2nm,0.8s
WRA Warramunga Arr 123.60 211 PKP **PKiKP 12 16 19.4 +0.4**
comp=Z,0.4nm,0.5s,baz=161,slow=1.9,SNR=9.8
WRA Warramunga Arr 123.60 211 **PKPdf 12 16 15.7 -3.0**
BVAR Borovoye Array 144.91 39 PKP **PKiKP 12 16 59.1 -1.9**
comp=E,1.3nm,0.5s,baz=262,slow=5.4,SNR=7.4
KURBB Kurchatov Arra 150.50 39 PKPbc **PKiKP 12 17 14.0 +1.4**
comp=E,3.4nm,0.7s,baz=297,slow=2.9,SNR=22
AAK Ala-Archa 151.06 56 PKPbc **PKiKP 12 17 16.2 +2.0**
comp=E,3.8nm,0.5s,baz=318,slow=4.5,SNR=11
AAK Ala-Archa 151.06 56 PKPdf **PKPdf 12 17 05.4 -2.4**
AAK PKPbc **pPKPdf 12 17 10.8 -0.4**
ZALV Zalesovo Beam 151.40 28 PKPbc **PKiKP 12 17 15.9 +1.6**
comp=Z,4.7nm,0.5s,baz=297,slow=3.4,SNR=10
MKAR Makanchi Array 154.63 43 PKPbc **PKiKP 12 17 22.7 +1.4**
comp=Z,0.8nm,0.8s,baz=336,slow=2.7,SNR=4.7
MKAR PKPab **pPKPab 12 17 38.5 -0.7**
comp=Z,0.7nm,0.8s,baz=318,slow=3.9,SNR=2.8
MKAR Makanchi Array 154.63 43 PKPdf **PKPdf 12 17 10.6 -2.1**
MKAR **sPKPdf 12 17 18.6 +1.4**

MEX 19 11:57:38.1±1.1, 18°59N×104°17W, h14km±34km, MD3.8,
Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
R15V		**0.60**	**17**	*i*	P		Pg	11 57 48.7	-1.3
R15V				*i*	P		Pg	11 57 48.7	-1.3
R15V				*i*	S		Sg	11 57 56.4	-1.6
R15V				*e*	S		Sb	11 57 56.6	-2.4
COIG	**Colima**	**0.74**	**38**	*i*	P		Pg	11 57 50.2	-2.3
COIG				*i*	S		Sg	11 58 00.3	-2.1
MMIG	**Aquila**	**0.84**	**111**	*i*	P		Pg	11 57 51.7	-2.6
MMIG				*i*	S		Sg	11 58 01.9	-3.3
EZ5V		**1.03**	**31**	*e*	P		Pb	11 57 56.2	-1.8

WEL ***19*** *12:02:00, 42.°28S×172.°53E, h12km, ML4.3, Mw3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14} Nm; M_{rr}2.04; $M_{\theta\theta}$2.23; $M_{\phi\phi}$-4.27; $M_{r\theta}$-0.95; $M_{\theta\phi}$-6.50; $M_{\phi r}$-2.39; Fault plane solution: $M_0$7.59000×10^{14} NP1: ϕ_s78.00000°, δ76.00000°, λ-175.00000°. NP2: ϕ_s347.00000°, δ86.00000°, λ-14.00000°. Principal axes: T -88.7900, Plg7.0000°, Azm33.0000°; N 62.9900, Plg75.0000°, Azm151.0000°; P 25.8000, Plg13.0000°, Azm302.0000°;*
IDC ***19*** *12:02:10.0±5.1, 42.°07S×172.°49E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.4/21, mbtmp3.3/3, ML3.3/1 Error ellipse: s-maj=141.2km s-min=29.3km az=157.0*
WEL ***19*** *12:02:10.7, 42.°53.3'×17.°3E±, h16km±7km, M4.3/107, ML4.2/18, MLv4.3/107, Error ellipse: s-maj=0.0km s-min=0.0km az=58.3*
NOU ***19*** *12:02:11.5, 42.°36S×172.°49E, h7km, mb4.0/7, South Island, New Zealand*
ISC 19 12:02:09.0±1.5, 42°25S±0.°03×172°62E±0.°03, h5km±12km, n111, σ1§81/113, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.53**	**24**	P			**Pn**	**12 02 22.5**	**-0.7**
THZ				S			**Sb**	**12 02 30.2**	**+1.4**
LTZ	**Lake Taylor**	**0.60**	**206**	P			**Pb**	**12 02 22.2**	**+0.3**
LTZ				S			**Sb**	**12 02 30.6**	**-0.1**
KHZ	**Kahutara**	**0.70**	**104**	P			**Pn**	**12 02 26.9**	**+1.4**
KHZ				S			**Sn**	**12 02 36.9**	**+0.2**
GVZ	**Greta Valley S**	**0.78**	**157**	P			**Pn**	**12 02 27.6**	**+0.8**
GVZ				S			**Sn**	**12 02 38.6**	**-0.3**
DSZ	**Denniston Nort**	**0.79**	**309**	P			**Pn**	**12 02 26.6**	**-0.2**
AMCZ	**Amberley**	**0.93**	**179**	P			**Pn**	**12 02 30.1**	**+1.3**
AMCZ				S			**Sn**	**12 02 42.9**	**+0.4**
INZ	**Inchbonnie**	**0.99**	**241**	P			**Pb**	**12 02 28.3**	**-0.4**
INZ				S			**Sb**	**12 02 41.8**	**-0.3**
BSWZ	**Blackbirch Sta**	**1.07**	**61**	P			**Pn**	**12 02 32.7**	**+2.0**
OXZ	**Oxford**	**1.16**	**202**	P			**Pn**	**12 02 32.3**	**+0.3**
NNZ	**Nelson**	**1.17**	**29**	P			**Pn**	**12 02 33.6**	**+1.6**
TUWZ	**Tuamarina**	**1.28**	**51**	P			**Pg**	**12 02 35.9**	**+2.4**
CMWZ	**Cape Campbell**	**1.28**	**68**	P			Pg	12 02 38.3	+4.6
QRZ	**Quartz Range**	**1.42**	**357**	P			**Pg**	**12 02 38.0**	**+1.8**
MQZ	**McQueen's Vall**	**1.46**	**179**	P			**Pn**	**12 02 36.0**	**0.0**
MQZ				S			**Sn**	**12 02 54.1**	**-1.4**
MHCZ	**Mount Hutt**	**1.50**	**211**	P			**Pb**	**12 02 36.9**	**-0.5**
MHCZ				S			**Sn**	**12 02 56.2**	**-0.5**
OKCZ	**Okains Bay**	**1.51**	**168**	P			**Pb**	**12 02 37.6**	**+0.1**
RACZ	**Rakaia**	**1.52**	**193**	P			**Pn**	**12 02 36.9**	**0.0**
TCW	**Tory Channel**	**1.61**	**51**	P			**Pg**	**12 02 41.2**	**+1.3**
WVZ	**Waitaha Valley**	**1.62**	**239**	P			**Pb**	**12 02 39.2**	**-0.1**
AKCZ	**Akaroa Harbour**	**1.64**	**173**	P			**Pb**	**12 02 39.2**	**-0.5**
DUWZ	**D'Urville Isla**	**1.74**	**34**	P			**Pg**	**12 02 43.1**	**+0.8**
WACZ	**Wakanui South**	**1.79**	**198**	P			**Pn**	**12 02 40.5**	**0.0**
RPZ	**Rata Peaks**	**1.87**	**218**	P			**Pn**	**12 02 42.0**	**+0.4**
WEL	**Wellington**	**1.87**	**60**	P			**Pg**	**12 02 45.1**	**+0.3**
BHW	**Baring Head**	**1.88**	**64**	P			**Pg**	**12 02 44.8**	**-0.2**
GCSZ	**Gaunt Creek Bo**	**2.00**	**237**	P			**Pb**	**12 02 45.4**	**-0.5**
ARCZ	**Arundel**	**2.00**	**211**	P			**Pn**	**12 02 43.8**	**+0.2**
PLWZ	**Palliser**	**2.08**	**72**	P			**Pb**	**12 02 46.8**	**-0.5**
MSWZ	**Moikau Station**	**2.13**	**68**	P			**Pb**	**12 02 47.7**	**-0.4**
CAW	**Cannon Point**	**2.15**	**59**	P			**Pg**	**12 02 48.6**	**-1.7**
KIW	**Kapiti Island**	**2.20**	**52**	P			**Pg**	**12 02 50.0**	**-1.2**
PAWZ	**Paruwai Farm**	**2.27**	**69**	P			**Pb**	**12 02 49.6**	**-0.9**
OGWZ	**Otaki Gorge**	**2.39**	**54**	P			**Pb**	**12 02 52.0**	**-0.5**
MTW	**Mount Morrison**	**2.41**	**64**	P			**Pb**	**12 02 51.2**	**-1.7**
FOZ	**Fox Glacier**	**2.43**	**237**	P			**Pb**	**12 02 50.9**	**-2.3**
TMZ	**Timaru**	**2.44**	**208**	P			**Pn**	**12 02 49.5**	**0.0**
TRWZ	**Traveller**	**2.44**	**71**	P			**Pb**	**12 02 51.4**	**-2.0**
HOWZ	**Holdsworth Sta**	**2.55**	**59**	P			**Pb**	**12 02 53.3**	**-2.0**
TMWZ	**Te Maipa**	**2.70**	**66**	P			**Pb**	**12 02 54.8**	**-3.0**
MRZ	**Mangatainoka R**	**2.73**	**55**	P			**Pb**	**12 02 56.0**	**-2.2**
LBZ	**Lake Benmore**	**2.78**	**219**	P			**Pn**	**12 02 54.7**	**+0.4**
TIWZ	**Tintock**	**2.86**	**60**	P			**Pg**	**12 03 04.7**	**+1.0**
OHWZ	**Ohakea**	**2.88**	**46**	P			**Pg**	**12 03 03.8**	**-0.3**
NMEZ	**Namu Road**	**2.98**	**19**	P			**Pb**	**12 03 02.0**	**-0.6**
POWZ	**Post Office Ro**	**3.01**	**53**	P			**Pg**	**12 03 04.9**	**-1.7**
PRWZ	**Pori Road**	**3.03**	**57**	P			**Pb**	**12 03 00.2**	**-3.3**
LREZ	**Lake Rotokare**	**3.09**	**26**	P			**Pb**	**12 03 04.5**	**0.0**
NBEZ	**Newall Road No**	**3.12**	**18**	P			**Pb**	**12 03 03.8**	**-1.2**
PREZ	**Palmer Road**	**3.13**	**22**	P			**Pb**	**12 03 04.5**	**-0.6**
KHEZ	**Kahui Hut**	**3.13**	**20**	P			**Pb**	**12 03 04.1**	**-1.1**
BFZ	**Birch Farm**	**3.14**	**61**	P			**Pn**	**12 03 00.5**	**+1.3**
ODZ	**Otahua Downs**	**3.14**	**207**	P			**Pn**	**12 02 58.9**	**-0.3**
NEZ	**North Egmont**	**3.18**	**21**	P			**Pb**	**12 03 05.6**	**-0.4**
PKE	**Pukeiti**	**3.22**	**19**	P			**Pb**	**12 03 05.0**	**-1.6**
DREZ	**Durham Road**	**3.28**	**22**	P			**Pb**	**12 03 06.3**	**-1.4**
TSZ	**Takapari Road**	**3.33**	**50**	P			**Pn**	**12 03 04.2**	**+2.4**
JCZ	**Jackson Bay**	**3.35**	**236**	P			**Pn**	**12 03 03.8**	**+1.7**
MHEZ	**Mangahewa**	**3.42**	**23**	P			**Pb**	**12 03 09.3**	**-0.8**
VRZ	**Vera Road**	**3.52**	**28**	P			**Pb**	**12 03 09.6**	**-2.1**
PNHZ	**Pukenui**	**3.57**	**50**	P			**Pn**	**12 03 07.1**	**+2.0**
PKVZ	**Pokaka**	**3.60**	**36**	P			**Pb**	**12 03 11.1**	**-2.2**
WPHZ	**Waipukurau**	**3.61**	**54**	P			**Pb**	**12 03 10.8**	**-2.6**
WKZ	**Wanaka**	**3.68**	**224**	P			**Pn**	**12 03 06.1**	**-0.5**
TRVZ	**Turoa**	**3.69**	**38**	P			**Pb**	**12 03 13.8**	**-0.9**
WNVZ	**Wahianoa**	**3.69**	**39**	P			**Pb**	**12 03 11.3**	**-3.5**
MOVZ	**Moawhango**	**3.70**	**41**	P			**Pb**	**12 03 11.7**	**-3.2**
WHVZ	**Whangaehu Hut**	**3.72**	**38**	P			**Pb**	**12 03 12.0**	**-3.3**
FWVZ	**Far West T-bar**	**3.73**	**38**	P			**Pb**	**12 03 11.9**	**-3.5**
TUVZ	**Tukino**	**3.76**	**39**	P			**Pb**	**12 03 12.4**	**-3.6**
BHHZ	**Black Hill Sta**	**3.79**	**45**	P			**Pb**	**12 03 14.4**	**-2.1**
NGZ	**Ngauruhoe**	**3.81**	**37**	P			**Pb**	**12 03 13.6**	**-3.3**
SNVZ	**South Ngauruho**	**3.82**	**38**	P			**Pb**	**12 03 13.4**	**-3.5**
TWVZ	**Taurewa**	**3.83**	**35**	P			**Pb**	**12 03 15.6**	**-1.5**
EAZ	**Earnscleugh**	**3.83**	**218**	P			**Pn**	**12 03 07.9**	**-0.8**
KRHZ	**Kereru**	**3.85**	**49**	P			**Pb**	**12 03 14.9**	**-2.5**
OTVZ	**Oturere**	**3.85**	**38**	P			**Pb**	**12 03 13.2**	**-4.3**
NNVZ	**North Ngauruho**	**3.85**	**37**	P			**Pb**	**12 03 15.5**	**-2.1**
WTVZ	**West Tongariro**	**3.85**	**37**	P			**Pb**	**12 03 15.2**	**-2.3**
PXZ	**Pawanui**	**3.89**	**57**	P			**Pb**	**12 03 15.3**	**-2.8**
ETVZ	**East Tongariro**	**3.89**	**38**	P			**Pb**	**12 03 16.9**	**-1.3**
KRVZ	**Karewarewa**	**3.90**	**37**	P			**Pb**	**12 03 16.6**	**-1.7**
TMVZ	**Te Maari**	**3.91**	**38**	P			**Pb**	**12 03 14.4**	**-4.0**
NTVZ	**North Tongarir**	**3.91**	**37**	P			**Pb**	**12 03 16.2**	**-2.3**
KATZ	**Kakaramea**	**4.02**	**37**	P			**Pb**	**12 03 19.0**	**-1.4**
KWHZ	**Kaweka Forest**	**4.03**	**47**	P			**Pb**	**12 03 19.3**	**-1.3**
KAHZ	**Kahuranaki**	**4.04**	**54**	P			**Pn**	**12 03 13.5**	**+1.9**
RITZ	**Rihia Road**	**4.09**	**38**	P			**Pb**	**12 03 21.2**	**-0.3**
HIZ	**Hauiti**	**4.10**	**25**	P			Pb	12 03 16.5	-5.2
RATZ	**Rangitukua**	**4.14**	**36**	P			**Pb**	**12 03 19.8**	**-2.6**
MSZ	**Milford Sound**	**4.19**	**230**	P			**Pn**	**12 03 13.7**	**+0.1**
BKZ	**Black Stump Fm**	**4.26**	**45**	P			**Pn**	**12 03 16.5**	**+1.9**
WATZ	**Wairara**	**4.26**	**35**	P			**Pb**	**12 03 20.4**	**-3.9**
TUZ	**Tuapeka**	**4.29**	**209**	P			**Pn**	**12 03 15.2**	**+0.3**
NMHZ	**Naumai**	**4.47**	**47**	P			Pb	12 03 21.8	-6.2
KUTZ	**Kaahu Road**	**4.48**	**34**	P			**Pb**	**12 03 24.7**	**-3.4**
TLZ	**Tolley Road**	**4.50**	**31**	P			Pb	12 03 22.8	-5.7
MLZ	**Mavora Lakes**	**4.51**	**225**	P			**Pn**	**12 03 17.3**	**-0.7**
ALRZ	**Allen Road**	**4.65**	**39**	P			**Pb**	**12 03 28.6**	**-2.4**
MTHZ	**Maungataniwha**	**4.67**	**45**	P			**Pn**	**12 03 23.3**	**+3.1**
SYZ	**Scrubby Hill**	**4.96**	**209**	P			**Pn**	**12 03 23.9**	**-0.3**
WHZ	**Wether Hill Ro**	**4.96**	**221**	P			**Pn**	**12 03 22.4**	**-1.8**
TOZ	**Tahuroa Road**	**5.02**	**27**	P			Pn	12 03 28.9	+3.9
URZ	**Urewera**	**5.26**	**42**	Pn			**Pn**	**12 03 30.4**	**+2.2**
	1.1nm,0.3s,baz=306,slow=22,SNR=6.3								
URZ				Sn			**Sn**	**12 04 28.5**	**-0.7**
	4.2nm,0.3s,baz=92,slow=18,SNR=2.0								
URZ	**Urewera**	**5.26**	**42**	P			**Pn**	**12 03 30.0**	**+1.8**
TGRZ	**Tauranga**	**5.31**	**33**	P			Pn	12 03 33.1	+4.2
MWZ	**Matawai**	**5.42**	**45**	P			**Pn**	**12 03 31.8**	**+1.4**
ETAZ	**East Tamaki Re**	**5.58**	**19**	P			Pn	12 03 37.0	+4.4
RUGZ	**Raukumara Rang**	**5.77**	**44**	P			**Pn**	**12 03 37.9**	**+2.5**
ASAR	**Alice Springs**	**37.01**	**288**	P			**P**	**12 09 19.9**	**+0.2**
	0.3nm,0.7s,baz=127,slow=7.0,SNR=5.4								
WRA	**Warramunga Arr**	**39.16**	**293**	P			**P**	**12 09 38.4**	**+0.6**
	0.2nm,0.6s,baz=130,slow=8.6,SNR=1.5								
ARCES	**ARCESS Array B**	**147.82**	**339**	PKPbc			**PKPbc**	**12 21 53.9**	**+0.1**
	2.8nm,0.9s,baz=40,slow=2.9,SNR=1.3								

MEX 19 12:17:51.4±0.5, 16°56N×98°46W, h16km±209km, MD3.5,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.36**	**117**	*i*	P		Pg	12 17 57.5	-1.3
PNIG				*i*	S		Sg	12 18 02.7	-1.2
MGIG	**Malinaltepec**	**0.69**	**346**	*i*	P		Pg	12 18 02.6	-2.5
MGIG				*i*	S		Sg	12 18 11.6	-2.8
TXIG	**Tlaxiaco**	**0.96**	**44**	*i*	P		Pb	12 18 07.0	-2.8
TXIG				*i*	S		Sb	12 18 18.2	-4.2
PEIG	**Puerto Escondi**	**1.38**	**114**	*i*	P		Pn	12 18 14.5	-1.5

SJA ***19*** *12:22:30.0, 29.°65S×72.°38W, h10km, ML4.5*
IDC ***19*** *12:22:30.7±2.7, 29.°85S×71.°94W, h0km, mb3.8/1, mb1 3.7/4, mb1mx3.6/19, mbtmp3.6/4, ML3.6/3, Error ellipse: s-maj=109.5km s-min=35.7km az=100.0*
GUC ***19*** *12:22:33.5±0.6, 29.°76S×71.°90W, h44km±12km, ML3.8*
ISC 19 12:22:32.0±1.1, 29°86S±0.°04×72°19W±0.°08, h25km, n23, σ1§98/34, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.94**	**149**	*e*	P		**Pn**	**12 22 49.8**	**+0.1**
CO06				*i*	S		**Sb**	**12 22 58.3**	**-3.5**
CO06					IAML			12 23 08.6	
	comp=E,3μm,0.2s								
GO04	**Tololo Observa**	**1.25**	**105**	*e*	P		**Pn**	**12 22 53.6**	**-0.5**
GO04				*i*	S		**Sn**	**12 23 09.4**	**-0.9**
GO04					IAML			12 23 16.0	
	comp=N,11μm,0.5s								
GO04	**Tololo Observa**	**1.25**	**105**	*i*	P		**Pn**	**12 22 54.0**	**-0.1**
GO04				*e*	S		**Sb**	**12 23 10.8**	**0.0**
LCO	**Las Campanas**	**1.55**	**57**	*e*	P		**Pn**	**12 22 57.6**	**-0.7**
LCO				*i*	S		**Sn**	**12 23 15.3**	**-2.5**
LCO	**Las Campanas**	**1.55**	**57**	*i*	P		**Pn**	**12 22 58.0**	**-0.3**
LCO				⇓	*e*	S	**Sn**	**12 23 18.0**	**+0.2**
LCO					IAML			12 23 21.6	
	comp=Z,7μm,0.6s								
CO03	**El Pedregal**	**1.62**	**127**	*e*	P		**Pn**	**12 23 00.1**	**+0.9**
CO03				*i*	S		**Sn**	**12 23 20.5**	**+1.1**
CO03					IAML			12 23 26.9	
	comp=E,2μm,0.5s								
CO03	**El Pedregal**	**1.62**	**127**	*i*	P		**Pn**	**12 23 00.0**	**+0.9**
CO03				*e*	S		**Sb**	**12 23 22.0**	**+0.5**
CO03					IAML			12 23 27.1	
	comp=Z,1μm,0.5s								
AC04	**Llanos de Chal**	**1.92**	**31**	*i*	P		**Pn**	**12 23 02.0**	**-1.1**
AC04				*e*	S		**Sb**	**12 23 33.3**	**+3.4**
AC04					IAML			12 23 39.2	
	comp=Z,456nm,0.5s								
AROD	**Rodeo**	**2.38**	**98**	*i*	P		**Pb**	**12 23 12.0**	**-2.4**
AROD				*e*	S		**Sb**	**12 23 43.5**	**+0.1**
ACCO	**Cerro Coronel**	**2.80**	**106**	*i*	P		**Pb**	**12 23 20.0**	**-1.6**
ACCO					IAML			12 24 13.4	
	comp=Z,330nm,1.2s								
GO03	**Copiap**	**2.84**	**38**	*e*	P		**Pn**	**12 23 15.1**	**-0.7**
GO03				*i*	S		**Sn**	**12 23 48.3**	**-1.0**
GO03					IAML			12 24 14.3	
	comp=E,284nm,0.4s								
GO03	**Copiap**	**2.84**	**38**	*i*	P		**Pn**	**12 23 16.0**	**+0.2**
GO03				*e*	S		**Sb**	**12 23 58.4**	**+1.9**
ZON	**Zonda**	**3.46**	**120**	*i*	P		**Pn**	**12 23 28.0**	**+3.6**
ZON					IAML			12 24 38.6	
	comp=Z,113nm,0.5s								
ASAL	**Salagasta**	**3.96**	**134**	*i*	P		**Pb**	**12 23 37.0**	**-4.2**
ASAL					IAML			12 24 46.5	
	comp=Z,119nm,0.6s								
AC02	**Maricunga**	**4.05**	**43**	*i*	P		**Pn**	**12 23 33.0**	**+0.2**
AC02					IAML			12 24 43.3	
	comp=Z,103nm,0.5s								
AVFE	**Valle Fertil**	**4.17**	**102**	*i*	P		**Pn**	**12 23 37.0**	**+2.8**
AVFE					IAML			12 24 57.3	
	comp=Z,113nm,0.6s								
RFA	**San Rafael**	**5.82**	**148**	*i*	P		**Pn**	**12 24 00.0**	**+3.1**
RFA					IAML			12 25 45.5	
	comp=Z,35nm,1.2s								
PB05	**IPOC Station P**	**7.21**	**15**	*i*	P		**Pn**	**12 24 12.0**	**-3.9**
PB05					IAML			12 26 07.8	
	comp=Z,14nm,1.3s								
PLCA	**Paso Flores**	**10.93**	**173**	Pn			**Pn**	**12 25 08.8**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=353,slow=18,SNR=2.9								
LPAZ	**La Paz**	**14.02**	**16**	Pn			**Pn**	**12 25 50.9**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=201,slow=11,SNR=2.2								
SIV	**San Ignacio**	**17.17**	**39**	P			**Pn**	**12 26 30.8**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=242,slow=12,SNR=7.9								
TORD	**Torodi Ar. Bea**	**82.94**	**71**	P			**P**	**12 34 56.3**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=247,slow=5.1,SNR=3.1								
ZALV	**Zalesovo Beam**	**150.72**	**28**	PKPbc			**PKiKP**	**12 42 23.8**	**+1.6**
	comp=Z,1.8nm,0.6s,baz=314,slow=3.9,SNR=6.0								

JMA ***19*** *12:25:33.8±0.2, 24.°19N×121.°80E, h27km±3km, M2.6*
TAP ***19*** *12:25:34.2, 24.°27N×121.°84E, h18km, ML3.4, B*
ISC 19 12:25:33.7±1.0, 24°20N±0.°02×121°89E±0.°02, h10km±7km, n91, σ0§84/160, 8C-12D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.17**	**307**	P			**Pg**	**12 25 38.0**	**+0.6**
EHP	baz=298			S			**Sg**	**12 25 41.0**	**+1.0**
ETL	**Fush Village**	**0.25**	**260**	⇓	P		**Pb**	**12 25 39.8**	**-0.6**
ETL	baz=243			S			**Sb**	**12 25 43.7**	**-1.2**
EWUT	**Wuta**	**0.26**	**336**	⇓	*i*	P	**Pg**	**12 25 39.3**	**+0.2**
EWUT	baz=344			*i*	S		**Sg**	**12 25 42.6**	**0.0**
ENA	**Nanau**	**0.26**	**328**	⇓	*i*	P	**Pg**	**12 25 39.1**	**0.0**
ENA	baz=334			*i*	S		**Sg**	**12 25 42.6**	**0.0**
NACB	**Ninganchiao**	**0.28**	**264**	⇓	*i*	P	**Pb**	**12 25 39.8**	**-1.0**
NACB	baz=248			S			**Sb**	**12 25 44.1**	**-1.4**
TWD	**Chiawan**	**0.30**	**246**	⇑	*i*	P	**Pb**	**12 25 40.8**	**-0.4**
TWD	baz=234			*i*	S		**Sb**	**12 25 45.7**	**-0.5**
HWA	**Hwalien**	**0.35**	**229**	*e*	P		**Pb**	**12 25 42.9**	**+0.9**
	baz=227								
ETLH	**Xiulin Townshi**	**0.38**	**270**	⇓	P		**Pb**	**12 25 41.5**	**-1.0**
ETLH	baz=260			S			**Sg**	**12 25 46.6**	**+0.4**
TWC	**Suao**	**0.41**	**354**	⇓	*i*	P	**Pg**	**12 25 41.6**	**-0.1**
TWC	baz=8.0			*i*	S		**Sg**	**12 25 47.0**	**-0.1**
TEYL	**Yanliau Villag**	**0.43**	**219**	*e*	P		**Pb**	**12 25 43.9**	**+0.4**
TEYL	baz=211			*e*	S		**Sb**	**12 25 51.7**	**+1.7**
ETM	**Tongmen**	**0.44**	**237**	P			**Pb**	**12 25 43.2**	**-0.3**
ETM	baz=234			S			**Sb**	**12 25 50.0**	**-0.2**
NDS	**Dongshan**	**0.46**	**339**	⇓	*i*	P	**Pg**	**12 25 42.6**	**-0.1**
NDS	baz=343			S			**Sg**	**12 25 48.4**	**-0.3**
NNSB	**Datong**	**0.52**	**296**	⇓	*i*	P	**Pg**	**12 25 43.8**	**0.0**
NNSB	baz=292			*i*	S		**Sg**	**12 25 50.2**	**-0.5**
ENTT	**Nioudou**	**0.53**	**326**	⇓	*i*	P	**Pg**	**12 25 43.6**	**-0.4**
ENTT	baz=327			*i*	S		**Sg**	**12 25 50.3**	**-0.6**
NDT	**Datong Townshi**	**0.53**	**319**	P			**Pg**	**12 25 43.8**	**-0.2**
NDT	baz=318			S			**Sg**	**12 25 50.6**	**-0.3**
NNS	**Nan Shan**	**0.53**	**296**	⇓	*i*	P	**Pg**	**12 25 43.9**	**-0.1**
NNS	baz=293			*i*	S		**Sg**	**12 25 50.6**	**-0.5**
TWE	**Neicheng**	**0.56**	**338**	⇓	*i*	P	**Pg**	**12 25 44.2**	**-0.3**
TWE	baz=342			S			**Sg**	**12 25 51.2**	**-0.6**
ESL	**Shilin**	**0.57**	**227**	⇑	*i*	P	**Pb**	**12 25 45.5**	**-0.3**
ESL	ba

	baz=297						
LIOB				S		Sg	12 26 02.9 -0.3
	baz=297						
NSTT	**Nanjuang**	**0.92**	**298**	⇑*i* P		Pg	12 25 51.0 -0.4
	baz=296						
NSTT				*i* S		Sg	12 26 02.5 -0.9
	baz=296						
SSLB	**Suanglung**	**0.95**	**244**	*e*P		Pg	12 25 51.6 -0.5
	baz=240						
SSLB				*e*S		Sg	12 26 04.3 -0.2
	baz=240						
SMLT	**Sun Moon Lake**	**0.96**	**251**	*e*P		Pb	12 25 51.9 -0.6
	baz=247						
SMLT				*e*S		Sb	12 26 05.5 +0.1
	baz=247						
YULB	**Yu-li**	**0.98**	**214**	*e*P		Pg	12 25 51.7 -0.8
	baz=219						
YULB				*e*S		Sb	12 26 06.5 +0.8
	baz=219						
YM01	**YM01**	**0.98**	**343**	P		Pg	12 25 52.6 0.0
	baz=344						
YM01				*e*S		Sg	12 26 04.1 -1.4
	baz=344						
JYNG	**Yonagunijimaku**	**0.99**	**75**	P		Pn	12 25 53.7 0.0
TWS1	**Kuangyinshan**	**0.99**	**334**	P		Pg	12 25 51.6 -1.2
	baz=335						
TWS1				S		Sg	12 26 05.4 -0.4
	baz=335						
TYC	**Yuchr**	**0.99**	**253**	P		Pg	12 25 52.2 -0.6
	baz=242						
TYC				*e*S		Sb	12 26 06.0 -0.2
	baz=242						
NCUH	**Zhongli**	**1.00**	**320**	P		Pg	12 25 52.8 -0.1
	baz=316						
NCUH				S		Sb	12 26 06.6 +0.3
	baz=316						
NCU	**National Centr**	**1.00**	**320**	*e*P		Pg	12 25 52.9 0.0
	baz=316						
NCU				S		Sb	12 26 06.9 +0.5
	baz=316						
EYUL	**Yuli**	**1.00**	**212**	*e*P		Pn	12 25 54.3 +0.5
	baz=224						
SBCB	**Hsinchu**	**1.01**	**305**	*e*P		Pb	12 25 53.4 +0.1
	baz=298						
SBCB				*e*S		Sn	12 26 08.9 +0.6
	baz=298						
HSN	**Hsinchu**	**1.03**	**305**	*e*P		Pg	12 25 53.2 -0.3
	baz=300						
HSN				*e*S		Sb	12 26 08.2 +0.9
	baz=300						
TWQ1	**Liyutan**	**1.03**	**278**	P		Pb	12 25 53.6 -0.2
	baz=275						
TWQ1				S		Sg	12 26 07.0 -0.1
	baz=275						
ANP	**Anpu**	**1.03**	**341**	*e*P		Pg	12 25 53.2 -0.4
	baz=342						
NTST	**Danshui**	**1.04**	**337**	P		Pg	12 25 53.2 -0.4
	baz=344						
NTST				S		Sb	12 26 07.9 +0.4
	baz=344						
YOJ	**Yonaguni jima**	**1.05**	**76**	P		Pn	12 25 54.6 0.0
YOJ	**Yonaguni jima**	**1.05**	**76**	*e*P		Pn	12 25 54.5 0.0
	baz=70						
NSY	**Sanyi**	**1.05**	**282**	*e*P		Pb	12 25 54.4 +0.3
	baz=279						
NMLH	**Miaoli**	**1.06**	**288**	*e*P		Pb	12 25 54.5 +0.4
	baz=286						
WHYT	**Xinyi Township**	**1.08**	**242**	*e*P		Pb	12 25 54.2 -0.3
	baz=245						
WHYT				*e*S		Sn	12 26 10.1 +0.1
	baz=245						
TWY	**Chenhua**	**1.10**	**346**	*e*P		Pg	12 25 54.8 -0.1
	baz=342						
TWY				*e*S		Sg	12 26 08.9 -0.3
	baz=342						
TCU	**Taichung**	**1.11**	**267**	*e*P		Pn	12 25 55.5 +0.1
	baz=264						
TCU				*e*S		Sn	12 26 12.0 +1.1
	baz=264						
WJS	**Zhushan**	**1.13**	**251**	*e*P		Pb	12 25 55.6 +0.2
	baz=244						
WJS				*e*S		Sn	12 26 12.2 +0.9
	baz=244						
FULB	**Fuli**	**1.14**	**209**	P		Pn	12 25 55.6 -0.2
	baz=223						
WDJ	**Dajia District**	**1.15**	**277**	*e*P		Pg	12 25 55.4 -0.5
	baz=275						
WDJ				*e*S		Sg	12 26 10.1 -0.8
	baz=275						
CHKT	**Chengkung**	**1.20**	**204**	*e*P		Pg	12 25 54.9 -1.9
	baz=189						
ALS	**Alishan**	**1.21**	**236**	*e*P		Pb	12 25 56.7 -0.3
	baz=232						
ALS				*e*S		Sn	12 26 14.9 +1.2
	baz=232						
CHN5	**Tsauling**	**1.27**	**242**	P		Pb	12 25 57.6 -0.2
	baz=238						
CHN5				*e*S		Sn	12 26 17.3 +2.5
	baz=238						
ELDTW	**Lidau**	**1.29**	**219**	*e*P		Pg	12 25 56.4 -2.1
	baz=206						
EDH	**Donghe**	**1.34**	**204**	*e*P		Pg	12 25 56.7 -2.7
	baz=191						
WDLH	**Douliu**	**1.34**	**248**	*e*P		Pb	12 25 59.0 0.0
	baz=244						
WRL	**Guolierlin Hig**	**1.42**	**258**	*e*P		Pn	12 25 59.5 -0.1
	baz=256						
WRL				*e*S		Sb	12 26 18.9 +0.4
	baz=256						
STYH	**Taoyuan**	**1.45**	**225**	*e*P		Pb	12 26 00.7 -0.2
	baz=223						
CHN4	**Tsaushan**	**1.46**	**235**	P		Pb	12 26 01.1 0.0
	baz=232						
CHN4				S		Sn	12 26 22.3 +2.9
	baz=232						
TPUB	**Ta-pu**	**1.47**	**232**	*e*P		Pb	12 26 01.0 -0.1
	baz=230						
TPUB				*e*S		Sn	12 26 22.4 +2.9
	baz=230						
WTK	**Tuku**	**1.47**	**250**	*e*P		Pn	12 26 00.7 +0.4
	baz=246						
WTK				*e*S		Sn	12 26 21.2 +1.6
	baz=246						
WTP	**Ta-pu**	**1.51**	**231**	*e*P		Pb	12 26 01.8 -0.9
	baz=228						
WTP				*e*S		Sn	12 26 24.1 +3.4
	baz=228						
CHY	**Chiayi**	**1.52**	**243**	*e*P		Pg	12 26 01.9 -0.9
	baz=240						
CHY				*e*S		Sg	12 26 24.2 +1.7
	baz=240						
TWGBT	**Beinan**	**1.57**	**209**	*e*P		Pn	12 26 01.7 +0.1
	baz=210						
TWK	**Hsinying**	**1.59**	**234**	*e*P		Pb	12 26 02.8 -0.5
	baz=231						
TWK				*e*S		Sg	12 26 25.7 +0.8
	baz=231						
CHN1	**Nanshi**	**1.61**	**231**	P		Pb	12 26 03.3 -0.3
	baz=229						
CHN1				S		Sg	12 26 24.4 -1.2
	baz=229						
SGST	**Jiashian**	**1.64**	**227**	*e*P		Pn	12 26 02.7 0.0
	baz=226						
SGST				*e*S		Sg	12 26 26.1 -0.4
	baz=226						
IRIF	**Iriomote-Funau**	**1.68**	**85**	P		Pn	12 26 03.1 -0.1
IRIF				*e*S		Sb	12 26 26.0 0.0
SSD	**Sandimen**	**1.86**	**219**	*e*P		Pn	12 26 06.5 +0.9
	baz=219						
JKRS	**Kuro-shima**	**1.93**	**89**	P		Pn	12 26 07.5 +0.9
MASBT	**Mashibuluo**	**1.96**	**216**	*e*P		Pn	12 26 07.5 +0.4
	baz=217						
EAST	**Anshuo**	**2.05**	**208**	*e*P		Pb	12 26 10.7 -0.4
	baz=201						
JIJ	**Ishigaki jima**	**2.06**	**85**	P		Pn	12 26 08.5 +0.1
PHUB	**P'eng-hu**	**2.23**	**253**	*e*P		Pn	12 26 09.6 -1.2
	baz=248						
JISG	**Ishigakijimahi**	**2.24**	**80**	P		Pn	12 26 10.5 -0.3
JISG				*e*S		Sn	12 26 38.4 -0.1
PTMZ	**Houxiangcun**	**2.66**	**289**	*e*P		Pn	12 26 15.1 -1.5
	baz=283						

*IDC **19** 12:36:29.7±1.6,30°.37S×72°.01W,h0km,mb3.5/2, mb1 3.8/4,mb1mx3.7/19,mbtmp3.5/4,ML3.6/2,MS3.0/1, Ms1 3.0/1,ms1mx2.6/19,Error ellipse: s-maj=64.3km s-min=35.8km az=79.0*

ISC 19 12:36:31.9±1.1,30°.37S±0°.06×71°.99W±0°.09,h16km,n11, σ1§21/13,3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.43**	**135**	⇓*i* P	**Pb**	**12 36 41.7**	**+0.5**
CO06				*i* S	**Sb**	**12 36 48.5**	**+1.1**
CO06				IAML		12 36 52.0	
	comp=E,4μm,0.4s						
CO05	**La Serena**	**0.79**	**56**	⇓*i* P	**Pb**	**12 36 46.8**	**-0.4**
CO05				*i* S	**Sn**	**12 36 59.6**	**-0.2**
CO05				IAML		12 37 05.0	
	comp=E,3μm,0.3s						
GO04	**Tololo Observa**	**1.05**	**80**	⇓*i* P	**Pn**	**12 36 51.7**	**-0.5**
GO04				IAML		12 37 10.7	
	comp=N,5μm,0.3s						
CO03	**El Pedregal**	**1.21**	**113**	*e*P	**Pn**	**12 36 51.1**	**-3.2**
CO03				*i* S	**Sg**	**12 37 12.4**	**+1.2**
CO03				IAML		12 37 16.9	
	comp=E,2μm,0.3s						
LCO	**Las Campanas**	**1.76**	**40**	*e*P	**Pn**	**12 37 01.3**	**-0.7**
PLCA	**Paso Flores**	**10.41**	**174**	Pn	**Pn**	**12 39 00.6**	**0.0**
	comp=E,0.2nm,0.3s,baz=345,slow=13,SNR=4.0						
CPUP	**Villa Florida**	**13.52**	**76**	LR	LR	12 44 25.7	
	comp=E,60nm,18.5s,baz=251,slow=35						
LPAZ	**La Paz**	**14.45**	**15**	Pn	**Pn**	**12 39 56.7**	**+0.2**
	comp=E,0.1nm,0.3s,baz=184,slow=6.7,SNR=5.7						
TXAR	**Lajitas Array**	**66.61**	**330**	P	**P**	**12 47 22.1**	**+0.5**
	comp=E,0.2nm,0.5s,baz=151,slow=8.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**82.94**	**70**	P	**P**	**12 48 57.0**	**+0.5**
	comp=E,0.4nm,0.7s,baz=254,slow=5.0,SNR=3.2						
ZALV	**Zalesovo Beam**	**151.08**	**29**	PKPbc	**PKiKP**	**12 56 23.9**	**-0.4**
	comp=E,1.2nm,0.6s,baz=343,slow=1.5,SNR=3.7						

OTT 19 12:40:53.5±0.7,42°.10N×55°.31W,h18km,ML3.9/3, Atlantic Ocean. 557km south from Grand Bank, NI, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GBN	**Guysborough**	**5.58**	**308**	PN	Pn	12 42 14.7	-0.8
GBN				Trac		12 43 14.3	
	comp=Z,6.2nm,0.3s						
GBN				SN	Sn	12 43 15.5	-3.6
CHEG	**Cheticamp, Nov**	**6.08**	**323**	PN	Pn	12 42 22.6	+0.3
CHEG				SN	Sn	12 43 26.9	-4.5
CHEG				Trac		12 43 31.2	
	comp=Z,85nm,1.0s						
DRLN	**Deer Lake**	**7.32**	**349**	SN	Sn	12 43 56.1	-5.9
LMN	**Caledonia Moun**	**7.81**	**302**	PN	Pn	12 42 45.4	-0.8
LMN				SN	Sn	12 44 07.6	-6.5
LMN				Trac		12 44 17.4	
	comp=Z,19nm,0.9s						
ELNB	**Elgin, New Bru**	**8.03**	**301**	PN	Pn	12 42 49.0	-0.1
ELNB				SN	Sn	12 44 13.5	-6.0
ELNB				Trac		12 44 16.1	
	comp=Z,0.2nm,0.0s						
NATG	**Natashquan Que**	**9.70**	**330**	SN	Sn	12 44 51.9	-8.4

*SJA **19** 12:52:18.1±0.8,32°.29S×71°.91W,h30km±9km,ML6.0, MW6.4*

*IDC **19** 12:52:18.6±0.3,32°.26S×71°.70W,h0km,mb5.1/22, mb1 5.2/27,mb1mx5.1/32,mbtmp5.1/27,ML5.0/5,MS6.2/18, Ms1 6.2/18,ms1mx5.9/25,Error ellipse: s-maj=16.3km s-min=9.4km az=82.0*

*BJI **19** 12:52:19.7±0.0,32°.25S×71°.80W,h10km,mB6.1/54, Ms6.4/90,Ms7 6.4/85*

*NEIC **19** 12:52:20.2,32°.33S×72°.01W,h18km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr1.31; Mθθ-0.05; Mφφ-1.26; Mrθ0.24; Mrφ-0.14; Mθφ-0.97; Fault plane solution: M₀1.63000×10¹⁸ NP1:ϕs174.67000°, δ63.98000°,λ,79.90000°. NP2:ϕs16.76000°,δ27.79000°, λ109.75000°. Principal axes: T 1.6772, Plg69.0000°, Azm64.0000°; N -0.0909, Plg9.0000°, Azm179.0000°; P -1.5864, Plg18.0000°, Azm272.0000°;*

*NEIC **19** 12:52:20.9±2.4,32°.33S±0°.04×72°.06W±0°.06,h18km±1km, mb5.8/90,Ms_20 6.0/387,Mwb6.1/71,Mwr6.1/56,Mww6.2, Mwc6.2(GCMT),Mwr6.3(GUC) Error ellipse: s-maj=9.1km s-min=6.1km az=255.0*

*VAO **19** 12:52:20.7±0.3,32°.31S×71°.66W,h10km,mb5.6*

*GUC **19** 12:52:20.3±0.8,32°.33S×71°.91W,h27km±4km,ML6.1*

*NEIC **19** 12:52:20.2,32°.33S×72°.01W,h13km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr1.03; Mθθ-0.17; Mφφ-0.86; Mrθ0.30; Mrφ-0.04; Mθφ-1.52; Fault plane solution: M₀1.82000×10¹⁸ NP1:ϕs171.26000°, δ74.48000°,λ,84.99000°. NP2:ϕs9.40000°,δ16.29000°, λ107.45000°. Principal axes: T 1.9105, Plg60.0000°, Azm74.0000°; N -0.2006, Plg5.0000°, Azm173.0000°; P -1.7099, Plg29.0000°, Azm265.0000°;*

*SVSA **19** 12:52:20.9,32°.33S×72°.06W,h18km,MW6.2(NEIC)*

*MOS **19** 12:52:21.9±1.1,32°.23S×71°.76W,h30km,mb5.8/30, MS6.0/30,Error ellipse: s-maj=13.5km s-min=7.2km az=95.9*

*GCMT **19** 12:52:25.9±0.1,32°.34S×72°.05W,h20km,MW6.2/160, Moment Tensor Solution. s159,c368; s160,c606; Duration: 3ᵊ1 Moment tensor: Scale 10¹⁸Nm; Mrr1.87±.01; Mθθ0.06±.01; Mφφ-1.94±.01; Mrθ0.13±.02; Mθφ-0.07±.01; Mφr-1.86±.03; Best double couple: M₀2.66600×10¹⁸ NP1:ϕs6.00000°,δ23.00000°, λ98.00000°. NP2:ϕs178.00000°,δ67.00000°,λ87.00000°. Principal axes: T 2.6350, Plg68.0000°, Azm82.0000°; N 0.0560, Plg3.0000°, Azm179.0000°; P -2.6980, Plg22.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **19** 12:52:26,32°.41S×72°.12W,h18km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr1.79; Mθθ0.13; Mφφ-1.91; Mrθ0.18; Mθφ-0.07; Mφr-2.31; Fault plane solution: M₀2.97000×10¹⁸ NP1:ϕs8.00000°, δ20.00000°,λ100.00000°. NP2:ϕs177.00000°,δ71.00000°, λ86.00000°. Principal axes: T 2.9105, Plg64.0000°, Azm81.0000°; N 0.1114, Plg3.0000°, Azm178.0000°; P -3.0219, Plg26.0000°, Azm270.0000°;*

*NEIC **19** 12:52:26,32°.23S×71°.97W,h24km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr1.83; Mθθ-0.08; Mφφ-1.75; Mrθ0.10; Mθφ-0.04; Mφr-1.92; Fault plane solution: M₀2.63000×10¹⁸ NP1:ϕs4.00000°, δ22.00000°,λ96.00000°. NP2:ϕs178.00000°,δ68.00000°, λ88.00000°. Principal axes: T 2.6717, Plg66.0000°, Azm84.0000°; N -0.0864, Plg2.0000°, Azm179.0000°; P -2.5853, Plg23.0000°, Azm270.0000°;*

ISC 19 12:52:19.4±0.5,32°.28S±0°.02×71°.94W±0°.03,h8km±2km, h8km:pP-P,n1295,σ2§22/1334,mb5.8/114,MS6.1/253, 243C-39D,Fault plane solution: NP1:ϕs193.38237°, δ52.88234°,λ103.69534°. NP2:ϕs351.39246°,δ39.21975°, λ72.62765°. Principal axes: T Plg77.0384°, Azm151.6613°; N Plg10.8823°, Azm5.0167°; P Plg6.9561°, Azm273.6727°; Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**0.62**	**118**	⇓*i* P	**Pb**	**12 52 32.4**	**-0.1**
VA06				*i* S	**Sb**	**12 52 40.6**	**-0.7**
VA01	**Torpederas**	**0.79**	**162**	*i* P	**Pg**	**12 52 34.9**	**+0.3**
VA01				*i* S	**Sb**	**12 52 45.6**	**-0.6**
VA01	**Torpederas**	**0.79**	**162**		**Pg**	**12 52 34.9**	**+0.3**
VA01					**Sg**	**12 52 44.7**	**-0.1**
VA01	**Torpederas**	**0.79**	**162**	*e*P	Pn	12 52 42.0	+5.1
ROCH	**El Roble**	**1.05**	**132**	⇓*i* P	**Pg**	**12 52 39.3**	**-0.3**
ROCH				*i* S	**Sb**	**12 52 54.8**	**+0.8**
VA03	**San Esteban**	**1.27**	**113**	⇓*i* P	**Pn**	**12 52 42.8**	**-0.8**
VA03				*i* S	**Sn**	**12 53 00.8**	**-0.1**
VA03				IAML		12 53 06.2	
	comp=E,741μm,0.6s						
VA03	**San Esteban**	**1.27**	**113**	Pn	**Pn**	**12 52 43.0**	**-0.7**
VA03				Sn	**Sn**	**12 53 01.3**	**+0.4**
VA05	**Santo Domingo**	**1.41**	**169**	⇑*i* P	**Pn**	**12 52 44.6**	**-0.7**
VA05				*i* S	**Sn**	**12 53 04.0**	**-0.1**
VA05				IAML		12 53 12.6	
	comp=E,500μm,0.5s						
MT05	**Renca**	**1.51**	**138**	⇓*i* P	**Pn**	**12 52 46.5**	**-0.3**
MT05				*i* S	**Sn**	**12 53 06.0**	**-0.7**
MT05				IAML		12 53 11.9	
	comp=E,412μm,0.5s						
MT05	**Renca**	**1.51**	**138**		**Pn**	**12 52 46.5**	**-0.3**
MT05				Sn	**Sn**	**12 53 05.6**	**-1.1**
MT05	**Renca**	**1.51**	**138**	*e*P	**Pn**	**12 52 47.0**	**+0.2**
CO06	**Fray Jorge**	**1.62**	**9**	*i* P	**Pn**	**12 52 48.8**	**+0.6**
CO06	**Fray Jorge**	**1.62**	**9**		**Pn**	**12 52 48.9**	**+0.6**
MT01	**Popeta**	**1.69**	**160**	*e*P	**Pn**	**12 52 49.0**	**-0.3**
MT01				IAML		12 53 19.7	
	comp=E,297μm,0.6s						
MT01	**Popeta**	**1.69**	**160**	Pn	**Pn**	**12 52 49.0**	**-0.3**
MT01	**Popeta**	**1.69**	**160**	*e*P	**Pn**	**12 52 49.0**	**-0.3**
MT01				IAML		12 53 22.1	
	comp=Z,76μm,0.7s						
FSR	**Penalolen**	**1.69**	**136**	*e*P	**Pb**	**12 52 50.9**	**+0.1**
FSR				*i* S	**Sb**	**12 53 12.6**	**+0.3**
MT09	**Talagante**	**1.70**	**152**	⇓*i* P	**Pn**	**12 52 49.6**	**+0.1**
MT09				*i* S	**Sb**	**12 53 12.7**	**+0.1**
MT09				IAML		12 53 24.8	
	comp=N,265μm,0.4s						
MT09	**Talagante**	**1.70**	**152**	Pn	**Pn**	**12 52 50.0**	**+0.5**
CO03	**El Pedregal**	**1.79**	**37**	*e*P	**Pb**	**12 52 52.3**	**-0.2**
CO03				*i* S	**Sg**	**12 53 17.4**	**+0.5**
CO03				IAML		12 53 25.8	
	comp=E,227μm,0.6s						
CO03	**El Pedregal**	**1.79**	**37**	Pn	**Pb**	**12 52 52.3**	**-0.2**
CO03	**El Pedregal**	**1.79**	**37**	*e*P	**Pb**	**12 52 52.0**	**-0.5**
CO03				IAML		12 53 24.6	
	comp=Z,111μm,0.8s						
LMEL	**Las Melosas**	**2.14**	**137**	⇓*i* P	**Pn**	**12 52 56.2**	**+0.6**
LMEL				*i* S	**Sb**	**12 53 24.6**	**-0.9**
AUSP	**Uspallata**	**2.17**	**89**	*e*P	**Pb**	**12 52 59.0**	**-0.1**
BO03	**Pichilemu**	**2.21**	**180**	*e*P	**Pn**	**12 52 55.6**	**-0.8**
BO01	**Tunca**	**2.23**	**161**	⇑*e*P	**Pn**	**12 52 56.5**	**-0.2**
BO01				IAML		12 53 33.9	
	comp=E,346μm,0.5s						
BO01	**Tunca**	**2.23**	**161**		**Pn**	**12 52 56.5**	**-0.2**
BO01	**Tunca**	**2.23**	**161**	*e*P	**Pn**	**12 52 57.0**	**+0.3**
BO01				IAML		12 53 34.2	
	comp=Z,41μm,0.7s						
RTLS	**Leoncito**	**2.30**	**79**	*e*P	**Pb**	**12 53 02.0**	**+0.7**
RTLS				*e*S	**Sg**	**12 53 32.5**	**-0.8**
RTLS				IAML		12 53 37.7	
	comp=Z,94μm,2.5s						
GO04	**Tololo Observa**	**2.31**	**25**	*e*P	**Pn**	**12 52 59.3**	**+1.2**
GO04				*i* S	**Sg**	**12 53 35.9**	**+2.1**
GO04	**Tololo Observa**	**2.31**	**25**		**Pn**	**12 52 59.1**	**+1.1**
GO04	**Tololo Observa**	**2.31**	**25**	*e*P	**Pb**	**12 53 00.1**	**-1.4**
GO04				*e*S	**Sg**	**12 53 35.8**	**+1.9**
CO05	**La Serena**	**2.43**	**15**	*e*P	**Pn**	**12 53 01.0**	**+1.7**
CO05				IAML		12 53 43.9	
	comp=E,141μm,0.7s						
CO05	**La Serena**	**2.43**	**15**	Pn	**Pn**	**12 52 59.9**	**+0.5**
ARCO	**CERRO ARCO**	**2.60**	**103**	*e*P	**Pb**	**12 53 06.2**	**-0.2**
ARCO				*e*S	**Sb**	**12 53 37.0**	**-1.8**
ARCO				*e*S	**Sg**	**12 53 42.0**	**-1.2**
ARCO				IAML		12 53 52.9	
	comp=Z,42μm,0.6s						
ASAL	**Salagasta**	**2.65**	**98**	*e*P	**Pb**	**12 53 07.0**	**-0.2**
BO02	**Sierra Bellavi**	**2.69**	**159**	IAML		12 53 50.9	
	comp=E,146μm,0.5s						
BO02	**Sierra Bellavi**	**2.69**	**159**	*e*P	**Pn**	**12 53 04.0**	**+0.9**
BO02				*e*S	**Sn**	**12 53 37.0**	**+1.0**
BO02				IAML		12 53 47.1	
	comp=Z,75μm,0.6s						
GO05	**Huala**	**2.73**	**180**	⇑*e*P	**Pn**	**12 53 02.4**	**-1.2**
GO05	**Huala**	**2.73**	**180**	Pn	**Pn**	**12 53 01.9**	**-1.6**
GO05	**Huala**	**2.73**	**180**	*e*P	**Pn**	**12 53 02.0**	**-1.6**
GO05				*e*S	**Sg**	**12 53 46.0**	**-1.1**
AAGR	**Agrelo**	**2.75**	**108**	*e*P	**Pb**	**12 53 08.0**	**-0.9**
ZON	**Zonda**	**2.87**	**76**	P	**Pb**	**12 53 09.4**	**-1.5**
ZON	**Zonda**	**2.87**	**76**		**Pb**	**12 53 09.4**	**-1.5**
ZON	**Zonda**	**2.87**	**76**	*e*P	**Pb**	**12 53 10.0**	**-0.9**
ZON				*e*S	**Sb**	**12 53 48.5**	**+2.2**
ZON				IAML		12 54 07.6	
	comp=Z,27μm,1.1s						
RTCV	**Cerro Valdivia**	**2.92**	**83**	*e*P	**Pb**	**12 53 10.0**	**-1.8**
ACCO	**Cerro Coronel**	**2.98**	**56**	*e*P	**Pb**	**12 53 11.9**	**-1.0**
AROD	**Rodeo**	**2.98**	**46**	*e*P	**Pb**	**12 53 11.0**	**-2.0**
AROD				*e*P	**Pn**	**12 53 11.6**	**+4.2**
ACDV	**Cuesta del Vie**	**3.20**	**50**	*e*P	**Pb**	**12 53 14.6**	**-2.1**
ACDV				*e*P	**Pn**	**12 53 15.0**	**+4.8**
ACDV				*e*S	**Sb**	**12 53 55.0**	**-1.0**
ACDV				IAML		12 54 25.5	
	comp=Z,19μm,1.0s						
LCO	**Las Campanas**	**3.43**	**19**	P	**Pn**	**12 53 14.3**	**+0.9**
LCO	**Las Campanas**	**3.43**	**19**		**Pn**	**12 53 14.3**	**+0.9**
LCO	**Las Campanas**	**3.43**	**19**	⇑P	**Pn**	**12 53 14.4**	**+0.9**
LCO	**Las Campanas**	**3.43**	**19**	*e*P	**Pn**	**12 53 14.0**	**+0.6**
COIS	**El Sosneado**	**3.44**	**146**	*e*P	**Pn**	**12 53 15.0**	**+1.7**
COIS				*e*S	**Sg**	**12 54 10.5**	**+0.7**
LAMA	**Las Malvinas**	**3.50**	**140**	*e*P	**Pn**	**12 53 17.0**	**+2.9**
ML02	**Panimavida**	**3.50**	**173**	⇑*e*P	**Pn**	**12 53 13.0**	**-0.3**
ML02	**Panimavida**	**3.50**	**173**	Pn	**Pn**	**12 53 13.8**	**-0.5**
RFA	**San Rafael**	**3.82**	**132**	*e*P	**Pn**	**12 53 21.0**	**+2.3**
RFA				IAML		12 54 28.0	
	comp=Z,14μm,2.9s						
EDS3	**Malargue**	**4.08**	**149**	*e*P	**Pn**	**12 53 19.9**	**-2.3**
AC04	**Llanos de Chal**	**4.13**	**11**	*e*P	**Pn**	**12 53 23.0**	**+0.2**
AC04	**Llanos de Chal**	**4.13**	**11**	Pn	**Pn**	**12 53 22.9**	**+0.2**
AC04	**Llanos de Chal**	**4.13**	**11**	*e*P	**Pn**	**12 53 23.0**	**+0.2**
AC04				*e*S	**Sb**	**12 54 22.4**	**+0.1**
AVFE	**Valle Fertil**	**4.16**	**68**	*e*P	**Pn**	**12 53 27.0**	**+3.7**
AVFE				*e*S	**Sb**	**12 54 21.4**	**-1.9**
ACHE	**Chepes**	**4.63**	**78**	*e*P	**Pn**	**12 53 33.3**	**+3.4**
GO03	**Copiap**	**4.90**	**18**	Pn	**Pn**	**12 53 34.4**	**+0.9**
GO03	**Copiap**	**4.90**	**18**	⇑P	**Pn**	**12 53 33.6**	**+0.2**
GO03	**Copiap**	**4.90**	**18**	*e*P	**Pn**	**12 53 34.0**	**+0.6**
GO03				*e*S	**Sb**	**12 54 40.0**	**-4.6**
AC06	**Mina Casimiro**	**5.09**	**16**		**Pn**	**12 53 36.0**	**-0.1**
VA04	**Juan Fernndez**	**5.95**	**255**	Pn	**Pn**	**12 53 45.7**	**-2.1**
AC02	**Maricunga**	**5.95**	**25**	Pn	**Pn**	**12 53 49.1**	**+0.8**
AC02	**Maricunga**	**5.95**	**25**	*e*P	**Pn**	**12 53 49.0**	**+0.7**
AC02				*e*S	**Sb**	**12 55 09.4**	**-5.9**
H03N1	**Juan Fernandez**	**5.98**	**257**	T	T	13 00 25.5	
	baz=86,slow=73,SNR=2354						
H03N3	**Juan Fernandez**	**5.99**	**257**	T	T	13 00 25.8	
	baz=86,slow=73,SNR=583						
H03N2	**Juan Fernandez**	**6.00**	**257**	T	T	13 00 29.0	
	baz=86,slow=73,SNR=710						
H03S3	**Juan Fernandez**	**6.05**	**253**	T	T	13 00 25.7	
	baz=83,slow=75,SNR=674						
H03S1	**Juan Fernandez**	**6.05**	**253**	T	T	13 00 25.9	
	baz=83,slow=75,SNR=637						
H03S2	**Juan Fernandez**	**6.07**	**253**	T	T	13 00 18.0	
	baz=83,slow=75,SNR=647						
CYA	**Choya**	**6.54**	**56**	*e*P	**

PB04	**IPOC Station P**	**10.03**	**10**	Pn		**Pn**	**12 54 43.4**	**-0.6**
AZAP	**Zapla**	**10.05**	**39**	*e*P		**Pn**	**12 54 48.0**	**+3.6**
LL07	**Hotel Espejo d**	**10.61**	**186**	Pn		**Pn**	**12 54 47.2**	**-4.4**
PB09	**IPOC Station P**	**10.71**	**14**	*e*P		**Pn**	**12 54 51.0**	**-2.4**
LPA	**La Plata**	**11.98**	**106**	SN		**Sn**	**12 57 26.0**	**+1.8**
LPA				SSS		SSS	12 57 46.6	
LPA				SS		**SbSb**	**12 58 21.2**	**+7.9**
LPA				sS			12 59 05.0	
LPA				PCP		**PcP**	**13 00 49.7**	**-6.9**
LPA				SCS		ScS	13 07 49.1	-17
LPA				PKIKP		PKiKP	13 08 44.7	-10
LPA				SKIKP			13 12 25.2	
LPA				PKIKS			13 12 31.3	
LPA				SKIKS			13 15 55.9	
PSGCX	**Pisagua**	**12.73**	**8**			**Pn**	**12 55 19.6**	**-1.3**
ITQB	**Itaqui**	**13.40**	**83**	*e*P		**Pn**	**12 55 28.0**	**-1.9**
CPUP	**Villa Florida**	**14.05**	**69**	Pn		**Pn**	**12 55 36.9**	**-2.0**
	comp=Z,0.6nm,0.3s,baz=244,slow=12,SNR=24							
CPUP				Sn		**Sn**	**12 58 17.0**	**+1.9**
	comp=Z,4.7nm,0.3s,baz=155,slow=17,SNR=1.9							
CPUP				LR		LR	13 01 22.1	
	comp=Z,118µm,20.2s,baz=248,slow=39							
CPUP	**Villa Florida**	**14.05**	**69**	⇑P		**Pn**	**12 55 35.5**	**-3.4**
CPUP	**Villa Florida**	**14.05**	**69**	*e*P		**Pn**	**12 55 36.0**	**-2.9**
PLTB	**Pedras Altas**	**15.57**	**93**	*e*P		**Pn**	**12 55 56.3**	**-3.0**
CPSB	**Cacapava Do Su**	**15.92**	**88**	*e*P		**Pn**	**12 56 01.9**	**-2.0**
LPAZ	**La Paz**	**16.29**	**13**	Pn		**Pn**	**12 56 10.4**	**+1.2**
	comp=Z,4.4nm,0.3s,baz=182,slow=8.0,SNR=129							
LPAZ				Sn		**Sn**	**12 59 14.9**	**+4.5**
	comp=Z,0.6nm,0.3s,baz=232,slow=7.3,SNR=1.5							
LPAZ	**La Paz**	**16.29**	**13**	P		**Pn**	**12 56 09.5**	**+0.3**
LPAZ				pmax		pmax		
	comp=Z,280nm,0.8s							
LPAZ	**La Paz**	**16.29**	**13**	P		**Pn**	**12 56 09.5**	**+0.3**
LPAZ	**La Paz**	**16.29**	**13**	⇑P		**Pn**	**12 56 08.2**	**-1.0**
LPAZ	**La Paz**	**16.29**	**13**	*e*P		**Pn**	**12 56 10.4**	**+1.2**
CNLB	**Canela**	**18.36**	**86**	*e*P		**Pn**	**12 56 34.2**	**-0.3**
AQDB	**Aquidauana**	**18.68**	**55**	P		**P**	**12 56 36.2**	**-1.9**
AQDB	**Aquidauana**	**18.68**	**55**	*e*P		**P**	**12 56 36.0**	**-2.1**
SIV	**San Ignacio**	**18.98**	**34**	P		**P**	**12 56 41.0**	**-0.5**
	comp=Z,4.5nm,0.3s,baz=216,slow=10,SNR=104							
SIV				S		**S**	**13 00 18.4**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=259,slow=17,SNR=1.3							
SIV				LR		LR	13 05 29.9	
	comp=Z,109µm,18.4s,baz=230,slow=42							
PTGB	**Pitanga**	**19.01**	**72**	*e*P		**P**	**12 56 41.5**	**-0.3**
TRCB	**Terra Rica**	**19.53**	**66**	P		**P**	**12 56 46.8**	**-0.6**
TRCB	**Terra Rica**	**19.53**	**66**	*e*P		**P**	**12 56 47.3**	**-0.1**
TER01	**Tubaro-SC**	**20.02**	**85**	*e*P		**P**	**12 56 51.9**	**-0.9**
PTLB	**Pontes e Lacer**	**20.41**	**38**	*e*P		**P**	**12 56 56.7**	**-0.3**
NNA	**Nana**	**20.69**	**346**	P		Pn	12 57 01.3	-1.1
	comp=Z,54nm,1.0s,baz=216,slow=8.7,SNR=13							
NNA				S		**S**	**13 00 52.4**	**+0.9**
	comp=Z,13nm,0.9s,baz=158,slow=19,SNR=1.2							
NNA	**Nana**	**20.69**	**346**	P		**P**	**12 57 01.0**	**+0.9**
NNA				pmax		pmax		
	comp=Z,194nm,1.2s							
NNA				MLR		MLR		
	comp=Z,32µm,19.0s							
NNA	**Nana**	**20.69**	**346**	P		**P**	**12 57 01.0**	**+0.9**
NNA	**Nana**	**20.69**	**346**	⇑P		Pn	12 57 02.1	-0.3
GO10	**Punta Arenas**	**20.88**	**178**	⇑P		Pn	12 57 08.0	+3.7
PP1B	**Ponte de Pedra**	**21.24**	**51**	*e*P		**P**	**12 57 06.0**	**0.0**
PCMB	**Pacaembu**	**21.24**	**65**	*e*P		**P**	**12 57 05.0**	**-1.0**
EFI	**East Falkland**	**21.89**	**156**	⇑*e*P		**P**	**12 57 13.0**	**+0.3**
EFI				pmax		pmax		
	comp=Z,423nm,1.5s							
EFI				MLR		MLR		
	comp=Z,71µm,15.0s							
EFI	**East Falkland**	**21.89**	**156**	IAMs_20		IAMs_20	13 06 39.0	
	comp=Z,72µm,19.0s							
EFI	**East Falkland**	**21.89**	**156**	⇑P		**P**	**12 57 12.9**	**+0.3**
SALV	**Santo Antonio**	**21.99**	**46**	*e*P		**P**	**12 57 12.8**	**-1.3**
VILB	**Vilhena**	**22.04**	**32**	*e*P		**P**	**12 57 14.4**	**-0.3**
USHA	**Ushuaia**	**22.68**	**175**	P		**P**	**12 57 21.7**	**+0.6**
	comp=Z,89nm,0.9s,baz=358,slow=5.3,SNR=3.9							
USHA				S		**S**	**13 01 27.6**	**-1.9**
	comp=Z,21nm,0.5s,baz=282,slow=6.1,SNR=0.8							
USHA				LR		LR	13 07 00.1	
	comp=Z,78µm,18.1s,baz=3.0,slow=39							
ETMB	**Extrema**	**22.97**	**15**	*e*P		**P**	**12 57 25.4**	**+0.9**
ITRB	**Iturama**	**23.04**	**62**	*e*P		**P**	**12 57 23.8**	**-1.4**
SPB	**Sao Paulo**	**23.28**	**74**	*e*P		**P**	**12 57 26.4**	**-1.3**
BB19B	**Bebedouro**	**23.66**	**68**	*e*P		**P**	**12 57 29.1**	**-2.4**
RCLB	**Rio Claro- Sao**	**23.75**	**72**	*e*P		**P**	**12 57 31.3**	**-1.1**
VAO	**Valinhos**	**23.93**	**74**	*e*P		**P**	**12 57 32.9**	**-1.2**
CZSB	**Cruzeiro do Su**	**24.43**	**358**	*e*P		**P**	**12 57 40.3**	**+1.6**
SAML	**Samuel**	**24.59**	**21**	*e*P		**P**	**12 57 40.7**	**+0.5**
PARB	**Paraibuna**	**24.88**	**76**	*e*P		**P**	**12 57 41.1**	**-1.7**
IPMB	**Ipameri, GO**	**25.69**	**62**	*e*P		**P**	**12 57 48.3**	**-1.9**
ESAR	**Ângra dos Reis**	**25.99**	**76**	*e*P		**P**	**12 57 51.9**	**-0.9**
CLDB	**Colider**	**25.99**	**39**	*e*P		**P**	**12 57 52.7**	**-0.2**
BSCB	**Bom Sucesso**	**26.68**	**72**	*e*P		**P**	**12 57 58.0**	**-1.2**
VAS01	**Vassouras-RJ**	**27.14**	**76**	*e*P		**P**	**12 58 02.6**	**-0.7**
BDFB	**Brasilia**	**27.33**	**58**	P		**P**	**12 58 04.7**	**-0.4**
	baz=236,slow=9.6,SNR=30							
BDFB				LR		LR	13 10 31.0	
	comp=Z,113µm,19.3s,baz=231,slow=40							
SNDB	**Serra Nova Dou**	**27.72**	**48**	*e*P		**P**	**12 58 07.0**	**-1.5**
TBTG	**Tabatinga, AM**	**28.01**	**4**	*e*P		**P**	**12 58 08.7**	**-2.3**
TBTG	**Tabatinga, AM**	**28.01**	**4**	*e*P		**P**	**12 58 12.2**	**+1.2**
DUB01	**Friburgo-RJ**	**28.11**	**76**	*e*P		**P**	**12 58 09.8**	**-2.2**
CAM01	**Campos-RJ**	**28.82**	**76**	*e*P		**P**	**12 58 15.6**	**-2.7**
DIAM	**Diamantina, MG**	**29.00**	**68**	*e*P		**P**	**12 58 19.0**	**-1.0**
NPGB	**Novo Progresso**	**29.48**	**35**	*e*P		**P**	**12 58 23.1**	**-0.9**
PEXB	**Peixe**	**29.58**	**53**	*e*P		**P**	**12 58 24.3**	**-0.6**
MC01	**Montes Claros**	**29.70**	**65**	*e*P		**P**	**12 58 24.9**	**-1.2**
ALF01	**Guarapari-ES**	**30.16**	**75**	*e*P		**P**	**12 58 29.1**	**-1.0**
JANB	**Januaria**	**30.43**	**62**	*e*P		**P**	**12 58 31.5**	**-1.1**
SJMB	**Sao Joao De Ma**	**30.75**	**71**	*e*P		**P**	**12 58 34.3**	**-1.1**
MACA	**Manacapuru-AM**	**30.83**	**22**	*e*P		**P**	**12 58 36.9**	**+0.8**
BSFB	**Barra de Sao F**	**30.96**	**72**	*e*P		**P**	**12 58 35.9**	**-1.3**
RIB01	**Linhares ES**	**31.08**	**73**	*e*P		**P**	**12 58 37.1**	**-1.1**
ITTB	**Itaituba**	**31.65**	**32**	*e*P		**P**	**12 58 42.9**	**-0.4**
SDBA	**SAO DESIDERIO**	**31.73**	**58**	*e*P		**P**	**12 58 42.1**	**-2.0**
PTLC	**Puerto Leguiza**	**32.38**	**355**	*e*P		**P**	**12 58 47.7**	**-2.0**
SMTB	**Santa Maria do**	**32.44**	**49**	*e*P		**P**	**12 58 50.2**	**0.0**
RPN	**Rapa Nui**	**32.77**	**269**	LR		LR	13 08 30.6	
	comp=Z,36µm,21.7s,baz=84,slow=30							
RPN	**Rapa Nui**	**32.77**	**269**	IAMs_20		IAMs_20	13 08 16.9	
	comp=Z,31µm,20.0s							
PMSA	**Palmer Station**	**32.89**	**174**	P		**P**	**12 58 54.8**	**+1.2**
	comp=Z,25nm,0.9s,baz=2.3,slow=7.7,SNR=20							
PMSA				S		**S**	**13 04 05.8**	**-5.3**
	comp=Z,6.5nm,0.9s,baz=337,slow=15,SNR=1.8							
PMSA				LR		LR	13 12 17.0	
	comp=Z,62µm,19.9s,baz=339,slow=36							
PMSA	**Palmer Station**	**32.89**	**174**	P		**P**	**12 58 54.4**	**+0.8**
PMSA				IAmb		IAmb	12 59 10.8	
	comp=Z,203nm,1.4s							
PMSA	**Palmer Station**	**32.89**	**174**	⇑P		**P**	**12 58 54.7**	**+1.2**
PMSA	**Palmer Station**	**32.89**	**174**	*e*P		**P**	**12 58 55.0**	**+1.4**
OTAV	**Otavalo**	**32.92**	**348**	P		**P**	**12 58 57.1**	**+2.2**
OTAV				pmax		pmax		
	comp=Z,305nm,1.9s							
OTAV	**Otavalo**	**32.92**	**348**			**P**	**12 58 57.1**	**+2.2**
OTAV				IAmb		IAmb	12 59 21.5	
	comp=Z,305nm,1.9s							
OTAV	**Otavalo**	**32.92**	**348**	*e*P		**P**	**12 58 56.0**	**+1.1**
OTAV	**Otavalo**	**32.92**	**348**	⇑P		**P**	**12 58 57.3**	**+2.4**
OTAV	**Otavalo**	**32.92**	**348**	*e*P		**P**	**12 58 57.8**	**+2.9**
CUSE	**Cuicocha Este**	**32.98**	**348**	*e*P		**P**	**12 58 58.9**	**+3.6**
PAC1	**Pacto, Paraso**	**33.01**	**347**	*e*P		**P**	**12 58 54.8**	**-0.6**
GUA01	**Guaratinga, BA**	**33.01**	**69**	*e*P		**P**	**12 58 54.2**	**-1.0**
PRPB	**Paraupebas**	**33.18**	**43**	*e*P		**P**	**12 58 55.8**	**-0.9**
TULM	**Tulcn-Chalpat**	**33.28**	**349**	*e*P		**P**	**12 58 57.5**	**-0.5**
PTGA	**Pitinga**	**33.35**	**22**	IAMs_20		IAMs_20	13 13 39.0	
	comp=Z,29µm,18.0s							
HOPE	**Hope Point**	**33.38**	**142**	IAMs_20		IAMs_20	13 12 40.7	
	comp=Z,24µm,20.0s							
HOPE	**Hope Point**	**33.38**	**142**	⇑P		**P**	**12 59 01.7**	**+3.7**
GCUF	**Volcan Galeras**	**33.71**	**350**	*e*P		**P**	**12 59 03.0**	**+1.1**
PTGL	**Punta Galera**	**33.76**	**345**	*e*P		**P**	**12 59 04.9**	**+3.2**
FLOC	**Florencia**	**33.86**	**353**	P		**P**	**12 59 04.2**	**+1.6**
FLOC	**Florencia**	**33.86**	**353**	*e*P		**P**	**12 59 04.2**	**+1.6**
CMC01	**Camacan, BA**	**33.93**	**68**	*e*P		**P**	**12 59 02.2**	**-1.1**
NBIT	**Itapeh - BA**	**34.25**	**67**	*e*P		**P**	**12 59 05.2**	**-0.8**
MACC	**Macarena, Meta**	**34.28**	**357**	*e*P		**P**	**12 59 07.5**	**+1.2**
GARC	**Garzon, Huila**	**34.44**	**354**	*e*P		**P**	**12 59 08.3**	**+0.4**
BBAC	**Balboa, Cauca**	**34.48**	**351**	*e*P		**P**	**12 59 08.3**	**+0.1**
SOTA	**Rioblanco**	**34.51**	**352**	*e*P		**P**	**12 59 07.5**	**-1.3**
TUMC	**Tumaco**	**34.52**	**348**	⇑*e*P		**P**	**12 59 09.9**	**+1.6**
MALB	**Monte Alegre**	**34.54**	**32**	*e*P		**P**	**12 59 08.0**	**-0.5**
PCON	**Cinco Dias**	**34.67**	**352**	*e*P		**P**	**12 59 11.5**	**+1.2**
GDU01	**Guandu, BA**	**34.86**	**66**	*e*P		**P**	**12 59 10.0**	**-1.3**
POPC	**Popayan, Colom**	**34.92**	**352**	*e*P		**P**	**12 59 12.4**	**+0.4**
BETC	**Betania**	**34.92**	**354**	*e*P		**P**	**12 59 11.6**	**-0.3**
MARP	**Paez Belalcaza**	**35.13**	**353**	*e*P		**P**	**12 59 15.1**	**+1.1**
GR1C	**Gorgona, Isla**	**35.58**	**349**	*e*P		**P**	**12 59 18.1**	**+0.7**
PAYG	**Puerto Ayora**	**35.88**	**328**	IAMs_20		IAMs_20	13 11 02.6	
	comp=Z,25µm,18.0s							
PRAC	**Prado**	**35.90**	**355**	*e*P		**P**	**12 59 21.4**	**+1.2**
ORTC	**Ortega, Tolima**	**36.12**	**354**	*e*P		**P**	**12 59 21.4**	**-0.7**
BOAV	**Boa Vista**	**36.14**	**20**	*e*P		**P**	**12 59 22.9**	**+0.6**
NBPN	**Ponto Novo - B**	**36.19**	**61**	*e*P		**P**	**12 59 22.1**	**-0.7**
VILC	**Villavicencio,**	**36.23**	**357**	*e*P		**P**	**12 59 23.9**	**+0.8**
PTGC	**Puerto Gaitan,**	**36.27**	**360**	*e*P		**P**	**12 59 20.6**	**-2.8**
YOTC	**Yotoco, Valle**	**36.30**	**353**	*e*P		**P**	**12 59 24.7**	**+1.0**
ANIL	**Santa Ana**	**36.71**	**354**	*e*P		**P**	**12 59 27.9**	**+0.4**
CHIC	**Chingaza**	**36.74**	**357**	*e*P		**P**	**12 59 27.2**	**-0.7**
MCPB	**Macapa, AP**	**36.88**	**35**	*e*P		**P**	**12 59 28.5**	**-0.1**
ROSC	**El Rosal**	**36.98**	**356**	P		**P**	**12 59 31.5**	**+1.6**
	comp=Z,24nm,0.7s,baz=53,slow=20,SNR=2.4							
ROSC	**El Rosal**	**36.98**	**356**	*e*P		**P**	**12 59 31.9**	**+2.0**
TMAB	**Tom-Au,PA,Br**	**37.25**	**42**	*e*P		**P**	**12 59 32.3**	**+0.5**
PIZC	**Pizarro, Choco**	**37.39**	**351**	*e*P		**P**	**12 59 33.8**	**+0.9**
GUY2C	**Guyana, Caldas**	**37.43**	**354**	*e*P		**P**	**12 59 35.4**	**+1.6**
NORC	**Norcasia**	**37.73**	**355**	*e*P		**P**	**12 59 36.2**	**+0.4**
SPBC	**San Pablo de B**	**37.77**	**357**	*e*P		**P**	**12 59 35.4**	**-0.8**
NBLA	**Lagarto - SE**	**37.91**	**64**	*e*P		**P**	**12 59 35.9**	**-1.5**
RUSC	**La Rusia**	**37.97**	**358**	P		**P**	**12 59 39.8**	**+1.4**
RUSC	**La Rusia**	**37.97**	**358**	*e*P		**P**	**12 59 39.5**	**+1.2**
CBOC	**Ciudad Bolivar**	**38.12**	**353**	*e*P		**P**	**12 59 38.7**	**-0.6**
HELC	**Santa Helena**	**38.40**	**354**	*e*P		**P**	**12 59 40.4**	**-1.5**
TAMC	**Tame, Arauca**	**38.50**	**0**	*e*P		**P**	**12 59 39.5**	**-2.7**
BARC	**Barichara**	**38.67**	**358**	*e*P		**P**	**12 59 44.5**	**+0.5**
PTBC	**PUERTO BERRIO,**	**38.67**	**356**	*e*P		**P**	**12 59 42.0**	**-1.7**
ELOV	**Elorza**	**39.13**	**4**	*e*P		**P**	**12 59 45.0**	**-2.5**
BRRC	**Barranca, Sant**	**39.20**	**357**	*e*P		**P**	**12 59 44.5**	**-3.7**
ROSB	**Rosrio**	**39.20**	**48**	*e*P		**P**	**12 59 47.6**	**-0.6**
DBBC	**Dabeiba**	**39.28**	**353**	*e*P		**P**	**12 59 50.2**	**+1.3**
PAMC	**Pamplona, Colo**	**39.40**	**359**	*e*P		**P**	**12 59 46.9**	**-3.4**
NBMA	**Muriti-CE**	**39.57**	**58**	*e*P		**P**	**12 59 50.6**	**-0.7**
PTAC	**Punta Ardita,**	**39.60**	**351**	*e*P		**P**	**12 59 54.4**	**+2.9**
ZARC	**Zaragoza, Cauc**	**39.64**	**355**	*e*P		**P**	**12 59 50.2**	**-1.6**
NBPS	**Pedro II - PI**	**39.80**	**52**	*e*P		**P**	**12 59 52.4**	**-1.0**
NBAN	**Anadia - AL**	**39.90**	**64**	*e*P		**P**	**12 59 52.6**	**-1.5**
UREC	**San Jos de Ur**	**39.95**	**354**	*e*P		**P**	**12 59 53.5**	**-0.9**
NBPB	**Pedra_Branca-C**	**40.25**	**56**	*e*P		**P**	**12 59 56.4**	**-0.6**
CACAO	**El Cacao, Vera**	**40.31**	**346**	*e*P		**P**	**12 59 58.5**	**+1.1**
OCAC	**Ocana**	**40.31**	**358**	*e*P		**P**	**12 59 54.4**	**-3.2**
SOCV	**Socops**	**40.34**	**2**	*e*P		**P**	**12 59 56.4**	**-1.3**
AZU	**Azuero**	**40.63**	**347**	*e*P		**P**	**13 00 00.5**	**+0.5**
SMLC	**San Martn de**	**40.90**	**357**	*e*P		**P**	**12 59 59.3**	**-2.9**
SDV	**Santo Domingo**	**40.95**	**2**	P		**P**	**13 00 02.7**	**-0.1**
	comp=Z,40nm,0.8s,baz=163,slow=8.9,SNR=13							
SDV				S		**S**	**13 06 11.1**	**-4.1**
	comp=Z,4.3nm,0.3s,baz=297,slow=16,SNR=1.2							
SDV	**Santo Domingo**	**40.95**	**2**	*e*P		**P**	**13 00 02.4**	**-0.5**
SDV	**Santo Domingo**	**40.95**	**2**	*e*P		**P**	**13 00 03.5**	**+0.7**
CAPC	**Capurgana**	**41.01**	**352**	*e*P		**P**	**13 00 02.6**	**-0.6**
LCBC	**Los crdobas,**	**41.12**	**353**	*e*P		**P**	**13 00 05.0**	**+1.0**
PNME	**Penonome**	**41.32**	**347**	*e*P		**P**	**13 00 04.6**	**-1.0**
MDP	**Montes des**	**41.46**	**30**	P		**P**	**13 00 06.3**	**-0.6**
	comp=Z,153nm,1.1s,baz=202,slow=7.4,SNR=38							
NBMO	**Morrinhos-CE**	**41.54**	**53**	*e*P		**P**	**13 00 06.7**	**-0.9**
LL1C	**La Loma 1 Cana**	**41.61**	**358**	*e*P		**P**	**13 00 04.7**	**-3.4**
LL2C	**La Loma 2 Cana**	**41.62**	**358**	*e*P		**P**	**13 00 03.8**	**-4.3**
UPA	**Univ. de Panam**	**41.66**	**349**	⇑*e*P		**P**	**13 00 08.3**	**-0.2**
NBPA	**Parau_RN**	**41.86**	**58**	*e*P		**P**	**13 00 09.7**	**-0.5**
BCIP	**Isla Barro Col**	**41.89**	**348**	*e*P		**P**	**13 00 08.9**	**-1.5**
BCIP	**Isla Barro Col**	**41.89**	**348**	⇑P		**P**	**13 00 12.4**	**+2.1**
ARGC	**Ariguani, Magd**	**41.95**	**357**	*e*P		**P**	**13 00 09.2**	**-1.7**
SJCC	**San Jacinto, C**	**42.05**	**355**	P		**P**	**13 00 13.2**	**+1.5**
SJCC	**San Jacinto, C**	**42.05**	**355**	*e*P		**P**	**13 00 08.3**	**-3.4**
NBCL	**Cascavel-CE**	**42.09**	**56**	*e*P		**P**	**13 00 12.1**	**0.0**
BRU2	**Volcan**	**42.11**	**344**	*e*P		**P**	**13 00 11.8**	**-0.6**
RCBR	**Riachuelo**	**42.69**	**60**	⇑P		**P**	**13 00 16.5**	**-0.6**
RCBR	**Riachuelo**	**42.69**	**60**	*e*P		**P**	**13 00 16.7**	**-0.3**
SRBA	**San Rafael, Bu**	**42.69**	**343**	P		**P**	**13 00 18.4**	**+1.3**
NBPV	**Pedro Velho**	**42.74**	**61**	*e*P		**P**	**13 00 17.3**	**-0.1**
CRJC	**Cerrejon, Guaj**	**43.06**	**359**	*e*P		P	13 00 14.9	-5.1
SMRC	**Santa Marta, M**	**43.25**	**357**	*e*P		**P**	**13 00 20.7**	**-0.7**
RIMA	**Rio Macho**	**43.33**	**343**	P		**P**	**13 00 24.2**	**+1.9**
URIC	**Uribia, Colomb**	**43.73**	**360**	*e*P		**P**	**13 00 20.7**	**-4.6**
TRN	**Trinidad (W)**	**43.85**	**15**	*e*P		P	13 00 15.4	-11
JTS	**Las Juntas de**	**44.12**	**341**	⇑*e*P		**P**	**13 00 30.4**	**+1.9**
	comp=Z,15nm,0.9s,baz=233,slow=7.2,SNR=8.9							
JTS	**Las Juntas de**	**44.12**	**341**	⇑*e*P		**P**	**13 00 30.2**	**+1.7**
JTS				pmax		pmax		
	comp=Z,129nm,1.5s							
JTS				MLR		MLR		
	comp=Z,12µm,20.0s							
JTS	**Las Juntas de**	**44.12**	**341**	P		**P**	**13 00 30.1**	**+1.6**
JTS				IAmb		IAmb	13 00 43.4	
	comp=Z,157nm,1.4s							
JTS	**Las Juntas de**	**44.12**	**341**	*e*P		**P**	**13 00 26.9**	**-1.5**
JTS	**Las Juntas de**	**44.12**	**341**	⇑P		**P**	**13 00 30.3**	**+1.9**
HATO	**Hato, Curacao**	**44.30**	**4**	IAMs_20		IAMs_20	13 21 11.4	
	comp=Z,23µm,19.0s							
ORTG	**Ortega, Santa**	**44.32**	**341**	P		**P**	**13 00 31.7**	**+1.6**
ORTG				IAmb		IAmb	13 00 45.0	
	comp=Z,233nm,1.7s							
TOSP	**Speyside**	**44.68**	**16**	*e*P		**P**	**13 00 33.6**	**+0.7**
TOSP	**Speyside**	**44.68**	**16**	P		**P**	**13 00 33.4**	**+0.5**
GRFF	**Grenada Fort F**	**45.14**	**14**	*e*P		**P**	**13 00 38.2**	**+1.6**
GRGR	**Grenville**	**45.24**	**14**	*e*P		**P**	**13 00 39.8**	**+2.4**
GRGR	**Grenville**	**45.24**	**14**	P		**P**	**13 00 37.2**	**-0.2**
GRGR				IAMs_20		IAMs_20	13 22 52.9	
	comp=Z,18µm,18.0s							
GRGR	**Grenville**	**45.24**	**14**	⇑P		**P**	**13 00 37.2**	**-0.2**
GCMP	**Grenada, Carri**	**45.63**	**14**	*e*P		P	13 00 34.4	-6.1
ACON	**Acoyapa**	**45.78**	**342**	P		**P**	**13 00 42.0**	**+0.4**
SVB	**Belmont**	**46.43**	**14**	*e*P		**P**	**13 00 46.3**	**-0.5**
BBGH	**Gun Hill**	**46.69**	**17**	*e*P		P	13 00 43.6	-5.2
MCLT	**Moule a Chique**	**46.92**	**15**	P		**P**	**13 00 50.4**	**-0.3**
MPOM	**Morne Pois Mar**	**47.65**	**15**	P		**P**	**13 00 55.5**	**-0.8**
BIM	**Bigot**	**47.68**	**14**	P		**P**	**13 00 55.5**	**-1.0**
TGUH	**Tegucigalpa,Un**	**48.35**	**340**	⇑*e*P		**P**	**13 01 00.2**	**-1.7**
TDBA	**Terre de Bas,**	**48.86**	**13**	*e*P		**P**	**13 01 05.9**	**+0.3**
ICMP	**Isla Caja de M**	**50.15**	**7**	P		**P**	**13 01 15.1**	**-0.3**
SJG	**San Juan**	**50.41**	**7**	P		**P**	**13 01 16.9**	**-0.5**
SJG				pmax		pmax		
	comp=Z,129nm,1.1s							
SJG	**San Juan**	**50.41**	**7**	P		**P**	**13 01 16.9**	**-0.5**
SJG				IAmb		IAmb	13 01 21.6	
	comp=Z,129nm,1.1s							
SJG	**San Juan**	**50.41**	**7**	*e*P		**P**	**13 01 12.7**	**-4.7**
SJG	**San Juan**	**50.41**	**7**	⇑P		**P**	**13 01 16.5**	**-0.9**
MTDJ	**Mount Denham**	**50.50**	**353**	*e*P		**P**	**13 01 16.4**	**-1.8**
CBYP	**Canovanas**	**50.60**	**7**	P		**P**	**13 01 17.9**	**-1.0**
ANWB	**Willy Bob**	**50.60**	**13**	*e*P		**P**	**13 01 14.5**	**-4.3**
ANWB	**Willy Bob**	**50.60**	**13**	P		**P**	**13 01 17.3**	**-1.6**
ANWB				IAMs_20		IAMs_20	13 25 38.9	
	comp=Z,15µm,19.0s							
ANWB	**Willy Bob**	**50.60**	**13**	⇑P		**P**	**13 01 17.1**	**-1.8**
AGPR	**Aguadilla, PR**	**50.67**	**6**	P		**P**	**13 01 18.9**	**-0.5**
AGPR				IAmb		IAmb	13 02 02.4	
	comp=Z,218nm,1.4s							
CUPR	**Culebra, Puert**	**50.70**	**8**	P		**P**	**13 01 18.5**	**-1.1**
STVI	**Saint Thomas**	**50.78**	**9**	P		**P**	**13 01 19.1**	**-1.1**
STVI				IAmb		IAmb	13 01 40.7	
	comp=Z,117nm,1.4s							
VNA3	**Neumayer Olymp**	**50.92**	**158**	P		**P**	**13 01 21.2**	**+0.4**
SDDR	**Presa de Saban**	**50.97**	**1**	IAMs_20		IAMs_20	13 25 03.3	
	comp=Z,13µm,18.0s							
PTCN	**Pitcairn Islan**	**51.00**	**262**	IAMs_20		IAMs_20	13 17 12.5	
	comp=Z,19µm,18.0s							
VNA1	**Neumayer--Stat**	**51.23**	**157**	P		**P**	**13 01 23.6**	**+0.6**
ABVI	**Anegada Island**	**51.24**	**9**	P		**P**	**13 01 22.3**	**-1.3**
VNA2	**Neumayer--Watz**	**51.57**	**158**	P		**P**	**13 01 25.9**	**+0.3**
	baz=288,slow=8.5							
GTBY	**Guantanamo Bay**	**51.99**	**356**	P		**P**	**13 01 29.1**	**-0.1**
GTBY	**Guantanamo Bay**	**51.99**	**356**	*e*P		**P**	**13 01 26.7**	**-2.6**
GTBY	**Guantanamo Bay**	**51.99**	**356**	⇑P		**P**	**13 01 29.6**	**+0.3**
SNAA	**Sanae**	**53.15**	**158**	P		**P**	**13 01 37.6**	**+0.1**
SNAA	**Sanae**	**53.15**	**158**	P		**P**	**13 01 37.4**	**0.0**
	comp=Z,39nm,0.7s,baz=278,slow=6.9,SNR=213							
SNAA	**Sanae**	**53.15**	**158**	*c i*P		**P**	**13 01 37.3**	**-0.1**
SNAA				pmax		pmax		
	comp=Z,424nm,1.4s							
SNAA				MLR		MLR		
	comp=Z,12µm,17.0s							
SNAA	**Sanae**	**53.15**	**158**	P		**P**	**13 01 37.5**	**+0.1**
SNAA				IAMs_20		IAMs_20	13 22 43.2	
	comp=Z,18µm,20.0s							
SNAA	**Sanae**	**53.15**	**158**	⇑P		**P**	**13 01 37.4**	**0.0**
GRTK	**Grand Turk**	**53.49**	**1**	IAMs_20		IAMs_20	13 26 31.8	
	comp=Z,12µm,20.0s							
GRTK	**Grand Turk**	**53.49**	**1**	⇑P		**P**	**13 01 41.1**	**+0.8**
CMIG	**Matias Romero**	**53.78**	**332**	P		**P**	**13 01 43.8**	**+1.3**
	comp=Z,12nm,1.0s,baz=183,slow=3.6,SNR=9.3							
**

comp=Z,4µm,19.0s
WVT Waverly 69.66 346 P **P** **13 03 29.2 -0.1**
WVT Waverly 69.66 346 ⇑P **P** **13 03 29.2 -0.1**
WVT Waverly 69.66 346 P **P** **13 03 29.4 +0.1**
baz=166
WVT S **S** **13 12 35.5 -2.4**
baz=166
W41B Gary Mavity, V 69.75 342 P **P** **13 03 30.2 +0.3**
baz=162
W41B S **S** **13 12 38.1 -0.9**
baz=162
W39A Magazine 70.18 341 P **P** **13 03 33.6 +1.1**
baz=161,SNR=28
W39A S **S** **13 12 44.4 +0.3**
baz=161
CBN Corbin Frederi 70.30 355 P **P** **13 03 34.0 +0.8**
baz=175
CBN S **S** **13 12 46.6 +1.2**
baz=175
TIAR Tiarei 70.39 261 *e*T T 14 20 12.4
comp=Z,3.5nm,0.3s
PAE Paea 70.54 261 *e*P **P** **13 03 40.0 +4.8**
comp=Z,41nm,1.1s
PPT2 Papeete2 70.57 261 *e*P P 13 03 40.4 +4.9
comp=Z,241nm,1.3s
PPT2 *e*S **S** **13 12 51.4 +1.7**
comp=Z,10µm,24.8s
PPT2 Papeete2 70.57 261 *e*LR LR 13 25 03.6
comp=Z,18µm,25.2s,baz=113
PPT Papeete 70.58 261 P **P** **13 03 38.0 +2.5**
comp=Z,74nm,0.9s,baz=58,slow=4.9,SNR=4.2
PPT LR LR 13 26 35.0
comp=Z,8µm,20.3s,baz=154,slow=29
PPT Papeete 70.58 261 P **P** **13 03 38.0 +2.5**
Q61A Milford 70.86 357 P **P** **13 03 38.1 +1.5**
baz=177
Q61A S **S** **13 12 55.0 +3.1**
baz=177
U40A Yellville 71.03 342 P **P** **13 03 37.9 +0.2**
baz=162,SNR=15
U40A S **S** **13 12 53.1 -0.9**
baz=162
MNTX Cornudas Mount 71.06 330 P **P** **13 03 37.3 -0.7**
MNTX Cornudas Mount 71.06 330 P **P** **13 03 37.8 -0.2**
baz=151,SNR=17
MNTX S **S** **13 12 55.0 +0.4**
baz=151
R50A Paris 71.14 350 P **P** **13 03 38.1 -0.2**
R50A IAmb IAmb 13 03 51.3
comp=Z,147nm,1.7s
WMOK Wichita Mounta 71.27 337 P **P** **13 03 39.5 +0.2**
baz=156
WMOK S **S** **13 12 56.3 -0.6**
baz=156
WCI Wyandotte Cave 71.41 348 ⇑P **P** **13 03 39.7 -0.2**
WCI Wyandotte Cave 71.41 348 P **P** **13 03 39.6 -0.4**
baz=167
WCI S **S** **13 12 54.9 -3.4**
baz=167
TUL1 Leonard 71.42 340 P **P** **13 03 40.5 +0.4**
baz=159
TUL1 S **S** **13 12 57.1 -1.4**
baz=159
EPT El Paso 71.60 329 IAMs_20 IAMs_20 13 30 27.0
comp=Z,13µm,20.0s
P60A Greenville 71.81 357 P **P** **13 03 43.2 +1.0**
baz=177
P60A S **S** **13 13 05.2 +2.4**
baz=177
MCWV Mont Chateau 71.95 354 P **P** **13 03 43.6 +0.4**
baz=173
MCWV S **S** **13 13 03.6 -0.8**
baz=173
MSTX Muleshoe 72.00 333 P **P** **13 03 43.8 0.0**
MSTX IAmb IAmb 13 04 12.7
comp=Z,63nm,1.0s
MSTX Muleshoe 72.00 333 P **P** **13 03 44.2 +0.4**
baz=153,SNR=16
MSTX S **S** **13 13 05.8 +0.2**
baz=153
P52A Corning 72.17 352 P **P** **13 03 44.4 -0.1**
baz=171
P52A S **S** **13 13 05.1 -1.9**
baz=171
CCM Cathedral Cave 72.25 344 P **P** **13 03 45.0 0.0**
CCM pmax pmax
comp=Z,95nm,1.0s
CCM MLR MLR
comp=Z,3µm,20.0s
CCM Cathedral Cave 72.25 344 P **P** **13 03 45.0 0.0**
CCM IAmb IAmb 13 04 14.3
comp=Z,95nm,1.0s
CCM Cathedral Cave 72.25 344 ⇑P **P** **13 03 45.2 +0.2**
CCM Cathedral Cave 72.25 344 P **P** **13 03 45.3 +0.2**
baz=163
CCM S **S** **13 13 07.1 -0.8**
baz=163
AMTX Amarillo 72.41 335 P **P** **13 03 46.6 +0.4**
AMTX IAmb IAmb 13 04 00.1
comp=Z,168nm,1.5s
AMTX Amarillo 72.41 335 P **P** **13 03 46.9 +0.7**
baz=154
AMTX S **S** **13 13 09.6 -0.7**
baz=154
P49A Miami Univ. Ec 72.42 350 P **P** **13 03 45.9 -0.1**
baz=169
P49A S **S** **13 13 07.0 -2.9**
baz=169
O56A Blue Knob Stat 72.44 355 P **P** **13 03 47.0 +0.9**
baz=174
O56A S **S** **13 13 09.8 -0.4**
baz=174
O53A New Philadelph 72.67 353 P **P** **13 03 47.6 +0.1**
baz=172
O53A S **S** **13 13 09.6 -3.1**
baz=172
SSPA Standing Stone 72.76 355 P **P** **13 03 48.2 +0.3**
SSPA IAmb IAmb 13 04 16.3
comp=Z,89nm,1.1s
SSPA Standing Stone 72.76 355 ⇑P **P** **13 03 48.6 +0.6**
SSPA Standing Stone 72.76 355 P **P** **13 03 48.5 +0.6**
baz=175
SSPA S **S** **13 13 13.7 0.0**
baz=175
121A Cookes Peak, D 72.81 329 P **P** **13 03 50.3 +1.6**
baz=149,SNR=21
121A S **S** **13 13 18.6 +3.6**
baz=149
ACSO Alum Creek Sta 72.87 351 P **P** **13 03 48.7 +0.1**
baz=170
ACSO S **S** **13 13 11.6 -3.3**
baz=170
N59A State Game Lan 72.92 357 P **P** **13 03 50.2 +1.3**
baz=177,SNR=19
N59A S **S** **13 13 17.9 +2.3**
baz=177
PAL Palisades 72.94 358 IAMs_20 IAMs_20 13 37 24.8
comp=Z,7µm,22.0s
PAL Palisades 72.94 358 P **P** **13 03 49.9 +0.8**
baz=178
PAL S **S** **13 13 17.2 +1.5**
baz=178
ODNJ Ogdensburg 73.04 358 P **P** **13 03 49.2 -0.4**
ODNJ IAmb IAmb 13 04 03.5
comp=Z,161nm,1.5s
TRNY Table Rock, Ra 73.09 358 P **P** **13 03 50.6 +0.7**
TRNY IAmb IAmb 13 04 03.7
comp=Z,87nm,1.4s
WSPT Westport, CT 73.09 359 IAMs_20 IAMs_20 13 37 24.3
comp=Z,7µm,22.0s
M66A Nantucket 73.19 1 S **SKiKP** **13 13 21.1 -1.8**
baz=182
N54A Moraine State 73.25 354 P **P** **13 03 50.5 -0.4**
baz=173
N54A S **S** **13 13 17.6 -1.7**
baz=173
M65A Busby, Falmout 73.48 1 P **P** **13 03 53.1 +0.9**
baz=181
M65A S **SKiKP** **13 13 23.9 +0.5**
baz=181
SFIN Lafayette 73.64 348 P **P** **13 03 52.5 -0.7**
baz=167
SFIN S **SKiKP** **13 13 19.4 -4.3**
baz=167
KSCT Kent School, K 73.65 359 P **P** **13 03 52.8 -0.4**
KSCT IAmb IAmb 13 03 58.0
comp=Z,221nm,1.9s
BNM Barren Site 73.70 331 P **P** **13 03 54.2 +0.2**
Y22D IRIS PASSCAL I 73.75 330 P **P** **13 03 56.1 +1.9**
baz=150
Y22D S **S** **13 13 29.7 +4.0**
baz=150
M54A Oil Creek Stat 73.76 354 P **P** **13 03 53.8 -0.1**
baz=173
M54A S **SKiKP** **13 13 22.6 -1.2**
baz=173
M53A WI Miller and 73.79 353 P **P** **13 03 54.5 +0.5**
baz=172
M53A S **SKiKP** **13 13 22.7 -1.1**
baz=172
L64A Middleborough 73.85 1 P **P** **13 03 55.2 +0.8**
baz=181
L64A S **S** **13 13 28.6 +2.6**
baz=181
L65A Cape Cod Natio 73.96 1 P **P** **13 03 56.4 +1.4**
baz=182
L65A S **S** **13 13 30.6 +3.3**
baz=182
TUC Tucson 73.98 326 P **P** **13 03 55.9 +0.4**
TUC pmax pmax
comp=Z,135nm,1.9s
TUC Tucson 73.98 326 P **P** **13 03 55.9 +0.4**
TUC IAmb IAmb 13 04 10.3
comp=Z,134nm,1.9s
TUC Tucson 73.98 326 IAMs_20 IAMs_20 13 31 36.3
comp=Z,7µm,19.0s
TUC Tucson 73.98 326 ⇑P **P** **13 03 56.8 +1.3**
TUC Tucson 73.98 326 P **P** **13 03 56.9 +1.5**
baz=147
TUC S **S** **13 13 30.4 +2.3**
baz=147
LIC Lamto 74.16 72 *e*P **P** **13 03 55.1 -1.8**
comp=Z,389nm,1.3s
BINY Binghamton 74.20 357 P **P** **13 03 56.9 +0.4**
BINY IAmb IAmb 13 04 10.1
comp=Z,89nm,1.4s
BINY Binghamton 74.20 357 P **P** **13 03 57.2 +0.7**
baz=177
BINY S **S** **13 13 30.2 +0.1**
baz=177
HDIL Hopedale 74.22 346 P **P** **13 03 57.3 +0.7**
HDIL IAmb IAmb 13 04 09.6
comp=Z,138nm,1.3s
HDIL Hopedale 74.22 346 P **P** **13 03 56.5 -0.1**
baz=165
HDIL S **S** **13 13 28.4 -1.9**
baz=165
WES Weston 74.30 0 IAMs_20 IAMs_20 13 41 00.2
comp=Z,5µm,18.0s
ANMO Albuquerque 74.31 331 *c i*P **P** **13 03 58.9 +1.3**
ANMO pmax pmax
comp=Z,94nm,1.9s
ANMO MLR MLR
comp=Z,4µm,14.0s
ANMO Albuquerque 74.31 331 P **P** **13 03 57.0 -0.5**
ANMO IAmb IAmb 13 04 12.3
comp=Z,202nm,2.0s
ANMO Albuquerque 74.31 331 IAMs_20 IAMs_20 13 32 07.7
comp=Z,13µm,20.0s
ANMO Albuquerque 74.31 331 ⇑P **P** **13 03 58.8 +1.3**
ANMO Albuquerque 74.31 331 P **P** **13 03 59.1 +1.5**
baz=150
ANMO S **S** **13 13 34.0 +2.0**
baz=150
L61B Northampton 74.36 359 P **P** **13 03 58.5 +1.2**
baz=180,SNR=20
L61B S **S** **13 13 34.0 +2.2**
baz=180
ERPA Erie 74.40 354 P **P** **13 03 57.2 -0.4**
baz=173
ERPA S **S** **13 13 29.3 -2.9**
baz=173
TIC Toumodi 74.41 72 *e*P **P** **13 03 56.5 -1.9**
HRV Adam Dziewonsk 74.42 0 P **P** **13 03 58.3 +0.6**
HRV pmax pmax
comp=Z,74nm,1.1s
HRV MLR MLR
comp=Z,5µm,19.0s
HRV Adam Dziewonsk 74.42 0 P **P** **13 03 58.3 +0.6**
HRV IAmb IAmb 13 04 03.6
comp=Z,74nm,1.1s
HRV Adam Dziewonsk 74.42 0 ⇑P **P** **13 03 59.1 +1.4**
HRV Adam Dziewonsk 74.42 0 P **P** **13 03 58.9 +1.2**
baz=180
HRV S **S** **13 13 34.5 +2.1**
baz=180
KIC Kosan Boka 74.47 72 *e*P **P** **13 03 56.8 -1.9**
comp=Z,275nm,1.0s
DBIC Dimbokro 74.56 72 P **P** **13 03 58.8 -0.5**
comp=Z,100nm,0.8s,baz=231,slow=4.9,SNR=42
DBIC LR LR 13 33 05.1
comp=Z,16µm,21.8s,baz=238,slow=33
DBIC Dimbokro 74.56 72 P **P** **13 03 58.7 -0.5**
DBIC pmax pmax
comp=Z,155nm,0.9s
DBIC Dimbokro 74.56 72 P **P** **13 03 58.7 -0.5**
DBIC Dimbokro 74.56 72 ⇑P **P** **13 03 58.7 -0.5**
K62A Royalston 74.58 360 P **P** **13 03 60.0 +1.4**
baz=180,SNR=17
K62A S **S** **13 13 37.1 +3.0**
baz=180
K61A Williamstown 74.59 359 P **P** **13 04 00.1 +1.3**
baz=179
K61A S **S** **13 13 37.6 +3.3**
baz=179
KSU1 Kansas State U 74.62 340 P **P** **13 03 58.9 -0.1**
KSU1 Kansas State U 74.62 340 P **P** **13 03 59.1 +0.1**
baz=159
KSU1 S **S** **13 13 33.1 -1.8**
baz=159
214A Organ Pipe Nat 74.66 325 P **P** **13 04 01.3 +1.9**
baz=145,SNR=29
214A S **S** **13 13 39.7 +4.1**
baz=145
MAW Mawson 74.81 164 P **P** **13 04 00.0 +0.2**
comp=Z,10nm,0.6s,baz=216,slow=7.0,SNR=39
MAW LR LR 13 39 25.0
comp=Z,25µm,19.1s,baz=227,slow=38
MAW Mawson 74.81 164 P **P** **13 03 59.2 -0.6**
MAW Mawson 74.81 164 P **P** **13 03 59.2 -0.6**
MAW Mawson 74.81 164 ⇑P **P** **13 03 59.9 +0.2**
AAM Ann Arbor 74.99 351 IAMs_20 IAMs_20 13 34 47.6
comp=Z,7µm,22.0s
AAM Ann Arbor 74.99 351 P **P** **13 04 00.2 -0.8**
baz=170
AAM S **S** **13 13 34.6 -4.1**
baz=170
J61A Chester 75.26 360 P **P** **13 04 03.9 +1.4**
baz=180,SNR=15
J61A S **S** **13 13 44.5 +2.8**
baz=180
CBKS Cedar Bluff 75.30 338 P **P** **13 04 03.7 +0.7**
baz=156
CBKS S **S** **13 13 42.4 -0.2**
baz=156
T25A Trinidad 75.42 334 P **P** **13 04 05.7 +1.8**
baz=152,SNR=40
T25A S **S** **13 13 47.5 +3.1**
baz=152
L44A Lake County Fo 75.53 348 IAMs_20 IAMs_20 13 39 09.5
comp=Z,7µm,22.0s
L44A Lake County Fo 75.53 348 P **P** **13 04 04.2 +0.1**
baz=166
L44A S **S** **13 13 41.5 -3.3**
baz=166
SUR Sutherland 75.59 119 P **P** **13 04 05.9 +0.5**
SUR IAmb IAmb 13 04 18.2
comp=Z,131nm,1.3s
SUR Sutherland 75.59 119 IAMs_20 IAMs_20 13 35 28.7
comp=Z,11µm,20.0s
SUR Sutherland 75.59 119 ⇑P **P** **13 04 05.8 +0.5**
I60A Shoreham 75.76 359 P **P** **13 04 06.1 +0.7**
baz=179,SNR=13
I60A S **S** **13 13 48.9 +1.6**
baz=179
I62A Tamworth 75.79 0 P **P** **13 04 06.6 +1.1**
baz=181,SNR=12
I62A S **S** **13 13 50.8 +3.2**
baz=181
W18A Petrified Fore 75.85 329 P **P** **13 04 08.0 +1.6**
baz=148,SNR=10
W18A S **S** **13 13 52.1 +3.0**
baz=148
NCB Newcomb 75.91 358 P **P** **13 04 06.9 +0.6**
LBNH Lisbon 76.15 0 P **P** **13 04 08.1 +0.5**
LBNH pmax pmax
comp=Z,77nm,1.2s
LBNH MLR MLR
comp=Z,4µm,20.0s
LBNH Lisbon 76.15 0 P **P** **13 04 08.1 +0.5**
LBNH IAmb IAmb 13 04 21.6
comp=Z,76nm,1.2s
LBNH Lisbon 76.15 0 P **P** **13 04 09.1 +1.5**
baz=180,SNR=16
LBNH S **S** **13 13 53.7 +2.1**
baz=180
VT1 Waterbury 76.25 359 IAMs_20 IAMs_20 13 36 54.5
comp=Z,7µm,22.0s
SDCO Great Sand Dun 76.37 333 P **P** **13 04 10.4 +1.0**
SDCO IAmb IAmb 13 04 24.1
comp=Z,223nm,2.0s
SDCO IAMs_20 IAMs_20 13 34 11.4
comp=Z,7µm,20.0s
SDCO Great Sand Dun 76.37 333 P **P** **13 04 10.9 +1.5**
baz=151,SNR=20
SDCO S **S** **13 13 57.4 +2.5**
baz=151
SCIA State Center 76.37 344 P **P** **13 04 09.8 +0.9**
SCIA IAmb IAmb 13 04 22.4
comp=Z,126nm,1.2s
SCIA State Center 76.37 344 P **P** **13 04 09.6 +0.7**
baz=162
SCIA S **S** **13 13 52.1 -2.1**
baz=162
KSCO Kaye Shedlock' 76.44 336 P **P** **13 04 10.4 +0.8**
KSCO Kaye Shedlock' 76.44 336 P **P** **13 04 11.1 +1.5**
baz=154
KSCO S **S** **13 13 57.0 +1.7**
baz=154
WVL Waterville 76.50 2 P **P** **13 04 10.3 +0.7**
WVL IAmb IAmb 13 04 16.9
comp=Z,170nm,1.6s
WVL IAMs_20 IAMs_20 13 37 56.2
comp=Z,6µm,21.0s
GLA Glamis 76.54 324 P **P** **13 04 10.7 +0.6**
GLA pmax pmax
comp=Z,91nm,1.5s
GLA Glamis 76.54 324 P **P** **13 04 10.7 +0.6**
GLA Glamis 76.54 324 P **P** **13 04 11.9 +1.7**
baz=144,SNR=18
GLA S **S** **13 13 59.3 +2.9**
baz=144
LONY Lake Ozonia 76.57 358 P **P** **13 04 10.2 +0.2**
LONY Lake Ozonia 76.57 358 P **P** **13 04 10.8 +0.8**
baz=178,SNR=13
LONY S **S** **13 13 55.6 -0.6**
baz=178
JFWS Jewell Farm 76.69 346 P **P** **13 04 10.6 -0.1**
JFWS pmax pmax
comp=Z,162nm,1.3s
JFWS MLR MLR
comp=Z,6µm,22.0s
JFWS Jewell Farm 76.69 346 P **P** **13 04 10.6 -0.1**
JFWS IAmb IAmb 13 04 24.0
comp=Z,162nm,1.3s
JFWS Jewell Farm 76.69 346 IAMs_20 IAMs_20 13 41 28.3
comp=Z,6µm,22.0s
JFWS Jewell Farm 76.69 346 P **P** **13 04 10.8 +0.1**
baz=164
JFWS S **S** **13 13 56.5 -1.0**
baz=164
FRNY Flat Rock 76.76 359 P **P** **13 04 10.9 -0.2**
FRNY IAmb IAmb 13 04 24.7
comp=Z,165nm,1.6s
RMX La Rumorosa 76.81 323 P **P** **13 04 12.2 +0.3**
IKP In-Ko-Pah, Jac 76.86 323 P **P** **13 04 13.6 +1.6**
baz=143,SNR=15
IKP S **S** **13 14 03.9 +3.8**
baz=143
S22A 4UR Ranch, Cre 76.89 332 P **P** **13 04 13.9 +1.6**
baz=150,SNR=18
S22A S **S** **13 14 03.7 +3.1**
baz=150
WUAZ Wupatki 76.92 328 P **P** **13 04 13.2 +0.8**
WUAZ IAmb IAmb 13 04 28.7
comp=Z,135nm,1.6s
WUAZ IAMs_20 IAMs_20 13 34 43.4
comp=Z,6µm,18.0s
WUAZ Wupatki 76.92 328 ⇑P **P** **13 04 13.9 +1.5**
WUAZ Wupatki 76.92 328 P **P** **13 04 14.2 +1.8**
baz=147,SNR=35
WUAZ S **S** **13 14 05.2 +4.5**
baz=147
SWSC Sam W. Stewart 76.94 323 P **P** **13 04 14.2 +1.9**
baz=143
SWSC S **S** **13 14 03.2 +2.5**
baz=143
MVCO Mesa Verde 77.10 331 P **P** **13 04 14.5 +1.0**
MVCO IAmb IAmb 13 04 28.0
comp=Z,166nm,1.7s
MVCO Mesa Verde 77.10 331 P **P** **13 04 14.8 +1.4**
baz=149,SNR=21
MVCO S **S** **13 14 05.9 +3.1**
baz=149
BAR Barrett 77.18 323 P **P** **13 04 15.0 +1.2**
BGNE Belgrade 77.20 340 P **P** **13 04 14.4 +0.7**
baz=158
BGNE S **S** **13 14 00.9 -2.3**
baz=158
PDMCI Parker Dam,Lak 77.21 325 P **P** **13 04 15.4 +1.5**
baz=145
PDMCI S **S** **13 14 06.8 +3.2**
baz=145
PKME Peaks-Kenny Pk 77.21 2 P **P** **13 04 14.9 +1.2**
PKME IAMs_20 IAMs_20 13 38 15.0
comp=Z,7µm,21.0s
PKME Peaks-Kenny Pk 77.21 2 P **P** **13 04 14.8 +1.2**
baz=182,SNR=20
PKME S **S** **13 14 04.9 +1.8**
baz=182
MONP2 Monument Peak 77.22 323 P **P** **13 04 16.3 +2.1**
baz=143,SNR=20
MONP2 S **S** **13 14 08.0 +3.8**
baz=143
Q24A Divide 77.31 334 P **P** **13 04 16.2 +1.5**
baz=152
Q24A S **S** **13 14 08.1 +2.9**
baz=152
BC3 Big Chuckawall 77.33 324 P **P** **13 04 16.5 +1.8**
baz=144,SNR=30
BC3 S **S** **13 14 07.9 +2.6**
baz=144
109C Camp Elliot, M 77.56 322 IAMs_20 IAMs_20 13 32 18.5
comp=Z,9µm,20.0s
109C Camp Elliot, M 77.56 322 P **P** **13 04 17.8 +1.9**
baz=142
109C S **S** **13 14 10.6 +3.1**
baz=142
IRM Iron Mountain 77.58 324 P **P** **13 04 17.8 +1.8**
baz=144,SNR=41
IRM S **S** **13 14 10.6 +2.8**
baz=144
GLMI Grayling 77.60 351 IAMs_20 IAMs_20 13 36 27.6
comp=Z,7µm,21.0s
GLMI Grayling 77.60 351 P **P** **13 04 15.6 -0.2**
baz=169
GAC Glen Almond 77.68 357 ⇑P **P** **13 04 16.8 +0.7**
TPFO Pinon Flats 77.80 323 P **P** **13 04 19.5 +2.2**
baz=143,SNR=22
PFO Pinyon Flats O 77.80 323 P **P** **13 04 17.6 +0.2**
PFO pmax pmax
comp=Z,99nm,1.3s
PFO Pinyon Flats O 77.80 323 P **P** **13 04 17.6 +0.2**
PFO IAmb IAmb 13 04 27.7
comp=Z,99nm,1.3s
PFO Pinyon Flats O 77.80 323 IAMs_20 IAMs_20 13 31 47.8
comp=Z,8µm,20.0s
PFO Pinyon Flats O 77.80 323 P **P** **13 04 19.6 +2.3**
baz=143,SNR=25
PFO S **S** **13 14 13.9 +3.5**
baz=143
NEE2 Needles Airpor 77.82 325 P **P** **13 04 18.8 +1.5**
baz=144
NEE2 S **S** **13 14 13.0 +2.8**
baz=144
BELC Belle Mtn. Jos 77.88 324 P **P** **13 04 19.5 +1.7**
baz=143,SNR=20
BELC S **S** **13 14 13.9 +2.7**
baz=143
GBN Guysborough 77.90 7 P **P** **13 04 18.8 +1.4**
GBN IAmb IAmb 13 04 20.5
comp=Z,239nm,1.9s

OGNE Ogallala 77.98 337 P **P** **13 04 18.9 +0.8**
baz=154
OGNE S **S** **13 14 13.0 +1.1**
baz=154
MURC Murrieta 78.17 323 P **P** **13 04 20.9 +1.6**
baz=142,SNR=21
MURC S **S** **13 14 18.3 +4.2**
baz=142
SMCO Snowmass 78.18 333 IAMs_20 IAMs_20 13 35 46.9
comp=Z,6µm,19.0s
SMCO Snowmass 78.18 333 ⇑P **P** **13 04 21.3 +1.6**
ISCO Idaho Springs 78.21 334 P **P** **13 04 19.9 +0.2**
ISCO pmax pmax
comp=Z,73nm,1.5s
ISCO Idaho Springs 78.21 334 P **P** **13 04 19.9 +0.2**
ISCO Idaho Springs 78.21 334 P **P** **13 04 21.1 +1.4**
baz=152,SNR=20
ISCO S **S** **13 14 17.4 +2.5**
baz=152
SCI2 San Clemente I 78.39 321 P **P** **13 04 22.6 +2.1**
baz=141
SCI2 S **S** **13 14 22.3 +5.9**
baz=141
BBRC Big Bear Solar 78.55 323 P **P** **13 04 24.0 +2.3**
baz=143
BBRC S **S** **13 14 22.6 +4.0**
baz=143
CIS Catalina Islan 78.65 322 P **P** **13 04 24.0 +2.1**
baz=142
CIS S **S** **13 14 21.1 +1.9**
baz=142
PQI Presque Isle 78.66 3 P **P** **13 04 22.6 +1.0**
PQI IAmb IAmb 13 04 27.3
comp=Z,69nm,1.0s
HEC Hector,Ludlow 78.71 324 P **P** **13 04 24.3 +2.0**
baz=143,SNR=29
HEC S **S** **13 14 23.7 +3.8**
baz=143
KNB Kanab 78.81 328 P **P** **13 04 23.8 +0.9**
KNB pmax pmax
comp=Z,137nm,1.5s
KNB Kanab 78.81 328 P **P** **13 04 23.8 +0.9**
KNB IAmb IAmb 13 05 39.9
comp=Z,137nm,1.5s
FMP Fort Macarthur 78.83 322 P **P** **13 04 25.0 +2.2**
baz=142
FMP S **S** **13 14 25.8 +4.8**
baz=142
BFSC Mount Baldy Ra 78.91 323 P **P** **13 04 24.9 +1.4**
baz=142,SNR=30
BFSC S **S** **13 14 26.9 +4.7**
baz=142
ECSD EROS Data Cent 78.94 342 P **P** **13 04 23.1 -0.2**
ECSD IAmb IAmb 13 04 36.7
comp=Z,101nm,1.1s
ECSD EROS Data Cent 78.94 342 P **P** **13 04 23.4 +0.2**
baz=159,SNR=26
ECSD S **S** **13 14 20.5 -1.3**
baz=159
TUQ Turquoise Moun 78.99 325 P **P** **13 04 25.8 +1.9**
baz=143,SNR=24
TUQ S **S** **13 14 26.3 +3.3**
baz=143
RRX Edison Barstow 79.08 324 P **P** **13 04 26.4 +2.2**
baz=143
RRX S **S** **13 14 27.2 +3.5**
baz=143
PASC Pasadena Art C 79.13 322 P **P** **13 04 26.7 +2.2**
PASC IAmb IAmb 13 04 32.9
comp=Z,108nm,1.5s
PASC IAMs_20 IAMs_20 13 33 03.5
comp=Z,6µm,20.0s
DECC Green Verdugo 79.27 322 P **P** **13 04 27.3 +2.0**
baz=142
DECC S **S** **13 14 29.9 +4.1**
baz=142
N23A Red Feather La 79.29 334 P **P** **13 04 26.9 +1.3**
baz=151,SNR=11
N23A S **S** **13 14 29.2 +2.9**
baz=151
GSC Goldstone, Bar 79.32 324 P **P** **13 04 27.6 +2.0**
baz=143,SNR=24
GSC S **S** **13 14 29.6 +3.2**
baz=143
BATG Bathurst New B 79.36 4 P **P** **13 04 26.0 +0.5**
SPMN Marine on St. 79.43 345 P **P** **13 04 25.3 -0.6**
baz=162
SPMN S **S** **13 14 24.2 -2.8**
baz=162
PHWY Pilot Hill 79.47 335 P **P** **13 04 26.8 +0.2**
O20A White River Ci 79.50 333 P **P** **13 04 27.8 +1.1**
baz=150,SNR=20
O20A S **S** **13 14 31.8 +3.3**
baz=150
SHOC Shoshone, Teco 79.53 325 P **P** **13 04 28.0 +1.3**
baz=143
SHOC S **S** **13 14 31.9 +3.4**
baz=143
COWI Conover 79.55 348 P **P** **13 04 26.7 +0.1**
COWI IAmb IAmb 13 04 39.9
comp=Z,128nm,1.5s
SRU San Rafael Swe 79.55 330 P **P** **13 04 27.3 +0.3**
SRU pmax pmax
comp=Z,169nm,1.9s
SRU San Rafael Swe 79.55 330 P **P** **13 04 27.3 +0.3**
SRU IAmb IAmb 13 04 41.1
comp=Z,169nm,1.9s
EDW2 Edwards Air Fo 79.58 323 P **P** **13 04 28.4 +1.3**
baz=142,SNR=22
EDW2 S **S** **13 14 31.4 +2.2**
baz=142
TSUM Tsumeb 79.61 106 P **P** **13 04 27.1 -0.7**
TSUM IAmb IAmb 13 04 39.1
comp=Z,255nm,1.9s
TSUM Tsumeb 79.61 106 ⇑P **P** **13 04 27.7 -0.1**
TSUM Tsumeb 79.61 106 i/P **P** **13 04 28.8 +1.0**
OSI Osito Audit: C 79.75 322 P **P** **13 04 29.6 +1.6**
baz=141
OSI S **S** **13 14 34.3 +3.3**
baz=141
KOWA Kowa 79.86 66 ⇑P **P** **13 04 28.6 -0.3**
QSM Queen of Sheba 79.87 324 P **P** **13 04 28.4 -0.2**
LRMC Laurel Mtn Rad 79.89 324 P **P** **13 04 30.5 +1.7**
baz=142,SNR=23
LRMC S **S** **13 14 35.3 +2.7**
baz=142
P17A Butcher Ranch, 79.95 330 P **P** **13 04 29.3 +0.2**
P17A IAmb IAmb 13 04 43.2
comp=Z,148nm,1.6s
SBC Santa Barbara 80.13 322 P **P** **13 04 34.2 +4.2**
baz=141
SBC S **S** **13 14 39.1 +4.3**
baz=141
PRN Pahroc Range 80.15 326 ⇑P **P** **13 04 32.1 +1.9**
ARVC Arvin 80.20 323 P **P** **13 04 32.3 +1.9**
baz=141
ARVC S **S** **13 14 39.5 +3.9**
baz=141
SUSD Miller 80.23 341 P **P** **13 04 30.4 +0.1**
baz=157
SUSD S **S** **13 14 34.0 -1.5**
baz=157
MPMC Manual Prospec 80.25 324 P **P** **13 04 32.3 +1.4**
baz=142,SNR=20
MPMC S **S** **13 14 40.7 +4.2**
baz=142
FURC Furnace Creek, 80.27 325 P **P** **13 04 32.6 +2.0**
baz=143,SNR=16
FURC S **S** **13 14 40.0 +3.8**
baz=143
TPNV Topopah Spring 80.35 325 IAMs_20 IAMs_20 13 34 46.5
comp=Z,8µm,18.0s
TPNV Topopah Spring 80.35 325 ⇑P **P** **13 04 33.1 +1.7**
TPNV Topopah Spring 80.35 325 P **P** **13 04 33.3 +1.9**
baz=143,SNR=23
TPNV S **S** **13 14 41.7 +4.3**
baz=143
ISA Isabella, Lake 80.44 323 P **P** **13 04 33.7 +2.0**
baz=142,SNR=30
ISA S **S** **13 14 42.3 +4.1**
baz=142
RWWY Rawlins 80.45 334 IAMs_20 IAMs_20 13 36 58.4
comp=Z,5µm,19.0s
PKM Mcpherson Peak 80.53 322 P **P** **13 04 34.4 +2.0**
baz=141,SNR=8.4
PKM S **S** **13 14 43.2 +3.7**
baz=141

H07S1 FLORES T-PHASE 80.70 31 *e*P **P** **13 04 35.0 +2.1**
BOSA Boshof 80.80 118 P **P** **13 04 33.5 -0.6**
comp=Z,10nm,0.5s,baz=243,slow=3.3,SNR=28
BOSA LR LR 13 37 39.7
comp=Z,17µm,18.6s,baz=234,slow=34
BOSA Boshof 80.80 118 ⇑P **P** **13 04 33.5 -0.6**
CWC Cottonwood Cre 80.85 324 P **P** **13 04 35.8 +1.8**
baz=142
CWC S **S** **13 14 46.7 +4.0**
baz=142
VES Vestal, Richgr 80.89 323 P **P** **13 04 35.7 +1.7**
baz=141,SNR=19
VES S **S** **13 14 45.8 +3.1**
baz=141
GRAC Grapevine Rang 80.93 325 P **P** **13 04 36.5 +2.2**
baz=143
GRAC S **S** **13 14 47.6 +4.3**
baz=143
SMMC Simmler 80.95 322 P **P** **13 04 38.2 +3.8**
baz=141,SNR=16
SMMC S **S** **13 14 48.9 +5.4**
baz=141
H07N1 FLORES T-PHASE 80.99 31 *e*P **P** **13 04 36.5 +2.0**
K22A Casper 81.04 335 P **P** **13 04 36.1 +1.2**
baz=151,SNR=20
K22A S **S** **13 14 46.1 +1.7**
baz=151
NEPA Kaukuwa 81.05 105 *i* P **P** **13 04 37.5 +1.9**
PFCBR Kastelo Branco 81.11 33 *e*P **P** **13 04 36.2 +1.1**
comp=Z,114nm,1.7s
PCAPE Capelo, Faial 81.12 33 *e*P **P** **13 04 36.4 +1.3**
comp=Z,2µm,1.7s
HOR Horta 81.15 33 *e*P **P** **13 04 37.4 +2.1**
comp=Z,82nm,0.7s
R11A Troy Canyon, C 81.16 327 P **P** **13 04 37.6 +2.0**
baz=144,SNR=37
R11A S **S** **13 14 49.1 +3.2**
baz=144
CALA Caldeira 81.17 33 *e*P **P** **13 04 35.8 +0.3**
comp=Z,119nm,0.9s
PCED Cedros 81.20 33 *e*P **P** **13 04 38.5 +2.9**
comp=Z,259nm,0.8s
PICO Pico 81.23 33 *e*P **P** **13 04 36.3 +0.5**
comp=Z,160nm,1.0s
PID Ribeirinha 81.32 33 *e*P P 13 04 43.2 +6.9
comp=Z,164nm,1.4s
TIN Tinemaha, Big 81.41 324 P **P** **13 04 38.5 +1.6**
baz=142
TIN S **S** **13 14 52.7 +4.3**
baz=142
VOG Valley Oaks Go 81.41 323 S **S** **13 14 50.5 +2.4**
baz=141
DUG Dugway, Tooele 81.43 330 IAMs_20 IAMs_20 13 35 42.9
comp=Z,8µm,21.0s
DUG Dugway, Tooele 81.43 330 P **P** **13 04 38.2 +1.2**
baz=146,SNR=20
DUG S **S** **13 14 51.3 +2.7**
baz=146
RSSD Black Hills 81.48 337 ⇑P **P** **13 04 37.7 +0.5**
RSSD Black Hills 81.48 337 P **P** **13 04 38.2 +0.9**
baz=153
RSSD S **S** **13 14 50.5 +1.4**
baz=153
ROSA Rosais 81.49 33 *e*P **P** **13 04 38.5 +1.4**
comp=Z,168nm,1.6s
PMAN Madas 81.49 33 *e*P **P** **13 04 37.3 +0.2**
comp=Z,221nm,1.4s
ICQ Pointe Anglais 81.54 3 ⇑P **P** **13 04 38.1 +1.1**
PSMA Santa Maria 81.62 36 *e*P **P** **13 04 37.8 0.0**
comp=Z,193nm,1.4s
PSMN Pico do Norte, 81.66 36 *e*P **P** **13 04 38.0 -0.1**
comp=Z,244nm,1.4s
CASY Casey 81.74 181 ⇑P **P** **13 04 38.6 +0.4**
EYMN Ely 81.76 347 P **P** **13 04 38.0 -0.4**
baz=164,SNR=11
PGRA Graciosa 81.86 33 *e*P **P** **13 04 39.3 +0.2**
comp=Z,127nm,1.7s
KAPO Kapuskasing 81.91 353 ⇑P **P** **13 04 38.5 -0.5**
ADH Angra Heroismo 81.91 34 *e*P **P** **13 04 39.6 +0.3**
comp=Z,252nm,1.4s
PDA Ponta Delgada 81.94 35 *e*P **P** **13 04 40.0 +0.5**
comp=Z,261nm,1.4s
PSET Sete Cidades 81.98 35 *e*P **P** **13 04 40.0 +0.2**
comp=Z,241nm,1.6s
PSCM Serra do Cume 82.00 34 *e*P **P** **13 04 40.4 +0.6**
comp=Z,136nm,1.6s
PAGU Agualva, Azore 82.02 34 *e*P **P** **13 04 40.0 +0.1**
comp=Z,219nm,1.4s
GRON Grota Negra 82.03 35 *e*P **P** **13 04 40.5 +0.5**
comp=Z,89nm,0.7s
CMLA Cha da Macela 82.03 35 *e*P **P** **13 04 40.4 +0.4**
comp=Z,59nm,0.9s
PCALD Caldeiras da R 82.07 35 *e*P **P** **13 04 40.7 +0.5**
comp=Z,124nm,0.9s
MLAC Mammoth, Mammo 82.16 324 P **P** **13 04 42.6 +1.6**
baz=142
DRLN Deer Lake 82.18 9 ⇑P **P** **13 04 41.1 +0.6**
BART Pico Bartolome 82.21 36 *e*P **P** **13 04 41.2 +0.1**
comp=Z,298nm,1.1s
BW06 Boulder Array 82.27 333 IAMs_20 IAMs_20 13 37 31.4
comp=Z,9µm,20.0s
BW06 Boulder Array 82.27 333 P **P** **13 04 41.8 +0.4**
baz=149,SNR=14
PD31 Pinedale Array 82.27 333 ⇑P **P** **13 04 41.5 +0.1**
PDAR Pinedale Array 82.27 333 P **P** **13 04 42.1 +0.7**
comp=Z,2.6nm,0.9s,baz=169,slow=3.0,SNR=13
PDAR LR LR 13 37 51.8
comp=Z,8µm,19.5s,baz=148,slow=33
NVAR Mina Array Bea 82.52 325 P **P** **13 04 44.2 +1.4**
comp=Z,7.0nm,0.8s,baz=157,slow=5.6,SNR=31
SAO San Andreas Ge 82.82 322 IAMs_20 IAMs_20 13 33 52.5
comp=Z,6µm,21.0s
PMOZ Porto Moniz, M 82.82 44 *e*P **P** **13 04 45.5 +1.1**
comp=Z,198nm,1.8s
PMOZ Porto Moniz, M 82.82 44 *e*SKSac **SKSac** **13 15 12.3 +6.0**
PMOZ Porto Moniz, M 82.82 44 *e*LR LR 13 31 28.9
comp=Z,8µm,18.0s
AHID Auburn Hatcher 82.87 332 IAMs_20 IAMs_20 13 37 39.9
comp=Z,8µm,20.0s
PMAR Madeira 82.92 44 *e*P **P** **13 04 46.7 +1.7**
comp=Z,219nm,1.6s
ELK Elko 82.94 328 IAMs_20 IAMs_20 13 39 18.9
comp=Z,5µm,18.0s
LBTB Lobatse 82.96 115 ⇑P **P** **13 04 44.9 -0.6**
LBTB Lobatse 82.96 115 *i* P **P** **13 04 44.3 -1.2**
AGMN Agassiz Nation 83.02 344 P **P** **13 04 45.1 +0.1**
baz=160,SNR=12
REDW Red Top Meadow 83.27 333 IAMs_20 IAMs_20 13 38 15.6
comp=Z,7µm,19.0s
SNOW Snow King Moun 83.32 333 IAMs_20 IAMs_20 13 38 19.9
comp=Z,8µm,20.0s
TPAW Teton Pass 83.42 333 IAMs_20 IAMs_20 13 38 19.5
comp=Z,6µm,20.0s
PMPS Porto Santo 83.50 44 *e*P P 13 04 52.6 +4.9
PMPST Porto Santo, M 83.51 44 *e*P **P** **13 04 46.7 -1.1**
comp=Z,275nm,1.5s
MDND Maddock 83.54 342 P **P** **13 04 48.3 +0.7**
baz=157,SNR=19
TORD Torodi Ar. Bea 83.55 70 P **P** **13 04 47.9 -0.5**
comp=Z,53nm,0.9s,baz=262,slow=3.5,SNR=84
TORD LR LR 13 42 20.9
comp=Z,13µm,18.1s,baz=240,slow=36
FXWY Fox Creek 83.57 333 IAMs_20 IAMs_20 13 37 36.9
comp=Z,5µm,21.0s
IMW Indian Meadow 83.76 333 IAMs_20 IAMs_20 13 38 05.5
comp=Z,8µm,20.0s
H17A Grant Village 84.04 333 P **P** **13 04 52.4 +1.8**
baz=148
LKWY Lake 84.12 333 IAMs_20 IAMs_20 13 39 32.4
comp=Z,8µm,19.0s
MQZ McQueen's Vall 84.12 221 IAMs_20 IAMs_20 13 34 17.4
comp=Z,9µm,20.0s
RLMT Red Lodge 84.17 334 IAMs_20 IAMs_20 13 41 08.8
comp=Z,5µm,18.0s
RLMT Red Lodge 84.17 334 P **P** **13 04 51.9 +0.7**
baz=149,SNR=10
KHZ Kahutara 84.44 223 IAMs_20 IAMs_20 13 33 54.9
comp=Z,7µm,21.0s
SNZO South Karori 84.46 224 IAMs_20 IAMs_20 13 33 31.0
comp=Z,7µm,20.0s
LAO LASA Array 84.47 337 P **P** **13 04 52.7 +0.3**
baz=152
MXZ Matakaoa Point 84.54 229 IAMs_20 IAMs_20 13 33 06.8
comp=Z,8µm,22.0s
ULM Lac du Bonnet 84.86 345 P **P** **13 04 53.8 -0.4**
comp=Z,16nm,0.9s,baz=167,slow=3.5,SNR=11
ULM Lac du Bonnet 84.86 345 ⇑P **P** **13 04 53.8 -0.4**
HLID Hailey 84.88 330 P **P** **13 04 56.0 +1.2**

baz=145,SNR=35
LTZ Lake Taylor 84.93 222 IAMs_20 IAMs_20 13 33 12.0
comp=Z,10µm,22.0s
ORV Oroville 84.97 324 IAMs_20 IAMs_20 13 36 49.4
comp=Z,6µm,18.0s
RPZ Rata Peaks 85.00 220 IAMs_20 IAMs_20 13 34 30.8
comp=Z,8µm,19.0s
WHZ Wether Hill Ro 85.21 217 IAMs_20 IAMs_20 13 33 12.9
comp=Z,10µm,21.0s
THZ Tophouse 85.22 223 IAMs_20 IAMs_20 13 34 21.5
comp=Z,8µm,21.0s
NNZ Nelson 85.30 223 IAMs_20 IAMs_20 13 34 36.9
comp=Z,6µm,20.0s
HOPS Hopland Field 85.34 323 IAMs_20 IAMs_20 13 35 07.4
comp=Z,6µm,20.0s
MFID Camas Ranch 85.36 330 IAMs_20 IAMs_20 13 40 38.8
comp=Z,5µm,18.0s
DGMT Dagmar 85.41 339 P **P** **13 04 57.8 +0.7**
baz=153
BOZ Bozeman (W) 85.45 333 IAMs_20 IAMs_20 13 39 14.3
comp=Z,7µm,21.0s
BOZ Bozeman (W) 85.45 333 P **P** **13 04 58.3 +0.8**
baz=147,SNR=7.7
DLMT Dillon 85.63 333 IAMs_20 IAMs_20 13 39 46.0
comp=Z,8µm,20.0s
PYZ Puysegur Point 85.66 217 IAMs_20 IAMs_20 13 35 28.9
comp=Z,6µm,20.0s
O03E Paynes Creek 85.68 324 P **P** **13 04 59.0 +0.3**
baz=140,SNR=14
WVOR Wild Horse Val 85.82 327 IAMs_20 IAMs_20 13 39 24.3
comp=Z,7µm,18.0s
WVOR Wild Horse Val 85.82 327 ⇑P **P** **13 05 00.1 +0.6**
QRZ Quartz Range 86.04 223 IAMs_20 IAMs_20 13 35 10.4
comp=Z,6µm,20.0s
O02D Mt. Diablo Mer 86.08 323 P **P** **13 05 02.2 +1.4**
baz=139
O02D S **S** **13 15 37.2 +1.9**
baz=139
LESE Lesego, Limpop 86.44 117 *i* P **P** **13 05 04.1 +1.0**
N02D Trinity Center 86.64 324 P **P** **13 05 04.0 +0.6**
baz=139,SNR=7.5
N02D S **S** **13 15 41.1 +0.4**
baz=139
PLID Pearl Lake 86.78 330 IAMs_20 IAMs_20 13 44 53.5
comp=Z,7µm,18.0s
EGMT Eagleton 86.83 336 P **P** **13 05 04.1 -0.1**
baz=149
M04C Macdoel 86.83 325 P **P** **13 05 05.4 +1.0**
baz=140,SNR=12
M04C S **S** **13 15 44.4 +1.8**
baz=140
SCHQ Schefferville 86.86 3 P **P** **13 05 04.3 +0.2**
comp=Z,38nm,1.0s,baz=209,slow=3.2,SNR=9.8
SCHQ LR LR 13 44 44.2
comp=Z,2µm,21.2s,baz=178,slow=36
SCHQ Schefferville 86.86 3 ⇑P **P** **13 05 04.0 -0.1**
RAO Raoul Island 86.87 237 IAMs_20 IAMs_20 13 33 30.3
comp=Z,6µm,22.0s
M02C Callahan 87.03 324 P **P** **13 05 06.5 +1.1**
baz=139,SNR=14
M02C S **S** **13 15 45.8 +1.3**
baz=139
BMO Blue Mountains 87.14 330 IAMs_20 IAMs_20 13 40 07.2
comp=Z,7µm,19.0s
JCC Jacoby Creek, 87.19 323 IAMs_20 IAMs_20 13 37 01.3
comp=Z,5µm,20.0s
MSO Missoula 87.37 333 P **P** **13 05 07.7 +0.8**
baz=146
MSO S **S** **13 15 47.8 +0.3**
baz=146
L04D Klamath Falls 87.38 325 P **P** **13 05 07.8 +0.7**
baz=140
L04D S **S** **13 15 49.0 +1.1**
baz=140
K04D Chiloquin, OR 87.43 326 P **P** **13 05 08.5 +1.2**
baz=140
K04D S **S** **13 15 50.1 +1.8**
baz=140
J05D Fort Rock, OR 87.69 326 P **P** **13 05 09.8 +1.2**
baz=140,SNR=23
J05D S **S** **13 15 52.0 +1.2**
baz=140
L02E Cave Junction 87.97 324 P **P** **13 05 11.6 +1.9**
baz=139
L02E S **S** **13 15 55.0 +1.7**
baz=139
F10A Beach Ranch, E 88.01 330 ⇑P **P** **13 05 10.7 +0.8**
J04D Umpqua Nationa 88.06 326 P **P** **13 05 11.5 +1.0**
baz=140,SNR=11
J04D S **S** **13 15 54.4 -0.1**
baz=140
K02D Willamette Mer 88.41 325 P **P** **13 05 13.5 +1.6**
baz=138
K02D S **S** **13 15 57.3 -0.3**
baz=138
I05D Terrebonne, OR 88.54 327 P **P** **13 05 14.0 +1.5**
baz=140,SNR=11
I05D S **S** **13 16 00.8 +2.1**
baz=140
I04A Tendick Farm, 88.63 326 P **P** **13 05 13.3 +0.4**
baz=139
I04A S **S** **13 15 59.6 +0.1**
baz=139
J01E Myrtle Point 88.88 325 P **P** **13 05 14.5 +0.4**
baz=138
J01E S **S** **13 16 03.6 +1.8**
baz=138
OUZ Omahuta 88.97 228 IAMs_20 IAMs_20 13 41 28.6
comp=Z,6µm,18.0s
I03D Drain, OR 89.00 325 P **P** **13 05 14.6 +0.1**
baz=139
I03D S **S** **13 16 04.4 +1.5**
baz=139
AVE Averroes 89.16 49 P **P** **13 05 16.3 +0.7**
AVE S S 13 15 53.2 -12
G05D Wamic, OR 89.22 328 P **P** **13 05 16.7 +1.1**
baz=140
G05D S **S** **13 16 07.2 +2.2**
baz=140
HAWA Hanford 89.32 329 IAMs_20 IAMs_20 13 40 30.7
comp=Z,7µm,20.0s
HAWA Hanford 89.32 329 ⇑P **P** **13 05 16.9 +0.9**
H04D Lebanon 89.33 326 P **P** **13 05 17.2 +1.1**
baz=139
H04D S **S** **13 16 05.3 -0.7**
baz=139
I02D Swisshome 89.55 325 P **P** **13 05 18.8 +1.8**
baz=138
I02D S **S** **13 16 09.1 +1.2**
baz=138
F05D White Salmon 89.78 328 P **P** **13 05 19.5 +1.3**
baz=140
F05D S **S** **13 16 12.6 +2.5**
baz=140
NEW Newport 89.79 332 IAMs_20 IAMs_20 13 41 58.2
comp=Z,7µm,20.0s
NEW Newport 89.79 332 P **P** **13 05 18.0 -0.2**
baz=143
G03D McMinnville, O 90.10 327 P **P** **13 05 21.0 +1.3**
baz=139
G03D S **S** **13 16 13.9 +0.8**
baz=139
LSZ Lusaka 90.27 108 P **P** **13 05 21.6 +0.2**
LSZ Lusaka 90.27 108 ⇑P **P** **13 05 22.2 +0.7**
LSZ Lusaka 90.27 108 *i* P **P** **13 05 24.5 +3.1**
FFC Flin Flon 90.43 343 ⇑P **P** **13 05 22.6 +1.7**
F04D Rainier, OR 90.63 327 P **P** **13 05 23.5 +1.3**
baz=139
F04D S **S** **13 16 19.4 +1.4**
baz=139
PFVI Vila Bisbo 90.76 45 *e*PP PP 13 08 49.4 -10
PFVI *e*SKSac **SKSac** **13 16 04.9 +10**
IFR Ifrane 90.77 50 P **P** **13 05 22.1 -1.3**
IFR S **SKSac** **13 15 59.7 +4.1**
E04D Cinebar 90.79 328 P **P** **13 05 23.1 +0.2**
baz=139
E04D S **S** **13 16 18.8 -0.5**
baz=139
MORF Marmelete 90.98 45 *e*P **P** **13 05 24.6 +0.5**
MORF *e*PP **PP** **13 09 01.0 +0.3**
MORF *e*SKSac **SKSac** **13 15 56.3 0.0**
MORF IAMs_20 IAMs_20 13 44 25.6
comp=Z,15µm,19.3s
MORF Marmelete 90.98 45 *e*P **P** **13 05 24.6 +0.5**
MORF *e* 13 09 01.0
MORF *e* 13 15 56.2
MORF Marmelete 90.98 45 *e*PP PP 13 09 06.5 +5.7

MORF eSKSac **SKSac** **13 15 58.9 +2.6**
C06D Leavenworth 91.09 330 P **P** **13 05 24.3 0.0**
baz=140
C06D S **S** **13 16 22.0 -0.2**
baz=140
PTEO Sao Teotonio 91.09 45 eP **P** **13 05 25.4 +0.9**
comp=Z,101nm,1.9s
PBDV Barranco-do-Ve 91.38 46 eP **P** **13 05 28.0 +2.1**
comp=Z,105nm,1.9s
PBDV Barranco-do-Ve 91.38 46 eSKSac **SKSac** **13 16 04.4 +5.9**
PCVE Castro Verde 91.56 46 eP **P** **13 05 27.8 +1.1**
PCVE Castro Verde 91.56 46 ePP PP 13 09 05.5 +0.2
PCVE eSKSac **SKSac** **13 16 06.0 +6.5**
PNCL Nicolau / Gran 91.58 45 eP **P** **13 05 28.4 +1.7**
comp=Z,50nm,1.7s
PNCL Nicolau / Gran 91.58 45 ePP PP 13 09 06.6 +1.2
PNCL eSKSac **SKSac** **13 16 06.5 +7.0**
MESJ Messejana 91.59 45 eP **P** **13 05 27.4 +0.6**
MESJ ePP **PP** **13 09 05.7 +0.2**
MESJ eSKSac **SKSac** **13 15 59.8 +0.2**
MESJ IAMs_20 IAMs_20 13 44 49.6
comp=E,10µm,18.6s
MESJ Messejana 91.59 45 eP **P** **13 05 27.4 +0.6**
MESJ e 13 09 05.7
MESJ e 13 15 59.7
MESJ Messejana 91.59 45 eP **P** **13 05 27.3 +0.5**
comp=E,60nm,1.7s
LIS Lisbon 91.61 44 eP **P** **13 05 27.4 +0.6**
LIS eSKSac **SKSac** **13 15 59.7 +0.1**
LIS IAMs_20 IAMs_20 13 47 48.1
comp=Z,10µm,17.5s
LIS Lisbon 91.61 44 eP **P** **13 05 27.4 +0.6**
LIS e 13 15 59.7
PVAQ Vaqueiros 91.61 46 eP **P** **13 05 27.0 +0.1**
comp=Z,103nm,1.6s
PVAQ Vaqueiros 91.61 46 ePP PP 13 09 05.8 +0.1
PVAQ eSKSac **SKSac** **13 16 08.0 +8.2**
PVAQ Vaqueiros 91.61 46 eLR LR 13 35 51.3
comp=Z,14µm,18.0s
LBB Lubumbashi 91.69 105 *i* P **P** **13 05 27.4 -0.7**
PMAFR Mafra 91.69 44 ePP PP 13 09 05.6 -0.7
PMAFR eSKSac **SKSac** **13 16 04.9 +4.8**
B05A Bryant 91.88 329 P **P** **13 05 28.4 +0.5**
baz=140
B05A S **S** **13 16 26.5 -2.6**
baz=140
PBEJ Beja 91.92 45 eP **P** **13 05 31.3 +3.0**
comp=Z,54nm,1.8s
SFS San Fernando 91.94 47 P **P** **13 05 28.2 -0.2**
SFS S **SKSac** **13 16 09.4 +7.8**
NLWA Neilton Lookou 92.00 328 IAMs_20 IAMs_20 13 44 18.8
comp=Z,5µm,19.0s
ARNO Arenosillo 92.02 47 P **P** **13 05 26.4 -2.3**
ARNO S **SKSac** **13 16 07.5 +5.5**
EVO Evora 92.16 45 P **P** **13 05 26.5 -2.9**
EVO S **SKSac** **13 16 10.7 +7.9**
EVO Evora 92.16 45 eP **P** **13 05 28.4 -1.0**
comp=Z,32nm,2.1s
PSBE So Bento 92.34 44 eP **P** **13 05 30.5 +0.2**
comp=Z,104nm,2.0s
PSBE So Bento 92.34 44 ePP PP 13 09 12.5 +1.1
PSBE eSKSac **SKSac** **13 16 09.0 +5.2**
PMTG Montargil 92.38 44 eP **P** **13 05 30.0 -0.4**
comp=Z,74nm,1.6s
PMTG Montargil 92.38 44 ePP PP 13 09 11.5 -0.2
PMTG eSKSac **SKSac** **13 16 07.8 +3.8**
A04D Lummi Island 92.48 329 P **P** **13 05 31.4 +0.8**
baz=139
PESTR Estremoz 92.63 45 eP **P** **13 05 31.9 +0.3**
comp=Z,58nm,1.7s
PESTR Estremoz 92.63 45 ePP PP 13 09 15.0 +1.3
PESTR eSKSac **SKSac** **13 16 10.8 +5.3**
PCAS Casmilo, Conde 92.86 43 eP **P** **13 05 32.2 -0.5**
PCAS Casmilo, Conde 92.86 43 ePP PP 13 09 16.8 +1.3
PCAS eSKSac **SKSac** **13 16 11.8 +5.1**
COI Coimbra 93.01 43 ePP PP 13 09 16.2 -0.5
COI eSKSac **SKSac** **13 16 10.6 +3.1**
PMRV Marv??o 93.11 44 eP **P** **13 05 32.5 -1.3**
comp=Z,32nm,1.9s
PMRV Marv??o 93.11 44 ePP PP 13 09 17.7 +0.2
PMRV eSKSac **SKSac** **13 16 10.5 +2.4**
PMRV Marv??o 93.11 44 eLR LR 13 36 36.8
comp=Z,7µm,18.0s
EMAL Malaga-Limoner 93.24 48 P **P** **13 05 33.5 -1.0**
EMAL S **SKSac** **13 16 12.3 +3.5**
MELI Melilla 93.29 50 P **P** **13 05 32.7 -2.0**
PCBR Castelo Branco 93.32 44 eP **P** **13 05 38.4 +3.6**
MTE Manteigas 93.64 44 eP **P** **13 05 35.5 -0.8**
comp=Z,53nm,1.8s
MTE Manteigas 93.64 44 ePP PP 13 09 18.8 -2.9
MTE eSKSac **SKSac** **13 16 14.6 +3.5**
MTE Manteigas 93.64 44 eLQ LQ 13 32 09.7
MTE eLR LR 13 36 35.0
comp=Z,12µm,20.0s
POLO Lamas de Olo 94.13 43 eP **P** **13 05 38.3 -0.3**
comp=Z,14nm,1.7s
POLO Lamas de Olo 94.13 43 ePP **PP** **13 09 25.4 -0.1**
POLO eSKSac **SKSac** **13 16 21.1 +7.3**
PCAB Cabril 94.21 42 eP **P** **13 05 39.5 +0.6**
comp=Z,45nm,1.5s
PGAV Gavieira, Arco 94.24 42 eP **P** **13 05 39.5 +0.4**
comp=Z,43nm,1.7s
PGAV Gavieira, Arco 94.24 42 ePP **PP** **13 09 25.8 -0.5**
PGAV eSKSac **SKSac** **13 16 22.5 +8.2**
PGAV Gavieira, Arco 94.24 42 eLR LR 13 36 41.1
comp=Z,12µm,18.0s
MVO Moncorvo 94.43 43 eP **P** **13 05 39.8 -0.1**
comp=Z,36nm,1.8s
MVO Moncorvo 94.43 43 ePP **PP** **13 09 27.4 -0.5**
MVO eSKSac **SKSac** **13 16 19.8 +4.4**
MVO Moncorvo 94.43 43 eLQ LQ 13 35 12.5
MVO eLR LR 13 36 44.6
comp=Z,15µm,18.0s
PBRG Braganca 95.01 43 eP **P** **13 05 40.4 -2.1**
comp=Z,42nm,1.6s
PBRG Braganca 95.01 43 ePP **PP** **13 09 33.6 +1.3**
POHA Pohakuloa 95.14 290 IAMs_20 IAMs_20 13 40 52.3
comp=Z,6µm,19.0s
ESDC Sonseca Array 95.33 46 P **P** **13 05 43.6 -0.4**
comp=Z,2.9nm,1.1s,baz=253,slow=4.4,SNR=9.1
ESDC LR LR 13 47 44.2
comp=Z,9µm,19.1s,baz=250,slow=35
CART Cartagena 95.92 49 P **P** **13 05 43.7 -3.0**
CART S **SKSac** **13 16 19.7 -3.5**
CART Cartagena 95.92 49 IAMs_20 IAMs_20 13 48 26.2
comp=Z,7µm,21.0s
UCM Universidad Co 96.15 46 P **P** **13 05 46.0 -1.7**
UCM S **SKSac** **13 16 32.3 +7.8**
MSVF Nonsavu 96.62 244 IAMs_20 IAMs_20 13 40 09.7
comp=Z,5µm,20.0s
TAU Tasmania Unive 96.97 208 IAMs_20 IAMs_20 13 39 57.7
comp=Z,7µm,20.0s
ITUM Tunduma 97.58 106 *i* P Pdif 13 05 56.6 +1.4
MBAM Mbamba Bay 97.83 108 *i* P Pdif 13 06 00.3 +4.2
PDHT Panda Hill 97.86 106 *i* P Pdif 13 05 58.8 +2.4
MKIL Mkili 97.95 108 *i* P Pdif 13 05 58.9 +2.2
KIP Kipapa 97.98 290 IAMs_20 IAMs_20 13 44 03.0
comp=Z,5µm,19.0s
MZUN Kiwira 98.00 106 *i* P Pdif 13 06 01.3 +4.3
MANDA Manda 98.12 108 *i* P Pdif 13 05 57.7 +0.3
NKAL Nkalisi 98.18 106 *i* P Pdif 13 06 02.8 +4.9
JILO Lwanjilo 98.27 106 *i* P Pdif 13 06 00.8 +2.4
NIND Nindi 98.29 107 *i* P Pdif 13 06 03.7 +5.4
UKWA Ukwama 98.39 107 *i* P Pdif 13 06 03.2 +4.3
MAKE Makete 98.40 106 *i* P Pdif 13 05 59.6 +0.6
LIGA Liganga 98.53 108 *i* P Pdif 13 06 02.0 +2.7
CHML Chimala 98.59 106 *i* P Pdif 13 06 02.4 +2.8
TOLA Matola 98.61 107 *i* P Pdif 13 06 04.9 +5.0
KIPE Kipengere 98.66 107 *i* P **P** **13 05 59.6 -0.5**
ZINI Mgazini 98.72 108 *i* P Pdif 13 06 05.4 +5.2
UWEM Njombe 98.84 107 *i* P Pdif 13 06 04.9 +4.0
NGEA Songea 98.87 109 *i* P Pdif 13 06 02.6 +1.7
GAWA Igawa 98.92 106 *i* P Pdif 13 06 03.6 +2.6
WINO Wino 99.09 108 *i* P **Pdif** **13 06 05.6 +3.7**
BANG Mbangamawe 99.17 108 *i* P **Pdif** **13 06 04.5 +2.4**
SFJD Kangerlussuaq 100.28 8 *i* P **Pdif** **13 06 10.7 +5.1**
SFJD *i* 13 10 13.1
MBAR Mbarara 100.39 97 *i* P **Pdif** **13 06 12.3 +4.6**
VOI Vohitsoka 100.43 124 IAMs_20 IAMs_20 13 56 19.2
comp=Z,6µm,18.0s
DODT Dodoma, Tanzan 101.48 105 *i* P **Pdif** **13 06 11.1 -1.4**
DZM Mont Dzumac 102.32 234 ePP **PP** **13 10 29.4 +1.6**
comp=Z,433nm,25.2s
DZM eSKSac **SKSac** **13 16 58.8 +2.3**
comp=Z,3µm,27.1s
DZM Mont Dzumac 102.32 234 ePS PS 13 19 38.1 +3.9
comp=Z,3µm,26.9s
DZM eSS SS 13 25 09.1 +3.9
comp=Z,5µm,24.9s
DZM Mont Dzumac 102.32 234 eLQ LQ 13 35 28.4
comp=Z,7µm,36.0s
DZM eLR LR 13 39 48.1
comp=Z,16µm,22.1s,baz=138
ILULI Ilulissat 102.34 7 IAMs_20 IAMs_20 13 54 09.3
comp=Z,5µm,20.0s
DSB Dublin 102.37 34 IAMs_20 IAMs_20 13 48 38.1
comp=Z,6µm,20.0s
CAN Canberra 102.56 213 IAMs_20 IAMs_20 13 42 55.9
comp=Z,5µm,20.0s
ABPO Ambohimpanom 102.62 122 IAMs_20 IAMs_20 13 48 02.1
comp=Z,7µm,20.0s
LIFNC LIFOU 102.63 235 IAMs_20 IAMs_20 13 50 34.1
comp=Z,5µm,18.0s
JIS Juneau Island 104.13 331 IAMs_20 IAMs_20 13 55 51.4
comp=Z,4µm,18.0s
BORG Borgarnes 104.45 20 IAMs_20 IAMs_20 13 56 04.2
comp=Z,5µm,19.0s
NBI Nairobi 105.10 101 *i* P **Pdif** **13 06 32.8 +4.2**
KMBO Kilima Mbogo 105.55 101 *i* P **Pdif** **13 06 35.5 +4.7**
VLC Villacollemand 106.71 48 IAMs_20 IAMs_20 13 58 08.9
comp=Z,4µm,19.0s
SUMG Summit 107.09 10 IAMs_20 IAMs_20 13 59 27.3
comp=Z,5µm,19.0s
BCPM Bancas Point 107.30 331 IAMs_20 IAMs_20 14 02 11.6
comp=Z,5µm,20.0s
DAVA Damuels 107.89 45 P **Pdif** **13 06 40.8 +0.7**
comp=Z,6.0nm,1.4s
DAVA eP **PP** **13 11 07.2 -2.4**
comp=Z,13nm,1.5s
STU Stuttgart 108.19 43 ⇑P **Pdif** **13 06 41.5 +0.3**
TABL Table Mountain 108.20 331 IAMs_20 IAMs_20 14 02 49.9
comp=Z,5µm,19.0s
FETA Feichten 108.28 46 P **Pdif** **13 06 42.5 +0.7**
comp=Z,2.6nm,1.1s
FETA eP **PP** **13 11 10.5 -2.0**
comp=Z,9.1nm,1.4s
LOGN Logan Glacier 108.36 331 IAMs_20 IAMs_20 13 58 19.1
comp=Z,4µm,21.0s
MESA MESA 108.39 330 IAMs_20 IAMs_20 14 03 01.1
comp=Z,4µm,19.0s
YAH Yahtse 108.41 331 IAMs_20 IAMs_20 13 55 41.3
comp=Z,4µm,18.0s
SCO Scoresbysund 108.51 16 *i* P **Pdif** **13 06 52.7 +11**
SCO *i* 13 11 12.6
SCO IAMs_20 IAMs_20 13 58 11.5
comp=Z,5µm,19.4s
SCO Scoresbysund 108.51 16 IAMs_20 IAMs_20 13 58 18.3
comp=Z,5µm,19.0s
RETA Reutte 108.52 45 eP **Pdif** **13 06 42.7 -0.1**
comp=Z,2.1nm,0.7s
RETA eP **PP** **13 11 11.9 -2.1**
comp=Z,5.6nm,1.1s
CTGM Chitina Glacie 108.57 331 IAMs_20 IAMs_20 13 58 35.7
comp=Z,4µm,20.0s
GRNC Granite Creek 108.61 331 IAMs_20 IAMs_20 14 03 02.2
comp=Z,4µm,21.0s
MOTA Moosalm 108.66 45 P **Pdif** **13 06 43.8 +0.2**
comp=Z,5.8nm,1.4s
MOTA P **PP** **13 11 12.8 -2.3**
comp=Z,8.9nm,1.2s
SQTA Sankt Quirin 108.66 46 P **Pdif** **13 06 44.0 +0.5**
comp=Z,1.0nm,0.4s
SQTA P **PP** **13 11 12.2 -3.0**
comp=Z,6.6nm,1.0s
BARN Barnard Glacie 108.75 331 IAMs_20 IAMs_20 13 58 41.5
comp=Z,4µm,19.0s
ISLE Juniper Island 108.79 331 IAMs_20 IAMs_20 13 51 14.3
comp=Z,4µm,21.0s
WAX Waxell Ridge 108.92 330 IAMs_20 IAMs_20 14 03 17.0
comp=Z,4µm,18.0s
WATA Walderalm 108.94 46 eP **Pdif** **13 06 45.0 +0.2**
comp=Z,1.3nm,0.5s
WATA P **PP** **13 11 14.6 -2.6**
comp=Z,18nm,2.1s
WTTA Wattenberg 108.94 46 P **Pdif** **13 06 45.4 +0.5**
comp=Z,4.0nm,1.1s
WTTA eP **PP** **13 11 16.0 -1.3**
comp=Z,14nm,1.4s
TGL Tana Glacier 109.07 331 IAMs_20 IAMs_20 13 51 21.4
comp=Z,4µm,20.0s
SUCK Suckling Hills 109.11 330 IAMs_20 IAMs_20 13 58 33.3
comp=Z,4µm,19.0s
CRQM Cirque 109.20 331 IAMs_20 IAMs_20 13 55 06.2
comp=Z,3µm,20.0s
ABTA Abfaltersbach 109.24 46 eP **Pdif** **13 06 47.1 +1.1**
comp=Z,1.8nm,0.9s
ABTA P **PP** **13 11 17.3 -2.1**
comp=Z,17nm,1.8s
BERG Berg Lake 109.25 330 IAMs_20 IAMs_20 14 03 18.7
comp=Z,4µm,19.0s
KAIM Kayak Island 109.31 329 IAMs_20 IAMs_20 14 05 56.6
comp=Z,5µm,18.0s
MCARA McCarthy VSAT 109.48 331 IAMs_20 IAMs_20 13 59 04.3
comp=Z,4µm,21.0s
M27K Edge Creek, AK 109.55 332 IAMs_20 IAMs_20 14 05 49.8
comp=Z,4µm,18.0s
MYKA Terra Mystica 109.89 47 eP **PP** **13 11 22.1 -1.9**
comp=Z,11nm,1.2s
KBA Koelnbreinsper 109.90 46 eP **Pdif** **13 06 51.6 +2.5**
comp=Z,1.3nm,0.5s
KBA eP **PP** **13 11 22.1 -2.1**
comp=Z,18nm,1.9s
L27K Beaver Creek, 109.90 333 IAMs_20 IAMs_20 13 54 20.0
comp=Z,5µm,20.0s
BMRM Bremner River 109.92 330 IAMs_20 IAMs_20 14 03 56.8
comp=Z,4µm,19.0s
M26K Nabesna, AK 110.01 332 IAMs_20 IAMs_20 14 06 05.8
comp=Z,4µm,18.0s
LJU Ljubljana 110.18 48 ePdiff **Pdif** **13 06 49.9 -0.3**
LJU ePP **PP** **13 11 24.6 -1.5**
LJU eSKSac **SKSac** **13 17 29.5 -0.3**
LJU *e* 13 20 38.7
LJU ePS PKKPbc 13 20 56.1 -57
LJU eSS **SS** **13 26 52.3 -0.6**
LJU *e* 13 44 40.6
A36M Sachs Harbour 110.34 345 IAMs_20 IAMs_20 14 00 33.1
comp=Z,5µm,19.0s
OBKA Obir 110.40 47 eP **Pdif** **13 06 54.3 +3.0**
comp=Z,2.8nm,1.0s
OBKA eP **PP** **13 11 25.5 -2.2**
comp=Z,9.9nm,1.6s
BOJS Bojanci 110.41 49 ePdiff **Pdif** **13 06 51.0 -0.1**
BOJS ePP **PP** **13 11 25.8 -1.9**
BOJS *e* 13 13 47.6
BOJS eSKSac **SKSac** **13 17 31.3 +0.6**
HIN Hinchinbrook I 110.45 329 IAMs_20 IAMs_20 14 06 40.6
comp=Z,4µm,18.0s
L26K Log Cabin Wild 110.47 333 IAMs_20 IAMs_20 13 55 16.0
comp=Z,4µm,20.0s
K27K Chicken 110.51 334 IAMs_20 IAMs_20 13 54 37.5
comp=Z,4µm,20.0s
EGAK Eagle 110.57 335 IAMs_20 IAMs_20 13 57 32.0
comp=Z,4µm,19.0s
FID Port Fidalgo 110.61 330 IAMs_20 IAMs_20 14 04 16.8
comp=Z,4µm,20.0s
SOKA Soboth 110.77 47 eP **Pdif** **13 06 53.4 +0.5**
comp=Z,4.1nm,1.7s
SOKA eP **PP** **13 11 28.4 -2.0**
comp=Z,5.2nm,1.4s
MOA Molln 110.80 46 P **Pdif** **13 06 52.7 -0.2**
comp=Z,1.2nm,0.8s
MOA eP **PP** **13 11 27.3 -3.2**
comp=Z,9.4nm,1.3s
PERS Pernice 110.81 47 ePdiff **Pdif** **13 06 53.0 0.0**
PERS ePP **PP** **13 11 26.9 -3.7**
GERES GERESS Array B 110.88 45 PKiKP **PKiKP** **13 10 52.5 -0.4**
comp=Z,0.9nm,0.7s,baz=194,slow=2.2,SNR=5.1
KHC Kasperske Hory 110.93 45 eP **Pdif** **13 06 54.7 +1.2**
KHC *e* 13 11 28.9
KHC *e* 13 17 30.0
KHC MLR MLR
comp=Z,10µm,19.3s
KHC Kasperske Hory 110.93 45 ePDIFF **Pdif** **13 06 54.7 +1.2**
KHC ePP **PP** **13 11 28.9 -2.6**
KHC eSKS **SKSac** **13 17 30.0 -2.8**
KHC AMS AMS 13 58 20.0
comp=Z,10µm,19.3s
M24K Tolsona, Glenn 111.15 331 IAMs_20 IAMs_20 14 06 57.1
comp=Z,3µm,19.0s
SCRK Sand Creek 111.21 333 IAMs_20 IAMs_20 13 54 59.5
comp=Z,5µm,22.0s
CKRC Cesky Krumlov 111.24 45 ePDIFF **Pdif** **13 06 55.2 +0.4**
CKRC ePP **PP** **13 11 31.0 -2.6**
CKRC AMS AMS 14 01 00.0
comp=Z,6µm,18.1s
ARSA Arzberg 111.32 47 P **Pdif** **13 06 56.5 +1.3**
comp=Z,1.3nm,0.5s
ARSA eP **PP** **13 11 31.1 -3.1**
comp=Z,4.5nm,1.0s
RIDG Independent Ri 111.42 333 IAMs_20 IAMs_20 13 56 12.9
comp=Z,4µm,20.0s
PWL Port Wells 111.46 329 IAMs_20 IAMs_20 13 57 48.3
comp=Z,3µm,19.0s
SCM Sheep Creek Mo 111.49 330 IAMs_20 IAMs_20 14 07 05.1
comp=Z,4µm,20.0s
CLL Collm 111.52 42 ePdif **Pdif** **13 06 55.0 -1.0**
CLL ePKiKP **PKiKP** **13 10 51.0 -2.9**
CLL *e* 13 11 11.0
CLL ePP **PP** **13 11 33.0 -2.6**
CLL *e* 13 12 23.0
CLL eSKSac **SKSac** **13 17 33.0 -2.0**
CLL eSKKSac **SKKSac** **13 18 48.0 +10**
CLL eSdif Sdif 13 19 12.0 -3.4
CLL ePS **PS** **13 21 02.0 -5.4**
CLL ePPS PPS 13 22 18.0
CLL eSS **SS** **13 27 11.0 +0.4**
CLL eSSS SSS 13 31 11.0
CLL eSSSS 13 34 42.0
CLL Lm MLR 13 58 00.0
comp=N,6µm,18.4s
CLL Lm MLR 13 58 00.0
comp=E,11µm,18.7s
CLL Lm MLR 13 58 00.0
comp=Z,14µm,18.5s
CLL Collm 111.52 42 eP **Pdif** **13 06 55.0 -1.0**
CLL *e* 13 10 51.0
CLL *e* 13 11 33.0
CLL *e* 13 17 33.0
CLL MLR MLR
comp=Z,14µm,18.5s
MUD Monsted U'grnd 111.68 36 *i* P **Pdif** **13 06 59.6 +3.1**
MUD *i* 13 11 37.1
MUD IAMs_20 IAMs_20 14 01 16.6
comp=Z,6µm,17.9s
PDG Podgorica 111.74 53 ⇓P **PP** **13 11 33.7 -3.6**
KNK Knik Glacier 111.77 330 IAMs_20 IAMs_20 14 07 25.6
comp=Z,5µm,21.0s
CONA Conrad Observa 111.81 46 P **Pdif** **13 06 57.2 -0.2**
comp=Z,2.3nm,1.2s
CONA P **PP** **13 11 35.3 -2.6**
comp=Z,12nm,1.6s
PRA Prague 111.83 44 eP **Pdif** **13 07 00.8 +3.4**
PRA *e* 13 11 35.2
PRA MLR MLR
comp=Z,7µm,18.7s
PRA Prague 111.83 44 ePDIFF **Pdif** **13 07 00.8 +3.4**
PRA ePP **PP** **13 11 35.2 -2.6**
PRA AMS AMS 13 58 30.0
comp=Z,7µm,18.7s
PRU Pruhonice 111.86 44 eP **Pdif** **13 06 58.2 +0.7**
PRU *e* 13 11 36.0
PRU MLR MLR
comp=Z,7µm,18.9s
PRU Pruhonice 111.86 44 ePDIFF **Pdif** **13 06 58.2 +0.7**
PRU ePP **PP** **13 11 36.0 -2.1**
PRU AMS AMS 13 58 40.0
comp=Z,7µm,18.9s
BRG Berggiesshubel 111.88 43 ⇓Pif **Pdif** **13 07 00.0 +2.4**
BRG Amp 13 07 14.0
comp=Z,5.2nm,1.3s
BRG Berggiesshubel 111.88 43 ePKP **PKiKP** **13 10 58.5 +4.0**
BRG Amp 13 11 00.6
comp=Z,2.7nm,0.8s
BRG Berggiesshubel 111.88 43 P PKiKP 13 11 06.2 +12
BRG Amp 13 11 11.1
comp=Z,3.9nm,0.9s
BRG PP **PP** **13 11 38.0 -0.1**
BRG Amp 13 11 39.9
comp=Z,21nm,1.7s
BRG Berggiesshubel 111.88 43 PS PS 13 21 08.0 -2.7
BRG Berggiesshubel 111.88 43 SS SS 13 27 28.0 +13
BRG Amp 13 56 56.0
comp=N,2.2nm,17.4s
BRG Amp 13 56 57.0
comp=Z,7.8nm,19.6s
BRG Amp 13 57 11.0
comp=E,4.2nm,20.1s
O22K Cooper Landing 111.89 329 IAMs_20 IAMs_20 14 05 38.9
comp=Z,4µm,19.0s
SML Sawmill 111.90 330 IAMs_20 IAMs_20 14 07 29.0
comp=Z,3µm,20.0s
GOET G??ttrup 111.95 36 *i* P **Pdif** **13 07 00.1 +2.4**
GOET *i* 13 11 39.7
GOET IAMs_20 IAMs_20 14 01 00.7
comp=Z,8µm,17.2s
KDAK Kodiak Island 112.02 325 IAMs_20 IAMs_20 13 49 31.2
comp=Z,5µm,18.0s
PVCC Panska Ves 112.10 43 AMS AMS 13 56 20.0
comp=Z,10µm,20.6s
TREC Trest 112.14 45 AMS AMS 14 01 50.0
comp=Z,8µm,17.8s
CNPM China Poot 112.15 327 IAMs_20 IAMs_20 14 03 52.2
comp=Z,3µm,19.0s
RC01 Rabbit Creek A 112.17 329 IAMs_20 IAMs_20 14 00 31.4
comp=Z,4µm,22.0s
SII Sitkinak Islan 112.29 324 IAMs_20 IAMs_20 13 49 09.8
comp=Z,5µm,19.0s
FIS Fire Island 112.41 329 IAMs_20 IAMs_20 14 00 37.3
comp=Z,4µm,22.0s
PRP Porcupine Dome 112.54 334 IAMs_20 IAMs_20 13 57 13.0
comp=Z,4µm,19.0s
HDA Harding Lake 112.55 333 IAMs_20 IAMs_20 13 56 59.3
comp=Z,4µm,20.0s
KRUC Moravsky 112.59 45 ePP **PP** **13 11 43.1 -0.2**
CAPN Captain Cook N 112.66 329 IAMs_20 IAMs_20 14 06 00.8
comp=Z,4µm,21.0s
ILAR Eielson Array 112.70 333 PKiKP **PKiKP** **13 10 55.9 +0.2**
comp=Z,1.4nm,0.9s,baz=169,slow=0.9,SNR=6.3
SUA Susitna One 112.78 329 IAMs_20 IAMs_20 14 08 18.8
comp=Z,4µm,20.0s
VRAC Vranov 112.81 45 ⇑P PKiKP 13 11 39.4 +43
VRAC Vranov 112.81 45 ePP **PP** **13 11 44.8 -0.1**
RND Reindeer 112.84 332 IAMs_20 IAMs_20 14 09 04.8
comp=Z,3µm,19.0s
DIVS Divibare 112.90 51 IAMs_20 IAMs_20 14 02 36.9
comp=Z,6µm,18.0s
FYU Fort Yukon 112.93 335 IAMs_20 IAMs_20 13 57 14.4
comp=Z,5µm,19.0s
UPC Upice 112.94 44 eP **Pdif** **13 07 03.8 +1.5**
UPC MLR MLR
comp=Z,8µm,19.8s
UPC Upice 112.94 44 ePDIFF **Pdif** **13 07 03.8 +1.5**
UPC AMS AMS 13 57 20.0
comp=Z,8µm,19.8s
CUT Chulitna 112.98 330 IAMs_20 IAMs_20 14 08 13.7
comp=Z,4µm,21.0s
CCB Clear Creek Bu 112.99 333 IAMs_20 IAMs_20 13 57 20.9
comp=Z,5µm,19.0s
CHVC Chvalec 112.99 44 AMS AMS 13 57 20.0
comp=Z,8µm,19.9s
Q19K Cape Douglas, 113.01 326 IAMs_20 IAMs_20 13 49 18.6
comp=Z,3µm,20.0s
COP Copenhagen 113.02 38 eP **Pdif** **13 07 05.5 +3.0**
COP *i* 13 11 42.9
COP IAMs_20 IAMs_20 13 57 24.8
comp=Z,40µm,20.8s
WRH Wood River Hil 113.02 333 IAMs_20 IAMs_20 13 59 37.4
comp=Z,4µm,18.0s
MCK McKinley 113.02 332 IAMs_20 IAMs_20 13 57 07.8
comp=Z,3µm,19.0s
DPC Dobruska-Polom 113.06 44 eP **Pdif** **13 07 04.3 +1.4**
DPC *e* 13 11 44.2
DPC MLR MLR
comp=Z,7µm,19.5s
DPC Dobruska-Polom 113.06 44 ePDIFF **Pdif** **13 07 04.3 +1.4**
DPC ePP **PP** **13 11 44.2 -2.4**
DPC AMS AMS 13 57 30.0
comp=Z,7µm,19.5s
POKR Poker Flat Res 113.06 334 IAMs_20 IAMs_20 13 56 44.8
comp=Z,4µm,20.0s
OSTC Ostas 113.07 44 ePDIFF **Pdif** **13 07 04.3 +1.4**
OSTC AMS AMS 13 57 20.0
comp=Z,8µm,19.3s
COLA College 113.11 333 IAMs_20 IAMs_20 13 57 53.2
comp=Z,4µm,18.0s
TCOL CIGO, UAF Yank 113.11 333 IAMs_20 IAMs_20 13 57 53.2

comp=Z,4µm,18.0s
KRLC Kraliky 113.22 45 *e*P **Pdif 13 07 05.2 +1.6**
KRLC MLR MLR
comp=Z,6µm,19.7s
KRLC Kraliky 113.22 45 *e*PDIFF **Pdif 13 07 05.2 +1.6**
KRLC AMS AMS 13 58 10.0
comp=Z,6µm,19.7s
MDM Murphy Dome 113.29 333 IAMs_20 IAMs_20 13 58 08.0
comp=Z,4µm,19.0s
SKT Skwentna 113.34 330 IAMs_20 IAMs_20 13 53 42.1
comp=Z,3µm,19.0s
BWN Browne 113.42 332 IAMs_20 IAMs_20 13 56 05.4
comp=Z,4µm,22.0s
TRF Thorofare Moun 113.44 331 IAMs_20 IAMs_20 14 09 24.6
comp=Z,3µm,18.0s
NEA2 Nenana 113.45 333 IAMs_20 IAMs_20 13 59 50.8
comp=Z,4µm,18.0s
H24K Noodor Dome 113.55 334 IAMs_20 IAMs_20 13 56 32.5
comp=Z,5µm,21.0s
MORC Moravsky Berou 113.56 45 ⇓P PKiKP 13 11 46.5 +49
MORC Moravsky Berou 113.56 45 *e*PP **PP 13 11 47.0 -3.2**
I23K Minto, Yukon-K 113.81 333 IAMs_20 IAMs_20 13 57 55.5
comp=Z,3µm,20.0s
O19K Port Alsworth 113.84 327 IAMs_20 IAMs_20 14 09 13.0
comp=Z,4µm,21.0s
OKC Ostrava-Krasne 113.94 45 *e*PP **PP 13 11 47.0 -5.9**
OKC AMS AMS 14 07 10.0
comp=Z,6µm,16.8s
N19K Bonanza Creek 114.16 328 IAMs_20 IAMs_20 14 09 30.7
comp=Z,4µm,19.0s
CAST Castle Rocks 114.17 331 IAMs_20 IAMs_20 13 58 01.7
comp=Z,3µm,20.0s
H23K Yukon River 114.17 334 IAMs_20 IAMs_20 13 57 02.0
comp=Z,4µm,20.0s
MLY Manley 114.29 333 IAMs_20 IAMs_20 14 06 34.3
comp=Z,4µm,18.0s
PSZ Piszkesteto 114.30 48 ⇑P **PP 13 11 49.3 -6.3**
VTS Vitosha 114.52 54 ⇓P **PP 13 11 55.6 -1.7**
M19K Big River Lodg 114.55 329 IAMs_20 IAMs_20 14 09 29.2
comp=Z,3µm,19.0s
BZS Buzias 114.55 50 ⇓P **PP 13 11 55.1 -2.2**
NWAO Narrogin (SRO) 114.57 188 IAMs_20 IAMs_20 13 56 23.4
comp=Z,4µm,20.0s
ALE Alert 114.65 1 IAMs_20 IAMs_20 13 59 44.6
comp=Z,5µm,22.0s
N18K Kilae Creek 114.75 327 IAMs_20 IAMs_20 14 09 53.3
comp=Z,4µm,18.0s
I21K Tanana 114.83 333 IAMs_20 IAMs_20 14 07 07.5
comp=Z,5µm,18.0s
L19K White Mountain 114.85 329 IAMs_20 IAMs_20 13 57 16.7
comp=Z,4µm,21.0s
K20K Telida 114.96 330 IAMs_20 IAMs_20 14 09 32.8
comp=Z,4µm,18.0s
NIE Niedzica 115.09 46 *e*PKiKP **PKiKP 13 11 01.4 +0.6**
NIE *e*PP **PP 13 11 59.2 -1.9**
NIE *e*PS **PS 13 21 46.8 +6.5**
NIE *e*L L 13 56 35.2
comp=Z,4µm,23.7s
H21K Melozitna Rive 115.33 333 IAMs_20 IAMs_20 14 00 26.9
comp=Z,4µm,19.0s
TOLK Toolik Lake Re 115.34 337 IAMs_20 IAMs_20 13 59 11.1
comp=Z,5µm,20.0s
HNR Honiara 115.42 239 IAMs_20 IAMs_20 13 49 01.6
comp=Z,4µm,22.0s
DRGR 115.68 49 ⇓P **PP 13 12 01.7 -3.6**
TRPA Tarpa 116.03 48 ⇓P **PP 13 12 03.3 -4.4**
UZH Uzhgorod 116.05 47 *e*P **Pdif 13 07 16.4 +0.2**
UZH *e*PS **PKKPab 13 21 39.1 +3.2**
UZH MLR MLR
comp=N,1µm,21.0s
UZH MLR MLR
comp=E,1µm,21.0s
UZH MLR MLR
comp=Z,520nm,21.0s
CTAO Charters Tower 116.38 220 IAMs_20 IAMs_20 13 51 34.3
comp=Z,5µm,20.0s
ARR Arges 116.44 51 ⇑P **PP 13 12 07.6 -3.1**
BMR Baia Mare 116.48 49 ⇑P **PP 13 12 05.6 -5.3**
MIDW Midway 116.67 288 IAMs_20 IAMs_20 13 53 26.6
comp=Z,4µm,18.0s
VOIR 116.74 51 ⇓P **PP 13 12 07.2 -5.6**
DOPR Dopca 117.14 51 ⇓P **PP 13 12 12.1 -3.4**
MLR Muntele Rosu 117.36 52 ⇑P **PP 13 12 13.8 -3.4**
MLR Muntele Rosu 117.36 52 PKP **PKPdf 13 11 04.4 -1.0**
comp=Z,0.9nm,0.4s,baz=139,slow=2.8,SNR=4.9
MLR PP **PP 13 12 11.7 -5.5**
comp=Z,49nm,1.3s,baz=282,slow=4.6,SNR=12
LVV L'vov 117.52 47 *e*P **Pdif 13 07 18.5 -4.2**
LVV *e* 13 17 49.9
LVV MLR MLR
comp=Z,5µm,22.0s
BURAR Bucovina Array 117.57 49 ⇓P **PP 13 12 15.1 -3.4**
ISR Istrita 117.63 52 ⇓P **PP 13 12 14.8 -4.2**
VRI Vrincioaia 118.00 51 ⇓P **PP 13 12 16.5 -4.9**
SUW Suwalki 118.27 42 *e*PKiKP **PKiKP 13 11 07.2 +0.5**
SUW *e*PS **PS 13 22 13.6 +4.6**
SUW *e*L L 14 02 26.8
comp=Z,9µm,19.4s
A21K Barrow 118.54 339 IAMs_20 IAMs_20 14 01 31.7
comp=Z,4µm,22.0s
CFR Carcaliu 118.72 53 ⇓P **PP 13 12 22.0 -4.5**
TPGR Topolog 118.81 53 ⇓P **PP 13 12 22.8 -4.4**
LEF Lefka 118.83 65 ⇓P **PP 13 12 22.8 -4.7**
CSS Mathiatis 119.11 65 IAMs_20 IAMs_20 14 06 54.4
comp=Z,5µm,19.0s
ASAR Alice Springs 119.14 207 PKP **PKPdf 13 11 08.5 -1.1**
comp=Z,2.3nm,0.8s,baz=144,slow=2.2,SNR=20
ASAR PKKPbc **PKKPbc 13 21 22.1 -0.3**
comp=Z,1.6nm,0.7s,baz=329,slow=3.0,SNR=11
ASAR Alice Springs 119.14 207 PKIKP **PKPdf 13 11 07.6 -2.0**
ASAR Alice Springs 119.14 207 PKPdf **PKPdf 13 11 07.6 -2.0**
KIS Kishinev 119.72 51 *e*P **Pdif 13 07 31.0 -1.5**
KIS Kishinev 119.72 51 *e*PP PP 13 12 22.0 -11
comp=Z,210nm,7.3s
KIS Kishinev 119.72 51 *e*PS PS 13 22 24.0 +1.8
KIS *e*LR LR 13 54 46.0
comp=Z,2µm,18.0s
KIS Kishinev 119.72 51 *e*P **Pdif 13 07 31.0 -1.5**
KIS *e*PS **PS 13 22 24.0 +1.8**
KIS pmax pmax
comp=Z,210nm,7.3s
SORM Soroca 119.73 49 ⇓P **PP 13 12 26.2 -7.2**
ANM Nome 120.08 330 IAMs_20 IAMs_20 14 14 34.3
comp=Z,3µm,19.0s
KBS Kingsbay 120.26 13 *i* P **Pdif 13 07 40.5 +6.3**
KBS IAMs_20 IAMs_20 14 04 08.9
comp=Z,8µm,18.7s
KBS Kingsbay 120.26 13 IAMs_20 IAMs_20 14 07 29.5
comp=Z,3µm,19.0s
NACGM Naroch 120.53 42 *i* PKP PKPdf 13 11 02.9 -8.2
BR131 Keskin Array S 120.92 60 ⇓*i* PKIKP **PKPdf 13 11 12.0 -0.5**
BRTR Keskin Array B 120.92 60 PKP **PKPdf 13 11 12.3 -0.2**
comp=Z,2.8nm,0.8s,baz=198,slow=1.7,SNR=13
BRTR Keskin Array B 120.92 60*c i* PKIKP **PKPdf 13 11 11.8 -0.7**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 120.96 47 PKP **PKPdf 13 11 11.0 -1.0**
comp=Z,2.8nm,0.7s,baz=263,slow=2.7,SNR=11
AKASG Malin Array Be 120.96 47 PKIKP **PKPdf 13 11 11.0 -1.0**
AKBB Malin Array Si 120.96 47 ⇓*i* PKIKP **PKPdf 13 11 11.0 -1.0**
AKBB MLR MLR
comp=Z,7µm,21.0s
MNK Minsk 121.06 42 *i* PKP **PKPdf 13 11 11.4 -0.7**
MNK *i* PKP **PKPdf 13 11 11.4 -0.7**
MNK *i* PKP **PKPdf 13 11 11.4 -0.7**
baz=257
MNK *i* PP **PP 13 12 40.4 -1.9**
MNK *i* SKP 13 14 46.8
MNK *i* PKS **PKSdf 13 14 48.1 -0.4**
MNK *i* PPP PPP 13 15 14.2
MNK *i* SKS **SKSdf 13 18 23.1 -1.0**
MNK *i* PS **PS 13 22 32.2 -1.9**
MNK *i* SSS SSS 13 33 41.7
MNK *i* LQ LQ 13 51 05.6
MNK *i* LR LR 13 58 06.5
MNK *i* LRM MLR 14 06 04.7
comp=Z,7µm,17.4s
MNK *i* LRM MLR 14 06 22.8
comp=N,3µm,17.4s
MNK *i* LRM MLR 14 06 30.5
comp=E,963nm,17.4s
FINES FINESS Array B 121.52 34 PKP **PKPdf 13 11 12.5 -0.2**
comp=E,3.2nm,0.8s,baz=75,slow=2.2,SNR=6.2
FINES PKKPbc **PKKPbc 13 21 13.4 -0.6**
comp=E,3.2nm,0.8s,baz=94,slow=4.3,SNR=6.0

FINES FINESS Array B 121.52 34 PKIKP **PKPdf 13 11 10.8 -1.9**
FINES FINESS Array B 121.52 34 **PKPdf 13 11 10.8 -1.9**
WRA Warramunga Arr 122.30 210 PKP **PKPdf 13 11 14.7 -1.0**
comp=E,6.0nm,0.7s,baz=132,slow=1.4,SNR=46
WRA PKKPbc **PKKPbc 13 21 10.7 +0.1**
comp=E,0.9nm,0.8s,baz=342,slow=2.4,SNR=2.7
WRA Warramunga Arr 122.30 210 PKIKP **PKPdf 13 11 13.1 -2.6**
WRA Warramunga Arr 122.30 210 PKPdf **PKPdf 13 11 13.1 -2.6**
WRAB Tennant Creek 122.30 210*d i* PKIKP **PKPdf 13 11 15.3 -0.4**
ARCES ARCESS Array B 122.42 24 PKP **PKiKP 13 11 15.1 +0.6**
comp=E,3.1nm,0.8s,baz=303,slow=1.8,SNR=1.6
ARCES PKKPbc **PKKPbc 13 21 09.6 -1.1**
comp=E,4.7nm,1.0s,baz=85,slow=4.3,SNR=6.0
ARCES ARCESS Array B 122.42 24 PKIKP **PKPdf 13 11 11.9 -2.4**
ARCES ARCESS Array B 122.42 24 **PKPdf 13 11 11.9 -2.4**
GAMB Gambell 122.68 329 IAMs_20 IAMs_20 14 08 33.8
comp=Z,3µm,20.0s
KEV Kevo 122.96 24 IAMs_20 IAMs_20 13 59 11.8
comp=Z,4µm,21.0s
ADK Adak 123.41 314 IAMs_20 IAMs_20 14 02 02.4
comp=Z,5µm,18.0s
ANN Anapa 124.98 55 *i* PKIKP **PKPdf 13 11 18.9 -1.0**
ANN *e* 13 13 04.3
ANN *e*PPP PPP 13 15 47.5
ANN pmax pmax
comp=Z,42nm,1.2s
APA Apatity 125.22 27 ⇓*i* PKIKP **PKPdf 13 11 17.9 -1.8**
APA pmax pmax
comp=Z,11nm,1.0s
APA MLR MLR
comp=Z,4µm,19.0s
LVZ Lovozero 125.69 27 IAMs_20 IAMs_20 14 02 45.2
comp=Z,5µm,21.0s
KTUT Trabzon 125.76 60 ⇓P **PP 13 13 09.8 -4.6**
H11S2 WAKE ISLAND Hyt 125.86 270 T T 15 30 23.9
baz=117,slow=75,SNR=581
H11S1 WAKE ISLAND Hyt 125.87 270 T T 15 30 25.5
baz=117,slow=75,SNR=373
H11S3 WAKE ISLAND Hyt 125.88 270 T T 15 30 27.3
baz=117,slow=75,SNR=434
OBN Obninsk 126.12 42 PKP **PKPdf 13 11 21.4 -0.3**
comp=Z,2.8nm,0.4s,baz=302,slow=1.7,SNR=7.3
OBN Obninsk 126.12 42*c i* PKIKP **PKiKP 13 11 22.8 +0.6**
OBN pmax pmax
comp=Z,66nm,1.7s
OBN MLR MLR
comp=Z,8µm,19.0s
OBN Obninsk 126.12 42 **PKPdf 13 11 19.4 -2.3**
H11N3 WAKE ISLAND Hyt 126.23 272 T T 15 30 53.1
baz=117,slow=75,SNR=62
H11N1 WAKE ISLAND Hyt 126.24 272 T T 15 30 59.9
baz=117,slow=75,SNR=28
H11N2 WAKE ISLAND Hyt 126.25 272 T T 15 30 54.3
baz=117,slow=75,SNR=200
WAKE Wake Island 126.25 271 IAMs_20 IAMs_20 13 55 59.9
comp=Z,5µm,20.0s
SOC Sochi 126.32 57 *e*PKIKP **PKPdf 13 11 21.5 -1.0**
SOC *e* 13 13 14.7
SOC *e*PS **PS 13 23 15.5 -5.5**
SOC pmax pmax
comp=Z,26nm,0.9s
SOC MLR MLR
comp=Z,2µm,17.0s
MOS Moscow 126.78 42 *i* PKIKP **PKPdf 13 11 22.0 -1.0**
MOS *e*PPP PPP 13 16 09.5
MOS *e*PPS PPS 13 24 54.6
MOS MLR MLR
comp=N,3µm,19.0s
MOS MLR MLR
comp=E,7µm,19.0s
MOS MLR MLR
comp=Z,10µm,19.0s
FITZ Fitzroy Crossi 127.16 201 PKP **PKPdf 13 11 24.9 -0.1**
comp=Z,4.9nm,0.7s,baz=189,slow=6.5,SNR=15
BCA Borcka 127.23 60 ⇑P **PKPdf 13 11 23.6 -0.8**
VORD Divnogorie 127.28 48 *e*PKIKP **PKPdf 13 11 22.6 -1.5**
VORD pmax pmax
comp=Z,20nm,1.7s
KLMR Klimovskoe 127.96 35 *e*PKIKP **PKPdf 13 11 24.8 -0.3**
KLMR 13 13 25.6
KLMR pmax pmax
comp=E,101nm,1.5s
KLMR MLR MLR
comp=Z,6µm,19.0s
KLMR Klimovskoe 127.96 35 *e*PKPdf **PKPdf 13 11 24.8 -0.3**
KLMR AMP 13 11 44.1
comp=Z,101nm,1.5s
KLMR PP **PP 13 13 25.7 -2.6**
KLMR LQ LQ 13 49 23.2
KLMR LQ LQ 13 49 23.2
KLMR LR LR 13 53 44.4
KLMR AMP 14 07 56.4
comp=Z,6µm,18.9s
SHA1 Shidzhatmaz 128.44 57⇑ *e*P **Pdif 13 08 14.2 +2.5**
KIV Kislovodsk 128.50 57 ⇓P **PP 13 13 27.6 -5.0**
KIV Kislovodsk 128.50 57 *e*P **Pdif 13 08 10.3 -1.5**
KIV *i* 13 11 26.5
KIV *e* 13 13 30.3
KIV *e*PS PS 13 23 37.3 -3.0
KIV pmax pmax
comp=Z,16nm,1.0s
KIV MLR MLR
comp=Z,5µm,23.0s
KIV Kislovodsk 128.50 57 IAMs_20 IAMs_20 14 09 30.0
comp=Z,4µm,20.0s
KBZ Khabaz 128.61 57 PKP **PKPdf 13 11 26.9 0.0**
comp=Z,7.4nm,1.0s,baz=336,slow=1.7,SNR=6.0
KBZ Khabaz 128.61 57⇑ *e*P **Pdif 13 08 11.8 -0.3**
VRH Novokhopyorsk 128.83 48 *e*PKIKP **PKPdf 13 11 25.5 -1.5**
VRH pmax pmax
comp=Z,30nm,1.7s
NCK Nalchik 129.07 58⇓ *i* PKIKP **PKiKP 13 11 31.0 +2.5**
GNI Garni 129.26 62 PKP **PKiKP 13 11 29.3 0.0**
comp=Z,5.3nm,0.5s,baz=169,slow=2.5,SNR=4.9
GNI Garni 129.26 62⇓ *i* PKIKP **PKiKP 13 11 29.2 0.0**
GNI MLR MLR
comp=Z,6µm,21.0s
GNI Garni 129.26 62 **PKPdf 13 11 28.6 +0.1**
SAKB Bahrain 129.87 82 P **PKPdf 13 11 29.6 -0.2**
PRGR Permogore 130.86 34 *e*PKIKP **PKiKP 13 11 31.4 -0.1**
PRGR pmax pmax
comp=Z,29nm,1.3s
BILL Bilibino 131.32 335*de*PKIKP **PKPdf 13 11 31.1 -0.2**
BILL pmax pmax
comp=Z,30nm,1.3s
BILL Bilibino 131.32 335 IAMs_20 IAMs_20 14 14 18.8
comp=Z,4µm,19.0s
AKT Akhty 131.74 61 *e*PKIKP **PKiKP 13 11 36.8 +2.7**
AKT *e* 13 14 00.6
AKT pmax pmax
comp=Z,55nm,1.6s
MAK Makhachkala 131.81 59 *i* P **Pdif 13 08 20.2 -6.2**
MAK *i* 13 11 30.1
MAK *e*SS SS 13 31 27.1 -2.9
MAK *e*SSS SSS 13 36 19.8
MAK pmax pmax
comp=Z,242nm,1.2s
MZWR Madinat Zayed 131.85 86 P **PKPdf 13 11 33.9 +0.3**
BELG Belogornoye 132.54 46*de*PKIKP **PKiKP 13 11 34.6 -0.5**
BELG MLR MLR
comp=Z,895nm,19.0s
KIRV Kirov 133.13 38*c i* PKIKP **PKPdf 13 11 34.0 -0.9**
GENI Genyem 133.86 227 PKP PKiKP 13 11 48.7 +10
ASHO Ashiyiah 134.04 86 P **PKPdf 13 11 37.6 -0.3**
SNR=5.6
ASHO Ashiyiah 134.04 86 PKPdf **PKPdf 13 11 37.6 -0.3**
SNR=5.6
SOHO SOHO 134.24 87 P **PKPdf 13 11 36.3 -1.8**
UOSS Minazif 134.26 85 P **PKPdf 13 11 36.3 -1.9**
BSY Bisya 134.26 89 P **PKPdf 13 11 37.8 -0.5**
SNR=8.5
BSY Bisya 134.26 89 PKPdf **PKPdf 13 11 37.8 -0.5**
SNR=8.5
WSAR Wadi Sarin 135.67 89 PKP **PKPdf 13 11 38.9 -2.0**
comp=Z,3.5nm,0.8s,baz=332,slow=1.7,SNR=2.6
WSAR PP **PP 13 14 19.7 +0.7**
comp=Z,7.3nm,1.0s,baz=260,slow=7.3,SNR=4.3
JLN Jalan Bani Buh 135.90 91 P **PKPdf 13 11 39.4 -1.9**
SNR=6.6
JLN Jalan Bani Buh 135.90 91 PKPdf **PKPdf 13 11 39.4 -1.9**
SNR=6.6
MMRI Maumere 137.12 201 IAMs_20 IAMs_20 14 05 18.0
comp=Z,4µm,21.0s
EDFI Ende, Flores 137.18 200 PKP **PKPdf 13 11 37.0 -7.1**
LBFI Labuhan Bajo, 137.93 198 PKP **PKiKP 13 11 54.8 +7.4**

FAKI Fak Fak 138.14 218 IAMs_20 IAMs_20 14 04 43.7
comp=Z,5µm,21.0s
ARU Arti 138.38 39 *i* PKIKP **PKPdf 13 11 45.0 +0.2**
ARU 13 14 34.2
ARU MLR MLR
comp=Z,7µm,19.0s
PET Petropavlovsk 138.45 315 *i* PKHKP PKPpre 13 11 35.1
PET *e*SS SS 13 32 43.0 -6.0
PET *e*SSS SSS 13 38 02.5
PET pmax pmax
comp=Z,25nm,1.9s
PET pmax pmax
comp=Z,2µm,17.6s
PEA0B Petropavlovsk- 139.00 316*c i* PKIKP **PKPdf 13 11 47.1 +1.0**
PETK Petropavlovsk- 139.00 316 PKhKP PKPpre 13 11 39.0
comp=Z,1.6nm,0.6s,baz=81,slow=9.6,SNR=6.4
PETK Petropavlovsk- 139.00 316 PKIKP **PKPdf 13 11 43.3 -2.8**
PETK Petropavlovsk- 139.00 316 **PKPdf 13 11 43.3 -2.8**
TIXI Tiksi 139.01 350⇓ *i* PKIKP **PKPdf 13 11 44.8 -0.8**
TIXI Tiksi 139.01 350 IAMs_20 IAMs_20 14 12 59.2
comp=Z,3µm,21.0s
JAGI Jajag, Banyuwa 139.07 189 IAMs_20 IAMs_20 14 10 45.4
comp=Z,3µm,20.0s
GEYT Alibeck 139.15 68 PKP **PKPdf 13 11 44.5 -2.4**
comp=Z,1.7nm,0.4s,baz=9.9,slow=9.2,SNR=3.6
AKTO Aktyubinsk 139.16 49 PKhKP PKPpre 13 11 40.1
comp=Z,1.2nm,0.6s,baz=234,slow=3.1,SNR=4.9
AKTO PKP **PKPdf 13 11 44.5 -1.9**
comp=Z,2.3nm,0.6s,baz=327,slow=4.5,SNR=8.6
AKTO PP **PP 13 14 37.6 -2.4**
comp=Z,3.8nm,0.9s,baz=263,slow=5.3,SNR=4.3
AKTO Aktyubinsk 139.16 49 PKIKP **PKPdf 13 11 41.3 -5.2**
SVE Sverdlovsk 139.38 38 *i* PKIKP **PKiKP 13 11 51.5 +2.6**
SVE *e* 13 17 50.5
SVE *e* 13 32 59.4
SVE pmax pmax
comp=Z,39nm,1.5s
SVE MLR MLR
comp=Z,8µm,21.0s
SVE MLR MLR
comp=E,6µm,20.0s
SKR Severo-Kuril's 140.37 312 *i* PKHKP PKPpre 13 11 41.3
SKR *e* 13 14 48.3
SKR *e*SS SS 13 33 13.9 +2.1
SKR pmax pmax
comp=Z,500nm,7.2s
SKR pmax pmax
comp=Z,300nm,9.5s
SKR MLR MLR
comp=Z,1µm,18.0s
SKR MLR MLR
comp=Z,1µm,19.0s
AB31 Akbulak array 140.54 50 *i* PKHKP PKPpre 13 11 41.2
MA2 Magadan 140.74 327*c i* PKIKP **PKPdf 13 11 48.4 -0.6**
MA2 Magadan 140.74 327 IAMs_20 IAMs_20 14 25 13.3
comp=Z,3µm,19.0s
SMRI Semarang 140.83 184 IAMs_20 IAMs_20 14 10 11.2
comp=Z,4µm,21.0s
BKSI Bulukumba 140.89 199 PKP **PKPdf 13 11 47.4 -3.4**
LEM Lembang 141.11 179 PKP **PKPdf 13 11 50.0 -1.4**
comp=Z,19nm,0.6s,baz=300,slow=9.8,SNR=4.2
LEM Lembang 141.11 179 PKP **PKPdf 13 11 49.1 -2.3**
NRIK Noril'sk 141.12 11 PKhKP PKPpre 13 11 40.2
comp=Z,2.9nm,0.5s,baz=121,slow=5.9,SNR=1.8
NRIK PKP **PKPdf 13 11 48.8 -0.7**
comp=Z,1.7nm,0.3s,baz=8.1,slow=2.8,SNR=6.1
NRIK Noril'sk 141.12 11⇑ *i* PKIKP **PKPdf 13 11 49.0 -0.5**
NRIK Noril'sk 141.12 11 **PKPdf 13 11 46.6 -2.8**
KKSI Kolaka, Sulawe 141.52 202 PKP **PKPdf 13 11 47.3 -4.6**
GUMO Guam 141.58 250 IAMs_20 IAMs_20 14 09 13.4
comp=Z,4µm,18.0s
BNSI Bone 141.77 200 PKP **PKPdf 13 11 48.5 -3.9**
SANI Sanana 141.87 210 PKP **PKPdf 13 11 48.3 -4.2**
KLI Kotabumi 142.94 175 PKP **PKPdf 13 11 51.4 -3.0**
TTSI Tana Toraja 143.14 200 PKP PKPbc 13 11 52.1 +0.5
MDSI Maura Dua 143.26 174 PKP PKPbc 13 11 51.3 -0.6
LHSI Lahat 143.84 172 PKP **PKPdf 13 11 55.9 -0.1**
KSI Kapahiang 143.90 171 PKP PKPab 13 11 52.9 -0.4
LUWI Luwuk 144.06 206 IAMs_20 IAMs_20 14 16 58.9
comp=Z,2µm,20.0s
LUWI Luwuk 144.06 206 PKP **PKiKP 13 12 00.0 +0.1**
MASI Maura Aman, Be 144.35 170 PKP **PKPdf 13 11 56.4 -0.6**
PALK Pallekele 144.41 128 PKP **PKPab 13 11 55.0 -0.2**
comp=Z,24nm,0.9s,baz=178,slow=1.3,SNR=7.1
PALK Pallekele 144.41 128 PKIKP **PKPab 13 11 55.0 -0.2**
PALK Pallekele 144.41 128 PKP **PKiKP 13 12 07.1 +6.4**
PMBI Palembang 144.85 174 IAMs_20 IAMs_20 14 13 37.8
comp=Z,3µm,19.0s
PBKI Pangkalan Bun 145.04 186 PKP **PKiKP 13 12 04.0 +2.0**
KMSI Cibinong 145.07 209 PKP **PKPdf 13 11 58.3 +0.1**
PKKI Palangkaraya 145.22 190 PKP **PKPdf 13 11 58.4 0.0**
MNI Manado 145.49 211 PKP **PKiKP 13 12 01.6 -1.3**
GTOI Gorontalo 145.51 207 PKP **PKiKP 13 12 04.0 +1.1**
BKB Balikpapan 145.61 196 IAMs_20 IAMs_20 14 14 25.9
comp=Z,4µm,20.0s
PPBI Pangkal Pinang 145.70 177 PKP **PKPdf 13 11 59.1 -0.2**
BRVK Borovoye 145.88 41 PKIKP **PKPdf 13 11 56.9 -1.4**
BRVK Borovoye 145.88 41 P **PKPbc 13 11 58.9 0.0**
BVAR Borovoye Array 145.95 41 PKPbc **PKPbc 13 11 59.3 +0.1**
comp=Z,30nm,0.5s,baz=265,slow=5.5,SNR=60
JMBI JAMBI 146.02 172 PKP PKiKP 13 12 12.4 +8.5
PDSI Padang 146.22 166 PKP **PKPbc 13 12 01.3 +0.2**
MPSI Mapaga 146.32 202 PKP **PKPdf 13 12 00.7 +0.4**
MTKI Muara Teweh, K 146.33 192 PKP **PKPab 13 12 02.1 -0.1**
POO Poona 146.36 106 *e*P **PKPab 13 12 02.0 -0.3**
POO Poona 146.36 106⇑ *i*P **PKPdf 13 11 58.0 -2.2**
comp=Z,180nm,1.0s
KUR Kuril'sk 146.70 305*d i* PKP2 **PKPab 13 12 02.8 0.0**
TOLI2 Tolitoli 146.76 204 IAMs_20 IAMs_20 14 16 36.2
comp=Z,3µm,22.0s
RGRI Rengat 147.10 169 PKP PKiKP 13 12 21.2 +15
YAK Yakutsk 147.13 341*c i* PKP2 **PKPbc 13 12 02.1 -0.2**
YAK *e* 13 15 30.0
YAK pmax pmax
comp=Z,364nm,1.1s
YAK pmax pmax
comp=E,52nm,1.3s
YAK pmax pmax
comp=N,72nm,1.4s
YAK pmax pmax
comp=Z,799nm,4.8s
YAK pmax pmax
comp=N,348nm,3.5s
YAK pmax pmax
comp=E,198nm,3.5s
YAK Yakutsk 147.13 341 IAMs_20 IAMs_20 14 21 09.9
comp=Z,3µm,20.0s
KBL Kabul 147.49 75 P **PKPdf 13 12 01.8 -0.1**
SNR=30
KBL Kabul 147.49 75 PKPdf **PKPdf 13 12 01.8 -0.1**
SNR=30
GSI Gunungsitoli 147.65 160 PKP **PKPbc 13 12 06.0 +0.8**
STKI Sintang 147.80 186 PKP **PKPbc 13 12 06.1 +0.5**
MDRS Chennai 148.16 120 eP **PKPdf 13 12 04.1 +0.8**
SBSI Sibolga 148.24 162 PKP **PKPbc 13 12 06.6 -0.2**
YUK Yuzh-Kuril'sk 148.30 303 *e*PKHKP PKPpre 13 11 57.1
YUK *e* 13 15 35.6
YUK *e*PPP PPP 13 18 53.1
YUK *e* 13 28 17.6
YUK *e*SS SS 13 34 43.8 +0.5
YUK *e*SSS SSS 13 40 24.0
YUK MLR MLR
comp=Z,4µm,19.0s
YUK MLR MLR
comp=N,2µm,15.0s
YUK MLR MLR
comp=E,4µm,16.0s
KK31 Karatay Array 148.62 59 PKIKP **PKPdf 13 12 03.6 +0.4**
NKL Nikolayevsk 148.64 321 *i* PKHKP PKPpre 13 12 00.5
OTUK Ortayu 148.76 49 PKIKP **PKPdf 13 12 03.7 +0.4**
KSM Kuching 149.29 184 P **PKPbc 13 12 09.0 -0.5**
TPTI 149.38 158 PKP **PKPab 13 12 19.5 +5.2**
HYB Hyderabad 149.54 112 *e*P **PKPdf 13 12 03.4 -2.1**
HYB Hyderabad 149.54 112 *i* PKP **PKPbc 13 12 09.0 -1.0**
HYB *e*pPKP **PKPab 13 12 15.0 0.0**
HYB *e* 13 12 20.0
HYB *e*PP **PP 13 15 40.0 -2.7**
UGL Uglegorsk 149.56 313 pmax pmax
comp=Z,110nm,2.0s
UGL pmax pmax
comp=Z,2µm,5.0s
UGL pmax pmax
comp=Z,2µm,15.0s
UGL MLR MLR

	comp=E,2μm,22.0s								
UGL					MLR	MLR			
	comp=N,900nm,17.0s								
UGL					MLR	MLR			
	comp=Z,3μm,18.0s								
YSS	**Yuzh-Sakhalins**	**149.80**	**309**	*i*	PKHKP	PKPpre	13 12 05.4		
YSS				*e*			13 15 48.3		
YSS					pmax	pmax			
	comp=Z,700nm,5.4s								
YSS					pmax	pmax			
	comp=Z,50nm,1.1s								
TSI	**Tuntungan**	**150.02**	**161**		PKP	**PKPbc**	**13 12 11.1**	**-0.2**	
SBUM	**Sibu**	**150.07**	**188**		P	**PKPbc**	**13 12 11.0**	**-0.4**	
DAV	**Davao City (W)**	**150.08**	**217**		IAMs_20	IAMs_20	14 18 35.2		
	comp=Z,3μm,19.0s								
KCP	**Kidapawan**	**150.27**	**216**	⇑*i*	P	**PKPbc**	**13 12 11.3**	**-0.7**	
ERM	**Erimo**	**150.56**	**299**	*i*	PKIKP	**PKiKP**	**13 12 14.3**	**+1.9**	
ASAJ	**Asahikawa**	**150.60**	**304**		PKPbc	**PKiKP**	**13 12 12.5**	**0.0**	
	comp=Z,50nm,1.0s,baz=263,slow=4.5,SNR=5.0								
NIL	**Nilore**	**150.84**	**78**		P	**PKPdf**	**13 12 07.2**	**+0.1**	
EKS2	**Erkin-Say**	**151.06**	**59**		P	**PKiKP**	**13 12 13.6**	**0.0**	
	SNR=12								
AML	**Almayashu**	**151.08**	**60**		P	**PKiKP**	**13 12 13.9**	**-0.2**	
	SNR=14								
AML	**Almayashu**	**151.08**	**60**		P	**PKPdf**	**13 12 07.4**	**-0.3**	
JRMM	**Jerantut**	**151.28**	**168**		P	**PKPbc**	**13 12 13.0**	**-1.3**	
SPMM	**Sapulut**	**151.47**	**198**		P	**PKPbc**	**13 12 14.0**	**-0.7**	
USP	**Ospenovka**	**151.47**	**58**		P	**PKiKP**	**13 12 14.3**	**-0.1**	
	SNR=14								
BHPL	**Bhopal**	**151.52**	**101**	*e*	P	**PKPdf**	**13 12 10.7**	**+2.3**	
BHPL				*i*	x	x	13 13 07.7		
KURBB	**Kurchatov Arra**	**151.54**	**41**		PKIKP	**PKPbc**	**13 12 06.3**	**-1.2**	
IPM	**Ipoh**	**151.57**	**165**		P	**PKPbc**	**13 12 14.0**	**-1.0**	
AAK	**Ala-Archa**	**151.59**	**59***c*	*i*	PKIKP	**PKPdf**	**13 12 08.4**	**+0.3**	
AAK	**Ala-Archa**	**151.59**	**59**		P	**PKPdf**	**13 12 07.9**	**-0.2**	
UCH	**Uchtor**	**151.67**	**60**		P	**PKiKP**	**13 12 15.7**	**+0.3**	
	SNR=19								
CHMS	**Chumysh**	**151.71**	**58**		P	**PKPbc**	**13 12 14.7**	**+0.2**	
	SNR=10								
GRNR	**Gornyy**	**152.11**	**320**	⇑*i*	PKIKP	**PKPbc**	**13 12 15.2**	**+0.1**	
GRNR					pmax	pmax			
	comp=Z,20nm,1.3s								
KZA	**Kyzart**	**152.24**	**60**		P	**PKiKP**	**13 12 16.8**	**+0.3**	
	SNR=9.2								
KULM	**Kulim**	**152.27**	**164**		P	**PKPbc**	**13 12 16.0**	**-0.5**	
TKM2	**Tokmak 2**	**152.33**	**58**		P	**PKPbc**	**13 12 13.8**	**-2.3**	
	SNR=15								
TKM2	**Tokmak 2**	**152.33**	**58**		PKIKP	**PKPdf**	**13 12 08.3**	**-1.0**	
ZALV	**Zalesovo Beam**	**152.72**	**31**		PKP	**PKPdf**	**13 12 09.2**	**+0.1**	
	comp=Z,5.2nm,0.9s,baz=307,slow=3.0,SNR=8.4								
ZALV					PKPbc	**PKPbc**	**13 12 16.2**	**0.0**	
	comp=Z,30nm,0.6s,baz=312,slow=3.1,SNR=34								
KSH	**Kashi**	**153.12**	**65**		PKPbc	**PKPdf**	**13 12 10.5**	**+0.1**	
KSH					PP	**PP**	**13 16 02.3**	**-1.0**	
KSH					AMB	AMB			
	comp=Z,3μm,11.6s								
KSH					LR	LR			
	comp=Z,3μm,23.7s								
KSH					LR	LR			
	comp=Z,3μm,24.2s								
KSH					LR	LR			
	comp=Z,5μm,26.5s								
BHK	**Bhakra**	**153.16**	**83**	*ex*		**PKPbc**	**13 12 16.0**	**-2.0**	
DHRM	**DHARAMSHALA**	**153.19**	**81**	*eP*		**PKPdf**	**13 12 12.5**	**+1.6**	
NDI	**New Delhi**	**153.23**	**90**	*eP*		**PKPdf**	**13 12 11.0**	**+0.2**	
MDOK	**Medeo**	**153.31**	**57**		PKIKP	**PKPdf**	**13 12 10.4**	**-0.2**	
SMLA	**Simla**	**153.74**	**84**	*eP*		**PKPdf**	**13 12 12.5**	**+1.1**	
BOD	**Bodaibo**	**154.13**	**353**	*e*	PKIKP	**PKPdf**	**13 12 10.3**	**-0.8**	
BOD					pmax	pmax			
	comp=Z,132nm,1.6s								
DDI	**Dehra Dun**	**154.33**	**86**	*eP*		**PKPdf**	**13 12 13.6**	**+1.3**	
TRTT	**Trang**	**154.47**	**160**		PKP	**PKPab**	**13 12 31.0**	**-4.4**	
ZEA	**Zeya**	**154.52**	**333**	*e*	PKIKP	**PKPdf**	**13 12 10.8**	**-1.0**	
ZEA				*e*			13 35 43.5		
ZEA					pmax	pmax			
	comp=Z,20nm,2.0s								
ZEA					pmax	pmax			
	comp=E,100nm,12.3s								
ZEA					pmax	pmax			
	comp=N,200nm,10.4s								
ZEA					pmax	pmax			
	comp=Z,500nm,9.5s								
MJAR	**Matsushiro Arr**	**154.81**	**288**		PKP	**PKPdf**	**13 12 12.8**	**0.0**	
	comp=Z,6.4nm,1.3s,baz=93,slow=3.7,SNR=6.1								
MJAR					PKPab	**pPKPab**	**13 12 38.0**	**-0.7**	
	comp=Z,9.2nm,1.1s,baz=121,slow=2.4,SNR=6.2								
MAT	**Matsushiro**	**154.82**	**288**	*eP*	KP	**PKPdf**	**13 12 11.5**	**-1.3**	
PDGK	**Podgornoye**	**154.99**	**56**		PKIKP	**PKPdf**	**13 12 11.7**	**-1.3**	
MAKZ	**Makanchi**	**155.35**	**46**		PKIKP	**PKPdf**	**13 12 09.0**	**-4.2**	
KLR	**Kul'dur**	**155.48**	**321**		PKP	**PKPdf**	**13 12 13.2**	**-0.1**	
	comp=Z,4.7nm,1.0s,baz=9.0,slow=19								
KLR	**Kul'dur**	**155.48**	**321***c*	*i*	PKIKP	**PKPdf**	**13 12 10.8**	**-2.4**	
MK31	**Makanchi Array**	**155.54**	**46**	*i*	PKIKP	**PKPdf**	**13 12 12.5**	**-1.0**	
MKAR	**Makanchi Array**	**155.54**	**46**		PKP	**PKPdf**	**13 12 12.8**	**-0.6**	
	comp=Z,2.0nm,0.9s,baz=278,slow=0.9,SNR=8.8								
MKAR					PKPab	**PKPab**	**13 12 38.9**	**-0.5**	
	comp=Z,13nm,0.7s,baz=295,slow=3.4,SNR=10								
INU	**Inuyama**	**155.78**	**285**		IAMs_20	IAMs_20	14 15 07.2		
	comp=Z,3μm,20.0s								
DGPR	**DIGLIPUR**	**156.47**	**140**	*eP*		**PKPdf**	**13 12 13.6**	**-1.9**	
DGZ	**Jazzator, Alta**	**156.77**	**35***c*	*i*	PKIKP	**PKPdf**	**13 12 15.0**	**-0.2**	
VLA	**Vladivostok**	**158.33**	**307***c*	*i*	PKIKP	**PKPdf**	**13 12 16.0**	**-1.1**	
BOK	**Bokaro**	**158.71**	**108**	*eP*		**PKPdf**	**13 12 16.6**	**-1.6**	
MDJ	**Mudanjiang**	**159.19**	**312**		PKP	**PKPdf**	**13 12 17.9**	**-0.2**	
MDJ					PP	**PP**	**13 16 36.4**	**+0.1**	
MDJ					LR	LR			
	comp=Z,3μm,19.2s								
MDJ					LR	LR			
	comp=Z,4μm,20.2s								
MDJ					LR	LR			
	comp=Z,6μm,20.2s								
PHET	**Kaeng Krachan**	**159.23**	**156**		P	PKPab	13 13 07.7	+12	
PATY	**Pattaya**	**159.64**	**159**		P	PKPab	13 13 11.0	+13	
IRK	**Irkutsk**	**159.86**	**7**	*e*	PKP2	**PKPab**	**13 12 50.6**	**-7.1**	
IRK				*e*	S	**PP**	**13 16 40.0**	**+1.1**	
IRK					pmax	pmax			
	comp=Z,66nm,1.8s								
CIT	**Chita**	**159.86**	**350**	*e*	PKIKP	**PKPdf**	**13 12 17.8**	**-0.9**	
CIT				*e*			13 12 28.0		
CIT				*e*			13 12 57.4		
WMQ	**Urumqi**	**160.31**	**48**		PKP	**PKPdf**	**13 12 19.5**	**0.0**	
WMQ					PKPab	**pPKPab**	**13 13 01.8**	**-0.3**	
WMQ					PKS	PP	13 15 53.4	-49	
WMQ					PP	PP	13 16 45.8	+3.3	
WMQ					SS	SS	13 36 56.8	+3.2	
WMQ					AMB	AMB			
	comp=Z,2μm,11.1s								
WMQ					LR	LR			
	comp=Z,4μm,16.5s								
WMQ					LR	LR			
	comp=Z,6μm,19.5s								
WMQ					LR	LR			
	comp=Z,5μm,17.9s								
ZAK	**Zakamensk**	**161.56**	**10**	*e*	PKP2	**PKPab**	**13 12 59.9**	**-5.4**	
ZAK					pmax	pmax			
	comp=Z,46nm,1.5s								
ZAK					pmax	pmax			
	comp=Z,18nm,1.6s								
UTHA	**Uthaitani**	**161.60**	**153**		PKP	**PKPdf**	**13 12 28.6**	**+7.0**	
CN2	**Changchun**	**162.15**	**315**	*e*	PKP	**PKPdf**	**13 12 18.1**	**-3.2**	
CN2				*e*	PP	**PP**	**13 16 52.3**	**+0.2**	
CN2					SKS	**SKSdf**	**13 19 21.6**	**-4.8**	
CN2					SKKS	**SKKSac**	**13 23 39.1**	**-1.6**	
CN2				*e*	SS	**SS**	**13 37 11.3**	**-1.2**	
CN2					AMB	AMB			
	comp=Z,730nm,17.0s								
CN2					LR	LR			
	comp=Z,1μm,20.0s								
CN2					LR	LR			
	comp=Z,3μm,20.0s								
CN2					LR	LR			
	comp=Z,3μm,21.0s								
GTK	**Tadong**	**162.41**	**101**	*i*	x	x	13 13 20.9		
KSRS	**Korea Array**	**162.91**	**293**		PKP	**PKPdf**	**13 12 22.1**	**-0.1**	
	comp=Z,3.2nm,1.0s,baz=2.9,slow=0.6,SNR=8.9								
KSRS					PKPab	**sPKPab**	**13 13 14.7**	**+0.3**	
	comp=Z,9.5nm,1.0s,baz=89,slow=4.1,SNR=9.0								
UBPT	**Khong Chiam**	**162.92**	**171**		PKP	PKPdf	13 12 31.6	+8.7	
AGT	**Agartala**	**162.99**	**115**	*eP*		**PKPdf**	**13 12 23.2**	**+0.5**	
AGT				*i*	x	x	13 13 11.0		
MHMT	**Maesarieng**	**163.25**	**145**		PKP	**PKPdf**	**13 12 28.9**	**+5.8**	
MHMT	**Maesarieng**	**163.25**	**145**		P	**PKPdf**	**13 12 29.0**	**+5.8**	
PHIT	**Phitsanulok**	**163.46**	**153**		PKP	**PKPdf**	**13 12 29.7**	**+6.4**	
PHIT	**Phitsanulok**	**163.46**	**153**		P	**PKPdf**	**13 12 29.7**	**+6.4**	
	comp=Z,257nmcomp=Z,8.7nm,0.9s								
INCN	**Inchon**	**163.90**	**294**		P	**PKPdf**	**13 12 22.7**	**-0.6**	
CM13	**Chiang Mai Arr**	**163.93**	**147**		PKP	**PKPdf**	**13 12 27.2**	**+3.4**	
CM13	**Chiang Mai Arr**	**163.93**	**147**		P	**PKPdf**	**13 12 27.2**	**+3.4**	
	comp=Z,140nmcomp=Z,6.6nm,1.4s								
CM05	**Chiang Mai Arr**	**163.93**	**147**		PKP	**PKPdf**	**13 12 26.7**	**+2.9**	
CM05	**Chiang Mai Arr**	**163.93**	**147**		P	**PKPdf**	**13 12 26.0**	**+2.2**	
	comp=Z,93nmcomp=Z,7.1nm,1.5s								
CM04	**Chiang Mai Arr**	**163.94**	**147**		PKP	**PKPdf**	**13 12 26.6**	**+2.8**	
CM04	**Chiang Mai Arr**	**163.94**	**147**		P	**PKPdf**	**13 12 26.7**	**+2.9**	
	comp=Z,151nmcomp=Z,8.7nm,1.2s								
CM01	**Chiang Mai Arr**	**163.95**	**147**		PKP	**PKPdf**	**13 12 29.7**	**+5.9**	
CM01	**Chiang Mai Arr**	**163.95**	**147**		P	**PKPdf**	**13 12 29.0**	**+5.2**	
	comp=Z,135nmcomp=Z,9.9nm,1.6s								
CM02	**Chiang Mai Arr**	**163.96**	**147**		PKP	**PKPdf**	**13 12 28.6**	**+4.8**	
CM02	**Chiang Mai Arr**	**163.96**	**147**		P	**PKPdf**	**13 12 28.6**	**+4.8**	
	comp=Z,115nmcomp=Z,11nm,1.3s								
CM31	**Chiang Mai Arr**	**163.98**	**147**		P	**PKPdf**	**13 12 22.6**	**-1.3**	
	SNR=10								
CM31	**Chiang Mai Arr**	**163.98**	**147**		PKPdf	**PKPdf**	**13 12 22.6**	**-1.3**	
	SNR=10								
CMAR	**Chiang Mai Arr**	**163.98**	**147**		PKP	**PKPdf**	**13 12 23.8**	**0.0**	
	comp=Z,5.2nm,1.1s,baz=253,slow=2.2,SNR=12								
CM09	**Chiang Mai Arr**	**163.99**	**147**		PKP	**PKPdf**	**13 12 30.6**	**+6.7**	
CM09	**Chiang Mai Arr**	**163.99**	**147**		P	**PKPdf**	**13 12 30.7**	**+6.8**	
	comp=Z,130nmcomp=Z,8.7nm,1.1s								
UTTA	**Uttaradit**	**164.02**	**153**		PKP	**PKPdf**	**13 12 25.0**	**+1.2**	
UTTA	**Uttaradit**	**164.02**	**153**		P	**PKPdf**	**13 12 25.1**	**+1.2**	
	comp=Z,5.6nm,0.9s								
CM36	**Chiang Mai Arr**	**164.10**	**147**		P	**PKPdf**	**13 12 24.0**	**0.0**	
CM35	**Chiang Mai Arr**	**164.27**	**147**		P	**PKPdf**	**13 12 24.0**	**-0.1**	
CHTO	**Chiang Mai**	**164.29**	**146**		PKP	**PKPdf**	**13 12 26.3**	**+2.2**	
CHTO	**Chiang Mai**	**164.29**	**146**		P	**PKPdf**	**13 12 22.8**	**-1.3**	
CMMT	**Chiang Mai**	**164.29**	**146**		PKP	**PKPdf**	**13 12 26.1**	**+2.0**	
CMMT	**Chiang Mai**	**164.29**	**146**		P	**PKPdf**	**13 12 26.2**	**+2.0**	
	comp=Z,962nmcomp=Z,17nm,1.5s								
CM33	**Chiang Mai Arr**	**164.29**	**146**		P	**PKPdf**	**13 12 24.0**	**-0.1**	
SHL	**Shillong**	**164.35**	**111**	*e*	P	**PKPdf**	**13 12 23.2**	**-1.0**	
SHL				*i*	x	x	13 13 18.4		
SHL	**Shillong**	**164.35**	**111**		P	**PKPdf**	**13 12 22.4**	**-1.8**	
	SNR=13								
SHL	**Shillong**	**164.35**	**111**		PKPdf	**PKPdf**	**13 12 22.4**	**-1.8**	
	SNR=13								
SNY	**Shenyang**	**164.39**	**312**	⇑	PKP	**PKPdf**	**13 12 22.4**	**-1.1**	
SNY					SS	SS	13 37 39.3	+3.5	
SNY					AMB	AMB			
	comp=Z,1μm,12.0s								
SNY					LR	LR			
	comp=Z,1μm,22.0s								
SNY					LR	LR			
	comp=Z,3μm,19.4s								
SNY					LR	LR			
	comp=Z,4μm,18.8s								
SONM	**Songino Array**	**164.41**	**4**		PKP	**PKPdf**	**13 12 23.8**	**+0.3**	
	comp=Z,0.9nm,0.7s,baz=57,slow=5.3,SNR=7.2								
SONM					PKPab	**PKPab**	**13 13 18.8**	**+0.9**	
	comp=Z,12nm,1.1s,baz=340,slow=2.1,SNR=11								
SONM					PP	**PP**	**13 17 06.3**	**+3.0**	
	comp=Z,3.6nm,1.1s,baz=332,slow=6.2,SNR=3.7								
SONM	**Songino Array**	**164.41**	**4**		PKIKP	**PKPdf**	**13 12 21.1**	**-2.4**	
SONM							13 13 14.8		
SONM	**Songino Array**	**164.41**	**4**			**PKPdf**	**13 12 21.1**	**-2.4**	
SONM					PKPab	**PKPab**	**13 13 14.8**	**-3.0**	
ULN	**Ulaanbaatar**	**164.41**	**3**		P	**PKPdf**	**13 12 24.3**	**+0.7**	
NONG	**Nongkai**	**165.17**	**161**		PKP	**PKPdf**	**13 12 25.4**	**+0.5**	
LSA	**Lhasa**	**165.27**	**96**		PKP	**PKPdf**	**13 12 25.3**	**0.0**	
LSA					LR	LR			
	comp=Z,2μm,19.9s								
LSA					LR	LR			
	comp=Z,5μm,25.6s								
LSA					LR	LR			
	comp=Z,5μm,25.6s								
KOHI	**KOHIMA**	**166.16**	**115**	*e*	P	**PKPdf**	**13 12 25.8**	**+0.1**	
KOHI				*i*	x	x	13 13 25.4		
ITAN	**ITANAGAR**	**166.54**	**109**	*e*	P	**PKPdf**	**13 12 25.8**	**0.0**	
QIZ	**Qiongzhong**	**166.71**	**187**		PKP	**PKPdf**	**13 12 25.3**	**-0.8**	
QIZ					PP	**PP**	**13 17 17.3**	**+2.2**	
QIZ					SKKS		13 24 08.3		
QIZ					AMB	AMB			
	comp=Z,940nm,14.5s								
QIZ					LR	LR			
	comp=Z,2μm,20.4s								
QIZ					LR	LR			
	comp=Z,2μm,23.5s								
QIZ					LR	LR			
	comp=Z,3μm,21.1s								
DL2	**Dalian**	**167.13**	**305**		PKP	**PKPdf**	**13 12 25.3**	**-0.5**	
DL2					PP	**PP**	**13 17 17.4**	**-1.1**	
DL2					SKKS		13 24 02.3		
DL2					SS	**SS**	**13 38 01.9**	**-2.3**	
DL2					AMB	AMB			
	comp=Z,830nm,8.8s								
DL2					LR	LR			
	comp=Z,2μm,19.8s								
DL2					LR	LR			
	comp=Z,2μm,19.0s								
DL2					LR	LR			
	comp=Z,3μm,17.9s								
QZH	**Quanzhou**	**168.21**	**234**	*i*	PKP	**PKPdf**	**13 12 27.6**	**+0.6**	
QZH					PP	**PP**	**13 17 27.9**	**+3.9**	
QZH					SKKS		13 24 06.9		
QZH					SS	**SS**	**13 38 17.3**	**+2.3**	
QZH					LR	LR			
	comp=Z,1μm,17.1s								
QZH					LR	LR			
	comp=Z,1μm,17.0s								
QZH					LR	LR			
	comp=Z,4μm,20.4s								
SSE	**Sheshan**	**168.75**	**267**		PKP	**PKPdf**	**13 12 22.4**	**-4.8**	
SSE					PP	**PP**	**13 17 24.9**	**-2.5**	
SSE					AMB	AMB			
	comp=Z,290nm,14.7s								
SSE					LR	LR			
	comp=Z,540nm,23.1s								
SSE					LR	LR			
	comp=Z,790nm,23.1s								
GZH	**Guangzhou**	**169.72**	**208**		PKP	**PKPdf**	**13 12 27.5**	**-0.5**	
GZH					PKPab	**sPKPab**	**13 13 44.8**	**+0.3**	
GZH					PP	**PP**	**13 17 33.8**	**+3.0**	
GZH					SS	SS	13 38 33.3	+4.8	
GZH					LR	LR			
	comp=Z,2μm,20.1s								
GZH					LR	LR			
	comp=Z,3μm,19.0s								
BJI	**Beijing**	**169.85**	**322**		PKP	**PKPdf**	**13 12 27.3**	**-0.3**	
BJI					PP	**PP**	**13 17 32.1**	**+0.3**	
BJI					AMB	AMB			
	comp=Z,2μm,13.6s								
BJI					LR	LR			
	comp=Z,4μm,19.1s								
BJI					LR	LR			
	comp=Z,2μm,21.7s								
BJI					LR	LR			
	comp=Z,7μm,22.4s								
GTA	**Gaotai**	**170.24**	**41**	⇑	PKP	**PKPdf**	**13 12 28.0**	**0.0**	
GTA					PKPab	**PKPab**	**13 13 45.0**	**+1.0**	
GTA					PP	**PP**	**13 17 33.3**	**-0.7**	
GTA					SKKS		13 24 20.3		
GTA					SS	**SS**	**13 38 30.5**	**-4.2**	
GTA					AMB	AMB			
	comp=Z,1μm,11.6s								
GTA					LR	LR			
	comp=Z,4μm,22.5s								
GTA					LR	LR			
	comp=Z,4μm,20.4s								
GTA					LR	LR			
	comp=Z,6μm,21.1s								
NJ2	**Nanjing**	**170.84**	**271**	*e*	PKP	**PKPdf**	**13 12 28.1**	**-0.3**	
NJ2					SKKS		13 24 22.1		
NJ2					AMB	AMB			
	comp=Z,1μm,10.0s								
NJ2					LR	LR			
	comp=Z,3μm,21.6s								
NJ2					LR	LR			
	comp=Z,4μm,21.6s								
NJ2					LR	LR			
	comp=Z,6μm,19.1s								
HHC	**Hu-ho-hao-te**	**170.99**	**343**	*e*	PKP	**PKPdf**	**13 12 27.3**	**-1.1**	
HHC					SKKS		13 24 22.0		
HHC					AMB	AMB			
	comp=Z,2μm,8.8s								
HHC					LR	LR			
	comp=Z,4μm,19.6s								
HHC					LR	LR			
	comp=Z,5μm,19.6s								
HHC					LR	LR			
	comp=Z,8μm,18.7s								
KMI	**Kunming**	**171.48**	**145**	⇑	PKP	**PKPdf**	**13 12 29.1**	**-0.1**	
KMI					pPKP	pPKPdf	13 12 31.1	-0.2	
KMI					sPKP		13 12 32.3		
KMI					PP	**PP**	**13 17 37.3**	**-2.8**	
KMI					SS	SS	13 38 40.3	-6.5	
KMI					AMB	AMB			
	comp=Z,2μm,17.1s								
KMI					LR	LR			
	comp=Z,1μm,22.7s								
KMI					LR	LR			
	comp=Z,1μm,25.8s								
KMI					LR	LR			
	comp=Z,3μm,21.7s								
TIA	**Tai'an**	**171.53**	**300**		PKP	**PKPdf**	**13 12 27.8**	**-0.8**	
TIA					AMB	AMB			
	comp=Z,970nm,9.8s								
TIA					LR	LR			
	comp=Z,3μm,18.1s								
TIA					LR	LR			
	comp=Z,4μm,17.2s								
TIA					LR	LR			
	comp=Z,4μm,19.1s								
BTO	**Baotou**	**171.54**	**350**	*e*	PKP	**PKPdf**	**13 12 27.6**	**-1.0**	
BTO					LR	LR			
	comp=Z,7μm,23.7s								
BTO					LR	LR			
	comp=Z,7μm,21.8s								
TIY	**Taiyuan**	**173.50**	**328**	⇑*i*	PKP	**PKPdf**	**13 12 29.3**	**-0.2**	
TIY					PKPab	**sPKPab**	**13 14 02.8**	**+1.7**	
TIY					PP	**PP**	**13 17 49.3**	**-0.5**	
TIY					SKKS		13 24 40.9		
TIY					SS	**SS**	**13 39 10.3**	**+4.3**	
TIY					AMB	AMB			
	comp=Z,1μm,7.8s								
TIY					LR	LR			
	comp=Z,6μm,19.0s								
TIY					LR	LR			
	comp=Z,3μm,16.7s								
TIY					LR	LR			
	comp=Z,6μm,18.4s								
GYA	**Guiyang**	**174.08**	**168**	⇑	PKP	**PKPdf**	**13 12 29.4**	**-0.7**	
GYA					PKPab	**pPKPab**	**13 14 02.8**	**-0.4**	
GYA					PP	**PP**	**13 17 51.9**	**-0.3**	
GYA					SKKS		13 24 43.6		
GYA					SS	**SS**	**13 39 05.3**	**-5.6**	
GYA					AMB	AMB			
	comp=Z,2μm,18.1s								
GYA					LR	LR			
	comp=Z,3μm,19.7s								
GYA					LR	LR			
	comp=Z,2μm,17.9s								
GYA					LR	LR			
	comp=Z,4μm,19.9s								
WHN	**Wuhan**	**174.35**	**254**	⇓	PKP	**PKPdf**	**13 12 30.5**	**+0.6**	
WHN					PKPab	**sPKPab**	**13 14 08.6**	**+3.4**	
WHN					PP	**PP**	**13 18 00.8**	**+5.7**	
WHN					SKKS		13 24 40.9		
WHN					AMB	AMB			
	comp=Z,4μm,15.8s								
WHN					LR	LR			
	comp=Z,13μm,17.8s								
WHN					LR	LR			
	comp=Z,4μm,18.3s								
WHN					LR	LR			
	comp=Z,13μm,18.9s								
LZH	**Lanzhou**	**174.84**	**41**	⇑	PKP	**PKPdf**	**13 12 30.1**	**-0.1**	
LZH					sPKP		13 12 38.6		
LZH					PP	**PP**	**13 17 56.0**	**-0.7**	
LZH					SKKS		13 24 45.3		
LZH					AMB	AMB			
	comp=Z,2μm,10.0s								
LZH					LR	LR			
	comp=Z,6μm,17.9s								
LZH					LR	LR			
	comp=Z,5μm,18.2s								
LZH					LR	LR			
	comp=Z,5μm,20.6s								
CD2	**Chengdu**	**176.09**	**109**		PKP	**PKPdf**	**13 12 30.8**	**+0.3**	
CD2					pPKP	sPKPdf	13 12 34.4	+1.1	
CD2					PKPab	**sPKPab**	**13 14 15.3**	**+2.3**	
CD2					PP	**PP**	**13 18 04.1**	**+0.6**	
CD2					SKKS		13 24 48.6		
CD2					SS	**SS**	**13 39 32.3**	**-0.8**	
CD2					AMB	AMB			
	comp=Z,2μm,9.0s								
CD2					LR	LR			
	comp=Z,6μm,19.8s								
CD2					LR	LR			
	comp=Z,5μm,20.4s								
CD2					LR	LR			
	comp=Z,9μm,18.6s								
XAN	**Xi'an**	**178.10**	**338**		PKP	**PKPdf**	**13 12 30.4**	**-0.3**	
XAN					sPKP		13 12 39.6		
XAN					SKS	**SKSdf**	**13 19 28.0**	**-6.1**	
XAN					SKKS	**SKKSac**	**13 24 57.1**	**-1.6**	
XAN					AMB	AMB			
	comp=Z,3μm,11.5s								
XAN					LR	LR			
	comp=Z,3μm,20.1s								
XAN					LR	LR			
	comp=Z,4μm,19.6s								
XAN					LR	LR			
	comp=Z,4μm,21.6s								

*NIC **19** 12:58:51.4±0.0,34°.38N×26°.53E,h18km±4km, MI3.4/3*
*ATH **19** 12:58:56.2,34°.90N×26°.30E,h68km±6km, ML2.5/5, Error ellipse: s-maj=9.2km s-min=2.7km az=159.0*
ISC 19 12:58:52.3±1.4,**34°.35N**±0°.07×**26°.44E**±0°.05,**h33**km,**n19,**
σ1§03/21,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res

ALFC				AML	AML	13 01 00.8	
	comp=N,0.1nm,0.3s						
ALFC				AML	AML	13 01 01.7	
	comp=N,0.2nm,0.2s						
ASGA	**Asgata**	**5.63**	**84**	P	**Pn**	**13 00 14.9**	**+1.2**
MVOU	**Mavrovouni**	**5.96**	**82**	P	**Pn**	**13 00 19.1**	**+0.9**

*IDC **19** 13:01:03.2±0.5,32°.39S×71°.83W,h0km,mb4.6/13, mb1 4.7/17,mb1mx4.6/31,mbtmp4.6/17,ML4.8/3, Error ellipse: s-maj=21.5km s-min=14.7km az=83.0*
*SJA **19** 13:01:05.9±1.4,32°.40S×72°.00W,h10km,ML4.7,MW4.5*
*NEIC **19** 13:01:07.2±2.4,32°.39S±0°.04×71°.87W±0°.08,h35km±1km, Error ellipse: s-maj=11.7km s-min=6.5km az=269.0*
*GUC **19** 13:01:07.4±0.8,32°.44S×71°.83W,h32km±5km,ML4.7*
ISC 19 13:01:06.1±1.5,32°.36S±0°.03×71°.98W±0°.05,h23km±10km, **n123,σ1§33**/127,**mb5.0**/21,**4D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**0.61**	**109**	⇓*iP*	**Pb**	**13 01 17.7**	**-0.4**
VA06				*i* S	**Sb**	**13 01 26.0**	**-0.3**
VA06				IAML		13 01 30.4	
	comp=E,88μm,0.5s						
VA01	**Torpederas**	**0.72**	**157**	⇓*iP*	**Pb**	**13 01 19.5**	**-0.4**
VA01				*i* S	**Sb**	**13 01 29.3**	**-0.1**
VA01	**Torpederas**	**0.72**	**157**		**Pb**	**13 01 19.4**	**-0.5**
VA01	**Torpederas**	**0.72**	**157**	*i* P	**Pb**	**13 01 19.6**	**-0.4**
VA01				*eS*	**Sn**	**13 01 30.0**	**-1.2**
VA01				IAML		13 01 31.7	
	comp=Z,10μm,0.7s						
ROC1	**El Roble**	**1.02**	**127**	*i* P	**Pn**	**13 01 24.6**	**-0.6**
ROCH	**El Roble**	**1.02**	**127**	⇓*iP*	**Pn**	**13 01 24.5**	**-0.7**
ROCH				*i* S	**Sn**	**13 01 38.4**	**-0.6**
ROCH				IAML		13 01 41.6	
	comp=N,61μm,0.3s						
VA03	**San Esteban**	**1.27**	**109**	*eP*	**Pn**	**13 01 28.2**	**-0.3**
VA03				*i* S	**Sb**	**13 01 45.0**	**-0.4**
VA03				IAML		13 01 48.3	
	comp=N,34μm,0.5s						
VA03	**San Esteban**	**1.27**	**109**	Pn	**Pn**	**13 01 26.1**	**-2.4**
VA03	**San Esteban**	**1.27**	**109**	*i* P	**Pn**	**13 01 28.4**	**-0.2**
VA03				*eS*	**Sb**	**13 01 46.9**	**+1.5**
VA03				IAML		13 01 51.8	
	comp=Z,26μm,0.8s						
VA05	**Santo Domingo**	**1.33**	**167**	*eP*	**Pn**	**13 01 29.1**	**-0.1**
VA05				*i* S	**Sb**	**13 01 47.9**	**+1.0**
VA05	**Santo Domingo**	**1.33**	**167**	Pn	**Pn**	**13 01 28.2**	**-1.1**
MT05	**Renca**	**1.47**	**135**	⇓*iP*	**Pb**	**13 01 31.7**	**-1.0**
MT05				*i* S	**Sb**	**13 01 50.7**	**-0.3**
MT05				IAML		13 01 53.3	
	comp=N,71μm,0.3s						
MT05	**Renca**	**1.47**	**135**	Pn	**Pn**	**13 01 29.5**	**-1.7**
MT05	**Renca**	**1.47**	**135**	*i* P	**Pb**	**13 01 32.0**	**-0.7**
MT01	**Popeta**	**1.62**	**158**	*eP*	**Pn**	**13 01 33.6**	**+0.3**
MT01				*i* S	**Sn**	**13 01 53.4**	**-0.1**
MT01				IAML		13 02 05.5	
	comp=E,13μm,0.3s						
MT01	**Popeta**	**1.62**	**158**	Pn	**Pn**	**13 01 32.0**	**-1.2**
MT01	**Popeta**	**1.62**	**158**	*i* P	**Pb**	**13 01 35.4**	**+0.1**
MT01				*eS*	**Sb**	**13 01 57.8**	**+2.4**
MT01				IAML		13 02 03.1	
	comp=Z,12μm,1.4s						
MT09	**Talagante**	**1.64**	**150**	*eP*	**Pb**	**13 01 35.1**	**-0.6**
MT09				*i* S	**Sb**	**13 01 55.5**	**-0.5**
MT09				IAML		13 01 59.0	
	comp=N,23μm,0.5s						
MT09	**Talagante**	**1.64**	**150**	Pn	**Pn**	**13 01 32.5**	**-1.2**
CO06	**Fray Jorge**	**1.71**	**10**	Pn	**Pn**	**13 01 33.7**	**-0.7**
CO03	**El Pedregal**	**1.87**	**36**	Pn	**Pn**	**13 01 36.4**	**-0.4**
BO01	**Tunca**	**2.16**	**160**	Pn	**Pn**	**13 01 39.8**	**-0.9**
AUSP	**Uspallata**	**2.20**	**87**	*i* P	**Pb**	**13 01 44.9**	**-0.4**
AUSP				*eS*	**Sb**	**13 02 15.6**	**+3.4**
RTLS	**Leoncito**	**2.34**	**77**	*i* P	**Pb**	**13 01 47.5**	**-0.3**
RTLS				*eS*	**Sb**	**13 02 19.4**	**+3.0**
RTLS				IAML		13 02 22.3	
	comp=Z,2μm,0.9s						
GO04	**Tololo Observa**	**2.40**	**25**	Pn	**Pn**	**13 01 46.1**	**+1.8**
CO05	**La Serena**	**2.51**	**15**	Pn	**Pn**	**13 01 46.1**	**+0.6**
ARCO	**CERRO ARCO**	**2.62**	**101**	*i* P	**Pb**	**13 01 51.4**	**-1.0**
ARCO				*eS*	**Sb**	**13 02 22.2**	**-1.9**
ARCO				IAML		13 02 28.9	
	comp=Z,4μm,0.7s						
BO02	**Sierra Bellavi**	**2.62**	**158**	Pn	**Pn**	**13 01 43.9**	**-3.3**
ASAL	**Salagasta**	**2.67**	**96**	*i* P	**Pb**	**13 01 52.5**	**-0.7**
ASAL				*eS*	**Sb**	**13 02 29.7**	**+4.2**
ASAL				IAML		13 02 36.2	
	comp=Z,2μm,1.2s						
AAGR	**Agrelo**	**2.75**	**106**	*i* P	**Pb**	**13 01 54.1**	**-0.5**
AAGR				IAML		13 02 34.2	
	comp=Z,2μm,1.9s						
RTCV	**Cerro Valdivia**	**2.96**	**81**	*i* P	**Pb**	**13 01 56.0**	**-2.1**
RTCV				IAML		13 02 39.3	
	comp=Z,922nm,3.3s						
ACCO	**Cerro Coronel**	**3.05**	**55**	*i* P	**Pb**	**13 01 58.0**	**-1.9**
ACCO				IAML		13 02 50.6	
	comp=Z,2μm,1.1s						
RTLL	**Cerro Villicun**	**3.15**	**72**	*i* P	**Pb**	**13 01 58.9**	**-2.5**
ACDV	**Cuesta del Vie**	**3.28**	**49**	*i* P	**Pb**	**13 02 02.6**	**-1.1**
ACDV				IAML		13 03 10.6	
	comp=Z,1μm,1.4s						
AC04	**Llanos de Chal**	**4.21**	**11**	Pn	**Pn**	**13 02 08.1**	**-0.8**
GO03	**Copiap**	**4.98**	**18**	Pn	**Pn**	**13 02 19.3**	**-0.3**
GO03	**Copiap**	**4.98**	**18**	*i* P	**Pn**	**13 02 23.5**	**+4.0**
AC06	**Mina Casimiro**	**5.18**	**16**	Pn	**Pn**	**13 02 22.8**	**+0.5**
H03S3	**Juan Fernandez**	**6.00**	**254**	T	T	13 09 03.3	
	baz=83,slow=75,SNR=54						
H03S1	**Juan Fernandez**	**6.00**	**254**	T	T	13 09 02.0	
	baz=83,slow=75,SNR=55						
H03S2	**Juan Fernandez**	**6.01**	**254**	T	T	13 09 02.8	
	baz=83,slow=75,SNR=64						
AC02	**Maricunga**	**6.04**	**25**	Pn	**Pn**	**13 02 34.7**	**+0.3**
AC02	**Maricunga**	**6.04**	**25**	*i* P	**Pn**	**13 02 37.5**	**+3.1**
AC02				IAML		13 04 10.1	
	comp=Z,843nm,0.8s						
LC01	**Cunco**	**6.53**	**179**	Pn	**Pn**	**13 02 40.3**	**-0.3**
LC01	**Cunco**	**6.53**	**179**	*i* P	**Pn**	**13 02 41.2**	**+0.6**
LC01				IAML		13 04 41.4	
	comp=Z,202nm,1.1s						
CYA	**Choya**	**6.61**	**55**	*i* P	**Pn**	**13 02 42.8**	**+0.9**
CYA				IAML		13 04 11.8	
	comp=Z,546nm,1.1s						
LR03	**Panguipulli**	**7.26**	**182**		**Pn**	**13 02 49.4**	**-1.4**
PLCA	**Paso Flores**	**8.44**	**173**	Pn	**Pn**	**13 03 07.7**	**+0.8**
	comp=Z,3.7nm,0.3s,baz=338,slow=10,SNR=18						
PLCA	**Paso Flores**	**8.44**	**173**		**Pn**	**13 03 06.8**	**-0.1**
LL04	**Puerto Octay**	**8.54**	**182**	Pn	**Pn**	**13 03 07.5**	**-0.8**
LVC	**Limon Verde**	**10.09**	**16**	Pn	**Pn**	**13 03 31.6**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=203,slow=7.7,SNR=0.7						
GO07	**Milladeo Hill,**	**10.82**	**187**	Pn	**Pn**	**13 03 37.2**	**-2.3**
CPUP	**Villa Florida**	**14.11**	**69**	Pn	**Pn**	**13 04 27.3**	**+2.7**
	comp=Z,1.1nm,0.3s,baz=248,slow=12,SNR=1.7						
LPAZ	**La Paz**	**16.38**	**13**	Pn	**Pn**	**13 04 55.4**	**+0.3**
	comp=Z,1.4nm,0.3s,baz=183,slow=6.2,SNR=27						
LPAZ	**La Paz**	**16.38**	**13**	Pn	**Pn**	**13 04 52.6**	**-2.5**
SIV	**San Ignacio**	**19.07**	**34**	P	**P**	**13 05 26.9**	**-0.2**
	comp=Z,1.9nm,0.3s,baz=197,slow=10,SNR=7.0						
NNA	**Nana**	**20.76**	**346**	P	Pn	13 05 47.7	-0.2
	comp=Z,12nm,0.8s,baz=194,slow=14,SNR=3.5						
SAML	**Samuel**	**24.68**	**21**	P	**P**	**13 06 23.9**	**-1.5**
BDFB	**Brasilia**	**27.40**	**58**	P	**P**	**13 06 49.6**	**-0.5**
	comp=Z,37nm,0.7s,baz=254,slow=18,SNR=1.4						
BDFB	**Brasilia**	**27.40**	**58**	P	**P**	**13 06 47.8**	**-2.3**
CAP2	**Capurgana**	**41.10**	**352**	P	**P**	**13 08 46.5**	**-1.8**
SRBA	**San Rafael, Bu**	**42.76**	**343**	P	**P**	**13 09 00.3**	**-1.7**
GCMP	**Grenada, Carri**	**45.72**	**14**	*e*	P	13 09 16.0	-10
CRPR	**Cabo Rojo, PR**	**50.30**	**6**	P	**P**	**13 09 59.8**	**-1.0**
CRPR				IAmb	IAmb	13 10 12.9	
	comp=Z,16nm,0.9s						
OBIP	**Obispado Ponce**	**50.38**	**7**	P	**P**	**13 10 01.0**	**-0.5**
BANI	**BANI**	**50.49**	**2**	P	**P**	**13 10 00.4**	**-2.1**
VNA3	**Neumayer Olymp**	**50.86**	**158**	P	**P**	**13 10 05.9**	**+1.3**
VNA1	**Neumayer--Stat**	**51.16**	**157**	P	**P**	**13 10 08.4**	**+1.6**
VNA2	**Neumayer--Watz**	**51.50**	**158**	P	**P**	**13 10 10.8**	**+1.4**
	baz=286,slow=8.5						
SNAA	**Sanae**	**53.09**	**158**	P	**P**	**13 10 22.5**	**+1.2**
SNAA	**Sanae**	**53.09**	**158**	P	**P**	**13 10 22.3**	**+1.0**
	comp=Z,11nm,0.6s,baz=278,slow=7.3,SNR=57						
SNAA	**Sanae**	**53.09**	**158**		**P**	**13 10 21.7**	**+0.5**
SNAA				IAmb	IAmb	13 10 23.0	
	comp=Z,14nm,0.7s						
QSPA	**South Pole Qui**	**57.87**	**180**	P	**P**	**13 10 54.5**	**-1.4**

VNDA	**Vanda**	**65.72**	**191**	P	**P**	**13 11 49.0**	**+0.7**
	comp=Z,0.8nm,1.0s,baz=129,slow=1.6,SNR=1.5						
TXAR	**Lajitas Array**	**68.33**	**330**	P	**P**	**13 12 06.8**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=154,slow=7.8,SNR=6.3						
TXAR	**Lajitas Array**	**68.33**	**330**	P	**P**	**13 12 05.6**	**0.0**
WVT	**Waverly**	**69.73**	**346**	P	**P**	**13 12 13.1**	**-0.9**
WVT				IAmb	IAmb	13 12 14.7	
	comp=Z,9.1nm,1.0s						
LIC	**Lamto**	**74.21**	**72**	*e*P	**P**	**13 12 41.2**	**-0.2**
	comp=Z,49nm,0.9s						
TIC	**Toumodi**	**74.47**	**72**	*e*P	**P**	**13 12 42.8**	**-0.1**
KIC	**Kosan Boka**	**74.52**	**72**	*e*P	**P**	**13 12 43.4**	**+0.1**
	comp=Z,26nm,0.6s						
DBIC	**Dimbokro**	**74.61**	**72**	P	**P**	**13 12 43.8**	**+0.1**
	comp=Z,14nm,0.6s,baz=238,slow=4.8,SNR=22						
DBIC	**Dimbokro**	**74.61**	**72**	P	**P**	**13 12 41.5**	**-2.2**
MAW	**Mawson**	**74.74**	**164**	P	**P**	**13 12 44.4**	**+0.8**
	comp=Z,9.3nm,1.0s,baz=221,slow=7.8,SNR=15						
MAW	**Mawson**	**74.74**	**164**	P	**P**	**13 12 43.8**	**+0.2**
AUSN	**Aus**	**74.87**	**112**	*i* P	P	13 12 52.0	+6.7
ARMS	**Ukamas**	**76.90**	**115**	*i* P	P	13 12 44.6	-12
G62A	**West of Eustis**	**77.22**	**1**	P	**P**	**13 12 57.3**	**-0.6**
G62A				IAmb	IAmb	13 13 00.5	
	comp=Z,15nm,0.9s						
F64A	**Sherman**	**77.93**	**3**	P	**P**	**13 13 02.6**	**+0.8**
F64A				IAmb	IAmb	13 13 04.4	
	comp=Z,12nm,0.8s						
LMN	**Caledonia Moun**	**78.12**	**5**	P	**P**	**13 13 02.2**	**-0.7**
KOWA	**Kowa**	**79.92**	**66**	P	**P**	**13 13 12.4**	**-1.0**
KOWA				IAmb	IAmb	13 13 14.4	
	comp=Z,11nm,0.7s						
BOSA	**Boshof**	**80.79**	**118**	P	**P**	**13 13 18.1**	**-0.1**
	comp=Z,5.7nm,0.8s,baz=251,slow=2.6,SNR=11						
BOSA	**Boshof**	**80.79**	**118**	P	**P**	**13 13 17.2**	**-1.0**
BOSA				IAmb	IAmb	13 13 28.3	
	comp=Z,18nm,1.1s						
PDAR	**Pinedale Array**	**82.33**	**333**	P	**P**	**13 13 26.9**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=141,slow=5.8,SNR=2.3						
NVAR	**Mina Array Bea**	**82.57**	**325**	P	**P**	**13 13 29.1**	**+1.8**
	comp=Z,1.3nm,0.7s,baz=154,slow=6.0,SNR=9.2						
LBTB	**Lobatse**	**82.95**	**115**	P	**P**	**13 13 29.2**	**-0.5**
LBTB				IAmb	IAmb	13 13 30.6	
	comp=Z,11nm,0.9s						
TORD	**Torodi Ar. Bea**	**83.61**	**70**	P	**P**	**13 13 33.2**	**+0.3**
	comp=Z,9.0nm,0.7s,baz=285,slow=4.8,SNR=46						
TORD	**Torodi Ar. Bea**	**83.61**	**70**	P	**P**	**13 13 32.8**	**-0.1**
TORD				IAmb	IAmb	13 13 42.6	
	comp=Z,11nm,0.8s						
ULM	**Lac du Bonnet**	**84.93**	**345**	P	**P**	**13 13 40.1**	**+1.4**
	comp=Z,2.7nm,0.7s,baz=178,slow=8.9,SNR=2.3						
J08A	**Circle Bar Ran**	**86.53**	**328**	P	**P**	**13 13 46.7**	**-0.3**
J08A				IAmb	IAmb	13 13 49.6	
	comp=Z,6.3nm,0.9s						
SCHQ	**Schefferville**	**86.95**	**3**	P	**P**	**13 13 49.1**	**+0.4**
	comp=Z,8.7nm,0.9s,baz=198,slow=6.1,SNR=3.5						
ASAR	**Alice Springs**	**119.05**	**207**	PKP	**PKPdf**	**13 19 53.1**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=128,slow=1.5,SNR=6.8						
BRTR	**Keskin Array B**	**120.98**	**60**	PKP	**PKiKP**	**13 19 57.0**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=190,slow=3.8,SNR=4.8						
AKASG	**Malin Array Be**	**121.04**	**47**	PKP	**PKPdf**	**13 19 55.1**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=269,slow=2.6,SNR=6.1						
WRA	**Warramunga Arr**	**122.21**	**210**	PKP	**PKPdf**	**13 19 59.7**	**+0.1**
	comp=Z,2.6nm,0.8s,baz=166,slow=2.0,SNR=26						
WRA	**Warramunga Arr**	**122.21**	**210**		**PKPdf**	**13 19 59.6**	**-0.1**
H11S2	**WAKE ISLAND Hyl**	**25.83**	**270**	T	T	15 39 12.8	
	baz=117,slow=74,SNR=14						
H11S1	**WAKE ISLAND Hyl**	**25.84**	**270**	T	T	15 39 13.7	
	baz=117,slow=74,SNR=23						
H11S3	**WAKE ISLAND Hyl**	**25.85**	**270**	T	T	15 39 14.1	
	baz=117,slow=74,SNR=14						
H11N2	**WAKE ISLAND Hyl**	**26.22**	**272**	T	T	15 39 45.6	
	SNR=8.2						
FITZ	**Fitzroy Crossi**	**127.07**	**201**	PKP	**PKPdf**	**13 20 08.8**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=189,slow=5.8,SNR=7.2						
BVAR	**Borovoye Array**	**146.03**	**41**	PKPbc	**PKPab**	**13 20 44.6**	**+0.5**
	comp=Z,9.9nm,0.6s,baz=270,slow=4.3,SNR=39						
YAK	**Yakutsk**	**147.20**	**341**	PKPbc	**PKPbc**	**13 20 46.7**	**+0.1**
	comp=Z,25nm,0.7s,baz=329,slow=0.3,SNR=15						
ASAJ	**Asahikawa**	**150.62**	**304**	PKPbc	**PKPbc**	**13 20 56.0**	**0.0**
	comp=Z,7.7nm,1.0s,baz=116,slow=13,SNR=3.6						
KURBB	**Kurchatov Arra**	**151.63**	**41**	PKPbc	**PKiKP**	**13 20 58.6**	**+0.2**
	comp=Z,10nm,0.6s,baz=303,slow=2.9,SNR=81						
KURK	**Kurchatov**	**151.63**	**41**		**PKiKP**	**13 20 58.6**	**+0.2**
AAK	**Ala-Archa**	**151.66**	**59**	PKPbc	**PKiKP**	**13 20 60.0**	**+0.9**
	comp=Z,14nm,0.6s,baz=194,slow=4.7,SNR=26						
AAK	**Ala-Archa**	**151.66**	**59**		**PKiKP**	**13 20 59.8**	**+0.8**
ZALV	**Zalesovo Beam**	**152.80**	**31**	PKPbc	**PKiKP**	**13 21 01.4**	**+0.6**
	comp=Z,12nm,0.6s,baz=303,slow=3.2,SNR=28						
MJAR	**Matsushiro Arr**	**154.81**	**288**	PKPab	**PKPab**	**13 21 22.5**	**+1.7**
	comp=Z,1.4nm,0.8s,baz=90,slow=0.6,SNR=5.0						
KLR	**Kul'dur**	**155.53**	**320**	PKPbc	PKPdf	13 21 06.9	+10
	comp=Z,0.5nm,0.4s,baz=345,slow=5.2,SNR=3.8						
MKAR	**Makanchi Array**	**155.62**	**46**	PKPbc	PKPdf	13 21 07.1	+9.4
	comp=Z,1.2nm,0.8s,baz=328,slow=1.9,SNR=3.7						
MKAR				PKPab	**PKPab**	**13 21 24.3**	**+0.4**
	comp=Z,5.5nm,0.6s,baz=285,slow=4.1,SNR=18						
KSRS	**Korea Array**	**162.91**	**293**	PKPab	**PKPab**	**13 21 58.5**	**+2.6**
	comp=Z,1.4nm,0.8s,baz=72,slow=4.4,SNR=4.8						
SONM	**Songino Array**	**164.49**	**4**	PKP	**PKPdf**	**13 21 07.7**	**0.0**
	comp=Z,1.5nm,0.9s,baz=17,slow=2.0,SNR=3.2						
SONM				PKPab	**PKPab**	**13 22 03.0**	**+0.6**
	comp=Z,1.9nm,0.9s,baz=326,slow=2.8,SNR=5.0						

*SJA **19** 13:08:54.7±0.7,30°.47S×72°.41W,h12km±3km,ML5.5, MW5.5*
*BJI **19** 13:08:56.5±0.0,30°.89S×72°.68W,h10km,mB5.7/7, Ms6.3/14,Ms7 6.0/14*
*NEIC **19** 13:08:57.3,30°.55S×72°.18W,h18km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.18; $M_{\theta\theta}$0.04; $M_{\phi\phi}$-1.23; $M_{r\theta}$0.32; $M_{r\phi}$0.26; $M_{\theta\phi}$-1.05; Fault plane solution: $M_0$1.65000×10^{17} NP1:φ1=164.75000°, δ65.89000°, λ86.48000°. NP2:φ2=353.31000°, δ24.35000°, λ97.81000°. Principal axes: T 1.6055, Plg69.0000°, Azm68.0000°; N 0.0889, Plg3.0000°, Azm166.0000°; P -1.6944, Plg21.0000°, Azm257.0000°;*
*IDC **19** 13:08:57.7±0.4,30°.57S×71°.87W,h0km,mb4.8/14, mb1 4.9/19,mb1mx4.8/27,mbtmp4.8/19,ML4.6/5,MS5.4/6, Ms1 5.4/6,ms1mx5.1/21 Error ellipse: s-maj=18.9km s-min=13.8km az=80.0*
*NEIC **19** 13:08:57.8±2.4,30°.53S±0°.05×72°.20W±0°.01,h10km±1km, mb5.3/31,Mwr5.4/10,Mww5.6,Mwc5.6(GCMT), Mwr5.7(GUC),Error ellipse: s-maj=8.4km s-min=2.8km az=167.0*
*GUC **19** 13:09:00.3±0.4,30°.62S×71°.91W,h29km±1km,MW5.7*
*VAO **19** 13:09:01.2±0.4,30°.50S×71°.74W,h10km,mb5.2*
*MOS **19** 13:09:02.2±1.6,30°.38S×71°.95W,h33km,mb5.4/17,Error ellipse: s-maj=13.0km s-min=8.4km az=87.7*
*NEIC **19** 13:09:02,30°.67S×72°.05W,h24km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.96; $M_{\theta\theta}$-0.11; $M_{\phi\phi}$-1.85; $M_{r\theta}$-0.07; $M_{r\phi}$0.14; $M_{\theta\phi}$-2.63; Fault plane solution: $M_0$3.25000×10^{17} NP1:φ1=351.00000°, δ18.00000°, λ81.00000°. NP2:φ2=180.00000°, δ72.00000°, λ93.00000°. Principal axes: T 3.3051, Plg63.0000°, Azm95.0000°; N -0.1106, Plg3.0000°, Azm359.0000°; P -3.1946, Plg27.0000°, Azm268.0000°;*
*GCMT **19** 13:09:04.8±0.2,30°.71S±0°.01×72°.18W±0°.01,h23km, MW5.6/130,Moment Tensor Solution. s21,c26; s130,c217; Duration: 1§5 Moment tensor: Scale 10^{17} Nm; M_{rr}2.40±.11; $M_{\theta\theta}$0.04±.05; $M_{\phi\phi}$-2.44±.07; $M_{r\theta}$0.53±.07; $M_{r\phi}$0.30±.03; $M_{\theta\phi}$-1.95±.10; Best double couple: $M_0$3.16800×10^{17} NP1:φ1=359.00000°, δ26.00000°, λ100.00000°. NP2:φ2=168.00000°, δ65.00000°, λ85.00000°. Principal axes: T 3.1400, Plg70.0000°, Azm68.0000°; N 0.0530, Plg4.0000°, Azm170.0000°; P -3.1950, Plg20.0000°, Azm261.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **19** 13:09:04,30°.72S×72°.23W,h23km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.35; $M_{\theta\theta}$0.09; $M_{\phi\phi}$-2.44; $M_{r\theta}$0.36; $M_{\theta\phi}$0.17; $M_{r\phi}$-1.87; Fault plane solution: $M_0$3.07000×10^{17} NP1:φ1=1.00000°, δ26.00000°, λ99.00000°. NP2:φ2=172.00000°, δ64.00000°, λ86.00000°. Principal axes: T 3.0224, Plg70.0000°, Azm73.0000°; N 0.0844, Plg4.0000°, Azm173.0000°; P -3.1068, Plg19.0000°, Azm265.0000°;*
ISC 19 13:09:00.2±0.8,30°.62S±0°.02×72°.04W±0°.03,h19km±3km, **n469,σ1§93**/488,**mb5.2**/31,**MS5.5**/8,**10C-12D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.35**	**100**	⇓*iP*	**Pg**	**13 09 07.4**	**-0.3**
CO06				*i* S	**Sg**	**13 09 12.4**	**-0.4**
CO06	**Fray Jorge**	**0.35**	**100**		**Pg**	**13 09 07.4**	**-0.3**
CO06				Sg	**Sg**	**13 09 12.7**	**-0.2**
CO05	**La Serena**	**0.98**	**45**	⇓*iP*	**Pb**	**13 09 17.5**	**-1.0**
CO05				*i* S	**Sb**	**13 09 30.8**	**-0.3**
CO05	**La Serena**	**0.98**	**45**		**Pb**	**13 09 17.5**	**-1.0**
CO05				Sg	**Sn**	**13 09 32.1**	**0.0**
GO04	**Tololo Observa**	**1.16**	**68**	*eP*	**Pn**	**13 09 20.4**	**-1.1**
GO04				*i* S	**Sb**	**13 09 36.4**	**0.0**
GO04	**Tololo Observa**	**1.16**	**68**		**Pn**	**13 09 20.9**	**-0.7**
GO04	**Tololo Observa**	**1.16**	**68**	*eP*	**Pn**	**13 09 21.6**	**0.0**
GO04				*eS*	**Sg**	**13 09 37.9**	**0.0**
GO04				*eS*	**Sg**	**13 09 37.9**	**0.0**
CO03	**El Pedregal**	**1.18**	**101**	⇓*iP*	**Pn**	**13 09 20.6**	**-1.2**
CO03				*i* S	**Sb**	**13 09 36.0**	**-0.9**
CO03	**El Pedregal**	**1.18**	**101**		**Pn**	**13 09 20.6**	**-1.2**
CO03	**El Pedregal**	**1.18**	**101**	*eP*	**Pn**	**13 09 21.6**	**-0.2**
CO03				*eS*	**Sg**	**13 09 39.4**	**+0.7**
CO03				IAML		13 09 43.7	
	comp=Z,38μm,0.4s						
LCO	**Las Campanas**	**1.98**	**36**	P	**Pn**	**13 09 32.1**	**-0.8**
LCO	**Las Campanas**	**1.98**	**36**	*i* S	**Sn**	**13 09 58.3**	**+1.1**
LCO	**Las Campanas**	**1.98**	**36**		**Pn**	**13 09 32.1**	**-0.8**
LCO	**Las Campanas**	**1.98**	**36**	*eP*	**Pn**	**13 09 32.0**	**-0.8**
VA06	**Catapilco**	**2.04**	**162**	*eP*	**Pn**	**13 09 32.4**	**-1.0**
AROD	**Rodeo**	**2.26**	**79**	*eP*	**Pb**	**13 09 39.4**	**-1.2**
VA01	**Torpederas**	**2.42**	**172**	*eP*	**Pn**	**13 09 35.2**	**-3.4**
VA01	**Torpederas**	**2.42**	**172**		**Pn**	**13 09 35.3**	**-3.4**
VA01	**Torpederas**	**2.42**	**172**	*eP*	**Pn**	13 09 27.4	-11
VA01				*eP*	Pb	13 09 35.0	-8.1
VA01				*eS*	**Sb**	**13 10 12.3**	**-0.2**
VA03	**San Esteban**	**2.49**	**150**	*eP*	**Pn**	**13 09 41.0**	**+1.3**
VA03	**San Esteban**	**2.49**	**150**		**Pn**	**13 09 41.0**	**+1.3**
VA03	**San Esteban**	**2.49**	**150**	*eP*	**Pn**	**13 09 37.9**	**-1.9**
VA03				*eP*	**Pb**	**13 09 43.0**	**-1.3**
VA03				*eS*	**Sn**	**13 10 01.9**	**-7.7**
VA03				IAML		13 10 21.2	
	comp=Z,22μm,0.6s						
AC04	**Llanos de Chal**	**2.55**	**20**	⇑*iP*	**Pn**	**13 09 38.6**	**-1.8**
AC04	**Llanos de Chal**	**2.55**	**20**	Pn	**Pn**	**13 09 38.8**	**-1.7**
AC04	**Llanos de Chal**	**2.55**	**20**	*eP*	Pn	13 09 34.4	-6.1
AC04				*eP*	Pb	13 09 38.7	-6.5
AC04				*eS*	**Sb**	**13 10 15.8**	**-0.3**
ACDV	**Cuesta del Vie**	**2.56**	**81**	*eP*	**Pn**	**13 09 39.4**	**-1.4**
ACDV				*eP*	**Pb**	**13 09 44.0**	**-1.6**
ACDV				*eS*	**Sb**	**13 10 17.4**	**+0.6**
ACDV				IAML		13 10 31.7	
	comp=Z,18μm,0.7s						
ACCO	**Cerro Coronel**	**2.56**	**90**	*eP*	**Pb**	**13 09 44.0**	**-1.7**
RTLS	**Leoncito**	**2.63**	**117**	*eP*	**Pb**	**13 09 45.6**	**-1.2**
RTLS				*eS*	**Sb**	**13 10 17.4**	**-1.5**
RTLS				*eS*	**Sg**	**13 10 22.5**	**-2.3**
RTLS				IAML		13 10 25.4	
	comp=Z,17μm,0.6s						
AUSP	**Uspallata**	**2.78**	**126**	*eP*	**Pb**	**13 09 47.0**	**-2.3**
AUSP				*eS*	**Sg**	**13 10 28.6**	**-0.9**
MT05	**Renca**

PSGCX	**Pisagua**	11.11	9		Pn		13 11 32.6	-5.5		
PSGCX	**Pisagua**	11.11	9	*e*P	Pn		13 11 33.0	-5.1		
TRQA	**Tornquist**	11.14	134	P	**Pn**		**13 11 39.4**	**+1.0**		
TRQA	**Tornquist**	11.14	134		**Pn**		**13 11 39.4**	**+1.0**		
TRQA	**Tornquist**	11.14	134	*e*P	**Pn**		**13 11 39.6**	**+1.2**		
GO07	**Milladeo Hill,**	12.54	185	Pn	**Pn**		**13 11 57.2**	**-0.3**		
ITQB	**Itaqui**	13.38	90		**Pn**		**13 12 07.8**	**-1.2**		
ITQB	**Itaqui**	13.38	90	*e*P	**Pn**		**13 12 07.8**	**-1.2**		
CPUP	**Villa Florida**	13.62	75	Pn	**Pn**		**13 12 13.7**	**+1.4**		
	comp=Z,3.4nm,0.3s,baz=235,slow=12,SNR=11									
CPUP				Sn	**Sn**		**13 14 41.5**	**-1.7**		
	comp=Z,1.1nm,0.3s,baz=224,slow=18,SNR=1.5									
CPUP				LR	LR		13 17 46.6			
	comp=Z,20µm,18.8s,baz=240,slow=39									
CPUP	**Villa Florida**	13.62	75	P	**Pn**		**13 12 13.9**	**+1.6**		
CPUP	**Villa Florida**	13.62	75	Pn	**Pn**		**13 12 13.9**	**+1.6**		
LPAZ	**La Paz**	14.70	15	Pn	**Pn**		**13 12 28.6**	**+0.9**		
	comp=Z,0.9nm,0.3s,baz=190,slow=7.0,SNR=20									
LPAZ	**La Paz**	14.70	15	P	**Pn**		**13 12 27.0**	**-0.7**		
LPAZ	**La Paz**	14.70	15	Pn	**Pn**		**13 12 27.0**	**-0.7**		
LPAZ	**La Paz**	14.70	15	*e*P	**Pn**		**13 12 26.8**	**-1.0**		
PLTB	**Pedras Altas**	15.82	99	Pn	**Pn**		**13 12 41.3**	**-0.5**		
PLTB	**Pedras Altas**	15.82	99	*e*P	**Pn**		**13 12 41.0**	**-0.9**		
CPSB	**Cacapava Do Su**	16.03	94	*e*P	**Pn**		**13 12 43.8**	**-0.8**		
SIV	**San Ignacio**	17.68	37	P	**P**		**13 13 05.9**	**-0.4**		
	comp=Z,4.5nm,0.3s,baz=215,slow=9.1,SNR=37									
SIV				LR	LR		13 21 08.8			
	comp=Z,21µm,18.9s,baz=216,slow=42									
AQDB	**Aquidauana**	17.85	59	*e*P	**Pn**		**13 13 07.0**	**-0.4**		
CNLB	**Canela**	18.40	91	*e*P	**P**		**13 13 14.1**	**-0.2**		
PTGB	**Pitanga**	18.63	76	*e*P	**Pn**		**13 13 17.4**	**+0.2**		
TRCB	**Terra Rica**	18.99	70	*e*P	**P**		**13 13 21.0**	**+0.3**		
NNA	**Nana**	19.07	345	P	**Pn**		**13 13 23.5**	**+1.2**		
	comp=Z,0.2nm,0.3s,baz=197,slow=13,SNR=6.3									
NNA				LR	LR		13 18 39.6			
	comp=Z,5µm,19.2s,baz=160,slow=30									
NNA	**Nana**	19.07	345	P	**P**		**13 13 18.8**	**-2.7**		
NNA				pmax	pmax					
	comp=Z,37nm,1.0s									
NNA	**Nana**	19.07	345	P	**P**		**13 13 18.8**	**-2.7**		
PTLB	**Pontes e Lacer**	19.18	41	*e*P	**P**		**13 13 23.0**	**+0.3**		
TER01	**Tubaro-SC**	20.03	90	*e*P	**P**		**13 13 31.8**	**-0.1**		
PP1B	**Ponte de Pedra**	20.29	54	*e*P	**P**		**13 13 34.4**	**-0.5**		
PCMB	**Pacaembu**	20.68	69	*e*P	**P**		**13 13 39.4**	**+0.4**		
VILB	**Vilhena**	20.70	34	*e*P	**P**		**13 13 39.6**	**+0.2**		
SALV	**Santo Antonio**	20.94	49	*e*P	**P**		**13 13 41.6**	**-0.3**		
TIJ01	**Guaruva-PR**	21.00	81	*e*P	**P**		**13 13 41.2**	**-1.5**		
ETMB	**Extrema**	21.39	16	*e*P	**P**		**13 13 47.2**	**+0.4**		
ITRB	**Iturama**	22.39	66	*e*P	**P**		**13 13 57.2**	**-0.3**		
CZSB	**Cruzeiro do Su**	22.78	358	*e*P	**P**		**13 14 03.2**	**+1.7**		
PET01	**Itanhaem-SP**	22.84	80	*e*P	**P**		**13 14 01.3**	**-0.9**		
SPB	**Sao Paulo**	22.97	78	*e*P	**P**		**13 14 00.5**	**0.0**		
SAML	**Samuel**	23.09	23	*e*P	**P**		**13 14 03.6**	**-1.2**		
BB19B	**Bebedouro**	23.16	71	*e*P	**P**		**13 14 06.0**	**+0.5**		
RCLB	**Rio Claro- Sao**	23.36	75	*e*P	**P**		**13 14 07.5**	**-0.2**		
EFI	**East Falkland**	23.45	158	*e*P	**P**		**13 14 08.4**	**+0.3**		
EFI				pmax	pmax					
	comp=Z,259nm,1.6s									
VAO	**Valinhos**	23.59	77	*e*P	**P**		**13 14 09.3**	**-0.6**		
USHA	**Ushuaia**	24.34	175	P	**P**		**13 14 18.5**	**+2.0**		
	comp=Z,38nm,0.8s,baz=0.4,slow=6.5,SNR=1.9									
PARB	**Paraibuna**	24.59	79	*e*P	**P**		**13 14 19.6**	**+0.3**		
CLDB	**Colider**	24.77	41	*e*P	**P**		**13 14 19.9**	**-0.9**		
IPMB	**Ipameri, GO**	25.03	65	*e*P	**P**		**13 14 22.5**	**-0.8**		
ESAR	**Angra dos Reis**	25.72	80	*e*P	**P**		**13 14 28.3**	**-1.1**		
BSCB	**Bom Sucesso**	26.29	75	*e*P	**P**		**13 14 34.1**	**-0.6**		
TBTG	**Tabatinga, AM**	26.36	5	*e*P	**P**		**13 14 37.4**	**+2.2**		
BDFB	**Brasilia**	26.57	61	P	**P**		**13 14 36.4**	**-0.9**		
	comp=Z,39nm,0.8s,baz=231,slow=8.5,SNR=15									
BDFB				LR	LR		13 25 35.8			
	comp=Z,10µm,18.4s,baz=217,slow=38									
BDFB	**Brasilia**	26.57	61	P	**P**		**13 14 36.1**	**-1.1**		
BDFB				pmax	pmax					
	comp=Z,70nm,0.8s									
BDFB	**Brasilia**	26.57	61	P	**P**		**13 14 36.1**	**-1.1**		
BDFB				IAmb	IAmb		13 14 47.1			
	comp=Z,70nm,0.8s									
SNDB	**Serra Nova Dou**	26.70	50	*e*P	**P**		**13 14 38.1**	**-0.2**		
VAS01	**Vassouras-RJ**	26.86	79	*e*P	**P**		**13 14 39.8**	**+0.1**		
DUB01	**Friburgo-RJ**	27.84	79	*e*P	**P**		**13 14 48.0**	**-0.6**		
NPGB	**Novo Progresso**	28.19	37	*e*P	**P**		**13 14 50.6**	**-1.1**		
DIAM	**Diamantina, MG**	28.50	71	*e*P	**P**		**13 14 54.6**	**+0.1**		
CAM01	**Campos-RJ**	28.55	79	*e*P	**P**		**13 14 53.6**	**-1.2**		
PEXB	**Peixe**	28.67	55	*e*P	**P**		**13 14 56.1**	**+0.2**		
MC01	**Montes Claros**	29.12	68	*e*P	**P**		**13 14 59.3**	**-0.7**		
MACA	**Manacapuru-AM**	29.34	24	*e*P	**P**		**13 15 02.0**	**+0.1**		
JANB	**Januaria**	29.77	65	*e*P	**P**		**13 15 04.8**	**-1.0**		
ALF01	**Guarapari-ES**	29.85	78	*e*P	**P**		**13 15 06.3**	**0.0**		
SJMB	**Sao Joao De Ma**	30.34	74	*e*P	**P**		**13 15 10.2**	**-0.6**		
RIB01	**Linhares ES**	30.71	76	*e*P	**P**		**13 15 13.8**	**-0.3**		
SDBA	**SAO DESIDERIO**	30.94	60	*e*P	**P**		**13 15 16.6**	**+0.5**		
OTAV	**Otavalo**	31.24	340	*e*P	**P**		**13 15 22.3**	**+3.2**		
SMTB	**Santa Maria do**	31.45	52	*e*P	**P**		**13 15 20.8**	**+0.2**		
PRPB	**Parauapebas**	32.05	45	*e*P	**P**		**13 15 25.4**	**-0.4**		
GUA01	**Guaratinga, BA**	32.54	72	*e*P	**P**		**13 15 28.1**	**-2.0**		
BBAC	**Balboa, Cauca**	32.83	350	*e*P	**P**		**13 15 29.6**	**-3.3**		
SOTA	**Rioblanco**	32.86	352	*e*P	**P**		**13 15 37.2**	**+3.8**		
MALB	**Monte Alegre**	33.20	34	*e*P	**P**		**13 15 35.4**	**-0.4**		
POPC	**Popayan, Colom**	33.27	352	*e*P	**P**		**13 15 38.1**	**+1.5**		
CMC01	**Camacan, BA**	33.42	70	*e*P	**P**		**13 15 37.8**	**0.0**		
MARP	**Paez Belalcaza**	33.48	353	*e*P	**P**		**13 15 41.0**	**+2.4**		
NBIT	**Itapeh - BA**	33.72	70	*e*P	**P**		**13 15 41.0**	**+0.6**		
GDU01	**Guandu, BA**	34.28	68	*e*P	**P**		**13 15 44.5**	**-0.8**		
ORTC	**Ortega, Tolima**	34.47	354	*e*P	**P**		**13 15 48.6**	**+1.7**		
PMSA	**Palmer Station**	34.54	174	*e*P	**P**		**13 15 49.4**	**+2.4**		
VILC	**Villavicencio,**	34.57	357	*e*P	**P**		**13 15 48.6**	**+0.7**		
BOAV	**Boa Vista**	34.62	21	*e*P	**P**		**13 15 48.0**	**-0.1**		
YOTC	**Yotoco, Valle**	34.65	352	*e*P	**P**		**13 15 50.5**	**+2.0**		
CHIC	**Chingaza**	35.08	357	*e*P	**P**		**13 15 52.4**	**-0.2**		
ROSC	**El Rosal**	35.32	356	P	**P**		**13 15 58.0**	**+3.4**		
	comp=Z,16nm,0.5s,baz=180,slow=20,SNR=5.5									
ROSC	**El Rosal**	35.32	356	P	**P**		**13 15 51.9**	**-2.8**		
ROSC				pmax	pmax					
	comp=Z,61nm,1.3s									
ROSC	**El Rosal**	35.32	356	P	**P**		**13 15 51.9**	**-2.8**		
ROSC				IAmb	IAmb		13 16 06.0			
	comp=Z,61nm,1.2s									
NBPN	**Ponto Novo - B**	35.49	63	*e*P	**P**		**13 15 54.5**	**-1.3**		
MCPB	**Macapa, AP**	35.58	36	*e*P	**P**		**13 15 56.3**	**-0.1**		
GUY2C	**Guyana, Caldas**	35.78	354	*e*P	**P**		**13 16 01.0**	**+2.3**		
NORC	**Norcasia**	36.08	355	*e*P	**P**		**13 16 01.9**	**+1.2**		
TMAB	**Tom-Au,PA,Br**	36.09	43	*e*P	**P**		**13 15 58.5**	**-2.3**		
RUSC	**La Rusia**	36.31	358	*e*P	**P**		**13 16 02.9**	**-0.4**		
CBOC	**Ciudad Bolivar**	36.47	353	*e*P	**P**		**13 16 03.9**	**-0.4**		
HELC	**Santa Helena**	36.75	354	*e*P	**P**		**13 16 07.7**	**+0.8**		
PTBC	**PUERTO BERRIO,**	37.02	356	*e*P	**P**		**13 16 07.7**	**-1.1**		
NBLA	**Lagarto - SE**	37.28	66	*e*P	**P**		**13 16 09.4**	**-1.7**		
DBBC	**Dabeiba**	37.63	353	*e*P	**P**		**13 16 16.2**	**+2.2**		
PTAC	**Punta Ardita,**	37.95	351	*e*P	**P**		**13 16 17.2**	**+0.5**		
ZARC	**Zaragoza, Cauc**	37.99	355	*e*P	**P**		**13 16 16.2**	**-0.7**		
ROSB	**Rosrio**	38.16	49	*e*P	**P**		**13 16 21.5**	**+3.0**		
UREC	**San Jos de Ur**	38.30	354	*e*P	**P**		**13 16 18.1**	**-1.4**		
NBMA	**Muriti-CE**	38.79	60	*e*P	**P**		**13 16 23.4**	**-0.5**		
NBPS	**Pedro II - PI**	38.88	54	*e*P	**P**		**13 16 24.7**	**+0.1**		
SMLC	**San Martn de**	39.24	357	*e*P	**P**		**13 16 25.8**	**-1.7**		
NBAN	**Anadia - AL**	39.26	66	*e*P	**P**		**13 16 27.2**	**-0.6**		
SDV	**Santo Domingo**	39.30	2	*e*P	**P**		**13 16 29.7**	**+1.5**		
NBPB	**Pedra_Branca-C**	39.40	57	*e*P	**P**		**13 16 29.3**	**+0.4**		
BCIP	**Isla Barro Col**	40.26	348	P	**P**		**13 16 32.1**	**-3.8**		
BCIP				pmax	pmax					
	comp=Z,92nm,1.4s									
BCIP	**Isla Barro Col**	40.26	348	P	**P**		**13 16 32.0**	**-3.8**		
BCIP				IAmb	IAmb		13 16 40.0			
	comp=Z,92nm,1.4s									
BCIP	**Isla Barro Col**	40.26	348	*e*P	**P**		**13 16 35.3**	**-0.6**		
SJCC	**San Jacinto, C**	40.39	355	*e*P	**P**		**13 16 36.2**	**-0.9**		
NBMO	**Morrinhos-CE**	40.62	54	*e*P	**P**		**13 16 40.0**	**+0.9**		
NBPA	**Parau_RN**	41.08	60	*e*P	**P**		**13 16 44.0**	**+1.2**		
CRJC	**Cerrejon, Guaj**	41.40	359	*e*P	P		13 16 40.0	-5.4		
SMRC	**Santa Marta, M**	41.59	357	*e*P	**P**		**13 16 46.7**	**-0.2**		
JTS	**Las Juntas de**	42.52	341	*e*P	**P**		**13 16 56.2**	**+1.7**		
JTS				pmax	pmax					
	comp=Z,57nm,2.0s									
MPOM	**Morne Pois Mar**	46.07	15	P	**P**		**13 17 21.2**	**-1.7**		
BIM	**Bigot**	46.10	15	P	**P**		**13 17 21.2**	**-2.0**		
SJG	**San Juan**	48.78	7	*e*P	**P**		**13 17 41.9**	**-2.0**		
ANWB	**Willy Bob**	49.01	13	P	**P**		**13 17 42.4**	**-3.3**		
CUPR	**Culebra, Puert**	49.07	9	P	**P**		**13 17 43.5**	**-2.6**		
CUPR				IAmb	IAmb		13 17 47.3			
	comp=Z,21nm,0.8s									
GTBY	**Guantanamo Bay**	50.34	356	P	**P**		**13 17 52.6**	**-3.1**		
GTBY				IAmb	IAmb		13 17 58.4			

	comp=Z,48nm,0.9s									
VNA3	**Neumayer Olymp**	52.49	159	P	**P**		**13 18 12.2**	**+0.8**		
VNA1	**Neumayer--Stat**	52.79	158	P	**P**		**13 18 14.7**	**+1.1**		
VNA2	**Neumayer--Watz**	53.13	158	P	**P**		**13 18 16.8**	**+0.6**		
	baz=285,slow=8.2									
SOR	**Soroa**	54.14	347	P	**P**		**13 18 21.8**	**-2.2**		
SOR				pmax	pmax					
	comp=Z,42nm,1.0s									
SOR	**Soroa**	54.14	347	P	**P**		**13 18 21.8**	**-2.2**		
SOR				IAmb	IAmb		13 18 26.4			
	comp=Z,42nm,1.0s									
SNAA	**Sanae**	54.72	159	P	**P**		**13 18 28.3**	**+0.5**		
SNAA	**Sanae**	54.72	159	*c i*P	**P**		**13 18 29.2**	**+1.4**		
SNAA				pmax	pmax					
	comp=Z,78nm,1.3s									
SNAA	**Sanae**	54.72	159	P	**P**		**13 18 27.6**	**-0.2**		
RKT	**Rikitea**	56.02	261	*e*T	T		14 19 23.7			
	comp=Z,12nm,0.2s									
QSPA	**South Pole Qui**	59.61	180	P	**P**		**13 19 03.2**	**+0.7**		
H06S1	**SOCORRO T**	61.72	317	T	T		14 26 46.4			
	SNR=7.6									
H06E1	**SOCORRO T-PHAS**	61.73	318	T	T		14 26 47.5			
	SNR=3.8									
833A	**Chaparral WMA,**	64.16	333	P	**P**		**13 19 36.2**	**+2.9**		
	baz=154,SNR=6.9									
HKT	**Hockley**	64.35	337	*d i*P	**P**		**13 19 37.3**	**+2.8**		
HKT				pmax	pmax					
	comp=Z,25nm,1.5s									
LRAL	**Lakeview Retre**	64.87	346	P	**P**		**13 19 39.0**	**+1.1**		
	baz=166									
KMSC	**Kings Mountain**	65.99	352	P	**P**		**13 19 46.5**	**+1.4**		
	baz=171									
JCT	**Junction City**	66.25	334	P	**P**		**13 19 49.3**	**+2.4**		
	baz=154,SNR=10									
TAOE	**Nuku Hiva Isla**	66.73	273	*e*LR	LR		13 39 55.8			
	comp=Z,2µm,30.9s									
WHTX	**Lake Whitney,**	66.77	337	P	**P**		**13 19 52.2**	**+2.1**		
	baz=156,SNR=6.2									
TXAR	**Lajitas Array**	66.80	330	P	**P**		**13 19 51.3**	**+0.8**		
	comp=Z,4.6nm,0.8s,baz=151,slow=7.1,SNR=52									
TXAR				PKPPKP	P'P'df		13 48 27.1	+12		
	comp=Z,0.4nm,0.9s,baz=82,slow=1.9,SNR=3.9									
TXAR	**Lajitas Array**	66.80	330	P	**P**		**13 19 48.7**	**-1.9**		
TXAR	**Lajitas Array**	66.80	330	P	**P**		**13 19 48.7**	**-1.9**		
OXF	**Oxford**	66.82	344	P	**P**		**13 19 51.7**	**+1.3**		
	baz=164									
VNDA	**Vanda**	67.41	191	P	**P**		**13 19 56.2**	**+2.4**		
	comp=Z,2.5nm,0.9s,baz=137,slow=4.2,SNR=12									
VNDA	**Vanda**	67.41	191	P	**P**		**13 19 54.7**	**+0.9**		
VNDA				pmax	pmax					
	comp=Z,15nm,1.4s									
VNDA	**Vanda**	67.41	191	P	**P**		**13 19 54.7**	**+0.9**		
MIAR	**Mount Ida**	67.92	341	P	**P**		**13 19 59.2**	**+1.8**		
	baz=160									
WVT	**Waverly**	68.03	346	P	**P**		**13 19 59.3**	**+1.3**		
	baz=166									
ABTX	**Abilene, Hawle**	68.11	335	P	**P**		**13 20 00.2**	**+1.5**		
	baz=155,SNR=8.9									
TBI	**Tubuai**	68.15	255	*e*LR	LR		13 40 37.0			
	comp=Z,2µm,26.5s									
TBI	**Tubuai**	68.15	255	*e*T	T		14 34 35.0			
	comp=Z,22nm,0.2s									
W41B	**Gary Mavity, V**	68.15	342	P	**P**		**13 20 00.3**	**+1.5**		
	baz=162									
W39A	**Magazine**	68.59	341	P	**P**		**13 19 59.2**	**-2.4**		
W39A				IAmb	IAmb		13 20 05.0			
	comp=Z,37nm,0.9s									
W39A	**Magazine**	68.59	341	P	**P**		**13 20 03.2**	**+1.6**		
	baz=153,SNR=20									
SYO	**Syowa Base**	69.01	159	*e*pP	**P**		**13 20 03.4**	**-0.5**		
MEH	**Mehetia**	69.34	261	*e*T	T		14 36 02.4			
	comp=Z,64nm,0.3s									
U40A	**Yellville**	69.43	342	P	**P**		**13 20 08.3**	**+1.5**		
	baz=161,SNR=6.1									
MNTX	**Cornudas Mount**	69.58	330	P	**P**		**13 20 09.3**	**+1.5**		
	baz=150,SNR=8.2									
TUL1	**Leonard**	69.84	340	P	**P**		**13 20 10.9**	**+1.5**		
	baz=158,SNR=6.0									
MSTX	**Muleshoe**	70.49	333	P	**P**		**13 20 15.4**	**+1.8**		
	baz=152,SNR=12									
TIAR	**Tiarei**	70.57	261	*e*T	T		14 37 34.6			
	comp=Z,7.6nm,0.3s									
CCM	**Cathedral Cave**	70.63	344	P	**P**		**13 20 15.1**	**+0.9**		
	baz=163									
PPT2	**Papeete2**	70.75	261	*e*LR	LR		13 41 49.4			
	comp=Z,2µm,25.0s									
PPT2	**Papeete2**	70.75	261	*e*T	T		14 37 46.2			
	comp=Z,1.9nm,0.2s									
O56A	**Blue Knob Stat**	70.78	355	P	**P**		**13 20 12.7**	**-2.4**		
O56A				IAmb	IAmb		13 20 18.4			
	comp=Z,64nm,1.6s									
AMTX	**Amarillo**	70.88	335	P	**P**		**13 20 17.8**	**+1.9**		
	baz=153									
SSPA	**Standing Stone**	71.10	355	P	**P**		**13 20 18.8**	**+1.9**		
	baz=175									
R40A	**Maddies Statio**	71.11	343	P	**P**		**13 20 16.9**	**-0.2**		
R40A				IAmb	IAmb		13 20 19.6			
	comp=Z,35nm,1.0s									
N59A	**State Game Lan**	71.26	357	P	**P**		**13 20 20.6**	**+2.6**		
	baz=177,SNR=6.6									
121A	**Cookes Peak, D**	71.35	329	P	**P**		**13 20 22.1**	**+3.2**		
	baz=148,SNR=8.6									
P40A	**Paris**	72.23	344	P	**P**		**13 20 23.9**	**+0.2**		
P40A				IAmb	IAmb		13 20 26.4			
	comp=Z,47nm,1.1s									
TUC	**Tucson**	72.56	326	P	**P**		**13 20 27.2**	**+1.2**		
	baz=146									
P38A	**Dawn**	72.68	343	P	**P**		**13 20 26.3**	**-0.1**		
P38A				IAmb	IAmb		13 20 28.8			
	comp=Z,21nm,0.9s									
L61B	**Northampton**	72.71	360	P	**P**		**13 20 28.8**	**+2.2**		
	baz=180									
ANMO	**Albuquerque**	72.83	331	*c e*P	**P**		**13 20 29.6**	**+1.9**		
ANMO				pmax	pmax					
	comp=Z,22nm,1.7s									
ANMO	**Albuquerque**	72.83	331	P	**P**		**13 20 30.1**	**+2.5**		
	baz=150									
214A	**Organ Pipe Nat**	73.26	325	P	**P**		**13 20 32.2**	**+2.1**		
	baz=144,SNR=8.9									
J61A	**Chester**	73.60	360	P	**P**		**13 20 34.8**	**+3.0**		
	baz=180									
LIC	**Lamto**	73.73	72	*e*P	**P**		**13 20 34.7**	**+1.4**		
	comp=Z,127nm,1.7s									
T25A	**Trinidad**	73.91	334	P	**P**		**13 20 37.0**	**+2.9**		
	baz=152,SNR=11									
TIC	**Toumodi**	73.97	72	*e*P	**P**		**13 20 36.7**	**+2.0**		
KIC	**Kosan Boka**	74.04	72	*e*P	**P**		**13 20 37.0**	**+1.9**		
	comp=Z,41nm,0.9s									
DBIC	**Dimbokro**	74.12	72	P	**P**		**13 20 36.4**	**+0.9**		
	comp=Z,4.9nm,0.4s,baz=244,slow=6.2,SNR=17									
DBIC	**Dimbokro**	74.12	72	P	**P**		**13 20 34.2**	**-1.3**		
DBIC				pmax	pmax					
	comp=Z,30nm,1.0s									
DBIC	**Dimbokro**	74.12	72	P	**P**		**13 20 34.2**	**-1.3**		
DBIC				IAmb	IAmb		13 20 45.6			
	comp=Z,30nm,0.9s									
W18A	**Petrified Fore**	74.39	329	P	**P**		**13 20 39.8**	**+2.9**		
	baz=147,SNR=6.4									
X16A	**Lo Mia Camp, P**	74.60	327	P	**P**		**13 20 36.0**	**-2.1**		
SDCO	**Great Sand Dun**	74.86	333	P	**P**		**13 20 42.3**	**+2.6**		
	baz=151,SNR=11									
LONY	**Lake Ozonia**	74.91	358	P	**P**		**13 20 41.3**	**+1.9**		
	baz=178									
GLA	**Glamis**	75.15	324	P	**P**		**13 20 42.8**	**+1.6**		
	baz=143									
S22A	**4UR Ranch, Cre**	75.39	332	P	**P**		**13 20 45.6**	**+2.9**		
	baz=150,SNR=7.9									
WUAZ	**Wuatki**	75.47	328	P	**P**		**13 20 45.5**	**+2.5**		
	baz=146,SNR=11									
IKP	**In-Ko-Pah, Jac**	75.50	323	P	**P**		**13 20 46.1**	**+2.9**		
	baz=142									
MVCO	**Mesa Verde**	75.62	331	P	**P**		**13 20 46.0**	**+2.0**		
	baz=148,SNR=9.9									
Q24A	**Divide**	75.78	334	P	**P**		**13 20 47.0**	**+2.0**		
	baz=151,SNR=12									
MONP2	**Monument Peak**	75.85	323	P	**P**		**13 20 48.0**	**+2.6**		
	baz=142									
BC3	**Big Chuckawall**	75.95	324	P	**P**		**13 20 48.6**	**+2.8**		
	baz=143,SNR=8.5									
IRM	**Iron Mountain**	76.19	324	P	**P**		**13 20 49.5**	**+2.4**		
	baz=143,SNR=6.7									
MAW	**Mawson**	76.42	164	P	**P**		**13 20 49.1**	**+1.2**		
	comp=Z,26nm,0.9s,baz=222,slow=6.1,SNR=34									
MAW	**Mawson**	76.42	164	P	**P**		**13 20 48.3**	**+0.4**		
MAW				pmax	pmax					
	comp=Z,9.0nm,1.0s									
MAW	**Mawson**	76.42	164	P	**P**		**13 20 48.3**	**+0.4**		

TPFO	**Pinon Flats**	76.42	323	P	**P**		**13 20 51.1**	**+2.6**		
	baz=142,SNR=6.4									
PFO	**Pinyon Flats O**	76.43	323	P	**P**		**13 20 51.7**	**+3.1**		
	baz=142,SNR=6.8									
BELC	**Belle Mtn. Jos**	76.50	324	P	**P**		**13 20 51.2**	**+2.2**		
	baz=142									
ISCO	**Idaho Springs**	76.69	334	P	**P**		**13 20 52.1**	**+2.0**		
	baz=151,SNR=13									
MURC	**Murrieta**	76.81	323	P	**P**		**13 20 53.0**	**+2.5**		
	baz=141,SNR=5.5									
ECSD	**EROS Data Cent**	77.34	342	P	**P**		**13 20 54.1**	**+0.8**		
	baz=159,SNR=14									
D62A	**Allapoint, All**	77.38	2	P	**P**		**13 20 51.6**	**-1.8**		
D62A				IAmb	IAmb		13 20 56.9			
	comp=Z,25nm,1.1s									
BFSC	**Mount Baldy Ra**	77.54	323	P	**P**		**13 20 57.6**	**+2.8**		
	baz=141									
TUQ	**Turquoise Moun**	77.59	325	P	**P**		**13 20 58.2**	**+3.1**		
	baz=142,SNR=6.6									
RAR	**Rarotonga**	77.64	253	LR	LR		13 46 32.2			
	comp=Z,3µm,18.9s,baz=194,slow=29									
N23A	**Red Feather La**	77.76	334	P	**P**		**13 20 58.2**	**+2.1**		
	baz=151,SNR=6.7									
GSC	**Goldstone, Bar**	77.93	324	P	**P**		**13 20 60.0**	**+3.1**		
	baz=142,SNR=5.9									
O20A	**White River Ci**	78.00	332	P	**P**		**13 20 59.2**	**+1.9**		
	baz=149,SNR=14									
EDW2	**Edwards Air Fo**	78.21	323	P	**P**		**13 21 01.1**	**+2.7**		
	baz=141,SNR=6.0									
MSU	**Marysvale**	78.30	329	P	**P**		**13 20 57.4**	**-1.6**		
MSU	**Marysvale**	78.30	329	P	**P**		**13 20 57.4**	**-1.6**		
LRMC	**Laurel Mtn Rad**	78.52	323	P	**P**		**13 21 02.4**	**+2.3**		
	baz=

comp=E,4.7nm,0.9s,baz=180,slow=6.9,SNR=3.7
ASAR Alice Springs 120.57 208 PKP **PKPdf 13 27 50.9 -0.3**
comp=E,0.5nm,0.8s,baz=120,slow=1.5,SNR=4.8
ASAR PKKPbc **PKKPbc 13 37 57.0 +0.8**
comp=E,1.0nm,1.0s,baz=346,slow=3.8,SNR=7.1
ARCES ARCESS Array B 120.94 24 PKP **PKiKP 13 27 51.7 +1.3**
comp=E,2.9nm,0.9s,baz=235,slow=3.2,SNR=1.7
WRA Warramunga Arr 123.69 210 PKP **PKPdf 13 27 57.3 +0.1**
comp=E,2.0nm,0.9s,baz=167,slow=2.4,SNR=22
WRA PKKPbc **PKKPab 13 37 45.4 -1.2**
comp=E,0.4nm,0.5s,baz=326,slow=3.5,SNR=6.3
WRAB Tennant Creek 123.70 210 ⇓*i*PKiKP **PKiKP 13 27 57.5 +0.1**
OBN Obninsk 124.94 42 *i* PKiKP **PKPdf 13 27 58.2 -0.1**
OBN pmax pmax
comp=Z,24nm,1.1s
H11S2 WAKE ISLAND Hyl 25.75 272 T T 15 46 44.3
baz=114,slow=75,SNR=190
H11S1 WAKE ISLAND Hyl 25.76 272 T T 15 46 41.3
baz=114,slow=75,SNR=222
H11S3 WAKE ISLAND Hyl 25.77 272 T T 15 46 41.1
baz=114,slow=75,SNR=250
H11N3 WAKE ISLAND Hyl 26.08 273 T T 15 47 12.4
baz=116,slow=75,SNR=15
H11N1 WAKE ISLAND Hyl 26.09 273 T T 15 47 20.2
baz=116,slow=75,SNR=9.1
H11N2 WAKE ISLAND Hyl 26.09 273 T T 15 47 18.0
baz=116,slow=75,SNR=32
KLMR Klimovskoe 126.65 35 *e*PKiKP **PKPdf 13 28 00.9 -0.5**
KLMR pmax pmax
comp=Z,32nm,1.3s
KLMR Klimovskoe 126.65 35 *e*PKPdf **PKPdf 13 28 01.0 -0.5**
KLMR AMP 13 28 13.2
comp=Z,32nm,1.3s
NEY Neytrino 127.57 57⇑*i*PKiKP **PKPdf 13 28 02.7 -1.3**
KIV Kislovodsk 127.66 56 *e*PKiKP **PKiKP 13 28 05.3 +0.7**
KIV pmax pmax
comp=Z,7.0nm,1.1s
FITZ Fitzroy Crossi 128.67 202 PKP **PKPdf 13 28 06.7 0.0**
comp=Z,1.5nm,0.6s,baz=197,slow=5.2,SNR=4.8
PRGR Permogore 129.52 33 *e*PKiKP **PKiKP 13 28 07.8 +0.2**
PRGR pmax pmax
comp=Z,132nm,1.5s
BILL Bilibino 129.78 335 ⇓*i*PKiKP **PKPdf 13 28 06.6 -0.6**
BILL *e* 13 30 20.8
BILL *e*PPP PPP 13 33 05.3
BILL pmax pmax
comp=Z,5.0nm,1.1s
BELG Belogornoye 131.44 45 ⇓*i*PKiKP **PKPdf 13 28 11.0 +0.2**
KIRV Kirov 131.86 37 *i* PKiKP **PKiKP 13 28 13.5 +1.1**
SEY Seymchan 137.08 32 PKP **PKiKP 13 28 22.9 0.0**
comp=Z,4.1nm,0.9s,baz=33,slow=6.0,SNR=3.7
ARU Arti 137.14 38 PKP **PKiKP 13 28 23.4 +0.2**
comp=Z,1.0nm,0.5s,baz=283,slow=4.3,SNR=6.2
ARU Arti 137.14 38 *i* PKiKP **PKiKP 13 28 23.2 0.0**
ARU 13 31 05.2
ARU Arti 137.14 38 PKPdf 13 28 21.9 +0.5
TIXI Tiksi 137.37 350 PKP **PKiKP 13 28 23.2 0.0**
comp=Z,7.5nm,1.1s,baz=314,slow=4.2,SNR=3.5
TIXI Tiksi 137.37 350⇑*i*PKiKP **PKPdf 13 28 21.1 -0.3**
PETK Petropavlovsk- 137.75 317 PKP **PKPdf 13 28 21.5 -1.1**
comp=Z,1.9nm,0.8s,baz=44,slow=6.4,SNR=2.5
AKTO Aktyubinsk 138.10 47 PKP **PKPdf 13 28 22.9 -0.5**
comp=Z,3.6nm,1.0s,baz=325,slow=2.9,SNR=5.4
EDFI Ende, Flores 138.70 201 PKP **PKPdf 13 28 23.8 -1.9**
NRIK Noril'sk 139.51 11 PKP **PKPdf 13 28 26.2 +0.8**
comp=Z,2.6nm,0.5s,baz=129,slow=2.1,SNR=1.3
AB31 Akbulak array 139.52 49 *i* PKiKP **PKPdf 13 28 25.7 -0.3**
SANI Sanana 143.25 211 PKP PKPbc 13 28 31.2 +0.5
BLSI Bandar Lampung 144.13 175 PKP PKPbc 13 28 33.3 0.0
LWLI Liwa 144.37 173 PKP **PKPdf 13 28 35.7 -0.2**
KLI Kotabumi 144.60 175 PKP **PKPab 13 28 34.1 -0.5**
TTSI Tana Toraja 144.66 201 PKP PKPbc 13 28 35.5 +0.5
BRVK Borovoye 144.67 40*c* *i*PKiKP PKPbc 13 28 34.0 +0.1
MDSI Maura Dua 144.91 173 PKP **PKPab 13 28 34.2 -1.5**
MMSI Mamuju 145.27 199 PKP **PKPbc 13 28 35.0 -2.0**
KBKI Kotabaru 145.38 195 PKP **PKPbc 13 28 36.9 -0.4**
LHSI Lahat 145.49 172 PKP **PKPdf 13 28 37.8 +0.1**
LUWI Luwuk 145.50 207 PKP **PKPab 13 28 38.9 +1.0**
YAK Yakutsk 145.53 342 PKPbc **PKPab 13 28 36.6 0.0**
comp=Z,27nm,0.7s,baz=187,slow=0.3,SNR=28
YAK Yakutsk 145.53 342 *e*PKiKP **PKPbc 13 28 36.4 0.0**
YAK *e* 13 31 54.9
YAK pmax pmax
comp=Z,108nm,0.9s
YAK pmax pmax
comp=N,16nm,1.3s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=Z,116nm,2.7s
YAK pmax pmax
comp=N,47nm,2.0s
YAK pmax pmax
comp=E,30nm,2.7s
MASI Maura Aman, Be 145.99 170 PKP **PKPab 13 28 40.6 +0.8**
PKKI Palangkaraya 146.83 191 PKP **PKPab 13 28 42.8 -0.1**
PPBI Pangkal Pinang 147.36 177 PKP **PKPdf 13 28 41.2 +0.3**
JMBI JAMBI 147.67 172 PKP **PKPbc 13 28 44.6 +0.5**
OTUK Ortayu 147.71 47 PKiKP **PKPdf 13 28 41.4 +1.0**
KK31 Karatay Array 147.81 57 *i* PKP2 **PKPbc 13 28 42.8 -0.9**
MPSI Mapaga 147.82 203 PKP **PKPbc 13 28 43.7 -0.8**
PDSI Padang 147.84 166 PKP **PKPbc 13 28 44.8 +0.2**
MTKI Muara Teweh, K 147.93 193 PKP **PKPbc 13 28 43.8 -1.0**
YSS Yuzh-Sakhalins 148.67 311 *e*PKP2 **PKPab 13 28 50.4 +1.0**
GSI Gunungsitoli 149.23 159 PKP **PKiKP 13 28 49.1 -0.3**
MNSI Mandailing Nat 149.29 163 PKP **PKPdf 13 28 46.0 +2.0**
ASAJ Asahikawa 149.59 306 PKPbc **PKPbc 13 28 46.5 -1.7**
comp=E,15nm,0.9s,baz=324,slow=2.2,SNR=4.6
HYB Hyderabad 150.20 109 *i* PKP **PKiKP 13 28 52.0 +0.7**
EKS2 Erkin-Say 150.25 57 P **PKiKP 13 28 51.4 +0.6**
SNR=13
AML Almayashu 150.30 58 P **PKiKP 13 28 51.7 +0.4**
SNR=9.3
KURBB Kurchatov Arra 150.33 39 PKIKP **PKPdf 13 28 45.8 +1.3**
USP Ospenovka 150.63 55 P **PKiKP 13 28 51.4 0.0**
SNR=12
AAK Ala-Archa 150.77 56 PKPbc **PKiKP 13 28 51.7 -0.2**
comp=E,22nm,0.9s,baz=238,slow=2.7,SNR=24
AAK Ala-Archa 150.77 56*cc*PKiKP **PKPdf 13 28 47.1 +1.4**
GRNR Gornyy 150.78 322 ⇓*i*PKiKP **PKiKP 13 28 51.8 +0.4**
GRNR pmax pmax
comp=Z,20nm,1.1s
CHMS Chumysh 150.87 56 P **PKiKP 13 28 52.0 +0.1**
SNR=8.4
UCH Uchtor 150.88 57 P **PKiKP 13 28 53.0 +0.5**
SNR=20
KBK Karagaybulak 151.09 56 P **PKiKP 13 28 55.0 +2.4**
SNR=6.4
ZALV Zalesovo Beam 151.32 29 PKPbc **PKiKP 13 28 52.2 -0.2**
comp=Z,80nm,0.8s,baz=308,slow=2.8,SNR=36
TKM2 Tokmak 2 151.49 55 P **PKiKP 13 28 53.4 -0.1**
SNR=9.3
TKM2 Tokmak 2 151.49 55 PKIKP **PKPdf 13 28 46.4 -0.4**
MDOK Medeo 152.45 54 PKIKP **PKPbc 13 28 55.1 0.0**
KSH Kashi 152.47 62 PKPbc **PKPdf 13 28 50.3 +2.0**
KSH PP **PP 13 32 37.1 -1.3**
KSH SKS **SKSdf 13 35 52.5 -2.2**
KSH AMB AMB
comp=Z,860nm,10.9s
BOD Bodaibo 152.48 353 *e*PKiKP **PKPbc 13 28 53.4 -1.0**
BOD pmax pmax
comp=Z,25nm,1.9s
PDGK Podgornoye 154.09 53 PKP2 **PKPab 13 29 12.1 -0.2**
KLR Kul'dur 154.13 323 PKP **PKPdf 13 28 50.4 +0.2**
comp=Z,1.1nm,0.6s,baz=341,slow=4.7,SNR=4.3
KLR PKPbc **PKiKP 13 28 59.1 +0.7**
comp=Z,2.4nm,0.8s,baz=17,slow=1.6,SNR=6.0
MJAR Matsushiro Arr 154.18 291 PKPbc **PKiKP 13 28 59.1 +0.2**
comp=Z,2.7nm,1.0s,baz=105,slow=3.4,SNR=4.2
MJAR PKPab **PKPab 13 29 14.8 +2.1**
comp=Z,7.6nm,0.9s,baz=112,slow=1.4,SNR=13
MAJO Matsushiro 154.18 291 ⇓*i*PKiKP **PKPdf 13 28 51.4 +0.7**
MAT Matsushiro 154.18 291 *e*PKP **PKPdf 13 28 49.2 -1.5**
MAKZ Makanchi 154.24 44 PKIKP **PKPdf 13 28 44.4 -6.1**
MK31 Makanchi Array 154.43 44 *i* PKiKP **PKPdf 13 28 50.9 -0.1**
MKAR Makanchi Array 154.43 44 PKP **PKPdf 13 28 51.9 +1.1**
comp=Z,1.5nm,0.9s,baz=318,slow=1.6,SNR=7.0
MKAR PKPbc **PKiKP 13 28 59.6 +0.5**
comp=Z,3.4nm,0.9s,baz=282,slow=2.2,SNR=12
WMQ Urumqi 159.23 45 *e*PKP **PKPdf 13 28 55.8 -1.3**
WMQ LR LR
comp=Z,4μm,16.5s
WMQ LR LR
comp=Z,6μm,17.5s
WMQ LR LR
comp=Z,5μm,14.1s
ZAK Zakamensk 159.94 9 *e*PKP2 **PKPab 13 29 37.6 +0.5**
ZAK pmax pmax
comp=Z,12nm,1.2s
KSRS Korea Array 162.12 298 PKPab **PKPab 13 29 49.1 +2.1**
comp=Z,2.0nm,1.0s,baz=76,slow=5.1,SNR=4.8
SONM Songino Array 162.76 4 PKP **PKPdf 13 29 02.4 +1.6**
comp=Z,1.1nm,0.9s,baz=345,slow=4.9,SNR=5.5
SONM PKPab **PKPab 13 29 50.6 +1.1**
comp=Z,4.2nm,0.9s,baz=344,slow=3.5,SNR=12
SONM Songino Array 162.76 4 PKPab 13 29 51.3 +1.8
CMAR Chiang Mai Arr 165.39 144 PKP **PKPdf 13 29 05.7 +1.8**
comp=Z,0.8nm,0.3s,baz=220,slow=2.4,SNR=6.2
CMAR PKPab **PKPab 13 30 00.4 -1.3**
comp=Z,1.2nm,0.4s,baz=235,slow=4.3,SNR=4.6
CMAR Chiang Mai Arr 165.39 144 PKIKP **PKPdf 13 29 04.8 +0.9**
CMAR Chiang Mai Arr 165.39 144 PKPdf 13 29 04.8 +0.9
GTA Gaotai 168.98 35 ⇓PKP **PKPdf 13 29 08.3 +2.2**
GTA PKPab **PKPab 13 30 19.6 +2.4**
GTA PP **PP 13 34 07.6 +1.3**
GTA LR LR
comp=Z,3μm,20.4s
GTA LR LR
comp=Z,3μm,20.0s
GTA LR LR
comp=Z,5μm,19.6s
NJ2 Nanjing 170.57 282 *e*PKP **PKPdf 13 29 05.8 -1.3**
LZH Lanzhou 173.55 31⇑PKP **PKPdf 13 29 06.3 -2.2**
LZH pPKP pPKPdf 13 29 09.8 -4.5
LZH sPKP 13 29 12.4
CD2 Chengdu 176.37 84 PKP **PKPdf 13 29 07.0 -2.4**
XAN Xi'an 176.49 347 PKP **PKPdf 13 29 08.3 -1.0**
XAN PKPab **PKPab 13 30 50.0 -0.5**
XAN PP **PP 13 34 41.6 -0.9**
XAN SS SS 13 56 11.0 -0.4
XAN AMB AMB
comp=Z,520nm,7.0s
XAN LR LR
comp=Z,1μm,17.0s
XAN LR LR
comp=Z,760nm,17.7s
XAN LR LR
comp=Z,2μm,17.9s

*IPEC **19** 13:12:42.3±0.3,51.52N×16.30E,h0km,ML2.5/3,Error ellipse: s-maj=3.1km s-min=1.7km az=66.0*
*VIE **19** 13:12:43.9±0.7,51.40N×16.27E,h0km,mb2.2/2,ml2.9/4, Error ellipse: s-maj=8.1km s-min=4.6km az=71.0 62 km NW of Wroclaw Suspected Mining induced.*
*PRU **19** 13:12:44.2±0.0,51.44N×16.17E,h0km*
ISC 19 13:12:43.4±1.4,51.45N±0.06×16.18E±0.04,h0km,n29,
σ0§65/53,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**173**	*e*Pg		**Pg**		**13 12 55.5**	**+0.4**
KSP				*e*Sg		**Sg**		**13 13 03.7**	**+0.7**
CHVC	**Chvalec**	**0.87**	**185**	*e*PG		**Pg**		**13 13 00.3**	**+0.3**
CHVC				*e*SG		**Sg**		**13 13 12.0**	**+0.8**
comp=Z,51nm,0.3s									
OSTC	**Ostas**	**0.90**	**179**	*e*PG		**Pg**		**13 13 00.9**	**+0.4**
OSTC				*e*SG		**Sg**		**13 13 13.0**	**+0.9**
comp=Z,65nm,0.5s									
UPC	**Upice**	**0.95**	**187**	*e*PG		**Pg**		**13 13 01.7**	**+0.1**
UPC				*e*SG		**Sg**		**13 13 14.5**	**+0.6**
DPC	**Dobruska-Polom**	**1.11**	**175**	*e*PG		**Pg**		**13 13 04.4**	**-0.2**
DPC				*e*SG		**Sg**		**13 13 18.7**	**-0.2**
comp=Z,47nm,0.3s									
PVCC	**Panska Ves**	**1.38**	**228**	*e*PG		**Pg**		**13 13 09.7**	**0.0**
PVCC				*e*SG		**Sb**		**13 13 27.9**	**-0.2**
comp=Z,114nm,0.3s									
KRLC	**Kraliky**	**1.43**	**164**	*e*PG		**Pn**		**13 13 10.2**	**-0.4**
KRLC				*e*SG		**Sg**		**13 13 29.2**	**-0.1**
comp=Z,51nm,0.5s									
BRG	**Berggiesshubel**	**1.52**	**249**	Pg		**Pg**		**13 13 12.7**	**+0.1**
BRG				Sg		**Sn**		**13 13 32.7**	**+0.3**
BRG				Amp				13 13 33.3	
comp=Z,34nm,0.3s									
PRA	**Prague**	**1.77**	**219**	*e*SG		**Sg**		**13 13 40.9**	**+0.6**
PRU	**Pruhonice**	**1.80**	**216**	*e*PG		**Pb**		**13 13 16.7**	**-0.5**
PRU				*e*SG		**Sb**		**13 13 40.4**	**+0.2**
comp=Z,22nm,0.3s									
MORC	**Moravsky Berou**	**1.89**	**152**	*e*Pn		**Pn**		**13 13 16.2**	**-0.7**
baz=336									
MORC				*e*Sg		**Sb**		**13 13 42.5**	**-0.3**
comp=Z,44nm,0.4s,baz=336									
MORC	**Moravsky Berou**	**1.89**	**152**	*e*PN		**Pn**		**13 13 16.3**	**-0.7**
MORC				*e*SG		**Sb**		**13 13 42.6**	**-0.3**
CLL	**Collm**	**2.00**	**267**	*e*Pn		**Pn**		**13 13 18.0**	**-0.4**
CLL				*e*Pg		**Pb**		**13 13 21.0**	**+0.4**
CLL				*e*Sg		**Sb**		**13 13 46.0**	**0.0**
comp=Z,14nm,0.6s									
VRAC	**Vranov**	**2.16**	**173**	*e*Pn		**Pn**		**13 13 20.5**	**-0.1**
baz=355									
VRAC				*e*Sg		**Sg**		**13 13 51.9**	**-0.8**
comp=Z,25nm,0.4s,baz=355									
VRAC	**Vranov**	**2.16**	**173**	*e*PN		**Pn**		**13 13 20.6**	**-0.1**
VRAC				*e*SG		**Sg**		**13 13 52.0**	**-0.8**
PBCC	**Pribram**	**2.25**	**219**	*e*PG		**Pb**		**13 13 24.7**	**-0.2**
KRUC	**Moravsky**	**2.40**	**177**	*e*Pn		**Pn**		**13 13 23.7**	**-0.2**
baz=359									
KRUC				*e*Sg		**Sg**		**13 13 59.5**	**-0.8**
comp=Z,13nm,0.4s,baz=359									
KRUC	**Moravsky**	**2.40**	**177**	*e*PN		**Pn**		**13 13 23.7**	**-0.2**
KRUC				*e*SG		**Sg**		**13 13 59.6**	**-0.8**
KHC	**Kasperske Hory**	**2.86**	**217**	*e*PN		**Pn**		**13 13 30.1**	**-0.2**
KHC				*e*PG		**Pb**		**13 13 36.0**	**+0.7**
KHC				*e*SN		**Sn**		**13 14 04.6**	**-0.8**
KHC				*e*SG		**Sg**		**13 14 14.0**	**-1.2**
comp=Z,13nm,0.5s									
CKRC	**Cesky Krumlov**	**2.90**	**205**	*e*PN		**Pn**		**13 13 31.1**	**+0.3**
CKRC				*e*PG		**Pb**		**13 13 37.2**	**+1.3**
CKRC				*e*SG		**Sg**		**13 14 14.7**	**-1.7**
comp=Z,14nm,0.4s									
SMOL	**Smolenice**	**3.05**	**164**	*e*SG		**Sg**		**13 14 20.2**	**-1.1**
LANS	**Liptovska Anna**	**3.12**	**136**	*e*SG		**Sg**		**13 14 22.2**	**-1.4**
MODS	**Modra-Piesok**	**3.16**	**167**	*e*SG		**Sg**		**13 14 25.4**	**+0.5**
ZST	**Bratislava**	**3.31**	**169**	*e*SG		**Sg**		**13 14 29.5**	**-0.2**
VYHS	**Vyhne**	**3.42**	**149**	*e*SG		**Sg**		**13 14 34.3**	**+1.1**
CONA	**Conrad Observa**	**3.53**	**183**	*i* Pn		**Pn**		**13 13 39.6**	**0.0**
comp=Z,0.2nm,0.1s									
CONA				*e*Sg		**Sg**		**13 14 37.1**	**+0.3**
comp=Z,12nm,0.3s									
MOA	**Molln**	**3.81**	**200**	*i* Pn		**Pn**		**13 13 43.7**	**+0.3**
comp=Z,0.9nm,0.2s									
MOA				*e*Sg		**Sg**		**13 14 46.2**	**+0.3**
comp=Z,12nm,0.5s									
STHS	**Stebnicka Huta**	**3.82**	**120**	*e*SG		**Sg**		**13 14 47.0**	**+0.8**
ARSA	**Arzberg**	**4.23**	**186**	Sg		**Sg**		**13 14 59.6**	**+0.5**
comp=Z,4.3nm,0.3s									

*SOF **19** 13:23:52.7,43.11N×25.64E,h3km,MD2.6*
ISC 19 13:23:53.5±1.2,43.13N±0.05×25.62E±0.05,h8km,n17,
σ1§27/17,13C-2D,Bulgaria

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SZH	**Strazhica**	**0.27**	**60**	*i* P		**Pg**		**13 23 59.1**	**+0.3**
RAZG	**Razgrad**	**0.78**	**56**	⇓P		**Pn**		**13 24 11.6**	**+0.7**
SGRR	**Singureni**	**1.12**	**13**	⇓P		**Pn**		**13 24 17.1**	**+1.6**
SGRR				⇑S		**Sg**		**13 24 27.0**	**-2.5**
PLD	**Plovdiv**	**1.23**	**214**	*i* P		**Pb**		**13 24 16.3**	**-0.7**
PRD	**Provadia**	**1.30**	**86**	*i* P		**Pg**		**13 24 18.4**	**-0.1**
VTS	**Vitosha**	**1.83**	**254**	⇑P		Pg		13 24 37.3	+8.8
ISR	**Istrita**	**2.09**	**18**	⇑S		**Sn**		**13 24 56.1**	**+0.9**
VOIR		**2.34**	**350**	⇑P		**Pg**		**13 24 37.6**	**-0.7**
VOIR		**2.34**	**350**	⇑S		**Sn**		**13 25 03.3**	**+2.0**
ARR	**Arges**	**2.34**	**343**	⇑P		**Pg**		**13 24 37.6**	**-0.8**
MLR	**Muntele Rosu**	**2.37**	**6**	⇑P		**Pb**		**13 24 37.1**	**+0.6**
MLR	**Muntele Rosu**	**2.37**	**6**	⇑S		**Sn**		**13 25 02.9**	**+0.8**
TPGR	**Topolog**	**2.66**	**49**	⇑P		**Pb**		**13 24 40.9**	**-0.4**
TPGR	**Topolog**	**2.66**	**49**	⇑S		**Sn**		**13 25 10.1**	**+1.1**
CFR	**Carcaliu**	**2.73**	**41**	⇑P		**Pb**		**13 24 40.8**	**-1.7**
CFR	**Carcaliu**	**2.73**	**41**	⇑S		**Sn**		**13 25 10.5**	**-0.3**
VRI	**Vrincioaia**	**2.84**	**16**	⇑S		**Sn**		**13 25 14.7**	**+1.0**

*IDC **19** 13:23:55.9±1.4,32.38S×71.65W,h0km,mb3.8/3, mb1 4.0/5,mb1mx3.8/17,mbtmpg3.8/5,ML3.5/2,Error ellipse: s-maj=46.9km s-min=35.2km az=88.0*
ISC 19 13:23:59.5±1.1,32.4S±0.1×71.6W±0.3,h25km,n14,
σ1§15/8,mb4.0/3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H03N1	**Juan Fernandez**	**6.22**	**258**	T		T		13 31 28.4	
baz=85,slow=72,SNR=25									
H03N3	**Juan Fernandez**	**6.24**	**258**	T		T		13 31 22.2	
baz=85,slow=72,SNR=23									
H03N2	**Juan Fernandez**	**6.24**	**258**	T		T		13 31 24.0	
baz=85,slow=72,SNR=27									
H03S1	**Juan Fernandez**	**6.29**	**255**	T		T		13 32 04.3	
baz=80									
H03S3	**Juan Fernandez**	**6.29**	**255**	T		T		13 32 04.2	
baz=80									
H03S2	**Juan Fernandez**	**6.30**	**255**	T		T		13 32 01.9	
baz=80									
PLCA	**Paso Flores**	**8.38**	**174**	Pn		**Pn**		**13 25 59.0**	**-0.5**
0.1nm,0.3s,baz=333,slow=9.0,SNR=3.3									
LPAZ	**La Paz**	**16.33**	**12**	Pn		**Pn**		**13 27 46.0**	**-1.8**
0.1nm,0.3s,baz=188,slow=12,SNR=2.9									
BDFB	**Brasilia**	**27.15**	**58**	P		**P**		**13 29 41.8**	**+0.7**
3.1nm,0.6s,baz=203,slow=7.7,SNR=3.4									
TXAR	**Lajitas Array**	**68.50**	**330**	P		**P**		**13 35 00.9**	**+1.1**
0.1nm,0.6s,baz=157,slow=9.5,SNR=1.5									
TORD	**Torodi Ar. Bea**	**83.33**	**70**	P		**P**		**13 36 25.5**	**+0.9**
0.7nm,0.7s,baz=267,slow=4.8,SNR=4.3									
KURBB	**Kurchatov Arra**	**151.44**	**42**	PKPbc		**PKiKP**		**13 43 50.7**	**-0.5**
0.4nm,0.3s,baz=296,slow=3.0,SNR=4.2									
ZALV	**Zalesovo Beam**	**152.67**	**31**	PKPbc		**PKPbc**		**13 43 52.8**	**-0.7**
1.1nm,0.6s,baz=322,slow=3.7,SNR=3.7									
MKAR	**Makanchi Array**	**155.42**	**47**	PKPab		**PKPab**		**13 44 16.4**	**+0.2**
0.3nm,0.7s,baz=292,slow=4.8,SNR=3.6									

NEIC 19 13:35:54.6±1.3,32.40S±0.03×71.9W±0.1,h35km±2km,
mb3.7/3,ML4.0(GUC),Error ellipse: s-maj=16.6km
s-min=5.3km az=90.0,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.65**	**165**				Pn	13 36 06.2	-1.1
VA03	**San Esteban**	**1.16**	**109**				Pn	13 36 13.9	-0.5
VA05	**Santo Domingo**	**1.27**	**171**				Pn	13 36 15.4	-0.5
MT05	**Renca**	**1.36**	**137**				Pn	13 36 17.8	+0.6
MT01	**Popeta**	**1.55**	**161**				Pn	13 36 20.0	+0.3
MT09	**Talagante**	**1.56**	**153**				Pn	13 36 20.6	+0.6
CO03	**El Pedregal**	**1.84**	**33**				Pn	13 36 22.6	-1.2
BO01	**Tunca**	**2.09**	**162**				Pn	13 36 27.7	+0.5
BO02	**Sierra Bellavi**	**2.55**	**160**				Pn	13 36 33.0	-0.6
GO05	**Huala**	**2.61**	**181**	Pn		Pn		13 36 33.1	-1.3
AC02	**Maricunga**	**6.03**	**24**	Pn		Pn		13 37 21.9	+0.2
PLCA	**Paso Flores**	**8.39**	**173**	Pn		Pn		13 37 53.4	-0.3
LPAZ	**La Paz**	**16.39**	**13**	Pn		Pn		13 39 41.7	-0.9
LPAZ				IAmb		IAmb		13 39 43.9	
comp=Z,2.6nm,0.7s									
SNAA	**Sanae**	**53.01**	**158**	P		P		13 45 07.7	+0.1
SNAA				IAmb		IAmb		13 45 13.3	
comp=Z,1.9nm,1.3s									
QSPA	**South Pole Qui**	**57.84**	**180**	P		P		13 45 43.0	+0.5
QSPA				IAmb		IAmb		13 45 50.5	
comp=Z,1.0nm,1.2s									

*GUC **19** 13:36:02.4±0.7,32.53S×72.18W,h43km±18km,ML4.0*
*IDC **19** 13:36:05.3±1.1,32.26S×71.94W,h0km,mb3.9/4, mb1 4.0/7,mb1mx3.8/25,mbtmp3.8/7,ML3.9/3,Error ellipse: s-maj=37.8km s-min=24.2km az=99.0*
*NEIC **19** 13:36:10.5±2.3,32.45S±0.03×72.1W±0.1,h35km±2km, mb4.3/6, Error ellipse: s-maj=17.4km s-min=3.3km az=77.0*
ISC 19 13:36:10.7±0.7,32.38S±0.06×71.87W±0.07,h35km,n47,
σ1§62/36,mb4.2/5,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.52**	**111**	*e*P		**Pn**		**13 36 19.8**	**-1.8**
VA06				*i* S		**Sn**		**13 36 27.3**	**-1.9**
VA06				IAML				13 36 28.2	
comp=E,14μm,0.3s									
VA01	**Torpederas**	**0.67**	**164**	*e*P		Pn		13 36 15.9	-7.9
VA01				IAML				13 36 36.9	
comp=E,6μm,0.3s									
VA01	**Torpederas**	**0.67**	**164**	Pn		**Pn**		**13 36 23.0**	**-0.7**
ROCH	**El Roble**	**0.94**	**130**	*e*P		Pn		13 36 23.3	-4.2
ROCH				*i* S		**Sn**		**13 36 39.4**	**-0.5**
ROCH				IAML				13 36 42.5	
comp=N,6μm,0.3s									
VA03	**San Esteban**	**1.18**	**110**	*e*P		Pn		13 36 27.6	-3.2
VA03				*i* S		**Sn**		**13 36 46.4**	**+0.7**
VA03				IAML				13 36 49.5	
comp=N,8μm,0.6s									
VA03	**San Esteban**	**1.18**	**110**	Pn		**Pn**		**13 36 30.3**	**-0.5**
VA05	**Santo Domingo**	**1.29**	**171**	IAML				13 36 55.8	
comp=N,6μm,0.6s									
MT05	**Renca**	**1.39**	**137**	*e*P		**Pn**		**13 36 33.9**	**+0.2**
MT05				*i* S		**Sn**		**13 36 53.2**	**+2.4**
MT05				IAML				13 36 57.9	
comp=E,7μm,0.3s									
MT05	**Renca**	**1.39**	**137**	Pn		**Pn**		**13 36 35.0**	**+1.4**
MT01	**Popeta**	**1.57**	**161**	IAML				13 37 03.1	
comp=E,2μm,0.3s									
MT09	**Talagante**	**1.58**	**152**				Pn	13 37 08.1	
comp=N,3μm,0.5s									
MT09	**Talagante**	**1.58**	**152**	Pn		**Pn**		**13 36 36.3**	**-0.1**
CO06	**Fray Jorge**	**1.71**	**7**	Pn		**Pn**		**13 36 39.3**	**+1.3**
CO03	**El Pedregal**	**1.83**	**34**	Pn		**Pn**		**13 36 40.2**	**+0.5**
GO04	**Tololo Observa**	**2.38**	**23**	Pn		**Pn**		**13 36 50.1**	**+2.7**
GO05	**Huala**	**2.63**	**181**	Pn		**Pn**		**13 36 49.9**	**-0.7**
ZON	**Zonda**	**2.83**	**74**	Pn		**Pn**		**13 36 56.2**	**+2.7**
LCO	**Las Campanas**	**3.50**	**17**			**Pn**		**13 37 06.8**	**+3.9**
AC06	**Mina Casimiro**	**5.17**	**15**	Pn		**Pn**		**13 37 28.3**	**+2.7**
AC02	**Maricunga**	**6.01**	**24**	Pn		**Pn**		**13 37 41.4**	**+3.8**
H03N1	**Juan Fernandez**	**6.02**	**258**	T		T		13 44 14.3	
baz=86,slow=73,SNR=152									
H03N3	**Juan Fernandez**	**6.03**	**258**	T		T		13 44 06.9	
baz=86,slow=73,SNR=131									
H03N2	**Juan Fernandez**	**6.04**	**258**	T		T		13 44 17.5	
baz=86,slow=73,SNR=144									
H03S1	**Juan Fernandez**	**6.08**	**254**	T		T		13 44 05.6	
baz=82,slow=75,SNR=19

IDC 19 13:46:21.6±1.6, 30.78S×72.42W, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.7/24, mbtmp3.6/4, ML3.6/2, MS4.4/1, Ms1 4.4/1, ms1mx4.0/20, Error ellipse: s-maj=65.9km s-min=35.3km az=77.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**10.05**	**172**	Pn	Pn	13 48 47.8	+0.6
	0.2nm,0.3s,baz=338,slow=13,SNR=6.2						
LPAZ	**La Paz**	**14.95**	**16**	Pn	Pn	13 49 56.1	+1.3
	0.1nm,0.3s,baz=188,slow=7.4,SNR=4.9						
PMSA	**Palmer Station**	**34.42**	**174**	LR	LR	14 07 11.7	
	comp=Z,558nm,18.4s,baz=18,slow=36						
TXAR	**Lajitas Array**	**66.78**	**330**	P	P	13 57 15.0	0.0
	0.4nm,0.8s,baz=142,slow=8.0,SNR=3.9						
TORD	**Torodi Ar. Bea**	**83.43**	**71**	P	P	13 58 51.2	-0.1
	0.7nm,0.9s,baz=250,slow=4.9,SNR=3.0						
ZALV	**Zalesovo Beam**	**151.62**	**29**	PKPbc	PKPbc	14 06 16.9	-0.5
	0.4nm,0.3s,baz=309,slow=3.0,SNR=4.5						

*JMA **19** 13:56:13.4±0.1, 35.25N×139.32E, h122km±1km, M2.5*
*IDC **19** 13:56:13.2±5.0, 35.04N×138.88E, h120km±96km, mb2.9/2, mb1 3.2/2, mb1mx2.8/38, mbtmp3.3/2, Error ellipse: s-maj=109.0km s-min=83.6km az=175.0*
ISC 19 13:56:12.9±1.2, 35.22N±0.07×139.2E±0.1, h129km±8km, n13, σ0°44/19, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOD2	**Odawara 2**	**0.13**	**287**	P	**Pn**	**13 56 30.3**	**-0.2**
JOD2				S	**Sn**	**13 56 43.4**	**-0.3**
AJI	**Ajiro2**	**0.22**	**215**	P	**Pn**	**13 56 30.3**	**-0.3**
JIM2	**Oshima 3**	**0.53**	**163**	P	**Pn**	**13 56 32.0**	**0.0**
JIZS	**Izushimoda**	**0.59**	**211**	P	**Pn**	**13 56 33.0**	**+0.6**
JIZS				*e*S	**Sn**	**13 56 47.1**	**+0.1**
JYN	**Shimob**	**0.63**	**296**	P	**Pn**	**13 56 32.9**	**+0.2**
JRY	**Ryogami san**	**0.84**	**341**	P	**Pn**	**13 56 34.8**	**+0.5**
JRY				S	**Sn**	**13 56 50.9**	**+0.4**
JAG	**Ashikaga**	**1.21**	**8**	P	**Pn**	**13 56 37.6**	**-0.1**
BSO1	**Boso 1**	**1.53**	**111**	P	**Pn**	**13 56 41.1**	**+0.4**
MJAR	**Matsushiro Arr**	**1.56**	**328**	P	**Pn**	**13 56 40.9**	**-0.7**
	0.2nm,0.3s,baz=158,slow=12,SNR=18						
MJAR				S	**Sn**	**13 57 03.2**	**-0.3**
	0.3nm,0.3s,baz=230,slow=17,SNR=3.8						
MAT	**Matsushiro**	**1.56**	**328**	P	**Pn**	**13 56 42.1**	**+0.5**
MAT				S	**Sn**	**13 57 03.6**	**+0.1**
MAT	**Matsushiro**	**1.56**	**328**	P	**Pn**	**13 56 42.3**	**+0.7**
MAT				S	**Sn**	**13 57 03.6**	**+0.1**
WRA	**Warramunga Arr**	**55.06**	**186**	P	**P**	**14 05 30.8**	**-0.5**
	0.3nm,0.7s,baz=0.7,slow=7.1,SNR=5.3						
ASAR	**Alice Springs**	**58.79**	**186**	P	**P**	**14 05 57.7**	**+0.2**
	0.2nm,0.9s,baz=355,slow=6.0,SNR=1.6						

*IDC **19** 13:58:23.1±0.9, 32.25S×71.86W, h0km, mb4.2/7, mb1 4.2/11, mb1mx4.0/28, mbtmp4.1/11, ML4.2/4, Error ellipse: s-maj=34.9km s-min=17.9km az=104.0*
*NEIC **19** 13:58:24.9±1.8, 32.27S±0.03×71.95W±0.06, h10km±1km, mb4.2/12, ML4.3(GUC), Error ellipse: s-maj=11.8km s-min=5.4km az=271.0*
*GUC **19** 13:58:26.8±0.8, 32.39S×71.86W, h30km±6km, ML4.3*
ISC 19 13:58:24.2±1.6, 32.26S±0.03×71.98W±0.06, h10km±9km, n67, σ0°85/69, mb4.3/8, 2C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.65**	**118**	⇓*i*P	**Pg**	**13 58 37.6**	**+0.7**
VA06				*i* S	**Sg**	**13 58 45.9**	**+0.4**
VA06				IAML		13 58 51.5	
	comp=E,18μm,0.3s						
VA01	**Torpederas**	**0.81**	**160**	⇓*i*P	**Pb**	**13 58 40.4**	**-0.1**
VA01				*i* S	**Sg**	**13 58 50.2**	**-0.4**
VA01	**Torpederas**	**0.81**	**160**		**Pb**	**13 58 40.2**	**-0.3**
ROCH	**El Roble**	**1.09**	**131**	⇓*i*P	**Pb**	**13 58 44.8**	**-0.5**
ROCH				*i* S	**Sb**	**13 58 58.5**	**-1.1**
ROCH				IAML		13 59 02.0	
	comp=N,13μm,0.3s						
VA03	**San Esteban**	**1.31**	**113**	⇓*i*P	**Pn**	**13 58 48.2**	**-0.5**
VA03				*i* S	**Sb**	**13 59 05.8**	**-0.1**
VA03				IAML		13 59 08.8	
	comp=N,15μm,0.5s						
VA03	**San Esteban**	**1.31**	**113**		**Pn**	**13 58 48.0**	**-0.6**
VA03				Sn	**Sb**	**13 59 05.7**	**-0.1**
VA05	**Santo Domingo**	**1.43**	**168**	⇑*i*P	**Pn**	**13 58 50.0**	**-0.2**
VA05				*i* S	**Sn**	**13 59 07.8**	**-1.2**
VA05				IAML		13 59 17.2	
	comp=E,10μm,0.5s						
VA05	**Santo Domingo**	**1.43**	**168**		**Pn**	**13 58 50.0**	**-0.2**
MT05	**Renca**	**1.54**	**138**	*e*P	**Pn**	**13 58 51.9**	**+0.1**
MT05				*i* S	**Sn**	**13 59 11.2**	**-0.7**
MT05				IAML		13 59 14.6	
	comp=E,17μm,0.5s						
MT05	**Renca**	**1.54**	**138**		**Pn**	**13 58 51.9**	**+0.1**
CO06	**Fray Jorge**	**1.61**	**11**	Pn	**Pn**	**13 58 52.6**	**0.0**
MT01	**Popeta**	**1.72**	**159**	⇑*i*P	**Pn**	**13 58 54.3**	**+0.1**
MT01				*i* S	**Sn**	**13 59 15.9**	**-0.2**
MT01				IAML		13 59 21.6	
	comp=E,6μm,0.6s						
MT01	**Popeta**	**1.72**	**159**		**Pn**	**13 58 54.2**	**+0.1**
MT01				Sn	**Sn**	**13 59 15.0**	**-1.2**
MT09	**Talagante**	**1.73**	**151**	⇓*i*P	**Pb**	**13 58 55.3**	**-0.9**
MT09				*i* S	**Sn**	**13 59 16.4**	**-0.2**
MT09				IAML		13 59 26.6	
	comp=N,5μm,0.3s						
MT09	**Talagante**	**1.73**	**151**		**Pb**	**13 58 55.2**	**-0.9**
MT09				Sn	**Sb**	**13 59 17.8**	**-0.2**
CO03	**El Pedregal**	**1.79**	**38**	Pn	**Pn**	**13 58 56.9**	**+1.6**
BO01	**Tunca**	**2.26**	**161**		**Pn**	**13 59 01.8**	**+0.2**
GO04	**Tololo Observa**	**2.31**	**26**		**Pb**	**13 59 05.1**	**-1.0**
CO05	**La Serena**	**2.42**	**16**	Pn	**Pn**	**13 59 02.9**	**-0.8**
BO02	**Sierra Bellavi**	**2.72**	**159**	Pn	**Pn**	**13 59 08.7**	**+0.6**
GO05	**Huala**	**2.75**	**179**	Pn	**Pn**	**13 59 07.8**	**-0.5**
ZON	**Zonda**	**2.90**	**77**		**Pn**	**13 59 10.9**	**+0.5**
LCO	**Las Campanas**	**3.42**	**19**		**Pn**	**13 59 19.1**	**+1.3**
ML02	**Panimavida**	**3.53**	**173**	Pn	**Pn**	**13 59 19.2**	**+0.2**
AC04	**Llanos de Chal**	**4.11**	**11**		**Pn**	**13 59 27.0**	**-0.1**
GO03	**Copiap**	**4.89**	**19**	Pn	**Pn**	**13 59 38.8**	**+1.0**
AC06	**Mina Casimiro**	**5.08**	**17**	Pn	**Pn**	**13 59 40.6**	**+0.1**
AC02	**Maricunga**	**5.95**	**25**		**Pn**	**13 59 53.9**	**+1.2**
H03N1	**Juan Fernandez**	**5.95**	**257**	T	T	14 06 23.9	
	baz=86,slow=73						
H03N3	**Juan Fernandez**	**5.96**	**257**	T	T	14 06 26.0	
	baz=86,slow=73						
H03N2	**Juan Fernandez**	**5.97**	**257**	T	T	14 06 35.0	
	baz=86,slow=73						
H03S3	**Juan Fernandez**	**6.02**	**253**	T	T	14 06 34.2	
	baz=83,slow=75,SNR=76						
H03S1	**Juan Fernandez**	**6.03**	**253**	T	T	14 06 31.0	
	baz=83,slow=75,SNR=55						
H03S2	**Juan Fernandez**	**6.04**	**253**	T	T	14 06 24.7	
	baz=83,slow=75,SNR=59						
LC01	**Cunco**	**6.63**	**179**	Pn	**Pn**	**14 00 00.4**	**-1.2**
LR03	**Panguipulli**	**7.37**	**182**	Pn	**Pn**	**14 00 09.1**	**-2.7**
PLCA	**Paso Flores**	**8.54**	**173**	Pn	**Pn**	**14 00 28.7**	**+0.8**
	comp=N,1.5nm,0.3s,baz=332,slow=11,SNR=28						
PSGCX	**Pisagua**	**12.72**	**8**	Pn	**Pn**	**14 01 23.8**	**-1.4**
CPUP	**Villa Florida**	**14.08**	**69**	Pn	**Pn**	**14 01 43.3**	**-0.4**
	comp=N,0.2nm,0.3s,baz=225,slow=11,SNR=1.9						
CPUP	**Villa Florida**	**14.08**	**69**		**Pn**	**14 01 43.6**	**-0.1**
LPAZ	**La Paz**	**16.28**	**13**	Pn	**Pn**	**14 02 14.6**	**+1.1**
	comp=N,0.3nm,0.3s,baz=184,slow=5.8,SNR=14						
LPAZ	**La Paz**	**16.28**	**13**	Pn	**Pn**	**14 02 12.8**	**-0.8**
SIV	**San Ignacio**	**18.99**	**34**	P	**P**	**14 02 46.3**	**+0.4**
	comp=N,0.2nm,0.3s,baz=230,slow=11,SNR=9.7						
BDFB	**Brasilia**	**27.35**	**58**	P	**P**	**14 04 09.2**	**-0.5**
	comp=N,4.5nm,0.6s,baz=216,slow=9.9,SNR=5.7						
BDFB	**Brasilia**	**27.35**	**58**	P	**P**	**14 04 08.9**	**-0.8**
OTAV	**Otavalo**	**32.89**	**348**	P	**P**	**14 04 57.0**	**-2.1**
OTAV				IAmb	IAmb	14 05 03.2	
	comp=Z,3.9nm,1.2s						
CAP2	**Capurgana**	**41.00**	**352**	P	**P**	**14 06 08.8**	**+1.3**
VNA3	**Neumayer Olymp**	**50.95**	**158**	P	**P**	**14 07 25.8**	**+0.3**
VNA2	**Neumayer--Watz**	**51.60**	**158**	P	**P**	**14 07 30.5**	**+0.2**
	baz=283,slow=8.4						
SNAA	**Sanae**	**53.18**	**158**	P	**P**	**14 07 42.3**	**+0.2**
SNAA	**Sanae**	**53.18**	**158**	P	**P**	**14 07 42.6**	**+0.6**
	comp=Z,1.9nm,0.5s,baz=281,slow=7.8,SNR=47						
SNAA	**Sanae**	**53.18**	**158**	P	**P**	**14 07 42.8**	**+0.8**
QSPA	**South Pole Qui**	**57.98**	**180**	P	**P**	**14 08 17.6**	**+0.9**
	comp=Z,2.3nm,0.7s,baz=151,slow=5.3,SNR=22						
QSPA	**South Pole Qui**	**57.98**	**180**	P	**P**	**14 08 17.6**	**+0.9**
QSPA				IAmb	IAmb	14 08 28.2	
	comp=Z,2.7nm,1.0s						
TXAR	**Lajitas Array**	**68.24**	**330**	P	**P**	**14 09 26.9**	**+1.7**
	comp=Z,0.1nm,0.4s,baz=160,slow=8.6,SNR=1.8						
TXAR	**Lajitas Array**	**68.24**	**330**	P	**P**	**14 09 26.3**	**+1.1**
DBIC	**Dimbokro**	**74.58**	**72**	P	**P**	**14 10 03.6**	**-0.1**
	comp=Z,3.9nm,0.7s,baz=230,slow=5.2,SNR=4.1						
MAW	**Mawson**	**74.83**	**164**	P	**P**	**14 10 05.0**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=238,slow=15,SNR=1.8						
MAW	**Mawson**	**74.83**	**164**	P	**P**	**14 10 05.1**	**+0.7**
TORD	**Torodi Ar. Bea**	**83.57**	**70**	P	**P**	**14 10 52.8**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=270,slow=4.5,SNR=10						
TORD	**Torodi Ar. Bea**	**83.57**	**70**	P	**P**	**14 10 52.7**	**-0.2**
TORD				IAmb	IAmb	14 10 53.4	
	comp=Z,2.1nm,0.8s						
WRA	**Warramunga Arr**	**122.30**	**210**	PKP	**PKPdf**	**14 17 19.2**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=157,slow=1.9,SNR=6.0						
H11S2	**WAKE ISLAND Hyd**	**125.83**	**270**	T	T	16 36 32.9	
	baz=117,slow=74,SNR=16						
H11S1	**WAKE ISLAND Hyd**	**125.84**	**270**	T	T	16 36 33.8	
	baz=117,slow=74,SNR=13						
H11S3	**WAKE ISLAND Hyd**	**125.84**	**270**	T	T	16 36 31.7	
	baz=117,slow=74,SNR=14						
ZALV	**Zalesovo Beam**	**152.72**	**31**	PKPbc	**PKPbc**	**14 18 20.6**	**-0.1**
	comp=Z,1.6nm,0.4s,baz=312,slow=3.0,SNR=6.9						
MKAR	**Makanchi Array**	**155.56**	**46**	PKPab	**PKPab**	**14 18 44.1**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=289,slow=3.8,SNR=8.8						

*IDC **19** 14:00:59.8±0.7, 43.60N×144.14E, h0km, mb4.0/13, mb1 4.1/17, mb1mx4.0/38, mbtmp3.9/17, ML2.6/3, MS4.0/1, Ms1 4.0/1, ms1mx3.7/30, Error ellipse: s-maj=15.4km s-min=11.9km az=10.0*
*JMA **19** 14:01:00.3, 43.49N×144.06E, h0km, M3.9 Broadband fault plane solution: P waves. NP1:φ=46.00000°, δ 19.00000°, λ 76.00000°. NP2:φ=241.00000°, δ 72.00000°, λ 95.00000°. Principal axes: T Plg63.0000°, Azm158.0000°; N Plg4.0000°, Azm59.0000°; P Plg27.0000°, Azm327.0000°;*
JMA Felt III J1.
*SKHL **19** 14:01:02.0±0.1, 43.30N×144.10E, h55km±5km, mb4.4/4*
*MOS **19** 14:01:02.0±1.3, 43.43N×144.06E, h45km, mb4.5/4, Error ellipse: s-maj=10.3km s-min=7.6km az=59.4*
*NEIC **19** 14:01:03.4±2.1, 43.39N±0.04×144.1E±0.1, h40km±9km, mb4.4/15, Error ellipse: s-maj=13.2km s-min=5.4km az=100.0*
ISC 19 14:01:00.6±1.0, 43.46N±0.03×144.09E±0.02, h12km±6km, n108, σ1°46/119, mb4.3/24, 4C-3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAR	**Ashorobuto**	**0.29**	**235**	⇑P	**Pg**	**14 01 06.5**	**+0.1**
JAR				*e*S	**Sg**	**14 01 11.5**	**+1.1**
JNK	**Nakash**	**0.47**	**75**	⇑P	**Pg**	**14 01 09.7**	**-0.2**
JNK				*e*S	**Sg**	**14 01 16.0**	**-0.1**
JTKR	**Abashiri--Toko**	**0.53**	**345**	⇓P	**Pg**	**14 01 10.1**	**-0.8**
JTKR				S	**Sg**	**14 01 17.3**	**-0.6**
JOB	**Onbets**	**0.59**	**199**	⇑P	**Pb**	**14 01 12.9**	**+0.1**
AKK	**Akkeshi**	**0.71**	**129**	*e*P	**Pb**	**14 01 14.6**	**-0.2**
AKK				*e*S	**Sb**	**14 01 24.0**	**-0.4**
JMP	**Maruseppu**	**0.76**	**316**	⇓P	**Pb**	**14 01 14.3**	**-1.5**
JMP				S	**Sb**	**14 01 24.4**	**-1.7**
JKHN	**Kushirohamanak**	**0.87**	**115**	P	**Pb**	**14 01 17.4**	**-0.1**
JRA	**Rausu**	**0.89**	**57**	P	**Pb**	**14 01 17.4**	**-0.5**
JRA				S	**Sb**	**14 01 29.5**	**-0.1**
RUSJ	**Misakicho**	**1.05**	**52**	*e*PN	**Pb**	**14 01 20.6**	**-0.2**
RUSJ				*e*S	**Sg**	**14 01 36.9**	**+2.3**
GLVR	**Golovnino**	**1.07**	**75**	*e*PN	**Pb**	**14 01 20.7**	**-0.4**
GLVR				*e*S	**Sb**	**14 01 35.6**	**+0.6**
GLVR				smax	smax		
	comp=N,3μm,0.3s						
GLVR				smax	smax		
	comp=E,2μm,0.3s						
GLVR	**Golovnino**	**1.07**	**75**	*e*P	**Pb**	**14 01 20.0**	**-1.1**
GLVR				*e*S	**Sb**	**14 01 35.0**	**0.0**
GLVR				A	A	14 01 36.0	
	comp=E,3μm,0.3s						
GLVR				A	A	14 01 36.0	
	comp=E,2μm,0.3s						
NMR	**Nemuro--Hokkai**	**1.20**	**94**	⇑*i*PN	**Pn**	**14 01 21.8**	**-1.3**
NMR				*i* S	**Sb**	**14 01 37.9**	**-0.6**
NMR	**Nemuro--Hokkai**	**1.20**	**94**	*i* P	**Pn**	**14 01 21.0**	**-2.1**
NMR				*i* S	**Sb**	**14 01 37.0**	**-1.5**
JKA	**Kamikawa-asahi**	**1.26**	**302**		**Pn**	**14 01 24.1**	**0.0**
JKA	**Kamikawa-asahi**	**1.26**	**302**	*e*P	**Pn**	**14 01 24.0**	**0.0**
ASAJ	**Asahikawa**	**1.27**	**302**	Pg	**Pn**	**14 01 24.0**	**-0.1**
	comp=E,714nm,0.3s,baz=140,slow=14,SNR=2301						
ASAJ				Lg	Lg	14 01 39.7	
	comp=E,147nm,0.3s,baz=92,slow=25,SNR=6.1						
ASAJ	**Asahikawa**	**1.27**	**302**	PN	**Pn**	**14 01 24.0**	**-0.1**
GRPR	**Tuman**	**1.33**	**66**	*e*PN	**Pn**	**14 01 24.5**	**-0.4**
GRPR				*e*S	**Sb**	**14 01 42.7**	**+0.3**
GRPR				pmax	pmax		
	comp=Z,683nm,0.3s						
GRPR				pmax	pmax		
	comp=N,167nm,0.2s						
GRPR				smax	smax		
	comp=N,1μm,0.4s						
GRPR				smax	smax		
	comp=E,927nm,0.4s						
GRPR	**Tuman**	**1.33**	**66**	*e*P	**Pn**	**14 01 24.0**	**-0.9**
GRPR				AMB	AMB	14 01 28.0	
	comp=E,683nm,0.7s						
GRPR				*e*S	**Sn**	**14 01 42.0**	**-0.6**
GRPR				A	A	14 01 47.0	
	comp=E,1μm,0.4s						
GRPR				A	A	14 01 47.0	
	comp=E,927nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.41**	**65**	*d i*PN	**Pn**	**14 01 26.3**	**+0.3**
YUK				*i* S	**Sb**	**14 01 45.4**	**+0.8**
YUK				pmax	pmax		
	comp=Z,307nm,0.2s						
YUK				pmax	pmax		
	comp=E,157nm,0.3s						
YUK				pmax	pmax		
	comp=N,61nm,0.2s						
YUK				smax	smax		
	comp=E,834nm,0.4s						
YUK				smax	smax		
	comp=N,1μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.41**	**65**	*i* P	**Pn**	**14 01 25.8**	**-0.2**
YUK				AMB	AMB	14 01 28.0	
	comp=N,760nm,0.9s						
YUK				*i* S	**Sn**	**14 01 42.3**	**-2.1**
YUK				A	A	14 01 48.4	
	comp=N,1μm,0.6s						
YUK				A	A	14 01 48.4	
	comp=N,1μm,0.6s						
JEM	**Erimo**	**1.60**	**206**	Pn	**Pn**	**14 01 25.5**	**-3.2**
ERM	**Erimo**	**1.60**	**206**	PN	**Pb**	**14 01 29.4**	**-0.7**
ERM	**Erimo**	**1.60**	**206**		**Pb**	**14 01 29.4**	**-0.7**
JEW	**Eniwo**	**2.03**	**253**		**Pb**	**14 01 36.1**	**-1.3**
KUR	**Kuril'sk**	**3.24**	**56**	*e*PN	**Pb**	**14 01 55.7**	**-2.2**
KUR				*i* S	**Sb**	**14 02 38.3**	**+1.0**
KUR				pmax	pmax		
	comp=Z,132nm,0.7s						
KUR				pmax	pmax		
	comp=N,42nm,0.6s						
KUR				smax	smax		
	comp=E,97nm,0.7s						
KUR				smax	smax		
	comp=N,62nm,0.6s						
JTM	**Tenmabayashi**	**3.49**	**221**	Pn	**Pn**	**14 01 56.4**	**+1.7**
YSS	**Yuzh-Sakhalins**	**3.62**	**345**	*e*PN	**Pn**	**14 01 58.3**	**+1.9**
YSS				*e*S	**Sn**	**14 02 41.4**	**+2.4**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS				smax	smax		
	comp=N,110nm,0.7s						
YSS				smax	smax		
	comp=E,100nm,0.5s						
YSS	**Yuzh-Sakhalins**	**3.62**	**345**	Pn	**Pn**	**14 01 56.9**	**+0.5**
YSS	**Yuzh-Sakhalins**	**3.62**	**345**	*e*P	**Pn**	**14 01 58.0**	**+1.6**
YSS				AMB	AMB	14 02 01.0	
	comp=E,20nm,0.7s						
YSS				*e*S	**Sn**	**14 02 40.8**	**+1.8**
YSS				A	A	14 02 42.0	
	comp=E,110nm,0.6s						
YSS				A	A	14 02 42.0	
	comp=E,100nm,0.6s						
TEY	**Ternei**	**5.61**	**289**	*e*PN	Pn	14 02 16.4	-7.3
JMM	**Marumori**	**6.13**	**205**	Pn	**Pn**	**14 02 26.5**	**-4.3**
MAJO	**Matsushiro**	**8.25**	**215**	PN	**Pn**	**14 02 59.3**	**-0.8**
MAJO	**Matsushiro**	**8.25**	**215**	Pn	**Pn**	**14 02 59.3**	**-0.8**
MAT	**Matsushiro**	**8.25**	**215**	P	**Pn**	**14 03 01.0**	**+0.9**
MJAR	**Matsushiro Arr**	**8.25**	**215**	Pn	**Pn**	**14 03 02.2**	**+2.1**
	comp=E,0.1nm,0.3s,baz=36,slow=13,SNR=12						
MJAR				Lg	Lg	14 05 25.6	
	comp=E,0.0nm,0.3s,baz=37,slow=32,SNR=2.8						
MJAR	**Matsushiro Arr**	**8.25**	**215**	PN	**Pn**	**14 02 59.9**	**-0.2**
MJAR	**Matsushiro Arr**	**8.25**	**215**		**Pn**	**14 02 59.9**	**-0.2**
USRK	**Ussuriysk Ar.**	**8.78**	**279**	Pn	**Pn**	**14 03 08.7**	**+1.4**
	baz=88,slow=15,SNR=1.9						
JGF	**Kuroka**	**9.41**	**216**	Pn	**Pn**	**14 03 13.6**	**-2.4**
KLR	**Kul'dur**	**10.29**	**308**	Pn	**Pn**	**14 03 32.2**	**+4.3**
	comp=E,0.0nm,0.3s,baz=110,slow=11,SNR=3.7						
KLR				LR	LR	14 07 24.1	
	comp=E,861nm,22.0s,baz=34,slow=38						
KLR	**Kul'dur**	**10.29**	**308**	*e*P	**Pn**	**14 03 30.0**	**+2.0**
EKMR	**Ekimchan**	**12.13**	**326**	*e*P	**Pn**	**14 03 53.6**	**+0.5**
EKMR				AMB	AMB	14 04 04.7	
	comp=E,8.0nm,0.9s						
PETK	**Petropavlovsk-**	**13.22**	**38**	Pn	**Pn**	**14 04 09.7**	**+1.8**
	comp=E,0.1nm,0.3s,baz=195,slow=8.5,SNR=4.0						
PETK	**Petropavlovsk-**	**13.22**	**38**	PN	**Pn**	**14 04 08.1**	**+0.2**
PETK	**Petropavlovsk-**	**13.22**	**38**		**Pn**	**14 04 08.1**	**+0.2**
KSRS	**Korea Array**	**13.69**	**249**	Pn	**Pn**	**14 04 16.6**	**+2.2**
	baz=58,slow=13,SNR=5.1						
SEY	**Seymchan**	**20.10**	**11**	P	**P**	**14 05 33.1**	**-0.6**
	comp=E,0.1nm,0.3s,baz=182,slow=7.7,SNR=2.5						
HHC	**Hu-ho-hao-te**	**24.17**	**275**	*e*P	**P**	**14 06 12.9**	**-3.9**
AMKA	**Amchitka**	**24.91**	**59**	P	**P**	**14 06 21.5**	**-1.7**
SONM	**Songino Array**	**26.53**	**293**	P	**P**	**14 06 39.1**	**+0.9**
	comp=E,6.6nm,0.9s,baz=87,slow=7.7,SNR=22						
SONM	**Songino Array**	**26.53**	**293**	P	**P**	**14 06 35.9**	**-2.2**
SONM				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SONM	**Songino Array**	**26.53**	**293**	P	**P**	**14 06 35.9**	**-2.2**
ZAK	**Zakamensk**	**28.43**	**299**	*e*P	**P**	**14 06 54.4**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ZAK	**Zakamensk**	**28.43**	**299**	*e*P	**P**	**14 06 54.4**	**-0.7**
H11N2	**WAKE ISLAND Hyd**	**30.42**	**134**	T	T	14 38 23.5	
	baz=328,slow=74,SNR=39						
H11N1	**WAKE ISLAND Hyd**	**30.43**	**134**	T	T	14 38 25.0	
	baz=328,slow=74,SNR=14						
H11N3	**WAKE ISLAND Hyd**	**30.44**	**134**	T	T	14 38 25.9	
	baz=328,slow=74,SNR=23						
H11S1	**WAKE ISLAND Hyd**	**31.34**	**135**	T	T	14 39 31.2	
	baz=328,slow=75,SNR=37						
H11S3	**WAKE ISLAND Hyd**	**31.34**	**135**	T	T	14 39 29.3	
	baz=328,slow=75,SNR=33						
H11S2	**WAKE ISLAND Hyd**	**31.36**	**135**	T	T	14 39 34.1	
	baz=328,slow=75,SNR=43						
GTA	**Gaotai**	**33.15**	**278**	*e*P	**P**	**14 07 37.3**	**+0.5**
GTA				pP	pP	14 07 42.1	+1.5
GTA				sP	sP	14 07 44.6	+2.4
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ZALV	**Zalesovo Beam**	**39.40**	**307**	P	**P**	**14 08 30.3**	**+0.5**
	comp=Z,2.6nm,0.7s,baz=80,slow=9.2,SNR=7.5						
J20K	**Nowinta River**	**39.91**	**37**	P	**P**	**14 08 34.6**	**+0.7**
J20K				IAmb	IAmb	14 09 55.8	
	comp=Z,24nm,2.0s						
WMQ	**Urumqi**	**40.13**	**291**	*e*P	**P**	**14 08 37.1**	**+0.9**
WMQ				LR	LR		
	comp=N,2μm,16.9s						
WMQ				LR	LR		
	comp=E,4μm,16.9s						
WMQ				LR	LR		
	comp=Z,3μm,19.7s						
IMAR	**Indian Mountai**	**40.13**	**34**	P	**P**	**14 08 35.7**	**-0.2**
PPLA	**Purkeypile**	**40.80**	**39**	P	**P**	**14 08 41.4**	**-0.2**
PPLA				IAmb	IAmb	14 08 58.8	
	comp=Z,17nm,1.4s						
MK31	**Makanchi Array**	**42.74**	**297**	P	**P**	**14 08 55.4**	**-2.1**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MK31	**Makanchi Array**	**42.74**	**297**	P	**P**	**14 08 55.4**	**-2.1**
MK31				IAmb	IAmb	14 09 00.9	
	comp=Z,4.3nm,0.8s						
MKAR	**Makanchi Array**	**42.74**	**297**	P	**P**	**14 08 58.3**	**+0.7**
	comp=Z,5.3nm,0.9s,baz=83,slow=9.0,SNR=24						
MKAR	**Makanchi Array**	**42.74**	**297**	P	**P**	**14 08 56.7**	**-0.8**
MKAR	**Makanchi Array**	**42.74**	**297**	P	**P**	**14 08 56.7**	**-0.8**
MKAR	**Makanchi Array**	**42.74**	**297**	*e*P	**P**	**14 08 56.7**	**-0.8**
MAKZ	**Makanchi**	**42.94**	**297**	P	**P**	**14 08 57.8**	**-1.4**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MAKZ	**Makanchi**	**42.94**	**297**	P	**P**	**14 08 57.8**	**-1.4**
MAKZ				IAmb	IAmb	14 09 02.6	
	comp=Z,4.8nm,0.8s						

VA03	**San Esteban**	**1.22**	**113**	*e*P	**Pn**	**14 02 09.7**	**-0.1**
VA03				*i* S	**Sn**	**14 02 26.3**	**+0.4**
VA03				IAML		14 02 30.5	
	comp=N,8μm,0.7s						
MT05	**Renca**	**1.47**	**139**⇑	*i*P	**Pb**	**14 02 14.0**	**-0.5**
MT05				*i* S	**Sb**	**14 02 33.6**	**+0.8**
MT05				IAML		14 02 36.0	
	comp=E,6μm,0.2s						
CO06	**Fray Jorge**	**1.62**	**8**⇑	*i*P	**Pn**	**14 02 14.7**	**-0.5**
CO06				IAML		14 02 43.8	
	comp=E,1μm,0.3s						
MT01	**Popeta**	**1.67**	**162**⇑	*i*P	**Pn**	**14 02 16.2**	**+0.3**
MT01				*i* S	**Sb**	**14 02 37.2**	**-1.1**
MT01				IAML		14 02 43.6	
	comp=E,2μm,0.7s						
MT09	**Talagante**	**1.67**	**153**⇑	*i*P	**Pb**	**14 02 17.2**	**-0.8**
MT09				*i* S	**Sb**	**14 02 38.2**	**-0.4**
MT09				IAML		14 02 41.0	
	comp=N,2μm,0.5s						
CO03	**El Pedregal**	**1.76**	**36**⇓	*i*P	**Pb**	**14 02 18.6**	**-0.9**
CO03				*i* S	**Sb**	**14 02 41.6**	**+0.4**
CO03				IAML		14 02 47.1	
	comp=E,2μm,0.4s						
LMEL	**Las Melosas**	**2.10**	**138**⇓	*i*P	**Pb**	**14 02 24.0**	**-1.4**
LMEL				IAML		14 02 58.8	
	comp=N,1μm,0.3s						
H03N1	**Juan Fernandez**	**6.03**	**257**	T	T	14 09 52.6	
	baz=86,slow=73,SNR=41						
H03N3	**Juan Fernandez**	**6.04**	**257**	T	T	14 09 52.6	
	baz=86,slow=73,SNR=61						
H03N2	**Juan Fernandez**	**6.04**	**257**	T	T	14 09 51.3	
	baz=86,slow=73,SNR=39						
H03S3	**Juan Fernandez**	**6.10**	**253**	T	T	14 09 50.7	
	baz=82,slow=75,SNR=5.8						
H03S1	**Juan Fernandez**	**6.10**	**253**	T	T	14 09 48.7	
	baz=82,slow=75,SNR=5.9						
H03S2	**Juan Fernandez**	**6.11**	**253**	T	T	14 09 46.4	
	baz=82,slow=75,SNR=14						
PLCA	**Paso Flores**	**8.50**	**173**	Pn	**Pn**	**14 03 50.4**	**+0.6**
	comp=N,0.2nm,0.3s,baz=343,slow=13,SNR=0.8						
LPAZ	**La Paz**	**16.28**	**13**	Pn	**Pn**	**14 05 36.6**	**+0.6**
	comp=N,0.1nm,0.3s,baz=191,slow=10,SNR=8.2						
SIV	**San Ignacio**	**18.96**	**34**	P	**P**	**14 06 07.8**	**-0.1**
	comp=N,0.3nm,0.3s,baz=217,slow=9.9,SNR=4.9						
VNA3	**Neumayer Olymp**	**50.90**	**158**	P	**P**	**14 10 48.4**	**+1.3**
VNA2	**Neumayer--Watz**	**51.55**	**158**	P	**P**	**14 10 52.8**	**+0.9**
	baz=280,slow=8.4						
SNAA	**Sanae**	**53.13**	**158**	P	**P**	**14 11 04.4**	**+0.7**
SNAA	**Sanae**	**53.13**	**158**	P	**P**	**14 11 04.3**	**+0.7**
	comp=N,0.7nm,0.5s,baz=272,slow=9.9,SNR=11						
TORD	**Torodi Ar. Bea**	**83.50**	**70**	P	**P**	**14 14 14.6**	**0.0**
	comp=N,0.8nm,0.6s,baz=241,slow=3.7,SNR=5.7						
WRA	**Warramunga Arr**	**122.32**	**209**	PKP	**PKPdf**	**14 20 41.5**	**-0.5**
	comp=N,0.2nm,0.8s,baz=161,slow=2.1,SNR=1.4						
H11S2	**WAKE ISLAND Hyl**	**25.91**	**270**	T	T	16 39 45.2	
	baz=118,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hyl**	**25.92**	**270**	T	T	16 39 46.2	
	baz=118,slow=75,SNR=8.9						
H11S3	**WAKE ISLAND Hyl**	**25.93**	**270**	T	T	16 39 48.4	
	baz=118,slow=75,SNR=9.1						
ZALV	**Zalesovo Beam**	**157.70**	**31**	PKPbc	**PKiKP**	**14 21 42.7**	**0.0**
	comp=N,1.1nm,0.5s,baz=298,slow=3.1,SNR=3.2						

IDC 19 14:08:19.9±2.3**, 30.68S**×**71.80W, h0**km**, mb4.1**/2**, mb1 4.0**/4**, mb1mx3.7**/18**, mbtmp3.9**/4**, ML3.5**/2**, Error ellipse: s-maj=80.1km s-min=36.7km az=111.0, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N1	**Juan Fernandez**	**6.64**	**244**	T	T	14 16 57.1	
	baz=72,slow=72,SNR=235						
H03N2	**Juan Fernandez**	**6.65**	**244**	T	T	14 16 53.6	
	baz=72,slow=72,SNR=315						
H03N3	**Juan Fernandez**	**6.65**	**244**	T	T	14 16 53.6	
	baz=72,slow=72,SNR=303						
PLCA	**Paso Flores**	**10.08**	**175**	Pn	Pn	14 10 46.0	0.0
	0.1nm,0.3s,baz=350,slow=11,SNR=1.2						
SIV	**San Ignacio**	**17.61**	**36**	P	Pn	14 12 27.1	+0.3
	0.1nm,0.3s,baz=239,slow=12,SNR=10						
BDFB	**Brasilia**	**26.42**	**61**	P	P	14 13 58.4	-0.1
	3.7nm,0.7s,baz=254,slow=16,SNR=4.2						
TORD	**Torodi Ar. Bea**	**82.89**	**70**	P	P	14 20 46.7	-0.1
	0.9nm,0.7s,baz=254,slow=3.8,SNR=6.2						
H11S2	**WAKE ISLAND Hyl**	**25.96**	**271**	T	T	16 46 10.5	
	baz=114,slow=75,SNR=8.2						
H11S1	**WAKE ISLAND Hyl**	**25.97**	**271**	T	T	16 46 06.2	
	baz=114,slow=75,SNR=7.9						
H11S3	**WAKE ISLAND Hyl**	**25.98**	**271**	T	T	16 46 04.3	
	baz=114,slow=75,SNR=8.0						
ZALV	**Zalesovo Beam**	**151.28**	**29**	PKPbc	PKPbc	14 28 14.7	-0.2
	5.3nm,0.7s,baz=298,slow=2.8,SNR=14						

*JMA **19** 14:12:36.8*±*0.1, 23.37N*×*121.91E, h41km*±*5km, M2.9*
*TAP **19** 14:12:37.4, 23.36N*×*121.93E, h35km, ML3.3, C*
ISC 19 14:12:37.0±1.0**, 23.34N**±0.02**×121.94E**±0.02**, h32**km±9km**, n109, σ0.82/191, 3C-13D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBN	**Changbin**	**0.45**	**267**⇓	*i*P	**Pb**	**14 12 46.7**	**-0.1**
	baz=258						
ECBN				S	**Sb**	**14 12 53.4**	**0.0**
	baz=258						
HGSD	**Ruisui**	**0.49**	**287**⇓	*i*P	**Pb**	**14 12 46.8**	**-0.7**
	baz=285						
HGSD				S	**Sb**	**14 12 53.8**	**-0.9**
	baz=285						
TEGC	**Jichi Village**	**0.51**	**315**	P	**Pn**	**14 12 47.4**	**-0.7**
	baz=314						
TEGC				*e*S	**Sb**	**14 12 55.1**	**-0.1**
	baz=314						
EYUL	**Yuli**	**0.57**	**270**⇓	*i*P	**Pn**	**14 12 48.3**	**-0.5**
	baz=263						
EYUL				*e*S	**Sn**	**14 12 56.7**	**-0.5**
	baz=263						
EGFH	**Guangfu**	**0.57**	**305**	*i* P	**Pn**	**14 12 48.3**	**-0.6**
	baz=312						
EGFH				S	**Sn**	**14 12 56.3**	**-0.8**
	baz=312						
CHKT	**Chengkung**	**0.58**	**245**	*e*P	**Pn**	**14 12 48.1**	**-0.9**
	baz=238						
CHKT				*e*S	**Sn**	**14 12 55.6**	**-1.8**
	baz=238						
EHY	**Hungye**	**0.59**	**286**	*i* P	**Pn**	**14 12 48.5**	**-0.6**
	baz=284						
EHY				*e*S	**Sn**	**14 12 56.9**	**-0.7**
	baz=284						
TWF1	**Yuli**	**0.59**	**271**	*i* P	**Pn**	**14 12 48.5**	**-0.6**
	baz=262						
TWF1				S	**Sn**	**14 12 56.9**	**-0.8**
	baz=262						
YULB	**Yu-li**	**0.59**	**275**⇓	*i*P	**Pn**	**14 12 48.5**	**-0.7**
	baz=270						
YULB				*e*S	**Sn**	**14 12 57.6**	**0.0**
	baz=270						
TEYL	**Yanliau Villag**	**0.61**	**329**	*e*P	**Pn**	**14 12 49.1**	**-0.3**
	baz=330						
TEYL				*e*S	**Sn**	**14 12 57.8**	**-0.3**
	baz=330						
FULB	**Fuli**	**0.61**	**256**	*e*P	**Pn**	**14 12 48.6**	**-0.8**
	baz=246						
FULB				*e*S	**Sn**	**14 12 56.4**	**-1.7**
	baz=246						
ESL	**Shilin**	**0.66**	**315**⇓	*i*P	**Pn**	**14 12 49.1**	**-1.0**
	baz=321						
EDH	**Donghe**	**0.69**	**238**	*e*P	**Pn**	**14 12 49.7**	**-0.8**
	baz=232						
EDH				*e*S	**Sn**	**14 12 59.0**	**-1.2**
	baz=232						
HWA	**Hwalien**	**0.70**	**334**	*e*P	**Pn**	**14 12 50.1**	**-0.6**
	baz=342						
HWA				*e*S	**Sn**	**14 12 59.4**	**-0.9**
	baz=342						
ECS	**Chishang**	**0.70**	**250**	*e*P	**Pn**	**14 12 50.9**	**+0.1**
	baz=242						
ECS				*e*S	**Sb**	**14 13 01.0**	**+0.6**
	baz=242						
ETM	**Tongmen**	**0.74**	**327**	*e*P	**Pn**	**14 12 50.4**	**-0.9**
	baz=326						
LDUT	**Ludao**	**0.80**	**213**	P	**Pn**	**14 12 51.0**	**-0.9**
	baz=212						
LDUT				*e*S	**Sn**	**14 13 01.3**	**-1.4**
	baz=212						
TWD	**Chiawan**	**0.80**	**337**	P	**Pn**	**14 12 51.2**	**-0.8**
	baz=337						
TWD				S	**Sn**	**14 13 01.3**	**-1.4**
	baz=337						
ELDTW	**Lidau**	**0.86**	**260**	P	**Pn**	**14 12 52.3**	**-0.7**
	baz=248						
ELDTW				*e*S	**Sn**	**14 13 03.1**	**-1.4**
	baz=248						
ETL	**Fush Village**	**0.86**	**341**	P	**Pn**	**14 12 52.2**	**-0.7**
	baz=340						
ETL				*e*S	**Sn**	**14 13 03.6**	**-0.8**
	baz=340						
LONT	**Longtian**	**0.86**	**240**	P	**Pn**	**14 12 52.7**	**-0.2**
	baz=233						
LONT				S	**Sn**	**14 13 04.0**	**-0.4**
	baz=233						
NACB	**Ninganchiao**	**0.88**	**339**⇓	*i*P	**Pn**	**14 12 52.4**	**-0.8**
	baz=338						
NACB				*e*S	**Sn**	**14 13 03.3**	**-1.6**
	baz=338						
YUS	**Yu-Shan**	**0.92**	**279**	*e*S	**Sn**	**14 13 05.9**	**-0.5**
	baz=287						
OWD	**Renai**	**0.93**	**311**	*i* P	**Pn**	**14 12 53.7**	**-0.2**
	baz=310						
TTN	**Taitung**	**0.94**	**231**	*e*S	**Sn**	**14 13 05.9**	**-0.2**
	baz=230						
TWGBT	**Beinan**	**0.95**	**237**⇑	*i*P	**Pn**	**14 12 53.6**	**-0.5**
	baz=249						
TWGBT				*e*S	**Sn**	**14 13 05.8**	**-0.7**
	baz=249						
TWG	**Pinlang**	**0.95**	**237**	*i* P	**Pn**	**14 12 53.7**	**-0.4**
	baz=249						
TWG				S	**Sn**	**14 13 05.7**	**-0.9**
	baz=249						
ETLH	**Xiulin Townshi**	**0.95**	**334**	*i* P	**Pn**	**14 12 53.8**	**-0.5**
	baz=333						
ETLH				S	**Sn**	**14 13 05.4**	**-1.5**
	baz=333						
CHGB	**Renai**	**1.00**	**316**⇓	*i*P	**Pn**	**14 12 55.0**	**+0.1**
	baz=314						
CHGB				S	**Sn**	**14 13 07.3**	**-0.7**
	baz=314						
SSLB	**Suanglung**	**1.00**	**296**⇓	*i*P	**Pn**	**14 12 54.9**	**0.0**
	baz=295						
WHF	**Hehuan Shan**	**1.01**	**322**⇓	*i*P	**Pn**	**14 12 54.8**	**-0.5**
	baz=322						
WHF				*e*S	**Sn**	**14 13 07.3**	**-1.2**
	baz=322						
ALS	**Alishan**	**1.05**	**279**⇓	*i*P	**Pn**	**14 12 56.5**	**+0.7**
	baz=278						
ALS				S	**Sn**	**14 13 10.0**	**+0.5**
	baz=278						
WHYT	**Xinyi Township**	**1.05**	**290**⇓	*i*P	**Pn**	**14 12 56.4**	**+0.8**
	baz=284						
WHYT				S	**Sn**	**14 13 09.5**	**+0.3**
	baz=284						
STYH	**Taoyuan**	**1.08**	**261**	*e*P	**Pn**	**14 12 56.6**	**+0.7**
	baz=254						
STYH				*e*S	**Sn**	**14 13 09.6**	**-0.2**
	baz=254						
SMLT	**Sun Moon Lake**	**1.09**	**300**	*e*P	**Pn**	**14 12 56.5**	**+0.3**
	baz=305						
SMLT				*e*S	**Sb**	**14 13 12.1**	**+0.6**
	baz=305						
ENA	**Nanau**	**1.09**	**351**	*e*P	**Pn**	**14 12 55.9**	**-0.2**
	baz=350						
ENA				*e*S	**Sn**	**14 13 09.1**	**-1.1**
	baz=350						
STYT	**Tauyuan**	**1.10**	**261**	*e*P	**Pn**	**14 12 56.5**	**+0.3**
	baz=254						
STYT				*e*S	**Sn**	**14 13 10.3**	**0.0**
	baz=254						
FUSS	**Fushou**	**1.10**	**325**⇓	*i*P	**Pn**	**14 12 56.4**	**0.0**
	baz=335						
FUSS				*e*S	**Sn**	**14 13 09.3**	**-1.3**
	baz=335						
EWUT	**Wuta**	**1.11**	**352**	*e*P	**Pn**	**14 12 56.0**	**-0.2**
	baz=352						
EWUT				S	**Sn**	**14 13 09.6**	**-0.8**
	baz=352						
WPL	**Puli Township**	**1.12**	**307**⇑	*i*P	**Pn**	**14 12 56.9**	**+0.5**
	baz=306						
TYC	**Yuchr**	**1.14**	**300**	*e*P	**Pn**	**14 12 57.2**	**+0.5**
	baz=308						
TYC				*e*S	**Sn**	**14 13 11.7**	**+0.5**
	baz=308						
TWT	**Tachien**	**1.14**	**323**	*e*P	**Pn**	**14 12 57.4**	**+0.5**
	baz=321						
TWT				*e*S	**Sn**	**14 13 11.1**	**-0.5**
	baz=321						
TDCB	**Techi**	**1.15**	**322**	P	**Pn**	**14 12 57.7**	**+0.6**
	baz=321						
TDCB				S	**Sn**	**14 13 11.1**	**-0.7**
	baz=321						
DPDB	**Guoxing**	**1.15**	**307**	*e*P	**Pn**	**14 12 57.7**	**+0.7**
	baz=306						
ECL	**Taimali**	**1.17**	**231**	P	**Pn**	**14 12 56.3**	**-0.8**
	baz=229						
ECL				*e*S	**Sn**	**14 13 10.5**	**-1.5**
	baz=229						
WCS	**Beigang Elemen**	**1.18**	**307**	P	**Pn**	**14 12 57.8**	**+0.6**
	baz=315						
WCS				*e*S	**Sn**	**14 13 12.7**	**+0.5**
	baz=315						
CHN5	**Tsauling**	**1.18**	**283**	P	**Pb**	**14 12 58.8**	**-0.2**
	baz=281						
CHN5				S	**Sb**	**14 13 14.4**	**+0.4**
	baz=281						
NNSB	**Datong**	**1.19**	**335**	*e*P	**Pn**	**14 12 57.7**	**+0.1**
	baz=334						
NNSB				*e*S	**Sn**	**14 13 12.1**	**-0.6**
	baz=334						
TPUB	**Ta-pu**	**1.20**	**268**	*e*P	**Pb**	**14 12 59.2**	**-0.1**
	baz=267						
TPUB				*e*S	**Sb**	**14 13 14.6**	**+0.1**
	baz=267						
NNS	**Nan Shan**	**1.21**	**335**	*e*P	**Pn**	**14 12 57.9**	**+0.2**
	baz=334						
NNS				*e*S	**Sn**	**14 13 12.3**	**-0.8**
	baz=334						
WJS	**Zhushan**	**1.21**	**293**	*e*P	**Pb**	**14 12 59.3**	**0.0**
	baz=292						
WJS				*e*S	**Sb**	**14 13 14.7**	**+0.1**
	baz=292						
WTP	**Ta-pu**	**1.22**	**266**	*e*P	**Pb**	**14 12 59.4**	**-0.2**
	baz=264						
WTP				*e*S	**Sb**	**14 13 15.2**	**+0.1**
	baz=264						
CHN4	**Tsaushan**	**1.23**	**271**	*e*P	**Pb**	**14 12 59.8**	**0.0**
	baz=269						
CHN4				*e*S	**Sb**	**14 13 16.0**	**+0.5**
	baz=269						
SLGT	**Liugui**	**1.24**	**254**	*e*P	**Pn**	**14 12 59.0**	**+0.9**
	baz=247						
TWC	**Suao**	**1.26**	**356**	*e*S	**Sn**	**14 13 14.6**	**+0.4**
	baz=356						
WNT	**Mingjian**	**1.27**	**295**	*e*P	**Pb**	**14 13 00.4**	**+0.1**
	baz=294						
WNT				*e*S	**Sb**	**14 13 16.8**	**+0.5**
	baz=294						
SGST	**Jiashian**	**1.27**	**258**	*e*P	**Pn**	**14 12 59.4**	**+0.8**
	baz=252						
SGST				*e*S	**Sn**	**14 13 15.7**	**+1.1**
	baz=252						
WNT1	**Nantou City**	**1.28**	**296**	*e*P	**Pb**	**14 13 00.9**	**+0.3**
	baz=295						
WNT1				*e*S	**Sb**	**14 13 17.6**	**+0.9**
	baz=295						
NDS	**Dongshan**	**1.30**	**351**	*e*P	**Pn**	**14 12 59.4**	**+0.5**
	baz=350						
NDS				*e*S	**Sn**	**14 13 15.2**	**+0.1**
	baz=350						
WHP	**Taichung City**	**1.30**	**316**	*e*P	**Pn**	**14 12 60.0**	**+1.0**
	baz=315						
CHN1	**Nanshi**	**1.30**	**263**	*e*P	**Pb**	**14 13 01.2**	**+0.2**
	baz=262						
CHN1				*e*S	**Sb**	**14 13 18.3**	**+0.8**
	baz=262						
WGK	**Gukeng**	**1.31**	**285**	*e*P	**Pb**	**14 13 00.8**	**-0.2**
	baz=284						
WGK				*e*S	**Sb**	**14 13 18.2**	**+0.8**
	baz=284						
NDT	**Datong Townshi**	**1.31**	**343**	*e*P	**Pn**	**14 12 59.8**	**+0.7**
	baz=343						
WDLH	**Douliu**	**1.33**	**285**	*e*P	**Pb**	**14 13 00.8**	**-0.6**
	baz=284						
WDLH				*e*S	**Sb**	**14 13 18.7**	**+0.6**
	baz=284						
SNST	**Tainan City**	**1.33**	**265**	*e*P	**Pb**	**14 13 02.1**	**+0.7**
	baz=263						
SNST				*e*S	**Sb**	**14 13 18.9**	**+0.8**
	baz=263						
WWF	**Wufeng**	**1.33**	**302**	*e*P	**Pb**	**14 13 02.0**	**+0.6**
	baz=300						
WWF				*e*S	**Sb**	**14 13 19.6**	**+1.4**
	baz=300						
ENTT	**Nioudou**	**1.33**	**345**	*e*P	**Pn**	**14 12 60.0**	**+0.6**
	baz=345						
ENTT				*e*S	**Sn**	**14 13 15.7**	**-0.4**
	baz=345						
TWK	**Hsinying**	**1.33**	**267**	P	**Pb**	**14 13 01.3**	**-0.2**
	baz=265						
TWK				*e*S	**Sb**	**14 13 18.9**	**+0.6**
	baz=265						
SSD	**Sandimen**	**1.34**	**244**	*e*P	**Pn**	**14 13 00.1**	**+0.7**
	baz=238						
TSMG	**Majia**	**1.35**	**242**	*e*P	**Pn**	**14 12 59.7**	**+0.1**
	baz=241						
TSMG				*e*S	**Sn**	**14 13 15.8**	**-0.6**
	baz=241						
EAST	**Anshuo**	**1.39**	**227**	P	**Pn**	**14 12 59.8**	**-0.4**
	baz=234						
WYL	**Yuanlin Townsh**	**1.39**	**297**	*e*S	**Sb**	**14 13 20.6**	**+0.9**
	baz=283						
TWE	**Neicheng**	**1.39**	**350**	*e*P	**Pn**	**14 13 01.0**	**+0.8**
	baz=340						
TWE				*e*S	**Sn**	**14 13 18.1**	**+0.6**
	baz=340						
CHY	**Chiayi**	**1.40**	**277**	*e*S	**Sb**	**14 13 19.6**	**-0.4**
	baz=275						
SCST	**Cishan**	**1.41**	**251**	*e*P	**Pb**	**14 13 03.0**	**+0.4**
	baz=242						
SCST				*e*S	**Sb**	**14 13 23.0**	**+2.8**
	baz=242						
TCU	**Taichung**	**1.41**	**305**	*e*P	**Pb**	**14 13 02.5**	**-0.2**
	baz=304						
TCU				*e*S	**Sb**	**14 13 21.4**	**+1.1**
	baz=304						
MASBT	**Mashibuluo**	**1.41**	**239**	*e*P	**Pn**	**14 13 00.9**	**+0.5**
	baz=235						
MASBT				*e*S	**Sb**	**14 13 21.9**	**+1.6**
	baz=235						
YHNB	**Yeheng**	**1.42**	**339**⇓	*i*P	**Pn**	**14 13 01.2**	**+0.6**
	baz=338						
YHNB				S	**Sn**	**14 13 17.8**	**-0.4**
	baz=338						
NSK	**Sanguang**	**1.43**	**338**⇑	*i*P	**Pn**	**14 13 01.4**	**+0.6**
	baz=338						
NSK				S	**Sn**	**14 13 18.0**	**-0.5**
	baz=338						
JYNG	**Yonagunijimaku**	**1.44**	**40**	P	**Pn**	**14 13 01.4**	**+0.6**
JYNG				*e*S	**Sn**	**14 13 18.5**	**-0.1**
WCHH	**Zhanghua**	**1.46**	**300**	*e*P	**Pb**	**14 13 03.0**	**-0.6**
	baz=299						
WCHH				*e*S	**Sb**	**14 13 22.3**	**+0.4**
	baz=299						
TWQ1	**Liyutan**	**1.46**	**313**	*e*P	**Pb**	**14 13 03.5**	**-0.1**
	baz=312						
TWQ1				*e*S	**Sb**	**14 13 22.6**	**+0.7**
	baz=312						
WTK	**Tuku**	**1.46**	**284**	*e*S	**Sb**	**14 13 21.8**	**-0.1**
	baz=282						
CHN3	**Shinhua**	**1.47**	**260**	*e*S	**Sb**	**14 13 26.2**	**+4.1**
	baz=272						
NWLT	**Wulai**	**1.48**	**345**	*e*P	**Pn**	**14 13 01.9**	**+0.5**
	baz=344						
NWLT				*e*S	**Sn**	**14 13 19.8**	**+0.1**
	baz=344						
YOJ	**Yonaguni jima**	**1.48**	**41**	P	**Pn**	**14 13 02.0**	**+0.5**
YOJ				*e*S	**Sn**	**14 13 20.2**	**+0.5**
YOJ	**Yonaguni jima**	**1.48**	**41**	*e*P	**Pn**	**14 13 02.1**	**+0.7**
	baz=53						
YOJ				*e*S	**Sn**	**14 13 19.9**	**+0.2**
	baz=53						
NTC	**Toucheng**	**1.51**	**356**	*e*S	**Sn**	**14 13 21.0**	**+0.7**
	baz=355						
NSY	**Sanyi**	**1.52**	**315**	*e*P	**Pb**	**14 13 04.5**	**-0.1**
	baz=328						
NSY				*e*S	**Sb**	**14 13 23.4**	**-0.1**
	baz=328						
ICHU	**Yijhu**	**1.52**	**271**	*e*S	**Sb**	**14 13 23.1**	**-0.5**
	baz=269						
SSPT	**Xinbi**	**1.52**	**236**	*e*P	**Pn**	**14 13 03.6**	**+1.6**
	baz=232						
SSPT				*e*S	**Sb**	**14 13 23.5**	**-0.2**
	baz=232						
WRL	**Guolierlin Hig**	**1.53**	**291**	*e*P	**Pb**	**14 13 04.0**	**-0.9**
	baz=290						
WRL				*e*S	**Sb**	**14 13 23.7**	**-0.2**
	baz=290						
SLIU	**Shizi**	**1.54**	**223**	*e*P	**Pn**	**14 13 02.0**	**-0.1**
	baz=212						
SLIU				*e*S	**Sn**	**14 13 19.5**	**-1.6**
	baz=212						
NSTT	**Nanjuang**	**1.54**	**326**	*e*P	**Pb**	**14 13 04.5**	**-0.5**
	baz=334						
NSTT				*e*S	**Sb**	**14 13 23.4**	**-0.7**
	baz=334						
LIOB	**Emei**	**1.55**	**327**	*e*P	**Pb**	**14 13 04.4**	**-0.6**
	baz=311						
WDJ	**Dajia District**	**1.55**	**310**	*e*P	**Pb**	**14 13 04.6**	**-0.6**
	baz=309						
WDJ				*e*S	**Sb**	**14 13 24.7**	**+0.3**
	baz=309						
SCZT	**Fangliau**	**1.55**	**232**	*e*P	**Pn**	**14 13 02.9**	**+0.5**
	baz=226						
SCZT				*e*S	**Sn**	**14 13 23.5**	**+2.0**
	baz=226						
NMLH	**Miaoli**	**1.58**	**319**	*e*S	**Sb**	**14 13 24.9**	**-0.5**
	baz=318						
CHN8	**Yiju**	**1.59**	**270**	*e*S	**Sb**	**14 13 25.6**	**+0.2**
	baz=269						
TIPB	**Shuangxi**	**1.62**	**356**	*e*P	**Pn**	**14 13 04.8**	**+1.4**
	baz=356						
TIPB				*e*S	**Sn**	**14 13 24.1**	**+0.8**
	baz=356						
NHDH	**Xindian Distri**	**1.66**	**347**	*e*S	**Sn**	**14 13 24.7**	**+0.8**
	baz=336						
HATJ	**Hateruma jima**	**1.85**	**67**	*e*S	**Sn**	**14 13 28.0**	**-0.8**
IRIF	**Iriomote-Funau**	**1.92**	**59**	P	**Pn**	**14 13 07.9**	**+0.5**
IRIF				S	**Sn**	**14 13 30.7**	**+0.3**
JKRS	**Kuro-shima**	**2.10**	**64**	P	**Pn**	**14 13 10.4**	**+0.5**
JKRS				S	**Sn**	**14 13 34.9**	**+0.1**
JIJ	**Ishigaki jima**	**2.26**	**63**	P	**Pn**	**14 13 12.1**	**0.0**
JIJ				S	**Sn**	**14 13 37.6**	**-1.3**
JISG	**Ishigakijimahi**	**2.50**	**60**	P	**Pn**	**14 13 15.1**	**-0.3**
JISG				S	**Sn**	**14 13 43.8**	**-1.0**
JTJ	**Tarama**	**2.84**	**62**	P	**Pn**	**14 13 20.6**	**+0.5**
JTJ				*e*S	**Sn**	**14 13 52.1**	**-1.1**
JIRB	**Irabujima**	**3.31**	**63**	*e*S	**Sn**	**14 14 03.2**	**-1.5**
JMJ2	**Miyako jima3**	**3.40**	**65**	*e*S	**Sn**	**14 14 06.3**	**-0.7**

*SJA **19** 14:28:12.0, 29.82S*×*72.72W, h10km, ML4.7*
*IDC **19** 14:28:12.6*±*1.1, 30.06S*×*72.24W, h0km, mb3.8/4, mb1 4.0/8, mb1mx3.9/26, mbtmp3.8/8, ML3.7/4, Error ellipse: s-maj=34.3km s-min=27.1km az=111.0*
ISC 19 14:28:16.7±0.9**, 29.96S**±0.08**×72.11W**±0.1**, h25**km**, n18, σ1.9/61/18, mb3.8/4, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**1.97**	**28**	*i* P	**Pn**	**14 28 47.0**	**-1.6**
ACCO	**Cerro Coronel**	**2.72**	**104**	*i* P	**Pb**	**14 29 03.0**	**-1.9**
GO03	**Copiap**	**2.88**	**36**	*i* P	**Pn**	**14 29 00.0**	**-1.1**
AC02	**Maricunga**	**4.08**

WRA	**Warramunga Arr**	**124.22**	**210**	PKP		**PKPdf**	**14 47 12.7**	**-1.2**
	0.4nm,0.6s,baz=160,slow=2.0,SNR=8.4							
ZALV	**Zalesovo Beam**	**150.78**	**28**	PKPbc		**PKPbc**	**14 48 06.5**	**+0.1**
	1.8nm,0.6s,baz=204,slow=3.3,SNR=5.6							

*IDC **19** 14:34:07.3±1.6, 30.00S×72.37W, h0km, mb4.0/1, mb1 4.1/5, mb1mx3.8/20, mbtmp3.9/5, ML3.7/4, Error ellipse: s-maj=78.1km s-min=28.1km az=107.0*

ISC 19 14:34:11.3±1.7, 30.0S±0.1×72.0W±0.5, h25km, n7, σ1§46/7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**7.90**	**21**	Pn	**Pn**	**14 36 03.1**	**-2.0**
	0.7nm,0.3s,baz=210,slow=11,SNR=6.3						
PLCA	**Paso Flores**	**10.74**	**174**	Pn	**Pn**	**14 36 43.3**	**-0.3**
	0.1nm,0.3s,baz=336,slow=14,SNR=5.0						
LPAZ	**La Paz**	**14.14**	**15**	Pn	**Pn**	**14 37 31.9**	**+1.2**
	0.6nm,0.3s,baz=184,slow=4.9,SNR=10						
SIV	**San Ignacio**	**17.21**	**38**	P	**P**	**14 38 11.3**	**-0.3**
	0.2nm,0.3s,baz=227,slow=13,SNR=14						
TORD	**Torodi Ar. Bea**	**82.85**	**70**	P	**P**	**14 46 35.6**	**+1.5**
	1.0nm,0.8s,baz=227,slow=4.3,SNR=5.6						
WRA	**Warramunga Arr**	**124.20**	**210**	PKP	**PKPdf**	**14 53 07.7**	**-0.8**
	0.2nm,0.4s,baz=170,slow=2.2,SNR=7.5						
ZALV	**Zalesovo Beam**	**150.80**	**28**	PKPbc	**PKiKP**	**14 54 01.7**	**+0.1**
	2.2nm,0.7s,baz=339,slow=3.3,SNR=6.9						

*DRS **19** 14:48:00.3±0.0, 41.94N×45.94E, h14km*
*MOS **19** 14:48:00.3±0.0, 41.97N×46.04E, h21km, MPVA3.5*
*TIF **19** 14:48:00.9, 41.98N×46.02E, h17km±1km*
*NORS **19** 14:48:01.4±0.0, 41.92N×46.04E, h15km, MPVA3.4*

ISC 19 14:48:01.0±1.2, 41.97N±0.03×46.00E±0.02, h19km±3km, n21, σ1§32/42, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDFL	**Dedoflistskaro**	**0.53**	**170**	P	**Pb**	**14 48 12.0**	**+0.4**
DDFL				S	**Sn**	**14 48 23.1**	**+1.0**
DGRG	**David-gareji**	**0.70**	**222**	P	**Pb**	**14 48 15.1**	**+0.6**
DGRG				S	**Sn**	**14 48 25.9**	**-0.3**
BTLR	**Botlikh**	**0.71**	**13**	*i* Pg	**Pn**	**14 48 15.6**	**-0.5**
BTLR				*e*Sg	**Sn**	**14 48 26.5**	**-0.1**
XNZR	**Khunzakh**	**0.78**	**42**	*e*Pg	**Pn**	**14 48 16.4**	**-0.7**
XNZR				*e*Sg	**Sn**	**14 48 27.9**	**-0.4**
GNBR	**Gunib**	**0.83**	**59**	*e*Pg	**Pn**	**14 48 17.3**	**-0.5**
GNBR				*e*Sg	**Sn**	**14 48 29.3**	**-0.2**
BTNK	**Botanikuri**	**0.94**	**253**	P	**Pb**	**14 48 14.8**	**-3.9**
BTNK				S	**Sb**	**14 48 28.7**	**-2.0**
ARKR	**Arakani**	**0.97**	**49**	*e*Pg	**Pn**	**14 48 19.8**	**+0.1**
ARKR				*e*Sg	**Sn**	**14 48 33.5**	**+0.5**
DVE	**Vedeno**	**0.99**	**5**	*e*Pg	**Pn**	**14 48 20.7**	**+0.7**
DVE				*e*Sg	**Sn**	**14 48 35.3**	**+1.8**
KRNR	**Karanay**	**1.09**	**38**	*e*Pg	**Pb**	**14 48 20.9**	**-0.3**
KRNR				*e*Sg	**Sn**	**14 48 36.1**	**+0.1**
DBC	**Dubki**	**1.22**	**30**	*e*Pg	**Pg**	**14 48 24.2**	**-0.3**
DBC				*e*Sg	**Sg**	**14 48 41.2**	**+0.7**
PNSH	**Pansheti**	**1.22**	**303**	P	**Pb**	**14 48 24.2**	**+0.6**
PNSH				S	**Sg**	**14 48 41.3**	**+0.6**
GUDG	**Gudauri**	**1.23**	**294**	P	**Pn**	**14 48 20.1**	**-3.3**
GUDG				S	**Sb**	**14 48 36.7**	**-2.7**
MTEO	**Meteo**	**1.30**	**304**	P	**Pg**	**14 48 26.0**	**-0.1**
MTEO				S	**Sg**	**14 48 44.1**	**+1.0**
AKT	**Akhty**	**1.39**	**110**	*e*Pg	**Pg**	**14 48 26.9**	**-0.9**
AKT				*e*Sg	**Sg**	**14 48 45.9**	**+0.1**
TRLG	**Trialeti**	**1.48**	**254**	P	**Pn**	**14 48 27.5**	**+0.7**
TRLG				S	**Sb**	**14 48 47.5**	**+1.0**
DMNI	**Dmanisi**	**1.50**	**245**	P	**Pn**	**14 48 27.3**	**+0.4**
DMNI				S	**Sn**	**14 48 47.3**	**+1.2**
LACR	**Lac**	**1.52**	**305**	*e*Pg	**Pb**	**14 48 29.5**	**+0.8**
LACR				*e*Sg	**Sg**	**14 48 51.1**	**+0.8**
BRNG	**Burnasheti**	**1.66**	**259**	P	**Pn**	**14 48 29.8**	**+0.6**
BRNG				S	**Sb**	**14 48 53.3**	**+1.7**
ONI	**Oni**	**1.99**	**289**	P	**Pb**	**14 48 36.7**	**+0.1**
ONI				S	**Sb**	**14 49 01.0**	**0.0**
TKB	**Tkibuli**	**2.27**	**281**	P	**Pb**	**14 48 40.3**	**-0.9**
TKB				S	**Sb**	**14 49 10.6**	**+1.7**
ABS	**Abastumani**	**2.39**	**266**	P	**Pb**	**14 48 42.0**	**-1.4**
ABS				S	**Sb**	**14 49 14.7**	**+2.2**

*NEIC **19** 14:58:21.6±1.4, 30.88S±0.10×178.8W±0.2, h85km±3km, mb4.4/17, Error ellipse: s-maj=24.4km s-min=12.3km az=109.0*
*IDC **19** 14:58:24.6±1.9, 30.74S×178.98W, h109km±19km, mb3.9/4, mb1 1.4/4, mb1mx3.6/33, mbtmp4.3/4, MS4.5/1, Ms1 4.5/1, ms1mx3.4/37, Error ellipse: s-maj=27.2km s-min=21.5km az=139.0*

ISC 19 14:58:23.4±0.6, 30.86S±0.09×178.9W±0.1, h100km, n37, σ1§19/35, mb4.4/12, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.82**	**29**	P	**Pn**	**14 58 53.7**	**0.0**
	117nm,0.3s,baz=240,slow=20,SNR=7.8						
RAO				S	**Sn**	**14 59 17.4**	**+0.6**
	262nm,0.3s,baz=347,slow=23,SNR=6.6						
RAO	**Raoul Island**	**1.82**	**29**		**Pn**	**14 58 50.9**	**-2.9**
URZ	**Urewera**	**8.08**	**203**	P	Pn	15 00 14.5	-3.4
	0.7nm,0.3s,baz=332,slow=15,SNR=10						
URZ				S	**Sn**	**15 01 45.6**	**-1.8**
	1.8nm,0.3s,baz=163,slow=19,SNR=1.8						
BKZ	**Black Stump Fm**	**9.10**	**203**	Pn	Pn	15 00 29.6	-2.3
TOO	**Toolangi**	**30.06**	**247**	P	**P**	**15 04 24.2**	**+1.0**
TOO				IAmb	IAmb	15 04 25.8	
	comp=Z,6.4nm,1.2s						
CTAO	**Charters Tower**	**33.10**	**281**	P	**P**	**15 04 51.1**	**+1.1**
CTAO				IAmb	IAmb	15 05 04.8	
	comp=Z,7.4nm,1.1s						
STKA	**Stephens Creek**	**33.61**	**258**	P	**P**	**15 04 54.9**	**+0.6**
	comp=Z,8.8nm,1.2s,baz=100,slow=11,SNR=4.8						
BBOO	**Buckleboo**	**38.09**	**255**	P	**P**	**15 05 32.5**	**-0.1**
BBOO				IAmb	IAmb	15 05 33.2	
	comp=Z,9.0nm,1.0s						
AS31	**Alice Springs**	**42.30**	**268**	P	**P**	**15 06 07.0**	**-0.5**
ASAR	**Alice Springs**	**42.30**	**268**	P	**P**	**15 06 07.0**	**-0.5**
	comp=Z,2.9nm,0.6s,baz=104,slow=7.5,SNR=66						
ASAR				LR	LR	15 22 21.0	
	comp=Z,496nm,18.3s,baz=338,slow=34						
WR0	**Warramunga Arr**	**43.15**	**273**	P	**P**	**15 06 13.0**	**-1.4**
WR0				IAmb	IAmb	15 06 14.5	
	comp=Z,2.6nm,0.5s						
WB2	**Warramunga Arr**	**43.32**	**273**	P	**P**	**15 06 15.7**	**0.0**
WB2				IAmb	IAmb	15 06 16.3	
	comp=Z,5.0nm,0.7s						
WRAB	**Tennant Creek**	**43.33**	**273**	P	**P**	**15 06 15.5**	**-0.3**
WRAB				IAmb	IAmb	15 06 16.2	
	comp=Z,4.7nm,0.8s						
WRA	**Warramunga Arr**	**43.33**	**273**	P	**P**	**15 06 15.4**	**-0.4**
	comp=Z,3.5nm,0.6s,baz=113,slow=8.0,SNR=9.3						
WRA	**Warramunga Arr**	**43.33**	**273**	P	**P**	**15 06 15.4**	**-0.4**
WB0	**Warramunga Arr**	**43.36**	**273**	P	**P**	**15 06 15.3**	**-0.7**
WB0				IAmb	IAmb	15 06 16.5	
	comp=Z,4.7nm,0.7s						
FORT	**Forrest**	**45.17**	**256**	P	**P**	**15 06 29.4**	**-0.9**
VNDA	**Vanda**	**47.56**	**186**	P	**P**	**15 06 47.4**	**-1.0**
FITZ	**Fitzroy Crossi**	**51.58**	**271**	IAmb	IAmb	15 07 19.8	
	comp=Z,5.3nm,1.2s						
QSPA	**South Pole Qui**	**59.25**	**180**	P	**P**	**15 08 15.2**	**+1.1**
	comp=Z,1.2nm,0.5s,baz=38,slow=1.9,SNR=17						
QSPA	**South Pole Qui**	**59.25**	**180**	P	**P**	**15 08 15.7**	**+1.5**
QSPA				IAmb	IAmb	15 08 18.2	
	comp=Z,1.5nm,0.7s						
SNAA	**Sanae**	**77.72**	**179**	P	**P**	**15 10 09.4**	**+0.5**
SNAA	**Sanae**	**77.72**	**179**	P	**P**	**15 10 08.3**	**-0.6**
VNA3	**Neumayer Olymp**	**77.90**	**176**	P	**P**	**15 10 10.9**	**+1.1**
YOJ	**Yonaguni jima**	**78.22**	**308**	P	**P**	**15 10 11.0**	**-1.2**
VNA2	**Neumayer--Watz**	**78.32**	**177**	P	**P**	**15 10 13.1**	**+0.9**
	baz=176,slow=4.4						
VNA1	**Neumayer--Stat**	**78.56**	**177**	P	**P**	**15 10 14.5**	**+1.1**
YULB	**Yu-li**	**78.69**	**306**	P	**P**	**15 10 14.8**	**-0.1**
JNU	**Nakatsue**	**79.38**	**319**	P	**P**	**15 10 19.9**	**+1.5**
KSAR	**Wonju Array Be**	**84.20**	**320**	P	**P**	**15 10 43.0**	**-0.5**
MKAR	**Makanchi Array**	**117.47**	**310**	PKP	**PKPdf**	**15 16 56.3**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=80,slow=3.3,SNR=2.0						
ARCES	**ARCESS Array B**	**138.87**	**347**	PKhKP	PKPpre	15 17 29.2	
	comp=Z,3.9nm,1.0s,baz=64,slow=2.8,SNR=5.2						
FINES	**FINESS Array B**	**145.30**	**339**	PKPbc	**PKPbc**	**15 17 47.8**	**-0.9**
	comp=Z,4.3nm,0.5s,baz=56,slow=4.8,SNR=43						
NB2	**NORSAR Subarra**	**149.08**	**350**	PKP	**PKPdf**	**15 17 58.6**	**+3.5**
	comp=Z,0.6nm,0.5s,baz=18,slow=2.6						
NOA	**NORSAR Array B**	**149.08**	**350**	PKPbc	**PKPbc**	**15 17 58.9**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=15,slow=3.7,SNR=4.1						
AKASG	**Malin Array Be**	**151.18**	**322**	PKPbc	**PKPbc**	**15 18 04.2**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=56,slow=2.5,SNR=5.5						
BRTR	**Keskin Array B**	**152.12**	**297**	PKPbc	**PKPbc**	**15 18 06.5**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=132,slow=4.8,SNR=5.9						

*IDC **19** 15:02:16.0±0.6, 31.72S×71.90W, h0km, mb4.4/10, mb1 4.5/14, mb1mx4.4/29, mbtmp4.3/14, ML4.1/4, MS4.1/2, Ms1 4.1/2, ms1mx3.6/26, Error ellipse: s-maj=22.3km s-min=16.2km az=103.0*
*NEIC **19** 15:02:16.2±1.6, 31.71S±0.01×72.20W±0.08, h10km±1km, mb4.7/14, Mwr4.5/16, ML4.7(GUC), Error ellipse: s-maj=12.0km s-min=2.9km az=266.0*
*GUC **19** 15:02:16.9±0.8, 31.78S×71.99W, h25km±9km, ML4.7*
*NEIC **19** 15:02:17.8, 31.73S×72.11W, h18km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr6.26; Mθθ0.43; Mϕϕ-6.70; Mrθ-0.18; Mrϕ0.13; Mθϕ-4.34; Fault plane solution: M₀7.81000×10¹⁵ NP1:φ₁180.94000°, δ61.93000°, λ91.98000°. NP2:φ₂356.73000°, δ28.14000°, λ86.29000°. Principal axes: T 7.5904, Plg73.0000°, Azm96.0000°; N 0.4255, Plg2.0000°, Azm0.0000°; P -8.0160, Plg17.0000°, Azm269.0000°:*

ISC 19 15:02:15.2±2.3, 31.71S±0.04×72.12W±0.06, h1km±14km, n88, σ1§15/89, mb4.8/16, 3C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**1.10**	**141**	⇓ *i*P	**Pb**	**15 02 37.1**	**0.0**
VA06				*i* S	**Sg**	**15 02 51.5**	**+0.8**
VA06				IAML		15 02 57.5	
	comp=E,73μm,0.3s						
CO06	**Fray Jorge**	**1.11**	**22**	⇑ *i*P	**Pn**	**15 02 37.9**	**0.0**
CO06				*i* S	**Sb**	**15 02 48.3**	**-3.9**
CO06	**Fray Jorge**	**1.11**	**22**	Pn	**Pn**	**15 02 38.0**	**0.0**
VA01	**Torpederas**	**1.37**	**163**	*e*P	**Pn**	**15 02 40.4**	**-1.1**
VA01				*i* S	**Sn**	**15 02 57.3**	**-3.0**
VA01	**Torpederas**	**1.37**	**163**	Pn	**Pn**	**15 02 41.0**	**-0.5**
CO03	**El Pedregal**	**1.50**	**55**	⇑ *i*P	**Pn**	**15 02 43.9**	**+0.5**
CO03				*i* S	**Sb**	**15 03 03.6**	**0.0**
CO03	**El Pedregal**	**1.50**	**55**	Pn	**Pn**	**15 02 44.3**	**+0.9**
ROCH	**El Roble**	**1.57**	**144**	*e*P	**Pn**	**15 02 43.5**	**-1.1**
ROCH				*i* S	**Sn**	**15 03 04.0**	**-1.6**
ROCH				IAML		15 03 12.1	
	comp=N,27μm,0.5s						
VA03	**San Esteban**	**1.70**	**129**	⇑ *i*P	**Pn**	**15 02 46.4**	**+0.2**
VA03				*i* S	**Sn**	**15 03 07.1**	**-1.5**
VA03	**San Esteban**	**1.70**	**129**	Pn	**Pn**	**15 02 46.5**	**+0.4**
GO04	**Tololo Observa**	**1.91**	**37**	Pn	**Pn**	**15 02 50.5**	**+1.4**
CO05	**La Serena**	**1.94**	**23**	*e*P	**Pn**	**15 02 49.9**	**+0.6**
CO05				*i* S	**Sb**	**15 03 16.7**	**+0.7**
CO05				IAML		15 03 26.2	
	comp=E,5μm,0.5s						
CO05	**La Serena**	**1.94**	**23**		**Pn**	**15 02 50.0**	**+0.8**
VA05	**Santo Domingo**	**1.99**	**168**	Pn	**Pn**	**15 02 51.1**	**+1.1**
MT05	**Renca**	**2.05**	**146**	*e*P	**Pn**	**15 02 50.8**	**-0.1**
MT05				*i* S	**Sn**	**15 03 16.4**	**-0.8**
MT05				IAML		15 03 22.8	
	comp=E,15μm,0.4s						
MT05	**Renca**	**2.05**	**146**	Pn	**Pn**	**15 02 51.3**	**+0.5**
MT01	**Popeta**	**2.27**	**161**	*e*P	**Pn**	**15 02 54.1**	**+0.2**
MT01				IAML		15 03 32.0	
	comp=E,5μm,0.4s						
MT01	**Popeta**	**2.27**	**161**	Pn	**Pn**	**15 02 54.2**	**+0.2**
MT09	**Talagante**	**2.27**	**155**	*e*P	**Pn**	**15 02 54.5**	**+0.4**
MT09				*i* S	**Sn**	**15 03 21.9**	**-0.9**
MT09				IAML		15 03 32.8	
	comp=E,10μm,0.5s						
MT09	**Talagante**	**2.27**	**155**	Pn	**Pn**	**15 02 54.8**	**+0.7**
BO01	**Tunca**	**2.82**	**162**	Pn	**Pn**	**15 03 01.8**	**+0.4**
LCO	**Las Campanas**	**2.95**	**25**		**Pn**	**15 03 04.3**	**+0.8**
BO02	**Sierra Bellavi**	**3.28**	**160**	Pn	**Pn**	**15 03 08.2**	**+0.5**
GO05	**Huala**	**3.30**	**177**	Pn	**Pn**	**15 03 07.4**	**-0.6**
AC04	**Llanos de Chal**	**3.61**	**15**	Pn	**Pn**	**15 03 12.1**	**-0.2**
ML02	**Panimavida**	**4.09**	**172**	Pn	**Pn**	**15 03 18.7**	**-0.2**
GO03	**Copiap**	**4.42**	**22**	Pn	**Pn**	**15 03 23.6**	**+0.2**
AC06	**Mina Casimiro**	**4.60**	**20**		**Pn**	**15 03 25.8**	**-0.2**
AC02	**Maricunga**	**5.51**	**29**	Pn	**Pn**	**15 03 39.5**	**+0.6**
VA04	**Juan Fernndez**	**5.97**	**249**	Pn	**Pn**	**15 03 43.0**	**-1.8**
H03N1	**Juan Fernandez**	**5.99**	**251**	T	T	15 10 21.4	
	baz=82,slow=72,SNR=310						
H03N3	**Juan Fernandez**	**6.00**	**251**	T	T	15 10 20.8	
	baz=82,slow=72,SNR=2546						
H03N2	**Juan Fernandez**	**6.00**	**251**	T	T	15 10 30.5	
	baz=82,slow=72,SNR=215						
LC01	**Cunco**	**7.18**	**178**	Pn	**Pn**	**15 04 00.1**	**-1.2**
PLCA	**Paso Flores**	**9.10**	**172**	Pn	**Pn**	**15 04 28.3**	**+0.6**
	comp=E,1.5nm,0.3s,baz=341,slow=11,SNR=19						
PLCA	**Paso Flores**	**9.10**	**172**		**Pn**	**15 04 26.7**	**-1.0**
LVC	**Limon Verde**	**9.50**	**18**	Pn	**Pn**	**15 04 37.1**	**+3.5**
	comp=E,0.5nm,0.3s,baz=185,slow=9.9,SNR=2.3						
LVC	**Limon Verde**	**9.50**	**18**	Pn	**Pn**	**15 04 31.7**	**-1.9**
LL01	**San Ignacio de**	**10.65**	**181**	Pn	**Pn**	**15 04 45.7**	**-3.2**
PB01	**IPOC Station P**	**10.88**	**13**	Pn	**Pn**	**15 04 51.6**	**-0.6**
CPUP	**Villa Florida**	**14.01**	**71**	Pn	**Pn**	**15 05 34.2**	**-0.6**
	comp=E,0.2nm,0.3s,baz=242,slow=13,SNR=2.6						
CPUP				Sn	**Sn**	**15 08 10.9**	**-0.1**
	comp=E,0.7nm,0.3s,baz=212,slow=12,SNR=4.5						
LPAZ	**La Paz**	**15.77**	**14**	Pn	**Pn**	**15 06 00.1**	**+0.8**
	comp=E,0.2nm,0.3s,baz=185,slow=6.9,SNR=12						
LPAZ	**La Paz**	**15.77**	**14**	Pn	**Pn**	**15 05 58.4**	**-0.8**
SIV	**San Ignacio**	**18.60**	**35**	P	**P**	**15 06 33.8**	**-0.3**
	comp=E,0.2nm,0.3s,baz=229,slow=11,SNR=19						
SIV				LR	LR	15 15 07.5	
	comp=E,525nm,19.1s,baz=78,slow=42						
SAML	**Samuel**	**24.12**	**22**	P	**P**	**15 07 31.3**	**-1.4**
BDFB	**Brasilia**	**27.17**	**60**	P	**P**	**15 07 59.7**	**-0.8**
	comp=E,25nm,1.0s,baz=219,slow=9.3,SNR=17						
BDFB				LR	LR	15 18 55.4	
	comp=E,440nm,19.7s,baz=247,slow=37						
BDFB	**Brasilia**	**27.17**	**60**		**P**	**15 07 58.0**	**-2.5**
BDFB				IAmb	IAmb	15 08 01.5	
	comp=Z,20nm,0.8s						
VNA3	**Neumayer Olymp**	**51.51**	**159**	P	**P**	**15 11 22.6**	**+0.5**
VNA1	**Neumayer--Stat**	**51.81**	**158**	P	**P**	**15 11 25.1**	**+0.8**
VNA2	**Neumayer--Watz**	**52.15**	**158**	P	**P**	**15 11 27.3**	**+0.4**
	baz=286,slow=8.5						
SNAA	**Sanae**	**53.73**	**158**	P	**P**	**15 11 38.9**	**+0.3**
SNAA	**Sanae**	**53.73**	**158**		**P**	**15 11 39.1**	**+0.5**
QSPA	**South Pole Qui**	**58.52**	**180**	P	**P**	**15 12 13.9**	**+0.9**
	comp=Z,12nm,0.9s,baz=153,slow=1.4,SNR=50						
QSPA	**South Pole Qui**	**58.52**	**180**	P	**P**	**15 12 14.1**	**+1.0**
QSPA				IAmb	IAmb	15 12 14.9	
	comp=Z,14nm,1.0s						
VNDA	**Vanda**	**66.33**	**191**	P	**P**	**15 13 06.3**	**+1.4**
	comp=Z,1.1nm,0.9s,baz=114,slow=5.6,SNR=5.4						
VNDA	**Vanda**	**66.33**	**191**	P	**P**	**15 13 05.6**	**+0.7**
TXAR	**Lajitas Array**	**67.71**	**330**	P	**P**	**15 13 16.0**	**+1.7**
	comp=Z,0.8nm,0.8s,baz=149,slow=7.3,SNR=6.9						
TXAR	**Lajitas Array**	**67.71**	**330**	P	**P**	**15 13 15.4**	**+1.1**
LIC	**Lamto**	**74.13**	**72**	*e*P	**P**	**15 13 53.1**	**-0.6**
	comp=Z,41nm,1.1s						
TIC	**Toumodi**	**74.38**	**72**	*e*P	**P**	**15 13 54.9**	**-0.2**
KIC	**Kosan Boka**	**74.44**	**72**	*e*P	**P**	**15 13 55.1**	**-0.4**
	comp=Z,29nm,0.9s						
DBIC	**Dimbokro**	**74.53**	**72**	P	**P**	**15 13 56.0**	**0.0**
	comp=Z,13nm,0.9s,baz=213,slow=6.3,SNR=11						
DBIC	**Dimbokro**	**74.53**	**72**	P	**P**	**15 13 54.2**	**-1.7**
T25A	**Trinidad**	**74.85**	**334**	P	**P**	**15 13 55.5**	**-2.0**
T25A				IAmb	IAmb	15 14 10.4	
	comp=Z,9.2nm,0.9s						
MAW	**Mawson**	**75.39**	**164**	P	**P**	**15 14 00.8**	**+0.7**
	comp=Z,1.5nm,0.5s,baz=271,slow=11,SNR=4.9						
ECSD	**EROS Data Cent**	**78.35**	**342**	P	**P**	**15 14 16.5**	**-0.5**
ECSD				IAmb	IAmb	15 14 28.6	
	comp=Z,5.2nm,0.8s						
KOWA	**Kowa**	**79.76**	**66**	P	**P**	**15 14 24.9**	**-0.5**
KOWA				IAmb	IAmb	15 14 25.9	
	comp=Z,11nm,0.8s						
TPNV	**Topopah Spring**	**79.80**	**325**	P	**P**	**15 14 25.9**	**+0.7**
TPNV				IAmb	IAmb	15 14 38.3	
	comp=Z,3.8nm,1.0s						
BOSA	**Boshof**	**81.20**	**118**	P	**P**	**15 14 33.0**	**-0.2**
	comp=Z,8.0nm,0.9s,baz=255,slow=2.6,SNR=9.6						
PDAR	**Pinedale Array**	**81.69**	**333**	P	**P**	**15 14 36.8**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=149,slow=13,SNR=2.3						
NVAR	**Mina Array Bea**	**81.97**	**325**	P	**P**	**15 14 38.8**	**+1.9**
	comp=Z,1.5nm,0.8s,baz=153,slow=5.7,SNR=13						
TORD	**Torodi Ar. Bea**	**83.50**	**70**	P	**P**	**15 14 45.0**	**-0.1**
	comp=Z,10nm,0.8s,baz=258,slow=4.7,SNR=50						
TORD	**Torodi Ar. Bea**	**83.50**	**70**	P	**P**	**15 14 44.9**	**-0.2**
ASAR	**Alice Springs**	**119.57**	**208**	PKP	**PKiKP**	**15 21 08.4**	**+0.9**
	comp=Z,0.2nm,0.8s,baz=145,slow=1.3,SNR=2.3						
WRA	**Warramunga Arr**	**122.72**	**210**	PKP	**PKiKP**	**15 21 13.8**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=172,slow=2.5,SNR=5.0						
H11S2	**WAKE ISLAND Hyd**	**125.70**	**271**	T	T	17 40 29.2	
	baz=117,slow=74,SNR=14						
H11S1	**WAKE ISLAND Hyd**	**125.71**	**271**	T	T	17 40 28.4	
	baz=117,slow=74,SNR=8.5						
H11S3	**WAKE ISLAND Hyd**	**125.72**	**271**	T	T	17 40 20.4	
	baz=117,slow=74,SNR=10						
FITZ	**Fitzroy Crossi**	**127.63**	**201**	PKP	**PKiKP**	**15 21 23.0**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=247,slow=2.5,SNR=3.9						
HYB	**Hyderabad**	**149.89**	**111**	*i* PKP	**PKPbc**	**15 22 08.0**	**+0.1**
ZALV	**Zalesovo Beam**	**152.30**	**30**	PKPbc	**PKiKP**	**15 22 12.7**	**+0.1**
	comp=Z,8.4nm,0.6s,baz=301,slow=2.9,SNR=24						
ZALV				PKPab	**PKPab**	**15 22 22.2**	**-0.1**
	comp=Z,13nm,0.7s,baz=301,slow=3.1,SNR=13						
KSH	**Kashi**	**153.02**	**64**	PP	PP	15 25 57.5	
KSH	**Kashi**	**153.02**	**64**	PKPbc	P	15 22 09.4	-10
MKAR	**Makanchi Array**	**155.26**	**45**	PKPbc	PKPdf	15 22 19.0	+9.0
	comp=Z,0.7nm,0.8s,baz=315,slow=2.6,SNR=4.2						
MKAR				PKPab	**PKPab**	**15 22 35.5**	**+0.4**
	comp=Z,2.6nm,0.8s,baz=336,slow=2.7,SNR=4.0						
SONM	**Songino Array**	**163.85**	**4**	PKPab	**PKPab**	**15 23 13.2**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=348,slow=2.9,SNR=6.9						
CMAR	**Chiang Mai Arr**	**164.54**	**146**	PKP	**PKPdf**	**15 22 21.9**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=255,slow=2.7,SNR=4.5						
GTA	**Gaotai**	**169.90**	**38**	PKPab	PP	15 23 40.4	-19
GTA	**Gaotai**	**169.90**	**38**	*e*PKPbc	P	15 22 26.1	+2.6

IDC 19 15:02:41.8±2.2, 7.63S×129.60E, h0km, mb3.2/1, mb1 3.5/4, mb1mx3.4/35, mbtmp3.4/4, ML3.4/3, Error ellipse: s-maj=75.3km s-min=29.4km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.09**	**200**	Pn	Pn	15 05 22.1	+0.2
	0.2nm,0.3s,baz=30,slow=13,SNR=21						
FITZ				Sn	Sn	15 07 17.3	-9.5
	0.4nm,0.3s,baz=293,slow=19,SNR=6.4						
WRA	**Warramunga Arr**	**13.07**	**160**	Pn	Pn	15 05 48.7	-0.2
	0.3nm,0.3s,baz=339,slow=13,SNR=26						
WRA				Sn	Sn	15 08 07.2	-8.0
	0.2nm,0.3s,baz=346,slow=22,SNR=1.9						
ASAR	**Alice Springs**	**16.47**	**166**	Pn	Pn	15 06 34.4	0.0
	0.1nm,0.3s,baz=340,slow=9.5,SNR=5.4						
ASAR				Sn	Sn	15 09 32.3	-5.8
	0.1nm,0.3s,baz=357,slow=28,SNR=1.3						
MKAR	**Makanchi Array**	**68.54**	**327**	P	P	15 13 46.3	0.0
	0.1nm,0.3s,baz=115,slow=7.9,SNR=4.1						

IDC 19 15:06:54.4±3.1, 11.49S×167.20E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/35, mbtmp3.9/5, Error ellipse: s-maj=115.8km s-min=26.1km az=133.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.68**	**251**	P	P	15 13 29.0	+0.4
	0.3nm,0.4s,baz=81,slow=8.7,SNR=12						
ASAR	**Alice Springs**	**33.88**	**245**	P	P	15 13 38.6	-0.5

NJ2	**Nanjing**	**49.03**	**323**	*e*P		**P**	**15 25 31.5**	**+3.8**
NJ2				pmax		pmax			
	comp=Z,16nm,0.5s								
XAN	**Xi'an**	**56.67**	**318**	P		**P**	**15 26 25.4**	**+1.2**
XAN				pP		pP	15 26 36.3	+1.1
XAN				pmax		pmax			
	comp=Z,7.0nm,1.2s								
CMAR	**Chiang Mai Arr**	**57.29**	**296**	P		**P**	**15 26 27.3**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=122,slow=6.6,SNR=3.7								
PPT	**Papeete**	**58.54**	**107**	LR		LR	15 47 36.7		
	comp=Z,252nm,19.9s,baz=298,slow=32								
PETK	**Petropavlovsk-**	**59.14**	**4**	P		**P**	**15 26 39.9**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=116,slow=6.1,SNR=6.9								
HHC	**Hu-ho-hao-te**	**59.33**	**325**	*e*P		**P**	**15 26 46.3**	**+3.5**
GTA	**Gaotai**	**65.72**	**318**	*e*P		P	15 27 30.8	+5.3
GTA				pP		pwP	15 27 40.0	+0.1
GTA				sP		sP	15 27 44.3	+3.0
GTA				pmax		pmax			
	comp=Z,1.0nm,1.2s								
SONM	**Songino Array**	**66.71**	**329**	P		**P**	**15 27 30.8**	**-0.8**
	comp=Z,1.3nm,0.9s,baz=138,slow=4.5,SNR=6.2								
VNDA	**Vanda**	**71.66**	**178**	P		**P**	**15 28 02.9**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=322,slow=6.9,SNR=6.6								
WMQ	**Urumqi**	**75.81**	**318**	*e*P		**P**	**15 28 29.0**	**+2.3**
WMQ				pmax		pmax			
	comp=Z,24nm,0.7s								
WMQ				pmax		pmax			
	comp=Z,260nm,10.1s								
WMQ				LR		LR			
	comp=N,450nm,29.2s								
WMQ				LR		LR			
	comp=E,360nm,25.7s								
WMQ				LR		LR			
	comp=Z,480nm,29.1s								
SVW2	**Sparrevohn**	**78.43**	**23**	P		**P**	**15 28 42.2**	**+1.2**
SVW2				IAmb		IAmb	15 28 43.7		
	comp=Z,7.2nm,0.9s								
L19K	**White Mountain**	**79.34**	**23**	P		**P**	**15 28 46.9**	**+1.0**
L19K				IAmb		IAmb	15 28 48.6		
	comp=Z,16nm,1.1s								
CNPM	**China Poot**	**79.34**	**26**	P		**P**	**15 28 46.2**	**+0.2**
MKAR	**Makanchi Array**	**80.44**	**319**	P		**P**	**15 28 51.4**	**-0.8**
	comp=Z,1.4nm,1.0s,baz=101,slow=6.9,SNR=3.8								
CAST	**Castle Rocks**	**81.09**	**22**	IAmb		IAmb	15 28 56.8		
	comp=Z,6.3nm,1.0s								
PWL	**Port Wells**	**81.27**	**25**	P		**P**	**15 28 55.9**	**-0.5**
ZALV	**Zalesovo Beam**	**81.48**	**327**	P		**P**	**15 28 56.7**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=123,slow=5.3,SNR=1.7								
BPAW	**Bear Paw Mtn.**	**81.87**	**22**	P		**P**	**15 28 59.3**	**-0.2**
BPAW				IAmb		IAmb	15 29 00.6		
	comp=Z,5.8nm,1.1s								
IMAR	**Indian Mountai**	**81.94**	**20**	P		**P**	**15 29 00.3**	**+0.5**
I21K	**Tanana**	**82.10**	**21**	P		**P**	**15 29 01.6**	**+1.0**
I21K				IAmb		IAmb	15 29 04.0		
	comp=Z,8.6nm,1.1s								
RND	**Reindeer**	**82.33**	**23**	IAmb		IAmb	15 29 02.9		
	comp=Z,11nm,1.0s								
MLY	**Manley**	**82.46**	**21**	P		**P**	**15 29 02.7**	**+0.2**
MLY				IAmb		IAmb	15 29 03.7		
	comp=Z,11nm,1.2s								
WRH	**Wood River Hil**	**83.15**	**22**	P		**P**	**15 29 05.2**	**-0.8**
WRH				IAmb		IAmb	15 29 07.0		
	comp=Z,6.7nm,1.0s								
CCB	**Clear Creek Bu**	**83.34**	**22**	P		**P**	**15 29 06.0**	**-1.0**
CCB				IAmb		IAmb	15 29 07.7		
	comp=Z,6.3nm,1.0s								
HDA	**Harding Lake**	**83.55**	**23**	P		**P**	**15 29 07.7**	**-0.4**
IL31		**83.75**	**22**	IAmb		IAmb	15 29 10.0		
	comp=Z,5.2nm,0.9s								
ILAR	**Eielson Array**	**83.75**	**22**	P		**P**	**15 29 08.1**	**-1.1**
	comp=Z,4.5nm,0.9s,baz=255,slow=4.8,SNR=28								
QSPA	**South Pole Qui**	**83.94**	**180**	P		**P**	**15 29 10.4**	**+0.1**
QSPA				IAmb		IAmb	15 29 12.5		
	comp=Z,11nm,0.9s								
MAW	**Mawson**	**83.97**	**203**	P		**P**	**15 29 11.5**	**+1.2**
	comp=Z,1.8nm,0.7s,baz=83,slow=6.4,SNR=4.0								
NVAR	**Mina Array Bea**	**93.81**	**52**	P		**P**	**15 29 58.9**	**+0.8**
	comp=Z,2.0nm,1.0s,baz=248,slow=6.2,SNR=7.2								
BRTR	**Keskin Array B**	**115.18**	**311**	PKP		**PKPdf**	**15 35 22.3**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=28,slow=2.5,SNR=2.1								
BRG	**Berggiesshubel**	**123.10**	**329**	*e*PKP		**PKiKP**	**15 35 37.8**	**+0.7**
BRG				Amp			15 35 38.7		
	comp=Z,3.4nm,1.0s								
CKRC	**Cesky Krumlov**	**124.12**	**327**	*e*PKPDF		**PKiKP**	**15 35 39.6**	**+0.4**
CKRC				*ex*		x	15 35 50.2		
KHC	**Kasperske Hory**	**124.33**	**328**	*e*PKPDF		**PKiKP**	**15 35 40.0**	**+0.4**
KHC				*ep*PKP		**pPKPdf**	**15 35 50.7**	**-0.1**
GERES	**GERESS Array B**	**124.43**	**327**	PKP		**PKiKP**	**15 35 39.8**	**-0.1**
	comp=Z,1.4nm,0.9s,baz=90,slow=2.7,SNR=9.9								
TORD	**Torodi Ar. Bea**	**149.48**	**286**	PKPbc		**PKPbc**	**15 36 30.4**	**-0.1**
	comp=Z,4.1nm,0.5s,baz=61,slow=2.6,SNR=22								

IDC ***19*** *15:18:43.7±3.2,31.73S×71.49W,h0km,mb4.1/1, mb1 3.8/3,mb1mx3.6/17,mbtmp3.7/3,ML3.2/2,Error ellipse: s-maj=142.0km s-min=38.1km az=94.0*

ISC 19 15:18:44.5±3.2,31.7S±0.1×7.2W±.,h14km,n12,σ0§25/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
H03N1	**Juan Fernandez**	**6.17**	**252**		T		T	15 26 59.1	
	baz=80,slow=72,SNR=84								
H03N3	**Juan Fernandez**	**6.18**	**252**		T		T	15 26 46.2	
	baz=80,slow=72,SNR=73								
H03N2	**Juan Fernandez**	**6.18**	**252**		T		T	15 26 47.5	
	baz=80,slow=72,SNR=90								
PLCA	**Paso Flores**	**9.08**	**173**	Pn			**Pn**	**15 20 55.0**	**-0.2**
	0.1nm,0.3s,baz=343,slow=17,SNR=2.1								
LPAZ	**La Paz**	**15.73**	**13**	Pn			**Pn**	**15 22 26.1**	**-0.2**
	0.1nm,0.3s,baz=187,slow=8.2,SNR=4.6								
VNA3	**Neumayer Olymp**	**51.44**	**159**	P			**P**	**15 27 49.2**	**+0.3**
VNA2	**Neumayer--Watz**	**52.08**	**158**	P			**P**	**15 27 53.6**	**0.0**
	baz=295,slow=8.4								
SNAA	**Sanae**	**53.67**	**158**	P			**P**	**15 28 05.4**	**0.0**
TORD	**Torodi Ar. Bea**	**83.32**	**70**	P			**P**	**15 31 11.4**	**0.0**
	1.3nm,0.8s,baz=252,slow=5.8,SNR=7.9								
BVAR	**Borovoye Array**	**145.50**	**41**	PKPbc			**PKPab**	**15 38 22.5**	**+0.4**
	0.8nm,0.7s,baz=280,slow=0.9,SNR=2.6								
ZALV	**Zalesovo Beam**	**152.21**	**30**	PKPab			**PKPab**	**15 38 49.2**	**+0.2**
	2.1nm,0.8s,baz=316,slow=4.0,SNR=4.3								
MKAR	**Makanchi Array**	**155.12**	**45**	PKPab			**PKPab**	**15 39 01.4**	**-0.2**
	0.7nm,0.8s,baz=306,slow=2.9,SNR=3.6								

IDC ***19*** *15:24:54.5±1.2,32.27S×72.00W,h0km,mb4.2/4, mb1 4.1/8,mb1mx3.9/25,mbtmp4.0/8,ML3.8/4,MS3.8/1, Ms1 3.8/1,ms1mx3.3/28,Error ellipse: s-maj=46.2km s-min=22.1km az=108.0*

NEIC ***19*** *15:24:55.7±1.5,32.30S±0.02×72.06W±0.06,h10km±1km, mb4.4/8,Mwr4.2/39,ML4.2(GUC),Error ellipse: s-maj=9.6km s-min=2.9km az=248.0*

NEIC ***19*** *15:24:57.8,32.32S×72.02W,h30km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=0.19; Mθθ1.74; Mϕϕ-1.55; Mrθ 1.19; Mθϕ0.38; Mϕr-1.37; Fault plane solution: M₀2.49000×10¹⁵ NP1:φ₀308.36000°, δ86.02000°,λ-46.31000°. NP2:φ₀42.51000°,δ43.83000°, λ-174.25000°. Principal axes: T 2.3299, Plg27.0000°, Azm5.0000°; N 0.2900, Plg44.0000°, Azm125.0000°; P -2.6199, Plg34.0000°, Azm254.0000°;*

GUC ***19*** *15:24:58.9±0.7,32.41S×71.79W,h29km±4km,ML4.2*

ISC 19 15:24:57.1±0.6,32.33S±0.03×71.92W±0.06,h21km±3km, n74,σ1§10/80,mb4.4/6,4C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.57**	**114**	*e*P			**Pb**	**15 25 08.5**	**0.0**
VA06				*i* S			**Sn**	**15 25 16.5**	**-2.3**
VA06				IAML				15 25 18.6	
	comp=N,37µm,0.3s								
VA01	**Torpederas**	**0.73**	**162**	⇑*i*P			**Pn**	**15 25 11.7**	**-0.5**
VA01				*i* S			**Sn**	**15 25 21.0**	**-1.7**
VA01	**Torpederas**	**0.73**	**162**	Pg			**Pb**	**15 25 11.6**	**+0.5**
VA01							**Sn**	**15 25 21.3**	**-1.4**
ROCH	**El Roble**	**0.99**	**130**	*e*P			**Pb**	**15 25 16.1**	**+0.2**
ROCH				*i* S			**Sn**	**15 25 29.1**	**-0.5**
ROCH				IAML				15 25 32.2	
	comp=N,14µm,0.4s								
VA03	**San Esteban**	**1.23**	**111**	⇓*i*P			**Pb**	**15 25 19.1**	**-0.6**
VA03				*i* S			**Sb**	**15 25 35.2**	**0.0**
VA03				IAML				15 25 38.2	
	comp=E,21µm,0.1s								
VA03	**San Esteban**	**1.23**	**111**				**Pb**	**15 25 19.4**	**-0.3**
VA03							**Sb**	**15 25 35.2**	**0.0**
VA05	**Santo Domingo**	**1.35**	**169**	*e*P			**Pb**	**15 25 21.6**	**-0.1**
VA05				*i* S			**Sb**	**15 25 39.8**	**+1.3**
VA05				IAML				15 25 44.8	
	comp=N,6µm,0.5s								
VA05	**Santo Domingo**	**1.35**	**169**				**Pb**	**15 25 21.5**	**-0.1**
MT05	**Renca**	**1.45**	**137**	⇑*i*P			**Pb**	**15 25 23.4**	**-0.1**
MT05				*i* S			**Sb**	**15 25 41.9**	**+0.4**
MT05				IAML				15 25 47.2	
	comp=E,10µm,0.4s								
MT05	**Renca**	**1.45**	**137**	Pn			**Pb**	**15 25 23.3**	**-0.1**
MT05				Sn			**Sb**	**15 25 42.2**	**+0.7**
MT01	**Popeta**	**1.63**	**160**	⇓*i*P			**Pb**	**15 25 25.7**	**-0.8**
MT01	**Popeta**	**1.63**	**160**	Pn			**Pb**	**15 25 25.8**	**-0.6**
MT01				Sn			**Sb**	**15 25 46.2**	**-0.4**
MT09	**Talagante**	**1.64**	**152**	⇑*i*P			**Pb**	**15 25 26.3**	**-0.4**
MT09				*i* S			**Sb**	**15 25 47.3**	**+0.3**
MT09				IAML				15 25 56.0	
	comp=E,3µm,0.2s								
MT09	**Talagante**	**1.64**	**152**				**Pb**	**15 25 26.5**	**-0.2**
CO06	**Fray Jorge**	**1.67**	**8**	⇑*i*P			**Pn**	**15 25 24.7**	**-0.5**
CO06	**Fray Jorge**	**1.67**	**8**				**Pn**	**15 25 24.8**	**-0.3**
CO03	**El Pedregal**	**1.82**	**35**	*e*P			**Pn**	**15 25 28.2**	**+0.9**
CO03				*i* S			**Sn**	**15 25 51.0**	**+1.2**
CO03				IAML				15 25 56.1	
	comp=E,5µm,0.3s								
CO03	**El Pedregal**	**1.82**	**35**				**Pn**	**15 25 28.4**	**+1.1**
CO03				Sn			**Sn**	**15 25 50.9**	**+1.1**
LMEL	**Las Melosas**	**2.09**	**137**	*e*P			**Pb**	**15 25 33.3**	**-1.1**
LMEL				*i* S			**Sb**	**15 26 00.2**	**+0.3**
LMEL				IAML				15 26 09.6	
	comp=N,2µm,0.2s								
BO01	**Tunca**	**2.17**	**162**				**Pn**	**15 25 33.2**	**+1.2**
GO04	**Tololo Observa**	**2.35**	**24**	*e*P			**Pn**	**15 25 35.1**	**+0.3**
GO04				*i* S			**Sb**	**15 26 08.7**	**+1.0**
GO04	**Tololo Observa**	**2.35**	**24**				**Pn**	**15 25 35.3**	**+0.5**
CO05	**La Serena**	**2.47**	**14**				**Pn**	**15 25 36.4**	**+0.1**
BO02	**Sierra Bellavi**	**2.63**	**159**	Pn			**Pn**	**15 25 40.0**	**+1.5**
GO05	**Huala**	**2.67**	**180**	Pn			**Pn**	**15 25 39.2**	**+0.2**
ZON	**Zonda**	**2.86**	**75**				**Pb**	**15 25 45.7**	**-1.8**
ML02	**Panimavida**	**3.45**	**173**	*e*P			**Pn**	**15 25 50.7**	**+1.1**
ML02	**Panimavida**	**3.45**	**173**	Pn			**Pn**	**15 25 50.8**	**+1.1**
LCO	**Las Campanas**	**3.47**	**18**	Pn			**Pn**	**15 25 50.5**	**+0.3**
AC04	**Llanos de Chal**	**4.18**	**10**	Pn			**Pn**	**15 25 58.8**	**-0.8**
GO03	**Copiap**	**4.94**	**18**	Pn			**Pn**	**15 26 10.1**	**-0.1**
AC06	**Mina Casimiro**	**5.14**	**16**	Pn			**Pn**	**15 26 12.2**	**-0.7**
AC02	**Maricunga**	**5.99**	**25**	Pn			**Pn**	**15 26 25.1**	**0.0**
H03N1	**Juan Fernandez**	**5.99**	**257**	T			T	15 33 03.1	
	baz=87,slow=73,SNR=450								
H03N3	**Juan Fernandez**	**6.00**	**257**	T			T	15 32 60.0	
	baz=87,slow=73,SNR=641								
H03N2	**Juan Fernandez**	**6.01**	**258**	T			T	15 33 05.7	
	baz=87,slow=73,SNR=435								
H03S3	**Juan Fernandez**	**6.06**	**254**	T			T	15 32 55.7	
	baz=82,slow=75,SNR=61								
H03S1	**Juan Fernandez**	**6.06**	**254**	T			T	15 32 55.3	
	baz=82,slow=75,SNR=44								
H03S2	**Juan Fernandez**	**6.07**	**254**	T			T	15 32 55.4	
	baz=82,slow=75,SNR=46								
LC01	**Cunco**	**6.55**	**180**	Pn			**Pn**	**15 26 32.6**	**+0.3**
PB14	**IPOC Station P**	**7.79**	**10**	Pn			**Pn**	**15 26 48.1**	**-1.5**
PLCA	**Paso Flores**	**8.46**	**173**	Pn			**Pn**	**15 26 59.8**	**+1.3**
	comp=N,0.5nm,0.3s,baz=341,slow=12,SNR=8.9								
PLCA	**Paso Flores**	**8.46**	**173**				**Pn**	**15 26 57.3**	**-1.2**
TRQA	**Tornquist**	**9.93**	**128**	Pn			**Pn**	**15 27 19.6**	**+0.9**
LVC	**Limon Verde**	**10.04**	**16**	Pn			**Pn**	**15 27 24.4**	**+3.8**
	comp=N,0.5nm,0.3s,baz=183,slow=10.0,SNR=1.6								
LVC						LR	LR	15 31 29.3	
	comp=N,526nm,19.4s,baz=220,slow=40								
LVC	**Limon Verde**	**10.04**	**16**	Pn			**Pn**	**15 27 18.5**	**-2.1**
CPUP	**Villa Florida**	**14.05**	**69**	Pn			**Pn**	**15 28 16.2**	**+1.2**
	comp=N,0.1nm,0.3s,baz=230,slow=16,SNR=1.3								
PLTB	**Pedras Altas**	**15.54**	**93**	Pn			**Pn**	**15 28 32.8**	**-2.3**
LPAZ	**La Paz**	**16.34**	**13**	Pn			**Pn**	**15 28 46.4**	**+0.5**
	comp=N,0.2nm,0.3s,baz=182,slow=6.4,SNR=21								
LPAZ	**La Paz**	**16.34**	**13**	Pn			**Pn**	**15 28 45.6**	**-0.4**
SIV	**San Ignacio**	**19.02**	**34**	P			**P**	**15 29 18.1**	**+0.4**
	comp=N,0.2nm,0.3s,baz=215,slow=11,SNR=6.3								
SIV	**San Ignacio**	**19.02**	**34**	P			**P**	**15 29 18.1**	**+0.4**
BDFB	**Brasilia**	**27.34**	**58**	P			**P**	**15 30 41.0**	**+0.1**
	comp=N,1.6nm,0.4s,baz=231,slow=8.0,SNR=3.8								
BDFB	**Brasilia**	**27.34**	**58**	P			**P**	**15 30 40.4**	**-0.5**
BDFB							IAmb	IAmb	15 30 42.3
	comp=Z,3.8nm,0.8s								
PTGA	**Pitinga**	**33.39**	**22**	P			**P**	**15 31 32.0**	**-2.2**
SJCC	**San Jacinto, C**	**42.10**	**355**	P			**P**	**15 32 47.0**	**-1.0**
SJCC							IAmb	IAmb	15 33 00.3
	comp=Z,11nm,1.1s								
CVTR	**Volcan Turrial**	**43.61**	**343**	P			**P**	**15 32 57.7**	**-2.8**
IGPR	**InterUniversit**	**50.32**	**7**	P			**P**	**15 33 51.5**	**-0.8**
VNA3	**Neumayer Olymp**	**50.87**	**158**	P			**P**	**15 33 57.5**	**+1.5**
VNA2	**Neumayer--Watz**	**51.51**	**158**	P			**P**	**15 34 02.4**	**+1.5**
	baz=286,slow=8.1								
SNAA	**Sanae**	**53.09**	**158**	P			**P**	**15 34 14.0**	**+1.3**
SNAA	**Sanae**	**53.09**	**158**	P			**P**	**15 34 14.1**	**+1.5**
	comp=Z,2.2nm,0.6s,baz=262,slow=8.2,SNR=22								
QSPA	**South Pole Qui**	**57.90**	**180**	P			**P**	**15 34 47.7**	**+0.3**
QSPA							IAmb	IAmb	15 34 50.4
	comp=Z,4.9nm,0.8s								
DBIC	**Dimbokro**	**74.55**	**72**	P			**P**	**15 36 35.5**	**+0.7**
	comp=Z,2.9nm,0.6s,baz=272,slow=8.1,SNR=4.5								
TORD	**Torodi Ar. Bea**	**83.55**	**70**	P			**P**	**15 37 25.1**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=270,slow=5.5,SNR=0.7								
ASAR	**Alice Springs**	**119.10**	**207**	PKP			**PKPdf**	**15 43 44.9**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=164,slow=3.8,SNR=2.7								
WRA	**Warramunga Arr**	**122.26**	**209**	PKP			**PKPdf**	**15 43 51.6**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=170,slow=2.0,SNR=4.6								
H11S2	**WAKE ISLAND Hyl**	**25.88**	**270**	T			T	18 03 00.9	
	baz=118,slow=75,SNR=38								
H11S1	**WAKE ISLAND Hyl**	**25.89**	**270**	T			T	18 03 03.1	
	baz=118,slow=75,SNR=50								
H11S3	**WAKE ISLAND Hyl**	**25.90**	**270**	T			T	18 03 03.6	
	baz=118,slow=75,SNR=32								
BVAR	**Borovoye Array**	**145.98**	**41**	PKPbc			**PKPab**	**15 44 35.9**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=289,slow=4.5,SNR=7.6								
BVAR	**Borovoye Array**	**145.98**	**41**				**PKPab**	**15 44 35.9**	**+0.5**
ZALV	**Zalesovo Beam**	**152.75**	**31**	PKPbc			**PKiKP**	**15 44 52.6**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=324,slow=3.4,SNR=5.6								
MKAR	**Makanchi Array**	**155.56**	**46**	PKPab			**PKPab**	**15 45 15.5**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=299,slow=3.9,SNR=4.2								

SOME ***19*** *15:54:20.5,39.83N×73.85E,h15km*

KRNET ***19*** *15:54:21.0±0.1,39.78N×73.89E,h11km,mb3.1*

NNC ***19*** *15:54:25.4±1.5,39.97N×73.96E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=11.8km s-min=6.2km az=171.0*

ISC 19 15:54:19.1±1.4,39.81N±0.05×73.90E±0.03,h8km±13km, n41,σ1§68/71,22C-20D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.37**	**303**	⇑*i*P			**Pb**	**15 54 28.3**	**+0.2**
	baz=9.0								
SFK				⇑*i*S			**Sb**	**15 54 34.3**	**+0.2**
	baz=9.0								
OHH	**Osh**	**1.11**	**310**	⇑*i*P			**Pg**	**15 54 42.2**	**+1.7**
	baz=12								
OHH				⇑*i*S			**Sn**	**15 54 58.1**	**+1.4**
	baz=12								
DRK	**Karamyk**	**1.66**	**259**	⇓*i*P			**Pg**	**15 54 51.8**	**+0.8**
	baz=60								
DRK				⇓*i*S			**Sg**	**15 55 14.0**	**+1.5**
	baz=60								
ARLS	**Aral**	**2.07**	**9**	⇓*i*P			**Pg**	**15 54 59.2**	**+0.4**
	baz=9.0								
ARLS				⇓*i*S			**Sg**	**15 55 26.9**	**+1.2**
	baz=9.0								
AML	**Almayashu**	**2.32**	**356**	⇓*i*P			**Pb**	**15 55 02.9**	**+1.4**
	baz=56								
AML				⇓*i*S			**Sg**	**15 55 33.5**	**-0.3**
	baz=56								
BTK	**Batken**	**2.39**	**277**	⇑*i*P			**Pb**	**15 55 03.0**	**+0.6**
	baz=78								
BTK				⇑*i*S			**Sg**	**15 55 33.9**	**-1.9**
	baz=78								
UCH	**Uchtor**	**2.46**	**11**	⇑*i*P			**Pb**	**15 55 04.8**	**+1.0**
	baz=11								
UCH				⇑*i*S			**Sb**	**15 55 36.5**	**+2.1**
	baz=11								
KZA	**Kyzart**	**2.48**	**24**	⇓*i*P			**Pb**	**15 55 05.1**	**+0.9**
	baz=24								
KZA				⇓*i*S			**Sb**	**15 55 37.7**	**+2.6**
	baz=24								
TRKS	**Terek-Say**	**2.71**	**310**	⇑*i*P			**Pb**	**15 55 06.8**	**-1.2**
	baz=10.0								
TRKS				⇑*i*S			**Sb**	**15 55 41.2**	**-0.3**
	baz=10.0								
MNAS	**Manas**	**2.87**	**339**	⇑*i*P			**Pb**	**15 55 10.3**	**-0.4**
	baz=39								
MNAS				⇑*i*S			**Sb**	**15 55 46.6**	**+0.5**
	baz=39								
KBK	**Karagaybulak**	**2.95**	**15**	⇓*i*P			**Pb**	**15 55 11.8**	**-0.2**
	baz=15								
KBK				⇓*i*S			**Sb**	**15 55 48.9**	**+0.7**
	baz=15								
MRKS	**Merke**	**2.97**	**350**	*e*P			**Pb**	**15 55 14.3**	**+1.9**
	10nm,0.4s								
MRKS				*e*S			**Sg**	**15 55 52.7**	**-2.0**
	56nm,0.4s								
MRKS	**Merke**	**2.97**	**350**	Pg			**Pb**	**15 55 14.3**	**+1.9**
	10nm,0.4s								
MRKS				Lg			Lg	15 55 52.7	
	56nm,0.4s								
ULHL	**Ulahol**	**3.00**	**35**	⇑*i*P			**Pb**	**15 55 12.3**	**-0.7**
	baz=35								
ULHL				⇑*i*S			**Sb**	**15 55 50.5**	**+0.6**
	baz=35								
FRU1	**Bishkek**	**3.04**	**10**	⇑*i*P			**Pb**	**15 55 13.0**	**-0.6**
	baz=10.0								
FRU1				⇑*i*S			**Sb**	**15 55 51.2**	**+0.3**
	baz=10.0								
BOOM	**Boomskoye usch**	**3.08**	**29**	⇑*i*P			**Pb**	**15 55 13.4**	**-0.9**
	baz=29								
BOOM				⇑*i*S			**Sb**	**15 55 51.9**	**-0.3**
	baz=29								
TKM2	**Tokmak 2**	**3.36**	**22**	⇓*i*P			**Pb**	**15 55 17.4**	**-1.6**
	baz=22								
TKM2				⇓*i*S			**Sb**	**15 55 58.5**	**-1.5**
	baz=22								
TKM2	**Tokmak 2**	**3.36**	**22**	⇑Pn			**Pb**	**15 55 18.0**	**-1.0**
	3.9nm,1.0s								
TKM2				⇓Pg			**Pg**	**15 55 25.0**	**+1.6**
	4.6nm,0.8s								
TKM2				⇓Lg			Lg	15 56 06.4	
	9.0nm,0.6s								
USP	**Ospenovka**	**3.48**	**7**	⇓*i*P			**Pb**	**15 55 18.8**	**-2.2**
	baz=7.0								
USP				⇓*i*S			**Sb**	**15 56 01.3**	**-2.1**
	baz=7.0								
TARG	**Taragay, Kyrgy**	**3.53**	**56**	⇑*i*P			**Pb**	**15 55 19.8**	**-2.2**
	baz=56								
TARG				⇑*i*S			**Sb**	**15 56 02.5**	**-2.6**
	baz=56								
KST	**Kastek**	**3.58**	**25**	*e*P			**Pb**	**15 55 25.7**	**+3.0**
	2.4nm,0.6s								
KST				*e*S			**Sg**	**15 56 13.0**	**-1.1**
	7.3nm,0.3s								
KST	**Kastek**	**3.58**	**25**	Pg			**Pg**	**15 55 28.8**	**+1.1**
	1.4nm,0.3s								
KST				Lg			Lg	15 56 16.0	
	7.3nm,0.3s								
SGDS	**Sogindy**	**3.68**	**8**	Pg			**Pg**	**15 55 30.0**	**+0.4**
	5.6nm,0.5s								
SGDS				Lg			Lg	15 56 18.8	
	14nm,0.5s								
DGS	**Degeres**	**3.70**	**22**	*e*P			**Pg**	**15 55 30.0**	**-0.1**
	3.8nm,0.4s								
DGS				*e*S			**Sg**	**15 56 20.1**	**+2.0**
	13nm,0.6s								
DGS	**Degeres**	**3.70**	**22**	Pg			**Pg**	**15 55 30.6**	**+0.5**
	4.5nm,0.3s								
DGS				Lg			Lg	15 56 20.0	
	13nm,0.6s								
IZV	**Izvestkoviy**	**3.81**	**31**	*e*P			**Pb**	**15 55 30.4**	**+3.7**
	5.4nm,0.4s								
IZV				*e*S			**Sg**	**15 56 21.1**	**-0.4**
	17nm,

H11S3	**WAKE ISLAND Hyl**	**25.85**	**271**	T	T		18 39 37.8	
	baz=113							
ZALV	**Zalesovo Beam**	**151.35**	**29**	PKPbc	**PKPbc**	**16 21 41.4**		**+0.2**
	0.8nm,0.5s,baz=300,slow=1.1,SNR=4.6							

*INET **19** 16:02:06.0, 15°.93N×92°.38W, h193km, ML5.1, MW4.2*
*IDC **19** 16:02:07.3±1.3, 13°.99N×93°.18W, h0km, mb4.2/10, mb1 4.4/12, mb1mx4.2/39, mbtmp4.2/12, ML4.1/1, MS3.9/7, Ms1 3.9/7, ms1mx3.4/40, Error ellipse: s-maj=45.9km s-min=18.0km az=43.0*
*GCG **19** 16:02:09.4±0.3, 14°.01N×93°.39W, h50km, MD4.4*
*MEX **19** 16:02:10.7±0.7, 14°.06N×93°.25W, h16km±999km, MD4.5*
*NEIC **19** 16:02:15.3±2.6, 14°.36N±0°.08×93°.04W±0°.02, h46km±11km, mb4.5/21,Md4.5/12(MEX), Error ellipse: s-maj=12.5km s-min=1.8km az=169.0*

ISC 19 16:02:13.3±0.8,**14°.20N**±0°.08×**93°.13W**±0°.07, **h37**km,**n61**, σ1s**64**/59,**mb4.4**/20,**MS3.9**/7,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCIG		**1.50**	**357**	*i* P		**Pn**	**16 02 35.3**	**-2.3**
PCIG				*i* S		**Sn**	**16 02 55.0**	**-0.9**
HUEH	**Huehuetenango**	**1.93**	**55**			**Pn**	**16 02 44.0**	**+0.3**
FUG	**Fuego 3**	**2.23**	**83**	*e*P		**Pn**	**16 02 47.1**	**-0.7**
FUG				*e*S		**Sn**	**16 03 19.0**	**+4.8**
CCIG	**Comitan**	**2.28**	**25**	*i* P		**Pn**	**16 02 49.4**	**+0.8**
CCIG				*i* S		**Sn**	**16 03 19.7**	**+4.2**
CCIG	**Comitan**	**2.28**	**25**	Pn		**Pn**	**16 02 49.5**	**+1.0**
PCG	**Pacaya**	**2.45**	**85**	*e*P		**Pn**	**16 02 51.8**	**+0.9**
NBG	**Las Nubes**	**2.72**	**82**	*e*P		**Pn**	**16 02 55.8**	**+1.1**
CMIG	**Matias Romero**	**3.34**	**330**	Sn		**Sn**	**16 03 45.8**	**+4.5**
	baz=260,slow=18							
MTO3	**Montecristo**	**3.66**	**86**	Pn		**Pn**	**16 03 06.4**	**-1.1**
PETF	**Flores**	**4.14**	**49**			**Pn**	**16 03 13.6**	**-0.4**
TLIG	**Tlapa**	**6.21**	**303**			**Pn**	**16 03 43.2**	**+0.7**
ORG	**Ortega, Santa**	**8.41**	**116**	Pn		**Pn**	**16 04 13.2**	**+0.5**
JTS	**Las Juntas de**	**8.88**	**115**	Pn		**Pn**	**16 04 18.0**	**-1.2**
	baz=132,slow=16,SNR=1.1							
RIMA	**Rio Macho**	**10.08**	**115**			**Pn**	**16 04 38.0**	**+2.3**
SRBA	**San Rafael, Bu**	**10.76**	**116**			**Pn**	**16 04 45.6**	**+0.6**
SOR	**Soroa**	**12.85**	**47**	Pn		**Pn**	**16 05 11.3**	**-2.1**
TXAR	**Lajitas Array**	**17.94**	**329**	P		**P**	**16 06 22.0**	**+1.7**
	0.1nm,0.3s,baz=153,slow=11,SNR=28							
TXAR	**Lajitas Array**	**17.94**	**329**			**P**	**16 06 21.9**	**+1.6**
LRAL	**Lakeview Retre**	**19.57**	**16**			**P**	**16 06 35.8**	**-2.1**
MIAR	**Mount Ida**	**20.26**	**359**	P		**P**	**16 06 43.0**	**-2.5**
MIAR				IAmb		IAmb	16 06 53.5	
	comp=Z,30nm,0.9s							
MNTX	**Cornudas Mount**	**20.72**	**329**	P		**P**	**16 06 50.9**	**+0.3**
ROSC	**El Rosal**	**20.73**	**115**	P		Pn	16 06 53.5	-0.3
	comp=Z,5.8nm,0.4s,baz=151,slow=21,SNR=4.0							
X34A	**Smith Ranch, M**	**20.75**	**349**			**P**	**16 06 50.0**	**-0.9**
X34A				IAmb		IAmb	16 07 13.8	
	comp=Z,16nm,0.7s							
GOGA	**Godfrey**	**21.05**	**23**	P		**P**	**16 06 52.3**	**-1.7**
GOGA				IAmb		IAmb	16 07 01.9	
	comp=Z,24nm,1.1s							
RUSC	**La Rusia**	**21.38**	**111**	P		**P**	**16 06 60.0**	**+1.7**
RUSC				IAmb		IAmb	16 07 13.9	
	comp=Z,32nm,1.1s							
MSTX	**Muleshoe**	**21.54**	**338**	P		**P**	**16 06 57.9**	**-1.6**
MSTX				IAmb		IAmb	16 07 13.1	
	comp=Z,18nm,0.9s							
FCAR	**Ozark Folk Cen**	**21.62**	**2**	P		**P**	**16 06 59.9**	**-0.3**
OK025	**Westminster Rd**	**21.62**	**351**	P		**P**	**16 07 01.2**	**+1.0**
AMTX	**Amarillo**	**21.99**	**341**	P		**P**	**16 07 03.3**	**-1.0**
HHAR	**Hobbs**	**22.00**	**358**	P		**P**	**16 07 04.2**	**-0.1**
SDV	**Santo Domingo**	**22.66**	**101**	P		**P**	**16 07 11.3**	**-0.4**
	comp=Z,8.0nm,0.3s,baz=289,slow=12,SNR=3.1							
TKL	**Tuckaleechee C**	**22.96**	**20**	P		**P**	**16 07 17.3**	**+2.8**
	comp=Z,3.7nm,0.7s,baz=174,slow=10,SNR=4.2							
TKL				LR		LR	16 17 00.8	
	comp=Z,153nm,18.5s,baz=198,slow=39							
S39A	**Bolivar**	**23.40**	**360**	P		**P**	**16 07 17.1**	**-1.8**
S39A				IAmb		IAmb	16 07 18.8	
	comp=Z,21nm,0.9s							
CCM	**Cathedral Cave**	**23.82**	**4**	P		**P**	**16 07 20.8**	**-2.0**
ANMO	**Albuquerque**	**23.90**	**332**	P		**P**	**16 07 24.9**	**+1.0**
	comp=Z,3.4nm,0.8s,baz=144,slow=11,SNR=9.5							
TUC	**Tucson**	**24.19**	**321**	P		**P**	**16 07 25.9**	**-0.5**
TUC				IAmb		IAmb	16 07 30.0	
	comp=Z,12nm,1.1s							
R32A	**Long Quarter,**	**24.63**	**349**	P		**P**	**16 07 28.8**	**-1.5**
P40A	**Paris**	**25.25**	**2**	P		**P**	**16 07 33.6**	**-2.2**
P40A				IAmb		IAmb	16 07 35.0	
	comp=Z,12nm,0.8s							
SDCO	**Great Sand Dun**	**25.90**	**337**	P		**P**	**16 07 41.4**	**-0.8**
SDCO				IAmb		IAmb	16 07 44.7	
	comp=Z,16nm,1.4s							
SJG	**San Juan**	**26.19**	**78**	LR		LR	16 17 15.3	
	comp=Z,130nm,21.1s,baz=246,slow=34							
PV04	**Paradox Valley**	**27.85**	**333**	P		**P**	**16 08 00.2**	**+0.6**
PV04				IAmb		IAmb	16 08 08.2	
	comp=Z,10nm,1.0s							
PDAR	**Pinedale Array**	**31.80**	**337**	P		**P**	**16 08 34.9**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=134,slow=8.5,SNR=6.8							
NVAR	**Mina Array Bea**	**32.84**	**322**	P		**P**	**16 08 45.5**	**+1.8**
	comp=Z,3.6nm,0.8s,baz=136,slow=8.4,SNR=30							
NVAR	**Mina Array Bea**	**32.84**	**322**	P		**P**	**16 08 44.6**	**+1.0**
LOHW	**Long Hollow**	**32.92**	**336**	P		**P**	**16 08 44.5**	**+0.2**
TPAW	**Teton Pass**	**32.95**	**336**	P		**P**	**16 08 44.0**	**-0.7**
MCMT	**McKenzie Canyo**	**34.82**	**335**	P		**P**	**16 09 01.4**	**+0.4**
LRM	**Limekiln Ridge**	**35.49**	**337**	P		**P**	**16 09 06.5**	**-0.1**
SIV	**San Ignacio**	**43.63**	**132**	P		**P**	**16 10 13.4**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=339,slow=11,SNR=2.8							
SCHQ	**Schefferville**	**45.42**	**21**	LR		LR	16 31 21.5	
	comp=Z,297nm,18.8s,baz=261,slow=38							
YKA	**Yellowknife Ar**	**50.59**	**347**	P		**P**	**16 11 08.0**	**0.0**
	comp=Z,8.4nm,0.8s,baz=146,slow=8.1,SNR=9.3							
YKA	**Yellowknife Ar**	**50.59**	**347**	P		**P**	**16 11 07.7**	**-0.4**
ILAR	**Eielson Array**	**62.23**	**337**	P		**P**	**16 12 31.4**	**+0.4**
	comp=Z,2.6nm,1.0s,baz=133,slow=4.9,SNR=16							
MLY	**Manley**	**63.82**	**336**	P		**P**	**16 12 42.0**	**+0.4**
MLY				IAmb		IAmb	16 12 43.0	
	comp=Z,5.2nm,1.0s							
PPT	**Papeete**	**64.01**	**242**	LR		LR	16 33 35.7	
	comp=Z,95nm,21.7s,baz=121,slow=30							
ESDC	**Sonseca Array**	**80.45**	**51**	P		**P**	**16 14 19.4**	**-2.2**
	comp=Z,0.8nm,0.8s,baz=283,slow=5.8,SNR=5.6							
NOA	**NORSAR Array B**	**84.49**	**28**	P		**P**	**16 14 42.1**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=301,slow=5.2,SNR=3.4							
NOA				LR		LR	16 50 39.0	
	comp=Z,46nm,21.9s,baz=285,slow=34							
ARCES	**ARCESS Array B**	**86.29**	**18**	LR		LR	16 54 49.9	
	comp=Z,60nm,18.9s,baz=280,slow=37							
FINES	**FINESS Array B**	**90.78**	**25**	P		**P**	**16 15 11.4**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=339,slow=4.7,SNR=5.5							
FINES				LR		LR	16 57 51.1	
	comp=Z,61nm,18.2s,baz=256,slow=37							
WRA	**Warramunga Ar**	**134.38**	**256**	PKP		**PKPdf**	**16 21 27.2**	**-1.0**
	comp=Z,1.2nm,1.2s,baz=117,slow=3.0,SNR=2.3							
CMAR	**Chiang Mai Arr**	**145.44**	**340**	PKPbc		**PKPdf**	**16 21 48.3**	**0.0**
	comp=Z,3.9nm,0.8s,baz=340,slow=3.6,SNR=29							

*IDC **19** 16:03:16.0±1.3, 27°.38S×178°.39W, h370km±16km, mb3.0/6, mb1 3.5/9, mb1mx3.2/42, mbtmp4.2/9, Error ellipse: s-maj=29.7km s-min=20.3km az=90.0*

ISC 19 16:03:14.3±0.7,**27°.50S**±0°.06×**178°.3W**±0°.1, **h350**km,**n65**, σ3s**44**/93,**mb3.2**/6,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RIZ	**Raoul Island**	**1.76**	**171**	P		**Pn**	**16 04 08.2**	**+4.3**
RIZ				S		**Sn**	**16 04 47.4**	**+3.6**
RAO	**Raoul Island**	**1.77**	**171**	P		Pn	16 04 08.8	+4.8
	381nm,0.3s,baz=282,slow=9.3,SNR=37							
RAO				S		**S**	**16 04 47.1**	**+3.2**
	159nm,0.3s,baz=76,slow=19,SNR=2.6							
GLKZ	**Green Lake**	**1.78**	**171**	P		**Pn**	**16 04 08.7**	**+4.6**
GLKZ				S		**S**	**16 04 47.4**	**+3.4**
MSVF	**Nonsavu**	**10.30**	**340**	P		**Pn**	**16 05 34.6**	**-1.5**
	4.8nm,0.3s,baz=167,slow=7.0,SNR=39							
MXZ	**Matakaoa Point**	**10.45**	**195**	P		**P**	**16 05 39.8**	**+1.2**
MXZ				S		**S**	**16 07 28.9**	**-6.0**
KUZ	**Kuaotunu**	**10.54**	**207**	P		**P**	**16 05 41.8**	**+2.2**
WMGZ	**Waiomatatini S**	**10.67**	**194**	P		**Pn**	**16 05 39.8**	**-0.2**
WMGZ				S		**S**	**16 07 36.1**	**-3.7**
HAZ	**Te Kaha**	**10.76**	**197**	P		**Pn**	**16 05 39.7**	**-1.5**
HAZ				S		**S**	**16 07 39.4**	**-2.5**
PKGZ	**Pakihiroa**	**10.81**	**196**	P		**Pn**	**16 05 41.2**	**-0.7**
PKGZ				S		**S**	**16 07 37.9**	**-5.2**

WIAZ	**Waiheke Island**	**10.83**	**210**	P		**P**	**16 05 46.5**	**+3.6**
PUZ	**Puketiti**	**10.94**	**195**	P		**Pn**	**16 05 40.8**	**-2.6**
PUZ				S		**S**	**16 07 39.7**	**-6.3**
RUGZ	**Raukumara Rang**	**10.98**	**197**	P		**Pn**	**16 05 43.7**	**-0.3**
RUGZ				S		**S**	**16 07 38.3**	**-8.7**
MKAZ	**Moumakai**	**11.08**	**209**	P		**P**	**16 05 47.7**	**+2.1**
TWGZ	**Tauwhareparae**	**11.11**	**196**	P		**P**	**16 05 47.4**	**+1.4**
TWGZ				S		**S**	**16 07 43.3**	**-6.4**
OPRZ	**Ohinepanea**	**11.20**	**202**	P		**Pn**	**16 05 46.2**	**-0.3**
CNGZ	**Carnagh Statio**	**11.35**	**194**	P		**Pn**	**16 05 46.8**	**-1.4**
MWZ	**Matawai**	**11.37**	**197**	P		**Pn**	**16 05 45.9**	**-2.6**
MWZ				S		**S**	**16 07 50.3**	**-5.3**
TKGZ	**Te Karaka**	**11.39**	**196**	P		**Pn**	**16 05 45.6**	**-3.1**
TKGZ				S		**S**	**16 07 52.4**	**-3.4**
URZ	**Urewera**	**11.41**	**199**	P		**P**	**16 05 50.3**	**+1.0**
	4.4nm,0.3s,baz=349,slow=5.2,SNR=70							
URZ				S		**S**	**16 07 53.0**	**-3.5**
	5.9nm,0.3s,baz=225,slow=16,SNR=9.9							
URZ	**Urewera**	**11.41**	**199**	P		**Pn**	**16 05 47.5**	**-1.5**
URZ				S		**S**	**16 07 52.7**	**-3.8**
TOZ	**Tahuroa Road**	**11.48**	**206**	P		**P**	**16 05 52.4**	**+2.3**
RAGZ	**Rawiri**	**11.55**	**197**	P		**Pn**	**16 05 49.7**	**-1.0**
RAGZ				S		**S**	**16 07 57.4**	**-2.2**
RIGZ	**Rimuhau**	**11.66**	**196**	P		**P**	**16 05 52.8**	**+0.7**
RIGZ				S		**S**	**16 07 55.0**	**-7.0**
RRRZ	**Republican Roa**	**11.67**	**201**	P		**P**	**16 05 55.1**	**+2.9**
MUGZ	**Murupara**	**11.71**	**200**	P		**Pn**	**16 05 50.9**	**-1.7**
MUGZ				S		**S**	**16 07 58.6**	**-4.6**
RTZ	**Ruatahuna**	**11.78**	**199**	P		**Pn**	**16 05 52.5**	**-0.9**
RTZ				S		**S**	**16 07 57.7**	**-7.0**
HRRZ	**Handcock Road**	**11.79**	**202**	P		**P**	**16 05 56.3**	**+2.8**
SNGZ	**Shannon Statio**	**11.84**	**197**	P		**Pn**	**16 05 51.4**	**-2.7**
SNGZ				S		**S**	**16 08 00.8**	**-5.1**
PRGZ	**Paritu Road**	**11.84**	**195**	P		**P**	**16 05 56.8**	**+2.7**
PRGZ				S		**S**	**16 07 57.7**	**-8.2**
PRRZ	**Plateau Road**	**11.85**	**201**	P		**P**	**16 05 56.1**	**+1.9**
ALRZ	**Allen Road**	**11.93**	**201**	P		**Pn**	**16 05 56.2**	**+1.1**
WPRZ	**Whakapapataran**	**11.95**	**202**	P		**Pn**	**16 05 55.8**	**+0.4**
KNZ	**Kokohu**	**11.98**	**195**	P		**Pn**	**16 05 57.1**	**+1.4**
KNZ				S		**S**	**16 08 03.5**	**-5.4**
TLZ	**Tolley Road**	**11.99**	**204**	P		**Pn**	**16 05 59.7**	**+3.8**
RAHZ	**Arahi**	**12.03**	**198**	P		**P**	**16 05 53.5**	**-2.7**
MTHZ	**Maungataniwha**	**12.04**	**199**	P		**Pn**	**16 05 57.9**	**+1.4**
MHGZ	**Mahia Peninsul**	**12.06**	**194**	P		**P**	**16 05 55.0**	**-1.5**
WHHZ	**Waihua**	**12.15**	**197**	P		**Pn**	**16 05 58.4**	**+0.7**
NMHZ	**Naumai**	**12.28**	**198**	P		**Pn**	**16 05 59.8**	**+0.5**
ARHZ	**Arapaoanui**	**12.38**	**197**	P		**Pn**	**16 06 01.2**	**+0.8**
HIZ	**Hauiti**	**12.41**	**206**	P		**Pn**	**16 06 05.0**	**+4.2**
BKZ	**Black Stump Fm**	**12.43**	**199**	P		**P**	**16 05 59.5**	**-1.2**
MCHZ	**McNeill Hill**	**12.63**	**198**	P		**P**	**16 06 02.3**	**-0.5**
TWVZ	**Taurewa**	**12.69**	**203**	P		**Pn**	**16 06 04.4**	**+0.3**
KWHZ	**Kaweka Forest**	**12.69**	**199**	P		**P**	**16 06 03.5**	**0.0**
KWHZ				S		**S**	**16 08 19.3**	**-4.5**
SNVZ	**South Ngauruho**	**12.72**	**202**	P		**Pn**	**16 06 04.3**	**-0.3**
CKHZ	**Cape Kidnapper**	**12.73**	**197**	P		**Pn**	**16 06 05.4**	**+0.8**
CKHZ				S		**S**	**16 08 18.6**	**-5.8**
TUVZ	**Tukino**	**12.79**	**202**	P		**P**	**16 06 04.6**	**-0.1**
TUVZ				S		**S**	**16 08 24.1**	**-1.7**
FWVZ	**Far West T-bar**	**12.81**	**202**	P		**Pn**	**16 06 05.3**	**-0.4**
WHVZ	**Whangaehu Hut**	**12.82**	**202**	P		**P**	**16 06 04.8**	**-0.4**
WHVZ				S		**S**	**16 08 24.7**	**-1.9**
BHHZ	**Black Hill Sta**	**12.86**	**200**	P		**P**	**16 06 05.2**	**-0.2**
BHHZ				S		**S**	**16 08 20.9**	**-6.2**
MOVZ	**Moawhango**	**12.88**	**201**	P		**P**	**16 06 05.8**	**+0.1**
MOVZ				S		**S**	**16 08 20.2**	**-7.3**
KAHZ	**Kahuranaki**	**12.91**	**197**	P		**P**	**16 06 06.0**	**+0.1**
KAHZ				S		**S**	**16 08 23.4**	**-4.7**
AFI	**Afiamalu**	**14.81**	**25**	P		**P**	**16 06 26.7**	**-0.4**
	12nm,0.3s,baz=207,slow=8.5,SNR=19							
AFI				S		**S**	**16 09 00.7**	**-6.2**
	1.9nm,0.3s,baz=38,slow=19,SNR=1.2							
DZM	**Mont Dzumac**	**14.91**	**288**	P		**P**	**16 06 30.2**	**+2.0**
	0.5nm,0.3s,baz=106,slow=13,SNR=5.1							
CTA	**Charters Tower**	**33.23**	**275**	P		**P**	**16 09 19.5**	**-0.5**
	1.2nm,0.4s,baz=92,slow=11,SNR=1.8							
ASAR	**Alice Springs**	**43.12**	**264**	P		**P**	**16 10 40.6**	**-1.2**
	0.3nm,0.4s,baz=100,slow=7.0,SNR=17							
WRA	**Warramunga Arr**	**43.85**	**269**	P		**P**	**16 10 45.8**	**-1.7**
	0.7nm,0.6s,baz=110,slow=7.8,SNR=10.0							
FITZ	**Fitzroy Crossi**	**52.20**	**268**	P		**P**	**16 11 49.6**	**-1.2**
	1.3nm,0.9s,baz=112,slow=11,SNR=2.1							
QSPA	**South Pole Qui**	**62.60**	**180**	P		**P**	**16 13 02.4**	**+0.3**
	0.5nm,0.8s,baz=86,slow=6.3,SNR=0.7							
MJAR	**Matsushiro Arr**	**75.75**	**325**	P		**P**	**16 14 21.3**	**-1.0**
	1.2nm,0.8s,baz=156,slow=5.1,SNR=4.7							
SNAA	**Sanae**	**81.05**	**179**	PKPdf		**P**	**16 14 54.2**	**+3.6**
VNA3	**Neumayer Olymp**	**81.20**	**176**	PKPdf		**P**	**16 14 55.0**	**+3.7**
VNA2	**Neumayer--Watz**	**81.64**	**177**	PKPdf		**P**	**16 14 57.5**	**+3.9**
VNA1	**Neumayer--Stat**	**81.87**	**177**	PKPdf		**P**	**16 14 58.8**	**+4.1**

*IDC **19** 16:04:00.5±3.4, 4°.21N×124°.56E, h383km±45km, mb3.0/7, mb1 3.1/8, mb1mx2.9/39, mbtmp3.7/8, Error ellipse: s-maj=47.2km s-min=13.2km az=63.0*
*DJA **19** 16:04:13.5±2.9, 3°.N±6°×12°.4E±°, h15km±28km, M3.9/9, mb4.1/2, mB4.9/1, MLv3.8/9, Mw(mB)4.1/1*

ISC 19 16:03:53.8±0.9,**4°.34N**±0°.10×**124°.7E**±0°.1, **h300**km,**n17**, σ2s**51**/13,**mb3.4**/7,**Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SGSI	**Sangihe**	**1.05**	**128**	P		**Pn**	**16 04 36.4**	**+1.9**
MNI	**Manado**	**2.88**	**177**	P		Pn	16 04 42.4	-6.1
KMSI	**Cibinong**	**3.81**	**191**	P		**Pn**	**16 04 55.0**	**-3.0**
GAMI	**Galela, Maluku**	**3.96**	**129**	P		Pn	16 05 09.1	+9.4
GTOI	**Gorontalo**	**4.05**	**205**	P		**Pn**	**16 04 58.1**	**-2.5**
TNTI	**Ternate**	**4.43**	**143**	P		Pn	16 05 11.4	+6.5
LUWI	**Luwuk**	**5.68**	**200**	P		**Pn**	**16 05 20.8**	**+1.4**
MPSI	**Mapaga**	**6.23**	**230**	P		**Pn**	**16 05 30.7**	**+4.7**
	0.1nm5.4nm,0.6s							
SANI	**Sanana**	**6.47**	**169**	P		**Pn**	**16 05 33.1**	**+4.2**
SIJI	**Sorong**	**8.36**	**128**	P		Pn	16 06 00.1	+8.2
	1.3nm,0.3s,baz=319,slow=20,SNR=1.8							
FITZ	**Fitzroy Crossi**	**22.31**	**178**	P		**P**	**16 08 26.4**	**-0.4**
	2.5nm,0.9s,baz=355,slow=12,SNR=2.8							
WRA	**Warramunga Arr**	**25.92**	**159**	P		**P**	**16 08 58.7**	**-0.7**
	0.3nm,0.4s,baz=333,slow=11,SNR=15							
CMAR	**Chiang Mai Arr**	**28.82**	**301**	P		**P**	**16 09 24.8**	**-0.4**
	1.0nm,0.8s,baz=110,slow=6.5,SNR=11							
ASAR	**Alice Springs**	**29.25**	**163**	P		**P**	**16 09 28.4**	**-0.4**
	0.1nm,0.5s,baz=343,slow=7.9,SNR=7.4							
STKA	**Stephens Creek**	**39.44**	**157**	P		**P**	**16 10 55.3**	**-0.4**
	0.7nm,0.4s,baz=351,slow=12,SNR=3.0							
SONM	**Songino Array**	**46.10**	**343**	P		**P**	**16 11 48.5**	**-0.2**
	0.6nm,0.6s,baz=147,slow=8.1,SNR=4.4							
MKAR	**Makanchi Array**	**55.91**	**326**	P		**P**	**16 13 00.4**	**-0.8**
	1.5nm,0.3s,baz=120,slow=7.4,SNR=44							

*IDC **19** 16:07:32.7±2.5, 14°.14N×93°.29W, h0km, mb3.8/4, mb1 4.2/7, mb1mx3.9/39, mbtmp3.8/7, ML3.5/3, Error ellipse: s-maj=108.3km s-min=27.4km az=46.0*
*MEX **19** 16:07:35.1±1.2, 14°.08N×93°.22W, h10km±428km, MD4.2*

ISC 19 16:07:33.7±1.8,**14°.0N**±0°.3×**93°.5W**±0°.3, **h10**km,**n8**, σ1s**03**/9, **mb3.9**/4,**Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMIG	**Matias Romero**	**3.38**	**336**	Pn		**Pn**	**16 08 26.2**	**-0.4**
	3.4nm,0.3s,baz=140,slow=11,SNR=12							
CMIG				Sn		**Sn**	**16 09 07.3**	**+0.6**
	10nm,0.3s,baz=101,slow=21,SNR=7.5							
JTS	**Las Juntas de**	**9.09**	**113**	Pn		**Pn**	**16 09 45.7**	**+0.6**
	0.4nm,0.3s,baz=66,slow=23,SNR=1.4							
TXAR	**Lajitas Array**	**17.96**	**330**	P		**Pn**	**16 11 45.2**	**+1.4**
	0.1nm,0.3s,baz=153,slow=11,SNR=14							
PDAR	**Pinedale Array**	**31.86**	**337**	P		**P**	**16 13 59.4**	**+0.1**
	0.2nm,0.4s,baz=146,slow=8.7,SNR=2.6							
NVAR	**Mina Array Bea**	**32.81**	**322**	P		**P**	**16 14 08.7**	**+1.0**
	1.5nm,0.8s,baz=141,slow=9.1,SNR=11							
YKA	**Yellowknife Ar**	**50.72**	**348**	P		**P**	**16 16 32.3**	**-1.1**
	4.4nm,0.8s,baz=145,slow=7.9,SNR=3.9							
ILAR	**Eielson Array**	**62.30**	**337**	P		**P**	**16 17 55.1**	**-0.7**
	0.8nm,0.9s,baz=136,slow=5.1,SNR=6.6							
CMAR	**Chiang Mai Arr**	**145.52**	**339**	PKPbc		**PKPbc**	**16 27 12.5**	**-0.7**
	1.6nm,0.8s,baz=344,slow=3.5,SNR=13							

*BGR **19** 16:07:32.1±0.0, 20°.92S×176°.76W, h33km*
*NEIC **19** 16:08:37.2±2.1, 19°.5S±0°.1×177°.5W±0°.2, h566km±8km, mb4.1/13, Error ellipse: s-maj=22.5km s-min=19.2km az=136.0*

*IDC **19** 16:08:38.2±1.1, 19°.34S×177°.62W, h584km±11km, mb3.3/15, mb1 3.5/17, mb1mx3.4/35, mbtmp4.3/17, Error ellipse: s-maj=13.3km s-min=11.4km az=147.0*

ISC 19 16:08:35.1±0.4,**19°.41S**±0°.09×**177°.44W**±0°.08, **h550**km, **n95**, σ1s**23**/102,**mb3.9**/20,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**4.59**	**291**	P		**P**	**16 10 05.6**	**+3.9**
	15nm,0.3s,baz=33,slow=23,SNR=74							
MSVF				S		**S**	**16 11 16.5**	**+4.2**
	baz=307,slow=20,SNR=0.6							
MSVF	**Nonsavu**	**4.59**	**291**			**P**	**16 10 05.4**	**+3.7**
AFI	**Afiamalu**	**7.71**	**46**	P		**P**	**16 10 30.9**	**+0.8**
	14nm,0.3s,baz=168,slow=1.6,SNR=18							
AFI				S		**S**	**16 12 02.6**	**-1.7**
	5.1nm,0.3s,baz=217,slow=19,SNR=2.8							
AFI	**Afiamalu**	**7.71**	**46**			**P**	**16 10 30.5**	**+0.4**
URZ	**Urewera**	**19.37**	**193**	P		**P**	**16 12 25.4**	**+0.1**
	3.8nm,0.3s,baz=262,slow=2.7,SNR=17							
URZ	**Urewera**	**19.37**	**193**	P		**P**	**16 12 24.4**	**-0.9**
CTA	**Charters Tower**	**34.13**	**263**	P		**P**	**16 14 35.0**	**+0.1**
	2.8nm,0.5s,baz=97,slow=12,SNR=5.1							
STKA	**Stephens Creek**	**38.74**	**243**	P		**P**	**16 15 13.3**	**+0.6**
	3.7nm,0.6s,baz=88,slow=9.3,SNR=14							
STKA	**Stephens Creek**	**38.74**	**243**	P		**P**	**16 15 13.3**	**+0.6**
JAY	**Jayapura**	**44.21**	**287**	P		**P**	**16 15 56.5**	**+0.3**
	7.2nm,0.5s,baz=185,slow=1.8,SNR=7.4							
WRA	**Warramunga Arr**	**45.28**	**261**	P		**P**	**16 16 03.5**	**-0.8**
	1.8nm,0.5s,baz=100,slow=7.6,SNR=28							
WRA				PcP		**PcP**	**16 17 31.8**	**-0.7**
	0.9nm,0.4s,baz=100,slow=3.6,SNR=6.3							
WRA				S		**S**	**16 22 00.4**	**-4.6**
	1.1nm,1.0s,baz=96,slow=14,SNR=4.3							
WRA	**Warramunga Arr**	**45.28**	**261**	P		**P**	**16 16 02.7**	**-1.6**
AS31	**Alice Springs**	**45.29**	**256**	P		**P**	**16 16 04.1**	**-0.2**
AS31				IAmb		IAmb	16 16 05.3	
	comp=Z,2.4nm,0.8s							
ASAR	**Alice Springs**	**45.29**	**256**	P		**P**	**16 16 04.0**	**-0.4**
	comp=Z,7.6nm,0.8s,baz=87,slow=8.0,SNR=86							
ASAR				PcP		**PcP**	**16 17 31.7**	**-0.8**
	comp=Z,2.3nm,0.6s,baz=105,slow=3.8,SNR=12							
ASAR				S		**S**	**16 22 01.5**	**-3.6**
	comp=Z,1.8nm,0.7s,baz=91,slow=16,SNR=18							
ASAR	**Alice

STU	**Stuttgart**	**150.22**	**351**	*e*PKPbc	**PKPbc**	**16 27 24.2**	**0.0**
	baz=15,slow=2.5							
FUR	**Furstenfeldbru**	**150.46**	**348**	*e*PKPbc	**PKPbc**	**16 27 24.6**	**-0.2**
	baz=15,slow=2.5							
RJOB	**Jochberg**	**150.54**	**346**	*e*PKPbc	**PKPbc**	**16 27 24.6**	**-0.5**
	baz=15,slow=2.5							
BFO	**Black Forest**	**150.78**	**352**	*e*PKPbc	**PKPbc**	**16 27 25.3**	**-0.2**
	baz=15,slow=2.5							
SOKA	**Soboth**	**150.94**	**342**	*i* P	**PKPbc**	**16 27 25.0**	**-1.1**
	comp=Z,5.4nm,1.0s							
UBR	**Ueberruh**	**151.14**	**349**	*e*PKPbc	**PKPbc**	**16 27 26.1**	**-0.3**
	baz=15,slow=2.5							
WATA	**Walderalm**	**151.19**	**347**	*i* P	**PKPbc**	**16 27 25.8**	**-0.9**
	comp=Z,4.3nm,0.5s							
RETA	**Reutte**	**151.21**	**348**	*e*P	**PKPbc**	**16 27 25.8**	**-0.8**
	comp=Z,1.6nm,0.6s							
WTTA	**Wattenberg**	**151.24**	**347**	*e*P	**PKPbc**	**16 27 26.2**	**-0.6**
	comp=Z,8.0nm,0.5s							
MOTA	**Moosalm**	**151.28**	**348**	*e*P	**PKPbc**	**16 27 25.9**	**-0.9**
	comp=Z,3.7nm,0.8s							
MYKA	**Terra Mystica**	**151.37**	**344**	*i* P	**PKPbc**	**16 27 25.6**	**-1.4**
	comp=Z,3.4nm,0.5s							
SQTA	**Sankt Quirin**	**151.37**	**348**	*i* P	**PKPbc**	**16 27 26.4**	**-0.7**
	comp=Z,4.8nm,0.6s							
ABTA	**Abfaltersbach**	**151.54**	**346**	*i* P	**PKPbc**	**16 27 26.0**	**-1.3**
	comp=Z,7.3nm,0.6s,SNR=9.2							
DAVA	**Damuels**	**151.56**	**350**	*i* P	**PKPbc**	**16 27 27.2**	**-0.3**
	comp=Z,5.4nm,1.0s							
FETA	**Feichten**	**151.66**	**348**	*e*P	**PKPbc**	**16 27 27.2**	**-0.6**
	comp=Z,3.2nm,0.6s,SNR=5.3							
TORD	**Torodi Ar. Bea**	**173.72**	**172**	PKP	**PKPdf**	**16 27 41.2**	**-1.3**
	comp=Z,1.1nm,1.0s,baz=12,slow=0.6,SNR=3.8							
TORD				PKPab	**PKPab**	**16 29 15.7**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=145,slow=4.4,SNR=2.9							

*IDC **19** 16:10:01.2±0.7, 32°.42S×71°.84W, h0km, mb4.2/9, mb1 4.3/13, mb1mx4.1/29, mbtmp4.2/13, ML4.0/4, MS4.0/1, Ms1 3.9/1, ms1mx3.1/27, Error ellipse: s-maj=28.9km s-min=18.0km az=90.0*
*NEIC **19** 16:10:01.5±2.2, 32°.44S±0°.04×72°.09W±0°.08, h10km±1km, mb4.4/9, ML4.3(GUC), Error ellipse: s-maj=11.6km s-min=6.5km az=263.0*
*GUC **19** 16:10:01.1±0.9, 32°.37S×72°.13W, h30km±6km, ML4.3*
ISC 19 16:10:01.9±1.5, 32°.41S±0°.03×72°.04W±0°.06, h7km±9km, n65, σ1s26/60, mb4.4/10, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**0.65**	**104**	*i* P	**Pb**	**16 10 15.8**	**+0.3**
VA06				*i* S	**Sn**	**16 10 26.4**	**-1.5**
VA06				IAML		16 10 32.0	
	comp=E,29μm,0.4s						
VA01	**Torpederas**	**0.70**	**152**	*e*P	**Pb**	**16 10 15.9**	**-0.5**
VA01				*i* S	**Sn**	**16 10 27.2**	**-1.9**
VA01	**Torpederas**	**0.70**	**152**		**Pb**	**16 10 15.9**	**-0.5**
ROCH	**El Roble**	**1.03**	**123**	*e*P	**Pn**	**16 10 22.1**	**-0.9**
ROCH				*i* S	**Sn**	**16 10 36.6**	**-1.3**
ROCH				IAML		16 10 44.1	
	comp=N,8μm,0.7s						
VA05	**Santo Domingo**	**1.29**	**164**	⇑*i* P	**Pn**	**16 10 25.1**	**-1.3**
VA05				*i* S	**Sg**	**16 10 44.8**	**+1.2**
VA05				IAML		16 10 53.5	
	comp=E,5μm,0.4s						
VA05	**Santo Domingo**	**1.29**	**164**		**Pn**	**16 10 25.1**	**-1.3**
VA03	**San Esteban**	**1.31**	**106**	⇓*i* P	**Pb**	**16 10 26.5**	**-0.4**
VA03				*i* S	**Sg**	**16 10 45.5**	**+1.5**
VA03				IAML		16 10 50.4	
	comp=E,18μm,0.7s						
VA03	**San Esteban**	**1.31**	**106**		**Pb**	**16 10 26.5**	**-0.4**
MT05	**Renca**	**1.47**	**132**		**Pb**	**16 10 28.9**	**-0.7**
MT01	**Popeta**	**1.59**	**156**		**Pb**	**16 10 29.6**	**-1.0**
MT09	**Talagante**	**1.62**	**147**		**Pb**	**16 10 30.9**	**-1.4**
CO06	**Fray Jorge**	**1.77**	**11**		**Pg**	**16 10 35.3**	**-0.4**
CO03	**El Pedregal**	**1.95**	**37**	Pn	**Pn**	**16 10 35.7**	**+0.3**
BO01	**Tunca**	**2.13**	**158**		**Pn**	**16 10 36.7**	**-1.2**
GO04	**Tololo Observa**	**2.47**	**26**		**Pb**	**16 10 46.9**	**+0.1**
CO05	**La Serena**	**2.58**	**16**		**Pb**	**16 10 47.0**	**-1.4**
GO05	**Huala**	**2.59**	**178**	Pn	**Pn**	**16 10 42.3**	**-2.0**
BO02	**Sierra Bellavi**	**2.60**	**156**		**Pn**	**16 10 44.3**	**-0.1**
ZON	**Zonda**	**2.99**	**74**		**Pn**	**16 10 48.3**	**-1.4**
AC04	**Llanos de Chal**	**4.27**	**12**	Pn	**Pn**	**16 11 05.6**	**-1.8**
GO03	**Copiap**	**5.05**	**19**	Pn	**Pn**	**16 11 16.9**	**-1.2**
AC06	**Mina Casimiro**	**5.24**	**17**	Pn	**Pn**	**16 11 19.6**	**-1.1**
H03N1	**Juan Fernandez**	**5.87**	**258**	T	T	16 18 19.8	
	baz=87,slow=73,SNR=104						
H03N3	**Juan Fernandez**	**5.88**	**258**	T	T	16 18 15.4	
	baz=87,slow=73,SNR=99						
H03N2	**Juan Fernandez**	**5.88**	**258**	T	T	16 18 16.6	
	baz=87,slow=73,SNR=84						
H03S3	**Juan Fernandez**	**5.93**	**254**	T	T	16 18 09.3	
	baz=83,slow=75,SNR=16						
H03S1	**Juan Fernandez**	**5.93**	**254**	T	T	16 18 01.0	
	baz=83,slow=75,SNR=15						
H03S2	**Juan Fernandez**	**5.95**	**254**	T	T	16 18 04.4	
	baz=83,slow=75,SNR=19						
AC02	**Maricunga**	**6.11**	**25**	Pn	**Pn**	**16 11 28.8**	**-4.2**
LC01	**Cunco**	**6.47**	**179**	Pn	**Pn**	**16 11 36.3**	**-1.3**
PLCA	**Paso Flores**	**8.39**	**172**	Pn	**Pn**	**16 12 03.5**	**-0.5**
	comp=E,0.4nm,0.3s,baz=327,slow=10,SNR=10.0						
LL04	**Puerto Octay**	**8.49**	**182**	Pn	**Pn**	**16 12 04.2**	**-1.0**
PB15	**IPOC Station P**	**9.44**	**15**	Pn	**Pn**	**16 12 17.6**	**-1.0**
LVC	**Limon Verde**	**10.15**	**17**	Pn	**Pn**	**16 12 27.6**	**-0.7**
	comp=E,0.6nm,0.3s,baz=291,slow=14,SNR=2.3						
LVC	**Limon Verde**	**10.15**	**17**		**Pn**	**16 12 27.2**	**-1.2**
CPUP	**Villa Florida**	**14.18**	**68**	Pn	**Pn**	**16 13 25.0**	**+1.8**
	comp=E,0.1nm,0.3s,baz=298,slow=15,SNR=2.3						
LPAZ	**La Paz**	**16.44**	**13**	Pn	**Pn**	**16 13 53.7**	**0.0**
	comp=E,0.6nm,0.3s,baz=199,slow=4.0,SNR=16						
LPAZ	**La Paz**	**16.44**	**13**	P	**Pn**	**16 13 54.1**	**+0.4**
SIV	**San Ignacio**	**19.14**	**34**	P	**P**	**16 14 24.9**	**-0.9**
	comp=E,0.4nm,0.3s,baz=221,slow=9.9,SNR=9.1						
SAML	**Samuel**	**24.75**	**21**	P	**P**	**16 15 24.1**	**0.0**
BDFB	**Brasilia**	**27.47**	**58**	P	**P**	**16 15 48.7**	**-0.3**
	comp=E,2.8nm,0.6s,baz=226,slow=11,SNR=4.3						
BDFB				LR	LR	16 28 26.0	
	comp=E,310nm,19.2s,baz=209,slow=40						
BDFB	**Brasilia**	**27.47**	**58**	P	**P**	**16 15 49.7**	**+0.7**
BDFB				IAmb	IAmb	16 16 24.1	
	comp=Z,14nm,1.2s						
PTGA	**Pitinga**	**33.51**	**22**	P	**P**	**16 16 40.6**	**-1.5**
PTGA				IAmb	IAmb	16 16 45.9	
	comp=Z,5.6nm,0.8s						
VNA3	**Neumayer Olymp**	**50.83**	**158**	P	**P**	**16 19 02.5**	**-0.2**
VNA2	**Neumayer--Watz**	**51.48**	**158**	P	**P**	**16 19 07.3**	**-0.2**
	baz=288,slow=8.1						
SNAA	**Sanae**	**53.06**	**158**	P	**P**	**16 19 19.0**	**-0.4**
SNAA	**Sanae**	**53.06**	**158**	P	**P**	**16 19 18.6**	**-0.7**
	comp=Z,4.0nm,0.9s,baz=272,slow=8.6,SNR=14						
SNAA	**Sanae**	**53.06**	**158**	IAmb	IAmb	16 19 38.9	
	comp=Z,5.2nm,1.0s						
QSPA	**South Pole Qui**	**57.82**	**180**	P	**P**	**16 19 57.2**	**+3.4**
TXAR	**Lajitas Array**	**68.35**	**330**	P	**P**	**16 21 05.8**	**+1.7**
	comp=Z,0.4nm,0.7s,baz=154,slow=9.8,SNR=4.8						
DBIC	**Dimbokro**	**74.68**	**72**	P	**P**	**16 21 42.4**	**-0.1**
	comp=Z,3.2nm,0.7s,baz=239,slow=5.6,SNR=5.7						
MAW	**Mawson**	**74.70**	**164**	P	**P**	**16 21 41.1**	**-0.7**
	comp=Z,1.4nm,0.4s,baz=270,slow=10,SNR=2.4						
BOSA	**Boshof**	**80.81**	**118**	P	**P**	**16 22 17.8**	**+1.0**
	comp=Z,1.9nm,0.9s,baz=213,slow=5.0,SNR=3.6						
NVAR	**Mina Array Bea**	**82.58**	**325**	P	**P**	**16 22 26.1**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=154,slow=34,SNR=4.4						
TORD	**Torodi Ar. Bea**	**83.67**	**70**	P	**P**	**16 22 30.6**	**-1.1**
	comp=Z,1.6nm,0.6s,baz=276,slow=3.6,SNR=5.8						
SCHQ	**Schefferville**	**87.00**	**3**	P	**P**	**16 22 47.5**	**+0.1**
	comp=Z,2.9nm,0.6s,baz=70,slow=2.0,SNR=4.3						
ASAR	**Alice Springs**	**119.98**	**207**	PKP	**PKiKP**	**16 28 53.0**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=125,slow=1.7,SNR=4.8						
WRA	**Warramunga Arr**	**122.14**	**210**	PKP	**PKiKP**	**16 28 59.6**	**+1.4**
	comp=Z,0.5nm,0.9s,baz=172,slow=2.0,SNR=6.0						
H11S2	**WAKE ISLAND Hy**	**125.78**	**270**	T	T	18 48 17.3	
	baz=118,slow=75,SNR=4.4						
H11S1	**WAKE ISLAND Hy**	**125.79**	**270**	T	T	18 48 14.6	
	baz=118,slow=75,SNR=4.4						
H11S3	**WAKE ISLAND Hy**	**125.79**	**270**	T	T	18 48 10.7	
	baz=118,slow=75,SNR=4.1						
FITZ	**Fitzroy Crossi**	**127.00**	**201**	PKP	**PKiKP**	**16 29 07.5**	**-0.2**
	comp=Z,1.2nm,0.9s,baz=243,slow=2.3,SNR=1.6						
ZALV	**Zalesovo Beam**	**152.88**	**31**	PKPbc	**PKiKP**	**16 29 58.6**	**-0.8**
	comp=Z,2.6nm,0.6s,baz=286,slow=4.4,SNR=4.2						
MKAR	**Makanchi Array**	**155.70**	**46**	PKPab	**PKPab**	**16 30 21.8**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=298,slow=2.6,SNR=3.8						
SONM	**Songino Array**	**164.55**	**4**	PKPab	**PKPab**	**16 31 01.2**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=355,slow=7.2,SNR=2.9						

MEX 19 16:13:24.7±0.6, 13°.96N×92°.96W, h13km±634km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.75**	**352**	*i* P	Pn	16 13 48.4	-6.4
PCIG				*i* S	Sn	16 14 07.8	-9.2
CCIG	**Comitan**	**2.44**	**19**	*i* P	Pn	16 14 04.7	+0.2
CCIG				*i* S	Sn	16 14 31.1	-3.1

*NEIC **19** 16:21:21.1±2.1, 32°.45S±0°.04×72°.43W±0°.09, h10km±2km, mb4.2/3, ML4.0(GUC), Error ellipse: s-maj=12.8km s-min=5.8km az=255.0*
*GUC **19** 16:21:24.2±0.7, 32°.47S×72°.18W, h25km±8km, ML4.0*
ISC 19 16:21:21.7±1.8, 32°.44S±0°.04×72°.28W±0°.08, h6km±11km, n31, σ1s17/39, 2C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA01	**Torpederas**	**0.79**	**138**	⇓*i* P	**Pg**	**16 21 37.6**	**+0.7**
VA01				*i* S	**Sg**	**16 21 47.4**	**+0.2**
VA01				IAML		16 21 49.9	
	comp=E,5μm,0.2s						
VA01	**Torpederas**	**0.79**	**138**		**Pg**	**16 21 37.5**	**+0.7**
VA06	**Catapilco**	**0.84**	**99**	⇓*i* P	**Pg**	**16 21 37.5**	**-0.3**
VA06				*i* S	**Sg**	**16 21 48.5**	**-0.1**
VA06				IAML		16 21 53.3	
	comp=E,11μm,0.5s						
ROCH	**El Roble**	**1.19**	**117**	⇓*i* P	**Pg**	**16 21 43.8**	**-0.8**
ROCH				*i* S	**Sg**	**16 21 58.9**	**-1.2**
ROCH				IAML		16 22 01.0	
	comp=E,6μm,0.7s						
VA05	**Santo Domingo**	**1.34**	**156**	*e*P	**Pn**	**16 21 46.5**	**-0.4**
VA05				*i* S	**Sb**	**16 22 03.2**	**-1.4**
VA05				IAML		16 22 11.7	
	comp=E,3μm,0.3s						
VA05	**Santo Domingo**	**1.34**	**156**		**Pn**	**16 21 46.5**	**-0.4**
VA03	**San Esteban**	**1.49**	**103**	⇓*i* P	**Pn**	**16 21 48.1**	**-1.0**
VA03	**San Esteban**	**1.49**	**103**		**Pn**	**16 21 48.2**	**-1.0**
MT05	**Renca**	**1.61**	**127**	⇓*i* P	**Pn**	**16 21 50.6**	**0.0**
MT05				*i* S	**Sn**	**16 22 10.3**	**-1.5**
MT05				IAML		16 22 18.4	
	comp=N,5μm,0.5s						
MT05	**Renca**	**1.61**	**127**		**Pn**	**16 21 50.7**	**0.0**
MT01	**Popeta**	**1.67**	**149**	⇑*i* P	**Pn**	**16 21 51.1**	**-0.3**
MT01				*i* S	**Sn**	**16 22 11.5**	**-1.6**
MT01				IAML		16 22 19.7	
	comp=E,3μm,0.5s						
MT01	**Popeta**	**1.67**	**149**		**Pn**	**16 21 51.3**	**-0.2**
MT09	**Talagante**	**1.72**	**141**	*e*P	**Pn**	**16 21 52.4**	**+0.1**
MT09				*i* S	**Sn**	**16 22 13.4**	**-1.3**
MT09				IAML		16 22 23.1	
	comp=N,3μm,0.2s						
MT09	**Talagante**	**1.72**	**141**	Pn	**Pn**	**16 21 52.8**	**+0.5**
CO06	**Fray Jorge**	**1.84**	**18**		**Pn**	**16 21 53.3**	**-0.5**
CO03	**El Pedregal**	**2.09**	**41**		**Pn**	**16 21 58.0**	**+0.7**
BO01	**Tunca**	**2.19**	**153**		**Pn**	**16 21 59.0**	**+0.4**
LMEL	**Las Melosas**	**2.24**	**130**	⇑*i* P	**Pn**	**16 22 00.5**	**+1.0**
LMEL				*i* S	**Sn**	**16 22 28.0**	**+0.5**
LMEL				IAML		16 22 36.8	
	comp=N,2μm,0.2s						
GO05	**Huala**	**2.58**	**174**		**Pn**	**16 22 04.1**	**0.0**
BO02	**Sierra Bellavi**	**2.66**	**152**		**Pn**	**16 22 06.1**	**+0.9**
CO05	**La Serena**	**2.66**	**20**	Pn	**Pn**	**16 22 04.8**	**-0.3**
ZON	**Zonda**	**3.18**	**75**		**Pn**	**16 22 15.3**	**+3.0**
LCO	**Las Campanas**	**3.67**	**22**	Pg	**Pb**	**16 22 27.9**	**+0.8**
AC04	**Llanos de Chal**	**4.34**	**14**	Pn	**Pn**	**16 22 27.0**	**-1.3**
GO03	**Copiap**	**5.14**	**21**		**Pn**	**16 22 38.1**	**-1.1**
AC02	**Maricunga**	**6.22**	**27**	Pn	**Pn**	**16 22 54.3**	**-0.1**
PB11	**IPOC Station P**	**12.84**	**11**	Pn	**Pn**	**16 24 21.5**	**-3.5**
LPAZ	**La Paz**	**16.51**	**14**	P	**Pn**	**16 25 15.6**	**+1.1**
LPAZ				IAmb	IAmb	16 25 22.1	
	comp=Z,4.0nm,0.8s						
VNA3	**Neumayer Olymp**	**50.88**	**158**	P	**P**	**16 30 24.3**	**+1.3**
VNA2	**Neumayer--Watz**	**51.53**	**158**	P	**P**	**16 30 29.6**	**+1.7**
	baz=294,slow=8.1						
SNAA	**Sanae**	**53.11**	**158**	P	**P**	**16 30 40.5**	**+0.8**

MEX 19 16:43:38.6±0.8, 14°.13N×93°.07W, h7km±202km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.10**	**45**	*i* P	Pg	16 43 56.4	-3.3
THIG				*i* S	Sg	16 44 13.1	-0.9
CCIG	**Comitan**	**2.32**	**23**	*i* P	Pn	16 44 16.5	-1.0
CCIG				*i* S	Sn	16 44 47.9	+1.5
TGIG		**2.63**	**359**	*i* P	Pn	16 44 18.8	-2.8
TGIG				*i* S	Sn	16 44 49.7	-4.1

MEX 19 16:45:03.0±1.0, 13°.89N×93°.13W, h19km±290km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.80**	**357**	*i* P	Pn	16 45 28.7	-4.4
PCIG				*i* S	Sn	16 45 47.8	-7.6

*GUC **19** 16:51:15.7±0.8, 30°.61S×71°.72W, h35km±2km, ML4.0*
*NEIC **19** 16:51:17.9±2.4, 30°.63S±0°.05×71°.78W±0°.06, h35km±2km, mb4.2/3, ML4.0(GUC), Error ellipse: s-maj=9.5km s-min=7.2km az=118.0*
ISC 19 16:51:16.7±1.1, 30°.63S±0°.03×71°.79W±0°.08, h29km±7km, n30, σ1s35/40, mb4.2/3, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.14**	**110**	⇓*i* P	**Pb**	**16 51 22.2**	**0.0**
CO06				*i* S	**Sb**	**16 51 26.4**	**+0.4**
CO06	**Fray Jorge**	**0.14**	**110**		**Pn**	**16 51 22.7**	**-0.2**
CO05	**La Serena**	**0.85**	**34**	*e*P	**Pb**	**16 51 31.9**	**-1.1**
CO05				*i* S	**Sb**	**16 51 43.2**	**-0.7**
CO05	**La Serena**	**0.85**	**34**	Pn	**Pb**	**16 51 32.5**	**-0.4**
GO04	**Tololo Observa**	**0.96**	**62**	*e*P	**Pn**	**16 51 33.6**	**-0.9**
GO04				*i* S	**Sb**	**16 51 47.2**	**-0.3**
GO04				IAML		16 51 49.7	
	comp=N,12μm,0.8s						
GO04	**Tololo Observa**	**0.96**	**62**	Pn	**Pn**	**16 51 34.4**	**-0.1**
CO03	**El Pedregal**	**0.97**	**103**	⇓*i* P	**Pn**	**16 51 33.9**	**-0.6**
CO03				*i* S	**Sb**	**16 51 45.7**	**-1.8**
CO03				IAML		16 51 46.4	
	comp=E,4μm,0.2s						
CO03	**El Pedregal**	**0.97**	**103**		**Pn**	**16 51 33.8**	**-0.6**
LCO	**Las Campanas**	**1.86**	**31**	⇑*i* P	**Pn**	**16 51 47.6**	**+0.7**
LCO				*i* S	**Sb**	**16 52 12.2**	**-1.1**
LCO	**Las Campanas**	**1.86**	**31**	Pn	**Pb**	**16 51 48.4**	**-1.9**
VA06	**Catapilco**	**1.98**	**168**	*e*P	**Pn**	**16 51 45.5**	**-2.6**
VA06				*i* S	**Sb**	**16 52 15.1**	**-1.1**
VA06				IAML		16 52 19.5	
	comp=N,2μm,0.5s						
VA03	**San Esteban**	**2.38**	**154**	⇓*i* P	**Pn**	**16 51 55.5**	**+1.7**
VA03				*i* S	**Sb**	**16 52 26.0**	**-1.9**
VA03				IAML		16 52 31.7	
	comp=E,1μm,0.3s						
VA03	**San Esteban**	**2.38**	**154**		**Pn**	**16 51 55.4**	**+1.6**
VA01	**Torpederas**	**2.39**	**177**		**Pb**	**16 51 57.1**	**-2.0**
ROCH	**El Roble**	**2.43**	**164**	*e*P	**Pn**	**16 51 56.1**	**+1.4**
ROCH				*i* S	**Sb**	**16 52 28.1**	**-1.4**
ROCH				IAML		16 52 36.0	
	comp=N,679nm,0.2s						
AC04	**Llanos de Chal**	**2.49**	**15**	Pn	**Pn**	**16 51 55.9**	**+0.7**
ZON	**Zonda**	**2.82**	**110**	Pn	**Pn**	**16 52 01.1**	**+1.2**
MT05	**Renca**	**2.90**	**162**	⇑*i* P	**Pn**	**16 52 02.6**	**+1.7**
MT05				*i* S	**Sn**	**16 52 38.1**	**+3.2**
MT05				IAML		16 52 50.2	
	comp=E,994nm,0.4s						
MT05	**Renca**	**2.90**	**162**	Pn	**Pn**	**16 52 01.4**	**+0.4**
MT09	**Talagante**	**3.21**	**168**	*e*P	**Pn**	**16 52 06.4**	**+1.0**
MT09				*e*S	**Sn**	**16 52 44.6**	**+1.8**
MT09	**Talagante**	**3.21**	**168**		**Pn**	**16 52 04.2**	**-1.1**
GO03	**Copiap**	**3.31**	**25**		**Pn**	**16 52 07.6**	**+0.9**
AC06	**Mina Casimiro**	**3.49**	**21**	Pn	**Pn**	**16 52 09.5**	**+0.5**
BO01	**Tunca**	**3.80**	**171**		**Pn**	**16 52 15.0**	**+1.7**
GO05	**Huala**	**4.37**	**182**	Pn	**Pn**	**16 52 20.7**	**-0.5**
AC02	**Maricunga**	**4.44**	**32**	Pn	**Pn**	**16 52 24.0**	**+1.5**
PSGCX	**Pisagua**	**11.08**	**8**	Pn	**Pn**	**16 53 53.2**	**-0.1**
PMSA	**Palmer Station**	**34.51**	**174**	P	**P**	**16 58 01.5**	**-0.4**
PMSA				IAmb	IAmb	16 58 03.6	
	comp=Z,7.7nm,1.1s						
SNAA	**Sanae**	**54.63**	**159**	P	**P**	**17 00 42.3**	**0.0**
SNAA				IAmb	IAmb	17 00 58.1	
	comp=Z,3.5nm,1.3s						
QSPA	**South Pole Qui**	**59.60**	**180**	P	**P**	**17 01 18.3**	**+0.7**
QSPA				IAmb	IAmb	17 01 31.4	
	comp=Z,1.3nm,1.0s						

MEX 19 16:58:06.7±0.6, 14°.06N×93°.20W, h17km±999km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.64**	**359**	*i* P	Pn	16 58 31.4	-3.4
PCIG				*i* S	Sn	16 58 50.7	-4.8
CCIG	**Comitan**	**2.44**	**25**	*i* P	Pn	16 58 47.0	+1.0
CCIG				*i* S	Sn	16 59 15.9	+0.4

*IDC **19** 17:02:46.1±3.5, 6°.35S×155°.38E, h154km±39km, mb3.3/7, mb1 3.5/11, mb1mx3.3/47, mbtmp3.9/11, Error ellipse: s-maj=26.7km s-min=19.7km az=124.0*
*NEIC **19** 17:02:47.2±1.4, 6°.45S±0°.1×155°.55E±0°.09, h171km±9km, mb4.5/23, Error ellipse: s-maj=17.6km s-min=8.5km az=215.0*
ISC 19 17:02:45.4±0.7, 6°.33S±0°.08×155°.50E±0°.08, h150km, n42, σ1s22/37, mb4.1/16, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.94**	**302**	Pn	**Pn**	**17 03 48.1**	**+3.2**
HNR	**Honiara**	**5.38**	**125**	P	**Pn**	**17 04 05.5**	**+1.6**
	3.6nm,0.3s,baz=291,slow=8.6,SNR=1.6						
HNR	**Honiara**	**5.38**	**125**		**Pn**	**17 04 04.5**	**+0.6**
COEN	**Coen**	**14.29**	**237**		**Pn**	**17 06 02.3**	**+1.1**
JAY	**Jayapura**	**15.22**	**284**	P	**Pn**	**17 06 13.9**	**+1.0**
	0.8nm,0.3s,baz=87,slow=10,SNR=4.5						
CTA	**Charters Tower**	**16.36**	**212**	P	**P**	**17 06 27.7**	**+0.9**
	0.5nm,0.3s,baz=42,slow=14,SNR=8.6						
CTAO	**Charters Tower**	**16.36**	**212**		**Pn**	**17 06 27.0**	**+0.3**
CTAO				IAmb	IAmb	17 07 13.5	
	comp=Z,26nm,1.6s						
DZM	**Mont Dzumac**	**18.89**	**147**	P	**P**	**17 06 55.6**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=246,slow=9.7,SNR=12						
DZM	**Mont Dzumac**	**18.89**	**147**	IAmb	IAmb	17 06 56.1	
	comp=Z,20nm,1.4s						
OUENC	**Ouen Island, N**	**19.38**	**147**		**P**	**17 07 00.4**	**+0.6**
OUENC				IAmb	IAmb	17 07 36.2	
	comp=Z,19nm,1.3s						
EIDS	**Eidsvold**	**19.40**	**192**	P	**Pn**	**17 07 02.8**	**+0.1**
EIDS				IAmb	IAmb	17 07 50.8	
	comp=Z,46nm,1.6s						
FAKI	**Fak Fak**	**23.41**	**277**	P	**P**	**17 07 39.8**	**-1.4**
ARMA	**Armidale**	**24.24**	**188**	P	**P**	**17 07 49.0**	**+0.4**
WR0	**Warramunga Arr**	**24.45**	**234**	P	**P**	**17 07 50.2**	**-0.4**
WB0	**Warramunga Arr**	**24.47**	**235**	P	**P**	**17 07 50.4**	**-0.4**
WB0				IAmb	IAmb	17 07 53.4	
	comp=Z,8.4nm,1.2s						
WRAB	**Tennant Creek**	**24.59**	**235**	P	**P**	**17 07 50.9**	**-0.9**
WRAB				IAmb	IAmb	17 07 52.2	
	comp=Z,3.8nm,0.6s						
WB2	**Warramunga Arr**	**24.59**	**235**	P	**P**	**17 07 51.6**	**-0.3**
WB2				IAmb	IAmb	17 07 57.8	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**24.60**	**235**	P	**P**	**17 07 51.9**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=63,slow=9.6,SNR=47						
WRA	**Warramunga Arr**	**24.60**	**235**	P	**P**	**17 07 50.7**	**-1.3**
MTN	**Manton Dam**	**24.87**	**253**	P	**P**	**17 07 53.7**	**-0.7**
MTN				IAmb	IAmb	17 08 51.6	
	comp=Z,24nm,1.6s						
AS31	**Alice Springs**	**26.98**	**228**	P	**P**	**17 08 12.3**	**-1.1**
ASAR	**Alice Springs**	**26.98**	**228**	P	**P**	**17 08 12.2**	**-1.2**
	comp=Z,0.6nm,0.9s,baz=59,slow=9.2,SNR=11						
H11S3	**WAKE ISLAND Hy**	**27.02**	**24**	T	T	17 36 56.5	
	baz=202,slow=75,SNR=16						
**H11S2

PB03	**IPOC Station P**	**2.42 253**	*e*P	**Pn**	**17 15 52.5**	**+0.7**
PB03			*e*S	**Sn**	**17 16 24.2**	**-1.0**
PB03			IAML		17 16 25.0	
	comp=N,1μm,0.2s					
PB03	**IPOC Station P**	**2.42 253**	P	**Pn**	**17 15 52.6**	**+0.8**
PB03			S	**Sn**	**17 16 18.3**	**-6.9**
PB03			IAML		17 16 24.9	
	comp=N,1μm,0.2s					
PB02	**IPOC Station P**	**2.46 271**↓	*e*P	**Pn**	**17 15 53.1**	**+0.9**
PB02			*e*S	**Sn**	**17 16 24.9**	**-1.0**
PB02	**IPOC Station P**	**2.46 271**	P	**Pn**	**17 15 52.2**	**0.0**
PB02	**IPOC Station P**	**2.46 271**	P	**Pn**	**17 15 52.6**	**+0.4**
PB02			S	**Sn**	**17 16 19.7**	**-6.2**
PB02			IAML		17 16 26.0	
	comp=N,3μm,0.5s					
PB07	**IPOC Station P**	**2.48 261**↓	*e*P	**Pn**	**17 15 53.2**	**+0.8**
PB07			*e*S	**Sn**	**17 16 25.3**	**-1.0**
PB07			IAML		17 16 27.2	
	comp=E,2μm,0.4s					
PB07	**IPOC Station P**	**2.48 261**	Pn	**Pn**	**17 15 53.3**	**+0.8**
PB07			Sn	**Sn**	**17 16 25.2**	**-1.1**
PB07	**IPOC Station P**	**2.48 261**	P	**Pn**	**17 15 52.6**	**+0.2**
PB07			S	**Sn**	**17 16 21.7**	**-4.6**
PB07			IAML		17 16 26.1	
	comp=E,1μm,0.6s					
PB06	**IPOC Station P**	**2.53 238**	*e*P	**Pn**	**17 15 53.9**	**+0.9**
PB06			*e*S	**Sn**	**17 16 26.9**	**-0.4**
PB06			IAML		17 16 28.1	
	comp=E,878nm,0.1s					
PB06	**IPOC Station P**	**2.53 238**		**Pn**	**17 15 53.9**	**+0.9**
PB06			Sn	**Sn**	**17 16 27.0**	**-0.4**
PB06	**IPOC Station P**	**2.53 238**	P	**Pn**	**17 15 53.2**	**+0.2**
PB15	**IPOC Station P**	**2.75 228**	*e*P	**Pn**	**17 15 56.8**	**+1.2**
PB15			*e*S	**Sn**	**17 16 32.1**	**0.0**
PB15	**IPOC Station P**	**2.75 228**		**Pn**	**17 15 56.3**	**+0.7**
PB15			Sn	**Sn**	**17 16 32.2**	**+0.1**
PB11	**IPOC Station P**	**2.76 305**↓	*i*P	**Pn**	**17 15 56.7**	**+1.1**
PB11			*i* S	**Sn**	**17 16 31.8**	**-0.3**
PB11	**IPOC Station P**	**2.76 305**	Pn	**Pn**	**17 15 56.6**	**+0.9**
PB11			Sn	**Sn**	**17 16 31.6**	**-0.6**
PB11	**IPOC Station P**	**2.76 305**	P	**Pn**	**17 15 56.0**	**+0.3**
PB11			S	**Sn**	**17 16 26.6**	**-5.5**
PB11			IAML		17 16 33.4	
	comp=E,2μm,0.2s					
TA01	**Diego Aracena**	**2.85 286**		**Pn**	**17 15 57.0**	**+0.5**
TA01			Sn	**Sn**	**17 16 31.3**	**-2.4**
PB04	**IPOC Station P**	**2.86 250**		**Pn**	**17 15 57.4**	**+0.6**
PB04			Sn	**Sn**	**17 16 32.1**	**-2.0**
PB04	**IPOC Station P**	**2.86 250**	P	**Pn**	**17 15 56.9**	**+0.1**
TA02	**Huaiquique**	**2.91 292**		**Pn**	**17 15 57.5**	**+0.3**
TA02			Sn	**Sn**	**17 16 33.3**	**-1.5**
PB05	**IPOC Station P**	**3.11 241**	P	**Pn**	**17 16 00.0**	**+0.3**
PB05			S	**Sn**	**17 16 32.0**	**-7.4**
PB05			IAML		17 16 38.8	
	comp=E,357nm,0.3s					
PSGC	**Pisagua**	**3.22 303**↓	*e*P	**Pn**	**17 16 00.9**	**-0.1**
PSGC			*e*S	**Sn**	**17 16 39.8**	**-1.9**
PSGC			IAML		17 16 42.4	
	comp=N,409nm,0.5s					
PSGC	**Pisagua**	**3.22 303**	P	**Pn**	**17 16 01.8**	**+0.8**
PSGCX	**Pisagua**	**3.22 303**	Pn	**Pn**	**17 16 00.7**	**-0.3**
PSGCX			Sn	**Sn**	**17 16 39.3**	**-2.4**
PB10	**IPOC Station P**	**3.73 234**	Pn	**Pn**	**17 16 07.5**	**+0.4**
PB10			Sn	**Sn**	**17 16 49.3**	**-3.4**
AP01	**Chacalluta**	**4.16 315**	*e*P	**Pn**	**17 16 12.7**	**+0.1**
AP01	**Chacalluta**	**4.16 315**	Pn	**Pn**	**17 16 11.9**	**-0.7**
AP01			Sn	**Sn**	**17 17 00.0**	**-2.6**
PB14	**IPOC Station P**	**4.35 221**↑	*e*P	**Pn**	**17 16 15.7**	**+0.5**
PB14	**IPOC Station P**	**4.35 221**	Pn	**Pn**	**17 16 15.5**	**+0.3**
PB14			Sn	**Sn**	**17 17 03.5**	**-3.9**
PB14	**IPOC Station P**	**4.35 221**	P	**Pn**	**17 16 15.1**	**-0.1**
BBOE	**La Paz, Chanca**	**4.58 351**	P	**Pn**	**17 16 19.7**	**+1.2**
BBOD	**La Paz, Gloria**	**4.87 345**	P	**Pn**	**17 16 23.2**	**+1.0**
LPAZ	**La Paz**	**5.12 351**	P	**Pn**	**17 16 27.6**	**+2.2**
	comp=N,4.8nm,0.3s,baz=130,slow=3.7,SNR=101					
LPAZ			S	**Sn**	**17 17 25.2**	**-0.3**
	comp=N,1.2nm,0.3s,baz=73,slow=24,SNR=7.2					
LPAZ	**La Paz**	**5.12 351**	Pn	**Pn**	**17 16 27.4**	**+2.1**
LPAZ			Sn	**Sn**	**17 17 25.5**	**-0.1**
LPAZ	**La Paz**	**5.12 351**	P	**Pn**	**17 16 26.6**	**+1.2**
AC02	**Maricunga**	**5.71 197**	Pn	**Pn**	**17 16 33.0**	**+0.2**
AC06	**Mina Casimiro**	**6.60 205**	Pn	**Pn**	**17 16 41.9**	**-2.0**
GO03	**Copiap**	**6.77 203**	Pn	**Pn**	**17 16 44.1**	**-2.0**
AC04	**Llanos de Chal**	**7.64 206**	Pn	**Pn**	**17 16 54.0**	**-3.4**
SIV	**San Ignacio**	**7.93 49**	P	**Pn**	**17 17 00.0**	**-1.3**
	comp=N,4.4nm,0.3s,baz=239,slow=12,SNR=53					
SIV			S	**Sn**	**17 18 24.6**	**-6.2**
	comp=N,2.3nm,0.3s,baz=298,slow=15,SNR=12					
CPUP	**Villa Florida**	**10.34 120**	P	**Pn**	**17 17 33.9**	**+1.3**
	comp=N,0.7nm,0.3s,baz=295,slow=12,SNR=9.1					
CPUP	**Villa Florida**	**10.34 120**		**Pn**	**17 17 34.3**	**+1.8**
SAML	**Samuel**	**12.96 18**		**Pn**	**17 18 05.0**	**-1.1**
BDFB	**Brasilia**	**19.11 76**	P	**P**	**17 19 18.4**	**+1.1**
	comp=N,1.7nm,0.3s,baz=259,slow=12,SNR=5.2					
BDFB	**Brasilia**	**19.11 76**	P	**P**	**17 19 17.4**	**+0.1**
BDFB			IAmb	IAmb	17 19 22.9	
	comp=Z,12nm,1.4s					
PLCA	**Paso Flores**	**19.51 188**	P	**P**	**17 19 21.9**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=323,slow=5.1,SNR=3.9					
PLCA	**Paso Flores**	**19.51 188**	P	**P**	**17 19 20.4**	**-1.0**
PLCA			IAmb	IAmb	17 19 23.7	
	comp=Z,12nm,1.5s					
TORD	**Torodi Ar. Bea**	**75.86 70**	P	**P**	**17 26 34.9**	**+0.6**
	comp=Z,1.1nm,0.4s,baz=259,slow=5.7,SNR=12					
TORD	**Torodi Ar. Bea**	**75.86 70**	IAmb	IAmb	17 26 35.2	
	comp=Z,1.2nm,0.7s					
BOSA	**Boshof**	**82.14 118**	P	**P**	**17 27 10.0**	**+1.6**
	comp=Z,2.9nm,1.1s,baz=258,slow=4.0,SNR=5.7					
BOSA	**Boshof**	**82.14 118**	IAmb	IAmb	17 27 15.9	
	comp=Z,11nm,1.4s					
ASAR	**Alice Springs**	**130.72 206**	PKP	**PKiKP**	**17 33 59.1**	**+0.7**
	comp=Z,0.3nm,1.0s,baz=148,slow=2.0,SNR=1.8					

GUC 19 17:20:27.4±0.8, 32°31S×71°89W, h32km±5km, ML3.4, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.56**	**117**↓	*i*P	Pn	17 20 39.3	+0.2
VA06				*e*S	Sn	17 20 47.9	+0.6
VA06				IAML		17 20 55.6	
	comp=E,4μm,0.5s						
VA01	**Torpederas**	**0.74**	**164**	*e*P	Pb	17 20 42.1	+0.2
VA03	**San Esteban**	**1.22**	**112**↓	*i*P	Pb	17 20 49.2	-0.7
VA03				*i* S	Sb	17 21 07.4	+2.1
VA03				IAML		17 21 14.1	
	comp=E,2μm,0.7s						
VA05	**Santo Domingo**	**1.36**	**170**	*e*P	Pb	17 20 51.6	-0.7
MT05	**Renca**	**1.45**	**138**	*e*P	Pb	17 20 53.9	0.0
MT05				*i* S	Sb	17 21 13.5	+1.5
MT05				IAML		17 21 18.7	
	comp=E,1μm,0.3s						
MT01	**Popeta**	**1.64**	**161**	*e*P	Pb	17 20 56.2	-0.9
MT01				*e*S	Sb	17 21 18.3	+0.9
MT01				IAML		17 21 23.4	
	comp=E,396nm,0.4s						
MT09	**Talagante**	**1.65**	**153**	*e*P	Pb	17 20 56.8	-0.4
MT09				*i* S	Sb	17 21 18.6	+0.9
MT09				IAML		17 21 24.7	
	comp=N,476nm,0.2s						
LMEL	**Las Melosas**	**2.09**	**138**	*e*P	Pb	17 21 03.8	-0.9
LMEL				*e*S	Sb	17 21 33.2	+2.9
LMEL				IAML		17 21 43.6	
	comp=N,439nm,0.3s						
BO03	**Pichilemu**	**2.18**	**182**	*e*P	Pn	17 21 02.5	+1.0
BO01	**Tunca**	**2.18**	**162**	*e*P	Pb	17 21 04.2	-2.1
BO02	**Sierra Bellavi**	**2.64**	**160**	*e*P	Pn	17 21 10.9	+2.9
BO02				*e*S	Sb	17 21 49.6	+3.3

IDC 19 17:20:54.6±4.0, 6°17S×152°07E, h0km, mb3.0/2, mb1 3.4/2, mb1mx3.1/30, mbtmp3.1/2, Error ellipse: s-maj=165.0km s-min=52.8km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.00**	**230**	P	P	17 25 50.2	-0.5
	0.4nm,0.5s,baz=57,slow=9.8,SNR=8.7						
ASAR	**Alice Springs**	**24.66**	**223**	P	P	17 26 17.9	+0.6
	0.2nm,0.6s,baz=51,slow=8.8,SNR=7.0						
TORD	**Torodi Ar. Bea**	**150.00**	**286**	PKPbc	PKPbc	17 40 47.6	-0.7
	0.5nm,0.6s,baz=52,slow=2.9,SNR=4.0						

*ISN **19** 17:23:17.3±1.2, 28°.72N×47°.44E, h0km±715km, ML3.3*
*TEH **19** 17:23:18.4, 28°.74N×47°.40E, h10km, ML3.2*
*KISR **19** 17:23:20.6±0.5, 28°.87N×47°.62E, h11km±3km, ML3.5*

ISC 19 17:23:20.6±1.8, 28°.80N±0°.08×47°.48E±0°.06, h11km±7km, n21, σ1°80/30, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDF	**Al-Radifah**	**0.14**	**28**	*e*P	**Pg**	**17 23 24.0**	**+0.1**
RDF				*e*S	**Sg**	**17 23 26.1**	**0.0**
QRN	**Al-Qurain**	**0.39**	**99**	*e*P	**Pb**	**17 23 27.3**	**-2.2**
QRN				IAML		17 23 37.0	
	comp=Z,2μm,0.3s						
KBD	**Kabd**	**0.41**	**27**	*e*P	**Pb**	**17 23 27.7**	**-2.3**
KBD				*e*S	**Sb**	**17 23 33.5**	**-2.8**
KBD				IAML		17 23 36.4	
	comp=Z,26μm,0.5s						
UMR	**Umm Al-Rimmam**	**0.77**	**16**	*e*P	**Pb**	**17 23 34.8**	**-1.3**
UMR				*e*S	**Sn**	**17 23 45.7**	**-3.4**
UMR				IAML		17 23 52.0	
	comp=Z,3μm,0.4s						
RST	**Umm Al-Ruwaisa**	**0.81**	**329**	*e*P	**Pn**	**17 23 38.2**	**+0.2**
RST				*e*S	**Sn**	**17 23 50.4**	**+0.3**
RST				IAML		17 23 54.1	
	comp=Z,1μm,0.4s						
MIB	**Mutribah**	**1.00**	**353**	*e*P	**Pn**	**17 23 40.0**	**-0.7**
MIB				*e*S	**Sn**	**17 23 54.8**	**0.0**
MIB				IAML		17 23 58.3	
	comp=Z,2μm,0.5s						
NSR	**Nassriya**	**2.49**	**332**	*e*Pn	**Pn**	**17 24 02.0**	**+1.0**
NSR				*e*Sn	**Sn**	**17 24 33.0**	**+1.6**
NSR				AML	AML	17 24 41.8	
	comp=E,347nm,0.5s						
ABEH	**Behbahan**	**3.00**	**53**	*e*Sg	**Sg**	**17 25 01.5**	**+4.3**
KLNJ	**Kolanjah**	**4.19**	**57**	*e*Pn	**Pn**	**17 24 25.6**	**+0.8**
KLNJ				*e*		17 25 43.4	
	comp=Z,341nm,1.0s						
IBDR	**Badra**	**4.49**	**343**	*e*Pn	**Pn**	**17 24 29.0**	**+0.4**
IBDR				*e*Sn	**Sn**	**17 25 23.0**	**+2.1**
IBDR				AML	AML	17 25 25.9	
	comp=E,37nm,0.6s						
IBDR				AML	AML	17 25 26.9	
	comp=N,58nm,0.4s						
IKFM	**Kafar-mosalman**	**4.72**	**4**	*e*Pn	**Pn**	**17 24 33.0**	**+1.3**
IPIR	**Pirpir**	**4.86**	**36**	*e*Pn	**Pn**	**17 24 35.7**	**+1.8**
BMDN	**Meydan**	**4.99**	**13**	*e*Pn	**Pn**	**17 24 36.6**	**+1.0**
BHD	**Baghdad**	**5.18**	**330**	*e*Pn	**Pn**	**17 24 39.0**	**+0.9**
BHD				*e*Sn	**Sn**	**17 25 39.0**	**+1.1**
IRAM	**Ramesheh**	**5.19**	**54**	*e*Pn	**Pn**	**17 24 39.9**	**+1.5**
IRAM				*e*		17 25 40.6	
	comp=Z,149nm,0.7s						
IKLH	**Kolahrood**	**5.71**	**37**	*e*Pn	**Pn**	**17 24 47.3**	**+1.7**
IKLH				*e*		17 26 01.8	
	comp=Z,112nm,0.6s						
IDHR	**Dehrash**	**5.95**	**351**	*e*Pn	**Pn**	**17 24 49.4**	**+0.5**
QAMS	**Qamsar**	**5.95**	**33**	*e*Pn	**Pn**	**17 24 50.8**	**+1.9**
KRSH	**Karshahi**	**6.51**	**37**	*e*Pn	**Pn**	**17 24 58.8**	**+2.3**
IKRK	**Kirkuk**	**7.09**	**339**	*e*Pn	**Pn**	**17 25 06.0**	**+1.6**
IKRK				*e*Sn	**Sn**	**17 26 25.0**	**0.0**
QABG	**Abgarm-Qazvin**	**7.11**	**14**	*e*Pn	**Pn**	**17 25 05.2**	**+0.4**

DJA 19 17:33:03.0±1.5, 3°S×13°0E±°, h30km±15km, M3.8/10, mb4.3/3, MLv3.6/10, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.00**	**234**	P	Pn	17 33 20.6	-0.5
MSAI				S	Sn	17 33 34.2	0.0
KRAI	**Karang Ratu**	**1.46**	**247**	P	Pn	17 33 27.9	+0.6
BNDI	**Bandanaira**	**1.77**	**175**	P	Pn	17 33 31.7	+0.1
BNDI				S	Sn	17 33 53.7	+0.6
SIJI	**Sorong**	**2.41**	**39**	P	Pn	17 33 40.4	-0.1
SIJI				S	Sn	17 34 09.5	+0.5
SWI	**Sorong**	**2.41**	**39**	P	Pn	17 33 41.4	+1.0
SWI				S	Sn	17 34 09.7	+0.7
FAKI	**Fak Fak**	**2.51**	**94**	P	Pn	17 33 41.5	-0.3
SANI	**Sanana**	**3.81**	**280**	P	Pn	17 33 59.1	-0.6
GAMI	**Galela, Maluku**	**4.96**	**337**	P	Pn	17 34 14.4	-1.1
GTOI	**Gorontalo**	**7.52**	**296**	P	Pn	17 34 53.3	+2.6
SGSI	**Sangihe**	**7.65**	**327**	P	Pn	17 34 53.6	+1.1
	0.7nm87nm,0.4s						

*BGR **19** 17:40:22.8±0.0, 19°.47S×177°.83W, h33km, Ms4.4*
*NOU **19** 17:41:16.9, 17°.69S×178°.10W, h495km, mb4.3/18, Fiji Islands Region*
*NEIC **19** 17:41:16.5±2.3, 17°.8S±0°.1×178°.1W±0°.1, h463km±7km, mb4.3/84, Error ellipse: s-maj=16.9km s-min=13.8km az=139.0*
*IDC **19** 17:41:20.0±1.0, 17°.84S×178°.44W, h502km±10km, mb3.5/17, mb1 3.7/19, mb1mx3.7/28, mbtmp4.4/19, Error ellipse: s-maj=15.0km s-min=11.3km az=146.0*

ISC 19 17:41:18.6±0.4, 17°.84S±0°.08×178°.23W±0°.07, h500km, n191, σ1°47/186, mb4.2/54, 23C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.54**	**271**	P	**P**	**17 42 32.7**	**-0.9**
	5.8nm,0.3s,baz=100,slow=12,SNR=119						
MSVF				S	**S**	**17 43 34.5**	**-0.1**
	3.5nm,0.3s,baz=187,slow=20,SNR=4.2						
MSVF	**Nonsavu**	**3.54**	**271**		**P**	**17 42 32.2**	**-1.4**
MSVF	**Nonsavu**	**3.54**	**271**	P	**P**	**17 42 32.4**	**-1.2**
AFI	**Afiamalu**	**7.34**	**59**	P	P	17 43 02.7	-5.7
	5.2nm,0.3s,baz=216,slow=14,SNR=6.5						
AFI				S	S	17 44 26.4	-12
	6.0nm,0.3s,baz=67,slow=22,SNR=5.2						
NIUE	**Niue**	**7.98**	**100**		**P**	**17 43 11.7**	**-3.2**
NIUE	**Niue**	**7.98**	**100**	P	**P**	**17 43 12.3**	**-2.6**
MARNC	**Mare, Loyalty**	**13.44**	**252**	P	**P**	**17 44 09.9**	**-2.5**
PINNC	**Pines Island,**	**14.25**	**248**	P	**P**	**17 44 20.7**	**-0.3**
OUENC	**Ouen Island, N**	**14.74**	**250**	P	**P**	**17 44 25.2**	**-0.9**
DZM	**Mont Dzumac**	**15.01**	**251**	P	**P**	**17 44 27.4**	**-1.7**
	0.6nm,0.3s,baz=99,slow=22,SNR=5.8						
DZM	**Mont Dzumac**	**15.01**	**251**	IAmb	IAmb	17 44 32.2	
	comp=Z,5.9nm,0.8s						
KOUNC	**Koumac, New Ca**	**16.73**	**258**	P	**P**	**17 44 46.7**	**-0.3**
OUZ	**Omahuta**	**18.77**	**201**	P	**P**	**17 45 03.8**	**-2.2**
OUZ				IAmb	IAmb	17 45 07.1	
	comp=Z,18nm,1.2s						
URZ	**Urewera**	**20.75**	**190**	P	**P**	**17 45 21.7**	**-2.2**
	comp=Z,7.8nm,0.5s,baz=121,slow=24,SNR=7.5						
URZ	**Urewera**	**20.75**	**190**	P	**P**	**17 45 21.8**	**-2.1**
BKZ	**Black Stump Fm**	**21.74**	**191**	P	**P**	**17 45 30.5**	**-2.4**
BKZ				IAmb	IAmb	17 45 44.5	
	comp=Z,22nm,1.2s						
BFZ	**Birch Farm**	**23.25**	**191**	P	**P**	**17 45 45.4**	**-1.1**
QRZ	**Quartz Range**	**24.25**	**197**	P	**P**	**17 45 55.1**	**-0.2**
PLWZ	**Palliser**	**24.30**	**192**	P	**P**	**17 45 54.0**	**-1.8**
NNZ	**Nelson**	**24.39**	**195**	P	**P**	**17 45 54.8**	**-1.8**
TUWZ	**Tuamarina**	**24.45**	**194**	P	**P**	**17 45 55.1**	**-2.0**
THZ	**Tophouse**	**25.02**	**196**	P	**P**	**17 46 00.6**	**-1.7**
THZ				IAmb	IAmb	17 46 20.9	
	comp=Z,35nm,1.3s						
KHZ	**Kahutara**	**25.48**	**194**	P	**P**	**17 46 04.6**	**-1.6**
LTZ	**Lake Taylor**	**26.14**	**196**	P	**P**	**17 46 10.3**	**-1.8**
LTZ				IAmb	IAmb	17 46 23.6	
	comp=Z,31nm,1.2s						
OXZ	**Oxford**	**26.71**	**196**	P	**P**	**17 46 15.8**	**-1.3**
RPZ	**Rata Peaks**	**27.34**	**197**	P	**P**	**17 46 22.4**	**-0.2**
FOZ	**Fox Glacier**	**27.54**	**199**	P	**P**	**17 46 23.0**	**-1.3**
LBZ	**Lake Benmore**	**28.20**	**198**	P	**P**	**17 46 28.9**	**-1.3**
LBZ				IAmb	IAmb	17 46 35.6	
	comp=Z,40nm,1.4s						
WKZ	**Wanaka**	**28.95**	**199**	P	**P**	**17 46 35.5**	**-1.2**
EIDS	**Eidsvold**	**29.45**	**250**	P	**P**	**17 46 40.8**	**-0.5**
EIDS				IAmb	IAmb	17 47 07.7	
	comp=Z,22nm,1.4s						
MLZ	**Mavora Lakes**	**29.72**	**200**	P	**P**	**17 46 43.7**	**+0.3**
ARMA	**Armidale**	**30.12**	**240**	P	**P**	**17 46 48.3**	**+1.1**
ARMA				IAmb	IAmb	17 46 58.7	
	comp=Z,47nm,1.6s						
WHZ	**Wether Hill Ro**	**30.24**	**199**	P	**P**	**17 46 48.7**	**+0.9**
CTA	**Charters Tower**	**33.62**	**260**	P	**P**	**17 47 16.4**	**-0.8**
	comp=Z,7.2nm,0.7s,baz=88,slow=11,SNR=12						
CTAO	**Charters Tower**	**33.62**	**260**	P	**P**	**17 47 16.6**	**-0.5**
CTAO				IAmb	IAmb	17 47 17.5	
	comp=Z,9.9nm,0.8s						
JOHN	**Johnston Islan**	**35.41**	**14**	P	**P**	**17 47 30.7**	**-1.3**
COEN	**Coen**	**37.27**	**270**	P	**P**	**17 47 47.6**	**-0.1**
COEN				IAmb	IAmb	17 48 03.1	
	comp=Z,33nm,1.4s						
TOO	**Toolangi**	**37.34**	**231**	P	**P**	**17 47 49.3**	**+1.3**
TOO				IAmb	IAmb	17 47 53.8	
	comp=Z,7.9nm,1.3s						
STKA	**Stephens Creek**	**38.81**	**241**	P	**P**	**17 48 00.7**	**+0.7**
	comp=Z,3.3nm,0.6s,baz=95,slow=9.8,SNR=9.1						
STKA	**Stephens Creek**	**38.81**	**241**	P	**P**	**17 48 00.6**	**+0.7**
BBOO	**Buckleboo**	**43.58**	**241**	P	**P**	**17 48 38.3**	**+0.3**
BBOO				IAmb	IAmb	17 48 54.1	
	comp=Z,30nm,1.6s						
WR0	**Warramunga Arr**	**44.62**	**259**	P	**P**	**17 48 44.9**	**-1.3**
WB2	**Warramunga Arr**	**44.80**	**259**	P	**P**	**17 48 46.5**	**-1.1**
WB2				IAmb	IAmb	17 48 47.7	
	comp=Z,7.4nm,0.7s						
WRAB	**Tennant Creek**	**44.80**	**259**	P	**P**	**17 48 46.6**	**-1.0**
WRAB				IAmb	IAmb	17 48 47.3	
	comp=Z,6.4nm,0.8s						
WRA	**Warramunga Arr**	**44.81**	**259**	P	**P**	**17 48 46.5**	**-1.1**
	comp=Z,4.8nm,0.6s,baz=97,slow=7.0,SNR=89						
WRA	**Warramunga Arr**	**44.81**	**259**	P	**P**	**17 48 46.0**	**-1.7**
AS31	**Alice Springs**	**44.97**	**254**	P	**P**	**17 48 48.6**	**-0.3**
AS31				IAmb	IAmb	17 48 49.3	
	comp=Z,8.8nm,0.6s						
ASAR	**Alice Springs**	**44.97**	**254**	P	**P**	**17 48 48.5**	**-0.4**
	comp=Z,28nm,0.6s,baz=89,slow=8.0,SNR=719						
ASAR				S	**S**	**17 54 47.9**	**-2.6**
	comp=Z,2.1nm,0.8s,baz=92,slow=16,SNR=12						
GUMO	**Guam**	**47.97**	**308**	P	**P**	**17 49 12.6**	**+0.9**
FORT	**Forrest**	**50.19**	**245**	P	**P**	**17 49 27.9**	**-0.1**
KNRA	**Kununurra**	**50.66**	**264**	P	**P**	**17 49 31.4**	**-0.2**
KNRA				IAmb	IAmb	17 49 32.1	
	comp=Z,25nm,0.7s						
FITZ	**Fitzroy Crossi**	**53.20**	**260**	P	**P**	**17 49 50.3**	**+0.3**
SOEI	**Soe**	**56.24**	**270**	P	**P**	**17 50 13.0**	**+1.4**
SOEI				IAmb	IAmb	17 50 13.9	
	comp=Z,19nm,0.8s						
PSA00	**Pilbara Seismi**	**58.09**	**255**	P	**P**	**17 50 23.7**	**-0.3**
PSA00				IAmb	IAmb	17 50 24.8	
	comp=Z,7.1nm,0.8s						
PSA00	**Pilbara Seismi**	**58.09**	**255**	P	**P**	**17 50 23.4**	**-0.6**
PSA00				IAmb	IAmb	17 50 24.6	
	comp=Z,14nm,0.8s						
LUWI	**Luwuk**	**60.26**	**279**	P	**P**	**17 50 39.3**	**+0.7**
LUWI				IAmb	IAmb	17 50 59.4	
	comp=Z,14nm,0.8s						
VNDA	**Vanda**	**60.53**	**185**	P	**P**	**17 50 40.0**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=360,slow=8.4,SNR=3.7						
VNDA	**Vanda**	**60.53**	**185**	P	**P**	**17 50 40.7**	**+1.4**
TOLI2	**Tolitoli**	**62.87**	**281**	P	**P**	**17 50 57.4**	**+1.6**
GIRL	**Giralia**	**63.07**	**253**	P	**P**	**17 50 58.0**	**+1.0**
MJAR	**Matsushiro Arr**	**67.95**	**323**	P	**P**	**17 51 27.2**	**-0.1**
	comp=Z,4.2nm,0.8s,baz=163,slow=5.8,SNR=14						
MJAR	**Matsushiro Arr**	**67.95**	**323**		**P**	**17 51 27.3**	**+0.1**
MAJO	**Matsushiro**	**67.95**	**323**	P	**P**	**17 51 27.7**	**+0.4**
MAJO				IAmb	IAmb	17 51 28.5	
	comp=Z,6.7nm,0.8s						
MAT	**Matsushiro**	**67.95**	**323**	P	**P**	**17 51 27.2**	**-0.1**
ADK	**Adak**	**69.44**	**1**	P	**P**	**17 51 35.2**	**-0.6**
JSU	**Suzuyama**	**69.50**	**315**	P	**P**	**17 51 38.1**	**+1.4**
UGM	**Wanagama**	**69.81**	**268**	P	**P**	**17 51 38.8**	**-0.2**
JHS	**Saijyo**	**69.95**	**319**		**P**	**17 51 40.1**	**+0.7**
YULB	**Yu-li**	**71.87**	**303**	P	**P**	**17 51 51.4**	**+0.5**
YULB				IAmb	IAmb	17 52 02.5	
	comp=Z,12nm,1.1s						
QSPA	**South Pole Qui**	**72.21**	**180**	P	**P**	**17 51 54.0**	**+1.7**
	comp=Z,5.4nm,0.7s,baz=333,slow=0.4,SNR=50						
QSPA	**South Pole Qui**	**72.21**	**180**	P	**P**	**17 51 53.9**	**+1.5**
QSPA				IAmb	IAmb	17 51 55.4	
	comp=Z,5.2nm,0.7s						
SSLB	**Suanglung**	**72.34**	**303**	P	**P**	**17 51 53.0**	**-0.7**
SSLB				IAmb	IAmb	17 51 54.4	
	comp=Z,20nm,1.2s						
TPUB	**Ta-pu**	**72.36**	**302**	P	**P**	**17 51 53.6**	**-0.2**
PEA0B	**Petropavlovsk-**	**73.66**	**345**	P	**P**	**17 52 01.0**	**+0.5**
PEA0B				IAmb	IAmb	17 52 08.2	
	comp=Z,24nm,1.3s						
PETK	**Petropavlovsk-**	**73.66**	**345**	P	**P**	**17 52 00.7**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=136,slow=9.3,SNR=7.6						
KSRS	**Korea Array**	**74.76**	**318**	P	**P**	**17 52 08.7**	**+1.6**
	comp=Z,2.1nm,0.7s,baz=131,slow=6.4,SNR=11						
KSAR	**Wonju Array Be**	**74.78**	**318**		**P**

VNA2	**Neumayer--Watz**	**91.24**	**177**	P		**P**	17 53 31.3	**+1.6**
	baz=193,slow=3.9							
PLCA	**Paso Flores**	**91.26**	**134**	P		**P**	17 53 30.7	**+0.2**
	comp=E,1.4nm,0.7s,baz=43,slow=9.1,SNR=2.9							
VNA1	**Neumayer--Stat**	**91.46**	**177**	P		**P**	17 53 32.1	**+1.4**
SONM	**Songino Array**	**93.61**	**319**	P		**P**	17 53 41.9	**+0.9**
	comp=Z,0.6nm,0.7s,baz=158,slow=1.6,SNR=3.6							
SORM	**Soroca**	**142.81**	**330**	⇑P		**PKPdf**	17 59 53.2	**-1.5**
VASR	**Vaslui**	**144.14**	**329**	⇑P		**PKiK**	17 59 58.6	**-2.3**
TLCR		**144.61**	**326**	⇑P		**PKiK**	18 00 00.0	**-1.8**
BURAR	**Bucovina Array**	**144.63**	**332**	⇑P		**PKiK**	18 00 00.8	**-1.2**
BURAR	**Bucovina Array**	**144.63**	**332**	PKPdf		**PKiK**	18 00 00.6	**-1.4**
BIZ	**Bicaz**	**144.73**	**331**	⇑P		**PKiK**	18 00 00.4	**-1.7**
GHRR		**144.73**	**329**	⇑P		**PKiK**	18 00 01.3	**-0.8**
FLTG	**Flechtingen**	**144.78**	**350**	*e*PKPbc		**PKiK**	18 00 00.2	**-1.8**
	baz=17,slow=2.7							
BRTR	**Keskin Array B**	**144.85**	**315**	PKP		**PKiK**	18 00 00.7	**-2.1**
	comp=Z,5.6nm,0.9s,baz=138,slow=3.0,SNR=29							
CFR	**Carcaliu**	**144.97**	**327**	⇑P		**PKiK**	18 00 02.5	**-0.1**
VRI	**Vrincioaia**	**145.21**	**329**	⇑P		**PKiK**	18 00 01.6	**-1.6**
PLOR	**Plostina**	**145.26**	**329**	⇑P		**PKiK**	18 00 01.7	**-1.6**
OSTC	**Ostas**	**145.37**	**344**	*e*PKP		**PKiK**	18 00 02.1	**-1.2**
CHVC	**Chvalec**	**145.39**	**344**	*e*PKP		**PKiK**	18 00 02.2	**-1.2**
CLZ	**Clausthal**	**145.40**	**351**	*e*PKPbc		**PKiK**	18 00 02.7	**-0.7**
	baz=17,slow=2.7							
HARR	**Harsova**	**145.41**	**326**	⇑P		**PKiK**	18 00 02.6	**-0.9**
CLL	**Collm**	**145.43**	**348**	⇑*i*PKPbc		**PKiK**	18 00 02.1	**-1.3**
	comp=Z,8.0nm,0.7s							
CLL				Lm		MLR	19 17 00.0	
	comp=Z,100nm,19.5s							
CLL	**Collm**	**145.43**	**348**	*e*PKPbc		**PKiK**	18 00 02.5	**-0.8**
	baz=17,slow=2.7							
TLBR	**Topalu**	**145.44**	**326**	⇑P		**PKiK**	18 00 03.2	**-0.4**
UPC	**Upice**	**145.47**	**344**	*e*PKP		**PKiK**	18 00 02.6	**-0.9**
DPC	**Dobruska-Polom**	**145.53**	**343**	*e*PKP		**PKiK**	18 00 02.7	**-1.0**
BRG	**Berggiesshubel**	**145.64**	**346**	*e*PKPbc		**PKiK**	18 00 03.5	**-0.4**
	baz=17,slow=2.7							
BRG	**Berggiesshubel**	**145.64**	**346**	*e*PKP		**PKiK**	18 00 03.0	**-0.9**
BRG				Amp			18 00 03.6	
	comp=Z,3.8nm,0.8s							
KRLC	**Kraliky**	**145.65**	**343**	*e*PKP		**PKiK**	18 00 02.9	**-1.0**
FBE	**Freiberg**	**145.72**	**347**	*e*PKPbc		**PKiK**	18 00 03.8	**-0.2**
	baz=17,slow=2.7							
GTTG	**Gottingen**	**145.75**	**351**	*e*PKPbc		**PKiK**	18 00 03.6	**-0.4**
	baz=17,slow=2.7							
NEUB	**Neuenburg**	**145.77**	**349**	*e*PKPbc		**PKiK**	18 00 03.6	**-0.4**
	baz=17,slow=2.7							
DOPR	**Dopca**	**145.78**	**330**	⇑P		**PKiK**	18 00 04.1	**-0.2**
PVCC	**Panska Ves**	**145.82**	**345**	AMS		AMS	19 17 20.0	
	comp=Z,100nm,17.1s							
MLR	**Muntele Rosu**	**145.86**	**329**	⇑P		**PKiK**	18 00 03.9	**-0.7**
PRU	**Pruhonice**	**146.32**	**345**	*e*PKP		**PKiK**	18 00 04.6	**-0.7**
VOIR		**146.33**	**330**	⇑P		**PKPab**	18 00 03.2	**-2.1**
MOX	**Moxa**	**146.34**	**349**	*e*L		L	19 17 25.2	
	comp=Z,104nm,20.3s							
DRGR		**146.35**	**334**	⇑P		**PKiK**	18 00 04.7	**-0.8**
PLN	**Plauen**	**146.38**	**348**	*e*PKPbc		**PKiK**	18 00 05.5	**+0.1**
	baz=17,slow=2.7							
TANN	**Tannenbergstha**	**146.39**	**348**	*e*PKPbc		**PKiK**	18 00 05.5	**0.0**
	baz=17,slow=2.7							
GUNZ	**Gunzen**	**146.47**	**348**	*e*PKPbc		**PKPab**	18 00 05.8	**+0.2**
	baz=17,slow=2.7							
ARR	**Arges**	**146.58**	**330**	⇑P		**PKPab**	18 00 06.8	**+0.5**
MANZ	**Manzenberg**	**146.87**	**348**	*e*PKPbc		**PKPab**	18 00 06.9	**-0.4**
	baz=17,slow=2.7							
ROTZ	**Rotzenmuhle**	**147.06**	**348**	*e*PKPbc		**PKPab**	18 00 07.5	**-0.5**
	baz=17,slow=2.7							
SIRR	**Siria**	**147.21**	**334**	⇑P		**PKPab**	18 00 07.2	**-1.5**
TNS	**Taunus Mts**	**147.25**	**352**	*e*PKPbc		**PKPab**	18 00 07.9	**-0.9**
	baz=17,slow=2.7							
GRF	**Grafenberg Arr**	**147.32**	**349**	*e*L		L	19 14 19.2	
	comp=Z,52nm,22.0s							
KHC	**Kasperske Hory**	**147.35**	**346**	*e*PKP		**PKPab**	18 00 07.8	**-1.4**
KHC				AMS		AMS	19 15 40.0	
	comp=Z,100nm,24.2s							
GZR	**Gura Zlata**	**147.42**	**332**	⇑P		**PKPab**	18 00 06.9	**-2.8**
CKRC	**Cesky Krumlov**	**147.46**	**345**	*e*PKP		**PKPab**	18 00 08.0	**-1.7**
MILB	**Miltenberg**	**147.52**	**351**	*e*PKPbc		**PKPab**	18 00 08.5	**-1.3**
	baz=17,slow=2.7							
GEC2	**GERESS Array S**	**147.59**	**345**	*e*PKPbc		**PKPab**	18 00 08.7	**-1.6**
	baz=17,slow=2.7							
GERES	**GERESS Array B**	**147.59**	**345**	PKPbc		**PKPab**	18 00 08.3	**-2.0**
	comp=Z,3.0nm,0.5s,baz=32,slow=3.3,SNR=33							
GERES	**GERESS Array B**	**147.59**	**345**			**PKPab**	18 00 08.1	**-2.2**
CONA	**Conrad Observa**	**147.85**	**342**	*e*P		**PKPab**	18 00 09.4	**-1.9**
	comp=Z,3.9nm,0.6s							
HERR	**Herculane**	**147.97**	**332**	⇑P		**PKPab**	18 00 08.8	**-3.0**
WLF	**Walferdange**	**148.06**	**355**	*e*PKPbc		**PKPab**	18 00 10.4	**-1.6**
	baz=17,slow=2.7							
MOA	**Molln**	**148.37**	**344**	*i* P		**PKPab**	18 00 10.2	**-3.2**
	comp=Z,1.7nm,0.7s							
MORH	**Mrgy, Hungar**	**148.43**	**337**	⇑P		**PKiK**	18 00 09.4	**-0.3**
RJOB	**Jochberg**	**148.84**	**346**	*e*PKPbc		**PKPab**	18 00 11.6	**-3.8**
	baz=17,slow=2.7							
FRGS	**Fruska Gora**	**148.87**	**335**	⇑P		**PKiK**	18 00 10.8	**+0.1**
BFO	**Black Forest**	**149.12**	**351**	*e*PKPbc		**PKPab**	18 00 12.4	**-4.1**
	baz=17,slow=2.7							
SOKA	**Soboth**	**149.22**	**342**	*e*P		**PKiK**	18 00 11.8	**+0.3**
	comp=Z,2.4nm,0.9s,SNR=8.6							
VTS	**Vitosha**	**149.29**	**328**	⇑P		**PKiK**	18 00 12.3	**+0.5**
UBR	**Ueberruh**	**149.46**	**349**	*e*PKPbc		**PKPab**	18 00 13.2	**-4.8**
	baz=17,slow=2.7							
WATA	**Walderalm**	**149.50**	**347**	*i* P		**PKiK**	18 00 12.8	**+0.7**
	comp=Z,2.3nm,0.4s							
RETA	**Reutte**	**149.52**	**348**	*i* P		**PKPab**	18 00 13.0	**-5.2**
	comp=Z,2.3nm,0.5s							
WTTA	**Wattenberg**	**149.55**	**347**	*i* P		**PKPab**	18 00 13.2	**-5.3**
	comp=Z,5.4nm,0.5s,SNR=9.9							
MOTA	**Moosalm**	**149.59**	**347**	*i* P		**PKiK**	18 00 13.0	**+0.7**
	comp=Z,2.2nm,0.5s							
MYKA	**Terra Mystica**	**149.66**	**344**	*i* P		**PKiK**	18 00 12.5	**+0.2**
	comp=Z,2.7nm,0.5s							
SQTA	**Sankt Quirin**	**149.69**	**347**	*i* P		**PKiK**	18 00 13.4	**+1.0**
	comp=Z,4.5nm,0.6s							
ABTA	**Abfaltersbach**	**149.84**	**345**	*i* P		**PKiK**	18 00 13.2	**+0.5**
	comp=Z,5.7nm,0.6s,SNR=6.4							
FETA	**Feichten**	**149.97**	**348**	*i* P		**PKiK**	18 00 14.1	**+1.0**
	comp=Z,4.9nm,0.9s							

NEIC ***19*** *17:44:49.3±2.9, 32.°39S±0.°02×72.°02W±0.°05, h10km±1km, mb4.1/10, Mwr3.7/26, ML3.9(GUC), Error ellipse: s-maj=7.9km s-min=3.8km az=275.0*

IDC ***19*** *17:44:49.6±1.1, 32.°39S×71.°77W, h0km, mb3.9/4, mb1 3.9/9, mb1mx3.8/26, mbtmp3.8/9, ML3.8/5, MS2.9/3, Ms1 2.8/3, ms1mx2.7/20, Error ellipse: s-maj=40.7km s-min=21.2km az=109.0*

NEIC ***19*** *17:44:49.1, 32.°38S×72.°06W, h25km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}5.33; $M_{\theta\theta}$-0.96; $M_{\phi\phi}$-4.37; $M_{r\theta}$-0.45; $M_{\theta\phi}$1.91; $M_{\phi r}$-0.14; Fault plane solution: M_o5.30000×10^{14} NP1:ϕ_s331.05000°, δ45.49000°, λ83.20000°. NP2:ϕ_s160.71000°, δ44.92000°, λ96.87000°. Principal axes: T 5.3725, Plg85.0000°, Azm159.0000°; N -0.1509, Plg5.0000°, Azm336.0000°; P -5.2216, Plg0.0000°, Azm66.0000°;*

GUC ***19*** *17:44:52.2±0.8, 32.°45S×71.°96W, h23km±6km, ML4.0*

ISC 19 17:44:50.2±0.6, 32.°35S±0.°03×71.°98W±0.°05, h10km, n77, σ1°39/83, mb4.0/6, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
VA06	**Catapilco**	**0.61**	**110**	⇓*i*P		**Pb**	**17 45 03.5**	**+0.5**
VA06				*i* S		**Sb**	**17 45 11.1**	**-0.6**
VA06				IAML			17 45 13.3	
	comp=E,16μm,0.4s							
VA01	**Torpederas**	**0.73**	**158**	*e*P		**Pg**	**17 45 03.6**	**-0.7**
VA01				IAML			17 45 20.9	
	comp=N,5μm,0.2s							
VA01	**Torpederas**	**0.73**	**158**	Pg		**Pg**	**17 45 03.0**	**-1.3**
VA01				Sg		**Sg**	**17 45 11.9**	**-1.9**
ROCH	**El Roble**	**1.02**	**128**	*e*P		**Pb**	**17 45 10.4**	**+0.2**
ROCH				*i* S		**Sg**	**17 45 22.7**	**-0.6**
ROCH				IAML			17 45 26.7	
	comp=E,8μm,0.4s							
VA03	**San Esteban**	**1.27**	**109**	⇓*i*P		**Pn**	**17 45 13.9**	**-0.2**
VA03				*i* S		**Sb**	**17 45 29.9**	**-0.9**
VA03				IAML			17 45 33.2	
	comp=E,10μm,0.2s							
VA03	**San Esteban**	**1.27**	**109**			**Pn**	**17 45 14.1**	**-0.1**
VA03				Sg		**Sb**	**17 45 29.9**	**-0.9**
VA05	**Santo Domingo**	**1.34**	**167**	IAML			17 45 43.9	
	comp=E,7μm,0.2s							
VA05	**Santo Domingo**	**1.34**	**167**			**Pb**	**17 45 15.3**	**-0.2**

MT05	**Renca**	**1.47**	**135**	*e*P		**Pb**	**17 45 17.7**	**0.0**
MT05				*i* S		**Sn**	**17 45 35.8**	**-0.4**
MT05				IAML			17 45 39.1	
	comp=E,9μm,0.1s							
MT05	**Renca**	**1.47**	**135**			**Pb**	**17 45 17.8**	**0.0**
MT05				Sn		**Sg**	**17 45 37.0**	**-0.6**
MT01	**Popeta**	**1.63**	**158**	*e*P		**Pb**	**17 45 20.2**	**-0.2**
MT01				IAML			17 45 46.5	
	comp=E,3μm,0.3s							
MT01	**Popeta**	**1.63**	**158**			**Pn**	**17 45 19.5**	**+0.5**
MT01				Sn		**Sb**	**17 45 40.4**	**-0.6**
MT09	**Talagante**	**1.65**	**150**	*e*P		**Pb**	**17 45 21.1**	**+0.4**
MT09				*i* S		**Sn**	**17 45 40.6**	**0.0**
MT09				IAML			17 45 45.7	
	comp=N,3μm,0.1s							
MT09	**Talagante**	**1.65**	**150**	Pn		**Pb**	**17 45 20.8**	**0.0**
CO06	**Fray Jorge**	**1.69**	**10**	*e*P		**Pn**	**17 45 19.9**	**0.0**
CO06				IAML			17 45 48.7	
	comp=N,1μm,0.7s							
CO06	**Fray Jorge**	**1.69**	**10**	Pn		**Pn**	**17 45 19.9**	**0.0**
CO03	**El Pedregal**	**1.86**	**36**	*e*P		**Pb**	**17 45 23.8**	**-0.6**
CO03				*e*S		**Sb**	**17 45 48.1**	**+0.3**
CO03				IAML			17 45 51.9	
	comp=E,2μm,0.5s							
CO03	**El Pedregal**	**1.86**	**36**	Pn		**Pb**	**17 45 23.8**	**-0.6**
LMEL	**Las Melosas**	**2.11**	**136**	*e*P		**Pb**	**17 45 28.0**	**-0.6**
LMEL				*e*S		**Sb**	**17 45 54.7**	**-0.3**
LMEL				IAML			17 46 00.1	
	comp=N,3μm,0.3s							
BO03	**Pichilemu**	**2.14**	**180**	*e*P		**Pn**	**17 45 26.6**	**+0.6**
BO01	**Tunca**	**2.17**	**160**	*e*P		**Pn**	**17 45 26.9**	**+0.5**
BO01				*e*S		**Sn**	**17 45 53.6**	**+0.2**
BO01	**Tunca**	**2.17**	**160**			**Pn**	**17 45 26.7**	**+0.3**
GO04	**Tololo Observa**	**2.39**	**25**	*e*P		**Pb**	**17 45 33.0**	**-0.5**
GO04				*e*S		**Sb**	**17 46 04.8**	**+1.6**
GO04	**Tololo Observa**	**2.39**	**25**	Pn		**Pn**	**17 45 30.1**	**+0.4**
CO05	**La Serena**	**2.50**	**15**	*e*P		**Pb**	**17 45 34.5**	**-0.7**
CO05				IAML			17 46 14.2	
	comp=E,922nm,0.5s							
CO05	**La Serena**	**2.50**	**15**	Pn		**Pn**	**17 45 31.8**	**+0.8**
BO02	**Sierra Bellavi**	**2.63**	**158**	*e*P		**Pn**	**17 45 34.0**	**+1.1**
BO02				*e*S		**Sn**	**17 46 06.5**	**+1.6**
BO02	**Sierra Bellavi**	**2.63**	**158**			**Pn**	**17 45 30.7**	**-2.2**
GO05	**Huala**	**2.66**	**179**	*e*P		**Pn**	**17 45 33.8**	**+0.7**
GO05				IAML			17 46 31.6	
	comp=E,378nm,0.5s							
GO05	**Huala**	**2.66**	**179**			**Pn**	**17 45 31.6**	**-1.6**
ZON	**Zonda**	**2.92**	**75**	Pn		**Pn**	**17 45 38.0**	**+1.3**
ML02	**Panimavida**	**3.44**	**172**	*e*P		**Pb**	**17 45 50.7**	**-0.5**
ML02	**Panimavida**	**3.44**	**172**	Pn		**Pn**	**17 45 40.4**	**-3.5**
LCO	**Las Campanas**	**3.50**	**19**	*e*P		**Pn**	**17 45 45.4**	**+0.4**
AC04	**Llanos de Chal**	**4.20**	**11**	*e*P		**Pb**	**17 46 02.9**	**-1.4**
AC04	**Llanos de Chal**	**4.20**	**11**	Pn		**Pn**	**17 45 51.5**	**-2.9**
GO03	**Copiap**	**4.37**	**18**	Pn		**Pn**	**17 46 03.9**	**-1.1**
AC06	**Mina Casimiro**	**5.17**	**16**	Pn		**Pn**	**17 46 07.0**	**-0.7**
H03N1	**Juan Fernandez**	**5.94**	**258**	T		T	17 52 52.5	
	baz=88,slow=73,SNR=287							
H03N3	**Juan Fernandez**	**5.95**	**257**	T		T	17 52 51.3	
	baz=88,slow=73,SNR=284							
H03N2	**Juan Fernandez**	**5.95**	**258**	T		T	17 52 54.5	
	baz=88,slow=73,SNR=146							
H03S3	**Juan Fernandez**	**6.00**	**254**	T		T	17 52 59.0	
	baz=82,slow=75,SNR=58							
H03S1	**Juan Fernandez**	**6.00**	**254**	T		T	17 52 55.9	
	baz=82,slow=75,SNR=71							
H03S2	**Juan Fernandez**	**6.02**	**254**	T		T	17 52 50.0	
	baz=82,slow=75,SNR=74							
AC02	**Maricunga**	**6.03**	**25**	Pn		**Pn**	**17 46 18.6**	**-1.3**
LC01	**Cunco**	**6.54**	**179**	Pn		**Pn**	**17 46 24.9**	**-1.6**
PB14	**IPOC Station P**	**7.82**	**11**	Pn		**Pn**	**17 46 43.1**	**-1.2**
PLCA	**Paso Flores**	**8.45**	**173**	Pn		**Pn**	**17 46 54.0**	**+1.3**
	comp=E,0.3nm,0.3s,baz=301,slow=10,SNR=2.1							
PLCA						LR	LR	17 50 23.6
	comp=E,76nm,20.3s,baz=356,slow=40							
PLCA	**Paso Flores**	**8.45**	**173**	Pn		**Pn**	**17 46 50.3**	**-2.4**
PB06	**IPOC Station P**	**9.84**	**13**	Pn		**Pn**	**17 47 10.2**	**-1.8**
TRQA	**Tornquist**	**9.96**	**128**	Pn		**Pn**	**17 47 12.2**	**-1.3**
LVC	**Limon Verde**	**10.07**	**16**	Pn		**Pn**	**17 47 17.6**	**+2.3**
	comp=E,0.2nm,0.3s,baz=197,slow=11,SNR=1.5							
LVC						LR	LR	17 51 20.3
	comp=E,112nm,18.6s,baz=198,slow=39							
LVC	**Limon Verde**	**10.07**	**16**	Pn		**Pn**	**17 47 12.9**	**-2.4**
PB04	**IPOC Station P**	**10.11**	**10**	Pn		**Pn**	**17 47 15.3**	**-0.3**
PB07	**IPOC Station P**	**10.74**	**10**	Pn		**Pn**	**17 47 22.3**	**-2.0**
PB09	**IPOC Station P**	**10.79**	**14**	Pn		**Pn**	**17 47 20.5**	**-4.5**
PB01	**IPOC Station P**	**11.48**	**12**	Pn		**Pn**	**17 47 33.1**	**-1.2**
PB08	**IPOC Station P**	**12.42**	**12**	Pn		**Pn**	**17 47 47.9**	**+0.5**
PB11	**IPOC Station P**	**12.71**	**10**	Pn		**Pn**	**17 47 47.5**	**-2.7**
PSGCX	**Pisagua**	**12.81**	**8**	Pn		**Pn**	**17 47 50.4**	**-2.2**
ITQB	**Itaqui**	**13.44**	**83**	Pn		**Pn**	**17 48 03.8**	**+2.9**
CPUP	**Villa Florida**	**14.11**	**69**	Pn		**Pn**	**17 48 10.7**	**+0.6**
	comp=E,0.3nm,0.3s,baz=250,slow=8.7,SNR=3.1							
CPUP						LR	LR	17 54 27.2
	comp=E,23nm,19.9s,baz=230,slow=41							
LPAZ	**La Paz**	**16.37**	**13**	Pn		**Pn**	**17 48 41.9**	**+1.2**
	comp=E,0.2nm,0.3s,baz=181,slow=4.4,SNR=12							
LPAZ	**La Paz**	**16.37**	**13**	P		**Pn**	**17 48 41.2**	**+0.5**
SIV	**San Ignacio**	**19.06**	**34**	P		**P**	**17 49 12.9**	**+0.1**
	comp=E,0.1nm,0.3s,baz=236,slow=10.0,SNR=4.4							
SAML	**Samuel**	**24.67**	**21**	P		**P**	**17 50 10.0**	**-1.4**
SAML				IAmb		IAmb	17 50 13.1	
	comp=Z,2.3nm,0.9s							
BDFB	**Brasilia**	**27.39**	**58**	P		**P**	**17 50 35.4**	**-0.7**
	comp=Z,3.3nm,0.6s,baz=253,slow=5.9,SNR=5.5							
BDFB	**Brasilia**	**27.39**	**58**	P		**P**	**17 50 34.7**	**-1.4**
BDFB				IAmb		IAmb	17 50 35.9	
	comp=Z,4.0nm,0.8s							
SNAA	**Sanae**	**53.09**	**158**	P		**P**	**17 54 08.5**	**+1.1**
SNAA				IAmb		IAmb	17 54 09.1	
	comp=Z,2.1nm,0.8s							
QSPA	**South Pole Qui**	**57.88**	**180**	P		**P**	**17 54 43.3**	**+1.2**
	comp=E,1.1nm,0.7s,baz=177,slow=1.7,SNR=6.1							
QSPA	**South Pole Qui**	**57.88**	**180**	P		**P**	**17 54 43.8**	**+1.6**
NVAR	**Mina Array Bea**	**82.56**	**325**	P		**P**	**17 57 16.1**	**+2.6**
	comp=E,0.1nm,0.3s,baz=133,slow=5.0,SNR=1.7							
TORD	**Torodi Ar. Bea**	**83.60**	**70**	P		**P**	**17 57 19.2**	**0.0**
	comp=E,0.5nm,0.7s,baz=268,slow=5.8,SNR=4.1							
TORD	**Torodi Ar. Bea**	**83.60**	**70**	IAmb		IAmb	17 57 38.6	
	comp=Z,2.3nm,1.4s							
WRA	**Warramunga Arr**	**122.22**	**210**	PKP		**PKPdf**	**18 03 45.5**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=169,slow=1.7,SNR=2.5							
ZALV	**Zalesovo Beam**	**152.79**	**31**	PKPbc		**PKiKP**	**18 04 47.1**	**0.0**
	comp=Z,0.7nm,0.5s,baz=318,slow=1.9,SNR=2.7							
MKAR	**Makanchi Array**	**155.61**	**46**	PKPab		**PKPab**	**18 05 09.5**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=300,slow=3.2,SNR=2.5							

DJA 19 17:46:29.8±0.4, 2.°S±5.°×12.°8E±°, h56km±27km, M3.9/10, mb4.4/4, mB4.7/1, MLv3.6/10, Mw(mB)4.0/1, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KRAI	**Karang Ratu**	**1.07**	**147**	P		Pn	17 46 48.7	0.0
MSAI	**Masohi**	**1.45**	**130**	P		Pn	17 46 54.2	+0.4
SANI	**Sanana**	**1.85**	**281**	P		Pn	17 46 58.9	-0.3
SWI	**Sorong**	**3.77**	**66**	P		Pn	17 47 26.3	+0.8
SIJI	**Sorong**	**3.78**	**66**	P		Pn	17 47 25.4	-0.2
FAKI	**Fak Fak**	**4.46**	**97**	P		Pn	17 47 34.2	-0.8
KMSI	**Cibinong**	**4.84**	**308**	P		Pn	17 47 39.5	-0.7
APSI	**Ampana**	**6.34**	**283**	P		Pn	17 48 01.4	+0.7
	0.1nm26nm,0.5s							
MRSI	**Marisa**	**6.53**	**296**	P		Pn	17 48 03.4	+0.1
	0.1nm640nm13nm,0.6s							
SOEI	**Soe**	**8.10**	**206**	P		Pn	17 48 24.7	-0.3

TAP ***19*** *18:02:16.9, 24.°47N×122.°70E, h85km±1km, ML2.9, C*

JMA ***19*** *18:02:16.2±0.1, 24.°47N×122.°73E, h94km±1km, M2.2*

ISC 19 18:02:16.9±1.4, 24.°48N±0.°04×122.°74E±0.°02, h88km±8km, n64, σ0°74/126, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.19**	**99**	P		**Pn**	**18 02 29.8**	**+0.2**
JYNG				S		**Sn**	**18 02 39.8**	**+0.8**
YOJ	**Yonaguni jima**	**0.25**	**94**	P		**Pn**	**18 02 30.0**	**+0.2**
YOJ				S		**Sn**	**18 02 40.1**	**+0.7**
YOJ	**Yonaguni jima**	**0.25**	**94**	P		**Pn**	**18 02 29.9**	**0.0**
	baz=90							
YOJ				*e*S		**Sn**	**18 02 40.0**	**+0.5**
	baz=90							
TWC	**Suao**	**0.82**	**279**	P		**Pn**	**18 02 34.0**	**-0.4**
	baz=280							
TWC				S		**Sn**	**18 02 46.9**	**-0.6**
	baz=280							
EWUT	**Wuta**	**0.87**	**268**	P		**Pn**	**18 02 35.7**	**+0.7**
	baz=268							
EWUT				S		**Sn**	**18 02 48.3**	**-0.3**
	baz=268							
ENA	**Nanau**	**0.91**	**267**	P		**Pn**	**18 02 35.7**	**+0.3**
	baz=267							
ENA				*e*S		**Sn**	**18 02 50.2**	**+0.9**
	baz=267							
IRIF	**Iriomote-Funau**	**0.92**	**99**	P		**Pn**	**18 02 35.5**	**0.0**
IRIF				S		**Sn**	**18 02 49.5**	**+0.1**
NDS	**Dongshan**	**0.94**	**279**	*e*P		**Pn**	**18 02 36.2**	**+0.4**
	baz=280							
NDS				*e*S		**Sn**	**18 02 49.6**	**-0.3**
	baz=280							
TIPB	**Shuangxi**	**0.96**	**301**	*e*P		**Pn**	**18 02 36.0**	**0.0**
	baz=302							
TIPB				*e*S		**Sn**	**18 02 49.5**	**-0.8**
	baz=302							
TWE	**Neicheng**	**1.00**	**284**	*e*P		**Pn**	**18 02 36.6**	**+0.1**
	baz=284							
TWE				*e*S		**Sn**	**18 02 50.5**	**-0.7**
	baz=284							
NWF	**Wu-fen Shan**	**1.05**	**304**	*e*P		**Pn**	**18 02 37.3**	**+0.2**
	baz=305							
NWF				*e*S		**Sn**	**18 02 52.3**	**+0.1**
	baz=305							
WFSB	**Wu-fen Shan**	**1.05**	**304**	*e*P		**Pn**	**18 02 37.5**	**+0.5**
	baz=305							
WFSB				*e*S		**Sn**	**18 02 52.1**	**+0.1**
	baz=305							
HATJ	**Hateruma jima**	**1.06**	**113**	S		**Sn**	**18 02 52.9**	**+0.5**
ETL	**Fush Village**	**1.06**	**253**	*e*P		**Pn**	**18 02 37.0**	**-0.3**
	baz=252							
ETL				*e*S		**Sn**	**18 02 52.6**	**+0.1**
	baz=252							
ENTT	**Nioudou**	**1.08**	**279**	*e*P		**Pn**	**18 02 37.8**	**+0.4**
	baz=279							
ENTT				*e*S		**Sn**	**18 02 53.1**	**+0.3**
	baz=279							
NACB	**Ninganchiao**	**1.09**	**254**	*e*P		**Pn**	**18 02 37.1**	**-0.3**
	baz=253							
NACB				*e*S		**Sn**	**18 02 52.0**	**-0.9**
	baz=253							
TWD	**Chiawan**	**1.11**	**249**	*e*P		**Pn**	**18 02 37.6**	**-0.2**
	baz=248							
TWD				*e*S		**Sn**	**18 02 52.7**	**-0.8**
	baz=248							
NDT	**Datong Townshi**	**1.12**	**276**	*e*P		**Pn**	**18 02 38.4**	**+0.5**
	baz=276							
NDT				*e*S		**Sn**	**18 02 53.8**	**+0.2**
	baz=276							
TWA	**Mucha**	**1.16**	**296**	*e*P		**Pn**	**18 02 38.2**	**-0.1**
	baz=296							
TWA				*e*S		**Sn**	**18 02 53.8**	**-0.6**
	baz=296							
NWLT	**Wulai**	**1.16**	**285

SSLB					*e*S		**Sn**	**18 03 07.6**	**-0.6**
	baz=246									
JTJ	**Tarama**	**1.80**	**85**	P			**Pn**	**18 02 46.3**	**-0.1**
JTJ				S			**Sn**	**18 03 08.2**	**-0.6**
TYC	**Yuchr**	**1.81**	**252**	*e*P			**Pn**	**18 02 47.6**	**+1.0**
	baz=251									
TYC					*e*S		**Sn**	**18 03 10.2**	**+1.1**
	baz=251									
FULB	**Fuli**	**1.84**	**226**	*e*P			**Pn**	**18 02 47.0**	**+0.1**
	baz=225									
FULB					*e*S		**Sn**	**18 03 08.5**	**-1.3**
	baz=225									
CHKT	**Chengkung**	**1.86**	**223**	*e*P			**Pn**	**18 02 49.5**	**+2.3**
	baz=221									
CHKT					*e*S		**Sn**	**18 03 08.8**	**-1.5**
	baz=221									
WHYT	**Xinyi Township**	**1.89**	**246**	*e*P			**Pn**	**18 02 48.7**	**+1.1**
	baz=245									
WHYT					*e*S		**Sn**	**18 03 12.5**	**+1.5**
	baz=245									
WJS	**Zhushan**	**1.95**	**251**	*e*P			**Pn**	**18 02 49.6**	**+1.3**
	baz=250									
WJS					*e*S		**Sn**	**18 03 13.0**	**+0.7**
	baz=250									
EDH	**Donghe**	**2.00**	**221**	*e*P			**Pn**	**18 02 48.3**	**-0.7**
	baz=220									
EDH					*e*S		**Sn**	**18 03 11.5**	**-1.9**
	baz=220									
ALS	**Alishan**	**2.01**	**242**	*e*P			**Pn**	**18 02 50.3**	**+0.8**
	baz=240									
ALS					*e*S		**Sn**	**18 03 14.9**	**+0.6**
	baz=240									
ELDTW	**Lidau**	**2.03**	**231**	*e*P			**Pn**	**18 02 49.2**	**-0.5**
	baz=230									
ELDTW					*e*S		**Sn**	**18 03 13.1**	**-1.4**
	baz=230									
CHN5	**Tsauling**	**2.08**	**245**	*e*P			**Pn**	**18 02 51.3**	**+1.1**
	baz=244									
CHN5					*e*S		**Sn**	**18 03 17.2**	**+1.6**
	baz=244									
JIRB	**Irabujima**	**2.24**	**81**	P			**Pn**	**18 02 52.1**	**-0.2**
JIRB					*e*S		**Sn**	**18 03 19.7**	**+0.4**
TPUB	**Ta-pu**	**2.26**	**239**	*e*P			**Pn**	**18 02 53.2**	**+0.7**
	baz=238									
TPUB					*e*S		**Sn**	**18 03 20.3**	**+0.5**
	baz=238									
CHN4	**Tsaushan**	**2.26**	**241**	*e*P			**Pn**	**18 02 53.8**	**+1.3**
	baz=239									
CHN4					*e*S		**Sn**	**18 03 20.6**	**+0.9**
	baz=239									
WTP	**Ta-pu**	**2.30**	**238**	*e*P			**Pn**	**18 02 53.9**	**+0.8**
	baz=237									
WTP					*e*S		**Sn**	**18 03 20.7**	**0.0**
	baz=237									
JMJ2	**Miyako jima3**	**2.37**	**83**	P			**Pn**	**18 02 54.3**	**+0.3**

IDC ***19*** *18:02:46.4±1.4, 31°.73S×72°.10W, h0km, mb3.8/4, mb1 3.9/8, mb1mx3.8/30, mbtmp3.7/8, ML3.6/4, MS3.4/2, Ms1 3.4/2, ms1mx2.8/22, Error ellipse: s-maj=33.3km s-min=32.7km az=20.0*

NEIC ***19*** *18:02:48.0±2.8, 31°.80S±0°.04×72°.26W±0°.07, h10km±1km, mb4.3/6, Mwr4.0/32, ML3.8(GUC), Error ellipse: s-maj=11.1km s-min=5.2km az=66.0*

NEIC ***19*** *18:02:48, 31°.80S×72°.26W, h18km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.27; Mθθ0.22; Mϕϕ-1.49; Mrθ-0.12; Mθϕ0.10; Mϕr-0.47; Fault plane solution: M₀1.48000×10¹⁵ NP1:ϕs183.50000°, δ54.71000°, λ98.38000°. NP2:ϕs349.19000°, δ36.15000°, λ78.36000°. Principal axes: T 1.3638, Plg78.0000°, Azm124.0000°; N 0.2129, Plg7.0000°, Azm359.0000°; P -1.5767, Plg9.0000°, Azm268.0000°;*

GUC ***19*** *18:02:49.5±0.9, 31°.78S×72°.11W, h27km±3km, ML3.8*

ISC 19 18:02:47.4±1.8,**31°.79S**±0°.03×**72°.16W**±0°.07,**h6**km±11km, **n65,σ1s25/62,mb4.2/5,2C-1D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**1.06**	**137**	⇓*i*P	**Pb**	**18 03 08.2**	**0.0**
VA06				IAML		18 03 28.5	
	comp=E,5μm,0.4s						
CO06	**Fray Jorge**	**1.20**	**22**	*e*P	**Pb**	**18 03 10.2**	**-0.2**
CO06				*i* S	**Sb**	**18 03 25.1**	**-1.1**
CO06				IAML		18 03 32.9	
	comp=E,3μm,0.6s						
VA01	**Torpederas**	**1.31**	**161**		**Pn**	**18 03 10.2**	**-1.9**
ROCH	**El Roble**	**1.53**	**141**	*e*P	**Pb**	**18 03 16.4**	**+0.1**
ROCH				*i* S	**Sn**	**18 03 34.9**	**-0.9**
ROCH				IAML		18 03 43.3	
	comp=N,2μm,0.4s						
CO03	**El Pedregal**	**1.57**	**54**	⇑*i*P	**Pb**	**18 03 16.2**	**-0.8**
CO03				*i* S	**Sb**	**18 03 36.0**	**-1.2**
CO03	**El Pedregal**	**1.57**	**54**		**Pg**	**18 03 17.0**	**-0.5**
VA03	**San Esteban**	**1.68**	**126**	⇑*i*P	**Pb**	**18 03 17.9**	**-0.8**
VA03				*i* S	**Sb**	**18 03 38.9**	**-1.2**
VA03				IAML		18 03 48.5	
	comp=N,4μm,0.8s						
VA03	**San Esteban**	**1.68**	**126**	Pn	**Pb**	**18 03 18.2**	**-0.5**
VA05	**Santo Domingo**	**1.92**	**166**	*e*P	**Pg**	**18 03 25.5**	**+1.3**
VA05				IAML		18 03 59.9	
	comp=E,1μm,0.3s						
GO04	**Tololo Observa**	**1.99**	**36**	*e*P	**Pb**	**18 03 23.9**	**-0.2**
GO04	**Tololo Observa**	**1.99**	**36**	Pn	**Pb**	**18 03 24.0**	**-0.2**
MT05	**Renca**	**2.00**	**143**	IAML		18 03 58.5	
	comp=E,2μm,0.1s						
CO05	**La Serena**	**2.02**	**23**	*e*P	**Pn**	**18 03 22.9**	**+0.9**
CO05				*i* S	**Sn**	**18 03 47.7**	**+0.1**
CO05				IAML		18 03 58.5	
	comp=E,3μm,0.7s						
CO05	**La Serena**	**2.02**	**23**	Pn	**Pn**	**18 03 22.9**	**+0.9**
MT01	**Popeta**	**2.21**	**160**	IAML		18 04 05.1	
	comp=E,450nm,0.4s						
MT01	**Popeta**	**2.21**	**160**	Pn	**Pb**	**18 03 26.3**	**-1.4**
MT09	**Talagante**	**2.22**	**154**	*e*P	**Pn**	**18 03 26.0**	**+1.2**
MT09				IAML		18 04 06.2	
	comp=N,648nm,0.6s						
MT09	**Talagante**	**2.22**	**154**	Pn	**Pn**	**18 03 25.2**	**+0.5**
LMEL	**Las Melosas**	**2.63**	**142**	*e*P	**Pn**	**18 03 32.5**	**+1.9**
LMEL				IAML		18 04 18.3	
	comp=N,428nm,0.4s						
BO03	**Pichilemu**	**2.71**	**176**	*e*P	**Pn**	**18 03 31.3**	**-0.1**
BO01	**Tunca**	**2.75**	**161**	Pn	**Pb**	**18 03 34.8**	**-2.2**
ZON	**Zonda**	**2.98**	**86**	Pn	**Pn**	**18 03 34.7**	**-0.5**
LCO	**Las Campanas**	**3.04**	**25**	*e*P	**Pb**	**18 03 43.1**	**+1.0**
BO02	**Sierra Bellavi**	**3.21**	**159**	Pn	**Pn**	**18 03 38.2**	**-0.3**
GO05	**Huala**	**3.22**	**177**		**Pn**	**18 03 37.8**	**-0.7**
AC04	**Llanos de Chal**	**3.69**	**15**		**Pn**	**18 03 45.5**	**+0.5**
ML02	**Panimavida**	**4.01**	**171**		**Pn**	**18 03 49.4**	**0.0**
GO02	**Copiap**	**4.50**	**22**		**Pn**	**18 03 55.9**	**-0.3**
AC06	**Mina Casimiro**	**4.69**	**20**		**Pn**	**18 03 59.1**	**+0.5**
AC02	**Maricunga**	**5.60**	**29**	Pn	**Pn**	**18 04 11.9**	**+0.3**
H03N1	**Juan Fernandez**	**5.93**	**252**	T	T	18 10 01.3	
	baz=78,slow=72,SNR=230						
H03N3	**Juan Fernandez**	**5.94**	**252**	T	T	18 10 03.0	
	baz=78,slow=72,SNR=292						
H03N2	**Juan Fernandez**	**5.95**	**252**	T	T	18 10 03.0	
	baz=78,slow=72,SNR=255						
LC01	**Cunco**	**7.10**	**178**		**Pn**	**18 04 30.6**	**-1.2**
PB14	**IPOC Station P**	**7.30**	**13**	Pn	**Pn**	**18 04 34.0**	**-0.8**
PLCA	**Paso Flores**	**9.02**	**172**	Pn	**Pn**	**18 04 57.7**	**-0.5**
	comp=N,0.1nm,0.3s,baz=224,slow=16,SNR=1.7						
PLCA	**Paso Flores**	**9.02**	**172**	Pn	**Pn**	**18 04 58.6**	**+0.4**
LVC	**Limon Verde**	**9.59**	**18**		**Pn**	**18 05 06.8**	**+0.6**
PB07	**IPOC Station P**	**10.22**	**12**		**Pn**	**18 05 12.9**	**-1.9**
PB09	**IPOC Station P**	**10.29**	**15**		**Pn**	**18 05 15.0**	**-0.7**
TRQA	**Tornquist**	**10.44**	**130**		**Pn**	**18 05 21.3**	**+3.8**
PB08	**IPOC Station P**	**11.91**	**14**	Pn	**Pn**	**18 05 41.1**	**+3.1**
CPUP	**Villa Florida**	**14.06**	**71**	Pn	**Pn**	**18 06 07.2**	**+0.1**
	comp=N,0.2nm,0.3s,baz=225,slow=10.0,SNR=1.7						
CPUP				LR	LR	18 11 57.7	
	comp=N,199nm,18.0s,baz=222,slow=39						
LPAZ	**La Paz**	**15.86**	**14**	Pn	**Pn**	**18 06 30.4**	**-1.4**
	comp=N,0.1nm,0.3s,baz=176,slow=8.8,SNR=6.1						
LPAZ	**La Paz**	**15.86**	**14**		**Pn**	**18 06 32.9**	**+1.1**
SIV	**San Ignacio**	**18.69**	**35**	P	**P**	**18 07 05.3**	**-1.1**
	comp=N,0.1nm,0.3s,baz=225,slow=12,SNR=2.2						
SIV	**San Ignacio**	**18.69**	**35**	P	**P**	**18 07 05.3**	**-1.1**
BDFB	**Brasilia**	**27.24**	**59**	P	**P**	**18 08 30.5**	**-2.0**
	comp=N,3.2nm,0.7s,baz=221,slow=11,SNR=3.7						
BDFB	**Brasilia**	**27.24**	**59**	P	**P**	**18 08 30.5**	**-2.0**
BDFB	**Brasilia**	**27.24**	**59**	IAmb	IAmb	18 08 42.2	
	comp=Z,11nm,1.4s						
PMSA	**Palmer Station**	**33.39**	**174**	LR	LR	18 23 16.2	
	comp=Z,45nm,18.5s,baz=66,slow=37						
VNA3	**Neumayer Olymp**	**51.45**	**158**	P	**P**	**18 11 55.2**	**+2.3**
VNA2	**Neumayer--Watz**	**52.09**	**158**	P	**P**	**18 11 59.4**	**+1.7**
SNAA	**Sanae**	**53.67**	**158**	P	**P**	**18 12 11.5**	**+2.0**
SNAA	**Sanae**	**53.67**	**158**	P	**P**	**18 12 10.3**	**+0.8**
QSPA	**South Pole Qui**	**58.44**	**180**	P	**P**	**18 12 45.3**	**+1.6**
QSPA				IAmb	IAmb	18 12 46.6	
	comp=Z,5.8nm,1.4s						
TXAR	**Lajitas Array**	**67.76**	**330**	P	**P**	**18 13 46.0**	**0.0**
	comp=Z,0.4nm,0.6s,baz=152,slow=6.1,SNR=4.8						
TXAR	**Lajitas Array**	**67.76**	**330**	P	**P**	**18 13 46.0**	**0.0**
NVAR	**Mina Array Bea**	**82.01**	**325**	P	**P**	**18 15 07.7**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=163,slow=6.3,SNR=2.0						
NVAR	**Mina Array Bea**	**82.01**	**325**	P	**P**	**18 15 06.8**	**-1.6**
TORD	**Torodi Ar. Bea**	**83.56**	**70**	P	**P**	**18 15 16.9**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=268,slow=4.3,SNR=7.0						
TORD	**Torodi Ar. Bea**	**83.56**	**70**	P	**P**	**18 15 16.9**	**+0.2**
TORD	**Torodi Ar. Bea**	**83.56**	**70**	IAmb	IAmb	18 15 21.1	
	comp=Z,1.8nm,0.9s						
ZALV	**Zalesovo Beam**	**152.39**	**30**	PKPbc	**PKiKP**	**18 22 44.6**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=305,slow=5.1,SNR=4.1						
ZALV	**Zalesovo Beam**	**152.39**	**30**		**PKiKP**	**18 22 44.6**	**+0.6**

IDC ***19*** *18:13:12.4±0.5, 31°.32S×71°.67W, h0km, mb4.7/12, mb1 4.7/17, mb1mx4.7/23, mbtmp4.6/17, ML4.5/5, MS4.2/16, Ms1 4.1/16, ms1mx4.0/23, Error ellipse: s-maj=21.5km s-min=15.4km az=91.0*

NEIC ***19*** *18:13:14.7±2.6, 31°.32S±0°.04×71°.92W±0°.08, h18km±3km, mb4.9/123, Mwr4.7/45, Mwr4.9(GUC), Error ellipse: s-maj=9.5km s-min=5.7km az=101.0*

VAO ***19*** *18:13:15.3±0.3, 31°.26S×71°.61W, h10km, mb5.0*

BJI ***19*** *18:13:16.0±0.0, 31°.30S×71°.80W, h20km, mB5.1/2, Ms5.1/2, Ms7 4.7/2*

GUC ***19*** *18:13:16.2±1.0, 31°.31S×71°.71W, h42km±5km, ML4.8, MW4.9*

SJA ***19*** *18:13:16.0, 31°.29S×72°.21W, h75km, ML5.3*

NEIC ***19*** *18:13:17.2, 31°.28S×71°.90W, h34km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr0.91; Mθθ0.40; Mϕϕ-1.31; Mrθ0.29; Mθϕ0.01; Mϕr-0.53; Fault plane solution: M₀1.31000×10¹⁶ NP1:ϕs21.99000°, δ36.38000°, λ124.63000°. NP2:ϕs161.37000°, δ60.79000°, λ67.29000°. Principal axes: T 1.1362, Plg66.0000°, Azm29.0000°; N 0.2935, Plg20.0000°, Azm173.0000°; P -1.4296, Plg13.0000°, Azm268.0000°;*

GCMT ***19*** *18:13:18.7±0.5, 31°.41S±0°.03×72°.14W±0°.04, h38km±1km, MW5.0/58, Moment Tensor Solution. s29,c33; s58,c71; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.22±.20; Mθθ-0.09±.13; Mϕϕ-3.12±.14; Mrθ0.18±.10; Mθϕ-0.14±.08; Mϕr-1.74±.11; Best double couple: Mw3.62300×10¹⁶ NP1:ϕs6.00000°, δ31.00000°, λ97.00000°. NP2: ϕs179.00000°, δ59.00000°, λ86.00000°. Principal axes: T 3.6780, Plg75.0000°, Azm78.0000°; N -0.1030, Plg3.0000°, Azm181.0000°; P -3.5680, Plg14.0000°, Azm271.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 18:13:15.2±1.0,**31°.29S**±0°.03×**71°.90W**±0°.05,**h22**km±6km, **n333,σ1s54/322,mb4.9/69,MS4.3/18,6C-6D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.65**	**21**	⇓*i*P	**Pn**	**18 13 29.8**	**+0.7**
CO06				*i* S	**Sn**	**18 13 39.4**	**+0.8**
CO06	**Fray Jorge**	**0.65**	**21**		**Pn**	**18 13 29.8**	**+0.7**
CO06					**Sn**	**18 13 39.1**	**+0.5**
CO03	**El Pedregal**	**1.13**	**67**	⇓*i*P	**Pn**	**18 13 35.6**	**-0.2**
CO03				*i* S	**Sn**	**18 13 49.7**	**-1.1**
CO03				IAML		18 13 52.7	
	comp=N,44μm,0.7s						
CO03	**El Pedregal**	**1.13**	**67**	Pn	**Pn**	**18 13 35.6**	**-0.2**
VA06	**Catapilco**	**1.37**	**158**	⇑*i*P	**Pn**	**18 13 39.4**	**+0.4**
VA06				*i* S	**Sn**	**18 13 56.0**	**-0.4**
VA06				IAML		18 13 59.9	
	comp=N,19μm,0.3s						
GO04	**Tololo Observa**	**1.46**	**41**	⇑*i*P	**Pn**	**18 13 42.0**	**+1.6**
GO04				*i* S	**Sn**	**18 14 00.4**	**+1.4**
GO04	**Tololo Observa**	**1.46**	**41**	Pn	**Pn**	**18 13 41.4**	**+1.0**
CO05	**La Serena**	**1.48**	**23**	⇑*i*P	**Pb**	**18 13 42.3**	**+0.3**
CO05				*i* S	**Sb**	**18 14 01.2**	**+0.9**
CO05				IAML		18 14 07.4	
	comp=E,49μm,0.8s						
CO05	**La Serena**	**1.48**	**23**	Pn	**Pn**	**18 13 40.5**	**+0.1**
VA01	**Torpederas**	**1.75**	**173**	⇓*i*P	**Pn**	**18 13 44.3**	**+0.2**
VA01				*e*S	**Sn**	**18 14 07.9**	**+2.2**
VA01	**Torpederas**	**1.75**	**173**		**Pn**	**18 13 44.0**	**-0.1**
VA01	**Torpederas**	**1.75**	**173**	*i* P	**Pn**	**18 13 44.0**	**-0.1**
ROCH	**El Roble**	**1.84**	**156**	⇑*i*P	**Pn**	**18 13 46.6**	**+0.9**
ROCH				*i* S	**Sn**	**18 14 10.4**	**+2.0**
ROCH				IAML		18 14 13.8	
	comp=N,10μm,0.3s						
VA03	**San Esteban**	**1.87**	**142**	⇑*i*P	**Pn**	**18 13 47.0**	**+1.1**
VA03				*i* S	**Sn**	**18 14 10.1**	**+1.2**
VA03				IAML		18 14 11.7	
	comp=E,12μm,0.4s						
VA03	**San Esteban**	**1.87**	**142**		**Pn**	**18 13 46.9**	**+0.9**
VA03	**San Esteban**	**1.87**	**142**	*i* P	**Pn**	**18 13 47.0**	**+1.1**
RTLS	**Leoncito**	**2.28**	**104**	*i* P	**Pn**	**18 13 55.0**	**+3.2**
MT05	**Renca**	**2.32**	**155**	⇑*i*P	**Pn**	**18 13 53.2**	**+1.1**
MT05				*i* S	**Sn**	**18 14 21.9**	**+1.9**
MT05				IAML		18 14 31.3	
	comp=E,9μm,0.4s						
MT05	**Renca**	**2.32**	**155**		**Pn**	**18 13 53.0**	**+0.9**
MT05	**Renca**	**2.32**	**155**	*i* P	**Pn**	**18 13 53.0**	**+0.9**
AUSP	**Uspallata**	**2.34**	**114**	*i* P	**Pn**	**18 13 55.0**	**+2.4**
AROD	**Rodeo**	**2.37**	**63**	*i* P	**Pb**	**18 13 57.0**	**-0.4**
VA05	**Santo Domingo**	**2.38**	**174**	⇓*i*P	**Pn**	**18 13 53.0**	**+0.2**
VA05				*i* S	**Sn**	**18 14 23.3**	**+2.1**
VA05				IAML		18 14 34.9	
	comp=E,6μm,0.2s						
VA05	**Santo Domingo**	**2.38**	**174**		**Pn**	**18 13 53.0**	**+0.2**
LCO	**Las Campanas**	**2.50**	**25**	Pn	**Pn**	**18 13 55.7**	**+1.0**
MT09	**Talagante**	**2.60**	**163**	⇓*i*P	**Pn**	**18 13 57.3**	**+1.3**
MT09				*e*S	**Sn**	**18 14 28.5**	**+1.5**
MT09				IAML		18 14 38.4	
	comp=E,3μm,0.3s						
MT09	**Talagante**	**2.60**	**163**		**Pn**	**18 13 56.9**	**+0.9**
MT01	**Popeta**	**2.63**	**168**		**Pn**	**18 13 56.4**	**+0.1**
MT01	**Popeta**	**2.63**	**168**	*i* P	**Pn**	**18 13 57.0**	**+0.7**
ACDV	**Cuesta del Vie**	**2.64**	**66**	*i* P	**Pn**	**18 14 00.0**	**+3.4**
ZON	**Zonda**	**2.77**	**96**		**Pn**	**18 14 01.3**	**+3.1**
ZON	**Zonda**	**2.77**	**96**	*i* P	**Pn**	**18 14 02.0**	**+3.7**
RTCV	**Cerro Valdivia**	**2.93**	**102**	*i* P	**Pn**	**18 14 04.0**	**+3.6**
ARCO	**CERRO ARCO**	**2.96**	**122**	*i* P	**Pb**	**18 14 06.0**	**-1.4**
AC04	**Llanos de Chal**	**3.15**	**13**		**Pn**	**18 14 04.3**	**+0.8**
AC04	**Llanos de Chal**	**3.15**	**13**	*i* P	**Pn**	**18 14 05.0**	**+1.5**
AAGR	**Agrelo**	**3.17**	**125**	*i* P	**Pn**	**18 14 08.0**	**+4.2**
BO01	**Tunca**	**3.17**	**168**		**Pn**	**18 14 04.2**	**+0.4**
BO01	**Tunca**	**3.17**	**168**	*i* P	**Pn**	**18 14 05.0**	**+1.2**
BO02	**Sierra Bellavi**	**3.62**	**165**	Pn	**Pn**	**18 14 10.8**	**+0.7**
BO02	**Sierra Bellavi**	**3.62**	**165**	*i* P	**Pn**	**18 14 11.0**	**+1.0**
GO05	**Huala**	**3.71**	**180**	Pn	**Pn**	**18 14 10.7**	**-0.5**
GO05	**Huala**	**3.71**	**180**	*i* P	**Pn**	**18 14 11.0**	**-0.2**
GO03	**Copiap**	**3.96**	**22**		**Pn**	**18 14 15.5**	**+0.9**
GO03	**Copiap**	**3.96**	**22**	*i* P	**Pn**	**18 14 16.0**	**+1.4**
AC06	**Mina Casimiro**	**4.14**	**19**	Pn	**Pn**	**18 14 18.0**	**+0.9**
COIS	**El Sosneado**	**4.28**	**154**	*i* P	**Pn**	**18 14 22.0**	**+3.1**
ML02	**Panimavida**	**4.48**	**175**	Pn	**Pn**	**18 14 21.7**	**-0.1**
ACHE	**Chepes**	**4.49**	**90**	*i* P	**Pn**	**18 14 24.0**	**+2.0**
RFA	**San Rafael**	**4.52**	**141**	*i* P	**Pn**	**18 14 24.0**	**+1.7**
AC02	**Maricunga**	**5.06**	**29**	Pn	**Pn**	**18 14 30.6**	**+0.5**
AC02	**Maricunga**	**5.06**	**29**	*i* P	**Pn**	**18 14 32.0**	**+1.9**
CYA	**Choya**	**6.01**	**63**	*i* P	**Pn**	**18 14 44.0**	**+1.2**
H03N1	**Juan Fernandez** baz=76,slow=72	**6.31**	**248**	T	T	18 21 32.3	
VA04	**Juan Fernndez**	**6.31**	**246**		**Pn**	**18 14 47.8**	**+0.9**
H03N3	**Juan Fernandez** baz=76,slow=72	**6.32**	**248**	T	T	18 21 30.4	
H03N2	**Juan Fernandez** baz=76,slow=72	**6.32**	**248**	T	T	18 21 31.8	
H03S3	**Juan Fernandez** baz=83,slow=74,SNR=17	**6.43**	**245**	T	T	18 21 33.5	
H03S1	**Juan Fernandez** baz=83,slow=74,SNR=15	**6.44**	**245**	T	T	18 21 30.8	
H03S2	**Juan Fernandez** baz=83,slow=74,SNR=19	**6.45**	**245**	T	T	18 21 33.5	
PB14	**IPOC Station P**	**6.77**	**12**	Pn	**Pn**	**18 14 51.6**	**-1.9**
PB14	**IPOC Station P**	**6.77**	**12**	*i* P	**Pn**	**18 14 54.0**	**+0.6**
AHML	**Horco Molle**	**7.29**	**54**	*i* P	**Pn**	**18 15 02.0**	**+1.6**
FSA	**Cafayete**	**7.32**	**47**	*i* P	**Pn**	**18 15 03.0**	**+2.0**
LC01	**Cunco**	**7.59**	**180**		**Pn**	**18 15 03.4**	**-1.1**
LC01	**Cunco**	**7.59**	**180**	*i* P	**Pn**	**18 15 04.0**	**-0.5**
PB10	**IPOC Station P**	**7.83**	**9**	Pn	**Pn**	**18 15 07.7**	**-0.2**
PB15	**IPOC Station P**	**8.33**	**16**		**Pn**	**18 15 13.2**	**-1.6**
LR03	**Panguipulli**	**8.34**	**182**	Pn	**Pn**	**18 15 13.7**	**-1.0**
PB06	**IPOC Station P**	**8.79**	**14**		**Pn**	**18 15 20.8**	**-0.4**
AF01	**San Pedro de A**	**8.94**	**23**	Pn	**Pn**	**18 15 22.9**	**-0.3**
LVC	**Limon Verde**	**9.04**	**18**	Pn	**Pn**	**18 15 22.9**	**-1.8**
	comp=E,1.6nm,0.3s,baz=158,slow=9.7,SNR=7.7						
LVC				LR	LR	18 19 05.1	
	comp=E,1μm,20.9s,baz=215,slow=39						
LVC	**Limon Verde**	**9.04**	**18**	Pn	**Pn**	**18 15 22.6**	**-2.2**
LVC	**Limon Verde**	**9.04**	**18**	*e*P	**Pn**	**18 15 26.6**	**+1.8**
PB04	**IPOC Station P**	**9.05**	**10**	Pn	**Pn**	**18 15 23.1**	**-1.7**
PLCA	**Paso Flores**	**9.49**	**174**	Pn	**Pn**	**18 15 31.0**	**+0.4**
	comp=E,1.7nm,0.3s,baz=338,slow=11,SNR=22						
PLCA				LR	LR	18 19 41.4	
	comp=E,822nm,20.0s,baz=348,slow=41						
PLCA	**Paso Flores**	**9.49**	**174**		**Pn**	**18 15 31.4**	**+0.8**
LL04	**Puerto Octay**	**9.61**	**182**	Pn	**Pn**	**18 15 30.2**	**-2.0**
PB07	**IPOC Station P**	**9.69**	**11**		**Pn**	**18 15 31.8**	**-1.7**
PB09	**IPOC Station P**	**9.75**	**15**	Pn	**Pn**	**18 15 32.1**	**-2.1**
LL05	**Los Muermos**	**10.18**	**187**	Pn	**Pn**	**18 15 37.7**	**-2.2**
PB01	**IPOC Station P**	**10.43**	**13**	Pn	**Pn**	**18 15 40.4**	**-3.1**
TRQA	**Tornquist**	**10.60**	**132**	Pn	**Pn**	**18 15 44.3**	**-1.3**
TRQA	**Tornquist**	**10.60**	**132**	*e*P	**Pn**	**18 15 46.0**	**+0.3**
TRQA	**Tornquist**	**10.60**	**132**	*i* P	**Pn**	**18 15 47.0**	**+1.3**
TA01	**Diego Aracena**	**10.79**	**9**	Pn	**Pn**	**18 15 46.0**	**-2.3**
TA02	**Huaiquique**	**11.09**	**9**	Pn	**Pn**	**18 15 49.8**	**-2.6**
PB08	**IPOC Station P**	**11.37**	**13**		**Pn**	**18 15 58.8**	**+2.2**
PB11	**IPOC Station P**	**11.65**	**11**	Pn	**Pn**	**18 15 60.0**	**-0.3**
PSGCX	**Pisagua**	**11.75**	**8**	Pn	**Pn**	**18 15 59.5**	**-2.1**
LL02	**Futaleuf**	**11.88**	**180**	Pn	**Pn**	**18 16 01.0**	**-2.3**
LPA	**La Plata**	**12.26**	**111**	*e*P	Pn	18 15 57.4	-11
LPA	**La Plata**	**12.26**	**111**	PN	**Pn**	**18 16 08.7**	**+0.3**
LPA				pP	P	18 16 14.2	-6.4
LPA				sP		18 16 20.0	
LPA				pPP		18 16 29.5	
LPA				PP		18 16 43.2	
LPA				PPP	PPP	18 17 05.6	
LPA				S	Sn	18 18 13.7	-11
LPA	**La Plata**	**12.26**	**111**	SN	**Sn**	**18 18 26.8**	**+2.5**
LPA				sS		18 18 31.1	
LPA				SS	**SnSn**	**18 18 45.7**	**+9.4**
LPA				SSS	SSS	18 18 58.2	
LPA				SSS	SSS	18 19 28.1	
LPA				SS		18 19 59.7	
LPA				PCP	PcP	18 21 34.8	-15
LPA				SCS	ScS	18 29 11.7	+14
LPA				PKIKP	**PKiKP**	**18 29 41.6**	**-6.4**
LPA				SKIKP		18 33 17.6	
LPA				PKIKS		18 33 21.9	
LPA				SKIKS		18 36 42.7	
AP01	**Chacalluta**	**12.94**	**7**	Pn	**Pn**	**18 16 16.8**	**-0.9**
ITQB	**Itaqui**	**13.28**	**87**	Pn	**Pn**	**18 16 19.9**	**-2.4**
ITQB	**Itaqui**	**13.28**	**87**	*e*P	**Pn**	**18 16 20.4**	**-1.9**
CPUP	**Villa Florida**	**13.70**	**73**	Pn	**Pn**	**18 16 26.4**	**-1.7**
	comp=E,0.3nm,0.3s,baz=255,slow=14,SNR=4.7						
CPUP				LR	LR	18 22 09.9	
	comp=E,2μm,18.7s,baz=248,slow=40						
CPUP	**Villa Florida**	**13.70**	**73**		**Pn**	**18 16 26.0**	**-2.1**
CPUP	**Villa Florida**	**13.70**	**73**	*e*P	**Pn**	**18 16 26.2**	**-1.8**
LPAZ	**La Paz**	**15.32**	**14**	Pn	**Pn**	**18 16 52.5**	**+1.7**
	comp=E,0.9nm,0.3s,baz=184,slow=6.1,SNR=73						
LPAZ	**La Paz**	**15.32**	**14**		**Pn**	**18 16 52.3

ZARC	**Zaragoza, Cauc**	**38.66**	**355**	*e*P		**P**		**18 20 37.8**	**+0.6**
UREC	**San Jos de Ur**	**38.97**	**354**	*e*P		**P**		**18 20 40.7**	**+0.9**
NBMA	**Muriti-CE**	**39.03**	**59**	*e*P		**P**		**18 20 39.9**	**-0.6**
NBPS	**Pedro II - PI**	**39.18**	**53**	*e*P		**P**		**18 20 41.2**	**-0.5**
NBAN	**Anadia - AL**	**39.44**	**65**	*e*P		**P**		**18 20 42.2**	**-1.6**
NBPB	**Pedra_Branca-C**	**39.67**	**56**	*e*P		**P**		**18 20 45.7**	**-0.1**
SMLC	**San Martn de**	**39.91**	**357**	*e*P		**P**		**18 20 48.3**	**+0.7**
SDV	**Santo Domingo**	**39.96**	**2**	P		**P**		**18 20 48.7**	**+0.4**
SDV				IAmb	IAmb			18 20 54.3	
	comp=Z,17nm,0.9s								
SDV	**Santo Domingo**	**39.96**	**2**	*e*P		**P**		**18 20 49.7**	**+1.5**
BCIP	**Isla Barro Col**	**40.93**	**348**	P		**P**		**18 20 56.2**	**+0.1**
BCIP				IAmb	IAmb			18 21 00.3	
	comp=Z,16nm,0.8s								
SJCC	**San Jacinto, C**	**41.07**	**355**	P		**P**		**18 20 58.2**	**+1.0**
SJCC				IAmb	IAmb			18 21 01.6	
	comp=Z,22nm,1.0s								
SJCC	**San Jacinto, C**	**41.07**	**355**	*e*P		**P**		**18 20 57.8**	**+0.6**
NBCL	**Cascavel-CE**	**41.51**	**56**	*e*P		**P**		**18 21 00.4**	**-0.5**
RCBR	**Riachuelo**	**42.17**	**61**	*e*P		**P**		**18 21 06.7**	**+0.3**
SMRC	**Santa Marta, M**	**42.27**	**357**	*e*P		**P**		**18 21 06.4**	**-0.6**
RIMA	**Rio Macho**	**42.40**	**342**	P		**P**		**18 21 07.4**	**-1.0**
ORTG	**Ortega, Santa**	**43.40**	**340**	P		**P**		**18 21 15.9**	**-0.4**
ORTG				IAmb	IAmb			18 21 20.3	
	comp=Z,29nm,1.7s								
COVE	**Coope Vega, Sa**	**43.45**	**342**	P		**P**		**18 21 18.7**	**+2.1**
COVE				IAmb	IAmb			18 21 21.5	
	comp=Z,19nm,0.7s								
TOSP	**Speyside**	**43.72**	**16**	P		**P**		**18 21 18.9**	**+0.1**
ACON	**Acoyapa**	**44.85**	**341**	P		**P**		**18 21 25.9**	**-2.0**
ACON				IAmb	IAmb			18 21 43.6	
	comp=Z,16nm,1.3s								
MPOM	**Morne Pois Mar**	**46.69**	**15**	P		**P**		**18 21 40.5**	**-1.8**
BIM	**Bigot**	**46.71**	**14**	P		**P**		**18 21 40.1**	**-2.4**
MTO3	**Montecristo**	**48.42**	**337**	P		**P**		**18 21 55.2**	**-0.9**
ICMP	**Isla Caja de M**	**49.16**	**7**	P		**P**		**18 22 01.0**	**-0.4**
MLPR	**Magueyes Islan**	**49.19**	**6**	P		**P**		**18 22 01.6**	**0.0**
CRPR	**Cabo Rojo, PR**	**49.23**	**6**	P		**P**		**18 22 01.9**	**0.0**
OBIP	**Obispado Ponce**	**49.31**	**7**	P		**P**		**18 22 00.3**	**-2.2**
PDPR	**Patillas Dam,**	**49.34**	**7**	P		**P**		**18 22 01.1**	**-1.7**
SJG	**San Juan**	**49.42**	**7**	P		**P**		**18 22 03.2**	**-0.2**
GCPR	**Guaynabo City**	**49.63**	**7**	P		**P**		**18 22 04.3**	**-0.6**
GCPR				IAmb	IAmb			18 22 07.0	
	comp=Z,13nm,0.8s								
VNA3	**Neumayer Olymp**	**51.83**	**159**	P		**P**		**18 22 21.9**	**+0.8**
VNA1	**Neumayer--Stat**	**52.13**	**158**	P		**P**		**18 22 24.3**	**+1.0**
VNA2	**Neumayer--Watz**	**52.47**	**158**	P		**P**		**18 22 26.5**	**+0.6**
	baz=285,slow=7.9								
SNAA	**Sanae**	**54.06**	**159**	P		**P**		**18 22 38.1**	**+0.6**
SNAA	**Sanae**	**54.06**	**159**	P		**P**		**18 22 37.4**	**-0.2**
SNAA				IAmb	IAmb			18 22 39.5	
	comp=Z,17nm,1.0s								
SOR	**Soroa**	**54.81**	**347**	P		**P**		**18 22 44.1**	**+0.6**
SOR				IAmb	IAmb			18 22 45.7	
	comp=Z,19nm,1.2s								
RKT	**Rikitea**	**56.03**	**262**	*e*T		T		19 23 32.6	
	comp=Z,6.8nm,0.2s								
QSPA	**South Pole Qui**	**58.94**	**180**	P		**P**		**18 23 13.5**	**+1.0**
QSPA				IAmb	IAmb			18 23 29.9	
	comp=Z,21nm,1.4s								
VNDA	**Vanda**	**66.78**	**191**	P		**P**		**18 24 06.2**	**+1.9**
	comp=Z,0.9nm,0.9s,baz=109,slow=4.7,SNR=5.8								
VNDA				LR		LR		18 51 01.1	
	comp=Z,48nm,18.2s,baz=200,slow=34								
TAOE	**Nuku Hiva Isla**	**66.88**	**274**	*e*LR		LR		18 44 15.4	
	comp=Z,157nm,28.9s								
X48A	**Hartselle**	**66.93**	**346**	P		**P**		**18 24 05.2**	**-0.4**
X48A				IAmb	IAmb			18 24 08.0	
	comp=Z,10nm,0.9s								
W50A	**Signal Mountai**	**67.33**	**348**	P		**P**		**18 24 08.3**	**0.0**
W50A				IAmb	IAmb			18 24 19.4	
	comp=Z,12nm,1.0s								
CPCT	**Cooper Cave**	**67.44**	**349**	P		**P**		**18 24 08.7**	**-0.2**
CPCT				IAmb	IAmb			18 24 11.1	
	comp=Z,13nm,1.1s								
TXAR	**Lajitas Array**	**67.44**	**330**	P		**P**		**18 24 11.4**	**+2.2**
	comp=Z,1.6nm,0.8s,baz=151,slow=8.1,SNR=12								
TXAR				LR		LR		18 49 14.4	
	comp=Z,111nm,19.6s,baz=0.0,slow=32								
TX31	**Lajitas Ar. Si**	**67.44**	**330**	P		**P**		**18 24 07.9**	**-1.3**
TX32	**Lajitas Array**	**67.44**	**330**	P		**P**		**18 24 08.4**	**-0.7**
SWET	**Sewanee**	**67.45**	**348**	P		**P**		**18 24 09.2**	**+0.2**
SWET				IAmb	IAmb			18 24 19.5	
	comp=Z,14nm,1.1s								
OXF	**Oxford**	**67.49**	**344**	P		**P**		**18 24 08.5**	**-0.8**
TBI	**Tubuai**	**68.09**	**255**	*e*S		**S**		**18 33 16.3**	**+4.2**
	comp=Z,85nm,29.2s								
TBI	**Tubuai**	**68.09**	**255**	*e*LR		LR		18 44 48.0	
	comp=Z,259nm,26.2s								
TBI	**Tubuai**	**68.09**	**255**	*e*T		T		19 38 38.4	
	comp=Z,9.0nm,0.2s								
V48A	**Smith Brothers**	**68.13**	**347**	P		**P**		**18 24 12.8**	**-0.4**
V48A				IAmb	IAmb			18 24 15.2	
	comp=Z,12nm,1.1s								
CLTN	**Cedars of Leba**	**68.38**	**347**	P		**P**		**18 24 14.8**	**0.0**
CLTN				IAmb	IAmb			18 24 25.4	
	comp=Z,11nm,1.0s								
WVT	**Waverly**	**68.71**	**346**	P		**P**		**18 24 16.7**	**-0.1**
ABTX	**Abilene, Hawle**	**68.77**	**335**	P		**P**		**18 24 17.5**	**+0.2**
ABTX				IAmb	IAmb			18 24 20.4	
	comp=Z,8.2nm,0.9s								
W39A	**Magazine**	**69.26**	**341**	IAmb	IAmb			18 24 31.9	
	comp=Z,11nm,0.9s								
MEH	**Mehetia**	**69.35**	**261**	*e*T		T		19 40 13.2	
	comp=Z,37nm,0.3s								
T47A	**Sharon Grove**	**69.39**	**347**	IAmb	IAmb			18 24 33.2	
	comp=Z,13nm,1.0s								
LCAR	**Lake Charles**	**69.39**	**343**	IAmb	IAmb			18 24 24.1	
	comp=Z,11nm,0.8s								
PBMO	**Poplar Bluff**	**69.90**	**344**	P		**P**		**18 24 22.5**	**-1.7**
PBMO				IAmb	IAmb			18 24 34.8	
	comp=Z,7.7nm,0.8s								
U40A	**Yellville**	**70.10**	**342**	IAmb	IAmb			18 24 36.2	
	comp=Z,10.0nm,1.1s								
MNTX	**Cornudas Mount**	**70.22**	**330**	P		**P**		**18 24 26.4**	**+0.1**
HHAR	**Hobbs**	**70.32**	**341**	IAmb	IAmb			18 24 37.7	
	comp=Z,7.0nm,0.9s								
S44A	**Carbondale**	**70.51**	**345**	IAmb	IAmb			18 24 30.1	
	comp=Z,12nm,0.8s								
TIAR	**Tiarei**	**70.58**	**261**	*e*T		T		19 41 44.2	
	comp=Z,3.1nm,0.2s								
PPT2	**Papeete2**	**70.76**	**261**	*e*S		**S**		**18 33 48.4**	**+4.5**
	comp=Z,89nm,28.5s								
PPT2	**Papeete2**	**70.76**	**261**	*e*LR		LR		18 46 02.4	
	comp=Z,153nm,24.2s								
MSTX	**Muleshoe**	**71.14**	**333**	P		**P**		**18 24 31.4**	**-0.6**
CCM	**Cathedral Cave**	**71.31**	**344**	P		**P**		**18 24 32.8**	**0.0**
CCM				IAmb	IAmb			18 24 35.2	
	comp=Z,12nm,0.9s								
R40A	**Maddies Statio**	**71.78**	**343**	P		**P**		**18 24 36.3**	**+0.6**
121A	**Cookes Peak, D**	**71.98**	**329**	IAmb	IAmb			18 24 49.6	
	comp=Z,8.8nm,0.9s								
P40A	**Paris**	**72.90**	**344**	P		**P**		**18 24 42.1**	**-0.2**
P40A				IAmb	IAmb			18 24 53.2	
	comp=Z,15nm,0.9s								
ANMO	**Albuquerque**	**73.47**	**331**	P		**P**		**18 24 45.2**	**-0.8**
LIC	**Lamto**	**73.82**	**72**	*e*P		**P**		**18 24 48.0**	**-0.4**
	comp=Z,54nm,1.2s								
TIC	**Toumodi**	**74.07**	**72**	*e*P		**P**		**18 24 49.5**	**-0.3**
KIC	**Kosan Boka**	**74.13**	**72**	*e*P		**P**		**18 24 50.0**	**-0.2**
	comp=Z,45nm,0.8s								
DBIC	**Dimbokro**	**74.22**	**72**	P		**P**		**18 24 50.5**	**-0.1**
	comp=Z,24nm,0.8s,baz=220,slow=6.3,SNR=19								
DBIC				LR		LR		18 54 28.8	
	comp=Z,254nm,20.9s,baz=220,slow=33								
DBIC	**Dimbokro**	**74.22**	**72**	P		**P**		**18 24 49.5**	**-1.2**
T25A	**Trinidad**	**74.56**	**334**	P		**P**		**18 24 52.7**	**+0.4**
T25A				IAmb	IAmb			18 24 56.2	
	comp=Z,9.0nm,0.8s								
L40A	**Anamosa**	**75.12**	**345**	P		**P**		**18 24 55.7**	**+0.5**
L40A				IAmb	IAmb			18 24 56.7	
	comp=Z,18nm,1.0s								
X16A	**Lo Mia Camp, P**	**75.22**	**327**	P		**P**		**18 24 57.6**	**+1.4**
SDCO	**Great Sand Dun**	**75.50**	**333**	P		**P**		**18 24 58.2**	**+0.3**
SDCO				IAmb	IAmb			18 25 09.3	
	comp=Z,10nm,1.4s								
MAW	**Mawson**	**75.74**	**164**	P		**P**		**18 24 59.4**	**+0.8**
	comp=Z,6.5nm,0.9s,baz=232,slow=6.2,SNR=11								
MAW				LR		LR		18 57 12.5	
	comp=Z,156nm,21.7s,baz=236,slow=35								
MAW	**Mawson**	**75.74**	**164**	P		**P**		**18 24 57.6**	**-1.0**
WUAZ	**Wupatki**	**76.10**	**328**	IAmb	IAmb			18 25 13.7	
	comp=Z,11nm,1.2s								
G62A	**West of Eustis**	**76.15**	**1**	P		**P**		**18 25 02.3**	**+1.2**
G62A				IAmb	IAmb			18 25 04.3	
	comp=Z,18nm,1.0s								
MVCO	**Mesa Verde**	**76.25**	**331**	IAmb	IAmb			18 25 14.4	
	comp=Z,9.3nm,1.1s								
F62A	**Pittston Farm,**	**76.84**	**1**	IAmb	IAmb			18 25 08.2	
	comp=Z,13nm,0.9s								
F64A	**Sherman**	**76.85**	**3**	P		**P**		**18 25 06.6**	**+1.6**
LMN	**Caledonia Moun**	**77.04**	**5**	IAmb	IAmb			18 25 08.8	
	comp=Z,18nm,1.0s								
PV13	**Radium Mtn., P**	**77.19**	**331**	IAmb	IAmb			18 25 19.4	
	comp=Z,8.1nm,1.1s								
ISCO	**Idaho Springs**	**77.34**	**334**	P		**P**		**18 25 08.0**	**-0.3**
PQI	**Presque Isle**	**77.67**	**3**	IAmb	IAmb			18 25 12.8	
	comp=Z,11nm,0.9s								
ECSD	**EROS Data Cent**	**78.01**	**342**	P		**P**		**18 25 12.1**	**+0.5**
ECSD				IAmb	IAmb			18 25 22.4	
	comp=Z,11nm,0.9s								
LMQ	**La Malbaie**	**78.48**	**1**	IAmb	IAmb			18 25 16.6	
	comp=Z,18nm,1.1s								
GSC	**Goldstone, Bar**	**78.54**	**324**			**P**		**18 25 14.8**	**0.0**
GSC				IAmb	IAmb			18 25 27.2	
	comp=Z,9.4nm,1.3s								
MSU	**Marysvale**	**78.93**	**329**			**P**		**18 25 18.8**	**+1.7**
MVU	**Marysvale**	**78.94**	**329**	P		**P**		**18 25 18.0**	**+0.9**
PRN	**Pahroc Range**	**79.35**	**326**	P		**P**		**18 25 19.6**	**+0.3**
PRN				IAmb	IAmb			18 25 32.6	
	comp=Z,12nm,1.3s								
KOWA	**Kowa**	**79.42**	**66**	P		**P**		**18 25 19.7**	**-0.2**
TSUM	**Tsumeb**	**79.85**	**106**	LR		LR		18 56 52.4	
	comp=Z,186nm,19.2s,baz=240,slow=33								
TSUM	**Tsumeb**	**79.85**	**106**	P		**P**		**18 25 21.9**	**-0.6**
TSUM				IAmb	IAmb			18 25 24.0	
	comp=Z,7.8nm,0.9s								
BOSA	**Boshof**	**81.23**	**118**	P		**P**		**18 25 29.9**	**+0.1**
	comp=Z,7.0nm,0.9s,baz=245,slow=6.4,SNR=8.8								
BOSA				LR		LR		18 59 22.8	
	comp=Z,126nm,18.2s,baz=204,slow=34								
BOSA	**Boshof**	**81.23**	**118**	P		**P**		**18 25 28.9**	**-1.0**
BOSA				IAmb	IAmb			18 25 31.1	
	comp=Z,6.9nm,0.8s								
PDAR	**Pinedale Array**	**81.40**	**333**	P		**P**		**18 25 30.8**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=87,slow=4.6,SNR=2.1								
PDAR				LR		LR		18 57 51.6	
	comp=Z,53nm,21.3s,baz=126,slow=33								
B35A	**Bob, Littlefor**	**81.66**	**345**	IAmb	IAmb			18 25 41.6	
	comp=Z,13nm,1.1s								
NVAR	**Mina Array Bea**	**81.73**	**325**	P		**P**		**18 25 34.4**	**+2.3**
	comp=Z,1.4nm,0.9s,baz=150,slow=5.9,SNR=9.1								
NVAR	**Mina Array Bea**	**81.73**	**325**	P		**P**		**18 25 32.5**	**+0.4**
KVN	**Kaiserville**	**82.11**	**325**	IAmb	IAmb			18 25 46.4	
	comp=Z,9.8nm,1.4s								
ELK	**Elko**	**82.12**	**328**	P		**P**		**18 25 34.4**	**+0.2**
PNTR	**Pine Nut**	**82.88**	**325**	IAmb	IAmb			18 25 52.2	
	comp=Z,9.2nm,1.1s								
TORD	**Torodi Ar. Bea**	**83.18**	**70**	P		**P**		**18 25 40.0**	**0.0**
	comp=Z,26nm,0.8s,baz=258,slow=4.7,SNR=123								
TORD				LR		LR		19 00 23.9	
	comp=Z,252nm,20.2s,baz=180,slow=34								
TORD	**Torodi Ar. Bea**	**83.18**	**70**	P		**P**		**18 25 39.4**	**-0.6**
PAHR	**Pah Rah Range**	**83.25**	**325**	IAmb	IAmb			18 25 52.2	
	comp=Z,11nm,1.3s								
LBTB	**Lobatse**	**83.34**	**115**	LR		LR		18 59 31.1	
	comp=Z,277nm,19.1s,baz=235,slow=33								
LBTB	**Lobatse**	**83.34**	**115**	P		**P**		**18 25 37.6**	**-3.4**
LBTB				IAmb	IAmb			18 25 41.7	
	comp=Z,9.7nm,0.9s								
ULM	**Lac du Bonnet**	**83.92**	**345**	P		**P**		**18 25 43.5**	**+0.6**
	comp=Z,5.3nm,0.8s,baz=110,slow=1.6,SNR=3.9								
ULM	**Lac du Bonnet**	**83.92**	**345**	IAmb	IAmb			18 26 08.6	
	comp=Z,15nm,1.3s								
ORV	**Oroville**	**84.19**	**324**	IAmb	IAmb			18 25 56.8	
	comp=Z,17nm,1.6s								
J08A	**Circle Bar Ran**	**85.66**	**328**	IAmb	IAmb			18 26 03.9	
	comp=Z,7.0nm,1.0s								
SCHQ	**Schefferville**	**85.88**	**3**	P		**P**		**18 25 53.3**	**+0.7**
	comp=Z,9.2nm,1.0s,baz=191,slow=6.7,SNR=3.9								
SCHQ				LR		LR		19 07 57.9	
	comp=Z,23nm,18.1s,baz=258,slow=38								
K05A	**Summer Lake**	**86.30**	**326**	P		**P**		**18 25 56.4**	**+1.1**
K05A				IAmb	IAmb			18 26 13.2	
	comp=Z,11nm,1.2s								
I07A	**Izee**	**86.69**	**328**	IAmb	IAmb			18 26 09.1	
	comp=Z,15nm,1.8s								
PINE	**Pine Mountain**	**87.13**	**327**	IAmb	IAmb			18 26 16.7	
	comp=Z,8.1nm,1.2s								
MATP	**Matopo**	**88.03**	**113**	LR		LR		19 01 23.9	
	comp=Z,101nm,20.1s,baz=208,slow=33								
ESDC	**Sonseca Array**	**94.61**	**46**	P		**P**		**18 26 34.2**	**0.0**
	comp=Z,1.0nm,0.9s,baz=252,slow=4.5,SNR=5.8								
ESDC				LR		LR		19 08 35.2	
	comp=Z,126nm,18.8s,baz=245,slow=35								
DZM	**Mont Dzumac**	**102.92**	**234**	*e*LR		LR		19 00 57.3	
	comp=Z,194nm,26.4s								
ASAR	**Alice Springs**	**120.03**	**207**	PKP		**PKPdf**		**18 32 04.0**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=160,slow=2.1,SNR=6.0								
AKASG	**Malin Array Be**	**120.26**	**46**	PKP		**PKPdf**		**18 32 03.6**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=271,slow=2.6,SNR=11								
MNK	**Minsk**	**120.31**	**42**	*i* PKP		**PKPdf**		**18 32 03.6**	**-0.3**
	comp=E,1.0nm,0.9s								
MNK				*i* PKP		**PKPdf**		**18 32 03.6**	**-0.3**
	comp=N,8.0nm,0.9s								
MNK				*i* PKP		**PKPdf**		**18 32 03.6**	**-0.3**
	comp=Z,10.0nm,0.9s,baz=258								
MNK				*i* PP		**PP**		**18 33 30.1**	**-0.5**
MNK				*i* SKP				18 35 36.3	
MNK				*i* PKS		**PKSdf**		**18 35 40.3**	**0.0**
MNK				*i* PPP		PPP		18 36 03.4	
MNK				*i* SKS		**SKSdf**		**18 39 12.9**	**-1.4**
MNK				*i* SKKS		**SKKSdf**		**18 49 51.6**	**-5.0**
MNK				*i* SS		**SS**		**18 49 56.6**	**-0.8**
MNK				*i* SSS		SSS		18 54 25.0	
MNK				*i* LQ		LQ		19 09 11.4	
MNK				*i* LR		LR		19 13 41.3	
MNK				*i* LRM		MLR		19 21 03.7	
	comp=N,69nm,20.4s								
MNK				*i* LRM		MLR		19 21 20.4	
	comp=E,7.0nm,21.7s								
MNK				*i* LRM		MLR		19 21 24.2	
	comp=Z,257nm,20.4s								
BRTR	**Keskin Array B**	**120.39**	**59**	PKP		**PKPdf**		**18 32 04.9**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=195,slow=3.9,SNR=8.8								
WRA	**Warramunga Arr**	**123.17**	**210**	PKP		**PKPdf**		**18 32 10.5**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=172,slow=3.1,SNR=9.2								
KLMR	**Klimovskoe**	**127.13**	**35**	*e*PKPdf		**PKPdf**		**18 32 16.2**	**-0.7**
KLMR				AMP				18 32 19.0	
	comp=Z,13nm,1.0s								
KBZ	**Khabaz**	**128.05**	**57**	PKP		**PKPdf**		**18 32 19.0**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=307,slow=5.1,SNR=3.0								
FITZ	**Fitzroy Crossi**	**128.09**	**201**	PKP		**PKiKP**		**18 32 20.9**	**+0.2**
	comp=Z,2.7nm,1.0s,baz=188,slow=4.6,SNR=4.2								
ARU	**Arti**	**137.59**	**39**	PKP		**PKPdf**		**18 32 37.7**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=338,slow=4.6,SNR=8.5								
AKTO	**Aktyubinsk**	**138.47**	**48**	PKP		**PKPdf**		**18 32 39.5**	**+1.0**
	comp=Z,2.2nm,0.9s,baz=321,slow=3.9,SNR=5.7								
BVAR	**Borovoye Array**	**145.18**	**40**	PKPbc		**PKPdf**		**18 32 51.3**	**+0.8**
	comp=Z,12nm,0.7s,baz=236,slow=6.8,SNR=31								
HYB	**Hyderabad**	**149.86**	**110**	*i* PKP		**PKPbc**		**18 33 04.0**	**-0.2**
KURBB	**Kurchatov Arra**	**150.77**	**40**	PKPbc		**PKPbc**		**18 33 05.0**	**-0.3**
	comp=Z,13nm,0.8s,baz=297,slow=3.0,SNR=33								
KURK	**Kurchatov**	**150.78**	**40**			**PKPbc**		**18 33 05.0**	**-0.2**
AAK	**Ala-Archa**	**151.04**	**57**	PKPbc		**PKiKP**		**18 33 07.8**	**+0.8**
	comp=Z,14nm,0.8s,baz=221,slow=2.6,SNR=26								
ZALV	**Zalesovo Beam**	**151.85**	**30**	PKP		**PKPdf**		**18 33 02.0**	**+0.8**
	comp=Z,2.9nm,0.9s,baz=308,slow=4.9,SNR=8.8								
ZALV				PKPbc		**PKiKP**		**18 33 08.4**	**+0.4**
	comp=Z,41nm,0.7s,baz=296,slow=3.2,SNR=93								
ZALV				PKPab		**pPKPbc**		**18 33 17.4**	**+2.6**
	comp=Z,14nm,0.6s,baz=303,slow=3.3,SNR=9.0								
ZALV	**Zalesovo Beam**	**151.85**	**30**	PKPdf		**PKPdf**		**18 33 01.4**	**+0.2**
ZALV				PKPbc		**PKiKP**		**18 33 08.6**	**+0.5**
ZALV				PKPab		**PKPab**		**18 33 16.9**	**+0.1**
KSH	**Kashi**	**152.67**	**64**	PKPbc		**PKPdf**		**18 33 03.9**	**+0.8**
KSH				pPKP		sPKPdf		18 33 14.3	+1.6
MKAR	**Makanchi Array**	**154.83**	**45**	PKP		**PKPdf**		**18 33 06.3**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=312,slow=1.2,SNR=9.5								
MKAR				PKPbc		**PKiKP**		**18 33 14.7**	**+0.2**
	comp=Z,4.8nm,0.9s,baz=309,slow=2.0,SNR=13								
MKAR				PKPab		**PKPab**		**18 33 30.4**	**+0.7**
	comp=Z,4.9nm,0.8s,baz=292,slow=3.5,SNR=11								
MKAR	**Makanchi Array**	**154.83**	**45**	PKPdf		**PKPdf**		**18 33 05.5**	**-0.4**
MKAR				PKPab		**PKPab**		**18 33 30.6**	**+0.9**
WMQ	**Urumqi**	**159.62**	**46**	*e*PKP		**PKPdf**		**18 33 12.4**	**+0.4**
SONM	**Songino Array**	**163.42**	**4**	PKP		**PKPdf**		**18 33 16.4**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=90,slow=0.7,SNR=4.7								
SONM				PKPab		**PKPab**		**18 34 08.4**	**+1.5**
	comp=Z,1.8nm,0.9s,baz=336,slow=3.3,SNR=5.7								
CMAR	**Chiang Mai Arr**	**164.78**	**145**	PKP		**PKPdf**		**18 33 18.3**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=234,slow=2.2,SNR=5.4								
CMAR				PKPab		**PKPab**		**18 34 12.9**	**-0.6**
	comp=Z,1.0nm,0.9s,baz=217,slow=5.8,SNR=6.8								
GTA	**Gaotai**	**169.45**	**38**	⇓PKP		**PKPdf**		**18 33 22.6**	**+1.7**
GTA				pPKP		pPKPdf		18 33 31.1	+3.0
GTA				sPKP				18 33 34.8	
GTA				PKPab		**PKPab**		**18 34 35.1**	**+1.2**
GTA				LR		LR			
	comp=Z,140nm,20.0s								
GTA				LR		LR			
	comp=Z,120nm,19.3s								
GTA				LR		LR			
	comp=Z,100nm,17.8s								
HHC	**Hu-ho-hao-te**	**170.05**	**345**	*e*PKP		**PKPdf**		**18 33 20.8**	**-0.4**
HHC				LR		LR			
	comp=Z,130nm,16.2s								
HHC				LR		LR			
	comp=Z,110nm,16.2s								
HHC				LR		LR			
	comp=Z,80nm,16.2s								
NJ2	**Nanjing**	**170.80**	**278**	*e*PKP		**PKPdf**		**18 33 21.9**	**+0.2**

*IDC **19** 18:30:38.0±1.6, 40°.23N×51°.40E, h0km, mb3.7/4, mb1 3.8/12, mb1mx3.6/58, mbtmp3.8/12, ML2.7/4, MS3.0/1, Ms1 3.1/1, ms1mx2.1/57, Error ellipse: s-maj=27.7km s-min=12.8km az=172.0*

*AZER **19** 18:30:45.2±0.4, 40°.07N×51°.29E, h50km±12km, ml3.2/29, Error ellipse: s-maj=7.2km s-min=2.8km az=243.0*

*NNC **19** 18:30:46.9±3.0, 40°.72N×52°.56E, h0km, mb4.2, Error ellipse: s-maj=34.7km s-min=8.7km az=69.0*

ISC 19 18:30:41.9±1.0, 40°.28N±0°.05×51°.63E±0°.05, h56km±16km, n46, σ2s 41/80, mb3.5/4, 3C-3D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GALA	**Gala**		**1.13**	**277**		P	**Pn**	**18 31 03.3**	**+1.8**
GALA						S	**Sn**	**18 31 18.8**	**+2.7**
NDR	**Nardaran**		**1.29**	**284**		Pg	**Pn**	**18 31 07.2**	**+3.5**
NDR						Sn	**Sn**	**18 31 22.0**	**+2.1**
GOBA	**Gobu**		**1.45**	**275**		Pn	**Pn**	**18 31 07.8**	**+1.9**
GOBA						Sn	**Sn**	**18 31 24.5**	**+0.6**
ALIB	**Äli-Bayra**		**2.04**	**262**		Pn	**Pn**	**18 31 14.9**	**+1.1**
ALIB						Sg	**Sn**	**18 31 42.1**	**+4.0**
ATGJ	**Altiaghaj**		**2.13**	**287**		Pn	**Pn**	**18 31 17.6**	**+2.4**
ATGJ						Sn	**Sn**	**18 31 43.2**	**+2.7**
SIZA	**Siyzn** SNR=12		**2.22**	**292**		Pn	**Pn**	**18 31 19.0**	**+2.5**
SIZA						Sn	**Sn**	**18 31 44.9**	**+2.1**
PQL	**Pirkuli**		**2.37**	**283**		P

s-min=12.5km az=82.0
*JMA **19** 18:36:44.7±0.1,23°.76N×142°.35E,h137km±2km,M4.6*
ISC 19 18:36:37.1±0.9,**23°.44N**±0°.07×**143°.2E**±0°.1,**h50km**,**n61**,
σ1§**74**/58,**mb4.1**/16,**Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
JHH2	**Haha-jima-NKT2**	**3.31**	**344**	P		**Pn**	**18 37 30.3**	**+3.8**
JHH2				*e*S		**Sn**	**18 38 05.4**	**+0.8**
CBIJ	**Chichi jima**	**3.75**	**346**	P		**Pn**	**18 37 36.4**	**+3.9**
CBIJ				*e*S		**Sn**	**18 38 16.1**	**+0.6**
JCJ	**Chichijima**	**3.75**	**346**	P		**Pn**	**18 37 36.7**	**+4.1**
	89nm,0.3s,baz=358,slow=20,SNR=48							
JCJ				S		**Sn**	**18 38 17.1**	**+1.6**
	151nm,0.3s,baz=300,slow=23,SNR=13							
JCJ	**Chichijima**	**3.75**	**346**			**Pn**	**18 37 36.2**	**+3.7**
JCJ						**Sn**	**18 38 15.3**	**-0.2**
GUMO	**Guam**	**9.93**	**171**	LR		LR	18 42 07.2	
	comp=Z,28nm,20.2s,baz=20,slow=32							
JHJ2	**Mitsune**	**10.09**	**344**	Pn		**Pn**	**18 39 00.9**	**+1.6**
JHJ	**Hachijo jima 2**	**10.10**	**343**	P		**Pn**	**18 39 00.4**	**+0.9**
	9.7nm,0.3s,baz=222,slow=22,SNR=2.1							
JMZ	**Minamidaito 2**	**11.16**	**285**	Pn		**Pn**	**18 39 15.4**	**+1.3**
BSO1	**Boso 1**	**11.34**	**351**	P		**Pn**	**18 39 17.2**	**+1.3**
BSO1				*e*S		Sn	18 41 11.6	-9.3
BSO3	**Boso 3**	**11.56**	**349**	P		**Pn**	**18 39 19.4**	**+0.2**
JIE	**Ise**	**12.30**	**334**	P		**Pn**	**18 39 29.1**	**-0.5**
JOD2	**Odawara 2**	**12.31**	**344**	P		**Pn**	**18 39 29.8**	**0.0**
HMMJ	**Hamamatsu 2**	**12.34**	**338**	P		**Pn**	**18 39 29.3**	**-0.8**
JAO	**Obara**	**12.87**	**338**	P		**Pn**	**18 39 36.8**	**-0.6**
JYT	**Yasato**	**13.01**	**349**			**Pn**	**18 39 38.1**	**-1.0**
INU	**Inuyama**	**13.03**	**337**			**Pn**	**18 39 39.5**	**0.0**
JRY	**Ryogami san**	**13.08**	**344**	P		**Pn**	**18 39 38.9**	**-1.3**
JGF	**Kuroka**	**13.14**	**339**			**Pn**	**18 39 39.9**	**-1.2**
JHO	**Hitachi**	**13.32**	**351**	*e*S		Sn	18 41 59.7	-10
JAG	**Ashikaga**	**13.34**	**347**	P		**Pn**	**18 39 41.7**	**-2.1**
JWT	**Wachi**	**13.62**	**332**	Pn		**Pn**	**18 39 47.0**	**-0.5**
MJAR	**Matsushiro Arr**	**13.75**	**343**	P		**Pn**	**18 39 47.5**	**-1.9**
	0.3nm,0.3s,baz=166,slow=9.1,SNR=26							
MJAR	**Matsushiro Arr**	**13.75**	**343**			**Pn**	**18 39 47.2**	**-2.2**
MAJO	**Matsushiro**	**13.75**	**343**			**Pn**	**18 39 48.1**	**-1.4**
JHS	**Saijyo**	**14.49**	**325**	P		**Pn**	**18 40 02.8**	**+3.5**
JMM	**Marumori**	**14.53**	**352**			**Pn**	**18 39 59.1**	**-0.6**
JSD	**Sado**	**15.15**	**345**	Pn		**Pn**	**18 40 04.8**	**-3.1**
JSD				IAmb	IAmb		18 40 06.0	
	comp=Z,26nm,0.9s							
JTU	**Tsushima**	**16.35**	**316**	P		**Pn**	**18 40 25.5**	**+2.2**
JTU				IAmb	IAmb		18 40 53.5	
	comp=Z,44nm,1.2s							
JTM	**Tenmabayashi**	**17.39**	**355**			**Pn**	**18 40 36.9**	**+0.8**
JTM				IAmb	IAmb		18 41 06.0	
	comp=Z,70nm,1.3s							
KSRS	**Korea Array**	**19.17**	**320**	P		**P**	**18 40 56.4**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=133,slow=12,SNR=21							
KS19	**Wonju Array Si**	**19.23**	**320**	P		**P**	**18 40 55.9**	**-1.3**
KS19				IAmb	IAmb		18 41 17.8	
	comp=Z,24nm,1.6s							
YULB	**Yu-li**	**20.11**	**274**	P		**P**	**18 41 03.1**	**-3.8**
SSLB	**Suanglung**	**20.40**	**275**	P		**P**	**18 41 07.9**	**-2.1**
SSLB				IAmb	IAmb		18 41 45.2	
	comp=Z,32nm,1.6s							
ASAJ	**Asahikawa**	**20.63**	**359**	P		Pn	18 41 16.6	+1.7
	comp=Z,6.0nm,0.9s,baz=166,slow=8.3,SNR=1.9							
H11N1	**WAKE ISLAND Hy**	**22.32**	**95**	T		T	19 05 50.3	
	baz=282,slow=74,SNR=8.7							
H11N2	**WAKE ISLAND Hy**	**22.32**	**95**	T		T	19 05 52.0	
	baz=282,slow=74,SNR=10.0							
H11N3	**WAKE ISLAND Hy**	**22.34**	**95**	T		T	19 05 41.0	
	baz=282,slow=74,SNR=7.4							
USRK	**Ussuriysk Ar.**	**22.66**	**339**	P		**P**	**18 41 33.8**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=133,slow=7.7,SNR=3.4							
KLR	**Kul'dur**	**27.28**	**343**	P		**P**	**18 42 17.5**	**+0.8**
	comp=Z,1.6nm,0.6s,baz=141,slow=8.7,SNR=7.3							
KNRA	**Kununurra**	**41.37**	**201**	P		**P**	**18 44 18.5**	**0.0**
KNRA				IAmb	IAmb		18 44 18.9	
	comp=Z,25nm,1.5s							
CMAR	**Chiang Mai Arr**	**41.52**	**272**	P		**P**	**18 44 18.4**	**-1.5**
	comp=Z,0.9nm,0.6s,baz=58,slow=7.7,SNR=12							
WB0	**Warramunga Arr**	**43.80**	**192**	P		**P**	**18 44 39.2**	**+1.0**
WB0				IAmb	IAmb		18 44 40.1	
	comp=Z,3.1nm,0.5s							
WR0	**Warramunga Arr**	**43.96**	**192**	P		**P**	**18 44 40.4**	**+0.9**
WB2	**Warramunga Arr**	**43.98**	**192**	P		**P**	**18 44 40.8**	**+1.1**
WB2				IAmb	IAmb		18 44 42.7	
	comp=Z,5.4nm,1.0s							
WRA	**Warramunga Arr**	**43.98**	**192**	P		**P**	**18 44 40.9**	**+1.2**
	comp=Z,2.9nm,0.5s,baz=7.3,slow=8.5,SNR=69							
WRA	**Warramunga Arr**	**43.98**	**192**	P		**P**	**18 44 40.1**	**+0.5**
FITZ	**Fitzroy Crossi**	**44.71**	**204**	P		**P**	**18 44 46.1**	**+0.6**
	comp=Z,1.1nm,0.4s,baz=29,slow=8.1,SNR=17							
ASAR	**Alice Springs**	**47.69**	**192**	P		**P**	**18 45 09.9**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=16,slow=12,SNR=14							
MKAR	**Makanchi Array**	**53.55**	**312**	P		**P**	**18 45 51.0**	**-2.0**
	comp=Z,0.3nm,0.5s,baz=84,slow=9.8,SNR=4.4							
MKAR	**Makanchi Array**	**53.55**	**312**	P		**P**	**18 45 51.8**	**-1.1**
STKA	**Stephens Creek**	**55.03**	**182**	P		**P**	**18 46 05.1**	**+1.4**
	comp=Z,0.9nm,0.5s,baz=347,slow=6.3,SNR=4.0							
STKA				LR		LR	19 09 13.6	
	comp=Z,83nm,18.9s,baz=196,slow=35							
STKA	**Stephens Creek**	**55.03**	**182**	P		**P**	**18 46 04.1**	**+0.5**
FORT	**Forrest**	**55.84**	**196**	P		**P**	**18 46 10.7**	**+1.2**
KURK	**Kurchatov**	**56.23**	**316**	P		**P**	**18 46 10.7**	**-1.4**
KURBB	**Kurchatov Arra**	**56.28**	**316**	P		**P**	**18 46 10.7**	**-1.8**
	comp=Z,0.8nm,0.7s,baz=92,slow=7.7,SNR=12							
BBOO	**Buckleboo**	**56.35**	**187**	P		**P**	**18 46 14.3**	**+1.2**
BOOM	**Boomskoye usch**	**58.08**	**307**	P		**P**	**18 46 24.9**	**-0.7**
ARCES	**ARCESS Array B**	**77.28**	**341**	P		**P**	**18 48 25.8**	**-0.1**
	comp=Z,3.5nm,0.9s,baz=81,slow=6.5,SNR=3.5							
KBZ	**Khabaz**	**81.18**	**314**	P		**P**	**18 48 46.4**	**-1.2**
	comp=Z,4.0nm,0.8s,baz=70,slow=4.4,SNR=8.1							
FINES	**FINESS Array B**	**81.62**	**334**	P		**P**	**18 48 48.8**	**-0.8**
	comp=Z,3.6nm,0.9s,baz=83,slow=6.0,SNR=8.0							
MNTX	**Cornudas Mount**	**94.52**	**53**	P		P	18 49 48.4	-4.2
MNTX				IAmb	IAmb		18 49 49.6	
	comp=Z,2.7nm,0.8s							

*SJA **19** 18:38:34.0,31°.025×73°.56W,h10km,ML4.7*
*IDC **19** 18:38:38.0±0.7,31°.10S×72°.78W,h0km,mb4.2/8,*
mb1 4.3/12,mb1mx4.2/31,mbtmp4.1/12,ML4.0/4,MS3.2/3,
Ms1 3.2/3,ms1mx2.9/20,Error ellipse: s-maj=29.2km
s-min=16.7km az=92.0
*NEIC **19** 18:38:38.0±2.7,31°.07S±0°.05×72°.87W±0°.05,h10km±1km,*
mb4.3/14,ML3.6(GUC),Error ellipse: s-maj=7.7km
s-min=6.9km az=175.0
*GUC **19** 18:38:41.1±0.9,30°.99S×72°.64W,h11km±44km,ML3.7*
ISC 19 18:38:35.7±1.5,**31°.15S**±0°.02×**72°.82W**±0°.05,**h2km**±9km,
n98,σ1§**70**/90,**mb4.4**/8,**5C**,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
CO06	**Fray Jorge**	**1.13**	**65**	⇑*i*P		**Pn**	**18 38 59.1**	**+0.6**
CO06				*e*S		**Sg**	**18 39 11.2**	**-0.6**
CO06				IAML			18 39 14.6	
	comp=E,2μm,0.4s							
CO06	**Fray Jorge**	**1.13**	**65**			**Pn**	**18 38 59.1**	**+0.6**
CO06				Sg		**Sn**	**18 39 13.8**	**-0.7**
CO05	**La Serena**	**1.84**	**48**	*e*P		**Pb**	**18 39 09.6**	**-0.4**
CO05				*i* S		**Sn**	**18 39 31.2**	**-0.8**
CO05				IAML			18 39 35.8	
	comp=E,963nm,0.4s							
CO05	**La Serena**	**1.84**	**48**			**Pn**	**18 39 09.2**	**+1.0**
CO05						**Sn**	**18 39 30.4**	**-1.7**
CO03	**El Pedregal**	**1.86**	**81**	⇑*i*P		**Pb**	**18 39 10.6**	**+0.2**
CO03				*e*S		**Sb**	**18 39 33.6**	**-0.6**
CO03				IAML			18 39 35.5	
	comp=E,1μm,0.4s							
CO03	**El Pedregal**	**1.86**	**81**	Pn		**Pb**	**18 39 10.6**	**+0.2**
CO03				Sn		**Sb**	**18 39 34.1**	**-0.1**
VA06	**Catapilco**	**1.92**	**138**	*i* P		**Pn**	**18 39 11.1**	**+1.7**
VA06				IAML			18 39 39.8	
	comp=E,638nm,0.2s							
VA06	**Catapilco**	**1.92**	**138**	⇑*i*P		**Pn**	**18 39 11.1**	**+1.7**
VA06				*i* S		**Sn**	**18 39 31.9**	**-2.2**
GO04	**Tololo Observa**	**2.00**	**61**	*e*P		**Pn**	**18 39 12.3**	**+1.6**
GO04				*e*S		**Sb**	**18 39 36.9**	**-1.4**
GO04	**Tololo Observa**	**2.00**	**61**			**Pn**	**18 39 12.3**	**+1.6**
GO04	**Tololo Observa**	**2.00**	**61**	*e*P		**Pn**	**18 39 12.3**	**+1.6**
VA01	**Torpederas**	**2.12**	**152**	Pn		**Pn**	**18 39 13.6**	**+1.5**
ROCH	**El Roble**	**2.38**	**140**	*e*P		**Pn**	**18 39 18.0**	**+2.1**
ROCH				IAML			18 39 49.9	
	comp=N,576nm,0.3s							
ROCH	**El Roble**	**2.38**	**140**	*i* P		**Pn**	**18 39 18.1**	**+2.1**
ROCH				*i* S		**Sn**	**18 39 45.7**	**-0.2**
ROCH				IAML			18 39 50.0	
	comp=N,658nm,0.7s							
VA03	**San Esteban**	**2.51**	**130**	*i* P		**Pn**	**18 39 20.3**	**+2.6**
VA03				IAML			18 39 53.5	
	comp=E,640nm,0.5s							
VA03	**San Esteban**	**2.51**	**130**			**Pn**	**18 39 20.4**	**+2.6**
VA03	**San Esteban**	**2.51**	**130**	⇑*i*P		**Pn**	**18 39 20.4**	**+2.6**
VA03				*i* S		**Sn**	**18 39 50.1**	**+1.1**
VA03				IAML			18 39 53.5	
	comp=E,624nm,0.4s							
VA05	**Santo Domingo**	**2.70**	**158**	*e*P		**Pn**	**18 39 21.6**	**+1.4**
VA05				IAML			18 39 54.1	
	comp=E,669nm,0.4s							
VA05	**Santo Domingo**	**2.70**	**158**			**Pn**	**18 39 21.5**	**+1.4**
VA05	**Santo Domingo**	**2.70**	**158**	*e*P		**Pn**	**18 39 21.6**	**+1.4**
VA05				*i* S		**Sn**	**18 39 51.7**	**-1.8**
VA05				IAML			18 39 54.1	
	comp=E,641nm,0.3s							
LCO	**Las Campanas**	**2.81**	**41**	*e*P		**Pn**	**18 39 23.1**	**+1.1**
LCO	**Las Campanas**	**2.81**	**41**	Pn		**Pn**	**18 39 23.6**	**+1.6**
LCO	**Las Campanas**	**2.81**	**41**	*i* P		**Pn**	**18 39 23.0**	**+1.0**
MT05	**Renca**	**2.85**	**142**	*i* P		**Pn**	**18 39 24.6**	**+2.3**
MT05				IAML			18 40 00.9	
	comp=N,306nm,0.2s							
MT05	**Renca**	**2.85**	**142**	Pn		**Pn**	**18 39 24.0**	**+1.7**
MT01	**Popeta**	**3.02**	**154**	*i* P		**Pn**	**18 39 26.1**	**+1.6**
MT01	**Popeta**	**3.02**	**154**	Pn		**Pn**	**18 39 26.1**	**+1.6**
MT09	**Talagante**	**3.04**	**150**	*e*P		**Pn**	**18 39 27.4**	**+2.4**
MT09				IAML			18 40 07.9	
	comp=N,196nm,0.3s							
MT09	**Talagante**	**3.04**	**150**			**Pn**	**18 39 27.1**	**+2.1**
AC04	**Llanos de Chal**	**3.31**	**28**	*e*P		**Pn**	**18 39 28.4**	**-0.1**
AC04	**Llanos de Chal**	**3.31**	**28**	Pn		**Pn**	**18 39 28.1**	**-0.4**
AC04	**Llanos de Chal**	**3.31**	**28**	*i* P		**Pn**	**18 39 29.0**	**+0.5**
BO03	**Pichilemu**	**3.42**	**168**	*e*P		**Pn**	**18 39 31.2**	**+1.2**
BO03	**Pichilemu**	**3.42**	**168**	⇑*i*P		**Pn**	**18 39 31.1**	**+1.2**
BO03				*i* S		**Sn**	**18 40 07.7**	**-3.4**
LMEL	**Las Melosas**	**3.48**	**141**	*i* P		Pn	18 39 34.3	+3.2
LMEL				IAML			18 40 18.3	
	comp=E,240nm,0.2s							
BO01	**Tunca**	**3.55**	**156**	*e*P		**Pn**	**18 39 33.5**	**+1.7**
BO01	**Tunca**	**3.55**	**156**			**Pn**	**18 39 33.5**	**+1.7**
BO01	**Tunca**	**3.55**	**156**	*i* P		Pn	18 39 35.0	+3.2
ZON	**Zonda**	**3.57**	**97**	Pn		**Pb**	**18 39 37.3**	**-2.2**
ASAL	**Salagasta**	**3.69**	**114**	*i* P		**Pb**	**18 39 41.0**	**-0.6**
AAGR	**Agrelo**	**3.90**	**121**	*i* P		**Pb**	**18 39 43.0**	**-2.3**
GO05	**Huala**	**3.92**	**169**	*e*P		**Pn**	**18 39 38.7**	**+1.7**
GO05	**Huala**	**3.92**	**169**	Pn		**Pn**	**18 39 38.0**	**+1.0**
GO05	**Huala**	**3.92**	**169**	*i* P		**Pn**	**18 39 39.0**	**+2.0**
BO02	**Sierra Bellavi**	**4.02**	**155**	*e*P		**Pn**	**18 39 40.9**	**+2.5**
BO02	**Sierra Bellavi**	**4.02**	**155**	Pn		**Pn**	**18 39 40.7**	**+2.4**
AGUA	**GUANDACOL**	**4.10**	**67**	*i* P		**Pb**	**18 39 46.0**	**-2.6**
GO03	**Copiap**	**4.20**	**33**	*e*P		**Pn**	**18 39 42.1**	**+1.2**
GO03	**Copiap**	**4.20**	**33**	Pn		**Pn**	**18 39 41.7**	**+0.8**
GO03	**Copiap**	**4.20**	**33**	*i* P		**Pn**	**18 39 43.0**	**+2.1**
AC06	**Mina Casimiro**	**4.35**	**30**	*e*P		**Pn**	**18 39 43.9**	**+1.0**
AC06	**Mina Casimiro**	**4.35**	**30**	Pn		**Pn**	**18 39 43.6**	**+0.8**
VCA	**Vinchina**	**4.67**	**60**	*i* P		Pn	18 39 53.0	+5.6
ML02	**Panimavida**	**4.75**	**166**	Pn		**Pn**	**18 39 50.8**	**+2.5**
COIS	**El Sosneado**	**4.79**	**146**	*i* P		Pn	18 39 54.0	+5.1
RFA	**San Rafael**	**5.14**	**136**	*i* P		Pn	18 39 58.0	+4.2
ACHE	**Chepes**	**5.28**	**92**	*i* P		Pn	18 40 00.0	+4.2
AC02	**Maricunga**	**5.38**	**38**	*e*P		**Pn**	**18 39 59.6**	**+2.2**
AC02	**Maricunga**	**5.38**	**38**	Pn		**Pn**	**18 39 59.3**	**+1.8**
AC02	**Maricunga**	**5.38**	**38**	*i* P		**Pn**	**18 40 00.0**	**+2.6**
H03N1	**Juan Fernandez**	**5.64**	**245**	T		T	18 45 43.4	
	baz=70,slow=71,SNR=8.7							
H03N3	**Juan Fernandez**	**5.65**	**244**	T		T	18 45 48.0	
	baz=70,slow=71							
H03N2	**Juan Fernandez**	**5.66**	**245**	T		T	18 45 43.4	
	baz=70,slow=71,SNR=12							
VA04	**Juan Fernndez**	**5.66**	**242**	Pn		**Pn**	**18 39 60.0**	**-0.8**
PB14	**IPOC Station P**	**6.84**	**19**	Pn		**Pn**	**18 40 15.3**	**-2.1**
LC01	**Cunco**	**7.77**	**175**			**Pn**	**18 40 30.4**	**+0.6**
LVC	**Limon Verde**	**9.19**	**23**	Pn		**Pn**	**18 40 50.3**	**+0.6**
	comp=E,0.2nm,0.3s,baz=206,slow=15,SNR=1.3							
LVC				LR		LR	18 44 08.4	
	comp=E,64nm,18.7s,baz=216,slow=36							
LVC	**Limon Verde**	**9.19**	**23**	Pn		**Pn**	**18 40 47.8**	**-1.9**
PLCA	**Paso Flores**	**9.74**	**170**	Pn		**Pn**	**18 40 58.5**	**+1.6**
	comp=E,0.8nm,0.3s,baz=340,slow=14,SNR=12							
PLCA				LR		LR	18 44 37.1	
	comp=E,87nm,18.8s,baz=340,slow=37							
PB07	**IPOC Station P**	**9.75**	**16**	Pn		**Pn**	**18 40 56.3**	**-0.9**
TRQA	**Tornquist**	**11.28**	**131**	Pn		**Pn**	**18 41 20.1**	**+2.2**
CPUP	**Villa Florida**	**14.41**	**74**	LR		LR	18 48 05.9	
	comp=E,210nm,18.2s,baz=240,slow=40							
LPAZ	**La Paz**	**15.40**	**17**	Pn		**P**	**18 42 18.0**	**-1.5**
	comp=E,0.2nm,0.3s,baz=187,slow=7.7,SNR=24							
LPAZ	**La Paz**	**15.40**	**17**	P		**P**	**18 42 18.2**	**-1.4**
LPAZ				IAmb	IAmb		18 42 19.0	
	comp=Z,6.0nm,0.8s							
SIV	**San Ignacio**	**18.52**	**38**	P		**Pn**	**18 42 55.4**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=230,slow=10,SNR=25							
AQDB	**Aquidauana**	**18.70**	**59**			**P**	**18 42 54.8**	**-0.6**
TRCB	**Terra Rica**	**19.80**	**70**	P		**Pn**	**18 43 09.2**	**+0.2**
TRCB				IAmb	IAmb		18 43 20.1	
	comp=Z,23nm,0.9s							
SAML	**Samuel**	**23.85**	**24**	P		**P**	**18 43 50.6**	**+0.2**
BDFB	**Brasilia**	**27.42**	**61**	P		**P**	**18 44 26.1**	**+3.1**
	comp=Z,3.9nm,0.8s,baz=204,slow=8.7,SNR=5.6							
BDFB	**Brasilia**	**27.42**	**61**	P		**P**	**18 44 23.1**	**+0.1**
BDFB				IAmb	IAmb		18 44 39.2	
	comp=Z,9.1nm,0.9s							
VNA3	**Neumayer Olymp**	**52.24**	**159**	P		P	18 47 51.9	+4.0
VNA1	**Neumayer--Stat**	**52.55**	**158**	P		P	18 47 54.9	+4.8
VNA2	**Neumayer--Watz**	**52.89**	**158**	P		P	18 47 56.7	+4.0
	baz=285,slow=8.1							
SNAA	**Sanae**	**54.47**	**159**	P		P	18 48 08.3	+3.9
SNAA	**Sanae**	**54.47**	**159**	P		P	18 48 07.7	+3.4
	comp=Z,3.4nm,0.8s,baz=290,slow=5.0,SNR=16							
SNAA	**Sanae**	**54.47**	**159**	P		P	18 48 08.1	+3.8
QSPA	**South Pole Qui**	**59.08**	**180**	P		P	18 48 40.8	+3.6
	comp=Z,3.2nm,0.7s,baz=118,slow=1.2,SNR=24							
QSPA	**South Pole Qui**	**59.08**	**180**	P		P	18 48 40.5	+3.3
QSPA				IAmb	IAmb		18 48 43.1	
	comp=Z,5.5nm,1.0s							
TXAR	**Lajitas Array**	**66.93**	**331**	P		**P**	**18 49 32.5**	**+2.7**
	comp=Z,2.0nm,0.8s,baz=153,slow=7.9,SNR=18							
MAW	**Mawson**	**76.09**	**164**	P		P	18 50 27.7	+3.2
	comp=Z,1.5nm,0.7s,baz=76,slow=3.9,SNR=3.8							
NVAR	**Mina Array Bea**	**81.17**	**325**	P		P	18 50 56.9	+3.9
	comp=Z,0.2nm,0.5s,baz=153,slow=6.1,SNR=1.9							
TORD	**Torodi Ar. Bea**	**83.88**	**71**	P		**P**	**18 51 09.6**	**+2.2**
	comp=Z,0.7nm,0.6s,baz=279,slow=6.2,SNR=7.0							
TORD	**Torodi Ar. Bea**	**83.88**	**71**	IAmb		IAmb	18 51 23.8	
	comp=Z,2.8nm,1.2s							
LBTB	**Lobatse**	**84.11**	**116**	P		**P**	**18 51 11.0**	**+2.2**
	comp=Z,4.4nm,1.1s,baz=217,slow=10,SNR=2.9							
ASAR	**Alice Springs**	**119.78**	**208**	PKP		**PKPdf**	**18 57 29.6**	**+1.5**
	comp=Z,0.2nm,0.8s,baz=119,slow=1.6,SNR=2.0							
WRA	**Warramunga Arr**	**122.89**	**211**	PKP		**PKPdf**	**18 57 35.7**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=138,slow=1.1,SNR=5.8							
ZALV	**Zalesovo Beam**	**152.11**	**29**	PKPbc		**PKiKP**	**18 58 34.7**	**+2.2**
	comp=Z,3.8nm,0.6s,baz=304,slow=3.7,SNR=16							
ZALV				PKPab		**PKPab**	**18 58 41.8**	**0.0**
	comp=Z,4.4nm,0.5s,baz=301,slow=2.5,SNR=11							
ZALV	**Zalesovo Beam**	**152.11**	**29**			**PKiKP**	**18 58 34.2**	**+1.6**

*IDC **19** 18:52:48.4±1.6,31°.09S×71°.28W,h0km,mb3.6/2,*
mb1 3.7/3,mb1mx3.5/19,mbtmp3.4/3,ML3.3/1,MS3.4/1,
Ms1 3.4/1,ms1mx2.6/23,Error ellipse: s-maj=63.6km
s-min=40.5km az=72.0
*GUC **19** 18:52:53.4±0.9,31°.16S×71°.55W,h38km±10km,ML4.0*
*NEIC **19** 18:52:53.4±1.8,31°.20S±0°.04×71°.74W±0°.08,h40km±39km,*
ML4.0(GUC),Error ellipse: s-maj=10.3km s-min=6.2km
az=92.0
ISC 19 18:52:53.6±0.9,**31°.19S**±0°.03×**71°.72W**±0°.07,**h40**km±7km,
n69,σ1§**04**/75,**3C**-**3D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
CO06	**Fray Jorge**	**0.52**	**8**	⇓*i*P		**Pn**	**18 53 04.5**	**-0.1**
CO06				*i* S		**Sn**	**18 53 12.4**	**0.0**
CO06				IAML			18 53 15.5	
	comp=N,9μm,0.4s							
CO06	**Fray Jorge**	**0.52**	**8**			**Pn**	**18 53 04.5**	**-0.1**
CO06						**Sn**	**18 53 12.4**	**0.0**
CO03	**El Pedregal**	**0.95**	**69**	⇓*i*P		**Pn**	**18 53 09.8**	**-0.8**
CO03				*i* S		**Sn**	**18 53 21.6**	**-1.4**
CO03				IAML			18 53 22.9	
	comp=N,11μm,0.3s							
CO03	**El Pedregal**	**0.95**	**69**	Pn		**Pn**	**18 53 09.7**	**-0.9**
CO03				Sn		**Sn**	**18 53 21.5**	**-1.5**
GO04	**Tololo Observa**	**1.29**	**38**	⇓*i*P		**Pn**	**18 53 15.3**	**0.0**
GO04				*i* S		**Sn**	**18 53 32.2**	**+0.7**
GO04				IAML			18 53 34.1	
	comp=N,8μm,0.4s							
GO04	**Tololo Observa**	**1.29**	**38**			**Pn**	**18 53 15.3**	**0.0**
GO04						**Sn**	**18 53 31.8**	**+0.3**
CO05	**La Serena**	**1.33**	**18**	⇑*i*P		**Pn**	**18 53 16.6**	**+0.9**
CO05				*i* S		**Sn**	**18 53 33.8**	**+1.6**
CO05	**La Serena**	**1.33**	**18**			**Pn**	**18 53 16.4**	**+0.7**
VA06	**Catapilco**	**1.41**	**165**	*e*P		**Pn**	**18 53 16.5**	**-0.3**
VA06				*i* S		**Sn**	**18 53 34.6**	**+0.4**
VA06				IAML			18 53 38.8	
	comp=E,5μm,0.4s							
VA01	**Torpederas**	**1.83**	**178**	IAML			18 53 51.7	
	comp=E,630nm,0.6s							
VA01	**Torpederas**	**1.83**	**178**	Pn		**Pn**	**18 53 22.0**	**-0.5**
VA03	**San Esteban**	**1.86**	**148**	*e*P		**Pn**	**18 53 23.4**	**+0.4**
VA03				*i* S		**Sn**	**18 53 46.4**	**+1.1**
VA03				IAML			18 53 48.9	
	comp=E,3μm,0.3s							
VA03	**San Esteban**	**1.86**	**148**			**Pn**	**18 53 22.8**	**-0.2**
VA03						**Sn**	**18 53 46.0**	**+0.7**
LCO	**Las Campanas**	**2.34**	**22**	⇑*i*P		**Pn**	**18 53 30.6**	**+0.7**
LCO				*e*S		**Sn**	**18 53 60.0**	**+2.4**
LCO	**Las Campanas**	**2.34**	**22**	Pn		**Pn**	**18 53 30.5**	**+0.6**
MT05	**Renca**	**2.35**	**159**	*e*P		**Pn**	**18 53 30.4**	**+0.7**
MT05	**Renca**	**2.35**	**159**	Pn		**Pn**	**18 53 30.1**	**+0.3**
VA05	**Santo Domingo**	**2.46**	**178**	IAML			18 54 09.3	
	comp=E,1μm,0.4s							
VA05	**Santo Domingo**	**2.46**	**178**			**Pn**	**18 53 30.6**	**-0.6**
ZON	**Zonda**	**2.63**	**99**			**Pn**	**18 53 36.1**	**+2.5**
MT09	**Talagante**	**2.65**	**167**	⇑*i*P		**Pn**	**18 53 34.5**	**+0.5**
MT09				IAML			18 54 17.4	
	comp=E,857nm,0.3s							
MT09	**Talagante**	**2.65**	**167**			**Pn**	**18 53 34.4**	**+0.5**
MT01	**Popeta**	**2.70**	**172**	*e*P		**Pn**	**18 53 34.5**	**+0.1**
MT01				IAML			18 54 16.8	
	comp=E,502nm,0.4s							
MT01	**Popeta**	**2.70**	**172**	Pn		**Pn**	**18 53 34.1**	**-0.3**
LMEL	**Las Melosas**	**2

AC06	Mina Casimiro	3.65	26	Pn		Pn	19 07 05.9	-1.0
BO02	Sierra Bellavi	4.26	165	Pn		Pn	19 07 17.9	+2.4
H03N1	Juan Fernandez baz=68	6.39	243	T		T	19 14 23.4	
H03N2	Juan Fernandez baz=68	6.40	243	T		T	19 14 22.4	
H03N3	Juan Fernandez baz=68	6.40	243	T		T	19 14 22.7	
H03S3	Juan Fernandez baz=74	6.55	240	Pn		Pn	19 07 43.5	-3.0
H03S1	Juan Fernandez baz=74	6.56	239	Pn		Pn	19 07 42.6	-4.1
H03S2	Juan Fernandez baz=74	6.57	239	Pn		Pn	19 07 43.5	-3.3
LVC	Limon Verde 0.9nm,0.3s,baz=207,slow=11,SNR=2.2	8.53	20	Pn		Pn	19 08 13.1	-1.2
LVC	0.7nm,0.3s,baz=67,slow=21,SNR=3.4			Sn		Sn	19 09 50.6	+0.3
PLCA	Paso Flores 0.3nm,0.3s,baz=340,slow=11,SNR=3.4	10.12	173	Pn		Pn	19 08 35.9	0.0
LPAZ	La Paz 0.1nm,0.3s,baz=198,slow=14,SNR=1.8	14.77	15	Pn		Pn	19 09 40.1	+0.1
SIV	San Ignacio 0.6nm,0.3s,baz=222,slow=11,SNR=9.6	17.77	37	P		P	19 10 17.1	-1.6
BDFB	Brasilia 2.1nm,0.4s,baz=240,slow=8.1,SNR=2.8	26.66	61	P		P	19 11 49.4	-0.1
BDFB	comp=Z,9.6nm,1.4s	26.66	61	P		IAmb	19 11 49.5	-0.1
BDFB				IAmb		IAmb	19 11 52.6	
CRPR	Cabo Rojo, PR	48.63	6	P		P	19 14 54.3	0.0
SNAA	Sanae comp=Z,0.9nm,0.5s,baz=303,slow=9.7,SNR=4.0	54.70	159	P		P	19 15 40.2	+1.0
SNAA	Sanae comp=Z,9.2nm,1.4s	54.70	159	P		P	19 15 40.4	+1.2
SNAA				IAmb		IAmb	19 15 41.4	
QSPA	South Pole Qui comp=Z,6.6nm,1.4s	59.56	180	P		P	19 16 15.3	+1.6
QSPA				IAmb		IAmb	19 16 28.1	
TX31	Lajitas Ar. Si	66.81	330	P		P	19 17 03.0	+0.9
TXAR	Lajitas Array comp=Z,0.4nm,0.6s,baz=155,slow=8.5,SNR=4.8	66.81	330	P		P	19 17 02.4	+0.3
TXAR	Lajitas Array	66.81	330	P		P	19 17 03.0	+0.9
MAW	Mawson comp=Z,1.3nm,0.7s,baz=288,slow=6.4,SNR=1.9	76.39	164	P		P	19 18 00.0	+0.8
KOWA	Kowa comp=Z,4.0nm,1.1s	79.34	66	P		P	19 18 17.3	+0.8
KOWA				IAmb		IAmb	19 18 19.8	
PDAR	Pinedale Array comp=Z,0.2nm,0.5s,baz=127,slow=5.8,SNR=1.9	80.77	333	P		P	19 18 24.4	+0.5
TORD	Torodi Ar. Bea comp=Z,1.5nm,0.7s,baz=266,slow=4.6,SNR=7.0	83.16	70	P		P	19 18 36.9	+0.1
TORD	Torodi Ar. Bea	83.16	70	P		P	19 18 37.2	+0.4
H11S2	WAKE ISLAND Hyl baz=115	25.68	272	T		T	21 43 30.3	
H11S1	WAKE ISLAND Hyl baz=115	25.69	272	T		T	21 43 39.3	
H11S3	WAKE ISLAND Hyl baz=115	25.69	272	T		T	21 43 38.6	
BVAR	Borovoye Array comp=Z,1.2nm,0.6s,baz=240,slow=41,SNR=3.4	144.83	40	PKP		PKPdf	19 25 45.8	-1.1
KURBB	Kurchatov Arra comp=Z,1.1nm,0.6s,baz=306,slow=3.1,SNR=9.6	150.42	39	PKPbc		PKiKP	19 26 02.0	-0.2
ZALV	Zalesovo Beam comp=Z,5.7nm,0.7s,baz=301,slow=3.2,SNR=12	151.40	29	PKPbc		PKiKP	19 26 04.3	+0.1

MEX 19 19:06:39.1±0.4, 16°08N×98°12W, h4km±6km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.31	359	*i* P		Pg	19 06 44.7	-0.4
PNIG				*i* S		Sg	19 06 49.4	+0.1
PEIG	Puerto Escondi	0.94	95	*i* P		Pg	19 06 53.2	-3.9
TXIG	Tlaxiaco	1.21	16	*i* P		Pg	19 06 59.3	-3.1
TXIG				*i* S		Sg	19 07 14.7	-3.6
MGIG	Malinaltepec	1.25	337	*i* P		Pg	19 06 59.7	-3.3
MGIG				*i* S		Sg	19 07 16.8	-2.5

IDC ***19*** *19:09:00.6±0.5, 32°.28S×71°.79W, h0km, mb4.4/12, mb1 4.5/16, mb1mx4.4/28, mbtmp4.3/16, ML4.3/4, MS3.9/13, Ms1 3.9/13, ms1mx3.7/24, Error ellipse: s-maj=20.0km s-min=15.5km az=96.0*

NEIC ***19*** *19:09:01.4, 32°.30S×71°.97W, h22km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}5.47; $M_{\theta\theta}$0.19; $M_{\phi\phi}$-5.67; $M_{r\theta}$0.35; $M_{\theta\phi}$0.77; $M_{\phi r}$-2.07; Fault plane solution: M_o6.00000×10^{15} NP1:ϕ_s171.80000°, δ55.24000°, λ88.99000°. NP2:ϕ_s353.56000°, δ34.77000°, λ91.45000°. Principal axes: T 5.8519, Plg80.0000°, Azm78.0000°; N 0.2920, Plg1.0000°, Azm172.0000°; P -6.1439, Plg10.0000°, Azm263.0000°;*

NEIC ***19*** *19:09:03.4±1.6, 32°.31S±0°.03×71°.96W±0°.06, h14km±3km, mb4.8/41, Mwr4.5/42, ML4.6(GUC) Error ellipse: s-maj=7.2km s-min=4.0km az=90.0*

SJA ***19*** *19:09:03.0, 32°.28S×72°.20W, h10km, ML4.7*

GUC ***19*** *19:09:04.4±0.8, 32°.35S×71°.80W, h36km±3km, ML4.6*

ISC 19 19:09:02.2±1.2, 32°27S±0°.02×72°02W±0°.03, h13km±7km, n186, σ1s70/203, mb4.8/23, MS4.0/12, 2C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VA06	Catapilco	0.68	115	⇓*i* P		Pg	19 09 14.9	-0.4
VA06				*i* S		Sg	19 09 22.8	-1.4
VA06	comp=E,103μm,0.4s			IAML			19 09 27.3	
VA01	Torpederas	0.81	157	*e*P		Pb	19 09 18.2	+0.1
VA01				*i* S		Sg	19 09 28.4	-0.1
VA01	comp=E,14μm,0.1s			IAML			19 09 31.6	
VA01	Torpederas	0.81	157			Pb	19 09 18.1	-0.1
VA01				Sn		Sb	19 09 28.9	-0.1
VA01	Torpederas	0.81	157	*i* P		Pb	19 09 18.0	-0.1
ROCH	El Roble	1.10	130	⇓*i* P		Pb	19 09 22.1	-1.1
ROCH				*i* S		Sb	19 09 35.9	-1.6
ROCH	comp=N,41μm,0.5s			IAML			19 09 41.7	
VA03	San Esteban	1.33	112	⇓*i* P		Pn	19 09 25.3	-1.3
VA03				*i* S		Sb	19 09 41.8	-2.4
VA03	comp=N,59μm,0.3s			IAML			19 09 45.3	
VA03	San Esteban	1.33	112			Pn	19 09 25.2	-1.4
VA03				Sn		Sb	19 09 42.1	-2.1
VA03	San Esteban	1.33	112	*i* P		Pn	19 09 25.0	-1.6
VA05	Santo Domingo	1.42	166	*e*P		Pn	19 09 27.7	0.0
VA05				*i* S		Sn	19 09 46.2	-0.1
VA05	comp=E,28μm,0.7s			IAML			19 09 52.7	
VA05	Santo Domingo	1.42	166			Pn	19 09 28.0	+0.3
MT05	Renca	1.55	136	⇓*i* P		Pn	19 09 29.5	-0.1
MT05				*i* S		Sn	19 09 49.3	-0.3
MT05	comp=E,35μm,0.4s			IAML			19 09 52.8	
MT05	Renca	1.55	136			Pn	19 09 29.5	-0.1
MT05				Sn		Sb	19 09 49.9	-0.5
MT05	Renca	1.55	136	*i* P		Pn	19 09 30.0	+0.4
CO06	Fray Jorge	1.63	12	⇑*i* P		Pn	19 09 30.4	-0.2
CO06				*e*S		Sb	19 09 53.2	+0.7
CO06	comp=N,4μm,0.6s			IAML			19 09 57.9	
CO06	Fray Jorge	1.63	12			Pn	19 09 30.3	-0.2
CO06	Fray Jorge	1.63	12	*e*P			19 12 23.5	
CO06				*e*S			19 12 31.6	
MT01	Popeta	1.71	158	*e*P		Pn	19 09 32.1	+0.4
MT01				*i* S		Sn	19 09 52.7	-0.8
MT01	comp=E,11μm,0.4s			IAML			19 09 59.8	
MT01	Popeta	1.71	158			Pn	19 09 32.0	+0.3
MT01	Popeta	1.71	158	*i* P		Pn	19 09 32.0	+0.3
MT09	Talagante	1.73	150	⇓*i* P		Pn	19 09 32.8	+0.6
MT09				*i* S		Sn	19 09 53.7	-0.4
MT09	comp=E,14μm,0.5s			IAML			19 10 00.4	
MT09	Talagante	1.73	150			Pn	19 09 32.5	+0.4
CO03	El Pedregal	1.83	39	*e*P		Pn	19 09 33.9	+0.6
CO03				*e*S		Sn	19 09 57.0	+0.6
CO03	comp=N,8μm,0.6s			IAML			19 10 06.4	
CO03	El Pedregal	1.83	39			Pn	19 09 33.9	+0.6
CO03	El Pedregal	1.83	39	*i* P		Pn	19 09 34.0	+0.6
LMEL	Las Melosas	2.19	136	*e*P		Pn	19 09 39.2	+0.8
LMEL				*e*S		Sn	19 10 05.7	+0.2
LMEL	comp=N,8μm,0.3s			IAML			19 10 14.3	
BO03	Pichilemu	2.22	179	*e*P		Pn	19 09 38.8	+0.1
AUSP	Uspallata	2.23	89	*i* P		Pb	19 09 41.0	-1.5
BO01	Tunca	2.25	160	*e*P		Pn	19 09 39.9	+0.7
BO01				*e*S		Sn	19 10 06.5	-0.4
BO01	Tunca	2.25	160			Pn	19 09 39.7	+0.6
BO01	Tunca	2.25	160	*i* P		Pn	19 09 40.0	+0.8
GO04	Tololo Observa	2.34	27	*e*P		Pb	19 09 43.5	-0.9
GO04	Tololo Observa	2.34	27			Pn	19 09 41.3	+0.8
GO04	Tololo Observa	2.34	27	*i* P		Pb	19 09 44.0	-0.3
RTLS	Leoncito	2.36	79	*i* P		Pb	19 09 44.0	-0.7
CO05	La Serena	2.44	16	*e*P		Pn	19 09 42.1	+0.4
CO05				*e*S		Sb	19 10 16.0	+0.1
CO05	comp=E,4μm,0.4s			IAML			19 10 24.4	
CO05	La Serena	2.44	16			Pn	19 09 42.7	+1.0
ARCO	CERRO ARCO	2.67	103	*i* P		Pb	19 09 49.0	-0.9
ASAL	Salagasta	2.71	98	*i* P		Pb	19 09 51.0	+0.4
BO02	Sierra Bellavi	2.72	158	*e*P		Pn	19 09 46.5	+0.9
BO02				*e*S		Sn	19 10 19.0	+0.6
BO02	Sierra Bellavi	2.72	158			Pn	19 09 46.4	+0.8
BO02	Sierra Bellavi	2.72	158	*i* P		Pn	19 09 47.0	+1.4
GO05	Huala	2.73	178	⇑*i* P		Pn	19 09 45.8	0.0
GO05	comp=E,2μm,0.6s			IAML			19 10 50.5	
GO05	Huala	2.73	178			Pn	19 09 45.6	-0.1
GO05	Huala	2.73	178	*i* P		Pn	19 09 46.0	+0.2
AAGR	Agrelo	2.81	108	*i* P		Pb	19 09 51.0	-1.3
ZON	Zonda	2.93	77			Pn	19 09 50.7	+2.1
ZON	Zonda	2.93	77	*i* P		Pb	19 09 52.0	-2.3
RTCV	Cerro Valdivia	2.98	83	*i* P		Pb	19 09 52.0	-3.2
ACCO	Cerro Coronel	3.03	57	*i* P		Pb	19 09 54.0	-2.2
ACDV	Cuesta del Vie	3.25	51	*i* P		Pb	19 09 57.0	-2.8
LCO	Las Campanas	3.44	20	*i* P		Pn	19 09 55.7	0.0
LCO				*e*S		Sn	19 10 38.1	+1.5
LCO	Las Campanas	3.44	20		Pn	Pn	19 09 57.0	+1.2
COIS	El Sosneado	3.48	145	*i* P		Pn	19 09 59.0	+3.0
ML02	Panimavida	3.52	172	*e*P		Pn	19 09 57.4	+0.9
ML02	Panimavida	3.52	172			Pn	19 09 56.7	+0.1
LAMA	Las Malvinas	3.54	139	*i* P		Pn	19 10 00.0	+3.1
RFA	San Rafael	3.88	131	*i* P		Pb	19 10 06.0	-4.4
AGUA	GUANDACOL	4.11	48	*i* P		Pb	19 10 09.0	+4.2
AC04	Llanos de Chal	4.14	12	*e*P		Pn	19 10 04.8	-0.3
AC04	Llanos de Chal	4.14	12	Pn		Pn	19 10 04.8	-0.3
AC04	Llanos de Chal	4.14	12	*i* P		Pn	19 10 06.0	+0.9
AVFE	Valle Fertil	4.22	69	*i* P		Pn	19 10 09.0	+2.8
ACHE	Chepes	4.70	78	*i* P		Pn	19 10 15.0	+2.1
GO03	Copiap	4.91	19	*e*P		Pn	19 10 15.7	-0.1
GO03	Copiap	4.91	19	Pn		Pn	19 10 16.0	+0.2
GO03	Copiap	4.91	19	*i* P		Pn	19 10 17.0	+1.2
AC06	Mina Casimiro	5.11	17	*e*P		Pn	19 10 18.0	-0.5
AC06	Mina Casimiro	5.11	17	Pn		Pn	19 10 17.7	-0.7
VA04	Juan Fernndez	5.88	255	Pn		Pn	19 10 30.5	+1.5
H03N1	Juan Fernandez baz=261	5.92	257	Pn		Pn	19 10 31.7	+2.4
H03N1	baz=86			Sn		Sn	19 11 35.6	-1.2
H03N1	baz=87,slow=73,SNR=443			T		T	19 17 07.4	
H03N3	Juan Fernandez baz=82	5.93	257	Pn		Pn	19 10 31.9	+2.5
H03N3	baz=86			Sn		Sn	19 11 34.5	-2.6
H03N3	baz=87,slow=73,SNR=585			T		T	19 17 02.3	
H03N2	Juan Fernandez baz=261	5.93	257	Pn		Pn	19 10 31.8	+2.3
H03N2	baz=86			Sn		Sn	19 11 35.8	-1.3
H03N2	baz=87,slow=73,SNR=520			T		T	19 17 08.3	
AC02	Maricunga	5.97	26	Pn		Pn	19 10 31.1	+0.3
AC02	Maricunga	5.97	26	*i* P		Pn	19 10 32.0	+1.2
H03S3	Juan Fernandez baz=261,slow=76	5.99	253	Pn		Pn	19 10 31.3	+1.1
H03S3	baz=86			Sn		Sn	19 11 35.7	-2.8
H03S3	baz=83,slow=75,SNR=80			T		T	19 17 01.2	
H03S1	Juan Fernandez baz=82,slow=76	5.99	253	Pn		Pn	19 10 32.0	+1.7
H03S1	baz=86			Sn		Sn	19 11 32.9	-5.7
H03S1	baz=83,slow=75,SNR=79			T		T	19 16 60.0	
H03S2	Juan Fernandez baz=82,slow=76	6.00	253	Pn		Pn	19 10 31.8	+1.3
H03S2	baz=86			Sn		Sn	19 11 35.2	-3.7
H03S2	baz=83,slow=75,SNR=78			T		T	19 17 08.1	
CYA	Choya	6.59	56	*i* P		Pn	19 10 40.0	+1.2
LC01	Cunco	6.61	179	Pn		Pn	19 10 39.3	+0.3
LC01	Cunco	6.61	179	*i* P		Pn	19 10 40.0	+0.9
LR03	Panguipulli	7.35	182	Pn		Pn	19 10 50.0	+0.9
AHML	Horco Molle	7.99	48	*i* P		Pn	19 10 59.0	+1.0
FSA	Cafayete	8.10	42	*i* P		Pn	19 11 03.0	+3.4
PLCA	Paso Flores comp=E,1.0nm,0.3s,baz=334,slow=12,SNR=14	8.53	172	Pn		Pn	19 11 04.7	-0.7
PLCA				Lg		Lg	19 13 24.9	
PLCA	comp=E,0.2nm,0.3s,baz=272,slow=24,SNR=2.4			LR		LR	19 14 28.4	
PLCA	comp=E,603nm,18.1s,baz=348,slow=39	8.53	172			Pn	19 11 06.3	+0.9
PLCA	Paso Flores	8.53	172	*i* P		Pn	19 11 09.0	+3.6
LL04	Puerto Octay	8.63	182	Pn		Pn	19 11 07.1	+0.4
LVC	Limon Verde baz=243,slow=11,SNR=1.2	10.01	17	Pn		Pn	19 11 22.7	-3.4
LVC	comp=E,1.6nm,0.3s,baz=208,slow=10,SNR=1.9			Sn		Sn	19 13 20.9	+2.4
LVC	comp=E,863nm,18.6s,baz=214,slow=39			LR		LR	19 15 30.4	
TRQA	Tornquist	10.04	128			Pn	19 11 26.9	+0.8
LPA	La Plata	12.04	106	*e*P		Pn	19 11 45.3	-8.1
LPA				pPP			19 12 04.7	
LPA				PP		PbPb	19 12 28.8	-3.8
LPA				PPP		PPP	19 12 49.0	
LPA				S		Sn	19 14 02.5	-5.0
LPA				sS			19 14 14.0	
LPA				SSS		SSS	19 14 33.4	
LPA				SS		SgSg	19 15 12.0	+8.2
LPA				PCP		PcP	19 17 34.6	-4.0
LPA				SCS		ScS	19 24 40.9	-6.2
LPA				PKIKP		PKiKP	19 25 31.7	-4.8
LPA				SKIKP			19 29 02.4	
LPA				PKIKS			19 29 07.5	
LPA				SKIKS			19 32 35.3	
ITQB	Itaqui	13.46	83	Pn		Pn	19 12 12.0	-0.9
CPUP	Villa Florida comp=E,0.3nm,0.3s,baz=174,slow=17,SNR=2.4	14.11	69	Pn		Pn	19 12 19.2	-2.6
CPUP				Sn		Sn	19 14 55.5	-2.9
CPUP	comp=E,0.2nm,0.3s,baz=242,slow=16,SNR=1.4			LR		LR	19 18 00.5	
CPUP	comp=E,584nm,20.3s,baz=250,slow=39	14.11	69			Pn	19 12 22.3	+0.5
CPUP	Villa Florida	15.63	93	Pn		Pn	19 12 43.4	+1.2
PLTB	Pedras Altas	16.30	13	Pn		Pn	19 12 52.0	+0.5
LPAZ	La Paz comp=E,0.6nm,0.3s,baz=187,slow=4.3,SNR=36	16.30	13			Pn	19 12 51.8	+0.3
LPAZ	La Paz	16.30	13			Pn	19 13 20.3	-0.4
AQDB	Aquidauana	18.73	55	P		P	19 13 23.5	-0.4
SIV	San Ignacio comp=E,0.3nm,0.3s,baz=252,slow=13,SNR=9.7	19.02	34	P		P	19 13 23.5	-0.4
SIV	comp=E,543nm,18.4s,baz=209,slow=41			LR		LR	19 21 59.4	
SIV	San Ignacio	19.02	34	P		P	19 13 23.5	-0.4
TRCB	Terra Rica	19.59	66	P		P	19 13 29.6	-0.5
TRCB	comp=Z,32nm,0.5s			IAmb		IAmb	19 13 53.6	
NNA	Nana comp=Z,3.9nm,0.3s,baz=158,slow=16,SNR=1.8	20.67	347	P		Pn	19 13 43.8	-0.4
NNA	comp=Z,138nm,18.6s,baz=170,slow=33			LR		LR	19 20 20.4	
NNA	Nana	20.67	347	P		Pn	19 13 43.8	-0.4
NNA	Nana comp=Z,44nm,1.5s	20.67	347	IAmb		IAmb	19 13 50.7	
EFI	East Falkland	21.92	156	P		P	19 13 54.8	-0.2
SAML	Samuel	24.61	21	P		P	19 14 21.9	-0.4
BDFB	Brasilia comp=Z,14nm,0.7s,baz=232,slow=8.4,SNR=20	27.38	58	P		P	19 14 46.2	-1.3
BDFB	comp=Z,670nm,19.3s,baz=241,slow=40			LR		LR	19 27 08.5	
BDFB	Brasilia comp=Z,17nm,0.7s	27.38	58	P		P	19 14 46.5	-1.1
BDFB				IAmb		IAmb	19 14 47.4	
PMSA	Palmer Station	32.90	174	P		P	19 15 37.3	+1.7
HOPE	Hope Point	33.42	142	P		P	19 15 40.8	+0.5
RUSC	La Rusia	37.97	358	P		P	19 16 21.1	+0.8
MDP	Montagnes des comp=Z,9.5nm,0.6s,baz=205,slow=8.4,SNR=7.3	41.49	30	P		P	19 16 47.8	-1.3
MDP	Montagnes des	41.49	30	P		P	19 16 47.8	-1.3
SJCC	San Jacinto, C	42.04	355	P		P	19 16 55.6	+2.0
SJCC	comp=Z,16nm,1.3s			IAmb		IAmb	19 17 04.3	
ORTG	Ortega, Santa comp=Z,14nm,1.4s	44.30	341	P		P	19 17 14.3	+2.4
ORTG				IAmb		IAmb	19 17 22.3	
TOSP	Speyside	44.70	16	P		P	19 17 15.6	+0.6
MLPR	Magueyes Islan	50.18	6	P		P	19 17 57.8	+0.1
VNA3	Neumayer Olymp	50.95	158	P		P	19 18 03.8	+0.8
VNA1	Neumayer--Stat	51.26	157	P		P	19 18 05.6	+0.4
VNA2	Neumayer--Watz baz=282,slow=8.2	51.60	158	P		P	19 18 08.2	+0.4
SNAA	Sanae	53.18	158	P		P	19 18 20.3	+0.8
SNAA	Sanae comp=Z,5.6nm,0.6s,baz=271,slow=8.3,SNR=53	53.18	158	P		P	19 18 20.0	+0.4
SNAA	Sanae	53.18	158	P		P	19 18 20.0	+0.4
SNAA	comp=Z,22nm,1.4s			IAmb		IAmb	19 18 21.6	
RKT	Rikitea comp=Z,1.8nm,0.2s	55.80	262	*e*T		T	20 18 39.0	
QSPA	South Pole Qui comp=Z,6.0nm,0.8s	57.96	180	P		P	19 18 55.4	+1.2
QSPA				IAmb		IAmb	19 18 56.9	
VNDA	Vanda comp=Z,0.8nm,1.0s,baz=122,slow=4.0,SNR=2.6	65.79	191	P		P	19 19 47.1	+0.6
VNDA	Vanda	65.79	191	P		P	19 19 47.1	+0.6
VNDA	Vanda comp=Z,5.0nm,1.5s	65.79	191	IAmb		IAmb	19 19 54.9	
TBI	Tubuai comp=Z,80nm,28.5s	67.75	256	*e*S		S	19 29 00.1	+2.6
TBI	Tubuai comp=Z,175nm,25.5s	67.75	256	*e*LR		LR	19 40 28.7	
TXAR	Lajitas Array comp=Z,1.3nm,0.8s,baz=47,slow=26,SNR=8.0	68.24	330	P		P	19 20 03.9	+1.2
TXAR	Lajitas Array	68.24	330	P		P	19 20 03.7	+1.0
TX32	Lajitas Array	68.24	330	P		P	19 20 03.0	+0.2
V55A	Taylorsville	68.31	352	P		P	19 20 03.4	+0.5
SWET	Sewanee	68.39	348	P		P	19 20 04.7	+1.2
SWET	comp=Z,6.6nm,0.8s			IAmb		IAmb	19 20 11.6	
U49A	Red Boiling Sp comp=Z,5.6nm,1.1s	69.63	348	P		P	19 20 11.1	+0.1
U49A				IAmb		IAmb	19 20 23.6	
PPT2	Papeete2 comp=Z,56nm,27.0s	70.51	261	*e*S		S	19 29 32.8	+2.4
PPT2	Papeete2 comp=Z,80nm,24.2s	70.51	261	*e*LR		LR	19 41 44.6	
PPT	Papeete comp=Z,69nm,18.9s,baz=174,slow=29	70.52	261	LR		LR	19 43 26.9	
LIC	Lamto comp=Z,44nm,0.7s	74.22	72	*e*P		P	19 20 38.9	-0.3
TIC	Toumodi	74.47	72	*e*P		P	19 20 40.4	-0.2
KIC	Kosan Boka comp=Z,34nm,0.6s	74.53	72	*e*P		P	19 20 40.3	-0.7
DBIC	Dimbokro comp=Z,16nm,0.6s,baz=242,slow=4.7,SNR=31	74.62	72	P		P	19 20 40.4	-1.1
DBIC	comp=Z,52nm,21.9s,baz=186,slow=33			LR		LR	19 50 04.3	
DBIC	Dimbokro	74.62	72	P		P	19 20 40.9	-0.6
MAW	Mawson comp=Z,2.0nm,0.8s,baz=214,slow=8.1,SNR=4.6	74.83	164	P		P	19 20 43.0	+1.2
MAW	comp=Z,112nm,19.3s,baz=238,slow=38			LR		LR	19 56 17.3	
MAW	Mawson	74.83	164	P		P	19 20 43.1	+1.2
SUR	Sutherland	75.65	119	P		P	19 20 48.5	+1.0
G62A	West of Eustis	77.14	1	P		P	19 20 58.0	+2.9
G62A	comp=Z,9.3nm,0.9s			IAmb		IAmb	19 20 58.7	
F64A	Sherman comp=Z,9.9nm,1.0s	77.84	3	P		P	19 21 00.3	+1.3
F64A				IAmb		IAmb	19 21 01.6	
LMN	Caledonia Moun comp=Z,11nm,0.9s	78.03	5	P		P	19 21 01.7	+1.6
LMN				IAmb		IAmb	19 21 02.3	
D62A	Allapoint, All comp=Z,20nm,1.4s	79.03	2	P		P	19 21 07.6	+2.1
D62A				IAmb		IAmb	19 21 10.2	
KOWA	Kowa	79.91	66	P		P	19 21 11.0	-0.2
BOSA	Boshof comp=Z,3.4nm,0.7s,baz=226,slow=2.1,SNR=7.3	80.86	118	P		P	19 21 15.9	-0.4
BOSA	comp=Z,76nm,18.7s,baz=196,slow=34			LR		LR	19 54 19.6	
BOSA	Boshof comp=Z,10.0nm,1.1s	80.86	118	P		P	19 21 15.9	-0.4
BOSA				IAmb		IAmb	19 21 25.8	
PDAR	Pinedale Array comp=Z,0.3nm,0.5s,baz=156,slow=6.9,SNR=1.9	82.23	333	P		P	19 21 24.4	+1.2
PDAR				LR		LR	19 54 22.9	
NVAR	Mina Array Bea comp=Z,0.5nm,0.6s,baz=151,slow=6.2,SNR=5.6	82.48	325	P		P	19 21 26.9	+2.3
LBTB	Lobatse comp=Z,12nm,1.4s	83.02	115	P		P	19 21 27.4	-0.3
LBTB				IAmb		IAmb	19 21 37.2	
TORD	Torodi Ar. Bea comp=Z,7.8nm,0.7s,baz=269,slow=4.3,SNR=42	83.61	70	P		P	19 21 30.5	-0.1
TORD				LR		LR	19 55 41.3	
TORD	Torodi Ar. Bea comp=Z,7.2nm,0.8s	83.61	70	P		P	19 21 30.4	-0.2
TORD				IAmb		IAmb	19 21 31.6	
ESDC	Sonseca Array comp=Z,50nm,18.7s,baz=240,slow=35	95.37	46	LR		LR	20 04 40.9	
DZM	Mont Dzumac comp=Z,91nm,22.4s	102.27	234	*e*LR		LR	19 56 31.3	
ASAR	Alice Springs comp=Z,0.4nm,0.8s,baz=146,slow=2.2,SNR=5.8	119.11	207	PKP		PKPdf	19 27 50.6	-0.8
ASAR				PKKPbc		PKKPbc	19 38 03.9	-0.5
ASAR	Alice Springs	119.11	207			PKPdf	19 27 50.3	-1.1
BRTR	Keskin Array B comp=Z,0.8nm,0.7s,baz=191,slow=1.3,SNR=5.4	120.97	60	PKP		PKPdf	19 27 54.5	0.0
AKASG	Malin Array Be comp=Z,0.3nm,0.3s,baz=257,slow=2.9,SNR=4.1	121.01	47	PKP		PKiKP	19 27 54.2	+0.1
WRA	Warramunga Arr comp=Z,0.7nm,0.7s,baz=132,slow=1.4,SNR=7.8	122.27	210	PKP		PKPdf	19 27 56.9	-0.6

IDC ***19*** *19:14:53.2±1.5, 32°.35S×72°.05W, h0km, mb4.0/1, mb1 3.9/5, mb1mx3.7/21, mbtmp3.8/5, ML3.5/4, Error ellipse: s-maj=77.3km s-min=27.7km az=105.0*
GUC ***19*** *19:14:54.9±0.8, 32°.38S×72°.21W, h39km±2km, ML3.9*
NEIC ***19*** *19:14:55.4±2.1, 32°.45S±0°.03×72°.18W±0°.06, h16km±2km, mb4.2/4, ML3.9(GUC), Error ellipse: s-maj=7.6km s-min=4.8km az=81.0*

ISC 19 19:14:54.5±1.6, 32°.39S±0°.03×72°.22W±0°.06, h10km±10km, n53, σ0°.79/62, 3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA01	**Torpederas**	**0.79**	**143**	*eP*	**Pg**	**19 15 09.8**	**0.0**
VA01				*i S*	**Sb**	**19 15 21.4**	**+0.2**
VA01				IAML		19 15 22.0	
	comp=N,4μm,0.5s						
VA01	**Torpederas**	**0.79**	**143**		**Pg**	**19 15 09.8**	**0.0**
VA01				Sn	**Sb**	**19 15 21.3**	**+0.2**
VA06	**Catapilco**	**0.80**	**103**	*iP*	**Pg**	**19 15 09.5**	**-0.3**
VA06				*i S*	**Sg**	**19 15 20.8**	**+0.5**
VA06				IAML		19 15 22.7	
	comp=E,16μm,0.3s						
ROCH	**El Roble**	**1.17**	**120**	*iP*	**Pb**	**19 15 15.9**	**-1.1**
ROCH				*i S*	**Sb**	**19 15 31.6**	**-0.7**
ROCH				IAML		19 15 32.9	
	comp=N,5μm,0.3s						
VA05	**Santo Domingo**	**1.36**	**158**	*eP*	**Pn**	**19 15 18.8**	**-0.8**
VA05				IAML		19 15 44.2	
	comp=E,2μm,0.6s						
VA05	**Santo Domingo**	**1.36**	**158**		**Pn**	**19 15 18.8**	**-0.8**
VA05				Sn	**Sn**	**19 15 35.0**	**-2.6**
VA03	**San Esteban**	**1.46**	**105**	*iP*	**Pn**	**19 15 20.2**	**-0.8**
VA03				*i S*	**Sn**	**19 15 38.8**	**-1.3**
VA03				IAML		19 15 40.6	
	comp=E,7μm,0.1s						
VA03	**San Esteban**	**1.46**	**105**		**Pn**	**19 15 20.1**	**-0.8**
VA03				Sn	**Sn**	**19 15 38.7**	**-1.3**
MT05	**Renca**	**1.59**	**129**	*eP*	**Pn**	**19 15 22.7**	**-0.1**
MT05				*i S*	**Sn**	**19 15 43.0**	**-0.5**
MT05				IAML		19 15 48.4	
	comp=E,6μm,0.3s						
MT05	**Renca**	**1.59**	**129**	Pn	**Pn**	**19 15 22.8**	**-0.1**
MT01	**Popeta**	**1.68**	**151**	*eP*	**Pn**	**19 15 23.0**	**-0.9**
MT01				IAML		19 15 50.3	
	comp=E,1μm,0.1s						
MT01	**Popeta**	**1.68**	**151**	Pn	**Pn**	**19 15 23.2**	**-0.7**
MT09	**Talagante**	**1.72**	**144**	*eP*	**Pn**	**19 15 24.3**	**-0.3**
MT09				*i S*	**Sn**	**19 15 46.3**	**-0.5**
MT09				IAML		19 15 49.2	
	comp=N,2μm,0.5s						
MT09	**Talagante**	**1.72**	**144**		**Pn**	**19 15 24.5**	**-0.2**
CO06	**Fray Jorge**	**1.78**	**16**		**Pn**	**19 15 24.8**	**-0.5**
CO03	**El Pedregal**	**2.02**	**41**	*eP*	**Pn**	**19 15 29.3**	**+0.6**
CO03				*eS*	**Sb**	**19 15 56.3**	**-0.3**
CO03				IAML		19 16 04.6	
	comp=E,906nm,0.4s						
CO03	**El Pedregal**	**2.02**	**41**		**Pn**	**19 15 29.1**	**+0.4**
BO03	**Pichilemu**	**2.11**	**174**	*eP*	**Pn**	**19 15 29.3**	**-0.5**
BO01	**Tunca**	**2.21**	**155**	*eP*	**Pn**	**19 15 31.8**	**+0.5**
BO01	**Tunca**	**2.21**	**155**		**Pn**	**19 15 31.2**	**0.0**
LMEL	**Las Melosas**	**2.23**	**131**	*eP*	**Pn**	**19 15 32.0**	**+0.4**
LMEL				*i S*	**Sn**	**19 15 59.6**	**+0.3**
GO04	**Tololo Observa**	**2.52**	**29**	*eP*	**Pn**	**19 15 35.5**	**-0.3**
GO04				*eS*	**Sn**	**19 16 05.8**	**-0.8**
GO04	**Tololo Observa**	**2.52**	**29**		**Pn**	**19 15 35.3**	**-0.4**
CO05	**La Serena**	**2.60**	**19**	*eP*	**Pn**	**19 15 36.5**	**-0.1**
CO05				IAML		19 16 26.6	
	comp=N,579nm,0.5s						
CO05	**La Serena**	**2.60**	**19**		**Pn**	**19 15 37.0**	**+0.4**
GO05	**Huala**	**2.62**	**175**	*eP*	**Pn**	**19 15 36.3**	**-0.6**
GO05	**Huala**	**2.62**	**175**	Pn	**Pn**	**19 15 35.8**	**-1.1**
BO02	**Sierra Bellavi**	**2.68**	**154**	*eP*	**Pn**	**19 15 37.4**	**-0.4**
BO02				*eS*	**Sn**	**19 16 10.5**	**+0.2**
BO02	**Sierra Bellavi**	**2.68**	**154**	Pn	**Pn**	**19 15 38.2**	**+0.5**
ZON	**Zonda**	**3.12**	**75**		**Pn**	**19 15 45.8**	**+2.0**
LCO	**Las Campanas**	**3.61**	**22**	*eP*	**Pn**	**19 15 50.4**	**-0.3**
AC04	**Llanos de Chal**	**4.29**	**14**	Pn	**Pn**	**19 15 58.9**	**-0.9**
GO03	**Copiap**	**5.08**	**20**	Pn	**Pn**	**19 16 10.5**	**-0.3**
AC06	**Mina Casimiro**	**5.27**	**18**	Pn	**Pn**	**19 16 13.1**	**-0.2**
H03S3	**Juan Fernandez** baz=82,slow=74	**5.80**	**254**	T	T	19 22 58.9	
H03S1	**Juan Fernandez** baz=82	**5.80**	**254**	T	T	19 22 55.7	
H03S2	**Juan Fernandez** baz=82,slow=74	**5.81**	**254**	T	T	19 22 55.2	
AC02	**Maricunga**	**6.15**	**27**	Pn	**Pn**	**19 16 26.1**	**+0.3**
LC01	**Cunco**	**6.50**	**178**	Pn	**Pn**	**19 16 30.1**	**-0.1**
PLCA	**Paso Flores** comp=N,0.1nm,0.3s,baz=140,slow=19,SNR=0.8	**8.43**	**171**		**Pn**	**19 16 56.9**	**+0.1**
PLCA	**Paso Flores**	**8.43**	**171**		**Pn**	**19 16 56.3**	**-0.5**
PB06	**IPOC Station P**	**9.93**	**14**	Pn	**Pn**	**19 17 19.8**	**+2.4**
LVC	**Limon Verde** comp=N,0.3nm,0.3s,baz=169,slow=10,SNR=1.1	**10.17**	**18**	Pn	Pn	19 17 17.8	-3.2
LPAZ	**La Paz** comp=N,0.1nm,0.3s,baz=222,slow=7.1,SNR=3.7	**16.45**	**14**	Pn	**Pn**	**19 18 46.8**	**+0.7**
LPAZ	**La Paz**	**16.45**	**14**		**Pn**	**19 18 46.9**	**+0.8**
SIV	**San Ignacio** comp=N,0.2nm,0.3s,baz=195,slow=10,SNR=2.9	**19.21**	**34**	P	**P**	**19 19 17.9**	**-0.8**
SNAA	**Sanae**	**53.13**	**158**	P	**P**	**19 24 12.5**	**+0.5**
QSPA	**South Pole Qui**	**57.84**	**180**	P	**P**	**19 24 46.5**	**+0.5**
QSPA				IAmb	IAmb	19 24 54.6	
	comp=Z,2.5nm,1.1s						
TORD	**Torodi Ar. Bea** comp=Z,1.0nm,0.8s,baz=234,slow=3.5,SNR=5.9	**83.81**	**70**	P	**P**	**19 27 24.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**83.81**	**70**	P	**P**	**19 27 24.2**	**-0.2**
TORD				IAmb	IAmb	19 27 34.8	
	comp=Z,2.2nm,1.4s						
ASAR	**Alice Springs** comp=Z,0.3nm,1.1s,baz=145,slow=1.9,SNR=2.2	**118.93**	**207**	PKP	**PKiKP**	**19 33 44.9**	**+1.0**
WRA	**Warramunga Arr** comp=Z,0.7nm,1.1s,baz=141,slow=1.0,SNR=1.7	**122.09**	**210**	PKP	**PKPdf**	**19 33 49.7**	**-0.3**
ZALV	**Zalesovo Beam** comp=Z,1.1nm,0.6s,baz=264,slow=5.5,SNR=3.7	**152.93**	**30**	PKPbc	**PKiKP**	**19 34 52.0**	**+0.4**

IDC ***19*** *19:15:22.7±1.1, 24°.81N×127°.75E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.6/61, mbtmp3.9/6, ML3.4/1, Error ellipse: s-maj=52.1km s-min=19.5km az=76.0*
JMA ***19*** *19:15:25.7±0.2, 24°.83N×127°.71E, h68km, M3.2*

ISC 19 19:15:22.4±2.8, 24°.75N±0°.05×127°.79E±0°.04, h7km±17km, n29, σ1°.91/44, mb3.8/5, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJT3	**Tamagusuku3**	**1.39**	**360**	P	**Pn**	**19 15 48.5**	**+0.3**
JJT3				*eS*	**Sg**	**19 16 05.4**	**-1.6**
JNTH	**Nagotoyohara**	**1.77**	**7**	P	Pn	19 15 53.3	-0.2
JKE	**Kume jima 2**	**1.81**	**330**	P	Pn	19 15 54.1	+0.1
JKE				*eS*	**Sn**	**19 16 14.4**	**-2.9**
JAGN	**Aguni-jima**	**1.89**	**345**	P	**Pn**	**19 15 55.6**	**+0.4**
JAGN				*eS*	**Sn**	**19 16 17.7**	**-1.6**
JOW	**Kunigami** 18nm,0.3s,baz=197,slow=12,SNR=39	**2.12**	**12**	Pn	**Pn**	**19 15 58.5**	**+0.2**
JOW				Sn	Sn	19 16 21.3	-3.6
	14nm,0.3s,baz=118,slow=25,SNR=8.4						
JOW	**Kunigami**	**2.12**	**12**	P	**Pn**	**19 15 58.6**	**+0.3**
JOW				*eS*	**Sn**	**19 16 23.0**	**-1.9**
JOGS	**Gusukube**	**2.17**	**271**	P	**Pn**	**19 15 59.6**	**+0.7**
JOGS				S	**Sn**	**19 16 24.1**	**-1.9**
JMJ2	**Miyako jima3**	**2.24**	**270**	P	**Pn**	**19 16 00.5**	**+0.6**
JMJ2				*eS*	**Sn**	**19 16 25.2**	**-2.6**
JIH	**Iheya**	**2.28**	**4**	P	**Pn**	**19 16 01.4**	**+0.9**
JIH				*eS*	**Sn**	**19 16 27.2**	**-1.6**
JIKM	**Ikemajima**	**2.31**	**275**	P	**Pn**	**19 16 01.7**	**+0.5**
JIKM				S	**Sn**	**19 16 27.7**	**-2.0**
JYRO	**Yoronjima**	**2.34**	**15**	P	**Pn**	**19 16 01.6**	**+0.3**
JIRB	**Irabujima**	**2.38**	**272**	P	**Pn**	**19 16 02.1**	**+0.2**
JIRB				S	**Sn**	**19 16 28.3**	**-3.0**
JOKE	**Okinoerabujima**	**2.69**	**15**	P	**Pn**	**19 16 06.8**	**+0.6**
JOKE				S	**Sn**	**19 16 37.4**	**-1.7**
JTJ	**Tarama**	**2.81**	**268**	P	**Pn**	**19 16 08.0**	**+0.2**
JTJ				*eS*	**Sn**	**19 16 38.8**	**-3.1**
JISG	**Ishigakijimahi**	**3.17**	**268**	P	**Pn**	**19 16 12.7**	**0.0**
JISG				*eS*	**Sn**	**19 16 47.6**	**-3.2**
JTK	**Tokunoshima**	**3.20**	**19**	P	**Pn**	**19 16 13.3**	**+0.2**
JTK				*eS*	**Sn**	**19 16 49.6**	**-1.9**
JMZ	**Minamidaito 2**	**3.28**	**70**	P	**Pn**	**19 16 13.7**	**-0.6**
JMZ				S	**Sn**	**19 16 49.0**	**-4.7**
JIJ	**Ishigaki jima**	**3.34**	**264**	P	**Pn**	**19 16 15.0**	**-0.1**
JIJ				S	Sn	19 16 50.1	-5.0
JKDJ	**Kitadaitoujima**	**3.39**	**69**	P	**Pn**	**19 16 15.6**	**-0.2**
JKDJ				S	**Sn**	**19 16 53.2**	**-3.1**
JKRS	**Kuro-shima**	**3.48**	**262**	*eS*	**Sn**	**19 16 55.5**	**-3.0**
JAMN	**Amaminishikomi**	**3.69**	**19**	P	**Pn**	**19 16 20.9**	**+1.0**
JAMN				*eS*	**Sn**	**19 17 01.3**	**-2.4**
IRIF	**Iriomote-Funau**	**3.72**	**264**	P	**Pn**	**19 16 21.2**	**+0.9**
IRIF				*eS*	**Sn**	**19 17 01.0**	**-3.4**
JAM	**Amami Oshima**	**3.99**	**24**	P	**Pn**	**19 16 25.0**	**+1.0**
JZK	**Kikaishima**	**4.05**	**28**	P	**Pn**	**19 16 26.7**	**+1.8**
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=96,slow=9.3,SNR=5.4	**42.23**	**313**	P	**P**	**19 23 16.7**	**+0.4**
WRA	**Warramunga Arr** 2.4nm,0.7s,baz=353,slow=8.9,SNR=12	**44.88**	**171**	P	**P**	**19 23 39.5**	**+1.8**
KURBB	**Kurchatov Arra** 0.2nm,0.4s,baz=104,slow=8.6,SNR=1.8	**45.66**	**318**	P	**P**	**19 23 43.7**	**+0.1**
ASAR	**Alice Springs** 0.4nm,0.5s,baz=0.5,slow=15,SNR=10	**48.50**	**173**	P	**P**	**19 24 07.6**	**+1.5**
FINES	**FINESS Array B** 4.7nm,1.1s,baz=35,slow=5.1,SNR=2.0	**73.95**	**331**	P	**P**	**19 27 00.2**	**+2.0**

IDC ***19*** *19:20:40.0±3.1, 32°.24S×71°.93W, h0km, mb3.7/1, mb1 3.8/4, mb1mx3.6/20, mbtmp3.6/4, ML3.7/3, Error ellipse: s-maj=125.0km s-min=33.3km az=98.0*
GUC ***19*** *19:20:42.2±0.8, 32°.33S×72°.12W, h25km±8km, ML3.8*

ISC 19 19:20:40.3±1.9, 32°.29S±0°.04×72°.07W±0°.08, h10km±11km, n28, σ0°.99/29, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**0.71**	**113**	*iP*	**Pn**	**19 20 55.8**	**-0.6**
VA06				*i S*	**Sn**	**19 21 06.4**	**-1.0**
VA06				IAML		19 21 08.9	
	comp=E,12μm,0.4s						
VA01	**Torpederas**	**0.81**	**154**	*eP*	**Pb**	**19 20 56.8**	**+0.3**
VA01				*i S*	**Sb**	**19 21 07.5**	**-0.1**
ROCH	**El Roble**	**1.12**	**128**	*eP*	**Pb**	**19 21 02.2**	**+0.2**
ROCH				*i S*	**Sn**	**19 21 17.4**	**-0.6**
ROCH				IAML		19 21 19.4	
	comp=E,3μm,0.4s						
VA03	**San Esteban**	**1.37**	**111**	*iP*	**Pg**	**19 21 06.5**	**-0.2**
VA03				*i S*	**Sg**	**19 21 25.0**	**+0.6**
VA03				IAML		19 21 26.7	
	comp=N,5μm,0.4s						
VA05	**Santo Domingo**	**1.42**	**164**	*eP*	**Pn**	**19 21 05.3**	**-0.8**
VA05				IAML		19 21 30.6	
	comp=E,1μm,0.3s						
MT05	**Renca**	**1.57**	**135**	*eP*	**Pb**	**19 21 09.4**	**-0.2**
MT05				*i S*	**Sb**	**19 21 29.4**	**-0.1**
MT05				IAML		19 21 34.3	
	comp=E,4μm,0.4s						
CO06	**Fray Jorge**	**1.65**	**13**	*eP*	**Pb**	**19 21 11.0**	**+0.1**
MT01	**Popeta**	**1.71**	**157**	*eP*	**Pb**	**19 21 11.8**	**-0.2**
MT09	**Talagante**	**1.74**	**149**	*eP*	**Pn**	**19 21 11.2**	**+0.5**
MT09				*i S*	**Sn**	**19 21 32.4**	**-0.7**
MT09				IAML		19 21 38.0	
	comp=N,905nm,0.5s						
CO03	**El Pedregal**	**1.87**	**40**	*eP*	**Pg**	**19 21 16.4**	**+0.3**
BO03	**Pichilemu**	**2.20**	**178**	*eP*	**Pn**	**19 21 16.0**	**-1.0**
LMEL	**Las Melosas**	**2.21**	**135**	*eP*	**Pb**	**19 21 19.2**	**-1.2**
LMEL				*eS*	**Sb**	**19 21 47.4**	**-0.5**
LMEL				IAML		19 21 58.4	
	comp=N,662nm,0.2s						
BO01	**Tunca**	**2.25**	**159**	*eP*	**Pn**	**19 21 19.8**	**+2.1**
GO04	**Tololo Observa**	**2.38**	**28**	*eP*	**Pb**	**19 21 21.9**	**-1.4**
CO05	**La Serena**	**2.47**	**17**	*eP*	**Pn**	**19 21 22.7**	**+2.1**
GO05	**Huala**	**2.72**	**178**	*eP*	**Pn**	**19 21 23.0**	**-1.0**
AC04	**Llanos de Chal**	**4.16**	**12**	*eP*	**Pn**	**19 21 45.2**	**+1.3**
H03N1	**Juan Fernandez** baz=87,slow=73,SNR=20	**5.87**	**257**	T	T	19 28 05.6	
H03N3	**Juan Fernandez** baz=87,slow=73,SNR=32	**5.88**	**257**	T	T	19 28 06.7	
H03N2	**Juan Fernandez** baz=87,slow=73,SNR=4.6	**5.88**	**257**	T	T	19 28 07.9	
H03S3	**Juan Fernandez** baz=83,slow=75,SNR=4.4	**5.94**	**253**	T	T	19 28 48.7	
H03S1	**Juan Fernandez** baz=83,slow=75,SNR=2.8	**5.94**	**253**	T	T	19 28 42.7	
H03S2	**Juan Fernandez** baz=83,slow=75,SNR=4.8	**5.96**	**253**	T	T	19 28 44.3	
PLCA	**Paso Flores** comp=N,0.1nm,0.3s,baz=351,slow=13,SNR=4.6	**8.52**	**172**	Pn	**Pn**	**19 22 44.7**	**+1.0**
LPAZ	**La Paz** comp=N,0.4nm,0.3s,baz=177,slow=8.3,SNR=9.6	**16.33**	**14**	Pn	**Pn**	**19 24 29.0**	**-1.4**
SIV	**San Ignacio** comp=N,0.1nm,0.3s,baz=199,slow=12,SNR=4.1	**19.06**	**34**	P	**P**	**19 25 03.2**	**+0.3**
TORD	**Torodi Ar. Bea** comp=N,0.4nm,0.6s,baz=220,slow=5.0,SNR=2.8	**83.66**	**70**	P	**P**	**19 33 10.2**	**+0.7**
ZALV	**Zalesovo Beam** comp=N,0.7nm,0.5s,baz=316,slow=4.0,SNR=2.5	**152.78**	**30**	PKPbc	**PKiKP**	**19 40 38.4**	**+1.3**

IDC ***19*** *19:48:26.1±2.5, 30°.87N×140°.77E, h0km, mb3.4/2, mb1 3.5/5, mb1mx3.3/36, mbtmp3.5/5, ML2.9/3, Error ellipse: s-maj=141.4km s-min=19.8km az=76.0*
JMA ***19*** *19:48:29.3±0.5, 31°.56N×142°.24E, h39km, M3.5*

ISC 19 19:48:25.6±1.2, 31°.18N±0°.07×141°.9E±0°.2, h24km, n13, σ1°.85/18, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**2.23**	**305**	P	**Pb**	**19 49 05.9**	**+0.6**
JHCJ	**Hachijojimakas**	**2.60**	**317**	P	**Pb**	**19 49 10.1**	**-1.5**
JHJ	**Hachijo jima 2** 2.2nm,0.3s,baz=266,slow=23,SNR=2.0	**2.65**	**317**	Pn	**Pn**	**19 49 06.7**	**-0.1**
JHJ				Sn	**Sn**	**19 49 36.4**	**-1.7**
	9.2nm,0.3s,baz=83,slow=22,SNR=1.5						
BSO1	**Boso 1**	**3.55**	**347**	P	**Pn**	**19 49 20.1**	**+1.4**
BSO3	**Boso 3**	**3.80**	**342**	P	**Pn**	**19 49 24.0**	**+1.7**
BSO4	**Boso 4**	**4.02**	**341**	P	**Pn**	**19 49 26.6**	**+1.0**
JCJ	**Chichijima** 5.5nm,0.3s,baz=187,slow=21,SNR=1.3	**4.08**	**177**	Pn	**Pn**	**19 49 28.6**	**+2.2**
JCJ				Sn	**Sn**	**19 50 11.1**	**-2.3**
	1.6nm,0.3s,baz=293,slow=20,SNR=2.1						
JHU	**Hanno**	**5.15**	**335**	P	**Pn**	**19 49 43.9**	**+2.7**
JHU				*eS*	**Sn**	**19 50 40.2**	**+0.3**
JHO	**Hitachi**	**5.53**	**349**	P	**Pn**	**19 49 46.7**	**+0.3**
JHO				*eS*	**Sn**	**19 50 46.1**	**-3.1**
JAG	**Ashikaga**	**5.62**	**339**	P	**Pn**	**19 49 49.7**	**+2.1**
MJAR	**Matsushiro Arr** 0.1nm,0.3s,baz=154,slow=11,SNR=10	**6.17**	**331**	Pn	**Pn**	**19 49 57.0**	**+1.8**
MJAR				Sn	**Sn**	**19 51 03.5**	**-1.5**
	0.0nm,0.3s,baz=139,slow=11,SNR=1.1						
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=6.7,slow=7.4,SNR=4.9	**51.35**	**189**	P	**P**	**19 57 29.6**	**+1.5**
ASAR	**Alice Springs** 0.2nm,0.6s,baz=359,slow=4.7,SNR=1.5	**55.08**	**189**	P	**P**	**19 57 55.2**	**-0.4**

MEX 19 19:56:51.0±0.6, 14°.01N×93°.25W, h14km±161km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.68**	**1**	*i*	Pn	19 57 16.7	-3.4
PCIG				*i S*	Sn	19 57 35.1	-6.4

IDC ***19*** *20:02:23.3±3.9, 6°.32S×130°.77E, h131km±49km, mb3.4/3, mb1 3.4/5, mb1mx3.0/46, mbtmp3.7/5, MS3.5/1, Ms1 3.5/1, ms1mx2.6/24, Error ellipse: s-maj=123.8km s-min=22.5km az=80.0*

ISC 19 20:02:19.0±1.0, 6°.44S±0°.07×130°.6E±0°.3, h90km, n7, σ3°.64/9, mb3.7/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong** baz=180,slow=20	**5.58**	**7**	P	**Pn**	**20 03 42.5**	**+2.9**
SIJI				S	**Sn**	**20 04 38.5**	**-3.9**
	8.5nm,0.3s,baz=224,slow=23,SNR=3.7						
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=349,slow=14,SNR=22	**13.90**	**165**	P	**Pn**	**20 05 34.9**	**+2.7**
WRA				S	**Sn**	**20 08 03.0**	**-2.1**
	1.0nm,0.3s,baz=341,slow=22,SNR=13						
ASAR	**Alice Springs** 0.2nm,0.3s,baz=350,slow=11,SNR=11	**17.42**	**170**	P	**Pn**	**20 06 19.7**	**+3.3**
ASAR				S	**Sn**	**20 09 24.5**	**-5.6**
	0.1nm,0.3s,baz=336,slow=14,SNR=2.6						
JHJ	**Hachijo jima 2** comp=Z,63nm,20.8s,baz=53,slow=32	**40.30**	**12**	LR	LR	20 23 45.6	
SONM	**Songino Array** 0.3nm,0.4s,baz=146,slow=6.8,SNR=2.6	**58.11**	**341**	P	**P**	**20 12 02.0**	**-1.2**
MKAR	**Makanchi Array** 1.2nm,0.4s,baz=114,slow=8.2,SNR=22	**68.09**	**326**	P	**P**	**20 13 09.2**	**0.0**
KURBB	**Kurchatov Arra** 0.3nm,0.4s,baz=134,slow=4.9,SNR=4.2	**72.35**	**328**	P	**P**	**20 13 34.4**	**-0.7**

NEIC ***19*** *20:04:22.7±1.4, 6°.61S±0°.09×155°.8E±0°.1, h104km±6km, mb4.7/78, Error ellipse: s-maj=16.1km s-min=11.7km az=65.0*
DJA ***19*** *20:04:23.9±0.6, 6°.5S±4°×15°.6E±°, h136km±7km, M4.5/30, mb5.0/30, mB5.3/10, MLv4.0/1, Mw(mB)4.7/10, MwMwp5.0/1, Mwp5.3/1*
IDC ***19*** *20:04:24.3±0.5, 6°.68S×155°.84E, h134km±4km, mb4.2/21, mb1 4.3/25, mb1mx4.2/46, mbtmp4.6/25, MS3.5/2, Ms1 3.5/2, ms1mx2.9/26, Error ellipse: s-maj=14.4km s-min=9.2km az=93.0*

ISC 19 20:04:25.8±0.3, 6°.64S±0°.05×155°.85E±0°.06, h150km, n176, σ1°.42/180, mb4.7/92, 1C-1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara** 11nm,0.3s,baz=209,slow=4.2,SNR=9.8	**4.91**	**125**	P	**Pn**	**20 05 36.8**	**-1.3**
HNR				S	**Sn**	**20 06 35.5**	**+1.0**
	32nm,0.3s,baz=352,slow=4.4,SNR=5.9						
HNR	**Honiara**	**4.91**	**125**	Pn	**Pn**	**20 05 34.5**	**-3.6**
PATS	**Pohnpei**	**13.61**	**10**		**P**	**20 07 36.0**	**-0.7**
COEN	**Coen**	**14.43**	**239**		**P**	**20 07 45.7**	**-0.2**
JAY	**Jayapura** 1.1nm,0.3s,baz=150,slow=7.3,SNR=5.8	**15.64**	**284**	P	**Pn**	**20 07 57.6**	**-0.8**
CTA	**Charters Tower** 2.3nm,0.3s,baz=39,slow=12,SNR=45	**16.30**	**214**	P	**P**	**20 08 06.0**	**-0.4**
CTAO	**Charters Tower**	**16.30**	**214**	P	**Pn**	**20 08 08.3**	**+2.0**
CTAO				IAmb	IAmb	20 08 09.8	
	comp=Z,23nm,0.8s						
SMPI	**Sarmi** comp=Z,1μmcomp=Z,47nm,0.9s	**17.70**	**284**	P	**Pn**	**20 08 21.6**	**-1.7**
DZM	**Mont Dzumac** comp=Z,55nm,1.1s	**18.44**	**147**	*eP*	**Pn**	**20 08 31.8**	**-0.2**
DZM	**Mont Dzumac** comp=Z,2.2nm,0.3s,baz=312,slow=10,SNR=24	**18.44**	**147**	P	**Pn**	**20 08 30.4**	**-1.5**
DZM	**Mont Dzumac**	**18.44**	**147**		**Pn**	**20 08 31.4**	**-0.5**
DZM				IAmb	IAmb	20 08 34.2	
	comp=Z,18nm,0.6s						
ONTNC	**Ouen Toro**	**18.63**	**148**	P	**P**	**20 08 32.2**	**+0.1**
OUENC	**Ouen Island, N**	**18.93**	**147**	P	**Pn**	**20 08 36.0**	**-1.7**
EIDS	**Eidsvold**	**19.18**	**193**	P	**P**	**20 08 39.2**	**+1.2**
EIDS				IAmb	IAmb	20 08 40.7	
	comp=Z,31nm,0.8s						
PINNC	**Pines Island,**	**19.42**	**146**	P	**Pn**	**20 08 42.0**	**-1.4**
PINNC				IAmb	IAmb	20 08 47.2	
	comp=Z,28nm,1.1s						
GUMO	**Guam** comp=Z,156nm,21.3s,baz=36,slow=33	**22.87**	**332**	LR	LR	20 16 53.4	
FAKI	**Fak Fak**	**23.81**	**278**	P	**P**	**20 09 24.7**	**-0.5**
FAKI				IAmb	IAmb	20 09 58.0	
	comp=Z,49nm,1.1s						
ARMA	**Armidale**	**23.98**	**189**	P	**P**	**20 09 28.0**	**+1.3**
ARMA				IAmb	IAmb	20 09 58.9	
	comp=Z,35nm,1.3s						
WR0	**Warramunga Arr**	**24.56**	**235**	P	**P**	**20 09 32.3**	**+0.3**
WR0				IAmb	IAmb	20 09 35.1	
	comp=Z,35nm,1.4s						
WRAB	**Tennant Creek**	**24.70**	**236**	P	**P**	**20 09 33.9**	**+0.6**
WRA	**Warramunga Arr** comp=Z,5.4nm,0.4s,baz=58,slow=10,SNR=17	**24.72**	**236**	P	**P**	**20 09 33.4**	**0.0**
WRA				pP	**pP**	**20 10 01.2**	**-1.5**
	comp=Z,4.7nm,0.7s,baz=63,slow=9.3,SNR=3.3						
WRA				PcP	**PcP**	**20 13 06.9**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=57,slow=3.1,SNR=2.9						
WRA				S	**S**	**20 13 43.3**	**-1.2**
	comp=Z,1.1nm,0.9s,baz=63,slow=13,SNR=3.5						
WRA				ScP	**ScP**	**20 16 33.1**	**+1.5**
	comp=Z,0.6nm,0.7s,baz=54,slow=4.2,SNR=2.9						
WRA	**Warramunga Arr**	**24.72**	**236**	P	**P**	**20 09 33.5**	**+0.1**
MTN	**Manton Dam**	**25.12**	**254**	P	**P**	**20 09 37.5**	**+0.4**
SIJI	**Sorong** comp=Z,27nm,0.6s,baz=100,slow=7.9,SNR=12	**25.19**	**282**	P	**P**	**20 09 36.5**	**-1.3**
SIJI	**Sorong** comp=Z,22nm,0.8s	**25.19**	**282**	P	**P**	**20 09 37.1**	**-0.6**
SWI	**Sorong** comp=Z,46nm,0.9s	**25.19**	**282**	P	**P**	**20 09 38.1**	**+0.3**
AS31	**Alice Springs**	**27.04**	**229**	P	**P**	**20 09 54.2**	**-0.2**
ASAR	**Alice Springs** comp=Z,3.5nm,0.3s,baz=61,slow=9.3,SNR=44	**27.05**	**229**	P	**P**	**20 09 54.2**	**-0.2**
ASAR				PcP	**PcP**	**20 13 12.1**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=62,slow=2.5,SNR=9.3						
ASAR				S	**S**	**20 14 19.4**	**-1.9**
	comp=

RPZ	Rata Peaks	39.27	163	P		P		20 11 41.1	+1.2	
KBKI	Kotabaru	39.67	273	P		P		20 11 43.6	0.0	
	comp=Z,584nmcomp=Z,38nm0,8s									
BBKI	Banjar Baru	40.97	272	P		P		20 11 55.5	+1.2	
	comp=Z,64nm0,8s									
JAGI	Jajag, Banyuwa	41.37	265	P		P		20 11 55.6	-1.9	
MORW	Morawa	43.65	234	P		P		20 12 15.6	-0.2	
SJI	Sawahan	43.74	266	P		P		20 12 16.9	+0.1	
	comp=Z,31nm0,5s									
PBKI	Pangkalan Bun	44.20	273	P		P		20 12 21.9	+1.5	
	comp=Z,97nm1,0s									
PCJI	Pacitan	44.31	265	P		P		20 12 21.0	-0.3	
	comp=Z,88nm0,9s									
UGM	Wanagama	44.97	265	P		P		20 12 26.1	-0.4	
JYT	Yasato	45.11	342	P		P		20 12 27.6	+0.4	
JMN	Monobe	45.23	334	P		P		20 12 29.2	+1.0	
TPUB	Ta-pu	45.50	312	P		P		20 12 30.7	+0.1	
SSLB	Suanglung	45.55	313	P		P		20 12 32.2	+1.2	
SSLB					IAmb		IAmb	20 12 55.4		
	comp=Z,26nm1,5s									
JWT	Wachi	45.94	337	P		P		20 12 34.5	+0.7	
MJAR	Matsushiro Arr	46.03	340	P		P		20 12 33.7	-0.8	
	comp=Z,4.8nm0,8s,baz=164,slow=7.3,SNR=15									
MJAR	Matsushiro Arr	46.03	340	P		P		20 12 34.4	-0.1	
MAJO	Matsushiro	46.03	340	P		P		20 12 34.2	-0.3	
MAJO					IAmb		IAmb	20 12 35.8		
	comp=Z,6.7nm0,8s									
MAT	Matsushiro	46.03	340	P		P		20 12 35.0	+0.5	
KPJI	Karang Pucung	46.56	266	P		P		20 12 38.1	-0.9	
CISI	Cisompet, Garu	47.66	266	P		P		20 12 46.1	-1.5	
KSRS	Korea Array	51.03	331	P		P		20 13 13.6	+1.0	
	comp=Z,12nm0,9s,baz=148,slow=8.0,SNR=47									
KSAR	Wonju Array Be	51.04	331	P		P		20 13 13.5	+0.7	
KS19	Wonju Array Si	51.10	331	P		P		20 13 13.3	+0.1	
INCN	Inchon	51.68	330	P		P		20 13 18.2	+0.7	
ASAJ	Asahikawa	51.92	348	P		P		20 13 19.8	+0.7	
	comp=Z,11nm0,8s,baz=202,slow=12,SNR=5.6									
NJ2	Nanjing	52.19	320	*e*P		P		20 13 24.3	+2.9	
NJ2					pmax		pmax			
	comp=Z,12nm0,5s									
USA0B	Ussuriysk Arra	55.00	339	P		P		20 13 42.8	+1.2	
USA0B					IAmb		IAmb	20 13 44.3		
	comp=Z,19nm1,2s									
USRK	Ussuriysk Ar.	55.00	339	P		P		20 13 42.1	+0.5	
	comp=Z,6.1nm0,9s,baz=136,slow=7.3,SNR=9.0									
USRK					pP		pwP	20 14 15.1	-3.0	
	comp=Z,2.6nm0,7s,baz=169,slow=5.2,SNR=3.5									
USRK	Ussuriysk Ar.	55.00	339	P		P		20 13 42.7	+1.1	
SKNT	Sakolnakorn	56.38	295	P		P		20 13 53.5	+1.5	
	comp=Z,9.8nm0,7s									
NONG	Nongkai	57.51	296	P		P		20 14 01.2	+1.3	
	comp=Z,12nm1,0s									
ENH	Enshi	57.63	312	P		P		20 14 00.6	0.0	
ENH					IAmb		IAmb	20 14 02.5		
	comp=Z,7.6nm1,0s									
PHET	Kaeng Krachan	59.14	289	P		P		20 14 13.8	+2.6	
	comp=Z,21nm0,8s									
KLR	Kul'dur	59.49	342	P		P		20 14 13.5	+0.5	
	comp=Z,3.0nm0,7s,baz=122,slow=5.2,SNR=9.2									
KLR					pP		pP	20 14 46.1	-1.9	
	comp=Z,1.0nm0,6s,baz=126,slow=8.7,SNR=1.8									
PEA0B	Petropavlovsk-	59.54	1	P		P		20 14 14.7	+1.4	
PETK	Petropavlovsk-	59.54	1	P		P		20 14 13.7	+0.4	
	comp=Z,10nm0,9s,baz=182,slow=12,SNR=11									
PETK					pP		pwP	20 14 47.6	-3.8	
	comp=Z,6.6nm0,9s,baz=166,slow=6.9,SNR=4.5									
PETK	Petropavlovsk-	59.54	1	P		P		20 14 14.8	+1.5	
PHIT	Phitsanulok	59.67	294	P		P		20 14 17.2	+2.3	
	comp=Z,23nm1,0s									
UTTA	Uttaradit	59.73	295	P		P		20 14 17.2	+2.0	
	comp=Z,7.9nm1,0s									
UTHA	Uthaitani	60.06	292	P		P		20 14 19.4	+1.9	
	comp=Z,12nm0,9s									
CM04	Chiang Mai Arr	61.35	295	P		P		20 14 28.1	+1.8	
	comp=Z,4.7nm1,0s									
CM09	Chiang Mai Arr	61.36	295	P		P		20 14 28.6	+2.3	
	comp=Z,5.4nm1,1s									
CM01	Chiang Mai Arr	61.38	295	P		P		20 14 28.8	+2.4	
	comp=Z,5.1nm0,9s									
CM05	Chiang Mai Arr	61.38	295	P		P		20 14 28.7	+2.2	
	comp=Z,2.9nm0,7s									
CM02	Chiang Mai Arr	61.39	295	P		P		20 14 28.9	+2.3	
	comp=Z,3.6nm1,0s									
CM31	Chiang Mai Arr	61.40	295	P		P		20 14 27.8	+1.2	
CMAR	Chiang Mai Arr	61.40	295	P		P		20 14 27.8	+1.2	
	comp=Z,2.7nm0,7s,baz=119,slow=5.3,SNR=19									
CMAR					pP		pP	20 14 58.4	-3.8	
	comp=Z,1.7nm0,9s,baz=110,slow=5.2,SNR=4.1									
CMAR	Chiang Mai Arr	61.40	295	P		P		20 14 27.2	+0.6	
CM15	Chiang Mai Arr	61.42	295	P		P		20 14 29.2	+2.5	
	comp=Z,3.9nm0,7s									
CM13	Chiang Mai Arr	61.42	295	P		P		20 14 29.0	+2.2	
	comp=Z,3.4nm1,1s									
CMMT	Chiang Mai	61.51	295	P		P		20 14 30.1	+2.7	
CHTO	Chiang Mai	61.52	295	P		P		20 14 30.2	+2.8	
CHTO	Chiang Mai	61.52	295	P		P		20 14 27.3	-0.1	
CHTO					IAmb		IAmb	20 14 29.8		
	comp=Z,8.9nm1,5s									
CHTO	Chiang Mai	61.52	295	P		P		20 14 27.5	+0.1	
HHC	Hu-ho-hao-te	62.32	323	*e*P		P		20 14 34.5	+2.1	
LZH	Lanzhou	64.67	315	⇓P		P		20 14 48.8	+0.8	
LZH					pP		pP	20 15 22.4	-1.5	
LZH					sP		sP	20 15 34.1	-6.1	
LZH					pmax		pmax			
	comp=Z,23nm1,3s									
GTA	Gaotai	69.07	317	⇑P		P		20 15 17.8	+2.0	
GTA					pP		PcP	20 15 29.6	-9.2	
GTA					sP		pP	20 15 36.3	-16	
GTA					pmax		pmax			
	comp=Z,3.0nm1,1s									
ULN	Ulaanbaatar	69.17	327	P		P		20 15 17.7	+1.4	
ULN					IAmb		IAmb	20 15 19.3		
	comp=Z,22nm1,0s									
SEY	Seymchan	69.42	358	P		P		20 15 18.0	+0.7	
	comp=Z,4.6nm1,0s,baz=165,slow=6.1,SNR=8.1									
SONM	Songino Array	69.50	327	P		P		20 15 19.8	+1.5	
	comp=Z,18nm0,8s,baz=137,slow=6.7,SNR=97									
SONM	Songino Array	69.50	327	P		P		20 15 19.8	+1.5	
SHL	Shillong	69.85	300	P		P		20 15 21.3	+0.3	
VNDA	Vanda	70.91	179	P		P		20 15 26.3	+0.1	
	comp=Z,5.4nm0,8s,baz=334,slow=5.9,SNR=33									
VNDA	Vanda	70.91	179	P		P		20 15 27.3	+1.1	
YAK	Yakutsk	71.40	347	P		P		20 15 30.4	+1.1	
YAK					IAmb		IAmb	20 15 31.5		
	comp=Z,8.3nm0,9s									
SBA	Scott Base	71.40	178	P		P		20 15 31.7	+2.6	
SBA					IAmb		IAmb	20 16 01.0		
	comp=Z,12nm1,3s									
CHGN	Chignik	73.08	25	P		P		20 15 41.2	+1.9	
BILL	Bilibino	74.87	4	P		P		20 15 50.7	+1.2	
BILL					IAmb		IAmb	20 15 52.8		
	comp=Z,21nm1,1s									
N18K	Kilae Creek	76.97	22	P		P		20 16 04.0	+2.4	
N18K					IAmb		IAmb	20 16 04.5		
	comp=Z,15nm1,1s									
M19K	Big River Lodg	78.31	22	P		P		20 16 11.4	+2.3	
M19K					IAmb		IAmb	20 16 12.1		
	comp=Z,14nm1,0s									
L19K	White Mountain	78.32	21	P		P		20 16 10.9	+1.8	
L19K					IAmb		IAmb	20 16 11.9		
	comp=Z,12nm0,9s									
WMQ	Urumqi	79.15	317	*e*P		P		20 16 17.5	+3.4	
K20K	Telida	79.35	21	P		P		20 16 16.6	+1.9	
J20K	Nowinta River	79.84	20	P		P		20 16 19.6	+2.3	
J20K					IAmb		IAmb	20 16 20.1		
	comp=Z,9.5nm1,1s									
CAST	Castle Rocks	80.09	21	P		P		20 16 19.6	+0.9	
CAST					IAmb		IAmb	20 16 20.1		
	comp=Z,9.3nm1,0s									
KTH	Kantishna Hill	80.58	21	P		P		20 16 22.4	+1.0	
KTH					IAmb		IAmb	20 16 22.9		
	comp=Z,8.6nm1,0s									
TRF	Thorofare Moun	80.75	22	P		P		20 16 23.8	+1.4	
IMAR	Indian Mountai	81.12	19	P		P		20 16 25.4	+1.3	
I21K	Tanana	81.20	20	P		P		20 16 25.8	+1.3	
H21K	Melozitna Rive	81.22	19	P		P		20 16 26.3	+1.7	
MCK	McKinley	81.41	22	P		P		20 16 26.0	+0.2	
MCK					IAmb		IAmb	20 16 27.5		
	comp=Z,21nm1,0s									
TCOL	CIGO, UAF Yank	82.44	21	P		P		20 16 31.3	+0.3	
TCOL					IAmb		IAmb	20 16 32.6		
	comp=Z,18nm1,2s									
IL31		82.73	21	P		P		20 16 32.3	-0.2	
ILAR	Eielson Array	82.73	21	P		P		20 16 31.7	-0.9	
	comp=Z,3.2nm0,9s,baz=263,slow=5.0,SNR=18									
ILAR					pP		pP	20 17 07.0	-2.3	
	comp=Z,1.5nm0,9s,baz=239,slow=5.5,SNR=3.9									
ILAR					LR		LR	20 48 15.4		
	comp=Z,20nm,21.8s,baz=312,slow=32									
ILAR	Eielson Array	82.73	21	P		P		20 16 32.2	-0.4	
DOT	Dot Lake	83.21	23	P		P		20 16 35.9	+0.8	
DOT					IAmb		IAmb	20 16 37.2		
	comp=Z,8.7nm,1.0s									
QSPA	South Pole Qui	83.33	180	P		P		20 16 36.9	+1.0	
QSPA					IAmb		IAmb	20 16 37.7		
	comp=Z,12nm0,8s									
MK31	Makanchi Array	83.70	318	P		P		20 16 38.8	+0.8	
MK31					IAmb		IAmb	20 16 40.0		
	comp=Z,5.9nm0,9s									
MKAR	Makanchi Array	83.70	318	P		P		20 16 38.9	+0.9	
	comp=Z,4.8nm0,7s,baz=101,slow=6.0,SNR=44									
MKAR					pP		pP	20 17 11.7	-3.8	
	comp=Z,1.2nm0,8s,baz=103,slow=4.9,SNR=2.4									
BCAR	Beaver Creek A	83.82	24	P		P		20 16 39.8	+1.6	
MAKZ	Makanchi	83.92	318	P		P		20 16 40.3	+1.2	
MAKZ					IAmb		IAmb	20 16 41.0		
	comp=Z,8.0nm0,8s									
ZAA0	Zalesovo Array	84.37	326	P		P		20 16 41.5	+0.4	
ZAA0					IAmb		IAmb	20 16 42.1		
	comp=Z,13nm1,4s									
ZALV	Zalesovo Beam	84.37	326	P		P		20 16 41.1	0.0	
	comp=Z,4.6nm0,7s,baz=106,slow=5.3,SNR=17									
ZALV	Zalesovo Beam	84.37	326	P		P		20 16 41.4	+0.3	
BMAR	Burnt Mountain	84.94	20	P		P		20 16 46.3	+2.5	
MAW	Mawson	85.05	203	P		P		20 16 44.4	+0.1	
	comp=Z,7.0nm0,8s,baz=115,slow=6.3,SNR=15									
MAW	Mawson	85.05	203	P		P		20 16 44.9	+0.6	
KURBB	Kurchatov Arra	87.12	322	P		P		20 16 54.7	0.0	
	comp=Z,1.7nm0,6s,baz=106,slow=3.8,SNR=13									
NIL	Nilore	87.52	304	P		P		20 16 57.2	+0.1	
NIL					IAmb		IAmb	20 17 16.6		
	comp=Z,7.4nm0,5s									
NVAR	Mina Array Bea	90.83	52	P		P		20 17 13.9	+1.1	
	comp=Z,0.8nm0,9s,baz=248,slow=7.1,SNR=7.3									
NVAR	Mina Array Bea	90.83	52	P		P		20 17 14.9	+2.1	
NV11	Mina Array Sit	90.95	52	P		P		20 17 15.0	+1.7	
NV11					IAmb		IAmb	20 17 16.3		
	comp=Z,9.8nm1,5s									
BVAR	Borovoye Array	92.53	323	P		P		20 17 18.8	-1.2	
	comp=Z,3.4nm0,8s,baz=141,slow=5.0,SNR=19									
R11A	Troy Canyon, C	92.94	52	P		P		20 17 24.6	+2.0	
R11A					IAmb		IAmb	20 17 26.2		
	comp=Z,5.6nm1,4s									
ABKAR	Akbulak array	98.85	319	P		Pdif		20 17 47.6	-1.2	
BRTR	Keskin Array B	118.79	312	PKP		PKiKP		20 22 56.3	-0.7	
	comp=Z,0.3nm0,5s,baz=60,slow=3.5,SNR=2.6									
GERES	GERESS Array B	127.19	329	PKP		PKiKP		20 23 13.4	+0.2	
	comp=Z,0.9nm0,6s,baz=54,slow=2.3,SNR=8.8									
GERES					pPKP		pPKPdf	20 23 47.8	-4.7	
	comp=Z,0.5nm0,7s,baz=63,slow=0.6,SNR=3.7									
GERES	GERESS Array B	127.19	329		PKiKP			20 23 13.8	+0.6	
BDFB	Brasilia	147.61	133	PKPbc		PKPbc		20 23 52.7	-1.0	
	comp=Z,3.8nm0,8s,baz=178,slow=3.2,SNR=5.6									
TORD	Torodi Ar. Bea	153.75	286	PKP		PKPdf		20 23 59.8	-0.5	
	comp=Z,0.4nm0,7s,baz=94,slow=3.0,SNR=2.6									
TORD					PKPbc		PKiKP	20 24 07.9	-0.3	
	comp=Z,1.5nm0,7s,baz=13,slow=2.5,SNR=13									
TORD					PKPab		PKPab	20 24 21.9	+0.2	
	comp=Z,1.1nm0,5s,baz=74,slow=3.9,SNR=12									
TORD					pPKPbc		pPKPbc	20 24 42.5	-5.8	
	comp=Z,0.5nm0,6s,baz=98,slow=1.5,SNR=1.5									
DBIC	Dimbokro	160.84	271	PKPab		PKPab		20 24 51.9	-0.4	
	comp=Z,4.6nm0,8s,baz=155,slow=8.7,SNR=4.7									

SOME ***19*** *20:15:44.1,39.67N×74.45E,h15km*
KRNET ***19*** *20:15:45.2±0.1,39.62N×74.45E,mb3.1*
NNC ***19*** *20:15:46.1±1.8,39.79N×74.34E,h0km,mb3.8,mpv3.5,*
Error ellipse: s-maj=13.0km s-min=9.2km az=155.0
ISC 19 20:15:43.9±1.7,39.71N±0.07°×74.44E±0.04,h8km±12km,
n32,σ1s85/51,22C-8D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.79	293	⇑*i*P		Pn	20 16 00.9	-0.6
SFK	baz=99			⇑*i*S		Sn	20 16 13.2	-0.4
	baz=99							
OHH	Osh	1.51	303	⇑*i*P		Pg	20 16 14.9	+2.0
OHH	baz=6.0			⇑*i*S		Sg	20 16 36.1	+3.5
	baz=6.0							
DRK	Karamyk	2.06	265	⇑*i*P		Pg	20 16 23.1	-0.2
DRK	baz=67			⇑*i*S		Sg	20 16 51.1	+1.1
	baz=67							
ARLS	Aral	2.16	358	⇓*i*P		Pg	20 16 25.4	+0.2
ARLS	baz=58			⇓*i*S		Sg	20 16 54.4	+1.2
	baz=58							
KZA	Kyzart	2.45	14	⇑*i*P		Pg	20 16 30.3	-0.5
KZA	baz=14			⇑*i*S		Sg	20 17 02.8	+0.2
	baz=14							
AML	Almayashu	2.49	347	⇑*i*P		Pb	20 16 30.7	+1.6
AML	baz=47			⇑*i*S		Sg	20 17 03.8	-0.1
	baz=47							
UCH	Uchtor	2.52	1	⇑*i*P		Pb	20 16 30.9	+1.2
UCH	baz=1.0			⇑*i*S		Sg	20 17 04.4	-0.5
	baz=1.0							
BTK	Batken	2.81	278	⇑*i*P		Pb	20 16 33.8	-0.6
BTK	baz=80			⇑*i*S		Sb	20 17 09.2	+0.2
	baz=80							
ULHL	Ulahol	2.88	28	⇑*i*P		Pb	20 16 36.0	+0.3
ULHL	baz=27			⇑*i*S		Sb	20 17 12.6	+1.5
	baz=27							
AAK	Ala-Archa	2.93	1	⇓Lg		Lg	20 17 18.0	
BOOM	31nm,0.9s Boomskoye usch	3.00	22	⇓*i*P		Pb	20 16 37.1	-0.6
BOOM	baz=21			⇓*i*S		Sb	20 17 15.0	+0.4
	baz=21							
TRKS	Terek-Say	3.11	307	⇑*i*P		Pb	20 16 37.7	-1.8
TRKS	baz=7.0			⇑*i*S		Sb	20 17 15.9	-1.7
	baz=7.0							
MNAS	Manas	3.14	333	⇑*i*P		Pb	20 16 39.1	-1.0
MNAS	baz=34			⇑*i*S		Sb	20 17 19.1	+0.5
	baz=34							
MRKS	Merke	3.17	344	*e*P		Pb	20 16 41.5	+0.9
MRKS	2.5nm,0.4s			*e*S		Sb	20 17 23.4	+3.9
	8.9nm,0.6s							
MRKS	Merke	3.17	344	Pg		Pb	20 16 40.0	-0.6
MRKS				Lg		Lg	20 17 20.8	
TKM2	Tokmak 2	3.33	15	⇓Pg		Pg	20 16 46.2	-1.5
TKM2	14nm,0.9s			⇓Lg		Lg	20 17 30.6	
	25nm,0.6s							
KST	Kastek	3.53	18	*e*P		Pg	20 16 49.9	-1.6
KST	5.4nm,0.2s			*e*S		Sg	20 17 37.4	+0.3
	6.1nm,0.5s							
KST	Kastek	3.53	18	Pg		Pg	20 16 49.9	-1.6
KST	5.4nm,0.2s			Lg		Lg	20 17 38.2	
	6.1nm,0.5s							
DGS	Degeres	3.67	15	*e*P		Pg	20 16 53.0	-1.3
DGS	9.8nm,0.5s			*e*S		Sg	20 17 42.6	+0.8
	22nm,0.5s							
DGS	Degeres	3.67	15	Pg		Pg	20 16 53.0	-1.3
DGS	9.8nm,0.5s			Lg		Lg	20 17 42.6	
	22nm,0.5s							
MDOK	Medeo	3.97	29	*e*P		Pb	20 16 57.5	+3.3
MDOK	7.2nm,0.3s			*e*S		Sg	20 17 50.9	-0.5
	18nm,0.5s							
MDOK	Medeo	3.97	29	⇑Pg		Pb	20 16 57.3	+3.1
MDOK	15nm,0.8s			Lg		Lg	20 17 49.9	
	35nm,1.0s							
MDOK	Medeo	3.97	29	Pg		Pb	20 16 57.5	+3.3
MDOK	7.2nm,0.3s			Lg		Lg	20 17 50.9	
	18nm,0.5s							
KRBS	Karabastau	4.09	13	*e*P		Pg	20 17 00.1	-2.2
KRBS	3.7nm,0.5s			*e*S		Sg	20 17 55.6	+0.3
	8.9nm,0.4s							
KRBS	Karabastau	4.09	13	Pg		Pg	20 17 00.1	-2.2
KRBS	3.7nm,0.5s			Lg		Lg	20 17 55.6	
	8.9nm,0.4s							
KTBS	Karatobe	4.34	22	*e*P		Pg	20 17 04.8	-2.2
KTBS	3.7nm,0.5s			*e*S		Sg	20 18 03.4	+0.2
	9.9nm,0.8s							
KTBS	Karatobe	4.34	22	Pg		Pg	20 17 04.8	-2.2
KTBS	3.7nm,0.5s			Lg		Lg	20 18 03.4	
	9.9nm,0.8s							
KUU	Kurty	4.42	18	*e*P		Pg	20 17 05.7	-2.8
KUU	3.0nm,0.4s			*e*S		Sg	20 18 05.1	-0.7
	10nm,0.6s							
KUU	Kurty	4.42	18	Pg		Pg	20 17 05.7	-2.8
KUU	3.0nm,0.4s			Lg		Lg	20 18 05.1	
	10nm,0.6s							
KK31	Karatay Array	4.50	320	⇑Pg		Pg	20 17 07.5	-2.6
KK31	0.5nm,0.3s,baz=138,slow=15			⇓Lg		Lg	20 18 07.5	
	0.9nm,0.3s,baz=137,slow=26							
CHKK	Chushkaly	4.56	24	*e*P		Pg	20 17 08.3	-3.0
CHKK	2.5nm,0.4s			*e*S		Sg	20 18 09.2	-1.2
	6.6nm,0.4s							
CHKK	Chushkaly	4.56	24	Pg		Pb	20 17 08.0	+3.9
CHKK	2.5nm,0.4s			Lg		Lg	20 18 08.1	
	6.6nm,0.4s							

SJA 19 20:23:06.0,33.46S×71.81W,h10km,ML4.8,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MT01	Popeta	0.62	131	*i* P		Pb	20 23 19.0	+0.1
MT05	Renca	0.90	86	*i* P		Pg	20 23 23.0	-0.3
BO01	Tunca	1.11	147	*i* P		Pn	20 23 28.0	+0.4
GO05	Huala	1.55	184	*i* P		Pn	20 23 32.0	-1.7
BO02	Sierra Bellavi	1.58	148	*i* P		Pb	20 23 35.0	-0.4
AUSP	Uspallata	2.38	60	*i* P		Pn	20 23 44.0	-1.4
VCA	Vinchina	5.63	34	*i* P		Pn	20 24 32.0	+2.0

TUL ***19*** *20:34:57.2±1.2,36.34N±0.02°×96.80W±0.04,h5km±2km,*
ML2.8,mb_Lg2.6/46(NEIC),Error ellipse: s-maj=5.5km
s-min=3.6km az=84.0
NEIC 19 20:34:57.4±1.1,36.34N±0.02°×96.80W±0.04,h4km±7km,
Error ellipse: s-maj=4.7km s-min=3.1km az=83.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
QUOK	Quay	0.18	155			Pg	20 35 01.1	+0.2
OK031	S. Brethren Rd	0.38	184			Pg	20 35 05.0	+0.2
BLOK	Blackwell	0.54	322			Pg	20 35 07.9	+0.2
T35A	Sooner Cattle	0.62	22			Pg	20 35 09.4	0.0
OK029	Liberty Lake	0.75	225			Pg	20 35 12.0	+0.1
KAN13	South Haven SW	0.87	321			Pg	20 35 13.9	-0.1
OK025	Westminster Rd	0.87	210			Pg	20 35 14.0	-0.1
BCOK	Bluff Creek, N	0.94	224			Pg	20 35 15.3	-0.1
CROK	Carrier	0.97	280			Pg	20 35 15.8	-0.1
GC02	Grant County #	0.99	301			Pg	20 35 16.2	-0.2
KAN09	Caldwell North	1.03	321			Pg	20 35 17.3	+0.1
KAN17	Caldwell West	1.05	313			Pg	20 35 17.4	0.0
OKCFA	Oklahoma City	1.06	210		Pg	Pg	20 35 16.8	-0.9
OKCSW	OKLAHOMA CITY	1.06	209			Pg	20 35 16.6	-1.1
KS20	Mayfield South	1.08	326			Pg	20 35 17.7	-0.4
KAN14	Manchester OK	1.12	304			Pg	20 35 18.7	-0.2
KAN05	Bluff City Nor	1.15	312			Pg	20 35 19.5	-0.1
FNO	Franklin	1.18	204			Pg	20 35 19.0	-1.0
OK032	Salt Plains WL	1.23	293			Pg	20 35 20.6	-0.2
KAN08	Anthony NE Sta	1.29	314			Pg	20 35 21.7	-0.4
KAN10	Anthony SW Sta	1.30	308			Pn	20 35 21.9	-0.5
KAN12	Harper NE Stat	1.36	315			Pn	20 35 22.6	-0.5
U32A	Winter Ranch,	1.77	272		Pn	Pn	20 35 29.4	+0.6
X34A	Smith Ranch, M	1.93	206			Pb	20 35 32.0	-1.0
U38A	Gravette	1.95	86			Pn	20 35 31.8	+0.5
X37A	Clayton	2.10	146			Pn	20 35 34.3	+1.0
WMOK	Wichita Mounta	2.27	226			Pn	20 35 36.3	+0.7
HHAR	Hobbs	2.31	91			Pn	20 35 36.7	+0.4
LOOK	Love County	2.36	188		Pn	Pn	20 35 37.1	+0.2
LOOK					IAmb_Lg		20 36 16.6	
	comp=Z,33nm1,0s							
R32A	Long Quarter,	2.58	324			Pn	20 35 37.8	-2.1
W39A	Magazine	2.71	114			Pn	20 35 41.3	-0.3
W39A					IAmb_Lg		20 36 25.4	
	comp=Z,30nm1,0s							
KSU1	Kansas State U	2.76	3		IAmb_Lg		20 36 30.6	
	comp=Z,14nm0,8s							
Z35A	Perchaven, San	3.02	187			Pn	20 35 46.3	+0.3
S39A	Bolivar	3.10	63			Pn	20 35 47.4	+0.4
MIAR	Mount Ida	3.18	123

CO06	**Fray Jorge**	**0.71**	**125**	⇓*iP*		**Pg**	**20 39 53.0**	**+0.3**
CO06				*i* S		**Sg**	**20 40 01.9**	**-0.1**
CO06				IAML			20 40 04.8	
	comp=N,7μm,0.6s							
CO06	**Fray Jorge**	**0.71**	**125**			**Pg**	**20 39 52.9**	**+0.2**
CO06						**Sb**	**20 40 02.6**	**-1.5**
CO05	**La Serena**	**0.99**	**70**	⇓*iP*		**Pb**	**20 39 58.1**	**-0.7**
CO05				*i* S		**Sb**	**20 40 09.3**	**-2.9**
CO05				IAML			20 40 16.3	
	comp=E,5μm,0.6s							
CO05	**La Serena**	**0.99**	**70**			**Pb**	**20 39 58.0**	**-0.7**
CO05						**Sb**	**20 40 10.2**	**-2.0**
GO04	**Tololo Observa**	**1.31**	**86**	⇑*iP*		**Pn**	**20 40 03.1**	**-1.2**
GO04				*i* S		**Sb**	**20 40 18.9**	**-2.7**
GO04	**Tololo Observa**	**1.31**	**86**			**Pn**	**20 40 03.1**	**-1.2**
GO04				Sn		**Sb**	**20 40 20.1**	**-1.5**
CO03	**El Pedregal**	**1.51**	**113**	⇑*iP*		**Pn**	**20 40 06.4**	**-0.5**
CO03				*i* S		**Sn**	**20 40 23.3**	**-3.8**
CO03				IAML			20 40 27.8	
	comp=E,2μm,0.5s							
CO03	**El Pedregal**	**1.51**	**113**	Pn		**Pn**	**20 40 06.1**	**-0.8**
CO03				Sn		**Sn**	**20 40 24.5**	**-2.6**
LCO	**Las Campanas**	**1.88**	**49**	*eP*		**Pn**	**20 40 11.9**	**-0.2**
LCO				*i* S		**Sn**	**20 40 35.4**	**-1.0**
LCO	**Las Campanas**	**1.88**	**49**	Pn		**Pn**	**20 40 12.7**	**+0.6**
AC04	**Llanos de Chal**	**2.32**	**28**	*iP*		**Pn**	**20 40 17.3**	**-0.6**
AC04	**Llanos de Chal**	**2.32**	**28**			**Pn**	**20 40 17.3**	**-0.6**
VA06	**Catapilco**	**2.45**	**159**	*eP*		**Pn**	**20 40 19.6**	**-0.1**
VA06				*eS*		**Sn**	**20 40 46.2**	**-3.8**
VA06				IAML			20 40 49.7	
	comp=N,934nm,0.3s							
VA03	**San Esteban**	**2.91**	**149**	*eP*		**Pn**	**20 40 27.1**	**+1.0**
VA03				*eS*		**Sn**	**20 41 00.1**	**-1.4**
VA03				IAML			20 41 13.4	
	comp=E,1μm,0.8s							
VA03	**San Esteban**	**2.91**	**149**			**Pn**	**20 40 26.9**	**+0.7**
ROCH	**El Roble**	**2.92**	**158**	*eP*		**Pn**	**20 40 26.8**	**+0.4**
ROCH				IAML			20 41 20.7	
	comp=E,559nm,0.5s							
GO03	**Copiap**	**3.23**	**35**	Pn		**Pn**	**20 40 30.4**	**0.0**
AC06	**Mina Casimiro**	**3.37**	**31**	Pn		**Pn**	**20 40 31.6**	**-0.8**
ZON	**Zonda**	**3.38**	**113**	Pn		**Pn**	**20 40 34.5**	**+2.0**
MT05	**Renca**	**3.39**	**157**	*eP*		**Pn**	**20 40 33.5**	**+0.7**
MT05	**Renca**	**3.39**	**157**	Pn		**Pn**	**20 40 34.0**	**+1.2**
VA05	**Santo Domingo**	**3.43**	**170**			**Pn**	**20 40 33.4**	**+0.2**
MT09	**Talagante**	**3.68**	**163**	*eP*		**Pn**	**20 40 37.6**	**+0.9**
MT09	**Talagante**	**3.68**	**163**			**Pn**	**20 40 37.6**	**+0.9**
MT01	**Popeta**	**3.70**	**166**	*eP*		**Pn**	**20 40 36.7**	**-0.2**
MT01	**Popeta**	**3.70**	**166**	Pn		**Pn**	**20 40 37.0**	**+0.1**
BO03	**Pichilemu**	**4.23**	**176**	*eP*		**Pn**	**20 40 43.4**	**-0.8**
BO01	**Tunca**	**4.24**	**166**	*eP*		**Pn**	**20 40 44.4**	**+0.1**
BO01	**Tunca**	**4.24**	**166**			**Pn**	**20 40 44.5**	**+0.1**
AC02	**Maricunga**	**4.42**	**40**	Pn		**Pn**	**20 40 47.4**	**+0.2**
BO02	**Sierra Bellavi**	**4.70**	**164**	*eP*		**Pn**	**20 40 50.9**	**+0.3**
BO02	**Sierra Bellavi**	**4.70**	**164**	Pn		**Pn**	**20 40 51.3**	**+0.6**
GO05	**Huala**	**4.74**	**176**	Pn		**Pn**	**20 40 50.1**	**-1.1**
PB14	**IPOC Station P**	**5.87**	**17**	Pn		**Pn**	**20 41 05.1**	**-1.9**
H03N1	**Juan Fernandez** baz=305	**6.44**	**239**	Pn		**Pn**	**20 41 15.2**	**+0.9**
H03N2	**Juan Fernandez** baz=305	**6.46**	**239**	Pn		**Pn**	**20 41 15.4**	**+0.9**
H03N3	**Juan Fernandez** baz=305	**6.46**	**239**	Pn		**Pn**	**20 41 15.4**	**+0.8**
VA04	**Juan Fernndez**	**6.48**	**237**	Pn		**Pn**	**20 41 15.0**	**-0.1**
H03S3	**Juan Fernandez** baz=95	**6.63**	**236**	Pn		**Pn**	**20 41 16.5**	**-0.4**
H03S3	baz=56			Sn		**Sn**	**20 42 31.2**	**-1.5**
H03S1	**Juan Fernandez** baz=95	**6.63**	**236**	Pn		**Pn**	**20 41 16.5**	**-0.5**
H03S1	baz=56			Sn		**Sn**	**20 42 27.0**	**-5.9**
H03S2	**Juan Fernandez** baz=95	**6.65**	**236**	Pn		**Pn**	**20 41 16.9**	**-0.3**
H03S2	baz=56			Sn		**Sn**	**20 42 28.4**	**-4.7**
PB10	**IPOC Station P**	**6.91**	**14**	Pn		**Pn**	**20 41 19.7**	**-1.3**
PB15	**IPOC Station P**	**7.47**	**21**	Pn		**Pn**	**20 41 27.7**	**-1.3**
PB06	**IPOC Station P**	**7.92**	**19**	Pn		**Pn**	**20 41 33.8**	**-1.2**
PB04	**IPOC Station P**	**8.13**	**14**	Pn		**Pn**	**20 41 36.3**	**-1.7**
LVC	**Limon Verde** comp=E,0.4nm,0.3s,baz=224,slow=14,SNR=1.3	**8.21**	**23**	Pn		**Pn**	**20 41 37.8**	**-1.4**
LVC	baz=314,slow=17,SNR=1.6			Sn		**Sn**	**20 43 08.3**	**-4.3**
LVC	**Limon Verde**	**8.21**	**23**	Pn		**Pn**	**20 41 38.0**	**-1.2**
LC01	**Cunco**	**8.62**	**178**	Pn		**Pn**	**20 41 43.9**	**-0.6**
PB09	**IPOC Station P**	**8.87**	**19**	Pn		**Pn**	**20 41 45.8**	**-2.4**
PB01	**IPOC Station P**	**9.53**	**16**	Pn		**Pn**	**20 41 56.3**	**-0.7**
PLCA	**Paso Flores** comp=E,0.2nm,0.3s,baz=337,slow=14,SNR=6.2	**10.54**	**173**	Pn		**Pn**	**20 42 10.7**	**-0.2**
PLCA	**Paso Flores**	**10.54**	**173**	Pn		**Pn**	**20 42 10.6**	**-0.3**
TRQA	**Tornquist**	**11.55**	**135**	Pn		**Pn**	**20 42 25.8**	**+1.1**
LPAZ	**La Paz** comp=E,0.1nm,0.3s,baz=180,slow=6.9,SNR=14	**14.43**	**16**	Pn		**Pn**	**20 43 05.9**	**+1.2**
LPAZ	**La Paz**	**14.43**	**16**	Pn		**Pn**	**20 43 06.8**	**+2.1**
SIV	**San Ignacio** comp=E,0.3nm,0.3s,baz=227,slow=11,SNR=14	**17.55**	**38**	P		**P**	**20 43 46.1**	**+0.3**
SAML	**Samuel**	**22.86**	**24**	P		**P**	**20 44 43.5**	**+0.1**
BDFB	**Brasilia** comp=E,1.7nm,0.5s,baz=232,slow=6.6,SNR=3.8	**26.61**	**62**	P		**P**	**20 45 18.4**	**-0.4**
CBYP	**Canovanas**	**48.66**	**8**	P		**P**	**20 48 24.1**	**-0.1**
CBYP	comp=Z,5.9nm,0.9s			IAmb	IAmb		20 48 41.1	
SNAA	**Sanae**	**55.13**	**159**	P		**P**	**20 49 13.8**	**+1.8**
SNAA	comp=Z,6.2nm,1.4s			IAmb	IAmb		20 49 23.3	
QSPA	**South Pole Qui**	**59.96**	**180**	P		**P**	**20 49 47.7**	**+1.5**
QSPA	comp=Z,2.5nm,1.2s			IAmb	IAmb		20 49 54.7	
553A	**Crawfordville**	**61.22**	**348**	P		**P**	**20 49 54.9**	**+0.1**
TXAR	**Lajitas Array** comp=Z,0.4nm,0.8s,baz=155,slow=9.1,SNR=4.3	**66.38**	**330**	P		**P**	**20 50 32.1**	**+3.0**
TXAR	**Lajitas Array**	**66.38**	**330**	P		**P**	**20 50 31.2**	**+2.1**
DBIC	**Dimbokro** comp=Z,2.0nm,0.8s,baz=259,slow=5.2,SNR=1.3	**74.24**	**72**	P		**P**	**20 51 17.8**	**+0.3**
DBIC	**Dimbokro**	**74.24**	**72**	P		**P**	**20 51 18.5**	**+1.0**
TORD	**Torodi Ar. Bea** comp=Z,1.3nm,0.6s,baz=244,slow=2.7,SNR=17	**83.17**	**71**	P		**P**	**20 52 07.6**	**+0.9**
TORD	**Torodi Ar. Bea** comp=Z,1.6nm,0.8s	**83.17**	**71**	P		**P**	**20 52 07.1**	**+0.4**
TORD				IAmb	IAmb		20 52 08.6	
WRA	**Warramunga Arr** comp=Z,0.7nm,1.1s,baz=142,slow=1.5,SNR=1.8	**123.88**	**211**	PKP		**PKiKP**	**20 58 41.4**	**+2.3**
ZALV	**Zalesovo Beam** comp=Z,1.1nm,0.6s,baz=314,slow=6.2,SNR=3.9	**151.13**	**28**	PKPbc		**PKiKP**	**20 59 33.8**	**+0.4**
ZALV	**Zalesovo Beam**	**151.13**	**28**			**PKiKP**	**20 59 34.5**	**+1.1**

*IDC **19** 20:41:17.2±0.9, 32.˙37S×72.˙09W, h0km, mb4.1/7, mb1 4.2/11, mb1mx4.0/33, mbtmp4.1/11, ML3.8/4, MS3.3/4, Ms1 3.3/4, ms1mx3.0/29, Error ellipse: s-maj=31.6km s-min=21.0km az=101.0*

*NEIC **19** 20:41:18.9±1.4, 32.˙36S±0.˙03×72.˙24W±0.˙06, h9km±4km, mb4.4/16, Mwr4.2/40, Error ellipse: s-maj=8.1km s-min=3.0km az=62.0*

*NEIC **19** 20:41:19.2, 32.˙35S×72.˙19W, h13km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.34; $M_{\theta\theta}$0.47; $M_{\phi\phi}$-2.80; $M_{r\theta}$0.50; $M_{\theta\phi}$-0.07; $M_{\phi r}$-1.19; Fault plane solution: $M_0$2.91000×10^{15} NP1:ϕ_s168.93000°, δ58.62000°, λ75.58000°. NP2:ϕ_s15.22000°, δ34.22000°, λ112.22000°. Principal axes: T 2.7137, Plg72.0000°, Azm43.0000°; N 0.3530, Plg12.0000°, Azm177.0000°; P -3.0667, Plg13.0000°, Azm269.0000°:*

ISC 19 20:41:19.8±0.6, **32.˙40S**±0.˙04×**72.˙19W**±0.˙08, **h16**km, **n55**, σ1**ŝ10**/51, **mb4.4**/11, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op	ISC	h m s	ISC
VA01	**Torpederas**	**0.78**	**144**		**Pg**	**20 41 35.1**	**+0.2**
VA01					**Sg**	**20 41 46.0**	**+0.8**
VA05	**Santo Domingo**	**1.35**	**159**	Pn	**Pn**	**20 41 43.5**	**-0.5**
VA05				Sn	**Sn**	**20 42 00.0**	**-1.5**
VA03	**San Esteban**	**1.43**	**105**	Pn	**Pb**	**20 41 45.3**	**-0.9**
MT05	**Renca**	**1.57**	**130**	Pn	**Pb**	**20 41 48.1**	**-0.5**
MT05				Sn	**Sb**	**20 42 08.0**	**-0.3**
MT01	**Popeta**	**1.66**	**152**	Pn	**Pn**	**20 41 48.5**	**+0.2**
MT09	**Talagante**	**1.71**	**144**		**Pn**	**20 41 49.1**	**+0.1**
CO06	**Fray Jorge**	**1.78**	**16**	Pn	**Pn**	**20 41 48.1**	**-1.8**
CO03	**El Pedregal**	**2.01**	**40**	Pn	**Pn**	**20 41 53.2**	**0.0**
BO01	**Tunca**	**2.19**	**155**	Pn	**Pn**	**20 41 56.7**	**+1.1**
CO05	**La Serena**	**2.60**	**19**	Pn	**Pn**	**20 42 00.4**	**-0.7**
GO05	**Huala**	**2.62**	**175**		**Pn**	**20 42 01.1**	**-0.3**
ML02	**Panimavida**	**3.42**	**169**	Pn	**Pn**	**20 42 12.0**	**-0.4**
GO03	**Copiap**	**5.08**	**20**	Pn	**Pn**	**20 42 33.5**	**-1.8**
H03N1	**Juan Fernandez** baz=68,slow=71,SNR=59	**5.75**	**258**	T	T	20 48 35.4	
H03N3	**Juan Fernandez** baz=68,slow=71,SNR=42	**5.76**	**258**	T	T	20 48 39.2	
H03N2	**Juan Fernandez** baz=68,slow=71,SNR=48	**5.76**	**258**	T	T	20 48 37.4	
H03S3	**Juan Fernandez** baz=83,slow=75,SNR=6.9	**5.82**	**254**	T	T	20 49 24.6	
H03S1	**Juan Fernandez** baz=83,slow=75,SNR=8.2	**5.82**	**254**	T	T	20 49 23.3	
H03S2	**Juan Fernandez** baz=83,slow=75,SNR=12	**5.83**	**254**	T	T	20 49 26.8	
AC02	**Maricunga**	**6.15**	**26**	Pn	**Pn**	**20 42 49.3**	**-1.1**
LC01	**Cunco**	**6.49**	**178**	Pn	**Pn**	**20 42 54.6**	**-0.1**
LR03	**Panguipulli**	**7.22**	**181**	Pn	**Pn**	**20 43 04.5**	**-0.2**
PLCA	**Paso Flores** 0.2nm,0.3s,baz=287,slow=13,SNR=2.5	**8.42**	**171**	Pn	**Pn**	**20 43 21.3**	**+0.1**
PLCA	0.1nm,0.3s,baz=137,slow=22,SNR=3.5			Lg	Lg	20 45 48.8	
PLCA	comp=Z,208nm,21.3s,baz=350,slow=39			LR	LR	20 46 44.5	
PLCA	**Paso Flores**	**8.42**	**171**	Pn	**Pn**	**20 43 21.9**	**+0.7**
LL04	**Puerto Octay**	**8.50**	**181**	Pn	**Pn**	**20 43 22.4**	**+0.3**
LVC	**Limon Verde** 1.1nm,0.3s,baz=116,slow=8.0,SNR=4.5	**10.17**	**17**	Pn	**Pn**	**20 43 44.3**	**-1.3**
LVC	0.4nm,0.3s,baz=340,slow=3.4,SNR=1.7			Sn	**Sn**	**20 45 44.7**	**+5.2**
LVC	comp=Z,100nm,19.6s,baz=192,slow=36			LR	LR	20 47 17.2	
CPUP	**Villa Florida** comp=Z,149nm,18.9s,baz=230,slow=38	**14.29**	**69**	LR	LR	20 50 14.9	
LPAZ	**La Paz** 0.2nm,0.3s,baz=183,slow=8.7,SNR=12	**16.45**	**14**	Pn	**Pn**	**20 45 09.7**	**-0.9**
LPAZ	**La Paz**	**16.45**	**14**		**Pn**	**20 45 09.7**	**-0.9**
AQDB	**Aquidauana**	**18.92**	**55**		**Pn**	**20 45 41.1**	**+0.5**
SIV	**San Ignacio** 0.5nm,0.3s,baz=217,slow=10,SNR=13	**19.20**	**34**	P	**P**	**20 45 41.3**	**-1.7**
SAML	**Samuel**	**24.78**	**22**	P	**P**	**20 46 40.3**	**-0.7**
SAML	comp=Z,6.5nm,1.2s			IAmb	IAmb	20 46 53.2	
BDFB	**Brasilia** comp=Z,3.9nm,0.7s,baz=246,slow=8.2,SNR=5.3	**27.57**	**58**	P	**P**	**20 47 05.4**	**-0.9**
BDFB	**Brasilia**	**27.57**	**58**	P	**P**	**20 47 05.2**	**-1.1**
BDFB	comp=Z,12nm,1.2s			IAmb	IAmb	20 47 10.9	
RPN	**Rapa Nui** comp=Z,71nm,18.7s,baz=194,slow=30	**32.56**	**269**	LR	LR	20 57 45.8	
PTGA	**Pitinga** comp=Z,2.4nm,0.4s,baz=202,slow=9.8,SNR=11	**33.54**	**23**	P	**P**	**20 47 58.0**	**-0.9**
PTGA	**Pitinga**	**33.54**	**23**	P	**P**	**20 47 58.4**	**-0.6**
VNA3	**Neumayer Olymp**	**50.89**	**158**	P	**P**	**20 50 20.6**	**+1.0**
VNA2	**Neumayer--Watz** baz=295,slow=8.5	**51.54**	**158**	P	**P**	**20 50 24.9**	**+0.5**
SNAA	**Sanae**	**53.12**	**158**	P	**P**	**20 50 37.1**	**+0.9**
SNAA	**Sanae**	**53.12**	**158**	P	**P**	**20 50 37.0**	**+0.7**
SNAA	comp=Z,3.3nm,0.9s			IAmb	IAmb	20 50 38.2	
QSPA	**South Pole Qui**	**57.84**	**180**	P	**P**	**20 51 11.6**	**+1.2**
QSPA	comp=Z,4.7nm,0.9s			IAmb	IAmb	20 51 24.3	
TXAR	**Lajitas Array** comp=Z,0.4nm,0.7s,baz=148,slow=7.1,SNR=5.7	**68.28**	**331**	P	**P**	**20 52 20.6**	**+0.6**
TXAR	**Lajitas Array**	**68.28**	**331**	P	**P**	**20 52 20.5**	**+0.4**
MAW	**Mawson** comp=Z,1.3nm,0.7s,baz=294,slow=10.0,SNR=1.8	**74.75**	**164**	P	**P**	**20 52 58.7**	**+0.2**
DBIC	**Dimbokro** comp=Z,2.8nm,0.7s,baz=259,slow=5.2,SNR=2.3	**74.79**	**72**	P	**P**	**20 52 59.4**	**-0.2**
DBIC	**Dimbokro**	**74.79**	**72**	P	**P**	**20 52 59.8**	**+0.2**
KOWA	**Kowa**	**80.09**	**66**	P	**P**	**20 53 29.3**	**+0.1**
KOWA	comp=Z,3.0nm,0.8s			IAmb	IAmb	20 53 29.6	
NVAR	**Mina Array Bea** comp=Z,0.2nm,0.5s,baz=134,slow=3.9,SNR=1.8	**82.50**	**325**	P	**P**	**20 53 42.2**	**+0.4**
TORD	**Torodi Ar. Bea** comp=Z,2.8nm,0.7s,baz=263,slow=4.6,SNR=14	**83.79**	**70**	P	**P**	**20 53 48.5**	**-0.1**
TORD	**Torodi Ar. Bea**	**83.79**	**70**	P	**P**	**20 53 48.9**	**+0.2**
TORD	comp=Z,2.4nm,0.8s			IAmb	IAmb	20 53 49.5	
ASAR	**Alice Springs** comp=Z,0.3nm,0.9s,baz=132,slow=1.4,SNR=1.8	**118.93**	**207**	PKP	**PKPdf**	**21 00 07.4**	**-0.7**
WRA	**Warramunga Arr** comp=Z,0.4nm,0.6s,baz=173,slow=1.8,SNR=1.4	**122.09**	**210**	PKP	**PKPdf**	**21 00 13.8**	**-0.5**
ZALV	**Zalesovo Beam** comp=Z,2.7nm,0.7s,baz=262,slow=2.2,SNR=7.9	**152.93**	**30**	PKPbc	**PKiKP**	**21 01 15.6**	**-0.3**
MKAR	**Makanchi Array** comp=Z,1.1nm,0.7s,baz=292,slow=4.0,SNR=8.2	**155.78**	**46**	PKPab	**PKPab**	**21 01 39.5**	**+0.1**

*VAO **19** 20:45:44.5±0.3, 6.˙01N×74.˙20W, h10km, mb4.5*

*NEIC **19** 20:45:46.0±2.4, 6.˙04N±0.˙04×74.˙25W±0.˙03, h18km±3km, mb4.7/92, Error ellipse: s-maj=5.5km s-min=4.8km az=198.0*

*RSNC **19** 20:45:45.6±1.4, 6.˙06N×74.˙29W, h4km±3km, ML3.9, Mw4.5, Fault plane solution: NP1:ϕ_s159.00000°, δ59.00000°, λ-22.00000°.*

*IDC **19** 20:45:47.7±1.6, 6.˙00N×74.˙21W, h42km±15km, mb4.1/25, mb1 4.3/28, mb1mx4.2/43, mbtmp4.4/28, ML3.6/3, MS3.5/10, Ms1 3.5/10, ms1mx3.1/40, Error ellipse: s-maj=13.3km s-min=11.7km az=73.0*

*BGR **19** 20:45:56.1±0.0, 7.˙06N×73.˙14W, h33km, mb4.8*

ISC 19 20:45:43.4±0.8, **6.˙08N**±0.˙02×**74.˙23W**±0.˙02, **h8**km±5km, **n294**, σ1**ŝ38**/341, **mb4.7**/99, **MS3.6**/7, **19C-25D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op	ISC	h m s	ISC
SPBC	**San Pablo de B**	**0.45**	**160**	⇓*iP*	**Pb**	**20 45 53.0**	**-0.7**
SPBC				*eS*	**Sb**	**20 46 00.7**	**+0.2**
SPBC	comp=Z,6μm,0.5s			*i*		20 46 05.8	
PTBC	**PUERTO BERRIO,**	**0.51**	**334**	⇑*iP*	**Pg**	**20 45 54.1**	**+0.7**
PTBC				*eS*	**Sg**	**20 46 01.4**	**+1.3**
PTBC	comp=Z,6μm,0.5s			*i*		20 46 03.0	
NORC	**Norcasia**	**0.81**	**231**	⇑*iP*	**Pg**	**20 45 58.5**	**-0.6**
NORC				*eS*	**Sg**	**20 46 09.1**	**-0.6**
NORC	comp=Z,8μm,0.4s			*i*		20 46 10.2	
BRRC	**Barranca, Sant**	**1.15**	**27**	⇑*iP*	**Pn**	**20 46 06.5**	**+0.7**
BRRC	comp=Z,818nm,0.3s			*i*		20 46 08.4	
BRRC				*eS*	**Sn**	**20 46 22.2**	**+0.5**
RUSC	**La Rusia**	**1.15**	**99**	Pn	**Pn**	**20 46 06.2**	**-0.1**
RUSC				Sn	**Sb**	**20 46 20.6**	**-0.7**
RUSC	**La Rusia**	**1.15**	**99**	⇓*iP*	**Pn**	**20 46 06.4**	**+0.1**
RUSC				*eS*	**Sn**	**20 46 22.9**	**+0.4**
RUSC	comp=Z,832nm,0.6s			*i*		20 46 31.2	
BARC	**Barichara**	**1.16**	**64**	⇓*eP*	**Pn**	**20 46 06.9**	**+0.7**
BARC	comp=Z,1μm,0.5s			*i*		20 46 12.0	
BARC				*eS*	**Sn**	**20 46 23.6**	**+1.3**
ROSC	**El Rosal**	**1.23**	**184**	P	**Pn**	**20 46 07.6**	**+0.3**
ROSC	comp=Z,431nm,0.3s,baz=198,slow=3.2,SNR=229			S	**Sn**	**20 46 26.9**	**+2.6**
ROSC	**El Rosal**	**1.23**	**184**		**Pn**	**20 46 07.9**	**+0.6**
ROSC	comp=Z,346nm,0.3s,baz=56,slow=19,SNR=9.6			Sn	**Sn**	**20 46 26.0**	**+1.7**
ROSC	**El Rosal**	**1.23**	**184**	⇑*iP*	**Pn**	**20 46 07.9**	**+0.6**
ROSC				*eS*	**Sb**	**20 46 23.7**	**+0.4**
ROSC	comp=Z,2μm,0.5s			*i*		20 46 37.1	
HELC	**Santa Helena**	**1.30**	**275**	⇑*eP*	**Pg**	**20 46 07.1**	**-1.3**
HELC				*eS*	**Sg**	**20 46 23.5**	**-1.8**
HELC	comp=Z,2μm,0.6s			*i*		20 46 26.9	
GUY2C	**Guyana, Caldas**	**1.41**	**233**	⇑*iP*	**Pn**	**20 46 09.8**	**-0.1**
GUY2C				*eS*	**Sg**	**20 46 27.3**	**-1.7**
GUY2C	comp=Z,3μm,0.6s			*i*		20 46 41.2	
CHIC	**Chingaza**	**1.52**	**161**	⇓*eP*	**Pg**	**20 46 13.6**	**+0.9**
CHIC	comp=Z,1μm,0.5s			*i*		20 46 16.3	
CHIC				*eS*	**Sg**	**20 46 34.5**	**+2.1**
ZARC	**Zaragoza, Cauc**	**1.54**	**336**	*eP*	**Pn**	**20 46 10.6**	**-0.6**
ZARC				*eS*	**Sn**	**20 46 32.5**	**+1.0**
ZARC	comp=Z,974nm,0.4s			*i*		20 46 34.8	
CBOC	**Ciudad Bolivar**	**1.79**	**263**	⇑*eP*	**Pn**	**20 46 15.8**	**+1.1**
CBOC				*eS*	**Sn**	**20 46 38.7**	**+0.9**
CBOC				*i*		20 46 43.1	
	comp=Z,2μm,0.5s						
CIBA1	**Ibague, SGC**	**1.90**	**212**	*eP*	**Pb**	**20 46 19.3**	**+0.8**
CIBA1				*eS*	**Sb**	**20 46 42.7**	**+0.2**
PAMC	**Pamplona, Colo**	**1.97**	**50**	⇑*iP*	**Pb**	**20 46 20.1**	**+0.2**
PAMC				*eS*	**Sg**	**20 46 46.7**	**-0.2**
PAMC	comp=Z,1μm,0.5s			*i*		20 46 58.0	
VILC	**Villavicencio,**	**2.02**	**165**	⇓*iP*	**Pb**	**20 46 21.2**	**+0.6**
VILC	comp=Z,2μm,0.5s			*i*		20 46 30.2	
VILC				*eS*	**Sg**	**20 46 52.5**	**+4.0**
UREC	**San Jos de Ur**	**2.11**	**322**	⇓*eP*	**Pn**	**20 46 20.2**	**+1.1**
UREC				*eS*	**Sn**	**20 46 46.8**	**+1.3**
UREC	comp=Z,938nm,0.4s			*i*		20 46 51.5	
DBBC	**Dabeiba**	**2.18**	**296**	⇑*eP*	**Pb**	**20 46 22.7**	**-0.5**
DBBC				*eS*	**Sb**	**20 46 51.1**	**+0.7**
OCAC	**Ocana**	**2.33**	**23**	⇑*eP*	**Pn**	**20 46 23.2**	**+1.0**
OCAC				*eS*	**Sb**	**20 46 54.2**	**-0.7**
OCAC	comp=Z,1μm,0.7s			*i*		20 47 09.6	
ORTC	**Ortega, Tolima**	**2.38**	**205**	⇑*eP*	**Pn**	**20 46 24.5**	**+1.7**
ORTC				*eS*	**Sn**	**20 46 53.2**	**+1.0**
ORTC	comp=Z,1μm,0.6s			*i*		20 47 11.8	
PRAC	**Prado**	**2.44**	**196**	⇑*eP*	**Pn**	**20 46 24.4**	**+0.8**
PRAC				*eS*	**Sn**	**20 46 55.2**	**+1.6**
PRAC	comp=Z,1μm,0.7s			*i*		20 47 17.9	
TAMC	**Tame, Arauca**	**2.45**	**81**	*eP*	**Pb**	**20 46 26.8**	**-1.0**
TAMC				*eS*	**Sb**	**20 46 58.4**	**+0.2**
TAMC	comp=Z,383nm,0.5s			*i*		20 47 13.5	
SMLC	**San Martn de**	**2.71**	**3**	*eP*	**Pn**	**20 46 29.6**	**+2.2**
SMLC				*eS*	**Sn**	**20 47 03.2**	**+2.8**
SMLC	comp=Z,438nm,0.6s			*i*		20 47 21.8	
PTGC	**Puerto Gaitan,**	**2.80**	**132**	*eP*	**Pb**	**20 46 30.9**	**-2.7**
PTGC				*eS*	**Sb**	**20 47 05.8**	**-2.4**
PTGC	comp=Z,487nm,0.7s			*i*		20 47 21.5	
YOTC	**Yotoco, Valle**	**2.96**	**226**	⇑*eP*	**Pn**	**20 46 32.2**	**+1.3**
YOTC	comp=Z,230nm,0.6s			*i*		20 46 38.8	
YOTC				*eS*	**Sn**	**20 47 07.5**	**+0.8**
PIZC	**Pizarro, Choco**	**3.31**	**251**	*eP*	**Pn**	**20 46 39.0**	**+3.5**
PIZC				*eS*	**Sn**	**20 47 15.0**	**0.0**
PIZC	comp=Z,332nm,0.6s			*i*		20 47 32.6	
LCBC	**Los crdobas,**	**3.48**	**323**	⇑*eP*	**Pn**	**20 46 40.0**	**+2.0**
LCBC				*eS*	**Sn**	**20 47 21.4**	**+1.9**
LCBC	comp=Z,194nm,0.5s			*i*		20 47 52.1	
LL1C	**La Loma 1 Cana**	**3.51**	**11**	*eP*	**Pn**	**20 46 42.3**	**+4.0**
LL1C				*eS*	**Sb**	**20 47 30.0**	**+1.4**
LL2C	**La Loma 2 Cana**	**3.54**	**13**	⇑*eP*	**Pn**	**20 46 42.6**	**+3.8**
LL2C				*eS*	**Sb**	**20 47 26.9**	**-2.8**
LL2C	comp=Z,462nm,0.6s			*i*		20 47 51.4	
BETC	**Betania**	**3.58**	**200**	*eP*	**Pn**	**20 46 40.2**	**+0.9**
BETC	comp=Z,267nm,0.5s			*i*		20 47 42.9	
MARP	**Paez Belalcaza**	**3.64**	**208**	*eP*	**Pn**	**20 46 40.7**	**+0.3**
MARP				*eS*	**Sn**	**20 47 24.4**	**+0.6**
MARP	comp=Z,74nm,0.6s			*i*		20 47 48.6	
MALC	**Bahia Malaga**	**3.71**	**237**	⇑*eP*	**Pn**	**20 46 45.8**	**+4.7**
MALC	comp=Z,145nm,0.5s			*i*		20 47 12.9	
MALC				*eS*	**Sn**	**20 47 28.5**	**+3.5**
PTAC	**Punta Ardita,**	**3.71**	**287**	⇓*eP*	**Pn**	**20 46 43.9**	**+2.8**
PTAC	comp=Z,90nm,0.5s			*i*		20 46 54.2	
ARGC	**Ariguani, Magd**	**3.76**	**360**	⇓*eP*	**Pb**	**20 46 46.5**	**-3.6**
ARGC				*eS*	**Sb**	**20 47 35.0**	**-0.8**
ARGC	comp=Z,138nm,0.7s			*i*		20 48 12.2	
SJCC	**San Jacinto, C**	**3.91**	**346**	Pn	**Pn**	**20 46 45.2**	**+1.3**
SJCC	**San Jacinto, C**	**3.91**	**346**	⇑*iP*	**Pn**	**20 46 45.9**	**+2.0**
SJCC	comp=Z,148nm,0.6s			*i*		20 47 03.3	
SJCC				*eS*	**Sn**	**20 47 32.5**	**+2.4**
MACC	**Macarena, Meta**	**3.92**	**174**	⇓*eP*	**Pn**	**20 46 44.4**	**+0.3**
MACC				*eS*	**Sn**	**20 47 34.6**	**+4.3**
MACC	comp=Z,422nm,0.6s			*i*		20 48 08.6	
SOCV

ETMB Extrema 17.69 153 *eP* **Pn 20 49 51.0 +0.6**
NNA Nana 18.13 188 LR LR 20 58 23.1
comp=Z,23nm,20.6s,baz=348,slow=42
SAML Samuel 18.55 143 P **P 20 49 58.8 -1.9**
SAML Samuel 18.55 143 *eP* **Pn 20 50 01.0 +0.1**
CCIG Comitan 20.27 302 P **P 20 50 19.2 -0.6**
ITTB Itaituba 21.18 119 *eP* **P 20 50 29.3 -0.2**
MALB Monte Alegre 21.43 111 *eP* **P 20 50 32.4 +0.2**
MDP Montagnes des 21.51 91 P **P 20 50 32.8 -0.2**
comp=Z,14nm,0.7s,baz=261,slow=7.7,SNR=7.7
MDP LR LR 20 59 01.3
comp=Z,109nm,21.1s,baz=256,slow=37
NPGB Novo Progresso 22.90 124 *eP* **P 20 50 47.2 -0.7**
CMIG Matias Romero 22.98 300 LR LR 21 00 19.9
comp=Z,74nm,18.7s,baz=168,slow=38
LPAZ La Paz 23.02 165 P **P 20 50 49.4 -0.5**
comp=Z,4.9nm,0.5s,baz=344,slow=11,SNR=18
LPAZ La Paz 23.02 165 P **P 20 50 48.5 -1.3**
LPAZ La Paz 23.02 165 *eP* **P 20 50 49.2 -0.7**
MCPB Macapa, AP 23.04 105 *eP* **P 20 50 50.6 +1.2**
VILB Vilhena 23.49 144 *eP* **P 20 50 53.9 0.0**
CLDB Colider 24.90 132 *eP* **P 20 51 06.6 -0.5**
SIV San Ignacio 25.50 149 P **P 20 51 11.9 -0.7**
comp=Z,23nm,0.9s,baz=331,slow=9.7,SNR=24
SIV LR LR 21 01 57.8
comp=Z,189nm,19.0s,baz=298,slow=38
PB11 IPOC Station P 26.07 170 P **P 20 51 17.1 -0.7**
PB11 IAmb IAmb 20 51 20.1
comp=Z,12nm,0.8s
PTLB Pontes e Lacer 26.09 145 *eP* **P 20 51 19.3 +1.4**
PRPB Parauapebas 27.24 116 *eP* **P 20 51 29.6 +1.3**
TMAB Tom-Au,PA,Br 27.41 107 *eP* **P 20 51 31.5 +1.7**
GOGA Godfrey 28.52 344 P **P 20 51 41.9 +2.3**
SALV Santo Antonio 28.52 140 *eP* **P 20 51 41.6 +1.9**
LVC Limon Verde 28.98 170 LR LR 21 03 53.0
comp=Z,152nm,18.7s,baz=204,slow=38
LVC Limon Verde 28.98 170 P **P 20 51 43.4 -0.8**
SNDB Serra Nova Dou 29.01 128 *eP* **P 20 51 44.7 +0.6**
LRAL Lakeview Retre 29.34 338 P **P 20 51 48.0 +1.2**
LRAL IAmb IAmb 20 51 51.5
comp=Z,13nm,1.4s
Y49A Blount Mountai 29.86 339 P **P 20 51 52.7 +1.2**
Y49A IAmb IAmb 20 51 53.9
comp=Z,8.8nm,0.7s
Z47A Carrollton 29.90 336 P **P 20 51 53.2 +1.4**
FPAL Fort Paine 30.22 341 P **P 20 51 56.0 +1.3**
FPAL IAmb IAmb 20 51 57.0
comp=Z,11nm,1.0s
SMTB Santa Maria do 30.42 119 *eP* **P 20 51 56.9 +0.2**
X48A Hartselle 30.62 339 P **P 20 51 59.0 +0.8**
X48A IAmb IAmb 20 52 01.0
comp=Z,8.3nm,0.9s
TKL Tuckaleechee C 30.72 345 P **P 20 52 00.1 +1.0**
comp=Z,1.4nm,0.4s,baz=164,slow=7.4,SNR=2.6
CPCT Cooper Cave 30.73 343 P **P 20 52 01.1 +2.0**
PB14 IPOC Station P 30.74 173 P **P 20 51 58.9 -0.8**
PB14 IAmb IAmb 20 51 59.8
comp=Z,11nm,0.9s
V51A Loudon 31.02 344 P **P 20 52 03.4 +1.8**
V51A IAmb IAmb 20 52 04.9
comp=Z,14nm,1.0s
ROSB Rosrio 31.36 106 *eP* **P 20 52 05.3 +0.4**
PEXB Peixe 31.48 125 *eP* **P 20 52 06.7 +0.7**
V48A Smith Brothers 31.71 340 P **P 20 52 09.6 +1.8**
AQDB Aquidauana 32.06 146 *eP* **P 20 52 10.3 -0.6**
U49A Red Boiling Sp 32.09 342 P **P 20 52 12.3 +1.3**
U49A IAmb IAmb 20 52 13.4
comp=Z,5.9nm,0.7s
WVT Waverly 32.41 339 P **P 20 52 14.8 +0.9**
WVT IAmb IAmb 20 52 16.7
comp=Z,11nm,0.8s
T47A Sharon Grove 32.94 341 P **P 20 52 19.9 +1.3**
T47A IAmb IAmb 20 52 20.6
comp=Z,11nm,0.7s
X40A Basin Creek Fa 33.09 331 P **P 20 52 20.8 +0.9**
X40A IAmb IAmb 20 52 21.8
comp=Z,6.8nm,0.8s
WHAR Wooly Hollow 33.50 333 P **P 20 52 23.8 +0.4**
WHAR IAmb IAmb 20 52 25.8
comp=Z,7.2nm,0.7s
BDFB Brasilia 33.76 130 P **P 20 52 25.5 -0.6**
comp=Z,4.1nm,0.8s,baz=301,slow=13,SNR=4.6
BDFB Brasilia 33.76 130 P **P 20 52 26.5 +0.4**
BDFB IAmb IAmb 20 52 40.9
comp=Z,12nm,1.3s
Q51A Peebles 33.82 347 P **P 20 52 28.1 +1.8**
WCI Wyandotte Cave 33.83 343 P **P 20 52 27.2 +0.9**
FCAR Ozark Folk Cen 33.92 333 P **P 20 52 27.5 +0.4**
FCAR IAmb IAmb 20 52 28.0
comp=Z,7.9nm,0.7s
PBMO Poplar Bluff 33.96 336 P **P 20 52 28.5 +1.0**
USIN University of 34.02 341 P **P 20 52 28.9 +1.0**
SDBA SAO DESIDERIO 34.45 122 *eP* **P 20 52 30.7 -1.4**
FVM French Village 35.01 337 P **P 20 52 37.6 +1.1**
CCM Cathedral Cave 35.39 336 P **P 20 52 40.5 +0.7**
ABTX Abilene, Hawle 35.47 321 P **P 20 52 40.9 +0.2**
ABTX IAmb IAmb 20 52 41.7
comp=Z,10nm,1.1s
PCMB Pacaembu 35.55 141 *eP* **P 20 52 41.0 -0.4**
S39A Bolivar 35.95 334 P **P 20 52 44.8 +0.1**
S39A IAmb IAmb 20 52 46.8
comp=Z,6.4nm,0.8s
CPUP Villa Florida 36.14 154 LR LR 21 08 56.7
comp=Z,112nm,18.7s,baz=32,slow=38
TXAR Lajitas Array 36.15 313 P **P 20 52 45.6 -1.0**
comp=Z,1.7nm,0.9s,baz=137,slow=11,SNR=7.7
TXAR PcP **PcP 20 55 11.4 -1.0**
comp=Z,0.4nm,0.7s,baz=140,slow=7.1,SNR=3.3
TXAR LR LR 21 10 45.1
comp=Z,27nm,18.8s,baz=0.0,slow=41
TXAR Lajitas Array 36.15 313 P **P 20 52 46.4 -0.2**
JANB Januaria 36.33 126 *eP* **P 20 52 47.7 -0.6**
WMOK Wichita Mounta 36.43 325 P **P 20 52 48.2 -0.6**
NBPB Pedra_Branca-C 36.46 108 *eP* **P 20 52 49.4 0.0**
HDIL Hopedale 36.89 341 P **P 20 52 52.6 -0.1**
SADO Sadowa 38.78 354 P **P 20 53 09.8 +1.3**
SADO IAmb IAmb 20 53 24.2
comp=Z,19nm,1.1s
VAO Valinhos 39.31 138 *eP* **P 20 53 13.3 -0.1**
JFWS Jewell Farm 39.33 341 P **P 20 53 13.3 +0.2**
JFWS IAmb IAmb 20 53 14.7
comp=Z,18nm,0.9s
ITQB Itaqui 39.36 155 *eP* **P 20 53 13.5 0.0**
SPB Sao Paulo 39.42 139 *eP* **P 20 53 14.2 +0.1**
GDU01 Guandu, BA 39.63 120 *eP* **P 20 53 16.3 +0.3**
I42A Draeger Farm, 39.81 343 P **P 20 53 17.5 +0.3**
F64A Sherman 39.96 6 P **P 20 53 19.7 +1.3**
F64A IAmb IAmb 20 53 36.4
comp=Z,15nm,1.4s
CMC01 Camacan, BA 40.45 122 *eP* **P 20 53 22.4 -0.4**
LMN Caledonia Moun 40.46 10 P **P 20 53 23.9 +1.4**
LMN IAmb IAmb 20 53 25.8
comp=Z,12nm,0.9s
GUA01 Guaratinga, BA 40.82 124 *eP* **P 20 53 26.0 +0.1**
D62A Allapoint, All 41.10 5 P **P 20 53 29.0 +1.3**
BSFB Barra de Sao F 41.17 128 *eP* **P 20 53 28.6 -0.1**
EYMN Ely 44.25 343 P **P 20 53 53.4 0.0**
B35A Bob, Littlefor 45.29 342 P **P 20 54 01.6 0.0**
TRQA Tornquist 45.36 166 P **P 20 54 02.1 -0.3**
TRQA IAmb IAmb 20 54 22.0
comp=Z,8.4nm,1.3s
TRQA Tornquist 45.36 166 *eP* **P 20 54 02.2 -0.1**
PLCA Paso Flores 46.70 176 P **P 20 54 11.5 -1.4**
comp=Z,2.1nm,1.0s,baz=360,slow=11,SNR=2.5
PLCA PcP **PcP 20 55 45.6 -0.9**
comp=Z,2.2nm,0.8s,baz=356,slow=5.4,SNR=6.5
PLCA Paso Flores 46.70 176 P **P 20 54 11.7 -1.2**
MVU Marysvale 47.14 319 P **P 20 54 16.9 +0.2**
MVU IAmb IAmb 20 54 20.0
comp=Z,10nm,0.9s
ULM Lac du Bonnet 47.62 341 P **P 20 54 19.7 -0.2**
comp=Z,5.2nm,0.7s,baz=132,slow=6.8,SNR=4.1
PDAR Pinedale Array 48.04 325 P **P 20 54 23.3 -0.3**
comp=Z,1.2nm,1.0s,baz=119,slow=9.0,SNR=4.6
DUG Dugway, Tooele 48.47 320 P **P 20 54 27.6 +0.7**
SCHQ Schefferville 48.98 6 P **P 20 54 30.9 +0.6**
comp=Z,7.2nm,0.8s,baz=198,slow=9.2,SNR=5.1
SCHQ Schefferville 48.98 6 P **P 20 54 31.2 +0.9**
BGU Big Grassy Mou 49.02 321 P **P 20 54 31.3 +0.3**
NVAR Mina Array Bea 51.23 316 P **P 20 54 48.1 +0.1**
comp=Z,0.5nm,0.6s,baz=107,slow=7.1,SNR=4.0
NVAR PcP **PcP 20 56 02.5 -0.8**
comp=Z,0.7nm,0.7s,baz=139,slow=4.2,SNR=5.0
YKA Yellowknife Ar 63.59 340 P **P 20 56 13.5 -1.0**
comp=Z,3.0nm,0.6s,baz=125,slow=7.3,SNR=9.2
DBIC Dimbokro 68.89 85 P **P 20 56 47.0 -2.4**
comp=Z,4.1nm,0.8s,baz=307,slow=9.0,SNR=4.7
DBIC Dimbokro 68.89 85 P **P 20 56 48.2 -1.3**
KOWA Kowa 69.38 77 P **P 20 56 52.8 +0.4**
KOWA IAmb IAmb 20 56 54.6
comp=Z,5.3nm,0.8s
MDT Midelt 69.62 57 P **P 20 56 52.9 -0.9**
comp=Z,1.3nm,0.7s,baz=209,slow=6.1,SNR=5.7
SUMG Summit 69.92 11 *i* P **P 20 56 55.0 -0.2**
SUMG IAmb IAmb 20 56 58.1
comp=Z,18nm,0.9s
SUMG Summit 69.92 11 P **P 20 56 55.7 +0.5**
PAB San Pablo 70.66 50 P **P 20 56 59.3 -0.8**
PAB IAmb IAmb 20 57 19.6
comp=Z,7.7nm,1.4s
ESDC Sonseca Array 70.97 50 P **P 20 57 01.0 -0.9**
comp=Z,0.8nm,0.6s,baz=266,slow=6.1,SNR=16
ESDC Sonseca Array 70.97 50 P **P 20 57 02.1 +0.2**
ESBB Sonseca Array 70.97 50 P **P 20 57 01.2 -0.7**
ESBB IAmb IAmb 20 57 18.3
comp=Z,8.1nm,1.4s
PMSA Palmer Station 71.07 175 *eP* **P 20 57 01.7 0.0**
DSB Dublin 71.98 36 P **P 20 57 07.9 +0.3**
DSB IAmb IAmb 20 57 24.9
comp=Z,9.0nm,1.1s
ESK Eskdalemuir 74.27 34 P **P 20 57 21.8 +0.7**
EKA Eskdalemuir Ar 74.30 34 P **P 20 57 21.1 -0.2**
comp=Z,6.1nm,0.8s,baz=248,slow=4.5,SNR=19
BCAR Beaver Creek A 74.55 334 P **P 20 57 23.5 +0.8**
L27K Beaver Creek, 74.56 334 P **P 20 57 24.2 +1.5**
K27K Chicken 74.96 335 P **P 20 57 26.1 +1.1**
TORD Torodi Ar. Bea 74.97 78 P **P 20 57 24.3 -1.6**
comp=Z,0.6nm,0.4s,baz=286,slow=5.9,SNR=14
TORD Torodi Ar. Bea 74.97 78 P **P 20 57 25.9 -0.1**
RIDG Independent Ri 76.06 334 P **P 20 57 32.0 +0.7**
RIDG IAmb IAmb 20 57 43.2
comp=Z,10nm,1.1s
BMAR Burnt Mountain 76.94 338 P **P 20 57 36.3 +0.1**
ILAR Eielson Array 77.17 335 P **P 20 57 37.0 -0.6**
comp=Z,1.5nm,0.8s,baz=109,slow=4.3,SNR=13
ILAR Eielson Array 77.17 335 P **P 20 57 37.2 -0.3**
RND Reindeer 77.73 334 P **P 20 57 41.1 +0.3**
DOU Dourbes 78.20 40 *dP* **P 20 57 43.6 0.0**
DOU *dP*cP **PcP 20 57 53.7 +0.7**
BMRD Maredsous 78.32 40 *dP* **P 20 57 44.7 +0.5**
BGES Gesves 78.53 40 *dP* **P 20 57 45.8 +0.3**
BCLA Clavier 78.67 40 *dP* **P 20 57 48.0 +1.9**
KDAK Kodiak Island 78.68 328 LR LR 21 35 02.2
comp=Z,156nm,21.1s,baz=223,slow=38
BPAW Bear Paw Mtn. 78.78 334 P **P 20 57 46.2 -0.3**
BPAW IAmb IAmb 20 57 47.7
comp=Z,7.4nm,1.0s
MLY Manley 78.83 335 P **P 20 57 46.3 -0.5**
BSTI Sart Tilman 78.85 40 *dP* **P 20 57 48.2 +1.1**
BHOU Houvegnez 79.12 40 *dP* **P 20 57 49.8 +1.2**
MEM Membach 79.14 40 *dP* **P 20 57 49.4 +0.6**
PPLA Purkeypile 79.14 333 P **P 20 57 48.3 -0.4**
PPLA IAmb IAmb 20 57 48.9
comp=Z,11nm,1.0s
CAST Castle Rocks 79.16 333 P **P 20 57 48.0 -0.6**
CAST IAmb IAmb 20 57 50.2
comp=Z,5.0nm,0.9s
WLF Walferdange 79.17 41 *dP* **P 20 57 49.9 +1.0**
comp=Z,18nm,1.0s
WLF Walferdange 79.17 41 P **P 20 57 49.2 +0.3**
WLF Walferdange 79.17 41 *eP* **P 20 57 50.4 +1.4**
comp=Z,24nm,1.0s,baz=270,slow=5.3
BTNL Ternell 79.21 40 *dP* **P 20 57 48.7 -0.5**
BNI Bardonecchia 79.31 45 P **P 20 57 50.4 +0.4**
BNI IAmb IAmb 20 58 03.5
comp=Z,6.3nm,1.1s
SENIN Lac Senin/Sane 79.79 44 P **P 20 57 53.2 +0.5**
SENIN IAmb IAmb 20 57 56.1
comp=Z,6.4nm,0.8s
AHRW Bad Neuenahr-A 79.81 40 *eP* **P 20 57 54.0 +1.6**
comp=Z,13nm,1.1s,baz=270,slow=5.3
BUG Bochum-Univer 79.98 39 *eP* **P 20 57 54.4 +1.1**
comp=Z,9.6nm,0.8s,baz=270,slow=5.3
J20K Nowinta River 80.17 334 P **P 20 57 53.7 -0.3**
J20K IAmb IAmb 20 57 54.4
comp=Z,5.6nm,0.9s
IMAR Indian Mountai 80.22 336 P **P 20 57 53.9 -0.4**
BFO Black Forest 80.55 42 *eP* **P 20 57 56.9 +0.5**
comp=Z,4.4nm,0.9s,baz=270,slow=5.3
TNS Taunus Mts 80.68 40 *eP* **P 20 57 58.5 +1.3**
comp=Z,11nm,1.1s,baz=270,slow=5.3
KASTN Kahler Asten 80.69 39 *eP* **P 20 57 58.2 +1.0**
comp=Z,5.6nm,1.1s,baz=270,slow=5.3
STU Stuttgart 81.13 42 P **P 20 57 59.5 0.0**
STU Stuttgart 81.13 42 *eP* **P 20 58 00.3 +0.7**
comp=Z,29nm,0.7s,baz=270,slow=5.3
MILB Miltenberg 81.21 41 *eP* **P 20 58 01.4 +1.4**
comp=Z,7.6nm,0.8s,baz=270,slow=5.3
DAVOX Davos/Dischmat 81.58 44 P **P 20 58 02.6 +0.4**
comp=Z,14nm,0.9s,baz=270,slow=4.4,SNR=22
DAVA Damuels 81.58 43 *eP* **P 20 58 03.1 +0.9**
comp=Z,13nm,0.8s,SNR=9.8
GTTG Gottingen 81.67 39 *eP* **P 20 58 03.9 +1.6**
comp=Z,8.7nm,1.0s,baz=270,slow=5.3
CLZ Clausthal 81.92 39 *eP* **P 20 58 05.2 +1.5**
comp=Z,10nm,0.9s,baz=270,slow=5.3
FETA Feichten 82.16 43 *eP* **P 20 58 06.1 +0.8**
comp=Z,12nm,0.9s
RETA Reutte 82.17 43 *i* P **P 20 58 06.2 +1.0**
comp=Z,5.4nm,1.0s
MOTA Moosalm 82.41 43 *eP* **P 20 58 07.0 +0.4**
comp=Z,7.1nm,0.9s,SNR=8.4
SQTA Sankt Quirin 82.48 43 *eP* **P 20 58 07.5 +0.6**
comp=Z,10nm,1.1s
NB2 NORSAR Subarra 82.51 29 P **P 20 58 07.5 +0.9**
comp=Z,5.8nm,0.8s,baz=269,slow=5.3
NOA NORSAR Array B 82.51 29 P **P 20 58 07.8 +1.2**
comp=Z,3.0nm,0.7s,baz=268,slow=5.3,SNR=9.0
WATA Walderalm 82.73 43 *i* P **P 20 58 08.8 +0.6**
comp=Z,5.0nm,1.2s
NC405 NORSAR Array S 82.76 29 P **P 20 58 08.3 +0.4**
WTTA Wattenberg 82.77 43 *i* P **P 20 58 08.9 +0.4**
comp=Z,6.2nm,1.0s,SNR=7.2
CTI Castel Tesino 82.81 44 P **P 20 58 08.9 +0.3**
CTI IAmb IAmb 20 58 10.8
comp=Z,4.1nm,0.7s
TEOL Teolo 82.84 45 P **P 20 58 09.3 +0.7**
MANZ Manzenberg 83.03 40 *eP* **P 20 58 11.0 +1.4**
comp=Z,6.6nm,1.0s,baz=270,slow=5.3
PLN Plauen 83.06 40 *eP* **P 20 58 11.1 +1.5**
comp=Z,5.6nm,1.1s,baz=270,slow=5.3
WERN Wernitzgruen 83.20 40 *eP* **P 20 58 11.9 +1.5**
comp=Z,4.8nm,1.0s,baz=270,slow=5.3
TANN Tannenbergstha 83.25 40 *eP* **P 20 58 12.0 +1.3**
comp=Z,8.0nm,1.1s,baz=270,slow=5.3
ABTA Abfaltersbach 83.39 44 *eP* **P 20 58 12.2 +0.6**
comp=Z,12nm,1.0s,SNR=16
RJOB Jochberg 83.55 43 *eP* **P 20 58 14.1 +1.8**
comp=Z,23nm,0.8s,baz=270,slow=5.3
WET Wettzell 83.56 41 *eP* **P 20 58 14.2 +1.9**
comp=Z,6.7nm,1.0s,baz=270,slow=5.3
CLL Collm 83.57 39 *i* P **P 20 58 12.9 +0.6**
comp=Z,3.0nm,0.9s
CLL Collm 83.57 39 *eP* **P 20 58 12.8 +0.6**
comp=Z,3.4nm,0.9s,baz=270,slow=5.3
ZOU Zoufplan 83.71 44 P **P 20 58 13.5 +0.2**
ZOU IAmb IAmb 20 58 15.8
comp=Z,4.4nm,0.8s
HFS Hagfors 83.74 30 P **P 20 58 12.9 0.0**
comp=Z,2.2nm,0.6s,baz=100,slow=4.5,SNR=9.6
KBA Koelnbreinsper 83.94 43 *eP* **P 20 58 15.3 +0.8**
comp=Z,6.4nm,0.9s
KHC Kasperske Hory 84.02 41 *eP* **P 20 58 15.3 +0.7**
GEC2 GERESS Array S 84.11 42 P **P 20 58 15.7 +0.5**
GEC2 IAmb IAmb 20 58 17.8
comp=Z,4.4nm,0.8s
GEC2 GERESS Array S 84.11 42 *eP* **P 20 58 15.9 +0.7**
comp=Z,4.9nm,0.8s,baz=270,slow=5.3
GERES GERESS Array B 84.11 42 P **P 20 58 14.8 -0.4**
comp=Z,2.9nm,0.7s,baz=268,slow=2.9,SNR=28
GERES GERESS Array B 84.11 42 P **P 20 58 15.5 +0.3**
MYKA Terra Mystica 84.17 44 *eP* **P 20 58 16.0 +0.5**
comp=Z,5.8nm,0.8s
BRG Berggiesshubel 84.18 40 *eP* **P 20 58 16.8 +1.4**
comp=Z,6.9nm,1.1s,baz=270,slow=5.3
BRG Berggiesshubel 84.18 40 *eP* **P 20 58 16.4 +1.1**
BRG Amp 20 58 17.8
comp=Z,6.9nm,1.1s
CKRC Cesky Krumlov 84.51 42 *eP* **P 20 58 17.9 +0.7**
MOA Molln 84.53 43 *i* P **P 20 58 17.8 +0.5**
comp=Z,7.4nm,1.4s
PRU Pruhonice 84.60 40 *eP* **P 20 58 18.7 +1.2**
OBKA Obir 84.80 44 *i* P **P 20 58 20.0 +1.3**
comp=Z,6.3nm,1.2s
SOKA Soboth 85.12 44 *i* P **P 20 58 21.5 +1.2**
comp=Z,3.2nm,0.9s
ARSA Arzberg 85.42 43 *i* P **P 20 58 22.3 +0.5**
comp=Z,4.1nm,0.8s
CHVC Chvalec 85.53 40 *eP* **P 20 58 23.3 +1.0**
CONA Conrad Observa 85.60 42 *eP* **P 20 58 23.6 +0.9**
comp=Z,3.3nm,0.8s
OSTC Ostas 85.64 40 *eP* **P 20 58 24.2 +1.4**
DPC Dobruska-Polom 85.72 40 *eP* **P 20 58 24.2 +1.0**
KRUC Moravsky 85.87 41 *eP* **P 20 58 24.3 +0.4**
VRAC Vranov 85.98 41 *eP* **P 20 58 25.9 +1.4**
KRLC Kraliky 86.04 40 *eP* **P 20 58 26.5 +1.7**
MODS Modra-Piesok 86.51 42 *eP* **P 20 58 27.4 +0.3**
MORC Moravsky Berou 86.55 40 P **P 20 58 28.9 +1.6**
MORC IAmb IAmb 20 58 30.8
comp=Z,3.9nm,0.8s
MORC Moravsky Berou 86.55 40 *eP* **P 20 58 28.2 +0.9**
ARCES ARCESS Array B 87.75 20 P **P 20 58 32.7 0.0**
comp=Z,5.2nm,0.9s,baz=311,slow=2.6,SNR=9.2
ARCES ARCESS Array B 87.75 20 P **P 20 58 35.1 +2.4**
VNA3 Neumayer Olymp 87.78 163 P **P 20 58 30.8 -1.9**
VNA1 Neumayer--Stat 87.94 162 P **P 20 58 32.2 -1.3**
VNA2 Neumayer--Watz 88.32 162 P **P 20 58 33.8 -1.5**
baz=303,slow=5.8
DIVS Divibare 88.84 46 P **P 20 58 39.2 +0.7**
DIVS IAmb IAmb 20 58 41.6
comp=Z,5.3nm,1.1s
FINES FINESS Array B 89.62 28 P **P 20 58 41.7 +0.1**
comp=Z,3.0nm,0.9s,baz=292,slow=4.1,SNR=4.2
SNAA Sanae 89.96 163 P **P 20 58 41.2 -1.8**
SNAA Sanae 89.96 163 P **P 20 58 41.6 -1.4**
SNAA IAmb IAmb 20 58 43.6
comp=Z,3.5nm,1.1s
BUR08 Bucovina Ar. S 91.88 42 P **P 20 58 54.2 +1.6**
BUR08 IAmb IAmb 20 58 57.6
comp=Z,3.2nm,0.8s
BURAR Bucovina Array 91.89 42 P **P 20 58 54.4 +1.8**
BURAR IAmb IAmb 20 58 57.2
comp=Z,2.6nm,0.8s
MLR Muntele Rosu 92.80 44 P **P 20 58 55.9 -1.0**
comp=Z,2.6nm,0.4s,baz=235,slow=1.5,SNR=11
QSPA South Pole Qui 96.09 180 P **P 20 59 11.2 -0.3**
QSPA IAmb IAmb 20 59 12.0
comp=Z,4.7nm,1.1s
ZALV Zalesovo Beam 117.66 14 PKP **PKPdf 21 04 27.4 -2.8**
comp=Z,0.6nm,0.5s,baz=341,slow=3.1,SNR=2.2
MKAR Makanchi Array 123.39 19 PKP **PKPdf 21 04 39.3 -2.2**
comp=Z,0.9nm,0.8s,baz=330,slow=2.4,SNR=5.3
MKAR Makanchi Array 123.39 19 **PKPdf 21 04 40.7 -0.9**
SONM Songino Array 126.32 359 PKP **PKPdf 21 04 46.0 -1.2**
comp=Z,0.4nm,0.6s,baz=343,slow=1.5,SNR=2.5
STKA Stephens Creek 137.84 228 PKP **PKPdf 21 05 08.6 -0.6**
comp=Z,1.2nm,0.7s,baz=167,slow=8.5,SNR=3.1
ASAR Alice Springs 147.78 234 PKPbc **PKPdf 21 05 28.6 +1.5**
comp=Z,7.1nm,0.9s,baz=122,slow=4.1,SNR=52
ASAR Alice Springs 147.78 234 PKPdf **PKPdf 21 05 26.0 -1.1**
ASAR **pPKPdf 21 05 28.9 -1.0**
WRA Warramunga Arr 149.01 241 PKP **PKPdf 21 05 27.7 -1.4**
comp=Z,3.6nm,0.7s,baz=121,slow=2.2,SNR=8.7
WRA PKPbc **pPKPdf 21 05 31.7 -0.2**
comp=Z,4.6nm,0.7s,baz=117,slow=3.2,SNR=39
WRA Warramunga Arr 149.01 241 **PKPdf 21 05 28.3 -0.8**
WRA PKPbc **pPKPdf 21 05 31.8 -0.2**

IDC 19 20:51:01.9±6.5, 19.84S×175.37W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.4/25, mbtmp3.4/2, MS4.1/1, Ms1 4.1/1, ms1mx3.0/9, Error ellipse: s-maj=352.1km s-min=57.5km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.68**	**98**	LR	LR	20 58 37.8	
	comp=Z,732nm,19.5s,baz=80,slow=31						
ASAR	**Alice Springs**	**47.08**	**256**	P	P	20 59 35.0	-0.8
	0.5nm,0.8s,baz=97,slow=6.6,SNR=3.4						
WRA	**Warramunga Arr**	**47.14**	**261**	P	P	20 59 36.8	+0.4
	0.3nm,0.4s,baz=94,slow=8.4,SNR=6.1						
GERES	**GERESS Array B**	**150.16**	**348**	PKPbc	PKPbc	21 10 54.4	-0.4
	0.1nm,0.4s,baz=28,slow=4.4,SNR=2.2						

*IDC **19** 20:57:04.7±0.6, 31.51S×73.51W, h0km, mb4.3/9, mb1 4.4/13, mb1mx4.3/27, mbtmp4.3/13, ML4.6/4, MS3.1/1, Ms1 3.1/1, ms1mx2.7/24, Error ellipse: s-maj=22.1km s-min=20.2km az=112.0*
*NEIC **19** 20:57:07.2±2.6, 31.50S±0.05×73.10W±0.09, h10km±1km, mb4.6/42, Error ellipse: s-maj=13.4km s-min=8.3km az=290.0*
*VAO **19** 20:57:18.0±0.4, 31.37S×72.08W, h10km, mb4.4*
*GUC **19** 20:57:21.3±0.9, 32.36S×71.79W, h36km±6km, ML4.1*

ISC 19 20:57:07.2±0.5, 31.45S±0.05×73.10W±0.06, h10km, n139, σ2s05/122, mb4.6/28, 5C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**1.48**	**59**	Pn	**Pn**	**20 57 33.6**	**-0.2**
CO06				Sn	**Sn**	**20 57 52.8**	**-0.4**
VA06	**Catapilco**	**1.89**	**126**	⇑*i*P	Pn	20 57 31.8	-7.8
VA06				*i* S	Sn	20 57 39.7	-24
VA06				IAML		20 57 43.0	
	comp=E,24μm,0.5s						
VA01	**Torpederas**	**2.00**	**142**	*eP*	Pn	20 57 34.5	-6.5
CO03	**El Pedregal**	**2.16**	**74**	⇑*i*P	**Pn**	**20 57 44.7**	**+1.4**
CO03	**El Pedregal**	**2.16**	**74**	Pn	**Pn**	**20 57 44.7**	**+1.4**
ROCH	**El Roble**	**2.34**	**131**	⇑*i*P	Pn	20 57 39.0	-6.9
ROCH				*i* S	Sn	20 57 52.0	-23
ROCH				IAML		20 57 55.7	
	comp=N,8μm,0.3s						
GO04	**Tololo Observa**	**2.35**	**58**	Pn	**Pn**	**20 57 46.6**	**+0.5**
VA03	**San Esteban**	**2.53**	**122**	*eP*	Pn	20 57 42.2	-6.3
VA03				*i* S	Sn	20 57 58.3	-21
VA03				IAML		20 58 01.9	
	comp=E,11μm,0.1s						
VA05	**Santo Domingo**	**2.54**	**151**	*eP*	**Pn**	**20 57 44.5**	**-3.9**
VA05				*i* S	Sn	20 58 03.0	-16
VA05				IAML		20 58 12.9	
	comp=E,7μm,0.4s						
MT05	**Renca**	**2.79**	**135**	⇑*i*P	Pn	20 57 46.0	-5.9
MT05				*i* S	Sn	20 58 06.1	-20
MT05				IAML		20 58 09.2	
	comp=E,13μm,0.2s						
MT01	**Popeta**	**2.87**	**148**	*eP*	**Pn**	**20 57 48.7**	**-4.4**
MT01				*i* S	Sn	20 58 10.3	-17
MT01				IAML		20 58 19.9	
	comp=E,3μm,0.3s						
MT09	**Talagante**	**2.93**	**143**	⇑*i*P	**Pn**	**20 57 49.3**	**-4.6**
MT09				*e*S	Sn	20 58 11.0	-18
MT09				IAML		20 58 20.1	
	comp=N,3μm,0.5s						
MT09	**Talagante**	**2.93**	**143**	Pn	**Pn**	**20 57 49.6**	**-4.4**
BO03	**Pichilemu**	**3.19**	**163**	*eP*	**Pn**	**20 57 55.4**	**-2.0**
BO01	**Tunca**	**3.39**	**151**	*eP*	**Pn**	**20 57 56.4**	**-3.8**
BO01	**Tunca**	**3.39**	**151**	Pn	**Pn**	**20 57 56.4**	**-3.8**
LMEL	**Las Melosas**	**3.42**	**135**	*eP*	**Pn**	**20 57 56.2**	**-4.5**
LMEL				*e*S	Sn	20 58 25.0	-16
LMEL				IAML		20 58 34.9	
	comp=N,1μm,0.3s						
AC04	**Llanos de Chal**	**3.68**	**29**	Pn	**Pn**	**20 58 01.8**	**-2.4**
GO05	**Huala**	**3.69**	**165**	*eP*	**Pn**	**20 58 02.3**	**-2.0**
GO05				IAML		20 58 55.6	
	comp=N,505nm,0.6s						
GO05	**Huala**	**3.69**	**165**	Pn	**Pn**	**20 58 02.1**	**-2.1**
BO02	**Sierra Bellavi**	**3.86**	**150**	*eP*	**Pn**	**20 58 03.2**	**-3.5**
ML02	**Panimavida**	**4.53**	**162**	*eP*	**Pn**	**20 58 13.5**	**-2.3**
GO03	**Copiap**	**4.58**	**34**	Pn	**Pn**	**20 58 15.0**	**-1.6**
H03N1	**Juan Fernandez**	**5.30**	**246**	Pn	Pn	20 58 20.2	-5.9
	baz=118,slow=20,SNR=690						
H03N1				Sn	Sn	20 59 11.7	-15
	baz=9.9						
H03N1				T	T	21 03 31.6	
	baz=71,slow=71,SNR=53						
VA04	**Juan Fernndez**	**5.31**	**244**	*eP*	Pn	20 58 20.4	-6.1
H03N3	**Juan Fernandez**	**5.31**	**246**	Pn	Pn	20 58 20.4	-6.0
	baz=118,slow=20,SNR=511						
H03N3				Sn	Sn	20 59 12.7	-15
	baz=9.9						
H03N3				T	T	21 03 30.7	
	baz=71,slow=71,SNR=42						
H03N2	**Juan Fernandez**	**5.31**	**247**	Pn	Pn	20 58 20.6	-5.7

baz=118,slow=20,SNR=299
H03N2 Sn Sn 20 59 13.9 -14
baz=9.9
H03N2 T T 21 03 30.8
baz=71,slow=71,SNR=57
H03S3 Juan Fernandez 5.44 243 Pn Pn 20 58 21.9 -6.2
baz=41,slow=18,SNR=64
H03S3 Sn Sn 20 59 15.3 -15
baz=328
H03S1 Juan Fernandez 5.45 242 Pn Pn 20 58 21.3 -6.8
baz=41,slow=18,SNR=53
H03S1 Sn Sn 20 59 15.8 -15
baz=328
H03S2 Juan Fernandez 5.46 243 Pn Pn 20 58 21.5 -6.9
baz=41,slow=18,SNR=111
H03S2 Sn Sn 20 59 16.5 -15
baz=328
PLCA Paso Flores 9.49 168 Pn **Pn 20 59 22.1 -1.9**
comp=N,2.2nm,0.3s,baz=337,slow=11,SNR=45
PLCA Paso Flores 9.49 168 Pn **Pn 20 59 22.7 -1.3**
PLCA Paso Flores 9.49 168 *e*S Sn 21 01 20.9 +10
LVC Limon Verde 9.56 24 Pn **Pn 20 59 21.6 -3.7**
comp=N,1.3nm,0.3s,baz=147,slow=7.7,SNR=13
LVC Sn **Sn 21 01 06.3 -6.7**
comp=N,0.7nm,0.3s,baz=125,slow=23,SNR=2.0
LVC Limon Verde 9.56 24 *e*S **Sn 21 01 15.7 +2.6**
TRQA Tornquist 11.27 129 Pn **Pn 20 59 46.5 -1.9**
TRQA Tornquist 11.27 129 *e*S **Sn 21 01 50.9 -3.5**
ITQB Itaqui 14.31 87 *e*P **Pn 21 00 28.7 -1.2**
ITQB *e*S Sn 21 02 58.9 -10
CPUP Villa Florida 14.72 74 Pn **P 21 00 39.2 -2.5**
comp=N,0.3nm,0.3s,baz=250,slow=18,SNR=1.9
CPUP Villa Florida 14.72 74 *e*P **Pn 21 00 34.9 -0.6**
CPUP *e*S Sn 21 03 09.9 -8.9
LPAZ La Paz 15.76 18 Pn **Pn 21 00 50.7 +0.8**
comp=N,0.8nm,0.3s,baz=187,slow=7.8,SNR=26
LPAZ La Paz 15.76 18 Pn **Pn 21 00 50.3 +0.5**
PLTB Pedras Altas 16.62 96 **Pn 21 01 01.4 +1.1**
PLTB Pedras Altas 16.62 96 *e*P **Pn 21 00 59.9 -0.3**
CPSB Cacapava Do Su 16.91 92 *e*P **Pn 21 01 03.5 -0.5**
SIV San Ignacio 18.90 39 P **Pn 21 01 29.1 +0.5**
comp=N,1.5nm,0.3s,baz=244,slow=8.1,SNR=8.5
AQDB Aquidauana 19.06 59 *e*P **P 21 01 29.9 +0.2**
AQDB Aquidauana 19.06 59 *e*P **Pn 21 01 30.4 0.0**
CNLB Canela 19.31 89 *e*P **P 21 01 32.8 +0.3**
PTGB Pitanga 19.72 75 *e*P **Pn 21 01 39.6 +1.1**
TRCB Terra Rica 20.13 70 *e*P Pn 21 01 44.0 +0.6
PTLB Pontes e Lacer 20.41 42 *e*P Pn 21 01 46.5 -0.1
TER01 Tubaro-SC 20.96 88 *e*P Pn 21 01 51.7 -1.2
PP1B Ponte de Pedra 21.52 54 *e*P **P 21 01 58.4 +2.0**
PCMB Pacaembu 21.83 69 *e*P **P 21 02 02.2 +2.4**
TIJ01 Guaruva-PR 22.04 80 *e*P **P 21 02 03.7 +1.6**
SALV Santo Antonio 22.17 50 *e*P **P 21 02 04.8 +1.4**
FRTB Fartura 22.37 75 *e*P **P 21 02 08.2 +2.5**
ITRB Iturama 23.56 66 *e*P **P 21 02 21.4 +3.4**
CZSB Cruzeiro do Su 23.60 1 *e*P P 21 02 27.4 +9.1
PET01 Itanhaem-SP 23.89 79 *e*P **P 21 02 23.7 +2.6**
SPB Sao Paulo 24.04 77 *e*P **P 21 02 25.3 +2.9**
SAML Samuel 24.21 25 P **P 21 02 23.3 -0.8**
BB19B Bebedouro 24.29 71 *e*P **P 21 02 27.0 +2.0**
RCLB Rio Claro- Sao 24.46 75 *e*P **P 21 02 29.9 +3.4**
VAO Valinhos 24.67 77 *e*P **P 21 02 31.6 +3.1**
PARB Paraibuna 25.65 78 *e*P **P 21 02 40.2 +2.9**
CLDB Colider 26.00 42 *e*P **P 21 02 45.2 +4.8**
IPMB Ipameri, GO 26.21 65 *e*P **P 21 02 45.8 +3.5**
ESAR Angra dos Reis 26.77 79 *e*P **P 21 02 50.6 +3.3**
BDFB Brasilia 27.77 61 P **P 21 02 59.1 +2.7**
comp=N,3.7nm,0.7s,baz=201,slow=9.6,SNR=4.3
SNDB Serra Nova Dou 27.93 51 *e*P **P 21 03 02.4 +4.6**
JANB Januaria 30.95 65 *e*P **P 21 03 28.2 +3.6**
PTGA Pitinga 32.98 25 P **P 21 03 44.0 +1.6**
comp=N,1.4nm,0.3s,baz=158,slow=19,SNR=1.9
BOAV Boa Vista 35.72 22 *e*P P 21 04 14.2 +8.1
RUSC La Rusia 37.13 0 P **P 21 04 20.2 +1.5**
RUSC IAmb IAmb 21 04 26.1
comp=Z,20nm,1.3s
NBPB Pedra_Branca-C 40.62 58 *e*P **P 21 04 52.0 +4.5**
SJG San Juan 49.72 9 LR LR 21 25 48.1
comp=Z,20nm,21.2s,baz=94,slow=35
VNA3 Neumayer Olymp 52.06 158 P **P 21 06 17.9 +1.2**
VNA2 Neumayer--Watz 52.71 158 P **P 21 06 22.6 +1.0**
baz=282,slow=8.3
SNAA Sanae 54.28 158 P **P 21 06 33.7 +0.5**
SNAA Sanae 54.28 158 P **P 21 06 33.8 +0.6**
SNAA IAmb IAmb 21 06 34.6
comp=Z,4.3nm,0.6s
QSPA South Pole Qui 58.78 180 P **P 21 07 05.7 +0.3**
QSPA IAmb IAmb 21 07 21.8
comp=Z,8.1nm,1.2s
JCT Junction City 66.60 335 P **P 21 07 56.3 -1.5**
TX32 Lajitas Array 67.07 331 P **P 21 07 59.8 -1.0**
TX32 IAmb IAmb 21 08 00.5
comp=Z,6.1nm,1.5s
TXAR Lajitas Array 67.07 331 P **P 21 07 59.8 -1.1**
comp=Z,1.2nm,0.6s,baz=151,slow=8.7,SNR=12
ABTX Abilene, Hawle 68.49 336 P **P 21 08 08.8 -0.8**
MNTX Cornudas Mount 69.85 331 P **P 21 08 16.8 -1.3**
MSTX Muleshoe 70.83 334 P **P 21 08 23.2 -0.9**
N49A Columbus Grove 72.73 351 P **P 21 08 35.3 0.0**
T25A Trinidad 74.25 334 P **P 21 08 44.6 0.0**
T25A IAmb IAmb 21 08 45.6
comp=Z,6.8nm,0.8s
N38A Joes South For 74.25 344 P **P 21 08 43.1 -1.2**
X16A Lo Mia Camp, P 74.81 328 P **P 21 08 47.5 -0.3**
X16A IAmb IAmb 21 08 49.3
comp=Z,4.8nm,1.1s
SDCO Great Sand Dun 75.19 334 P **P 21 08 50.2 +0.1**
DBIC Dimbokro 75.24 73 P **P 21 08 51.5 +0.9**
comp=Z,2.7nm,0.8s,baz=211,slow=5.8,SNR=1.9
DBIC Dimbokro 75.24 73 P **P 21 08 51.1 +0.5**
WUAZ Wupatki 75.69 329 P **P 21 08 52.8 -0.1**
WUAZ IAmb IAmb 21 08 54.0
comp=Z,4.9nm,0.9s
MAW Mawson 75.88 164 P **P 21 08 53.6 +0.3**
comp=Z,4.0nm,0.8s,baz=210,slow=9.4,SNR=6.7
MAW Mawson 75.88 164 P **P 21 08 54.2 +0.8**
KNB Kanab 77.59 328 **P 21 09 03.9 +0.3**
KNB IAmb IAmb 21 09 04.9
comp=Z,4.8nm,0.8s
ECSD EROS Data Cent 77.85 343 P **P 21 09 03.9 -0.8**
CCUT Cedar City 78.27 328 **P 21 09 08.0 +0.6**
CCUT IAmb IAmb 21 09 09.0
comp=Z,4.2nm,0.9s
PRN Pahroc Range 78.92 327 P **P 21 09 11.7 +0.8**
PRN IAmb IAmb 21 09 12.3
comp=Z,5.5nm,0.9s
TPNV Topopah Spring 79.12 326 P **P 21 09 12.5 +0.5**
TPNV IAmb IAmb 21 09 13.2
comp=Z,4.1nm,0.9s
KOWA Kowa 80.42 67 P **P 21 09 20.1 +0.7**
KOWA IAmb IAmb 21 09 20.5
comp=Z,4.1nm,0.8s
HWUT Hardware Ranch 80.88 332 **P 21 09 20.9 -0.6**
HWUT IAmb IAmb 21 09 21.6
comp=Z,4.2nm,0.7s
SPUT South Promonto 81.00 331 P **P 21 09 21.5 -0.6**
SPUT IAmb IAmb 21 09 22.4
comp=Z,11nm,1.5s
PDAR Pinedale Array 81.08 334 P **P 21 09 20.6 -2.1**
comp=Z,0.7nm,0.6s,baz=120,slow=5.3,SNR=4.5
PDAR Pinedale Array 81.08 334 P **P 21 09 22.0 -0.6**
NVAR Mina Array Bea 81.28 326 P **P 21 09 22.3 -1.4**
comp=Z,1.0nm,0.7s,baz=162,slow=6.3,SNR=7.9
HVU Hansel Valley 81.52 331 P **P 21 09 24.1 -0.8**
HVU IAmb IAmb 21 09 24.4
comp=Z,2.7nm,0.7s
B35A Bob, Littlefor 81.57 346 P **P 21 09 23.6 -1.1**
CASY Casey 82.55 181 P **P 21 09 30.5 +0.6**
CASY IAmb IAmb 21 09 31.5
comp=Z,5.9nm,1.2s
ULM Lac du Bonnet 83.81 346 P **P 21 09 35.1 -1.2**
comp=Z,3.6nm,0.7s,baz=214,slow=5.1,SNR=3.5
MCMT McKenzie Canyo 84.10 333 **P 21 09 38.4 +0.1**
LBTB Lobatse 84.20 116 P **P 21 09 39.5 +0.2**
LBTB IAmb IAmb 21 09 40.7
comp=Z,5.1nm,1.1s
TORD Torodi Ar. Bea 84.20 71 P **P 21 09 39.4 +0.2**
comp=Z,1.9nm,0.6s,baz=282,slow=5.7,SNR=29
TORD Torodi Ar. Bea 84.20 71 P **P 21 09 39.6 +0.4**
TORD IAmb IAmb 21 09 40.4
comp=Z,6.0nm,1.4s
BKZ Black Stump Fm 84.55 227 P **P 21 09 41.0 +0.2**
PLID Pearl Lake 85.58 331 P **P 21 09 45.0 -0.7**
PLID IAmb IAmb 21 09 45.5
comp=Z,4.3nm,0.9s
PINE Pine Mountain 86.71 327 P **P 21 09 51.3 0.0**
PINE IAmb IAmb 21 09 55.9
comp=Z,3.3nm,0.9s
JTMT Jette 87.08 334 P **P 21 09 52.5 -0.4**
AKASG Malin Array Be 121.11 47 PKP **PKPdf 21 15 58.2 -1.5**
comp=Z,0.5nm,0.5s,baz=268,slow=2.2,SNR=4.8
BRTR Keskin Array B 121.36 60 PKP **PKPdf 21 16 00.3 -0.5**
comp=Z,0.5nm,0.7s,baz=225,slow=1.0,SNR=3.9
WRA Warramunga Arr 122.52 211 PKP **PKPdf 21 16 01.9 -1.7**
comp=Z,0.7nm,0.8s,baz=168,slow=2.4,SNR=6.0
BRVK Borovoye 145.89 40 PKPdf **PKPbc 21 16 46.4 0.0**
BVAR Borovoye Array 145.97 40 PKPbc **PKPbc 21 16 46.4 -0.2**
comp=Z,1.8nm,0.6s,baz=240,slow=5.0,SNR=13
TOLI2 Tolitoli 147.09 206 PKPbc **PKPdf 21 16 49.3 +0.3**
KK31 Karatay Array 149.03 58 PKPbc **PKPbc 21 16 55.4 0.0**
KKAR Karatay Array 149.03 58 PKPbc **PKPbc 21 16 55.4 -0.1**
KURBB Kurchatov Arra 151.55 39 PKPbc **PKPbc 21 17 01.2 +0.1**
comp=Z,3.6nm,0.7s,baz=300,slow=3.0,SNR=21
KURK Kurchatov 151.55 39 **PKPbc 21 17 01.2 +0.1**
AAK Ala-Archa 151.99 57 PKPbc **PKPbc 21 17 02.1 -0.6**
comp=Z,3.5nm,0.7s,baz=240,slow=2.1,SNR=8.2
AAK PKPab **PKPab 21 17 13.1 +1.0**
comp=Z,1.9nm,0.6s,baz=249,slow=6.0,SNR=5.0
ZAA0 Zalesovo Array 152.49 29 PKPbc **PKPbc 21 17 02.4 -0.8**
ZALV Zalesovo Beam 152.49 29 PKPbc **PKPbc 21 17 03.0 -0.2**
comp=Z,4.7nm,0.6s,baz=289,slow=2.3,SNR=17
ZALV PKPab **PKPab 21 17 12.8 -0.7**
comp=Z,1.4nm,0.5s,baz=297,slow=3.0,SNR=4.2
ZALV Zalesovo Beam 152.49 29 **PKPbc 21 17 02.7 -0.5**
MKAR Makanchi Array 155.66 44 PKPbc PKPdf 21 17 09.2 +8.1
comp=Z,0.6nm,0.7s,baz=340,slow=3.2,SNR=4.7
MKAR Makanchi Array 155.66 44 PKPdf 21 17 09.7 +8.7
SONM Songino Array 163.63 1 PKPab **PKPab 21 18 01.0 -0.9**
comp=Z,0.9nm,1.1s,baz=29,slow=3.3,SNR=2.3

MEX 19 21:05:30.4±0.4, 14.14N×93.27W, h17km±75km, MD3.9,
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**2.39**	**27**	*e*P	Pn	21 06 06.0	-3.0
CCIG				*e*S	Sn	21 06 36.7	-1.3
TGIG		**2.62**	**3**	*i* P	Pn	21 06 09.6	-2.5
TGIG				*e*S	Sn	21 06 39.4	-4.2
CMIG	**Matias Romero**	**3.32**	**332**	*i* P	Pn	21 06 19.0	-2.7

*ISN **19** 21:05:34.8±1.3, 32.72N×47.73E, h15km±8km, ML3.2*
*TEH **19** 21:05:34.2, 32.73N×47.76E, h7km, ML3.3*
*THR **19** 21:05:35.9±0.3, 32.76N×47.78E, h14km±8km, ML3.4*
*KISR **19** 21:05:36.0±0.8, 32.59N×47.82E, h37km±999km, ML3.6*
*IDC **19** 21:05:37.1±10.0, 33.32N×47.86E, h0km, mb3.8/7,*
mb1 3.9/7, mb1mx3.4/47, mbtmp3.8/7, Error ellipse:
s-maj=204.7km s-min=29.3km az=7.0

ISC 19 21:05:35.5±1.1, 32.70N±0.03×47.72E±0.03, h14km±8km,
n68,σ1°25/80, mb3.8/7, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.37**	**268**	*e*Pg	**Pg**	**21 05 42.1**	**-0.8**
DHL1				*e*Sg	**Sg**	**21 05 48.7**	**+0.8**
IKFM	**Kafar-mosalman**	**0.83**	**8**	*e*Pg	**Pb**	**21 05 49.7**	**-2.0**
IKFM				*e*		21 06 04.3	
	comp=Z,18μm,0.3s						
IDOB	**Doab**	**1.16**	**19**	*e*Pg	**Pn**	**21 05 55.8**	**-1.7**
BMDN	**Meydan**	**1.35**	**43**	*e*Pg	**Pn**	**21 05 59.0**	**-1.1**
BMDN				*e*		21 06 25.5	
	comp=Z,6μm,0.4s						
IBDR	**Badra**	**1.56**	**286**	*e*Pn	**Pn**	**21 06 03.0**	**+0.2**
IBDR				*e*Sg	**Sn**	**21 06 24.0**	**+1.2**
IBDR				AML	AML	21 06 29.8	
	comp=N,321nm,0.6s						
IBDR				AML	AML	21 06 36.4	
	comp=E,246nm,0.3s						
AHWZ	**Ahwaz**	**1.57**	**150**	*e*Sg	**Sg**	**21 06 27.5**	**+1.4**
AHWZ				*e*Pg	**Pb**	**21 06 04.8**	**+0.4**
KCHF	**Cheshme Sefid,**	**1.67**	**340**	*e*		21 06 06.9	
	comp=Z,3μm,0.2s						
KCHF				*e*Pg	**Pn**	**21 06 05.6**	**+1.0**
AMIS	**Naft Sefid**	**1.68**	**127**	*e*Sg	**Sg**	**21 06 30.0**	**+0.4**
AMIS				*e*Pg	**Pg**	**21 06 07.1**	**-0.7**
HSAM	**Samen**	**1.68**	**26**	*e*		21 06 07.6	
	comp=Z,3μm,0.3s						
HSAM				*e*Pg	**Pn**	**21 06 05.5**	**+0.7**
KER	**Kermanshah**	**1.75**	**344**	*e*Pn	**Pn**	**21 06 06.5**	**+0.9**
IBZA	**Bozab**	**1.77**	**4**	*e*		21 06 39.5	
	comp=Z,3μm,0.9s						
IBZA				*e*Pg	**Pn**	**21 06 06.8**	**+0.8**
IGHG	**Ghaleghazi**	**1.89**	**330**	*e*Pn	**Pn**	**21 06 09.1**	**+1.5**
KHMZ	**Khomeyn**	**2.15**	**60**	*e*Pn	**Pn**	**21 06 12.5**	**+1.4**
KHMZ	**Khomeyn**	**2.15**	**60**	*e*Pn	**Pn**	**21 06 12.5**	**+1.4**
NSR	**Nassriya**	**2.15**	**219**	*e*Pn	**Pn**	**21 06 12.0**	**+1.1**
NSR				*e*Sn	**Sn**	**21 06 38.0**	**+0.6**
NSR				AML	AML	21 06 53.3	
	comp=E,378nm,0.0s						
IALM	**Almabolaq**	**2.19**	**10**	*e*Pn	**Pn**	**21 06 13.5**	**+1.7**
IDHR	**Dehrash**	**2.29**	**331**	*e*Pn	**Pn**	**21 06 13.5**	**+0.5**
IDHR				*e*		21 06 18.6	
	comp=Z,3μm,0.4s						
ILIN	**Lien**	**2.30**	**344**	*e*Pn	**Pn**	**21 06 14.4**	**+1.1**
SNGE	**Sanandaj**	**2.41**	**353**	*e*Pn	**Pn**	**21 06 16.3**	**+1.6**
SNGE				*e*Sg	**Sb**	**21 06 49.9**	**+1.4**
SNGE	**Sanandaj**	**2.41**	**353**	*e*Pn	**Pn**	**21 06 16.3**	**+1.6**
HAGD	**Aghdareh**	**2.43**	**29**	*e*Pn	**Pn**	**21 06 16.2**	**+1.2**
HAGD				*e*		21 06 23.0	
	comp=Z,1μm,0.2s						
ASAO	**Ashtian**	**2.67**	**46**	*e*Pn	**Pn**	**21 06 19.5**	**+1.2**
ASAO				*e*Sg	**Sb**	**21 06 57.1**	**+1.1**
ASAO	**Ashtian**	**2.67**	**46**	*e*Pn	**Pn**	**21 06 19.5**	**+1.2**
IPIR	**Pirpir**	**2.68**	**89**	*e*Pn	**Pn**	**21 06 20.2**	**+1.7**
IPIR				*e*		21 07 02.6	
	comp=Z,927nm,0.8s						
SHK1	**Shahrekord**	**2.70**	**97**	*e*Pn	**Pn**	**21 06 19.4**	**+0.6**
BHD	**Baghdad**	**2.86**	**282**	*e*Pn	**Pn**	**21 06 22.0**	**+1.3**
BHD				*e*Sn	**Sn**	**21 06 57.0**	**+2.0**
BHD				AML	AML	21 07 11.6	
	comp=E,256nm,0.3s						
MIB	**Mutribah**	**2.90**	**186**	*e*P	**Pn**	**21 06 21.9**	**+0.6**
MIB				*e*S	**Sn**	**21 06 55.7**	**-0.2**
MIB				IAML		21 07 02.0	
	comp=Z,213nm,0.6s						
RST	**Umm Al-Ruwaisa**	**3.25**	**191**	*e*P	**Pn**	**21 06 26.1**	**+0.1**
QAMS	**Qamsar**	**3.25**	**70**	*e*Pn	**Pn**	**21 06 28.7**	**+2.3**
QAMS				*e*		21 07 26.1	
	comp=Z,917nm,0.4s						
IRAZ	**Razeghan**	**3.27**	**34**	*e*Pn	**Pn**	**21 06 28.6**	**+2.1**
IKLH	**Kolahrood**	**3.31**	**78**	*e*Pn	**Pn**	**21 06 28.9**	**+1.8**
IKLH				*e*		21 07 24.9	
	comp=E,714nm,0.5s						
QABG	**Abgarm-Qazvin**	**3.38**	**27**	*e*Pn	**Pn**	**21 06 28.6**	**+0.5**
GHVR	**GHOM**	**3.48**	**58**	*e*Pn	**Pn**	**21 06 30.1**	**+0.8**
GHVR	**GHOM**	**3.48**	**58**	*e*Pn	**Pn**	**21 06 30.1**	**+0.8**
KBD	**Kabd**	**3.51**	**180**	*e*P	**Pn**	**21 06 29.6**	**0.0**
IQOM	**Qom**	**3.52**	**52**	*e*Pn	**Pn**	**21 06 30.8**	**+0.8**
IQOM				*e*		21 06 45.2	
	comp=Z,708nm,0.3s						
IGAR	**Gharneh**	**3.67**	**93**	*e*Pn	**Pn**	**21 06 32.4**	**+0.4**
IGAR				*e*		21 07 17.7	
	comp=Z,319nm,0.2s						
KLNJ	**Kolanjah**	**3.70**	**116**	*e*Pn	**Pn**	**21 06 33.2**	**+0.6**
RDF	**Al-Radifah**	**3.76**	**182**	*e*P	**Pn**	**21 06 33.1**	**+0.1**
RDF				*e*S	**Sn**	**21 07 16.4**	**-0.8**
RDF				IAML		21 07 20.9	
	comp=Z,91nm,0.5s						
IMHD	**Mahdasht**	**3.86**	**39**	*e*Pn	**Pn**	**21 06 35.4**	**+0.9**
IKRK	**Kirkuk**	**3.89**	**315**	*e*Pn	**Pn**	**21 06 36.0**	**+1.1**
IKRK				*e*Sn	**Sn**	**21 07 21.0**	**+0.6**
IKRK				AML	AML	21 07 23.6	
	comp=E,57nm,0.4s						
IKRK				AML	AML	21 07 23.7	
	comp=N,47nm,0.4s						
IZEF	**Zefreh**	**3.89**	**86**	*e*Pn	**Pn**	**21 06 36.3**	**+1.2**
IZEF				*e*		21 06 39.2	
	comp=Z,216nm,0.2s						
KRSH	**Karshahi**	**3.91**	**70**	*e*Pn	**Pn**	**21 06 36.4**	**+1.1**
QRN	**Al-Qurain**	**3.94**	**177**	*e*P	**Pn**	**21 06 36.2**	**+0.7**
QSDN	**Sirdan**	**3.98**	**17**	*e*Pn	**Pn**	**21 06 37.9**	**+1.5**
ZNJK	**Zanjan**	**4.04**	**11**	*e*Pn	**Pn**	**21 06 38.6**	**+1.4**
ZNJK	**Zanjan**	**4.04**	**11**	*e*Pn	**Pn**	**21 06 38.6**	**+1.4**
IVRN	**Varamin**	**4.05**	**54**	*e*Pn	**Pn**	**21 06 38.0**	**+0.9**
IVRN				*e*		21 06 51.4	
	comp=Z,308nm,0.3s						
IRAM	**Ramesheh**	**4.05**	**101**	*e*Pn	**Pn**	**21 06 37.7**	**+0.4**
ISFB	**Sefidab**	**4.12**	**65**	*e*Pn	**Pn**	**21 06 38.7**	**+0.5**
CHTH	**Charan**	**4.27**	**40**	*e*Pn	**Pn**	**21 06 41.6**	**+1.3**
CHTH				*e*Sg	**Sb**	**21 07 45.8**	**+3.8**
CHTH	**Charan**	**4.27**	**40**	*e*Pn	**Pn**	**21 06 41.6**	**+1.3**
NASN	**Na'in**	**4.29**	**87**	*e*Pn	**Pn**	**21 06 42.2**	**+1.5**
NASN				IAML		21 07 38.8	
	comp=N,30nm,0.2s						
NASN				IAML		21 07 52.5	
	comp=E,40nm,0.5s						
NASN	**Na'in**	**4.29**	**87**	*e*Pn	**Pn**	**21 06 42.2**	**+1.5**
MAHB	**Mahabad**	**4.38**	**338**	*e*Pn	**Pn**	**21 06 42.6**	**+0.8**
QALM	**Alamut, Qazvin**	**4.44**	**32**	*e*Pn	**Pn**	**21 06 43.4**	**+0.7**
IDMV	**Damavand**	**4.59**	**50**	*e*Pn	**Pn**	**21 06 45.0**	**+0.2**
ANAR	**Anarak**	**5.08**	**83**	*e*Pn	**Pn**	**21 06 51.9**	**+0.6**
IFIR	**Firoozkooh**	**5.11**	**53**	*e*Pn	**Pn**	**21 06 52.6**	**+0.8**
IHRS	**Heris**	**5.64**	**355**	*e*Pn	**Pn**	**21 07 01.0**	**+1.9**
ISHB	**Shabestar**	**5.83**	**344**	*e*Pn	**Pn**	**21 07 01.9**	**+0.1**
MLR	**Muntele Rosu**	**21.10**	**314**	P	**P**	**21 10 21.1**	**+1.4**
	comp=E,1.6nm,0.8s,baz=119,slow=19,SNR=4.8						
BVAR	**Borovoye Array**	**26.05**	**32**	P	**P**	**21 11 06.8**	**-1.5**
	comp=E,0.6nm,0.5s,baz=220,slow=13,SNR=5.0						
MKAR	**Makanchi Array**	**29.82**	**52**	P	**P**	**21 11 41.0**	**-1.0**
	comp=E,0.5nm,0.7s,baz=245,slow=8.7,SNR=4.8						
FINES	**FINESS Array B**	**32.00**	**340**	P	**P**	**21 11 59.2**	**-1.8**
	comp=E,1.1nm,0.7s,baz=146,slow=10,SNR=3.9						
ZALV	**Zalesovo Beam**	**33.78**	**40**	P	**P**	**21 12 16.4**	**-0.4**
	comp=E,0.4nm,0.3s,baz=246,slow=11,SNR=2.0						
HFS	**Hagfors**	**35.39**	**331**	P	**P**	**21 12 29.1**	**-1.4**
	comp=E,2.5nm,0.8s,baz=106,slow=5.3,SNR=5.4						
ARCES	**ARCESS Array B**	**38.94**	**348**	P	**P**	**21 12 59.5**	**-1.1**
	comp=E,2.2nm,0.8s,baz=157,slow=10,SNR=4.9						

*IDC **19** 21:23:18.9±1.0, 30.28S×72.40W, h0km, mb3.8/4,*
mb1 4.0/7, mb1mx3.8/30, mbtmp3.8/7, ML3.5/3, MS2.3/1,
Ms1 2.3/1, ms1mx2.1/28, Error ellipse: s-maj=42.7km
s-min=22.7km az=102.0
*NEIC **19** 21:23:19.5±1.6, 30.16S±0.04×72.59W±0.02, h10km±1km,*
mb4.2/5, Error ellipse: s-maj=6.6km s-min=3.0km
az=187.0
*GUC **19** 21:23:21.2±0.4, 30.17S×72.53W, h15km, ML3.6*

ISC 19 21:23:19.3±1.2, 30.18S±0.05×72.55W±0.06, h10km±7km,
n52,σ1°17/64, mb4.1/5, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.94**	**122**	*i* P	**Pn**	**21 23 38.3**	**-0.3**
CO06				*e*S	**Sn**	**21 23 51.2**	**-0.9**
CO06	**Fray Jorge**	**0.94**	**122**		**Pn**	**21 23 38.2**	**-0.4**
CO06				Sg	**Sn**	**21 23 51.1**	**-1.0**
CO05	**La Serena**	**1.17**	**78**	*e*P	**Pn**	**21 23 42.1**	**+0.3**
CO05				*e*S	**Sn**	**21 23 57.7**	**-0.1**
CO05				IAML		21 23 59.8	
	comp=N,2μm,0.6s						
CO05	**La Serena**	**1.17**	**78**		**Pn**	**21 23 42.0**	**+0.3**
CO05				Sg	**Sn**	**21 23 57.7**	**-0.1**
GO04	**Tololo Observa**	**1.52**	**90**	*e*P	**Pb**	**21 23 47.9**	**+0.1**
GO04				*e*S	**Sg**	**21 24 07.9**	**-0.3**
GO04	**Tololo Observa**	**1.52**	**90**		**Pb**	**21 23 47.8**	**0.0**
GO04				Sn	**Sg**	**21 24 08.1**	**-0.1**
CO03	**El Pedregal**	**1.74**	**113**	⇑*i*P	**Pb**	**21 23 50.9**	**-0.6**
CO03				*e*S	**Sb**	**21 24 12.6**	**-0.8**
CO03				IAML		21 24 14.5	
	comp=N,2μm,0.4s						
CO03	**El Pedregal**	**1.74**	**113**		**Pb**	**21 23 50.8**	**-0.6**
CO03				Sn	**Sb**	**21 24 13.0**	**-0.4**
LCO	**Las Campanas**	**1.99**	**55**	*e*P	**Pn**	**21 23 53.9**	**+0.6**
LCO				*e*S	**Sn**	**21 24 18.2**	**-0.1**
AC04	**Llanos de Chal**	**2.35**	**34**	*e*P	**Pn**	**21 23 56.8**	**-1.2**
AC04				IAML		21 24 25.3	
	comp=N,342nm,0.3s						
AC04	**Llanos de Chal**	**2.35**	**34**		**Pn**	**21 23 56.9**	**-1.2**
VA06	**Catapilco**	**2.61**	**156**	*e*P	**Pn**	**21 24 01.0**	**-0.6**
VA06				IAML		21 24 31.2	
	comp=N,336nm,0.2s						
ROCH	**El Roble**	**3.08**	**155**	*e*P	**Pn**	**21 24 08.3**	**0.0**
ROCH				IAML		21 24 45.7	
	comp=E,118nm,0.3s						
VA03	**San Esteban**	**3.10**	**147**	*e*P	**Pn**	**21 24 09.3**	**+0.9**
VA03				*e*S	**Sn**	**21 24 44.0**	**-1.6**
VA03	**San Esteban**	**3.10**	**147**		**Pn**	**21 24 09.3**	**+0.9**
GO03	**Copiap**	**3.28**	**39**	*e*P	**Pn**	**21 24 10.6**	**-0.3**
GO03				IAML		21 24 53.4	
	comp=N,116nm,0.4s						
GO03	**Copiap**	**3.28**	**39**		**Pn**	**21 24 10.5**	**-0.3**
AC06	**Mina Casimiro**	**3.41**	**35**	*e*P	**Pn**	**21 24 12.8**	**+0.3**
AC06				IAML		21 24 55.2	
	comp=E,80nm,0.3s						
AC06	**Mina Casimiro**	**3.41**	**35**	Pn	**Pn**	**21 24 12.9**	**+0.3**
MT05	**Renca**	**3.56**	**155**	Pn	**Pn**	**21 24 14.8**	**0.0**
VA05	**Santo Domingo**	**3.56**	**167**	Pn	**Pn**	**21 24 14.1**	**-0.6**
MT09	**Talagante**	**3.83**	**160**	*e*P	**Pn**	**21 24 19.1**	**+0.6**
MT09	**Talagante**	**3.83**	**160**		**Pn**	**21 24 18.8**	**+0.2**
MT01	**Popeta**	**3.84**	**164**	*e*P	**Pn**	**21 24 17.9**	**-0.7**
MT01	**Popeta**	**3.84**	**164**	Pn	**Pn**	**21 24 18.0**	**-0.6**
LMEL	**Las Melosas**	**4.17**	**152**	*e*P	**Pn**	**21 24 24.4**	**+1.1**
BO01	**Tunca**	**4.38**	**164**	Pn	**Pn**	**21 24 26.0**	**-0.1**
AC02	**Maricunga**	**4.49**	**43**	*e*P	**Pn**	**21 24 28.9**	**+1.0**
AC02	**Maricunga**	**4.49**	**43**	Pn	**Pn**	**21 24 28.8**	**+0.9**
BO02	**Sierra Bellavi**	**4.84**	**162**	Pn	**Pn**	**21 24 31.4**	**-1.0**
GO05	**Huala**	**4.85**	**174**	Pn	**Pn**	**21 24 31.1**	**-1.4**
PB14	**IPOC Station P**	**5.85**	**20**	Pn	**Pn**	**21 24 43.4**	**-3.1**
LVC	**Limon Verde**	**8.21**	**24**	Pn	**Pn**	**21 25 16.9**	**-2.0**
	comp=E,0.2nm,0.3s,baz=218,slow=12,SNR=2.3						
L

VA06				*i* S		**Sn**	**21 27 53.4**	**-0.9**
VA06				IAML			21 27 57.4	
	comp=N,6μm,0.5s							
VA01	**Torpederas**	**0.82**	**145**	*e*P		**Pb**	**21 27 42.1**	**-0.1**
VA01				*e*S		**Sn**	**21 27 53.9**	**-1.0**
VA01				IAML			21 27 59.6	
	comp=N,1μm,0.5s							
VA01	**Torpederas**	**0.82**	**145**			**Pb**	**21 27 42.1**	**-0.1**
VA01				Sn		**Sn**	**21 27 54.0**	**-0.9**
VA01	**Torpederas**	**0.82**	**145**	*i* P		**Pb**	**21 27 42.0**	**-0.2**
ROCH	**El Roble**	**1.18**	**122**	⇑*i*P		**Pn**	**21 27 48.1**	**-0.3**
ROCH				*i* S		**Sg**	**21 28 05.2**	**+0.3**
ROCH				IAML			21 28 07.0	
	comp=N,4μm,0.4s							
VA05	**Santo Domingo**	**1.40**	**159**	⇑*i*P		**Pn**	**21 27 50.4**	**-0.7**
VA05				IAML			21 28 19.4	
	comp=E,1μm,0.5s							
VA05	**Santo Domingo**	**1.40**	**159**			**Pn**	**21 27 50.0**	**-1.1**
VA03	**San Esteban**	**1.46**	**107**	⇑*i*P		**Pn**	**21 27 51.9**	**-0.1**
VA03				*i* S		**Sn**	**21 28 10.6**	**-0.2**
VA03				IAML			21 28 14.4	
	comp=E,2μm,0.2s							
VA03	**San Esteban**	**1.46**	**107**			**Pn**	**21 27 52.0**	**-0.1**
VA03	**San Esteban**	**1.46**	**107**	*i* P		**Pn**	**21 27 52.0**	**-0.1**
MT05	**Renca**	**1.61**	**131**	⇑*i*P		**Pn**	**21 27 54.6**	**+0.5**
MT05				*i* S		**Sn**	**21 28 14.5**	**-0.1**
MT05				IAML			21 28 22.1	
	comp=N,2μm,0.3s							
MT05	**Renca**	**1.61**	**131**	Pn		**Pn**	**21 27 54.4**	**+0.2**
MT05	**Renca**	**1.61**	**131**	*i* P		**Pb**	**21 27 55.0**	**-0.8**
MT01	**Popeta**	**1.71**	**152**	⇓*i*P		**Pn**	**21 27 55.3**	**-0.2**
MT01				*e*S		**Sn**	**21 28 16.5**	**-0.4**
MT01				IAML			21 28 28.1	
	comp=E,783nm,0.5s							
MT01	**Popeta**	**1.71**	**152**			**Pn**	**21 27 54.6**	**-0.8**
MT01	**Popeta**	**1.71**	**152**	*i* P		**Pn**	**21 27 56.0**	**+0.5**
CO06	**Fray Jorge**	**1.74**	**16**	Pb		**Pb**	**21 27 58.7**	**+0.8**
MT09	**Talagante**	**1.75**	**145**	⇑*i*P		**Pn**	**21 27 56.5**	**+0.4**
MT09				*i* S		**Sn**	**21 28 18.3**	**+0.2**
MT09				IAML			21 28 35.5	
	comp=E,856nm,0.4s							
MT09	**Talagante**	**1.75**	**145**			**Pn**	**21 27 56.0**	**-0.1**
CO03	**El Pedregal**	**1.98**	**41**	*e*P		**Pn**	**21 27 60.0**	**+0.7**
CO03				*e*S		**Sn**	**21 28 22.7**	**-1.1**
CO03				IAML			21 28 37.5	
	comp=E,924nm,0.4s							
CO03	**El Pedregal**	**1.98**	**41**	Pn		**Pb**	**21 28 01.4**	**-0.8**
BO01	**Tunca**	**2.24**	**156**			**Pn**	**21 28 02.4**	**-0.3**
BO01	**Tunca**	**2.24**	**156**	*i* P		**Pn**	**21 28 04.0**	**+1.2**
LMEL	**Las Melosas**	**2.25**	**132**	⇑*i*P		**Pn**	**21 28 04.4**	**+1.4**
LMEL				*e*S		**Sn**	**21 28 37.7**	**+1.3**
AUSP	**Uspallata**	**2.39**	**88**	*i* P		**Pb**	**21 28 08.0**	**-1.1**
GO04	**Tololo Observa**	**2.48**	**29**			**Pn**	**21 28 07.7**	**+1.5**
GO05	**Huala**	**2.66**	**175**	*e*P		**Pn**	**21 28 08.6**	**0.0**
GO05				*e*S		**Sb**	**21 28 47.7**	**+1.6**
GO05				IAML			21 29 00.2	
	comp=N,224nm,0.8s							
GO05	**Huala**	**2.66**	**175**	Pn		**Pn**	**21 28 07.2**	**-1.4**
GO05	**Huala**	**2.66**	**175**	*i* P		**Pn**	**21 28 08.0**	**-0.6**
BO02	**Sierra Bellavi**	**2.71**	**154**	Pn		**Pn**	**21 28 08.8**	**-0.5**
BO02	**Sierra Bellavi**	**2.71**	**154**	*i* P		**Pn**	**21 28 10.0**	**+0.7**
ZON	**Zonda**	**3.10**	**76**			**Pn**	**21 28 17.4**	**+2.8**
RTCV	**Cerro Valdivia**	**3.15**	**82**	*i* P		**Pb**	**21 28 19.0**	**-2.9**
ML02	**Panimavida**	**3.47**	**169**			**Pn**	**21 28 19.6**	**0.0**
AC04	**Llanos de Chal**	**4.24**	**14**	Pn		**Pn**	**21 28 29.5**	**-0.8**
ACHE	**Chepes**	**4.86**	**77**	*i* P		**Pn**	**21 28 43.0**	**+4.0**
VCA	**Vinchina**	**4.98**	**45**	*i* P		**Pn**	**21 28 47.0**	**+6.4**
GO03	**Copiap**	**5.04**	**20**	Pn		**Pn**	**21 28 40.8**	**-0.5**
AC06	**Mina Casimiro**	**5.23**	**18**			**Pn**	**21 28 43.2**	**-0.6**
H03N1	**Juan Fernandez** baz=94	**5.75**	**257**	T		T	21 34 43.6	
H03N3	**Juan Fernandez** baz=94	**5.76**	**257**	T		T	21 34 45.8	
H03N2	**Juan Fernandez** baz=94	**5.76**	**257**	T		T	21 34 42.5	
AC02	**Maricunga**	**6.11**	**27**			**Pn**	**21 28 55.6**	**-0.8**
LC01	**Cunco**	**6.54**	**178**	Pn		**Pn**	**21 29 00.2**	**-1.6**
CYA	**Choya**	**6.76**	**56**	*i* P		Pn	21 29 11.0	+6.1
PLCA	**Paso Flores** comp=N,0.3nm,0.3s,baz=334,slow=13,SNR=9.8	**8.47**	**171**	Pn		**Pn**	**21 29 29.0**	**+0.6**
PLCA	**Paso Flores**	**8.47**	**171**			**Pn**	**21 29 27.9**	**-0.5**
TRQA	**Tornquist**	**10.12**	**127**	Pn		**Pn**	**21 29 52.6**	**+1.7**
LVC	**Limon Verde** comp=N,0.1nm,0.3s,baz=184,slow=19,SNR=1.2	**10.13**	**18**	Pn		**Pn**	**21 29 51.5**	**0.0**
LVC	**Limon Verde**	**10.13**	**18**			**Pn**	**21 29 52.7**	**+1.2**
PLTB	**Pedras Altas**	**15.78**	**93**	Pn		**P**	**21 31 10.0**	**-1.7**
PLTB				Pn		IAmb	21 31 37.1	
	comp=Z,16nm,1.4s							
LPAZ	**La Paz** comp=Z,0.0nm,0.3s,baz=184,slow=6.0,SNR=3.8	**16.41**	**14**	Pn		**Pn**	**21 31 18.0**	**+1.4**
LPAZ	**La Paz**	**16.41**	**14**			**P**	**21 31 18.5**	**-0.9**
SIV	**San Ignacio** comp=Z,0.2nm,0.3s,baz=223,slow=11,SNR=5.0	**19.17**	**34**	P		**P**	**21 31 49.5**	**+0.3**
SNAA	**Sanae**	**53.16**	**158**	P		**P**	**21 36 42.2**	**-0.9**
SNAA				IAmb		IAmb	21 36 57.1	
	comp=Z,5.3nm,1.4s							
QSPA	**South Pole Qui** comp=Z,2.1nm,1.0s,baz=117,slow=4.5,SNR=14	**57.88**	**180**	P		**P**	**21 37 18.2**	**+1.0**
QSPA	**South Pole Qui**	**57.88**	**180**	P		**P**	**21 37 17.2**	**0.0**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.5s,baz=163,slow=9.4,SNR=3.1	**68.23**	**331**	P		**P**	**21 38 26.8**	**+0.6**
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.8s,baz=242,slow=4.8,SNR=3.5	**83.78**	**70**	P		**P**	**21 39 55.4**	**+0.3**
TORD	**Torodi Ar. Bea**	**83.78**	**70**	P		**P**	**21 39 55.5**	**+0.3**

MEX 19 21:32:12.1±0.3, 17°21N×94°82W, h140km±4km, MD3.5, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.13**	**209**	*i* P	Pn	21 32 29.6	-1.5
CMIG				*i* S	Sn	21 32 43.3	-2.1
TOIG	**Toxpalan**	**2.32**	**293**	*i* P	Pn	21 32 51.2	+0.7
TOIG				*i* S	Sn	21 33 20.3	+0.2
PEIG	**Puerto Escondi**	**2.54**	**242**	*i* P	Pn	21 32 52.0	-1.3
PEIG				*i* S	Sn	21 33 27.4	+2.4

NEIC ***19*** *21:38:53.4±1.9, 30°.24S×72°.14W±0°.06, h16km±5km, mb4.3/4, Mwr4.0/25, ML4.2(GUC), Error ellipse: s-maj=8.1km s-min=5.3km az=73.0*

NEIC ***19*** *21:38:53.4, 30°.24S×72°.14W, h13km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=1.11; $M_{\theta\theta}$=0.11; $M_{\phi\phi}$=-1.00; $M_{r\theta}$=0.04; $M_{r\phi}$=-0.30; $M_{\theta\phi}$=-0.40; Fault plane solution: M_0=1.17000×10^{15} NP1:ϕ_s=189.81000°, δ=54.66000°, λ=81.52000°. NP2:ϕ_s=24.26000°, δ=36.22000°, λ=101.74000°. Principal axes: T 1.1884, Plg78.0000°, Azm69.0000°; N -0.0330, Plg7.0000°, Azm195.0000°; P -1.1554, Plg9.0000°, Azm286.0000°;*

GUC ***19*** *21:38:53.8±0.8, 30°.27S×72°.16W, h24km±6km, ML4.2*

IDC ***19*** *21:38:57.1±1.3, 30°.51S×70°.69W, h0km, mb3.8/2, mb1 3.9/7, mb1mx3.7/31, mbtmp3.7/7, ML3.7/5, MS3.1/5, Ms1 3.0/5, ms1mx2.9/24, Error ellipse: s-maj=39.9km s-min=28.0km az=100.0*

ISC 19 21:38:53.1±1.2, 30°.24S±0°.04×72°.16W±0°.06, h9km±7km, n66, σ1§42/72, mb4.2/3, 1C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.62**	**134**	⇓*i*P	**Pg**	**21 39 05.4**	**+0.1**
CO06				*i* S	**Sb**	**21 39 13.8**	**-1.2**
CO06				IAML		21 39 16.9	
	comp=N,13μm,0.2s						
CO06	**Fray Jorge**	**0.62**	**134**		**Pg**	**21 39 05.4**	**+0.1**
CO06					**Sg**	**21 39 13.5**	**+0.1**
CO05	**La Serena**	**0.86**	**68**	⇓*i*P	**Pb**	**21 39 10.2**	**0.0**
CO05				*i* S	**Sg**	**21 39 21.8**	**+0.9**
CO05				IAML		21 39 27.1	
	comp=E,11μm,0.4s						
CO05	**La Serena**	**0.86**	**68**		**Pb**	**21 39 09.9**	**-0.3**
CO05				Sn	**Sg**	**21 39 22.0**	**+1.2**
GO04	**Tololo Observa**	**1.18**	**87**	*e*P	**Pn**	**21 39 15.0**	**-0.9**
GO04				*i* S	**Sb**	**21 39 29.2**	**-2.0**
GO04				IAML		21 39 41.5	
	comp=N,14μm,0.5s						
GO04	**Tololo Observa**	**1.18**	**87**		**Pn**	**21 39 15.1**	**-0.9**
GO04				Sn	**Sb**	**21 39 30.4**	**-0.8**
CO03	**El Pedregal**	**1.40**	**116**	*e*P	**Pn**	**21 39 17.6**	**-1.3**
CO03				*i* S	**Sn**	**21 39 36.1**	**-1.5**
CO03	**El Pedregal**	**1.40**	**116**		**Pn**	**21 39 17.9**	**-1.0**
CO03				Sn	**Sn**	**21 39 36.1**	**-1.5**
LCO	**Las Campanas**	**1.76**	**46**	⇑*i*P	**Pn**	**21 39 24.3**	**+0.3**
LCO				*i* S	**Sn**	**21 39 47.3**	**+0.5**
LCO	**Las Campanas**	**1.76**	**46**		**Pn**	**21 39 24.6**	**+0.6**
AC04	**Llanos de Chal**	**2.24**	**25**	*e*P	**Pn**	**21 39 29.9**	**-0.5**
AC04	**Llanos de Chal**	**2.24**	**25**	Pn	**Pn**	**21 39 29.6**	**-0.8**
VA06	**Catapilco**	**2.43**	**163**	*e*P	**Pn**	**21 39 32.0**	**-0.9**
VA01	**Torpederas**	**2.81**	**171**	Pn	**Pn**	**21 39 36.9**	**-1.2**
VA03	**San Esteban**	**2.87**	**152**	*e*P	**Pn**	**21 39 39.2**	**+0.2**
VA03				*e*S	**Sn**	**21 40 14.7**	**+1.0**
VA03				IAML		21 40 25.5	
	comp=N,884nm,0.6s						
VA03	**San Esteban**	**2.87**	**152**		**Pn**	**21 39 39.4**	**+0.3**
ROCH	**El Roble**	**2.89**	**161**	*e*P	**Pn**	**21 39 39.2**	**-0.3**
ROCH				IAML		21 40 29.9	
	comp=N,2μm,0.9s						
GO03	**Copiap**	**3.13**	**33**	*e*P	**Pn**	**21 39 43.5**	**+0.8**
GO03				IAML		21 40 45.2	
	comp=N,365nm,0.3s						
GO03	**Copiap**	**3.13**	**33**		**Pn**	**21 39 43.0**	**+0.3**
ZON	**Zonda**	**3.26**	**114**		**Pn**	**21 39 45.5**	**+1.0**
AC06	**Mina Casimiro**	**3.28**	**29**	*e*P	**Pn**	**21 39 45.0**	**+0.3**
AC06				IAML		21 40 45.9	
	comp=N,210nm,0.3s						
AC06	**Mina Casimiro**	**3.28**	**29**	Pn	**Pn**	**21 39 45.0**	**+0.3**
MT05	**Renca**	**3.37**	**159**	*e*P	**Pn**	**21 39 46.5**	**+0.6**
MT05				*e*S	**Sn**	**21 40 27.6**	**+1.6**
MT05				IAML		21 40 43.4	
	comp=E,1μm,0.4s						
MT05	**Renca**	**3.37**	**159**	Pn	**Pn**	**21 39 45.5**	**-0.4**
VA05	**Santo Domingo**	**3.44**	**172**	*e*P	**Pn**	**21 39 46.9**	**0.0**
VA05				IAML		21 40 50.0	
	comp=E,385nm,0.7s						
VA05	**Santo Domingo**	**3.44**	**172**		**Pn**	**21 39 44.8**	**-2.0**
MT09	**Talagante**	**3.66**	**165**	*e*P	**Pn**	**21 39 50.0**	**0.0**
MT09	**Talagante**	**3.66**	**165**		**Pn**	**21 39 49.4**	**-0.6**
MT01	**Popeta**	**3.69**	**168**	*e*P	**Pn**	**21 39 49.6**	**-0.8**
MT01	**Popeta**	**3.69**	**168**		**Pn**	**21 39 49.4**	**-1.0**
LMEL	**Las Melosas**	**3.96**	**156**	*e*P	**Pn**	**21 39 55.0**	**+0.9**
BO01	**Tunca**	**4.24**	**168**		**Pn**	**21 39 56.8**	**-1.1**
AC02	**Maricunga**	**4.31**	**39**	*e*P	**Pn**	**21 40 00.5**	**+1.2**
AC02	**Maricunga**	**4.31**	**39**	Pn	**Pn**	**21 40 00.0**	**+0.7**
BO02	**Sierra Bellavi**	**4.69**	**166**	Pn	**Pn**	**21 40 02.9**	**-1.1**
GO05	**Huala**	**4.76**	**178**	Pn	**Pn**	**21 40 02.9**	**-2.2**
ML02	**Panimavida**	**5.54**	**174**	Pn	**Pn**	**21 40 14.3**	**-1.5**
PB14	**IPOC Station P**	**5.81**	**16**	Pn	**Pn**	**21 40 17.8**	**-1.9**
H03N1	**Juan Fernandez** baz=70,slow=72,SNR=422	**6.57**	**239**	T	T	21 47 38.7	
H03N2	**Juan Fernandez** baz=70,slow=72,SNR=400	**6.59**	**239**	T	T	21 47 39.4	
H03N3	**Juan Fernandez** baz=70,slow=72,SNR=355	**6.59**	**239**	T	T	21 47 38.1	
PB15	**IPOC Station P**	**7.40**	**20**	Pn	**Pn**	**21 40 41.8**	**+0.2**
LVC	**Limon Verde** comp=E,0.3nm,0.3s,baz=186,slow=9.2,SNR=1.8	**8.14**	**22**	Pn	**Pn**	**21 40 53.4**	**+1.7**
LVC				Sn	**Sn**	**21 42 21.3**	**-2.8**
	comp=E,0.8nm,0.3s,baz=142,slow=12,SNR=1.7						
LVC	**Limon Verde**	**8.14**	**22**		**Pn**	**21 40 51.7**	**0.0**
PB07	**IPOC Station P**	**8.72**	**14**	Pn	**Pn**	**21 40 58.4**	**-1.2**
PLCA	**Paso Flores** comp=E,0.2nm,0.3s,baz=358,slow=15,SNR=4.5	**10.55**	**173**	Pn	**Pn**	**21 41 23.5**	**-1.1**
PLCA				LR	LR	21 45 10.7	
	comp=E,57nm,20.4s,baz=354,slow=37						
PLCA	**Paso Flores**	**10.55**	**173**		**Pn**	**21 41 24.2**	**-0.3**
TRQA	**Tornquist**	**11.48**	**135**	Pn	**Pn**	**21 41 36.2**	**-1.0**
CPUP	**Villa Florida** comp=E,0.3nm,0.3s,baz=81,slow=11,SNR=1.7	**13.63**	**77**	Pn	Pn	21 41 54.7	-12
CPUP				LR	LR	21 47 40.9	
	comp=E,105nm,19.1s,baz=246,slow=42						
LPAZ	**La Paz** comp=E,0.1nm,0.3s,baz=199,slow=8.8,SNR=5.3	**14.37**	**16**	Pn	**P**	**21 42 21.4**	**-3.1**
LPAZ	**La Paz**	**14.37**	**16**		**Pn**	**21 42 13.0**	**-4.3**
SIV	**San Ignacio** comp=E,0.1nm,0.3s,baz=220,slow=5.6,SNR=6.3	**17.45**	**38**	Pn	**Pn**	**21 42 56.9**	**+0.1**
SIV				LR	LR	21 50 09.7	
	comp=E,67nm,21.7s,baz=292,slow=40						
NNA	**Nana** comp=E,39nm,18.9s,baz=165,slow=31	**18.68**	**346**	LR	LR	21 48 58.8	
BDFB	**Brasilia** comp=E,66nm,21.8s,baz=357,slow=36	**26.48**	**62**	LR	LR	21 54 23.4	
VNA3	**Neumayer Olymp**	**52.88**	**159**	P	**P**	**21 48 09.4**	**+0.5**
VNA1	**Neumayer--Stat**	**53.18**	**158**	P	**P**	**21 48 12.5**	**+1.5**
VNA2	**Neumayer--Watz** baz=289,slow=8.8	**53.52**	**158**	P	**P**	**21 48 14.5**	**+0.9**
SNAA	**Sanae**	**55.11**	**159**	P	**P**	**21 48 25.5**	**+0.3**
SNAA	**Sanae**	**55.11**	**159**	P	**P**	**21 48 25.5**	**+0.3**
QSPA	**South Pole Qui**	**59.98**	**180**	P	**P**	**21 49 00.2**	**+0.5**
TXAR	**Lajitas Array** comp=E,0.4nm,0.8s,baz=143,slow=9.1,SNR=4.1	**66.42**	**330**	P	P	21 49 54.0	+11
KOWA	**Kowa**	**79.20**	**66**	P	**P**	**21 50 59.1**	**+0.3**
KOWA				IAmb	IAmb	21 51 00.4	
	comp=Z,3.8nm,1.1s						
TORD	**Torodi Ar. Bea** comp=Z,1.3nm,0.7s,baz=256,slow=5.0,SNR=7.5	**83.04**	**70**	P	**P**	**21 51 19.9**	**+0.6**
TORD	**Torodi Ar. Bea**	**83.04**	**70**	P	**P**	**21 51 19.2**	**-0.1**
TORD				IAmb	IAmb	21 51 20.1	
	comp=Z,2.0nm,0.9s						
ASAR	**Alice Springs** comp=Z,0.2nm,0.6s,baz=163,slow=1.0,SNR=2.0	**120.85**	**208**	PKP	**PKiKP**	**21 57 52.8**	**+6.3**
ZALV	**Zalesovo Beam** comp=Z,0.9nm,0.5s,baz=310,slow=2.0,SNR=4.0	**151.04**	**29**	PKPbc	**PKiKP**	**21 58 47.2**	**+0.6**
ZALV				PKPab	**pPKPab**	**21 58 56.2**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=318,slow=5.1,SNR=3.8						

IDC ***19*** *21:42:05.9±1.2, 30°.77S×72°.68W, h0km, mb3.7/2, mb1 4.0/6, mb1mx3.8/30, mbtmp3.8/6, ML3.9/4, Error ellipse: s-maj=41.2km s-min=33.1km az=85.0*

NEIC ***19*** *21:42:07.3±2.1, 30°.72S±0°.05×72°.5W±0°.1, h10km±1km, mb4.5/3, Error ellipse: s-maj=15.7km s-min=8.7km az=284.0*

ISC 19 21:42:08.5±0.7, 30°.66S±0°.06×72°.6W±0°.1, h19km, n40, σ1§42/44, mb4.1/5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.82**	**91**	Pn	**Pb**	**21 42 23.6**	**-0.5**
CO05	**La Serena**	**1.38**	**58**	Pn	**Pn**	**21 42 32.0**	**-0.8**
GO04	**Tololo Observa**	**1.62**	**73**	Pn	**Pn**	**21 42 36.0**	**-0.2**
CO03	**El Pedregal**	**1.64**	**97**	Pn	**Pn**	**21 42 36.1**	**-0.4**
VA01	**Torpederas**	**2.49**	**161**	Pn	**Pn**	**21 42 46.1**	**-1.9**
VA03	**San Esteban**	**2.72**	**141**	Pn	**Pn**	**21 42 50.7**	**-0.6**
AC04	**Llanos de Chal**	**2.78**	**29**		**Pn**	**21 42 50.0**	**-2.0**
VA05	**Santo Domingo**	**3.10**	**165**		**Pn**	**21 42 54.3**	**-2.1**
MT05	**Renca**	**3.14**	**150**	Pn	**Pn**	**21 42 55.7**	**-1.3**
MT01	**Popeta**	**3.39**	**161**	Pn	**Pn**	**21 42 58.5**	**-1.9**
MT09	**Talagante**	**3.39**	**157**		**Pn**	**21 42 59.5**	**-1.0**
GO03	**Copiap**	**3.69**	**35**		**Pn**	**21 43 03.5**	**-1.0**
AC06	**Mina Casimiro**	**3.83**	**31**	Pn	**Pn**	**21 43 05.5**	**-1.0**
BO01	**Tunca**	**3.93**	**162**	Pn	**Pn**	**21 43 06.0**	**-1.8**
GO05	**Huala**	**4.37**	**173**	Pn	**Pn**	**21 43 11.3**	**-2.6**
BO02	**Sierra Bellavi**	**4.39**	**160**	Pn	**Pn**	**21 43 13.4**	**-0.8**
AC02	**Maricunga**	**4.87**	**39**	Pn	**Pn**	**21 43 20.5**	**-0.8**
PB14	**IPOC Station P**	**6.32**	**18**	Pn	**Pn**	**21 43 40.3**	**-0.6**
LC01	**Cunco**	**8.24**	**176**	Pn	**Pn**	**21 44 04.4**	**-2.5**
PB06	**IPOC Station P**	**8.37**	**19**	Pn	**Pn**	**21 44 09.6**	**+0.6**
LVC	**Limon Verde** baz=316,slow=8.7,SNR=0.6	**8.67**	**23**	Pn	**Pn**	**21 44 10.5**	**-2.7**
LVC				Sn	**Sn**	**21 45 47.9**	**-2.8**
	0.3nm,0.3s,baz=28,slow=23,SNR=1.3						
LVC	**Limon Verde**	**8.67**	**23**		**Pn**	**21 44 10.4**	**-2.8**
PLCA	**Paso Flores** 0.3nm,0.3s,baz=334,slow=11,SNR=5.2	**10.18**	**171**	Pn	**Pn**	**21 44 32.7**	**-1.0**
PLCA	**Paso Flores**	**10.18**	**171**	Pn	**Pn**	**21 44 32.2**	**-1.5**
CPUP	**Villa Florida** 0.1nm,0.3s,baz=341,slow=19,SNR=1.7	**14.09**	**76**	Pn	**Pn**	**21 45 28.0**	**+0.9**
LPAZ	**La Paz** 0.2nm,0.3s,baz=194,slow=3.3,SNR=13	**14.88**	**17**	Pn	**Pn**	**21 45 40.0**	**+1.5**
LPAZ	**La Paz**	**14.88**	**17**		**Pn**	**21 45 39.2**	**+0.8**
SIV	**San Ignacio** 0.1nm,0.3s,baz=231,slow=12,SNR=11	**18.01**	**38**	P	**P**	**21 46 19.6**	**+1.3**
SNAA	**Sanae**	**54.85**	**159**	P	**P**	**21 51 38.4**	**+1.2**
SNAA				IAmb	IAmb	21 51 45.0	
	comp=Z,3.2nm,1.5s						
QSPA	**South Pole Qui**	**59.56**	**180**	P	**P**	**21 52 10.9**	**+0.2**
QSPA				IAmb	IAmb	21 52 34.1	
	comp=Z,5.3nm,1.5s						
TXAR	**Lajitas Array** comp=Z,0.3nm,0.6s,baz=151,slow=7.5,SNR=4.8	**66.60**	**331**	P	**P**	**21 52 58.6**	**+0.9**
TXAR	**Lajitas Array**	**66.60**	**331**	P	**P**	**21 52 58.0**	**+0.3**
DBIC	**Dimbokro**	**74.58**	**72**	P	**P**	**21 53 46.3**	**-0.3**
DBIC				IAmb	IAmb	21 53 59.8	
	comp=Z,15nm,1.3s						
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,0.9s,baz=268,slow=3.3,SNR=6.4	**83.53**	**71**	P	**P**	**21 54 36.2**	**+0.6**
BVAR	**Borovoye Array** comp=Z,1.4nm,0.5s,baz=258,slow=7.0,SNR=8.5	**145.08**	**39**	PKPbc	**PKPab**	**22 01 45.0**	**+1.3**
KKAR	**Karatay Array**	**148.23**	**57**	PKPbc	**PKPbc**	**22 01 52.8**	**-0.4**
KURBB	**Kurchatov Arra** comp=Z,0.4nm,0.3s,baz=294,slow=2.9,SNR=5.6	**150.67**	**39**	PKPbc	**PKPbc**	**22 01 59.6**	**+0.7**
KURBB				PKPab	**PKPab**	**22 02 07.7**	**+1.9**
	comp=Z,0.3nm,0.2s,baz=299,slow=2.9,SNR=4.0						
ZAA0	**Zalesovo Array**	**151.59**	**29**	PKPbc	**PKPbc**	**22 02 01.1**	**+0.1**
ZALV	**Zalesovo Beam** comp=Z,1.9nm,0.7s,baz=302,slow=3.8,SNR=5.0	**151.59**	**29**	PKPbc	**PKPbc**	**22 02 00.1**	**-0.8**
ZALV				PKPab	**PKPab**	**22 02 09.8**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=315,slow=2.4,SNR=4.0						
ZALV	**Zalesovo Beam**	**151.59**	**29**	PKPbc	**PKPbc**	**22 02 00.3**	**-0.6**
ZALV				PKPab	**PKPab**	**22 02 09.6**	**0.0**

NEIC ***19*** *21:49:49.6±1.4, 31°.34S±0°.04×72°.11W±0°.05, h10km±1km, mb4.0/6, Error ellipse: s-maj=9.5km s-min=3.5km az=316.0*

IDC ***19*** *21:49:51.0±1.3, 31°.58S×71°.23W, h0km, mb3.9/4, mb1 4.0/7, mb1mx3.8/26, mbtmp3.8/7, ML4.0/3, MS3.1/6, Ms1 3.1/6, ms1mx3.0/27, Error ellipse: s-maj=43.7km s-min=25.2km az=97.0*

ISC 19 21:49:50.1±0.8, 31°.33S±0°.06×72°.12W±0°.10, h14km, n38, σ1§51/31, mb3.9/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.78**	**33**		**Pg**	**21 50 03.4**	**-1.8**
CO06				Sg	**Sb**	**21 50 16.6**	**+0.6**
CO03	**El Pedregal**	**1.32**	**69**		**Pn**	**21 50 14.3**	**0.0**
CO03				Sn	**Sn**	**21 50 31.9**	**+0.1**
CO05	**La Serena**	**1.60**	**29**		**Pn**	**21 50 17.9**	**-0.1**
GO04	**Tololo Observa**	**1.62**	**45**		**Pn**	**21 50 17.9**	**-0.6**
GO04				Sn	**Sn**	**21 50 39.5**	**+0.1**
VA03	**San Esteban**	**1.95**	**137**	Pn	**Pn**	**21 50 22.4**	**-0.5**
ZON	**Zonda**	**2.95**	**95**		**Pn**	**21 50 36.7**	**0.0**
BO01	**Tunca**	**3.17**	**164**	Pn	**Pn**	**21 50 39.2**	**-0.4**
AC04	**Llanos de Chal**	**3.25**	**17**		**Pn**	**21 50 39.5**	**-1.2**
GO05	**Huala**	**3.67**	**178**	Pn	**Pn**	**21 50 44.5**	**-2.1**
H03N1	**Juan Fernandez** baz=79,slow=72,SNR=128	**6.12**	**248**	T	T	21 58 12.1	
H03N3	**Juan Fernandez** baz=79,slow=72,SNR=100	**6.13**	**248**	T	T	21 58 11.8	
H03N2	**Juan Fernandez** baz=79,slow=72,SNR=109	**6.13**	**248**	T	T	21 58 13.1	
H03S3	**Juan Fernandez** baz=82,slow=75,SNR=8.5	**6.25**	**245**	T	T	21 57 39.1	
H03S1	**Juan Fernandez** baz=82,slow=75,SNR=8.1	**6.25**	**245**	T	T	21 57 44.7	
H03S2	**Juan Fernandez** baz=82,slow=75,SNR=15	**6.26**	**245**	T	T	21 57 42.7	
PB14	**IPOC Station P**	**6.85**	**13**		**Pn**	**21 51 27.8**	**-2.8**
LC01	**Cunco**	**7.55**	**179**	Pn	**Pn**	**21 51 38.2**	**-1.6**
LVC	**Limon Verde** 0.5nm,0.3s,baz=180,slow=16,SNR=3.5	**9.15**	**19**	Pn	**Pn**	**21 52 05.9**	**+3.8**
LVC				LR	LR	21 56 25.3	
	comp=Z,105nm,18.6s,baz=206,slow=43						
PLCA	**Paso Flores** 0.7nm,0.3s,baz=344,slow=12,SNR=14	**9.46**	**173**	Pn	**Pn**	**21 52 05.4**	**-0.7**
PLCA				LR	LR	21 55 58.3	
	comp=Z,107nm,18.5s,

PHC Sn Sn 21 51 25.7 -2.5
NC89 ODP889 1.97 111 Pn Pn 21 51 00.9 -2.9
NC89 ODP889 1.97 111 Pn Pn 21 51 00.9 -2.9
ETB Estevan Point 2.02 89 Pn Pn 21 51 02.6 -2.0
NC27 ODP1027 2.06 142 Pn Pn 21 51 01.0 -3.8
WOSB Woss 2.12 68 Pn Pn 21 51 05.7 -0.5
TLCB Telegraph Cove 2.14 56 Pn Pn 21 51 05.7 -0.5
TLCB Telegraph Cove 2.14 56 Pn 21 51 05.8 -0.5
GDR Gold River 2.37 79 Pn Pn 21 51 08.0 -1.5
TOFB Tofino 2.45 94 Pn Pn 21 51 08.2 -2.3
NCRB Newcastle Ridg 2.52 65 Pn Pn 21 51 11.7 0.0
SPLB Strathcona Par 2.63 78 Pn Pn 21 51 09.8 -3.2
BTB Buttle Lake 2.68 87 Pn Pn 21 51 12.4 -1.5
B012 Ucluelet 2.73 98 Pn Pn 21 51 11.5 -2.8
B012 Sn Sn 21 51 43.2 -4.6
OZB Mount Ozzard 2.75 98 Pn Pn 21 51 12.0 -2.7
OZB Mount Ozzard 2.75 98 Pn 21 51 12.4 -2.4
MWAB Mount Washingt 2.84 81 Pn Pn 21 51 14.8 -1.2
CBB Campbell River 2.84 75 Pn Pn 21 51 15.7 -0.2
CBB Campbell River 2.84 75 Pn 21 51 15.5 -0.4
BBB Bella Bella 2.95 18 Pn Pn 21 51 16.9 -0.6
42nm,0.3s,baz=216,slow=13,SNR=246
BBB Sn Sn 21 51 50.6 -2.7
21nm,0.3s,baz=186,slow=15,SNR=4.7
BBB LR LR 21 52 07.9
comp=Z,185nm,18.2s,baz=38,slow=34
BBB Bella Bella 2.95 18 Pn Pn 21 51 16.8 -0.6
BBB Sn Sn 21 51 50.8 -2.6
BBB Bella Bella 2.95 18 Pn Pn 21 51 17.0 -0.4
BFSB Bamfield 3.01 99 Pn Pn 21 51 15.4 -2.7
B928 Bamfield 3.01 99 Pn Pn 21 51 15.8 -2.4
HG4B Hotspring 3.06 342 Pn Pn 21 51 15.2 -3.8
HG4B Hotspring 3.06 342 Pn 21 51 17.0 -2.0
B927 Port Alberni 3.16 91 Pn Pn 21 51 19.1 -1.1
MGB Mount Grey 3.26 95 Pn Pn 21 51 19.8 -2.1
MGB Sn Sn 21 51 58.7 -2.6
TXB Texada 3.40 83 Pn Pn 21 51 23.6 0.0
BNB Barry Inlet 3.45 338 Pn Pn 21 51 23.1 -1.3
OCP Olym-Cheeka Pk 3.48 107 Pn Pn 21 51 23.0 -1.8
PFB Port Renfrew 3.52 102 Pn Pn 21 51 23.9 -1.4
GHNB Nanoose 3.53 89 Pn Pn 21 51 25.2 -0.2
C03A Quillayute Air 3.66 111 Pn Pn 21 51 25.8 -1.3
B926 Mesachie Lake 3.66 97 Pn Pn 21 51 26.0 -1.2
CLRS Cowichan Lake 3.66 97 Pn 21 51 26.0 -1.2
NLLB Nanaimo Lost L 3.70 91 Pn Pn 21 51 27.6 -0.1
NLLB Sn Sn 21 52 11.2 -0.5
BUTB Butedale 3.74 11 Pn Pn 21 51 27.8 -0.6
BUTB Sn Sn 21 52 11.7 -1.4
SHB Sechelt 3.76 85 Pn Pn 21 51 28.4 -0.2
OBC Olympics--Boni 3.92 108 Pn Pn 21 51 29.2 -1.7
BNKB Banks Island 3.94 358 Pn Pn 21 51 29.5 -1.6
MOBC Moresby Island 4.03 340 Pn Pn 21 51 29.5 -2.8
GOBB Galiano Island 4.04 94 Pn Pn 21 51 31.3 -1.1
BIB Bowen Island 4.13 88 Pn Pn 21 51 33.4 -0.2
B009 North Saanich 4.13 98 Pn Pn 21 51 33.1 -0.5
B009 Sn Sn 21 52 20.0 -2.5
B010 North Saanich 4.13 98 Pn Pn 21 51 31.4 -2.3
PGC Sidney 4.13 98 Pn Pn 21 51 32.4 -1.3
PGC Sn Sn 21 52 20.4 -2.2
PGC Sidney 4.13 98 Pn Pn 21 51 31.9 -1.8
STW Striped Peak 4.13 105 Pn Pn 21 51 31.8 -1.9
PA12 PA12 Sannich 4.14 98 Pn Pn 21 51 32.2 -1.5
B011 North Saanich 4.14 98 Pn Pn 21 51 33.1 -0.7
BNAB Bonilla 4.15 352 Pn Pn 21 51 33.3 -0.6
WPB Watts Point 4.19 84 Pn Pn 21 51 35.2 +0.7
DIB Dawson Inlet, 4.21 336 Pn Pn 21 51 33.2 -1.5
DIB Dawson Inlet, 4.21 336 Pn Pn 21 51 32.3 -2.4
H02S1 DAWSON INLET T 4.21 336 T T 21 55 39.0
HWKB Hawksbury Isla 4.22 4 Pn Pn 21 51 34.0 -0.9
H02N1 VAN INLET T-PH 4.27 336 T T 21 55 43.7
VIB Van Inlet 4.27 336 Pn Pn 21 51 33.5 -2.1
VGZ Gonzales 4.28 101 Pn Pn 21 51 34.2 -1.4
SNB Saturna Island 4.29 96 Pn Pn 21 51 34.5 -1.4
NLWA Neilton Lookou 4.33 115 Pn Pn 21 51 35.0 -1.5
WSLR Whistler 4.41 78 Pn Pn 21 51 38.7 +1.1
GRNB Grenville Isla 4.46 358 Pn Pn 21 51 35.5 -2.7
GRNB Grenville Isla 4.46 358 Pn 21 51 38.1 -0.1
MCW Mount Constitu 4.53 97 Pn Pn 21 51 38.7 -0.5
WISH Wishkah 4.53 118 Pn Pn 21 51 36.8 -2.3
WISH Wishkah 4.53 118 Pn 21 51 38.2 -0.9
A04D Lummi Island 4.60 96 P Pn 21 51 40.6 +0.4
baz=281,SNR=8.2
HNBB Haney 4.62 89 Pn Pn 21 51 40.4 0.0
HNBB Sn Sn 21 52 33.9 -0.6
HDW Hoodsport 4.71 109 Pn Pn 21 51 40.8 -0.9
KITB Kitimat 4.73 7 Pn Pn 21 51 41.3 -0.5
GNW Green Mountain 4.88 110 Pn Pn 21 51 43.3 -0.7
RADR Rader Ridge 4.92 125 Pn Pn 21 51 43.1 -1.5
UBRB Upper Baezaeko 4.94 43 Pn Pn 21 51 46.7 +1.8
VDB Vedder Mountai 4.95 91 Pn Pn 21 51 44.9 0.0
RUBB Prince Rupert 4.95 356 Pn Pn 21 51 44.3 -0.6
RUBB Prince Rupert 4.95 356 Pn Pn 21 51 44.3 -0.6
E03A Lebam 4.97 123 Pn Pn 21 51 43.9 -1.4
E03A Lebam 4.97 123 Pn 21 51 43.9 -1.4
CMW Cultus Mountai 5.05 98 Pn Pn 21 51 45.8 -0.6
B05A Bryant 5.10 100 P Pn 21 51 46.9 -0.1
baz=286,SNR=25
MBW Mount Baker 5.12 94 Pn Pn 21 51 47.5 +0.1
LLLB Lillooet 5.14 73 Pn Pn 21 51 48.3 +0.7
LLLB Lillooet 5.14 73 Pn Pn 21 51 48.1 +0.5
JCW Jim Creek 5.23 100 Pn Pn 21 51 48.4 -0.4
HOPB Hope 5.36 87 Pn Pn 21 51 51.3 +0.7
RPW Rockport 5.43 97 Pn Pn 21 51 51.3 -0.4
B06A Marblemount 5.44 96 Pn Pn 21 51 51.3 -0.3
B06A Marblemount 5.44 96 Pn 21 51 51.2 -0.3
E04D Cinebar 5.53 118 P Pn 21 51 53.6 +0.7
baz=304,SNR=5.9
C05A Tolt Reservoir 5.54 105 Pn Pn 21 51 54.8 +1.7
D05A Enumclaw 5.56 111 Pn Pn 21 51 54.1 +0.8
D05A Enumclaw 5.56 111 Pn 21 51 54.4 +1.1
GPW Glacier Peak 5.76 100 Pn Pn 21 51 56.2 -0.1
FMW Mount Fremont 5.87 112 Pn Pn 21 51 57.3 -0.4
LON Longmire 5.87 114 Pn Pn 21 51 57.3 -0.3
LON Longmire 5.87 114 Pn 21 51 57.5 -0.1
C06D Leavenworth 5.97 101 P Pn 21 52 00.7 +1.7
baz=288
F04A Amboy 5.98 123 Pn 21 52 00.1 +1.1
FSB Fort Saint Jam 6.05 31 Pn Pn 21 52 00.6 +0.5
LTY Liberty 6.35 106 Pn Pn 21 52 04.4 +0.2
LTY Liberty 6.35 106 Pn 21 52 04.9 +0.7
COR Corvallis 6.47 136 Pn Pn 21 52 04.8 -1.0
PNT Penticton 6.54 87 Pn Pn 21 52 06.8 0.0
I02D Swisshome 6.62 141 P Pn 21 52 08.3 +0.5
baz=325
H04D Lebanon 6.78 133 P Pn 21 52 11.4 +1.3
baz=319,SNR=22
B08A Colville Reser 6.87 95 P Pn 21 52 11.3 -0.1
B08A Colville Reser 6.87 95 Pn Pn 21 52 12.0 +0.6
G05D Wamic, OR 7.01 123 P Pn 21 52 16.6 +3.3
baz=310
BLBC Blue River 7.11 64 P Pn 21 52 15.8 +1.0
E07A Sunnyside 7.15 110 Pn 21 52 14.3 -0.8
I03D Drain, OR 7.16 140 P Pn 21 52 15.9 +0.7
baz=325,SNR=14
HAWA Hanford 7.42 110 Pn Pn 21 52 18.8 -0.1
F07A Phinny Hill Vi 7.43 114 Pn 21 52 18.8 -0.2
I04A Tendick Farm, 7.49 136 P Pn 21 52 21.0 +1.2
baz=321,SNR=9.2
D08A Wollman Farm, 7.53 104 Pn 21 52 20.4 +0.1
SLEB Sale Mountain 7.58 72 P Pn 21 52 22.1 +1.0
MNB Mounoet Dainar 7.66 64 P Pn 21 52 20.2 -2.1
E08A Dider Farm, El 7.67 108 Pn 21 52 21.6 -0.7
DBO Dodson Butte 7.68 142 Pn 21 52 22.5 0.0
C09A Chrisman Ranch 7.70 98 P Pn 21 52 22.6 0.0
C09A Chrisman Ranch 7.70 98 Pn 21 52 22.7 0.0
K02D Willamette Mer 7.88 146 P Pn 21 52 25.7 +0.5
baz=330,SNR=8.5
BMBC Bull Mountain 8.06 31 P Pn 21 52 29.2 +1.6
J04D Umpqua Nationa 8.06 137 P Pn 21 52 29.8 +2.0
baz=333,SNR=7.9
PINE Pine Mountain 8.20 130 Pn Pn 21 52 30.9 +1.2
G08A Pilot Rock 8.33 116 Pn Pn 21 52 32.2 +0.8
NEW Newport 8.33 93 Pn Pn 21 52 32.6 +1.2
3.8nm,0.3s,baz=294,slow=12,SNR=40
NEW Sn Sn 21 53 49.6 -16
0.5nm,0.3s,baz=53,slow=23,SNR=11
NEW LR LR 21 55 47.4
comp=Z,1μm,19.0s,baz=298,slow=38
NEW Newport 8.33 93 Pn Pn 21 52 31.6 +0.2
NEW Newport 8.33 93 P Pn 21 52 32.2 +0.8
baz=283,SNR=21

NBC4 NorthernBC 4 8.34 38 P Pn 21 52 33.1 +1.7
L02E Cave Junction 8.38 148 P Pn 21 52 33.4 +1.4
baz=332,SNR=8.0
J05D Fort Rock, OR 8.43 133 P Pn 21 52 34.4 +1.6
baz=320
I07A Izee 8.75 124 Pn Pn 21 52 38.3 +1.1
L04D Klamath Falls 8.81 142 P Pn 21 52 40.2 +2.1
baz=327,SNR=8.9
KRMB Red Mountain 8.84 151 Pn Pn 21 52 39.0 +0.5
K05A Summer Lake 9.02 134 Pn Pn 21 52 42.6 +1.7
F10A Beach Ranch, E 9.04 108 Pn 21 52 42.1 +0.9
DLBC Dease Lake 9.06 359 Pn Pn 21 52 43.4 +2.0
0.5nm,0.3s,baz=196,slow=16,SNR=9.9
DLBC Dease Lake 9.06 359 P Pn 21 52 43.0 +1.7
YBH Yreka Blue Hor 9.07 145 Pn Pn 21 52 44.3 +2.8
0.5nm,0.3s,baz=338,slow=13,SNR=44
YBH LR LR 21 55 49.1
comp=Z,321nm,19.9s,baz=329,slow=35
YBH Yreka Blue Hor 9.07 145 Pn Pn 21 52 43.3 +1.8
NBC5 NorthernBC 5 9.13 24 P Pn 21 52 43.6 +1.2
M02C Callahan 9.31 147 P Pn 21 52 47.2 +2.3
baz=332,SNR=18
M04C Macdoel 9.37 141 P Pn 21 52 47.9 +2.2
baz=327,SNR=25
KHMM Horse Mountain 9.48 152 Pn Pn 21 52 47.9 +0.6
BMO Blue Mountains 9.55 114 Pn Pn 21 52 48.2 +0.1
N02D Trinity Center 9.73 147 P Pn 21 52 53.1 +2.4
baz=332,SNR=29
J08A Circle Bar Ran 9.79 124 Pn 21 52 53.4 +2.0
BHMT Big Hole Peak 9.86 95 P Pn 21 52 52.4 0.0
BSMT Bassoo Peak 9.95 93 P Pn 21 52 52.5 -1.2
PRDA Priddis 9.96 76 P Pn 21 52 54.2 +0.4
FNBB Fort Nelson 10.27 20 P Pn 21 52 59.5 +1.7
WALA Waterton Lakes 10.29 86 P Pn 21 52 59.2 +0.9
WALA Waterton Lakes 10.29 86 Pn Pn 21 52 59.4 +1.1
JTMT Jette 10.31 93 P Pn 21 52 57.9 -0.6
JTMT Jette 10.31 93 Pn 21 52 58.9 +0.4
FBMT Ferry Basin 10.31 95 P Pn 21 52 58.6 +0.1
WVOR Wild Horse Val 10.35 128 Pn 21 53 01.2 +2.1
O02D Mt. Diablo Mer 10.42 150 P Pn 21 53 02.0 +2.0
baz=335,SNR=6.5
YBMT Yellow Bay 10.46 93 P Pn 21 53 01.5 +0.9
SWMT Swartz Lake 10.56 94 P Pn 21 53 01.8 -0.1
O03E Paynes Creek 10.66 146 P Pn 21 53 05.2 +1.9
baz=331,SNR=8.9
MSO Missoula 10.80 98 Pn Pn 21 53 04.5 -0.7
MSO Missoula 10.80 98 P Pn 21 53 04.6 -0.7
baz=290,SNR=9.8
EDM Edmonton 10.88 63 P Pn 21 53 05.5 -0.8
EDM Edmonton 10.88 63 Pn Pn 21 53 06.8 +0.6
SLMT Seeley Lake 10.96 95 P Pn 21 53 07.2 -0.3
MFID Camas Ranch 11.24 117 Pn Pn 21 53 12.9 +1.6
BPMT Black Pine Rid 11.26 99 P Pn 21 53 11.4 -0.2
OVMT Ovando 11.34 96 P Pn 21 53 11.2 -1.4
ORV Oroville 11.42 146 Pn 21 53 14.5 +0.9
WHY Whitehorse 11.68 347 P Pn 21 53 19.2 +2.1
WHY Whitehorse 11.68 347 P Pn 21 53 20.3 +3.2
baz=163
ELMT Elliston 11.84 98 P Pn 21 53 19.7 +0.1
HLID Hailey 12.00 113 Pn Pn 21 53 23.0 +1.3
HLID Hailey 12.00 113 P Pn 21 53 24.6 +2.9
baz=305
PAHR Pah Rah Range 12.12 139 Pn 21 53 25.2 +1.8
LRM Limekiln Ridge 12.13 101 P Pn 21 53 24.4 +0.8
LRM Limekiln Ridge 12.13 101 Pn 21 53 24.1 +0.5
HRY Holter Researc 12.21 96 Pn 21 53 25.0 +0.5
DLMT Dillon 12.23 103 Pn 21 53 25.7 +0.9
MCMT McKenzie Canyo 12.31 105 Pn Pn 21 53 26.5 +0.5
BMN Battle Mountai 12.54 131 Pn Pn 21 53 29.9 +0.8
BOZ Bozeman (W) 12.75 101 Pn 21 53 32.3 +0.4
BOZ Bozeman (W) 12.75 101 P Pn 21 53 32.4 +0.5
baz=294,SNR=6.4
CMB Columbia Colle 13.17 146 Pn 21 53 36.8 -0.8
ELK Elko 13.34 125 Pn P 21 53 45.7 -4.2
0.0nm,0.3s,baz=330,slow=9.0,SNR=3.3
ELK Sn Sn 21 56 12.9 +4.0
0.5nm,0.3s,baz=40,slow=18,SNR=3.1
ELK LR LR 21 59 11.6
comp=Z,284nm,18.1s,baz=314,slow=39
CTGM Chitina Glacie 13.35 335 Pn Pn 21 53 40.6 +0.6
YHB Horse Butte 13.39 103 Pn 21 53 41.7 +1.0
BARN Barnard Glacie 13.52 334 Pn 21 53 44.3 +1.9
YMR Madison River 13.57 103 Pn 21 53 43.7 +0.4
YHH Holmes Hill 13.59 103 Pn 21 53 44.4 +0.8
NVAR Mina Array Bea 13.65 139 Pn Pn 21 53 46.5 +2.1
0.3nm,0.3s,baz=310,slow=11,SNR=14
NVAR Sn Sn 21 56 21.0 +4.4
0.5nm,0.3s,baz=304,slow=20,SNR=3.7
NVAR LR LR 21 59 04.7
comp=Z,146nm,18.2s,baz=322,slow=38
NVAR Mina Array Bea 13.65 139 Pn 21 53 45.1 +0.7
NV11 Mina Array Sit 13.71 139 Pn 21 53 45.6 +0.5
YUK3 Moose Creek 13.80 338 P Pn 21 53 47.1 +0.8
H17A Grant Village 13.95 104 Pn Pn 21 53 49.7 +1.4
FXWY Fox Creek 14.03 107 Pn Pn 21 53 52.0 +2.5
MOOW Moose Ponds 14.15 106 Pn P 21 53 55.0 -4.0
TPAW Teton Pass 14.15 108 Pn Pn 21 53 52.1 +0.8
MCARA McCarthy VSAT 14.18 333 P P 21 54 00.5 +1.5
baz=
TPH Tonopah 14.42 137 Pn 21 53 55.3 +0.5
BGU Big Grassy Mou 14.43 120 Pn Pn 21 53 56.4 +1.5
AHID Auburn Hatcher 14.45 110 Pn Pn 21 53 57.9 +2.7
RLMT Red Lodge 14.46 99 Pn Pn 21 53 56.1 +0.7
RLMT Red Lodge 14.46 99 P Pn 21 53 58.6 +3.2
baz=295,SNR=8.5
HWUT Hardware Ranch 14.85 115 Pn Pn 21 54 02.7 +2.1
FID Port Fidalgo 14.86 326 Pn 21 54 02.0 +1.6
R11A Troy Canyon, C 14.96 132 Pn 21 54 02.5 +0.4
R11A Troy Canyon, C 14.96 132 P Pn 21 54 02.6 +0.4
baz=322
DUG Dugway, Tooele 15.04 121 Pn 21 54 03.5 +0.2
DUG IAmb IAmb 21 54 19.9
comp=Z,15nm,1.2s
DUG Dugway, Tooele 15.04 121 P Pn 21 54 04.4 +1.1
baz=313
GLI Glacier Island 15.17 326 Pn 21 54 06.2 +1.5
GLI IAmb IAmb 21 54 35.0
comp=Z,16nm,0.7s
BCAR Beaver Creek A 15.23 339 Pn Pn 21 54 06.5 +0.9
L27K Beaver Creek, 15.24 339 Pn Pn 21 54 06.2 +0.6
L27K IAmb IAmb 21 54 15.5
comp=Z,24nm,1.6s
L27K Beaver Creek, 15.24 339 P Pn 21 54 06.9 +1.3
baz=148
TCUT Toone Canyon 15.24 116 Pn 21 54 07.4 +1.4
TCUT IAmb IAmb 21 54 17.6
comp=Z,14nm,0.9s
BW06 Boulder Array 15.40 108 P P 21 54 11.5 -1.4
baz=303,SNR=9.9
PD31 Pinedale Array 15.40 108 Pn 21 54 09.4 +1.3
PD31 IAmb IAmb 21 54 16.8
comp=Z,12nm,0.9s
PDAR Pinedale Array 15.40 108 Pn P 21 54 11.2 -1.7
comp=Z,0.2nm,0.3s,baz=312,slow=13,SNR=28
PDAR LR LR 22 00 17.1
comp=Z,487nm,19.0s,baz=303,slow=38
PDAR Pinedale Array 15.40 108 Pn 21 54 09.7 +1.6
CWC Cottonwood Cre 15.45 143 P Pn 21 54 09.8 +1.2
baz=331
YKA Yellowknife Ar 15.53 27 Pn Pn 21 54 07.2 -2.2
comp=Z,0.3nm,0.3s,baz=207,slow=12,SNR=4.2
JLU Jordanelle 15.55 118 Pn 21 54 10.8 +0.8
JLU IAmb IAmb 21 54 32.0
comp=Z,16nm,1.3s
DAWY Dawson 15.62 344 Pn 21 54 11.4 +0.8
DAWY IAmb IAmb 21 54 14.6
comp=Z,28nm,1.6s
TPNV Topopah Spring 15.78 137 Pn Pn 21 54 14.0 +1.0
TPNV Topopah Spring 15.78 137 P P 21 54 16.2 -0.8
baz=326,SNR=9.7
LAO LASA Array 15.87 91 Pn Pn 21 54 14.6 +0.5
LAO IAmb IAmb 21 54 41.3
comp=Z,43nm,1.1s
LAO LASA Array 15.87 91 P Pn 21 54 14.9 +0.8
baz=288
FURC Furnace Creek, 15.92 140 P P 21 54 19.4 +1.1
baz=328
KDAK Kodiak Island 15.94 310 Pn P 21 54 17.8 -0.6
comp=Z,0.2nm,0.3s,baz=142,slow=6.0,SNR=6.7
KDAK LR LR 21 58 56.2
comp=Z,142nm,20.6s,baz=145,slow=32
KDAK Kodiak Island 15.94 310 P P 21 54 17.0 -1.4
baz=112
BRSE Bradley Lake S 15.96 318 P P 21 54 18.9 +0.2
baz=121
ISA Isabella, Lake 15.97 145 Pn Pn 21 54 15.5 +0.1
ISA Isabella, Lake 15.97 145 P Pn 21 54 16.8 +1.4
baz=333,SNR=5.6
MPMC Manual Prospec 16.01 142 P Pn 21 54 17.0 +0.9
baz=330,SNR=11
KNK Knik Glacier 16.02 326 Pn 21 54 17.1 +1.3
KNK IAmb IAmb 21 54 23.6
comp=Z,49nm,1.1s
KNK Knik Glacier 16.02 326 P P 21 54 20.9 +1.5
baz=130,SNR=9.2
CNPM China Poot 16.06 317 Pn 21 54 17.2 +0.8
CNPM IAmb IAmb 21 54 27.7
comp=Z,32nm,0.9s
K27K Chicken 16.13 340 P P 21 54 22.2 +1.6
baz=150
PAX Paxson 16.14 333 Pn 21 54 17.5 +0.2
PAX Paxson 16.14 333 P P 21 54 23.9 +3.1
baz=140
SML Sawmill 16.23 327 P P 21 54 24.3 +2.6
baz=131
DOT Dot Lake 16.29 337 Pn 21 54 19.7 +0.5
DOT IAmb IAmb 21 54 27.3
comp=Z,36nm,1.5s
RC01 Rabbit Creek A 16.30 323 P P 21 54 22.9 +0.5
baz=127
QSM Queen of Sheba 16.35 140 Pn 21 54 20.0 -0.1
QSM IAmb IAmb 21 54 25.1
comp=Z,18nm,0.8s
GHO Glory Hole Cre 16.42 326 Pn 21 54 21.6 +0.6
GHO IAmb IAmb 21 54 27.5
comp=Z,31nm,1.1s
LRMC Laurel Mtn Rad 16.44 143 P Pn 21 54 22.2 +0.8
baz=332
SCRK Sand Creek 16.54 337 Pn 21 54 23.0 +0.5
SCRK Sand Creek 16.54 337 P P 21 54 24.9 -0.3
baz=145
WAT6 Susitna Watana 16.56 330 P P 21 54 27.8 +2.3
baz=135
RIDG Independent Ri 16.57 336 P P 21 54 29.2 +3.7
baz=143,SNR=8.9
MVU Marysvale 16.57 125 Pn 21 54 23.9 +0.7
MVU IAmb IAmb 21 54 31.6
comp=Z,27nm,0.9s
EGAK Eagle 16.59 343 P Pn 21 54 23.9 +0.8
EGAK IAmb IAmb 21 54 30.3
comp=Z,45nm,1.5s
EGAK Eagle 16.59 343 P P 21 54 25.9 +0.3
baz=153
SHOC Shoshone, Teco 16.65 139 P P 21 54 25.3 -1.2
baz=328
DGMT Dagmar 16.72 83 Pn Pn 21 54 24.2 -0.6
DGMT IAmb IAmb 21 54 31.1
comp=Z,40nm,1.0s
DGMT Dagmar 16.72 83 P Pn 21 54 25.3 +0.5
baz=283
DHY Denali Highway 16.79 331 Pn 21 54 25.7 -0.1
DHY Denali Highway 16.79 331 P P 21 54 28.3 +0.3
baz=196
EDW2 Edwards Air Fo 16.85 145 P Pn 21 54 26.7 +0.1
baz=333
J26L Joseph Creek 16.87 339 P P 21 54 30.8 +2.0
baz=147,SNR=11
SUA Susitna One 16.91 324 Pn 21 54 27.1 -0.2
SUA IAmb IAmb 21 54 36.0
comp=Z,14nm,0.8s
SUA Susitna One 16.91 324 P P 21 54 29.2 -0.2
baz=126
GSC Goldstone, Bar 16.94 141 Pn Pn 21 54 27.8 0.0
GSC Goldstone, Bar 16.94 141 P P 21 54 29.5 -0.3
baz=330
O20K Slope Mountain 16.95 318 P Pn 21 54 27.6 -0.1
baz=119
P19K Oil Pt 17.02 316 Pn 21 54 29.2 +0.7
P19K IAmb IAmb 21 54 31.6
comp=Z,80nm,1.4s
RSO Redoubt South 17.19 319 Pn 21 54 30.8 0.0
TUQ Turquoise Moun 17.20 139 P P 21 54 31.9 -0.8
baz=329
J25K Salcha River, 17.41 337 P P 21 54 38.1 +3.4
baz=144
MWC Mount Wilson 17.41 146 Pn 21 54 34.4 +0.6
SKT Skwentna 17.52 324 P P 21 54 38.1 +2.1
baz=126
HEC Hector,Ludlow 17.55 141 P P 21 54 37.3 +0.8
baz=330,SNR=6.2
HDA Harding Lake 17.67 335 P P 21 54 38.0 +0.5
HDA Harding Lake 17.67 335 P P 21 54 39.9 +2.3
baz=140,SNR=6.5
O20A White River Ci 17.74 113 P Pn 21 54 37.9 +0.1
O20A IAmb IAmb 21 55 05.4
comp=Z,18nm,0.9s
O20A White River Ci 17.74 113 P P 21 54 41.4 +2.7
baz=309,SNR=8.8
FFC Flin Flon 17.75 62 Pn 21 54 37.7 0.0
IL31 17.93 336 P P 21 54 40.3 -0.1
ILAR Eielson Array 17.93 336 P P 21 54 40.5 +0.1
comp=Z,0.1nm,0.3s,baz=153,slow=9.3,SNR=25
ILAR Eielson Array 17.93 336 P P 21 54 41.4 +1.0
TRF Thorofare Moun 18.00 329 P P 21 54 41.4 0.0
TRF IAmb IAmb 21 54 59.2
comp=Z,25nm,1.4s
TRF Thorofare Moun 18.00 329 P P 21 54 42.8 +1.4
baz=132
WRH Wood River Hil 18.04 334 P Pn 21 54 40.9 -0.2
N19K Bonanza Creek 18.11 318 Pn 21 54 41.1 -1.0
N19K IAmb IAmb 21 54 50.3
comp=Z,17nm,1.0s
N19K Bonanza Creek 18.11 318 P Pn 21 54 41.1 -1.0
baz=118
PRP Porcupine Dome 18.18 339 P P 21 54 43.3 -0.1
PRP Porcupine Dome 18.18 339 P P 21 54 44.1 +0.7
baz=145
KTH Kantishna Hill 18.28 329 P P 21 54 44.9 +0.5
PPLA Purkeypile 18.31 326 P 21 54 44.9 0.0
PPLA Purkeypile 18.31 326 P P 21 54 45.9 +1.1
baz=127
PV21 Cone Mtn., Par 18.33 118 P P 21 54 45.4 +0.1
PV21 IAmb IAmb 21 55 15.4
comp=Z,12nm,0.8s
W13A Hualapai Mount 18.39 135 P P 21 54 46.0 +0.1
BELC Belle Mtn. Jos 18.40 142 P P 21 54 46.3 +0.3
baz=331,SNR=5.0
NEA2 Nenana 18.41 333 P P 21 54 47.7 +1.9
baz=136,SNR=7.5
PV22 Blue Mesa, Par 18.46 118 P P 21 54 46.9 +0.2
PFO Pinyon Flats O 18.56 143 P Pn 21 54 48.3 +0.4
comp=Z,0.2nm,0.3s,baz=315,slow=6.2,SNR=11
PFO LR LR 22 01 31.9
comp=Z,104nm,21.4s,baz=327,slow=36
PFO Pinyon Flats O 18.56 143 P P 21 54 47.6 -0.1
PFO Pinyon Flats O 18.56 143 P Pn 21 54 47.9 +0.1
baz=332,SNR=6.8
TPFO Pinon Flats 18.57 143 P Pn 21 54 48.1 +0.2
baz=332,SNR=6.3
CAST Castle Rocks 18.60 327 P Pn 21 54 48.0 0.0
CAST Castle Rocks 18.60 327 P Pn 21 54 49.2 +1.2
baz=128,SNR=6.5
M19K Big River Lodg 18.61 322 P P 21 54 47.7 -0.2
M19K IAmb IAmb 21 54 51.3
comp=Z,23nm,1.4s
IRM Iron Mountain 18.62 139 P Pn 21 54 49.0 +0.5
baz=329
N18K Kilae Creek 18.66 317 P P 21 54 47.8 -0.8
N18K IAmb IAmb 21 54 48.6
comp=Z,23nm,1.1s
N18K Kilae Creek 18.66 317 P P 21 54 47.7 -0.8
baz=115
BPAW Bear Paw Mtn. 18.67 330 P Pn 21 54 48.9 0.0
baz=132
N23A Red Feather La 18.69 108 P Pn 21 54 51.6 +2.1
baz=305,SNR=7.7
L20K Farewell, AK 18.71 324 P P 21 54 49.1 0.0
baz=123
SVW2 Sparrevohn 18.71 319 P P 21 54 48.4 -0.7
SVW2 IAmb IAmb 21 54 59.5
comp=Z,15nm,1.0s
PHWY Pilot Hill 18.76 106 P Pn 21 54 50.1 -0.3
PHWY IAmb IAmb 21 54 51.9
comp=Z,19nm,0.8s
I23K Minto, Yukon-K 18.91 334 P Pn 21 54 54.3 +2.6
baz=137,SNR=8.0
BC3 Big Chuckawall 18.92 141 P Pn 21 54 52.7 +0.4
baz=331
L19K White Mountain 18.94 322 P P 21 54 51.6 0.0
L19K IAmb IAmb 21 54 59.0

comp=Z,26nm,1.1s
L19K White Mountain 18.94 322 P Pn 21 54 52.1 0.0
baz=121
CHUM Lake Minchumin 18.97 328 P Pn 21 54 53.8 +1.3
baz=129,SNR=9.8
H24K Noodor Dome 19.03 337 P Pn 21 54 53.8 +0.6
baz=141,SNR=8.9
INK Inuvik 19.06 356 P Pn 21 54 53.5 -0.1
comp=Z,0.6nm,0.3s,baz=157,slow=8.2,SNR=6.8
INK LR LR 22 01 44.1
comp=Z,260nm,19.9s,baz=144,slow=36
INK Inuvik 19.06 356 Pn 21 54 54.1 +0.5
INK IAmb IAmb 21 54 58.2
comp=Z,66nm,1.7s
MONP2 Monument Peak 19.21 144 P P 21 54 55.0 0.0
baz=333
MLY Manley 19.23 332 P P 21 54 55.1 +0.4
MLY IAmb IAmb 21 55 01.2
comp=Z,24nm,1.4s
MLY Manley 19.23 332 P Pn 21 54 56.8 +1.1
baz=134,SNR=13
WUAZ Wupatki 19.27 129 P P 21 54 55.8 +0.3
WUAZ Wupatki 19.27 129 P Pn 21 54 56.5 +0.1
baz=322
K20K Telida 19.28 326 P P 21 54 55.6 +0.4
K20K IAmb IAmb 21 55 04.8
comp=Z,14nm,0.8s
K20K Telida 19.28 326 P Pn 21 54 56.9 +0.7
baz=125,SNR=11
E28A Huff 19.52 87 P P 21 54 58.3 +0.2
ISCO Idaho Springs 19.54 110 P Pn 21 54 59.3 -0.5
baz=308
MVCO Mesa Verde 19.54 121 P P 21 54 58.8 +0.2
MVCO IAmb IAmb 21 55 08.6
comp=Z,18nm,0.8s
MVCO Mesa Verde 19.54 121 P Pn 21 54 59.5 -0.3
baz=315
IKP In-Ko-Pah, Jac 19.55 144 P P 21 54 58.7 +0.2
baz=333
BMAR Burnt Mountain 19.60 343 P Pn 21 55 00.7 +0.6
RMX La Rumorosa 19.60 144 P P 21 54 59.7 +0.6
RMX IAmb IAmb 21 55 02.0
comp=Z,12nm,1.0s
CBX Cerro Bola 19.64 146 P P 21 54 59.8 +0.3
I21K Tanana 19.71 332 P Pn 21 55 02.9 +1.4
baz=133,SNR=8.6
J20K Nowinta River 19.79 328 P P 21 55 01.4 +0.6
J20K IAmb IAmb 21 55 08.0
comp=Z,29nm,1.4s
J20K Nowinta River 19.79 328 P Pn 21 55 02.2 -0.1
baz=127,SNR=9.8
MDND Maddock 19.85 83 Pn 21 55 03.0 -0.2
MDND Maddock 19.85 83 P Pn 21 55 04.8 +1.6
baz=286,SNR=7.1
X16A Lo Mia Camp, P 20.10 131 P P 21 55 04.7 0.0
S22A 4UR Ranch, Cre 20.13 117 P Pn 21 55 06.7 -0.2
baz=313
H21K Melozitna Rive 20.29 332 P P 21 55 06.4 +0.1
H21K IAmb IAmb 21 55 19.7
comp=Z,12nm,0.9s
H21K Melozitna Rive 20.29 332 P Pn 21 55 08.7 +0.4
baz=132
COLD Coldfoot 20.69 337 P P 21 55 10.0 -0.6
COLD Coldfoot 20.69 337 P P 21 55 10.8 +0.2
COLD IAmb IAmb 21 55 21.7
comp=Z,31nm,1.4s
COLD Coldfoot 20.69 337 P Pn 21 55 12.0 -0.9
baz=140
IMAR Indian Mountai 20.80 332 P P 21 55 10.6 -1.2
SDCO Great Sand Dun 20.91 115 P P 21 55 12.7 -0.9
SDCO Great Sand Dun 20.91 115 P P 21 55 14.5 +1.0
baz=312,SNR=8.5
OGNE Ogallala 21.12 103 P P 21 55 15.7 +0.1
OGNE Ogallala 21.12 103 P P 21 55 17.1 +1.6
baz=303
SUSD Miller 21.44 92 P P 21 55 19.5 +0.6
214A Organ Pipe Nat 21.51 138 P P 21 55 19.1 -0.7
214A IAmb IAmb 21 55 25.9
comp=Z,9.5nm,1.1s
214A Organ Pipe Nat 21.51 138 P P 21 55 19.7 -0.1
baz=329
TOLK Toolik Lake Re 21.65 340 P P 21 55 22.2 +1.2
TOLK IAmb IAmb 21 55 25.8
comp=Z,29nm,1.4s
TOLK Toolik Lake Re 21.65 340 P P 21 55 24.5 +3.5
baz=143
ULM Lac du Bonnet 21.69 75 P P 21 55 21.2 -0.3
comp=Z,80nm,0.9s,baz=291,slow=12,SNR=12
ULM LR LR 22 04 01.1
comp=Z,880nm,18.1s,baz=278,slow=38
ULM Lac du Bonnet 21.69 75 P P 21 55 20.6 -1.0
ULM Lac du Bonnet 21.69 75 P P 21 55 21.7 +0.2
D32A Dogwood Acres, 21.74 83 P P 21 55 22.9 +0.9
KSCO Kaye Shedlock' 21.86 108 P P 21 55 24.8 +1.3
T25A Trinidad 21.96 114 P P 21 55 26.0 +1.2
baz=312
TUC Tucson 22.14 133 P P 21 55 26.2 -0.3
TUC Tucson 22.14 133 P P 21 55 27.3 +0.7
baz=326
AGMN Agassiz Nation 22.15 80 P P 21 55 26.3 -0.1
AGMN IAmb IAmb 21 55 27.9
comp=Z,25nm,0.8s
AGMN Agassiz Nation 22.15 80 P P 21 55 26.7 +0.3
baz=286,SNR=13
ANMO Albuquerque 22.32 122 P P 21 55 30.0 +1.4
comp=Z,6.1nm,0.9s,baz=324,slow=12,SNR=6.6
ANMO Albuquerque 22.32 122 P P 21 55 29.4 +0.8
ANMO Albuquerque 22.32 122 P P 21 55 30.7 +2.2
baz=318
K31A O'Neill 22.38 96 P P 21 55 29.4 +0.4
FCC Fort Churchill 22.60 52 P P 21 55 31.3 +0.1
FCC Fort Churchill 22.60 52 P P 21 55 32.8 +1.6
F33A 5 Mile Ranch, 22.64 86 P P 21 55 31.8 +0.1
BNM Barren Site 22.81 123 P P 21 55 33.8 -0.1
EPLO Experimental L 23.17 76 P P 21 55 34.2 -3.0
ECSD EROS Data Cent 23.27 91 P P 21 55 38.5 +0.2
ECSD IAmb IAmb 21 55 43.2
comp=Z,25nm,1.1s
ECSD EROS Data Cent 23.27 91 P P 21 55 38.5 +0.2
baz=296,SNR=17
BGNE Belgrade 23.37 98 P P 21 55 39.4 0.0
121A Cookes Peak, D 23.45 128 P P 21 55 41.1 +0.7
121A IAmb IAmb 21 56 00.7
comp=Z,14nm,1.0s
B35A Bob, Littlefor 23.50 79 P P 21 55 40.1 -0.5
319A Douglas 23.63 132 P P 21 55 42.3 +0.2
319A IAmb IAmb 21 55 59.2
comp=Z,21nm,1.2s
CBKS Cedar Bluff 23.78 105 P P 21 55 44.1 +0.7
SOLO Sioux Lookout 24.13 74 P P 21 55 46.0 -0.6
F36A Milaca 24.44 84 P P 21 55 50.1 +0.6
ATKO Atikokan Iron 24.73 77 P P 21 55 51.8 -0.3
PKLO Pickle Lake 24.90 70 P P 21 55 52.6 -1.0
EYMN Ely 25.05 79 P P 21 55 55.9 +0.8
EYMN Ely 25.05 79 P P 21 55 56.1 +1.0
baz=288,SNR=16
AMTX Amarillo 25.11 115 P P 21 55 56.0 +0.2
AMTX IAmb IAmb 21 56 11.8
comp=Z,11nm,0.9s
AMTX Amarillo 25.11 115 P P 21 55 56.5 +0.8
baz=314
MSTX Muleshoe 25.12 118 P P 21 55 56.5 +0.6
MSTX IAmb IAmb 21 56 01.1
comp=Z,20nm,1.4s
SPMN Marine on St. 25.15 85 P P 21 55 57.4 +1.5
baz=293,SNR=8.6
MNTX Cornudas Mount 25.36 125 P P 21 56 01.5 +3.6
baz=321
WMOK Wichita Mounta 26.95 111 P P 21 56 12.5 +0.1
WMOK IAmb IAmb 21 56 19.4
comp=Z,10nm,1.1s
WMOK Wichita Mounta 26.95 111 P P 21 56 13.0 +0.7
baz=312
COWI Conover 27.20 81 P P 21 56 14.6 +0.1
L40A Anamosa 27.56 91 P P 21 56 17.9 +0.2
TX32 Lajitas Array 28.13 126 P P 21 56 23.7 +0.7
TX32 IAmb IAmb 21 56 51.8
comp=Z,8.2nm,1.7s
TXAR Lajitas Array 28.13 126 P P 21 56 24.7 +1.7
comp=Z,0.6nm,0.9s,baz=334,slow=8.3,SNR=4.3
TXAR LR LR 22 07 34.0
comp=Z,131nm,18.6s,baz=0.0,slow=36
TXAR Lajitas Array 28.13 126 P P 21 56 23.3 +0.2
RES Resolute Bay 29.24 18 LR LR 22 08 56.9
comp=Z,75nm,19.9s,baz=312,slow=38

LPIG La Paz 29.45 142 LR LR 22 07 12.2
comp=Z,67nm,18.4s,baz=352,slow=34
U40A Yellville 29.63 102 P P 21 56 36.7 +0.5
baz=308
W39A Magazine 29.76 105 P P 21 56 37.9 +0.6
W39A Magazine 29.76 105 P P 21 56 37.6 +0.2
baz=310
MIAR Mount Ida 30.31 106 P P 21 56 42.6 +0.4
baz=310
FCAR Ozark Folk Cen 30.38 102 P P 21 56 42.9 +0.1
W41B Gary Mavity, V 30.75 103 P P 21 56 46.7 +0.7
baz=309
LCAR Lake Charles 30.89 101 P P 21 56 47.1 -0.2
LCAR IAmb IAmb 21 56 47.8
comp=Z,7.7nm,0.8s
OXF Oxford 32.97 102 P P 21 57 06.0 +0.3
OXF Oxford 32.97 102 P P 21 57 06.1 +0.5
baz=309
LG4Q La Grande 4 34.07 61 P P 21 57 14.5 -0.4
V53A Saluda 36.53 94 P P 21 57 36.4 -0.1
SCHQ Schefferville 37.79 57 P P 21 57 45.6 -1.2
comp=Z,7.0nm,1.1s,baz=275,slow=3.1,SNR=3.1
SCHQ LR LR 22 12 42.9
comp=Z,140nm,20.5s,baz=292,slow=35
SEY Seymchan 42.66 319 P P 21 58 25.8 -1.3
comp=Z,2.8nm,0.7s,baz=86,slow=9.5,SNR=7.4
SEY LR LR 22 16 40.4
comp=Z,33nm,18.6s,baz=222,slow=37
PETK Petropavlovsk- 43.83 304 LR LR 22 14 45.2
comp=Z,38nm,21.1s,baz=105,slow=33
H11N2 WAKE ISLAND Hy 58.07 263 T T 23 02 53.2
baz=43,slow=75,SNR=87
H11N3 WAKE ISLAND Hy 58.07 263 T T 23 02 53.1
baz=43,slow=75,SNR=64
H11N1 WAKE ISLAND Hy 58.08 263 T T 23 02 56.1
baz=43,slow=75,SNR=37
SJG San Juan 59.24 98 LR LR 22 24 02.6
comp=Z,79nm,20.6s,baz=94,slow=34
KLR Kur 59.50 311 LR LR 22 26 07.5
comp=Z,48nm,18.7s,baz=28,slow=36
ARCES ARCESS Array B 59.98 10 LR LR 22 27 35.1
comp=Z,48nm,19.2s,baz=50,slow=37
USRK Ussuriysk Ar. 62.77 307 P P 22 00 58.8 +2.7
comp=Z,3.0nm,0.8s,baz=48,slow=6.0,SNR=4.7
MJAR Matsushiro Arr 64.60 297 P P 22 01 10.9 +2.6
comp=Z,0.9nm,0.7s,baz=45,slow=5.0,SNR=4.0
MAT Matsushiro 64.60 297 P P 22 01 09.7 +1.4
NOA NORSAR Array B 65.49 20 LR LR 22 28 06.5
comp=Z,24nm,20.0s,baz=305,slow=34
FIA1 FINESS Array S 67.80 12 P P 22 01 29.7 +1.3
FINES FINESS Array B 67.80 12 P P 22 01 27.4 -1.1
comp=Z,5.1nm,1.0s,baz=339,slow=7.4,SNR=4.4
FINES LR LR 22 31 22.5
comp=Z,33nm,18.4s,baz=330,slow=36
FINES FINESS Array B 67.80 12 P P 22 01 29.4 +0.9
KSRS Korea Array 69.73 304 P P 22 01 41.4 +0.5
comp=Z,1.2nm,0.7s,baz=52,slow=6.5,SNR=6.5
KSRS LR LR 22 29 58.9
comp=Z,12nm,21.7s,baz=70,slow=34
SONM Songino Array 71.73 324 P P 22 01 54.9 +1.9
comp=Z,0.8nm,0.8s,baz=49,slow=6.5,SNR=3.6
SONM LR LR 22 36 28.9
comp=Z,70nm,18.5s,baz=174,slow=38
ZALV Zalesovo Beam 73.01 340 LR LR 22 38 12.7
comp=Z,55nm,18.6s,baz=350,slow=39
HHC Hu-ho-hao-te 75.26 317 eP P 22 02 13.4 -0.5
BRG Berggiesshubel 75.36 23 eP P 22 02 17.2 +3.0
BRG Amp 22 02 19.0
comp=Z,10nm,1.5s
GERES GERESS Array B 77.16 24 P P 22 02 24.3 -0.3
comp=Z,0.4nm,0.7s,baz=4.6,slow=4.9,SNR=2.2
GERES LR LR 22 40 30.2
comp=Z,28nm,18.3s,baz=328,slow=39
KURBB Kurchatov Arra 77.48 342 P P 22 02 26.6 +0.4
comp=Z,0.4nm,0.2s,baz=20,slow=5.4,SNR=2.8
AKASG Malin Array Be 78.65 14 P P 22 02 33.7 +1.0
comp=Z,0.7nm,0.6s,baz=344,slow=4.9,SNR=7.5
AKASG LR LR 22 38 05.0
comp=Z,46nm,20.3s,baz=35,slow=36
ESDC Sonseca Array 79.20 40 P P 22 02 34.7 -1.3
comp=Z,0.7nm,1.0s,baz=303,slow=5.3,SNR=4.2
MK31 Makanchi Array 80.26 338 P P 22 02 41.7 +0.1
MKAR Makanchi Array 80.26 338 P P 22 02 40.8 -0.8
comp=Z,1.4nm,0.7s,baz=29,slow=5.1,SNR=11
MAKZ Makanchi 80.33 339 P P 22 02 42.0 0.0
MAKZ IAmb IAmb 22 02 45.9
comp=Z,6.7nm,0.9s
ABKAR Akbulak array 81.38 354 P P 22 02 47.0 -0.4
ABKAR Akbulak array 81.38 354 P P 22 02 47.3 -0.2
ABKAR IAmb IAmb 22 02 52.0
comp=Z,4.2nm,1.1s
WMQ Urumqi 81.58 334 eP P 22 02 50.6 +1.8
KKAR Karatay Array 86.20 345 P P 22 03 12.2 -0.1
KBZ Khabaz 87.02 5 LR LR 22 45 33.3
comp=Z,34nm,19.6s,baz=7.0,slow=38
KSH Kashi 88.62 340 P P 22 03 24.6 +0.4
KSH pmax pmax
comp=Z,6.0nm,1.8s
CHGR Chuyangaron 90.76 345 P P 22 03 34.7 +0.5
VNA3 Neumayer Olymp 145.28 151 PKPdf PKPbc 22 10 04.1 -3.1
VNA1 Neumayer--Stat 145.81 150 PKPdf PKPdf 22 10 06.1 -2.1
VNA2 Neumayer--Watz 146.06 150 PKPdf PKPdf 22 10 06.1 -2.6
SNAA Sanae 147.35 152 PKPdf PKPdf 22 10 08.7 -2.2

*IDC **19** 21:59:37.7±1.2,54.˚5S×131.˚75W,h0km,mb4.0/6, mb1 4.1/6,mb1mx3.9/28,mbtmp4.0/6,MS3.6/4,Ms1 3.6/4, ms1mx3.2/26,Error ellipse: s-maj=44.6km s-min=24.5km az=9.0*

ISC 19 21:59:39.1±1.1,54.˚5S±0.˚3×131.˚7W±0.˚2,h10km,n21, σ0s77/8,mb3.9/6,MS3.6/6,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKT	**Rikitea**	**31.40**	**354**	*eT*	T	22 38 53.5	
	6.4nm,0.3s						
TBI	**Tubuai**	**33.80**	**330**	*eLR*	LR	22 15 11.6	
	comp=Z,162nm,27.0s,baz=168						
TBI	**Tubuai**	**33.80**	**330**	*eT*	T	22 41 59.6	
	44nm,0.4s						
PMSA	**Palmer Station**	**34.05**	**135**	P	**P**	**22 06 22.3 -0.5**	
	8.2nm,0.4s,baz=118,slow=8.6,SNR=17						
PMSA				LR	LR	22 16 07.5	
	comp=Z,78nm,20.0s,baz=272,slow=29						
QSPA	**South Pole Qui**	**35.70**	**180**	P	**P**	**22 06 37.8 +0.4**	
	1.3nm,1.0s,baz=38,slow=10,SNR=2.1						
QSPA				LR	LR	22 19 10.3	
	comp=Z,88nm,19.0s,baz=76,slow=33						
URZ	**Urewera**	**37.91**	**274**	LR	LR	22 18 51.7	
	comp=Z,92nm,19.6s,baz=210,slow=30						
PPT2	**Papeete2**	**39.30**	**333**	*eLR*	LR	22 17 44.6	
	comp=Z,183nm,25.5s,baz=168						
PPT	**Papeete**	**39.32**	**333**	LR	LR	22 18 49.7	
	comp=Z,113nm,18.4s,baz=164,slow=29						
VAH	**Vaihoa**	**41.06**	**336**	*eT*	T	22 51 02.7	
	12nm,0.3s						
H03S2	**Juan Fernandez**	**41.95**	**83**	T	T	22 52 03.9	
	baz=222,slow=74,SNR=46						
H03S1	**Juan Fernandez**	**41.96**	**83**	T	T	22 52 07.5	
	baz=222,slow=74,SNR=45						
H03S3	**Juan Fernandez**	**41.97**	**83**	T	T	22 52 05.9	
	baz=222,slow=74,SNR=35						
LPAZ	**La Paz**	**61.60**	**78**	P	**P**	**22 09 58.0 +0.5**	
	0.8nm,0.7s,baz=199,slow=5.7,SNR=3.8						
STKA	**Stephens Creek**	**62.90**	**253**	P	**P**	**22 10 05.3 +0.1**	
	2.1nm,0.9s,baz=146,slow=7.8,SNR=3.6						
ASAR	**Alice Springs**	**73.54**	**252**	P	**P**	**22 11 12.1 -0.1**	
	0.6nm,0.7s,baz=142,slow=6.1,SNR=6.5						
H01W1	**Cape Leeuwin H**	**74.55**	**231**	T	T	23 34 10.4	
	baz=146,slow=76,SNR=8.0						
H01W2	**Cape Leeuwin H**	**74.56**	**231**	T	T	23 34 08.8	
	baz=146,slow=76,SNR=9.3						
H01W3	**Cape Leeuwin H**	**74.57**	**231**	T	T	23 34 07.0	
	baz=146,slow=76,SNR=7.3						
WRA	**Warramunga Arr**	**76.25**	**255**	P	**P**	**22 11 27.7 -0.1**	
	1.1nm,1.0s,baz=149,slow=5.7,SNR=4.6						
SONM	**Songino Array**	**143.87**	**284**	PKP	**PKPdf**	**22 19 12.4 -1.3**	
	0.9nm,0.9s,baz=114,slow=3.5,SNR=4.0						
MKAR	**Makanchi Array**	**157.27**	**264**	PKPab	**PKPab**	**22 20 06.2 +0.7**	
	0.4nm,0.9s,baz=112,slow=3.9,SNR=3.5						

*NEIC **19** 22:10:22.4±2.3, 19.˚40S±0.˚09×175.˚1W±0.˚1, h186km±13km, mb4.3/13, Error ellipse: s-maj=15.6km s-min=12.3km az=92.0*
*IDC **19** 22:10:26.0±3.7, 19.˚74S×175.˚61W, h203km±32km, mb3.7/4, mb1 3.9/6,mb1mx3.4/33,mbtmp4.2/6,MS3.6/1,Ms1 3.6/1, ms1mx2.8/34,Error ellipse: s-maj=30.1km s-min=22.8km az=125.0*

ISC 19 22:10:22.6±0.8,19.˚4S±0.˚1×175.˚14W±0.˚10,h200km,n29, σ1s49/25,mb4.1/9,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.93**	**88**	Pn	**Pn**	**22 11 36.1 -0.1**	
AFI	**Afiamalu**	**6.31**	**31**	Pn	Pn	**22 11 51.9 -2.1**	
MSVF	**Nonsavu**	**6.66**	**283**	P	**Pn**	**22 11 58.2 -0.4**	
	baz=117,slow=16,SNR=3.7						
MSVF	**Nonsavu**	**6.66**	**283**		**Pn**	**22 11 58.9 +0.3**	
RAO	**Raoul Island**	**10.16**	**194**	LR	LR	22 15 27.1	
	comp=Z,335nm,19.6s,baz=68,slow=31						
PINNC	**Pines Island,**	**16.58**	**256**	Pn	**Pn**	**22 14 04.5 +0.5**	
OUENC	**Ouen Island, N**	**17.11**	**257**		**Pn**	**22 14 09.7 -0.6**	
OUENC				IAmb	IAmb	22 14 11.2	
	comp=Z,8.3nm,0.8s						
DZM	**Mont Dzumac**	**17.44**	**258**	P	**Pn**	**22 14 14.3 0.0**	
DZM				IAmb	IAmb	22 14 26.4	
	comp=Z,9.6nm,0.9s						
URZ	**Urewera**	**20.00**	**198**	P	**P**	**22 14 37.6 -2.3**	
	comp=Z,0.4nm,0.3s,baz=331,slow=18,SNR=1.6						
URZ	**Urewera**	**20.00**	**198**	P	**P**	**22 14 37.6 -2.3**	
BKZ	**Black Stump Fm**	**21.02**	**198**	P	**P**	**22 14 51.1 +0.3**	
CTAO	**Charters Tower**	**36.30**	**262**	P	**P**	**22 17 06.8 -0.5**	
CTAO				IAmb	IAmb	22 17 08.4	
	comp=Z,8.9nm,0.7s						
COEN	**Coen**	**40.23**	**271**	P	**P**	**22 17 40.3 +0.1**	
COEN				IAmb	IAmb	22 17 42.1	
	comp=Z,27nm,1.5s						
AS31	**Alice Springs**	**47.40**	**255**	P	**P**	**22 18 37.0 -0.2**	
ASAR	**Alice Springs**	**47.41**	**255**	P	**P**	**22 18 36.4 -0.9**	
	comp=Z,4.3nm,0.5s,baz=91,slow=8.4,SNR=88						
ASAR				PcP	**PcP**	**22 20 06.6 +2.0**	
	comp=Z,0.2nm,0.5s,baz=121,slow=4.1,SNR=1.9						
ASAR	**Alice Springs**	**47.41**	**255**	P	**P**	**22 18 37.5 +0.3**	
WB0	**Warramunga Arr**	**47.41**	**261**	P	**P**	**22 18 36.7 -0.6**	
WB0				IAmb	IAmb	22 18 39.7	
	comp=Z,7.7nm,1.2s						
WRA	**Warramunga Arr**	**47.44**	**260**	P	**P**	**22 18 36.1 -1.5**	
	comp=Z,1.3nm,0.3s,baz=93,slow=7.6,SNR=50						
WRA	**Warramunga Arr**	**47.44**	**260**	P	**P**	**22 18 36.6 -0.9**	
MTN	**Manton Dam**	**51.86**	**269**	P	**P**	**22 19 10.7 -0.3**	
MTN				IAmb	IAmb	22 19 20.9	
	comp=Z,8.8nm,1.2s						
FITZ	**Fitzroy Crossi**	**55.86**	**261**	P	**P**	**22 19 40.0 +0.2**	
FITZ				IAmb	IAmb	22 19 57.9	
	comp=Z,5.3nm,1.2s						
MJAR	**Matsushiro Arr**	**70.94**	**322**	P	**P**	**22 21 21.0 +2.7**	
	comp=Z,1.5nm,0.7s,baz=129,slow=7.3,SNR=5.8						
MJAR	**Matsushiro Arr**	**70.94**	**322**	P	**P**	**22 21 20.2 +1.9**	
NVAR	**Mina Array Bea**	**78.37**	**42**	P	P	22 22 07.2 +5.9	
	comp=Z,0.6nm,0.7s,baz=230,slow=9.3,SNR=4.9						
H03S2	**Juan Fernandez**	**84.40**	**124**	T	T	23 55 20.7	
	baz=249,slow=75,SNR=7.0						
H03S1	**Juan Fernandez**	**84.41**	**124**	T	T	23 55 18.9	
	baz=249,slow=75,SNR=6.2						
H03S3	**Juan Fernandez**	**84.41**	**124**	T	T	23 55 26.9	
	baz=249,slow=75,SNR=7.9						
ARCES	**ARCESS Array B**	**128.26**	**351**	PKP	**PKiKP**	**22 29 08.1 +2.9**	
	comp=Z,4.1nm,1.0s,baz=18,slow=1.1,SNR=4.4						
GERES	**GERESS Array B**	**149.74**	**348**	PKPbc	**PKPab**	**22 29 52.6 -2.2**	
	comp=Z,0.1nm,0.4s,baz=5.7,slow=2.0,SNR=3.9						

*NEIC **19** 22:10:39.3±1.5, 32.˚21S±0.˚04×72.˚26W±0.˚07, h9km±5km, mb4.2/6, Error ellipse: s-maj=9.7km s-min=4.5km az=68.0*
*GUC **19** 22:10:41.1±0.8, 32.˚28S×72.˚26W, h21km±6km, ML3.4*
*IDC **19** 22:10:43.7±1.6, 32.˚40S×70.˚90W, h0km, mb3.6/2, mb1 3.9/5, mb1mx3.7/27, mbtmp3.6/5, ML3.7/2, Error ellipse: s-maj=57.4km s-min=32.4km az=93.0*

ISC 19 22:10:40.4±0.9,32.˚23S±0.˚05×72.˚37W±0.˚08,h21km±5km, n51,σ1s41/55,mb4.2/5,6C-2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**0.96**	**110**	⇑*iP*	**Pb**	**22 10 57.1 -1.3**	
VA06				*eS*	**Sb**	**22 11 08.6 -2.1**	
VA06				IAML		22 11 13.7	
	comp=N,4μm,0.3s						
VA01	**Torpederas**	**0.99**	**143**	⇑*iP*	**Pb**	**22 10 57.5 -1.5**	
VA01				*i* S	**Sb**	**22 11 09.8 -1.8**	
VA01				IAML		22 11 15.8	
	comp=N,1μm,0.7s						
VA01	**Torpederas**	**0.99**	**143**		**Pb**	**22 10 57.7 -1.3**	
VA01				Sg	**Sb**	**22 11 10.0 -1.6**	
ROCH	**El Roble**	**1.36**	**123**	⇑*iP*	**Pn**	**22 11 03.7 -0.7**	
ROCH				*i* S	**Sn**	**22 11 21.1 -0.8**	
ROCH				IAML		22 11 26.3	
	comp=N,2μm,0.5s						
VA05	**Santo Domingo**	**1.56**	**156**	*eP*	**Pn**	**22 11 06.5 -0.3**	
VA05				IAML		22 11 40.0	
	comp=E,1μm,0.4s						
VA05	**Santo Domingo**	**1.56**	**156**		**Pn**	**22 11 06.5 -0.3**	
VA03	**San Esteban**	**1.62**	**110**	⇑*iP*	**Pn**	**22 11 07.1 -0.7**	
VA03				*i* S	**Sn**	**22 11 27.5 -1.0**	
VA03				IAML		22 11 33.7	
	comp=N,1μm,0.6s						
VA03	**San Esteban**	**1.62**	**110**		**Pn**	**22 11 07.1 -0.7**	
VA03					**Sn**	**22 11 27.5 -0.7**	
MT05	**Renca**	**1.79**	**131**	⇑*iP*	**Pn**	**22 11 10.0 -0.2**	
MT05				*i* S	**Sb**	**22 11 33.8 -0.8**	
MT05				IAML		22 11 39.5	
	comp=N,1μm,0.6s						
MT05	**Renca**	**1.79**	**131**		**Pn**	**22 11 10.2 0.0**	
MT01	**Popeta**	**1.88**	**150**	⇑*iP*	**Pn**	**22 11 10.8 -0.6**	
MT01				*i* S	**Sn**	**22 11 33.6 -0.7**	
MT01				IAML		22 11 46.6	
	comp=E,540nm,0.6s						
MT01	**Popeta**	**1.88**	**150**	Pn	**Pn**	**22 11 10.7 -0.6**	
MT09	**Talagante**	**1.93**	**143**	⇓*iP*	**Pn**	**22 11 11.8 -0.3**	
MT09				*i* S	**Sn**	**22 11 34.6 -1.1**	
MT09				IAML		22 11 50.7	
	comp=N,837nm,0.7s						
MT09	**Talagante**	**1.93**	**143**		**Pn**	**22 11 11.8 -0.3**	
CO03	**El Pedregal**	**1.99**	**46**		**Pn**	**22 11 11.0 -2.0**	
BO03	**Pichilemu**	**2.28**	**172**	⇓*iP*	**Pn**	**22 11 16.1 -0.8**	
BO03				*i* S	**Sn**	**22 11 40.8 -3.6**	
BO03				IAML		22 11 43.5	
	comp=N,211nm,0.3s						
BO01	**Tunca**	**2.41**	**154**	*eP*	**Pn**	**22 11 17.8 -0.7**	
BO01	**Tunca**	**2.41**	**154**		**Pn**	**22 11 18.1 -0.4**	
LMEL	**Las Melosas**	**2.43**	**132**	*eP*	**Pn**	**22 11 20.0 +1.0**	
LMEL				*eS*	**Sn**	**22 11 50.1 +2.0**	
LMEL				IAML		22 12 00.8	
	comp=E,428nm,0.5s						
CO05	**La Serena**	**2.50**	**23**		**Pn**	**22 11 20.7 +0.9**	
GO05	**Huala**	**2.79**	**173**	*eP*	**Pn**	**22 11 23.0 -0.9**	
GO05				IAML		22 12 26.8	
	comp=E,133nm,0.6s						
GO05	**Huala**	**2.79**	**173**	Pn	**Pn**	**22 11 23.2 -0.7**	
BO02	**Sierra Bellavi**	**2.88**	**153**	*eP*	**Pn**	**22 11 25.5 +0.4**	
BO02	**Sierra Bellavi**	**2.88**	**153**	Pn	**Pn**	**22 11 25.2 +0.1**	
ZON	**Zonda**	**3.21**	**79**		**Pn**	**22 11 27.6 -2.0**	
ML02	**Panimavida**	**3.61**	**168**	Pn	**Pn**	**22 11 36.0 +0.9**	
AC04	**Llanos de Chal**	**4.17**	**16**	Pn	**Pn**	**22 11 43.6 +0.9**	
GO03	**Copiap**	**4.98**	**22**	Pn	**Pn**	**22 11 53.6 -0.4**	
AC06	**Mina Casimiro**	**5.16**	**20**		**Pn**	**22 11 56.3 -0.2**	
H03N1	**Juan Fernandez**	**5.64**	**256**	T	T	22 19 31.6	
	baz=80,slow=73,SNR=158						
H03N3	**Juan Fernandez**	**5.65**	**256**	T	T	22 19 26.0	
	baz=80,slow=73,SNR=68						
H03N2	**Juan Fernandez**	**5.66**	**256**	T	T	22 19 32.9	
	baz=80,slow=73,SNR=53						
AC02	**Maricunga**	**6.07**	**28**	Pn	**Pn**	**22 12 06.1 -3.3**	
LC01	**Cunco**	**6.66**	**177**	Pn	**Pn**	**22 12 16.1 -1.0**	
PB14	**IPOC Station P**	**7.77**	**13**	Pn	**Pn**	**22 12 31.1 -1.4**	
PLCA	**Paso Flores**	**8.61**	**171**	Pn	**Pn**	**22 12 44.5 +0.7**	
	comp=E,0.2nm,0.3s,baz=352,slow=7.1,SNR=3.6						
PLCA	**Paso Flores**	**8.61**	**171**	Pn	**Pn**	**22 12 43.8 0.0**	
LPAZ	**La Paz**	**16.33**	**15**	Pn	**P**	**22 14 32.3 +0.4**	
	comp=E,0.1nm,0.3s,baz=196,slow=6.5,SNR=7.6						
LPAZ	**La Paz**	**16.33**	**15**	P	**P**	**22 14 31.8 -0.1**	
SIV	**San Ignacio**	**19.15**	**35**	P	**P**	**22 15 02.2 -0.3**	
	baz=218,slow=14						
BDFB	**Brasilia**	**27.61**	**59**	P	**P**	**22 16 25.7 -0.9**	
BDFB				IAmb	IAmb	22 16 40.9	
	comp=Z,10nm,1.3s						
SNAA	**Sanae**	**53.32**	**158**	P	**P**	**22 19 59.0 +1.4**	
SNAA				IAmb	IAmb

QSPA				IAmb	IAmb	22 20 42.6		
	comp=Z,2.8nm,1.0s							
TXAR	**Lajitas Array**	**68.06**	**331**	P	P	22 21 50.0	+12	
	comp=Z,0.5nm,0.8s,baz=143,slow=9.1,SNR=2.9							
BOSA	**Boshof**	**81.14**	**118**	P	**P**	**22 22 52.8**	**-1.9**	
TORD	**Torodi Ar. Bea**	**83.87**	**70**	P	**P**	**22 23 10.3**	**+1.5**	
	comp=Z,0.5nm,0.7s,baz=243,slow=5.8,SNR=2.7							
TORD	**Torodi Ar. Bea**	**83.87**	**70**	P	**P**	**22 23 09.5**	**+0.7**	
TORD				IAmb	IAmb	22 23 25.0		
	comp=Z,1.1nm,1.2s							
H11S2	**WAKE ISLAND Hyd**	**25.50**	**271**	T	T	00 49 13.0		
	baz=117,slow=74,SNR=12							
H11S1	**WAKE ISLAND Hyd**	**25.51**	**271**	T	T	00 49 14.4		
	baz=117,slow=74,SNR=8.8							
H11S3	**WAKE ISLAND Hyd**	**25.52**	**271**	T	T	00 49 09.9		
	baz=117,slow=74,SNR=9.2							
ZALV	**Zalesovo Beam**	**152.86**	**30**	PKPbc	**PKPab**	**22 30 41.7**	**-4.7**	
	comp=Z,0.7nm,0.5s,baz=294,slow=4.0,SNR=2.3							

IDC 19 22:11:15.4±2.8, 31.50S×71.71W, h0km, mb4.0/1, mb1 3.8/2, mb1mx3.5/25, mbtmp3.7/2, ML3.6/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/23, Error ellipse: s-maj=129.8km s-min=47.7km az=96.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**9.26**	**175**	Pn	Pn	22 13 30.2	0.0
	0.1nm,0.3s,baz=353,slow=17,SNR=1.7						
NNA	**Nana**	**19.99**	**345**	LR	LR	22 21 04.9	
	comp=Z,41nm,20.6s,baz=25,slow=30						
TORD	**Torodi Ar. Bea**	**83.10**	**70**	P	P	22 23 43.4	0.0
	0.9nm,0.8s,baz=250,slow=4.3,SNR=4.2						
ZALV	**Zalesovo Beam**	**151.95**	**30**	PKPbc	PKPbc	22 31 11.7	-0.2
	2.3nm,0.5s,baz=322,slow=2.9,SNR=7.2						

IDC 19 22:14:01.3±10.0, 54.72S×132.13W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.7/21, mbtmp3.8/2, Error ellipse: s-maj=972.1km s-min=159.3km az=152.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBI	**Tubuai**	**33.90**	**331**	*e*T	T	22 56 19.0	
	34nm,0.4s						
PPT2	**Papeete2**	**39.41**	**333**	*e*LR	LR	22 32 03.0	
	comp=Z,118nm,25.8s						
VAH	**Vaihoa**	**41.20**	**337**	*e*T	T	23 05 22.0	
	8.5nm,0.3s						
H03S2	**Juan Fernandez**	**42.21**	**83**	T	T	23 06 31.3	
	baz=222,slow=74,SNR=29						
H03S1	**Juan Fernandez**	**42.22**	**83**	T	T	23 06 32.6	
	baz=222,slow=74,SNR=22						
H03S3	**Juan Fernandez**	**42.23**	**83**	T	T	23 06 31.7	
	baz=222,slow=74,SNR=26						
ASAR	**Alice Springs**	**73.25**	**253**	P	P	22 25 34.2	0.0
	0.5nm,0.7s,baz=143,slow=6.6,SNR=8.5						
H01W1	**Cape Leeuwin H**	**74.22**	**231**	T	T	23 48 30.0	
	baz=146,slow=76,SNR=6.0						
H01W2	**Cape Leeuwin H**	**74.22**	**231**	T	T	23 48 29.3	
	baz=146,slow=76,SNR=7.2						
H01W3	**Cape Leeuwin H**	**74.23**	**231**	T	T	23 48 19.9	
	baz=146,slow=76,SNR=6.2						
WRA	**Warramunga Arr**	**75.97**	**255**	P	P	22 25 50.3	+0.2
	1.3nm,1.0s,baz=141,slow=5.4,SNR=4.1						
SONM	**Songino Array**	**143.71**	**284**	PKP	PKPdf	22 33 36.6	-0.8
	0.5nm,0.9s,baz=115,slow=1.7,SNR=2.3						

*JMA **19** 22:14:01.3◦0.1,23°.37N×121°.51E, h32km±2km, M2.7*
*TAP **19** 22:14:02.5,23°.38N×121°.48E, h33km, ML3.2, B*
ISC 19 22:14:02.2±0.9, 23°.37N±0°.02×121°.52E±0°.02, h33km±5km, n102, s0◦84/168, 6C-13D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBN	**Changbin**	**0.08**	**230**	⇑*i*P	**Pb**	**22 14 08.1**	**+0.2**
	baz=202						
ECBN				*i* S	**Sb**	**22 14 12.3**	**+0.5**
	baz=202						
HGSD	**Ruisui**	**0.15**	**326**	⇑*i*P	**Pb**	**22 14 08.1**	**-0.3**
	baz=336						
HGSD				*e*S	**Sb**	**22 14 15.1**	**+2.4**
	baz=336						
EYUL	**Yuli**	**0.18**	**264**	⇓*i*P	**Pn**	**22 14 08.7**	**+1.3**
	baz=257						
EYUL				*e*S	**Sb**	**22 14 12.7**	**-0.3**
	baz=257						
TWF1	**Yuli**	**0.20**	**266**	⇓P	**Pn**	**22 14 08.7**	**+0.8**
	baz=260						
TWF1				*e*S	**Sb**	**22 14 13.3**	**-0.1**
	baz=260						
YULB	**Yu-li**	**0.20**	**278**	⇓*i*P	**Pn**	**22 14 08.6**	**+0.6**
	baz=274						
YULB				*i* S	**Sb**	**22 14 13.0**	**-0.4**
	baz=274						
EHY	**Hungye**	**0.23**	**308**	⇑*i*P	**Pn**	**22 14 08.7**	**+0.1**
	baz=312						
EHY				*i* S	**Sn**	**22 14 13.2**	**+1.9**
	baz=312						
FULB	**Fuli**	**0.26**	**231**	*i* P	**Pn**	**22 14 09.8**	**+0.3**
	baz=223						
FULB				*e*S	**Sn**	**22 14 15.7**	**+2.3**
	baz=223						
CHKT	**Chengkung**	**0.30**	**207**	⇑*i*P	**Pn**	**22 14 10.1**	**0.0**
	baz=199						
CHKT				*i* S	**Sn**	**22 14 15.8**	**+1.1**
	baz=199						
EGFH	**Guangfu**	**0.31**	**345**	⇑*i*P	**Pb**	**22 14 09.7**	**-0.4**
	baz=351						
EGFH				*e*S	**Sn**	**22 14 15.1**	**-0.1**
	baz=351						
TEGC	**Jichi Village**	**0.34**	**4**	P	**Pn**	**22 14 10.5**	**-0.4**
	baz=11						
TEGC				*e*S	**Sn**	**22 14 16.7**	**+0.5**
	baz=11						
ECS	**Chishang**	**0.38**	**225**	⇓P	**Pn**	**22 14 11.2**	**-0.3**
	baz=220						
ECS				*e*S	**Sn**	**22 14 17.5**	**0.0**
	baz=220						
EDH	**Donghe**	**0.44**	**206**	⇓*i*P	**Pn**	**22 14 11.9**	**-0.3**
	baz=202						
EDH				*i* S	**Sn**	**22 14 19.1**	**+0.2**
	baz=202						
ESL	**Shilin**	**0.45**	**350**	P	**Pb**	**22 14 11.3**	**-0.8**
	baz=355						
ESL				*e*S	**Sb**	**22 14 17.5**	**-1.4**
	baz=355						
ELDTW	**Lidau**	**0.49**	**249**	⇓*i*P	**Pb**	**22 14 12.1**	**-0.7**
	baz=245						
ELDTW				*i* S	**Sb**	**22 14 18.8**	**-1.2**
	baz=245						
TEYL	**Yanliau Villag**	**0.51**	**9**	P	**Pn**	**22 14 13.6**	**+0.5**
	baz=12						
TEYL				*e*S	**Sn**	**22 14 22.7**	**+2.1**
	baz=12						
YUS	**Yu-Shan**	**0.53**	**283**	*i* P	**Pn**	**22 14 13.4**	**-0.4**
	baz=283						
YUS				*e*S	**Sn**	**22 14 21.4**	**-0.5**
	baz=283						
LONT	**Longtian**	**0.58**	**218**	P	**Pb**	**22 14 13.2**	**-0.9**
	baz=214						
LONT				*e*S	**Sb**	**22 14 21.2**	**-1.0**
	baz=214						
ETM	**Tongmen**	**0.60**	**358**	*e*P	**Pb**	**22 14 13.9**	**-0.5**
	baz=1.0						
ETM				*e*S	**Sb**	**22 14 21.7**	**-1.0**
	baz=1.0						
HWA	**Hwalien**	**0.61**	**8**	*e*P	**Pn**	**22 14 14.6**	**+0.1**
	baz=12						
OWD	**Renai**	**0.66**	**332**	P	**Pb**	**22 14 14.8**	**-0.8**
	baz=334						
OWD				*e*S	**Sb**	**22 14 23.1**	**-1.6**
	baz=334						
SSLB	**Suanglung**	**0.66**	**309**	*i* P	**Pn**	**22 14 14.8**	**-0.4**
	baz=310						
SSLB				*e*S	**Sb**	**22 14 23.1**	**-1.4**
	baz=310						
ALS	**Alishan**	**0.67**	**283**	⇓*i*P	**Pn**	**22 14 15.7**	**+0.2**
	baz=282						
ALS				*i* S	**Sn**	**22 14 25.1**	**+0.1**
	baz=282						
TWGBT	**Beinan**	**0.68**	**216**	⇓*i*P	**Pn**	**22 14 14.4**	**-1.0**
	baz=213						
TWGBT				*e*S	**Sb**	**22 14 23.2**	**-1.7**
	baz=213						
TWG	**Pinlang**	**0.68**	**217**	*i* P	**Pn**	**22 14 14.4**	**-1.1**
	baz=213						
TWG				*e*S	**Sb**	**22 14 23.3**	**-1.6**
	baz=213						
LDUT	**Ludao**	**0.69**	**183**	P	**Pn**	**22 14 14.7**	**-0.8**
	baz=181						
LDUT				*e*S	**Sn**	**22 14 25.2**	**+0.1**
	baz=181						
WHYT	**Xinyi Township**	**0.69**	**299**	⇓*i*P	**Pb**	**22 14 15.9**	**0.0**
	baz=299						
WHYT				S	**Sn**	**22 14 25.1**	**-0.1**
	baz=299						
STYH	**Taoyuan**	**0.71**	**254**	⇓*i*P	**Pb**	**22 14 15.8**	**-0.4**
	baz=252						
STYH				*e*S	**Sn**	**22 14 25.4**	**-0.1**
	baz=252						
TWD	**Chiawan**	**0.71**	**6**	*e*P	**Pn**	**22 14 15.6**	**-0.3**
	baz=9.0						
TWD				*e*S	**Sb**	**22 14 24.7**	**-1.3**
	baz=9.0						
STYT	**Tauyuan**	**0.73**	**254**	*e*P	**Pb**	**22 14 16.1**	**-0.4**
	baz=252						
STYT				*e*S	**Sn**	**22 14 26.1**	**0.0**
	baz=252						
CHGB	**Renai**	**0.76**	**336**	P	**Pb**	**22 14 16.5**	**-0.7**
	baz=338						
CHGB				*e*S	**Sb**	**22 14 26.1**	**-1.3**
	baz=338						
SMLT	**Sun Moon Lake**	**0.76**	**312**	⇑*e*P	**Pb**	**22 14 16.9**	**-0.3**
	baz=314						
SMLT				*e*S	**Sn**	**22 14 27.3**	**+0.1**
	baz=314						
ETL	**Fush Village**	**0.80**	**7**	*e*P	**Pn**	**22 14 16.7**	**-0.4**
	baz=10.0						
ETL				*e*S	**Sn**	**22 14 26.7**	**-1.2**
	baz=10.0						
CHN5	**Tsauling**	**0.80**	**287**	*e*P	**Pb**	**22 14 18.1**	**+0.3**
	baz=286						
CHN5				*e*S	**Sb**	**22 14 30.2**	**+1.7**
	baz=286						
NACB	**Ninganchiao**	**0.81**	**5**	*e*P	**Pn**	**22 14 16.2**	**-1.1**
	baz=8.0						
NACB				*e*S	**Sn**	**22 14 26.8**	**-1.3**
	baz=8.0						
TYC	**Yuchr**	**0.81**	**312**	*e*P	**Pb**	**22 14 17.5**	**-0.4**
	baz=313						
TYC				*e*S	**Sb**	**22 14 28.4**	**0.0**
	baz=313						
WHF	**Hehuan Shan**	**0.81**	**344**	P	**Pn**	**22 14 16.8**	**-0.8**
	baz=346						
WHF				*e*S	**Sn**	**22 14 27.1**	**-1.6**
	baz=346						
TPUB	**Ta-pu**	**0.82**	**266**	*e*P	**Pb**	**22 14 18.0**	**0.0**
	baz=264						
TPUB				*e*S	**Sb**	**22 14 29.4**	**+0.6**
	baz=264						
WPL	**Puli Township**	**0.82**	**322**	*e*P	**Pb**	**22 14 17.5**	**-0.6**
	baz=323						
ETLH	**Xiulin Townshi**	**0.84**	**358**	*e*P	**Pn**	**22 14 16.7**	**-1.0**
ETLH				*e*S	**Sn**	**22 14 27.0**	**-2.0**
WTP	**Ta-pu**	**0.84**	**262**	*e*P	**Pb**	**22 14 18.4**	**0.0**
	baz=260						
CHN4	**Tsaushan**	**0.85**	**269**	⇓*e*P	**Pb**	**22 14 18.7**	**+0.1**
	baz=268						
CHN4				*e*S	**Sb**	**22 14 29.8**	**+0.2**
	baz=268						
WJS	**Zhushan**	**0.85**	**302**	*e*P	**Pb**	**22 14 18.9**	**+0.3**
	baz=303						
WJS				*e*S	**Sb**	**22 14 30.6**	**+0.9**
	baz=303						
DPDB	**Guoxing**	**0.86**	**321**	*e*P	**Pb**	**22 14 18.4**	**-0.3**
	baz=322						
SLGT	**Liugui**	**0.88**	**245**	*e*P	**Pb**	**22 14 19.0**	**-0.1**
	baz=243						
SLGT				*e*S	**Sb**	**22 14 31.0**	**+0.4**
	baz=243						
WCS	**Beigang Elemen**	**0.88**	**321**	*e*P	**Pb**	**22 14 18.7**	**-0.4**
	baz=322						
WCS				*e*S	**Sb**	**22 14 30.6**	**0.0**
	baz=322						
SGST	**Jiashian**	**0.90**	**252**	*e*P	**Pn**	**22 14 18.3**	**-0.2**
	baz=250						
FUSS	**Fushou**	**0.91**	**344**	*e*P	**Pn**	**22 14 18.7**	**-0.2**
	baz=346						
FUSS				*e*S	**Sn**	**22 14 30.0**	**-1.0**
	baz=346						
WNT	**Mingjian**	**0.92**	**304**	*e*P	**Pb**	**22 14 20.0**	**+0.3**
	baz=304						
ECL	**Taimali**	**0.92**	**214**	*e*P	**Pn**	**22 14 17.5**	**-1.3**
	baz=211						
ECL				*e*S	**Sn**	**22 14 29.0**	**-1.9**
	baz=211						
CHN1	**Nanshi**	**0.93**	**259**	⇓*e*P	**Pb**	**22 14 20.1**	**+0.2**
	baz=257						
CHN1				*e*S	**Sb**	**22 14 33.5**	**+1.6**
	baz=257						
WGK	**Gukeng**	**0.93**	**290**	*e*P	**Pb**	**22 14 20.1**	**+0.2**
	baz=290						
TWT	**Tachien**	**0.94**	**341**	*e*P	**Pb**	**22 14 19.5**	**-0.7**
	baz=341						
TWT				*e*S	**Sn**	**22 14 30.5**	**-1.0**
	baz=341						
TDCB	**Techi**	**0.94**	**340**	*e*P	**Pb**	**22 14 19.5**	**-0.7**
	baz=341						
TDCB				*e*S	**Sn**	**22 14 30.6**	**-0.9**
	baz=341						
SNST	**Tainan City**	**0.95**	**261**	*e*P	**Pb**	**22 14 20.5**	**+0.3**
	baz=260						
TWK	**Hsinying**	**0.95**	**264**	*e*P	**Pb**	**22 14 20.0**	**-0.2**
	baz=263						
TWK				*e*S	**Sb**	**22 14 33.3**	**+0.7**
	baz=263						
WDLH	**Douliu**	**0.95**	**290**	*e*P	**Pb**	**22 14 20.5**	**+0.2**
	baz=290						
WDLH				*e*S	**Sb**	**22 14 34.5**	**+1.9**
	baz=290						
CHN2	**Minshiung**	**0.97**	**280**	*e*P	**Pb**	**22 14 21.4**	**+0.8**
	baz=279						
CHY	**Chiayi**	**1.01**	**278**	*e*P	**Pb**	**22 14 21.6**	**+0.4**
	baz=277						
SSD	**Sandimen**	**1.02**	**233**	*e*P	**Pb**	**22 14 20.5**	**-0.9**
	baz=231						
SSD				*e*S	**Sb**	**22 14 35.6**	**+1.1**
	baz=231						
TSMG	**Majia**	**1.04**	**231**	*e*P	**Pb**	**22 14 21.3**	**-0.4**
	baz=229						
WHP	**Taichung City**	**1.05**	**330**	*e*P	**Pb**	**22 14 21.4**	**-0.5**
	baz=331						
SCST	**Chan**	**1.05**	**243**	*e*P	**Pb**	**22 14 22.7**	**+0.7**
	baz=241						
NNSB	**Datong**	**1.06**	**354**	*e*P	**Pn**	**22 14 20.9**	**0.0**
	baz=355						
NNSB				*e*S	**Sn**	**22 14 33.5**	**-1.1**
	baz=355						
NNS	**Nan Shan**	**1.08**	**353**	*e*P	**Pb**	**22 14 22.6**	**+0.2**
	baz=355						
WTK	**Tuku**	**1.08**	**287**	*e*P	**Pb**	**22 14 22.5**	**0.0**
	baz=287						
MASBT	**Mashibuluo**	**1.11**	**227**	*e*P	**Pn**	**22 14 21.5**	**+0.1**
	baz=226						
MASBT				*e*S	**Sb**	**22 14 37.4**	**+0.4**
	baz=226						
WCHH	**Zhanghua**	**1.13**	**309**	*e*P	**Pb**	**22 14 22.8**	**-0.4**
	baz=310						
ICHU	**Yijhu**	**1.14**	**270**	*e*P	**Pb**	**22 14 23.0**	**-0.3**
	baz=269						
EAST	**Anshuo**	**1.16**	**212**	*e*P	**Pn**	**22 14 21.4**	**-0.7**
	baz=210						
WRL	**Guolierlin Hig**	**1.17**	**297**	*e*P	**Pb**	**22 14 23.6**	**-0.4**
	baz=297						
TWQ1	**Liyutan**	**1.19**	**325**	*e*P	**Pb**	**22 14 24.5**	**+0.2**
	baz=326						
TWQ1				*e*S	**Sb**	**22 14 40.5**	**+1.1**
	baz=326						
CHN8	**Yiju**	**1.20**	**269**	*e*P	**Pb**	**22 14 24.2**	**-0.2**
	baz=268						
NSY	**Sanyi**	**1.25**	**327**	*e*P	**Pb**	**22 14 25.4**	**0.0**
	baz=328						
NSY				*e*S	**Sb**	**22 14 42.7**	**+1.5**
	baz=328						
WDJ	**Dajia District**	**1.26**	**321**	*e*P	**Pb**	**22 14 25.4**	**-0.1**
	baz=321						
ENTT	**Nioudou**	**1.27**	**2**	*e*P	**Pn**	**22 14 23.7**	**+0.1**
	baz=4.0						
NDS	**Dongshan**	**1.27**	**8**	*e*P	**Pn**	**22 14 23.9**	**+0.3**
	baz=10.0						
SCZT	**Fangliau**	**1.29**	**220**	*e*P	**Pb**	**22 14 25.2**	**-0.7**
	baz=218						
YHNB	**Yeheng**	**1.30**	**354**	*e*P	**Pn**	**22 14 24.7**	**+0.6**
	baz=356						
NSK	**Sanguang**	**1.31**	**354**	*e*P	**Pb**	**22 14 25.0**	**-1.4**
	baz=355						
SLIU	**Shizi**	**1.32**	**210**	*e*P	**Pb**	**22 14 26.1**	**-0.4**
	baz=208						
LAY	**Lan-yu**	**1.32**	**179**	*e*P	**Pn**	**22 14 24.4**	**0.0**
	baz=177						
NMLH	**Miaoli**	**1.34**	**331**	*e*P	**Pb**	**22 14 26.1**	**-0.7**
	baz=331						
NSTT	**Nanjuang**	**1.34**	**340**	*e*P	**Pb**	**22 14 26.2**	**-0.6**
	baz=341						
LIOB	**Emei**	**1.35**	**340**	*e*P	**Pb**	**22 14 26.5**	**-0.5**
	baz=341						
LIOB				*e*S	**Sb**	**22 14 44.2**	**+0.2**
	baz=341						
TWE	**Neicheng**	**1.36**	**6**	*e*P	**Pn**	**22 14 25.2**	**+0.5**
	baz=8.0						
NWLT	**Wulai**	**1.41**	**360**	*e*P	**Pn**	**22 14 26.2**	**+0.7**
	baz=1.0						
JYNG	**Yonagunijimaku**	**1.70**	**50**	P	**Pn**	**22 14 30.2**	**+0.7**
JYNG				*e*S	**Sn**	**22 14 50.8**	**+0.8**
YOJ	**Yonaguni jima**	**1.75**	**51**	P	**Pn**	**22 14 31.0**	**+0.8**
YOJ				*e*S	**Sn**	**22 14 52.4**	**+1.0**
YOJ	**Yonaguni jima**	**1.75**	**51**	*e*P	**Pn**	**22 14 31.1**	**+0.9**
	baz=52						
YOJ				*e*S	**Sn**	**22 14 52.4**	**+1.0**
	baz=52						
PHUB	**P'eng-hu**	**1.79**	**275**	⇓*e*P	**Pn**	**22 14 31.5**	**+0.7**
	baz=274						
PHUB				*e*S	**Sn**	**22 14 53.0**	**+0.7**
	baz=274						
PNG	**Penghu**	**1.81**	**277**	*e*P	**Pn**	**22 14 31.9**	**+0.9**
	baz=276						
PNG				*e*S	**Sn**	**22 14 53.1**	**+0.3**
	baz=276						
IRIF	**Iriomote-Funau**	**2.25**	**64**	P	**Pn**	**22 14 38.1**	**+1.1**
IRIF				*e*S	**Sn**	**22 15 04.7**	**+1.1**
JKRS	**Kuro-shima**	**2.44**	**69**	P	**Pn**	**22 14 40.9**	**+1.2**
JKRS				*e*S	**Sn**	**22 15 09.3**	**+0.8**
JIJ	**Ishigaki jima**	**2.60**	**67**	P	**Pn**	**22 14 42.3**	**+0.4**
JIJ				*e*S	**Sn**	**22 15 11.7**	**-0.7**
PTMZ	**Houxiangcun**	**2.75**	**308**	*e*P	**Pn**	**22 14 44.7**	**+0.8**
	baz=308						
PTMZ				*e*S	**Sn**	**22 15 15.8**	**-0.1**
	baz=308						
JISG	**Ishigakijimahi**	**2.83**	**64**	P	**Pn**	**22 14 45.5**	**+0.4**
JISG				*e*S	**Sn**	**22 15 17.4**	**-0.6**
JTJ	**Tarama**	**3.18**	**66**	P	**Pn**	**22 14 50.7**	**+0.9**
JTJ				*e*S	**Sn**	**22 15 27.0**	**+0.4**
ZPLA	**Ao Xicun**	**3.50**	**280**	*e*P	**Pn**	**22 14 54.8**	**+0.6**
	baz=279						
MHZQ	**Yeshan**	**3.54**	**321**	*e*P	**Pn**	**22 14 55.4**	**+0.6**
	baz=321						
AXDP	**Jialang**	**3.58**	**296**	*e*P	**Pn**	**22 14 56.1**	**+0.8**
	baz=295						
JIRB	**Irabujima**	**3.65**	**66**	P	**Pn**	**22 14 57.1**	**+0.8**
JMJ2	**Miyako jima3**	**3.74**	**68**	P	**Pn**	**22 14 58.5**	**+0.9**
JMJ2				S	**Sn**	**22 15 40.4**	**-0.2**

KRSC 19 22:15:52.5±2.4, 48.37N×156.79E, h9km±39km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.36**	**350**	*e*P	Pn	22 16 30.9	-0.5
SKR				*e*S	Sn	22 17 00.6	+0.1
PAU	**Pauzhetka**	**3.10**	**0**	*e*P	Pb	22 16 46.0	-1.9
KDTR	**Khodutka, Kamc**	**3.55**	**13**	*e*P	Pn	22 16 50.6	+2.9
KDTR				*e*S	Sb	22 17 34.3	-4.2
MIPR	**Malaya Ipel'ka**	**3.92**	**360**	*e*P	Pb	22 16 58.3	-3.4
ASAK	**Asacha**	**4.08**	**10**	*e*P	Pn	22 16 58.6	+3.4
MTVR	**Mutnovka**	**4.22**	**12**	*e*P	Pn	22 17 00.6	+3.0
MTVR				*e*S	Sn	22 17 51.2	+4.7
RUS	**Russkaya**	**4.22**	**14**	*e*P	Pn	22 17 01.0	+4.1
RUS				*e*S	Sb	22 17 53.2	-4.6
GRL	**Gorelyy**	**4.27**	**11**	*e*P	Pn	22 17 01.3	+3.5
UGLR	**Uglovaya**	**5.02**	**14**	*e*P	Pn	22 17 12.8	+4.8
KOK	**Koryaka**	**5.07**	**13**	*e*P	Pn	22 17 12.9	+4.2
SDLR	**Sedlovina**	**5.09**	**14**	*e*P	Pn	22 17 13.9	+4.8
KRX	**Arik**	**5.14**	**13**	*e*P	Pn	22 17 15.0	+5.3
GNL	**Ganaly**	**5.39**	**7**	*e*P	Pn	22 17 17.4	+4.3

*IDC **19** 22:17:05.6±3.0, 8°.34S×74°.27W, h157km±33km, mb3.7/9, mb1 3.8/12, mb1mx3.6/28, mbtmp4.1/12, Error ellipse: s-maj=30.7km s-min=13.0km az=27.0*
*NEIC **19** 22:17:07.4±1.5, 8°.28S±0°.07×74°.30W±0°.08, h163km±6km, mb4.3/33, Error ellipse: s-maj=11.9km s-min=9.9km az=127.0*
*VAO **19** 22:17:13.9◦0.7, 8°.27S×73°.69W, h173km±3km, mb4.3*
ISC 19 22:17:05.3±0.4, 8°.27S±0°.05×74°.28W±0°.05, h147km, n99, σ1s56/106, mb4.2/21, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**1.65**	**71**	*e*P	**Pn**	**22 17 39.8**	**+3.5**
CZSB				*e*S	**Sn**	**22 18 05.7**	**+5.7**
NNA	**Nana**	**4.48**	**214**	P	**Pn**	**22 18 13.2**	**+1.4**
	4.9nm,0.3s,baz=98,slow=1.5,SNR=12						
NNA				S	**Sn**	**22 19 02.3**	**-1.3**
	31nm,0.3s,baz=184,slow=19,SNR=13						
NNA	**Nana**	**4.48**	**214**		**Pn**	**22 18 13.3**	**+1.5**
TBTG	**Tabatinga, AM**	**5.94**	**47**	*e*P	**Pn**	**22 18 32.7**	**+1.4**
ETMB	**Extrema**	**8.11**	**102**	*e*P	**Pn**	**22 19 00.1**	**-0.3**
ETMB				*e*S	**Sn**	**22 20 27.6**	**-3.1**
PTLC	**Puerto Leguiza**	**8.40**	**356**	*e*P	Pn	22 18 58.1	-6.0
OTAV	**Otavalo**	**9.42**	**334**	Pn	**Pn**	**22 19 18.6**	**+0.5**
OTAV	**Otavalo**	**9.42**	**334**	*e*P	**Pn**	**22 19 17.8**	**-0.3**
FLOC	**Florencia**	**9.88**	**352**		**Pn**	**22 19 23.1**	**-0.8**
FLOC	**Florencia**	**9.88**	**352**	*e*P	**Pn**	**22 19 21.5**	**-2.4**
LPAZ	**La Paz**	**9.98**	**144**	P	**Pn**	**22 19 25.7**	**-0.1**
	0.2nm,0.3s,baz=316,slow=12,SNR=6.3						
LPAZ				S	**Sn**	**22 21 16.8**	**+0.2**
	0.3nm,0.3s,baz=187,slow=15,SNR=4.3						
LPAZ	**La Paz**	**9.98**	**144**		**Pn**	**22 19 26.4**	**+0.6**
LPAZ	**La Paz**	**9.98**	**144**	*e*P	**Pn**	**22 19 23.8**	**-2.0**
LPAZ	**La Paz**	**9.98**	**144**	*e*P	**Pn**	**22 19 26.3**	**+0.5**
LPAZ				*e*S	**Sn**	**22 21 17.4**	**+0.8**
SOTA	**Rioblanco**	**10.59**	**347**	*e*P	**Pn**	**22 19 32.4**	**-1.4**
BBAC	**Balboa, Cauca**	**10.64**	**344**	*e*P	**Pn**	**22 19 34.0**	**-0.2**
PCON	**Cinco Dias**	**10.73**	**349**	*e*P	**Pn**	**22 19 33.4**	**-2.3**
SAML	**Samuel**	**10.99**	**94**	Pn	**Pn**	**22 19 37.5**	**-1.1**
SAML	**Samuel**	**10.99**	**94**	*e*P	**Pn**	**22 19 36.6**	**-2.1**
SAML	**Samuel**	**10.99**	**94**	*e*P	**Pn**	**22 19 37.4**	**-1.3**
SAML				*e*S	**Sn**	**22 21 32.3**	**-8.0**
ORTC	**Ortega, Tolima**	**12.13**	**355**	*e*P	**Pn**	**22 19 52.4**	**-1.2**
PB11	**IPOC Station P**	**12.27**	**159**	Pn	**Pn**	**22 19 58.3**	**+2

AQDB					IAmb	IAmb	22 21 48.6				
	comp=Z,6.7nm,0.5s										
AQDB	**Aquidauana**	**21.68**	**126**	*eP*	**P**	**P**	**22 21 47.1**	**+2.6**			
SNDB	**Serra Nova Dou**	**22.92**	**101**	*eP*	**P**	**P**	**22 21 57.0**	**+0.1**			
MCPB	**Macapa, AP**	**23.49**	**72**	*eP*	**P**	**P**	**22 22 02.0**	**-0.1**			
CPUP	**Villa Florida**	**24.12**	**140**	P	**P**	**P**	**22 22 06.8**	**-1.0**			
	comp=Z,4.2nm,0.6s,baz=327,slow=9.6,SNR=9.4										
CPUP	**Villa Florida**	**24.12**	**140**	P	**P**		**22 22 07.2**	**-0.5**			
PRPB	**Parauapebas**	**24.36**	**87**	*eP*	**P**		**22 22 10.8**	**+0.8**			
PEXB	**Peixe**	**25.85**	**101**	*eP*	**P**		**22 22 25.3**	**+1.8**			
BDFB	**Brasilia**	**26.70**	**108**	P	**P**		**22 22 30.1**	**-1.1**			
	comp=Z,3.4nm,0.8s,baz=293,slow=7.7,SNR=2.6										
IPMB	**Ipameri, GO**	**27.13**	**113**	*eP*	**P**		**22 22 36.5**	**+1.5**			
CBYP	**Canovanas**	**27.65**	**17**	P	**P**		**22 22 38.9**	**-0.7**			
SMRT	**St. Maarten**	**28.39**	**23**	P	**P**		**22 22 47.5**	**+1.4**			
SDBA	**SAO DESIDERIO**	**29.18**	**101**	*eP*	**P**		**22 22 54.8**	**+1.5**			
GDU01	**Guandu, BA**	**34.47**	**102**	*eP*	**P**		**22 23 39.0**	**-0.4**			
NBIT	**Itapeh - BA**	**34.74**	**104**	*eP*	**P**		**22 23 43.9**	**+2.2**			
NBAN	**Anadia - AL**	**37.55**	**95**	*eP*	**P**		**22 24 05.2**	**-0.6**			
T57A	**Hurt**	**45.27**	**354**	P	**P**		**22 25 07.9**	**-0.3**			
T57A					IAmb	IAmb	22 25 08.3				
	comp=Z,17nm,1.4s										
R61A	**Willards**	**46.37**	**359**	P	**P**		**22 25 18.1**	**+1.3**			
TXAR	**Lajitas Array**	**46.89**	**324**	P	**P**		**22 25 21.1**	**-0.1**			
	comp=Z,1.3nm,0.6s,baz=151,slow=8.4,SNR=10										
TXAR					PcP	**PcP**	**22 26 51.5**	**-0.1**			
	comp=Z,0.5nm,0.8s,baz=145,slow=2.2,SNR=2.1										
TXAR	**Lajitas Array**	**46.89**	**324**	P	**P**		**22 25 20.7**	**-0.5**			
TX32	**Lajitas Array**	**46.89**	**324**	P	**P**		**22 25 20.9**	**-0.3**			
ABTX	**Abilene, Hawle**	**47.31**	**331**	P	**P**		**22 25 24.5**	**+0.2**			
ABTX					IAmb	IAmb	22 25 25.4				
	comp=Z,9.1nm,0.8s										
ANMO	**Albuquerque**	**52.65**	**327**	P	**P**		**22 26 04.6**	**-0.1**			
SDCO	**Great Sand Dun**	**54.28**	**330**	P	**P**		**22 26 16.6**	**-0.1**			
SDCO					IAmb	IAmb	22 26 17.6				
	comp=Z,4.0nm,0.9s										
214A	**Organ Pipe Nat**	**54.34**	**319**	P	**P**		**22 26 17.1**	**+0.1**			
214A					IAmb	IAmb	22 26 18.2				
	comp=Z,4.9nm,0.8s										
X16A	**Lo Mia Camp, P**	**55.13**	**323**	P	**P**		**22 26 23.2**	**+0.4**			
WUAZ	**Wupatki**	**55.85**	**324**	P	**P**		**22 26 28.1**	**+0.2**			
WUAZ					IAmb	IAmb	22 26 29.1				
	comp=Z,4.6nm,0.8s										
RDMU	**Red Mountain**	**58.48**	**329**	P	**P**		**22 26 46.0**	**-0.3**			
RDMU					IAmb	IAmb	22 26 46.4				
	comp=Z,4.1nm,0.7s										
PDAR	**Pinedale Array**	**60.11**	**331**	P	**P**		**22 26 56.8**	**-0.7**			
	comp=Z,0.7nm,0.7s,baz=123,slow=7.3,SNR=6.7										
HWUT	**Hardware Ranch**	**60.26**	**328**	P	**P**		**22 26 58.2**	**-0.3**			
HWUT					IAmb	IAmb	22 26 58.8				
	comp=Z,4.3nm,0.8s										
NVAR	**Mina Array Bea**	**61.93**	**322**	P	**P**		**22 27 10.0**	**+0.1**			
	comp=Z,0.6nm,0.7s,baz=131,slow=7.0,SNR=5.9										
YHL	**Hebgen Lake**	**62.45**	**331**	P	**P**		**22 27 14.2**	**+1.0**			
SCHQ	**Schefferville**	**63.17**	**5**	P	**P**		**22 27 16.5**	**-1.0**			
	comp=Z,3.7nm,0.9s,baz=234,slow=10,SNR=3.8										
SCHQ	**Schefferville**	**63.17**	**5**	P	**P**		**22 27 16.9**	**-0.6**			
BOZ	**Bozeman (W)**	**63.21**	**332**	P	**P**		**22 27 18.2**	**+0.1**			
BOZ					IAmb	IAmb	22 27 18.4				
	comp=Z,2.2nm,0.7s										
MSO	**Missoula**	**65.21**	**331**	P	**P**		**22 27 31.0**	**0.0**			
I07A	**Izee**	**66.21**	**326**	P	**P**		**22 27 37.6**	**+0.1**			
I07A					IAmb	IAmb	22 27 38.6				
	comp=Z,3.1nm,0.7s										
DBIC	**Dimbokro**	**70.79**	**80**	P	**P**		**22 28 05.6**	**-0.8**			
	comp=Z,2.7nm,0.6s,baz=245,slow=3.5,SNR=2.0										
DBIC	**Dimbokro**	**70.79**	**80**	P	**P**		**22 28 05.7**	**-0.7**			
KOWA	**Kowa**	**73.25**	**72**	P	**P**		**22 28 20.4**	**-0.7**			
KOWA					IAmb	IAmb	22 28 21.0				
	comp=Z,3.7nm,0.8s										
SNAA	**Sanae**	**76.40**	**162**	P	**P**		**22 28 38.5**	**+0.2**			
TORD	**Torodi Ar. Bea**	**78.38**	**75**	P	**P**		**22 28 48.8**	**-1.5**			
	comp=Z,1.8nm,0.6s,baz=250,slow=3.9,SNR=12										
TORD	**Torodi Ar. Bea**	**78.38**	**75**	P	**P**		**22 28 49.1**	**-1.1**			
ESDC	**Sonseca Array**	**80.42**	**47**	P	**P**		**22 29 00.4**	**-0.4**			
	comp=Z,0.7nm,0.8s,baz=305,slow=4.5,SNR=4.9										
QSPA	**South Pole Qui**	**81.84**	**180**	P	**P**		**22 29 08.8**	**+0.8**			
SUMG	**Summit**	**83.94**	**10**	P	**P**		**22 29 18.9**	**0.0**			
BCAR	**Beaver Creek A**	**87.41**	**335**	P	**P**		**22 29 35.2**	**-0.5**			
KLU	**Klutina**	**88.61**	**333**	P	**P**		**22 29 41.2**	**-0.3**			
KLU					IAmb	IAmb	22 29 44.5				
	comp=Z,4.4nm,0.9s										
MKAR	**Makanchi Array**	**136.70**	**23**	PKP	**PKPdf**	**PKPdf**	**22 36 09.6**	**-0.9**			
	comp=Z,0.2nm,0.5s,baz=323,slow=2.2,SNR=1.9										
ASAR	**Alice Springs**	**137.98**	**220**	PKP	**PKPdf**	**PKPdf**	**22 36 12.7**	**-0.8**			
	comp=Z,0.4nm,0.6s,baz=132,slow=2.1,SNR=6.8										
ASAR	**Alice Springs**	**137.98**	**220**	PKPdf	**PKPdf**	**PKPdf**	**22 36 13.9**	**+0.4**			
KSH	**Kashi**	**139.05**	**36**	PKP	**PKPdf**	**PKPdf**	**22 36 15.4**	**+0.3**			
WRA	**Warramunga Arr**	**140.26**	**225**	PKP	**PKPdf**	**PKPdf**	**22 36 17.4**	**-0.3**			
	comp=Z,0.9nm,0.5s,baz=140,slow=2.0,SNR=13										
KSRS	**Korea Array**	**144.66**	**329**	PKP	**PKPab**	**PKPab**	**22 36 22.8**	**-1.2**			
	comp=Z,1.0nm,0.5s,baz=52,slow=1.9,SNR=4.1										

*IDC **19** 22:23:43.5±3.0,27°.49N×57°.57E,h0km,mb3.5/4, mb1 3.5/4,mb1mx3.3/41,mbtmp3.5/4,Error ellipse: s-maj=84.9km s-min=28.3km az=154.0*
*DSN **19** 22:23:48.7±3.3,27°.79N×57°.70E,h10km,ML3.3/9,Error ellipse: s-maj=95.9km s-min=23.8km az=134.0*
*TEH **19** 22:23:49.2,27°.93N×57°.40E,h11km,ML3.6*
*THR **19** 22:23:49.5±0.7,27°.85N×57°.40E,h18km±6km,ML3.6*
*OMAN **19** 22:23:52.6±0.6,27°.67N×57°.61E,h36km±58km,Error ellipse: s-maj=12.7km s-min=7.2km az=25.0*

ISC 19 22:23:48.4±1.3,**27.83N**±0.03×**57.51E**±0.04,**h18**km±6km, **n58,σ2s30/74,mb3.5/4,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KHNJ	**Kahnooj**	**0.21**	**56**	*eP*	**g**	**Pg**	**22 23 54.7**	**+1.2**
IBND	**Bandar-abas**	**0.94**	**246**	*eS*	**g**	**Sn**	**22 24 20.6**	**+0.9**
IBND				*eP*	**g**	**Pn**	**22 24 06.8**	**+0.1**
IBND				*e*			22 24 27.5	
	comp=Z,41μm,0.5s							
GENO	**Geno**	**1.26**	**251**	*eP*	**g**	**Pb**	**22 24 11.8**	**+0.1**
GENO				*e*			22 24 30.3	
	comp=Z,10μm,0.4s							
BNDS	**Bandar-Abbas**	**1.26**	**250**	*eP*	**g**	**Pb**	**22 24 11.7**	**-0.1**
BNDS				IAML			22 24 31.1	
	comp=E,1μm,0.5s							
BNDS	**Bandar-Abbas**	**1.26**	**250**	*eP*	**g**	**Pb**	**22 24 11.7**	**-0.1**
KBAM	**BAM**	**1.54**	**32**	*eP*	**n**	**Pn**	**22 24 17.2**	**+2.1**
KBAM				*e*			22 24 20.5	
	comp=Z,6μm,0.5s							
NGRK	**Negar Kerman**	**1.93**	**339**	*eP*	**n**	**Pb**	**22 24 22.5**	**-0.8**
NGRK				*e*			22 24 51.2	
	comp=Z,8μm,0.2s							
CHMN	**Cheshme madani**	**2.02**	**1**	*eP*	**n**	**Pb**	**22 24 24.8**	**-0.1**
CHMN				*e*			22 24 28.5	
	comp=Z,6μm,0.5s							
SHME	**Shamm**	**2.15**	**215**	P		**Pb**	**22 24 26.7**	**-0.2**
SHME				S		**Sb**	**22 24 54.3**	**+1.1**
SHME	**Shamm**	**2.15**	**215**	P		**Pn**	**22 24 25.4**	**+2.0**
	SNR=27							
SHME				S		**Sb**	**22 24 55.2**	**+2.0**
BANOM	**Banah**	**2.18**	**210**	P		**Pn**	**22 24 25.1**	**+1.2**
BANOM				S		**Sb**	**22 24 54.5**	**+0.4**
BANOM	**Banah**	**2.18**	**210**	P		**Pn**	**22 24 25.8**	**+2.0**
	SNR=96							
BANOM				S		**Sb**	**22 24 56.3**	**+2.1**
KRBR	**Kerman**	**2.24**	**343**	*eP*	**n**	**Pb**	**22 24 27.5**	**-1.1**
KRBR				*eS*	**g**	**Sg**	**22 24 58.7**	**-2.0**
KRBR				IAML			22 25 00.8	
	comp=N,306nm,0.3s							
KRBR	**Kerman**	**2.24**	**343**	*eP*	**n**	**Pb**	**22 24 27.5**	**-1.1**
TVBK	**TV Kerman**	**2.25**	**343**	*eP*	**n**	**Pb**	**22 24 28.4**	**-0.3**
TVBK				*e*			22 25 01.6	
	comp=Z,6μm,0.3s							
KHGB	**Koh Gabri**	**2.69**	**341**	*eP*	**n**	**Pb**	**22 24 34.3**	**-1.9**
KHGB				*e*			22 25 13.0	
	comp=Z,2μm,0.4s							
MSFE	**Esma-Masafi**	**2.74**	**206**	P		**Pn**	**22 24 34.9**	**+3.4**
MDH	**Madha**	**2.74**	**204**	P		**Pn**	**22 24 29.0**	**-2.5**
MDH	**Madha**	**2.74**	**204**	P		**Pn**	**22 24 32.6**	**+1.1**
MDH				S		**Sn**	**22 25 04.1**	**-0.1**
UOSS	**Minazif**	**3.10**	**202**	P		**Pn**	**22 24 40.2**	**+3.8**
UOSS	**Minazif**	**3.10**	**202**	P		**Pn**	**22 24 39.3**	**+2.9**
HATD	**Hatta, Dubai**	**3.24**	**203**	P		**Pn**	**22 24 40.5**	**+2.2**
NAZ	**Nazwa, Dubai**	**3.28**	**211**	P		**Pn**	**22 24 41.2**	**+2.4**
ZHDN	**Zahedan**	**3.30**	**61**	*eP*	**n**	**Pn**	**22 24 43.8**	**+4.5**
ASHO	**Ashiyiah**	**3.39**	**203**	P		**Pn**	**22 24 43.4**	**+3.0**
ASHO	**Ashiyiah**	**3.39**	**203**	P		**Pn**	**22 24 43.5**	**+3.0**
FAQ	**Al Faqa, Dubai**	**3.52**	**210**	P		**Pn**	**22 24 44.7**	**+2.5**
ASUD	**Al Ashush, Dub**	**3.74**	**212**	P		**Pn**	**22 24 46.0**	**+0.8**
SOHO	**SOHO**	**3.78**	**194**	P		**Pn**	**22 24 45.5**	**-0.3**
SOHO				S		**Sn**	**22 25 27.4**	**-2.5**
QIR1	**Qir**	**4.00**	**280**	*eP*	**n**	**Pn**	**22 24 51.0**	**+2.2**
NHDN	**Nehbandan**	**4.18**	**31**	*eP*	**n**	**Pn**	**22 24 54.4**	**+2.9**
HOQ	**Hoqain**	**4.23**	**182**	P		**Pn**	**22 24 51.5**	**-0.5**
HOQ				S		**Sn**	**22 25 39.1**	**-1.9**
BSRN	**Basiran**	**4.35**	**18**	*eP*	**n**	**Pn**	**22 24 57.4**	**+3.6**
BSRN				*eSg*		**Sg**	**22 26 04.9**	**-3.4**
BSRN	**Basiran**	**4.35**	**18**	*eP*	**n**	**Pn**	**22 24 57.4**	**+3.6**
IMEH	**Mehriz**	**4.35**	**325**	*eP*	**n**	**Pn**	**22 24 55.7**	**+1.8**
ARQ	**Araqi**	**4.56**	**191**	P		**Pn**	**22 24 59.1**	**+2.6**
	SNR=11							
ARQ				S		**Sn**	**22 25 50.2**	**+1.1**
WSAR	**Wadi Sarin**	**4.68**	**167**	P		**Pn**	**22 24 59.0**	**+0.8**
WSAR				S		**Sn**	**22 25 49.2**	**-2.9**
IKOO	**Kooshah**	**4.76**	**15**	*eP*	**n**	**Pn**	**22 25 03.2**	**+3.7**
YZKH	**Yazd**	**5.20**	**332**	*eP*	**n**	**Pn**	**22 25 08.3**	**+2.9**
YZKH	**Yazd**	**5.20**	**332**	*eP*	**n**	**Pn**	**22 25 08.3**	**+2.9**
TPRV	**Parvadeh(Tabas**	**5.23**	**352**	*eP*	**n**	**Pn**	**22 25 09.6**	**+3.8**
WBK	**Wadi Bani Khal**	**5.36**	**165**	P		**Pn**	**22 25 09.3**	**+1.8**
WBK				S		**Sn**	**22 26 06.2**	**-2.7**
AHBU	**AHRAM**	**5.57**	**282**	*eP*	**n**	**Pn**	**22 25 11.7**	**+1.3**
AFRZ	**Afriz**	**5.73**	**13**	*eP*	**n**	**Pn**	**22 25 16.5**	**+3.8**
TABS	**Tabas**	**5.81**	**357**	*eP*	**n**	**Pn**	**22 25 16.9**	**+3.1**
TABS	**Tabas**	**5.81**	**357**	*eP*	**n**	**Pn**	**22 25 16.9**	**+3.1**
JLN	**Jalan Bani Buh**	**5.91**	**163**	P		**Pn**	**22 25 16.2**	**+1.1**
JLN				S		**Sn**	**22 26 18.1**	**-4.3**
IRAM	**Ramesheh**	**5.96**	**313**	*eP*	**n**	**Pn**	**22 25 18.4**	**+2.4**
KLNJ	**Kolanjah**	**6.06**	**303**	*eP*	**n**	**Pn**	**22 25 18.4**	**+1.0**
SHMA	**Al-Shehemyia**	**6.17**	**253**	P		**Pn**	**22 25 19.3**	**+0.7**
SHMA				S		**Sn**	**22 26 27.5**	**-1.2**
SHRT	**Shahrakht**	**6.27**	**22**	*eP*	**n**	**Pn**	**22 25 23.0**	**+2.9**
SHRT	**Shahrakht**	**6.27**	**22**	*eP*	**n**	**Pn**	**22 25 23.0**	**+2.9**
TRNA	**Turayna**	**6.44**	**243**	P		**Pn**	**22 25 21.7**	**-0.6**
TRNA				S		**Sn**	**22 26 31.9**	**-3.4**
IPIR	**Pirpir**	**7.49**	**312**	*eP*	**n**	**Pn**	**22 25 39.3**	**+2.2**
BRTR	**Keskin Array B**	**23.04**	**307**	P		**P**	**22 28 53.2**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=123,slow=10,SNR=3.2							
MKAR	**Makanchi Array**	**27.14**	**39**	P		**P**	**22 29 30.7**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=227,slow=9.1,SNR=3.1							
ZALV	**Zalesovo Beam**	**32.89**	**30**	P		**P**	**22 30 21.1**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=236,slow=9.7,SNR=2.5							
TORD	**Torodi Ar. Bea**	**53.87**	**266**	P		**P**	**22 33 08.9**	**-1.8**
	comp=Z,0.4nm,0.4s,baz=66,slow=7.6,SNR=11							

*IDC **19** 22:35:28.5±1.1,30°.91S×71°.42W,h0km,mb3.8/5, mb1 3.9/9,mb1mx3.8/31,mbtmp3.7/9,ML3.5/4,Error ellipse: s-maj=35.6km s-min=27.8km az=89.0*
*NEIC **19** 22:35:30.3±1.3,30°.85S±0°.03×71°.41W±0°.02,h8km±2km, Error ellipse: s-maj=4.3km s-min=2.7km az=199.0*
*GUC **19** 22:35:30.3±0.8,30°.82S×71°.41W,h16km±4km,ML4.0*

ISC 19 22:35:30.0±1.0,**30.85S**±0°.03×**71.42W**±0°.03,**h9**km±7km, **n76,σ1s32/77,mb4.3/10,4C,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**0.26**	**314**	*iP*		**Pg**	**22 35 35.6**	**+0.5**
CO06				*i*	S	**Sg**	**22 35 39.2**	**+0.6**
CO06				IAML			22 35 40.0	
	comp=E,62μm,0.2s							
CO06	**Fray Jorge**	**0.26**	**314**	Pg		**Pg**	**22 35 35.5**	**+0.5**
CO06				Sg		**Sg**	**22 35 39.4**	**+0.8**
CO03	**El Pedregal**	**0.63**	**89**	*iP*		**Pg**	**22 35 42.6**	**+0.3**
CO03				*i*	S	**Sg**	**22 35 51.2**	**+0.7**
CO03				IAML			22 35 51.7	
	comp=E,10μm,0.2s							
CO03	**El Pedregal**	**0.63**	**89**	Pg		**Pg**	**22 35 42.2**	**0.0**
CO03				Sg		**Sg**	**22 35 51.1**	**+0.5**
GO04	**Tololo Observa**	**0.87**	**39**	*iP*		**Pg**	**22 35 46.3**	**-0.4**
GO04				*i*	S	**Sg**	**22 35 58.2**	**+0.2**
GO04				IAML			22 36 00.7	
	comp=E,14μm,0.5s							
GO04	**Tololo Observa**	**0.87**	**39**	Pg		**Pg**	**22 35 46.3**	**-0.4**
GO04				Sg		**Sg**	**22 35 58.2**	**+0.2**
CO05	**La Serena**	**0.94**	**10**	*iP*		**Pg**	**22 35 47.2**	**-1.0**
CO05				*i*	S	**Sg**	**22 35 59.7**	**-0.7**
CO05				IAML			22 36 01.2	
	comp=N,5μm,0.3s							
CO05	**La Serena**	**0.94**	**10**			**Pg**	**22 35 47.2**	**-1.0**
VA06	**Catapilco**	**1.71**	**176**	*eP*		**Pn**	**22 35 55.6**	**-4.4**
VA06				*eS*		**Sb**	**22 36 23.1**	**0.0**
VA06				IAML			22 36 29.7	
	comp=N,3μm,0.4s							
LCO	**Las Campanas**	**1.94**	**19**	*eP*		**Pn**	**22 36 03.0**	**-0.4**
LCO				*eS*		**Sn**	**22 36 27.0**	**-1.1**
LCO	**Las Campanas**	**1.94**	**19**	Pn		**Pn**	**22 36 03.7**	**+0.2**
VA03	**San Esteban**	**2.04**	**159**	*eP*		**Pn**	**22 36 05.7**	**+1.0**
VA03				*eS*		**Sb**	**22 36 32.4**	**-0.6**
VA03				IAML			22 36 36.3	
	comp=N,2μm,0.5s							
ROCH	**El Roble**	**2.14**	**171**	*eP*		**Pn**	**22 36 07.7**	**+1.5**
ROCH				*eS*		**Sb**	**22 36 35.7**	**-0.2**
ROCH				IAML			22 36 39.2	
	comp=N,1μm,0.4s							
VA01	**Torpederas**	**2.17**	**185**	*eP*		**Pn**	**22 36 06.3**	**0.0**
ZON	**Zonda**	**2.45**	**107**			**Pb**	**22 36 14.3**	**+0.1**
MT05	**Renca**	**2.60**	**167**	*eP*		**Pn**	**22 36 14.7**	**+2.4**
MT05				*eS*		**Sn**	**22 36 46.4**	**+2.4**
MT05				IAML			22 36 55.6	
	comp=E,1μm,0.3s							
AC04	**Llanos de Chal**	**2.66**	**7**	*eP*		**Pn**	**22 36 13.8**	**+0.8**
AC04				IAML			22 36 58.0	
	comp=N,714nm,0.2s							
AC04	**Llanos de Chal**	**2.66**	**7**	Pn		**Pn**	**22 36 13.7**	**+0.6**
VA05	**Santo Domingo**	**2.80**	**183**			**Pn**	**22 36 15.6**	**+0.6**
MT09	**Talagante**	**2.94**	**173**	*eP*		**Pn**	**22 36 18.5**	**+1.5**
MT09				IAML			22 37 07.2	
	comp=N,520nm,0.5s							
MT09	**Talagante**	**2.94**	**173**			**Pn**	**22 36 16.9**	**-0.1**
MT01	**Popeta**	**3.00**	**177**	*eP*		**Pn**	**22 36 20.5**	**+2.7**
MT01				IAML			22 37 10.7	
	comp=E,265nm,0.4s							
MT01	**Popeta**	**3.00**	**177**	Pn		**Pn**	**22 36 17.4**	**-0.4**
LMEL	**Las Melosas**	**3.16**	**161**	*eP*		**Pb**	**22 36 24.2**	**-2.2**
LMEL				IAML			22 37 10.1	
	comp=N,447nm,0.2s							
GO03	**Copiap**	**3.41**	**18**	*eP*		**Pn**	**22 36 24.7**	**+1.3**
GO03				*eS*		**Sn**	**22 37 08.5**	**+4.4**
GO03	**Copiap**	**3.41**	**18**	Pn		**Pn**	**22 36 24.4**	**+1.0**
AC06	**Mina Casimiro**	**3.61**	**15**	*eP*		**Pn**	**22 36 27.1**	**+1.0**
AC06				IAML			22 37 23.5	
	comp=E,300nm,0.5s							
AC06	**Mina Casimiro**	**3.61**	**15**			**Pn**	**22 36 26.8**	**+0.7**
BO03	**Pichilemu**	**3.66**	**187**	*eP*		**Pn**	**22 36 25.9**	**-0.9**
BO02	**Sierra Bellavi**	**3.96**	**172**	*eP*		**Pn**	**22 36 34.9**	**+3.8**
GO05	**Huala**	**4.17**	**186**	Pn		**Pn**	**22 36 32.8**	**-1.0**
AC02	**Maricunga**	**4.48**	**27**	Pn		**Pn**	**22 36 39.1**	**+0.6**
ML02	**Panimavida**	**4.90**	**180**	Pn		**Pn**	**22 36 45.7**	**+1.9**
PB14	**IPOC Station P**	**6.27**	**9**	Pn		**Pn**	**22 37 01.6**	**-1.4**
H03N1	**Juan Fernandez**	**6.86**	**246**	T		T	22 44 00.6	
	baz=72,slow=72,SNR=1413							
VA04	**Juan Fernndez**	**6.86**	**244**	Pn		**Pn**	**22 37 11.4**	**+0.6**
H03N3	**Juan Fernandez**	**6.87**	**246**	T		T	22 43 54.8	
	baz=72,slow=72,SNR=1405							
H03N2	**Juan Fernandez**	**6.87**	**246**	T		T	22 44 00.4	
	baz=72,slow=72,SNR=1289							
H03S3	**Juan Fernandez**	**6.99**	**243**	T		T	22 44 04.6	
	baz=69,slow=74							
H03S1	**Juan Fernandez**	**7.00**	**243**	T		T	22 44 03.6	
	baz=69							
H03S2	**Juan Fernandez**	**7.01**	**243**	T		T	22 44 06.7	
	baz=69,slow=74							
PB15	**IPOC Station P**	**7.81**	**13**	Pn		**Pn**	**22 37 24.4**	**+0.3**
LC01	**Cunco**	**8.03**	**183**			**Pn**	**22 37 25.4**	**-1.5**
LVC	**Limon Verde**	**8.51**	**16**	Pn		**Pn**	**22 37 32.6**	**-1.2**
	comp=E,0.2nm,0.3s,baz=153,slow=9.0,SNR=1.2							
LVC	**Limon Verde**	**8.51**	**16**			**Pn**	**22 37 32.7**	**-1.1**
PLCA	**Paso Flores**	**9.88**	**176**	Pn		**Pn**	**22 37 52.5**	**+0.2**
	comp=E,0.1nm,0.3s,baz=45,slow=17,SNR=1.5							
PLCA	**Paso Flores**	**9.88**	**176**	Pn		**Pn**	**22 37 53.2**	**+0.9**
PB01	**IPOC Station P**	**9.92**	**11**	Pn		**Pn**	**22 37 52.8**	**-0.2**
TRQA	**Tornquist**	**10.60**	**135**	Pn		**Pn**	**22 38 01.1**	**-0.9**
LPAZ	**La Paz**	**14.81**	**12**	Pn		**Pn**	**22 39 02.5**	**+2.3**
	comp=E,0.1nm,0.3s,baz=180,slow=5.1,SNR=2.5							
LPAZ	**La Paz**	**14.81**	**12**	Pn		**Pn**	**22 39 01.1**	**+0.9**
PLTB	**Pedras Altas**	**15.26**	**98**	Pn		**Pn**	**22 39 05.4**	**-0.3**
SIV	**San Ignacio**	**17.56**	**35**	P		**Pn**	**22 39 35.7**	**+0.5**
	comp=E,0.1nm,0.3s,baz=240,slow=15,SNR=2.2							
BDFB	**Brasilia**	**26.22**	**60**	P		**P**	**22 41 04.9**	**-0.7**
BDFB						IAmb	IAmb	22 41 05.6
	comp=Z,9.2nm,1.4s							

PDPR	**Patillas Dam,**	**48.87**	**7**	P		**P**		**22 44 15.1**	**-0.9**		
SNAA	**Sanae**	**54.31**	**159**	P		**P**		**22 44 55.7**	**-0.6**		
SNAA					IAmb	IAmb		22 45 03.6			
	comp=Z,4.2nm,1.5s										
QSPA	**South Pole Qui**	**59.37**	**180**	P		**P**		**22 45 33.1**	**+0.7**		
QSPA					IAmb	IAmb		22 45 33.6			
	comp=Z,3.2nm,1.0s										
TXAR	**Lajitas Array**	**67.27**	**330**	P		**P**		**22 46 24.9**	**-0.1**		
	comp=Z,0.3nm,0.6s,baz=153,slow=8.4,SNR=3.7										
TXAR	**Lajitas Array**	**67.27**	**330**	P		**P**		**22 46 25.0**	**-0.1**		
TX31	**Lajitas Ar. Si**	**67.27**	**330**	P		**P**		**22 46 25.6**	**+0.6**		
TX31					IAmb	IAmb		22 46 51.0			
	comp=Z,5.6nm,1.4s										
R40A	**Maddies Statio**	**71.49**	**343**	P		**P**		**22 46 51.0**	**+0.2**		
DBIC	**Dimbokro**	**73.69**	**72**	P		**P**		**22 47 06.0**	**+1.4**		
	comp=Z,3.4nm,0.8s,baz=256,slow=4.2,SNR=2.0										
DBIC	**Dimbokro**	**73.69**	**72**	P		**P**		**22 47 05.0**	**+0.4**		
KOWA	**Kowa**	**78.87**	**66**	P		**P**		**22 47 33.8**	**-0.1**		
KOWA					IAmb	IAmb		22 47 45.6			
	comp=Z,5.8nm,1.4s										
PDAR	**Pinedale Array**	**81.21**	**333**	P		**P**		**22 47 48.1**	**+1.8**		
	comp=Z,0.1nm,0.3s,baz=152,slow=4.1,SNR=1.7										
NVAR	**Mina Array Bea**	**81.62**	**325**	P		**P**		**22 47 48.7**	**+0.2**		
	comp=Z,0.1nm,0.3s,baz=163,slow=3.8,SNR=2.2										
TORD	**Torodi Ar. Bea**	**82.65**	**70**	P		**P**		**22 47 53.4**	**-0.8**		
	comp=Z,1.0nm,0.6s,baz=222,slow=3.9,SNR=9.4										
TORD	**Torodi Ar. Bea**	**82.65**	**70**	P		**P**		**22 47 53.8**	**-0.5**		
WRA	**Warramunga Arr**	**123.75**	**209**	PKP		**PKPdf**		**22 54 27.8**	**-1.2**	

baz=43,slow=75,SNR=65
H11N3 WAKE ISLAND Hy 57.88 263 T T 23 48 32.6
baz=43,slow=75,SNR=44
H11N1 WAKE ISLAND Hy 57.89 263 T T 23 48 35.7
baz=43,slow=75,SNR=48
KEST Kesra 88.05 32 LR LR 23 29 05.0
comp=Z,42nm,19.1s,baz=253,slow=36

*IDC **19** 22:41:49.5±5.5, 13°09'N×144°06'E, h126km±50km, mb3.9/19, mb1 4.0/19, mb1mx3.9/41, mbtmp4.2/19, MS3.2/2, Ms1 3.3/2, ms1mx2.7/50, Error ellipse: s-maj=24.7km s-min=11.8km az=84.0*
*NEIC **19** 22:41:50.3±1.4, 13°09'N±0°08'×144°1'E±0°1, h122km±6km, mb4.5/48, Error ellipse: s-maj=15.7km s-min=11.7km az=109.0*
ISC 19 22:41:51.0±0.4, 13°11'N±0°06'×144°13'E±0°08, h138km, n87, σ1§05/86, mb4.4/43, 1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.87**	**56**	S	**Sn**	**22 42 27.7**	**-2.9**
GUMO	**Guam**	**0.87**	**56**		**Pn**	**22 42 11.9**	**-1.6**
GUMO				Sn	**Sn**	22 42 28.3	-2.3
PATS	**Pohnpei**	**15.29**	**113**		**Pn**	**22 45 21.4**	**+1.7**
FAKI	**Fak Fak**	**19.81**	**217**	P	**P**	**22 46 10.6**	**-0.5**
JOW	**Kunigami**	**20.18**	**315**	P	**P**	**22 46 14.6**	**-0.2**
	15nm,0.8s,baz=118,slow=21,SNR=4.7						
JOW	**Kunigami**	**20.18**	**315**	P	**P**	**22 46 14.9**	**+0.1**
JOW				IAmb	IAmb	22 46 16.4	
	comp=Z,14nm,0.7s						
JNU	**Nakatsue**	**23.31**	**331**	P	**P**	**22 46 46.9**	**+0.1**
	comp=Z,9.9nm,0.5s,baz=152,slow=2.3,SNR=7.4						
JNU	**Nakatsue**	**23.31**	**331**	P	**P**	**22 46 46.3**	**-0.5**
JNU				IAmb	IAmb	22 46 48.1	
	comp=Z,21nm,1.0s						
MJAR	**Matsushiro Arr**	**23.93**	**348**	P	**P**	**22 46 51.0**	**-1.4**
	comp=Z,1.5nm,0.6s,baz=170,slow=9.0,SNR=6.1						
MJAR	**Matsushiro Arr**	**23.93**	**348**	P	**P**	**22 46 51.8**	**-0.5**
MAJO	**Matsushiro**	**23.93**	**348**	P	**P**	**22 46 52.1**	**-0.3**
MAJO				IAmb	IAmb	22 47 18.6	
	comp=Z,21nm,1.4s						
MAT	**Matsushiro**	**23.93**	**348**	P	**P**	**22 46 51.0**	**-1.4**
JHS	**Saijyo**	**23.96**	**337**	P	**P**	**22 46 52.5**	**-0.2**
COEN	**Coen**	**26.91**	**182**	P	**P**	**22 47 19.4**	**+0.1**
COEN				IAmb	IAmb	22 47 36.8	
	comp=Z,24nm,1.4s						
KSRS	**Korea Array**	**28.24**	**332**	P	**P**	**22 47 30.9**	**-0.1**
	comp=Z,2.3nm,0.6s,baz=136,slow=10.0,SNR=14						
MTN	**Manton Dam**	**28.82**	**207**	P	**P**	**22 47 35.3**	**-1.1**
MTN				IAmb	IAmb	22 47 40.5	
	comp=Z,9.2nm,1.1s						
NJ2	**Nanjing**	**29.87**	**313**	*eP*	**P**	**22 47 45.8**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ASAJ	**Asahikawa**	**30.93**	**358**	LR	LR	23 01 06.6	
	comp=Z,20nm,20.2s,baz=205,slow=37						
KNRA	**Kununurra**	**32.39**	**208**	P	**P**	**22 48 07.1**	**-0.7**
KNRA				IAmb	IAmb	22 48 15.7	
	comp=Z,19nm,1.4s						
USRK	**Ussuriysk Ar.**	**32.69**	**344**	P	**P**	**22 48 10.1**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=158,slow=8.2,SNR=4.7						
USRK	**Ussuriysk Ar.**	**32.69**	**344**	P	**P**	**22 48 10.2**	**+0.1**
CTAO	**Charters Tower**	**33.05**	**176**	P	**P**	**22 48 13.9**	**+0.3**
CTAO				IAmb	IAmb	22 48 19.6	
	comp=Z,9.5nm,1.1s						
WR0	**Warramunga Arr**	**34.19**	**196**	P	**P**	**22 48 22.7**	**-0.7**
WR0				IAmb	IAmb	22 48 23.2	
	comp=Z,6.7nm,0.7s						
WB2	**Warramunga Arr**	**34.22**	**197**	P	**P**	**22 48 23.3**	**-0.5**
WRA	**Warramunga Arr**	**34.23**	**197**	P	**P**	**22 48 22.9**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=16,slow=9.4,SNR=85						
WRA	**Warramunga Arr**	**34.23**	**197**	P	**P**	**22 48 22.9**	**-0.8**
FITZ	**Fitzroy Crossi**	**35.98**	**211**	P	**P**	**22 48 38.0**	**-0.7**
FITZ				IAmb	IAmb	22 49 02.7	
	comp=Z,7.5nm,1.4s						
AS31	**Alice Springs**	**37.89**	**195**	P	**P**	**22 48 54.3**	**-0.6**
AS31				IAmb	IAmb	22 48 56.0	
	comp=Z,2.8nm,0.6s						
ASAR	**Alice Springs**	**37.89**	**195**	P	**P**	**22 48 54.2**	**-0.8**
	comp=Z,2.7nm,0.6s,baz=22,slow=12,SNR=64						
ASAR				PcP	**PcP**	**22 51 08.5**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=32,slow=5.6,SNR=2.7						
EIDS	**Eidsvold**	**38.84**	**170**	P	**P**	**22 49 02.7**	**0.0**
HHC	**Hu-ho-hao-te**	**39.67**	**320**	*eP*	**P**	**22 49 10.1**	**+0.4**
DZM	**Mont Dzumac**	**41.25**	**148**	P	**P**	**22 49 24.1**	**+1.2**
DZM				IAmb	IAmb	22 49 29.4	
	comp=Z,7.8nm,1.2s						
PSA00	**Pilbara Seismi**	**41.91**	**215**	P	**P**	**22 49 27.5**	**-0.6**
PSA00				IAmb	IAmb	22 49 28.5	
	comp=Z,9.1nm,0.8s						
PSA00	**Pilbara Seismi**	**41.91**	**215**	P	**P**	**22 49 27.1**	**-0.9**
PSA00				IAmb	IAmb	22 49 27.8	
	comp=Z,5.0nm,0.9s						
LZH	**Lanzhou**	**42.76**	**310**	⇓P	**P**	**22 49 37.4**	**+2.3**
LZH				pP	pP	22 50 02.3	-2.6
LZH				sP	sP	22 50 19.0	-1.1
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
CMAR	**Chiang Mai Arr**	**43.72**	**283**	P	**P**	**22 49 41.9**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=89,slow=6.4,SNR=4.5						
STKA	**Stephens Creek**	**44.79**	**183**	P	**P**	**22 49 50.3**	**-0.8**
	comp=Z,1.7nm,0.4s,baz=11,slow=7.1,SNR=6.1						
STKA	**Stephens Creek**	**44.79**	**183**	P	**P**	**22 49 50.3**	**-0.8**
FORT	**Forrest**	**46.29**	**199**	P	**P**	**22 50 02.5**	**-0.4**
BBOO	**Buckleboo**	**46.30**	**189**	P	**P**	**22 50 02.1**	**-0.9**
BBOO				IAmb	IAmb	22 50 18.5	
	comp=Z,20nm,1.3s						
SONM	**Songino Array**	**46.71**	**325**	P	**P**	**22 50 06.0**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=128,slow=5.2,SNR=5.4						
SONM	**Songino Array**	**46.71**	**325**	P	**P**	**22 50 06.8**	**+0.6**
GTA	**Gaotai**	**46.96**	**312**	*eP*	**P**	**22 50 08.3**	**+0.1**
GTA				pP	pwP	22 50 42.9	-0.3
GTA				sP	sP	22 51 00.4	+6.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MORW	**Morawa**	**49.94**	**213**	P	**P**	**22 50 30.2**	**-0.8**
TOO	**Toolangi**	**50.42**	**179**	P	**P**	**22 50 35.4**	**+0.9**
WMQ	**Urumqi**	**56.95**	**314**	*eP*	**P**	**22 51 24.5**	**+2.4**
BKZ	**Black Stump Fm**	**60.13**	**151**	P	**P**	**22 51 44.4**	**+0.3**
MK31	**Makanchi Array**	**61.34**	**316**	P	**P**	**22 51 52.8**	**+0.6**
MKAR	**Makanchi Array**	**61.34**	**316**	P	**P**	**22 51 52.2**	**0.0**
	comp=Z,1.0nm,0.5s,baz=94,slow=8.8,SNR=17						
MKAR	**Makanchi Array**	**61.34**	**316**	P	**P**	**22 51 52.7**	**+0.5**
MAKZ	**Makanchi**	**61.55**	**316**	P	**P**	**22 51 54.1**	**+0.5**
ZALV	**Zalesovo Beam**	**61.59**	**325**	P	**P**	**22 51 53.3**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=101,slow=6.2,SNR=2.6						
ZALV				PcP	**PcP**	**22 52 32.4**	**-1.7**
	comp=Z,0.8nm,0.4s,baz=128,slow=4.4,SNR=4.7						
MLZ	**Mavora Lakes**	**62.12**	**161**	P	**P**	**22 51 57.9**	**+0.6**
MLZ				IAmb	IAmb	22 52 26.2	
	comp=Z,12nm,1.2s						
WHZ	**Wether Hill Ro**	**62.53**	**161**	P	**P**	**22 52 00.1**	**+0.1**
KKAR	**Karatay Array**	**69.22**	**311**	P	**P**	**22 52 43.9**	**+0.8**
ILAR	**Eielson Array**	**69.31**	**25**	P	**P**	**22 52 41.9**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=244,slow=5.2,SNR=5.4						
GAR	**Garm**	**69.34**	**307**	P	**P**	**22 52 43.9**	**-0.1**
BRVK	**Borovoye**	**69.92**	**322**	P	**P**	**22 52 47.6**	**+0.5**
BMAR	**Burnt Mountain**	**70.82**	**23**	P	**P**	**22 52 53.2**	**+0.8**
LOGN	**Logan Glacier**	**71.27**	**30**	P	**P**	**22 52 57.0**	**+1.6**
ABKAR	**Akbulak array**	**76.41**	**318**	P	**P**	**22 53 24.9**	**-0.5**
ABKAR	**Akbulak array**	**76.41**	**318**	P	**P**	**22 53 24.9**	**-0.5**
CASY	**Casey**	**82.98**	**193**	P	**P**	**22 54 00.4**	**+0.2**
CASY				IAmb	IAmb	22 54 27.6	
	comp=Z,9.9nm,1.5s						
YBH	**Yreka Blue Hor**	**83.73**	**49**	P	**P**	**22 54 05.8**	**+0.9**
	comp=Z,4.7nm,0.9s,baz=306,slow=2.4,SNR=11						
PINE	**Pine Mountain**	**84.56**	**46**	P	**P**	**22 54 10.6**	**+1.3**
PINE				IAmb	IAmb	22 54 11.6	
	comp=Z,7.0nm,0.8s						
K05A	**Summer Lake**	**84.83**	**47**	P	**P**	**22 54 12.0**	**+1.4**
K05A				IAmb	IAmb	22 54 12.8	
	comp=Z,7.5nm,1.0s						
LVZ	**Lovozero**	**85.09**	**339**	P	**P**	**22 54 14.3**	**+3.2**
BEKR	**Beckworth**	**85.88**	**50**	P	**P**	**22 54 16.7**	**+0.9**
BEKR				IAmb	IAmb	22 54 17.6	
	comp=Z,3.9nm,0.8s						
NEW	**Newport**	**86.06**	**41**	P	**P**	**22 54 17.8**	**+1.4**
NEW				IAmb	IAmb	22 54 18.6	
	comp=Z,5.4nm,0.8s						
CMB	**Columbia Colle**	**86.29**	**52**	P	**P**	**22 54 19.0**	**+1.2**
J08A	**Circle Bar Ran**	**86.41**	**46**	P	**P**	**22 54 19.3**	**+1.0**
J08A				IAmb	IAmb	22 54 20.3	
	comp=Z,4.8nm,1.0s						

ARCES ARCESS Array B 87.32 342 P **P** **22 54 21.7 -0.3**
comp=Z,2.7nm,0.8s,baz=62,slow=10,SNR=1.8
ARCES ARCESS Array B 87.32 342 P **P** **22 54 21.7 -0.3**
NVAR Mina Array Bea 87.78 51 P **P** **22 54 26.1 +1.0**
comp=Z,5.0nm,0.7s,baz=263,slow=5.7,SNR=39
NVAR Mina Array Bea 87.78 51 P **P** **22 54 26.5 +1.4**
NV11 Mina Array Sit 87.89 51 P **P** **22 54 27.3 +1.7**
NV11 IAmb IAmb 22 54 28.4
comp=Z,4.7nm,0.9s
HLID Hailey 89.19 45 P **P** **22 54 32.8 +1.2**
HLID IAmb IAmb 22 54 33.9
comp=Z,3.9nm,0.8s
QSM Queen of Sheba 89.54 53 P **P** **22 54 34.5 +1.4**
QSM IAmb IAmb 22 54 35.5
comp=Z,3.4nm,0.7s
TPNV Topopah Spring 89.75 52 P **P** **22 54 35.6 +1.2**
TPNV IAmb IAmb 22 54 36.6
comp=Z,5.5nm,0.7s
VNDA Vanda 91.03 176 LR LR 23 33 25.9
comp=Z,27nm,19.4s,baz=238,slow=34
FINES FINESS Array B 91.29 335 P **P** **22 54 39.1 -1.6**
comp=Z,0.6nm,0.3s,baz=68,slow=4.9,SNR=14
PDAR Pinedale Array 92.81 45 P **P** **22 54 48.7 +0.2**
comp=Z,0.5nm,0.5s,baz=222,slow=2.0,SNR=2.3
BRTR Keskin Array B 96.87 313 P **P** **22 55 07.2 +0.2**
comp=Z,0.5nm,0.9s,baz=242,slow=15,SNR=3.1
TORD Torodi Ar. Bea 134.53 304 PKP **PKiKP** **23 00 54.9 -0.5**
comp=Z,0.5nm,0.7s,baz=35,slow=2.5,SNR=4.3
DBIC Dimbokro 143.46 301 PKP PKPab 23 01 07.2 +0.5
comp=Z,2.9nm,0.7s,baz=91,slow=2.0,SNR=4.3
DBIC Dimbokro 143.46 301 PKPab 23 01 07.4 +0.6
LPAZ La Paz 148.66 100 PKPbc **PKPbc** **23 01 23.9 +0.2**
comp=Z,0.9nm,0.5s,baz=258,slow=8.9,SNR=3.7

*NEIC **19** 22:42:25.9±1.4, 30°99S±0°05×71°38W±0°05, h51km±9km, mb4.2/3, ML3.7(GUC), Error ellipse: s-maj=7.3km s-min=5.6km az=199.0*
*GUC **19** 22:42:25.1±0.8, 30°90S×71°32W, h47km±3km, ML3.7*
ISC 19 22:42:25.5±0.9, 30°95S±0°04×71°43W±0°05, h51km±8km, n42, σ1§02/49, mb4.3/3, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.33**	**327**	⇑*iP*	**Pn**	**22 42 35.1**	**0.0**
CO06				*i* S	**Sn**	**22 42 42.3**	**+0.5**
CO06				IAML		22 42 44.3	
	comp=E,8μm,0.2s						
CO06	**Fray Jorge**	**0.33**	**327**	Pn	**Pn**	**22 42 35.1**	**0.0**
CO06				Sn	**Sn**	**22 42 42.8**	**+1.0**
CO03	**El Pedregal**	**0.65**	**80**	⇓*iP*	**Pn**	**22 42 38.0**	**-0.8**
CO03				*i* S	**Sn**	**22 42 47.2**	**-1.0**
CO03				IAML		22 42 47.6	
	comp=E,13μm,0.1s						
CO03	**El Pedregal**	**0.65**	**80**		**Pn**	**22 42 38.0**	**-0.8**
CO03					**Sn**	**22 42 47.3**	**-0.9**
GO04	**Tololo Observa**	**0.95**	**35**	⇓*iP*	**Pn**	**22 42 42.6**	**-0.2**
GO04				*i* S	**Sn**	**22 42 55.5**	**0.0**
GO04				IAML		22 42 56.2	
	comp=N,6μm,0.3s						
GO04	**Tololo Observa**	**0.95**	**35**		**Pn**	**22 42 42.7**	**-0.2**
CO05	**La Serena**	**1.04**	**9**	*eP*	**Pn**	**22 42 44.1**	**+0.3**
CO05				IAML		22 43 05.3	
	comp=E,1μm,0.4s						
CO05	**La Serena**	**1.04**	**9**		**Pn**	**22 42 44.4**	**+0.6**
VA06	**Catapilco**	**1.61**	**176**	*eP*	**Pn**	**22 42 51.7**	**+0.2**
VA06				IAML		22 43 16.6	
	comp=E,1μm,0.4s						
VA03	**San Esteban**	**1.95**	**158**	*eP*	**Pn**	**22 42 57.0**	**+0.7**
VA03				IAML		22 43 26.8	
	comp=E,981nm,0.1s						
VA03	**San Esteban**	**1.95**	**158**		**Pn**	**22 42 57.1**	**+0.7**
LCO	**Las Campanas**	**2.04**	**18**	*eP*	**Pn**	**22 42 58.2**	**+0.6**
LCO				*i* S	**Sn**	**22 43 22.5**	**+0.5**
ROCH	**El Roble**	**2.04**	**170**	*eP*	**Pn**	**22 42 58.2**	**+0.5**
ROCH				IAML		22 43 31.6	
	comp=N,498nm,0.4s						
VA01	**Torpederas**	**2.07**	**185**	Pn	**Pn**	**22 42 57.7**	**-0.2**
ZON	**Zonda**	**2.43**	**105**	Pn	**Pn**	**22 43 05.1**	**+2.3**
MT05	**Renca**	**2.50**	**167**	*eP*	**Pn**	**22 43 04.5**	**+0.7**
MT05				IAML		22 43 47.7	
	comp=E,901nm,0.2s						
MT05	**Renca**	**2.50**	**167**	Pn	**Pn**	**22 43 04.5**	**+0.7**
VA05	**Santo Domingo**	**2.70**	**183**	*eP*	**Pn**	**22 43 06.2**	**-0.3**
VA05				IAML		22 43 50.0	
	comp=N,252nm,0.6s						
VA05	**Santo Domingo**	**2.70**	**183**		**Pn**	**22 43 06.2**	**-0.3**
AC04	**Llanos de Chal**	**2.76**	**7**	*eP*	**Pn**	**22 43 08.0**	**+0.8**
AC04				IAML		22 43 59.0	
	comp=E,219nm,0.1s						
AC04	**Llanos de Chal**	**2.76**	**7**		**Pn**	**22 43 08.1**	**+0.9**
MT09	**Talagante**	**2.84**	**173**	*eP*	**Pn**	**22 43 09.3**	**+0.8**
MT09				IAML		22 43 56.5	
	comp=E,285nm,0.5s						
MT09	**Talagante**	**2.84**	**173**		**Pn**	**22 43 09.2**	**+0.7**
MT01	**Popeta**	**2.91**	**177**	*eP*	**Pn**	**22 43 09.3**	**-0.1**
MT01				IAML		22 44 00.9	
	comp=E,145nm,0.2s						
MT01	**Popeta**	**2.91**	**177**	Pn	**Pn**	**22 43 09.2**	**-0.1**
LMEL	**Las Melosas**	**3.07**	**161**	*eP*	**Pn**	**22 43 11.2**	**-0.4**
LMEL				*eS*	**Sn**	**22 43 51.5**	**+4.3**
LMEL				IAML		22 43 59.6	
	comp=N,310nm,0.3s						
BO01	**Tunca**	**3.44**	**175**	*eP*	**Pn**	**22 43 16.6**	**-0.1**
BO01	**Tunca**	**3.44**	**175**		**Pn**	**22 43 16.4**	**-0.2**
GO03	**Copiap**	**3.51**	**18**		**Pn**	**22 43 18.7**	**+1.1**
BO03	**Pichilemu**	**3.56**	**187**	*eP*	**Pn**	**22 43 17.4**	**-0.9**
AC06	**Mina Casimiro**	**3.70**	**15**	Pn	**Pn**	**22 43 21.1**	**+0.8**
BO02	**Sierra Bellavi**	**3.87**	**172**	*eP*	**Pn**	**22 43 22.7**	**+0.2**
BO02	**Sierra Bellavi**	**3.87**	**172**	Pn	**Pn**	**22 43 22.9**	**+0.3**
GO05	**Huala**	**4.07**	**186**	*eP*	**Pn**	**22 43 24.0**	**-1.3**
GO05	**Huala**	**4.07**	**186**	Pn	**Pn**	**22 43 24.0**	**-1.3**
AC02	**Maricunga**	**4.57**	**27**	Pn	**Pn**	**22 43 33.7**	**+1.1**
ML02	**Panimavida**	**4.80**	**180**	Pn	**Pn**	**22 43 34.7**	**-0.5**
LC01	**Cunco**	**7.94**	**183**	Pn	**Pn**	**22 44 17.8**	**-0.5**
TRQA	**Tornquist**	**10.53**	**135**	Pn	**Pn**	**22 44 51.7**	**-2.1**
SNAA	**Sanae**	**54.22**	**159**	P	**P**	**22 51 45.0**	**-0.7**
SNAA				IAmb	IAmb	22 51 49.0	
	comp=Z,4.3nm,1.5s						
QSPA	**South Pole Qui**	**59.27**	**180**	P	**P**	**22 52 21.8**	**+0.1**
QSPA				IAmb	IAmb	22 52 24.2	
	comp=Z,5.2nm,1.4s						
TORD	**Torodi Ar. Bea**	**82.69**	**70**	P	**P**	**22 54 43.3**	**-0.8**
TORD				IAmb	IAmb	22 55 00.4	
	comp=Z,1.2nm,0.8s						

*TAP **19** 22:52:58.9, 24°28N×121°85E, h20km, ML3.2, C*
*JMA **19** 22:52:59.1, 24°22N×121°79E, h26km±1km, M2.5*
ISC 19 22:52:59.3±0.8, 24°26N±0°02×121°86E±0°02, h18km±4km, n71, σ0§60/124, 7C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.12**	**295**	P	**Pg**	**22 53 03.0**	**-0.2**
	baz=290						
EHP				S	**Sg**	**22 53 06.4**	**+0.6**
	baz=290						
ENA	**Nanau**	**0.20**	**327**	⇓*iP*	**Pb**	**22 53 04.0**	**-0.4**
	baz=329						
ENA				*i* S	**Sg**	**22 53 07.6**	**0.0**
	baz=329						
EWUT	**Wuta**	**0.20**	**338**	⇓*iP*	**Pg**	**22 53 04.1**	**-0.1**
	baz=339						
EWUT				*i* S	**Sg**	**22 53 07.7**	**+0.1**
	baz=339						
ETL	**Fush Village**	**0.24**	**245**	P	**Pg**	**22 53 05.0**	**+0.1**
	baz=246						
ETL				S	**Sg**	**22 53 09.6**	**+0.9**
	baz=246						
NACB	**Ninganchiao**	**0.26**	**251**	P	**Pg**	**22 53 05.0**	**-0.1**
	baz=252						
NACB				S	**Sb**	**22 53 09.6**	**+0.1**
	baz=252						
TWD	**Chiawan**	**0.30**	**234**	⇓*iP*	**Pg**	**22 53 06.0**	**+0.2**
	baz=234						
TWD				*i* S	**Sb**	**22 53 11.2**	**+0.3**
	baz=234						
TWC	**Suao**	**0.35**	**358**	⇓*iP*	**Pg**	**22 53 06.4**	**-0.3**
	baz=6.0						
TWC				*i* S	**Sg**	**22 53 11.5**	**-0.2**
	baz=6.0						
ETLH	**Xiulin Townshi**	**0.35**	**261**	P	**Pg**	**22 53 06.6**	**-0.2**
	baz=259						
ETLH				S	**Sg**	**22 53 11.8**	**0.0**
	baz=259						
HWA	**Hwalien**	**0.37**	**220**	*eP*	**Pg**	**22 53 07.4**	**+0.4**
	baz=226						
HWA				S	**Sn**	**22 53 15.1**	**-1.4**
	baz=226						
NDS	**Dongshan**	**0.40**	**340**	⇓*iP*	**Pg**	**22 53 07.3**	**-0.2**
	baz=341						
NDS				*i* S	**Sb**	**22 53 13.3**	**-0.4**
	baz=341						
ETM	**Tongmen**	**0.45**	**229**	*eP*	**Pg**	**22 53 08.5**	**+0.1**
	baz=236						
ETM				*eS*	**Sb**	**22 53 15.3**	**+0.2**
	baz=236						
TEYL	**Yanliau Villag**	**0.46**	**212**	*eP*	**Pg**	**22 53 06.3**	**-2.3**
	baz=213						
TEYL				*eS*	**Sn**	**22 53 17.7**	**-1.0**
	baz=213						
ENTT	**Nioudou**	**0.47**	**325**	⇑*iP*	**Pg**	**22 53 08.4**	**-0.4**
	baz=324						
ENTT				*i* S	**Sg**	**22 53 15.2**	**0.0**
	baz=324						
NDT	**Datong Townshi**	**0.47**	**317**	P	**Pg**	**22 53 08.6**	**-0.3**
	baz=316						
NDT				S	**Sb**	**22 53 15.4**	**-0.3**
	baz=316						
NNSB	**Datong**	**0.47**	**291**	⇑*iP*	**Pg**	**22 53 08.7**	**-0.2**
	baz=289						
NNSB				*i* S	**Sg**	**22 53 15.1**	**-0.2**
	baz=289						
NNS	**Nan Shan**	**0.48**	**292**	⇑*iP*	**Pg**	**22 53 08.8**	**-0.3**
	baz=290						
NNS				*i* S	**Sg**	**22 53 15.6**	**-0.1**
	baz=290						
TWE	**Neicheng**	**0.49**	**339**	⇓*iP*	**Pg**	**22 53 09.0**	**-0.3**
	baz=340						
TWE				*i* S	**Sb**	**22 53 16.3**	**-0.1**
	baz=340						
ILA	**Ilan**	**0.51**	**348**	*eP*	**Pb**	**22 53 09.9**	**0.0**
	baz=349						
ILA				S	**Sb**	**22 53 17.5**	**+0.5**
	baz=349						
WHF	**Hehuan Shan**	**0.56**	**258**	⇑*iP*	**Pg**	**22 53 10.2**	**-0.4**
	baz=256						
WHF				*i* S	**Sb**	**22 53 18.6**	**0.0**
	baz=256						
FUSS	**Fushou**	**0.56**	**269**	⇑P	**Pg**	**22 53 10.4**	**-0.3**
	baz=267						
FUSS				S	**Sg**	**22 53 18.2**	**-0.1**
	baz=267						
ESL	**Shilin**	**0.59**	**222**	*eP*	**Pb**	**22 53 10.7**	**-0.5**
	baz=219						
NTC	**Toucheng**	**0.59**	**357**	*eP*	**Pb**	**22 53 10.8**	**-0.4**
	baz=357						
NTC				*eS*	**Sg**	**22 53 19.0**	**-0.1**
	baz=357						
YHNB	**Yeheng**	**0.60**	**313**	⇑*iP*	**Pb**	**22 53 10.8**	**-0.6**
	baz=312						
YHNB				*i* S	**Sb**	**22 53 19.1**	**-0.6**
	baz=312						
NWLT	**Wulai**	**0.61**	**328**	P	**Pb**	**22 53 11.0**	**-0.5**
	baz=325						
NWLT				S	**Sb**	**22 53 19.1**	**-0.7**
	baz=325						
NSK	**Sanguang**	**0.62**	**312**	⇑*iP*	**Pb**	**22 53 11.1**	**-0.6**
	baz=312						
NSK				*i* S	**Sb**	**22 53 19.4**	**-0.7**
	baz=312						
TWT	**Tachien**	**0.63**	**270**	*eP*	**Pg**	**22 53 12.0**	**+0.2**
	baz=268						
TWT				*eS*	**Sg**	**22 53 20.8**	**+0.6**
	baz=268						
TDCB	**Techi**	**0.64**	**270**	P	**Pb**	**22 53 11.8**	**-0.3**
	baz=268						
TDCB				*eS*	**Sb**	**22 53 20.4**	**-0.5**
	baz=268						
CHGB	**Renai**	**0.66**	**253**	P	**Pb**	**22 53 12.2**	**-0.3**
	baz=251						
CHGB				S	**Sb**	**22 53 21.2**	**-0.1**
	baz=251						
OWD	**Renai**	**0.70**	**244**	*eP*	**Pb**	**22 53 12.7**	**-0.4**
	baz=243						
TIPB	**Shuangxi**	**0.71**	**357**	P	**Pb**	**22 53 12.9**	**-0.3**
	baz=357						
TIPB				S	**Sb**	**22 53 22.2**	**-0.5**
	baz=357						
TWB1	**Santiao Chiao**	**0.75**	**9**	*eP*	**Pb**	**22 53 13.7**	**-0.3**
	baz=1.0						
TWB1				*eS*	**Sg**	**22 53 24.0**	**-0.2**
	baz=1.0						
TWA	**Mucha**	**0.76**	**341**	P	**Pb**	**22 53 14.0**	**-0.1**
	baz=340						
TWA				S	**Sg**	**22 53 24.4**	**0.0**
	baz=340						
NHDH	**Xindian Distri**	**0.76**	**336**	*eP*	**Pg**	**22 53 14.6**	**+0.2**
	baz=336						
NHDH				*eS*	**Sg**	**22 53 24.2**	**-0.3**
	baz=336						
NWF	**Wu-fen Shan**	**0.81**	**355**	P	**Pg**	**22 53 15.1**	**-0.1**
	baz=347						
NWF				S	**Sg**	**22 53 26.3**	**+0.3**
	baz=347						
WHP	**Taichung City**	**0.84**	**271**	*eP*	**Pb**	**22 53 15.3**	**-0.1**
	baz=270						
WHP				*eS*	**Sg**	**22 53 26.8**	**0.0**
	baz=270						
LIOB	**Emei**	**0.86**	**297**	*eP*	**Pg**	**22 53 16.2**	**0.0**
	baz=295						
LIOB				*eS*	**Sn**	**22 53 28.3**	**-0.5**
	baz=295						
HGSD	**Ruisui**	**0.86**	**208**	*eP*	**Pb**	**22 53 15.7**	**-0.1**
	baz=208						
NSTT	**Nanjuang**	**0.87**	**295**	P	**Pb**	**22 53 15.6**	**-0.3**
	baz=294						
NSTT				S	**Sg**	**22 53 27.7**	**0.0**
	baz=294						
WCS	**Beigang Elemen**	**0.89**	**257**	*eP*	**Pb**	**22 53 16.5**	**+0.2**
	baz=247						
EHY	**Hungye**	**0.90**	**213**	*eP*	**Pb**	**22 53 15.1**	**-1.4**
	baz=

baz=223
ALS Alishan 1.22 233 *e*P Pn **22 53 22.0 +0.1**
baz=232
ALS *e*S **Sg 22 53 39.5 +0.5**
baz=232
CHN5 Tsauling 1.27 239 *e*P **Pb 22 53 22.9 +0.1**
baz=238
CHN5 *e*S **Sg 22 53 41.3 +0.8**
baz=238
ELDTW Lidau 1.32 216 *e*P **Pb 22 53 21.6 -1.4**
baz=206
WDLH Douliu 1.34 245 *e*P **Pb 22 53 24.6 +0.7**
baz=243
CHN4 Tsaushan 1.47 232 *e*P **Pb 22 53 26.4 +0.1**
baz=232
CHN4 *e*S **Sg 22 53 46.9 -0.1**
baz=232
TPUB Ta-pu 1.48 230 *e*P **Pn 22 53 25.9 +0.7**
baz=230
TPUB *e*S **Sb 22 53 45.8 +0.9**
baz=230
WTP Ta-pu 1.52 229 *e*P **Pb 22 53 26.9 -0.3**
baz=229
WTP *e*S **Sg 22 53 48.1 -0.5**
baz=229
TWK Hsinying 1.60 232 *e*P **Pb 22 53 27.9 -0.5**
baz=232
TWK *e*S **Sb 22 53 49.8 +1.4**
baz=232
CHN1 Nanshi 1.62 229 *e*P **Pb 22 53 28.7 -0.1**
baz=229
IRIF Iriomote-Funau 1.71 87 P **Pn 22 53 28.8 +0.6**
IRIF *e*S **Sb 22 53 50.9 -0.4**
JKRS Kuro-shima 1.96 90 P **Pn 22 53 32.5 +0.8**
MASBT Mashibuluo 1.99 215 *e*P **Pn 22 53 33.0 +0.8**
baz=219
MASBT *e*S **Sb 22 53 59.2 -0.4**
baz=219
JIJ Ishigaki jima 2.08 87 P **Pn 22 53 33.1 -0.3**
JIJ *e*S **Sn 22 54 00.3 +1.4**
JISG Ishigakijimahi 2.26 81 P **Pn 22 53 37.1 +1.3**
JISG S **Sn 22 54 03.3 +0.1**

SJA 19 22:58:02.0,23°56S×67°64W,h193km,ML6.3,
Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.50**	**309**	*i* P	Pn	22 58 35.0	-0.6
PB15	**IPOC Station P**	**1.72**	**281**	*i* P	Pn	22 58 37.0	-0.4
PB06	**IPOC Station P**	**1.97**	**295**	*i* P	Pn	22 58 40.0	+0.1
PB09	**IPOC Station P**	**2.30**	**320**	*i* P	Pn	22 58 44.0	+0.6
PB05	**IPOC Station P**	**2.46**	**286**	*i* P	Pn	22 58 45.0	-0.2
PB03	**IPOC Station P**	**2.46**	**307**	*i* P	Pn	22 58 45.0	-0.2
PB04	**IPOC Station P**	**2.62**	**297**	*i* P	Pn	22 58 47.0	0.0
PB07	**IPOC Station P**	**2.76**	**311**	*i* P	Pn	22 58 48.0	-0.7

VAO ***19*** *22:59:37.4±0.4,30°.75S×71°.21W,h10km,mb4.6*
SJA ***19*** *22:59:37.0,30°.79S×71°.71W,h10km,ML5.0*
NEIC ***19*** *22:59:40.0±1.4,30°.85S±0°.04×71°.49W±0°.06,h38km±4km, mb5.0/93,Mwr4.4/42,ML4.8(GUC),Error ellipse: s-maj=7.7km s-min=5.0km az=84.0*
IDC ***19*** *22:59:40.4±0.4,30°.82S×71°.29W,h49km±4km,mb4.3/15, mb1 4.4/20,mb1mx4.3/29,mbtmp4.5/20,MS3.5/7, Ms1 3.5/7,ms1mx3.2/27,Error ellipse: s-maj=17.0km s-min=10.6km az=88.0*
NEIC ***19*** *22:59:40.6,30°.82S×71°.54W,h53km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mw=4.90; Mrr0.53; Mtt-5.44; Mrf0.45; Mff0.46; Mtf-2.50; Fault plane solution: M0 5.80000×10¹⁵ NP1:φ=172.80000°, δ58.07000°, λ86.80000°. NP2:φ=358.84000°, δ32.07000°, λ95.12000°. Principal axes: T 5.5011, Plg77.0000°, Azm73.0000°; N 0.5542, Plg3.0000°, Azm174.0000°; P -6.0553, Plg13.0000°, Azm265.0000°;*
GUC ***19*** *22:59:41.5±0.7,30°.73S×71°.30W,h28km±12km,ML4.8*
ISC 19 22:59:40.1±0.4,30°.82S±0°.04×71°.45W±0°.04,h47km±3km,
h47km:pP-P,n291,σ1s22/299,mb4.9/53,MS3.8/3,2C-6D,
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.21**	**312**	⇑*i*P	**Pn**	**22 59 48.9**	**+0.6**
CO06				*i* S	**Sn**	**22 59 54.9**	**+1.0**
CO06	**Fray Jorge**	**0.21**	**312**		**Pn**	**22 59 48.9**	**+0.6**
CO06					Sn	**22 59 54.9**	**+1.0**
CO03	**El Pedregal**	**0.66**	**92**	⇓*i*P	**Pn**	**22 59 53.0**	**-0.3**
CO03				*i* S	**Sn**	**23 00 01.7**	**-1.1**
CO03	**El Pedregal**	**0.66**	**92**		**Pn**	**22 59 53.0**	**-0.3**
CO03					Sn	**23 00 02.4**	**-0.3**
CO03	**El Pedregal**	**0.66**	**92**	*i* P	**Pn**	**22 59 53.0**	**-0.3**
CO03	**El Pedregal**	**0.66**	**92**	*i* P	**Pn**	**22 59 53.0**	**-0.3**
GO04	**Tololo Observa**	**0.85**	**41**	⇓*i*P	**Pn**	**22 59 56.3**	**+0.2**
GO04				*i* S	**Sn**	**23 00 07.6**	**0.0**
GO04				IAML		23 00 09.7	
	comp=N,117μm,0.3s						
GO04	**Tololo Observa**	**0.85**	**41**		**Pn**	**22 59 56.2**	**+0.2**
GO04	**Tololo Observa**	**0.85**	**41**	*i* P	**Pn**	**22 59 56.0**	**-0.1**
CO05	**La Serena**	**0.91**	**12**	⇓*i*P	**Pn**	**22 59 57.3**	**+0.6**
CO05				*i* S	**Sn**	**23 00 08.4**	**-0.3**
CO05	**La Serena**	**0.91**	**12**		**Pn**	**22 59 57.2**	**+0.6**
CO05					Sn	**23 00 09.5**	**+0.8**
VA06	**Catapilco**	**1.75**	**176**	⇓*i*P	**Pn**	**23 00 08.6**	**+0.7**
VA06				IAML		23 00 48.7	
	comp=E,8μm,0.4s						
AROD	**Rodeo**	**1.83**	**70**	*i* P	**Pn**	**23 00 12.0**	**+2.6**
LCO	**Las Campanas**	**1.91**	**20**	⇓*i*P	**Pn**	**23 00 11.4**	**+0.8**
LCO				*i* S	**Sn**	**23 00 35.2**	**+1.6**
LCO	**Las Campanas**	**1.91**	**20**		**Pn**	**23 00 11.5**	**+1.0**
LCO	**Las Campanas**	**1.91**	**20**	*i* P	**Pn**	**23 00 11.0**	**+0.5**
ACCO	**Cerro Coronel**	**2.07**	**84**	*i* P	**Pn**	**23 00 15.0**	**+2.3**
RTLS	**Leoncito**	**2.09**	**119**	*i* P	**Pn**	**23 00 15.0**	**+2.0**
VA03	**San Esteban**	**2.09**	**159**	⇓*i*P	**Pn**	**23 00 13.3**	**+0.5**
VA03				IAML		23 00 44.4	
	comp=N,8μm,0.2s						
VA03	**San Esteban**	**2.09**	**159**		**Pn**	**23 00 13.6**	**+0.8**
VA03	**San Esteban**	**2.09**	**159**	*i* P	**Pn**	**23 00 14.0**	**+1.2**
VA01	**Torpederas**	**2.21**	**184**	*e*P	**Pn**	**23 00 14.1**	**-0.1**
VA01				IAML		23 00 51.5	
	comp=N,2μm,0.3s						
VA01	**Torpederas**	**2.21**	**184**		**Pn**	**23 00 14.2**	**-0.1**
VA01	**Torpederas**	**2.21**	**184**	*i* P	**Pn**	**23 00 14.0**	**-0.3**
AUSP	**Uspallata**	**2.25**	**129**	*i* P	**Pn**	**23 00 18.0**	**+2.8**
ZON	**Zonda**	**2.48**	**108**			**23 00 20.7**	**+2.5**
AC04	**Llanos de Chal**	**2.62**	**7**	IAML		23 01 04.7	
AC04	**Llanos de Chal**	**2.62**	**7**		**Pn**	**23 00 21.3**	**+1.3**
AC04	**Llanos de Chal**	**2.62**	**7**	*i* P	**Pn**	**23 00 21.0**	**+1.0**
MT05	**Renca**	**2.64**	**167**	IAML		23 01 05.8	
	comp=E,5μm,0.1s						
MT05	**Renca**	**2.64**	**167**		**Pn**	**23 00 21.4**	**+1.2**
MT05	**Renca**	**2.64**	**167**	*i* P	**Pn**	**23 00 21.0**	**+0.7**
RTCV	**Cerro Valdivia**	**2.70**	**113**	*i* P	**Pn**	**23 00 24.0**	**+2.9**
VA05	**Santo Domingo**	**2.84**	**183**	IAML		23 01 13.9	
	comp=E,2μm,0.6s						
VA05	**Santo Domingo**	**2.84**	**183**		**Pn**	**23 00 22.6**	**-0.3**
ASAL	**Salagasta**	**2.85**	**129**	*i* P	**Pn**	**23 00 26.0**	**+2.8**
AGUA	**GUANDACOL**	**2.89**	**63**	*i* P	**Pn**	**23 00 28.0**	**+4.3**
ARCO	**CERRO ARCO**	**2.95**	**134**	*i* P	**Pn**	**23 00 29.0**	**+4.4**
MT09	**Talagante**	**2.98**	**173**	IAML		23 01 12.6	
	comp=N,2μm,0.3s						
MT09	**Talagante**	**2.98**	**173**		**Pn**	**23 00 25.9**	**+0.9**
MT01	**Popeta**	**3.04**	**177**	*e*P	**Pn**	**23 00 26.1**	**+0.2**
MT01				IAML		23 01 19.0	
	comp=E,2μm,0.1s						
MT01	**Popeta**	**3.04**	**177**		**Pn**	**23 00 26.2**	**+0.4**
MT01	**Popeta**	**3.04**	**177**	*i* P	**Pn**	**23 00 26.0**	**+0.2**
AAGR	**Agrelo**	**3.18**	**136**	*i* P	**Pn**	**23 00 31.0**	**+3.3**
GO03	**Copiap**	**3.38**	**19**		**Pn**	**23 00 31.9**	**+1.4**
GO03	**Copiap**	**3.38**	**19**	*i* P	**Pn**	**23 00 32.0**	**+1.4**
AVFE	**Valle Fertil**	**3.44**	**88**	*i* P	**Pn**	**23 00 33.0**	**+1.6**
VCA	**Vinchina**	**3.50**	**55**	*i* P	**Pn**	**23 00 36.0**	**+3.8**
AC06	**Mina Casimiro**	**3.58**	**16**		**Pn**	**23 00 34.0**	**+0.8**
BO01	**Tunca**	**3.58**	**175**		**Pn**	**23 00 33.6**	**+0.5**
BO01	**Tunca**	**3.58**	**175**	*i* P	**Pn**	**23 00 34.0**	**+0.9**
BO02	**Sierra Bellavi**	**4.00**	**172**		**Pn**	**23 00 39.9**	**+0.9**
BO02	**Sierra Bellavi**	**4.00**	**172**	*i* P	**Pn**	**23 00 40.0**	**+0.9**
ACHE	**Chepes**	**4.13**	**96**	*i* P	**Pn**	**23 00 42.0**	**+1.2**
GO05	**Huala**	**4.20**	**185**		**Pn**	**23 00 40.8**	**-1.0**
GO05	**Huala**	**4.20**	**185**	*i* P	**Pn**	**23 00 40.0**	**-1.7**
AC02	**Maricunga**	**4.46**	**28**	IAML		23 01 53.0	
	comp=E,1μm,0.5s						
AC02	**Maricunga**	**4.46**	**28**		**Pn**	**23 00 47.5**	**+1.8**
AC02	**Maricunga**	**4.46**	**28**	*i* P	**Pn**	**23 00 48.0**	**+2.3**
COIS	**El Sosneado**	**4.56**	**160**	*i* P	**Pn**	**23 00 48.0**	**+1.4**
RFA	**San Rafael**	**4.68**	**148**	*i* P	**Pn**	**23 00 49.0**	**+0.7**
ML02	**Panimavida**	**4.93**	**180**		**Pn**	**23 00 51.4**	**-0.3**
CYA	**Choya**	**5.46**	**66**	*i* P	**Pn**	**23 01 00.0**	**+1.0**
PB14	**IPOC Station P**	**6.24**	**9**	Pn	**Pn**	**23 01 08.7**	**-1.2**
PB14	**IPOC Station P**	**6.24**	**9**	*i* P	**Pn**	**23 01 10.0**	**+0.1**
AHML	**Horco Molle**	**6.70**	**55**	*i* P	**Pn**	**23 01 16.0**	**-0.1**
FSA	**Cafayete**	**6.72**	**47**	*i* P	**Pn**	**23 01 18.0**	**+1.6**
H03N1	**Juan Fernandez**	**6.85**	**246**	T	T	23 08 01.8	
	baz=74,slow=72,SNR=120						
VA04	**Juan Fernndez**	**6.86**	**244**	Pn	**Pn**	**23 01 16.9**	**-1.2**
H03N3	**Juan Fernandez**	**6.86**	**246**	T	T	23 08 09.3	
	baz=74,slow=72,SNR=153						
H03N2	**Juan Fernandez**	**6.86**	**246**	T	T	23 08 10.6	
	baz=74,slow=72,SNR=154						
PB15	**IPOC Station P**	**7.78**	**14**		**Pn**	**23 01 30.2**	**-0.8**
PB15	**IPOC Station P**	**7.78**	**14**	*i* P	**Pn**	**23 01 31.0**	**0.0**
PB05	**IPOC Station P**	**8.01**	**8**	*i* P	**Pn**	**23 01 32.0**	**-2.1**
LC01	**Cunco**	**8.07**	**182**		**Pn**	**23 01 33.8**	**-0.9**
LC01	**Cunco**	**8.07**	**182**	*i* P	**Pn**	**23 01 33.0**	**-1.7**
PB06	**IPOC Station P**	**8.25**	**12**	*i* P	**Pn**	**23 01 37.0**	**-0.4**
LVC	**Limon Verde**	**8.48**	**16**	P	**Pn**	**23 01 38.8**	**-2.0**
	comp=E,0.9nm,0.3s,baz=177,slow=7.5,SNR=13						
LVC				LR	LR	23 05 12.5	
	comp=E,209nm,21.8s,baz=214,slow=39						
LVC	**Limon Verde**	**8.48**	**16**		**Pn**	**23 01 38.5**	**-2.2**
LVC	**Limon Verde**	**8.48**	**16**	*e*P	**Pn**	**23 01 39.1**	**-1.7**
LVC	**Limon Verde**	**8.48**	**16**	*i* P	**Pn**	**23 01 40.0**	**-0.8**
PB04	**IPOC Station P**	**8.53**	**8**	Pn	**Pn**	**23 01 39.8**	**-1.4**
PB07	**IPOC Station P**	**9.16**	**9**	Pn	**Pn**	**23 01 48.4**	**-1.5**
PB09	**IPOC Station P**	**9.20**	**13**	Pn	**Pn**	**23 01 49.5**	**-0.9**
PB09	**IPOC Station P**	**9.20**	**13**	*i* P	**Pn**	**23 01 49.0**	**-1.4**
PB01	**IPOC Station P**	**9.89**	**11**		**Pn**	**23 01 56.7**	**-3.2**
PLCA	**Paso Flores**	**9.92**	**176**	P	**Pn**	**23 01 58.9**	**-1.3**
	comp=E,2nm,0.3s,baz=338,slow=19,SNR=2.4						
PLCA	**Paso Flores**	**9.92**	**176**	*e*P	**Pn**	**23 02 00.7**	**+0.6**
LL04	**Puerto Octay**	**10.10**	**184**		**Pn**	**23 02 00.2**	**-2.4**
TRQA	**Tornquist**	**10.64**	**135**		**Pn**	**23 02 09.5**	**-0.5**
TRQA	**Tornquist**	**10.64**	**135**	*e*P	**Pn**	**23 02 09.9**	**-0.1**
ITQB	**Itaqui**	**12.87**	**89**	Pn	**Pn**	**23 02 37.5**	**-2.9**
ITQB	**Itaqui**	**12.87**	**89**	*e*P	**Pn**	**23 02 37.7**	**-2.7**
CPUP	**Villa Florida**	**13.19**	**74**	P	**Pn**	**23 02 42.4**	**-2.4**
	comp=E,0.6nm,0.3s,baz=245,slow=12,SNR=8.1						
CPUP				S	**Sn**	**23 05 08.1**	**-1.9**
	comp=E,0.7nm,0.3s,baz=251,slow=18,SNR=2.5						
CPUP				LR	LR	23 08 18.2	
	comp=E,235nm,19.4s,baz=242,slow=40						
CPUP	**Villa Florida**	**13.19**	**74**		**Pn**	**23 02 41.9**	**-3.0**
CPUP	**Villa Florida**	**13.19**	**74**	*e*P	**Pn**	**23 02 41.8**	**-3.0**
LPAZ	**La Paz**	**14.78**	**13**	P	**Pn**	**23 03 07.8**	**+0.9**
	comp=E,0.5nm,0.3s,baz=180,slow=7.9,SNR=23						
LPAZ	**La Paz**	**14.78**	**13**	Pn	**Pn**	**23 03 08.4**	**+1.6**
LPAZ	**La Paz**	**14.78**	**13**	*e*P	**Pn**	**23 03 07.1**	**+0.3**
PLTB	**Pedras Altas**	**15.29**	**98**	Pn	**Pn**	**23 03 10.2**	**-2.7**
PLTB	**Pedras Altas**	**15.29**	**98**	*e*P	**Pn**	**23 03 10.3**	**-2.7**
CPSB	**Cacapava Do Su**	**15.52**	**93**	*e*P	**Pn**	**23 03 13.2**	**-2.7**
AQDB	**Aquidauana**	**17.52**	**58**	P	**Pn**	**23 03 39.6**	**-1.4**
AQDB	**Aquidauana**	**17.52**	**58**	*e*P	**Pn**	**23 03 39.0**	**-2.1**
SIV	**San Ignacio**	**17.55**	**35**	P	**Pn**	**23 03 40.4**	**-1.0**
	comp=E,2.3nm,0.3s,baz=222,slow=9.5,SNR=94						
SIV				LR	LR	23 11 45.2	
	comp=E,105nm,19.2s,baz=229,slow=42						
PTGB	**Pitanga**	**18.19**	**75**	*e*P	**P**	**23 03 49.1**	**-0.1**
TRCB	**Terra Rica**	**18.58**	**69**	P	**P**	**23 03 53.1**	**-0.4**
PTLB	**Pontes e Lacer**	**19.01**	**39**	*e*P	**P**	**23 03 58.1**	**+0.1**
NNA	**Nana**	**19.39**	**344**	LR	LR	23 09 53.8	
	comp=E,71nm,21.9s,baz=172,slow=32						
TER01	**Tubaro-SC**	**19.53**	**89**	*e*P	**P**	**23 04 03.9**	**+0.2**
PP1B	**Ponte de Pedra**	**20.00**	**53**	*e*P	**P**	**23 04 08.8**	**-0.2**
PCMB	**Pacaembu**	**20.28**	**68**	*e*P	**P**	**23 04 11.7**	**-0.2**
VILB	**Vilhena**	**20.59**	**33**	*e*P	**P**	**23 04 15.2**	**-0.1**
SALV	**Santo Antonio**	**20.69**	**48**	*e*P	**P**	**23 04 16.3**	**-0.1**
ETMB	**Extrema**	**21.46**	**14**	*e*P	**P**	**23 04 25.8**	**+1.2**
ITRB	**Iturama**	**22.01**	**65**	*e*P	**P**	**23 04 29.6**	**-1.0**
PET01	**Itaqui-em-SP**	**22.38**	**79**	*e*P	**P**	**23 04 33.8**	**-0.7**
SPB	**Sao Paulo**	**22.52**	**77**	*e*P	**P**	**23 04 35.0**	**-0.9**
BB19B	**Bebedouro**	**22.75**	**70**	*e*P	**P**	**23 04 37.1**	**-1.4**
RCLB	**Rio Claro- Sao**	**22.93**	**74**	*e*P	**P**	**23 04 39.1**	**-1.2**
CZSB	**Cruzeiro do Su**	**23.00**	**357**	*e*P	**P**	**23 04 42.3**	**+1.3**
EFI	**East Falkland**	**23.07**	**158**	P	**P**	**23 04 42.1**	**+0.7**
SAML	**Samuel**	**23.08**	**21**	P	**P**	**23 04 41.5**	**-0.3**
SAML	**Samuel**	**23.08**	**21**	*e*P	**P**	**23 04 39.6**	**-2.3**
SAML	**Samuel**	**23.08**	**21**	*e*P	**P**	**23 04 42.1**	**+0.2**
VAO	**Valinhos**	**23.15**	**76**	*e*P	**P**	**23 04 41.2**	**-1.4**
USHA	**Ushuaia**	**24.10**	**176**	P	**P**	**23 04 50.8**	**-0.4**
	comp=E,22nm,0.6s,baz=354,slow=6.0,SNR=3.7						
PARB	**Paraibuna**	**24.14**	**78**	*e*P	**P**	**23 04 50.7**	**-1.2**
CLDB	**Colider**	**24.60**	**40**	*e*P	**P**	**23 04 56.7**	**+0.7**
IPMB	**Ipameri, GO**	**24.66**	**64**	*e*P	**P**	**23 04 55.8**	**-0.8**
BSCB	**Bom Jocesso**	**25.86**	**74**	*e*P	**P**	**23 05 09.9**	**-0.7**
BDFB	**Brasilia**	**26.23**	**60**	P	**P**	**23 05 10.3**	**-0.6**
	comp=E,18nm,0.6s,baz=230,slow=8.3,SNR=24						
BDFB				LR	LR	23 16 45.7	
	comp=E,241nm,18.4s,baz=239,slow=39						
BDFB	**Brasilia**	**26.23**	**60**	P	**P**	**23 05 10.1**	**-0.9**
BDFB				IAmb	IAmb	23 05 11.1	
	comp=Z,19nm,0.7s						
VAS01	**Vassouras-RJ**	**26.40**	**78**	*e*P	**P**	**23 05 12.3**	**-0.1**
SNDB	**Serra Nova Dou**	**26.45**	**49**	*e*P	**P**	**23 05 12.6**	**-0.3**
DUB01	**Friburgo-RJ**	**27.39**	**79**	*e*P	**P**	**23 05 20.7**	**-0.6**
NPGB	**Novo Progresso**	**28.05**	**36**	*e*P	**P**	**23 05 26.0**	**-1.2**
DIAM	**Diamantina, MG**	**28.09**	**70**	*e*P	**P**	**23 05 27.5**	**-0.2**
PEXB	**Peixe**	**28.37**	**54**	*e*P	**P**	**23 05 30.1**	**+0.1**
MC01	**Montes Claros**	**28.73**	**67**	*e*P	**P**	**23 05 32.4**	**-0.9**
MACA	**Manacapuru-AM**	**29.33**	**22**	*e*P	**P**	**23 05 38.7**	**+0.2**
JANB	**Januaria**	**29.40**	**64**	*e*P	**P**	**23 05 38.7**	**-0.6**
ALF01	**Guarapari-ES**	**29.40**	**77**	*e*P	**P**	**23 05 40.0**	**+0.9**
SJMB	**Sao Joao De Ma**	**29.91**	**73**	*e*P	**P**	**23 05 42.9**	**-0.8**
BSFB	**Barra de Sao F**	**30.13**	**74**	*e*P	**P**	**23 05 45.2**	**-0.5**
ITTB	**Itaituba**	**30.19**	**32**	*e*P	**P**	**23 05 47.1**	**+0.9**
RIB01	**Linhares ES**	**30.27**	**75**	*e*P	**P**	**23 05 47.8**	**+0.9**
SDBA	**SAO DESIDERIO**	**30.61**	**59**	*e*P	**P**	**23 05 49.9**	**-0.1**
SMTB	**Santa Maria do**	**31.18**	**51**	*e*P	**P**	**23 05 54.6**	**-0.4**
PRPB	**Parauapebas**	**31.83**	**44**	*e*P	**P**	**23 06 00.7**	**0.0**
CMC01	**Camacan, BA**	**33.01**	**69**	*e*P	**P**	**23 06 11.3**	**+0.3**
NBIT	**Itapeh - BA**	**33.31**	**69**	*e*P	**P**	**23 06 13.7**	**+0.1**
GDU01	**Guandu, BA**	**33.89**	**67**	*e*P	**P**	**23 06 17.5**	**-1.2**
PRAC	**Prado**	**34.49**	**354**	*e*P	**P**	**23 06 26.1**	**+2.2**
BOAV	**Boa Vista**	**34.63**	**19**	*e*P	**P**	**23 06 25.0**	**-0.1**
ORTC	**Ortega, Tolima**	**34.72**	**353**	*e*P	**P**	**23 06 26.1**	**+0.3**
VILC	**Villavicencio,**	**34.80**	**356**	*e*P	**P**	**23 06 28.0**	**+1.4**
PAYG	**Puerto Ayora**	**34.90**	**326**⇑	*e*P	P	23 06 34.0	+6.6
CHIC	**Chingaza**	**35.31**	**356**	*e*P	**P**	**23 06 32.5**	**+1.1**
MCPB	**Macapa, AP**	**35.45**	**35**	*e*P	**P**	**23 06 31.5**	**-0.6**
GUY2C	**Guyana, Caldas**	**36.03**	**353**	*e*P	**P**	**23 06 33.9**	**-3.7**
RUSC	**La Rusia**	**36.53**	**357**	P	**P**	**23 06 43.4**	**+1.5**
RUSC	**La Rusia**	**36.53**	**357**	*e*P	**P**	**23 06 43.7**	**+1.9**
CBOC	**Ciudad Bolivar**	**36.73**	**352**	*e*P	**P**	**23 06 44.6**	**+1.4**
PTBC	**PUERTO BERRIO,**	**37.25**	**355**	*e*P	**P**	**23 06 47.3**	**-0.2**
DBBC	**Dabeiba**	**37.89**	**352**	*e*P	**P**	**23 06 54.2**	**+1.2**
PAMC	**Pamplona, Colo**	**37.96**	**358**	*e*P	**P**	**23 06 53.9**	**0.0**
ZARC	**Zaragoza, Cauc**	**38.23**	**355**	*e*P	**P**	**23 06 54.6**	**-1.1**
NBMA	**Muriti-CE**	**38.45**	**59**	*e*P	**P**	**23 06 57.3**	**-0.4**
NBAN	**Anadia - AL**	**38.88**	**65**	*e*P	**P**	**23 07 00.3**	**-1.0**
NBPB	**Pedra_Branca-C**	**39.09**	**56**	*e*P	**P**	**23 07 03.0**	**0.0**
SMLC	**San Martn de**	**39.47**	**356**	*e*P	**P**	**23 07 05.2**	**-0.9**
SDV	**Santo Domingo**	**39.48**	**1**	LR	LR	23 24 25.4	
	comp=Z,29nm,19.2s,baz=168,slow=38						
NBLV	**Livramento - P**	**39.84**	**61**	*e*P	**P**	**23 07 08.9**	**-0.4**
SJCC	**San Jacinto, C**	**40.64**	**354**	P	**P**	**23 07 17.9**	**+2.1**
SJCC				IAmb	IAmb	23 07 20.1	
	comp=Z,21nm,1.2s						
PCRV	**Puerto La Cruz**	**41.28**	**10**	P	**P**	**23 07 21.1**	**0.0**
	comp=Z,5.1nm,0.5s,baz=182,slow=2.5,SNR=1.2						
NBPV	**Pedro Velho**	**41.68**	**62**	*e*P	**P**	**23 07 25.1**	**+0.7**
URIC	**Uribia, Colomb**	**42.28**	**359**	P	**P**	**23 07 27.7**	**-1.5**
MPOM	**Morne Pois Mar**	**46.14**	**14**	P	**P**	**23 07 59.5**	**-0.5**
BIM	**Bigot**	**46.16**	**14**	P	**P**	**23 07 59.4**	**-0.9**
ICMP	**Isla Caja de M**	**48.65**	**6**	P	**P**	**23 08 19.3**	**-0.2**
MLPR	**Magueyes Islan**	**48.69**	**6**	P	**P**	**23 08 19.9**	**+0.1**
CRPR	**Cabo Rojo, PR**	**48.72**	**6**	P	**P**	**23 08 20.0**	**-0.1**
OBIP	**Obispado Ponce**	**48.80**	**6**	P	**P**	**23 08 19.4**	**-1.3**
PDPR	**Patillas Dam,**	**48.83**	**7**	P	**P**	**23 08 20.0**	**-0.9**
PDPR				IAmb	IAmb	23 08 21.1	
	comp=Z,15nm,0.7s						
SJG	**San Juan**	**48.91**	**7**	P	**P**	**23 08 20.8**	**-0.8**
SJG				IAmb	IAmb	23 08 22.2	
	comp=Z,17nm,0.8s						
BANI	**BANI**	**48.94**	**1**	P	**P**	**23 08 22.7**	**+0.8**
CBYP	**Canovanas**	**49.10**	**7**	P	**P**	**23 08 22.8**	**-0.3**
SMRT	**St. Maarten**	**49.25**	**11**	P	**P**	**23 08 22.7**	**-1.5**
VNA3	**Neumayer Olymp**	**52.13**	**159**	P	**P**	**23 08 45.4**	**+0.1**
VNA1	**Neumayer--Stat**	**52.41**	**158**	P	**P**	**23 08 48.0**	**+0.7**
VNA2	**Neumayer--Watz**	**52.76**	**158**	P	**P**	**23 08 50.0**	**0.0**
	baz=287,slow=8.7						
SNAA	**Sanae**	**54.35**	**159**	P	**P**	**23 09 01.6**	**-0.1**
SNAA	**Sanae**	**54.35**	**159**	P	**P**	**23 09 01.5**	**-0.2**
	comp=E,6.1nm,0.6s,baz=276,slow=6.8,SNR=11						
SNAA				pP	**pP**	**23 09 15.2**	**+0.2**
	comp=E,5.4nm,0.6s,baz=257,slow=5.2,SNR=6.0						
SNAA	**Sanae**	**54.35**	**159**	P	**P**	**23 09 01.5**	**-0.1**
SNAA				IAmb	IAmb	23 09 02.6	
	comp=E,9.1nm,0.9s						
SOR	**Soroa**	**54.44**	**347**	P	**P**	**23 09 02.9**	**+0.1**
SOR				IAmb	IAmb	23 09 04.1	
	comp=E,9.0nm,0.9s						
QSPA	**South Pole Qui**	**59.41**	**180**	P	**P**	**23 09 38.3**	**+0.6**
	comp=E,3.7nm,0.7s,baz=150,slow=3.7,SNR=9.5						
QSPA				pP	**pP**	**23 09 51.1**	**0.0**
	comp=E,4.5nm,0.8s,baz=162,slow=11,SNR=6.7						
QSPA				sP	**sP**	**23 09 56.9**	**+0.4**
	comp=E,3.9nm,0.6s,baz=147,slow=1.9,SNR=5.4						
QSPA	**South Pole Qui**	**59.41**	**180**	P	**P**	**23 09 38.0**	**+0.3**
QSPA				IAmb	IAmb	23 09 52.8	
	comp=E,16nm,1.4s						
HKT	**Hockley**	**64.73**	**337**	P	**P**	**23 10 15.1**	**+1.7**
Y52A	**Lilburn**	**65.43**	**348**	P	**P**	**23 10 18.4**	**+0.5**
Y52A				IAmb	IAmb	23 10 19.2	
	comp=E,9.3nm,0.8s						
X58A	**Rowland**	**65.45**	**353**	P	**P**	**23 10 18.9**	**+0.8**
BIRD	**Birdtown, Kers**	**65.66**	**352**	P	**P**	**23 10 19.8**	**+0.3**
BIRD				IAmb	IAmb	23 10 47.8	
	comp=E,11nm,1.1s						
W57A	**Gilead**	**66.11**	**352**	P	**P**	**23 10 23.1**	**+0.8**
W57A				IAmb	IAmb	23 10 23.6	
	comp=E,14nm,0.9s						
X51A	**Calhoun**	**66.25**	**348**	P	**P**	**23 10 24.0**	**+0.7**
X48A	**Hartselle**	**66.56**	**346**	P	**P**	**23 10 25.7**	**+0.5**
X48A				IAmb	IAmb	23 10 27.3	
	comp=E,15nm,0.9s						
V58A	**Windy Hill, Pi**	**66.65**	**353**	P	**P**	**23 10 26.3**	**+0.6**
V58A				IAmb	IAmb	23 10 27.0	
	comp=E,9.5nm,0.6s						
W50A	**Signal Mountai**	**66.95**	**348**	P	**P**	**23 10 28.2**	**+0.5**
W50A				IAmb	IAmb	23 10 28.8	
	comp=E,10.0nm,0.8s						
V53A	**Saluda**	**66.99**	**350**	P	**P**	**23 10 28.6**	**+0.5**
V53A				IAmb	IAmb	23 10 28.9	
	comp=Z,28nm,1.5s						
CPCT	**Cooper Cave**	**67.05**	**348**	P	**P**	**23 10 29.4**	**+1.0**
CP

NVAR	**Mina Array Bea**	**81.57**	**325**	P	**P**	**23 11 54.1**	**+1.1**
	comp=Z,1.2nm,0.8s,baz=146,slow=6.1,SNR=8.0						
NVAR				pP	**pP**	**23 12 08.5**	**+1.6**
	comp=Z,1.5nm,0.8s,baz=157,slow=7.0,SNR=8.0						
NVAR	**Mina Array Bea**	**81.57**	**325**	P	**P**	**23 11 54.0**	**+0.9**
ELK	**Elko**	**81.92**	**328**	P	**P**	**23 11 55.7**	**+0.8**
MDND	**Maddock**	**82.29**	**341**	P	**P**	**23 11 57.7**	**+1.4**
TORD	**Torodi Ar. Bea**	**82.66**	**70**	P	**P**	**23 11 58.1**	**-0.9**
	comp=Z,6.2nm,0.7s,baz=279,slow=6.4,SNR=77						
TORD				pP	**pP**	**23 12 12.7**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=281,slow=6.0,SNR=4.5						
TORD				LR	LR	23 46 42.8	
	comp=Z,46nm,19.5s,baz=145,slow=34						
TORD	**Torodi Ar. Bea**	**82.66**	**70**	P	**P**	**23 11 59.2**	**+0.2**
LBTB	**Lobatse**	**83.19**	**115**	P	**P**	**23 12 01.9**	**0.0**
LBTB				IAmb	IAmb	23 12 02.0	
	comp=Z,6.8nm,0.6s						
CASY	**Casey**	**83.20**	**181**	P	**P**	**23 12 01.8**	**+0.7**
ULM	**Lac du Bonnet**	**83.57**	**345**	P	**P**	**23 12 02.4**	**-0.5**
	comp=Z,10nm,1.0s,baz=149,slow=6.1,SNR=7.5						
ULM				pP	**pP**	**23 12 16.2**	**-0.5**
	comp=Z,6.3nm,1.1s,baz=108,slow=2.3,SNR=3.6						
DGMT	**Dagmar**	**84.20**	**339**	P	**P**	**23 12 07.1**	**+1.0**
SCHQ	**Schefferville**	**85.39**	**3**	P	**P**	**23 12 11.4**	**-0.5**
	comp=Z,3.1nm,0.9s,baz=208,slow=7.0,SNR=2.4						
LSZ	**Lusaka**	**90.32**	**108**	P	**P**	**23 12 37.8**	**+1.0**
LSZ				IAmb	IAmb	23 12 39.0	
	comp=Z,8.6nm,0.8s						
ASAR	**Alice Springs**	**120.62**	**207**	PKP	**PKPdf**	**23 18 26.4**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=126,slow=1.3,SNR=6.3						
ASAR				PKKPbc	**PKKPbc**	**23 28 32.0**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=340,slow=4.0,SNR=4.8						
ASAR	**Alice Springs**	**120.62**	**207**	PKPdf	**PKPdf**	**23 18 25.6**	**-1.7**
WRA	**Warramunga Arr**	**123.77**	**209**	PKP	**PKPdf**	**23 18 32.3**	**-1.1**
	comp=Z,1.7nm,0.8s,baz=129,slow=1.4,SNR=19						
WRA				pPKP	**pPKPdf**	**23 18 46.5**	**-1.5**
	comp=Z,0.8nm,0.6s,baz=169,slow=1.9,SNR=3.0						
WRA	**Warramunga Arr**	**123.77**	**209**		**PKPdf**	**23 18 32.7**	**-0.7**
H11N3	**WAKE ISLAND Hyl**	**26.59**	**273**	T	T	01 37 53.4	
	baz=116,slow=75,SNR=68						
H11N1	**WAKE ISLAND Hyl**	**26.61**	**273**	T	T	01 37 54.0	
	baz=116,slow=75,SNR=26						
H11N2	**WAKE ISLAND Hyl**	**26.61**	**273**	T	T	01 37 59.7	
	baz=116,slow=75,SNR=96						
BRVK	**Borovoye**	**144.50**	**40**	PKPdf	PKPbc	23 19 10.0	+0.4
CHGR	**Chuyangaron**	**146.90**	**65**	PKPdf	**PKPdf**	**23 19 16.0**	**+0.4**
TOLI2	**Tolitoli**	**148.26**	**204**	PKPbc	**PKPbc**	**23 19 21.1**	**-0.7**
ZAA0	**Zalesovo Array**	**151.25**	**30**	PKPbc	**PKPbc**	**23 19 27.6**	**-0.2**
ZALV	**Zalesovo Beam**	**151.25**	**30**	PKPbc	**PKPbc**	**23 19 27.8**	**-0.1**
	comp=Z,7.5nm,0.6s,baz=299,slow=3.4,SNR=26						
MKAR	**Makanchi Array**	**154.22**	**44**	PKP	**PKPdf**	**23 19 26.0**	**-0.6**
	comp=Z,0.1nm,0.4s,baz=26,slow=31,SNR=1.8						
MKAR				PKPbc	**PKPbc**	**23 19 34.1**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=270,slow=2.2,SNR=4.4						
MKAR				PKPab	**PKPab**	**23 19 48.9**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=293,slow=3.5,SNR=8.3						
MKAR	**Makanchi Array**	**154.22**	**44**		**PKPbc**	**23 19 34.4**	**-0.4**
MKAR				PKPab	**pPKPbc**	**23 19 50.2**	**+0.9**
SONM	**Songino Array**	**162.92**	**5**	PKPab	**PKPab**	**23 20 26.1**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=352,slow=5.8,SNR=3.1						
CMAR	**Chiang Mai Arr**	**164.92**	**142**	PKPab	**PKPab**	**23 20 33.0**	**-2.8**
	comp=Z,0.4nm,0.4s,baz=250,slow=4.7,SNR=1.5						

*IDC **19** 23:05:37.7±1.0,41°.48S×75°.51W,h0km,mb4.3/10, mb1 4.4/11,mb1mx4.3/24,mbtmp4.3/11,ML4.6/1,MS3.6/4, Ms1 3.6/4,ms1mx3.2/22,Error ellipse: s-maj=30.6km s-min=20.8km az=103.0*

*NEIC **19** 23:05:40.5±1.4,41°.42S±0°.06×75°.58W±0°.06,h20km±5km, mb4.7/16,ML4.5(GUC), Error ellipse: s-maj=8.7km s-min=6.2km az=181.0*

*GUC **19** 23:05:42.9±0.9,41°.64S×75°.42W,h22km±10km,ML4.5*

ISC 19 23:05:39.5±4.7,**41°.49S**±0°.05×**75°.61W**±0°.07,**h14**km±29km, **n74,σ1§46/82,mb4.6**/17,**MS3.7**/3,**4C-3D,Off coast of southern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LL05	**Los Muermos**	**1.61**	**88**	⇓*iP*	**Pn**	**23 06 07.2**	**-0.2**
LL05				*eS*	**Sn**	**23 06 26.4**	**-1.6**
LL05				IAML		23 06 29.9	
	comp=N,7μm,0.2s						
LL05	**Los Muermos**	**1.61**	**88**	Pn	**Pn**	**23 06 07.2**	**-0.2**
LL05				Sn	**Sn**	**23 06 27.4**	**-0.6**
LL07	**Hotel Espejo d**	**2.07**	**131**	⇑*iP*	**Pn**	**23 06 14.2**	**+0.4**
LL07				*eS*	**Sn**	**23 06 37.1**	**-2.4**
LL07				IAML		23 06 39.0	
	comp=E,15μm,0.5s						
LL07	**Hotel Espejo d**	**2.07**	**131**		**Pn**	**23 06 14.2**	**+0.4**
GO07	**Milladeo Hill,**	**2.17**	**139**	⇑*iP*	**Pn**	**23 06 15.1**	**0.0**
GO07				*i* S	**Sn**	**23 06 39.2**	**-2.7**
GO07				IAML		23 06 41.6	
	comp=E,7μm,0.4s						
GO07	**Milladeo Hill,**	**2.17**	**139**	Pn	**Pn**	**23 06 15.0**	**-0.2**
LR04	**Corral**	**2.31**	**47**	⇓*iP*	**Pn**	**23 06 16.5**	**-0.6**
LR04				*eS*	**Sn**	**23 06 42.0**	**-3.3**
LL03	**Petrohue**	**2.44**	**83**	*eP*	**Pn**	**23 06 18.3**	**-0.6**
LL03				IAML		23 06 51.3	
	comp=E,4μm,0.5s						
LL03	**Petrohue**	**2.44**	**83**		**Pn**	**23 06 18.2**	**-0.6**
LR02	**Universidad Au**	**2.46**	**48**	*eP*	**Pn**	**23 06 18.6**	**-0.5**
LR02				IAML		23 06 50.1	
	comp=N,3μm,0.5s						
LL04	**Puerto Octay**	**2.48**	**77**	*eP*	**Pn**	**23 06 18.9**	**-0.6**
LL04				*i* S	**Sn**	**23 06 48.3**	**-1.3**
LL04				IAML		23 06 50.0	
	comp=N,8μm,0.2s						
LL04	**Puerto Octay**	**2.48**	**77**	Pn	**Pn**	**23 06 18.9**	**-0.6**
LL01	**San Ignacio de**	**2.54**	**111**	*eP*	**Pn**	**23 06 20.3**	**0.0**
LL01				*eS*	**Sn**	**23 06 48.1**	**-2.9**
LL01				IAML		23 06 49.6	
	comp=N,1μm,0.3s						
LL01	**San Ignacio de**	**2.54**	**111**		**Pn**	**23 06 20.2**	**0.0**
LR03	**Panguipulli**	**3.10**	**54**	*eP*	**Pn**	**23 06 28.3**	**+0.3**
LR03				*eS*	**Sn**	**23 07 03.7**	**-1.2**
LR03				IAML		23 07 08.9	
	comp=E,1μm,0.5s						
LR03	**Panguipulli**	**3.10**	**54**	Pn	**Pn**	**23 06 28.5**	**+0.4**
LL02	**Futaleuf**	**3.26**	**123**	⇑*iP*	**Pn**	**23 06 31.0**	**+0.8**
LL02				*eS*	**Sn**	**23 07 07.2**	**-1.7**
LL02	**Futaleuf**	**3.26**	**123**		**Pn**	**23 06 30.8**	**+0.6**
LC01	**Cunco**	**3.86**	**49**	⇓*iP*	**Pn**	**23 06 37.8**	**-0.6**
LC01	**Cunco**	**3.86**	**49**	Pn	**Pn**	**23 06 37.8**	**-0.6**
PLCA	**Paso Flores**	**3.90**	**80**	Pn	**Pn**	**23 06 39.6**	**+0.6**
	comp=E,9.3nm,0.3s,baz=264,slow=11,SNR=98						
PLCA				Sn	**Sn**	**23 07 28.8**	**+4.3**
	comp=E,13nm,0.3s,baz=6.1,slow=10,SNR=6.5						
PLCA				LR	LR	23 07 41.8	
	comp=E,103nm,18.2s,baz=324,slow=32						
ML02	**Panimavida**	**6.59**	**31**	Pn	**Pn**	**23 07 14.9**	**-1.1**
GO05	**Huala**	**7.09**	**25**	Pn	**Pn**	**23 07 21.4**	**-1.4**
BO02	**Sierra Bellavi**	**7.69**	**31**	Pn	**Pn**	**23 07 30.2**	**-1.0**
BO01	**Tunca**	**7.94**	**28**		**Pn**	**23 07 32.9**	**-1.5**
H03S1	**Juan Fernandez**	**8.07**	**340**	Pn	**Pn**	**23 07 34.8**	**-1.2**
	baz=140,slow=7.8,SNR=8.2						
H03S1				T	T	23 17 03.5	
	baz=155,slow=74,SNR=33						
H03S2	**Juan Fernandez**	**8.08**	**340**	Pn	**Pn**	**23 07 34.8**	**-1.3**
	baz=140,slow=7.8,SNR=6.3						
H03S2				T	T	23 16 57.2	
	baz=155,slow=74,SNR=14						
H03S3	**Juan Fernandez**	**8.09**	**340**	Pn	**Pn**	**23 07 34.9**	**-1.4**
	baz=140,slow=7.8,SNR=5.8						
H03S3				T	T	23 16 56.1	
	baz=155,slow=74,SNR=32						
VA04	**Juan Fernndez**	**8.24**	**341**	Pn	**Pn**	**23 07 36.9**	**-1.8**
MT01	**Popeta**	**8.36**	**26**	Pn	**Pn**	**23 07 38.0**	**-2.3**
MT09	**Talagante**	**8.53**	**27**	Pn	**Pn**	**23 07 40.7**	**-2.0**
MT05	**Renca**	**8.96**	**27**	Pn	**Pn**	**23 07 46.7**	**-1.9**
VA03	**San Esteban**	**9.60**	**26**	Pn	**Pn**	**23 07 55.4**	**-1.9**
CO03	**El Pedregal**	**11.35**	**22**	Pn	**Pn**	**23 08 18.3**	**-2.9**
ZON	**Zonda**	**11.38**	**31**	Pn	**Pn**	**23 08 20.4**	**-1.2**
EFI	**East Falkland**	**15.74**	**136**	P	**P**	**23 09 25.1**	**+0.5**
PLTB	**Pedras Altas**	**20.11**	**68**	P	**P**	**23 10 12.1**	**-0.7**
PLTB				IAmb	IAmb	23 10 14.6	
	comp=Z,22nm,1.0s						
CPUP	**Villa Florida**	**21.36**	**51**	P	**P**	**23 10 26.9**	**+0.6**
	comp=Z,18nm,0.8s,baz=230,slow=9.6,SNR=6.3						
CPUP	**Villa Florida**	**21.36**	**51**	P	**P**	**23 10 26.9**	**+0.6**
CPUP				IAmb	IAmb	23 10 27.9	
	comp=Z,20nm,0.8s						
PB11	**IPOC Station P**	**22.25**	**15**	P	**P**	**23 10 36.9**	**+0.8**
LPAZ	**La Paz**	**25.93**	**17**	P	**P**	**23 11 17.1**	**+5.0**
	comp=Z,0.9nm,0.9s,baz=194,slow=12,SNR=1.8						
AQDB	**Aquidauana**	**26.90**	**45**	P	**P**	**23 11 18.4**	**-1.7**
AQDB				IAmb	IAmb	23 11 26.8	
	comp=Z,11nm,0.6s						
RPN	**Rapa Nui**	**31.11**	**287**	LR	LR	23 21 13.5	
	comp=Z,164nm,18.1s,baz=154,slow=30						
BDFB	**Brasilia**	**35.09**	**51**	P	**P**	**23 12 31.1**	**-1.3**
	comp=Z,4.0nm,0.5s,baz=169,slow=7.2,SNR=6.0						
BDFB	**Brasilia**	**35.09**	**51**	P	**P**	**23 12 30.7**	**-1.7**
BDFB				IAmb	IAmb	23 12 59.0	
	comp=Z,19nm,1.5s						
VNA3	**Neumayer Olymp**	**43.65**	**155**	P	**P**	**23 13 43.8**	**+0.7**
VNA1	**Neumayer--Stat**	**44.05**	**154**	P	**P**	**23 13 47.7**	**+1.4**
VNA2	**Neumayer--Watz**	**44.36**	**154**	P	**P**	**23 13 49.8**	**+1.0**
	baz=275,slow=9.1						
SNAA	**Sanae**	**45.85**	**155**	P	**P**	**23 14 00.9**	**+0.2**
SNAA	**Sanae**	**45.85**	**155**	P	**P**	**23 14 01.1**	**+0.4**
	comp=Z,8.2nm,1.2s,baz=265,slow=5.7,SNR=11						
SNAA				LR	LR	23 31 27.0	
	comp=Z,49nm,19.0s,baz=304,slow=34						
SNAA	**Sanae**	**45.85**	**155**	P	**P**	**23 14 01.2**	**+0.4**
SNAA				IAmb	IAmb	23 14 02.8	
	comp=Z,10nm,1.2s						
QSPA	**South Pole Qui**	**48.75**	**180**	P	**P**	**23 14 24.1**	**+0.6**
	comp=Z,2.0nm,0.9s,baz=110,slow=1.5,SNR=6.8						
QSPA	**South Pole Qui**	**48.75**	**180**	P	**P**	**23 14 24.3**	**+0.8**
RCBR	**Riachuelo**	**50.09**	**56**	P	**P**	**23 14 34.9**	**+0.7**
SYO	**Syowa Base**	**59.97**	**158**	⇑*eP*	**P**	**23 15 42.3**	**-2.5**
MAW	**Mawson**	**66.79**	**164**	P	**P**	**23 16 30.2**	**+0.3**
	comp=Z,3.1nm,1.0s,baz=197,slow=11,SNR=4.6						
MAW	**Mawson**	**66.79**	**164**	P	**P**	**23 16 30.8**	**+0.8**
RAR	**Rarotonga**	**72.02**	**257**	LR	LR	23 40 12.0	
	comp=Z,262nm,19.7s,baz=24,slow=29						
TXAR	**Lajitas Array**	**75.10**	**335**	P	**P**	**23 17 21.0**	**0.0**
	comp=Z,0.3nm,0.5s,baz=171,slow=6.4,SNR=1.5						
BOSA	**Boshof**	**79.05**	**118**	P	**P**	**23 17 43.7**	**+0.2**
	comp=Z,8.3nm,0.8s,baz=224,slow=5.4,SNR=15						
BOSA	**Boshof**	**79.05**	**118**	P	**P**	**23 17 43.6**	**+0.2**
LIC	**Lamto**	**79.79**	**72**	*eP*	**P**	**23 17 48.1**	**+0.6**
	comp=Z,43nm,1.0s						
TIC	**Toumodi**	**80.09**	**72**	*eP*	**P**	**23 17 49.8**	**+0.7**
KIC	**Kosan Boka**	**80.09**	**72**	*eP*	**P**	**23 17 49.7**	**+0.6**
	comp=Z,15nm,1.0s						
DBIC	**Dimbokro**	**80.22**	**72**	P	**P**	**23 17 49.6**	**-0.2**
	comp=Z,4.3nm,0.8s,baz=202,slow=7.2,SNR=4.0						
DBIC	**Dimbokro**	**80.22**	**72**	P	**P**	**23 17 49.6**	**-0.2**
LBTB	**Lobatse**	**81.66**	**116**	P	**P**	**23 17 57.8**	**+0.2**
LBTB				IAmb	IAmb	23 17 58.5	
	comp=Z,9.0nm,0.9s						
KOWA	**Kowa**	**86.24**	**67**	P	**P**	**23 18 20.9**	**+0.1**
KOWA				IAmb	IAmb	23 18 22.3	
	comp=Z,4.8nm,0.7s						
ECSD	**EROS Data Cent**	**86.92**	**345**	P	**P**	**23 18 23.3**	**-0.2**
ECSD				IAmb	IAmb	23 18 41.2	
	comp=Z,6.7nm,1.4s						
NVAR	**Mina Array Bea**	**88.56**	**328**	P	**P**	**23 18 34.0**	**+2.3**
	comp=Z,0.5nm,1.0s,baz=145,slow=3.3,SNR=2.3						
TORD	**Torodi Ar. Bea**	**89.33**	**72**	P	**P**	**23 18 35.2**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=223,slow=4.0,SNR=6.0						
TORD	**Torodi Ar. Bea**	**89.33**	**72**	P	**P**	**23 18 35.0**	**-0.6**
MKAR	**Makanchi Array**	**163.29**	**64**	PKPab	**PKPab**	**23 26 31.8**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=273,slow=3.9,SNR=8.4						
LZH	**Lanzhou**	**174.59**	**175**	*ePKP*	**PKPdf**	**23 25 46.4**	**-2.4**
LZH				pPKP	pPKPdf	23 25 52.0	-0.2
LZH				sPKP		23 25 54.6	
LZH				LR	LR		
	comp=N,160nm,18.0s						
LZH				LR	LR		
	comp=E,160nm,17.9s						
LZH				LR	LR		
	comp=Z,140nm,20.6s						

*IDC **19** 23:14:37.2±1.1,30°.50S×72°.44W,h0km,mb4.0/5, mb1 4.0/9,mb1mx3.9/35,mbtmp3.9/9,ML3.7/4,Error ellipse: s-maj=32.8km s-min=29.1km az=97.0*

*NEIC **19** 23:14:37.4±2.6,30°.53S±0°.05×72°.64W±0°.02,h10km±1km, mb4.5/10,Error ellipse: s-maj=7.9km s-min=2.8km az=193.0*

ISC 19 23:14:39.3±0.6,**30°.51S**±0°.06×**72°.56W**±0°.06,**h19**km,**n53, σ1§32/57,mb4.3/7,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.81**	**102**		**Pg**	**23 14 54.5**	**-0.7**
CO06				Sg	**Sn**	**23 15 05.9**	**-1.4**
CO05	**La Serena**	**1.28**	**63**		**Pn**	**23 15 01.5**	**-0.7**
CO05				Sn	**Sb**	**23 15 18.1**	**-0.8**
CO03	**El Pedregal**	**1.64**	**102**	Pn	**Pn**	**23 15 07.1**	**-0.2**
CO03				Sn	**Sn**	**23 15 27.5**	**-0.4**
VA01	**Torpederas**	**2.62**	**163**	Pn	**Pn**	**23 15 19.1**	**-1.6**
AC04	**Llanos de Chal**	**2.64**	**30**	Pn	**Pn**	**23 15 19.3**	**-1.5**
VA03	**San Esteban**	**2.83**	**143**		**Pn**	**23 15 23.7**	**+0.2**
VA05	**Santo Domingo**	**3.24**	**166**		**Pn**	**23 15 27.0**	**-2.1**
MT05	**Renca**	**3.26**	**152**	Pn	**Pn**	**23 15 28.2**	**-1.3**
ZON	**Zonda**	**3.49**	**108**	Pn	**Pn**	**23 15 33.2**	**+0.6**
MT09	**Talagante**	**3.52**	**158**		**Pn**	**23 15 32.3**	**-0.7**
MT01	**Popeta**	**3.52**	**162**	Pn	**Pn**	**23 15 31.4**	**-1.6**
GO03	**Copiap**	**3.55**	**36**		**Pn**	**23 15 32.5**	**-0.9**
AC06	**Mina Casimiro**	**3.69**	**32**	Pn	**Pn**	**23 15 34.5**	**-0.8**
BO01	**Tunca**	**4.07**	**163**		**Pn**	**23 15 38.9**	**-1.6**
GO05	**Huala**	**4.52**	**173**	Pn	**Pn**	**23 15 44.2**	**-2.5**
BO02	**Sierra Bellavi**	**4.53**	**161**	Pn	**Pn**	**23 15 45.9**	**-1.0**
AC02	**Maricunga**	**4.74**	**40**	Pn	**Pn**	**23 15 50.2**	**0.0**
ML02	**Panimavida**	**5.33**	**170**	Pn	**Pn**	**23 15 56.3**	**-1.5**
VA04	**Juan Fernndez**	**6.17**	**238**	Pn	**Pn**	**23 16 05.2**	**-4.2**
PB15	**IPOC Station P**	**7.78**	**21**	Pn	**Pn**	**23 16 30.9**	**-0.8**
LC01	**Cunco**	**8.39**	**176**	Pn	**Pn**	**23 16 37.6**	**-2.2**
LVC	**Limon Verde**	**8.52**	**23**	Pn	**Pn**	**23 16 39.5**	**-2.5**
	0.3nm,0.3s,baz=171,slow=10,SNR=1.6						
LVC				Sn	**Sn**	**23 18 15.6**	**-2.2**
	0.4nm,0.3s,baz=153,slow=22,SNR=1.8						
LVC	**Limon Verde**	**8.52**	**23**		**Pn**	**23 16 39.9**	**-2.1**
PB07	**IPOC Station P**	**9.07**	**16**	Pn	**Pn**	**23 16 48.7**	**-0.7**
LR03	**Panguipulli**	**9.10**	**179**	Pn	**Pn**	**23 16 48.1**	**-1.5**
PLCA	**Paso Flores**	**10.33**	**171**	Pn	**Pn**	**23 17 05.5**	**-1.0**
	0.3nm,0.3s,baz=346,slow=12,SNR=7.8						
PLCA	**Paso Flores**	**10.33**	**171**		**Pn**	**23 17 04.7**	**-1.8**
TRQA	**Tornquist**	**11.54**	**134**	Pn	**Pn**	**23 17 22.7**	**-0.3**
LPAZ	**La Paz**	**14.72**	**17**	Pn	**Pn**	**23 18 07.7**	**+0.5**
	0.1nm,0.3s,baz=223,slow=5.6,SNR=6.5						
LPAZ	**La Paz**	**14.72**	**17**		**Pn**	**23 18 08.5**	**+1.3**
SIV	**San Ignacio**	**17.87**	**39**	P	**Pn**	**23 18 46.4**	**-0.6**
	0.2nm,0.3s,baz=231,slow=11,SNR=19						
TRCB	**Terra Rica**	**19.38**	**71**	P	**Pn**	**23 19 05.4**	**+0.1**
BDFB	**Brasilia**	**26.91**	**62**	P	**P**	**23 20 19.5**	**0.0**
	3.5nm,0.8s,baz=214,slow=11,SNR=4.4						
BDFB	**Brasilia**	**26.91**	**62**	P	**P**	**23 20 19.9**	**+0.4**
BDFB				IAmb	IAmb	23 20 21.4	
	comp=Z,6.0nm,1.0s						
SNAA	**Sanae**	**54.98**	**159**		**P**	**23 24 09.1**	**+0.2**
SNAA				IAmb	IAmb	23 24 37.7	
	comp=Z,5.2nm,1.4s						
QSPA	**South Pole Qui**	**59.72**	**180**	P	**P**	**23 24 43.0**	**+0.5**
TXAR	**Lajitas Array**	**66.48**	**331**	P	**P**	**23 25 28.9**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=146,slow=6.6,SNR=2.0						
DBIC	**Dimbokro**	**74.52**	**72**	P	**P**	**23 26 17.7**	**+0.6**
	comp=Z,5.0nm,0.8s,baz=238,slow=7.1,SNR=4.6						
DBIC	**Dimbokro**	**74.52**	**72**	P	**P**	**23 26 17.4**	**+0.4**
DBIC				IAmb	IAmb	23 26 30.3	
	comp=Z,18nm,1.4s						
KOWA	**Kowa**	**79.62**	**66**		**P**	**23 26 46.5**	**+0.8**
KOWA				IAmb	IAmb	23 27 13.4	
	comp=Z,6.7nm,1.4s						
NVAR	**Mina Array Bea**	**80.77**	**325**	P	**P**	**23 26 53.2**	**+1.6**
	comp=Z,0.1nm,0.5s,baz=153,slow=6.1,SNR=2.1						
TORD	**Torodi Ar. Bea**	**83.45**	**71**	P	**P**	**23 27 07.0**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=282,slow=5.7,SNR=18						
TORD	**Torodi Ar. Bea**	**83.45**	**71**	P	**P**	**23 27 06.4**	**+0.4**
TORD				IAmb	IAmb	23 27 07.6	
	comp=Z,1.7nm,0.8s						
CASY	**Casey**	**83.49**	**181**	P	**P**	**23 27 07.0**	**+1.6**
BRVK	**Borovoye**	**144.88**	**39**	PKPdf	**PKPdf**	**23 34 15.5**	**+1.0**
BVAR	**Borovoye Array**	**144.95**	**39**	PKP	**PKPdf**	**23 34 15.7**	**+1.0**
	comp=Z,0.8nm,0.4s,baz=256,slow=4.0,SNR=8.9						
KKAR	**Karatay Array**	**148.13**	**56**	PKPbc	**PKiKP**	**23 34 24.5**	**-0.9**
TOLI2	**Tolitoli**	**148.14**	**206**		**PKPbc**	**23 34 23.8**	**-0.7**
KURK	**Kurchatov**	**150.53**	**39**		**PKiKP**	**23 34 30.6**	**+0.5**
KURBB	**Kurchatov Arra**	**150.53**	**39**	PKPbc	**PKiKP**	**23 34 30.6**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=307,slow=3.0,SNR=18						
ZAA0	**Zalesovo Array**	**151.44**	**28**	PKPbc	**PKiKP**	**23 34 32.3**	**+0.5**
ZALV	**Zalesovo Beam**	**151.44**	**28**	PKPbc	**PKiKP**	**23 34 32.4**	**+0.5**
	comp=Z,3.7nm,0.7s,baz=306,slow=3.5,SNR=11						
MKAR	**Makanchi Array**	**154.66**	**43**	PKPbc	**PKiKP**	**23 34 38.6**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=288,slow=1.4,SNR=1.9						

*IDC **19** 23:16:34.6±0.8,30°.51S×72°.47W,h0km,mb4.3/8, mb1 4.4/12,mb1mx4.1/37,mbtmp4.3/12,ML3.9/4,MS3.2/1, Ms1 3.2/1,ms1mx2.7/20,Error ellipse: s-maj=30.2km s-min=18.0km az=98.0*

*NEIC **19** 23:16:35.1±2.7,30°.45S±0°.04×72°.60W±0°.04,h10km±1km, mb4.5/20,Mwr3.9/33,Error ellipse: s-maj=7.6km s-min=5.9km az=203.0*

*NEIC **19** 23:16:35.1,30°.45S×72°.60W,h4km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=8.00; $M_{\theta\theta}$=0.90; $M_{\phi\phi}$=7.11; $M_{r\theta}$=2.03; $M_{r\phi}$=1.02; $M_{\theta\phi}$=4.03; Fault plane solution: M_0=8.89000×10^{14} NP1:φs=197.38000°,δ60.19000°, λ-82.35000°. NP2:φs=2.27000°,δ30.69000°,λ-103.07000°. Principal axes: T 8.4097, Plg15.0000°, Azm282.0000°; N 0.8954, Plg7.0000°, Azm14.0000°; P -9.3050, Plg74.0000°, Azm127.0000°;*

ISC 19 23:16:36.9±0.5,**30°.42S**±0°.05×**72°.51W**±0°.06,**h19**km,**n73, σ1§40/75,mb4.5**/15,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.79**	**109**		**Pb**	**23 16 51.5**	**-0.7**
CO06				Sg	**Sg**	**23 17 02.7**	**-0.4**
CO05	**La Serena**	**1.21**	**66**		**Pn**	**23 16 58.6**	**-0.2**
CO05				Sn	**Sn**	**23 17 15.2**	**+0.6**
GO04	**Tololo Observa**	**1.50**	**81**		**Pn**	**23 17 03.4**	**+0.3**
CO03	**El Pedregal**	**1.62**	**105**	Pn	**Pn**	**23 17 04.1**	**-0.5**
CO03				Sn	**Sb**	**23 17 25.4**	**-1.1**
AC04	**Llanos de Chal**	**2.54**	**30**		**Pn**	**23 17 16.2**	**-0.8**
AC04					**Sn**	**23 17 46.5**	**-1.0**
VA01	**Torpederas**	**2.70**	**164**		**Pn**	**23 17 16.8**	**-2.6**
VA03	**San Esteban**	**2.87**	**145**		**Pn**	**23 17 21.2**	**-0.6**
VA05	**Santo Domingo**	**3.32**	**167**	Pn	**Pn**	**23 17 25.1**	**-2.8**
MT05	**Renca**	**3.33**	**154**	Pn	**Pn**	**23 17 26.5**	**-1.5**
GO03	**Copiap**	**3.45**	**36**	Pn	**Pn**	**23 17 29.7**	**+0.1**
ZON	**Zonda**	**3.47**	**110**	Pn	**Pn**	**23 17 31.6**	**+1.5**
AC06	**Mina Casimiro**	**3.59**	**32**	Pn	**Pn**	**23 17 31.8**	**+0.2**
MT09	**Talagante**	**3.59**	**159**		**Pn**	**23 17 30.5**	**-1.2**
MT01	**Popeta**	**3.60**	**163**	Pn	**Pn**	**23 17 29.4**	**-2.3**
BO01	**Tunca**	**4.14**	**163**	Pn	**Pn**	**23 17 37.3**	**-1.8**
BO02	**Sierra Bellavi**	**4.60**	**162**	Pn	**Pn**	**23 17 44.0**	**-1.5**
GO05	**Huala**	**4.61**	**174**	Pn	**Pn**	**23 17 42.5**	**-3.1**
AC02	**Maricunga**	**4.64**	**41**	Pn	**Pn**	**23 17 47.6**	**+1.1**
ML02	**Panimavida**	**5.41**	**171**	Pn	**Pn**	**23 17 55.0**	**-1.6**
PB14	**IPOC Station P**	**6.06**	**18**	Pn	**Pn**	**23 18 03.0**	**-2.9**
H03N1

n83,σ1°12/89, mb4.4/7, 3C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**1.10**	**136**	⇑ *i* P		**Pg**	**23 21 45.0**	**+0.3**
VA06				*i* S		**Sg**	**23 21 58.0**	**-1.0**
VA06				IAML			23 22 03.9	
	comp=E,9μm,0.5s							
CO06	**Fray Jorge**	**1.20**	**24**	*e*P		**Pb**	**23 21 46.1**	**-0.6**
CO06				*e*S		**Sb**	**23 22 01.2**	**-1.5**
CO06				IAML			23 22 13.1	
	comp=E,3μm,0.5s							
CO06	**Fray Jorge**	**1.20**	**24**			**Pb**	**23 21 46.4**	**-0.4**
CO06						**Sb**	**23 22 01.4**	**-1.2**
VA01	**Torpederas**	**1.34**	**159**	*e*P		**Pn**	**23 21 48.2**	**-0.8**
VA01				*i* S		**Sb**	**23 22 05.8**	**-0.9**
VA01				IAML			23 22 14.7	
	comp=N,797nm,0.4s							
VA01	**Torpederas**	**1.34**	**159**			**Pn**	**23 21 48.5**	**-0.5**
VA01				Sn		**Sn**	**23 22 06.8**	**-0.5**
ROCH	**El Roble**	**1.57**	**140**	⇓ *i* P		**Pn**	**23 21 52.3**	**-0.1**
ROCH				*i* S		**Sn**	**23 22 12.7**	**-0.7**
ROCH				IAML			23 22 26.5	
	comp=N,3μm,0.4s							
CO03	**El Pedregal**	**1.59**	**55**	⇓ *i* P		**Pb**	**23 21 53.1**	**-0.5**
CO03				*i* S		**Sb**	**23 22 13.5**	**-0.7**
CO03				IAML			23 22 15.4	
	comp=N,3μm,0.5s							
CO03	**El Pedregal**	**1.59**	**55**			**Pb**	**23 21 53.3**	**-0.4**
VA03	**San Esteban**	**1.72**	**126**	⇑ *i* P		**Pn**	**23 21 54.4**	**0.0**
VA03				*i* S		**Sn**	**23 22 16.1**	**-0.7**
VA03	**San Esteban**	**1.72**	**126**	Pn		**Pn**	**23 21 54.5**	**+0.1**
VA05	**Santo Domingo**	**1.95**	**165**	*e*P		**Pn**	**23 21 56.8**	**-0.6**
VA05				*e*S		**Sb**	**23 22 25.4**	**+1.1**
VA05				IAML			23 22 39.0	
	comp=N,2μm,0.3s							
VA05	**Santo Domingo**	**1.95**	**165**			**Pn**	**23 21 57.1**	**-0.3**
GO04	**Tololo Observa**	**2.00**	**38**	*e*P		**Pn**	**23 21 57.9**	**-0.4**
GO04				*e*S		**Sb**	**23 22 24.9**	**-1.1**
GO04	**Tololo Observa**	**2.00**	**38**			**Pn**	**23 21 58.6**	**+0.3**
CO05	**La Serena**	**2.02**	**25**	*e*P		**Pn**	**23 21 57.8**	**-0.6**
CO05				*e*S		**Sn**	**23 22 23.9**	**-0.3**
CO05				IAML			23 22 36.3	
	comp=E,2μm,0.6s							
CO05	**La Serena**	**2.02**	**25**			**Pn**	**23 21 58.6**	**+0.1**
MT05	**Renca**	**2.04**	**143**	*e*P		**Pb**	**23 22 00.3**	**-0.8**
MT05				*i* S		**Sb**	**23 22 25.2**	**-1.8**
MT05				IAML			23 22 35.4	
	comp=E,3μm,0.1s							
MT05	**Renca**	**2.04**	**143**			**Pn**	**23 21 59.0**	**+0.3**
MT01	**Popeta**	**2.24**	**159**	⇑ *i* P		**Pn**	**23 22 01.1**	**-0.3**
MT01				*i* S		**Sb**	**23 22 31.0**	**-1.7**
MT01				IAML			23 22 45.7	
	comp=E,740nm,0.5s							
MT01	**Popeta**	**2.24**	**159**			**Pn**	**23 22 00.8**	**-0.7**
MT09	**Talagante**	**2.25**	**153**	*e*P		**Pn**	**23 22 02.3**	**+0.6**
MT09				*e*S		**Sn**	**23 22 28.6**	**-1.5**
MT09				IAML			23 22 44.2	
	comp=N,1μm,0.3s							
MT09	**Talagante**	**2.25**	**153**			**Pn**	**23 22 02.3**	**+0.6**
LMEL	**Las Melosas**	**2.67**	**141**	*e*P		**Pn**	**23 22 08.1**	**+0.6**
LMEL				*e*S		**Sn**	**23 22 41.4**	**+0.9**
LMEL				IAML			23 22 50.6	
	comp=N,724nm,0.3s							
BO03	**Pichilemu**	**2.73**	**176**	*e*P		**Pn**	**23 22 07.4**	**-0.7**
BO03				IAML			23 23 04.6	
	comp=N,234nm,0.7s							
BO01	**Tunca**	**2.78**	**161**	*e*P		**Pn**	**23 22 08.9**	**0.0**
BO01	**Tunca**	**2.78**	**161**			**Pn**	**23 22 09.2**	**+0.3**
ZON	**Zonda**	**3.02**	**87**			**Pn**	**23 22 14.1**	**+1.9**
LCO	**Las Campanas**	**3.04**	**26**	*e*P		**Pn**	**23 22 12.7**	**0.0**
LCO				*e*S		**Sn**	**23 22 47.7**	**-2.1**
GO05	**Huala**	**3.24**	**176**	*e*P		**Pn**	**23 22 11.7**	**-3.6**
GO05	**Huala**	**3.24**	**176**			**Pn**	**23 22 14.8**	**-0.5**
BO02	**Sierra Bellavi**	**3.24**	**159**	*e*P		**Pn**	**23 22 15.8**	**+0.4**
BO02	**Sierra Bellavi**	**3.24**	**159**			**Pn**	**23 22 15.5**	**+0.2**
AC04	**Llanos de Chal**	**3.69**	**16**			**Pn**	**23 22 21.1**	**-0.2**
ML02	**Panimavida**	**4.04**	**171**			**Pn**	**23 22 26.1**	**-0.1**
GO03	**Copiap**	**4.50**	**23**			**Pn**	**23 22 32.8**	**+0.2**
AC06	**Mina Casimiro**	**4.68**	**21**			**Pn**	**23 22 35.4**	**+0.3**
AC02	**Maricunga**	**5.60**	**29**			**Pn**	**23 22 48.0**	**-0.1**
H03N1	**Juan Fernandez**	**5.90**	**252**	T		T	23 29 44.0	
	baz=80,slow=72,SNR=176							
H03N3	**Juan Fernandez**	**5.91**	**252**	T		T	23 29 44.3	
	baz=80,slow=72,SNR=362							
H03N2	**Juan Fernandez**	**5.92**	**252**	T		T	23 29 38.4	
	baz=80,slow=72,SNR=284							
H03S3	**Juan Fernandez**	**6.00**	**248**	T		T	23 29 49.0	
	baz=83,slow=75,SNR=4.6							
H03S1	**Juan Fernandez**	**6.01**	**248**	T		T	23 29 49.9	
	baz=83,slow=75,SNR=2.9							
H03S2	**Juan Fernandez**	**6.02**	**248**	T		T	23 29 49.0	
	baz=83,slow=75,SNR=3.3							
LC01	**Cunco**	**7.12**	**178**			**Pn**	**23 23 08.1**	**-0.4**
PB14	**IPOC Station P**	**7.29**	**13**			**Pn**	**23 23 08.7**	**-2.5**
PLCA	**Paso Flores**	**9.04**	**172**	Pn		**Pn**	**23 23 35.4**	**+0.4**
	comp=N,0.2nm,0.3s,baz=352,slow=13,SNR=2.0							
PLCA	**Paso Flores**	**9.04**	**172**	Pn		**Pn**	**23 23 35.5**	**+0.5**
LVC	**Limon Verde**	**9.58**	**19**	Pn		**Pn**	**23 23 47.1**	**+4.4**
	comp=N,0.4nm,0.3s,baz=157,slow=21,SNR=1.8							
TRQA	**Tornquist**	**10.48**	**130**			**Pn**	**23 23 56.5**	**+1.9**
ITQB	**Itaqui**	**13.57**	**85**	Pn		**Pn**	**23 24 37.4**	**+0.6**
CPUP	**Villa Florida**	**14.09**	**71**	Pn		**Pn**	**23 24 47.3**	**+3.3**
PLTB	**Pedras Altas**	**15.83**	**95**			**P**	**23 25 09.4**	**-1.8**
LPAZ	**La Paz**	**15.85**	**14**	Pn		**Pn**	**23 25 06.6**	**-1.6**
	comp=N,0.1nm,0.3s,baz=188,slow=4.7,SNR=5.0							
LPAZ	**La Paz**	**15.85**	**14**			**Pn**	**23 25 08.2**	**-0.1**
SIV	**San Ignacio**	**18.70**	**35**	P		**P**	**23 25 41.3**	**-1.7**
	comp=N,0.1nm,0.3s,baz=218,slow=12,SNR=4.4							
NNA	**Nana**	**20.15**	**347**	LR		LR	23 32 27.3	
	comp=N,28nm,18.5s,baz=105,slow=33							
SAML	**Samuel**	**24.21**	**22**	P		**P**	**23 26 41.3**	**-0.1**
BDFB	**Brasilia**	**27.26**	**60**	P		**P**	**23 27 07.9**	**-1.3**
	comp=N,4.7nm,0.6s,baz=227,slow=4.5,SNR=6.2							
BDFB	**Brasilia**	**27.26**	**60**	P		**P**	**23 27 08.3**	**-0.9**
BDFB				IAmb		IAmb	23 27 09.5	
	comp=Z,13nm,1.3s							
VNA3	**Neumayer Olymp**	**51.48**	**158**	P		**P**	**23 30 30.4**	**+0.6**
VNA1	**Neumayer--Stat**	**51.78**	**158**	P		**P**	**23 30 32.4**	**+0.5**
VNA2	**Neumayer--Watz**	**52.12**	**158**	P		**P**	**23 30 35.0**	**+0.5**
	baz=287,slow=8.4							
SNAA	**Sanae**	**53.70**	**158**	P		**P**	**23 30 46.8**	**+0.5**
SNAA	**Sanae**	**53.70**	**158**	P		**P**	**23 30 47.1**	**+0.8**
	comp=Z,4.2nm,0.8s,baz=278,slow=7.2,SNR=19							
SNAA	**Sanae**	**53.70**	**158**	P		**P**	**23 30 46.5**	**+0.2**
SNAA				IAmb		IAmb	23 30 47.8	
	comp=Z,5.6nm,0.9s							
QSPA	**South Pole Qui**	**58.46**	**180**	P		**P**	**23 31 21.3**	**+0.8**
	comp=Z,2.4nm,1.0s,baz=136,slow=1.8,SNR=10							
QSPA	**South Pole Qui**	**58.46**	**180**	P		**P**	**23 31 21.5**	**+1.0**
QSPA				IAmb		IAmb	23 31 33.3	
	comp=Z,8.4nm,1.2s							
DBIC	**Dimbokro**	**74.61**	**72**	P		**P**	**23 33 04.4**	**+0.1**
	comp=Z,5.0nm,0.8s,baz=274,slow=6.6,SNR=4.7							
DBIC	**Dimbokro**	**74.61**	**72**	P		**P**	**23 33 04.0**	**-0.3**
KOWA	**Kowa**	**79.85**	**66**	P		**P**	**23 33 34.1**	**+0.4**
KOWA				IAmb		IAmb	23 33 46.7	
	comp=Z,3.4nm,0.9s							
NVAR	**Mina Aray Bea**	**81.98**	**325**	P		**P**	**23 33 46.0**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=142,slow=7.5,SNR=3.6							
LBTB	**Lobatse**	**83.37**	**115**	P		**P**	**23 33 51.7**	**-0.8**
TORD	**Torodi Ar. Bea**	**83.59**	**70**	P		**P**	**23 33 53.4**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=262,slow=4.4,SNR=15							
TORD	**Torodi Ar. Bea**	**83.59**	**70**	P		**P**	**23 33 53.8**	**+0.3**
TORD				IAmb		IAmb	23 33 54.2	
	comp=Z,1.9nm,0.8s							
H11S2	**WAKE ISLAND Hy**	**125.63**	**271**	T		T	01 59 26.5	
	baz=119,slow=75,SNR=8.8							
H11S1	**WAKE ISLAND Hy**	**125.64**	**271**	T		T	01 59 21.7	
	baz=119,slow=75,SNR=4.9							
H11S3	**WAKE ISLAND Hy**	**125.65**	**271**	T		T	01 59 25.8	
	baz=119,slow=75,SNR=4.3							
BRVK	**Borovoye**	**145.64**	**41**	PKPdf		**PKPab**	**23 41 03.8**	**+0.5**
BVAR	**Borovoye Array**	**145.72**	**41**	PKPbc		**PKPab**	**23 41 04.0**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=276,slow=2.8,SNR=12							
KURBB	**Kurchatov Arra**	**151.31**	**40**	PKPbc		**PKPbc**	**23 41 17.4**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=300,slow=2.9,SNR=5.2							
KURK	**Kurchatov**	**151.31**	**40**			**PKPbc**	**23 41 17.4**	**-0.7**
ZALV	**Zalesovo Beam**	**152.39**	**30**	PKPbc		**PKiKP**	**23 41 20.6**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=308,slow=3.6,SNR=4.6							
ZALV	**Zalesovo Beam**	**152.39**	**30**			**PKPbc**	**23 41 20.3**	**-0.1**

*IDC **19** 23:24:01.1±0.9, 6°.39S×155°.42E, h146km±7km, mb3.9/17,*

mb1 4.1/18, mb1mx3.9/49, mbtmp4.4/18, Error ellipse: s-maj=17.4km s-min=11.1km az=102.0
*NEIC **19** 23:24:03.8±1.5, 6°.40S±0°.07×155°.51E±0°.08, h168km±5km, mb4.5/45, Error ellipse: s-maj=11.0km s-min=10.2km az=73.0*

ISC 19 23:24:01.7±0.4, 6°.41S±0°.07×155°.46E±0°.07, h150km, n81, σ0°99/84, mb4.4/36, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.96**	**304**	Pn		**Pn**	**23 25 03.4**	**+2.0**
RABL	**Rabaul**	**3.96**	**304**	P		**Pn**	**23 25 05.2**	**+3.8**
HNR	**Honiara**	**5.36**	**124**			**Pn**	**23 25 18.7**	**-1.2**
HNR	**Honiara**	**5.36**	**124**	P		**Pn**	**23 25 19.7**	**-0.2**
COEN	**Coen**	**14.23**	**237**			**P**	**23 27 20.2**	**+0.8**
DZM	**Mont Dzumac**	**18.84**	**147**	P		**P**	**23 28 10.9**	**+0.6**
	6.1nm,0.3s,baz=253,slow=8.0,SNR=79							
DZM	**Mont Dzumac**	**18.84**	**147**	P		**P**	**23 28 10.9**	**+0.6**
ONTNC	**Ouen Toro**	**19.04**	**147**	P		**P**	**23 28 12.8**	**+0.5**
EIDS	**Eidsvold**	**19.32**	**192**	P		**Pn**	**23 28 17.4**	**-0.6**
EIDS				IAmb		IAmb	23 28 42.9	
	comp=Z,28nm,1.4s							
OUENC	**Ouen Island, N**	**19.34**	**147**	P		**P**	**23 28 16.2**	**+0.7**
OUENC				IAmb		IAmb	23 28 20.3	
	comp=Z,14nm,0.7s							
FAKI	**Fak Fak**	**23.39**	**277**	P		**P**	**23 28 57.0**	**-0.2**
WR0	**Warramunga Arr**	**24.38**	**234**	P		**P**	**23 29 06.3**	**+0.2**
WR0				IAmb		IAmb	23 29 09.0	
	comp=Z,21nm,0.8s							
WB2	**Warramunga Arr**	**24.52**	**235**	P		**P**	**23 29 07.8**	**+0.4**
WRA	**Warramunga Arr**	**24.53**	**235**	P		**P**	**23 29 07.6**	**0.0**
	comp=Z,17nm,0.7s,baz=61,slow=9.9,SNR=77							
WRA				pP		**pP**	**23 29 39.1**	**+2.3**
	comp=Z,5.6nm,0.7s,baz=58,slow=9.8,SNR=4.3							
WRA	**Warramunga Arr**	**24.53**	**235**	P		**P**	**23 29 06.5**	**-1.1**
MTN	**Manton Dam**	**24.81**	**253**	P		**P**	**23 29 10.6**	**+0.5**
MTN				IAmb		IAmb	23 29 11.1	
	comp=Z,13nm,0.9s							
AS31	**Alice Springs**	**26.91**	**228**	P		**P**	**23 29 29.0**	**+0.1**
ASAR	**Alice Springs**	**26.91**	**228**	P		**P**	**23 29 28.1**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=61,slow=8.5,SNR=20							
ASAR	**Alice Springs**	**26.91**	**228**	P		**P**	**23 29 28.7**	**-0.3**
STKA	**Stephens Creek**	**28.46**	**205**	P		**P**	**23 29 42.2**	**-0.5**
	comp=Z,2.6nm,0.9s,baz=299,slow=10,SNR=3.1							
FITZ	**Fitzroy Crossi**	**31.32**	**246**	P		**P**	**23 30 06.8**	**-1.2**
	comp=Z,7.3nm,0.6s,baz=76,slow=7.3,SNR=38							
BBOO	**Buckleboo**	**31.88**	**212**	P		**P**	**23 30 12.1**	**-0.7**
MMRI	**Maumere**	**33.01**	**264**	P		**P**	**23 30 22.3**	**-0.5**
FORT	**Forrest**	**35.33**	**223**	P		**P**	**23 30 42.0**	**-0.6**
TOLI2	**Tolitoli**	**35.42**	**281**	P		**P**	**23 30 43.1**	**-0.5**
TAU	**Tasmania Unive**	**37.06**	**190**	P		**P**	**23 30 59.2**	**+2.1**
PSA00	**Pilbara Seismi**	**37.58**	**243**	P		**P**	**23 31 01.0**	**-0.9**
PSA00				IAmb		IAmb	23 31 01.8	
	comp=Z,6.2nm,1.1s							
PSA00	**Pilbara Seismi**	**37.58**	**243**	P		**P**	**23 31 00.6**	**-1.3**
PSA00				IAmb		IAmb	23 31 12.2	
	comp=Z,16nm,1.2s							
BKZ	**Black Stump Fm**	**37.73**	**153**	P		**P**	**23 31 03.4**	**+0.4**
BKZ				IAmb		IAmb	23 31 11.3	
	comp=Z,23nm,1.5s							
BSWZ	**Blackbirch Sta**	**38.79**	**158**	P		**P**	**23 31 12.8**	**+1.1**
KHZ	**Kahutara**	**39.27**	**159**	P		**P**	**23 31 15.8**	**+0.1**
MORW	**Morawa**	**43.48**	**234**	P		**P**	**23 31 49.6**	**-0.6**
CISI	**Cisompet, Garu**	**47.29**	**266**	P		**P**	**23 32 18.4**	**-2.1**
CISI				IAmb		IAmb	23 32 19.4	
	comp=Z,17nm,0.7s							
LEM	**Lembang**	**47.51**	**267**	P		**P**	**23 32 21.9**	**-0.5**
	comp=Z,17nm,0.6s,baz=98,slow=21,SNR=4.7							
KSRS	**Korea Array**	**50.64**	**332**	P		**P**	**23 32 44.7**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=148,slow=9.4,SNR=5.7							
USRK	**Ussuriysk Ar.**	**54.65**	**339**	P		**P**	**23 33 15.1**	**+0.3**
	comp=Z,5.6nm,1.0s,baz=157,slow=7.4,SNR=6.6							
USRK	**Ussuriysk Ar.**	**54.65**	**339**	P		**P**	**23 33 14.9**	**0.0**
KLR	**Kul'dur**	**59.15**	**342**	P		**P**	**23 33 46.0**	**-0.5**
	comp=Z,2.7nm,1.0s,baz=158,slow=4.4,SNR=5.7							
PEA0B	**Petropavlovsk-**	**59.32**	**2**	P		**P**	**23 33 48.4**	**+0.8**
PETK	**Petropavlovsk-**	**59.32**	**2**	P		**P**	**23 33 47.6**	**0.0**
	comp=Z,9.8nm,0.8s,baz=184,slow=10,SNR=13							
PETK	**Petropavlovsk-**	**59.32**	**2**	P		**P**	**23 33 48.2**	**+0.6**
CMAR	**Chiang Mai Arr**	**60.95**	**295**	P		**P**	**23 33 59.5**	**0.0**
	comp=Z,1.0nm,0.9s,baz=112,slow=4.9,SNR=6.4							
CMAR				pP		**pP**	**23 34 32.9**	**-2.0**
	comp=Z,2.6nm,0.7s,baz=125,slow=5.8,SNR=5.5							
CMAR	**Chiang Mai Arr**	**60.95**	**295**	P		**P**	**23 33 58.9**	**-0.5**
ADK	**Adak**	**62.77**	**19**	P		**P**	**23 34 10.6**	**-0.2**
CASY	**Casey**	**67.29**	**198**	P		**P**	**23 34 40.0**	**+0.2**
CASY				IAmb		IAmb	23 34 43.1	
	comp=Z,5.7nm,1.2s							
ULN	**Ulaanbaatar**	**68.76**	**327**	P		**P**	**23 34 50.0**	**+0.4**
SONM	**Songino Array**	**69.10**	**327**	P		**P**	**23 34 52.0**	**+0.4**
	comp=Z,2.7nm,0.8s,baz=136,slow=6.1,SNR=12							
SONM	**Songino Array**	**69.10**	**327**	P		**P**	**23 34 51.7**	**+0.1**
VNDA	**Vanda**	**71.15**	**179**	P		**P**	**23 35 03.9**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=340,slow=5.6,SNR=5.0							
VNDA	**Vanda**	**71.15**	**179**	P		**P**	**23 35 04.3**	**+0.8**
N18K	**Kilae Creek**	**76.90**	**22**	P		**P**	**23 35 37.9**	**+0.8**
N18K				IAmb		IAmb	23 35 38.9	
	comp=Z,5.0nm,0.8s							
CNPM	**China Poot**	**78.03**	**25**	P		**P**	**23 35 43.5**	**+0.1**
CNPM				IAmb		IAmb	23 35 44.5	
	comp=Z,14nm,0.8s							
M19K	**Big River Lodg**	**78.24**	**22**	P		**P**	**23 35 45.5**	**+1.0**
M19K				IAmb		IAmb	23 35 46.5	
	comp=Z,13nm,1.1s							
L19K	**White Mountain**	**78.24**	**21**	P		**P**	**23 35 45.5**	**+0.9**
L19K				IAmb		IAmb	23 35 46.3	
	comp=Z,10.0nm,0.8s							
K20K	**Telida**	**79.27**	**21**	P		**P**	**23 35 50.8**	**+0.7**
K20K				IAmb		IAmb	23 35 51.2	
	comp=Z,6.0nm,1.0s							
SUA	**Susitna One**	**79.36**	**23**	P		**P**	**23 35 50.6**	**-0.1**
SUA				IAmb		IAmb	23 35 51.2	
	comp=Z,6.5nm,0.7s							
PPLA	**Purkeypile**	**79.66**	**22**	P		**P**	**23 35 52.3**	**-0.1**
PPLA				IAmb		IAmb	23 36 15.5	
	comp=Z,13nm,1.3s							
J20K	**Nowinta River**	**79.76**	**20**	P		**P**	**23 35 53.7**	**+1.0**
J20K				IAmb		IAmb	23 35 54.4	
	comp=Z,6.6nm,0.8s							
IMAR	**Indian Mountai**	**81.03**	**19**	P		**P**	**23 35 59.9**	**+0.4**
H21K	**Melozitna Rive**	**81.13**	**19**	P		**P**	**23 36 00.4**	**+0.4**
MCK	**McKinley**	**81.34**	**22**	P		**P**	**23 36 00.8**	**-0.4**
MCK				IAmb		IAmb	23 36 01.4	
	comp=Z,12nm,0.8s							
MLY	**Manley**	**81.44**	**20**	P		**P**	**23 36 01.8**	**0.0**
WRH	**Wood River Hil**	**82.06**	**21**	P		**P**	**23 36 04.2**	**-0.7**
GLB	**Gilahina Butte**	**82.17**	**25**	P		**P**	**23 36 06.0**	**+0.4**
GLB				IAmb		IAmb	23 36 06.8	
	comp=Z,16nm,1.2s							
H23K	**Yukon River**	**82.31**	**20**	P		**P**	**23 36 06.8**	**+0.6**
IL31		**82.66**	**21**	P		**P**	**23 36 06.9**	**-1.0**
ILAR	**Eielson Array**	**82.66**	**21**	P		**P**	**23 36 06.8**	**-1.3**
	comp=Z,2.8nm,0.8s,baz=251,slow=5.1,SNR=22							
ILAR				pP		**pP**	**23 36 44.2**	**-0.6**
	comp=Z,1.4nm,1.0s,baz=238,slow=5.2,SNR=3.1							
ILAR	**Eielson Array**	**82.66**	**21**	P		**P**	**23 36 07.2**	**-0.8**
MKAR	**Makanchi Array**	**83.28**	**319**	P		**P**	**23 36 10.9**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=111,slow=6.6,SNR=5.5							
MKAR	**Makanchi Array**	**83.28**	**319**	P		**P**	**23 36 11.7**	**0.0**
SCRK	**Sand Creek**	**83.34**	**23**			**P**	**23 36 11.6**	**0.0**
SCRK				IAmb		IAmb	23 36 13.2	
	comp=Z,5.8nm,1.4s							
QSPA	**South Pole Qui**	**83.56**	**180**	P		**P**	**23 36 12.7**	**-0.1**
	comp=Z,3.9nm,0.8s,baz=344,slow=1.4,SNR=22							
QSPA	**South Pole Qui**	**83.56**	**180**	P		**P**	**23 36 12.4**	**-0.4**
QSPA				IAmb		IAmb	23 36 13.3	
	comp=Z,5.3nm,0.8s							
TOLK	**Toolik Lake Re**	**83.92**	**18**	P		**P**	**23 36 14.9**	**+0.5**
TOLK				IAmb		IAmb	23 36 15.5	
	comp=Z,5.0nm,0.7s							
BMAR	**Burnt Mountain**	**84.85**	**20**	P		**P**	**23 36 20.1**	**+0.9**
MAW	**Mawson**	**85.11**	**203**	P		**P**	**23 36 20.3**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=94,slow=8.2,SNR=10							
AAK	**Ala-Archa**	**87.69**	**313**	P		**P**	**23 36 30.7**	**-3.0**
AAK				IAmb		IAmb	23 36 31.3	
	comp=Z,6.7nm,0.7s							
NVAR	**Mina Array Bea**	**90.99**	**52**	P		**P**	**23 36 50.4**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=252,slow=7.2,SNR=5.3							
CLL	**Collm**	**125.52**	**332**	*e*PKPdf		**PKPdf**	**23 42 44.0**	**-1.1**
GERES	**GERESS Array B**	**126.79**	**329**	PKP		**PKPdf**	**23 42 47.5**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=95,slow=1.5,SNR=6.3							
TORD	**Torodi Ar. Bea**	**153.31**	**287**	PKPbc		**PKPbc**	**23 43 41.6**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=69,slow=1.8,SNR=7.9							

MEX 19 23:26:20.5±0.4, 17°.25N×94°.68W, h116km±4km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.25**	**231**	*i* P		Pn	23 26 35.5	-1.3
CMIG				*i* S		Sn	23 26 47.2	-2.0
VHO	**Vista Hermosa**	**1.97**	**265**	*i* P		Pn	23 26 52.3	-1.3
VHO				*i* S		Sn	23 27 15.2	-3.7
TOIG	**Toxpalan**	**2.42**	**291**	*i* P		Pn	23 26 59.0	-0.3
TOIG				*i* S		Sn	23 27 28.5	-0.5

*HEL **19** 23:37:30.0±0.4, 67°.62N×33°.83E, h0km, ML2.2, Explosion*
NAO 19 23:37:29.4±1.2, 67°.67N×33°.80E, ML2.7, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
APZ9	**Apatity**	**0.18**	**238**		Pg	Pg	23 37 33.2	+0.4
APZ9					Lg	Lg	23 37 35.5	
APZ9					Rg	Rg	23 37 36.3	
APZ9	**Apatity**	**0.18**	**238**		Pg	Pg	23 37 33.2	+0.4
APZ9					Sg	Sg	23 37 35.5	+0.3
APA0	**Apatity Array**	**0.32**	**260**		Pg	Pg	23 37 35.6	+0.2
	baz=79,slow=16							
APA0					Lg	Lg	23 37 39.6	
	baz=77,slow=37							
APA0					Rg	Rg	23 37 42.0	
	baz=77,slow=56							
APA0	**Apatity Array**	**0.32**	**260**		Pg	Pg	23 37 35.6	+0.2
	baz=79,slow=16							
APA0					Sg	Sg	23 37 39.6	+0.1
	baz=77,slow=37							
VRF	**Varrio**	**1.60**	**275**	PG	Pn	Pn	23 37 58.4	-0.5
	baz=95							
VRF					SG	Sn	23 38 18.2	-2.1
VRF					MSG		23 38 18.2	
	comp=Z,27nm,0.2s							
OLKF	**Oulanka, Finla**	**2.19**	**234**		SG	Sg	23 38 39.2	-0.6
KU6	**Riekki**	**2.26**	**225**		PG	Pb	23 38 09.8	-1.2
KU6					MSG		23 38 36.1	
	comp=Z,11nm,0.2s							
KU6					SG	Sb	23 38 38.9	-0.5
MSF	**Maaselka**	**2.58**	**229**		PG	Pb	23 38 14.8	-1.7
	baz=49							
MSF					SG	Sb	23 38 48.3	-0.4
SGF	**Sodankyl**	**2.80**	**269**		PB	Pb	23 38 18.7	-1.5
SGF					SN	Sn	23 38 30.0	+0.2
RNF	**Rovaniemi**	**3.22**	**254**		PN	Pn	23 38 21.6	+0.5
RNF					SN	Sn	23 39 00.1	0.0
KEV	**Kevo**	**3.25**	**313**		Pn	Pn	23 38 22.4	+0.9
KEV					Sn	Sn	23 39 00.9	+0.1
KEV	**Kevo**	**3.25**	**313**	*e*P		Pn	23 38 22.3	+0.8
KEV				*e*S		Sn	23 39 00.3	-0.5
KEV	**Kevo**	**3.25**	**313**	PN		Pn	23 38 22.5	+1.0
KEV				SN		Sn	23 39

1.7nm,0.7s,baz=319,slow=7.3,SNR=4.2
MKAR Makanchi Array 152.56 334 PKPbc **PKiKP 00 06 38.3 +0.2**
0.4nm,0.6s,baz=354,slow=1.4,SNR=4.3

*IDC **19** 23:57:25.8±1.3,53.47S×132.39W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.8/22, mbtmp3.8/4, MS3.9/10, Ms1 3.8/10, ms1mx3.6/23, Error ellipse: s-maj=61.0km s-min=31.3km az=160.0*
ISC 19 23:57:27.4±1.2, 54.6S±0.3×132.0W±0.2, h10km, n38, σ0§67/8, mb3.9/4, MS4.0/13, **Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**31.51**	**355**	*eT*	T	00 36 45.9	
	3.7nm,0.3s						
VNDA	**Vanda**	**32.34**	**202**	P	P	00 04 04.6	+8.3
VNDA	0.7nm,0.9s,baz=106,slow=7.6,SNR=3.9			LR	LR	00 14 07.5	
	comp=Z,35nm,18.1s,baz=92,slow=30						
TBI	**Tubuai**	**33.84**	**330**	*e*LR	LR	00 12 57.3	
	comp=Z,347nm,26.8s,baz=164						
TBI	**Tubuai**	**33.84**	**330**	*eT*	T	00 39 49.5	
	58nm,0.4s						
PPT2	**Papeete2**	**39.35**	**333**	*e*LR	LR	00 15 34.4	
	comp=Z,364nm,25.2s,baz=170						
PPT	**Papeete**	**39.37**	**333**	LR	LR	00 17 18.9	
	comp=Z,244nm,18.7s,baz=163,slow=31						
RAR	**Rarotonga**	**39.40**	**317**	LR	LR	00 16 42.2	
	comp=Z,467nm,20.7s,baz=92,slow=30						
VAH	**Vaihoa**	**41.13**	**337**	*eT*	T	00 48 53.0	
	14nm,0.3s						
H03S2	**Juan Fernandez**	**42.09**	**83**	T	T	00 49 55.1	
	baz=222,slow=74,SNR=56						
H03S1	**Juan Fernandez**	**42.10**	**83**	T	T	00 49 59.2	
	baz=222,slow=74,SNR=63						
H03S3	**Juan Fernandez**	**42.11**	**83**	T	T	00 49 52.6	
	baz=222,slow=74,SNR=55						
H03N3	**Juan Fernandez**	**42.37**	**82**	T	T	00 50 18.8	
	baz=224,slow=72,SNR=10						
H03N2	**Juan Fernandez**	**42.38**	**82**	T	T	00 50 14.3	
	baz=224,slow=72,SNR=13						
H03N1	**Juan Fernandez**	**42.39**	**82**	T	T	00 50 09.4	
	baz=224,slow=72,SNR=17						
TAOE	**Nuku Hiva Isla**	**46.08**	**349**	*e*LR	LR	00 18 40.8	
	comp=Z,371nm,28.3s						
VNA3	**Neumayer Olymp**	**48.02**	**158**	P	**P**	**00 06 05.1**	**-0.9**
VNA2	**Neumayer--Watz**	**48.74**	**159**	P	**P**	**00 06 12.0**	**+0.4**
VNA1	**Neumayer--Stat**	**48.77**	**158**	P	**P**	**00 06 12.0**	**+0.3**
SNAA	**Sanae**	**49.06**	**161**	P	P	00 06 20.7	+6.6
MAW	**Mawson**	**57.62**	**187**	LR	LR	00 30 16.5	
	comp=Z,45nm,19.4s,baz=176,slow=34						
CPUP	**Villa Florida**	**60.18**	**94**	LR	LR	00 29 43.9	
	comp=Z,90nm,18.5s,baz=218,slow=32						
LPAZ	**La Paz**	**61.76**	**78**	P	**P**	**00 07 46.9**	**+0.1**
	1.4nm,0.9s,baz=219,slow=6.1,SNR=4.3						
STKA	**Stephens Creek**	**62.74**	**253**	LR	LR	00 30 01.2	
	comp=Z,106nm,20.6s,baz=196,slow=31						
ASAR	**Alice Springs**	**73.38**	**253**	P	**P**	**00 08 59.9**	**+0.4**
	1.0nm,0.8s,baz=144,slow=6.8,SNR=9.4						
H01W1	**Cape Leeuwin H**	**74.37**	**231**	T	T	01 31 56.8	
	baz=146,slow=76,SNR=9.2						
H01W2	**Cape Leeuwin H**	**74.38**	**231**	T	T	01 31 56.3	
	baz=146,slow=76,SNR=10						
H01W3	**Cape Leeuwin H**	**74.39**	**231**	T	T	01 31 58.0	
	baz=146,slow=76,SNR=9.7						
WRA	**Warramunga Arr**	**76.09**	**255**	P	**P**	**00 09 15.7**	**+0.4**
	1.2nm,1.0s,baz=146,slow=5.0,SNR=3.8						
WRA				LR	LR	00 41 24.6	
	comp=Z,78nm,18.2s,baz=240,slow=35						
H11S2	**WAKE ISLAND Hy**	**89.51**	**304**	T	T	01 49 57.3	
	baz=148,slow=75,SNR=13						
H11S3	**WAKE ISLAND Hy**	**89.52**	**304**	T	T	01 49 57.4	
	baz=148,slow=75,SNR=7.3						
H11S1	**WAKE ISLAND Hy**	**89.53**	**304**	T	T	01 49 52.5	
	baz=148,slow=75,SNR=8.1						
H11N3	**WAKE ISLAND Hy**	**90.46**	**304**	T	T	01 50 58.9	
	baz=142,slow=74,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**90.48**	**304**	T	T	01 51 00.8	
	baz=132,slow=74,SNR=4.0						
NVAR	**Mina Aray Bea**	**93.39**	**11**	LR	LR	00 43 16.7	
	comp=Z,56nm,20.5s,baz=172,slow=30						
BOSA	**Boshof**	**94.84**	**160**	LR	LR	00 52 14.9	
	comp=Z,56nm,18.0s,baz=184,slow=34						
PDAR	**Pinedale Aray**	**98.86**	**16**	LR	LR	00 46 30.9	
	comp=Z,44nm,21.6s,baz=186,slow=30						
SONM	**Songino Aray**	**143.77**	**284**	PKP	**PKPdf**	**00 17 01.8**	**-0.1**
	0.8nm,0.8s,baz=126,slow=2.7,SNR=5.8						
MKAR	**Makanchi Array**	**157.13**	**264**	PKPab	**PKPab**	**00 17 52.3**	**-0.9**
	0.3nm,0.7s,baz=102,slow=5.0,SNR=2.0						

*HEL **20** 00:00:40.0±0.3,67.69N×33.72E, h0km, ML2.3, Explosion NAO **20** 00:00:40.0±1.3,67.70N×33.66E, ML3.0*
*IDC **20** 00:00:42.8±2.1,67.75N×33.42E, h0km, mb2.8/1, mb1 3.4/6, mb1mx3.2/43, mbtmp3.3/6, ML2.5/4, Error ellipse: s-maj=23.7km s-min=8.9km az=72.0*
ISC 20 00:00:41.0±0.8, 67.58N±0.03×33.33E±0.03, h0km, n36, σ1§57/72, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ9	**Apatity**	**0.03**	**117**	Pg	**Pg**	**00 00 42.8**	**+1.2**
APZ9				Lg	Lg	00 00 45.2	
APZ9				Rg	Rg	00 00 46.0	
APZ9	**Apatity**	**0.03**	**117**	Pg	**Pg**	**00 00 42.8**	**+1.2**
APZ9				Sg	**Sg**	**00 00 45.2**	**+3.2**
APA0	**Apatity Array**	**0.13**	**280**	Pg	**Pg**	**00 00 45.2**	**+1.8**
	baz=83,slow=16						
APA0				Lg	Lg	00 00 50.1	
	baz=75,slow=37						
APA0	**Apatity Array**	**0.13**	**280**	Pg	**Pg**	**00 00 45.2**	**+1.8**
	baz=83,slow=16						
APA0				Sg	**Sg**	**00 00 50.1**	**+5.0**
	baz=75,slow=37						
VRF	**Varrio**	**1.43**	**278**	PG	**Pn**	**00 01 08.2**	**0.0**
VRF				MSG		00 01 26.9	
	comp=Z,33nm,0.2s						
VRF				SG	**Sn**	**00 01 28.7**	**+1.1**
KU6	**Riekki**	**2.07**	**223**	PB	**Pb**	**00 01 19.3**	**-0.1**
KU6				MSG		00 01 46.6	
	comp=Z,16nm,0.2s						
KU6				SG	**Sg**	**00 01 48.7**	**+1.2**
MSF	**Maaselka**	**2.39**	**227**	PB	**Pb**	**00 01 23.7**	**-1.1**
MSF				SG	**Sg**	**00 01 57.9**	**+0.2**
SGF	**Sodankyl**	**2.62**	**270**	PN	**Pn**	**00 01 25.6**	**+1.1**
	baz=78						
SGF				SG	**Sg**	**00 02 04.3**	**-0.6**
RNF	**Rovaniemi**	**3.02**	**254**	PN	**Pn**	**00 01 30.8**	**+0.8**
RNF				SN	**Sb**	**00 02 10.8**	**-2.2**
KEV	**Kevo**	**3.18**	**316**	Pn	**Pn**	**00 01 32.2**	**+0.1**
KEV				Sn	**Sn**	**00 02 10.0**	**-0.6**
KEV				Lg	Lg	00 02 17.6	
KEV	**Kevo**	**3.18**	**316**	Pn	**Pn**	**00 01 32.2**	**+0.1**
KEV				Sn	**Sn**	**00 02 10.0**	**-0.6**
KEV				Sg	**Sb**	**00 02 17.6**	**+0.2**
KEV	**Kevo**	**3.18**	**316**	PN	**Pn**	**00 01 31.5**	**-0.6**
	baz=126						
KEV				MSG		00 02 14.3	
	comp=Z,8.9nm,0.2s						
KEV				SG	**Sb**	**00 02 17.6**	**+0.3**
ARA0	**ARCESS Array S**	**3.48**	**308**	Pn	**Pn**	**00 01 36.0**	**-0.2**
	baz=122,slow=16						
ARA0				Pg	**Pb**	**00 01 42.8**	**-0.5**
	baz=111,slow=16						
ARA0				Sn	**Sn**	**00 02 17.2**	**-0.9**
	baz=118,slow=28						
ARA0				Lg	Lg	00 02 30.0	
	baz=112,slow=37						
ARA0	**ARCESS Array S**	**3.48**	**308**	Pn	**Pn**	**00 01 36.0**	**-0.2**
	baz=122,slow=16						
ARA0				Pg	**Pb**	**00 01 42.8**	**-0.5**
	baz=111,slow=16						
ARA0				Sn	**Sn**	**00 02 17.2**	**-0.9**
	baz=118,slow=28						
ARA0				Sg	**Sg**	**00 02 30.0**	**-2.5**
	baz=112,slow=37						
ARA0	**ARCESS Array S**	**3.48**	**308**	PN	**Pn**	**00 01 36.2**	**0.0**
	baz=121						
ARA0				SN	**Sn**	**00 02 17.2**	**-0.9**
ARCES	**ARCESS Array B**	**3.48**	**308**	Pn	**Pn**	**00 01 36.1**	**-0.1**
	baz=120,slow=14,SNR=200						
ARCES				Pg	**Pb**	**00 01 43.8**	**+0.5**
	baz=121,slow=14,SNR=8.2						
ARCES				Sn	**Sn**	**00 02 17.4**	**-0.6**
	baz=121,slow=23,SNR=9.8						
ARCES				Lg	Lg	00 02 28.9	
	baz=117,slow=32,SNR=13						
KLF	**Kolari**	**3.63**	**269**	PN	**Pn**	**00 01 39.8**	**+1.4**
KLF				SG	**Sg**	**00 02 37.8**	**+0.4**
HEF	**Hetta**	**3.73**	**287**	Pn	**Pn**	**00 01 40.0**	**+0.3**
HEF				Pg	**Pb**	**00 01 48.5**	**+0.9**
HEF				Sn	**Sn**	**00 02 25.0**	**+0.7**
HEF				Lg	Lg	00 02 35.5	
HEF	**Hetta**	**3.73**	**287**	Pn	**Pn**	**00 01 40.0**	**+0.3**
HEF				Pg	**Pb**	**00 01 48.5**	**+0.9**
HEF				Sn	**Sn**	**00 02 25.0**	**+0.7**
HEF	**Hetta**	**3.73**	**287**	PN	**Pn**	**00 01 40.2**	**+0.5**
HEF				SG	**Sg**	**00 02 39.1**	**-1.5**
TOF	**Tornio**	**3.87**	**251**	PB	**Pb**	**00 01 50.6**	**+0.7**
TOF				SN	**Sn**	**00 02 29.9**	**+2.4**
PAJU	**Pajala**	**4.00**	**267**	PN	**Pn**	**00 01 43.6**	**+0.2**
	baz=79						
PAJU				SN	**Sn**	**00 02 32.3**	**+1.4**
KTK1	**Kautokeino**	**4.01**	**296**	Pn	**Pn**	**00 01 43.2**	**-0.3**
KTK1				Sn	**Sn**	**00 02 31.4**	**+0.2**
KTK1				Lg	Lg	00 02 43.9	
LANU	**Lannavaara**	**4.33**	**281**	PN	**Pn**	**00 01 47.7**	**-0.2**
LANU				SN	**Sn**	**00 02 38.7**	**-0.3**
ERTU	**Ertsjaerv**	**4.48**	**262**	PN	**Pn**	**00 01 50.0**	**+0.1**
ERTU				SN	**Sn**	**00 02 43.7**	**+1.0**
KIF	**Kilpisjarvi**	**4.86**	**293**	Pn	**Pn**	**00 01 55.3**	**+0.1**
KIF				Sn	**Sn**	**00 02 51.1**	**-1.0**
KIF	**Kilpisjarvi**	**4.86**	**293**	Pn	**Pn**	**00 01 55.5**	**+0.1**
KIF				Sn	**Sn**	**00 02 51.1**	**-1.0**
FIA0	**FINESS Array S**	**6.91**	**210**	Pn	**Pn**	**00 02 23.6**	**+0.3**
	baz=23,slow=16						
FIA0				Sn	**Sn**	**00 03 41.0**	**-1.4**
	baz=22,slow=28						
FIA0				Lg	Lg	00 04 16.0	
	baz=26,slow=37						
FIA0	**FINESS Array S**	**6.91**	**210**	Pn	**Pn**	**00 02 23.6**	**+0.3**
	baz=23,slow=16						
FIA0				Sn	**Sn**	**00 03 41.0**	**-1.4**
	baz=22,slow=28						
FINES	**FINESS Array B**	**6.91**	**210**	Pn	**Pn**	**00 02 26.6**	**+3.3**
	comp=Z,0.1nm,0.3s,baz=26,slow=13,SNR=6.9						
FINES				Sn	**Sn**	**00 03 41.3**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=36,slow=20,SNR=1.8						
FINES				Lg	Lg	00 04 16.3	
	comp=Z,2.4nm,0.3s,baz=34,slow=32,SNR=13						
HFS	**Hagfors**	**11.38**	**238**	Pn	**Pn**	**00 03 23.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=44,slow=13,SNR=4.2						
HFS				Sn	**Sn**	**00 05 28.6**	**-3.6**
	comp=Z,0.1nm,0.3s,baz=44,slow=23,SNR=2.8						
HFS				Lg	Lg	00 06 36.3	
	comp=Z,0.5nm,0.3s,baz=64,slow=27,SNR=4.2						
NB2	**NORSAR Subarra**	**11.56**	**246**	Pn	**Pn**	**00 03 26.1**	**-1.0**
NB2	**NORSAR Subarra**	**11.56**	**246**	Pn	**Pn**	**00 03 26.1**	**-1.0**
NOA	**NORSAR Array B**	**11.56**	**246**	Pn	**Pn**	**00 03 25.7**	**-1.4**
	comp=Z,0.0nm,0.3s,baz=46,slow=11,SNR=5.5						
NOA				Lg	Lg	00 06 43.5	
	comp=Z,0.0nm,0.3s,baz=125,slow=3.1,SNR=5.3						
AKASG	**Malin Array Be**	**17.06**	**189**	Pn	**Pn**	**00 04 34.5**	**-6.1**
	comp=Z,0.2nm,0.3s,baz=9.2,slow=12,SNR=2.1						
GERES	**GERESS Array B**	**21.26**	**218**	P	**P**	**00 05 32.1**	**+3.6**
	comp=Z,0.3nm,0.6s,baz=30,slow=14,SNR=2.7						

*IDC **20** 00:10:22.1±1.6,30.81S×71.68W, h0km, mb4.3/6, mb1 4.2/11, mb1mx4.1/25, mbtmp4.2/11, ML4.0/5, MS3.2/2, Ms1 3.2/2, ms1mx2.9/23, Error ellipse: s-maj=50.4km s-min=22.6km az=103.0*
*SJA **20** 00:10:25.0,30.76S×71.97W, h10km, ML4.8*
*NEIC **20** 00:10:26.9±1.3,30.81S±0.04×71.82W±0.06, h31km±4km, mb4.6/30, Mwr4.0/38, ML4.4(GUC), Error ellipse: s-maj=9.7km s-min=6.4km az=98.0*
*NEIC **20** 00:10:26.6,30.81S×71.82W, h37km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.11; $M_{\theta\theta}$0.22; $M_{\phi\phi}$-1.33; $M_{r\theta}$0.33; $M_{\theta\phi}$0.08; $M_{\phi r}$-0.50; Fault plane solution: $M_0$1.37000×10^{15} NP1:ϕ_s162.21000°, δ58.27000°, λ72.54000°. NP2:ϕ_s13.08000°, δ35.77000°, λ115.88000°. Principal axes: T 1.2944, Plg71.0000°, Azm32.0000°; N 0.1434, Plg15.0000°, Azm172.0000°; P -1.4378, Plg12.0000°, Azm265.0000°;*
*GUC **20** 00:10:26.4±0.8,30.85S×71.60W, h33km±3km, ML4.5*
ISC 20 00:10:25.8±0.9, 30.85S±0.02×71.75W±0.05, h26km±6km, n131, σ1§50/136, mb4.6/17, **2C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.20**	**31**	*i* P	**Pn**	**00 10 33.4**	**+0.3**
CO06				*i* S	**Sb**	**00 10 37.9**	**+2.5**
CO06				IAML		00 10 38.3	
	comp=E,195μm,0.3s						
CO06	**Fray Jorge**	**0.20**	**31**		**Pn**	**00 10 33.1**	**0.0**
CO03	**El Pedregal**	**0.92**	**90**	*i* P	**Pn**	**00 10 42.5**	**-0.6**
CO03				*i* S	**Sb**	**00 10 53.9**	**-1.0**
CO03	**El Pedregal**	**0.92**	**90**		**Pn**	**00 10 42.4**	**-0.6**
CO03	**El Pedregal**	**0.92**	**90**	*i* P	**Pn**	**00 10 42.0**	**-1.1**
CO05	**La Serena**	**1.03**	**26**	*e*P	**Pn**	**00 10 45.0**	**+0.1**
CO05				*i* S	**Sb**	**00 10 58.4**	**+0.5**
CO05	**La Serena**	**1.03**	**26**		**Pb**	**00 10 45.0**	**+0.1**
GO04	**Tololo Observa**	**1.06**	**51**	*i* P	**Pb**	**00 10 45.1**	**-0.5**
GO04				*i* S	**Sb**	**00 10 59.0**	**-0.2**
GO04	**Tololo Observa**	**1.06**	**51**	*i* P	**Pn**	**00 10 45.0**	**-0.2**
VA06	**Catapilco**	**1.75**	**167**	IAML		00 11 28.1	
	comp=N,6μm,0.4s						
LCO	**Las Campanas**	**2.04**	**27**	*i* P	**Pn**	**00 10 59.7**	**+0.9**
LCO				*i* S	**Sb**	**00 11 25.4**	**-2.1**
LCO	**Las Campanas**	**2.04**	**27**	Pn	**Pn**	**00 10 59.7**	**+0.9**
LCO	**Las Campanas**	**2.04**	**27**	*i* P	**Pn**	**00 11 00.0**	**+1.2**
AROD	**Rodeo**	**2.08**	**72**	*i* P	**Pb**	**00 11 02.0**	**-1.0**
VA03	**San Esteban**	**2.17**	**152**	*e*P	**Pn**	**00 11 02.6**	**+2.3**
VA03				*i* S	**Sb**	**00 11 30.0**	**-0.8**
VA03				IAML		00 11 39.1	
	comp=N,4μm,0.4s						
VA03	**San Esteban**	**2.17**	**152**		**Pn**	**00 11 02.4**	**+2.1**
VA03	**San Esteban**	**2.17**	**152**	*i* P	**Pb**	**00 11 03.0**	**-1.4**
VA01	**Torpederas**	**2.17**	**178**	*e*P	**Pn**	**00 11 00.8**	**+0.5**
VA01	**Torpederas**	**2.17**	**178**		**Pn**	**00 11 01.1**	**+0.8**
ROCH	**El Roble**	**2.21**	**164**	*e*P	**Pn**	**00 11 02.6**	**+1.6**
ROCH				*i* S	**Sb**	**00 11 32.2**	**0.0**
ROCH				IAML		00 11 39.8	
	comp=N,3μm,0.3s						
RTLS	**Leoncito**	**2.31**	**115**	*i* P	**Pb**	**00 11 06.0**	**-0.9**
ACCO	**Cerro Coronel**	**2.33**	**84**	*i* P	**Pb**	**00 11 06.0**	**-1.3**
ACDV	**Cuesta del Vie**	**2.37**	**74**	*i* P	**Pb**	**00 11 07.0**	**-0.9**
AUSP	**Uspallata**	**2.44**	**125**	*i* P	**Pb**	**00 11 08.0**	**-1.2**
MT05	**Renca**	**2.68**	**162**	*e*P	**Pn**	**00 11 09.2**	**+1.9**
MT05				*e*S	**Sn**	**00 11 41.1**	**+2.1**
MT05				IAML		00 11 57.0	
	comp=E,3μm,0.5s						
MT05	**Renca**	**2.68**	**162**		**Pn**	**00 11 09.2**	**+1.9**
MT05	**Renca**	**2.68**	**162**	*i* P	**Pn**	**00 11 10.0**	**+2.7**
AC04	**Llanos de Chal**	**2.70**	**13**	*e*P	**Pn**	**00 11 07.9**	**+0.3**
AC04				*e*S	**Sn**	**00 11 39.1**	**-0.3**
AC04				IAML		00 11 59.5	
	comp=E,1μm,0.4s						
AC04	**Llanos de Chal**	**2.70**	**13**		**Pn**	**00 11 07.9**	**+0.3**
AC04	**Llanos de Chal**	**2.70**	**13**	*i* P	**Pn**	**00 11 08.0**	**+0.5**
ZON	**Zonda**	**2.73**	**106**		**Pb**	**00 11 11.4**	**-2.5**
ZON	**Zonda**	**2.73**	**106**	*i* P	**Pb**	**00 11 11.0**	**-2.9**
VA05	**Santo Domingo**	**2.80**	**178**	*e*P	**Pn**	**00 11 09.7**	**+0.8**
VA05				IAML		00 11 57.6	
	comp=N,1μm,0.5s						
VA05	**Santo Domingo**	**2.80**	**178**		**Pn**	**00 11 09.7**	**+0.8**
RTCV	**Cerro Valdivia**	**2.93**	**111**	*i* P	**Pb**	**00 11 15.0**	**-2.3**
MT09	**Talagante**	**2.99**	**168**	*e*P	**Pn**	**00 11 13.3**	**+1.6**
MT09				*e*S	**Sn**	**00 11 49.1**	**+2.4**
MT09				IAML		00 12 06.0	
	comp=N,1μm,0.3s						
MT09	**Talagante**	**2.99**	**168**		**Pn**	**00 11 13.1**	**+1.5**
ASAL	**Salagasta**	**3.04**	**126**	*i* P	**Pb**	**00 11 17.0**	**-2.1**
MT01	**Popeta**	**3.04**	**172**	*e*P	**Pn**	**00 11 13.3**	**+1.1**
MT01				IAML		00 12 03.5	
	comp=E,677nm,0.6s						
MT01	**Popeta**	**3.04**	**172**		**Pn**	**00 11 13.3**	**+1.1**
ARCO	**CERRO ARCO**	**3.12**	**130**	*i* P	**Pb**	**00 11 18.0**	**-2.6**
AGUA	**GUANDACOL**	**3.13**	**65**	*i* P	**Pb**	**00 11 18.0**	**-2.8**
LMEL	**Las Melosas**	**3.27**	**157**	*e*P	**Pn**	**00 11 18.1**	**+2.6**
LMEL				*e*S	**Sn**	**00 11 57.7**	**+4.1**
LMEL				IAML		00 12 05.9	
	comp=N,1μm,0.2s						
AAGR	**Agrelo**	**3.34**	**133**	*i* P	**Pb**	**00 11 21.0**	**-3.4**
GO03	**Copiap**	**3.50**	**23**	*e*P	**Pn**	**00 11 19.2**	**+0.6**
GO03				*e*S	**Sb**	**00 12 05.3**	**-4.0**
GO03				IAML		00 12 17.8	
	comp=E,1μm,0.5s						
GO03	**Copiap**	**3.50**	**23**		**Pn**	**00 11 19.0**	**+0.4**
GO03	**Copiap**	**3.50**	**23**	*i* P	**Pn**	**00 11 19.0**	**+0.4**
BO01	**Tunca**	**3.58**	**171**	*e*P	**Pn**	**00 11 20.8**	**+1.2**
BO01				IAML		00 12 19.8	
	comp=E,292nm,0.4s						
BO01	**Tunca**	**3.58**	**171**		**Pn**	**00 11 20.8**	**+1.2**
BO01	**Tunca**	**3.58**	**171**	*i* P	**Pn**	**00 11 22.0**	**+2.4**
BO03	**Pichilemu**	**3.64**	**183**	*e*P	**Pn**	**00 11 20.3**	**-0.2**
AC06	**Mina Casimiro**	**3.69**	**20**	*i* P	**Pn**	**00 11 21.6**	**+0.5**
AC06				*e*S	**Sn**	**00 12 08.1**	**+4.3**
AC06	**Mina Casimiro**	**3.69**	**20**		**Pn**	**00 11 21.3**	**+0.2**
AVFE	**Valle Fertil**	**3.70**	**88**	*i* P	**Pn**	**00 11 23.0**	**+1.6**
BO02	**Sierra Bellavi**	**4.02**	**169**	*e*P	**Pn**	**00 11 27.7**	**+1.9**
BO02	**Sierra Bellavi**	**4.02**	**169**		**Pn**	**00 11 27.4**	**+1.7**
BO02	**Sierra Bellavi**	**4.02**	**169**	*i* P	**Pn**	**00 11 29.0**	**+3.3**
GO05	**Huala**	**4.15**	**182**	Pn	**Pn**	**00 11 27.3**	**-0.2**
GO05	**Huala**	**4.15**	**182**	*i* P	**Pn**	**00 11 27.0**	**-0.6**
ACHE	**Chepes**	**4.38**	**95**	*i* P	**Pn**	**00 11 33.0**	**+2.2**
AC02	**Maricunga**	**4.61**	**31**		**Pn**	**00 11 34.8**	**+0.5**
AC02	**Maricunga**	**4.61**	**31**	*i* P	**Pn**	**00 11 36.0**	**+1.7**
COIS	**El Sosneado**	**4.62**	**157**	*i* P	**Pn**	**00 11 38.0**	**+4.0**
RFA	**San Rafael**	**4.79**	**146**	*i* P	**Pn**	**00 11 39.0**	**+2.6**
ML02	**Panimavida**	**4.91**	**177**		**Pn**	**00 11 39.0**	**+1.1**
CYA	**Choya**	**5.71**	**67**	*i* P	**Pn**	**00 11 50.0**	**+1.1**
PB14	**IPOC Station P**	**6.31**	**11**	Pn	**Pn**	**00 11 55.5**	**-2.0**
H03N1	**Juan Fernandez**	**6.60**	**245**	T	T	00 18 52.5	
	baz=72,slow=72,SNR=2049						
VA04	**Juan Fernndez**	**6.61**	**243**	Pn	**Pn**	**00 12 01.2**	**-0.1**
H03N3	**Juan Fernandez**	**6.61**	**245**	T	T	00 18 56.9	
	baz=72,slow=72,SNR=2096						
H03N2	**Juan Fernandez**	**6.61**	**245**	T	T	00 18 58.1	
	baz=72,slow=72,SNR=1680						
FSA	**Cafayete**	**6.93**	**49**	*i* P	**Pn**	**00 12 08.0**	**+2.1**
AHML	**Horco Molle**	**6.93**	**56**	*i* P	**Pn**	**00 12 07.0**	**+1.2**
LC01	**Cunco**	**8.03**	**181**	Pn	**Pn**	**00 12 20.4**	**-0.4**
LC01	**Cunco**	**8.03**	**181**	*i* P	**Pn**	**00 12 22.0**	**+1.2**
LVC	**Limon Verde**	**8.59**	**18**	Pn	**Pn**	**00 12 26.4**	**-2.4**
	comp=E,5.6nm,0.3s,baz=248,slow=21,SNR=22						
LVC				Sn	**Sn**	**00 14 01.6**	**-3.5**
	comp=E,1.5nm,0.3s,baz=32,slow=18,SNR=1.4						
LVC				LR	LR	00 15 59.8	
	comp=E,127nm,19.6s,baz=206,slow=40						
PLCA	**Paso Flores**	**9.91**	**175**	Pn	**Pn**	**00 12 47.7**	**+1.1**
	comp=E,0.2nm,0.3s,baz=355,slow=14,SNR=5.5						
PLCA	**Paso Flores**	**9.91**	**175**	Pn	**Pn**	**00 12 47.2**	**+0.6**
LL04	**Puerto Octay**	**10.05**	**183**	Pn	**Pn**	**00 12 48.2**	**-0.3**
TRQA	**Tornquist**	**10.80**	**134**	Pn	**Pn**	**00 13 00.0**	**+1.2**
PSGCX	**Pisagua**	**11.30**	**8**	Pn	**Pn**	**00 13 04.7**	**-1.0**
ITQB	**Itaqui**	**13.13**	**89**	Pn	**Pn**	**00 13 28.8**	**-1.8**
CPUP	**Villa Florida**	**13.45**	**74**	Pn	**Pn**	**00 13 35.0**	**0.0**
CPUP	comp=E,0.4nm,0.3s,baz=213,slow=11,SNR=6.3			Sn	**Sn**	**00 16 05.5**	**+1.9**
	comp=E,0.3nm,0.3s,baz=252,slow=16,SNR=1.7						
CPUP				LR	LR	00 19 03.9	
	comp=E,104nm,20.5s,baz=222,slow=39						
CPUP	**Villa Florida**	**13.45**	**74**	Pn	**Pn**	**00 13 33.8**	**-1.1**
LPAZ	**La Paz**	**14.87**	**14**	Pn	**Pn**	**00 13 55.5**	**+0.6**
	comp=E,0.2nm,0.3s,baz=178,slow=7.9,SNR=19						
LPAZ	**La Paz**	**14.87**	**14**	Pn	**Pn**	**00 13 56.1**	**+1.1**
PLTB	**Pedras Altas**	**15.54**	**98**	Pn	**Pn**	**00 14 03.0**	**-0.2**
SIV	**San Ignacio**	**17.72**	**36**	P	**P**	**00 14 31.2**	**-0.4**
	comp=E,0.3nm,0.3s,baz=231,slow=11,SNR=12						
BDFB	**Brasilia**	**26.47**	**60**	P	**P**	**00 15 60.0**	**-1.1**
	comp=E,4.6nm,0.8s,baz=194,slow=6.0,SNR=6.4						
BDFB	**Brasilia**	**26.47**	**60**	P	**P**	**00 16 00.0**	**-1.1**
BDFB				IAmb	IAmb	00 16 13.8	
	comp=Z,7.5nm,0.8s						
RUSC	**La Rusia**	**36.55**	**358**	P	**P**	**00 17 29.9**	**-0.1**
CRPR	**Cabo Rojo, PR**	**48.78**	**6**	P	**P**	**00 19 08.7**	**+0.1**
PDPR	**Patillas Dam,**	**48.90**	**7**	P	**P**	**00 19 08.7**	**-0.8**
SJG	**San Juan**	**48.97**	**7**	P	**P**	**00 19 09.4**	**-0.7**
SJG				IAmb	IA

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.99**	**146**	*eP*	**Pg**	**00 29 19.1**	**+0.2**
VA06				*eS*	**Sb**	**00 29 32.2**	**-0.1**
VA06				IAML		00 29 39.0	
	comp=E,2μm,0.5s						
CO06	**Fray Jorge**	**1.10**	**15**	*eP*	**Pg**	**00 29 20.4**	**-0.7**
CO06				*eS*	**Sb**	**00 29 35.5**	**-0.1**
CO06				IAML		00 29 40.6	
	comp=E,1μm,0.2s						
CO06	**Fray Jorge**	**1.10**	**15**	Pn	**Pb**	**00 29 21.2**	**+0.1**
CO06				Sn	**Sn**	**00 29 36.4**	**-0.4**
VA01	**Torpederas**	**1.30**	**168**		**Pn**	**00 29 22.1**	**-2.1**
CO03	**El Pedregal**	**1.41**	**51**	*eP*	**Pb**	**00 29 26.5**	**+0.1**
CO03				*eS*	**Sb**	**00 29 44.5**	**-0.1**
CO03				IAML		00 29 47.4	
	comp=E,705nm,0.4s						
CO03	**El Pedregal**	**1.41**	**51**	Pn	**Pg**	**00 29 26.7**	**-0.3**
CO03				Sn	**Sb**	**00 29 44.0**	**-0.6**
ROCH	**El Roble**	**1.46**	**147**	*eP*	**Pb**	**00 29 27.5**	**+0.1**
ROCH				IAML		00 29 52.2	
	comp=N,592nm,0.5s						
VA03	**San Esteban**	**1.57**	**131**	*eP*	**Pb**	**00 29 29.0**	**-0.1**
VA03				*eS*	**Sn**	**00 29 48.7**	**+0.3**
VA03				IAML		00 29 56.0	
	comp=E,1μm,0.5s						
VA03	**San Esteban**	**1.57**	**131**	Pn	**Pn**	**00 29 28.3**	**+0.3**
GO04	**Tololo Observa**	**1.85**	**33**	*eP*	**Pn**	**00 29 32.5**	**+0.4**
GO04				*eS*	**Sn**	**00 29 55.5**	**-0.3**
GO04	**Tololo Observa**	**1.85**	**33**		**Pn**	**00 29 32.7**	**+0.6**
CO05	**La Serena**	**1.92**	**19**	*eP*	**Pb**	**00 29 35.0**	**-0.1**
CO05				IAML		00 30 08.5	
	comp=E,421nm,0.3s						
CO05	**La Serena**	**1.92**	**19**		**Pb**	**00 29 34.6**	**-0.4**
VA05	**Santo Domingo**	**1.93**	**171**	*eS*	**Sg**	**00 30 02.9**	**+1.0**
VA05				IAML		00 30 08.4	
	comp=N,558nm,0.3s						
VA05	**Santo Domingo**	**1.93**	**171**		**Pn**	**00 29 33.0**	**+0.2**
MT05	**Renca**	**1.94**	**148**	*eP*	**Pn**	**00 29 33.0**	**-0.1**
MT05				IAML		00 30 05.9	
	comp=E,448nm,0.2s						
MT05	**Renca**	**1.94**	**148**	Pn	**Pn**	**00 29 32.9**	**-0.1**
MT09	**Talagante**	**2.18**	**158**	*eP*	**Pn**	**00 29 37.0**	**+0.5**
MT09	**Talagante**	**2.18**	**158**		**Pn**	**00 29 37.3**	**+0.7**
MT01	**Popeta**	**2.20**	**164**	*eP*	**Pb**	**00 29 38.7**	**-1.1**
MT01	**Popeta**	**2.20**	**164**	Pn	**Pn**	**00 29 37.0**	**+0.4**
LMEL	**Las Melosas**	**2.56**	**145**	*eP*	**Pn**	**00 29 43.6**	**+1.8**
LMEL				IAML		00 30 24.5	
	comp=N,210nm,0.3s						
BO01	**Tunca**	**2.74**	**165**	*eP*	**Pn**	**00 29 45.1**	**+1.1**
BO01	**Tunca**	**2.74**	**165**		**Pn**	**00 29 45.6**	**+1.6**
BO03	**Pichilemu**	**2.74**	**180**	*eP*	**Pn**	**00 29 43.7**	**-0.4**
ZON	**Zonda**	**2.80**	**87**	Pn	**Pb**	**00 29 47.8**	**-2.3**
LCO	**Las Campanas**	**2.93**	**22**	*eP*	**Pn**	**00 29 47.4**	**+0.5**
BO02	**Sierra Bellavi**	**3.19**	**162**	*eP*	**Pn**	**00 29 52.9**	**+2.5**
BO02	**Sierra Bellavi**	**3.19**	**162**	Pn	**Pn**	**00 29 52.4**	**+2.0**
GO05	**Huala**	**3.26**	**180**	Pn	**Pn**	**00 29 50.7**	**-0.5**
AC04	**Llanos de Chal**	**3.61**	**12**	*eP*	**Pn**	**00 29 56.5**	**+0.5**
AC04	**Llanos de Chal**	**3.61**	**12**	Pn	**Pn**	**00 29 55.5**	**-0.5**
ML02	**Panimavida**	**4.03**	**174**	Pn	**Pn**	**00 30 02.3**	**+0.5**
GO03	**Copiap**	**4.40**	**20**	Pn	**Pn**	**00 30 08.0**	**+1.0**
AC06	**Mina Casimiro**	**4.59**	**18**	Pn	**Pn**	**00 30 09.6**	**+0.1**
AC02	**Maricunga**	**5.48**	**27**	Pn	**Pn**	**00 30 22.5**	**+0.3**
TRQA	**Tornquist**	**10.33**	**130**	Pn	**Pn**	**00 31 30.3**	**+2.0**
LPAZ	**La Paz**	**15.78**	**14**	Pn	Pn	00 32 18.1	-25
	comp=N,0.1nm,0.3s,baz=200,slow=18,SNR=1.3						
BDFB	**Brasilia**	**27.07**	**59**	P	**P**	**00 34 39.7**	**-3.3**
	comp=N,1.2nm,0.4s,baz=185,slow=11,SNR=2.2						
SNAA	**Sanae**	**53.65**	**158**	P	**P**	**00 38 21.9**	**+0.6**
SNAA				IAmb	IAmb	00 38 22.5	
	comp=Z,2.5nm,1.3s						
QSPA	**South Pole Qui**	**58.49**	**180**	P	**P**	**00 38 57.6**	**+1.4**
TORD	**Torodi Ar. Bea**	**83.38**	**70**	P	**P**	**00 41 28.3**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=257,slow=4.2,SNR=2.0						
TORD	**Torodi Ar. Bea**	**83.38**	**70**	P	**P**	**00 41 27.4**	**-0.4**
ZALV	**Zalesovo Beam**	**152.26**	**30**	PKPbc	**PKPbc**	**00 48 55.2**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=312,slow=2.9,SNR=3.6						
ZALV	**Zalesovo Beam**	**152.26**	**30**	PKPbc	**PKPbc**	**00 48 55.4**	**-0.1**

*GCG **20** 00:36:35.1±0.3, 13.°61N×91.°36W, h10km, MD3.5*
*SNET **20** 00:36:37.9±1.5, 13.°96N×91.°17W, h17km±8km, ML3.5*
ISC 20 00:36:34.9±2.2, 13.°7N±0.°1×91.°36W±0.°09, h14km±14km, n24, σ0.°76/34, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.86**	**338**	*eP*	**Pg**	**00 36 51.7**	**+0.1**
RTAL				*eS*	**Sg**	**00 37 02.0**	**-0.8**
FUG	**Fuego 3**	**0.87**	**35**	*eP*	**Pn**	**00 36 53.3**	**+0.4**
PCG	**Pacaya**	**0.98**	**48**	*eP*	**Pn**	**00 36 55.2**	**+0.6**
NBG	**Las Nubes**	**1.30**	**49**	*eP*	**Pg**	**00 37 00.3**	**+0.3**
NBG				*eS*	**Sn**	**00 37 17.7**	**+1.5**
SLOZ	**Alcaldia de Sa**	**1.56**	**79**	*eP*	**Pn**	**00 37 02.0**	**-0.2**
SLOZ				*eS*	**Sn**	**00 37 19.9**	**-2.4**
SLOZ				AML	AML	00 37 26.8	
	comp=Z,264nm,0.5s						
HUEH	**Huehuetenango**	**1.59**	**355**	*eP*	**Pn**	**00 37 03.0**	**+0.1**
CEVE	**Cerro Verde**	**1.69**	**86**	*eP*	**Pn**	**00 37 04.0**	**-0.2**
CEVE				AML	AML	00 37 33.8	
	comp=Z,2μm,0.5s						
SBLS	**San Blas**	**1.69**	**86**	*eP*	**Pn**	**00 37 04.1**	**-0.1**
SBLS				*eS*	**Sn**	**00 37 25.3**	**-0.5**
SNJE	**San Jose**	**1.71**	**85**	*eP*	**Pn**	**00 37 04.6**	**+0.2**
SNJE				*eS*	**Sn**	**00 37 25.6**	**-0.6**
JAYA	**Jayaque - finc**	**1.86**	**92**	*eP*	**Pn**	**00 37 06.1**	**-0.4**
JAYA				AML	AML	00 37 29.8	
	comp=Z,1μm,0.3s						
CEDA	**San Andres**	**1.91**	**88**	*eP*	**Pn**	**00 37 07.8**	**+0.7**
TACO	**Tacachico**	**1.96**	**83**	*eP*	**Pn**	**00 37 07.8**	**0.0**
TACO				AML	AML	00 37 38.1	
	comp=Z,125nm,0.3s						
BOQS	**Boqueron**	**2.02**	**90**	*eP*	**Pn**	**00 37 08.7**	**0.0**
BOQS				*eS*	**Sn**	**00 37 32.7**	**-1.2**
MTO3	**Montecristo**	**2.05**	**71**	*eP*	**Pn**	**00 37 09.0**	**-0.2**
ESQI	**Esquipulas**	**2.12**	**67**	*eP*	**Pn**	**00 37 10.1**	**+0.1**
LFU	**La Fuente**	**2.18**	**89**	*eP*	**Pn**	**00 37 12.0**	**+1.2**
LFU				*eS*	**Sn**	**00 37 38.2**	**+0.6**
LFRS	**El Faro**	**2.23**	**92**	*eP*	**Pn**	**00 37 12.2**	**+0.6**
LFRS				*eS*	**Sn**	**00 37 38.3**	**-0.7**
LBRS	**Las Brisas**	**2.25**	**89**	*eP*	**Pn**	**00 37 12.1**	**+0.3**
LBRS				*eS*	**Sn**	**00 37 39.4**	**0.0**
SJTE	**Alcalda de S**	**2.29**	**93**	*eP*	**Pn**	**00 37 13.0**	**+0.7**
SJTE				AML	AML	00 37 48.2	
	comp=Z,115nm,0.3s						
PAVA	**Las Pavas**	**2.35**	**90**	*eP*	**Pn**	**00 37 14.0**	**+0.8**
COEG	**Centro de Oper**	**2.41**	**92**	*eP*	**Pn**	**00 37 14.8**	**+0.8**
COEG				AML	AML	00 37 50.4	
	comp=Z,364nm,0.4s						
COEB	**Comit de Eme**	**2.76**	**94**	*eP*	**Pn**	**00 37 19.4**	**+0.6**
TECA	**Tecapa**	**2.79**	**94**	*eP*	**Pn**	**00 37 19.8**	**+0.5**
TECA				*eS*	**Sn**	**00 37 52.8**	**0.0**
LCND	**La Caada**	**3.40**	**97**	*eP*	**Pn**	**00 37 28.2**	**+0.7**
LCND				AML	AML	00 38 19.5	
	comp=Z,116nm,0.3s						

IDC 20 00:37:22.6±2.8, 30.°62S×72.°60W, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.5/26, mbtmp3.6/4, ML3.3/2, Error ellipse: s-maj=110.2km s-min=35.3km az=100.0, Off coast of Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**14.84**	**17**	Pn	Pn	00 40 55.3	+0.9
	0.1nm,0.3s,baz=203,slow=7.7,SNR=2.6						
SIV	**San Ignacio**	**17.98**	**39**	P	P	00 41 34.5	-0.3
	0.1nm,0.3s,baz=225,slow=13,SNR=6.6						
SNAA	**Sanae**	**54.89**	**159**	P	P	00 46 54.9	+0.2
	0.3nm,0.5s,baz=275,slow=12,SNR=2.3						
TORD	**Torodi Ar. Bea**	**83.53**	**71**	P	P	00 49 52.5	-0.3
	0.4nm,0.5s,baz=236,slow=3.9,SNR=7.3						
ZALV	**Zalesovo Beam**	**151.56**	**28**	PKPbc	PKPbc	00 57 17.9	-0.3
	1.0nm,0.6s,baz=294,slow=1.5,SNR=3.9						

*IDC **20** 00:48:15.8±2.1, 32.°21S×72.°05W, h0km, mb4.0/2, mb1 3.8/7, mb1mx3.7/31, mbtmp3.7/7, ML3.6/5, MS2.8/4, Ms1 2.8/4, ms1mx2.6/33, Error ellipse: s-maj=62.2km s-min=29.2km az=101.0*
*NEIC **20** 00:48:18.9±2.3, 32.°26S±0.°03×72.°09W±0.°07, h24km±6km, mb4.2/9, ML4.0(GUC), Error ellipse: s-maj=8.7km s-min=5.0km az=90.0*
*GUC **20** 00:48:19.4±0.8, 32.°27S×71.°90W, h28km±5km, ML4.0*
ISC 20 00:48:18.2±1.0, 32.°30S±0.°03×72.°06W±0.°05, h16km±6km, n67, σ1.°59/76, mb4.2/4, 2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.70**	**112**	*iP*	**Pg**	**00 48 30.9**	**-1.0**
VA06				*eS*	**Sg**	**00 48 38.3**	**-2.9**
VA06				IAML		00 48 41.4	
	comp=E,12μm,0.4s						
VA01	**Torpederas**	**0.80**	**154**	*eP*	**Pb**	**00 48 33.8**	**0.0**
VA01	**Torpederas**	**0.80**	**154**		**Pb**	**00 48 33.9**	**0.0**
VA01				Sn	**Sg**	**00 48 46.2**	**+1.7**
ROCH	**El Roble**	**1.11**	**127**	*eP*	**Pb**	**00 48 38.1**	**-1.2**
ROCH				*eS*	**Sb**	**00 48 52.0**	**-1.7**
ROCH				IAML		00 48 54.8	
	comp=N,6μm,0.3s						
VA03	**San Esteban**	**1.36**	**110**	*iP*	**Pn**	**00 48 41.4**	**-1.3**
VA03				*eS*	**Sn**	**00 48 57.8**	**-2.7**
VA03				IAML		00 49 02.4	
	comp=N,9μm,0.7s						
VA03	**San Esteban**	**1.36**	**110**		**Pn**	**00 48 41.4**	**-1.3**
VA03				Sn	**Sn**	**00 48 58.5**	**-2.0**
VA05	**Santo Domingo**	**1.41**	**165**	*eP*	**Pn**	**00 48 43.4**	**+0.1**
VA05				IAML		00 49 08.9	
	comp=E,5μm,0.5s						
VA05	**Santo Domingo**	**1.41**	**165**		**Pn**	**00 48 43.2**	**-0.1**
VA05				Sn	**Sg**	**00 49 04.2**	**+0.5**
MT05	**Renca**	**1.56**	**135**	*eP*	**Pn**	**00 48 45.4**	**0.0**
MT05				*eS*	**Sn**	**00 49 05.0**	**-0.4**
MT05				IAML		00 49 08.2	
	comp=N,6μm,0.3s						
MT05	**Renca**	**1.56**	**135**	Pn	**Pn**	**00 48 45.6**	**+0.2**
CO06	**Fray Jorge**	**1.66**	**13**	*i P*	**Pn**	**00 48 45.3**	**-1.5**
CO06	**Fray Jorge**	**1.66**	**13**		**Pn**	**00 48 45.2**	**-1.5**
MT01	**Popeta**	**1.70**	**157**	*eP*	**Pn**	**00 48 47.6**	**+0.2**
MT01	**Popeta**	**1.70**	**157**	Pn	**Pn**	**00 48 47.5**	**+0.2**
MT09	**Talagante**	**1.73**	**149**	*eP*	**Pn**	**00 48 48.4**	**+0.7**
MT09				IAML		00 49 17.5	
	comp=N,3μm,0.4s						
MT09	**Talagante**	**1.73**	**149**		**Pn**	**00 48 48.5**	**+0.7**
CO03	**El Pedregal**	**1.87**	**39**	*eP*	**Pn**	**00 48 49.1**	**-0.6**
CO03				*eS*	**Sn**	**00 49 12.0**	**-1.0**
CO03				IAML		00 49 18.6	
	comp=E,1μm,0.2s						
CO03	**El Pedregal**	**1.87**	**39**	Pn	**Pn**	**00 48 49.3**	**-0.4**
BO03	**Pichilemu**	**2.19**	**178**	*i P*	**Pn**	**00 48 54.2**	**+0.2**
BO03				*eS*	**Sn**	**00 49 19.4**	**-1.5**
LMEL	**Las Melosas**	**2.20**	**135**	*eP*	**Pn**	**00 48 55.0**	**+0.7**
LMEL				*eS*	**Sn**	**00 49 22.1**	**+0.9**
LMEL				IAML		00 49 33.0	
	comp=N,2μm,0.2s						
BO01	**Tunca**	**2.24**	**159**	*eP*	**Pn**	**00 48 55.3**	**+0.6**
BO01				*eS*	**Sn**	**00 49 23.3**	**+1.1**
BO01	**Tunca**	**2.24**	**159**		**Pn**	**00 48 55.2**	**+0.4**
GO04	**Tololo Observa**	**2.38**	**27**	*eP*	**Pn**	**00 48 55.8**	**-1.1**
GO04				*eS*	**Sb**	**00 49 29.5**	**-0.6**
GO04	**Tololo Observa**	**2.38**	**27**		**Pn**	**00 48 55.9**	**-0.9**
CO05	**La Serena**	**2.48**	**17**	*eP*	**Pn**	**00 48 57.2**	**-0.7**
CO05				IAML		00 49 42.6	
	comp=E,768nm,0.7s						
CO05	**La Serena**	**2.48**	**17**		**Pn**	**00 48 57.0**	**-1.0**
GO05	**Huala**	**2.71**	**178**	*eP*	**Pn**	**00 49 01.1**	**-0.1**
GO05				IAML		00 50 00.2	
	comp=E,329nm,0.4s						
GO05	**Huala**	**2.71**	**178**	Pn	**Pn**	**00 48 59.9**	**-1.3**
BO02	**Sierra Bellavi**	**2.71**	**157**	*eP*	**Pn**	**00 49 02.7**	**+1.4**
BO02	**Sierra Bellavi**	**2.71**	**157**	Pn	**Pn**	**00 49 02.4**	**+1.2**
ZON	**Zonda**	**2.97**	**76**		**Pn**	**00 49 06.4**	**+1.5**
LCO	**Las Campanas**	**3.48**	**20**	*eP*	**Pn**	**00 49 10.8**	**-1.2**
ML02	**Panimavida**	**3.50**	**171**	*eP*	**Pb**	**00 49 16.5**	**-3.3**
ML02	**Panimavida**	**3.50**	**171**		**Pn**	**00 49 09.3**	**-2.8**
AC04	**Llanos de Chal**	**4.17**	**12**	*eP*	**Pn**	**00 49 19.5**	**-1.7**
AC04	**Llanos de Chal**	**4.17**	**12**		**Pn**	**00 49 19.1**	**-2.1**
GO03	**Copiap**	**4.95**	**19**	*eP*	**Pn**	**00 49 30.3**	**-1.8**
GO03	**Copiap**	**4.95**	**19**		**Pn**	**00 49 30.6**	**-1.4**
AC06	**Mina Casimiro**	**5.14**	**17**	*eP*	**Pn**	**00 49 33.4**	**-1.3**
AC06	**Mina Casimiro**	**5.14**	**17**		**Pn**	**00 49 33.4**	**-1.3**
H03N1	**Juan Fernandez** baz=78,slow=73	**5.88**	**257**	T	T	00 56 28.7	
H03N3	**Juan Fernandez** baz=78,slow=73	**5.89**	**257**	T	T	00 56 26.5	
H03N2	**Juan Fernandez** baz=78,slow=73	**5.89**	**257**	T	T	00 56 20.4	
H03S3	**Juan Fernandez** baz=76,slow=75	**5.95**	**253**	T	T	00 56 23.4	
H03S1	**Juan Fernandez** baz=76,slow=75	**5.95**	**253**	T	T	00 56 21.7	
H03S2	**Juan Fernandez** baz=76,slow=75	**5.96**	**253**	T	T	00 56 21.3	
AC02	**Maricunga**	**6.01**	**26**		**Pn**	**00 49 46.2**	**-0.9**
LC01	**Cunco**	**6.59**	**179**	Pn	**Pn**	**00 49 54.4**	**-0.1**
PLCA	**Paso Flores** comp=E,0.2nm,0.3s,baz=335,slow=15,SNR=7.7	**8.51**	**172**	Pn	**Pn**	**00 50 22.6**	**+1.7**
PLCA				LR	LR	00 53 10.3	
	comp=E,23nm,21.4s,baz=358,slow=34						
PLCA	**Paso Flores**	**8.51**	**172**	Pn	**Pn**	**00 50 21.0**	**+0.2**
LVC	**Limon Verde** comp=E,0.1nm,0.3s,baz=173,slow=8.1,SNR=1.1	**10.05**	**17**	Pn	**Pn**	**00 50 41.9**	**-0.4**
LVC				Sn	**Sn**	**00 52 41.9**	**+6.9**
	comp=E,0.4nm,0.3s,baz=270,slow=20,SNR=3.6						
LVC				LR	LR	00 54 45.8	
	comp=E,35nm,21.0s,baz=174,slow=39						
LVC	**Limon Verde**	**10.05**	**17**		**Pn**	**00 50 43.2**	**+0.9**
TRQA	**Tornquist**	**10.05**	**128**	Pn	**Pn**	**00 50 43.4**	**+1.4**
ITQB	**Itaqui**	**13.50**	**83**	Pn	**Pn**	**00 51 31.0**	**+1.8**
CPUP	**Villa Florida** comp=E,0.1nm,0.3s,baz=246,slow=12,SNR=2.3	**14.16**	**69**	Pn	**Pn**	**00 51 39.0**	**+0.8**
CPUP				Sn	**Sn**	**00 54 18.7**	**+3.7**
	comp=E,0.1nm,0.3s,baz=228,slow=19,SNR=4.8						
CPUP				LR	LR	00 57 44.1	
	comp=E,81nm,19.2s,baz=216,slow=40						
CPUP	**Villa Florida**	**14.16**	**69**		**Pn**	**00 51 39.3**	**+1.1**
LPAZ	**La Paz** comp=E,0.1nm,0.3s,baz=187,slow=9.4,SNR=4.2	**16.33**	**14**	Pn	**Pn**	**00 52 06.8**	**-0.9**
LPAZ	**La Paz**	**16.33**	**14**	Pn	**Pn**	**00 52 06.4**	**-1.2**
SIV	**San Ignacio** comp=E,0.1nm,0.3s,baz=237,slow=15,SNR=4.8	**19.06**	**34**	P	**P**	**00 52 39.0**	**-1.0**
SIV				LR	LR	01 00 34.9	
	comp=E,41nm,19.2s,baz=54,slow=39						
BDFB	**Brasilia** comp=E,4.5nm,0.9s,baz=198,slow=6.7,SNR=4.0	**27.43**	**58**	P	**P**	**00 54 02.3**	**-1.3**
BDFB	**Brasilia**	**27.43**	**58**	P	**P**	**00 54 02.1**	**-1.5**
BDFB				IAmb	IAmb	00 54 03.6	
	comp=Z,6.0nm,1.0s						
SNAA	**Sanae**	**53.17**	**158**	P	**P**	**00 57 35.7**	**+0.6**
SNAA				IAmb	IAmb	00 57 45.1	
	comp=Z,4.5nm,1.2s						
QSPA	**South Pole Qui**	**57.93**	**180**	P	**P**	**00 58 08.4**	**-1.1**
QSPA				IAmb	IAmb	00 58 33.2	
	comp=Z,2.6nm,1.1s						
WVT	**Waverly**	**69.66**	**346**	P	**P**	**00 59 26.8**	**-0.1**
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.8s,baz=259,slow=5.6,SNR=5.7	**83.65**	**70**	P	**P**	**01 00 46.1**	**-0.4**
TORD	**Torodi Ar. Bea**	**83.65**	**70**	P	**P**	**01 00 45.9**	**-0.6**
TORD				IAmb	IAmb	01 01 03.4	
	comp=Z,3.2nm,1.4s						
ZALV	**Zalesovo Beam**	**152.79**	**30**	PKPbc	**PKiKP**	**01 08 14.6**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=291,slow=4.5,SNR=1.8						
ZALV				PKPab	**sPKPbc**	**01 08 23.0**	**+2.8**
	comp=Z,0.8nm,0.5s,baz=321,slow=2.0,SNR=3.0						

*IDC **20** 00:59:21.2±0.8, 33.°02S×71.°99W, h0km, mb4.0/8, mb1 4.2/13, mb1mx4.1/26, mbtmp4.0/13, ML3.8/5, MS3.8/3, Ms1 3.8/3, ms1mx3.0/38, Error ellipse: s-maj=28.9km s-min=17.9km az=96.0*
*NEIC **20** 00:59:23.0±1.6, 33.°09S±0.°04×72.°17W±0.°05, h14km±3km, Error ellipse: s-maj=7.3km s-min=4.2km az=52.0*
*NEIC **20** 00:59:24, 33.°08S×72.°10W, h24km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_rr=0.97; $M_{\theta\theta}$=0.33; $M_{\phi\phi}$=-1.30; $M_r\theta$=0.73; $M_{r\phi}$=-0.72; $M_{\theta\phi}$=-2.88; Fault plane solution: M_o3.28000×10^{15} NP1:ϕ_s168.80000°, δ80.97000°, λ72.41000°. NP2:ϕ_p52.47000°, δ19.71000°, λ152.27000°. Principal axes: T 3.2795, Plg51.0000°, Azm59.0000°; N -0.0020, Plg17.0000°, Azm172.0000°; P -3.2774, Plg34.0000°, Azm274.0000°;*
*GUC **20** 00:59:24.5±0.8, 33.°09S×71.°98W, h30km±3km, ML4.3*
ISC 20 00:59:24.3±0.9, 33.°07S±0.°03×72.°09W±0.°05, h24km±6km, n88, σ1.°37/96, mb4.3/13, 5C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.37**	**83**	*eP*	**Pb**	**00 59 32.0**	**-0.3**
VA01				*eS*	**Sn**	**00 59 37.9**	**-2.7**
VA01	**Torpederas**	**0.37**	**83**		**Pb**	**00 59 32.1**	**-0.3**
VA05	**Santo Domingo**	**0.70**	**146**	*eP*	**Pb**	**00 59 37.3**	**-0.6**
VA05				*eS*	**Sn**	**00 59 47.3**	**-1.5**
VA05				IAML		00 59 50.3	
	comp=E,22μm,0.6s						
VA05	**Santo Domingo**	**0.70**	**146**		**Pb**	**00 59 37.3**	**-0.6**
VA05				Sn	**Sn**	**00 59 47.6**	**-1.2**
VA06	**Catapilco**	**0.84**	**53**	*eP*	**Pb**	**00 59 39.7**	**-0.4**
VA06				*eS*	**Sn**	**00 59 50.8**	**-1.3**
VA06				IAML		00 59 53.0	
	comp=E,19μm,0.2s						
ROCH	**El Roble**	**0.91**	**84**	*eP*	**Pb**	**00 59 40.7**	**-0.8**
ROCH				*eS*	**Sn**	**00 59 53.3**	**-0.9**
MT01	**Popeta**	**1.05**	**139**	*eP*	**Pb**	**00 59 42.8**	**-1.0**
MT01				*eS*	**Sb**	**00 59 56.8**	**-0.5**
MT01				IAML		00 59 58.5	
	comp=E,10μm,0.5s						
MT01	**Popeta**	**1.05**	**139**		**Pb**	**00 59 42.9**	**-1.0**
MT09	**Talagante**	**1.16**	**128**	*eP*	**Pb**	**00 59 44.8**	**-0.9**
MT09				*eS*	**Sb**	**01 00 00.3**	**0.0**
MT09				IAML		01 00 01.2	
	comp=N,23μm,0.5s						
MT09	**Talagante**	**1.16**	**128**	Pn	**Pb**	**00 59 44.7**	**-0.9**
MT09					**Sb**	**01 00 00.3**	**0.0**
MT05	**Renca**	**1.17**	**106**	*eP*	**Pb**	**00 59 45.2**	**-0.7**
MT05				*eS*	**Sb**	**01 00 00.5**	**-0.2**
MT05				IAML		01 00 08.7	
	comp=E,10μm,0.4s						
MT05	**Renca**	**1.17**	**106**		**Pb**	**00 59 45.1**	**-0.8**
VA03	**San Esteban**	**1.33**	**77**	*eP*	**Pb**	**00 59 47.5**	**-1.0**
VA03				*eS*	**Sb**	**01 00 04.8**	**-0.4**
VA03				IAML		01 00 11.2	
	comp=N,10μm,0.4s						
VA03	**San Esteban**	**1.33**	**77**	Pn	**Pb**	**00 59 47.6**	**-1.0**
BO03	**Pichilemu**	**1.42**	**176**	*iP*	**Pn**	**00 59 47.7**	**-1.0**
BO03				*eS*	**Sn**	**01 00 04.3**	**-2.3**
BO01	**Tunca**	**1.56**	**148**	*eP*	**Pn**	**00 59 50.0**	**-0.5**
BO01				*eS*	**Sb**	**01 00 10.8**	**-0.9**
BO01	**Tunca**	**1.56**	**148**	Pn	**Pn**	**00 59 49.9**	**-0.6**
LMEL	**Las Melosas**	**1.75**	**117**	*iP*	**Pb**	**00 59 54.3**	**-1.5**
LMEL				*eS*	**Sb**	**01 00 18.1**	**+0.6**
LMEL				IAML		01 00 24.8	
	comp=N,7μm,0.3s						
GO05	**Huala**	**1.94**	**176**	Pn	**Pn**	**00 59 54.8**	**-0.9**
BO02	**Sierra Bellavi**	**2.03**	**148**	*eP*	**Pn**	**00 59 57.4**	**+0.3**
BO02				*eS*	**Sb**	**01 00 23.4**	**-1.9**
BO02	**Sierra Bellavi**	**2.03**	**148**	Pn	**Pn**	**00 59 57.3**	**+0.3**
CO06	**Fray Jorge**	**2.42**	**9**	*eP*	**Pn**	**01 00 00.8**	**-1.5**
CO06				IAML		01 00 47.1	
	comp=N,945nm,0.2s						
CO06	**Fray Jorge**	**2.42**	**9**		**Pn**	**01 00 01.2**	**-1.1**
CO03	**El Pedregal**	**2.52**	**28**	*eP*	**Pn**	**01 00 01.7**	**-2.1**
CO03				IAML		01 00 45.3	
	comp=E,2μm,0.3s						
ML02	**Panimavida**	**2.74**	**169**		**Pn**	**01 00 06.6**	**-0.1**
GO04	**Tololo Observa**	**3.09**	**21**	*eP*	Pn	00 59 59.6	-12
CO05	**La Serena**	**3.23**	**13**	*eP*	**Pn**	**01 00 12.8**	**-0.6**
CO05				IAML		01 01 14.5	
	comp=E,1μm,0.7s						
CO05	**La Serena**	**3.23**	**13**	Pn	**Pn**	**01 00 13.2**	**-0.1**
ZON	**Zonda**	**3.26**	**63**	Pn	**Pn**	**01 00 15.8**	**+1.9**
VA04	**Juan Fernndez**	**5.67**	**262**	Pn	**Pn**	**01 00 35.7**	**-1.7**
GO03	**Copiap**	**5.69**	**17**	Pn	**Pn**	**01 00 45.4**	**-1.9**
H03N1	**Juan Fernandez** baz=88,slow=73,SNR=80	**5.73**	**264**	T	T	01 07 33.6	
H03N3	**Juan Fernandez** baz=88,slow=73,SNR=29	**5.74**	**264**	T	T	01 07 22.8	
H03N2	**Juan Fernandez** baz=88,slow=73,SNR=14	**5.74**	**264**	T	T	01 07 46.2	
H03S1	**Juan Fernandez** baz=85,slow=75,SNR=516	**5.75**	**260

TORD				IAmb	IAmb	01 11 53.6		
	comp=Z,3.2nm,0.9s							
WRA	**Warramunga Arr**	**121.55**	**209**	PKP	**PKiKP**	**01 18 16.3**	**-0.2**	
	comp=Z,0.2nm,0.6s,baz=141,slow=1.5,SNR=1.3							
H11S2	**WAKE ISLAND Hyl**	**125.74**	**270**	T	T	03 37 08.4		
	baz=121							
H11S1	**WAKE ISLAND Hyl**	**125.75**	**270**	T	T	03 36 58.8		
	baz=121							
H11S3	**WAKE ISLAND Hyl**	**125.76**	**270**	T	T	03 37 08.4		
	baz=121							
ZALV	**Zalesovo Beam**	**153.46**	**31**	PKPbc	**PKiKP**	**01 19 20.5**	**+0.4**	
	comp=Z,2.1nm,0.7s,baz=317,slow=6.1,SNR=5.5							
ZALV				PKPab	**sPKPbc**	**01 19 33.3**	**+3.0**	
	comp=Z,0.8nm,0.5s,baz=321,slow=1.8,SNR=2.1							
ZALV	**Zalesovo Beam**	**153.46**	**31**		**PKiKP**	**01 19 20.2**	**+0.1**	
MKAR	**Makanchi Array**	**156.18**	**47**	PKPab	**PKPab**	**01 19 44.0**	**-0.2**	
	comp=Z,0.6nm,0.7s,baz=313,slow=2.8,SNR=5.5							
MKAR	**Makanchi Array**	**156.18**	**47**		**PKPab**	**01 19 44.5**	**+0.2**	

*IDC **20** 01:05:47.8±2.9, 30.37S×72.93W, h0km, mb3.8/2, mb1 3.7/5, mb1mx3.6/23, mbtmp3.7/5, ML3.5/3, MS3.6/1, Ms1 3.6/1, ms1mx2.4/37, Error ellipse: s-maj=111.0km s-min=27.3km az=99.0*

ISC 20 01:05:52.8±2.2, 30.4S±0.1×72.8W±0.5, h35km, n10, σ1s13/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
H03N1	**Juan Fernandez**	**6.00**	**238**	Op T		T	01 13 26.7	
	baz=77,slow=72,SNR=59							
H03N2	**Juan Fernandez**	**6.02**	**238**	T		T	01 13 28.9	
	baz=77,slow=72,SNR=56							
H03N3	**Juan Fernandez**	**6.02**	**238**	T		T	01 13 26.2	
	baz=77,slow=72,SNR=66							
PLCA	**Paso Flores**	**10.47**	**170**	Pn		**Pn**	**01 08 19.5**	**-1.0**
	0.2nm,0.3s,baz=341,slow=13,SNR=1.6							
LPAZ	**La Paz**	**14.69**	**18**	Pn		**Pn**	**01 09 17.9**	**-0.7**
	0.1nm,0.3s,baz=196,slow=17,SNR=1.3							
SIV	**San Ignacio**	**17.93**	**39**	P		**Pn**	**01 09 58.7**	**-0.8**
	0.1nm,0.3s,baz=241,slow=12,SNR=7.5							
CMIG	**Matias Romero**	**51.78**	**333**	LR		LR	01 31 44.5	
	comp=Z,54nm,18.1s,baz=158,slow=30							
SNAA	**Sanae**	**55.16**	**159**	P		**P**	**01 15 22.2**	**+0.7**
	0.5nm,0.5s,baz=263,slow=9.0,SNR=13							
TORD	**Torodi Ar. Bea**	**83.63**	**71**	P		**P**	**01 18 19.2**	**+1.1**
	0.3nm,0.5s,baz=242,slow=3.7,SNR=4.3							
ZALV	**Zalesovo Beam**	**151.45**	**28**	PKPbc		**PKiKP**	**01 25 43.1**	**+0.1**
	0.3nm,0.3s,baz=316,slow=6.0,SNR=1.7							

IDC 20 01:11:46.8±8.8, 2.79S×141.80E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.2/24, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=329.0km s-min=34.9km az=91.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.54**	**203**	P		Pn	01 16 05.6	+0.3
	0.1nm,0.3s,baz=24,slow=12,SNR=1.9							
ASAR	**Alice Springs**	**22.11**	**200**	P		P	01 16 43.7	-0.4
	0.3nm,0.6s,baz=28,slow=10.0,SNR=2.4							
MKAR	**Makanchi Array**	**71.76**	**321**	P		P	01 23 11.1	0.0
	0.4nm,0.8s,baz=105,slow=6.5,SNR=1.9							

*SJA **20** 01:12:34.0, 30.34S×73.08W, h10km, ML4.5*
*NEIC **20** 01:12:35.9±1.8, 30.4S±0.0S×72.72W±0.0, h10km±1km, mb4.2/7, Error ellipse: s-maj=9.2km s-min=3.5km az=195.0*
*IDC **20** 01:12:36.9±0.9, 30.53S×72.41W, h0km, mb4.3/7, mb1 4.3/10, mb1mx4.1/29, mbtmp4.2/10, ML4.0/3, Error ellipse: s-maj=35.9km s-min=18.8km az=100.0*
*GUC **20** 01:12:39.4±0.6, 30.41S×72.44W, h15km, ML3.5*

ISC 20 01:12:37.8±0.7, 30.41S±0.0S×72.58W±0.0S, h19km, n88, σ1s74/92, mb4.3/7, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.85**	**108**	*eP*		**Pg**	**01 12 53.8**	**-0.8**
CO06				*eS*		**Sg**	**01 13 04.8**	**-1.0**
CO06				IAML			01 13 08.1	
	comp=N,2μm,0.4s							
CO06	**Fray Jorge**	**0.85**	**108**			**Pg**	**01 12 54.0**	**-0.5**
CO05	**La Serena**	**1.26**	**67**	*eP*		**Pb**	**01 13 00.1**	**-0.8**
CO05				*eS*		**Sg**	**01 13 16.1**	**-2.4**
CO05				IAML			01 13 18.4	
	comp=E,2μm,0.4s							
CO05	**La Serena**	**1.26**	**67**			**Pb**	**01 13 00.1**	**-0.8**
GO04	**Tololo Observa**	**1.55**	**82**	*eP*		**Pb**	**01 13 05.3**	**-0.9**
GO04				*eS*		**Sb**	**01 13 24.6**	**-0.9**
GO04	**Tololo Observa**	**1.55**	**82**			**Pb**	**01 13 05.5**	**-0.7**
GO04	**Tololo Observa**	**1.55**	**82**	*i P*		**Pb**	**01 13 06.0**	**-1.1**
CO03	**El Pedregal**	**1.68**	**105**	*i P*		**Pb**	**01 13 06.8**	**-1.4**
CO03				*eS*		**Sb**	**01 13 27.5**	**-1.6**
CO03				IAML			01 13 29.7	
	comp=N,2μm,0.5s							
CO03	**El Pedregal**	**1.68**	**105**			**Pb**	**01 13 06.9**	**-1.4**
CO03	**El Pedregal**	**1.68**	**105**	*i P*		**Pb**	**01 13 07.0**	**-1.2**
LCO	**Las Campanas**	**2.14**	**50**	*eP*		**Pn**	**01 13 13.1**	**+0.2**
LCO	**Las Campanas**	**2.14**	**50**			**Pn**	**01 13 13.5**	**+0.7**
LCO	**Las Campanas**	**2.14**	**50**	*i P*		**Pn**	**01 13 13.0**	**+0.2**
VA06	**Catapilco**	**2.41**	**153**	*i P*		**Pn**	**01 13 15.9**	**-0.3**
AC04	**Llanos de Chal**	**2.56**	**31**	*eP*		**Pn**	**01 13 17.5**	**-0.7**
AC04	**Llanos de Chal**	**2.56**	**31**			**Pn**	**01 13 17.6**	**-0.7**
AC04	**Llanos de Chal**	**2.56**	**31**	*i P*		**Pn**	**01 13 17.0**	**-1.3**
VA01	**Torpederas**	**2.73**	**163**	*eP*		**Pn**	**01 13 19.6**	**-0.9**
VA01	**Torpederas**	**2.73**	**163**			**Pn**	**01 13 20.0**	**-0.6**
ROCH	**El Roble**	**2.88**	**155**	*eP*		**Pn**	**01 13 23.1**	**0.0**
VA03	**San Esteban**	**2.92**	**144**	*i P*		**Pn**	**01 13 24.2**	**+0.9**
VA03	**San Esteban**	**2.92**	**144**			**Pn**	**01 13 23.9**	**+0.7**
VA03	**San Esteban**	**2.92**	**144**	*i P*		**Pn**	**01 13 24.0**	**+0.7**
ACDV	**Cuesta del Vie**	**3.00**	**86**	*i P*		**Pb**	**01 13 29.0**	**-1.7**
ACCO	**Cerro Coronel**	**3.03**	**94**	*i P*		**Pb**	**01 13 29.0**	**-2.4**
AUSP	**Uspallata**	**3.27**	**124**	*i P*		**Pb**	**01 13 32.0**	**-3.5**
VA05	**Santo Domingo**	**3.34**	**166**			**Pn**	**01 13 28.4**	**-0.7**
MT05	**Renca**	**3.36**	**153**	*eP*		**Pn**	**01 13 29.5**	**+0.1**
MT05	**Renca**	**3.36**	**153**			**Pn**	**01 13 29.8**	**+0.4**
MT05	**Renca**	**3.36**	**153**	*i P*		**Pn**	**01 13 31.0**	**+1.6**
GO03	**Copiap**	**3.47**	**37**	*eP*		**Pn**	**01 13 30.9**	**0.0**
GO03	**Copiap**	**3.47**	**37**			**Pn**	**01 13 30.6**	**-0.4**
GO03	**Copiap**	**3.47**	**37**	*i P*		**Pn**	**01 13 31.0**	**+0.1**
ZON	**Zonda**	**3.53**	**110**			**Pn**	**01 13 34.5**	**+2.8**
ZON	**Zonda**	**3.53**	**110**	*i P*		**Pb**	**01 13 37.0**	**-2.8**
AC06	**Mina Casimiro**	**3.61**	**33**	*eP*		**Pn**	**01 13 32.9**	**+0.2**
AC06	**Mina Casimiro**	**3.61**	**33**			**Pn**	**01 13 32.1**	**-0.6**
MT09	**Talagante**	**3.62**	**159**	*eP*		**Pn**	**01 13 33.4**	**+0.4**
MT09	**Talagante**	**3.62**	**159**			**Pn**	**01 13 33.1**	**+0.1**
MT01	**Popeta**	**3.62**	**162**	*eP*		**Pn**	**01 13 32.3**	**-0.7**
MT01	**Popeta**	**3.62**	**162**			**Pn**	**01 13 31.6**	**-1.4**
AGUA	**GUANDACOL**	**3.66**	**77**	*i P*		**Pb**	**01 13 38.0**	**-4.0**
RTCV	**Cerro Valdivia**	**3.75**	**114**	*i P*		**Pb**	**01 13 39.0**	**-4.5**
ASAL	**Salagasta**	**3.87**	**125**	*i P*		**Pb**	**01 13 41.0**	**-4.5**
LMEL	**Las Melosas**	**3.98**	**150**	*eP*		**Pn**	**01 13 38.9**	**+1.0**
BO01	**Tunca**	**4.17**	**163**	*eP*		**Pn**	**01 13 39.9**	**-0.5**
BO01	**Tunca**	**4.17**	**163**			**Pn**	**01 13 40.4**	**0.0**
AVFE	**Valle Fertil**	**4.42**	**95**	*i P*		**Pn**	**01 13 47.0**	**+3.0**
GO05	**Huala**	**4.62**	**173**			**Pn**	**01 13 44.9**	**-1.8**
GO05	**Huala**	**4.62**	**173**	*i P*		**Pn**	**01 13 46.0**	**-0.7**
BO02	**Sierra Bellavi**	**4.63**	**161**			**Pn**	**01 13 47.0**	**+0.2**
AC02	**Maricunga**	**4.67**	**41**			**Pn**	**01 13 48.7**	**+0.8**
AC02	**Maricunga**	**4.67**	**41**	*i P*		**Pn**	**01 13 49.0**	**+1.2**
ACHE	**Chepes**	**5.14**	**100**	*i P*		**Pn**	**01 13 57.0**	**+3.0**
RFA	**San Rafael**	**5.56**	**143**	*i P*		**Pn**	**01 14 01.0**	**+1.3**
VA04	**Juan Fernndez**	**6.21**	**237**	Pn		**Pn**	**01 14 05.6**	**-2.9**
CYA	**Choya**	**6.22**	**73**	*i P*		**Pn**	**01 14 10.0**	**+1.3**
PB15	**IPOC Station P**	**7.69**	**22**	*i P*		**Pn**	**01 14 29.0**	**0.0**
PB05	**IPOC Station P**	**7.82**	**16**	*i P*		**Pn**	**01 14 28.0**	**-2.7**
PB04	**IPOC Station P**	**8.33**	**16**	*i P*		**Pn**	**01 14 35.0**	**-2.8**
LVC	**Limon Verde**	**8.43**	**24**	Pn		**Pn**	**01 14 37.7**	**-1.6**
	comp=N,0.3nm,0.3s,baz=175,slow=6.4,SNR=9.0							
LVC				Sn		**Sn**	**01 16 10.4**	**-3.8**
	comp=N,0.3nm,0.3s,baz=42,slow=23,SNR=1.6							
LVC	**Limon Verde**	**8.43**	**24**	Pn		**Pn**	**01 14 38.7**	**-0.6**
LVC	**Limon Verde**	**8.43**	**24**	*i P*		**Pn**	**01 14 39.0**	**-0.3**
LC01	**Cunco**	**8.49**	**176**	Pn		**Pn**	**01 14 39.1**	**-0.6**
LC01	**Cunco**	**8.49**	**176**	*i P*		**Pn**	**01 14 40.0**	**+0.2**
PLCA	**Paso Flores**	**10.43**	**171**	Pn		**Pn**	**01 15 05.9**	**-0.6**
	comp=N,0.5nm,0.3s,baz=338,slow=14,SNR=7.3							
PLCA	**Paso Flores**	**10.43**	**171**	Pn		**Pn**	**01 15 04.6**	**-1.8**
LPAZ	**La Paz**	**14.63**	**17**	Pn		**Pn**	**01 16 07.5**	**+3.0**
	comp=N,0.2nm,0.3s,baz=156,slow=6.1,SNR=11							
LPAZ	**La Paz**	**14.63**	**17**	Pn		**Pn**	**01 16 01.0**	**-3.5**
SIV	**San Ignacio**	**17.80**	**39**	P		**P**	**01 16 45.8**	**+0.5**
	comp=N,0.2nm,0.3s,baz=232,slow=12,SNR=40							
BDFB	**Brasilia**	**26.88**	**62**	P		**P**	**01 18 19.1**	**+1.3**
	comp=N,5.8nm,0.8s,baz=241,slow=8.2,SNR=8.7							
BDFB	**Brasilia**	**26.88**	**62**	P		**P**	**01 18 17.8**	**0.0**
BDFB				IAmb		IAmb	01 18 19.8	
	comp=E,6.6nm,0.9s							
VNA3	**Neumayer Olymp**	**52.85**	**159**	P		**P**	**01 21 53.8**	**+1.9**
VNA1	**Neumayer--Stat**	**53.16**	**158**	P		**P**	**01 21 55.9**	**+1.9**
VNA2	**Neumayer--Watz**	**53.50**	**158**	P		**P**	**01 21 57.9**	**+1.4**
	baz=284,slow=8.7							
SNAA	**Sanae**	**55.08**	**159**	P		**P**	**01 22 09.5**	**+1.4**
SNAA	**Sanae**	**55.08**	**159**	P		**P**	**01 22 09.2**	**+1.0**
	comp=Z,4.0nm,0.8s,baz=278,slow=8.7,SNR=33							
SNAA	**Sanae**	**55.08**	**159**	P		**P**	**01 22 08.4**	**+0.2**
SNAA				IAmb		IAmb	01 22 10.8	
	comp=Z,7.2nm,1.1s							
QSPA	**South Pole Qui**	**59.82**	**180**	P		**P**	**01 22 42.8**	**+1.1**
	comp=Z,8.8nm,1.0s,baz=159,slow=1.6,SNR=8.2							
TXAR	**Lajitas Array**	**66.39**	**331**	P		**P**	**01 23 29.1**	**+3.4**
	comp=Z,0.5nm,0.8s,baz=141,slow=8.1,SNR=4.3							
TXAR	**Lajitas Array**	**66.39**	**331**	P		**P**	**01 23 23.8**	**-1.9**
DBIC	**Dimbokro**	**74.50**	**73**	P		**P**	**01 24 17.6**	**+2.1**
	comp=Z,3.3nm,0.8s,baz=239,slow=5.9,SNR=3.6							
MAW	**Mawson**	**76.75**	**164**	P		**P**	**01 24 29.0**	**+1.5**
	comp=Z,1.1nm,0.5s,baz=213,slow=2.9,SNR=7.1							
MAW	**Mawson**	**76.75**	**164**	IAmb		IAmb	01 24 38.8	
	comp=Z,0.3nm,0.7s							
TORD	**Torodi Ar. Bea**	**83.44**	**71**	P		**P**	**01 25 06.1**	**+1.7**
	comp=Z,3.0nm,0.8s,baz=262,slow=4.6,SNR=15							
TORD	**Torodi Ar. Bea**	**83.44**	**71**	P		**P**	**01 25 05.5**	**+1.1**
TORD				IAmb		IAmb	01 25 07.8	
	comp=Z,2.2nm,0.9s							
ZALV	**Zalesovo Beam**	**151.36**	**28**	PKPbc		**PKiKP**	**01 32 32.0**	**+1.8**
	comp=Z,5.9nm,0.9s,baz=297,slow=3.5,SNR=13							
MKAR	**Makanchi Array**	**154.59**	**43**	PKPbc		**PKiKP**	**01 32 39.2**	**+1.9**
	comp=Z,0.8nm,0.8s,baz=298,slow=2.6,SNR=5.5							

*SJA **20** 01:18:48.0, 30.84S×73.09W, h10km, ML4.6*
*IDC **20** 01:18:49.1±0.5, 31.01S×72.64W, h0km, mb4.6/18, mb1 4.7/23, mb1mx4.5/42, mbtmp4.6/23, ML4.4/5, MS3.7/9, Ms1 3.7/9, ms1mx3.4/32, Error ellipse: s-maj=20.5km s-min=13.4km az=75.0*
*NEIC **20** 01:18:50.1, 30.96S×72.76W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr=4.09; Mθθ=0.38; Mϕϕ=3.71; Mrθ=-0.44; Mrϕ=-0.59; Mθϕ=0.21; Fault plane solution: M0=3.99000×10^15 NP1:ϕs=165.01000°, δ=47.26000°, λ=-97.07000°. NP2:ϕs=355.37000°, δ=43.21000°, λ=-82.41000°. Principal axes: T 3.8207, Plg2.0000°, Azm260.0000°; N 0.3114, Plg5.0000°, Azm170.0000°; P -4.1321, Plg84.0000°, Azm11.0000°;*
*NEIC **20** 01:18:50.3±2.6, 30.96S±0.04×72.72W±0.06, h10km±1km, mb4.7/43, Mwr4.3/48, ML4.4(GUC) Error ellipse: s-maj=8.7km s-min=5.9km az=291.0*
*GUC **20** 01:18:51.8±0.3, 30.64S×72.66W, h16km±9km, ML4.4*

ISC 20 01:18:48.3±1.9, 30.97S±0.04×72.79W±0.06, h1km±11km, n164, σ1s69/170, mb4.7/31, MS4.1/5, 4C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**1.04**	**74**	*eP*		**Pg**	**01 19 08.0**	**-0.2**
CO06				*eS*		**Sg**	**01 19 20.6**	**-1.2**
CO06	**Fray Jorge**	**1.04**	**74**			**Pg**	**01 19 08.1**	**-0.2**
CO05	**La Serena**	**1.71**	**52**	*eP*		**Pn**	**01 19 17.9**	**-1.3**
CO05				*eS*		**Sn**	**01 19 37.2**	**-4.4**
CO05				IAML			01 19 38.8	
	comp=N,8μm,0.4s							
CO05	**La Serena**	**1.71**	**52**			**Pn**	**01 19 17.3**	**-1.8**
CO03	**El Pedregal**	**1.81**	**86**	*eP*		**Pn**	**01 19 19.9**	**-0.9**
CO03				*eS*		**Sn**	**01 19 40.9**	**-3.6**
CO03				IAML			01 19 47.5	
	comp=E,5μm,0.4s							
CO03	**El Pedregal**	**1.81**	**86**			**Pn**	**01 19 19.6**	**-1.2**
GO04	**Tololo Observa**	**1.90**	**66**	*eP*		**Pn**	**01 19 21.0**	**-1.0**
GO04				*eS*		**Sn**	**01 19 43.3**	**-3.4**
GO04				IAML			01 19 47.6	
	comp=N,17μm,0.4s							
GO04	**Tololo Observa**	**1.90**	**66**	Pn		**Pn**	**01 19 21.4**	**-0.6**
GO04	**Tololo Observa**	**1.90**	**66**	*i P*		**Pn**	**01 19 21.0**	**-1.0**
VA06	**Catapilco**	**2.03**	**142**	*i P*		**Pn**	**01 19 22.5**	**-1.1**
VA06				*eS*		**Sn**	**01 19 43.8**	**-5.8**
VA06				IAML			01 19 46.5	
	comp=E,3μm,0.6s							
VA01	**Torpederas**	**2.26**	**155**	*eP*		**Pn**	**01 19 25.9**	**-1.0**
VA01	**Torpederas**	**2.26**	**155**			**Pn**	**01 19 25.7**	**-1.1**
ROCH	**El Roble**	**2.50**	**143**	*eP*		**Pn**	**01 19 29.6**	**-0.7**
ROCH				*eS*		**Sn**	**01 19 57.0**	**-4.6**
ROCH				IAML			01 20 02.4	
	comp=N,1μm,0.5s							
VA03	**San Esteban**	**2.61**	**134**	*eP*		**Pn**	**01 19 31.5**	**-0.3**
VA03				*eS*		**Sn**	**01 20 00.3**	**-3.8**
VA03				IAML			01 20 05.1	
	comp=E,1μm,0.1s							
VA03	**San Esteban**	**2.61**	**134**			**Pn**	**01 19 30.9**	**-0.8**
LCO	**Las Campanas**	**2.67**	**43**	*eP*		**Pn**	**01 19 31.9**	**-0.7**
LCO				*eS*		**Sn**	**01 20 02.2**	**-3.5**
LCO	**Las Campanas**	**2.67**	**43**			**Pn**	**01 19 32.2**	**-0.5**
LCO	**Las Campanas**	**2.67**	**43**	*i P*		**Pn**	**01 19 32.0**	**-0.7**
VA05	**Santo Domingo**	**2.86**	**160**	*eP*		**Pn**	**01 19 33.8**	**-1.2**
VA05				*eS*		**Sn**	**01 20 04.6**	**-5.4**
VA05				IAML			01 20 07.2	
	comp=E,865nm,0.4s							
VA05	**Santo Domingo**	**2.86**	**160**			**Pn**	**01 19 34.0**	**-1.0**
MT05	**Renca**	**2.98**	**145**	*eP*		**Pn**	**01 19 36.1**	**-0.6**
MT05				IAML			01 20 14.6	
	comp=E,987nm,0.4s							
MT05	**Renca**	**2.98**	**145**			**Pn**	**01 19 36.6**	**-0.1**
RTLS	**Leoncito**	**3.10**	**106**	*i P*		**Pn**	**01 19 41.0**	**+2.3**
AC04	**Llanos de Chal**	**3.14**	**29**	*eP*		**Pn**	**01 19 37.6**	**-1.3**
AC04				*eS*		**Sn**	**01 20 12.3**	**-4.7**
AC04				IAML			01 20 13.9	
	comp=N,2μm,0.5s							
AC04	**Llanos de Chal**	**3.14**	**29**			**Pn**	**01 19 37.6**	**-1.3**
AC04	**Llanos de Chal**	**3.14**	**29**	*i P*		**Pn**	**01 19 38.0**	**-0.9**
AUSP	**Uspallata**	**3.16**	**114**	*i P*		**Pn**	**01 19 42.0**	**+2.5**
MT01	**Popeta**	**3.17**	**156**	*eP*		**Pn**	**01 19 38.2**	**-1.1**
MT01				IAML			01 20 20.8	
	comp=E,436nm,0.5s							
MT01	**Popeta**	**3.17**	**156**			**Pn**	**01 19 38.3**	**-1.0**
MT09	**Talagante**	**3.19**	**152**	*eP*		**Pn**	**01 19 39.6**	**-0.1**
MT09				IAML			01 20 18.0	
	comp=N,595nm,0.4s							
MT09	**Talagante**	**3.19**	**152**			**Pn**	**01 19 39.7**	**+0.1**
ACDV	**Cuesta del Vie**	**3.27**	**77**	*i P*		**Pn**	**01 19 44.0**	**+3.2**
ZON	**Zonda**	**3.57**	**100**			**Pn**	**01 19 45.9**	**+1.0**
ZON	**Zonda**	**3.57**	**100**	*i P*		**Pn**	**01 19 48.0**	**+3.1**
BO03	**Pichilemu**	**3.58**	**169**	*i P*		**Pn**	**01 19 44.0**	**-1.0**
LMEL	**Las Melosas**	**3.61**	**143**	*i P*		**Pn**	**01 19 45.8**	**+0.3**
BO01	**Tunca**	**3.70**	**158**	*eP*		**Pn**	**01 19 45.9**	**-0.7**
BO01	**Tunca**	**3.70**	**158**			**Pn**	**01 19 46.1**	**-0.5**
ASAL	**Salagasta**	**3.74**	**117**	*i P*		**Pn**	**01 19 51.0**	**+3.8**
RTCV	**Cerro Valdivia**	**3.74**	**105**	*i P*		**Pn**	**01 19 50.0**	**+2.8**
AGUA	**GUANDACOL**	**4.01**	**69**	*i P*		**Pn**	**01 19 54.0**	**+3.1**
GO03	**Copiap**	**4.04**	**34**	*eP*		**Pn**	**01 19 50.4**	**-1.0**
GO03	**Copiap**	**4.04**	**34**			**Pn**	**01 19 50.5**	**-0.8**
GO03	**Copiap**	**4.04**	**34**	*i P*		**Pn**	**01 19 51.0**	**-0.4**
GO05	**Huala**	**4.09**	**170**	*i P*		**Pn**	**01 19 50.9**	**-1.1**
GO05	**Huala**	**4.09**	**170**			**Pn**	**01 19 50.9**	**-1.1**
BO02	**Sierra Bellavi**	**4.17**	**157**	*eP*		**Pn**	**01 19 53.1**	**0.0**
BO02	**Sierra Bellavi**	**4.17**	**157**			**Pn**	**01 19 53.2**	**+0.1**
AC06	**Mina Casimiro**	**4.19**	**31**	Pn		**Pn**	**01 19 52.2**	**-1.1**
VCA	**Vinchina**	**4.57**	**62**	*i P*		**Pn**	**01 20 02.0**	**+3.3**
AVFE	**Valle Fertil**	**4.60**	**87**	*i P*		**Pn**	**01 20 01.0**	**+1.9**
ML02	**Panimavida**	**4.91**	**167**			**Pn**	**01 20 02.5**	**-0.8**
COIS	**El Sosneado**	**4.92**	**148**	*i P*		**Pn**	**01 20 06.0**	**+2.6**
AC02	**Maricunga**	**5.23**	**39**			**Pn**	**01 20 08.1**	**0.0**
AC02	**Maricunga**	**5.23**	**39**	*i P*		**Pn**	**01 20 08.0**	**0.0**
ACHE	**Chepes**	**5.26**	**94**	*i P*		**Pn**	**01 20 09.0**	**+0.8**
H03N1	**Juan Fernandez**	**5.74**	**243**	T		T	01 26 15.6	
	baz=70,slow=71,SNR=14							
H03N2	**Juan Fernandez**	**5.75**	**243**	T		T	01 26 16.0	
	baz=70,slow=71,SNR=11							
H03N3	**Juan Fernandez**	**5.75**	**243**	T		T	01 26 14.5	
	baz=70,slow=71,SNR=8.3							
VA04	**Juan Fernndez**	**5.76**	**241**			**Pn**	**01 20 14.8**	**-0.1**
CYA	**Choya**	**6.58**	**69**	*i P*		**Pn**	**01 20 27.0**	**+0.7**
PB14	**IPOC Station P**	**6.67**	**19**	Pn		**Pn**	**01 20 27.6**	**0.0**
PB14	**IPOC Station P**	**6.67**	**19**	*i P*		**Pn**	**01 20 24.0**	**-3.7**
PB10	**IPOC Station P**	**7.69**	**16**	*i P*		**Pn**	**01 20 42.0**	**+0.5**
AHML	**Horco Molle**	**7.76**	**59**	*i P*		**Pn**	**01 20 45.0**	**+2.6**
PB15	**IPOC Station P**	**8.28**	**22**	*i P*		**Pn**	**01 20 49.0**	**-0.7**
PB05	**IPOC Station P**	**8.41**	**17**	*i P*		**Pn**	**01 20 48.0**	**-3.5**
PB06	**IPOC Station P**	**8.72**	**20**	Pn		**Pn**	**01 20 54.8**	**-1.0**
PB04	**IPOC Station P**	**8.92**	**16**	*i P*		**Pn**	**01 20 56.0**	**-2.5**
LVC	**Limon Verde**	**9.02**	**24**	Pn		**Pn**	**01 20 57.7**	**-2.4**
	comp=N,0.5nm,0.3s,baz=224,slow=8.0,SNR=3.8							
LVC				Sn		**Sn**	**01 22 37.0**	**-5.4**
	comp=N,1.1nm,0.3s,baz=55,slow=23,SNR=1.6							
LVC	**Limon Verde**	**9.02**	**24**	Pn		**Pn**	**01 20 58.8**	**-1.2**
LVC	**Limon Verde**	**9.02**	**24**	*i P*		**Pn**	**01 20 59.0**	**-1.1**
PB03	**IPOC Station P**	**9.29**	**18**	*i P*		**Pn**	**01 21 02.0**	**-1.6**
PB07	**IPOC Station P**	**9.57**	**16**	Pn		**Pn**	**01 21 06.1**	**-1.3**
PLCA	**Paso Flores**	**9.91**	**170**	Pn		**Pn**	**01 21 12.1**	**+0.2**
	comp=N,1.0nm,0.3s,baz=335,slow=14,SNR=34							
PLCA				LR		LR	01 24 06.4	
	comp=N,54nm,18.7s,baz=350,slow=32							
PLCA	**Paso Flores**	**9.91**	**170**			**Pn**	**01 21 11.5**	**-0.4**
PB02	**IPOC Station P**	**9.96**	**16**	*i P*		**Pn**	**01 21 11.0**	**-1.7**
TRQA	**Tornquist**	**11.37**	**131**			**Pn**	**01 21 31.9**	**0.0**
PSGCX	**Pisagua**	**11.58**	**13**	*i P*		**Pn**	**01 21 31.0**	**-3.9**
CPUP	**Villa Florida**	**14.34**	**75**	Pn		**Pn**	**01 22 12.4**	**-0.1**
	comp=N,0.1nm,0.3s,baz=296,slow=15,SNR=2.3							
CPUP				LR		LR	01 28 44.0	
	comp=N,241nm,19.8s,baz=248,slow=42							
LPAZ	**La Paz**	**15.23**	**17**	Pn		**Pn**	**01 22 26.1**	**+1.1**
	comp=N,0.9nm,0.3s,baz=189,slow=6.4,SNR=56							
LPAZ	**La Paz**	**15.23**	**17**	Pn		**Pn**	**01 22 24.8**	**-0.3**
LPAZ				IAmb		IAmb	01 22 30.1	
	comp=Z,25nm,0.8s							
SIV	**San Ignacio**	**18.36**	**38**	P		**P**	**01 23 04.8**	**+0.3**
	comp=Z,2.0nm,0.3s,baz=224,slow=10,SNR=152							
SIV				LR		LR	01 31 04.7	
	comp=Z,270nm,21.2s,baz=208,slow=40							
AQDB	**Aquidauana**	**18.59**	**60**	P		**P**	**01 23 06.2**	**-0.7**
NNA	**Nana**	**19.26**	**348**	P		**Pn**	**01 23 17.7**	**+2.4**
	comp=Z,0.7nm,0.3s,baz=209,slow=5.5,SNR=4.2							
NNA				LR		LR	01 28 22.2	
	comp=Z,59nm,22.0s,baz=173,slow=30	

comp=Z,0.6nm,0.7s,baz=128,slow=1.9,SNR=6.7
BRTR Keskin Array B 120.89 60 PKP **PKPdf 01 37 42.8 +0.3**
comp=Z,0.7nm,0.9s,baz=195,slow=3.8,SNR=4.9
WRA Warramunga Arr 123.06 211 PKP **PKPdf 01 37 47.4 +0.1**
comp=Z,2.3nm,0.7s,baz=169,slow=1.9,SNR=18
BRVK Borovoye 145.36 40 PKPbc **PKPbc 01 38 27.6 +0.2**
YAK Yakutsk 145.67 341 **PKPbc 01 38 28.6 +0.6**
CHGR Chuyangaron 148.01 66 PKPbc **PKPbc 01 38 34.9 -0.8**
KK31 Karatay Array 148.55 57 PKPbc **PKPbc 01 38 36.8 0.0**
KKAR Karatay Array 148.55 57 PKPbc **PKPbc 01 38 36.6 -0.3**
GAR Garm 148.90 65 PKPbc **PKPbc 01 38 38.2 +0.2**
BTK Batken 149.20 63 PKPbc **PKPbc 01 38 38.1 -0.5**
HYB Hyderabad 150.69 111 *i* PKP **PKPbc 01 38 43.0 +0.2**
ZALV Zalesovo Beam 151.94 29 PKP **PKPdf 01 38 36.8 -1.3**
comp=Z,2.0nm,0.8s,baz=318,slow=1.9,SNR=4.0
ZALV PKPbc **PKPbc 01 38 45.1 +0.6**
comp=Z,13nm,0.7s,baz=298,slow=3.2,SNR=13
ZALV Zalesovo Beam 151.94 29 **PKPbc 01 38 43.8 -0.8**
MKAR Makanchi Array 155.13 44 PKP **PKPdf 01 38 42.6 -0.4**
comp=Z,0.7nm,0.8s,baz=117,slow=0.3,SNR=4.1
MKAR PKPbc pPKPbc 01 38 52.3 +1.6
comp=Z,1.4nm,0.9s,baz=16,slow=3.0,SNR=5.4
MKAR PKPab **PKPab 01 39 08.3 +0.6**
comp=Z,1.9nm,0.9s,baz=308,slow=4.5,SNR=5.9
MKAR Makanchi Array 155.13 44 **PKPdf 01 38 40.6 -2.4**
SONM Songino Array 163.15 2 PKPab **PKPab 01 39 43.4 +1.0**
comp=Z,0.5nm,0.4s,baz=347,slow=6.1,SNR=4.3
SONM Songino Array 163.15 2 **PKPab 01 39 42.5 +0.2**
LZH Lanzhou 174.18 28 *e*PKP **PKPdf 01 39 01.9 +1.9**
LZH sPKP 01 39 05.9
LZH PKP **PKPab 01 40 31.0 -0.6**
LZH LR LR
comp=N,170nm,17.9s
LZH LR LR
comp=E,200nm,17.8s
LZH LR LR
comp=Z,110nm,20.6s

*IDC **20** 01:21:15.9±1.4, 32.°39S×71.°84W, h0km, mb4.0/6, mb1 4.0/9, mb1mx3.9/41, mbtmp3.9/9, ML3.9/3, Error ellipse: s-maj=44.4km s-min=26.1km az=97.0*
*NEIC **20** 01:21:16.4±1.1, 32.°36S±0.°04×72.°12W±0.°09, h13km±6km, mb4.2/5, ML4.4(GUC), Error ellipse: s-maj=10.7km s-min=5.2km az=80.0*
*GUC **20** 01:21:17.8±0.7, 32.°37S×72.°12W, h23km±7km, ML4.4*
ISC 20 01:21:15.7±1.7, 32.°35S±0.°04×72.°13W±0.°07, h6km±11km, n52, σ0.°82/51, mb4.1/6, 5C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.73**	**107**	⇓*iP*			**Pb**	**01 21 31.2**	**+0.4**
VA06				*i*	S		**Sb**	**01 21 41.2**	**+0.2**
VA06				IAML				01 21 43.8	
	comp=E,46μm,0.2s								
VA01	**Torpederas**	**0.78**	**149**	*e*P			**Pg**	**01 21 31.4**	**+0.8**
VA01				*i*	S		**Sb**	**01 21 42.0**	**-0.4**
VA01	**Torpederas**	**0.78**	**149**				**Pg**	**01 21 31.3**	**+0.6**
ROCH	**El Roble**	**1.13**	**124**	*e*P			**Pb**	**01 21 37.6**	**0.0**
ROCH				*i*	S		**Sn**	**01 21 53.0**	**-1.0**
ROCH				IAML				01 21 54.6	
	comp=E,9μm,0.4s								
VA05	**Santo Domingo**	**1.37**	**162**	⇑*e*P			**Pn**	**01 21 40.7**	**-0.6**
VA05				*i*	S		**Sg**	**01 21 59.6**	**-0.2**
VA05	**Santo Domingo**	**1.37**	**162**	Pn			**Pn**	**01 21 40.5**	**-0.8**
VA03	**San Esteban**	**1.39**	**108**	⇓*iP*			**Pb**	**01 21 41.9**	**-0.2**
VA03				*i*	S		**Sb**	**01 22 00.2**	**0.0**
VA03				IAML				01 22 02.0	
	comp=E,16μm,0.4s								
VA03	**San Esteban**	**1.39**	**108**	Pn			**Pn**	**01 21 41.5**	**-0.2**
MT05	**Renca**	**1.56**	**132**	*e*P			**Pb**	**01 21 44.6**	**-0.4**
MT05				*i*	S		**Sb**	**01 22 04.7**	**-0.3**
MT05				IAML				01 22 09.8	
	comp=E,8μm,0.4s								
MT05	**Renca**	**1.56**	**132**	Pn			**Pn**	**01 21 44.1**	**+0.1**
MT01	**Popeta**	**1.68**	**154**	*e*P			**Pn**	**01 21 45.1**	**-0.4**
MT01	**Popeta**	**1.68**	**154**	Pn			**Pn**	**01 21 44.7**	**-0.8**
MT09	**Talagante**	**1.71**	**146**	⇑*e*P			**Pn**	**01 21 46.6**	**+0.5**
MT09				*e*S			**Sb**	**01 22 09.7**	**+0.3**
MT09	**Talagante**	**1.71**	**146**	Pn			**Pn**	**01 21 46.3**	**+0.2**
CO06	**Fray Jorge**	**1.72**	**14**	⇑*iP*			**Pn**	**01 21 46.6**	**+0.5**
CO06	**Fray Jorge**	**1.72**	**14**	Pn			**Pn**	**01 21 46.1**	**-0.1**
CO03	**El Pedregal**	**1.94**	**39**	*e*P			**Pb**	**01 21 51.0**	**-0.5**
CO03	**El Pedregal**	**1.94**	**39**				**Pn**	**01 21 49.5**	**+0.2**
BO03	**Pichilemu**	**2.14**	**176**	⇑*e*P			**Pn**	**01 21 51.1**	**-0.8**
LMEL	**Las Melosas**	**2.20**	**133**	⇑*e*P			**Pb**	**01 21 54.2**	**-1.6**
LMEL				IAML				01 22 31.9	
	comp=N,2μm,0.3s								
BO01	**Tunca**	**2.21**	**157**	*e*P			**Pn**	**01 21 53.8**	**+1.0**
BO01	**Tunca**	**2.21**	**157**	Pn			**Pn**	**01 21 52.2**	**-0.6**
GO04	**Tololo Observa**	**2.45**	**28**	Pn			**Pn**	**01 21 55.7**	**-0.7**
CO05	**La Serena**	**2.54**	**18**	Pn			**Pn**	**01 21 57.1**	**-0.2**
GO05	**Huala**	**2.66**	**177**	Pn			**Pn**	**01 21 58.8**	**-0.2**
BO02	**Sierra Bellavi**	**2.68**	**156**	*e*P			**Pn**	**01 22 00.1**	**+0.7**
BO02				IAML				01 22 44.2	
	comp=N,1μm,0.4s								
BO02	**Sierra Bellavi**	**2.68**	**156**	Pn			**Pn**	**01 21 58.8**	**-0.6**
ML02	**Panimavida**	**3.45**	**170**	Pn			**Pn**	**01 22 09.3**	**-0.6**
LCO	**Las Campanas**	**3.55**	**21**	Pn			**Pn**	**01 22 09.9**	**-1.6**
AC04	**Llanos de Chal**	**4.23**	**13**	Pn			**Pn**	**01 22 20.6**	**-0.1**
GO03	**Copiap**	**5.02**	**20**	Pn			**Pn**	**01 22 32.0**	**+0.5**
H03N1	**Juan Fernandez**	**5.81**	**257**	T			T	01 29 25.5	
	baz=85,slow=74,SNR=3.6								
H03N3	**Juan Fernandez**	**5.82**	**257**	T			T	01 29 27.4	
	baz=85								
H03N2	**Juan Fernandez**	**5.83**	**257**	T			T	01 29 26.1	
	baz=85,slow=74,SNR=2.1								
H03S3	**Juan Fernandez**	**5.88**	**254**	T			T	01 29 14.2	
	baz=83,slow=75,SNR=16								
H03S1	**Juan Fernandez**	**5.88**	**254**	T			T	01 29 18.7	
	baz=83,slow=75,SNR=13								
H03S2	**Juan Fernandez**	**5.90**	**254**	T			T	01 29 17.3	
	baz=83,slow=75,SNR=18								
AC02	**Maricunga**	**6.08**	**26**	Pn			**Pn**	**01 22 47.1**	**+0.5**
PLCA	**Paso Flores**	**8.46**	**172**	Pn			**Pn**	**01 23 19.3**	**+0.6**
	comp=N,0.3nm,0.3s,baz=132,slow=15,SNR=1.0								
PB08	**IPOC Station P**	**12.45**	**13**	Pn			**Pn**	**01 24 14.1**	**+0.4**
LPAZ	**La Paz**	**16.40**	**14**	Pn			**P**	**01 25 08.9**	**-1.0**
	comp=N,0.2nm,0.3s,baz=194,slow=5.9,SNR=4.1								
LPAZ	**La Paz**	**16.40**	**14**	Pn			**Pn**	**01 25 04.4**	**-2.7**
SIV	**San Ignacio**	**19.13**	**34**	P			**Pn**	**01 25 40.4**	**0.0**
	comp=N,0.5nm,0.3s,baz=212,slow=8.5,SNR=5.0								
BDFB	**Brasilia**	**27.50**	**58**	P			**P**	**01 27 01.8**	**-1.3**
	comp=N,2.4nm,0.6s,baz=243,slow=2.3,SNR=1.9								
BDFB	**Brasilia**	**27.50**	**58**	IAmb			IAmb	01 27 11.8	
	comp=Z,4.7nm,1.0s								
SNAA	**Sanae**	**53.14**	**158**	P			**P**	**01 30 34.4**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=204,slow=6.8,SNR=1.9								
DBIC	**Dimbokro**	**74.73**	**72**	P			**P**	**01 32 57.2**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=321,slow=15,SNR=1.4								
KOWA	**Kowa**	**80.03**	**66**	P			**P**	**01 33 26.9**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=150,slow=1.8,SNR=4.3								
NVAR	**Mina Array Bea**	**82.49**	**325**	P			**P**	**01 33 41.5**	**+2.3**
	comp=Z,0.5nm,0.8s,baz=139,slow=5.6,SNR=2.8								
TORD	**Torodi Ar. Bea**	**83.72**	**70**	P			**P**	**01 33 45.5**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=250,slow=4.7,SNR=9.6								
TORD	**Torodi Ar. Bea**	**83.72**	**70**	IAmb			IAmb	01 33 52.5	
	comp=Z,1.7nm,0.8s								
ZALV	**Zalesovo Beam**	**152.86**	**30**	PKPbc			**PKiKP**	**01 41 13.3**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=346,slow=2.5,SNR=3.2								

*IDC **20** 01:23:00.9±2.0, 33.°57S×178.°09W, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/39, mbtmp3.9/4, ML3.8/1, Error ellipse: s-maj=43.5km s-min=37.8km az=118.0*
ISC 20 01:23:05.1±1.9, 33.°5S±0.°2×178.°0W±0.°3, h34km, n6, σ0.°44/7, mb3.8/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.16**	**219**	Pn			**Pn**	**01 24 34.1**	**+0.5**
	2.5nm,0.3s,baz=283,slow=19,SNR=13								
URZ				Sn			**Sn**	**01 25 42.2**	**-0.6**
	4.8nm,0.3s,baz=337,slow=14,SNR=8.1								
ASAR	**Alice Springs**	**43.03**	**270**	P			**P**	**01 31 01.8**	**+0.1**
	1.2nm,0.6s,baz=111,slow=7.3,SNR=17								
WRA	**Warramunga Arr**	**44.30**	**275**	P			**P**	**01 31 11.7**	**-0.2**
	0.7nm,0.5s,baz=122,slow=7.7,SNR=9.5								
FITZ	**Fitzroy Crossi**	**52.42**	**272**	P			**P**	**01 32 14.4**	**0.0**
	0.8nm,0.7s,baz=134,slow=8.1,SNR=1.5								
FINES	**FINESS Array B**	**148.07**	**338**	PKPbc			**PKiKP**	**01 42 47.8**	**-0.3**
	2.4nm,0.9s,baz=46,slow=4.0,SNR=1.9								
TORD	**Torodi Ar. Bea**	**159.70**	**179**	PKPab			**PKPab**	**01 43 39.3**	**-0.1**
	1.1nm,0.8s,baz=203,slow=3.1,SNR=5.2								

*IDC **20** 01:23:09.9±2.5, 31.°03S×72.°13W, h0km, mb3.6/1, mb1 4.1/4, mb1mx3.7/41, mbtmp3.9/4, ML3.9/2, Error ellipse: s-maj=76.7km s-min=36.7km az=101.0*
*NEIC **20** 01:23:15.5±1.9, 31.°04S±0.°04×71.°62W±0.°10, h22km±8km, mb4.3/3, ML3.9(GUC), Error ellipse: s-maj=12.2km s-min=6.0km az=95.0*
*GUC **20** 01:23:18.4±0.6, 30.°99S×71.°40W, h42km±3km, ML4.0*
ISC 20 01:23:14.6±1.4, 31.°08S±0.°04×71.°64W±0.°07, h19km±5km, n43, σ1.°48/47, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.40**	**0**	*e*P			**Pn**	**01 23 28.1**	**+2.8**
CO06				*e*S			**Sn**	**01 23 35.3**	**+3.0**
CO06	**Fray Jorge**	**0.40**	**0**	Pg			**Pg**	**01 23 21.9**	**-1.1**
CO03	**El Pedregal**	**0.85**	**74**	⇓*iP*			**Pn**	**01 23 31.9**	**+0.3**
CO03				*e*S			**Sg**	**01 23 42.3**	**-0.3**
CO03				IAML				01 23 43.0	
	comp=E,11μm,0.2s								
CO03	**El Pedregal**	**0.85**	**74**				**Pn**	**01 23 32.0**	**+0.5**
CO03					Sn		**Sg**	**01 23 42.3**	**-0.3**
GO04	**Tololo Observa**	**1.16**	**39**	*e*P			**Pg**	**01 23 37.5**	**+0.4**
GO04				*e*S			**Sg**	**01 23 52.0**	**-0.3**
GO04	**Tololo Observa**	**1.16**	**39**	Pn			**Pn**	**01 23 36.0**	**+0.1**
CO05	**La Serena**	**1.21**	**17**	*e*P			**Pg**	**01 23 38.7**	**+0.8**
CO05	**La Serena**	**1.21**	**17**	Pn			**Pg**	**01 23 38.4**	**+0.4**
VA06	**Catapilco**	**1.51**	**169**	*e*P			**Pn**	**01 23 41.7**	**+1.2**
VA06				*e*S			**Sn**	**01 24 00.5**	**+0.9**
VA06				IAML				01 24 06.5	
	comp=E,2μm,0.3s								
VA03	**San Esteban**	**1.92**	**151**	IAML				01 24 14.7	
	comp=E,2μm,0.1s								
VA03	**San Esteban**	**1.92**	**151**	Pn			**Pn**	**01 23 48.0**	**+1.7**
VA01	**Torpederas**	**1.94**	**180**	*e*P			**Pn**	**01 23 47.6**	**+1.2**
VA01	**Torpederas**	**1.94**	**180**	Pn			**Pn**	**01 23 47.4**	**+0.9**
ROCH	**El Roble**	**1.96**	**164**	*e*P			**Pn**	**01 23 48.7**	**+1.7**
ROCH				*e*S			**Sn**	**01 24 12.3**	**+1.1**
ROCH				IAML				01 24 19.2	
	comp=N,1μm,0.5s								
LCO	**Las Campanas**	**2.21**	**22**	*e*P			**Pb**	**01 23 53.3**	**-0.8**
LCO				*e*S			**Sb**	**01 24 19.3**	**-2.0**
MT05	**Renca**	**2.43**	**162**	*e*P			**Pn**	**01 23 55.5**	**+2.3**
MT05				*e*S			**Sn**	**01 24 24.2**	**+1.7**
MT05				IAML				01 24 28.5	
	comp=E,2μm,0.3s								
MT05	**Renca**	**2.43**	**162**	Pn			**Pn**	**01 23 54.8**	**+1.6**
VA05	**Santo Domingo**	**2.57**	**180**	Pn			**Pn**	**01 23 55.8**	**+0.7**
ZON	**Zonda**	**2.58**	**101**	Pn			**Pn**	**01 23 57.4**	**+2.1**
MT09	**Talagante**	**2.75**	**169**	*e*P			**Pn**	**01 23 59.5**	**+1.8**
MT09				*e*S			**Sn**	**01 24 31.1**	**+0.7**
MT09				IAML				01 24 43.8	
	comp=N,548nm,0.6s								
MT09	**Talagante**	**2.75**	**169**	Pn			**Pn**	**01 23 59.2**	**+1.5**
MT01	**Popeta**	**2.80**	**173**	*e*P			**Pn**	**01 23 59.7**	**+1.4**
MT01				IAML				01 24 42.1	
	comp=E,396nm,0.3s								
MT01	**Popeta**	**2.80**	**173**	Pn			**Pn**	**01 23 58.8**	**+0.5**
LMEL	**Las Melosas**	**3.02**	**157**	*e*P			**Pn**	**01 24 04.2**	**+2.8**
LMEL				IAML				01 24 45.8	
	comp=N,449nm,0.3s								
BO01	**Tunca**	**3.34**	**172**	*e*P			**Pn**	**01 24 06.8**	**+1.2**
BO02	**Sierra Bellavi**	**3.77**	**169**	*e*P			**Pn**	**01 24 13.6**	**+1.8**
BO02	**Sierra Bellavi**	**3.77**	**169**	Pn			**Pn**	**01 24 13.3**	**+1.6**
PB14	**IPOC Station P**	**6.52**	**10**	Pn			**Pn**	**01 24 49.8**	**+0.1**
H03N1	**Juan Fernandez**	**6.59**	**247**	T			T	01 31 34.7	
	baz=78,slow=72,SNR=126								
H03N3	**Juan Fernandez**	**6.61**	**247**	T			T	01 31 41.0	
	baz=78,slow=72,SNR=0.1								
H03N2	**Juan Fernandez**	**6.61**	**247**	T			T	01 31 39.5	
	baz=78,slow=72,SNR=130								
PB06	**IPOC Station P**	**8.54**	**13**	Pn			**Pn**	**01 25 16.8**	**-0.5**
LVC	**Limon Verde**	**8.78**	**17**	Pn			**Pn**	**01 25 19.8**	**-1.0**
	baz=103,slow=24,SNR=1.5								
PB04	**IPOC Station P**	**8.81**	**9**	Pn			**Pn**	**01 25 20.2**	**-0.9**
PLCA	**Paso Flores**	**9.67**	**175**	Pn			**Pn**	**01 25 32.1**	**-0.6**
	comp=N,0.1nm,0.3s,baz=346,slow=8.3,SNR=1.6								
ITQB	**Itaqui**	**13.04**	**88**	Pn			**Pn**	**01 26 18.4**	**-0.4**
CPUP	**Villa Florida**	**13.42**	**73**	Pn			**Pn**	**01 26 27.8**	**+3.8**
	comp=N,0.3nm,0.3s,baz=158,slow=16,SNR=2.3								
CPUP	**Villa Florida**	**13.42**	**73**	Pn			**Pn**	**01 26 24.1**	**+0.2**
PLTB	**Pedras Altas**	**15.42**	**97**	Pn			**Pn**	**01 26 49.3**	**-1.7**
PLTB				IAmb		IAmb		01 26 52.1	
	comp=Z,15nm,1.1s								
SNAA	**Sanae**	**54.17**	**159**	P			**P**	**01 32 38.0**	**-0.2**
SNAA				IAmb		IAmb		01 32 55.8	
	comp=Z,6.2nm,1.5s								
TORD	**Torodi Ar. Bea**	**82.90**	**70**	P			**P**	**01 35 38.2**	**-0.2**
	comp=Z,0.3nm,0.9s,baz=235,slow=6.8,SNR=0.9								
TORD	**Torodi Ar. Bea**	**82.90**	**70**	IAmb			IAmb	01 35 55.7	
	comp=Z,0.8nm,1.4s								
ZALV	**Zalesovo Beam**	**151.55**	**30**	PKPbc			**PKPbc**	**01 43 06.0**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=318,slow=1.9,SNR=2.1								

*IDC **20** 01:26:19.6±2.6, 30.°50S×71.°26W, h0km, mb3.6/1, mb1 3.5/4, mb1mx3.4/41, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=114.3km s-min=35.4km az=100.0*
*GUC **20** 01:26:21.7±0.9, 31.°42S×71.°45W, h37km±7km, ML3.9*
*NEIC **20** 01:26:23.1±0.9, 31.°37S±0.°04×71.°6W±0.°1, h36km±14km, mb4.2/3, ML3.9(GUC), Error ellipse: s-maj=13.6km s-min=5.8km az=101.0*
ISC 20 01:26:23.5±1.1, 31.°38S±0.°02×71.°59W±0.°07, h43km±13km, n41, σ1.°22/51, mb4.2/3, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.71**	**357**	*e*P			**Pn**	**01 26 36.7**	**-0.4**
CO06				*e*S			**Sn**	**01 26 48.1**	**+1.2**
CO06	**Fray Jorge**	**0.71**	**357**	Pn			**Pn**	**01 26 36.6**	**-0.4**
CO03	**El Pedregal**	**0.95**	**55**	⇑*e*P			**Pn**	**01 26 39.0**	**-1.4**
CO03				*e*S			**Sn**	**01 26 51.8**	**-1.0**
CO03				IAML				01 26 53.9	
	comp=E,15μm,0.2s								
CO03	**El Pedregal**	**0.95**	**55**	Pn			**Pn**	**01 26 39.5**	**-0.9**
VA06	**Catapilco**	**1.20**	**168**	*e*P			**Pn**	**01 26 42.6**	**-1.2**
VA06				*e*S			**Sn**	**01 26 58.5**	**-0.5**
VA06				IAML				01 27 00.3	
	comp=N,4μm,0.2s								
VA06				IAML				01 27 05.0	
	comp=E,4μm,0.4s								
GO04	**Tololo Observa**	**1.39**	**30**	⇑*e*P			**Pn**	**01 26 46.8**	**+0.2**
GO04				*e*S			**Sn**	**01 27 05.5**	**+1.7**
GO04	**Tololo Observa**	**1.39**	**30**	Pn			**Pn**	**01 26 46.1**	**-0.5**
CO05	**La Serena**	**1.49**	**12**	*e*P			**Pn**	**01 26 48.9**	**+1.1**
CO05				*e*S			**Sn**	**01 27 08.7**	**+2.7**
CO05				⇓*e*S			**Sn**	**01 27 09.0**	**+3.0**
CO05				IAML				01 27 16.5	
	comp=E,1μm,0.5s								
CO05	**La Serena**	**1.49**	**12**	Pn			**Pn**	**01 26 47.3**	**-0.4**
VA01	**Torpederas**	**1.64**	**182**	⇑*e*P			**Pn**	**01 26 49.4**	**-0.4**
VA01				*e*S			**Sn**	**01 27 10.1**	**+0.5**
VA01				IAML				01 27 14.2	
	comp=N,1μm,0.2s								
VA01	**Torpederas**	**1.64**	**182**	Pn			**Pn**	**01 26 48.9**	**-0.8**
VA03	**San Esteban**	**1.64**	**148**	*e*P			**Pn**	**01 26 49.7**	**-0.2**
VA03				*e*S			**Sn**	**01 27 10.1**	**+0.3**
VA03				IAML				01 27 12.6	
	comp=E,5μm,0.2s								
VA03	**San Esteban**	**1.64**	**148**	Pn			**Pn**	**01 26 49.9**	**0.0**
ROCH	**El Roble**	**1.66**	**163**	*e*P			**Pn**	**01 26 50.2**	**-0.1**
ROCH				*e*S			**Sn**	**01 27 12.4**	**+1.8**
ROCH				IAML				01 27 13.7	
	comp=N,2μm,0.2s								
MT05	**Renca**	**2.13**	**160**	⇑*e*P			**Pn**	**01 26 57.0**	**+0.4**
MT05				*e*S			**Sn**	**01 27 22.8**	**+0.9**
MT05				IAML				01 27 33.6	
	comp=E,2μm,0.4s								
MT05	**Renca**	**2.13**	**160**	Pn			**Pn**	**01 26 57.2**	**+0.5**
VA05	**Santo Domingo**	**2.27**	**180**	*e*P			**Pn**	**01 26 57.7**	**-0.7**
VA05				*e*S			**Sn**	**01 27 24.7**	**-0.5**
VA05				IAML				01 27 33.1	
	comp=E,1μm,0.5s								
VA05	**Santo Domingo**	**2.27**	**180**	Pn			**Pn**	**01 26 57.4**	**-1.0**
MT09	**Talagante**	**2.44**	**168**	*e*P			**Pn**	**01 27 01.7**	**+0.7**
MT09				*e*S			**Sn**	**01 27 30.8**	**+1.1**
MT09				IAML				01 27 40.5	
	comp=N,1μm,0.2s								
MT09	**Talagante**	**2.44**	**168**	Pn			**Pn**	**01 27 00.7**	**-0.3**
LCO	**Las Campanas**	**2.49**	**18**				**Sn**	**01 27 27.0**	**-4.0**
MT01	**Popeta**	**2.49**	**173**	*e*P			**Pn**	**01 27 01.7**	**+0.1**
MT01				IAML				01 27 39.2	
	comp=E,572nm,0.2s								
MT01	**Popeta**	**2.49**	**173**	Pn			**Pn**	**01 27 01.6**	**0.0**
LMEL	**Las Melosas**	**2.72**	**155**	*e*P			**Pn**	**01 27 06.6**	**+1.8**
LMEL				*e*S			**Sn**	**01 27 39.0**	**+2.3**
LMEL				IAML				01 27 45.5	
	comp=N,904nm,0.1s								
BO01	**Tunca**	**3.03**	**172**	Pn			**Pn**	**01 27 07.2**	**-1.8**
AC04	**Llanos de Chal**	**3.20**	**8**	*e*P			**Pn**	**01 27 11.9**	**+0.7**
AC04				IAML				01 28 06.9	
	comp=N,250nm,0.4s								
AC04	**Llanos de Chal**	**3.20**	**8**	Pn			**Pn**	**01 27 10.5**	**-0.8**
BO02	**Sierra Bellavi**	**3.47**	**169**	Pn			**Pn**	**01 27 15.4**	**+0.4**
GO05	**Huala**	**3.63**	**184**	Pn			**Pn**	**01 27 16.5**	**-0.7**
GO03	**Copiap**	**3.96**	**18**	*e*P			**Pn**	**01 27 22.7**	**+1.0**
GO03	**Copiap**	**3.96**	**18**	Pn			**Pn**	**01 27 21.8**	**+0.1**
AC06	**Mina Casimiro**	**4.15**	**15**	Pn			**Pn**	**01 27 24.1**	**-0.3**
AC02	**Maricunga**	**5.02**	**26**	Pn			**Pn**	**01 27 36.2**	**-0.5**
PLCA	**Paso Flores**	**9.37**	**175**	Pn			**Pn**	01 28 47.8	+12
	comp=N,0.1nm,0.3s,baz=320,slow=17,SNR=1.5								
LPAZ	**La Paz**	**15.36**	**13**	Pn			**Pn**	01 29 46.7	-11
	comp=N,0.0nm,0.3s,baz=192,slow=14,SNR=1.3								
LPAZ	**La Paz**	**15.36**	**13**	Pn			**Pn**	**01 29 56.9**	**-1.0**
LPAZ				IAmb			IAmb	01 30 13.9	
	comp=Z,4.2nm,1.1s								
SIV	**San Ignacio**	**18.08**	**34**	P			Pn	01 30 20.5	-11
	comp=Z,0.1nm,0.3s,baz=192,slow=6.7,SNR=2.8								
SDV	**Santo Domingo**	**40.05**	**1**	P			**P**	**01 33 55.3**	**+0.4**
SDV				IAmb			IAmb	01 34 07.0	
	comp=Z,3.9nm,0.9s								
NATX	**Nacogdoches**	**66.49**	**339**	P			**P**	**01 37 08.5**	**-0.1**
NATX				IAmb			IAmb	01 37 32.5	
	comp=Z,6.0nm,0.6s								
TORD	**Torodi Ar. Bea**	**82.97**	**70**	P			**P**	**01 38 44.3**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=235,slow=6.7,SNR=2.6								
ZALV	**Zalesovo Beam**	**151.80**	**30**	PKPbc			**PKiKP**	**01 46 13.2**	**-0.2**
	comp=Z,2.6nm,0.4s,baz=315,slow=3.1,SNR=7.9								

IDC 20 01:26:27.2±1.7, 2.°60S×138.°85E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/29, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=30.3km s-min=25.5km az=154.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.85**	**87**	Pn			Pn	01 27 00.7	+0.3
	1.4nm,0.3s,baz=309,slow=13,SNR=5.3								
JAY				Sn			Sb	01 27 25.4	-0.4
	1.2nm,0.3s,baz=273,slow=24,SNR=1.7								
WRA	**Warramunga Arr**	**17.79**	**194**	P			Pn	01 30 36.5	0.0
	0.1nm,0.3s,baz=18,slow=12,SNR=4.7								
ASAR	**Alice Springs**	**21.48**	**192**	P			P	01 31 16.9	-0.8
	0.5nm,0.7s,baz=18,slow=9.1,SNR=5.4								
MKAR	**Makanchi Array**	**69.79**	**322**	P			P	01 37 39.9	+0.4
	0.4nm,0.8s,baz=119,slow=5.3,SNR=2.2								

*IDC **20** 01:28:28.0±1.9, 14.°01N×92.°47W, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.7/43, mbtmp3.6/7, ML3.4/2, Error ellipse: s-maj=138.9km s-min=22.6km az=51.0*
*MEX **20** 01:28:29.4±0.8, 13.°74N×92.°77W, h8km±84km, MD4.2*
*NEIC **20** 01:28:31.3±2.4, 14.°04N±0.°04×92.°68W±0.°06, h13km±8km

	comp=Z,4.6nm,1.2s							
WB0	**Warramunga Arr**	**44.46**	**260**	P	**P**	**01 38 56.0**	**-0.1**
WRA	**Warramunga Arr**	**44.49**	**260**	P	**P**	**01 38 56.1**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=93,slow=6.8,SNR=48							
WRA				PcP	**PcP**	**01 40 28.2**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=90,slow=3.5,SNR=2.4							
WRA	**Warramunga Arr**	**44.49**	**260**	IAmb	IAmb	01 38 58.9		
	comp=Z,0.3nm,1.0s							
AS31	**Alice Springs**	**44.65**	**254**	P	**P**	**01 38 57.9**	**+0.4**
AS31				IAmb	IAmb	01 38 58.6		
	comp=Z,5.6nm,0.6s							
ASAR	**Alice Springs**	**44.65**	**254**	P	**P**	**01 38 58.0**	**+0.5**
	comp=Z,16nm,0.4s,baz=89,slow=8.1,SNR=361							
ASAR				PcP	**PcP**	**01 40 28.6**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=101,slow=4.3,SNR=5.3							
MTN	**Manton Dam**	**48.67**	**269**	P	**P**	**01 39 27.6**	**-0.3**
MTN				IAmb	IAmb	01 39 39.0		
	comp=Z,7.1nm,1.2s							
KNRA	**Kununurra**	**50.35**	**264**	P	**P**	**01 39 40.5**	**+0.3**
KNRA				IAmb	IAmb	01 39 58.9		
	comp=Z,8.3nm,1.1s							
FITZ	**Fitzroy Crossi**	**52.89**	**261**	P	**P**	**01 39 58.9**	**+0.5**
FITZ				IAmb	IAmb	01 40 09.5		
	comp=Z,10.0nm,1.5s							
PSA00	**Pilbara Seismi**	**57.77**	**255**	P	**P**	**01 40 32.4**	**+0.2**
PSA00				IAmb	IAmb	01 40 46.1		
	comp=Z,17nm,1.4s							
NVAR	**Mina Array Bea**	**79.57**	**44**	P	**P**	**01 42 43.3**	**0.0**
	comp=Z,0.2nm,0.6s,baz=219,slow=7.0,SNR=2.6							
TXAR	**Lajitas Array**	**86.15**	**58**	P	**P**	**01 43 19.0**	**+2.8**
	comp=Z,0.4nm,0.7s,baz=224,slow=5.0,SNR=3.2							
PDAR	**Pinedale Array**	**87.50**	**43**	P	**P**	**01 43 23.2**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=218,slow=5.7,SNR=1.6							
BZK	**Bozkurt**	**143.40**	**318**	PKPdf	**PKPdf**	**01 50 04.2**	**-0.4**
BNN	**Bunyan**	**143.61**	**312**		**PKPdf**	**01 50 05.3**	**+0.1**
ILGA	**Ilgaz**	**144.05**	**317**		**PKPdf**	**01 50 05.9**	**-0.1**
BUR08	**Bucovina Ar. S**	**144.61**	**332**	PKPdf	**PKiKP**	**01 50 08.9**	**-1.7**
BURAR	**Bucovina Array**	**144.62**	**332** ⇑	P	**PKPab**	**01 50 08.1**	**+0.3**
BURAR	**Bucovina Array**	**144.62**	**332**	PKPdf	**PKPab**	**01 50 08.0**	**+0.3**
BIZ	**Bicaz**	**144.72**	**330** ⇑	P	**PKPab**	**01 50 08.7**	**+0.7**
BR131	**Keskin Array S**	**144.75**	**315**		**PKPab**	**01 50 07.8**	**-0.7**
BRTR	**Keskin Array B**	**144.75**	**315**	PKP	**PKPab**	**01 50 08.0**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=106,slow=2.3,SNR=11							
BRTR	**Keskin Array B**	**144.75**	**315**		**PKPab**	**01 50 08.0**	**-0.5**
TPGR	**Topolog**	**145.00**	**326** ⇑	P	**PKPab**	**01 50 09.1**	**0.0**
TRPA	**Tarpa**	**145.37**	**335** ⇑	P	**PKPab**	**01 50 09.9**	**-0.5**
CLL	**Collm**	**145.51**	**347**	*i* PKPbc	**PKPab**	**01 50 09.9**	**-0.9**
DOPR	**Dopca**	**145.76**	**330** ⇑	P	**PKPab**	**01 50 11.8**	**-0.3**
CJR	**Cluj-Napoca**	**146.03**	**332** ⇑	P	**PKPab**	**01 50 12.4**	**-0.7**
DRGR		**146.35**	**333** ⇑	P	**PKiKP**	**01 50 12.9**	**-1.3**
ARR	**Arges**	**146.56**	**330** ⇑	P	**PKiKP**	**01 50 14.4**	**-0.3**
DEV	**Deva**	**146.98**	**332** ⇑	P	**PKPab**	**01 50 17.5**	**+0.6**
GERES	**GERESS Array B**	**147.66**	**345**	PKPbc	**PKPbc**	**01 50 15.8**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=28,slow=2.8,SNR=12							
HERR	**Herculane**	**147.97**	**331** ⇑	P	**PKPbc**	**01 50 16.1**	**-0.1**
FNA	**Florina**	**151.54**	**327**		**PKPbc**	**01 50 24.6**	**-0.2**

*SJA **20** 01:34:30.0, 30.32S×72.28W, h10km, ML4.5*
*IDC **20** 01:34:32.4±0.6, 30.52S×72.60W, h0km, mb4.4/8, mb1 4.5/12, mb1mx4.3/33, mbtmp4.4/12, ML4.2/4, MS3.7/6, Ms1 3.7/6, ms1mx3.4/23, Error ellipse: s-maj=22.6km s-min=19.5km az=108.0*
*NEIC **20** 01:34:33.9±1.7, 30.42S±0.05×72.41W±0.03, h2km±3km, mb4.6/28, Mwr4.4/44, ML4.2(GUC), Error ellipse: s-maj=7.4km s-min=2.8km az=206.0*
*GUC **20** 01:34:35.6±0.7, 30.48S×72.36W, h15km±7km, ML4.2*
*NEIC **20** 01:34:35, 30.44S×72.36W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr=5.11; Mθθ=0.96; Mφφ=4.15; Mrθ=0.81; Mrφ=0.97; Mθφ=1.86; Fault plane solution: M0=5.22000×10^15 NP1:ϕs=198.51000°, δs=56.47000°, λ=-87.19000°. NP2:ϕs=13.42000°, δs=33.63000°, λ=-94.24000°. Principal axes: T 4.8333, Plg=11.0000°, Azm=286.0000°; N 0.6946, Plg=2.0000°, Azm=17.0000°; P -5.5278, Plg=78.0000°, Azm=118.0000°;*
ISC 20 01:34:32.5±1.1, 30.46S±0.04×72.56W±0.05, h4km±6km, n142, σ1§59/143, mb4.7/20, MS3.7/4, 4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.83**	**105**	*eP*		**Pg**		**01 34 48.0**	**-0.4**
CO06				*eS*		**Sg**		**01 34 59.1**	**-0.1**
CO06	**Fray Jorge**	**0.83**	**105**			**Pg**		**01 34 47.8**	**-0.6**
CO05	**La Serena**	**1.27**	**65**	⇓*eP*		**Pg**		**01 34 56.8**	**+0.1**
CO05				*eS*		**Sg**		**01 35 13.0**	**-0.2**
CO05				IAML				01 35 13.6	
	comp=E,6μm,0.4s								
CO05	**La Serena**	**1.27**	**65**			**Pb**		**01 34 56.4**	**-0.5**
GO04	**Tololo Observa**	**1.55**	**80**	*eP*		**Pg**		**01 35 01.8**	**-0.4**
GO04				*i* S		**Sg**		**01 35 22.1**	**-0.3**
GO04	**Tololo Observa**	**1.55**	**80**			**Pb**		**01 35 00.9**	**-1.0**
CO03	**El Pedregal**	**1.66**	**104**	*eP*		**Pb**		**01 35 03.4**	**-0.3**
CO03				*eS*		**Sb**		**01 35 24.0**	**-1.0**
CO03				IAML				01 35 25.6	
	comp=N,5μm,0.3s								
CO03	**El Pedregal**	**1.66**	**104**		Pn	**Pn**		**01 35 01.6**	**-0.9**
LCO	**Las Campanas**	**2.17**	**49**	⇓*iP*		**Pn**		**01 35 09.8**	**+0.2**
LCO				*i* S		**Sn**		**01 35 36.2**	**-0.8**
LCO	**Las Campanas**	**2.17**	**49**	*i* P		**Pn**		**01 35 10.0**	**+0.4**
VA06	**Catapilco**	**2.36**	**153**	*eP*		**Pn**		**01 35 12.4**	**+0.4**
VA06				*i* S		**Sn**		**01 35 39.0**	**-2.5**
VA06				IAML				01 35 41.1	
	comp=N,3μm,0.5s								
AC04	**Llanos de Chal**	**2.59**	**30**	⇓*eP*		**Pn**		**01 35 14.1**	**-1.1**
AC04				*eS*		**Sn**		**01 35 43.7**	**-3.4**
AC04				IAML				01 35 45.7	
	comp=N,1μm,0.3s								
AC04	**Llanos de Chal**	**2.59**	**30**		Pn	**Pn**		**01 35 14.2**	**-1.0**
AC04	**Llanos de Chal**	**2.59**	**30**	*i* P		**Pn**		**01 35 14.0**	**-1.1**
VA01	**Torpederas**	**2.68**	**163**	*eP*		**Pn**		**01 35 16.2**	**-0.1**
VA01	**Torpederas**	**2.68**	**163**	Pn		**Pn**		**01 35 16.4**	**+0.1**
AROD	**Rodeo**	**2.69**	**85**	*i* P		**Pb**		**01 35 21.0**	**-0.3**
ROCH	**El Roble**	**2.84**	**153**	*eP*		**Pn**		**01 35 20.1**	**+1.4**
ROCH				IAML				01 35 58.0	
	comp=E,709nm,0.6s								
VA03	**San Esteban**	**2.87**	**144**	*eP*		**Pn**		**01 35 20.6**	**+1.4**
VA03				IAML				01 35 55.4	
	comp=E,1μm,0.2s								
VA03	**San Esteban**	**2.87**	**144**			**Pn**		**01 35 20.0**	**+0.9**
ACDV	**Cuesta del Vie**	**2.99**	**85**	*i* P		**Pb**		**01 35 26.0**	**-0.4**
ACCO	**Cerro Coronel**	**3.02**	**93**	*i* P		**Pb**		**01 35 26.0**	**-1.0**
VA05	**Santo Domingo**	**3.29**	**166**	*eP*		**Pn**		**01 35 24.5**	**-0.3**
VA05				IAML				01 36 07.3	
	comp=E,652nm,0.4s								
VA05	**Santo Domingo**	**3.29**	**166**			**Pn**		**01 35 24.9**	**+0.1**
MT05	**Renca**	**3.31**	**153**	*eP*		**Pn**		**01 35 26.1**	**+0.9**
MT05	**Renca**	**3.31**	**153**	Pn		**Pn**		**01 35 26.4**	**+1.3**
GO03	**Copiap**	**3.50**	**36**	*eP*		**Pn**		**01 35 27.6**	**-0.3**
GO03	**Copiap**	**3.50**	**36**	Pn		**Pn**		**01 35 27.5**	**-0.3**
GO03	**Copiap**	**3.50**	**36**	*i* P		**Pn**		**01 35 28.0**	**+0.2**
MT09	**Talagante**	**3.57**	**158**	*eP*		**Pn**		**01 35 29.9**	**+1.2**
MT09				IAML				01 36 15.9	
	comp=N,394nm,0.3s								
MT09	**Talagante**	**3.57**	**158**			**Pn**		**01 35 30.1**	**+1.4**
MT01	**Popeta**	**3.58**	**162**	*eP*		**Pn**		**01 35 29.0**	**+0.3**
MT01				IAML				01 36 16.7	
	comp=E,213nm,0.5s								
MT01	**Popeta**	**3.58**	**162**		Pn	**Pn**		**01 35 29.1**	**+0.4**
AC06	**Mina Casimiro**	**3.64**	**33**	*eP*		**Pn**		**01 35 29.6**	**-0.1**
AC06				*eS*		**Sn**		**01 36 10.6**	**-2.6**
AC06				IAML				01 36 15.2	
	comp=E,257nm,0.6s								
AC06	**Mina Casimiro**	**3.64**	**33**		Pn	**Pn**		**01 35 29.3**	**-0.4**
ASAL	**Salagasta**	**3.83**	**125**	*i* P		**Pb**		**01 35 37.0**	**-3.7**
ARCO	**CERRO ARCO**	**3.91**	**128**	*i* P		**Pb**		**01 35 39.0**	**-3.0**
LMEL	**Las Melosas**	**3.93**	**150**	*eP*		**Pn**		**01 35 35.3**	**+1.6**
BO01	**Tunca**	**4.12**	**163**			**Pn**		**01 35 36.4**	**+0.2**
BO01	**Tunca**	**4.12**	**163**	*i* P		**Pn**		**01 35 37.0**	**+0.8**
AAGR	**Agrelo**	**4.12**	**130**	*i* P		**Pb**		**01 35 41.0**	**-4.7**
VCA	**Vinchina**	**4.16**	**67**	*i* P		**Pb**		**01 35 42.0**	**-4.4**
GO05	**Huala**	**4.57**	**173**	*i* P		**Pn**		**01 35 42.0**	**-0.4**
BO02	**Sierra Bellavi**	**4.58**	**161**	Pn		**Pn**		**01 35 43.9**	**+1.3**
AC02	**Maricunga**	**4.70**	**41**	⇓*eP*		**Pn**		**01 35 45.5**	**+0.8**
AC02	**Maricunga**	**4.70**	**41**	Pn		**Pn**		**01 35 44.8**	**+0.1**
AC02	**Maricunga**	**4.70**	**41**	*i* P		**Pn**		**01 35 46.0**	**+1.3**
COIS	**El Sosneado**	**5.27**	**152**	*i* P		**Pn**		**01 35 55.0**	**+3.0**
LAMA	**Las Malvinas**	**5.29**	**149**	*i* P		**Pn**		**01 35 56.0**	**+3.8**
ML02	**Panimavida**	**5.38**	**170**	Pn		**Pn**		**01 35 53.8**	**+0.4**
RFA	**San Rafael**	**5.52**	**142**	*i* P		**Pn**		**01 35 58.0**	**+2.5**
H03N1	**Juan Fernandez**	**6.16**	**239**	T		T		01 43 22.0	
	baz=72,slow=72,SNR=41								
H03N2	**Juan Fernandez**	**6.18**	**240**	T		T		01 43 22.0	
	baz=72,slow=72,SNR=39								
H03N3	**Juan Fernandez**	**6.18**	**239**	T		T		01 43 20.6	
	baz=72,slow=72,SNR=39								
VA04	**Juan Fernndez**	**6.20**	**238**	Pn		**Pn**		**01 36 02.8**	**-1.9**
CYA	**Choya**	**6.23**	**73**	*i* P		**Pn**		**01 36 07.0**	**+1.8**
PB10	**IPOC Station P**	**7.14**	**15**	*i* P		**Pn**		**01 36 16.0**	**-1.7**
FSA	**Cafayete**	**7.24**	**55**	*i* P		**Pn**		**01 36 24.0**	**+4.6**
AHML	**Horco Molle**	**7.33**	**62**	*i* P		**Pn**		**01 36 24.0**	**+3.6**
PB15	**IPOC Station P**	**7.73**	**22**	*i* P		**Pn**		**01 36 26.0**	**0.0**
PB05	**IPOC Station P**	**7.86**	**16**	*i* P		**Pn**		**01 36 25.0**	**-2.7**
PB06	**IPOC Station P**	**8.17**	**20**	Pn		**Pn**		**01 36 32.3**	**+0.3**
PB04	**IPOC Station P**	**8.37**	**16**	*i* P		**Pn**		**01 36 31.0**	**-3.8**
AF01	**San Pedro de A**	**8.44**	**29**	Pn		**Pn**		**01 36 35.8**	**0.0**
LC01	**Cunco**	**8.44**	**176**	*i* P		**Pn**		**01 36 35.0**	**-0.5**
LVC	**Limon Verde**	**8.47**	**24**	Pn		**Pn**		**01 36 34.3**	**-2.0**
	comp=E,0.6nm,0.3s,baz=161,slow=8.0,SNR=17								
LVC	**Limon Verde**	**8.47**	**24**	Pn		**Pn**		**01 36 35.9**	**-0.4**
LVC	**Limon Verde**	**8.47**	**24**	*i* P		**Pn**		**01 36 35.0**	**-1.3**
PLCA	**Paso Flores**	**10.38**	**171**	Pn		**Pn**		**01 37 03.2**	**+1.0**
	comp=E,0.6nm,0.3s,baz=333,slow=13,SNR=15								
PLCA	**Paso Flores**	**10.38**	**171**			**Pn**		**01 37 02.5**	**+0.3**
CPUP	**Villa Florida**	**14.02**	**77**	Pn		**Pn**		**01 37 53.5**	**+1.5**
	comp=E,0.1nm,0.3s,baz=38,slow=19,SNR=2.2								
CPUP					LR	LR		01 43 49.1	
	comp=E,336nm,18.8s,baz=254,slow=40								
LPAZ	**La Paz**	**14.68**	**17**	Pn		**P**		**01 38 04.0**	**-3.9**
	comp=E,0.4nm,0.3s,baz=188,slow=7.3,SNR=37								
LPAZ	**La Paz**	**14.68**	**17**			**Pn**		**01 38 01.8**	**+0.4**
SIV	**San Ignacio**	**17.83**	**39**	P		**P**		**01 38 42.3**	**-0.1**
	comp=E,0.7nm,0.3s,baz=232,slow=11,SNR=63								
SIV					LR	LR		01 45 55.6	
	comp=E,228nm,19.5s,baz=232,slow=38								
SIV	**San Ignacio**	**17.83**	**39**	P		**P**		**01 38 42.3**	**-0.1**
AQDB	**Aquidauana**	**18.16**	**61**	Pn		**Pn**		**01 38 41.9**	**-3.7**
SAML	**Samuel**	**23.12**	**24**	P		**P**		**01 39 41.1**	**+1.5**
BDFB	**Brasilia**	**26.89**	**62**	P		**P**		**01 40 14.8**	**+0.1**
	comp=E,15nm,0.8s,baz=229,slow=9.8,SNR=23								
BDFB	**Brasilia**	**26.89**	**62**	P		**P**		**01 40 13.7**	**-1.1**
ROSC	**El Rosal**	**35.14**	**357**	LR		LR		01 56 08.7	
	comp=E,80nm,18.5s,baz=212,slow=37								
RUSC	**La Rusia**	**36.14**	**359**	P		**P**		**01 41 38.0**	**+1.5**
SJG	**San Juan**	**48.68**	**8**	P		**P**		**01 43 18.3**	**+0.4**
	comp=E,4.1nm,0.6s,baz=253,slow=3.8,SNR=4.1								
SJG	**San Juan**	**48.68**	**8**	P		**P**		**01 43 18.3**	**+0.4**
SJG	**San Juan**	**48.68**	**8**	IAmb		IAmb		01 43 19.1	
	comp=Z,11nm,1.1s								
CCIG	**Comitan**	**50.14**	**335**	P		**P**		**01 43 30.3**	**+0.9**
CCIG				IAmb		IAmb		01 43 33.9	
	comp=Z,11nm,1.4s								
VNA3	**Neumayer Olymp**	**52.81**	**159**	P		**P**		**01 43 50.2**	**+1.7**
VNA1	**Neumayer--Stat**	**53.11**	**158**	P		**P**		**01 43 52.3**	**+1.6**
VNA2	**Neumayer--Watz**	**53.45**	**158**	P		**P**		**01 43 54.6**	**+1.3**
	baz=297,slow=6.1								
SNAA	**Sanae**	**55.03**	**159**	P		**P**		**01 44 05.8**	**+1.0**
SNAA	**Sanae**	**55.03**	**159**	P		**P**		**01 44 06.2**	**+1.3**
QSPA	**South Pole Qui**	**59.77**	**180**	P		**P**		**01 44 39.8**	**+1.3**
QSPA				IAmb		IAmb		01 44 42.8	
	comp=Z,11nm,1.4s								
TXAR	**Lajitas Array**	**66.44**	**331**	P		**P**		**01 45 25.1**	**+2.0**
	comp=Z,1.4nm,0.8s,baz=148,slow=7.4,SNR=10								
TXAR					LR	LR		02 10 20.1	
	comp=Z,60nm,18.4s,baz=0.0,slow=32								
TXAR	**Lajitas Array**	**66.44**	**331**	P		**P**		**01 45 24.7**	**+1.7**
T47A	**Sharon Grove**	**68.46**	**348**	P		**P**		**01 45 36.1**	**+0.6**
CCM	**Cathedral Cave**	**70.36**	**344**	P		**P**		**01 45 48.4**	**+1.1**
121A	**Cookes Peak, D**	**70.98**	**329**	P		P		01 45 55.1	+3.7
121A				IAmb		IAmb		01 45 57.2	
	comp=Z,8.4nm,1.4s								
TUC	**Tucson**	**72.17**	**327**	P		**P**		**01 46 01.0**	**+2.5**
TUC				IAmb		IAmb		01 46 03.1	
	comp=Z,5.8nm,1.5s								
ANMO	**Albuquerque**	**72.47**	**331**	P		**P**		**01 46 02.4**	**+2.1**
ANMO				IAmb		IAmb		01 46 20.9	
	comp=Z,4.6nm,1.4s								
LIC	**Lamto**	**74.11**	**73**	*eP*		**P**		**01 46 11.5**	**+1.2**
	comp=Z,37nm,0.9s								
TIC	**Toumodi**	**74.35**	**72**	*eP*		**P**		**01 46 12.9**	**+1.1**
KIC	**Kosan Boka**	**74.43**	**73**	*eP*		**P**		**01 46 13.5**	**+1.3**
	comp=Z,25nm,0.8s								
DBIC	**Dimbokro**	**74.50**	**73**	P		**P**		**01 46 13.6**	**+1.0**
	comp=Z,15nm,0.8s,baz=232,slow=4.8,SNR=16								
DBIC					LR	LR		02 17 10.3	
	comp=Z,79nm,18.8s,baz=194,slow=34								
DBIC	**Dimbokro**	**74.50**	**73**	P		**P**		**01 46 12.8**	**+0.2**
PV01	**Paradox Valley**	**76.07**	**331**	P		**P**		**01 46 24.2**	**+2.9**
PV01				IAmb		IAmb		01 46 27.0	
	comp=Z,6.5nm,1.4s								
MAW	**Mawson**	**76.70**	**164**	P		**P**		**01 46 25.7**	**+1.4**
	comp=Z,2.4nm,0.5s,baz=210,slow=6.0,SNR=15								
MAW	**Mawson**	**76.70**	**164**	P		**P**		**01 46 26.3**	**+2.0**
CCUT	**Cedar City**	**77.67**	**328**	P		**P**		**01 46 32.8**	**+2.4**
CCUT				IAmb		IAmb		01 46 35.9	
	comp=Z,6.7nm,1.3s								
K22A	**Casper**	**79.17**	**335**	P		**P**		**01 46 40.1**	**+1.6**
K22A				IAmb		IAmb		01 46 42.9	
	comp=Z,13nm,1.4s								
DUG	**Dugway, Tooele**	**79.59**	**330**	P		**P**		**01 46 42.0**	**+1.2**
BW06	**Boulder Array**	**80.41**	**333**	P		**P**		**01 46 47.5**	**+2.2**
PDAR	**Pinedale Array**	**80.41**	**333**	P		**P**		**01 46 45.8**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=180,slow=2.7,SNR=2.2								
PDAR	**Pinedale Array**	**80.41**	**333**	P		**P**		**01 46 46.8**	**+1.6**
NVAR	**Mina Array Bea**	**80.73**	**325**	P		**P**		**01 46 48.6**	**+1.5**
	comp=Z,0.5nm,0.8s,baz=162,slow=4.2,SNR=3.9								
BOSA	**Boshof**	**82.13**	**118**	LR		LR		02 18 47.7	
	comp=Z,28nm,20.7s,baz=186,slow=32								
TORD	**Torodi Ar. Bea**	**83.44**	**71**	P		**P**		**01 47 02.8**	**+1.2**
	comp=Z,8.5nm,0.8s,baz=262,slow=4.7,SNR=49								
TORD	**Torodi Ar. Bea**	**83.44**	**71**	P		**P**		**01 47 01.9**	**+0.3**
MFID	**Camas Ranch**	**83.52**	**330**	P		**P**		**01 47 04.2**	**+2.7**
MFID				IAmb		IAmb		01 47 05.8	
	comp=Z,5.9nm,1.4s								
CASY	**Casey**	**83.55**	**181**	P		**P**		**01 47 02.8**	**+1.5**
URZ	**Urewera**	**85.71**	**228**	P		**P**		**01 47 11.3**	**-1.4**
	comp=Z,24nm,0.5s,baz=60,slow=1.4,SNR=21								
URZ	**Urewera**	**85.71**	**228**	P		**P**		**01 47 11.0**	**-1.7**
AKASG	**Malin Array Be**	**120.09**	**46**	PKP		**PKiKP**		**01 53 23.7**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=256,slow=2.6,SNR=5.3								
AKASG	**Malin Array Be**	**120.09**	**46**			**PKiKP**		**01 53 23.7**	**-0.5**
BRTR	**Keskin Array B**	**120.45**	**59**	PKP		**PKiKP**		**01 53 25.3**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=22,slow=1.8,SNR=3.9								
BRTR	**Keskin Array B**	**120.45**	**59**			**PKiKP**		**01 53 25.3**	**-0.1**
WRA	**Warramunga Arr**	**123.60**	**211**	PKP		**PKiKP**		**01 53 32.3**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=155,slow=1.6,SNR=1.4								
BRVK	**Borovoye**	**144.84**	**39**	PKPdf		**PKPdf**		**01 54 10.8**	**+0.5**
YAK	**Yakutsk**	**145.24**	**342**	PKPbc		**PKPdf**		**01 54 10.9**	**+0.2**
	comp=Z,7.2nm,0.4s,baz=333,slow=1.4,SNR=5.0								
YAK	**Yakutsk**	**145.24**	**342**			**PKPdf**		**01 54 10.9**	**+0.2**
CHGR	**Chuyangaron**	**147.62**	**65**	PKPbc		**PKPbc**		**01 54 16.8**	**-1.5**
KK31	**Karatay Array**	**148.10**	**56**	PKPbc		**PKiKP**		**01 54 20.0**	**-1.1**
KKAR	**Karatay Array**	**148.10**	**56**	PKPbc		**PKiKP**		**01 54 19.5**	**-1.7**
TOLI2	**Tolitoli**	**148.18**	**206**	PKPbc		**PKiKP**		**01 54 21.4**	**-0.8**
GAR	**Garm**	**148.50**	**64**	PKPbc		**PKPab**		**01 54 22.2**	**-1.8**
JCJ	**Chichijima**	**149.43**	**272**			**PKPdf**		**01 54 18.7**	**0.0**
KURBB	**Kurchatov Arra**	**150.49**	**39**	PKPbc		**PKiKP**		**01 54 26.5**	**+0.8**
	comp=Z,7.6nm,0.8s,baz=305,slow=2.9,SNR=28								
HYB	**Hyderabad**	**150.68**	**110**	*i* PKP		**PKiKP**		**01 54 27.0**	**-0.2**
ZALV	**Zalesovo Beam**	**151.40**	**28**	PKPbc		**PKiKP**		**01 54 28.1**	**+0.6**
	comp=Z,13nm,0.7s,baz=306,slow=2.4,SNR=24								
ZALV	**Zalesovo Beam**	**151.40**	**28**			**PKPbc**		**01 54 24.4**	**-2.7**
KLR	**Kul'dur**	**153.73**	**322**	PKPbc		**PKiKP**		**01 54 31.9**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=38,slow=3.5,SNR=3.5								
KLR	**Kul'dur**	**153.73**	**322**			**PKiKP**		**01 54 31.9**	**-0.6**
MKAR	**Makanchi Array**	**154.62**	**43**	PKP		**PKPdf**		**01 54 24.1**	**-1.9**
	comp=Z,0.9nm,0.9s,baz=256,slow=4.9,SNR=3.7								
MKAR					PKPbc	**sPKPbc**		**01 54 35.6**	**+2.1**
	comp=Z,1.6nm,0.8s,baz=303,slow=1.9,SNR=9.7								
MKAR	**Makanchi Array**	**154.62**	**43**			**PKPdf**		**01 54 24.1**	**-1.9**

*NEIC **20** 01:42:16.3±1.5, 31.78S±0.04×72.4W±0.1, h10km±1km, mb4.4/4, ML4.0(GUC), Error ellipse: s-maj=17.3km s-min=7.1km az=89.0*
*IDC **20** 01:42:16.9±1.0, 31.78S×71.67W, h0km, mb4.1/6, mb1 3.9/10, mb1mx3.8/30, mbtmp3.8/10, ML3.4/4, Error ellipse: s-maj=40.1km s-min=19.2km az=101.0*
*SJA **20** 01:42:17.0, 31.77S×72.41W, h10km, ML4.7*
*GUC **20** 01:42:20.2±0.9, 31.78S×72.14W, h15km±6km, ML4.0*
ISC 20 01:42:15.1±1.5, 31.77S±0.02×72.20W±0.06, h1km±9km, n79, σ1§40/85, mb4.3/6, 5C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**1.10**	**136**	*eP*		**Pn**		**01 42 37.4**	**-0.2**
VA06				*eS*		**Sg**		**01 42 50.8**	**+0.4**
VA06				IAML				01 42 55.6	
	comp=E,7μm,0.5s								
CO06	**Fray Jorge**	**1.20**	**24**	⇑*eP*		**Pg**		**01 42 39.1**	**+1.1**
CO06				*eS*		**Sn**		**01 42 54.5**	**-1.3**
CO06	**Fray Jorge**	**1.20**	**24**			**Pg**		**01 42 39.3**	**+1.3**
VA01	**Torpederas**	**1.33**	**160**	⇑*eP*		**Pg**		**01 42 41.6**	**+0.9**
VA01				⇓*eS*		**Sb**		**01 42 57.4**	**-1.1**
VA01	**Torpederas**	**1.33**	**160**			**Pb**		**01 42 40.8**	**-0.1**
ROCH	**El Roble**	**1.56**	**140**	*eP*		**Pg**		**01 42 45.5**	**+0.5**
ROCH				IAML				01 43 08.6	
	comp=N,3μm,0.5s								
CO03	**El Pedregal**	**1.59**	**55**	⇑*eP*		**Pg**		**01 42 45.7**	**+0.1**
CO03				*eS*		**Sb**		**01 43 04.9**	**-1.1**
CO03				IAML				01 43 08.1	
	comp=E,2μm,0.4s								
CO03	**El Pedregal**	**1.59**	**55**	Pn		**Pg**		**01 42 45.7**	**+0.1**
CO03	**El Pedregal**	**1.59**	**55**	*i* P		**Pb**		**01 42 45.0**	**-0.3**
VA03	**San Esteban**	**1.71**	**126**	*eP*		**Pb**		**01 42 46.7**	**-0.8**
VA03				*eS*		**Sn**		**01 43 08.1**	**-0.7**
VA03	**San Esteban**	**1.71**	**126**			**Pb**		**01 42 46.7**	**-0.8**
VA03	**San Esteban**	**1.71**	**126**	*i* P		**Pb**		**01 42 47.0**	**-0.4**
VA05	**Santo Domingo**	**1.95**	**165**	*eP*		**Pb**		**01 42 49.9**	**-1.5**
VA05				*eS*		**Sb**		**01 43 15.4**	**-0.7**
VA05				IAML				01 43 25

URZ	**Urewera**	**13.97 189**	P	**P**	**01 47 12.3**	**-0.4**
MWZ	**Matawai**	**13.99 188**	P	**P**	**01 47 13.3**	**+0.3**
MWZ	**Matawai**	**13.99 188**	P	**P**	**01 47 13.3**	**+0.3**
MWZ			S	**S**	**01 49 40.9**	**-0.1**
CNGZ	**Carnagh Statio**	**14.07 185**	P	**P**	**01 47 15.2**	**+1.5**
TLZ	**Tolley Road**	**14.33 194**	P	**P**	**01 47 20.3**	**+3.7**
HIZ	**Hauiti**	**14.66 196**	P	**P**	**01 47 23.5**	**+3.4**
BKZ	**Black Stump Fm**	**14.95 190**	P	**P**	**01 47 22.3**	**-0.9**
BKZ	**Black Stump Fm**	**14.95 190**	P	**P**	**01 47 22.3**	**-0.9**
BKZ			S	**S**	**01 49 56.3**	**-3.2**
NNVZ	**North Ngauruho**	**15.08 193**	P	**P**	**01 47 22.8**	**-1.8**
OTVZ	**Oturere**	**15.10 193**	P	**P**	**01 47 25.8**	**+1.0**
WNVZ	**Wahianoa**	**15.27 193**	P	**P**	**01 47 26.1**	**-0.5**
BHHZ	**Black Hill Sta**	**15.34 191**	P	**P**	**01 47 25.7**	**-1.5**
BFZ	**Birch Farm**	**16.48 190**	P	**P**	**01 47 37.3**	**-1.7**
BFZ			S	**S**	**01 50 23.7**	**-4.2**
MRZ	**Mangatainoka R**	**16.57 192**	P	**P**	**01 47 38.0**	**-2.0**
MRZ			S	**S**	**01 50 24.8**	**-4.7**
STKA	**Stephens Creek**	**34.43 249**	P	**P**	**01 50 18.8**	**0.0**
	1.3nm,0.4s,baz=91,slow=12,SNR=5.4					
ASAR	**Alice Springs**	**41.85 261**	P	**P**	**01 51 18.7**	**-0.8**
	0.5nm,0.3s,baz=91,slow=6.4,SNR=16					
WRA	**Warramunga Arr**	**42.28 267**	P	**P**	**01 51 21.6**	**-1.3**
	1.8nm,0.5s,baz=100,slow=8.2,SNR=50					
VNDA	**Vanda**	**53.83 185**	P	**P**	**01 52 48.0**	**-0.3**
	0.4nm,0.6s,baz=349,slow=9.8,SNR=2.1					
QSPA	**South Pole Qui**	**65.64 180**	P	**P**	**01 54 08.3**	**+0.8**
	4.3nm,0.6s,baz=324,slow=0.6,SNR=23					
MAW	**Mawson**	**77.20 200**	P	**P**	**01 55 15.3**	**+0.3**
	2.0nm,0.6s,baz=112,slow=9.7,SNR=6.4					
SNAA	**Sanae**	**84.12 179**	P	**P**	**01 55 50.0**	**-1.0**
SNAA	**Sanae**	**84.12 179**	P	**P**	**01 55 50.1**	**-0.9**
	0.8nm,0.5s,baz=195,slow=10,SNR=9.7					
VNA3	**Neumayer Olymp**	**84.34 177**	P	**P**	**01 55 51.1**	**-1.0**
VNA2	**Neumayer--Watz**	**84.75 178**	P	**P**	**01 55 53.3**	**-0.7**
	baz=185,slow=4.0					
HFS	**Hagfors**	**143.06 349**	PKP	PKPab	02 02 45.8	-1.1
	2.0nm,0.4s,baz=62,slow=3.5,SNR=19					
BRTR	**Keskin Array B**	**147.83 306**	PKPbc	**PKPdf**	**02 03 00.0**	**+1.5**
	0.5nm,0.6s,baz=145,slow=4.8,SNR=4.9					
TORD	**Torodi Ar. Bea**	**168.63 189**	PKPab	**PKPab**	**02 04 35.0**	**-1.5**
	0.9nm,0.8s,baz=199,slow=2.2,SNR=5.6					

*NEIC **20** 01:45:15.8±1.7, 14.75S±0.07×166.93E±0.10, h46km±6km, mb4.7/41, Error ellipse: s-maj=14.1km s-min=9.1km az=68.0*

*GCMT **20** 01:45:15.8±0.3, 14.72S±0.02×166.53E±0.02, h44km±2km, MW4.9/75, Moment Tensor Solution. s19,c20; s75,c89; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.88±.18; Mθθ0.59±.14; Mϕϕ-1.47±.14; Mrθ-1.34±.09; Mθϕ1.84±.09; Mϕr-0.11±.09; Best double couple: M◎2.61400×10^16 NP1:ϕs189.00000°, δ57.00000°, λ159.00000°. NP2: ϕs291.00000°, δ73.00000°, λ35.00000°. Principal axes: T 2.5740, Plg37.0000°, Azm154.0000°; N 0.0810, Plg52.0000°, Azm314.0000°; P -2.6530, Plg10.0000°, Azm57.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **20** 01:45:16.2±0.8, 14.80S×166.81E, h49km±5km, mb4.1/19, mb1 4.3/21,mb1mx4.1/44,mbtmp4.4/21,MS3.6/18, Ms1 3.7/18,ms1mx3.5/38 Error ellipse: s-maj=20.2km s-min=11.3km az=89.0*

*NOU **20** 01:45:17.5, 14.81S×166.71E, h31km, mb4.9/23, Vanuatu Islands*

ISC 20 01:45:16.7±0.4, 14.79S±0.05×166.82E±0.07, h57km, n124, σ1♀34/111, mb4.7/40, MS3.8/20, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.75**	**150**		**Pn**	**01 45 30.2**	**-1.2**
DVP	**Devils Point**	**3.20**	**156**	P	**Pn**	**01 46 05.9**	**+1.4**
LIFNC	**LIFOU**	**5.96**	**176**	Pn	**Pn**	**01 46 40.8**	**-1.6**
KOUNC	**Koumac, New Ca**	**6.21**	**202**	P	**Pn**	**01 46 47.3**	**+1.5**
MARNC	**Mare, Loyalty**	**6.75**	**170**		**Pn**	**01 46 52.9**	**-0.3**
MARNC	**Mare, Loyalty**	**6.75**	**170**	P	**Pn**	**01 46 53.6**	**+0.4**
YATNC	**Mamie plateau,**	**7.23**	**179**	P	**Pn**	**01 46 59.9**	**+0.2**
DZM	**Mont Dzumac**	**7.25**	**183**	*e*Pn	**Pn**	**01 47 00.5**	**+0.4**
	138nm,0.7s						
DZM				*e*Sn	**Sn**	**01 48 16.7**	**-4.4**
	218nm,1.3s						
DZM				*e*LR	LR	01 48 40.8	
	comp=Z,2μm,27.1s						
DZM	**Mont Dzumac**	**7.25**	**183**	P	**Pn**	**01 47 00.6**	**+0.5**
	13nm,0.3s,baz=356,slow=8.3,SNR=159						
DZM				S	**Sn**	**01 48 19.0**	**-2.1**
	baz=332,slow=22,SNR=1.5						
DZM				LR	LR	01 48 44.8	
	comp=Z,181nm,18.4s,baz=0.5,slow=29						
DZM	**Mont Dzumac**	**7.25**	**183**		**Pn**	**01 47 00.4**	**+0.3**
DZM	**Mont Dzumac**	**7.25**	**183**	P	**Pn**	**01 47 01.0**	**+0.9**
ONTNC	**Ouen Toro**	**7.48**	**183**	Pn	**Pn**	**01 47 01.4**	**-1.8**
ONTNC	**Ouen Toro**	**7.48**	**183**	P	**Pn**	**01 47 04.6**	**+1.4**
OUENC	**Ouen Island, N**	**7.58**	**180**	Pn	**Pn**	**01 47 03.1**	**-1.5**
OUENC	**Ouen Island, N**	**7.58**	**180**	P	**Pn**	**01 47 06.0**	**+1.4**
PINNC	**Pines Island,**	**7.80**	**176**	Pn	**Pn**	**01 47 07.5**	**-0.1**
PINNC	**Pines Island,**	**7.80**	**176**	P	**Pn**	**01 47 09.0**	**+1.4**
HNR	**Honiara**	**8.57**	**308**	P	**Pn**	**01 47 17.8**	**-0.5**
	55nm,0.3s,baz=181,slow=9.1,SNR=9.3						
HNR				S	**Sn**	**01 48 49.7**	**-3.8**
	29nm,0.3s,baz=67,slow=22,SNR=1.2						
HNR				LR	LR	01 50 42.2	
	comp=Z,192nm,19.0s,baz=128,slow=38						
HNR	**Honiara**	**8.57**	**308**	Pn	**Pn**	**01 47 17.3**	**-0.9**
HNR	**Honiara**	**8.57**	**308**	P	**Pn**	**01 47 18.0**	**-0.2**
MSVF	**Nonsavu**	**11.18**	**107**	LR	LR	01 51 28.5	
	comp=Z,393nm,21.5s,baz=329,slow=33						
MSVF	**Nonsavu**	**11.18**	**107**	Pn	**Pn**	**01 47 51.3**	**-2.6**
MSVF	**Nonsavu**	**11.18**	**107**	P	**Pn**	**01 47 57.5**	**+3.6**
EIDS	**Eidsvold**	**18.12**	**232**	P	**Pn**	**01 49 25.5**	**+1.0**
CTA	**Charters Tower**	**20.31**	**252**	P	**P**	**01 49 49.4**	**+1.3**
	7.4nm,0.5s,baz=95,slow=11,SNR=21						
CTAO	**Charters Tower**	**20.31**	**252**	P	**P**	**01 49 46.1**	**-2.1**
CTAO				IAmb	IAmb	01 49 51.1	
	comp=Z,36nm,1.1s						
ARMA	**Armidale**	**20.90**	**219**	P	**P**	**01 49 55.1**	**+0.6**
ARMA				IAmb	IAmb	01 50 00.3	
	comp=Z,19nm,0.8s						
OUZ	**Omahuta**	**21.23**	**165**	P	**P**	**01 49 59.8**	**+1.8**
OUZ				IAmb	IAmb	01 50 05.1	
	comp=Z,52nm,1.0s						
URZ	**Urewera**	**25.09**	**161**	P	**P**	**01 50 37.0**	**+1.1**
	comp=Z,25nm,1.0s,baz=109,slow=9.8,SNR=3.7						
BKZ	**Black Stump Fm**	**25.73**	**162**	P	**P**	**01 50 42.5**	**+0.7**
BKZ				IAmb	IAmb	01 50 44.0	
	comp=Z,20nm,0.7s						
STKA	**Stephens Creek**	**28.62**	**229**	P	**P**	**01 51 09.1**	**+1.3**
	comp=Z,7.4nm,0.8s,baz=37,slow=6.3,SNR=13						
STKA				LR	LR	02 02 06.3	
	comp=Z,310nm,19.0s,baz=45,slow=35						
STKA	**Stephens Creek**	**28.62**	**229**	P	**P**	**01 51 08.4**	**+0.5**
WRA	**Warramunga Arr**	**31.39**	**256**	P	**P**	**01 51 31.8**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=83,slow=8.8,SNR=8.4						
WRA				PcP	**PcP**	**01 54 24.9**	**-0.3**
	comp=Z,2.1nm,0.9s,baz=100,slow=2.1,SNR=5.0						
WRA				LR	LR	02 03 53.5	
	comp=Z,137nm,19.3s,baz=55,slow=36						
WRA	**Warramunga Arr**	**31.39**	**256**	P	**P**	**01 51 32.7**	**+0.2**
AS31	**Alice Springs**	**32.24**	**249**	P	**P**	**01 51 39.7**	**-0.3**
ASAR	**Alice Springs**	**32.24**	**249**	P	**P**	**01 51 39.4**	**-0.6**
	comp=Z,1.7nm,0.5s,baz=74,slow=9.5,SNR=23						
ASAR				PcP	**PcP**	**01 54 27.1**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=66,slow=3.1,SNR=5.2						
GUMO	**Guam**	**35.60**	**321**	LR	LR	02 07 45.5	
	comp=Z,58nm,18.4s,baz=167,slow=38						
FITZ	**Fitzroy Crossi**	**39.57**	**259**	P	**P**	**01 52 42.7**	**0.0**
PPT2	**Papeete2**	**41.90**	**100**	*e*LQ	LQ	02 02 55.4	
	comp=Z,527nm,39.8s						
PPT2				*e*LR	LR	02 04 41.7	
	comp=Z,157nm,30.0s						
TBI	**Tubuai**	**42.06**	**109**	*e*LR	LR	02 04 46.1	
	comp=Z,222nm,27.8s						
JCJ	**Chichijima**	**48.02**	**330**	LR	LR	02 11 38.7	
	comp=Z,62nm,20.8s,baz=175,slow=33						
TAOE	**Nuku Hiva Isla**	**52.15**	**90**	*e*LR	LR	02 09 26.3	
	comp=Z,171nm,26.0s						
JOW	**Kunigami**	**55.80**	**318**	LR	LR	02 16 55.0	
	comp=Z,34nm,20.5s,baz=233,slow=34						
MJAR	**Matsushiro Arr**	**57.76**	**333**	LR	LR	02 16 44.2	
	comp=Z,27nm,21.8s,baz=240,slow=33						
MAJO	**Matsushiro**	**57.76**	**333**	P	**P**	**01 55 02.7**	**+0.7**
MAJO				IAmb	IAmb	01 55 05.4	
	comp=Z,9.1nm,1.1s						
LEM	**Lembang**	**58.55**	**271**	LR	LR	02 21 37.5	
	comp=Z,182nm,18.1s,baz=228,slow=37						
JNU	**Nakatsue**	**58.72**	**325**	LR	LR	02 20 22.9	
	comp=Z,2μm,18.0s,baz=62,slow=36						
JKA	**Kamikawa-asahi**	**62.65**	**341**	P	**P**	**01 55 35.7**	**+0.5**
JKA	**Kamikawa-asahi**	**62.65**	**341**	IAmb	IAmb	01 55 40.7	
	comp=Z,42nm,1.4s						
ASAJ	**Asahikawa**	**62.66**	**341**	P	**P**	**01 55 35.7**	**+0.4**
	comp=Z,16nm,1.2s,baz=223,slow=16,SNR=3.0						
VNDA	**Vanda**	**62.79**	**181**	P	**P**	**01 55 36.6**	**+0.9**
	comp=Z,4.3nm,0.9s,baz=356,slow=6.7,SNR=13						
VNDA				LR	LR	02 20 54.4	
	comp=Z,38nm,18.2s,baz=352,slow=34						
VNDA	**Vanda**	**62.79**	**181**	P	**P**	**01 55 36.3**	**+0.5**
VNDA				IAmb	IAmb	01 55 38.5	
	comp=Z,7.3nm,1.0s						
SBA	**Scott Base**	**63.07**	**180**	P	**P**	**01 55 38.7**	**+1.1**
CASY	**Casey**	**63.30**	**202**	P	**P**	**01 55 39.1**	**-0.2**
KSRS	**Korea Array**	**63.55**	**326**	P	**P**	**01 55 42.0**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=139,slow=7.2,SNR=5.7						
KSRS				pP	**pP**	**01 55 56.2**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=141,slow=7.4,SNR=3.5						
KSRS				LR	LR	02 20 31.7	
	comp=Z,37nm,21.0s,baz=180,slow=33						
NJ2	**Nanjing**	**65.42**	**316**	*e*P	**P**	**01 55 56.6**	**+2.9**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
USA0B	**Ussuriysk Arra**	**66.75**	**333**	P	**P**	**01 56 03.5**	**+1.6**
USA0B				IAmb	IAmb	01 56 07.7	
	comp=Z,16nm,1.5s						
USRK	**Ussuriysk Ar.**	**66.75**	**333**	P	**P**	**01 56 02.2**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=123,slow=5.3,SNR=4.0						
USRK				pP	**pP**	**01 56 16.3**	**-1.0**
	comp=Z,2.7nm,0.8s,baz=188,slow=3.9,SNR=5.0						
PETK	**Petropavlovsk-**	**68.08**	**354**	P	**P**	**01 56 12.1**	**+1.9**
	comp=Z,4.9nm,0.8s,baz=169,slow=9.1,SNR=6.0						
MDJ	**Mudanjiang**	**68.13**	**332**	P	**P**	**01 56 11.0**	**+0.3**
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.4s						
MDJ				pmax	pmax		
	comp=Z,72nm,3.5s						
MDJ	**Mudanjiang**	**68.13**	**332**	P	**P**	**01 56 11.2**	**+0.5**
MDJ				IAmb	IAmb	01 56 12.8	
	comp=Z,5.3nm,0.7s						
KLR	**Kul'dur**	**70.89**	**337**	P	**P**	**01 56 27.8**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=151,slow=19,SNR=2.4						
ENH	**Enshi**	**71.07**	**310**	P	**P**	**01 56 28.8**	**-0.4**
ENH				IAmb	IAmb	01 56 54.2	
	comp=Z,8.8nm,1.0s						
XAN	**Xi'an**	**73.41**	**313**	P	P	01 56 49.5	+6.4
XAN				pP	pP	01 56 58.6	-0.1
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,53nm,6.4s						
CM04	**Chiang Mai Arr**	**74.52**	**294**	P	P	01 57 07.0	+17
CM05	**Chiang Mai Arr**	**74.55**	**294**	P	P	01 57 06.4	+16
CM02	**Chiang Mai Arr**	**74.56**	**294**	P	P	01 57 09.6	+20
CMAR	**Chiang Mai Arr**	**74.58**	**294**	P	**P**	**01 56 51.8**	**+1.6**
	comp=Z,1.4nm,0.4s,baz=121,slow=5.0,SNR=6.0						
CMAR				pP	**PcP**	**01 57 03.6**	**-0.7**
	comp=Z,1.6nm,0.3s,baz=127,slow=4.9,SNR=2.7						
CMAR	**Chiang Mai Arr**	**74.58**	**294**	P	**P**	**01 56 50.4**	**+0.2**
CHTO	**Chiang Mai**	**74.71**	**295**	P	**P**	**01 56 52.2**	**+1.3**
QSPA	**South Pole Qui**	**75.23**	**180**	P	**P**	**01 56 53.9**	**+0.7**
	comp=Z,9.2nm,0.8s,baz=5.9,slow=2.4,SNR=24						
QSPA	**South Pole Qui**	**75.23**	**180**	P	**P**	**01 56 53.7**	**+0.4**
QSPA				IAmb	IAmb	01 56 57.8	
	comp=Z,10nm,0.8s						
HHC	**Hu-ho-hao-te**	**75.35**	**320**	*e*P	**P**	**01 56 54.9**	**+0.6**
CD2	**Chengdu**	**75.70**	**308**	P	**P**	**01 56 57.8**	**+1.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LZH	**Lanzhou**	**78.04**	**312**	*e*P	**P**	**01 57 12.0**	**+2.4**
LZH				pP	PcP	01 57 19.0	-0.1
LZH				sP	sP	01 57 30.6	-0.6
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
LZH				LR	LR		
	comp=N,160nm,15.9s						
LZH				LR	LR		
	comp=E,220nm,16.3s						
LZH				LR	LR		
	comp=Z,140nm,18.5s						
SEY	**Seymchan**	**78.29**	**353**	P	**P**	**01 57 12.3**	**+2.1**
	comp=Z,4.5nm,0.9s,baz=164,slow=7.2,SNR=6.1						
MAW	**Mawson**	**81.66**	**202**	P	**P**	**01 57 29.6**	**+1.2**
	comp=Z,1.7nm,0.7s,baz=86,slow=9.3,SNR=3.6						
MAW	**Mawson**	**81.66**	**202**	P	**P**	**01 57 28.7**	**+0.3**
ULN	**Ulaanbaatar**	**81.93**	**324**	P	**P**	**01 57 31.0**	**+0.6**
ULN				IAmb	IAmb	01 57 36.9	
	comp=Z,7.1nm,1.1s						
SONM	**Songino Array**	**82.29**	**324**	P	**P**	**01 57 32.5**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=133,slow=4.6,SNR=2.8						
SONM				pP	**pP**	**01 57 47.3**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=147,slow=6.7,SNR=4.2						
SONM				LR	LR	02 32 02.6	
	comp=Z,41nm,21.7s,baz=146,slow=34						
SONM	**Songino Array**	**82.29**	**324**	P	**P**	**01 57 32.1**	**-0.1**
GTA	**Gaotai**	**82.40**	**314**	*e*P	P	01 57 38.1	+5.1
GTA				pP	pP	01 57 48.3	-0.7
GTA				sP	sP	01 57 52.4	-2.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.5s						
SUA	**Susitna One**	**83.09**	**19**	P	**P**	**01 57 34.7**	**-1.3**
CAST	**Castle Rocks**	**84.19**	**17**	IAmb	IAmb	01 57 57.7	
	comp=Z,15nm,1.3s						
KTH	**Kantishna Hill**	**84.63**	**18**	IAmb	IAmb	01 57 59.8	
	comp=Z,7.4nm,1.0s						
TRF	**Thorofare Moun**	**84.73**	**18**	IAmb	IAmb	01 58 06.0	
	comp=Z,11nm,1.2s						
MCK	**McKinley**	**85.35**	**18**	P	**P**	**01 57 48.0**	**+0.7**
I21K	**Tanana**	**85.57**	**16**	P	**P**	**01 57 48.1**	**-0.3**
CCB	**Clear Creek Bu**	**86.36**	**18**	IAmb	IAmb	01 58 08.5	
	comp=Z,3.2nm,0.6s						
HDA	**Harding Lake**	**86.44**	**18**	P	**P**	**01 57 51.9**	**-0.9**
IL31		**86.72**	**18**	P	**P**	**01 57 54.1**	**+0.1**
IL31				IAmb	IAmb	01 58 18.6	
	comp=Z,4.2nm,0.8s						
ILAR	**Eielson Array**	**86.72**	**18**	P	**P**	**01 57 51.6**	**-2.4**
	comp=Z,2.7nm,0.7s,baz=235,slow=5.7,SNR=19						
ILAR				pP	**pP**	**01 58 04.7**	**-5.3**
	comp=Z,3.0nm,0.8s,baz=233,slow=5.8,SNR=6.9						
ILAR				LR	LR	02 30 15.0	
	comp=Z,77nm,20.9s,baz=254,slow=31						
SCRK	**Sand Creek**	**87.07**	**20**	P	**P**	**01 57 56.0**	**0.0**
SCRK				IAmb	IAmb	01 58 12.9	
	comp=Z,3.7nm,0.8s						
COLD	**Coldfoot**	**87.61**	**15**		**P**	**01 57 58.3**	**0.0**
COLD				IAmb	IAmb	01 58 01.5	
	comp=Z,3.2nm,0.8s						
NVAR	**Mina Array Bea**	**87.64**	**49**	P	**P**	**01 57 59.7**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=229,slow=7.8,SNR=5.8						
NVAR				LR	LR	02 29 51.4	
	comp=Z,79nm,20.8s,baz=268,slow=30						
WVOR	**Wild Horse Val**	**88.84**	**46**	P	**P**	**01 58 03.6**	**-1.2**
WMQ	**Urumqi**	**92.46**	**315**	*e*P	**P**	**01 58 23.3**	**+1.7**
SNAA	**Sanae**	**93.46**	**183**	P	**P**	**01 58 25.1**	**-0.7**
SNAA	**Sanae**	**93.46**	**183**	P	**P**	**01 58 24.8**	**-1.0**
SNAA				IAmb	IAmb	01 58 26.9	
	comp=Z,6.1nm,1.2s						
VNA3	**Neumayer Olymp**	**94.14**	**181**	P	**P**	**01 58 28.0**	**-0.8**
VNA2	**Neumayer--Watz**	**94.40**	**182**	P	**P**	**01 58 29.6**	**-0.5**
	baz=164,slow=3.3						
PDAR	**Pinedale Array**	**95.31**	**47**	LR	LR	02 32 56.9	
	comp=Z,37nm,21.9s,baz=280,slow=30						
ANMO	**Albuquerque**	**95.70**	**56**	P	**P**	**01 58 35.6**	**-1.3**
MKAR	**Makanchi Array**	**96.95**	**316**	P	**P**	**01 58 41.4**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=76,slow=6.4,SNR=6.0						
MKAR				pP	**pP**	**01 58 56.3**	**-2.0**
	comp=Z,0.8nm,0.8s,baz=103,slow=6.1,SNR=3.6						
MKAR	**Makanchi Array**	**96.95**	**316**	P	**P**	**01 58 40.7**	**-1.4**
MAKZ	**Makanchi**	**97.16**	**316**	P	**P**	**01 58 42.7**	**-0.3**
MAKZ				IAmb	IAmb	01 59 06.5	
	comp=Z,5.8nm,1.4s						
ZAA0	**Zalesovo Array**	**97.19**	**324**	P	**P**	**01 58 42.3**	**-0.6**
ZAA0				IAmb	IAmb	01 58 57.7	
	comp=Z,2.7nm,0.9s						
ZALV	**Zalesovo Beam**	**97.19**	**324**	P	Pdif	01 58 44.5	+1.6
	comp=Z,0.5nm,0.5s,baz=122,slow=7.0,SNR=1.9						
ZALV				LR	LR	02 41 15.9	
	comp=Z,24nm,20.0s,baz=198,slow=35						
NRIK	**Noril'sk**	**99.98**	**339**	LR	LR	02 41 40.0	
	comp=Z,50nm,21.7s,baz=106,slow=34						
ARCES	**ARCESS Array B**	**120.20**	**345**	PKP	**PKPdf**	**02 03 59.9**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=62,slow=1.8,SNR=37						
BOSA	**Boshof**	**123.04**	**221**	PKP	**PKiKP**	**02 04 08.0**	**+0.1**
	comp=Z,3.0nm,0.8s,baz=79,slow=2.8,SNR=4.5						
FINES	**FINESS Array B**	**125.62**	**338**	PKP	**PKPdf**	**02 04 10.4**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=106,slow=4.2,SNR=7.1						
AKASG	**Malin Array Be**	**130.54**	**326**	PKP	**PKPdf**	**02 04 20.6**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=53,slow=2.1,SNR=1.9						
NOA	**NORSAR Array B**	**130.57**	**345**	PKP	**PKPdf**	**02 04 20.3**	**-0.5**
	comp=Z,0.8nm,0.9s,baz=52,slow=2.3,SNR=3.7						
HFS	**Hagfors**	**130.65**	**343**	PKP	**PKPdf**	**02 04 19.1**	**-1.9**
	comp=Z,1.9nm,0.9s,baz=72,slow=6.2,SNR=1.6						
KOLS	**Kolonicke sedl**	**135.26**	**327**	*e*PKP	**PKiKP**	**02 04 30.8**	**-0.7**
VYHS	**Vyhne**	**137.31**	**329**	*e*PKP	**PKiKP**	**02 04 36.0**	**+0.3**
GERES	**GERESS Array B**	**139.50**	**333**	PKP	**PKPdf**	**02 04 38.4**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=90,slow=1.9,SNR=6.1						
DAVOX	**Davos/Dischmat**	**142.74**	**334**	PKhKP	PKPpre	02 04 40.0	
	comp=Z,1.9nm,0.6s,baz=36,slow=19,SNR=6.7						
BNI	**Bardonecchia**	**145.47**	**335**	PKPbc	**PKiKP**	**02 04 53.2**	**+0.5**
RAFF	**Raffo Rosso**	**146.87**	**318**	PKPbc	**PKiKP**	**02 04 56.1**	**+0.5**
KEST	**Kesra**	**150.98**	**320**	PKPbc	**PKPbc**	**02 05 03.7**	**0.0**
	comp=Z,5.2nm,0.7s,baz=29,slow=1.5,SNR=8.6						
ESDC	**Sonseca Array**	**153.93**	**344**	PKPbc	**PKPbc**	**02 05 09.8**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=10,slow=2.9,SNR=5.2						
TORD	**Torodi Ar. Bea**	**165.47**	**265**	PKPab	**PKPab**	**02 06 13.9**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=79,slow=4.2,SNR=4.3						

MEX 20 01:52:36.3±0.7, 14.31N×93.34W, h9km±999km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**2.28**	**31**	*i* P	Pb	01 53 16.2	-1.5
CCIG				*i* S	Sn	01 53 43.0	+0.3

*IDC **20** 01:53:08.6±6.1, 38.34S×128.56E, h0km, mb1 3.9/3, mb1mx3.6/38, mbtmp3.7/3, ML3.7/3, Error ellipse: s-maj=66.0km s-min=38.5km az=83.0*

ISC 20 01:53:05.6±2.8, 38.7S±0.2×128.4E±0.1, h10km, n10, σ1♀95/13, Off south coast of Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FORT	**Forrest**	**7.91**	**358**	P	**Pn**	**01 55 02.4**	**+1.8**
	baz=8.2						
FORT				S	**Sn**	**01 56 31.4**	**+1.2**
	baz=8.2						
BBOO	**Buckleboo**	**8.54**	**49**	P	**Pn**	**01 55 12.8**	**+3.5**
	baz=9.3						
NWAO	**Narrogin (SRO)**	**10.76**	**299**	P	Pn	01 55 28.0	-12
	baz=10						
NWAO				S	Sn	01 57 18.6	-22
	baz=10						
ARPS	**Mount Arapiles**	**10.79**	**84**	P	**Pn**	**01 55 39.9**	**-0.1**
	baz=12						
BLDU	**Ballidu**	**12.57**	**306**	P	Pn	01 55 52.4	-12
	baz=12						
BLDU				S	Sn	01 58 03.5	-21
	baz=12						
STKA	**Stephens Creek**	**12.71**	**62**	Pn	**Pn**	**01 56 07.4**	**+0.9**
	0.6nm,0.3s,baz=233,slow=13,SNR=8.1						
STKA				Sn	**Sn**	**01 58 28.4**	**+0.2**
	0.2nm,0.3s,baz=216,slow=17,SNR=1.8						
WRKA	**Warakurna**	**13.62**	**359**	P	**Pn**	**01 56 16.8**	**-2.1**
	baz=14						
WRKA				S	**Sn**	**01 58 51.2**	**+0.8**
	baz=14						
ASAR	**Alice Springs**	**15.69**	**19**	Pn	**Pn**	**01 56 46.8**	**-0.1**
	0.2nm,0.3s,baz=194,slow=12,SNR=11						
ASAR				Sn	**Sn**	**01 59 38.6**	**-2.3**
	0.0nm,0.3s,baz=194,slow=22,SNR=2.2						
WRA	**Warramunga Arr**	**19.38**	**17**	P	**Pn**	**01 57 32.1**	**-0.6**
	0.1nm,0.3s,baz=197,slow=12,SNR=3.4						
WRA				S	**Sn**	**02 01 07.1**	**-3.0**
	0.1nm,0.3s,baz=194,slow=23,SNR=4.8					

MSRU	**Castanea**	**0.89**	**173**	⇓P		**Pn**	**01 56 42.2**	**-0.2**
MSRU				S		**S**	**01 57 08.2**	**-1.1**
MSRU				AML		AML		
	comp=N,466μm,0.3s							
MSRU				AML		AML		
	comp=E,548μm,0.6s							
TDS	**Terranova Siba**	**0.91**	**55**	P		**Pn**	**01 56 43.4**	**+1.2**
TDS				S		**S**	**01 57 09.4**	**+0.1**
TDS				AML		AML		
	comp=N,89μm,0.6s							
TDS				AML		AML		
	comp=N,89μm,0.6s							
TDS				AML		AML		
	comp=E,168μm,0.6s							
CUC	**Castrocucco**	**0.91**	**22**	P		**Pn**	**01 56 43.2**	**+0.8**
CELI	**Celico**	**0.92**	**74**	P		**Pn**	**01 56 43.8**	**+1.3**
CELI				S		**S**	**01 57 10.3**	**+0.7**
CELI				AML		AML		
	comp=E,577μm,1.5s							
CELI				AML		AML		
	comp=N,592μm,0.4s							
CELI				AML		AML		
	comp=N,1515μm,0.4s							
CELI				AML		AML		
	comp=E,1455μm,1.5s							
BULG	**Bulgheria - Ca**	**0.93**	**0**	P		**Pn**	**01 56 43.7**	**+1.3**
MSCL	**Scilla**	**0.97**	**160**	P		**Pn**	**01 56 42.5**	**-0.3**
MSCL				S		**S**	**01 57 08.7**	**-1.4**
MSCL				AML		AML		
	comp=E,725μm,0.2s							
MSCL				AML		AML		
	comp=N,869μm,0.6s							
MSCL				AML		AML		
	comp=E,724μm,0.2s							
CEL	**Celeste**	**0.98**	**155**	P		**Pn**	**01 56 42.4**	**-0.4**
MGR	**Morigerati**	**1.00**	**8**	P		**Pn**	**01 56 44.0**	**+1.3**
MPNC	**Port Mandanici**	**1.00**	**181**	⇓P		**Pn**	**01 56 42.8**	**-0.1**
MPNC				AML		AML		
	comp=E,426μm,1.3s							
MPNC				AML		AML		
	comp=N,348μm,0.3s							
IACL	**Alicudi**	**1.00**	**233**	⇓P		**Pn**	**01 56 43.6**	**+0.7**
SERS	**Sersale**	**1.03**	**96**	⇓P		**Pn**	**01 56 43.9**	**+0.8**
SERS				S		**S**	**01 57 09.9**	**-0.8**
SERS				AML		AML		
	comp=E,649μm,0.9s							
SERS				AML		AML		
	comp=N,595μm,0.3s							
SERS				AML		AML		
	comp=N,619μm,0.4s							
SERS				AML		AML		
	comp=E,522μm,0.3s							
SERS				AML		AML		
	comp=N,618μm,0.4s							
GMB	**Gambarie**	**1.04**	**160**	P		**Pn**	**01 56 43.1**	**-0.2**
GMB				S		**S**	**01 57 09.7**	**-1.3**
GMB				AML		AML		
	comp=N,1310μm,0.2s							
GMB				AML		AML		
	comp=E,2395μm,0.2s							
SALB	**San Lorenzo Be**	**1.05**	**46**	⇓P		**Pn**	**01 56 44.5**	**+1.3**
SALB				S		**S**	**01 57 11.9**	**+1.0**
SALB				AML		AML		
	comp=E,327μm,1.4s							
SALB				AML		AML		
	comp=N,194μm,0.4s							
SALB				AML		AML		
	comp=E,88μm,0.7s							
SALB				AML		AML		
	comp=N,208μm,0.4s							
TIP	**Timpagrande**	**1.08**	**88**	⇓P		**Pn**	**01 56 44.3**	**+1.0**
TIP				S		**S**	**01 57 10.1**	**-1.0**
TIP				AML		AML		
	comp=N,332μm,0.8s							
TIP				AML		AML		
	comp=N,331μm,0.8s							
TIP				AML		AML		
	comp=N,418μm,0.8s							
TIP				AML		AML		
	comp=E,332μm,0.7s							
TIP				AML		AML		
	comp=E,386μm,0.7s							
MCSR	**Castroreale**	**1.09**	**185**	⇓P		**Pn**	**01 56 43.7**	**+0.2**
MCSR				AML		AML		
	comp=N,899μm,0.3s							
MCSR				AML		AML		
	comp=E,516μm,1.1s							
PLAC	**Placanica**	**1.09**	**130**	⇓P		**Pn**	**01 56 43.8**	**+0.4**
PLAC				S		**S**	**01 57 09.8**	**-1.4**
PLAC				AML		AML		
	comp=E,484μm,0.7s							
PLAC				AML		AML		
	comp=N,746μm,0.7s							
PLAC				AML		AML		
	comp=N,542μm,0.7s							
PLAC				AML		AML		
	comp=E,808μm,0.7s							
PLAC				AML		AML		
	comp=N,542μm,0.7s							
PLAC				AML		AML		
	comp=N,746μm,0.7s							
SIRI	**Monte Sirino -**	**1.10**	**20**	P		**Pn**	**01 56 44.4**	**+0.9**
NOV	**Novara**	**1.13**	**189**	⇓P		**Pn**	**01 56 44.4**	**+0.6**
NOV				AML		AML		
	comp=E,412μm,0.9s							
NOV				AML		AML		
	comp=N,416μm,0.4s							
MTSN	**Montesano sull**	**1.16**	**15**	P		**Pn**	**01 56 44.6**	**+0.8**
MUCR	**Ucria**	**1.17**	**200**	⇓P		**Pn**	**01 56 44.0**	**0.0**
PIPA	**Pietrapaola**	**1.17**	**73**	⇓P		**Pn**	**01 56 44.9**	**+1.1**
PIPA				AML		AML		
	comp=N,444μm,0.3s							
PIPA				AML		AML		
	comp=N,497μm,1.5s							
PIPA				AML		AML		
	comp=E,642μm,0.7s							
PIPA				AML		AML		
	comp=E,610μm,0.7s							
CMPR	**Campora**	**1.17**	**357**	P		**Pn**	**01 56 45.4**	**+1.5**
MTTG	**Motta San Giov**	**1.17**	**167**	⇓P		**Pn**	**01 56 44.3**	**+0.4**
MTTG				S		**S**	**01 57 11.8**	**-0.4**
MTTG				AML		AML		
	comp=E,238μm,1.4s							
MTTG				AML		AML		
	comp=N,382μm,0.7s							
AIO	**Antillo**	**1.18**	**185**	⇓P		**Pn**	**01 56 44.7**	**+0.7**
AIO				AML		AML		
	comp=N,364μm,0.4s							
AIO				AML		AML		
	comp=E,278μm,1.2s							
SCHR	**S. Chirico Rap**	**1.18**	**27**	P		**Pn**	**01 56 46.0**	**+2.0**
SCHR				AML		AML		
	comp=E,83μm,0.5s							
SCHR				AML		AML		
	comp=N,54μm,0.7s							
SCHR				AML		AML		
	comp=E,83μm,0.5s							
SCHR				AML		AML		
	comp=N,54μm,0.7s							
SOI	**Samo**	**1.20**	**153**	⇓P		**Pn**	**01 56 44.2**	**+0.1**
SOI				AML		AML		
	comp=N,187μm,0.9s							
SOI				AML		AML		
	comp=E,210μm,1.5s							
SOI				AML		AML		
	comp=N,188μm,0.9s							
MCEL	**Monticello**	**1.22**	**16**	P		**Pn**	**01 56 45.9**	**+1.7**
ORI	**Oriolo Calabro**	**1.24**	**42**	AML		AML		
	comp=E,425μm,0.3s							
ORI				AML		AML		
	comp=N,463μm,1.1s							
LADO	**San Nicola del**	**1.26**	**83**	⇓P		**Pn**	**01 56 45.1**	**+0.7**
LADO				AML		AML		
	comp=E,27μm,1.0s							
LADO				AML		AML		
	comp=N,28μm,0.7s							
AG11	**Viggiano (PZ)**	**1.27**	**21**	P		**Pn**	**01 56 46.9**	**+2.4**
MSFR	**San Fratello**	**1.27**	**209**	P		**Pn**	**01 56 45.1**	**+0.5**
MSFR				AML		AML		
	comp=E,52μm,0.9s							
MSFR				AML		AML		
	comp=N,53μm,1.6s							
MPAZ	**Palizzi**	**1.29**	**157**	P		**Pn**	**01 56 44.8**	**0.0**
MPAZ				AML		AML		
	comp=E,752μm,0.3s							
MPAZ				AML		AML		
	comp=N,706μm,0.3s							
CDRU	**Civita di Ruta**	**1.34**	**358**	P		**Pn**	**01 56 46.5**	**+1.5**
EMSG	**Monte Spagnolo**	**1.36**	**194**	AML		AML		
	comp=E,856μm,0.8s							
EMSG				AML		AML		
	comp=N,842μm,0.5s							
EPZF	**Pizzo Felice**	**1.38**	**197**	P		**Pn**	**01 56 47.0**	**+1.5**
EPZF				AML		AML		
	comp=E,272μm,0.5s							
EPZF				AML		AML		
	comp=N,599μm,1.2s							
CRAC	**Cracо**	**1.47**	**34**	P		**Pn**	**01 56 47.2**	**+1.4**
CRAC				AML		AML		
	comp=N,344μm,0.8s							
CRAC				AML		AML		
	comp=E,377μm,0.2s							
GALF	**Gagliano Caste**	**1.57**	**204**	P		**Pn**	**01 56 49.1**	**+2.3**
GALF				AML		AML		
	comp=N,228μm,0.7s							
GALF				AML		AML		
	comp=E,149μm,0.5s							
ESML	**S. M. di Licod**	**1.58**	**194**	P		**Pn**	**01 56 47.6**	**+0.8**
ESML				AML		AML		
	comp=E,226μm,1.0s							
ESML				AML		AML		
	comp=N,276μm,1.0s							
CSLB	**Castelbuono**	**1.59**	**221**	⇓P		**Pn**	**01 56 47.3**	**+0.4**
CSLB				AML		AML		
	comp=E,42μm,0.8s							
CSLB				AML		AML		
	comp=N,63μm,0.6s							
CSLB				AML		AML		
	comp=N,63μm,0.6s							
CSLB				AML		AML		
	comp=E,42μm,0.8s							
PETRA	**Petralia Sopra**	**1.64**	**217**	P		**Pn**	**01 56 48.3**	**+0.8**
PETRA				AML		AML		
	comp=E,102μm,0.9s							
PETRA				AML		AML		
	comp=N,144μm,0.5s							
CAGR	**Agira**	**1.67**	**205**	P		**Pn**	**01 56 49.3**	**+1.7**
CAGR				AML		AML		
	comp=E,371μm,0.9s							
CAGR				AML		AML		
	comp=N,864μm,0.4s							
RESU	**Resuttano**	**1.82**	**215**	P		**Pn**	**01 56 50.8**	**+1.9**
RESU				AML		AML		
	comp=E,57μm,0.9s							
RESU				AML		AML		
	comp=N,66μm,1.4s							
VAE	**Valguarnera**	**1.83**	**205**	P		**Pn**	**01 56 50.7**	**+1.8**
	comp=N,2.3nm,0.3s,baz=139,slow=11,SNR=12							
VAE				S		**S**	**01 57 23.5**	**+2.4**
	baz=340,slow=21,SNR=1.5							
HLNI	**Lentini**	**1.84**	**193**	P		**Pn**	**01 56 49.1**	**+0.2**
HLNI				AML		AML		
	comp=E,116μm,0.2s							
HLNI				AML		AML		
	comp=N,125μm,0.1s							
ALJA	**Alia**	**1.89**	**223**	AML		AML		
	comp=E,240μm,1.3s							
ALJA				AML		AML		
	comp=N,248μm,0.2s							
AGST	**Augusta-Monte**	**1.89**	**184**	P		**Pn**	**01 56 48.7**	**-0.6**
PAOL	**Paolisi**	**1.98**	**342**	P		**Pn**	**01 56 51.8**	**+1.6**
SSY	**Sortino**	**2.00**	**187**	P		**Pn**	**01 56 50.3**	**-0.2**
SSY				AML		AML		
	comp=N,566μm,0.2s							
SSY				AML		AML		
	comp=E,264μm,1.1s							
CORL	**Corleone**	**2.05**	**233**	P		**Pn**	**01 56 51.7**	**+0.8**
CORL				AML		AML		
	comp=E,118μm,1.0s							
CORL				AML		AML		
	comp=N,100μm,0.8s							
MEU	**Monte Lauro**	**2.07**	**190**	AML		AML		
	comp=N,334μm,0.4s							
MEU				AML		AML		
	comp=E,272μm,1.4s							
RAFF	**Raffo Rosso**	**2.08**	**203**	P		**Pn**	**01 56 51.9**	**+0.8**
NOCI	**Noci**	**2.09**	**38**	P		**Pn**	**01 56 51.3**	**+0.2**
NOCI				AML		AML		
	comp=N,84μm,0.8s							
NOCI				AML		AML		
	comp=E,65μm,0.6s							
HAVL	**Avola**	**2.19**	**185**	P		**Pn**	**01 56 52.2**	**0.0**
HAVL				AML		AML		
	comp=N,356μm,1.0s							
HAVL				AML		AML		
	comp=E,270μm,0.3s							
HMDC	**Modica**	**2.23**	**192**	P		**Pn**	**01 56 53.0**	**+0.4**
HMDC				AML		AML		
	comp=E,152μm,0.9s							
HMDC				AML		AML		
	comp=N,208μm,1.1s							
HPAC	**Pachino**	**2.46**	**185**	AML		AML		
	comp=N,358μm,0.9s							
HPAC				AML		AML		
	comp=E,219μm,0.5s							
SCTE	**Santa Cesarea**	**2.56**	**68**	⇓P		**Pn**	**01 56 56.2**	**+0.5**
SCTE				AML		AML		
	comp=N,370μm,0.4s							
SCTE				AML		AML		
	comp=E,284μm,0.8s							
ATCC	**AVT- Casa Cast**	**4.53**	**334**	⇑P		**Pn**	**01 57 19.5**	**+1.5**
KEST	**Kesra**	**5.88**	**236**	P		**Pn**	**01 57 36.6**	**+1.9**
	comp=E,0.1nm,0.3s,baz=40,slow=13,SNR=1.7							
IDI	**Anoyia**	**8.51**	**114**	P		**Pn**	**01 58 10.2**	**+2.4**
	comp=E,0.3nm,0.3s,baz=314,slow=17,SNR=6.9							
IDI				S		**S**	**01 59 45.9**	**+1.4**
	comp=E,0.2nm,0.3s,baz=308,slow=20,SNR=6.1							
DAVOX	**Davos/Dischmat**	**8.62**	**334**	P		**Pn**	**01 58 12.5**	**+3.3**
	comp=E,0.3nm,0.3s,baz=232,slow=2.0,SNR=10.0							
GERES	**GERESS Array B**	**9.77**	**353**	P		**Pn**	**01 58 24.7**	**+1.1**
	comp=E,0.2nm,0.3s,baz=168,slow=13,SNR=10.0							
VRAC	**Vranov**	**10.20**	**5**	P		**Pn**	**01 58 29.8**	**+0.9**
	comp=E,0.2nm,0.3s,baz=219,slow=9.2,SNR=2.1							
BRTR	**Keskin Array B**	**14.13**	**82**	P		**P**	**01 59 20.9**	**+2.5**
	comp=E,0.1nm,0.3s,baz=260,slow=9.7,SNR=7.3							
ESDC	**Sonseca Array**	**14.96**	**278**	P		**Pn**	**01 59 27.1**	**-0.7**
	comp=E,0.0nm,0.3s,baz=61,slow=10,SNR=2.6							
AKASG	**Malin Array Be**	**15.12**	**36**	P		**Pn**	**01 59 30.2**	**+0.7**
	comp=E,0.5nm,0.3s,baz=227,slow=10,SNR=2.2							
MMAI	**Mount Meron Ar**	**17.30**	**105**	P		**Pn**	**01 59 56.5**	**+1.1**
	comp=E,0.9nm,0.3s,baz=302,slow=8.2,SNR=1.4							
EKA	**Eskdalemuir Ar**	**20.40**	**329**	P		**P**	**02 00 24.4**	**-1.7**
	comp=E,1.0nm,0.4s,baz=142,slow=11,SNR=9.5							
HFS	**Hagfors**	**21.04**	**358**	P		**P**	**02 00 31.2**	**-1.5**
	comp=E,1.3nm,0.4s,baz=172,slow=11,SNR=15							
HFS				ScP		**ScP**	**02 07 40.3**	**-0.8**
	comp=E,5.8nm,1.0s,baz=347,slow=6.1,SNR=5.1							
NOA	**NORSAR Array B**	**22.07**	**355**	P		**P**	**02 00 41.8**	**-0.6**
	comp=E,0.2nm,0.4s,baz=164,slow=9.9,SNR=4.9							
NOA				ScP		**ScP**	**02 07 41.6**	**-2.2**
	comp=E,4.1nm,0.9s,baz=33,slow=2.9,SNR=7.1							
FINES	**FINESS Array B**	**23.28**	**13**	P		**P**	**02 00 53.8**	**+0.4**
	comp=E,3.8nm,0.5s,baz=188,slow=8.3,SNR=49							
ARCES	**ARCESS Array B**	**30.93**	**7**	P		**P**	**02 02 00.8**	**-0.6**
	comp=E,1.1nm,0.5s,baz=193,slow=9.8,SNR=9.1							
MKAR	**Makanchi Array**	**48.22**	**58**	P		**P**	**02 04 22.2**	**-1.5**
	comp=E,0.5nm,0.7s,baz=287,slow=5.3,SNR=3.0							

FUNV ***20*** *02:01:05.0, 10.42N×62.30W, h1km, MW3.2*
TRN ***20*** *02:01:10.4, 10.51N×61.08W, h90km, MD3.5*

ISC 20 02:01:04.6±1.2, 10.45N±0.04×62.35W±0.03, h9km±10km, n23, σ1s28/34, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TPP	**Pointe-a-Pierr**	**0.89**	**99**	*eP*		**Pn**	**02 01 25.3**	**+1.9**
CRUV	**Carupano**	**0.90**	**284**	*eP*		**Pg**	**02 01 21.5**	**-0.4**
CRUV				*eS*		**Sg**	**02 01 33.8**	**+0.2**
TRN	**Trinidad (W)**	**0.95**	**78**	*e*		**Pg**	**02 01 21.2**	**-1.7**
TRN	**Trinidad (W)**	**0.95**	**78**	*eP*		**Pg**	**02 01 23.8**	**+0.9**
TRN				*eS*		**Sg**	**02 01 33.9**	**-1.3**
TRN	**Trinidad (W)**	**0.95**	**78**	*eP*		**Pg**	**02 01 22.0**	**-0.8**
TRN				*eS*		**Sg**	**02 01 35.4**	**+0.1**
GRGR	**Grenville**	**1.80**	**22**	*eP*		**Pb**	**02 01 38.4**	**+0.6**
GRGR				*eS*		**Sn**	**02 01 59.8**	**+0.9**
GRGR	**Grenville**	**1.80**	**22**	*eP*		**Pn**	**02 01 37.2**	**+1.3**
GRGR				*eS*		**Sb**	**02 02 01.2**	**+0.6**
GRHS	**Sauteurs**	**1.89**	**21**	*eP*		**Pb**	**02 01 40.1**	**+0.7**
TOSP	**Speyside**	**1.97**	**65**	*eP*		Pn	02 01 29.3	-8.9
TOSP				*eS*		Sn	02 01 43.9	-19
TOSP	**Speyside**	**1.97**	**65**	*eP*		**Pn**	**02 01 38.6**	**+0.5**
TOSP				*eS*		**Sn**	**02 02 02.8**	**-0.2**
GRSS	**Sisters**	**1.97**	**21**	*eP*		**Pb**	**02 01 41.8**	**+1.2**
GCMP	**Grenada, Carri**	**2.21**	**24**	*eP*		**Pn**	**02 01 42.1**	**+0.5**
GCMP				*eS*		**Sn**	**02 02 06.7**	**-2.3**
PCRV	**Puerto La Cruz**	**2.27**	**263**	*eP*		**Pn**	**02 01 43.6**	**+1.3**
PCRV				*eS*		**Sn**	**02 02 11.5**	**+1.0**
RIOV	**Rio Grande**	**2.43**	**167**	*eP*		**Pn**	**02 01 44.3**	**-0.2**
RIOV				*eS*		**Sn**	**02 02 13.8**	**-0.6**
PRGV	**PARIAGUAN**	**2.82**	**234**	*eP*		**Pn**	**02 01 50.6**	**+0.7**
PRGV				*eS*		**Sn**	**02 02 24.4**	**+0.3**
SVB	**Belmont**	**3.00**	**21**	*eP*		**Pn**	**02 01 52.2**	**-0.2**
MCLT	**Moule a Chique**	**3.52**	**23**	*eP*		**Pn**	**02 01 58.7**	**-0.8**
SLBI	**Saint Lucia, B**	**3.79**	**21**	*eP*		**Pn**	**02 02 03.0**	**-0.3**
BIRV	**Birongo**	**3.86**	**271**	*eP*		**Pn**	**02 02 05.5**	**+1.4**
BIRV				*eS*		**Sn**	**02 02 48.8**	**-0.9**
CACV	**CAICARA DEL OR**	**5.04**	**236**	*eP*		Pn	02 02 14.6	-5.8
CACV				*eS*		Sn	02 03 06.9	-12
BENV	**Beln**	**5.19**	**265**	*eP*		**Pn**	**02 02 23.5**	**+0.9**
BENV				*eS*		**Sn**	**02 03 19.8**	**-2.9**
TURV	**Turiamo**	**5.40**	**270**	*eP*		**Pn**	**02 02 25.6**	**+0.2**
BAUV	**El Baul**	**5.81**	**256**	*eP*		**Pn**	**02 02 31.6**	**+0.6**
BAUV				*eS*		**Sn**	**02 03 34.5**	**-3.3**

IDC ***20*** *02:15:06.5±1.7, 0.11N×123.38E, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.4/42, mbtmp3.5/5, ML3.4/2, Error ellipse: s-maj=56.8km s-min=25.7km az=68.0*
DJA ***20*** *02:15:17.8±0.8, 0.3S×123.2E±, h16km±9km, M4.1/6, MLv4.1/6*

ISC 20 02:15:17.3±0.9, 0.32S±0.05×123.02E±0.05, h84km±10km, n13, σ1s31/20, mb3.2/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LUWI	**Luwuk**	**0.76**	**199**	P		**Pn**	**02 15 33.6**	**-0.4**
LUWI				S		**Sn**	**02 15 46.4**	**0.0**
GTOI	**Gorontalo**	**0.95**	**359**	P		**Pn**	**02 15 36.0**	**-0.1**
GTOI				S		**Sn**	**02 15 50.3**	**+0.3**
KMSI	**Cibinong**	**1.31**	**47**	P		**Pn**	**02 15 42.1**	**+1.7**
KMSI				S		**Sn**	**02 15 59.0**	**+1.3**
MRSI	**Marisa**	**1.34**	**306**	P		**Pn**	**02 15 39.2**	**-1.6**
MRSI				S		**Sn**	**02 15 56.1**	**-2.3**
APSI	**Ampana**	**1.49**	**247**	P		**Pn**	**02 15 42.9**	**+0.2**
APSI				S		**Sn**	**02 16 03.0**	**+1.1**
MPSI	**Mapaga**	**3.19**	**282**	P		**Pn**	**02 16 07.4**	**+2.1**
SANI	**Sanana**	**3.43**	**120**	P		**Pn**	**02 16 06.7**	**-1.9**
TTSI	**Tana Toraja**	**4.19**	**230**	P		**Pn**	**02 16 20.0**	**+1.1**
TTSI				S		**Sn**	**02 17 06.3**	**-0.5**
KAPI	**Kappang**	**5.69**	**215**	Pn		**Pn**	**02 16 40.0**	**+0.6**
	1.5nm,0.3s,baz=41,slow=11,SNR=4.8							
KAPI				Sn		**Sn**	**02 17 43.1**	**-0.3**
	1.5nm,0.3s,baz=65,slow=23,SNR=1.7							
FITZ	**Fitzroy Crossi**	**17.86**	**172**	P		**P**	**02 19 21.2**	**+1.3**
	0.1nm,0.3s,baz=0.0,slow=5.1,SNR=1.4							
WRA	**Warramunga Arr**	**22.43**	**151**	P		**P**	**02 20 10.0**	**+0.6**
	1.2nm,1.1s,baz=330,slow=10,SNR=6.5							
ASAR	**Alice Springs**	**25.50**	**156**	P		**P**	**02 20 38.0**	**0.0**
	0.9nm,1.2s,baz=339,slow=12,SNR=2.3							
MKAR	**Makanchi Array**	**58.89**	**328**	P		**P**	**02 25 06.3**	**-1.3**
	0.2nm,0.3s,baz=117,slow=7.4,SNR=4.2							

PRE ***20*** *02:20:39.8±1.1, 26.50S×27.33E, h2km, ML3.4*
IDC ***20*** *02:20:40.1±1.6, 26.60S×27.56E, h0km, mb3.8/2, mb1 4.0/7, mb1mx3.6/39, mbtmp3.9/7, ML3.8/4, Error ellipse: s-maj=23.1km s-min=14.6km az=107.0*
NEIC ***20*** *02:20:43.3±0.9, 26.44S±0.06×27.4E±0.2, h5km±1km, mb4.2/5, Error ellipse: s-maj=25.4km s-min=9.5km az=85.0*

ISC 20 02:20:42.3±1.4, 26.44S±0.04×27.36E±0.04, h13km±10km, n27, σ2s21/38, mb4.1/4, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HRAO	**HartRAO**	**0.62**	**28**	*eP*		**Pg**	**02 20 53.6**	**-1.0**
HRAO				*eS*		**Sg**	**02 21 02.8**	**0.0**
SLR	**Silverton**	**1.09**	**50**	*eP*		**Pb**	**02 21 02.4**	**-0.7**
SLR				*eS*		**Sb**	**02 21 17.1**	**-0.2**
SLR				IAML			02 21 21.9	
	comp=Z,1μm,0.2s							
SWZ	**Schweizer**	**1.96**	**247**	*eP*		**Pn**	**02 21 14.5**	**-0.9**
SWZ				*eS*		**Sn**	**02 21 39.2**	**-0.6**
SWZ				IAML			02 21 45.0	
	comp=Z,722nm,0.4s							
LBTB	**Lobatse**	**2.13**	**311**	Pn		**Pb**	**02 21 21.0**	**+0.1**
	comp=Z,23nm,0.3s,baz=138,slow=16,SNR=13							
LBTB				Sn		**Sb**	**02 21 48.1**	**+0.8**
	comp=Z,148nm,0.3s,baz=222,slow=19,SNR=51							
LBTB				Lg		Lg	02 21 56.1	
	comp=Z,37nm,0.3s,baz=150,slow=2.1,SNR=18							
LBTB	**Lobatse**	**2.13**	**311**	*eP*		**Pn**	**02 21 17.6**	**-0.2**
LBTB				*eS*		**Sn**	**02 21 44.3**	**+0.1**
LBTB				IAML			02 21 49.9	
	comp=Z,504nm,0.2s							
CRLN	**Carolina, Mapu**	**2.43**	**80**	*eP*		**Pn**	**02 21 21.7**	**-0.2**
CRLN				*eS*		**Sn**	**02 21 52.0**	**+0.3**
CRLN				IAML			02 22 01.7	
	comp=Z,134nm,0.3s							
BOSA	**Boshof**	**2.86**	**220**	Pn		**Pn**	**02 21 29.1**	**+1.3**
	comp=Z,11nm,0.3s,baz=41,slow=13,SNR=5.3							
BOSA				Pg		**Pb**	**02 21 33.8**	**+0.5**
	comp=Z,26nm,0.3s,baz=42,slow=17,SNR=14							
BOSA				Lg		Lg	02 22 09.5	
	comp=Z,77nm,0.3s,baz=321,slow=12,SNR=17							
BOSA	**Boshof**	**2.86**	**220**	*eP*		**Pn**	**02 21 26.9**	**-0.8**
BOSA				*eS*		**Sn**	**02 22 00.6**	**-1.5**
BOSA				IAML			02 22 10.5	
	comp=Z,180nm,0.5s							
BOSA	**Boshof**	**2.86**	**220**			**Pn**	**02 21 30.2**	**+2.5**
MATP	**Matopo**	**6.08**	**10**	Pn		**Pn**	**02 22 13.3**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=189,slow=19,SNR=2.5							
MATP				Sn		**Sn**	**02 23 18.4**	**-3.2**
	comp=Z,1.7nm,0.3s,baz=115,slow=23,SNR=2.7							
MATP				Lg		Lg	02 23 49.1	
	comp=Z,5.0nm,0.3s,baz=271,slow=22,SNR=7.3							
KEIM	**Keimoes**	**6.10**	**247**	*eP*		**Pn**	**02 22 11.4**	**-0.9**
KEIM				*eS*		**Sn**	**02 23 17.5**	**-4.6**
KEIM				IAML			02 23 52.8	
	comp=Z,103nm,0.5s							
ARMS	**Ukamas**	**6.97**	**255**	*i* P		Pb	02 22 36.5	-6.8
GRAN	**Grantham**	**7.39**	**217**	*eP*		**Pn**	**02 22 29.6**	**-0.3**
GRAN				*eS*		**Sn**	**02 23 48.6**	**-5.1**
GRAN				IAML			02 24 03.5	
	comp=Z,24nm,0.4s							
SUR	**Sutherland**	**8.22**	**222**	Pn		**Pn**	**02 22 42.2**	**+0.7**
	comp=Z,2.4nm,0.3s,baz=47,slow=13,SNR=11							
SUR				Sn		**Sn**	**02 24 09.9**	**-4.5**
	comp=Z,3.4nm,0.3s,baz=328,slow=20,SNR=4.3							
SUR				Lg		Lg	02 24 57.9	
	comp=Z,7.7nm,0.3s,baz=315,slow=23,SNR=5.8							
SUR	**Sutherland**	**8.22**	**222**	Pn		**Pn**	**02 22 43.3**	**+1.8**
CVNA	**Calvinia**	**8.34**	**231**	*eP*		**Pn**	**02 22 42.1**	**-0.9**
CVNA				*eS*		**Sn**	**02 24 10.8**	**-6.3**
CVNA	

s-min=15.8km az=141.0
*NEIC **20** 02:26:12.9±1.3, 15°.83S±0°.06×172°.85W±0°.09, h4^km±5^km, mb4.5/12, Error ellipse: s-maj=13.4km s-min=7.6km az=60.0*
*NOU **20** 02:26:23.7, 14°.88S×172°.07W, h166^km, MLv4.3/5, Samoa Islands*

ISC 20 02:26:15.4±0.6, 15°.82S±0°.06×172°.81W±0°.09, h26^km, n36, σ1°.05/28, mb4.4/12, MS3.3/3, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.15**	**28**	P	**Pn**	**02 26 50.0**	**+0.4**
	74nm,0.3s,baz=195,slow=2.1,SNR=65						
AFI				Sn	**Sn**	**02 27 12.4**	**-3.0**
	975nm,0.3s,baz=79,slow=23,SNR=33						
AFI	**Afiamalu**	**2.15**	**28**	P	**Pn**	**02 26 50.1**	**+0.4**
AFI	**Afiamalu**	**2.15**	**28**	P	**Pn**	**02 26 50.0**	**+0.4**
NIUE	**Niue**	**4.25**	**140**		**Pn**	**02 27 18.7**	**+0.2**
MSVF	**Nonsavu**	**8.96**	**256**	Pn	Pn	02 28 28.9	+5.6
	0.6nm,0.3s,baz=115,slow=12,SNR=14						
MSVF				LR	LR	02 31 32.7	
	comp=Z,191nm,21.5s,baz=57,slow=36						
MSVF	**Nonsavu**	**8.96**	**256**		Pn	02 28 29.5	+6.2
KNTN	**Kanton**	**13.01**	**5**	Pn	**Pn**	**02 29 20.1**	**+1.4**
RAR	**Rarotonga**	**13.47**	**115**	Pn	**Pn**	**02 29 24.3**	**-0.6**
	2.6nm,0.3s,baz=336,slow=19,SNR=3.5						
RAR				Sn	Sn	02 31 42.8	-11
	0.6nm,0.3s,baz=91,slow=16,SNR=1.6						
RAR				LR	LR	02 33 34.6	
	comp=Z,55nm,19.1s,baz=268,slow=33						
MARNC	**Mare, Loyalty**	**19.00**	**250**	P	**P**	**02 30 35.2**	**0.0**
OUENC	**Ouen Island, N**	**20.31**	**248**	P	**P**	**02 30 49.3**	**-0.2**
OUENC				IAmb	IAmb	02 30 55.9	
	comp=Z,19nm,0.9s						
DZM	**Mont Dzumac**	**20.58**	**249**	*e*P	Pn	02 30 57.6	+2.7
	comp=Z,25nm,0.8s						
DZM				*e*LR	LR	02 36 14.7	
	comp=Z,177nm,24.4s						
DZM	**Mont Dzumac**	**20.58**	**249**	P	**P**	**02 30 51.9**	**-0.7**
	comp=Z,3.6nm,0.8s,baz=225,slow=22,SNR=1.7						
DZM				LR	LR	02 37 44.0	
	comp=Z,118nm,20.9s,baz=274,slow=34						
DZM	**Mont Dzumac**	**20.58**	**249**	IAmb	IAmb	02 30 59.7	
	comp=Z,12nm,0.8s						
PPT	**Papeete**	**22.32**	**98**	LR	LR	02 37 26.1	
	comp=Z,25nm,20.4s,baz=286,slow=30						
URZ	**Urewera**	**24.05**	**200**	P	**P**	**02 31 29.4**	**+0.9**
	comp=Z,11nm,0.5s,baz=312,slow=6.9,SNR=13						
HNR	**Honiara**	**27.32**	**280**	LR	LR	02 40 50.2	
	comp=Z,146nm,21.1s,baz=133,slow=32						
LTZ	**Lake Taylor**	**29.76**	**202**	P	**P**	**02 32 21.8**	**+1.9**
LTZ				IAmb	IAmb	02 32 28.8	
	comp=Z,8.5nm,0.9s						
ARMA	**Armidale**	**35.62**	**240**	P	**P**	**02 33 10.6**	**-0.8**
ARMA				IAmb	IAmb	02 33 19.0	
	comp=Z,9.8nm,1.1s						
STKA	**Stephens Creek**	**44.32**	**240**	P	**P**	**02 34 22.4**	**-1.1**
	comp=Z,4.9nm,0.7s,baz=75,slow=9.8,SNR=8.4						
STKA	**Stephens Creek**	**44.32**	**240**	IAmb	IAmb	02 34 24.6	
	comp=Z,2.1nm,1.0s						
BBOO	**Buckleboo**	**49.10**	**240**	P	**P**	**02 35 00.1**	**-0.8**
WB0	**Warramunga Arr**	**50.27**	**257**	P	**P**	**02 35 09.4**	**-0.6**
WB0				IAmb	IAmb	02 35 11.5	
	comp=Z,10nm,1.3s						
WB2	**Warramunga Arr**	**50.29**	**257**	P	**P**	**02 35 09.1**	**-1.1**
WRA	**Warramunga Arr**	**50.30**	**257**	P	**P**	**02 35 09.5**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=90,slow=6.0,SNR=40						
WRA	**Warramunga Arr**	**50.30**	**257**	IAmb	IAmb	02 35 13.7	
	comp=Z,0.3nm,1.4s						
AS31	**Alice Springs**	**50.52**	**252**	P	**P**	**02 35 11.3**	**-0.6**
ASAR	**Alice Springs**	**50.52**	**252**	P	**P**	**02 35 10.9**	**-1.0**
	comp=Z,5.8nm,0.6s,baz=88,slow=8.1,SNR=94						
FITZ	**Fitzroy Crossi**	**58.68**	**258**	P	**P**	**02 36 11.0**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=104,slow=4.2,SNR=2.0						
FITZ	**Fitzroy Crossi**	**58.68**	**258**	IAmb	IAmb	02 36 21.0	
	comp=Z,4.3nm,1.4s						
PSA00	**Pilbara Seismi**	**63.63**	**253**	P	**P**	**02 36 44.4**	**-0.4**
NVAR	**Mina Array Bea**	**74.26**	**42**	P	**P**	**02 37 51.7**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=223,slow=10,SNR=5.4						
MSU	**Marysvale**	**78.33**	**44**	P	**P**	**02 38 13.8**	**+0.1**
TXAR	**Lajitas Array**	**80.37**	**56**	P	**P**	**02 38 24.3**	**-0.7**
	comp=Z,0.1nm,0.6s,baz=280,slow=5.4,SNR=1.8						
PDAR	**Pinedale Array**	**82.20**	**42**	P	**P**	**02 38 35.4**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=248,slow=3.8,SNR=2.7						
ILAR	**Eielson Array**	**82.75**	**11**	P	**P**	**02 38 38.0**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=219,slow=7.0,SNR=2.7						
BRTR	**Keskin Array B**	**146.84**	**321**	PKPbc	**PKPab**	**02 45 57.1**	**0.0**
	comp=Z,1.0nm,0.6s,baz=86,slow=5.8,SNR=8.1						

*IDC **20** 02:30:14.3±1.0, 53°.63N×171°.81E, h0^km, mb3.6/8, mb1 3.9/9, mb1mx3.6/50, mbtmp3.6/9, ML3.4/1, MS2.9/2, Ms1 2.9/2, ms1mx2.5/48, Error ellipse: s-maj=42.2km s-min=19.0km az=162.0*
*MOS **20** 02:30:15.3±1.3, 53°.48N×171°.93E, h24^km, mb4.3/1, Error ellipse: s-maj=24.1km s-min=12.6km az=179.8*
*NEIC **20** 02:30:16.6±2.4, 53°.4N±0°.1×171°.93E±0°.09, h22^km±5^km, mb3.8/5, ML3.7/18(AEIC), Error ellipse: s-maj=19.5km s-min=6.6km az=192.0*
*KRSC **20** 02:30:18.5±1.6, 53°.23N×171°.26E, h24^km±48^km, ML4.4*
*AEIC **20** 02:30:18.2±3.3, 53°.3N±0°.1×171°.83E±0°.09, h42^km±7^km, Error ellipse: s-maj=19.9km s-min=7.4km az=187.0*

ISC 20 02:30:16.5±0.6, 53°.28N±0°.09×171°.88E±0°.04, h23^km, n73, σ1°.88/79, mb3.7/9, Near Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMY	**Shemya**	**1.45**	**111**	P	**Pb**	**02 30 41.6**	**-1.1**
SMY						02 30 59.7	
SMY	**Shemya**	**1.45**	**111**		**Pb**	**02 30 41.6**	**-1.1**
SMY					**Sb**	**02 30 59.7**	**-1.0**
BKI	**Bering**	**3.97**	**301**	*e*P	**Pn**	**02 31 16.7**	**+0.9**
BKI				*e*S	**Sn**	**02 32 00.4**	**-1.1**
LSNW	**Little Sitkin**	**4.25**	**105**		**Pn**	**02 31 19.9**	**+0.2**
LSSA	**Little Sitkin**	**4.26**	**106**		**Pn**	**02 31 20.3**	**+0.5**
LSSA					**Sn**	**02 32 10.1**	**+1.3**
LSSE	**Little Sitkin**	**4.29**	**106**		**Pn**	**02 31 20.7**	**+0.4**
CESW	**Semis' Southwe**	**4.88**	**103**		**Pn**	**02 31 27.9**	**-0.5**
CEPE	**Semis' Perret**	**4.91**	**102**		**Pn**	**02 31 28.4**	**-0.5**
AMKA	**Amchitka**	**4.93**	**110**		**Sn**	**02 32 25.1**	**-0.3**
AMKA	**Amchitka**	**4.93**	**110**	Pn	**Pn**	**02 31 28.3**	**-0.8**
MKZ	**Mys Kozlova**	**6.13**	**286**	*e*P	**Pn**	**02 31 47.0**	**+1.5**
MKZ				*e*S	**Sn**	**02 32 52.6**	**-2.3**
TASE	**Tanaga Southea**	**6.32**	**99**		**Pn**	**02 31 47.2**	**-1.0**
TAFP	**Tanaga Falls P**	**6.33**	**99**		**Pn**	**02 31 47.4**	**-1.0**
KIMD	**Kanaga Island**	**6.82**	**99**		**Pn**	**02 31 54.2**	**-0.8**
SMKR	**Semkarok**	**6.85**	**303**	*e*P	**Pn**	**02 31 58.4**	**+2.9**
TUMD	**Tumrok D**	**7.00**	**291**	*e*P	**Pn**	**02 32 00.7**	**+3.2**
TUMD				*e*S	**Sn**	**02 33 16.1**	**-0.2**
KZV	**Kizimen**	**7.04**	**290**	*e*P	**Pn**	**02 31 59.6**	**+1.4**
ADK	**Adak**	**7.11**	**97**	P	**Pn**	**02 31 57.3**	**-1.6**
ADK	**Adak**	**7.11**	**97**		**Pn**	**02 31 57.3**	**-1.6**
SPN	**Mys Shipunski**	**7.13**	**273**	*e*P	**Pn**	**02 32 00.9**	**+1.7**
SPN				*e*S	**Sn**	**02 33 16.6**	**-2.8**
TUMR	**Tumrok**	**7.16**	**291**	*e*P	**Pn**	**02 32 03.0**	**+3.3**
KII	**Karymskiy**	**7.43**	**281**	*e*P	**Pn**	**02 32 05.0**	**+1.6**
NLC	**Nalytchevo**	**7.53**	**274**	*e*P	**Pn**	**02 32 06.2**	**+1.5**
GSIG	**Igitkin Island**	**7.54**	**95**		**Pn**	**02 32 03.4**	**-1.5**
SDLR	**Sedlovina**	**7.79**	**275**	*e*P	**Pn**	**02 32 10.1**	**+1.6**
UGLR	**Uglovaya**	**7.84**	**275**	P	**Pn**	**02 32 11.0**	**+2.0**
UGLR	**Uglovaya**	**7.84**	**275**	*e*P	**Pn**	**02 32 11.0**	**+2.0**
SMAR	**Somma**	**7.84**	**275**	*e*P	**Pn**	**02 32 10.8**	**+1.6**
KRER	**Koryakskii**	**7.87**	**275**	*e*P	**Pn**	**02 32 11.3**	**+1.7**
AVH	**Avacha**	**7.88**	**275**	*e*P	**Pn**	**02 32 11.7**	**+2.1**
DALK	**Dalny**	**7.90**	**273**	*e*P	**Pn**	**02 32 11.6**	**+1.9**
KRX	**Arik**	**7.93**	**276**	P	**Pn**	**02 32 12.0**	**+1.7**
KRX				S	**Sn**	**02 33 37.0**	**-2.3**
KRX	**Arik**	**7.93**	**276**	*e*P	**Pn**	**02 32 12.0**	**+1.7**
KRX				*e*S	**Sn**	**02 33 37.0**	**-2.3**
KOK	**Koryaka**	**7.94**	**275**	*e*P	**Pn**	**02 32 12.3**	**+1.9**
PET	**Petropavlovsk**	**7.96**	**273**		**Pn**	**02 32 09.6**	**-1.0**
RUS	**Russkaya**	**8.14**	**269**	P	**Pn**	**02 32 15.0**	**+2.0**
RUS				S	**Sn**	**02 33 42.1**	**-2.1**
RUS	**Russkaya**	**8.14**	**269**	*e*P	**Pn**	**02 32 15.0**	**+2.0**
RUS				*e*S	**Sn**	**02 33 42.1**	**-2.1**
GNL	**Ganaly**	**8.33**	**278**	*e*P	**Pn**	**02 32 18.4**	**+2.6**
MTVR	**Mutnovka**	**8.33**	**270**	P	**Pn**	**02 32 17.9**	**+2.1**
MTVR				S	**Sn**	**02 33 47.0**	**-2.1**
MTVR	**Mutnovka**	**8.33**	**270**	*e*P	**Pn**	**02 32 17.9**	**+2.1**
MTVR				*e*S	**Sn**	**02 33 47.0**	**-2.1**
GRL	**Gorelyy**	**8.38**	**271**	*e*P	**Pn**	**02 32 19.6**	**+3.1**
ASAK	**Asacha**	**8.52**	**270**	P	**Pn**	**02 32 20.2**	**+1.9**
ASAK	**Asacha**	**8.52**	**270**	*e*P	**Pn**	**02 32 20.2**	**+1.9**
PETK	**Petropavlovsk-**	**8.52**	**275**	Pn	**Pn**	**02 32 19.9**	**+1.6**
	2.2nm,0.3s,baz=92,slow=19,SNR=18						
PETK				Sn	**Sn**	**02 33 53.0**	**-0.6**
	0.7nm,0.3s,baz=117,slow=34,SNR=2.1						
PETK				LR	LR	02 35 28.5	
	comp=Z,46nm,21.7s,baz=66,slow=37						
PETK	**Petropavlovsk-**	**8.52**	**275**	P	**Pn**	**02 32 18.8**	**+0.5**
PETK						02 33 53.0	
PETK	**Petropavlovsk-**	**8.52**	**275**	Pn	**Pn**	**02 32 18.8**	**+0.5**
ATKA	**Atka Island**	**8.52**	**92**		**Pn**	**02 32 17.0**	**-1.2**
KDTR	**Khodutka, Kamc**	**8.54**	**266**	P	**Pn**	**02 32 20.5**	**+1.9**
KDTR				S	**Sn**	**02 33 49.5**	**-4.6**
KDTR	**Khodutka, Kamc**	**8.54**	**266**	*e*P	**Pn**	**02 32 20.5**	**+1.9**
KDTR				*e*S	**Sn**	**02 33 49.5**	**-4.6**
ALID	**Alaid**	**10.34**	**263**	*e*P	**Pn**	**02 32 46.3**	**+3.0**
BILL	**Bilibino**	**15.05**	**352**	Pn	**Pn**	**02 33 45.4**	**-2.0**
KDAK	**Kodiak Island**	**20.45**	**63**	P	Pn	02 34 51.9	-2.2
	10nm,1.0s,baz=280,slow=8.6,SNR=5.3						
IL31		**23.65**	**45**	P	**P**	**02 35 24.3**	**-1.3**
IL31				IAmb	IAmb	02 35 36.5	
	comp=Z,3.9nm,1.2s						
ILAR	**Eielson Array**	**23.65**	**45**	P	**P**	**02 35 25.4**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=242,slow=7.9,SNR=4.7						
KLR	**Kul'dur**	**25.20**	**277**	LR	LR	02 44 56.5	
	comp=Z,56nm,18.9s,baz=54,slow=35						
BCAR	**Beaver Creek A**	**25.75**	**49**	P	**P**	**02 35 46.3**	**+1.3**
H11N2	**WAKE ISLAND Hy**	**33.70**	**188**	T	T	03 12 25.5	
	baz=5.2,slow=76,SNR=181						
H11N3	**WAKE ISLAND Hy**	**33.72**	**188**	T	T	03 12 29.3	
	baz=5.2,slow=76,SNR=190						
H11N1	**WAKE ISLAND Hy**	**33.72**	**188**	T	T	03 12 29.6	
	baz=5.2,slow=76,SNR=110						
H11S1	**WAKE ISLAND Hy**	**34.93**	**189**	T	T	03 13 59.5	
	baz=5.0,slow=76,SNR=62						
H11S3	**WAKE ISLAND Hy**	**34.95**	**189**	T	T	03 14 01.8	
	baz=5.0,slow=76,SNR=39						
H11S2	**WAKE ISLAND Hy**	**34.95**	**189**	T	T	03 14 02.0	
	baz=5.0,slow=76,SNR=28						
NVAR	**Mina Array Bea**	**48.88**	**78**	P	**P**	**02 39 01.4**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=297,slow=8.0,SNR=6.1						
PD31	**Pinedale Array**	**51.05**	**68**	P	**P**	**02 39 17.1**	**+0.2**
PD31				IAmb	IAmb	02 39 18.4	
	comp=Z,0.8nm,0.8s						
PDAR	**Pinedale Array**	**51.05**	**68**	P	**P**	**02 39 17.3**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=318,slow=6.4,SNR=4.5						
TPNV	**Topopah Spring**	**51.08**	**78**	P	**P**	**02 39 17.2**	**+0.1**
TPNV				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TPNV	**Topopah Spring**	**51.08**	**78**	P	**P**	**02 39 17.2**	**+0.1**
TPNV				IAmb	IAmb	02 39 19.4	
	comp=Z,1.4nm,0.7s						
TX32	**Lajitas Array**	**63.87**	**75**	P	**P**	**02 40 47.4**	**+0.2**
TXAR	**Lajitas Array**	**63.87**	**75**	P	**P**	**02 40 48.3**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=303,slow=5.3,SNR=8.6						
WRA	**Warramunga Arr**	**79.81**	**216**	P	**P**	**02 42 25.6**	**+2.9**
	comp=Z,0.4nm,0.8s,baz=45,slow=3.7,SNR=1.4						
WRA	**Warramunga Arr**	**79.81**	**216**	IAmb	IAmb	02 42 32.5	
	comp=Z,0.3nm,1.4s						
BRTR	**Keskin Array B**	**80.59**	**329**	P	**P**	**02 42 26.2**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=318,slow=1.9,SNR=3.6						
ASAR	**Alice Springs**	**83.40**	**215**	P	**P**	**02 42 44.8**	**+3.2**
	comp=Z,0.2nm,0.6s,baz=17,slow=4.8,SNR=2.5						

*IDC **20** 02:41:49.1±1.0, 31°.68S×71°.80W, h0^km, mb4.0/6, mb1 4.0/10, mb1mx3.9/26, mbtmp3.9/10, ML3.7/4, MS3.0/1, Ms1 3.0/1, ms1mx2.6/26, Error ellipse: s-maj=33.3km s-min=21.1km az=93.0*
*GUC **20** 02:41:51.9±0.7, 31°.72S×72°.03W, h30^km±5^km, ML4.0*
*NEIC **20** 02:41:52.4±1.5, 31°.73S±0°.04×71°.93W±0°.06, h22^km±5^km, mb4.3/5, ML4.0(GUC), Error ellipse: s-maj=7.4km s-min=5.9km az=80.0*

ISC 20 02:41:51.0±0.7, 31°.71S±0°.04×71°.96W±0°.07, h14^km, n61, σ0°.79/57, mb4.3/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**1.02**	**147**	*e*P	**Pn**	**02 42 10.7**	**-0.2**
VA06				*e*S	**Sn**	**02 42 24.6**	**-0.4**
VA06				IAML		02 42 27.8	
	comp=N,7μm,0.5s						
VA01	**Torpederas**	**1.34**	**169**	*e*P	**Pn**	**02 42 15.2**	**0.0**
VA01	**Torpederas**	**1.34**	**169**		**Pn**	**02 42 15.0**	**-0.2**
CO03	**El Pedregal**	**1.39**	**52**	*e*P	**Pb**	**02 42 16.4**	**-0.4**
CO03				IAML		02 42 42.4	
	comp=E,2μm,0.4s						
CO03	**El Pedregal**	**1.39**	**52**	Pn	**Pn**	**02 42 16.1**	**0.0**
ROCH	**El Roble**	**1.49**	**148**	*e*P	**Pn**	**02 42 17.9**	**+0.2**
ROCH				*e*S	**Sg**	**02 42 38.2**	**-0.9**
ROCH				IAML		02 42 41.6	
	comp=N,3μm,0.3s						
VA03	**San Esteban**	**1.59**	**132**	*e*P	**Pb**	**02 42 20.0**	**-0.2**
VA03				IAML		02 42 47.2	
	comp=E,4μm,0.2s						
VA03	**San Esteban**	**1.59**	**132**		**Pn**	**02 42 18.7**	**-0.2**
GO04	**Tololo Observa**	**1.83**	**33**	*e*P	**Pb**	**02 42 23.7**	**-0.7**
GO04				*e*S	**Sb**	**02 42 48.1**	**+0.9**
GO04	**Tololo Observa**	**1.83**	**33**	Pn	**Pn**	**02 42 22.6**	**+0.4**
CO05	**La Serena**	**1.89**	**19**	*e*P	**Pb**	**02 42 24.5**	**-0.8**
CO05				*e*S	**Sb**	**02 42 49.4**	**+0.6**
CO05				IAML		02 42 52.9	
	comp=E,2μm,0.2s						
CO05	**La Serena**	**1.89**	**19**	Pn	**Pb**	**02 42 24.2**	**-1.1**
VA05	**Santo Domingo**	**1.96**	**172**	*e*P	**Pn**	**02 42 23.6**	**-0.2**
VA05				IAML		02 43 02.3	
	comp=N,2μm,0.5s						
VA05	**Santo Domingo**	**1.96**	**172**		**Pn**	**02 42 23.7**	**-0.2**
MT05	**Renca**	**1.97**	**149**	*e*P	**Pn**	**02 42 24.7**	**+0.7**
MT05				IAML		02 43 01.1	
	comp=E,3μm,0.3s						
MT05	**Renca**	**1.97**	**149**	Pn	**Pn**	**02 42 24.3**	**+0.3**
MT09	**Talagante**	**2.22**	**159**	*e*P	**Pn**	**02 42 28.7**	**+1.2**
MT09				IAML		02 43 06.6	
	comp=N,1μm,0.4s						
MT09	**Talagante**	**2.22**	**159**		**Pn**	**02 42 28.3**	**+0.8**
MT01	**Popeta**	**2.23**	**165**	*e*P	**Pn**	**02 42 27.7**	**+0.2**
MT01				IAML		02 43 08.9	
	comp=E,1μm,0.4s						
MT01	**Popeta**	**2.23**	**165**	Pn	**Pn**	**02 42 27.4**	**-0.1**
LMEL	**Las Melosas**	**2.59**	**146**	*e*P	**Pn**	**02 42 34.2**	**+1.5**
LMEL				IAML		02 43 15.9	
	comp=N,939nm,0.3s						
BO01	**Tunca**	**2.77**	**165**		**Pn**	**02 42 35.7**	**+0.7**
ZON	**Zonda**	**2.80**	**88**	Pn	**Pn**	**02 42 35.5**	**+0.1**
BO02	**Sierra Bellavi**	**3.23**	**163**	Pn	**Pn**	**02 42 41.9**	**+0.5**
GO05	**Huala**	**3.29**	**180**	Pn	**Pn**	**02 42 41.6**	**-0.5**
AC04	**Llanos de Chal**	**3.58**	**13**	Pn	**Pn**	**02 42 47.1**	**+1.0**
ML02	**Panimavida**	**4.07**	**174**	Pn	**Pn**	**02 42 52.3**	**-0.5**
GO03	**Copiap**	**4.37**	**21**		**Pn**	**02 42 58.0**	**+1.0**
AC02	**Maricunga**	**5.45**	**28**	Pn	**Pn**	**02 43 12.5**	**+0.2**
VA04	**Juan Fernndez**	**6.11**	**250**	Pn	**Pn**	**02 43 20.3**	**-0.5**
H03N1	**Juan Fernandez**	**6.12**	**252**	T	T	02 49 57.8	
	baz=77,slow=72,SNR=223						
H03N3	**Juan Fernandez**	**6.13**	**252**	T	T	02 49 56.7	
	baz=77,slow=72,SNR=268						
H03N2	**Juan Fernandez**	**6.13**	**252**	T	T	02 49 58.9	
	baz=77,slow=72,SNR=252						
H03S3	**Juan Fernandez**	**6.22**	**248**	T	T	02 50 03.8	
	baz=84,slow=75,SNR=5.4						
H03S1	**Juan Fernandez**	**6.22**	**248**	T	T	02 50 04.8	
	baz=84,slow=75,SNR=4.9						
H03S2	**Juan Fernandez**	**6.24**	**248**	T	T	02 50 04.7	
	baz=84,slow=75,SNR=6.6						
LC01	**Cunco**	**7.17**	**179**	Pn	**Pn**	**02 43 35.4**	**0.0**
PB14	**IPOC Station P**	**7.19**	**11**	Pn	**Pn**	**02 43 36.3**	**+0.3**
PLCA	**Paso Flores**	**9.08**	**173**	Pn	**Pn**	**02 44 02.1**	**+0.5**
	comp=N,0.3nm,0.3s,baz=337,slow=12,SNR=12						
PLCA				LR	LR	02 47 54.2	
	comp=N,105nm,21.5s,baz=350,slow=40						
PB06	**IPOC Station P**	**9.22**	**14**	Pn	**Pn**	**02 44 03.9**	**+0.2**
LVC	**Limon Verde**	**9.46**	**17**	Pn	**Pn**	**02 44 06.7**	**-0.5**
	comp=N,0.7nm,0.3s,baz=35,slow=7.7,SNR=2.1						
TRQA	**Tornquist**	**10.35**	**130**		**Pn**	**02 44 18.5**	**-0.6**
LPAZ	**La Paz**	**15.74**	**14**	Pn	**Pn**	**02 45 32.5**	**-0.5**
	comp=N,0.1nm,0.3s,baz=193,slow=6.2,SNR=4.7						
SIV	**San Ignacio**	**18.53**	**35**	P	**P**	**02 46 05.6**	**-1.6**
	comp=N,0.1nm,0.3s,baz=240,slow=12,SNR=6.2						
BDFB	**Brasilia**	**27.05**	**59**	P	**P**	**02 47 32.0**	**-1.2**
	comp=N,2.6nm,0.6s,baz=264,slow=3.5,SNR=4.5						
BDFB	**Brasilia**	**27.05**	**59**	IAmb	IAmb	02 47 34.5	
	comp=Z,12nm,1.3s						
VNA3	**Neumayer Olymp**	**51.45**	**159**	P	**P**	**02 50 56.6**	**+1.2**
VNA1	**Neumayer--Stat**	**51.75**	**158**	P	**P**	**02 51 00.1**	**+2.5**
VNA2	**Neumayer--Watz**	**52.10**	**158**	P	**P**	**02 51 01.3**	**+1.1**
	baz=290,slow=8.3						
SNAA	**Sanae**	**53.68**	**158**	P	**P**	**02 51 12.4**	**+0.5**
SNAA	**Sanae**	**53.68**	**158**	P	**P**	**02 51 12.6**	**+0.7**
	comp=Z,3.3nm,0.8s,baz=282,slow=8.6,SNR=21						
SNAA	**Sanae**	**53.68**	**158**	P	**P**	**02 51 12.4**	**+0.5**
TXAR	**Lajitas Array**	**67.78**	**330**	P	**P**	**02 52 50.0**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=172,slow=7.1,SNR=2.3						
TXAR	**Lajitas Array**	**67.78**	**330**	P	**P**	**02 52 49.4**	**+1.0**
DBIC	**Dimbokro**	**74.39**	**72**	P	**P**	**02 53 28.8**	**-0.1**
	comp=Z,3.9nm,0.8s,baz=138,slow=3.1,SNR=2.4						
NVAR	**Mina Array Bea**	**82.05**	**325**	P	**P**	**02 54 11.7**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=213,slow=16,SNR=2.2						
TORD	**Torodi Ar. Bea**	**83.37**	**70**	P	**P**	**02 54 18.0**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=261,slow=4.7,SNR=16						
TORD	**Torodi Ar. Bea**	**83.37**	**70**	P	**P**	**02 54 17.8**	**-0.3**
TORD				IAmb	IAmb	02 54 18.9	
	comp=Z,1.8nm,0.8s						
WRA	**Warramunga Arr**	**122.78**	**210**	PKP	**PKPdf**	**03 00 46.1**	**-1.1**
	comp=Z,0.5nm,0.9s,baz=157,slow=2.2,SNR=1.2						
ZALV	**Zalesovo Beam**	**152.24**	**30**	PKPbc	**PKPbc**	**03 01 45.5**	**-0.3**
	comp=Z,2.5nm,0.5s,baz=319,slow=7.9,SNR=8.0						
MKAR	**Makanchi Array**	**155.16**	**45**	PKPbc	PKPdf	03 01 52.0	+8.6
	comp=Z,0.3nm,0.6s,baz=316,slow=4.0,SNR=2.5						

GUC 20 02:44:45.4±0.6, 30°.85S×71°.62W, h30^km±2^km, ML3.8, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.17**	**356**	*i* P	Pb	02 44 51.7	+0.4
CO06				*i* S	Sb	02 44 56.2	+0.9
CO06				IAML		02 44 57.0	
	comp=N,13μm,0.4s						
CO03	**El Pedregal**	**0.80**	**90**	*e*P	Pb	02 45 01.4	+0.5
CO03				*i* S	Sn	02 45 13.6	+1.8
CO03				IAML		02 45 14.4	
	comp=E,4μm,0.4s						
GO04	**Tololo Observa**	**0.98**	**47**	*e*P	Pb	02 45 04.4	+0.5
GO04				*i* S	Sb	02 45 19.0	+2.4
GO04				IAML		02 45 25.7	
	comp=N,5μm,0.5s						
CO05	**La Serena**	**0.98**	**20**	*e*P	Pb	02 45 03.9	+0.1
CO05				*i* S	Sb	02 45 18.2	+1.8
CO05				IAML		02 45 23.3	
	comp=E,2μm,0.4s						
VA06	**Catapilco**	**1.73**	**171**	*e*P	Pn	02 45 12.5	-1.0
LCO	**Las Campanas**	**2.00**	**24**	*e*P	Pn	02 45 18.7	+1.3
LCO				*e*S	Sb	02 45 44.9	-0.9
VA03	**San Esteban**	**2.12**	**155**	*e*P	Pn	02 45 19.6	+0.7
VA03				IAML		02 46 01.0	
	comp=E,1μm,0.4s						
VA01	**Torpederas**	**2.17**	**181**	IAML		02 45 43.0	
	comp=E,516nm,0.7s						
MT05	**Renca**	**2.65**	**164**	*i* S	Sb	02 46 02.5	-1.8
VA05	**Santo Domingo**	**2.80**	**180**	*e*P	Pb	02 45 31.5	-3.2
VA05				IAML		02 46 10.9	
	comp=E,648nm,0.7s						
MT09	**Talagante**	**2.97**	**170**	IAML		02 46 18.0	
	comp=N,402nm,0.4

CTA	**Charters Tower**	**13.93 182**	P		**Pn**	**03 04 21.3**	**+2.2**
	1.4nm,0.3s,baz=358,slow=14,SNR=10						
CTA			LR		LR	03 09 27.0	
	comp=Z,2μm,21.5s,baz=0.5,slow=36						
CTAO	**Charters Tower**	**13.93 182**	Pn		**Pn**	**03 04 21.4**	**+2.2**
SIJI	**Sorong**	**16.26 288**	P		**Pn**	**03 04 47.7**	**-1.8**
	2.7nm,0.3s,baz=94,slow=10,SNR=4.6						
SIJI			LR		LR	03 12 27.2	
	comp=Z,817nm,22.0s,baz=267,slow=42						
SIJI	**Sorong**	**16.26 288**	P		**P**	**03 04 53.9**	**+2.1**
	904nm92nm,0.9s						
SWI	**Sorong**	**16.26 288**	P		**P**	**03 04 52.2**	**+0.3**
	181nm,0.9s						
MTN	**Manton Dam**	**16.76 245**	Pn		**Pn**	**03 04 55.0**	**-0.8**
MTN			IAmb		IAmb	03 05 08.2	
	comp=Z,31nm,0.6s						
WR0	**Warramunga Arr**	**18.16 219**	P		**P**	**03 05 12.3**	**-0.5**
WRAB	**Tennant Creek**	**18.27 220**	P		**P**	**03 05 13.7**	**-0.3**
WB2	**Warramunga Arr**	**18.27 220**	P		**Pn**	**03 05 14.6**	**+0.1**
WRA	**Warramunga Arr**	**18.28 220**	P		**Pn**	**03 05 14.4**	**-0.1**
	comp=Z,1.5nm,0.3s,baz=45,slow=11,SNR=42						
WRA			S		**Sn**	**03 08 31.2**	**-6.7**
	comp=Z,0.4nm,0.3s,baz=40,slow=21,SNR=3.2						
WRA			PcP		**PcP**	**03 09 45.1**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=21,slow=2.0,SNR=5.1						
WRA			LR		LR	03 14 02.5	
	comp=Z,743nm,18.3s,baz=35,slow=42						
WRA	**Warramunga Arr**	**18.28 220**	P		**Pn**	**03 05 14.7**	**+0.1**
KRAI	**Karang Ratu**	**18.45 278**	P		**Pn**	**03 05 20.3**	**+3.6**
	comp=Z,3μmcomp=Z,66nm,1.0s						
EIDS	**Eidsvold**	**19.63 168**	P		**P**	**03 05 29.4**	**+0.6**
GUMO	**Guam**	**19.63 355**	LR		LR	03 12 36.5	
	comp=Z,350nm,18.3s,baz=176,slow=35						
KNRA	**Kununurra**	**20.02 240**	P		**P**	**03 05 31.5**	**-1.6**
TNTI	**Ternate**	**20.48 289**	P		**P**	**03 05 37.2**	**-0.9**
SANI	**Sanana**	**21.05 280**	P		**P**	**03 05 46.4**	**+2.1**
	comp=Z,862nmcomp=Z,69nm,0.9s						
AS31	**Alice Springs**	**21.38 214**	P		**P**	**03 05 48.2**	**+0.3**
ASAR	**Alice Springs**	**21.38 214**	P		**P**	**03 05 48.8**	**+0.9**
	comp=Z,2.0nm,0.5s,baz=46,slow=9.5,SNR=40						
ASAR			S		**S**	**03 09 41.5**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=36,slow=24,SNR=3.3						
ASAR			LR		LR	03 15 10.7	
	comp=Z,987nm,20.4s,baz=42,slow=40						
ASAR	**Alice Springs**	**21.38 214**	P		**P**	**03 05 47.6**	**-0.3**
SOEI	**Soe**	**22.52 259**	P		**P**	**03 06 00.2**	**-0.1**
SOEI	**Soe**	**22.52 259**	P		**P**	**03 06 03.0**	**+2.7**
	comp=Z,41nm,0.8s						
BATI	**Baumata**	**23.17 258**	P		**P**	**03 06 07.0**	**+0.1**
	comp=Z,21nm,0.5s,baz=157,slow=8.2,SNR=2.3						
BATI			LR		LR	03 17 14.9	
	comp=Z,886nm,21.4s,baz=78,slow=42						
BATI	**Baumata**	**23.17 258**	P		**P**	**03 06 09.0**	**+2.1**
	comp=Z,36nm,0.8s						
FITZ	**Fitzroy Crossi**	**23.77 238**	P		**P**	**03 06 11.9**	**-0.5**
	comp=Z,35nm,0.7s,baz=57,slow=12,SNR=109						
FITZ			LR		LR	03 16 45.3	
	comp=Z,720nm,21.6s,baz=56,slow=40						
FITZ	**Fitzroy Crossi**	**23.77 238**	P		**P**	**03 06 12.1**	**-0.4**
FITZ			IAmb		IAmb	03 06 14.6	
	comp=Z,38nm,0.9s						
MMRI	**Maumere**	**24.40 263**	P		**P**	**03 06 16.9**	**-1.3**
GTOI	**Gorontalo**	**24.58 285**	P		**P**	**03 06 22.4**	**+2.5**
	comp=Z,1μmcomp=Z,60nm,0.9s						
DZM	**Mont Dzumac**	**24.82 132**	*e*P		**P**	**03 06 22.8**	**+0.6**
	comp=Z,70nm,1.1s						
DZM			*e*S		**S**	**03 10 41.9**	**+0.4**
	comp=Z,414nm,29.4s						
DZM			*e*LR		LR	03 12 36.5	
	comp=Z,1μm,28.1s						
DZM	**Mont Dzumac**	**24.82 132**	P		**P**	**03 06 22.4**	**+0.2**
	comp=Z,26nm,0.9s,baz=156,slow=22,SNR=12						
DZM			LR		LR	03 15 17.8	
	comp=Z,191nm,21.5s,baz=355,slow=34						
DZM	**Mont Dzumac**	**24.82 132**	P		**P**	**03 06 22.4**	**+0.2**
DZM			IAmb		IAmb	03 06 24.4	
	comp=Z,32nm,1.1s						
EDFI	**Ende, Flores**	**24.95 262**	P		**P**	**03 06 23.4**	**0.0**
	comp=Z,262nmcomp=Z,20nm,0.9s						
APSI	**Ampana**	**25.53 281**	P		**P**	**03 06 28.6**	**+0.1**
STKA	**Stephens Creek**	**26.10 190**	P		**P**	**03 06 33.4**	**-0.2**
	comp=Z,4.8nm,0.5s,baz=1.9,slow=10.0,SNR=5.7						
STKA			LR		LR	03 17 45.0	
	comp=Z,1μm,18.3s,baz=13,slow=38						
STKA	**Stephens Creek**	**26.10 190**	P		**P**	**03 06 34.6**	**+1.1**
KAPI	**Kappang**	**26.85 271**	P		**P**	**03 06 40.0**	**-0.5**
	comp=Z,21nm,1.3s,baz=159,slow=7.9,SNR=2.2						
KAPI			LR		LR	03 18 38.0	
	comp=Z,243nm,20.3s,baz=115,slow=39						
KAPI	**Kappang**	**26.85 271**	IAmb		IAmb	03 06 59.0	
	comp=Z,22nm,1.2s						
TOLI2	**Tolitoli**	**26.85 285**	P		**P**	**03 06 38.6**	**-1.9**
TOLI2			IAmb		IAmb	03 06 48.8	
	comp=Z,38nm,1.3s						
PSA00	**Pilbara Seismi**	**30.20 237**	P		**P**	**03 07 09.2**	**-1.1**
PSA00	**Pilbara Seismi**	**30.20 237**	P		**P**	**03 07 09.7**	**-0.6**
PSA00			IAmb		IAmb	03 07 11.8	
	comp=Z,2.5nm,0.7s						
MSVF	**Nonsavu**	**32.72 113**	P		**P**	**03 07 34.6**	**+2.1**
	comp=Z,4.8nm,0.7s,baz=286,slow=15,SNR=4.2						
MSVF	**Nonsavu**	**32.72 113**	IAmb		IAmb	03 07 43.6	
	comp=Z,20nm,1.2s						
NWAO	**Narrogin (SRO)**	**38.27 222**	P		**P**	**03 08 19.4**	**-0.5**
	comp=Z,6.5nm,0.8s,baz=344,slow=4.7,SNR=1.8						
TPUB	**Ta-pu**	**38.76 320**	P		**P**	**03 08 22.1**	**-2.0**
NACB	**Ninganchiao**	**38.78 322**	P		**P**	**03 08 23.1**	**-1.2**
LEM	**Lembang**	**38.84 267**	LR		LR	03 28 36.6	
	comp=Z,272nm,18.3s,baz=112,slow=43						
YHNB	**Yeheng**	**39.28 322**	P		**P**	**03 08 27.5**	**-1.0**
JHJ	**Hachijo jima 2**	**39.54 351**	LR		LR	03 24 48.0	
	comp=Z,168nm,18.8s,baz=178,slow=36						
URZ	**Urewera**	**42.26 144**	P		**P**	**03 08 54.1**	**+1.3**
	comp=Z,4.0nm,0.5s,baz=130,slow=11,SNR=3.7						
URZ	**Urewera**	**42.26 144**	IAmb		IAmb	03 09 05.5	
	comp=Z,34nm,1.4s						
MJAR	**Matsushiro Arr**	**43.15 350**	P		**P**	**03 08 59.4**	**-0.6**
	comp=Z,4.6nm,1.1s,baz=164,slow=8.6,SNR=7.4						
MJAR			LR		LR	03 26 12.8	
	comp=Z,54nm,18.5s,baz=180,slow=35						
MJAR	**Matsushiro Arr**	**43.15 350**	P		**P**	**03 08 59.6**	**-0.4**
MAT	**Matsushiro**	**43.15 350**	P		**P**	**03 08 59.2**	**-0.8**
MAT			*e*S		**S**	**03 15 24.4**	**+1.5**
UBPT	**Khong Chiam**	**46.04 298**	P		**P**	**03 09 23.6**	**+0.2**
UBPT			IAmb		IAmb	03 09 24.1	
	comp=Z,12nm,1.1s						
NJ2	**Nanjing**	**46.29 327**	*e*P		**P**	**03 09 28.3**	**+3.2**
NJ2			pmax		pmax		
	comp=Z,12nm,0.5s						
KSRS	**Korea Array**	**46.73 339**	P		**P**	**03 09 28.5**	**+0.1**
	comp=Z,7.2nm,0.8s,baz=158,slow=8.9,SNR=34						
KSRS			LR		LR	03 27 14.8	
	comp=Z,204nm,20.8s,baz=150,slow=34						
KSAR	**Wonju Array Be**	**46.73 339**	P		**P**	**03 09 27.6**	**-0.9**
KS19	**Wonju Array Si**	**46.79 339**	IAmb		IAmb	03 09 30.5	
	comp=Z,13nm,1.0s						
INCN	**Inchon**	**47.22 338**	P		**P**	**03 09 31.6**	**-0.7**
WHN	**Wuhan**	**47.82 321**	⇓P		**P**	**03 09 38.1**	**+1.0**
WHN			pP		**pP**	**03 09 46.5**	**-5.1**
SKLT	**Songkhla**	**47.83 285**	P		**P**	**03 09 39.6**	**+2.1**
	comp=Z,933nmcomp=Z,28nm,1.4s						
SKNT	**Sakolnakorn**	**48.05 299**	P		**P**	**03 09 39.2**	**+0.1**
	comp=Z,27nm,0.8s						
RPSI	**Rantau Prapat**	**48.51 279**	P		**P**	**03 09 42.5**	**-0.2**
RPSI			IAmb		IAmb	03 09 43.9	
	comp=Z,16nm,1.1s						
SRAK	**Srakaew**	**48.61 295**	P		**P**	**03 09 40.6**	**-2.8**
	comp=Z,2μmcomp=Z,81nm,1.0s						
NONG	**Nongkai**	**49.23 300**	P		**P**	**03 09 48.5**	**+0.4**
	comp=Z,21nm,0.8s						
SURA	**Surathani**	**49.31 288**	P		**P**	**03 09 49.7**	**+0.9**
CHAI	**Chaiyaphum**	**49.37 297**	P		**P**	**03 09 49.7**	**+0.5**
	comp=Z,18nm,0.6s						
SURT	**Suratani**	**50.04 287**	P		**P**	**03 09 57.1**	**+2.7**
	comp=Z,1.0nm,1.1s						
SLVN	**Son La**	**50.05 304**	P		**P**	**03 09 54.8**	**+0.4**
SLVN			IAmb		IAmb	03 09 56.2	
	comp=Z,8.7nm,1.1s						
ASAJ	**Asahikawa**	**50.11 356**	P		**P**	**03 09 55.0**	**+0.6**
	comp=Z,16nm,1.1s,baz=155,slow=9.4,SNR=5.7						
PKDT	**Phuket**	**50.20 285**	P		**P**	**03 09 56.3**	**+0.7**
	comp=Z,6μmcomp=Z,54nm,1.1s						
TIA	**Tai'an**	**50.40 329**	⇓P		**P**	**03 09 56.1**	**-0.6**
TIA			pmax		pmax		
	comp=Z,9.0nm,0.9s						
PHET	**Kaeng Krachan**	**50.44 292**	P		**P**	**03 09 58.6**	**+1.2**
	comp=Z,387nmcomp=Z,40nm,0.9s						

PHIT	**Phitsanulok**	**51.25 298**	P		**P**	**03 10 04.7**	**+1.3**
	comp=Z,1μmcomp=Z,49nm,1.0s						
UTTA	**Uttaradit**	**51.35 298**	P		**P**	**03 10 05.0**	**+0.9**
	comp=Z,29nm,0.8s						
SRDT	**SRDT**	**51.38 294**	P		**P**	**03 10 07.2**	**+2.7**
	comp=Z,14μmcomp=Z,23nm,1.2s						
UTHA	**Uthaitani**	**51.51 295**	P		**P**	**03 10 06.3**	**+0.9**
	comp=Z,326nmcomp=Z,32nm,0.9s						
USRK	**Ussuriysk Ar.**	**51.79 347**	P		**P**	**03 10 07.0**	**0.0**
	comp=Z,1.9nm,0.5s,baz=174,slow=8.2,SNR=14						
USRK			LR		LR	03 30 49.8	
	comp=Z,75nm,18.4s,baz=148,slow=34						
USRK	**Ussuriysk Ar.**	**51.79 347**	P		**P**	**03 10 06.8**	**-0.2**
KHLT	**Khaolaem Dam**	**52.02 294**	P		**P**	**03 10 10.9**	**+1.7**
	comp=Z,750nmcomp=Z,17nm,0.9s						
UMPA	**Umpang Tak**	**52.27 296**	P		**P**	**03 10 12.2**	**+1.1**
	comp=Z,3μmcomp=Z,41nm,1.1s						
MDJ	**Mudanjiang**	**52.77 345**	P		**P**	**03 10 15.9**	**+1.6**
MDJ			pmax		pmax		
	comp=Z,11nm,0.7s						
MDJ			pmax		pmax		
	comp=Z,160nm,3.8s						
KMI	**Kunming**	**52.82 308**	⇑P		**P**	**03 10 16.0**	**+0.7**
KMI			pP		pP	03 10 27.5	-2.7
KMI			sP		sP	03 10 35.6	-0.9
KMI			pmax		pmax		
	comp=Z,10.0nm,1.2s						
CM04	**Chiang Mai Arr**	**52.98 298**	P		**P**	**03 10 17.9**	**+1.6**
	comp=Z,130nmcomp=Z,16nm,0.9s						
CM09	**Chiang Mai Arr**	**52.99 298**	P		**P**	**03 10 18.1**	**+1.7**
	comp=Z,126nmcomp=Z,11nm,0.8s						
CM01	**Chiang Mai Arr**	**53.01 298**	P		**P**	**03 10 18.2**	**+1.7**
	comp=Z,146nmcomp=Z,19nm,0.9s						
CM05	**Chiang Mai Arr**	**53.01 298**	P		**P**	**03 10 17.8**	**+1.2**
	comp=Z,115nmcomp=Z,8.8nm,1.1s						
CM02	**Chiang Mai Arr**	**53.02 298**	P		**P**	**03 10 18.2**	**+1.6**
	comp=Z,129nmcomp=Z,17nm,1.0s						
CMAR	**Chiang Mai Arr**	**53.03 298**	P		**P**	**03 10 17.6**	**+0.9**
	comp=Z,9.4nm,0.9s,baz=119,slow=5.9,SNR=33						
CMAR			LR		LR	03 34 04.2	
	comp=Z,48nm,19.1s,baz=145,slow=37						
CMAR	**Chiang Mai Arr**	**53.03 298**	P		**P**	**03 10 16.7**	**0.0**
CM15	**Chiang Mai Arr**	**53.05 298**	P		**P**	**03 10 18.9**	**+2.1**
	comp=Z,16nm,1.1s						
CM13	**Chiang Mai Arr**	**53.05 298**	P		**P**	**03 10 18.3**	**+1.5**
	comp=Z,13nm,0.9s						
CMMT	**Chiang Mai**	**53.17 299**	P		**P**	**03 10 18.5**	**+0.8**
	comp=Z,11nm,1.2s						
CHTO	**Chiang Mai**	**53.17 299**	P		**P**	**03 10 18.7**	**+1.0**
	comp=Z,11nm,1.2s						
CHTO	**Chiang Mai**	**53.17 299**	P		**P**	**03 10 17.7**	**0.0**
CHTO			IAmb		IAmb	03 10 19.4	
	comp=Z,16nm,1.1s						
CN2	**Changchun**	**53.25 341**	*e*P		P	03 10 24.9	+7.1
CN2			pmax		pmax		
	comp=Z,10.0nm,0.6s						
CN2			LR		LR		
	comp=N,200nm,16.0s						
CN2			LR		LR		
	comp=E,100nm,16.0s						
CN2			LR		LR		
	comp=Z,200nm,17.0s						
XAN	**Xi'an**	**53.56 321**	P		**P**	**03 10 19.5**	**-0.9**
XAN			pP		pP	03 10 27.3	-7.8
XAN			pmax		pmax		
	comp=Z,20nm,1.3s						
XAN			pmax		pmax		
	comp=Z,92nm,4.1s						
MHMT	**Maesarieng**	**53.82 298**	P		P	03 10 31.8	+9.4
BJI	**Beijing**	**53.84 331**	P		**P**	**03 10 21.5**	**-0.7**
BJI			pmax		pmax		
	comp=Z,12nm,1.1s						
CD2	**Chengdu**	**55.13 314**	P		**P**	**03 10 32.3**	**+0.5**
CD2			pmax		pmax		
	comp=Z,20nm,1.0s						
HHC	**Hu-ho-hao-te**	**56.75 329**	*e*P		**P**	**03 10 45.8**	**+2.5**
LZH	**Lanzhou**	**58.09 320**	*e*P		**P**	**03 10 55.8**	**+2.9**
LZH			pP		pP	03 11 05.6	-2.1
LZH			sP		sP	03 11 10.3	-3.5
LZH			pmax		pmax		
	comp=Z,16nm,1.3s						
LZH			pmax		pmax		
	comp=Z,25nm,1.3s						
LZH			pmax		pmax		
	comp=Z,71nm,7.2s						
LZH			LR		LR		
	comp=N,170nm,15.5s						
LZH			LR		LR		
	comp=E,200nm,16.0s						
LZH			LR		LR		
	comp=Z,160nm,17.8s						
PETK	**Petropavlovsk-**	**59.70 8**	P		**P**	**03 11 04.1**	**+0.5**
	comp=Z,6.0nm,0.9s,baz=105,slow=3.4,SNR=5.5						
PETK	**Petropavlovsk-**	**59.70 8**	P		**P**	**03 11 03.4**	**-0.1**
PET	**Petropavlovsk**	**59.75 8**	P		**P**	**03 11 05.4**	**+1.5**
SHL	**Shillong**	**61.82 303**	P		**P**	**03 11 18.2**	**-0.5**
GTA	**Gaotai**	**62.62 320**	*e*P		**P**	**03 11 24.8**	**+1.0**
GTA			pP		pP	03 11 36.8	-2.4
GTA			sP		sP	03 11 44.8	-0.7
GTA			pmax		pmax		
	comp=Z,3.0nm,1.4s						
PPT2	**Papeete2**	**63.15 107**	*e*LR		LR	03 30 25.0	
	comp=Z,161nm,22.8s						
TBI	**Tubuai**	**63.60 113**	*e*LR		LR	03 30 35.5	
	comp=Z,229nm,34.8s						
ULN	**Ulaanbaatar**	**64.05 331**	P		**P**	**03 11 32.2**	**-0.8**
ULN			IAmb		IAmb	03 11 35.6	
	comp=Z,13nm,1.2s						
SONM	**Songino Array**	**64.34 331**	P		**P**	**03 11 34.5**	**-0.5**
	comp=Z,5.4nm,1.1s,baz=144,slow=5.7,SNR=18						
SONM	**Songino Array**	**64.34 331**	P		**P**	**03 11 33.9**	**-1.0**
SONM			IAmb		IAmb	03 11 36.0	
	comp=Z,9.4nm,1.2s						
VNDA	**Vanda**	**71.84 177**	P		**P**	**03 12 22.7**	**+1.3**
	comp=Z,5.0nm,0.8s,baz=331,slow=6.4,SNR=23						
VNDA	**Vanda**	**71.84 177**	P		**P**	**03 12 21.5**	**+0.1**
WMQ	**Urumqi**	**72.67 319**	*e*P		**P**	**03 12 29.3**	**+2.3**
MKAR	**Makanchi Array**	**77.38 321**	P		**P**	**03 12 53.0**	**-1.0**
	comp=Z,2.1nm,0.9s,baz=99,slow=7.5,SNR=13						
MKAR	**Makanchi Array**	**77.38 321**	P		**P**	**03 12 53.4**	**-0.6**
MAKZ	**Makanchi**	**77.58 321**	P		**P**	**03 12 53.5**	**-1.6**
ZAA0	**Zalesovo Array**	**78.93 328**	P		**P**	**03 13 01.3**	**-1.1**
ZALV	**Zalesovo Beam**	**78.93 328**	P		**P**	**03 13 00.6**	**-1.7**
	comp=Z,1.4nm,0.5s,baz=95,slow=4.8,SNR=4.1						
ZALV			LR		LR	03 48 03.9	
	comp=Z,89nm,19.5s,baz=100,slow=36						
ZALV	**Zalesovo Beam**	**78.93 328**	P		**P**	**03 13 00.7**	**-1.6**
NIL	**Nilore**	**79.74 306**	P		**P**	**03 13 06.2**	**-1.1**
NIL			IAmb		IAmb	03 13 07.9	
	comp=Z,10nm,0.8s						
MAW	**Mawson**	**82.06 203**	P		**P**	**03 13 18.8**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=109,slow=6.0,SNR=3.7						
K20K	**Telida**	**82.22 23**	P		**P**	**03 13 19.1**	**-0.7**
K20K			IAmb		IAmb	03 13 20.8	
	comp=Z,18nm,1.4s						
J20K	**Nowinta River**	**82.61 22**	P		**P**	**03 13 22.2**	**+0.4**
J20K			IAmb		IAmb	03 13 38.5	
	comp=Z,18nm,1.5s						
CAST	**Castle Rocks**	**83.03 23**	IAmb		IAmb	03 13 27.8	
	comp=Z,8.9nm,1.4s						
IMAR	**Indian Mountai**	**83.67 21**	P		**P**	**03 13 27.0**	**-0.3**
KK31	**Karatay Array**	**84.14 314**	P		**P**	**03 13 29.7**	**-0.6**
KK31			IAmb		IAmb	03 13 32.9	
	comp=Z,8.9nm,1.4s						
KKAR	**Karatay Array**	**84.14 314**	P		**P**	**03 13 29.6**	**-0.7**
MLY	**Manley**	**84.31 22**	IAmb		IAmb	03 13 32.6	
	comp=Z,7.0nm,1.0s						
RND	**Reindeer**	**84.32 24**	IAmb		IAmb	03 13 30.4	
	comp=Z,11nm,1.2s						
MCK	**McKinley**	**84.42 24**	IAmb		IAmb	03 13 33.5	
	comp=Z,12nm,1.1s						
NEA2	**Nenana**	**84.75 23**	P		**P**	**03 13 31.7**	**-1.1**
NEA2			IAmb		IAmb	03 13 34.0	
	comp=Z,8.4nm,1.2s						
DHY	**Denali Highway**	**84.78 25**	IAmb		IAmb	03 13 33.7	
	comp=Z,8.2nm,1.1s						
WRH	**Wood River Hil**	**85.08 23**	IAmb		IAmb	03 13 34.1	
	comp=Z,12nm,1.2s						
MDM	**Murphy Dome**	**85.23 23**	IAmb		IAmb	03 13 34.9	
	comp=Z,10nm,1.5s						
CCB	**Clear Creek Bu**	**85.26 23**	IAmb		IAmb	03 13 36.3	
	comp=Z,11nm,1.2s						
NRIK	**Noril'sk**	**85.27 342**	P		**P**	**03 13 34.3**	**-0.9**
	comp=Z,6.7nm,1.0s,baz=119,slow=9.7,SNR=5.4						
NRIK	**Noril'sk**	**85.27 342**	P		**P**	**03 13 34.1**	**-1.2**
NRIK			IAmb		IAmb	03 13 37.0	
	comp=Z,11nm,1.1s						
COLD	**Coldfoot**	**85.52 20**	IAmb		IAmb	03 13 38.0	
	comp=Z,5.7nm,1.1s						
IL31		**85.67 23**	IAmb		IAmb	03 13 38.3	
	comp=Z,4.2nm,0.7s						
ILAR	**Eielson Array**	**85.67 23**	P		**P**	**03 13 35.9**	**-1.5**
	comp=Z,3.2nm,0.7s,baz=253,slow=4.6,SNR=39						
ILAR	**Eielson Array**	**85.67 23**	P		**P**	**03 13 35.4**	**-2.0**
DOT	**Dot Lake**	**86.38 25**	IAmb		IAmb	03 13 41.6	
	comp=Z,8.4nm,1.1s						
L26K	**Log Cabin Wild**	**86.46 25**	IAmb		IAmb	03 13 45.6	
	comp=Z,2.6nm,0.7s						
BRVK	**Borovoye**	**86.74 324**	P		**P**	**03 13 41.3**	**-1.6**
M27K	**Edge Creek, AK**	**86.87 26**	IAmb		IAmb	03 13 44.8	
	comp=Z,10nm,1.1s						
L27K	**Beaver Creek,**	**87.12 26**	IAmb		IAmb	03 13 45.1	
	comp=Z,14nm,1.5s						
EGAK	**Eagle**	**87.96 24**	P		**P**	**03 13 48.5**	**-0.1**
SYO	**Syowa Base**	**90.41 200**	⇓*e*P		**P**	**03 14 01.0**	**+1.0**
SYO	**Syowa Base**	**90.41 200**	⇓*e*pP		pP	03 14 11.2	-4.5
ABKAR	**Akbulak array**	**92.45 319**	P		**P**	**03 14 07.4**	**-2.4**
TXAR	**Lajitas Array**	**110.06 61**	PP		**PP**	**03 20 03.9**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=242,slow=5.4,SNR=3.6						
PLCA	**Paso Flores**	**122.21 147**	PKP		**PKiKP**	**03 19 55.5**	**+1.3**
	comp=Z,2.1nm,0.6s,baz=254,slow=3.0,SNR=13						
SCHQ	**Schefferville**	**124.43 23**	PKP		**PKiKP**	**03 19 58.1**	**0.0**
	comp=Z,2.7nm,0.7s,baz=48,slow=19,SNR=2.0						
LPAZ	**La Paz**	**138.98 123**	PKhKP		PKPpre	03 20 20.0	
	comp=Z,2.8nm,0.9s,baz=183,slow=2.5,SNR=4.3						
LPAZ			PKP		**PKiKP**	**03 20 28.9**	**-0.4**
	comp=Z,7.9nm,0.9s,baz=273,slow=2.0,SNR=11						
SIV	**San Ignacio**	**144.82 129**	PKP		PKPbc	03 20 36.2	+0.3
	comp=Z,16nm,0.9s,baz=244,slow=3.8,SNR=20						
TORD	**Torodi Ar. Bea**	**144.83 284**	PKP		PKPbc	03 20 35.9	0.0
	comp=Z,16nm,0.8s,baz=60,slow=2.4,SNR=53						
TORD	**Torodi Ar. Bea**	**144.83 284**	PKPdf		PKPbc	03 20 36.1	+0.1
OBIP	**Obispado Ponce**	**145.40 67**	PKPbc		**PKPbc**	**03 20 35.8**	**-1.8**
TRCB	**Terra Rica**	**145.62 147**	PKPbc		**PKPab**	**03 20 39.1**	**+0.5**
AQDB	**Aquidauana**	**145.62 141**	PKPbc		**PKPbc**	**03 20 38.3**	**0.0**
SJG	**San Juan**	**145.79 67**	PKPbc		**PKPbc**	**03 20 38.9**	**0.0**
	comp=Z,12nm,0.9s,baz=319,slow=3.2,SNR=8.6						
SJG	**San Juan**	**145.79 67**	PKPbc		**PKPdf**	**03 20 38.1**	**-0.2**
GCPR	**Guaynabo City**	**145.80 66**	PKPbc		**PKPdf**	**03 20 37.3**	**-1.0**
PDPR	**Patillas Dam,**	**145.94 67**	PKPbc		**PKPdf**	**03 20 38.6**	**+0.1**
HUMP	**Col San Antoni**	**146.06 66**	PKPbc		**PKPbc**	**03 20 39.4**	**-0.3**
CDVI	**St. Croix**	**147.16 67**	PKPbc		**PKPbc**	**03 20 43.2**	**+0.3**
SMRT	**St. Maarten**	**148.60 65**	PKPbc		**PKPdf**	**03 20 44.7**	**+1.6**
KIC	**Kosan Boka**	**151.62 272**	*e*PKIKP		**PKiKP**	**03 20 55.1**	**+0.5**
	comp=Z,38nm,0.7s						
DBIC	**Dimbokro**	**151.74 273**	PKPbc		**PKiKP**	**03 20 55.4**	**+0.5**
	comp=Z,15nm,0.5s,baz=111,slow=1.9,SNR=40						
DBIC	**Dimbokro**	**151.74 273**			**PKiKP**	**03 20 55.3**	**+0.4**
TIC	**Toumodi**	**151.90 273**	*e*PKIKP		**PKiKP**	**03 20 55.2**	**0.0**
LIC	**Lamto**	**151.90 272**	*e*PKIKP		**PKiKP**	**03 20 55.2**	**0.0**
	comp=Z,125nm,1.1s						
PTGA	**Pitinga**	**152.52 103**	PKPbc		**PKiKP**	**03 20 56.9**	**+0.4**
	comp=Z,16nm,0.8s,baz=256,slow=4.5,SNR=13						
BDFB	**Brasilia**	**153.95 146**	PKPbc		**PKiKP**	**03 20 59.9**	**+0.5**
	comp=Z,4.9nm,0.5s,baz=264,slow=0.9,SNR=12						
BDFB	**Brasilia**	**153.95 146**			**PKPbc**	**03 20 58.1**	**-1.3**

BJI ***20*** *03:01:54.0±0.0, 30.°33S×71.°92W, h5km, mB5.1/11, Ms5.2/14, Ms7 4.8/16*

SJA ***20*** *03:01:58.2±1.0, 30.°83S×71.°65W, h27km±6km, ML5.2, MW5.1*

VAO ***20*** *03:01:58.6±0.3, 30.°78S×71.°09W, h10km, mb5.4*

MOS ***20*** *03:01:59.6±1.0, 30.°81S×71.°26W, h39km, mb5.5/26, Error ellipse: s-maj=13.7km s-min=6.9km az=99.0*

GUC ***20*** *03:02:01.3±0.7, 30.°80S×71.°32W, h49km±2km, ML5.4, MW5.4*

GCMT ***20*** *03:02:01.9±0.2, 31.°02S±0.°01×71.°47W±0.°02, h50km, MW5.

AUSP Uspallata 2.21 130 *i* P Pn 03 02 38.9 +3.2
ZON Zonda 2.43 108 P Pn 03 02 41.3 +2.7
ZON Zonda 2.43 108 Pn Pn 03 02 41.3 +2.7
ZON Zonda 2.43 108 *i* P Pn 03 02 42.0 +3.4
ZON IAML 03 03 32.7
comp=Z,8μm,1.4s
MT05 Renca 2.62 168 *eP* Pn 03 02 42.4 +1.1
MT05 *eS* Sn 03 03 16.4 +4.5
MT05 IAML 03 03 24.7
comp=E,25μm,0.3s
MT05 Renca 2.62 168 Pn 03 02 41.5 +0.2
MT05 Renca 2.62 168 *i* P Pn 03 02 42.0 +0.7
AC04 Llanos de Chal 2.62 6⇑ *i*P Pn 03 02 43.1 +1.9
AC04 *i* S Sn 03 03 14.6 +2.8
AC04 IAML 03 03 30.9
comp=E,16μm,0.3s
AC04 Llanos de Chal 2.62 6 Pn 03 02 42.4 +1.1
RTCV Cerro Valdivia 2.65 114 *i* P Pn 03 02 45.0 +3.4
ASAL Salagasta 2.80 130 *i* P Pn 03 02 47.0 +3.3
ASAL IAML 03 03 38.2
comp=Z,2μm,1.0s
VA05 Santo Domingo 2.83 184 Pn 03 02 43.1 -1.0
ARCO CERRO ARCO 2.90 135 *i* P Pn 03 02 47.8 +2.6
ARCO IAML 03 03 36.7
comp=Z,11μm,0.4s
MT09 Talagante 2.96 174⇑ *i*P Pn 03 02 46.9 +0.8
MT09 *eS* Sn 03 03 23.7 +3.2
MT09 IAML 03 03 35.6
comp=N,12μm,0.5s
MT09 Talagante 2.96 174 Pn 03 02 46.9 +0.8
MT01 Popeta 3.04 178 *eP* Pn 03 02 47.1 +0.2
MT01 IAML 03 03 32.9
comp=E,6μm,0.3s
MT01 Popeta 3.04 178 Pn 03 02 46.9 +0.1
MT01 Popeta 3.04 178 *i* P Pn 03 02 47.0 +0.1
MT01 IAML 03 04 20.0
comp=Z,5μm,0.5s
AAGR Agrelo 3.13 137 *i* P Pn 03 02 51.0 +2.7
AAGR IAML 03 04 39.4
comp=Z,2μm,1.3s
LMEL Las Melosas 3.18 162⇑ *i*P Pn 03 02 51.0 +1.9
LMEL IAML 03 03 35.6
comp=N,10μm,0.4s
GO03 Copiap 3.37 18⇑ *i*P Pn 03 02 53.4 +1.8
GO03 *eS* Sn 03 03 34.2 +3.8
GO03 Copiap 3.37 18 Pn 03 02 53.4 +1.8
GO03 Copiap 3.37 18 *i* P Pn 03 02 54.0 +2.4
AVFE Valle Fertil 3.39 88 *i* P Pn 03 02 55.2 +3.4
AVFE IAML 03 04 27.3
comp=Z,5μm,0.4s
BO01 Tunca 3.57 176 *eP* Pn 03 02 54.3 +0.1
BO01 Tunca 3.57 176 Pn 03 02 54.3 +0.1
BO01 Tunca 3.57 176 *i* P Pn 03 02 55.0 +0.8
BO01 IAML 03 04 32.8
comp=Z,4μm,0.6s
AC06 Mina Casimiro 3.57 15 *eP* Pn 03 02 55.9 +1.6
AC06 Mina Casimiro 3.57 15 Pn Pn 03 02 56.0 +1.7
BO03 Pichilemu 3.69 187⇓ *i*P Pn 03 02 54.8 -1.1
BO02 Sierra Bellavi 3.99 173 *i* P Pn 03 03 00.5 +0.4
BO02 Sierra Bellavi 3.99 173 Pn 03 03 00.6 +0.5
BO02 Sierra Bellavi 3.99 173 *i* P Pn 03 03 01.0 +0.9
BO02 IAML 03 04 46.0
comp=Z,5μm,0.5s
GO05 Huala 4.20 186⇓ *i*P Pn 03 03 01.8 -1.1
GO05 Huala 4.20 186 Pn Pn 03 03 01.8 -1.1
GO05 Huala 4.20 186 *i* P Pn 03 03 03.1 +0.2
TINO Tinogasta 4.32 51 *i* P Pn 03 03 08.0 +3.4
AC02 Maricunga 4.44 27⇑ *i*P Pn 03 03 09.1 +2.4
AC02 Maricunga 4.44 27 Pn Pn 03 03 09.0 +2.4
AC02 Maricunga 4.44 27 *i* P Pn 03 03 09.0 +2.4
AC02 IAML 03 04 24.1
comp=Z,4μm,0.9s
ML02 Panimavida 4.93 180 Pn Pn 03 03 12.6 -0.2
CYA Choya 5.41 65 *i* P Pn 03 03 21.0 +1.5
CYA IAML 03 05 10.7
comp=Z,2μm,1.5s
PB14 IPOC Station P 6.23 8 Pn Pn 03 03 31.2 +0.1
PB14 IPOC Station P 6.23 8 *i* P Pn 03 03 31.0 -0.1
PB14 IAML 03 05 49.9
comp=Z,2μm,1.6s
AHML Horco Molle 6.66 54 *i* P Pn 03 03 37.0 +0.3
FSA Cafayete 6.68 47 *i* P Pn 03 03 39.0 +1.8
H03N1 Juan Fernandez 6.89 246 T T 03 11 12.3
baz=75,slow=72,SNR=1732
VA04 Juan Fernndez 6.90 244 Pn 03 03 38.3 -1.6
H03N3 Juan Fernandez 6.91 246 T T 03 11 10.3
baz=75,slow=72,SNR=2478
H03N2 Juan Fernandez 6.91 246 T T 03 11 12.2
baz=75,slow=72,SNR=2481
H03S3 Juan Fernandez 7.04 243 T T 03 11 42.9
baz=83,slow=75,SNR=121
H03S1 Juan Fernandez 7.04 243 T T 03 11 22.7
baz=83,slow=75,SNR=110
H03S2 Juan Fernandez 7.05 243 T T 03 11 30.9
baz=83,slow=75,SNR=145
CANA Caviahue 7.05 178 *i* P Pn 03 03 44.0 +1.8
PB10 IPOC Station P 7.32 6 Pn 03 03 45.4 -0.3
PB10 IPOC Station P 7.32 6 *i* P Pn 03 03 45.0 -0.7
PB15 IPOC Station P 7.77 13 Pn 03 03 51.6 -0.6
SLA San Lorenzo 8.00 42 *i* P Pn 03 03 58.0 +2.7
LC01 Cunco 8.07 183 Pn Pn 03 03 54.3 -1.6
LC01 Cunco 8.07 183 *i* P Pn 03 03 54.0 -1.9
PB06 IPOC Station P 8.24 12 *i* P Pn 03 03 57.0 -1.6
LVC Limon Verde 8.47 16 P Pn 03 04 00.4 -1.4
comp=Z,7.6nm,0.3s,baz=174,slow=8.6,SNR=33
LVC S Sn 03 05 42.1 +5.7
comp=Z,28nm,0.3s,baz=175,slow=10,SNR=3.7
LVC LR LR 03 07 33.7
comp=Z,2μm,19.1s,baz=210,slow=39
LVC Limon Verde 8.47 16 Pn 03 04 00.3 -1.5
LVC Limon Verde 8.47 16 *eP* Pn 03 03 59.6 -2.3
LVC Limon Verde 8.47 16 *i* P Pn 03 04 01.0 -0.9
PB04 IPOC Station P 8.53 8 Pn 03 04 01.2 -1.2
PB04 IPOC Station P 8.53 8 *i* P Pn 03 04 01.0 -1.4
LR03 Panguipulli 8.82 185 Pn Pn 03 04 04.6 -1.7
PB07 IPOC Station P 9.16 9 Pn Pn 03 04 09.4 -1.7
HJA Humahuaca 9.27 37 *i* P Pn 03 04 15.0 +2.2
PB01 IPOC Station P 9.89 10 Pn Pn 03 04 17.9 -3.1
PLCA Paso Flores 9.91 176 P Pn 03 04 20.4 -0.9
comp=Z,1.5nm,0.3s,baz=344,slow=11,SNR=67
PLCA S Sn 03 06 14.4 +3.3
comp=Z,1.4nm,0.3s,baz=68,slow=7.7,SNR=3.1
PLCA Paso Flores 9.91 176 *eP* Pn 03 04 20.8 -0.5
LL04 Puerto Octay 10.10 184 Pn Pn 03 04 21.8 -1.9
TRQA Tornquist 10.60 135 P Pn 03 04 30.1 -0.5
TRQA Tornquist 10.60 135 Pn Pn 03 04 30.1 -0.5
TRQA Tornquist 10.60 135 *eP* Pn 03 04 30.2 -0.4
PB08 IPOC Station P 10.82 11 Pn Pn 03 04 32.4 -1.7
PB11 IPOC Station P 11.12 8 Pn Pn 03 04 36.1 -1.9
PSGCX Pisagua 11.24 6 Pn 03 04 37.6 -1.9
PSGCX Pisagua 11.24 6 *i* P Pn 03 04 38.0 -1.5
LPA La Plata 12.02 113 SKIKS 03 25 36.5
LPA La Plata 12.02 113 *i* P Pn 03 04 51.2 +1.2
LPA La Plata 12.02 113 S Sn 03 07 09.3 +6.6
LPA La Plata 12.02 113 SSS SSS 03 07 36.9
LPA La Plata 12.02 113 PCP PcP 03 10 33.6 +0.6
LPA La Plata 12.02 113 SCS 03 17 37.3
LPA La Plata 12.02 113 PKIKP PKiKP 03 18 35.6 +4.7
LPA La Plata 12.02 113 SKIKP 03 22 02.5
LPA La Plata 12.02 113 PKIKS 03 22 07.9
GO07 Milladed Hill, 12.40 188 Pn Pn 03 04 52.6 -2.5
ITQB Itaqui 12.82 89 Pn Pn 03 04 58.5 -2.4
ITQB Itaqui 12.82 89 *eP* Pn 03 04 58.4 -2.5
CPUP Villa Florida 13.14 74 P Pn 03 05 03.0 -2.4
comp=Z,1.2nm,0.3s,baz=248,slow=11,SNR=33
CPUP S Sn 03 07 27.4 -2.7
comp=Z,4.2nm,0.3s,baz=304,slow=11,SNR=3.4
CPUP LR LR 03 10 38.3
comp=Z,2μm,18.0s,baz=255,slow=40
CPUP Villa Florida 13.14 74 P Pn 03 05 03.9 -1.4
CPUP Villa Florida 13.14 74 Pn 03 05 03.9 -1.4
CPUP Villa Florida 13.14 74 *eP* Pn 03 05 01.4 -3.9
LPAZ La Paz 14.77 12 P Pn 03 05 28.6 +0.6
comp=Z,1.4nm,0.3s,baz=187,slow=7.6,SNR=71
LPAZ La Paz 14.77 12 P Pn 03 05 30.0 +2.0
LPAZ La Paz 14.77 12 Pn 03 05 30.0 +2.0
LPAZ La Paz 14.77 12 *eP* Pn 03 05 25.1 -2.9
PLTB Pedras Altas 15.24 98 *eP* Pn 03 05 29.1 -4.4
CPSB Cacapava Do Su 15.46 93 *eP* Pn 03 05 31.9 -4.5
AQDB Aquidauana 17.48 58 Pn Pn 03 05 59.9 -2.0
AQDB Aquidauana 17.48 58 *eP* Pn 03 05 59.5 -2.4
SIV San Ignacio 17.52 35 P Pn 03 06 02.4 0.0
comp=Z,5.0nm,0.3s,baz=218,slow=9.5,SNR=192

CNLB Canela 17.84 90 *eP* Pn 03 06 04.3 -2.0
PTGB Pitanga 18.14 75 *eP* P 03 06 08.5 -1.5
TRCB Terra Rica 18.53 69 *eP* Pn 03 06 15.0 +0.1
PTLB Pontes e Lacer 18.98 39 *eP* P 03 06 19.4 +0.4
NNA Nana 19.41 344 P Pn 03 06 25.1 -0.2
comp=Z,1.8nm,0.3s,baz=147,slow=23,SNR=2.4
TER01 Tubaro-SC 19.47 89 *eP* P 03 06 24.3 -0.2
PP1B Ponte de Pedra 19.96 53 *eP* P 03 06 29.7 -0.2
PCMB Pacaembu 20.23 68 *eP* P 03 06 32.6 -0.2
TIJ01 Guaruva-PR 20.48 80 *eP* P 03 06 32.4 -3.2
VILB Vilhena 20.57 33 *eP* P 03 06 36.5 +0.1
SALV Santo Antonio 20.65 48 *eP* P 03 06 38.8 -0.6
FRTB Fartura 20.79 74 *eP* P 03 06 37.8 -1.1
ETMB Extrema 21.45 14 *eP* P 03 06 46.9 +1.0
ITRB Iturama 21.96 65 *eP* P 03 06 50.5 -0.9
PET01 Itanhaem-SP 22.32 79 *eP* P 03 06 53.7 -1.6
SPB Sao Paulo 22.46 77 P P 03 06 55.3 -1.5
SPB Sao Paulo 22.46 77 *eP* P 03 06 55.5 -1.2
BB19B Bebedouro 22.70 70 *eP* P 03 06 57.3 -2.1
RCLB Rio Claro- Sao 22.88 74 *eP* P 03 06 59.0 -2.2
CZSB Cruzeiro do Su 23.01 357 *eP* P 03 07 03.9 +1.4
EFI East Falkland 23.05 158⇓ *eP* P 03 07 04.2 +1.6
EFI pmax pmax
comp=Z,175nm,1.3s
EFI East Falkland 23.05 158 P P 03 07 02.8 +0.2
EFI IAmb IAmb 03 07 05.9
comp=Z,123nm,0.8s
SAML Samuel 23.07 21 P P 03 07 02.4 -0.7
SAML pmax pmax
comp=Z,138nm,1.5s
SAML Samuel 23.07 21 P P 03 07 02.4 -0.7
SAML IAmb IAmb 03 07 05.1
comp=Z,138nm,1.5s
SAML Samuel 23.07 21 *eP* P 03 07 03.1 0.0
VAO Valinhos 23.10 76 *eP* P 03 07 01.9 -1.6
PARB Paraibuna 24.09 78 *eP* P 03 07 11.6 -1.2
USHA Ushuaia 24.09 176 P P 03 07 13.3 +0.9
comp=Z,115nm,0.9s,baz=353,slow=4.6,SNR=9.1
CLDB Colider 24.57 39 *eP* P 03 07 16.2 -1.0
IPMB Ipaneri, GO 24.61 64 *eP* P 03 07 16.2 -1.5
ESAR Ângra dos Reis 25.21 79 *eP* P 03 07 22.4 -0.5
BSCB Bom Sucesso 25.80 74 *eP* P 03 07 27.5 -1.0
BDFB Brasilia 26.18 60 P P 03 07 31.4 -0.5
comp=Z,152nm,0.9s,baz=230,slow=8.9,SNR=191
BDFB Brasilia 26.18 60 P P 03 07 31.4 -0.5
BDFB IAmb IAmb 03 07 32.4
comp=Z,144nm,0.9s
VAS01 Vassouras-RJ 26.35 78 *eP* P 03 07 33.1 -0.3
SNDB Serra Nova Dou 26.41 49 *eP* P 03 07 33.4 -0.5
TBTG Tabatinga, AM 26.53 3 *eP* P 03 07 36.1 +1.2
DUB01 Friburgo-RJ 27.33 78 *eP* P 03 07 42.0 -0.2
NPGB Novo Progresso 28.02 36 *eP* P 03 07 46.9 -1.4
DIAM Diamantina, MG 28.04 76 *eP* P 03 07 48.2 -0.5
CAM01 Campos-RJ 28.05 79 *eP* P 03 07 48.4 -0.1
PEXB Peixe 28.33 54 *eP* P 03 07 50.8 -0.3
MC01 Montes Claros 28.68 67 *eP* P 03 07 53.5 -0.8
MACA Manacapuru-AM 29.31 22 *eP* P 03 07 59.8 0.0
ALF01 Guarapari-ES 29.35 77 *eP* P 03 07 59.8 -0.3
JANB Januaria 29.35 64 *eP* P 03 07 59.4 -0.8
SJMB Sao Joao De Ma 29.86 73 *eP* P 03 08 04.2 -0.5
BSFB Barra de Sao F 30.08 74 *eP* P 03 08 05.5 -1.1
ITTB Itaituba 30.17 32 *eP* P 03 08 06.4 -0.9
RIB01 Linhares ES 30.22 75 *eP* P 03 08 07.4 -0.5
SDBA SAO DESIDERIO 30.56 59 *eP* P 03 08 10.3 -0.6
SMTB Santa Maria do 31.14 50 *eP* P 03 08 16.1 0.0
NAN01 Guarapari, ES 31.16 73 *eP* P 03 08 15.0 -1.2
OTAV Otavalo 31.61 346 P P 03 08 21.6 +1.0
OTAV pmax pmax
comp=Z,14nm,1.3s
OTAV Otavalo 31.61 346 P P 03 08 21.6 +1.0
OTAV Otavalo 31.61 346 *eP* P 03 08 24.0 +3.4
PRPB Parauapebas 31.80 44 *eP* P 03 08 20.8 -1.0
TULM Tulcn-Chalpat 31.95 348 *eP* P 03 08 24.6 +1.0
GUA01 Guaratinga, BA 32.07 71 *eP* P 03 08 23.4 -0.7
CMC01 Camacan, BA 32.96 69 *eP* P 03 08 31.3 -0.6
MALB Monte Alegre 33.06 33 *eP* P 03 08 32.0 -0.8
BBAC Balboa, Cauca 33.13 349 *eP* P 03 08 34.3 +0.6
NBIT Itapeh - BA 33.27 69 *eP* P 03 08 34.4 -0.2
POPC Popayan, Colom 33.56 350 *eP* P 03 08 40.1 +2.7
GDU01 Guandu, BA 33.84 67 *eP* P 03 08 38.3 -1.3
PMSA Palmer Station 34.28 174 P P 03 08 43.6 +0.8
comp=Z,38nm,1.2s,baz=1.2,slow=9.3,SNR=5.5
PMSA Palmer Station 34.28 174 P P 03 08 43.1 +0.2
PMSA IAmb IAmb 03 08 44.9
comp=Z,51nm,1.2s
PMSA Palmer Station 34.28 174 *eP* P 03 08 44.0 +1.1
PRAC Prado 34.51 354 *eP* P 03 08 49.7 +4.4
BOAV Boa Vista 34.62 19 *eP* P 03 08 46.3 0.0
ORTC Ortega, Tolima 34.73 353 *eP* P 03 08 47.8 +0.5
VILC Villavicencio, 34.81 356 *eP* P 03 08 49.7 +1.6
PTGC Puerto Gaitan, 34.83 359 *eP* P 03 08 46.8 -1.3
YOTC Yotoco, Valle 34.93 351 *eP* P 03 08 50.7 +1.5
NBPN Ponto Novo - B 35.09 62 *eP* P 03 08 49.2 -1.2
CHIC Chingaza 35.32 356 *eP* P 03 08 51.7 -1.2
MCPB Macapa, AP 35.42 35 *eP* P 03 08 53.0 -0.3
ROSC El Rosal 35.57 355 P P 03 08 57.0 +2.0
comp=Z,24nm,0.8s,baz=109,slow=1.0,SNR=12
ROSC El Rosal 35.57 355 P P 03 08 57.0 +2.0
TMAB Tom-Au,PA,Br 35.86 42 *eP* P 03 08 57.0 0.0
GUY2C Guyana, Caldas 36.04 353 *eP* P 03 09 00.3 +1.2
NORC Norcasia 36.33 354 *eP* P 03 09 01.3 +0.2
SPBC San Pablo de B 36.36 355 *eP* P 03 08 59.4 -2.0
RUSC La Rusia 36.54 357 *eP* P 03 09 05.2 +1.8
CBOC Ciudad Bolivar 36.75 352 *eP* P 03 09 04.2 -0.5
NBLA Lagarto - SE 36.85 65 *eP* P 03 09 04.3 -1.3
HELC Santa Helena 37.02 353 *eP* P 03 09 07.1 -0.2
TAMC Tame, Arauca 37.05 359 *eP* P 03 09 08.1 +0.9
BARC Barichara 37.24 357 *eP* P 03 09 09.0 0.0
PTBC PUERTO BERRIO, 37.27 355 *eP* P 03 09 07.1 -1.9
BRRC Barranca, Sant 37.78 356 *eP* P 03 09 10.9 -2.4
DBBC Dabeiba 37.91 352 *eP* P 03 09 15.8 +1.3
PAMC Pamplona, Colo 37.97 358 *eP* P 03 09 13.8 -1.6
ZARC Zaragoza, Cauc 38.24 354 *eP* P 03 09 17.7 +0.5
NBMA Muriti-CE 38.41 59 *eP* P 03 09 18.5 -0.3
NBPS Pedro II - PI 38.55 53 *eP* P 03 09 19.3 -0.7
UREC San Jose de Ur 38.56 353 *eP* P 03 09 17.7 -2.2
NBAN Anadia - AL 38.84 65 *eP* P 03 09 20.2 -2.1
OCAC Ocana 38.88 357 *eP* P 03 09 20.6 -2.1
NBPB Pedra_Branca-C 39.05 56 *eP* P 03 09 24.0 -0.1
SMLC San Martn de 39.48 356 *eP* P 03 09 26.4 -1.2
SDV Santo Domingo 39.49 1 P P 03 09 28.0 +0.2
comp=Z,19nm,0.5s,baz=185,slow=6.8,SNR=18
SDV Santo Domingo 39.49 1 P P 03 09 28.1 +0.2
SDV IAmb IAmb 03 09 33.3
comp=Z,31nm,0.7s
SDV Santo Domingo 39.49 1 *eP* P 03 09 25.4 -2.4
SDV Santo Domingo 39.49 1 *eP* P 03 09 27.9 0.0
NBLV Livramento - P 39.79 61 *eP* P 03 09 29.6 -0.7
MDP Montagnes des 39.97 30 P P 03 09 31.0 -0.6
comp=Z,34nm,0.9s,baz=210,slow=10.0,SNR=8.9
NBRF Rio Formoso - 40.34 65 *eP* P 03 09 33.5 -1.3
ARGC Ariguani, Magd 40.54 356 *eP* P 03 09 35.1 -1.3
BCIP Isla Barro Col 40.58 347 P P 03 09 37.9 +1.3
BCIP pmax pmax
comp=Z,69nm,1.5s
BCIP Isla Barro Col 40.58 347 P P 03 09 37.9 +1.3
BCIP IAmb IAmb 03 09 52.4
comp=Z,69nm,1.4s
SJCC San Jacinto, C 40.65 354 P P 03 09 38.0 +0.7
SJCC IAmb IAmb 03 09 41.8
comp=Z,97nm,1.1s
SJCC San Jacinto, C 40.65 354 *eP* P 03 09 38.9 +1.6
NBPA Parau_RN 40.70 59 *eP* P 03 09 37.6 -0.2
NBCL Cascavel-CE 40.88 56 *eP* P 03 09 39.0 -0.3
RCBR Riachuelo 41.55 61 P P 03 09 45.8 +0.9
RCBR pmax pmax
comp=Z,47nm,1.0s
RCBR Riachuelo 41.55 61 P P 03 09 45.8 +0.9
RCBR Riachuelo 41.55 61 *eP* P 03 09 45.0 +0.2
NBPV Pedro Velho 41.63 62 *eP* P 03 09 45.8 +0.4
SMRC Santa Marta, M 41.83 356 *eP* P 03 09 46.6 -0.3
URIC Uribia, Colomb 42.28 359 *eP* P 03 09 47.6 -3.0
JTS Las Juntas de 42.90 340 P P 03 09 56.1 +0.4
comp=Z,6.3nm,0.7s,baz=3.3,slow=5.7,SNR=7.1
JTS Las Juntas de 42.90 340 *eP* P 03 09 58.1 +2.4
JTS pmax pmax
comp=Z,13nm,1.0s
JTS Las Juntas de 42.90 340 P P 03 09 56.2 +0.5
ORTG Ortega, Santa 43.12 340 P P 03 09 59.0 +1.5
TOSP Speyside 43.16 16 *eP* P 03 09 57.3 -0.4
TOSP Speyside 43.16 16 P P 03 09 58.3 +0.6
TOSP IAmb IAmb 03 09 59.3
comp=Z,130nm,1.3s
SVB Belmont 44.91 14 P P 03 10 11.3 -0.5
MCLT Moule a Chique 45.40 14 P P 03 10 15.4 -0.3
MPOM Morne Pois Mar 46.13 14 P P 03 10 20.4 -1.0
SVN Savane Anatole 46.45 14 P P 03 10 22.8 -1.2
TGUH Tegucigalpa,Un 47.16 339 IAmb IAmb 03 10 34.1
comp=Z,36nm,0.9s
MTO3 Montecristo 48.17 336 P P 03 10 37.9 +0.3
ICMP Isla Caja de M 48.65 6 P P 03 10 40.9 -0.1
SJG San Juan 48.91 7 P P 03 10 42.3 -0.7
comp=Z,81nm,0.9s,baz=188,slow=2.8,SNR=49
SJG San Juan 48.91 7 P P 03 10 41.8 -1.2
SJG San Juan 48.91 7 *eP* P 03 10 40.7 -2.3
MTP Monte Pirata 48.96 7 IAmb IAmb 03 10 44.0
comp=Z,59nm,1.2s
HUMP Col San Antoni 48.97 7 IAmb IAmb 03 10 43.7
comp=Z,46nm,1.2s
GCPR Guaynabo City 49.11 7 IAmb IAmb 03 10 44.4
comp=Z,53nm,0.8s
MTDJ Mount Denham 49.12 352 P P 03 10 43.5 -1.2
SMRT St. Maarten 49.24 10 IAmb IAmb 03 10 44.7
comp=Z,33nm,0.7s
STVI Saint Thomas 49.28 8 IAmb IAmb 03 10 47.6
comp=Z,28nm,1.1s
DR12 Loma Pena Alta 49.36 3 P P 03 10 45.7 -0.8
VNA3 Neumayer Olymp 52.10 159 P P 03 11 06.3 -0.2
VNA1 Neumayer--Stat 52.39 158 P P 03 11 08.7 +0.2
CMIG Matias Romero 52.73 331 P P 03 11 12.2 +0.5
comp=Z,19nm,0.9s,baz=160,slow=5.3,SNR=20
VNA2 Neumayer--Watz 52.73 158 P P 03 11 11.1 -0.1
baz=284,slow=8.0
SNAA Sanae 54.33 159 P P 03 11 22.6 -0.3
SNAA Sanae 54.33 159 *c i*P P 03 11 22.5 -0.3
SNAA pmax pmax
comp=Z,109nm,1.3s
SNAA Sanae 54.33 159 P P 03 11 22.6 -0.3
RKT Rikitea 56.54 261 *eT* T 04 12 18.2
comp=Z,12nm,0.3s
QSPA South Pole Qui 59.41 180 P P 03 11 58.5 -0.6
ZAIG Zacatecas 61.11 327 P P 03 12 12.4 +1.1
H06E1 SOCORRO T-PHAS 62.26 317 T T 04 19 40.3
SNR=7.4
TIGA Tifton 62.99 348 P P 03 12 23.2 -0.3
TIGA IAmb IAmb 03 12 24.3
comp=Z,41nm,0.8s
TIGA Tifton 62.99 348 P P 03 12 23.8 +0.3
baz=168,SNR=7.2
BRAL Brewton 63.42 345 P P 03 12 26.4 +0.2
BRAL Brewton 63.42 345 P P 03 12 27.5 +1.2
baz=165,SNR=7.5
250A Grady 64.03 346 IAmb IAmb 03 12 31.5
comp=Z,66nm,1.2s
NHSC New Hope 64.13 352 P P 03 12 31.2 +0.3
NHSC New Hope 64.13 352 P P 03 12 31.9 +1.0
baz=172,SNR=8.6
152A Waverly Hall 64.40 348 IAmb IAmb 03 12 33.7
comp=Z,40nm,0.9s
833A Chaparral WMA, 64.60 333 P P 03 12 36.1 +2.0
baz=154,SNR=9.9
441A DeRidder 64.64 339 IAmb IAmb 03 12 37.6
comp=Z,60nm,1.1s
HKT Hockley 64.76 337 *ceP* P 03 12 36.3 +1.3
HKT pmax pmax
comp=Z,36nm,1.3s
HKT Hockley 64.76 337 P P 03 12 35.9 +0.8
HKT IAmb IAmb 03 12 37.9
comp=Z,38nm,1.3s
GOGA Godfrey 64.90 349 IAmb IAmb 03 12 37.0
comp=Z,35nm,1.1s
GOGA Godfrey 64.90 349 P P 03 12 36.2 +0.2
baz=169,SNR=8.4
Y57A Sumter 65.05 352 IAmb IAmb 03 12 38.4
comp=Z,50nm,0.9s
Z51A Franklin 65.11 347 P P 03 12 37.4 0.0
Z51A IAmb IAmb 03 12 38.6
comp=Z,39nm,1.1s
LRAL Lakeview Retre 65.21 346 IAmb IAmb 03 12 39.3
comp=Z,46nm,1.3s
LRAL Lakeview Retre 65.21 346 P P 03 12 38.3 +0.4
baz=165,SNR=15
VBMS Vicksburg 65.27 342 P P 03 12 40.0 +1.6
baz=162
JSC Jenkinsville 65.42 351 IAmb IAmb 03 12 40.7
comp=Z,35nm,1.0s
HODGE Hodges 65.51 350 IAmb IAmb 03 12 41.3
comp=Z,23nm,1.0s
Z47A Carrollton 65.60 345 IAmb IAmb 03 12 42.1
comp=Z,57nm,1.1s
BIRD Birdtown, Kers 65.68 352 IAmb IAmb 03 12 42.4
comp=Z,62nm,1.4s
Y49A Blount Mountai 65.88 346 P P 03 12 41.8 -0.6
Y49A IAmb IAmb 03 12 44.2
comp=Z,38nm,1.1s
CNNC Cliffs of the 66.00 354 P P 03 12 44.0 +1.0
baz=174,SNR=7.9
PAULI Pauline 66.03 351 IAmb IAmb 03 12 44.8
comp=Z,67nm,1.3s
NATX Nacogdoches 66.04 338 P P 03 12 45.0 +1.6
baz=158,SNR=11
HPIG 66.12 327 P P 03 12 44.5 +0.3
HPIG IAmb IAmb 03 12 47.0
comp=Z,48nm,1.4s
W57A Gilead 66.12 352 IAmb IAmb 03 12 45.2
comp=Z,49nm,1.0s
435B Jarrell 66.13 335 IAmb IAmb 03 12 46.5
comp=Z,36nm,1.1s
435B Jarrell 66.13 335 P P 03 12 45.6 +1.6
baz=156,SNR=5.3
KMSC Kings Mountain 66.28 351 IAmb IAmb 03 12 46.2
comp=Z,40nm,1.0s
KMSC Kings Mountain 66.28 351 P P 03 12 45.3 +0.5
baz=171,SNR=10
SBA Scott Base 66.29 191 P P 03 12 44.9 +0.4
SBA pmax pmax
comp=Z,31nm,1.5s
SBA Scott Base 66.29 191 P P 03 12 44.9 +0.4
BG3 Lake Jocassee 66.36 350 IAmb IAmb 03 12 47.0
comp=Z,51nm,1.1s
V58A Windy Hill, Pi 66.66 353 IAmb IAmb 03 12 48.5
comp=Z,45nm,1.0s
JCT Junction City 66.68 333 P P 03 12 48.2 +0.6
JCT pmax pmax
comp=Z,91nm,1.4s
JCT Junction City 66.68 333 P P 03 12 48.2 +0.6
JCT Junction City 66.68 333 P P 03 12 49.1 +1.5
baz=154,SNR=20
Z41A Richland Creek 66.87 341 P P 03 12 50.3 +1.6
baz=160,SNR=9.7
V55A Taylorsville 66.96 351 IAmb IAmb 03 12 50.7
comp=Z,38nm,0.8s
V53A Saluda 67.01 350 IAmb IAmb 03 12 50.8
comp=Z,43nm,0.9s
CPCT Cooper Cave 67.07 348 P P 03 12 49.9 0.0
U59A Littleton 67.09 354 IAmb IAmb 03 12 52.1
comp=Z,57nm,1.1s
OXF Oxford 67.17 344 P P 03 12 51.0 +0.5
baz=163,SNR=20
WHTX Lake Whitney, 67.18 336 IAmb IAmb 03 12 52.9
comp=Z,62nm,1.1s
WHTX Lake Whitney, 67.18 336 P P 03 12 51.9 +1.3
baz=156,SNR=13
CCAR Cane Creek 67.21 342 P P 03 12 51.0 +0.3
CCAR IAmb IAmb 03 12 52.6
comp=Z,68nm,1.2s
TXAR Lajitas Array 67.26 330 P P 03 12 52.1 +0.8
comp=Z,4.2nm,0.7s,baz=152,slow=8.2,SNR=36
TXAR pP pP 03 13 04.7 +0.3
comp=Z,2.3nm,0.6s,baz=152,slow=9.3,SNR=6.8
TXAR PKPPKP P'P'df 03 41 17.9 +5.0
comp=Z,1.4nm,1.0s,baz=259,slow=2.0,SNR=9.8
TX31 Lajitas Ar. Si 67.26 330 IAmb IAmb 03 12 53.2
comp=Z,22nm,0.8s
TAOE Nuku Hiva Isla 67.30 273 *e*LR LR 03 33 06.7
comp=Z,493nm,32.6s
PLAL Pickwick Lake 67.32 345 IAmb IAmb 03 12 52.6
comp=Z,44nm,1.1s
VNDA Vanda 67.32 191 P P 03 12 52.1 +1.1
comp=Z,7.3nm,1.1s,baz=150,slow=3.6,SNR=6.6
VNDA Vanda 67.32 191 P P 03 12 51.5 +0.4
U56A King 67.35 352 IAmb IAmb 03 12 53.4
comp=Z,44nm,0.9s
V51A Loudon 67.39 349 IAmb IAmb 03 12 53.0
comp=Z,51nm,0.9s
Z38A Mt. Pleasant 67.53 339 IAmb IAmb 03 12 55.3
comp=Z,67nm,1.2s
T59A Double "B" Far 67.69 355 IAmb IAmb 03 12 55.8

T57A **Hurt** 67.87 353 P **P** 03 12 55.5 +0.6
T57A IAmb IAmb 03 12 56.4
comp=Z,24nm,0.9s
TZTN **Tazewell** 67.98 349 IAmb IAmb 03 12 57.4
comp=Z,29nm,1.0s
TZTN **Tazewell** 67.98 349 P **P** 03 12 55.8 +0.1
baz=169,SNR=7.8
X40A **Basin Creek Fa** 68.04 341 P **P** 03 12 56.8 +0.8
baz=160,SNR=5.1
BLA **Blacksburg** 68.21 352 IAmb IAmb 03 12 58.7
comp=Z,29nm,1.1s
BLA **Blacksburg** 68.21 352 P **P** 03 12 58.0 +1.0
baz=172,SNR=5.2
MIAR **Mount Ida** 68.30 340 IAmb IAmb 03 13 00.2
comp=Z,42nm,1.1s
MIAR **Mount Ida** 68.30 340 P **P** 03 12 58.5 +0.9
baz=160,SNR=27
U49A **Red Boiling Sp** 68.33 348 IAmb IAmb 03 12 59.0
comp=Z,80nm,1.4s
WVT **Waverly** 68.37 346 P **P** 03 12 58.3 +0.3
WVT pmax pmax
comp=Z,110nm,1.0s
WVT **Waverly** 68.37 346 P **P** 03 12 58.3 +0.3
WVT **Waverly** 68.37 346 P **P** 03 12 58.6 +0.5
baz=165
HBAR **Harrisburg** 68.47 343 P **P** 03 12 58.4 -0.2
W41B **Gary Mavity, V** 68.52 342 P **P** 03 12 59.5 +0.5
baz=161,SNR=13
ABTX **Abilene, Hawle** 68.54 335 IAmb IAmb 03 13 01.5
comp=Z,85nm,1.4s
ABTX **Abilene, Hawle** 68.54 335 P **P** 03 13 00.4 +1.1
baz=154,SNR=21
S57A **Dark Hollow, R** 68.59 354 IAmb IAmb 03 13 01.3
comp=Z,61nm,1.2s
SYO **Syowa Base** 68.62 159 i*iP* **P** 03 12 57.6 -1.7
TBI **Tubuai** 68.63 255 *e*S **S** 03 22 06.0 +6.1
comp=Z,157nm,31.2s
TBI **Tubuai** 68.63 255 *e*LR LR 03 33 44.5
comp=Z,229nm,34.8s
TBI **Tubuai** 68.63 255 *e*T T 04 27 26.0
comp=Z,12nm,0.2s
WHAR **Wooly Hollow** 68.64 342 IAmb IAmb 03 13 01.6
comp=Z,41nm,1.2s
R58B **Mineral** 68.70 354 IAmb IAmb 03 13 02.5
comp=Z,56nm,1.1s
GNAR **Gosnell** 68.70 344 P **P** 03 13 00.8 +0.7
X37A **Clayton** 68.88 339 IAmb IAmb 03 13 03.4
comp=Z,38nm,1.3s
S54A **Dingess, Beckl** 68.89 352 IAmb IAmb 03 13 02.4
comp=Z,69nm,1.2s
CBN **Corbin Frederi** 68.90 355 IAmb IAmb 03 13 03.5
comp=Z,42nm,1.2s
CBN **Corbin Frederi** 68.90 355 P **P** 03 13 02.5 +1.3
baz=175
LOOK **Love County** 68.91 337 P **P** 03 13 01.7 +0.2
LOOK IAmb IAmb 03 13 03.6
comp=Z,64nm,1.3s
MBO **M'Bour** 68.96 58 P **P** 03 13 02.7 +0.5
W39A **Magazine** 68.97 340 P **P** 03 13 03.3 +1.5
baz=160,SNR=72
R55A **Marlinton** 69.23 353 IAmb IAmb 03 13 05.5
comp=Z,41nm,0.9s
PBMO **Poplar Bluff** 69.58 344 P **P** 03 13 05.7 +0.2
X34A **Smith Ranch, M** 69.69 337 IAmb IAmb 03 13 08.3
comp=Z,86nm,1.2s
U40A **Yellville** 69.80 342 IAmb IAmb 03 13 08.5
comp=Z,90nm,1.2s
U40A **Yellville** 69.80 342 P **P** 03 13 07.7 +0.7
baz=161,SNR=29
MEH **Mehetia** 69.86 261 *e*T T 04 28 57.3
comp=Z,45nm,0.2s
Q56A **Snyder Ridge,** 69.89 354 IAmb IAmb 03 13 09.7
comp=Z,41nm,1.2s
R49A **Shelbyville** 69.95 348 IAmb IAmb 03 13 08.7
comp=Z,46nm,1.3s
T42A **Van Buren** 69.98 343 IAmb IAmb 03 13 09.3
comp=Z,41nm,1.4s
Q54A **Coxs Mills** 70.00 352 IAmb IAmb 03 13 09.0
comp=Z,22nm,0.8s
HHAR **Hobbs** 70.03 341 IAmb IAmb 03 13 09.9
comp=Z,65nm,1.0s
MNTX **Cornudas Mount** 70.04 330 P **P** 03 13 08.8 +0.3
baz=149,SNR=26
WCI **Wyandotte Cave** 70.09 348 P **P** 03 13 07.7 -1.0
WCI pmax pmax
comp=Z,38nm,0.9s
WCI **Wyandotte Cave** 70.09 348 P **P** 03 13 07.7 -1.0
WCI IAmb IAmb 03 13 09.4
comp=Z,38nm,0.8s
WCI **Wyandotte Cave** 70.09 348 P **P** 03 13 08.5 -0.2
baz=166
WMOK **Wichita Mounta** 70.13 336 P **P** 03 13 09.4 +0.3
baz=155,SNR=14
FNO **Franklin** 70.14 338 IAmb IAmb 03 13 11.3
comp=Z,70nm,1.3s
Q52A **Bidwell** 70.16 351 IAmb IAmb 03 13 10.3
comp=Z,63nm,1.1s
S44A **Carbondale** 70.18 345 IAmb IAmb 03 13 10.6
comp=Z,71nm,1.0s
P57A **Homestead Farm** 70.22 355 P **P** 03 13 09.7 +0.3
P57A IAmb IAmb 03 13 12.0
comp=Z,52nm,1.1s
TUL1 **Leonard** 70.23 339 P **P** 03 13 10.2 +0.7
baz=158,SNR=24
OKCFA **Oklahoma City** 70.30 338 IAmb IAmb 03 13 11.6
comp=Z,61nm,1.1s
U38A **Gravette** 70.30 340 IAmb IAmb 03 13 11.6
comp=Z,38nm,1.2s
Q51A **Peebles** 70.38 350 IAmb IAmb 03 13 11.6
comp=Z,46nm,0.9s
P60A **Greenville** 70.39 357 IAmb IAmb 03 13 12.6
comp=Z,33nm,1.1s
P60A **Greenville** 70.39 357 P **P** 03 13 11.5 +1.1
baz=176
MGMO **Mountain Grove** 70.39 342 IAmb IAmb 03 13 12.3
comp=Z,37nm,0.9s
OK025 **Westminster Rd** 70.42 338 IAmb IAmb 03 13 12.0
comp=Z,63nm,0.9s
HSIG 70.44 324 P **P** 03 13 12.1 +1.1
MCWV **Mont Chateau** 70.56 353 IAmb IAmb 03 13 13.2
comp=Z,30nm,0.8s
MCWV **Mont Chateau** 70.56 353 P **P** 03 13 12.2 +0.7
baz=172,SNR=5.6
P53A **Whipple** 70.57 352 IAmb IAmb 03 13 12.9
comp=Z,52nm,1.1s
BCOK **Bluff Creek, N** 70.57 338 IAmb IAmb 03 13 13.2
comp=Z,54nm,1.1s
OK031 **S. Brethren Rd** 70.60 338 IAmb IAmb 03 13 13.3
comp=Z,85nm,1.2s
MVL **Millersville** 70.61 356 IAmb IAmb 03 13 14.3
comp=Z,35nm,1.1s
OK029 **Liberty Lake** 70.65 338 IAmb IAmb 03 13 13.7
comp=Z,63nm,1.1s
FVM **French Village** 70.72 344 P **P** 03 13 12.4 -0.1
FVM pmax pmax
comp=Z,83nm,1.0s
FVM **French Village** 70.72 344 P **P** 03 13 12.4 -0.1
QUOK **Quay** 70.75 338 IAmb IAmb 03 13 14.5
comp=Z,50nm,1.1s
P52A **Corning** 70.81 351 IAmb IAmb 03 13 14.7
comp=Z,74nm,1.1s
P52A **Corning** 70.81 351 P **P** 03 13 13.4 +0.4
baz=170,SNR=11
PAGS **Pennsylvania G** 70.86 356 IAmb IAmb 03 13 15.4
comp=Z,43nm,1.3s
MSTX **Muleshoe** 70.93 333 IAmb IAmb 03 13 16.4
comp=Z,60nm,1.1s
MSTX **Muleshoe** 70.93 333 P **P** 03 13 14.8 +0.8
baz=152,SNR=26
OLIL **Olney** 70.93 346 IAmb IAmb 03 13 15.2
comp=Z,82nm,1.2s
CCM **Cathedral Cave** 70.99 344 P **P** 03 13 14.5 +0.3
CCM pmax pmax
comp=Z,109nm,1.1s
CCM **Cathedral Cave** 70.99 344 P **P** 03 13 14.5 +0.3
CCM **Cathedral Cave** 70.99 344 P **P** 03 13 14.9 +0.8
baz=162
O56A **Blue Knob Stat** 71.05 354 IAmb IAmb 03 13 16.6
comp=Z,54nm,1.4s
O56A **Blue Knob Stat** 71.05 354 P **P** 03 13 15.5 +1.0
baz=174,SNR=7.0
BLO **Bloomington** 71.05 348 IAmb IAmb 03 13 15.2
comp=Z,41nm,0.9s
P49A **Miami Univ. Ec** 71.09 349 IAmb IAmb 03 13 15.4
comp=Z,40nm,1.0s
P49A **Miami Univ. Ec** 71.09 349 P **P** 03 13 14.6 -0.1
baz=168,SNR=13

TIAR **Tiarei** 71.09 260 *e*T T 04 30 29.0
comp=Z,6.0nm,0.2s
P48A **Milroy** 71.13 349 IAmb IAmb 03 13 15.1
comp=Z,41nm,0.7s
S39A **Bolivar** 71.18 342 IAmb IAmb 03 13 17.0
comp=Z,50nm,0.8s
BRNJ **Basking Ridge** 71.21 357 P **P** 03 13 17.7 +2.4
BRNJ IAmb IAmb 03 13 19.6
comp=Z,32nm,0.8s
O52A **Adamsville** 71.24 352 IAmb IAmb 03 13 16.7
comp=Z,34nm,0.8s
PPT2 **Papeete2** 71.27 260 *e*S **S** 03 22 37.1 +6.0
comp=Z,288nm,33.8s
PPT2 **Papeete2** 71.27 260 *e*LR LR 03 34 58.3
comp=Z,161nm,22.8s
Q44A **Meyer Farm, Va** 71.29 346 IAmb IAmb 03 13 16.7
comp=Z,37nm,1.1s
O53A **New Philadelph** 71.30 352 P **P** 03 13 16.5 +0.5
baz=171,SNR=7.3
SLM **Saint Louis** 71.30 345 IAmb IAmb 03 13 17.5
comp=Z,57nm,0.8s
AMTX **Amarillo** 71.31 334 IAmb IAmb 03 13 18.5
comp=Z,38nm,1.0s
AMTX **Amarillo** 71.31 334 P **P** 03 13 17.4 +1.1
baz=153
SSPA **Standing Stone** 71.35 355 P **P** 03 13 16.5 +0.2
SSPA IAmb IAmb 03 13 18.3
comp=Z,43nm,1.2s
SSPA **Standing Stone** 71.35 355 P **P** 03 13 17.2 +0.9
baz=174
T35A **Sooner Cattle** 71.38 339 IAmb IAmb 03 13 18.5
comp=Z,56nm,1.1s
BLOK **Blackwell** 71.46 338 IAmb IAmb 03 13 18.9
comp=Z,77nm,1.3s
CROK **Carrier** 71.47 338 IAmb IAmb 03 13 18.8
comp=Z,55nm,1.1s
N58A **Sunbury** 71.47 356 IAmb IAmb 03 13 19.2
comp=Z,40nm,1.1s
N59A **State Game Lan** 71.50 356 IAmb IAmb 03 13 19.7
comp=Z,54nm,1.1s
N59A **State Game Lan** 71.50 356 P **P** 03 13 18.5 +1.4
baz=176,SNR=19
ACSO **Alum Creek Sta** 71.51 351 P **P** 03 13 17.5 +0.3
ACSO **Alum Creek Sta** 71.51 351 P **P** 03 13 17.6 +0.3
baz=170,SNR=5.9
ODNJ **Ogdensburg** 71.61 357 IAmb IAmb 03 13 20.0
comp=Z,36nm,1.0s
P46A **Rosedale** 71.61 347 IAmb IAmb 03 13 18.5
comp=Z,65nm,1.0s
WSPT **Westport, CT** 71.66 358 IAmb IAmb 03 13 20.3
comp=Z,31nm,1.0s
O49A **Covington** 71.67 350 IAmb IAmb 03 13 19.2
comp=Z,74nm,1.1s
U32A **Winter Ranch,** 71.69 337 IAmb IAmb 03 13 20.5
comp=Z,53nm,1.2s
121A **Cookes Peak, D** 71.82 328 P **P** 03 13 20.7 +1.2
121A IAmb IAmb 03 13 22.6
comp=Z,44nm,1.1s
121A **Cookes Peak, D** 71.82 328 P **P** 03 13 21.5 +2.0
baz=148,SNR=25
OK032 **Salt Plains WL** 71.82 338 IAmb IAmb 03 13 21.1
comp=Z,67nm,1.3s
N54A **Moraine State** 71.87 353 IAmb IAmb 03 13 20.6
comp=Z,26nm,0.8s
N54A **Moraine State** 71.87 353 P **P** 03 13 20.0 +0.6
baz=172,SNR=7.7
KAN14 **Manchester OK** 71.88 338 IAmb IAmb 03 13 21.4
comp=Z,30nm,1.0s
KAN17 **Caldwell West** 71.89 338 IAmb IAmb 03 13 21.6
comp=Z,63nm,1.3s
KAN09 **Caldwell North** 71.93 338 IAmb IAmb 03 13 21.9
comp=Z,88nm,1.2s
KAN05 **Bluff City Nor** 71.98 338 IAmb IAmb 03 13 23.0
comp=Z,66nm,1.1s
M57A **Sunshine Farm,** 72.00 355 IAmb IAmb 03 13 22.3
comp=Z,38nm,1.1s
KAN10 **Anthony SW Sta** 72.07 338 P **P** 03 13 21.1 +0.4
KAN10 IAmb IAmb 03 13 22.7
comp=Z,56nm,1.3s
N51A **Ashland** 72.10 351 IAmb IAmb 03 13 21.8
comp=Z,67nm,1.2s
P43A **Skaggs, Pawnee** 72.10 345 IAmb IAmb 03 13 21.9
comp=Z,88nm,1.1s
KSPA **Keystone Colle** 72.13 357 IAmb IAmb 03 13 23.1
comp=Z,42nm,1.4s
M55A **Ridgway** 72.25 354 IAmb IAmb 03 13 23.4
comp=Z,64nm,1.1s
SFIN **Lafayette** 72.33 347 IAmb IAmb 03 13 22.6
comp=Z,54nm,1.4s
N49A **Columbus Grove** 72.36 350 P **P** 03 13 22.0 -0.3
O44A **Mansfield** 72.37 346 IAmb IAmb 03 13 23.1
comp=Z,49nm,1.1s
BRYW **Bryant College** 72.38 360 IAmb IAmb 03 13 24.7
comp=Z,39nm,1.1s
M53A **WI Miller and** 72.41 353 IAmb IAmb 03 13 24.0
comp=Z,47nm,1.0s
N47A **Urbana** 72.56 349 IAmb IAmb 03 13 23.6
comp=Z,50nm,0.7s
P40A **Paris** 72.58 343 P **P** 03 13 23.9 +0.2
M50A **Fremont** 72.67 351 IAmb IAmb 03 13 25.2
comp=Z,48nm,0.8s
L59A **Walton** 72.73 357 IAmb IAmb 03 13 26.8
comp=Z,55nm,1.1s
BINY **Binghamton** 72.78 356 IAmb IAmb 03 13 26.9
comp=Z,38nm,1.1s
BINY **Binghamton** 72.78 356 P **P** 03 13 25.8 +0.9
baz=176,SNR=6.6
L56A **Greenwood** 72.82 355 IAmb IAmb 03 13 27.0
comp=Z,74nm,1.1s
L61B **Northampton** 72.92 359 P **P** 03 13 27.0 +1.4
baz=179,SNR=11
HDIL **Hopedale** 72.93 346 IAmb IAmb 03 13 26.3
comp=Z,36nm,0.6s
HDIL **Hopedale** 72.93 346 P **P** 03 13 25.8 +0.1
baz=164,SNR=9.4
HRV **Adam Dziewonsk** 72.97 360 P **P** 03 13 27.2 +1.3
HRV pmax pmax
comp=Z,28nm,1.1s
HRV **Adam Dziewonsk** 72.97 360 P **P** 03 13 27.2 +1.3
HRV **Adam Dziewonsk** 72.97 360 P **P** 03 13 27.2 +1.3
baz=180
TUC **Tucson** 73.04 326 P **P** 03 13 27.5 +0.8
TUC pmax pmax
comp=Z,18nm,1.4s
TUC **Tucson** 73.04 326 P **P** 03 13 27.4 +0.8
TUC **Tucson** 73.04 326 P **P** 03 13 28.2 +1.5
baz=145
P38A **Dawn** 73.05 342 IAmb IAmb 03 13 27.8
comp=Z,66nm,1.0s
K62A **Royalston** 73.13 359 P **P** 03 13 28.0 +1.2
baz=179,SNR=5.4
TRY **Troy** 73.22 358 IAmb IAmb 03 13 30.5
comp=Z,75nm,1.2s
LIC **Lamto** 73.26 72 *e*P **P** 03 13 26.8 -1.5
comp=Z,297nm,1.2s
ANMO **Albuquerque** 73.28 330 *c i*P **P** 03 13 29.5 +1.3
ANMO pmax pmax
comp=Z,21nm,1.3s
ANMO **Albuquerque** 73.28 330 P **P** 03 13 28.6 +0.5
ANMO **Albuquerque** 73.28 330 P **P** 03 13 29.9 +1.7
baz=149
L48A **N Adams** 73.40 350 IAmb IAmb 03 13 28.8
comp=Z,42nm,0.8s
KSU1 **Kansas State U** 73.42 340 IAmb IAmb 03 13 30.0
comp=Z,57nm,1.3s
KSU1 **Kansas State U** 73.42 340 P **P** 03 13 29.1 +0.5
baz=158,SNR=5.3
MMNY **Mt. Morris Dam** 73.44 355 IAmb IAmb 03 13 30.4
comp=Z,74nm,1.1s
R32A **Long Quarter,** 73.45 338 IAmb IAmb 03 13 31.0
comp=Z,59nm,1.2s
M44A **Midwest, Midew** 73.48 347 IAmb IAmb 03 13 29.8
comp=Z,83nm,1.1s
TIC **Toumodi** 73.50 72 *e*P **P** 03 13 28.6 -1.2
KIC **Kosan Boka** 73.57 72 *e*P **P** 03 13 29.2 -1.0
comp=Z,198nm,0.8s
AAM **Ann Arbor** 73.64 351 P **P** 03 13 29.8 0.0
baz=169
DBIC **Dimbokro** 73.65 72 P **P** 03 13 30.6 0.0
comp=Z,107nm,0.8s,baz=232,slow=5.3,SNR=140
DBIC pP **pP** 03 13 44.2 +0.2
comp=Z,12nm,0.5s,baz=212,slow=7.2,SNR=3.6
214A **Organ Pipe Nat** 73.75 324 IAmb IAmb 03 13 34.0
comp=Z,40nm,1.2s
214A **Organ Pipe Nat** 73.75 324 P **P** 03 13 32.9 +2.0
baz=144,SNR=19
L46A **Eue Claire** 73.77 348 IAmb IAmb 03 13 31.6
comp=Z,62nm,1.0s

J61A **Chester** 73.81 359 P **P** 03 13 32.3 +1.4
baz=179,SNR=8.9
ACCN **Adirondack Com** 73.88 358 P **P** 03 13 31.9 +0.7
ACCN IAmb IAmb 03 13 33.4
comp=Z,38nm,1.3s
FFD **Franklin Falls** 73.93 360 IAmb IAmb 03 13 34.2
comp=Z,38nm,1.1s
J59A **Piesco** 73.98 358 IAmb IAmb 03 13 33.8
comp=Z,39nm,1.1s
CBKS **Cedar Bluff** 74.14 337 IAmb IAmb 03 13 35.2
comp=Z,80nm,1.1s
CBKS **Cedar Bluff** 74.14 337 P **P** 03 13 34.4 +1.4
baz=155,SNR=12
HNH **Hanover** 74.17 359 IAmb IAmb 03 13 35.5
comp=Z,36nm,1.1s
L44A **Lake County Fo** 74.22 347 IAmb IAmb 03 13 34.3
comp=Z,77nm,1.1s
I60A **Shoreham** 74.33 359 P **P** 03 13 35.0 +1.2
baz=178,SNR=10.0
T25A **Trinidad** 74.34 333 IAmb IAmb 03 13 37.4
comp=Z,75nm,1.2s
T25A **Trinidad** 74.34 333 P **P** 03 13 36.2 +1.9
baz=151,SNR=37
L42A **Oliver, Polo** 74.40 346 IAmb IAmb 03 13 36.0
comp=Z,47nm,1.0s
X18A **Snowflake** 74.47 328 P **P** 03 13 36.1 +1.0
LBNH **Lisbon** 74.70 360 IAmb IAmb 03 13 38.9
comp=Z,32nm,1.0s
LBNH **Lisbon** 74.70 360 P **P** 03 13 37.7 +1.7
baz=180,SNR=8.9
J47A **Sunmer** 74.72 350 IAmb IAmb 03 13 36.5
comp=Z,36nm,0.9s
K43A **Burlington** 74.81 347 IAmb IAmb 03 13 37.8
comp=Z,51nm,1.1s
W18A **Petrified Fore** 74.86 328 P **P** 03 13 38.4 +1.0
W18A IAmb IAmb 03 13 53.9
comp=Z,42nm,1.1s
W18A **Petrified Fore** 74.86 328 P **P** 03 13 39.3 +1.8
baz=147
X16A **Lo Mia Camp, P** 75.08 327 IAmb IAmb 03 13 41.7
comp=Z,37nm,1.2s
SCIA **State Center** 75.12 343 IAmb IAmb 03 13 40.7
comp=Z,68nm,1.0s
SCIA **State Center** 75.12 343 P **P** 03 13 39.2 +0.7
baz=161,SNR=9.4
LONY **Lake Ozonia** 75.14 358 IAmb IAmb 03 13 40.4
comp=Z,34nm,1.1s
LONY **Lake Ozonia** 75.14 358 P **P** 03 13 39.4 +0.9
baz=177,SNR=8.4
EMMW **East Machias** 75.25 3 P **P** 03 13 39.5 +0.4
SDCO **Great Sand Dun** 75.30 333 P **P** 03 13 41.6 +1.6
baz=150,SNR=23
KSCO **Kaye Shedlock'** 75.32 335 IAmb IAmb 03 13 42.7
comp=Z,58nm,1.1s
KSCO **Kaye Shedlock'** 75.32 335 P **P** 03 13 41.6 +1.7
baz=153,SNR=5.8
FRNY **Flat Rock** 75.32 358 IAmb IAmb 03 13 41.4
comp=Z,30nm,0.9s
JFWS **Jewell Farm** 75.39 346 IAmb IAmb 03 13 41.5
comp=Z,86nm,1.2s
JFWS **Jewell Farm** 75.39 346 P **P** 03 13 40.5 +0.5
baz=163,SNR=20
HAL **Halifax** 75.44 6 IAmb IAmb 03 13 42.5
comp=Z,34nm,0.9s
SADO **Sadowa** 75.56 354 IAmb IAmb 03 13 41.8
comp=Z,29nm,0.8s
GLA **Glamis** 75.65 323 P **P** 03 13 43.6 +1.8
baz=143
PLVO **Plevna** 75.68 356 IAmb IAmb 03 13 43.3
comp=Z,32nm,1.1s
G62A **West of Eustis** 75.68 1 IAmb IAmb 03 13 44.1
comp=Z,51nm,1.1s
K38A **Parkersburg** 75.71 344 IAmb IAmb 03 13 42.9
comp=Z,40nm,0.8s
G65A **Princeton** 75.74 3 IAmb IAmb 03 13 52.3
comp=Z,28nm,0.6s
PKME **Peaks-Kenny Pk** 75.75 2 IAmb IAmb 03 13 44.2
comp=Z,38nm,1.2s
S22A **4UR Ranch, Cre** 75.83 332 P **P** 03 13 44.8 +1.7
baz=149,SNR=17
SUR **Sutherland** 75.89 119 P **P** 03 13 43.4 -0.2
SUR IAmb IAmb 03 13 44.9
comp=Z,37nm,0.9s
WUAZ **Wupatki** 75.95 327 IAmb IAmb 03 13 46.7
comp=Z,35nm,1.1s
WUAZ **Wupatki** 75.95 327 P **P** 03 13 45.7 +2.1
baz=145,SNR=17
RMX **La Rumorosa** 75.95 322 P **P** 03 13 43.7 0.0
MNTQ **Montreal, Queb** 75.99 358 IAmb IAmb 03 13 45.9
comp=Z,38nm,1.2s
IKP **In-Ko-Pah, Jac** 76.00 322 P **P** 03 13 45.8 +2.0
baz=142,SNR=9.6
BGNE **Belgrade** 76.00 340 P **P** 03 13 44.6 +1.0
baz=157,SNR=12
L34A **Svendsen Farm,** 76.00 341 IAmb IAmb 03 13 44.8
comp=Z,70nm,0.9s
I42A **Draeger Farm,** 76.06 347 IAmb IAmb 03 13 45.2
comp=Z,63nm,1.2s
MAW **Mawson** 76.06 164 P **P** 03 13 43.7 0.0
comp=Z,29nm,0.9s,baz=214,slow=7.0,SNR=29
MAW **Mawson** 76.06 164 P **P** 03 13 43.7 0.0
SWSC **Sam W. Stewart** 76.07 323 P **P** 03 13 46.4 +2.2
baz=142,SNR=7.9
MVCO **Mesa Verde** 76.07 330 P **P** 03 13 46.1 +1.7
baz=148,SNR=20
F63A **Nahmakanta, Br** 76.19 2 IAmb IAmb 03 13 47.0
comp=Z,35nm,1.2s
Q24A **Divide** 76.22 334 P **P** 03 13 47.0 +1.7
baz=151,SNR=38
GLMI **Grayling** 76.25 350 IAmb IAmb 03 13 45.8
comp=Z,69nm,1.1s
GLMI **Grayling** 76.25 350 P **P** 03 13 44.8 0.0
baz=168
PDMCI **Parker Dam,Lak** 76.30 325 P **P** 03 13 47.1 +1.7
baz=143
MONP2 **Monument Peak** 76.35 322 P **P** 03 13 48.3 +2.2
baz=141,SNR=6.2
F62A **Pittston Farm,** 76.37 1 IAmb IAmb 03 13 48.0
comp=Z,41nm,1.1s
F64A **Sherman** 76.37 2 IAmb IAmb 03 13 47.9
comp=Z,34nm,1.0s
I40A **Norwalk** 76.41 346 P **P** 03 13 46.0 +0.2
I40A IAmb IAmb 03 13 47.1
comp=Z,54nm,1.1s
H43A **Windswept, Lux** 76.41 348 IAmb IAmb 03 13 47.1
comp=Z,86nm,1.3s
BC3 **Big Chuckawall** 76.45 323 P **P** 03 13 48.2 +1.8
baz=142,SNR=21
LMN **Caledonia Moun** 76.55 5 IAmb IAmb 03 13 48.4
comp=Z,55nm,0.9s
IRM **Iron Mountain** 76.69 324 P **P** 03 13 49.5 +1.9
baz=142,SNR=15
109C **Camp Elliot, M** 76.71 322 P **P** 03 13 49.5 +1.7
baz=141
OGNE **Ogallala** 76.83 337 P **P** 03 13 49.9 +1.5
baz=153
NEE2 **Needles Airpor** 76.90 325 P **P** 03 13 50.5 +1.7
baz=143
TPFO **Pinon Flats** 76.93 323 P **P** 03 13 51.4 +2.2
baz=142,SNR=13
PFO **Pinyon Flats O** 76.93 323 P **P** 03 13 50.2 +1.0
PFO pmax pmax
comp=Z,23nm,1.1s
PFO **Pinyon Flats O** 76.93 323 P **P** 03 13 50.2 +1.0
PFO **Pinyon Flats O** 76.93 323 P **P** 03 13 51.6 +2.5
baz=142,SNR=15
BELC **Belle Mtn. Jos** 77.00 323 P **P** 03 13 51.5 +2.0
baz=142,SNR=7.8
PV13 **Radium Mtn., P** 77.01 331 IAmb IAmb 03 13 52.3
comp=Z,34nm,1.1s
SMCO **Snowmass** 77.11 332 P **P** 03 13 51.5 +1.1
SMCO IAmb IAmb 03 13 53.6
comp=Z,51nm,1.1s
ISCO **Idaho Springs** 77.12 334 P **P** 03 13 51.9 +1.6
baz=150,SNR=26
PQI **Presque Isle** 77.19 2 IAmb IAmb 03 13 52.2
comp=Z,32nm,0.9s
MURC **Murrieta** 77.31 322 P **P** 03 13 53.3 +2.1
baz=141,SNR=8.3
D62A **Allapoint, All** 77.57 2 P **P** 03 13 52.6 +0.4
D62A IAmb IAmb 03 13 54.3
comp=Z,50nm,0.9s
G40A **Rib Lake** 77.64 347 IAmb IAmb 03 13 54.1
comp=Z,30nm,1.0s
BBRC **Big Bear Solar** 77.68 323 P **P** 03 13 55.9 +2.4
baz=141
ECSD **EROS Data Cent** 77.71 342 P **P** 03 13 53.7 +0.6
baz=158,SNR=81

F42A	Maple Grove Fa	77.72	348	IAmb	IAmb	03 13 54.6			
	comp=Z,38nm,0.8s								
HEC	Hector,Ludlow	77.82	324	P	P	03 13 56.3	+2.2		
	baz=142,SNR=14								
KNB	Kanab	77.84	327	IAmb	IAmb	03 13 57.5			
	comp=Z,43nm,1.2s								
BATG	Bathurst New B	77.89	4	P	P	03 13 54.8	+0.8		
BATG				IAmb	IAmb	03 13 55.6			
	comp=Z,26nm,0.8s								
LMQ	La Malbaie	78.02	1	IAmb	IAmb	03 13 56.5			
	comp=Z,49nm,1.2s								
BFSC	Mount Baldy Ra	78.05	322	P	P	03 13 57.1	+1.7		
	baz=141								
TUQ	Turquoise Moun	78.08	324	P	P	03 13 57.5	+1.9		
	baz=142,SNR=17								
E43A	Lone Tree Farm	78.13	349	IAmb	IAmb	03 13 56.8			
	comp=Z,44nm,0.9s								
SPMN	Marine on St.	78.16	345	IAmb	IAmb	03 13 56.4			
	comp=Z,48nm,1.1s								
SPMN	Marine on St.	78.16	345	P	P	03 13 55.6	+0.1		
	baz=161,SNR=14								
N23A	Red Feather La	78.19	334	P	P	03 13 58.2	+2.0		
	baz=150,SNR=18								
COWI	Conover	78.23	347	IAmb	IAmb	03 13 57.5			
	comp=Z,39nm,1.1s								
PHWY	Pilot Hill	78.36	334	IAmb	IAmb	03 13 59.6			
	comp=Z,28nm,1.1s								
DECC	Green Verdugo	78.42	322	P	P	03 13 59.4	+2.1		
	baz=140								
GSC	Goldstone, Bar	78.43	324	P	P	03 13 58.4	+1.0		
GSC				pmax	pmax				
	comp=Z,19nm,1.2s								
GSC	Goldstone, Bar	78.43	324	P	P	03 13 58.4	+1.0		
GSC	Goldstone, Bar	78.43	324	P	P	03 13 59.7	+2.2		
	baz=142,SNR=12								
O20A	White River Ci	78.44	332	IAmb	IAmb	03 14 00.2			
	comp=Z,30nm,1.1s								
O20A	White River Ci	78.44	332	P	P	03 13 59.0	+1.5		
	baz=148,SNR=21								
SHOC	Shoshone, Teco	78.63	324	P	P	03 14 00.2	+1.8		
	baz=142								
Q16A	Castle Valley	78.65	329	IAmb	IAmb	03 14 01.5			
	comp=Z,31nm,1.1s								
EDW2	Edwards Air Fo	78.72	322	P	P	03 14 00.5	+1.5		
	baz=141,SNR=12								
KOWA	Kowa	78.83	66	P	P	03 13 59.9	-0.1		
OSI	Osito Audit: C	78.90	322	IAmb	IAmb	03 14 02.8			
	comp=Z,32nm,1.1s								
OSI	Osito Audit: C	78.90	322	P	P	03 14 02.0	+2.0		
	baz=140								
F36A	Milaca	78.92	344	IAmb	IAmb	03 14 00.7			
	comp=Z,38nm,0.9s								
P17A	Butcher Ranch,	78.93	330	IAmb	IAmb	03 14 02.6			
	comp=Z,35nm,1.1s								
LRMC	Laurel Mtn Rad	79.02	323	P	P	03 14 02.4	+1.7		
	baz=141,SNR=18								
SUSD	Miller	79.02	340	IAmb	IAmb	03 14 01.7			
	comp=Z,67nm,1.1s								
SUSD	Miller	79.02	340	P	P	03 14 00.6	+0.3		
	baz=156								
PRN	Pahroc Range	79.21	326	IAmb	IAmb	03 14 05.0			
	comp=Z,36nm,1.1s								
ARVC	Arvin	79.35	322	P	P	03 14 04.2	+1.8		
	baz=140								
RDMU	Red Mountain	79.35	331	IAmb	IAmb	03 14 04.7			
	comp=Z,34nm,1.0s								
RWWY	Rawlins	79.36	334	IAmb	IAmb	03 14 05.1			
	comp=Z,46nm,1.1s								
FURC	Furnace Creek,	79.36	324	P	P	03 14 04.3	+1.9		
	baz=142,SNR=15								
MPMC	Manual Prospec	79.36	324	P	P	03 14 04.2	+1.5		
	baz=141,SNR=8.9								
TPNV	Topopah Spring	79.44	325	P	P	03 14 05.1	+2.0		
	baz=142,SNR=23								
TSUM	Tsumeb	79.56	106	P	P	03 14 04.4	+0.2		
	comp=Z,34nm,1.0s,baz=212,slow=5.3,SNR=38								
TSUM	Tsumeb	79.56	106	P	P	03 14 03.7	-0.4		
TSUM				IAmb	IAmb	03 14 05.4			
	comp=Z,37nm,0.9s								
ISA	Isabella, Lake	79.57	323	P	P	03 14 05.6	+2.0		
	baz=140,SNR=20								
F33A	5 Mile Ranch,	79.58	343	IAmb	IAmb	03 14 04.3			
	comp=Z,34nm,1.0s								
PKM	Mcpherson Peak	79.69	321	P	P	03 14 06.6	+2.2		
	baz=139,SNR=11								
K22A	Casper	79.93	334	IAmb	IAmb	03 14 08.1			
	comp=Z,57nm,1.2s								
K22A	Casper	79.93	334	P	P	03 14 06.9	+1.4		
	baz=150,SNR=20								
CWC	Cottonwood Cre	79.96	323	P	P	03 14 07.5	+1.6		
	baz=141								
VES	Vestal, Richgr	80.02	322	P	P	03 14 07.8	+1.8		
	baz=140,SNR=17								
GRAC	Grapevine Rang	80.03	324	P	P	03 14 08.1	+2.0		
	baz=141,SNR=9.5								
SMMC	Simmler	80.11	321	P	P	03 14 08.8	+2.3		
	baz=139,SNR=7.5								
R11A	Troy Canyon, C	80.22	326	P	P	03 14 09.0	+1.8		
	baz=143,SNR=29								
RSSD	Black Hills	80.33	337	P	P	03 14 08.7	+0.9		
RSSD				pmax	pmax				
	comp=Z,31nm,1.1s								
RSSD	Black Hills	80.33	337	P	P	03 14 08.7	+0.9		
RSSD				IAmb	IAmb	03 14 10.4			
	comp=Z,32nm,1.1s								
RSSD	Black Hills	80.33	337	P	P	03 14 09.1	+1.4		
	baz=152								
DUG	Dugway, Tooele	80.42	329	P	P	03 14 09.7	+1.5		
	baz=145,SNR=19								
EYMN	Ely	80.46	346	IAmb	IAmb	03 14 09.2			
	comp=Z,40nm,0.9s								
EYMN	Ely	80.46	346	P	P	03 14 08.1	0.0		
	baz=163,SNR=17								
TIN	Tinemaha, Big	80.51	324	P	P	03 14 10.7	+2.0		
	baz=141,SNR=6.5								
TPH	Tonopah	80.80	325	P	P	03 14 11.3	+0.9		
TPH				pmax	pmax				
	comp=Z,102nm,1.2s								
TPH	Tonopah	80.80	325	P	P	03 14 11.3	+0.9		
HWUT	Hardware Ranch	81.05	331	IAmb	IAmb	03 14 13.4			
	comp=Z,28nm,0.9s								
BOSA	Boshof	81.06	118	P	P	03 14 11.7	-0.4		
	comp=Z,21nm,0.7s,baz=236,slow=4.2,SNR=40								
BOSA	Boshof	81.06	118	P	P	03 14 12.0	-0.1		
BOSA				pmax	pmax				
	comp=Z,23nm,0.8s								
BOSA	Boshof	81.06	118	P	P	03 14 12.0	-0.1		
BOSA				IAmb	IAmb	03 14 12.6			
	comp=Z,23nm,0.8s								
BW06	Boulder Array	81.19	333	P	P	03 14 12.9	+0.5		
	baz=148,SNR=14								
PDAR	Pinedale Array	81.19	333	P	P	03 14 12.7	+0.3		
	comp=Z,5.5nm,0.9s,baz=144,slow=5.3,SNR=35								
MLAC	Mammoth, Mammo	81.26	324	P	P	03 14 14.8	+1.9		
	baz=140,SNR=5.9								
B35A	Bob, Littlefor	81.33	345	IAmb	IAmb	03 14 13.8			
	comp=Z,57nm,0.9s								
NVAR	Mina Array Bea	81.61	325	P	P	03 14 16.1	+1.3		
	comp=Z,8.2nm,1.0s,baz=150,slow=5.7,SNR=43								
NVAR				pP	pP	03 14 29.2	+1.1		
	comp=Z,1.4nm,0.5s,baz=151,slow=6.3,SNR=5.4								
NVAR				PKKPbc	PKKPbc	03 32 47.7	-0.9		
	comp=Z,0.9nm,0.8s,baz=286,slow=1.1,SNR=5.0								
AGMN	Agassiz Nation	81.76	344	P	P	03 14 14.4	-0.5		
AGMN				IAmb	IAmb	03 14 16.3			
	comp=Z,49nm,1.0s								
AGMN	Agassiz Nation	81.76	344	P	P	03 14 15.4	+0.4		
	baz=159,SNR=28								
MDND	Maddock	82.31	341	P	P	03 14 18.8	+0.9		
	baz=156,SNR=21								
LOHW	Long Hollow	82.32	332	P	P	03 14 18.0	-0.3		
YERR	Yerington	82.50	324	IAmb	IAmb	03 14 22.2			
	comp=Z,30nm,1.2s								
TORD	Torodi Ar. Bea	82.61	70	P	P	03 14 19.9	-0.4		
	comp=Z,69nm,1.0s,baz=265,slow=4.7,SNR=250								
TORD				pP	pP	03 14 33.8	0.0		
	comp=Z,15nm,0.7s,baz=278,slow=5.1,SNR=6.6								
TORD	Torodi Ar. Bea	82.61	70	P	P	03 14 19.8	-0.4		
PNTR	Pine Nut	82.76	324	IAmb	IAmb	03 14 23.6			
	comp=Z,30nm,1.0s								
RLMT	Red Lodge	83.07	334	P	P	03 14 22.8	+0.6		
	baz=148,SNR=6.8								
YMP	Mirror Lake Pl	83.09	333	P	P	03 14 23.4	+1.1		
PAHR	Pah Rah Range	83.13	325	IAmb	IAmb	03 14 25.4			
	comp=Z,36nm,1.2s								
LBTB	Lobatse	83.14	115	P	P	03 14 21.7	-1.3		
LBTB				pmax	pmax				
	comp=Z,45nm,0.8s								
LBTB	Lobatse	83.14	115	P	P	03 14 21.7	-1.3		
LBTB				IAmb	IAmb	03 14 23.5			
	comp=Z,45nm,0.8s								
CASY	Casey	83.20	181	P	P	03 14 22.8	+0.4		
CASY				IAmb	IAmb	03 14 24.0			
	comp=Z,45nm,0.9s								
LAO	LASA Array	83.32	337	IAmb	IAmb	03 14 25.0			
	comp=Z,38nm,1.1s								
LAO	LASA Array	83.32	337	P	P	03 14 23.7	+0.5		
	baz=150,SNR=20								
YMR	Madison River	83.34	333	IAmb	IAmb	03 14 26.1			
	comp=Z,35nm,1.2s								
YHH	Holmes Hill	83.40	333	IAmb	IAmb	03 14 26.4			
	comp=Z,32nm,1.4s								
ULM	Lac du Bonnet	83.59	344	P	P	03 14 24.2	-0.1		
	comp=Z,39nm,0.9s,baz=163,slow=3.8,SNR=28								
ULM				pP	pP	03 14 37.9	+0.1		
	comp=Z,21nm,1.0s,baz=181,slow=5.8,SNR=6.2								
ULM	Lac du Bonnet	83.59	344	IAmb	IAmb	03 14 25.3			
	comp=Z,52nm,0.9s								
BEKR	Beckworth	83.74	324	P	P	03 14 26.2	+0.5		
HLID	Hailey	83.86	330	P	P	03 14 27.4	+1.2		
	baz=144,SNR=35								
DGMT	Dagmar	84.22	339	P	P	03 14 28.8	+1.0		
	baz=152,SNR=34								
BOZ	Bozeman (W)	84.38	333	P	P	03 14 28.9	+0.2		
	baz=146,SNR=6.9								
O03E	Paynes Creek	84.79	324	P	P	03 14 30.5	-0.3		
	baz=138								
WVOR	Wild Horse Val	84.86	327	P	P	03 14 32.5	+1.2		
WVOR				pmax	pmax				
	comp=Z,14nm,1.3s								
WVOR	Wild Horse Val	84.86	327	P	P	03 14 32.5	+1.2		
SCHQ	Schefferville	85.39	3	P	P	03 14 33.2	-0.2		
	comp=Z,41nm,1.2s,baz=188,slow=6.5,SNR=8.5								
SCHQ	Schefferville	85.39	3	P	P	03 14 32.9	-0.5		
SCHQ				IAmb	IAmb	03 14 34.4			
	comp=Z,43nm,1.2s								
J08A	Circle Bar Ran	85.50	328	IAmb	IAmb	03 14 36.9			
	comp=Z,42nm,1.1s								
EGMT	Eagleton	85.70	335	IAmb	IAmb	03 14 36.5			
	comp=Z,31nm,1.3s								
EGMT	Eagleton	85.70	335	P	P	03 14 35.4	+0.2		
	baz=148,SNR=6.7								
PLID	Pearl Lake	85.76	330	IAmb	IAmb	03 14 37.6			
	comp=Z,24nm,1.1s								
M04C	Macdoel	85.92	325	P	P	03 14 37.6	+1.0		
	baz=138,SNR=9.5								
K05A	Summer Lake	86.16	326	P	P	03 14 37.6	-0.2		
K05A				IAmb	IAmb	03 14 40.4			
	comp=Z,40nm,1.2s								
MSO	Missoula	86.31	332	P	P	03 14 38.7	+0.4		
	baz=144								
LTZ	Lake Taylor	86.33	221	P	P	03 14 39.2	+0.4		
RPZ	Rata Peaks	86.42	220	P	P	03 14 39.6	+0.5		
K04D	Chiloquin, OR	86.50	325	P	P	03 14 40.7	+1.3		
	baz=139								
I07A	Izee	86.53	327	IAmb	IAmb	03 14 41.9			
	comp=Z,23nm,1.1s								
THZ	Tophouse	86.61	222	P	P	03 14 40.8	+0.7		
J05D	Fort Rock, OR	86.75	326	P	P	03 14 41.9	+1.3		
	baz=139,SNR=13								
PINE	Pine Mountain	86.99	327	IAmb	IAmb	03 14 44.4			
	comp=Z,34nm,1.1s								
L02E	Cave Junction	87.08	324	P	P	03 14 43.8	+1.7		
	baz=137								
J04D	Umpqua Nationa	87.14	326	P	P	03 14 43.7	+1.1		
	baz=138,SNR=7.0								
JTMT	Jette	87.19	333	IAmb	IAmb	03 14 44.3			
	comp=Z,21nm,1.2s								
K02D	Willamette Mer	87.50	324	P	P	03 14 45.5	+1.3		
	baz=137,SNR=7.7								
I05D	Terrebonne, OR	87.59	327	P	P	03 14 45.8	+1.3		
	baz=139,SNR=8.0								
DBO	Dodson Butte	87.60	325	IAmb	IAmb	03 14 47.2			
	comp=Z,21nm,1.1s								
I04A	Tendick Farm,	87.69	326	P	P	03 14 45.9	+0.8		
	baz=138,SNR=7.0								
WALA	Waterton Lakes	88.11	334	P	P	03 14 46.7	-0.3		
WALA				IAmb	IAmb	03 14 48.7			
	comp=Z,37nm,1.1s								
F07A	Phinny Hill Vi	88.12	328	IAmb	IAmb	03 14 49.4			
	comp=Z,17nm,1.1s								
H04A	Detroit Lake	88.25	326	IAmb	IAmb	03 14 49.1			
	comp=Z,21nm,0.9s								
G05D	Wamic, OR	88.26	327	P	P	03 14 49.4	+1.8		
	baz=139,SNR=7.0								
BUCK	Buck Mountain	88.27	326	IAmb	IAmb	03 14 49.8			
	comp=Z,25nm,1.0s								
HAWA	Hanford	88.32	329	IAmb	IAmb	03 14 50.0			
	comp=Z,34nm,1.3s								
COR	Corvallis	88.71	326	P	P	03 14 49.4	-0.4		
COR				pmax	pmax				
	comp=Z,33nm,1.1s								
COR	Corvallis	88.71	326	P	P	03 14 49.4	-0.4		
COR				IAmb	IAmb	03 14 52.4			
	comp=Z,33nm,1.1s								
NEW	Newport	88.75	331	P	P	03 14 48.5	-1.4		
	baz=142								
F05D	White Salmon	88.81	328	P	P	03 14 51.5	+1.3		
	baz=139,SNR=7.0								
C09A	Chrisman Ranch	88.86	331	IAmb	IAmb	03 14 52.6			
	comp=Z,38nm,1.4s								
FFC	Flin Flon	89.18	343	P	P	03 14 51.8	+0.1		
FFC				pmax	pmax				
	comp=Z,22nm,1.2s								
FFC	Flin Flon	89.18	343	P	P	03 14 51.8	+0.1		
FFC				IAmb	IAmb	03 14 52.6			
	comp=Z,22nm,1.1s								
F04A	Amboy	89.29	327	IAmb	IAmb	03 14 54.0			
	comp=Z,20nm,0.9s								
LTY	Liberty	89.49	329	IAmb	IAmb	03 14 54.9			
	comp=Z,20nm,1.2s								
E04D	Cinebar	89.82	327	P	P	03 14 56.1	+1.2		
	baz=138,SNR=6.4								
LSZ	Lusaka	90.26	108	P	P	03 14 58.2	+0.2		
LSZ				pmax	pmax				
	comp=Z,49nm,0.9s								
LSZ	Lusaka	90.26	108	P	P	03 14 58.2	+0.2		
B06A	Marblemount	90.80	329	IAmb	IAmb	03 15 00.1			
	comp=Z,12nm,0.8s								
B05A	Bryant	90.88	329	P	P	03 15 00.1	+0.3		
	baz=138								
EDM	Edmonton	91.30	336	IAmb	IAmb	03 15 01.7			
	comp=Z,21nm,1.1s								
ESDC	Sonseca Array	93.97	46	P	P	03 15 14.0	-0.4		
	comp=Z,2.0nm,0.9s,baz=254,slow=5.0,SNR=10								
ESDC	Sonseca Array	93.97	46	P	P	03 15 14.5	+0.1		
YKA	Yellowknife Ar	99.23	341	P	Pdif	03 15 37.1	-0.4		
	comp=Z,1.9nm,0.8s,baz=139,slow=5.4,SNR=4.4								
DZM	Mont Dzumac	103.56	234	eLR	LR	03 49 56.2			
	comp=Z,516nm,28.4s								
GERES	GERESS Array B	109.52	44	PKiKP	PKiKP	03 20 26.9	+0.2		
	comp=Z,0.7nm,0.8s,baz=202,slow=0.7,SNR=4.6								
ILAR	Eielson Array	111.61	333	PP	PP	03 21 06.7	-6.1		
	comp=Z,0.9nm,1.0s,baz=114,slow=3.7,SNR=5.3								
ILAR				PKKPbc	PKKPbc	03 31 22.9	-3.1		
	comp=Z,0.6nm,0.8s,baz=296,slow=3.1,SNR=5.5								
NOA	NORSAR Array B	113.05	32	PP	PP	03 21 26.3	+3.1		
	comp=Z,0.3nm,0.7s,baz=249,slow=7.1,SNR=3.3								
UZH	Uzhgorod	114.72	47	ePKIKP	PKPdf	03 20 35.9	-0.5		
UZH				e		03 20 46.0			
AKASG	Malin Array Be	119.62	46	PKP	PKPdf	03 20 43.2	-2.6		
	comp=Z,0.5nm,0.4s,baz=260,slow=2.5,SNR=6.1								
AKASG	Malin Array Be	119.62	46	iPKIKP	PKPdf	03 20 44.7	-1.1		
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.4s								
AKASG	Malin Array Be	119.62	46	PKPdf	PKPdf	03 20 44.5	-1.3		
MNK	Minsk	119.67	41	iPKIKP	PKPdf	03 20 44.7	-1.1		
MNK				i		03 22 07.8			
MNK				iPPP	PPP	03 24 41.3			
MNK				i		03 27 55.0			
MNK				iPS	PS	03 31 56.9	-1.9		
MNK				iSS	SS	03 38 31.5	+1.0		
MNK				iSSS	SSS	03 42 58.1			
MNK				pmax	pmax				
	comp=Z,9.0nm,1.0s								
MNK				pmax	pmax				
	comp=N,11nm,1.0s								
MNK				pmax	pmax				
	comp=E,1.0nm,1.0s								
MNK				MLR	MLR				
	comp=Z,165nm,15.0s								
MNK				MLR	MLR				
	comp=N,170nm,17.0s								
MNK				MLR	MLR				
	comp=E,13nm,15.0s								
MNK	Minsk	119.67	41	iPKP	PKPdf	03 20 44.8	-1.0		
	comp=Z,9.0nm,1.0s,baz=258								
MNK				iPKP	PKiKP	03 20 45.2	-0.7		
	comp=E,1.0nm,1.0s								
MNK				iPKP	PKiKP	03 20 45.2	-0.7		
	comp=N,11nm,1.0s								
MNK				iPP	PP	03 22 07.9	-1.7		
MNK				iSKP		03 24 19.0			
MNK				iPKS	PKSdf	03 24 19.9	-2.2		
MNK				iPPP	PPP	03 24 41.3			
MNK				iSKS	SKSdf	03 27 55.1	+1.2		
MNK				iPS	PS	03 31 57.0	-1.8		
MNK				iSS	SS	03 38 31.5	+1.0		
MNK				iSSS	SSS	03 42 58.1			
MNK				iLQ	LQ	04 04 41.2			
MNK				iLR	LR	04 07 28.0			
MNK				iLRM	MLR	04 10 03.9			
	comp=Z,165nm,14.7s								
MNK				iLRM	MLR	04 10 34.5			
	comp=N,170nm,16.6s								
MNK				iLRM	MLR	04 10 39.6			
	comp=E,13nm,15.3s								
BRTR	Keskin Array B	119.77	59	PKP	PKPdf	03 20 44.9	-1.8		
	comp=E,0.7nm,0.9s,baz=196,slow=3.2,SNR=4.4								
BRTR				PP	PP	03 22 08.4	-2.5		
	comp=E,2.3nm,1.0s,baz=214,slow=4.2,SNR=6.1								
BRTR	Keskin Array B	119.77	59	iPKIKP	PKPdf	03 20 45.0	-1.7		
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
BR131	Keskin Array S	119.77	59	iPKIKP	PKiKP	03 20 46.8	0.0		
FINES	FINESS Array B	120.06	33	PKKPbc	PKKPbc	03 30 56.5	+0.3		
	comp=Z,3.1nm,1.0s,baz=114,slow=4.6,SNR=4.7								
ASAR	Alice Springs	120.64	207	PKP	PKPdf	03 20 47.3	-1.6		
	comp=Z,4.0nm,0.9s,baz=142,slow=2.3,SNR=25								
ASAR				pPKP	pPKPdf	03 21 01.9	-1.0		
	comp=Z,1.6nm,0.5s,baz=132,slow=1.6,SNR=7.5								
ASAR				PKKPbc	PKKPbc	03 30 53.3	-0.2		
	comp=Z,1.0nm,0.8s,baz=335,slow=3.2,SNR=8.0								
ASAR	Alice Springs	120.64	207	PKPdf	PKPdf	03 20 47.1	-1.8		
ARCES	ARCESS Array B	120.90	24	PKKPbc	PKKPbc	03 30 51.3	-1.9		
	comp=Z,3.3nm,1.0s,baz=92,slow=3.6,SNR=5.1								
WB2	Warramunga Arr	123.70	209	PKPdf	PKPdf	03 20 53.8	-1.2		
WRA	Warramunga Arr	123.80	209	PKP	PKPdf	03 20 53.9	-1.1		
	comp=Z,9.2nm,0.7s,baz=152,slow=1.8,SNR=62								
WRA				pPKP	pPKPdf	03 21 08.4	-0.6		
	comp=Z,5.1nm,0.5s,baz=169,slow=1.9,SNR=15								
WRA				PKKPbc	PKKPbc	03 30 42.2	+0.9		
	comp=Z,0.4nm,0.8s,baz=333,slow=4.2,SNR=7.1								
WRAB	Tennant Creek	123.80	209	iPKIKP	PKPdf	03 20 53.7	-1.2		
H11S2	WAKE ISLAND Hyl	126.31	271	T	T	05 40 29.6			
	baz=115,slow=74,SNR=1193								
H11S1	WAKE ISLAND Hyl	126.33	271	T	T	05 40 25.6			
	baz=115,slow=74,SNR=523								
H11S3	WAKE ISLAND Hyl	126.33	271	T	T	05 40 29.4			
	baz=115,slow=74,SNR=396								
KLMR	Klimovskoe	126.50	35	ePKIKP	PKPdf	03 20 57.2	-1.5		
KLMR				pmax	pmax				
	comp=Z,21nm,1.6s								
KLMR	Klimovskoe	126.50	35	ePKPdf	PKPdf	03 20 57.2	-1.5		
KLMR				AMP		03 21 00.6			
	comp=Z,21nm,1.6s								
H11N3	WAKE ISLAND Hyl	126.65	273	T	T	05 40 55.0			
	baz=117,slow=75,SNR=117								
H11N1	WAKE ISLAND Hyl	126.66	273	T	T	05 40 56.2			
	baz=117,slow=75,SNR=29								
H11N2	WAKE ISLAND Hyl	126.66	273	T	T	05 40 56.4			
	baz=117,slow=75,SNR=401								
PSA00	Pilbara Seismi	126.80	193	PKPdf	PKPdf	03 20 59.7	-1.0		
KIV	Kislovodsk	127.31	56	iPKIKP	PKPdf	03 21 00.7	-0.2		
KIV				pmax	pmax				
	comp=Z,7.0nm,1.1s								
KIV				MLR	MLR				
	comp=Z,76nm,23.0s								
KBZ	Khabaz	127.42	56	iPKIKP	PKPdf	03 21 01.2	+0.2		
FITZ	Fitzroy Crossi	128.68	201	PKP	PKPdf	03 21 02.5	-1.7		
	comp=Z,10nm,0.9s,baz=194,slow=4.6,SNR=22								
FITZ	Fitzroy Crossi	128.68	201	PKPdf	PKPdf	03 21 03.8	-0.5		
BILL	Bilibino	130.20	335	iPKIKP	PKiKP	03 21 07.0	+0.6		
BILL				e		03 23 18.1			
BILL				ePPP	PPP	03 26 06.5			
BILL				pmax	pmax				
	comp=Z,7.0nm,0.4s								
AKT	Akhty	130.61	60	ePKIKP	PKiKP	03 21 11.1	+2.9		
AKT				e		03 23 30.0			
AKT				pmax	pmax				
	comp=Z,11nm,1.0s								
KIRV	Kirov	131.69	37	iPKIKP	PKiKP	03 21 09.2	-0.4		
SOEI	Soe	136.95	203	PKPdf	PKPdf	03 21 20.4	+0.3		
ARU	Arti	136.95	39	PKP	PKPdf	03 21 18.2	-0.4		
	comp=Z,0.6nm,0.4s,baz=302,slow=9.5								
ARU	Arti	136.95	39	iPKIKP	PKPdf	03 21 18.4	-0.2		
ARU						03 23 58.7			
ARU	Arti	136.95	39		PKPdf	03 21 18.6	0.0		
SEY	Seymchan	137.52	332	PKP	PKPdf	03 21 19.8	+0.4		
	comp=Z,5.6nm,0.9s,baz=105,slow=2.3,SNR=7.7								
TIXI	Tiksi	137.67	351	ePKIKP	PKiKP	03 21 22.3	+0.9		
AKTO	Aktyubinsk	137.83	47	PP	P

comp=E,34nm,0.8s,baz=207,slow=1.7,SNR=5.9
ZALV pPKPbc **pPKPbc** **03 22 04.5 +1.3**
comp=E,27nm,0.5s,baz=308,slow=3.9,SNR=10
KSH Kashi 152.06 63 PKPbc **PKPdf** **03 21 45.8 +0.5**
ZEA Zeya 153.43 335 *e*PKP2 **PKPab** **03 22 06.6 0.0**
ZEA pmax pmax
comp=Z,10.0nm,1.4s
MAKZ Makanchi 153.99 45 PKIKP **PKPbc** **03 21 54.3 -1.5**
MAKZ 03 22 09.7
MAKZ Makanchi 153.99 45 **PKPbc** **03 21 54.3 -1.5**
MAKZ PKPab **pPKPbc** **03 22 09.7 0.0**
MK31 Makanchi Array 154.19 44 PKIKP **PKPbc** **03 21 55.4 -0.8**
MK31 03 22 10.2
MK31 Makanchi Array 154.19 44 **PKPbc** **03 21 55.4 -0.8**
MK31 PKPab **pPKPbc** **03 22 10.2 +0.1**
MKAR Makanchi Array 154.19 44 PKP **PKPdf** **03 21 46.3 -1.7**
comp=Z,1.2nm,1.0s,baz=270,slow=2.4,SNR=5.0
MKAR PKPbc **PKPbc** **03 21 55.4 -0.8**
comp=Z,3.9nm,1.0s,baz=281,slow=2.0,SNR=15
MKAR PKPab **PKPab** **03 22 09.9 -0.2**
comp=Z,14nm,0.8s,baz=290,slow=2.7,SNR=4.1
KLR Kul'dur 154.63 323 PKP **PKPdf** **03 21 47.0 -1.5**
comp=Z,1.4nm,0.8s,baz=87,slow=1.4,SNR=3.9
KLR PKPab **pPKPbc** **03 22 11.4 +0.4**
comp=Z,2.7nm,1.0s,baz=44,slow=4.8,SNR=4.4
KLR Kul'dur 154.63 323|| *e*PKIKP **PKPdf** **03 21 47.8 -0.7**
MJAR Matsushiro Arr 154.78 291 PKP **PKPdf** **03 21 47.8 -1.3**
comp=Z,0.6nm,0.4s,baz=85,slow=5.9,SNR=5.2
MJAR PKPab **PKPab** **03 22 13.0 0.0**
comp=Z,7.0nm,1.1s,baz=104,slow=2.2,SNR=8.9
MAT Matsushiro 154.78 291 *e*PKP **PKPdf** **03 21 47.7 -1.4**
PYUN Piuthan 157.54 90 *e*P **PKPab** **03 22 23.8 -1.5**
comp=Z,65nm,1.0s
KOLN Koldanda 157.99 92 *e*P **PKPab** **03 22 25.5 -1.8**
comp=Z,48nm,0.8s
DANN Dangsing 158.26 90 *e*P **PKPab** **03 22 27.0 -1.6**
comp=Z,69nm,0.7s
GKN Gorkha 158.93 92 *e*P **PKPab** **03 22 29.7 -1.6**
comp=Z,44nm,0.8s
WMQ Urumqi 158.98 46 *e*PKP **PKPdf** **03 21 55.1 +0.8**
WMQ LR LR
comp=Z,230nm,24.9s
WMQ LR LR
comp=Z,230nm,22.3s
WMQ LR LR
comp=Z,110nm,22.3s
DMN Daman 159.24 93 *e*P **PKPab** **03 22 31.2 -1.6**
KKN Kakani 159.44 93 *e*P **PKPab** **03 22 31.6 -2.0**
PKIN Phulchoki 159.48 93 *e*P **PKPab** **03 22 32.1 -1.8**
comp=Z,35nm,1.0s
PKI Pulchoki 159.49 93 *e*P **PKPab** **03 22 32.1 -1.9**
comp=Z,46nm,1.0s
GUN Gumba 159.98 93 *e*P **PKPab** **03 22 34.5 -1.6**
comp=Z,19nm,0.5s
ZAK Zakamensk 160.06 10 *e*PKP2 **PKPab** **03 22 35.1 -0.2**
ZAK *e* 03 26 18.2
ZAK pmax pmax
comp=Z,7.0nm,1.2s
ZAK pmax pmax
comp=Z,4.0nm,1.3s
JIRN Jiri 160.19 94 *e*P **PKPab** **03 22 34.9 -2.2**
RAMN Ramite 160.35 96 *e*Pg **PKPab** **03 22 35.7 -1.9**
ODAN Odare 161.00 97 *e*P **PKPab** **03 22 38.3 -2.1**
comp=Z,37nm,0.9s
KSRS Korea Array 162.71 298 PKPab **PKPab** **03 22 48.5 +1.2**
comp=Z,1.8nm,0.9s,baz=78,slow=6.0,SNR=6.0
KSAR Wonju Array Be 162.75 298 PKIKP **PKPdf** **03 21 56.2 -2.3**
KSAR 03 22 48.5
KSAR Wonju Array Be 162.75 298 **PKPdf** **03 21 56.2 -2.3**
KSAR PKPab **PKPab** **03 22 48.5 +1.1**
SONM Songino Array 162.93 5 PKPab **PKPab** **03 22 48.2 +0.3**
comp=Z,3.7nm,1.1s,baz=333,slow=3.2,SNR=8.1
SONM PP **PP** **03 26 33.3 +1.2**
comp=Z,4.6nm,1.1s,baz=342,slow=3.9,SNR=10
SONM Songino Array 162.93 5 **PKPab** **03 22 47.5 -0.4**
CMAR Chiang Mai Arr 164.88 142 PKP **PKPdf** **03 22 00.9 -0.1**
comp=Z,1.6nm,0.3s,baz=283,slow=2.9,SNR=8.9
CMAR PKPab **PKPab** **03 22 55.9 -1.3**
comp=Z,2.8nm,0.6s,baz=229,slow=4.7,SNR=7.7
GTA Gaotai 168.81 38 ⇑PKP **PKPdf** **03 22 03.8 +0.3**
GTA PKPab **PKPab** **03 23 14.8 +0.6**
GTA LR LR
comp=Z,170nm,21.8s
GTA LR LR
comp=Z,160nm,18.9s
GTA LR LR
comp=Z,150nm,20.4s
HHC Hu-ho-hao-te 169.71 347 *e*PKP **PKPdf** **03 22 04.1 +0.1**
TIA Tai'an 171.09 309 ⇓PKP **PKPdf** **03 22 04.8 0.0**
NJ2 Nanjing 171.16 281 *e*PKP **PKPdf** **03 22 06.6 +1.7**
LZH Lanzhou 173.41 36 *e*PKP **PKPdf** **03 22 07.3 +1.3**
LZH LR LR
comp=Z,200nm,18.0s
LZH LR LR
comp=Z,220nm,17.8s
LZH LR LR
comp=Z,170nm,20.1s
CD2 Chengdu 175.82 88 PKP **PKPdf** **03 22 07.3 +0.5**
CD2 PP **PP** **03 27 42.6 +3.6**
CD2 AMB AMB
comp=Z,290nm,12.4s
XAN Xi'an 176.78 355 PKP **PKPdf** **03 22 06.4 -0.5**
XAN PKPab **PKPab** **03 23 45.0 -4.4**
XAN AMB AMB
comp=Z,120nm,11.9s
XAN LR LR
comp=Z,130nm,17.5s
XAN LR LR
comp=Z,180nm,19.2s
XAN LR LR
comp=Z,170nm,19.1s

IDC ***20*** *03:02:41.5±0.9, 30.°78S×71.°28W, h48km±7km, mb4.9/14, mb1 5.0/16, mb1mx4.8/28, mbtmp5.1/16, MS4.1/1, Ms1 4.1/1, ms1mx3.6/8 Error ellipse: s-maj=21.0km s-min=16.8km az=51.0*

ISC 20 03:02:41.6±0.6, 30.°7S±0.°1×71.°2W±0.°1, h50km, n31, σ0§68/32, mb5.2/14, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**12.98**	**74**	P	**Pn**	**03 05 42.2**	**-1.2**
	8.8nm,0.3s,baz=261,slow=13,SNR=5.9						
LPAZ	**La Paz**	**14.67**	**12**	P	**Pn**	**03 06 06.2**	**-0.5**
	1.1nm,0.3s,baz=176,slow=8.6,SNR=5.4						
SIV	**San Ignacio**	**17.38**	**35**	LR	LR	03 14 33.6	
	comp=Z,566nm,19.6s,baz=222,slow=41						
BDFB	**Brasilia**	**26.02**	**60**	P	**P**	**03 08 10.2**	**-0.1**
	95nm,1.0s,baz=255,slow=6.6,SNR=6.2						
SDV	**Santo Domingo**	**39.41**	**1**	P	**P**	**03 10 07.2**	**+0.3**
	17nm,0.8s,baz=348,slow=4.5,SNR=3.8						
MDP	**Montagnes des**	**39.83**	**30**	P	**P**	**03 10 11.1**	**+0.8**
	34nm,0.9s,baz=196,slow=8.5,SNR=5.1						
SJG	**San Juan**	**48.82**	**6**	P	**P**	**03 11 22.1**	**+0.1**
	92nm,0.9s,baz=201,slow=3.4,SNR=11						
TXAR	**Lajitas Array**	**67.26**	**329**	P	**P**	**03 13 30.9**	**-0.1**
	4.8nm,0.8s,baz=151,slow=8.5,SNR=7.8						
TXAR				PKPPKP	P'P'df	03 42 00.6	+7.9
	1.0nm,0.9s,baz=289,slow=3.8,SNR=4.7						
DBIC	**Dimbokro**	**73.50**	**72**	P	**P**	**03 14 10.6**	**+1.3**
	53nm,0.6s,baz=235,slow=5.9,SNR=13						
MAW	**Mawson**	**76.10**	**164**	P	**P**	**03 14 23.0**	**-0.5**
	19nm,0.9s,baz=191,slow=6.9,SNR=6.3						
TSUM	**Tsumeb**	**79.44**	**106**	P	**P**	**03 14 43.7**	**+0.5**
	24nm,0.9s,baz=237,slow=4.2,SNR=10						
BOSA	**Boshof**	**80.97**	**118**	P	**P**	**03 14 51.3**	**0.0**
	12nm,0.6s,baz=252,slow=3.1,SNR=3.4						
PDAR	**Pinedale Array**	**81.19**	**332**	P	**P**	**03 14 51.6**	**-0.5**
	3.2nm,0.8s,baz=127,slow=5.2,SNR=5.2						
TORD	**Torodi Ar. Bea**	**82.45**	**70**	P	**P**	**03 14 58.8**	**-0.3**
	26nm,0.7s,baz=276,slow=6.2,SNR=10						
TORD				pP	**pP**	**03 15 14.3**	**+0.6**
	18nm,0.7s,baz=266,slow=4.5,SNR=3.1						
ULM	**Lac du Bonnet**	**83.55**	**344**	P	**P**	**03 15 03.7**	**-0.2**
	26nm,0.9s,baz=159,slow=5.4,SNR=7.9						
SCHQ	**Scheffervill**	**85.31**	**3**	P	**P**	**03 15 12.3**	**-0.4**
	10nm,0.9s,baz=185,slow=4.2,SNR=3.1						
SCHQ				pP	**pP**	**03 15 26.9**	**-0.5**
	20nm,1.0s,baz=232,slow=6.2,SNR=4.2						
ESDC	**Sonseca Array**	**93.82**	**46**	P	**P**	**03 15 52.9**	**-0.5**
	1.4nm,0.9s,baz=260,slow=4.3,SNR=6.0						
ILAR	**Eielson Array**	**111.61**	**333**	PKKPbc	PKKPbc	03 32 02.9	-2.7
	0.4nm,0.8s,baz=287,slow=2.2,SNR=4.1						
ASAR	**Alice Springs**	**120.77**	**207**	PKKPbc	PKKPbc	03 31 31.4	-1.2
	0.7nm,0.8s,baz=342,slow=3.2,SNR=4.4						
WRA	**Warramunga Arr**	**123.93**	**209**	PKP	**PKPdf**	**03 21 34.3**	**-0.5**
	2.0nm,0.5s,baz=165,slow=1.8,SNR=4.6						
WRA				PKKPbc	**PKKPbc**	**03 31 20.4**	**0.0**
	1.1nm,0.9s,baz=358,slow=6.7,SNR=4.7						
FITZ	**Fitzroy Crossi**	**128.80**	**201**	PKP	**PKPdf**	**03 21 43.6**	**-0.6**
	5.8nm,0.8s,baz=228,slow=6.2,SNR=5.6						
BVAR	**Borovoye Array**	**144.40**	**40**	PKP	PKPbc	03 22 10.9	+0.6
	13nm,0.6s,baz=241,slow=6.1,SNR=12						
YAK	**Yakutsk**	**145.87**	**343**	PKPbc	**PKPdf**	**03 22 14.2**	**+0.2**
	51nm,0.8s,baz=227,slow=0.3,SNR=8.4						
YAK				pPKPbc	**pPKPdf**	**03 22 28.5**	**-0.9**
	28nm,0.7s,baz=164,slow=0.8,SNR=2.2						
KURBB	**Kurchatov Arra**	**149.99**	**40**	PKPbc	**PKPbc**	**03 22 26.3**	**+0.2**
	5.5nm,0.7s,baz=301,slow=3.2,SNR=4.3						
KURBB				pPKPbc	**pPKPdf**	**03 22 38.1**	**+1.6**
	5.5nm,0.6s,baz=299,slow=3.0,SNR=2.5						
ZALV	**Zalesovo Beam**	**151.09**	**30**	PKPbc	**PKiKP**	**03 22 29.1**	**0.0**
	41nm,0.9s,baz=298,slow=3.3,SNR=8.0						
MKAR	**Makanchi Array**	**154.04**	**44**	PKPab	**PKPab**	**03 22 50.5**	**+1.4**
	6.7nm,0.7s,baz=278,slow=4.6,SNR=4.1						
KLR	**Kul'dur**	**154.66**	**323**	PKPab	**PKPab**	**03 22 52.4**	**+0.8**
	1.6nm,0.7s,baz=304,slow=6.1,SNR=4.2						
MJAR	**Matsushiro Arr**	**154.88**	**291**	PKPab	**PKPab**	**03 22 52.4**	**-0.7**
	3.9nm,0.8s,baz=86,slow=1.5,SNR=6.4						
USRK	**Ussuriysk Ar.**	**157.29**	**313**	PKPab	**PKPab**	**03 23 03.0**	**-0.1**
	1.9nm,0.8s,baz=42,slow=4.6,SNR=4.5						
SONM	**Songino Array**	**162.84**	**5**	PKPab	**PKPab**	**03 23 27.9**	**+0.8**
	2.7nm,0.9s,baz=340,slow=4.3,SNR=4.4						
CMAR	**Chiang Mai Arr**	**164.86**	**142**	PKPab	**PKPab**	**03 23 36.7**	**0.0**
	3.6nm,0.7s,baz=230,slow=5.6,SNR=6.6						

NIC ***20*** *03:21:11.1±0.0, 37.°26N×28.°38E, h1km±1km, Ml3.2/3*
ISK ***20*** *03:21:13.9, 37.°02N×28.°57E, h5km, ML3.0/21*
THE ***20*** *03:21:14.2, 37.°12N×28.°66E, h2km±3km, ML3.1/2, Error ellipse: s-maj=5.7km s-min=0.9km az=32.0*
DDA ***20*** *03:21:15.0, 37.°02N×28.°55E, h7km±3km, ML2.7*
IDC ***20*** *03:21:15.4±1.7, 37.°34N×28.°27E, h0km, mb3.4/2, mb1 3.3/3, mb1mx3.1/48, mbtmp3.3/3, ML3.0/1, MS3.2/2, Ms1 3.2/2, ms1mx2.5/26, Error ellipse: s-maj=171.2km s-min=17.7km az=146.0*
ATH ***20*** *03:21:15.5, 37.°08N×28.°57E, h54km±12km, ML3.1/3, Error ellipse: s-maj=12.9km s-min=1.5km az=199.0*

ISC 20 03:21:15.6±1.0, 37.°03N±0.°02×28.°54E±0.°01, h5km±8km, n79, σ1§21/111, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.23**	**297**	P	**Pg**	**03 21 20.3**	**+0.3**
YER				S	**Sg**	**03 21 25.1**	**+2.0**
YER	**Yerkesik**	**0.23**	**297**	PG	**Pg**	**03 21 20.4**	**+0.4**
YER				SG	**Sg**	**03 21 25.0**	**+2.0**
DALY	**Dalyan (Mula)**	**0.24**	**156**	*i* P	**Pg**	**03 21 19.8**	**-0.4**
DALY				*i* S	**Sg**	**03 21 23.9**	**+0.6**
DALY				IAML		03 21 25.0	
	comp=E,2μm,0.3s						
DALY				IAML		03 21 25.0	
	comp=N,2μm,0.4s						
DALY	**Dalyan (Mula)**	**0.24**	**156**	PG	**Pg**	**03 21 19.6**	**-0.6**
MULA	**Mugla, Merkez-**	**0.28**	**322**	*i* P	**Pg**	**03 21 21.2**	**+0.1**
MULA				*i* S	**Sg**	**03 21 25.9**	**+1.1**
MULA				IAML		03 21 26.0	
	comp=E,2μm,0.4s						
MULA				IAML		03 21 26.0	
	comp=N,1μm,0.7s						
TURN	**Turunc**	**0.35**	**222**	*i* P	**Pg**	**03 21 22.1**	**-0.3**
TURN				*i* S	**Sb**	**03 21 27.9**	**-2.3**
TURN	**Turunc**	**0.35**	**222**	PG	**Pg**	**03 21 22.0**	**-0.3**
TURN				SG	**Sb**	**03 21 28.0**	**-2.1**
MRSB	**Marmaris-Mugla**	**0.42**	**221**	PG	**Pg**	**03 21 23.7**	**0.0**
TAVA	**DENIZLI_Tavas**	**0.53**	**35**	*i* P	**Pg**	**03 21 25.0**	**-0.8**
TAVA				*i* S	**Sg**	**03 21 32.1**	**-0.5**
FETY	**Fethiye**	**0.59**	**132**	P	**Pg**	**03 21 26.1**	**-0.9**
FETY				S	**Sb**	**03 21 35.1**	**-2.2**
FETY	**Fethiye**	**0.59**	**132**	PG	**Pg**	**03 21 26.1**	**-0.9**
FETY				SG	**Sb**	**03 21 35.0**	**-2.2**
CAME	**Cameli-Denizli**	**0.62**	**98**	PG	**Pg**	**03 21 26.4**	**-1.1**
CAEL	**Denizli, Camel**	**0.63**	**82**	*i* P	**Pg**	**03 21 27.3**	**-0.5**
CAEL				*i* S	**Sb**	**03 21 37.3**	**-1.2**
CAEL				IAML		03 21 44.0	
	comp=E,491nm,0.5s						
CAEL				IAML		03 21 45.0	
	comp=N,396nm,0.7s						
MLSB	**Milas**	**0.66**	**293**	PG	**Pg**	**03 21 27.9**	**-0.4**
AYDN	**Tasoluk**	**0.82**	**320**	*i* P	**Pg**	**03 21 31.1**	**-0.2**
AYDN				*i* S	**Sg**	**03 21 41.4**	**-0.4**
DAT	**Datca**	**0.83**	**249**	PG	**Pb**	**03 21 31.4**	**-1.1**
GOLH	**Golhisar**	**0.84**	**76**	*i* P	**Pg**	**03 21 30.8**	**-1.0**
BDRM	**Kayabasi**	**0.87**	**272**	*i* P	**Pb**	**03 21 32.8**	**-0.5**
BDRM				*i* S	**Sn**	**03 21 46.6**	**-1.1**
BDRM				IAML		03 21 51.0	
	comp=N,372nm,0.4s						
BDRM				IAML		03 21 52.0	
	comp=E,207nm,0.5s						
ARG	**Arkhangelos**	**0.88**	**202**	P	**Pb**	**03 21 32.7**	**-0.7**
ARG				S	**Sn**	**03 21 48.2**	**+0.3**
	comp=E,425nm,0.4s						
ARG	**Arkhangelos**	**0.88**	**202**	P	**Pb**	**03 21 32.9**	**-0.4**
ARG				S	**Sn**	**03 21 46.9**	**-0.9**
ARG				AML	AML	03 21 49.0	
	comp=E,826μm,0.3s						
ARG				AML	AML	03 21 50.1	
	comp=N,846μm,0.5s						
ARG	**Arkhangelos**	**0.88**	**202**	PG	**Pg**	**03 21 31.0**	**-1.5**
ARG	**Arkhangelos**	**0.88**	**202**	P	**Pg**	**03 21 32.1**	**-0.4**
ARG				S	**Sn**	**03 21 46.9**	**-0.9**
BODT	**Bodrum**	**0.98**	**272**	P	**Pn**	**03 21 34.9**	**-1.2**
BODT				S	**Sn**	**03 21 50.2**	**-0.2**
BODT	**Bodrum**	**0.98**	**272**	PG	**Pg**	**03 21 34.1**	**-0.3**
YKAV	**Yalikavak-Bodr**	**1.01**	**276**	PG	**Pb**	**03 21 34.8**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**1.05**	**331**	PG	**Pg**	**03 21 35.2**	**-0.5**
DIDI	**Didim-Aydin**	**1.09**	**289**	PN	**Pn**	**03 21 36.6**	**-1.0**
DDIM	**Aydin, Didim**	**1.12**	**293**	*i* P	**Pb**	**03 21 36.7**	**-0.7**
DDIM				*i* S	**Sn**	**03 21 54.7**	**+1.0**
DDIM				IAML		03 22 03.0	
	comp=N,346nm,0.6s						
ELL	**Elmali**	**1.14**	**104**	PN	**Pg**	**03 21 36.5**	**-0.9**
ELL	**Elmali**	**1.14**	**104**	P	**Pg**	**03 21 36.2**	**-1.2**
ELL				S	**Sn**	**03 21 56.7**	**+2.3**
NIS1	**Nisyros Isl.**	**1.17**	**249**	P	**Pn**	**03 21 38.5**	**-0.2**
NIS1				S	**Sn**	**03 21 56.5**	**+1.4**
	comp=N,1μm,0.7s						
NIS1	**Nisyros Isl.**	**1.17**	**249**	P	**Pn**	**03 21 39.0**	**+0.3**
NIS1				S	**Sn**	**03 21 55.5**	**+0.4**
NIS1				AML	AML	03 22 01.5	
	comp=N,2739μm,0.6s						
NIS1				AML	AML	03 22 02.3	
	comp=E,2843μm,0.7s						
NIS1	**Nisyros Isl.**	**1.17**	**249**	PN	**Pn**	**03 21 37.8**	**-0.9**
AKAS	**Kas**	**1.18**	**133**	*i* P	**Pn**	**03 21 37.9**	**-0.9**
AKAS				*i* S	**Sn**	**03 21 57.3**	**+2.0**
AKAS				IAML		03 22 04.0	
	comp=E,242nm,0.5s						
AKAS	**Kas**	**1.18**	**133**	PN	**Pg**	**03 21 37.2**	**-0.9**
NISR	**Nisiros**	**1.21**	**250**	P	**Pn**	**03 21 39.3**	**+0.2**
KSL	**Kastellorizon**	**1.22**	**136**	P	**Pn**	**03 21 38.6**	**-0.8**
KSL				S	**Sn**	**03 21 55.9**	**-0.4**
KSL				AML	AML	03 22 01.4	
	comp=N,787μm,0.6s						
KSL				AML	AML	03 22 02.7	
	comp=E,1524μm,0.5s						
KSL	**Kastellorizon**	**1.22**	**136**	P	**Pn**	**03 21 38.5**	**-0.9**
KSL				S	**Sn**	**03 22 00.1**	**+3.8**
KSL				AML	AML	03 22 01.2	
	comp=E,0.9nm,1.1s						
KSL				AML	AML	03 22 01.2	
	comp=E,0.9nm,1.1s						
KSL				AML	AML	03 22 02.4	
	comp=E,1.5nm,0.5s						
KSL				AML	AML	03 22 02.4	
	comp=E,1.5nm,0.5s						
GCAM	**G?zelcaml?**	**1.23**	**303**	*i* P	**Pn**	**03 21 38.4**	**-1.1**
GCAM				*i* S	**Sn**	**03 21 56.1**	**-0.4**
GCAM				IAML		03 22 01.0	
	comp=E,111nm,0.3s						
GCAM				IAML		03 22 01.0	
	comp=N,114nm,0.3s						
GCAM	**G?zelcaml?**	**1.23**	**303**	PN	**Pn**	**03 21 38.5**	**-1.1**
DEMR	**Demre-Antalya**	**1.36**	**125**	PN	**Pb**	**03 21 40.4**	**-1.2**
BRDR	**BURDUR-Merkez**	**1.38**	**61**	*i* P	**Pg**	**03 21 42.2**	**+0.1**
BRDR				*i* S	**Sg**	**03 22 01.6**	**+1.5**
BRDR				IAML		03 22 05.0	
	comp=E,90nm,0.7s						
KORT	**Korkueli**	**1.45**	**91**	*i* P	**Pg**	**03 21 43.9**	**+0.4**
KORT				*i* S	**Sg**	**03 22 04.9**	**+2.6**
KORT				IAML		03 22 10.0	
	comp=E,107nm,0.5s						
KORT				IAML		03 22 11.0	
	comp=N,97nm,0.5s						
KORT	**Korkueli**	**1.45**	**91**	PN	**Pb**	**03 21 42.2**	**-1.0**
MANT	**Manisa**	**1.45**	**1**	*i* P	**Pn**	**03 21 41.6**	**-1.2**
MANT				*i* S	**Sg**	**03 22 02.6**	**+0.2**
MANT				IAML		03 22 04.0	
	comp=N,92nm,0.4s						
MANT				IAML		03 22 06.0	
	comp=E,97nm,0.5s						
KULA	**Kula-Manisa**	**1.48**	**4**	PN	**Pn**	**03 21 41.2**	**-1.9**
BASM	**Basmaki-Afyon**	**1.49**	**53**	PN	**Pn**	**03 21 42.5**	**-0.7**
SMG	**Samos**	**1.51**	**297**	P	**Pn**	**03 21 42.7**	**-0.7**
SMG				S	**Sb**	**03 22 03.2**	**-0.5**
PASA	**Karahalli, USA**	**1.51**	**30**	*i* P	**Pn**	**03 21 42.1**	**-1.4**
PASA				*i* S	**Sb**	**03 22 03.0**	**-0.8**
AKUM	**Antalya-Kumluc**	**1.62**	**116**	*i* P	**Pg**	**03 21 46.8**	**+0.2**
AKUM				*i* S	**Sg**	**03 22 10.8**	**+3.3**
AKUM				IAML		03 22 17.0	
	comp=N,79nm,0.6s						
AKUM				IAML		03 22 18.0	
	comp=E,69nm,0.5s						
BUCA	**Burdur, Bucak-**	**1.64**	**79**	*i* P	**Pg**	**03 21 46.0**	**-1.1**
BUCA				*i* S	**Sg**	**03 22 10.1**	**+1.7**
DGB	**zmir**	**1.66**	**308**	*i* P	**Pn**	**03 21 44.0**	**-1.4**
BCK	**Bucak**	**1.69**	**75**	PN	**Pn**	**03 21 45.5**	**-0.4**
ANTB	**Antalya**	**1.70**	**94**	PN	**Pn**	**03 21 45.5**	**-0.5**
USAK	**Uak-Merkez**	**1.72**	**13**	*i* P	**Pn**	**03 21 46.1**	**-0.2**
USAK				*i* S	**Sb**	**03 22 08.5**	**-1.2**
KZIL	**AFYON_Kizioren**	**1.77**	**46**	*i* P	**Pb**	**03 21 47.2**	**-1.4**
KARP	**Karpathos**	**1.85**	**217**	P	**Pb**	**03 21 49.4**	**-0.6**
KARP	**Karpathos**	**1.85**	**217**	PN	**Pb**	**03 21 48.2**	**-1.8**
KARP	**Karpathos**	**1.85**	**217**	S	**Sb**	**03 22 12.7**	**-0.9**
KARP				AML	AML	03 22 22.6	
	comp=E,0.5nm,0.9s						
KARP				AML	AML	03 22 25.6	
	comp=E,0.5nm,0.8s						
AKHS	**Akhisar**	**1.93**	**343**	*i* P	**Pn**	**03 21 48.1**	**-1.0**
DEMI	**Demirci**	**2.01**	**4**	*i* P	**Pn**	**03 21 49.4**	**-0.9**
ZEYE	**Izmir, Urla-Ze**	**2.01**	**307**	*i* P	**Pn**	**03 21 49.4**	**-0.9**
BAGO	**Egridir - ISPA**	**2.03**	**61**	*i* P	**Pb**	**03 21 51.8**	**-1.3**
URLA	**Izmir**	**2.03**	**311**	*i* P	**Pg**	**03 21 54.8**	**+0.3**
URLA	**Izmir**	**2.03**	**311**	PN	**Pn**	**03 21 50.9**	**+0.4**
GDZ	**Gediz**	**2.18**	**20**	*i* P	**Pn**	**03 21 51.6**	**-1.1**
ZEDA	**zmir-Bergama**	**2.25**	**330**	*i* P	**Pn**	**03 21 52.3**	**-1.2**
IDI	**Anoyia**	**3.43**	**241**	Pn	**Pn**	**03 22 11.2**	**+1.4**
	baz=43,slow=15						
IDI				Sn	**Sn**	**03 22 53.6**	**+2.8**
	comp=E,1.1nm,0.3s,baz=15,slow=10,SNR=2.5						
AKMS	**Akamas**	**3.68**	**122**	P	**Pn**	**03 22 13.3**	**+0.1**
AKMS				AML	AML	03 22 59.2	
	comp=E,0.1nm,0.4s						
AKMS				AML	AML	03 22 59.5	
	comp=E,0.1nm,0.6s						
ALFC	**Alefka**	**3.79**	**118**	P	**Pn**	**03 22 14.3**	**-0.4**
NATA	**Nata**	**3.97**	**123**	P	**Pn**	**03 22 16.3**	**-1.0**
OSC1	**CSNet OBS 1**	**4.18**	**147**	P	**Pn**	**03 22 20.2**	**+0.2**
SZAC	**Souni**	**4.20**	**122**	P	**Pn**	**03 22 20.4**	**+0.1**
ASGA	**Asgata**	**4.43**	**119**	P	**Pn**	**03 22 23.0**	**-0.6**
BRTR	**Keskin Array B**	**4.83**	**55**	Pn	**Pn**	**03 22 30.4**	**+1.3**
	comp=E,0.6nm,0.3s,baz=243,slow=17,SNR=27						
BRTR				Sn	**Sn**	**03 23 27.4**	**+1.9**
	comp=E,0.2nm,0.3s,baz=236,slow=26,SNR=2.5						
DAVOX	**Davos/Dischmat**	**16.92**	**311**	LR	LR	03 32 45.1	
	comp=E,26nm,21.7s,baz=84,slow=42						
TORD	**Torodi Ar. Bea**	**33.79**	**232**	P	**P**	**03 27 58.2**	**-0.5**
	comp=E,0.3nm,0.5s,baz=282,slow=7.2,SNR=1.9						
MKAR	**Makanchi Array**	**40.46**	**59**	P	**P**	**03 28 57.3**	**+2.2**
	comp=E,0.3nm,0.5s,baz=282,slow=7.2,SNR=1.9						
NRIK	**Noril'sk**	**45.02**	**25**	LR	LR	03 49 39.3	
	comp=E,99nm,21.1s,baz=108,slow=38						

TUL ***20*** *03:21:58.3±0.6, 36.°78N±0.°02×98.°01W±0.°03, h7km±7km, ML2.5, mb_Lg2.4/24(NEIC), Error ellipse: s-maj=3.4km s-min=2.5km az=86.0*

NEIC 20 03:21:58.5±1.0, 36.°76N±0.°009×97.°97W±0.°03, h7km±7km, Error ellipse: s-maj=3.9km s-min=1.3km az=92.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.12**	**49**		Pg	03 22 01.4	+0.4
KAN14	**Manchester OK**	**0.18**	**1**		Pg	03 22 02.3	+0.1
OK032	**Salt Plains WL**	**0.20**	**278**		Pg	03 22 02.0	-0.4
CROK	**Carrier**	**0.27**	**182**		Pg	03 22 03.8	0.0
KAN17	**Caldwell West**	**0.31**	**31**		Pg	03 22 05.0	+0.4
KAN05	**Bluff City Nor**	**0.34**	**13**		Pg	03 22 05.0	-0.2
KAN10	**Anthony SW Sta**	**0.36**	**344**		Pg	03 22 05.1	-0.5
KAN08	**Anthony NE Sta**	**0.45**	**360**		Pg	03 22 07.0	-0.3
KAN09	**Caldwell North**	**0.46**	**38**	Pg	Pg	03 22 07.6	+0.3
KAN16	**Harper SW Stat**	**0.46**	**350**		Pg	03 22 07.0	-0.4
KAN13	**South Haven SW**	**0.46**	**59**	Pg	Pg	03 22 07.7	+0.3
KAN12	**Harper NE Stat**	**0.52**	**357**		Pg	03 22 08.3	-0.3
KS20	**Mayfield South**	**0.56**	**36**		Pg	03 22 09.0	-0.4
BLOK	**Blackwell**	**0.60**	**91**		Pg	03 22 10.3	+0.1
U32A	**Winter Ranch,**	**0.92**	**245**	Pg	Pg	03 22 15.2	-1.0
OK029	**Liberty Lake**	**1.06**	**157**		Pg	03 22 18.8	-0.1
**BCO

Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.61**	**21**	⇓*i*	PN	**Pn**	**03 46 35.8**	**+0.1**
SKR				*i*	S	**Sn**	**03 46 54.9**	**-0.7**
SKR	comp=Z,1μm,0.4s				pmax	pmax		
SKR	comp=E,11μm,0.4s				smax	smax		
SKR	comp=N,9μm,0.4s				smax	smax		
SKR	**Severo-Kuril's**	**1.61**	**21**	*eP*		**Pn**	**03 46 36.0**	**+0.3**
SKR				*eS*		**Sn**	**03 46 55.6**	**0.0**
ALID	**Alaid**	**1.70**	**8**	*eP*		**Pn**	**03 46 38.0**	**+1.0**
PAU	**Pauzhetka**	**2.50**	**24**		PN	**Pn**	**03 46 48.9**	**+1.2**
PAU					S	**Sn**	**03 47 17.3**	**+0.1**
PAU	**Pauzhetka**	**2.50**	**24**	*eP*		**Pn**	**03 46 48.9**	**+1.2**
PAU				*eS*		**Sn**	**03 47 17.3**	**+0.1**
KDTR	**Khodutka, Kamc**	**3.20**	**34**		PN	**Pn**	**03 46 57.0**	**-0.2**
KDTR					S	**Sn**	**03 47 32.4**	**-1.8**
KDTR	**Khodutka, Kamc**	**3.20**	**34**	*eP*		**Pn**	**03 46 57.0**	**-0.2**
KDTR				*eS*		**Sn**	**03 47 32.4**	**-1.8**
MIPR	**Malaya Ipel'ka**	**3.25**	**17**		PN	**Pn**	**03 46 59.1**	**+1.2**
MIPR	**Malaya Ipel'ka**	**3.25**	**17**	*eP*		**Pn**	**03 46 59.1**	**+1.2**
ASAK	**Asacha**	**3.63**	**27**		PN	**Pn**	**03 47 05.0**	**+1.9**
ASAK					S	**Sn**	**03 47 46.2**	**+1.4**
ASAK	**Asacha**	**3.63**	**27**	*eP*		**Pn**	**03 47 05.0**	**+1.9**
ASAK				*eS*		**Sn**	**03 47 46.2**	**+1.4**
MTVR	**Mutnovka**	**3.80**	**29**		PN	**Pn**	**03 47 07.3**	**+1.7**
MTVR					S	**Sn**	**03 47 49.4**	**+0.3**
MTVR	**Mutnovka**	**3.80**	**29**	*eP*		**Pn**	**03 47 07.3**	**+1.7**
MTVR				*eS*		**Sn**	**03 47 49.4**	**+0.3**
GRL	**Gorelyy**	**3.83**	**27**	*eP*		**Pn**	**03 47 08.2**	**+2.3**
GRL				*eS*		**Sn**	**03 47 50.9**	**+1.2**
RUS	**Russkaya**	**3.87**	**32**		PN	**Pn**	**03 47 06.6**	**+0.3**
RUS					S	**Sn**	**03 47 48.6**	**-1.9**
RUS	**Russkaya**	**3.87**	**32**	*eP*		**Pn**	**03 47 06.6**	**+0.3**
RUS				*eS*		**Sn**	**03 47 48.6**	**-1.9**
APC	**Apacha**	**3.94**	**18**		PN	**Pn**	**03 47 11.3**	**+4.0**
APC	**Apacha**	**3.94**	**18**	*eP*		**Pn**	**03 47 11.3**	**+4.0**
KRMR	**Karymshinskiy**	**4.09**	**26**	*eP*		**Pn**	**03 47 10.6**	**+1.3**
KRMR				*eS*		**Sn**	**03 47 55.2**	**-0.7**
PEA0B	**Petropavlovsk-**	**4.23**	**21**	*ce*	PN	**Pn**	**03 47 14.5**	**+3.2**
PEA0B	**Petropavlovsk-**	**4.23**	**21**		Pn	**Pn**	**03 47 13.3**	**+2.0**
PETK	**Petropavlovsk-**	**4.23**	**21**		P	**Pn**	**03 47 13.1**	**+1.9**
PETK	comp=N,13nm,0.3s,baz=180,slow=12,SNR=64				LR	LR	03 49 16.6	
	comp=N,333nm,19.0s,baz=191,slow=44							
PETK	**Petropavlovsk-**	**4.23**	**21**		PN	**Pn**	**03 47 13.8**	**+2.5**
PETK	**Petropavlovsk-**	**4.23**	**21**		Pn	**Pn**	**03 47 13.8**	**+2.5**
PET	**Petropavlovsk**	**4.42**	**28**	*eP*		**Pn**	**03 47 16.0**	**+2.2**
PET				*eS*		**Sn**	**03 48 04.2**	**+0.4**
PET	comp=Z,122nm,0.4s				pmax	pmax		
PET	comp=E,408nm,0.6s				smax	smax		
PET	comp=N,616nm,0.5s				smax	smax		
PET	comp=Z,500nm,19.0s				MLR	MLR		
PET	**Petropavlovsk**	**4.42**	**28**	*eP*		**Pn**	**03 47 15.8**	**+2.0**
PET	**Petropavlovsk**	**4.42**	**28**			**Pn**	**03 47 15.7**	**+2.0**
DALK	**Dalny**	**4.45**	**29**	*eP*		**Pn**	**03 47 16.0**	**+1.7**
DALK				*eS*		**Sn**	**03 48 05.4**	**+0.7**
UGLR	**Uglovaya**	**4.63**	**28**		PN	**Pn**	**03 47 19.2**	**+2.4**
UGLR	**Uglovaya**	**4.63**	**28**	*eP*		**Pn**	**03 47 19.2**	**+2.4**
KOK	**Koryaka**	**4.64**	**26**	*eP*		**Pn**	**03 47 20.5**	**+3.5**
AVH	**Avacha**	**4.65**	**27**	*eP*		**Pn**	**03 47 20.2**	**+3.2**
SMAR	**Somma**	**4.67**	**28**	*eP*		**Pn**	**03 47 20.2**	**+2.8**
KRER	**Koryakskii**	**4.69**	**27**	*eP*		**Pn**	**03 47 20.2**	**+2.5**
KRER				*eS*		**Sn**	**03 48 12.2**	**+1.4**
KRX	**Arik**	**4.70**	**26**		PN	**Pn**	**03 47 20.9**	**+3.0**
KRX	**Arik**	**4.70**	**26**	*eP*		**Pn**	**03 47 20.9**	**+3.0**
SDLR	**Sedlovina**	**4.70**	**28**	*eP*		**Pn**	**03 47 19.8**	**+1.9**
NLC	**Nalytchevo**	**4.76**	**32**	*eP*		**Pn**	**03 47 18.8**	**+0.3**
NLC				*eS*		**Sn**	**03 48 09.0**	**-3.4**
GNL	**Ganaly**	**4.83**	**20**	*eP*		**Pn**	**03 47 22.6**	**+3.1**
SPN	**Mys Shipunski**	**4.96**	**36**	*eP*		**Pn**	**03 47 21.9**	**+0.8**
KII	**Karymskiy**	**5.53**	**27**	*eP*		Pn	03 47 34.3	+5.2
KUR	**Kuril'sk**	**6.37**	**234**	*de*	PN	**Pn**	**03 47 43.0**	**+2.5**
KZV	**Kizimen**	**6.71**	**26**	*eP*		**Pn**	**03 47 47.1**	**+1.8**
MKZ	**Mys Kozlova**	**6.72**	**34**	*eP*		**Pn**	**03 47 44.6**	**-0.7**
TUMR	**Tumrok**	**6.82**	**25**	*eP*		**Pn**	**03 47 49.8**	**+3.1**
TUMD	**Tumrok D**	**6.82**	**26**	*eP*		**Pn**	**03 47 47.6**	**+1.0**
ESO	**Esso**	**7.08**	**16**	*eP*		Pn	03 47 57.7	+7.5
BZWR	**Bezymyannyi-We**	**7.51**	**23**	*eP*		**Pn**	**03 47 59.4**	**+3.1**
BDR	**Baidarnaya**	**8.23**	**24**	*eP*		**Pn**	**03 48 09.5**	**+3.5**
YUK	**Yuzh-Kuril'sk**	**8.23**	**235**	⇓*i*	PN	**Pn**	**03 48 06.5**	**+0.5**
YUK	comp=Z,464nm,0.3s				pmax	pmax		
YUK	comp=N,221nm,0.5s				pmax	pmax		
YUK	comp=E,383nm,0.5s				pmax	pmax		
TYV	**Tymovskoe**	**8.25**	**286**	*e*	PN	**Pn**	**03 48 09.0**	**+2.8**
TYV				*eS*		**Sn**	**03 49 38.8**	**+1.1**
TYV	comp=Z,50nm,1.4s				pmax	pmax		
TYV	comp=Z,300nm,2.7s				pmax	pmax		
TYV	comp=N,16nm,1.6s				smax	smax		
TYV	comp=E,15nm,1.6s				smax	smax		
SRKR	**Sorokina**	**8.30**	**23**	*eP*		**Pn**	**03 48 11.5**	**+4.6**
GRPR	**Tuman**	**8.31**	**235**	⇓*i*	PN	**Pn**	**03 48 07.4**	**+0.3**
GRPR	comp=Z,239nm,0.3s				pmax	pmax		
GRPR	comp=N,216nm,0.4s				pmax	pmax		
GRPR	comp=E,448nm,0.5s				pmax	pmax		
SMKR	**Semkarok**	**8.32**	**25**	*eP*		**Pn**	**03 48 10.8**	**+3.7**
KBG	**Krutoberegovo**	**8.41**	**30**	*eP*		**Pn**	**03 48 12.5**	**+4.1**
KBTR	**Krutoberegovo**	**8.41**	**30**	*eP*		**Pn**	**03 48 09.8**	**+1.4**
RUSJ	**Misakicho**	**8.52**	**237**	*e*	PN	**Pn**	**03 48 12.6**	**+2.7**
RUSJ				*eS*		**Sn**	**03 49 45.0**	**+0.5**
UGL	**Uglegorsk**	**8.61**	**274**	⇑*i*	PN	**Pn**	**03 48 15.1**	**+4.0**
UGL					S	**Sn**	**03 49 47.8**	**+1.2**
UGL	comp=Z,322nm,0.8s				pmax	pmax		
YSS	**Yuzh-Sakhalins**	**8.63**	**260**	⇓*e*	PN	**Pn**	**03 48 14.2**	**+2.9**
YSS	comp=Z,80nm,0.9s				pmax	pmax		
YSS	**Yuzh-Sakhalins**	**8.63**	**260**		Pn	**Pn**	**03 48 13.1**	**+1.7**
NMR	**Nemuro--Hokkai**	**8.76**	**232**	⇑*i*	PN	**Pn**	**03 48 11.1**	**-2.1**
BKI	**Bering**	**8.94**	**44**	*eS*		**Sn**	**03 49 46.5**	**-8.1**
JMP	**Maruseppu**	**9.65**	**242**		P	**Pn**	**03 48 27.1**	**+1.7**
JWK2	**Keihoku**	**9.84**	**252**		P	Pn	03 48 33.0	+5.2
JKA	**Kamikawa-asahi**	**10.03**	**244**		Pn	**Pn**	**03 48 32.2**	**+1.7**
ASAJ	**Asahikawa**	**10.04**	**244**		P	**Pn**	**03 48 30.4**	**-0.2**
	comp=Z,9.1nm,0.3s,baz=65,slow=13,SNR=105							
ASAJ	**Asahikawa**	**10.04**	**244**		P	**Pn**	**03 48 33.5**	**+2.9**
ASAJ	**Asahikawa**	**10.04**	**244**		PN	**Pn**	**03 48 32.2**	**+1.6**
MA2	**Magadan**	**10.72**	**348**		P	**Pn**	**03 48 39.9**	**+0.1**
MA2	comp=Z,2.5nm,0.3s,baz=166,slow=11,SNR=18				LR	LR	03 52 55.0	
	comp=Z,102nm,21.4s,baz=167,slow=38							
MA2	**Magadan**	**10.72**	**348**	*d*	*i* P	**Pn**	**03 48 41.4**	**+1.6**
MA2	comp=Z,25nm,1.3s				pmax	pmax		
MA2	**Magadan**	**10.72**	**348**			**Pn**	**03 48 40.6**	**+0.8**
JEM	**Erimo**	**11.06**	**234**		P	**Pn**	**03 48 42.3**	**-2.3**
ERM	**Erimo**	**11.06**	**234**	⇓	*e* PN	**Pn**	**03 48 43.6**	**-1.0**
ERM	**Erimo**	**11.06**	**234**		Pn	**Pn**	**03 48 43.0**	**-1.5**
SMY	**Shemya**	**12.43**	**66**		PN	**Pn**	**03 49 03.2**	**+0.1**
SMY	**Shemya**	**12.43**	**66**		Pn	**Pn**	**03 49 03.2**	**+0.1**
SEY	**Seymchan**	**13.87**	**355**		P	**Pn**	**03 49 22.6**	**+0.2**
SEY	comp=Z,0.3nm,0.3s,baz=153,slow=12,SNR=9.5				LR	LR	03 55 06.9	
	comp=Z,117nm,20.6s,baz=186,slow=39							
JOM	**Ohasama**	**13.88**	**231**		P	Pn	03 49 17.5	-5.3
KLR	**Kul'dur**	**15.31**	**279**		P	**Pn**	**03 49 40.9**	**-0.4**
KLR	comp=Z,0.1nm,0.3s,baz=77,slow=15,SNR=7.2				LR	LR	03 55 44.4	
	comp=Z,140nm,20.2s,baz=84,slow=38							
KLR	**Kul'dur**	**15.31**	**279**	⇑	*i* P	**P**	**03 49 44.0**	**-0.6**
KLR	comp=Z,85nm,12.0s				MLR	MLR		
JSD	**Sado**	**16.53**	**234**		Pn	**Pn**	**03 49 55.4**	**-1.2**
JSD	comp=Z,24nm,0.6s				IAmb	IAmb	03 49 59.9	
USA0B	**Ussuriysk Arra**	**16.66**	**261**		P	**Pn**	**03 49 57.3**	**-0.9**
USA0B	comp=Z,8.0nm,0.7s				pmax	pmax		
USA0B	**Ussuriysk Arra**	**16.66**	**261**			**Pn**	**03 49 57.3**	**-0.9**
USRK	**Ussuriysk Ar.**	**16.66**	**261**		P	**Pn**	**03 49 57.8**	**-0.4**
USRK	baz=81,slow=11,SNR=17				LR	LR	03 56 36.4	
	comp=Z,36nm,20.1s,baz=59,slow=38							
USRK	**Ussuriysk Ar.**	**16.66**	**261**		Pn	**Pn**	**03 49 57.1**	**-1.2**
JYT	**Yasto**	**16.97**	**226**		Pn	**Pn**	**03 49 59.5**	**-2.5**
MAJO	**Matsushiro**	**17.69**	**231**	⇓	*e* P	**Pn**	**03 50 08.9**	**-2.1**
MAT	**Matsushiro**	**17.69**	**231**		P	**Pn**	**03 50 08.5**	**-2.5**
MAT	**Matsushiro**	**17.69**	**231**		P	**Pn**	**03 50 09.0**	**-2.0**
MJAR	**Matsushiro Arr**	**17.69**	**231**		P	**Pn**	**03 50 09.6**	**-1.4**
MJAR	comp=Z,0.3nm,0.3s,baz=18,slow=14,SNR=12				LR	LR	03 57 01.9	
	comp=Z,90nm,19.4s,baz=205,slow=37							
MJAR	**Matsushiro Arr**	**17.69**	**231**			**Pn**	**03 50 09.2**	**-1.8**
JRY	**Ryogami san**	**17.76**	**228**		P	**P**	**03 50 11.7**	**-0.1**
ZEA	**Zeya**	**17.94**	**295**	*e*	P	**Pn**	**03 50 15.6**	**+1.8**
ZEA	comp=Z,10.0nm,0.6s				pmax	pmax		
MDJ	**Mudanjiang**	**18.05**	**265**		P	**P**	**03 50 13.6**	**-1.3**
MDJ	comp=Z,4.0nm,0.6s				pmax	pmax		
MDJ	comp=Z,82nm,3.8s				pmax	pmax		
MDJ	**Mudanjiang**	**18.05**	**265**		P	**P**	**03 50 14.2**	**-0.7**
JGN	**Niukaw**	**18.39**	**232**		P	**P**	**03 50 19.0**	**+0.2**
JGF	**Kuroka**	**18.86**	**231**		P	**P**	**03 50 21.8**	**-2.1**
YAK	**Yakutsk**	**19.14**	**322**		P	**P**	**03 50 26.6**	**-0.1**
YAK	comp=Z,0.3nm,0.3s,baz=273,slow=1.2,SNR=9.3				LR	LR	03 57 29.6	
	comp=Z,105nm,20.8s,baz=89,slow=36							
YAK	**Yakutsk**	**19.14**	**322**	*d*	*i* P	**Pn**	**03 50 28.9**	**+0.7**
YAK	comp=Z,46nm,0.7s				pmax	pmax		
YAK	**Yakutsk**	**19.14**	**322**		P	**P**	**03 50 27.3**	**+0.6**
YAK	comp=Z,51nm,0.7s				IAmb	IAmb	03 50 32.1	
INU	**Inuyama**	**19.22**	**231**		P	**P**	**03 50 27.1**	**-0.8**
INU	comp=Z,40nm,0.7s				IAmb	IAmb	03 50 30.4	
BILL	**Bilibino**	**19.70**	**12**	⇑	*e* P	**P**	**03 50 32.3**	**-0.5**
BILL					*eS*	**S**	**03 54 01.7**	**-9.3**
BILL	comp=Z,12nm,0.4s				pmax	pmax		
BILL	comp=Z,523nm,18.0s				MLR	MLR		
JHJ	**Hachijo jima 2**	**19.75**	**221**		LR	LR	03 56 26.1	
	comp=Z,48nm,21.9s,baz=164,slow=31							
JWT	**Wachi**	**20.11**	**234**		P	**P**	**03 50 35.3**	**-2.2**
JAD	**Aida**	**21.03**	**235**		P	**P**	**03 50 46.9**	**-0.5**
CN2	**Changchun**	**21.10**	**267**	*e*	P	**P**	**03 50 45.3**	**-2.7**
CN2	comp=Z,10.0nm,0.6s				pmax	pmax		
JHS	**Saijyo**	**21.56**	**237**		P	**P**	**03 50 53.2**	**+0.1**
JHS	**Saijyo**	**21.56**	**237**		P	**P**	**03 50 52.5**	**-0.5**
JHS	comp=Z,30nm,1.0s				IAmb	IAmb	03 50 54.0	
KSRS	**Korea Array**	**22.92**	**249**		P	**P**	**03 51 07.0**	**-0.5**
KSRS	comp=Z,4.8nm,0.6s,baz=51,slow=11,SNR=21				PcP	**PcP**	**03 54 56.7**	**+1.4**
	comp=Z,1.6nm,0.7s,baz=351,slow=2.0,SNR=7.5							
KSRS					pPcP		03 55 14.9	
	comp=Z,1.9nm,1.0s,baz=38,slow=1.9,SNR=4.1							
KSRS					LR	LR	03 59 16.2	
	comp=Z,68nm,20.1s,baz=55,slow=34							
KS19	**Wonju Array Si**	**22.92**	**250**		P	**P**	**03 51 06.9**	**-0.6**
KSAR	**Wonju Array Be**	**22.95**	**249**		P	**P**	**03 51 06.9**	**-0.8**
KSAR							03 54 56.0	
KSAR	**Wonju Array Be**	**22.95**	**249**		P	**P**	**03 51 06.9**	**-0.8**
KSAR						**PcP**	**03 54 56.0**	**+0.5**
TJN	**Taejon**	**23.95**	**248**	*d*	*i* P	**P**	**03 51 18.8**	**+1.7**
JNU	**Nakatsue**	**24.19**	**237**		P	**P**	**03 51 19.7**	**+0.4**
	comp=Z,13nm,0.6s,baz=20,slow=10,SNR=3.6							
TIXI	**Tiksi**	**25.57**	**341**	⇓	*e* P	**P**	**03 51 30.6**	**-0.8**
JOW	**Kunigami**	**30.51**	**233**		P	**P**	**03 52 15.9**	**0.0**
	comp=Z,8.3nm,0.4s,baz=14,slow=4.2,SNR=4.5							
K20K	**Telida**	**30.59**	**43**		P	**P**	**03 52 17.6**	**+1.3**
	baz=267							
J20K	**Nowinta River**	**30.61**	**42**		P	**P**	**03 52 17.4**	**+0.9**
J20K	comp=Z,20nm,1.5s				IAmb	IAmb	03 52 19.4	
J20K	**Nowinta River**	**30.61**	**42**		P	**P**	**03 52 17.9**	**+1.5**
	baz=265,SNR=5.7							
H11N2	**WAKE ISLAND Hy**	**30.86**	**158**		T	T	04 25 00.3	
	baz=343,slow=76,SNR=80							
H11N1	**WAKE ISLAND Hy**	**30.87**	**158**		T	T	04 25 04.0	
	baz=343,slow=76,SNR=52							
H11N3	**WAKE ISLAND Hy**	**30.87**	**158**		T	T	04 24 56.0	
	baz=343,slow=76,SNR=68							
IMAR	**Indian Mountai**	**30.98**	**38**		P	**P**	**03 52 20.1**	**+0.4**
H21K	**Melozitna Rive**	**31.32**	**39**		P	**P**	**03 52 23.4**	**+0.7**
H21K	**Melozitna Rive**	**31.32**	**39**		P	**P**	**03 52 23.9**	**+1.2**
	baz=264,SNR=7.7							
CHUM	**Lake Minchumin**	**31.40**	**42**		P	**P**	**03 52 25.4**	**+2.0**
	baz=268							
CAST	**Castle Rocks**	**31.48**	**43**		P	**P**	**03 52 25.7**	**+1.5**
	baz=268							
KDAK	**Kodiak Island**	**31.51**	**54**		P	**P**	**03 52 25.1**	**+0.7**
	comp=Z,11nm,0.8s,baz=347,slow=9.7,SNR=3.8							
KDAK	**Kodiak Island**	**31.51**	**54**		IAmb	IAmb	03 52 43.3	
	comp=Z,19nm,1.0s							
HHC	**Hu-ho-hao-te**	**31.57**	**271**	*e*	P	**P**	**03 52 23.9**	**-1.4**
I21K	**Tanana**	**31.62**	**40**		P	**P**	**03 52 27.0**	**+1.7**
	baz=266,SNR=5.9							
SONM	**Songino Array**	**31.91**	**286**		P	**P**	**03 52 26.9**	**-1.4**
SONM	comp=Z,0.4nm,0.4s,baz=61,slow=10,SNR=2.6				PcP	**PcP**	**03 55 17.3**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=89,slow=1.8,SNR=4.4							
SONM					pPcP		03 55 35.2	
	comp=Z,1.3nm,0.8s,baz=93,slow=4.3,SNR=4.0							
SONM					LR	LR	04 06 40.4	
	comp=Z,92nm,18.3s,baz=98,slow=39							
SONM	**Songino Array**	**31.91**	**286**		P	**P**	**03 52 28.7**	**+0.4**
SONM							03 55 17.3	
SONM	comp=Z,1.0nm,1.0s				pmax	pmax		
SONM	**Songino Array**	**31.91**	**286**		P	**P**	**03 52 28.7**	**+0.4**
H11S1	**WAKE ISLAND Hy**	**31.98**	**159**		T	T	04 26 21.7	
	baz=340,slow=76,SNR=419							
BPAW	**Bear Paw Mtn.**	**31.99**	**42**		P	**P**	**03 52 30.1**	**+1.5**
	baz=268,SNR=5.2							
H11S3	**WAKE ISLAND Hy**	**32.00**	**159**		T	T	04 25 48.7	
	SNR=677							
H11S2	**WAKE ISLAND Hy**	**32.00**	**159**		T	T	04 26 13.9	
	baz=349,slow=76,SNR=426							
KTH	**Kantishna Hill**	**32.01**	**43**		IAmb	IAmb	03 52 31.6	
	comp=Z,14nm,1.1s							
NJ2	**Nanjing**	**32.08**	**251**	*e*	P	**P**	**03 52 29.5**	**-0.1**
NJ2	comp=Z,8.0nm,0.5s				pmax	pmax		
SUA	**Susitna One**	**32.12**	**47**		P	**P**	**03 52 30.6**	**+0.7**
	baz=273							
MLY	**Manley**	**32.14**	**40**		P	**P**	**03 52 31.5**	**+1.5**
	baz=343,SNR=6.1							
TRF	**Thorofare Moun**	**32.29**	**43**		P	**P**	**03 52 32.8**	**+1.4**
	baz=270							
COLD	**Coldfoot**	**32.53**	**36**		IAmb	IAmb	03 52 35.4	
	comp=Z,16nm,1.2s							
COLD	**Coldfoot**	**32.53**	**36**		P	**P**	**03 52 34.6**	**+1.3**
	baz=264,SNR=11							
RC01	**Rabbit Creek A**	**32.63**	**48**		P	**P**	**03 52 35.5**	**+1.3**
	baz=274							
H23K	**Yukon River**	**32.68**	**39**		IAmb	IAmb	03 52 37.2	
	comp=Z,8.2nm,0.8s							
H23K	**Yukon River**	**32.68**	**39**		P	**P**	**03 52 36.4**	**+1.8**
	baz=267,SNR=7.6							
I23K	**Minto, Yukon-K**	**32.73**	**40**		P	**P**	**03 52 36.6**	**+1.6**
	baz=268							
NEA2	**Nenana**	**32.84**	**41**		P	**P**	**03 52 37.4**	**+1.4**
	baz=269,SNR=11							
MCK	**McKinley**	**32.90**	**43**		IAmb	IAmb	03 52 38.5	
	comp=Z,13nm,1.0s							
MCK	**McKinley**	**32.90**	**43**		P	**P**	**03 52 37.7**	**+1.2**
	baz=271,SNR=5.8							
TOLK	**Toolik Lake Re**	**32.94**	**34**		P	**P**	**03 52 37.3**	**+0.5**
TOLK	**Toolik Lake Re**	**32.94**	**34**		P	**P**	**03 52 38.0**	**+1.2**
	baz=263,SNR=6.7							
RND	**Reindeer**	**32.94**	**43**		IAmb	IAmb	03 52 38.5	
	comp=Z,11nm,0.9s							
MDM	**Murphy Dome**	**33.20**	**40**		IAmb	IAmb	03 52 42.0	
	comp=Z,10nm,0.7s							
KNK	**Knik Glacier**	**33.22**	**47**		P	**P**	**03 52 40.3**	**+0.9**
	baz=275							
SML	**Sawmill**	**33.25**	**46**		P	**P**	**03 52 41.0**	**+1.3**
	baz=274,SNR=12							
WRH	**Wood River Hil**	**33.26**	**41**		IAmb	IAmb	03 52 45.2	
	comp=Z,11nm,1.1s							
TCOL	**CIGO, UAF Yank**	**33.36**	**41**		P	**P**	**03 52 42.1**	**+1.6**
	baz=270,SNR=6.5							
COLA	**College**	**33.36**	**41**		P	**P**	**03 52 42.0**	**+1.5**
COLA	comp=Z,30nm,0.7s				pmax	pmax		
COLA	**College**	**33.36**	**41**		P	**P**	**03 52 42.0**	**+1.5**
H24K	**Noodor Dome**	**33.37**	**39**		P	**P**	**03 52 42.4**	**+1.8**
	baz=269,SNR=6.3							
CCB	**Clear Creek Bu**	**33.38**	**41**		IAmb	IAmb	03 52 43.2	
	comp=Z,7.0nm,0.6s							
WAT6	**Susitna Watana**	**33.48**	**45**		P	**P**	**03 52 42.8**	**+1.0**
	baz=274							
POKR	**Poker Plat Res**	**33.54**	**40**		P	**P**	**03 52 43.9**	**+1.8**
	baz=270							
DHY	**Denali Highway**	**33.62**	**44**		IAmb	IAmb	03 53 00.3	
	comp=Z,16nm,1.4s							
DHY	**Denali Highway**	**33.62**	**44**		P	**P**	**03 52 43.9**	**+0.9**
	baz=273							
HDA	**Harding Lake**	**33.76**	**41**		P	**P**	**03 52 44.8**	**+0.9**
	baz=272,SNR=11							
IL31		**33.78**	**41**		IAmb	IAmb	03 52 47.0	
	comp=Z,6.5nm,0.8s							
ILAR	**Eielson Array**	**33.78**	**41**		P	**P**	**03 52 44.9**	**+0.7**
	comp=Z,4.4nm,0.8s,baz=254,slow=6.5,SNR=36							
ILAR					PcP	**PcP**	**03 55 21.2**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=297,slow=4.3,SNR=4.1							
ILAR	**Eielson Array**	**33.78**	**41**		P	**P**	**03 52 44.5**	**+0.4**
M24K	**Tolsona, Glenn**	**34.24**	**46**		P	**P**	**03 52 50.3**	**+2.0**
	baz=276							
PRP	**Porcupine Dome**	**34.34**	**39**		P	**P**	**03 52 50.8**	**+1.6**
	baz=271,SNR=20							
KLU	**Klutina**	**34.43**	**47**		P	**P**	**03 52 51.4**	**+1.5**
	baz=277							
J25K	**Salcha River,**	**34.43**	**41**		P	**P**	**03 52 49.9**	**-0.1**
	baz=273,SNR=11							
HARP	**HAARP**	**34.69**	**45**		P	**P**	**03 52 53.9**	**+1.8**
	baz=276							
RIDG	**Independent Ri**	**34.71**	**43**		IAmb	IAmb	03 52 54.1	
	comp=Z,13nm,1.1s							
RIDG	**Independent Ri**	**34.71**	**43**		P	**P**	**03 52 52.8**	**+0.4**
	baz=274							
N25K	**Chitina, Valde**	**35.04**	**46**		P	**P**	**03 52 56.8**	**+1.6**
	baz=278							
SCRK	**Sand Creek**	**35.07**	**42**		P	**P**	**03 52 56.4**	**+0.9**
SCRK					IAmb	IAmb	03 52 57.0	
	comp=Z,9.9nm,1.2s							
SCRK	**Sand Creek**	**35.07**	**42**		P	**P**	**03 52 56.0**	**+0.5**
	baz=275,SNR=6.2							
BMRM	**Bremner River**	**35.13**	**47**		P	**P**	**03 52 57.6**	**+1.6**
	baz=279							
J26L	**Joseph Creek**	**35.22**	**41**		P	**P**	**03 52 56.7**	**-0.1**
	baz=274							
MENT	**Mentasta**	**35.29**	**44**		IAmb	IAmb	03 53 00.5	
	comp=Z,12nm,1.4s							
M26K	**Nabesna, AK**	**35.69**	**45**		IAmb	IAmb	03 53 20.1	
	comp=Z,11nm,0.8s							
M26K	**Nabesna, AK**	**35.69**	**45**		P	**P**	**03 53 02.8**	**+2.1**
	baz=278							
CRQE	**Cirque**	**35.89**	**48**		P	**P**	**03 53 04.0**	**+1.4**
	baz=280							
K27K	**Chicken**	**35.91**	**42**		IAmb	IAmb	03 53 04.9	
	comp=Z,11nm,0.8s							
K27K	**Chicken**	**35.91**	**42**		P	**P**	**03 53 04.0**	**+1.5**
	baz=276							
WHN	**Wuhan**	**35.92**	**254**	⇓	*i* P	**P**	**03 53 02.3**	**-0.7**
L27K	**Beaver Creek,**	**36.13**	**43**		P	**P**	**03 53 06.7**	**+2.2**
	baz=278,SNR=12							
M27K	**Edge Creek, AK**	**36.21**	**45**		P	**P**	**03 53 07.3**	**+2.0**
M27K	comp=Z,10nm,0.9s				IAmb	IAmb	03 53 24.7	
M27K	**Edge Creek, AK**	**36.21**	**45**		P	**P**	**03 53 07.7**	**+2.4**
	baz=279							
EGAK	**Eagle**	**36.23**	**41**		P	**P**	**03 53 06.1**	**+0.9**
	baz=276,SNR=13							
BVCY	**Beaver Creek**	**36.67**	**44**		P	**P**	**03 53 11.3**	**+2.2**
	baz=280							
CTG	**Chitna Glacier**	**36.70**	**47**		P	**P**	**03 53 11.5**	**+2.0**
	baz=281							
DAWY	**Dawson**	**37.08**	**42**		P	**P**	**03 53 13.9**	**+1.4**
	baz=278							
INK	**Inuvik**	**38.84**	**34**		P	**P**

NEEM	**North Greenlan**	**52.58**	**7**	*i* P		**P**		**03 55 14.3**	**-1.3**
NEEM				IAmb		IAmb		03 55 16.2	
	comp=Z,8.3nm,0.8s								
E04D	**Cinebar**	**52.60**	**59**	P		**P**		**03 55 18.3**	**+2.4**
	baz=305								
UBPT	**Khong Chiam**	**52.63**	**248**	P		**P**		**03 55 21.1**	**+4.7**
	comp=Z,7.4nm,1.7s								
B08A	**Colville Reser**	**53.35**	**56**	IAmb		IAmb		03 55 23.9	
	comp=Z,5.2nm,0.9s								
UTTA	**Uttaradit**	**53.81**	**254**	P		**P**		**03 55 26.1**	**+1.0**
	comp=Z,244nmcomp=Z,24nm,0.8s								
I03D	**Drain, OR**	**53.83**	**63**	P		**P**		**03 55 27.8**	**+2.9**
	baz=307								
H04A	**Detroit Lake**	**53.91**	**61**	P		**P**		**03 55 27.1**	**+1.6**
H04A				IAmb		IAmb		03 55 28.1	
	comp=Z,4.4nm,0.7s								
AAK	**Ala-Archa**	**54.02**	**296**	⇓ *e*P		**P**		**03 55 27.2**	**+0.7**
AAK				pmax		pmax			
	comp=Z,32nm,3.4s								
CMMT	**Chiang Mai**	**54.04**	**257**	P		**P**		**03 55 27.7**	**+0.9**
	comp=Z,10nm,0.8s								
CHTO	**Chiang Mai**	**54.04**	**257**	P		**P**		**03 55 26.1**	**-0.7**
CHTO				pmax		pmax			
	comp=Z,6.0nm,0.6s								
CHTO	**Chiang Mai**	**54.04**	**257**	P		**P**		**03 55 28.0**	**+1.2**
	comp=Z,10nm,0.8s								
CHTO	**Chiang Mai**	**54.04**	**257**	P		**P**		**03 55 26.1**	**-0.7**
CHTO				IAmb		IAmb		03 55 28.0	
	comp=Z,5.7nm,0.6s								
G05D	**Wamic, OR**	**54.08**	**60**	P		**P**		**03 55 29.3**	**+2.5**
	baz=307								
ARU	**Arti**	**54.17**	**317**	*c i*P		**P**		**03 55 26.0**	**-1.2**
ARU				*PP		**pP**		**03 55 46.9**	**+2.2**
ARU								03 56 24.6	
ARU				S		**S**		**04 02 57.2**	**-1.4**
ARU				SS		**SKiKP**		**04 06 34.1**	**+2.7**
ARU				pmax		pmax			
	comp=Z,7.0nm,0.7s								
ARU	**Arti**	**54.17**	**317**	P		**P**		**03 55 25.6**	**-1.6**
ARU				IAmb		IAmb		03 55 27.2	
	comp=Z,6.9nm,0.7s								
CHAI	**Chaiyaphum**	**54.30**	**252**	P		**P**		**03 55 29.1**	**+0.5**
	comp=Z,346nmcomp=Z,33nm,0.8s								
CMAR	**Chiang Mai Arr**	**54.31**	**256**	P		**P**		**03 55 27.9**	**-0.8**
	comp=Z,3.1nm,0.5s,baz=29,slow=7.4,SNR=14								
CMAR	**Chiang Mai Arr**	**54.31**	**256**	*i* P		**P**		**03 55 29.7**	**+1.0**
CMAR				pmax		pmax			
	comp=Z,3.0nm,0.5s								
CMAR	**Chiang Mai Arr**	**54.31**	**256**	P		**P**		**03 55 28.8**	**+0.1**
I04A	**Tendick Farm,**	**54.31**	**62**	P		**P**		**03 55 30.8**	**+2.3**
	baz=307,SNR=7.5								
PHIT	**Phitsanulok**	**54.31**	**254**	P		**P**		**03 55 30.3**	**+1.6**
	comp=Z,2µmcomp=Z,60nm,0.8s								
CM02	**Chiang Mai Arr**	**54.32**	**256**	P		**P**		**03 55 30.6**	**+1.8**
	comp=Z,64nmcomp=Z,9.4nm,0.9s								
CM01	**Chiang Mai Arr**	**54.32**	**256**	P		**P**		**03 55 32.1**	**+3.3**
	comp=Z,315nmcomp=Z,7.5nm,1.0s								
CM04	**Chiang Mai Arr**	**54.33**	**256**	P		**P**		**03 55 30.7**	**+1.9**
	comp=Z,66nmcomp=Z,8.3nm,0.9s								
CM05	**Chiang Mai Arr**	**54.35**	**256**	P		**P**		**03 55 30.8**	**+1.8**
	comp=Z,5.6nm,0.9s								
HAWA	**Hanford**	**54.40**	**58**	P		**P**		**03 55 30.4**	**+1.3**
HAWA				IAmb		IAmb		03 55 31.7	
	comp=Z,6.4nm,0.9s								
E08A	**Dider Farm, El**	**54.60**	**58**	P		**P**		**03 55 31.6**	**+1.1**
E08A				IAmb		IAmb		03 55 33.0	
	comp=Z,4.3nm,0.7s								
NEW	**Newport**	**54.60**	**55**	P		**P**		**03 55 31.9**	**+1.3**
	baz=307								
J04D	**Umpqua Nationa**	**54.82**	**62**	P		**P**		**03 55 35.2**	**+2.8**
	baz=307,SNR=12								
E09A	**Wood Farm, Sta**	**55.09**	**57**	IAmb		IAmb		03 55 36.6	
	comp=Z,9.2nm,0.8s								
J05D	**Fort Rock, OR**	**55.30**	**62**	P		**P**		**03 55 38.9**	**+3.1**
	baz=308,SNR=19								
L04D	**Klamath Falls**	**55.33**	**64**	P		**P**		**03 55 38.8**	**+2.9**
	baz=308,SNR=6.9								
YBH	**Yreka Blue Hor**	**55.39**	**64**	P		**P**		**03 55 37.6**	**+1.2**
YBH				pmax		pmax			
	comp=Z,6.0nm,0.8s								
YBH	**Yreka Blue Hor**	**55.39**	**64**	P		**P**		**03 55 37.6**	**+1.2**
YBH				IAmb		IAmb		03 55 40.2	
	comp=Z,6.0nm,0.8s								
M02C	**Callahan**	**55.51**	**65**	P		**P**		**03 55 39.8**	**+2.5**
	baz=308								
SRAK	**Srakaew**	**55.70**	**250**	P		**P**		**03 55 37.0**	**-1.8**
	comp=Z,1µmcomp=Z,167nm,0.9s								
I07A	**Izee**	**55.81**	**60**	IAmb		IAmb		03 55 42.6	
	comp=Z,6.0nm,1.1s								
N02D	**Trinity Center**	**55.86**	**65**	P		**P**		**03 55 42.9**	**+3.2**
	baz=308								
M04C	**Macdoel**	**55.87**	**64**	P		**P**		**03 55 42.6**	**+2.7**
	baz=308								
ARCES	**ARCESS Array B**	**56.01**	**341**	P		**P**		**03 55 38.0**	**-2.2**
	comp=Z,2.9nm,0.7s,baz=43,slow=8.1,SNR=7.0								
UMPA	**Umpang Tak**	**56.03**	**255**	P		**P**		**03 55 44.5**	**+3.4**
	comp=Z,23nm,1.0s								
KKAR	**Karatay Array**	**56.06**	**298**	P		**P**		**03 55 39.4**	**-1.6**
KKAR	**Karatay Array**	**56.06**	**298**	P		**P**		**03 55 39.4**	**-1.6**
JIRN	**Jiri**	**56.15**	**274**	*e*P		**P**		**03 55 41.9**	**-0.4**
	comp=Z,10nm,0.4s								
GUN	**Gumba**	**56.19**	**275**	*e*P		**P**		**03 55 42.2**	**-0.3**
	comp=Z,14nm,0.4s								
RAMN	**Ramite**	**56.36**	**273**	*e*P		**P**		**03 55 43.3**	**-0.4**
	comp=Z,20nm,0.5s								
BMO	**Blue Mountains**	**56.58**	**58**	IAmb		IAmb		03 55 47.9	
	comp=Z,5.3nm,1.0s								
PKI	**Pulchoki**	**56.72**	**275**	*e*P		**P**		**03 55 46.7**	**+0.4**
PKIN	**Phulchoki**	**56.73**	**275**	*e*P		**P**		**03 55 46.1**	**-0.2**
	comp=Z,9.7nm,0.5s								
O03E	**Paynes Creek**	**56.82**	**65**	P		**P**		**03 55 48.4**	**+1.9**
	baz=309,SNR=6.0								
GKN	**Gorkha**	**56.94**	**276**	*e*P		**P**		**03 55 47.4**	**-0.2**
	comp=Z,21nm,0.5s								
MSO	**Missoula**	**57.19**	**55**	IAmb		IAmb		03 55 52.5	
	comp=Z,13nm,1.4s								
MSO	**Missoula**	**57.19**	**55**	P		**P**		**03 55 50.9**	**+1.7**
	baz=309,SNR=5.6								
DANN	**Dangsing**	**57.27**	**277**	*e*P		**P**		**03 55 50.5**	**+0.3**
	comp=Z,18nm,0.5s								
WVOR	**Wild Horse Val**	**57.33**	**61**	IAmb		IAmb		03 55 53.5	
	comp=Z,8.4nm,1.0s								
KOLN	**Koldanda**	**57.77**	**276**	*e*P		**P**		**03 55 53.8**	**+0.2**
ABKAR	**Akbulak array**	**57.94**	**310**	P		**P**		**03 55 52.9**	**-1.4**
PYUN	**Piuthan**	**57.94**	**277**	*e*P		**P**		**03 55 55.4**	**+0.6**
BEKR	**Beckworth**	**57.95**	**65**	IAmb		IAmb		03 55 57.5	
	comp=Z,6.8nm,1.0s								
PHET	**Kaeng Krachan**	**58.04**	**251**	P		**P**		**03 55 57.0**	**+1.7**
	comp=Z,30nm,0.8s								
SUMG	**Summit**	**58.16**	**5**	*i* P		**P**		**03 55 56.0**	**+0.2**
SUMG				IAmb		IAmb		03 55 56.8	
	comp=Z,5.9nm,0.5s								
VCNR	**Virginia City**	**58.73**	**65**	IAmb		IAmb		03 56 03.3	
	comp=Z,6.4nm,0.7s								
HLID	**Hailey**	**59.00**	**58**	IAmb		IAmb		03 56 05.2	
	comp=Z,10nm,1.5s								
HLID	**Hailey**	**59.00**	**58**	P		**P**		**03 56 04.2**	**+2.3**
	baz=310,SNR=11								
YERR	**Yerington**	**59.17**	**65**	IAmb		IAmb		03 56 06.4	
	comp=Z,6.5nm,0.7s								
BOZ	**Bozeman (W)**	**59.21**	**55**	P		**P**		**03 56 04.4**	**+1.1**
BOZ				pmax		pmax			
	comp=Z,8.0nm,0.8s								
BOZ	**Bozeman (W)**	**59.21**	**55**	P		**P**		**03 56 04.4**	**+1.1**
BOZ	**Bozeman (W)**	**59.21**	**55**	P		**P**		**03 56 05.5**	**+2.2**
	baz=310,SNR=15								
RYN	**Ryan**	**59.83**	**65**	IAmb		IAmb		03 56 10.8	
	comp=Z,7.2nm,0.9s								
YHL	**Hebgen Lake**	**59.94**	**55**	IAmb		IAmb		03 56 11.6	
	comp=Z,7.5nm,1.0s								
NVAR	**Mina Array Bea**	**60.09**	**65**	P		**P**		**03 56 11.8**	**+2.2**
	comp=Z,4.7nm,0.6s,baz=295,slow=7.5,SNR=41								
NVAR				pP		**pP**		**03 56 29.3**	**+2.0**
	comp=Z,1.8nm,0.7s,baz=294,slow=7.9,SNR=6.0								
MDPB	**Devils Postpil**	**60.15**	**66**	IAmb		IAmb		03 56 13.2	
	comp=Z,7.2nm,1.2s								
YHH	**Holmes Hill**	**60.16**	**55**	P		**P**		**03 56 11.6**	**+1.6**
YHH				IAmb		IAmb		03 56 13.1	
	comp=Z,7.4nm,0.8s								
NV11	**Mina Array Sit**	**60.18**	**65**	IAmb		IAmb		03 56 13.2	
	comp=Z,5.4nm,1.1s								
ELK	**Elko**	**60.37**	**61**	P		**P**		**03 56 13.4**	**+2.0**
ELK				pmax		pmax			
	comp=Z,4.0nm,0.7s								
ELK	**Elko**	**60.37**	**61**	P		**P**		**03 56 13.4**	**+2.0**
ELK				IAmb		IAmb		03 56 14.5	
	comp=Z,4.2nm,0.7s								
YNE	**Yellowstone No**	**60.46**	**54**	IAmb		IAmb		03 56 15.1	
	comp=Z,5.0nm,0.8s								
H17A	**Grant Village**	**60.56**	**55**	P		**P**		**03 56 16.6**	**+3.9**
	baz=312								
IMW	**Indian Meadow**	**60.69**	**56**	IAmb		IAmb		03 56 17.4	
	comp=Z,9.2nm,1.4s								
FLWY	**Flagg Ranch**	**60.70**	**56**	IAmb		IAmb		03 56 17.5	
	comp=Z,9.5nm,1.2s								
RLMT	**Red Lodge**	**60.78**	**54**	P		**P**		**03 56 15.8**	**+1.7**
RLMT				IAmb		IAmb		03 56 18.2	
	comp=Z,6.5nm,0.8s								
RLMT	**Red Lodge**	**60.78**	**54**	P		**P**		**03 56 16.8**	**+2.7**
	baz=312								
LOHW	**Long Hollow**	**61.06**	**56**	IAmb		IAmb		03 56 19.9	
	comp=Z,11nm,1.3s								
HVU	**Hansel Valley**	**61.08**	**59**	IAmb		IAmb		03 56 19.4	
	comp=Z,3.9nm,0.8s								
SNOW	**Snow King Moun**	**61.08**	**56**	IAmb		IAmb		03 56 20.1	
	comp=Z,5.1nm,0.8s								
REDW	**Red Top Meadow**	**61.09**	**56**	P		**P**		**03 56 17.4**	**+1.1**
LCH	**Last Change Ra**	**61.27**	**65**	IAmb		IAmb		03 56 20.6	
	comp=Z,7.8nm,1.3s								
LAO	**LASA Array**	**61.31**	**51**	IAmb		IAmb		03 56 20.7	
	comp=Z,5.8nm,0.8s								
LAO	**LASA Array**	**61.31**	**51**	P		**P**		**03 56 20.0**	**+2.5**
	baz=312								
AHID	**Auburn Hatcher**	**61.36**	**57**	IAmb		IAmb		03 56 20.7	
	comp=Z,4.9nm,0.7s								
ICESG	**Greenland Ices**	**61.53**	**6**	*i* P		**P**		**03 56 19.2**	**+0.3**
CWC	**Cottonwood Cre**	**61.54**	**66**	P		**P**		**03 56 21.3**	**+2.0**
	baz=312								
GRAC	**Grapevine Rang**	**61.60**	**65**	P		**P**		**03 56 22.1**	**+2.5**
	baz=312								
R11A	**Troy Canyon, C**	**61.75**	**63**	IAmb		IAmb		03 56 23.5	
	comp=Z,6.7nm,0.9s								
R11A	**Troy Canyon, C**	**61.75**	**63**	P		**P**		**03 56 22.7**	**+2.0**
	baz=312,SNR=12								
HWUT	**Hardware Ranch**	**61.87**	**58**	IAmb		IAmb		03 56 24.3	
	comp=Z,4.7nm,0.7s								
DUG	**Dugway, Tooele**	**62.12**	**60**	P		**P**		**03 56 25.7**	**+2.6**
	baz=312,SNR=12								
MPMC	**Manual Prospec**	**62.15**	**66**	P		**P**		**03 56 25.4**	**+1.9**
	baz=312,SNR=6.1								
BW06	**Boulder Array**	**62.20**	**56**	P		**P**		**03 56 25.8**	**+2.0**
	baz=313,SNR=17								
PD31	**Pinedale Array**	**62.20**	**56**	P		**P**		**03 56 25.4**	**+1.7**
PD31				IAmb		IAmb		03 56 26.5	
	comp=Z,8.8nm,0.9s								
PDAR	**Pinedale Array**	**62.20**	**56**	P		**P**		**03 56 25.3**	**+1.6**
	comp=Z,6.0nm,0.7s,baz=307,slow=1.8,SNR=65								
FURC	**Furnace Creek,**	**62.25**	**66**	P		**P**		**03 56 26.2**	**+2.4**
	baz=312,SNR=15								
TPNV	**Topopah Spring**	**62.29**	**65**	IAmb		IAmb		03 56 27.3	
	comp=Z,9.8nm,1.0s								
TPNV	**Topopah Spring**	**62.29**	**65**	P		**P**		**03 56 26.4**	**+2.0**
	baz=312,SNR=9.7								
LRMC	**Laurel Mtn Rad**	**62.42**	**67**	P		**P**		**03 56 26.7**	**+1.5**
	baz=313								
FINES	**FINESS Array B**	**62.42**	**335**	P		**P**		**03 56 23.4**	**-1.2**
	comp=Z,1.6nm,0.6s,baz=32,slow=7.5,SNR=19								
FINES				PcP		**PcP**		**03 57 02.6**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=41,slow=5.5,SNR=3.8								
GWY	**Greenwater Val**	**62.55**	**66**	IAmb		IAmb		03 56 28.8	
	comp=Z,5.6nm,0.8s								
QSM	**Queen of Sheba**	**62.58**	**66**	IAmb		IAmb		03 56 29.0	
	comp=Z,5.9nm,0.9s								
PSUT	**Pine Spring**	**62.63**	**62**	IAmb		IAmb		03 56 29.1	
	comp=Z,3.6nm,0.6s								
EDW2	**Edwards Air Fo**	**62.63**	**68**	P		**P**		**03 56 28.4**	**+1.9**
	baz=313,SNR=6.7								
PRN	**Pahroc Range**	**62.69**	**64**	IAmb		IAmb		03 56 31.6	
	comp=Z,8.7nm,1.2s								
NLU	**North Lily Min**	**62.70**	**60**	P		**P**		**03 56 28.3**	**+1.3**
NLU				IAmb		IAmb		03 56 30.1	
	comp=Z,7.7nm,0.8s								
MPU	**Maple Canyon**	**62.90**	**59**	IAmb		IAmb		03 56 31.6	
	comp=Z,6.9nm,0.7s								
SHOC	**Shoshone, Teco**	**62.98**	**66**	P		**P**		**03 56 30.6**	**+1.8**
	baz=313								
GSC	**Goldstone, Bar**	**63.07**	**66**	P		**P**		**03 56 31.3**	**+1.9**
	baz=313,SNR=5.3								
BFSC	**Mount Baldy Ra**	**63.27**	**68**	P		**P**		**03 56 32.7**	**+1.9**
	baz=313								
DY2G	**Dyer**	**63.51**	**9**	*i* P		**P**		**03 56 31.6**	**-0.4**
TUQ	**Turquoise Moun**	**63.51**	**66**	P		**P**		**03 56 34.3**	**+1.9**
	baz=313,SNR=8.2								
CCUT	**Cedar City**	**63.58**	**63**	IAmb		IAmb		03 56 36.1	
	comp=Z,5.7nm,0.9s								
MSU	**Marysvale**	**63.62**	**61**	P		**P**		**03 56 34.4**	**+1.2**
MSU	**Marysvale**	**63.62**	**61**	P		**P**		**03 56 34.4**	**+1.2**
TMUT	**Trail Mountain**	**63.63**	**60**	IAmb		IAmb		03 56 36.4	
	comp=Z,9.7nm,0.8s								
HEC	**Hector,Ludlow**	**63.67**	**67**	P		**P**		**03 56 35.5**	**+2.0**
	baz=313								
P17A	**Butcher Ranch,**	**63.78**	**59**	IAmb		IAmb		03 56 37.2	
	comp=Z,6.6nm,0.9s								
MTPU	**Mount Pierson**	**63.93**	**61**	IAmb		IAmb		03 56 38.9	
	comp=Z,5.5nm,0.8s								
MURC	**Murrieta**	**63.99**	**68**	P		**P**		**03 56 37.3**	**+1.8**
	baz=313								
OBN	**Obninsk**	**64.08**	**326**	*de*P		**P**		**03 56 36.1**	**+0.5**
OBN				*e*				03 57 12.1	
OBN				*e*				03 58 55.4	
OBN				pmax		pmax			
	comp=Z,7.0nm,0.7s								
OBN				MLR		MLR			
	comp=Z,35nm,20.0s								
RSSD	**Black Hills**	**64.20**	**52**	P		**P**		**03 56 37.6**	**+0.7**
RSSD				*PP		**pP**		**03 56 55.6**	**+0.7**
RSSD				pmax		pmax			
	comp=Z,7.0nm,1.1s								
RSSD	**Black Hills**	**64.20**	**52**	P		**P**		**03 56 37.6**	**+0.7**
RSSD				IAmb		IAmb		03 56 39.3	
	comp=Z,7.2nm,1.1s								
RSSD						**pP**		**03 56 55.6**	**+0.7**
RSSD	**Black Hills**	**64.20**	**52**	P		**P**		**03 56 38.5**	**+1.6**
	baz=314								
RWWY	**Rawlins**	**64.21**	**56**	IAmb		IAmb		03 56 39.5	
	comp=Z,7.2nm,0.9s								
KNB	**Kanab**	**64.26**	**63**	IAmb		IAmb		03 56 40.9	
	comp=Z,8.1nm,0.9s								
PKCU	**Pink Cliffs**	**64.27**	**62**	IAmb		IAmb		03 56 41.1	
	comp=Z,6.6nm,0.9s								
BELC	**Belle Mtn. Jos**	**64.44**	**67**	P		**P**		**03 56 40.0**	**+1.4**
	baz=314								
O20A	**White River Ci**	**64.72**	**57**	IAmb		IAmb		03 56 43.9	
	comp=Z,4.9nm,0.7s								
O20A	**White River Ci**	**64.72**	**57**	P		**P**		**03 56 42.3**	**+2.0**
	baz=314								
IRM	**Iron Mountain**	**64.85**	**66**	P		**P**		**03 56 42.9**	**+1.9**
	baz=314,SNR=7.4								
BC3	**Big Chuckawall**	**65.01**	**67**	P		**P**		**03 56 43.9**	**+1.7**
	baz=314								
MTN	**Manton Dam**	**65.32**	**206**	P		**P**		**03 56 44.1**	**0.0**
MTN				IAmb		IAmb		03 56 45.1	
	comp=Z,9.5nm,0.8s								
PDMCI	**Parker Dam,Lak**	**65.35**	**66**	P		**P**		**03 56 46.3**	**+2.1**
	baz=314								
PV21	**Cone Mtn., Par**	**65.40**	**59**	IAmb		IAmb		03 56 47.6	
	comp=Z,9.6nm,0.7s								
N23A	**Red Feather La**	**65.44**	**55**	P		**P**		**03 56 47.5**	**+2.4**
	baz=315,SNR=5.2								
PV01	**Paradox Valley**	**65.93**	**59**	P		**P**		**03 56 49.6**	**+1.4**
WUAZ	**Wupatki**	**66.14**	**63**	P		**P**		**03 56 52.0**	**+2.4**
	baz=314								
NB2	**NORSAR Subarra**	**66.36**	**342**	P		**P**		**03 56 49.0**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=29,slow=6.5								
NOA	**NORSAR Array B**	**66.36**	**342**	P		**P**		**03 56 50.9**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=28,slow=6.0,SNR=6.1								
ISCO	**Idaho Springs**	**66.39**	**56**	IAmb		IAmb		03 56 54.5	
	comp=Z,8.7nm,0.9s								
ISCO	**Idaho Springs**	**66.39**	**56**	P		**P**		**03 56 53.5**	**+2.2**
	baz=315,SNR=13								
MVCO	**Mesa Verde**	**66.61**	**60**	IAmb		IAmb		03 56 55.4	
	comp=Z,6.5nm,0.8s								
MVCO	**Mesa Verde**	**66.61**	**60**	P		**P**		**03 56 54.6**	**+1.9**
	baz=315,SNR=7.0								
S22A	**4UR Ranch, Cre**	**67.18**	**58**	P		**P**		**03 56 58.6**	**+2.3**
	baz=315,SNR=9.3								
MNK	**Minsk**	**67.60**	**330**	*i* P		**P**		**03 56 55.0**	**-3.3**
MNK				*i*				03 57 22.2	
MNK				*i*				03 59 26.2	
MNK				*i* PPP		PPP		04 01 04.8	
MNK				*i* S		**S**		**04 05 46.7**	**-2.8**
MNK				*i* SS		**SS**		**04 10 10.0**	**-0.2**
MNK				pmax		pmax			
	comp=Z,5.0nm,1.3s								
MNK				pmax		pmax			
	comp=E,1.0nm,1.0s								
MNK				pmax		pmax			
	comp=N,18nm,1.0s								
MNK				MLR		MLR			
	comp=E,42nm,17.0s								
MNK				MLR		MLR			
	comp=N,459nm,24.0s								
MNK				MLR		MLR			
	comp=Z,366nm,27.0s								
MNK	**Minsk**	**67.60**	**330**	*i* P		**P**		**03 56 55.1**	**-3.2**
	comp=Z,5.0nm,1.3s,baz=34								
MNK				*i* P		**P**		**03 56 55.7**	**-2.5**
	comp=E,1.0nm,1.0s								
MNK				*i* P		**P**		**03 56 55.7**	**-2.5**
	comp=N,18nm,1.0s								
MNK				*i* PcP		**sP**		**03 57 22.2**	**-1.7**
MNK				*i* PP		**PP**		**03 59 26.3**	**-1.1**
MNK				*i* PPP		PPP		04 01 04.8	
MNK				*i* S		**S**		**04 05 46.8**	**-2.7**
MNK				*i* SS		**SS**		**04 10 10.0**	**-0.2**
MNK				*i* SSS		SSS		04 13 25.6	
MNK				*i* LQ		LQ		04 21 28.2	
MNK				*i* LR		LR		04 27 08.7	
MNK				*i* LRM		MLR		04 31 17.5	
	comp=E,42nm,17.2s								
MNK				*i* LRM		MLR		04 31 18.8	
	comp=N,459nm,23.6s								
MNK				*i* LRM		MLR		04 31 35.9	
	comp=Z,366nm,26.7s								
214A	**Organ Pipe Nat**	**67.78**	**67**	P		**P**		**03 57 01.9**	**+2.0**
	baz=315								
SDCO	**Great Sand Dun**	**67.92**	**58**	P		**P**		**03 57 02.9**	**+1.9**
	baz=316,SNR=5.9								
ECSD	**EROS Data Cent**	**68.20**	**48**	P		**P**		**03 57 02.9**	**+0.7**
	baz=318,SNR=5.1								
TUC	**Tucson**	**68.75**	**65**	P		**P**		**03 57 07.4**	**+1.5**
TUC				pmax		pmax			
	comp=Z,5.0nm,1.1s								
TUC	**Tucson**	**68.75**	**65**	P		**P**		**03 57 07.4**	**+1.5**
TUC	**Tucson**	**68.75**	**65**	P		**P**		**03 57 08.2**	**+2.2**
	baz=316								
T25A	**Trinidad**	**68.95**	**57**	P		**P**		**03 57 09.2**	**+1.8**
	baz=316								
ANMO	**Albuquerque**	**69.38**	**60**	P		**P**		**03 57 10.8**	**+0.8**
ANMO				pmax		pmax			
	comp=Z,4.0nm,0.8s								
ANMO	**Albuquerque**	**69.38**	**60**	P		**P**		**03 57 10.8**	**+0.8**
ANMO	**Albuquerque**	**69.38**	**60**	P		**P**		**03 57 12.1**	**+2.1**
	baz=316								
BNM	**Barren Site**	**69.86**	**61**	P		**P**		**03 57 13.5**	**+0.5**
KBZ	**Khabaz**	**70.16**	**315**	P		**P**		**03 57 14.1**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=295,slow=0.9,SNR=5.5								
KBZ	**Khabaz**	**70.16**	**315**	⇓ *e*P		**P**		**03 57 14.9**	**+0.6**
KBZ				pmax		pmax			
	comp=Z,4.0nm,0.9s								
AKASG	**Malin Array Be**	**70.28**	**327**	P		**P**		**03 57 13.3**	**-1.7**
	comp=Z,0.8nm,0.3s,baz=33,slow=6.4,SNR=7.5								
AKBB	**Malin Array Si**	**70.28**	**327**	⇓ *e*P		**P**		**03 57 14.3**	**-0.7**
AKBB				pmax		pmax			
	comp=Z,3.0nm,1.2s								
SCHQ	**Schefferville**	**70.51**	**24**	P		**P**		**03 57 16.7**	**+0.3**
	comp=Z,7.8nm,0.4s,baz=349,slow=6.6,SNR=48								
SCHQ	**Schefferville**	**70.51**	**24**	P		**P**		**03 57 17.1**	**+0.7**
WR0	**Warramunga Arr**	**71.25**	**201**	P		**P**		**03 57 21.1**	**0.0**
WRAB	**Tennant Creek**	**71.27**	**201**	⇑ *e*P		**P**		**03 57 21.1**	**-0.1**
WRAB				pmax		pmax			
	comp=Z,15nm,1.3s								
WB2	**Warramunga Arr**	**71.28**	**201**	P		**P**		**03 57 20.5**	**-0.8**
WB2				IAmb		IAmb		03 57 21.8	
	comp=Z,5.6nm,0.6s								
WRA	**Warramunga Arr**	**71.28**	**201**	P		**P**		**03 57 21.4**	**0.0**
	comp=Z,5.5nm,0.6s,baz=18,slow=5.8,SNR=78								
WRA				pP		**pP**		**03 57 39.0**	**-0.5**
	comp=Z,3.2nm,0.8s,baz=17,slow=4.9,SNR=5.7								
WRA				LR		LR		04 29 16.4	
	comp=Z,54nm,19.6s,baz=200,slow=36								
WRA

U40A	**Yellville**	**75.67**	**51**	P		**P**		**03 57 47.8**	**+0.7**
	baz=321,SNR=6.9								
MLR	**Muntele Rosu**	**75.85**	**326**	⇑P		**P**		**03 57 49.8**	**+1.7**
MLR	**Muntele Rosu**	**75.85**	**326**	⇑P		**P**		**03 57 49.8**	**+1.7**
MLR	**Muntele Rosu**	**75.85**	**326**	P		**P**		**03 57 47.9**	**-0.2**
ISR	**Istrita**	**75.95**	**325**	⇑P		**P**		**03 57 49.4**	**+0.8**
ISR	**Istrita**	**75.95**	**325**	⇑P		**P**		**03 57 49.4**	**+0.8**
TSCT	**Constanta Port**	**75.95**	**323**	⇑P		**P**		**03 57 49.6**	**+1.2**
W39A	**Magazine**	**76.10**	**52**	IAmb		IAmb		03 57 51.0	
	comp=Z,5.9nm,0.8s								
W39A	**Magazine**	**76.10**	**52**	P		**P**		**03 57 50.2**	**+0.7**
	baz=321								
VOIR		**76.23**	**326**	⇑P		**P**		**03 57 50.9**	**+0.7**
VOIR		**76.23**	**326**	⇑P		**P**		**03 57 50.9**	**+0.7**
FCAR	**Ozark Folk Cen**	**76.41**	**50**	P		**P**		**03 57 50.6**	**-0.7**
FCAR				IAmb		IAmb		03 57 52.3	
	comp=Z,6.9nm,0.6s								
ARR	**Arges**	**76.44**	**327**	⇑P		**P**		**03 57 49.9**	**-1.4**
JCT	**Junction City**	**76.45**	**59**	IAmb		IAmb		03 57 53.7	
	comp=Z,6.9nm,0.8s								
JCT	**Junction City**	**76.45**	**59**	P		**P**		**03 57 52.8**	**+1.2**
	baz=320,SNR=6.1								
KHC	**Kasperske Hory**	**76.63**	**335**	*e*P		**P**		**03 57 52.1**	**-0.2**
KHC				*e*				03 58 08.2	
KHC	**Kasperske Hory**	**76.63**	**335**	*e*P		**P**		**03 57 52.1**	**-0.2**
KHC				*e*P		**pP**		**03 58 08.2**	**-2.6**
MIAR	**Mount Ida**	**76.71**	**52**	P		**P**		**03 57 54.1**	**+1.1**
	baz=321,SNR=9.8								
GERES	**GERESS Array B**	**76.86**	**335**	P		**P**		**03 57 53.5**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=32,slow=5.6,SNR=10								
GERES				pP		**pP**		**03 58 11.3**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=17,slow=5.6,SNR=3.6								
W41B	**Gary Mavity, V**	**76.90**	**51**	P		**P**		**03 57 54.9**	**+0.9**
	baz=322,SNR=5.0								
GZR	**Gura Zlata**	**77.08**	**328**	⇑P		**P**		**03 57 54.7**	**-0.3**
GZR	**Gura Zlata**	**77.08**	**328**	⇑P		**P**		**03 57 54.7**	**-0.3**
MEM	**Membach**	**77.14**	**340**	*d*P		**P**		**03 57 55.0**	**-0.1**
X40A	**Basin Creek Fa**	**77.14**	**52**	P		**P**		**03 57 56.4**	**+1.1**
	baz=322								
BZS	**Buzias**	**77.28**	**329**	⇑P		**P**		**03 57 56.3**	**+0.3**
BZS	**Buzias**	**77.28**	**329**	⇑P		**P**		**03 57 56.3**	**+0.3**
BCLA	**Clavier**	**77.47**	**341**	*d*P		**P**		**03 57 56.8**	**-0.1**
BRTR	**Keskin Array B**	**77.55**	**318**	P		**P**		**03 57 58.0**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=99,slow=2.2,SNR=6.1								
BRTR				pP		**pP**		**03 58 15.8**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=40,slow=6.5,SNR=4.8								
BRTR	**Keskin Array B**	**77.55**	**318**	*i* P		**P**		**03 57 58.7**	**+0.9**
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
SNF	**Seneffe**	**77.60**	**341**	*d*P		**P**		**03 57 57.1**	**-0.5**
MOA	**Molln**	**77.60**	**334**	*e*P		**P**		**03 58 01.8**	**+4.0**
	comp=Z,0.5nm,0.3s								
WLAR	**White Oak Lake**	**77.62**	**52**	P		**P**		**03 57 58.4**	**+0.4**
HERR	**Herculane**	**77.65**	**328**	⇑P		**P**		**03 57 57.7**	**-0.3**
BMRD	**Maredsous**	**77.69**	**341**	*d*P		**P**		**03 57 58.4**	**+0.2**
NATX	**Nacogdoches**	**78.30**	**55**	P		**P**		**03 58 03.8**	**+2.0**
NATX	**Nacogdoches**	**78.30**	**55**	P		**P**		**03 58 03.9**	**+2.0**
	baz=321								
WVT	**Waverly**	**78.34**	**47**	P		**P**		**03 58 03.0**	**+1.0**
	baz=324								
KBA	**Koelnbreinsper**	**78.56**	**334**	*e*P		**P**		**03 58 03.9**	**+0.6**
	comp=Z,5.3nm,0.5s								
WATA	**Walderalm**	**78.81**	**336**	*e*P		**P**		**03 58 05.1**	**+0.4**
	comp=Z,1.6nm,0.5s								
WTTA	**Wattenberg**	**78.86**	**336**	*e*P		**P**		**03 58 05.4**	**+0.4**
	comp=Z,2.4nm,0.6s								
MOTA	**Moosalm**	**78.93**	**336**	*e*P		**P**		**03 58 06.7**	**+1.4**
	comp=Z,1.5nm,0.5s								
U49A	**Red Boiling Sp**	**79.01**	**46**	IAmb		IAmb		03 58 07.5	
	comp=Z,7.1nm,1.0s								
SQTA	**Sankt Quirin**	**79.02**	**336**	*i* P		**P**		**03 58 06.0**	**+0.3**
	comp=Z,2.4nm,0.6s								
T50A	**Nancy**	**79.04**	**45**	P		**P**		**03 58 06.4**	**+0.6**
T50A				IAmb		IAmb		03 58 07.6	
	comp=Z,7.3nm,0.9s								
CLTN	**Cedars of Leba**	**79.09**	**46**	IAmb		IAmb		03 58 08.1	
	comp=Z,8.2nm,0.8s								
ABTA	**Abfaltersbach**	**79.10**	**335**	*e*P		**P**		**03 58 05.9**	**-0.2**
	comp=Z,1.4nm,0.5s								
DAVA	**Damuels**	**79.31**	**337**	*e*P		**P**		**03 58 08.8**	**+1.4**
	comp=Z,0.5nm,0.3s								
VTS	**Vitosha**	**79.32**	**326**	⇓P		**P**		**03 58 08.2**	**+0.7**
VTS	**Vitosha**	**79.32**	**326**	⇓P		**P**		**03 58 08.2**	**+0.7**
VTS	**Vitosha**	**79.32**	**326**	P		**P**		**03 58 07.5**	**0.0**
FETA	**Feichten**	**79.33**	**336**	*e*P		**P**		**03 58 08.3**	**+0.7**
	comp=Z,0.9nm,0.4s								
SWET	**Sewanee**	**79.99**	**47**	IAmb		IAmb		03 58 12.3	
	comp=Z,6.7nm,0.7s								
LRAL	**Lakeview Retre**	**81.23**	**49**	P		**P**		**03 58 18.3**	**+0.6**
	baz=324								
STKA	**Stephens Creek**	**81.61**	**192**	P		**P**		**03 58 21.0**	**+1.6**
	comp=Z,1.8nm,0.5s,baz=2.9,slow=5.7,SNR=5.1								
250A	**Grady**	**82.45**	**49**	IAmb		IAmb		03 58 27.1	
	comp=Z,10nm,0.9s								
NRCA	**Norcia**	**82.50**	**333**	IAmb		IAmb		03 58 27.5	
	comp=Z,7.6nm,1.0s								
TIGA	**Tifton**	**84.20**	**47**	P		**P**		**03 58 34.8**	**+1.7**
	baz=326								
ESDC	**Sonseca Array**	**89.62**	**344**	P		**P**		**03 58 58.9**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=355,slow=4.0,SNR=17								
ESDC				pP		**pP**		**03 59 15.8**	**-2.4**
	comp=Z,0.8nm,0.7s,baz=359,slow=3.9,SNR=4.8								
KEST	**Kesra**	**90.17**	**333**	LR		LR		04 42 35.9	
	comp=Z,38nm,19.9s,baz=310,slow=38								
LPAZ	**La Paz**	**131.97**	**62**	PKP		**PKiKP**		**04 05 17.4**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=52,slow=3.8,SNR=4.3								
QSPA	**South Pole Qui**	**138.93**	**180**	PKP		**PKiKP**		**04 05 28.0**	**-0.7**
	comp=Z,1.8nm,0.5s,baz=239,slow=1.6,SNR=9.0								
LC01	**Cunco**	**145.15**	**91**	PKPbc		**PKPdf**		**04 05 39.4**	**+0.9**
TRCB	**Terra Rica**	**145.71**	**50**	PKPbc		**PKPab**		**04 05 40.8**	**0.0**
LL04	**Puerto Octay**	**145.85**	**94**	PKPbc		**PKPab**		**04 05 40.6**	**-0.2**
CPUP	**Villa Florida**	**146.03**	**60**	PKPbc		**PKPbc**		**04 05 41.5**	**+0.2**
	comp=Z,5.0nm,0.8s,baz=326,slow=4.7,SNR=7.2								
CPUP	**Villa Florida**	**146.03**	**60**	PKPbc		**PKPab**		**04 05 43.0**	**+1.1**
PLCA	**Paso Flores**	**146.98**	**93**	PKPbc		**PKPbc**		**04 05 43.9**	**+0.2**
	comp=Z,3.7nm,0.7s,baz=297,slow=3.4,SNR=13								
PLCA	**Paso Flores**	**146.98**	**93**	PKPbc		**PKPab**		**04 05 44.9**	**-0.4**
SNAA	**Sanae**	**155.29**	**196**	PKPab		**PKPab**		**04 06 19.3**	**+0.5**
SNAA	**Sanae**	**155.29**	**196**	PKPdf		PKPdf		04 06 01.7	+8.5
SNAA	**Sanae**	**155.29**	**196**	PKPbc		PKPdf		04 06 01.7	+8.4
	comp=Z,0.6nm,0.5s,baz=181,slow=3.6,SNR=13								
SNAA				PKPab		**PKPab**		**04 06 18.7**	**-0.1**
	comp=Z,6.6nm,0.9s,baz=155,slow=3.1,SNR=22								
VNA2	**Neumayer--Watz**	**156.72**	**194**	PKPab		**PKPab**		**04 06 25.6**	**+0.7**
VNA3	**Neumayer Olymp**	**156.78**	**192**	PKPab		**PKPab**		**04 06 25.6**	**+0.3**
VNA3	**Neumayer Olymp**	**156.78**	**192**	PKPdf		PKPdf		04 06 05.0	+10
VNA1	**Neumayer--Stat**	**157.10**	**194**	PKPab		**PKPab**		**04 06 27.0**	**+0.5**

*JMA **20** 04:05:50.0,24˚.19N×121˚.79E,h27km±1km,M2.2*
*TAP **20** 04:05:50.1,24˚.27N×121˚.85E,h18km,ML3.1,B*
ISC 20 04:05:50.6±0.8,24˚26N±0˚.02×121˚85E±0˚.02,h17km±6km, n88,σ0°47/135,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EHP	**Heping Village**	**0.11**	**297**	P		**Pb**	**04 05 54.1**	**-0.2**
	baz=293							
EHP				*e*S		**Sg**	**04 05 57.1**	**+0.6**
	baz=293							
ENA	**Nanau**	**0.19**	**330**	P		**Pg**	**04 05 55.1**	**-0.2**
	baz=331							
ENA				S		**Sb**	**04 05 58.6**	**-0.6**
	baz=331							
EWUT	**Wuta**	**0.19**	**341**	P		**Pg**	**04 05 55.2**	**-0.1**
	baz=341							
EWUT				*e*S		**Sb**	**04 05 58.7**	**-0.6**
	baz=341							
ETL	**Fush Village**	**0.23**	**244**	*e*P		**Pg**	**04 05 55.8**	**0.0**
	baz=242							
ETL				*e*S		**Sb**	**04 06 00.5**	**+0.3**
	baz=242							
NACB	**Ninganchiao**	**0.24**	**249**	*e*P		**Pg**	**04 05 55.9**	**-0.2**
	baz=248							
NACB				S		**Sb**	**04 06 00.8**	**+0.1**
	baz=248							
TWD	**Chiawan**	**0.29**	**232**	P		**Pg**	**04 05 56.9**	**0.0**
	baz=235							
TWD				*e*S		**Sb**	**04 06 02.2**	**+0.3**
	baz=235							
ETLH	**Xiulin Townshi**	**0.34**	**261**	*e*P		**Pg**	**04 05 57.3**	**-0.4**
	baz=268							
ETLH				*e*S		**Sg**	**04 06 02.7**	**+0.2**
	baz=268							
TWC	**Suao**	**0.35**	**0**	*e*P		**Pg**	**04 05 57.6**	**-0.2**
	baz=6.0							
TWC				*e*S		**Sg**	**04 06 02.9**	**+0.1**
	baz=6.0							
HWA	**Hwalien**	**0.36**	**218**	*e*P		**Pb**	**04 05 59.0**	**+0.5**
	baz=228							
NDS	**Dongshan**	**0.39**	**342**	P		**Pg**	**04 05 58.5**	**-0.1**
	baz=342							
NDS				*e*S		**Sg**	**04 06 04.4**	**+0.3**
	baz=342							
ETM	**Tongmen**	**0.44**	**228**	*e*P		**Pg**	**04 05 59.3**	**-0.1**
	baz=234							
ETM				*e*S		**Sb**	**04 06 06.3**	**+0.1**
	baz=234							
TEYL	**Yanliau Villag**	**0.45**	**210**	*e*P		**Pb**	**04 06 00.2**	**0.0**
	baz=213							
TEYL				*e*S		**Sb**	**04 06 07.7**	**+1.1**
	baz=213							
NNSB	**Datong**	**0.45**	**292**	P		**Pg**	**04 05 59.8**	**-0.1**
	baz=291							
NNSB				*e*S		**Sg**	**04 06 06.2**	**+0.1**
	baz=291							
ENTT	**Nioudou**	**0.46**	**326**	P		**Pg**	**04 05 59.6**	**-0.2**
	baz=326							
ENTT				S		**Sg**	**04 06 06.4**	**+0.4**
	baz=326							
NDT	**Datong Townshi**	**0.46**	**318**	P		**Pg**	**04 05 59.9**	**+0.1**
	baz=317							
NDT				*e*S		**Sb**	**04 06 07.0**	**+0.2**
	baz=317							
NNS	**Nan Shan**	**0.47**	**293**	P		**Pg**	**04 05 59.9**	**-0.1**
	baz=292							
NNS				S		**Sg**	**04 06 06.7**	**+0.3**
	baz=292							
TWE	**Neicheng**	**0.49**	**340**	P		**Pg**	**04 06 00.3**	**-0.1**
	baz=341							
TWE				S		**Sg**	**04 06 07.5**	**+0.6**
	baz=341							
ILA	**Ilan**	**0.51**	**350**	*e*P		**Pg**	**04 06 00.6**	**-0.3**
	baz=350							
ILA				*e*S		**Sb**	**04 06 09.3**	**+1.0**
	baz=350							
WHF	**Hehuan Shan**	**0.54**	**258**	P		**Pg**	**04 06 01.3**	**-0.3**
	baz=257							
WHF				S		**Sg**	**04 06 09.1**	**+0.1**
	baz=257							
FUSS	**Fushou**	**0.55**	**269**	P		**Pg**	**04 06 01.5**	**-0.1**
	baz=268							
FUSS				*e*S		**Sg**	**04 06 09.2**	**+0.2**
	baz=268							
ESL	**Shilin**	**0.58**	**220**	*e*P		**Pg**	**04 06 01.7**	**-0.5**
	baz=225							
ESL				*e*S		**Sb**	**04 06 11.1**	**+0.7**
	baz=225							
NTC	**Toucheng**	**0.59**	**359**	P		**Pg**	**04 06 02.2**	**-0.2**
	baz=358							
NTC				*e*S		**Sg**	**04 06 10.6**	**+0.4**
	baz=358							
YHNB	**Yeheng**	**0.59**	**314**	P		**Pg**	**04 06 02.2**	**-0.2**
	baz=313							
YHNB				S		**Sg**	**04 06 10.5**	**+0.2**
	baz=313							
NWLT	**Wulai**	**0.60**	**329**	P		**Pg**	**04 06 02.3**	**-0.3**
	baz=323							
NWLT				*e*S		**Sg**	**04 06 10.7**	**+0.1**
	baz=323							
NSK	**Sanguang**	**0.61**	**313**	P		**Pg**	**04 06 02.3**	**-0.3**
	baz=312							
NSK				*e*S		**Sg**	**04 06 10.5**	**-0.3**
	baz=312							
TDCB	**Techi**	**0.63**	**269**	*e*P		**Pg**	**04 06 03.0**	**0.0**
	baz=269							
TDCB				*e*S		**Sg**	**04 06 11.2**	**-0.2**
	baz=269							
CHGB	**Renai**	**0.65**	**252**	P		**Pg**	**04 06 03.1**	**-0.2**
	baz=252							
CHGB				S		**Sb**	**04 06 12.6**	**+0.2**
	baz=252							
OWD	**Renai**	**0.68**	**244**	P		**Pb**	**04 06 03.7**	**-0.5**
	baz=243							
OWD				*e*S		**Sg**	**04 06 13.4**	**+0.2**
	baz=243							
EGFH	**Guangfu**	**0.70**	**213**	*e*P		**Pb**	**04 06 04.0**	**-0.5**
	baz=201							
TIPB	**Shuangxi**	**0.71**	**358**	P		**Pb**	**04 06 04.3**	**-0.3**
	baz=358							
TIPB				*e*S		**Sb**	**04 06 13.8**	**-0.3**
	baz=358							
TWA	**Mucha**	**0.76**	**342**	*e*P		**Pg**	**04 06 05.8**	**+0.4**
	baz=331							
TWB1	**Santiao Chiao**	**0.76**	**10**	*e*P		**Pb**	**04 06 05.2**	**-0.2**
	baz=2.0							
TWB1				S		**Sb**	**04 06 15.9**	**+0.5**
	baz=2.0							
NHDH	**Xindian Distri**	**0.76**	**337**	*e*P		**Pb**	**04 06 05.5**	**+0.1**
	baz=337							
NHDH				*e*S		**Sb**	**04 06 15.9**	**+0.5**
	baz=337							
TATO	**Taipei**	**0.78**	**335**	*e*P		**Pb**	**04 06 05.6**	**-0.2**
	baz=335							
TATO				S		**Sb**	**04 06 16.4**	**+0.2**
	baz=335							
NWF	**Wu-fen Shan**	**0.81**	**356**	*e*P		**Pb**	**04 06 06.3**	**0.0**
	baz=348							
NWF				*e*S		**Sb**	**04 06 17.6**	**+0.6**
	baz=348							
WFSB	**Wu-fen Shan**	**0.81**	**356**	*e*P		**Pb**	**04 06 06.4**	**+0.2**
	baz=348							
WFSB				S		**Sb**	**04 06 17.4**	**+0.5**
	baz=348							
WHP	**Taichung City**	**0.82**	**271**	*e*P		**Pb**	**04 06 06.5**	**0.0**
	baz=271							
WHP				*e*S		**Sb**	**04 06 17.4**	**0.0**
	baz=271							
LIOB	**Emei**	**0.85**	**297**	*e*P		**Pb**	**04 06 07.3**	**+0.3**
	baz=296							
LIOB				*e*S		**Sg**	**04 06 19.1**	**+0.8**
	baz=296							
WPL	**Puli Township**	**0.85**	**253**	P		**Pb**	**04 06 06.8**	**-0.1**
	baz=253							
WPL				S		**Sg**	**04 06 19.0**	**+0.6**
	baz=253							
NSTT	**Nanjuang**	**0.85**	**296**	*e*P		**Pb**	**04 06 07.1**	**+0.1**
	baz=295							
NSTT				*e*S		**Sg**	**04 06 18.7**	**+0.2**
	baz=295							
HGSD	**Ruisui**	**0.86**	**207**	*e*P		**Pg**	**04 06 07.3**	**0.0**
	baz=208							
DPDB	**Guoxing**	**0.87**	**255**	P		**Pb**	**04 06 07.2**	**-0.1**
	baz=255							
DPDB				*e*S		**Sn**	**04 06 19.8**	**-0.7**
	baz=255							
WCS	**Beigang Elemen**	**0.88**	**257**	P		**Pb**	**04 06 07.2**	**-0.2**
	baz=257							
WCS				*e*S		**Sg**	**04 06 19.5**	**+0.3**
	baz=257							
TNOU	**National Taiwa**	**0.89**	**356**	*e*P		**Pb**	**04 06 05.4**	**-2.2**
	baz=354							
EHY	**Hungye**	**0.89**	**213**	*e*P		**Pb**	**04 06 06.9**	**-0.8**
	baz=223							
EHY				*e*S		**Sn**	**04 06 20.3**	**-0.7**
	baz=223							
YM01	**YM01**	**0.92**	**344**	*e*P		**Pb**	**04 06 08.6**	**+0.4**
	baz=326							
YM01				*e*S		**Sb**	**04 06 20.0**	**-0.1**
	baz=326							
NCUH	**Zhongli**	**0.93**	**320**	*e*P		**Pb**	**04 06 08.5**	**+0.2**
	baz=316							
SSLB	**Suanglung**	**0.94**	**240**	*e*P		**Pb**	**04 06 08.0**	**-0.6**
	baz=240							
SSLB				S		**Sg**	**04 06 21.5**	**+0.2**
	baz=240							
SMLT	**Sun Moon Lake**	**0.94**	**247**	*e*P		**Pb**	**04 06 08.6**	**0.0**
	baz=247							
TYC	**Yuchr**	**0.97**	**249**	P		**Pb**	**04 06 08.7**	**-0.3**
	baz=249							
TWQ1	**Liyutan**	**0.98**	**275**	*e*P		**Pg**	**04 06 09.9**	**+0.2**
	baz=275							
YULB	**Yu-li**	**1.00**	**210**	*e*P		**Pb**	**04 06 08.6**	**-0.9**
	baz=213							
NMLH	**Miaoli**	**1.00**	**286**	*e*P		**Pg**	**04 06 10.7**	**+0.7**
	baz=284							
NSY	**Sanyi**	**1.00**	**279**	*e*P		**Pg**	**04 06 10.3**	**+0.2**
	baz=278							
JYNG	**Yonagunijimaku**	**1.02**	**79**	P		**Pb**	**04 06 09.9**	**0.0**
TWF1	**Yuli**	**1.03**	**209**	*e*P		**Pb**	**04 06 09.1**	**-1.1**
	baz=224							
TWY	**Chenhua**	**1.03**	**348**	*e*P		**Pb**	**04 06 09.8**	**-0.4**
	baz=329							
WHYT	**Xinyi Township**	**1.07**	**238**	*e*P		**Pb**	**04 06 10.3**	**-0.4**
	baz=239							
YOJ	**Yonaguni jima**	**1.08**	**79**	P		**Pb**	**04 06 10.5**	**-0.4**
YOJ				*e*S		**Sg**	**04 06 26.2**	**+0.5**
YOJ	**Yonaguni jima**	**1.08**	**79**	*i* P		**Pb**	**04 06 10.5**	**-0.4**
	baz=69							
YOJ				S		**Sg**	**04 06 25.9**	**+0.2**
	baz=69							
WJS	**Zhushan**	**1.11**	**247**	*e*P		**Pb**	**04 06 11.5**	**+0.1**
	baz=241							
YUS	**Yu-Shan**	**1.12**	**227**	*e*P		**Pb**	**04 06 11.2**	**-0.7**
	baz=228							
WNT	**Mingjian**	**1.13**	**251**	*e*P		**Pg**	**04 06 12.3**	**-0.1**
	baz=250							
FULB	**Fuli**	**1.17**	**206**	P		**Pn**	**04 06 12.1**	**-0.2**
	baz=223							
ALS	**Alishan**	**1.21**	**232**	P		**Pn**	**04 06 12.7**	**-0.4**
	baz=233							
CHN5	**Tsauling**	**1.26**	**239**	*e*P		**Pb**	**04 06 13.9**	**0.0**
	baz=239							
ELDTW	**Lidau**	**1.31**	**216**	*e*P		**Pn**	**04 06 13.8**	**-0.5**
	baz=206							
WRL	**Guolierlin Hig**	**1.39**	**255**	*e*P		**Pn**	**04 06 15.4**	**+0.2**
	baz=254							
STYH	**Taoyuan**	**1.46**	**222**	P		**Pn**	**04 06 16.2**	**-0.1**
	baz=224							
TPUB	**Ta-pu**	**1.47**	**230**	*e*P		**Pb**	**04 06 16.9**	**-0.6**
	baz=231							
LONT	**Longtian**	**1.50**	**206**	*e*P		**Pn**	**04 06 16.9**	**+0.1**
	baz=210							
WTP	**Ta-pu**	**1.52**	**228**	*e*P		**Pn**	**04 06 17.5**	**+0.4**
	baz=230							
TWK	**Hsinying**	**1.59**	**232**	*e*P		**Pn**	**04 06 18.5**	**+0.4**
	baz=232							
CHN1	**Nanshi**	**1.61**	**229**	*e*P		**Pb**	**04 06 19.8**	**-0.2**
	baz=230							
SLGT	**Liugui**	**1.67**	**221**	*e*P		**Pb**	**04 06 20.0**	**-1.0**
	baz=224							
ICHU	**Yijhu**	**1.69**	**238**	*e*P		**Pn**	**04 06 20.0**	**+0.6**
	baz=238							
SSD	**Sandimen**	**1.88**	**217**	*e*P		**Pn**	**04 06 21.8**	**-0.2**
	baz=221							
TSMG	**Majia**	**1.90**	**216**	*e*P		**Pn**	**04 06 22.8**	**+0.5**
	baz=220							
JKRS	**Kuro-shima**	**1.98**	**90**	P		**Pn**	**04 06 23.6**	**+0.3**
JKRS				*e*S		**Sn**	**04 06 48.7**	**+1.0**
MASBT	**Mashibuluo**	**1.98**	**214**	*e*P		**Pn**	**04 06 24.4**	**+1.0**
	baz=219							
EAST	**Anshuo**	**2.08**	**206**	*e*P		**Pn**	**04 06 26.0**	**+1.2**
	baz=201							
JIJ	**Ishigaki jima**	**2.10**	**87**	P		**Pn**	**04 06 24.7**	**-0.3**
JIJ				*e*S		**Sn**	**04 06 50.2**	**-0.6**
PHUB	**P'eng-hu**	**2.21**	**251**	*e*P		**Pn**	**04 06 26.4**	**-0.2**
	baz=248							
WDGT	**Dungji**	**2.24**	**244**	*e*P		**Pn**	**04 06 27.2**	**+0.3**
	baz=242							
SLIU	**Shizi**	**2.25**	**206**	*e*P		**Pn**	**04 06 27.7**	**+0.5**
	baz=201							
JISG	**Ishigakijimahi**	**2.27**	**81**	P		**Pn**	**04 06 26.9**	**-0.5**
JISG				S		**Sn**	**04 06 55.3**	**+0.3**
VWUC	**VWUC**	**2.30**	**289**	*e*P		**Pn**	**04 06 27.1**	**-0.7**
	baz=284							
PTMZ	**Houxiangcun**	**2.60**	**288**	*e*P		**Pn**	**04 06 31.4**	**-0.5**
	baz=282							

*VAO **20** 04:22:03.4±1.1,32˚.05S×71˚.85W,h22km,mb4.5*
*SJA **20** 04:22:03.0,32˚.20S×72˚.28W,h10km,ML5.0*
*GUC **20** 04:22:04.3±0.8,32˚.09S×71˚.84W,h31km±4km,ML4.4*
*NEIC **20** 04:22:04.0±1.7,32˚.13S±0˚.03×71˚.93W±0˚.09,h22km±4km, mb4.5/22,Mwr4.2/40,ML4.5(GUC),Error ellipse: s-maj=10.7km s-min=2.5km az=75.0*
*IDC **20** 04:22:05.2±5.2,32˚.05S×71˚.75W,h33km±38km,mb4.4/6, mb1 4.2/10,mb1mx4.0/27,mbtmp4.4/10,ML3.8/4,MS3.7/7, Ms1 3.7/7,ms1mx3.4/19,Error ellipse: s-maj=32.2km s-min=17.7km az=103.0*
*NEIC **20** 04:22:05.4,32˚.13S×71˚.89W,h25km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.06; $M_{\theta\theta}$0.16; $M_{\phi\phi}$-2.22; $M_{r\theta}$-0.24; $M_{r\phi}$0.91; $M_{\theta\phi}$-1.71; Fault plane solution: $M_0$2.90000×10^{15} NP1:φ322.05000°, δ30.88000°,λ57.77000°. NP2:φ178.35000°,δ64.27000°, λ107.69000°. Principal axes: T 2.7686, Plg66.0000°, Azm120.0000°; N 0.2399, Plg16.0000°, Azm350.0000°; P -3.0085, Plg17.0000°, Azm255.0000°;*
ISC 20 04:22:02.4±1.9,32˚08S±0˚.03×71˚93W±0˚.05,h14km±11km, n116,σ1°29/120,mb4.6/15,MS3.9/4,9C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VA06	**Catapilco**	**0.72**	**132⇑**	*e*P		**Pb**	**04 22 16.5**	**-0.2**
VA06				*e*S		**Sg**	**04 22 26.4**	**+0.5**
VA06				IAML			04 22 29.5	
	comp=E,43μm,0.4s							
VA01	**Torpederas**	**0.97**	**166⇑**	*e*P		**Pb**	**04 22 21.2**	**+0.2**
VA01				*e*S		**Sn**	**04 22 34.9**	**-0.2**
VA01	**Torpederas**	**0.97**	**166**			**Pn**	**04 22 21.6**	**0.0**
ROCH	**El Roble**	**1.18**	**139⇑**	*e*P		**Pn**	**04 22 24.6**	**-0.1**
ROCH				*e*S		**Sb**	**04 22 39.9**	**-0

LCO				*e*S		**Sb**	**04 23 36.3**	**-2.9**
COIS	**El Sosneado**	**3.60**	**148**	*i* P		**Pn**	**04 23 00.0**	**+2.3**
LAMA	**Las Malvinas**	**3.64**	**142**	*i* P		**Pn**	**04 23 02.0**	**+3.6**
ML02	**Panimavida**	**3.70**	**174**	Pn		**Pn**	**04 22 58.5**	**-0.6**
AC04	**Llanos de Chal**	**3.93**	**11**	Pn		**Pn**	**04 23 03.6**	**+1.3**
RFA	**San Rafael**	**3.95**	**134**	*i* P		**Pn**	**04 23 05.0**	**+2.4**
GO03	**Copiap**	**4.71**	**19**			**Pn**	**04 23 14.0**	**+1.0**
GO03	**Copiap**	**4.71**	**19**	*i* P		**Pn**	**04 23 17.0**	**+4.0**
AC06	**Mina Casimiro**	**4.90**	**17**			**Pn**	**04 23 17.9**	**+2.3**
H03N1	**Juan Fernandez**	**6.03**	**255**	T		T	04 30 13.6	
	baz=84,slow=73,SNR=391							
H03N3	**Juan Fernandez**	**6.05**	**255**	T		T	04 30 04.9	
	baz=84,slow=73,SNR=399							
H03N2	**Juan Fernandez**	**6.05**	**255**	T		T	04 30 06.2	
	baz=84,slow=73,SNR=336							
H03S3	**Juan Fernandez**	**6.12**	**252**	T		T	04 30 09.5	
	baz=82,slow=75,SNR=32							
H03S1	**Juan Fernandez**	**6.12**	**251**	T		T	04 30 14.6	
	baz=82,slow=75,SNR=32							
H03S2	**Juan Fernandez**	**6.13**	**252**	T		T	04 30 11.7	
	baz=82,slow=75,SNR=52							
PLCA	**Paso Flores**	**8.71**	**173**	Pn		**Pn**	**04 24 09.3**	**+1.4**
	comp=E,0.5nm,0.3s,baz=333,slow=11,SNR=18							
PLCA				LR		LR	04 28 07.6	
	comp=E,251nm,19.1s,baz=347,slow=42							
PLCA	**Paso Flores**	**8.71**	**173**			**Pn**	**04 24 07.7**	**-0.3**
LL03	**Petrohue**	**9.05**	**182**	Pn		**Pn**	**04 24 12.8**	**+0.3**
LVC	**Limon Verde**	**9.81**	**17**	Pn		**Pn**	**04 24 24.6**	**+1.3**
	comp=E,0.4nm,0.3s,baz=73,slow=14,SNR=1.5							
LVC				Sn		**Sn**	**04 26 17.4**	**+4.0**
	comp=E,0.8nm,0.3s,baz=241,slow=18,SNR=2.2							
LVC				LR		LR	04 28 23.5	
	comp=E,272nm,18.6s,baz=214,slow=39							
TRQA	**Tornquist**	**10.10**	**129**			**Pn**	**04 24 27.0**	**0.0**
TRQA	**Tornquist**	**10.10**	**129**	*e*P		**Pn**	**04 24 26.4**	**-0.6**
TRQA				*e*S		**Sn**	**04 26 20.3**	**+0.2**
PSGCX	**Pisagua**	**12.54**	**8**	Pn		**Pn**	**04 25 03.2**	**+2.7**
ITQB	**Itaqui**	**13.37**	**84**			**Pn**	**04 25 12.6**	**+0.9**
ITQB	**Itaqui**	**13.37**	**84**	*e*P		**Pn**	**04 25 11.0**	**-0.6**
CPUP	**Villa Florida**	**13.98**	**70**	LR		LR	04 31 06.8	
	comp=E,433nm,18.1s,baz=233,slow=39							
CPUP	**Villa Florida**	**13.98**	**70**	Pn		**Pn**	**04 25 20.4**	**+0.4**
LPAZ	**La Paz**	**16.10**	**13**	Pn		**Pn**	**04 25 48.7**	**-0.2**
	comp=E,0.1nm,0.3s,baz=210,slow=4.3,SNR=16							
LPAZ	**La Paz**	**16.10**	**13**	Pn		**Pn**	**04 25 48.7**	**-0.2**
LPAZ	**La Paz**	**16.10**	**13**	*e*P		**Pn**	**04 25 48.3**	**-0.6**
AQDB	**Aquidauana**	**18.56**	**55**	P		**P**	**04 26 19.0**	**+0.2**
SIV	**San Ignacio**	**18.82**	**34**	P		**P**	**04 26 20.6**	**-1.1**
	comp=E,0.3nm,0.3s,baz=219,slow=10,SNR=18							
PTLB	**Pontes e Lacer**	**20.25**	**38**	*e*P		**P**	**04 26 36.9**	**-0.3**
SALV	**Santo Antonio**	**21.85**	**46**	*e*P		**P**	**04 26 52.9**	**-1.7**
VILB	**Vilhena**	**21.87**	**32**	*e*P		**P**	**04 26 53.9**	**-1.0**
ETMB	**Extrema**	**22.78**	**15**	*e*P		**P**	**04 27 05.0**	**+0.5**
ITRB	**Iturama**	**22.94**	**63**	*e*P		**P**	**04 27 06.1**	**-0.1**
CZSB	**Cruzeiro do Su**	**24.24**	**358**	*e*P		**P**	**04 27 18.7**	**-0.2**
SAML	**Samuel**	**24.41**	**21**	P		**P**	**04 27 19.8**	**-0.6**
SAML				IAmb		IAmb	04 27 21.5	
	comp=Z,3.4nm,0.8s							
CLDB	**Colider**	**25.83**	**39**	*e*P		**P**	**04 27 32.5**	**-0.9**
BDFB	**Brasilia**	**27.22**	**59**	P		**P**	**04 27 44.4**	**-1.7**
	comp=Z,14nm,1.0s,baz=227,slow=7.7,SNR=16							
BDFB				LR		LR	04 40 05.4	
	comp=Z,250nm,19.0s,baz=276,slow=40							
BDFB	**Brasilia**	**27.22**	**59**	P		**P**	**04 27 45.0**	**-1.1**
SNDB	**Serra Nova Dou**	**27.59**	**48**	*e*P		**P**	**04 27 48.1**	**-1.1**
NPGB	**Novo Progresso**	**29.31**	**35**	*e*P		**P**	**04 28 03.0**	**-1.6**
BOAV	**Boa Vista**	**35.95**	**20**	*e*P		**P**	**04 29 02.2**	**-0.4**
NBPN	**Ponto Novo - B**	**36.09**	**61**	*e*P		**P**	**04 29 02.3**	**-1.6**
MCPB	**Macapa, AP**	**36.71**	**35**	*e*P		**P**	**04 29 08.7**	**-0.5**
RUSC	**La Rusia**	**37.77**	**358**	P		**P**	**04 29 19.2**	**+0.6**
RUSC				IAmb		IAmb	04 29 22.4	
	comp=Z,17nm,1.2s							
NBPS	**Pedro II - PI**	**39.68**	**52**	*e*P		**P**	**04 29 33.3**	**-1.0**
NBAN	**Anadia - AL**	**39.80**	**64**	*e*P		**P**	**04 29 33.7**	**-1.5**
SJG	**San Juan**	**50.21**	**7**	P		**P**	**04 30 57.4**	**-0.5**
SJG				IAmb		IAmb	04 30 58.1	
	comp=Z,8.5nm,0.9s							
VNA3	**Neumayer Olymp**	**51.10**	**158**	P		**P**	**04 31 04.8**	**+0.7**
VNA1	**Neumayer--Stat**	**51.41**	**158**	P		**P**	**04 31 07.1**	**+0.8**
VNA2	**Neumayer--Watz**	**51.75**	**158**	P		**P**	**04 31 09.7**	**+0.8**
	baz=298,slow=8.9							
SNAA	**Sanae**	**53.33**	**158**	P		**P**	**04 31 20.9**	**+0.2**
SNAA	**Sanae**	**53.33**	**158**	P		**P**	**04 31 20.9**	**+0.2**
SNAA				IAmb		IAmb	04 31 22.2	
	comp=Z,7.2nm,1.0s							
QSPA	**South Pole Qui**	**58.15**	**180**	P		**P**	**04 31 55.9**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=145,slow=2.3,SNR=15							
QSPA	**South Pole Qui**	**58.15**	**180**	P		**P**	**04 31 56.8**	**+1.3**
QSPA				IAmb		IAmb	04 32 09.3	
	comp=Z,4.0nm,0.9s							
TXAR	**Lajitas Array**	**68.11**	**330**	P		**P**	**04 33 01.6**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=134,slow=7.2,SNR=4.5							
TXAR				LR		LR	04 58 53.3	
	comp=Z,37nm,18.8s,baz=0.0,slow=32							
MNTX	**Cornudas Mount**	**70.89**	**330**	P		**P**	**04 33 18.1**	**-0.7**
LIC	**Lamto**	**74.09**	**72**	*e*P		**P**	**04 33 37.4**	**-1.0**
	comp=Z,27nm,0.8s							
TIC	**Toumodi**	**74.34**	**72**	*e*P		**P**	**04 33 38.8**	**-1.1**
KIC	**Kosan Boka**	**74.40**	**72**	*e*P		**P**	**04 33 39.6**	**-0.6**
	comp=Z,26nm,0.7s							
DBIC	**Dimbokro**	**74.49**	**72**	P		**P**	**04 33 39.4**	**-1.3**
	comp=Z,10nm,0.7s,baz=237,slow=5.0,SNR=21							
DBIC	**Dimbokro**	**74.49**	**72**	IAmb		IAmb	04 33 41.1	
	comp=Z,12nm,0.8s							
MAW	**Mawson**	**74.99**	**164**	P		**P**	**04 33 42.2**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=265,slow=9.1,SNR=5.2							
MAW				LR		LR	05 09 03.3	
	comp=Z,62nm,18.7s,baz=228,slow=38							
MAW	**Mawson**	**74.99**	**164**	P		**P**	**04 33 43.1**	**+0.4**
ISCO	**Idaho Springs**	**78.04**	**334**	P		**P**	**04 34 00.2**	**-0.5**
ISCO				IAmb		IAmb	04 34 15.6	
	comp=Z,3.6nm,1.4s							
PV21	**Cone Mtn., Par**	**78.28**	**331**	P		**P**	**04 34 00.8**	**-1.2**
PV21				IAmb		IAmb	04 34 01.7	
	comp=Z,3.2nm,1.0s							
KOWA	**Kowa**	**79.77**	**66**	P		**P**	**04 34 09.1**	**-1.3**
BOSA	**Boshof**	**80.89**	**118**	P		**P**	**04 34 15.6**	**-0.9**
	comp=Z,3.5nm,0.9s,baz=286,slow=4.0,SNR=5.0							
BOSA				LR		LR	05 06 53.2	
	comp=Z,59nm,20.0s,baz=208,slow=33							
BOSA	**Boshof**	**80.89**	**118**	IAmb		IAmb	04 34 34.4	
	comp=Z,6.4nm,1.1s							
TORD	**Torodi Ar. Bea**	**83.47**	**70**	P		**P**	**04 34 29.7**	**-0.2**
	comp=Z,8.5nm,0.7s,baz=283,slow=5.2,SNR=56							
TORD	**Torodi Ar. Bea**	**83.47**	**70**	P		**P**	**04 34 29.5**	**-0.5**
WRA	**Warramunga Arr**	**122.47**	**210**	PKP		**PKPdf**	**04 40 57.4**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=132,slow=1.4,SNR=15							
H11S2	**WAKE ISLAND Hyd**	**25.87**	**270**	T		T	07 00 03.4	
	baz=118,slow=75,SNR=34							
H11S1	**WAKE ISLAND Hyd**	**25.88**	**270**	T		T	07 00 13.9	
	baz=118,slow=75,SNR=24							
H11S3	**WAKE ISLAND Hyd**	**25.88**	**270**	T		T	07 00 04.8	
	baz=118,slow=75,SNR=19							
ZALV	**Zalesovo Beam**	**152.54**	**30**	PKPbc		**PKiKP**	**04 41 58.0**	**0.0**
	comp=Z,4.4nm,0.7s,baz=274,slow=4.0,SNR=8.5							
KSH	**Kashi**	**153.03**	**65**	PKPbc		**PKPdf**	**04 41 51.5**	**-0.7**
KSH				pPKP		sPKPdf	04 41 59.3	+1.8
MKAR	**Makanchi Array**	**155.40**	**46**	PKPbc		**PKPdf**	**04 42 02.1**	**+7.0**
	comp=Z,0.7nm,0.8s,baz=270,slow=2.4,SNR=4.5							
MKAR				PKPab		**PKPab**	**04 42 20.3**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=291,slow=4.4,SNR=16							

IDC 20 04:38:44.7±14.0, 20.96S×178.04W, h552km±87km, mb3.0/3, mb1 3.3/4, mb1mx2.9/25, mbtmp3.9/4, Error ellipse: s-maj=309.7km s-min=26.9km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**4.89**	**310**	P		P	04 40 13.7	-0.2
	3.2nm,0.3s,baz=134,slow=5.0,SNR=20							
ASAR	**Alice Springs**	**44.38**	**257**	P		P	04 46 07.3	+0.6
	1.5nm,0.5s,baz=97,slow=7.4,SNR=21							
WRA	**Warramunga Arr**	**44.50**	**263**	P		P	04 46 06.8	-0.9
	0.5nm,0.3s,baz=97,slow=7.5,SNR=22							
ILAR	**Eielson Array**	**88.77**	**13**	P		P	04 50 39.5	+0.2
	0.3nm,0.6s,baz=206,slow=6.0,SNR=2.6							
AKASG	**Malin Array Be**	**143.39**	**331**	PKP		PKPab	04 57 13.5	-1.1
	1.1nm,0.4s,baz=45,slow=4.8,SNR=8.8							
BRTR	**Keskin Array B**	**147.11**	**312**	PKPbc		PKPbc	04 57 26.0	-0.3
	0.2nm,0.4s,baz=55,slow=6.0,SNR=1.5							
GERES	**GERESS Array B**	**150.63**	**344**	PKPbc		PKiKP	04 57 35.1	+0.1
	0.3nm,0.5s,baz=22,slow=1.4,SNR=4.1							

IDC 20 04:55:15.8±9.1, 4.65S×151.46E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/29, mbtmp3.8/4, Error ellipse: s-maj=145.1km s-min=73.4km az=36.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.56**	**226**	P		P	05 00 17.1	-0.7
	0.9nm,0.5s,baz=52,slow=10,SNR=10							
ASAR	**Alice Springs**	**25.38**	**220**	P		P	05 00 44.6	-0.4
	1.2nm,0.5s,baz=56,slow=8.6,SNR=23							
FITZ	**Fitzroy Crossi**	**28.57**	**240**	P		P	05 01 14.2	+0.5
	0.6nm,0.4s,baz=58,slow=9.5,SNR=8.3							
STKA	**Stephens Creek**	**28.62**	**198**	P		P	05 01 14.6	+0.6
	1.1nm,0.6s,baz=38,slow=15,SNR=3.0							

IDC 20 05:10:49.9±6.2, 0.59N×29.19W, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/27, mbtmp3.8/6, MS3.4/4, Ms1 3.4/4, ms1mx2.9/28, Error ellipse: s-maj=130.5km s-min=32.9km az=35.0

NEIC 20 05:10:52.1±1.0, 0.97N±0.06×29.4W±0.1, h10km±1km, mb4.6/26, Error ellipse: s-maj=19.4km s-min=7.6km az=116.0

ISC 20 05:10:51.7±0.5, 0.9N±0.1×29.36W±0.09, h12km, n40, σ1§01/31, mb4.4/12, MS3.4/4, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RCBR	**Riachuelo**	**9.34**	**224**	Pn		**Pn**	**05 13 06.4**	**+0.1**
SACV	**Santiago Islan**	**15.09**	**22**	Pn		**Pn**	**05 14 24.5**	**-0.4**
SACV				IAmb		IAmb	05 14 27.0	
	comp=Z,32nm,0.8s							
H10N3	**ASCENSION HYDR**	**17.18**	**121**	T		T	05 32 24.2	
	baz=299,slow=75,SNR=94							
H10N2	**ASCENSION HYDR**	**17.18**	**121**	T		T	05 32 24.6	
	baz=299,slow=75,SNR=81							
H10N1	**ASCENSION HYDR**	**17.20**	**121**	T		T	05 32 24.4	
	baz=299,slow=75,SNR=90							
ASCN	**Ascension**	**17.34**	**121**			**P**	**05 14 54.3**	**-0.9**
H10S3	**ASCENSION HYDR**	**17.61**	**124**	T		T	05 32 57.3	
	baz=299,slow=74,SNR=38							
H10S2	**ASCENSION HYDR**	**17.63**	**124**	T		T	05 32 58.2	
	baz=281,slow=74,SNR=17							
BDFB	**Brasilia**	**24.70**	**228**	P		**P**	**05 16 13.5**	**+0.4**
DBIC	**Dimbokro**	**25.11**	**76**	P		**P**	**05 16 16.0**	**-0.6**
	comp=Z,5.1nm,0.9s,baz=250,slow=9.9,SNR=4.4							
DBIC				LR		LR	05 23 52.7	
	comp=Z,40nm,20.2s,baz=72,slow=31							
DBIC	**Dimbokro**	**25.11**	**76**	P		**P**	**05 16 16.2**	**-0.4**
DBIC				IAmb		IAmb	05 16 33.9	
	comp=Z,15nm,1.3s							
KOWA	**Kowa**	**28.46**	**60**	P		**P**	**05 16 45.5**	**-1.4**
TORD	**Torodi Ar. Bea**	**33.08**	**67**	P		**P**	**05 17 27.0**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=251,slow=9.4,SNR=3.6							
TORD	**Torodi Ar. Bea**	**33.08**	**67**	IAmb		IAmb	05 17 33.4	
	comp=Z,0.6nm,0.9s							
CPUP	**Villa Florida**	**38.22**	**223**	LR		LR	05 33 33.1	
	comp=Z,92nm,19.4s,baz=44,slow=36							
CRPR	**Cabo Rojo, PR**	**40.78**	**297**	P		**P**	**05 18 33.0**	**-0.2**
CRPR				IAmb		IAmb	05 18 41.4	
	comp=Z,15nm,1.1s							
AGPR	**Aguadilla, PR**	**40.95**	**298**	P		**P**	**05 18 34.6**	**0.0**
LPAZ	**La Paz**	**41.90**	**244**	LR		LR	05 35 17.9	
	comp=Z,38nm,19.2s,baz=88,slow=35							
SDDR	**Presa de Saban**	**44.84**	**296**	P		**P**	**05 19 05.4**	**-0.9**
SDDR				IAmb		IAmb	05 19 14.3	
	comp=Z,7.6nm,1.1s							
ESDC	**Sonseca Array**	**45.01**	**28**	P		**P**	**05 19 08.9**	**+1.7**
	comp=Z,0.7nm,0.9s,baz=220,slow=9.8,SNR=4.7							
AC06	**Mina Casimiro**	**48.39**	**231**	P		**P**	**05 19 34.6**	**+0.7**
GO03	**Copiap**	**48.41**	**231**	P		**P**	**05 19 32.6**	**-1.5**
TRQA	**Tornquist**	**49.06**	**214**	P		**P**	**05 19 40.5**	**+1.6**
TRQA				IAmb		IAmb	05 19 49.1	
	comp=Z,11nm,1.5s							
CORL	**Corleone**	**53.76**	**42**	P		**P**	**05 20 14.4**	**+0.3**
COVE	**Coope Vega, Sa**	**55.53**	**282**	P		**P**	**05 20 27.1**	**-0.3**
PLCA	**Paso Flores**	**55.83**	**217**	LR		LR	05 42 18.7	
	comp=Z,32nm,18.1s,baz=96,slow=34							
LMQ	**La Malbaie**	**58.47**	**329**	P		**P**	**05 20 47.1**	**-0.5**
FRNY	**Flat Rock**	**58.62**	**324**	P		**P**	**05 20 48.5**	**-0.2**
FRNY				IAmb		IAmb	05 21 01.9	
	comp=Z,5.0nm,0.8s							
GERES	**GERESS Array B**	**60.38**	**31**	P		**P**	**05 21 01.8**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=238,slow=7.6,SNR=4.0							
LODK	**Lodwar**	**64.72**	**87**	P		**P**	**05 21 30.4**	**-0.2**
LODK				IAmb		IAmb	05 21 39.9	
	comp=Z,3.6nm,1.1s							
GLAT	**Glass**	**65.54**	**310**	P		**P**	**05 21 36.4**	**+1.0**
HICK	**Hickman**	**65.58**	**310**	P		**P**	**05 21 34.7**	**-0.9**
I45A	**Fountain**	**66.11**	**319**	P		**P**	**05 21 38.4**	**-0.6**
MIAR	**Mount Ida**	**68.42**	**307**	P		**P**	**05 21 52.7**	**-1.1**
MIAR				IAmb		IAmb	05 21 54.9	
	comp=Z,2.8nm,0.6s							
BRTR	**Keskin Array B**	**68.90**	**47**	P		**P**	**05 21 57.8**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=210,slow=4.6,SNR=3.7							
AKASG	**Malin Array Be**	**69.91**	**35**	P		**P**	**05 22 03.7**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=245,slow=7.0,SNR=5.1							
AKASG	**Malin Array Be**	**69.91**	**35**	P		**P**	**05 22 02.6**	**-0.1**
KAN09	**Caldwell North**	**72.22**	**309**	P		**P**	**05 22 14.0**	**-3.0**
KAN05	**Bluff City Nor**	**72.41**	**309**	P		**P**	**05 22 17.9**	**-0.2**
MSEY	**Mahe Island**	**84.93**	**95**	P		**P**	**05 23 27.2**	**-0.4**

IDC 20 05:13:48.5±1.3, 8.95N×122.90E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/33, mbtmp3.6/4, Error ellipse: s-maj=81.7km s-min=21.9km az=74.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSRS	**Korea Array**	**28.74**	**8**	P		P	05 19 47.0	-0.7
	1.3nm,0.8s,baz=177,slow=9.9,SNR=4.4							
WRA	**Warramunga Arr**	**30.84**	**159**	P		P	05 20 06.2	-0.5
	0.2nm,0.3s,baz=333,slow=10,SNR=12							
ASAR	**Alice Springs**	**34.16**	**162**	P		P	05 20 36.0	+0.4
	0.2nm,0.3s,baz=337,slow=7.0,SNR=13							
MKAR	**Makanchi Array**	**51.12**	**325**	P		P	05 22 53.6	+0.4
	0.4nm,0.6s,baz=119,slow=7.6,SNR=4.9							

MEX 20 05:30:00.6±0.6, 16.50N×98.62W, h16km±163km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.48**	**103**	*i* P		Pg	05 30 08.8	-1.5
PNIG				*i* S		Sg	05 30 14.9	-1.9
MGIG	**Malinaltepec**	**0.73**	**359**	*e*P		Pg	05 30 12.2	-2.8
MGIG				*i* S		Sg	05 30 21.4	-3.3
TLIG	**Tlapa**	**1.06**	**3**	*e*P		Pb	05 30 18.0	-2.7
TLIG				*i* S		Sb	05 30 31.2	-3.1
TXIG	**Tlaxiaco**	**1.10**	**47**	*e*P		Pb	05 30 18.7	-2.8
TXIG				*i* S		Sb	05 30 31.5	-4.3
PEIG	**Puerto Escondi**	**1.50**	**109**	*i* P		Pn	05 30 25.4	-1.4
PEIG				*i* S		Sn	05 30 41.0	-5.0

MEX 20 06:06:27.3±0.3, 18.06N×98.23W, h49km±3km, MD3.7, Central Mexico

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FTIG	**Fresnillo de T**	**0.18**	**148**	*i* P		Pn	06 06 34.1	-1.5
FTIG				*i* S		Sn	06 06 39.6	-1.9
HLIG	**Huajuapan de L**	**0.47**	**119**	*i* P		Pn	06 06 37.0	-1.4
HLIG				*i* S		Sn	06 06 44.4	-1.9
MGIG	**Malinaltepec**	**0.91**	**205**	*i* P		Pn	06 06 42.3	-1.6
MGIG				*i* S		Sn	06 06 54.2	-1.9
TXIG	**Tlaxiaco**	**0.92**	**151**	*i* P		Pn	06 06 42.5	-1.7
TXIG				*i* S		Sn	06 06 54.5	-2.1
PNIG	**Pinotepa**	**1.66**	**176**	*i* P		Pn	06 06 53.3	-0.8
PNIG				*i* S		Sn	06 07 15.4	+1.1

BJI 20 06:07:00.8±0.0, 31.87S×71.49W, h10km, mB5.1/9, Ms5.2/13, Ms7 4.9/13

SJA 20 06:07:00.0, 31.69S×72.45W, h10km, ML5.5

IDC 20 06:07:00.2±0.5, 31.73S×71.86W, h0km, mb4.8/15, mb1 4.9/19, mb1mx4.8/24, mbtmp4.8/19, ML4.3/4, MS4.6/17, Ms1 4.6/17, ms1mx4.4/28, Error ellipse: s-maj=21.0km s-min=14.1km az=84.0

NEIC 20 06:07:01.5, 31.71S×71.91W, h15km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr3.40; Mθθ-0.19; Mϕϕ-3.21; Mrθ0.18; Mrϕ0.09; Mθϕ-3.18; Fault plane solution: M=4.59000×10¹⁶ NP1:φs177.25000°, δ66.97000°, λ89.25000°. NP2:φs359.18000°, δ23.04000°, λ91.77000°. Principal axes: T 4.6799, Plg68.0000°, Azm86.0000°; N -0.1847, Plg1.0000°, Azm178.0000°; P -4.4952, Plg22.0000°, Azm268.0000°;

NEIC 20 06:07:01.1±1.2, 31.68S±0.02×72.16W±0.07, h13km±3km, mb5.2/104, Ms_20 4.7/147, Mwr5.0/55, Mww5.1, ML5.0(GUC) Error ellipse: s-maj=9.4km s-min=2.3km az=107.0

GUC 20 06:07:02.3±0.9, 31.71S×72.08W, h38km±3km, ML5.0, MW5.3

VAO 20 06:07:03.3±0.4, 31.60S×71.72W, h10km, mb5.0

MOS 20 06:07:04.4±1.7, 31.46S×71.77W, h34km, mb5.4/21, MS4.6/6, Error ellipse: s-maj=15.1km s-min=8.7km az=96.0

GCMT 20 06:07:06.1±0.2, 31.79S±0.01×72.18W±0.01, h23km, MW5.2/110, Moment Tensor Solution. s68,c87; s110,c176; Duration: 1§0 Moment tensor: Scale 10¹⁶ Nm; Mrr6.32±.18; Mθθ-0.13±.10; Mϕϕ-6.19±.13; Mrθ-0.04±.14; Mrϕ0.67±.07; Mθϕ-4.52±.19; Best double couple: M=7.74700×10¹⁶ NP1:φs350.00000°, δ27.00000°, λ83.00000°. NP2:φs178.00000°, δ63.00000°, λ94.00000°. Principal axes: T 7.7900, Plg72.0000°, Azm96.0000°; N -0.0830, Plg3.0000°, Azm356.0000°; P -7.7040, Plg18.0000°, Azm265.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

NEIC 20 06:07:08, 31.69S×72.00W, h14km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr3.29; Mθθ0.59; Mϕϕ-3.88; Mrθ0.36; Mrϕ0.05; Mθϕ-5.43; Fault plane solution: M=6.54000×10¹⁶ NP1:φs3.00000°, δ17.00000°, λ96.00000°. NP2:φs176.00000°, δ73.00000°, λ88.00000°. Principal axes: T 6.2263, Plg62.0000°, Azm84.0000°; N 0.5832, Plg2.0000°, Azm177.0000°; P -6.8095, Plg28.0000°, Azm268.0000°;

ISC 20 06:07:01.9±0.3, 31.70S±0.02×72.03W±0.04, h14km, n565, σ1§60/509, mb5.2/72, MS4.7/97, 18C-11D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VA06	**Catapilco**	**1.06**	**144**	*e*P		**Pb**	**06 07 21.8**	**-0.3**
VA06				*e*S		**Sg**	**06 07 36.1**	**-0.2**
VA06				IAML			06 07 38.4	
	comp=E,65μm,0.4s							
CO06	**Fray Jorge**	**1.08**	**19⇑**	*e*P		**Pb**	**06 07 21.7**	**-0.6**
CO06				*e*S		**Sb**	**06 07 36.3**	**0.0**
CO06	**Fray Jorge**	**1.08**	**19**			**Pb**	**06 07 21.8**	**-0.6**
CO06						**Sb**	**06 07 36.0**	**-0.3**
VA01	**Torpederas**	**1.36**	**166⇑**	*e*P		**Pn**	**06 07 25.9**	**-0.6**
VA01				*e*S		**Sn**	**06 07 43.3**	**-1.0**
VA01				IAML			06 07 52.5	
	comp=E,95μm,1.1s							
VA01	**Torpederas**	**1.36**	**166**	Pn		**Pn**	**06 07 26.2**	**-0.3**
VA01						**Sn**	**06 07 42.2**	**-2.1**
VA01	**Torpederas**	**1.36**	**166**	*i* P		**Pn**	**06 07 26.0**	**-0.5**
CO03	**El Pedregal**	**1.44**	**54⇑**	*e*P		**Pn**	**06 07 28.0**	**+0.4**
CO03				*e*S		**Sb**	**06 07 47.0**	**+0.3**
CO03				IAML			06 07 51.1	
	comp=N,13μm,0.6s							
CO03				IAML			06 07 55.4	
	comp=E,20μm,0.6s							
CO03	**El Pedregal**	**1.44**	**54**	Pn		**Pb**	**06 07 28.1**	**-0.4**
CO03						**Sb**	**06 07 46.6**	**-0.1**
CO03	**El Pedregal**	**1.44**	**54**	*i* P		**Pn**	**06 07 28.0**	**+0.4**
ROCH	**El Roble**	**1.54**	**146⇑**	*e*P		**Pn**	**06 07 29.6**	**+0.5**
ROCH				*e*S		**Sb**	**06 07 49.9**	**+0.2**
ROCH				IAML			06 07 57.0	
	comp=E,25μm,0.8s							
VA03	**San Esteban**	**1.64**	**131⇑**	*e*P		**Pn**	**06 07 31.0**	**+0.5**
VA03				*e*S		**Sn**	**06 07 51.8**	**+0.3**
VA03				IAML			06 08 02.0	
	comp=N,48μm,0.5s							
VA03	**San Esteban**	**1.64**	**131**			**P

TRQA	Tornquist	10.41	130		Pn		Pn	06 09 31.3	+0.5
TRQA	Tornquist	10.41	130	*e*	P		Pn	06 09 30.4	-0.4
LPA	La Plata	12.22	109	*i*	P		Pn	06 09 47.2	-8.4
LPA					pP		P	06 09 59.0	-9.0
LPA					PPP		PPP	06 10 13.0	
LPA					PP		**PgPg**	**06 10 55.8**	**-0.3**
LPA					S		**Sn**	**06 12 04.1**	**-7.5**
LPA					sS			06 12 18.5	
LPA					SS		**SnSn**	**06 12 32.3**	**+8.7**
LPA					SSS		SSS	06 12 45.2	
LPA					PCP		**PcP**	**06 15 40.5**	**+2.1**
LPA					SCS		**ScS**	**06 22 42.4**	**-4.5**
LPA					PKIKP		**PKiKP**	**06 23 32.4**	**-3.7**
LPA					SKIKP			06 27 08.2	
LPA					PKIKS			06 27 13.7	
LPA					SKIKS			06 30 45.8	
ITQB	Itaqui	13.41	85		Pn		Pn	06 10 10.1	-1.8
ITQB	Itaqui	13.41	85	*e*	P		Pn	06 10 09.9	-2.0
CPUP	Villa Florida	13.93	71		Pn		Pn	06 10 17.6	-1.4
	comp=N,0.3nm,0.3s,baz=246,slow=13,SNR=10								
CPUP					Sn		Sn	06 12 56.4	+3.0
	comp=N,0.5nm,0.3s,baz=185,slow=11,SNR=4.4								
CPUP					LR		LR	06 15 57.3	
	comp=N,4μm,19.6s,baz=250,slow=39								
CPUP	Villa Florida	13.93	71		P		Pn	06 10 18.6	-0.3
CPUP	Villa Florida	13.93	71		Pn		Pn	06 10 18.6	-0.3
CPUP	Villa Florida	13.93	71	*e*	P		Pn	06 10 15.1	-3.8
PLTB	Pedras Altas	15.68	95		Pn		Pn	06 10 41.5	-1.1
PLTB	Pedras Altas	15.68	95	*e*	P		Pn	06 10 41.0	-1.5
LPAZ	La Paz	15.75	14		Pn		Pn	06 10 44.9	+0.8
	comp=N,0.6nm,0.3s,baz=183,slow=8.9,SNR=36								
LPAZ	La Paz	15.75	14		P		Pn	06 10 42.2	-1.8
LPAZ					pmax		pmax		
	comp=Z,27nm,0.9s								
LPAZ	La Paz	15.75	14		Pn		Pn	06 10 42.2	-1.8
LPAZ	La Paz	15.75	14	*e*	P		Pn	06 10 44.1	+0.1
CPSB	Cacapava Do Su	15.99	90	*e*	P		Pn	06 10 44.3	-2.2
CNLB	Canela	18.40	88	*e*	P		P	06 11 14.5	-2.3
AQDB	Aquidauana	18.42	57		P		P	06 11 13.7	-3.2
AQDB	Aquidauana	18.42	57	*e*	P		P	06 11 15.1	-1.8
SIV	San Ignacio	18.55	35		P		P	06 11 16.9	-1.5
	comp=Z,0.4nm,0.3s,baz=234,slow=12,SNR=50								
SIV					LR		LR	06 19 49.9	
	comp=Z,2μm,19.0s,baz=222,slow=42								
PTGB	Pitanga	18.91	73	*e*	P		P	06 11 22.4	+0.1
TRCB	Terra Rica	19.37	68		P		P	06 11 27.6	+0.2
TRCB	Terra Rica	19.37	68	*e*	P		Pn	06 11 28.6	+0.1
PTLB	Pontes e Lacer	20.00	39	*e*	P		P	06 11 32.9	-1.4
TER01	Tubaro-SC	20.06	87	*e*	P		P	06 11 34.8	0.0
NNA	Nana	20.11	346		P		Pn	06 11 37.0	-0.3
	comp=Z,8.1nm,0.7s,baz=205,slow=9.7,SNR=4.9								
NNA					LR		LR	06 18 02.5	
	comp=Z,1μm,18.7s,baz=154,slow=33								
NNA	Nana	20.11	346		P		P	06 11 33.4	-2.1
NNA					pmax		pmax		
	comp=Z,70nm,1.5s								
NNA					MLR		MLR		
	comp=Z,1μm,19.0s								
NNA	Nana	20.11	346		P		P	06 11 33.4	-2.1
PP1B	Ponte de Pedra	20.94	52	*e*	P		P	06 11 43.5	-0.9
PCMB	Pacaembu	21.08	67	*e*	P		P	06 11 45.0	-0.9
TIJ01	Guaruva-PR	21.19	78	*e*	P		P	06 11 43.9	-3.3
FRTB	Fartura	21.57	73	*e*	P		P	06 11 50.3	-0.9
VILB	Vilhena	21.60	33	*e*	P		P	06 11 51.2	-0.3
SALV	Santo Antonio	21.65	47	*e*	P		P	06 11 51.0	-1.1
ETMB	Extrema	22.43	15	*e*	P		P	06 12 01.1	+0.6
EFI	East Falkland	22.45	157	‖ *e*	P		P	06 12 01.7	+1.4
EFI					pmax		pmax		
	comp=Z,139nm,1.2s								
ITRB	Iturama	22.84	64	*e*	P		P	06 12 03.6	-1.2
PET01	Itanhaem-SP	23.04	78	*e*	P		P	06 12 06.3	-0.5
SPB	Sao Paulo	23.20	76		P		P	06 12 08.0	-0.5
SPB					IAMs_20		IAMs_20	06 21 32.0	
	comp=Z,4μm,19.0s								
SPB	Sao Paulo	23.20	76	*e*	P		P	06 12 08.1	-0.5
USHA	Ushuaia	23.26	175		P		P	06 12 08.8	0.0
	comp=Z,16nm,0.5s,baz=22,slow=4.6,SNR=3.2								
MG01	Puerto William	23.43	174		P		P	06 12 09.2	-1.3
MG01					IAmb		IAmb	06 12 33.9	
	comp=Z,69nm,1.0s								
BB19B	Bebedouro	23.52	69	*e*	P		P	06 12 10.9	-0.8
RCLB	Rio Claro- Sao	23.65	73	*e*	P		P	06 12 12.1	-0.9
CZSB	Cruzeiro do Su	23.86	358	*e*	P		P	06 12 16.4	+1.4
SAML	Samuel	24.09	22		P		P	06 12 16.7	-0.4
SAML					pmax		pmax		
	comp=Z,18nm,0.9s								
SAML					MLR		MLR		
	comp=Z,1μm,20.0s								
SAML	Samuel	24.09	22		P		P	06 12 16.7	-0.4
SAML	Samuel	24.09	22	*e*	P		P	06 12 17.1	0.0
PARB	Paraibuna	24.81	77	*e*	P		P	06 12 22.8	-1.1
IPMB	Ipameri, GO	25.50	63	*e*	P		P	06 12 28.9	-1.1
CLDB	Colider	25.59	39	*e*	P		P	06 12 29.7	-1.1
ESAR	Angra dos Reis	25.93	77	*e*	P		P	06 12 33.2	-0.6
BSCB	Bom Sucesso	26.58	73	*e*	P		P	06 12 39.0	-0.9
VAS01	Vassouras-RJ	27.08	77	*e*	P		P	06 12 44.8	+0.5
BDFB	Brasilia	27.10	59		P		P	06 12 43.9	-0.7
	comp=Z,81nm,1.0s,baz=232,slow=8.0,SNR=64								
BDFB					LR		LR	06 25 10.9	
	comp=Z,2μm,20.0s,baz=236,slow=40								
BDFB	Brasilia	27.10	59		P		P	06 12 43.2	-1.4
BDFB					pmax		pmax		
	comp=Z,96nm,1.1s								
BDFB	Brasilia	27.10	59		P		P	06 12 43.2	-1.4
SNDB	Serra Nova Dou	27.40	49	*e*	P		P	06 12 46.1	-1.0
TBTG	Tabatinga, AM	27.44	5	*e*	P		P	06 12 48.7	+1.2
DUB01	Friburgo-RJ	28.06	77	*e*	P		P	06 12 53.1	0.0
CAM01	Campos-RJ	28.77	78	*e*	P		P	06 12 58.7	-0.6
DIAM	Diamantina, MG	28.86	69	*e*	P		P	06 13 00.1	-0.3
NPGB	Novo Progresso	29.05	36	*e*	P		P	06 13 01.1	-0.9
PEXB	Peixe	29.29	54	*e*	P		P	06 13 03.8	-0.3
MC01	Montes Claros	29.54	66	*e*	P		P	06 13 05.3	-1.0
ALF01	Guarapari-ES	30.09	76	*e*	P		P	06 13 10.9	-0.1
JANB	Januaria	30.23	63	*e*	P		P	06 13 11.7	-0.8
MACA	Manacapuru-AM	30.33	23	*e*	P		P	06 13 13.2	0.0
SJMB	Sao Joao De Ma	30.65	72	*e*	P		P	06 13 15.6	-0.5
BSFB	Barra de Sao F	30.86	73	*e*	P		P	06 13 17.3	-0.6
RIB01	Linhares ES	30.99	74	*e*	P		P	06 13 18.5	-0.6
ITTB	Itaituba	31.20	33	*e*	P		P	06 13 20.2	-0.7
SDBA	SAO DESIDERIO	31.49	59	*e*	P		P	06 13 22.9	-0.6
NAN01	Guarapari, ES	31.95	72	*e*	P		P	06 13 26.8	-0.8
SMTB	Santa Maria do	32.13	50	*e*	P		P	06 13 28.9	-0.2
OTAV	Otavalo	32.34	348	*e*	P		P	06 13 31.8	+0.4
PRPB	Parauapebas	32.81	44	*e*	P		P	06 13 34.5	-0.6
GUA01	Guaratinga, BA	32.88	70	*e*	P		P	06 13 35.3	-0.4
FLOC	Florencia	33.28	353		P		P	06 13 37.5	-1.6
FLOC					IAmb		IAmb	06 13 55.0	
	comp=Z,56nm,1.4s								
FLOC	Florencia	33.28	353	*e*	P		P	06 13 39.6	+0.5
PMSA	Palmer Station	33.47	174		IAMs_20		IAMs_20	06 27 02.6	
	comp=Z,1μm,19.0s								
PMSA	Palmer Station	33.47	174	*e*	P		P	06 13 42.4	+2.2
MACC	Macarena, Meta	33.70	357	*e*	P		P	06 13 43.5	+0.7
CMC01	Camacan, BA	33.79	69	*e*	P		P	06 13 43.6	0.0
BBAC	Balboa, Cauca	33.90	351	*e*	P		P	06 13 42.6	-2.2
MALB	Monte Alegre	34.09	33	*e*	P		P	06 13 45.9	-0.3
NBIT	Itapeh - BA	34.10	68	*e*	P		P	06 13 46.5	+0.2
POPC	Popayan, Colom	34.34	352	*e*	P		P	06 13 50.4	+1.8
GDU01	Guandu, BA	34.69	66	*e*	P		P	06 13 51.0	-0.5
ORTC	Ortega, Tolima	35.54	354	*e*	P		P	06 14 01.1	+2.3
BOAV	Boa Vista	35.63	20	*e*	P		P	06 13 59.5	0.0
NBPN	Ponto Novo - B	35.98	62	*e*	P		P	06 14 01.4	-1.2
CHIC	Chingaza	36.16	357	*e*	P		P	06 14 05.0	+0.5
ROSC	El Rosal	36.40	356		P		P	06 14 08.6	+2.1
	comp=Z,11nm,0.7s,baz=32,slow=3.1,SNR=6.7								
ROSC	El Rosal	36.40	356		P		P	06 14 04.4	-2.1
ROSC					pmax		pmax		
	comp=Z,43nm,1.3s								
ROSC	El Rosal	36.40	356		P		P	06 14 04.4	-2.1
ROSC					IAmb		IAmb	06 14 24.7	
	comp=Z,43nm,1.2s								
MCPB	Macapa, AP	36.45	35	*e*	P		P	06 14 06.2	-0.3
GUY2C	Guyana, Caldas	36.85	354	*e*	P		P	06 14 12.8	+2.3
TMAB	Tom-Au,PA,Br	36.88	42	*e*	P		P	06 14 10.1	-0.1
CBOC	Ciudad Bolivar	37.55	353	*e*	P		P	06 14 15.7	-0.3
NBLA	Lagarto - SE	37.73	65	*e*	P		P	06 14 16.3	-1.1
HELC	Santa Helena	37.83	354	*e*	P		P	06 14 18.6	+0.1
ELOV	Elorza	38.56	4	*e*	P		P	06 14 22.5	-1.8
DBBC	Dabeiba	38.71	353	*e*	P		P	06 14 27.4	+1.7
ROSB	Rosrio	38.87	48	*e*	P		P	06 14 26.0	-1.1
NBMA	Muriti-CE	39.33	59	*e*	P		P	06 14 30.2	-0.7
NBPS	Pedro II - PI	39.52	53	*e*	P		P	06 14 32.1	-0.4
NBAN	Anadia - AL	39.71	64	*e*	P		P	06 14 32.9	-1.2
NBPB	Pedra_Branca-C	39.99	56	*e*	P		P	06 14 36.2	-0.2
SDV	Santo Domingo	40.38	2		P		P	06 14 39.3	-0.5
SDV	Santo Domingo	40.38	2	*e*	P		P	06 14 40.7	+0.9
NBLV	Livramento - P	40.70	61	*e*	P		P	06 14 41.4	-0.9
ARGC	Ariguani, Magd	41.38	357	*e*	P		P	06 14 45.9	-1.8
NBPA	Parau_RN	41.63	59	*e*	P		P	06 14 50.0	+0.1
NBCL	Cascavel-CE	41.83	56	*e*	P		P	06 14 50.3	-1.2
SRBA	San Rafael, Bu	42.12	343		P		P	06 14 51.8	-2.2
RCBR	Riachuelo	42.47	60		P		P	06 14 56.3	-0.5
RCBR					pmax		pmax		
	comp=Z,35nm,1.3s								
RCBR					MLR		MLR		
	comp=Z,2μm,20.0s								
RCBR	Riachuelo	42.47	60		P		P	06 14 56.3	-0.5
RCBR	Riachuelo	42.47	60		IAMs_20		IAMs_20	06 33 07.2	
	comp=Z,1μm,20.0s								
RCBR	Riachuelo	42.47	60	*e*	P		P	06 14 57.5	+0.7
NBPV	Pedro Velho	42.53	62	*e*	P		P	06 14 57.3	0.0
RIMA	Rio Macho	42.76	343		P		P	06 14 57.0	-2.3
BATAN	Batan	42.96	343		P		P	06 14 59.0	-1.6
BATAN					IAmb		IAmb	06 15 13.5	
	comp=Z,47nm,1.1s								
DUNO	Dulce Nombre,	43.50	341		P		P	06 15 02.6	-2.4
HATO	Hato, Curacao	43.73	4		IAMs_20		IAMs_20	06 35 14.6	
	comp=Z,760nm,18.0s								
GRGR	Grenville	44.70	15		IAMs_20		IAMs_20	06 36 51.0	
	comp=Z,731nm,19.0s								
MCLT	Moule a Chique	46.39	15		P		P	06 15 27.3	-0.7
MPOM	Morne Pois Mar	47.12	15		P		P	06 15 31.9	-1.7
FDF	Fort de France	47.33	14		IAMs_20		IAMs_20	06 38 29.8	
	comp=Z,657nm,20.0s								
SVN	Savane Anatole	47.44	14		IAMs_20		IAMs_20	06 38 42.4	
	comp=Z,803nm,20.0s								
MLPR	Magueyes Islan	49.62	6		P		P	06 15 52.4	-0.5
CRPR	Cabo Rojo, PR	49.65	6		P		P	06 15 52.5	-0.6
SEUS	St. Eustatius	49.68	11		IAMs_20		IAMs_20	06 39 57.6	
	comp=Z,767nm,19.0s								
OBIP	Obispado Ponce	49.73	7		P		P	06 15 52.4	-1.4
OBIP					IAmb		IAmb	06 16 06.1	
	comp=Z,35nm,1.1s								
PDPR	Patillas Dam,	49.77	7		P		P	06 15 52.9	-1.2
PDPR					IAmb		IAmb	06 15 54.4	
	comp=Z,32nm,1.0s								
SJG	San Juan	49.85	7		P		P	06 15 53.4	-1.3
SJG					pmax		pmax		
	comp=Z,34nm,1.1s								
SJG	San Juan	49.85	7		P		P	06 15 53.4	-1.3
SJG					IAmb		IAmb	06 15 55.0	
	comp=Z,34nm,1.1s								
HUMP	Col San Antoni	49.91	8		P		P	06 15 54.1	-1.0
HUMP					IAmb		IAmb	06 16 06.2	
	comp=Z,23nm,1.3s								
MTDJ	Mount Denham	49.92	353		P		P	06 15 53.7	-1.7
MTDJ					IAmb		IAmb	06 16 02.6	
	comp=Z,31nm,1.1s								
CBYP	Canovanas	50.04	8		P		P	06 15 55.1	-1.1
CBYP					IAmb		IAmb	06 15 56.4	
	comp=Z,41nm,1.1s								
STVI	Saint Thomas	50.23	9		P		P	06 15 56.1	-1.4
VNA3	Neumayer Olymp	51.49	159		P		P	06 16 07.3	+0.7
VNA1	Neumayer--Stat	51.79	158		P		P	06 16 10.0	+1.3
VNA2	Neumayer--Watz	52.13	158		P		P	06 16 12.0	+0.7
	baz=289,slow=8.6								
SNAA	Sanae	53.71	158		P		P	06 16 23.7	+0.6
SNAA	Sanae	53.71	158	*c i*	P		P	06 16 23.5	+0.4
SNAA					pmax		pmax		
	comp=Z,82nm,0.9s								
SNAA	Sanae	53.71	158		P		P	06 16 23.5	+0.4
RKT	Riketea	55.87	262	*e*	T		T	07 17 17.0	
	comp=Z,3.4nm,0.3s								
UNM	Universidad Na	57.03	329		IAMs_20		IAMs_20	06 36 22.0	
	comp=Z,744nm,19.0s								
833A	Chaparral WMA,	65.13	333		P		P	06 17 44.3	+2.0
	baz=155,SNR=5.1								
HKT	Hockley	65.35	337	*c i*	P		P	06 17 44.3	+0.7
HKT					pmax		pmax		
	comp=Z,22nm,1.9s								
GOGA	Godfrey	65.66	350		P		P	06 17 43.9	-1.7
GOGA					pmax		pmax		
	comp=Z,13nm,1.4s								
GOGA	Godfrey	65.66	350		P		P	06 17 43.9	-1.7
LRAL	Lakeview Retre	65.92	346		P		P	06 17 45.4	-1.9
VNDA	Vanda	66.35	191		P		P	06 17 50.8	+1.2
	comp=Z,4.7nm,1.2s,baz=135,slow=7.5,SNR=6.5								
VNDA					LR		LR	06 42 46.8	
	comp=Z,132nm,18.7s,baz=132,slow=32								
143A	Socs Landing,	66.62	342		P		P	06 17 52.2	+0.3
NATX	Nacogdoches	66.65	339		P		P	06 17 53.5	+1.5
	baz=159								
KMSC	Kings Mountain	67.06	352		P		P	06 17 55.2	+0.6
	baz=172								
JCT	Junction City	67.22	334		P		P	06 17 57.0	+1.2
JCT					pmax		pmax		
	comp=Z,40nm,1.2s								
JCT	Junction City	67.22	334		P		P	06 17 57.0	+1.2
JCT	Junction City	67.22	334		P		P	06 17 57.2	+1.5
	baz=155,SNR=11								
TXAR	Lajitas Array	67.74	330		P		P	06 18 00.0	+0.9
	comp=Z,3.0nm,0.9s,baz=151,slow=7.7,SNR=28								
TXAR					LR		LR	06 43 51.8	
	comp=Z,431nm,18.1s,baz=0.0,slow=33								
TXAR					PKPPKP		P'P'df	06 46 28.1	+13
	comp=Z,2.4nm,1.2s,baz=204,slow=2.7,SNR=6.9								
TXAR	Lajitas Array	67.74	330		P		P	06 17 59.8	+0.7
TXAR	Lajitas Array	67.74	330		P		P	06 17 59.8	+0.7
TX31	Lajitas Ar. Si	67.74	330		P		P	06 17 60.0	+0.8
WHTX	Lake Whitney,	67.76	337		P		P	06 17 57.6	-1.5
WHTX	Lake Whitney,	67.76	337		P		P	06 18 00.8	+1.7
	baz=157								
V53A	Saluda	67.78	351		P		P	06 17 58.4	-0.8
SWET	Sewanee	67.83	348		P		P	06 17 58.3	-1.3
SWET					IAmb		IAmb	06 18 00.9	
	comp=Z,25nm,1.3s								
OXF	Oxford	67.86	345		P		P	06 17 58.3	-1.4
OXF					pmax		pmax		
	comp=Z,55nm,1.3s								
OXF	Oxford	67.86	345		P		P	06 17 58.3	-1.4
OXF	Oxford	67.86	345		P		P	06 18 00.1	+0.5
	baz=164,SNR=7.1								
TBI	Tubuai	67.88	256	*e*	S		S	06 27 03.9	+5.4
	comp=Z,221nm,24.0s								
TBI	Tubuai	67.88	256	*e*	LR		LR	06 38 33.4	
	comp=Z,939nm,26.2s,baz=108								
TBI	Tubuai	67.88	256	*e*	T		T	07 32 19.4	
	comp=Z,3.3nm,0.3s								
SYO	Syowa Base	68.00	159	‖ *e*	P		P	06 17 56.3	-3.9
SYO	Syowa Base	68.00	159	‖ *e*	pP		P	06 18 01.8	+1.6
PLAL	Pickwick Lake	68.02	346		P		P	06 18 00.1	-0.5
PLAL					IAmb		IAmb	06 18 01.8	
	comp=Z,18nm,1.3s								
W45A	Hickory Valley	68.43	345		P		P	06 18 01.3	-1.9
MIAR	Mount Ida	68.94	341		P		P	06 18 05.8	-0.6
MIAR					pmax		pmax		
	comp=Z,26nm,1.5s								
MIAR	Mount Ida	68.94	341		P		P	06 18 05.8	-0.6
MIAR					IAmb		IAmb	06 18 09.0	
	comp=Z,26nm,1.5s								
MIAR	Mount Ida	68.94	341		P		P	06 18 07.3	+0.9
	baz=161,SNR=6.9								
WVT	Waverly	69.08	346		P		P	06 18 07.7	+0.4
	baz=166								
ABTX	Abilene, Hawle	69.10	335		P		P	06 18 08.6	+1.1
	baz=155,SNR=18								
MEH	Mehetia	69.18	261	*e*	T		T	07 33 55.6	
	comp=Z,12nm,0.2s								
W41B	Gary Mavity, V	69.18	342		P		P	06 18 08.3	+0.5
	baz=162								
GNAR	Gosnell	69.39	344		P		P	06 18 08.1	-1.1
X37A	Clayton	69.50	340		P		P	06 18 08.9	-1.0
LOOK	Love County	69.51	338		P		P	06 18 08.8	-1.2
W39A	Magazine	69.61	341		P		P	06 18 11.9	+1.3
	baz=160,SNR=14								
LCAR	Lake Charles	69.76	344		P		P	06 18 09.6	-1.9
LCAR					IAmb		IAmb	06 18 12.8	
	comp=Z,16nm,1.2s								
T47A	Sharon Grove	69.77	347		P		P	06 18 10.5	-1.0
T47A					IAmb		IAmb	06 18 12.8	
	comp=Z,24nm,1.2s								
U40A	Yellville	70.46	342		P		P	06 18 15.1	-0.7
U40A					IAmb		IAmb	06 18 17.4	
	comp=Z,18nm,1.1s								
U40A	Yellville	70.46	342		P		P	06 18 16.7	+0.9
	baz=161,SNR=5.7								
MNTX	Cornudas Mount	70.52	330		IAMs_20		IAMs_20	06 44 25.4	
	comp=Z,491nm,20.0s								
MNTX	Cornudas Mount	70.52	330		P		P	06 18 16.5	+0.3
	baz=150,SNR=10								
PPT2	Papeete2	70.58	261	*e*	S		S	06 27 35.9	+5.1
	comp=Z,280nm,25.5s								
PPT2	Papeete2	70.58	261	*e*	LR		LR	06 39 48.5	
	comp=Z,360nm,24.0s,baz=110								
PPT	Papeete	70.59	261		LR		LR	06 40 44.2	
	comp=Z,204nm,18.3s,baz=130,slow=29								
WMOK	Wichita Mounta	70.72	337		P		P	06 18 17.9	+0.5
	baz=156,SNR=6.5								
USIN	University of	70.83	347		P		P	06 18 17.4	-0.6
TUL1	Leonard	70.86	340		P		P	06 18 19.0	+0.8
	baz=159,SNR=6.0								
SIUC	Southern Illin	70.90	346		P		P	06 18 16.5	-1.8
SIUC					IAmb		IAmb	06 18 19.7	
	comp=Z,14nm,1.0s								
EPT	El Paso	71.06	329		IAMs_20		IAMs_20	06 44 59.8	
	comp=Z,518nm,20.0s								
MSTX	Muleshoe	71.46	333		P		P	06 18 23.1	+1.1
	baz=153								
P51A	Williamsport	71.56	351		P		P	06 18 21.4	-0.9
P51A					IAmb		IAmb	06 18 23.4	
	comp=Z,12nm,0.8s								
P52A	Corning	71.59	352		P		P	06 18 22.5	0.0
	baz=171								
OLIL	Olney	71.65	347		P		P	06 18 21.0	-2.0
OLIL					IAmb		IAmb	06 18 23.9	
	comp=Z,16nm,1.1s								
CCM	Cathedral Cave	71.67	344		P		P	06 18 24.1	+1.0
	baz=163								
S39A	Bolivar	71.84	342		P		P	06 18 22.1	-2.0
S39A					IAmb		IAmb	06 18 26.4	
	comp=Z,30nm,1.3s								
P49A	Miami Univ. Ec	71.85	350		P		P	06 18 20.4	-3.7
P49A	Miami Univ. Ec	71.85	350		P		P	06 18 24.3	+0.2
	baz=169								
O56A	Blue Knob Stat	71.86	355		P		P	06 18 22.9	-1.4
O56A					IAmb		IAmb	06 18 38.0	
	comp=Z,28nm,1.4s								
O56A	Blue Knob Stat	71.86	355		P		P	06 18 25.1	+0.9
	baz=174								
AMTX	Amarillo	71.86	335		P		P	06 18 23.1	-1.3
AMTX					IAmb		IAmb	06 18 26.4	
	comp=Z,27nm,1.1s								
AMTX	Amarillo	71.86	335		P		P	06 18 25.7	+1.2
	baz=154								
BRNJ	Basking Ridge	72.06	358		P		P	06 18 22.9	-2.4
BRNJ					IAmb		IAmb	06 18 33.9	
	comp=Z,14nm,0.9s								
CROK	Carrier	72.07	338		P		P	06 18 23.3	-2.3
CROK					IAmb		IAmb	06 18 27.2	
	comp=Z,30nm,1.1s								
O53A	New Philadelph	72.09	353		P		P	06 18 25.6	0.0
	baz=172								
SSPA	Standing Stone	72.18	355		P		P	06 18 25.4	-0.6
SSPA					IAmb		IAmb	06 18 39.8	
	comp=Z,20nm,1.1s								
SSPA	Standing Stone	72.18	355		P		P	06 18 27.2	+1.1
	baz=175								
121A	Cookes Peak, D	72.27	329		P		P	06 18 26.2	-0.9
121A					IAmb		IAmb	06 18 40.2	
	comp=Z,28nm,1.1s								
121A	Cookes Peak, D	72.27	329		P		P	06 18 29.4	+2.4
	baz=149,SNR=8.3								
N59A	State Game Lan	72.34	357		P		P	06 18 28.5	+1.5
	baz=177,SNR=6.4								
P46A	Rosedale	72.34	348		P		P	06 18 25.7	-1.4
O49A	Covington	72.43	350		P		P	06 18 25.8	-1.8
O49A					IAmb		IAmb	06 18 28.5	
	comp=Z,26nm,1.2s								
KAN17	Caldwell West	72.50	339		P		P	06 18 25.8	-2.2
KAN17					IAmb		IAmb	06 18 40.0	
	comp=Z,26nm,1.2s								
N54A	Moraine State	72.67	354		P		P	06 18 29.5	+0.5
	baz=173								
O44A	Mansfield	73.10

JFWS	**Jewell Farm**	**76.11**	**346**	P	**P**	**06 18 47.8**	**-1.2**		
JFWS				IAmb	IAmb	06 19 00.5			
	comp=Z,28nm,1.4s								
JFWS	**Jewell Farm**	**76.11**	**346**	P	**P**	**06 18 49.9**	**+0.9**		
	baz=164								
FRNY	**Flat Rock**	**76.18**	**359**	P	**P**	**06 18 47.9**	**-1.4**		
FRNY				IAmb	IAmb	06 18 51.4			
	comp=Z,21nm,0.9s								
S22A	**4UR Ranch, Cre**	**76.34**	**332**	P	**P**	**06 18 52.6**	**+1.8**		
	baz=150								
IKP	**In-Ko-Pah, Jac**	**76.36**	**323**	P	**P**	**06 18 53.2**	**+2.4**		
	baz=143								
HAL	**Halifax**	**76.36**	**6**	P	**P**	**06 18 48.8**	**-1.5**		
HAL				pmax	pmax				
	comp=Z,38nm,0.9s								
HAL	**Halifax**	**76.36**	**6**	P	**P**	**06 18 48.8**	**-1.5**		
SADO	**Sadowa**	**76.38**	**355**	P	**P**	**06 18 49.0**	**-1.5**		
SADO				IAmb	IAmb	06 18 51.8			
	comp=Z,24nm,1.1s								
WUAZ	**Wupatki**	**76.39**	**328**	P	**P**	**06 18 53.1**	**+2.1**		
	baz=146,SNR=9.1								
SWSC	**Sam W. Stewart**	**76.44**	**323**	P	**P**	**06 18 53.2**	**+2.1**		
	baz=143								
MVCO	**Mesa Verde**	**76.56**	**331**	IAMs_20	IAMs_20	06 49 27.4			
	comp=Z,378nm,18.0s								
MVCO	**Mesa Verde**	**76.56**	**331**	P	**P**	**06 18 53.7**	**+1.7**		
	baz=149,SNR=8.8								
G62A	**West of Eustis**	**76.57**	**1**	P	**P**	**06 18 49.5**	**-2.0**		
PKME	**Peaks-Kenny Pk**	**76.64**	**2**	P	**P**	**06 18 50.6**	**-1.2**		
PKME				IAmb	IAmb	06 18 54.3			
	comp=Z,29nm,1.0s								
PKME	**Peaks-Kenny Pk**	**76.64**	**2**	P	**P**	**06 18 53.5**	**+1.6**		
	baz=182,SNR=5.1								
MOQ	**Mont Orford**	**76.65**	**360**	P	**P**	**06 18 50.9**	**-1.1**		
MONP2	**Monument Peak**	**76.71**	**323**	P	**P**	**06 18 55.0**	**+2.1**		
	baz=142								
Q24A	**Divide**	**76.76**	**334**	P	**P**	**06 18 55.1**	**+1.9**		
	baz=152,SNR=9.7								
BC3	**Big Chuckawall**	**76.82**	**324**	P	**P**	**06 18 55.5**	**+2.1**		
	baz=143,SNR=13								
MNTQ	**Montreal, Queb**	**76.85**	**359**	P	**P**	**06 18 51.4**	**-1.7**		
MNTQ				IAmb	IAmb	06 19 07.5			
	comp=Z,32nm,1.4s								
IRM	**Iron Mountain**	**77.07**	**324**	P	**P**	**06 18 56.9**	**+2.2**		
	baz=144,SNR=7.6								
I40A	**Norwalk**	**77.12**	**346**	P	**P**	**06 18 53.9**	**-0.8**		
I40A				IAmb	IAmb	06 18 55.9			
	comp=Z,17nm,1.1s								
TPFO	**Pinon Flats**	**77.29**	**323**	P	**P**	**06 18 58.3**	**+2.3**		
	baz=142,SNR=11								
PFO	**Pinyon Flats O**	**77.30**	**323**	P	**P**	**06 18 58.3**	**+2.2**		
	baz=142,SNR=11								
BELC	**Belle Mtn. Jos**	**77.37**	**324**	P	**P**	**06 18 58.7**	**+2.2**		
	baz=143								
LMN	**Caledonia Moun**	**77.47**	**5**	P	**P**	**06 18 55.7**	**-0.8**		
ISCO	**Idaho Springs**	**77.66**	**334**	P	**P**	**06 18 59.8**	**+1.6**		
	baz=151,SNR=11								
MURC	**Murrieta**	**77.67**	**323**	P	**P**	**06 18 59.9**	**+1.8**		
	baz=142								
PV19	**Morning Glory**	**77.70**	**331**	P	**P**	**06 18 55.6**	**-2.7**		
PV19				IAmb	IAmb	06 19 11.1			
	comp=Z,24nm,1.4s								
HEC	**Hector,Ludlow**	**78.20**	**324**	P	**P**	**06 19 04.0**	**+3.0**		
	baz=143								
ECSD	**EROS Data Cent**	**78.37**	**342**	P	**P**	**06 19 02.4**	**+0.8**		
	baz=159,SNR=17								
BFSC	**Mount Baldy Ra**	**78.41**	**323**	P	**P**	**06 19 04.4**	**+2.2**		
	baz=142,SNR=6.5								
TUQ	**Turquoise Moun**	**78.48**	**325**	P	**P**	**06 19 04.9**	**+2.3**		
	baz=143,SNR=13								
N23A	**Red Feather La**	**78.74**	**334**	P	**P**	**06 19 06.0**	**+1.9**		
	baz=151,SNR=6.1								
GSC	**Goldstone, Bar**	**78.81**	**324**	P	**P**	**06 19 06.5**	**+2.1**		
	baz=142,SNR=6.5								
SPMN	**Marine on St.**	**78.86**	**345**	P	**P**	**06 19 04.3**	**0.0**		
	baz=162								
O20A	**White River Ci**	**78.96**	**333**	P	**P**	**06 19 06.7**	**+1.5**		
	baz=149,SNR=7.9								
SHOC	**Shoshone, Teco**	**79.02**	**325**	P	**P**	**06 19 07.1**	**+1.7**		
	baz=143								
EDW2	**Edwards Air Fo**	**79.08**	**323**	P	**P**	**06 19 07.6**	**+1.8**		
	baz=142,SNR=7.0								
OSI	**Osito Audit: C**	**79.25**	**322**	P	**P**	**06 19 09.3**	**+2.5**		
	baz=141								
LRMC	**Laurel Mtn Rad**	**79.39**	**324**	P	**P**	**06 19 09.9**	**+2.3**		
	baz=142,SNR=10.0								
F36A	**Milaca**	**79.62**	**345**	P	**P**	**06 19 07.6**	**-0.9**		
KOWA	**Kowa**	**79.69**	**66**	P	**P**	**06 19 08.9**	**-0.7**		
MPMC	**Manual Prospec**	**79.74**	**324**	P	**P**	**06 19 11.5**	**+1.9**		
	baz=142,SNR=5.5								
FURC	**Furnace Creek,**	**79.76**	**325**	P	**P**	**06 19 11.7**	**+2.4**		
	baz=143,SNR=9.4								
TPNV	**Topopah Spring**	**79.84**	**325**	IAMs_20	IAMs_20	06 49 12.9			
	comp=Z,291nm,19.0s								
TPNV	**Topopah Spring**	**79.84**	**325**	P	**P**	**06 19 12.4**	**+2.4**		
	baz=143,SNR=13								
RWWY	**Rawlins**	**79.90**	**334**	IAMs_20	IAMs_20	06 55 06.9			
	comp=Z,350nm,18.0s								
ISA	**Isabella, Lake**	**79.93**	**323**	P	**P**	**06 19 12.9**	**+2.4**		
	baz=141,SNR=12								
PKM	**Mcpherson Peak**	**80.03**	**322**	P	**P**	**06 19 13.6**	**+2.4**		
	baz=140,SNR=6.3								
F33A	**5 Mile Ranch,**	**80.25**	**343**	P	**P**	**06 19 11.5**	**-0.3**		
CWC	**Cottonwood Cre**	**80.34**	**324**	P	**P**	**06 19 14.8**	**+2.1**		
	baz=142								
VES	**Vestal, Richgr**	**80.39**	**323**	P	**P**	**06 19 14.9**	**+2.1**		
	baz=141,SNR=9.9								
GRAC	**Grapevine Rang**	**80.42**	**325**	P	**P**	**06 19 15.5**	**+2.4**		
	baz=142								
SMMC	**Simmler**	**80.45**	**322**	P	**P**	**06 19 15.9**	**+2.6**		
	baz=140,SNR=6.2								
K22A	**Casper**	**80.48**	**335**	P	**P**	**06 19 14.9**	**+1.5**		
	baz=151,SNR=8.4								
R11A	**Troy Canyon, C**	**80.64**	**327**	P	**P**	**06 19 16.7**	**+2.3**		
	baz=144,SNR=18								
TIN	**Tinemaha, Big**	**80.89**	**324**	P	**P**	**06 19 18.4**	**+2.8**		
	baz=142,SNR=5.6								
DUG	**Dugway, Tooele**	**80.90**	**330**	IAMs_20	IAMs_20	06 50 07.1			
	comp=Z,287nm,21.0s								
DUG	**Dugway, Tooele**	**80.90**	**330**	P	**P**	**06 19 17.5**	**+1.8**		
	baz=146,SNR=12								
RSSD	**Black Hills**	**80.92**	**337**	P	**P**	**06 19 16.9**	**+1.1**		
	baz=153								
BOSA	**Boshof**	**81.14**	**118**	P	**P**	**06 19 17.8**	**+0.4**		
	comp=Z,35nm,0.9s,baz=227,slow=4.3,SNR=33								
BOSA				LR	LR	06 51 50.8			
	comp=Z,493nm,19.4s,baz=211,slow=33								
EYMN	**Ely**	**81.19**	**347**	P	**P**	**06 19 15.6**	**-1.2**		
EYMN				IAmb	IAmb	06 19 26.9			
	comp=Z,26nm,1.4s								
HWUT	**Hardware Ranch**	**81.54**	**331**	IAMs_20	IAMs_20	06 51 56.2			
	comp=Z,411nm,19.0s								
MLAC	**Mammoth, Mammo**	**81.64**	**324**	P	**P**	**06 19 22.2**	**+2.4**		
	baz=141								
BW06	**Boulder Array**	**81.72**	**333**	IAMs_20	IAMs_20	06 51 54.0			
	comp=Z,284nm,19.0s								
BW06	**Boulder Array**	**81.72**	**333**	P	**P**	**06 19 21.1**	**+1.1**		
	baz=148,SNR=5.8								
PDAR	**Pinedale Array**	**81.72**	**333**	P	**P**	**06 19 20.7**	**+0.6**		
	comp=Z,1.2nm,0.7s,baz=153,slow=5.0,SNR=13								
PDAR				LR	LR	06 52 15.9			
	comp=Z,211nm,19.6s,baz=140,slow=33								
NVAR	**Mina Array Bea**	**82.00**	**325**	P	**P**	**06 19 23.5**	**+1.8**		
	comp=Z,5.3nm,0.8s,baz=157,slow=6.5,SNR=46								
NVAR				LR	LR	06 49 17.7			
	comp=Z,123nm,20.4s,baz=140,slow=31								
CASY	**Casey**	**82.31**	**181**	P	**P**	**06 19 21.5**	**-1.2**		
CASY				IAmb	IAmb	06 19 34.2			
	comp=Z,17nm,1.1s								
AHID	**Auburn Hatcher**	**82.32**	**332**	IAMs_20	IAMs_20	06 51 43.0			
	comp=Z,265nm,20.0s								
ELK	**Elko**	**82.41**	**328**	IAMs_20	IAMs_20	06 54 07.1			
	comp=Z,236nm,18.0s								
AGMN	**Agassiz Nation**	**82.45**	**344**	P	**P**	**06 19 21.6**	**-1.9**		
AGMN	**Agassiz Nation**	**82.45**	**344**	P	**P**	**06 19 24.0**	**+0.5**		
	baz=160								
SNOW	**Snow King Moun**	**82.77**	**333**	IAMs_20	IAMs_20	06 52 05.9			
	comp=Z,291nm,21.0s								
MDND	**Maddock**	**82.97**	**342**	P	**P**	**06 19 27.5**	**+1.3**		
	baz=157,SNR=5.1								
MOOW	**Moose Ponds**	**83.01**	**333**	IAMs_20	IAMs_20	06 52 34.2			
	comp=Z,342nm,21.0s								
IMW	**Indian Meadow**	**83.21**	**333**	IAMs_20	IAMs_20	06 53 12.5			
	comp=Z,236nm,20.0s								
FLWY	**Flagg Ranch**	**83.28**	**333**	IAMs_20	IAMs_20	06 52 44.2			
	comp=Z,378nm,20.0s								
TORD	**Torodi Ar. Bea**	**83.43**	**70**	P	**P**	**06 19 29.1**	**-0.2**		
	comp=Z,35nm,0.8s,baz=258,slow=4.7,SNR=164								
TORD				LR	LR	06 54 09.5			
	comp=Z,599nm,20.1s,baz=230,slow=34								
TORD	**Torodi Ar. Bea**	**83.43**	**70**	P	**P**	**06 19 28.8**	**-0.6**		
RLMT	**Red Lodge**	**83.62**	**334**	P	**P**	**06 19 31.1**	**+1.2**		
	baz=149								
LAO	**LASA Array**	**83.91**	**337**	P	**P**	**06 19 32.0**	**+0.9**		
	baz=151								
ULM	**Lac du Bonnet**	**84.28**	**345**	P	**P**	**06 19 32.9**	**+0.1**		
	comp=Z,6.5nm,0.8s,baz=159,slow=8.7,SNR=5.4								
ULM	**Lac du Bonnet**	**84.28**	**345**	P	**P**	**06 19 32.0**	**-0.9**		
ULM				pmax	pmax				
	comp=Z,21nm,1.2s								
ULM	**Lac du Bonnet**	**84.28**	**345**	P	**P**	**06 19 32.0**	**-0.9**		
ULM				IAmb	IAmb	06 19 43.9			
	comp=Z,21nm,1.2s								
GCMT	**Greycliff**	**84.34**	**335**	P	**P**	**06 19 31.8**	**-1.7**		
HLID	**Hailey**	**84.34**	**331**	P	**P**	**06 19 35.1**	**+1.5**		
	baz=145,SNR=13								
DGMT	**Dagmar**	**84.84**	**339**	P	**P**	**06 19 36.9**	**+1.1**		
	baz=153								
BOZ	**Bozeman (W)**	**84.91**	**333**	P	**P**	**06 19 35.2**	**-1.1**		
BOZ				pmax	pmax				
	comp=Z,9.0nm,1.3s								
BOZ	**Bozeman (W)**	**84.91**	**333**	P	**P**	**06 19 35.2**	**-1.1**		
BOZ	**Bozeman (W)**	**84.91**	**333**	P	**P**	**06 19 37.2**	**+0.9**		
	baz=147								
O03E	**Paynes Creek**	**85.17**	**324**	P	**P**	**06 19 38.4**	**+0.7**		
	baz=139								
EGMT	**Eagleton**	**86.27**	**336**	P	**P**	**06 19 42.0**	**-1.0**		
EGMT				IAmb	IAmb	06 19 54.3			
	comp=Z,16nm,1.2s								
EGMT	**Eagleton**	**86.27**	**336**	P	**P**	**06 19 43.4**	**+0.4**		
	baz=149								
SCHQ	**Schefferville**	**86.30**	**3**	P	**P**	**06 19 42.5**	**-0.3**		
	comp=Z,16nm,1.0s,baz=148,slow=4.1,SNR=7.8								
SCHQ				LR	LR	07 01 55.2			
	comp=Z,86nm,18.6s,baz=236,slow=38								
SCHQ	**Schefferville**	**86.30**	**3**	P	**P**	**06 19 42.3**	**-0.5**		
M04C	**Macdoel**	**86.31**	**325**	P	**P**	**06 19 44.6**	**+1.2**		
	baz=139								
M02C	**Callahan**	**86.52**	**324**	P	**P**	**06 19 45.7**	**+1.3**		
	baz=139								
K05A	**Summer Lake**	**86.58**	**326**	P	**P**	**06 19 43.0**	**-1.7**		
BMO	**Blue Mountains**	**86.61**	**330**	IAMs_20	IAMs_20	06 54 48.3			
	comp=Z,257nm,19.0s								
MSO	**Missoula**	**86.83**	**333**	P	**P**	**06 19 47.0**	**+1.2**		
	baz=145								
L04D	**Klamath Falls**	**86.87**	**325**	P	**P**	**06 19 46.8**	**+0.7**		
	baz=139								
J05D	**Fort Rock, OR**	**87.17**	**326**	P	**P**	**06 19 49.0**	**+1.5**		
	baz=140,SNR=11								
J04D	**Umpqua Nationa**	**87.55**	**326**	P	**P**	**06 19 51.0**	**+1.5**		
	baz=139								
G08A	**Pilot Rock**	**87.68**	**329**	P	**P**	**06 19 49.2**	**-0.7**		
G08A				IAmb	IAmb	06 19 52.0			
	comp=Z,17nm,1.5s								
K02D	**Willamette Mer**	**87.89**	**325**	P	**P**	**06 19 52.8**	**+1.8**		
	baz=138								
DBO	**Dodson Butte**	**88.00**	**325**	P	**P**	**06 19 50.2**	**-1.3**		
I05D	**Terrebonne, OR**	**88.02**	**327**	P	**P**	**06 19 53.3**	**+1.8**		
	baz=140,SNR=8.2								
I04A	**Tendick Farm,**	**88.11**	**326**	P	**P**	**06 19 53.3**	**+1.4**		
	baz=139								
E09A	**Wood Farm, Sta**	**88.29**	**330**	P	**P**	**06 19 51.4**	**-1.2**		
WALA	**Waterton Lakes**	**88.65**	**334**	P	**P**	**06 19 53.8**	**-0.6**		
G05D	**Wamic, OR**	**88.70**	**328**	P	**P**	**06 19 56.5**	**+1.8**		
	baz=140								
HAWA	**Hanford**	**88.79**	**329**	P	**P**	**06 19 54.6**	**-0.4**		
HAWA				IAmb	IAmb	06 20 07.5			
	comp=Z,25nm,1.3s								
NEW	**Newport**	**89.25**	**332**	P	**P**	**06 19 57.1**	**-0.1**		
	baz=143								
C09A	**Chrisman Ranch**	**89.36**	**331**	P	**P**	**06 19 57.0**	**-0.7**		
C09A				IAmb	IAmb	06 20 09.5			
	comp=Z,18nm,1.1s								
F04A	**Amboy**	**89.72**	**327**	P	**P**	**06 19 58.0**	**-1.4**		
ESDC	**Sonseca Array**	**94.98**	**46**	P	**P**	**06 20 23.7**	**-0.3**		
	comp=Z,1.7nm,1.1s,baz=247,slow=5.5,SNR=7.5								
ESDC				LR	LR	07 02 32.9			
	comp=Z,341nm,18.7s,baz=245,slow=35								
CART	**Cartagena**	**95.60**	**49**	IAMs_20	IAMs_20	07 06 59.3			
	comp=Z,208nm,19.0s								
KIP	**Kipapa**	**97.72**	**290**	‖ *e*P	Pdif	06 20 40.7	+3.9		
KIP				pmax	pmax				
	comp=Z,211nm,2.3s								
DZM	**Mont Dzumac**	**102.59**	**234**	*e*PS	PS	06 34 23.8	+5.0		
	comp=Z,93nm,24.8s								
DZM				*e*SS	SS	06 39 56.8	+6.8		
	comp=Z,96nm,25.2s								
DZM	**Mont Dzumac**	**102.59**	**234**	*e*LR	LR	06 54 38.6			
	comp=Z,434nm,22.9s								
JIS	**Juneau Island**	**103.59**	**331**	IAMs_20	IAMs_20	07 08 13.4			
	comp=Z,294nm,22.0s								
BFO	**Black Forest**	**107.11**	**44**	IAMs_20	IAMs_20	07 09 35.6			
	comp=Z,191nm,19.0s								
AQU	**L'Aquila**	**107.50**	**51**	IAMs_20	IAMs_20	07 13 08.7			
	comp=Z,285nm,19.0s								
STU	**Stuttgart**	**107.83**	**43**	IAMs_20	IAMs_20	07 10 32.5			
	comp=Z,216nm,20.0s								
CTGM	**Chitina Glacie**	**108.03**	**331**	IAMs_20	IAMs_20	07 16 02.9			
	comp=Z,201nm,19.0s								
GRNC	**Granite Creek**	**108.08**	**331**	IAMs_20	IAMs_20	07 04 02.0			
	comp=Z,218nm,20.0s								
ISLE	**Juniper Island**	**108.25**	**331**	IAMs_20	IAMs_20	06 59 58.6			
	comp=Z,188nm,18.0s								
WAX	**Waxell Ridge**	**108.38**	**330**	IAMs_20	IAMs_20	07 01 25.1			
	comp=Z,213nm,20.0s								
CRQM	**Cirque**	**108.66**	**331**	IAMs_20	IAMs_20	06 59 22.0			
	comp=Z,186nm,19.0s								
VRDI	**Verde Repeater**	**109.04**	**331**	IAMs_20	IAMs_20	07 18 15.6			
	comp=Z,165nm,22.0s								
L27K	**Beaver Creek,**	**109.36**	**333**	IAMs_20	IAMs_20	07 08 34.9			
	comp=Z,229nm,22.0s								
EPYK	**Eagle Plains**	**109.37**	**337**	IAMs_20	IAMs_20	07 21 25.3			
	comp=Z,211nm,19.0s								
BMRM	**Brennaf River**	**109.39**	**330**	IAMs_20	IAMs_20	07 01 57.7			
	comp=Z,185nm,22.0s								
M26K	**Nabesna, AK**	**109.47**	**332**	IAMs_20	IAMs_20	07 20 14.9			
	comp=Z,157nm,19.0s								
N25K	**Chitina, Valde**	**109.71**	**331**	IAMs_20	IAMs_20	07 17 45.2			
	comp=Z,224nm,21.0s								
A36M	**Sachs Harbour**	**109.77**	**345**	IAMs_20	IAMs_20	07 12 02.0			
	comp=Z,232nm,20.0s								
K27K	**Chicken**	**109.96**	**334**	IAMs_20	IAMs_20	07 16 50.0			
	comp=Z,140nm,18.0s								
FID	**Port Fidalgo**	**110.08**	**330**	IAMs_20	IAMs_20	06 57 50.0			
	comp=Z,176nm,19.0s								
KLU	**Klutina**	**110.20**	**331**	IAMs_20	IAMs_20	07 02 10.3			
	comp=Z,183nm,22.0s								
GLI	**Glacier Island**	**110.40**	**330**	IAMs_20	IAMs_20	07 07 18.6			
	comp=Z,270nm,21.0s								
PWL	**Port Wells**	**110.93**	**329**	IAMs_20	IAMs_20	06 59 43.4			
	comp=Z,171nm,22.0s								
SCM	**Sheep Creek Mo**	**110.95**	**331**	IAMs_20	IAMs_20	06 57 54.2			
	comp=Z,214nm,19.0s								
O22K	**Cooper Landing**	**111.36**	**329**	IAMs_20	IAMs_20	07 22 22.0			
	comp=Z,143nm,20.0s								
PDG	**Podgorica**	**111.45**	**53**	IAMs_20	IAMs_20	07 17 18.5			
	comp=Z,265nm,18.0s								
GHO	**Glory Hole Cre**	**111.60**	**330**	IAMs_20	IAMs_20	07 16 34.2			
	comp=Z,290nm,22.0s								
CNPM	**China Poot**	**111.62**	**327**	IAMs_20	IAMs_20	07 08 23.9			
	comp=Z,205nm,21.0s								
HDA	**Harding Lake**	**112.00**	**333**	IAMs_20	IAMs_20	07 11 39.9			
	comp=Z,192nm,18.0s								
CCB	**Clear Creek Bu**	**112.44**	**333**	IAMs_20	IAMs_20	07 11 33.5			
	comp=Z,216nm,21.0s								
WRH	**Wood River Hil**	**112.47**	**333**	IAMs_20	IAMs_20	07 12 06.4			
	comp=Z,201nm,19.0s								
COLA	**College**	**112.56**	**333**	IAMs_20	IAMs_20	07 11 29.8			
	comp=Z,173nm,21.0s								
TCOL	**CO, UAF Yank**	**112.57**	**333**	IAMs_20	IAMs_20	07 12 11.8			
	comp=Z,224nm,21.0s								
MDM	**Murphy Dome**	**112.75**	**333**	IAMs_20	IAMs_20	07 11 27.6			
	comp=Z,196nm,22.0s								
BWN	**Browne**	**112.88**	**332**	IAMs_20	IAMs_20	07 12 33.4			
	comp=Z,163nm,18.0s								
TRF	**Thorofare Moun**	**112.90**	**331**	IAMs_20	IAMs_20	07 22 31.7			
	comp=Z,149nm,21.0s								
H24K	**Noodor Dome**	**113.00**	**334**	IAMs_20	IAMs_20	07 20 22.3			
	comp=Z,167nm,18.0s								
I23K	**Minto, Yukon-K**	**113.26**	**333**	IAMs_20	IAMs_20	07 12 49.1			
	comp=Z,198nm,20.0s								
SANT	**Santorini**	**113.48**	**61**	IAMs_20	IAMs_20	07 16 10.7			
	comp=Z,228nm,19.0s								
H23K	**Yukon River**	**113.62**	**334**	IAMs_20	IAMs_20	07 21 07.5			
	comp=Z,168nm,21.0s								
N19K	**Bonanza Creek**	**113.64**	**328**	IAMs_20	IAMs_20	07 23 51.0			
	comp=Z,190nm,21.0s								
MLY	**Manley**	**113.74**	**333**	IAMs_20	IAMs_20	07 12 33.9			
	comp=Z,173nm,18.0s								
N18K	**Kilae Creek**	**114.22**	**328**	IAMs_20	IAMs_20	07 24 10.6			
	comp=Z,162nm,20.0s								
H21K	**Melozitna Rive**	**114.79**	**333**	IAMs_20	IAMs_20	07 14 40.4			
	comp=Z,173nm,18.0s								
ISP	**Isparta**	**117.78**	**61**	IAMs_20	IAMs_20	07 17 42.4			
	comp=Z,216nm,22.0s								
A21K	**Barrow**	**117.98**	**339**	IAMs_20	IAMs_20	07 13 05.8			
	comp=Z,166nm,19.0s								
CSS	**Mathiatis**	**118.93**	**65**	IAMs_20	IAMs_20	07 28 23.3			
	comp=Z,202nm,20.0s								
GHAJ	**Ghor Haditha**	**119.40**	**69**	IAMs_20	IAMs_20	07 20 25.8			
	comp=Z,254nm,19.0s								
ASAR	**Alice Springs**	**119.61**	**207**	PKP	**PKPdf**	**06 25 51.5**	**-0.5**		
	comp=Z,1.1nm,0.8s,baz=158,slow=1.3,SNR=8.8								
ASAR				PKKPbc	**PKKPbc**	**06 36 02.9**	**+0.7**		
	comp=Z,1.0nm,0.7s,baz=339,slow=3.1,SNR=10.0								
AKASG	**Malin Array Be**	**120.62**	**46**	PKP	**PKPdf**	**06 25 52.6**	**-0.3**		
	comp=Z,1.7nm,0.7s,baz=256,slow=2.6,SNR=9.3								
AKBB	**Malin Array Si**	**120.62**	**46**	‖ *i* PKIKP	**PKPdf**	**06 25 51.8**	**-1.0**		
MNK	**Minsk**	**120.69**	**42**	*i* PKIKP	**PKPdf**	**06 25 52.2**	**-0.6**		
MNK				*i*		06 27 20.5			
MNK				*i* PPP	PPP	06 29 54.3			
MNK				*i*		06 33 01.7			
MNK				*i* SS	SS	06 43 50.1	-1.1		
MNK				*i* SSS	SSS	06 48 15.2			
MNK				pmax	pmax				
	comp=N,26nm,0.8s								
MNK				pmax	pmax				
	comp=Z,9.0nm,0.8s								
MNK				pmax	pmax				
	comp=E,2.0nm,0.7s								
MNK				MLR	MLR				
	comp=Z,320nm,22.0s								
MNK				MLR	MLR				
	comp=N,158nm,18.0s								
MNK	**Minsk**	**120.69**	**42**	*i* PKP	**PKPdf**	**06 25 52.3**	**-0.6**		
	comp=E,2.0nm,0.7s								
MNK				*i* PKP	**PKPdf**	**06 25 52.3**	**-0.6**		
	comp=N,26nm,0.8s								
MNK				*i* PKP	**PKPdf**	**06 25 52.3**	**-0.6**		
	comp=Z,9.0nm,0.8s,baz=258								
MNK				*i* PP	**PP**	**06 27 20.5**	**-0.8**		
MNK				*i* SKP		06 29 23.2			
MNK				*i* PKS	**PKSdf**	**06 29 29.0**	**-0.2**		
MNK				*i* PPP	PPP	06 29 54.4			
MNK				*i* SKS	**SKSdf**	**06 33 01.7**	**-2.5**		
MNK				*i* SKKS	**SKKSdf**	**06 43 38.1**	**-6.8**		
MNK				*i* SS	**SS**	**06 43 50.1**	**-1.0**		
MNK				*i* SSS	SSS	06 48 15.2			
MNK				*i* LQ	LQ	07 10 59.3			
MNK				*i* LR	LR	07 17 57.4			
MNK				*i* LRM	MLR	07 19 35.4			
	comp=Z,320nm,21.6s								
MNK				*i* LRM	MLR	07 20 04.0			
	comp=N,158nm,18.4s								
MNK				*i* LRM	MLR	07 20 22.4			
	comp=E,18nm,17.2s								
BR131	**Keskin Array S**	**120.69**	**60**	‖ *i* PKIKP	**PKPdf**	**06 25 53.8**	**+0.2**		
VSU	**Vasula**	**120.87**	**37**	‖ *i* PKIKP	**PKPdf**	**06 25 52.9**	**-0.1**		
WRA	**Warramunga Arr**	**122.76**	**210**	PKP	**PKPdf**	**06 25 58.0**	**-0.1**		
	comp=E,2.5nm,0.7s,baz=163,slow=1.2,SNR=19								
WRA				PKKPbc	**PKKPbc**	**06 35 52.0**	**+1.7**		
	comp=E,0.3nm,0.8s,baz=344,slow=4.0,SNR=7.2								
WRAB	**Tennant Creek**	**122.77**	**210**	‖ *i* PKIKP	**PKPdf**	**

comp=Z,0.2nm,0.3s,baz=197,slow=1.5,SNR=4.6
SONM PKPab **PKPab** **06 27 58.1 +1.2**
comp=Z,4.5nm,0.9s,baz=338,slow=4.0,SNR=16
CM01 Chiang Mai Arr 164.47 146 PKP **PKPdf** **06 27 08.3 +2.5**
CMAR Chiang Mai Arr 164.50 146 PKP **PKPdf** **06 27 06.2 +0.4**
comp=Z,0.9nm,0.3s,baz=248,slow=2.5,SNR=11
SKNT Sakolnakorn 164.90 165 PKP **PKPdf** **06 27 07.5 +1.3**
PAYA Payao 165.71 147 PKP PKPdf 06 27 19.8 +13
GTA Gaotai 169.84 39 ⇑PKP **PKPdf** **06 27 10.1 +0.8**
GTA PKPab **PKPab** **06 28 24.9 +1.2**
GTA LR LR
comp=Z,200nm,20.0s
GTA LR LR
comp=Z,150nm,20.4s
GTA LR LR
comp=Z,150nm,20.4s
HHC Hu-ho-hao-te 170.42 343 *e*P **PKPdf** **06 27 02.9 -6.6**
NJ2 Nanjing 170.74 275 *e*PKP **PKPdf** **06 27 12.8 +3.0**
TIA Tai'an 171.16 303 ⇑P PKPdf 06 27 20.6 +11
TIA pmax pmax
comp=Z,10.0nm,1.2s
LZH Lanzhou 174.44 37 *e*PKP **PKPdf** **06 27 13.0 +1.5**
LZH PP **PP** **06 32 38.3 +2.1**
LZH AMB AMB
comp=Z,180nm,9.3s
LZH LR LR
comp=Z,230nm,17.4s
LZH LR LR
comp=Z,250nm,17.9s
LZH LR LR
comp=Z,260nm,20.1s
XAN Xi'an 177.53 341 PKP **PKPdf** **06 27 12.5 +0.4**
XAN PKPab **sPKPab** **06 29 03.3 +0.6**
XAN AMB AMB
comp=Z,120nm,10.3s
XAN LR LR
comp=Z,170nm,17.3s
XAN LR LR
comp=Z,110nm,18.4s
XAN LR LR
comp=Z,130nm,19.8s

*NNC **20** 06:13:04.5±2.1,41°.86N×71°.60E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=20.7km s-min=7.5km az=4.0*
*SOME **20** 06:13:06.3,41°.83N×71°.77E, h5km*
*KRNET **20** 06:13:06.3±0.1,41°.91N×71°.69E, h14km, mb3.2*
ISC 20 06:13:07.3±0.8,**41°.85N**±0°.03×**71°.79E**±0°.02,**h10**km,**n55,**
σ1⅝67/87,26C-14D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
TRKS	**Terek-Say**	**0.59**	**237**	⇓*i*P	**Pg**	**06 13 17.5**	**-1.2**
	baz=21						
TRKS				⇓*i*S	**Sg**	**06 13 25.6**	**-0.8**
	baz=21						
MNAS	**Manas**	**0.82**	**40**	⇑*i*P	**Pg**	**06 13 22.4**	**-0.8**
	baz=46						
MNAS				⇑*i*S	**Sg**	**06 13 33.5**	**-0.5**
	baz=46						
DZA	**Taraz**	**1.09**	**342**	*e*P	**Pn**	**06 13 28.3**	**-0.4**
	67nm,0.1s						
DZA				*e*S	**Sn**	**06 13 44.4**	**+0.5**
	186nm,0.3s						
MRKS	**Merke**	**1.39**	**50**	*e*P	**Pn**	**06 13 32.8**	**0.0**
	8.4nm,0.1s						
MRKS				*e*S	**Sg**	**06 13 51.7**	**-0.2**
	52nm,0.2s						
MRKS	**Merke**	**1.39**	**50**	P	**Pn**	**06 13 32.8**	**0.0**
	8.4nm,0.1s						
MRKS				S	**Sg**	**06 13 52.3**	**+0.4**
	52nm,0.2s						
AML	**Almayashu**	**1.44**	**78**	⇑*i*P	**Pb**	**06 13 34.4**	**-0.1**
	baz=81						
AML				⇑*i*S	**Sg**	**06 13 55.3**	**+1.5**
	baz=81						
AML	**Almayashu**	**1.44**	**78**	P	**Pg**	**06 13 36.5**	**+1.4**
	SNR=16						
OHH	**Osh**	**1.52**	**150**	⇓*e*P	**Pg**	**06 13 36.4**	**-0.1**
	baz=49						
OHH				⇓*i*S	**Sg**	**06 13 57.8**	**+1.5**
	baz=49						
KK31	**Karatay Array**	**1.57**	**323**	⇑Pn	**Pn**	**06 13 34.9**	**-0.3**
	5.4nm,0.2s,baz=149,slow=16,SNR=396						
KK31				⇓Lg	Lg	06 13 55.4	
	23nm,0.3s,baz=149,slow=24,SNR=14						
EKS2	**Erkin-Say**	**1.68**	**61**	⇑*i*P	**Pb**	**06 13 38.3**	**-0.1**
	baz=64						
EKS2				⇑*i*S	**Sg**	**06 14 01.6**	**+0.3**
	baz=64						
CHM	**Chimkent**	**1.69**	**287**	*e*P	**Pg**	**06 13 39.9**	**+0.1**
	4.3nm,0.4s						
CHM				*e*S	**Sg**	**06 14 04.4**	**+2.6**
	486nm,0.4s						
BTK	**Batken**	**1.94**	**203**	⇑*i*P	**Pb**	**06 13 42.5**	**-0.3**
	baz=0.0						
BTK				⇑*i*S	**Sg**	**06 14 08.3**	**-1.3**
	baz=0.0						
TAS	**Tashkent**	**1.95**	**255**	⇓*i*P	**Pn**	**06 13 40.9**	**+0.5**
	baz=53						
TAS				⇓*i*S	**Sb**	**06 14 06.6**	**-0.6**
	baz=53						
UCH	**Uchtor**	**2.06**	**79**	⇑*i*P	**Pb**	**06 13 44.8**	**-0.2**
	baz=81						
UCH				⇑*i*S	**Sg**	**06 14 12.8**	**-0.7**
	baz=81						
UCH	**Uchtor**	**2.06**	**79**	P	**Pg**	**06 13 46.1**	**-0.7**
	SNR=33						
AAK	**Ala-Archa**	**2.15**	**68**	⇓*i*P	**Pb**	**06 13 45.7**	**-0.8**
	baz=70						
AAK				⇓*i*S	**Sb**	**06 14 14.5**	**+1.2**
	baz=70						
AAK	**Ala-Archa**	**2.15**	**68**	P	**Pg**	**06 13 48.3**	**-0.3**
	SNR=12						
AAK	**Ala-Archa**	**2.15**	**68**	⇓Pg	**Pg**	**06 13 48.5**	**0.0**
	5.9nm,0.3s						
AAK				⇑Lg	Lg	06 14 21.7	
	35nm,0.6s						
FRU1	**Bishkek**	**2.31**	**65**	⇑*i*P	**Pb**	**06 13 47.8**	**-1.3**
	baz=66						
FRU1				⇑*i*S	**Sb**	**06 14 17.8**	**+0.1**
	baz=66						
DRK	**Karamyk**	**2.37**	**180**	⇑*i*P	**Pb**	**06 13 48.7**	**-1.5**
	baz=78						
DRK				⇑*i*S	**Sb**	**06 14 19.6**	**0.0**
	baz=78						
USP	**Ospenovka**	**2.45**	**54**	⇑*i*P	**Pb**	**06 13 49.2**	**-2.2**
	baz=56						
USP				⇑*i*S	**Sb**	**06 14 20.6**	**-1.1**
	baz=56						
USP	**Ospenovka**	**2.45**	**54**	P	**Pb**	**06 13 51.7**	**+0.3**
	SNR=17						
CHMS	**Chumysh**	**2.47**	**61**	⇑*e*P	**Pb**	**06 13 50.1**	**-1.7**
	baz=63						
CHMS				⇑*i*S	**Sb**	**06 14 21.3**	**-1.0**
	baz=63						
CHMS	**Chumysh**	**2.47**	**61**	P	**Pb**	**06 13 52.2**	**+0.4**
	SNR=5.5						
KBK	**Karagaybulak**	**2.48**	**70**	⇓*i*P	**Pb**	**06 13 50.5**	**-1.5**
	baz=72						
KBK				⇓*i*S	**Sb**	**06 14 22.4**	**-0.2**
	baz=72						
KBK	**Karagaybulak**	**2.48**	**70**	P	**Pg**	**06 13 53.5**	**-1.2**
	SNR=18						
KZA	**Kyzart**	**2.59**	**84**	⇑*i*P	**Pb**	**06 13 52.2**	**-1.8**
	baz=85						
KZA				⇑*i*S	**Sb**	**06 14 25.7**	**-0.3**
	baz=85						
KZA	**Kyzart**	**2.59**	**84**	P	**Pb**	**06 13 54.9**	**+0.9**
	SNR=6.9						
SGDS	**Sogindy**	**2.63**	**52**	Pg	**Pb**	**06 13 54.6**	**0.0**
	7.0nm,0.1s						
SGDS				Lg	Lg	06 14 30.0	
	32nm,0.4s						
TKM2	**Tokmak 2**	**3.01**	**68**	⇑*i*P	**Pn**	**06 13 57.5**	**+2.2**
	baz=69						
TKM2				⇑*i*S	**Sn**	**06 14 34.7**	**+3.2**
	baz=69						
TKM2	**Tokmak 2**	**3.01**	**68**	P	**Pb**	**06 14 01.1**	**-0.1**
	SNR=6.6						
TKM2	**Tokmak 2**	**3.01**	**68**	⇑Pg	**Pb**	**06 14 01.1**	**-0.1**
	6.2nm,0.5s						
TKM2				⇑Lg	Lg	06 14 42.2	
	24nm,0.6s						
BOOM	**Boomskoye usch**	**3.15**	**77**	⇓*i*P	**Pn**	**06 13 59.8**	**+2.7**
	baz=78						
BOOM				⇓*i*S	**Sb**	**06 14 38.8**	**-3.1**
	baz=78						
DGS	**Degeres**	**3.25**	**63**	*e*P	**Pb**	**06 14 05.4**	**+0.2**
	3.8nm,0.2s						
DGS				*e*S	**Sb**	**06 14 48.1**	**+3.3**
	14nm,0.5s						
DGS	**Degeres**	**3.25**	**63**	Pg	**Pb**	**06 14 05.4**	**+0.2**
	3.8nm,0.2s						
DGS				Lg	Lg	06 14 48.1	
	14nm,0.5s						
KST	**Kastek**	**3.31**	**68**	*e*P	**Pb**	**06 14 07.1**	**+1.0**
	4.1nm,0.3s						
KST				*e*S	**Sg**	**06 14 50.4**	**-3.1**
	32nm,0.8s						
KST	**Kastek**	**3.31**	**68**	Pg	**Pb**	**06 14 07.1**	**+1.0**
	4.1nm,0.3s						
KST				Lg	Lg	06 14 50.4	
	32nm,0.8s						
KRBS	**Karabastau**	**3.40**	**56**	*e*P	**Pb**	**06 14 07.4**	**-0.2**
	3.5nm,0.5s						
KRBS				*e*S	**Sb**	**06 14 51.1**	**+2.1**
	15nm,0.3s						
KRBS	**Karabastau**	**3.40**	**56**	Pg	**Pb**	**06 14 07.4**	**-0.2**
	3.5nm,0.5s						
KRBS				Lg	Lg	06 14 51.2	
	15nm,0.3s						
BTLS	**Baital**	**3.58**	**26**	*e*P	**Pg**	**06 14 13.7**	**-2.3**
	4.2nm,0.5s						
BTLS				*e*S	**Sg**	**06 15 02.0**	**-0.4**
	8.7nm,0.3s						
BTLS	**Baital**	**3.58**	**26**	Pg	**Pg**	**06 14 14.7**	**-1.2**
	7.3nm,0.4s						
BTLS				Lg	Lg	06 15 02.0	
	8.7nm,0.3s						
MTBS	**Maitube**	**3.66**	**68**	*e*P	**Pb**	**06 14 13.8**	**+1.7**
	2.4nm,0.2s						
MTBS				*e*S	**Sg**	**06 15 02.1**	**-2.7**
	16nm,0.4s						
MTBS	**Maitube**	**3.66**	**68**	Pg	**Pb**	**06 14 13.8**	**+1.7**
	2.4nm,0.2s						
MTBS				Lg	Lg	06 15 02.1	
	16nm,0.4s						
KUU	**Kurty**	**3.91**	**57**	*e*P	**Pb**	**06 14 17.1**	**+0.7**
	4.2nm,0.2s						
KUU				*e*S	**Sb**	**06 15 07.7**	**+3.9**
	20nm,0.5s						
KUU	**Kurty**	**3.91**	**57**	Pg	**Pb**	**06 14 17.1**	**+0.7**
	4.2nm,0.2s						
KUU				Lg	Lg	06 15 07.7	
	20nm,0.5s						
TNSS	**Tian-Shan**	**3.99**	**71**	*e*P	**Pb**	**06 14 19.9**	**+2.0**
	4.1nm,0.6s						
TNSS				*e*S	**Sg**	**06 15 12.6**	**-2.9**
	5.4nm,0.4s						
TNSS	**Tian-Shan**	**3.99**	**71**	Pg	**Pb**	**06 14 19.9**	**+2.0**
	4.1nm,0.6s						
TNSS				Lg	Lg	06 15 12.6	
	5.4nm,0.4s						
KTBS	**Karatobe**	**4.05**	**61**	*e*P	**Pb**	**06 14 21.0**	**+2.3**
	2.8nm,0.3s						
KTBS				*e*S	**Sg**	**06 15 14.5**	**-2.8**
	10.0nm,0.6s						
KTBS	**Karatobe**	**4.05**	**61**	Pg	**Pb**	**06 14 21.0**	**+2.3**
	2.8nm,0.3s						
KTBS				Lg	Lg	06 15 14.5	
	10.0nm,0.6s						
MDOK	**Medeo**	**4.10**	**70**	*e*P	**Pg**	**06 14 23.7**	**-2.1**
	6.9nm,0.8s						
MDOK				*e*S	**Sg**	**06 15 19.1**	**+0.1**
	8.5nm,0.6s						
MDOK	**Medeo**	**4.10**	**70**	Pg	**Pg**	**06 14 23.7**	**-2.1**
	6.9nm,0.8s						
MDOK				Lg	Lg	06 15 19.0	
	8.5nm,0.6s						
KOTS	**Kotyrbulak**	**4.17**	**69**	*e*P	**Pg**	**06 14 24.1**	**-3.0**
	3.5nm,0.4s						
KOTS				*e*S	**Sg**	**06 15 20.9**	**-0.1**
	17nm,0.5s						
KOTS	**Kotyrbulak**	**4.17**	**69**	Pg	**Pg**	**06 14 24.1**	**-3.0**
	3.5nm,0.4s						
KOTS				Lg	Lg	06 15 20.9	
	17nm,0.5s						
UZB	**Uzynbulak**	**5.50**	**74**	*e*P	**Pg**	**06 14 48.7**	**-3.8**
	2.9nm,0.4s						
UZB				*e*S	**Sg**	**06 16 02.0**	**-1.7**
	6.1nm,0.8s						
UZB	**Uzynbulak**	**5.50**	**74**	Pg	**Pg**	**06 14 48.7**	**-3.8**
	2.9nm,0.4s						
UZB				Lg	Lg	06 16 02.0	
	6.1nm,0.8s						

*IDC **20** 06:28:49.2±1.3,31°.26S×72°.71W, h0km, mb3.8/2, mb1 4.0/5, mb1mx3.7/24, mbtmp3.8/5, ML3.8/3, Error ellipse: s-maj=41.2km s-min=30.6km az=103.0*
*NEIC **20** 06:28:50.6±1.8,31°.26S±0°.05×72°.74W±0°.07, h10km±1km, mb4.6/18, Error ellipse: s-maj=11.4km s-min=8.1km az=298.0*
ISC 20 06:28:50.2±0.6,**31°.26S**±0°.07×**72°.77W**±0°.07,**h10**km,**n35,**
σ0⅝62/36,mb4.7/11,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
CO06	**Fray Jorge**	**1.14**	**59**		**Pb**	**06 29 11.0**	**-1.0**
CO03	**El Pedregal**	**1.84**	**77**	Pn	**Pn**	**06 29 22.2**	**+0.2**
CO03				Sn	**Sn**	**06 29 44.3**	**-1.0**
CO05	**La Serena**	**1.88**	**45**	Pn	**Pn**	**06 29 21.6**	**-0.8**
VA01	**Torpederas**	**2.00**	**152**	Pn	**Pn**	**06 29 23.6**	**-0.5**
GO04	**Tololo Observa**	**2.01**	**58**	Pn	**Pn**	**06 29 24.4**	**-0.1**
AC02	**Maricunga**	**5.44**	**37**	Pn	**Pn**	**06 30 12.1**	**+0.3**
VA04	**Juan Fernndez**	**5.64**	**244**	Pn	**Pn**	**06 30 13.5**	**-0.6**
LC01	**Cunco**	**7.66**	**175**	Pn	**Pn**	**06 30 43.0**	**+1.2**
PLCA	**Paso Flores**	**9.62**	**170**	Pn	**Pn**	**06 31 09.3**	**+0.5**
	0.3nm,0.3s,baz=322,slow=12,SNR=4.6						
PLCA	**Paso Flores**	**9.62**	**170**	Pn	**Pn**	**06 31 09.0**	**+0.2**
LPAZ	**La Paz**	**15.49**	**17**	Pn	**Pn**	**06 32 29.9**	**+0.4**
	0.1nm,0.3s,baz=180,slow=9.4,SNR=6.9						
SIV	**San Ignacio**	**18.57**	**38**	P	**P**	**06 33 07.6**	**+0.1**
	0.4nm,0.3s,baz=226,slow=11,SNR=23						
BDFB	**Brasilia**	**27.43**	**61**	P	**P**	**06 34 36.5**	**0.0**
	2.4nm,0.9s,baz=150,slow=12,SNR=3.1						
BCIP	**Isla Barro Col**	**40.76**	**349**	P	**P**	**06 36 30.4**	**-1.2**
BCIP				IAmb	IAmb	06 36 48.9	
	comp=Z,19nm,1.3s						
SRBA	**San Rafael, Bu**	**41.52**	**344**	P	**P**	**06 36 37.6**	**-0.4**
CVTR	**Volcan Turrial**	**42.38**	**344**	P	**P**	**06 36 45.3**	**-0.1**
CVTR				IAmb	IAmb	06 36 53.4	
	comp=Z,24nm,1.3s						
DUNO	**Dulce Nombre,**	**42.88**	**341**	P	**P**	**06 36 47.8**	**-1.1**
JTS	**Las Juntas de**	**42.93**	**342**	P	**P**	**06 36 49.8**	**+0.4**
PRVC	**Isla de Provid**	**45.14**	**348**	P	**P**	**06 37 07.6**	**+0.6**
PRVC				IAmb	IAmb	06 37 11.7	
	comp=Z,3.0nm,0.8s						
CDVI	**St. Croix**	**49.33**	**10**	P	**P**	**06 37 40.0**	**+0.3**
AOPR	**Arecibo Observ**	**49.66**	**8**	P	**P**	**06 37 42.6**	**+0.4**
AOPR				IAmb	IAmb	06 37 48.2	
	comp=Z,15nm,0.9s						
SMRT	**St. Maarten**	**49.90**	**12**	P	**P**	**06 37 44.7**	**+0.6**
SMRT				IAmb	IAmb	06 37 55.2	
	comp=Z,14nm,1.1s						
SNAA	**Sanae**	**54.35**	**159**	P	**P**	**06 38 16.8**	**+0.1**
SOR	**Soroa**	**54.63**	**348**	P	**P**	**06 38 18.8**	**-0.4**
SOR				IAmb	IAmb	06 38 25.8	
	comp=Z,16nm,1.2s						
061Z	**Ochoppi**	**57.33**	**351**	P	**P**	**06 38 38.5**	**+0.1**
QSPA	**South Pole Qui**	**58.97**	**180**	P	**P**	**06 38 48.9**	**-0.8**
QSPA				IAmb	IAmb	06 38 49.4	
	comp=Z,3.8nm,1.4s						
TIGA	**Tifton**	**63.20**	**350**	P	**P**	**06 39 19.3**	**+0.8**
KMSC	**Kings Mountain**	**66.54**	**352**	P	**P**	**06 39 39.6**	**-0.6**
KMSC				IAmb	IAmb	06 39 40.1	
	comp=Z,7.9nm,1.2s						
Y45A	**Yeager Farm, C**	**66.68**	**345**	P	**P**	**06 39 40.8**	**-0.3**
TXAR	**Lajitas Array**	**67.05**	**331**	P	**P**	**06 39 44.6**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=154,slow=6.9,SNR=7.2						
MSU	**Marysvale**	**78.53**	**329**	P	**P**	**06 40 51.8**	**-0.1**
RWWY	**Rawlins**	**79.23**	**334**	P	**P**	**06 40 55.8**	**+0.1**
RWWY				IAmb	IAmb	06 41 05.9	
	comp=Z,2.6nm,0.8s						
WRA	**Warramunga Arr**	**122.82**	**211**	PKP	**PKiKP**	**06 47 47.8**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=157,slow=1.8,SNR=1.0						
ZALV	**Zalesovo Beam**	**152.19**	**29**	PKPbc	**PKPbc**	**06 48 45.4**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=317,slow=8.1,SNR=4.3						
ZALV	**Zalesovo Beam**	**152.19**	**29**		**PKiKP**	**06 48 46.6**	**+0.8**

MEX 20 06:37:26.3±0.6,**15°.75N×91°.95W,h17**km±116km,**MD3.9,**
Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
PCIG		**1.23**	**268**	*i* P		06 37 45.7	-3.0
PCIG				*i* S		06 37 59.7	-4.9

*SJA **20** 06:39:09.0,30°.59S×72°.57W, h10km, ML4.8*
*IDC **20** 06:39:09.9±0.8,30°.62S×72°.11W, h0km, mb4.1/6, mb1 4.1/10, mb1mx3.9/31, mbtmp4.0/10, ML3.8/4, Error ellipse: s-maj=38.3km s-min=17.6km az=102.0*
*NEIC **20** 06:39:10.3±1.8,30°.60S±0°.05×72°.33W±0°.05, h18km±5km, mb4.4/9, ML4.2(GUC), Error ellipse: s-maj=7.1km s-min=5.9km az=165.0*
*GUC **20** 06:39:11.7±0.6,30°.64S×72°.21W, h25km±5km, ML4.2*
ISC 20 06:39:08.4±1.8,**30°.55S**±0°.04×**72°.40W**±0°.06,**h5**km±11km,
n82,σ1⅝47/84,mb4.4/9,3C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
CO06	**Fray Jorge**	**0.67**	**101**	⇓*e*P	**Pg**	**06 39 21.8**	**+0.7**
CO06				*e*S	**Sg**	**06 39 29.0**	**-0.9**
CO06				IAML		06 39 31.0	
	comp=E,11μm,0.3s						
CO06	**Fray Jorge**	**0.67**	**101**		**Pg**	**06 39 21.9**	**+0.7**
CO05	**La Serena**	**1.18**	**58**	⇑*e*P	**Pb**	**06 39 31.1**	**-0.2**
CO05				*e*S	**Sg**	**06 39 46.0**	**-0.5**
CO05				IAML		06 39 50.3	
	comp=E,6μm,0.3s						
CO05	**La Serena**	**1.18**	**58**		**Pb**	**06 39 31.3**	**0.0**
GO04	**Tololo Observa**	**1.43**	**75**	*e*P	**Pn**	**06 39 35.0**	**-0.3**
GO04				*e*S	**Sb**	**06 39 52.4**	**-2.0**
GO04				IAML		06 39 59.3	
	comp=E,12μm,0.5s						
GO04	**Tololo Observa**	**1.43**	**75**		**Pn**	**06 39 35.0**	**-0.3**
GO04	**Tololo Observa**	**1.43**	**75**	*i* P	**Pb**	**06 39 36.0**	**+0.3**
CO03	**El Pedregal**	**1.50**	**101**	⇑*e*P	**Pn**	**06 39 34.9**	**-1.2**
CO03				*e*S	**Sn**	**06 39 52.4**	**-3.7**
CO03				IAML		06 39 57.6	
	comp=E,3μm,0.3s						
CO03	**El Pedregal**	**1.50**	**101**	Pn	**Pn**	**06 39 35.0**	**-1.1**
CO03	**El Pedregal**	**1.50**	**101**	*i* P	**Pn**	**06 39 35.0**	**-1.1**
LCO	**Las Campanas**	**2.13**	**44**	*e*P	**Pn**	**06 39 45.5**	**+0.6**
LCO				*e*S	**Sn**	**06 40 10.9**	**-1.0**
VA06	**Catapilco**	**2.21**	**155**	IAML		06 40 24.4	
	comp=E,5μm,0.5s						
VA01	**Torpederas**	**2.54**	**166**	Pn	**Pn**	**06 39 49.2**	**-1.2**
AC04	**Llanos de Chal**	**2.61**	**27**	*e*P	**Pn**	**06 39 51.9**	**+0.7**
AC04	**Llanos de Chal**	**2.61**	**27**		**Pn**	**06 39 51.7**	**+0.4**
AC04	**Llanos de Chal**	**2.61**	**27**	*i* P	**Pn**	**06 39 52.0**	**+0.7**
ROCH	**El Roble**	**2.69**	**154**	*e*P	**Pn**	**06 39 52.1**	**-0.5**
ROCH				IAML		06 40 39.2	
	comp=E,919nm,0.5s						
VA03	**San Esteban**	**2.71**	**145**	*e*P	**Pn**	**06 39 52.9**	**+0.1**
VA03				*e*S	**Sn**	**06 40 24.9**	**-1.2**
VA03				IAML		06 40 38.2	
	comp=N,3μm,0.6s						
VA03	**San Esteban**	**2.71**	**145**	Pn	**Pn**	**06 39 52.9**	**+0.1**
MT05	**Renca**	**3.16**	**154**	⇑*e*P	**Pn**	**06 39 59.0**	**0.0**
MT05				*e*S	**Sn**	**06 40 35.6**	**-1.6**
MT05				IAML		06 40 54.6	
	comp=E,1μm,0.3s						
MT05	**Renca**	**3.16**	**154**		**Pn**	**06 39 58.6**	**-0.4**
VA05	**Santo Domingo**	**3.17**	**168**	*e*P	**Pn**	**06 39 58.0**	**-1.0**
VA05				IAML		06 40 58.4	
	comp=E,697nm,0.5s						
VA05	**Santo Domingo**	**3.17**	**168**		**Pn**	**06 39 57.9**	**-1.0**
ZON	**Zonda**	**3.34**	**108**	*i* P	**Pb**	**06 40 05.0**	**-3.2**
MT09	**Talagante**	**3.43**	**160**	*e*P	**Pn**	**06 40 02.9**	**+0.2**
MT09				*e*S	**Sn**	**06 40 42.7**	**-1.1**
MT09				IAML		06 41 01.4	
	comp=E,555nm,0.4s						
MT09	**Talagante**	**3.43**	**160**		**Pn**	**06 40 02.8**	**+0.1**
MT01	**Popeta**	**3.44**	**164**	*e*P	**Pn**	**06 40 02.5**	**-0.3**
MT01				IAML		06 41 03.6	
	comp=E,438nm,0.6s						
MT01	**Popeta**	**3.44**	**164**		**Pn**	**06 40 02.1**	**-0.7**
GO03	**Copiap**	**3.50**	**33**	*e*P	**Pn**	**06 40 05.0**	**+1.3**
GO03				IAML		06 41 13.5	
	comp=N,217nm,0.3s						
GO03	**Copiap**	**3.50**	**33**	Pn	**Pn**	**06 40 04.9**	**+1.2**
GO03	**Copiap**	**3.50**	**33**	*i* P	**Pn**	**06 40 05.0**	**+1.4**
AC06	**Mina Casimiro**	**3.65**	**30**	*e*P	**Pn**	**06 40 06.8**	**+1.1**
AC06	**Mina Casimiro**	**3.65**	**30**	Pn	**Pn**	**06 40 07.1**	**+1.4**
LMEL	**Las Melosas**	**3.77**	**151**	*e*P	**Pn**	**06 40 08.3**	**+0.8**
LMEL				*e*S	**Sn**	**06 40 51.7**	**-0.7**
BO01	**Tunca**	**3.99**	**164**	Pn	**Pn**	**06 40 09.9**	**-0.3**
VCA	**Vinchina**	**4.07**	**65**	*i* P	**Pn**	**06 40 16.9**	**+4.4**
BO02	**Sierra Bellavi**	**4.44**	**163**	Pn	**Pn**	**06 40 16.4**	**-0.2**
AC02	**Maricunga**	**4.68**	**39**	*e*P	**Pn**	**06 40 22.4**	**+2.1**
RFA	**San Rafael**	**5.36**	**143**	*i* P	**Pn**	**06 40 30.0**	**+0.9**
H03N1	**Juan Fernandez**	**6.24**	**241**	T	T	06 47 49.9	
	baz=72,slow=72,SNR=148						
H03N2	**Juan Fernandez**	**6.25**	**241**	T	T	06 47 51.9	
	baz=72,slow=72,SNR=133						
H03N3	**Juan Fernandez**	**6.26**	**241**	T	T	06 47 45.2	
	baz=72,slow=72,SNR=118						
VA04	**Juan Fernndez**	**6.27**	**239**	Pn	**Pn**	**06 40 42.9**	**+1.3**
LC01	**Cunco**	**8.34**	**177**	Pn	**Pn**	**06 41 08.8**	**-1.2**
LC01	**Cunco**	**8.34**	**177**	*i* P	**Pn**	**06 41 10.0**	**0.0**
LVC	**Limon Verde**	**8.50**	**22**	Pn	**Pn**	**06 41 12.8**	**+0.2**
	comp=N,0.3nm,0.3s,baz=217,slow=10,SNR=1.8						
LR03	**Panguipulli**	**9.06**	**180**	Pn	**Pn**	**06 41 20.6**	**+0.7**
PLCA	**Paso Flores**	**10.27**	**172**	Pn	**Pn**	**06 41 36.8**	**+0.2**
	comp=N,0.4nm,0.3s,baz=341,slow=10,SNR=11						
PLCA	**Paso Flores**	**10.27**	**172**		**Pn**	**06 41 36.5**	**-0.1**
PLCA	**Paso Flores**	**10.27**	**172**	*i* P	**Pn**	**06 41 37.0**	**+0.5**
LL04	**Puerto Octay**	**10.34**	**180**	Pn	**Pn**	**06 41 37.1**	**-0.2**
TA02	**Huaiquique**	**10.44**	**12**	Pn	**Pn**	**06 41 37.8**	**-1.0**
TRQA	**Tornquist**	**11.40**	**134**	*i* P	**Pn**	**06 41 53.0**	**+0.9**
CPUP	**Villa Florida**	**13.90**	**76**	Pn	**Pn**	**06 42 29.0**	**+2.8**
	comp=N,0.1nm,0.3s,baz=253,slow=17,SNR=2.1						
LPAZ	**La Paz**	**14.72**	**16**	Pn	**P**	**06 42 41.7**	**-2.7**
	comp=N,0.1nm,0.3s,baz=183,slow=12,SNR=6.6						
SIV	**San Ignacio**	**17.82**	**38**	P	**P**	**06 43 19.0**	**+0.9**
	comp=N,0.3nm,0.3s,baz=225,slow=9.6,SNR=31						
BDFB	**Brasilia**	**26.81**	**62**	P	**P**	**06 44 50.4**	**+0.5**
	comp=N,3.8nm,0.6s,baz=237,slow=8.8,SNR=8.5						
PMSA	**Palmer Station**	**34.64**	**174**	P	**P**	**06 45 59.9**	**+1.5**
	comp=N,2.4nm,0

ZALV	**Zalesovo Beam**	**151.41**	**29**	PKPbc	**PKiKP**	**06 59 05.2**	**+1.8**
MKAR	**Makanchi Array**	**154.59**	**43**	PKPbc	**PKiKP**	**06 59 11.7**	**+1.4**

comp=Z,0.3nm,0.6s,baz=336,slow=3.2,SNR=2.9

*IDC **20** 06:49:08.7±0.9,31°.67S×71°.82W,h0km,mb3.9/5, mb1 4.0/10,mb1mx3.8/27,mbtmp3.8/10,ML3.5/5,Error ellipse: s-maj=31.1km s-min=18.8km az=100.0*
*SJA **20** 06:49:08.0,31°.72S×72°.56W,h10km,ML4.6*
*NEIC **20** 06:49:10.3±0.9,31°.71S±0°.03×72°.27W±0°.10,h27km±5km, mb4.5/15,Mwr4.2/35,ML4.0(GUC),Error ellipse: s-maj=12.2km s-min=4.2km az=89.0*
*NEIC **20** 06:49:10.6,31.71S×72.27W,h29km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=1.06; Mθθ=0.65; Mφφ=-1.71; Mrθ=0.16; Mrφ=-0.34; Mθφ=-1.47; Fault plane solution: M₀=2.13000×10¹⁵ NP1:φs=32.24000°, δ=25.76000°,λ=126.38000°. NP2:φs=172.95000°,δ=69.52000°, λ=74.03000°. Principal axes: T 1.7613, Plg62.0000°, Azm58.0000°; N 0.6024, Plg15.0000°, Azm179.0000°; P -2.3637, Plg23.0000°, Azm275.0000°;*
*GUC **20** 06:49:11.3±0.7,31°.73S×72°.00W,h31km±6km,ML4.0*

ISC 20 06:49:08.2±1.6,31°.70S±0°.04×72°.21W±0°.06,h11km±10km, n92,σ1§48/93,mb4.4/10,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
CO06	**Fray Jorge**	**1.14**	**26**	*eP*		**Pg**		**06 49 30.6**	**+0.6**
CO06				*eS*		**Sg**		**06 49 44.8**	**0.0**
CO06				IAML				06 49 52.6	
	comp=E,5μm,0.3s								
CO06	**Fray Jorge**	**1.14**	**26**			**Pg**		**06 49 30.7**	**+0.8**
VA06	**Catapilco**	**1.16**	**138**	*eP*		**Pb**		**06 49 29.6**	**-0.6**
VA06				*eS*		**Sb**		**06 49 42.9**	**-2.3**
VA06				IAML				06 49 47.1	
	comp=N,7μm,0.7s								
VA01	**Torpederas**	**1.41**	**160**	Pn		**Pn**		**06 49 34.0**	**+0.3**
CO03	**El Pedregal**	**1.56**	**57**	*eP*		**Pb**		**06 49 36.5**	**-0.6**
CO03				*eS*		**Sn**		**06 49 55.0**	**-1.2**
CO03				IAML				06 49 58.9	
	comp=E,3μm,0.3s								
CO03	**El Pedregal**	**1.56**	**57**	Pn		**Pb**		**06 49 36.7**	**-0.5**
ROCH	**El Roble**	**1.63**	**142**	*eP*		**Pn**		**06 49 37.4**	**+0.5**
ROCH				*eS*		**Sn**		**06 49 56.9**	**-1.1**
ROCH				IAML				06 50 03.2	
	comp=N,3μm,0.7s								
VA03	**San Esteban**	**1.76**	**127**	*i* P		**Pn**		**06 49 39.1**	**+0.4**
VA03				*eS*		**Sn**		**06 49 59.5**	**-1.7**
VA03				IAML				06 50 06.2	
	comp=E,4μm,0.5s								
VA03	**San Esteban**	**1.76**	**127**	Pn		**Pn**		**06 49 39.3**	**+0.6**
GO04	**Tololo Observa**	**1.95**	**39**	*eP*		**Pb**		**06 49 43.5**	**-0.3**
CO05	**La Serena**	**1.96**	**26**	*eP*		**Pn**		**06 49 42.3**	**+1.0**
CO05				IAML				06 50 19.9	
	comp=E,4μm,0.8s								
CO05	**La Serena**	**1.96**	**26**			**Pb**		**06 49 42.5**	**-1.4**
VA05	**Santo Domingo**	**2.02**	**166**	*eP*		**Pn**		**06 49 42.2**	**+0.1**
VA05				IAML				06 50 18.6	
	comp=E,2μm,0.3s								
VA05	**Santo Domingo**	**2.02**	**166**			**Pn**		**06 49 42.6**	**+0.5**
MT05	**Renca**	**2.10**	**144**	*eP*		**Pn**		**06 49 44.5**	**+1.2**
MT05				IAML				06 50 18.0	
	comp=E,2μm,0.3s								
MT05	**Renca**	**2.10**	**144**	Pn		**Pn**		**06 49 44.2**	**+0.9**
MT01	**Popeta**	**2.31**	**160**	*eP*		**Pn**		**06 49 46.7**	**+0.6**
MT01	**Popeta**	**2.31**	**160**	Pn		**Pn**		**06 49 46.6**	**+0.5**
MT09	**Talagante**	**2.31**	**154**	*eP*		**Pn**		**06 49 47.8**	**+1.4**
MT09				*eS*		**Sn**		**06 50 14.2**	**-0.7**
MT09				IAML				06 50 28.9	
	comp=E,827nm,0.7s								
MT09	**Talagante**	**2.31**	**154**			**Pn**		**06 49 46.2**	**-0.2**
AUSP	**Uspallata**	**2.46**	**103**	*i* P		**Pb**		**06 49 51.0**	**-1.5**
RTLS	**Leoncito**	**2.49**	**93**	*i* P		**Pb**		**06 49 51.0**	**-2.0**
LMEL	**Las Melosas**	**2.73**	**142**	*i* P		**Pn**		**06 49 53.5**	**+1.4**
LMEL				*eS*		**Sn**		**06 50 24.2**	**-1.0**
BO03	**Pichilemu**	**2.80**	**176**	*eP*		**Pn**		**06 49 53.3**	**+0.4**
BO01	**Tunca**	**2.85**	**161**	*eP*		**Pn**		**06 49 54.4**	**+0.9**
BO01	**Tunca**	**2.85**	**161**			**Pn**		**06 49 54.4**	**+0.9**
BO01	**Tunca**	**2.85**	**161**	*i* P		**Pn**		**06 49 55.0**	**+1.4**
LCO	**Las Campanas**	**2.98**	**26**	*eP*		**Pn**		**06 49 56.8**	**+1.2**
LCO	**Las Campanas**	**2.98**	**26**	*i* P		**Pn**		**06 49 57.0**	**+1.4**
ZON	**Zonda**	**3.02**	**88**	Pn		**Pn**		**06 49 57.3**	**+1.4**
ZON	**Zonda**	**3.02**	**88**	*i* P		**Pb**		**06 50 01.0**	**-1.0**
ACDV	**Cuesta del Vie**	**3.06**	**61**	*i* P		**Pb**		**06 50 02.0**	**-0.8**
BO02	**Sierra Bellavi**	**3.31**	**159**	*eP*		**Pn**		**06 50 01.1**	**+1.1**
BO02	**Sierra Bellavi**	**3.31**	**159**	Pn		**Pn**		**06 50 00.6**	**+0.6**
GO05	**Huala**	**3.31**	**176**	*eP*		**Pn**		**06 50 00.1**	**+0.2**
GO05				IAML				06 51 33.2	
	comp=E,213nm,0.5s								
GO05	**Huala**	**3.31**	**176**	Pn		**Pn**		**06 50 00.4**	**+0.4**
GO05	**Huala**	**3.31**	**176**	*i* P		**Pn**		**06 50 00.0**	**0.0**
AC04	**Llanos de Chal**	**3.62**	**16**	*eP*		**Pn**		**06 50 04.6**	**+0.4**
AC04				IAML				06 51 14.4	
	comp=E,316nm,0.6s								
AC04	**Llanos de Chal**	**3.62**	**16**			**Pn**		**06 50 04.8**	**+0.6**
ML02	**Panimavida**	**4.11**	**171**	Pn		**Pn**		**06 50 11.5**	**+0.7**
AVFE	**Valle Fertil**	**4.21**	**77**	*i* P		**Pn**		**06 50 16.0**	**+3.7**
RFA	**San Rafael**	**4.39**	**135**	*i* P		**Pn**		**06 50 17.0**	**+2.2**
GO03	**Copiap**	**4.44**	**23**	Pn		**Pn**		**06 50 16.3**	**+0.8**
GO03	**Copiap**	**4.44**	**23**	*i* P		**Pn**		**06 50 17.0**	**+1.5**
AC06	**Mina Casimiro**	**4.62**	**21**	Pn		**Pn**		**06 50 18.5**	**+0.5**
ACHE	**Chepes**	**4.77**	**85**	*i* P		**Pn**		**06 50 24.0**	**+3.8**
AC02	**Maricunga**	**5.54**	**30**	Pn		**Pn**		**06 50 32.4**	**+1.3**
AC02	**Maricunga**	**5.54**	**30**	*i* P		**Pn**		**06 50 32.0**	**+0.9**
H03N1	**Juan Fernandez**	**5.92**	**251**	T		T		06 57 29.4	
	baz=68,slow=72,SNR=180								
H03N3	**Juan Fernandez**	**5.93**	**251**	T		T		06 57 26.7	
	baz=68,slow=72,SNR=200								
H03N2	**Juan Fernandez**	**5.93**	**251**	T		T		06 57 43.9	
	baz=68,slow=72,SNR=184								
CYA	**Choya**	**6.43**	**61**	*i* P		**Pn**		**06 50 45.0**	**+2.1**
LC01	**Cunco**	**7.19**	**178**	*i* P		**Pn**		**06 50 54.0**	**+0.8**
AHML	**Horco Molle**	**7.75**	**53**	*i* P		**Pn**		**06 51 04.0**	**+3.0**
FSA	**Cafayete**	**7.85**	**41**	*i* P		**Pn**		**06 51 06.0**	**+4.2**
PLCA	**Paso Flores**	**9.12**	**172**	Pn		**Pn**		**06 51 21.4**	**+1.7**
	comp=E,0.3nm,0.3s,baz=335,slow=14,SNR=2.1								
PLCA	**Paso Flores**	**9.12**	**172**			**Pn**		**06 51 19.8**	**+0.1**
AF01	**San Pedro de A**	**9.42**	**23**			**Pn**		**06 51 23.3**	**-0.8**
LVC	**Limon Verde**	**9.52**	**19**	Pn		**Pn**		**06 51 24.1**	**-1.4**
	comp=E,0.2nm,0.3s,baz=150,slow=8.1,SNR=1.4								
TRQA	**Tornquist**	**10.53**	**130**			**Pn**		**06 51 39.1**	**+0.1**
TRQA	**Tornquist**	**10.53**	**130**	*i* P		**Pn**		**06 51 42.0**	**+3.0**
CPUP	**Villa Florida**	**14.07**	**71**	Pn		**Pn**		**06 52 25.9**	**-1.7**
	comp=E,0.1nm,0.3s,baz=259,slow=16,SNR=2.0								
LPAZ	**La Paz**	**15.79**	**15**	Pn		**Pn**		**06 52 52.8**	**+1.7**
	comp=E,0.1nm,0.3s,baz=192,slow=6.3,SNR=9.0								
LPAZ	**La Paz**	**15.79**	**15**	Pn		**Pn**		**06 52 50.5**	**-0.5**
PLTB	**Pedras Altas**	**15.84**	**95**	Pn		**Pn**		**06 52 50.4**	**-0.8**
SIV	**San Ignacio**	**18.64**	**36**	P		**Pn**		**06 53 26.1**	**-0.2**
	comp=E,0.1nm,0.3s,baz=225,slow=11,SNR=8.2								
USHA	**Ushuaia**	**23.28**	**174**	P		**P**		**06 54 17.8**	**+2.2**
	comp=E,40nm,0.8s,baz=213,slow=1.6,SNR=4.1								
SPB	**Sao Paulo**	**23.35**	**76**	P		**P**		**06 54 16.1**	**-0.6**
SPB				IAmb		IAmb		06 54 17.7	
	comp=Z,20nm,1.0s								
BDFB	**Brasilia**	**27.23**	**60**	P		**P**		**06 54 51.4**	**-1.0**
	comp=Z,6.7nm,0.9s,baz=259,slow=4.8,SNR=7.4								
BDFB	**Brasilia**	**27.23**	**60**	P		**P**		**06 54 52.0**	**-0.5**
BDFB				IAmb		IAmb		06 54 53.8	
	comp=Z,12nm,1.0s								
OTAV	**Otavalo**	**32.31**	**348**	P		**P**		**06 55 35.6**	**-2.2**
OTAV				IAmb		IAmb		06 55 46.2	
	comp=Z,3.8nm,1.4s								
PMSA	**Palmer Station**	**33.49**	**174**	P		**P**		**06 55 46.7**	**-0.4**
TUMC	**Tumaco**	**33.91**	**348**	P		**P**		**06 55 49.4**	**-1.9**
STVI	**Saint Thomas**	**50.25**	**9**	P		**P**		**06 58 03.3**	**-1.1**
STVI				IAmb		IAmb		06 58 04.2	
	comp=Z,9.8nm,1.1s								
PTCN	**Pitcairn Islan**	**50.85**	**262**	P		**P**		**06 58 07.6**	**-1.5**
VNA1	**Neumayer--Stat**	**51.85**	**158**	P		**P**		**06 58 16.0**	**+0.2**
VNA2	**Neumayer--Watz**	**52.19**	**158**	P		**P**		**06 58 18.9**	**+0.4**
	baz=286,slow=7.9								
SNAA	**Sanae**	**53.77**	**158**	P		**P**		**06 58 31.8**	**+1.6**
SNAA	**Sanae**	**53.77**	**158**	P		**P**		**06 58 30.5**	**+0.3**
SNAA				IAmb		IAmb		06 58 44.0	
	comp=Z,4.9nm,1.1s								
QSPA	**South Pole Qui**	**58.53**	**180**	P		**P**		**06 59 06.8**	**+2.4**
	comp=Z,0.9nm,0.7s,baz=183,slow=2.4,SNR=6.0								
DWPF	**Disney Wildern**	**60.12**	**351**	P		**P**		**06 59 14.9**	**-0.7**
TXAR	**Lajitas Array**	**67.66**	**330**	P		**P**		**07 00 08.3**	**+2.9**
	comp=Z,0.3nm,0.7s,baz=148,slow=7.3,SNR=3.9								
TXAR	**Lajitas Array**	**67.66**	**330**	P		**P**		**07 00 03.3**	**-2.1**

NVAR	**Mina Array Bea**	**81.92**	**325**	P		**P**	**07 01 31.6**	**+3.6**
	comp=Z,0.5nm,0.7s,baz=153,slow=6.2,SNR=5.6							
TORD	**Torodi Ar. Bea**	**83.57**	**70**	P		**P**	**07 01 37.6**	**+0.8**
	comp=Z,2.2nm,0.8s,baz=242,slow=4.4,SNR=12							
TORD	**Torodi Ar. Bea**	**83.57**	**70**	P		**P**	**07 01 37.0**	**+0.2**
TORD				IAmb		IAmb	07 01 38.5	
	comp=Z,2.6nm,0.8s							
WALA	**Waterton Lakes**	**88.58**	**334**	P		**P**	**07 02 00.1**	**-0.8**
H11S2	**WAKE ISLAND Hyd**	**25.62**	**271**	T		T	09 27 05.3	
	baz=116,slow=75,SNR=13							
H11S1	**WAKE ISLAND Hyd**	**25.64**	**271**	T		T	09 27 12.7	
	baz=116,slow=75,SNR=6.6							
H11S3	**WAKE ISLAND Hyd**	**25.64**	**271**	T		T	09 27 13.1	
	baz=116,slow=75,SNR=7.6							
ZALV	**Zalesovo Beam**	**152.33**	**30**	PKPbc		**PKiKP**	**07 09 05.4**	**+1.5**
	comp=Z,2.6nm,0.6s,baz=299,slow=3.0,SNR=7.7							
ZALV	**Zalesovo Beam**	**152.33**	**30**			**PKiKP**	**07 09 04.7**	**+0.8**

IDC 20 06:49:38.5±0.7,31°.66S×71°.72W,h0km,mb3.9/2, mb1 4.1/3,mb1mx3.7/23,mbtmp3.8/3,ML4.0/1,Error ellipse: s-maj=37.2km s-min=14.4km az=94.0,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
PLCA	**Paso Flores**	**9.10**	**174**	Pn		Pn		06 51 51.2	-0.1
	0.4nm,0.3s,baz=344,slow=18,SNR=1.7								
QSPA	**South Pole Qui**	**58.57**	**180**	P		P		06 59 36.9	0.0
	baz=38,slow=0.3								
NVAR	**Mina Array Bea**	**82.12**	**325**	P		P		07 02 01.6	+0.3
	0.2nm,0.6s,baz=145,slow=6.4,SNR=2.2								
TORD	**Torodi Ar. Bea**	**83.16**	**70**	P		P		07 02 07.1	+0.2
	1.6nm,0.7s,baz=240,slow=2.0,SNR=5.2								
ZALV	**Zalesovo Beam**	**152.09**	**30**	PKPbc		PKPbc		07 09 34.7	-0.7
	2.8nm,0.5s,baz=304,slow=2.9,SNR=4.8								

*IDC **20** 06:51:21.1±15.0,52°.75N×176°.10E,h0km,mb3.4/3, mb1 3.9/3,mb1mx3.3/53,mbtmp3.4/3,Error ellipse: s-maj=293.4km s-min=209.9km az=76.0*
*NEIC **20** 06:51:42.6±0.5,51°.8N±0°.1×178°.43E±0°.09,h110km±3km, Error ellipse: s-maj=18.8km s-min=7.3km az=189.0*
*AEIC **20** 06:51:43.3±0.5,51°.8N±0°.1×178°.43E±0°.08,h110km±3km, ML2.9/25,Error ellipse: s-maj=15.1km s-min=7.3km az=189.0*

ISC 20 06:51:42.6±1.1,51°.8N±0°.2×178°.43E±0°.05,h111km±7km, n23,σ0§44/29,mb3.4/3,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
LSSA	**Little Sitkin**	**0.13**	**24**				**Pn**	**06 51 58.0**	**0.0**
LSSE	**Little Sitkin**	**0.13**	**40**				**Pn**	**06 51 58.0**	**+0.1**
LSNW	**Little Sitkin**	**0.15**	**21**				**Pn**	**06 51 58.2**	**+0.3**
LSPA	**Little Sitkin**	**0.15**	**36**				**Pn**	**06 51 58.0**	**0.0**
LSPA							**Sn**	**06 52 09.9**	**+0.3**
CETU	**Semis' Tuman**	**0.67**	**78**				**Pn**	**06 52 01.0**	**+0.2**
CESW	**Semis' Southwe**	**0.71**	**84**				**Pn**	**06 52 00.8**	**-0.2**
AMKA	**Amchitka**	**0.71**	**129**				**Pn**	**06 52 01.0**	**-0.1**
AMKA							**Sn**	**06 52 14.3**	**-0.7**
CEAP	**Semis' Anvil P**	**0.73**	**76**				**Pn**	**06 52 01.2**	**0.0**
CERB	**Semis' Cerberu**	**0.75**	**82**				**Sn**	**06 52 15.8**	**+0.2**
CERAA	**Semis' Rag'd T**	**0.78**	**84**				**Sn**	**06 52 01.6**	**-0.2**
CERAA							**Sn**	**06 52 15.5**	**-0.6**
GASW	**Gareloi Southw**	**1.69**	**91**				**Pn**	**06 52 11.7**	**0.0**
GASW							**Sn**	**06 52 33.2**	**-0.6**
GANE	**Gareloi Northe**	**1.73**	**89**				**Pn**	**06 52 12.3**	**0.0**
TASE	**Tanaga Southea**	**2.19**	**89**				**Pn**	**06 52 18.1**	**0.0**
TAFP	**Tanaga Falls P**	**2.23**	**87**				**Pn**	**06 52 18.4**	**0.0**
TAFP							**Sn**	**06 52 45.2**	**-0.8**
KIMD	**Kanaga Island**	**2.69**	**90**				**Pn**	**06 52 24.4**	**-0.1**
KIWB	**Kanaga Island**	**2.74**	**88**	Pn			**Pn**	**06 52 25.1**	**-0.1**
KIRH	**Kanaga Island**	**2.78**	**87**				**Pn**	**06 52 25.7**	**+0.1**
SMY	**Shemya**	**2.81**	**290**				**Pn**	**06 52 25.6**	**-0.4**
SMY							**Sn**	**06 52 58.8**	**-0.6**
ADK	**Adak**	**3.03**	**87**				**Pn**	**06 52 28.8**	**-0.1**
GSIG	**Igitkin Island**	**3.50**	**85**				**Pn**	**06 52 34.7**	**-0.5**
NVAR	**Mina Array Bea**	**45.20**	**81**	P			**P**	**06 59 49.8**	**+1.2**
	0.4nm,0.6s,baz=300,slow=7.2,SNR=4.7								
PDAR	**Pinedale Array**	**47.81**	**71**	P			**P**	**07 00 08.3**	**-0.6**
	0.3nm,0.6s,baz=318,slow=2.0,SNR=3.9								
TXAR	**Lajitas Array**	**60.28**	**79**	P			**P**	**07 01 39.7**	**+0.3**
	0.2nm,0.6s,baz=311,slow=5.9,SNR=2.4								

*IDC **20** 06:55:45.0±0.6,30°.67S×71°.55W,h0km,mb4.4/10, mb1 4.4/15,mb1mx4.3/27,mbtmp4.3/15,ML4.2/5,Error ellipse: s-maj=22.6km s-min=16.7km az=81.0*
*SJA **20** 06:55:47.0,30°.52S×72°.01W,h10km,ML5.0*
*GUC **20** 06:55:48.9±0.7,30°.60S×71°.61W,h32km±2km,ML4.8*
*VAO **20** 06:55:48.9±0.3,30°.55S×71°.76W,h28km,mb4.6*
*NEIC **20** 06:55:48.6±1.4,30°.53S±0°.04×71°.81W±0°.06,h29km±4km, mb4.9/36,Mwr4.5/42,ML4.8(GUC),Error ellipse: s-maj=8.0km s-min=6.5km az=95.0*
*NEIC **20** 06:55:49.2,30°.54S×71°.75W,h40km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=5.25; Mθθ=0.65; Mφφ=-5.90; Mrθ=2.39; Mrφ=-0.42; Mθφ=-2.54; Fault plane solution: M₀=6.61000×10¹⁵ NP1:φs=24.38000°, δ=37.37000°,λ=126.06000°. NP2:φs=161.89000°,δ=60.62000°, λ=65.80000°. Principal axes: T 6.7613, Plg65.0000°, Azm28.0000°; N -0.3112, Plg21.0000°, Azm174.0000°; P -6.4501, Plg12.0000°, Azm269.0000°;*

ISC 20 06:55:48.1±0.9,30°.57S±0°.03×71°.79W±0°.05,h26km±6km, n207,σ1§14/211,mb4.9/24,2C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
CO06	**Fray Jorge**	**0.17**	**129**	↑*i*P			**Pn**	**06 55 55.0**	**0.0**
CO06				*i* S			**Sb**	**06 55 58.9**	**+1.5**
CO06				IAML				06 55 59.2	
	comp=E,243μm,0.2s								
CO06	**Fray Jorge**	**0.17**	**129**				**Pn**	**06 55 55.1**	**0.0**
CO06					Sg		**Sb**	**06 55 58.7**	**+1.3**
CO05	**La Serena**	**0.80**	**36**	↓*i*P			**Pn**	**06 56 03.8**	**+0.4**
CO05				*i* S			**Sn**	**06 56 14.5**	**-0.3**
CO05				IAML				06 56 19.9	
	comp=E,44μm,0.4s								
CO05	**La Serena**	**0.80**	**36**				**Pn**	**06 56 03.8**	**+0.1**
GO04	**Tololo Observa**	**0.94**	**66**	↓*i*P			**Pb**	**06 56 05.6**	**-0.4**
GO04				*i* S			**Sb**	**06 56 16.0**	**-2.1**
GO04				IAML				06 56 21.0	
	comp=N,85μm,0.5s								
GO04	**Tololo Observa**	**0.94**	**66**				**Pb**	**06 56 05.8**	**-0.2**
GO04	**Tololo Observa**	**0.94**	**66**	*i* P			**Pb**	**06 56 06.0**	**+0.1**
CO03	**El Pedregal**	**0.98**	**106**	↓*i*P			**Pn**	**06 56 05.8**	**-0.5**
CO03				*i* S			**Sb**	**06 56 17.6**	**-1.6**
CO03				IAML				06 56 18.3	
	comp=E,120μm,0.2s								
CO03	**El Pedregal**	**0.98**	**106**				**Pn**	**06 56 05.9**	**-0.5**
CO03	**El Pedregal**	**0.98**	**106**	*i* P			**Pn**	**06 56 05.0**	**-1.3**
LCO	**Las Campanas**	**1.81**	**32**	↑*i*P			**Pb**	**06 56 19.2**	**-1.7**
LCO				*i* S			**Sb**	**06 56 41.4**	**-1.8**
LCO	**Las Campanas**	**1.81**	**32**				**Pn**	**06 56 18.7**	**+0.8**
LCO	**Las Campanas**	**1.81**	**32**	*i* P			**Pb**	**06 56 19.0**	**-1.8**
VA06	**Catapilco**	**2.03**	**168**	*i* P			**Pn**	**06 56 22.0**	**+1.3**
VA06				*i* S			**Sb**	**06 56 48.1**	**-1.1**
VA06				IAML				06 56 55.2	
	comp=N,12μm,0.5s								
AROD	**Rodeo**	**2.04**	**79**	*i* P			**Pb**	**06 56 24.0**	**-0.7**
ACDV	**Cuesta del Vie**	**2.34**	**81**	*i* P			**Pb**	**06 56 29.0**	**-0.7**
ACCO	**Cerro Coronel**	**2.35**	**91**	*i* P			**Pb**	**06 56 29.0**	**-1.0**
VA03	**San Esteban**	**2.43**	**155**	*eP*			**Pn**	**06 56 28.1**	**+1.9**
VA03				*i* S			**Sb**	**06 56 58.5**	**-2.3**
VA03				IAML				06 57 05.1	
	comp=E,7μm,0.5s								
VA03	**San Esteban**	**2.43**	**155**				**Pn**	**06 56 27.1**	**+0.9**
VA03	**San Esteban**	**2.43**	**155**	*i* P			**Pb**	**06 56 29.0**	**-2.2**
AC04	**Llanos de Chal**	**2.43**	**15**	*eP*			**Pn**	**06 56 27.2**	**+0.9**
AC04				IAML				06 57 13.1	
	comp=E,3μm,0.4s								
AC04	**Llanos de Chal**	**2.43**	**15**	Pn			**Pn**	**06 56 27.1**	**+0.9**
AC04	**Llanos de Chal**	**2.43**	**15**	*i* P			**Pn**	**06 56 27.0**	**+0.8**
VA01	**Torpederas**	**2.45**	**177**	Pn			**Pn**	**06 56 27.1**	**+0.7**
RTLS	**Leoncito**	**2.46**	**121**	*i* P			**Pb**	**06 56 30.0**	**-1.9**
ROCH	**El Roble**	**2.49**	**165**	*eP*			**Pn**	**06 56 28.1**	**+1.0**
ROCH				*eS*			**Sb**	**06 57 01.2**	**-1.4**
ROCH				IAML				06 57 08.6	
	comp=E,5μm,0.6s								
AUSP	**Uspallata**	**2.63**	**129**	*i* P			**Pb**	**06 56 33.0**	**-1.8**

MT05	**Renca**	**2.96**	**163**	*eP*		**Pn**	**06 56 34.7**	**+1.3**
MT05				IAML			06 57 23.2	
	comp=E,6μm,0.2s							
MT05	**Renca**	**2.96**	**163**			**Pn**	**06 56 34.9**	**+1.5**
AGUA	**GUANDACOL**	**3.05**	**70**	*i* P		**Pb**	**06 56 40.0**	**-1.9**
RTCV	**Cerro Valdivia**	**3.07**	**116**	*i* P		**Pb**	**06 56 39.0**	**-3.0**
VA05	**Santo Domingo**	**3.08**	**177**			**Pn**	**06 56 35.9**	**+0.8**
GO03	**Copiap**	**3.26**	**25**	*eP*		**Pn**	**06 56 39.1**	**+1.4**
GO03	**Copiap**	**3.26**	**25**	Pn		**Pn**	**06 56 37.4**	**-0.2**
GO03	**Copiap**	**3.26**	**25**	*i* P		**Pn**	**06 56 39.0**	**+1.4**
MT09	**Talagante**	**3.27**	**168**	*eP*		**Pn**	**06 56 39.3**	**+1.5**
MT09	**Talagante**	**3.27**	**168**			**Pn**	**06 56 39.2**	**+1.5**
MT01	**Popeta**	**3.32**	**172**	*eP*		**Pn**	**06 56 39.3**	**+0.9**
MT01	**Popeta**	**3.32**	**172**			**Pn**	**06 56 39.6**	**+1.2**
AC06	**Mina Casimiro**	**3.44**	**22**	*eP*		**Pn**	**06 56 40.8**	**+0.9**
AC06				IAML			06 57 40.0	
	comp=E,2μm,0.6s							
AC06	**Mina Casimiro**	**3.44**	**22**	Pn		**Pn**	**06 56 39.9**	**-0.1**
LMEL	**Las Melosas**	**3.54**	**158**	*i* P		**Pn**	**06 56 43.8**	**+2.3**
BO01	**Tunca**	**3.86**	**171**	*eP*		**Pn**	**06 56 47.0**	**+1.2**
BO01	**Tunca**	**3.86**	**171**			**Pn**	**06 56 47.1**	**+1.3**
BO03	**Pichilemu**	**3.92**	**182**	*eP*		**Pn**	**06 56 46.6**	**0.0**
BO02	**Sierra Bellavi**	**4.30**	**169**	*eP*		**Pn**	**06 56 53.7**	**+1.8**
BO02	**Sierra Bellavi**	**4.30**	**169**	Pn		**Pn**	**06 56 54.1**	**+2.2**
AC02	**Maricunga**	**4.39**	**33**	*eP*		**Pn**	**06 56 55.0**	**+1.5**
AC02	**Maricunga**	**4.39**	**33**	*i* P		**Pn**	**06 56 55.0**	**+1.5**
GO05	**Huala**	**4.43**	**182**	*eP*		**Pn**	**06 56 53.9**	**+0.2**
GO05	**Huala**	**4.43**	**182**			**Pn**	**06 56 54.2**	**+0.6**
GO05	**Huala**	**4.43**	**182**	*i* P		**Pn**	**06 56 54.0**	**+0.3**
COIS	**El Sosneado**	**4.89**	**158**	*i* P		**Pn**	**06 57 03.0**	**+3.0**
RFA	**San Rafael**	**5.04**	**147**	*i* P		**Pn**	**06 57 04.0**	**+1.9**
ML02	**Panimavida**	**5.19**	**177**	Pn		**Pn**	**06 57 05.0**	**+1.0**
CYA	**Choya**	**5.63**	**69**	*i* P		**Pn**	**06 57 12.0**	**+1.8**
PB14	**IPOC Station P**	**6.04**	**12**			**Pn**	**06 57 14.3**	**-1.8**
PB14	**IPOC Station P**	**6.04**	**12**	*i* P		**Pn**	**06 57 15.0**	**-1.1**
H03N1	**Juan Fernandez**	**6.70**	**243**	T		T	07 04 43.7	
	baz=72,slow=72,SNR=3344							
H03N2	**Juan Fernandez**	**6.71**	**243**	T		T	07 04 24.1	
	baz=72,slow=72,SNR=2729							
H03N3	**Juan Fernandez**	**6.71**	**243**	T		T	07 04 41.4	
	baz=72,slow=72,SNR=2235							
VA04	**Juan Fernndez**	**6.72**	**241**			**Pn**	**06 57 25.1**	**+0.1**
FSA	**Cafayete**	**6.77**	**50**	*i* P		**Pn**	**06 57 28.0**	**+2.0**
AHML	**Horco Molle**	**6.81**	**58**	*i* P		**Pn**	**06

SMRT	**St. Maarten**	**49.06**	**11**	P		**P**	**07 04 31.6**	**-1.5**
SMRT				IAmb		IAmb	07 04 32.9	
	comp=Z,8.7nm,0.7s							
SC01	**Santiago de lo**	**49.72**	**1**	P		**P**	**07 04 37.3**	**-0.8**
SC01				IAmb		IAmb	07 04 41.5	
	comp=Z,18nm,1.1s							
VNA3	**Neumayer Olymp**	**52.46**	**159**	P		**P**	**07 04 58.7**	**+0.5**
VNA2	**Neumayer--Watz**	**53.10**	**158**	P		**P**	**07 05 02.2**	**-0.7**
	baz=283,slow=8.1							
SNAA	**Sanae**	**54.69**	**159**	P		**P**	**07 05 14.9**	**+0.3**
SNAA	**Sanae**	**54.69**	**159**	P		**P**	**07 05 14.9**	**+0.3**
	comp=Z,3.1nm,0.6s,baz=276,slow=7.4,SNR=35							
SNAA	**Sanae**	**54.69**	**159**	P		**P**	**07 05 14.8**	**+0.2**
SNAA				IAmb		IAmb	07 05 15.8	
	comp=Z,3.6nm,0.6s							
QSPA	**South Pole Qui**	**59.66**	**180**	P		**P**	**07 05 51.1**	**+1.2**
QSPA				IAmb		IAmb	07 06 00.5	
	comp=Z,4.2nm,0.7s							
656A	**Willston**	**60.48**	**349**	P		**P**	**07 05 54.8**	**-0.8**
342A	**Flagon Creek P**	**64.61**	**341**	P		**P**	**07 06 23.2**	**0.0**
342A				IAmb		IAmb	07 06 26.7	
	comp=Z,10.0nm,1.2s							
TXAR	**Lajitas Array**	**66.86**	**330**	P		**P**	**07 06 40.5**	**+2.6**
	comp=Z,0.6nm,0.7s,baz=150,slow=7.9,SNR=11							
ABTX	**Abilene, Hawle**	**68.16**	**335**	P		**P**	**07 06 45.5**	**-0.4**
PARMO	**Parma**	**68.97**	**345**	P		**P**	**07 06 48.8**	**-2.0**
FNO	**Franklin**	**69.77**	**338**	P		**P**	**07 06 55.6**	**-0.3**
P46A	**Rosedale**	**71.28**	**347**	P		**P**	**07 07 03.2**	**-1.8**
P46A				IAmb		IAmb	07 07 16.9	
	comp=Z,9.7nm,1.1s							
KS20	**Mayfield South**	**71.63**	**339**	P		**P**	**07 07 06.5**	**-0.7**
KS20				IAmb		IAmb	07 07 19.5	
	comp=Z,7.5nm,0.4s							
LIC	**Lamto**	**73.51**	**72**	*eP*		**P**	**07 07 18.3**	**-0.6**
	comp=Z,31nm,1.0s							
TIC	**Toumodi**	**73.75**	**72**	*eP*		**P**	**07 07 20.7**	**+0.3**
KIC	**Kosan Boka**	**73.82**	**72**	*eP*		**P**	**07 07 20.6**	**-0.2**
	comp=Z,20nm,0.8s							
DBIC	**Dimbokro**	**73.90**	**72**	P		**P**	**07 07 21.4**	**+0.2**
	comp=Z,7.5nm,0.6s,baz=233,slow=5.6,SNR=19							
DBIC	**Dimbokro**	**73.90**	**72**	P		**P**	**07 07 21.0**	**-0.1**
DBIC				IAmb		IAmb	07 07 21.6	
	comp=Z,8.1nm,0.6s							
MAW	**Mawson**	**76.41**	**164**	P		**P**	**07 07 35.7**	**+0.9**
	comp=Z,8.4nm,0.7s,baz=207,slow=6.5,SNR=21							
MAW	**Mawson**	**76.41**	**164**	P		**P**	**07 07 35.6**	**+0.9**
PDAR	**Pinedale Array**	**80.81**	**333**	P		**P**	**07 08 02.7**	**+3.2**
	comp=Z,0.5nm,0.7s,baz=142,slow=7.5,SNR=4.7							
NVAR	**Mina Array Bea**	**81.20**	**325**	P		**P**	**07 08 04.2**	**+2.5**
	comp=Z,0.9nm,0.8s,baz=158,slow=6.6,SNR=9.7							
BOSA	**Boshof**	**81.48**	**118**	P		**P**	**07 08 03.5**	**0.0**
	comp=Z,3.4nm,0.8s,baz=276,slow=2.0,SNR=6.3							
BOSA	**Boshof**	**81.48**	**118**	P		**P**	**07 08 02.5**	**-1.0**
BOSA				IAmb		IAmb	07 08 13.8	
	comp=Z,10.0nm,1.1s							
TORD	**Torodi Ar. Bea**	**82.85**	**70**	P		**P**	**07 08 10.7**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=276,slow=6.9,SNR=14							
ULM	**Lac du Bonnet**	**83.25**	**345**	P		**P**	**07 08 13.7**	**+1.8**
	comp=Z,3.9nm,0.8s,baz=170,slow=8.1,SNR=3.3							
DGMT	**Dagmar**	**83.86**	**339**	P		**P**	**07 08 15.9**	**+0.8**
DGMT				IAmb		IAmb	07 08 18.1	
	comp=Z,8.1nm,0.8s							
I07A	**Izee**	**86.13**	**328**	P		**P**	**07 08 26.9**	**+0.2**
ASAR	**Alice Springs**	**120.71**	**208**	PKP		**PKPdf**	**07 14 37.6**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=128,slow=1.1,SNR=4.9							
WRA	**Warramunga Arr**	**123.85**	**210**	PKP		**PKPdf**	**07 14 44.0**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=161,slow=1.9,SNR=11							
WRA	**Warramunga Arr**	**123.85**	**210**			**PKPdf**	**07 14 44.2**	**-0.2**
H11S2	**WAKE ISLAND Hyd**	**125.97**	**271**	T		T	09 33 53.6	
	baz=115,slow=75,SNR=234							
H11S1	**WAKE ISLAND Hyd**	**125.98**	**272**	T		T	09 33 51.7	
	baz=115,slow=75,SNR=281							
H11S3	**WAKE ISLAND Hyd**	**125.98**	**271**	T		T	09 33 54.5	
	baz=115,slow=75,SNR=247							
ZALV	**Zalesovo Beam**	**151.17**	**29**	PKPbc		**PKiKP**	**07 15 39.1**	**+0.2**
	comp=Z,13nm,0.7s,baz=293,slow=3.1,SNR=41							
ZALV	**Zalesovo Beam**	**151.17**	**29**			**PKiKP**	**07 15 39.4**	**+0.4**
MKAR	**Makanchi Array**	**154.24**	**44**	PKPbc		**PKiKP**	**07 15 45.8**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=302,slow=2.7,SNR=11							
MKAR	**Makanchi Array**	**154.24**	**44**			**PKiKP**	**07 15 46.4**	**+0.7**
WMQ	**Urumqi**	**159.04**	**45**	*eP*		**PKPdf**	**07 15 44.1**	**+0.4**
WMQ				pmax		pmax		
	comp=Z,130nm,4.3s							
SONM	**Songino Array**	**162.70**	**4**	PKPab		**PKPab**	**07 16 37.6**	**+1.5**
	comp=Z,0.9nm,0.9s,baz=323,slow=3.6,SNR=3.7							
HHC	**Hu-ho-hao-te**	**169.38**	**346**	*eP*		**PKPdf**	**07 15 51.3**	**-1.8**
NJ2	**Nanjing**	**170.78**	**282**	*eP*		**PKPdf**	**07 15 55.3**	**+1.3**
NJ2				pmax		pmax		
	comp=Z,12nm,0.6s							
LZH	**Lanzhou**	**173.39**	**32**	*e*PKP		**PKPdf**	**07 15 55.9**	**+0.5**
LZH				pPKP		pPKPdf	07 16 00.5	-3.4

*IDC **20** 06:56:06.6±0.4,30.62S×71.57W,h0km,mb4.4/8, mb1 4.5/8,mb1mx4.2/22,mbtmp4.4/8, Error ellipse: s-maj=15.6km s-min=10.7km az=74.0*
*GUC **20** 06:56:12.3±0.6,30.56S×71.53W,h20km±9km,ML4.4*
ISC 20 06:56:11.6±0.9,30.60S±0.07×71.66W±0.09,h32km±6km, n16,σ0.77/20,mb4.5/8,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.08**	**163**	*eP*	**Pb**	**06 56 17.2**	**0.0**
CO06				*eS*	**Sb**	**06 56 20.9**	**-0.1**
CO06				IAML		06 56 22.3	
	comp=N,163μm,0.3s						
CO05	**La Serena**	**0.77**	**28**	*eP*	**Pn**	**06 56 25.2**	**-1.0**
CO05				*eS*	**Sn**	**06 56 36.3**	**-0.4**
CO05				IAML		06 56 39.4	
	comp=E,19μm,0.4s						
GO04	**Tololo Observa**	**0.86**	**60**	*eP*	**Pn**	**06 56 28.1**	**+0.4**
GO04				*eS*	**Sn**	**06 56 39.2**	**0.0**
CO03	**El Pedregal**	**0.87**	**106**	*eP*	**Pn**	**06 56 27.9**	**+0.2**
CO03				*eS*	**Sn**	**06 56 39.5**	**+0.1**
CO03				IAML		06 56 43.0	
	comp=N,39μm,0.4s						
LCO	**Las Campanas**	**1.79**	**28**	*eS*	**Sn**	**06 57 03.8**	**+1.6**
BDFB	**Brasilia**	**26.28**	**61**	P	**P**	**07 01 43.8**	**-0.5**
	comp=N,9.8nm,0.8s,baz=191,slow=12,SNR=5.7						
SNAA	**Sanae**	**54.62**	**159**	P	**P**	**07 05 37.0**	**+0.3**
	comp=N,3.5nm,0.6s,baz=273,slow=10,SNR=7.7						
TXAR	**Lajitas Array**	**66.95**	**330**	P	**P**	**07 07 01.8**	**+0.7**
	comp=N,0.5nm,0.7s,baz=152,slow=8.1,SNR=6.4						
DBIC	**Dimbokro**	**73.81**	**72**	P	**P**	**07 07 43.1**	**-0.2**
	comp=N,3.9nm,0.6s,baz=257,slow=3.2,SNR=3.4						
MAW	**Mawson**	**76.34**	**164**	P	**P**	**07 07 56.9**	**-0.1**
	comp=N,7.6nm,0.8s,baz=224,slow=6.1,SNR=8.9						
NVAR	**Mina Array Bea**	**81.29**	**325**	P	**P**	**07 08 26.2**	**+1.4**
	comp=N,1.0nm,0.8s,baz=155,slow=5.0,SNR=7.1						
BOSA	**Boshof**	**81.37**	**118**	P	**P**	**07 08 25.4**	**-0.2**
	comp=N,4.9nm,0.9s,baz=199,slow=4.2,SNR=4.3						
TORD	**Torodi Ar. Bea**	**82.76**	**70**	P	**P**	**07 08 32.3**	**-0.5**
	comp=N,1.7nm,0.7s,baz=277,slow=7.0,SNR=6.3						
WRA	**Warramunga Arr**	**123.87**	**210**	PKP	**PKPdf**	**07 15 05.4**	**-1.6**
	comp=N,1.2nm,0.6s,baz=174,slow=3.9,SNR=6.0						
ZALV	**Zalesovo Beam**	**151.15**	**29**	PKPbc	**PKPbc**	**07 16 00.5**	**-0.5**
	comp=N,13nm,0.7s,baz=300,slow=3.3,SNR=9.3						
MKAR	**Makanchi Array**	**154.19**	**44**	PKPbc	**PKPbc**	**07 16 07.8**	**-0.2**
	comp=N,1.3nm,0.9s,baz=304,slow=3.1,SNR=4.1						

NNC 20 07:01:41.3±1.3,49.94N×78.71E,h0km,mb3.6,mpv3.4, 17C-5D,Error ellipse: s-maj=14.0km s-min=6.5km az=67.0,Suspected Mining explosion.,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.66**	**349**	↑P	Pb	07 01 54.8	-0.9
KUR07				↑S	Sg	07 02 03.5	+1.0
KUR06	**Kurchatov Arra**	**0.68**	**350**	↑P	Pb	07 01 55.2	-0.8
KUR06				↑S	Sg	07 02 03.9	+0.9
KUR14	**Kurchatov Arra**	**0.68**	**354**	↑P	Pg	07 01 55.1	+0.7
KUR14				↓S	Sg	07 02 03.7	+0.5
KUR15	**Kurchatov Arra**	**0.69**	**352**	↑P	Pg	07 01 55.3	+0.8
KUR15				↑S	Sg	07 02 04.1	+0.6
KURBB	**Kurchatov Arra**	**0.70**	**351**	↑P	Pb	07 01 55.6	-0.8
KURBB	13nm,0.4s 227nm,0.6s			↓S	Sg	07 02 04.5	+0.8
KUR16	**Kurchatov Arra**	**0.70**	**349**	↑P	Pb	07 01 55.8	-0.7
KUR16				↑S	Sg	07 02 04.6	+0.7
KUR17	**Kurchatov Arra**	**0.71**	**348**	↓P	Pb	07 01 56.0	-0.6
KUR17				↓S	Sg	07 02 05.3	+1.1
KUR05	**Kurchatov Arra**	**0.71**	**351**	↑P	Pg	07 01 55.8	+0.8
KUR05				↑S	Sg	07 02 04.8	+0.5
KUR04	**Kurchatov Arra**	**0.73**	**352**	↑P	Pg	07 01 56.1	+0.8
KUR04				↑S	Sg	07 02 05.4	+0.5
SEM	**Semipalatinsk**	**1.10**	**64**	P	Pg	07 01 55.8	-6.6
	4.1nm,0.1s						
SEM				S	Sn	07 02 19.7	-0.4
	30nm,0.3s						
MAKZ	**Makanchi**	**3.81**	**144**	↑Pg	Pg	07 02 56.2	+1.8
	1.7nm,0.5s						
MAKZ				↑Lg	Lg	07 03 44.9	
	5.6nm,0.5s						
MK31	**Makanchi Array**	**3.95**	**141**	↑Pn	Pb	07 02 47.9	-3.9
	0.3nm,0.3s,baz=323,slow=10.0,SNR=9.6						
MK31				↑Pg	Pg	07 02 59.6	+2.6
	1.6nm,0.5s,baz=332,slow=15,SNR=6.0						
MK31				Lg	Lg	07 03 50.4	
	10nm,0.5s,baz=328,slow=26,SNR=18						
KAPS	**Kapalarasan**	**4.68**	**174**	Pg	Pb	07 03 01.8	-2.3
	4.2nm,0.2s						
KAPS				Lg	Lg	07 04 13.8	
	19nm,0.4s						
ZSN	**Zaisan**	**4.78**	**119**	Pg	Pb	07 03 05.5	-0.3
	3.8nm,0.3s						
ZSN				Lg	Lg	07 04 19.6	
	8.3nm,0.4s						
TDK	**Taldyqorghan**	**4.94**	**182**	Pg	Pb	07 03 06.5	-2.2
	36nm,0.4s						
TDK				Lg	Lg	07 04 21.5	
	37nm,0.6s						
KUU	**Kurty**	**6.26**	**196**	Pg	Pb	07 03 29.6	-1.6
	0.7nm,0.4s						
KUU				Lg	Lg	07 05 00.7	
	9.5nm,0.7s						
PDGK	**Podgornoye**	**6.63**	**175**	Pg	Pb	07 03 37.9	+0.4
	1.4nm,0.6s						
PDGK				Lg	Lg	07 05 14.5	
	2.7nm,0.6s						
UZB	**Uzynbulak**	**6.80**	**178**	Pg	Pb	07 03 41.9	+1.5
	2.9nm,0.3s						
UZB				Lg	Lg	07 05 21.6	
	5.7nm,0.6s						

*NEIC **20** 07:10:37.4±1.2,32.51S±0.04×71.81W±0.08,h17km±4km, mb4.6/40,ML4.4(GUC),Error ellipse: s-maj=9.5km s-min=5.0km az=82.0*
*SJA **20** 07:10:38.0,32.64S×71.96W,h10km,ML5.0*
*IDC **20** 07:10:40.0±0.8,31.73S×71.85W,h0km,mb4.2/7, mb1 4.3/12,mb1mx4.2/29,mbtmp4.1/12,ML3.8/5,MS3.6/4, Ms1 3.5/4,ms1mx3.2/21,Error ellipse: s-maj=23.3km s-min=21.3km az=136.0*
*VAO **20** 07:10:44.3±0.3,31.90S×72.57W,h78km,mb4.5*
*GUC **20** 07:10:45.3±0.6,31.86S×71.85W,h29km±11km,ML4.4*
ISC 20 07:10:43.3±1.2,31.79S±0.04×71.99W±0.05,h25km±8km, n149,σ1.59/145,mb4.6/24,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.96**	**143**	*i* P	**Pn**	**07 11 00.5**	**-0.8**
VA06				*e*S	**Sn**	**07 11 13.8**	**-0.4**
VA06				IAML		07 11 18.1	
	comp=E,26μm,0.5s						
CO06	**Fray Jorge**	**1.16**	**15**	*i* P	**Pn**	**07 11 02.5**	**-1.4**
CO06	**Fray Jorge**	**1.16**	**15**	Pn	**Pn**	**07 11 03.4**	**-0.5**
ROCH	**El Roble**	**1.44**	**145**	*eP*	**Pn**	**07 11 06.0**	**-1.9**
ROCH				*eS*	**Sb**	**07 11 25.6**	**-1.9**
ROCH				IAML		07 11 35.8	
	comp=E,9μm,0.6s						
CO03	**El Pedregal**	**1.46**	**50**	*eP*	**Pn**	**07 11 08.4**	**+0.2**
CO03				*eS*	**Sb**	**07 11 28.7**	**+0.6**
CO03				IAML		07 11 31.0	
	comp=E,5μm,0.5s						
CO03	**El Pedregal**	**1.46**	**50**	Pn	**Pn**	**07 11 09.2**	**+0.9**
VA03	**San Esteban**	**1.56**	**129**	*eP*	**Pn**	**07 11 09.7**	**+0.2**
VA03				*eP*	**Sn**	**07 11 29.7**	**+0.8**
VA03				IAML		07 11 35.7	
	comp=N,17μm,0.8s						
VA05	**Santo Domingo**	**1.89**	**170**	*eP*	**Pn**	**07 11 13.4**	**-0.5**
VA05				*eS*	**Sb**	**07 11 43.8**	**+3.6**
VA05				IAML		07 11 50.7	
	comp=N,11μm,0.4s						
GO04	**Tololo Observa**	**1.91**	**33**	*eP*	**Pn**	**07 11 16.9**	**+2.3**
GO04	**Tololo Observa**	**1.91**	**33**	Pn	**Pn**	**07 11 16.1**	**+1.5**
MT05	**Renca**	**1.91**	**147**	*eP*	**Pn**	**07 11 15.6**	**+1.3**
MT05				*eS*	**Sb**	**07 11 40.1**	**-0.9**
MT05				IAML		07 11 44.9	
	comp=E,8μm,0.4s						
CO05	**La Serena**	**1.98**	**19**	*eP*	**Pn**	**07 11 17.5**	**+2.4**
CO05				IAML		07 11 49.5	
	comp=N,3μm,0.6s						
CO05	**La Serena**	**1.98**	**19**	Pn	**Pn**	**07 11 15.3**	**+0.1**
MT09	**Talagante**	**2.15**	**157**	*eP*	**Pn**	**07 11 17.8**	**+0.1**
MT09				IAML		07 11 57.0	
	comp=E,4μm,0.7s						
MT01	**Popeta**	**2.16**	**163**	*eP*	**Pn**	**07 11 19.6**	**+2.0**
MT01				IAML		07 11 55.4	
	comp=N,2μm,0.3s						
LMEL	**Las Melosas**	**2.54**	**144**	*i* P	**Pn**	**07 11 23.5**	**+0.4**
LMEL				IAML		07 12 09.1	
	comp=N,2μm,0.1s						
ARCO	**CERRO ARCO**	**2.79**	**113**	*i* P	**Pn**	**07 11 22.0**	**-4.5**
ACDV	**Cuesta del Vie**	**2.95**	**57**	*i* P	**Pb**	**07 11 33.0**	**-2.2**
AAGR	**Agrelo**	**2.97**	**117**	*i* P	Pn	07 11 24.0	-4.9
AC04	**Llanos de Chal**	**3.66**	**13**	Pn	**Pn**	**07 11 36.9**	**-1.5**
GO03	**Copiap**	**4.46**	**20**	Pn	**Pn**	**07 11 48.9**	**-0.5**
VCA	**Vinchina**	**4.47**	**48**	*i* P	Pn	07 11 56.0	+6.3
AC02	**Maricunga**	**5.54**	**28**	Pn	**Pn**	**07 12 04.4**	**-0.1**
H03N1	**Juan Fernandez**	**6.07**	**252**	T	T	07 18 54.8	
	baz=81,slow=72,SNR=358						
H03N3	**Juan Fernandez**	**6.08**	**252**	T	T	07 18 51.2	
	baz=81,slow=72,SNR=346						
H03N2	**Juan Fernandez**	**6.08**	**253**	T	T	07 18 58.3	
	baz=81,slow=72,SNR=321						
H03S3	**Juan Fernandez**	**6.17**	**249**	T	T	07 19 12.5	
	baz=79,slow=74,SNR=13						
H03S1	**Juan Fernandez**	**6.17**	**249**	T	T	07 19 08.8	
	baz=79,slow=74,SNR=13						
H03S2	**Juan Fernandez**	**6.18**	**249**	T	T	07 19 01.8	
	baz=79,slow=74,SNR=18						
CYA	**Choya**	**6.32**	**60**	*i* P	**Pn**	**07 12 17.0**	**+2.1**
AHML	**Horco Molle**	**7.66**	**51**	*i* P	**Pn**	**07 12 36.0**	**+2.7**
FSA	**Cafayete**	**7.73**	**44**	*i* P	**Pn**	**07 12 38.0**	**+3.6**
PLCA	**Paso Flores**	**9.00**	**173**	Pn	**Pn**	**07 12 52.2**	**+0.6**
	comp=N,0.5nm,0.3s,baz=339,slow=12,SNR=9.9						
PLCA				Sn	Sn	07 14 46.5	+14
	comp=N,0.2nm,0.3s,baz=65,slow=22,SNR=1.1						
PLCA				Lg	Lg	07 15 26.5	
	comp=N,0.2nm,0.3s,baz=176,slow=23,SNR=2.1						
PLCA				LR	LR	07 17 00.5	
	comp=N,150nm,19.4s,baz=346,slow=42						
PLCA	**Paso Flores**	**9.00**	**173**	*eP*	**Pn**	**07 12 50.6**	**-1.1**
PLCA				*eS*	**Sn**	**07 14 30.3**	**-1.9**
LVC	**Limon Verde**	**9.55**	**17**	Pn	Pn	07 12 56.4	-3.1
	comp=N,0.3nm,0.3s,baz=148,slow=15,SNR=1.3						
LVC				Sn	**Sn**	**07 14 54.7**	**+8.5**
	comp=N,1.4nm,0.3s,baz=211,slow=17,SNR=2.3						
LVC				LR	LR	07 16 44.0	
	comp=N,278nm,19.2s,baz=204,slow=38						
TRQA	**Tornquist**	**10.32**	**130**	*eP*	**Pn**	**07 13 13.9**	**+4.1**
TRQA				*eS*	Sn	07 15 12.0	+7.4
ITQB	**Itaqui**	**13.39**	**85**	*eP*	**P**	**07 13 58.0**	**-2.9**
CPUP	**Villa Florida**	**13.93**	**71**	Pn	**Pn**	**07 13 57.1**	**-2.0**
	comp=N,0.1nm,0.3s,baz=288,slow=18,SNR=2.1						
CPUP				Sn	**Sn**	**07 16 32.1**	**-0.8**
	comp=N,0.3nm,0.3s,baz=240,slow=18,SNR=2.2						
CPUP				Lg	Lg	07 18 06.2	
	comp=N,0.3nm,0.3s,baz=183,slow=15,SNR=2.8						
CPUP	**Villa Florida**	**13.93**	**71**		Pn	07 13 54.1	-4.9
CPUP	**Villa Florida**	**13.93**	**71**	*eP*	**P**	**07 14 05.7**	**-1.3**
PLTB	**Pedras Altas**	**15.64**	**95**	*eP*	**P**	**07 14 27.1**	**+1.1**
LPAZ	**La Paz**	**15.83**	**14**	Pn	**Pn**	**07 14 24.6**	**-0.5**
	comp=N,0.2nm,0.3s,baz=191,slow=7.0,SNR=27						
LPAZ	**La Paz**	**15.83**	**14**	Pn	**Pn**	**07 14 25.1**	**-0.1**
LPAZ	**La Paz**	**15.83**	**14**	*eP*	**Pn**	**07 14 25.1**	**-0.1**
CPSB	**Cacapava Do Su**	**15.95**	**90**	*eP*	**P**	**07 14 30.8**	**+1.3**
CNLB	**Canela**	**18.37**	**88**	*eP*	**Pn**	**07 14 58.9**	**+2.5**
AQDB	**Aquidauana**	**18.44**	**56**	*eP*	**Pn**	**07 14 59.2**	**+2.0**
SIV	**San Ignacio**	**18.61**	**35**	P	**P**	**07 14 58.3**	**-0.6**
	comp=N,0.2nm,0.3s,baz=210,slow=9.1,SNR=16						
PTGB	**Pitanga**	**18.90**	**73**	*eP*	**Pn**	**07 15 04.1**	**+1.2**
PTGB				*eS*	**S**	**07 18 41.9**	**+6.3**
TRCB	**Terra Rica**	**19.37**	**67**	*eP*	**Pn**	**07 15 09.8**	**+1.3**
TER01	**Tubaro-SC**	**20.02**	**87**	*eP*	**Pn**	**07 15 16.4**	**+0.1**
PTLB	**Pontes e Lacer**	**20.05**	**39**	*eP*	**P**	**07 15 15.0**	**+0.3**
PP1B	**Ponte de Pedra**	**20.97**	**52**	*eP*	**P**	**07 15 24.0**	**-0.7**
PCMB	**Pacaembu**	**21.08**	**66**	*eP*	**P**	**07 15 25.0**	**-0.9**
TIJ01	**Guaruva-PR**	**21.17**	**78**	*eP*	**P**	**07 15 28.9**	**+2.0**
GO10	**Punta Arenas**	**21.36**	**178**	IAmb	IAmb	07 15 21.3	
	comp=Z,40nm,1.0s						
FRTB	**Fartura**	**21.56**	**73**	*eP*	**P**	**07 15 33.3**	**+2.3**
VILB	**Vilhena**	**21.66**	**33**	*eP*	**P**	**07 15 31.4**	**-0.6**
SALV	**Santo Antonio**	**21.69**	**47**	*eP*	**P**	**07 15 31.2**	**-1.2**
ETMB	**Extrema**	**22.52**	**15**	*eP*	**P**	**07 15 40.5**	**-0.7**
ITRB	**Iturama**	**22.85**	**63**	*eP*	**P**	**07 15 43.4**	**-1.4**
PET01	**Itanhaem-SP**	**23.03**	**77**	*eP*	**P**	**07 15 47.5**	**+0.9**
SPB	**Sao Paulo**	**23.19**	**76**	*eP*	**P**	**07 15 48.7**	**+0.4**
BB19B	**Bebedouro**	**23.52**	**69**	*eP*	**P**	**07 15 51.4**	**-0.3**
RCLB	**Rio Claro- Sao**	**23.65**	**73**	*eP*	**P**	**07 15 52.4**	**-0.4**
SAML	**Samuel**	**24.16**	**22**	P	**P**	**07 15 56.8**	**-0.8**
SAML	**Samuel**	**24.16**	**22**	*eP*	**P**	**07 15 56.5**	**-1.1**
IPMB	**Ipameri, GO**	**25.50**	**63**	*eP*	**P**	**07 16 09.9**	**0.0**
CLDB	**Colider**	**25.64**	**39**	*eP*	**P**	**07 16 10.9**	**-0.1**
BSCB	**Bom Sucesso**	**26.57**	**73**	*eP*	**P**	**07 16 18.9**	**-0.7**
VAS01	**Vassouras-RJ**	**27.07**	**77**	*eP*	**P**	**07 16 24.3**	**+0.3**
BDFB	**Brasilia**	**27.11**	**59**	P	**P**	**07 16 23.9**	**-0.6**
	comp=Z,9.3nm,0.6s,baz=241,slow=9.4,SNR=18						
BDFB				LR	LR	07 28 52.5	
	comp=Z,191nm,20.2s,baz=203,slow=40						
BDFB	**Brasilia**	**27.11**	**59**	P	**P**	**07 16 21.3**	**-3.2**
BDFB				IAmb	IAmb	07 16 24.6	
	comp=Z,17nm,0.9s						
SNDB	**Serra Nova Dou**	**27.43**	**49**	*eP*	**P**	**07 16 26.5**	**-0.8**
TBTG	**Tabatinga, AM**	**27.53**	**4**	*eP*	**P**	**07 16 25.3**	**-2.8**
DUB01	**Friburgo-RJ**	**28.04**	**77**	*eP*	**P**	**07 16 32.9**	**+0.1**
CAM01	**Campos-RJ**	**28.75**	**77**	*eP*	**P**	**07 16 39.5**	**+0.5**
DIAM	**Diamantina, MG**	**28.86**	**69**	*eP*	**P**	**07 16 39.9**	**-0.3**
NPGB	**Novo Progresso**	**29.11**	**36**	*eP*	**P**	**07 16 40.2**	**-2.0**
PEXB	**Peixe**	**29.32**	**53**	*eP*	**P**	**07 16 43.1**	**-1.0**
MC01	**Montes Claros**	**29.54**	**66**	*eP*	**P**	**07 16 45.9**	**-0.2**
JANB	**Januaria**	**30.24**	**63**	*eP*	**P**	**07 16 51.7**	**-0.6**
MACA	**Manacapuru-AM**	**30.40**	**23**	*eP*	**P**	**07 16 52.7**	**-0.9**
SJMB	**Sao Joao De Ma**	**30.64**	**72**	*eP*	**P**	**07 16 55.5**	**-0.3**
BSFB	**Barra de Sao F**	**30.85**	**73**	*eP*	**P**	**07 16 56.7**	**-0.9**
RIB01	**Linhares ES**	**30.98**	**74**	*eP*	**P**	**07 16 58.1**	**-0.6**
ITTB	**Itaituba**	**31.26**	**33**	*eP*	**P**	**07 16 60.0**	**-1.3**
SDBA	**SAO PRESIDERIO**	**31.50**	**58**	*eP*	**P**	**07 17 02.8**	**-0.7**
SMTB	**Santa Maria do**	**32.16**	**50**	*eP*	**P**	**07 17 09.2**	**+0.1**
OTAV	**Otavalo**	**32.44**	**348**	P	**P**	**07 17 12.4**	**+0.3**
OTAV	**Otavalo**	**32.44**	**348**	*eP*	P	07 17 07.3	-4.8
PRPB	**Parauapebas**	**32.85**	**44**	*eP*	**P**	**07 17 14.2**	**-1.0**
CMC01	**Camacan, BA**	**33.79**	**69**	*eP*	**P**	**07 17 23.5**	**+0.1**
NBIT	**Itapeh - BA**	**34.10**	**68**	*eP*	**P**	**07 17 25.3**	**-0.8**
MALB	**Monte Alegre**	**34.15**	**33**	*eP*	**P**	**07 17 25.3**	**-1.2**
BOAV	**Boa Vista**	**35.70**	**20**	*eP*	**P**	**07 17 39.2**	**-0.6**
NBPN	**Ponto Novo - B**	**36.00**	**62**	*eP*	**P**	**07 17 41.4**	**-1.1**
ROSC	**El Rosal**	**36.50**	**356**	P	**P**	**07 17 47.8**	**+0.7**
ROSC				IAmb	IAmb	07 17 53.5	
	comp=Z,9.1nm,1.1s						
MCPB	**Macapa, AP**	**36.51**	**35**	*eP*	**P**	**07 17 46.0**	**-0.9**
**RU

ISC 20 07:20:50.5±0.3, 19°74S±0'06×175°73W±0'05, h150km, n199, σ1'84/199, mb4.5/65, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.51**	**84**		**Pn**	**07 22 13.6**	**+2.9**
NIUE				Sn	**Sn**	**07 23 11.2**	**-2.2**
NIUE	**Niue**	**5.51**	**84**	P	**Pn**	**07 22 13.8**	**+3.1**
MSVF	**Nonsavu**	**6.23**	**288**	P	**Pn**	**07 22 19.1**	**-1.3**
	0.8nm,0.3s,baz=288,slow=23,SNR=2.0						
MSVF				S	**Sn**	**07 23 23.9**	**-6.7**
	baz=63,slow=23,SNR=1.3						
MSVF	**Nonsavu**	**6.23**	**288**		**Pn**	**07 22 19.0**	**-1.3**
MSVF	**Nonsavu**	**6.23**	**288**	P	Pn	07 22 31.5	+11
AFI	**Afiamalu**	**6.92**	**34**	P	**Pn**	**07 22 30.6**	**+0.9**
	14nm,0.3s,baz=215,slow=4.0,SNR=26						
AFI				S	Sn	07 23 41.3	-6.1
	36nm,0.3s,baz=240,slow=20,SNR=6.8						
AFI	**Afiamalu**	**6.92**	**34**	Pn	**Pn**	**07 22 30.0**	**+0.3**
RIZ	**Raoul Island**	**9.67**	**192**	P	Pn	07 22 59.9	-6.2
RAR	**Rarotonga**	**15.02**	**98**	P	**P**	**07 24 17.3**	**+0.3**
	1.1nm,0.3s,baz=297,slow=7.9,SNR=2.9						
RAR				S	**Sn**	**07 26 57.1**	**-5.1**
	0.6nm,0.3s,baz=283,slow=18,SNR=1.7						
RAR	**Rarotonga**	**15.02**	**98**	P	**P**	**07 24 18.9**	**+1.9**
MARNC	**Mare, Loyalty**	**15.31**	**261**		**P**	**07 24 24.0**	**+3.9**
MARNC	**Mare, Loyalty**	**15.31**	**261**	P	**P**	**07 24 24.2**	**+4.0**
DVP	**Devils Point**	**15.37**	**275**	P	P	07 24 28.8	+7.9
	217um,0.6s						
PINNC	**Pines Island,**	**15.95**	**257**		**P**	**07 24 32.2**	**+4.9**
LIFNC	**LIFOU**	**16.02**	**263**	Pn	**P**	**07 24 31.1**	**+3.1**
YATNC	**Mamie plateau,**	**16.41**	**259**	P	**P**	**07 24 37.9**	**+5.6**
OUENC	**Ouen Island, N**	**16.49**	**258**	Pn	**P**	**07 24 38.2**	**+5.1**
OUENC	**Ouen Island, N**	**16.49**	**258**	P	**P**	**07 24 38.3**	**+5.1**
DZM	**Mont Dzumac**	**16.82**	**259**	P	**Pn**	**07 24 40.6**	**+3.2**
	4.9nm,0.3s,baz=79,slow=18,SNR=64						
DZM	**Mont Dzumac**	**16.82**	**259**	P	**Pn**	**07 24 41.9**	**+4.5**
DZM	**Mont Dzumac**	**16.82**	**259**	P	**Pn**	**07 24 42.1**	**+4.7**
SANVU	**Saraoutou**	**16.82**	**282**	P	**Pn**	**07 24 38.0**	**+0.7**
ONTNC	**Ouen Toro**	**16.83**	**258**		**P**	**07 24 42.0**	**+4.6**
ONTNC	**Ouen Toro**	**16.83**	**258**	P	**Pn**	**07 24 42.1**	**+4.7**
OUZ	**Omahuta**	**18.07**	**209**	P	**Pn**	**07 24 52.2**	**+0.1**
OUZ	**Omahuta**	**18.07**	**209**	P	**Pn**	**07 24 50.4**	**-1.7**
GRZ	**Great Barrier**	**18.18**	**203**	P	**Pn**	**07 24 52.9**	**-0.4**
WCZ	**Waipu Caves**	**18.35**	**206**	P	**P**	**07 24 52.1**	**-1.4**
MXZ	**Matakaoa Point**	**18.50**	**195**	P	**Pn**	**07 24 55.4**	**-1.7**
KUZ	**Kuaotunu**	**18.52**	**202**	P	**Pn**	**07 24 56.3**	**-1.1**
WMGZ	**Waiomatatini S**	**18.72**	**195**	P	**Pn**	**07 24 57.1**	**-2.5**
WIAZ	**Waiheke Island**	**18.78**	**203**	P	**Pn**	**07 24 58.0**	**-2.4**
KOUNC	**Koumac, New Ca**	**18.79**	**264**	P	**Pn**	**07 25 06.1**	**+5.5**
HAZ	**Te Kaha**	**18.82**	**196**	P	**P**	**07 24 56.3**	**-2.3**
PUZ	**Puketiti**	**19.00**	**195**	P	**P**	**07 24 57.1**	**-3.4**
RUGZ	**Raukumara Rang**	**19.04**	**196**	P	**P**	**07 25 00.5**	**-0.7**
MKAZ	**Moumakai**	**19.04**	**203**	P	**Pn**	**07 25 02.2**	**-1.3**
TWGZ	**Tauwhareparae**	**19.17**	**195**	P	**Pn**	**07 25 03.0**	**-1.9**
MWZ	**Matawai**	**19.43**	**196**	P	**P**	**07 25 03.0**	**-2.2**
URZ	**Urewera**	**19.47**	**197**	P	**P**	**07 25 03.9**	**-1.7**
	11nm,0.3s,baz=359,slow=1.9,SNR=46						
URZ				S	S	07 28 24.0	-14
	0.8nm,0.3s,baz=294,slow=20,SNR=1.9						
URZ	**Urewera**	**19.47**	**197**	P	**P**	**07 25 01.4**	**-4.3**
TOZ	**Tahuroa Road**	**19.48**	**201**	P	**Pn**	**07 25 07.5**	**-1.1**
HIZ	**Hauiti**	**20.41**	**202**	P	Pn	07 25 17.3	-2.3
HIZ	**Hauiti**	**20.41**	**202**	P	Pn	07 25 16.8	-2.8
BKZ	**Black Stump Fm**	**20.49**	**198**	P	**P**	**07 25 13.4**	**-3.3**
PXZ	**Pawanui**	**21.20**	**196**	P	**P**	**07 25 21.9**	**-2.3**
QRZ	**Quartz Range**	**23.29**	**203**	P	**P**	**07 25 45.0**	**+0.3**
QRZ	**Quartz Range**	**23.29**	**203**	P	**P**	**07 25 44.6**	**-0.2**
QRZ				S	**S**	**07 29 52.2**	**+6.4**
BSWZ	**Blackbirch Sta**	**23.62**	**200**	P	**P**	**07 25 50.8**	**+3.0**
BSWZ				S	**S**	**07 29 51.6**	**+0.5**
THZ	**Tophouse**	**23.98**	**201**	P	**P**	**07 25 50.0**	**-1.1**
THZ				S	**S**	**07 29 58.5**	**+1.4**
DSZ	**Denniston Nort**	**24.36**	**203**	P	**P**	**07 25 54.4**	**-0.1**
KHZ	**Kahutara**	**24.36**	**200**	P	**P**	**07 25 54.2**	**-0.3**
KHZ				S	**S**	**07 30 02.6**	**-0.2**
PPT	**Papeete**	**24.86**	**89**	P	**P**	**07 25 58.8**	**-0.6**
	53nm,0.9s,baz=332,slow=15,SNR=3.6						
GVZ	**Greta Valley S**	**25.02**	**200**	P	**P**	**07 25 59.6**	**-0.8**
LTZ	**Lake Taylor**	**25.10**	**201**	P	**P**	**07 25 59.8**	**-1.5**
AMCZ	**Amberley**	**25.33**	**200**	P	**P**	**07 26 05.4**	**+2.1**
INZ	**Inchbonnie**	**25.34**	**202**	P	**P**	**07 26 03.3**	**-0.1**
OXZ	**Oxford**	**25.66**	**201**	P	**P**	**07 26 05.5**	**-0.8**
OXZ				S	S	07 30 33.4	+10
MQZ	**McQueen's Vall**	**25.80**	**200**	P	**P**	**07 26 09.6**	**+2.1**
MQZ				S	S	07 30 35.8	+10
MHCZ	**Mount Hutt**	**26.00**	**201**	P	**P**	**07 26 10.4**	**+1.0**
GCSZ	**Gaunt Creek Bo**	**26.26**	**203**	P	**P**	**07 26 13.6**	**+1.9**
WACZ	**Wakanui South**	**26.28**	**201**	P	**P**	**07 26 14.3**	**+2.5**
RPZ	**Rata Peaks**	**26.34**	**202**	P	**P**	**07 26 13.8**	**+1.4**
ARCZ	**Arundel**	**26.50**	**202**	P	**P**	**07 26 15.7**	**+1.8**
FOZ	**Fox Glacier**	**26.64**	**204**	P	**P**	**07 26 15.1**	**+0.1**
EIDS	**Eidsvold**	**31.11**	**253**	P	**P**	**07 26 55.1**	**+0.1**
ARMA	**Armidale**	**31.32**	**244**	P	**P**	**07 26 57.3**	**+0.5**
ARMA				IAmb	IAmb	07 26 58.4	
	comp=Z,16nm,1.2s						
CAN	**Canberra**	**34.70**	**236**	P	**P**	**07 27 26.1**	**0.0**
CAN				IAmb	IAmb	07 27 27.4	
	comp=Z,9.2nm,1.0s						
CTAO	**Charters Tower**	**35.70**	**263**	P	**P**	**07 27 35.1**	**+0.3**
TOO	**Toolangi**	**38.07**	**234**	P	**P**	**07 27 54.1**	**-0.5**
TOO				IAmb	IAmb	07 27 54.8	
	comp=Z,6.1nm,0.6s						
COEN	**Coen**	**39.68**	**272**	P	**P**	**07 28 08.8**	**+0.6**
STKA	**Stephens Creek**	**40.04**	**244**	P	**P**	**07 28 09.6**	**-1.4**
	comp=Z,4.4nm,0.8s,baz=80,slow=13,SNR=6.5						
STKA	**Stephens Creek**	**40.04**	**244**		**P**	**07 28 11.4**	**+0.4**
BBOO	**Buckleboo**	**44.80**	**243**	P	**P**	**07 28 47.0**	**-2.5**
BBOO				IAmb	IAmb	07 29 11.0	
	comp=Z,24nm,1.2s						
WR0	**Warramunga Arr**	**46.64**	**261**	P	**P**	**07 29 02.6**	**-1.5**
WR0				IAmb	IAmb	07 29 03.8	
	comp=Z,6.8nm,0.6s						
AS31	**Alice Springs**	**46.77**	**256**	P	**P**	**07 29 05.0**	**-0.2**
AS31				IAmb	IAmb	07 29 05.7	
	comp=Z,4.3nm,0.5s						
ASAR	**Alice Springs**	**46.77**	**256**	P	**P**	**07 29 04.0**	**-1.2**
	comp=Z,10nm,0.4s,baz=94,slow=8.4,SNR=223						
ASAR				PcP	**PcP**	**07 30 34.4**	**-1.7**
	comp=Z,1.0nm,0.7s,baz=90,slow=4.5,SNR=4.3						
ASAR				ScP	**ScP**	**07 34 12.6**	**-3.1**
	comp=Z,0.6nm,1.0s,baz=125,slow=6.4,SNR=2.8						
ASAR	**Alice Springs**	**46.77**	**256**	P	**P**	**07 29 04.5**	**-0.7**
WB0	**Warramunga Arr**	**46.80**	**261**	P	**P**	**07 29 04.0**	**-1.4**
WB0				IAmb	IAmb	07 29 05.2	
	comp=Z,18nm,0.6s						
WB2	**Warramunga Arr**	**46.81**	**261**	P	**P**	**07 29 04.2**	**-1.2**
WB2				IAmb	IAmb	07 29 06.0	
	comp=Z,24nm,1.2s						
WRA	**Warramunga Arr**	**46.83**	**261**	P	**P**	**07 29 04.2**	**-1.4**
	comp=Z,6.1nm,0.5s,baz=94,slow=7.5,SNR=116						
WRA	**Warramunga Arr**	**46.83**	**261**	P	**P**	**07 29 03.9**	**-1.7**
SMPI	**Sarmi**	**47.88**	**286**	P	**P**	**07 29 14.4**	**+0.6**
	comp=Z,22nm,1.1s						
MTN	**Manton Dam**	**51.30**	**269**	P	**P**	**07 29 38.7**	**-0.9**
FORT	**Forrest**	**51.55**	**246**	P	**P**	**07 29 40.6**	**-0.8**
KNRA	**Kununurra**	**52.85**	**265**	P	**P**	**07 29 50.6**	**-0.4**
SIJI	**Sorong**	**55.13**	**283**	P	**P**	**07 30 07.0**	**-0.7**
	comp=Z,35nm,0.7s,baz=41,slow=7.3,SNR=4.8						
FITZ	**Fitzroy Crossi**	**55.25**	**261**	P	**P**	**07 30 08.1**	**-0.4**
	comp=Z,3.1nm,0.3s,baz=140,slow=5.0,SNR=11						
FITZ	**Fitzroy Crossi**	**55.25**	**261**	P	**P**	**07 30 08.2**	**-0.3**
FITZ				IAmb	IAmb	07 30 09.4	
	comp=Z,8.9nm,1.2s						
SOEI	**Soe**	**58.62**	**270**	P	**P**	**07 30 32.8**	**+0.3**
SOEI	**Soe**	**58.62**	**270**	P	**P**	**07 30 31.9**	**-0.5**
	comp=Z,68nm,0.7s						
VNDA	**Vanda**	**58.86**	**186**	P	**P**	**07 30 32.5**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=14,slow=5.8,SNR=5.3						
VNDA	**Vanda**	**58.86**	**186**	P	**P**	**07 30 33.3**	**+0.4**
BATI	**Baumata**	**59.06**	**270**	P	**P**	**07 30 35.0**	**-0.3**
	comp=Z,28nm,0.6s,baz=101,slow=5.2,SNR=2.1						
PSA00	**Pilbara Seismi**	**59.92**	**256**	P	**P**	**07 30 40.0**	**-1.2**
EDFI	**Ende, Flores**	**61.35**	**271**	P	**P**	**07 30 49.7**	**-1.3**
GIRL	**Giralia**	**64.81**	**254**	P	**P**	**07 31 13.5**	**-0.1**
CASY	**Casey**	**65.56**	**205**	P	**P**	**07 31 17.4**	**-0.2**
CASY				IAmb	IAmb	07 31 20.0	
	comp=Z,4.5nm,0.8s						
QSPA	**South Pole Qui**	**70.32**	**180**	P	**P**	**07 31 47.6**	**0.0**
MJAR	**Matsushiro Arr**	**70.90**	**322**	P	**P**	**07 31 50.9**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=146,slow=6.2,SNR=9.2						
MJAR	**Matsushiro Arr**	**70.90**	**322**	P	**P**	**07 31 50.8**	**-0.5**
JWT	**Wachi**	**71.71**	**320**	P	**P**	**07 31 56.9**	**+0.7**
JHS	**Saijyo**	**72.95**	**318**	P	**P**	**07 32 04.5**	**+0.9**
JHS				IAmb	IAmb	07 32 28.5	
	comp=Z,26nm,1.5s						
ASAJ	**Asahikawa**	**74.11**	**330**	P	**P**	**07 32 12.0**	**+1.9**
	comp=Z,4.1nm,0.7s,baz=148,slow=13,SNR=1.7						
LEM	**Lembang**	**75.20**	**268**	P	**P**	**07 32 16.9**	**-0.5**
	comp=Z,18nm,0.5s,baz=144,slow=19,SNR=2.1						
TPUB	**Ta-pu**	**75.38**	**302**	P	**P**	**07 32 17.3**	**-0.7**
TPUB				IAmb	IAmb	07 32 21.1	
	comp=Z,10nm,0.8s						
CBX	**Cerro Bola**	**76.62**	**48**	P	**P**	**07 32 26.1**	**+1.2**
MWC	**Mount Wilson**	**76.74**	**46**	P	**P**	**07 32 26.4**	**+0.8**
MWC				IAmb	IAmb	07 32 27.3	
	comp=Z,4.9nm,0.8s						
ISA	**Isabella, Lake**	**77.29**	**45**	P	**P**	**07 32 29.6**	**+1.1**
ISA				IAmb	IAmb	07 32 30.8	
	comp=Z,7.4nm,1.1s						
CMB	**Columbia Colle**	**77.47**	**42**	P	**P**	**07 32 30.6**	**+1.2**
MDPB	**Devils Postpil**	**78.05**	**43**	P	**P**	**07 32 34.1**	**+1.2**
MDPB				IAmb	IAmb	07 32 35.0	
	comp=Z,5.4nm,0.9s						
GSC	**Goldstone, Bar**	**78.20**	**46**	P	**P**	**07 32 34.3**	**+0.7**
QSM	**Queen of Sheba**	**78.53**	**45**	P	**P**	**07 32 36.1**	**+0.8**
QSM				IAmb	IAmb	07 32 37.2	
	comp=Z,7.8nm,1.3s						
PNTR	**Pine Nut**	**78.60**	**41**	P	**P**	**07 32 36.5**	**+0.7**
PNTR				IAmb	IAmb	07 32 38.0	
	comp=Z,11nm,0.9s						
BEKR	**Beckworth**	**78.60**	**40**	P	**P**	**07 32 36.4**	**+0.6**
VCNR	**Virginia City**	**78.69**	**41**	P	**P**	**07 32 37.2**	**+0.8**
LCH	**Last Change Ra**	**78.75**	**44**	P	**P**	**07 32 37.1**	**+0.5**
LCH				IAmb	IAmb	07 32 38.5	
	comp=Z,4.8nm,0.8s						
YERR	**Yerington**	**78.76**	**41**	P	**P**	**07 32 37.6**	**+0.8**
YERR				IAmb	IAmb	07 32 38.6	
	comp=Z,7.8nm,0.8s						
LHV	**Little Huntoon**	**78.79**	**42**	P	**P**	**07 32 38.1**	**+1.5**
LHV				IAmb	IAmb	07 32 39.1	
	comp=Z,7.0nm,0.9s						
NVAR	**Mina Array Bea**	**79.02**	**42**	P	**P**	**07 32 39.2**	**+1.0**
	comp=Z,5.0nm,0.7s,baz=223,slow=8.4,SNR=64						
NV11	**Mina Array Sit**	**79.11**	**42**	P	**P**	**07 32 39.8**	**+1.2**
NV11				IAmb	IAmb	07 32 40.6	
	comp=Z,9.3nm,1.1s						
TPH	**Tonopah**	**79.50**	**43**	P	**P**	**07 32 41.2**	**+0.4**
KVN	**Kaiserville**	**79.51**	**42**	P	**P**	**07 32 41.5**	**+0.7**
K05A	**Summer Lake**	**80.05**	**38**	P	**P**	**07 32 44.9**	**+1.3**
K05A				IAmb	IAmb	07 32 45.4	
	comp=Z,5.3nm,0.7s						
Y14A	**Wickenburg**	**80.08**	**49**	P	**P**	**07 32 44.5**	**+0.7**
H04A	**Detroit Lake**	**80.56**	**36**	P	**P**	**07 32 46.9**	**+0.8**
PINE	**Pine Mountain**	**80.69**	**37**	P	**P**	**07 32 48.5**	**+1.5**
PINE				IAmb	IAmb	07 32 49.4	
	comp=Z,7.4nm,0.8s						
R11A	**Troy Canyon, C**	**80.72**	**44**	P	**P**	**07 32 47.6**	**+0.3**
TUC	**Tucson**	**80.84**	**51**	P	**P**	**07 32 49.7**	**+1.8**
TUC				IAmb	IAmb	07 32 50.1	
	comp=Z,5.1nm,0.8s						
WVOR	**Wild Horse Val**	**81.19**	**39**	P	**P**	**07 32 50.6**	**+1.0**
WVOR				IAmb	IAmb	07 32 51.6	
	comp=Z,5.6nm,1.0s						
319A	**Douglas**	**81.49**	**52**	P	**P**	**07 32 52.4**	**+0.9**
319A				IAmb	IAmb	07 32 54.1	
	comp=Z,12nm,1.1s						
I07A	**Izee**	**81.69**	**37**	P	**P**	**07 32 53.3**	**+1.1**
I07A				IAmb	IAmb	07 32 54.3	
	comp=Z,4.6nm,0.9s						
MOBC	**Moresby Island**	**81.85**	**25**	P	**P**	**07 32 53.7**	**+1.0**
MOBC				IAmb	IAmb	07 32 54.4	
	comp=Z,8.1nm,0.9s						
WUAZ	**Wupatki**	**82.05**	**48**	P	**P**	**07 32 55.5**	**+1.1**
WUAZ				IAmb	IAmb	07 32 57.0	
	comp=Z,9.1nm,1.1s						
LON	**Longmire**	**82.09**	**34**	P	**P**	**07 32 54.7**	**+0.6**
ELK	**Elko**	**82.29**	**42**	P	**P**	**07 32 56.5**	**+0.9**
G08A	**Pilot Rock**	**82.73**	**37**	P	**P**	**07 32 58.3**	**+0.8**
G08A				IAmb	IAmb	07 32 59.5	
	comp=Z,9.7nm,1.0s						
MAW	**Mawson**	**82.99**	**199**	P	**P**	**07 32 57.6**	**-0.8**
	comp=Z,16nm,0.5s,baz=98,slow=3.3,SNR=6.5						
MAW	**Mawson**	**82.99**	**199**	P	**P**	**07 32 58.0**	**-0.5**
SUA	**Susitna One**	**83.37**	**12**	P	**P**	**07 33 01.0**	**+0.5**
SUA				IAmb	IAmb	07 33 25.7	
	comp=Z,5.5nm,1.0s						
PMR	**Palmer**	**83.81**	**12**	P	**P**	**07 33 02.8**	**+0.3**
D08A	**Wollman Farm,**	**83.83**	**35**	P	**P**	**07 33 04.3**	**+1.3**
D08A				IAmb	IAmb	07 33 04.9	
	comp=Z,5.7nm,0.8s						
F10A	**Beach Ranch, E**	**84.11**	**37**	P	**P**	**07 33 05.4**	**+0.8**
F10A				IAmb	IAmb	07 33 05.9	
	comp=Z,12nm,1.1s						
BMRM	**Bremner River**	**84.25**	**15**	P	**P**	**07 33 05.5**	**+0.6**
BMRM				IAmb	IAmb	07 33 29.1	
	comp=Z,24nm,1.5s						
PLID	**Pearl Lake**	**84.30**	**38**	P	**P**	**07 33 06.8**	**+1.0**
HLID	**Hailey**	**84.37**	**40**	P	**P**	**07 33 07.8**	**+1.7**
HLID				IAmb	IAmb	07 33 08.1	
	comp=Z,3.7nm,0.8s						
SCM	**Sheep Creek Mo**	**84.40**	**13**	P	**P**	**07 33 06.0**	**+0.3**
SCM				IAmb	IAmb	07 33 14.8	
	comp=Z,13nm,1.3s						
B08A	**Colville Reser**	**84.40**	**34**	P	**P**	**07 33 06.7**	**+0.8**
SRU	**San Rafael Swe**	**84.47**	**45**	P	**P**	**07 33 08.0**	**+1.3**
SRU				IAmb	IAmb	07 33 08.5	
	comp=Z,7.0nm,0.8s						
K20K	**Telida**	**84.55**	**10**	P	**P**	**07 33 07.4**	**+1.1**
K20K				IAmb	IAmb	07 33 07.6	
	comp=Z,5.4nm,1.1s						
MNTX	**Cornudas Mount**	**84.58**	**54**	P	**P**	**07 33 08.4**	**+1.2**
MNTX				IAmb	IAmb	07 33 09.5	
	comp=Z,12nm,1.3s						
H03S2	**Juan Fernandez**	**84.65**	**124**	T	T	09 05 54.2	
	baz=248,slow=75,SNR=89						
H03S1	**Juan Fernandez**	**84.66**	**124**	T	T	09 05 55.2	
	baz=248,slow=75,SNR=73						
H03S3	**Juan Fernandez**	**84.66**	**124**	T	T	09 05 56.8	
	baz=248,slow=75,SNR=66						
GLB	**Gilahina Butte**	**84.85**	**15**	P	**P**	**07 33 08.6**	**+0.7**
GLB				IAmb	IAmb	07 33 16.6	
	comp=Z,19nm,1.4s						
TX31	**Lajitas Ar. Si**	**84.85**	**57**	P	**P**	**07 33 10.0**	**+1.3**
TXAR	**Lajitas Array**	**84.85**	**57**	P	**P**	**07 33 09.9**	**+1.1**
	comp=Z,4.5nm,0.9s,baz=214,slow=8.4,SNR=41						
TXAR	**Lajitas Array**	**84.85**	**57**	P	**P**	**07 33 10.0**	**+1.3**
MCMT	**McKenzie Canyo**	**86.01**	**39**	P	**P**	**07 33 15.2**	**+0.9**
SEY	**Seymchan**	**86.14**	**346**	P	**P**	**07 33 15.0**	**+0.8**
	comp=Z,2.6nm,1.0s,baz=86,slow=3.9,SNR=3.7						
SNOW	**Snow King Moun**	**86.56**	**41**	P	**P**	**07 33 17.8**	**+0.8**
WRH	**Wood River Hil**	**86.62**	**12**	P	**P**	**07 33 16.7**	**+0.2**
WRH				IAmb	IAmb	07 33 17.3	
	comp=Z,7.0nm,1.1s						
BCAR	**Beaver Creek A**	**86.74**	**15**	P	**P**	**07 33 17.8**	**+0.6**
SMCO	**Snowmass**	**86.90**	**47**	P	**P**	**07 33 19.7**	**+0.7**
PDAR	**Pinedale Array**	**86.96**	**42**	P	**P**	**07 33 18.9**	**0.0**
	comp=Z,0.8nm,0.7s,baz=192,slow=3.6,SNR=7.9						
ILAR	**Eielson Array**	**87.12**	**12**	P	**P**	**07 33 18.6**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=208,slow=6.0,SNR=8.0						
MSTX	**Muleshoe**	**87.55**	**53**	P	**P**	**07 33 22.3**	**+0.4**
MSTX				IAmb	IAmb	07 33 23.9	
	comp=Z,3.6nm,0.8s						
HRY	**Holter Researc**	**87.62**	**38**	P	**P**	**07 33 22.3**	**+0.5**
WALA	**Waterton Lakes**	**87.72**	**35**	P	**P**	**07 33 22.1**	**-0.2**
WALA				IAmb	IAmb	07 33 23.7	
	comp=Z,10nm,1.3s						
T25A	**Trinidad**	**87.75**	**49**	P	**P**	**07 33 23.1**	**+0.3**
RWWY	**Rawlins**	**87.94**	**44**	P	**P**	**07 33 24.0**	**+0.3**
RWWY				IAmb	IAmb	07 33 27.6	
	comp=Z,3.8nm,0.8s						
SNAA	**Snaa**	**88.69**	**178**	PKPdf	**P**	**07 33 25.3**	**-1.3**
VNA3	**Neumayer Olymp**	**88.74**	**176**	PKPdf	**P**	**07 33 26.0**	**-0.7**
VNA2	**Neumayer--Watz**	**89.21**	**176**	PKPdf	**P**	**07 33 27.9**	**-1.0**
	baz=174,slow=1.6						
ABTX	**Abilene, Hawle**	**89.37**	**55**	P	**P**	**07 33 30.8**	**+0.5**
ABTX				IAmb	IAmb	07 33 31.6	
	comp=Z,6.3nm,1.1s						
VNA1	**Neumayer--Stat**	**89.42**	**176**	PKPdf	**P**	**07 33 29.3**	**-0.5**
RSSD	**Black Hills**	**91.14**	**43**	P	**P**	**07 33 38.1**	**-0.4**
RSSD				IAmb	IAmb	07 33 39.7	
	comp=Z,4.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**91.89**	**289**	P	**P**	**07 33 42.4**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=120,slow=2.3,SNR=6.7						
FNO	**Franklin**	**92.12**	**53**	P	**P**	**07 33 43.5**	**+0.5**
R32A	**Long Quarter,**	**92.38**	**50**	P	**P**	**07 33 44.5**	**+0.4**
ARCES	**ARCESS Array B**	**128.55**	**351**	PKP	**PKPdf**	**07 39 37.0**	**-1.9**
	comp=Z,2.7nm,0.9s,baz=46,slow=3.5,SNR=4.7						
FINES	**FINESS Array B**	**135.62**	**345**	PKP	**PKPdf**	**07 39 52.9**	**+0.4**
	comp=Z,4.3nm,1.2s,baz=356,slow=8.9,SNR=1.1						
FINES	**FINESS Array B**	**135.62**	**345**		**PKPdf**	**07 39 50.8**	**-1.7**
AKASG	**Malin Array Be**	**143.34**	**333**	PKhKP	PKPpre	07 40 03.2	
	comp=Z,0.7nm,0.3s,baz=42,slow=4.1,SNR=3.7						
CLL	**Collm**	**147.76**	**350**	*i* PKPbc	**PKPbc**	**07 40 17.5**	**+0.1**
	comp=Z,8.0nm,1.4s						
BRTR	**Keskin Array B**	**147.87**	**315**	PKPbc	**PKPbc**	**07 40 17.6**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=110,slow=1.9,SNR=6.3						
BRTR	**Keskin Array B**	**147.87**	**315**		**PKPbc**	**07 40 18.0**	**-0.3**
GERES	**GERESS Array B**	**149.99**	**348**	PKPbc	**PKPbc**	**07 40 23.2**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=29,slow=3.0,SNR=12						
GERES	**GERESS Array B**	**149.99**	**348**		**PKPbc**	**07 40 23.4**	**+0.1**
CONA	**Conrad Observa**	**150.35**	**344**	*i* P	**PKPbc**	**07 40 24.0**	**-0.1**
	comp=Z,1.2nm,0.4s						
MOA	**Molln**	**150.81**	**346**	*i* P	**PKPbc**	**07 40 24.7**	**-0.4**
	comp=Z,0.4nm,0.2s						
WATA	**Walderalm**	**151.84**	**349**	*i* P	**PKPbc**	**07 40 27.2**	**-0.5**
	comp=Z,2.3nm,0.6s						
WTTA	**Wattenberg**	**151.90**	**349**	*i* P	**PKPbc**	**07 40 27.2**	**-0.6**
	comp=Z,5.6nm,0.5s						
SQTA	**Sankt Quirin**	**152.01**	**350**	*i* P	**PKPbc**	**07 40 27.7**	**-0.4**
	comp=Z,1.1nm,0.4s						
MYKA	**Terra Mystica**	**152.10**	**346**	*i* P	**PKPbc**	**07 40 27.1**	**-1.1**
	comp=Z,1.3nm,0.4s						
ABTA	**Abfaltersbach**	**152.23**	**348**	*i* P	**PKPbc**	**07 40 27.4**	**-1.1**
	comp=Z,1.5nm,0.5s						
FETA	**Feichten**	**152.28**	**350**	*i* P	**PKPbc**	**07 40 28.2**	**-0.5**
	comp=Z,1.3nm,0.6s						
ESDC	**Sonseca Array**	**158.91**	**18**	PKPab	**PKPab**	**07 41 08.3**	**+0.7**
	comp=Z,1.2nm,1.0s,baz=315,slow=3.1,SNR=5.4						
TORD	**Torodi Ar. Bea**	**172.99**	**159**	PKPab	**PKPab**	**07 42 08.7**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=215,slow=3.6,SNR=2.1						

IDC 20 07:21:19.5±3.0, 30°58S×70°78W, h0km, mb3.6/1, mb1 3.7/3, mb1mx3.6/21, mbtmp3.6/3, ML3.6/2, Error ellipse: s-maj=78.6km s-min=67.6km az=178.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N1	**Juan Fernandez**	**7.47**	**245**	T	T	07 29 35.4	
	baz=73,slow=73,SNR=148						
H03N3	**Juan Fernandez**	**7.49**	**245**	T	T	07 29 38.0	
	baz=73,slow=73,SNR=134						
H03N2	**Juan Fernandez**	**7.49**	**246**	T	T	07 29 37.9	
	baz=73,slow=73,SNR=147						
H03S3	**Juan Fernandez**	**7.61**	**243**	T	T	07 29 56.7	
	baz=67						
H03S1	**Juan Fernandez**	**7.62**	**243**	T	T	07 29 54.1	
	baz=67						
H03S2	**Juan Fernandez**	**7.63**	**243**	T	T	07 29

az=140.0
*IDC **20** 07:30:15.2±1.1, 16°44S×176°03W, h357km±12km, mb3.5/9, mb1 3.7/12, mb1mx3.5/44, mbtmp4.3/12, Error ellipse: s-maj=24.0km s-min=11.7km az=139.0*
ISC 20 07:30:15.7±0.5, 16°42S±0°09×175°97W±0°09, h364km, n90, σ0°84/90, mb4.2/26, 7C-7D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.75**	**59**	P	**Pn**	**07 31 33.6**	**+0.1**
	22nm,0.3s,baz=172,slow=19,SNR=23						
AFI				S	**S**	**07 32 35.3**	**-1.1**
	2.7nm,0.3s,baz=331,slow=19,SNR=1.9						
AFI	**Afiamalu**	**4.75**	**59**		**Pn**	**07 31 33.4**	**-0.1**
AFI				Sn	**S**	**07 32 36.0**	**-0.4**
AFI	**Afiamalu**	**4.75**	**59**	P	**Pn**	**07 31 34.1**	**+0.6**
MSVF	**Nonsavu**	**5.87**	**256**	P	**Pn**	**07 31 46.2**	**+0.5**
	11nm,0.3s,baz=91,slow=10,SNR=135						
MSVF	**Nonsavu**	**5.87**	**256**		**Pn**	**07 31 47.2**	**+1.5**
RAO	**Raoul Island**	**12.90**	**188**	P	**P**	**07 33 06.9**	**+0.3**
	289nm,0.3s,baz=81,slow=21,SNR=4.4						
MARNC	**Mare, Loyalty**	**15.95**	**249**	P	**P**	**07 33 39.3**	**-0.7**
PINNC	**Pines Island,**	**16.80**	**246**	P	**P**	**07 33 50.2**	**+1.0**
OUENC	**Ouen Island, N**	**17.27**	**247**	P	**P**	**07 33 54.4**	**+0.1**
OUENC				IAmb	IAmb	07 34 00.4	
	comp=Z,20nm,1.0s						
DZM	**Mont Dzumac**	**17.53**	**249**	P	**P**	**07 33 58.0**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=117,slow=23,SNR=3.2						
OUZ	**Omahuta**	**20.92**	**205**	P	**P**	**07 34 33.2**	**+2.1**
URZ	**Urewera**	**22.60**	**194**	P	**P**	**07 34 45.3**	**-0.9**
	comp=Z,3.8nm,0.3s,baz=301,slow=23,SNR=7.2						
URZ	**Urewera**	**22.60**	**194**	P	**P**	**07 34 45.6**	**-0.6**
THZ	**Tophouse**	**27.02**	**199**	P	**P**	**07 35 25.4**	**-0.4**
EIDS	**Eidsvold**	**31.98**	**248**	P	**P**	**07 36 08.8**	**-0.6**
EIDS				IAmb	IAmb	07 36 11.1	
	comp=Z,16nm,1.4s						
ARMA	**Armidale**	**32.70**	**239**	P	**P**	**07 36 15.6**	**-0.2**
ARMA				IAmb	IAmb	07 36 25.3	
	comp=Z,15nm,1.3s						
CTA	**Charters Tower**	**36.01**	**258**	P	**P**	**07 36 42.4**	**-1.6**
	comp=Z,1.2nm,0.3s,baz=143,slow=5.1,SNR=1.9						
CTAO	**Charters Tower**	**36.01**	**258**	P	**P**	**07 36 44.0**	**+0.1**
CTAO				IAmb	IAmb	07 36 58.6	
	comp=Z,11nm,1.3s						
CAN	**Canberra**	**36.46**	**232**	P	**P**	**07 36 47.0**	**-0.5**
CAN				IAmb	IAmb	07 36 48.0	
	comp=Z,6.6nm,0.6s						
WAKE	**Wake Island**	**39.38**	**334**	P	**P**	**07 37 11.2**	**-0.5**
COEN	**Coen**	**39.46**	**268**	P	**P**	**07 37 12.4**	**-0.1**
COEN				IAmb	IAmb	07 37 15.4	
	comp=Z,15nm,1.2s						
TOO	**Toolangi**	**39.91**	**230**	P	**P**	**07 37 16.0**	**0.0**
TOO				IAmb	IAmb	07 37 16.8	
	comp=Z,11nm,0.7s						
BBOO	**Buckleboo**	**46.17**	**240**	P	**P**	**07 38 05.0**	**-0.6**
BBOO				IAmb	IAmb	07 38 30.5	
	comp=Z,24nm,1.4s						
WR0	**Warramunga Arr**	**47.02**	**258**	P	**P**	**07 38 11.4**	**-0.9**
WB0	**Warramunga Arr**	**47.17**	**258**	P	**P**	**07 38 12.9**	**-0.6**
WB2	**Warramunga Arr**	**47.20**	**258**	P	**P**	**07 38 12.8**	**-0.9**
WRA	**Warramunga Arr**	**47.21**	**258**	P	**P**	**07 38 12.5**	**-1.3**
	comp=Z,1.9nm,0.6s,baz=92,slow=6.9,SNR=13						
WRA	**Warramunga Arr**	**47.21**	**258**	P	**P**	**07 38 13.0**	**-0.8**
AS31	**Alice Springs**	**47.45**	**253**	P	**P**	**07 38 14.6**	**-1.0**
ASAR	**Alice Springs**	**47.45**	**253**	P	**P**	**07 38 14.5**	**-1.1**
	comp=Z,8.9nm,0.6s,baz=87,slow=7.9,SNR=100						
ASAR	**Alice Springs**	**47.45**	**253**	P	**P**	**07 38 14.3**	**-1.3**
MTN	**Manton Dam**	**51.19**	**267**	P	**P**	**07 38 43.0**	**-0.7**
MTN				IAmb	IAmb	07 38 47.9	
	comp=Z,6.8nm,0.9s						
FORT	**Forrest**	**52.75**	**244**	P	**P**	**07 38 54.0**	**-0.8**
FORT				IAmb	IAmb	07 39 12.7	
	comp=Z,25nm,0.9s						
KNRA	**Kununurra**	**52.98**	**263**	P	**P**	**07 38 56.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**55.59**	**259**	P	**P**	**07 39 17.6**	**+2.4**
	comp=Z,2.3nm,0.6s,baz=166,slow=6.2,SNR=7.8						
SOEI	**Soe**	**58.42**	**269**	P	**P**	**07 39 36.1**	**+0.9**
SOEI				IAmb	IAmb	07 39 43.1	
	comp=Z,16nm,0.8s						
PSA00	**Pilbara Seismi**	**60.55**	**254**	P	**P**	**07 39 48.5**	**-0.8**
VNDA	**Vanda**	**62.13**	**185**	P	**P**	**07 39 58.3**	**-0.5**
MJAR	**Matsushiro Arr**	**68.15**	**322**	P	**P**	**07 40 36.6**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=139,slow=7.6,SNR=4.1						
MJAR	**Matsushiro Arr**	**68.15**	**322**	P	**P**	**07 40 36.7**	**-1.1**
PETK	**Petropavlovsk-**	**72.87**	**344**	P	**P**	**07 41 05.3**	**-0.3**
	comp=Z,4.0nm,0.7s,baz=139,slow=9.0,SNR=5.7						
KSRS	**Korea Array**	**75.18**	**317**	P	**P**	**07 41 20.1**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=147,slow=7.0,SNR=4.1						
GSC	**Goldstone, Bar**	**76.06**	**46**		pwP	07 42 49.1	+0.7
NVAR	**Mina Array Bea**	**76.74**	**43**	P	**P**	**07 41 30.3**	**+2.1**
	comp=Z,0.1nm,0.4s,baz=218,slow=12,SNR=2.6						
N18K	**Kilae Creek**	**78.51**	**10**	P	**P**	**07 41 37.3**	**+0.1**
N18K				IAmb	IAmb	07 41 50.3	
	comp=Z,6.6nm,1.1s						
BRLK	**Bradley Lake**	**78.60**	**13**	P	**P**	**07 41 38.1**	**+0.4**
M19K	**Big River Lodg**	**79.91**	**10**	P	**P**	**07 41 44.9**	**+0.3**
M19K				IAmb	IAmb	07 41 56.6	
	comp=Z,7.0nm,1.4s						
K20K	**Telida**	**81.33**	**10**	P	**P**	**07 41 52.5**	**+0.5**
K20K				IAmb	IAmb	07 41 53.3	
	comp=Z,3.1nm,0.7s						
VRDI	**Verde Repeater**	**81.62**	**15**	P	**P**	**07 41 54.1**	**+0.3**
VRDI				IAmb	IAmb	07 41 56.2	
	comp=Z,11nm,1.4s						
N25K	**Chitina, Valde**	**81.66**	**15**	P	**P**	**07 41 54.5**	**+0.6**
HDA	**Harding Lake**	**83.60**	**12**	P	**P**	**07 42 03.7**	**+0.1**
HDA				IAmb	IAmb	07 42 04.7	
	comp=Z,6.4nm,0.8s						
TCOL	**CIGO, UAF Yank**	**83.83**	**12**	P	**P**	**07 42 05.0**	**+0.2**
COLA	**College**	**83.83**	**12**	P	**P**	**07 42 04.9**	**+0.2**
IL31		**83.93**	**12**	P	**P**	**07 42 05.1**	**-0.1**
IL31				IAmb	IAmb	07 42 06.2	
	comp=Z,2.7nm,0.6s						
ILAR	**Eielson Array**	**83.93**	**12**	P	**P**	**07 42 05.0**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=215,slow=5.4,SNR=30						
DAWY	**Dawson**	**85.03**	**15**	P	**P**	**07 42 11.7**	**+0.9**
DAWY				IAmb	IAmb	07 42 12.2	
	comp=Z,3.4nm,0.8s						
ARCES	**ARCESS Array B**	**125.24**	**351**	PKP	**PKPdf**	**07 48 32.8**	**-0.2**
	comp=Z,3.9nm,1.0s,baz=329,slow=3.2,SNR=4.4						
BURAR	**Bucovina Array**	**144.32**	**335**	⇓P	**PKPdf**	**07 49 08.8**	**-0.3**
CLL	**Collm**	**144.46**	**350**	⇑/PKPbc	PKPbc	07 49 08.3	-0.2
	comp=Z,4.0nm,0.7s						
BIZ	**Bicaz**	**144.49**	**334**	⇓P	**PKPdf**	**07 49 09.5**	**+0.2**
OSTC	**Ostas**	**144.56**	**347**	*e*PKP	**PKPdf**	**07 49 09.4**	**+0.1**
CHVC	**Chvalec**	**144.56**	**347**	*e*PKP	**PKPdf**	**07 49 09.2**	**-0.1**
TESR	**Tescani**	**144.59**	**333**	⇑P	PKPbc	07 49 09.0	-0.1
UPC	**Upice**	**144.65**	**347**	*e*PKP	**PKPdf**	**07 49 09.8**	**+0.4**
DPC	**Dobruska-Polom**	**144.73**	**346**	*e*PKP	**PKPab**	**07 49 10.3**	**+0.6**
KRLC	**Kraliky**	**144.88**	**346**	*e*PKP	**PKPab**	**07 49 10.6**	**+0.3**
TRPA	**Tarpa**	**144.91**	**338**	⇓P	**PKPab**	**07 49 10.5**	**+0.2**
MORC	**Moravsky Berou**	**144.97**	**345**	⇓P	**PKPdf**	**07 49 10.1**	**0.0**
MORC	**Moravsky Berou**	**144.97**	**345**	*e*PKP	**PKPdf**	**07 49 10.1**	**0.0**
TPGR	**Topolog**	**145.00**	**329**	⇑P	**PKPab**	**07 49 10.8**	**0.0**
VRI	**Vrincioaia**	**145.04**	**332**	⇑P	**PKPdf**	**07 49 07.6**	**-2.6**
PLOR	**Plostina**	**145.09**	**332**	⇑P	**PKPdf**	**07 49 10.2**	**-0.1**
BRTR	**Keskin Array B**	**145.32**	**318**	PKPbc	**PKPbc**	**07 49 12.1**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=100,slow=2.0,SNR=15						
BRTR	**Keskin Array B**	**145.32**	**318**		**PKPdf**	**07 49 09.9**	**-1.2**
BRTR				PKPbc	**PKPab**	**07 49 12.2**	**-0.2**
DOPR	**Dopca**	**145.56**	**333**	⇑P	**PKPab**	**07 49 13.2**	**+0.2**
VRAC	**Vranov**	**145.64**	**345**	*e*PKP	**PKPab**	**07 49 13.0**	**-0.1**
MLR	**Muntele Rosu**	**145.69**	**332**	⇓P	**PKPab**	**07 49 13.3**	**-0.3**
KRUC	**Moravsky**	**145.91**	**345**	*e*PKP	**PKPbc**	**07 49 13.2**	**+0.2**
DRGR		**145.97**	**337**	⇓P	**PKPbc**	**07 49 13.5**	**+0.1**
VOIR		**146.12**	**333**	⇓P	**PKPdf**	**07 49 09.5**	**-2.7**
KHC	**Kasperske Hory**	**146.46**	**349**	*e*PKP	**PKPbc**	**07 49 15.3**	**+0.7**
GERES	**GERESS Array B**	**146.71**	**348**	PKPbc	**PKPbc**	**07 49 15.3**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=46,slow=3.9,SNR=5.4						
GERES	**GERESS Array B**	**146.71**	**348**		**PKPdf**	**07 49 12.6**	**-0.5**
SIRR	**Siria**	**146.81**	**337**	⇑P	**PKPbc**	**07 49 16.1**	**+0.4**
CONA	**Conrad Observa**	**147.10**	**345**	*i* P	**PKPbc**	**07 49 17.1**	**+0.6**
	comp=Z,0.6nm,0.4s						
ARSA	**Arzberg**	**147.81**	**345**	*e*P	**PKPbc**	**07 49 18.3**	**0.0**
	comp=Z,1.4nm,0.7s						
WTTA	**Wattenberg**	**148.60**	**350**	*i* P	**PKPbc**	**07 49 20.8**	**+0.3**
	comp=Z,1.9nm,0.4s						
MOTA	**Moosalm**	**148.61**	**351**	*i* P	**PKPab**	**07 49 24.8**	**-0.4**
	comp=Z,1.2nm,0.3s						
MYKA	**Terra Mystica**	**148.83**	**347**	*i* P	**PKPbc**	**07 49 21.5**	**+0.5**
	comp=Z,2.0nm,0.4s						
ABTA	**Abfaltersbach**	**148.94**	**349**	*i* P	**PKPbc**	**07 49 21.2**	**-0.1**
	comp=Z,0.9nm,0.4s						

IDC 20 07:37:04.3±1.9, 5°50S×146°37E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/38, mbtmp3.4/4, ML3.0/1, Error ellipse: s-maj=115.2km s-min=29.1km az=126.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.52**	**218**	P	P	07 41 21.7	-0.8
	0.1nm,0.3s,baz=43,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**21.69**	**212**	P	P	07 41 57.5	+0.6
	0.2nm,0.4s,baz=51,slow=9.9,SNR=2.2						
FITZ	**Fitzroy Crossi**	**23.81**	**237**	P	P	07 42 17.9	-1.2
	0.7nm,0.4s,baz=59,slow=5.9,SNR=1.9						
H11S3	**WAKE ISLAND Hy**	**31.14**	**40**	T	T	08 16 14.9	
	baz=220						
H11S2	**WAKE ISLAND Hy**	**31.15**	**40**	T	T	08 16 16.9	
	baz=220						
H11S1	**WAKE ISLAND Hy**	**31.16**	**40**	T	T	08 16 15.5	
	baz=220						
H11N1	**WAKE ISLAND Hy**	**32.18**	**38**	T	T	08 17 29.6	
	baz=220						
H11N3	**WAKE ISLAND Hy**	**32.19**	**38**	T	T	08 17 33.5	
	baz=220						
H11N2	**WAKE ISLAND Hy**	**32.20**	**38**	T	T	08 17 35.6	
	baz=220						
ILAR	**Eielson Array**	**85.27**	**23**	P	P	07 49 43.2	+0.5
	0.4nm,0.7s,baz=238,slow=5.0,SNR=4.6						
TORD	**Torodi Ar. Bea**	**144.36**	**285**	PKP	PKPdf	07 56 43.5	-0.1
	0.9nm,0.7s,baz=80,slow=3.4,SNR=5.9						

*IDC **20** 07:40:32.9±1.1, 30°81S×72°55W, h0km, mb3.7/5, mb1 4.0/10, mb1mx3.9/25, mbtmp3.8/10, ML4.0/5, MS3.2/5, Ms1 3.2/5, ms1mx2.9/25, Error ellipse: s-maj=32.9km s-min=26.1km az=68.0*
*NEIC **20** 07:40:33.8±1.9, 30°85S±0°05×72°65W±0°02, h10km±1km, mb4.4/19, Error ellipse: s-maj=8.6km s-min=2.8km az=167.0*
*GUC **20** 07:40:36.6±0.7, 30°70S×72°48W, h10km, ML3.6*
ISC 20 07:40:34.1±1.8, 30°79S±0°04×72°60W±0°06, h13km±10km, n85, σ1°45/76, mb4.3/14, 3C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.83**	**82**	*i*P	**Pg**	**07 40 51.0**	**+0.8**
CO06				*e*S	**Sb**	**07 41 01.3**	**-0.4**
CO06				IAML		07 41 03.9	
	comp=E,2μm,0.2s						
CO06	**Fray Jorge**	**0.83**	**82**		**Pg**	**07 40 50.9**	**+0.7**
CO06				Sg	**Sn**	**07 41 03.2**	**-0.6**
CO05	**La Serena**	**1.46**	**54**	⇑*i*P	**Pn**	**07 41 00.3**	**+0.2**
CO05				*i* S	**Sb**	**07 41 17.8**	**-1.8**
CO05				IAML		07 41 24.7	
	comp=N,713nm,0.3s						
CO05	**La Serena**	**1.46**	**54**		**Pn**	**07 41 00.3**	**+0.2**
CO05				Sn	**Sg**	**07 41 19.5**	**-1.5**
CO03	**El Pedregal**	**1.64**	**92**	*e*P	**Pn**	**07 41 03.4**	**+0.6**
CO03				*e*S	**Sn**	**07 41 24.8**	**+0.9**
CO03				IAML		07 41 26.7	
	comp=N,1μm,0.3s						
CO03	**El Pedregal**	**1.64**	**92**		**Pn**	**07 41 03.4**	**+0.6**
GO04	**Tololo Observa**	**1.67**	**69**	*e*P	**Pn**	**07 41 03.9**	**+0.6**
GO04				*e*S	**Sb**	**07 41 25.4**	**-0.5**
GO04	**Tololo Observa**	**1.67**	**69**		**Pn**	**07 41 04.0**	**+0.7**
VA06	**Catapilco**	**2.09**	**148**	*e*P	**Pn**	**07 41 07.5**	**-1.3**
VA06				*e*S	**Sn**	**07 41 30.7**	**-4.0**
VA06				IAML		07 41 33.7	
	comp=E,2μm,0.5s						
VA01	**Torpederas**	**2.37**	**160**	*e*P	Pn	07 41 11.0	-1.7
VA01	**Torpederas**	**2.37**	**160**		Pn	07 41 10.8	-1.9
LCO	**Las Campanas**	**2.42**	**43**	⇑*i*P	**Pn**	**07 41 14.2**	**+0.7**
LCO				*e*S	**Sn**	**07 41 43.8**	**+0.6**
LCO	**Las Campanas**	**2.42**	**43**		**Pn**	**07 41 14.3**	**+0.7**
ROCH	**El Roble**	**2.56**	**149**	*e*P	**Pn**	**07 41 15.4**	**-0.1**
VA03	**San Esteban**	**2.63**	**139**	*e*P	**Pn**	**07 41 16.4**	**0.0**
VA03				*e*S	**Sn**	**07 41 46.3**	**-2.0**
VA03				IAML		07 41 51.9	
	comp=N,510nm,0.5s						
VA03	**San Esteban**	**2.63**	**139**		**Pn**	**07 41 16.1**	**-0.3**
AC04	**Llanos de Chal**	**2.90**	**28**	*e*P	**Pn**	**07 41 19.3**	**-0.6**
AC04				IAML		07 41 54.5	
	comp=N,179nm,0.4s						
AC04	**Llanos de Chal**	**2.90**	**28**		**Pn**	**07 41 19.4**	**-0.6**
VA05	**Santo Domingo**	**2.98**	**164**	*e*P	Pn	07 41 19.1	-2.0
VA05				*e*S	Sn	07 41 51.0	-5.7
VA05	**Santo Domingo**	**2.98**	**164**		Pn	07 41 19.2	-2.0
MT05	**Renca**	**3.04**	**149**	*e*P	**Pn**	**07 41 21.2**	**-0.8**
MT05				IAML		07 42 00.8	
	comp=N,422nm,0.6s						
MT05	**Renca**	**3.04**	**149**		**Pn**	**07 41 21.3**	**-0.6**
FSR	**Penalolen**	**3.21**	**147**	*e*P	**Pn**	**07 41 25.1**	**+0.9**
MT01	**Popeta**	**3.27**	**160**	*e*P	Pn	07 41 23.6	-1.6
MT01				IAML		07 42 05.2	
	comp=N,132nm,0.3s						
MT01	**Popeta**	**3.27**	**160**		Pn	07 41 23.4	-1.7
MT09	**Talagante**	**3.28**	**156**	*e*P	**Pn**	**07 41 24.8**	**-0.6**
MT09	**Talagante**	**3.28**	**156**		**Pn**	**07 41 24.7**	**-0.6**
LMEL	**Las Melosas**	**3.66**	**147**	*e*P	**Pn**	**07 41 30.7**	**0.0**
GO03	**Copiap**	**3.79**	**34**	*e*P	**Pn**	**07 41 32.5**	**+0.2**
GO03	**Copiap**	**3.79**	**34**		**Pn**	**07 41 32.5**	**+0.2**
BO01	**Tunca**	**3.81**	**161**		Pn	07 41 31.1	-1.4
AC06	**Mina Casimiro**	**3.94**	**30**	*i* P	**Pn**	**07 41 34.6**	**+0.3**
AC06	**Mina Casimiro**	**3.94**	**30**		**Pn**	**07 41 34.8**	**+0.5**
GO05	**Huala**	**4.25**	**173**		Pn	07 41 36.2	-2.4
BO02	**Sierra Bellavi**	**4.28**	**160**		**Pn**	**07 41 38.4**	**-0.7**
AC02	**Maricunga**	**4.97**	**39**		**Pn**	**07 41 50.3**	**+1.3**
ML02	**Panimavida**	**5.06**	**169**		Pn	07 41 48.6	-1.0
H03N1	**Juan Fernandez**	**5.98**	**242**	T	T	07 47 53.2	
	baz=70,slow=71,SNR=4.5						
H03N2	**Juan Fernandez**	**5.99**	**242**	T	T	07 48 06.2	
	baz=70,slow=71,SNR=4.7						
H03N3	**Juan Fernandez**	**5.99**	**242**	T	T	07 48 09.6	
	baz=70,slow=71,SNR=5.1						
VA04	**Juan Fernndez**	**6.00**	**240**	Pn	Pn	07 41 58.1	-4.5
PB14	**IPOC Station P**	**6.44**	**18**	Pn	**Pn**	**07 42 06.3**	**-2.6**
PB15	**IPOC Station P**	**8.05**	**21**	Pn	**Pn**	**07 42 29.5**	**-1.4**
LC01	**Cunco**	**8.11**	**176**	Pn	Pn	07 42 29.3	-2.3
LVC	**Limon Verde**	**8.79**	**23**	Pn	**Pn**	**07 42 39.9**	**-1.3**
	comp=N,0.5nm,0.3s,baz=156,slow=12,SNR=1.7						
LVC				Sn	**Sn**	**07 44 12.2**	**-8.1**
	comp=N,0.3nm,0.3s,baz=272,slow=15,SNR=1.5						
LVC				LR	LR	07 46 12.3	
	comp=N,64nm,20.1s,baz=182,slow=39						
LVC	**Limon Verde**	**8.79**	**23**		**Pn**	**07 42 40.3**	**-0.9**
LR03	**Panguipulli**	**8.83**	**179**	Pn	Pn	07 42 38.9	-2.5
PB07	**IPOC Station P**	**9.35**	**16**	Pn	**Pn**	**07 42 48.4**	**-0.3**
PLCA	**Paso Flores**	**10.06**	**171**	Pn	**Pn**	**07 42 57.5**	**-1.0**
	comp=N,0.5nm,0.3s,baz=332,slow=13,SNR=10.0						
PLCA				LR	LR	07 46 38.6	
	comp=N,74nm,20.7s,baz=346,slow=36						
PLCA	**Paso Flores**	**10.06**	**171**		Pn	07 42 57.1	-1.3
LL04	**Puerto Octay**	**10.10**	**179**	Pn	Pn	07 42 57.0	-1.9
LL05	**Los Muermos**	**10.62**	**184**	Pn	Pn	07 43 02.6	-3.3
CPUP	**Villa Florida**	**14.13**	**75**	Pn	**Pn**	**07 43 52.5**	**-1.5**
	comp=N,0.2nm,0.3s,baz=223,slow=20,SNR=1.4						
CPUP				LR	LR	07 49 45.2	
	comp=N,105nm,18.6s,baz=218,slow=39						
LPAZ	**La Paz**	**15.00**	**17**	Pn	**Pn**	**07 44 07.0**	**+0.5**
	comp=N,0.2nm,0.3s,baz=194,slow=6.9,SNR=14						
LPAZ	**La Paz**	**15.00**	**17**		**Pn**	**07 44 06.7**	**+0.2**
SIV	**San Ignacio**	**18.11**	**38**	P	**Pn**	**07 44 46.3**	**+0.8**
	comp=N,0.5nm,0.3s,baz=221,slow=11,SNR=27						
SIV				LR	LR	07 52 43.6	
	comp=N,73nm,20.2s,baz=114,slow=40						
BDFB	**Brasilia**	**27.07**	**62**	P	**P**	**07 46 21.1**	**+4.4**
	comp=N,1.5nm,0.6s,baz=182,slow=24,SNR=3.3						
BDFB	**Brasilia**	**27.07**	**62**	P	**P**	**07 46 16.9**	**+0.2**
CDVI	**St. Croix**	**48.84**	**10**	P	**P**	**07 49 19.9**	**+0.5**
MTDJ	**Mount Denham**	**48.96**	**354**	P	**P**	**07 49 20.8**	**+0.3**
VNA3	**Neumayer Olymp**	**52.51**	**159**	P	**P**	**07 49 47.1**	**+0.6**
VNA2	**Neumayer--Watz**	**53.15**	**158**	P	**P**	**07 49 51.7**	**+0.4**
	baz=287,slow=5.7						
SNAA	**Sanae**	**54.73**	**159**	P	**P**	**07 50 02.9**	**0.0**
SNAA	**Sanae**	**54.73**	**159**	P	**P**	**07 50 03.1**	**+0.1**
SNAA				IAmb	IAmb	07 50 04.0	
	comp=Z,5.6nm,1.2s						
QSPA	**South Pole Qui**	**59.44**	**180**	P	**P**	**07 50 36.7**	**+0.3**
QSPA				IAmb	IAmb	07 50 47.3	
	comp=Z,5.2nm,1.4s						
TX32	**Lajitas Array**	**66.71**	**331**	P	**P**	**07 51 25.8**	**+0.8**
TX32				IAmb	IAmb	07 51 27.1	
	comp=Z,2.0nm,1.1s						
TXAR	**Lajitas Array**	**66.71**	**331**	P	**P**	**07 51 26.0**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=149,slow=7.5,SNR=8.8						
TXAR	**Lajitas Array**	**66.71**	**331**	P	**P**	**07 51 25.5**	**+0.5**
MNTX	**Cornudas Mount**	**69.49**	**330**	P	**P**	**07 51 42.8**	**+0.5**
MNTX				IAmb	IAmb	07 51 51.6	
	comp=Z,1.7nm,0.8s						
HHAR	**Hobbs**	**69.66**	**342**	P	**P**	**07 51 43.7**	**+0.5**
HHAR				IAmb	IAmb	07 51 53.0	
	comp=Z,2.1nm,0.6s						
R40A	**Maddies Statio**	**71.13**	**344**	P	**P**	**07 51 52.8**	**+0.6**
R40A				IAmb	IAmb	07 52 02.0	
	comp=Z,4.1nm,0.7s						
SMCO	**Snowmass**	**76.61**	**333**	P	**P**	**07 52 25.5**	**+0.7**
RAR	**Rarotonga**	**77.13**	**253**	LR	LR	08 18 22.9	
	comp=Z,211nm,20.0s,baz=306,slow=29						
PRN	**Pahroc Range**	**78.61**	**327**	P	**P**	**07 52 35.7**	**0.0**
PRN				IAmb	IAmb	07 52 46.8	
	comp=Z,4.5nm,1.3s						
PDAR	**Pinedale Array**	**80.69**	**333**	P	**P**	**07 52 48.4**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=135,slow=10,SNR=1.7						
NVAR	**Mina Array Bea**	**80.98**	**325**	P	**P**	**07 52 49.6**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=138,slow=6.0,SNR=3.5						
NVAR	**Mina Array Bea**	**80.98**	**325**	P	**P**	**07 52 49.5**	**+0.8**
BOSA	**Boshof**	**81.99**	**118**	P	**P**	**07 52 54.9**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=291,slow=8.6,SNR=1.0						
BOSA	**Boshof**	**81.99**	**118**	P	**P**	**07 52 54.1**	**-0.2**
BOSA				IAmb	IAmb	07 53 01.3	
	comp=Z,11nm,1.4s						
ULM	**Lac du Bonnet**	**83.28**	**345**	P	**P**	**07 52 58.9**	**-1.3**
TORD	**Torodi Ar. Bea**	**83.58**	**71**	P	**P**	**07 53 04.0**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=279,slow=6.6,SNR=4.4						
K05A	**Summer Lake**	**85.55**	**327**	P	**P**	**07 53 12.2**	**+0.1**
I07A	**Izee**	**85.95**	**328**	P	**P**	**07 53 14.4**	**+0.4**
I07A				IAmb	IAmb	07 53 17.3	
	comp=Z,3.2nm,1.3s						
NEW	**Newport**	**88.22**	**332**	LR	LR	08 30 16.1	
	comp=Z,40nm,20.4s,baz=352,slow=34						
ZALV	**Zalesovo Beam**	**151.70**	**29**	PKPbc	**PKPbc**	**08 00 28.8**	**+1.0**
	comp=Z,4.4nm,0.8s,baz=307,slow=4.1,SNR=10						
ZALV				PKPab	**PKPab**	**08 00 37.4**	**+0.7**
	comp=Z,3.3nm,0.5s,baz=290,slow=3.4,SNR=8.3						

*IDC **20** 07:43:13.6±3.2, 1°00S×98°11E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.7/47, mbtmp3.9/6, ML4.2/1, MS3.6/3, Ms1 3.7/3, ms1mx3.0/52, Error ellipse: s-maj=127.6km s-min=20.8km az=59.0*
*DJA **20** 07:43:17.8±1.0, 1°S±7°×97°8E±1°0, h51km±12km, M3.8/7, MLv3.8/7*
*NEIC **20** 07:43:20.1±1.7, 0°74S±0°08×98°6E±0°2, h33km±9km, mb4.2/8, Error ellipse: s-maj=29.8km s-min=3.2km az=66.0*
ISC 20 07:43:16.4±0.9, 0°88S±0°08×98°2E±0°1, h26km, n31, σ1°42/26, mb4.1/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PBSI	**Pulau Batu**	**0.82**	**7**	P	**Pn**	**07 43 32.6**	**+0.3**
PBSI				S	**Sn**	**07 43 43.6**	**0.0**
SISI	**Saibi**	**1.01**	**116**	P	**Pb**	**07 43 35.9**	**+0.6**
**MNS

MPSI Mapaga 7.57 252 P **Pn** **07 56 21.1 +1.7**
0.3nm34nm,0.9s
TTSI Tana Toraja 9.24 232 P **Pn** **07 56 41.7 -0.5**
33nm,1.0s
PLAI Plampang 14.74 219 P **P** **07 57 58.7 -3.0**
51nm,1.0s
TWSI Taliwang, Sumb 15.25 222 P **P** **07 58 05.9 -1.5**
42nm,1.0s
STKI Sintang 15.84 261 P **P** **07 58 12.1 -1.9**
MTN Manton Dam 15.93 166 **Pn** **07 58 11.8 -0.5**
KNRA Kununurra 18.31 175 P **P** **07 58 40.2 -1.0**
SJI Sawahan 18.47 236 P **Pn** **07 58 45.0 +1.2**
17nm,1.0s
PCJI Pacitan 19.21 236 P **P** **07 58 51.1 -0.1**
59nm,1.4s
FITZ Fitzroy Crossi 20.69 184 P **P** **07 59 04.5 -2.7**
7.8nm,0.8s,baz=2.3,slow=9.7,SNR=10
FITZ S S 08 02 42.6 -13
2.7nm,1.1s,baz=321,slow=19,SNR=2.2
FITZ Fitzroy Crossi 20.69 184 P **P** **07 59 06.0 -1.2**
TWG Pinlang 20.86 344 P **P** **07 59 06.0 -3.1**
TWG IAmb IAmb 07 59 06.9
comp=Z,26nm,0.5s
YULB Yu-li 21.35 345 P **P** **07 59 11.4 -2.9**
YULB IAmb IAmb 07 59 21.4
comp=Z,18nm,0.9s
TPUB Ta-pu 21.44 344 P **P** **07 59 12.6 -2.7**
TPUB IAmb IAmb 07 59 14.5
comp=Z,32nm,0.8s
LEM Lembang 21.63 244 P **P** **07 59 19.6 +2.1**
comp=Z,19nm,0.5s,baz=358,slow=18,SNR=4.7
SSLB Suanglung 21.82 345 P **P** **07 59 18.5 -0.7**
SSLB IAmb IAmb 07 59 20.1
comp=Z,22nm,0.9s
JMZ Minamidaito 2 23.35 9 P **P** **07 59 31.7 -3.5**
WB0 Warramunga Arr 23.42 163 P **P** **07 59 34.5 -1.4**
WB0 IAmb IAmb 07 59 36.0
comp=Z,26nm,0.8s
WRAB Tennant Creek 23.57 163 P **P** **07 59 36.0 -1.3**
WRAB IAmb IAmb 07 59 37.5
comp=Z,28nm,0.8s
WRA Warramunga Arr 23.57 163 P **P** **07 59 36.3 -1.1**
comp=Z,24nm,0.8s,baz=343,slow=11,SNR=115
WRA PcP **PcP** **08 03 22.1 +0.7**
comp=Z,0.6nm,0.6s,baz=323,slow=2.2,SNR=1.4
WRA S **S** **08 03 45.8 -1.9**
comp=Z,0.5nm,0.8s,baz=344,slow=22,SNR=2.3
WRA Warramunga Arr 23.57 163 P **P** **07 59 36.3 -1.1**
WB2 Warramunga Arr 23.58 163 P **P** **07 59 36.2 -1.2**
WB2 IAmb IAmb 07 59 37.6
comp=Z,32nm,0.8s
WR0 Warramunga Arr 23.65 162 P **P** **07 59 37.0 -1.1**
WR0 IAmb IAmb 07 59 37.9
comp=Z,23nm,0.9s
MDSI Maura Dua 23.99 253 P **P** **07 59 42.7 +1.4**
JOW Kunigami 24.05 3 P **P** **07 59 42.6 +1.0**
comp=Z,27nm,1.0s,baz=131,slow=16,SNR=3.1
UBPT Khong Chiam 24.73 302 P **P** **07 59 47.3 -0.7**
comp=Z,16nm,1.1s
UBPT Khong Chiam 24.73 302 P **P** **07 59 47.4 -0.7**
comp=Z,16nm,1.1s
UBPT Khong Chiam 24.73 302 P **P** **07 59 46.5 -1.6**
UBPT IAmb IAmb 07 59 47.5
comp=Z,24nm,1.3s
PSA00 Pilbara Seismi 25.13 196 P **P** **07 59 50.8 -0.7**
PSA00 Pilbara Seismi 25.13 196 P **P** **07 59 50.6 -0.9**
PSA00 IAmb IAmb 07 59 54.0
comp=Z,27nm,1.1s
AS31 Alice Springs 27.01 166 P **P** **08 00 07.1 -1.4**
ASAR Alice Springs 27.01 166 P **P** **08 00 07.8 -0.7**
comp=Z,4.3nm,0.8s,baz=348,slow=7.1,SNR=38
ASAR PcP **PcP** **08 03 30.4 +1.3**
comp=Z,1.4nm,0.6s,baz=347,slow=2.0,SNR=10
ASAR S **S** **08 04 43.2 +0.9**
comp=Z,0.3nm,0.8s,baz=352,slow=25,SNR=1.0
SRAK Srakaew 27.20 296 P **P** **08 00 05.2 -5.1**
comp=Z,11μmcomp=Z,116nm,0.7s
CHAI Chaiyaphum 28.01 300 P **P** **08 00 17.2 -0.4**
comp=Z,14nm,1.0s
CHAI Chaiyaphum 28.01 300 P **P** **08 00 17.0 -0.6**
comp=Z,3.5nm,1.0s
PHET Kaeng Krachan 29.03 292 P **P** **08 00 27.9 +1.3**
comp=Z,25nm,0.7s
PHET Kaeng Krachan 29.03 292 P **P** **08 00 27.0 +0.4**
comp=Z,6.3nm,0.7s
CTA Charters Tower 29.41 141 P **P** **08 00 30.7 +0.8**
comp=Z,2.6nm,0.9s,baz=259,slow=5.2,SNR=1.8
PHIT Phitsanulok 29.92 301 P **P** **08 00 34.9 +0.4**
comp=Z,30nm,0.9s
PHIT Phitsanulok 29.92 301 P **P** **08 00 35.0 +0.4**
comp=Z,7.3nm,0.9s
UTHA Uthaitani 30.11 297 P **P** **08 00 35.1 -1.1**
comp=Z,15nm,0.7s
UTHA Uthaitani 30.11 297 P **P** **08 00 35.1 -1.1**
comp=Z,3.6nm,0.7s
NJ2 Nanjing 30.24 346 *e*P **P** **08 00 39.4 +2.3**
NJ2 sP **sP** **08 00 58.3 +1.6**
NJ2 PcP PcP 08 03 27.1 -10
NJ2 S **S** **08 05 40.3 +7.4**
NJ2 sS **sS** **08 05 59.0 +3.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
PAYA Payao 31.37 304 P **P** **08 00 49.4 +2.1**
comp=Z,631nmcomp=Z,32nm,0.7s
PAYA Payao 31.37 304 P **P** **08 00 49.5 +2.1**
comp=Z,158nmcomp=Z,7.9nm,0.7s
CM04 Chiang Mai Arr 31.68 302 P **P** **08 00 51.4 +1.3**
comp=Z,5.6nm,1.0s
CM04 Chiang Mai Arr 31.68 302 P **P** **08 00 51.0 +0.9**
comp=Z,5.6nm,1.0s
CM09 Chiang Mai Arr 31.69 302 P **P** **08 00 51.0 +0.9**
comp=Z,4.1nm,0.4s
CM09 Chiang Mai Arr 31.69 302 P **P** **08 00 51.1 +0.9**
comp=Z,4.1nm,0.4s
CM01 Chiang Mai Arr 31.71 302 P **P** **08 00 52.2 +2.0**
comp=Z,5.8nm,0.9s
CM01 Chiang Mai Arr 31.71 302 P **P** **08 00 52.3 +2.0**
comp=Z,5.8nm,0.9s
CM05 Chiang Mai Arr 31.71 301 P **P** **08 00 51.7 +1.4**
comp=Z,3.7nm,1.0s
CM05 Chiang Mai Arr 31.71 301 P **P** **08 00 51.8 +1.4**
comp=Z,3.7nm,1.0s
CMAR Chiang Mai Arr 31.74 302 P **P** **08 00 49.1 -1.5**
comp=Z,2.5nm,0.4s,baz=114,slow=7.3,SNR=9.6
CMAR LR LR 08 14 11.7
comp=Z,62nm,21.1s,baz=110,slow=38
CMAR Chiang Mai Arr 31.74 302 P **P** **08 00 49.3 -1.3**
CM13 Chiang Mai Arr 31.75 302 P **P** **08 00 52.3 +1.6**
comp=Z,136nmcomp=Z,3.4nm,0.9s
CM13 Chiang Mai Arr 31.75 302 P **P** **08 00 52.4 +1.7**
comp=Z,136nmcomp=Z,3.4nm,0.9s
CMMT Chiang Mai 31.89 302 P **P** **08 00 52.5 +0.6**
comp=Z,6.7nm,1.0s
CMMT Chiang Mai 31.89 302 P **P** **08 00 52.0 +0.1**
comp=Z,6.7nm,1.0s
CHTO Chiang Mai 31.89 302 P **P** **08 00 52.7 +0.8**
comp=Z,6.6nm,1.0s
ENH Enshi 32.12 330 P **P** **08 00 52.9 -0.9**
ENH IAmb IAmb 08 00 54.7
comp=Z,9.1nm,0.8s
KMI Kunming 32.39 316 ⇑P **P** **08 00 57.1 +0.6**
KMI pmax pmax
comp=Z,12nm,1.2s
MHMT Maesarieng 32.48 300 P **P** **08 00 58.1 +1.0**
comp=Z,2μmcomp=Z,10nm,1.0s
MHMT Maesarieng 32.48 300 P **P** **08 00 58.1 +1.0**
FORT Forrest 33.28 179 P **P** **08 01 03.2 -0.7**
KSRS Korea Array 34.62 1 P **P** **08 01 16.4 +1.0**
comp=Z,1.7nm,0.6s,baz=178,slow=10,SNR=12
KSRS PcP **PcP** **08 03 51.0 +2.2**
comp=Z,1.4nm,0.6s,baz=196,slow=3.4,SNR=6.1
MJAR Matsushiro Arr 35.22 16 P **P** **08 01 20.0 -0.6**
comp=Z,2.1nm,0.8s,baz=186,slow=7.7,SNR=5.4
MJAR PcP **PcP** **08 03 51.7 +1.0**
comp=Z,0.4nm,0.3s,baz=169,slow=2.7,SNR=1.6
MJAR Matsushiro Arr 35.22 16 IAmb IAmb 08 01 23.8
comp=Z,2.2nm,1.0s
MAT Matsushiro 35.22 16 P **P** **08 01 21.5 +0.8**
XAN Xi'an 35.52 334 P **P** **08 01 21.8 -1.5**
XAN pP pP 08 01 34.6 -2.3
XAN S **S** **08 06 53.1 -2.0**
XAN pmax pmax
comp=Z,6.0nm,0.8s
XAN pmax pmax
comp=Z,72nm,5.2s
XAN LR LR
comp=N,130nm,17.5s
XAN LR LR
comp=E,120nm,16.7s
XAN LR LR
comp=Z,160nm,16.3s
BBOO Buckleboo 36.30 167 P **P** **08 01 29.6 -0.3**
STKA Stephens Creek 37.02 159 P **P** **08 01 36.1 +0.1**
comp=Z,19nm,0.8s,baz=336,slow=7.7,SNR=29
STKA PcP **PcP** **08 03 57.2 +1.1**
comp=Z,3.1nm,0.5s,baz=326,slow=6.4,SNR=5.5
STKA LR LR 08 20 20.0
comp=Z,108nm,19.5s,baz=342,slow=42
STKA Stephens Creek 37.02 159 P **P** **08 01 36.0 -0.1**
BJT Baijiatuau 38.47 346 P **P** **08 01 48.9 +0.7**
BJI Beijing 38.49 346 P **P** **08 01 48.9 +0.6**
BJI sP **sP** **08 02 06.4 -1.8**
BJI pmax pmax
comp=Z,31nm,1.0s
LZH Lanzhou 39.60 330 *e*P **P** **08 01 58.8 +0.9**
LZH sP sP 08 02 17.0 -0.9
LZH pmax pmax
comp=Z,24nm,1.3s
LZH LR LR
comp=N,190nm,14.0s
LZH LR LR
comp=E,310nm,14.5s
LZH LR LR
comp=Z,160nm,16.7s
HHC Hu-ho-hao-te 40.51 342 *e*P **P** **08 02 06.9 +1.6**
SHL Shillong 40.81 307 P **P** **08 02 06.0 -2.0**
SHL IAmb IAmb 08 02 07.9
comp=Z,12nm,0.8s
USA0B Ussuriysk Arra 41.58 5 P **P** **08 02 14.6 +0.7**
USRK Ussuriysk Ar. 41.58 5 P **P** **08 02 15.1 +1.2**
comp=Z,7.1nm,0.9s,baz=179,slow=4.1,SNR=12
USRK Ussuriysk Ar. 41.58 5 P **P** **08 02 14.8 +0.9**
H11S3 WAKE ISLAND Hy 41.82 65 T T 08 47 01.1
baz=252
MDJ Mudanjiang 41.82 3 P **P** **08 02 17.8 +1.9**
MDJ pmax pmax
comp=Z,12nm,0.9s
MDJ pmax pmax
comp=Z,120nm,3.5s
H11S1 WAKE ISLAND Hy 41.83 65 T T 08 47 03.4
baz=252
H11S2 WAKE ISLAND Hy 41.83 65 T T 08 47 11.9
baz=252
H11N1 WAKE ISLAND Hy 42.37 63 T T 08 47 58.0
baz=250
H11N2 WAKE ISLAND Hy 42.38 63 T T 08 47 54.6
baz=250
H11N3 WAKE ISLAND Hy 42.39 63 T T 08 47 58.6
baz=250
GTA Gaotai 44.19 329 *e*P **P** **08 02 34.8 -0.5**
GTA pP pP 08 02 43.0 -6.2
GTA sP pwP 08 02 46.9 -4.8
GTA pmax pmax
comp=Z,4.0nm,0.9s
JIRN Jiri 46.30 307 *e*P **P** **08 02 51.4 -1.1**
GUN Gumba 46.65 307 *e*P **P** **08 02 54.2 -1.0**
comp=Z,33nm,0.7s
PKI Pulchoki 46.89 306 *e*P **P** **08 02 55.3 -1.8**
PKIN Phulchoki 46.90 306 *e*P **P** **08 02 55.6 -1.5**
KKN Kakani 47.08 306 *e*P **P** **08 02 57.3 -1.1**
DMN Daman 47.15 306 *e*P **P** **08 02 57.8 -1.2**
GKN Gorkha 47.69 306 *e*P **P** **08 03 01.7 -1.4**
ULN Ulaanbaatar 48.23 342 P **P** **08 03 07.2 +0.3**
ULN IAmb IAmb 08 03 09.4
comp=Z,9.6nm,1.1s
SONM Songino Array 48.41 341 P **P** **08 03 08.9 +0.6**
comp=Z,3.7nm,0.8s,baz=158,slow=8.1,SNR=10.0
SONM PcP **PcP** **08 04 34.8 +0.9**
comp=Z,1.9nm,0.8s,baz=159,slow=5.4,SNR=4.7
SONM LR LR 08 25 00.1
comp=Z,125nm,21.9s,baz=164,slow=38
KOLN Koldanda 48.44 305 *e*P **P** **08 03 08.1 -0.8**
comp=Z,35nm,0.8s
DANN Dangsing 48.54 306 *e*P **P** **08 03 08.3 -1.5**
comp=Z,41nm,0.7s
FUNA Funafuti 53.11 103 P **P** **08 03 43.2 -0.9**
WMQ Urumqi 53.80 325 *e*P **P** **08 03 49.4 +0.7**
WMQ pmax pmax
comp=Z,21nm,1.1s
WMQ pmax pmax
comp=Z,170nm,5.3s
PETK Petropavlovsk- 56.26 22 P **P** **08 04 06.8 +0.6**
comp=Z,5.5nm,0.9s,baz=204,slow=3.3,SNR=5.4
PETK Petropavlovsk- 56.26 22 P **P** **08 04 06.5 +0.3**
ZSN Zaisan 57.59 327 *e*P **P** **08 04 13.4 -2.4**
baz=327
SHLS Shalkode 58.40 321 *e*P **P** **08 04 18.9 -2.7**
baz=321
MK31 Makanchi Array 58.63 325 P **P** **08 04 21.8 -1.3**
MK31 IAmb IAmb 08 04 23.4
comp=Z,2.9nm,0.6s
MKAR Makanchi Array 58.63 325 P **P** **08 04 22.7 -0.4**
comp=Z,4.3nm,0.5s,baz=121,slow=8.5,SNR=56
MKAR PcP **PcP** **08 05 12.9 +0.2**
comp=Z,2.7nm,0.9s,baz=127,slow=3.2,SNR=4.6
MKAR Makanchi Array 58.63 325 P **P** **08 04 21.8 -1.3**
UZB Uzynbulak 58.67 320 *e*P **P** **08 04 22.0 -1.6**
baz=320
MAKZ Makanchi 58.82 325 P **P** **08 04 23.1 -1.3**
MAKZ IAmb IAmb 08 04 25.6
comp=Z,4.0nm,0.7s
NIL Nilore 58.87 308 P **P** **08 04 23.8 -1.1**
NIL IAmb IAmb 08 04 46.3
comp=Z,6.2nm,0.9s
SATY Saty 59.02 320 *e*P **P** **08 04 25.0 -1.0**
baz=320
KPKS Kokpek 59.04 321 *e*P **P** **08 04 24.6 -1.5**
baz=321
KSH Kashi 59.05 315 P **P** **08 04 29.1 +2.8**
KSH pmax pmax
comp=Z,5.0nm,0.6s
YAK Yakutsk 59.24 1 P **P** **08 04 27.6 +0.6**
KUU Kurty 60.74 320 *e*P **P** **08 04 36.7 -1.0**
baz=320
ZAA0 Zalesovo Array 61.69 333 P **P** **08 04 42.9 -0.9**
ZALV Zalesovo Beam 61.69 333 P **P** **08 04 43.1 -0.7**
comp=Z,2.7nm,0.7s,baz=126,slow=7.7,SNR=6.7
ZALV Zalesovo Beam 61.69 333 P **P** **08 04 42.9 -0.9**
DRK Karamyk 62.01 314 P **P** **08 04 46.3 -0.3**
KBL Kabul 62.46 308 P **P** **08 04 48.5 -1.1**
KBL IAmb IAmb 08 04 50.7
comp=Z,3.8nm,0.5s
BTLS Baital 62.72 320 *e*P **P** **08 04 49.5 -1.4**
baz=320
GAR Garm 62.91 313 P **P** **08 04 51.4 -1.0**
CHGR Chuyangaron 63.65 312 P **P** **08 04 56.3 -1.0**
KK31 Karatay Array 64.26 317 P **P** **08 05 00.3 -0.8**
KK31 IAmb IAmb 08 05 01.3
comp=Z,4.3nm,0.8s
KKAR Karatay Array 64.26 317 P **P** **08 05 00.6 -0.6**
KKAR Karatay Array 64.26 317 P **P** **08 05 00.2 -0.9**
KKAR IAmb IAmb 08 05 01.3
comp=Z,4.3nm,0.8s
BRVK Borovoye 68.48 327 P **P** **08 05 26.8 -1.1**
BRVK IAmb IAmb 08 05 28.9
comp=Z,8.0nm,0.9s
CASY Casey 69.82 187 P **P** **08 05 35.9 +0.1**
CASY IAmb IAmb 08 05 38.1
comp=Z,11nm,1.2s
NRIK Noril'sk 71.54 346 P **P** **08 05 46.9 +0.6**
comp=Z,4.5nm,0.6s,baz=139,slow=6.4,SNR=9.5
NRIK Noril'sk 71.54 346 P **P** **08 05 46.8 +0.6**
NRIK IAmb IAmb 08 05 47.5
comp=Z,6.0nm,0.8s
GEYT Alibeck 71.85 309 P **P** **08 05 49.4 +0.6**
comp=Z,1.3nm,0.4s,baz=134,slow=4.3,SNR=3.7
ABKAR Akbulak array 73.20 321 P **P** **08 05 56.4 -0.3**
ABKAR IAmb IAmb 08 05 57.4
comp=Z,5.2nm,0.8s
ARU Arti 76.02 328 P **P** **08 06 12.3 -0.6**
VNDA Vanda 82.34 173 P **P** **08 06 47.4 +0.5**
comp=Z,2.6nm,0.9s,baz=300,slow=5.7,SNR=12
VNDA Vanda 82.34 173 P **P** **08 06 47.8 +0.9**
VNDA IAmb IAmb 08 07 02.6
comp=Z,6.2nm,1.4s
J20K Nowinta River 82.70 26 P **P** **08 06 51.2 +2.2**
MAW Mawson 82.90 200 P **P** **08 06 50.8 +0.9**
comp=Z,2.0nm,0.7s,baz=79,slow=7.2,SNR=7.2
MAW Mawson 82.90 200 P **P** **08 06 51.2 +1.3**
IMAR Indian Mountai 83.15 24 P **P** **08 06 52.9 +1.5**
PPLA Purkeypile 83.39 27 P **P** **08 06 54.8 +2.0**
PPLA IAmb IAmb 08 07 14.5
comp=Z,12nm,1.3s
KBZ Khabaz 83.97 314 P **P** **08 06 57.0 +1.0**
comp=Z,3.4nm,0.9s,baz=157,slow=3.5,SNR=3.9
KBZ LR LR 08 50 19.5
comp=Z,22nm,19.0s,baz=56,slow=40
SML Sawmill 85.08 28 P **P** **08 07 01.9 +0.6**
ILAR Eielson Array 85.89 25 P **P** **08 07 05.8 +0.6**
comp=Z,0.2nm,0.5s,baz=197,slow=12,SNR=1.9
KLMR Klimovskoe 86.50 331 *e*P **P** **08 07 07.0 -1.3**
KLMR AMP 08 07 09.4
comp=Z,10.0nm,1.0s
BCAR Beaver Creek A 88.14 27 P **P** **08 07 17.1 +0.9**
KMBO Kilima Mbogo 89.91 269 P **P** **08 07 27.0 +1.2**
comp=Z,3.5nm,0.3s,baz=61,slow=12,SNR=3.2
BRTR Keskin Array B 90.98 310 P **P** **08 07 30.4 +0.2**
comp=Z,0.9nm,0.7s,baz=121,slow=4.8,SNR=4.8
BRTR LR LR 08 54 32.4
comp=Z,27nm,19.0s,baz=94,slow=40
ARCES ARCESS Array B 91.56 340 P **P** **08 07 31.5 -0.5**
comp=Z,4.1nm,0.7s,baz=74,slow=4.2,SNR=15
SYO Syowa Base 91.59 201⇑ *e*P **P** **08 07 31.2 -0.8**
FINES FINESS Array B 92.93 332 P **P** **08 07 37.6 -0.8**
comp=Z,2.0nm,0.9s,baz=66,slow=4.8,SNR=5.3
FINES FINESS Array B 92.93 332 P **P** **08 07 37.9 -0.5**
AKASG Malin Array Be 92.94 321 P **P** **08 07 37.6 -1.2**
comp=Z,0.4nm,0.3s,baz=71,slow=5.1,SNR=4.1
MNK Minsk 93.20 325 *i* P **P** **08 07 37.0 -2.8**
comp=E,3.0nm,1.1s
MNK *i* P **P** **08 07 37.0 -2.8**
comp=N,18nm,0.8s
MNK *i* P **P** **08 07 37.0 -2.8**
comp=Z,5.0nm,0.9s,baz=81
MNK *i* PP **PP** **08 11 20.2 -3.4**
MNK *i* PPP PPP 08 13 20.5
MNK *i* S S 08 18 08.6 -34
MNK *i* SS **SS** **08 24 56.6 -1.8**
MNK *i* SSS SSS 08 28 39.8
MNK *i* LQ LQ 08 43 45.0
MNK *i* LR LR 08 48 47.3
MNK *i* LRM MLR 08 50 18.9
comp=N,144nm,20.4s
MNK *i* LRM MLR 08 50 28.1
comp=E,6.0nm,12.7s
MNK *i* LRM MLR 08 50 41.8
comp=Z,143nm,15.2s
NOA NORSAR Array B 99.89 334 P **Pdif** **08 08 08.6 -1.5**
comp=Z,0.8nm,0.8s,baz=41,slow=5.9,SNR=3.5
ESDC Sonseca Array 118.49 319 PKP **PKiKP** **08 13 14.8 +1.2**
comp=Z,0.3nm,0.8s,baz=141,slow=0.6,SNR=2.1
TXAR Lajitas Array 121.94 53 PKP **PKiKP** **08 13 22.2 +1.5**
comp=Z,0.3nm,0.7s,baz=17,slow=0.9,SNR=4.8
TORD Torodi Ar. Bea 123.60 288 PKP **PKiKP** **08 13 24.4 +0.2**
comp=Z,1.3nm,0.8s,baz=43,slow=1.8,SNR=7.5
TORD Torodi Ar. Bea 123.60 288 PKPdf **PKiKP** **08 13 25.2 +1.0**
LPAZ La Paz 159.81 133 PKP **PKPdf** **08 14 27.5 +1.4**
comp=Z,1.0nm,0.7s,baz=214,slow=5.1,SNR=6.8

MEX 20 07:55:59.9±0.4, 14.53N×93.90W, h10$^{km}_{\pm 15}$, MD4.0,
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.34**	**29**	*i* P	Pn	07 56 20.9	-3.8
PCIG				*i* S	Sb	07 56 37.4	-4.9
CCIG	**Comitan**	**2.43**	**44**	*i* P	Pn	07 56 39.1	-0.8
CCIG				*i* S	Sn	07 57 08.4	-1.4
CMIG	**Matias Romero**	**2.71**	**340**	*i* P	Pn	07 56 40.7	-3.0
CMIG				*i* S	Sn	07 57 09.0	-7.6

*IDC **20** 08:04:33.2±4.6, 4.81S×152.61E, h38$^{km}_{\pm 39}$, mb4.2/24, mb1 4.3/24, mb1mx4.2/42, mbtmp4.4/24, MS3.4/4, Ms1 3.4/4, ms1mx2.9/40, Error ellipse: s-maj=17.3km s-min=11.9km az=84.0*
*NEIC **20** 08:04:34.5±1.3, 4.73S±0.09×152.63E±0.08, h49$^{km}_{\pm 6}$, mb4.6/51, Error ellipse: s-maj=13.0km s-min=11.4km az=180.0*
ISC 20 08:04:35.1±0.4, 4.79S±0.07×152.59E±0.09, h55^{km}, n102, σ0°83/95, mb4.5/46, MS3.3/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.73**	**325**		**Pn**	**08 04 49.5**	**0.0**
MANU	**Manus Island**	**5.88**	**297**		**Pn**	**08 06 00.9**	**+1.1**
HNR	**Honiara**	**8.64**	**123**	LR	LR	08 10 21.0	
	comp=Z,147nm,18.2s,baz=294,slow=40						
PATS	**Pohnpei**	**12.88**	**26**	Pn	**Pn**	**08 07 34.9**	**-0.7**
DZM	**Mont Dzumac**	**21.80**	**143**	P	**P**	**08 09 23.4**	**+0.6**
	11nm,0.5s,baz=268,slow=7.0,SNR=22						
DZM	**Mont Dzumac**	**21.80**	**143**	P	**P**	**08 09 24.4**	**+1.6**
DZM				IAmb	IAmb	08 09 26.4	
	comp=Z,13nm,0.6s						
MTN	**Manton Dam**	**22.64**	**248**	P	**P**	**08 09 29.9**	**-1.9**
WB0	**Warramunga Arr**	**23.15**	**228**	P	**P**	**08 09 36.4**	**-0.5**
WR0	**Warramunga Arr**	**23.15**	**228**	P	**P**	**08 09 36.5**	**-0.5**
WRAB	**Tennant Creek**	**23.28**	**228**	P	**P**	**08 09 37.8**	**-0.5**
WRAB				IAmb	IAmb	08 09 42.3	
	comp=Z,12nm,0.8s						
WB2	**Warramunga Arr**	**23.28**	**228**	P	**P**	**08 09 37.9**	**-0.4**
WB2				IAmb	IAmb	08 09 40.4	
	comp=Z,14nm,0.5s						
WRA	**Warramunga Arr**	**23.29**	**228**	P	**P**	**08 09 37.7**	**-0.7**
	comp=Z,9.6nm,0.5s,baz=53,slow=9.9,SNR=113						
WRA				PcP	**PcP**	**08 13 24.4**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=53,slow=2.5,SNR=4.5						
WRA	**Warramunga Arr**	**23.29**	**228**	P	**P**	**08 09 37.6**	**-0.7**
KNRA	**Kununurra**	**25.79**	**243**	P	**P**	**08 10 00.9**	**-0.3**
KNRA				IAmb	IAmb	08 10 04.8	
	comp=Z,16nm,0.5s						
AS31	**Alice Springs**	**26.01**	**222**	P	**P**	**08 10 03.0**	**-0.2**
ASAR	**Alice Springs**	**26.02**	**222**	P	**P**	**08 10 02.8**	**-0.5**
	comp=Z,2.7nm,0.6s,baz=55,slow=9.4,SNR=22						
ASAR				PcP	**PcP**	**08 13 30.0**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=33,slow=3.4,SNR=2.1						
ASAR	**Alice Springs**	**26.02**	**222**	P	**P**	**08 10 03.1**	**-0.1**
H11S3	**WAKE ISLAND Hy**	**26.99**	**31**	T	T	08 37 56.8	
	baz=208,slow=73,SNR=6.2						
H11S2	**WAKE ISLAND Hy**	**27.00**	**31**	T	T	08 38 03.0	
	baz=208,slow=73,SNR=8.1						
H11S1	**WAKE ISLAND Hy**	**27.01**	**31**	T	T	08 38 02.6	
	baz=208,slow=73,SNR=6.4						
MSVF	**Nonsavu**	**28.04**	**119**	P	**P**	**08 10 21.7**	**+0.2**
	comp=Z,2.9nm,0.6s,baz=214,slow=23,SNR=5.1						
H11N1	**WAKE ISLAND Hy**	**28.12**	**30**	T	T	08 39 43.9	
	baz=197						
H11N3	**WAKE ISLAND Hy**	**28.14**	**30**	T	T	08 39 27.7	
	baz=197,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**28.14**	**30**	T	T	08 39 51.4	
	baz=197						
STKA	**Stephens Creek**	**28.85**	**200**	P	**P**	**08 10 26.8**	**-1.7**
	comp=Z,2.2nm,0.6s,baz=32,slow=13,SNR=6.2						
STKA	**Stephens Creek**	**28.85**	**200**	P	**P**	**08 10 28.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**29.48**	**241**	P	**P**	**08 10 33.2**	**-1.0**
	comp=Z,4.4nm,0.4s,baz=49,slow=7.1,SNR=51						
FITZ	**Fitzroy Crossi**	**29.48**	**241**	P	**P**	**08 10 33.5**	**-0.7**
BBOO	**Buckleboo**	**31.87**	**207**	P	**P**	**08 10 54.6**	**-0.5**
JCJ	**Chichijima**	**33.26**	**343**	LR	LR	08 23 56.9	
	comp=Z,32nm,20.1s,baz=234,slow=35						
FORT	**Forrest**	**34.66**	**219**	P	**P**	**08 11 18.9**	**-0.7**
PSA00	**Pilbara Seismi**	**35.85**	**239**	P	**P**	**08 11 29.2**	**-0.7**
JOW	**Kunigami**	**39.26**	**324**	P	**P**	**08 11 60.0**	**+1.3**
	comp=Z,12nm,0.8s,baz=99,slow=13,SNR=1.9						
JOW				LR	LR	08 25 04.0	
	comp=Z,50nm,20.1s,baz=312,slow=31						
MORW	**Morawa**	**42.19**	**231**	P	**P**	**08 12 22.3**	**-0.5**
MORW				IAmb	IAmb	08 12 44.4	
	comp=Z,24nm,1.4s						
MLZ	**Mavora Lakes**	**42.63**	**164**	P	**P**	**08 12 27.6**	**+1.5**
JNU	**Nakatsue**	**42.96**	**333**	P	**P**	**08 12 29.6**	**+0.7**
	comp=Z,16nm,0.7s,baz=142,slow=3.3,SNR=7.1						
KSRS	**Korea Array**	**47.90**	**333**	P	**P**	**08 13 07.8**	**0.0**
	comp=Z,1.3nm,0.6s,baz=148,slow=8.4,SNR=7.6						
ASAJ	**Asahikawa**	**49.51**	**351**	P	**P**	**08 13 19.8**	**-0.3**
	comp=Z,5.3nm,0.7s,baz=159,slow=17,SNR=2.5						
USRK	**Ussuriysk Ar.**	**52.17**	**341**	P	**P**	**08 13 39.4**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=172,slow=12,SNR=3.1						
KLR	**Kul'dur**	**56.78**	**344**	P	**P**	**08 14 12.9**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=186,slow=4.5,SNR=4.5						
CMAR	**Chiang Mai Arr**	**57.68**	**295**	P	**P**	**08 14 21.1**	**+0.6**
	comp=Z,1.6nm,0.4s,baz=110,slow=5.4,SNR=8.1						
PETK	**Petropavlovsk-**	**57.84**	**4**	P	**P**	**08 14 20.3**	**-0.7**
	comp=Z,1.8nm,0.5s,baz=151,slow=6.0,SNR=8.4						
PETK	**Petropavlovsk-**	**57.84**	**4**	P	**P**	**08 14 20.7**	**-0.3**
MA2	**Magadan**	**64.18**	**359**	P	**P**	**08 15 04.6**	**+0.8**
	comp=Z,4.7nm,0.4s,baz=146,slow=21,SNR=6.2						

SONM	**Songino Array**	**66.20**	**328**	P	**P**		**08 15 18.3**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=148,slow=6.7,SNR=3.4							
SONM				PcP	**PcP**		**08 15 48.5**	**+1.4**
	comp=Z,0.8nm,0.4s,baz=146,slow=3.7,SNR=4.8							
VNDA	**Vanda**	**72.85**	**178**	P	**P**		**08 15 57.8**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=322,slow=5.6,SNR=12							
VNDA				LR	LR		08 44 36.3	
	comp=Z,52nm,19.9s,baz=298,slow=33							
VNDA	**Vanda**	**72.85**	**178**	P	**P**		**08 15 58.4**	**+0.7**
SII	**Sitkinak Islan**	**74.86**	**27**	P	**P**		**08 16 09.8**	**+0.1**
Q19K	**Cape Douglas,**	**76.43**	**25**	P	**P**		**08 16 17.8**	**-0.9**
CNPM	**China Poot**	**77.80**	**26**	P	**P**		**08 16 25.6**	**-0.7**
L19K	**White Mountain**	**77.82**	**22**	P	**P**		**08 16 26.6**	**+0.2**
L19K				IAmb	IAmb		08 16 27.3	
	comp=Z,8.3nm,1.0s							
J20K	**Nowinta River**	**79.25**	**21**	P	**P**		**08 16 34.7**	**+0.5**
J20K				IAmb	IAmb		08 16 35.2	
	comp=Z,6.9nm,0.7s							
CAST	**Castle Rocks**	**79.57**	**22**	P	**P**		**08 16 35.1**	**-0.9**
CAST				IAmb	IAmb		08 16 36.5	
	comp=Z,6.3nm,0.9s							
PWL	**Port Wells**	**79.73**	**25**	P	**P**		**08 16 36.5**	**-0.4**
MKAR	**Makanchi Array**	**80.18**	**319**	P	**P**		**08 16 40.0**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=97,slow=7.6,SNR=7.9							
MKAR	**Makanchi Array**	**80.18**	**319**	P	**P**		**08 16 39.5**	**-0.1**
TRF	**Thorofare Moun**	**80.27**	**23**	P	**P**		**08 16 38.7**	**-1.2**
TRF				IAmb	IAmb		08 16 43.8	
	comp=Z,4.6nm,0.7s							
I21K	**Tanana**	**80.59**	**21**	P	**P**		**08 16 41.7**	**+0.2**
I21K				IAmb	IAmb		08 16 42.8	
	comp=Z,9.8nm,1.1s							
RND	**Reindeer**	**80.80**	**23**	P	**P**		**08 16 41.7**	**-1.0**
MCK	**McKinley**	**80.94**	**23**	P	**P**		**08 16 42.1**	**-1.2**
MCK				IAmb	IAmb		08 16 42.7	
	comp=Z,9.0nm,0.7s							
MLY	**Manley**	**80.95**	**21**	P	**P**		**08 16 42.8**	**-0.6**
ZALV	**Zalesovo Beam**	**81.03**	**326**	P	**P**		**08 16 44.2**	**+0.2**
	comp=Z,2.7nm,0.6s,baz=116,slow=5.8,SNR=7.8							
ZALV	**Zalesovo Beam**	**81.03**	**326**	P	**P**		**08 16 43.7**	**-0.3**
DHY	**Denali Highway**	**81.21**	**24**	P	**P**		**08 16 44.4**	**-0.6**
DHY				IAmb	IAmb		08 16 45.1	
	comp=Z,4.1nm,0.8s							
M24K	**Tolsona, Glenn**	**81.24**	**25**	P	**P**		**08 16 45.3**	**+0.2**
NEA2	**Nenana**	**81.33**	**22**	P	**P**		**08 16 44.1**	**-1.3**
NEA2				IAmb	IAmb		08 16 44.6	
	comp=Z,7.0nm,0.7s							
I23K	**Minto, Yukon-K**	**81.51**	**21**	P	**P**		**08 16 45.9**	**-0.4**
WRH	**Wood River Hil**	**81.63**	**22**	P	**P**		**08 16 45.6**	**-1.4**
WRH				IAmb	IAmb		08 16 46.2	
	comp=Z,8.4nm,1.3s							
H23K	**Yukon River**	**81.80**	**21**	P	**P**		**08 16 47.8**	**-0.1**
CCB	**Clear Creek Bu**	**81.82**	**22**	P	**P**		**08 16 46.5**	**-1.5**
CCB				IAmb	IAmb		08 16 47.0	
	comp=Z,4.5nm,0.7s							
TCOL	**CIGO, UAF Yank**	**81.92**	**22**	P	**P**		**08 16 47.1**	**-1.3**
COLA	**College**	**81.92**	**22**	P	**P**		**08 16 47.2**	**-1.3**
HDA	**Harding Lake**	**82.03**	**22**	P	**P**		**08 16 47.7**	**-1.4**
HDA				IAmb	IAmb		08 16 49.0	
	comp=Z,10nm,1.4s							
IL31		**82.23**	**22**	P	**P**		**08 16 48.5**	**-1.6**
IL31				IAmb	IAmb		08 16 49.0	
	comp=Z,5.5nm,0.8s							
ILAR	**Eielson Array**	**82.23**	**22**	P	**P**		**08 16 48.4**	**-1.8**
	comp=Z,4.4nm,0.7s,baz=247,slow=5.7,SNR=36							
ILAR	**Eielson Array**	**82.23**	**22**	P	**P**		**08 16 48.0**	**-2.1**
DOT	**Dot Lake**	**82.80**	**24**	P	**P**		**08 16 52.8**	**-0.4**
L26K	**Log Cabin Wild**	**82.82**	**24**	P	**P**		**08 16 53.0**	**-0.3**
L26K				IAmb	IAmb		08 16 53.7	
	comp=Z,4.7nm,0.9s							
K27K	**Chicken**	**83.76**	**24**	P	**P**		**08 16 58.5**	**+0.4**
K27K				IAmb	IAmb		08 16 59.3	
	comp=Z,3.2nm,0.7s							
EGAK	**Eagle**	**84.43**	**23**	P	**P**		**08 17 01.4**	**-0.1**
EGAK				IAmb	IAmb		08 17 02.1	
	comp=Z,4.8nm,0.8s							
HYT	**Haines Junctio**	**84.52**	**28**	P	**P**		**08 17 02.8**	**+0.6**
H02N1	**VAN INLET T-PH**	**84.84**	**36**	T	T		09 50 18.0	
	SNR=11							
H02S1	**DAWSON INLET T**	**84.86**	**36**	T	T		09 50 23.2	
	SNR=19							
DAWY	**Dawson**	**84.86**	**24**	P	**P**		**08 17 04.0**	**+0.2**
DAWY				IAmb	IAmb		08 17 05.8	
	comp=Z,4.9nm,1.2s							
QSPA	**South Pole Qui**	**85.17**	**180**	P	**P**		**08 17 05.2**	**-0.1**
QSPA				IAmb	IAmb		08 17 08.4	
	comp=Z,5.7nm,1.1s							
MAW	**Mawson**	**85.50**	**203**	P	**P**		**08 17 06.2**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=90,slow=5.4,SNR=8.1							
MAW	**Mawson**	**85.50**	**203**	P	**P**		**08 17 06.8**	**0.0**
EPYK	**Eagle Plains**	**86.74**	**22**	P	**P**		**08 17 12.8**	**-0.1**
INK	**Inuvik**	**88.52**	**21**	P	**P**		**08 17 20.6**	**-0.8**
	comp=Z,2.8nm,0.7s,baz=274,slow=6.9,SNR=6.2							
INK	**Inuvik**	**88.52**	**21**	P	**P**		**08 17 20.6**	**-0.8**
BRVK	**Borovoye**	**89.17**	**323**	P	**P**		**08 17 24.8**	**+0.1**
BRVK				IAmb	IAmb		08 17 25.5	
	comp=Z,2.7nm,0.6s							
H04A	**Detroit Lake**	**89.94**	**45**	P	**P**		**08 17 28.0**	**-0.7**
H04A				IAmb	IAmb		08 17 54.2	
	comp=Z,5.3nm,1.4s							
NVAR	**Mina Array Bea**	**92.24**	**52**	P	**P**		**08 17 39.6**	**-0.1**
	comp=Z,6.6nm,0.7s,baz=247,slow=7.1,SNR=7.8							
PDAR	**Pinedale Array**	**99.00**	**48**	P	Pdif		08 18 11.0	+0.6
	comp=Z,0.2nm,0.3s,baz=270,slow=2.7,SNR=5.2							
PLCA	**Paso Flores**	**119.91**	**143**	PKP	**PKPdf**		**08 23 19.7**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=256,slow=4.2,SNR=1.7							
GERES	**GERESS Array B**	**123.94**	**328**	PKP	**PKPdf**		**08 23 26.8**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=60,slow=1.9,SNR=9.6							
GERES	**GERESS Array B**	**123.94**	**328**		**PKPdf**		**08 23 27.2**	**-0.2**
LPAZ	**La Paz**	**134.61**	**118**	PKP	**PKiKP**		**08 23 50.0**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=222,slow=2.8,SNR=8.2							
MDT	**Midelt**	**144.92**	**325**	PKP	**PKPab**		**08 24 06.0**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=22,slow=4.2,SNR=4.3							
TORD	**Torodi Ar. Bea**	**150.10**	**288**	PKPbc	**PKPbc**		**08 24 19.7**	**-1.2**
	comp=Z,3.9nm,0.7s,baz=45,slow=2.0,SNR=32							
TORD				PKPab	**PKPab**		**08 24 27.4**	**+0.5**
	comp=Z,7.6nm,0.6s,baz=72,slow=3.3,SNR=20							
BDFB	**Brasilia**	**151.22**	**135**	PKPbc	**PKPbc**		**08 24 23.6**	**0.0**
	comp=Z,4.4nm,0.5s,baz=234,slow=2.1,SNR=11							
DBIC	**Dimbokro**	**157.48**	**276**	PKPab	**PKPab**		**08 24 59.1**	**+1.0**
	comp=Z,2.6nm,0.8s,baz=127,slow=5.1,SNR=4.3							

*NOU **20** 08:09:51.5,39°.11S×175°.51E,h136km,MLv3.6/9,North Island, New Zealand*

WEL 20 08:09:56.8,39°S±6°×17°6E±°,h85km±7km,M2.3/20, ML2.5/21,MLv2.3/20,Error ellipse: s-maj=0.0km s-min=0.0km az=77.4,North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TWVZ	**Taurewa**	**0.07**	**300**	P		Pn	08 10 08.9	0.0
NNVZ	**North Ngauruho**	**0.08**	**108**	P		Pn	08 10 09.2	+0.2
NGZ	**Ngauruhoe**	**0.10**	**137**	P		Pn	08 10 09.0	-0.1
SNVZ	**South Ngauruho**	**0.12**	**130**	P		Pn	08 10 09.4	+0.2
OTVZ	**Oturere**	**0.13**	**116**	P		Pn	08 10 09.3	+0.1
OTVZ				S		Sn	08 10 20.4	+2.1
TMVZ	**Te Maari**	**0.14**	**94**	P		Pn	08 10 09.5	+0.3
FWVZ	**Far West T-bar**	**0.15**	**170**	P		Pn	08 10 09.3	-0.1
FWVZ				S		Sn	08 10 19.9	+1.3
WHVZ	**Whangaehu Hut**	**0.18**	**163**	P		Pn	08 10 09.5	0.0
WHVZ				S		Sn	08 10 20.1	+1.3
KATZ	**Kakaramea**	**0.19**	**46**	P		Pn	08 10 09.7	+0.4
TRVZ	**Turoa**	**0.19**	**173**	P		Pn	08 10 09.4	0.0
TRVZ				S		Sn	08 10 20.1	+1.2
TUVZ	**Tukino**	**0.19**	**147**	P		Pn	08 10 09.4	+0.1
TUVZ				S		Sn	08 10 20.0	+1.3
PKVZ	**Pokaka**	**0.23**	**216**	P		Pn	08 10 09.4	+0.1
WNVZ	**Wahianoa**	**0.23**	**164**	P		Pn	08 10 09.3	-0.2
WNVZ				S		Sn	08 10 19.9	+0.9
MTVZ	**Mangateitei**	**0.28**	**188**	P		Pn	08 10 09.5	-0.1
MTVZ				S		Sn	08 10 20.1	+1.0
RITZ	**Rihia Road**	**0.29**	**64**	P		Pn	08 10 10.0	+0.3
RITZ				S		Sn	08 10 20.9	+1.8
RATZ	**Rangitukua**	**0.31**	**40**	P		Pn	08 10 09.8	0.0
MOVZ	**Moawhango**	**0.35**	**149**	P		Pn	08 10 09.6	-0.5
MOVZ				S		Sn	08 10 19.9	0.0
WATZ	**Wairara**	**0.43**	**23**	P		Pn	08 10 10.8	+0.3
WATZ				S		Sn	08 10 22.6	+1.9
HATZ	**Hinemaiaia**	**0.50**	**64**	P		Pn	08 10 10.6	-0.4
HATZ				S		Sn	08 10 22.5	+0.9
BHHZ	**Black Hill Sta**	**0.57**	**132**	P		Pn	08 10 10.9	-0.8
VRZ	**Vera Road**	**0.59**	**268**	P		Pn	08 10 11.6	-0.1
BKZ	**Black Stump Fm**	**0.76**	**95**	P		Pn	08 10 12.8	-0.7
WAZ	**Wanganui**	**0.77**	**212**	P		Pn	08 10 13.2	-0.4
KWHZ	**Kaweka Forest**	**0.77**	**115**	P		Pn	08 10 14.0	+0.4
WPRZ	**Whakapapataran**	**0.77**	**41**	P		Pn	08 10 13.3	-0.3
TLZ	**Tolley Road**	**0.78**	**1**	P		Pn	08 10 13.6	-0.1
HIZ	**Hauiti**	**0.79**	**319**	P		Pn	08 10 13.6	-0.1
ALRZ	**Allen Road**	**0.84**	**50**	P		Pn	08 10 13.8	-0.5
KRHZ	**Kereru**	**0.85**	**129**	P		Pn	08 10 14.4	0.0
GRRZ	**Galatos Road**	**0.89**	**32**	P		Pn	08 10 14.8	0.0
PRRZ	**Plateau Road**	**0.91**	**49**	P		Pn	08 10 14.8	-0.3
HRRZ	**Handcock Road**	**0.93**	**40**	P		Pn	08 10 15.3	-0.1
PNHZ	**Pukenui**	**0.96**	**147**	P		Pn	08 10 14.9	-0.8
MCHZ	**McNeill Hill**	**0.97**	**111**	P		Pn	08 10 16.6	+0.8
HSRZ	**Hossack Road**	**0.98**	**36**	P		Pn	08 10 15.8	-0.1
NMHZ	**Naumai**	**1.00**	**90**	P		Pn	08 10 17.9	+1.7
TSZ	**Takapari Road**	**1.01**	**160**	P		Pn	08 10 15.6	-0.7
MTHZ	**Maungataniwha**	**1.06**	**77**	P		Pn	08 10 16.1	-0.8
HLRZ	**Highlands Stat**	**1.07**	**38**	P		Pn	08 10 16.5	-0.5
RRRZ	**Republican Roa**	**1.09**	**46**	P		Pn	08 10 16.8	-0.4
OHWZ	**Ohakea**	**1.11**	**188**	P		Pn	08 10 17.2	-0.2
NEZ	**North Egmont**	**1.12**	**261**	P		Pn	08 10 17.5	-0.1
NGRZ	**Ngongotaha**	**1.13**	**28**	P		Pn	08 10 17.7	-0.1
ARHZ	**Aropaoanui**	**1.16**	**98**	P		Pn	08 10 19.2	+1.3
MUGZ	**Murupara**	**1.16**	**58**	P		Pn	08 10 17.1	-0.9
TARZ	**Mount Tarawera**	**1.16**	**42**	P		Pn	08 10 18.0	-0.2
WPHZ	**Waipukurau**	**1.19**	**144**	P		Pn	08 10 17.6	-0.8
OMRZ	**Omania**	**1.20**	**34**	P		Pn	08 10 18.4	-0.2
MKRZ	**Makatiti**	**1.22**	**38**	P		Pn	08 10 19.2	+0.3
RAHZ	**Arahi**	**1.24**	**82**	P		Pn	08 10 18.4	-0.6
RTZ	**Ruatahuna**	**1.24**	**67**	P		Pn	08 10 18.1	-1.0
DVHZ	**Dannevirke**	**1.29**	**157**	P		Pn	08 10 18.2	-1.4
POWZ	**Post Office Ro**	**1.30**	**172**	P		Pn	08 10 18.5	-1.2
TOZ	**Tahuroa Road**	**1.37**	**359**	P		Pn	08 10 20.3	-0.4
EDRZ	**Edgecumbe**	**1.38**	**44**	P		Pn	08 10 20.4	-0.5
PXZ	**Pawanui**	**1.39**	**132**	P		Pn	08 10 19.8	-1.1
MARZ	**Manawahe**	**1.44**	**39**	P		Pn	08 10 21.3	-0.3
SNGZ	**Shannon Statio**	**1.46**	**78**	P		Pn	08 10 20.6	-1.2
PRWZ	**Pori Road**	**1.49**	**167**	P		Pn	08 10 20.8	-1.3
TGRZ	**Tauranga**	**1.49**	**23**	P		Pn	08 10 21.9	-0.3
OPRZ	**Ohinepanea**	**1.50**	**33**	P		Pn	08 10 21.9	-0.3
URZ	**Urewera**	**1.51**	**56**	P		Pn	08 10 21.1	-1.3
ANWZ	**Angora Road**	**1.54**	**152**	P		Pn	08 10 21.5	-1.3
MRZ	**Mangatainoka R**	**1.55**	**178**	P		Pn	08 10 21.1	-1.8
BFZ	**Birch Farm**	**1.67**	**161**	P		Pn	08 10 22.6	-1.9
TIWZ	**Tintock**	**1.69**	**170**	P		Pn	08 10 23.2	-1.6
OGWZ	**Otaki Gorge**	**1.73**	**189**	P		Pn	08 10 23.4	-1.8
MWZ	**Matawai**	**1.75**	**64**	P		Pn	08 10 24.2	-1.3
HOWZ	**Holdsworth Sta**	**1.79**	**180**	P		Pn	08 10 23.7	-2.3
RIGZ	**Rimuhau**	**1.80**	**78**	P		Pn	08 10 25.1	-1.0
KIW	**Kapiti Island**	**1.81**	**195**	P		Pn	08 10 24.1	-2.3
PRGZ	**Paritu Road**	**1.85**	**85**	P		Pn	08 10 25.5	-1.4
MHGZ	**Mahia Peninsul**	**1.86**	**92**	P		Pn	08 10 25.9	-1.0
CPWZ	**Castlepoint**	**1.88**	**164**	P		Pn	08 10 25.6	-1.5
TKGZ	**Te Karaka**	**1.94**	**71**	P		Pn	08 10 26.8	-1.1
TMWZ	**Te Maipa**	**2.02**	**172**	P		Pn	08 10 26.0	-3.0
MKAZ	**Moumakai**	**2.02**	**352**	P		Pn	08 10 28.4	-0.6
CAW	**Cannon Point**	**2.03**	**190**	P		Pn	08 10 26.6	-2.6
RUGZ	**Raukumara Rang**	**2.04**	**57**	P		Pn	08 10 27.6	-1.9
MTW	**Mount Morrison**	**2.05**	**180**	P		Pn	08 10 26.7	-2.7
DUWZ	**D'Urville Isla**	**2.09**	**215**	P		Pn	08 10 27.5	-2.5
TWGZ	**Tauwhareparae**	**2.14**	**65**	P		Pn	08 10 29.5	-1.2
HAZ	**Te Kaha**	**2.23**	**54**	P		Pn	08 10 29.8	-2.1
WEL	**Wellington**	**2.25**	**195**	P		Pn	08 10 29.0	-3.0
PAWZ	**Paruwai Farm**	**2.27**	**182**	P		Pn	08 10 29.2	-3.2
TRWZ	**Traveller**	**2.29**	**177**	P		Pn	08 10 29.7	-3.0
TCW	**Tory Channel**	**2.31**	**204**	P		Pn	08 10 30.1	-2.7
MSWZ	**Moikau Station**	**2.32**	**185**	P		Pn	08 10 29.8	-3.2
PKGZ	**Pakihiroa**	**2.35**	**60**	P		Pn	08 10 31.9	-1.5
KUZ	**Kuaotunu**	**2.36**	**4**	P		Pn	08 10 32.7	-0.9
PUZ	**Puketiti**	**2.38**	**65**	P		Pn	08 10 31.9	-2.0
PLWZ	**Palliser**	**2.47**	**185**	P		Pn	08 10 31.7	-3.4
WMGZ	**Waiomatatini S**	**2.61**	**61**	P		Pn	08 10 34.9	-2.0
TUWZ	**Tuamarina**	**2.61**	**207**	P		Pn	08 10 33.6	-3.3
NNZ	**Nelson**	**2.67**	**217**	P		Pn	08 10 34.4	-3.3
MXZ	**Matakaoa Point**	**2.68**	**56**	P		Pn	08 10 36.5	-1.3
QRZ	**Quartz Range**	**2.87**	**232**	P		Pn	08 10 37.3	-3.1
BSWZ	**Blackbirch Sta**	**2.89**	**205**	P		Pn	08 10 37.1	-3.6
THZ	**Tophouse**	**3.32**	**216**	P		Pn	08 10 42.8	-3.7
KHZ	**Kahutara**	**3.63**	**204**	P		Pn	08 10 46.4	-4.2
DSZ	**Denniston Nort**	**3.87**	**226**	P		Pn	08 10 49.6	-4.3
GVZ	**Greta Valley S**	**4.29**	**205**	P		Pn	08 10 54.5	-5.1
LTZ	**Lake Taylor**	**4.42**	**213**	P		Pn	08 10 55.9	-5.5
INZ	**Inchbonnie**	**4.75**	**219**	P		Pn	08 11 01.5	-4.4
OKCZ	**Okains Bay**	**4.97**	**201**	P		Pn	08 11 03.1	-5.7
MHCZ	**Mount Hutt**	**5.33**	**213**	P		Pn	08 11 08.2	-5.6
WACZ	**Wakanui South**	**5.56**	**209**	P		Pn	08 11 10.9	-6.0
RPZ	**Rata Peaks**	**5.78**	**215**	P		Pn	08 11 14.0	-4.8
ARCZ	**Arrandel**	**5.83**	**213**	P		Pn	08 11 15.2	-5.4
TMZ	**Timaru**	**6.26**	**211**	P		Pn	08 11 20.3	-6.1
ODZ	**Otahua Downs**	**6.95**	**210**	P		Pn	08 11 29.6	-6.3
CTZ	**Chatham Island**	**7.50**	**131**	P		Pn	08 11 42.0	-1.4

*PAS **20** 08:17:02.6±1.6,31°.16N±0°.04×116°.01W±0°.03,h6km±2km, Error ellipse: s-maj=6.8km s-min=3.0km az=202.0*
*NEIC **20** 08:17:03.3±0.6,31°.30N±0°.10×115°.90W±0°.06,h7km±9km, Error ellipse: s-maj=15.7km s-min=2.2km az=205.0*
*ANF **20** 08:17:04.8±0.5,31°.37N×116°.12W,h0km,ML2.4/9, Error ellipse: s-maj=5.4km s-min=3.5km az=77.0*
*ECX **20** 08:17:04.2±0.6,31°.24N×115°.95W,h12km±10km,MD2.3, ML2.5*
*SCEDC **20** 08:17:10.8,31°.69N×116°.14W,h0km*

ISC 20 08:17:00.2±1.9,31°.08N±0°.08×116°.07W±0°.05, h12km±13km,n31,σ0s80/49,1C-4D,Baja California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SVX	**San Vicente**	**0.29**	**328**	*i*P		**Pn**	**08 17 09.4**	**-0.9**
SVX				*e*S		**Sb**	**08 17 13.3**	**+1.2**
CCX	**Cicese**	**0.94**	**327**			**Pn**	**08 17 19.9**	**+0.8**
CCX				Sg		**Sn**	**08 17 32.0**	**-0.4**
CCX				IAML			08 17 32.9	
	comp=N,285nm,0.3s							
CCX				IAML			08 17 33.9	
	comp=E,270nm,0.3s							
CCX	**Cicese**	**0.94**	**327**	*e*P		**Pn**	**08 17 19.6**	**+0.5**
CCX				*e*S		**Sn**	**08 17 31.9**	**-0.5**
SFX	**San Felipe**	**1.05**	**92**	Pn		**Pn**	**08 17 21.1**	**+0.5**
SFX				Sg		**Sb**	**08 17 33.6**	**-0.3**
SFX				IAML			08 17 34.7	
	comp=N,115nm,0.4s							
SFX	**San Felipe**	**1.05**	**92**	⇓*e*P		**Pn**	**08 17 21.4**	**+0.7**
SFX				*e*S		**Sb**	**08 17 33.5**	**-0.4**
CBX	**Cerro Bola**	**1.33**	**338**	Pn		**Pg**	**08 17 25.5**	**-0.3**
CBX				Sn		**Sn**	**08 17 42.0**	**-0.3**
CBX				IAML			08 17 45.2	
	comp=E,67nm,0.3s							
CBX				IAML			08 17 46.5	
	comp=N,64nm,0.3s							
CBX	**Cerro Bola**	**1.33**	**338**	*e*P		**Pg**	**08 17 25.4**	**-0.3**
CBX				*e*S		**Sn**	**08 17 42.0**	**-0.3**
CBX				IAML			08 17 45.2	
	comp=E,132nm,0.3s							
CBX				⇓*e*			08 17 45.2	
TJIG	**Tijuana**	**1.44**	**339**	*e*P		**Pb**	**08 17 27.0**	**0.0**
CPBX	**Cerro Prieto**	**1.49**	**26**			**Pb**	**08 17 27.9**	**+0.3**
RMX	**La Rumorosa**	**1.52**	**360**			**Pn**	**08 17 27.3**	**0.0**
RMX				IAML			08 17 46.8	
	comp=N,98nm,0.3s							
RMX				IAML			08 18 08.7	
	comp=E,135nm,0.1s							
RMX	**La Rumorosa**	**1.52**	**360**	*e*P		**Pn**	**08 17 27.4**	**+0.2**
RMX				*e*S		**Sn**	**08 17 44.8**	**-2.2**
TKX	**Tecate**	**1.55**	**343**			**Pb**	**08 17 29.1**	**+0.2**
TKX				IAML			08 17 51.6	
	comp=N,140nm,0.3s							
IKP	**In-Ko-Pah, Jac**	**1.56**	**359**	⇓*i*P		**Pb**	**08 17 29.1**	**0.0**
IKP				*e*S		**Sn**	**08 17 46.8**	**-1.3**
IKP	**In-Ko-Pah, Jac**	**1.56**	**359**	P		**Pb**	**08 17 29.1**	**0.0**
	baz=181							
IKP				S		**Sn**	**08 17 47.2**	**-0.9**
	baz=181							
YUH2	**Yuha Desert**	**1.57**	**5**	*e*P		**Pb**	**08 17 28.6**	**-0.5**
TJX	**Tijuana**	**1.65**	**330**	Pn		**Pg**	**08 17 31.3**	**-0.6**
BAR	**Barrett**	**1.68**	**342**	Pn		**Pb**	**08 17 30.9**	**-0.1**
BAR				IAML			08 17 54.4	
	comp=E,98nm,0.2s							
BAR				IAML			08 17 54.6	
	comp=N,96nm,0.3s							
BAR	**Barrett**	**1.68**	**342**	*e*P		**Pb**	**08 17 30.8**	**-0.1**
BAR				*e*S		**Sb**	**08 17 51.1**	**-0.9**
BAR				IAML			08 17 54.4	
	comp=E,68nm,0.2s							
BAR				⇓*e*			08 17 54.4	
MONP2	**Monument Peak**	**1.83**	**351**	*e*P		**Pb**	**08 17 33.4**	**-0.3**
MONP2	**Monument Peak**	**1.83**	**351**	P		**Pb**	**08 17 33.3**	**-0.4**
	baz=169							
MONP2				S		**Sn**	**08 17 55.1**	**+0.2**
	baz=169							
SWSC	**Sam W. Stewart**	**1.87**	**7**	P		**Pb**	**08 17 34.1**	**-0.2**
	baz=193							
SWSC				S		**Sb**	**08 17 57.2**	**-0.5**
	baz=193							
109C	**Camp Elliot, M**	**2.01**	**334**			**Pb**	**08 17 36.3**	**-0.3**
109C				IAML			08 18 02.7	
	comp=N,80nm,0.3s							
109C	**Camp Elliot, M**	**2.01**	**334**	P		**Pb**	**08 17 36.5**	**-0.1**
	baz=146							
109C				Sb		**Sb**	**08 18 01.3**	**-0.2**
	baz=146							
GLA	**Glamis**	**2.23**	**28**	Pn		**Pn**	**08 17 37.7**	**+0.8**
GLA				IAML			08 18 15.6	
	comp=E,32nm,0.6s							
TPFO	**Pinon Flats**	**2.54**	**353**	Pb		**Pb**	**08 17 46.6**	**+0.8**
	baz=172,SNR=15							
TPFO				Sb		**Sb**	**08 18 16.9**	**-0.1**
	baz=172							
PFO	**Pinyon Flats O**	**2.54**	**353**	Pb		**Pb**	**08 17 46.7**	**+0.8**
	baz=172,SNR=14							
PFO				Sb		**Sb**	**08 18 17.2**	**0.0**
	baz=172							
113A	**Mohawk Valley,**	**2.58**	**49**			**Pn**	**08 17 42.1**	**+0.4**
MURC	**Murrieta**	**2.69**	**340**	Pb		**Pb**	**08 17 48.9**	**+0.7**
	baz=155,SNR=7.6							
MURC				Sb		**Sb**	**08 18 20.9**	**-0.2**
	baz=155							
BELC	**Belle Mtn. Jos**	**2.91**	**1**	Pn		**Pn**	**08 17 48.8**	**+2.3**
	baz=183							
BELC				Pb		**Pb**	**08 17 53.6**	**+1.5**
	baz=183,SNR=9.4							
214A	**Organ Pipe Nat**	**2.92**	**72**			**Pn**	**08 17 46.8**	**+0.4**
BBRC	**Big Bear Solar**	**3.25**	**347**	Sb		**Sb**	**08 18 39.6**	**+1.9**
	baz=165							

*IDC **20** 08:19:50.8±1.8,3°.06N×128°.91E,h0km,mb4.0/6, mb1 4.2/6,mb1mx3.7/52,mbtmp4.0/6,MS3.3/1,Ms1 3.3/1, ms1mx2.5/38,Error ellipse: s-maj=72.1km s-min=19.4km az=64.0*

ISC 20 08:19:56.0±1.8,3°.1N±0°.3×129°.2E±0°.5,h44km,n7,σ0s62/6, mb3.9/6,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.39**	**189**	P		**P**	**08 24 39.8**	**-0.3**
	0.9nm,0.4s,baz=19,slow=6.4,SNR=13							
WRA	**Warramunga Arr**	**23.50**	**168**	P		**P**	**08 25 02.7**	**+0.6**
	1.5nm,0.3s,baz=344,slow=11,SNR=140	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDD	**Wied Dalam**	**0.89**	**349**	P	**Pg**	**08 23 39.7**	**-0.1**
WDD				S	**Sg**	**08 23 51.9**	**+0.5**
HPAC	**Pachino**	**1.76**	**10**	P	**Pn**	**08 23 55.0**	**+0.9**
HPAC				S	**Sg**	**08 24 19.4**	**+0.2**
HPAC				AML	AML		
	comp=E,5050μm,1.1s						
HPAC				AML	AML		
	comp=N,5470μm,0.5s						
HMDC	**Modica**	**1.99**	**1**	P	**Pn**	**08 23 57.7**	**+0.3**
HMDC				S	**Sb**	**08 24 23.5**	**-1.4**
HMDC				AML	AML		
	comp=E,2225μm,0.5s						
HMDC				AML	AML		
	comp=N,1960μm,0.8s						
HAVL	**Avola**	**2.02**	**9**	P	**Pn**	**08 23 57.9**	**+0.2**
HAVL				AML	AML		
	comp=N,1890μm,0.9s						
HAVL				AML	AML		
	comp=E,1785μm,1.3s						
MEU	**Monte Lauro**	**2.14**	**4**	P	**Pn**	**08 24 00.4**	**+1.0**
MEU				AML	AML		
	comp=E,2315μm,0.6s						
MEU				AML	AML		
	comp=N,2415μm,0.4s						
SSY	**Sortino**	**2.21**	**7**	P	**Pn**	**08 24 01.1**	**+0.8**
SSY				S	**Sb**	**08 24 29.7**	**-1.3**
SSY				AML	AML		
	comp=N,2870μm,1.3s						
SSY				AML	AML		
	comp=E,2100μm,0.7s						
HVZN	**Vizzini**	**2.21**	**359**	P	**Pn**	**08 24 01.4**	**+1.0**
RAFF	**Raffo Rosso**	**2.28**	**352**	P	**Pn**	**08 24 02.0**	**+0.8**
RAFF				S	**Sb**	**08 24 31.0**	**-2.1**
RAFF				AML	AML		
	comp=E,1240μm,0.6s						
RAFF				AML	AML		
	comp=N,1165μm,0.8s						
CLTA	**Licata**	**2.28**	**344**	P	**Pn**	**08 24 02.3**	**+1.0**
AGST	**Augusta-Monte**	**2.33**	**10**	P	**Pn**	**08 24 02.5**	**+0.7**
HAGA	**Augusta**	**2.34**	**8**	P	**Pn**	**08 24 02.7**	**+0.6**
HAGA				S	**Sn**	**08 24 31.1**	**-0.4**
HAGA				AML	AML		
	comp=N,1310μm,0.5s						
HAGA				AML	AML		
	comp=E,1190μm,0.6s						
HLNI	**Lentini**	**2.38**	**2**	P	**Pn**	**08 24 02.6**	**-0.1**
HLNI				AML	AML		
	comp=E,932μm,0.4s						
HLNI				AML	AML		
	comp=N,1075μm,0.6s						
FAVR	**Favara**	**2.46**	**340**	P	**Pb**	**08 24 06.2**	**-1.4**
VAE	**Valguarnera**	**2.53**	**354**	Pn	**Pb**	**08 24 07.5**	**-1.3**
	comp=N,10nm,0.3s,baz=334,slow=4.2,SNR=9.6						
VAE				Sn	**Sb**	**08 24 40.2**	**0.0**
	comp=N,18nm,0.3s,baz=106,slow=20,SNR=4.6						
ECNV	**Catenanuova**	**2.63**	**359**	P	**Pn**	**08 24 08.1**	**+2.0**
ECNV				AML	AML		
	comp=E,1215μm,0.6s						
ECNV				AML	AML		
	comp=N,1735μm,0.6s						
RESU	**Resuttano**	**2.74**	**349**	P	**Pb**	**08 24 10.7**	**-1.7**
RESU				AML	AML		
	comp=E,350μm,0.6s						
RESU				AML	AML		
	comp=N,504μm,0.7s						
GALF	**Gagliano Caste**	**2.75**	**357**	P	**Pn**	**08 24 09.8**	**+2.0**
GALF				AML	AML		
	comp=N,534μm,0.6s						
GALF				AML	AML		
	comp=E,850μm,0.7s						
CSLB	**Castelbuono**	**3.02**	**350**	P	**Pn**	**08 24 13.3**	**+1.8**
CSLB				AML	AML		
	comp=E,182μm,0.7s						
CSLB				AML	AML		
	comp=N,225μm,0.7s						
AIO	**Antillo**	**3.03**	**7**	P	**Pn**	**08 24 12.7**	**+1.0**
AIO				AML	AML		
	comp=N,220μm,1.6s						
AIO				AML	AML		
	comp=E,205μm,0.5s						
MSFR	**San Fratello**	**3.07**	**358**	P	**Pn**	**08 24 13.7**	**+1.5**
MSFR				AML	AML		
	comp=E,243μm,1.3s						
MSFR				AML	AML		
	comp=N,203μm,0.7s						
GIB	**Gibilmanna**	**3.08**	**349**	P	**Pn**	**08 24 14.4**	**+2.1**
NOV	**Novara**	**3.08**	**6**	P	**Pn**	**08 24 12.9**	**+0.6**
NOV				AML	AML		
	comp=E,650μm,1.6s						
NOV				AML	AML		
	comp=N,485μm,0.7s						
MUCR	**Ucria**	**3.08**	**2**	P	**Pn**	**08 24 13.4**	**+1.1**
MUCR				AML	AML		
	comp=E,334μm,1.5s						
MUCR				AML	AML		
	comp=N,431μm,0.6s						
CORL	**Corleone**	**3.15**	**339**	P	**Pn**	**08 24 13.9**	**+0.6**
MPAZ	**Palizzi**	**3.16**	**18**	P	**Pn**	**08 24 13.6**	**+0.3**
MPAZ				AML	AML		
	comp=N,210μm,0.3s						
MPAZ				AML	AML		
	comp=E,222μm,1.6s						
MPNC	**Port Mandanici**	**3.22**	**9**	P	**Pn**	**08 24 15.2**	**+1.1**
MPNC				S	**Sn**	**08 24 52.2**	**-0.8**
MPNC				AML	AML		
	comp=E,490μm,0.6s						
MPNC				AML	AML		
	comp=N,746μm,0.8s						
MSRU	**Castanea**	**3.35**	**10**	P	**Pn**	**08 24 17.1**	**+1.0**
MSRU				S	**Sn**	**08 24 56.2**	**-0.2**
MSRU				AML	AML		
	comp=E,384μm,0.7s						
MSRU				AML	AML		
	comp=N,340μm,0.9s						
MPG	**Monte Pellegri**	**3.38**	**341**	P	**Pn**	**08 24 17.7**	**+1.3**
PLAC	**Placanica**	**3.74**	**21**	P	**Pn**	**08 24 22.4**	**+1.1**
PLAC				AML	AML		
	comp=E,146μm,1.4s						
PLAC				AML	AML		
	comp=N,141μm,0.9s						
TATN	**Tataouine**	**4.24**	**237**	P	**Pn**	**08 24 27.2**	**-1.0**
KEST	**Kesra**	**4.48**	**281**	Pn	**Pn**	**08 24 34.1**	**+2.5**
	comp=N,0.5nm,0.3s,baz=74,slow=7.4,SNR=2.5						
KEST				Sn	**Sn**	**08 25 22.9**	**-1.3**
	comp=N,0.8nm,0.3s,baz=99,slow=21,SNR=8.4						
TIP	**Timpagrande**	**4.51**	**20**	P	**Pn**	**08 24 34.3**	**+2.4**
PIPA	**Pietrapaola**	**4.81**	**20**	P	**Pn**	**08 24 38.7**	**+2.7**
IDI	**Anoyia**	**8.32**	**85**	Pn	**Pn**	**08 25 26.5**	**+2.2**
	comp=N,0.8nm,0.3s,baz=310,slow=11,SNR=8.5						
IDI				Sn	**Sn**	**08 26 55.9**	**-2.9**
	comp=N,0.7nm,0.3s,baz=147,slow=23,SNR=1.8						
ESDC	**Sonseca Array**	**15.60**	**293**	Pn	**P**	**08 27 07.7**	**-0.3**
	comp=N,0.1nm,0.3s,baz=91,slow=12,SNR=2.9						
AKASG	**Malin Array Be**	**18.93**	**29**	P	**Pn**	**08 27 45.7**	**+0.6**
	comp=N,0.3nm,0.3s,baz=218,slow=10,SNR=2.0						
TORD	**Torodi Ar. Bea**	**24.72**	**212**	P	**P**	**08 28 48.9**	**+3.6**
	comp=N,0.3nm,0.7s,baz=28,slow=8.4,SNR=1.9						
FINES	**FINESS Array B**	**27.47**	**12**	P	**P**	**08 29 09.8**	**0.0**
	comp=N,1.7nm,0.9s,baz=190,slow=7.1,SNR=4.0						

*IDC **20** 08:30:46.5±3.2,38.26N×141.95E,h45km±32km, mb3.2/5, mb1 3.5/8, mb1mx3.3/43, mbtmp3.4/8, ML3.0/3, Error ellipse: s-maj=42.3km s-min=18.2km az=117.0*
*JMA **20** 08:30:47.4, 38.27N×141.81E, h56km±1km, M3.8*
JMA Felt I J1.
*NIED **20** 08:30:47.4, 38.27N×141.81E, h56km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.30; $M_{\theta\theta}$ 1.08; $M_{\phi\phi}$ -1.38; $M_{r\theta}$-0.01; $M_{\theta\phi}$ -2.15; $M_{\phi r}$-0.92; Fault plane solution: $M_0$2.63000×10^{14} NP1: ϕ_s345.00000°, δ89.00000°, λ-20.00000°. NP2:ϕ_s76.00000°, δ70.00000°, λ-179.00000°.*

ISC 20 08:30:46.7±1.3, 38.23N±0.05×141.91E±0.09, h50km±11km, n29, σ0.61/37, mb3.4/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.36**	**283**	P	**Pn**	**08 30 56.9**	**+0.5**
JIKH				*i* S	**Sn**	**08 31 03.5**	**+0.2**
JIO	**Ouri**	**0.49**	**297**	P	**Pn**	**08 30 58.1**	**+0.2**
JIO				S	**Sn**	**08 31 05.6**	**-0.3**
JKMT	**Kesennumamotoy**	**0.67**	**329**	P	**Pn**	**08 31 00.3**	**+0.2**
JKMT				S	**Sn**	**08 31 09.4**	**-0.3**
OFUJ	**Ofunato**	**0.87**	**347**	P	**Pn**	**08 31 02.9**	**+0.2**
OFUJ				*e*S	**Sn**	**08 31 13.9**	**-0.4**
JOFO	**Osakifurukawao**	**0.87**	**295**	P	**Pn**	**08 31 02.7**	**+0.1**
JOFO				S	**Sn**	**08 31 14.5**	**+0.2**
JMK	**Ichinoseki**	**0.90**	**323**	P	**Pn**	**08 31 03.3**	**+0.2**
JMK				S	**Sn**	**08 31 14.5**	**-0.6**
JMM	**Marumori**	**0.96**	**248**	P	**Pn**	**08 31 03.5**	**-0.3**
JMM				S	**Sn**	**08 31 15.5**	**-0.9**
JOU	**Okura**	**0.99**	**278**	P	**Pn**	**08 31 04.2**	**-0.1**
JOU				S	**Sn**	**08 31 16.6**	**-0.7**
JFK	**Kawauchi**	**1.19**	**224**	P	**Pn**	**08 31 07.2**	**+0.1**
JFK				S	**Sn**	**08 31 21.8**	**-0.4**
JOM	**Ohasama**	**1.33**	**339**	P	**Pn**	**08 31 09.2**	**+0.3**
JOM				S	**Sn**	**08 31 25.4**	**-0.1**
JYK	**Kaneyama**	**1.40**	**300**	P	**Pn**	**08 31 09.7**	**-0.1**
JYK				*e*S	**Sn**	**08 31 26.1**	**-1.0**
JFT	**Otama**	**1.44**	**241**	P	**Pn**	**08 31 10.8**	**+0.4**
JFT				S	**Sn**	**08 31 27.8**	**-0.3**
JYS	**Shirataka**	**1.45**	**270**	P	**Pn**	**08 31 10.6**	**0.0**
JRG	**Rokugo**	**1.53**	**320**	P	**Pn**	**08 31 11.9**	**+0.3**
MJAR	**Matsushiro Arr**	**3.40**	**241**	P	**Pn**	**08 31 37.9**	**+0.6**
	0.3nm,0.3s,baz=92,slow=17,SNR=17						
MAT	**Matsushiro**	**3.40**	**241**	P	**Pn**	**08 31 38.9**	**+1.7**
MAT				*e*S	**Sn**	**08 32 15.6**	**-0.7**
ASAJ	**Asahikawa**	**5.90**	**5**	P	**Pn**	**08 32 10.9**	**-0.6**
	1.2nm,0.3s,baz=212,slow=12,SNR=12						
ASAJ				S	**Sn**	**08 33 16.3**	**-1.5**
	0.4nm,0.3s,baz=262,slow=20,SNR=2.1						
USRK	**Ussuriysk Ar.**	**9.56**	**312**	P	**Pn**	**08 33 02.5**	**+1.0**
	baz=117,slow=14,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**28.45**	**123**	T	T	09 06 54.1	
	baz=316,slow=75,SNR=71						
H11N1	**WAKE ISLAND Hy**	**28.46**	**123**	T	T	09 06 56.1	
	baz=316,slow=75,SNR=120						
H11N3	**WAKE ISLAND Hy**	**28.47**	**123**	T	T	09 06 55.4	
	baz=316,slow=75,SNR=99						
H11S1	**WAKE ISLAND Hy**	**29.20**	**125**	T	T	09 07 50.5	
	baz=318,slow=76,SNR=23						
H11S3	**WAKE ISLAND Hy**	**29.20**	**125**	T	T	09 07 50.6	
	baz=318,slow=76,SNR=45						
H11S2	**WAKE ISLAND Hy**	**29.22**	**125**	T	T	09 07 51.7	
	baz=318,slow=76,SNR=32						
MKAR	**Makanchi Array**	**43.83**	**301**	P	**P**	**08 38 47.7**	**-0.1**
	0.3nm,0.6s,baz=81,slow=12,SNR=2.5						
ILAR	**Eielson Array**	**48.27**	**33**	P	**P**	**08 39 22.7**	**+0.3**
	0.3nm,0.8s,baz=251,slow=5.5,SNR=2.8						
WRA	**Warramunga Arr**	**58.30**	**188**	P	**P**	**08 40 35.7**	**-0.7**
	0.2nm,0.6s,baz=6.3,slow=8.0,SNR=1.5						
PDAR	**Pinedale Array**	**76.55**	**46**	P	**P**	**08 42 32.5**	**+0.5**
	0.3nm,0.6s,baz=312,slow=7.2,SNR=2.1						
TXAR	**Lajitas Array**	**89.08**	**53**	P	**P**	**08 43 37.2**	**+0.4**
	0.3nm,0.6s,baz=310,slow=4.7,SNR=4.2						

IDC 20 08:55:19.3±2.7, 30.63S×72.69W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.6/16, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=86.9km s-min=56.2km az=34.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N1	**Juan Fernandez**	**5.98**	**240**	T	T	09 03 03.7	
	baz=56						
H03N2	**Juan Fernandez**	**6.00**	**241**	T	T	09 03 04.6	
	baz=56						
H03N3	**Juan Fernandez**	**6.00**	**240**	T	T	09 03 04.7	
	baz=56						
LPAZ	**La Paz**	**14.87**	**17**	Pn	Pn	08 58 51.6	+0.1
	0.1nm,0.3s,baz=187,slow=8.0,SNR=5.2						
TXAR	**Lajitas Array**	**66.53**	**331**	P	P	09 06 11.1	-0.1
	0.2nm,0.7s,baz=156,slow=9.8,SNR=3.0						
TORD	**Torodi Ar. Bea**	**83.60**	**71**	P	P	09 07 49.9	-0.1
	0.5nm,0.6s,baz=273,slow=5.8,SNR=4.6						
ZALV	**Zalesovo Beam**	**151.60**	**28**	PKPbc	PKPbc	09 15 15.0	-0.1
	1.0nm,0.7s,baz=338,slow=1.6,SNR=2.2						

*SJA **20** 09:02:31.0, 30.19S×72.69W, h10km, ML5.2*
*NEIC **20** 09:02:32.5±1.2, 30.24S±0.05×72.27W±0.04, h9km±3km, mb5.1/37, Mwr4.9/56, Mwr5.1(GUC), Error ellipse: s-maj=7.1km s-min=5.7km az=182.0*
*NEIC **20** 09:02:33.5, 30.25S×72.27W, h13km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}2.50; $M_{\theta\theta}$0.01; $M_{\phi\phi}$ -2.50; $M_{r\theta}$0.00; $M_{\theta\phi}$ -0.56; $M_{\phi r}$-0.48; Fault plane solution: $M_0$2.61000×10^{16} NP1:ϕ_s189.69000°, δ50.24000°, λ86.87000°. NP2:ϕ_s14.58000°, δ39.87000°, λ93.75000°. Principal axes: T 2.5422, Plg84.0000°, Azm77.0000°; N 0.1246, Plg2.0000°, Azm192.0000°; P -2.6668, Plg5.0000°, Azm282.0000°;*
*IDC **20** 09:02:33.3±0.5, 30.30S×71.88W, h0km, mb4.7/17, mb1 4.7/21, mb1mx4.6/26, mbtmp4.6/21, ML4.2/4, MS4.3/20, Ms1 4.3/20, ms1mx4.2/24 Error ellipse: s-maj=20.1km s-min=12.7km az=82.0*
*GUC **20** 09:02:33.2±0.6, 30.25S×72.30W, h28km±4km, ML5.0, MW5.1*
*MOS **20** 09:02:34.5±1.4, 30.14S×72.10W, h29km, mb5.1/15, Error ellipse: s-maj=13.0km s-min=8.8km az=85.2*
*VAO **20** 09:02:37.1±0.4, 30.12S×71.79W, h10km, mb4.9*
*GCMT **20** 09:02:38.5±0.2, 30.36S±0.02×72.30W±0.02, h17km, MW5.1/103, Moment Tensor Solution. s59,c78; s103,c151; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.66±.14; $M_{\theta\theta}$-0.32±.07; $M_{\phi\phi}$ -3.35±.11; $M_{r\theta}$-1.55±.21; $M_{\theta\phi}$-0.75±.05; $M_{\phi r}$-3.58±.28; Best double couple: $M_0$5.30200×10^{16} NP1:ϕ_s7.00000°, δ22.00000°, λ77.00000°. NP2:ϕ_s201.00000°, δ69.00000°, λ95.00000°. Principal axes: T 5.3990, Plg66.0000°, Azm119.0000°; N -0.2020, Plg5.0000°, Azm19.0000°; P -5.2050, Plg24.0000°, Azm287.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 09:02:35.8±0.6, 30.30S±0.03×72.12W±0.04, h28km±3km, n417, σ2.98/416, mb5.0/37, MS4.3/22, 27C-10D, Fault plane solution: NP1:ϕ_s18.00554°, δ43.99069°, λ81.22083°. **NP2:**ϕ_s210.12067°, δ46.65387°, λ98.38176°. **Principal axes:** T Plg83.7682°, Azm191.8421°; N Plg6.0851°, Azm24.3456°; P Plg1.3391°, Azm294.2029°;
Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.56**	**132**	⇓*e*P	**Pb**	**09 02 46.1**	**-1.1**
CO06				*e*S	**Sn**	**09 02 56.8**	**+0.4**
CO06	**Fray Jorge**	**0.56**	**132**	Pg	**Pb**	**09 02 46.1**	**-1.1**
CO06				Sg	**Sb**	**09 02 54.0**	**-0.8**
CO05	**La Serena**	**0.85**	**64**	⇑*e*P	**Pn**	**09 02 50.7**	**-1.3**
CO05				*e*S	**Sb**	**09 03 03.3**	**+0.1**
CO05				IAML		09 03 06.0	
	comp=E,162μm,0.4s						
CO05	**La Serena**	**0.85**	**64**		**Pn**	**09 02 51.1**	**-0.9**
CO05				Sg	**Sb**	**09 03 03.2**	**+0.1**
GO04	**Tololo Observa**	**1.15**	**84**	⇓*e*P	**Pn**	**09 02 56.1**	**-0.3**
GO04				*e*S	**Sb**	**09 03 13.1**	**+1.3**
GO04				IAML		09 03 17.9	
	comp=N,83μm,0.3s						
GO04	**Tololo Observa**	**1.15**	**84**		**Pn**	**09 02 56.6**	**+0.3**
GO04	**Tololo Observa**	**1.15**	**84**	*i* P	**Pn**	**09 02 56.0**	**-0.3**
CO03	**El Pedregal**	**1.35**	**114**	⇑*e*P	**Pn**	**09 02 59.1**	**+0.2**
CO03				*e*S	**Sb**	**09 03 17.4**	**+0.1**
CO03				IAML		09 03 22.4	
	comp=N,28μm,0.3s						
CO03	**El Pedregal**	**1.35**	**114**		**Pn**	**09 02 59.0**	**+0.2**
LCO	**Las Campanas**	**1.78**	**44**	P	**Pn**	**09 03 05.3**	**+0.3**
LCO	**Las Campanas**	**1.78**	**44**	⇑*e*P	**Pn**	**09 03 05.3**	**+0.3**
LCO				*e*S	**Sb**	**09 03 28.9**	**-1.1**
LCO	**Las Campanas**	**1.78**	**44**	Pn	**Pn**	**09 03 05.3**	**+0.3**
LCO	**Las Campanas**	**1.78**	**44**	*i* P	**Pn**	**09 03 05.0**	**0.0**
AC04	**Llanos de Chal**	**2.28**	**24**	*e*P	**Pn**	**09 03 10.9**	**-0.7**
AC04				*e*S	**Sn**	**09 03 40.0**	**+1.2**
AC04				IAML		09 03 57.6	
	comp=E,11μm,0.5s						
AC04	**Llanos de Chal**	**2.28**	**24**	Pn	**Pn**	**09 03 10.7**	**-1.0**
AC04	**Llanos de Chal**	**2.28**	**24**	*i* P	**Pn**	**09 03 11.0**	**-0.7**
AROD	**Rodeo**	**2.29**	**87**	*i* P	**Pb**	**09 03 15.0**	**-1.7**
VA06	**Catapilco**	**2.36**	**163**	⇑*e*P	**Pn**	**09 03 13.0**	**+0.2**
VA06				IAML		09 03 56.9	
	comp=N,9μm,0.6s						
ACDV	**Cuesta del Vie**	**2.60**	**88**	*i* P	**Pb**	**09 03 21.0**	**-0.8**
ACCO	**Cerro Coronel**	**2.65**	**97**	*i* P	**Pb**	**09 03 21.0**	**-1.9**
VA01	**Torpederas**	**2.74**	**172**	Pn	**Pn**	**09 03 17.2**	**-0.8**
VA01	**Torpederas**	**2.74**	**172**	*i* P	**Pn**	**09 03 18.0**	**0.0**
VA03	**San Esteban**	**2.80**	**152**	⇑*e*P	**Pn**	**09 03 19.7**	**+0.8**
VA03				*e*S	**Sn**	**09 03 54.8**	**+3.1**
VA03				IAML		09 04 08.9	
	comp=N,6μm,0.9s						
VA03	**San Esteban**	**2.80**	**152**	Pn	**Pn**	**09 03 20.0**	**+1.1**
VA03	**San Esteban**	**2.80**	**152**	*i* P	**Pn**	**09 03 20.0**	**+1.1**
ROCH	**El Roble**	**2.83**	**161**	*e*P	**Pn**	**09 03 19.6**	**+0.3**
ROCH				*e*S	**Sn**	**09 03 52.5**	**-0.1**
ROCH				IAML		09 04 29.7	
	comp=E,2μm,0.4s						
RTLS	**Leoncito**	**2.85**	**122**	*i* P	**Pb**	**09 03 24.0**	**-2.1**
AUSP	**Uspallata**	**3.02**	**130**	*i* P	**Pb**	**09 03 26.0**	**-3.2**
GO03	**Copiap**	**3.16**	**32**	*e*P	**Pn**	**09 03 23.7**	**-0.2**
GO03				*e*S	**Sn**	**09 04 01.4**	**+0.6**
GO03				IAML		09 04 21.2	
	comp=E,6μm,0.8s						
GO03	**Copiap**	**3.16**	**32**	Pn	**Pn**	**09 03 23.4**	**-0.4**
GO03	**Copiap**	**3.16**	**32**	*i* P	**Pn**	**09 03 24.0**	**+0.1**
ZON	**Zonda**	**3.21**	**114**	P	**Pn**	**09 03 26.0**	**+1.6**
ZON	**Zonda**	**3.21**	**114**		**Pn**	**09 03 26.0**	**+1.6**
ZON	**Zonda**	**3.21**	**114**	*i* P	**Pn**	**09 03 28.0**	**+3.6**
MT05	**Renca**	**3.30**	**159**	*e*P	**Pn**	**09 03 25.9**	**+0.2**
MT05				IAML		09 04 27.0	
	comp=E,3μm,0.9s						
MT05	**Renca**	**3.30**	**159**	Pn	**Pn**	**09 03 25.8**	**+0.1**
MT05	**Renca**	**3.30**	**159**	*i* P	**Pn**	**09 03 27.0**	**+1.3**
AC06	**Mina Casimiro**	**3.32**	**28**	*e*P	**Pn**	**09 03 25.9**	**0.0**
AC06				*e*S	**Sn**	**09 04 05.6**	**+1.1**
AC06				IAML		09 04 21.1	
	comp=E,2μm,0.5s						
AC06	**Mina Casimiro**	**3.32**	**28**	Pn	**Pn**	**09 03 25.9**	**0.0**
VA05	**Santo Domingo**	**3.37**	**173**	*e*P	**Pn**	**09 03 25.9**	**-0.7**
VA05				IAML		09 04 49.9	
	comp=E,1μm,0.5s						
VA05	**Santo Domingo**	**3.37**	**173**	Pn	**Pn**	**09 03 26.0**	**-0.7**
RTCV	**Cerro Valdivia**	**3.44**	**118**	*i* P	**Pb**	**09 03 32.0**	**-4.1**
MT09	**Talagante**	**3.60**	**165**	⇑*e*P	**Pn**	**09 03 30.5**	**+0.6**
MT09				*e*S	**Sn**	**09 04 11.4**	**0.0**
MT09	**Talagante**	**3.60**	**165**	Pn	**Pn**	**09 03 30.6**	**+0.7**
ASAL	**Salagasta**	**3.62**	**130**	*i* P	**Pb**	**09 03 35.0**	**-4.1**
MT01	**Popeta**	**3.63**	**168**	*i* P	**Pn**	**09 03 29.9**	**-0.2**
MT01				*e*S	**Sb**	**09 04 24.1**	**+1.2**
MT01	**Popeta**	**3.63**	**168**	Pn	**Pn**	**09 03 30.1**	**-0.2**
MT01	**Popeta**	**3.63**	**168**	*i* P	**Pn**	**09 03 30.0**	**-0.2**
ARCO	**CERRO ARCO**	**3.72**	**134**	*i* P	**Pb**	**09 03 37.0**	**-3.9**
VCA	**Vinchina**	**3.75**	**66**	*i* P	**Pn**	**09 03 36.0**	**+4.0**
LMEL	**Las Melosas**	**3.89**	**156**	⇑*i* P	**Pn**	**09 03 35.4**	**+1.5**
LMEL				*e*S	**Sn**	**09 04 21.2**	**+2.4**
LMEL				IAML		09 04 40.7	
	comp=N,826nm,0.2s						
AAGR	**Agrelo**	**3.95**	**136**	*i* P	**Pn**	**09 03 39.0**	**+4.3**
AVFE	**Valle Fertil**	**4.04**	**96**	*i* P	**Pn**	**09 03 39.0**	**+3.0**
BO01	**Tunca**	**4.17**	**168**	*e*P	**Pn**	**09 03 37.6**	**-0.1**
BO01	**Tunca**	**4.17**	**168**		**Pn**	**09 03 37.7**	**0.0**
BO01	**Tunca**	**4.17**	**168**	*i* P	**Pn**	**09 03 38.0**	**+0.3**
BO03	**Pichilemu**	**4.18**	**178**	*i* P	**Pn**	**09 03 36.6**	**-1.2**
AC02	**Maricunga**	**4.34**	**38**	*e*P	**Pn**	**09 03 41.2**	**+0.8**
AC02	**Maricunga**	**4.34**	**38**	*i* P	**Pn**	**09 03 41.0**	**+0.6**
BO02	**Sierra Bellavi**	**4.62**	**166**	*e*P	**Pn**	**09 03 44.3**	**+0.4**
BO02	**Sierra Bellavi**	**4.62**	**166**	Pn	**Pn**	**09 03 44.3**	**+0.4**
BO02	**Sierra Bellavi**	**4.62**	**166**	*i* P	**Pn**	**09 03 44.0**	**+0.1**
GO05	**Huala**	**4.70**	**178**	Pn	**Pn**	**09 03 43.7**	**-1.2**
GO05	**Huala**	**4.70**	**178**	*i* P	**Pn**	**09 03 44.0**	**-0.9**
ACHE	**Chepes**	**4.78**	**102**	*i* P	**Pn**	**09 03 49.0**	**+2.9**
LAMA	**Las Malvinas**	**5.23**	**153**	*i* P	**Pn**	**09 03 56.0**	**+3.8**
COIS	**El Sosneado**	**5.25**	**157**	*i* P	**Pn**	**09 03 55.0**	**+2.6**
RFA	**San Rafael**	**5.42**	**146**	*i* P	**Pn**	**09 03 57.0**	**+2.1**
ML02	**Panimavida**	**5.48**	**174**		**Pn**	**09 03 55.2**	**-0.4**
CYA	**Choya**	**5.82**	**73**	*i* P	**Pn**	**09 04 02.0**	**+1.7**
PB14	**IPOC Station P**	**5.86**	**16**		**Pn**	**09 03 58.5**	**-2.6**
PB14	**IPOC Station P**	**5.86**	**16**	*i* P	**Pn**	**09 03 59.0**	**-2.1**
H03N1	**Juan Fernandez**	**6.57**	**240**	Pn	**Pn**	**09 04 08.9**	**-1.4**
	baz=71,slow=72,SNR=41						
H03N1				T	T	09 11 16.7	
	baz=71,slow=72,SNR=440						
H03N2	**Juan Fernandez**	**6.58**	**240**	Pn	**Pn**	**09 04 09.5**	**-1.0**
	baz=71,slow=72,SNR=25						
H03N2				T	T	09 11 19.7	
	baz=71,slow=72,SNR=397						
H03N3	**Juan Fernandez**	**6.58**	**240**	Pn	**Pn**	**09 04 08.7**	**-1.9**
	baz=71,slow=72,SNR=24						
H03N3				T	T	09 11 10.2	
	baz=71,slow=72,SNR=294						
VA04	**Juan Fernndez**	**6.60**	**238**	Pn	**Pn**	**09 04 08.7**	**-2.3**
H03S3	**Juan Fernandez**	**6.75**	**237**	Pn	**Pn**	**09 04 10.8**	**-2.0**
H03S3				T	T	09 11 32.3	
	baz=83						
H03S1	**Juan Fernandez**	**6.75**	**237**	Pn	**Pn**	**09 04 10.5**	**-2.3**
H03S1				T	T	09 11 29.8	
	baz=83						
H03S2	**Juan Fernandez**	**6.77**	**237**	Pn	**Pn**	**09 04 10.7**	**-2.3**
H03S2				T	T	09 11 27.8	
	baz=83						
FSA	**Cafayete**	**6.84**	**54**	*i* P	**Pn**	**09 04 18.0**	**+3.5**
PB10	**IPOC Station P**	**6.90**	**12**	Pn	**Pn**	**09 04 12.4**	**-2.9**
PB10	**IPOC Station P**	**6.90**	**12**	*i* P	**Pn**	**09 04 13.0**	**-2.2**
AHML	**Horco Molle**	**6.92**	**61**	*i* P	**Pn**	**09 04 19.0**	**+3.5**
PB15	**IPOC Station P**	**7.45**	**19**		**P

SALV	Santo Antonio	20.79	50	*e*P		P		09 07 15.3	+0.4
ETMB	Extrema	21.11	16	*e*P		P		09 07 19.6	+1.2
FRTB	Fartura	21.27	76	*e*P		P		09 07 19.8	-0.3
ITRB	Iturama	22.33	67	*e*P		P		09 07 30.9	-0.6
CZSB	Cruzeiro do Su	22.46	358	*e*P		P		09 07 34.4	+1.5
SAML	Samuel	22.83	23	P		P		09 07 34.7	-2.1
SAML				pmax	pmax				
	comp=Z,20nm,0.9s								
SAML	Samuel	22.83	23	P		P		09 07 34.7	-2.1
SAML	Samuel	22.83	23	*e*P		P		09 07 37.4	+0.6
PET01	Itanhaem-SP	22.85	81	*e*P		P		09 07 38.2	+1.2
SPB	Sao Paulo	22.97	79	P		P		09 07 37.8	-0.5
SPB				IAmb	IAmb			09 07 40.6	
	comp=Z,54nm,1.0s								
SPB	Sao Paulo	22.97	79	*e*P		P		09 07 40.2	+1.9
BB19B	Bebedouro	23.13	72	*e*P		P		09 07 40.8	+0.9
RCLB	Rio Claro- Sao	23.36	76	*e*P		P		09 07 42.1	-0.1
VAO	Valinhos	23.60	78	*e*P		P		09 07 43.7	-0.8
EFI	East Falkland	23.76	158	*i* P		P		09 07 48.1	+2.3
EFI				pmax	pmax				
	comp=Z,75nm,1.2s								
CLDB	Colider	24.58	42	*e*P		P		09 07 53.0	-0.7
PARB	Paraibuna	24.61	80	*e*P		P		09 07 55.2	+1.2
USHA	Ushuaia	24.66	175	P		P		09 07 55.6	+1.7
	comp=Z,60nm,0.9s,baz=1.9,slow=6.8,SNR=4.6								
IPMB	Ipameri, GO	24.97	66	*e*P		P		09 07 57.4	+0.1
ESAR	Ângra dos Reis	25.73	80	*e*P		P		09 08 05.2	+1.2
TBTG	Tabatinga, AM	26.06	5	*e*P		P		09 08 09.0	+2.0
BSCB	Bom Sucesso	26.28	76	*e*P		P		09 08 10.2	+1.0
BDFB	Brasilia	26.48	62	P		P		09 08 11.1	+0.1
	comp=Z,24nm,0.8s,baz=229,slow=9.1,SNR=31								
BDFB				LR	LR			09 18 57.2	
	comp=Z,435nm,19.0s,baz=236,slow=37								
BDFB	Brasilia	26.48	62	P		P		09 08 10.2	-0.8
BDFB				pmax	pmax				
	comp=Z,41nm,1.1s								
BDFB	Brasilia	26.48	62	P		P		09 08 10.2	-0.8
BDFB				IAmb	IAmb			09 08 12.7	
	comp=Z,41nm,1.1s								
SNDB	Serra Nova Dou	26.56	51	*e*P		P		09 08 12.2	+0.6
VAS01	Vassouras-RJ	26.87	80	*e*P		P		09 08 14.9	+0.5
NPGB	Novo Progresso	27.98	38	*e*P		P		09 08 24.8	+0.5
DIAM	Diamantina, MG	28.47	72	*e*P		P		09 08 29.7	+0.9
PEXB	Peixe	28.55	56	*e*P		P		09 08 29.9	+0.5
MC01	Montes Claros	29.07	69	*e*P		P		09 08 34.5	+0.3
MACA	Manacapuru-AM	29.08	24	*e*P		P		09 08 35.3	+1.1
JANB	Januaria	29.70	65	*e*P		P		09 08 40.2	+0.5
ALF01	Guarapari-ES	29.86	79	*e*P		P		09 08 41.9	+0.9
ITTB	Itaituba	30.08	34	*e*P		P		09 08 43.4	+0.4
SJMB	Sao Joao De Ma	30.33	75	*e*P		P		09 08 45.7	+0.5
BSFB	Barra de Sao F	30.55	75	*e*P		P		09 08 47.7	+0.6
RIB01	Linhares ES	30.71	77	*e*P		P		09 08 49.2	+0.6
SJBA	SAO DESIDERIO	30.85	67	*e*P		P		09 08 50.9	+1.0
OTAV	Otavalo	30.96	348	*e*P		P		09 08 55.7	+4.4
SMTB	Santa Maria do	31.31	52	*e*P		P		09 08 55.4	+1.5
NAN01	Guarapari, ES	31.62	74	*e*P		P		09 08 56.9	+0.3
PRPB	Parauapebas	31.88	46	*e*P		P		09 08 59.2	+0.4
MACC	Macarena, Meta	32.31	357	*e*P		P		09 09 06.5	+4.0
GUA01	Guaratinga, BA	32.51	73	*e*P		P		09 09 05.0	+0.6
BBAC	Balboa, Cauca	32.51	350	*e*P		P		09 09 06.5	+1.9
SOTA	Rioblanco	32.54	352	*e*P		P		09 09 11.3	+6.2
PCON	Cinco Dias	32.70	352	*e*P		P		09 09 09.4	+2.7
POPC	Popayan, Colom	32.95	352	*e*P		P		09 09 11.3	+2.9
MALB	Monte Alegre	32.98	34	*e*P		P		09 09 08.5	+0.1
CMC01	Camacan, BA	33.38	71	*e*P		P		09 09 12.9	+0.9
NBIT	Itapeh - BA	33.68	70	*e*P		P		09 09 15.7	+1.1
PRAC	Prado	33.93	355	*e*P		P		09 09 19.0	+2.2
ORTC	Ortega, Tolima	34.15	354	*e*P		P		09 09 20.9	+2.2
GDU01	Guandu, BA	34.23	68	*e*P		P		09 09 19.6	+0.2
YOTC	Yotoco, Valle	34.33	353	*e*P		P		09 09 29.5	+9.1
BOAV	Boa Vista	34.35	21	*e*P		P		09 09 21.8	+1.4
CHIC	Chingaza	34.77	357	*e*P		P		09 09 29.5	+5.0
CBOG1	Bogota, SGC	34.79	357	*e*P		P		09 09 22.8	-1.8
PMSA	Palmer Station	34.86	174	P		P		09 09 26.9	+2.6
	comp=Z,9.7nm,1.0s,baz=0.2,slow=15,SNR=2.3								
PMSA				LR	LR			09 23 38.0	
	comp=Z,837nm,18.4s,baz=292,slow=36								
PMSA	Palmer Station	34.86	174	P		P		09 09 23.6	-0.7
PMSA				IAmb	IAmb			09 09 37.3	
	comp=Z,40nm,1.2s								
PMSA	Palmer Station	34.86	174	*e*P		P		09 09 29.6	+5.3
ROSC	El Rosal	35.01	356	P		P		09 09 27.6	+1.2
	comp=Z,4.6nm,0.4s,baz=223,slow=19,SNR=1.8								
ROSC	El Rosal	35.01	356	P		P		09 09 24.4	-2.1
ROSC				pmax	pmax				
	comp=Z,12nm,1.0s								
ROSC	El Rosal	35.01	356	P		P		09 09 24.4	-2.1
MCPB	Macapa, AP	35.36	36	*e*P		P		09 09 30.1	+1.0
NBPN	Ponto Novo - B	35.41	64	*e*P		P		09 09 30.4	+0.7
GUY2C	Guyana, Caldas	35.46	354	*e*P		P		09 09 33.3	+2.8
NORC	Norcasia	35.76	355	*e*P		P		09 09 34.2	+1.7
TMAB	Tom-Au,PA,Br	35.91	44	*e*P		P		09 09 35.3	+1.4
RUSC	La Rusia	36.00	358	*e*P		P		09 09 35.2	+0.1
CBOC	Ciudad Bolivar	36.15	353	*e*P		P		09 09 40.0	+3.9
HELC	Santa Helena	36.43	354	*e*P		P		09 09 39.0	+0.4
PTBC	PUERTO BERRIO,	36.70	356	*e*P		P		09 09 40.0	-0.6
ELOV	Elorza	37.17	4	*e*P		P		09 09 45.7	+1.1
NBLA	Lagarto - SE	37.22	66	*e*P		P		09 09 44.8	-0.3
DBBC	Dabeiba	37.31	353	*e*P		P		09 09 48.6	+2.7
ZARC	Zaragoza, Cauc	37.67	356	*e*P		P		09 09 49.5	+0.8
UREC	San Jos de Ur	37.98	354	*e*P		P		09 09 51.5	+0.1
NBMA	Muriti-CE	38.70	61	*e*P		P		09 09 59.2	+1.6
NBPS	Pedro II - PI	38.75	54	*e*P		P		09 09 59.0	+0.9
SMLC	San Martn de	38.92	357	*e*P		P		09 09 58.1	-1.2
NBAN	Anadia - AL	39.20	66	*e*P		P		09 10 01.9	+0.2
NBPB	Pedra_Branca-C	39.29	58	*e*P		P		09 10 04.5	+2.0
MDP	Montagnes des	39.84	31	LR	LR			09 28 34.4	
	comp=Z,360nm,18.8s,baz=202,slow=39								
ARGC	Ariguani, Magd	39.98	357	*e*P		P		09 10 06.7	-1.4
SJCC	San Jacinto, C	40.07	355	*e*P		P		09 10 06.7	-2.2
NBPA	Parau_RN	40.99	60	*e*P		P		09 10 17.7	+1.1
NBCL	Cascavel-CE	41.13	58	*e*P		P		09 10 18.5	+0.8
JTS	Las Juntas de	42.20	341	P		P		09 10 29.7	+3.3
	comp=Z,2.8nm,0.8s,baz=194,slow=4.2,SNR=2.3								
JTS				LR	LR			09 24 59.6	
	comp=Z,100nm,18.1s,baz=220,slow=32								
JTS	Las Juntas de	42.20	341	*i* P		P		09 10 23.1	-3.4
JTS				pmax	pmax				
	comp=Z,4.0nm,1.1s								
OBIP	Obispado Ponce	48.36	7	P		P		09 11 13.7	-1.5
PDPR	Patillas Dam,	48.40	8	P		P		09 11 14.1	-1.4
PDPR				IAmb	IAmb			09 11 20.7	
	comp=Z,14nm,0.8s								
SJG	San Juan	48.47	8	P		P		09 11 14.7	-1.4
SJG				pmax	pmax				
	comp=Z,17nm,0.8s								
SJG	San Juan	48.47	8	P		P		09 11 14.7	-1.4
SJG				IAmb	IAmb			09 11 20.8	
	comp=Z,17nm,0.8s								
CBYP	Canovanas	48.67	8	P		P		09 11 15.9	-1.8
CBYP				IAmb	IAmb			09 11 27.5	
	comp=Z,19nm,0.9s								
GCPR	Guaynabo City	48.68	8	P		P		09 11 16.6	-1.0
CMIG	Matias Romero	51.97	332	P		P		09 11 45.5	+2.9
	comp=Z,6.1nm,1.0s,baz=170,slow=7.1								
VNA3	Neumayer Olymp	52.81	159	P		P		09 11 50.1	+1.8
VNA1	Neumayer--Stat	53.11	158	P		P		09 11 52.4	+2.0
VNA2	Neumayer--Watz	53.45	158	P		P		09 11 55.0	+2.0
	baz=287,slow=8.1								
SNAA	Sanae	55.04	159	P		P		09 12 06.3	+1.7
SNAA	Sanae	55.04	159	P		P		09 12 06.2	+1.6
	comp=Z,44nm,0.9s,baz=277,slow=7.1,SNR=135								
SNAA	Sanae	55.04	159	*i* P		P		09 12 05.2	+0.6
SNAA				pmax	pmax				
	comp=Z,88nm,1.1s								
SNAA	Sanae	55.04	159	P		P		09 12 06.3	+1.7
RKT	Rikitea	55.99	261	*e*T		T		10 12 10.8	
	comp=Z,2.6nm,0.3s								
QSPA	South Pole Qui	59.92	180	P		P		09 12 38.9	-0.3
833A	Chaparral WMA,	63.85	333	P		P		09 13 09.2	+3.4
	baz=154								
HKT	Hockley	64.03	337	*i* P		P		09 13 07.1	+0.2
HKT				pmax	pmax				
	comp=Z,16nm,1.4s								
NATX	Nacogdoches	65.32	339	P		P		09 13 18.6	+3.2
	baz=159								
KMSC	Kings Mountain	65.67	352	P		P		09 13 19.7	+2.2
	baz=171								
JCT	Junction City	65.93	334	P		P		09 13 22.4	+3.1
	baz=154								
WHTX	Lake Whitney,	66.45	337	P		P		09 13 25.7	+3.1
	baz=156								
TXAR	Lajitas Array	66.49	330	P		P		09 13 25.9	+2.8
	comp=Z,3.8nm,0.9s,baz=148,slow=7.6,SNR=23								
TXAR				LR	LR			09 38 35.6	
	comp=Z,200nm,18.1s,baz=0.0,slow=32								
OXF	Oxford	66.50	344	P		P		09 13 24.9	+2.1
	baz=164								
V52A	Sevierville	66.67	350	P		P		09 13 23.2	-0.7
MIAR	Mount Ida	67.60	341	P		P		09 13 32.3	+2.4
	baz=160								
VNDA	Vanda	67.71	191	P		P		09 13 33.1	+3.1
	comp=Z,2.9nm,1.1s,baz=150,slow=2.4,SNR=7.0								
VNDA				LR	LR			09 39 15.0	
	comp=Z,63nm,19.5s,baz=122,slow=32								
VNDA	Vanda	67.71	191	P		P		09 13 30.4	+0.3
VNDA				pmax	pmax				
	comp=Z,9.0nm,1.4s								
VNDA	Vanda	67.71	191	P		P		09 13 30.4	+0.3
WVT	Waverly	67.71	346	P		P		09 13 29.0	-1.5
WVT				pmax	pmax				
	comp=Z,29nm,1.2s								
WVT	Waverly	67.71	346	P		P		09 13 29.0	-1.5
WVT	Waverly	67.71	346	P		P		09 13 32.3	+1.8
	baz=166								
ABTX	Abilene, Hawle	67.80	335	P		P		09 13 33.6	+2.4
	baz=155								
W41B	Gary Mavity, V	67.83	342	P		P		09 13 33.3	+2.0
	baz=161								
T50A	Nancy	68.02	349	P		P		09 13 31.5	-1.0
T50A				IAmb	IAmb			09 13 43.0	
	comp=Z,11nm,1.0s								
TBI	Tubuai	68.16	255	*e*S		S		09 22 33.5	+1.1
	comp=Z,49nm,23.8s								
TBI	Tubuai	68.16	255	*e*LR		LR		09 34 04.9	
	comp=Z,212nm,29.0s								
W39A	Magazine	68.27	341	P		P		09 13 37.0	+3.0
	baz=160								
U40A	Yellville	69.11	342	P		P		09 13 41.8	+2.6
	baz=161								
MNTX	Cornudas Mount	69.27	330	P		P		09 13 38.7	-1.7
MNTX				IAmb	IAmb			09 13 51.6	
	comp=Z,10nm,0.8s								
MNTX	Cornudas Mount	69.27	330	P		P		09 13 42.3	+1.9
	baz=150								
WCI	Wyandotte Cave	69.45	348	P		P		09 13 43.1	+1.8
	baz=167								
TUL1	Leonard	69.52	340	P		P		09 13 44.0	+2.2
	baz=158								
Q51A	Peebles	69.76	351	P		P		09 13 42.1	-1.2
Q51A				IAmb	IAmb			09 13 54.4	
	comp=Z,17nm,0.9s								
MCWV	Mont Chateau	69.97	354	P		P		09 13 46.8	+2.3
	baz=173								
MSTX	Muleshoe	70.18	333	P		P		09 13 48.8	+2.8
	baz=152,SNR=9.1								
P52A	Corning	70.20	352	P		P		09 13 47.6	+1.7
	baz=171								
CCM	Cathedral Cave	70.31	344	P		P		09 13 48.9	+2.3
	baz=163								
O56A	Blue Knob Stat	70.47	355	P		P		09 13 50.3	+2.7
	baz=174								
P48A	Milroy	70.50	349	P		P		09 13 46.8	-0.9
P48A				IAmb	IAmb			09 13 58.5	
	comp=Z,19nm,1.0s								
TIAR	Tiarei	70.55	261	*e*T		T		10 30 22.2	
	comp=Z,1.0nm,0.2s								
PPT2	Papeete2	70.73	261	*e*S		S		09 23 03.1	+0.1
	comp=Z,116nm,25.2s								
PPT2	Papeete2	70.73	261	*e*LR		LR		09 35 13.4	
	comp=Z,294nm,24.2s								
PPT	Papeete	70.74	261	LR	LR			09 36 41.1	
	comp=Z,117nm,19.1s,baz=127,slow=29								
SSPA	Standing Stone	70.78	355	P		P		09 13 54.3	+4.9
	baz=175								
ACSO	Alum Creek Sta	70.90	351	P		P		09 13 52.1	+2.0
	baz=170								
N59A	State Game Lan	70.94	357	P		P		09 13 56.2	+5.7
	baz=177								
121A	Cookes Peak, D	71.04	329	P		P		09 13 55.2	+3.8
	baz=148								
Q49A	Covington	71.04	350	P		P		09 13 49.4	-1.7
Q49A				IAmb	IAmb			09 14 02.1	
	comp=Z,24nm,0.9s								
N54A	Moraine State	71.28	354	P		P		09 13 54.5	+2.1
	baz=173								
L61B	Northampton	72.39	360	P		P		09 14 01.9	+2.8
	baz=180								
ANMO	Albuquerque	72.52	331	*i* P		P		09 14 02.0	+1.7
ANMO				pmax	pmax				
	comp=Z,8.0nm,1.1s								
ANMO	Albuquerque	72.52	331	P		P		09 14 04.7	+4.4
	baz=149								
214A	Organ Pipe Nat	72.96	325	P		P		09 14 06.4	+3.6
	baz=144								
CBKS	Cedar Bluff	73.42	338	P		P		09 14 08.1	+2.7
	baz=156								
T25A	Trinidad	73.59	334	P		P		09 14 10.3	+3.6
	baz=151,SNR=8.6								
LIC	Lamto	73.70	73	*e*P		P		09 14 08.8	+1.2
	comp=Z,44nm,1.0s								
TIC	Toumodi	73.94	72	*e*P		P		09 14 10.3	+1.3
KIC	Kosan Boka	74.02	73	*e*P		P		09 14 10.9	+1.5
	comp=Z,56nm,1.0s								
DBIC	Dimbokro	74.09	72	P		P		09 14 10.7	+0.9
	comp=Z,20nm,0.9s,baz=234,slow=5.8,SNR=17								
DBIC				LR	LR			09 44 32.8	
	comp=Z,469nm,19.2s,baz=244,slow=34								
DBIC	Dimbokro	74.09	72	P		P		09 14 09.3	-0.5
DBIC				pmax	pmax				
	comp=Z,33nm,1.0s								
DBIC	Dimbokro	74.09	72	P		P		09 14 09.3	-0.5
SDCO	Great Sand Dun	74.55	333	P		P		09 14 15.5	+3.2
	baz=151								
JFWS	Jewell Farm	74.74	346	P		P		09 14 15.3	+2.4
	baz=164								
S22A	4UR Ranch, Cre	75.07	332	P		P		09 14 18.6	+3.2
	baz=150								
WUAZ	Wupatki	75.17	328	P		P		09 14 19.9	+4.1
	baz=146								
IKP	In-Ko-Pah, Jac	75.20	323	P		P		09 14 22.0	+6.0
	baz=142								
MVCO	Mesa Verde	75.31	331	P		P		09 14 20.7	+4.1
	baz=148								
Q24A	Divide	75.47	334	P		P		09 14 21.4	+3.7
	baz=151,SNR=8.7								
MONP2	Monument Peak	75.56	323	P		P		09 14 21.7	+3.5
	baz=142								
BC3	Big Chuckawall	75.65	324	P		P		09 14 22.1	+3.5
	baz=142,SNR=12								
IRM	Iron Mountain	75.89	324	P		P		09 14 25.1	+5.3
	baz=143								
LMN	Caledonia Moun	76.08	5			P		09 14 20.1	-0.4
LMN				IAmb	IAmb			09 14 28.1	
	comp=Z,26nm,0.9s								
TPFO	Pinon Flats	76.13	323	P		P		09 14 27.3	+6.0
	baz=142,SNR=7.6								
PFO	Pinyon Flats O	76.14	323	P		P		09 14 26.1	+4.8
	baz=142,SNR=7.2								
BELC	Belle Mtn. Jos	76.20	324	P		P		09 14 25.3	+3.6
	baz=142								
ISCO	Idaho Springs	76.37	334	P		P		09 14 26.0	+3.2
	baz=151								
MAW	Mawson	76.74	164	P		P		09 14 25.6	+1.5
	comp=Z,7.0nm,1.0s,baz=220,slow=4.5,SNR=10								
MAW				LR	LR			09 49 44.4	
	comp=Z,313nm,18.4s,baz=232,slow=37								
MAW	Mawson	76.74	164	P		P		09 14 24.2	0.0
MAW				pmax	pmax				
	comp=Z,4.0nm,1.4s								
MAW	Mawson	76.74	164	P		P		09 14 24.2	0.0
ECSD	EROS Data Cent	77.02	342	P		P		09 14 28.5	+2.5
	baz=159								
HEC	Hector,Ludlow	77.03	324	P		P		09 14 32.6	+6.4
	baz=142								
D62A	Allapoint, All	77.07	2	P		P		09 14 25.5	-0.6
D62A				IAmb	IAmb			09 14 33.7	
	comp=Z,19nm,0.9s								
BFSC	Mount Baldy Ra	77.25	323	P		P		09 14 31.3	+3.7
	baz=141								
TUQ	Turquoise Moun	77.29	325	P		P		09 14 31.4	+3.5
	baz=142,SNR=7.9								
BATG	Bathurst New B	77.41	4	P		P		09 14 27.0	-1.0
BATG				IAmb	IAmb			09 14 35.8	
	comp=Z,14nm,0.9s								
N23A	Red Feather La	77.45	334	P		P		09 14 32.8	+4.0
	baz=151								
SPMN	Marine on St.	77.49	345	P		P		09 14 32.9	+4.4
	baz=162								
GSC	Goldstone, Bar	77.64	324	P		P		09 14 35.9	+6.2
	baz=142								
O20A	White River Ci	77.69	332	P		P		09 14 33.4	+3.4
	baz=149,SNR=8.6								
EDW2	Edwards Air Fo	77.92	323	P		P		09 14 35.5	+4.3
	baz=141								
LRMC	Laurel Mtn Rad	78.22	323	P		P		09 14 38.3	+5.3
	baz=141								
MPMC	Manual Prospec	78.57	324	P		P		09 14 40.8	+5.8
	baz=141								
FURC	Furnace Creek,	78.57	325	P		P		09 14 38.7	+4.0
	baz=142								
TPNV	Topopah Spring	78.65	325	P		P		09 14 39.3	+3.9
	baz=142,SNR=11								
ISA	Isabella, Lake	78.77	323	P		P		09 14 42.2	+6.3
	baz=141								
PKM	Mcpherson Peak	78.89	322	P		P		09 14 43.0	+6.3
	baz=140								
CWC	Cottonwood Cre	79.17	324	P		P		09 14 44.1	+5.8
	baz=141								
K22A	Casper	79.19	335	P		P		09 14 43.9	+5.7
	baz=150								
KOWA	Kowa	79.19	66	P		P		09 14 38.7	+0.1
KOWA				IAmb	IAmb			09 14 41.6	
	comp=Z,31nm,1.0s								
VES	Vestal, Richgr	79.23	323	P		P		09 14 45.1	+6.7
	baz=140								
GRAC	Grapevine Rang	79.24	325	P		P		09 14 44.5	+6.1
	baz=142								
R11A	Troy Canyon, C	79.43	327	P		P		09 14 45.6	+5.9
	baz=143,SNR=9.1								
RSSD	Black Hills	79.61	337	P		P		09 14 46.3	+5.8
	baz=152								
DUG	Dugway, Tooele	79.66	329	P		P		09 14 46.9	+6.1
	baz=145,SNR=10								
TSUM	Tsumeb	80.31	107	P		P		09 14 44.3	-0.6
PDAR	Pinedale Array	80.44	333	P		P		09 14 47.3	+2.2
	comp=Z,1.3nm,0.9s,baz=139,slow=7.0,SNR=9.8								
PDAR				LR	LR			09 47 17.6	
	comp=Z,93nm,19.4s,baz=139,slow=33								
PDAR	Pinedale Array	80.44	333	P		P		09 14 43.3	-1.8
B35A	Bob, Littlefor	80.66	346	P		P		09 14 44.7	-1.1
NVAR	Mina Array Bea	80.82	325	P		P		09 14 49.3	+2.1
	comp=Z,1.3nm,0.9s,baz=152,slow=5.8,SNR=2.6								
NVAR				LR	LR			09 44 33.1	
	comp=Z,69nm,21.4s,baz=124,slow=31								
AGMN	Agassiz Nation	81.09	344	P		P		09 14 50.4	+2.4
	baz=160								
BOSA	Boshof	81.86	118	P		P		09 14 53.6	+0.6
	comp=Z,6.9nm,1.0s,baz=260,slow=3.8,SNR=4.0								
BOSA				LR	LR			09 46 34.3	
	comp=Z,199nm,20.8s,baz=188,slow=32								
ULM	Lac du Bonnet	82.92	345	P		P		09 15 01.5	+3.8
	comp=Z,4.1nm,0.7s,baz=168,slow=4.1,SNR=3.7								
ULM	Lac du Bonnet	82.92	345	P		P		09 14 56.1	-1.5
ULM				pmax	pmax				
	comp=Z,13nm,1.2s								
ULM	Lac du Bonnet	82.92	345	P		P		09 14 56.1	-1.5
ULM				IAmb	IAmb			09 15 08.2	
	comp=Z,13nm,1.1s								
TORD	Torodi Ar. Bea	83.03	70	P		P		09 15 00.3	+1.3
	comp=Z,16nm,0.8s,baz=259,slow=4.7,SNR=84								
TORD				LR	LR			09 50 35.6	
	comp=Z,459nm,18.5s,baz=245,slow=35								
TORD	Torodi Ar. Bea	83.03	70	P		P		09 14 58.0	-1.1
HLID	Hailey	83.09	330	P		P		09 15 02.4	+3.5
	baz=144								
DGMT	Dagmar	83.51	339	P		P		09 15 03.8	+3.0
	baz=153								
BOZ	Bozeman (W)	83.63	333	P		P		09 15 05.4	+3.8
	baz=147								
CASY	Casey	83.71	181	P		P		09 15 01.0	-0.7
CASY				IAmb	IAmb			09 15 05.2	
	comp=Z,18nm,1.1s								
O03E	Paynes Creek	84.00	324	P		P		09 15 08.1	+4.5
	baz=139								
SCHQ	Schefferville	84.91	3	P		P		09 15 09.9	+2.2
	comp=Z,8.8nm,1.0s,baz=190,slow=4.1,SNR=4.2								
SCHQ	Schefferville	84.91	3	P		P		09 15 07.2	-0.6
SCHQ				IAmb	IAmb			09 15 15.4	
	comp=Z,17nm,1.3s								
M04C	Macdoel	85.13	325	P		P		09 15 13.6	+4.3
	baz=139								
ESDC	Sonseca Array	94.06	46	LR	LR			09 58 28.7	
	comp=Z,198nm,18.0s,baz=255,slow=36								
YKA	Yellowknife Ar	98.54	342	LR	LR			09 59 54.8	
	comp=Z,42nm,18.8s,baz=0.0,slow=35								
DZM	Mont Dzumac	103.35	234	*e*LR	LR			09 50 26.6	
	comp=Z,262nm,28.5s								
MNK	Minsk	119.70	41	*i* PKIKP		PKPdf		09 21 19.9	-2.8
MNK				*i*				09 28 28

BRVK	**Borovoye**	**144.47**	**39**	PKPdf	**PKPab**	**09 22 07.2**	**-0.2**
YAK	**Yakutsk**	**145.22**	**342**	*e*PKIKP	**PKPdf**	**09 22 11.5**	**+1.5**
YAK				pmax	pmax		
	comp=Z,13nm,0.9s						
KBL	**Kabul**	**147.08**	**72**	PKIKP	**PKPdf**	**09 22 12.0**	**-2.4**
KBL	**Kabul**	**147.08**	**72**		**PKPdf**	**09 22 12.0**	**-2.4**
KK31	**Karatay Array**	**147.70**	**56**	PKIKP	**PKPdf**	**09 22 14.3**	**-0.6**
KK31						09 22 19.0	
KK31	**Karatay Array**	**147.70**	**56**		**PKPdf**	**09 22 14.3**	**-0.6**
KK31				PKPab	**PKiKP**	**09 22 19.0**	**-0.8**
KKAR	**Karatay Array**	**147.70**	**56**	PKIKP	**PKPdf**	**09 22 13.0**	**-1.9**
KKAR						09 22 17.5	
KKAR						09 22 18.6	
KKAR	**Karatay Array**	**147.70**	**56**	PKPdf	**PKPdf**	**09 22 13.0**	**-1.9**
KKAR				PKPab	**PKPbc**	**09 22 18.6**	**+0.8**
KKAR	**Karatay Array**	**147.70**	**56**	PKPdf	**PKPdf**	**09 22 13.0**	**-1.9**
KKAR					**PKPbc**	**09 22 17.5**	**-0.3**
GAR	**Garm**	**148.09**	**64**		**PKPbc**	**09 22 17.5**	**-1.6**
BTK	**Batken**	**148.38**	**62**	PKP2	**PKPbc**	**09 22 18.6**	**-1.1**
BTK	**Batken**	**148.38**	**62**		**PKPbc**	**09 22 18.6**	**-1.1**
HYB	**Hyderabad**	**150.37**	**109**	*i* PKP	**PKPbc**	**09 22 23.0**	**-2.2**
FRU1	**Bishkek**	**150.71**	**56**	PKIKP	**PKPbc**	**09 22 24.0**	**-1.4**
FRU1	**Bishkek**	**150.71**	**56**		**PKPbc**	**09 22 24.0**	**-1.4**
ZAA0	**Zalesovo Array**	**151.08**	**29**		**PKPbc**	**09 22 24.7**	**-1.1**
ZALV	**Zalesovo Beam**	**151.08**	**29**	PKPbc	**PKiKP**	**09 22 27.9**	**+1.5**
	comp=Z,28nm,0.9s,baz=298,slow=3.2,SNR=45						
ZALV	**Zalesovo Beam**	**151.08**	**29**	PKIKP	**PKPdf**	**09 22 18.9**	**-1.0**
ZALV						09 22 24.5	
ZALV	**Zalesovo Beam**	**151.08**	**29**	PKPdf	**PKPdf**	**09 22 18.9**	**-1.0**
ZALV				PKPbc	**PKPbc**	**09 22 24.5**	**-1.3**
KSH	**Kashi**	**152.38**	**62**	PKPbc	**PKPdf**	**09 22 18.8**	**-3.8**
KSH				PP	**PP**	**09 26 11.8**	**-0.6**
KSH				AMB	AMB		
	comp=Z,150nm,7.1s						
ZEA	**Zeya**	**152.69**	**335**	*e*PKIKP	**PKPab**	**09 22 38.6**	**-1.6**
MJAR	**Matsushiro Arr**	**154.00**	**292**	PKPab	**PKPab**	**09 22 47.7**	**+1.3**
	comp=Z,1.2nm,0.9s,baz=130,slow=5.1,SNR=1.6						
MJAR	**Matsushiro Arr**	**154.00**	**292**	PKIKP	**PKPdf**	**09 22 22.1**	**-2.7**
MJAR						09 22 44.4	
MJAR	**Matsushiro Arr**	**154.00**	**292**	PKPdf	**PKPdf**	**09 22 22.1**	**-2.7**
MJAR					**sPKPbc**	**09 22 44.4**	**+0.7**
MKAR	**Makanchi Array**	**154.25**	**43**	PKP	**PKPdf**	**09 22 26.1**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=316,slow=4.0,SNR=5.2						
MKAR				PKPbc	**sPKPdf**	**09 22 35.3**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=325,slow=2.0,SNR=12						
MKAR	**Makanchi Array**	**154.25**	**43**	PKIKP	**PKPdf**	**09 22 22.6**	**-2.3**
MKAR						09 22 34.8	
MKAR						09 22 44.8	
MKAR	**Makanchi Array**	**154.25**	**43**	PKPdf	**PKPdf**	**09 22 22.6**	**-2.3**
MKAR				PKPbc	**sPKPdf**	**09 22 34.8**	**-0.9**
MKAR				PKPab	**sPKPbc**	**09 22 44.8**	**+1.0**
WMQ	**Urumqi**	**159.06**	**44**	*e*PKP	**PKPdf**	**09 22 30.1**	**-1.1**
WMQ				LR	LR		
	comp=Z,270nm,18.9s						
WMQ				LR	LR		
	comp=Z,190nm,18.9s						
WMQ				LR	LR		
	comp=Z,200nm,21.1s						
ZAK	**Zakamensk**	**159.65**	**8**	*e*PKP2	**PKPab**	**09 23 08.2**	**-2.0**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
SONM	**Songino Array**	**162.45**	**3**	PKPab	**PKPab**	**09 23 25.1**	**+2.5**
	comp=Z,2.4nm,0.9s,baz=336,slow=3.2,SNR=7.2						
SONM	**Songino Array**	**162.45**	**3**	PKIKP	**PKPdf**	**09 22 31.9**	**-3.0**
SONM						09 23 20.3	
SONM	**Songino Array**	**162.45**	**3**	PKPdf	**PKPdf**	**09 22 31.9**	**-3.0**
SONM					**PKPab**	**09 23 20.3**	**-2.3**
CMAR	**Chiang Mai Arr**	**165.68**	**143**	PKP	**PKPdf**	**09 22 37.9**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=264,slow=3.4,SNR=4.8						
GTA	**Gaotai**	**168.76**	**34**	*e*PKP	**PKPdf**	**09 22 43.3**	**+3.0**
GTA				LR	LR		
	comp=Z,130nm,20.7s						
GTA				LR	LR		
	comp=Z,160nm,18.5s						
GTA				LR	LR		
	comp=Z,120nm,21.1s						
HHC	**Hu-ho-hao-te**	**169.06**	**345**	*e*P	PKPdf	09 22 31.3	-9.1
NJ2	**Nanjing**	**170.44**	**283**	*e*PKP	**PKPdf**	**09 22 41.1**	**-0.3**
KMI	**Kunming**	**173.12**	**137**	⇑PKP	**PKPdf**	**09 22 41.9**	**-1.3**
LZH	**Lanzhou**	**173.31**	**29**	*e*PKP	**PKPdf**	**09 22 40.0**	**-2.8**
LZH				LR	LR		
	comp=Z,240nm,18.1s						
LZH				LR	LR		
	comp=Z,220nm,17.9s						
LZH				LR	LR		
	comp=Z,160nm,20.3s						
XAN	**Xi'an**	**176.17**	**347**	PKP	**PKPdf**	**09 22 45.9**	**+2.3**

MEX 20 09:13:43.1±0.7, 14°.46N×93°.25W, h40km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.05**	**65**	*i* P	Pn	09 13 59.6	-1.7
THIG				*i* S	Sn	09 14 14.6	-0.2
PCIG		**1.24**	**1**	*i* P	Pn	09 14 02.2	-1.7
PCIG				*i* S	Sn	09 14 17.8	-1.7
CCIG	**Comitan**	**2.10**	**30**	*i* P	Pn	09 14 17.7	+1.7
CCIG				*i* S	Sn	09 14 46.7	+5.7
CMIG	**Matias Romero**	**3.06**	**329**	*i* P	Pn	09 14 27.6	-1.3
CMIG				*i* S	Sn	09 14 58.4	-5.9

*SJA **20** 09:20:03.0, 31°.86S×72°.78W, h10km, ML4.5*
*NEIC **20** 09:20:04.6±1.0, 31°.89S±0°.04×72°.3W±0°.1, h5km±1km, mb4.4/7, Mwr4.2/16, ML4.0(GUC), Error ellipse: s-maj=16.1km s-min=7.3km az=91.0*
*GUC **20** 09:20:05.9±0.7, 31°.86S×72°.17W, h20km±8km, ML4.0*
*IDC **20** 09:20:05.6±1.4, 31°.86S×71°.98W, h0km, mb3.8/4, mb1 4.0/8, mb1mx3.8/26, mbtmp3.8/8, ML3.9/4, Error ellipse: s-maj=33.0km s-min=32.1km az=105.0*
*NEIC **20** 09:20:06.7, 31°.89S×72°.32W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.02; $M_{\theta\theta}$0.29; $M_{\phi\phi}$-0.32; $M_{r\theta}$0.87; $M_{r\phi}$0.01; $M_{\theta\phi}$-2.74; Fault plane solution: M_o2.89000×10^{15} NP1:ϕ_s49.89000°, δ3.74000°, λ157.80000°. NP2:ϕ_s162.05000°, δ88.59000°, λ86.53000°. Principal axes: T 2.7621, Plg46.0000°, Azm68.0000°; N 0.2415, Plg3.0000°, Azm162.0000°; P -3.0036, Plg43.0000°, Azm255.0000°;*

ISC 20 09:20:04.1±1.6, 31°.89S±0°.03×72°.28W±0°.07, h5km±10km, n84, σ1$ 26/81, mb4.2/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**1.07**	**129**	*e*P	**Pn**	**09 20 25.1**	**-0.6**
VA06				*i* S	**Sn**	**09 20 39.6**	**-1.3**
VA06				IAML		09 20 41.6	
	comp=E,14μm,0.6s						
VA01	**Torpederas**	**1.25**	**155**	*e*P	**Pg**	**09 20 28.2**	**+0.2**
VA01	**Torpederas**	**1.25**	**155**	Pn	**Pg**	**09 20 28.1**	**+0.1**
VA01	**Torpederas**	**1.25**	**155**	*i* P	**Pg**	**09 20 28.0**	**0.0**
CO06	**Fray Jorge**	**1.33**	**25**	*e*P	**Pb**	**09 20 28.9**	**-0.7**
CO06				*i* S	**Sn**	**09 20 46.0**	**-1.5**
CO06				IAML		09 20 54.7	
	comp=E,3μm,0.4s						
CO06	**Fray Jorge**	**1.33**	**25**		**Pg**	**09 20 30.1**	**+0.4**
ROCH	**El Roble**	**1.52**	**135**	*e*P	**Pb**	**09 20 32.6**	**-0.3**
ROCH				*i* S	**Sg**	**09 20 53.2**	**+0.2**
ROCH				IAML		09 20 59.6	
	comp=E,3μm,0.6s						
VA03	**San Esteban**	**1.70**	**121**	*e*P	**Pb**	**09 20 35.2**	**-0.8**
VA03				*i* S	**Sb**	**09 20 57.4**	**-0.3**
VA03				IAML		09 21 01.7	
	comp=E,4μm,0.2s						
VA03	**San Esteban**	**1.70**	**121**	Pn	**Pb**	**09 20 35.1**	**-0.8**
CO03	**El Pedregal**	**1.72**	**53**	*e*P	**Pb**	**09 20 34.8**	**-1.4**
CO03				*i* S	**Sb**	**09 20 56.8**	**-1.4**
CO03				IAML		09 21 03.8	
	comp=E,3μm,0.3s						
CO03	**El Pedregal**	**1.72**	**53**	Pn	**Pb**	**09 20 35.2**	**-1.0**
CO03	**El Pedregal**	**1.72**	**53**	*i* P	**Pb**	**09 20 35.0**	**-1.2**
VA05	**Santo Domingo**	**1.85**	**163**	*e*P	**Pn**	**09 20 36.8**	**+0.3**
VA05				IAML		09 21 15.7	
	comp=E,2μm,0.5s						
VA05	**Santo Domingo**	**1.85**	**163**	Pn	**Pn**	**09 20 36.7**	**+0.3**
MT05	**Renca**	**1.98**	**139**	*e*P	**Pb**	**09 20 39.8**	**-0.9**
MT05	**Renca**	**1.98**	**139**		**Pb**	**09 20 39.3**	**-1.3**
MT05	**Renca**	**1.98**	**139**	*i* P	**Pb**	**09 20 39.0**	**-1.7**
GO04	**Tololo Observa**	**2.13**	**37**	*e*P	**Pb**	**09 20 42.5**	**-0.9**
GO04	**Tololo Observa**	**2.13**	**37**		**Pb**	**09 20 41.2**	**-2.2**
MT01	**Popeta**	**2.15**	**157**	*e*P	**Pn**	**09 20 41.0**	**+0.4**
MT01	**Popeta**	**2.15**	**157**	Pn	**Pn**	**09 20 41.0**	**+0.4**
MT01	**Popeta**	**2.15**	**157**	*i* P	**Pn**	**09 20 41.0**	**+0.4**
CO05	**La Serena**	**2.16**	**25**	*e*P	**Pn**	**09 20 41.2**	**+0.5**
CO05				*i* S	**Sb**	**09 21 10.4**	**-0.4**
CO05				IAML		09 21 22.0	
	comp=E,3μm,0.6s						
CO05	**La Serena**	**2.16**	**25**	Pn	**Pn**	**09 20 41.1**	**+0.4**
MT09	**Talagante**	**2.17**	**150**	*e*P	**Pb**	**09 20 42.2**	**-1.7**
MT09				*i* S	**Sb**	**09 21 09.4**	**-1.8**
MT09				IAML		09 21 25.6	
	comp=N,939nm,0.7s						
MT09	**Talagante**	**2.17**	**150**	Pn	**Pn**	**09 20 41.9**	**+0.9**
AUSP	**Uspallata**	**2.48**	**98**	*i* P	**Pb**	**09 20 48.0**	**-1.3**
RTLS	**Leoncito**	**2.54**	**89**	*i* P	**Pb**	**09 20 50.0**	**-0.3**
BO01	**Tunca**	**2.69**	**158**		**Pn**	**09 20 48.9**	**+0.9**
BO01	**Tunca**	**2.69**	**158**	*i* P	**Pn**	**09 20 49.0**	**+1.0**
ARCO	**CERRO ARCO**	**2.99**	**109**	*i* P	**Pb**	**09 20 58.0**	**+0.1**
ASAL	**Salagasta**	**3.00**	**104**	*i* P	**Pb**	**09 20 57.0**	**-1.1**
ACCO	**Cerro Coronel**	**3.04**	**66**	*i* P	**Pb**	**09 20 59.0**	**0.0**
ZON	**Zonda**	**3.09**	**85**		**Pb**	**09 20 55.8**	**-3.8**
ZON	**Zonda**	**3.09**	**85**	*i* P	**Pb**	**09 20 59.0**	**-0.5**
GO05	**Huala**	**3.12**	**175**	Pn	**Pn**	**09 20 54.2**	**+0.2**
GO05	**Huala**	**3.12**	**175**	*i* P	**Pn**	**09 20 54.0**	**0.0**
AAGR	**Agrelo**	**3.15**	**113**	*i* P	**Pb**	**09 20 59.0**	**-1.6**
BO02	**Sierra Bellavi**	**3.15**	**157**	Pn	**Pn**	**09 20 55.4**	**+1.0**
BO02	**Sierra Bellavi**	**3.15**	**157**	*i* P	**Pn**	**09 20 56.0**	**+1.5**
RTCV	**Cerro Valdivia**	**3.18**	**90**	*i* P	**Pb**	**09 20 59.0**	**-2.1**
AC04	**Llanos de Chal**	**3.82**	**16**	Pn	**Pn**	**09 21 03.5**	**0.0**
COIS	**El Sosneado**	**3.91**	**146**	*i* P	**Pn**	**09 21 08.0**	**+3.1**
ML02	**Panimavida**	**3.93**	**170**	Pn	**Pn**	**09 21 05.6**	**+0.6**
RFA	**San Rafael**	**4.29**	**133**	*i* P	Pb	09 21 15.0	-5.1
GO03	**Copiap**	**4.64**	**23**	Pn	**Pn**	**09 21 15.6**	**+0.7**
GO03	**Copiap**	**4.64**	**23**	*i* P	**Pn**	**09 21 16.0**	**+1.1**
AC06	**Mina Casimiro**	**4.82**	**21**	Pn	**Pn**	**09 21 18.3**	**+1.0**
ACHE	**Chepes**	**4.85**	**83**	*i* P	Pn	09 21 22.0	+4.1
AC02	**Maricunga**	**5.74**	**29**	Pn	**Pn**	**09 21 30.7**	**+0.2**
AC02	**Maricunga**	**5.74**	**29**	*i* P	**Pn**	**09 21 31.0**	**+0.6**
H03N1	**Juan Fernandez**	**5.80**	**253**	T	T	09 28 23.9	
	baz=79,slow=72,SNR=132						
H03N3	**Juan Fernandez**	**5.82**	**253**	T	T	09 28 29.0	
	baz=79,slow=72,SNR=154						
H03N2	**Juan Fernandez**	**5.82**	**253**	T	T	09 28 23.7	
	baz=79,slow=72,SNR=163						
H03S3	**Juan Fernandez**	**5.90**	**249**	T	T	09 28 30.4	
	baz=84,slow=74,SNR=5.2						
H03S1	**Juan Fernandez**	**5.91**	**249**	T	T	09 28 29.7	
	baz=84,slow=74,SNR=4.2						
H03S2	**Juan Fernandez**	**5.92**	**249**	T	T	09 28 34.8	
	baz=84,slow=74,SNR=7.2						
CYA	**Choya**	**6.58**	**60**	*i* P	**Pn**	**09 21 45.0**	**+3.5**
LC01	**Cunco**	**7.00**	**177**		**Pn**	**09 21 47.2**	**-0.1**
LC01	**Cunco**	**7.00**	**177**	*i* P	**Pn**	**09 21 48.0**	**+0.8**
LR03	**Panguipulli**	**7.72**	**180**		**Pn**	**09 21 57.1**	**0.0**
AHML	**Horco Molle**	**7.91**	**52**	*i* P	**Pn**	**09 22 03.0**	**+3.1**
PLCA	**Paso Flores**	**8.93**	**172**	Pn	**Pn**	**09 22 15.4**	**+1.6**
	comp=N,0.5nm,0.3s,baz=335,slow=11,SNR=6.1						
PLCA	**Paso Flores**	**8.93**	**172**	Pn	**Pn**	**09 22 14.7**	**+0.9**
PLCA	**Paso Flores**	**8.93**	**172**	*i* P	**Pn**	**09 22 16.0**	**+2.2**
TRQA	**Tornquist**	**10.45**	**129**		**Pn**	**09 22 36.0**	**+1.5**
TRQA	**Tornquist**	**10.45**	**129**	*i* P	Pn	09 22 40.0	+5.5
ITQB	**Itaqui**	**13.64**	**85**		**Pn**	**09 23 18.3**	**+0.1**
CPUP	**Villa Florida**	**14.19**	**71**	Pn	**Pn**	**09 23 26.2**	**+0.5**
	comp=N,0.1nm,0.3s,baz=238,slow=12,SNR=4.3						
CPUP	**Villa Florida**	**14.19**	**71**		**Pn**	**09 23 25.6**	**-0.2**
LPAZ	**La Paz**	**15.99**	**15**	Pn	**P**	**09 23 51.6**	**-2.4**
	comp=N,0.1nm,0.3s,baz=203,slow=5.1,SNR=13						
LPAZ	**La Paz**	**15.99**	**15**		**Pn**	**09 23 50.7**	**+0.3**
SIV	**San Ignacio**	**18.83**	**35**	P	**Pn**	**09 24 24.7**	**-0.7**
	comp=N,0.2nm,0.3s,baz=222,slow=14,SNR=8.7						
BDFB	**Brasilia**	**27.38**	**59**	P	**P**	**09 25 50.4**	**-0.2**
	comp=N,3.1nm,0.8s,baz=252,slow=9.9,SNR=4.8						
BDFB	**Brasilia**	**27.38**	**59**	P	**P**	**09 25 50.7**	**+0.1**
BDFB				IAmb	IAmb	09 26 10.3	
	comp=Z,19nm,1.3s						
JAKH	**Jacmel**	**49.84**	**360**	P	**P**	**09 28 58.4**	**+0.2**
SNAA	**Sanae**	**53.61**	**158**	P	**P**	**09 29 26.8**	**+0.9**
SNAA				IAmb	IAmb	09 29 27.8	
	comp=Z,2.3nm,1.1s						
QSPA	**South Pole Qui**	**58.34**	**180**	P	**P**	**09 30 01.0**	**+1.1**
QSPA				IAmb	IAmb	09 30 14.5	
	comp=Z,4.2nm,1.2s						
TXAR	**Lajitas Array**	**67.80**	**331**	P	**P**	**09 31 04.8**	**+1.6**
	comp=Z,0.6nm,0.9s,baz=148,slow=8.6,SNR=3.9						
TXAR	**Lajitas Array**	**67.80**	**331**	P	**P**	**09 31 03.0**	**-0.1**
NVAR	**Mina Array Bea**	**82.04**	**325**	P	P	09 32 30.2	+4.8
	comp=Z,0.4nm,0.8s,baz=171,slow=6.4,SNR=3.0						
TORD	**Torodi Ar. Bea**	**83.69**	**70**	P	**P**	**09 32 35.0**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=212,slow=7.8,SNR=6.3						
TORD	**Torodi Ar. Bea**	**83.69**	**70**	P	**P**	**09 32 34.1**	**-0.2**
TORD				IAmb	IAmb	09 32 56.2	
	comp=Z,5.4nm,1.4s						
BVAR	**Borovoye Array**	**145.85**	**41**	PKPbc	**PKiKP**	**09 39 45.9**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=227,slow=3.6,SNR=1.8						

*IDC **20** 09:22:39.4±6.0, 10°.38S×115°.88E, h85km±58km, mb3.3/5, mb1 3.5/6, mb1mx3.2/46, mbtmp3.8/6, ML4.1/1, Error ellipse: s-maj=51.2km s-min=18.1km az=78.0*

ISC 20 09:22:38.7±1.8, 10°.81S±0°.08×116°.3E±0°.2, h35km, n7, σ3$ 42/10, mb3.7/4, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**6.67**	**31**	P	**Pn**	**09 24 13.8**	**-0.5**
	4.1nm,0.3s,baz=212,slow=8.9,SNR=12						
KAPI				S	**Sn**	**09 25 27.3**	**-1.9**
	1.7nm,0.3s,baz=67,slow=23,SNR=8.6						
FITZ	**Fitzroy Crossi**	**11.56**	**130**	P	**Pn**	**09 25 22.9**	**+1.5**
	0.2nm,0.3s,baz=303,slow=8.1,SNR=13						
FITZ				S	**Sn**	**09 27 27.2**	**-2.0**
	0.6nm,0.3s,baz=265,slow=24,SNR=8.8						
WRA	**Warramunga Arr**	**19.57**	**120**	P	**Pn**	**09 27 07.7**	**+2.3**
	1.5nm,0.8s,baz=291,slow=12,SNR=8.3						
WRA				S	**S**	**09 30 41.4**	**-1.7**
	0.4nm,0.5s,baz=283,slow=25,SNR=4.2						
ASAR	**Alice Springs**	**21.06**	**130**	P	**P**	**09 27 23.0**	**+3.0**
	1.0nm,0.8s,baz=308,slow=10,SNR=9.3						
ASAR				S	**S**	**09 31 14.6**	**+1.8**
	0.6nm,0.7s,baz=304,slow=24,SNR=4.5						
NWAO	**Narrogin (SRO)**	**22.03**	**178**	P	**P**	**09 27 31.9**	**+1.7**
	5.2nm,0.7s,baz=4.2,slow=8.4,SNR=1.6						
NWAO				S	**S**	**09 31 24.5**	**-7.0**
	6.5nm,0.9s,baz=344,slow=7.2,SNR=2.5						
SONM	**Songino Array**	**59.05**	**352**	P	P	09 32 28.1	-7.2
	0.5nm,0.5s,baz=157,slow=7.8,SNR=1.7						
MKAR	**Makanchi Array**	**64.92**	**335**	P	P	09 33 05.2	-9.5
	0.4nm,0.8s,baz=160,slow=7.6,SNR=2.4						

*IDC **20** 09:30:29.7±1.5, 31°.32S×72°.65W, h0km, mb3.5/1, mb1 3.9/3, mb1mx3.6/21, mbtmp3.6/3, ML3.6/3, MS2.9/1, Ms1 2.9/1, ms1mx2.7/17, Error ellipse: s-maj=60.1km s-min=33.9km az=93.0*

ISC 20 09:30:33.1±1.2, 31°.3S±0°.1×72°.5W±0°.3, h24km, n9, σ0$ 42/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H03N1	**Juan Fernandez**	**5.80**	**247**	T	T	09 37 42.5	
	baz=72,slow=72						
H03N3	**Juan Fernandez**	**5.81**	**247**	T	T	09 37 35.6	
	baz=72,slow=72						
H03N2	**Juan Fernandez**	**5.81**	**247**	T	T	09 37 40.3	
	baz=72,slow=72						
PLCA	**Paso Flores**	**9.50**	**171**	Pn	**Pn**	**09 32 48.3**	**-0.2**
	0.1nm,0.3s,baz=342,slow=18,SNR=2.3						
PLCA				LR	LR	09 35 45.8	
	comp=Z,72nm,18.3s,baz=204,slow=33						
LPAZ	**La Paz**	**15.51**	**16**	Pn	**Pn**	**09 34 10.6**	**-0.3**
	0.1nm,0.3s,baz=186,slow=8.3,SNR=9.9						
SIV	**San Ignacio**	**18.51**	**37**	P	**P**	**09 34 47.8**	**0.0**
	0.3nm,0.3s,baz=225,slow=13,SNR=30						
TXAR	**Lajitas Array**	**67.23**	**331**	P	**P**	**09 41 25.4**	**-0.1**
	0.4nm,0.8s,baz=158,slow=9.7,SNR=3.8						
KURBB	**Kurchatov Arra**	**151.15**	**40**	PKPbc	**PKiKP**	**09 50 24.8**	**+0.4**
	0.2nm,0.5s,baz=299,slow=3.4,SNR=2.4						
ZALV	**Zalesovo Beam**	**152.16**	**29**	PKPbc	**PKPbc**	**09 50 26.4**	**+0.4**
	0.5nm,0.3s,baz=321,slow=2.0,SNR=2.3						

*IDC **20** 09:38:55.2±0.5, 8°.86N×126°.04E, h0km, mb4.2/23, mb1 4.3/23, mb1mx4.1/52, mbtmp4.2/23, MS3.0/3, Ms1 3.0/3, ms1mx2.7/47, Error ellipse: s-maj=25.2km s-min=11.4km az=81.0*
*MAN **20** 09:39:02.0, 8°.89N×126°.48E, h54km, mb5.0, ML3.9, MS4.0*
*NEIC **20** 09:39:06.1±1.1, 8°.84N±0°.06×126°.1E±0°.1, h78km±7km, mb4.3/33, Error ellipse: s-maj=21.3km s-min=7.2km az=75.0*

ISC 20 09:39:02.9±0.4, 8°.88N±0°.04×126°.39E±0°.08, h54km, n85, σ1$ 40/84, mb4.3/38, 1C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**1.65**	**233**	⇓*e*P	**Pn**	**09 39 31.1**	**+1.6**
BUKP				*e*S	**Sn**	**09 39 52.8**	**+3.2**
MSLP	**Maasin**	**1.95**	**310**	*i* P	**Pn**	**09 39 35.5**	**+1.8**
DAV	**Davao City (W)**	**1.97**	**204**	Pn	**Pn**	**09 39 36.2**	**+2.3**
	59nm,0.3s,baz=50,slow=5.4,SNR=2.3						
DAV				Sn	**Sn**	**09 39 59.0**	**+1.5**
	87nm,0.3s,baz=220,slow=15,SNR=6.0						
DAV				LR	LR	09 40 15.9	
	comp=Z,153nm,18.0s,baz=354,slow=44						
DAV	**Davao City (W)**	**1.97**	**204**		**Pn**	**09 39 35.5**	**+1.5**
KCP	**Kidapawan**	**2.26**	**215**	⇓*i* P	**Pn**	**09 39 39.1**	**+1.1**
KCP				*i* S	**Sn**	**09 40 05.8**	**+1.1**
LLP	**Lapu-Lapu**	**2.78**	**301**	⇓*e*P	**Pn**	**09 39 46.7**	**+1.7**
LLP				*i* S	**Pn**	**09 39 48.5**	**+3.5**
DCPH	**Dipolog City**	**3.01**	**265**	⇑*e*P	**Pn**	**09 39 49.2**	**+1.0**
SNPH	**Sibulan**	**3.14**	**279**	*e*P	**Pn**	**09 39 51.3**	**+1.3**
PAGZ	**Pagadian**	**3.14**	**251**	*i* P	**Pn**	**09 39 52.0**	**+2.0**
CNOP	**Candoni, Negro**	**3.81**	**285**	*i* P	**Pn**	**09 40 01.1**	**+1.9**
RCP	**Roxas**	**4.46**	**307**	⇓*e*P	**Pn**	**09 40 11.2**	**+3.1**
YULB	**Yu-li**	**15.23**	**342**	Pn	**Pn**	**09 42 35.5**	**+0.9**
KAPI	**Kappang**	**15.31**	**206**	LR	LR	09 49 30.6	
	comp=Z,42nm,18.8s,baz=79,slow=42						
TPUB	**Ta-pu**	**15.36**	**340**	Pn	**Pn**	**09 42 37.5**	**+1.1**
TPUB				IAmb	IAmb	09 43 02.4	
	comp=Z,22nm,1.4s						
JCJ	**Chichijima**	**23.49**	**38**	LR	LR	09 52 55.0	
	comp=Z,16nm,20.7s,baz=260,slow=35						
KNRA	**Kununurra**	**24.51**	**174**	P	**P**	**09 44 17.9**	**+0.5**
KNRA				IAmb	IAmb	09 44 20.5	
	comp=Z,7.6nm,0.8s						
JMN	**Monobe**	**25.67**	**15**	P	**P**	**09 44 29.6**	**+1.7**
FITZ	**Fitzroy Crossi**	**26.82**	**182**	P	**P**	**09 44 38.3**	**0.0**
	comp=Z,1.7nm,0.6s,baz=1.0,slow=12,SNR=8.1						
FITZ	**Fitzroy Crossi**	**26.82**	**182**	P	**P**	**09 44 37.7**	**-0.6**
JWT	**Wachi**	**27.54**	**16**	P	**P**	**09 44 45.6**	**+0.9**
JWT				IAmb	IAmb	09 44 49.6	
	comp=Z,12nm,0.9s						
CMAR	**Chiang Mai Arr**	**28.27**	**293**	P	**P**	**09 44 48.4**	**-3.0**
	comp=Z,1.0nm,0.4s,baz=96,slow=7.3,SNR=1.5						
CMAR	**Chiang Mai Arr**	**28.27**	**293**	P	**P**	**09 44 49.4**	**-2.1**
SKRS	**Korea Array**	**28.48**	**3**	P	**P**	**09 44 53.0**	**0.0**
	comp=Z,2.5nm,0.7s,baz=181,slow=10,SNR=14						
WB0	**Warramunga Arr**	**29.54**	**165**	P	**P**	**09 45 02.0**	**-0.7**
WB0				IAmb	IAmb	09 45 15.8	
	comp=Z,9.4nm,1.4s						
MJAR	**Matsushiro Arr**	**29.56**	**20**	P	**P**	**09 45 01.5**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=181,slow=9.9,SNR=6.0						
WRAB	**Tennant Creek**	**29.69**	**165**	P	**P**	**09 45 03.7**	**-0.2**
WRAB				IAmb	IAmb	09 45 24.2	
	comp=Z,14nm,1.5s						
WRA	**Warramunga Arr**	**29.70**	**165**	P	**P**	**09 45 02.7**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=345,slow=9.6,SNR=11						
WRA				P

comp=Z,1.7nm,0.4s,baz=72,slow=4.5,SNR=19
FINES FINESS Array B 87.16 332 P **P** **09 51 42.0 -1.0**
AKASG Malin Array Be 87.70 321 P **P** **09 51 43.8 -2.1**
comp=Z,0.8nm,0.6s,baz=65,slow=4.5,SNR=2.6
VNDA Vanda 88.55 173 P **P** **09 51 49.4 +0.2**
comp=Z,1.3nm,0.6s,baz=313,slow=6.7,SNR=13
VNDA Vanda 88.55 173 P **P** **09 51 49.6 +0.3**
VNDA IAmb IAmb 09 51 52.8
comp=Z,5.8nm,1.5s
TORD Torodi Ar. Bea 120.88 291 PKP **PKPdf** **09 57 49.8 -0.5**
comp=Z,0.4nm,0.9s,baz=3.5,slow=3.3,SNR=2.0
PLCA Paso Flores 144.89 157 PKPbc **PKPdf** **09 58 34.7 +0.2**
comp=Z,3.9nm,0.9s,baz=238,slow=1.3,SNR=5.0

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*IDC **20** 09:43:04.8±1.2,32.20S×71.97W,h0km,mb4.2/5, mb1 4.0/10,mb1mx3.8/30,mbtmp3.9/10,ML3.8/5,MS3.7/2, Ms1 3.7/2,ms1mx3.0/25,Error ellipse: s-maj=45.7km s-min=20.5km az=109.0*
*GUC **20** 09:43:07.3±0.8,32.28S×71.89W,h22km±6km,ML4.1*
ISC 20 09:43:06.5±1.9,32.26S±0.03×71.97W±0.07,h12km±11km, n46,σ0 80/40,mb4.2/5,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.65**	**118**	***e*P**	**Pg**	**09 43 19.5**	**+0.3**
VA06				*i* S	**Sg**	**09 43 27.7**	**0.0**
VA06				IAML		09 43 31.6	
	comp=E,14μm,0.5s						
VA01	**Torpederas**	**0.81**	**160**	***e*P**	**Pb**	**09 43 22.4**	**-0.2**
ROCH	**El Roble**	**1.08**	**132**	***e*P**	**Pb**	**09 43 26.8**	**-0.5**
ROCH				*i* S	**Sn**	**09 43 42.1**	**-0.6**
ROCH				IAML		09 43 43.7	
	comp=N,11μm,0.3s						
VA03	**San Esteban**	**1.30**	**113**	***e*P**	**Pn**	**09 43 30.0**	**-0.6**
VA03				*i* S	**Sg**	**09 43 48.3**	**-0.3**
VA03				IAML		09 43 50.2	
	comp=N,11μm,0.3s						
VA05	**Santo Domingo**	**1.43**	**168**	***e*P**	**Pn**	**09 43 32.5**	**+0.2**
VA05				*i* S	**Sb**	**09 43 51.8**	**+0.5**
VA05				IAML		09 43 58.3	
	comp=E,5μm,0.1s						
MT05	**Renca**	**1.54**	**138**	***e*P**	**Pb**	**09 43 34.6**	**-0.4**
MT05				*i* S	**Sb**	**09 43 54.9**	**+0.5**
MT05				IAML		09 43 57.7	
	comp=E,10μm,0.2s						
CO06	**Fray Jorge**	**1.60**	**10**	***e*P**	**Pn**	**09 43 35.7**	**+1.0**
MT01	**Popeta**	**1.71**	**160**	IAML		09 44 06.0	
	comp=N,2μm,0.2s						
MT09	**Talagante**	**1.73**	**152**	***e*P**	**Pb**	**09 43 37.8**	**-0.5**
MT09				*i* S	**Sb**	**09 44 00.9**	**+0.9**
MT09				IAML		09 44 06.1	
	comp=N,4μm,0.5s						
CO03	**El Pedregal**	**1.79**	**38**	***e*P**	**Pb**	**09 43 38.7**	**-0.6**
CO03				*e*S	**Sb**	**09 44 01.1**	**-0.6**
CO03				IAML		09 44 04.0	
	comp=E,3μm,0.2s						
LMEL	**Las Melosas**	**2.17**	**137**	***e*P**	**Pn**	**09 43 44.2**	**+1.5**
LMEL				*e*S	**Sb**	**09 44 11.2**	**-1.6**
LMEL				IAML		09 44 20.5	
	comp=N,2μm,0.5s						
BO03	**Pichilemu**	**2.23**	**180**	***e*P**	**Pn**	**09 43 42.8**	**-0.6**
BO01	**Tunca**	**2.25**	**161**	***e*P**	**Pb**	**09 43 45.9**	**-1.4**
GO04	**Tololo Observa**	**2.31**	**26**	***e*P**	**Pb**	**09 43 48.1**	**-0.2**
GO05	**Huala**	**2.75**	**179**	***e*P**	**Pn**	**09 43 49.6**	**-0.8**
LCO	**Las Campanas**	**3.42**	**19**	***e*P**	**Pn**	**09 44 00.1**	**+0.3**
ML02	**Panimavida**	**3.53**	**173**	***e*P**	**Pn**	**09 44 00.1**	**-1.1**
BI05	**Punta Hualpn**	**4.59**	**192**	***e*P**	Pn	09 44 09.6	-6.2
H03N1	**Juan Fernandez** baz=86,slow=73,SNR=968	**5.96**	**257**	T	T	09 51 15.5	
H03N3	**Juan Fernandez** baz=86,slow=73,SNR=1079	**5.97**	**257**	T	T	09 51 15.6	
H03N2	**Juan Fernandez** baz=86,slow=73,SNR=981	**5.98**	**257**	T	T	09 51 09.6	
H03S3	**Juan Fernandez** baz=83,slow=75,SNR=59	**6.03**	**253**	T	T	09 51 14.9	
H03S1	**Juan Fernandez** baz=83,slow=75,SNR=60	**6.03**	**253**	T	T	09 51 13.5	
H03S2	**Juan Fernandez** baz=83,slow=75,SNR=67	**6.05**	**253**	T	T	09 51 07.6	
PLCA	**Paso Flores** comp=N,0.6nm,0.3s,baz=324,slow=11,SNR=12	**8.54**	**173**	Pn	**Pn**	**09 45 10.6**	**+0.5**
LVC	**Limon Verde** comp=N,0.2nm,0.3s,baz=153,slow=11,SNR=1.5	**9.98**	**17**	Pn	**Pn**	**09 45 30.8**	**+0.6**
CPUP	**Villa Florida** comp=N,0.2nm,0.3s,baz=247,slow=7.7,SNR=1.4	**14.07**	**69**	Pn	**Pn**	**09 46 26.1**	**+0.4**
LPAZ	**La Paz** comp=N,0.1nm,0.3s,baz=178,slow=4.7,SNR=11	**16.28**	**13**	Pn	**Pn**	**09 46 55.5**	**-0.1**
SIV	**San Ignacio** comp=N,0.2nm,0.3s,baz=208,slow=10.0,SNR=4.2	**18.98**	**34**	P	**P**	**09 47 27.2**	**-0.7**
BDFB	**Brasilia** comp=N,1.5nm,0.4s,baz=260,slow=6.1,SNR=3.9	**27.34**	**58**	P	**P**	**09 48 50.4**	**-1.3**
PMSA	**Palmer Station** comp=N,54nm,19.7s,baz=2.5,slow=35	**32.91**	**174**	LR	LR	10 02 10.0	
VNA3	**Neumayer Olymp**	**50.95**	**158**	P	**P**	**09 52 08.0**	**+0.5**
VNA2	**Neumayer--Watz**	**51.60**	**158**	P	**P**	09 52 20.3	+8.0
SNAA	**Sanae**	**53.18**	**158**	P	**P**	**09 52 24.5**	**+0.5**
QSPA	**South Pole Qui** comp=N,1.8nm,0.9s,baz=124,slow=3.5,SNR=8.2	**57.98**	**180**	P	**P**	**09 52 59.4**	**+0.7**
DBIC	**Dimbokro** comp=N,2.1nm,0.6s,baz=245,slow=4.2,SNR=6.3	**74.57**	**72**	P	**P**	**09 54 45.2**	**-0.5**
BOSA	**Boshof** comp=N,2.2nm,0.7s,baz=180,slow=7.1,SNR=4.4	**80.83**	**118**	P	**P**	**09 55 22.6**	**+1.9**
TORD	**Torodi Ar. Bea** comp=N,0.9nm,0.6s,baz=286,slow=4.9,SNR=9.0	**83.56**	**70**	P	**P**	**09 55 34.7**	**-0.3**
MSVF	**Nonsavu** comp=N,89nm,21.6s,baz=201,slow=29	**96.61**	**244**	LR	LR	10 29 12.5	
WRA	**Warramunga Arr** comp=N,0.7nm,1.1s,baz=159,slow=1.5,SNR=2.0	**122.31**	**210**	PKP	**PKPdf**	**10 02 01.0**	**-1.1**
H11S2	**WAKE ISLAND Hy** baz=117,slow=74,SNR=20	**125.83**	**270**	T	T	12 21 11.8	
H11S1	**WAKE ISLAND Hy** baz=117,slow=74,SNR=10	**125.85**	**270**	T	T	12 21 04.4	
H11S3	**WAKE ISLAND Hy** baz=117,slow=74,SNR=16	**125.85**	**270**	T	T	12 21 05.7	
BVAR	**Borovoye Array** comp=N,1.1nm,0.4s,baz=269,slow=5.0,SNR=9.2	**145.95**	**41**	PKPbc	**PKPab**	**10 02 46.2**	**+0.1**
KURBB	**Kurchatov Arra** comp=N,1.1nm,0.5s,baz=300,slow=2.9,SNR=8.9	**151.54**	**41**	PKPbc	**PKPbc**	**10 02 59.9**	**-0.2**
ZALV	**Zalesovo Beam** comp=N,1.4nm,0.5s,baz=293,slow=2.8,SNR=4.8	**152.71**	**31**	PKPbc	**PKPbc**	**10 03 02.5**	**-0.1**

GUC 20 09:49:01.6±0.9,30.89S×71.85W,h26km±6km,ML3.5,2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.28**	**41**	***i*P**	Pb	09 49 09.2	+0.7
CO06				*e*S	Sb	09 49 14.0	+0.8
CO06				IAML		09 49 14.5	
	comp=E,6μm,0.2s						
CO03	**El Pedregal**	**1.00**	**87**	***e*P**	Pb	09 49 21.2	+0.8
CO03				*e*S	Sn	09 49 35.0	+1.7
CO03				IAML		09 49 38.5	
	comp=E,2μm,0.3s						
CO05	**La Serena**	**1.10**	**29**	***e*P**	Pb	09 49 21.9	-0.1
CO05				*e*S	Sb	09 49 37.0	+1.1
CO05				IAML		09 49 44.7	
	comp=E,1μm,0.5s						
GO04	**Tololo Observa**	**1.15**	**52**	***e*P**	Pb	09 49 23.7	+0.6
GO04				*e*S	Sb	09 49 40.9	+3.2
VA06	**Catapilco**	**1.73**	**164**	***e*P**	Pb	09 49 31.8	-0.9
VA06				*e*S	Sb	09 49 55.1	+1.0
VA06				IAML		09 50 04.0	
	comp=E,1μm,0.5s						
LCO	**Las Campanas**	**2.12**	**28**	*i* P	Pn	09 49 36.7	+1.1
VA01	**Torpederas**	**2.14**	**175**	***e*P**	Pn	09 49 36.7	+1.2
VA03	**San Esteban**	**2.17**	**150**	***e*P**	Pb	09 49 39.1	-1.2
VA03				*e*S	Sb	09 50 09.0	+2.1
VA03				IAML		09 50 16.2	
	comp=N,762nm,0.6s						
ROCH	**El Roble**	**2.20**	**161**	***e*P**	Pb	09 49 39.5	-1.3
ROCH				*e*S	Sb	09 50 10.5	+2.8
ROCH				IAML		09 50 15.1	
	comp=N,878nm,0.6s						
MT05	**Renca**	**2.67**	**160**	***e*P**	Pb	09 49 47.1	-1.6
MT09	**Talagante**	**2.97**	**166**	***e*P**	Pn	09 49 50.1	+2.9
MT01	**Popeta**	**3.01**	**170**	***e*P**	Pn	09 49 50.3	+2.7
LMEL	**Las Melosas**	**3.26**	**155**	***e*P**	Pn	09 49 55.0	+3.8

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*IDC **20** 09:49:53.4±0.9,31.95S×72.06W,h0km,mb3.7/6, mb1 3.9/9,mb1mx3.9/27,mbtmp3.7/9,ML3.7/3,Error ellipse: s-maj=33.2km s-min=23.8km az=102.0*
ISC 20 09:49:55.7±0.7,31.92S±0.03×72.03W±0.08,h17km,n36, σ1 8/28,mb3.6/6,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.89**	**136**	IAML		09 50 30.1	
	comp=E,5μm,0.4s						
VA06	**Catapilco**	**0.89**	**136**	***e*P**	**Pn**	**09 50 13.8**	**+0.3**
VA06	**Catapilco**	**0.89**	**136**	***e*S**	**Sn**	**09 50 27.1**	**+1.1**
CO06	**Fray Jorge**	**1.29**	**15**	IAML		09 50 43.7	
	comp=E,4μm,0.4s						
CO06	**Fray Jorge**	**1.29**	**15**	***e*P**	**Pn**	**09 50 18.3**	**-0.7**
CO06	**Fray Jorge**	**1.29**	**15**	***e*S**	**Sg**	**09 50 38.9**	**+1.4**
VA03	**San Esteban**	**1.51**	**124**	***e*S**	**Sg**	**09 50 43.4**	**-1.2**
VA03	**San Esteban**	**1.51**	**124**	***e*P**	**Pg**	**09 50 24.7**	**-0.2**
CO03	**El Pedregal**	**1.58**	**47**	IAML		09 50 52.1	
	comp=E,4μm,0.4s						
CO03	**El Pedregal**	**1.58**	**47**	***e*P**	**Pb**	**09 50 23.8**	**-0.7**
CO03	**El Pedregal**	**1.58**	**47**	***e*S**	**Sb**	**09 50 44.5**	**+0.3**
MT05	**Renca**	**1.83**	**144**	IAML		09 51 16.4	
	comp=E,1μm,0.3s						
MT05	**Renca**	**1.83**	**144**	***e*P**	**Pn**	**09 50 23.4**	**-3.1**
GO04	**Tololo Observa**	**2.04**	**32**	***e*S**	**Sb**	**09 50 59.9**	**+2.3**
GO04	**Tololo Observa**	**2.04**	**32**	***e*P**	**Pb**	**09 50 32.1**	**-0.3**
MT09	**Talagante**	**2.05**	**155**	IAML		09 51 17.7	
	comp=N,467nm,0.4s						
MT09	**Talagante**	**2.05**	**155**	***e*P**	**Pb**	**09 50 32.6**	**0.0**
MT09	**Talagante**	**2.05**	**155**	***e*S**	**Sg**	**09 51 03.5**	**+1.8**
CO05	**La Serena**	**2.11**	**19**	IAML		09 51 10.4	
	comp=E,4μm,0.5s						
CO05	**La Serena**	**2.11**	**19**	***e*P**	**Pb**	**09 50 32.3**	**-1.2**
CO05	**La Serena**	**2.11**	**19**	***e*S**	**Sb**	**09 51 00.9**	**+1.6**
H03N1	**Juan Fernandez** baz=73,slow=73	**5.99**	**254**	T	T	09 57 27.9	
H03N3	**Juan Fernandez** baz=73,slow=73	**6.01**	**253**	T	T	09 57 27.3	
H03N2	**Juan Fernandez** baz=73,slow=73	**6.01**	**254**	T	T	09 57 27.4	
PLCA	**Paso Flores** comp=E,0.2nm,0.3s,baz=325,slow=9.8,SNR=5.3	**8.88**	**173**	Pn	**Pn**	**09 52 04.8**	**+1.5**
LPAZ	**La Paz** comp=E,0.1nm,0.3s,baz=190,slow=6.9,SNR=15	**15.96**	**14**	Pn	**Pn**	**09 53 39.9**	**-0.3**
SIV	**San Ignacio** comp=E,0.1nm,0.3s,baz=243,slow=14,SNR=6.2	**18.73**	**35**	P	**P**	**09 54 13.1**	**-0.6**
BDFB	**Brasilia** comp=E,2.8nm,0.7s,baz=224,slow=13,SNR=4.2	**27.21**	**59**	P	**P**	**09 55 38.7**	**-0.3**
VNDA	**Vanda** comp=E,0.4nm,0.7s,baz=120,slow=8.1,SNR=2.2	**66.14**	**191**	P	**P**	**10 00 40.2**	**-1.4**
TXAR	**Lajitas Array** comp=E,0.3nm,0.6s,baz=154,slow=7.5,SNR=4.7	**67.93**	**330**	P	**P**	**10 00 53.8**	**+0.1**
PDAR	**Pinedale Array** comp=E,0.2nm,0.6s,baz=164,slow=7.4,SNR=1.8	**81.91**	**333**	P	**P**	**10 02 15.8**	**+1.4**
NVAR	**Mina Array Bea** comp=E,0.4nm,0.8s,baz=140,slow=7.1,SNR=2.3	**82.18**	**325**	P	**P**	**10 02 16.4**	**+0.5**
TORD	**Torodi Ar. Bea** comp=E,1.0nm,0.7s,baz=264,slow=4.6,SNR=6.7	**83.50**	**70**	P	**P**	**10 02 23.5**	**+0.5**
WRA	**Warramunga Arr** comp=E,0.4nm,0.9s,baz=159,slow=1.6,SNR=1.5	**122.57**	**210**	PKP	**PKPdf**	**10 08 50.3**	**-0.6**
BVAR	**Borovoye Array** comp=E,0.4nm,0.5s,baz=273,slow=2.7,SNR=2.2	**145.73**	**41**	PKPbc	**PKiKP**	**10 09 35.5**	**-1.4**
ZALV	**Zalesovo Beam** comp=E,0.5nm,0.4s,baz=338,slow=3.1,SNR=3.5	**152.45**	**30**	PKPbc	**PKiKP**	**10 09 52.1**	**+1.4**

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*NEIC **20** 09:57:09.4,31.855S×72.68W,h15km,Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr2.93; Mθθ0.45; Mφφ-3.38; Mrθ-0.09; Mθφ-0.21; Mφr0.54; Fault plane solution: M0 3.23000×10^15^ NP1:ϕ0 185.98000°, δ40.25000°, λ94.24000°. NP2:ϕ0 3.44000°, δ49.88000°, λ86.42000°. Principal axes: T 2.9844, Plg84.0000°, Azm243.0000°; N 0.4517, Plg3.0000°, Azm3.0000°; P -3.4361, Plg5.0000°, Azm93.0000°;*
*NEIC **20** 09:57:10.1±1.4,31.83S±0.04×72.58W±0.07,h13km±3km, mb4.6/14,Mwr4.3/52,ML4.1(GUC) Error ellipse: s-maj=9.2km s-min=6.1km az=76.0*
*IDC **20** 09:57:11.6±0.8,31.90S×72.10W,h0km,mb4.3/6, mb1 4.3/9,mb1mx4.1/27,mbtmp4.1/9,ML3.8/3,MS3.5/6, Ms1 3.4/6,ms1mx3.2/21,Error ellipse: s-maj=29.2km s-min=23.0km az=101.0*
*SJA **20** 09:57:11.0,31.86S×72.71W,h10km,ML4.6*
*VAO **20** 09:57:13.9±0.3,31.77S×72.30W,h13km,mb4.3*
*GUC **20** 09:57:13.3±0.9,31.86S×72.22W,h21km±10km,ML4.2*
ISC 20 09:57:11.3±0.9,31.90S±0.03×72.48W±0.05,h13km±5km, n171,σ1 9/68/181,mb4.6/9,3C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**1.20**	**124**	***e*P**	**Pb**	**09 57 32.1**	**-1.8**
VA06				*e*S	**Sg**	**09 57 46.1**	**-4.0**
VA06				IAML		09 57 48.6	
	comp=E,22μm,0.5s						
VA01	**Torpederas**	**1.32**	**148**	***e*P**	**Pn**	**09 57 35.3**	**-0.1**
VA01				*e*S	**Sb**	**09 57 51.4**	**-1.5**
VA01	**Torpederas**	**1.32**	**148**		**Pn**	**09 57 34.9**	**-0.6**
VA01	**Torpederas**	**1.32**	**148**	*i* P	**Pn**	**09 57 35.0**	**-0.5**
CO06	**Fray Jorge**	**1.42**	**31**	***e*P**	**Pn**	**09 57 35.9**	**-0.9**
CO06				*e*S	**Sn**	**09 57 52.4**	**-2.9**
CO06	**Fray Jorge**	**1.42**	**31**		**Pn**	**09 57 35.5**	**-1.3**
ROCH	**El Roble**	**1.64**	**131**	***e*P**	**Pn**	**09 57 39.5**	**-0.5**
ROCH				*e*S	**Sn**	**09 57 58.9**	**-2.3**
ROCH				IAML		09 58 08.3	
	comp=E,7μm,0.6s						
VA03	**San Esteban**	**1.85**	**118**	***e*P**	**Pn**	**09 57 42.2**	**-0.5**
VA03				*e*S	**Sn**	**09 58 03.4**	**-2.7**
VA03				IAML		09 58 09.5	
	comp=N,5μm,0.3s						
VA03	**San Esteban**	**1.85**	**118**	Pn	**Pn**	**09 57 42.3**	**-0.5**
CO03	**El Pedregal**	**1.86**	**56**	***e*P**	**Pn**	**09 57 42.1**	**-0.8**
CO03				*e*S	**Sn**	**09 58 03.8**	**-2.6**
CO03	**El Pedregal**	**1.86**	**56**	Pn	**Pn**	**09 57 42.5**	**-0.5**
CO03	**El Pedregal**	**1.86**	**56**	*i* P	**Pn**	**09 57 42.0**	**-1.0**
VA05	**Santo Domingo**	**1.90**	**158**	***e*P**	**Pn**	**09 57 43.9**	**+0.5**
VA05				*e*S	**Sb**	**09 58 09.2**	**-0.3**
VA05				IAML		09 58 25.7	
	comp=E,4μm,0.4s						
VA05	**Santo Domingo**	**1.90**	**158**	Pn	**Pn**	**09 57 44.1**	**+0.8**
MT05	**Renca**	**2.09**	**136**	***e*P**	**Pn**	**09 57 46.3**	**+0.2**
MT05				*e*S	**Sn**	**09 58 11.2**	**-0.8**
MT05				IAML		09 58 22.4	
	comp=N,5μm,0.8s						
MT05	**Renca**	**2.09**	**136**		**Pn**	**09 57 46.3**	**+0.2**
MT05	**Renca**	**2.09**	**136**	*i* P	**Pn**	**09 57 46.0**	**-0.1**
MT01	**Popeta**	**2.22**	**152**	***e*P**	**Pn**	**09 57 48.0**	**+0.3**
MT01				IAML		09 58 27.3	
	comp=E,2μm,0.5s						
MT01	**Popeta**	**2.22**	**152**	Pn	**Pn**	**09 57 48.3**	**+0.6**
MT01	**Popeta**	**2.22**	**152**	*i* P	**Pn**	**09 57 48.0**	**+0.3**
CO05	**La Serena**	**2.24**	**29**	***e*P**	**Pn**	**09 57 48.1**	**0.0**
CO05				*e*S	**Sb**	**09 58 19.2**	**-0.1**
CO05				IAML		09 58 30.2	
	comp=E,2μm,0.7s						
CO05	**La Serena**	**2.24**	**29**	Pn	**Pn**	**09 57 46.6**	**-1.5**
GO04	**Tololo Observa**	**2.25**	**40**	***e*P**	**Pn**	**09 57 48.0**	**-0.4**
GO04				*e*S	**Sn**	**09 58 15.4**	**-0.7**
GO04	**Tololo Observa**	**2.25**	**40**		**Pn**	**09 57 47.4**	**-1.0**
MT09	**Talagante**	**2.25**	**147**	***e*P**	**Pn**	**09 57 49.4**	**+1.0**
MT09				*e*S	**Sb**	**09 58 18.3**	**-1.6**
MT09				IAML		09 58 31.2	
	comp=N,1μm,0.6s						
MT09	**Talagante**	**2.25**	**147**	Pn	**Pn**	**09 57 48.6**	**+0.2**
BO03	**Pichilemu**	**2.63**	**171**	***e*P**	**Pn**	**09 57 54.4**	**+1.0**
AUSP	**Uspallata**	**2.65**	**98**	*i* P	**Pn**	**09 57 55.0**	**+1.1**
RTLS	**Leoncito**	**2.71**	**89**	*i* P	**Pn**	**09 57 56.0**	**+1.2**
LMEL	**Las Melosas**	**2.73**	**136**	***e*P**	**Pn**	**09 57 55.8**	**+0.9**
LMEL				*e*S	**Sn**	**09 58 29.0**	**+1.1**
LMEL				IAML		09 58 40.7	
	comp=N,905nm,0.6s						
BO01	**Tunca**	**2.75**	**155**	***e*P**	**Pn**	**09 57 56.0**	**+0.9**
BO01	**Tunca**	**2.75**	**155**		**Pn**	**09 57 55.5**	**+0.4**
BO01	**Tunca**	**2.75**	**155**	*i* P	**Pn**	**09 57 56.0**	**+0.9**
AROD	**Rodeo**	**3.10**	**57**	*i* P	**Pn**	**09 58 02.0**	**+1.7**
GO05	**Huala**	**3.14**	**172**	***e*P**	**Pn**	**09 58 01.4**	**+0.9**
GO05	**Huala**	**3.14**	**172**	Pn	**Pn**	**09 57 59.9**	**-0.5**
GO05	**Huala**	**3.14**	**172**	*i* P	**Pn**	**09 58 01.0**	**+0.6**
ARCO	**CERRO ARCO**	**3.15**	**108**	*i* P	**Pn**	**09 58 04.0**	**+3.3**
ASAL	**Salagasta**	**3.17**	**104**	*i* P	**Pn**	**09 58 04.0**	**+3.1**
BO02	**Sierra Bellavi**	**3.22**	**154**	***e*P**	**Pn**	**09 58 03.0**	**+1.4**
BO02	**Sierra Bellavi**	**3.22**	**154**	Pn	**Pn**	**09 58 01.2**	**-0.3**
BO02	**Sierra Bellavi**	**3.22**	**154**	*i* P	**Pn**	**09 58 03.0**	**+1.4**
ZON	**Zonda**	**3.26**	**85**		**Pn**	**09 58 02.5**	**+0.3**
ZON	**Zonda**	**3.26**	**85**	*i* P	**Pb**	**09 58 07.0**	**-2.0**
LCO	**Las Campanas**	**3.26**	**29**	***e*P**	**Pn**	**09 58 02.4**	**0.0**
LCO				*e*S	**Sn**	**09 58 39.8**	**-1.4**
LCO	**Las Campanas**	**3.26**	**29**	*i* P	**Pn**	**09 58 02.0**	**-0.4**
AAGR	**Agrelo**	**3.31**	**112**	*i* P	**Pn**	**09 58 06.0**	**+3.2**
RTCV	**Cerro Valdivia**	**3.35**	**90**	*i* P	**Pn**	**09 58 06.0**	**+2.6**
ACDV	**Cuesta del Vie**	**3.36**	**60**	*i* P	**Pb**	**09 58 08.0**	**-2.8**
AC04	**Llanos de Chal**	**3.88**	**19**	***e*P**	**Pn**	**09 58 10.1**	**-0.6**
AC04	**Llanos de Chal**	**3.88**	**19**	Pn	**Pn**	**09 58 09.2**	**-1.4**
AC04	**Llanos de Chal**	**3.88**	**19**	*i* P	**Pn**	**09 58 10.0**	**-0.6**
ML02	**Panimavida**	**3.95**	**167**	***e*P**	**Pn**	**09 58 12.9**	**+1.3**
ML02	**Panimavida**	**3.95**	**167**	Pn	**Pn**	**09 58 11.9**	**+0.2**
COIS	**El Sosneado**	**4.01**	**144**	*i* P	**Pn**	**09 58 15.0**	**+2.6**
LAMA	**Las Malvinas**	**4.08**	**139**	*i* P	**Pn**	**09 58 17.0**	**+3.6**
AGUA	**GUANDACOL**	**4.19**	**56**	*i* P	**Pn**	**09 58 18.0**	**+3.0**
RFA	**San Rafael**	**4.42**	**132**	*i* P	**Pn**	**09 58 20.0**	**+1.9**
GO03	**Copiap**	**4.71**	**25**	***e*P**	**Pn**	**09 58 22.1**	**-0.1**
GO03	**Copiap**	**4.71**	**25**	*i* P	**Pn**	**09 58 23.0**	**+0.8**
VCA	**Vinchina**	**4.86**	**51**	*i* P	**Pn**	**09 58 27.0**	**+2.8**
BI05	**Punta Hualpn**	**4.87**	**187**	***e*P**	**Pn**	**09 58 25.7**	**+1.4**
AC06	**Mina Casimiro**	**4.89**	**23**	***e*P**	**Pn**	**09 58 24.4**	**-0.1**
H03N1	**Juan Fernandez** baz=83,slow=72,SNR=47	**5.64**	**252**	T	T	10 05 30.7	
H03N3	**Juan Fernandez** baz=83,slow=72,SNR=53	**5.65**	**252**	T	T	10 05 27.5	
H03N2	**Juan Fernandez** baz=83,slow=72,SNR=56	**5.65**	**253**	T	T	10 05 27.6	
H03S3	**Juan Fernandez** baz=84,slow=75,SNR=11	**5.74**	**249**	T	T	10 05 31.0	
H03S1	**Juan Fernandez** baz=84,slow=75,SNR=12	**5.74**	**249**	T	T	10 05 27.2	
H03S2	**Juan Fernandez** baz=84,slow=75,SNR=9.7	**5.76**	**249**	T	T	10 05 28.7	
AC02	**Maricunga**	**5.83**	**31**	Pn	**Pn**	**09 58 35.7**	**-2.2**
AC02	**Maricunga**	**5.83**	**31**	*i* P	**Pn**	**09 58 38.0**	**+0.1**
CYA	**Choya**	**6.73**	**61**	*i* P	**Pn**	**09 58 50.0**	**+0.2**
LC01	**Cunco**	**7.00**	**176**		**Pn**	**09 58 52.5**	**-1.0**
LC01	**Cunco**	**7.00**	**176**	*i* P	**Pn**	**09 58 55.0**	**+1.5**
PB14	**IPOC Station P**	**7.47**	**15**		**Pn**	**09 58 57.2**	**-3.1**
LR03	**Panguipulli**	**7.72**	**179**		**Pn**	**09 59 02.9**	**-0.5**
PLCA	**Paso Flores** comp=N,0.3nm,0.3s,baz=338,slow=13,SNR=12	**8.95**	**171**	Pn	**Pn**	**09 59 22.9**	**+2.5**
PLCA				LR	LR	10 03 19.2	
	comp=N,244nm,20.9s,baz=350,slow=41						
PLCA	**Paso Flores**	**8.95**	**171**		**Pn**	**09 59 20.3**	**0.0**
PLCA	**Paso Flores**	**8.95**	**171**	***e*P**	**Pn**	**09 59 23.7**	**+3.4**
PLCA	**Paso Flores**	**8.95**	**171**	*i* P	**Pn**	**09 59 23.0**	**+2.7**
LVC	**Limon Verde** comp=N,137nm,21.4s,baz=207,slow=36	**9.78**	**20**	LR	LR	10 02 57.4	
LVC	**Limon Verde**	**9.78**	**20**	***e*P**	**Pn**	**09 59 32.1**	**+0.1**
TRQA	**Tornquist**	**10.58**	**128**		**Pn**	**09 59 42.3**	**-0.2**
TRQA	**Tornquist**	**10.58**	**128**	***e*P**	**Pn**	**09 59 45.3**	**+2.7**
TRQA				*e*S	**Sn**	**10 01 44.3**	**+3.5**
TRQA	**Tornquist**	**10.58**	**128**	*i* P	**Pn**	**09 59 45.0**	**+2.4**
ITQB	**Itaqui**	**13.81**	**85**	***e*P**	**Pn**	**10 00 29.0**	**+2.2**
CPUP	**Villa Florida** comp=N,0.1nm,0.3s,baz=242,slow=16,SNR=2.9	**14.36**	**71**	Pn	**Pn**	**10 00 34.4**	**+0.1**
CPUP				LR	LR	10 05 37.8	
	comp=N,90nm,19.8s,baz=238,slow=36						
CPUP	**Villa Florida**	**14.36**	**71**		**Pn**	**10 00 33.7**	**-0.5**
CPUP	**Villa Florida**	**14.36**	**71**	***e*P**	**Pn**	**10 00 36.0**	**+1.7**
LPAZ	**La Paz** comp=N,0.2nm,0.3s,baz=198,slow=7.0,SNR=15	**16.04**	**15**	Pn	**Pn**	**10 00 58.5**	**+1.3**
LPAZ	**La Paz**	**16.04**	**15**		**Pn**	**10 00 54.5**	**-2.7**
LPAZ	**La Paz**	**16.04**	**15**	***e*P**	**Pn**	**10 00 59.1**	**+1.9**
PLTB	**Pedras Altas**	**16.05**	**95**	***e*P**	**Pn**	**10 00 58.0**	**+1.3**
CPSB	**Cacapava Do Su**	**16.37**	**90**	***e*P**	**Pn**	**10 01 01.1**	**+0.3**
AQDB	**Aquidauana**	**18.85**	**57**	***e*P**	**P**	**10 01 31.4**	**+0.4**
SIV	**San

WRA	**Warramunga Arr**	**122.40**	**210**		**PKPdf**	**10 16 05.0**	**-1.9**
ZALV	**Zalesovo Beam**	**152.62**	**30**	PKPbc	**PKiKP**	**10 17 09.6**	**+2.3**
	comp=Z,4.3nm,0.8s,baz=295,slow=2.9,SNR=9.6						
ZALV	**Zalesovo Beam**	**152.62**	**30**	PKPdf	**PKPdf**	**10 16 56.2**	**-3.8**
ZALV					**sPKPdf**	**10 17 04.8**	**+0.9**
ZALV				PKPab	**PKPab**	**10 17 15.5**	**-2.1**
MKAR	**Makanchi Array**	**155.61**	**45**	PKPab	**PKPab**	**10 17 32.2**	**+1.6**
	comp=Z,1.1nm,0.9s,baz=287,slow=5.9,SNR=4.1						
MKAR	**Makanchi Array**	**155.61**	**45**	PKPdf	**PKPdf**	**10 17 00.8**	**-3.7**
MKAR					**sPKPdf**	**10 17 10.7**	**+2.3**
MKAR					**PKPab**	**10 17 26.8**	**-3.9**

*IDC **20** 10:04:23.0±0.7, 2°.69N×127°.12E, h0km, mb4.0/10, mb1 4.2/10, mb1mx3.9/45, mbtmp4.0/10, Error ellipse: s-maj=48.2km s-min=14.7km az=74.0*
*NEIC **20** 10:04:28.2±0.6, 2°.70N±0°.09×127°.1E±0°.1, h35km±2km, mb4.2/17, Error ellipse: s-maj=24.6km s-min=12.8km az=65.0*

ISC 20 10:04:29.7±0.5, 2°.65N±0°.08×127°.1E±0°.1, h53km, n36, σ0s60/38, mb4.1/18, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.89**	**171**	Pn	**Pn**	**10 04 58.3**	**-1.3**
TOLI2	**Tolitoli**	**6.46**	**256**	Pn	**Pn**	**10 06 01.4**	**-0.9**
KNRA	**Kununurra**	**18.28**	**175**	P	**P**	**10 08 39.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**20.66**	**184**	P	**P**	**10 09 06.2**	**+1.0**
	1.2nm,0.7s,baz=5.2,slow=11,SNR=1.6						
TPUB	**Ta-pu**	**21.46**	**344**	P	**P**	**10 09 12.6**	**-1.3**
TPUB				IAmb	IAmb	10 09 23.6	
	comp=Z,16nm,0.9s						
WB0	**Warramunga Arr**	**23.41**	**162**	P	**P**	**10 09 33.8**	**-0.4**
WB0				IAmb	IAmb	10 09 46.2	
	comp=Z,6.1nm,0.9s						
WRAB	**Tennant Creek**	**23.55**	**163**	P	**P**	**10 09 35.6**	**0.0**
WRAB				IAmb	IAmb	10 09 52.1	
	comp=Z,5.3nm,0.9s						
WRA	**Warramunga Arr**	**23.56**	**163**	P	**P**	**10 09 35.2**	**-0.4**
	comp=Z,3.1nm,0.5s,baz=342,slow=11,SNR=40						
WRA	**Warramunga Arr**	**23.56**	**163**	P	**P**	**10 09 35.4**	**-0.3**
WB2	**Warramunga Arr**	**23.56**	**163**	P	**P**	**10 09 35.4**	**-0.3**
WB2				IAmb	IAmb	10 09 40.5	
	comp=Z,5.3nm,0.8s						
WR0	**Warramunga Arr**	**23.63**	**162**	P	**P**	**10 09 35.9**	**-0.5**
WR0				IAmb	IAmb	10 09 41.6	
	comp=Z,4.6nm,0.9s						
AS31	**Alice Springs**	**26.99**	**166**	P	**P**	**10 10 06.2**	**-0.5**
ASAR	**Alice Springs**	**26.99**	**166**	P	**P**	**10 10 07.1**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=342,slow=8.3,SNR=20						
ASAR				PcP	**PcP**	**10 13 29.2**	**+1.7**
	comp=Z,0.2nm,0.6s,baz=345,slow=2.2,SNR=5.6						
ASAR	**Alice Springs**	**26.99**	**166**	P	**P**	**10 10 06.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**31.71**	**302**	P	**P**	**10 10 49.3**	**+0.5**
	comp=Z,2.1nm,0.4s,baz=113,slow=6.9,SNR=4.1						
FORT	**Forrest**	**33.25**	**178**	P	**P**	**10 11 02.1**	**+0.1**
KSRS	**Korea Array**	**34.65**	**1**	P	**P**	**10 11 14.7**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=179,slow=9.6,SNR=4.2						
STKA	**Stephens Creek**	**37.01**	**159**	P	**P**	**10 11 34.5**	**+0.1**
	comp=Z,3.0nm,0.7s,baz=343,slow=9.2,SNR=4.7						
STKA	**Stephens Creek**	**37.01**	**159**	P	**P**	**10 11 34.6**	**+0.2**
BJT	**Baijiatuan**	**39.49**	**347**	P	**P**	**10 11 46.4**	**-0.5**
USRK	**Ussuriysk Ar.**	**41.61**	**5**	P	**P**	**10 12 12.1**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=178,slow=4.3,SNR=4.0						
SONM	**Songino Array**	**48.42**	**341**	P	**P**	**10 13 07.8**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=151,slow=8.8,SNR=4.0						
SONM				PcP	**PcP**	**10 14 32.2**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=176,slow=3.9,SNR=3.6						
MK31	**Makanchi Array**	**58.63**	**325**	P	**P**	**10 14 21.4**	**-0.1**
MK31				IAmb	IAmb	10 14 22.2	
	comp=Z,1.6nm,0.6s						
MKAR	**Makanchi Array**	**58.63**	**325**	P	**P**	**10 14 21.8**	**+0.2**
	comp=Z,1.9nm,0.5s,baz=122,slow=8.1,SNR=19						
MKAR	**Makanchi Array**	**58.63**	**325**	P	**P**	**10 14 21.2**	**-0.3**
KKAR	**Karatay Array**	**64.25**	**317**	P	**P**	**10 14 59.1**	**-0.4**
BRVK	**Borovoye**	**68.48**	**327**	P	**P**	**10 15 26.0**	**-0.3**
BRVK				IAmb	IAmb	10 15 27.6	
	comp=Z,2.3nm,0.7s						
CASY	**Casey**	**69.79**	**187**	P	**P**	**10 15 34.2**	**+0.1**
ABKAR	**Akbulak array**	**73.19**	**321**	P	**P**	**10 15 55.4**	**+0.3**
ABKAR	**Akbulak array**	**73.19**	**321**	P	**P**	**10 15 55.6**	**+0.5**
ABKAR				IAmb	IAmb	10 15 56.2	
	comp=Z,2.2nm,0.8s						
VNDA	**Vanda**	**82.32**	**173**	P	**P**	**10 16 45.8**	**+0.6**
VNDA				IAmb	IAmb	10 16 48.2	
	comp=Z,1.8nm,1.3s						
IMAR	**Indian Mountai**	**83.19**	**24**	P	**P**	**10 16 49.7**	**-0.3**
BMAR	**Burnt Mountain**	**86.94**	**23**	P	**P**	**10 17 08.9**	**+0.1**
ARCES	**ARCESS Array B**	**91.57**	**340**	P	**P**	**10 17 30.6**	**0.0**
	comp=Z,2.7nm,0.8s,baz=79,slow=5.6,SNR=8.9						
ARCES	**ARCESS Array B**	**91.57**	**340**	P	**P**	**10 17 30.0**	**-0.5**
TORD	**Torodi Ar. Bea**	**123.56**	**288**	PKP	**PKiKP**	**10 23 23.0**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=107,slow=1.5,SNR=3.1						

IDC 20 10:12:42.8±24.0, 6°.86S×150°.72E, h281km±202km, mb2.8/3, mb1 3.0/3, mb1mx2.7/42, mbtmp3.4/3, Error ellipse: s-maj=133.2km s-min=105.5km az=57.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.54**	**229**	P	P	10 17 00.9	+0.3
	0.3nm,0.8s,baz=55,slow=10,SNR=4.5						
ASAR	**Alice Springs**	**23.24**	**222**	P	P	10 17 25.7	-0.1
	0.3nm,0.6s,baz=57,slow=9.6,SNR=9.7						
FITZ	**Fitzroy Crossi**	**26.87**	**243**	P	P	10 17 58.0	-0.3
	1.3nm,0.8s,baz=67,slow=7.7,SNR=2.0						
TORD	**Torodi Ar. Bea**	**148.89**	**284**	PKPbc	PKPbc	10 31 57.9	-0.5
	0.4nm,0.7s,baz=75,slow=1.1,SNR=2.6						

IDC 20 10:14:49.0±2.2, 2°.88N×127°.39E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/46, mbtmp3.3/3, Error ellipse: s-maj=154.2km s-min=28.1km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.69**	**164**	P	P	10 20 02.4	-0.2
	0.5nm,0.5s,baz=343,slow=10,SNR=12						
ASAR	**Alice Springs**	**27.14**	**167**	P	P	10 20 34.1	0.0
	0.2nm,0.8s,baz=345,slow=8.1,SNR=4.9						
MKAR	**Makanchi Array**	**58.62**	**325**	P	P	10 24 48.1	+0.1
	0.3nm,0.5s,baz=122,slow=8.5,SNR=2.5						

IDC 20 10:46:23.7±1.5, 4°.20S×144°.51E, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.8/33, mbtmp4.0/5, ML4.4/1, Error ellipse: s-maj=58.3km s-min=22.7km az=116.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.52**	**212**	P	P	10 50 41.1	-0.8
	1.3nm,0.3s,baz=33,slow=10,SNR=31						
ASAR	**Alice Springs**	**21.89**	**207**	P	P	10 51 18.1	-0.5
	2.5nm,0.8s,baz=35,slow=8.5,SNR=48						
FITZ	**Fitzroy Crossi**	**23.06**	**232**	P	P	10 51 30.0	-0.9
	3.3nm,0.5s,baz=51,slow=8.8,SNR=18						
MKAR	**Makanchi Array**	**74.55**	**321**	P	P	10 58 05.1	+0.6
	0.3nm,0.4s,baz=102,slow=6.1,SNR=5.7						
ILAR	**Eielson Array**	**84.83**	**24**	P	P	10 59 00.7	+0.8
	0.7nm,0.6s,baz=258,slow=5.1,SNR=11						
DBIC	**Dimbokro**	**149.41**	**276**	PKPbc	PKPbc	11 06 15.0	-0.9
	1.8nm,0.7s,baz=107,slow=6.0,SNR=3.8						

MEX 20 10:53:46.7±0.5, 15°.75N×96°.25W, h16km±19km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEIG	**Puerto Escondi**	**0.90**	**286**	*i* P	Pb	10 54 00.8	-3.1
PEIG				*i* S	Sb	10 54 11.8	-3.8
CMIG	**Matias Romero**	**1.87**	**44**	*i* P	Pn	10 54 14.8	-3.2
CMIG				*i* S	Sn	10 54 39.3	-2.1
PNIG	**Pinotepa**	**1.92**	**290**	*e*P	Pn	10 54 15.6	-3.1
PNIG				*i* S	Sn	10 54 35.2	-7.3
TXIG	**Tlaxiaco**	**2.09**	**316**	*i* P	Pn	10 54 18.9	-2.4
TXIG				*i* S	Sn	10 54 42.6	-4.4
TXIG	**Tlaxiaco**	**2.09**	**316**	*i* S	Sn	10 54 42.6	-4.5
TOIG	**Toxpalan**	**2.46**	**342**	*i* P	Pn	10 54 22.2	-4.1

MEX 20 10:55:46.1±0.3, 15°.47N×96°.61W, h72km±6km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEIG	**Puerto Escondi**	**0.73**	**315**	*i* P	Pn	10 56 00.1	-1.4
PEIG				*i* S	Sn	10 56 11.1	-1.8
PNIG	**Pinotepa**	**1.72**	**302**	*i* P	Pn	10 56 15.5	+1.4
PNIG				*i* S	Sn	10 56 33.4	-1.9
TXIG	**Tlaxiaco**	**2.09**	**328**	*i* P	Pn	10 56 17.9	-1.4

*IDC **20** 11:11:22.6±2.4, 30°.77S×71°.90W, h0km, mb3.7/2, mb1 3.6/7, mb1mx3.5/38, mbtmp3.5/7, ML3.3/5, Error ellipse: s-maj=77.9km s-min=24.7km az=106.0*
*GUC **20** 11:11:25.3±0.8, 30°.90S×71°.93W, h20km±6km, ML4.1*

ISC 20 11:11:22.9±3.5, 30°.82S±0°.04×71°.97W±0°.09, h4km±24km, n30, σ1s22/31, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO05	**La Serena**	**1.10**	**35**	*e*P	**Pn**	**11 11 45.9**	**+0.8**
CO05				*e*S	**Sn**	**11 12 01.1**	**+0.3**
CO05				IAML		11 12 05.3	
	comp=N,4μm,0.4s						
CO03	**El Pedregal**	**1.10**	**91**	*e*S	**Sb**	**11 11 59.0**	**-0.5**
CO03				IAML		11 11 59.6	
	comp=N,17μm,0.2s						
GO04	**Tololo Observa**	**1.20**	**58**	*e*P	**Pb**	**11 11 47.2**	**+0.8**
GO04				*e*S	**Sn**	**11 12 03.1**	**-0.5**
GO04				IAML		11 12 09.5	
	comp=N,13μm,0.4s						
VA06	**Catapilco**	**1.83**	**162**	*e*P	**Pn**	**11 11 55.1**	**-0.1**
VA06				*e*S	**Sn**	**11 12 17.1**	**-1.6**
VA06				IAML		11 12 28.2	
	comp=N,3μm,0.5s						
LCO	**Las Campanas**	**2.11**	**32**	*e*P	**Pn**	**11 12 01.5**	**+2.2**
LCO				*e*S	**Sb**	**11 12 29.3**	**+0.6**
VA01	**Torpederas**	**2.21**	**173**	*e*P	**Pn**	**11 12 00.7**	**+0.3**
VA03	**San Esteban**	**2.28**	**148**	*e*P	**Pn**	**11 12 02.6**	**+1.1**
VA03				*e*S	**Sn**	**11 12 30.7**	**+0.5**
VA03				IAML		11 12 35.7	
	comp=E,2μm,0.3s						
ROCH	**El Roble**	**2.29**	**159**	*e*P	**Pn**	**11 12 02.6**	**+0.8**
ROCH				*e*S	**Sn**	**11 12 31.2**	**+0.6**
ROCH				IAML		11 12 39.2	
	comp=N,1μm,0.5s						
AC04	**Llanos de Chal**	**2.72**	**17**	*e*P	**Pn**	**11 12 08.6**	**+1.2**
MT05	**Renca**	**2.77**	**158**	*e*P	**Pn**	**11 12 09.7**	**+1.5**
MT05				*e*S	**Sn**	**11 12 42.8**	**+0.7**
MT05				IAML		11 12 56.1	
	comp=E,1μm,0.4s						
VA05	**Santo Domingo**	**2.84**	**174**	*e*P	**Pn**	**11 12 10.6**	**+1.5**
VA05				IAML		11 12 58.4	
	comp=E,462nm,0.3s						
MT09	**Talagante**	**3.06**	**164**	*e*P	**Pn**	**11 12 13.2**	**+0.9**
MT09				IAML		11 13 01.6	
	comp=N,446nm,0.2s						
MT01	**Popeta**	**3.10**	**169**	*e*P	**Pn**	**11 12 13.7**	**+1.1**
MT01				IAML		11 13 03.0	
	comp=E,246nm,0.4s						
LMEL	**Las Melosas**	**3.37**	**154**	*e*P	**Pn**	**11 12 17.9**	**+1.4**
LMEL				IAML		11 13 11.7	
	comp=N,318nm,0.2s						
GO03	**Copiap**	**3.56**	**26**	*e*P	**Pn**	**11 12 21.1**	**+2.1**
AC06	**Mina Casimiro**	**3.73**	**23**	*e*P	**Pn**	**11 12 22.3**	**+0.9**
AC02	**Maricunga**	**4.69**	**33**	*e*P	**Pn**	**11 12 37.3**	**+2.4**
H03N1	**Juan Fernandez**	**6.44**	**244**	T	T	11 19 48.8	
	baz=73,slow=72,SNR=3491						
H03N3	**Juan Fernandez**	**6.45**	**244**	T	T	11 19 49.4	
	baz=73,slow=72,SNR=4381						
H03N2	**Juan Fernandez**	**6.46**	**244**	T	T	11 19 50.1	
	baz=73,slow=72,SNR=3949						
LVC	**Limon Verde**	**8.62**	**19**	Pn	**Pn**	**11 13 27.7**	**-1.2**
	comp=N,0.2nm,0.3s,baz=207,slow=15,SNR=1.9						
PLCA	**Paso Flores**	**9.96**	**174**	Pn	**Pn**	**11 13 46.8**	**-0.1**
	comp=N,0.1nm,0.3s,baz=345,slow=12,SNR=2.0						
CPUP	**Villa Florida**	**13.62**	**74**	Pn	**Pn**	**11 14 35.5**	**-1.4**
	comp=N,0.1nm,0.3s,baz=243,slow=16,SNR=1.6						
LPAZ	**La Paz**	**14.89**	**15**	Pn	**Pn**	**11 14 53.8**	**-1.1**
	comp=N,0.0nm,0.3s,baz=202,slow=11,SNR=2.0						
SIV	**San Ignacio**	**17.81**	**36**	P	**Pn**	**11 15 30.5**	**-1.4**
	comp=N,0.1nm,0.3s,baz=227,slow=12,SNR=2.7						
QSPA	**South Pole Qui**	**59.41**	**180**	P	**P**	**11 21 26.9**	**+0.5**
	comp=N,0.4nm,0.5s,baz=250,slow=4.3,SNR=5.9						
TORD	**Torodi Ar. Bea**	**83.08**	**70**	P	**P**	**11 23 50.7**	**+0.5**
	comp=N,0.4nm,0.5s,baz=250,slow=4.3,SNR=5.9						
H11S2	**WAKE ISLAND Hyl**	**125.81**	**271**	T	T	13 49 09.8	
	baz=116						
H11S1	**WAKE ISLAND Hyl**	**125.82**	**271**	T	T	13 49 08.5	
	baz=116						
H11S3	**WAKE ISLAND Hyl**	**125.83**	**271**	T	T	13 49 08.8	
	baz=116						

*IASPEI **20** 11:17:52.4±1.0, 37°.05N±0°.03×97°.92W±0°.03, h9km±7km, Error ellipse: s-maj=4.4km s-min=4.1km az=165.8, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*ANF **20** 11:17:52.9±0.2, 37°.05N×97°.91W, h6km, ML3.7/15, Error ellipse: s-maj=3.0km s-min=2.2km az=41.0*
*IDC **20** 11:17:53.4±2.3, 37°.16N×98°.10W, h0km, mb3.0/1, mb1 3.3/4, mb1mx3.2/41, mbtmp2.9/4, ML3.8/2, Error ellipse: s-maj=29.9km s-min=13.8km az=92.0*
*NEIC **20** 11:17:53.0±1.3, 37°.04N±0°.04×97°.90W±0°.05, h7km±7km, Error ellipse: s-maj=6.0km s-min=5.6km az=75.0*

ISC 20 11:17:52.4±0.8, 37°.04N±0°.02×97°.90W±0°.02, h9km±5km, n136, σ1s14/134, Kansas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAN05	**Bluff City Nor**	**0.07**	**20**		**Pg**	**11 17 54.5**	**-0.1**
KAN05				Sg	**Sg**	**11 17 55.7**	**-0.4**
KAN14	**Manchester OK**	**0.10**	**210**		**Pg**	**11 17 55.0**	**+0.2**
KAN17	**Caldwell West**	**0.11**	**87**		**Pg**	**11 17 55.5**	**+0.4**
KAN10	**Anthony SW Sta**	**0.17**	**299**		**Pg**	**11 17 56.1**	**0.0**
GC02	**Grant County #**	**0.19**	**169**		**Pg**	**11 17 56.9**	**+0.5**
KAN08	**Anthony NE Sta**	**0.20**	**344**		**Pg**	**11 17 56.5**	**0.0**
KAN16	**Harper SW Stat**	**0.23**	**325**	Pg	**Pg**	**11 17 57.1**	**0.0**
KAN09	**Caldwell North**	**0.25**	**67**		**Pg**	**11 17 57.9**	**+0.4**
KAN12	**Harper NE Stat**	**0.27**	**344**		**Pg**	**11 17 57.8**	**-0.1**
KAN12				Sg	**Sg**	**11 18 01.6**	**+0.1**
KS21	**Milan North St**	**0.31**	**38**		**Pg**	**11 17 58.9**	**+0.2**
KS21					**Sg**	**11 18 03.3**	**+0.4**
KS20	**Mayfield South**	**0.34**	**56**		**Pg**	**11 17 59.4**	**+0.3**
OK032	**Salt Plains WL**	**0.34**	**226**		**Pg**	**11 17 59.4**	**+0.3**
KAN13	**South Haven SW**	**0.34**	**94**		**Pg**	**11 17 59.6**	**+0.4**
KAN13				Sg	**Sg**	**11 18 04.2**	**+0.5**
CROK	**Carrier**	**0.54**	**187**		**Pg**	**11 18 03.1**	**+0.3**
BLOK	**Blackwell**	**0.62**	**116**		**Pg**	**11 18 04.8**	**+0.5**
U32A	**Winter Ranch,**	**1.10**	**234**		**Pg**	**11 18 13.2**	**-0.4**
U32A	**Winter Ranch,**	**1.10**	**234**	P	**Pg**	**11 18 13.2**	**-0.4**
	baz=52						
T35A	**Sooner Cattle**	**1.12**	**96**		**Pg**	**11 18 13.9**	**-0.1**
T35B	**Sooner Cattle**	**1.12**	**96**	P	**Pg**	**11 18 13.9**	**-0.1**
	baz=277,SNR=156						
T35B				S	**Sg**	**11 18 28.5**	**0.0**
	baz=277						
OK029	**Liberty Lake**	**1.29**	**164**		**Pn**	**11 18 16.8**	**+0.1**
QUOK	**Quay**	**1.29**	**132**		**Pn**	**11 18 16.8**	**0.0**
KOK03	**S. Brethren Rd**	**1.38**	**141**		**Pn**	**11 18 18.4**	**+0.4**
BCOK	**Bluff Creek, N**	**1.40**	**170**		**Pn**	**11 18 18.6**	**+0.4**
R32A	**Long Quarter,**	**1.52**	**335**		**Pn**	**11 18 20.3**	**+0.5**
R32A	**Long Quarter,**	**1.52**	**335**	P	**Pn**	**11 18 20.4**	**+0.5**
	baz=155,SNR=254						
R32A				S	**Sn**	**11 18 40.1**	**+0.2**
	baz=155						
OK025	**Westminster Rd**	**1.52**	**162**	Pn	**Pb**	**11 18 20.9**	**0.0**
OKCFA	**Oklahoma City**	**1.66**	**167**		**Pb**	**11 18 22.9**	**-0.2**
OKCFA	**Oklahoma City**	**1.66**	**167**	P	**Pb**	**11 18 23.0**	**-0.2**
	baz=347,SNR=5.6						
OKCFA				S	**Sg**	**11 18 46.0**	**+0.2**
	baz=347						
OKCSW	**OKLAHOMA CITY**	**1.67**	**167**	Pn	**Pb**	**11 18 23.2**	**-0.3**
FNO	**Franklin**	**1.82**	**167**		**Pb**	**11 18 25.5**	**-0.5**
FNO				IAmb_Lg		11 18 51.6	
	comp=Z,87nm,0.7s						
TUL1	**Leonard**	**2.04**	**123**	P	**Pn**	**11 18 27.9**	**+0.9**
	baz=304,SNR=95						
TUL1				S	**Sb**	**11 18 55.5**	**+0.3**
	baz=304						
TUL1	**Leonard**	**2.04**	**123**	P	**Pb**	**11 18 28.9**	**-0.8**
	baz=304						
TUL1				S	**Sb**	**11 18 55.8**	**+0.6**
	baz=304						
CBKS	**Cedar Bluff**	**2.29**	**321**	Pn	**Pn**	**11 18 31.4**	**+0.9**
CBKS	**Cedar Bluff**	**2.29**	**321**	P	**Pn**	**11 18 31.4**	**+0.9**
	baz=140,SNR=31						
CBKS				S	**Sn**	**11 19 00.8**	**+1.9**
	baz=140						
CBKS	**Cedar Bluff**	**2.29**	**321**	P	**Pn**	**11 18 31.6**	**+1.2**
	baz=140						
CBKS				S	**Sb**	**11 19 01.6**	**-0.8**
	baz=140						
KSU1	**Kansas State U**	**2.30**	**26**		**Pn**	**11 18 31.8**	**+1.3**
KSU1				IAmb_Lg		11 19 11.4	
	comp=Z,66nm,0.7s						
KSU1	**Kansas State U**	**2.30**	**26**	P	**Pn**	**11 18 31.7**	**+1.2**
	baz=207,SNR=37						
KSU1				S	**Sb**	**11 19 01.5**	**-1.2**
	baz=207						
KSU1	**Kansas State U**	**2.30**	**26**	P	**Pn**	**11 18 31.8**	**+1.2**
	baz=207						
KSU1				S	**Sb**	**11 19 01.6**	**-1.0**
	baz=207						
WMOK	**Wichita Mounta**	**2.40**	**197**		**Pn**	**11 18 33.2**	**+1.1**
WMOK	**Wichita Mounta**	**2.40**	**197**	P	**Pn**	**11 18 33.0**	**+1.0**
	baz=17						
WMOK	**Wichita Mounta**	**2.40**	**197**	P	**Pn**	**11 18 33.3**	**+1.3**
	baz=17						
X34A	**Smith Ranch, M**	**2.43**	**179**	Pn	**Pn**	**11 18 34.1**	**+1.6**
U38A	**Gravette**	**2.89**	**101**		**Pn**	**11 18 40.0**	**+1.3**
U38A	**Gravette**	**2.89**	**101**	P	**Pn**	**11 18 40.0**	**+1.3**
	baz=283,SNR=60						
LOOK	**Love County**	**3.10**	**169**	Pn	**Pn**	**11 18 42.8**	**+1.3**
LOOK				IAmb_Lg		11 19 33.1	
	comp=Z,24nm,0.7s						
X37A	**Clayton**	**3.19**	**139**		**Pn**	**11 18 44.4**	**+1.5**
X37A				IAmb_Lg		11 19 40.6	
	comp=Z,56nm,0.9s						
X37A	**Clayton**	**3.19**	**139**	P	**Pn**	**11 18 44.3**	**+1.5**
	baz=321,SNR=86						
HHAR	**Hobbs**	**3.27**	**102**	Pn	**Pn**	**11 18 45.3**	**+1.3**
HHAR				IAmb_Lg		11 19 44.4	
	comp=Z,28nm,0.7s						
S39A	**Bolivar**	**3.71**	**79**		**Pn**	**11 18 50.9**	**+1.0**
S39A	**Bolivar**	**3.71**	**79**	P	**Pn**	**11 18 50.5**	**+0.6**
	baz=261,SNR=31						
Z35A	**Perchaven, San**	**3.74**	**172**	Pn	**Pn**	**11 18 51.6**	**+1.3**
AMTX	**Amarillo**	**3.74**	**236**	Pn	**Pn**	**11 18 51.6**	**+1.1**
AMTX				IAmb_Lg		11 20 01.5	
	comp=Z,40nm,0.8s						
W39A	**Magazine**	**3.81**	**118**		**Pn**	**11 18 52.8**	**+1.5**
U40A	**Yellville**	**4.12**	**98**	Pn	**Pn**	**11 18 56.6**	**+1.0**
U40A				IAmb_Lg		11 20 01.8	
	comp=Z,32nm,0.8s						
U40A	**Yellville**	**4.12**	**98**	P	**Pn**	**11 18 56.6**	**+1.0**
	baz=281,SNR=15						
U40A	**Yellville**	**4.12**	**98**	P	**Pn**	**11 18 56.4**	**+0.9**
	baz=281						
N35A	**Tabor**	**4.20**	**24**	Pn	**Pn**	**11 18 57.2**	**+0.4**
KSCO	**Kaye Shedlock'**	**4.22**	**299**	Pn	**Pn**	**11 18 57.7**	**+0.6**
KSCO				IAmb_Lg		11 20 18.2	
	comp=Z,30nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.22**	**299**	P	**Pn**	**11 18 57.7**	**+0.6**
	baz=116,SNR=15						
KSCO	**Kaye Shedlock'**	**4.22**	**299**	P	**Pn**	**11 18 57.8**	**+0.7**
	baz=116						
KSCO				S	**Sn**	**11 19 47.7**	**+1.1**
	baz=116						
P38A	**Dawn**	**4.30**	**52**	Pn	**Pn**	**11 18 59.0**	**+0.9**
MIAR	**Mount Ida**	**4.31**	**124**	Pn	**Pn**	**11 19 00.1**	**+2.0**
MIAR				IAmb_Lg		11 20 22.1	
	comp=Z,27nm,0.8s						
MIAR	**Mount Ida**	**4.31**	**124**	P	**Pn**	**11 18 59.4**	**+1.2**
	baz=307,SNR=24						
MIAR	**Mount Ida**	**4.31**	**124**	P	**Pn**	**11 19 00.3**	**+2.1**
	baz=307						
BGNE	**Belgrade**	**4.37**	**358**	Pn	**Pn**	**11 19 00.6**	**+1.6**
Z38A	**Mt. Pleasant**	**4.46**	**147**	Pn	**Pn**	**11 19 01.9**	**+1.5**
Z38A				IAmb_Lg		11 20 22.9	
	comp=Z,30nm,0.7s						
MGMO	**Mountain Grove**	**4.51**	**87**	Pn	**Pn**	**11 19 01.9**	**+1.0**
ABTX	**Abilene, Hawle**	**4.63**	**198**	Pn	**Pn**	**11 19 03.6**	**+1.0**
R40A	**Maddies Statio**	**4.64**	**73**	Pn	**Pn**	**11 19 03.8**	**+1.0**
R40A				IAmb_Lg		11 20 21.5	
	comp=Z,15nm,0.8s						
R40A	**Maddies Statio**	**4.64**	**73**	P	**Pn**	**11 19 03.8**	**+1.0**
	baz=256,SNR=32						
FCAR	**Ozark Folk Cen**	**4.80**	**102**	Pn	**Pn**	**11 19 06.0**	**+1.1**
FCAR				IAmb_Lg		11 20 26.7	
	comp=Z,17nm,0.9s						
X40A	**Basin Creek Fa**	**4.84**	**120**

OXF	**Oxford**	**7.35**	**108**	Pn	**Pn**	**11 19 40.6**	**+0.7**
SMCO	**Snowmass**	**7.46**	**289**	Pn	**Pn**	**11 19 42.3**	**+0.4**
HDIL	**Hopedale**	**7.58**	**60**	Pn	**Pn**	**11 19 43.9**	**+0.8**
BNM	**Barren Site**	**7.67**	**251**	Pn	**Pn**	**11 19 44.8**	**+0.2**
I37A	**Lemond, Waseca**	**7.76**	**25**	IAmb_Lg		11 22 08.4	
	comp=Z,16nm,0.9s						
OLIL	**Olney**	**7.94**	**75**	Pn	**Pn**	**11 19 47.7**	**-0.3**
OLIL				IAmb_Lg		11 22 00.6	
	comp=Z,14nm,1.1s						
O44A	**Mansfield**	**8.02**	**64**	IAmb_Lg		11 22 10.1	
	comp=Z,13nm,0.7s						
L42A	**Oliver, Polo**	**8.07**	**50**	IAmb_Lg		11 22 10.2	
	comp=Z,12nm,0.8s						
WVT	**Waverly**	**8.15**	**93**	Pn	**Pn**	**11 19 49.9**	**-1.1**
MNTX	**Cornudas Mount**	**8.16**	**231**	Pn	**Pn**	**11 19 51.1**	**0.0**
USIN	**University of**	**8.19**	**80**	IAmb_Lg		11 22 22.4	
	comp=Z,11nm,0.8s						
PLAL	**Pickwick Lake**	**8.22**	**102**	Pn	**Pn**	**11 19 52.0**	**0.0**
JFWS	**Jewell Farm**	**8.30**	**43**	Pn	**Pn**	**11 19 52.2**	**-0.8**
JFWS				IAmb_Lg		11 22 32.0	
	comp=Z,17nm,0.9s						
RSSD	**Black Hills**	**8.47**	**329**	Pn	**Pn**	**11 19 57.2**	**+1.6**
RSSD				IAmb_Lg		11 22 33.2	
	comp=Z,8.9nm,0.8s						
RWWY	**Rawlins**	**8.57**	**306**	IAmb_Lg		11 22 39.5	
	comp=Z,10nm,0.9s						
K22A	**Casper**	**8.68**	**313**	Pn	**Pn**	**11 19 59.1**	**+0.8**
K22A				IAmb_Lg		11 22 51.3	
	comp=Z,11nm,0.8s						
SPMN	**Marine on St.**	**9.04**	**24**	IAmb_Lg		11 22 44.6	
	comp=Z,7.4nm,0.8s						
TX31	**Lajitas Ar. Si**	**9.07**	**214**	Pn	**Pn**	**11 20 03.9**	**+0.2**
TX32	**Lajitas Array**	**9.07**	**214**	Pn	**Pn**	**11 20 04.4**	**+0.6**
TXAR	**Lajitas Array**	**9.07**	**214**	Pn	**Pn**	**11 20 03.7**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=36,slow=11,SNR=9.4						
TXAR				Sn	**Sn**	**11 21 43.7**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=31,slow=15,SNR=1.8						
TXAR				Lg	Lg	11 22 37.3	
	comp=Z,0.4nm,0.3s,baz=136,slow=56,SNR=2.2						
TXAR	**Lajitas Array**	**9.07**	**214**		**Pn**	**11 20 03.1**	**-0.7**
SFIN	**Lafayette**	**9.08**	**65**	IAmb_Lg		11 22 42.0	
	comp=Z,13nm,0.7s						
BLO	**Bloomington**	**9.22**	**73**	IAmb_Lg		11 22 52.1	
	comp=Z,14nm,1.0s						
K43A	**Burlington**	**9.28**	**49**	IAmb_Lg		11 23 07.4	
	comp=Z,15nm,1.0s						
W18A	**Petrified Fore**	**9.77**	**262**	IAmb_Lg		11 23 24.7	
	comp=Z,6.6nm,0.9s						
PDAR	**Pinedale Array**	**10.62**	**306**	Pn	**Pn**	**11 20 26.2**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=118,slow=12,SNR=3.0						
PDAR				Lg	Lg	11 23 18.2	
	comp=Z,0.1nm,0.3s,baz=231,slow=47,SNR=1.9						
TKL	**Tuckaleechee C**	**11.48**	**93**	Lg	Lg	11 23 47.6	
	comp=Z,0.2nm,0.3s,baz=93,slow=17,SNR=2.8						
ILAR	**Eielson Array**	**39.92**	**330**	P	**P**	**11 25 27.2**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=107,slow=7.3,SNR=4.6						

*GUC **20** 11:23:46.1±0.6, 30.°59S×71.°35W, h41km±3km, ML4.0*
*IDC **20** 11:23:52.1±9.4, 30.°32S×70.°94W, h71km±57km, mb3.6/2, mb1 3.5/6, mb1mx3.3/29, mbtmp3.6/6, ML3.4/4, Error ellipse: s-maj=95.5km s-min=44.4km az=65.0*

ISC 20 11:23:47.1±0.9, **30.°55S**±0.°04×**71.°37W**±0.°07, **h42**km±12km, **n25**,σ1°53/30, **1C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.26**	**242**	⇑*i* P	Pn	11 23 54.5	-0.6
CO06				*i* S	**Sn**	**11 24 00.7**	**0.0**
CO06				IAML		11 24 01.4	
	comp=N,11μm,0.3s						
GO04	**Tololo Observa**	**0.62**	**53**	⇓*i* P	**Pn**	**11 24 00.1**	**+0.4**
GO04				*i* S	**Sn**	**11 24 10.3**	**+1.6**
GO04				IAML		11 24 12.7	
	comp=N,8μm,0.3s						
CO05	**La Serena**	**0.64**	**10**	⇓*i* P	**Pn**	**11 24 00.2**	**+0.5**
CO05				*i* S	**Sn**	**11 24 10.3**	**+1.5**
CO03	**El Pedregal**	**0.65**	**116**	⇓*i* P	**Pn**	**11 23 59.8**	**-0.2**
CO03				*i* S	**Sn**	**11 24 09.8**	**+0.5**
CO03				IAML		11 24 10.0	
	comp=N,13μm,0.1s						
LCO	**Las Campanas**	**1.64**	**21**	*e*P	**Pn**	**11 24 14.4**	**+0.7**
LCO				*e*S	**Sn**	**11 24 36.0**	**+2.2**
VA06	**Catapilco**	**2.00**	**178**	IAML		11 24 49.7	
	comp=E,1μm,0.4s						
VA03	**San Esteban**	**2.31**	**163**	*e*P	**Pn**	**11 24 23.0**	**+0.3**
VA03				*e*S	**Sn**	**11 24 52.3**	**+2.3**
VA03				IAML		11 24 57.0	
	comp=E,1μm,0.4s						
AC04	**Llanos de Chal**	**2.35**	**6**	IAML		11 25 04.3	
	comp=E,460nm,0.3s						
VA01	**Torpederas**	**2.47**	**185**	*e*P	Pn	11 24 23.2	-1.7
MT05	**Renca**	**2.88**	**169**	*e*P	**Pn**	**11 24 31.6**	**+1.1**
MT05				*e*S	**Sn**	**11 25 05.1**	**+1.1**
MT05				IAML		11 25 12.8	
	comp=E,1μm,0.4s						
VA05	**Santo Domingo**	**3.10**	**184**	*e*P	Pn	11 24 31.7	-1.7
VA05				IAML		11 25 28.5	
	comp=E,481nm,0.5s						
GO03	**Copiap**	**3.11**	**19**	*e*P	**Pn**	**11 24 35.1**	**+1.4**
GO03				*i* S	**Sn**	**11 25 12.6**	**+2.8**
GO03				IAML		11 25 23.8	
	comp=N,406nm,0.5s						
MT09	**Talagante**	**3.23**	**174**	*e*P	**Pn**	**11 24 35.3**	**-0.1**
MT09				*e*S	**Sn**	**11 25 11.9**	**-0.8**
MT09				IAML		11 25 23.4	
	comp=E,310nm,0.1s						
MT01	**Popeta**	**3.30**	**178**	*e*P	**Pn**	**11 24 35.3**	**-1.0**
MT01				IAML		11 25 25.0	
	comp=E,253nm,0.3s						
AC06	**Mina Casimiro**	**3.31**	**16**	*e*P	**Pn**	**11 24 37.3**	**+0.9**
AC06				IAML		11 25 31.0	
	comp=E,303nm,0.6s						
LMEL	**Las Melosas**	**3.43**	**164**	*e*P	**Pn**	**11 24 39.6**	**+1.4**
LMEL				*i* S	**Sn**	**11 25 20.8**	**+3.2**
LMEL				IAML		11 25 28.4	
	comp=N,333nm,0.5s						
BO01	**Tunca**	**3.83**	**176**	*e*P	**Pn**	**11 24 42.7**	**-0.9**
BO03	**Pichilemu**	**3.96**	**187**	*e*P	Pn	11 24 42.8	-2.5
BO02	**Sierra Bellavi**	**4.26**	**173**	*e*P	**Pn**	**11 24 49.7**	**+0.2**
LVC	**Limon Verde**	**8.21**	**16**	P	**Pn**	**11 25 43.6**	**-0.5**
	comp=N,0.2nm,0.3s,baz=276,slow=7.6,SNR=1.6						
LVC				S	**Sn**	**11 27 13.0**	**-2.8**
	comp=N,0.5nm,0.3s,baz=233,slow=13,SNR=1.4						
CPUP	**Villa Florida**	**13.05**	**75**	P	**Pn**	**11 26 49.2**	**-0.7**
	comp=N,0.1nm,0.3s,baz=61,slow=8.1,SNR=1.6						
LPAZ	**La Paz**	**14.51**	**13**	P	**Pn**	**11 27 11.9**	**+1.6**
	comp=N,0.0nm,0.3s,baz=183,slow=10,SNR=4.3						
SIV	**San Ignacio**	**17.29**	**35**	P	**Pn**	**11 27 43.7**	**-1.8**
	comp=N,0.1nm,0.3s,baz=218,slow=15,SNR=4.3						
BDFB	**Brasilia**	**26.04**	**60**	P	**P**	**11 29 15.0**	**-1.7**
	comp=N,0.9nm,0.4s,baz=205,slow=4.2,SNR=3.8						
TORD	**Torodi Ar. Bea**	**82.50**	**70**	P	**P**	**11 36 05.1**	**-0.6**
	comp=N,0.4nm,0.5s,baz=244,slow=4.7,SNR=3.1						

NNC 20 11:37:30.4±5.3, **36.°88N×71.°11E, h125**km±71km, **mb3.1, mpv3.9, 1C-4D, Error ellipse: s-maj=51.5km s-min=33.6km az=159.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.23**	**356**	P	Pn	11 39 00.4	+0.5
	baz=178,slow=13						
KK31				⇓S	Sn	11 40 10.8	+1.0
	7.4nm,0.4s,baz=187,slow=23,SNR=4.0						
TKM2	**Tokmak 2**	**6.94**	**28**	⇓P	Pn	11 39 09.4	-0.3
	6.6nm,0.7s						
TKM2				⇑S	Sn	11 40 27.7	+0.3
	8.9nm,1.0s						
AB31	**Akbulak array**	**14.79**	**330**	⇓P	Pn	11 40 52.0	-1.2
	0.4nm,0.4s,baz=140,slow=13,SNR=21						
AKTO	**Aktyubinsk**	**16.50**	**329**	⇓P	P	11 41 15.3	+0.6
	1.1nm,0.8s						

VAO 20 11:49:20.0±0.5, **5.°49S×35.°76W, h10**km, **mb3.8, Brazil**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**0.37**	**203**	*e*P	Pb	11 49 28.5	-0.2
RCBR				*e*S	Sb	11 49 33.9	-0.6
NBPV	**Pedro Velho**	**1.04**	**153**	*e*P	Pg	11 49 39.5	-0.4
NBPV				*e*S	Sg	11 49 52.9	-0.6
NBPA	**Parau_RN**	**1.37**	**259**	*e*P	Pg	11 49 46.3	-0.2
NBPA				*e*S	Sg	11 50 05.0	+0.7
NBLV	**Livramento - P**	**2.19**	**212**	*e*P	Pn	11 49 57.2	+0.6
NBLV				*e*S	Sn	11 50 24.8	+1.0
NBCL	**Cascavel-CE**	**2.82**	**296**	*e*P	Pn	11 50 05.8	+0.6
NBCL				*e*S	Sn	11 50 37.2	-2.0
NBRF	**Rio Formoso -**	**3.23**	**169**	*e*P	Pn	11 50 11.5	+0.6
NBRF				*e*S	Sn	11 50 49.0	-0.5
NBMA	**Muriti-CE**	**3.52**	**238**	*e*P	Pn	11 50 16.2	+1.3
NBMA				*e*S	Sn	11 50 57.7	+1.0
NBPB	**Pedra_Branca-C**	**3.81**	**269**	*e*P	Pn	11 50 19.6	+0.8
NBPB				*e*S	Sn	11 51 03.9	+0.2
NBAN	**Anadia - AL**	**4.19**	**187**	*e*P	Pn	11 50 25.0	+1.0
NBAN				*e*S	Sn	11 51 13.3	+0.3
NBMO	**Morrinhos-CE**	**4.79**	**297**	*e*P	Pn	11 50 32.5	+0.2
NBMO				*e*S	Sn	11 51 26.6	-1.2
NBLA	**Lagarto - SE**	**5.83**	**200**	*e*P	Pn	11 50 47.4	+0.8
NBLA				*e*S	Sn	11 51 51.8	-1.8
GDU01	**Guandu, BA**	**9.01**	**204**	*e*P	Pn	11 51 31.0	+0.8
CMC01	**Camacan, BA**	**10.49**	**200**	*e*P	Pn	11 51 51.2	+0.7

*IDC **20** 11:50:17.2±2.1, 6.°87S×129.°60E, h146km±25km, mb3.4/1, mb1 3.6/6, mb1mx3.2/43, mbtmp4.0/6, Error ellipse: s-maj=27.5km s-min=18.7km az=110.0*

ISC 20 11:50:15.8±0.9, **6.°97S**±0.°06×**129.°8E**±0.°1, **h150**km, **n6**, σ2°96/11, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.24**	**14**	P	**Pn**	**11 51 46.0**	**+0.3**
	1.6nm,0.3s,baz=231,slow=23,SNR=20						
SIJI				S	**Sn**	**11 52 52.8**	**-3.4**
	2.5nm,0.3s,baz=214,slow=23,SNR=9.5						
BATI	**Baumata**	**6.87**	**242**	P	**Pn**	**11 51 55.4**	**+1.2**
	2.3nm,0.3s,baz=80,slow=11,SNR=2.0						
BATI				S	**Sn**	**11 53 10.4**	**-1.0**
	6.2nm,0.3s,baz=162,slow=16,SNR=2.4						
FITZ	**Fitzroy Crossi**	**11.78**	**200**	P	**Pn**	**11 53 00.1**	**+0.7**
	0.3nm,0.3s,baz=18,slow=11,SNR=22						
FITZ				S	**Sn**	**11 55 04.2**	**-5.4**
	0.2nm,0.3s,baz=92,slow=21,SNR=2.0						
WRA	**Warramunga Arr**	**13.62**	**162**	P	**Pn**	**11 53 24.9**	**+1.9**
	0.4nm,0.3s,baz=337,slow=13,SNR=31						
WRA				S	**Sn**	**11 55 52.4**	**-1.7**
	0.9nm,0.3s,baz=338,slow=22,SNR=9.3						
ASAR	**Alice Springs**	**17.06**	**167**	P	**Pn**	**11 54 09.8**	**+4.2**
	0.6nm,0.3s,baz=344,slow=9.2,SNR=74						
ASAR				S	**S**	**11 57 13.7**	**-1.5**
	0.2nm,0.3s,baz=350,slow=27,SNR=5.8						
MKAR	**Makanchi Array**	**68.10**	**327**	P	**P**	**12 01 00.0**	**+0.6**
	0.4nm,0.4s,baz=120,slow=8.0,SNR=6.8						

*IDC **20** 11:59:47.6±2.3, 30.°48S×71.°72W, h0km, mb3.5/1, mb1 3.6/4, mb1mx3.5/18, mbtmp3.4/4, ML3.4/3, MS2.9/2, Ms1 2.9/2, ms1mx2.6/19, Error ellipse: s-maj=71.2km s-min=39.1km az=101.0*
*GUC **20** 11:59:51.9±0.7, 30.°45S×71.°69W, h35km±2km, ML3.8*

ISC 20 11:59:52.1±1.1, **30.°48S**±0.°03×**71.°71W**±0.°08, **h29**km±7km, **n20**,σ2°15/23, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.20**	**163**	*e*P	**Pb**	**11 59 58.5**	**+0.3**
CO06				*i* S	**Sb**	**12 00 02.9**	**+0.5**
CO06				IAML		12 00 03.4	
	comp=N,19μm,0.2s						
CO05	**La Serena**	**0.69**	**36**	*e*P	**Pb**	**12 00 04.7**	**-0.9**
CO05				*i* S	**Sb**	**12 00 13.6**	**-1.1**
CO05				IAML		12 00 14.5	
	comp=N,7μm,0.2s						
GO04	**Tololo Observa**	**0.84**	**69**	*e*P	**Pb**	**12 00 07.4**	**-0.9**
GO04				*i* S	**Sb**	**12 00 18.6**	**-0.7**
GO04				IAML		12 00 19.6	
	comp=N,7μm,0.5s						
CO03	**El Pedregal**	**0.95**	**113**	*e*P	**Pb**	**12 00 09.2**	**-0.7**
CO03				*i* S	**Sb**	**12 00 21.8**	**-0.4**
CO03				IAML		12 00 22.6	
	comp=E,7μm,0.2s						
LCO	**Las Campanas**	**1.70**	**31**	*e*P	**Pn**	**12 00 20.6**	**+0.5**
LCO				*i* S	**Sb**	**12 00 42.7**	**-1.3**
AC04	**Llanos de Chal**	**2.33**	**14**	*i* S	**Sn**	**12 00 57.6**	**+1.4**
ROCH	**El Roble**	**2.56**	**167**	*i* S	**Sn**	**12 01 05.4**	**+3.3**
MT05	**Renca**	**3.02**	**164**	*i* S	**Sn**	**12 01 16.3**	**+3.0**
GO03	**Copiap**	**3.15**	**24**	*e*P	**Pn**	**12 00 40.4**	**+0.5**
GO03				*i* S	**Sn**	**12 01 17.9**	**+1.4**
MT09	**Talagante**	**3.34**	**170**	*i* S	**Sn**	**12 01 23.0**	**+1.6**
MT09				*i* S	**Sb**	**12 01 24.1**	**-6.9**
LMEL	**Las Melosas**	**3.59**	**160**	*i* S	**Sn**	**12 01 30.1**	**+2.6**
H03N1	**Juan Fernandez**	**6.80**	**242**	T	T	12 08 36.0	
	baz=68,slow=72,SNR=101						
H03N2	**Juan Fernandez**	**6.81**	**242**	T	T	12 08 36.2	
	baz=68,slow=72,SNR=76						
H03N3	**Juan Fernandez**	**6.81**	**242**	T	T	12 08 38.2	
	baz=68,slow=72,SNR=71						
PLCA	**Paso Flores**	**10.28**	**175**	Pn	**Pn**	**12 02 17.4**	**-0.3**
	comp=E,0.0nm,0.3s,baz=346,slow=12,SNR=1.3						
CPUP	**Villa Florida**	**13.31**	**75**	Pn	**Pn**	**12 02 59.4**	**+0.2**
	comp=E,0.2nm,0.3s,baz=246,slow=17,SNR=1.6						
CPUP				LR	LR	12 08 38.5	
	comp=E,47nm,18.9s,baz=326,slow=40						
LPAZ	**La Paz**	**14.50**	**14**	Pn	**Pn**	**12 03 16.2**	**+0.3**
	comp=E,0.1nm,0.3s,baz=197,slow=11,SNR=2.0						
NNA	**Nana**	**19.01**	**344**	LR	LR	12 09 46.9	
	comp=E,37nm,19.4s,baz=103,slow=32						
TORD	**Torodi Ar. Bea**	**82.75**	**70**	P	**P**	**12 12 12.9**	**-0.9**
	comp=E,0.2nm,0.6s,baz=233,slow=5.9,SNR=1.7						
ZALV	**Zalesovo Beam**	**151.06**	**29**	PKPbc	**PKPbc**	**12 19 42.1**	**+0.3**
	comp=E,1.1nm,0.4s,baz=290,slow=2.9,SNR=5.1						

*IDC **20** 12:12:11.7±1.1, 18.°06S×66.°91W, h277km±11km, mb3.6/8, mb1 3.9/12, mb1mx3.7/33, mbtmp4.4/12, Error ellipse: s-maj=24.0km s-min=13.4km az=18.0*
*VAO **20** 12:12:11.6±0.2, 18.°03S×67.°01W, h276km, mb4.2*
*NEIC **20** 12:12:11.0±0.9, 18.°04S±0.°07×66.°98W±0.°06, h276km±6km, mb4.3/69, Error ellipse: s-maj=10.3km s-min=8.5km az=165.0*
*SCB **20** 12:12:13.9±2.6, 18.°19S×67.°00W, h253km±29km, ML4.2/5, Error ellipse: s-maj=16.1km s-min=15.1km az=1.0*

ISC 20 12:12:10.7±0.4, **18.°07S**±0.°04×**67.°05W**±0.°05, **h280**km, **n200**,σ1°25/211, **mb4.2**/38, **Central Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBOE	**La Paz, Chanca**	**1.54**	**325**	P	**Pn**	**12 12 54.9**	**+2.0**
LPAZ	**La Paz**	**2.05**	**330**	P	**Pn**	**12 12 57.9**	**+0.9**
	176nm,0.3s,baz=105,slow=4.0,SNR=9078						
LPAZ				S	**S**	**12 13 32.2**	**-1.4**
	12nm,0.3s,baz=206,slow=24,SNR=12						
LPAZ	**La Paz**	**2.05**	**330**	P	**Pn**	**12 12 58.1**	**+1.1**
LPAZ				S	**S**	**12 13 32.0**	**-1.6**
LPAZ				IAML		12 13 33.9	
	65nm,0.5s						
LPAZ	**La Paz**	**2.05**	**330**	*e*P	**Pn**	**12 12 58.2**	**+1.1**
LPAZ				*e*S	**S**	**12 13 31.5**	**-2.1**
BBOD	**La Paz, Gloria**	**2.05**	**314**	P	**Pn**	**12 12 58.2**	**+1.3**
PB08	**IPOC Station P**	**2.86**	**224**		**Pn**	**12 13 04.9**	**+0.8**
PB08	**IPOC Station P**	**2.86**	**224**	P	**Pn**	**12 13 05.4**	**+1.3**
PB11	**IPOC Station P**	**2.98**	**235**	P	**Pn**	**12 13 05.8**	**+0.7**
PB11				S	**S**	**12 13 46.6**	**-1.8**
PB11				IAML		12 13 47.9	
	447nm,0.2s						
AP01	**Chacalluta**	**3.14**	**264**		**Pn**	**12 13 07.0**	**+0.5**
PSGC	**Pisagua**	**3.28**	**242**	P	**Pn**	**12 13 08.4**	**+0.3**
PSGCX	**Pisagua**	**3.28**	**242**	Pn	**Pn**	**12 13 08.6**	**+0.5**
MOCB	**Mochara**	**3.43**	**157**	P	**Pn**	**12 13 11.9**	**+1.8**
TA02	**Huaiquique**	**3.64**	**233**		**Pn**	**12 13 12.6**	**+0.7**
PB01	**IPOC Station P**	**3.74**	**217**	P	**Pn**	**12 13 14.1**	**+1.0**
PB01				S	**S**	**12 14 00.2**	**-2.7**
PB01				IAML		12 14 02.6	
	462nm,0.3s						
TA01	**Diego Aracena**	**3.85**	**229**		**Pn**	**12 13 13.8**	**-0.5**
PB02	**IPOC Station P**	**4.19**	**219**	P	**Pn**	**12 13 19.3**	**+1.1**
PB02				S	**S**	**12 14 09.1**	**-3.1**
PB02				IAML		12 14 14.5	
	498nm,0.4s						
PB09	**IPOC Station P**	**4.24**	**209**	P	**Pn**	**12 13 20.5**	**+1.7**
PB07	**IPOC Station P**	**4.51**	**216**	P	**Pn**	**12 13 23.0**	**+1.1**
PB03	**IPOC Station P**	**4.70**	**212**	P	**Pn**	**12 13 25.2**	**+1.1**
PB03				S	**S**	**12 14 19.3**	**-3.6**
PB03				IAML		12 14 23.6	
	372nm,0.4s						
LVC	**Limon Verde**	**4.84**	**201**	P	**Pn**	**12 13 26.8**	**+0.9**
	37nm,0.3s,baz=28,slow=10.0,SNR=177						
LVC				S	**S**	**12 14 23.1**	**-3.0**
	17nm,0.3s,baz=45,slow=14,SNR=19						
LVC	**Limon Verde**	**4.84**	**201**	Pn	**Pn**	**12 13 26.7**	**+0.7**
LVC	**Limon Verde**	**4.84**	**201**	P	**Pn**	**12 13 27.1**	**+1.1**
LVC	**Limon Verde**	**4.84**	**201**	*e*P	**Pn**	**12 13 27.3**	**+1.3**
AF01	**San Pedro de A**	**4.97**	**192**		**Pn**	**12 13 28.9**	**+1.5**
PB05	**IPOC Station P**	**5.60**	**211**	P	**Pn**	**12 13 35.6**	**+0.8**
SIV	**San Ignacio**	**6.08**	**71**	P	**Pn**	**12 13 40.2**	**-0.5**
	3.4nm,0.3s,baz=274,slow=9.6,SNR=56						
SIV				S	**S**	**12 14 44.7**	**-8.3**
	0.7nm,0.3s,baz=267,slow=15,SNR=3.7						
SIV	**San Ignacio**	**6.08**	**71**	P	**Pn**	**12 13 40.6**	**-0.1**
PTLB	**Pontes e Lacer**	**8.02**	**72**	*e*P	**Pn**	**12 14 05.1**	**+0.6**
ETMB	**Extrema**	**8.25**	**6**	*e*P	**Pn**	**12 14 07.1**	**-0.3**
VILB	**Vilhena**	**8.34**	**53**	*e*P	**Pn**	**12 14 08.2**	**-0.3**
SAML	**Samuel**	**9.82**	**23**		**Pn**	**12 14 26.3**	**-0.6**
SAML	**Samuel**	**9.82**	**23**	*e*P	**Pn**	**12 14 26.6**	**-0.3**
AQDB	**Aquidauana**	**10.98**	**104**		**Pn**	**12 14 42.6**	**+1.3**
AQDB	**Aquidauana**	**10.98**	**104**	*e*P	**Pn**	**12 14 42.9**	**+1.6**
SALV	**Santo Antonio**	**11.08**	**80**	*e*P	**Pn**	**12 14 42.9**	**+0.4**
NNA	**Nana**	**11.22**	**301**	P	**P**	**12 14 47.0**	**-0.2**
	3.9nm,0.3s,baz=123,slow=12,SNR=7.4						
NNA				S	**S**	**12 16 44.9**	**-5.0**
	4.2nm,0.3s,baz=26,slow=18,SNR=7.7						
NNA	**Nana**	**11.22**	**301**	Pn	**Pn**	**12 14 43.2**	**-1.1**
PP1B	**Ponte de Pedra**	**11.60**	**90**	*e*P	**Pn**	**12 14 49.2**	**+0.3**
CZSB	**Cruzeiro do Su**	**11.66**	**331**	*e*P	**Pn**	**12 14 49.7**	**0.0**
CPUP	**Villa Florida**	**12.19**	**134**	*e*P	**Pn**	**12 14 55.9**	**0.0**
CLDB	**Colider**	**13.04**	**58**	*e*P	**Pn**	**12 15 06.0**	**-0.4**
TBTG	**Tabatinga, AM**	**14.08**	**348**	*e*P	**P**	**12 15 18.8**	**-0.1**
TRCB	**Terra Rica**	**14.31**	**112**	P	**P**	**12 15 21.3**	**0.0**
TRCB	**Terra Rica**	**14.31**	**112**	*e*P	**Pn**	**12 15 22.2**	**+0.5**
VANC	**San Esteban**	**14.96**	**291**	P	**P**	**12 15 29.5**	**+1.0**
ITQB	**Itaqui**	**14.96**	**142**	P	**P**	**12 15 27.3**	**-1.1**
PTGB	**Pitanga**	**15.44**	**118**	*e*P	**Pn**	**12 15 36.3**	**+1.1**
NPGB	**Novo Progresso**	**15.81**	**48**	*e*P	**Pn**	**12 15 39.0**	**-0.6**
ITRB	**Iturama**	**15.88**	**99**	*e*P	**P**	**12 15 38.5**	**-0.2**
MACA	**Manacapuru-AM**	**16.08**	**24**	*e*P	**Pn**	**12 15 42.0**	**-0.8**
SNDB	**Serra Nova Dou**	**16.38**	**70**	*e*P	**P**	**12 15 44.2**	**+0.1**
BO01	**Tunca**	**16.64**	**192**	P	**P**	**12 15 46.5**	**-0.4**
CPSB	**Cacapava Do Su**	**17.44**	**137**	*e*P	**P**	**12 15 56.1**	**+0.6**
ITTB	**Itaituba**	**17.56**	**40**	*e*P	**Pn**	**12 15 59.9**	**-0.1**
BB19B	**Bebedouro**	**17.71**	**103**	*e*P	**P**	**12 16 00.1**	**+1.6**
IPMB	**Ipameri, GO**	**17.92**	**93**	*e*P	**Pn**	**12 16 02.6**	**-1.7**
ML02	**Panimavida**	**18.04**	**192**	P	**P**	**12 16 02.2**	**+0.3**
PLTB	**Pedras Altas**	**18.27**	**141**	P	**P**	**12 16 04.4**	**-0.1**
PLTB				IAmb	IAmb	12 16 11.9	
	comp=Z,19nm,1.3s						
BDFB	**Brasilia**	**18.38**	**85**	P	**P**	**12 16 07.4**	**+1.4**
	comp=Z,3.8nm,0.3s,baz=260,slow=9.7,SNR=28						
BDFB	**Brasilia**	**18.38**	**85**	P	**P**	**12 16 04.3**	**-1.7**
RCLB	**Rio Claro- Sao**	**18.82**	**107**	*e*P	**P**	**12 16 11.4**	**+0.9**
PEXB	**Peixe**	**19.05**	**74**	*e*P	**P**	**12 16 14.0**	**+1.0**
SPB	**Sao Paulo**	**19.14**	**110**	P	**P**	**12 16 13.3**	**-0.5**
SPB				IAmb	IAmb	12 16 16.0	
	comp=Z,23nm,1.2s						
SPB	**Sao Paulo**	**19.14**	**110**	*e*P	**P**	**12 16 14.1**	**+0.3**
VAO	**Valinhos**	**19.43**	**108**	*e*P	**P**	**12 16 16.5**	**-0.6**
PET01	**Itanhaem-SP**	**19.44**	**112**	*e*P	**P**	**12 16 17.4**	**+0.4**
TER01	**Tubaro-SC**	**19.45**	**126**	*e*P	**P**	**12 16 18.8**	**+1.7**
TRQA	**Tornquist**	**20.40**	**168**	*e*P	**P**	**12 16 28.5**	**+1.5**
MALB	**Monte Alegre**	**20.43**	**39**	*e*P	**P**	**12 16 27.6**	**0.0**
PRPB	**Parauapebas**	**20.57**	**57**	*e*P	**P**	**12 16 29.9**	**+0.9**
PARB	**Paraibuna**	**20.71**	**108**	*e*P	**P**	**12 16 30.1**	**-0.4**
SMTB	**Santa Maria do**	**21.01**	**67**	*e*P	**P**	**12 16 34.5**

FVM	**French Village**	**59.93**	**339**	P	**P**	**12 21 47.8**	**0.0**
FVM				IAmb	IAmb	12 21 48.5	
	comp=Z,12nm,0.9s						
CCM	**Cathedral Cave**	**60.28**	**338**	P	**P**	**12 21 50.2**	**+0.1**
S39A	**Bolivar**	**60.73**	**336**	P	**P**	**12 21 53.1**	**-0.1**
S39A				IAmb	IAmb	12 21 54.0	
	comp=Z,4.6nm,0.7s						
N49A	**Columbus Grove**	**60.81**	**345**	P	**P**	**12 21 53.7**	**+0.1**
R40A	**Maddies Statio**	**60.86**	**337**	P	**P**	**12 21 54.1**	**+0.1**
R40A				IAmb	IAmb	12 21 54.6	
	comp=Z,6.3nm,0.9s						
P43A	**Skaggs, Pawnee**	**61.13**	**340**	P	**P**	**12 21 55.4**	**-0.4**
VNA1	**Neumayer--Stat**	**62.93**	**161**	P	**P**	**12 22 08.1**	**+0.8**
DELO	**Deloro Mine**	**63.03**	**352**	P	**P**	**12 22 08.2**	**0.0**
VNA2	**Neumayer--Watz**	**63.31**	**161**	P	**P**	**12 22 11.7**	**+1.9**
	baz=300,slow=6.4						
ANMO	**Albuquerque**	**64.66**	**325**	P	**P**	**12 22 19.6**	**+0.4**
D62A	**Allapoint, All**	**64.88**	**358**	P	**P**	**12 22 21.0**	**+0.9**
D62A				IAmb	IAmb	12 22 49.0	
	comp=Z,12nm,1.2s						
SNAA	**Sanae**	**64.95**	**162**	P	**P**	**12 22 22.9**	**+2.4**
SNAA	**Sanae**	**64.95**	**162**	P	**P**	**12 22 20.9**	**+0.4**
DBIC	**Dimbokro**	**66.10**	**74**	P	**P**	**12 22 28.1**	**-0.6**
	comp=Z,2.7nm,0.7s,baz=230,slow=3.7,SNR=5.0						
DBIC	**Dimbokro**	**66.10**	**74**	P	**P**	**12 22 27.7**	**-1.0**
DBIC				IAmb	IAmb	12 22 56.6	
	comp=Z,6.1nm,1.1s						
SDCO	**Great Sand Dun**	**66.26**	**327**	P	**P**	**12 22 30.7**	**+1.1**
MVCO	**Mesa Verde**	**67.44**	**325**	P	**P**	**12 22 37.7**	**+0.8**
MVCO				IAmb	IAmb	12 22 39.6	
	comp=Z,3.6nm,0.8s						
PV01	**Paradox Valley**	**68.16**	**326**	P	**P**	**12 22 42.0**	**+0.7**
PV01				IAmb	IAmb	12 22 44.6	
	comp=Z,4.0nm,0.7s						
KNB	**Kanab**	**69.74**	**322**	P	**P**	**12 22 51.4**	**+0.4**
KNB				IAmb	IAmb	12 22 55.1	
	comp=Z,5.4nm,0.8s						
SRU	**San Rafael Swe**	**69.92**	**325**	P	**P**	**12 22 52.1**	**0.0**
SRU				IAmb	IAmb	12 22 55.0	
	comp=Z,3.9nm,0.6s						
CCUT	**Cedar City**	**70.42**	**322**	P	**P**	**12 22 56.0**	**+0.8**
MVU	**Marysvale**	**70.42**	**324**	P	**P**	**12 22 56.2**	**+1.0**
TMUT	**Trail Mountain**	**70.42**	**325**	P	**P**	**12 22 56.2**	**+0.9**
TMUT				IAmb	IAmb	12 22 58.9	
	comp=Z,2.3nm,0.5s						
RDMU	**Red Mountain**	**70.47**	**327**	P	**P**	**12 22 55.6**	**+0.2**
RDMU				IAmb	IAmb	12 22 58.2	
	comp=Z,3.7nm,0.6s						
GWY	**Greenwater Val**	**71.50**	**319**	P	**P**	**12 23 02.0**	**+0.5**
TPNV	**Topopah Spring**	**71.73**	**320**	P	**P**	**12 23 03.9**	**+1.0**
TPNV				IAmb	IAmb	12 23 07.1	
	comp=Z,6.2nm,1.2s						
PD31	**Pinedale Array**	**72.07**	**328**	P	**P**	**12 23 05.7**	**+0.8**
PDAR	**Pinedale Array**	**72.07**	**328**	P	**P**	**12 23 06.5**	**+1.6**
	comp=Z,1.0nm,0.4s,baz=127,slow=8.4,SNR=11						
PDAR	**Pinedale Array**	**72.07**	**328**	P	**P**	**12 23 05.6**	**+0.8**
REDW	**Red Top Meadow**	**73.16**	**328**	P	**P**	**12 23 12.0**	**+0.8**
LOHW	**Long Hollow**	**73.21**	**328**	P	**P**	**12 23 12.2**	**+0.6**
TPAW	**Teton Pass**	**73.30**	**328**	P	**P**	**12 23 12.6**	**+0.4**
IMW	**Indian Meadow**	**73.59**	**329**	P	**P**	**12 23 14.0**	**+0.2**
IMW				IAmb	IAmb	12 23 17.1	
	comp=Z,4.0nm,0.8s						
FLWY	**Flagg Ranch**	**73.60**	**329**	P	**P**	**12 23 14.7**	**+0.9**
FLWY				IAmb	IAmb	12 23 17.0	
	comp=Z,5.0nm,0.6s						
NVAR	**Mina Array Bea**	**73.93**	**320**	P	**P**	**12 23 17.9**	**+2.1**
	comp=Z,0.8nm,0.7s,baz=143,slow=6.8,SNR=7.3						
NVAR	**Mina Array Bea**	**73.93**	**320**	P	**P**	**12 23 17.1**	**+1.2**
YNE	**Yellowstone No**	**73.95**	**330**	P	**P**	**12 23 16.5**	**+0.7**
YNE				IAmb	IAmb	12 23 18.9	
	comp=Z,4.7nm,0.8s						
YHH	**Holmes Hill**	**74.19**	**329**	P	**P**	**12 23 17.5**	**+0.2**
YHH				IAmb	IAmb	12 23 21.2	
	comp=Z,3.8nm,0.7s						
KVN	**Kaiserville**	**74.21**	**321**	P	**P**	**12 23 17.8**	**+0.4**
TORD	**Torodi Ar. Bea**	**74.56**	**70**	P	**P**	**12 23 19.2**	**-0.5**
	comp=Z,4.7nm,0.6s,baz=258,slow=5.9,SNR=30						
TORD	**Torodi Ar. Bea**	**74.56**	**70**	P	**P**	**12 23 19.2**	**-0.5**
TORD				IAmb	IAmb	12 23 20.0	
	comp=Z,4.2nm,0.8s						
HLID	**Hailey**	**75.13**	**326**	P	**P**	**12 23 22.9**	**+0.4**
PNTR	**Pine Nut**	**75.14**	**320**	P	**P**	**12 23 23.6**	**+0.8**
PNTR				IAmb	IAmb	12 23 26.8	
	comp=Z,4.4nm,0.8s						
PAHR	**Pah Rah Range**	**75.39**	**321**	P	**P**	**12 23 24.4**	**+0.3**
PAHR				IAmb	IAmb	12 23 28.1	
	comp=Z,4.9nm,0.8s						
HRY	**Holter Researc**	**76.06**	**330**	P	**P**	**12 23 28.9**	**+1.2**
BMO	**Blue Mountains**	**77.53**	**326**	P	**P**	**12 23 36.6**	**+0.7**
PINE	**Pine Mountain**	**78.85**	**323**	P	**P**	**12 23 43.9**	**+0.7**
PINE				IAmb	IAmb	12 23 48.6	
	comp=Z,3.1nm,0.8s						
EDM	**Edmonton**	**81.44**	**334**	P	**P**	**12 23 57.7**	**+1.1**
ESDC	**Sonseca Array**	**82.17**	**44**	P	**P**	**12 24 02.1**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=259,slow=5.7,SNR=5.3						
BOSA	**Boshof**	**83.50**	**118**	P	**P**	**12 24 09.1**	**+1.1**
	comp=Z,2.0nm,0.4s,baz=252,slow=5.2,SNR=8.5						
BOSA	**Boshof**	**83.50**	**118**	P	**P**	**12 24 07.8**	**-0.1**
BOSA				IAmb	IAmb	12 24 10.0	
	comp=Z,4.9nm,0.9s						
LBTB	**Lobatse**	**84.85**	**114**	P	**P**	**12 24 14.4**	**-0.3**
YKA	**Yellowknife Ar**	**88.57**	**340**	P	**P**	**12 24 33.4**	**+1.9**
	comp=Z,0.7nm,0.5s,baz=129,slow=4.7,SNR=6.1						
YKA	**Yellowknife Ar**	**88.57**	**340**	P	**P**	**12 24 32.4**	**+0.9**
ASAR	**Alice Springs**	**133.74**	**207**	PKP	**PKiKP**	**12 30 57.0**	**+0.6**
	comp=Z,0.3nm,0.9s,baz=122,slow=1.5,SNR=5.5						
ASAR	**Alice Springs**	**133.74**	**207**		**PKPdf**	**12 30 56.1**	**+1.0**
WRA	**Warramunga Arr**	**136.78**	**210**	PKP	**PKiKP**	**12 31 03.0**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=159,slow=2.0,SNR=4.8						
MKAR	**Makanchi Array**	**141.84**	**35**	PKP	**PKPdf**	**12 31 09.5**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=333,slow=2.3,SNR=2.3						
SONM	**Songino Array**	**149.84**	**9**	PKPbc	**PKiKP**	**12 31 29.6**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=6.1,slow=4.5,SNR=3.6						
SONM	**Songino Array**	**149.84**	**9**		**PKPdf**	**12 31 20.6**	**-2.2**
SONM					**PKPbc**	**12 31 25.1**	**-2.8**

*NEIC **20** 12:22:19.4±2.3,53.06N±0.05×166.81W±0.07, h35km±26km, ML3.5/34(AEIC), Error ellipse: s-maj=9.4km s-min=1.0km az=141.0*
*AEIC **20** 12:22:19.6±1.5,53.17N±0.07×166.90W±0.06, h28km±7km, Error ellipse: s-maj=11.4km s-min=3.3km az=156.0*
*IDC **20** 12:22:20.1±4.3,53.30N×166.91W, h45km±40km, mb3.5/8, mb1 3.7/10, mb1mx3.4/51, mbtmp3.7/10, ML3.1/2, MS2.8/2, Ms1 2.8/2, ms1mx2.5/39, Error ellipse: s-maj=39.4km s-min=23.5km az=166.0*

ISC 20 12:22:19.5±1.3,53.12N±0.09×166.83W±0.06, h43km±12km, n72, σ1§47/72, mb3.7/9, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGOD	**Makushin Gods**	**0.67**	**358**		**Pn**	**12 22 32.5**	**-0.2**
MAPS	**Pakushin South**	**0.69**	**355**		**Pn**	**12 22 32.8**	**-0.1**
MAPS					**Sn**	**12 22 42.3**	**-0.2**
OKFG	**Magazine Ridge**	**0.71**	**294**		**Pn**	**12 22 32.6**	**-0.5**
OKFG					**Sn**	**12 22 42.6**	**-0.3**
UNV	**Unalaska Valle**	**0.75**	**15**		**Pn**	**12 22 33.0**	**-0.7**
UNV					**Sn**	**12 22 43.6**	**-0.3**
MNAT	**Makushin Natee**	**0.77**	**7**		**Pn**	**12 22 33.8**	**-0.1**
MNAT					**Sn**	**12 22 44.7**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**0.77**	**290**		**Pn**	**12 22 33.5**	**-0.5**
MSW	**Makushin Switc**	**0.80**	**2**		**Pn**	**12 22 34.2**	**-0.1**
MSW					**Sn**	**12 22 45.5**	**+0.5**
OKNC	**Okmok New Cone**	**0.85**	**294**		**Pn**	**12 22 34.5**	**-0.4**
OKNC					**Sn**	**12 22 45.9**	**-0.4**
MTBL	**Makushin Table**	**0.85**	**6**		**Pn**	**12 22 35.4**	**+0.2**
OKCE	**Okmok Cone E**	**0.86**	**291**		**Pn**	**12 22 35.0**	**-0.1**
OKSP	**Okmok Steeple**	**0.89**	**279**		**Pn**	**12 22 34.6**	**-0.9**
OKWE	**Okmok W'ng Wal**	**0.92**	**293**		**Pn**	**12 22 35.4**	**-0.5**
AKMO	**Akutan Morgan**	**1.09**	**26**		**Pn**	**12 22 38.7**	**+0.4**
AKMO					**Sn**	**12 22 52.9**	**+0.8**
AKRB	**Akutan Reef Bi**	**1.11**	**24**		**Pn**	**12 22 39.2**	**+0.6**
AKBBA	**Akutan Broad B**	**1.11**	**28**		**Pn**	**12 22 39.0**	**+0.4**
AKLV	**Akutan Long Va**	**1.17**	**26**		**Pn**	**12 22 39.6**	**+0.3**
AKGG	**Akutan Green G**	**1.19**	**24**		**Pn**	**12 22 40.4**	**+0.7**
AKUT	**Akutan**	**1.20**	**31**		**Pn**	**12 22 40.4**	**+0.7**
AKSA	**Akutan Strait**	**1.22**	**33**		**Pn**	**12 22 40.1**	**+0.1**
NIKH	**Nikolski High**	**1.23**	**264**		**Pn**	**12 22 39.2**	**-1.0**
NIKH					**Sn**	**12 22 54.4**	**-1.2**
WECS	**Westdahl Cape**	**1.86**	**40**		**Pn**	**12 22 49.9**	**+1.0**
SSLS	**Shishaldin Sou**	**2.31**	**45**		**Pn**	**12 22 56.0**	**+0.9**
ISLZ	**Isanotski Laza**	**2.45**	**48**		**Pn**	**12 22 57.9**	**+1.0**
SDPT	**Sand Point**	**4.34**	**57**		**Pn**	**12 23 25.0**	**+2.2**
SPIA	**Saint Paul Isl**	**4.51**	**336**		**Pn**	**12 23 26.5**	**+1.4**
ATKA	**Atka Island**	**4.58**	**261**	Pn	**Pn**	**12 23 27.4**	**+1.4**
GSTR	**Great Sitkin T**	**5.72**	**263**	Pn	**Pn**	**12 23 44.0**	**+2.2**
GSSP	**Great Sitkin S**	**5.79**	**263**		**Pn**	**12 23 45.5**	**+2.8**
CHGN	**Chignik**	**5.83**	**53**	Pn	**Pn**	**12 23 45.2**	**+2.0**
ADK	**Adak**	**6.14**	**262**	Pn	**Pn**	**12 23 48.5**	**+0.9**
KIWB	**Kanaga Island**	**6.43**	**263**	Pn	**Pn**	**12 23 51.8**	**+0.3**
AMKA	**Amchitka**	**8.69**	**264**	Pn	**Pn**	**12 24 22.8**	**+0.4**
OHAK	**Old Harbor**	**8.77**	**57**	Pn	**Pn**	**12 24 25.3**	**+1.8**
O18K	**Koktuh Hills**	**9.31**	**39**	Pn	**Pn**	**12 24 33.4**	**+2.5**
KDAK	**Kodiak Island**	**9.34**	**54**	P	**Pn**	**12 24 31.5**	**+0.2**
	0.2nm,0.3s,baz=253,slow=8.8,SNR=1.3						
KDAK				S	**Sn**	**12 26 08.7**	**-6.1**
	0.1nm,0.3s,baz=137,slow=19,SNR=2.0						
KDAK	**Kodiak Island**	**9.34**	**54**		**Pn**	**12 24 30.8**	**-0.5**
Q19K	**Cape Douglas,**	**9.39**	**46**	Pn	**Pn**	**12 24 32.0**	**-0.1**
N18K	**Kilae Creek**	**9.64**	**34**	Pn	**Pn**	**12 24 36.7**	**+1.2**
SVW2	**Sparrevohn**	**10.05**	**33**	Pn	**Pn**	**12 24 44.3**	**+3.3**
M19K	**Big River Lodg**	**11.03**	**32**	Pn	**Pn**	**12 24 56.8**	**+2.3**
L19K	**White Mountain**	**11.10**	**30**	Pn	**Pn**	**12 24 58.5**	**+3.1**
K20K	**Telida**	**12.24**	**28**	Pn	**Pn**	**12 25 13.6**	**+2.7**
J20K	**Nowinta River**	**12.87**	**26**	Pn	**Pn**	**12 25 21.6**	**+2.2**
CAST	**Castle Rocks**	**12.87**	**31**	Pn	**Pn**	**12 25 22.1**	**+2.5**
HIN	**Hinchinbrook I**	**13.28**	**49**	Pn	**Pn**	**12 25 25.1**	**-0.1**
SCM	**Sheep Creek Mo**	**13.59**	**42**	Pn	**Pn**	**12 25 30.2**	**+0.8**
KLU	**Klutina**	**14.01**	**45**	Pn	**Pn**	**12 25 34.2**	**-0.9**
M24K	**Tolsona, Glenn**	**14.20**	**43**	Pn	**Pn**	**12 25 38.2**	**+0.5**
HMT	**Hamilton**	**14.29**	**51**	Pn	**Pn**	**12 25 41.1**	**+2.3**
IMAR	**Indian Mountai**	**14.45**	**22**	Pn	**Pn**	**12 25 40.2**	**-0.8**
N25K	**Chitina, Valde**	**14.63**	**46**	Pn	**Pn**	**12 25 44.1**	**+0.6**
WAX	**Waxell Ridge**	**14.98**	**51**	Pn	**Pn**	**12 25 49.5**	**+1.4**
ILAR	**Eielson Array**	**15.47**	**33**	P	**Pn**	**12 25 53.0**	**-1.3**
	0.1nm,0.3s,baz=221,slow=9.5,SNR=1.5						
PETK	**Petropavlovsk-**	**21.16**	**284**	P	**P**	**12 27 00.2**	**-0.5**
	1.7nm,0.6s,baz=96,slow=13,SNR=12						
PETK	**Petropavlovsk-**	**21.16**	**284**	P	**P**	**12 27 01.4**	**+0.8**
INK	**Inuvik**	**21.87**	**33**	P	**P**	**12 27 06.5**	**-1.5**
	2.0nm,0.7s,baz=262,slow=7.2,SNR=1.7						
MA2	**Magadan**	**24.02**	**303**	LR	LR	12 36 04.9	
	comp=Z,28nm,20.1s,baz=131,slow=34						
NVAR	**Mina Array Bea**	**36.16**	**94**	pP	pP	12 29 31.6	+2.7
	0.5nm,0.7s,baz=304,slow=8.3,SNR=5.0						
H11N2	**WAKE ISLAND Hy**	**39.02**	**221**	T	T	13 11 16.2	
	baz=24,slow=76,SNR=127						
H11N3	**WAKE ISLAND Hy**	**39.03**	**221**	T	T	13 11 12.4	
	baz=24,slow=76,SNR=105						
H11N1	**WAKE ISLAND Hy**	**39.04**	**221**	T	T	13 11 17.6	
	baz=24,slow=76,SNR=75						
H11S1	**WAKE ISLAND Hy**	**40.20**	**221**	T	T	13 12 42.2	
	baz=24,slow=76,SNR=99						
H11S2	**WAKE ISLAND Hy**	**40.22**	**221**	T	T	13 12 42.9	
	baz=24,slow=76,SNR=91						
H11S3	**WAKE ISLAND Hy**	**40.22**	**221**	T	T	13 12 38.4	
	baz=24,slow=76,SNR=49						
KSRS	**Korea Array**	**46.84**	**278**	LR	LR	12 52 25.0	
	comp=Z,7.9nm,18.3s,baz=245,slow=39						
TXAR	**Lajitas Array**	**51.21**	**92**	P	**P**	**12 31 19.6**	**+1.1**
	0.2nm,0.5s,baz=302,slow=5.2,SNR=3.6						
ARCES	**ARCESS Array B**	**57.32**	**355**	PcP	**PcP**	**12 32 56.1**	**+0.2**
	1.3nm,0.7s,baz=10,slow=5.7,SNR=5.1						
FINES	**FINESS Array B**	**65.32**	**353**	P	**P**	**12 32 55.5**	**-0.9**
	3.9nm,1.1s,baz=28,slow=9.6,SNR=4.1						
CMAR	**Chiang Mai Arr**	**77.94**	**285**	P	**P**	**12 34 13.6**	**+0.6**
	0.9nm,0.7s,baz=27,slow=6.1,SNR=4.4						
ESDC	**Sonseca Array**	**86.39**	**13**	P	**P**	**12 34 56.8**	**-0.2**
	0.3nm,0.6s,baz=351,slow=4.7,SNR=4.7						
WRA	**Warramunga Arr**	**88.69**	**234**	P	**P**	**12 35 07.8**	**-0.2**
	0.8nm,1.0s,baz=41,slow=5.6,SNR=2.9						
ASAR	**Alice Springs**	**92.07**	**232**	P	**P**	**12 35 24.3**	**+0.6**
	0.3nm,0.7s,baz=32,slow=5.5,SNR=2.9						

*IDC **20** 12:25:57.4±1.5,31.50S×71.18W, h0km, mb3.5/2, mb1 3.6/6, mb1mx3.5/34, mbtmp3.4/6, ML3.3/4, MS2.5/1, Ms1 2.5/1, ms1mx2.2/28, Error ellipse: s-maj=55.4km s-min=30.4km az=93.0*
*GUC **20** 12:26:01.1±0.6,31.45S×71.62W, h22km±5km, ML3.8*

ISC 20 12:25:58.8±1.5,31.47S±0.02×71.58W±0.09, h10km±10km, n36, σ1§02/37, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.80**	**356**	*eP*	**Pn**	**12 26 15.4**	**-0.6**
CO06				*i* S	**Sb**	**12 26 26.3**	**+0.7**
CO06				IAML		12 26 28.2	
	comp=N,7μm,0.3s						
CO03	**El Pedregal**	**0.99**	**51**	*eP*	**Pn**	**12 26 19.2**	**+0.4**
CO03				*i* S	**Sn**	**12 26 32.7**	**-0.1**
CO03				IAML		12 26 36.2	
	comp=E,3μm,0.3s						
VA06	**Catapilco**	**1.11**	**168**	*eP*	**Pn**	**12 26 21.3**	**+0.8**
VA06				*i* S	**Sn**	**12 26 36.2**	**+0.3**
VA06				IAML		12 26 44.2	
	comp=E,3μm,0.4s						
GO04	**Tololo Observa**	**1.45**	**27**	*eP*	**Pb**	**12 26 26.1**	**-0.1**
GO04				*i* S	**Sg**	**12 26 45.6**	**0.0**
GO04				IAML		12 26 49.4	
	comp=N,4μm,0.7s						
VA01	**Torpederas**	**1.55**	**182**	*eP*	**Pb**	**12 26 27.0**	**-0.6**
VA03	**San Esteban**	**1.56**	**146**	*eP*	**Pg**	**12 26 29.1**	**+0.4**
VA03				*i* S	**Sg**	**12 26 49.6**	**+0.8**
VA03				IAML		12 26 51.8	
	comp=E,2μm,0.6s						
CO05	**La Serena**	**1.57**	**11**	*eP*	**Pb**	**12 26 28.0**	**0.0**
CO05				*i* S	**Sb**	**12 26 48.1**	**+0.2**
CO05				IAML		12 26 53.1	
	comp=E,1μm,0.2s						
ROCH	**El Roble**	**1.57**	**162**	*eP*	**Pg**	**12 26 28.8**	**-0.2**
ROCH				*i* S	**Sg**	**12 26 50.0**	**+0.6**
ROCH				IAML		12 26 53.8	
	comp=N,1μm,0.5s						
MT05	**Renca**	**2.04**	**160**	*eP*	**Pb**	**12 26 36.2**	**+0.1**
MT05				*i* S	**Sg**	**12 27 03.1**	**-1.4**
MT05				IAML		12 27 05.7	
	comp=E,2μm,0.5s						
VA05	**Santo Domingo**	**2.18**	**181**	*eP*	**Pn**	**12 26 35.9**	**+0.7**
VA05				IAML		12 27 10.9	
	comp=E,886nm,0.2s						
MT09	**Talagante**	**2.35**	**168**	*i* S	**Sb**	**12 27 11.4**	**+0.8**
MT01	**Popeta**	**2.40**	**174**	*eP*	**Pn**	**12 26 39.6**	**+1.4**
MT01				IAML		12 27 24.8	
	comp=E,323nm,0.3s						
LCO	**Las Campanas**	**2.56**	**17**	*eP*	**Pn**	**12 26 41.2**	**+0.5**
LCO				*eS*	**Sn**	**12 27 13.1**	**+1.0**
LMEL	**Las Melosas**	**2.64**	**154**	*eP*	**Pb**	**12 26 45.0**	**-1.3**
LMEL				*i* S	**Sb**	**12 27 18.4**	**-0.4**
BO01	**Tunca**	**2.94**	**172**	*eP*	**Pn**	**12 26 47.0**	**+1.4**
AC04	**Llanos de Chal**	**3.28**	**8**	*eP*	**Pn**	**12 26 50.1**	**-0.2**
BO02	**Sierra Bellavi**	**3.38**	**169**	*eP*	**Pn**	**12 26 54.0**	**+2.3**
GO05	**Huala**	**3.54**	**185**	*eP*	**Pn**	**12 26 53.6**	**-0.3**
GO03	**Copiap**	**4.04**	**17**	*eP*	**Pn**	**12 27 01.3**	**+0.6**
AC06	**Mina Casimiro**	**4.23**	**15**	*eP*	**Pn**	**12 27 03.6**	**+0.2**
H03N1	**Juan Fernandez**	**6.51**	**250**	T	T	12 34 11.3	
	baz=78,slow=72,SNR=727						
H03N3	**Juan Fernandez**	**6.52**	**250**	T	T	12 34 14.0	
	baz=78,slow=72,SNR=61						
H03N2	**Juan Fernandez**	**6.52**	**251**	T	T	12 34 17.3	
	baz=78,slow=72,SNR=842						
LVC	**Limon Verde**	**9.14**	**16**	Pn	**Pn**	**12 28 09.1**	**-2.0**
	comp=E,0.2nm,0.3s,baz=183,slow=10,SNR=1.1						
LVC				LR	LR	12 31 14.0	
	comp=E,31nm,19.3s,baz=204,slow=35						
PLCA	**Paso Flores**	**9.28**	**175**	Pn	**Pn**	**12 28 13.3**	**+0.6**
	comp=E,0.1nm,0.3s,baz=336,slow=14,SNR=1.2						
LPAZ	**La Paz**	**15.44**	**13**	Pn	**Pn**	**12 29 38.8**	**+1.5**
	comp=E,0.1nm,0.3s,baz=191,slow=5.2,SNR=2.2						
SIV	**San Ignacio**	**18.14**	**34**	P	**Pn**	**12 30 10.3**	**-0.7**
	comp=E,0.1nm,0.3s,baz=228,slow=12,SNR=3.1						
TXAR	**Lajitas Array**	**67.73**	**330**	P	**P**	**12 36 58.6**	**+2.0**
	comp=E,0.2nm,0.8s,baz=156,slow=6.7,SNR=2.3						
TORD	**Torodi Ar. Bea**	**82.98**	**70**	P	**P**	**12 38 23.3**	**-1.3**
	comp=E,0.7nm,0.8s,baz=235,slow=5.1,SNR=4.6						
H11S2	**WAKE ISLAND Hy**	**126.17**	**271**	T	T	15 03 48.5	
	baz=117,slow=75,SNR=67						
H11S1	**WAKE ISLAND Hy**	**126.18**	**271**	T	T	15 03 53.4	
	baz=117,slow=75,SNR=60						
H11S3	**WAKE ISLAND Hy**	**126.18**	**271**	T	T	15 03 49.6	
	baz=117,slow=75,SNR=63						
H11N3	**WAKE ISLAND Hy**	**126.21**	**272**	T	T	15 04 13.3	
	baz=116,slow=75,SNR=42						
H11N1	**WAKE ISLAND Hy**	**126.53**	**272**	T	T	15 04 14.7	
	baz=116,slow=75,SNR=11						
H11N2	**WAKE ISLAND Hy**	**126.53**	**272**	T	T	15 04 14.7	
	baz=116,slow=75,SNR=57						
ZALV	**Zalesovo Beam**	**151.87**	**30**	PKPbc	**PKPbc**	**12 45 51.9**	**-1.5**
	comp=E,1.5nm,0.5s,baz=312,slow=2.7,SNR=6.0						

NOU 20 12:26:40.0, 15.91S×167.29E, h54km, mb4.1/12, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**2.00**	**155**	P	Pn	12 27 11.7	+0.3
RTV	**Rentapao**	**2.17**	**150**	P	Pn	12 27 14.2	+0.6
LIFNC	**LIFOU**	**4.84**	**181**	P	Pn	12 27 50.2	-0.1
KOUNC	**Koumac, New Ca**	**5.43**	**211**	P	Pn	12 27 58.1	-0.3
MARNC	**Mare, Loyalty**	**5.58**	**173**	P	Pn	12 27 59.3	-1.2
YATNC	**Mamie plateau,**	**6.13**	**183**	P	Pn	12 28 07.4	-0.6
DZM	**Mont Dzumac**	**6.18**	**187**	P	Pn	12 28 08.4	-0.4
ONTNC	**Ouen Toro**	**6.41**	**187**	P	Pn	12 28 13.1	+1.2
OUENC	**Ouen Island, N**	**6.49**	**184**	P	Pn	12 28 13.6	+0.7
PINNC	**Pines Island,**	**6.67**	**179**	P	Pn	12 28 15.8	+0.4

IDC 20 12:27:04.3±8.9, 31.90S×179.66W, h322km±98km, mb3.4/2, mb1 3.6/3, mb1mx3.1/28, mbtmp4.0/3, Error ellipse: s-maj=107.1km s-min=39.4km az=2.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.87**	**202**	P	Pn	12 28 45.9	+1.6
	0.2nm,0.3s,baz=308,slow=20,SNR=6.8						
URZ				S	S	12 30 03.7	-1.8
	0.6nm,0.3s,baz=306,slow=23,SNR=1.7						
ASAR	**Alice Springs**	**41.64**	**269**	P	P	12 34 22.4	+0.3
	0.9nm,0.4s,baz=106,slow=7.3,SNR=20						
WRA	**Warramunga Arr**	**42.77**	**275**	P	P	12 34 30.8	-0.5
	1.5nm,0.3s,baz=113,slow=8.0,SNR=47						
FINES	**FINESS Array B**	**146.03**	**338**	PKPbc	PKPdf	12 46 04.8	+0.4
	0.8nm,0.5s,baz=32,slow=3.6,SNR=10						

IDC 20 12:27:06.0±3.4, 22.57S×171.52E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/25, mbtmp3.6/4, Error ellipse: s-maj=177.1km s-min=36.6km az=160.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**34.55**	**261**	P	P	12 33 56.2	-0.2
	0.3nm,0.6s,baz=87,slow=9.0,SNR=7.5						
WRA	**Warramunga Arr**	**34.69**	**267**	P	P	12 33 57.0	-0.8
	0.3nm,0.4s,baz=99,slow=8.5,SNR=11						
CMAR	**Chiang Mai Arr**	**81.80**	**294**	P	P	12 39 28.9	+1.6
	0.3nm,0.7s,baz=149,slow=4.0,SNR=2.2						
NVAR	**Mina Array Bea**	**89.43**	**48**	P	P	12 40 04.6	-0.6
	0.4nm,0.8s,baz=231,slow=6.7,SNR=2.6						

*IDC **20** 12:27:21.6±1.0,5.01S×76.81W, h104km±8km, mb3.5/4, mb1 3.6/7, mb1mx3.4/33, mbtmp3.7/7, Error ellipse: s-maj=36.1km s-min=17.7km az=52.0*
*VAO **20** 12:27:40.6±2.7,5.57S×75.34W, h148km±10km, mb4.3*

ISC 20 12:27:21.4±0.7,5.15S±0.08×76.90W±0.09, h100km, n31, σ1§68/34, mb3.6/4, Northern Peru

| Code | Station Name | Δ° |

VA03	**San Esteban**	**1.60**	**125**	Pn		**Pn**	**12 37 17.6**	**+0.5**
VA03	**San Esteban**	**1.60**	**125**	*i* P		**Pn**	**12 37 17.0**	**-0.1**
VA05	**Santo Domingo**	**1.85**	**167**	*e*P		**Pn**	**12 37 21.1**	**+0.8**
VA05	**Santo Domingo**	**1.85**	**167**	Pn		**Pn**	**12 37 21.2**	**+0.8**
MT05	**Renca**	**1.92**	**144** ⇑	*i*P		**Pn**	**12 37 22.2**	**+0.7**
MT05				*i* S		**Sn**	**12 37 46.3**	**0.0**
MT05				IAML			12 37 53.2	
	comp=E,5μm,0.4s							
MT05	**Renca**	**1.92**	**144**	Pn		**Pb**	**12 37 23.0**	**-0.4**
MT05	**Renca**	**1.92**	**144**	*i* P		**Pb**	**12 37 23.0**	**-0.4**
GO04	**Tololo Observa**	**2.01**	**34**	*e*P		**Pb**	**12 37 24.9**	**-0.1**
GO04				*e*S		**Sn**	**12 37 49.1**	**+0.4**
GO04	**Tololo Observa**	**2.01**	**34**	P		**Pb**	**12 37 23.5**	**+0.7**
GO04	**Tololo Observa**	**2.01**	**34**	*i* P		**Pb**	**12 37 23.0**	**+0.2**
CO05	**La Serena**	**2.06**	**21**	*e*P		**Pb**	**12 37 26.8**	**+1.0**
CO05				*i* S		**Sg**	**12 37 53.8**	**0.0**
CO05				IAML			12 38 00.6	
	comp=E,3μm,0.4s							
CO05	**La Serena**	**2.06**	**21**	Pn		**Pn**	**12 37 23.9**	**+0.6**
MT01	**Popeta**	**2.13**	**161** ⇑	*i*P		**Pn**	**12 37 25.2**	**+0.9**
MT01				*e*S		**Sn**	**12 37 49.0**	**-2.5**
MT01				IAML			12 37 57.8	
	comp=E,1μm,0.2s							
MT01	**Popeta**	**2.13**	**161**	Pn		**Pn**	**12 37 25.3**	**+0.9**
MT01	**Popeta**	**2.13**	**161**	*i* P		**Pn**	**12 37 25.0**	**+0.7**
MT09	**Talagante**	**2.14**	**154** ⇑	*i*P		**Pn**	**12 37 26.1**	**+1.6**
MT09				*i* S		**Sn**	**12 37 52.0**	**+0.1**
MT09				IAML			12 38 01.0	
	comp=E,2μm,0.3s							
MT09	**Talagante**	**2.14**	**154**	Pn		**Pn**	**12 37 26.1**	**+1.6**
AUSP	**Uspallata**	**2.34**	**100**	*i* P		**Pb**	**12 37 30.0**	**-0.7**
RTLS	**Leoncito**	**2.39**	**90**	*i* P		**Pb**	**12 37 31.0**	**-0.6**
LMEL	**Las Melosas**	**2.56**	**142** ⇑	*i*P		**Pn**	**12 37 31.7**	**+1.4**
LMEL				*e*S		**Sn**	**12 38 02.7**	**+0.6**
LMEL				IAML			12 38 16.5	
	comp=N,2μm,0.4s							
BO03	**Pichilemu**	**2.64**	**177**	*i* P		**Pn**	**12 37 31.9**	**+0.6**
BO03				*e*S		**Sn**	**12 38 01.0**	**-3.0**
BO01	**Tunca**	**2.68**	**162** ⇑	*i*P		**Pn**	**12 37 32.6**	**+0.9**
BO01				*e*S		**Sn**	**12 38 03.6**	**-1.2**
BO01				IAML			12 38 21.2	
	comp=N,580nm,0.5s							
BO01	**Tunca**	**2.68**	**162**			**Pn**	**12 37 32.7**	**+0.9**
BO01	**Tunca**	**2.68**	**162**	*i* P		**Pn**	**12 37 33.0**	**+1.2**
AROD	**Rodeo**	**2.81**	**54**	*i* P		**Pb**	**12 37 37.0**	**-1.8**
ARCO	**CERRO ARCO**	**2.86**	**111**	*i* P		**Pb**	**12 37 39.0**	**-0.5**
ASAL	**Salagasta**	**2.87**	**106**	*i* P		**Pb**	**12 37 38.0**	**-1.6**
ACCO	**Cerro Coronel**	**2.89**	**65**	*i* P		**Pb**	**12 37 39.0**	**-1.1**
ZON	**Zonda**	**2.94**	**85**			**Pn**	**12 37 38.1**	**+2.7**
ZON	**Zonda**	**2.94**	**85**	*i* P		**Pb**	**12 37 39.0**	**-1.7**
AAGR	**Agrelo**	**3.03**	**115**	*i* P		**Pb**	**12 37 41.0**	**-1.4**
RTCV	**Cerro Valdivia**	**3.03**	**91**	*i* P		**Pb**	**12 37 40.0**	**-2.4**
ACDV	**Cuesta del Vie**	**3.06**	**58**	*i* P		**Pn**	**12 37 40.0**	**+2.8**
LCO	**Las Campanas**	**3.08**	**24**	*i* P		**Pn**	**12 37 37.9**	**+0.3**
LCO				*e*S		**Sn**	**12 38 14.4**	**-0.6**
LCO	**Las Campanas**	**3.08**	**24**	*i* P		**Pn**	**12 37 38.0**	**+0.5**
BO02	**Sierra Bellavi**	**3.14**	**160**	*e*P		**Pn**	**12 37 39.4**	**+1.2**
BO02				*e*S		**Sn**	**12 38 16.7**	**+0.3**
BO02				IAML			12 38 35.4	
	comp=N,1μm,0.5s							
BO02	**Sierra Bellavi**	**3.14**	**160**	Pn		**Pn**	**12 37 39.4**	**+1.2**
BO02	**Sierra Bellavi**	**3.14**	**160**	*i* P		**Pn**	**12 37 40.0**	**+1.8**
GO05	**Huala**	**3.16**	**177**	*e*P		**Pn**	**12 37 38.9**	**+0.5**
GO05	**Huala**	**3.16**	**177**	Pn		**Pn**	**12 37 38.9**	**+0.5**
GO05	**Huala**	**3.16**	**177**	*i* P		**Pn**	**12 37 39.0**	**+0.5**
AC04	**Llanos de Chal**	**3.74**	**14**	*e*P		**Pn**	**12 37 46.2**	**-0.2**
AC04	**Llanos de Chal**	**3.74**	**14**	Pn		**Pn**	**12 37 46.3**	**-0.2**
AC04	**Llanos de Chal**	**3.74**	**14**	*i* P		**Pn**	**12 37 47.0**	**+0.6**
COIS	**El Sosneado**	**3.87**	**148**	*i* P		**Pb**	**12 37 52.0**	**+3.8**
LAMA	**Las Malvinas**	**3.92**	**143**	*i* P		**Pb**	**12 37 54.0**	**-3.4**
ML02	**Panimavida**	**3.95**	**172**	Pn		**Pn**	**12 37 49.3**	**+0.1**
AVFE	**Valle Fertil**	**4.15**	**71**	*i* P		**Pn**	**12 37 54.0**	**+1.8**
RFA	**San Rafael**	**4.22**	**135**	*i* P		**Pn**	**12 37 56.0**	**+3.0**
GO03	**Copiap**	**4.54**	**21**	*e*P		**Pn**	**12 37 57.9**	**+0.4**
GO03	**Copiap**	**4.54**	**21**	Pn		**Pn**	**12 37 58.1**	**+0.7**
GO03	**Copiap**	**4.54**	**21**	*i* P		**Pn**	**12 37 59.0**	**+1.5**
ACHE	**Chepes**	**4.70**	**83**	*i* P		**Pn**	**12 38 01.0**	**+1.3**
AC06	**Mina Casimiro**	**4.73**	**19**	*e*P		**Pn**	**12 37 59.7**	**-0.3**
AC06	**Mina Casimiro**	**4.73**	**19**	Pn		**Pn**	**12 38 00.4**	**+0.4**
BI05	**Punta Hualpn**	**4.97**	**190**	*e*P		**Pn**	**12 38 03.7**	**+0.5**
AC02	**Maricunga**	**5.63**	**28**	Pn		**Pn**	**12 38 13.2**	**+0.4**
AC02	**Maricunga**	**5.63**	**28**	*i* P		**Pn**	**12 38 13.0**	**+0.2**
H03N1	**Juan Fernandez**	**5.96**	**253**	T		T	12 44 52.8	
	baz=82,slow=72,SNR=812							
H03N3	**Juan Fernandez**	**5.97**	**253**	T		T	12 44 49.7	
	baz=82,slow=72,SNR=1179							
H03N2	**Juan Fernandez**	**5.97**	**253**	T		T	12 44 48.5	
	baz=82,slow=72,SNR=1068							
CYA	**Choya**	**6.43**	**60**	*i* P		**Pn**	**12 38 25.0**	**+1.6**
LC01	**Cunco**	**7.04**	**179**			**Pn**	**12 38 31.9**	**+0.2**
LC01	**Cunco**	**7.04**	**179**	*i* P		**Pn**	**12 38 33.0**	**+1.3**
PB14	**IPOC Station P**	**7.35**	**12**	Pn		**Pn**	**12 38 36.2**	**-0.1**
AHML	**Horco Molle**	**7.77**	**51**	*i* P		**Pn**	**12 38 44.0**	**+2.2**
FSA	**Cafayete**	**7.84**	**45**	*i* P		**Pn**	**12 38 47.0**	**+4.1**
PLCA	**Paso Flores**	**8.96**	**172**	Pn		**Pn**	**12 38 59.8**	**+1.7**
	comp=N,0.7nm,0.3s,baz=335,slow=12,SNR=30							
PLCA				LR		LR	12 42 29.7	
	comp=N,171nm,18.6s,baz=347,slow=38							
PLCA	**Paso Flores**	**8.96**	**172**			**Pn**	**12 38 59.2**	**+1.1**
LVC	**Limon Verde**	**9.63**	**18**	Pn		**Pn**	**12 39 04.7**	**-2.9**
	comp=N,0.2nm,0.3s,baz=170,slow=11,SNR=1.9							
LVC				LR		LR	12 42 54.6	
	comp=N,138nm,20.0s,baz=212,slow=38							
TRQA	**Tornquist**	**10.36**	**129**			**Pn**	**12 39 18.0**	**+0.7**
ITQB	**Itaqui**	**13.49**	**85**	Pn		**Pn**	**12 40 02.8**	**+2.7**
CPUP	**Villa Florida**	**14.04**	**71**	Pn		**Pn**	**12 40 05.2**	**-2.4**
	comp=N,0.1nm,0.3s,baz=230,slow=16,SNR=1.8							
CPUP				LR		LR	12 45 45.4	
	comp=N,148nm,21.1s,baz=228,slow=39							
CPUP	**Villa Florida**	**14.04**	**71**	Pn		**Pn**	**12 40 06.1**	**-1.5**
PLTB	**Pedras Altas**	**15.73**	**95**	Pn		**Pn**	**12 40 30.1**	**-0.3**
PLTB				IAmb		IAmb	12 40 45.8	
	comp=Z,26nm,1.5s							
LPAZ	**La Paz**	**15.91**	**14**	Pn		**Pn**	**12 40 34.6**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=198,slow=12,SNR=7.4							
LPAZ	**La Paz**	**15.91**	**14**	Pn		**Pn**	**12 40 34.2**	**+0.9**
SIV	**San Ignacio**	**18.71**	**35**	P		**P**	**12 41 07.0**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=253,slow=13,SNR=5.3							
SIV				LR		LR	12 48 57.5	
	comp=Z,61nm,19.7s,baz=106,slow=39							
BDFB	**Brasilia**	**27.23**	**59**	P		**P**	**12 42 31.8**	**-1.5**
	comp=Z,9.3nm,0.8s,baz=237,slow=4.8,SNR=12							
BDFB				LR		LR	12 55 43.0	
	comp=Z,55nm,19.2s,baz=237,slow=42							
MDP	**Montagnes des**	**41.16**	**30**	LR		LR	13 03 05.2	
	comp=Z,54nm,18.5s,baz=96,slow=38							
VNA3	**Neumayer Olymp**	**51.37**	**158**	P		**P**	**12 45 54.5**	**+1.2**
VNA2	**Neumayer--Watz**	**52.02**	**158**	P		**P**	**12 45 57.6**	**-0.5**
CMIG	**Matias Romero**	**53.34**	**333**	LR		LR	13 03 35.8	
	comp=Z,28nm,19.3s,baz=10,slow=30							
SNAA	**Sanae**	**53.60**	**158**	P		**P**	**12 46 10.6**	**+0.6**
SNAA	**Sanae**	**53.60**	**158**	P		**P**	**12 46 10.9**	**+1.0**
SNAA				IAmb		IAmb	12 46 11.8	
	comp=Z,5.0nm,1.0s							
TXAR	**Lajitas Array**	**67.84**	**330**	P		**P**	**12 47 49.1**	**+1.6**
	comp=Z,0.5nm,0.8s,baz=154,slow=7.8,SNR=5.0							
TXAR	**Lajitas Array**	**67.84**	**330**	P		**P**	**12 47 48.7**	**+1.2**
PPT	**Papeete**	**70.51**	**261**	LR		LR	13 12 06.5	
	comp=Z,15nm,20.8s,baz=194,slow=30							
DBIC	**Dimbokro**	**74.55**	**72**	P		**P**	**12 48 27.9**	**-0.5**
	comp=Z,5.1nm,0.7s,baz=254,slow=3.4,SNR=6.9							
DBIC				LR		LR	13 18 01.4	
	comp=Z,33nm,21.4s,baz=176,slow=33							
DBIC	**Dimbokro**	**74.55**	**72**	P		**P**	**12 48 27.3**	**-1.1**
MAW	**Mawson**	**75.25**	**164**	P		**P**	**12 48 32.5**	**+0.9**
	comp=Z,1.2nm,0.5s,baz=254,slow=9.0,SNR=4.6							
MAW				LR		LR	13 22 46.4	
	comp=Z,44nm,18.0s,baz=232,slow=37							
MAW	**Mawson**	**75.25**	**164**	P		**P**	**12 48 31.6**	**0.0**
MAW				IAmb		IAmb	12 48 33.6	
	comp=Z,0.8nm,1.1s							
BOSA	**Boshof**	**81.12**	**118**	LR		LR	13 19 57.0	
	comp=Z,20nm,21.0s,baz=186,slow=32							
NVAR	**Mina Array Bea**	**82.09**	**325**	P		**P**	**12 49 12.3**	**+2.5**
	comp=Z,0.2nm,0.7s,baz=159,slow=5.8,SNR=2.6							
TORD	**Torodi Ar. Bea**	**83.53**	**70**	P		**P**	**12 49 17.1**	**-0.5**
	comp=Z,2.8nm,0.7s,baz=261,slow=4.5,SNR=17							
TORD	**Torodi Ar. Bea**	**83.53**	**70**	P		**P**	**12 49 16.6**	**-1.0**
TORD				IAmb		IAmb	12 49 18.3	
	comp=Z,3.4nm,0.8s							
ESDC	**Sonseca Array**	**95.13**	**46**	LR		LR	13 31 54.3	
	comp=Z,20nm,19.3s,baz=205,slow=35							
WRA	**Warramunga Arr**	**122.60**	**210**	PKP		**PKPdf**	**12 55 45.2**	**-0.4**
	comp=Z,0.9nm,1.1s,baz=146,slow=1.4,SNR=2.9							
H11S2	**WAKE ISLAND Hyl**	**25.72**	**271**	T		T	15 14 50.8	
	baz=117,slow=75,SNR=31							
H11S1	**WAKE ISLAND Hyl**	**25.73**	**271**	T		T	15 14 37.2	
	baz=117,slow=75,SNR=23							
H11S3	**WAKE ISLAND Hyl**	**25.73**	**271**	T		T	15 14 43.4	
	baz=117,slow=75,SNR=25							
H11N3	**WAKE ISLAND Hyl**	**26.08**	**272**	T		T	15 15 01.9	
	baz=116,slow=75,SNR=39							
H11N1	**WAKE ISLAND Hyl**	**26.09**	**272**	T		T	15 15 03.0	
	baz=116,slow=75,SNR=12							
H11N2	**WAKE ISLAND Hyl**	**26.09**	**272**	T		T	15 15 03.1	
	baz=116,slow=75,SNR=68							
ZALV	**Zalesovo Beam**	**152.42**	**30**	PKPbc		**PKiKP**	**12 56 45.5**	**+0.3**
	comp=Z,4.6nm,0.6s,baz=297,slow=3.1,SNR=17							
ZALV				PKPab		**PKPab**	**12 56 54.1**	**-1.0**
	comp=Z,2.3nm,0.5s,baz=303,slow=4.2,SNR=6.0							
MKAR	**Makanchi Array**	**155.34**	**45**	PKPab		**PKPab**	**12 57 08.0**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=316,slow=5.1,SNR=4.4							

*IDC **20** 12:41:49.8±2.5,31°.35S×71°.72W,h0km,mb3.8/1, mb1 3.7/5,mb1mx3.6/26,mbtmp3.6/5,ML3.6/4,Error ellipse: s-maj=112.2km s-min=30.6km az=98.0*
*GUC **20** 12:41:52.7±0.9,31°.40S×71°.87W,h29km±4km,ML3.8*

ISC 20 12:41:51.1±3.1,31°.39S±0°.03×71°.89W±0°.09,h11km±22km, n35,σ0°97/42,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.75**	**17**	*e*P		**Pb**	**12 42 06.8**	**+0.6**
CO06				*i* S		**Sb**	**12 42 17.1**	**+0.8**
CO06	**Fray Jorge**	**0.75**	**17**	*e*P		**Pb**	**12 42 06.9**	**+0.6**
CO03	**El Pedregal**	**1.17**	**62**	*e*P		**Pn**	**12 42 12.3**	**-1.3**
CO03				*e*P		**Sb**	**12 42 27.5**	**-1.1**
CO03				IAML			12 42 31.0	
	comp=N,5μm,0.3s							
VA06	**Catapilco**	**1.27**	**157**	*e*P		**Pn**	**12 42 14.8**	**-0.1**
VA06				*i* S		**Sb**	**12 42 30.8**	**-0.8**
VA06				IAML			12 42 34.1	
	comp=E,3μm,0.5s							
GO04	**Tololo Observa**	**1.53**	**38**	*e*P		**Pn**	**12 42 19.4**	**+0.7**
GO04				*i* S		**Sb**	**12 42 39.4**	**+0.1**
CO05	**La Serena**	**1.57**	**21**	*e*P		**Pb**	**12 42 20.0**	**-0.2**
CO05				*i* S		**Sb**	**12 42 40.4**	**+0.3**
CO05				IAML			12 42 44.6	
	comp=E,3μm,0.4s							
VA01	**Torpederas**	**1.64**	**173**	*e*P		**Pn**	**12 42 20.4**	**+0.4**
ROCH	**El Roble**	**1.74**	**155**	*e*P		**Pn**	**12 42 22.5**	**+0.8**
ROCH				*i* S		**Sb**	**12 42 45.1**	**-0.2**
ROCH				IAML			12 42 51.0	
	comp=N,1μm,0.5s							
VA03	**San Esteban**	**1.78**	**141**	*e*P		**Pn**	**12 42 22.9**	**+0.9**
VA03				*i* S		**Sb**	**12 42 45.7**	**-0.6**
VA03				IAML			12 42 48.5	
	comp=E,2μm,0.6s							
MT05	**Renca**	**2.22**	**154**	*e*P		**Pn**	**12 42 29.4**	**+1.4**
MT05				*i* S		**Sb**	**12 42 57.5**	**-1.4**
MT05				IAML			12 43 11.8	
	comp=E,853nm,0.3s							
VA05	**Santo Domingo**	**2.27**	**174**	*e*P		**Pn**	**12 42 28.7**	**+0.1**
VA05				*e*S		**Sb**	**12 43 01.1**	**+0.8**
VA05				IAML			12 43 09.5	
	comp=E,574nm,0.2s							
MT09	**Talagante**	**2.50**	**163**	*e*P		**Pn**	**12 42 33.5**	**+1.6**
MT09				*i* S		**Sn**	**12 43 03.9**	**+1.4**
MT01	**Popeta**	**2.53**	**168**	*e*P		**Pn**	**12 42 32.7**	**+0.6**
MT01				IAML			12 43 14.2	
	comp=E,252nm,0.5s							
LCO	**Las Campanas**	**2.58**	**24**	*e*P		**Pn**	**12 42 33.9**	**+0.7**
LCO				*e*S		**Sn**	**12 43 06.0**	**+1.2**
LMEL	**Las Melosas**	**2.83**	**150**	*e*P		**Pn**	**12 42 38.5**	**+1.9**
LMEL				*e*S		**Sn**	**12 43 12.4**	**+1.6**
LMEL				IAML			12 43 24.6	
	comp=N,311nm,0.4s							
BO01	**Tunca**	**3.07**	**167**	*e*P		**Pn**	**12 42 40.5**	**+0.8**
BO03	**Pichilemu**	**3.10**	**181**	*e*P		**Pn**	**12 42 39.6**	**-0.5**
AC04	**Llanos de Chal**	**3.25**	**13**	*e*P		**Pn**	**12 42 41.6**	**-0.5**
AC04				IAML			12 43 37.6	
	comp=N,277nm,0.3s							
BO02	**Sierra Bellavi**	**3.52**	**165**	*e*P		**Pn**	**12 42 46.6**	**+0.8**
GO05	**Huala**	**3.61**	**181**	*e*P		**Pn**	**12 42 46.5**	**-0.6**
GO03	**Copiap**	**4.05**	**21**	*e*P		**Pn**	**12 42 53.6**	**+0.4**
AC06	**Mina Casimiro**	**4.24**	**19**	*e*P		**Pn**	**12 42 55.7**	**+0.1**
AC02	**Maricunga**	**5.14**	**29**	*e*P		**Pn**	**12 43 09.2**	**+0.6**
H03N1	**Juan Fernandez**	**6.28**	**249**	T		T	12 50 07.9	
	baz=68,slow=72							
H03N3	**Juan Fernandez**	**6.29**	**249**	T		T	12 50 08.5	
	baz=68,slow=72							
H03N2	**Juan Fernandez**	**6.30**	**249**	T		T	12 50 11.9	
	baz=68,slow=72							
LVC	**Limon Verde**	**9.14**	**18**	Pn		**Pn**	**12 44 01.3**	**-2.1**
	comp=N,0.3nm,0.3s,baz=204,slow=8.9,SNR=1.4							
PLCA	**Paso Flores**	**9.39**	**174**	Pn		**Pn**	**12 44 07.4**	**+1.0**
	comp=N,0.3nm,0.3s,baz=337,slow=14,SNR=5.0							
LPAZ	**La Paz**	**15.42**	**14**	Pn		**Pn**	**12 45 30.5**	**+1.2**
	comp=N,0.1nm,0.3s,baz=200,slow=8.7,SNR=2.5							
SIV	**San Ignacio**	**18.23**	**35**	P		**Pn**	**12 46 03.9**	**-0.4**
	comp=N,0.2nm,0.3s,baz=230,slow=11,SNR=2.7							
TORD	**Torodi Ar. Bea**	**83.21**	**70**	P		**P**	**12 54 17.1**	**-0.8**
	comp=N,0.6nm,0.6s,baz=240,slow=4.7,SNR=3.6							
H11S2	**WAKE ISLAND Hyl**	**25.89**	**271**	T		T	15 19 42.7	
	baz=116,slow=75,SNR=12							
H11S1	**WAKE ISLAND Hyl**	**25.91**	**271**	T		T	15 19 40.2	
	baz=116,slow=75,SNR=11							
H11S3	**WAKE ISLAND Hyl**	**25.91**	**271**	T		T	15 19 43.2	
	baz=116,slow=75,SNR=6.8							
ZALV	**Zalesovo Beam**	**151.93**	**30**	PKPbc		**PKiKP**	**13 01 46.1**	**0.0**
	comp=N,0.4nm,0.4s,baz=336,slow=3.2,SNR=2.6							
ZALV				PKPab		**PKPab**	**13 01 54.0**	**-1.0**
	comp=N,1.2nm,0.6s,baz=310,slow=5.1,SNR=6.4							

*IDC **20** 12:42:58.8±1.2,20°.45N×120°.47E,h0km,mb3.5/5, mb1 3.7/6,mb1mx3.5/44,mbtmp3.5/6,ML3.5/1,MS2.9/4, Ms1 3.0/4,ms1mx2.7/39,Error ellipse: s-maj=44.4km s-min=21.0km az=65.0*

ISC 20 12:43:02.6±1.0,20°.5N±0°.1×120°.5E±0°.2,h26km,n10, σ0°60/8,mb3.6/4,MS2.8/3,1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CVP	**Callao Caves**	**3.06**	**155** ⇓	*e*P		**Pn**	**12 43 48.8**	**-0.5**
CVP				*i* S		**Sn**	**12 44 26.0**	**+1.0**
JOW	**Kunigami**	**9.54**	**47**	LR		LR	12 48 50.6	
	comp=Z,102nm,20.5s,baz=229,slow=37							
KSRS	**Korea Array**	**18.10**	**19**	P		**P**	**12 47 12.8**	**+0.4**
	0.2nm,0.3s,baz=196,slow=10.0,SNR=3.4							
CMAR	**Chiang Mai Arr**	**20.40**	**268**	P		**P**	**12 47 38.0**	**+0.3**
	0.2nm,0.3s,baz=84,slow=9.2,SNR=2.1							
CMAR				LR		LR	12 54 37.8	
	comp=Z,42nm,21.2s,baz=75,slow=34							
JCJ	**Chichijima**	**20.91**	**68**	LR		LR	12 54 29.7	
	comp=Z,21nm,20.9s,baz=174,slow=33							
KLR	**Kul'dur**	**30.06**	**15**	LR		LR	13 03 09.0	
	comp=Z,30nm,18.3s,baz=174,slow=40							
MKAR	**Makanchi Array**	**40.61**	**319**	P		**P**	**12 50 40.4**	**+0.2**
	0.3nm,0.5s,baz=115,slow=9.7,SNR=2.7							
WRA	**Warramunga Arr**	**42.42**	**160**	P		**P**	**12 50 54.8**	**-0.5**
	0.7nm,0.5s,baz=342,slow=9.0,SNR=13							
ZALV	**Zalesovo Beam**	**43.03**	**330**	P		**P**	**12 50 59.7**	**-0.2**
	0.8nm,0.6s,baz=112,slow=7.6,SNR=2.3							
ASAR	**Alice Springs**	**45.80**	**163**	P		**P**	**12 51 22.3**	**-0.1**
	0.8nm,0.9s,baz=345,slow=6.8,SNR=10							

GUC 20 12:44:21.5±0.9,32°.38S×71°.80W,h31km±5km,ML3.5,2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VA06	**Catapilco**	**0.46**	**113** ⇓	*i*P		Pn	12 44 31.7	-0.3
VA06				*i* S		Sn	12 44 39.5	+0.3
VA01	**Torpederas**	**0.66**	**169**	*e*P		Pn	12 44 34.6	-0.1
VA01				*i* S		Sn	12 44 45.2	+1.2
ROCH	**El Roble**	**0.89**	**132**	*e*P		Pb	12 44 39.0	+0.4
ROCH				*i* S		Sb	12 44 52.5	+2.2
ROCH				IAML			12 44 55.3	
	comp=E,3μm,0.4s							
VA03	**San Esteban**	**1.12**	**110** ⇓	*i*P		Pb	12 44 42.2	-0.2
VA03				*i* S		Sb	12 44 58.5	+1.8
VA03				IAML			12 45 02.8	
	comp=N,3μm,0.2s							
VA05	**Santo Domingo**	**1.28**	**173**	*e*P		Pb	12 44 44.4	-0.6
VA05				IAML			12 45 11.5	
	comp=N,1μm,0.5s							
MT05	**Renca**	**1.35**	**139**	*i* P		Pb	12 44 46.5	+0.3
MT05				*i* S		Sb	12 45 05.4	+2.3
MT05				IAML			12 45 12.0	
	comp=E,1μm,0.4s							
FSR	**Penalolen**	**1.53**	**136**	*e*P		Pb	12 44 50.6	+1.3
MT09	**Talagante**	**1.55**	**154**	*e*P		Pb	12 44 49.6	-0.1
MT09				*i* S		Sb	12 45 10.7	+1.7
MT09				IAML			12 45 21.6	
MT01	**Popeta**	**1.55**	**163**	*e*P		Pb	12 44 48.7	-1.0
MT01				*e*S		Sb	12 45 09.6	+0.8
MT01				IAML			12 45 15.9	
	comp=E,804nm,0.4s							
CO03	**El Pedregal**	**1.80**	**32**	*e*P		Pn	12 44 51.0	+0.4
CO03				*e*S		Sn	12 45 14.3	+1.8
CO03				IAML			12 45 19.2	
	comp=E,1μm,0.4s							
LMEL	**Las Melosas**	**1.98**	**138**	*e*P		Pb	12 44 56.4	-0.6
LMEL				IAML			12 45 31.1	
	comp=N,528nm,0.3s							
BO01	**Tunca**	**2.10**	**164**	*e*P		Pn	12 44 55.9	+1.4
BO03	**Pichilemu**	**2.12**	**184**	*e*P		Pn	12 44 55.3	+0.5
BO02	**Sierra Bellavi**	**2.55**	**161**	*e*P		Pb	12 45 03.9	-2.8

*IDC **20** 12:54:54.7±0.8,1°.11N×121°.85E,h0km,mb3.9/7, mb1 4.0/9,mb1mx3.8/45,mbtmp3.9/9,ML3.5/2,MS3.0/3, Ms1 3.0/3,ms1mx2.6/39,Error ellipse: s-maj=37.5km s-min=14.8km az=73.0*
*DJA **20** 12:54:56.8±0.5,1°.1N±5°×12°.1E±°,h10km,M4.2/11,mb4.3/4, MLv4.1/11*
*NEIC **20** 12:54:58.1±0.5,1°.0N±0°.1×121°.37E±0°.05,h14km±7km, mb4.1/13,Error ellipse: s-maj=17.1km s-min=5.7km az=197.0*

ISC 20 12:54:56.3±0.7,1°.22N±0°.06×121°.53E±0°.04,h10km,n40, σ1§80/44,mb4.2/11,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TOLI2	**Tolitoli**	**0.76**	**262**	Pg		**Pg**	**12 55 10.0**	**-1.0**
TOLI2				Sg		**Sg**	**12 55 17.7**	**-3.3**
MRSI	**Marisa**	**0.84**	**151**	P		**Pg**	**12 55 12.4**	**-0.1**
MRSI				S		**Sg**	**12 55 23.4**	**-0.1**
GTOI	**Gorontalo**	**1.58**	**111**	P		**Pn**	**12 55 23.5**	**-1.0**
GTOI				S		**Sn**	**12 55 43.7**	**-1.3**
MPSI	**Mapaga**	**1.85**	**242**	P		**Pn**	**12 55 27.5**	**-0.7**
APSI	**Ampana**	**2.12**	**177**	P		**Pn**	**12 55 30.4**	**-1.4**
LUWI	**Luwuk**	**2.56**	**151**	Pn		**Pn**	**12 55 37.3**	**-0.6**
LUWI	**Luwuk**	**2.56**	**151**	P		**Pn**	**12 55 39.5**	**+1.6**
LUWI				S		**Sn**	**12 56 13.2**	**+4.0**
TTSI	**Tana Toraja**	**4.57**	**202**	P		**Pn**	**12 56 06.9**	**+1.4**
MMSI	**

WB2					IAmb	IAmb	13 02 50.8		
	comp=Z,8.4nm,1.5s								
WRA	**Warramunga Arr**	**34.73**	**268**	P	**P**		**13 02 38.0**	**-1.0**	
	comp=Z,0.4nm,0.3s,baz=97,slow=8.6,SNR=8.5								
WRA	**Warramunga Arr**	**34.73**	**268**	P	**P**		**13 02 37.9**	**-1.0**	
FITZ	**Fitzroy Crossi**	**43.16**	**267**	P	**P**		**13 03 50.1**	**+0.6**	
	comp=Z,2.0nm,0.7s,baz=121,slow=6.9,SNR=7.2								
FITZ	**Fitzroy Crossi**	**43.16**	**267**	P	**P**		**13 03 49.5**	**0.0**	
FITZ					IAmb	IAmb	13 03 57.5		
	comp=Z,7.6nm,1.1s								
SBA	**Scott Base**	**55.16**	**181**	P	**P**		**13 05 21.2**	**+0.9**	
MJAR	**Matsushiro Arr**	**66.91**	**331**	P	**P**		**13 06 39.4**	**-1.0**	
	comp=Z,0.5nm,0.6s,baz=153,slow=7.2,SNR=1.6								
QSPA	**South Pole Qui**	**67.27**	**180**	P	**P**		**13 06 42.7**	**+0.1**	
QSPA					IAmb	IAmb	13 06 46.3		
	comp=Z,7.6nm,1.2s								
CMAR	**Chiang Mai Arr**	**81.94**	**294**	P	**P**		**13 08 09.6**	**+1.3**	
	comp=Z,0.4nm,0.3s,baz=133,slow=3.8,SNR=6.5								
NVAR	**Mina Array Bea**	**89.55**	**48**	P	**P**		**13 08 44.7**	**-1.1**	
	comp=Z,0.7nm,0.8s,baz=230,slow=5.6,SNR=4.4								
SONM	**Songino Array**	**91.36**	**322**	P	**P**		**13 08 53.8**	**-0.1**	
	comp=Z,0.2nm,0.4s,baz=134,slow=4.2,SNR=2.3								
ILAR	**Eielson Array**	**92.99**	**17**	P	**P**		**13 09 00.1**	**-0.7**	
	comp=Z,0.4nm,0.9s,baz=216,slow=4.5,SNR=2.3								
CLL	**Collm**	**147.05**	**335**	*e*PKPbc	**PKiKP**		**13 15 33.0**	**+0.1**	

IDC 20 13:02:46.7±3.1, 32°.84S×178°.30W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/29, mbtmp3.7/3, ML3.2/1, Error ellipse: s-maj=72.4km s-min=37.3km az=118.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.57**	**213**	Pn	Pn	13 04 25.2	+0.6
	0.5nm,0.3s,baz=109,slow=23,SNR=1.6						
URZ				Sn	Sn	13 05 39.9	-0.3
	1.2nm,0.3s,baz=125,slow=23,SNR=2.1						
ASAR	**Alice Springs**	**42.78**	**270**	P	P	13 10 46.2	0.0
	0.5nm,0.5s,baz=109,slow=7.7,SNR=10						
WRA	**Warramunga Arr**	**43.99**	**275**	P	P	13 10 55.8	-0.2
	0.5nm,0.5s,baz=116,slow=7.5,SNR=10						
FINES	**FINESS Array B**	**147.33**	**338**	PKPbc	PKPbc	13 22 30.6	-0.9
	1.2nm,0.6s,baz=64,slow=4.4,SNR=5.8						

IDC 20 13:06:11.7±1.5, 28°.08N×103°.63E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/38, mbtmp3.4/4, Error ellipse: s-maj=43.9km s-min=29.0km az=66.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**22.41**	**59**	P	P	13 11 10.8	-1.0
	1.2nm,0.5s,baz=247,slow=9.5,SNR=9.4						
MKAR	**Makanchi Array**	**25.08**	**324**	P	P	13 11 38.3	+0.4
	0.3nm,0.6s,baz=115,slow=12,SNR=2.4						
WRA	**Warramunga Arr**	**56.23**	**145**	P	P	13 15 53.8	-0.1
	0.4nm,0.8s,baz=321,slow=6.4,SNR=8.4						
ASAR	**Alice Springs**	**59.16**	**147**	P	P	13 16 14.6	+0.2
	0.2nm,0.4s,baz=328,slow=6.6,SNR=5.7						

*TUL **20** 13:06:22.5±1.1, 35°.98N±0°.02×96°.81W±0°.03, h5km±5km, ML3.2, mb_Lg3.0/88(NEIC), Error ellipse: s-maj=3.6km s-min=2.1km az=99.0*
*ANF **20** 13:06:22.9±0.3, 36°.01N×96°.81W, h5km, ML3.3/11, Error ellipse: s-maj=3.1km s-min=2.2km az=144.0*
*NEIC **20** 13:06:22.7±0.8, 36°.00N±0°.02×96°.84W±0°.03, h5km±6km, Error ellipse: s-maj=4.2km s-min=1.9km az=109.0*
ISC 20 13:06:22.8±0.9, 36°.00N±0°.02×96°.83W±0°.02, h6km±6km, n107, σ0°.84/99, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK031	**S. Brethren Rd**	**0.04**	**195**		**Pg**	**13 06 24.0**	**-0.2**
OK031				Sg	**Sg**	**13 06 24.8**	**-0.4**
QUOK	**Quay**	**0.20**	**28**		**Pg**	**13 06 27.0**	**+0.2**
QUOK				Sg	**Sg**	**13 06 29.8**	**+0.3**
OK029	**Liberty Lake**	**0.55**	**249**		**Pg**	**13 06 33.4**	**0.0**
OK025	**Westminster Rd**	**0.59**	**225**	Pg	**Pg**	**13 06 34.0**	**-0.1**
BCOK	**Bluff Creek, N**	**0.72**	**242**		**Pg**	**13 06 36.4**	**-0.3**
OKCFA	**Oklahoma City**	**0.77**	**222**		**Pg**	**13 06 37.0**	**-0.5**
OKCFA				Sg	**Sg**	**13 06 46.9**	**-0.7**
OKCFA	**Oklahoma City**	**0.77**	**222**	P	**Pg**	**13 06 37.1**	**-0.5**
	baz=40						
OKCFA				S	**Sg**	**13 06 48.1**	**+0.5**
	baz=40						
OKCSW	**OKLAHOMA CITY**	**0.77**	**220**		**Pg**	**13 06 37.0**	**-0.6**
OKCSW				Sg	**Sg**	**13 06 46.6**	**-1.0**
BLOK	**Blackwell**	**0.83**	**338**		**Pg**	**13 06 38.8**	**-0.1**
BLOK				Sg	**Sg**	**13 06 48.9**	**-0.5**
TUL1	**Leonard**	**0.84**	**95**	P	**Pg**	**13 06 38.3**	**-0.7**
	baz=276,SNR=148						
TUL1				S	**Sg**	**13 06 49.4**	**-0.5**
	baz=276						
TUL1	**Leonard**	**0.84**	**95**	P	**Pg**	**13 06 38.3**	**-0.7**
	baz=276						
TUL1				S	**Sg**	**13 06 49.4**	**-0.5**
	baz=276						
FNO	**Franklin**	**0.87**	**213**		**Pg**	**13 06 38.8**	**-0.8**
FNO				Sg	**Sg**	**13 06 50.2**	**-0.7**
T35A	**Sooner Cattle**	**0.95**	**15**	Pg	**Pg**	**13 06 40.9**	**-0.2**
T35A				Sg	**Sg**	**13 06 53.4**	**-0.1**
T35B	**Sooner Cattle**	**0.95**	**15**	P	**Pg**	**13 06 40.8**	**-0.2**
	baz=197,SNR=146						
T35B				S	**Sg**	**13 06 53.4**	**0.0**
	baz=197						
CROK	**Carrier**	**1.06**	**299**		**Pg**	**13 06 42.9**	**-0.3**
KAN13	**South Haven SW**	**1.14**	**333**	Sg	**Sg**	**13 06 59.3**	**-0.3**
GC02	**Grant County #**	**1.19**	**316**		**Pg**	**13 06 45.2**	**-0.4**
GC02				Sg	**Sg**	**13 07 00.5**	**-0.7**
KAN17	**Caldwell West**	**1.29**	**324**		**Pn**	**13 06 47.0**	**-0.3**
KAN14	**Manchester OK**	**1.33**	**317**		**Pn**	**13 06 47.5**	**-0.4**
KS20	**Mayfield South**	**1.36**	**335**		**Pn**	**13 06 48.0**	**-0.4**
OK032	**Salt Plains WL**	**1.38**	**306**		**Pn**	**13 06 47.9**	**-0.6**
KAN05	**Bluff City Nor**	**1.40**	**323**	Pn	**Pn**	**13 06 48.8**	**0.0**
KAN10	**Anthony SW Sta**	**1.52**	**318**		**Pn**	**13 06 50.5**	**0.0**
KAN08	**Anthony NE Sta**	**1.54**	**323**		**Pn**	**13 06 50.6**	**-0.1**
KAN16	**Harper SW Stat**	**1.58**	**321**		**Pn**	**13 06 51.6**	**+0.2**
KAN12	**Harper NE Stat**	**1.61**	**324**		**Pn**	**13 06 51.5**	**-0.2**
X34A	**Smith Ranch, M**	**1.62**	**211**	Pn	**Pn**	**13 06 52.2**	**+0.3**
X34A				IAmb_Lg		13 07 16.3	
	comp=Z,58nm,0.9s						
U32A	**Winter Ranch,**	**1.80**	**283**		**Pn**	**13 06 54.5**	**+0.1**
U32A	**Winter Ranch,**	**1.80**	**283**	P	**Pn**	**13 06 55.2**	**+0.8**
	baz=102						
X37A	**Clayton**	**1.84**	**139**		**Pn**	**13 06 55.2**	**+0.3**
X37A				IAmb_Lg		13 07 23.2	
	comp=Z,55nm,0.8s						
X37A	**Clayton**	**1.84**	**139**	P	**Pn**	**13 06 55.3**	**+0.4**
	baz=320,SNR=104						
X37A				S	**Sb**	**13 07 20.0**	**0.0**
	baz=320						
LOOK	**Love County**	**2.02**	**188**		**Pn**	**13 06 57.7**	**+0.3**
U38A	**Gravette**	**2.02**	**77**		**Pn**	**13 06 57.9**	**+0.4**
U38A	**Gravette**	**2.02**	**77**	P	**Pn**	**13 06 58.2**	**+0.8**
	baz=258,SNR=60						
WMOK	**Wichita Mounta**	**2.03**	**232**		**Pn**	**13 06 57.7**	**+0.2**
WMOK	**Wichita Mounta**	**2.03**	**232**	P	**Pn**	**13 06 58.4**	**+0.8**
	baz=51						
WMOK				S	**Sb**	**13 07 25.5**	**-0.2**
	baz=51						
WMOK	**Wichita Mounta**	**2.03**	**232**	P	**Pn**	**13 06 58.4**	**+0.8**
	baz=51						
WMOK				S	**Sb**	**13 07 25.8**	**+0.1**
	baz=51						
HHAR	**Hobbs**	**2.35**	**82**		**Pn**	**13 07 02.5**	**+0.5**
W39A	**Magazine**	**2.60**	**107**		**Pn**	**13 07 05.7**	**+0.3**
W39A	**Magazine**	**2.60**	**107**	P	**Pn**	**13 07 05.7**	**+0.3**
	baz=289,SNR=22						
W39A	**Magazine**	**2.60**	**107**	P	**Pn**	**13 07 05.7**	**+0.3**
	baz=289						
R32A	**Long Quarter,**	**2.85**	**329**	Pn	**Pn**	**13 07 08.7**	**-0.2**
MIAR	**Mount Ida**	**3.03**	**118**		**Pn**	**13 07 11.6**	**+0.3**
MIAR	**Mount Ida**	**3.03**	**118**	P	**Pn**	**13 07 11.7**	**+0.5**
	baz=299,SNR=17						
MIAR	**Mount Ida**	**3.03**	**118**	P	**Pn**	**13 07 12.0**	**+0.8**
	baz=299						
KSU1	**Kansas State U**	**3.10**	**3**	Pn	**Pn**	**13 07 12.5**	**+0.2**
KSU1				IAmb_Lg		13 08 07.6	
	comp=Z,48nm,0.8s						
KSU1	**Kansas State U**	**3.10**	**3**	Pb	**Pb**	**13 07 19.6**	**+1.2**
	baz=184						
KSU1				Sb	**Sg**	**13 08 00.8**	**-1.7**
	baz=184						
Z38A	**Mt. Pleasant**	**3.12**	**150**	IAmb_Lg		13 08 08.3	
	comp=Z,39nm,0.7s						
U40A	**Yellville**	**3.23**	**82**	Pn	**Pn**	**13 07 14.6**	**+0.5**
S39A	**Bolivar**	**3.28**	**58**		**Pn**	**13 07 15.2**	**+0.5**
S39A	**Bolivar**	**3.28**	**58**	P	**Pn**	**13 07 15.6**	**+0.9**
	baz=240,SNR=6.2						
X40A	**Basin Creek Fa**	**3.60**	**114**		**Pn**	**13 07 19.4**	**+0.4**
X40A	**Basin Creek Fa**	**3.60**	**114**	P	**Pn**	**13 07 19.9**	**+0.9**
	baz=296						
X40A	**Basin Creek Fa**	**3.60**	**114**	P	**Pn**	**13 07 20.0**	**+1.0**
	baz=296						
CBKS	**Cedar Bluff**	**3.65**	**321**	Sb	**Sg**	**13 08 17.2**	**-2.7**
	baz=140						
WHAR	**Wooly Hollow**	**3.76**	**99**		**Pn**	**13 07 21.3**	**0.0**
WHAR				IAmb_Lg		13 08 26.5	
	comp=Z,40nm,0.9s						
FCAR	**Ozark Folk Cen**	**3.82**	**90**	Pn	**Pn**	**13 07 22.1**	**0.0**
FCAR				IAmb_Lg		13 08 25.3	
	comp=Z,58nm,0.7s						
W41B	**Gary Mavity, V**	**3.82**	**101**	P	**Pn**	**13 07 22.1**	**0.0**
	baz=284,SNR=57						
W41B	**Gary Mavity, V**	**3.82**	**101**	P	**Pn**	**13 07 22.2**	**+0.1**
	baz=284						
W41B				S	**Sn**	**13 08 07.3**	**-0.1**
WLAR	**White Oak Lake**	**3.82**	**126**	Pn	**Pn**	**13 07 22.1**	**0.0**
WLAR				IAmb_Lg		13 08 30.7	
	comp=Z,26nm,0.9s						
MGMO	**Mountain Grove**	**3.84**	**71**	Pn	**Pn**	**13 07 22.8**	**+0.3**
WHTX	**Lake Whitney,**	**4.03**	**188**	Pn	**Pn**	**13 07 25.0**	**0.0**
ABTX	**Abilene, Hawle**	**4.09**	**216**	Pn	**Pn**	**13 07 25.6**	**-0.4**
ABTX				IAmb_Lg		13 08 35.3	
	comp=Z,26nm,1.3s						
ABTX	**Abilene, Hawle**	**4.09**	**216**	Pb	**Pb**	**13 07 35.8**	**+0.5**
	baz=34						
AMTX	**Amarillo**	**4.12**	**256**	Pn	**Pn**	**13 07 25.7**	**-0.7**
AMTX				IAmb_Lg		13 08 43.9	
	comp=Z,31nm,0.7s						
AMTX	**Amarillo**	**4.12**	**256**	Sb	**Sb**	**13 08 30.4**	**+4.6**
	baz=73						
Z41A	**Richland Creek**	**4.30**	**128**	P	**Pn**	**13 07 28.5**	**-0.2**
	baz=310						
Z41A				S	**Sn**	**13 08 18.1**	**-1.0**
	baz=310						
R40A	**Maddies Statio**	**4.30**	**56**		**Pn**	**13 07 28.3**	**-0.4**
R40A				IAmb_Lg		13 08 42.6	
	comp=Z,33nm,0.8s						
P38A	**Dawn**	**4.46**	**35**	Pn	**Pn**	**13 07 30.2**	**-0.7**
LCAR	**Lake Charles**	**4.60**	**87**	Pn	**Pn**	**13 07 31.5**	**-1.2**
LCAR				IAmb_Lg		13 08 56.4	
	comp=Z,20nm,0.7s						
CCAR	**Cane Creek**	**4.64**	**115**	Pn	**Pn**	**13 07 33.5**	**+0.1**
T42A	**Van Buren**	**4.73**	**76**	Pn	**Pn**	**13 07 34.5**	**-0.2**
T42A				IAmb_Lg		13 08 49.1	
	comp=Z,34nm,0.8s						
CCM	**Cathedral Cave**	**4.92**	**64**	Pn	**Pn**	**13 07 37.2**	**0.0**
CCM				IAmb_Lg		13 09 08.2	
	comp=Z,40nm,0.8s						
N35A	**Tabor**	**4.95**	**10**	Pn	**Pn**	**13 07 36.9**	**-0.8**
N35A				IAmb_Lg		13 09 08.5	
	comp=Z,32nm,0.8s						
P40A	**Paris**	**5.17**	**46**	Pn	**Pn**	**13 07 40.1**	**-0.7**
P40A				IAmb_Lg		13 09 13.0	
	comp=Z,39nm,1.0s						
PBMO	**Poplar Bluff**	**5.22**	**80**	Pn	**Pn**	**13 07 40.3**	**-1.0**
MSTX	**Muleshoe**	**5.28**	**249**	Pn	**Pn**	**13 07 41.2**	**-1.2**
MSTX				IAmb_Lg		13 09 22.4	
	comp=Z,17nm,1.2s						
FVM	**French Village**	**5.49**	**67**	IAmb_Lg		13 09 22.4	
	comp=Z,24nm,0.7s						
BGNE	**Belgrade**	**5.50**	**350**	IAmb_Lg		13 09 26.5	
	comp=Z,41nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.51**	**305**	Pn	**Pn**	**13 07 43.8**	**-1.7**
KSCO				IAmb_Lg		13 09 29.6	
	comp=Z,23nm,0.8s						
N38A	**Joes South For**	**5.56**	**29**	Pn	**Pn**	**13 07 46.0**	**0.0**
N38A				IAmb_Lg		13 09 27.0	
	comp=Z,44nm,0.9s						
T25A	**Trinidad**	**6.21**	**283**	IAmb_Lg		13 09 45.0	
	comp=Z,16nm,0.7s						
OXF	**Oxford**	**6.25**	**102**	Pn	**Pn**	**13 07 54.5**	**-1.0**
OXF				IAmb_Lg		13 09 53.0	
	comp=Z,14nm,0.8s						
S44A	**Carbondale**	**6.30**	**72**	IAmb_Lg		13 09 49.7	
	comp=Z,31nm,0.7s						
OGNE	**Ogallala**	**6.41**	**322**	IAmb_Lg		13 09 51.3	
	comp=Z,30nm,0.8s						
SCIA	**State Center**	**6.54**	**24**	IAmb_Lg		13 09 54.7	
	comp=Z,21nm,0.9s						
K31A	**O'Neill**	**6.79**	**348**	IAmb_Lg		13 10 06.3	
	comp=Z,34nm,0.7s						
Q44A	**Meyer Farm, Va**	**6.86**	**63**	IAmb_Lg		13 10 05.5	
	comp=Z,32nm,0.9s						
K38A	**Parkersburg**	**7.35**	**24**	IAmb_Lg		13 10 32.4	
	comp=Z,12nm,0.7s						
L40A	**Anamosa**	**7.46**	**34**	IAmb_Lg		13 10 25.3	
	comp=Z,15nm,0.9s						
HDIL	**Hopedale**	**7.47**	**50**	Pn	**Pn**	**13 08 12.0**	**-0.2**
ECSD	**EROS Data Cent**	**7.73**	**1**	Pn	**Pn**	**13 08 13.4**	**-2.4**
O44A	**Mansfield**	**7.79**	**55**	IAmb_Lg		13 10 37.6	
	comp=Z,17nm,0.7s						
X48A	**Hartselle**	**8.15**	**98**	IAmb_Lg		13 10 41.5	
	comp=Z,9.3nm,0.8s						
L42A	**Oliver, Polo**	**8.19**	**41**	IAmb_Lg		13 10 41.3	
	comp=Z,22nm,1.1s						
CLTN	**Cedars of Leba**	**8.50**	**86**	IAmb_Lg		13 10 59.6	
	comp=Z,13nm,1.1s						
JFWS	**Jewell Farm**	**8.58**	**34**	IAmb_Lg		13 11 07.3	
	comp=Z,18nm,1.0s						
WCI	**Wyandotte Cave**	**8.70**	**72**	IAmb_Lg		13 10 58.2	
	comp=Z,17nm,0.9s						
SFIN	**Lafayette**	**8.82**	**57**	IAmb_Lg		13 11 05.1	
	comp=Z,18nm,0.7s						
SWET	**Sewanee**	**8.91**	**92**	IAmb_Lg		13 11 00.7	
	comp=Z,12nm,1.1s						
I40A	**Norwalk**	**9.21**	**29**	IAmb_Lg		13 11 32.9	
	comp=Z,10nm,1.1s						
FPAL	**Fort Paine**	**9.29**	**96**	IAmb_Lg		13 11 22.6	
	comp=Z,9.3nm,0.9s						
W50A	**Signal Mountai**	**9.41**	**91**	IAmb_Lg		13 11 25.6	
	comp=Z,15nm,1.0s						
R49A	**Shelbyville**	**9.58**	**73**	IAmb_Lg		13 11 39.1	
	comp=Z,9.7nm,1.0s						
T50A	**Nancy**	**9.71**	**80**	IAmb_Lg		13 11 38.1	
	comp=Z,8.3nm,0.7s						
RSSD	**Black Hills**	**9.81**	**328**	IAmb_Lg		13 11 46.6	
	comp=Z,7.0nm,0.9s						
N47A	**Urbana**	**10.00**	**57**	IAmb_Lg		13 11 46.1	
	comp=Z,15nm,0.8s						

*NEIC **20** 13:52:05.1±1.4, 28°.21S±0°.08×177°.3W±0°.1, h6km±4km, mb4.6/25, Error ellipse: s-maj=18.7km s-min=7.8km az=116.0*
*IDC **20** 13:52:11.5±0.8, 28°.39S×177°.25W, h61km±5km, mb3.8/9, mb1 4.1/10, mb1mx3.9/27, mbtmp4.1/10, MS3.3/4, Ms1 3.3/4, ms1mx3.0/29, Error ellipse: s-maj=23.6km s-min=8.1km az=115.0*
ISC 20 13:52:10.4±0.5, 28°.41S±0°.07×177°.36W±0°.10, h54km, n56, σ1°.47/55, mb4.4/19, MS3.5/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.97**	**210**	P	**Pn**	**13 52 29.9**	**+2.0**
	2μm,0.3s,baz=81,slow=6.9,SNR=27						
RAO				S	**Sn**	**13 52 44.1**	**+3.3**
	6μm,0.3s,baz=269,slow=23,SNR=42						
RAO	**Raoul Island**	**0.97**	**210**		**Pn**	**13 52 30.0**	**+2.1**
RAO				Sg	**Sn**	**13 52 42.8**	**+2.0**
MXZ	**Matakaoa Point**	**9.82**	**201**		Pn	13 54 20.6	-8.4
OUZ	**Omahuta**	**10.26**	**226**		Pn	13 54 28.2	-6.7
URZ	**Urewera**	**10.86**	**204**	P	**Pn**	**13 54 43.1**	**+0.1**
	0.4nm,0.3s,baz=128,slow=20,SNR=2.2						
URZ				S	**Sn**	**13 56 38.3**	**-4.7**
	4.0nm,0.3s,baz=145,slow=22,SNR=7.5						
URZ				LR	LR	13 58 35.9	
	comp=Z,128nm,19.2s,baz=31,slow=35						
MSVF	**Nonsavu**	**11.44**	**337**	P	Pn	13 54 56.7	+5.5
	0.4nm,0.3s,baz=140,slow=17,SNR=2.4						
NIUE	**Niue**	**11.51**	**38**	Pn	Pn	13 54 45.2	-6.9
THZ	**Tophouse**	**15.51**	**208**	Pn	**Pn**	**13 55 42.1**	**-3.6**
THZ				IAmb	IAmb	13 55 44.2	
	comp=Z,51nm,1.5s						
KHZ	**Kahutara**	**15.81**	**205**	Pn	**Pn**	**13 55 45.5**	**-4.0**
DZM	**Mont Dzumac**	**15.95**	**290**	Pn	**Pn**	**13 55 49.4**	**-2.1**
RAR	**Rarotonga**	**17.49**	**70**		**Pn**	**13 56 10.2**	**-0.3**
RAR				IAmb	IAmb	13 56 29.6	
	comp=Z,75nm,1.4s						
ARMA	**Armidale**	**27.05**	**258**	P	**P**	**13 57 48.6**	**+0.6**
ARMA				IAmb	IAmb	13 58 09.6	
	comp=Z,19nm,1.4s						
PPT	**Papeete**	**27.69**	**73**	LR	LR	14 09 05.3	
	comp=Z,25nm,18.3s,baz=212,slow=37						
CTAO	**Charters Tower**	**34.09**	**276**	P	**P**	**13 58 50.5**	**+0.5**
CTAO				IAmb	IAmb	13 59 09.4	
	comp=Z,9.3nm,1.1s						
STKA	**Stephens Creek**	**35.52**	**254**	P	**P**	**13 59 03.7**	**+1.5**
	comp=Z,2.3nm,0.6s,baz=94,slow=7.9,SNR=7.4						
STKA				LR	LR	14 11 15.0	
	comp=Z,93nm,20.5s,baz=169,slow=32						
STKA	**Stephens Creek**	**35.52**	**254**	IAmb	IAmb	13 59 11.8	
	comp=Z,2.0nm,1.2s						
BBOO	**Buckleboo**	**40.09**	**252**	P	**P**	**13 59 40.8**	**0.0**
BBOO				IAmb	IAmb	14 00 01.3	
	comp=Z,18nm,1.1s						
AS31	**Alice Springs**	**43.81**	**265**	P	**P**	**14 00 11.7**	**+0.3**
ASAR	**Alice Springs**	**43.82**	**265**	P	**P**	**14 00 12.1**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=102,slow=6.6,SNR=24						
ASAR				pP	**pwP**	**14 00 28.4**	**+3.2**
	comp=Z,1.5nm,0.8s,baz=101,slow=6.4,SNR=6.3						
ASAR				PcP	**PcP**	**14 01 56.9**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=101,slow=4.4,SNR=2.5						
ASAR	**Alice Springs**	**43.82**	**265**	P	**P**	**14 00 11.3**	**-0.1**
WR0	**Warramunga Arr**	**44.44**	**270**	P	**P**	**14 00 16.2**	**-0.2**
WB2	**Warramunga Arr**	**44.62**	**270**	P	**P**	**14 00 17.5**	**-0.2**
WB2				IAmb	IAmb	14 00 35.8	
	comp=Z,5.5nm,0.8s						
WRAB	**Tennant Creek**	**44.62**	**270**	P	**P**	**14 00 17.4**	**-0.4**
WRAB				IAmb	IAmb	14 00 35.8	
	comp=Z,6.3nm,0.9s						
WRA	**Warramunga Arr**	**44.63**	**270**	P	**P**	**14 00 18.3**	**+0.5**
	comp=Z,2.5nm,0.6s,baz=110,slow=6.2,SNR=29						
WRA				pP	**pwP**	**14 00 34.9**	**+1.2**
	comp=Z,4.4nm,0.6s,baz=111,slow=7.7,SNR=12						
WRA				PcP	**PcP**	**14 01 59.9**	**0.0**
	comp=Z,1.0nm,0.7s,baz=114,slow=3.0,SNR=3.1						
WRA	**Warramunga Arr**	**44.63**	**270**	P	**P**	**14 00 17.8**	**-0.1**
WB0	**Warramunga Arr**	**44.64**	**270**	P	**P**	**14 00 17.9**	**0.0**
WB0				IAmb	IAmb	14 00 35.9	
	comp=Z,5.8nm,0.7s						
FORT	**Forrest**	**47.13**	**253**	P	**P**	**14 00 36.0**	**-1.5**
CASY	**Casey**	**57.16**	**207**	P	**P**	**14 01 50.6**	**-0.7**
MORW	**Morawa**	**57.66**	**252**	P	**P**	**14 01 54.1**	**-1.4**
QSPA	**South Pole Qui**	**61.69**	**180**	P	**P**	**14 02 24.3**	**+1.5**
MAW	**Mawson**	**74.36**	**200**	P	**P**	**14 03 42.9**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=159,slow=5.9,SNR=2.2						
MJAR	**Matsushiro Arr**	**76.94**	**325**	P	**P**	**14 03 58.5**	**+1.4**
	comp=Z,2.3nm,0.7s,baz=159,slow=4.8,SNR=7.4						
MJAR				pP	**pwP**	**14 04 13.7**	**-0.7**
	comp=Z,1.9nm,0.9s,baz=151,slow=9.7,SNR=3.8						
MJAR	**Matsushiro Arr**	**76.94**	**325**	IAmb	IAmb	14 04 00.5	
	comp=Z,2.0nm,0.7s						
SNAA	**Sanae**	**80.12**	**178**	P	**P**	**14 04 14.2**	**-0.1**
SNAA	**Sanae**	**80.12**	**178**	P	**P**	**14 04 13.8**	**-0.5**
VNA3	**Neumayer Olymp**	**80.24**	**176**	P	**P**	**14 04 15.1**	**+0.1**
VNA2	**Neumayer--Watz**	**80.69**	**177**	P	**P**	**14 04 15.7**	**-1.6**
PFO	**Pinyon Flats O**	**84.45**	**47**	LR	LR	14 32 42.1	
	comp=Z,30nm,20.8s,baz=252,slow=29						
LHV	**Little Huntoon**	**86.16**	**42**	P	**P**	**14 04 46.5**	**+0.7**
LHV				IAmb	IAmb	14 04 47.7	
	comp=Z,3.0nm,0.9s						
NVAR	**Mina Array Bea**	**86.40**	**42**	P	**P**	**14 04 47.6**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=222,slow=8.1,SNR=14						
TPH	**Tonopah**	**86.82**	**43**	P	**P**	**14 04 49.9**	**+0.7**
PRN	**Pahroc Range**	**87.72**	**45**	P	**P**	**14 04 54.3**	**+0.7**
PRN				IAmb	IAmb	14 04 55.9	
	comp=Z,3.1nm,1.1s						
G08A	**Pilot Rock**	**90.54**	**37**	P	**P**	**14 05 07.2**	**+0.6**
G08A				IAmb	IAmb	14 05 08.1	
	comp=Z,4.9nm,1.2s						
TXAR	**Lajitas Array**	**90.84**	**57**	P	**P**	**14 05 08.4**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=241,slow=3.0,SNR=3.8						
TXAR	**Lajitas Array**	**90.84**	**57**	P	**P**	**14 05 08.3**	**0.0**
HLID	**Hailey**	**91.93**	**40**	P	**P**	**14 05 13.8**	**+0.7**
HLID				IAmb	IAmb	14 05 15.5	
	comp=Z,3.3nm,1.2s						
PDAR	**Pinedale Array**	**94.31**	**43**	P	**P**	**14 05 24.1**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=170,slow=4.5,SNR=3.8						
ILAR	**Eielson Array**

BARC	**Barichara**	**0.25**	**192**	⇓*i* P	**Pn**	**14 29 43.6**	**+0.3**
BARC				*e*S	**Sn**	**14 29 58.9**	**-0.8**
BARC				*i*		14 30 01.4	
	comp=Z,716nm,0.3s						
BRRC	**Barranca, Sant**	**0.64**	**295**	⇓*i* P	**Pn**	**14 29 45.5**	**+0.9**
BRRC				*e*S	**Sn**	**14 30 02.3**	**+0.3**
BRRC				*i*		14 30 05.2	
	comp=Z,457nm,0.1s						
PAMC	**Pamplona, Colo**	**0.65**	**41**	⇑*i* P	**Pn**	**14 29 46.4**	**+1.1**
PAMC				*e*S	**Sn**	**14 30 03.6**	**+0.4**
PAMC				*i*		14 30 05.8	
	comp=Z,530nm,0.2s						
RUSC	**La Rusia**	**0.94**	**177**	Pn	**Pn**	**14 29 47.2**	**0.0**
RUSC				Sn	**Sn**	**14 30 04.6**	**-2.2**
RUSC	**La Rusia**	**0.94**	**177**	⇓*i* P	**Pn**	**14 29 47.4**	**+0.2**
RUSC				*e*S	**Sn**	**14 30 05.8**	**-1.0**
RUSC				*i*		14 30 07.5	
	comp=Z,239nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.35**	**257**	*e*P	**Pn**	**14 29 50.2**	**-0.1**
PTBC				*e*S	**Sn**	**14 30 11.2**	**-1.0**
PTBC				*i*		14 30 17.5	
	comp=Z,623nm,0.2s						
TAMC	**Tame, Arauca**	**1.39**	**107**	⇓*i* P	**Pn**	**14 29 51.8**	**+1.1**
TAMC				*i*		14 30 12.6	
	comp=Z,327nm,0.4s						
TAMC				*e*S	**Sn**	**14 30 13.4**	**+0.5**
OCAC	**Ocana**	**1.40**	**352**	*e*P	**Pn**	**14 29 51.6**	**+0.6**
OCAC				*e*S	**Sn**	**14 30 14.3**	**+0.8**
OCAC				*i*		14 30 20.4	
	comp=Z,770nm,0.3s						
SPBC	**San Pablo de B**	**1.51**	**219**	*i* P	**Pn**	**14 29 52.4**	**+0.4**
SPBC				*e*S	**Sn**	**14 30 15.2**	**0.0**
SPBC				*i*		14 30 21.8	
	comp=Z,952nm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.83**	**291**	*e*P	**Pn**	**14 29 55.7**	**+0.4**
ZARC				*e*S	**Sn**	**14 30 21.9**	**+0.6**
ZARC				*i*		14 30 28.1	
	comp=Z,548nm,0.2s						
NORC	**Norcasia**	**2.15**	**234**	*e*P	**Pn**	**14 29 59.4**	**+0.4**
NORC				*e*S	**Sn**	**14 30 27.3**	**-0.5**
NORC				*i*		14 30 31.4	
	comp=Z,334nm,0.4s						
SMLC	**San Martn de**	**2.16**	**334**	*e*P	**Pn**	**14 29 59.9**	**+0.8**
SMLC				*e*S	**Sn**	**14 30 28.6**	**+0.5**
SMLC				*i*		14 30 32.5	
	comp=Z,430nm,0.1s						
CHIC	**Chingaza**	**2.28**	**195**	*e*P	**Pn**	**14 30 01.3**	**+0.4**
CHIC				*e*S	**Sn**	**14 30 30.8**	**-0.4**
CHIC				*i*		14 30 37.0	
	comp=Z,134nm,0.3s						
ROSC	**El Rosal**	**2.31**	**211**	P	**Pn**	**14 30 03.0**	**+1.7**
	comp=Z,92nm,0.3s,baz=308,slow=18,SNR=54						
ROSC				S	**Sn**	**14 30 33.0**	**+1.2**
	comp=Z,91nm,0.3s,baz=84,slow=19,SNR=7.1						
ROSC	**El Rosal**	**2.31**	**211**		**Pn**	**14 30 02.8**	**+1.5**
ROSC	**El Rosal**	**2.31**	**211**	*e*P	**Pn**	**14 30 03.1**	**+1.7**
ROSC				*e*S	**Sn**	**14 30 33.3**	**+1.4**
ROSC				*i*		14 30 41.4	
	comp=Z,460nm,0.4s						
HELC	**Santa Helena**	**2.47**	**255**	*e*P	**Pn**	**14 30 04.2**	**+1.1**
HELC				*e*S	**Sn**	**14 30 36.4**	**+1.3**
HELC				*i*		14 30 42.4	
	comp=Z,211nm,0.4s						
UREC	**San Jos de Ur**	**2.55**	**291**	*e*P	**Pn**	**14 30 03.5**	**-0.3**
UREC				*e*S	**Sn**	**14 30 34.0**	**-2.3**
UREC				*i*		14 30 44.3	
	comp=Z,210nm,0.2s						
LL2C	**La Loma 2 Cana**	**2.72**	**354**	*e*P	**Pn**	**14 30 07.0**	**+1.2**
LL2C				*e*S	**Sn**	**14 30 41.2**	**+1.2**
LL2C				*i*		14 30 48.5	
	comp=Z,284nm,0.2s						
LL1C	**La Loma 1 Cana**	**2.72**	**351**	*e*P	**Pn**	**14 30 08.3**	**+2.4**
LL1C				*e*S	**Sn**	**14 30 42.6**	**+2.5**
GUY2C	**Guyana, Caldas**	**2.74**	**234**	*e*P	**Pn**	**14 30 07.7**	**+1.1**
GUY2C				*e*S	**Sn**	**14 30 44.1**	**+2.9**
GUY2C				*i*		14 30 50.9	
	comp=Z,273nm,0.4s						
VILC	**Villavicencio,**	**2.77**	**192**	*e*P	**Pn**	**14 30 06.6**	**0.0**
VILC				*e*S	**Sn**	**14 30 41.1**	**-0.3**
VILC				*i*		14 30 52.3	
	comp=Z,206nm,0.3s						
PTGC	**Puerto Gaitan,**	**2.80**	**159**	⇓*i* P	**Pn**	**14 30 06.4**	**-0.5**
PTGC				*e*S	**Sn**	**14 30 40.0**	**-2.0**
PTGC				*i*		14 30 46.9	
	comp=Z,74nm,0.3s						
CBOC	**Ciudad Bolivar**	**3.03**	**251**	*e*P	**Pn**	**14 30 11.1**	**+1.3**
CBOC				*e*S	**Sn**	**14 30 46.7**	**-0.3**
CBOC				*i*		14 30 51.8	
	comp=Z,65nm,0.2s						
DBBC	**Dabeiba**	**3.06**	**274**	⇑*e* P	**Pn**	**14 30 11.1**	**+0.8**
DBBC				*e*S	**Sn**	**14 30 47.4**	**-0.5**
ARGC	**Ariguani, Magd**	**3.20**	**340**	*e*P	**Pn**	**14 30 13.6**	**+1.7**
ARGC				*e*S	**Sn**	**14 30 51.6**	**+0.8**
ARGC				*i*		14 31 04.5	
	comp=Z,68nm,0.3s						
SDV	**Santo Domingo**	**3.20**	**50**	P	**Pn**	**14 30 12.9**	**+0.8**
	comp=Z,66nm,0.3s,baz=238,slow=14,SNR=38						
SDV				S	**Sn**	**14 30 51.0**	**-0.1**
	comp=Z,22nm,0.3s,baz=45,slow=18,SNR=11						
SDV	**Santo Domingo**	**3.20**	**50**		**Pn**	**14 30 12.4**	**+0.4**
SDV	**Santo Domingo**	**3.20**	**50**	*e*P	**Pn**	**14 30 12.8**	**+0.8**
SDV				*e*S	**Sn**	**14 30 50.1**	**-1.0**
ANIL	**Santa Ana**	**3.25**	**224**	*e*P	**Pn**	**14 30 14.2**	**+1.5**
ANIL				*e*S	**Sn**	**14 30 53.4**	**+1.0**
PRAC	**Prado**	**3.56**	**210**	*e*P	**Pn**	**14 30 16.9**	**+0.4**
PRAC				*e*S	**Sn**	**14 30 59.9**	**+0.6**
PRAC				*i*		14 31 05.1	
	comp=Z,194nm,0.6s						
ORTC	**Ortega, Tolima**	**3.59**	**216**	*e*P	**Pn**	**14 30 17.6**	**+0.6**
ORTC				*e*S	**Sn**	**14 31 01.0**	**+1.1**
ORTC				*i*		14 31 06.5	
	comp=Z,140nm,0.4s						
CVALL	**Valledupar, Ce**	**3.65**	**358**	*e*P	**Pn**	**14 30 17.6**	**-0.1**
CVALL				*e*S	**Sn**	**14 30 59.4**	**-1.7**
SJCC	**San Jacinto, C**	**3.65**	**326**		**Pn**	**14 30 17.0**	**-0.8**
SJCC	**San Jacinto, C**	**3.65**	**326**	*e*P	**Pn**	**14 30 17.3**	**-0.4**
SJCC				*e*S	**Sn**	**14 30 58.7**	**-2.6**
SJCC				*i*		14 31 12.1	
	comp=Z,48nm,0.3s						
LCBC	**Los crdobas,**	**3.78**	**302**	*e*P	**Pn**	**14 30 20.6**	**+1.3**
LCBC				*e*S	**Sn**	**14 31 04.4**	**+0.3**
LCBC				*i*		14 31 07.9	
	comp=Z,79nm,0.4s						
CRJC	**Cerrejon, Guaj**	**4.16**	**3**	*e*P	**Pn**	**14 30 23.7**	**-0.6**
CRJC				*e*S	**Sn**	**14 31 11.7**	**-1.5**
CRJC				*i*		14 31 18.1	
	comp=Z,74nm,0.3s						
YOTC	**Yotoco, Valle**	**4.28**	**229**	*e*P	**Pn**	**14 30 26.0**	**+0.1**
YOTC				*e*S	**Sn**	**14 31 16.3**	**+0.4**
GUVC	**San Jose del G**	**4.29**	**173**	*e*P	**Pn**	**14 30 25.2**	**-0.9**
GUVC				*e*S	**Sn**	**14 31 15.7**	**-0.4**
GUVC				*i*		14 31 21.0	
	comp=Z,104nm,0.2s						
SMRC	**Santa Marta, M**	**4.43**	**346**	*e*P	**Pn**	**14 30 28.1**	**+0.3**
SMRC				*e*S	**Sn**	**14 31 16.8**	**-2.5**
CAPC	**Capurgana**	**4.55**	**293**	*e*P	**Pn**	**14 30 27.9**	**-1.4**
CAPC				*e*S	**Sn**	**14 31 19.3**	**-2.7**
CAPC				*i*		14 31 21.1	
	comp=Z,36nm,0.1s						
CAP2	**Capurgana**	**4.56**	**293**	Pn	**Pn**	**14 30 27.4**	**-2.1**
PTAC	**Punta Ardita,**	**4.66**	**274**	*e*P	**Pn**	**14 30 30.4**	**-0.3**
PTAC				*e*S	**Sn**	**14 31 24.0**	**-0.5**
BETC	**Betania**	**4.73**	**209**	*e*P	**Pn**	**14 30 31.5**	**-0.2**
BETC				*e*S	**Sn**	**14 31 24.6**	**-1.8**
MARP	**Paez Belalcaza**	**4.87**	**215**	*e*P	**Pn**	**14 30 34.7**	**+0.9**
MARP				*e*S	**Sn**	**14 31 29.8**	**-0.2**
URIC	**Uribia, Colomb**	**4.96**	**13**		**Pn**	**14 30 33.2**	**-1.5**
URIC	**Uribia, Colomb**	**4.96**	**13**	*e*P	**Pn**	**14 30 33.8**	**-0.9**
URIC				*e*S	**Sn**	**14 31 28.1**	**-3.7**
MALC	**Bahia Malaga**	**5.04**	**236**	*e*P	**Pn**	**14 30 36.7**	**+0.9**
MALC				*e*S	**Sn**	**14 31 33.7**	**0.0**
GARC	**Garzon, Huila**	**5.19**	**207**	*e*P	**Pn**	**14 30 37.5**	**-0.5**
GARC				*e*S	**Sn**	**14 31 33.9**	**-3.7**
PCON	**Cinco Dias**	**5.54**	**216**	*e*P	**Pn**	**14 30 44.3**	**+1.4**
PCON				*e*S	**Sn**	**14 31 46.1**	**-0.2**
POPC	**Popayan, Colom**	**5.54**	**220**	*e*P	**Pn**	**14 30 43.0**	**+0.3**
POPC				*e*S	**Sn**	**14 31 42.7**	**-3.3**
FLOC	**Florencia**	**5.80**	**206**		**Pn**	**14 30 45.4**	**-0.4**
FLOC	**Florencia**	**5.80**	**206**	*e*P	**Pn**	**14 30 45.5**	**-0.4**
FLOC				*e*S	**Sn**	**14 31 51.2**	**-0.5**
FLOC				*i*		14 32 01.3	
	comp=Z,9.8nm,0.5s						
BBAC	**Balboa, Cauca**	**6.30**	**221**	*e*P	**Pn**	**14 30 54.1**	**+1.3**
BBAC				*e*S	**Sn**	**14 31 59.7**	**-4.5**
BBAC				*i*		14 32 09.2	
	comp=Z,13nm,0.3s						
OTAV	**Otavalo**	**8.44**	**219**	Pn	**Pn**	**14 31 22.0**	**+0.6**
PCRV	**Puerto La Cruz**	**9.03**	**68**	P	**Pn**	**14 31 29.1**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=221,slow=11,SNR=2.4						
PLCV	**Puerto La Cruz**	**9.07**	**68**		**Pn**	**14 31 29.1**	**-0.2**
MTDJ	**Mount Denham**	**12.11**	**340**	Pn	**Pn**	**14 32 11.4**	**+2.1**
GTBY	**Guantanamo Bay**	**13.15**	**352**	P	**P**	**14 32 26.1**	**-0.8**
MTP	**Monte Pirata**	**13.41**	**33**	Pn	**Pn**	**14 32 24.9**	**-1.0**
CDVI	**St. Croix**	**13.57**	**36**	Pn	**Pn**	**14 32 27.0**	**-1.0**
ILAM	**Ilet Lapin Mar**	**14.38**	**56**	P	**P**	**14 32 41.6**	**+0.9**
CCM	**Cathedral Cave**	**35.15**	**335**	P	**P**	**14 36 01.1**	**+0.7**
CCM				IAmb	IAmb	14 36 02.4	
	comp=Z,3.6nm,0.7s						
TXAR	**Lajitas Array**	**36.44**	**312**	P	**P**	**14 36 12.8**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=122,slow=8.8,SNR=5.2						
TX31	**Lajitas Ar. Si**	**36.45**	**312**	P	**P**	**14 36 12.0**	**+0.3**
ULM	**Lac du Bonnet**	**47.27**	**340**	P	**P**	**14 37 39.2**	**+0.2**
ULM				IAmb	IAmb	14 37 39.9	
	comp=Z,3.2nm,0.6s						
NLWA	**Neilton Lookou**	**59.09**	**322**	P	**P**	**14 39 05.1**	**-0.4**
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc	**PKPbc**	**14 48 51.5**	**-0.9**
	comp=Z,0.5nm,1.0s,baz=128,slow=3.2,SNR=6.9						
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc	**PKPbc**	**14 48 54.8**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=123,slow=2.9,SNR=9.4						

SJA 20 14:30:10.0, 31.40S×73.03W, h10km, ML5.9, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA03	**San Esteban**	**2.50**	**124**	*i* P	Pn	14 30 49.0	-1.9
MT05	**Renca**	**2.77**	**136**	*i* P	Pn	14 30 53.0	-1.6
MT01	**Popeta**	**2.88**	**149**	*i* P	Pn	14 30 55.0	-1.0
AUSP	**Uspallata**	**3.21**	**106**	*i* P	Pn	14 31 03.0	+2.2
BO01	**Tunca**	**3.40**	**152**	*i* P	Pn	14 31 03.0	-0.2
ACCO	**Cerro Coronel**	**3.50**	**78**	*i* P	Pn	14 31 04.0	-0.8
ACDV	**Cuesta del Vie**	**3.58**	**71**	*i* P	Pn	14 31 04.0	-1.8
BO02	**Sierra Bellavi**	**3.87**	**151**	*i* P	Pn	14 31 10.0	+0.3
AVFE	**Valle Fertil**	**4.84**	**83**	*i* P	Pn	14 31 24.0	+1.0
VCA	**Vinchina**	**4.95**	**59**	*i* P	Pn	14 31 24.0	-0.6
LC01	**Cunco**	**7.54**	**173**	*i* P	Pn	14 32 03.0	+3.0

*IDC **20** 14:30:20.8±5.3, 37.19N×72.20E, h186km±44km, mb3.0/4, mb1 3.1/10, mb1mx2.9/42, mbtmp3.7/10, Error ellipse: s-maj=58.7km s-min=39.2km az=145.0*
*NNC **20** 14:30:22.9±13.0, 37.62N×72.17E, h153km±176km, mb3.0, mpv3.5, Error ellipse: s-maj=122.1km s-min=64.7km az=10.0*
*NEIC **20** 14:30:23.1±1.0, 37.46N±0.07×72.1E±0.1, h195km±2km, mb4.5/6, Error ellipse: s-maj=13.1km s-min=9.5km az=96.0*

ISC 20 14:30:22.0±0.6, 37.40N±0.06×72.18E±0.07, h200km, n47, σ1§90/52, mb4.2/8, 4C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**2.10**	**352**		**Pn**	**14 31 02.2**	**+0.4**
GAR	**Garm**	**2.17**	**318**		**Pn**	**14 31 02.5**	**+0.1**
CHGR	**Chuyangaron**	**2.70**	**299**	Pn	**Pn**	**14 31 08.2**	**0.0**
BTK	**Batken**	**2.86**	**339**	Pn	**Pn**	**14 31 11.1**	**+1.1**
KBL	**Kabul**	**3.82**	**223**	Pn	**Pn**	**14 31 23.1**	**+1.2**
NIL	**Nilore**	**3.84**	**167**	Pn	**Pn**	**14 31 23.9**	**+2.0**
AML	**Almayashu**	**4.87**	**13**	P	**Pn**	**14 31 35.5**	**+0.5**
	SNR=20						
UCH	**Uchtor**	**5.14**	**20**	P	**Pn**	**14 31 38.7**	**+0.1**
	SNR=14						
KZA	**Kyzart**	**5.24**	**26**	P	**Pn**	**14 31 39.9**	**+0.2**
	SNR=6.5						
EKS2	**Erkin-Say**	**5.40**	**13**	P	**Pn**	**14 31 42.6**	**+1.1**
	SNR=6.4						
AAK	**Ala-Archa**	**5.52**	**18**	P	**Pn**	**14 31 43.9**	**+0.8**
	1.4nm,0.3s,baz=181,slow=9.9,SNR=12						
AAK				S	**Sn**	**14 32 45.5**	**-1.9**
	1.9nm,0.3s,baz=343,slow=22,SNR=14						
AAK	**Ala-Archa**	**5.52**	**18**	Pn	**Pn**	**14 31 43.5**	**+0.3**
FRU1	**Bishkek**	**5.72**	**18**	Pn	**Pn**	**14 31 46.6**	**+1.0**
KK31	**Karatay Array**	**5.84**	**348**	⇑P	**Pn**	**14 31 47.1**	**0.0**
	1.1nm,0.2s,baz=176,slow=14,SNR=4.6						
KK31				⇓S	**Sn**	**14 32 49.5**	**-5.0**
	17nm,0.5s,baz=182,slow=25,SNR=12						
KK31	**Karatay Array**	**5.84**	**348**		**Pn**	**14 31 46.9**	**-0.2**
KKAR	**Karatay Array**	**5.84**	**348**		**Pn**	**14 31 46.9**	**-0.2**
KKAR	**Karatay Array**	**5.84**	**348**	Pn	**Pn**	**14 31 46.8**	**-0.3**
BOOM	**Boomskoye usch**	**5.84**	**28**	Pn	**Pn**	**14 31 47.5**	**+0.2**
TKM2	**Tokmak 2**	**6.10**	**24**	P	**Pn**	**14 31 51.3**	**+0.6**
	SNR=7.3						
TKM2	**Tokmak 2**	**6.10**	**24**	⇑P	**Pn**	**14 31 48.4**	**-2.3**
	4.3nm,0.7s						
TKM2				⇑S	**Sn**	**14 32 55.3**	**-5.6**
	4.5nm,0.9s						
DHRM	**DHARAMSHALA**	**6.15**	**145**	*e*P	**Pn**	**14 31 51.1**	**-0.3**
DHRM				*e*S	**Sn**	**14 32 58.7**	**-3.5**
DHRM				IAML		14 33 02.6	
	comp=E,130nm,0.1s						
DHRM				IAML		14 33 03.2	
	comp=N,196nm,0.3s						
SMLA	**Simla**	**7.49**	**145**	*e*P	**Pn**	**14 32 07.8**	**-0.9**
SMLA				*e*S	**Sn**	**14 33 28.2**	**-5.2**
SMLA				IAML		14 33 31.4	
	comp=N,50nm,0.5s						
SMLA				IAML		14 33 32.5	
	comp=E,136nm,0.5s						
KUDL	**Kundal**	**9.91**	**157**	*e*S	Sn	14 34 22.6	-8.4
MK31	**Makanchi Array**	**12.01**	**35**	Pn	**Pn**	**14 33 07.3**	**+0.5**
MKAR	**Makanchi Array**	**12.01**	**35**	P	**Pn**	**14 33 09.0**	**+2.2**
	comp=E,0.1nm,0.3s,baz=214,slow=12,SNR=3.0						
WMQ	**Urumqi**	**13.41**	**57**	*e*P	**Pn**	**14 33 26.5**	**+2.0**
KURBB	**Kurchatov Arra**	**13.98**	**17**	*e*P	**P**	**14 33 34.3**	**+1.0**
	comp=E,0.2nm,0.3s,baz=202,slow=11,SNR=9.6						
AB31	**Akbulak array**	**14.80**	**327**	P	**Pn**	**14 33 41.7**	**+0.1**
	comp=E,1.5nm,0.6s,baz=133,slow=12,SNR=22						
ABKAR	**Akbulak array**	**14.80**	**327**	P	**P**	**14 33 42.1**	**-0.3**
BVAR	**Borovoye Array**	**15.68**	**356**	P	**Pn**	**14 33 54.2**	**+2.0**
	comp=E,0.3nm,0.3s,baz=171,slow=10,SNR=5.2						
AKTO	**Aktyubinsk**	**16.51**	**327**	P	**Pn**	**14 34 03.3**	**+1.0**
	comp=E,0.8nm,0.3s,baz=133,slow=10.0,SNR=11						
AKTO				S	**S**	**14 36 59.3**	**-4.4**
	comp=E,0.2nm,0.3s,baz=135,slow=20,SNR=2.4						
AKTO	**Aktyubinsk**	**16.51**	**327**	⇑P	**Pn**	**14 34 03.2**	**+1.0**
	comp=E,1.8nm,0.4s						
ZAA0	**Zalesovo Array**	**18.71**	**24**	P	**P**	**14 34 26.0**	**+0.8**
ZALV	**Zalesovo Beam**	**18.71**	**24**	P	**P**	**14 34 26.4**	**+1.2**
	comp=E,0.9nm,0.3s,baz=222,slow=9.8,SNR=26						
ZALV	**Zalesovo Beam**	**18.71**	**24**	P	**P**	**14 34 26.1**	**+0.9**
HHC	**Hu-ho-hao-te**	**30.57**	**71**	*e*P	**P**	**14 36 19.4**	**+2.4**
FIA1	**FINESS Array S**	**37.28**	**325**	P	**P**	**14 37 14.2**	**0.0**
FINES	**FINESS Array B**	**37.28**	**325**	P	**P**	**14 37 15.8**	**+1.6**
	comp=E,0.7nm,0.6s,baz=134,slow=11,SNR=5.8						
FINES	**FINESS Array B**	**37.28**	**325**	P	**P**	**14 37 14.1**	**-0.2**
NJ2	**Nanjing**	**38.42**	**84**	*e*P	**P**	**14 37 26.3**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,21nm,0.5s						
ARCES	**ARCESS Array B**	**40.68**	**337**	P	**P**	**14 37 44.2**	**+1.8**
	comp=Z,0.5nm,0.4s,baz=106,slow=8.9,SNR=9.1						
ARCES	**ARCESS Array B**	**40.68**	**337**	P	**P**	**14 37 43.9**	**+1.5**
ARCES				IAmb	IAmb	14 38 11.9	
	comp=Z,18nm,1.5s						
NB201	**NORSAR Array S**	**44.20**	**322**	P	**P**	**14 38 11.8**	**+1.0**
NB201				IAmb	IAmb	14 38 13.4	
	comp=Z,20nm,1.2s						
NOA	**NORSAR Array B**	**44.24**	**322**	P	**P**	**14 38 12.4**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=96,slow=7.6,SNR=2.6						
NC204	**NORSAR Array S**	**44.47**	**323**	P	**P**	**14 38 14.1**	**+1.1**
NC204				IAmb	IAmb	14 38 31.9	
	comp=Z,21nm,1.4s						
TORD	**Torodi Ar. Bea**	**66.68**	**269**	P	**P**	**14 40 52.1**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=56,slow=7.1,SNR=1.6						
DBIC	**Dimbokro**	**75.69**	**267**	P	**P**	**14 41 45.2**	**-0.4**
DBIC				IAmb	IAmb	14 42 02.8	
	comp=Z,14nm,1.4s						

*IDC **20** 14:31:04.6±0.4, 30.60S×71.56W, h0km, mb4.9/19, mb1 4.9/25, mb1mx4.9/29, mbtmp4.8/25, ML4.4/6, MS4.3/17, Ms1 4.3/17, ms1mx4.2/24, Error ellipse: s-maj=17.8km s-min=11.3km az=83.0*
*BJI **20** 14:31:04.4±0.0, 30.28S×72.13W, h10km, mB5.0/4, Ms5.0/4, Ms7 4.8/4*
*NEIC **20** 14:31:05.5, 30.57S×71.72W, h22km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr0.33; Mθθ-0.07; Mϕϕ-0.26; Mrθ0.12; Mrϕ-0.18; Mθϕ-1.24; Fault plane solution: M₀1.29000×10¹⁶ NP1:ϕs176.43000°, δ83.51000°, λ81.18000°. NP2:ϕs50.37000°, δ10.94000°, λ143.44000°. Principal axes: T 1.3405, Plg51.0000°, Azm77.0000°; N -0.1021, Plg9.0000°, Azm177.0000°; P -1.2384, Plg38.0000°, Azm274.0000°;*
*VAO **20** 14:31:07.4±0.3, 30.51S×71.51W, h10km, mb5.1*
*NEIC **20** 14:31:08.5±1.1, 30.55S±0.03×71.68W±0.06, h25km±3km, mb5.1/307, Mwr4.7/49, ML5.2(GUC), Error ellipse: s-maj=7.8km s-min=4.6km az=83.0*
*GUC **20** 14:31:08.5±0.6, 30.59S×71.74W, h38km±1km, ML5.2*
*SJA **20** 14:31:09.0, 30.45S×71.87W, h10km, ML5.5*

ISC 20 14:31:07.5±0.5, 30.58S±0.03×71.73W±0.04, h21km±3km, n669, σ1§15/674, mb5.1/162, MS4.4/15, 47C-33D, Fault plane solution: NP1:ϕs301.01556°, δ18.96177°, λ25.64432°. **NP2:**ϕs186.59654°, δ81.91585°, λ107.20974°.

Principal axes: T Plg50.1903°, Azm115.6694°; N Plg17.0335°, Azm4.1024°; P Plg34.7013°, Azm261.8541°;

Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.12**	**140**	*e*P	**Pn**	**14 31 14.7**	**+2.7**
CO06				*i* S	**Sb**	**14 31 18.2**	**-0.2**
CO06				IAML		14 31 20.3	
	comp=N,366μm,0.3s						
CO06	**Fray Jorge**	**0.12**	**140**		**Pn**	**14 31 14.4**	**+2.5**
CO06					**Sb**	**14 31 17.2**	**-1.3**
CO05	**La Serena**	**0.78**	**33**	*e*P	**Pn**	**14 31 23.5**	**+0.2**
CO05				*i* S	**Sn**	**14 31 34.5**	**+0.1**
CO05				IAML		14 31 38.1	
	comp=E,67μm,0.6s						
CO05	**La Serena**	**0.78**	**33**		**Pn**	**14 31 23.5**	**+0.2**
CO05				Sn	**Sb**	**14 31 31.7**	**-0.8**
GO04	**Tololo Observa**	**0.90**	**64**	*e*P	**Pn**	**14 31 25.3**	**+0.1**
GO04				*i* S	**Sn**	**14 31 38.4**	**+0.7**
GO04				IAML		14 31 40.9	
	comp=N,170μm,0.3s						
GO04	**Tololo Observa**	**0.90**	**64**		**Pn**	**14 31 25.6**	**+0.4**
CO03	**El Pedregal**	**0.93**	**107**	*e*P	**Pn**	**14 31 25.6**	**+0.1**
CO03				*i* S	**Sn**	**14 31 38.1**	**-0.2**
CO03				IAML		14 31 39.0	
	comp=E,100μm,0.3s						
CO03	**El Pedregal**	**0.93**	**107**	Pn	**Pn**	**14 31 25.6**	**+0.1**
CO03				Sn	**Sb**	**14 31 37.2**	**+0.1**
CO03	**El Pedregal**	**0.93**	**107**	*i* P	**Pb**	**14 31 25.0**	**-0.1**
LCO	**Las Campanas**	**1.80**	**30**	*e*P	**Pb**	**14 31 39.0**	**-0.9**
LCO				*i* S	**Sb**	**14 32 02.4**	**+0.2**
LCO	**Las Campanas**	**1.80**	**30**	Pn	**Pn**	**14 31 38.6**	**+1.0**
LCO	**Las Campanas**	**1.80**	**30**	*i* P	**Pb**	**14 31 39.0**	**-0.9**
AROD	**Rodeo**	**1.99**	**79**	*i* P	**Pb**	**14 31 44.0**	**+0.7**
VA06	**Catapilco**	**2.01**	**170**	*e*P	**Pn**	**14 31 41.0**	**+0.8**
VA06				*i* S	**Sn**	**14 32 06.7**	**+1.9**
VA06				IAML		14 32 20.9	
	comp=N,47μm,0.5s						
ACDV	**Cuesta del Vie**	**2.29**	**80**	*i* P	**Pb**	**14 31 49.0**	**+0.7**
ACCO	**Cerro Coronel**	**2.30**	**91**	*i* P	**Pb**	**14 31 49.0**	**+0.5**
VA03	**San Esteban**	**2.40**	**156**	*e*P	**Pn**	**14 31 47.1**	**+1.4**
VA03				*i* S	**Sn**	**14 32 16.8**	**+2.3**
VA03				IAML		14 32 24.9	
	comp=N,30μm,0.5s						
VA03	**San Esteban**	**2.40**	**156**	Pn	**Pn**	**14 31 47.4**	**+1.7**
RTLS	**Leoncito**	**2.41**	**121**	*i* P	**Pb**	**14 31 50.0**	**-0.4**
AC04	**Llanos de Chal**	**2.43**	**14**	*e*P	**Pn**	**14 31 46.9**	**+0.8**
AC04				*i* S	**Sb**	**14 32 20.1**	**0.0**
AC04	**Llanos de Chal**	**2.43**	**14**	Pn	**Pn**	**14 31 46.7**	**+0.6**
AC04	**Llanos de Chal**	**2.43**	**14**	*i* P	**Pn**	**14 31 47.0**	**+0.9**
VA01	**Torpederas**	**2.44**	**178**	*e*P	**Pn**	**14 31 47.2**	**+1.0**
VA01				*i* S	**Sn**	**14 32 17.1**	**+1.8**
VA01	**Torpederas**	**2.44**	**178**	Pn	**Pn**	**14 31 46.1**	**-0.1**
ROCH	**El Roble**	**2.46**	**166**	*e*P	**Pn**	**14 31 48.4**	**+1.7**
ZON	**Zonda**	**2

comp=N,1.6nm,0.3s,baz=185,slow=9.8,SNR=58
LPAZ La Paz 14.60 14 Pn Pn 14 34 32.6 -1.0
LPAZ La Paz 14.60 14 eP Pn 14 34 33.4 -0.1
PLTB Pedras Altas 15.56 99 Pn Pn 14 34 43.6 -2.1
PLTB Pedras Altas 15.56 99 eP Pn 14 34 43.5 -2.3
CPSB Cacapava Do Su 15.77 94 eP Pn 14 34 47.7 -0.7
SIV San Ignacio 17.49 36 P Pn 14 35 10.2 -0.1
comp=N,1.1nm,0.3s,baz=228,slow=12,SNR=96
AQDB Aquidauana 17.60 59 Pn Pn 14 35 08.6 -3.0
AQDB Aquidauana 17.60 59 eP Pn 14 35 10.5 -1.1
CNLB Canela 18.14 91 eP Pn 14 35 17.6 -0.6
PTGB Pitanga 18.36 76 eP Pn 14 35 21.4 +0.3
TRCB Terra Rica 18.72 70 P P 14 35 23.4 -1.6
TRCB IAmb IAmb 14 35 40.3
comp=Z,79nm,0.8s
TRCB Terra Rica 18.72 70 eP Pn 14 35 25.5 +0.1
PTLB Pontes e Lacer 18.98 40 eP Pn 14 35 28.0 -0.4
NNA Nana 19.10 345 P Pn 14 35 31.0 +1.1
comp=Z,0.7nm,0.3s,baz=173,slow=12,SNR=5.0
NNA LR LR 14 41 31.6
comp=Z,498nm,19.2s,baz=170,slow=33
TER01 Tubaro-SC 19.76 90 eP P 14 35 36.7 +0.4
PCMB Pacaembu 20.41 69 eP P 14 35 42.9 -0.4
VILB Vilhena 20.52 34 eP P 14 35 44.5 0.0
SALV Santo Antonio 20.71 49 eP P 14 35 46.2 -0.4
TIJ01 Guaruva-PR 20.73 81 eP P 14 35 45.6 -1.3
ETMB Extrema 21.29 15 eP P 14 35 53.6 +0.9
ITRB Iturama 22.13 66 eP P 14 36 01.1 -0.8
MG02 Cerro Sombrero 22.26 176 P P 14 36 03.4 +0.5
PET01 Itanhaem-SP 22.57 80 eP P 14 36 06.4 -0.1
SPB Sao Paulo 22.70 78 eP P 14 36 08.2 +0.4
CZSB Cruzeiro do Su 22.75 357 eP P 14 36 10.2 +1.8
BB19B Bebedouro 22.89 71 eP P 14 36 08.8 -1.2
SAML Samuel 22.95 22 P P 14 36 09.8 -0.8
SAML IAmb IAmb 14 36 25.5
comp=Z,80nm,1.3s
SAML Samuel 22.95 22 eP P 14 36 10.4 -0.1
RCLB Rio Claro- Sao 23.11 75 eP P 14 36 12.1 0.0
VAO Valinhos 23.32 77 eP P 14 36 13.1 -1.3
EFI East Falkland 23.38 158 P P 14 36 15.3 +0.6
PARB Paraibuna 24.33 79 eP P 14 36 22.8 -1.1
USHA Ushuaia 24.36 175 P P 14 36 24.6 +0.7
comp=Z,13nm,0.4s,baz=358,slow=7.8,SNR=6.6
CLDB Colider 24.57 40 eP P 14 36 24.9 -1.2
IPMB Ipameri, GO 24.77 65 eP P 14 36 27.2 -0.9
ESAR Angra dos Reis 25.45 79 eP P 14 36 33.2 -0.9
BSCB Bom Sucesso 26.02 75 eP P 14 36 38.6 -0.8
TBTG Tabatinga, AM 26.31 4 eP P 14 36 43.1 +1.2
BDFB Brasilia 26.32 61 P P 14 36 41.2 -0.9
comp=Z,45nm,0.8s,baz=230,slow=9.1,SNR=51
BDFB LR LR 14 48 10.2
comp=Z,2µm,18.5s,baz=245,slow=39
BDFB Brasilia 26.32 61 P P 14 36 41.2 -0.9
BDFB IAmb IAmb 14 36 42.5
comp=Z,47nm,0.8s
SNDB Serra Nova Dou 26.47 50 eP P 14 36 43.1 -0.3
VAS01 Vassouras-RJ 26.59 79 eP P 14 36 44.6 +0.1
DUB01 Friburgo-RJ 27.57 79 eP P 14 36 53.1 -0.2
NPGB Novo Progresso 28.00 37 eP P 14 36 55.9 -1.2
DIAM Diamantina, MG 28.23 71 eP P 14 36 59.0 -0.4
CAM01 Campos-RJ 28.29 79 eP P 14 36 58.9 -0.7
PEXB Peixe 28.43 55 eP P 14 37 00.8 -0.2
MC01 Montes Claros 28.86 68 eP P 14 37 03.9 -0.9
MACA Manacapuru-AM 29.20 23 eP P 14 37 08.1 +0.3
JANB Januaria 29.51 65 eP P 14 37 10.1 -0.5
ALF01 Guarapari-ES 29.58 78 eP P 14 37 10.8 -0.4
SJMB Sao Joao De Ma 30.08 74 eP P 14 37 14.9 -0.6
ITTB Itaituba 30.12 33 eP P 14 37 15.3 -0.6
RIB01 Linhares ES 30.45 76 eP P 14 37 18.6 -0.2
SDBA SAO DESIDERIO 30.69 60 eP P 14 37 20.1 -0.9
SMTB Santa Maria do 31.22 51 eP P 14 37 25.6 -0.1
OTAV Otavalo 31.30 347 P P 14 37 26.1 -0.8
OTAV Otavalo 31.30 347 eP P 14 37 28.4 +1.5
NAN01 Guarapari, ES 31.37 73 eP P 14 37 26.4 -0.6
PRPB Parauapebas 31.83 45 eP P 14 37 30.4 -0.6
FLOC Florencia 32.20 353 P P 14 37 34.1 -0.2
FLOC IAmb IAmb 14 37 46.2
comp=Z,23nm,1.0s
GUA01 Guaratinga, BA 32.27 72 eP P 14 37 34.4 -0.5
BBAC Balboa, Cauca 32.84 350 eP P 14 37 42.4 +2.3
MALB Monte Alegre 33.02 33 eP P 14 37 39.7 -1.7
RPN Rapa Nui 33.02 266 LR LR 14 47 25.0
comp=Z,606nm,20.6s,baz=30,slow=30
PCON Cinco Dias 33.02 351 eP P 14 37 46.2 +4.1
CMC01 Camacan, BA 33.15 70 eP P 14 37 42.4 -0.3
BETC Betania 33.26 353 eP P 14 37 47.0 +3.4
NBIT Itapeh - BA 33.45 70 eP P 14 37 44.8 -0.4
MARP Paez Belalcaza 33.48 352 eP P 14 37 48.6 +2.8
GDU01 Guandu, BA 34.02 68 eP P 14 37 49.4 -0.8
PRAC Prado 34.23 354 eP P 14 37 54.5 +2.4
ORTC Ortega, Tolima 34.46 354 eP P 14 37 56.9 +2.9
BOAV Boa Vista 34.49 20 eP P 14 37 54.3 +0.1
VILC Villavicencio, 34.55 357 eP P 14 37 57.5 +2.7
PMSA Palmer Station 34.55 174 P P 14 37 55.1 +0.9
comp=Z,16nm,0.9s,baz=13,slow=6.1,SNR=4.9
PMSA Palmer Station 34.55 174 P P 14 37 55.2 +1.0
PMSA IAmb IAmb 14 37 56.7
comp=Z,29nm,1.1s
PMSA Palmer Station 34.55 174 eP P 14 37 55.9 +1.6
YOTC Yotoco, Valle 34.65 352 eP P 14 37 57.6 +1.9
CHIC Chingaza 35.06 357 eP P 14 38 01.8 +2.2
NBPN Ponto Novo - B 35.23 63 eP P 14 38 00.0 -0.7
ROSC El Rosal 35.30 356 P P 14 38 04.3 +2.7
comp=Z,23nm,0.9s,baz=124,slow=2.8,SNR=5.9
ROSC El Rosal 35.30 356 P P 14 38 03.0 +1.4
ROSC IAmb IAmb 14 38 29.7
comp=Z,25nm,0.9s
MCPB Macapa, AP 35.39 36 eP P 14 38 01.8 -0.2
GUY2C Guyana, Caldas 35.77 354 eP P 14 38 08.4 +2.7
TMAB Tom-Au,PA,Br 35.88 43 eP P 14 38 06.6 +0.3
NORC Norcasia 36.06 355 eP P 14 38 10.0 +2.2
SPBC San Pablo de B 36.09 356 eP P 14 38 09.3 +1.2
RUSC La Rusia 36.29 358 P P 14 38 11.7 +1.5
RUSC La Rusia 36.29 358 eP P 14 38 12.2 +2.0
CBOC Ciudad Bolivar 36.47 353 eP P 14 38 13.7 +2.4
HELC Santa Helena 36.74 354 eP P 14 38 16.0 +2.1
PTBC PUERTO BERRIO, 37.00 355 eP P 14 38 15.6 -0.2
NBLA Lagarto - SE 37.02 66 eP P 14 38 14.9 -1.1
DBBC Dabeiba 37.63 353 eP P 14 38 24.2 +3.0
ZARC Zaragoza, Cauc 37.97 355 eP P 14 38 24.4 +0.5
UREC San Jos de Ur 38.28 354 eP P 14 38 28.0 +1.4
NBMA Muriti-CE 38.54 60 eP P 14 38 28.6 -0.3
NBPS Pedro II - PI 38.64 54 eP P 14 38 29.7 0.0
NBAN Anadia - AL 39.00 65 eP P 14 38 31.7 -1.0
NBPB Pedra_Branca-C 39.16 57 eP P 14 38 34.0 -0.1
SDV Santo Domingo 39.25 2 P P 14 38 35.2 +0.3
comp=Z,17nm,0.5s,baz=213,slow=7.1,SNR=10
SDV Santo Domingo 39.25 2 P P 14 38 34.4 -0.5
SDV IAmb IAmb 14 38 40.1
comp=Z,31nm,0.9s
SDV Santo Domingo 39.25 2 eP P 14 38 35.8 +0.8
CAP2 Capurgana 39.38 351 P P 14 38 34.7 -1.0
NBLV Livramento - P 39.94 62 eP P 14 38 40.2 -0.4
BCIP Isla Barro Col 40.28 348 P P 14 38 43.1 -0.1
SJCC San Jacinto, C 40.38 355 P P 14 38 44.5 +0.3
SJCC IAmb IAmb 14 38 48.4
comp=Z,31nm,1.1s
SJCC San Jacinto, C 40.38 355 eP P 14 38 45.2 +1.1
NBMO Morrinhos-CE 40.39 54 eP P 14 38 43.3 -0.9
NBRF Rio Formoso - 40.50 65 eP P 14 38 44.1 -1.1
NBPA Parau_RN 40.83 60 eP P 14 38 47.7 -0.3
NBCL Cascavel-CE 40.99 57 eP P 14 38 50.5 +1.3
PLCV Puerto La Cruz 41.08 11 P P 14 38 49.8 -0.1
PCRV Puerto La Cruz 41.09 11 P P 14 38 49.8 -0.2
comp=Z,14nm,0.9s,baz=83,slow=3.4,SNR=6.1
NBPV Pedro Velho 41.78 62 eP P 14 38 55.8 +0.1
URIC Uribia, Colomb 42.03 360 P P 14 38 55.8 -1.8
JTS Las Juntas de 42.58 341 P P 14 39 03.6 +1.5
comp=Z,6.8nm,0.8s,baz=184,slow=6.0,SNR=6.2
JTS LR LR 14 53 31.7
comp=Z,109nm,18.8s,baz=244,slow=32
ORTG Ortega, Santa 42.79 340 P P 14 39 05.0 +1.1
TOSP Speyside 43.00 16 P P 14 39 05.5 -0.1
TOSP IAmb IAmb 14 39 06.6
comp=Z,32nm,0.9s
MPOM Morne Pois Mar 45.97 15 P P 14 39 27.9 -1.3
BIM Bigot 45.99 14 P P 14 39 29.1 -0.4
ILAM Ilet Lapin Mar 46.28 15 P P 14 39 31.3 -0.4
ICMP Isla Caja de M 48.44 7 P P 14 39 48.3 -0.1
MLPR Magueyes Islan 48.48 6 P P 14 39 48.4 -0.3
CRPR Cabo Rojo, PR 48.51 6 P P 14 39 48.5 -0.4
OBIP Obispado Ponce 48.59 7 P P 14 39 48.5 -1.1

PDPR Patillas Dam, 48.63 7 P P 14 39 49.0 -0.9
BANI BANI 48.70 2 P P 14 39 50.7 +0.1
SJG San Juan 48.70 7 P P 14 39 49.9 -0.6
comp=Z,75nm,0.9s,baz=203,slow=2.6,SNR=39
SJG San Juan 48.70 7 P P 14 39 49.6 -0.9
MTP Monte Pirata 48.76 8 P P 14 39 48.2 -2.7
HUMP Col San Antoni 48.77 7 P P 14 39 49.9 -1.1
HUMP IAmb IAmb 14 39 51.3
comp=Z,25nm,0.9s
SDD Santo Domingo 48.78 2 P P 14 39 51.0 -0.1
AOPR Arecibo Observ 48.88 6 P P 14 39 50.6 -1.2
CBYP Canovanas 48.89 7 P P 14 39 50.8 -1.2
GCPR Guaynabo City 48.91 7 P P 14 39 50.8 -1.2
AGPR Aguadilla, PR 48.96 6 P P 14 39 52.1 -0.4
CUPR Culebra, Puert 49.00 8 P P 14 39 52.2 -0.5
CUPR IAmb IAmb 14 39 53.0
comp=Z,17nm,0.8s
EMPR Esperanza - Ma 49.03 7 P P 14 39 52.4 -0.5
SMRT St. Maarten 49.06 11 P P 14 39 51.6 -1.6
STVI Saint Thomas 49.08 9 P P 14 39 52.9 -0.4
STVI IAmb IAmb 14 39 54.4
comp=Z,16nm,0.9s
DR12 Loma Pena Alta 49.13 3 P P 14 39 53.3 -0.6
ABVI Anegada Island 49.54 9 P P 14 39 56.8 0.0
SC01 Santiago de lo 49.73 1 P P 14 39 58.7 +0.4
GTBY Guantanamo Bay 50.32 356 P P 14 40 03.0 +0.2
GTBY IAmb IAmb 14 40 04.4
comp=Z,25nm,0.9s
CMIG Matias Romero 52.37 332 P P 14 40 19.8 +1.6
comp=Z,4.2nm,1.1s,baz=101,slow=3.5,SNR=4.5
VNA3 Neumayer Olymp 52.43 159 P P 14 40 18.5 +0.3
VNA2 Neumayer--Watz 53.07 158 P P 14 40 23.1 +0.2
baz=287,slow=8.7
SOR Soroa 54.16 347 P P 14 40 30.6 -0.7
SOR IAmb IAmb 14 40 41.6
comp=Z,21nm,0.9s
SNAA Sanae 54.66 159 P P 14 40 34.6 +0.1
SNAA Sanae 54.66 159 P P 14 40 34.1 -0.5
SNAA IAmb IAmb 14 40 35.8
comp=Z,21nm,0.9s
RKT Rikitea 56.29 261 eT T 15 41 27.1
comp=Z,111nm,0.3s
QSPA South Pole Qui 59.65 180 P P 14 41 10.6 +0.6
553A Crawfordville 61.63 348 P P 14 41 23.4 -0.2
352A Blakely 62.98 347 P P 14 41 32.0 -0.6
154A Montrose 63.77 349 P P 14 41 37.4 -0.4
833A Chaparral WMA, 64.25 333 P P 14 41 42.8 +1.7
baz=154
HKT Hockley 64.42 337 P P 14 41 42.0 -0.1
GOGA Godfrey 64.60 349 P P 14 41 43.8 +0.5
LRAL Lakeview Retre 64.90 346 P P 14 41 44.6 -0.6
JSC Jenkinsville 65.14 351 P P 14 41 46.8 +0.1
JSC IAmb IAmb 14 42 08.1
comp=Z,12nm,1.1s
Y52A Lilburn 65.15 349 P P 14 41 46.9 0.0
Y52A IAmb IAmb 14 41 56.6
comp=Z,20nm,1.0s
X58A Rowland 65.18 353 P P 14 41 47.4 +0.4
X58A IAmb IAmb 14 41 49.2
comp=Z,16nm,0.8s
SLBS Sierra La Lagu 65.23 321 P P 14 41 48.0 +0.3
Z47A Carrollton 65.29 345 P P 14 41 47.5 -0.3
Y49A Blount Mountai 65.57 347 P P 14 41 49.6 0.0
Y49A IAmb IAmb 14 42 03.3
comp=Z,12nm,0.9s
W57A Gilead 65.84 353 P P 14 41 51.2 -0.1
W57A IAmb IAmb 14 41 52.6
comp=Z,11nm,0.8s
X51A Calhoun 65.97 348 P P 14 41 52.2 +0.1
KMSC Kings Mountain 65.99 351 P P 14 41 51.9 -0.3
KMSC Kings Mountain 65.99 351 P P 14 41 52.4 +0.1
baz=171
BG3 Lake Jocassee 66.07 350 P P 14 41 52.8 0.0
BG3 IAmb IAmb 14 42 02.9
comp=Z,15nm,1.0s
Y45A Yeager Farm, C 66.27 344 P P 14 41 53.9 -0.1
X48A Hartselle 66.28 346 P P 14 41 53.8 -0.3
JCT Junction City 66.33 334 P P 14 41 55.4 +0.8
JCT IAmb IAmb 14 41 57.1
comp=Z,15nm,0.8s
JCT Junction City 66.33 334 P P 14 41 56.2 +1.6
baz=154
V58A Windy Hill, Pi 66.39 353 P P 14 41 54.7 0.0
V58A IAmb IAmb 14 42 07.2
comp=Z,12nm,0.9s
W50A Signal Mountai 66.67 348 P P 14 41 56.7 +0.1
W50A IAmb IAmb 14 42 06.7
comp=Z,22nm,0.9s
V55A Taylorsville 66.68 352 P P 14 41 57.2 +0.5
V55A IAmb IAmb 14 42 06.7
comp=Z,19nm,1.1s
V53A Saluda 66.72 350 P P 14 41 57.1 +0.1
V53A IAmb IAmb 14 42 06.9
comp=Z,16nm,1.1s
CPCT Cooper Cave 66.77 349 P P 14 41 57.1 -0.1
CPCT IAmb IAmb 14 42 07.3
comp=Z,24nm,1.1s
SWET Sewanee 66.80 347 P P 14 41 57.1 -0.3
WHTX Lake Whitney, 66.84 336 P P 14 41 58.5 +0.7
WHTX IAmb IAmb 14 42 00.6
comp=Z,16nm,0.8s
WHTX Lake Whitney, 66.84 336 P P 14 41 59.3 +1.6
baz=156
TKL Tuckaleechee C 66.85 349 P P 14 41 57.4 -0.4
TKL IAmb IAmb 14 42 07.5
comp=Z,21nm,1.1s
OXF Oxford 66.86 344 P P 14 41 57.6 -0.2
OXF Oxford 66.86 344 P P 14 41 58.5 +0.7
baz=164
TXAR Lajitas Array 66.90 330 P P 14 41 59.5 +1.1
comp=Z,3.4nm,0.8s,baz=150,slow=8.0,SNR=34
TXAR LR LR 15 07 09.0
comp=Z,194nm,18.1s,baz=0.0,slow=32
TXAR Lajitas Array 66.90 330 P P 14 41 58.0 -0.4
TX31 Lajitas Ar. Si 66.90 330 P P 14 41 58.2 -0.1
TX31 IAmb IAmb 14 42 10.4
comp=Z,16nm,0.9s
TX32 Lajitas Array 66.90 330 P P 14 41 58.2 -0.2
V52A Sevierville 67.00 350 P P 14 41 58.4 -0.3
V52A IAmb IAmb 14 42 08.4
comp=Z,25nm,1.1s
PLAL Pickwick Lake 67.00 345 P P 14 41 58.0 -0.7
PLAL IAmb IAmb 14 42 08.4
comp=Z,18nm,1.1s
V51A Loudon 67.09 349 P P 14 41 57.8 -1.5
V51A IAmb IAmb 14 42 09.0
comp=Z,20nm,1.1s
U54A Nelsons Funny 67.42 351 P P 14 42 01.2 -0.2
U54A IAmb IAmb 14 42 11.2
comp=Z,21nm,1.0s
T59A Double "B" Far 67.42 355 P P 14 42 01.1 -0.2
T59A IAmb IAmb 14 42 12.0
comp=Z,25nm,1.1s
W45A Hickory Valley 67.42 345 P P 14 42 01.0 -0.4
VNDA Vanda 67.50 191 P P 14 42 02.7 +1.3
comp=Z,2.3nm,0.8s,baz=142,slow=5.9,SNR=12
VNDA LR LR 15 08 43.5
comp=Z,55nm,20.1s,baz=140,slow=34
VNDA Vanda 67.50 191 P P 14 42 02.0 +0.5
CLTN Cedars of Leba 67.72 347 P P 14 42 03.0 -0.3
CLTN IAmb IAmb 14 42 13.3
comp=Z,24nm,1.1s
BLA Blacksburg 67.92 353 P P 14 42 04.4 -0.2
BLA IAmb IAmb 14 42 14.8
comp=Z,17nm,1.2s
MIAR Mount Ida 67.97 341 P P 14 42 05.3 +0.4
MIAR Mount Ida 67.97 341 P P 14 42 06.4 +1.5
baz=160,SNR=6.2
Z35A Perchaven, San 67.99 337 P P 14 42 06.0 +0.9
U49A Red Boiling Sp 68.03 348 P P 14 42 04.6 -0.6
U49A IAmb IAmb 14 42 15.1
comp=Z,21nm,1.2s
WVT Waverly 68.06 346 P P 14 42 04.3 -1.0
WVT Waverly 68.06 346 P P 14 42 05.9 +0.5
baz=165
JSRW J. Sargeant Re 68.16 355 P P 14 42 06.7 +0.7
ABTX Abilene, Hawle 68.19 335 P P 14 42 06.7 +0.3
ABTX IAmb IAmb 14 42 08.6
comp=Z,19nm,1.0s
ABTX Abilene, Hawle 68.19 335 P P 14 42 07.7 +1.3
baz=154
W41B Gary Mavity, V 68.20 342 P P 14 42 07.2 +0.9
baz=161
WHAR Wooly Hollow 68.32 342 P P 14 42 07.5 +0.5

WHAR IAmb IAmb 14 42 26.8
comp=Z,16nm,1.2s
S57A Dark Hollow, R 68.32 354 P P 14 42 07.7 +0.7
S57A IAmb IAmb 14 42 17.4
comp=Z,13nm,1.1s
T50A Nancy 68.36 349 P P 14 42 07.9 +0.6
TBI Tubuai 68.41 255 eS S 14 51 10.3 +1.6
comp=Z,104nm,25.5s
TBI Tubuai 68.41 255 eLR LR 15 02 48.3
comp=Z,284nm,25.0s,baz=112
TBI Tubuai 68.41 255 eT T 15 56 39.8
comp=Z,21nm,0.2s
W39A Magazine 68.64 341 P P 14 42 08.9 -0.2
W39A Magazine 68.64 341 P P 14 42 10.6 +1.6
baz=160,SNR=20
LCAR Lake Charles 68.76 343 P P 14 42 09.7 -0.1
LCAR IAmb IAmb 14 42 19.8
comp=Z,17nm,1.0s
FCAR Ozark Folk Cen 68.84 342 P P 14 42 10.3 0.0
SYO Syowa Base 68.95 159 eP P 14 42 08.3 -2.3
SYO Syowa Base 68.95 159 esP sP 14 42 20.2 +0.1
R55A Marlinton 68.95 353 P P 14 42 10.8 -0.2
R55A IAmb IAmb 14 42 13.0
comp=Z,11nm,0.8s
PBMO Poplar Bluff 69.26 344 P P 14 42 12.7 -0.2
PBMO IAmb IAmb 14 42 14.9
comp=Z,14nm,0.8s
U40A Yellville 69.47 342 P P 14 42 14.4 +0.2
U40A IAmb IAmb 14 42 16.8
comp=Z,16nm,0.9s
U40A Yellville 69.47 342 P P 14 42 15.0 +0.8
baz=161,SNR=7.3
MEH Mehetia 69.61 261 eT T 15 58 06.0
comp=Z,36nm,0.2s
Q56A Snyder Ridge, 69.61 354 P P 14 42 14.8 -0.2
T42A Van Buren 69.66 344 P P 14 42 15.1 -0.3
T42A IAmb IAmb 14 42 25.3
comp=Z,16nm,1.4s
MNTX Cornudas Mount 69.68 330 P P 14 42 15.5 -0.2
MNTX Cornudas Mount 69.68 330 P P 14 42 16.1 +0.4
baz=149
HHAR Hobbs 69.70 341 P P 14 42 15.9 +0.2
WCI Wyandotte Cave 69.79 348 P P 14 42 14.8 -1.3
WCI IAmb IAmb 14 42 16.4
comp=Z,12nm,1.1s
WCI Wyandotte Cave 69.79 348 P P 14 42 16.1 0.0
baz=167
WMOK Wichita Mounta 69.79 336 P P 14 42 15.7 -0.5
WMOK Wichita Mounta 69.79 336 P P 14 42 16.9 +0.7
baz=155,SNR=5.1
USIN University of 69.80 347 P P 14 42 15.4 -0.8
S44A Carbondale 69.87 345 P P 14 42 16.6 0.0
SIUC Southern Illin 69.88 345 P P 14 42 17.1 +0.4
TUL1 Leonard 69.90 339 P P 14 42 17.6 +0.8
baz=158,SNR=11
P57A Homestead Farm 69.95 355 P P 14 42 17.9 +0.9
P57A IAmb IAmb 14 42 34.8
comp=Z,16nm,1.1s
U38A Gravette 69.97 341 P P 14 42 16.2 -1.1
MGMO Mountain Grove 70.07 343 P P 14 42 17.8 -0.1
MGMO IAmb IAmb 14 42 28.3
comp=Z,17nm,1.1s
OK025 Westminster Rd 70.08 338 P P 14 42 17.4 -0.6
Q51A Peebles 70.09 350 P P 14 42 18.0 0.0
Q51A IAmb IAmb 14 42 27.7
comp=Z,15nm,1.0s
BCOK Bluff Creek, N 70.24 338 P P 14 42 18.8 -0.2
BCOK IAmb IAmb 14 42 21.4
comp=Z,12nm,0.7s
OK031 S. Brethren Rd 70.26 339 P P 14 42 18.7 -0.4
OK031 IAmb IAmb 14 42 21.1
comp=Z,21nm,0.9s
MVL Millersville 70.35 356 P P 14 42 19.8 +0.3
MVL IAmb IAmb 14 42 43.5
comp=Z,20nm,1.2s
FVM French Village 70.41 344 P P 14 42 19.5 -0.5
FVM IAmb IAmb 14 42 30.2
comp=Z,21nm,1.0s
QUOK Quay 70.42 339 P P 14 42 20.0 0.0
QUOK IAmb IAmb 14 42 22.3
comp=Z,17nm,0.9s
P51A Williamsport 70.50 351 P P 14 42 19.8 -0.6
P51A IAmb IAmb 14 42 46.7
comp=Z,12nm,0.8s
P52A Corning 70.52 351 P P 14 42 20.2 -0.3
P52A IAmb IAmb 14 42 21.6
comp=Z,21nm,1.1s
MSTX Muleshoe 70.58 333 P P 14 42 21.4 +0.2
MSTX IAmb IAmb 14 42 23.5
comp=Z,19nm,0.9s
MSTX Muleshoe 70.58 333 P P 14 42 22.4 +1.2
baz=152
OLIL Olney 70.62 346 P P 14 42 20.7 -0.5
OLIL IAmb IAmb 14 42 34.4
comp=Z,21nm,1.1s
CCM Cathedral Cave 70.67 344 P P 14 42 21.4 -0.1
CCM IAmb IAmb 14 42 24.2
comp=Z,22nm,0.9s
CCM Cathedral Cave 70.67 344 P P 14 42 22.4 +0.9
baz=162
O56A Blue Knob Stat 70.77 354 P P 14 42 22.8 +0.6
O56A IAmb IAmb 14 42 48.0
comp=Z,24nm,1.4s
P49A Miami Univ. Ec 70.79 349 P P 14 42 22.4 +0.2
P48A Milroy 70.84 349 P P 14 42 22.3 -0.2
P48A IAmb IAmb 14 42 31.9
comp=Z,18nm,1.1s
TIAR Tiarei 70.84 261 eT T 15 59 38.6
comp=Z,4.5nm,0.2s
S39A Bolivar 70.85 342 P P 14 42 23.1 +0.4
S39A IAmb IAmb 14 42 33.0
comp=Z,20nm,1.1s
AMTX Amarillo 70.97 334 P P 14 42 23.9 +0.4
AMTX IAmb IAmb 14 42 25.7
comp=Z,14nm,0.9s
AMTX Amarillo 70.97 334 P P 14 42 25.0 +1.5
baz=153
PPT2 Papeete2 71.02 260 eS S 14 51 40.5 +0.8
comp=Z,183nm,29.0s
PPT2 Papeete2 71.02 260 eLR LR 15 04 00.2
comp=Z,315nm,24.0s,baz=115
PPT Papeete 71.03 260 LR LR 15 05 04.5
comp=Z,183nm,19.1s,baz=122,slow=29
T35A Sooner Cattle 71.05 339 P P 14 42 24.1 +0.3
T35A IAmb IAmb 14 42 26.4
comp=Z,18nm,1.1s
SSPA Standing Stone 71.08 355 P P 14 42 23.8 -0.2
SSPA IAmb IAmb 14 42 34.7
comp=Z,17nm,1.2s
SSPA Standing Stone 71.08 355 P P 14 42 24.3 +0.3
baz=174
BLOK Blackwell 71.12 339 P P 14 42 23.8 -0.5
BLOK IAmb IAmb 14 42 46.5
comp=Z,22nm,1.2s
R40A Maddies Statio 71.15 343 P P 14 42 24.6 +0.2
N58A Sunbury 71.21 356 P P 14 42 24.8 +0.1
N58A IAmb IAmb 14 42 41.7
comp=Z,11nm,0.9s
ACSO Alum Creek Sta 71.22 351 P P 14 42 23.8 -1.0
ACSO IAmb IAmb 14 42 34.7
comp=Z,20nm,0.9s
ACSO Alum Creek Sta 71.22 351 P P 14 42 25.1 +0.3
baz=170
N59A State Game Lan 71.23 357 P P 14 42 25.1 +0.2
N59A IAmb IAmb 14 42 42.7
comp=Z,18nm,1.1s
N59A State Game Lan 71.23 357 P P 14 42 26.6 +1.7
baz=176
U32A Winter Ranch, 71.36 337 P P 14 42 26.3 +0.6
U32A IAmb IAmb 14 42 28.2
comp=Z,9.5nm,0.8s
O49A Covington 71.37 350 P P 14 42 25.3 -0.4
O49A IAmb IAmb 14 42 26.8
comp=Z,19nm,1.0s
KAN13 South Haven SW 71.44 338 P P 14 42 26.5 +0.3
KAN13 IAmb IAmb 14 42 28.7
comp=Z,19nm,0.9s
121A Cookes Peak, D 71.45 328 P P 14 42 29.3 +2.7
baz=148
N54A Moraine State 71.59 353 P P 14 42 27.0 0.0
N54A IAmb IAmb 14 42 37.3
comp=Z,21nm,1.2s
N54A Moraine State 71.59 353 P P 14 42 27.9 +0.9
baz=172
KAN09 Caldwell North 71.59 338 P P 14 42 27.6 +0.4

KAN09 IAmb IAmb 14 42 29.2
comp=Z,25nm,1.1s
M57A Sunshine Farm, 71.73 356 P **P** **14 42 28.2 +0.4**
M57A IAmb IAmb 14 42 49.9
comp=Z,17nm,1.2s
M55A Ridgway 71.98 354 P **P** **14 42 28.7 -0.7**
M55A IAmb IAmb 14 42 58.2
comp=Z,16nm,1.1s
N49A Columbus Grove 72.07 350 P **P** **14 42 29.2 -0.7**
M54A Oil Creek Stat 72.10 354 P **P** **14 42 29.4 -0.7**
M54A IAmb IAmb 14 42 42.5
comp=Z,16nm,1.0s
M53A WI Miller and 72.13 353 P **P** **14 42 30.3 0.0**
M53A IAmb IAmb 14 42 40.3
comp=Z,27nm,1.1s
BRYW Bryant College 72.14 0 P **P** **14 42 31.2 +0.9**
BRYW IAmb IAmb 14 42 32.8
comp=Z,29nm,1.0s
N47A Urbana 72.27 349 P **P** **14 42 30.0 -1.1**
N47A IAmb IAmb 14 42 31.1
comp=Z,19nm,1.0s
P40A Paris 72.27 344 P **P** **14 42 31.1 0.0**
BNM Barren Site 72.32 330 P **P** **14 42 31.8 0.0**
L59A Walton 72.47 357 P **P** **14 42 32.7 +0.4**
L59A IAmb IAmb 14 42 49.8
comp=Z,18nm,0.9s
L56A Greenwood 72.55 355 P **P** **14 42 33.2 +0.4**
L56A IAmb IAmb 14 42 34.7
comp=Z,18nm,0.9s
L61B Northampton 72.67 359 P **P** **14 42 34.9 +1.4**
baz=179
P38A Dawn 72.73 343 P **P** **14 42 33.8 0.0**
P38A IAmb IAmb 14 42 35.7
comp=Z,18nm,0.8s
ANMO Albuquerque 72.92 331 P **P** **14 42 37.3 +1.9**
baz=149
KSU1 Kansas State U 73.09 340 P **P** **14 42 36.0 0.0**
N41A Harden Midland 73.11 345 P **P** **14 42 35.8 -0.3**
R32A Long Quarter, 73.12 338 P **P** **14 42 36.6 +0.3**
R32A IAmb IAmb 14 42 38.4
comp=Z,15nm,1.1s
214A Organ Pipe Nat 73.38 324 P **P** **14 42 38.8 +0.8**
214A Organ Pipe Nat 73.38 324 P **P** **14 42 40.3 +2.3**
baz=144
LIC Lamto 73.46 72 *e*P **P** **14 42 38.2 -0.6**
comp=Z,180nm,1.2s
J56A Wolcott 73.64 356 P **P** **14 42 39.3 +0.2**
J56A IAmb IAmb 14 43 03.0
comp=Z,20nm,0.9s
TIC Toumodi 73.70 72 *e*P **P** **14 42 39.7 -0.6**
J57A Williamstown 73.73 357 P **P** **14 42 40.0 +0.4**
J57A IAmb IAmb 14 42 41.4
comp=Z,12nm,0.8s
KIC Kosan Beka 73.78 72 *e*P **P** **14 42 40.4 -0.3**
comp=Z,151nm,0.9s
CBKS Cedar Bluff 73.81 338 P **P** **14 42 39.7 -0.7**
CBKS IAmb IAmb 14 42 42.5
comp=Z,22nm,0.8s
DBIC Dimbokro 73.85 72 P **P** **14 42 41.0 -0.1**
comp=Z,38nm,0.8s,baz=230,slow=5.7,SNR=42
DBIC LR LR 15 12 45.8
comp=Z,454nm,19.5s,baz=239,slow=34
DBIC Dimbokro 73.85 72 P **P** **14 42 40.5 -0.7**
T25A Trinidad 73.99 333 P **P** **14 42 42.6 +0.9**
T25A IAmb IAmb 14 42 44.7
comp=Z,19nm,1.0s
T25A Trinidad 73.99 333 P **P** **14 42 43.9 +2.2**
baz=151,SNR=12
L42A Oliver, Polo 74.09 346 P **P** **14 42 41.6 -0.2**
L42A IAmb IAmb 14 42 46.7
comp=Z,18nm,1.0s
N35A Tabor 74.45 341 P **P** **14 42 43.6 -0.4**
L40A Anamosa 74.48 345 P **P** **14 42 43.7 -0.5**
K43A Burlington 74.50 347 P **P** **14 42 43.8 -0.4**
K43A IAmb IAmb 14 43 00.4
comp=Z,33nm,1.1s
X16A Lo Mia Camp, P 74.71 327 P **P** **14 42 46.9 +1.0**
LONY Lake Ozonia 74.88 358 P **P** **14 42 47.3 +0.9**
baz=177
SDCO Great Sand Dun 74.94 333 P **P** **14 42 47.1 -0.2**
SDCO Great Sand Dun 74.94 333 P **P** **14 42 48.8 +1.5**
baz=150,SNR=13
FRNY Flat Rock 75.07 359 P **P** **14 42 47.8 +0.4**
JFWS Jewell Farm 75.09 346 P **P** **14 42 47.4 -0.2**
JFWS IAmb IAmb 14 42 49.1
comp=Z,13nm,0.8s
JFWS Jewell Farm 75.09 346 P **P** **14 42 48.2 +0.6**
baz=164
HAL Halifax 75.22 6 P **P** **14 42 49.2 +0.9**
SADO Sadowa 75.29 355 P **P** **14 42 48.6 -0.1**
SADO IAmb IAmb 14 43 02.8
comp=Z,18nm,1.1s
K38A Parkersburg 75.39 344 P **P** **14 42 48.8 -0.6**
K38A IAmb IAmb 14 42 50.9
comp=Z,17nm,0.9s
G62A West of Eustis 75.44 1 P **P** **14 42 50.8 +1.1**
G62A IAmb IAmb 14 43 08.3
comp=Z,21nm,1.0s
S22A 4UR Ranch, Cre 75.48 332 P **P** **14 42 52.4 +2.0**
baz=149,SNR=8.3
MOQ Mont Orford 75.53 360 P **P** **14 42 50.5 +0.3**
WUAZ Wupatki 75.58 327 P **P** **14 42 51.5 +0.6**
WUAZ IAmb IAmb 14 42 54.0
comp=Z,15nm,1.0s
WUAZ Wupatki 75.58 327 P **P** **14 42 53.3 +2.4**
baz=146,SNR=7.8
MVCO Mesa Verde 75.72 330 P **P** **14 42 52.8 +1.2**
MVCO IAmb IAmb 14 42 54.5
comp=Z,17nm,1.0s
MVCO Mesa Verde 75.72 330 P **P** **14 42 53.6 +1.9**
baz=148,SNR=11
I42A Draeger Farm, 75.76 347 P **P** **14 42 51.0 -0.5**
Q24A Divide 75.87 334 P **P** **14 42 54.6 +2.0**
baz=151,SNR=16
BC3 Big Chuckawall 76.08 324 P **P** **14 42 55.6 +2.0**
baz=142,SNR=9.8
I40A Norwalk 76.10 346 P **P** **14 42 53.0 -0.4**
I40A IAmb IAmb 14 42 54.2
comp=Z,20nm,1.2s
F64A Sherman 76.14 2 P **P** **14 42 54.3 +0.8**
GBN Guysborough 76.19 7 P **P** **14 42 54.7 +0.9**
SUR Sutherland 76.27 120 P **P** **14 42 55.7 +0.5**
IRM Iron Mountain 76.31 324 P **P** **14 42 57.1 +2.2**
baz=142,SNR=6.3
LMN Caledonia Moun 76.33 5 P **P** **14 42 55.5 +0.8**
MAW Mawson 76.38 164 P **P** **14 42 55.4 +0.5**
comp=Z,44nm,0.8s,baz=210,slow=6.5,SNR=84
MAW LR LR 15 15 23.3
comp=Z,258nm,21.7s,baz=236,slow=35
MAW Mawson 76.38 164 P **P** **14 42 55.3 +0.5**
W13A Hualapai Mount 76.44 326 P **P** **14 42 56.1 +0.3**
TPFO Pinon Flats 76.55 323 P **P** **14 42 58.3 +1.9**
baz=142,SNR=6.9
PFO Pinyon Flats O 76.56 323 P **P** **14 42 58.7 +2.3**
baz=142,SNR=7.6
BELC Belle Mtn. Jos 76.63 323 P **P** **14 42 58.9 +2.1**
baz=142
PV13 Radium Mtn., P 76.65 331 P **P** **14 42 57.7 +0.7**
PV13 IAmb IAmb 14 42 59.6
comp=Z,15nm,0.9s
PV02 Paradox Valley 76.66 331 P **P** **14 42 56.5 -0.5**
PV05 Paradox Valley 76.70 331 P **P** **14 42 56.9 -0.3**
PV05 IAmb IAmb 14 42 59.8
comp=Z,15nm,0.9s
PV18 Skein Mesa, Pa 76.76 331 P **P** **14 42 58.0 +0.4**
ISCO Idaho Springs 76.77 334 P **P** **14 42 58.5 +0.8**
ISCO Idaho Springs 76.77 334 P **P** **14 42 59.5 +1.8**
baz=150,SNR=12
PV12 Saucer Basin, 76.78 331 P **P** **14 42 58.5 +0.8**
PV17 East Wray Mesa 76.81 331 P **P** **14 42 58.2 +0.4**
I37A Lemond, Waseca 76.83 344 P **P** **14 42 57.4 -0.2**
I37A IAmb IAmb 14 42 59.0
comp=Z,22nm,0.8s
PV20 West Nyswonger 76.87 331 P **P** **14 42 57.1 -1.0**
MURC Murrieta 76.94 322 P **P** **14 43 00.8 +2.3**
baz=141
K31A O'Neill 76.97 340 P **P** **14 42 58.9 +0.5**
PV21 Cone Mtn., Par 77.06 331 P **P** **14 42 59.1 -0.2**
D62A Allapoint, All 77.34 2 P **P** **14 43 00.5 +0.2**
ECSD EROS Data Cent 77.38 342 P **P** **14 43 00.7 0.0**
ECSD EROS Data Cent 77.38 342 P **P** **14 43 01.3 +0.7**
baz=158
E46A Sault Ste Mari 77.43 351 P **P** **14 43 00.1 -0.7**
E46A IAmb IAmb 14 43 10.8
comp=Z,22nm,1.1s

HEC Hector,Ludlow 77.45 324 P **P** **14 43 03.8 +2.4**
baz=142,SNR=9.9
KNB Kanab 77.48 327 P **P** **14 43 02.8 +1.2**
KNB IAmb IAmb 14 43 04.8
comp=Z,18nm,1.0s
BATG Bathurst New B 77.66 4 P **P** **14 43 02.9 +0.8**
BATG IAmb IAmb 14 43 04.6
comp=Z,23nm,0.9s
BFSC Mount Baldy Ra 77.67 322 P **P** **14 43 04.7 +2.0**
baz=141
TUQ Turquoise Moun 77.72 324 P **P** **14 43 04.9 +2.0**
baz=142,SNR=20
E43A Lone Tree Farm 77.83 349 P **P** **14 43 03.1 0.0**
E43A IAmb IAmb 14 43 16.2
comp=Z,24nm,1.1s
SPMN Marine on St. 77.84 345 P **P** **14 43 03.7 +0.6**
baz=162
N23A Red Feather La 77.85 334 P **P** **14 43 05.7 +2.1**
baz=150,SNR=6.8
O20A White River Ci 78.09 332 P **P** **14 43 05.2 +0.3**
O20A IAmb IAmb 14 43 17.3
comp=Z,31nm,1.2s
O20A White River Ci 78.09 332 P **P** **14 43 06.9 +2.0**
baz=148,SNR=13
CCUT Cedar City 78.16 327 P **P** **14 43 06.7 +1.3**
CCUT IAmb IAmb 14 43 08.9
comp=Z,14nm,0.9s
SRU San Rafael Swe 78.17 330 P **P** **14 43 05.1 -0.3**
SRU IAmb IAmb 14 43 07.7
comp=Z,13nm,0.8s
SHOC Shoshone, Teco 78.26 324 P **P** **14 43 07.7 +1.9**
baz=142
Q16A Castle Valley 78.30 330 P **P** **14 43 07.5 +1.4**
Q16A IAmb IAmb 14 43 20.1
comp=Z,15nm,0.9s
EDW2 Edwards Air Fo 78.35 323 P **P** **14 43 08.1 +1.8**
baz=141,SNR=11
MSU Marysvale 78.41 329 P **P** **14 43 06.5 -0.3**
MVU Marysvale 78.41 329 P **P** **14 43 06.6 -0.2**
P17A Butcher Ranch, 78.57 330 P **P** **14 43 07.8 +0.3**
P17A IAmb IAmb 14 43 10.5
comp=Z,13nm,0.9s
F36A Milaca 78.61 345 P **P** **14 43 06.4 -1.0**
F36A IAmb IAmb 14 43 08.9
comp=Z,18nm,0.8s
LRMC Laurel Mtn Rad 78.64 323 P **P** **14 43 10.1 +2.1**
baz=141,SNR=7.4
GWY Greenwater Val 78.68 324 P **P** **14 43 08.3 +0.1**
D41A Chassel 78.76 348 P **P** **14 43 08.6 +0.4**
PRN Pahroc Range 78.85 326 P **P** **14 43 10.1 +1.0**
PRN IAmb IAmb 14 43 12.9
comp=Z,19nm,0.9s
KOWA Kowa 78.99 66 P **P** **14 43 10.1 -0.1**
MPMC Manual Prospec 78.99 324 P **P** **14 43 11.6 +1.5**
baz=141,SNR=8.7
FURC Furnace Creek, 79.00 324 P **P** **14 43 12.1 +2.4**
baz=142
RDMU Red Mountain 79.00 332 P **P** **14 43 10.5 +0.6**
RDMU IAmb IAmb 14 43 12.3
comp=Z,18nm,0.8s
RWWY Rawlins 79.01 334 P **P** **14 43 10.4 +0.3**
RWWY IAmb IAmb 14 43 12.6
comp=Z,20nm,0.9s
TPNV Topopah Spring 79.07 325 P **P** **14 43 10.9 +0.5**
TPNV Topopah Spring 79.07 325 P **P** **14 43 12.4 +2.1**
baz=142,SNR=18
PSUT Pine Spring 79.19 328 P **P** **14 43 12.0 +1.0**
ISA Isabella, Lake 79.20 323 P **P** **14 43 12.0 +1.0**
ISA Isabella, Lake 79.20 323 P **P** **14 43 13.1 +2.1**
baz=140,SNR=15
F33A 5 Mile Ranch, 79.26 343 P **P** **14 43 11.1 +0.2**
F33A IAmb IAmb 14 43 12.4
comp=Z,16nm,1.1s
PKM Mcpherson Peak 79.32 321 P **P** **14 43 14.1 +2.3**
baz=139,SNR=7.3
MPU Maple Canyon 79.40 330 P **P** **14 43 12.7 +0.6**
MPU IAmb IAmb 14 43 14.7
comp=Z,12nm,0.9s
NLU North Lily Min 79.55 330 P **P** **14 43 13.0 0.0**
K22A Casper 79.58 335 P **P** **14 43 13.7 +0.6**
K22A IAmb IAmb 14 43 15.7
comp=Z,21nm,0.9s
K22A Casper 79.58 335 P **P** **14 43 14.9 +1.9**
baz=150
CWC Cottonwood Cre 79.59 324 P **P** **14 43 15.0 +1.8**
baz=141
VES Vestal, Richgr 79.65 323 P **P** **14 43 15.5 +2.2**
baz=140,SNR=5.4
GRAC Grapevine Rang 79.66 324 P **P** **14 43 15.7 +2.3**
baz=141,SNR=8.1
SMMC Simmler 79.73 322 P **P** **14 43 16.4 +2.5**
baz=139,SNR=6.7
SPR3 Spring Creek 3 79.78 328 P **P** **14 43 14.5 +0.1**
SPR3 IAmb IAmb 14 43 26.4
comp=Z,18nm,1.3s
JLU Jordanelle 79.81 330 P **P** **14 43 14.8 +0.4**
JLU IAmb IAmb 14 43 16.8
comp=Z,12nm,0.8s
R11A Troy Canyon, C 79.85 326 P **P** **14 43 15.4 +0.7**
R11A Troy Canyon, C 79.85 326 P **P** **14 43 16.6 +2.0**
baz=143,SNR=18
TSUM Tsumeb 79.91 106 P **P** **14 43 15.5 +0.1**
LCH Last Change Ra 79.98 324 P **P** **14 43 16.0 +0.7**
RSSD Black Hills 79.99 337 P **P** **14 43 15.4 +0.1**
RSSD Black Hills 79.99 337 P **P** **14 43 16.7 +1.4**
baz=152
CTU Camp Tracy 80.01 330 P **P** **14 43 16.1 +0.7**
DUG Dugway, Tooele 80.06 329 P **P** **14 43 16.2 +0.5**
DUG Dugway, Tooele 80.06 329 P **P** **14 43 17.5 +1.8**
baz=145,SNR=12
EYMN Ely 80.16 347 P **P** **14 43 16.1 +0.3**
EYMN IAmb IAmb 14 43 42.1
comp=Z,18nm,1.2s
EYMN Ely 80.16 347 P **P** **14 43 16.1 +0.3**
baz=163
PAGB Antelope Grade 80.19 322 P **P** **14 43 16.8 +0.5**
PAGB IAmb IAmb 14 43 20.8
comp=Z,12nm,0.9s
TPH Tonopah 80.43 325 P **P** **14 43 18.4 +0.6**
HWUT Hardware Ranch 80.69 331 P **P** **14 43 19.5 +0.4**
HWUT IAmb IAmb 14 43 21.0
comp=Z,22nm,0.8s
SPUT South Promonto 80.82 330 P **P** **14 43 20.5 +0.7**
SPUT IAmb IAmb 14 43 21.9
comp=Z,16nm,0.9s
BW06 Boulder Array 80.84 333 P **P** **14 43 20.1 +0.2**
BW06 Boulder Array 80.84 333 P **P** **14 43 20.8 +0.9**
baz=148,SNR=5.7
PD31 Pinedale Array 80.84 333 P **P** **14 43 20.2 +0.3**
PDAR Pinedale Array 80.84 333 P **P** **14 43 21.1 +1.2**
comp=Z,1.7nm,0.6s,baz=143,slow=5.2,SNR=11
PDAR LR LR 15 15 59.6
comp=Z,112nm,20.1s,baz=148,slow=33
PDAR Pinedale Array 80.84 333 P **P** **14 43 20.0 +0.1**
MLAC Mammoth, Mammo 80.89 324 P **P** **14 43 22.6 +2.3**
baz=140
B35A Bob, Littlefor 81.02 345 P **P** **14 43 20.1 -0.2**
B35A IAmb IAmb 14 43 21.6
comp=Z,19nm,0.8s
MDPB Devils Postpil 81.02 324 P **P** **14 43 21.4 +0.4**
E28A Huff 81.14 340 P **P** **14 43 21.2 +0.1**
E28A IAmb IAmb 14 43 23.1
comp=Z,24nm,0.8s
LHV Little Huntoon 81.20 325 P **P** **14 43 21.3 -0.3**
NVAR Mina Array Bea 81.24 325 P **P** **14 43 23.6 +1.4**
comp=Z,5.5nm,0.8s,baz=158,slow=5.8,SNR=34
HVU Hansel Valley 81.34 330 P **P** **14 43 22.3 -0.2**
HVU IAmb IAmb 14 43 24.3
comp=Z,15nm,0.8s
BOSA Boshof 81.43 118 P **P** **14 43 23.0 -0.5**
comp=Z,17nm,0.9s,baz=241,slow=4.3,SNR=22
BOSA LR LR 15 15 01.5
comp=Z,209nm,20.2s,baz=194,slow=32
BOSA Boshof 81.43 118 P **P** **14 43 22.8 -0.7**
BOSA IAmb IAmb 14 43 37.3
comp=Z,17nm,0.8s
AGMN Agassiz Nation 81.44 344 P **P** **14 43 22.7 0.0**
AGMN IAmb IAmb 14 43 24.0
comp=Z,19nm,0.8s
AGMN Agassiz Nation 81.44 344 P **P** **14 43 23.2 +0.5**
baz=159,SNR=7.7
AHID Auburn Hatcher 81.46 332 P **P** **14 43 23.3 +0.1**
RYN Ryan 81.50 325 P **P** **14 43 23.9 +0.5**
ELK Elko 81.60 328 P **P** **14 43 24.4 +0.4**
KVN Kaiserville 81.62 325 P **P** **14 43 24.5 +0.4**

REDW Red Top Meadow 81.86 332 P **P** **14 43 25.4 +0.1**
LOHW Long Hollow 81.97 333 P **P** **14 43 25.5 -0.3**
MDND Maddock 81.99 341 P **P** **14 43 25.7 +0.2**
MDND Maddock 81.99 341 P **P** **14 43 26.6 +1.0**
baz=156
CMB Columbia Colle 81.99 323 P **P** **14 43 26.4 +0.5**
TPAW Teton Pass 82.00 332 P **P** **14 43 25.9 -0.2**
IMW Indian Meadow 82.34 333 P **P** **14 43 27.7 -0.2**
FLWY Flagg Ranch 82.40 333 P **P** **14 43 28.1 0.0**
EMB Emerald Bay 82.56 324 P **P** **14 43 28.8 -0.3**
VCNR Virginia City 82.58 324 P **P** **14 43 29.7 +0.6**
RLMT Red Lodge 82.72 334 P **P** **14 43 29.7 -0.1**
RLMT Red Lodge 82.72 334 P **P** **14 43 30.8 +1.1**
baz=148,SNR=7.7
PAHR Pah Rah Range 82.76 325 P **P** **14 43 29.9 -0.1**
PAHR IAmb IAmb 14 43 32.8
comp=Z,16nm,0.9s
TORD Torodi Ar. Bea 82.80 70 P **P** **14 43 30.3 -0.3**
comp=Z,16nm,0.9s,baz=253,slow=4.1,SNR=44
TORD LR LR 15 18 29.9
comp=Z,451nm,19.1s,baz=235,slow=34
TORD Torodi Ar. Bea 82.80 70 P **P** **14 43 29.9 -0.7**
YNE Yellowstone No 82.91 334 P **P** **14 43 30.8 +0.1**
LAO LASA Array 82.98 337 P **P** **14 43 31.1 +0.3**
LAO IAmb IAmb 14 43 47.3
comp=Z,15nm,1.0s
YHH Holmes Hill 83.05 333 P **P** **14 43 32.0 +0.4**
YHB Horse Butte 83.15 333 P **P** **14 43 32.0 0.0**
YHL Hebgen Lake 83.23 333 P **P** **14 43 32.6 +0.1**
ULM Lac du Bonnet 83.27 345 P **P** **14 43 32.5 +0.3**
comp=Z,18nm,0.8s,baz=141,slow=4.7,SNR=14
ULM Lac du Bonnet 83.27 345 P **P** **14 43 31.4 -0.8**
BEKR Beckworth 83.37 324 P **P** **14 43 33.7 +0.5**
BEKR IAmb IAmb 14 43 45.4
comp=Z,12nm,1.0s
CASY Casey 83.44 181 P **P** **14 43 33.2 +0.1**
GCMT Greycliff 83.44 334 P **P** **14 43 33.3 -0.1**
HLID Hailey 83.50 330 P **P** **14 43 33.9 +0.1**
HLID IAmb IAmb 14 43 36.3
comp=Z,10.0nm,0.9s
HLID Hailey 83.50 330 P **P** **14 43 35.3 +1.6**
baz=144,SNR=25
LBTB Lobatse 83.51 115 P **P** **14 43 33.5 -0.8**
ORV Oroville 83.71 324 P **P** **14 43 34.7 0.0**
ORV IAmb IAmb 14 43 37.5
comp=Z,13nm,1.0s
MCMT McKenzie Canyo 83.88 332 P **P** **14 43 35.7 0.0**
DGMT Dagmar 83.89 339 P **P** **14 43 35.8 +0.4**
DGMT Dagmar 83.89 339 P **P** **14 43 36.9 +1.5**
baz=152,SNR=13
MFID Camas Ranch 83.99 329 P **P** **14 43 36.2 0.0**
BOZ Bozeman (W) 84.03 333 P **P** **14 43 36.5 +0.1**
DLMT Dillon 84.21 332 P **P** **14 43 37.6 +0.3**
O03E Paynes Creek 84.42 324 P **P** **14 43 38.5 +0.1**
baz=138
WVOR Wild Horse Val 84.50 327 P **P** **14 43 38.9 +0.1**
LRM Limekiln Ridge 84.53 333 P **P** **14 43 39.4 +0.3**
WDC Whiskeytown Da 85.01 324 P **P** **14 43 41.0 -0.2**
HRY Holter Researc 85.03 334 P **P** **14 43 41.5 +0.1**
J08A Circle Bar Ran 85.14 328 P **P** **14 43 42.7 +0.7**
SCHQ Schefferville 85.16 3 P **P** **14 43 41.5 -0.2**
comp=Z,7.3nm,0.8s,baz=49,slow=10,SNR=3.6
SCHQ LR LR 15 21 15.6
comp=Z,35nm,21.7s,baz=124,slow=35
SCHQ Schefferville 85.16 3 P **P** **14 43 41.3 -0.4**
PLID Pearl Lake 85.40 330 P **P** **14 43 43.7 +0.2**
PLID IAmb IAmb 14 43 45.3
comp=Z,12nm,0.8s
M04C Macdoel 85.55 325 P **P** **14 43 45.5 +1.4**
baz=138
BMO Blue Mountains 85.78 329 P **P** **14 43 45.3 +0.2**
K05A Summer Lake 85.79 326 P **P** **14 43 45.5 +0.1**
K05A IAmb IAmb 14 43 48.1
comp=Z,14nm,0.9s
YBH Yreka Blue Hor 85.94 324 P **P** **14 43 45.5 -0.5**
MSO Missoula 85.95 332 P **P** **14 43 47.3 +1.3**
baz=144
L04D Klamath Falls 86.10 325 P **P** **14 43 47.7 +0.8**
baz=138
I07A Izee 86.17 328 P **P** **14 43 47.7 +0.6**
I07A IAmb IAmb 14 43 49.6
comp=Z,8.3nm,0.9s
J05D Fort Rock, OR 86.38 326 P **P** **14 43 49.8 +1.6**
baz=139
PINE Pine Mountain 86.62 327 P **P** **14 43 50.4 +1.0**
PINE IAmb IAmb 14 43 52.1
comp=Z,14nm,0.8s
J04D Umpqua Nationa 86.77 326 P **P** **14 43 51.5 +1.3**
baz=138
JTMT Jette 86.83 333 P **P** **14 43 50.7 +0.4**
JTMT IAmb IAmb 14 43 52.0
comp=Z,7.2nm,0.8s
K02D Willamette Mer 87.13 324 P **P** **14 43 53.6 +1.8**
baz=137
I05D Terrebonne, OR 87.22 327 P **P** **14 43 53.9 +1.7**
baz=139
DBO Dodson Butte 87.23 325 P **P** **14 43 53.3 +1.0**
DBO IAmb IAmb 14 43 54.9
comp=Z,9.4nm,1.1s
I04A Tendick Farm, 87.33 326 P **P** **14 43 53.4 +0.7**
baz=138
WALA Waterton Lakes 87.76 334 P **P** **14 43 55.0 +0.3**
WALA IAmb IAmb 14 43 56.4
comp=Z,12nm,0.9s
H04A Detroit Lake 87.88 327 P **P** **14 43 55.7 +0.3**
H04A IAmb IAmb 14 43 56.9
comp=Z,11nm,0.9s
G05D Wamic, OR 87.89 327 P **P** **14 43 56.8 +1.4**
baz=139
BUCK Buck Mountain 87.91 326 P **P** **14 43 56.1 +0.6**
BUCK IAmb IAmb 14 43 57.6
comp=Z,13nm,0.9s
HAWA Hanford 87.96 329 P **P** **14 43 56.0 +0.4**
HAWA IAmb IAmb 14 43 57.8
comp=Z,9.5nm,1.1s
H04D Lebanon 88.03 326 P **P** **14 43 57.3 +1.4**
baz=138
FFC Flin Flon 88.86 343 P **P** **14 43 59.1 -0.5**
FFC IAmb IAmb 14 44 00.6
comp=Z,12nm,1.1s
F04A Amboy 88.92 327 P **P** **14 43 58.9 -1.3**
F04A IAmb IAmb 14 44 01.8
comp=Z,8.3nm,0.8s
EDM Edmonton 90.96 336 P **P** **14 44 08.7 -0.8**
EDM IAmb IAmb 14 44 11.2
comp=Z,12nm,1.0s
ESDC Sonseca Array 94.01 46 P **P** **14 44 23.8 -0.3**
comp=Z,1.3nm,0.9s,baz=250,slow=3.6,SNR=9.0
ESDC LR LR 15 27 15.6
comp=Z,205nm,18.0s,baz=250,slow=36
ESDC Sonseca Array 94.01 46 P **P** **14 44 23.2 -0.8**
TOLK Toolik Lake Re 113.86 337 P **PKiKP** **14 49 44.7 +0.8**
baz=113
AKASG Malin Array Be 119.66 46 PKP **PKPdf** **14 49 54.3 -1.2**
comp=Z,3.0nm,0.7s,baz=269,slow=2.7,SNR=7.0
BRTR Keskin Array B 119.90 59 PKP **PKPdf** **14 49 55.6 -0.9**
comp=Z,1.1nm,0.8s,baz=191,slow=4.4,SNR=6.7
ASAR Alice Springs 120.72 207 PKP **PKPdf** **14 49 57.3 -1.3**
comp=Z,1.9nm,0.7s,baz=128,slow=1.6,SNR=24
ASAR PKKPbc **PKKPbc** **15 00 02.9 +0.2**
comp=Z,1.0nm,0.8s,baz=343,slow=4.0,SNR=8.6
WRA Warramunga Arr 123.86 210 PKP **PKPdf** **14 50 03.6 -1.0**
comp=Z,4.8nm,0.7s,baz=164,slow=1.9,SNR=39
WRA PKKPbc **PKKPbc** **14 59 50.1 -0.4**
comp=Z,1.1nm,0.8s,baz=347,slow=3.9,SNR=7.5
WRA Warramunga Arr 123.86 210 PKPdf **PKPdf** **14 50 03.4 -1.2**
H11S2 WAKE ISLAND Hyl 126.02 271 T T 17 08 53.2
baz=115,slow=74,SNR=166
H11S1 WAKE ISLAND Hyl 126.03 271 T T 17 08 54.1
baz=115,slow=74,SNR=90
H11S3 WAKE ISLAND Hyl 126.03 271 T T 17 08 54.1
baz=115,slow=74,SNR=135
KLMR Klimovskoe 126.47 35 *e*PKPdf **PKPdf** **14 50 07.5 -0.7**
KLMR AMP 14 50 18.9
comp=Z,25nm,1.1s
BELG Belogornoye 131.23 45 PKP **PKiKP** **14 50 18.4 -0.1**
comp=Z,11nm,0.7s,baz=73,slow=3.0,SNR=5.4
ARU Arti 136.94 38 PKP **PKPdf** **14 50 28.9 +0.8**
comp=Z,2.9nm,0.9s,baz=235,slow=2.4,SNR=9.9
TIXI Tiksi 137.38 351 PKP **PKPdf** **14 50 29.3 +0.8**
comp=Z,6.2nm,0.8s,baz=1.5,slow=3.5,SNR=5.0
TIXI Tiksi 137.38 351 **PKPdf** **14 50 28.7 +0.2**
AKTO Aktyubinsk 137.88 47 PKP **PKPdf** **14 50 30.2 +0.1**
comp=Z,3.7nm,0.9s,baz=214,slow=1.0,SNR=9.2
BVAR Borovoye Array 144.54 40 PKP **PKPdf** **14 50 41.5 -0.5**

comp=Z,16nm,0.7s,baz=227,slow=5.9,SNR=62
YAK Yakutsk 145.58 342 PKPbc **PKPab 14 50 44.1 +0.1**
comp=Z,60nm,0.9s,baz=3.7,slow=0.4,SNR=50
YAK Yakutsk 145.58 342 PKPdf **PKPdf 14 50 43.2 -0.2**
HYB Hyderabad 149.96 109 *i* PKP **PKPbc 14 50 56.0 -1.0**
EKS2 Erkin-Say 150.01 57 P **PKiKP 14 50 57.3 -0.1**
SNR=24
AML Almayashu 150.05 58 P **PKiKP 14 50 57.5 -0.4**
SNR=6.2
KURBB Kurchatov Arra 150.13 39 PKPbc **PKPbc 14 50 56.5 +0.2**
comp=Z,21nm,0.8s,baz=304,slow=3.2,SNR=43
KURK Kurchatov 150.13 39 PKPbc 14 50 56.5 +0.2
USP Ospenovka 150.38 55 P **PKPbc 14 50 57.5 +0.2**
SNR=19
AAK Ala-Archa 150.53 56 PKPbc **PKiKP 14 50 58.6 +0.1**
comp=Z,26nm,0.9s,baz=214,slow=2.9,SNR=61
AAK Ala-Archa 150.53 56 P **PKiKP 14 50 58.7 +0.1**
SNR=24
AAK Ala-Archa 150.53 56 PKPbc 14 50 58.0 +0.1
CHMS Chumysh 150.63 56 P **PKiKP 14 50 58.7 +0.1**
SNR=10
UCH Uchtor 150.63 57 P **PKiKP 14 50 59.3 +0.2**
SNR=27
KBK Karagaybulak 150.85 56 P **PKiKP 14 50 59.7 +0.5**
SNR=7.0
ZALV Zalesovo Beam 151.16 29 PKPbc **PKiKP 14 50 59.0 -0.3**
comp=Z,100nm,0.8s,baz=304,slow=2.7,SNR=18
ZALV PKPab **sPKPbc 14 51 08.3 0.0**
comp=Z,94nm,0.8s,baz=298,slow=3.2,SNR=22
ZALV Zalesovo Beam 151.16 29 PKPbc 14 50 58.5 -0.1
KZA Kyzart 151.20 57 P **PKiKP 14 51 01.0 +0.7**
SNR=5.5
TKM2 Tokmak 2 151.25 56 P **PKiKP 14 50 59.8 -0.3**
SNR=18
ULHL Ulahol 151.88 57 P **PKiKP 14 51 02.0 +0.6**
SNR=6.8
KSH Kashi 152.21 62 P **PKiKP 14 51 02.1 0.0**
KSH Kashi 152.21 62 PKPbc **PKPdf 14 50 53.3 -1.8**
MKAR Makanchi Array 154.22 44 PKP **PKPdf 14 50 57.4 -0.2**
comp=Z,1.4nm,0.9s,baz=246,slow=1.2,SNR=8.4
MKAR PKPbc **PKPbc 14 51 05.7 -0.1**
comp=Z,7.3nm,0.8s,baz=318,slow=2.2,SNR=34
MKAR Makanchi Array 154.22 44 PKPdf **PKPdf 14 50 56.6 -1.0**
KLR Kul'dur 154.26 323 PKP **PKPdf 14 50 56.9 -0.6**
comp=Z,2.0nm,0.6s,baz=333,slow=3.5,SNR=8.0
MJAR Matsushiro Arr 154.41 291 PKP **PKPdf 14 50 57.4 -0.8**
comp=Z,2.2nm,0.9s,baz=105,slow=2.9,SNR=6.9
MJAR PKPbc **sPKPdf 14 51 06.4 +1.0**
comp=Z,3.0nm,1.0s,baz=228,slow=1.1,SNR=7.3
MJAR PKPab **PKPab 14 51 21.4 +0.5**
comp=Z,5.5nm,0.8s,baz=108,slow=1.3,SNR=12
MJAR Matsushiro Arr 154.41 291 PKPab 14 51 20.8 -0.1
MAT Matsushiro 154.42 291 PKP **PKPdf 14 50 56.9 -1.3**
WMQ Urumqi 159.01 45 *e*PKP **PKPdf 14 51 03.6 -0.3**
CN2 Changchun 161.04 319 *e*PKP **PKPdf 14 51 06.6 +0.5**
CN2 LR LR
comp=Z,100nm,17.0s
CN2 LR LR
comp=Z,100nm,17.0s
CN2 LR LR
comp=Z,100nm,18.0s
KSRS Korea Array 162.34 298 PKP **PKPdf 14 51 07.7 +0.1**
comp=Z,0.8nm,0.7s,baz=89,slow=0.8,SNR=6.3
KSRS PKPab **PKPab 14 51 56.0 +0.9**
comp=Z,1.4nm,1.0s,baz=105,slow=3.7,SNR=4.5
SONM Songino Array 162.71 4 PKP **PKPdf 14 51 07.6 -0.3**
comp=Z,0.9nm,0.8s,baz=164,slow=1.1,SNR=4.7
SONM PKPab **PKPab 14 51 57.0 +0.6**
comp=Z,7.0nm,0.9s,baz=335,slow=3.9,SNR=16
SONM Songino Array 162.71 4 PKPab 14 51 56.8 +0.4
CMAR Chiang Mai Arr 165.26 143 PKP **PKPdf 14 51 11.1 +0.1**
comp=Z,0.8nm,0.9s,baz=239,slow=3.1,SNR=7.2
CMAR PKPab **PKPab 14 52 07.5 -0.7**
comp=Z,4.6nm,0.9s,baz=232,slow=5.8,SNR=20
CMAR PP **PP 14 55 56.6 +2.4**
comp=Z,0.4nm,0.5s,baz=213,slow=4.3,SNR=3.2
CMAR Chiang Mai Arr 165.26 143 PKPdf 14 51 09.8 -1.1
GTA Gaotai 168.79 36 ⇑PKP **PKPdf 14 51 13.0 -0.1**
GTA PKPab **PKPab 14 52 23.8 +0.2**
GTA AMB AMB
comp=Z,91nm,5.6s
GTA LR LR
comp=Z,110nm,22.9s
GTA LR LR
comp=Z,150nm,21.8s
GTA LR LR
comp=Z,160nm,20.7s
HHC Hu-ho-hao-te 169.41 346 *e*PKP **PKPdf 14 51 11.4 -2.0**
NJ2 Nanjing 170.83 282 *e*PKP **PKPdf 14 51 14.8 +0.5**
CD2 Chengdu 176.10 84 PKP **PKPdf 14 51 15.8 -0.6**
XAN Xi'an 176.50 351 P PKPdf 14 51 26.0 +10
XAN pmax pmax
comp=Z,7.0nm,1.0s

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*BGR **20** 14:32:45.8±0.6,43.°90N×10.°95E,h10km,ML3.6/7 Error ellipse: s-maj=11.1km s-min=10.0km az=17.0*
*PRU **20** 14:32:46.3±0.0,44.°24N×11.°10E,h0km*
*LDG **20** 14:32:47.6±0.1,44.°12N×10.°92E,h8km,Ml3.3/30,Error ellipse: s-maj=3.3km s-min=2.6km az=11.0*
*GEN **20** 14:32:47,44.°16N×10.°86E,h8km±21km,Ml3.1*
*ROM **20** 14:32:47.8±0.1,44.°165N±0.°007×10.°870E±0.°006, h14km±2km,ML3.2/50,Error ellipse: s-maj=0.8km s-min=0.2km az=2.0*
*STR **20** 14:32:56.7±4.2,45.°N±26.°×1.°1E±2.°7,h10km,mb3.9/1, MLv3.7/9,smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/haslach_taup-2.11*

ISC 20 14:32:47.5±0.8,44.19N±0.02×10.88E±0.02,h18km±2km, n200,σ2≤01/282,5C-2D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZCCA	**Zocca**	**0.17**	**24**	⇑P		**Pg**	**14 32 51.9**	**-0.3**
ZCCA				S		**Sb**	**14 32 56.4**	**+2.3**
ZCCA				AML	AML			
	comp=N,14700μm,1.6s							
ZCCA				AML	AML			
	comp=E,13450μm,0.5s							
MTCR	**Monte La Croce**	**0.19**	**152**	P		**Pg**	**14 32 51.7**	**-0.7**
MTCR				S		**Sg**	**14 32 55.1**	**-0.6**
MTCR				AML	AML			
	comp=N,11900μm,0.6s							
MTCR				AML	AML			
	comp=E,21100μm,0.7s							
BDI	**Bagni Di Lucca**	**0.24**	**237**	P		**Pg**	**14 32 53.0**	**-0.1**
BDI				S		**Sb**	**14 32 57.5**	**+0.7**
MPPT	**Montemurlo**	**0.28**	**146**	P		**Pg**	**14 32 53.1**	**-0.7**
MPPT				S		**Sg**	**14 32 57.6**	**-0.5**
MPPT				AML	AML			
	comp=E,4865μm,1.5s							
MPPT				AML	AML			
	comp=N,5540μm,0.4s							
MPPT				AML	AML			
	comp=E,4860μm,1.5s							
CARD	**Cardoso**	**0.33**	**240**	P		**Pg**	**14 32 54.3**	**-0.3**
CARD				S		**Sb**	**14 32 59.8**	**0.0**
CARD	**Cardoso**	**0.33**	**240**	P		**Pg**	**14 32 54.2**	**-0.3**
CARD				S		**Sb**	**14 32 59.8**	**0.0**
CARD				AML	AML			
	comp=E,4215μm,0.5s							
CARD				AML	AML			
	comp=N,3670μm,0.8s							
CARD				AML	AML			
	comp=E,4210μm,0.5s							
SARO	**Sassorosso**	**0.34**	**269**	P		**Pg**	**14 32 54.8**	**0.0**
SARO				S		**Sb**	**14 33 00.6**	**+0.4**
SARO	**Sassorosso**	**0.34**	**269**	P		**Pg**	**14 32 54.8**	**0.0**
SARO				S		**Sb**	**14 33 00.6**	**+0.4**
SARO				AML	AML			
	comp=N,5555μm,1.5s							
SARO				AML	AML			
	comp=E,4345μm,0.6s							
SEI	**Scarperia**	**0.37**	**111**	P		**Pg**	**14 32 55.1**	**-0.3**
SEI				S		**Sg**	**14 33 00.8**	**+0.1**
SEI				AML	AML			
	comp=E,14400μm,0.4s							
SEI				AML	AML			
	comp=N,16450μm,1.3s							
MAIM	**Mastiano**	**0.39**	**225**	P		**Pg**	**14 32 54.9**	**-0.8**
MAIM	**Mastiano**	**0.39**	**225**	P		**Pg**	**14 32 55.2**	**-0.4**
MAIM				S		**Sb**	**14 33 01.3**	**-0.3**
MAIM				AML	AML			
	comp=E,1215μm,0.9s							
MAIM				AML	AML			
	comp=N,1130μm,0.4s							
BRIS	**BRISIGHELLA**	**0.46**	**95**	P		**Pn**	**14 33 00.5**	**+1.3**
BRIS				S		**Sn**	**14 33 10.5**	**+3.6**
BRIS				AML	AML			
	comp=E,1058μm,0.4s							
BRIS				AML	AML			
	comp=N,2195μm,1.0s							
MTRZ	**Monterenzio**	**0.46**	**66**	P		**Pg**	**14 32 56.1**	**-0.8**
MTRZ				S		**Sg**	**14 33 03.7**	**+0.4**
MTRZ				AML	AML			
	comp=E,9875μm,1.0s							
MTRZ				AML	AML			
	comp=N,7080μm,0.4s							
MTRZ				AML	AML			
	comp=E,10155μm,1.0s							
MTRZ				AML	AML			
	comp=N,7075μm,0.4s							
MTRZ				AML	AML			
	comp=E,9905μm,1.0s							
MTRZ				AML	AML			
	comp=N,7425μm,0.4s							
EQUI	**Equi**	**0.52**	**267**	P		**Pg**	**14 32 58.1**	**+0.1**
EQUI				S		**Sg**	**14 33 04.6**	**-0.4**
EQUI	**Equi**	**0.52**	**267**	P		**Pg**	**14 32 57.7**	**-0.3**
EQUI				S		**Sg**	**14 33 05.0**	**0.0**
EQUI				AML	AML			
	comp=N,2065μm,0.8s							
EQUI				AML	AML			
	comp=E,1166μm,1.0s							
PII	**Pisa**	**0.53**	**208**	P		**Pg**	**14 32 57.7**	**-0.5**
PII				S		**Sb**	**14 33 05.2**	**-0.3**
PII				AML	AML			
	comp=N,2985μm,0.4s							
PII				AML	AML			
	comp=E,2450μm,1.3s							
FIVI	**Fivizzano**	**0.54**	**275**	P		**Pg**	**14 32 58.5**	**+0.2**
FIVI				S		**Sb**	**14 33 06.4**	**+0.6**
FIVI				AML	AML			
	comp=E,5000μm,1.1s							
FIVI				AML	AML			
	comp=N,8260μm,0.7s							
FIVI				AML	AML			
	comp=E,4995μm,1.1s							
RUFI	**Rufina**	**0.58**	**127**	P		**Pg**	**14 32 58.8**	**-0.2**
RUFI				S		**Sb**	**14 33 06.9**	**+0.1**
RUFI				AML	AML			
	comp=E,1535μm,1.1s							
RUFI				AML	AML			
	comp=N,2735μm,1.0s							
RUFI				AML	AML			
	comp=E,1530μm,1.1s							
RUFI				AML	AML			
	comp=N,2725μm,1.0s							
LMD	**Lutirano**	**0.61**	**100**	P		**Pg**	**14 32 59.1**	**-0.5**
LMD				AML	AML			
	comp=N,760μm,1.5s							
LMD				AML	AML			
	comp=E,722μm,1.6s							
FIU	**Minerbio Fiu**	**0.63**	**44**	AML	AML			
	comp=E,2450μm,0.8s							
FIU				AML	AML			
	comp=N,2920μm,0.6s							
GRAM	**Graiana**	**0.65**	**298**	P		**Pg**	**14 33 00.9**	**+0.4**
GRAM				S		**Sb**	**14 33 11.0**	**+1.9**
GRAM	**Graiana**	**0.65**	**298**	P		**Pg**	**14 33 00.8**	**+0.4**
GRAM				S		**Sb**	**14 33 11.0**	**+1.9**
GRAM				AML	AML			
	comp=N,3425μm,0.4s							
GRAM				AML	AML			
	comp=E,3430μm,0.3s							
CAVE	**Cavezzo**	**0.68**	**8**	AML	AML			
	comp=E,5860μm,1.0s							
CAVE				AML	AML			
	comp=N,5055μm,0.7s							
CAVE				AML	AML			
	comp=E,5865μm,1.0s							
CAVE				AML	AML			
	comp=N,5060μm,0.7s							
OSSC	**Osservatorio P**	**0.72**	**158**	P		**Pb**	**14 33 01.7**	**+0.3**
OSSC				AML	AML			
	comp=E,1365μm,1.1s							
OSSC				AML	AML			
	comp=N,1625μm,0.8s							
OSSC				AML	AML			
	comp=E,1650μm,1.1s							
OSSC				AML	AML			
	comp=N,1400μm,1.1s							
OSSC				AML	AML			
	comp=N,1625μm,0.8s							
OSSC				AML	AML			
	comp=E,1365μm,1.1s							
SFI	**Santa Sofia**	**0.76**	**112**	P		**Pg**	**14 33 02.0**	**-0.3**
SFI				AML	AML			
	comp=E,1065μm,0.9s							
SFI				AML	AML			
	comp=N,1280μm,1.2s							
SFI				AML	AML			
	comp=E,1096μm,0.9s							
SFI				AML	AML			
	comp=N,1275μm,1.4s							
SFI				AML	AML			
	comp=E,1062μm,0.9s							
SFI				AML	AML			
	comp=N,1285μm,1.2s							
SFI				AML	AML			
	comp=E,1100μm,0.9s							
SFI				AML	AML			
	comp=N,1280μm,1.4s							
CSNT	**Castellina Chi**	**0.78**	**157**	P		**Pb**	**14 33 02.8**	**+0.3**
CSNT				S		**Sb**	**14 33 13.0**	**+0.3**
CSNT				AML	AML			
	comp=E,1225μm,1.4s							
CSNT				AML	AML			
	comp=N,1225μm,1.6s							
SERM	**Sermide**	**0.87**	**20**	P		**Pn**	**14 33 05.8**	**+1.0**
SERM				AML	AML			
	comp=N,1605μm,0.6s							
SERM				AML	AML			
	comp=E,2315μm,0.5s							
CRE	**Caprese Michel**	**0.96**	**126**	P		**Pb**	**14 33 05.2**	**-0.5**
CRE				AML	AML			
	comp=E,656μm,1.0s							
CRE				AML	AML			
	comp=N,810μm,1.1s							
CRE				AML	AML			
	comp=E,656μm,1.0s							
CRE				AML	AML			
	comp=N,811μm,1.1s							
PARC	**Parchiule**	**1.12**	**118**	P		**Pb**	**14 33 08.0**	**-0.4**
PARC				AML	AML			
	comp=E,493μm,0.6s							
PARC				AML	AML			
	comp=N,410μm,1.3s							
PARC				AML	AML			
	comp=N,410μm,1.3s							
CAFI	**Castiglion Fio**	**1.17**	**137**	P		**Pn**	**14 33 09.5**	**+0.6**
CAFI				AML	AML			
	comp=E,452μm,0.7s							
CAFI				AML	AML			
	comp=N,444μm,0.9s							
CAFI				AML	AML			
	comp=E,452μm,0.7s							
BOB	**Bobbio (Coli)**	**1.17**	**300**	AML	AML			
	comp=E,1530μm,1.2s							
BOB				AML	AML			
	comp=N,1215μm,0.6s							
BOB				AML	AML			
	comp=N,1070μm,0.6s							
BOB				AML	AML			
	comp=E,1595μm,0.8s							
BADI	**Badiali**	**1.20**	**124**	P		**Pn**	**14 33 10.0**	**+0.6**
BADI				AML	AML			
	comp=N,403μm,0.7s							
BADI				AML	AML			
	comp=E,528μm,0.8s							
BADI				AML	AML			
	comp=N,431μm,1.4s							
GORR	**Gorreto**	**1.21**	**291**	AML	AML			
	comp=E,2000μm,0.7s							
GORR				AML	AML			
	comp=N,1460μm,1.3s							
PE3	**Peglio**	**1.27**	**112**	P		**Pb**	**14 33 11.5**	**+0.6**
PE3				AML	AML			
	comp=E,1370μm,0.7s							
PE3				AML	AML			
	comp=N,1175μm,0.6s							
TEOL	**Teolo**	**1.30**	**26**	P		**Pn**	**14 33 10.3**	**-0.4**
TEOL				AML	AML			
	comp=E,2440μm,0.8s							
TEOL				AML	AML			
	comp=N,1640μm,1.1s							
ATMI	**Monte Miggiano**	**1.32**	**130**	P		**Pb**	**14 33 11.9**	**+0.2**
ATMI				AML	AML			
	comp=N,1095μm,0.7s							
ATMI				AML	AML			
	comp=E,877μm,0.5s							
ATPI	**Pietralunga -**	**1.33**	**123**	P		**Pb**	**14 33 12.2**	**+0.3**
ATPI				AML	AML			
	comp=N,402μm,1.3s							
ATPI				AML	AML			
	comp=E,392μm,1.6s							
CTL8	**Castelleone**	**1.34**	**324**	AML	AML			
	comp=N,760μm,0.4s							
CTL8				AML	AML			
	comp=E,1735μm,0.9s							
CTL8				AML	AML			
	comp=E,639μm,0.8s							
CTL8				AML	AML			
	comp=N,759μm,0.4s							
CTL8				AML	AML			
	comp=E,810μm,0.8s							
CTL8				AML	AML			
	comp=N,3000μm,0.5s							
CTL8				AML	AML			
	comp=E,1730μm,0.9s							
PIEI	**Pieia**	**1.37**	**118**	AML	AML			
	comp=E,277μm,1.4s							
PIEI				AML	AML			
	comp=N,266μm,1.3s							
CASP	**Castiglione de**	**1.40**	**180**	AML	AML			
	comp=E,241μm,0.7s							
CASP				AML	AML			
	comp=N,188μm,1.0s							
SALO	**Salr**	**1.45**	**350**	P		**Pb**	**14 33 14.8**	**+0.9**
SALO				AML	AML			
	comp=E,1490μm,0.5s							
SALO				AML	AML			
	comp=N,2165μm,1.1s							
SALO				AML	AML			
	comp=N,2170μm,1.1s							
SALO				AML	AML			
	comp=E,1535μm,0.5s							
ATTE	**AVT- Monte Tez**	**1.46**	**132**	AML	AML			
	comp=E,294μm,1.3s							
ATTE				AML	AML			
	comp=N,376μm,0.5s							
ROVR	**Rover Verones**	**1.46**	**5**	P		**Pn**	**14 33 12.7**	**-0.4**
MPAG	**Monte Paganucc**	**1.47**	**112**	P		**Pb**	**14 33 14.6**	**+0.3**
SACS	**San Casciano d**	**1.54**	**150**	P		**Pn**	**14 33 14.4**	**+0.3**
SACS				AML	AML			
	comp=N,220μm,0.8s							
SACS				AML	AML			
	comp=E,202μm,1.0s							
DOSS	**Dosso del Somm**	**1.70**	**7**	P		**Pn**	**14 33 16.0**	**-0.5**
DOSS				AML	AML			
	comp=N,1695μm,0.4s							
DOSS				AML	AML			
	comp=E,1650μm,0.4s							
DOSS				AML	AML			
	comp=E,1105μm,0.4s							
DOSS				AML	AML			
	comp=N,1070μm,0.4s							
CTI	**Castel Tesino**	**1.94**	**16**	AML	AML			
	comp=N,792μm,0.3s							
CTI				AML	AML			
	comp=E,684μm,0.3s							
PGF	**Pioggiola**	**2.14**	**220**	*e*Pn		**Pn**	**14 33 22.5**	**+0.2**
PGF	**Pioggiola**	**2.14**	**220**	*e*Pg		**Pg**	**14 33 28.1**	**-0.4**
PGF				*e*Sn		**Sn**	**14 33 46.2**	**-2.2**
	comp=E,28nm,0.4s							
PP3	**Marolino**	**2.14**	**111**	P		**Pb**	**14 33 26.7**	**+1.0**
PP3				AML	AML			
	comp=E,672μm,1.6s							
PP3				AML	AML			
	comp=N,754μm,1.1s							
PP3				AML	AML			
	comp=E,652μm,1.6s							
PP3				AML	AML			
	comp=N,765μm,1.1s							
BRJN	**Brijuni**	**2.18**	**70**	*e*Pn		**Pn**	**14 33 22.2**	**-0.6**
BRJN				Sn		**Sn**	**14 33 47.6**	**-1.6**
MGRO	**Montegrosso**	**2.21**	**267**	⇑P		**Pb**	**14 33 27.1**	**0.0**
MGRO				AML	AML			
	comp=E,212μm,0.5s							
MGRO				AML	AML			
	comp=N,258μm,0.6s							
VARE	**Varese**	**2.24**	**319**	AML	AML			
	comp=N,344μm,1.3s							
VARE				AML	AML			
	comp=E,350μm,1.0s							
SAOF	**Saorge**	**2.40**	**266**	⇓P		**Pb**	**14 33 29.6**	**-0.5**
SAOF				AML	AML			
	comp=N,187μm,0.8s							
SAOF				AML	AML			
	comp=E,266μm,1.0s							
STAL	**STALIGIAL**	**2.44**	**31**	AML	AML			
	comp=N,365μm,0.7s							
STAL				AML	AML			
	comp=E,379μm,0.3s							
STAL				AML	AML			
	comp=E,444μm,0.9s							
STAL				AML	AML			
	comp=N,274μm,0.3s							
SBF	**Sospel**	**2.50**	**264**	*e*Pn		**Pn**	**14 33 27.2**	**-0.1**
SBF	**Sospel**	**2.50**	**264**	*e*P		**Pn**	**14 33 29.3**	**+2.0**
SBF				*e*Sn		**Sn**	**14 33 55.9**	**-1.5**
	comp=N,137nm,0.5s							
MPRI	**Monte Prat**	**2.54**	**35**	P		**Pn**	**14 33 27.4**	**-0.4**
MPRI				AML	AML			
	comp=E,222μm,0.5s							
MPRI				AML	AML			
	comp=N,425μm,0.4s							
TRAV	**Traversella**	**2.59**	**302**	⇓P		**Pn**	**14 33 29.4**	**+0.9**
TRAV				AML	AML			
	comp=N,158μm,0.7s							
TRAV				AML	AML			
	comp=E,169μm,1.2s							
AQU	**L'Aquila**	**2.60**	**134**	*e*Pn		**Pb**	**14 33 33.5**	**-0.1**
SKDS	**Skadanscina**	**2.61**	**58**	*e*Pn		**Pn**	**14 33 27.7**	**-1.1**
GEPF	**Gemona**	**2.63**	**37**	P		**Pn**	**14 33 28.2**	**-0.8**
GEPF				AML	AML			
	comp=N,134μm,0.8s							
GEPF				AML	AML			
	comp=E,140μm,0.5s							
SABO	**M.te Sabotino**	**2.63**	**46**	⇑P		**Pn**	**14 33 28.7**	**-0.3**
SABO				AML	AML			
	comp=E,239μm,0.6s							
SABO				AML	AML			
	comp=N,251μm,0.9s							
BHB	**Bricherasio**	**2.66**	**285**	P		**Pn**	**14 33 32.3**	**+2.8**
BHB				AML	AML			
	comp=E,101μm,1.5s							
BHB				AML	AML			
	comp=N,98μm,1.6s							
CLUD	**Cludinico**	**2.67**	**31**	P		**Pn**	**14 33 28.9**	**-0.7**
CLUD				AML	AML			
	comp=E,120μm,0.6s							
CLUD				AML	AML			
	comp=N,130μm,1.3s							
ROBS	**Robic**	**2.77**	**41**	*i* Pn		**Pn**	**14 33 30.3**	**-0.7**
ROBS				*i* Sn		**Sn**	**14 34 03.3**	**-0.6**
ROBS				IAML			14 34 04.3	
	comp=Z,20nm,0.3s							
ABTA	**Abfaltersbach**	**2.80**	**24**	*e*Pn		**Pn**	**14 33 31.9**	**+0.5**
	comp=Z,11nm,0.3s,SNR=12							
ABTA				Sn		**Sn**	**14 34 07.0**	**+2.1**
	comp=Z,38nm,0.6s							
VIVA	**Pratoni del Vi**	**2.81**	**150**	P		**Pg**	**14 33 39.7**	**-1.7**
VCEL	**Villa Celiera**	**2.81**	**129**	P		**Pb**	**14 33 37.4**	**+0.2**
VCEL				AML	AML			
	comp=N,245μm,1.3s							
VCEL				AML	AML			
	comp=E,180μm,1.6s							
VOJS	**Vojsko**	**2.81**	**48**	*e*Pn		**Pn**	**14 33 30.9**	**-0.8**
FETA	**Feichten**	**2.83**	**358**	Pn		**Pn**	**14 33 33.9**	**+1.9**
	comp=E,13nm,0.4s,SNR=9.3							
RABC	**Rab**	**2.85**	**77**	*e*Pn		**Pn**	**14 33 32.4**	**+0.4**
RABC				Sn		**Sn**	**14 34 05.3**	**-0.6**
CADS	**Cadrg**	**2.87**	**44**	*e*Pn		**Pn**	**14 33 31.5**	**-0.8**
CADS				*i* Sn		**Sn**	**14 34 06.0**	**-0.4**
CADS				IAML			14 34 06.9	
	comp=Z,22nm,0.3s							
RISI	**Rein**	**2.88**	**17**	P		**Pn**	**14 33 33.9**	**+1.2**

RISI					AML	AML			
	comp=E,426µm,0.4s								
RISI					AML	AML			
	comp=N,606µm,0.4s								
NVLJ	**Novalja**	**2.89**	**81**	*e*Pn	**Pn**		**14 33 32.3**	**-0.3**	
NVLJ				Sn	**Sn**		**14 34 04.9**	**-1.8**	
CEY	**Cerknica**	**2.96**	**57**	*e*Pn	**Pn**		**14 33 32.2**	**-1.3**	
MBDF	**Montbardon**	**2.99**	**282**	*e*P	**Pn**		**14 33 36.6**	**+2.6**	
MBDF				*e*Sn	**Sn**		**14 34 07.6**	**-1.8**	
	comp=N,48nm,0.6s								
DUGI	**Dugi Otok**	**3.02**	**92**	*e*Pn	**Pn**		**14 33 34.3**	**-0.1**	
SQTA	**Sankt Quirin**	**3.04**	**4**	*e*Pn	**Pn**		**14 33 36.6**	**+1.9**	
	comp=N,23nm,0.3s,SNR=17								
SQTA				*e*Sn	**Sn**		**14 34 15.1**	**+4.4**	
	comp=N,118nm,0.5s								
PLONS	**Plons/SG**	**3.04**	**340**	*e*Pn	**Pn**		**14 33 38.0**	**+3.2**	
PLONS				*e*Sn	**Sn**		**14 34 13.9**	**+3.2**	
CRNS	**Crni Vrh**	**3.05**	**51**	*i* Pn	**Pn**		**14 33 34.3**	**-0.6**	
GORS	**Gorjuse**	**3.06**	**45**	*e*Pn	**Pn**		**14 33 34.4**	**-0.7**	
GORS				*i* Sn	**Sn**		**14 34 11.0**	**-0.2**	
WTTA	**Wattenberg**	**3.12**	**10**	*e*Pn	**Pn**		**14 33 38.2**	**+2.3**	
	comp=N,19nm,0.3s,SNR=12								
WTTA				*e*Sn	**Sn**		**14 34 16.7**	**+4.0**	
	comp=N,67nm,0.5s								
WTTA	**Wattenberg**	**3.12**	**10**	AML	AML				
	comp=E,256µm,0.8s								
WTTA				AML	AML				
	comp=N,206µm,1.1s								
WTTA	**Wattenberg**	**3.12**	**10**	*e*Pn	**Pn**		**14 33 38.4**	**+2.5**	
WTTA				*e*Sn	**Sn**		**14 34 16.7**	**+4.0**	
MYKA	**Terra Mystica**	**3.12**	**38**	*e*Pn	**Pn**		**14 33 35.5**	**-0.3**	
	comp=N,6.0nm,0.3s								
MYKA				*e*Sn	**Sn**		**14 34 13.1**	**+0.5**	
	comp=N,12nm,0.4s								
FRF	**La Foret Royal**	**3.12**	**260**	*e*Pn	**Pn**		**14 33 35.8**	**0.0**	
FRF	**La Foret Royal**	**3.12**	**260**	*e*P	**Pn**		**14 33 39.0**	**+3.2**	
FRF				*e*Sn	**Sn**		**14 34 10.4**	**-2.2**	
	comp=N,39nm,0.4s								
OGMO	**Fort Saint-Gob**	**3.16**	**290**	P	**Pb**		**14 33 41.4**	**-1.7**	
MOTA	**Moosalm**	**3.16**	**3**	*e*Pn	**Pn**		**14 33 38.7**	**+2.3**	
	comp=N,12nm,0.5s,SNR=12								
MOTA				*e*Sn	**Sn**		**14 34 17.2**	**+3.5**	
	comp=N,58nm,0.7s								
DAVA	**Damuels**	**3.17**	**348**	*i* Pn	**Pn**		**14 33 39.2**	**+2.6**	
	comp=N,8.4nm,0.4s,SNR=6.4								
DAVA				*e*Sn	**Sn**		**14 34 18.1**	**+4.1**	
	comp=N,35nm,0.6s								
DAVA	**Damuels**	**3.17**	**348**	*e*Pn	**Pn**		**14 33 39.8**	**+3.2**	
DAVA				*e*Sn	**Sn**		**14 34 16.5**	**+2.5**	
LJU	**Ljubljana**	**3.18**	**53**	*e*Pn	**Pn**		**14 33 36.4**	**-0.2**	
WATA	**Walderalm**	**3.18**	**9**	*i* Pn	**Pn**		**14 33 39.2**	**+2.5**	
	comp=N,31nm,0.5s,SNR=22								
WATA				*e*Sn	**Sn**		**14 34 18.8**	**+4.5**	
	comp=N,142nm,0.7s								
LPG	**La Plagne**	**3.21**	**295**	*e*P	**Pn**		**14 33 39.7**	**+2.4**	
ZUGS	**Zugspitze, Sch**	**3.23**	**1**	*e*Pn	**Pn**		**14 33 40.2**	**+2.7**	
ZUGS				*e*Sn	**Sn**		**14 34 19.5**	**+4.0**	
LPL	**La Plagne**	**3.23**	**296**	*e*P	**Pn**		**14 33 40.2**	**+2.7**	
LPL				*e*Sn	**Sn**		**14 34 13.8**	**-1.8**	
	comp=N,42nm,0.6s								
OBER	**Oberstdorf**	**3.24**	**353**	*e*Pn	**Pn**		**14 33 40.4**	**+2.9**	
OBER				*e*Sn	**Sn**		**14 34 20.5**	**+4.8**	
LMR	**La Mourre**	**3.28**	**256**	*e*Pn	**Pn**		**14 33 37.6**	**-0.3**	
LMR	**La Mourre**	**3.28**	**256**	*e*P	**Pn**		**14 33 40.6**	**+2.7**	
LMR				*e*Sn	**Sn**		**14 34 14.0**	**-2.4**	
	comp=N,27nm,0.3s								
RETA	**Reutte**	**3.30**	**359**	*i* Pn	**Pn**		**14 33 40.4**	**+2.1**	
	comp=N,19nm,0.5s,SNR=14								
RETA				*e*Sn	**Sn**		**14 34 20.4**	**+3.4**	
	comp=N,24nm,0.6s								
PART	**Garmisch-Parte**	**3.31**	**3**	*e*Pn	**Pn**		**14 33 40.6**	**+2.2**	
PART				*e*Sn	**Sn**		**14 34 20.4**	**+3.1**	
KBA	**Koelnbreinsper**	**3.37**	**30**	*i* Pn	**Pn**		**14 33 41.1**	**+1.8**	
	comp=N,2.9nm,0.2s								
KBA				*e*Sn	**Sn**		**14 34 20.7**	**+1.9**	
	comp=N,16nm,0.4s								
BOJS	**Bojanci**	**3.38**	**66**	*e*Pn	**Pn**		**14 33 39.1**	**-0.2**	
BOJS	**Bojanci**	**3.38**	**66**	⇑P	**Pn**		**14 33 39.3**	**0.0**	
BOJS				AML	AML				
	comp=N,318µm,0.9s								
BOJS				AML	AML				
	comp=E,209µm,1.5s								
OBKA	**Obir**	**3.48**	**47**	*e*Pn	**Pn**		**14 33 40.8**	**+0.1**	
	comp=E,3.0nm,0.3s								
OBKA				*e*Sn	**Sn**		**14 34 22.2**	**+0.8**	
	comp=E,22nm,0.6s								
OBKA	**Obir**	**3.48**	**47**	*e*Pn	**Pn**		**14 33 40.8**	**+0.1**	
OBKA				*e*Sn	**Sn**		**14 34 22.1**	**+0.7**	
ZIRJ	**Zirje**	**3.49**	**97**	*e*Pn	**Pn**		**14 33 40.4**	**-0.4**	
MORI	**Morici**	**3.50**	**94**	*e*Pn	**Pn**		**14 33 42.5**	**+1.5**	
MORI				Sn	**Sn**		**14 34 21.8**	**-0.1**	
UDBI	**Udbina**	**3.52**	**83**	*e*Pn	**Pn**		**14 33 42.9**	**+1.5**	
UDBI				Sn	**Sn**		**14 34 22.2**	**-0.3**	
UBR	**Ueberruh**	**3.53**	**352**	*e*Pn	**Pn**		**14 33 43.4**	**+1.9**	
UBR				*e*Sn	**Sn**		**14 34 25.5**	**+2.8**	
OZLJ	**Ozalj**	**3.56**	**65**	*e*Pn	**Pn**		**14 33 41.4**	**-0.4**	
CRES	**Cresnjev**	**3.64**	**62**	*e*Pn	**Pn**		**14 33 41.9**	**-1.0**	
ORIF	**Oris-en-Rattie**	**3.64**	**283**	*e*P	**Pn**		**14 33 46.8**	**+3.8**	
ORIF	**Oris-en-Rattie**	**3.64**	**283**	*e*Pn	Pn		14 33 47.6	+4.6	
ORIF				*e*Sn	**Sn**		**14 34 23.4**	**-2.2**	
	comp=E,45nm,0.6s								
ORIF	**Oris-en-Rattie**	**3.64**	**283**	P	**Pn**		**14 33 47.4**	**+4.4**	
ORIF				AML	AML				
	comp=E,43µm,1.5s								
ORIF				AML	AML				
	comp=N,45µm,0.7s								
BE1	**Monatshausen**	**3.73**	**4**	*e*Sn	**Sn**		**14 34 30.0**	**+2.4**	
TORNY	**Torny/Romont**	**3.78**	**315**	P	**Pn**		**14 33 47.9**	**+3.1**	
RJOB	**Jochberg**	**3.79**	**20**	*e*Pn	**Pn**		**14 33 46.7**	**+1.7**	
RJOB				*e*Sn	**Sn**		**14 34 31.4**	**+2.3**	
SMRF	**Simiane la Rot**	**3.83**	**269**	*e*P	**Pn**		**14 33 48.4**	**+2.9**	
SMRF				*e*Sn	**Sn**		**14 34 27.8**	**-2.2**	
	comp=N,23nm,0.5s								
SOKA	**Soboth**	**3.84**	**48**	*e*Pn	**Pn**		**14 33 45.5**	**-0.2**	
	comp=N,2.3nm,0.2s								
SOKA				*e*Sn	**Sn**		**14 34 30.2**	**-0.2**	
	comp=N,6.0nm,0.4s								
BALST	**Balsthal**	**3.85**	**326**	P	**Pn**		**14 33 48.4**	**+2.5**	
PIGN	**Pignataro Magg**	**3.86**	**140**	P	**Pn**		**14 33 45.2**	**-0.7**	
PIGN				P	**Pb**		**14 33 56.5**	**+1.6**	
PIGN				AML	AML				
	comp=E,1276µm,0.4s								
PIGN				AML	AML				
	comp=N,1090µm,0.4s								
SLE	**Schleitheim**	**3.94**	**336**	P	**Pn**		**14 33 49.0**	**+1.9**	
SLE	**Schleitheim**	**3.94**	**336**	*e*Pn	**Pn**		**14 33 48.4**	**+1.3**	
SLE				*e*Sn	**Sn**		**14 34 33.0**	**+0.2**	
KIJV	**Kijevo**	**3.99**	**91**	*e*Pn	**Pn**		**14 33 48.6**	**+0.9**	
PTJ	**Puntijarka**	**4.00**	**63**	*e*Pn	**Pn**		**14 33 47.5**	**-0.4**	
GUT	**Gutenstein**	**4.07**	**343**	P	**Pn**		**14 33 50.5**	**+1.7**	
BOURR	**Bourrignon**	**4.09**	**323**	P	**Pn**		**14 33 51.8**	**+2.6**	
BRANT	**Les Verrieres**	**4.13**	**313**	P	**Pn**		**14 33 52.3**	**+2.5**	
CABF	**La Chapelle**	**4.15**	**307**	*e*P	**Pn**		**14 33 52.3**	**+2.3**	
CABF				*e*Sn	**Sn**		**14 34 35.7**	**-2.3**	
	comp=N,7.9nm,0.5s								
HVAR	**Hvar**	**4.17**	**102**	*e*Pn	**Pn**		**14 33 50.7**	**+0.6**	
HVAR				Sn	**Sn**		**14 34 36.9**	**-1.4**	
PAOL	**Paolisi**	**4.17**	**138**	P	**Pb**		**14 33 56.4**	**-4.0**	
KIZ	**Kirchzarten**	**4.29**	**332**	P	**Pn**		**14 33 53.1**	**+1.3**	
MOA	**Molln**	**4.35**	**32**	*i* Pn	**Pn**		**14 33 52.8**	**0.0**	
	comp=N,6.7nm,0.3s,SNR=8.1								
MOA				*e*Sn	**Sn**		**14 34 44.1**	**+1.2**	
	comp=N,12nm,0.4s								
MOA	**Molln**	**4.35**	**32**	*e*Pn	**Pn**		**14 33 52.7**	**0.0**	
MOA				*e*Sn	**Sn**		**14 34 43.6**	**+0.6**	
MRAK	**Mrakovica**	**4.38**	**77**	*e*Pn	**Pn**		**14 33 54.1**	**+1.0**	
ARSA	**Arzberg**	**4.47**	**45**	*i* Pn	**Pn**		**14 33 53.9**	**-0.4**	
	comp=N,5.4nm,0.3s,SNR=6.3								
ARSA				*e*Sn	**Sn**		**14 34 43.4**	**-2.3**	
	comp=N,5.3nm,0.6s								
VIVF	**Saint-Julien-l**	**4.49**	**281**	*e*P	**Pn**		**14 33 57.7**	**+3.2**	
VIVF				*e*Sn	**Sn**		**14 34 43.1**	**-3.1**	
	comp=N,12nm,0.7s								
BFO	**Black Forest**	**4.50**	**338**	*e*Pn	**Pn**		**14 33 56.1**	**+1.3**	
BFO				*e*Sn	**Sn**		**14 34 47.1**	**+0.5**	
SGTA	**Sant Agata di**	**4.50**	**131**	P	**Pb**		**14 34 07.5**	**+1.5**	
MAKA	**Makarska**	**4.54**	**99**	*e*Pn	**Pn**		**14 33 56.3**	**+1.1**	
RICI	**Ricice**	**4.58**	**97**	*e*Pn	**Pn**		**14 33 57.5**	**+1.7**	
HINF	**Hinteralfeld**	**4.58**	**324**	*e*Pn	**Pn**		**14 33 55.9**	**0.0**	
HINF				*e*Sn	**Sn**		**14 34 47.1**	**-1.5**	
	comp=N,60nm,0.5s								
OPP	**Oppenau**	**4.69**	**338**	P	**Pn**		**14 33 59.0**	**+1.7**	
ECH	**Echery**	**4.78**	**329**	P	**Pn**		**14 33 59.5**	**+0.9**	
CDF	**Champ du Feu**	**4.90**	**331**	*e*P	**Pn**		**14 34 00.6**	**+0.3**	
CDF				*e*Sn	**Sn**		**14 34 54.9**	**-1.7**	
	comp=N,18nm,0.5s								
HAU	**Haudompre**	**4.95**	**322**	*e*Pn	**Pn**		**14 34 01.4**	**+0.6**	
HAU				*e*Sn	**Sn**		**14 34 55.2**	**-2.3**	
	comp=N,35nm,0.3s								
GEC2	**GERESS Array S**	**5.05**	**22**	*e*Pn	**Pn**		**14 34 02.2**	**-0.1**	
GEC2				*e*Sn	**Sn**		**14 34 58.6**	**-1.5**	
LASF	**Ste Croix**	**5.05**	**271**	*e*P	**Pn**		**14 34 05.4**	**+3.1**	
LASF				*e*Sn	**Sn**		**14 34 56.4**	**-3.8**	
	comp=N,3.2nm,0.5s								
CONA	**Conrad Observa**	**5.10**	**41**	*e*Pn	**Pn**		**14 34 02.8**	**-0.2**	
	comp=N,13nm,0.6s,SNR=10								
CONA				*e*Sn	**Sn**		**14 34 59.8**	**-1.6**	
	comp=N,4.2nm,0.4s								
STON	**Ston**	**5.13**	**103**	*e*Pn	**Pn**		**14 34 04.5**	**+1.1**	
WET	**Wettzell**	**5.14**	**15**	*e*Pn	**Pn**		**14 34 03.7**	**+0.2**	
WET				*e*Sn	**Sn**		**14 35 01.3**	**-1.0**	
CKRC	**Cesky Krumlov**	**5.20**	**26**	*e*PN	**Pn**		**14 34 04.3**	**0.0**	
CKRC				*e*SN	**Sn**		**14 35 01.4**	**-2.4**	
KHC	**Kasperske Hory**	**5.28**	**20**	*e*PN	**Pn**		**14 34 05.5**	**+0.1**	
KHC				*e*PG	**Pg**		**14 34 27.5**	**-1.0**	
KHC				*e*SN	**Sn**		**14 35 02.7**	**-3.1**	
KHC				*ex*	x		14 35 29.5		
SMF	**Signal de Mont**	**5.53**	**299**	*e*P	**Pn**		**14 34 11.0**	**+2.2**	
SMF				*e*Sn	**Sn**		**14 35 08.5**	**-3.3**	
	comp=N,9.9nm,0.4s								
PAGF	**Fort de Pagny**	**5.63**	**323**	*e*P	**Pn**		**14 34 12.5**	**+2.2**	
	baz=143								
PAGF				*e*Sn	**Sn**		**14 35 11.1**	**-3.3**	
	comp=N,26nm,0.7s								
TREB	**Trebinje**	**5.64**	**103**	*e*Pn	**Pn**		**14 34 11.5**	**+1.2**	
ROTZ	**Rotzenmuhle**	**5.65**	**9**	*e*Pn	**Pn**		**14 34 10.1**	**-0.4**	
ROTZ				*e*Sn	**Sn**		**14 35 10.3**	**-4.6**	
NOCI	**Noci**	**5.70**	**124**	P	**Pb**		**14 34 26.5**	**+0.1**	
SFTF	**Sexfontaines**	**5.70**	**317**	*e*P	**Pn**		**14 34 12.8**	**+1.6**	
	baz=136								
SFTF				*e*Sn	**Sn**		**14 35 13.2**	**-3.0**	
	comp=N,9.4nm,0.4s								
BRY	**Bratogost**	**5.72**	**100**	*e*Pn	**Pn**		**14 34 13.0**	**+1.4**	
LOR	**Lormes**	**5.79**	**305**	*e*P	**Pn**		**14 34 14.1**	**+1.6**	
	baz=125								
LOR				*e*Sn	**Sn**		**14 35 15.5**	**-3.0**	
	comp=N,14nm,0.4s								
LOR	**Lormes**	**5.79**	**305**	P	**Pn**		**14 34 15.2**	**+2.7**	
MANZ	**Manzenberg**	**5.86**	**8**	*e*Pn	**Pn**		**14 34 13.3**	**-0.1**	
MANZ				*e*Sn	**Sn**		**14 35 16.4**	**-3.6**	
AVF	**Avril sur Loir**	**5.89**	**299**	*e*P	**Pn**		**14 34 16.3**	**+2.5**	
AVF				*e*Sn	**Sn**		**14 35 17.0**	**-3.8**	
	comp=N,3.8nm,0.4s								
ZST	**Bratislava**	**5.89**	**45**	*e*PN	**Pn**		**14 34 13.3**	**-0.5**	
ZST				*e*SN	**Sn**		**14 35 18.0**	**-2.8**	
PBCC	**Pribram**	**5.90**	**20**	*e*PN	**Pn**		**14 34 14.2**	**+0.3**	
MEZF	**Maizieres J'vi**	**5.90**	**319**	*e*P	**Pn**		**14 34 15.5**	**+1.6**	
	baz=139								
MEZF				*e*Sn	**Sn**		**14 35 18.0**	**-3.0**	
	comp=N,23nm,0.6s								
SSF	**Saint Saulge**	**5.91**	**302**	*e*Pn	**Pn**		**14 34 13.6**	**-0.5**	
SSF				*e*Sn	**Sn**		**14 35 17.5**	**-3.8**	
	comp=N,6.8nm,0.4s								
SAVF	**Savonnieres en**	**5.95**	**320**	*e*P	**Pn**		**14 34 16.1**	**+1.5**	
	baz=140								
SAVF				*e*Sn	**Sn**		**14 35 19.7**	**-2.5**	
	comp=N,6.8nm,0.4s								
MODS	**Modra-Piesok**	**6.10**	**44**	*e*PN	**Pn**		**14 34 15.0**	**-1.6**	
MODS				*e*SN	**Sn**		**14 35 21.4**	**-4.5**	
BGF	**Bois d'Agland**	**6.13**	**296**	*e*Pn	**Pn**		**14 34 17.0**	**-0.1**	
BGF				*e*Sn	**Sn**		**14 35 22.8**	**-3.9**	
	comp=N,13nm,0.4s								
KRUC	**Moravsky**	**6.18**	**36**	*e*PN	**Pn**		**14 34 17.0**	**-0.7**	
KRUC				*e*SN	**Sn**		**14 35 26.3**	**-1.5**	
SMOL	**Smolenice**	**6.26**	**44**	*e*PN	**Pn**		**14 34 18.6**	**-0.3**	
ERC	**Erice**	**6.28**	**168**	P	**Pb**		**14 34 37.5**	**+1.2**	
IST3	**Stromboli F**	**6.30**	**147**	⇑P	**Pn**		**14 34 20.1**	**+0.6**	
PRU	**Pruhonice**	**6.32**	**22**	*e*PN	**Pn**		**14 34 19.1**	**-0.5**	
MTLF	**Montolieu**	**6.33**	**265**	*e*P	**Pn**		**14 34 23.2**	**+3.4**	
MTLF				*e*Sn	**Sn**		**14 35 26.7**	**-4.8**	
	comp=N,1.3nm,0.3s								
CAF	**Calviac**	**6.34**	**280**	*e*P	**Pn**		**14 34 23.8**	**+3.8**	
CAF				*e*Sn	**Sn**		**14 35 27.5**	**-4.4**	
	comp=N,0.9nm,0.3s								
PDG	**Podgorica**	**6.36**	**103**	*e*Pn	**Pn**		**14 34 23.5**	**+3.2**	
DRME	**Dracevica, Mon**	**6.40**	**105**	*e*Pn	**Pn**		**14 34 20.9**	**+0.2**	
VRAC	**Vracov**	**6.45**	**35**	*e*PN	**Pn**		**14 34 20.8**	**-0.7**	
TCF	**Toulx Ste Croi**	**6.47**	**292**	*e*P	**Pn**		**14 34 25.2**	**+3.5**	
TCF				*e*Sn	**Sn**		**14 35 30.7**	**-4.3**	
	comp=N,2.6nm,0.3s								
MOX	**Moxa**	**6.48**	**4**	*e*Pn	**Pn**		**14 34 22.5**	**+0.7**	
MOX				*e*Sn	**Sn**		**14 35 31.6**	**-3.6**	
JAVC	**Velka Javorina**	**6.61**	**43**	*e*PN	**Pn**		**14 34 24.2**	**+0.4**	
RJF	**Les Rejaudoux**	**6.76**	**283**	*e*P	**Pn**		**14 34 30.2**	**+4.5**	
VYHS	**Vyhne**	**6.99**	**49**	*e*PN	**Pn**		**14 34 29.9**	**+1.0**	
BRG	**Berggiesshubel**	**7.00**	**16**	*e*P	**Pn**		**14 34 28.7**	**-0.3**	
BRG				Amp			14 34 30.1		
	comp=Z,7.8nm,0.6s								
KRLC	**Kraliky**	**7.13**	**32**	*e*SN	**Sn**		**14 35 47.5**	**-3.8**	
DPC	**Dobruska-Polom**	**7.19**	**29**	*e*SN	**Sn**		**14 35 47.7**	**-5.1**	
MORC	**Moravsky Berou**	**7.21**	**37**	*e*PN	**Pn**		**14 34 31.5**	**-0.4**	
CLL	**Collm**	**7.26**	**11**	*i* Pn	**Pn**		**14 34 32.1**	**-0.5**	
	comp=Z,4.0nm,0.7s								
CLL				*e*Sn	**Sn**		**14 35 53.0**	**-1.5**	
CLL				*e*Sg	**Sg**		**14 36 38.0**	**-2.3**	
	comp=Z,19nm,1.6s								
LFF	**La Frestale**	**7.28**	**279**	*e*P	Pn		14 34 37.4	+4.6	
CHVC	**Chvalec**	**7.30**	**27**	*e*PN	**Pn**		**14 34 31.9**	**-1.2**	
CHVC				*e*SN	**Sn**		**14 35 50.7**	**-4.8**	
OSTC	**Ostas**	**7.33**	**28**	*e*PN	**Pn**		**14 34 32.4**	**-1.1**	
OSTC				*e*SN	**Sn**		**14 35 51.5**	**-4.6**	
LDF	**La Druitiere**	**8.78**	**304**	*e*P	Pn		14 34 58.9	+5.5	
FLN	**La Foliniere**	**9.07**	**304**	*e*P	**Pn**		**14 35 00.9**	**+3.5**	
	baz=125								
GRR	**Gorron**	**9.14**	**301**	*e*P	**Pn**		**14 35 00.9**	**+2.5**	
SGMF	**Saint Gilles**	**10.15**	**298**	*e*Pn	**Pn**		**14 35 12.3**	**+0.1**	

*NEIC **20** 14:37:50.0±1.5, 32.°36S±0.°04×72.°08W±0.°07, h6km±6km, mb4.4/5, ML4.0(GUC), Error ellipse: s-maj=8.6km s-min=4.3km az=67.0*
*IDC **20** 14:37:50.6±2.9, 32.°40S×71.°67W, h0km, mb3.8/1, mb1 4.1/3, mb1mx3.8/18, mbtmp3.9/3, ML3.8/2, Error ellipse: s-maj=133.6km s-min=38.5km az=94.0*
*GUC **20** 14:37:51.1±0.8, 32.°39S×72.°10W, h20km, ML4.0*
*SJA **20** 14:37:54.0, 32.°47S×72.°14W, h10km, ML4.6*

ISC 20 14:37:51.4±1.1, 32.°40S±0.°02×72.°11W±0.°05, h19km±4km, n66, σ1°20/75, mb4.4/4, 4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s ISC
VA06	**Catapilco**	**0.71**	**104**	⇓*i*P	**Pg**		**14 38 04.4**		**-1.0**
VA06				*i* S	**Sg**		**14 38 13.7**		**-1.2**
VA06				IAML			14 38 16.7		
	comp=N,30µm,0.4s								
VA01	**Torpederas**	**0.74**	**148**	*e*P	**Pb**		**14 38 04.9**		**-0.7**
VA01				*i* S	**Sg**		**14 38 15.8**		**0.0**
VA01	**Torpederas**	**0.74**	**148**		**Pb**		**14 38 04.5**		**-1.1**
VA01				Sg	**Sg**		**14 38 15.1**		**-0.7**
VA01	**Torpederas**	**0.74**	**148**	*i* P	**Pb**		**14 38 05.0**		**-0.6**
ROCH	**El Roble**	**1.09**	**122**	⇓*i*P	**Pb**		**14 38 10.7**		**-1.0**
ROCH				*i* S	**Sg**		**14 38 25.5**		**-1.6**
ROCH				IAML			14 38 27.0		
	comp=N,6µm,0.3s								
VA05	**Santo Domingo**	**1.32**	**162**	*e*P	**Pn**		**14 38 14.3**		**-0.5**
VA05				*i* S	**Sn**		**14 38 31.2**		**-0.7**
VA05				IAML			14 38 39.0		
	comp=E,4µm,0.4s								
VA05	**Santo Domingo**	**1.32**	**162**	Pn	**Pn**		**14 38 14.1**		**-0.7**
VA03	**San Esteban**	**1.37**	**106**	⇓*i*P	**Pn**		**14 38 15.1**		**-0.4**
VA03				*i* S	**Sb**		**14 38 32.8**		**-0.8**
VA03				IAML			14 38 34.9		
	comp=N,9µm,0.1s								
VA03	**San Esteban**	**1.37**	**106**	Pn	**Pn**		**14 38 14.8**		**-0.7**
MT05	**Renca**	**1.52**	**131**	*e*P	**Pn**		**14 38 17.8**		**+0.1**
MT05				*e*S	**Sb**		**14 38 38.0**		**0.0**
MT05				IAML			14 38 43.5		
	comp=E,5µm,0.2s								
MT05	**Renca**	**1.52**	**131**	Pn	**Pn**		**14 38 17.6**		**0.0**
MT05	**Renca**	**1.52**	**131**	*i* P	**Pb**		**14 38 18.0**		**-1.0**
MT01	**Popeta**	**1.63**	**154**	*e*P	**Pn**		**14 38 18.7**		**-0.3**
MT01				*e*S	**Sn**		**14 38 38.8**		**-0.8**
MT01				IAML			14 38 45.5		
	comp=E,2µm,0.3s								
MT01	**Popeta**	**1.63**	**154**	Pn	**Pn**		**14 38 18.8**		**-0.3**
MT01	**Popeta**	**1.63**	**154**	*i* P	**Pb**		**14 38 20.0**		**-0.9**
MT09	**Talagante**	**1.67**	**146**	⇓*i*P	**Pn**		**14 38 20.2**		**+0.5**
MT09				*i* S	**Sn**		**14 38 39.8**		**-0.8**
MT09				IAML			14 38 44.7		
	comp=N,2µm,0.4s								
MT09	**Talagante**	**1.67**	**146**	Pn	**Pn**		**14 38 20.0**		**+0.4**
CO06	**Fray Jorge**	**1.77**	**13**	*e*P	**Pg**		**14 38 25.3**		**-0.1**
CO06				*e*S	**Sg**		**14 38 49.4**		**+1.1**
CO06				IAML			14 38 54.2		
	comp=N,1µm,0.4s								
CO06	**Fray Jorge**	**1.77**	**13**		**Pn**		**14 38 18.9**		**-2.0**
CO03	**El Pedregal**	**1.97**	**38**	*e*P	**Pn**		**14 38 24.7**		**+0.9**
CO03				*e*S	**Sb**		**14 38 49.6**		**-1.3**
CO03				IAML			14 38 59.6		
	comp=E,1µm,0.4s								
CO03	**El Pedregal**	**1.97**	**38**	Pn	**Pn**		**14 38 23.8**		**0.0**
BO03	**Pichilemu**	**2.10**	**177**	*e*P	**Pn**		**14 38 25.0**		**-0.5**
BO03				*e*S	**Sn**		**14 38 49.7**		**-1.3**
LMEL	**Las Melosas**	**2.16**	**133**	*e*P	**Pb**		**14 38 27.8**		**-2.1**
LMEL				*e*S	**Sb**		**14 38 55.5**		**-0.8**
LMEL				IAML			14 39 02.7		
	comp=N,2µm,0.1s								
BO01	**Tunca**	**2.17**	**157**	*e*P	**Pn**		**14 38 26.7**		**+0.3**
BO01				IAML			14 39 04.8		
	comp=E,556nm,0.4s								
BO01	**Tunca**	**2.17**	**157**	Pn	**Pn**		**14 38 27.3**		**+0.8**
AUSP	**Uspallata**	**2.31**	**86**	*i* P	**Pb**		**14 38 32.0**		**-0.7**
GO04	**Tololo Observa**	**2.49**	**27**	*e*P	**Pn**		**14 38 30.9**		**-0.1**
GO04				*e*S	**Sg**		**14 39 09.2**		**-2.2**
GO04	**Tololo Observa**	**2.49**	**27**	Pn	**Pn**		**14 38 30.4**		**-0.6**
CO05	**La Serena**	**2.58**	**17**	*e*P	**Pn**		**14 38 31.9**		**-0.1**
CO05				IAML			14 39 18.4		
	comp=E,873nm,0.3s								
CO05				*i*			14 39 30.1		
CO05	**La Serena**	**2.58**	**17**		**Pn**		**14 38 31.6**		**-0.5**
GO05	**Huala**	**2.61**	**177**	*e*P	**Pn**		**14 38 33.0**		**+0.5**
GO05				IAML			14 39 22.0		
	comp=N,434nm,0.6s								
GO05	**Huala**	**2.61**	**177**	Pn	**Pn**		**14 38 32.3**		**-0.2**
GO05	**Huala**	**2.61**	**177**	*i* P	**Pb**		**14 38 37.0**		**-0.5**
BO02	**Sierra Bellavi**	**2.63**	**155**	*e*P	**Pn**		**14 38 33.8**		**+0.9**
BO02				IAML			14 39 18.1		
	comp=E,1µm,0.5s								
BO02	**Sierra Bellavi

comp=E,0.2nm,0.3s,baz=234,slow=11,SNR=6.3

SAML	**Samuel**	**22.90**	**23**	P	**P**	**14 50 46.7**	**+0.9**
BDFB	**Brasilia**	**26.48**	**62**	P	**P**	**14 51 20.0**	**+0.6**
	comp=E,2.4nm,0.7s,baz=236,slow=11,SNR=2.0						
SNAA	**Sanae**	**54.93**	**159**	P	**P**	**14 55 12.5**	**+0.2**
SNAA				IAmb	IAmb	14 55 13.8	
	comp=Z,2.8nm,0.8s						
QSPA	**South Pole Qui**	**59.83**	**180**	P	**P**	**14 55 47.6**	**+0.6**
QSPA				IAmb	IAmb	14 55 52.6	
	comp=Z,4.3nm,1.4s						
SACV	**Santiago Islan**	**64.88**	**53**	P	**P**	**14 56 19.2**	**-2.0**
TXAR	**Lajitas Array**	**66.60**	**330**	P	**P**	**14 56 33.3**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=150,slow=8.9,SNR=7.4						
TXAR	**Lajitas Array**	**66.60**	**330**	P	**P**	**14 56 33.1**	**+0.9**
TX31	**Lajitas Ar. Si**	**66.60**	**330**	P	**P**	**14 56 33.0**	**+0.8**
TX31				IAmb	IAmb	14 56 48.0	
	comp=Z,6.2nm,1.4s						
TX32	**Lajitas Array**	**66.60**	**330**	P	**P**	**14 56 33.1**	**+0.9**
TX32				IAmb	IAmb	14 56 48.0	
	comp=Z,2.1nm,1.4s						
V52A	**Sevierville**	**66.78**	**350**	P	**P**	**14 56 33.2**	**+0.2**
MAW	**Mawson**	**76.63**	**164**	P	**P**	**14 57 33.2**	**+1.2**
TORD	**Torodi Ar. Bea**	**83.02**	**70**	P	**P**	**14 58 08.2**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=278,slow=5.1,SNR=5.1						
TORD	**Torodi Ar. Bea**	**83.02**	**70**	P	**P**	**14 58 07.7**	**+0.3**
TORD				IAmb	IAmb	14 58 17.3	
	comp=Z,1.8nm,1.0s						
WRA	**Warramunga Arr**	**123.87**	**210**	PKP	**PKiKP**	**15 04 40.0**	**-0.7**
	comp=Z,0.4nm,0.9s,baz=140,slow=1.3,SNR=4.6						
ZALV	**Zalesovo Beam**	**151.14**	**29**	PKPbc	**PKiKP**	**15 05 35.0**	**+0.1**
	comp=Z,4.0nm,0.6s,baz=295,slow=2.9,SNR=18						
ZALV	**Zalesovo Beam**	**151.14**	**29**		**PKiKP**	**15 05 34.9**	**0.0**
MKAR	**Makanchi Array**	**154.29**	**43**	PKPbc	**PKiKP**	**15 05 42.4**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=263,slow=3.9,SNR=2.3						

*TAP **20** 15:01:06.5,24.˚95N×122.˚09E,h132km,ML2.8,D*
*JMA **20** 15:01:06.3±0.1,24.˚85N×122.˚14E,h130km±2km,M2.1*

ISC 20 15:01:06.1±2.1,24.˚98N±0.˚08×122.˚16E±0.˚04,
h130km±12km,n48,σ0°77/86,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.16**	**281**	*eS*	**Sn**	**15 01 37.4**	**+0.2**
	baz=301						
TIPB	**Shuangxi**	**0.30**	**269**	⇓*iP*	**Pn**	**15 01 24.6**	**+0.3**
	baz=273						
TIPB				S	**Sn**	**15 01 37.6**	**-0.3**
	baz=273						
NWF	**Wu-fen Shan**	**0.36**	**285**	*eP*	**Pn**	**15 01 22.9**	**-1.7**
	baz=284						
NWF				*eS*	**Sn**	**15 01 38.2**	**-0.2**
	baz=284						
TWE	**Neicheng**	**0.52**	**240**	*eP*	**Pn**	**15 01 26.3**	**+1.0**
	baz=235						
TWE				*eS*	**Sn**	**15 01 40.6**	**+0.9**
	baz=235						
TWA	**Mucha**	**0.52**	**270**	*eP*	**Pn**	**15 01 26.0**	**+0.7**
	baz=271						
TWA				*eS*	**Sn**	**15 01 38.5**	**-1.3**
	baz=271						
NDS	**Dongshan**	**0.53**	**230**	*eP*	**Pn**	**15 01 26.2**	**+0.8**
	baz=225						
NDS				*eS*	**Sn**	**15 01 41.0**	**+1.1**
	baz=225						
YM01	**YM01**	**0.56**	**287**	*eP*	**Pn**	**15 01 25.8**	**+0.2**
	baz=290						
YM01				*eS*	**Sn**	**15 01 40.8**	**+0.5**
	baz=290						
NWLT	**Wulai**	**0.63**	**252**	*eP*	**Pn**	**15 01 26.2**	**+0.2**
	baz=250						
NWLT				*eS*	**Sn**	**15 01 39.7**	**-1.3**
	baz=250						
ENTT	**Nioudou**	**0.64**	**238**	P	**Pn**	**15 01 26.5**	**+0.4**
	baz=230						
ENTT				*eS*	**Sn**	**15 01 41.9**	**+0.8**
	baz=230						
ENA	**Nanau**	**0.67**	**215**	*eP*	**Pn**	**15 01 27.0**	**+0.7**
	baz=203						
ENA				*eS*	**Sn**	**15 01 41.8**	**+0.3**
	baz=203						
NDT	**Datong Townshi**	**0.70**	**238**	P	**Pn**	**15 01 27.0**	**+0.5**
	baz=246						
NDT				*eS*	**Sn**	**15 01 42.5**	**+0.6**
	baz=246						
YHNB	**Yeheng**	**0.78**	**247**	P	**Pn**	**15 01 27.2**	**0.0**
	baz=236						
YHNB				S	**Sn**	**15 01 41.5**	**-1.6**
	baz=236						
NSK	**Sanguang**	**0.79**	**248**	P	**Pn**	**15 01 27.3**	**+0.1**
	baz=237						
NSK				S	**Sn**	**15 01 42.4**	**-0.9**
	baz=237						
JYNG	**Yonagunijimaku**	**0.89**	**126**	P	**Pn**	**15 01 28.1**	**+0.1**
JYNG				*eS*	**Sn**	**15 01 44.1**	**-0.4**
NNS	**Nan Shan**	**0.90**	**233**	*eP*	**Pn**	**15 01 28.7**	**+0.5**
	baz=230						
NNS				*eS*	**Sn**	**15 01 45.5**	**+0.5**
	baz=230						
NNSB	**Datong**	**0.90**	**232**	*eP*	**Pn**	**15 01 28.6**	**+0.4**
	baz=229						
NNSB				*eS*	**Sn**	**15 01 44.5**	**-0.4**
	baz=229						
ETL	**Fush Village**	**0.95**	**211**	*eS*	**Sn**	**15 01 45.4**	**-0.3**
	baz=207						
NACB	**Ninganchiao**	**0.95**	**213**	*eP*	**Pn**	**15 01 29.1**	**+0.5**
	baz=209						
NACB				*eS*	**Sn**	**15 01 44.5**	**-1.1**
	baz=209						
ETLH	**Xiulin Townshi**	**0.99**	**219**	*eP*	**Pn**	**15 01 29.2**	**+0.2**
	baz=221						
ETLH				*eS*	**Sn**	**15 01 45.6**	**-0.7**
	baz=221						
TWD	**Chiawan**	**1.03**	**210**	*eS*	**Sn**	**15 01 45.9**	**-1.0**
	baz=215						
LIOB	**Emei**	**1.09**	**253**	P	**Pn**	**15 01 30.1**	**+0.2**
	baz=246						
LIOB				*eS*	**Sn**	**15 01 46.1**	**-1.9**
	baz=246						
FUSS	**Fushou**	**1.11**	**229**	*eP*	**Pn**	**15 01 30.9**	**+0.5**
	baz=231						
FUSS				*eS*	**Sn**	**15 01 48.5**	**-0.2**
	baz=231						
NSTT	**Nanjuang**	**1.11**	**252**	P	**Pn**	**15 01 30.1**	**+0.1**
	baz=245						
NSTT				*eS*	**Sn**	**15 01 47.5**	**-0.7**
	baz=245						
TWT	**Tachien**	**1.15**	**231**	*eP*	**Pn**	**15 01 30.7**	**0.0**
	baz=229						
TWT				*eS*	**Sn**	**15 01 49.8**	**+0.5**
	baz=229						
TDCB	**Techi**	**1.16**	**232**	*eP*	**Pn**	**15 01 31.5**	**+0.8**
	baz=236						
TDCB				*eS*	**Sn**	**15 01 49.5**	**0.0**
	baz=236						
WHF	**Hehuan Shan**	**1.16**	**225**	*eP*	**Pn**	**15 01 31.7**	**+0.6**
	baz=217						
WHF				*eS*	**Sn**	**15 01 49.9**	**-0.1**
	baz=217						
ETM	**Tongmen**	**1.18**	**211**	*eS*	**Sn**	**15 01 48.0**	**-1.5**
	baz=208						
CHGB	**Renai**	**1.28**	**225**	*eP*	**Pn**	**15 01 33.2**	**+1.1**
	baz=217						
CHGB				*eS*	**Sn**	**15 01 52.0**	**+0.2**
	baz=217						
WHP	**Taichung City**	**1.31**	**238**	*eP*	**Pn**	**15 01 32.4**	**+0.2**
	baz=236						
WHP				*eS*	**Sn**	**15 01 51.8**	**-0.2**
	baz=236						
OWD	**Renai**	**1.36**	**222**	*eP*	**Pn**	**15 01 33.8**	**+1.0**
	baz=217						
OWD				*eS*	**Sn**	**15 01 52.7**	**-0.4**
	baz=217						
WCS	**Beigang Elemen**	**1.46**	**231**	*eP*	**Pn**	**15 01 34.1**	**+0.3**
	baz=234						
WCS				*eS*	**Sn**	**15 01 54.5**	**-0.3**
	baz=234						
IRIF	**Iriomote-Funau**	**1.56**	**114**	P	**Pn**	**15 01 34.9**	**0.0**
IRIF				S	**Sn**	**15 01 57.0**	**+0.2**
SMLT	**Sun Moon Lake**	**1.58**	**227**	*eP*	**Pn**	**15 01 35.9**	**+0.6**
	baz=230						
SMLT				*eS*	**Sn**	**15 01 58.2**	**+0.7**
	baz=230						
TYC	**Yuchr**	**1.60**	**228**	*eP*	**Pn**	**15 01 35.7**	**+0.4**
	baz=233						
TYC				*eS*	**Sn**	**15 01 57.5**	**-0.1**
	baz=233						
SSLB	**Suanglung**	**1.62**	**223**	*eP*	**Pn**	**15 01 36.0**	**+0.4**
	baz=220						
SSLB				*eS*	**Sn**	**15 01 57.9**	**-0.2**
	baz=220						
HGSD	**Ruisui**	**1.63**	**205**	*eS*	**Sn**	**15 01 57.6**	**-0.6**
	baz=201						
EHY	**Hungye**	**1.65**	**208**	*eS*	**Sn**	**15 01 55.8**	**-3.0**
	baz=198						
WHYT	**Xinyi Township**	**1.75**	**223**	P	**Pn**	**15 01 37.3**	**+0.2**
	baz=220						
WHYT				*eS*	**Sn**	**15 02 00.6**	**-0.2**
	baz=220						
YULB	**Yu-li**	**1.77**	**207**	*eP*	**Pn**	**15 01 36.8**	**-0.5**
	baz=198						
YULB				*eS*	**Sn**	**15 01 59.8**	**-1.3**
	baz=198						
JKRS	**Kuro-shima**	**1.84**	**113**	P	**Pn**	**15 01 38.6**	**+0.5**
JKRS				S	**Sn**	**15 02 02.6**	**+0.1**
YUS	**Yu-Shan**	**1.85**	**217**	*eS*	**Sn**	**15 02 04.5**	**+0.9**
	baz=206						
JIJ	**Ishigaki jima**	**1.90**	**108**	P	**Pn**	**15 01 39.0**	**+0.1**
JIJ				S	**Sn**	**15 02 03.0**	**-1.0**
ALS	**Alishan**	**1.92**	**221**	*eP*	**Pn**	**15 01 39.6**	**+0.3**
	baz=225						
ALS				*eS*	**Sn**	**15 02 05.3**	**+0.6**
	baz=225						
CHN5	**Tsauling**	**1.93**	**225**	*eS*	**Sn**	**15 02 04.5**	**-0.2**
	baz=222						
JISG	**Ishigakijimahi**	**1.99**	**101**	P	**Pn**	**15 01 40.3**	**+0.3**
JISG				*eS*	**Sn**	**15 02 05.4**	**-0.4**
ELDTW	**Lidau**	**2.07**	**211**	*eS*	**Sn**	**15 02 06.8**	**-0.9**
	baz=201						
CHN4	**Tsaushan**	**2.16**	**222**	*eS*	**Sn**	**15 02 10.4**	**+0.7**
	baz=218						
JTJ	**Tarama**	**2.33**	**98**	P	**Pn**	**15 01 45.1**	**+0.9**
JTJ				S	**Sn**	**15 02 12.8**	**-0.6**

DJA 20 15:05:48.3±0.4,10.˚5S±5.˚×12.˚0E±.˚,h44km±6km,M3.9/12,
mb4.7/3,mB5.0/2,MLv3.6/12,Mw(mB)4.3/2,Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.28**	**309**	P	Pn	15 05 57.9	+1.1
WBSI				S	Sn	15 06 05.9	+3.2
BASI	**Baing, Sumba**	**1.03**	**113**	P	Pn	15 06 06.4	0.0
BASI				S	Sn	15 06 20.8	+1.1
LBFI	**Labuhan Bajo,**	**1.36**	**12**	P	Pn	15 06 09.8	-1.1
PLAI	**Plampang**	**2.06**	**298**	P	Pn	15 06 20.6	+0.1
PLAI				S	Sn	15 06 45.1	+0.1
EDFI	**Ende, Flores**	**2.31**	**63**	P	Pn	15 06 22.0	-2.0
MMRI	**Maumere**	**2.85**	**66**	P	Pn	15 06 30.4	-0.9
TWSI	**Taliwang, Sumb**	**2.90**	**292**	P	Pn	15 06 32.2	+0.2
TWSI				S	Sn	15 07 05.8	+0.2
BSSI	**Bau Bau, Buton**	**3.76**	**13**	P	Pn	15 06 43.1	-0.7
BATI	**Baumata**	**4.01**	**96**	P	Pn	15 06 47.1	-0.2
BKSI	**Bulukumba**	**4.50**	**7**	P	Pn	15 06 53.9	-0.1
SOEI	**Soe**	**4.59**	**90**	P	Pn	15 06 55.4	+0.1

*IDC **20** 15:06:28.4±1.2,0.˚19S×122.˚32E,h0km,mb3.4/5,*
mb1 3.6/6,mb1mx3.5/29,mbtmp3.5/6,ML3.8/1,MS3.2/2,
Ms1 3.2/2,ms1mx2.8/22,Error ellipse: s-maj=45.4km
s-min=21.4km az=78.0
*DJA **20** 15:06:30.4±0.2,0.˚S±2.˚×12.˚2E±.˚,h10km,M4.1/12,mb4.4/4,*
MLv4.0/12

ISC 20 15:06:29.9±0.7,0.˚24S±0.˚04×122.˚05E±0.˚05,h10km,n22,
σ1°00/25,mb3.5/5,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.72**	**352**	P	**Pb**	**15 06 45.6**	**+0.9**
MRSI				S	**Sb**	**15 06 55.2**	**+0.5**
APSI	**Ampana**	**0.77**	**211**	P	**Pg**	**15 06 45.1**	**+0.2**
APSI				S	**Sg**	**15 06 55.6**	**+0.6**
LUWI	**Luwuk**	**1.07**	**138**	P	**Pb**	**15 06 51.1**	**+0.5**
GTOI	**Gorontalo**	**1.30**	**48**	P	**Pn**	**15 06 54.0**	**-0.2**
GTOI				S	**Sb**	**15 07 10.3**	**-1.0**
KMSI	**Cibinong**	**2.10**	**67**	P	**Pn**	**15 07 06.6**	**+1.4**
MPSI	**Mapaga**	**2.23**	**285**	P	**Pn**	**15 07 06.2**	**-0.7**
TTSI	**Tana Toraja**	**3.56**	**219**	P	**Pn**	**15 07 27.3**	**+2.0**
TTSI	**Tana Toraja**	**3.56**	**219**	P	**Pn**	**15 07 26.9**	**+1.6**
	1.0nm3µm63nm,0.4s						
MMSI	**Mamuju**	**3.97**	**232**	P	**Pn**	**15 07 31.0**	**+0.1**
MMSI	**Mamuju**	**3.97**	**232**	P	**Pn**	**15 07 31.2**	**+0.3**
SANI	**Sanana**	**4.33**	**114**	P	**Pn**	**15 07 36.5**	**+0.6**
BNSI	**Bone**	**4.56**	**205**	P	**Pn**	**15 07 39.3**	**+0.2**
KAPI	**Kappang**	**5.26**	**206**	Pn	**Pn**	**15 07 49.8**	**+1.1**
	2.8nm,0.3s,baz=27,slow=14,SNR=11						
KAPI				Sn	**Sn**	**15 08 47.3**	**-2.2**
	2.7nm,0.3s,baz=286,slow=22,SNR=9.1						
KAPI				LR	LR	15 10 17.9	
	comp=Z,90nm,18.1s,baz=327,slow=42						
KAPI	**Kappang**	**5.26**	**206**	P	**Pn**	**15 07 49.3**	**+0.6**
	0.1nm20nm,0.8s						
BSSI	**Bau Bau, Buton**	**6.06**	**195**	P	**Pn**	**15 07 59.6**	**-0.1**
	0.1nm22nm,1.3s						
KBKI	**Kotabaru**	**6.61**	**243**	P	**Pn**	**15 08 07.7**	**+0.4**
WRA	**Warramunga Arr**	**22.98**	**149**	P	**P**	**15 11 33.9**	**-1.1**
	0.6nm,1.0s,baz=332,slow=11,SNR=2.4						
ASAR	**Alice Springs**	**25.97**	**155**	P	**P**	**15 12 02.6**	**-0.4**
	0.3nm,0.9s,baz=346,slow=15,SNR=2.3						
MJAR	**Matsushiro Arr**	**39.56**	**21**	P	**P**	**15 14 00.4**	**-0.9**
	1.0nm,0.7s,baz=197,slow=9.8,SNR=4.4						
MKAR	**Makanchi Array**	**58.32**	**329**	P	**P**	**15 16 26.1**	**+0.9**
	0.3nm,0.6s,baz=128,slow=7.5,SNR=4.1						
PETK	**Petropavlovsk-**	**60.89**	**24**	LR	LR	15 42 08.4	
	comp=Z,36nm,19.8s,baz=87,slow=35						
ZALV	**Zalesovo Beam**	**62.15**	**336**	P	**P**	**15 16 51.3**	**+0.1**
	0.2nm,0.3s,baz=138,slow=12,SNR=1.5						

*IDC **20** 15:07:42.0±3.1,30.˚62S×72.˚11W,h0km,mb4.0/1,*
mb1 3.8/3,mb1mx3.6/21,mbtmp3.7/3,ML3.6/2,Error
ellipse: s-maj=131.8km s-min=39.6km az=94.0
*NEIC **20** 15:07:42.2±2.0,30.˚30S±0.˚02×72.˚23W±0.˚05,h10km±6km,*
mb4.2/1,Error ellipse: s-maj=5.8km s-min=2.5km az=90.0
*GUC **20** 15:07:44.2±0.6,30.˚41S×72.˚06W,h40km±4km,ML3.6*

ISC 20 15:07:41.2±1.8,30.˚33S±0.˚05×72.˚30W±0.˚07,h11km±11km,
n38,σ1°26/43,4C-3D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.67**	**121**	⇓*iP*	**Pg**	**15 07 55.0**	**+0.8**
CO06				*i* S	**Sg**	**15 08 02.8**	**-0.3**
CO06				IAML		15 08 08.2	
	comp=N,5µm,0.5s						
CO06	**Fray Jorge**	**0.67**	**121**		**Pg**	**15 07 54.9**	**+0.7**
CO06				Sg	**Sg**	**15 08 01.8**	**-1.2**
CO05	**La Serena**	**1.00**	**66**	⇓*iP*	**Pb**	**15 08 00.9**	**+0.3**
CO05				*eS*	**Sb**	**15 08 13.3**	**-0.6**
CO05				IAML		15 08 18.0	
	comp=E,4µm,0.4s						
CO05	**La Serena**	**1.00**	**66**		**Pb**	**15 08 00.8**	**+0.3**
CO05				Sg	**Sb**	**15 08 12.0**	**-1.9**
GO04	**Tololo Observa**	**1.31**	**84**	⇓*iP*	**Pn**	**15 08 05.7**	**0.0**
GO04				*i* S	**Sb**	**15 08 22.2**	**-0.7**
GO04				IAML		15 08 30.6	
	comp=N,8µm,0.4s						
GO04	**Tololo Observa**	**1.31**	**84**		**Pn**	**15 08 05.6**	**0.0**
CO03	**El Pedregal**	**1.48**	**111**	⇑*eP*	**Pn**	**15 08 08.3**	**+0.4**
CO03				*i* S	**Sn**	**15 08 26.3**	**-1.0**
CO03				IAML		15 08 31.5	
	comp=E,2µm,0.5s						
CO03	**El Pedregal**	**1.48**	**111**		**Pn**	**15 08 08.4**	**+0.5**
LCO	**Las Campanas**	**1.91**	**47**	⇑*iP*	**Pn**	**15 08 14.9**	**+0.9**
LCO				*i* S	**Sb**	**15 08 40.7**	**+0.5**
AC04	**Llanos de Chal**	**2.37**	**27**	⇑*iP*	**Pn**	**15 08 20.4**	**+0.4**
AC04				IAML		15 09 08.3	
	comp=E,238nm,0.6s						
AC04	**Llanos de Chal**	**2.37**	**27**		**Pn**	**15 08 20.1**	**0.0**
VA06	**Catapilco**	**2.39**	**159**	⇑*eP*	**Pn**	**15 08 21.1**	**+0.9**
VA06				*i* S	**Sn**	**15 08 48.2**	**-1.4**
VA06				IAML		15 09 01.6	
	comp=E,648nm,0.4s						
VA01	**Torpederas**	**2.75**	**168**		**Pn**	**15 08 27.2**	**+2.1**
VA03	**San Esteban**	**2.85**	**149**		**Pn**	**15 08 28.4**	**+1.6**
GO03	**Copiap**	**3.27**	**34**	Pn	**Pn**	**15 08 31.1**	**-1.4**
MT05	**Renca**	**3.33**	**157**		**Pn**	**15 08 35.1**	**+1.7**
ZON	**Zonda**	**3.34**	**112**		**Pn**	**15 08 33.0**	**-0.5**
AC06	**Mina Casimiro**	**3.42**	**30**		**Pn**	**15 08 34.1**	**-0.3**
MT09	**Talagante**	**3.62**	**162**		**Pn**	**15 08 37.4**	**+0.1**
MT01	**Popeta**	**3.64**	**166**		**Pn**	**15 08 38.0**	**+0.5**
BO01	**Tunca**	**4.18**	**166**		**Pn**	**15 08 46.1**	**+1.1**
AC02	**Maricunga**	**4.46**	**39**		**Pn**	**15 08 50.5**	**+1.3**
BO02	**Sierra Bellavi**	**4.63**	**164**	Pn	**Pn**	**15 08 52.2**	**+1.0**
GO05	**Huala**	**4.68**	**176**	Pn	**Pn**	**15 08 51.4**	**-0.4**
H03N1	**Juan Fernandez**	**6.42**	**239**	T	T	15 16 27.4	
	baz=70,slow=72,SNR=34						
H03N2	**Juan Fernandez**	**6.44**	**239**	T	T	15 16 28.9	
	baz=70,slow=72,SNR=40						
H03N3	**Juan Fernandez**	**6.44**	**239**	T	T	15 16 27.6	
	baz=70,slow=72,SNR=31						
LVC	**Limon Verde**	**8.26**	**22**	Pn	**Pn**	**15 09 42.0**	**+0.6**
PB07	**IPOC Station P**	**8.83**	**15**	Pn	**Pn**	**15 09 49.3**	**+0.2**
PLCA	**Paso Flores**	**10.48**	**173**	Pn	**Pn**	**15 10 09.6**	**-1.9**
	comp=E,0.1nm,0.3s,baz=323,slow=15,SNR=3.1						
PLCA	**Paso Flores**	**10.48**	**173**		**Pn**	**15 10 09.9**	**-1.6**
TRQA	**Tornquist**	**11.50**	**135**	Pn	**Pn**	**15 10 27.8**	**+2.4**
LPAZ	**La Paz**	**14.49**	**16**	Pn	**P**	**15 11 12.6**	**-1.0**
	comp=E,0.1nm,0.3s,baz=198,slow=8.6,SNR=6.5						
LPAZ	**La Paz**	**14.49**	**16**	Pn	**P**	**15 11 10.8**	**-2.9**
TORD	**Torodi Ar. Bea**	**83.18**	**71**	P	**P**	**15 20 10.1**	**+2.2**
	comp=E,0.8nm,0.8s,baz=267,slow=4.6,SNR=5.4						
TORD	**Torodi Ar. Bea**	**83.18**	**71**	P	**P**	**15 20 08.6**	**+0.7**
TORD				IAmb	IAmb	15 20 10.7	
	comp=Z,1.8nm,1.1s						
ZALV	**Zalesovo Beam**	**151.18**	**28**	PKPbc	**PKiKP**	**15 27 36.8**	**+2.2**
	comp=Z,0.9nm,0.5s,baz=321,slow=3.7,SNR=4.2						
ZALV	**Zalesovo Beam**	**151.18**	**28**		**PKiKP**	**15 27 36.0**	**+1.4**

KRSC 20 15:18:36.3±1.1,48.˚60N×155.˚63E,h23km±17km,ML3.8,
Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.11**	**9**	*eP*	Pb	15 19 12.3	-1.5
SKR				*eS*	Sb	15 19 38.8	-0.7
PAU	**Pauzhetka**	**2.97**	**14**	*eS*	Sn	15 20 00.1	+3.3
KDTR	**Khodutka, Kamc**	**3.58**	**25**	*eP*	Pn	15 19 34.1	+3.8
KDTR				*eS*	Sn	15 20 16.3	+4.5
ASAK	**Asacha**	**4.06**	**20**	*eP*	Pb	15 19 42.1	-4.9
RUS	**Russkaya**	**4.26**	**25**	*eP*	Pn	15 19 44.4	+4.8
AVH	**Avacha**	**5.07**	**22**	*eP*	Pn	15 19 55.2	+4.4

*IDC **20** 15:29:09.0±1.5,32.˚50S×178.˚71W,h0km,mb4.1/3,*
mb1 4.2/4,mb1mx3.8/35,mbtmp4.1/4,ML3.9/1,Error
ellipse: s-maj=39.5km s-min=32.1km az=68.0
*NEIC **20** 15:29:11.7±0.7,32.˚7S±0.˚2×178.˚81W±0.˚06,h10km±2km,*
mb4.2/9,Error ellipse: s-maj=34.6km s-min=8.1km az=4.0

ISC 20 15:29:10.8±1.1,32.˚6S±0.˚1×178.˚8W±0.˚2,h10km,n18,
σ0°65/18,mb4.2/8,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.54**	**209**	Pn	**Pn**	**15 30 47.8**	**+0.7**
	2.2nm,0.3s,baz=301,slow=19,SNR=17						
URZ				Sn	**Sn**	**15 32 00.9**	**-0.9**
	3.0nm,0.3s,baz=195,slow=17,SNR=6.1						
URZ	**Urewera**	**6.54**	**209**		Pn	15 30 41.1	-6.0
AS31	**Alice Springs**	**42.34**	**270**	P	**P**	**15 37 04.7**	**-0.5**
ASAR	**Alice Springs**	**42.34**	**270**	P	**P**	**15 37 05.8**	**+0.5**
	1.4nm,0.8s,baz=107,slow=7.4,SNR=28						
ASAR	**Alice Springs**	**42.34**	**270**	P	**P**	**15 37 05.0**	**-0.2**
WR0	**Warramunga Arr**	**43.35**	**275**	P	**P**	**15 37 13.6**	**+0.1**
WB2	**Warramunga Arr**	**43.52**	**275**	P	**P**	**15 37 15.1**	**+0.3**
WB2				IAmb	IAmb	15 37 15.7	
	comp=Z,2.8nm,0.6s						
WRAB	**Tennant Creek**	**43.52**	**275**	P	**P**	**15 37 15.0**	**+0.1**
WRAB				IAmb	IAmb	15 37 44.0	
	comp=Z,8.6nm,1.5s						
WRA	**Warramunga Arr**	**43.53**	**275**	P	**P**	**15 37 15.3**	**+0.4**
	comp=Z,1.5nm,0.4s,baz=118,slow=7.7,SNR=36						
WRA	**Warramunga Arr**	**43.53**	**275**	P	**P**	**15 37 14.8**	**-0.1**
WB0	**Warramunga Arr**	**43.56**	**275**	P	**P**	**15 37 15.3**	**+0.2**
WB0				IAmb	IAmb	15 37 30.2	
	comp=Z,4.6nm,1.1s						
VNDA	**Vanda**	**45.84**	**186**	P	**P**	**15 37 32.5**	**0.0**
VNDA				IAmb	IAmb	15 37 40.4	
	comp=Z,2.9nm,1.4s						
QSPA	**South Pole Qui**	**57.51**	**180**	P	**P**	**15 39 00.8**	**+0.7**
	comp=Z,2.8nm,1.1s,baz=325,slow=1.6,SNR=8.6						
SNAA	**Sanae**	**75.97**	**179**	P	**P**	**15 40 56.9**	**-0.7**
SNAA				IAmb	IAmb	15 41 17.7	
	comp=Z,4.7nm,1.5s						
FINES	**FINESS Array B**	**146.95**	**338**	PKPbc	**PKPdf**	**15 48 51.7**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=60,slow=3.4,SNR=6.0						
FINES	**FINESS Array B**	**146.95**	**338**	PKPdf	**PKPdf**	**15 48 51.4**	**+0.6**
NB2	**NORSAR Subarra**	**150.81**	**350**	PKP	**PKPbc**	**15 49 01.8**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=19,slow=2.6						
NOA	**NORSAR Array B**	**150.81**	**350**	PKPbc	**PKPbc**	**15 49 01.8**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=16,slow=4.2,SNR=3.6						

*IDC **20** 15:36:09.2±0.8,32.˚73N×139.˚23E,h185km±9km,mb3.0/3,*
mb1 3.2/6,mb1mx2.9/41,mbtmp3.5/6,Error ellipse:
s-maj=35.9km s-min=15.0km az=69.0
*JMA **20** 15:36:10.2±0.1,33.˚13N×139.˚21E,h199km,M2.6*

ISC 20 15:36:08.7±0.9,32.˚87N±0.˚07×139.˚24E±0.˚09,h192km±8km,
n17,σ1°57/23,mb3.2/3,Southeast of Honshu

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC |

VA06					IAML			15 39 31.0
	comp=N,20µm,0.3s							
CO06	**Fray Jorge**	**1.15**	**24**	*e*P		**Pn**	**15 39 08.6**	**-1.2**
CO06				*e*S		**Sg**	**15 39 23.8**	**-1.0**
CO06					IAML		15 39 32.5	
	comp=E,7µm,0.4s							
CO06	**Fray Jorge**	**1.15**	**24**			**Pn**	**15 39 09.0**	**-0.8**
CO06					Sg	**Sg**	**15 39 23.7**	**-1.0**
VA01	**Torpederas**	**1.36**	**161**	*e*P		**Pb**	**15 39 12.3**	**-0.9**
VA01	**Torpederas**	**1.36**	**161**		Pn	**Pb**	**15 39 12.3**	**-0.9**
VA01					Sg	**Sb**	**15 39 29.3**	**-1.4**
VA01	**Torpederas**	**1.36**	**161**	*i* P		**Pb**	**15 39 12.0**	**-1.2**
CO03	**El Pedregal**	**1.55**	**55**	*e*P		**Pb**	**15 39 15.7**	**-0.8**
CO03				*e*S		**Sg**	**15 39 36.1**	**-1.4**
CO03					IAML		15 39 40.0	
	comp=E,7µm,0.4s							
CO03	**El Pedregal**	**1.55**	**55**		Pn	**Pb**	**15 39 15.8**	**-0.7**
ROCH	**El Roble**	**1.58**	**142**	*e*P		**Pb**	**15 39 16.2**	**-0.8**
ROCH				*i* S		**Sg**	**15 39 38.1**	**-0.3**
ROCH					IAML		15 39 44.9	
	comp=N,5µm,0.6s							
VA03	**San Esteban**	**1.71**	**127**	*e*P		**Pb**	**15 39 18.3**	**-1.0**
VA03				*i* S		**Sb**	**15 39 41.2**	**+0.2**
VA03					IAML		15 39 45.3	
	comp=E,13µm,0.4s							
VA03	**San Esteban**	**1.71**	**127**			**Pb**	**15 39 18.2**	**-1.0**
GO04	**Tololo Observa**	**1.95**	**37**	*e*P		**Pb**	**15 39 21.1**	**-2.4**
GO04	**Tololo Observa**	**1.95**	**37**			**Pb**	**15 39 21.4**	**-2.1**
GO04	**Tololo Observa**	**1.95**	**37**	*i* P		**Pb**	**15 39 22.0**	**-1.4**
VA05	**Santo Domingo**	**1.97**	**166**	*e*P		**Pn**	**15 39 21.0**	**-0.2**
VA05				*i* S		**Sb**	**15 39 48.1**	**-0.3**
VA05					IAML		15 40 00.8	
	comp=E,8µm,0.3s							
VA05	**Santo Domingo**	**1.97**	**166**			**Pn**	**15 39 20.9**	**-0.3**
CO05	**La Serena**	**1.98**	**24**	*e*P		**Pb**	**15 39 21.6**	**-2.2**
CO05					IAML		15 39 59.7	
	comp=E,4µm,0.5s							
CO05	**La Serena**	**1.98**	**24**			**Pb**	**15 39 21.4**	**-2.4**
MT05	**Renca**	**2.05**	**144**	*e*P		**Pb**	**15 39 22.8**	**-2.2**
MT05					IAML		15 40 00.1	
MT05	**Renca**	**2.05**	**144**		Pn	**Pn**	**15 39 22.2**	**0.0**
MT05	**Renca**	**2.05**	**144**	*i* P		**Pb**	**15 39 23.0**	**-2.0**
MT01	**Popeta**	**2.26**	**160**	*i*P		**Pn**	**15 39 25.2**	**+0.1**
MT01	**Popeta**	**2.26**	**160**		Pn	**Pn**	**15 39 24.9**	**-0.2**
MT01	**Popeta**	**2.26**	**160**	*i* P		**Pn**	**15 39 25.0**	**-0.2**
MT09	**Talagante**	**2.27**	**154**	*e*P		**Pn**	**15 39 26.1**	**+0.8**
MT09					IAML		15 40 08.0	
	comp=N,2µm,0.3s							
MT09	**Talagante**	**2.27**	**154**			**Pb**	**15 39 26.2**	**-2.6**
AUSP	**Uspallata**	**2.41**	**102**	*i* P		**Pb**	**15 39 31.0**	**-0.4**
RTLS	**Leoncito**	**2.45**	**92**	*i* P		**Pb**	**15 39 31.0**	**-0.9**
LMEL	**Las Melosas**	**2.68**	**142**	*i*P		**Pn**	**15 39 32.4**	**+1.4**
BO03	**Pichilemu**	**2.76**	**176**	*i*P		**Pn**	**15 39 31.6**	**-0.4**
BO03				*e*S		**Sn**	**15 40 02.2**	**-3.1**
BO03					IAML		15 40 31.8	
	comp=N,2µm,1.0s							
AROD	**Rodeo**	**2.79**	**57**	*i* P		**Pb**	**15 39 37.0**	**-0.9**
BO01	**Tunca**	**2.80**	**161**	*e*P		**Pn**	**15 39 32.8**	**+0.2**
BO01					IAML		15 40 26.0	
	comp=E,671nm,0.4s							
BO01	**Tunca**	**2.80**	**161**			**Pn**	**15 39 32.7**	**+0.1**
BO01	**Tunca**	**2.80**	**161**	*i* P		**Pn**	**15 39 33.0**	**+0.4**
ACCO	**Cerro Coronel**	**2.90**	**68**	*i* P		**Pb**	**15 39 39.0**	**-0.6**
ASAL	**Salagasta**	**2.95**	**108**	*i* P		**Pb**	**15 39 40.0**	**-0.5**
ARCO	**CERRO ARCO**	**2.96**	**113**	*i* P		**Pg**	**15 39 42.0**	**-2.3**
ZON	**Zonda**	**2.98**	**87**	*i* P		**Pb**	**15 39 41.0**	**-0.9**
LCO	**Las Campanas**	**3.00**	**25**	*e*P		**Pn**	**15 39 35.4**	**-0.1**
LCO				*e*S		**Sn**	**15 40 10.4**	**-1.2**
LCO	**Las Campanas**	**3.00**	**25**	*i* P		**Pn**	**15 39 36.0**	**+0.5**
ACDV	**Cuesta del Vie**	**3.05**	**60**	*i* P		**Pb**	**15 39 41.0**	**-1.1**
RTCV	**Cerro Valdivia**	**3.09**	**93**	*i* P		**Pb**	**15 39 40.0**	**-2.8**
AAGR	**Agrelo**	**3.13**	**116**	*i* P		**Pb**	**15 39 42.0**	**-1.5**
BO02	**Sierra Bellavi**	**3.26**	**160**	*e*P		**Pn**	**15 39 39.6**	**+0.6**
BO02				*e*S		**Sg**	**15 40 30.6**	**-1.9**
BO02					IAML		15 40 39.3	
	comp=N,2µm,0.4s							
BO02	**Sierra Bellavi**	**3.26**	**160**		Pn	**Pn**	**15 39 39.4**	**+0.4**
BO02	**Sierra Bellavi**	**3.26**	**160**	*i* P		**Pn**	**15 39 40.0**	**+1.0**
GO05	**Huala**	**3.27**	**177**	*e*P		**Pn**	**15 39 38.4**	**-0.7**
GO05					IAML		15 40 46.3	
	comp=E,361nm,0.1s							
GO05	**Huala**	**3.27**	**177**		Pn	**Pn**	**15 39 38.2**	**-0.9**
GO05	**Huala**	**3.27**	**177**	*i* P		**Pn**	**15 39 39.0**	**-0.1**
AC04	**Llanos de Chal**	**3.64**	**15**	*e*P		**Pn**	**15 39 42.9**	**-1.2**
AC04	**Llanos de Chal**	**3.64**	**15**	Pn		**Pn**	**15 39 42.8**	**-1.2**
AC04	**Llanos de Chal**	**3.64**	**15**	*i* P		**Pn**	**15 39 43.0**	**-1.2**
AGUA	**GUANDACOL**	**3.88**	**56**	*i* P		**Pb**	**15 39 52.0**	**-4.3**
LAMA	**Las Malvinas**	**4.04**	**143**	*i* P		Pb	15 39 54.0	-4.9
ML02	**Panimavida**	**4.07**	**171**	*e*P		**Pn**	**15 39 50.3**	**+0.4**
ML02	**Panimavida**	**4.07**	**171**	Pn		**Pn**	**15 39 49.6**	**-0.3**
AVFE	**Valle Fertil**	**4.18**	**76**	*i* P		**Pn**	**15 39 55.0**	**+3.4**
RFA	**San Rafael**	**4.33**	**135**	*i* P		**Pn**	**15 39 56.0**	**+2.3**
GO03	**Copiap**	**4.46**	**23**	*e*P		**Pn**	**15 39 55.0**	**-0.4**
GO03	**Copiap**	**4.46**	**23**	Pn		**Pn**	**15 39 54.8**	**-0.5**
GO03	**Copiap**	**4.46**	**23**	*i* P		**Pn**	**15 39 56.0**	**+0.6**
VCA	**Vinchina**	**4.55**	**50**	*i* P		Pn	15 40 01.0	+4.3
AC06	**Mina Casimiro**	**4.64**	**20**	*e*P		**Pn**	**15 39 55.9**	**-1.9**
AC06	**Mina Casimiro**	**4.64**	**20**	Pn		**Pn**	**15 39 56.8**	**-1.0**
ACHE	**Chepes**	**4.74**	**85**	*i* P		Pn	15 40 04.0	+4.7
BI05	**Punta Hualpn**	**5.07**	**189**	*e*P		**Pn**	**15 40 02.6**	**-1.1**
AC02	**Maricunga**	**5.56**	**29**	*e*P		**Pn**	**15 40 11.4**	**+0.5**
AC02	**Maricunga**	**5.56**	**29**	Pn		**Pn**	**15 40 10.8**	**-0.1**
AC02	**Maricunga**	**5.56**	**29**	*i* P		**Pn**	**15 40 11.0**	**+0.1**
H03N1	**Juan Fernandez**	**5.94**	**252**	T		T	15 47 06.8	
	baz=82,slow=72,SNR=892							
H03N3	**Juan Fernandez**	**5.95**	**251**	T		T	15 47 05.9	
	baz=82,slow=72,SNR=760							
H03N2	**Juan Fernandez**	**5.96**	**252**	T		T	15 47 07.3	
	baz=82,slow=72,SNR=685							
H03S3	**Juan Fernandez**	**6.05**	**248**	T		T	15 47 22.7	
	baz=84,slow=75,SNR=14							
H03S1	**Juan Fernandez**	**6.05**	**248**	T		T	15 47 21.4	
	baz=84,slow=75,SNR=16							
H03S2	**Juan Fernandez**	**6.07**	**248**	T		T	15 47 05.2	
	baz=84,slow=75,SNR=22							
CYA	**Choya**	**6.42**	**61**	*i* P		**Pn**	**15 40 25.0**	**+2.7**
LC01	**Cunco**	**7.15**	**178**	Pn		**Pn**	**15 40 31.7**	**-0.6**
LC01	**Cunco**	**7.15**	**178**	*i* P		**Pn**	**15 40 32.0**	**-0.3**
PB14	**IPOC Station P**	**7.25**	**13**	Pn		**Pn**	**15 40 34.0**	**-0.1**
AHML	**Horco Molle**	**7.74**	**52**	*i* P		**Pn**	**15 40 44.0**	**+3.5**
LR03	**Panguipulli**	**7.88**	**181**			**Pn**	**15 40 41.9**	**-0.4**
PB10	**IPOC Station P**	**8.31**	**10**	Pn		**Pn**	**15 40 47.2**	**-1.1**
PB15	**IPOC Station P**	**8.82**	**16**	Pn		**Pn**	**15 40 54.2**	**-1.3**
PLCA	**Paso Flores**	**9.07**	**172**	Pn		**Pn**	**15 40 59.5**	**+0.7**
	comp=E,1.1nm,0.3s,baz=335,slow=12,SNR=42							
PLCA	**Paso Flores**	**9.07**	**172**	Pn		**Pn**	**15 40 59.2**	**+0.4**
PLCA	**Paso Flores**	**9.07**	**172**	*e*P		**Pn**	**15 40 59.4**	**+0.7**
PLCA	**Paso Flores**	**9.07**	**172**	*i* P		**Pn**	**15 40 59.0**	**+0.2**
LL04	**Puerto Octay**	**9.16**	**181**	Pn		**Pn**	**15 40 59.2**	**-0.6**
PB04	**IPOC Station P**	**9.53**	**11**	Pn		**Pn**	**15 41 04.5**	**-0.7**
LVC	**Limon Verde**	**9.54**	**18**	Pn		**Pn**	**15 41 08.6**	**+3.1**
	comp=E,0.4nm,0.3s,baz=182,slow=8.6,SNR=1.9							
LVC					LR	LR	15 45 24.3	
	comp=E,109nm,20.4s,baz=198,slow=41							
LVC	**Limon Verde**	**9.54**	**18**	Pn		**Pn**	**15 41 03.6**	**-1.9**
LVC	**Limon Verde**	**9.54**	**18**	*e*P		**Pn**	**15 41 07.0**	**+1.5**
LL05	**Los Muermos**	**9.71**	**186**	Pn		**Pn**	**15 41 07.7**	**+0.3**
PB07	**IPOC Station P**	**10.17**	**12**	Pn		**Pn**	**15 41 14.4**	**+0.4**
PB09	**IPOC Station P**	**10.24**	**15**	Pn		**Pn**	**15 41 15.6**	**+0.7**
TRQA	**Tornquist**	**10.47**	**130**	Pn		**Pn**	**15 41 18.3**	**+0.4**
TRQA	**Tornquist**	**10.47**	**130**	*e*P		**Pn**	**15 41 18.3**	**+0.4**
ALOL	**LOMAS DE OLMEDO**	**10.71**	**45**	*i* P		**Pn**	**15 41 22.0**	**+0.8**
TA02	**Huaiquique**	**11.56**	**10**	Pn		**Pn**	**15 41 33.9**	**+1.1**
ITQB	**Itaqui**	**13.53**	**85**			**Pn**	**15 41 59.3**	**-0.4**
ITQB	**Itaqui**	**13.53**	**85**	*e*P		**Pn**	**15 41 59.7**	**0.0**
CPUP	**Villa Florida**	**14.05**	**71**	Pn		**Pn**	**15 42 07.3**	**+0.5**
	comp=E,0.4nm,0.3s,baz=241,slow=12,SNR=9.7							
CPUP					LR	LR	15 47 50.3	
	comp=E,111nm,18.0s,baz=218,slow=39							
CPUP	**Villa Florida**	**14.05**	**71**	Pn		**Pn**	**15 42 06.3**	**-0.6**
CPUP	**Villa Florida**	**14.05**	**71**	*e*P		**Pn**	**15 42 06.2**	**-0.6**
PLTB	**Pedras Altas**	**15.80**	**95**	Pn		**Pn**	**15 42 30.5**	**+0.2**
PLTB	**Pedras Altas**	**15.80**	**95**	*e*P		**Pn**	**15 42 29.7**	**-0.6**
LPAZ	**La Paz**	**15.81**	**14**	Pn		**P**	**15 42 32.3**	**-2.7**
	comp=E,0.1nm,0.3s,baz=191,slow=9.0,SNR=13							
LPAZ	**La Paz**	**15.81**	**14**	Pn		**Pn**	**15 42 31.2**	**+0.2**
LPAZ	**La Paz**	**15.81**	**14**	*e*P		**Pn**	**15 42 30.9**	**-0.2**
CPSB	**Cacapava Do Su**	**16.11**	**90**	*e*P		**Pn**	**15 42 33.4**	**-0.8**
CNLB	**Canela**	**18.52**	**88**	*e*P		**Pn**	**15 43 03.8**	**-0.7**
AQDB	**Aquidauana**	**18.53**	**57**	*e*P		**Pn**	**15 43 04.4**	**-0.2**
SIV	**San Ignacio**	**18.65**	**35**	P		**Pn**	**15 43 06.8**	**+0.8**
	comp=E,0.2nm,0.3s,baz=239,slow=12,SNR=11							

PTGB	**Pitanga**	**19.03**	**73**	*e*P		**Pn**	**15 43 09.9**	**-0.8**
PTLB	**Pontes e Lacer**	**20.10**	**39**	*e*P		Pn	15 43 21.5	-1.9
NNA	**Nana**	**20.12**	**347**	LR		LR	15 49 20.1	
	comp=E,41nm,19.4s,baz=200,slow=31							
TER01	**Tubaro-SC**	**20.17**	**87**	*e*P		**P**	**15 43 22.0**	**-0.4**
PP1B	**Ponte de Pedra**	**21.05**	**52**	*e*P		**P**	**15 43 32.1**	**+0.2**
PCMB	**Pacaembu**	**21.20**	**67**	*e*P		**P**	**15 43 33.6**	**+0.1**
TIJ01	**Guaruva-PR**	**21.31**	**78**	*e*P		**P**	**15 43 34.2**	**-0.6**
VILB	**Vilhena**	**21.69**	**33**	*e*P		**P**	**15 43 38.9**	**+0.1**
SALV	**Santo Antonio**	**21.76**	**47**	*e*P		**P**	**15 43 39.1**	**-0.4**
ETMB	**Extrema**	**22.50**	**15**	*e*P		**P**	**15 43 47.5**	**0.0**
ITRB	**Iturama**	**22.96**	**64**	*e*P		**P**	**15 43 52.0**	**-0.4**
PET01	**Itanhaem-SP**	**23.16**	**78**	*e*P		**P**	**15 43 54.3**	**-0.1**
SPB	**Sao Paulo**	**23.32**	**76**	*e*P		**P**	**15 43 55.9**	**-0.2**
BB19B	**Bebedouro**	**23.64**	**69**	*e*P		**P**	**15 43 59.1**	**-0.2**
RCLB	**Rio Claro- Sao**	**23.77**	**73**	*e*P		**P**	**15 44 00.3**	**-0.2**
CZSB	**Cruzeiro do Su**	**23.89**	**359**	*e*P		**P**	**15 44 02.1**	**+0.5**
VAO	**Valinhos**	**23.97**	**75**	*e*P		**P**	**15 44 01.9**	**-0.5**
SAML	**Samuel**	**24.16**	**22**	P		**P**	**15 44 04.7**	**+0.5**
SAML	**Samuel**	**24.16**	**22**	*e*P		**P**	**15 44 04.3**	**+0.2**
PARB	**Paraibuna**	**24.93**	**77**	*e*P		**P**	**15 44 11.3**	**+0.1**
IPMB	**Ipameri, GO**	**25.61**	**63**	*e*P		**P**	**15 44 17.2**	**-0.2**
CLDB	**Colider**	**25.69**	**40**	*e*P		**P**	**15 44 18.1**	**0.0**
ESAR	**Angra dos Reis**	**26.05**	**77**	*e*P		**P**	**15 44 21.1**	**-0.2**
BSCB	**Bom Sucesso**	**26.70**	**73**	*e*P		**P**	**15 44 27.0**	**-0.3**
VAS01	**Vassouras-RJ**	**27.20**	**77**	*e*P		**P**	**15 44 31.3**	**-0.5**
BDFB	**Brasilia**	**27.22**	**60**	P		**P**	**15 44 32.1**	**+0.2**
	comp=E,6.0nm,0.9s,baz=259,slow=6.8,SNR=8.3							
BDFB	**Brasilia**	**27.22**	**60**	P		**P**	**15 44 31.3**	**-0.7**
BDFB					IAmb	IAmb	15 44 33.6	
	comp=E,7.3nm,0.9s							
TBTG	**Tabatinga, AM**	**27.48**	**5**	*e*P		**P**	**15 44 34.7**	**+0.4**
SNDB	**Serra Nova Dou**	**27.51**	**49**	*e*P		**P**	**15 44 34.5**	**0.0**
DUB01	**Friburgo-RJ**	**28.18**	**77**	*e*P		**P**	**15 44 39.8**	**-0.7**
CAM01	**Campos-RJ**	**28.89**	**78**	*e*P		**P**	**15 44 46.5**	**-0.3**
DIAM	**Diamantina, MG**	**28.98**	**69**	*e*P		**P**	**15 44 47.5**	**-0.3**
NPGB	**Novo Progresso**	**29.15**	**36**	*e*P		**P**	**15 44 48.4**	**-0.7**
PEXB	**Peixe**	**29.41**	**54**	*e*P		**P**	**15 44 50.8**	**-0.6**
MC01	**Montes Claros**	**29.66**	**66**	*e*P		**P**	**15 44 53.4**	**-0.3**
ALF01	**Guarapari-ES**	**30.21**	**76**	*e*P		**P**	**15 44 57.0**	**-1.5**
JANB	**Januaria**	**30.35**	**63**	*e*P		**P**	**15 44 59.6**	**-0.2**
SJMB	**Sao Joao De Ma**	**30.77**	**73**	*e*P		**P**	**15 45 03.2**	**-0.3**
BSFB	**Barra de Sao F**	**30.98**	**73**	*e*P		**P**	**15 45 05.0**	**-0.4**
RIB01	**Linhares ES**	**31.11**	**74**	*e*P		**P**	**15 45 05.7**	**-0.8**
ITTB	**Itaituba**	**31.29**	**33**	*e*P		**P**	**15 45 07.5**	**-0.6**
SDBA	**SAO DESIDERIO**	**31.60**	**59**	*e*P		**P**	**15 45 10.9**	**0.0**
SMTB	**Santa Maria do**	**32.24**	**50**	*e*P		**P**	**15 45 16.3**	**-0.1**
OTAV	**Otavalo**	**32.35**	**348**	*e*P		**P**	**15 45 17.4**	**-0.4**
GUA01	**Guaratinga, BA**	**33.00**	**70**	*e*P		**P**	**15 45 22.9**	**-0.2**
MALB	**Monte Alegre**	**34.19**	**33**	*e*P		**P**	**15 45 33.2**	**-0.1**
GDU01	**Guandu, BA**	**34.81**	**66**	*e*P		**P**	**15 45 38.4**	**-0.4**
BOAV	**Boa Vista**	**35.70**	**20**	*e*P		**P**	**15 45 46.5**	**+0.1**
NBPN	**Ponto Novo - B**	**36.10**	**62**	*e*P		**P**	**15 45 49.3**	**-0.6**
MCPB	**Macapa, AP**	**36.55**	**35**	*e*P		**P**	**15 45 53.8**	**+0.1**
RUSC	**La Rusia**	**37.43**	**359**	P		**P**	**15 46 01.1**	**-0.5**
NBLA	**Lagarto - SE**	**37.85**	**65**	*e*P		**P**	**15 46 04.5**	**-0.3**
ROSB	**Rosrio**	**38.98**	**48**	*e*P		**P**	**15 46 14.1**	**-0.2**
NBMA	**Murití-CE**	**39.45**	**59**	*e*P		**P**	**15 46 18.1**	**-0.2**
NBPB	**Pedra_Branca-C**	**40.10**	**56**	*e*P		**P**	**15 46 23.4**	**-0.3**
NBLV	**Livramento - P**	**40.82**	**61**	*e*P		**P**	**15 46 29.3**	**-0.4**
NBRF	**Rio Formoso -**	**41.33**	**64**	*e*P		**P**	**15 46 33.7**	**-0.1**
NBMO	**Morrinhos-CE**	**41.37**	**53**	*e*P		**P**	**15 46 33.7**	**-0.4**
NBPA	**Parau_BN**	**41.74**	**59**	*e*P		**P**	**15 46 37.0**	**-0.2**
NBCL	**Cascavel-CE**	**41.94**	**56**	*e*P		**P**	**15 46 38.8**	**-0.1**
VNA3	**Neumayer Olymp**	**51.50**	**158**	P		**P**	**15 47 54.5**	**+1.4**
VNA1	**Neumayer--Stat**	**51.80**	**158**	P		**P**	**15 47 57.2**	**+2.0**
VNA2	**Neumayer--Watz**	**52.14**	**158**	P		**P**	**15 47 58.8**	**+1.0**
	baz=286,slow=8.5							
SNAA	**Sanae**	**53.72**	**158**	P		**P**	**15 48 10.6**	**+1.0**
SNAA	**Sanae**	**53.72**	**158**	P		**P**	**15 48 10.4**	**+0.8**
SOR	**Soroa**	**55.20**	**348**	P		**P**	**15 48 21.9**	**+1.2**
SOR					IAmb	IAmb	15 48 39.4	
	comp=E,10.0nm,1.1s							
QSPA	**South Pole Qui**	**58.50**	**180**	P		**P**	**15 48 45.0**	**+1.2**
QSPA					IAmb	IAmb	15 48 46.3	
	comp=E,5.8nm,0.8s							
250A	**Grady**	**64.76**	**347**	P		**P**	**15 49 27.8**	**+1.6**
TX31	**Lajitas Ar. Si**	**67.71**	**330**	P		**P**	**15 49 46.6**	**+1.2**
TX31					IAmb	IAmb	15 49 47.7	
	comp=E,6.7nm,1.1s							
TX32	**Lajitas Array**	**67.71**	**330**	P		**P**	**15 49 46.7**	**+1.3**
TXAR	**Lajitas Array**	**67.71**	**330**	P		**P**	**15 49 46.8**	**+1.4**
	comp=E,2.0.8nm,0.5s,baz=153,slow=8.0,SNR=15							
TXAR	**Lajitas Array**	**67.71**	**330**	P		**P**	**15 49 46.4**	**+1.1**
W50A	**Signal Mountai**	**67.72**	**348**	P		**P**	**15 49 45.5**	**+0.3**
V51A	**Loudon**	**68.15**	**349**	P		**P**	**15 49 48.7**	**+0.9**
V51A					IAmb	IAmb	15 49 49.7	
	comp=E,5.4nm,0.8s							
Z35A	**Perchaven, San**	**68.91**	**338**	P		**P**	**15 49 53.8**	**+1.1**
ABTX	**Abilene, Hawle**	**69.08**	**335**	P		**P**	**15 49 54.9**	**+1.2**
W39A	**Magazine**	**69.61**	**341**	P		**P**	**15 49 58.2**	**+1.3**
W39A					IAmb	IAmb	15 49 59.3	
	comp=E,7.3nm,1.1s							
MNTX	**Cornudas Mount**	**70.49**	**330**	P		**P**	**15 50 02.8**	**+0.3**
MSTX	**Muleshoe**	**71.44**	**333**	P		**P**	**15 50 09.1**	**+0.8**
CCM	**Cathedral Cave**	**71.68**	**344**	P		**P**	**15 50 10.6**	**+1.1**
CCM					IAmb	IAmb	15 50 11.1	
	comp=E,5.5nm,1.2s							
R40A	**Maddies Statio**	**72.14**	**343**	P		**P**	**15 50 13.0**	**+0.7**
R40A					IAmb	IAmb	15 50 13.8	
	comp=E,5.7nm,0.9s							
P40A	**Paris**	**73.27**	**344**	P		**P**	**15 50 19.6**	**+0.7**
P40A					IAmb	IAmb	15 50 20.6	
	comp=E,5.6nm,0.8s							
LENM	**Lemitar**	**73.29**	**330**	P		**P**	**15 50 20.9**	**+1.4**
DBIC	**Dimbokro**	**74.57**	**72**	P		**P**	**15 50 27.8**	**+0.6**
	comp=E,4.8nm,0.7s,baz=237,slow=3.2,SNR=6.9							
DBIC	**Dimbokro**	**74.57**	**72**	P		**P**	**15 50 27.5**	**+0.3**
DBIC					IAmb	IAmb	15 50 28.1	
	comp=E,8.5nm,0.9s							
T25A	**Trinidad**	**74.86**	**334**	P		**P**	**15 50 29.8**	**+1.2**
T25A					IAmb	IAmb	15 50 31.5	
	comp=E,6.6nm,0.9s							
X16A	**Lo Mia Camp, P**	**75.47**	**327**	P		**P**	**15 50 33.6**	**+1.4**
W13A	**Hualapai Mount**	**77.18**	**326**	P		**P**	**15 50 43.6**	**+1.7**
LMN	**Caledonia Moun**	**77.51**	**5**	P		**P**	**15 50 44.5**	**+1.3**
PV05	**Paradox Valley**	**77.52**	**331**	P		**P**	**15 50 44.9**	**+1.1**
PV05					IAmb	IAmb	15 50 45.7	
	comp=E,4.2nm,1.2s							
PV03	**Paradox Valley**	**77.57**	**331**	P		**P**	**15 50 44.7**	**+0.7**
PV17	**East Wray Mesa**	**77.64**	**331**	P		**P**	**15 50 45.5**	**+1.2**
PV17					IAmb	IAmb	15 50 46.3	
	comp=E,2.5nm,0.8s							
KNB	**Kanab**	**78.25**	**328**	P		**P**	**15 50 48.6**	**+0.8**
KNB					IAmb	IAmb	15 50 50.5	
	comp=E,3.5nm,0.9s							
ECSD	**EROS Data Cent**	**78.36**	**342**	P		**P**	**15 50 48.1**	**+0.1**
ECSD					IAmb	IAmb	15 50 49.5	
	comp=E,4.7nm,0.8s							
CCUT	**Cedar City**	**78.93**	**328**	P		**P**	**15 50 53.9**	**+2.3**
CCUT					IAmb	IAmb	15 50 55.0	
	comp=E,5.4nm,1.1s							
MSU	**Marysvale**	**79.20**	**329**	P		**P**	**15 50 53.7**	**+0.7**
MVU	**Marysvale**	**79.21**	**329**	P		**P**	**15 50 53.9**	**+0.8**
QSM	**Queen of Sheba**	**79.32**	**325**	P		**P**	**15 50 54.8**	**+1.3**
P17A	**Butcher Ranch,**	**79.39**	**331**	P		**P**	**15 50 55.0**	**+1.1**
P17A					IAmb	IAmb	15 50 56.3	
	comp=E,6.9nm,1.4s							
GWY	**Greenwater Val**	**79.40**	**325**	P		**P**	**15 50 55.3**	**+1.2**
GWY					IAmb	IAmb	15 50 56.7	
	comp=E,6.0nm,1.3s							
PRN	**Pahroc Range**	**79.60**	**327**	P		**P**	**15 50 57.2**	**+2.1**
PRN					IAmb	IAmb	15 50 59.0	
	comp=E,6.5nm,1.0s							
TPNV	**Topopah Spring**	**79.80**	**326**	P		**P**	**15 50 58.5**	**+2.2**
KOWA	**Kowa**	**79.81**	**66**	P		**P**	**15 50 57.0**	**+0.4**
PSUT	**Pine Spring**	**79.96**	**328**	P		**P**	**15 50 58.2**	**+1.1**
SPR3	**Spring Creek 3**	**80.56**	**328**	P		**P**	**15 51 01.7**	**+1.2**
SPR3					IAmb	IAmb	15 51 03.6	
	comp=E,4.9nm,1.3s							
R11A	**Troy Canyon, C**	**80.61**	**327**	P		**P**	**15 51 01.8**	**+1.2**
DUG	**Dugway, Tooele**	**80.87**	**330**	P		**P**	**15 51 03.2**	**+1.3**
TPH	**Tonopah**	**81.16**	**326**	P		**P**	**15 51 05.2**	**+1.6**
HWUT	**Hardware Ranch**	**81.52**	**331**	P		**P**	**15 51 06.2**	**+0.8**
HWUT					IAmb	IAmb	15 51 07.3	
	comp=E,3.4nm,0.7s							
PDAR	**Pinedale Array**	**81.70**	**333**	P		**P**	**15 51 07.3**	**+1.0**
	comp=E,2.0.5nm,0.3s,baz=211,slow=2.6,SNR=4.8							
NVAR	**Mina Array Bea**	**81.97**	**325**	P		**P**	**15 51 09.9**	**+2.0**
	comp=E,2.1nm,0.7s,baz=156,slow=5.8,SNR=20							
NVAR	**Mina Array Bea**	**81.97**	**325**	P		**P**	**15 51 08.9**	**+1.0**
RYN	**Ryan**	**82.23**	**325**	P		**P**	**15 51 10.3**	**+1.1**
RYN					IAmb	IAmb	15 51 11.9	
	comp=E,4.0nm,1.0s							
KVN	**Kaiserville**	**82.36**	**326**	P		**P**	**15 51 10.7**	**+0.8**
KVN					IAmb	IAmb	15 51 12.2	
	comp=E,2.9nm,0.9s							
YERR	**Yerington**	**82.86**	**325**	P		**P**	**15 51 13.9**	**+1.4**
YERR					IAmb	IAmb	15 51 15.4	
	comp=E,4.6nm,1.0s							
PAHR	**Pah Rah Range**	**83.49**	**325**	P		**P**	**15 51 17.3**	**+1.7**
TORD	**Torodi Ar. Bea**	**83.55**	**70**	P		**P**	**15 51 16.8**	**+0.4**
	comp=E,2.9nm,0.7s,baz=263,slow=4.3,SNR=18							
TORD					LR	LR	16 25 40.1	
	comp=E,25nm,21.6s,baz=110,slow=34							
TORD	**Torodi Ar. Bea**	**83.55**	**70**	P		**P**	**15 51 16.6**	**+0.3**
TORD					IAmb	IAmb	15 51 26.6	
	comp=E,4.6nm,0.8s							
BEKR	**Beckworth**	**84.09**	**325**	P		**

MT01	**Popeta**	**2.57**	**170**	Pn		**Pn**	**15 49 54.9**	**+1.0**
ZON	**Zonda**	**2.66**	**95**	Pn		**Pb**	**15 49 58.6**	**-1.5**
LMEL	**Las Melosas**	**2.84**	**153**	*eP*		**Pn**	**15 49 59.9**	**+2.1**
LMEL				*i* S		**Sn**	**15 50 34.0**	**+2.0**
LMEL				IAML			15 50 50.7	
	comp=N,529nm,0.1s							
BO01	**Tunca**	**3.11**	**169**	Pn		**Pn**	**15 50 03.0**	**+1.6**
AC04	**Llanos de Chal**	**3.17**	**11**	Pn		**Pn**	**15 50 02.9**	**+0.7**
BO02	**Sierra Bellavi**	**3.55**	**167**	Pn		**Pn**	**15 50 09.1**	**+1.6**
GO05	**Huala**	**3.67**	**182**	Pn		**Pn**	**15 50 08.9**	**-0.2**
GO03	**Copiap**	**3.96**	**20**	Pn		**Pn**	**15 50 14.8**	**+1.7**
AC06	**Mina Casimiro**	**4.15**	**18**	Pn		**Pn**	**15 50 16.5**	**+0.9**
ML02	**Panimavida**	**4.43**	**176**	Pn		**Pn**	**15 50 19.2**	**-0.3**
AC02	**Maricunga**	**5.04**	**28**	Pn		**Pn**	**15 50 29.6**	**+1.2**
H03N1	**Juan Fernandez**	**6.39**	**249**	T		T	15 57 31.0	
	baz=76,slow=72,SNR=1723							
H03N3	**Juan Fernandez**	**6.41**	**249**	T		T	15 57 28.6	
	baz=76,slow=72,SNR=243							
H03N2	**Juan Fernandez**	**6.41**	**249**	T		T	15 57 31.8	
	baz=76,slow=72,SNR=253							
LC01	**Cunco**	**7.55**	**181**	Pn		**Pn**	**15 51 03.4**	**+1.1**
LR03	**Panguipulli**	**8.30**	**183**	Pn		**Pn**	**15 51 13.4**	**+0.8**
PLCA	**Paso Flores**	**9.44**	**174**	Pn		**Pn**	**15 51 31.0**	**+2.7**
	comp=N,0.1nm,0.3s,baz=350,slow=9.5,SNR=1.7							
PLCA	**Paso Flores**	**9.44**	**174**			**Pn**	**15 51 30.7**	**+2.4**
PB07	**IPOC Station P**	**9.71**	**10**			**Pn**	**15 51 31.6**	**-0.6**
CPUP	**Villa Florida**	**13.61**	**72**	Pn		**Pn**	**15 52 26.6**	**+1.4**
PLTB	**Pedras Altas**	**15.50**	**96**	P		**P**	**15 52 53.7**	**-1.7**
PLTB				IAmb		IAmb	15 53 16.6	
	comp=Z,6.8nm,1.1s							
QSPA	**South Pole Qui**	**58.90**	**180**	P		**P**	**15 59 11.4**	**+0.3**
QSPA				IAmb		IAmb	15 59 16.6	
	comp=Z,1.5nm,1.1s							
TORD	**Torodi Ar. Bea**	**83.10**	**70**	P		**P**	**16 01 37.4**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=242,slow=4.6,SNR=4.7							
TORD	**Torodi Ar. Bea**	**83.10**	**70**	IAmb		IAmb	16 01 39.1	
	comp=Z,1.1nm,0.9s							
H11S2	**WAKE ISLAND Hyl**	**25.99**	**271**	T		T	18 27 03.7	
	baz=116,slow=75,SNR=14							
H11S1	**WAKE ISLAND Hyl**	**26.00**	**271**	T		T	18 27 04.2	
	baz=116,slow=75,SNR=14							
H11S3	**WAKE ISLAND Hyl**	**26.01**	**271**	T		T	18 27 04.4	
	baz=116,slow=75,SNR=11							
BVAR	**Borovoye Array**	**145.14**	**40**	PKP		**PKPbc**	**16 08 49.2**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=276,slow=4.1,SNR=4.6							
ZALV	**Zalesovo Beam**	**151.83**	**30**	PKPbc		**PKPbc**	**16 09 06.7**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=316,slow=4.0,SNR=5.4							

MEX 20 15:56:52.8±0.4, 16.24N×98.08W, h5km±4km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.16**	**345**	*eP*	Pg	15 56 55.7	-0.4
PNIG				*eS*	Sg	15 56 58.3	+0.1
PEIG	**Puerto Escondi**	**0.93**	**105**	*eP*	Pg	15 57 08.6	-2.1
PEIG				*eS*	Sg	15 57 20.9	-1.9
TXIG	**Tlaxiaco**	**1.06**	**17**	*eP*	Pg	15 57 10.5	-2.6
TXIG				*eS*	Sg	15 57 24.0	-2.8
MGIG	**Malinaltepec**	**1.12**	**332**	*eP*	Pg	15 57 11.0	-3.4
MGIG				*eS*	Sg	15 57 25.8	-3.2
TLIG	**Tlapa**	**1.40**	**341**	*eP*	Pn	15 57 15.1	-4.0
TLIG				*eS*	Sb	15 57 33.0	-4.6
HLIG	**Huajuapan de L**	**1.61**	**10**	*eP*	Pn	15 57 19.6	-2.5
HLIG				*eS*	Sn	15 57 39.8	-3.5
FTIG	**Fresnillo de T**	**1.66**	**358**	*eP*	Pn	15 57 20.9	-1.9
FTIG				*eS*	Sn	15 57 41.3	-3.2
DAIG	**Los Arroyos**	**1.69**	**298**	*eP*	Pn	15 57 21.9	-1.2
DAIG				*eS*	Sn	15 57 41.0	-4.1

IDC ***20*** *16:09:12.6±0.7, 40.97N×73.55E, h0km, mb3.9/24, mb1 4.0/30, mb1mx3.9/56, mbtmp3.9/30, ML3.3/7, MS3.5/20, Ms1 3.5/20, ms1mx3.3/53, Error ellipse: s-maj=13.0km s-min=8.0km az=136.0*

BJI ***20*** *16:09:13.0±0.0, 41.15N×72.85E, h30km, mB4.6/14, mb4.2/23, ML4.4/3, Ms4.0/15, Ms7 3.8/15*

KRNET ***20*** *16:09:15.1±0.1, 41.13N×73.51E, h17km, mb4.7*

MOS ***20*** *16:09:15.0±2.3, 40.95N×73.29E, h13km, mb4.7/14, Error ellipse: s-maj=5.9km s-min=4.1km az=73.3*

MOS Felt (V) at Kandzyga,(IV-V) at Saty, Kalmak-Kyrchyn, (IV) at Kek-Dzangak, Salam-Alik, (III-IV) at Sary-Bulak, Kadu, (III) at Dzalal-Abad,(II) at Taraz.

NEIC ***20*** *16:09:17.0±2.8, 41.14N±0.03×73.48E±0.04, h10km±1km, mb4.5/26, Error ellipse: s-maj=5.3km s-min=5.0km az=199.0*

SOME ***20*** *16:09:16.7, 41.17N×73.58E, h15km, MS3.6*

NNC ***20*** *16:09:16.3±1.2, 41.18N×73.45E, h0km, mb5.0, mpv4.8, Error ellipse: s-maj=10.3km s-min=4.8km az=177.0*

KNET ***20*** *16:09:16.8±0.6, 41.22N×73.61E, h9km±2km, ml4.4, Error ellipse: s-maj=5.1km s-min=2.6km az=71.0*

ISC 20 16:09:15.0±1.0, 41.11N±0.02×73.59E±0.02, h11km±6km, n258, σ1$77/319, mb4.2/49, MS3.5/18, 52C-24D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.51**	**296**	PG	**Pg**	**16 09 25.6**	**+0.6**
ARSB						16 09 31.9	
ARSB	**Arslanbob**	**0.51**	**296**	Pg	**Pg**	**16 09 25.6**	**+0.6**
ARSB				Sg	**Sg**	**16 09 31.9**	**+0.1**
OHH	**Osh**	**0.84**	**227**	⇓*iP*	**Pg**	**16 09 30.7**	**-0.5**
	baz=23						
OHH				⇓*iS*	**Sg**	**16 09 41.6**	**-0.7**
	baz=23						
ARLS	**Aral**	**0.93**	**36**	⇑*iP*	**Pb**	**16 09 33.1**	**-0.2**
	baz=40						
ARLS				⇑*iS*	**Sb**	**16 09 46.2**	**+0.4**
	baz=40						
AML	**Almayashu**	**1.03**	**4**	⇑*iP*	**Pg**	**16 09 34.4**	**-0.4**
	baz=8.0						
AML				⇑*iS*	**Sb**	**16 09 48.6**	**-0.2**
	baz=8.0						
AML	**Almayashu**	**1.03**	**4**	⇓P	**Pg**	**16 09 34.9**	**+0.1**
	1μm,0.2s,SNR=1747						
AML				⇓S	**Sb**	**16 09 48.8**	**+0.1**
	17μm,0.3s						
SFK	**Sufi-Kurgan**	**1.09**	**184**	⇑*iP*	**Pb**	**16 09 35.7**	**-0.3**
	baz=80						
SFK				⇑*iS*	**Sn**	**16 09 51.6**	**-0.1**
	baz=80						
UCH	**Uchtor**	**1.32**	**31**	⇑*iP*	**Pb**	**16 09 40.0**	**0.0**
	baz=34						
UCH				⇑*iS*	**Sg**	**16 09 58.1**	**+0.6**
	baz=34						
UCH	**Uchtor**	**1.32**	**31**	P	**Pg**	**16 09 40.1**	**-0.2**
	453nm,0.2s,SNR=639						
UCH				⇓S	**Sg**	**16 09 58.3**	**+0.8**
	3μm,0.2s						
EKS2	**Erkin-Say**	**1.56**	**5**	⇑*eP*	**Pb**	**16 09 44.0**	**0.0**
	baz=7.0						
EKS2				⇑*eS*	**Sg**	**16 10 04.7**	**-0.5**
	baz=7.0						
EKS2	**Erkin-Say**	**1.56**	**5**	⇓P	**Pb**	**16 09 44.4**	**+0.4**
	290nm,0.2s,SNR=619						
EKS2				⇓S	**Sg**	**16 10 05.0**	**-0.2**
	2μm,0.2s						
KZA	**Kyzart**	**1.58**	**51**	⇑*eP*	**Pg**	**16 09 44.9**	**-0.4**
	baz=53						
KZA				⇑*iS*	**Sg**	**16 10 06.7**	**+0.9**
	baz=53						
KZA	**Kyzart**	**1.58**	**51**	⇑P	**Pg**	**16 09 44.8**	**-0.4**
	604nm,0.4s,SNR=715						
MNAS	**Manas**	**1.60**	**330**	⇓*iP*	**Pn**	**16 09 44.1**	**+0.7**
	baz=31						
MNAS				⇓*iS*	**Sb**	**16 10 05.0**	**-0.1**
	baz=31						
MRKS	**Merke**	**1.66**	**351**	*eP*	**Pg**	**16 09 46.3**	**-0.6**
	1μm,0.3s						
MRKS				*eS*	**Sg**	**16 10 07.7**	**-0.7**
	15μm,0.2s						
MRKS	**Merke**	**1.66**	**351**	P	**Pg**	**16 09 46.3**	**-0.6**
	1μm,0.3s						
MRKS				S	**Sg**	**16 10 07.7**	**-0.7**
	15μm,0.2s						
MRKS	**Merke**	**1.66**	**351**	*ePN*	**Pg**	**16 09 46.3**	**-0.6**
MRKS				*eS*	**Sg**	**16 10 07.7**	**-0.7**
AAK	**Ala-Archa**	**1.67**	**23**	Pg	**Pg**	**16 09 46.6**	**-0.5**
	90nm,0.3s,baz=187,slow=8.5,SNR=312						
AAK				Lg	Lg	16 10 09.7	
	446nm,0.3s,baz=4.1,slow=21,SNR=9.7						
AAK				LR	LR	16 10 39.5	
	comp=Z,983nm,19.0s,baz=250,slow=48						
AAK	**Ala-Archa**	**1.67**	**23**	*ce*PN	**Pg**	**16 09 46.7**	**-0.4**
AAK				pmax	pmax		
	comp=Z,3μm,0.7s						
AAK	**Ala-Archa**	**1.67**	**23**		**Pg**	**16 09 46.7**	**-0.4**
AAK				Sn	**Sb**	**16 10 06.7**	**-0.4**
KBK	**Karagaybulak**	**1.85**	**33**	⇑*iP*	**Pb**	**16 09 49.5**	**+0.5**
	baz=35						
KBK				⇑*iS*	**Sg**	**16 10 14.4**	**-0.1**
	baz=35						
KBK	**Karagaybulak**	**1.85**	**33**	⇑P	**Pg**	**16 09 49.8**	**-0.7**
	comp=Z,332nm,0.3s,SNR=390						
KBK				⇓S	**Sg**	**16 10 15.2**	**+0.6**
	comp=Z,6μm,0.5s						
FRU1	**Bishkek**	**1.87**	**24**	⇑*iP*	**Pb**	**16 09 49.8**	**+0.6**
	baz=25						
FRU1				⇑*iS*	**Sg**	**16 10 15.1**	**0.0**
	baz=25						
FRU1	**Bishkek**	**1.87**	**24**	PN	**Pg**	**16 09 50.7**	**-0.1**
FRU1	**Bishkek**	**1.87**	**24**		**Pg**	**16 09 50.7**	**-0.1**
TRKS	**Terek-Say**	**1.90**	**284**	⇓*iP*	**Pn**	**16 09 48.6**	**+1.1**
	baz=82						
TRKS				⇓*iS*	**Sn**	**16 10 12.2**	**+0.7**
	baz=82						
CHMS	**Chumysh**	**2.08**	**24**	⇑*iP*	**Pb**	**16 09 52.4**	**-0.4**
	baz=26						
CHMS				⇑*iS*	**Sb**	**16 10 19.7**	**+1.0**
	baz=26						
CHMS	**Chumysh**	**2.08**	**24**	⇑P	**Pg**	**16 09 53.8**	**-1.0**
	comp=Z,641nm,0.3s,SNR=342						
CHMS				⇑S	**Sg**	**16 10 21.4**	**-0.4**
	comp=Z,1μm,0.3s						
DRK	**Karamyk**	**2.12**	**221**	⇑*iP*	**Pb**	**16 09 52.7**	**-0.9**
	baz=19						
DRK				⇑*iS*	**Sb**	**16 10 20.2**	**0.0**
	baz=19						
DRK	**Karamyk**	**2.12**	**221**		**Pb**	**16 09 52.8**	**-0.9**
BOOM	**Boomskoye usch**	**2.23**	**51**	⇑*iP*	**Pb**	**16 09 55.1**	**-0.4**
	baz=52						
BOOM				⇑*iS*	**Sb**	**16 10 24.4**	**+1.1**
	baz=52						
BOOM	**Boomskoye usch**	**2.23**	**51**	PN	**Pb**	**16 09 56.1**	**+0.6**
BOOM	**Boomskoye usch**	**2.23**	**51**	Pn	**Pb**	**16 09 56.1**	**+0.6**
USP	**Ospenovka**	**2.26**	**17**	⇑*iP*	**Pb**	**16 09 54.8**	**-1.1**
	baz=19						
USP				⇑*iS*	**Sb**	**16 10 23.9**	**-0.1**
	baz=19						
USP	**Ospenovka**	**2.26**	**17**	P	**Pb**	**16 09 56.0**	**0.0**
	SNR=407						
ULHL	**Ulahol**	**2.29**	**59**	⇑*iP*	**Pb**	**16 09 55.9**	**-0.5**
	baz=60						
ULHL				⇑*iS*	**Sb**	**16 10 25.8**	**+1.0**
	baz=60						
ULHL	**Ulahol**	**2.29**	**59**	⇑P	**Pb**	**16 09 56.4**	**0.0**
	comp=Z,87nm,0.2s,SNR=133						
TKM2	**Tokmak 2**	**2.35**	**39**	⇑*iP*	**Pb**	**16 09 56.6**	**-0.9**
	baz=40						
TKM2				⇑*iS*	**Sb**	**16 10 26.8**	**+0.2**
	baz=40						
TKM2	**Tokmak 2**	**2.35**	**39**	⇓P	**Pb**	**16 09 57.7**	**+0.2**
	comp=Z,416nm,0.3s,SNR=419						
TKM2				⇓S	**Sg**	**16 10 29.5**	**-1.0**
	comp=Z,504nm,0.2s						
TKM2	**Tokmak 2**	**2.35**	**39**	⇑Pn	**Pb**	**16 09 57.5**	**0.0**
	comp=Z,401nm,0.5s						
TKM2				⇓Sn	**Sg**	**16 10 29.6**	**-0.9**
	comp=Z,2μm,0.7s						
TKM2	**Tokmak 2**	**2.35**	**39**	*i* PN	**Pb**	**16 09 57.5**	**0.0**
TKM2				pmax	pmax		
	comp=Z,401nm,0.4s						
BTK	**Batken**	**2.36**	**245**	PN	**Pn**	**16 09 54.6**	**+0.9**
BTK	**Batken**	**2.36**	**245**	Pn	**Pn**	**16 09 54.6**	**+0.9**
KSH	**Kashi**	**2.41**	**130**	Pn	**Pb**	**16 09 58.9**	**+0.4**
KSH				Sn	**Sb**	**16 10 28.8**	**+0.4**
KSH				smax	smax		
	comp=Z,2μm,1.0s						
KSH				smax	smax		
	comp=Z,2μm,0.9s						
DZA	**Taraz**	**2.46**	**317**	*eP*	**Pg**	**16 10 01.0**	**-1.0**
	comp=Z,3μm,0.4s						
DZA				*eS*	**Sg**	**16 10 32.8**	**-1.1**
	comp=Z,8μm,0.3s						
DZA	**Taraz**	**2.46**	**317**	Pg	**Pg**	**16 10 01.0**	**-1.0**
	comp=Z,3μm,0.4s						
DZA				Lg	Lg	16 10 32.8	
	comp=Z,8μm,0.3s						
DZA	**Taraz**	**2.46**	**317**	*ePN*	**Pg**	**16 10 01.0**	**-1.0**
DZA				*eS*	**Sg**	**16 10 32.8**	**-1.1**
SGDS	**Sogindy**	**2.47**	**18**	Pg	**Pg**	**16 10 02.1**	**-0.2**
	comp=Z,882nm,0.4s						
SGDS				Lg	Lg	16 10 33.7	
	comp=Z,2μm,0.4s						
SGDS	**Sogindy**	**2.47**	**18**	*ePN*	**Pb**	**16 09 59.1**	**-0.3**
KST	**Kastek**	**2.62**	**42**	*eP*	**Pg**	**16 10 05.1**	**-0.1**
	comp=Z,199nm,0.5s						
KST				*eS*	**Sg**	**16 10 39.2**	**+0.1**
	comp=Z,541nm,0.5s						
KST	**Kastek**	**2.62**	**42**	Pg	**Pg**	**16 10 05.1**	**-0.1**
	comp=Z,199nm,0.5s						
KST				Lg	Lg	16 10 39.2	
	comp=Z,541nm,0.5s						
KST	**Kastek**	**2.62**	**42**	*ePN*	**Pg**	**16 10 05.1**	**-0.1**
KST				*eS*	**Sg**	**16 10 39.2**	**+0.1**
DGS	**Degeres**	**2.68**	**36**	*eP*	**Pg**	**16 10 06.0**	**-0.3**
	comp=Z,385nm,0.5s						
DGS				*eS*	**Sg**	**16 10 41.4**	**+0.3**
	comp=Z,2μm,0.5s						
DGS	**Degeres**	**2.68**	**36**	Pg	**Pg**	**16 10 06.0**	**-0.3**
	comp=Z,385nm,0.5s						
DGS				Lg	Lg	16 10 41.4	
	comp=Z,2μm,0.5s						
DGS	**Degeres**	**2.68**	**36**	*ePN*	**Pg**	**16 10 06.0**	**-0.3**
DGS				*eS*	**Sg**	**16 10 41.4**	**+0.3**
MTBS	**Maitube**	**2.92**	**45**	*eP*	**Pg**	**16 10 10.1**	**-0.9**
	comp=Z,135nm,0.3s						
MTBS				*eS*	**Sg**	**16 10 48.4**	**-0.5**
	comp=Z,1μm,0.3s						
MTBS	**Maitube**	**2.92**	**45**	Pg	**Pg**	**16 10 10.1**	**-0.9**
	comp=Z,135nm,0.3s						
MTBS				Lg	Lg	16 10 48.4	
	comp=Z,1μm,0.3s						
MTBS	**Maitube**	**2.92**	**45**	*ePN*	**Pg**	**16 10 10.1**	**-0.9**
MTBS				*eS*	**Sg**	**16 10 48.4**	**-0.5**
IZV	**Izvestkoviy**	**2.96**	**48**	*eP*	**Pg**	**16 10 12.0**	**+0.3**
	comp=Z,574nm,0.3s						
IZV				*eS*	**Sg**	**16 10 51.4**	**+1.3**
	comp=Z,1μm,0.5s						
IZV	**Izvestkoviy**	**2.96**	**48**	Pg	**Pg**	**16 10 12.0**	**+0.3**
	comp=Z,574nm,0.3s						
IZV				Lg	Lg	16 10 51.4	
	comp=Z,1μm,0.5s						
IZV	**Izvestkoviy**	**2.96**	**48**	*ePN*	**Pg**	**16 10 12.0**	**+0.3**
IZV				*eS*	**Sg**	**16 10 51.4**	**+1.3**
KRBS	**Karabastau**	**3.01**	**30**	*eP*	**Pg**	**16 10 11.8**	**-0.9**
	comp=Z,130nm,0.4s						
KRBS				*eS*	**Sg**	**16 10 50.8**	**-1.0**
	comp=Z,895nm,0.3s						
KRBS	**Karabastau**	**3.01**	**30**	Pg	**Pg**	**16 10 11.8**	**-0.9**
	comp=Z,130nm,0.4s						
KRBS				Lg	Lg	16 10 50.8	
	comp=Z,895nm,0.3s						
KRBS	**Karabastau**	**3.01**	**30**	*ePN*	**Pg**	**16 10 11.8**	**-0.9**
KRBS				*eS*	**Sg**	**16 10 50.8**	**-1.0**
KK31	**Karatay Array**	**3.04**	**312**	⇓Pn	**Pn**	**16 10 04.6**	**+1.6**
	comp=Z,4.7nm,0.3s,baz=126,slow=12						
KK31				⇓Pg	**Pb**	**16 10 10.2**	**+1.0**
	comp=Z,271nm,0.3s,baz=120,slow=18,SNR=5.3						
KK31				Lg	Lg	16 10 50.7	
	comp=Z,798nm,0.4s,baz=132,slow=27,SNR=12						
KK31	**Karatay Array**	**3.04**	**312**	*ePN*	**Pn**	**16 10 04.6**	**+1.6**
KK31	**Karatay Array**	**3.04**	**312**		**Pn**	**16 10 04.7**	**+1.6**
KKAR	**Karatay Array**	**3.04**	**312**	PN	**Pn**	**16 10 04.6**	**+1.5**
KKAR	**Karatay Array**	**3.04**	**312**		**Pn**	**16 10 04.6**	**+1.5**
KKAR	**Karatay Array**	**3.04**	**312**		**Pn**	**16 10 04.7**	**+1.6**
TNSS	**Tian-Shan**	**3.16**	**51**	*eP*	**Pg**	**16 10 14.8**	**-0.7**
	comp=Z,145nm,0.5s						
TNSS				*eS*	**Sg**	**16 10 56.2**	**-0.2**
	comp=Z,359nm,0.6s						
TNSS	**Tian-Shan**	**3.16**	**51**	Pg	**Pg**	**16 10 14.8**	**-0.7**
	comp=Z,145nm,0.5s						
TNSS				Lg	Lg	16 10 56.2	
	comp=Z,359nm,0.6s						
TNSS	**Tian-Shan**	**3.16**	**51**	*ePN*	**Pg**	**16 10 14.8**	**-0.7**
TNSS				*eS*	**Sg**	**16 10 56.2**	**-0.2**
CHM	**Chimkent**	**3.22**	**293**	*eP*	**Pg**	**16 10 17.7**	**+1.0**
	comp=Z,1μm,0.6s						
CHM				*eS*	**Sg**	**16 11 00.0**	**+1.6**
	comp=Z,3μm,0.3s						
TAS	**Tashkent**	**3.25**	**275**	⇓*iP*	**Pn**	**16 10 07.5**	**+1.6**
	baz=75						
TAS				⇓*iS*	**Sn**	**16 10 46.1**	**+1.5**
	baz=75						
TAS	**Tashkent**	**3.25**	**275**	PN	**Pn**	**16 10 07.3**	**+1.3**
TAS	**Tashkent**	**3.25**	**275**	Pn	**Pn**	**16 10 07.3**	**+1.3**
GAR	**Garm**	**3.28**	**231**		**Pn**	**16 10 08.8**	**+2.4**
KNDC	**Almaty**	**3.28**	**49**	⇑Pg	**Pg**	**16 10 15.4**	**-2.4**
	comp=Z,760nm,0.6s						
KNDC				⇓Lg	Lg	16 11 00.1	
	comp=Z,5μm,1.1s						
KNDC	**Almaty**	**3.28**	**49**	PN	**Pg**	**16 10 15.3**	**-2.4**
KNDC						16 11 00.0	
MDOK	**Medeo**	**3.29**	**50**	*eP*	**Pg**	**16 10 17.5**	**-0.5**
	comp=Z,112nm,0.4s						
MDOK				*eS*	**Sg**	**16 11 00.5**	**-0.2**
	comp=Z,939nm,0.9s						
MDOK	**Medeo**	**3.29**	**50**	⇑Pn	**Pb**	**16 10 11.3**	**-2.3**
	comp=Z,7.1nm,0.6s						
MDOK				⇑Pg	**Pg**	**16 10 14.9**	**-3.1**
	comp=Z,348nm,0.8s						
MDOK				⇓Lg	Lg	16 10 59.4	
	comp=Z,2μm,0.9s						
MDOK	**Medeo**	**3.29**	**50**	Pg	**Pg**	**16 10 17.5**	**-0.5**
	comp=Z,112nm,0.4s						
MDOK				Lg	Lg	16 11 00.5	
	comp=Z,939nm,0.9s						
MDOK	**Medeo**	**3.29**	**50**	PN	**Pb**	**16 10 11.2**	**-2.3**
KOTS	**Kotyrbulak**	**3.37**	**50**	*eP*	**Pg**	**16 10 19.6**	**0.0**
	comp=Z,256nm,0.3s						
KOTS				*eS*	**Sg**	**16 11 04.1**	**+0.8**
	comp=Z,1μm,0.5s						
KOTS	**Kotyrbulak**	**3.37**	**50**	Pg	**Pg**	**16 10 19.6**	**0.0**
	comp=Z,256nm,0.3s						
KOTS				Lg	Lg	16 11 04.1	
	comp=Z,1μm,0.5s						
KOTS	**Kotyrbulak**	**3.37**	**50**	*ePN*	**Pg**	**16 10 19.6**	**0.0**
KOTS				*eS*	**Sg**	**16 11 04.1**	**+0.8**
KUU	**Kurty**	**3.45**	**35**	*eP*	**Pg**	**16 10 19.7**	**-1.3**
	comp=Z,154nm,0.3s						
KUU				*eS*	**Sg**	**16 11 04.4**	**-1.3**
	comp=Z,782nm,0.4s						
KUU	**Kurty**	**3.45**	**35**	Pg	**Pg**	**16 10 19.7**	**-1.3**
	comp=Z,154nm,0.3s						
KUU				Lg	Lg	16 11 04.4	
	comp=Z,782nm,0.4s						
KUU	**Kurty**	**3.45**	**35**	*ePN*	**Pg**	**16 10 19.7**	**-1.3**
KUU				*eS*	**Sg**	**16 11 04.4**	**-1.3**
KTBS	**Karatobe**	**3.47**	**40**	*eP*	**Pg**	**16 10 19.9**	**-1.5**
	comp=Z,85nm,0.3s						
KTBS				*eS*	**Sg**	**16 11 04.7**	**-1.6**
	comp=Z,2μm,0.5s						
KTBS	**Karatobe**	**3.47**	**40**	Pg	**Pg**	**16 10 19.9**	**-1.5**
	comp=Z,85nm,0.3s						
KTBS				Lg	Lg	16 11 04.7	
	comp=Z,2μm,0.5s						
KTBS	**Karatobe**	**3.47**	**40**	*ePN*	**Pg**	**16 10 19.9**	**-1.5**
KTBS				*eS*	**Sg**	**16 11 04.7**	**-1.6**
ANVS	**Anan'yevo**	**3.47**	**60**	⇑*iP*	**Pb**	**16 10 12.8**	**-3.8**
	baz=60						
ANVS				⇑*iS*	**Sb**	**16 10 54.9**	**-3.9**
	baz=60						
CHKK	**Chushkaly**	**3.72**	**41**	*eP*	**Pg**	**16 10 23.6**	**-2.7**
	comp=Z,23nm,0.3s						
CHKK				*eS*	**Sg**	**16 11 11.6**	**-2.9**
	comp=Z,746nm,0.3s						
CHKK	**Chushkaly**	**3.72**	**41**	Pg	**Pg**	**16 10 23.6**	**-2.7**
	comp=Z,23nm,0.3s						
CHKK				Lg	Lg	16 11 11.6	
	comp=Z,746nm,0.3s						
CHKK	**Chushkaly**	**3.72**	**41**	*ePN*	**Pg**	**16 10 23.6**	**-2.7**
CHKK				*eS*	**Sg**	**16 11 11.6**	**-2.9**
PRZ	**Przheval'sk**	**3.85**	**67**	⇑*eP*	**Pn**	**16 10 17.9**	**+3.6**
	baz=68						
PRZ				⇑*iS*	**Sn**	**16 11 03.5**	**+3.8**
	baz=68						
PRZ	**Przheval'sk**	**3.85**	**67**	PN	**Pb**	**16 10 19.3**	**-3.7**
PRZ	**Przheval'sk**	**3.85**	**67**	Pn	**Pb**	**16 10 19.3**	**-3.7**
BTLS	**Baital**	**3.95**	**5**	*eP*	**Pg**	**16 10 28.5**	**-2.1**
	comp=Z,116nm,0.3s						
BTLS				*eS*	**Sg**	**16 11 18.4**	**-3.3**
	comp=Z,944nm,0.5s						
BTLS	**Baital**	**3.95**	**5**	Pg	**Pg**	**16 10 28.5**	**-2.1**
	comp=Z,116nm,0.3s						
BTLS				Lg	Lg	16 11 18.4	
	comp=Z,944nm,0.5s						
SATY	**Saty**	**4.08**	**60**	*eP*	**Pg**	**16 10 32.1**	**-1.0**
	comp=Z,74nm,0.6s						
SATY				*eS*	**Sg**	**16 11 25.2**	**-0.7**
	comp=Z,537nm,0.7s						
SATY	**Saty**	**4.08**	**60**	Pg	**Pg**	**16 10 32.1**	**-1.0**
	comp=Z,74nm,0.6s						
SATY				Lg	Lg	16 11 25.2	
	comp=Z,537nm,0.7s						
KURS	**Kuram**	**4.15**	**53**	*eP*	**Pg**	**16 10 32.7**	**-1.7**
	comp=Z,93nm,0.4s						
KURS				*eS*	**Sg**	**16 11 27.0**	**-1.1**
	comp=Z,286nm,0.6s						
KURS	**Kuram**	**4.15**	**53**	Pg	**Pg**	**16 10 32.7**	**-1.7**
	comp=Z,93nm,0.4s						
KURS				Lg

MAKZ **Makanchi** 8.31 44 Pn **Pn** 16 11 19.2 +3.8
THW **Thamme Wali** 8.43 191 P Pn 16 11 17.8 +0.7
MK31 **Makanchi Array** 8.46 45 Pn **Pn** 16 11 22.1 +4.6
comp=Z,7.3nm,0.5s,baz=232,slow=13,SNR=144
MK31 ⇑Pg **Pb** 16 11 45.7 +4.2
comp=Z,9.8nm,0.5s,baz=230,slow=15,SNR=21
MK31 ⇑Lg Lg 16 13 41.1
comp=Z,71nm,0.8s,baz=232,slow=28,SNR=5.1
MK31 Makanchi Array 8.46 45 P **Pn** 16 11 21.8 +4.3
MK31 Makanchi Array 8.46 45 Pn **Pn** 16 11 21.8 +4.3
MKAR Makanchi Array 8.46 45 Pn **Pn** 16 11 21.0 +3.5
comp=Z,0.4nm,0.3s,baz=238,slow=14,SNR=20
MKAR Lg Lg 16 13 40.3
comp=Z,1.6nm,0.3s,baz=249,slow=28,SNR=2.7
MKAR LR LR 16 15 01.1
comp=Z,134nm,20.5s,baz=232,slow=41
MKAR Makanchi Array 8.46 45 Pn **Pn** 16 11 22.0 +4.5
KURBB Kurchatov Arra 10.12 18 Pn **Pn** 16 11 40.3 +0.2
comp=Z,0.2nm,0.3s,baz=212,slow=12,SNR=18
KURBB Lg Lg 16 14 30.1
comp=Z,1.0nm,0.3s,baz=206,slow=27,SNR=3.7
KURBB Kurchatov Arra 10.12 18 ⇑Pn **Pn** 16 11 41.4 +1.3
comp=Z,16nm,0.6s
KURBB ⇑Lg Lg 16 14 32.0
comp=Z,62nm,0.7s
KURBB Kurchatov Arra 10.12 18 P **Pn** 16 11 41.4 +1.3
KURK Kurchatov 10.23 18 P **Pn** 16 11 40.4 -1.2
KURK Kurchatov 10.23 18 **Pn** 16 11 40.4 -1.2
WMQ Urumqi 10.77 71 *e*P Pn 16 11 56.9 +7.8
WMQ LR LR
comp=Z,330nm,6.7s
WMQ LR LR
comp=Z,500nm,5.7s
WMQ LR LR
comp=Z,340nm,7.5s
HRA Herat 11.21 237 Pn **Pn** 16 11 52.6 -2.7
BVAR Borovoye Array 12.12 351 Pn **Pn** 16 12 06.2 -1.4
comp=Z,0.6nm,0.3s,baz=175,slow=18,SNR=19
BVAR Sn Sn 16 14 11.4 -11
comp=Z,1.1nm,0.3s,baz=158,slow=25,SNR=1.5
BVAR Lg Lg 16 15 33.2
comp=Z,3.2nm,0.3s,baz=157,slow=29,SNR=4.3
BRVK Borovoye 12.17 350 ⇑P **Pn** 16 12 06.5 -1.6
comp=Z,20nm,0.8s
BRVK Borovoye 12.17 350 *i* P **Pn** 16 12 10.5 +2.3
BRVK Borovoye 12.17 350 Pn **Pn** 16 12 06.5 -1.6
GEYT Alibeck 12.37 260 Pn **Pn** 16 12 08.7 -2.2
comp=Z,0.7nm,0.3s,baz=125,slow=7.4,SNR=5.9
GEYT Sn Sn 16 14 18.8 -10
comp=Z,1.4nm,0.3s,baz=223,slow=37,SNR=2.2
GEYT LR LR 16 17 58.8
comp=Z,184nm,18.6s,baz=85,slow=43
GYA0B ALIBECK ARRAY 12.37 260 **Pn** 16 12 10.7 -0.3
AB31 Akbulak array 12.60 315 ⇓P **Pn** 16 12 12.6 -1.6
comp=Z,12nm,0.6s
AB31 Akbulak array 12.60 315 P **Pn** 16 12 12.5 -1.6
ABKAR Akbulak array 12.60 315 Pn **Pn** 16 12 12.2 -1.9
DGZ Jazzator, Alta 12.96 44 ⇓ *i* P Pn 16 12 24.2 +5.0
AKTO Aktyubinsk 14.30 316 Pn **Pn** 16 12 35.5 -1.8
comp=Z,0.3nm,0.3s,baz=128,slow=16,SNR=7.1
AKTO Sn **Sn** 16 15 12.6 -3.2
comp=Z,0.3nm,0.3s,baz=225,slow=22,SNR=2.2
AKTO Lg Lg 16 16 46.0
comp=Z,0.5nm,0.3s,baz=209,slow=17,SNR=2.6
AKTO LR LR 16 18 33.1
comp=Z,253nm,18.8s,baz=130,slow=39
AKTO Aktyubinsk 14.30 316 ⇑P **Pn** 16 12 35.3 -2.0
comp=Z,10nm,0.5s
ZAA0 Zalesovo Array 14.89 27 Pn **Pn** 16 12 47.7 +2.4
ZALV Zalesovo Beam 14.89 27 Pn **Pn** 16 12 46.6 +1.3
comp=Z,0.9nm,0.3s,baz=216,slow=13,SNR=22
ZALV Sn **S** 16 15 44.0 -4.4
comp=Z,0.5nm,0.3s,baz=221,slow=13,SNR=4.1
ZALV Lg Lg 16 17 00.2
baz=223,slow=27,SNR=1.4
ZALV LR LR 16 18 44.1
comp=Z,286nm,18.7s,baz=214,slow=38
ZALV Zalesovo Beam 14.89 27 Pn **Pn** 16 12 47.7 +2.3
PYUN Piuthan 15.09 146 *e*P **Pn** 16 12 45.6 -2.8
comp=Z,29nm,0.5s
KOLN Koldanda 15.64 145 *e*P **Pn** 16 12 54.9 -0.7
GKN Gorkha 15.90 142 *e*P **Pn** 16 13 00.0 +1.0
KKN Kakani 16.39 140 *e*P **P** 16 13 07.5 -0.6
comp=Z,31nm,0.8s
DMN Daman 16.46 141 *e*P **Pn** 16 13 07.4 +1.3
PKIN Phulchoki 16.62 141 *e*P **P** 16 13 10.1 -0.6
comp=Z,14nm,0.6s
PKI Pulchoki 16.63 141 *e*P **P** 16 13 10.1 -0.8
comp=Z,28nm,0.9s
SVE Sverdlovsk 17.84 336 *e*P **P** 16 13 26.4 +2.8
SVE *e*S **Sn** 16 16 43.0 +1.4
ARU Arti 18.19 333 P **Pn** 16 13 27.2 -0.1
comp=Z,0.0nm,0.3s,baz=164,slow=6.2,SNR=6.8
ARU S **Sn** 16 16 49.8 -0.4
comp=Z,0.0nm,0.3s,baz=297,slow=22,SNR=1.3
ARU Lg Lg 16 18 47.7
comp=Z,0.0nm,0.3s,baz=317,slow=18,SNR=2.4
ARU LR LR 16 20 53.9
comp=Z,169nm,19.0s,baz=153,slow=38
ARU Arti 18.19 333 *c i* P **P** 16 13 27.5 -0.1
ARU S **Sn** 16 16 51.0 +0.8
ARU pmax pmax
comp=Z,7.0nm,0.9s
ARU MLR MLR
comp=Z,184nm,14.0s
ARU Arti 18.19 333 P **Pn** 16 13 24.5 -2.8
ODAN Odare 18.21 137 *e*P **P** 16 13 29.3 +1.1
comp=Z,28nm,0.9s
LSA Lhasa 18.25 123 P **Pn** 16 13 28.3 -0.4
LSA pmax pmax
comp=Z,13nm,1.4s
LSA Lhasa 18.25 123 P **Pn** 16 13 28.2 -0.4
AKT Akhty 19.42 280 *e*P **Pn** 16 13 44.2 +1.7
AKT *e* 16 17 11.4
AKT pmax pmax
comp=Z,11nm,0.6s
AKT pmax pmax
comp=E,17nm,0.6s
AKT pmax pmax
comp=N,15nm,0.6s
GTA Gaotai 20.06 86 ⇑P Pn 16 13 50.4 +0.2
GTA pmax pmax
comp=N,10.0nm,1.0s
GTA pmax pmax
comp=N,67nm,4.9s
GTA LR LR
comp=N,200nm,18.2s
GTA LR LR
comp=N,270nm,18.2s
GTA LR LR
comp=N,130nm,16.4s
GROC Groznyy 20.68 285 *e*P **P** 16 13 54.7 -0.2
GROC *e* 16 14 11.6
GROC pmax pmax
comp=Z,54nm,1.0s
BELG Belogornoye 20.95 311 P **P** 16 13 56.4 -1.4
comp=Z,9.1nm,0.4s,baz=112,slow=5.4,SNR=2.4
BELG LR LR 16 23 18.4
comp=Z,47nm,18.3s,baz=147,slow=40
UOSS Minazif 21.67 227 P **P** 16 14 03.1 -2.5
UOSS IAmb IAmb 16 14 15.8
comp=Z,14nm,1.1s
WSAR Wadi Sarin 21.80 220 P **P** 16 14 05.7 -1.4
comp=Z,3.7nm,0.6s,baz=35,slow=2.4,SNR=5.0
GNI Garni 21.88 277 P **P** 16 14 06.7 -1.3
comp=Z,5.5nm,0.6s,baz=125,slow=16,SNR=2.2
GNI Garni 21.88 277 P **P** 16 14 06.5 -1.5
GNI pmax pmax
comp=Z,23nm,1.0s
GNI Garni 21.88 277 P **P** 16 14 06.5 -1.5
GNI IAmb IAmb 16 14 23.8
comp=Z,23nm,1.0s
ZEI Tsey 22.10 284 *e*P **P** 16 14 16.3 +5.9
ZEI pmax pmax
comp=Z,3.0nm,0.7s
NCK Nalchik 22.26 286 *i* P **P** 16 14 10.9 -1.0
NCK pmax pmax
comp=Z,8.0nm,0.8s
ONI Oni 22.45 284 P **P** 16 14 15.1 +1.1
ONI pmax pmax
comp=Z,18nm,0.8s
ONI Oni 22.45 284 P **P** 16 14 15.1 +1.1
ONI IAmb IAmb 16 14 31.0
comp=Z,18nm,0.8s
ZAK Zakamensk 22.57 56 *e*P **P** 16 14 11.8 -3.5
ZAK pmax pmax
comp=Z,7.0nm,1.2s
KBZ Khabaz 22.75 287 P **P** 16 14 17.6 +0.5
comp=Z,1.7nm,0.7s,baz=79,slow=14,SNR=4.0
KBZ Khabaz 22.75 287 *i* P **P** 16 14 17.4 +0.3
KVAR Kislovodsk Arr 22.88 287 P **P** 16 14 19.5 +0.9
comp=Z,1.4nm,0.4s,baz=96,slow=18,SNR=1.2
KVAR LR LR 16 25 22.4
comp=Z,52nm,18.5s,baz=337,slow=42
KIV Kislovodsk 22.89 287 *e*P **P** 16 14 18.5 -0.2
KIV *e*S **S** 16 18 28.4 +0.1
KIV pmax pmax
comp=Z,20nm,1.0s
KIV MLR MLR
comp=Z,38nm,14.0s
KIV Kislovodsk 22.89 287 P **P** 16 14 20.4 +1.7
KIRV Kirov 23.22 327 P **P** 16 14 22.7 +0.9
comp=Z,2.7nm,0.4s,baz=133,slow=4.5,SNR=1.6
KIRV LR LR 16 24 03.7
comp=Z,314nm,18.1s,baz=138,slow=38
VRH Novokhopyorsk 24.10 306 *e*P **P** 16 14 31.6 +1.2
VRH pmax pmax
comp=Z,10.0nm,0.6s
LZH Lanzhou 24.10 92 *e*P **P** 16 14 35.0 +4.2
LZH pP sP 16 14 39.9 +3.6
LZH sP pP 16 14 43.8 +9.1
LZH pmax pmax
comp=Z,22nm,1.1s
LZH LR LR
comp=Z,240nm,12.7s
LZH LR LR
comp=Z,210nm,13.0s
LZH LR LR
comp=Z,180nm,15.6s
SONM Songino Array 24.23 63 P **P** 16 14 31.8 0.0
comp=Z,0.8nm,0.8s,baz=282,slow=7.4,SNR=5.8
SONM LR LR 16 24 15.1
comp=Z,68nm,18.2s,baz=228,slow=37
SONM Songino Array 24.23 63 IAmb IAmb 16 14 37.8
comp=Z,1.3nm,1.3s
SIRT Sinak 24.31 272 P **P** 16 14 33.1 +0.5
ULN Ulaanbaatar 24.67 63 *i* P **P** 16 14 37.0 +1.1
ULN pmax pmax
comp=Z,3.0nm,0.9s
LPSR Galich'ya Gora 26.09 308 *e*P **P** 16 14 49.5 +1.0
LPSR pmax pmax
comp=Z,10.0nm,0.8s
HHC Hu-ho-hao-te 28.52 78 *e*P **P** 16 15 15.0 +4.4
KLMR Klimovskoe 28.66 325 *e*P P 16 15 03.3 -8.1
KLMR pmax pmax
comp=Z,10.0nm,1.2s
KLMR Klimovskoe 28.66 325 *e*P P 16 15 03.3 -8.1
KLMR AMP 16 15 07.1
comp=Z,10.0nm,1.2s
NRIK Noril'sk 29.24 10 LR LR 16 28 47.9
comp=Z,157nm,18.2s,baz=198,slow=40
BR131 Keskin Array S 30.27 281 P **P** 16 15 25.9 -0.2
BR131 pmax pmax
comp=Z,4.0nm,0.8s
BR131 Keskin Array S 30.27 281 P **P** 16 15 25.9 -0.2
BRTR Keskin Array B 30.27 281 P **P** 16 15 25.7 -0.5
comp=Z,1.1nm,0.8s,baz=93,slow=8.9,SNR=8.0
BRTR LR LR 16 29 41.9
comp=Z,66nm,19.1s,baz=53,slow=41
BRTR Keskin Array B 30.27 281 P **P** 16 15 26.0 -0.2
AKASG Malin Array Be 31.90 303 P **P** 16 15 39.8 -0.4
comp=Z,0.2nm,0.4s,baz=76,slow=7.6,SNR=2.3
AKBB Malin Array Si 31.90 303 P **P** 16 15 39.7 -0.5
AKBB pmax pmax
comp=Z,4.0nm,0.9s
AKBB Malin Array Si 31.90 303 P **P** 16 15 39.7 -0.5
AKBB IAmb IAmb 16 15 50.6
comp=Z,3.5nm,0.9s
WHN Wuhan 34.41 95 P **P** 16 16 02.1 -0.2
MLR Muntele Rosu 34.55 294 P **P** 16 16 04.2 +0.6
MLR pmax pmax
comp=Z,5.0nm,0.7s
MLR Muntele Rosu 34.55 294 P **P** 16 16 04.2 +0.6
MLR IAmb IAmb 16 16 24.4
comp=Z,4.8nm,0.7s
FIA1 FINESS Array S 34.95 322 P **P** 16 16 06.8 +0.1
FIA1 IAmb IAmb 16 16 15.2
comp=Z,4.6nm,0.9s
FINES FINESS Array B 34.95 322 P **P** 16 16 06.7 0.0
comp=Z,1.0nm,0.5s,baz=115,slow=9.2,SNR=12
FINES LR LR 16 31 00.5
comp=Z,101nm,21.9s,baz=96,slow=37
FINES FINESS Array B 34.95 322 P **P** 16 16 06.8 +0.1
KWP Kalwaria Pacla 36.14 301 P **P** 16 16 18.4 +1.3
KWP pmax pmax
comp=Z,39nm,0.8s
KWP Kalwaria Pacla 36.14 301 P **P** 16 16 18.4 +1.3
NJ2 Nanjing 37.10 89 *e*P **P** 16 16 27.6 +2.2
NJ2 pmax pmax
comp=Z,13nm,0.6s
ARCES ARCESS Array B 37.76 335 P **P** 16 16 29.8 -0.7
comp=Z,1.4nm,0.7s,baz=100,slow=6.8,SNR=8.7
ARCES LR LR 16 31 38.1
comp=Z,36nm,21.1s,baz=130,slow=36
ARCES ARCESS Array B 37.76 335 IAmb IAmb 16 16 30.1
comp=Z,9.7nm,1.0s
IDI Anoyia 38.31 278 P **P** 16 16 35.4 -0.3
comp=Z,6.0nm,0.9s,baz=46,slow=9.3,SNR=3.2
YAK Yakutsk 39.07 38 P **P** 16 16 42.5 +0.8
comp=Z,1.3nm,0.3s,baz=121,slow=2.0,SNR=1.4
YAK Yakutsk 39.07 38 *i* P **P** 16 16 42.2 +0.5
YAK pmax pmax
comp=Z,6.0nm,0.8s
TIXI Tiksi 40.75 24 P **P** 16 16 55.9 +0.4
comp=Z,1.5nm,0.3s,baz=275,slow=5.4,SNR=2.2
CONA Conrad Observa 40.88 300 *e*P **P** 16 17 00.6 +3.5
comp=Z,2.0nm,0.7s
NC405 NORSAR Array S 41.80 320 P **P** 16 17 05.6 +1.3
NC602 NORSAR Array S 41.89 319 P **P** 16 17 05.2 +0.3
NC602 IAmb IAmb 16 17 11.5
comp=Z,12nm,1.1s
NC303 NORSAR Array S 41.97 320 P **P** 16 17 05.4 -0.2
NC303 IAmb IAmb 16 17 11.4
comp=Z,9.6nm,1.1s
CLL Collm 42.03 305 *i* sP sP 16 17 12.8 +1.0
comp=Z,5.0nm,1.1s
NB2 NORSAR Subarra 42.04 320 P **P** 16 17 05.0 -1.3
comp=Z,2.6nm,0.7s,baz=90,slow=8.6
NOA NORSAR Array B 42.04 320 P **P** 16 17 05.1 -1.2
comp=Z,1.1nm,0.9s,baz=90,slow=8.0,SNR=2.8
NOA LR LR 16 35 32.8
comp=Z,86nm,20.4s,baz=90,slow=38
GEC2 GERESS Array S 42.09 302 P **P** 16 17 07.4 +0.5
GERES GERESS Array B 42.09 302 P **P** 16 17 07.3 +0.5
comp=Z,0.8nm,0.4s,baz=70,slow=8.5,SNR=11
GERES LR LR 16 37 37.6
comp=Z,80nm,19.6s,baz=127,slow=40
GERES GERESS Array B 42.09 302 **P** 16 17 07.5 +0.5
NBO00 NORSAR Array S 42.26 320 P **P** 16 17 09.7 +1.7
NBO00 IAmb IAmb 16 17 11.3
comp=Z,8.9nm,1.0s
WTTA Wattenberg 43.82 300 *e*P **P** 16 17 25.3 +4.3
comp=Z,8.0nm,1.3s
DAVA Damuels 44.96 300 *e*P **P** 16 17 30.0 -0.1
comp=Z,3.1nm,1.0s
ASAJ Asahikawa 49.51 62 LR LR 16 41 56.6
comp=Z,48nm,18.7s,baz=302,slow=40
MAJO Matsushiro 49.52 73 P **P** 16 18 09.1 +3.4
MAJO pmax pmax
comp=Z,9.0nm,1.3s
MAJO Matsushiro 49.52 73 P **P** 16 18 09.1 +3.4
MAJO IAmb IAmb 16 18 19.8
comp=Z,9.2nm,1.3s
MAT Matsushiro 49.52 73 P **P** 16 18 08.1 +2.4
MJAR Matsushiro Arr 49.52 73 P **P** 16 18 05.2 -0.5
comp=Z,0.7nm,0.7s,baz=269,slow=7.5,SNR=2.8
KMBO Kilima Mbogo 53.43 228 P **P** 16 18 33.2 -2.2
comp=Z,2.9nm,0.8s,baz=23,slow=11,SNR=6.4
JCJ Chichijima 57.14 81 LR LR 16 43 58.8
comp=Z,42nm,18.6s,baz=311,slow=36
ESDC Sonseca Array 57.17 296 P **P** 16 19 00.5 -1.4
comp=Z,0.4nm,0.6s,baz=49,slow=6.7,SNR=3.0
ESDC LR LR 16 48 20.8
comp=Z,35nm,18.6s,baz=110,slow=41
TORD Torodi Ar. Bea 67.87 268 P **P** 16 20 12.1 -1.6
comp=Z,2.5nm,0.6s,baz=48,slow=5.9,SNR=18
TORD Torodi Ar. Bea 67.87 268 P **P** 16 20 12.0 -1.6
BMAR Burnt Mountain 67.99 15 P **P** 16 20 14.1 +0.4
ILAR Eielson Array 69.80 17 P **P** 16 20 24.5 -0.5
comp=Z,0.7nm,0.9s,baz=325,slow=3.6,SNR=5.1
KOWA Kowa 71.34 273 P **P** 16 20 33.6 -1.5
KOWA IAmb IAmb 16 20 50.1
comp=Z,4.6nm,0.9s
L27K Beaver Creek, 72.39 16 P **P** 16 20 41.8 +1.1
L27K IAmb IAmb 16 20 42.2
comp=Z,6.1nm,1.4s
BCAR Beaver Creek A 72.39 16 P **P** 16 20 40.7 0.0
YKA Yellowknife Ar 76.54 4 P **P** 16 21 04.8 0.0
comp=Z,0.7nm,0.5s,baz=353,slow=5.3,SNR=1.7
YKA LR LR 16 58 36.9
comp=Z,34nm,18.3s,baz=0.0,slow=39
DBIC Dimbokro 76.94 267 P **P** 16 21 06.7 -1.1
DBIC pmax pmax
comp=Z,11nm,1.4s
DBIC Dimbokro 76.94 267 P **P** 16 21 06.7 -1.1
WRA Warramunga Arr 82.80 124 P **P** 16 21 37.8 -1.5
comp=Z,0.5nm,0.8s,baz=328,slow=5.4,SNR=5.2
ASAR Alice Springs 85.31 127 P **P** 16 21 50.3 -1.8
comp=Z,0.3nm,0.6s,baz=315,slow=4.3,SNR=8.0
PDAR Pinedale Array 96.46 2 LR LR 17 10 15.0
comp=Z,20nm,20.0s,baz=17,slow=38

IDC ***20*** *16:15:29.8±0.8,53.°39N×162.°62E,h0km,mb3.6/14, mb1 3.8/15,mb1mx3.7/52,mbtmp3.7/15,ML3.3/1,MS2.6/1, Ms1 2.6/1,ms1mx2.3/35,Error ellipse: s-maj=22.8km s-min=16.4km az=152.0*
KRSC ***20*** *16:15:31.7±1.6,53.°33N×162.°72E,h63km±30km,ML4.5 MOS* ***20*** *16:15:35.4±0.7,53.°38N×162.°47E,h60km,mb4.1/1,Error ellipse: s-maj=19.3km s-min=9.9km az=151.2*
ISC 20 16:15:35.0±0.8,53.°32N±0.°05×162.°80E±0.°05,h50km,n72, σ1°**65/99,mb3.6/14,Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.39**	**333**	*e*P	**Pn**	**16 15 55.9**	**-2.1**
MKZ				*e*S	**Sn**	**16 16 12.4**	**-2.9**
SPN	**Mys Shipunski**	**1.69**	**264**	*e*P	**Pn**	**16 16 00.2**	**-1.8**
SPN				*e*S	**Sn**	**16 16 19.1**	**-3.4**
NLC	**Nalytchevo**	**2.08**	**267**	*e*P	**Pn**	**16 16 06.0**	**-1.4**
NLC				*e*S	**Sn**	**16 16 29.9**	**-2.2**
KII	**Karymskiy**	**2.12**	**291**	*e*P	**Pn**	**16 16 07.0**	**-1.1**
KII				*e*S	**Sn**	**16 16 30.6**	**-2.6**
KZV	**Kizimen**	**2.33**	**322**	*e*P	**Pn**	**16 16 09.7**	**-1.2**
KZV				*e*S	**Sn**	**16 16 36.1**	**-2.3**
SDLR	**Sedlovina**	**2.35**	**271**	*e*P	**Pn**	**16 16 10.4**	**-0.9**
SDLR				*e*S	**Sn**	**16 16 36.8**	**-2.2**
TUMD	**Tumrok D**	**2.36**	**324**	*e*P	**Pn**	**16 16 09.9**	**-1.3**
TUMD				*e*S	**Sn**	**16 16 36.0**	**-3.0**
UGLR	**Uglovaya**	**2.39**	**269**	PN	**Pn**	**16 16 11.1**	**-0.7**
UGLR				S	**Sn**	**16 16 37.9**	**-2.0**
UGLR	**Uglovaya**	**2.39**	**269**	*e*P	**Pn**	**16 16 11.1**	**-0.7**
UGLR				*e*S	**Sn**	**16 16 37.9**	**-2.0**
SMAR	**Somma**	**2.40**	**270**	*e*P	**Pn**	**16 16 11.3**	**-0.7**
SMAR				*e*S	**Sn**	**16 16 38.4**	**-2.0**
KRER	**Koryakskii**	**2.43**	**271**	*e*P	**Pn**	**16 16 11.9**	**-0.5**
KRER				*e*S	**Sn**	**16 16 39.6**	**-1.5**
AVH	**Avacha**	**2.44**	**270**	*e*P	**Pn**	**16 16 11.7**	**-0.7**
AVH				*e*S	**Sn**	**16 16 39.4**	**-1.7**
DALK	**Dalny**	**2.46**	**265**	*e*P	**Pn**	**16 16 11.6**	**-0.9**
DALK				*e*S	**Sn**	**16 16 39.4**	**-1.9**
KRX	**Arik**	**2.49**	**273**	PN	**Pn**	**16 16 12.3**	**-0.9**
KRX				S	**Sn**	**16 16 39.8**	**-2.6**
KRX	**Arik**	**2.49**	**273**	*e*P	**Pn**	**16 16 12.3**	**-0.9**
KRX				*e*S	**Sn**	**16 16 39.8**	**-2.6**
KOK	**Koryaka**	**2.50**	**271**	*e*P	**Pn**	**16 16 12.5**	**-0.8**
TUMR	**Tumrok**	**2.51**	**323**	*e*P	**Pn**	**16 16 12.6**	**-0.8**
PET	**Petropavlovsk**	**2.52**	**265**	*e*PN	**Pn**	**16 16 12.7**	**-0.6**
PET				*e*S	**Sn**	**16 16 40.8**	**-2.0**
PET				pmax	pmax		
	comp=Z,60nm,0.2s						
PET				smax	smax		
	comp=E,676nm,0.3s						
PET				smax	smax		
	comp=N,517nm,0.4s						
PET				MLR	MLR		
	comp=Z,300nm,12.0s						
PET	**Petropavlovsk**	**2.52**	**265**	*e*P	**Pn**	**16 16 12.3**	**-1.0**
PET				*e*S	**Sn**	**16 16 40.0**	**-2.8**
BKI	**Bering**	**2.65**	**43**	*e*P	**Pn**	**16 16 13.6**	**-1.6**
BKI				*e*S	**Sn**	**16 16 42.9**	**-3.1**
RUS	**Russkaya**	**2.75**	**253**	PN	**Pn**	**16 16 15.1**	**-1.4**
RUS				S	**Sn**	**16 16 45.6**	**-2.8**
RUS	**Russkaya**	**2.75**	**253**	*e*P	**Pn**	**16 16 15.1**	**-1.4**
RUS				*e*S	**Sn**	**16 16 45.6**	**-2.8**
KRMR	**Karymshinskiy**	**2.86**	**262**	*e*P	**Pn**	**16 16 18.8**	**+0.7**
KRMR				*e*S	**Sn**	**16 16 50.9**	**-0.4**
KMNR	**Kamenistaya**	**2.87**	**330**	*e*P	**Pn**	**16 16 18.1**	**-0.1**
KBTR	**Krutoberegovo**	**2.90**	**0**	*e*P	**Pn**	**16 16 16.6**	**-2.0**
BZGR	**Bezymyannyi-Gr**	**2.90**	**336**	*e*P	**Pn**	**16 16 18.3**	**-0.4**
BZGR				*e*S	**Sn**	**16 16 50.8**	**-1.6**
MTVR	**Mutnovka**	**2.92**	**255**	PN	**Pn**	**16 16 18.0**	**-1.1**
MTVR				S	**Sn**	**16 16 50.2**	**-2.8**
MTVR	**Mutnovka**	**2.92**	**255**	*e*P	**Pn**	**16 16 18.0**	**-1.1**
MTVR				*e*S	**Sn**	**16 16 50.2**	**-2.8**
GNL	**Ganaly**	**2.93**	**279**	*e*P	**Pn**	**16 16 19.0**	**-0.1**
GNL				*e*S	**Sn**	**16 16 51.9**	**-1.2**
ZLN	**Zelenaya**	**2.94**	**338**	*e*P	**Pn**	**16 16 19.0**	**-0.3**
KBG	**Krutoberegovo**	**2.94**	**359**	*e*P	**Pn**	**16 16 17.1**	**-2.1**
GRL	**Gorelyy**	**2.96**	**257**	*e*P	**Pn**	**16 16 18.8**	**-0.8**
BZWR	**Bezymyannyi-We**	**2.97**	**334**	*e*P	**Pn**	**16 16 19.5**	**-0.3**
KIRR	**Kirishev**	**3.00**	**333**	*e*P	**Pn**	**16 16 19.9**	**-0.3**
LGNR	**Loginova**	**3.03**	**337**	*e*P	**Pn**	**16 16 20.7**	**0.0**
CIRR	**Tsirk**	**3.05**	**338**	*e*P	**Pn**	**16 16 20.8**	**0.0**
PETK	**Petropavlovsk-**	**3.08**	**268**	Pn	**Pn**	**16 16 20.2**	**-0.9**
	comp=Z,20nm,0.3s,baz=86,slow=19,SNR=70						
PETK				Sn	**Sn**	**16 16 55.5**	**-1.1**
	comp=Z,27nm,0.3s,baz=20,slow=27,SNR=16						
ASAK	**Asacha**	**3.12**	**254**	PN	**Pn**	**16 16 21.1**	**-0.6**
ASAK				S	**Sn**	**16 16 55.7**	**-2.0**
ASAK	**Asacha**	**3.12**	**254**	*e*P	**Pn**	**16 16 21.1**	**-0.6**
ASAK				*e*S	**Sn**	**16 16 55.7**	**-2.0**
KRSR	**Krestovskiy**	**3.18**	**337**	*e*P	**Pn**	**16 16 22.1**	**-0.5**
KOZ	**Kozyrevsk**	**3.23**	**329**	*e*P	**Pn**	**16 16 23.3**	**+0.1**
KLY	**Klyuchi**	**3.25**	**338**	*e*P	**Pn**	**16 16 22.2**	**-1.2**
KDTR	**Khodutka, Kamc**	**3.26**	**244**	PN	**Pn**	**16 16 22.0**	**-1.5**
KDTR				S	**Sn**	**16 16 57.3**	**-3.7**
KDTR	**Khodutka, Kamc**	**3.26**	**244**	*e*P	**Pn**	**16 16 22.0**	**-1.5**
KDTR				*e*S	**Sn**	**16 16 57.3**	**-3.7**
SMKR	**Semkarok**	**3.36**	**347**	*e*P	**Pn**	**16 16 24.3**	**-0.7**
BDR	**Baidarnaya**	**3.38**	**345**	*e*P	**Pn**	**16 16 25.0**	**-0.4**
BDR				*e*S	**Sn**	**16 17 02.6**	**-1.7**
APC	**Apacha**	**3.42**	**266**	PN	**Pn**	**16 16 26.2**	**+0.4**
APC				S	**Sn**	**16 17 04.5**	**-0.6**
APC	**Apacha**	**3.42**	**266**	*e*P	**Pn**	**16 16 26.2**	**+0.4**
APC				*e*S	**Sn**	**16 17 04.5**	**-0.6**
SRKR	**Sorokina**	**3.47**	**345**	*e*P	**Pn**	**16 16 26.0**	**-0.6**
ESO	**Esso**	**3.54**	**319**	*e*P	Pn	16 16 29.0	+1.6
MIPR	**Malaya Ipel'ka**	**3.82**	**257**	PN	**Pn**	**16 16 31.6**	**+0.4**
MIPR	**Malaya Ipel'ka**	**3.82**	**257**	*e*P	**Pn**	**16 16 31.6**	**+0.4**
PAU	**Pauzhetka**	**4.11**	**246**	PN	**Pn**	**16 16 34.6**	**-0.6**
PAU	**Pauzhetka**	**4.11**	**246**	*e*P	**Pn**	**16 16 34.6**	**-0.6**
SKR	**Severo-Kuril's**	**4.90**	**240**	*e*PN	**Pn**	**16 16 46.4**	**+0.4**
SKR	**Severo-Kuril's**	**4.90**	**240**	*e*P	**Pn**	**16 16 45.0**	**-1.0**
SKR				*e*S	**Sn**	**16 17 37.4**	**-4.0**
SEY	**Seymchan**	**11.09**	**335**	LR	LR	16 22 52.8	
	comp=Z,32nm,18.8s,baz=154,slow=40						
MJAR	**Matsushiro Arr**	**23.99**	**236**	P	**P**	**16 20 46.8**	**+2.0**
	comp=Z,0.5nm,0.5s,baz=53,slow=7.8,SNR=7.6						
ILAR	**Eielson Array**	**27.50**	**46**	P	**P**	**16 21 18.1**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=249,slow=7.6,SNR=1.5						
KSRS	**Korea Array**	**28.82**	**251**	P	**P**	**16 21 28.7**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=39,slow=11,SNR=2.9						
MKAR	**Makanchi Array**	**49.52**	**297**	P	**P**	**16 24 19.9**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=49,slow=6.2,SNR=6.5						
BVAR	**Borovoye Array**	**51.52**	**310**	P	**P**	**16 24 35.5**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=123,slow=5.5,SNR=5.7						
NVAR	**Mina Array Bea**	**54.13**	**72**	P	P	16 24 57.6	+2.6
	comp=Z,0.2nm,0.5s,baz=299,slow=6.1,SNR=2.4						
ARU	**Arti**	**54.32**	**318**	P	**P**	**16 24 56.4**	**+0.5**
	comp=Z,1.6nm,0.4s,baz=21,slow=6.0,SNR=6.7						
CMAR	**Chiang Mai Arr**	**59.83**	**260**	P	P	16 25 36.4	+1.2
	comp=Z,0.5nm,0.6s,baz=28,slow=7.2,SNR=3.5						
FINES	**FINESS Array B**	**60.55**	**339**	P	P	16 25 40.9	+1.3
	comp=Z,2.3nm,0.8s,baz=37,slow=8.5,SNR=12						
NB2	**NORSAR Subarra**	**63.77**	**345**	P	**P**	**16 26 02.4**	**+1.2**
	comp=Z,1.6nm,0.7s,baz=20,slow=6.9						
NOA	**NORSAR Array B**	**63.77**	**345**	P	**P**	**16 26 01.6**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=20,slow=6.7,SNR=5.7						
TXAR	**Lajitas Array**	**69.04**	**69**	P	P	16 26 38.3	+2.9
	comp=Z,0.1nm,0.4s,baz=301,slow=4.9,SNR=6.3						
AKASG	**Malin Array Be**	**69.24**	**330**	P	**P**	**16 26 37.1**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=29,slow=6.7,SNR=4.3						

WRA	**Warramunga Arr**	**77.00**	**207**	P		P	16 27 23.9	+1.6
	comp=Z,0.3nm,0.5s,baz=19,slow=6.4,SNR=2.1							
ASAR	**Alice Springs**	**80.66**	**207**	P		**P**	**16 27 43.3**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=19,slow=4.8,SNR=8.3							

*IDC **20** 16:18:22.9±2.2, 30°.29S×72°.42W, h0km, mb4.1/2, mb1 3.9/6, mb1mx3.7/28, mbtmp3.8/6, ML3.6/4, Error ellipse: s-maj=76.4km s-min=23.3km az=101.0*
*NEIC **20** 16:18:23.9±2.7, 30°.21S±0°.05×72°.52W±0°.08, h10km±1km, mb4.3/2, Error ellipse: s-maj=12.2km s-min=8.2km az=247.0*

ISC 20 16:18:25.7±1.1, **30°.17S**±0°.06×**72°.5W**±0°.1, **h27**km, **n32**, σ1§**60**/31, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.91**	**124**				**Pn**	**16 18 41.0**	**-1.7**
CO05	**La Serena**	**1.13**	**78**				**Pb**	**16 18 45.4**	**-1.1**
GO04	**Tololo Observa**	**1.48**	**91**	Pn			**Pb**	**16 18 51.3**	**-1.3**
CO03	**El Pedregal**	**1.71**	**114**	Pn			**Pb**	**16 18 53.6**	**-2.9**
AC04	**Llanos de Chal**	**2.32**	**33**				**Pn**	**16 19 01.5**	**-0.6**
VA03	**San Esteban**	**3.08**	**148**				**Pn**	**16 19 14.1**	**+1.4**
GO03	**Copiap**	**3.25**	**38**				**Pn**	**16 19 13.9**	**-0.9**
AC06	**Mina Casimiro**	**3.38**	**35**				**Pn**	**16 19 16.2**	**-0.5**
MT05	**Renca**	**3.55**	**155**	Pn			**Pn**	**16 19 18.6**	**-0.5**
VA05	**Santo Domingo**	**3.56**	**168**	Pn			**Pn**	**16 19 17.3**	**-1.9**
ZON	**Zonda**	**3.57**	**114**	Pn			**Pn**	**16 19 20.4**	**+1.1**
MT09	**Talagante**	**3.83**	**161**	Pn			**Pn**	**16 19 21.4**	**-1.5**
MT01	**Popeta**	**3.84**	**164**	Pn			**Pn**	**16 19 21.1**	**-1.9**
BO01	**Tunca**	**4.38**	**164**	Pn			**Pn**	**16 19 31.2**	**+0.8**
AC02	**Maricunga**	**4.45**	**43**	Pn			**Pn**	**16 19 33.3**	**+1.4**
BO02	**Sierra Bellavi**	**4.84**	**163**	Pn			**Pn**	**16 19 37.7**	**+0.9**
PB10	**IPOC Station P**	**6.85**	**15**	Pn			**Pn**	**16 20 02.9**	**-1.4**
LVC	**Limon Verde**	**8.19**	**24**	Pn			**Pn**	**16 20 23.2**	**+0.1**
	0.3nm,0.3s,baz=340,slow=7.5,SNR=0.8								
LVC					Sn		**Sn**	**16 21 53.4**	**-1.4**
	0.2nm,0.3s,baz=135,slow=22,SNR=2.5								
PB08	**IPOC Station P**	**10.43**	**18**	Pn			**Pn**	**16 20 51.5**	**-2.3**
PLCA	**Paso Flores**	**10.66**	**172**	Pn			**Pn**	**16 20 55.0**	**-1.7**
	0.1nm,0.3s,baz=344,slow=14,SNR=3.1								
LPAZ	**La Paz**	**14.38**	**17**	Pn			**Pn**	**16 21 51.4**	**+3.3**
	0.1nm,0.3s,baz=205,slow=7.7,SNR=5.9								
LPAZ	**La Paz**	**14.38**	**17**	Pn			**Pn**	**16 21 49.0**	**+0.8**
SIV	**San Ignacio**	**17.58**	**39**	P			**P**	**16 22 30.0**	**+0.3**
	0.3nm,0.3s,baz=224,slow=10,SNR=21								
BDFB	**Brasilia**	**26.71**	**63**	P			**P**	**16 24 04.0**	**+1.0**
	1.6nm,0.5s,baz=210,slow=8.1,SNR=2.3								
BDFB	**Brasilia**	**26.71**	**63**	IAmb			IAmb	16 24 14.3	
	comp=Z,10.0nm,1.4s								
VNA3	**Neumayer Olymp**	**53.06**	**159**	P			**P**	**16 27 41.0**	**+0.9**
VNA2	**Neumayer--Watz**	**53.70**	**158**	P			**P**	**16 27 48.4**	**+3.6**
	baz=287,slow=8.1								
SNAA	**Sanae**	**55.29**	**159**	P			**P**	**16 27 56.6**	**+0.2**
SNAA	**Sanae**	**55.29**	**159**	P			**P**	**16 27 56.7**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=274,slow=8.3,SNR=12								
SNAA	**Sanae**	**55.29**	**159**	IAmb			IAmb	16 27 57.2	
	comp=Z,1.7nm,0.7s								
ZALV	**Zalesovo Beam**	**151.12**	**28**	PKPbc			**PKiKP**	**16 38 17.4**	**+1.1**
	comp=Z,1.6nm,0.4s,baz=301,slow=3.2,SNR=7.6								
ZALV	**Zalesovo Beam**	**151.12**	**28**				**PKiKP**	**16 38 16.9**	**+0.6**

*IDC **20** 16:19:43.6±1.3, 31°.65S×71°.99W, h0km, mb3.7/3, mb1 3.8/6, mb1mx3.6/31, mbtmp3.6/6, ML3.5/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/31, Error ellipse: s-maj=47.0km s-min=27.4km az=80.0*
*GUC **20** 16:19:46.5±0.8, 31°.88S×72°.17W, h27km±5km, ML3.7*

ISC 20 16:19:45.4±2.0, **31°.85S**±0°.03×**72°.10W**±0°.08, **h16**km±12km, **n25**, σ1§**23**/33, **mb4.0**/3, **8C-2D**, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.98**	**136**	⇓*e*P			**Pb**	**16 20 04.2**	**+0.2**
VA06				*e*S			**Sg**	**16 20 18.0**	**+0.7**
VA06				IAML				16 20 24.4	
	comp=E,4μm,0.5s								
VA01	**Torpederas**	**1.23**	**162**	⇑*e*P			**Pb**	**16 20 08.2**	**0.0**
VA01				*e*S			**Sn**	**16 20 24.5**	**+0.2**
CO06	**Fray Jorge**	**1.24**	**19**	⇑*e*P			**Pb**	**16 20 08.8**	**+0.4**
CO06				*i* S			**Sg**	**16 20 26.1**	**+0.7**
ROCH	**El Roble**	**1.45**	**141**	⇓*e*P			**Pn**	**16 20 11.8**	**+0.6**
ROCH				*i* S			**Sn**	**16 20 29.7**	**-0.3**
ROCH				IAML				16 20 37.2	
	comp=E,1μm,0.4s								
CO03	**El Pedregal**	**1.57**	**50**	⇑*e*P			**Pb**	**16 20 13.8**	**-0.3**
CO03				*e*S			**Sn**	**16 20 33.7**	**+0.8**
CO03				IAML				16 20 35.1	
	comp=N,4μm,0.2s								
VA03	**San Esteban**	**1.60**	**125**	⇑*e*P			**Pb**	**16 20 14.5**	**-0.1**
VA03				*i* S			**Sb**	**16 20 35.8**	**+1.2**
VA03				IAML				16 20 41.2	
	comp=N,2μm,0.4s								
VA05	**Santo Domingo**	**1.85**	**167**	⇑*e*P			**Pn**	**16 20 17.6**	**+1.2**
VA05				*e*S			**Sn**	**16 20 38.8**	**-0.8**
VA05				IAML				16 20 54.9	
	comp=E,1μm,0.5s								
MT05	**Renca**	**1.92**	**144**	*e*P			**Pb**	**16 20 19.2**	**-0.9**
MT05				*i* S			**Sb**	**16 20 44.2**	**+0.3**
MT05				IAML				16 20 51.9	
	comp=E,1μm,0.5s								
GO04	**Tololo Observa**	**2.01**	**34**	*e*P			**Pb**	**16 20 21.8**	**0.0**
CO05	**La Serena**	**2.06**	**21**	⇑*e*P			**Pn**	**16 20 19.4**	**0.0**
CO05				*e*S			**Sn**	**16 20 44.7**	**-0.1**
MT01	**Popeta**	**2.13**	**161**	⇑*e*P			**Pn**	**16 20 21.7**	**+1.3**
MT01				*e*S			**Sb**	**16 20 48.5**	**-1.4**
MT01				IAML				16 21 03.2	
	comp=E,423nm,0.7s								
MT09	**Talagante**	**2.14**	**154**	*e*P			**Pb**	**16 20 22.7**	**-1.1**
MT09				IAML				16 21 04.3	
	comp=N,645nm,0.3s								
LMEL	**Las Melosas**	**2.55**	**142**	⇓*e*P			**Pn**	**16 20 28.4**	**+2.1**
LMEL				*i* S			**Sb**	**16 21 00.7**	**-1.4**
LMEL				IAML				16 21 11.3	
	comp=N,429nm,0.5s								
LCO	**Las Campanas**	**3.08**	**23**	*e*P			**Pn**	**16 20 35.3**	**+1.7**
LCO				*e*S			**Sn**	**16 21 10.2**	**0.0**
H03N1	**Juan Fernandez**	**5.96**	**253**	T			T	16 28 05.6	
	baz=79,slow=72,SNR=284								
H03N3	**Juan Fernandez**	**5.97**	**253**	T			T	16 28 04.8	
	baz=79,slow=72,SNR=364								
H03N2	**Juan Fernandez**	**5.98**	**253**	T			T	16 27 59.1	
	baz=79,slow=72,SNR=301								
PLCA	**Paso Flores**	**8.95**	**172**	Pn			**Pn**	**16 21 55.9**	**+1.8**
	comp=N,0.2nm,0.3s,baz=330,slow=11,SNR=6.1								
LVC	**Limon Verde**	**9.63**	**18**	LR			LR	16 26 18.2	
	comp=N,60nm,18.5s,baz=232,slow=42								
CPUP	**Villa Florida**	**14.03**	**71**	Pn			**Pn**	**16 23 01.4**	**-2.2**
	comp=N,0.1nm,0.3s,baz=205,slow=15,SNR=1.9								
LPAZ	**La Paz**	**15.91**	**14**	Pn			**Pn**	**16 23 26.0**	**-3.3**
	comp=N,0.0nm,0.3s,baz=155,slow=19,SNR=1.0								
SNAA	**Sanae**	**53.59**	**158**	P			**P**	**16 29 07.5**	**+2.1**
	comp=N,1.3nm,0.8s,baz=267,slow=7.8,SNR=4.1								
TXAR	**Lajitas Array**	**67.84**	**330**	P			**P**	**16 30 42.8**	**-0.1**
	comp=N,0.3nm,0.7s,baz=148,slow=7.3,SNR=4.1								
TORD	**Torodi Ar. Bea**	**83.53**	**70**	P			**P**	**16 32 13.1**	**0.0**
	comp=N,0.8nm,0.8s,baz=253,slow=4.4,SNR=5.3								
ZALV	**Zalesovo Beam**	**152.42**	**30**	PKPbc			**PKiKP**	**16 39 41.1**	**+0.6**
	comp=N,0.6nm,0.5s,baz=316,slow=4.0,SNR=2.3								

IDC 20 16:22:39.7±3.6, **22°.27S**×**173°.46E**, **h0**km, **mb4.2**/3, **mb1 4.3**/4, **mb1mx3.8**/28, **mbtmp4.1**/4, **ML5.2**/1, **Error ellipse: s-maj=142.0km s-min=30.9km az=146.0, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.25**	**45**	Pn			Pn	16 24 13.2	-0.1
	2.1nm,0.3s,baz=269,slow=23,SNR=14								
STKA	**Stephens Creek**	**29.85**	**244**	P			P	16 28 48.9	+0.1
	1.4nm,0.5s,baz=90,slow=7.1,SNR=5.5								
ASAR	**Alice Springs**	**36.37**	**260**	P			P	16 29 45.7	-0.2
	1.6nm,0.5s,baz=85,slow=7.8,SNR=52								
WRA	**Warramunga Arr**	**36.50**	**266**	P			P	16 29 47.0	-0.1
	1.6nm,0.5s,baz=102,slow=8.9,SNR=56								

*JMA **20** 16:22:48.4±0.5, 44°.56N×148°.42E, h64km, M3.7*
*SKHL **20** 16:22:49.6±0.2, 44°.60N×148°.40E, h62km±5km, mb4.0/3*

ISC 20 16:22:49.4±3.8, **44°.7N**±0°.2×**148°.3E**±0°.2, **h71**km±43km, **n12**, σ0§**82**/18, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.64**	**333**	*i* P			**Pn**	**16 23 03.8**	**+0.1**
KUR					AMB		AMb	16 23 05.0	
	90nm,0.3s								
KUR				*i* S			**Sn**	**16 23 14.3**	**0.0**
KUR				A			A	16 23 15.0	
	310nm,0.4s								
KUR				A			A	16 23 15.0	
	290nm,0.4s								
YUK	**Yuzh-Kuril'sk**	**1.84**	**251**	*i* P			**Pn**	**16 23 19.6**	**+0.7**
YUK					AMB		AMb	16 23 23.4	
	90nm,0.7s								
YUK				*e*S			**Sn**	**16 23 39.5**	**-1.8**
YUK				A			A	16 23 45.4	
	110nm,0.6s								
YUK				A			A	16 23 45.4	
	170nm,0.6s								
GRPR	**Tuman**	**1.92**	**250**	*e*P			**Pn**	**16 23 20.0**	**+0.1**
GRPR					AMB		AMb	16 23 22.0	
	30nm,0.2s								
GRPR				*e*S			**Sn**	**16 23 43.0**	**-0.1**
GRPR				A			A	16 23 49.0	
	114nm,0.2s								
GRPR				A			A	16 23 49.0	
	137nm,0.2s								
NEM2	**Nemuro 2**	**2.24**	**236**	P			**Pn**	**16 23 24.5**	**+0.3**
NEM2				*e*S			**Sn**	**16 23 51.3**	**+0.4**
NMR	**Nemuro--Hokkai**	**2.24**	**236**	*e*P			**Pn**	**16 23 24.0**	**-0.3**
NMR				*e*S			**Sn**	**16 23 51.0**	**0.0**
JKHN	**Kushirohamanak**	**2.75**	**236**	P			**Pn**	**16 23 31.4**	**+0.3**
JNK	**Nakash**	**2.78**	**248**	P			**Pn**	**16 23 32.2**	**+0.7**
JAK	**Akkeshi**	**3.08**	**239**	P			**Pn**	**16 23 36.0**	**+0.4**
JAK				*e*S			**Sn**	**16 24 11.9**	**+0.7**
JAR	**Ashorobuto**	**3.52**	**249**	P			**Pn**	**16 23 43.3**	**+1.6**
JCH	**Churui**	**4.11**	**242**	P			**Pn**	**16 23 50.0**	**+0.3**
JNBK	**Urakawa-nobuka**	**4.67**	**241**	P			**Pn**	**16 23 56.6**	**-0.7**
JKB	**Kayabe**	**5.97**	**245**	P			**Pn**	**16 24 14.0**	**-1.1**

*IDC **20** 16:31:07.5±3.4, 14°.22N×92°.79W, h0km, mb3.6/5, mb1 4.0/7, mb1mx3.8/36, mbtmp3.6/7, ML3.7/2, MS2.8/4, Ms1 2.8/4, ms1mx2.5/37, Error ellipse: s-maj=145.8km s-min=51.4km az=49.0*
*MEX **20** 16:31:14.0±2.0, 14°.68N×92°.94W, h113km±45km, MD4.3*
*NEIC **20** 16:31:15.7±1.9, 14°.38N±0°.05×93°.01W±0°.07, h35km±2km, mb4.3/15, Md4.3/17(MEX), Error ellipse: s-maj=13.1km s-min=7.0km az=240.0*

ISC 20 16:31:14.4±0.9, **14°.32N**±0°.08×**93°.08W**±0°.05, **h35**km, **n48**, σ1§**63**/53, **mb4.2**/13, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THIG		**0.98**	**53**	*e*P			**Pn**	**16 31 30.5**	**-1.1**
THIG				*e*S			**Sn**	**16 31 44.2**	**-0.2**
THIG		**0.98**	**53**				**Pn**	**16 31 30.5**	**-1.1**
THIG							**Sn**	**16 31 44.2**	**-0.2**
PCIG		**1.38**	**354**	*e*P			**Pn**	**16 31 34.6**	**-2.6**
PCIG				*e*S			**Sn**	**16 31 49.1**	**-5.1**
PCIG		**1.38**	**354**				**Pn**	**16 31 34.6**	**-2.6**
PCIG							**Sn**	**16 31 49.1**	**-5.1**
CCIG	**Comitan**	**2.15**	**25**	*e*P			**Pn**	**16 31 49.1**	**+1.1**
CCIG				*e*S			**Sn**	**16 32 14.6**	**+1.0**
CCIG	**Comitan**	**2.15**	**25**				**Pn**	**16 31 49.1**	**+1.1**
CCIG							**Sn**	**16 32 14.6**	**+1.0**
TGIG		**2.44**	**359**	*e*P			**Pn**	**16 31 51.9**	**0.0**
TGIG				*e*S			**Sn**	**16 32 23.5**	**+2.9**
TGIG		**2.44**	**359**				**Pn**	**16 31 51.9**	**0.0**
TGIG							**Sn**	**16 32 23.5**	**+2.9**
CMIG	**Matias Romero**	**3.26**	**328**	Pn			**Pn**	**16 32 01.6**	**-1.4**
	8.6nm,0.3s,baz=150,slow=12,SNR=78								
CMIG					Sn		**Sn**	**16 32 38.3**	**-2.3**
	28nm,0.3s,baz=23,slow=13,SNR=6.9								
CMIG					Lg		Lg	16 32 47.0	
	25nm,0.3s,baz=46,slow=8.4,SNR=3.6								
CMIG					LR		LR	16 32 54.9	
	comp=Z,43nm,20.0s,baz=245,slow=31								
MTO3	**Montecristo**	**3.60**	**88**				**Pn**	**16 32 07.3**	**-0.7**
TOIG	**Toxpalan**	**5.36**	**315**	*i* P			**Pn**	**16 32 31.6**	**-0.5**
HLIG	**Huajuapan de L**	**5.73**	**308**	*e*P			**Pn**	**16 32 36.9**	**-0.3**
HLIG				*e*S			**Sn**	**16 33 43.8**	**+1.9**
FTIG	**Fresnillo de T**	**6.03**	**307**	*e*P			Pn	16 32 37.8	-3.4
FTIG				*e*S			**Sn**	**16 33 47.7**	**-1.4**
ORTG	**Ortega, Santa**	**8.42**	**117**	Pn			**Pn**	**16 33 14.2**	**+0.2**
JTS	**Las Juntas de**	**8.89**	**116**	Lg			Lg	16 35 32.5	
	0.1nm,0.3s,baz=245,slow=18,SNR=2.1								
RIMA	**Rio Macho**	**10.09**	**116**	Pn			**Pn**	**16 33 36.2**	**-0.8**
SOR	**Soroa**	**12.73**	**47**	Pn			**Pn**	**16 34 12.4**	**-0.6**
TXAR	**Lajitas Array**	**17.87**	**328**	P			**Pn**	**16 35 21.5**	**+1.1**
	0.1nm,0.3s,baz=153,slow=11,SNR=11								
TXAR	**Lajitas Array**	**17.87**	**328**	P			**P**	**16 35 21.8**	**+1.0**
TX31	**Lajitas Ar. Si**	**17.87**	**328**	P			**P**	**16 35 22.2**	**+1.5**
TX32	**Lajitas Array**	**17.87**	**328**	P			**P**	**16 35 22.3**	**+1.5**
LPIG	**La Paz**	**18.94**	**303**	LR			LR	16 41 34.1	
	comp=Z,25nm,21.6s,baz=185,slow=33								
MIAR	**Mount Ida**	**20.14**	**359**				Pn	16 35 48.2	+0.6
MIAR					IAmb		IAmb	16 35 54.2	
	comp=Z,8.3nm,1.1s								
MNTX	**Cornudas Mount**	**20.64**	**329**	P			**P**	**16 35 52.5**	**+1.4**
OK025	**Westminster Rd**	**21.52**	**350**	P			**P**	**16 36 01.2**	**+0.8**
AMTX	**Amarillo**	**21.90**	**341**				**P**	**16 36 05.9**	**+1.3**
AMTX					IAmb		IAmb	16 36 09.1	
	comp=Z,8.6nm,0.6s								
121A	**Cookes Peak, D**	**22.55**	**326**	P			**P**	**16 36 12.8**	**+1.1**
121A					IAmb		IAmb	16 36 22.5	
	comp=Z,9.2nm,0.9s								
TKL	**Tuckaleechee C**	**22.84**	**20**	LR			LR	16 45 12.7	
	comp=Z,45nm,18.6s,baz=194,slow=37								
LENM	**Lemitar**	**23.42**	**330**	P			**P**	**16 36 21.6**	**+1.0**
ANMO	**Albuquerque**	**23.82**	**332**	P			**P**	**16 36 23.3**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=148,slow=9.2,SNR=4.4								
TUC	**Tucson**	**24.12**	**321**	P			**P**	**16 36 28.2**	**+1.1**
TUC					IAmb		IAmb	16 36 37.0	
	comp=Z,5.4nm,1.3s								
SJG	**San Juan**	**26.12**	**78**	LR			LR	16 47 10.2	
	comp=Z,52nm,18.1s,baz=210,slow=37								
PDAR	**Pinedale Array**	**31.70**	**337**	P			**P**	**16 37 36.0**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=143,slow=7.6,SNR=1.8								
REDW	**Red Top Meadow**	**32.72**	**336**	P			**P**	**16 37 44.3**	**+0.4**
REDW					IAmb		IAmb	16 37 47.7	
	comp=Z,7.6nm,1.2s								
NVAR	**Mina Array Bea**	**32.77**	**322**	P			**P**	**16 37 45.7**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=135,slow=8.2,SNR=8.9								
YNE	**Yellowstone No**	**33.79**	**338**	P			**P**	**16 37 53.6**	**+0.3**
YNE					IAmb		IAmb	16 38 03.5	
	comp=Z,4.9nm,0.8s								
MCMT	**McKenzie Canyo**	**34.74**	**335**	P			**P**	**16 38 03.0**	**+1.6**
SCHQ	**Schefferville**	**45.30**	**21**	P			**P**	**16 39 28.7**	**+0.1**
YKA	**Yellowknife Ar**	**50.48**	**347**	P			**P**	**16 40 08.2**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=146,slow=8.2,SNR=4.5								
BCAR	**Beaver Creek A**	**59.33**	**337**	P			**P**	**16 41 12.9**	**+0.2**
ILAR	**Eielson Array**	**62.14**	**337**	P			**P**	**16 41 31.9**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=137,slow=4.3,SNR=3.3								
ILAR	**Eielson Array**	**62.14**	**337**	P			**P**	**16 41 32.6**	**+0.9**
POKR	**Poker Flat Res**	**62.50**	**337**	P			**P**	**16 41 35.2**	**+1.0**
BMAR	**Burnt Mountain**	**62.63**	**340**	P			**P**	**16 41 35.4**	**+0.3**
H24K	**Noodor Dome**	**63.00**	**338**	P			**P**	**16 41 37.2**	**-0.3**
H24K					IAmb		IAmb	16 41 38.4	
	comp=Z,3.8nm,1.2s								
MLY	**Manley**	**63.73**	**336**	P			**P**	**16 41 41.8**	**-0.6**
MLY					IAmb		IAmb	16 41 51.0	
	comp=Z,2.6nm,1.3s								
K20K	**Telida**	**64.45**	**334**	P			**P**	**16 41 46.4**	**-0.7**
K20K					IAmb		IAmb	16 41 48.9	
	comp=Z,3.3nm,1.1s								
CMAR	**Chiang Mai Arr**	**145.34**	**340**	PKPbc			**PKPbc**	**16 50 47.3**	**-2.0**
	comp=Z,0.5nm,0.7s,baz=326,slow=3.0,SNR=10								

MEX 20 16:35:20.7±0.6, **14°.44N**×**93°.17W**, **h15**km±178km, **MD4.1, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PCIG		**1.26**	**358**	*e*P			Pn	16 35 40.0	-3.8
PCIG				*e*S			Sb	16 35 54.8	-5.4
CCIG	**Comitan**	**2.08**	**28**	*e*P			Pn	16 35 55.0	-0.3
CCIG				*e*S			Sn	16 36 17.5	-3.5
TGIG		**2.32**	**1**	*e*P			Pn	16 35 56.3	-2.2
TGIG				*e*S			Sn	16 36 27.6	+0.7

GUC 20 16:44:40.0±0.6, **30°.98S**×**71°.18W**, **h48**km±4km, **ML2.9,**

8C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CO03	**El Pedregal**	**0.45**	**72**	⇓*i*P			Pn	16 44 51.4	+0.8
CO03				*i* S			Sn	16 45 01.9	+3.7
CO03				IAML				16 45 02.4	
	comp=E,3μm,0.1s								
CO03	**El Pedregal**	**0.45**	**72**	⇑*e*P			Pn	16 44 51.4	+0.7
CO03				*e*S			Sn	16 45 00.3	+2.1
CO03				IAML				16 45 02.7	
	comp=N,3μm,0.1s								
CO06	**Fray Jorge**	**0.50**	**308**	*e*P			Pn	16 44 51.5	+0.4
CO06				*i* S			Sn	16 45 01.0	+1.9
CO06				IAML				16 45 04.1	
	comp=E,1μm,0.2s								
CO06	**Fray Jorge**	**0.50**	**308**	⇑*e*P			Pn	16 44 51.6	+0.5
CO06				⇑*e*				16 44 51.6	
CO06				*e*S			Sn	16 45 00.9	+1.9
CO06				IAML				16 45 04.1	
	comp=E,1μm,0.1s								
GO04	**Tololo Observa**	**0.87**	**22**	*e*P			Pn	16 44 58.1	+1.9
GO04				*i* S			Sn	16 45 13.6	+5.6
GO04				IAML				16 45 18.9	
	comp=N,2μm,0.3s								
GO04	**Tololo Observa**	**0.87**	**22**	*e*P			Pn	16 44 57.2	+1.0
GO04				*e*S			Sn	16 45 11.5	+3.5
GO04				IAML				16 45 16.4	
	comp=Z,832nm,0.4s								
CO05	**La Serena**	**1.06**	**357**	⇑*e*P			Pn	16 45 01.4	+2.9
CO05				*i* S			Sn	16 45 16.6	+4.5
CO05				IAML				16 45 22.8	
	comp=E,320nm,0.4s								
CO05	**La Serena**	**1.06**	**357**	⇑*e*P			Pn	16 45 01.4	+2.9
CO05				*e*S			Sn	16 45 14.5	+2.3
CO05				IAML				16 45 22.8	
	comp=E,308nm,0.4s								
VA06	**Catapilco**	**1.58**	**184**	*e*P			Pn	16 45 00.0	-5.5
VA06	**Catapilco**	**1.58**	**184**	⇑*e*P			Pn	16 44 59.6	-5.9
VA06				*e*S			Sn	16 45 16.4	-8.3
VA06				IAML				16 45 19.3	
	comp=E,365nm,0.5s								
VA03	**San Esteban**	**1.86**	**163**	*e*P			Pn	16 45 04.2	-5.3
VA03	**San Esteban**	**1.86**	**163**	⇑*e*P			Pn	16 45 04.2	-5.2
VA03				*e*S			Sn	16 45 18.6	-13
VA03				IAML				16 45 28.3	
	comp=E,298nm,0.2s								
LCO	**Las Campanas**	**2.01**	**12**	⇑*e*P			Pn	16 45 14.5	+2.8
LCO				*e*S			Sn	16 45 40.5	+4.7
MT05	**Renca**	**2.43**	**171**	*e*P			Pn	16 45 13.0	-4.4
MT05				*i* S			Sn	16 45 42.5	-3.4
MT05				IAML				16 45 48.5	
	comp=E,231nm,0.6s								
LMEL	**Las Melosas**	**2.98**	**164**	*e*P			Pn	16 45 20.8	-4.0

*JMA **20** 16:54:14.8±0.1, 24°.23N×121°.84E, h0km*
*TAP **20** 16:54:15.6, 24°.24N×121°.81E, h16km, ML3.0, C*

ISC 20 16:54:15.8±0.8, **24°.24N**±0°.02×**121°.83E**±0°.02, **h15**km±5km, **n85**, σ0§**75**/140, **10D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.11**	**313**	P			**Pg**	**16 54 18.9**	**-0.3**
	baz=319								
EHP				*e*S			**Sg**	**16 54 21.7**	**+0.2**
	baz=319								
ETL	**Fush Village**	**0.20**	**248**	P			**Pg**	**16 54 20.2**	**-0.3**
	baz=246								
ETL				*e*S			**Sg**	**16 54 23.8**	**+0.1**
	baz=246								
ENA	**Nanau**	**0.21**	**338**	⇓*i*P			**Pg**	**16 54 20.4**	**-0.3**
	baz=342								
ENA				S			**Sg**	**16 54 23.9**	**+0.1**
	baz=342								
EWUT	**Wuta**	**0.21**	**348**	S			**Sg**	**16 54 24.0**	**0.0**
	baz=350								
NACB	**Ninganchiao**	**0.22**	**254**	⇓*i*P

OWD				*e*S		Sg	16 54 37.4	-0.1
	baz=246							
EGFH	**Guangfu**	**0.67**	**213**	P		Pg	16 54 28.6	-0.3
	baz=228							
EGFH				*e*S		Sb	16 54 39.5	+1.2
	baz=228							
TIPB	**Shuangxi**	**0.73**	**360**	P		Pb	16 54 30.2	-0.1
	baz=359							
TIPB				*e*S		Sg	16 54 39.4	-0.4
	baz=359							
TWA	**Mucha**	**0.77**	**343**	*e*P		Pb	16 54 31.4	+0.4
	baz=333							
TWA				*e*S		Sb	16 54 41.6	+0.3
	baz=333							
NHDH	**Xindian Distri**	**0.78**	**339**	*e*P		Pn	16 54 31.8	-0.4
	baz=331							
NHDH				*e*S		Sb	16 54 41.5	+0.2
	baz=331							
TWB1	**Santiao Chiao**	**0.78**	**11**	*e*P		Pb	16 54 31.5	+0.4
	baz=10.0							
TWB1				*e*S		Sg	16 54 41.0	-0.4
	baz=10.0							
WHP	**Taichung City**	**0.81**	**273**	P		Pb	16 54 31.4	-0.1
	baz=274							
WHP				S		Sg	16 54 41.8	-0.3
	baz=274							
HGSD	**Ruisui**	**0.83**	**207**	*e*P		Pb	16 54 31.9	0.0
	baz=196							
NWF	**Wu-fen Shan**	**0.83**	**357**	*e*P		Pb	16 54 32.3	+0.3
	baz=349							
NWF				*e*S		Sb	16 54 43.4	+0.3
	baz=349							
LIOB	**Emei**	**0.84**	**299**	P		Pb	16 54 32.5	+0.3
	baz=299							
LIOB				*e*S		Sb	16 54 43.8	+0.4
	baz=299							
NSTT	**Nanjuang**	**0.85**	**298**	P		Pb	16 54 32.2	0.0
	baz=298							
NSTT				*e*S		Sb	16 54 43.4	0.0
	baz=298							
TAP	**Taipei**	**0.85**	**340**	*e*P		Pb	16 54 32.8	+0.5
	baz=332							
WCS	**Beigang Elemen**	**0.85**	**258**	P		Pg	16 54 31.9	-0.5
	baz=259							
WCS				*e*S		Sg	16 54 43.1	-0.6
	baz=259							
EHY	**Hungye**	**0.86**	**213**	*e*P		Pg	16 54 30.9	-1.6
	baz=225							
EHY				*e*S		Sb	16 54 43.6	-0.2
	baz=225							
SSLB	**Suanglung**	**0.92**	**241**	*e*P		Pg	16 54 32.8	-0.7
	baz=251							
SSLB				*e*S		Sg	16 54 44.5	-1.1
	baz=251							
SMLT	**Sun Moon Lake**	**0.92**	**248**	*e*P		Pg	16 54 32.5	-1.2
	baz=249							
SMLT				*e*S		Sg	16 54 45.1	-0.6
	baz=249							
NCU	**National Centr**	**0.94**	**322**	*e*P		Pn	16 54 35.9	+1.6
	baz=321							
NCU				*e*S		Sn	16 54 48.6	+1.1
	baz=321							
NCUH	**Zhongli**	**0.94**	**321**	*e*P		Pn	16 54 34.4	+0.1
	baz=322							
YM01	**YM01**	**0.94**	**346**	P		Pn	16 54 34.2	-0.2
	baz=344							
YM01				*e*S		Sb	16 54 46.0	0.0
	baz=344							
TWS1	**Kuangyinshan**	**0.94**	**337**	P		Pg	16 54 33.4	-0.6
	baz=336							
TWS1				*e*S		Sn	16 54 47.7	+0.1
	baz=336							
TYC	**Yuchr**	**0.95**	**250**	*e*P		Pg	16 54 33.1	-1.0
	baz=252							
TYC				*e*S		Sg	16 54 45.9	-0.6
	baz=252							
TWQ1	**Liyutan**	**0.97**	**277**	*e*P		Pb	16 54 34.4	+0.2
	baz=278							
YULB	**Yu-li**	**0.97**	**210**	*e*P		Pg	16 54 32.1	-2.5
	baz=223							
YULB				*e*S		Sg	16 54 46.4	-0.9
	baz=223							
NTST	**Danshui**	**0.99**	**340**	*e*P		Pn	16 54 35.0	0.0
	baz=338							
NTST				*e*S		Sn	16 54 49.6	+0.8
	baz=338							
NSY	**Sanyi**	**0.99**	**281**	*e*P		Pb	16 54 34.8	+0.1
	baz=282							
NMLH	**Miaoli**	**0.99**	**288**	*e*P		Pn	16 54 35.5	+0.4
	baz=289							
EYUL	**Yuli**	**1.00**	**208**	*e*P		Pg	16 54 33.8	-1.3
	baz=225							
WHYT	**Xinyi Township**	**1.04**	**239**	P		Pg	16 54 35.2	-0.7
	baz=247							
WHYT				*e*S		Sn	16 54 51.1	+1.0
	baz=247							
JYNG	**Yonagunijimaku**	**1.04**	**78**	P		Pb	16 54 35.5	0.0
JYNG				S		Sb	16 54 49.9	+1.0
TCU	**Taichung**	**1.05**	**265**	*e*P		Pn	16 54 36.7	+0.7
	baz=267							
TWY	**Chenhua**	**1.06**	**349**	*e*P		Pn	16 54 36.2	+0.2
	baz=341							
TWY				*e*S		Sn	16 54 51.0	+0.6
	baz=341							
WJS	**Zhushan**	**1.09**	**248**	*e*P		Pg	16 54 36.1	-0.7
	baz=243							
WDJ	**Dajia District**	**1.09**	**276**	*e*P		Pn	16 54 37.2	+0.8
	baz=277							
WDJ				*e*S		Sn	16 54 53.7	+2.4
	baz=277							
YUS	**Yu-Shan**	**1.09**	**227**	*e*P		Pg	16 54 35.6	-1.4
	baz=231							
YUS				*e*S		Sb	16 54 51.6	+0.7
	baz=231							
WNT	**Mingjian**	**1.10**	**251**	*e*P		Pn	16 54 37.4	+0.7
	baz=244							
FULB	**Fuli**	**1.14**	**205**	*e*P		Pg	16 54 36.6	-1.2
	baz=228							
FULB				*e*S		Sb	16 54 52.4	+0.5
	baz=228							
ALS	**Alishan**	**1.18**	**233**	*e*P		Pg	16 54 37.4	-1.3
	baz=237							
ALS				*e*S		Sn	16 54 54.2	+0.3
	baz=237							
CHKT	**Chengkung**	**1.21**	**201**	*e*P		Pb	16 54 37.0	-1.4
	baz=186							
CHN5	**Tsauling**	**1.23**	**239**	*e*P		Pb	16 54 38.4	-0.3
	baz=243							
CHN5				*e*S		Sn	16 54 57.7	+2.8
	baz=243							
ELDTW	**Lidau**	**1.28**	**216**	*e*P		Pn	16 54 38.1	-1.1
	baz=204							
WDLH	**Douliu**	**1.30**	**245**	*e*P		Pg	16 54 41.5	+0.7
	baz=248							
EDH	**Donghe**	**1.35**	**201**	*e*P		Pn	16 54 39.9	-0.1
	baz=188							
WRL	**Guolierlin Hig**	**1.37**	**256**	*e*P		Pg	16 54 41.2	-0.9
	baz=259							
WTK	**Tuku**	**1.43**	**248**	*e*P		Pn	16 54 41.6	+0.5
	baz=250							
CHN4	**Tsaushan**	**1.43**	**232**	*e*P		Pb	16 54 42.1	-0.1
	baz=237							
CHN4				*e*S		Sg	16 55 02.8	+0.7
	baz=237							
STYH	**Taoyuan**	**1.43**	**222**	*e*P		Pn	16 54 41.1	0.0
	baz=226							
TPUB	**Ta-pu**	**1.44**	**230**	*e*P		Pb	16 54 42.2	-0.1
	baz=235							
TPUB				*e*S		Sg	16 55 02.2	-0.1
	baz=235							
CHY	**Chiayi**	**1.48**	**241**	*e*P		Pn	16 54 42.5	+0.7
	baz=243							
WTP	**Ta-pu**	**1.49**	**229**	*e*P		Pn	16 54 42.4	+0.4
	baz=232							
TWK	**Hsinying**	**1.56**	**232**	*e*P		Pb	16 54 43.9	-0.5
	baz=235							
CHN1	**Nanshi**	**1.58**	**229**	*e*P		Pb	16 54 44.6	-0.2
	baz=232							
SLGT	**Liugui**	**1.64**	**221**	*e*P		Pb	16 54 45.3	-0.5
	baz=225							
IRIF	**Iriomote-Funau**	**1.74**	**86**	*e*S		Sb	16 55 09.8	+0.8
SCST	**Cishan**	**1.82**	**223**	*e*P		Pb	16 54 48.8	+0.1
	baz=225							
SCLT	**Jiali**	**1.83**	**235**	*e*P		Pn	16 54 46.8	+0.1
	baz=237							
SCZT	**Fangliau**	**2.16**	**211**	*e*P		Pn	16 54 52.3	+1.1
	baz=205							
PNG	**Penghu**	**2.18**	**253**	*e*P		Pn	16 54 50.6	-0.9
	baz=255							
PHUB	**P'eng-hu**	**2.19**	**251**	*e*P		Pn	16 54 50.9	-0.6
	baz=254							
WDGT	**Dungji**	**2.21**	**244**	*e*P		Pn	16 54 51.9	0.0
	baz=247							

IDC ***20*** *17:12:02.8±1.9,29°.35N×140°.89E,h68km±17km,mb3.7/24, mb1 3.9/28,mb1mx3.8/45,mbtmp4.0/28,MS2.8/4, Ms1 2.9/4,ms1mx2.5/42,Error ellipse: s-maj=18.5km s-min=10.9km az=77.0*

NEIC ***20*** *17:12:02.0±1.3,29°.38N±0°.07×141°.0E±0°.1,h63km±7km, mb4.4/27,Error ellipse: s-maj=16.4km s-min=9.7km az=79.0*

JMA ***20*** *17:12:02.2,29°.53N×141°.62E,h54km,M4.5*

ISC 20 17:12:01.9±0.9,29°.38N±0°.04×140°.97E±0°.08,h63km±9km, n95,σ1s50/104,mb4.2/38,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
CBIJ	**Chichi jima**	**2.52**	**154**	P		**Pn**	**17 12 41.0**	**+0.5**
CBIJ				*e*S		**Sn**	**17 13 10.0**	**-0.1**
JCJ	**Chichijima**	**2.52**	**154**	P		**Pn**	**17 12 41.0**	**+0.5**
	33nm,0.3s,baz=7,9,slow=22,SNR=94							
JCJ				S		**Sn**	**17 13 06.4**	**-3.7**
	103nm,0.3s,baz=326,slow=22,SNR=8.7							
JCJ	**Chichijima**	**2.52**	**154**			**Pn**	**17 12 41.0**	**+0.5**
JHH2	**Haha-jima-NKT2**	**2.94**	**158**	P		**Pn**	**17 12 47.5**	**+1.2**
JHH2				*e*S		**Sn**	**17 13 21.5**	**+1.1**
JAOM	**Aogashimamukai**	**3.24**	**342**	P		**Pn**	**17 12 53.4**	**+3.1**
JHCJ	**Hachijojimakas**	**3.81**	**345**	P		**Pn**	**17 13 00.8**	**+2.7**
JHJ2	**Mitsune**	**3.84**	**345**	P		**Pn**	**17 13 01.3**	**+2.8**
JHJ	**Hachijo jima 2**	**3.86**	**345**	P		**Pn**	**17 13 00.9**	**+2.1**
	7.4nm,0.3s,baz=219,slow=21,SNR=1.2							
JHJ				S		**Sn**	**17 13 38.6**	**-4.2**
	60nm,0.3s,baz=64,slow=17,SNR=7.3							
JMKN	**Mikurajimanish**	**4.64**	**346**	P		**Pn**	**17 13 12.2**	**+2.7**
BSO1	**Boso 1**	**5.25**	**0**	P		**Pn**	**17 13 18.9**	**+1.6**
BSO3	**Boso 3**	**5.42**	**356**	P		**Pn**	**17 13 20.9**	**+1.1**
TTO1	**TONANKAI O.B.S**	**5.53**	**321**	P		Pn	17 13 27.3	+5.9
BSO4	**Boso 4**	**5.62**	**355**	P		**Pn**	**17 13 26.5**	**+3.8**
JIE	**Ise**	**6.17**	**325**	P		Pn	17 13 36.3	+6.0
JHU	**Hanno**	**6.60**	**348**	P		**Pn**	**17 13 39.4**	**+3.1**
JHU				S		**Sn**	**17 14 49.9**	**-0.3**
JAO	**Obara**	**6.65**	**333**	P		Pn	17 13 43.4	+6.4
JRY	**Ryogami san**	**6.84**	**346**	P		**Pn**	**17 13 42.3**	**+2.7**
JYT	**Yasato**	**6.86**	**355**	P		**Pn**	**17 13 41.6**	**+1.9**
JYT				*e*S		**Sn**	**17 14 56.6**	**+0.3**
JYT	**Yasato**	**6.86**	**355**			**Pn**	**17 13 40.0**	**+0.2**
MJAR	**Matsushiro Arr**	**7.50**	**343**	P		**Pn**	**17 13 50.5**	**+1.8**
	0.2nm,0.3s,baz=161,slow=12,SNR=26							
MJAR				S		**Sn**	**17 15 08.9**	**-3.3**
	baz=162,slow=25,SNR=0.9							
MJAR	**Matsushiro Arr**	**7.50**	**343**			**Pn**	**17 13 49.2**	**+0.5**
MAJO	**Matsushiro**	**7.50**	**343**			**Pn**	**17 13 48.7**	**0.0**
MJB9	**Matsu-Tunnel**	**7.51**	**343**			**Sn**	**17 15 17.4**	**+4.8**
JWT	**Wachi**	**7.53**	**323**	Pn		**Pn**	**17 13 50.5**	**+1.5**
JMM	**Marumori**	**8.46**	**359**			**Pn**	**17 14 00.7**	**-1.0**
JMM						**Sn**	**17 15 31.3**	**-4.4**
JSD	**Sado**	**8.92**	**346**	Pn		**Pn**	**17 14 06.9**	**-1.1**
JOW	**Kunigami**	**11.49**	**260**	LR		LR	17 18 55.7	
	comp=Z,45nm,19.4s,baz=118,slow=36							
KSRS	**Korea Array**	**13.53**	**310**	LR		LR	17 20 41.0	
	comp=Z,35nm,18.2s,baz=211,slow=38							
ASAJ	**Asahikawa**	**14.76**	**5**	P		**Pn**	**17 15 25.2**	**-1.8**
	0.3nm,0.3s,baz=217,slow=15,SNR=5.1							
ASAJ				LR		LR	17 21 27.2	
	comp=Z,31nm,20.8s,baz=160,slow=38							
USRK	**Ussuriysk Ar.**	**16.43**	**337**	P		**Pn**	**17 15 48.3**	**+0.1**
	baz=144,slow=12,SNR=2.5							
YHNB	**Yeheng**	**18.07**	**260**			**P**	**17 16 05.7**	**-2.7**
YHNB					IAmb	IAmb	17 16 06.8	
	comp=Z,42nm,1.4s							
KLR	**Kul'dur**	**21.03**	**343**	P		**P**	**17 16 40.4**	**+0.1**
	comp=Z,3.6nm,0.6s,baz=148,slow=8.4,SNR=14							
PETK	**Petropavlovsk-**	**26.70**	**23**	P		**P**	**17 17 34.3**	**-0.7**
ENH	**Enshi**	**27.28**	**280**	P		**P**	**17 17 39.6**	**-0.9**
ENH					IAmb	IAmb	17 17 45.0	
	comp=Z,3.2nm,0.8s							
SONM	**Songino Array**	**32.34**	**314**	P		**P**	**17 18 25.7**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=98,slow=7.4,SNR=2.5							
SONM	**Songino Array**	**32.34**	**314**	P		**P**	**17 18 22.9**	**-2.2**
YAK	**Yakutsk**	**33.49**	**350**	P		**P**	**17 18 35.1**	**+0.4**
YAK					IAmb	IAmb	17 18 36.6	
	comp=Z,3.5nm,0.7s							
SEY	**Seymchan**	**34.37**	**9**	P		**P**	**17 18 43.5**	**+1.1**
	comp=Z,1.3nm,0.6s,baz=86,slow=23,SNR=5.1							
CHTO	**Chiang Mai**	**39.59**	**264**	P		**P**	**17 19 26.5**	**-0.8**
CHTO					IAmb	IAmb	17 19 29.4	
	comp=Z,4.4nm,0.6s							
CM31	**Chiang Mai Arr**	**39.73**	**264**	P		**P**	**17 19 28.4**	**-0.1**
CM31					IAmb	IAmb	17 19 32.3	
	comp=Z,2.8nm,0.6s							
CMAR	**Chiang Mai Arr**	**39.73**	**264**	P		**P**	**17 19 29.2**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=64,slow=6.1,SNR=14							
CMAR				LR		LR	17 35 36.6	
	comp=Z,16nm,19.3s,baz=235,slow=36							
CMAR	**Chiang Mai Arr**	**39.73**	**264**	P		**P**	**17 19 27.9**	**-0.6**
TIXI	**Tiksi**	**42.83**	**354**	P		**P**	**17 19 53.8**	**+0.6**
	comp=Z,1.8nm,0.4s,baz=218,slow=1.3,SNR=3.5							
MTN	**Manton Dam**	**43.04**	**194**	P		**P**	**17 19 54.4**	**-1.1**
MTN					IAmb	IAmb	17 19 56.6	
	comp=Z,4.0nm,0.6s							
COEN	**Coen**	**43.14**	**177**	P		**P**	**17 19 55.7**	**-0.6**
KNRA	**Kununurra**	**46.32**	**196**	P		**P**	**17 20 19.4**	**-2.2**
ZAA0	**Zalesovo Array**	**47.07**	**318**	P		**P**	**17 20 26.2**	**-0.9**
ZALV	**Zalesovo Beam**	**47.07**	**318**	P		**P**	**17 20 27.3**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=89,slow=6.8,SNR=6.5							
ZALV				PcP		**PcP**	**17 21 57.1**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=115,slow=3.8,SNR=6.2							
ZALV	**Zalesovo Beam**	**47.07**	**318**	P		**P**	**17 20 26.2**	**-0.9**
MK31	**Makanchi Array**	**48.21**	**308**	P		**P**	**17 20 35.5**	**-0.5**
MKAR	**Makanchi Array**	**48.21**	**308**	P		**P**	**17 20 35.2**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=81,slow=10,SNR=12							
MKAR				PcP		**PcP**	**17 22 03.3**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=70,slow=6.5,SNR=5.3							
MKAR	**Makanchi Array**	**48.21**	**308**	P		**P**	**17 20 35.0**	**-1.1**
MKAR						**PcP**	**17 22 03.7**	**+1.2**
ANM	**Nome**	**48.42**	**28**	P		**P**	**17 20 36.6**	**-0.8**
WB0	**Warramunga Arr**	**49.27**	**188**	P		**P**	**17 20 43.9**	**-0.5**
WB0					IAmb	IAmb	17 20 45.6	
	comp=Z,3.8nm,1.1s							
WR0	**Warramunga Arr**	**49.45**	**188**	P		**P**	**17 20 44.4**	**-1.3**
WR0					IAmb	IAmb	17 20 49.0	
	comp=Z,2.0nm,0.6s							
WB2	**Warramunga Arr**	**49.45**	**188**	P		**P**	**17 20 45.4**	**-0.4**
WB2					IAmb	IAmb	17 20 56.2	
	comp=Z,4.3nm,1.1s							
WRA	**Warramunga Arr**	**49.45**	**188**	P		**P**	**17 20 45.5**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=2.9,slow=6.9,SNR=47							
WRA				PcP		**PcP**	**17 22 08.5**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=3.0,slow=4.8,SNR=1.7							
WRA	**Warramunga Arr**	**49.45**	**188**	P		**P**	**17 20 45.5**	**-0.3**
FITZ	**Fitzroy Crossi**	**49.47**	**199**	P		**P**	**17 20 45.2**	**-0.7**
GSI	**Gunungsitoli**	**49.83**	**244**	P		**P**	**17 20 49.0**	**+0.2**
NRIK	**Noril'sk**	**50.13**	**338**	P		**P**	**17 20 49.5**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=96,slow=21,SNR=4.3							
KURK	**Kurchatov**	**50.63**	**313**	P		**P**	**17 20 54.3**	**-0.1**
KURBB	**Kurchatov Arra**	**50.69**	**313**	P		**P**	**17 20 54.3**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=90,slow=9.0,SNR=5.1							
BOOM	**Boomskoye usch**	**53.05**	**303**	P		**P**	**17 21 12.1**	**-0.7**
BOOM					IAmb	IAmb	17 21 17.3	
	comp=Z,6.8nm,1.4s							
AS31	**Alice Springs**	**53.18**	**188**	P		**P**	**17 21 13.8**	**+0.1**
ASAR	**Alice Springs**	**53.18**	**188**	P		**P**	**17 21 13.7**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=5.4,slow=5.3,SNR=23							
ASAR				PcP		**PcP**	**17 22 22.1**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=9.4,slow=4.4,SNR=1.7							
ASAR	**Alice Springs**	**53.18**	**188**	P		**P**	**17 21 13.2**	**-0.5**
IMAR	**Indian Mountai**	**53.51**	**28**	P		**P**	**17 21 15.6**	**+0.1**
PPLA	**Purkeypile**	**53.76**	**31**	P		**P**	**17 21 17.9**	**+0.2**
I21K	**Tanana**	**54.12**	**29**	P		**P**	**17 21 18.7**	**-1.3**
I21K					IAmb	IAmb	17 21 26.3	
	comp=Z,5.5nm,1.4s							
BPAW	**Bear Paw Mtn.**	**54.42**	**30**	P		**P**	**17 21 21.9**	**-0.4**
H23K	**Yukon River**	**55.20**	**28**	P		**P**	**17 21 26.7**	**-1.1**
H23K					IAmb	IAmb	17 21 30.6	
	comp=Z,2.5nm,1.0s							
BVAR	**Borovoye Array**	**55.64**	**316**	P		**P**	**17 21 31.4**	**+0.2**
	comp=Z,1.3nm,0.4s,baz=120,slow=5.0,SNR=13							
BVAR				PcP		**PcP**	**17 22 31.1**	**+1.0**
	comp=Z,0.8nm,0.4s,baz=173,slow=2.2,SNR=4.3							
ILAR	**Eielson Array**	**56.24**	**29**	P		**P**	**17 21 35.7**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=251,slow=3.5,SNR=4.1							
KKAR	**Karatay Array**	**56.89**	**305**	P		**P**	**17 21 40.1**	**-0.2**
STKA	**Stephens Creek**	**60.93**	**179**	P		**P**	**17 22 07.8**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=259,slow=5.2,SNR=2.9							
INK	**Inuvik**	**61.41**	**25**	P		**P**	**17 22 11.8**	**+0.8**
	comp=Z,1.2nm,0.5s,baz=180,slow=5.1,SNR=1.5							
ABKAR	**Akbulak array**	**62.74**	**313**	P		**P**	**17 22 20.3**	**0.0**
ABKAR	**Akbulak array**	**62.74**	**313**	P		**P**	**17 22 20.0**	**-0.3**
ABKAR					IAmb	IAmb	17 22 21.2	
	comp=Z,2.5nm,0.5s							
WRAK	**Wrangell Islan**	**64.29**	**38**	P		**P**	**17 22 30.2**	**-0.2**
ARCES	**ARCESS Array B**	**71.03**	**340**	P		**P**	**17 23 14.0**	**+1.4**
	comp=Z,2.2nm,0.7s,baz=46,slow=5.2,SNR=7.8							
FINES	**FINESS Array B**	**75.43**	**333**	P		**P**	**17 23 39.2**	**+0.6**
	comp=Z,1.8nm,0.4s,baz=75,slow=4.7,SNR=34							
KBZ	**Khabaz**	**75.67**	**312**	P		**P**	**17 23 40.1**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=45,slow=5.7,SNR=2.5							
NVAR	**Mina Array Bea**	**79.95**	**52**	P		**P**	**17 24 05.7**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=296,slow=6.3,SNR=4.7							
AKASG	**Malin Array Be**	**80.14**	**323**	P		**P**	**17 24 05.5**	**+0.5**
	comp=Z,2.0nm,0.4s,baz=52,slow=5.5,SNR=17							
AKBB	**Malin Array Si**	**80.14**	**323**	P		**P**	**17 24 04.9**	**-0.2**
AKBB					IAmb	IAmb	17 24 06.2	
	comp=Z,4.0nm,0.6s							
NB2	**NORSAR Subarra**	**81.09**	**338**	P		**P**	**17 24 10.4**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=44,slow=5.3							
NOA	**NORSAR Array B**	**81.09**	**338**	P		**P**	**17 24 10.7**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=45,slow=5.5,SNR=7.1							
BRTR	**Keskin Array B**	**83.67**	**312**	P		**P**	**17 24 24.8**	**+0.7**
	comp=Z,2.6nm,0.6s,baz=72,slow=3.2,SNR=23							
BUR08	**Bucovina Ar. S**	**84.08**	**322**	P		**P**	**17 24 26.3**	**+0.4**
BUR08					IAmb	IAmb	17 24 27.7	
	comp=Z,2.4nm,0.7s							
GERES	**GERESS Array B**	**89.00**	**328**	P		**P**	**17 24 49.3**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=31,slow=6.2,SNR=6.2							
TXAR	**Lajitas Array**	**95.08**	**52**	P		**P**	**17 25 19.6**	**+1.2**
	comp=Z,0.1nm,0.4s,baz=259,slow=2.6,SNR=3.9							
QSPA	**South Pole Qui**	**119.15**	**180**	PKPdf		**PKPdf**	**17 30 43.1**	**+0.2**
LPAZ	**La Paz**	**150.28**	**70**	PKPbc		**PKiKP**	**17 31 48.2**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=312,slow=7.6,SNR=4.9							
PLCA	**Paso Flores**	**151.97**	**122**	PKPbc		**PKPbc**	**17 31 48.5**	**-1.4**
	comp=Z,2.1nm,0.9s,baz=271,slow=3.7,SNR=3.3							

IDC ***20*** *17:15:30.6±1.4,31°.02S×72°.79W,h0km,mb3.3/2, mb1 3.7/5,mb1mx3.6/29,mbtmp3.5/5,ML3.4/3,Error ellipse: s-maj=60.2km s-min=26.9km az=87.0*

ISC 20 17:15:35.8±1.2,31°.0S±0°.1×72°.6W±0°.3,h35km,n6,σ0s74/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
PLCA	**Paso Flores**	**9.87**	**171**	Pn		**Pn**	**17 17 55.9**	**+0.6**
	0.1nm,0.3s,baz=339,slow=13,SNR=3.4							
LPAZ	**La Paz**	**15.20**	**17**	Pn		**Pn**	**17 19 08.7**	**+0.1**
	0.0nm,0.3s,baz=204,slow=10.0,SNR=5.2							
SIV	**San Ignacio**	**18.29**	**38**	P		**P**	**17 19 46.9**	**+0.1**
	0.2nm,0.3s,baz=228,slow=9.4,SNR=21							
SNAA	**Sanae**	**54.56**	**159**	P		**P**	**17 24 59.2**	**-1.0**
	1.0nm,1.0s,baz=282,slow=8.8,SNR=2.5							
TXAR	**Lajitas Array**	**66.86**	**321**	P		**P**	**17 26 24.3**	**-0.1**
	0.2nm,0.8s,baz=167,slow=4.3,SNR=1.9							
ZALV	**Zalesovo Beam**	**151.90**	**29**	PKPbc		**PKiKP**	**17 35 27.4**	**+0.5**
	0.8nm,0.7s,baz=325,slow=1.8,SNR=2.4							

JMA ***20*** *17:18:18.5±0.2,24°.73N×122°.85E,h128km±2km,M2.6*
TAP ***20*** *17:18:19.1,24°.76N×122°.84E,h124km,ML3.6,D*

ISC 20 17:18:19.1±1.4,24°.75N±0°.05×122°.86E±0°.02,h123km±8km, n92,σ0s63/171,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
JYNG	**Yonagunijimaku**	**0.31**	**165**	P		**Pn**	**17 18 36.7**	**+0.3**
JYNG				S		**Sn**	**17 18 50.2**	**+0.7**
YOJ	**Yonaguni jima**	**0.32**	**154**	P		**Pn**	**17 18 36.7**	**+0.2**
YOJ				S		**Sn**	**17 18 50.2**	**+0.7**
YOJ	**Yonaguni jima**	**0.32**	**154**	P		**Pn**	**17 18 36.8**	**+0.3**
	baz=152							
YOJ				S		**Sn**	**17 18 49.9**	**+0.3**
	baz=152							
IRIF	**Iriomote-Funau**	**0.89**	**117**	P		**Pn**	**17 18 40.4**	**0.0**
IRIF				S		**Sn**	**17 18 56.5**	**+0.1**
TWC	**Suao**	**0.93**	**262**	P		**Pn**	**17 18 40.4**	**-0.3**
	baz=260							
TWC				S		**Sn**	**17 18 56.5**	**-0.5**
	baz=260

	baz=256							
NNSB				S		Sn	17 19 05.2	-0.3
	baz=256							
NNS	**Nan Shan**	**1.39**	**257**	*eP*		**Pn**	**17 18 45.9**	**+0.3**
	baz=256							
NNS				*eS*		**Sn**	**17 19 05.4**	**-0.3**
	baz=256							
FUSS	**Fushou**	**1.56**	**252**	*eP*		**Pn**	**17 18 48.2**	**+0.6**
	baz=250							
FUSS				*eS*		**Sn**	**17 19 08.7**	**-0.6**
	baz=250							
WHF	**Hehuan Shan**	**1.57**	**248**	*eP*		**Pn**	**17 18 48.1**	**+0.1**
	baz=246							
WHF				S		**Sn**	**17 19 09.3**	**-0.6**
	baz=246							
ESL	**Shilin**	**1.60**	**235**	*eP*		**Pn**	**17 18 47.9**	**0.0**
	baz=233							
ESL				*eS*		**Sn**	**17 19 08.9**	**-0.9**
	baz=233							
TWT	**Tachien**	**1.61**	**252**	*eP*		**Pn**	**17 18 49.1**	**+1.0**
	baz=251							
TWT				*eS*		**Sn**	**17 19 10.1**	**-0.2**
	baz=251							
TDCB	**Techi**	**1.63**	**253**	*eP*		**Pn**	**17 18 48.6**	**+0.2**
	baz=251							
TDCB				S		**Sn**	**17 19 10.0**	**-0.6**
	baz=251							
JTJ	**Tarama**	**1.68**	**93**	P		**Pn**	**17 18 48.8**	**0.0**
JTJ				S		**Sn**	**17 19 10.5**	**-0.9**
LIOB	**Emei**	**1.68**	**267**	*eP*		**Pn**	**17 18 49.7**	**+0.8**
	baz=266							
LIOB				*eS*		**Sn**	**17 19 10.7**	**-0.8**
	baz=266							
CHGB	**Renai**	**1.68**	**246**	*eP*		**Pn**	**17 18 49.5**	**+0.4**
	baz=245							
CHGB				S		**Sn**	**17 19 11.4**	**-0.5**
	baz=245							
EGFH	**Guangfu**	**1.69**	**231**	*eP*		**Pn**	**17 18 48.9**	**-0.1**
	baz=229							
EGFH				*eS*		**Sn**	**17 19 10.9**	**-0.9**
	baz=229							
NSTT	**Nanjuang**	**1.69**	**266**	*eP*		**Pn**	**17 18 49.4**	**+0.4**
	baz=265							
NSTT				*eS*		**Sn**	**17 19 11.4**	**-0.4**
	baz=265							
OWD	**Renai**	**1.73**	**243**	*eP*		**Pn**	**17 18 49.7**	**+0.2**
	baz=242							
OWD				*eS*		**Sn**	**17 19 12.1**	**-0.6**
	baz=242							
WHP	**Taichung City**	**1.81**	**255**	*eP*		**Pn**	**17 18 50.9**	**+0.5**
	baz=254							
WHP				*eS*		**Sn**	**17 19 14.5**	**+0.2**
	baz=254							
HGSD	**Ruisui**	**1.81**	**227**	*eP*		**Pn**	**17 18 50.5**	**0.0**
	baz=225							
HGSD				S		**Sn**	**17 19 14.2**	**-0.1**
	baz=225							
EHY	**Hungye**	**1.87**	**229**	*eP*		**Pn**	**17 18 50.9**	**-0.3**
	baz=227							
EHY				*eS*		**Sn**	**17 19 14.9**	**-0.7**
	baz=227							
NMLH	**Miaoli**	**1.89**	**264**	*eS*		**Sn**	**17 19 16.2**	**+0.1**
	baz=263							
WCS	**Beigang Elemen**	**1.91**	**249**	*eP*		**Pn**	**17 18 52.5**	**+1.0**
	baz=248							
WCS				*eS*		**Sn**	**17 19 16.2**	**-0.1**
	baz=248							
TWQ1	**Liyutan**	**1.94**	**259**	*eP*		**Pn**	**17 18 53.0**	**+1.0**
	baz=257							
TWQ1				*eS*		**Sn**	**17 19 15.8**	**-1.4**
	baz=257							
YULB	**Yu-li**	**1.97**	**227**	*eP*		**Pn**	**17 18 51.9**	**-0.4**
	baz=226							
YULB				*eS*		**Sn**	**17 19 17.1**	**-0.6**
	baz=226							
EYUL	**Yuli**	**1.98**	**226**	*eP*		**Pn**	**17 18 53.4**	**+0.8**
	baz=224							
EYUL				*eS*		**Sn**	**17 19 18.4**	**+0.3**
	baz=224							
SMLT	**Sun Moon Lake**	**1.98**	**245**	*eP*		**Pn**	**17 18 53.3**	**+0.7**
	baz=243							
SMLT				*eS*		**Sn**	**17 19 18.8**	**+0.5**
	baz=243							
SSLB	**Suanglung**	**1.99**	**242**	*eP*		**Pn**	**17 18 52.8**	**+0.2**
	baz=240							
SSLB				*eS*		**Sn**	**17 19 18.0**	**-0.2**
	baz=240							
TYC	**Yuchr**	**2.01**	**246**	*eP*		**Pn**	**17 18 53.8**	**+0.9**
	baz=244							
TYC				*eS*		**Sn**	**17 19 18.9**	**+0.3**
	baz=244							
JIRB	**Irabujima**	**2.10**	**87**	P		**Pn**	**17 18 54.1**	**+0.1**
JIRB				S		**Sn**	**17 19 19.8**	**-0.9**
FULB	**Fuli**	**2.11**	**223**	*eP*		**Pn**	**17 18 54.0**	**0.0**
	baz=222							
FULB				S		**Sn**	**17 19 20.2**	**-0.6**
	baz=222							
WHYT	**Xinyi Township**	**2.11**	**241**	*eP*		**Pn**	**17 18 54.9**	**+0.8**
	baz=239							
WHYT				*eS*		**Sn**	**17 19 21.2**	**+0.3**
	baz=239							
CHKT	**Chengkung**	**2.14**	**220**	*eP*		**Pn**	**17 18 54.2**	**-0.3**
	baz=219							
CHKT				*eS*		**Sn**	**17 19 20.7**	**-0.8**
	baz=219							
YUS	**Yu-Shan**	**2.15**	**235**	*eP*		**Pn**	**17 18 55.7**	**+0.6**
	baz=233							
WJS	**Zhushan**	**2.15**	**245**	*eP*		**Pn**	**17 18 55.5**	**+0.9**
	baz=244							
WJS				*eS*		**Sn**	**17 19 21.8**	**0.0**
	baz=244							
WNT	**Mingjian**	**2.17**	**247**	*eP*		**Pn**	**17 18 55.9**	**+1.1**
	baz=245							
WNT				*eS*		**Sn**	**17 19 21.9**	**-0.2**
	baz=245							
JIKM	**Ikemajima**	**2.18**	**85**	S		**Sn**	**17 19 22.3**	**0.0**
JMJ2	**Miyako jima3**	**2.24**	**90**	P		**Pn**	**17 18 56.3**	**+0.6**
JMJ2				S		**Sn**	**17 19 23.4**	**-0.4**
ALS	**Alishan**	**2.25**	**237**	*eP*		**Pn**	**17 18 56.8**	**+0.7**
	baz=236							
ALS				*eS*		**Sn**	**17 19 24.7**	**+0.3**
	baz=236							
EDH	**Donghe**	**2.27**	**219**	*eP*		**Pn**	**17 18 56.0**	**-0.1**
	baz=218							
EDH				*eS*		**Sn**	**17 19 23.6**	**-0.8**
	baz=218							
ELDTW	**Lidau**	**2.29**	**228**	*eP*		**Pn**	**17 18 56.4**	**-0.1**
	baz=226							
ELDTW				*eS*		**Sn**	**17 19 25.0**	**-0.2**
	baz=226							
CHN5	**Tsauling**	**2.30**	**241**	*eP*		**Pn**	**17 18 57.4**	**+0.9**
	baz=239							
CHN5				*eS*		**Sn**	**17 19 25.5**	**+0.3**
	baz=239							
JOGS	**Gusukube**	**2.31**	**89**	P		**Pn**	**17 18 57.4**	**+0.8**
JOGS				S		**Sn**	**17 19 25.4**	**0.0**
WDLH	**Douliu**	**2.37**	**244**	*eP*		**Pn**	**17 18 58.3**	**+1.0**
	baz=243							
WDLH				*eS*		**Sn**	**17 19 27.2**	**+0.5**
	baz=243							
WRL	**Guolierlin Hig**	**2.42**	**250**	*eP*		**Pn**	**17 18 58.2**	**+0.3**
	baz=249							
WRL				*eS*		**Sn**	**17 19 27.3**	**-0.5**
	baz=249							
LONT	**Longtian**	**2.42**	**221**	*eP*		**Pn**	**17 18 59.0**	**+1.0**
	baz=220							
LONT				*eS*		**Sn**	**17 19 27.7**	**-0.3**
	baz=220							
LDUT	**Ludao**	**2.43**	**212**	*eP*		**Pn**	**17 18 57.7**	**-0.4**
	baz=211							
LDUT				*eS*		**Sn**	**17 19 27.3**	**-0.8**
	baz=211							
STYH	**Taoyuan**	**2.47**	**231**	*eP*		**Pn**	**17 19 00.1**	**+1.4**
	baz=230							
STYH				*eS*		**Sn**	**17 19 29.5**	**+0.5**
	baz=230							
WTK	**Tuku**	**2.49**	**245**	*eP*		**Pn**	**17 18 59.4**	**+0.5**
	baz=244							
WTK				*eS*		**Sn**	**17 19 29.0**	**-0.5**
	baz=244							
CHN4	**Tsaushan**	**2.50**	**237**	*eP*		**Pn**	**17 19 00.1**	**+1.1**
	baz=235							
CHN4				*eS*		**Sn**	**17 19 29.4**	**-0.2**
	baz=235							
TPUB	**Ta-pu**	**2.50**	**235**	*eP*		**Pn**	**17 19 00.3**	**+1.3**
	baz=234							
TPUB				*eS*		**Sn**	**17 19 29.9**	**+0.3**
	baz=234							
TWGBT	**Beinan**	**2.52**	**221**	*eS*		**Sn**	**17 19 29.5**	**-0.7**
	baz=219							
TTN	**Taitung**	**2.53**	**219**	*eP*		**Pn**	**17 19 00.5**	**+1.0**
	baz=217							
WTP	**Ta-pu**	**2.54**	**234**	*eP*		**Pn**	**17 19 00.7**	**+1.1**
	baz=233							
WTP				*eS*		**Sn**	**17 19 30.2**	**-0.5**
	baz=233							
CHY	**Chiayi**	**2.55**	**241**	*eS*		**Sn**	**17 19 31.0**	**+0.2**
	baz=240							
TWK	**Hsinying**	**2.62**	**236**	*eP*		**Pn**	**17 19 02.0**	**+1.3**
	baz=235							
TWK				*eS*		**Sn**	**17 19 31.8**	**-0.8**
	baz=235							
CHN1	**Nanshi**	**2.64**	**234**	*eP*		**Pn**	**17 19 02.1**	**+1.3**
	baz=233							
CHN1				*eS*		**Sn**	**17 19 32.7**	**-0.3**
	baz=233							
WSF	**Szhu**	**2.65**	**246**	*eS*		**Sn**	**17 19 32.7**	**-0.4**
	baz=244							
SGST	**Jiashian**	**2.66**	**232**	*eP*		**Pn**	**17 19 01.6**	**+0.5**
	baz=230							
SGST				*eS*		**Sn**	**17 19 33.1**	**-0.4**
	baz=230							
SLGT	**Liugui**	**2.68**	**230**	*eP*		**Pn**	**17 19 02.1**	**+0.8**
	baz=228							
SLGT				*eS*		**Sn**	**17 19 34.0**	**+0.2**
	baz=228							
SSD	**Sandimen**	**2.85**	**226**	*eP*		**Pn**	**17 19 04.4**	**+0.8**
	baz=225							
SSD				*eS*		**Sn**	**17 19 37.5**	**-0.4**
	baz=225							
TSMG	**Majia**	**2.87**	**225**	*eS*		**Sn**	**17 19 38.0**	**-0.3**
	baz=224							
MASBT	**Mashibuluo**	**2.95**	**224**	*eP*		**Pn**	**17 19 05.5**	**+0.6**
	baz=223							
MASBT				*eS*		**Sn**	**17 19 39.8**	**-0.3**
	baz=223							
LAY	**Lan-yu**	**2.95**	**204**	*eP*		**Pn**	**17 19 05.2**	**+0.3**
	baz=203							
LAY				*eS*		**Sn**	**17 19 39.0**	**-1.2**
	baz=203							
EAST	**Anshuo**	**2.99**	**218**	*eP*		**Pn**	**17 19 06.6**	**+1.2**
	baz=217							
EAST				*eS*		**Sn**	**17 19 40.3**	**-0.9**
	baz=217							
SLIU	**Shizi**	**3.15**	**217**	*eP*		**Pn**	**17 19 08.6**	**+1.1**
	baz=216							
PNG	**Penghu**	**3.24**	**249**	*eS*		**Sn**	**17 19 45.0**	**-1.9**
	baz=248							
PHUB	**P'eng-hu**	**3.25**	**248**	*eP*		**Pn**	**17 19 08.7**	**0.0**
	baz=247							
PHUB				*eS*		**Sn**	**17 19 45.2**	**-1.8**
	baz=247							
WDGT	**Dungji**	**3.28**	**244**	*eP*		**Pn**	**17 19 09.0**	**-0.2**
	baz=242							

*IDC **20** 17:18:22.9±0.6,30.°71S×71.°65W,h0km,mb4.2/6, mb1 4.3/11,mb1mx4.1/30,mbtmp4.2/11,ML4.0/5,MS4.1/14, Ms1 4.1/14,ms1mx3.9/23,Error ellipse: s-maj=23.3km s-min=17.5km az=117.0*

*SJA **20** 17:18:24.0,30.°55S×72.°16W,h10km,ML4.8*

*GUC **20** 17:18:26.6±0.7,30.°66S×71.°74W,h37km±1km,ML4.8, MW5.0*

*NEIC **20** 17:18:27.8,30.°62S×71.°68W,h40km,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr0.47; Mθθ-0.11; Mϕϕ-0.36; Mrθ0.51; Mrϕ-0.32; Mθϕ-1.64; Fault plane solution: M₀1.80000×10¹⁶ NP1:ϕs166.59000°, δ84.23000°,λ78.57000°. NP2:ϕs50.14000°,δ12.78000°, λ152.97000°. Principal axes: T 1.9208, Plg50.0000°, Azm64.0000°; N -0.2834, Plg11.0000°, Azm168.0000°; P -1.6373, Plg38.0000°, Azm267.0000°;*

*VAO **20** 17:18:27.0±0.3,30.°42S×71.°69W,h31km,mb4.7*

*NEIC **20** 17:18:28.6±2.4,30.°63S±0.°03×71.°68W±0.°03,h35km±1km, mb4.8/21,Mwr4.8/53,Mwr5.0(GUC),Error ellipse: s-maj=5.8km s-min=4.1km az=172.0*

*GCMT **20** 17:18:29.6±0.4,30.°46S±0.°03×71.°92W±0.°03,h34km±1km, MW4.9/60,Moment Tensor Solution. s31,c36; s60,c72; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.72±.18; Mθθ-0.02±.12; Mϕϕ-2.70±.11; Mrθ0.11±.12; Mθϕ0.28±.10; Mϕr-1.68±.11; Best double couple: M₀3.20300×10¹⁶ NP1:ϕs353.00000°,δ29.00000°,λ88.00000°. NP2: ϕs175.00000°,δ61.00000°,λ91.00000°. Principal axes: T 3.1990, Plg74.0000°, Azm88.0000°; N 0.0080, Plg1.0000°, Azm355.0000°; P -3.2070, Plg16.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 17:18:24.9±0.4,30.°55S±0.°03×71.°91W±0.°04,h22km±2km, n220,σ1°77/219,mb4.7/12,MS4.3/12,6C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.27**	**118**	*eP*		**Pb**	**17 18 32.4**	**+1.0**
CO06				*i* S		**Sb**	**17 18 36.0**	**+0.2**
CO06				IAML			17 18 36.5	
	comp=N,121μm,0.2s							
CO06	**Fray Jorge**	**0.27**	**118**			**Pb**	**17 18 32.3**	**+1.0**
CO05	**La Serena**	**0.86**	**43**	*eP*		**Pn**	**17 18 42.7**	**+1.0**
CO05				*eS*		**Sn**	**17 18 54.3**	**+0.7**
CO05				IAML			17 18 58.0	
	comp=E,53μm,0.3s							
CO05	**La Serena**	**0.86**	**43**			**Pn**	**17 18 42.7**	**+1.0**
CO05						**Sn**	**17 18 54.2**	**+0.6**
GO04	**Tololo Observa**	**1.03**	**69**	*eP*		**Pn**	**17 18 44.2**	**-0.1**
GO04				*eS*		**Sb**	**17 18 57.4**	**0.0**
GO04				IAML			17 19 01.8	
	comp=N,112μm,0.5s							
GO04	**Tololo Observa**	**1.03**	**69**			**Pb**	**17 18 44.7**	**+0.5**
GO04	**Tololo Observa**	**1.03**	**69**	*i* P		**Pn**	**17 18 44.0**	**-0.4**
CO03	**El Pedregal**	**1.09**	**106**	*eP*		**Pn**	**17 18 43.7**	**-1.3**
CO03				*eS*		**Sn**	**17 18 55.8**	**-3.7**
CO03	**El Pedregal**	**1.09**	**106**	Pn		**Pn**	**17 18 43.8**	**-1.3**
CO03				Sn		**Sn**	**17 18 55.9**	**-3.7**
LCO	**Las Campanas**	**1.86**	**35**	*eP*		**Pb**	**17 18 58.0**	**-0.4**
LCO				*eS*		**Sb**	**17 19 22.0**	**+0.8**
LCO	**Las Campanas**	**1.86**	**35**			**Pb**	**17 18 58.5**	**+0.2**
LCO	**Las Campanas**	**1.86**	**35**	*i* P		**Pb**	**17 18 58.0**	**-0.4**
VA06	**Catapilco**	**2.08**	**165**	*eP*		**Pn**	**17 18 58.7**	**+0.3**
VA06				*eS*		**Sn**	**17 19 23.3**	**-0.4**
AROD	**Rodeo**	**2.14**	**80**	*i* P		**Pb**	**17 19 03.0**	**-0.2**
ACDV	**Cuesta del Vie**	**2.44**	**82**	*i* P		**Pb**	**17 19 08.0**	**-0.3**
AC04	**Llanos de Chal**	**2.45**	**18**	*eP*		**Pn**	**17 19 05.8**	**+2.3**
AC04				*eS*		**Sb**	**17 19 36.2**	**-1.7**
AC04	**Llanos de Chal**	**2.45**	**18**			**Pb**	**17 19 06.2**	**-2.0**
AC04	**Llanos de Chal**	**2.45**	**18**	*i* P		**Pn**	**17 19 06.0**	**+2.4**
ACCO	**Cerro Coronel**	**2.46**	**92**	*i* P		**Pb**	**17 19 07.0**	**-1.6**
VA01	**Torpederas**	**2.48**	**175**	*eP*		**Pn**	**17 19 04.5**	**+0.5**
VA01				*eS*		**Sn**	**17 19 32.9**	**-0.7**
VA01	**Torpederas**	**2.48**	**175**			**Pn**	**17 19 04.9**	**+0.9**
VA01	**Torpederas**	**2.48**	**175**	*i* P		**Pn**	**17 19 05.0**	**+1.0**
VA03	**San Esteban**	**2.50**	**153**	*eP*		**Pn**	**17 19 05.6**	**+1.2**
VA03				*eS*		**Sn**	**17 19 33.5**	**-0.8**
VA03				IAML			17 19 42.7	
	comp=E,5μm,0.5s							
VA03	**San Esteban**	**2.50**	**153**			**Pn**	**17 19 06.2**	**+1.8**
VA03	**San Esteban**	**2.50**	**153**	*i* P		**Pn**	**17 19 06.0**	**+1.6**
ROCH	**El Roble**	**2.54**	**163**	*eP*		**Pn**	**17 19 05.5**	**+0.4**
ROCH				*eS*		**Sn**	**17 19 35.4**	**0.0**
RTLS	**Leoncito**	**2.57**	**120**	*i* P		**Pn**	**17 19 08.0**	**+2.5**
AUSP	**Uspallata**	**2.73**	**128**	*i* P		**Pn**	**17 19 10.0**	**+2.2**
ZON	**Zonda**	**2.95**	**111**			**Pn**	**17 19 13.6**	**+3.0**
ZON	**Zonda**	**2.95**	**111**	*i* P		**Pn**	**17 19 14.0**	**+3.4**
MT05	**Renca**	**3.01**	**161**	*eP*		**Pn**	**17 19 12.3**	**+1.0**
MT05				*i* S		**Sn**	**17 19 48.5**	**+1.7**
MT05				IAML			17 20 00.7	
	comp=E,2μm,0.5s							
MT05	**Renca**	**3.01**	**161**			**Pn**	**17 19 13.0**	**+1.6**
MT05	**Renca**	**3.01**	**161**	*i* P		**Pn**	**17 19 13.0**	**+1.6**
VA05	**Santo Domingo**	**3.11**	**175**	*eP*		**Pn**	**17 19 13.3**	**+0.6**
VA05				*eS*		**Sn**	**17 19 48.7**	**-0.5**
VA05	**Santo Domingo**	**3.11**	**175**			**Pn**	**17 19 12.9**	**+0.2**
AGUA	**GUANDACOL**	**3.15**	**71**	*i* P		**Pb**	**17 19 19.0**	**-1.3**
RTCV	**Cerro Valdivia**	**3.17**	**115**	*i* P		**Pn**	**17 19 17.0**	**+3.4**
GO03	**Copiap**	**3.29**	**27**	*eP*		**Pn**	**17 19 18.0**	**+2.8**
GO03				*eS*		**Sn**	**17 19 57.4**	**+3.6**
GO03				IAML			17 20 15.2	
	comp=E,3μm,0.7s							
GO03	**Copiap**	**3.29**	**27**			**Pn**	**17 19 17.9**	**+2.6**
GO03	**Copiap**	**3.29**	**27**	*i* P		**Pn**	**17 19 18.0**	**+2.8**
MT09	**Talagante**	**3.31**	**167**	*eP*		**Pn**	**17 19 15.8**	**+0.2**
MT09				IAML			17 20 09.3	
	comp=N,1μm,0.5s							
MT09	**Talagante**	**3.31**	**167**			**Pn**	**17 19 16.8**	**+1.1**
ASAL	**Salagasta**	**3.33**	**129**	*i* P		**Pn**	**17 19 19.0**	**+3.2**
MT01	**Popeta**	**3.35**	**171**	*eP*		**Pn**	**17 19 16.5**	**+0.4**
MT01				*i* S		**Sn**	**17 19 57.0**	**+1.7**
MT01	**Popeta**	**3.35**	**171**			**Pn**	**17 19 16.6**	**+0.4**
MT01	**Popeta**	**3.35**	**171**	*i* P		**Pn**	**17 19 17.0**	**+0.9**
ARCO	**CERRO ARCO**	**3.42**	**133**	*i* P		**Pn**	**17 19 22.0**	**-2.9**
AC06	**Mina Casimiro**	**3.46**	**24**			**Pn**	**17 19 20.0**	**+2.5**
LMEL	**Las Melosas**	**3.60**	**157**	*eP*		**Pn**	**17 19 21.0**	**+1.4**
AAGR	**Agrelo**	**3.65**	**135**	*i* P		**Pn**	**17 19 24.0**	**+3.8**
VCA	**Vinchina**	**3.70**	**62**	*i* P		**Pb**	**17 19 26.0**	**-3.7**
AVFE	**Valle Fertil**	**3.85**	**93**	*i* P		**Pn**	**17 19 25.0**	**+2.1**
BO01	**Tunca**	**3.90**	**170**			**Pn**	**17 19 24.7**	**+1.1**
BO01	**Tunca**	**3.90**	**170**	*i* P		**Pn**	**17 19 25.0**	**+1.5**
BO02	**Sierra Bellavi**	**4.34**	**168**			**Pn**	**17 19 31.8**	**+2.1**
BO02	**Sierra Bellavi**	**4.34**	**168**	*i* P		**Pn**	**17 19 32.0**	**+2.3**
AC02	**Maricunga**	**4.43**	**34**			**Pn**	**17 19 35.0**	**+3.6**
AC02	**Maricunga**	**4.43**	**34**	*i* P		**Pn**	**17 19 35.0**	**+3.6**
GO05	**Huala**	**4.45**	**180**			**Pn**	**17 19 30.6**	**-0.5**
GO05	**Huala**	**4.45**	**180**	*i* P		**Pn**	**17 19 31.0**	**-0.2**
ACHE	**Chepes**	**4.56**	**99**	*i* P		**Pn**	**17 19 35.0**	**+2.3**
COIS	**El Sosneado**	**4.95**	**157**	*i* P		**Pn**	**17 19 41.0**	**+3.0**
RFA	**San Rafael**	**5.12**	**146**	*i* P		**Pn**	**17 19 42.0**	**+1.6**
CYA	**Choya**	**5.73**	**70**	*i* P		**Pn**	**17 19 51.0**	**+2.3**
PB14	**IPOC Station P**	**6.05**	**13**			**Pn**	**17 19 53.8**	**+0.4**
H03N1	**Juan Fernandez**	**6.61**	**242**	T		T	17 26 58.0	
	baz=71,slow=72,SNR=6908							
H03N2	**Juan Fernandez**	**6.62**	**242**	T		T	17 26 58.6	
	baz=71,slow=72,SNR=6225							
H03N3	**Juan Fernandez**	**6.62**	**242**	T		T	17 26 55.6	
	baz=71,slow=72,SNR=3453							
VA04	**Juan Fernndez**	**6.63**	**240**			**Pn**	**17 20 01.9**	**+0.9**
H03S3	**Juan Fernandez**	**6.77**	**239**	Pn		**Pn**	**17 20 03.1**	**+0.3**
	baz=30,slow=21,SNR=49							
H03S3					Sn	**Sn**	**17 21 15.4**	**-3.7**
	baz=340							
H03S3					T	T	17 27 10.1	
	baz=69,slow=77							
H03S1	**Juan Fernandez**	**6.78**	**239**	Pn		**Pn**	**17 20 02.5**	**-0.3**
	baz=30,slow=21,SNR=41							
H03S1					Sn	**Sn**	**17 21 15.5**	**-3.7**
	baz=340							
H03S1					T	T	17 27 06.6	
	baz=69,slow=77							
H03S2	**Juan Fernandez**	**6.79**	**239**	Pn		**Pn**	**17 20 03.0**	**+0.1**
	baz=30,slow=21,SNR=48							
H03S2					Sn	**Sn**	**17 21 14.2**	**-5.2**
	baz=340							
H03S2					T	T	17 27 09.4	
	baz=69,slow=77							
FSA	**Cafayete**	**6.85**	**51**	*i* P		**Pn**	**17 20 08.0**	**+3.8**
AHML	**Horco Molle**	**6.89**	**59**	*i* P		**Pn**	**17 20 07.0**	**+2.3**
PB10	**IPOC Station P**	**7.11**	**10**			**Pn**	**17 20 08.6**	**+0.9**
PB10	**IPOC Station P**	**7.11**	**10**	*i* P		**Pn**	**17 20 10.0**	**+2.3**
PB05	**IPOC Station P**	**7.81**	**12**	*i* P		**Pn**	**17 20 17.0**	**-0.5**
LC01	**Cunco**	**8.33**	**180**			**Pn**	**17 20 24.6**	**+0.2**
LC01	**Cunco**	**8.33**	**180**	*i* P		**Pn**	**17 20 25.0**	**+0.6**
LVC	**Limon Verde**	**8.35**	**19**	Pn		**Pn**	**17 20 27.0**	**+2.0**
	comp=N,0.8nm,0.3s,baz=167,slow=7.9,SNR=10							
LVC					Sn	**Sn**	**17 21 59.6**	**+0.8**
	comp=N,3.4nm,0.3s,baz=175,slow=8.7,SNR=1.6							
LVC					LR	LR	17 23 56.2	
	comp=N,757nm,20.6s,baz=210,slow=40							
LVC	**Limon Verde**	**8.35**	**19**	Pn		**Pn**	**17 20 25.8**	**+0.7**
LVC	**Limon Verde**	**8.35**	**19**	*eP*		**Pn**	**17 20 23.9**	**-1.1**
LVC				*eS*		**Sn**	**17 21 55.1**	**-3.8**
PB01	**IPOC Station P**	**9.71**	**14**			**Pn**	**17 20 42.4**	**-1.1**
PLCA	**Paso Flores**	**10.22**	**174**	Pn		**Pn**	**17 20 48.7**	**-1.8**
	comp=N,0.2nm,0.3s,baz=344,slow=11,SNR=11							
PLCA					LR	LR	17 24 49.9	
	comp=N,780nm,19.9s,baz=351,slow=38							
PLCA	**Paso Flores**	**10.22**	**174**			**Pn**	**17 20 51.7**	**+1.3**
PLCA	**Paso Flores**	**10.22**	**174**	*eP*		**Pn**	**17 20 53.0**	**+2.6**
PSGCX	**Pisagua**	**11.02**	**9**	Pn		**Pn**	**17 20 59.8**	**-1.7**
TRQA	**Tornquist**	**11.11**	**135**			**Pn**	**17 21 02.3**	**-0.3**
TRQA	**Tornquist**	**11.11**	**135**	*eP*		**Pn**	**17 21 03.2**	**+0.6**
ITQB	**Itaqui**	**13.27**	**90**			**Pn**	**17 21 30.0**	**-2.0**
ITQB	**Itaqui**	**13.27**	**90**	*eP*		**Pn**	**17 21 30.2**	**-1.8**
CPUP	**Villa Florida**	**13.50**	**75**	Pn		**Pn**	**17 21 31.8**	**-3.4**
	comp=N,0.5nm,0.3s,baz=242,slow=12,SNR=8.4							
CPUP					Sn	**Sn**	**17 24 03.2**	**-1.4**
	comp=N,0.4nm,0.3s,baz=132,slow=9.5,SNR=1.4							
CPUP					Lg	Lg	17 25 11.1	
	comp=N,0.5nm,0.3s,baz=339,slow=19,SNR=1.7							
CPUP					LR	LR	17 27 06.9	
	comp=N,1μm,21.8s,baz=248,slow=39							
CPUP	**Villa Florida**	**13.50**	**75**			**Pn**	**17 21 33.7**	**-1.5**
CPUP	**Villa Florida**	**13.50**	**75**	*eP*		**Pn**	**17 21 32.1**	**-3.1**
LPAZ	**La Paz**	**14.61**	**15**	Pn		**Pn**	**17 21 53.3**	**+2.3**
	comp=N,0.7nm,0.3s,baz=183,slow=8.6,SNR=34							
LPAZ	**La Paz**	**14.61**	**15**			**P**	**17 21 54.4**	**-2.9**
LPAZ	**La Paz**	**14.61**	**15**	*eP*		**Pn**	**17 21 47.9**	**-3.1**
PLTB	**Pedras Altas**	**15.73**	**99**	*eP*		**Pn**	**17 22 04.0**	**-1.2**
SIV	**San Ignacio**	**17.56**	**37

GDU01	Guandu, BA	34.15	68	eP		P		17 25 07.2	-1.5
PAYG	Puerto Ayora	34.45	326	P		P		17 25 11.8	+0.6
PAYG				IAmb		IAmb		17 26 23.9	
	comp=Z,25nm,0.9s								
BOAV	Boa Vista	34.51	20	eP		P		17 25 10.6	-1.1
PMSA	Palmer Station	34.60	174	eP		P		17 25 13.8	+1.9
NBPN	Ponto Novo - B	35.37	63	eP		P		17 25 17.9	-1.2
MCPB	Macapa, AP	35.46	36	eP		P		17 25 18.6	-1.3
TMAB	Tom-Àu,PA,Br	35.97	43	eP		P		17 25 22.9	-1.4
RUSC	La Rusia	36.25	358	P		P		17 25 31.3	+4.2
RUSC				IAmb		IAmb		17 25 33.3	
	comp=Z,34nm,1.2s								
NBLA	Lagarto - SE	37.15	66	eP		P		17 25 33.1	-1.3
NBMA	Muriti-CE	38.66	60	eP		P		17 25 45.9	-1.3
NBPS	Pedro II - PI	38.75	54	eP		P		17 25 46.8	-1.1
NBAN	Anadia - AL	39.13	66	eP		P		17 25 50.0	-1.1
NBPB	Pedra_Branca-C	39.27	57	eP		P		17 25 51.6	-0.7
NBPA	Parau_RN	40.96	60	eP		P		17 26 04.8	-1.5
HATO	Hato, Curacao	42.58	4	P		P		17 26 17.7	-1.6
MLPR	Magueyes Islan	48.46	6	P		P		17 27 08.1	+2.2
CRPR	Cabo Rojo, PR	48.49	6	P		P		17 27 07.1	+1.0
PDPR	Patillas Dam,	48.62	7	P		P		17 27 07.6	+0.5
PDPR				IAmb		IAmb		17 27 11.2	
	comp=Z,16nm,1.1s								
CUPR	Culebra, Puert	48.99	8	P		P		17 27 10.8	+0.8
CUPR				IAmb		IAmb		17 27 52.4	
	comp=Z,7.7nm,0.8s								
VNA3	Neumayer Olymp	52.52	159	P		P		17 27 36.4	+0.3
VNA1	Neumayer--Stat	52.81	158	P		P		17 27 41.1	+3.0
VNA2	Neumayer--Watz	53.16	158	P		P		17 27 41.8	+1.0
	baz=282,slow=8.4								
SNAA	Sanae	54.75	159	P		P		17 27 53.4	+0.9
SNAA	Sanae	54.75	159	P		P		17 27 53.0	+0.6
	comp=Z,0.9nm,0.6s,baz=286,slow=8.7,SNR=9.0								
SNAA	Sanae	54.75	159	P		P		17 27 53.3	+0.8
RKT	Rikitea	56.13	261	eT		T		18 28 49.3	
	comp=Z,6.6nm,0.2s								
QSPA	South Pole Qui	59.68	180	P		P		17 28 29.1	+1.6
QSPA				IAmb		IAmb		17 28 56.6	
	comp=Z,8.6nm,1.3s								
SHEL	Horse Pasture	61.74	93	P		P		17 28 40.4	-1.8
H06E1	SOCORRO T-PHAS	61.75	317	T		T		18 36 00.3	
	SNR=6.5								
TXAR	Lajitas Array	66.79	330	P		P		17 29 18.8	+3.9
	comp=Z,0.5nm,0.8s,baz=146,slow=7.2,SNR=6.1								
TXAR				LR		LR		17 54 17.8	
	comp=Z,77nm,18.3s,baz=0.0,slow=32								
TXAR	Lajitas Array	66.79	330	P		P		17 29 16.7	+1.8
VNDA	Vanda	67.50	191	LR		LR		17 53 54.7	
	comp=Z,47nm,19.7s,baz=62,slow=32								
TBI	Tubuai	68.27	255	eS		S		17 38 33.7	+9.5
	comp=Z,123nm,29.0s								
TBI	Tubuai	68.27	255	eLR		LR		17 50 13.4	
	comp=Z,179nm,24.0s								
TBI	Tubuai	68.27	255	eT		T		18 44 00.7	
	comp=Z,12nm,0.2s								
MEH	Mehetia	69.46	261	eT		T		18 45 30.4	
	comp=Z,21nm,0.2s								
TIAR	Tiarei	70.69	261	eT		T		18 47 03.0	
	comp=Z,2.8nm,0.2s								
PPT2	Papeete2	70.87	260	eS		S		17 39 04.9	+10
	comp=Z,81nm,27.0s								
PPT2	Papeete2	70.87	260	eLR		LR		17 51 25.9	
	comp=Z,207nm,23.8s								
R40A	Maddies Statio	71.07	343	P		P		17 29 43.9	+2.6
R40A				IAmb		IAmb		17 30 02.4	
	comp=Z,6.1nm,0.8s								
DBIC	Dimbokro	74.00	72	P		P		17 29 60.0	+0.7
DBIC				LR		LR		18 00 06.9	
	comp=Z,291nm,19.3s,baz=224,slow=34								
DBIC	Dimbokro	74.00	72	P		P		17 29 59.6	+0.4
MAW	Mawson	76.45	164	P		P		17 30 13.7	+1.2
	comp=Z,0.9nm,0.4s,baz=304,slow=7.3,SNR=2.6								
MAW				LR		LR		18 02 41.5	
	comp=Z,166nm,22.0s,baz=238,slow=35								
MAW	Mawson	76.45	164	P		P		17 30 12.8	+0.2
BOSA	Boshof	81.59	118	LR		LR		18 03 39.2	
	comp=Z,106nm,18.2s,baz=196,slow=33								
TORD	Torodi Ar. Bea	82.94	70	P		P		17 30 49.0	+0.4
	comp=Z,1.1nm,0.5s,baz=281,slow=5.8,SNR=11								
TORD				LR		LR		18 05 41.6	
	comp=Z,295nm,19.1s,baz=245,slow=34								
TORD	Torodi Ar. Bea	82.94	70	P		P		17 30 49.5	+0.8
TORD				IAmb		IAmb		17 31 03.3	
	comp=Z,18nm,1.2s								
URZ	Urewera	86.06	227	LR		LR		18 00 08.8	
	comp=Z,95nm,21.2s,baz=211,slow=29								
ESDC	Sonseca Array	94.11	46	LR		LR		18 14 28.3	
	comp=Z,116nm,18.0s,baz=245,slow=36								
DZM	Mont Dzumac	103.35	234	eLR		LR		18 06 27.0	
	comp=Z,233nm,23.8s								
ASAR	Alice Springs	120.68	208	PKP		PKiKP		17 37 15.9	+0.1
	comp=Z,0.3nm,0.9s,baz=137,slow=1.7,SNR=1.6								
WRA	Warramunga Arr	123.81	210	PKP		PKPdf		17 37 21.9	+0.1
	comp=Z,0.2nm,0.6s,baz=153,slow=1.7,SNR=5.7								
H11S2	WAKE ISLAND Hyd	125.86	272	T		T		19 56 11.7	
	baz=115,slow=75,SNR=376								
H11S1	WAKE ISLAND Hyd	125.87	272	T		T		19 56 10.0	
	baz=115,slow=75,SNR=356								
H11S3	WAKE ISLAND Hyd	125.87	272	T		T		19 56 07.9	
	baz=115,slow=75,SNR=308								
H11N3	WAKE ISLAND Hyd	126.18	273	T		T		19 56 31.9	
	baz=116,slow=75,SNR=14								
H11N1	WAKE ISLAND Hyd	126.19	273	T		T		19 56 38.3	
	baz=116,slow=75,SNR=5.8								
H11N2	WAKE ISLAND Hyd	126.20	273	T		T		19 56 42.5	
	baz=116,slow=75,SNR=33								
BVAR	Borovoye Array	144.62	40	PKP		PKPdf		17 38 00.6	+1.2
	comp=Z,1.0nm,0.5s,baz=251,slow=4.5,SNR=5.5								
KURBB	Kurchatov Arra	150.21	39	PKPbc		PKiKP		17 38 14.8	+0.2
	comp=Z,2.2nm,1.0s,baz=300,slow=3.1,SNR=8.4								
KURK	Kurchatov	150.21	39			PKiKP		17 38 14.8	+0.2
AAK	Ala-Archa	150.64	56	PKPbc		PKiKP		17 38 17.5	+1.4
	comp=Z,1.4nm,0.7s,baz=194,slow=2.5,SNR=4.2								
ZALV	Zalesovo Beam	151.21	29	PKPbc		PKiKP		17 38 17.8	+1.2
	comp=Z,5.2nm,0.8s,baz=300,slow=3.8,SNR=19								
MJAR	Matsushiro Arr	154.25	291	PKPab		PKPab		17 38 40.2	+2.7
	comp=Z,0.6nm,0.9s,baz=80,slow=5.0,SNR=1.9								
MKAR	Makanchi Array	154.31	44	PKPbc		PKiKP		17 38 23.2	-0.1
	comp=Z,0.4nm,0.8s,baz=329,slow=2.5,SNR=2.8								
MKAR				PKPab		PKPab		17 38 37.4	+0.1
	comp=Z,1.1nm,0.9s,baz=328,slow=1.9,SNR=4.7								
SONM	Songino Array	162.69	4	PKPab		PKPab		17 39 15.7	+2.1
	comp=Z,0.8nm,0.9s,baz=349,slow=1.5,SNR=3.4								
CMAR	Chiang Mai Arr	165.38	143	PKPab		PKPab		17 39 26.0	-0.1
	comp=Z,0.5nm,0.9s,baz=228,slow=3.5,SNR=2.5								

GUC 20 17:34:20.6±0.8, 31°.18S×71°.33W, h46km±9km, ML3.5,7C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.56	333	‖eP	Pn	17 34 33.4	+1.0
CO06				eS	Sn	17 34 42.4	+1.5
CO03	El Pedregal	0.65	59	‖eP	Pn	17 34 34.2	+0.6
CO03				eS	Sn	17 34 45.6	+2.7
CO03				IAML		17 34 46.6	
	comp=E,3μm,0.1s						
GO04	Tololo Observa	1.10	25	eP	Pn	17 34 41.3	+1.4
GO04	Tololo Observa	1.10	25	‖eP	Pn	17 34 41.3	+1.4
GO04				eS	Sn	17 34 57.5	+3.5
GO04				IAML		17 34 59.5	
	comp=E,5μm,0.6s						
GO04				IAML		17 34 59.6	
	comp=E,3μm,0.3s						
CO05	La Serena	1.26	4	‖eP	Pn	17 34 43.4	+1.6
CO05				eS	Sn	17 35 00.6	+3.2
CO05				IAML		17 35 09.0	
	comp=N,778nm,0.3s						
VA06	Catapilco	1.38	179	eP	Pn	17 34 40.0	-3.4
VA06				i S	Sn	17 34 55.3	-5.2
VA06				IAML		17 34 59.7	
	comp=N,2μm,0.3s						
VA03	San Esteban	1.72	157	eP	Pn	17 34 45.6	-2.6
VA03				i S	Sn	17 35 06.2	-2.8
VA03				IAML		17 35 11.4	
	comp=E,1μm,0.2s						
ROCH	El Roble	1.81	171	eP	Pn	17 34 47.1	-2.5
ROCH				i S	Sn	17 35 07.9	-3.5
ROCH				IAML		17 35 11.2	
	comp=E,715nm,0.4s						
VA01	Torpederas	1.86	188	eP	Pn	17 34 45.9	-4.1
VA01				IAML		17 35 12.4	
	comp=E,424nm,0.2s						
LCO	Las Campanas	2.23	14	‖eP	Pn	17 34 54.8	-0.5
LCO				eS	Sn	17 35 23.9	+2.2
MT05	Renca	2.27	167	eP	Pn	17 34 52.5	-3.1
VA05	Santo Domingo	2.48	185	‖eP	Pn	17 34 54.6	-4.0
VA05				eS	Sn	17 35 21.7	-5.9
VA05				IAML		17 35 35.4	
	comp=N,566nm,0.4s						
MT09	Talagante	2.61	174	eP	Pn	17 34 57.8	-2.6
MT09				IAML		17 35 36.5	
	comp=N,334nm,0.1s						
MT01	Popeta	2.68	179	eP	Pn	17 34 58.0	-3.3
LMEL	Las Melosas	2.83	161	‖eP	Pn	17 35 01.6	-1.9
LMEL				eS	Sn	17 35 34.2	-2.2
LMEL				IAML		17 35 40.0	
	comp=N,405nm,0.5s						

IDC 20 17:44:06.7±2.5, 6°.16S×151°.67E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.5/31, mbtmp3.9/3, Error ellipse: s-maj=108.0km s-min=36.8km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.71	229	P	P	17 49 00.0	+0.4
	1.3nm,0.7s,baz=56,slow=11,SNR=8.9						
ASAR	Alice Springs	24.39	223	P	P	17 49 27.7	+0.7
	2.9nm,0.8s,baz=60,slow=8.6,SNR=30						
FITZ	Fitzroy Crossi	28.03	243	P	P	17 49 58.6	-1.2
	1.6nm,0.6s,baz=60,slow=7.6,SNR=11						
GERES	GERESS Array B	124.61	327	PKP	PKPdf	18 03 08.5	0.0
	0.3nm,0.7s,baz=29,slow=2.2,SNR=2.3						
TORD	Torodi Ar. Bea	149.62	285	PKPbc	PKPbc	18 03 59.0	-0.4
	1.4nm,0.7s,baz=66,slow=3.1,SNR=9.0						

*IDC **20** 17:44:49.4±1.6, 31°.22S×71°.70W, h0km, mb3.8/3, mb1 3.8/5, mb1mx3.6/19, mbtmp3.6/5, ML2.8/2, MS3.1/1, Ms1 3.1/1, ms1mx2.6/23, Error ellipse: s-maj=53.6km s-min=36.0km az=73.0*

*GUC **20** 17:44:58.2±0.7, 30°.82S×71°.40W, h44km±1km, ML3.7*

ISC 20 17:44:58.5±0.9, 30°.81S±0°.03×71°.45W±0°.07, h48km±8km, n25, σ0°.80/26, mb3.7/3, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.20	310	‖iP	Pn	17 45 06.6	-0.1
CO06				i S	Sn	17 45 12.7	+0.2
CO06				IAML		17 45 13.1	
	comp=N,7μm,0.2s						
CO03	El Pedregal	0.66	93	‖iP	Pn	17 45 11.4	-0.3
CO03				i S	Sn	17 45 20.8	-0.5
CO03				IAML		17 45 21.5	
	comp=N,9μm,0.1s						
GO04	Tololo Observa	0.85	42	eP	Pn	17 45 14.5	+0.1
GO04				i S	Sn	17 45 26.8	+0.8
GO04				IAML		17 45 28.8	
	comp=N,7μm,0.3s						
CO05	La Serena	0.91	12	eP	Pn	17 45 15.5	+0.6
CO05				i S	Sn	17 45 27.6	+0.7
CO05				IAML		17 45 28.4	
	comp=N,2μm,0.4s						
VA06	Catapilco	1.75	176	eP	Pn	17 45 26.7	+0.2
VA06				i S	Sn	17 45 48.7	+1.1
VA06				IAML		17 45 56.4	
	comp=E,1μm,0.3s						
LCO	Las Campanas	1.91	20	eP	Pn	17 45 29.8	+0.9
LCO				i S	Sn	17 45 53.5	+1.7
VA03	San Esteban	2.10	159	eP	Pn	17 45 31.9	+0.7
VA03				i S	Sn	17 45 57.4	+1.2
VA03				IAML		17 46 02.2	
	comp=E,1μm,0.6s						
ROCH	El Roble	2.19	170	eP	Pn	17 45 33.1	+0.4
ROCH				i S	Sn	17 46 00.3	+1.6
ROCH				IAML		17 46 06.3	
	comp=E,612nm,0.4s						
VA01	Torpederas	2.21	184	eP	Pn	17 45 32.7	-0.1
MT05	Renca	2.65	167	i S	Sn	17 46 10.7	+1.0
VA05	Santo Domingo	2.84	183	eP	Pn	17 45 41.5	+0.1
MT01	Popeta	3.05	177	eP	Pn	17 45 44.6	+0.3
MT01				i S	Sn	17 46 19.9	+0.3
MT01				IAML		17 46 32.2	
	comp=E,222nm,0.5s						
H03N1	Juan Fernandez	6.85	246	T	T	17 53 26.0	
	baz=75,slow=72,SNR=497						
H03N3	Juan Fernandez	6.86	245	T	T	17 53 26.1	
	baz=75,slow=72,SNR=388						
H03N2	Juan Fernandez	6.87	246	T	T	17 53 28.2	
	baz=75,slow=72,SNR=417						
PLCA	Paso Flores	9.93	176	Pn	Pn	17 47 07.5	-11
	comp=E,0.0nm,0.3s,baz=354,slow=19,SNR=1.9						
LPAZ	La Paz	14.77	13	Pn	Pn	17 48 24.9	-0.1
	comp=E,0.0nm,0.3s,baz=194,slow=4.2,SNR=3.0						
PMSA	Palmer Station	34.30	174	LR	LR	18 04 07.8	
	comp=E,31nm,18.3s,baz=334,slow=34						
TXAR	Lajitas Array	67.22	330	P	P	17 55 47.1	-0.8
	comp=E,0.3nm,0.8s,baz=130,slow=9.5,SNR=3.4						
DBIC	Dimbokro	73.70	72	P	P	17 56 27.8	+0.1
	comp=E,1.6nm,0.6s,baz=225,slow=4.0,SNR=3.9						
TORD	Torodi Ar. Bea	82.66	70	P	P	17 57 16.5	-0.8
	comp=E,0.4nm,0.6s,baz=249,slow=6.9,SNR=2.5						
H11S2	WAKE ISLAND Hyd	126.26	271	T	T	20 22 45.4	
	baz=116,slow=75,SNR=14						
H11S1	WAKE ISLAND Hyd	126.27	271	T	T	20 22 49.5	
	baz=116,slow=75,SNR=9.3						
H11S3	WAKE ISLAND Hyd	126.28	271	T	T	20 22 46.7	
	baz=116,slow=75,SNR=6.4						
ZALV	Zalesovo Beam	151.24	30	PKPbc	PKPbc	18 04 45.8	-0.3
	comp=E,0.7nm,0.6s,baz=298,slow=3.1,SNR=2.6						

*NOU **20** 17:53:24.1, 36°.63S×138°.40E, h0km, MLv4.7/13, Near Coast of South Australia*

*AUST **20** 17:53:24.2±1.0, 36°.71S×138°.32E, h10km, Error ellipse: s-maj=14.2km s-min=5.8km az=51.0*

*IDC **20** 17:53:28.8±7.3, 36°.01S×138°.01E, h0km, mb3.2/1, mb1 4.0/5, mb1mx3.7/25, mbtmp3.8/5, ML3.8/4, MS2.9/2, Ms1 2.8/2, ms1mx2.7/14, Error ellipse: s-maj=87.2km s-min=40.0km az=171.0*

ISC 20 17:53:23.3±1.3, 36°.55S±0°.08×138°.39E±0°.06, h10km, n30, σ2°.38/36, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARPS	Mount Arapiles	2.78	96	P	Pn	17 54 08.8	+0.9
	baz=2.8,SNR=66						
HTT	Hallett	3.14	8	P	Pb	17 54 16.9	-2.3
	baz=3.3,SNR=13						
HTT				S	Sb	17 54 56.4	-1.2
	baz=3.3						
AUCAS	Cummins Area S	3.16	316	P	Pn	17 54 15.7	+2.7
	baz=3.2						
AUCAS				S	Sn	17 54 52.5	+1.8
	baz=3.2						
AUJCS	Jamestown Cent	3.34	3	P	Pn	17 54 19.2	+3.5
	baz=3.5						
AUHPC	Hawkesdale P12	3.50	118	P	Pn	17 54 17.9	+0.2
	baz=3.5						
BBOO	Buckleboo	4.19	332	P	Pn	17 54 30.3	+3.0
	baz=4.3,SNR=15						
BBOO				S	Sn	17 55 18.7	+2.3
	baz=4.3						
AUMTC	Mt Clear Colle	4.52	105	P	Pn	17 54 32.3	+0.6
	baz=4.5						
STKA	Stephens Creek	5.36	31	P	Pn	17 54 47.3	+3.9
	baz=5.5,SNR=44						
STKA				S	Sn	17 55 47.6	+2.5
	baz=5.5						
STKA	Stephens Creek	5.36	31	Pn	Pn	17 54 47.2	+3.9
	2.8nm,0.3s,baz=207,slow=15,SNR=79						
STKA				Sn	Sn	17 55 46.6	+1.5
	5.5nm,0.3s,baz=123,slow=23,SNR=7.9						
STKA				Lg	Lg	17 56 16.6	
	7.2nm,0.3s,baz=272,slow=21,SNR=3.2						
STKA				LR	LR	17 56 47.5	
	comp=Z,57nm,21.7s,baz=207,slow=39						
TOO	Toolangi	5.77	102	P	Pn	17 54 50.0	+1.0
	baz=5.8,SNR=5.5						
LCRK	Leigh Creek	6.08	359	P	Pn	17 54 56.8	+3.5
	baz=6.3,SNR=12						
LCRK				S	Sn	17 56 06.8	+3.9
	baz=6.3						
MULG	Mulgathing	7.22	329	P	Pn	17 55 11.2	+2.3
	baz=7.3,SNR=4.8						
CMSA	Cobar Meteorol	7.85	53	P	Pn	17 55 18.3	+0.8
	baz=8.0						
CMSA				S	Sn	17 56 44.7	-1.8
	baz=8.0						
YNG	Young	8.47	78	P	Pn	17 55 27.6	+1.6
	baz=8.5						
MILA	Mila	8.65	97	P	Pn	17 55 30.1	+1.6
	baz=8.7						
CNB	Canberra Magne	8.98	85	P	Pn	17 55 34.2	+1.0
	baz=9.0						
INKA	Innaminka	9.00	13	P	Pn	17 55 36.0	+2.6
	baz=9.2,SNR=23						
INKA				S	Sn	17 57 16.1	+1.3
	baz=9.2						
OOD	Oodnadatta	9.02	345	P	Pn	17 55 35.3	+1.7
	baz=9.2,SNR=3.8						
FORT	Forrest	10.35	301	P	Pn	17 55 52.0	+0.2
	baz=10						
QLP	Quilpie	11.11	28	P	Pn	17 56 04.7	+2.5
	baz=11,SNR=7.6						
ASAR	Alice Springs	13.41	342	Pn	Pn	17 56 33.2	-0.5
	0.3nm,0.3s,baz=158,slow=11,SNR=35						
ASAR				Sn	Sn	17 58 57.2	-5.7
	0.4nm,0.3s,baz=165,slow=22,SNR=8.4						
ASAR				Lg	Lg	18 00 27.9	
	baz=168,slow=24,SNR=4.3						
WB2	Warramunga Arr	16.92	347	P	Pn	17 57 18.1	-2.1
	baz=17						
WRA	Warramunga Arr	16.92	347	Pn	Pn	17 57 18.3	-2.0
	0.3nm,0.3s,baz=167,slow=13,SNR=17						
WRA				Sn	Sn	18 00 16.6	-12
	0.1nm,0.3s,baz=170,slow=25,SNR=5.2						
WRA				Lg	Lg	18 02 20.7	
	baz=180,slow=28,SNR=5.1						
CTA	Charters Tower	17.79	25	P	P	17 57 33.0	+1.2
	0.2nm,0.3s,baz=208,slow=13,SNR=3.9						
FITZ	Fitzroy Crossi	21.55	325	P	P	17 58 13.2	+0.4
	baz=22						
FITZ	Fitzroy Crossi	21.55	325	P	P	17 58 12.9	+0.1
	1.1nm,0.8s,baz=143,slow=10,SNR=1.8						
KNRA	Kununurra	22.48	335	P	P	17 58 23.3	+0.5
	baz=23						
MJAR	Matsushiro Arr	72.72	360	LR	LR	18 39 07.9	
	comp=Z,17nm,18.1s,baz=110,slow=38						
H10S2	ASCENSION HYDR	128.12	215	T	T	20 34 05.5	
	baz=150,slow=74,SNR=16						
H10S3	ASCENSION HYDR	128.14	215	T	T	20 34 11.6	
	baz=70,slow=74,SNR=50						

*IDC **20** 18:05:37.2±1.7, 30°.86S×72°.11W, h0km, mb3.8/3, mb1 3.8/8, mb1mx3.6/31, mbtmp3.7/8, ML3.5/5, MS2.9/1, Ms1 2.8/1, ms1mx2.5/21, Error ellipse: s-maj=60.7km s-min=23.1km az=104.0*

*GUC **20** 18:05:41.7±0.8, 30°.89S×71°.77W, h37km±2km, ML4.1*

*SJA **20** 18:05:41.0, 30°.87S×72°.01W, h10km, ML4.5*

*NEIC **20** 18:05:41.9±2.6, 30°.94S±0°.03×71°.78W±0°.09, h35km±2km, mb4.2/4, ML4.0(GUC), Error ellipse: s-maj=13.8km s-min=4.3km az=260.0*

ISC 20 18:05:41.1±1.0, 30°.89S±0°.03×71°.85W±0°.06, h31km±7km, n75, σ1°.94/80, mb4.0/4, 5C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.28	40	eP	Pb	18 05 48.6	+0.2
CO06				i S	Sb	18 05 53.3	0.0
CO06				IAML		18 05 54.1	
	comp=N,19μm,0.3s						
CO06	Fray Jorge	0.28	40		Pb	18 05 48.6	+0.2
CO03	El Pedregal	1.00	87	‖iP	Pn	18 05 59.1	0.0
CO03				i S	Sn	18 06 11.3	-0.8
CO03				IAML		18 06 12.7	
	comp=E,5μm,0.2s						
CO03	El Pedregal	1.00	87	Pn	Pn	18 05 58.6	-0.4
CO05	La Serena	1.10	29	‖eP	Pb	18 06 01.2	-0.3
CO05				eS	Sb	18 06 15.2	-0.4
CO05				IAML		18 06 19.7	
	comp=E,3μm,0.4s						
CO05	La Serena	1.10	29		Pb	18 06 01.2	-0.3
GO04	Tololo Observa	1.15	52	‖iP	Pn	18 06 01.9	+0.5
GO04				eS	Sn	18 06 16.4	+0.2
GO04				IAML		18 06 21.1	
	comp=E,17μm,0.6s						
GO04	Tololo Observa	1.15	52		Pn	18 06 01.7	+0.4
GO04	Tololo Observa	1.15	52	i P	Pn	18 06 02.0	+0.7
VA06	Catapilco	1.73	164	‖eP	Pn	18 06 10.4	+1.4
VA06				eS	Sb	18 06 32.3	-1.2
VA06				IAML		18 06 36.9	
	comp=E,2μm,0.5s						
LCO	Las Campanas	2.12	28	eP	Pn	18 06 16.5	+1.8
LCO				eS	Sb	18 06 42.8	-2.2
LCO	Las Campanas	2.12	28	Pn	Pb	18 06 16.4	+1.7
LCO	Las Campanas	2.12	28	i P	Pb	18 06 17.0	-2.0
VA01	Torpederas	2.13	176	eP	Pn	18 06 16.7	+2.1
VA01	Torpederas	2.13	176	Pn	Pn	18 06 15.0	+0.4
VA01	Torpederas	2.13	176	i P	Pn	18 06 17.0	+2.4
VA03	San Esteban	2.17	150	eP	Pn	18 06 17.5	+2.4
VA03				eS	Sn	18 06 43.6	+2.5
VA03				IAML		18 06 49.1	
	comp=E,3μm,0.3s						
VA03	San Esteban	2.17	150		Pn	18 06 12.3	-2.9
AROD	Rodeo	2.17	71	i P	Pb	18 06 19.0	-0.9
ROCH	El Roble	2.19	161	eP	Pn	18 06 17.2	+1.6
ROCH				eS	Sn	18 06 44.7	+2.8
ROCH				IAML		18 06 52.5	
	comp=N,2μm,0.5s						
ACDV	Cuesta del Vie	2.46	74	i P	Pb	18 06 24.0	-0.7
MT05	Renca	2.67	160	‖eP	Pn	18 06 23.9	+2.0
MT05				eS	Sn	18 06 55.4	+2.2
MT05				IAML		18 07 09.1	
	comp=E,2μm,0.2s						
MT05	Renca	2.67	160	Pn	Pn	18 06 20.8	-1.2
MT05	Renca	2.67	160	i P	Pn	18 06 24.0	+2.0
AC04	Llanos de Chal	2.76	14	‖eP	Pn	18 06 24.1	+0.9
AC04				eS	Sn	18 06 57.6	+2.1
AC04				IAML		18 07 13.4

comp=N,0.1nm,0.3s,baz=343,slow=8.6,SNR=6.6

PLCA					LR	LR	18 12 08.3	
	comp=N,58nm,18.6s,baz=10.0,slow=39							
PLCA	**Paso Flores**	**9.88**	**174**		Pn	**Pn**	**18 08 01.0**	**0.0**
TRQA	**Tornquist**	**10.83**	**134**		Pn	**Pn**	**18 08 15.8**	**+1.8**
TRQA	**Tornquist**	**10.83**	**134**	*i*	P	**Pn**	**18 08 17.0**	**+3.0**
CPUP	**Villa Florida**	**13.54**	**74**		Pn	**Pn**	**18 08 53.3**	**+2.3**
	comp=N,0.1nm,0.3s,baz=248,slow=7.7,SNR=3.2							
CPUP	**Villa Florida**	**13.54**	**74**		Pn	Pn	18 08 45.4	-5.6
LPAZ	**La Paz**	**14.93**	**14**		Pn	**Pn**	**18 09 11.7**	**+1.1**
	comp=N,0.1nm,0.3s,baz=182,slow=6.9,SNR=9.5							
LPAZ	**La Paz**	**14.93**	**14**			**Pn**	**18 09 07.8**	**-2.7**
PLTB	**Pedras Altas**	**15.62**	**98**		Pn	**Pn**	**18 09 13.1**	**-5.9**
SIV	**San Ignacio**	**17.80**	**36**		Pn	**P**	**18 09 47.7**	**+0.5**
	comp=N,0.0nm,0.3s,baz=245,slow=12,SNR=4.3							
TUMC	**Tumaco**	**33.19**	**347**		P	**P**	**18 12 12.2**	**-2.9**
SNAA	**Sanae**	**54.41**	**159**		P	**P**	**18 15 06.5**	**+1.6**
	comp=N,1.1nm,0.6s,baz=276,slow=7.4,SNR=13							
SNAA	**Sanae**	**54.41**	**159**		P	**P**	**18 15 04.8**	**-0.1**
SNAA					IAmb	IAmb	18 15 13.0	
	comp=Z,3.0nm,1.2s							
QSPA	**South Pole Qui**	**59.34**	**180**		P	**P**	**18 15 38.9**	**-1.1**
QSPA					IAmb	IAmb	18 15 42.9	
	comp=Z,1.6nm,0.8s							
MAW	**Mawson**	**76.11**	**164**		P	**P**	**18 17 26.9**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=240,slow=18,SNR=1.6							
TORD	**Torodi Ar. Bea**	**83.00**	**70**		P	**P**	**18 18 05.7**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=269,slow=5.9,SNR=2.9							
WRA	**Warramunga Arr**	**123.54**	**210**		PKP	**PKiKP**	**18 24 36.6**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=161,slow=2.2,SNR=6.0							
H11S2	**WAKE ISLAND Hyd**	**25.92**	**271**		T	T	20 43 28.2	
	baz=116,slow=75,SNR=58							
H11S1	**WAKE ISLAND Hyd**	**25.93**	**271**		T	T	20 43 23.5	
	baz=116,slow=75,SNR=80							
H11S3	**WAKE ISLAND Hyd**	**25.94**	**271**		T	T	20 43 24.4	
	baz=116,slow=75,SNR=41							

MEX 20 18:40:48.3±0.5, 14.71N×93.75W, h16km±241km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.12**	**27**	*eP*	Pg	18 41 14.3	+4.3
PCIG				*eS*	Sg	18 41 27.7	+3.1
CMIG	**Matias Romero**	**2.61**	**336**	*eP*	Pn	18 41 29.4	-0.4
CMIG				*eS*	Sn	18 41 59.3	-1.9

*IDC **20** 18:59:13.3±1.1, 31.29S×71.79W, h0km, mb3.5/3, mb1 3.7/8, mb1mx3.6/36, mbtmp3.5/8, ML3.4/5, MS3.1/3, Ms1 3.0/3, ms1mx2.7/25, Error ellipse: s-maj=41.0km s-min=23.8km az=96.0*

*GUC **20** 18:59:18.0±0.8, 31.14S×71.71W, h38km±5km, ML3.9*

ISC 20 18:59:17.4±1.5, 31.23S±0.04×71.78W±0.09, h28km±11km, n30, σ1s56/28, mb3.6/3, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.57**	**13**	*eP*	**Pb**	**18 59 28.5**	**-0.4**
CO06				*i* S	**Sb**	**18 59 36.8**	**+0.1**
CO06				IAML		18 59 39.1	
	comp=N,9μm,0.3s						
CO03	**El Pedregal**	**1.02**	**68**	*eP*	**Pn**	**18 59 35.6**	**-0.3**
CO03				*i* S	**Sb**	**18 59 49.7**	**+0.1**
CO03				IAML		18 59 51.8	
	comp=E,5μm,0.2s						
GO04	**Tololo Observa**	**1.35**	**39**⇓	*iP*	**Pn**	**18 59 41.3**	**+0.6**
GO04				*i* S	**Sb**	**18 59 59.5**	**+0.2**
GO04				IAML		19 00 01.9	
	comp=E,6μm,0.6s						
VA06	**Catapilco**	**1.39**	**163**⇑	*iP*	**Pn**	**18 59 41.0**	**0.0**
VA06				*i* S	**Sn**	**18 59 58.6**	**+0.2**
VA06				IAML		19 00 00.6	
	comp=N,3μm,0.3s						
CO05	**La Serena**	**1.39**	**20**⇓	*iP*	**Pn**	**18 59 41.6**	**+0.6**
CO05				*i* S	**Sn**	**18 59 58.4**	**0.0**
CO05				IAML		19 00 08.0	
	comp=E,2μm,0.3s						
VA01	**Torpederas**	**1.79**	**176**	*eP*	**Pn**	**18 59 46.0**	**-0.4**
VA01				IAML		19 00 17.5	
	comp=E,566nm,0.2s						
VA03	**San Esteban**	**1.85**	**146**	*eP*	**Pn**	**18 59 48.5**	**+1.1**
VA03				*i* S	**Sn**	**19 00 11.8**	**+1.8**
VA03				IAML		19 00 15.5	
	comp=E,3μm,0.1s						
ROCH	**El Roble**	**1.85**	**159**	*eP*	**Pn**	**18 59 48.0**	**+0.4**
ROCH				IAML		19 00 19.3	
	comp=N,1μm,0.3s						
MT05	**Renca**	**2.33**	**158**	IAML		19 00 29.4	
	comp=E,2μm,0.4s						
LCO	**Las Campanas**	**2.40**	**23**	*eP*	**Pn**	**18 59 55.4**	**+0.2**
LCO				*i* S	**Sn**	**19 00 26.4**	**+2.6**
MT09	**Talagante**	**2.62**	**165**	IAML		19 00 44.8	
	comp=N,535nm,0.1s						
H03N1	**Juan Fernandez**	**6.42**	**248**	T	T	19 07 30.9	
	baz=77,slow=72,SNR=190						
H03N3	**Juan Fernandez**	**6.44**	**248**	T	T	19 07 30.8	
	baz=77,slow=72,SNR=172						
H03N2	**Juan Fernandez**	**6.44**	**248**	T	T	19 07 37.5	
	baz=77,slow=72,SNR=244						
LVC	**Limon Verde**	**8.96**	**17**	Pn	**Pn**	**19 01 27.0**	**+1.7**
	comp=N,0.7nm,0.3s,baz=193,slow=5.9,SNR=4.1						
LVC				Sn	**Sn**	**19 02 59.3**	**-6.4**
	comp=N,0.4nm,0.3s,baz=248,slow=3.1,SNR=2.2						
PLCA	**Paso Flores**	**9.53**	**174**	Pn	**Pn**	**19 01 32.8**	**-0.1**
	comp=N,0.0nm,0.3s,baz=67,slow=21,SNR=1.0						
PLCA				LR	LR	19 05 14.8	
	comp=N,40nm,18.6s,baz=19,slow=38						
CPUP	**Villa Florida**	**13.58**	**73**	Pn	**Pn**	**19 02 28.0**	**-0.3**
	comp=N,0.1nm,0.3s,baz=148,slow=7.1,SNR=1.6						
LPAZ	**La Paz**	**15.25**	**13**	Pn	**Pn**	**19 02 52.2**	**+0.8**
	comp=N,0.1nm,0.3s,baz=165,slow=6.5,SNR=6.3						
SIV	**San Ignacio**	**18.05**	**35**	P	**Pn**	**19 03 25.8**	**-0.5**
	comp=N,0.1nm,0.3s,baz=229,slow=13,SNR=2.5						
ROSC	**El Rosal**	**35.95**	**356**	LR	LR	19 22 34.7	
	comp=N,56nm,18.6s,baz=38,slow=39						
SDV	**Santo Domingo**	**39.91**	**2**	LR	LR	19 25 44.6	
	comp=N,26nm,18.0s,baz=76,slow=40						
SNAA	**Sanae**	**54.07**	**159**	P	**P**	**19 08 39.7**	**+0.5**
	comp=N,0.4nm,0.6s,baz=333,slow=8.7,SNR=1.8						
TXAR	**Lajitas Array**	**67.44**	**330**	P	**P**	**19 10 11.7**	**+1.0**
	comp=N,0.1nm,0.6s,baz=152,slow=6.1,SNR=1.6						
TORD	**Torodi Ar. Bea**	**83.07**	**70**	P	**P**	**19 11 40.5**	**-0.3**
	comp=N,1.0nm,0.6s,baz=267,slow=5.1,SNR=6.7						
WRA	**Warramunga Arr**	**123.27**	**210**	PKP	**PKPdf**	**19 18 11.7**	**-0.7**
	comp=N,0.2nm,0.3s,baz=158,slow=2.2,SNR=7.2						
H11S2	**WAKE ISLAND Hyd**	**25.98**	**271**	T	T	21 37 05.4	
	baz=116,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hyd**	**25.99**	**271**	T	T	21 37 07.2	
	baz=116,slow=75,SNR=7.8						
H11S3	**WAKE ISLAND Hyd**	**26.00**	**271**	T	T	21 37 09.0	
	baz=116,slow=75,SNR=7.7						
ZALV	**Zalesovo Beam**	**151.75**	**30**	PKPbc	**PKPbc**	**19 19 09.1**	**+0.2**
	comp=N,2.1nm,0.5s,baz=294,slow=3.3,SNR=11						
MKAR	**Makanchi Array**	**154.72**	**45**	PKPbc	**PKPbc**	**19 19 15.7**	**0.0**
	comp=N,0.2nm,0.6s,baz=289,slow=4.4,SNR=3.7						

IDC 20 19:13:00.1±2.3, 30.49S×71.99W, h0km, mb3.9/1, mb1 3.8/2, mb1mx3.5/31, mbtmp3.7/2, ML3.5/1, Error ellipse: s-maj=119.5km s-min=47.6km az=93.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**10.29**	**174**	Pn	Pn	19 15 29.0	0.0
	0.1nm,0.3s,baz=347,slow=14,SNR=1.6						
TORD	**Torodi Ar. Bea**	**82.99**	**70**	P	P	19 25 27.6	0.0
	0.7nm,0.7s,baz=254,slow=4.3,SNR=4.5						
KURBB	**Kurchatov Arra**	**150.21**	**39**	PKPbc	PKPbc	19 32 52.4	-0.2
	0.7nm,0.6s,baz=299,slow=3.0,SNR=8.6						
ZALV	**Zalesovo Beam**	**151.19**	**29**	PKPbc	PKPbc	19 32 54.5	-0.4
	1.3nm,0.6s,baz=290,slow=3.5,SNR=6.2						

IDC 20 19:55:44.4±3.9, 6.56S×149.71E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/36, mbtmp3.2/3, ML3.4/1, Error ellipse: s-maj=111.1km s-min=52.0km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.99**	**227**	P	P	20 00 18.5	-0.3
	0.1nm,0.3s,baz=53,slow=11,SNR=9.0						
ASAR	**Alice Springs**	**22.81**	**220**	P	P	20 00 50.0	+1.0
	0.2nm,0.4s,baz=57,slow=9.6,SNR=6.5						
FITZ	**Fitzroy Crossi**	**26.12**	**242**	P	P	20 01 18.8	-1.5
	0.8nm,0.8s,baz=59,slow=10.0,SNR=1.6						
TORD	**Torodi Ar. Bea**	**147.83**	**284**	PKPbc	PKPbc	20 15 32.4	-0.1
	0.2nm,0.7s,baz=99,slow=3.6,SNR=1.5						

*TAP **20** 19:58:34.3, 24.29N×121.82E, h15km, ML2.7, B*
*JMA **20** 19:58:34.1±0.1, 24.24N×121.79E, h28km±2km*

ISC 20 19:58:33.7±0.8, 24.26N±0.01×121.90E±0.02, h17km±5km, n111, σ0s81/218, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.15**	**290**	*eP*	**Pg**	**19 58 37.6**	**-0.2**
	baz=283						
EHP				*eS*	**Sg**	**19 58 41.0**	**+0.3**
	baz=283						
EWUT	**Wuta**	**0.22**	**330**	P	**Pg**	**19 58 38.8**	**0.0**
	baz=346						
EWUT				S	**Sg**	**19 58 42.2**	**-0.1**
	baz=346						
ENA	**Nanau**	**0.22**	**320**	P	**Pg**	**19 58 39.1**	**+0.2**
	baz=334						
ENA				S	**Sg**	**19 58 42.2**	**-0.2**
	baz=334						
ETL	**Fush Village**	**0.27**	**249**	P	**Pg**	**19 58 40.0**	**+0.3**
	baz=233						
ETL				S	**Sg**	**19 58 43.9**	**+0.2**
	baz=233						
NACB	**Ninganchiao**	**0.29**	**254**	P	**Pg**	**19 58 40.0**	**+0.1**
	baz=239						
NACB				S	**Sg**	**19 58 44.3**	**0.0**
	baz=239						
TWD	**Chiawan**	**0.33**	**238**	P	**Pb**	**19 58 41.0**	**-0.1**
	baz=222						
TWD				S	**Sb**	**19 58 46.0**	**-0.1**
	baz=222						
TWC	**Suao**	**0.35**	**353**	*eP*	**Pg**	**19 58 41.4**	**+0.3**
	baz=6.0						
TWC				*eS*	**Sg**	**19 58 46.4**	**+0.3**
	baz=6.0						
ETLH	**Xiulin Townshi**	**0.38**	**263**	*eP*	**Pg**	**19 58 41.5**	**-0.2**
	baz=254						
ETLH				*eS*	**Sg**	**19 58 46.7**	**-0.4**
	baz=254						
HWA	**Hwalien**	**0.39**	**224**	*eP*	**Pn**	**19 58 43.7**	**-0.8**
	baz=210						
HWA				*eS*	**Sb**	**19 58 49.4**	**+1.7**
	baz=210						
NDS	**Dongshan**	**0.41**	**336**	*eP*	**Pg**	**19 58 42.3**	**+0.2**
	baz=344						
NDS				*eS*	**Sg**	**19 58 47.2**	**-0.6**
	baz=344						
ETM	**Tongmen**	**0.47**	**232**	P	**Pb**	**19 58 43.6**	**0.0**
	baz=222						
ETM				*eS*	**Sb**	**19 58 50.9**	**+0.7**
	baz=222						
TEYL	**Yanliau Villag**	**0.47**	**215**	*eP*	**Pg**	**19 58 42.8**	**-0.5**
	baz=206						
TEYL				*eS*	**Sb**	**19 58 50.6**	**+0.2**
	baz=206						
ENTT	**Nioudou**	**0.49**	**322**	*eP*	**Pg**	**19 58 43.5**	**0.0**
	baz=327						
ENTT				*eS*	**Sg**	**19 58 49.8**	**-0.3**
	baz=327						
NDT	**Datong Townshi**	**0.49**	**315**	*eP*	**Pg**	**19 58 43.7**	**+0.1**
	baz=318						
NDT				*eS*	**Sg**	**19 58 49.6**	**-0.6**
	baz=318						
NNSB	**Datong**	**0.50**	**290**	*eP*	**Pg**	**19 58 43.8**	**0.0**
	baz=288						
NNSB				*eS*	**Sg**	**19 58 49.9**	**-0.7**
	baz=288						
TWE	**Neicheng**	**0.51**	**336**	*eP*	**Pg**	**19 58 43.9**	**0.0**
	baz=343						
TWE				*eS*	**Sg**	**19 58 50.4**	**-0.4**
	baz=343						
NNS	**Nan Shan**	**0.51**	**291**	*eP*	**Pg**	**19 58 43.9**	**-0.2**
	baz=290						
NNS				*eS*	**Sg**	**19 58 50.2**	**-0.7**
	baz=290						
ILA	**Ilan**	**0.53**	**345**	*eP*	**Pg**	**19 58 44.1**	**-0.1**
	baz=353						
ILA				*eS*	**Sg**	**19 58 51.8**	**+0.5**
	baz=353						
WHF	**Hehuan Shan**	**0.59**	**259**	*eP*	**Pg**	**19 58 45.4**	**-0.1**
	baz=253						
WHF				*eS*	**Sg**	**19 58 53.2**	**-0.3**
	baz=253						
FUSS	**Fushou**	**0.60**	**269**	*eP*	**Pg**	**19 58 45.6**	**0.0**
	baz=265						
FUSS				*eS*	**Sg**	**19 58 53.4**	**-0.3**
	baz=265						
NTC	**Toucheng**	**0.60**	**354**	*eP*	**Pg**	**19 58 45.7**	**+0.2**
	baz=1.0						
NTC				*eS*	**Sg**	**19 58 53.5**	**-0.1**
	baz=1.0						
ESL	**Shilin**	**0.61**	**224**	*eP*	**Pb**	**19 58 45.9**	**-0.1**
	baz=215						
ESL				*eS*	**Sb**	**19 58 55.0**	**+0.6**
	baz=215						
YHNB	**Yeheng**	**0.63**	**311**	*eP*	**Pg**	**19 58 45.9**	**-0.3**
	baz=313						
YHNB				S	**Sg**	**19 58 54.1**	**-0.5**
	baz=313						
NWLT	**Wulai**	**0.63**	**325**	*eP*	**Pg**	**19 58 46.1**	**-0.1**
	baz=329						
NWLT				*eS*	**Sg**	**19 58 53.8**	**-0.9**
	baz=329						
NSK	**Sanguang**	**0.65**	**310**	*eP*	**Pg**	**19 58 46.2**	**-0.2**
	baz=312						
NSK				*eS*	**Sg**	**19 58 54.5**	**-0.6**
	baz=312						
TWT	**Tachien**	**0.66**	**270**	*eP*	**Pg**	**19 58 47.1**	**+0.4**
	baz=265						
TWT				*eS*	**Sg**	**19 58 55.2**	**-0.4**
	baz=265						
TDCB	**Techi**	**0.68**	**270**	*eP*	**Pg**	**19 58 47.1**	**0.0**
	baz=266						
TDCB				*eS*	**Sg**	**19 58 54.5**	**-1.5**
	baz=266						
CHGB	**Renai**	**0.69**	**254**	*eP*	**Pg**	**19 58 47.3**	**0.0**
	baz=248						
CHGB				*eS*	**Sg**	**19 58 55.8**	**-0.8**
	baz=248						
TIPB	**Shuangxi**	**0.72**	**355**	*eP*	**Pg**	**19 58 48.0**	**+0.2**
TIPB				*eS*	**Sg**	**19 58 57.2**	**-0.1**
OWD	**Renai**	**0.72**	**246**	*eP*	**Pg**	**19 58 47.7**	**-0.3**
	baz=240						
OWD				*eS*	**Sg**	**19 58 57.7**	**+0.1**
	baz=240						
EGFH	**Guangfu**	**0.73**	**216**	*eP*	**Pb**	**19 58 48.2**	**+0.3**
	baz=209						
EGFH				*eS*	**Sg**	**19 58 57.0**	**-0.6**
	baz=209						
TWB1	**Santiao Chiao**	**0.75**	**6**	*eP*	**Pg**	**19 58 48.8**	**+0.3**
	baz=12						
TWB1				*eS*	**Sg**	**19 58 57.8**	**-0.7**
	baz=12						
TWA	**Mucha**	**0.78**	**338**	*eP*	**Pg**	**19 58 49.0**	**+0.1**
	baz=343						
TWA				*eS*	**Sg**	**19 58 58.3**	**-0.9**
	baz=343						
NHDH	**Xindian Distri**	**0.78**	**334**	*eP*	**Pg**	**19 58 48.9**	**-0.1**
	baz=338						
NHDH				*eS*	**Sg**	**19 58 58.2**	**-1.2**
	baz=338						
NWF	**Wu-fen Shan**	**0.82**	**353**	*eP*	**Pg**	**19 58 50.1**	**+0.3**
	baz=357						
NWF				*eS*	**Sg**	**19 59 00.5**	**-0.1**
	baz=357						
WFSB	**Wu-fen Shan**	**0.82**	**353**	*eP*	**Pb**	**19 58 50.3**	**+0.8**
	baz=357						
TAP	**Taipei**	**0.86**	**335**	*eP*	**Pb**	**19 58 51.1**	**+0.9**
	baz=339						
TAP				*eS*	**Sb**	**19 59 01.7**	**+0.3**
	baz=339						
WHP	**Taichung City**	**0.87**	**272**	*eP*	**Pb**	**19 58 50.7**	**+0.3**
	baz=268						
WHP				*eS*	**Sg**	**19 59 01.6**	**-0.6**
	baz=268						
HGSD	**Ruisui**	**0.88**	**210**	*eP*	**Pn**	**19 58 52.6**	**+1.4**
	baz=204						
HGSD				*eS*	**Sn**	**19 59 05.7**	**+2.0**
	baz=204						
LIOB	**Emei**	**0.89**	**296**	*eP*	**Pb**	**19 58 51.2**	**+0.4**
	baz=295						
LIOB				*eS*	**Sb**	**19 59 02.8**	**+0.3**
	baz=295						
TNOU	**National Taiwa**	**0.90**	**353**	*eP*	**Pb**	**19 58 51.1**	**+0.3**
	baz=356						
TNOU				*eS*	**Sb**	**19 59 00.4**	**-2.1**
	baz=356						
NSTT	**Nanjuang**	**0.90**	**295**	*eP*	**Pb**	**19 58 51.0**	**+0.1**
	baz=294						
NSTT				*eS*	**Sb**	**19 59 02.2**	**-0.3**
	baz=294						
EHY	**Hungye**	**0.92**	**215**	*eP*	**Pn**	**19 58 52.9**	**+1.1**
	baz=209						
EHY				*eS*	**Sn**	**19 59 04.3**	**-0.3**
	baz=209						
WCS	**Beigang Elemen**	**0.92**	**258**	*eP*	**Pb**	**19 58 51.2**	**-0.1**
	baz=254						
WCS				*eS*	**Sb**	**19 59 03.3**	**+0.1**
	baz=254						
YM01	**YM01**	**0.94**	**341**	*eP*	**Pb**	**19 58 52.4**	**+0.8**
	baz=345						
YM01				*eS*	**Sb**	**19 59 04.1**	**+0.4**
	baz=345						
TWS1	**Kuangyinshan**	**0.95**	**333**	*eP*	**Pb**	**19 58 51.6**	**-0.1**
	baz=336						
TWS1				*eS*	**Sb**	**19 59 05.0**	**+1.1**
	baz=336						
NCUH	**Zhongli**	**0.96**	**318**	*eP*	**Pb**	**19 58 52.1**	**+0.2**
	baz=319						
NCUH				*eS*	**Sb**	**19 59 06.1**	**+1.7**
	baz=319						
NCU	**National Centr**	**0.96**	**318**	*eP*	**Pb**	**19 58 51.0**	**-1.0**
	baz=319						
NCU				*eS*	**Sb**	**19 59 05.6**	**+1.2**
	baz=319						
JYNG	**Yonagunijimaku**	**0.97**	**78**	P	**Pn**	**19 58 53.5**	**+0.9**
JYNG				*eS*	**Sn**	**19 59 08.2**	**+2.2**
SSLB	**Suanglung**	**0.98**	**242**	*eP*	**Pb**	**19 58 51.9**	**-0.4**
	baz=237						
SSLB				*eS*	**Sb**	**19 59 05.6**	**+0.6**
	baz=237						
SMLT	**Sun Moon Lake**	**0.99**	**248**	*eP*	**Pn**	**19 58 53.6**	**+0.7**
	baz=243						
SMLT				*eS*	**Sb**	**19 59 04.8**	**-0.4**
	baz=243						
ANP	**Anpu**	**0.99**	**340**	*eP*	**Pb**	**19 58 52.9**	**+0.4**
	baz=343						
ANP				*eS*	**Sb**	**19 59 05.0**	**-0.3**
	baz=343						
SBCB	**Hsinchu**	**0.99**	**303**	*eP*	**Pb**	**19 58 53.4**	**+1.0**
	baz=303						
SBCB				*eS*	**Sb**	**19 59 05.6**	**+0.5**
	baz=303						
NTST	**Danshui**	**0.99**	**336**	*eP*	**Pb**	**19 58 52.4**	**-0.1**
	baz=338						
NTST				*eS*	**Sb**	**19 59 06.6**	**+1.4**
	baz=338						
TYC	**Yuchr**	**1.01**	**250**	*eP*	**Pb**	**19 58 53.0**	**+0.1**
	baz=246						
TYC				*eS*	**Sb**	**19 59 05.2**	**-0.6**
	baz=246						
YULB	**Yu-li**	**1.02**	**213**	*eP*	**Pg**	**19 58 53.0**	**-0.5**
	baz=208						
YULB				*eS*	**Sb**	**19 59 05.5**	**-0.6**
	baz=208						
TWQ1	**Liyutan**	**1.03**	**275**	*eP*	**Pn**	**19 58 54.0**	**+0.6**
	baz=273						
TWQ1				*eS*	**Sb**	**19 59 07.2**	**+0.9**
	baz=273						
YOJ	**Yonaguni jima**	**1.03**	**78**	P	**Pn**	**19 58 54.4**	**+0.9**
YOJ				S	**Sn**	**19 59 09.1**	**+1.6**
YOJ	**Yonaguni jima**	**1.03**	**78**	*eP*	**Pg**	**19 58 53.1**	**-0.7**
	baz=80						
YOJ				*eS*	**Sn**	**19 59 10.0**	**+2.5**
	baz=80						
NMLH	**Miaoli**	**1.05**	**286**	*eP*	**Pb**	**19 58 54.2**	**+0.8**
	baz=284						
NMLH				*eS*	**Sb**	**19 59 05.2**	**-1.7**
	baz=284						
EYUL	**Yuli**	**1.05**	**211**	*eP*	**Pn**	**19 58 54.4**	**+0.7**
	baz=205						
EYUL				*eS*	**Sn**	**19 59 09.6**	**+1.7**
	baz=205						
NSY	**Sanyi**	**1.05**	**279**	*eP*	**Pb**	**19 58 54.1**	**+0.7**
	baz=277						
NSY				*eS*	**Sb**	**19 59 06.2**	**-0.7**
	baz=277						
TWY	**Chenhua**	**1.05**	**345**	*eP*	**Pg**	**19 58 54.8**	**+0.7**
	baz=348						
TWY				*eS*	**Sb**	**19 59 05.5**	**-1.4**
	baz=348						
WHYT	**Xinyi Township**	**1.11**	**240**	*eP*	**Pg**	**19 58 55.4**	**+0.3**
	baz=236						
WHYT				*eS*	**Sb**	**19 59 08.9**	**+0.3**
	baz=236						
TCU	**Taichung**	**1.12**	**265**	*eS*	**Sb**	**19 59 08.1**	**-0.9**
	baz=261						
WDJ	**Dajia District**	**1.15**	**275**	*eP*	**Pn**	**19 58 55.6**	**+0.6**
	baz=272						
WDJ				*eS*	**Sb**	**19 59 08.8**	**-1.1**
	baz=272						
WJS	**Zhushan**	**1.15**	**248**	*eP*	**Pg**	**19 58 56.3**	**+0.2**
	baz=244						
WJS				*eS*	**Sg**	**19 59 12.3**	**+1.2**
	baz=244						
YUS	**Yu-Shan**	**1.16**	**229**	*eP*	**Pn**	**19 58 55.8**	**+0.2**
	baz=224						
YUS				*eS*	**Sb**	**19 59 10.4**	**0.0**
	baz=224						
WNT	**Mingjian**	**1.17**	**252**	*eP*	**Pn**	**19 58 55.9**	**+0.5**
	baz=248						
WNT				*eS*	**Sg**	**19 59 12.4**	**+0.6**
	baz=248						
FULB	**Fuli**	**1.19**	**208**	*eP*	**Pg**	**19 58 56.6**	**-0.1**
	baz=203						
FULB				*eS*	**Sg**	**19 59 11.8**	**-0.5**
	baz=203						
WCHH	**Zhanghua**	**1.24**	**262**	*eP*	**Pn**	**19 58 55.6**	**-0.6**
	baz=259						
WCHH				*eS*	**Sb**	**19 59 11.7**	**-0.6**
	baz=259						
ALS	**Alishan**	**1.25**	**234**	*eP*	**Pb**	**19 58 57.4**	**+0.5**
	baz=229						
ALS				*eS*	**Sg**	**19 59 14.9**	**+0.7**
	baz=229						
CHKT	**Chengkung**	**1.25**	**203**	*eP*	**Pn**	**19 58 55.8**	**-0.6**
	baz=198						
CHKT				*eS*	**Sg**	**19 59 13.8**	**-0.4**
	baz=198						
CHN5	**Tsauling**	**1.29**	**240**	*eP*	**Pb**	**19 58 57.9**	**+0.2**
	baz=236						
CHN5				*eS*	**Sg**	**19 59 17.0**	**+1.4**
	baz=236						
ELDTW	**Lidau**	**1.33**	**217**	*eP*	**Pg**	**19 58 58.9**	**-0.6**
	baz=213						
ELDTW				*eS*	**Sg**	**19 59 16.2**	**-0.7**
	baz=213						
WDLH	**Douliu**	**1.37**	**246**	*eP*	**Pn**	**19 58 58.0**	**0.0**
	baz=242						
WDLH				*eS*	**Sg**	**19 59 18.0**	**+0.1**
	baz=242						
EDH	**Donghe**	**1.39**	**203**	*eP*	**Pn**	**19 58 58.0**	**-0.3**
	baz=199						
EDH				*eS*	**Sn**	**19 59 15.8**	**-0.5**
	baz=199						
WRL	**Guolierl

	baz=204								
WTP	**Ta-pu**	**1.55**	**230**	*eP*		**Pg**	**19 59 02.9**	**-0.6**
	baz=226								
WTP				*eS*		**Sb**	**19 59 22.5**	**+1.2**
	baz=226								
TWK	**Hsinying**	**1.62**	**233**	*eP*		**Pb**	**19 59 03.5**	**+0.2**
	baz=229								
TWK				*eS*		**Sb**	**19 59 24.3**	**+0.7**
	baz=229								
SNST	**Tainan City**	**1.65**	**232**	*eP*		**Pn**	**19 59 02.4**	**+0.5**
	baz=228								
SNST				*eS*		**Sn**	**19 59 22.2**	**-0.5**
	baz=228								
CHN1	**Nanshi**	**1.65**	**230**	*eP*		**Pb**	**19 59 03.9**	**+0.3**
	baz=226								
CHN1				*eS*		**Sb**	**19 59 25.0**	**+0.8**
	baz=226								
WSF	**Szhu**	**1.65**	**248**	*eP*		**Pb**	**19 59 03.5**	**-0.2**
	baz=245								
WSF				*eS*		**Sb**	**19 59 25.3**	**+1.0**
	baz=245								
IRIF	**Iriomote-Funau**	**1.67**	**87**	P		**Pb**	**19 59 03.9**	**-0.2**
IRIF				S		**Sg**	**19 59 25.6**	**-2.1**
SGST	**Jiashian**	**1.68**	**226**	*eP*		**Pn**	**19 59 03.1**	**+0.8**
	baz=222								
SGST				*eS*		**Sn**	**19 59 23.3**	**-0.2**
	baz=222								
SLGT	**Liugui**	**1.70**	**223**	*eP*		**Pb**	**19 59 05.2**	**+0.6**
	baz=219								
SLGT				*eS*		**Sb**	**19 59 26.4**	**+0.7**
	baz=219								
ECL	**Taimali**	**1.87**	**208**	*eP*		**Pn**	**19 59 06.0**	**+1.1**
	baz=204								
ECL				*eS*		**Sb**	**19 59 30.3**	**-0.1**
	baz=204								
SCST	**Cishan**	**1.88**	**224**	*eP*		**Pn**	**19 59 04.3**	**-0.8**
	baz=220								
SCST				*eS*		**Sb**	**19 59 30.6**	**-0.1**
	baz=220								
SSD	**Sandimen**	**1.90**	**218**	*eP*		**Pn**	**19 59 06.7**	**+1.3**
	baz=215								
SSD				*eS*		**Sb**	**19 59 30.4**	**-1.0**
	baz=215								
TSMG	**Majia**	**1.93**	**217**	*eP*		**Pn**	**19 59 06.2**	**+0.5**
	baz=214								
TSMG				*eS*		**Sb**	**19 59 32.1**	**-0.1**
	baz=214								
JKRS	**Kuro-shima**	**1.93**	**90**	P		**Pb**	**19 59 07.5**	**-0.9**
JKRS				S		**Sb**	**19 59 32.4**	**+0.2**
SGLT	**Jiouru**	**2.00**	**221**	*eS*		**Sn**	**19 59 29.8**	**-1.5**
	baz=217								
MASBT	**Mashibuluo**	**2.01**	**216**	*eP*		**Pb**	**19 59 08.8**	**-1.0**
	baz=213								
MASBT				*eS*		**Sb**	**19 59 34.0**	**-0.5**
	baz=213								
JIJ	**Ishigaki jima**	**2.05**	**87**	P		**Pn**	**19 59 08.3**	**+0.9**
JIJ				S		**Sn**	**19 59 33.5**	**+0.9**
EAST	**Anshuo**	**2.10**	**208**	*eP*		**Pb**	**19 59 10.2**	**-1.2**
	baz=204								
EAST				*eS*		**Sb**	**19 59 36.1**	**-1.1**
	baz=204								
JISG	**Ishigakijimahi**	**2.22**	**81**	P		**Pb**	**19 59 11.6**	**-1.9**
JISG				S		**Sb**	**19 59 39.1**	**-1.6**
PNG	**Penghu**	**2.25**	**253**	*eP*		**Pn**	**19 59 10.1**	**-0.1**
	baz=250								
PNG				*eS*		**Sn**	**19 59 37.2**	**-0.4**
	baz=250								
PHUB	**P'eng-hu**	**2.25**	**251**	*eP*		**Pn**	**19 59 10.1**	**-0.1**
	baz=249								
PHUB				*eS*		**Sn**	**19 59 36.2**	**-1.5**
	baz=249								
SLIU	**Shizi**	**2.27**	**207**	*eP*		**Pn**	**19 59 12.2**	**+1.7**
	baz=204								
WDGT	**Dungji**	**2.28**	**245**	*eP*		**Pn**	**19 59 11.4**	**+0.9**
	baz=242								
WDGT				*eS*		**Sn**	**19 59 37.2**	**-1.0**
	baz=242								
VWUC	**VWUC**	**2.35**	**289**	*eP*		**Pn**	**19 59 10.8**	**-0.7**
	baz=287								
VWUC				*eS*		**Sn**	**19 59 38.3**	**-1.6**
	baz=287								
WLCH	**Liuqiu**	**2.36**	**217**	*eP*		**Pb**	**19 59 14.0**	**-1.7**
	baz=214								
WLCH				*eS*		**Sn**	**19 59 41.5**	**+1.4**
	baz=214								
VCHM	**Qimei**	**2.49**	**246**	*eP*		**Pn**	**19 59 14.3**	**+0.8**
	baz=243								
VCHM				*eS*		**Sn**	**19 59 44.1**	**+0.6**
	baz=243								
TWKBT	**Hengchun**	**2.51**	**204**	*eP*		**Pn**	**19 59 15.5**	**+1.7**
	baz=201								
TWKBT				*eS*		**Sn**	**19 59 45.8**	**+1.7**
	baz=201								
MATB	**Ma-tsu**	**2.59**	**317**	*eP*		**Pn**	**19 59 13.7**	**-1.1**
	baz=317								
MATB				*eS*		**Sn**	**19 59 46.0**	**+0.1**
	baz=317								
PTMZ	**Houxiangcun**	**2.65**	**288**	*eP*		**Pn**	**19 59 15.2**	**-0.4**
	baz=286								
PTMZ				*eS*		**Sn**	**19 59 45.4**	**-2.0**
	baz=286								

*MEX **20** 20:08:07.9±0.6, 27.°55N×111.°57W, h10km, MD3.8*
*ECX **20** 20:08:07.5±0.4, 27.°60N×111.°59W, h6km±11km, MD3.2*
ISC 20 20:08:04.0±1.0, **27.°69N**±0.°09×**111.°70W**±0.°09, **h10**km, **n7**, σ0s**83**/12, **Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.60**	**233**	*eP*	**Pn**	**20 08 18.8**	**+0.2**
SRIG				*eS*	**Sn**	**20 08 27.8**	**-0.6**
SRIG	**Santa Rosalia**	**0.60**	**233**	*eP*	**Pn**	**20 08 19.1**	**+0.4**
SRIG				*eS*	**Sn**	**20 08 27.7**	**-0.7**
GUYB	**Guaymas**	**0.76**	**74**	*eP*	**Pb**	**20 08 19.8**	**+0.5**
GUYB				*eS*	**Sb**	**20 08 29.7**	**0.0**
GUYB	**Guaymas**	**0.76**	**74**	*eP*	**Pb**	**20 08 19.7**	**+0.5**
HSIG		**1.48**	**26**	*eP*	**Pg**	**20 08 32.3**	**-0.1**
HSIG				*eS*	**Sb**	**20 08 51.3**	**+0.7**
HSIG		**1.48**	**26**	*eP*	**Pg**	**20 08 33.7**	**+1.2**
NZIG	**Nacozari, Sono**	**3.27**	**35**	*eP*	**Pg**	**20 09 06.1**	**-0.6**
NZIG				*eS*	**Sg**	**20 09 47.5**	**-1.5**

SJA 20 20:13:10.0, 28.°15S×74.°33W, h24km, ML4.8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**5.38**	**155**	*i* P	Pn	20 14 29.0	+0.3
RTLS	**Leoncito**	**5.68**	**131**	*i* P	Pn	20 14 34.0	+0.8
AUSP	**Uspallata**	**5.90**	**135**	*i* P	Pn	20 14 34.0	-2.2
ASAL	**Salagasta**	**6.49**	**134**	*i* P	Pn	20 14 44.0	-0.1
ARCO	**CERRO ARCO**	**6.60**	**136**	*i* P	Pn	20 14 46.0	+0.3
AAGR	**Agrelo**	**6.83**	**137**	*i* P	Pn	20 14 48.0	-0.8
PB03	**IPOC Station P**	**7.36**	**35**	*i* P	Pn	20 14 56.0	-0.1
PB07	**IPOC Station P**	**7.56**	**33**	*i* P	Pn	20 14 59.0	+0.1

*IDC **20** 20:14:25.8±3.3, 13.°97N×92.°92W, h0km, mb3.6/2, mb1 4.0/4, mb1mx3.6/32, mbtmp3.6/4, ML3.4/2, MS3.0/1, Ms1 3.0/1, ms1mx2.2/39, Error ellipse: s-maj=177.4km s-min=54.4km az=52.0*
*MEX **20** 20:14:32.4±1.2, 14.°49N×93.°26W, h10km, MD4.1*
ISC 20 20:14:30.8±1.3, **14.°46N**±0.°09×**93.°22W**±0.°05, **h10**km, **n15**, σ2s**15**/23, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.02**	**64**	*i* P	**Pg**	**20 14 48.9**	**-1.6**
THIG				*eS*	**Sg**	**20 15 01.8**	**-2.0**
PCIG		**1.24**	**360**	*eP*	**Pn**	**20 14 53.1**	**-1.1**
PCIG				*eS*	**Sb**	**20 15 07.0**	**-3.3**
CCIG	**Comitan**	**2.09**	**30**	*eP*	**Pn**	**20 15 08.8**	**+2.7**
CCIG				*eS*	**Sb**	**20 15 35.3**	**+0.2**
TGIG		**2.31**	**2**	*eP*	**Pn**	**20 15 11.0**	**+2.0**
TGIG				*eS*	**Sb**	**20 15 40.7**	**-0.5**
CMIG	**Matias Romero**	**3.07**	**329**	Pn	**Pn**	**20 15 21.2**	**+1.8**
	4.4nm,0.3s,baz=154,slow=11,SNR=49						
CMIG				Sn	**Sb**	**20 16 01.9**	**-1.2**
	10nm,0.3s,baz=100,slow=13,SNR=5.7						
CMIG	**Matias Romero**	**3.07**	**329**	*eP*	**Pn**	**20 15 18.5**	**-0.9**
CMIG				*eS*	**Sn**	**20 15 55.4**	**-0.9**
PEIG	**Puerto Escondi**	**4.09**	**292**	*eP*	**Pn**	**20 15 32.8**	**-0.6**
PEIG				*eS*	**Sn**	**20 16 19.1**	**-2.4**

PNIG	**Pinotepa**	**5.11**	**293**	*eP*		**Pn**	**20 15 47.2**	**-0.3**
PNIG				*eS*		Sn	20 16 37.1	-10
HLIG	**Huajuapan de L**	**5.54**	**308**	*eP*		**Pn**	**20 15 55.4**	**+1.8**
HLIG				*eS*		**Sn**	**20 17 02.0**	**+4.6**
FTIG	**Fresnillo de T**	**5.84**	**307**	*eP*		**Pn**	**20 15 56.8**	**-0.8**
FTIG				*eS*		**Sn**	**20 17 03.5**	**-1.1**
TXAR	**Lajitas Array**	**17.68**	**329**	P		**P**	**20 18 41.6**	**+3.4**
	0.0nm,0.3s,baz=150,slow=11,SNR=8.6							
TKL	**Tuckaleechee C**	**22.75**	**20**	LR		LR	20 29 40.9	
	comp=Z,31nm,18.4s,baz=166,slow=40							
NVAR	**Mina Array Bea**	**32.58**	**322**	P		**P**	**20 21 04.7**	**+2.0**
	0.7nm,0.7s,baz=135,slow=9.0,SNR=7.2							
ILAR	**Eielson Array**	**61.96**	**337**	P		**P**	**20 24 51.2**	**+0.5**
	0.6nm,0.8s,baz=98,slow=5.5,SNR=3.9							
CMAR	**Chiang Mai Arr**	**145.16**	**340**	PKPbc		**PKPbc**	**20 34 06.3**	**-2.8**
	0.7nm,0.6s,baz=329,slow=3.3,SNR=8.3							

*TAP **20** 20:28:53.7, 24.°28N×121.°83E, h16km, ML2.6, B*
*JMA **20** 20:28:53.6±0.1, 24.°23N×121.°82E, h24km±2km, M1.8*
ISC 20 20:28:54.0±0.8, **24.°27N**±0.°02×**121.°85E**±0.°02, **h17**km±6km, **n87**, σ0s**50**/163, **Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.11**	**290**	*eP*	**Pb**	**20 28 57.3**	**-0.5**
	baz=290						
EHP				*eS*	**Sg**	**20 29 00.2**	**+0.1**
	baz=290						
ENA	**Nanau**	**0.18**	**327**	P	**Pb**	**20 28 58.4**	**-0.6**
	baz=332						
ENA				S	**Sb**	**20 29 02.1**	**-0.3**
	baz=332						
EWUT	**Wuta**	**0.18**	**339**	P	**Pb**	**20 28 58.5**	**-0.5**
	baz=343						
EWUT				S	**Sg**	**20 29 02.3**	**+0.6**
	baz=343						
ETL	**Fush Village**	**0.24**	**242**	P	**Pg**	**20 28 59.3**	**-0.1**
	baz=237						
ETL				S	**Sb**	**20 29 04.1**	**+0.1**
	baz=237						
NACB	**Ninganchiao**	**0.26**	**247**	P	**Pg**	**20 28 59.6**	**-0.2**
	baz=244						
NACB				S	**Sb**	**20 29 04.1**	**-0.3**
	baz=244						
TWD	**Chiawan**	**0.30**	**231**	P	**Pg**	**20 29 00.5**	**0.0**
	baz=226						
TWD				S	**Sb**	**20 29 05.5**	**-0.2**
	baz=226						
TWC	**Suao**	**0.34**	**360**	P	**Pg**	**20 29 00.8**	**-0.3**
	baz=4.0						
TWC				S	**Sg**	**20 29 06.4**	**+0.5**
	baz=4.0						
ETLH	**Xiulin Townshi**	**0.34**	**259**	*eP*	**Pg**	**20 29 01.1**	**-0.2**
	baz=257						
ETLH				S	**Sg**	**20 29 06.5**	**+0.3**
	baz=257						
HWA	**Hwalien**	**0.37**	**218**	*eP*	**Pg**	**20 29 01.3**	**-0.4**
	baz=213						
HWA				*eS*	**Sb**	**20 29 08.5**	**+0.8**
	baz=213						
NDS	**Dongshan**	**0.38**	**341**	P	**Pg**	**20 29 01.8**	**-0.1**
	baz=343						
NDS				S	**Sg**	**20 29 08.0**	**+0.7**
	baz=343						
ENTT	**Nioudou**	**0.45**	**325**	P	**Pg**	**20 29 03.1**	**-0.1**
	baz=326						
ENTT				S	**Sg**	**20 29 09.9**	**+0.6**
	baz=326						
NDT	**Datong Townshi**	**0.45**	**317**	P	**Pg**	**20 29 03.1**	**-0.1**
	baz=317						
NDT				S	**Sb**	**20 29 10.2**	**+0.2**
	baz=317						
NNSB	**Datong**	**0.46**	**290**	P	**Pg**	**20 29 03.2**	**-0.1**
	baz=289						
NNSB				S	**Sg**	**20 29 09.7**	**+0.2**
	baz=289						
NNS	**Nan Shan**	**0.47**	**291**	P	**Pg**	**20 29 03.3**	**-0.2**
	baz=290						
NNS				S	**Sg**	**20 29 10.1**	**+0.2**
	baz=290						
TWE	**Neicheng**	**0.48**	**339**	P	**Pg**	**20 29 03.4**	**-0.2**
	baz=342						
TWE				S	**Sb**	**20 29 11.0**	**+0.2**
	baz=342						
WHF	**Hehuan Shan**	**0.55**	**257**	*eP*	**Pg**	**20 29 04.7**	**-0.5**
	baz=255						
WHF				S	**Sg**	**20 29 12.6**	**0.0**
	baz=255						
FUSS	**Fushou**	**0.56**	**268**	*eP*	**Pg**	**20 29 04.9**	**-0.3**
	baz=266						
FUSS				S	**Sg**	**20 29 12.9**	**+0.2**
	baz=266						
NTC	**Toucheng**	**0.58**	**358**	*eP*	**Pb**	**20 29 04.5**	**-1.3**
	baz=359						
NTC				*eS*	**Sg**	**20 29 13.8**	**+0.5**
	baz=359						
YHNB	**Yeheng**	**0.59**	**312**	*eP*	**Pg**	**20 29 05.4**	**-0.3**
	baz=313						
YHNB				S	**Sg**	**20 29 13.6**	**-0.1**
	baz=313						
NWLT	**Wulai**	**0.59**	**328**	P	**Pb**	**20 29 05.5**	**-0.6**
	baz=328						
NWLT				S	**Sg**	**20 29 13.8**	**0.0**
	baz=328						
ESL	**Shilin**	**0.60**	**220**	*eP*	**Pb**	**20 29 05.4**	**-0.6**
	baz=217						
ESL				*eS*	**Sb**	**20 29 15.2**	**+1.0**
	baz=217						
NSK	**Sanguang**	**0.60**	**312**	*eP*	**Pb**	**20 29 05.6**	**-0.6**
	baz=312						
NSK				S	**Sg**	**20 29 14.0**	**-0.1**
	baz=312						
TWT	**Tachien**	**0.62**	**268**	*eP*	**Pb**	**20 29 06.4**	**-0.1**
	baz=267						
TWT				*eS*	**Sb**	**20 29 15.3**	**+0.3**
	baz=267						
TDCB	**Techi**	**0.63**	**268**	*eP*	**Pb**	**20 29 06.5**	**-0.3**
	baz=267						
TDCB				*eS*	**Sg**	**20 29 15.2**	**+0.2**
	baz=267						
CHGB	**Renai**	**0.65**	**251**	*eP*	**Pb**	**20 29 06.7**	**-0.4**
	baz=250						
CHGB				*eS*	**Sg**	**20 29 15.7**	**-0.1**
	baz=250						
OWD	**Renai**	**0.69**	**243**	*eP*	**Pb**	**20 29 06.8**	**-1.0**
	baz=241						
OWD				*eS*	**Sb**	**20 29 17.2**	**0.0**
	baz=241						
TIPB	**Shuangxi**	**0.70**	**358**	P	**Pb**	**20 29 07.6**	**-0.2**
	baz=359						
TIPB				*eS*	**Sb**	**20 29 16.9**	**-0.2**
	baz=359						
EGFH	**Guangfu**	**0.72**	**213**	*eP*	**Pb**	**20 29 07.5**	**-0.6**
	baz=211						
EGFH				*eS*	**Sg**	**20 29 18.8**	**+1.2**
	baz=211						
TWB1	**Santiao Chiao**	**0.74**	**10**	*eP*	**Pb**	**20 29 07.9**	**-0.6**
	baz=11						
TWB1				*eS*	**Sg**	**20 29 19.3**	**+0.8**
	baz=11						
TWA	**Mucha**	**0.75**	**341**	*eP*	**Pb**	**20 29 08.2**	**-0.4**
	baz=342						
TWA				*eS*	**Sg**	**20 29 19.5**	**+0.9**
	baz=342						
NHDH	**Xindian Distri**	**0.75**	**337**	*eP*	**Pb**	**20 29 08.6**	**-0.1**
	baz=337						
NHDH				*eS*	**Sg**	**20 29 19.3**	**+0.6**
	baz=337						
NWF	**Wu-fen Shan**	**0.80**	**355**	*eP*	**Pb**	**20 29 09.8**	**+0.2**
	baz=356						
NWF				*eS*	**Sg**	**20 29 20.7**	**+0.5**
	baz=356						
TAP	**Taipei**	**0.83**	**338**	*eP*	**Pb**	**20 29 08.5**	**-1.5**
	baz=339						
WHP	**Taichung City**	**0.83**	**271**	*eP*	**Pb**	**20 29 09.8**	**-0.2**
	baz=269						
WHP				*eS*	**Sb**	**20 29 21.2**	**+0.2**
	baz=269						
LIOB	**Emei**	**0.85**	**296**	*eP*	**Pg**	**20 29 10.9**	**+0.3**
	baz=296						
LIOB				*eS*	**Sg**	**20 29 22.1**	**+0.4**
	baz=296						
NSTT	**Nanjuang**	**0.85**	**295**	*eP*	**Pb**	**20 29 10.7**	**+0.2**
	baz=294						
NSTT				*eS*	**Sg**	**20 29 22.4**	**+0.5**
	baz=294						
HGSD	**Ruisui**	**0.87**	**207**	*eP*	**Pg**	**20 29 11.0**	**0.0**
	baz=205						
HGSD				*eS*	**Sn**	**20 29 24.0**	**+0.1**
	baz=205						
WCS	**Beigang Elemen**	**0.89**	**256**	*eP*	**Pg**	**20 29 11.4**	**+0.1**
	baz=255						
EHY	**Hungye**	**0.90**	**213**	*eP*	**Pb**	**20 29 10.8**	**-0.5**
	baz=210						
EHY				*eS*	**Sn**	**20 29 24.3**	**-0.4**
	baz=210						
YM01	**YM01**	**0.91**	**344**	*eP*	**Pb**	**20 29 11.7**	**+0.2**
	baz=344						
YM01				*eS*	**Sg**	**20 29 24.4**	**+0.7**
	baz=344						
TWS1	**Kuangyinshan**	**0.92**	**334**	*eP*	**Pb**	**20 29 11.3**	**-0.1**
	baz=335						
TWS1				*eS*	**Sg**	**20 29 24.6**	**+0.7**
	baz=335						
NCU	**National Centr**	**0.92**	**319**	*eS*	**Sg**	**20 29 24.5**	**+0.4**
	baz=319						
NCUH	**Zhongli**	**0.92**	**319**	*eP*	**Pb**	**20 29 11.5**	**-0.1**
	baz=319						
NCUH				*eS*	**Sg**	**20 29 24.8**	**+0.7**
	baz=319						
SBCB	**Hsinchu**	**0.94**	**303**	*eP*	**Pb**	**20 29 10.8**	**-1.2**
	baz=303						
SMLT	**Sun Moon Lake**	**0.95**	**246**	*eP*	**Pb**	**20 29 11.9**	**-0.3**
	baz=244						
SMLT				*eS*	**Sn**	**20 29 26.0**	**-0.1**
	baz=244						
SSLB	**Suanglung**	**0.95**	**240**	*eP*	**Pb**	**20 29 11.4**	**-0.8**
	baz=238						
SSLB				*eS*	**Sg**	**20 29 25.2**	**+0.1**
	baz=238						
ANP	**Anpu**	**0.96**	**342**	*eP*	**Pb**	**20 29 12.3**	**-0.1**
	baz=342						
ANP				*eS*	**Sg**	**20 29 25.5**	**+0.2**
	baz=342						
TYC	**Yuchr**	**0.98**	**248**	*eP*	**Pb**	**20 29 12.2**	**-0.4**
	baz=247						
TYC				*eS*	**Sg**	**20 29 26.2**	**+0.3**
	baz=247						
TWQ1	**Liyutan**	**0.99**	**275**	*eP*	**Pb**	**20 29 12.6**	**-0.1**
	baz=273						
TWQ1				*eS*	**Sg**	**20 29 26.5**	**+0.3**
	baz=273						
JYNG	**Yonagunijimaku**	**1.01**	**80**	P	**Pb**	**20 29 12.8**	**-0.3**
JYNG				*eS*	**Sb**	**20 29 26.0**	**-0.2**
YULB	**Yu-li**	**1.01**	**210**	*eP*	**Pb**	**20 29 12.3**	**-0.8**
	baz=209						
YULB				*eS*	**Sn**	**20 29 27.9**	**+0.5**
	baz=209						
TWY	**Chenhua**	**1.02**	**347**	*eP*	**Pb**	**20 29 13.4**	**0.0**
	baz=348						
TWY				*eS*	**Sn**	**20 29 27.8**	**+0.1**
	baz=348						
YOJ	**Yonaguni jima**	**1.07**	**80**	P	**Pb**	**20 29 13.6**	**-0.6**
YOJ				*eS*	**Sb**	**20 29 28.3**	**+0.4**
YOJ	**Yonaguni jima**	**1.07**	**80**	*eP*	**Pb**	**20 29 13.7**	**-0.4**
	baz=79						
YOJ				*eS*	**Sg**	**20 29 29.6**	**+0.7**
	baz=79						
WHYT	**Xinyi Township**	**1.08**	**238**	*eP*	**Pb**	**20 29 14.3**	**0.0**
	baz=237						
WHYT				*eS*	**Sg**	**20 29 29.6**	**+0.5**
	baz=237						
WDJ	**Dajia District**	**1.11**	**274**	*eP*	**Pn**	**20 29 14.7**	**-0.1**
	baz=273						
WDJ				*eS*	**Sg**	**20 29 30.1**	**+0.1**
	baz=273						
WJS	**Zhushan**	**1.12**	**247**	*eS*	**Sg**	**20 29 30.7**	**+0.2**
	baz=245						
FULB	**Fuli**	**1.19**	**206**	*eP*	**Pn**	**20 29 15.2**	**-0.7**
	baz=204						
FULB				*eS*	**Sg**	**20 29 32.1**	**-0.4**
	baz=204						
ALS	**Alishan**	**1.22**	**232**	*eP*	**Pn**	**20 29 16.8**	**+0.1**
	baz=230						
ALS				*eS*	**Sg**	**20 29 33.9**	**+0.2**
	baz=230						
CHKT	**Chengkung**	**1.25**	**201**	*eP*	**Pb**	**20 29 17.3**	**+0.1**
	baz=199						
CHKT				*eS*	**Sn**	**20 29 33.6**	**+0.4**
	baz=199						
CHN5	**Tsauling**	**1.27**	**238**	*eP*	**Pb**	**20 29 17.6**	**+0.1**
	baz=237						
CHN5				*eS*	**Sg**	**20 29 34.6**	**-0.5**
	baz=237						
ELDTW	**Lidau**	**1.32**	**216**	*eP*	**Pn**	**20 29 18.1**	**+0.2**
	baz=214						
ELDTW				*eS*	**Sb**	**20 29 35.5**	**+0.3**
	baz=214						
WDLH	**Douliu**	**1.33**	**244**	*eP*	**Pb**	**20 29 18.6**	**0.0**
	baz=243						
WDLH				*eS*	**Sb**	**20 29 35.9**	**+0.4**
	baz=243						
EDH	**Donghe**	**1.39**	**201**	*eS*	**Sn**	**20 29 36.0**	**-0.7**
	baz=200						
WRL	**Guolierlin Hig**	**1.40**	**255**	*eP*	**Pn**	**20 29 18.2**	**-0.6**
	baz=254						
WRL				*eS*	**Sb**	**20 29 37.2**	**-0.1**
	baz=254						
WTK	**Tuku**	**1.46**	**247**	*eP*	**Pn**	**20 29 19.6**	**-0.1**
	baz=245						
WTK				*eS*	**Sb**	**20 29 39.0**	**0.0**
	baz=245						
CHN4	**Tsaushan**	**1.47**	**232**	*eP*	**Pn**	**20 29 20.3**	**+0.4**
	baz=230						
CHN4				*eS*	**Sb**	**20 29 39.5**	**+0.1**
	baz=230						
TPUB	**Ta-pu**	**1.48**	**229**	*eP*	**Pb**	**20 29 20.7**	**-0.4**
	baz=228						
TPUB				*eS*	**Sb**	**20 29 39.9**	**+0.2**
	baz=228						
WTP	**Ta-pu**	**1.53**	**228**	*eP*	**Pn**	**20 29 21.0**	**+0.3**
	baz=227						
WTP				*eS*	**Sb**	**20 29 41.2**	**+0.1**
	baz=227						
TWK	**Hsinying**	**1.60**	**232**	*eP*	**Pn**	**20 29 22.3**	**+0.6**
	baz=230						
TWK				*eS*	**Sb**	**20 29 42.7**	**-0.5**
	baz=230						
WSF	**Szhu**	**1.62**	**247**	*eP*	**Pn**	**20 29 22.4**	**+0.5**
	baz=246						
WSF				*eS*	**Sn**	**20 29 42.5**	**+0.2**
	baz=246						
SNST	**Tainan City**	**1.62**	**230**	*eS*	**Sb**	**20 29 43.3**	**-0.5**
	baz=229						
CHN1	**Nanshi**	**1.63**	**229**	*eP*	**Pb**	**20 29 22.9**	**-0.8**
	baz=227						
CHN1				*eS*	**Sn**	**20 29 42.6**	**0.0**
	baz=227						
SGST	**Jiashian**	**1.66**	**225**	*eS*	**Sb**	**20 29 44.1**	**-0.7**
	baz=223						
SLGT	**Liugui**	**1.69**	**221**	*eS*	**Sb**	**20 29 44.8**	**-0.9**
	baz=220						
IRIF	**Iriomote-Funau**	**1.71**	**88**	P	**Pn**	**20 29 23.2**	**0.0**
IRIF				*eS*	**Sn**	**20 29 45.1**	**+0.4**
SSD	**Sandimen**	**1.89**	**217**	*eP*	**Pn**	**20 29 26.5**	**+1.0**
	baz=215						
SSD				*eS*	**Sn**	**20 29 49.5**	**+0.5**
	baz=215						
JKRS	**Kuro-shima**	**1.97**	**91**	P	**Pn**	**20 29 26.9**	**+0.2**
JKRS				*eS*	**Sn**	**20 29 51.5**	**+0.5**
MASBT	**Mashibuluo**	**2.00**	**214**	*eP*	**Pn**	**20 29 27.8**	**+0.8**
	baz=213						
MASBT				*eS*	**Sn**	**20 29 52.4**	**+0.8**
	baz=213						
JIJ	**Ishigaki jima**	**2.09**	**87**	P	**Pn**	**20 29 27.7**	**-0.7**
JIJ				*eS*	**Sn**	**20 29 52.9**	**-1.1**
EAST	**Anshuo**	**2.10**	**206**	*eP*	**Pn**	**20 29 29.1**	**+0.7**
	baz=205						
EAST				*eS*	**Sn**	**20 29 54.9**	**+0.8**
	ba

baz=287
PTMZ eS Sn 20 30 05.7 -0.9
baz=287

IDC ***20*** *20:29:07.2±0.5, 30°.64S×71°.60W, h0km, mb4.4/9, mb1 4.4/15, mb1mx4.3/31, mbtmp4.3/15, ML4.0/6, MS3.8/14, Ms1 3.8/14, ms1mx3.6/28, Error ellipse: s-maj=21.0km s-min=15.7km az=86.0*
SJA ***20*** *20:29:08.0, 30°.50S×72°.17W, h10km, ML5.1*
VAO ***20*** *20:29:09.1±0.2, 30°.54S×71°.85W, h17km, mb4.7*
GUC ***20*** *20:29:10.6±0.7, 30°.59S×71°.80W, h36km±1km, ML5.0, MW4.9*
NEIC ***20*** *20:29:11.5, 30°.53S×71°.74W, h38km, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mw=2.25; Mrr=1.11; Mθθ=-3.36; Mφφ=1.40; Mrθ=0.01; Mrφ=-2.12; Fault plane solution: M0=3.91000×10^15 NP1:φs=28.96000°, δ=33.52000°, λ=138.69000°. NP2:φs=155.19000°, δ=68.62000°, λ=63.55000°. Principal axes: T 3.6612, Plg58.0000°, Azm29.0000°; N 0.4500, Plg25.0000°, Azm165.0000°; P -4.1112, Plg19.0000°, Azm265.0000°;*
NEIC ***20*** *20:29:11.1±2.7, 30°.54S±0°.05×71°.84W±0°.07, h35km±1km, mb4.9/15, Mwr4.3/39, Mwr4.9(GUC) Error ellipse: s-maj=9.9km s-min=7.9km az=83.0*

ISC 20 20:29:10.0±1.1, 30°.58S±0°.03×71°.82W±0°.05, h24km±7km, n216, σ1s54/223, mb4.8/14, MS4.0/9, 3C-9D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.19**	**120**	↑ *eP*	**Pn**	**20 29 17.0**	**-0.4**
CO06				*eS*	**Sb**	**20 29 20.9**	**+1.8**
CO06	**Fray Jorge**	**0.19**	**120**		**Pn**	**20 29 17.1**	**-0.3**
CO06				Sg	**Sb**	**20 29 20.9**	**+1.8**
CO05	**La Serena**	**0.83**	**38**	↓ *iP*	**Pn**	**20 29 26.5**	**+0.3**
CO05				*eS*	**Sn**	**20 29 37.1**	**-0.6**
CO05	**La Serena**	**0.83**	**38**		**Pn**	**20 29 26.4**	**+0.3**
GO04	**Tololo Observa**	**0.97**	**66**	↓ *iP*	**Pb**	**20 29 28.0**	**0.0**
GO04				*eS*	**Sn**	**20 29 41.2**	**-0.4**
GO04				IAML		20 29 44.4	
	comp=E,68μm,0.6s						
GO04	**Tololo Observa**	**0.97**	**66**		**Pb**	**20 29 28.6**	**+0.3**
GO04	**Tololo Observa**	**0.97**	**66**	*i* P	**Pn**	**20 29 28.0**	**-0.4**
CO03	**El Pedregal**	**1.01**	**105**	↓ *iP*	**Pn**	**20 29 28.3**	**-0.5**
CO03				*eS*	**Sb**	**20 29 40.1**	**-1.7**
CO03				IAML		20 29 41.5	
	comp=N,52μm,0.3s						
CO03	**El Pedregal**	**1.01**	**105**		**Pn**	**20 29 28.4**	**-0.4**
CO03					**Sb**	**20 29 40.5**	**-1.3**
LCO	**Las Campanas**	**1.84**	**32**	↑ *eP*	**Pb**	**20 29 41.8**	**-1.4**
LCO				*eS*	**Sb**	**20 30 05.7**	**-0.2**
LCO	**Las Campanas**	**1.84**	**32**	*i* P	**Pb**	**20 29 42.0**	**-1.2**
VA06	**Catapilco**	**2.03**	**167**	↓ *eP*	**Pn**	**20 29 43.6**	**+1.0**
VA06				*eS*	**Sn**	**20 30 09.5**	**+2.3**
VA06				IAML		20 30 16.5	
	comp=E,16μm,0.4s						
AROD	**Rodeo**	**2.07**	**79**	*i* P	**Pb**	**20 29 47.0**	**-0.1**
ACDV	**Cuesta del Vie**	**2.37**	**81**	*i* P	**Pb**	**20 29 52.0**	**-0.1**
ACCO	**Cerro Coronel**	**2.38**	**91**	*i* P	**Pb**	**20 29 52.0**	**-0.3**
VA03	**San Esteban**	**2.43**	**154**	*eP*	**Pn**	**20 29 50.2**	**+1.9**
VA03				*eS*	**Sn**	**20 30 20.0**	**+2.5**
VA03				IAML		20 30 27.7	
	comp=E,7μm,0.5s						
VA03	**San Esteban**	**2.43**	**154**		**Pn**	**20 29 50.8**	**+2.4**
VA03	**San Esteban**	**2.43**	**154**	*i* P	**Pn**	**20 29 51.0**	**+2.6**
VA01	**Torpederas**	**2.44**	**177**	↓ *eP*	**Pn**	**20 29 48.5**	**+0.2**
VA01	**Torpederas**	**2.44**	**177**		**Pn**	**20 29 48.9**	**+0.5**
VA01	**Torpederas**	**2.44**	**177**	*i* P	**Pn**	**20 29 49.0**	**+0.6**
AC04	**Llanos de Chal**	**2.46**	**16**	↓ *eP*	**Pn**	**20 29 49.8**	**+1.2**
AC04				*i* S	**Sn**	**20 30 18.4**	**+0.5**
AC04	**Llanos de Chal**	**2.46**	**16**		**Pn**	**20 29 49.5**	**+0.9**
AC04	**Llanos de Chal**	**2.46**	**16**	*i* P	**Pn**	**20 29 50.0**	**+1.4**
RTLS	**Leoncito**	**2.48**	**120**	*i* P	**Pb**	**20 29 53.0**	**-1.1**
ROCH	**El Roble**	**2.48**	**164**	*eP*	**Pn**	**20 29 50.4**	**+1.2**
ROCH				*eS*	**Sb**	**20 30 23.2**	**-1.2**
ROCH				IAML		20 30 33.5	
	comp=N,6μm,0.4s						
AUSP	**Uspallata**	**2.65**	**129**	*i* P	**Pb**	**20 29 55.0**	**-2.0**
ZON	**Zonda**	**2.87**	**110**		**Pn**	**20 29 55.0**	**+0.8**
ZON	**Zonda**	**2.87**	**110**	*i* P	**Pb**	**20 29 58.0**	**-2.5**
MT05	**Renca**	**2.95**	**162**	↓ *eP*	**Pn**	**20 29 57.2**	**+1.7**
MT05				*eS*	**Sn**	**20 30 31.6**	**+1.4**
MT05				IAML		20 30 46.7	
	comp=E,8μm,0.4s						
MT05	**Renca**	**2.95**	**162**		**Pn**	**20 29 57.1**	**+1.7**
MT05	**Renca**	**2.95**	**162**	*i* P	**Pn**	**20 29 58.0**	**+2.5**
VA05	**Santo Domingo**	**3.07**	**177**	*eP*	**Pn**	**20 29 57.6**	**+0.5**
VA05				*eS*	**Sn**	**20 30 34.1**	**+1.0**
VA05				IAML		20 30 55.1	
	comp=E,4μm,0.3s						
VA05	**Santo Domingo**	**3.07**	**177**		**Pn**	**20 29 57.3**	**+0.2**
AGUA	**GUANDACOL**	**3.09**	**70**	*i* P	**Pb**	**20 30 03.0**	**-1.3**
RTCV	**Cerro Valdivia**	**3.09**	**115**	*i* P	**Pb**	**20 30 01.0**	**-3.3**
FSR	**Penalolen**	**3.09**	**160**	*eP*	**Pn**	**20 30 00.9**	**+3.5**
FSR				*eS*	**Sn**	**20 30 37.4**	**+3.7**
ASAL	**Salagasta**	**3.24**	**129**	*i* P	**Pb**	**20 30 04.0**	**-3.0**
MT09	**Talagante**	**3.27**	**168**	*eP*	**Pn**	**20 30 01.1**	**+1.2**
MT09				*eS*	**Sn**	**20 30 39.4**	**+1.3**
MT09				IAML		20 30 56.2	
	comp=N,3μm,0.7s						
MT09	**Talagante**	**3.27**	**168**		**Pn**	**20 30 01.6**	**+1.8**
GO03	**Copiap**	**3.28**	**25**	↓ *eP*	**Pn**	**20 30 01.5**	**+1.5**
GO03				*eS*	**Sn**	**20 30 40.5**	**+2.1**
GO03				IAML		20 30 56.3	
	comp=N,2μm,0.5s						
GO03	**Copiap**	**3.28**	**25**		**Pn**	**20 30 01.6**	**+1.5**
GO03	**Copiap**	**3.28**	**25**	*i* P	**Pn**	**20 30 02.0**	**+2.0**
MT01	**Popeta**	**3.31**	**172**	*eP*	**Pn**	**20 30 01.4**	**+1.1**
MT01				*eS*	**Sn**	**20 30 40.3**	**+1.3**
MT01				IAML		20 30 56.0	
	comp=E,2μm,0.5s						
MT01	**Popeta**	**3.31**	**172**		**Pn**	**20 30 00.8**	**+0.4**
ARCO	**CERRO ARCO**	**3.34**	**133**	*i* P	**Pb**	**20 30 06.0**	**-2.6**
AC06	**Mina Casimiro**	**3.46**	**22**		**Pn**	**20 30 03.4**	**+1.0**
AAGR	**Agrelo**	**3.57**	**135**	*i* P	**Pb**	**20 30 09.0**	**-3.5**
VCA	**Vinchina**	**3.64**	**61**	*i* P	**Pb**	**20 30 10.0**	**-3.8**
AVFE	**Valle Fertil**	**3.77**	**92**	*i* P	**Pn**	**20 30 09.0**	**+2.3**
BO01	**Tunca**	**3.85**	**171**		**Pn**	**20 30 09.5**	**+1.7**
BO01	**Tunca**	**3.85**	**171**	*i* P	**Pn**	**20 30 11.0**	**+3.2**
BO02	**Sierra Bellavi**	**4.29**	**168**		**Pn**	**20 30 16.6**	**+2.7**
BO02	**Sierra Bellavi**	**4.29**	**168**	*i* P	**Pn**	**20 30 17.0**	**+3.1**
AC02	**Maricunga**	**4.42**	**33**		**Pn**	**20 30 17.6**	**+1.6**
AC02	**Maricunga**	**4.42**	**33**	*i* P	**Pn**	**20 30 18.0**	**+2.0**
GO05	**Huala**	**4.42**	**181**		**Pn**	**20 30 14.9**	**-0.7**
GO05	**Huala**	**4.42**	**181**	*i* P	**Pn**	**20 30 16.0**	**+0.4**
ACHE	**Chepes**	**4.47**	**99**	*i* P	**Pn**	**20 30 19.0**	**+2.5**
RFA	**San Rafael**	**5.05**	**147**	*i* P	**Pn**	**20 30 27.0**	**+2.7**
CYA	**Choya**	**5.66**	**69**	*i* P	**Pn**	**20 30 35.0**	**+2.3**
PB14	**IPOC Station P**	**6.06**	**12**	Pn	**Pn**	**20 30 35.4**	**-3.1**
H03N1	**Juan Fernandez**	**6.66**	**243**	T	T	20 37 37.3	
	baz=72,slow=72,SNR=3302						
H03N3	**Juan Fernandez**	**6.68**	**243**	T	T	20 37 41.0	
	baz=72,slow=72,SNR=2684						
H03N2	**Juan Fernandez**	**6.68**	**243**	T	T	20 37 41.3	
	baz=72,slow=72,SNR=3983						
FSA	**Cafayete**	**6.80**	**51**	*i* P	**Pn**	**20 30 52.0**	**+3.4**
AHML	**Horco Molle**	**6.84**	**58**	*i* P	**Pn**	**20 30 51.0**	**+2.1**
PB15	**IPOC Station P**	**7.63**	**17**	Pn	**Pn**	**20 30 58.8**	**-1.2**
PB05	**IPOC Station P**	**7.83**	**11**	*i* P	**Pn**	**20 31 01.0**	**-1.6**
LC01	**Cunco**	**8.30**	**180**	Pn	**Pn**	**20 31 08.5**	**-0.4**
LC01	**Cunco**	**8.30**	**180**	*i* P	**Pn**	**20 31 09.0**	**+0.1**
LVC	**Limon Verde**	**8.35**	**19**	Pn	**Pn**	**20 31 08.4**	**-1.6**
	comp=E,0.4nm,0.3s,baz=178,slow=19,SNR=2.0						
LVC				LR	LR	20 34 38.6	
	comp=E,349nm,21.4s,baz=209,slow=40						
LVC	**Limon Verde**	**8.35**	**19**	Pn	**Pn**	**20 31 08.3**	**-1.7**
LVC	**Limon Verde**	**8.35**	**19**	*eP*	**Pn**	**20 31 09.5**	**-0.4**
PB07	**IPOC Station P**	**8.99**	**12**	Pn	**Pn**	**20 31 16.9**	**-1.6**
PB01	**IPOC Station P**	**9.73**	**13**	Pn	**Pn**	**20 31 25.8**	**-2.8**
PLCA	**Paso Flores**	**10.18**	**175**	Pn	**Pn**	**20 31 35.1**	**+0.4**
	comp=E,0.4nm,0.3s,baz=339,slow=12,SNR=9.6						
PLCA				LR	LR	20 35 34.7	
	comp=E,325nm,21.4s,baz=350,slow=38						
PLCA	**Paso Flores**	**10.18**	**175**	Pn	**Pn**	**20 31 35.7**	**+0.9**
PLCA	**Paso Flores**	**10.18**	**175**	*eP*	**Pn**	**20 31 34.1**	**-0.6**
TRQA	**Tornquist**	**11.03**	**135**	Pn	**Pn**	**20 31 46.5**	**+0.2**
TRQA	**Tornquist**	**11.03**	**135**	*eP*	**Pn**	**20 31 47.9**	**+1.6**
TRQA				*eS*	**Sn**	**20 33 52.2**	**+3.2**
PSGCX	**Pisagua**	**11.04**	**8**	Pn	**Pn**	**20 31 43.4**	**-3.3**
ITQB	**Itaqui**	**13.19**	**90**	Pn	**Pn**	**20 32 14.8**	**-1.0**
ITQB	**Itaqui**	**13.19**	**90**	*eP*	**Pn**	**20 32 14.7**	**-1.1**
CPUP	**Villa Florida**	**13.43**	**75**	Pn	**Pn**	**20 32 16.8**	**-2.4**
	comp=E,0.5nm,0.3s,baz=244,slow=11,SNR=11						
CPUP				LR	LR	20 37 48.5	
	comp=E,313nm,21.1s,baz=260,slow=39						
CPUP	**Villa Florida**	**13.43**	**75**	Pn	**Pn**	**20 32 17.2**	**-2.0**
CPUP	**Villa Florida**	**13.43**	**75**	*eP*	**Pn**	**20 32 18.4**	**-0.8**
LPAZ	**La Paz**	**14.62**	**14**	Pn	**Pn**	**20 32 37.0**	**+1.0**
	comp=E,0.3nm,0.3s,baz=187,slow=8.2,SNR=33						
LPAZ	**La Paz**	**14.62**	**14**		**Pn**	**20 32 38.3**	**+2.3**
LPAZ	**La Paz**	**14.62**	**14**	*eP*	**Pn**	**20 32 39.0**	**+3.0**
LPAZ	**La Paz**	**14.62**	**14**	*eP*	**Pn**	**20 32 35.5**	**-0.5**
PLTB	**Pedras Altas**	**15.64**	**99**	Pn	**Pn**	**20 32 46.8**	**-2.1**
PLTB				IAmb	IAmb	20 33 09.2	
	comp=E,80nm,1.9s						
PLTB	**Pedras Altas**	**15.64**	**99**	*eP*	**Pn**	**20 32 47.3**	**-1.6**
CPSB	**Cacapava Do Su**	**15.85**	**94**	*eP*	**Pn**	**20 32 53.2**	**+1.6**
SIV	**San Ignacio**	**17.54**	**37**	P	**Pn**	**20 33 13.2**	**+0.1**
	comp=E,0.4nm,0.3s,baz=231,slow=12,SNR=38						
SIV				LR	LR	20 41 16.7	
	comp=E,356nm,20.8s,baz=242,slow=42						
AQDB	**Aquidauana**	**17.67**	**59**	*eP*	**Pn**	**20 33 12.8**	**-1.8**
PTGB	**Pitanga**	**18.44**	**76**	*eP*	**Pn**	**20 33 26.0**	**+1.8**
TRCB	**Terra Rica**	**18.80**	**70**	*eP*	**Pn**	**20 33 29.2**	**+0.7**
PTLB	**Pontes e Lacer**	**19.03**	**41**	*eP*	**P**	**20 33 30.3**	**0.0**
NNA	**Nana**	**19.08**	**345**	P	**Pn**	**20 33 33.3**	**+1.5**
	comp=E,0.5nm,0.3s,baz=44,slow=17,SNR=1.8						
NNA				LR	LR	20 39 26.4	
	comp=Z,88nm,18.2s,baz=171,slow=32						
TER01	**Tubaro-SC**	**19.84**	**90**	*eP*	**P**	**20 33 39.7**	**+0.4**
PP1B	**Ponte de Pedra**	**20.12**	**54**	*eP*	**P**	**20 33 42.6**	**+0.3**
PCMB	**Pacaembu**	**20.49**	**69**	*eP*	**P**	**20 33 46.1**	**-0.2**
VILB	**Vilhena**	**20.57**	**34**	*eP*	**P**	**20 33 47.3**	**+0.1**
SALV	**Santo Antonio**	**20.77**	**49**	*eP*	**P**	**20 33 49.2**	**-0.2**
TU01	**Guaruva-PR**	**20.81**	**81**	*eP*	**P**	**20 33 46.4**	**-3.5**
FRTB	**Fartura**	**21.09**	**75**	*eP*	**P**	**20 33 52.7**	**-0.1**
ETMB	**Extrema**	**21.31**	**15**	*eP*	**P**	**20 33 55.4**	**+0.2**
ITRB	**Iturama**	**22.20**	**66**	*eP*	**P**	**20 34 06.0**	**+1.2**
PET01	**Itanhaem-SP**	**22.65**	**80**	*eP*	**P**	**20 34 10.6**	**+1.1**
CZSB	**Cruzeiro do Su**	**22.75**	**358**	*eP*	**P**	**20 34 09.3**	**-1.3**
SPB	**Sao Paulo**	**22.78**	**78**	*eP*	**P**	**20 34 11.9**	**+1.0**
BB19B	**Bebedouro**	**22.97**	**71**	*eP*	**P**	**20 34 13.0**	**0.0**
SAML	**Samuel**	**22.98**	**22**	P	**P**	**20 34 10.4**	**-2.7**
SAML	**Samuel**	**22.98**	**22**	*eP*	**P**	**20 34 12.3**	**-0.7**
SAML	**Samuel**	**22.98**	**22**	*eP*	**P**	**20 34 14.0**	**+1.0**
VAO	**Valinhos**	**23.41**	**77**	*eP*	**P**	**20 34 16.7**	**-0.6**
PARB	**Paraibuna**	**24.41**	**79**	*eP*	**P**	**20 34 26.3**	**-0.5**
CLDB	**Colider**	**24.62**	**41**	*eP*	**P**	**20 34 26.2**	**-2.5**
IPMB	**Ipameri, GO**	**24.85**	**65**	*eP*	**P**	**20 34 30.1**	**-0.8**
ESAR	**Ângra dos Reis**	**25.53**	**79**	*eP*	**P**	**20 34 37.4**	**+0.5**
TBTG	**Tabatinga, AM**	**26.31**	**4**	*eP*	**P**	**20 34 43.7**	**-0.3**
BDFB	**Brasilia**	**26.39**	**61**	P	**P**	**20 34 44.2**	**-0.7**
	comp=Z,11nm,0.7s,baz=224,slow=9.2,SNR=21						
BDFB				LR	LR	20 46 13.6	
	comp=Z,341nm,19.4s,baz=126,slow=39						
BDFB	**Brasilia**	**26.39**	**61**	P	**P**	**20 34 44.8**	**0.0**
BDFB				IAmb	IAmb	20 34 56.9	
	comp=Z,12nm,0.8s						
SNDB	**Serra Nova Dou**	**26.54**	**50**	*eP*	**P**	**20 34 45.4**	**-0.7**
VAS01	**Vassouras-RJ**	**26.67**	**79**	*eP*	**P**	**20 34 47.1**	**-0.2**
DUB01	**Friburgo-RJ**	**27.66**	**79**	*eP*	**P**	**20 34 56.1**	**0.0**
NPGB	**Novo Progresso**	**28.05**	**37**	*eP*	**P**	**20 34 59.9**	**+0.2**
DIAM	**Diamantina, MG**	**28.31**	**71**	*eP*	**P**	**20 35 02.4**	**+0.3**
CAM01	**Campos-RJ**	**28.37**	**79**	*eP*	**P**	**20 35 02.6**	**+0.1**
PEXB	**Peixe**	**28.49**	**55**	*eP*	**P**	**20 35 03.8**	**+0.2**
MC01	**Montes Claros**	**28.94**	**68**	*eP*	**P**	**20 35 06.6**	**-1.0**
MACA	**Manacapuru-AM**	**29.23**	**23**	*eP*	**P**	**20 35 10.4**	**+0.2**
JANB	**Januaria**	**29.58**	**65**	*eP*	**P**	**20 35 13.0**	**-0.3**
SJMB	**Sao Joao De Ma**	**30.16**	**74**	*eP*	**P**	**20 35 18.1**	**-0.3**
ITTB	**Itaituba**	**30.17**	**33**	*eP*	**P**	**20 35 17.9**	**-0.6**
BSFB	**Barra de Sao F**	**30.37**	**75**	*eP*	**P**	**20 35 19.6**	**-0.7**
SDBA	**SAO DESIDERIO**	**30.76**	**60**	*eP*	**P**	**20 35 23.9**	**+0.1**
SMTB	**Santa Maria do**	**31.28**	**51**	*eP*	**P**	**20 35 28.6**	**+0.2**
OTAV	**Otavalo**	**31.29**	**347**	*eP*	**P**	**20 35 27.5**	**-1.3**
NAN01	**Guarapari, ES**	**31.45**	**74**	*eP*	**P**	**20 35 29.0**	**-0.8**
GUA01	**Guaratinga, BA**	**32.35**	**72**	*eP*	**P**	**20 35 38.6**	**+0.9**
CMC01	**Camacan, BA**	**33.23**	**70**	*eP*	**P**	**20 35 45.8**	**+0.4**
NBIT	**Itapeh - BA**	**33.53**	**70**	*eP*	**P**	**20 35 48.1**	**+0.1**
GDU01	**Guandu, BA**	**34.09**	**68**	*eP*	**P**	**20 35 52.3**	**-0.6**
ORTC	**Ortega, Tolima**	**34.45**	**354**	*eP*	**P**	**20 35 59.4**	**+3.4**
BOAV	**Boa Vista**	**34.52**	**20**	*eP*	**P**	**20 35 56.5**	**0.0**
VILC	**Villavicencio,**	**34.54**	**357**	*eP*	**P**	**20 35 58.6**	**+1.7**
PMSA	**Palmer Station**	**34.56**	**174**	*eP*	**P**	**20 35 56.6**	**+0.2**
CHIC	**Chingaza**	**35.06**	**357**	*eP*	**P**	**20 36 02.9**	**+1.3**
NBPN	**Ponto Novo - B**	**35.31**	**63**	*eP*	**P**	**20 36 01.1**	**-2.4**
MCPB	**Macapa, AP**	**35.44**	**36**	*eP*	**P**	**20 36 04.6**	**+0.1**
GUY2C	**Guyana, Caldas**	**35.76**	**354**	*eP*	**P**	**20 36 09.8**	**+2.0**
TMAB	**Tom-Au,PA,Br**	**35.94**	**43**	*eP*	**P**	**20 36 09.5**	**+0.7**
NORC	**Norcasia**	**36.05**	**355**	*eP*	**P**	**20 36 12.5**	**+2.6**
RUSC	**La Rusia**	**36.28**	**358**	*eP*	**P**	**20 36 14.7**	**+2.4**
CBOC	**Ciudad Bolivar**	**36.46**	**353**	*eP*	**P**	**20 36 15.7**	**+2.3**
PTBC	**PUERTO BERRIO,**	**36.99**	**356**	*eP*	**P**	**20 36 18.3**	**+0.5**
DBBC	**Dabeiba**	**37.62**	**353**	*eP*	**P**	**20 36 25.8**	**+2.6**
ZARC	**Zaragoza, Cauc**	**37.97**	**355**	*eP*	**P**	**20 36 25.0**	**-1.0**
ROSB	**Rosario**	**38.00**	**49**	*eP*	**P**	**20 36 27.3**	**+1.0**
NBMA	**Muriti-CE**	**38.61**	**60**	*eP*	**P**	**20 36 31.4**	**-0.1**
NBPS	**Pedro II - PI**	**38.70**	**54**	*eP*	**P**	**20 36 32.6**	**+0.2**
SMLC	**San Martn de**	**39.21**	**356**	*eP*	**P**	**20 36 36.6**	**+0.1**
NBPB	**Pedra_Branca-C**	**39.23**	**57**	*eP*	**P**	**20 36 37.0**	**+0.3**
SDV	**Santo Domingo**	**39.26**	**2**	*eP*	**P**	**20 36 36.3**	**-0.7**
NBPA	**Parna RN**	**40.90**	**60**	*eP*	**P**	**20 36 51.3**	**+0.7**
NBPV	**Pedro Velho**	**41.85**	**62**	*eP*	**P**	**20 36 59.1**	**+0.7**
MLPR	**Magueyes Islan**	**48.49**	**6**	P	**P**	**20 37 49.8**	**-1.1**
CRPR	**Cabo Rojo, PR**	**48.52**	**6**	P	**P**	**20 37 51.8**	**+0.7**
PDPR	**Patillas Dam,**	**48.64**	**7**	P	**P**	**20 37 50.5**	**-1.5**
PDPR				IAmb	IAmb	20 37 53.0	
	comp=Z,17nm,0.8s						
CBYP	**Canovanas**	**48.91**	**8**	P	**P**	**20 37 52.5**	**-1.7**
CBYP				IAmb	IAmb	20 37 55.5	
	comp=Z,18nm,0.8s						
VNA3	**Neumayer Olymp**	**52.46**	**159**	P	**P**	**20 38 21.2**	**+0.8**
VNA2	**Neumayer--Watz**	**53.10**	**158**	P	**P**	**20 38 25.6**	**+0.5**
	baz=284,slow=8.2						
SNAA	**Sanae**	**54.69**	**159**	P	**P**	**20 38 37.4**	**+0.6**
SNAA	**Sanae**	**54.69**	**159**	P	**P**	**20 38 36.5**	**-0.3**
SNAA				IAmb	IAmb	20 38 46.3	
	comp=Z,5.8nm,0.6s						
QSPA	**South Pole Qui**	**59.65**	**180**	P	**P**	**20 39 13.4**	**+1.4**
	comp=Z,4.7nm,0.9s,baz=321,slow=1.3,SNR=16						
QSPA	**South Pole Qui**	**59.65**	**180**	P	**P**	**20 39 12.7**	**+0.7**
QSPA				IAmb	IAmb	20 39 23.5	
	comp=Z,5.2nm,0.8s						
TXAR	**Lajitas Array**	**66.86**	**330**	P	**P**	**20 40 02.4**	**+2.2**
	comp=Z,0.7nm,0.7s,baz=148,slow=7.0,SNR=9.2						
TXAR				LR	LR	21 05 11.1	
	comp=Z,35nm,18.3s,baz=0.0,slow=32						
TXAR	**Lajitas Array**	**66.86**	**330**	P	**P**	**20 39 57.4**	**-2.7**
SYO	**Syowa Base**	**68.98**	**159**	↑ *eP*	**P**	**20 40 10.6**	**-2.3**
SYO	**Syowa Base**	**68.98**	**159**	*ipP*	*pP*	20 40 21.4	+1.2
LIC	**Lamto**	**73.54**	**72**	*eP*	**P**	**20 40 40.7**	**-0.7**
	comp=Z,24nm,0.8s						
TIC	**Toumodi**	**73.78**	**72**	*eP*	**P**	**20 40 43.3**	**+0.5**
KIC	**Kosan Boka**	**73.85**	**72**	*eP*	**P**	**20 40 42.9**	**-0.3**
	comp=Z,34nm,0.9s						
DBIC	**Dimbokro**	**73.93**	**72**	P	**P**	**20 40 44.0**	**+0.4**
	comp=Z,9.7nm,0.8s,baz=235,slow=5.4,SNR=12						
DBIC				LR	LR	21 10 57.9	
	comp=Z,74nm,19.1s,baz=194,slow=34						
DBIC	**Dimbokro**	**73.93**	**72**	P	**P**	**20 40 42.2**	**-1.4**
DBIC				IAmb	IAmb	20 40 57.2	
	comp=Z,20nm,0.9s						
MAW	**Mawson**	**76.40**	**164**	P	**P**	**20 40 58.0**	**+1.0**
	comp=Z,5.1nm,0.5s,baz=216,slow=6.2,SNR=16						
MAW				LR	LR	21 16 43.3	
	comp=Z,73nm,18.8s,baz=237,slow=37						
MAW	**Mawson**	**76.40**	**164**	P	**P**	**20 40 57.4**	**+0.4**
PDAR	**Pinedale Array**	**80.81**	**333**	P	**P**	**20 41 23.2**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=149,slow=3.5,SNR=5.3						
NVAR	**Mina Array Bea**	**81.19**	**325**	P	**P**	**20 41 26.0**	**+2.1**
	comp=Z,1.0nm,0.8s,baz=148,slow=6.7,SNR=8.2						
BOSA	**Boshof**	**81.50**	**118**	P	**P**	**20 41 25.2**	**-0.8**
	comp=Z,3.8nm,0.8s,baz=234,slow=8.2,SNR=7.0						
BOSA				LR	LR	21 13 55.3	
	comp=Z,44nm,18.2s,baz=192,slow=33						
BOSA	**Boshof**	**81.50**	**118**	P	**P**	**20 41 24.2**	**-1.7**
TORD	**Torodi Ar. Bea**	**82.88**	**70**	P	**P**	**20 41 33.1**	**0.0**
	comp=Z,2.9nm,0.7s,baz=282,slow=6.2,SNR=24						
TORD	**Torodi Ar. Bea**	**82.88**	**70**	P	**P**	**20 41 32.2**	**-0.8**
TORD				IAmb	IAmb	20 41 47.4	
	comp=Z,14nm,1.1s						
URZ	**Urewera**	**86.09**	**227**	LR	LR	21 13 24.0	
	comp=Z,54nm,18.6s,baz=211,slow=31						
RAO	**Raoul Island**	**87.87**	**237**	LR	LR	21 11 30.9	
	comp=Z,159nm,20.0s,baz=210,slow=29						
ESDC	**Sonseca Array**	**94.07**	**46**	LR	LR	21 24 24.2	
	comp=Z,40nm,18.8s,baz=255,slow=35						
BBB	**Bella Bella**	**95.98**	**329**	LR	LR	21 24 06.3	
	comp=Z,46nm,18.0s,baz=226,slow=34						
ASAR	**Alice Springs**	**120.68**	**208**	PKP	**PKPdf**	**20 47 59.7**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=133,slow=1.5,SNR=6.1						
WRA	**Warramunga Arr**	**123.82**	**210**	PKP	**PKPdf**	**20 48 06.4**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=165,slow=2.3,SNR=19						
WRA	**Warramunga Arr**	**123.82**	**210**		**PKPdf**	**20 48 06.6**	**0.0**
H11S2	**WAKE ISLAND Hyl**	**25.94**	**271**	T	T	23 06 52.2	
	baz=116,slow=75,SNR=151						
H11S1	**WAKE ISLAND Hyl**	**25.95**	**272**	T	T	23 06 52.0	
	baz=116,slow=75,SNR=211						
H11S3	**WAKE ISLAND Hyl**	**25.95**	**271**	T	T	23 06 54.1	
	baz=116,slow=75,SNR=147						
SEY	**Seymchan**	**137.13**	**332**	PKP	**PKiKP**	**20 48 32.0**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=99,slow=6.2,SNR=4.4						
BVAR	**Borovoye Array**	**144.60**	**40**	PKP	**PKPdf**	**20 48 44.4**	**+0.3**
	comp=Z,3.8nm,0.7s,baz=241,slow=4.9,SNR=32						
YAK	**Yakutsk**	**145.56**	**342**	PKPbc	**PKPbc**	**20 48 46.1**	**+0.5**
	comp=Z,4.0nm,0.3s,baz=220,slow=1.3,SNR=11						
KURBB	**Kurchatov Arra**	**150.19**	**39**	PKPbc	**PKiKP**	**20 48 59.2**	**-0.1**
	comp=Z,4.4nm,0.8s,baz=298,slow=3.2,SNR=4.1						
AAK	**Ala-Archa**	**150.60**	**56**	PKPbc	**PKiKP**	**20 49 01.0**	**+0.3**
	comp=Z,5.4nm,0.8s,baz=220,slow=2.1,SNR=16						
ZALV	**Zalesovo Beam**	**151.20**	**29**	PKPbc	**PKiKP**	**20 49 01.7**	**+0.4**
	comp=Z,21nm,0.9s,baz=297,slow=3.3,SNR=72						
KSH	**Kashi**	**152.29**	**62**	PKPbc	**PKPbc**	**20 49 00.9**	**-3.1**
**MKA

EWUT	**Wuta**	**0.56**	**16**	P	**Pn**	**20 38 26.0**	**-0.6**
	baz=15							
EWUT				eS	**Sn**	**20 38 35.5**	**+0.7**
	baz=15							
NNSB	**Datong**	**0.56**	**338**	P	**Pn**	**20 38 26.4**	**-0.4**
	baz=337							
NNSB				S	**Sb**	**20 38 34.3**	**-0.3**
	baz=337							
NNS	**Nan Shan**	**0.57**	**338**	P	**Pn**	**20 38 26.6**	**-0.3**
	baz=337							
NNS				S	**Sb**	**20 38 35.1**	**0.0**
	baz=337							
YULB	**Yu-li**	**0.59**	**209**	eP	**Pn**	**20 38 25.8**	**-1.2**
	baz=209							
SSLB	**Suanglung**	**0.61**	**259**	P	**Pn**	**20 38 26.7**	**-0.7**
	baz=258							
SSLB				eS	**Sn**	**20 38 35.8**	**-0.3**
	baz=258							
EYUL	**Yuli**	**0.62**	**205**	eP	**Pn**	**20 38 27.4**	**-0.1**
	baz=206							
EYUL				eS	**Sb**	**20 38 36.9**	**+0.8**
	baz=206							
SMLT	**Sun Moon Lake**	**0.65**	**268**	eP	**Pn**	**20 38 27.5**	**-0.4**
	baz=267							
WCS	**Beigang Elemen**	**0.66**	**283**	P	**Pn**	**20 38 27.8**	**-0.2**
	baz=282							
WCS				eS	**Sb**	**20 38 38.1**	**+1.0**
	baz=282							
TYC	**Yuchr**	**0.69**	**270**	eP	**Pn**	**20 38 28.1**	**-0.2**
	baz=269							
TYC				eS	**Sn**	**20 38 38.4**	**+0.4**
	baz=269							
NDT	**Datong Townshi**	**0.70**	**353**	eP	**Pn**	**20 38 28.1**	**-0.4**
	baz=351							
NDT				eS	**Sn**	**20 38 38.2**	**0.0**
	baz=351							
WHP	**Taichung City**	**0.71**	**301**	P	**Pn**	**20 38 29.4**	**+0.6**
	baz=300							
WHP				S	**Sn**	**20 38 39.0**	**+0.3**
	baz=300							
WHYT	**Xinyi Township**	**0.72**	**253**	eP	**Pn**	**20 38 29.1**	**+0.1**
	baz=253							
WHYT				eS	**Sb**	**20 38 39.9**	**+0.8**
	baz=253							
ENTT	**Nioudou**	**0.73**	**357**	eP	**Pn**	**20 38 28.6**	**-0.5**
	baz=356							
ENTT				eS	**Sn**	**20 38 38.5**	**-0.6**
	baz=356							
NDS	**Dongshan**	**0.73**	**8**	eP	**Pn**	**20 38 28.3**	**-0.7**
	baz=6.0							
NDS				eS	**Sn**	**20 38 39.0**	**-0.1**
	baz=6.0							
TWC	**Suao**	**0.73**	**17**	eP	**Pn**	**20 38 28.9**	**-0.2**
	baz=17							
TWC				eS	**Sb**	**20 38 39.8**	**+0.6**
	baz=17							
YUS	**Yu-Shan**	**0.73**	**235**	eP	**Pn**	**20 38 28.8**	**-0.7**
	baz=235							
YUS				eS	**Sn**	**20 38 39.0**	**-0.8**
	baz=235							
FULB	**Fuli**	**0.76**	**202**	eP	**Pn**	**20 38 28.8**	**-0.7**
	baz=203							
FULB				eS	**Sn**	**20 38 39.4**	**-0.5**
	baz=203							
YHNB	**Yeheng**	**0.79**	**344**	P	**Pn**	**20 38 29.7**	**-0.2**
	baz=343							
YHNB				S	**Sn**	**20 38 40.2**	**-0.4**
	baz=343							
NSK	**Sanguang**	**0.80**	**343**	P	**Pn**	**20 38 30.0**	**-0.1**
	baz=342							
NSK				S	**Sn**	**20 38 40.4**	**-0.4**
	baz=342							
TWE	**Neicheng**	**0.81**	**4**	eP	**Pn**	**20 38 29.4**	**-0.7**
	baz=3.0							
TWE				eS	**Sn**	**20 38 41.1**	**+0.1**
	baz=3.0							
WJS	**Zhushan**	**0.81**	**264**	eP	**Pn**	**20 38 30.4**	**+0.2**
	baz=263							
WJS				eS	**Sb**	**20 38 42.0**	**+0.6**
	baz=263							
ALS	**Alishan**	**0.84**	**242**	eP	**Pn**	**20 38 30.4**	**-0.3**
	baz=241							
ALS				eS	**Sn**	**20 38 41.7**	**-0.3**
	baz=241							
CHKT	**Chengkung**	**0.84**	**196**	eP	**Pn**	**20 38 29.6**	**-0.8**
	baz=195							
CHKT				eS	**Sn**	**20 38 40.7**	**-0.9**
	baz=195							
WNT	**Mingjian**	**0.85**	**268**	eP	**Pn**	**20 38 31.0**	**+0.4**
	baz=267							
WNT				eS	**Sb**	**20 38 43.0**	**+0.5**
	baz=267							
NWLT	**Wulai**	**0.87**	**354**	eP	**Pn**	**20 38 30.9**	**-0.1**
	baz=352							
NWLT				S	**Sn**	**20 38 42.3**	**-0.2**
	baz=352							
TWQ1	**Liyutan**	**0.88**	**300**	eP	**Pn**	**20 38 31.5**	**+0.4**
	baz=299							
TWQ1				eS	**Sb**	**20 38 43.9**	**+0.5**
	baz=299							
TCU	**Taichung**	**0.89**	**286**	eP	**Pn**	**20 38 31.4**	**+0.2**
	baz=285							
TCU				eS	**Sb**	**20 38 44.1**	**+0.5**
	baz=285							
ELDTW	**Lidau**	**0.90**	**217**	eP	**Pn**	**20 38 30.3**	**-1.2**
	baz=217							
ELDTW				eS	**Sn**	**20 38 41.9**	**-1.5**
	baz=217							
CHN5	**Tsauling**	**0.91**	**250**	eP	**Pn**	**20 38 31.9**	**+0.3**
	baz=250							
CHN5				eS	**Sn**	**20 38 44.3**	**+0.8**
	baz=250							
NSTT	**Nanjuang**	**0.91**	**322**	eP	**Pn**	**20 38 32.0**	**+0.5**
	baz=322							
NSTT				eS	**Sn**	**20 38 44.1**	**+0.7**
	baz=322							
LIOB	**Emei**	**0.91**	**324**	eP	**Pn**	**20 38 32.0**	**+0.5**
	baz=323							
LIOB				eS	**Sn**	**20 38 44.2**	**+0.7**
	baz=323							
NSY	**Sanyi**	**0.93**	**303**	eP	**Pn**	**20 38 32.0**	**+0.3**
	baz=302							
NSY				eS	**Sn**	**20 38 44.8**	**+1.0**
	baz=302							
NTC	**Toucheng**	**0.96**	**12**	eP	**Pn**	**20 38 32.4**	**+0.2**
	baz=11							
NTC				eS	**Sn**	**20 38 45.8**	**+1.0**
	baz=11							
EDH	**Donghe**	**0.97**	**197**	eP	**Pn**	**20 38 31.2**	**-1.1**
	baz=197							
EDH				eS	**Sn**	**20 38 44.4**	**-0.6**
	baz=197							
NMLH	**Miaoli**	**0.97**	**310**	eS	**Sn**	**20 38 46.1**	**+1.0**
	baz=309							
WCHH	**Zhanghua**	**0.98**	**280**	eP	**Pn**	**20 38 33.0**	**+0.6**
	baz=279							
WCHH				eS	**Sn**	**20 38 46.3**	**+1.2**
	baz=279							
WDJ	**Dajia District**	**0.99**	**297**	eS	**Sn**	**20 38 46.3**	**+1.0**
	baz=295							
WDLH	**Douliu**	**1.00**	**258**	eP	**Pn**	**20 38 32.9**	**+0.1**
	baz=257							
WDLH				eS	**Sn**	**20 38 46.7**	**+0.9**
	baz=257							
NHDH	**Xindian Distri**	**1.05**	**356**	eP	**Pn**	**20 38 34.0**	**+0.5**
	baz=355							
NHDH				eS	**Sn**	**20 38 47.5**	**+0.6**
	baz=355							
STYH	**Taoyuan**	**1.06**	**226**	eP	**Pn**	**20 38 33.4**	**-0.2**
	baz=226							
STYH				eS	**Sn**	**20 38 47.0**	**-0.2**
	baz=226							
TWA	**Mucha**	**1.07**	**359**	eP	**Pn**	**20 38 33.8**	**+0.1**
	baz=358							
TWA				eS	**Sn**	**20 38 48.0**	**+0.6**
	baz=358							
TIPB	**Shuangxi**	**1.08**	**11**	eP	**Pn**	**20 38 34.0**	**+0.2**
	baz=9.0							
TIPB				eS	**Sn**	**20 38 48.5**	**+0.9**
	baz=9.0							
TPUB	**Ta-pu**	**1.08**	**236**	eP	**Pn**	**20 38 34.0**	**+0.1**
	baz=236							
TPUB				S	**Sn**	**20 38 48.5**	**+0.8**
	baz=236							
CHN4	**Tsaushan**	**1.08**	**239**	eP	**Pn**	**20 38 34.3**	**+0.4**
	baz=239							
CHN4				eS	**Sn**	**20 38 49.1**	**+1.3**
	baz=239							
CHN2	**Minshiung**	**1.10**	**250**	eP	**Pn**	**20 38 34.5**	**+0.4**
	baz=250							
CHN2				eS	**Sn**	**20 38 48.9**	**+0.7**
	baz=250							
NCUH	**Zhongli**	**1.12**	**340**	eP	**Pn**	**20 38 34.8**	**+0.3**
	baz=339							
WTP	**Ta-pu**	**1.13**	**234**	eP	**Pn**	**20 38 35.1**	**+0.6**
	baz=234							
WTP				eS	**Sn**	**20 38 49.5**	**+0.6**
	baz=234							
WRL	**Guolierlin Hig**	**1.13**	**270**	eP	**Pn**	**20 38 34.9**	**+0.4**
	baz=269							
WRL				eS	**Sn**	**20 38 50.2**	**+1.4**
	baz=269							
WTK	**Tuku**	**1.14**	**259**	eP	**Pn**	**20 38 35.2**	**+0.5**
	baz=258							
WTK				eS	**Sn**	**20 38 50.2**	**+1.1**
	baz=258							
TWB1	**Santiao Chiao**	**1.15**	**17**	eP	**Pn**	**20 38 35.2**	**+0.5**
	baz=17							
TWB1				eS	**Sn**	**20 38 50.4**	**+1.0**
	baz=17							
CHY	**Chiayi**	**1.16**	**250**	eP	**Pn**	**20 38 35.2**	**+0.3**
	baz=249							
CHY				eS	**Sn**	**20 38 50.6**	**+1.0**
	baz=249							
NWF	**Wu-fen Shan**	**1.17**	**8**	eP	**Pn**	**20 38 35.4**	**+0.2**
	baz=7.0							
NWF				eS	**Sn**	**20 38 50.9**	**+0.9**
	baz=7.0							
TWG	**Pinlang**	**1.19**	**205**	eP	**Pn**	**20 38 34.6**	**-0.8**
	baz=204							
TWGBT	**Beinan**	**1.19**	**204**	eP	**Pn**	**20 38 34.7**	**-0.7**
	baz=204							
TWS1	**Kuangyinshan**	**1.20**	**352**	eP	**Pn**	**20 38 35.0**	**-0.5**
	baz=351							
TWS1				eS	**Sn**	**20 38 51.2**	**+0.6**
	baz=351							
TWK	**Hsinying**	**1.21**	**238**	eP	**Pn**	**20 38 36.0**	**+0.3**
	baz=238							
TWK				eS	**Sn**	**20 38 51.4**	**+0.4**
	baz=238							
WTCT	**Ta-ch'eng**	**1.22**	**268**	eP	**Pn**	**20 38 36.1**	**+0.4**
	baz=267							
WTCT				eS	**Sn**	**20 38 51.8**	**+0.8**
	baz=267							
CHN1	**Nanshi**	**1.23**	**234**	eP	**Pn**	**20 38 36.4**	**+0.6**
	baz=234							
CHN1				eS	**Sn**	**20 38 51.9**	**+0.6**
	baz=234							
SNST	**Tainan City**	**1.23**	**236**	eP	**Pn**	**20 38 36.1**	**+0.3**
	baz=236							
SNST				eS	**Sn**	**20 38 52.3**	**+1.0**
	baz=236							
YM01	**YM01**	**1.23**	**358**	eP	**Pn**	**20 38 35.7**	**-0.3**
	baz=357							
YM01				eS	**Sn**	**20 38 51.2**	**-0.3**
	baz=357							
LDUT	**Ludao**	**1.24**	**186**	eP	**Pn**	**20 38 34.7**	**-1.3**
	baz=186							
LDUT				eS	**Sn**	**20 38 51.0**	**-0.5**
	baz=186							
SGST	**Jiashian**	**1.25**	**229**	eP	**Pn**	**20 38 36.2**	**0.0**
	baz=228							
SGST				eS	**Sn**	**20 38 51.7**	**-0.2**
	baz=228							
NTST	**Danshui**	**1.26**	**353**	eP	**Pn**	**20 38 37.1**	**+0.8**
	baz=352							
NTST				eS	**Sn**	**20 38 53.2**	**+1.1**
	baz=352							
SLGT	**Liugui**	**1.27**	**224**	eP	**Pn**	**20 38 37.4**	**+0.9**
	baz=224							
SLGT				eS	**Sn**	**20 38 53.5**	**+1.1**
	baz=224							
ANP	**Anpu**	**1.27**	**356**	eP	**Pn**	**20 38 36.4**	**-0.2**
	baz=356							
ANP				eS	**Sn**	**20 38 52.3**	**-0.4**
	baz=356							
WSF	**Szhu**	**1.30**	**258**	eP	**Pn**	**20 38 37.2**	**+0.4**
	baz=257							
WSF				eS	**Sn**	**20 38 54.3**	**+1.2**
	baz=257							
JYNG	**Yonagunijimaku**	**1.33**	**66**	P	**Pn**	**20 38 37.3**	**0.0**
JYNG				S	**Sn**	**20 38 54.2**	**+0.3**
ICHU	**Yijhu**	**1.34**	**246**	eP	**Pn**	**20 38 37.1**	**-0.2**
	baz=246							
ICHU				eS	**Sn**	**20 38 54.2**	**+0.2**
	baz=246							
YOJ	**Yonaguni jima**	**1.39**	**66**	P	**Pn**	**20 38 38.0**	**-0.1**
YOJ				S	**Sn**	**20 38 54.7**	**-0.7**
YOJ	**Yonaguni jima**	**1.39**	**66**	eP	**Pn**	**20 38 37.7**	**-0.4**
	baz=66							
YOJ				eS	**Sn**	**20 38 55.4**	**-0.1**
	baz=66							
ECL	**Taimali**	**1.44**	**205**	eP	**Pn**	**20 38 37.8**	**-1.0**
	baz=204							
SCST	**Cishan**	**1.44**	**225**	eS	**Sn**	**20 38 57.8**	**+1.2**
	baz=225							
SSD	**Sandimen**	**1.46**	**218**	eP	**Pn**	**20 38 38.5**	**-0.6**
	baz=217							
SSD				eS	**Sn**	**20 38 57.6**	**+0.4**
	baz=217							
TSMG	**Majia**	**1.49**	**217**	eP	**Pn**	**20 38 39.5**	**0.0**
	baz=216							
TSMG				eS	**Sn**	**20 38 58.3**	**+0.5**
	baz=216							
MASBT	**Mashibuluo**	**1.57**	**215**	eP	**Pn**	**20 38 39.5**	**-1.1**
	baz=215							
MASBT				eS	**Sn**	**20 39 00.2**	**+0.4**
	baz=215							
EAST	**Anshuo**	**1.67**	**205**	eP	**Pn**	**20 38 42.3**	**+0.3**
	baz=204							
EAST				eS	**Sn**	**20 39 03.0**	**+0.6**
	baz=204							
SCZT	**Fangliau**	**1.78**	**211**	eP	**Pn**	**20 38 43.5**	**+0.1**
	baz=210							
SCZT				eS	**Sn**	**20 39 06.1**	**+1.2**
	baz=210							
SLIU	**Shizi**	**1.84**	**204**	eP	**Pn**	**20 38 43.8**	**-0.5**
	baz=204							
SLIU				eS	**Sn**	**20 39 06.6**	**+0.1**
	baz=204							
LAY	**Lan-yu**	**1.86**	**182**	eP	**Pn**	**20 38 42.6**	**-2.1**
	baz=181							
LAY				eS	**Sn**	**20 39 05.9**	**-1.1**
	baz=181							
WDGT	**Dungji**	**1.90**	**251**	eP	**Pn**	**20 38 44.6**	**-0.5**
	baz=250							
WDGT				eS	**Sn**	**20 39 07.1**	**-0.9**
	baz=250							
PHUB	**P'eng-hu**	**1.91**	**259**	eP	**Pn**	**20 38 44.7**	**-0.5**
	baz=258							
PHUB				eS	**Sn**	**20 39 07.5**	**-0.5**
	baz=258							
PNG	**Penghu**	**1.91**	**260**	eP	**Pn**	**20 38 45.1**	**-0.2**
	baz=259							
PNG				eS	**Sn**	**20 39 08.0**	**-0.2**
	baz=259							
WLCH	**Liuqiu**	**1.92**	**216**	eP	**Pn**	**20 38 46.2**	**+0.8**
	baz=216							
IRIF	**Iriomote-Funau**	**1.98**	**77**	P	**Pn**	**20 38 46.2**	**-0.1**
IRIF				S	**Sn**	**20 39 09.8**	**-0.2**
HATJ	**Hateruma jima**	**2.01**	**85**	P	**Pn**	**20 38 47.6**	**+0.9**
HATJ				eS	**Sn**	**20 39 12.0**	**+1.3**
HEN	**Hengchun**	**2.06**	**203**	eP	**Pn**	**20 38 48.2**	**+1.0**
	baz=203							
HEN				eS	**Sn**	**20 39 12.0**	**+0.3**
	baz=203							
TWK1	**Hengchun**	**2.09**	**201**	eP	**Pn**	**20 38 48.8**	**+1.1**
	baz=200							
TWK1				eS	**Sn**	**20 39 10.5**	**-2.1**
	baz=200							
TWKBT	**Hengchun**	**2.09**	**201**	eP	**Pn**	**20 38 49.3**	**+1.6**
	baz=200							
TWKBT				eS	**Sn**	**20 39 12.7**	**+0.1**
	baz=200							
JKRS	**Kuro-shima**	**2.22**	**81**	P	**Pn**	**20 38 49.6**	**+0.1**
JKRS				S	**Sn**	**20 39 16.5**	**+0.7**
VWUC	**VWUC**	**2.24**	**299**	eP	**Pn**	**20 38 48.7**	**-1.1**
	baz=298							
VWUC				eS	**Sn**	**20 39 13.7**	**-2.7**
	baz=298							
JIJ	**Ishigaki jima**	**2.36**	**78**	P	**Pn**	**20 38 51.0**	**-0.4**
JIJ				S	**Sn**	**20 39 17.8**	**-1.4**
PTMZ	**Houxiangcun**	**2.53**	**297**	eP	**Pn**	**20 38 52.9**	**-0.9**
	baz=296							
PTMZ				eS	**Sn**	**20 39 20.8**	**-2.7**
	baz=296							
JISG	**Ishigakijimahi**	**2.56**	**74**	P	**Pn**	**20 38 53.6**	**-0.6**
JISG				S	**Sn**	**20 39 22.9**	**-1.2**
MATB	**Ma-tsu**	**2.69**	**326**	eS	**Sn**	**20 39 25.4**	**-2.1**
	baz=325							
JTJ	**Tarama**	**2.92**	**75**	P	**Pn**	**20 38 59.0**	**-0.1**
JTJ				eS	**Sn**	**20 39 33.0**	**0.0**
KNMB	**Chin-men Tao**	**2.99**	**281**	eP	**Pn**	**20 38 58.4**	**-1.7**
	baz=280							
KNMB				eS	**Sn**	**20 39 31.5**	**-3.3**
	baz=280							
LYJJ	**Jianjiangzhen**	**3.12**	**328**	eS	**Sn**	**20 39 35.6**	**-2.4**
	baz=327							
MHZQ	**Yeshan**	**3.20**	**314**	eS	**Sn**	**20 39 37.1**	**-2.9**
	baz=312							
XPSS	**Dashiqiu**	**3.27**	**337**	eS	**Sn**	**20 39 38.4**	**-3.3**
	baz=336							
JIRB	**Irabujima**	**3.38**	**74**	P	**Pn**	**20 39 05.4**	**0.0**
JIRB				S	**Sn**	**20 39 43.1**	**-1.3**
JIKM	**Ikemajima**	**3.47**	**72**	P	**Pn**	**20 39 07.1**	**+0.4**
JIKM				eS	**Sn**	**20 39 46.6**	**0.0**
JMJ2	**Miyako jima3**	**3.49**	**76**	P	**Pn**	**20 39 07.0**	**0.0**
JMJ2				eS	**Sn**	**20 39 47.5**	**+0.3**
JOGS	**Gusukube**	**3.57**	**75**	eS	**Sn**	**20 39 49.4**	**+0.4**

*IDC **20** 20:45:12.0±1.2, 53.66N×161.01E, h0km, mb3.7/13, mb1 3.8/15, mb1mx3.6/64, mbtmp3.8/15, ML3.2/2, MS2.8/2, Ms1 2.8/2, ms1mx2.3/53, Error ellipse: s-maj=26.4km s-min=15.5km az=135.0*

*KRSC **20** 20:45:14.8±1.1, 53.46N×161.15E, h41km±18km, ML4.1*

ISC 20 20:45:16.9±1.0, 53.47N±0.04×161.12E±0.05, h39km±11km, n61, σ1°35/79, mb3.7/13, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.76**	**241**	eP		**Pn**	**Pn**	**20 45 30.3**	**-0.7**
SPN				eS			**Sn**	**20 45 40.3**	**-0.9**
NLC	**Nalytchevo**	**1.11**	**255**	eP		**Pn**	**Pn**	**20 45 35.5**	**-0.3**
NLC				eS			**Sn**	**20 45 49.2**	**-0.6**
KII	**Karymskiy**	**1.14**	**300**	eP		**Pn**	**Pn**	**20 45 35.5**	**-0.9**
KII				eS			**Sn**	**20 45 49.7**	**-1.2**
MKZ	**Mys Kozlova**	**1.15**	**18**	eP		**Pn**	**Pn**	**20 45 35.7**	**-0.7**
MKZ				eS			**Sn**	**20 45 49.2**	**-1.6**
SDLR	**Sedlovina**	**1.35**	**263**	eP		**Pn**	**Pn**	**20 45 39.5**	**+0.2**
SDLR				eS			**Sn**	**20 45 56.3**	**+0.2**
UGLR	**Uglovaya**	**1.40**	**260**	eP		**Pn**	**Pn**	**20 45 40.2**	**+0.2**
UGLR				eS			**Sn**	**20 45 57.6**	**+0.3**
SMAR	**Somma**	**1.41**	**263**	eP		**Pn**	**Pn**	**20 45 39.8**	**-0.3**
KRER	**Koryakskii**	**1.43**	**264**	eP		**Pn**	**Pn**	**20 45 40.8**	**+0.3**
KRER				eS			**Sn**	**20 45 58.3**	**+0.2**
AVH	**Avacha**	**1.44**	**263**	eP		**Pn**	**Pn**	**20 45 40.8**	**+0.3**
AVH				eS			**Sn**	**20 45 58.8**	**+0.6**
KRX	**Arik**	**1.48**	**267**	eP		**Pn**	**Pn**	**20 45 41.1**	**0.0**
KRX				eS			**Sn**	**20 45 59.0**	**-0.4**
DALK	**Dalny**	**1.49**	**254**	eP		**Pn**	**Pn**	**20 45 40.8**	**-0.2**
DALK				eS			**Sn**	**20 45 58.9**	**-0.3**
KOK	**Koryaka**	**1.50**	**264**	eP		**Pn**	**Pn**	**20 45 41.5**	**+0.2**
PET	**Petropavlovsk**	**1.55**	**254**	eP		**Pn**	**Pn**	**20 45 41.8**	**-0.1**
PET				eS			**Sn**	**20 46 00.3**	**-0.4**
KZV	**Kizimen**	**1.72**	**344**	eP		**Pn**	**Pn**	**20 45 44.7**	**+0.3**
KZV				eS			**Sn**	**20 46 04.9**	**-0.3**
TUMD	**Tumrok D**	**1.79**	**347**	eP		**Pn**	**Pn**	**20 45 45.2**	**0.0**
TUMD				eS			**Sn**	**20 46 06.0**	**-0.7**
RUS	**Russkaya**	**1.89**	**238**	eP		**Pn**	**Pn**	**20 45 46.6**	**+0.1**
RUS				eS			**Sn**	**20 46 08.3**	**-0.8**
TUMR	**Tumrok**	**1.91**	**343**	eP		**Pn**	**Pn**	**20 45 47.7**	**+0.8**
TUMR				eS			**Sn**	**20 46 10.3**	**+0.6**
GNL	**Ganaly**	**1.91**	**278**	eP		**Pn**	**Pn**	**20 45 48.0**	**+1.0**
KRMR	**Karymshinskiy**	**1.91**	**252**	eP		**Pn**	**Pn**	**20 45 48.5**	**+1.6**
KRMR				eS			**Sn**	**20 46 11.7**	**+2.1**
MTVR	**Mutnovka**	**2.03**	**242**	eP		**Pn**	**Pn**	**20 45 48.9**	**+0.2**
MTVR				eS			**Sn**	**20 46 12.6**	**-0.3**
GRL	**Gorelyy**	**2.06**	**245**	eP		**Pn**	**Pn**	**20 45 49.8**	**+0.8**
GRL				eS			**Sn**	**20 46 14.0**	**+0.5**
PETK	**Petropavlovsk-**	**2.09**	**261**	Pn		**Pn**	**Pn**	**20 45 49.5**	**+0.2**
	13nm,0.3s,baz=83,slow=18,SNR=112								
PETK				Lg		Lg	Lg	20 46 16.9	
	19nm,0.3s,baz=86,slow=20,SNR=9.2								
PETK				LR		LR	LR	20 46 20.2	
	comp=Z,43nm,19.2s,baz=69,slow=33								
ASAK	**Asacha**	**2.23**	**242**	eP		**Pn**	**Pn**	**20 45 52.5**	**+1.1**
ASAK				eS			**Sn**	**20 46 18.6**	**+0.9**
KMNR	**Kamenistaya**	**2.35**	**348**	eP		**Pn**	**Pn**	**20 45 54.7**	**+1.7**
KMNR				eS			**Sn**	**20 46 22.7**	**+2.1**
BZGR	**Bezymyannyi-Gr**	**2.49**	**354**	eP		**Pn**	**Pn**	**20 45 56.4**	**+1.5**
KDTR	**Khodutka, Kamc**	**2.49**	**229**	eP		**Pn**	**Pn**	**20 45 56.4**	**+1.6**
KDTR				eS			**Sn**	**20 46 26.2**	**+2.3**
BZWR	**Bezymyannyi-We**	**2.53**	**352**	eP		**Pn**	**Pn**	**20 45 58.2**	**+2.7**
KIRR	**Kirishev**	**2.53**	**350**	eP		**Pn**	**Pn**	**20 45 57.0**	**+1.5**
ZLN	**Zelenaya**	**2.56**	**356**	eP		**Pn**	**Pn**	**20 45 57.9**	**+2.0**
LGNR	**Loginova**	**2.63**	**355**	eP		**Pn**	**Pn**	**20 45 59.1**	**+2.1**
CIRR	**Tsirk**	**2.66**	**355**	eP		**Pn**	**Pn**	**20 45 59.9**	**+2.6**
KOZ	**Kozyrevsk**	**2.69**	**345**	eP		**Pn**	**Pn**	**20 45 59.0**	**+1.4**
KRSR	**Krestovskiy**	**2.77**	**354**	eP		**Pn**	**Pn**	**20 45 59.3**	**+0.5**
KLY	**Klyuchi**	**2.86**	**355**	eP		**Pn**	**Pn**	**20 46 00.9**	**+1.0**
KBTR	**Krutoberegovo**	**2.92**	**19**	eP		**Pn**	Pn	20 46 03.5	+2.8
KBG	**Krutoberegovo**	**2.94**	**18**	eP		**Pn**	**Pn**	**20 46 01.1**	**+0.1**
BDR	**Baidarnaya**	**3.11**	**1**	eP		**Pn**	**Pn**	**20 46 05.9**	**+2.5**
SMKR	**Semkarok**	**3.13**	**4**	eP		**Pn**	**Pn**	**20 46 05.4**	**+1.8**
SMKR				eS			**Sn**	**20 46 42.6**	**+2.9**
SRKR	**Sorokina**	**3.19**	**0**	eP		**Pn**	**Pn**	**20 46 07.0**	**+2.5**
PAU	**Pauzhetka**	**3.31**	**234**	eP		**Pn**	**Pn**	**20 46 08.3**	**+2.2**
BKI	**Bering**	**3.33**	**57**	eP		**Pn**	**Pn**	**20 46 07.0**	**+0.7**
BKI				eS			**Sn**	**20 46 42.4**	**-2.2**
ASAJ	**Asahikawa**	**15.34**	**240**	Pn		**P**	**P**	**20 48 51.3**	**-3.2**
	0.3nm,0.3s,baz=301,slow=20,SNR=2.2								
MAT	**Matsushiro**	**23.26**	**233**	P		**P**	**P**	**20 50 21.9**	**+1.2**
MJAR	**Matsushiro Arr**	**23.26**	**233**	P		**P**	**P**	**20 50 21.9**	**+1.2**
	1.1nm,0.6s,baz=38,slow=9.5,SNR=4.9								
H11N2	**WAKE ISLAND Hy**	**33.97**	**170**	T		T	T	21 28 21.7	
	baz=354,slow=76,SNR=50								
H11N3	**WAKE ISLAND Hy**	**33.98**	**170**	T		T	T	21 28 19.7	
	baz=354,slow=76,SNR=40								
H11N1	**WAKE ISLAND Hy**	**33.99**	**170**	T		T	T	21 28 19.6	
	baz=354,slow=76,SNR=33								
NRIK	**Noril'sk**	**35.96**	**325**	P		**P**	**P**	**20 52 13.0**	**-0.1**
	3.3nm,0.6s,baz=175,slow=3.3,SNR=4.4								
KURBB	**Kurchatov Arra**	**48.16**	**302**	P		**P**	**P**	**20 53 50.7**	**-2.0**
	0.5nm,0.4s,baz=59,slow=7.5,SNR=3.8								
MKAR	**Makanchi Array**	**48.55**	**296**	P		**P**	**P**	**20 53 53.7**	**-2.1**
	0.3nm,

DILA				*e*S	Sn	20 50 33.1	-3.3
DILA	**Dilla**	**1.74**	**166**	*i* P	Pn	20 50 11.0	-2.3
DILA				*e*S	Sn	20 50 33.2	-3.2
DILA	**Dilla**	**1.74**	**166**	*i* P	Pn	20 50 11.0	-2.3
ANKE	**Ethiopia-Afar**	**2.36**	**52**	*e*P	Pn	20 50 19.9	-2.1
ANKE				*e*S	Sn	20 50 50.3	-1.6
ANKE	**Ethiopia-Afar**	**2.36**	**52**	*e*P	Pn	20 50 19.9	-2.1
ANKE				*i* S	Sn	20 50 50.4	-1.6
ANKE	**Ethiopia-Afar**	**2.36**	**52**	*e*P	Pn	20 50 19.9	-2.2

IDC ***20*** *21:03:33.1±0.6, 13°.61N×144°.55E, h108km±8km, mb3.6/9, mb1 3.8/9, mb1mx3.4/51, mbtmp4.0/9, MS3.0/2, Ms1 3.0/2, ms1mx2.6/31, Error ellipse: s-maj=30.4km s-min=15.9km az=75.0*

NEIC ***20*** *21:03:33.1±1.2, 13°.78N±0°.08×144°.7E±0°.1, h118km±4km, mb4.6/14, Error ellipse: s-maj=18.2km s-min=11.1km az=108.0*

ISC 20 21:03:33.8±0.6, **13°.73N**±0°.08×**144°.7E**±0°.1, **h129**km, **n31**, σ1**s43**/32, **mb4.2**/15, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.24**	**124**	P	**Pn**	**21 03 49.7**	**-1.9**
	274nm,0.3s,baz=333,slow=9.0,SNR=120						
GUMO				S	**Sn**	**21 04 02.0**	**-3.1**
	541nm,0.3s,baz=221,slow=19,SNR=21						
GUMO	**Guam**	**0.24**	**124**		**Pn**	**21 03 49.5**	**-2.2**
GUMO					**Sn**	**21 04 01.7**	**-3.4**
ANA2	**Anatahan**	**2.79**	**21**		**Pn**	**21 04 15.6**	**-2.1**
MJAR	**Matsushiro Arr**	**23.45**	**347**	LR	LR	21 15 44.5	
	comp=E,29nm,22.0s,baz=215,slow=31						
KSRS	**Korea Array**	**27.95**	**331**	P	**P**	**21 09 12.8**	**+0.7**
	0.8nm,0.7s,baz=139,slow=9.7,SNR=3.3						
KSRS				LR	LR	21 18 22.9	
	comp=E,46nm,19.4s,baz=228,slow=32						
WB2	**Warramunga Arr**	**34.96**	**197**	P	**P**	**21 10 13.9**	**+0.2**
WB2				IAmb	IAmb	21 10 15.0	
	comp=E,7.1nm,0.8s						
WRA	**Warramunga Arr**	**34.96**	**197**	P	**P**	**21 10 13.8**	**+0.1**
	comp=E,5.3nm,0.8s,baz=18,slow=9.3,SNR=28						
WRA	**Warramunga Arr**	**34.96**	**197**	P	**P**	**21 10 13.9**	**+0.1**
BJT	**Baijiatuau**	**36.20**	**322**	P	**P**	**21 10 22.2**	**-1.9**
FITZ	**Fitzroy Crossi**	**36.77**	**211**	P	**P**	**21 10 29.6**	**+0.5**
FITZ				IAmb	IAmb	21 10 29.7	
	comp=E,4.9nm,1.2s						
JAGI	**Jajag, Banyuwa**	**37.46**	**236**	P	**P**	**21 10 34.2**	**-0.9**
JAGI				IAmb	IAmb	21 10 48.0	
	comp=E,18nm,1.2s						
AS31	**Alice Springs**	**38.62**	**196**	P	**P**	**21 10 44.9**	**+0.2**
AS31				IAmb	IAmb	21 10 46.2	
	comp=E,1.9nm,0.5s						
ASAR	**Alice Springs**	**38.62**	**196**	P	**P**	**21 10 44.9**	**+0.1**
	comp=E,1.1nm,0.5s,baz=17,slow=12,SNR=49						
ASAR	**Alice Springs**	**38.62**	**196**	P	**P**	**21 10 44.5**	**-0.3**
DZM	**Mont Dzumac**	**41.50**	**149**	P	**P**	**21 11 09.6**	**+1.0**
	comp=E,8.0nm,0.4s,baz=300,slow=8.1,SNR=16						
DZM	**Mont Dzumac**	**41.50**	**149**	P	**P**	**21 11 09.5**	**+1.0**
DZM				IAmb	IAmb	21 11 14.4	
	comp=E,28nm,1.4s						
CMAR	**Chiang Mai Arr**	**44.09**	**282**	P	**P**	**21 11 30.5**	**+1.0**
	comp=E,0.3nm,0.5s,baz=96,slow=6.6,SNR=1.3						
CMAR	**Chiang Mai Arr**	**44.09**	**282**	P	**P**	**21 11 29.8**	**+0.3**
STKA	**Stephens Creek**	**45.44**	**184**	P	**P**	**21 11 39.6**	**-0.2**
	comp=E,2.0nm,0.8s,baz=356,slow=6.1,SNR=5.0						
STKA	**Stephens Creek**	**45.44**	**184**	P	**P**	**21 11 39.7**	**-0.2**
XMIS	**Christmas Isla**	**45.56**	**240**	P	**P**	**21 11 39.7**	**-1.5**
BBOO	**Buckleboo**	**47.00**	**190**	P	**P**	**21 11 52.0**	**0.0**
BBOO				IAmb	IAmb	21 12 07.8	
	comp=E,42nm,1.4s						
FORT	**Forrest**	**47.04**	**200**	P	**P**	**21 11 52.7**	**+0.3**
FORT				IAmb	IAmb	21 11 54.9	
	comp=E,27nm,1.0s						
MK31	**Makanchi Array**	**61.25**	**316**	P	**P**	**21 13 36.1**	**+0.7**
MKAR	**Makanchi Array**	**61.25**	**316**	P	**P**	**21 13 37.0**	**+1.6**
	comp=E,2.0nm,0.4s,baz=32,slow=7.7,SNR=5.4						
MKAR	**Makanchi Array**	**61.25**	**316**	P	**P**	**21 13 36.0**	**+0.6**
BFZ	**Birch Farm**	**61.54**	**153**	P	**P**	**21 13 37.8**	**+0.5**
ILAR	**Eielson Array**	**68.53**	**25**	P	**P**	**21 14 25.2**	**+3.1**
	comp=E,0.2nm,0.4s,baz=252,slow=5.7,SNR=2.0						
VNDA	**Vanda**	**91.61**	**176**	P	**P**	**21 16 26.0**	**+0.4**
	comp=E,0.9nm,0.9s,baz=292,slow=7.7,SNR=4.2						
VNDA	**Vanda**	**91.61**	**176**	P	**P**	**21 16 26.6**	**+1.0**
VNDA				IAmb	IAmb	21 16 27.3	
	comp=E,1.3nm,1.0s						
LENM	**Lemitar**	**97.01**	**52**	P	**P**	**21 16 52.0**	**+0.4**

NEIC ***20*** *21:13:07.6±1.9, 43°.61N±0°.04×105°.22W±0°.06, h0km±2km, ML3.4/59, Error ellipse: s-maj=8.7km s-min=6.4km az=228.0*

IDC ***20*** *21:13:09.0±2.3, 43°.51N×105°.36W, h0km, mb1 3.7/2, mb1mx3.3/34, mbtmp3.6/2, ML2.2/1, Error ellipse: s-maj=52.4km s-min=10.3km az=152.0*

ISC 20 21:13:07.4±1.1, **43°.58N**±0°.05×**105°.25W**±0°.04, **h0**km, **n59**, σ1**s02**/59, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.03**	**58**		**Pg**	**21 13 27.4**	**+0.3**
RSSD				Sn	**Sn**	**21 13 44.4**	**-0.1**
K22A	**Casper**	**1.32**	**226**		**Pn**	**21 13 34.0**	**+0.8**
PHWY	**Pilot Hill**	**2.29**	**184**		**Pn**	**21 13 46.5**	**-0.2**
RWWY	**Rawlins**	**2.38**	**218**	Pn	**Pn**	**21 13 47.9**	**-0.1**
RWWY				IAML		21 14 33.9	
	248nm,0.9s						
LAO	**LASA Array**	**3.18**	**348**	Pn	**Pn**	**21 13 57.9**	**-0.9**
BW06	**Boulder Array**	**3.26**	**257**		**Pn**	**21 14 01.7**	**+1.7**
PD31	**Pinedale Array**	**3.26**	**257**		**Pn**	**21 14 00.4**	**+0.4**
PDAR	**Pinedale Array**	**3.26**	**257**	Pn	**Pn**	**21 14 03.0**	**+3.0**
	3.5nm,0.3s,baz=79,slow=16,SNR=38						
PDAR				Pg	**Pg**	**21 14 09.4**	**-0.5**
	8.3nm,0.3s,baz=77,slow=20,SNR=19						
PDAR				Lg	Lg	21 14 48.7	
	9.4nm,0.3s,baz=76,slow=26,SNR=2.7						
PDAR	**Pinedale Array**	**3.26**	**257**		**Pn**	**21 13 59.8**	**-0.2**
RLMT	**Red Lodge**	**3.27**	**299**	Pn	**Pn**	**21 14 00.1**	**0.0**
RLMT				IAML		21 14 58.7	
	58nm,0.9s						
RLMT				IAML		21 15 05.4	
	60nm,1.0s						
OGNE	**Ogallala**	**3.56**	**137**	Pn	**Pn**	**21 14 04.5**	**+0.6**
YNE	**Yellowstone No**	**3.70**	**294**		**Pn**	**21 14 06.5**	**+0.3**
YNE				IAML		21 15 12.0	
	comp=N,72nm,0.9s						
YNE				IAML		21 15 22.0	
	comp=E,63nm,0.7s						
YMP	**Mirror Lake Pl**	**3.72**	**290**	Pn	**Pn**	**21 14 06.8**	**+0.4**
YMP				IAML		21 15 18.7	
	comp=E,100nm,0.9s						
YMP				IAML		21 15 39.2	
	comp=N,99nm,1.0s						
ISCO	**Idaho Springs**	**3.79**	**184**	Pn	**Pn**	**21 14 05.9**	**-1.5**
ISCO				IAML		21 15 15.7	
	comp=N,44nm,1.0s						
ISCO				IAML		21 16 18.2	
	comp=N,36nm,3.6s						
LKWY	**Lake**	**3.84**	**287**	Pn	**Pn**	**21 14 09.1**	**+1.1**
LKWY				IAML		21 14 33.4	
	comp=N,64nm,0.6s						
LKWY				IAML		21 15 20.3	
	comp=N,48nm,1.7s						
GCMT	**Greycliff**	**3.85**	**307**	Pn	**Pn**	**21 14 08.6**	**+0.6**
LOHW	**Long Hollow**	**3.89**	**272**		**Pn**	**21 14 10.1**	**+1.5**
LOHW				IAML		21 15 30.8	
	comp=N,34nm,2.5s						
H17A	**Grant Village**	**3.93**	**284**	Pn	**Pn**	**21 14 09.4**	**+0.2**
H17A				IAML		21 16 20.0	
	comp=E,78nm,0.1s						
FLWY	**Flagg Ranch**	**3.98**	**279**	Pn	**Pn**	**21 14 10.4**	**+0.5**
FLWY				IAML		21 15 25.7	
	comp=E,50nm,2.5s						
MOOW	**Moose Ponds**	**3.99**	**274**	Pn	**Pn**	**21 14 11.6**	**+1.6**
YNR	**Norris Junctio**	**4.07**	**288**	Pn	**Pn**	**21 14 11.9**	**+0.8**
YNR				IAML		21 15 39.1	
	comp=E,27nm,2.3s						
REDW	**Red Top Meadow**	**4.09**	**269**		**Pn**	**21 14 09.3**	**-2.1**
REDW				IAML		21 15 38.4	
	comp=E,74nm,1.1s						
O20A	**White River Ci**	**4.11**	**214**		**Pn**	**21 14 12.1**	**+0.5**
O20A				IAML		21 16 15.8	
	comp=E,69nm,2.3s						
IMW	**Indian Meadow**	**4.14**	**276**		**Pn**	**21 14 11.2**	**-0.9**
IMW				IAML		21 14 41.4	
	comp=E,46nm,0.5s						
IMW				IAML		21 15 43.4	
	comp=E,28nm,1.9s						
TPAW	**Teton Pass**	**4.15**	**271**	Pn	**Pn**	**21 14 12.6**	**+0.3**
TPAW				IAML		21 15 33.4	
	comp=E,33nm,2.7s						
TPAW				IAML		21 15 40.6	
	comp=E,53nm,0.9s						
FXWY	**Fox Creek**	**4.20**	**273**		**Pn**	**21 14 13.1**	**+0.2**
YHH	**Holmes Hill**	**4.21**	**289**		**Pn**	**21 14 12.0**	**-1.1**
AHID	**Auburn Hatcher**	**4.36**	**261**		**Pn**	**21 14 14.4**	**-0.7**
AHID				IAML		21 15 39.6	
	comp=E,47nm,1.2s						
AHID				IAML		21 15 47.5	
	comp=E,34nm,0.9s						
RDMU	**Red Mountain**	**4.41**	**228**		**Pn**	**21 14 16.8**	**+1.0**
RDMU				IAML		21 15 36.0	
	comp=E,52nm,1.0s						
RDMU				IAML		21 15 41.5	
	comp=N,44nm,0.8s						
YHL	**Hebgen Lake**	**4.45**	**289**	Pn	**Pn**	**21 14 15.4**	**-1.1**
YHL				IAML		21 15 45.7	
	comp=N,37nm,1.1s						
YHL				IAML		21 15 57.1	
	comp=E,41nm,1.5s						
QLMT	**Earthquake Lak**	**4.62**	**288**	Pn	**Pn**	**21 14 18.2**	**-0.5**
SUSD	**Miller**	**4.62**	**77**	Pn	**Pn**	**21 14 18.6**	**+0.2**
KSCO	**Kaye Shedlock'**	**4.98**	**156**	Pn	**Pn**	**21 14 23.7**	**+0.2**
BOZ	**Bozeman (W)**	**4.98**	**296**	Pn	**Pn**	**21 14 22.4**	**-1.2**
BOZ				IAML		21 15 50.7	
	comp=E,17nm,2.7s						
BOZ				IAML		21 15 58.8	
	comp=E,19nm,1.0s						
HWUT	**Hardware Ranch**	**5.07**	**249**	Pn	**Pn**	**21 14 25.2**	**+0.5**
HWUT				IAML		21 16 11.1	
	comp=E,31nm,1.1s						
HWUT				IAML		21 16 17.5	
	comp=E,30nm,1.7s						
TCUT	**Toone Canyon**	**5.19**	**244**		**Pn**	**21 14 27.0**	**+0.5**
JLU	**Jordanelle**	**5.49**	**239**	Pn	**Pn**	**21 14 29.5**	**-1.2**
LRM	**Limekiln Ridge**	**5.60**	**296**	Pn	**Pn**	**21 14 32.7**	**+0.5**
MCMT	**McKenzie Canyo**	**5.61**	**285**	Pn	**Pn**	**21 14 31.9**	**-0.3**
HRY	**Holter Researc**	**5.61**	**306**		**Pn**	**21 14 32.2**	**0.0**
CTU	**Camp Tracy**	**5.63**	**241**	Pn	**Pn**	**21 14 31.6**	**-0.9**
PV22	**Blue Mesa, Par**	**5.71**	**209**	Pn	**Pn**	**21 14 35.4**	**+1.8**
PV07	**Paradox Valley**	**5.75**	**208**	Pn	**Pn**	**21 14 34.1**	**-0.1**
PV21	**Cone Mtn., Par**	**5.75**	**211**		**Pn**	**21 14 33.5**	**-0.8**
PV15	**Paradox Valley**	**5.78**	**206**	Pn	**Pn**	**21 14 34.3**	**-0.4**
SPUT	**South Promonto**	**5.79**	**249**		**Pn**	**21 14 33.1**	**-1.7**
MDND	**Maddock**	**5.81**	**41**	Pn	**Pn**	**21 14 33.5**	**-1.4**
P17A	**Butcher Ranch,**	**5.82**	**227**		**Pn**	**21 14 36.6**	**+1.5**
HVU	**Hansel Valley**	**5.83**	**255**		**Pn**	**21 14 34.0**	**-1.3**
PV23	**Carpenter Ridg**	**5.86**	**210**	Pn	**Pn**	**21 14 37.1**	**+1.2**
PV04	**Paradox Valley**	**5.88**	**209**		**Pn**	**21 14 34.9**	**-1.0**
MPU	**Maple Canyon**	**5.96**	**235**	Pn	**Pn**	**21 14 35.8**	**-1.2**
SRU	**San Rafael Swe**	**5.98**	**223**		**Pn**	**21 14 36.2**	**-1.1**
PV17	**East Wray Mesa**	**6.00**	**209**		**Pn**	**21 14 36.9**	**-0.7**
TMUT	**Trail Mountain**	**6.20**	**228**		**Pn**	**21 14 40.9**	**+0.5**
Q16A	**Castle Valley**	**6.45**	**226**	Pn	**Pn**	**21 14 43.5**	**-0.3**
I10CA	**LAC DU BONNET**	**9.14**	**40**	*i*		22 11 10.0	
	baz=223,slow=311,SNR=2.8						
ULM	**Lac du Bonnet**	**9.25**	**41**	Pn	**Pn**	**21 15 23.4**	**+1.5**
	comp=E,0.4nm,0.3s,baz=223,slow=11,SNR=2.3						
ULM				Lg	Lg	21 17 56.6	
	comp=E,0.4nm,0.3s,baz=315,slow=23,SNR=3.1						
NEW	**Newport**	**9.51**	**304**	Lg	Lg	21 18 07.0	
	comp=E,0.1nm,0.3s,baz=154,slow=9.7,SNR=3.1						

IDC ***20*** *21:15:55.7±3.0, 32°.37S×71°.06W, h0km, mb3.7/1, mb1 3.8/3, mb1mx3.6/20, mbtmp3.6/3, ML3.6/2, Error ellipse: s-maj=140.6km s-min=37.0km az=95.0*

GUC ***20*** *21:15:56.0±0.7, 32°.32S×71°.80W, h33km±4km, ML3.7*

ISC 20 21:15:55.7±1.0, **32°.28S**±0°.04×**71°.84W**±0°.07, **h21**km±4km, **n21**, σ1**s19**/24, **3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**0.54**	**122**	*i* P	**Pn**	**21 16 07.0**	**-1.1**
VA06				*i* S	**Sn**	**21 16 14.7**	**-1.9**
VA06				IAML		21 16 19.0	
	comp=N,7μm,0.3s						
VA01	**Torpederas**	**0.76**	**168**	*e*P	**Pb**	**21 16 10.0**	**-0.2**
VA01				*i* S	**Sb**	**21 16 20.6**	**+0.4**
ROCH	**El Roble**	**0.98**	**135**	*i* P	**Pb**	**21 16 14.2**	**0.0**
ROCH				*i* S	**Sb**	**21 16 28.0**	**+1.1**
ROCH				IAML		21 16 30.7	
	comp=N,6μm,0.3s						
VA03	**San Esteban**	**1.19**	**114**	*i* P	**Pb**	**21 16 17.6**	**-0.1**
VA03				*i* S	**Sb**	**21 16 33.6**	**+0.9**
VA05	**Santo Domingo**	**1.39**	**172**	*e*P	**Pb**	**21 16 19.8**	**-1.2**
VA05				*i* S	**Sb**	**21 16 38.8**	**+0.6**
VA05				IAML		21 16 45.7	
	comp=E,2μm,0.2s						
MT05	**Renca**	**1.45**	**140**	*e*P	**Pb**	**21 16 21.8**	**-0.2**
MT05				*i* S	**Sb**	**21 16 41.1**	**+1.1**
MT05				IAML		21 16 44.3	
	comp=E,4μm,0.4s						
CO06	**Fray Jorge**	**1.61**	**6**	*e*P	**Pn**	**21 16 22.0**	**-0.8**
CO06				IAML		21 16 50.4	
	comp=N,662nm,0.2s						
MT09	**Talagante**	**1.66**	**155**	*e*P	**Pb**	**21 16 24.8**	**-0.8**
MT09				IAML		21 16 52.8	
	comp=N,2μm,0.2s						
MT01	**Popeta**	**1.66**	**163**	*e*P	**Pb**	**21 16 23.9**	**-1.7**
LMEL	**Las Melosas**	**2.08**	**139**	*e*P	**Pb**	**21 16 31.7**	**-1.2**
LMEL				*i* S	**Sb**	**21 16 58.9**	**+0.6**
LMEL				IAML		21 17 06.0	
	comp=E,1μm,0.3s						
GO04	**Tololo Observa**	**2.28**	**23**	*e*P	**Pb**	**21 16 35.1**	**-1.1**
GO04				*i* S	**Sb**	**21 17 05.2**	**+1.1**
H03N1	**Juan Fernandez**	**6.06**	**257**	T	T	21 24 03.2	
	baz=86,slow=73,SNR=536						
H03N3	**Juan Fernandez**	**6.08**	**257**	T	T	21 23 59.3	
	baz=86,slow=73,SNR=749						
H03N2	**Juan Fernandez**	**6.08**	**257**	T	T	21 24 02.2	
	baz=86,slow=73,SNR=666						
H03S3	**Juan Fernandez**	**6.13**	**254**	T	T	21 23 54.2	
	baz=83,slow=75,SNR=21						
H03S1	**Juan Fernandez**	**6.13**	**253**	T	T	21 24 03.3	
	baz=83,slow=75,SNR=27						
H03S2	**Juan Fernandez**	**6.15**	**253**	T	T	21 23 53.3	
	baz=83,slow=75,SNR=33						
PLCA	**Paso Flores**	**8.50**	**173**	Pn	**Pn**	**21 17 58.1**	**+0.5**
	comp=E,0.3nm,0.3s,baz=337,slow=12,SNR=8.1						
PLCA				Sn	**Sn**	**21 19 32.6**	**-0.4**
	comp=E,0.1nm,0.3s,baz=319,slow=20,SNR=0.9						
LPAZ	**La Paz**	**16.27**	**13**	Pn	**P**	**21 19 45.4**	**-1.2**
	comp=E,0.1nm,0.3s,baz=198,slow=7.8,SNR=6.5						
TORD	**Torodi Ar. Bea**	**83.47**	**70**	P	**P**	**21 28 22.6**	**+0.5**
	comp=E,0.6nm,0.8s,baz=230,slow=5.8,SNR=3.0						
ZALV	**Zalesovo Beam**	**152.67**	**31**	PKPbc	**PKiKP**	**21 35 53.2**	**+2.8**
	comp=E,0.4nm,0.5s,baz=299,slow=3.0,SNR=2.1						

MAN 20 21:18:23.4, 16°.65N×120°.28E, h25km, mb4.1, ML2.8, MS2.5, Luzon

OMAN ***20*** *21:19:25.8±0.3, 28°.37N×51°.84E, h15km, mb4.8/2, ml3.1/8, Error ellipse: s-maj=6.0km s-min=3.0km az=351.0*

DSN ***20*** *21:19:28.8±1.1, 28°.47N×52°.33E, h10km, ML2.8/6, Error ellipse: s-maj=35.2km s-min=10.7km az=46.0*

ISC 20 21:19:24.2±4.0, **28°.5N**±0°.2×**51°.8E**±0°.1, **h15**km, **n34**, σ0**s94**/40, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLWR	**Sila**	**4.37**	**181**	P	**Pn**	**21 20 30.8**	**+0.7**
SLWR				S	**Sn**	**21 21 21.5**	**+0.8**
SHME	**Shamm**	**4.56**	**121**	P	**Pn**	**21 20 33.2**	**+0.5**
BANOM	**Banah**	**4.75**	**121**	*i* P	**Pn**	**21 20 35.8**	**+0.4**
	SNR=23						
BANOM	**Banah**	**4.75**	**121**	S	**Sn**	**21 21 31.0**	**+0.8**
NAZ	**Nazwa, Dubai**	**4.90**	**134**	P	**Pn**	**21 20 38.7**	**+1.4**
ASUD	**Al Ashush, Dub**	**4.96**	**139**	*i* P	**Pn**	**21 20 40.0**	**+1.7**
	SNR=11						
ASUD	**Al Ashush, Dub**	**4.96**	**139**	S	**Sn**	**21 21 36.2**	**+0.8**
MASF	**Masafi**	**4.97**	**127**	S	**Sn**	**21 21 35.3**	**-0.4**
MSFE	**Esma-Masafi**	**4.98**	**127**	*i* P	**Pn**	**21 20 39.2**	**+0.7**
	SNR=7.4						
FAQ	**Al Faqa, Dubai**	**5.03**	**136**	P	**Pn**	**21 20 40.3**	**+1.1**
FAQ				S	**Sn**	**21 21 38.2**	**+1.2**
MDH	**Madha**	**5.12**	**127**	P	**Pn**	**21 20 40.0**	**-0.4**
MDH	**Madha**	**5.12**	**127**	P	**Pn**	**21 20 41.1**	**+0.8**
UOSS	**Minazif**	**5.28**	**130**	*i* P	**Pn**	**21 20 42.4**	**-0.2**
	SNR=7.2						
UOSS	**Minazif**	**5.28**	**130**	P	**Pn**	**21 20 42.7**	**+0.1**
HATD	**Hatta, Dubai**	**5.31**	**132**	P	**Pn**	**21 20 44.0**	**+1.0**
HATD				S	**Sn**	**21 21 42.4**	**-1.7**
HATD	**Hatta, Dubai**	**5.31**	**132**	P	**Pn**	**21 20 44.7**	**+1.7**
ASHO	**Ashiyiah**	**5.37**	**133**	*i* P	**Pn**	**21 20 44.0**	**+0.2**
	SNR=11						
ASHO	**Ashiyiah**	**5.37**	**133**	S	**Sn**	**21 21 45.7**	**+0.3**
ALNE	**Al Ain**	**5.65**	**140**	P	**Pn**	**21 20 49.0**	**+1.3**
SOHO	**SOHO**	**6.06**	**134**	*i* P	**Pn**	**21 20 52.8**	**-0.5**
	SNR=9.0						
SOHO	**SOHO**	**6.06**	**134**	P	**Pn**	**21 20 53.5**	**+0.2**
UMZA	**Um Al Zommool**	**6.48**	**151**	P	**Pn**	**21 21 00.5**	**+1.4**
UMZA				S	**Sn**	**21 22 11.9**	**-0.9**
ARQ	**Araqi**	**6.65**	**139**	P	**Pn**	**21 21 01.7**	**+0.3**
HOQ	**Hoqain**	**6.95**	**133**	P	**Pn**	**21 21 06.4**	**+0.8**
HOQ				S	**Sn**	**21 22 23.0**	**-1.4**
BSY	**Bisya**	**7.50**	**138**	P	**Pn**	**21 21 13.4**	**+0.2**
BIDO	**Bidbid**	**7.53**	**129**	P	**Pn**	**21 21 13.4**	**-0.2**
SMDO	**Samad**	**7.80**	**132**	P	**Pn**	**21 21 17.8**	**+0.5**
SMDO				S	**Sn**	**21 22 45.3**	**-0.1**
WSAR	**Wadi Sarin**	**8.06**	**129**	S	**Sn**	**21 22 51.2**	**-0.6**
JMDO	**Jabal Madar**	**8.33**	**135**	P	**Pn**	**21 21 24.1**	**-0.4**
MHTO	**MHTO**	**9.32**	**142**	P	**Pn**	**21 21 37.8**	**-0.3**
JLN	**Jalan Bani Buh**	**9.33**	**131**	P	**Pn**	**21 21 37.2**	**-1.0**
DOK	**Doka**	**10.03**	**167**	P	**Pn**	**21 21 47.0**	**-0.7**
WHFO	**Wadi Hawf**	**10.65**	**170**	P	**Pn**	**21 21 54.5**	**-1.8**

IDC 20 21:41:18.8±3.7, **6°.03S**×**151°.58E**, **h0**km, **mb3.4**/3, **mb1 3.6**/3, **mb1mx3.3**/35, **mbtmp3.4**/3, **Error ellipse: s-maj=124.1km s-min=53.1km az=122.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.72**	**229**	P	P	21 46 11.8	-0.1
	0.5nm,0.9s,baz=56,slow=10.0,SNR=4.7						
ASAR	**Alice Springs**	**24.43**	**222**	P	P	21 46 40.2	+0.8
	0.5nm,0.7s,baz=45,slow=11,SNR=5.8						
FITZ	**Fitzroy Crossi**	**28.01**	**242**	P	P	21 47 11.2	-0.6
	1.0nm,0.6s,baz=58,slow=8.5,SNR=5.0						
TORD	**Torodi Ar. Bea**	**149.50**	**286**	PKPbc	PKPbc	22 01 10.7	-0.6
	0.5nm,0.8s,baz=69,slow=3.5,SNR=3.9						

IDC ***20*** *22:00:19.0±1.7, 11°.88N×126°.04E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/33, mbtmp3.7/5, MS3.4/2, Ms1 3.4/2, ms1mx2.6/43, Error ellipse: s-maj=182.4km s-min=24.0km az=69.0*

MAN ***20*** *22:00:29.7, 11°.37N×125°.30E, h66km, mb4.6, ML3.5, MS3.4*

ISC 20 22:00:24.3±1.2, **11°.6N**±0°.1×**125°.9E**±0°.1, **h33**km, **n13**, σ1**s66**/10, **mb3.9/5, 1C-1D, Samar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LLP	**Lapu-Lapu**	**2.25**	**236**	*e*P	**Pn**	**22 00 58.2**	**-1.1**
LLP				*e*S	**Sn**	**22 01 26.7**	**+0.8**
RCP	**Roxas**	**3.06**	**270**	*e*P	**Pn**	**22 01 09.8**	**-0.6**
PGP	**Puerto Galera**	**5.16**	**292**	*e*P	**Pn**	**22 01 39.2**	**-0.1**
PGP				*e*S	**Sn**	**22 01 42.1**	**+2.8**
WRA	**Warramunga Arr**	**32.42**	**165**	P	**P**	**22 06 53.0**	**+1.5**
	0.4nm,0.9s,baz=343,slow=8.8,SNR=1.6						
ASAR	**Alice Springs**	**35.91**	**167**	P	**P**	**22 07 23.3**	**+1.6**
	0.3nm,0.7s,baz=354,slow=7.6,SNR=2.1						
H11N1	**WAKE ISLAND Hy**	**40.24**	**73**	T	T	22 51 24.1	
	baz=265,slow=75,SNR=9.6						
H11N2	**WAKE ISLAND Hy**	**40.25**	**73**	T	T	22 51 22.9	
	baz=265,slow=75,SNR=8.5						
H11N3	**WAKE ISLAND Hy**	**40.26**	**73**	T	T	22 51 25.4	
	baz=265,slow=75,SNR=9.3						
PETK	**Petropavlovsk-**	**48.61**	**25**	LR	LR	22 31 12.0	
	comp=Z,29nm,18.1s,baz=294,slow=38						
MKAR	**Makanchi Array**	**50.74**	**322**	P	**P**	**22 09 20.2**	**-0.9**
	1.4nm,0.7s,baz=124,slow=7.8,SNR=9.9						
KVAR	**Kislovodsk Arr**	**77.16**	**313**	LR	LR	22 49 37.5	
	comp=Z,22nm,18.8s,baz=152,slow=38						
ARCES	**ARCESS Array B**	**82.83**	**340**	P	**P**	**22 12 44.1**	**-0.9**
	0.9nm,0.9s,baz=88,slow=2.9,SNR=4.1						
FINES	**FINESS Array B**	**84.55**	**332**	P	**P**	**22 12 52.3**	**-1.7**
	0.3nm,0.4s,baz=69,slow=3.5,SNR=8.0						

MEX 20 22:01:03.1±1.0, **15°.89N**×**98°.28W**, **h10**km, **MD3.7**, **Off coast of Guerrero**

| Code | Station Name

baz=86,slow=73,SNR=28
PB06 IPOC Station P 8.16 19 Pn **Pn 22 07 04.2 +0.7**
LC01 Cunco 8.44 177 **Pn 22 07 06.3 -0.8**
PLCA Paso Flores 10.37 172 Pn **Pn 22 07 33.8 0.0**
comp=E,0.3nm,0.3s,baz=336,slow=12,SNR=5.5
PLCA Paso Flores 10.37 172 **Pn 22 07 33.6 -0.1**
SIV San Ignacio 17.81 39 P **P 22 09 14.6 +0.8**
comp=E,0.1nm,0.3s,baz=241,slow=11,SNR=8.8
SPB Sao Paulo 23.34 79 P **P 22 10 10.8 -2.6**
SPB IAmb IAmb 22 10 16.4
comp=Z,12nm,1.2s
BDFB Brasilia 26.85 62 P **P 22 10 47.5 +1.5**
comp=Z,1.2nm,0.6s,baz=263,slow=27,SNR=1.7
BDFB Brasilia 26.85 62 P **P 22 10 43.6 -2.4**
PTGA Pitinga 31.88 24 P **P 22 11 27.5 -3.1**
SNAA Sanae 55.01 159 P **P 22 14 35.6 -0.7**
SNAA IAmb IAmb 22 14 40.5
comp=Z,5.9nm,1.4s
QSPA South Pole Qui 59.77 180 P **P 22 15 10.9 +0.8**
QSPA IAmb IAmb 22 15 27.1
comp=Z,3.1nm,1.3s
TXAR Lajitas Array 66.46 330 P **P 22 15 55.4 +0.6**
comp=Z,0.2nm,0.6s,baz=159,slow=8.0,SNR=3.5
DBIC Dimbokro 74.46 72 P **P 22 16 45.6 +1.6**
comp=Z,3.5nm,0.9s,baz=9.0,slow=9.6,SNR=2.3
MAW Mawson 76.68 164 P **P 22 16 56.4 +0.6**
comp=Z,0.9nm,0.6s,baz=352,slow=18,SNR=1.8
TORD Torodi Ar. Bea 83.40 71 P **P 22 17 34.6 +1.6**
comp=Z,1.2nm,0.6s,baz=247,slow=4.6,SNR=9.1
TORD Torodi Ar. Bea 83.40 71 IAmb IAmb 22 17 35.0
comp=Z,1.5nm,0.7s
ZALV Zalesovo Beam 151.38 28 PKPbc **PKiKP 22 24 59.6 +0.5**
comp=Z,1.8nm,0.6s,baz=328,slow=2.8,SNR=7.8
ZALV Zalesovo Beam 151.38 28 **PKiKP 22 24 59.0 0.0**

GUC 20 22:05:29.9±1.0, 32°.25S×71°.83W, h40km±3km, ML3.1, 5C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**0.55**	**125**	↑*eP*		Pn	22 05 41.0	-0.3
VA06				*eS*		Sn	22 05 49.0	-0.4
VA06				IAML			22 05 51.6	
	comp=E,1μm,0.3s							
VA01	**Torpederas**	**0.79**	**169**	*eP*		Pn	22 05 44.6	0.0
VA01				*eS*		Sn	22 05 55.8	+0.6
VA01				IAML			22 05 58.4	
	comp=N,619nm,0.1s							
ROCH	**El Roble**	**1.00**	**136**	*eP*		Pn	22 05 48.9	+1.2
ROCH				*eS*		Sn	22 06 02.6	+1.9
ROCH				IAML			22 06 05.1	
	comp=E,911nm,0.5s							
VA03	**San Esteban**	**1.20**	**116**	*eP*		Pn	22 05 51.0	+0.8
VA03				*eS*		Sn	22 06 06.7	+1.4
VA03				IAML			22 06 12.8	
	comp=N,1μm,0.4s							
VA05	**Santo Domingo**	**1.42**	**173**	↑*eP*		Pn	22 05 54.0	+0.8
VA05				*eS*		Sn	22 06 11.4	+0.8
VA05				IAML			22 06 20.9	
	comp=E,417nm,0.5s							
MT05	**Renca**	**1.47**	**141**	*eP*		Pn	22 05 55.1	+1.2
MT05				*eS*		Sn	22 06 14.3	+2.4
MT05				IAML			22 06 17.9	
	comp=E,680nm,0.3s							
MT09	**Talagante**	**1.68**	**155**	↑*eP*		Pn	22 05 58.6	+1.6
MT09				*eS*		Sn	22 06 20.1	+2.8
MT09				IAML			22 06 28.6	
	comp=N,308nm,0.4s							
MT09	**Talagante**	**1.68**	**155**			Pn	22 05 58.7	+1.8
MT01	**Popeta**	**1.68**	**163**	↑*eP*		Pn	22 05 57.8	+0.9
MT01				*eS*		Sn	22 06 18.6	+1.4
MT01				IAML			22 06 25.8	
	comp=E,266nm,0.7s							
LMEL	**Las Melosas**	**2.10**	**140**	↑*eP*		Pn	22 06 04.5	+1.8
LMEL				*eS*		Sn	22 06 30.9	+3.1
LMEL				IAML			22 06 42.5	
	comp=N,232nm,0.2s							

*IDC **20** 22:14:30.8±2.7, 30°.80S×71°.39W, h0km, mb3.7/2, mb1 3.5/5, mb1mx3.4/33, mbtmp3.4/5, ML3.3/3, MS3.2/2, Ms1 3.3/2, ms1mx2.7/23, Error ellipse: s-maj=86.2km s-min=34.1km az=105.0*
*GUC **20** 22:14:34.0±0.4, 30°.63S×71°.58W, h23km±3km, ML3.9*
ISC 20 22:14:33.9±1.0, 30°.67S±0°.05×71°.66W±0°.09, h28km±6km, n22, σ0°.95/17, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.03**	**98**	↓*iP*		**Pb**	**22 14 38.6**	**-0.1**
CO06				*i* S		**Sb**	**22 14 41.9**	**+0.1**
CO05	**La Serena**	**0.83**	**26**	*eP*		**Pn**	**22 14 48.8**	**-1.1**
CO05				*i* S		**Sb**	**22 15 00.2**	**-0.5**
CO03	**El Pedregal**	**0.86**	**102**	↓*iP*		**Pn**	**22 14 49.8**	**-0.4**
CO03				*i* S		**Sb**	**22 15 01.6**	**+0.2**
CO03				IAML			22 15 02.6	
	comp=E,5μm,0.3s							
GO04	**Tololo Observa**	**0.90**	**57**	*eP*		**Pn**	**22 14 50.1**	**-0.8**
GO04				*i* S		**Sb**	**22 15 03.2**	**+0.4**
GO04				IAML			22 15 07.1	
	comp=E,10μm,0.3s							
LCO	**Las Campanas**	**1.85**	**27**	*eP*		**Pn**	**22 15 04.7**	**+0.5**
LCO				*i* S		**Sb**	**22 15 28.1**	**-2.1**
VA06	**Catapilco**	**1.91**	**171**	*eP*		**Pn**	**22 15 04.6**	**-0.1**
VA06				IAML			22 15 38.0	
	comp=E,1μm,0.4s							
VA03	**San Esteban**	**2.29**	**156**	IAML			22 15 48.5	
	comp=E,800nm,0.3s							
ROCH	**El Roble**	**2.36**	**167**	IAML			22 15 49.2	
	comp=N,541nm,0.4s							
MT05	**Renca**	**2.83**	**164**	IAML			22 16 08.2	
	comp=N,547nm,0.7s							
VA05	**Santo Domingo**	**2.98**	**179**	IAML			22 16 20.4	
	comp=E,378nm,0.8s							
GO03	**Copiap**	**3.31**	**23**	IAML			22 16 21.9	
	comp=N,205nm,0.4s							
H03N1	**Juan Fernandez**	**6.74**	**244**	T		T	22 23 04.8	
	baz=71,slow=72,SNR=700							
H03N2	**Juan Fernandez**	**6.76**	**244**	T		T	22 23 04.5	
	baz=71,slow=72,SNR=747							
H03N3	**Juan Fernandez**	**6.76**	**244**	T		T	22 23 04.2	
	baz=71,slow=72,SNR=611							
PLCA	**Paso Flores**	**10.08**	**175**	Pn		**Pn**	**22 16 55.7**	**-1.3**
	comp=N,0.1nm,0.3s,baz=345,slow=17,SNR=1.5							
CPUP	**Villa Florida**	**13.32**	**75**	LR		LR	22 23 23.9	
	comp=N,44nm,19.7s,baz=212,slow=41							
LPAZ	**La Paz**	**14.68**	**14**	Pn		**Pn**	**22 18 01.9**	**+1.5**
	comp=N,0.0nm,0.3s,baz=214,slow=14,SNR=1.5							
SIV	**San Ignacio**	**17.53**	**36**	P		**P**	**22 18 37.6**	**+0.2**
	comp=N,0.1nm,0.3s,baz=255,slow=11,SNR=1.5							
BDFB	**Brasilia**	**26.31**	**61**	P		**P**	**22 20 07.0**	**-0.6**
	comp=N,1.2nm,0.5s,baz=208,slow=8.1,SNR=3.5							
VNDA	**Vanda**	**67.42**	**191**	LR		LR	22 52 00.5	
	comp=N,43nm,18.0s,baz=332,slow=33							
TORD	**Torodi Ar. Bea**	**82.78**	**70**	P		**P**	**22 26 56.1**	**+0.2**
	comp=N,0.2nm,0.5s,baz=249,slow=5.2,SNR=1.5							
ZALV	**Zalesovo Beam**	**151.21**	**29**	PKPbc		**PKiKP**	**22 34 25.1**	**+0.4**
	comp=N,0.3nm,0.3s,baz=303,slow=2.9,SNR=2.1							

*IDC **20** 22:20:03.2±8.4, 30°.32S×71°.99W, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.4/31, mbtmp3.5/2, Error ellipse: s-maj=367.9km s-min=56.6km az=26.0*
*GUC **20** 22:20:05.9±0.9, 31°.53S×71°.84W, h36km±3km, ML3.4*
ISC 20 22:20:04.3±1.5, 31°.50S±0°.03×72°.0W±0°.1, h27km±11km, n19, σ1°.52/29, 6C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.89**	**22**	↓*iP*		**Pb**	**22 20 21.7**	**+0.6**
CO06				*i* S		**Sb**	**22 20 33.7**	**+1.2**
CO06				IAML			22 20 37.0	
	comp=E,1μm,0.2s							
VA06	**Catapilco**	**1.23**	**150**	↑*eP*		**Pn**	**22 20 25.8**	**+0.1**
VA06				*eS*		**Sn**	**22 20 40.6**	**-0.8**
VA06				IAML			22 20 42.8	
	comp=E,2μm,0.3s							
CO03	**El Pedregal**	**1.32**	**60**	↓*iP*		**Pn**	**22 20 27.0**	**-0.1**
CO03				*i* S		**Sn**	**22 20 42.6**	**-1.3**
CO03				IAML			22 20 44.8	
	comp=E,896nm,0.2s							
VA01	**Torpederas**	**1.55**	**168**	*eP*		**Pb**	**22 20 31.8**	**-0.6**
VA01				*eS*		**Sb**	**22 20 51.6**	**0.0**
GO04	**Tololo Observa**	**1.69**	**39**	*eP*		**Pn**	**22 20 32.3**	**0.0**
GO04				*eS*		**Sn**	**22 20 55.2**	**+2.0**
GO04				IAML			22 21 02.9	
	comp=N,2μm,0.5s							
ROCH	**El Roble**	**1.70**	**150**	*eP*		**Pn**	**22 20 33.5**	**+1.1**
ROCH				*eS*		**Sn**	**22 20 53.6**	**+0.1**
ROCH				IAML			22 20 59.2	
	comp=N,454nm,0.4s							
CO05	**La Serena**	**1.72**	**23**	*eP*		**Pb**	**22 20 35.0**	**-0.2**
CO05				*eS*		**Sb**	**22 20 56.4**	**+0.1**
CO05				IAML			22 21 01.4	
	comp=N,435nm,0.3s							
VA03	**San Esteban**	**1.77**	**136**	↑*iP*		**Pn**	**22 20 34.4**	**+1.1**
VA03				*i* S		**Sn**	**22 20 56.0**	**+0.9**
VA03				IAML			22 20 59.4	
	comp=E,1μm,0.2s							
MT05	**Renca**	**2.18**	**150**	*eP*		**Pb**	**22 20 41.8**	**-1.2**
MT05				*eS*		**Sn**	**22 21 07.2**	**+2.2**
MT05				IAML			22 21 14.4	
	comp=E,522nm,0.3s							
VA05	**Santo Domingo**	**2.18**	**171**	↑*eP*		**Pn**	**22 20 40.5**	**+1.7**
VA05				*eS*		**Sb**	**22 21 07.0**	**-2.5**
VA05				IAML			22 21 21.7	
	comp=E,538nm,0.4s							
MT09	**Talagante**	**2.43**	**159**	↑*eP*		**Pn**	**22 20 44.6**	**+2.2**
MT09				*eS*		**Sn**	**22 21 13.7**	**+2.3**
MT09				IAML			22 21 22.4	
	comp=N,246nm,0.6s							
MT01	**Popeta**	**2.45**	**165**	↑*eP*		**Pn**	**22 20 43.8**	**+1.3**
MT01				*eS*		**Sn**	**22 21 13.7**	**+2.2**
MT01				IAML			22 21 25.2	
	comp=E,199nm,0.4s							
LMEL	**Las Melosas**	**2.80**	**147**	↑*eP*		**Pn**	**22 20 48.7**	**+1.2**
LMEL				*i* S		**Sn**	**22 21 21.5**	**+1.0**
LMEL				IAML			22 21 31.3	
	comp=N,239nm,0.2s							
H03N1	**Juan Fernandez**	**6.13**	**250**	T		T	22 28 17.8	
	baz=78,slow=72,SNR=480							
H03N3	**Juan Fernandez**	**6.15**	**250**	T		T	22 28 18.3	
	baz=78,slow=72,SNR=464							
H03N2	**Juan Fernandez**	**6.15**	**250**	T		T	22 28 19.9	
	baz=78,slow=72,SNR=461							
TXAR	**Lajitas Array**	**67.57**	**330**	P		**P**	**22 30 55.3**	**-3.2**
	comp=N,0.1nm,0.6s,baz=157,slow=9.6,SNR=1.8							
TORD	**Torodi Ar. Bea**	**83.35**	**70**	P		**P**	**22 32 30.4**	**+1.1**
	comp=N,0.7nm,0.8s,baz=247,slow=4.2,SNR=4.4							
ZALV	**Zalesovo Beam**	**152.08**	**30**	PKPbc		**PKiKP**	**22 39 57.4**	**+0.4**
	comp=N,0.7nm,0.5s,baz=287,slow=2.3,SNR=4.5							

IDC 20 22:23:32.1±32.0, 17°.39S×173°.85W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/43, mbtmp4.0/4, Error ellipse: s-maj=623.3km s-min=168.3km az=85.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**42.70**	**242**	P		P	22 31 31.9	+0.9
	0.6nm,0.3s,baz=56,slow=13,SNR=3.2							
WRA	**Warramunga Arr**	**49.00**	**258**	P		P	22 32 20.9	-0.1
	0.7nm,0.4s,baz=100,slow=7.5,SNR=27							
ASAR	**Alice Springs**	**49.11**	**254**	P		P	22 32 21.6	-0.2
	1.1nm,0.5s,baz=88,slow=7.9,SNR=17							
FITZ	**Fitzroy Crossi**	**57.40**	**259**	P		P	22 33 21.9	-1.0
	1.3nm,0.8s,baz=135,slow=5.7,SNR=2.2							

IDC 20 22:25:09.1±6.6, 15°.15S×70°.44W, h119km±67km, mb3.2/1, mb1 2.8/2, mb1mx2.7/44, mbtmp3.1/2, Error ellipse: s-maj=178.1km s-min=64.4km az=16.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.50**	**117**	P		Pn	22 25 50.1	+0.7
	0.3nm,0.3s,baz=295,slow=7.7,SNR=9.9							
LPAZ				S		Sn	22 26 20.6	+0.3
	0.2nm,0.3s,baz=302,slow=13,SNR=2.2							
TORD	**Torodi Ar. Bea**	**76.71**	**72**	P		P	22 36 48.4	+0.6
	0.4nm,0.8s,baz=256,slow=5.8,SNR=2.8							
SONM	**Songino Array**	**147.31**	**4**	PKPbc		PKPdf	22 44 37.5	+1.0
	0.2nm,0.4s,baz=337,slow=3.3,SNR=1.6							

*IDC **20** 22:27:55.5±1.0, 37°.34N×15°.76E, h0km, mb3.5/5, mb1 3.6/15, mb1mx3.4/61, mbtmp3.5/15, ML3.7/9, MS2.7/1, Ms1 2.7/1, ms1mx2.0/38, Error ellipse: s-maj=18.6km s-min=9.9km az=174.0*
*ROM **20** 22:27:58.5±0.1, 37°.156N±0°.006×15°.614E±0°.008, h23km, ML3.8/11, Error ellipse: s-maj=0.7km s-min=0.6km az=303.0*
ISC 20 22:27:57.7±1.0, 37°.16N±0°.03×15°.67E±0°.03, h25km±9km, n87, σ1°.47/105, mb3.5/5, 20C-1D, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGST	**Augusta-Monte**	**0.37**	**285**	↑*iP*		**Pb**	**22 28 05.5**	**-0.3**
AGST				S		**Sb**	**22 28 10.3**	**-1.0**
AGST				AML	AML			
	comp=E,95150μm,0.5s							
AGST				AML	AML			
	comp=N,91200μm,0.2s							
HAGA	**Augusta**	**0.43**	**287**	↑*iP*		**Pb**	**22 28 06.6**	**-0.2**
HAGA				S		**Sb**	**22 28 12.1**	**-0.9**
HAGA				AML	AML			
	comp=E,25850μm,0.7s							
HAGA				AML	AML			
	comp=N,43550μm,0.5s							
SSY	**Sortino**	**0.48**	**270**	↑*iP*		**Pb**	**22 28 07.3**	**-0.3**
SSY				S		**Sb**	**22 28 13.9**	**-0.4**
SSY				AML	AML			
	comp=N,58000μm,0.5s							
SSY				AML	AML			
	comp=E,31100μm,1.1s							
HAVL	**Avola**	**0.48**	**246**	↑*iP*		**Pb**	**22 28 07.9**	**+0.3**
HAVL				S		**Sb**	**22 28 14.5**	**+0.2**
HAVL				AML	AML			
	comp=N,79900μm,0.5s							
HAVL				AML	AML			
	comp=E,56250μm,0.3s							
MEU	**Monte Lauro**	**0.59**	**265**	↑*iP*		**Pn**	**22 28 10.4**	**-0.2**
MEU				S		**Sn**	**22 28 19.2**	**-0.3**
MEU				AML	AML			
	comp=E,38000μm,0.8s							
MEU				AML	AML			
	comp=N,43550μm,0.3s							
HPAC	**Pachino**	**0.64**	**224**	↑*iP*		**Pn**	**22 28 11.6**	**+0.4**
HPAC				S		**Sn**	**22 28 20.9**	**+0.4**
HPAC				AML	AML			
	comp=N,37750μm,0.3s							
HPAC				AML	AML			
	comp=E,32900μm,0.4s							
HLNI	**Lentini**	**0.66**	**287**	↑*iP*		**Pb**	**22 28 10.3**	**-0.4**
HLNI				S		**Sb**	**22 28 18.8**	**-0.7**
HLNI				AML	AML			
	comp=N,88250μm,0.3s							
HLNI				AML	AML			
	comp=E,44050μm,0.5s							
HMDC	**Modica**	**0.74**	**254**	↑*iP*		**Pb**	**22 28 11.8**	**-0.2**
HMDC				S		**Sb**	**22 28 21.4**	**-0.3**
HMDC				AML	AML			
	comp=E,15700μm,0.4s							
HMDC				AML	AML			
	comp=N,15250μm,0.5s							
HVZN	**Vizzini**	**0.76**	**272**	↑*iP*		**Pb**	**22 28 12.0**	**-0.4**
HVZN				S		**Sb**	**22 28 22.3**	**-0.1**
ESLN	**Serra La Nave**	**0.77**	**314**	↑*iP*		**Pb**	**22 28 12.8**	**+0.3**
ESLN				S		**Sb**	**22 28 23.2**	**+0.5**
ESLN				AML	AML			
	comp=E,15650μm,0.3s							
ESLN				AML	AML			
	comp=N,11300μm,1.4s							
ESML	**S. M. di Licod**	**0.78**	**306**	↑*iP*		**Pb**	**22 28 12.8**	**+0.2**
ESML				S		**Sb**	**22 28 23.3**	**+0.4**
ESML				AML	AML			
	comp=N,22800μm,0.6s							
ESML				AML	AML			
	comp=E,15700μm,0.2s							
MPAZ	**Palizzi**	**0.84**	**19**	P		**Pn**	**22 28 14.7**	**+0.8**
MPAZ				AML	AML			
	comp=N,2695μm,0.7s							
MPAZ				AML	AML			
	comp=E,2175μm,0.4s							
EMSG	**Monte Spagnolo**	**0.87**	**319**	P		**Pn**	**22 28 14.8**	**+0.2**
EMSG				AML	AML			
	comp=N,17050μm,1.2s							
EMSG				AML	AML			
	comp=E,15300μm,1.1s							
ECNV	**Catenanuova**	**0.88**	**300**	↑P		**Pn**	**22 28 15.0**	**+0.5**
ECNV				AML	AML			
	comp=N,25150μm,0.5s							
ECNV				AML	AML			
	comp=E,17850μm,0.6s							
AIO	**Antillo**	**0.88**	**337**	P		**Pn**	**22 28 14.8**	**+0.2**
AIO				AML	AML			
	comp=E,3540μm,0.4s							
AIO				AML	AML			
	comp=N,4585μm,1.3s							
EPZF	**Pizzo Felice**	**0.93**	**316**	P		**Pn**	**22 28 16.0**	**+0.8**
EPZF				AML	AML			
	comp=E,11775μm,0.4s							
EPZF				AML	AML			
	comp=N,16400μm,1.0s							
SOI	**Samo**	**0.96**	**18**	P		**Pb**	**22 28 16.7**	**+1.0**
SOI				AML	AML			
	comp=N,1185μm,1.0s							
SOI				AML	AML			
	comp=E,1960μm,0.6s							
MCSR	**Castroreale**	**0.96**	**340**	P		**Pn**	**22 28 16.4**	**+0.7**
MCSR				AML	AML			
	comp=N,9160μm,0.4s							
MCSR				AML	AML			
	comp=E,7640μm,0.6s							
NOV	**Novara**	**0.96**	**334**	P		**Pn**	**22 28 16.2**	**+0.5**
NOV				AML	AML			
	comp=N,4750μm,1.6s							
NOV				AML	AML			
	comp=E,5540μm,1.4s							
GMB	**Gambarie**	**1.01**	**7**	P		**Pb**	**22 28 17.4**	**+0.7**
GMB				AML	AML			
	comp=N,5500μm,0.2s							
GMB				AML	AML			
	comp=E,8955μm,0.8s							
MPNC	**Port Mandanici**	**1.02**	**346**	P		**Pb**	**22 28 17.8**	**+1.1**
GALF	**Gagliano Caste**	**1.04**	**302**	↑P		**Pb**	**22 28 17.4**	**+0.4**
GALF				AML	AML			
	comp=N,8260μm,0.4s							
GALF				AML	AML			
	comp=E,8530μm,0.5s							
CAGR	**Agira**	**1.04**	**297**	↑P		**Pb**	**22 28 17.8**	**+0.7**
CAGR				AML	AML			
	comp=E,9585μm,0.6s							
CAGR				AML	AML			
	comp=N,9740μm,0.5s							
RAFF	**Raffo Rosso**	**1.05**	**274**	↑P		**Pb**	**22 28 17.2**	**0.0**
RAFF				S		**Sn**	**22 28 31.6**	**+1.1**
RAFF				AML	AML			
	comp=E,17150μm,0.6s							
RAFF				AML	AML			
	comp=N,15400μm,0.4s							
VAE	**Valguarnera**	**1.05**	**288**	Pg		**Pb**	**22 28 18.9**	**+1.6**
	comp=N,169nm,0.3s,baz=90,slow=7.1,SNR=327							
VAE				Lg	Lg		22 28 32.4	
	comp=N,940nm,0.3s,baz=45,slow=5.7,SNR=28							
MSCL	**Scilla**	**1.07**	**5**	P		**Pb**	**22 28 18.2**	**+0.5**
MSCL				AML	AML			
	comp=E,3640μm,0.4s							
MSCL				AML	AML			
	comp=N,2850μm,0.5s							
MUCR	**Ucria**	**1.08**	**325**	↓P		**Pb**	**22 28 18.2**	**+0.3**
MUCR				AML	AML			
	comp=E,5940μm,0.9s							
MUCR				AML	AML			
	comp=N,7250μm,0.4s							
MNO	**Monte Soro**	**1.09**	**315**	↑P		**Pb**	**22 28 19.2**	**+1.1**
MNO				AML	AML			
	comp=E,16250μm,0.6s							
MNO				AML	AML			
	comp=N,26900μm,0.6s							
MNO				AML	AML			
	comp=E,16300μm,0.6s							
MSRU	**Castanea**	**1.11**	**353**	P		**Pb**	**22 28 18.7**	**+0.5**
MSRU				AML	AML			
	comp=E,4810μm,0.4s							
MSRU				AML	AML			
	comp=N,2270μm,1.0s							
CEL	**Celeste**	**1.11**	**9**	P		**Pb**	**22 28 19.0**	**+0.7**
MSFR	**San Fratello**	**1.22**	**316**	P		**Pb**	**22 28 20.2**	**0.0**
MSFR				S		**Sb**	**22 28 37.5**	**+1.9**
MSFR				AML	AML			
	comp=E,2285μm,1.1s							
MSFR				AML	AML			
	comp=N,1980μm,0.8s							
VPL	**Vulcano Piano**	**1.33**	**336**	↑P		**Pb**	**22 28 22.2**	**+0.1**
VPL				AML	AML			
	comp=E,15850μm,0.5s							
VPL				AML	AML			
	comp=N,17350μm,0.5s							
CLTA	**Licata**	**1.36**	**270**	P		**Pb**	**22 28 22.5**	**0.0**
CLTA				AML	AML			
	comp=E,5885μm,0.8s							
CLTA				AML	AML			
	comp=N,6035μm,0.4s							
RESU	**Resuttano**	**1.37**	**291**	↑P		**Pb**	**22 28 22.4**	**-0.3**
RESU				AML	AML			
	comp=E,2105μm,1.2s							
RESU				AML	AML			
	comp=N,2920μm,0.4s							
RESU				AML	AML			
	comp=E,2690μm,0.5s							
PETRA	**Petralia Sopra**	**1.41**	**299**	P		**Pb**	**22 28 23.5**	**+0.1**
PETRA				AML	AML			
	comp=E,3015μm,0.5s							
PETRA				AML	AML			
	comp=N,3375μm,0.6s							
PLAC	**Placanica**	**1.42**	**25**	P		**Pb**	**22 28 23.8**	**+0.1**
PLAC				AML	AML			
	comp=E,1049μm,0.4s							
PLAC				AML	AML			
	comp=N,768μm,0.4s							
PLAC				AML	AML			
	comp=E,761μm,0.4s							
PLAC				AML	AML			
	comp=N,1132μm,0.4s							
JOPP	**Joppolo**	**1.46**	**7**	P		**Pb**	**22 28 23.9**	**-0.2**
JOPP				AML	AML			
	comp=N,610μm,1.3s							
JOPP				AML	AML			
	comp=E,532μm,1.1s							
CSLB	**Castelbuono**	**1.50**	**302**	P		**Pb**	**22 28 24.7**	**-0.1**
CSLB				AML	AML			
	comp=N,897μm,0.4s							
CSLB				AML	AML			
	comp=E,834μm,0.7s							
FAVR	**Favara**	**1.60**	**274**	↑P		**Pb**	**22 28 26.3**	**-0.4**
FAVR				AML	AML			
	comp=N,2515μm,0.4s							
FAVR				AML	AML			
	comp=E,2550μm,0.5s							
WDD	**Wied Dalam**	**1.61**	**215**	P		**Pn**	**22 28 25.4**	**+0.9**
WDD				S		**Sn**	**22 28 45.1**	**+0.7**
WDD				AML	AML			
	comp=E,3105μm,1.1s							
WDD				AML	AML			
	comp=N,2555μm,1.1s							
WDD				AML	AML			
	comp=N,2570μm,1.1s							
WDD				AML	AML			
	comp=E,3415μm,1.1s							
IFIL	**Filicudi I Eol**	**1.65**	**328**	P		**Pn**	**22 28 26.5**	**+1.4**
IFIL				AML	AML			
	comp=E,12850μm,0.2s							
IFIL				AML	AML			
	comp=N,4525μm,0.3s							
IACL	**Alicudi**	**1.72**	**323**	P		**Pn**	**22 28 27.0**	**+1.0**
IACL				AML	AML			
	comp=N,1965μm,0.9s							
IACL				AML	AML			
	comp=E,2640μm,0.6s							
SOLUN	**Solunto**	**1.94**	**299**	P		**Pn**	**22 28 30.5**	**+1.6**
SOLUN				AML	AML			
	comp=N,392μm,0.8s							
SOLUN				AML	AML			
	comp=E,437μm,0.6s							
CORL	**Corleone**	**2.02**	**292**	↑P		**Pb**	**22 28 32.6**	**-1.2**
CORL				AML	AML			
	comp=E,1735μm,0.7s							
CORL				AML	AML			
	comp=N,1745μm,0.6s							
SERS	**Sersale**	**2.04**	**23**	P		**Pb**	**22 28 32.7**	**-1.4**
SERS				AML	AML			
	comp=

MPG	**Monte Pellegri**	**2.09**	**299**	P	**Pn**	**22 28 33.0**	**+1.8**
MPG				AML	AML			
	comp=E,351µm,0.5s							
MPG				AML	AML			
	comp=N,372µm,0.4s							
CAR1	**CAROLEI**	**2.13**	**11**	P	**Pn**	**22 28 33.3**	**+1.6**
TIP	**Timpagrande**	**2.19**	**23**	P	**Pn**	**22 28 34.6**	**+2.0**
TIP				AML	AML			
	comp=E,198µm,0.9s							
TIP				AML	AML			
	comp=N,208µm,1.0s							
TIP				AML	AML			
	comp=E,186µm,0.8s							
TIP				AML	AML			
	comp=N,178µm,1.6s							
CELI	**Celico**	**2.33**	**16**	P	**Pb**	**22 28 37.4**	**-1.8**
LADO	**San Nicola del**	**2.36**	**26**	P	**Pn**	**22 28 36.8**	**+2.0**
CET2	**Cetraro**	**2.38**	**5**	P	**Pn**	**22 28 36.7**	**+1.6**
CET2				AML	AML			
	comp=N,1008µm,0.4s							
CET2				AML	AML			
	comp=E,778µm,0.7s							
PIPA	**Pietrapaola**	**2.49**	**21**	AML	AML			
	comp=N,246µm,1.1s							
PIPA				AML	AML			
	comp=E,341µm,0.7s							
MGR	**Morigerati**	**2.98**	**358**	P	**Pn**	**22 28 45.4**	**+2.1**
SIRI	**Monte Sirino -**	**3.02**	**3**	AML	AML			
	comp=E,219µm,1.0s							
SIRI				AML	AML			
	comp=N,164µm,1.6s							
MATE	**Matera**	**3.58**	**13**	P	**Pn**	**22 28 52.4**	**+0.9**
MATE				AML	AML			
	comp=N,166µm,1.6s							
MATE				AML	AML			
	comp=E,130µm,1.4s							
ACER	**Acerenza**	**3.63**	**3**	P	**Pn**	**22 28 55.3**	**+3.0**
SCTE	**Santa Cesarea**	**3.64**	**36**	P	**Pn**	**22 28 52.1**	**-0.3**
NOCI	**Noci**	**3.78**	**16**	P	**Pn**	**22 28 54.3**	**-0.1**
AMUR	**Altamura**	**3.81**	**11**	P	**Pn**	**22 28 55.6**	**+0.8**
AMUR				AML	AML			
	comp=N,177µm,1.5s							
AMUR				AML	AML			
	comp=E,168µm,1.3s							
MESG	**Mesagne**	**3.82**	**26**	P	**Pn**	**22 28 55.3**	**+0.4**
MRVN	**Minervino Murg**	**3.92**	**6**	P	**Pn**	**22 28 57.5**	**+1.3**
MRVN				AML	AML			
	comp=N,67µm,1.5s							
MRVN				AML	AML			
	comp=E,75µm,0.5s							
ITM	**Ithomi**	**5.00**	**88**	P	**Pn**	**22 29 13.1**	**+2.0**
KLV	**Kalavryta, Ach**	**5.22**	**78**	P	**Pn**	**22 29 17.4**	**+3.2**
KEST	**Kesra**	**5.29**	**256**	Pn	**Pn**	**22 29 16.1**	**+0.9**
	comp=E,2.0nm,0.3s,baz=77,slow=18,SNR=16							
KEST				Sn	**Sn**	**22 30 15.5**	**+0.1**
	comp=E,1.5nm,0.3s,baz=40,slow=23,SNR=1.6							
VSL	**Villasalto**	**5.47**	**297**	P	**Pn**	**22 29 18.2**	**+0.6**
STON	**Ston**	**5.91**	**15**	*e*Pn	**Pn**	**22 29 23.3**	**-0.3**
STON				Sn	**Sn**	**22 30 25.4**	**-5.1**
HVAR	**Hvar**	**6.04**	**5**	*e*Pn	**Pn**	**22 29 26.3**	**+0.9**
HVAR				Sn	**Sn**	**22 30 28.4**	**-5.3**
RICI	**Ricice**	**6.43**	**10**	*e*Pn	**Pn**	**22 29 31.7**	**+1.0**
RICI				Sn	**Sn**	**22 30 39.4**	**-3.8**
MORI	**Morici**	**6.70**	**0**	*e*Pn	**Pn**	**22 29 37.8**	**+3.4**
MORI				Sn	**Sn**	**22 30 49.4**	**-0.4**
DUGI	**Dugi Otok**	**6.84**	**356**	*e*Pn	**Pn**	**22 29 39.9**	**+3.5**
KIJV	**Kijevo**	**6.86**	**4**	*e*Pn	**Pn**	**22 29 38.9**	**+2.3**
KIJV				Sn	**Sn**	**22 30 52.8**	**-1.1**
IDI	**Anoyia**	**7.68**	**101**	Pn	**Pn**	**22 29 49.3**	**+1.2**
	comp=E,1.9nm,0.3s,baz=305,slow=18,SNR=22							
IDI				Sn	**Sn**	**22 31 11.4**	**-2.8**
	comp=E,2.8nm,0.3s,baz=244,slow=23,SNR=11							
DAVOX	**Davos/Dischmat**	**10.53**	**338**	Pn	Pn	22 30 36.5	+9.3
	comp=E,0.1nm,0.3s,baz=309,slow=19,SNR=2.3							
DAVOX				Sn	**Sn**	**22 32 22.8**	**-1.5**
	comp=E,0.5nm,0.3s,baz=256,slow=9.8,SNR=5.1							
MLR	**Muntele Rosu**	**11.35**	**40**	Pn	**Pn**	**22 30 38.9**	**+0.7**
	comp=E,0.1nm,0.3s,baz=316,slow=21,SNR=2.5							
GERES	**GERESS Array B**	**11.77**	**354**	Pn	**Pn**	**22 30 42.3**	**-1.7**
	comp=E,0.1nm,0.3s,baz=179,slow=13,SNR=1.5							
VRAC	**Vranov**	**12.16**	**3**	Pn	**Pn**	**22 30 46.4**	**-2.8**
	comp=E,0.3nm,0.3s,baz=225,slow=12,SNR=1.8							
BRTR	**Keskin Array B**	**14.32**	**74**	LR	LR	22 38 16.5		
	comp=E,25nm,18.1s,baz=274,slow=44							
ESDC	**Sonseca Array**	**15.59**	**285**	Pn	**Pn**	**22 31 37.2**	**+1.4**
	baz=170,slow=14,SNR=3.0							
AKASG	**Malin Array Be**	**16.65**	**31**	Pn	**Pn**	**22 31 48.2**	**-0.9**
	comp=E,0.2nm,0.3s,baz=221,slow=11,SNR=2.9							
MMAI	**Mount Meron Ar**	**16.67**	**99**	Pn	**Pn**	**22 31 49.0**	**-0.6**
	comp=E,1.1nm,0.3s,baz=289,slow=13,SNR=4.6							
EIL	**Elat**	**17.73**	**109**	P	**P**	**22 32 03.7**	**+0.2**
	comp=E,0.3nm,0.3s,baz=120,slow=20,SNR=2.5							
EIL				S	Sn	22 35 07.6	-12	
	comp=E,0.3nm,0.3s,baz=157,slow=6.6,SNR=2.1							
ASF	**Jabal al Asfar**	**18.15**	**100**	P	**P**	**22 32 08.8**	**+0.6**
	comp=E,0.2nm,0.3s,baz=312,slow=1.5,SNR=2.0							
ASF				S	Sn	22 35 19.8	-10	
	comp=E,0.1nm,0.3s,baz=263,slow=16,SNR=1.5							
KBZ	**Khabaz**	**21.68**	**64**	P	**P**	**22 32 47.1**	**+0.8**
	comp=E,1.6nm,0.9s,baz=292,slow=13,SNR=2.1							
HFS	**Hagfors**	**23.03**	**357**	P	**P**	**22 32 59.7**	**-0.9**
	comp=E,1.5nm,0.8s,baz=147,slow=2.9,SNR=1.9							
FINES	**FINESS Array B**	**25.17**	**12**	P	**P**	**22 33 20.5**	**-0.2**
	comp=E,0.6nm,0.7s,baz=169,slow=11,SNR=1.3							
TORD	**Torodi Ar. Bea**	**26.98**	**211**	P	**P**	**22 33 40.0**	**+2.5**
	comp=E,1.1nm,1.0s,baz=22,slow=9.6,SNR=4.6							
ZALV	**Zalesovo Beam**	**49.22**	**47**	P	**P**	**22 36 43.2**	**-0.4**
	comp=E,0.3nm,0.4s,baz=294,slow=6.2,SNR=1.8							

*IDC **20** 22:30:27.5±2.5,4.°85S×153.°72E,h0km,mb3.9/7, mb1 4.0/7,mb1mx3.7/41,mbtmp3.9/7,Error ellipse: s-maj=88.6km s-min=24.8km az=106.0*

ISC 20 22:30:35.7±2.3,4.°9S±0.°2×153.°6E±0.°5,h56km,n8,σ0°71/8, mb3.8/7,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.94**	**230**	P	**P**	**22 35 45.5**	**+0.6**
	1.8nm,0.5s,baz=55,slow=9.4,SNR=24						
ASAR	**Alice Springs**	**26.58**	**224**	P	**P**	**22 36 09.6**	**+0.7**
	0.3nm,0.4s,baz=56,slow=9.0,SNR=6.5						
STKA	**Stephens Creek**	**29.08**	**201**	P	**P**	**22 36 30.9**	**-0.1**
	0.6nm,0.3s,baz=40,slow=11,SNR=2.8						
FITZ	**Fitzroy Crossi**	**30.27**	**247**	P	**P**	**22 36 41.0**	**-0.7**
	0.7nm,0.5s,baz=60,slow=9.7,SNR=1.6						
MKAR	**Makanchi Array**	**80.90**	**319**	P	**P**	**22 42 45.0**	**+1.0**
	0.8nm,0.6s,baz=91,slow=8.5,SNR=11						
ZALV	**Zalesovo Beam**	**81.66**	**326**	P	**P**	**22 42 47.4**	**-0.5**
	0.7nm,0.6s,baz=101,slow=7.5,SNR=2.9						
BVAR	**Borovoye Array**	**89.77**	**323**	P	**P**	**22 43 28.1**	**0.0**
	1.1nm,0.7s,baz=157,slow=8.0,SNR=7.4						
TORD	**Torodi Ar. Bea**	**151.05**	**288**	PKPbc	**PKPbc**	**22 50 23.3**	**-0.3**
	1.2nm,0.7s,baz=53,slow=2.3,SNR=9.9						

*NNC **20** 22:42:18.4±5.0,37.°06N×69.°43E,h0km,mb4.5,mpv4.2, Error ellipse: s-maj=53.5km s-min=30.1km az=175.0*

*IDC **20** 22:42:19.6±0.9,37.°11N×69.°71E,h0km,mb3.8/17, mb1 3.9/23,mb1mx3.8/61,mbtmp3.8/23,ML3.6/7,MS3.0/5, Ms1 3.0/5,ms1mx2.7/40,Error ellipse: s-maj=16.6km s-min=12.5km az=155.0*

ISC 20 22:42:24.9±0.6,37.°33N±0.°06×69.°56E±0.°06,h27km,n45, σ2°22/46,mb3.7/16,MS3.0/4,8C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.99**	**151**	P	**Pn**	**22 43 29.0**	**+4.7**
CEP				S	**Sb**	**22 44 19.0**	**-3.3**
CHCP	**Chirah Chowk**	**4.75**	**139**	P	Pn	22 43 40.3	+5.6
THW	**Thamme Wali**	**4.86**	**158**	⇑P	**Pn**	**22 43 40.3**	**+4.0**
AML	**Almayashu**	**5.76**	**32**	P	**Pn**	**22 43 51.2**	**+2.2**
	SNR=32						
KK31	**Karatay Array**	**5.82**	**7**	⇑Pn	**Pn**	**22 43 50.9**	**+1.5**
	1.7nm,0.3s,baz=193,slow=15,SNR=25						
KK31				⇓Lg	Lg	22 45 30.4		
	98nm,1.1s,baz=189,slow=29,SNR=4.8						
UCH	**Uchtor**	**6.21**	**36**	P	**Pn**	**22 43 56.7**	**+1.6**
	SNR=37						
EKS2	**Erkin-Say**	**6.24**	**30**	P	**Pn**	**22 43 59.4**	**+4.2**
	SNR=8.1						
AAK	**Ala-Archa**	**6.52**	**34**	Pn	**Pn**	**22 44 00.8**	**+1.6**
	3.5nm,0.3s,baz=224,slow=6.2,SNR=61						
AAK				Sn	**Sn**	**22 45 16.0**	**+3.3**
	0.5nm,0.3s,baz=293,slow=20,SNR=1.0						
AAK				Lg	Lg	22 45 46.7		
	0.8nm,0.3s,baz=229,slow=18,SNR=1.8						
AAK	**Ala-Archa**	**6.52**	**34**	P	**Pn**	**22 44 01.5**	**+2.4**
	SNR=27						
AAK	**Ala-Archa**	**6.52**	**34**	⇓Pn	**Pn**	**22 44 01.1**	**+1.9**
	24nm,0.8s						
AAK				⇓Lg	Lg	22 45 51.2		
	53nm,1.3s						
KBK	**Karagaybulak**	**6.74**	**36**	P	**Pn**	**22 44 05.8**	**+3.6**
	SNR=8.9						
CHMS	**Chumysh**	**6.92**	**33**	P	**Pn**	**22 44 06.6**	**+2.1**
	SNR=19						
USP	**Ospenovka**	**7.03**	**31**	P	**Pn**	**22 44 08.1**	**+2.0**
	SNR=12						
TKM2	**Tokmak 2**	**7.25**	**38**	P	**Pn**	**22 44 10.3**	**+1.1**
	SNR=16						
TKM2	**Tokmak 2**	**7.25**	**38**	⇑Pn	**Pn**	**22 44 10.3**	**+1.1**
	10.0nm,0.6s						
TKM2				⇑Lg	Lg	22 46 18.9		
	23nm,0.8s						
MDOK	**Medeo**	**8.17**	**42**	⇑Pn	**Pn**	**22 44 17.6**	**-4.1**
	32nm,1.5s						
MDOK				⇑Lg	Lg	22 46 49.8		
	35nm,1.5s						
GEYT	**Alibeck**	**9.10**	**277**	Pn	**Pn**	**22 44 34.1**	**-0.3**
	1.2nm,0.3s,baz=102,slow=13,SNR=10						
GEYT				Sn	**Sn**	**22 46 15.2**	**-0.7**
	3.8nm,0.3s,baz=129,slow=15,SNR=5.1						
GEYT				LR	LR	22 49 37.6		
	comp=Z,85nm,20.7s,baz=85,slow=47							
MK31	**Makanchi Array**	**13.36**	**41**	⇑Pn	**Pn**	**22 45 31.8**	**-0.9**
	4.4nm,0.8s,baz=226,slow=12,SNR=11						
MKAR	**Makanchi Array**	**13.36**	**41**	Pn	**Pn**	**22 45 30.3**	**-2.4**
	0.1nm,0.3s,baz=225,slow=12,SNR=12						
AB31	**Akbulak array**	**13.81**	**333**	Pn	**Pn**	**22 45 37.5**	**-1.2**
	3.7nm,0.6s,baz=155,slow=12,SNR=43						
KURBB	**Kurchatov Arra**	**14.76**	**23**	Pn	**Pn**	**22 45 49.1**	**-2.6**
	0.0nm,0.3s,baz=216,slow=12,SNR=6.0						
KURBB				Lg	Lg	22 50 12.5		
	0.0nm,0.3s,baz=214,slow=26,SNR=1.8						
AKTO	**Aktyubinsk**	**15.50**	**331**	Pn	**Pn**	**22 46 01.0**	**-0.4**
	0.9nm,0.3s,baz=147,slow=12,SNR=13						
AKTO				Sn	**Sn**	**22 48 47.6**	**-4.5**
	0.2nm,0.3s,baz=71,slow=19,SNR=2.9						
AKTO	**Aktyubinsk**	**15.50**	**331**	⇑Pn	**Pn**	**22 46 01.7**	**+0.3**
	18nm,0.9s						
BVAR	**Borovoye Array**	**15.71**	**2**	Pn	**Pn**	**22 46 01.9**	**-2.2**
	0.2nm,0.3s,baz=183,slow=19,SNR=6.1						
ZALV	**Zalesovo Beam**	**19.68**	**28**	P	**P**	**22 46 49.8**	**-1.9**
	0.3nm,0.3s,baz=220,slow=9.7,SNR=7.5						
ARU	**Arti**	**20.49**	**342**	P	**P**	**22 46 59.7**	**-0.7**
	1.4nm,0.5s,baz=152,slow=7.6,SNR=7.4						
KBZ	**Khabaz**	**21.20**	**296**	LR	LR	22 58 14.5		
	comp=Z,36nm,19.1s,baz=57,slow=45							
KVAR	**Kislovodsk Arr**	**21.38**	**296**	P	**P**	**22 47 11.6**	**+1.4**
	2.3nm,0.8s,baz=125,slow=20,SNR=1.4						
BELG	**Belogornoye**	**21.52**	**321**	P	**P**	**22 47 11.9**	**+0.3**
	16nm,0.6s,baz=213,slow=1.6,SNR=7.5						
BRTR	**Keskin Array B**	**28.09**	**286**	P	**P**	**22 48 13.6**	**-0.7**
	0.2nm,0.4s,baz=303,slow=21,SNR=1.5						
SONM	**Songino Array**	**28.84**	**57**	P	**P**	**22 48 19.2**	**-1.8**
	0.2nm,0.3s,baz=262,slow=11,SNR=1.6						
AKASG	**Malin Array Be**	**31.53**	**308**	P	**P**	**22 48 46.9**	**+2.4**
	0.1nm,0.3s,baz=83,slow=7.1,SNR=1.9						
NRIK	**Noril'sk**	**33.53**	**11**	P	**P**	**22 49 03.3**	**+1.4**
	3.0nm,0.5s,baz=169,slow=5.6,SNR=4.2						
FINES	**FINESS Array B**	**36.15**	**326**	P	**P**	**22 49 26.2**	**+1.7**
	1.0nm,0.9s,baz=99,slow=12,SNR=1.4						
FINES				LR	LR	23 06 37.8		
	comp=Z,22nm,19.3s,baz=156,slow=40							
ARCES	**ARCESS Array B**	**39.94**	**338**	P	**P**	**22 49 58.0**	**+1.6**
	1.8nm,0.8s,baz=106,slow=6.8,SNR=13						
GERES	**GERESS Array B**	**41.51**	**304**	LR	LR	23 08 19.0		
	comp=Z,18nm,18.1s,baz=17,slow=37							
NB2	**NORSAR Subarra**	**43.02**	**323**	P	**P**	**22 50 23.0**	**+1.2**
	comp=Z,2.3nm,1.2s,baz=95,slow=8.6							
NOA	**NORSAR Array B**	**43.02**	**323**	P	**P**	**22 50 23.0**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=96,slow=8.1,SNR=3.7							
NOA				LR	LR	23 11 38.4		
	comp=Z,27nm,19.6s,baz=105,slow=41							
MJAR	**Matsushiro Arr**	**53.73**	**68**	P	**P**	**22 51 43.8**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=292,slow=7.7,SNR=1.8							
ESDC	**Sonseca Array**	**56.05**	**297**	P	**P**	**22 52 00.7**	**-0.7**
	comp=Z,0.2nm,0.8s,baz=62,slow=9.0,SNR=3.8							
TORD	**Torodi Ar. Bea**	**64.59**	**267**	P	**P**	**22 52 58.4**	**-1.7**
	comp=Z,1.0nm,0.8s,baz=50,slow=5.3,SNR=6.0							
ILAR	**Eielson Array**	**74.30**	**15**	P	**P**	**22 53 58.7**	**-0.6**
	comp=Z,0.7nm,0.9s,baz=312,slow=4.6,SNR=6.3							
YKA	**Yellowknife Ar**	**80.47**	**2**	P	**P**	**22 54 33.6**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=5.2,slow=5.2,SNR=2.7							
WRA	**Warramunga Arr**	**83.41**	**121**	P	**P**	**22 54 49.2**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=312,slow=4.5,SNR=2.0							
ASAR	**Alice Springs**	**85.67**	**124**	P	**P**	**22 55 00.6**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=318,slow=5.4,SNR=1.9							

*IDC **20** 22:45:01.0±0.8,55.°53S×35.°82W,h0km,mb4.0/8, mb1 4.2/9,mb1mx3.9/26,mbtmp4.1/9,ML4.3/1,MS3.1/1, Ms1 3.1/1,ms1mx2.6/18,Error ellipse: s-maj=28.1km s-min=18.2km az=59.0*

*NEIC **20** 22:45:03.5±1.9,55.°42S±0.°08×36.°0W±0.°2,h14km±5km, mb4.3/10,Error ellipse: s-maj=15.8km s-min=10.1km az=63.0*

ISC 20 22:45:02.7±0.6,55.°43S±0.°07×36.°1W±0.°1,h10km,n31, σ1°67/26,mb4.1/9,South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**1.17**	**347**		**Pn**	**22 45 24.2**	**-0.9**
HOPE				Sn	**Sb**	**22 45 41.0**	**+0.7**
PMSA	**Palmer Station**	**16.66**	**225**	Pn	**P**	**22 48 57.2**	**-1.1**
	1.1nm,0.3s,baz=63,slow=4.5,SNR=8.5						
PMSA	**Palmer Station**	**16.66**	**225**		**Pn**	**22 48 56.5**	**+0.6**
PMSA				IAmb	IAmb	22 49 03.5		
	comp=Z,34nm,1.2s							
VNA1	**Neumayer--Stat**	**19.48**	**152**	P	**Pn**	**22 49 33.1**	**+2.5**
VNA3	**Neumayer Olymp**	**19.50**	**154**	P	**Pn**	**22 49 33.3**	**+2.4**
VNA2	**Neumayer--Watz**	**19.88**	**152**	P	**Pn**	**22 49 39.6**	**+4.2**
SNAA	**Sanae**	**21.52**	**152**	P	**P**	**22 49 51.0**	**-0.5**
SNAA	**Sanae**	**21.52**	**152**	P	**P**	**22 49 48.4**	**-3.0**
	comp=Z,2.1nm,0.8s,baz=302,slow=10,SNR=12							
SNAA	**Sanae**	**21.52**	**152**	P	**P**	**22 49 48.5**	**-3.0**
PLCA	**Paso Flores**	**27.00**	**288**	LR	LR	23 00 16.1		
	comp=Z,41nm,21.6s,baz=162,slow=34							
CPUP	**Villa Florida**	**32.95**	**323**	P	**P**	**22 51 37.4**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=177,slow=6.5,SNR=5.2							
CPUP	**Villa Florida**	**32.95**	**323**	P	**P**	**22 51 37.6**	**+0.3**
QSPA	**South Pole Qui**	**34.83**	**180**	P	**P**	**22 51 52.3**	**-1.2**
	comp=Z,2.2nm,0.7s,baz=194,slow=2.0,SNR=10.0							
QSPA	**South Pole Qui**	**34.83**	**180**	P	**P**	**22 51 53.1**	**-0.4**
LVC	**Limon Verde**	**40.84**	**310**	P	**P**	**22 52 47.6**	**+2.7**
	comp=Z,2.6nm,0.8s,baz=164,slow=5.7,SNR=3.8							
SIV	**San Ignacio**	**43.80**	**324**	P	**P**	**22 53 08.7**	**+0.1**
	comp=Z,3.8nm,0.7s,baz=162,slow=7.3,SNR=23							
LPAZ	**La Paz**	**46.14**	**315**	P	**P**	**22 53 29.2**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=148,slow=7.6,SNR=7.6							
LPAZ	**La Paz**	**46.14**	**315**	P	**P**	**22 53 26.8**	**-1.1**
LPAZ				IAmb	IAmb	22 53 36.5		
	comp=Z,2.7nm,0.9s							
H10S2	**ASCENSION HYDR**	**49.35**	**28**	T	T	23 46 22.6		
	baz=195,slow=74,SNR=9.6							
H10S3	**ASCENSION HYDR**	**49.35**	**28**	T	T	23 46 22.6		
	baz=25,slow=74,SNR=19							
H10N3	**ASCENSION HYDR**	**50.45**	**28**	T	T	23 47 45.9		
	baz=194,slow=75,SNR=66							
H10N1	**ASCENSION HYDR**	**50.46**	**28**	T	T	23 47 46.0		
	baz=194,slow=75,SNR=42							
H10N2	**ASCENSION HYDR**	**50.47**	**28**	T	T	23 47 48.8		
	baz=194,slow=75,SNR=63							
SAML	**Samuel**	**51.09**	**325**	P	**P**	**22 54 04.9**	**-0.4**
SAML				IAmb	IAmb	22 54 06.4		
	comp=Z,2.9nm,0.9s							
TSUM	**Tsumeb**	**53.98**	**70**	P	**P**	**22 54 26.9**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=173,slow=8.1,SNR=2.7							
TSUM	**Tsumeb**	**53.98**	**70**	P	**P**	**22 54 26.3**	**-0.6**
TSUM				IAmb	IAmb	22 54 39.3		
	comp=Z,5.8nm,1.4s							
TORD	**Torodi Ar. Bea**	**75.32**	**38**	P	**P**	**22 56 46.2**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=200,slow=5.1,SNR=7.5							
TORD	**Torodi Ar. Bea**	**75.32**	**38**	P	**P**	**22 56 46.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**129.87**	**119**	PKP	**PKiKP**	**23 04 12.8**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=260,slow=2.7,SNR=1.1							
ILAR	**Eielson Array**	**146.02**	**314**	PKPbc	**PKPdf**	**23 04 40.3**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=124,slow=3.1,SNR=3.8							
ZALV	**Zalesovo Beam**	**146.68**	**67**	PKPbc	**PKPdf**	**23 04 41.4**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=294,slow=1.5,SNR=3.8							

*IDC **20** 22:45:27.1±5.0,25.°58N×122.°75E,h256km±61km,mb3.2/7, mb1 3.2/9,mb1mx2.9/51,mbtmp3.8/9,Error ellipse: s-maj=72.5km s-min=20.6km az=62.0*

*JMA **20** 22:45:29.6±0.2,25.°37N×122.°76E,h252km±3km,M4.7*

ISC 20 22:45:27.4±0.8,25.°7N±0.°1×122.°86E±0.°08,h259km±10km, n27,σ1°74/43,mb3.4/7,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**1.19**	**173**	P	**Pn**	**22 46 04.7**	**+0.1**
YOJ				*e*S	**S**	**22 46 32.3**	**-1.7**
JYNG	**Yonagunijimaku**	**1.20**	**176**	P	**Pn**	**22 46 04.4**	**-0.3**
JYNG				S	**S**	**22 46 32.5**	**-1.5**
IRIF	**Iriomote-Funau**	**1.53**	**149**	P	**Pn**	**22 46 07.0**	**+0.1**
IRIF				*e*S	**S**	**22 46 36.2**	**-1.9**
JISG	**Ishigakijimahi**	**1.69**	**129**	P	**Pn**	**22 46 08.8**	**+0.7**
JISG				S	**S**	**22 46 39.2**	**-1.0**
JIJ	**Ishigaki jima**	**1.73**	**137**	P	**Pn**	**22 46 09.0**	**+0.5**
JIJ				S	**S**	**22 46 38.6**	**-2.3**
JKRS	**Kuro-shima**	**1.75**	**143**	P	**Pn**	**22 46 09.4**	**+0.7**
JKRS				S	**S**	**22 46 39.7**	**-1.5**
HATJ	**Hateruma jima**	**1.81**	**151**	P	**Pn**	**22 46 09.8**	**+0.7**
HATJ				*e*S	**S**	**22 46 40.0**	**-2.0**
JTJ	**Tarama**	**1.95**	**121**	P	**Pn**	**22 46 11.7**	**+1.4**
JTJ				S	**S**	**22 46 43.8**	**-0.3**
JIRB	**Irabujima**	**2.25**	**111**	P	**Pn**	**22 46 14.6**	**+1.6**
JIRB				S	**S**	**22 46 48.1**	**-0.9**
JIKM	**Ikemajima**	**2.28**	**108**	P	**Pn**	**22 46 15.0**	**+1.7**
JIKM				S	**S**	**22 46 49.6**	**+0.1**
JMJ2	**Miyako jima3**	**2.42**	**112**	P	**Pn**	**22 46 16.6**	**+2.1**
JMJ2				S	**S**	**22 46 52.1**	**+0.3**
JOGS	**Gusukube**	**2.47**	**110**	P	**Pn**	**22 46 17.3**	**+2.2**
JOGS				S	**S**	**22 46 53.3**	**+0.4**
JKE	**Kume jima 2**	**3.60**	**78**	P	**Pn**	**22 46 28.4**	**+1.4**
JKE				*e*S	**S**	**22 47 14.2**	**-0.2**
JAGN	**Aguni-jima**	**4.05**	**76**	*e*S	**S**	**22 47 21.9**	**-1.9**
JJT3	**Tamagusuku3**	**4.46**	**83**	S	**S**	**22 47 31.1**	**-1.5**
JNTH	**Nagotoyohara**	**4.72**	**78**	P	**Pn**	**22 46 40.8**	**+0.6**
JNTH				*e*S	**S**	**22 47 35.3**	**-2.9**
JIH	**Iheya**	**4.79**	**72**	*e*S	**S**	**22 47 36.8**	**-2.8**
JOW	**Kunigami**	**5.00**	**75**	P	**Pn**	**22 46 43.9**	**+0.3**
	3.4nm,0.3s,baz=350,slow=30,SNR=17							
JOW				S	**S**	**22 47 39.0**	**-5.3**
	15nm,0.3s,baz=125,slow=26,SNR=17							
JOW	**Kunigami**	**5.00**	**75**	P	**Pn**	**22 46 43.9**	**+0.3**
JOW				*e*S	**S**	**22 47 40.4**	**-4.0**
KSRS	**Korea Array**	**12.53**	**19**	P	**Pn**	**22 48 19.8**	**+2.5**
	0.3nm,0.3s,baz=209,slow=12,SNR=5.8							
SONM	**Songino Array**	**25.67**	**334**	P	**P**	**22 50 33.7**	**-0.1**
	0.3nm,0.3s,baz=144,slow=10,SNR=4.0							
MKAR	**Makanchi Array**	**38.38**	**314**	P	**P**	**22 52 24.0**	**+0.1**
	2.0nm,0.3s,baz=100,slow=8.2,SNR=103							
ZALV	**Zalesovo Beam**	**39.87**	**325**	P	**P**	**22 52 35.6**	**-0.4**
	1.4nm,0.5s,baz=121,slow=9.5,SNR=8.6							
KURBB	**Kurchatov Arra**	**42.00**	**318**	P	**P**	**22 52 52.4**	**-0.9**
	0.3nm,0.3s,baz=110,slow=8.2,SNR=19							
WRA	**Warramunga Arr**	**46.67**	**165**	P	**P**	**22 53 30.2**	**-0.4**
	0.6nm,0.9s,baz=349,slow=8.5,SNR=1.3							
FINES	**FINESS Array B**	**70.95**	**330**	P	**P**	**22 56 16.4**	**-0.1**
	0.8nm,0.7s,baz=72,slow=6.2,SNR=5.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H03N3	**Juan Fernandez**	**6.63**	**245**	T	T	23 08 35.2	
	baz=72,slow=72,SNR=60						
H03N2	**Juan Fernandez**	**6.63**	**245**	T	T	23 08 36.5	
	baz=72,slow=72,SNR=68						
H03S3	**Juan Fernandez**	**6.76**	**242**	T	T	23 08 47.5	
	baz=81,slow=75,SNR=3.2						
H03S1	**Juan Fernandez**	**6.77**	**242**	T	T	23 08 44.5	
	baz=81,slow=75,SNR=4.0						
H03S2	**Juan Fernandez**	**6.78**	**242**	T	T	23 08 46.0	
	baz=81,slow=75,SNR=5.3						
LC01	**Cunco**	**8.07**	**181**	Pn	**Pn**	**23 02 05.0**	**-1.1**
PLCA	**Paso Flores**	**9.95**	**175**	Pn	**Pn**	**23 02 31.6**	**-0.3**
	comp=N,0.1nm,0.3s,baz=172,slow=20,SNR=1.1						
TRQA	**Tornquist**	**10.82**	**134**	Pn	**Pn**	**23 02 46.2**	**+2.3**
CPUP	**Villa Florida**	**13.43**	**74**	LR	LR	23 08 52.6	
	comp=N,62nm,19.6s,baz=218,slow=39						
LPAZ	**La Paz**	**14.83**	**14**	Pn	**Pn**	**23 03 40.9**	**+1.6**
	comp=N,0.0nm,0.3s,baz=195,slow=3.6,SNR=2.3						
VNDA	**Vanda**	**67.27**	**191**	P	**P**	**23 11 00.8**	**-1.5**
	comp=N,0.6nm,0.7s,baz=135,slow=5.7,SNR=5.6						
MAW	**Mawson**	**76.16**	**164**	P	**P**	**23 11 56.3**	**+0.6**
	comp=N,1.4nm,0.8s,baz=323,slow=11,SNR=3.6						
TORD	**Torodi Ar. Bea**	**82.90**	**70**	P	**P**	**23 12 32.8**	**-0.5**
	comp=N,0.3nm,0.9s,baz=254,slow=5.3,SNR=5.7						
H11S2	**WAKE ISLAND Hy**	**126.00**	**271**	T	T	01 37 56.0	
	baz=116,slow=75,SNR=30						
H11S1	**WAKE ISLAND Hy**	**126.02**	**271**	T	T	01 37 56.3	
	baz=116,slow=75,SNR=11						
H11S3	**WAKE ISLAND Hy**	**126.02**	**271**	T	T	01 37 56.6	
	baz=116,slow=75,SNR=22						
ZALV	**Zalesovo Beam**	**151.37**	**29**	PKPbc	**PKiKP**	**23 20 02.6**	**+0.8**
	comp=N,0.4nm,0.5s,baz=316,slow=4.0,SNR=2.0						

*IDC **20** 23:02:14.5±1.8, 13.17N×125.07E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.4/31, mbtmp3.4/5, MS2.9/1, Ms1 2.9/1, ms1mx2.3/33, Error ellipse: s-maj=179.6km s-min=22.5km az=69.0*

*MAN **20** 23:02:16.9, 13.10N×124.63E, h41km, mb5.1, ML4.0, MS4.1*

ISC 20 23:02:20.3±1.1**, 13.08N**±0.07×**124.4E**±0.1**, h35km, n16,** σ1s**63**/11**, mb3.4**/5**, 1C, Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCNP	**Jose Panganiba**	**2.06**	**306**	*e*P	**Pn**	**23 02 50.8**	**-1.6**
RCP	**Roxas**	**2.23**	**227**	⇑*e*P	**Pn**	**23 02 54.5**	**-0.2**
RCP				*e*S	**Sn**	**23 03 22.9**	**+1.9**
LLP	**Lapu-Lapu**	**2.78**	**189**	*e*P	**Pn**	**23 03 00.6**	**-1.9**
LLP				*e*S	**Sn**	**23 03 34.0**	**-0.9**
MSLP	**Maasin**	**2.96**	**172**	*e*P	**Pn**	**23 03 06.3**	**+1.4**
DAV	**Davao City (W)**	**6.08**	**169**	LR	LR	23 06 05.9	
	comp=Z,105nm,19.9s,baz=40,slow=38						
WRA	**Warramunga Arr**	**34.24**	**163**	P	**P**	**23 09 01.3**	**-1.8**
	0.2nm,0.5s,baz=345,slow=10,SNR=1.1						
ASAR	**Alice Springs**	**37.69**	**166**	P	**P**	**23 09 31.4**	**-1.2**
	0.2nm,0.3s,baz=354,slow=8.4,SNR=2.5						
SONM	**Songino Array**	**37.77**	**340**	P	**P**	**23 09 34.0**	**+0.9**
	0.2nm,0.5s,baz=147,slow=8.9,SNR=0.9						
H11S3	**WAKE ISLAND Hy**	**40.96**	**77**	T	T	23 53 41.2	
	baz=269,slow=75,SNR=29						
H11S1	**WAKE ISLAND Hy**	**40.98**	**77**	T	T	23 53 40.3	
	baz=269,slow=75,SNR=16						
H11S2	**WAKE ISLAND Hy**	**40.98**	**77**	T	T	23 53 42.5	
	baz=269,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**41.20**	**75**	T	T	23 53 54.5	
	baz=267,slow=74,SNR=49						
H11N2	**WAKE ISLAND Hy**	**41.20**	**75**	T	T	23 53 54.9	
	baz=267,slow=74,SNR=57						
H11N3	**WAKE ISLAND Hy**	**41.21**	**75**	T	T	23 53 56.8	
	baz=267,slow=74,SNR=76						
MKAR	**Makanchi Array**	**48.70**	**322**	P	**P**	**23 11 03.0**	**+1.6**
	0.3nm,0.7s,baz=124,slow=6.7,SNR=1.8						
ZALV	**Zalesovo Beam**	**51.30**	**331**	P	**P**	**23 11 21.7**	**+0.8**
	0.4nm,0.4s,baz=126,slow=8.7,SNR=4.8						

KRSC 20 23:16:10.1±2.0**, 49.50N**×**156.78E, h16**km±27km**, ML4.2, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.26**	**340**	*e*P	Pn	23 16 31.9	-1.2
SKR				*e*S	Sb	23 16 47.4	-2.1
ALID	**Alaid**	**1.59**	**330**	*e*P	Pn	23 16 36.4	-1.3
PAU	**Pauzhetka**	**1.97**	**1**	*e*P	Pn	23 16 43.9	+1.0
PAU				*e*S	Sb	23 17 08.7	-1.3
KDTR	**Khodutka, Kamc**	**2.46**	**19**	*e*P	Pn	23 16 51.5	+2.0
KDTR				*e*S	Sb	23 17 22.4	-1.5
MIPR	**Malaya Ipel'ka**	**2.78**	**360**	*e*P	Pn	23 16 54.7	+0.7
ASAK	**Asacha**	**2.98**	**13**	*e*P	Pn	23 16 59.4	+2.7
ASAK				*e*S	Sb	23 17 36.2	-2.7
MTVR	**Mutnovka**	**3.12**	**16**	*e*P	Pn	23 17 01.8	+3.0
MTVR				*e*S	Sb	23 17 40.3	-2.8
RUS	**Russkaya**	**3.14**	**20**	*e*P	Pn	23 17 01.5	+2.6
RUS				*e*S	Sn	23 17 38.6	+2.6
GRL	**Gorelyy**	**3.17**	**14**	*e*P	Pn	23 17 02.6	+3.2
APC	**Apacha**	**3.44**	**4**	*e*P	Pn	23 17 06.0	+3.0
KRMR	**Karymshinskiy**	**3.44**	**14**	*e*P	Pn	23 17 06.4	+3.3
KRMR				*e*S	Sn	23 17 47.8	+4.3
PET	**Petropavlovsk**	**3.72**	**18**	*e*P	Pn	23 17 10.8	+3.9
PET				*e*S	Sn	23 17 54.7	+4.3
DALK	**Dalny**	**3.75**	**19**	*e*P	Pn	23 17 10.8	+3.5
DALK				*e*S	Sb	23 17 56.9	-4.1
UGLR	**Uglovaya**	**3.93**	**18**	*e*P	Pb	23 17 14.8	-4.3
AVH	**Avacha**	**3.97**	**17**	*e*P	Pn	23 17 12.7	+2.4
KOK	**Koryaka**	**3.97**	**16**	*e*P	Pb	23 17 15.2	-4.6
KRER	**Koryakskii**	**4.01**	**17**	*e*P	Pb	23 17 16.2	-4.2
SDLR	**Sedlovina**	**4.01**	**18**	*e*P	Pn	23 17 13.8	+2.8
NLC	**Nalytchevo**	**4.01**	**23**	S	Sn	23 18 01.3	+3.7
KRX	**Arik**	**4.04**	**16**	*e*P	Pb	23 17 16.2	-4.7
KRX				*e*S	Sn	23 18 03.9	+5.4
SPN	**Mys Shipunski**	**4.14**	**28**	*e*P	Pn	23 17 15.9	+3.3
SPN				*e*S	Sn	23 18 05.1	+4.4
GNL	**Ganaly**	**4.27**	**9**	*e*P	Pn	23 17 18.5	+4.0
KII	**Karymskiy**	**4.84**	**19**	*e*P	Pn	23 17 27.2	+4.9
MKZ	**Mys Kozlova**	**5.91**	**29**	P	Pn	23 17 40.9	+3.9
KZV	**Kizimen**	**6.02**	**20**	*e*P	Pn	23 17 44.2	+5.6
TUMR	**Tumrok**	**6.15**	**18**	*e*P	Pn	23 17 44.6	+4.3
KMNR	**Kamenistaya**	**6.61**	**17**	*e*P	Pn	23 17 53.0	+6.3
KBTR	**Krutoberegovo**	**7.65**	**26**	P	Pn	23 18 04.7	+3.9

*IDC **20** 23:21:54.8±5.2, 19.30N×144.44E, h375km±57km, mb3.0/8, mb1 3.2/9, mb1mx2.9/59, mbtmp3.8/9, Error ellipse: s-maj=36.6km s-min=14.0km az=92.0*

ISC 20 23:21:57.1±1.0**, 19.3N**±0.1×**144.4E**±0.3**, h400km, n9,** σ1s**29**/9**, mb3.3**/8**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**18.01**	**344**	P	**P**	**23 25 40.3**	**-1.3**
	0.1nm,0.3s,baz=178,slow=11,SNR=4.3						
KLR	**Kul'dur**	**31.54**	**344**	P	**P**	**23 27 44.5**	**+0.5**
	0.9nm,0.4s,baz=126,slow=18,SNR=4.3						
WRA	**Warramunga Arr**	**40.23**	**195**	P	**P**	**23 28 56.9**	**-0.3**
	1.0nm,0.4s,baz=22,slow=10,SNR=19						
ASAR	**Alice Springs**	**43.92**	**194**	P	**P**	**23 29 26.2**	**-0.3**
	0.4nm,0.6s,baz=18,slow=7.0,SNR=5.9						
KURBB	**Kurchatov Arra**	**60.04**	**318**	P	**P**	**23 31 21.7**	**-1.6**
	0.2nm,0.2s,baz=110,slow=5.0,SNR=4.1						
ILAR	**Eielson Array**	**63.65**	**26**	P	**P**	**23 31 46.3**	**-0.6**
	0.3nm,0.5s,baz=260,slow=5.4,SNR=3.8						
BVAR	**Borovoye Array**	**65.22**	**320**	P	**P**	**23 31 59.2**	**+2.1**
	0.1nm,0.3s,baz=117,slow=6.2,SNR=1.1						
NVAR	**Mina Array Bea**	**83.74**	**52**	P	**P**	**23 33 43.2**	**+0.3**
	0.9nm,0.7s,baz=268,slow=6.1,SNR=9.0						
FINES	**FINESS Array B**	**85.81**	**335**	P	**P**	**23 33 53.2**	**+0.8**
	1.3nm,0.9s,baz=23,slow=4.5,SNR=1.5						

*MOS **20** 23:26:22.0±0.9, 34.25N×137.11E, h343km, mb4.4/18, Error ellipse: s-maj=7.7km s-min=4.5km az=113.2*

*JMA **20** 23:26:23.3±0.1, 34.39N×137.14E, h347km±2km, M4.5 Broadband fault plane solution: P waves. NP1: ϕ_s283.00000°, δ40.00000°, λ-4.00000°. NP2:ϕ_s16.00000°, δ88.00000°, λ-130.00000°. Principal axes: T Plg31.0000°, Azm138.0000°; N Plg40.0000°, Azm18.0000°; P Plg35.0000°, Azm253.0000°;*

*NEIC **20** 23:26:23.7±1.9, 34.32N±0.04×137.20E±0.06, h340km±4km, mb4.4/177 Error ellipse: s-maj=8.4km s-min=4.4km az=50.0*

*NIED **20** 23:26:23.3, 34.39N×137.14E, h347km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10[15]Nm; M_{rr}-0.56; $M_{\theta\theta}$1.89; $M_{\phi\phi}$-1.33; $M_{r\theta}$-1.91; $M_{\theta\phi}$3.62; $M_{\phi r}$-5.19; Fault plane solution: $M_0$6.79000×10[15] NP1:ϕ_s17.00000°, δ87.00000°, λ-125.00000°. NP2:ϕ_s283.00000°, δ35.00000°, λ-5.00000°.*

*IDC **20** 23:26:23.1±0.4, 34.29N×137.13E, h336km±3km, mb4.0/42, mb1 4.0/50, mb1mx4.0/71, mbtmp4.7/50 Error ellipse: s-maj=7.4km s-min=6.1km az=64.0*

*BGR **20** 23:26:27.1±0.0, 34.29N×136.65E, h340km, mb4.9*

ISC 20 23:26:23.0±0.4**, 34.31N**±0.03×**137.16E**±0.04**, h339**km±3km**, h340km:pP-P, n565,** σ1s**14**/621**, mb4.4**/204**, 27C-12D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAA	**Atsumi**	**0.32**	**357**	⇓P	**Pn**	**23 27 07.3**	**+1.6**
JAA				S	**S**	**23 27 41.4**	**+1.5**
JIE	**Ise**	**0.39**	**282**	⇑P	**Pn**	**23 27 07.1**	**+1.3**
JIE				*e*S	**S**	**23 27 41.0**	**+0.9**
TK02	**Tokai 2**	**0.61**	**126**	P	**Pn**	**23 27 07.8**	**+1.7**
TTO1	**TONANKAI O.B.S**	**0.75**	**205**	P	**Pn**	**23 27 08.2**	**+1.7**
JSG	**Sagara**	**0.92**	**66**		**Pn**	**23 27 08.8**	**+1.6**
JSG				Sn	**S**	**23 27 44.9**	**+2.2**
INU	**Inuyama**	**1.04**	**353**	Pn	**Pn**	**23 27 08.6**	**+0.9**
INU				Sn	**S**	**23 27 43.7**	**+0.2**
JGF	**Kuroka**	**1.30**	**7**		**Pn**	**23 27 09.8**	**+0.8**
JGF				Sn	**S**	**23 27 45.6**	**-0.2**
JWY	**Kouya**	**1.30**	**266**	⇑P	**Pn**	**23 27 10.2**	**+1.1**
JWY				S	**S**	**23 27 46.3**	**+0.3**
JYTA	**Yamagatataniai**	**1.33**	**345**	⇑P	**Pn**	**23 27 10.1**	**+1.0**
JYTA				*e*S	**S**	**23 27 46.2**	**+0.2**
JTNC	**Tanabenakahech**	**1.38**	**250**	⇑P	**Pn**	**23 27 10.5**	**+1.0**
JTNC				*e*S	**S**	**23 27 47.0**	**+0.4**
JFNN	**Fujinakano**	**1.53**	**54**	P	**Pn**	**23 27 11.3**	**+1.1**
JYN	**Shimob**	**1.64**	**43**	⇓P	**Pn**	**23 27 11.7**	**+0.7**
JWT	**Wachi**	**1.75**	**304**	⇑P	**Pn**	**23 27 12.5**	**+1.0**
JWT				*e*S	**S**	**23 27 50.5**	**+0.1**
JWT	**Wachi**	**1.75**	**304**	Pn	**Pn**	**23 27 12.6**	**+1.1**
JWT				Sn	**S**	**23 27 49.8**	**-0.6**
JOD2	**Odawara 2**	**1.85**	**58**	⇓P	**Pn**	**23 27 13.0**	**+0.7**
JKG	**Kaga**	**2.08**	**341**	P	**Pn**	**23 27 14.5**	**+0.7**
JKG				*e*S	**S**	**23 27 54.0**	**-0.6**
JRY	**Ryogami san**	**2.22**	**39**	⇓P	**Pn**	**23 27 15.9**	**+0.9**
JRY				*e*S	**S**	**23 27 56.5**	**-0.1**
JAI	**Aioi**	**2.31**	**258**	⇑P	**Pn**	**23 27 16.4**	**+0.7**
JAI				*e*S	**S**	**23 27 58.0**	**+0.1**
MAJO	**Matsushiro**	**2.39**	**21**	P	**Pn**	**23 27 17.0**	**+0.8**
MAJO						23 27 57.8	
MAJO	**Matsushiro**	**2.39**	**21**	Pn	**Pn**	**23 27 17.0**	**+0.8**
MAJO				Sn	**S**	**23 27 57.8**	**-1.1**
MAT	**Matsushiro**	**2.39**	**21**	P	**Pn**	**23 27 16.9**	**+0.7**
MAT				S	**S**	**23 27 58.3**	**-0.7**
MAT	**Matsushiro**	**2.39**	**21**	P	**Pn**	**23 27 16.9**	**+0.7**
MAT				*e*S	**S**	**23 27 58.3**	**-0.7**
MJAR	**Matsushiro Arr**	**2.39**	**21**	P	**Pn**	**23 27 17.1**	**+0.9**
	16nm,0.3s,baz=188,slow=9.3,SNR=1316						
MJAR				S	**S**	**23 27 57.9**	**-1.0**
	3.4nm,0.3s,baz=194,slow=15,SNR=20						
MJAR	**Matsushiro Arr**	**2.39**	**21**	Pn	**Pn**	**23 27 16.0**	**-0.2**
MJB9	**Matsu-Tunnel**	**2.39**	**21**		**Pn**	**23 27 17.1**	**+0.8**
MJB9				Sn	**S**	**23 27 58.1**	**-0.9**
JHJ	**Hachijo jima 2**	**2.48**	**118**	P	**Pn**	**23 27 18.0**	**+0.9**
	153nm,0.3s,baz=22,slow=1.2,SNR=27						
JHJ				S	**S**	**23 27 59.9**	**-0.6**
	68nm,0.3s,baz=54,slow=21,SNR=5.7						
JHJ2	**Mitsune**	**2.51**	**118**	P	**Pn**	**23 27 18.2**	**+0.8**
JHJ2	**Mitsune**	**2.51**	**118**	Pn	**Pn**	**23 27 18.0**	**+0.6**
JHJ2				Sn	**S**	**23 28 01.4**	**+0.5**
JMN	**Monobe**	**2.79**	**259**	⇑P	**Pn**	**23 27 20.5**	**+0.7**
JMN				*e*S	**S**	**23 28 05.9**	**+0.6**
JMN	**Monobe**	**2.79**	**259**	Pn	**Pn**	**23 27 20.6**	**+0.9**
JAG	**Ashikaga**	**2.82**	**41**	⇓P	**Pn**	**23 27 19.2**	**-0.7**
JYT	**Yasato**	**3.13**	**51**	Pn	**Pn**	**23 27 21.8**	**-0.9**
BSO1	**Boso 1**	**3.17**	**83**	P	**Pn**	**23 27 21.6**	**-0.9**
JHS	**Saijyo**	**3.41**	**283**	⇑P	**Pn**	**23 27 26.4**	**+0.9**
JHS				S	**S**	**23 28 16.0**	**+0.4**
JHS	**Saijyo**	**3.41**	**283**	Pn	**Pn**	**23 27 26.3**	**+0.9**
JOI	**OKI**	**3.76**	**303**	⇑P	**Pn**	**23 27 29.4**	**+0.5**
JSD	**Sado**	**3.83**	**13**	Pn	**Pn**	**23 27 29.3**	**-0.2**
JTO	**Tosashimizu**	**3.92**	**250**	⇑P	**Pn**	**23 27 31.2**	**+0.6**
JMM	**Marumori**	**4.61**	**39**		**Pn**	**23 27 37.1**	**-0.6**
JNU	**Nakatsue**	**5.37**	**259**	P	**Pn**	**23 27 47.4**	**+1.0**
	2.1nm,0.3s,baz=72,slow=5.8,SNR=15						
JNU				S	**S**	**23 28 52.8**	**-0.9**
	0.4nm,0.3s,baz=81,slow=14,SNR=6.0						
JNU	**Nakatsue**	**5.37**	**259**	Pn	**Pn**	**23 27 47.1**	**+0.8**
JNU					**S**	**23 28 53.3**	**-0.4**
JSU	**Suzuyama**	**6.30**	**245**	Pn	**Pn**	**23 27 57.3**	**+0.3**
JTU	**Tsushima**	**6.42**	**274**	Pn	**Pn**	**23 27 59.1**	**+0.8**
KSBUS	**Busan**	**6.69**	**280**	P	**Pn**	**23 28 02.0**	**+0.5**
	SNR=6.3						
KSUSN	**Ulsan**	**6.74**	**284**	P	**Pn**	**23 28 02.7**	**+0.6**
	SNR=21						
KSULJ	**Uljin**	**6.76**	**293**	P	**Pn**	**23 28 03.0**	**+0.7**
	SNR=23						
KSYOC	**YEONGCHEON**	**6.93**	**286**	P	**Pn**	**23 28 05.3**	**+1.0**
	SNR=10.0						
KSDAG	**Daegu**	**6.94**	**284**	P	**Pn**	**23 28 05.2**	**+0.8**
	SNR=16						
IMWB	**Imwonan-gil**	**7.00**	**297**	P	**Pn**	**23 28 06.1**	**+1.1**
	SNR=6.0						
KSADO	**Andong**	**7.03**	**290**	P	**Pn**	**23 28 06.2**	**+0.8**
	SNR=22						
JTM	**Tenmabayashi**	**7.17**	**24**	Pn	**Pn**	**23 28 06.2**	**-0.8**
KSTBA	**Taebaek**	**7.24**	**295**	P	**Pn**	**23 28 09.1**	**+1.0**
	SNR=26						
OKEB	**Okgye-meyeon**	**7.41**	**299**	P	**Pn**	**23 28 11.1**	**+1.1**
	SNR=16						
KSYOW	**Yeongwol**	**7.63**	**294**	P	**Pn**	**23 28 13.8**	**+1.2**
	SNR=35						
KSSAJ	**Sangju**	**7.65**	**288**	P	**Pn**	**23 28 14.1**	**+1.3**
	SNR=5.0						
KSDGY	**Daegwallycong**	**7.66**	**299**	P	**Pn**	**23 28 14.2**	**+1.2**
	SNR=17						
KSJMJ	**Jumunjin**	**7.68**	**300**	P	**Pn**	**23 28 14.3**	**+1.2**
	SNR=19						
KSCPR	**CHUPUNGNYEONG**	**7.76**	**287**	P	**Pn**	**23 28 15.4**	**+1.3**
	SNR=35						
KSMGY	**Mungyeong**	**7.79**	**290**	P	**Pn**	**23 28 15.8**	**+1.4**
	SNR=15						
HAMB	**Hamyang**	**7.83**	**281**	P	**Pn**	**23 28 16.3**	**+1.4**
	SNR=12						
KSCHJ	**Chungju**	**7.91**	**291**	P	**Pn**	**23 28 17.1**	**+1.2**
	SNR=21						
OKCB	**Cheongsan-myeo**	**7.92**	**288**	P	**Pn**	**23 28 17.4**	**+1.4**
	SNR=19						
KSBON	**Boeun**	**7.95**	**289**	P	**Pn**	**23 28 18.5**	**+2.1**
	SNR=5.7						
KSWJU	**Wonju**	**8.02**	**295**	P	**P**	**23 28 19.0**	**-1.8**
	SNR=8.5						
KSSKC	**Sokcho**	**8.03**	**302**	P	**Pn**	**23 28 18.5**	**+1.3**
	SNR=12						
NAWB	**Namwon**	**8.10**	**281**	P	**P**	**23 28 20.0**	**-1.7**
	SNR=6.3						
KSRS	**Korea Array**	**8.13**	**295**	P	**Pn**	**23 28 19.9**	**+1.4**
	3.4nm,0.3s,baz=109,slow=12,SNR=172						
KSRS				ScP	**ScP**	**23 37 13.7**	**-0.7**
	0.3nm,0.3s,baz=179,slow=1.3,SNR=11						
KSAR	**Wonju Array Be**	**8.15**	**295**	P	**Pn**	**23 28 19.2**	**+0.4**
KSAR	**Wonju Array Be**	**8.15**	**295**		**Pn**	**23 28 19.2**	**+0.4**
KS19	**Wonju Array Si**	**8.19**	**296**		**Pn**	**23 28 19.2**	**0.0**
SEHB	**SEOHWA**	**8.21**	**301**	P	**Pn**	**23 28 20.9**	**+1.4**
	SNR=10.0						
EMSB	**Eumseong**	**8.21**	**292**	P	**Pn**	**23 28 21.0**	**+1.6**
	SNR=9.5						
KSJEO	**Jeonju**	**8.25**	**284**	P	**Pn**	**23 28 21.2**	**+1.3**
	SNR=9.5						
TJN	**Taejon**	**8.27**	**287**	*ce*P	**Pn**	**23 28 20.9**	**+0.7**
KSCHC	**Chuncheon**	**8.32**	**297**	P	**Pn**	**23 28 22.1**	**+1.3**
	SNR=19						
JCJ	**Chichijima**	**8.39**	**148**	P	Pn	23 28 16.3	-5.5
	28nm,0.3s,baz=9.5,slow=18,SNR=26						
JCJ				S	S	23 29 47.0	-12
	79nm,0.3s,baz=318,slow=20,SNR=13						
JCJ	**Chichijima**	**8.39**	**148**	Pn	**Pn**	**23 28 17.6**	**-4.1**
KSKWJ	**Gwangju**	**8.42**	**279**	P	**P**	**23 28 26.7**	**+1.5**
	SNR=14						
KSCEA	**Cheonan**	**8.45**	**290**	P	**P**	**23 28 24.0**	**-1.6**
	SNR=10						
KSICN	**Icheon**	**8.46**	**293**	P	**P**	**23 28 24.3**	**-1.4**
	SNR=5.6						
KSJEU	**Jeongeup**	**8.49**	**281**	P	**P**	**23 28 27.2**	**+1.2**
	SNR=6.9						
KSJEU	**Jeongeup**	**8.49**	**281**	P	**P**	**23 28 27.2**	**+1.2**
	SNR=6.9						
HWCB	**Hwacheon**	**8.60**	**300**	P	**Pn**	**23 28 25.6**	**+1.4**
	SNR=15						
HWCB	**Hwacheon**	**8.60**	**300**	P	**Pn**	**23 28 25.6**	**+1.4**
	SNR=15						
PYTK	**Pyeongtaek**	**8.61**	**291**	P	**P**	**23 28 25.9**	**-1.5**
	SNR=6.3						
PYTK	**Pyeongtaek**	**8.61**	**291**	P	**P**	**23 28 25.9**	**-1.5**
	SNR=6.3						
KSCWO	**Cheorwon**	**8.66**	**299**	P	**Pn**	**23 28 26.2**	**+1.3**
	SNR=22						
KSCWO	**Cheorwon**	**8.66**	**299**	P	**Pn**	**23 28 26.2**	**+1.3**
	SNR=22						
GOCB	**Gochang-gun**	**8.75**	**280**	P	**P**	**23 28 30.0**	**+1.0**
	SNR=15						
GOCB	**Gochang-gun**	**8.75**	**280**	P	**P**	**23 28 30.0**	**+1.0**
	SNR=15						
KSSWO	**Suwon**	**8.79**	**293**	P	**P**	**23 28 28.1**	**-1.3**
	SNR=7.9						
KSSWO	**Suwon**	**8.79**	**293**	P	**Pn**	**23 28 27.8**	**+1.4**
	SNR=8.9						
SMKB	**Mukjeong-gil**	**8.81**	**282**	P	**P**	**23 28 30.0**	**+0.3**
	SNR=14						
SMKB	**Mukjeong-gil**	**8.81**	**282**	P	**P**	**23 28 30.0**	**+0.3**
	SNR=14						
KSJDO	**Jindo**	**8.97**	**274**	P	**P**	**23 28 30.8**	**-0.6**
	SNR=8.6						
ERM	**Erimo**	**9.02**	**30**	*i*P	**Pn**	**23 28 28.5**	**-0.6**
ERM	**Erimo**	**9.02**	**30**		**Pn**	**23 28 28.6**	**-0.6**
YNCB	**YEONCHEON**	**9.07**	**297**	P	**Pn**	**23 28 31.1**	**+1.4**
	SNR=14						
INCN	**Inchon**	**9.11**	**293**	P	**Pn**	**23 28 30.6**	**+0.3**
INCN	**Inchon**	**9.11**	**293**		**Pn**	**23 28 30.6**	**+0.3**
KSMUS	**Musan**	**9.14**	**296**	P	**P**	**23 28 32.2**	**-1.0**
	SNR=6.3						
JEW	**Eniwo**	**9.15**	**20**		**P**	**23 28 32.1**	**-1.2**
KSGAH	**Ganghwa**	**9.32**	**294**	P	**P**	**23 28 34.4**	**-0.9**
	SNR=8.5						
KSDEI	**Deokjeokdo**	**9.45**	**291**	P	**P**	**23 28 36.9**	**+0.2**
	SNR=12						
MSHR	**Mys Shultsa**	**9.50**	**332**	*ce*P	**Pn**	**23 28 35.5**	**+0.6**
MSHR				pmax	pmax		
	comp=Z,49nm,0.8s						
JMZ	**Minamidaito 2**	**9.90**	**213**	Pn	**Pn**	**23 28 40.2**	**+0.3**
USA0B	**Ussuriysk Arra**	**10.66**	**339**	P	**Pn**	**23 28 48.6**	**-0.1**
USA0B	**Ussuriysk Arra**	**10.66**	**339**	P	**Pn**	**23 28 48.6**	**-0.1**
USRK	**Ussuriysk Ar.**	**10.66**	**339**	P	**Pn**	**23 28 49.3**	**+0.6**
	baz=144,slow=10,SNR=71						
USRK	**Ussuriysk Ar.**	**10.66**	**339**	P	**Pn**	**23 28 48.7**	**0.0**
ASAJ	**Asahikawa**	**10.66**	**22**	P	**Pn**	**23 28 48.5**	**-0.2**
	comp=Z,6.0nm,0.3s,baz=252,slow=15,SNR=16						
ASAJ				S	**S**	**23 30 40.0**	**-8.3**
	comp=Z,4.2nm,0.3s,baz=144,slow=19,SNR=3.7						
JKA	**Kamikawa-asahi**	**10.66**	**22**		**Pn**	**23 28 48.4**	**-0.3**
JOW	**Kunigami**	**10.68**	**228**	P	**Pn**	**23 28 49.5**	**+0.3**
	comp=Z,4.2nm,0.3s,baz=42,slow=11,SNR=17						
TEY	**Ternei**	**10.72**	**358**	⇑*e*P	**P**	**23 28 51.8**	**+1.1**
TEY				pmax	pmax		
	comp=Z,100nm,0.9s						
TEY				pmax	pmax		
	comp=N,40nm,0.7s						
TEY				pmax	pmax		
	comp=E,10.0nm,0.7s						
TEY				pmax	pmax		
	comp=Z,60nm,0.7s						
MDJ	**Mudanjiang**	**11.83**	**333**	P	**P**	**23 29 03.4**	**+0.3**
MDJ				sP	Pn	23 29 11.0	+8.2
MDJ				S	**S**	**23 31 13.8**	**-0.8**
MDJ				pmax	pmax		
	comp=Z,95nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,200nm,3.8s						
CN2	**Changchun**	**13.13**	**320**	*e*P	**Pn**	**23 29 18.8**	**+0.7**
CN2				*e*S	**S**	**23 31 38.5**	**-3.3**
CN2				pmax	pmax		
	comp=Z,30nm,0.8s						
DL2	**Dalian**	**13.29**	**295**	P	**P**	**23 29 19.3**	**0.0**
DL2				S	**S**	**23 31 44.3**	**-1.0**
DL2				pmax	pmax		
	comp=Z,38nm,0.6s						
YSS	**Yuzh-Sakhalins**	**13.32**	**17**	*e*P	**Pn**	**23 29 20.4**	**+0.1**
YSS				*e*S	**S**	**23 31 40.3**	**-5.3**
YSS				pmax	pmax		
	comp=Z,100nm,0.5s						
YSS				smax	smax		
	comp=N,60nm,0.8s						
YSS	**Yuzh-Sakhalins**	**13.32**	**17**	P	**P**	**23 29 19.6**	**+0.2**
KLR	**Kul'dur**	**15.44**	**347**	P	**P**	**23 29 42.9**	**+0.2**
	comp=N,4.4nm,0.3s,baz=153,slow=9.2,SNR=86						
KLR				ScP	**ScP**	**23 37 23.9**	**-0.9**
	comp=N,0.1nm,0.3s,baz=236,slow=3.6,SNR=2.2						
NJ2	**Nanjing**	**15.50**	**267**	⇑*i*P	**P**	**23 29 43.8**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,40nm,0.5s						
YOJ	**Yonaguni jima**	**15.75**	**235**	P	**P**	**23 29 44.7**	**-1.6**
YOJ				pmax	pmax		
	comp=Z,69nm,1.0s						
YOJ	**Yonaguni jima**	**15.75**	**235**	P	**P**	**23 29 44.7**	**-1.6**
TIA	**Tai'an**	**16.48**	**282**	⇓P	**P**	**23 29 54.1**	**-0.1**
TIA				pmax	pmax		
	comp=Z,89nm,0.8s						
YHNB	**Yeheng**	**16.75**	**239**	P	**P**	**23 29 57.3**	**0.0**
YHNB				IAmb	IAmb	23 30 01.5	
	comp=Z,25nm,0.8s						
NACB	**Ninganchiao**	**16.91**	**237**	P	**P**	**23 29 57.6**	**-1.3**
NACB				IAmb	IAmb	23 30 08.2	
	comp=Z,21nm,0.9s						
TYV	**Tymovskoe**	**17.02**	**12**	*e*P	**Pn**	**23 30 05.9**	**+2.7**
TYV				*e*S	**S**	**23 33 02.8**	**+3.2**
TYV				pmax	pmax		
	comp=Z,16nm,0.8s						
TYV				pmax	pmax		
	comp=Z,100nm,4.6s						
TYV				smax	smax		
	comp=N,500nm,9.5s						
TYV				smax	smax		
	comp=E,300nm,9.5s						
SSLB	**Suanglung**	**17.61**	**238**	P	**P**	**23 30 03.9**	**-2.5**
SSLB				IAmb	IAmb	23 30 14.8	
	comp=Z,23nm,1.1s						
YULB	**Yu-li**	**17.62**	**236**	P	**P**	**23 30 05.5**	**-1.2**
YULB				IAmb	IAmb	23 30 15.6	
	comp=Z,21nm,0.7s						
BJT	**Baijiatuau**	**17.66**	**295**	P	**P**	**23 30 06.5**	**-0.4**
BJT				pmax	pmax		
	comp=Z,11nm,0.7s						
BJT	**Baijiatuau**	**17.66**	**295**	P	**P**	**23 30 06.5**	**-0.4**
BJT				IAmb	IAmb	23 30 08.2	
	comp=Z,11nm,0.7s						
TPUB	**Ta-pu**	**18.15**	**237**	P	**P**	**23 30 10.8**	**-1.5**
QZH	**Quanzhou**	**18.62**	**245**	⇑*i*P	**P**	**23 30 15.6**	**-1.6**
QZH				pmax	pmax		
	comp=Z,40nm,1.0s						
KNMB	**Chin-men Tao**	**19.05**	**244**	P	**P**	**23 30 20.4**	**-1.3**
WHN	**Wuhan**	**19.61**	**265**	⇑*i*P	**P**	**23 30 27.3**	**-0.4**
WHN				S	**S**	**23 33 50.8**	**+1.6**
WHN				pmax	pmax		
	comp=Z,130nm,0.7s						
HIA	**Hailar**	**19.73**	**324**	P	**P**	**23 30 27.3**	**-1.4**
HIA				pmax	pmax		
	comp=Z,12nm,0.6s						
HIA	**Hailar**	**19.73**	**324**	P	**P**	**23 30 27.3**	**-1.4**
HIA				IAmb	IAmb	23 30 31.3	
	comp=Z,12nm,0.6s						
ZEA	**Zeya**	**20.65**	**343**	*e*P	**P**	**23 30 37.8**	**+0.3**
ZEA				pmax	pmax		
	comp=E,10.0nm,0.5s						
ZEA				pmax	pmax		
	comp=Z,20nm,0.8s						
GUMO	**Guam**	**21.78**	**159**	P	**P**	**23 30 47.5**	**-0.6**
	comp=Z,232nm,0.7s,baz=4.4,slow=13,SNR=10						
GUMO	**Guam**	**21.78**	**159**	P	**P**	**23 30 48.1**	**0.0**
GUMO				pmax	pmax		
	comp=Z,306nm,0.9s						
GUMO	**Guam**	**21.78**	**159**	P	**P**	**23 30 48.1**	**0.0**
XAN	**Xi'an**	**23.34**	**277**	P	**P**	**23 31 01.8**	**-0.4**
XAN				pmax	pmax		
	comp=Z,38nm,0.7s						
XAN				pmax	pmax		
	comp=Z,130nm,4.0s						
PETK	**Petropavlovsk-**	**23.80**	**32**	P	**P**	**23 31 06.5**	**+0.4**
	comp=Z,6.3nm,0.9s,baz=210,slow=11,SNR=3.1						
PETK	**Petropavlovsk-**	**23.80**	**32**	P	**P**	**23 31 03.4**	**-2.7**
ULN	**Ulaanbaatar**	**26.24**	**310**	*ce*P	**P**	**23 31 29.0**	**+0.9**

ULN pmax pmax
comp=Z,12nm,0.7s
ULN Ulaanbaatar 26.24 310 P **P** **23 31 28.5 +0.3**
ULN IAmb IAmb 23 31 30.5
comp=Z,12nm,0.7s
ULN Ulaanbaatar 26.24 310 P **P** **23 31 28.5 +0.3**
comp=Z,872nmcomp=Z,68nm,0.7s
ULN pP **PP** **23 32 32.9 -2.6**
comp=Z,872nmcomp=Z,68nm,0.7s
SONM Songino Array 26.64 310 P **P** **23 31 33.0 +1.3**
comp=Z,8.5nm,0.8s,baz=114,slow=8.5,SNR=52
SONM PcP **PcP** **23 34 46.4 +0.9**
comp=Z,0.9nm,0.6s,baz=100,slow=2.8,SNR=3.3
SONM ScP **ScP** **23 37 52.0 -0.6**
comp=Z,0.9nm,0.8s,baz=112,slow=1.6,SNR=4.0
SONM Songino Array 26.64 310 P **P** **23 31 32.1 +0.4**
LZH Lanzhou 27.21 283 ⇓P **P** **23 31 36.8 -0.2**
LZH pP pP 23 32 33.9 -6.2
LZH sP sP 23 33 20.1 +0.1
LZH pmax pmax
comp=Z,21nm,1.3s
ZAK Zakamensk 29.43 313 *e*P **P** **23 31 55.7 -0.5**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
GTA Gaotai 30.17 291 ⇑P **P** **23 32 02.9 0.0**
GTA pP pP 23 32 54.8 -12
GTA sP PP 23 33 17.8 -1.3
GTA pmax pmax
comp=Z,9.0nm,1.2s
KMI Kunming 31.14 262 ⇑P **P** **23 32 11.1 -0.6**
KMI pmax pmax
comp=Z,31nm,0.7s
SLVN Son La 31.98 255 P **P** **23 32 18.0 -0.7**
SLVN IAmb IAmb 23 32 20.7
comp=Z,16nm,0.9s
UBPT Khong Chiam 34.24 244 P **P** **23 32 38.6 +0.5**
comp=Z,643nmcomp=Z,27nm,0.9s
UBPT Khong Chiam 34.24 244 P **P** **23 32 38.0 -0.1**
comp=Z,643nmcomp=Z,27nm,0.9s
UBPT Khong Chiam 34.24 244 P **P** **23 32 37.4 -0.7**
UBPT IAmb IAmb 23 32 40.0
comp=Z,19nm,0.8s
UBPT Khong Chiam 34.24 244 P **P** **23 32 37.7 -0.4**
comp=Z,614nmcomp=Z,26nm,0.9s
NONG Nongkai 34.35 251 P **P** **23 32 39.2 +0.2**
comp=Z,107nm,0.8s
NONG Nongkai 34.35 251 P **P** **23 32 39.0 0.0**
comp=Z,108nm,0.8s
AMKA Amchitka 34.72 48 P **P** **23 32 41.0 -0.8**
KHON Khomkaen 35.60 248 P **P** **23 32 50.4 +0.8**
comp=Z,85nm,0.8s
KHON Khomkaen 35.60 248 P **P** **23 32 50.5 +0.8**
comp=Z,21nm,0.8s
TOLI2 Tolitoli 36.41 208 P **P** **23 32 55.8 -0.6**
CHAI Chaiyaphum 36.51 249 P **P** **23 32 56.9 -0.4**
comp=Z,936nmcomp=Z,121nm,0.8s
CHAI Chaiyaphum 36.51 249 P **P** **23 32 56.0 -1.3**
comp=Z,233nmcomp=Z,30nm,0.8s
UTTA Uttaradit 36.56 253 P **P** **23 32 57.6 -0.1**
comp=Z,366nmcomp=Z,44nm,0.9s
UTTA Uttaradit 36.56 253 P **P** **23 32 57.0 -0.7**
comp=Z,91nmcomp=Z,11nm,0.9s
LAMP Lampang 36.87 254 P **P** **23 33 00.9 +0.6**
comp=Z,326nmcomp=Z,44nm,1.0s
LAMP Lampang 36.87 254 P **P** **23 33 00.9 +0.6**
comp=Z,81nmcomp=Z,11nm,1.0s
PBKT Sadao Pong 36.90 251 P **P** **23 33 02.1 +1.6**
comp=Z,45nm,0.8s
PBKT Sadao Pong 36.90 251 P **P** **23 33 02.2 +1.6**
comp=Z,45nm,0.8s
PBKT Sadao Pong 36.90 251 P **P** **23 32 60.0 -0.6**
PBKT IAmb IAmb 23 33 02.9
comp=Z,36nm,1.0s
PBKT Sadao Pong 36.90 251 P **P** **23 32 58.3 -2.3**
comp=Z,43nm,0.8s
PHIT Phitsanulok 36.98 252 P **P** **23 33 02.2 +1.0**
comp=Z,631nmcomp=Z,56nm,1.0s
PHIT Phitsanulok 36.98 252 P **P** **23 33 02.2 +1.0**
comp=Z,156nmcomp=Z,14nm,1.0s
CM34 Chiang Mai Arr 37.08 255 P **P** **23 33 02.0 -0.1**
CM35 Chiang Mai Arr 37.17 255 P **P** **23 33 02.0 -0.8**
CM33 Chiang Mai Arr 37.26 255 P **P** **23 33 03.0 -0.6**
CMMT Chiang Mai 37.26 255 P **P** **23 33 03.1 -0.5**
comp=Z,17nm,1.0s
CMMT Chiang Mai 37.26 255 P **P** **23 33 03.0 -0.5**
comp=Z,17nm,1.0s
CMMT Chiang Mai 37.26 255 P **P** **23 33 03.1 -0.5**
comp=Z,16nm,1.0s
CHTO Chiang Mai 37.26 255 P **P** **23 33 02.9 -0.7**
CHTO pmax pmax
comp=Z,14nm,0.9s
CHTO Chiang Mai 37.26 255 P **P** **23 33 03.3 -0.3**
comp=Z,17nm,1.0s
CHTO Chiang Mai 37.26 255 P **P** **23 33 02.9 -0.7**
CHTO IAmb IAmb 23 33 04.4
comp=Z,14nm,0.9s
CHTO Chiang Mai 37.26 255 P **P** **23 33 03.3 -0.3**
comp=Z,9.7nm,1.0s
CM36 Chiang Mai Arr 37.30 255 P **P** **23 33 03.0 -0.9**
MANU Manus Island 37.41 163 P **P** **23 33 04.8 -0.1**
CM09 Chiang Mai Arr 37.42 255 P **P** **23 33 05.4 +0.5**
comp=Z,99nmcomp=Z,12nm,0.8s
CM09 Chiang Mai Arr 37.42 255 P **P** **23 33 05.0 +0.1**
comp=Z,99nmcomp=Z,12nm,0.8s
CM32 Chiang Mai Arr 37.42 255 P **P** **23 33 05.0 0.0**
CM31 Chiang Mai Arr 37.45 255 P **P** **23 33 04.5 -0.7**
CM31 IAmb IAmb 23 33 06.1
comp=Z,8.8nm,0.6s
CMAR Chiang Mai Arr 37.45 255 P **P** **23 33 05.1 -0.1**
comp=Z,7.0nm,0.8s,baz=49,slow=6.1,SNR=46
CMAR PcP **PcP** **23 35 17.1 +1.4**
comp=Z,0.5nm,0.3s,baz=333,slow=1.0,SNR=4.3
CMAR ScP **ScP** **23 38 30.4 +0.4**
comp=Z,3.3nm,1.1s,baz=20,slow=3.7,SNR=13
CMAR Chiang Mai Arr 37.45 255 **ScP** **23 38 30.5 +0.5**
CM04 Chiang Mai Arr 37.46 255 P **P** **23 33 05.4 +0.2**
comp=Z,101nmcomp=Z,14nm,0.9s
CM04 Chiang Mai Arr 37.46 255 P **P** **23 33 05.0 -0.2**
comp=Z,101nmcomp=Z,14nm,0.9s
CM01 Chiang Mai Arr 37.46 255 P **P** **23 33 05.7 +0.5**
comp=Z,11nm,0.8s
CM01 Chiang Mai Arr 37.46 255 P **P** **23 33 05.8 +0.5**
comp=Z,11nm,0.8s
CM02 Chiang Mai Arr 37.46 255 P **P** **23 33 05.7 +0.4**
comp=Z,82nmcomp=Z,12nm,0.9s
CM02 Chiang Mai Arr 37.46 255 P **P** **23 33 05.7 +0.4**
comp=Z,82nmcomp=Z,12nm,0.9s
CM15 Chiang Mai Arr 37.47 255 P **P** **23 33 06.7 +1.4**
CM15 Chiang Mai Arr 37.47 255 P **P** **23 33 06.0 +0.7**
CM05 Chiang Mai Arr 37.48 255 P **P** **23 33 05.6 +0.2**
comp=Z,66nmcomp=Z,8.0nm,0.8s
CM05 Chiang Mai Arr 37.48 255 P **P** **23 33 05.7 +0.2**
comp=Z,66nmcomp=Z,8.0nm,0.8s
CM13 Chiang Mai Arr 37.50 255 P **P** **23 33 05.8 +0.2**
comp=Z,70nmcomp=Z,10nm,0.8s
CM13 Chiang Mai Arr 37.50 255 P **P** **23 33 05.8 +0.2**
comp=Z,70nmcomp=Z,10nm,0.8s
SRAK Srakaew 37.61 246 P **P** **23 33 03.5 -3.0**
comp=Z,3µmcomp=Z,380nm,0.8s
BILL Bilibino 37.64 17‖ *e*P **P** **23 33 07.7 +1.7**
BILL *e**PP **pP** **23 34 12.8 +0.3**
BILL *e* 23 34 40.8
BILL pmax pmax
comp=Z,3.0nm,0.8s
TIXI Tiksi 37.66 356 P **P** **23 33 05.5 -0.7**
TIXI pmax pmax
comp=Z,3.0nm,0.7s
TIXI Tiksi 37.66 356 P **P** **23 33 05.5 -0.7**
MHMT Maesarieng 38.41 255 P **P** **23 33 13.8 +0.7**
comp=Z,22nm,1.3s
MHMT Maesarieng 38.41 255 P **P** **23 33 13.0 -0.1**
comp=Z,22nm,1.3s
UTHA Uthaitani 38.68 251 P **P** **23 33 15.7 +0.4**
comp=Z,31nm,0.8s
UTHA Uthaitani 38.68 251 P **P** **23 33 15.7 +0.4**
comp=Z,7.7nm,0.8s
UMPA Umpang Tak 38.77 252 P **P** **23 33 17.4 +1.4**
comp=Z,42nm,0.9s
UMPA Umpang Tak 38.77 252 P **P** **23 33 17.5 +1.4**
comp=Z,10nm,0.9s
LSA Lhasa 39.03 276 P **P** **23 33 18.3 -0.4**
LSA pmax pmax
comp=Z,8.0nm,0.8s
LSA Lhasa 39.03 276 P **P** **23 33 18.3 -0.4**
WMQ Urumqi 39.06 299 *e*P **P** **23 33 19.6 +1.4**
WMQ pmax pmax
comp=Z,26nm,0.7s
WMQ pmax pmax
comp=Z,130nm,4.3s
DGZ Jazzator, Alta 39.27 308⇓ *i*P **P** **23 33 20.2 +0.2**
DGZ pmax pmax
comp=Z,18nm,0.7s
SRDT SRDT 39.65 249 P **P** **23 33 24.6 +1.4**
comp=Z,29nm,0.9s
SRDT SRDT 39.65 249 P **P** **23 33 24.0 +0.8**
comp=Z,29nm,0.9s
SRDT SRDT 39.65 249 P **P** **23 33 22.9 -0.3**
comp=Z,28nm,0.9s
KHLT Khaolaem Dam 39.79 250 P **P** **23 33 25.0 +0.6**
comp=Z,1µmcomp=Z,25nm,0.7s
KHLT Khaolaem Dam 39.79 250 P **P** **23 33 25.0 +0.6**
comp=Z,1µmcomp=Z,25nm,0.7s
SHL Shillong 39.92 270 P **P** **23 33 23.7 -2.0**
SHL pmax pmax
comp=Z,14nm,0.7s
SHL Shillong 39.92 270 P **P** **23 33 23.7 -2.0**
SHL IAmb IAmb 23 33 25.2
comp=Z,14nm,0.7s
PHET Kaeng Krachan 40.13 247 P **P** **23 33 27.8 +0.6**
comp=Z,590nmcomp=Z,75nm,0.9s
PHET Kaeng Krachan 40.13 247 P **P** **23 33 27.9 +0.6**
comp=Z,152nmcomp=Z,19nm,0.9s
ZAA0 Zalesovo Array 41.28 315 P **P** **23 33 35.8 -0.2**
ZAA0 **PcP** **23 35 27.2 -0.1**
ZALV Zalesovo Beam 41.28 315 P **P** **23 33 36.1 +0.1**
comp=Z,3.9nm,0.5s,baz=96,slow=8.3,SNR=23
ZALV PcP **PcP** **23 35 27.2 -0.1**
comp=Z,6.9nm,0.6s,baz=92,slow=3.2,SNR=19
ZALV ScP **ScP** **23 38 43.2 -1.0**
comp=Z,0.8nm,0.5s,baz=104,slow=4.7,SNR=4.6
ZALV Zalesovo Beam 41.28 315 P **P** **23 33 35.2 -0.8**
ZALV **PcP** **23 35 27.1 -0.2**
KAPI Kappang 42.43 206 P **P** **23 33 44.6 -1.1**
KAPI pmax pmax
comp=Z,18nm,1.1s
KAPI Kappang 42.43 206 P **P** **23 33 44.6 -1.1**
KAPI IAmb IAmb 23 33 46.3
comp=Z,18nm,1.1s
SURA Surathani 42.53 243 P **P** **23 33 47.3 +0.8**
comp=Z,21nm,1.0s
SURA Surathani 42.53 243 P **P** **23 33 47.3 +0.8**
comp=Z,21nm,1.0s
MK31 Makanchi Array 42.70 304 P **P** **23 33 47.5 -0.1**
MK31 pmax pmax
comp=Z,14nm,0.9s
MK31 Makanchi Array 42.70 304 P **P** **23 33 47.5 -0.1**
MK31 IAmb IAmb 23 33 49.1
comp=Z,14nm,0.8s
MKAR Makanchi Array 42.70 304 P **P** **23 33 48.2 +0.6**
comp=Z,15nm,0.7s,baz=91,slow=9.9,SNR=82
MKAR PcP **PcP** **23 35 32.3 0.0**
comp=Z,3.4nm,0.9s,baz=82,slow=4.2,SNR=5.8
MKAR ScP **ScP** **23 38 49.0 -1.1**
comp=Z,1.0nm,0.7s,baz=74,slow=6.4,SNR=4.8
MAKZ Makanchi 42.91 304 P **P** **23 33 49.5 +0.2**
MAKZ pmax pmax
comp=Z,12nm,0.8s
MAKZ Makanchi 42.91 304 P **P** **23 33 49.5 +0.2**
MAKZ IAmb IAmb 23 33 50.9
comp=Z,12nm,0.8s
SKLT Songkhla 43.16 240 P **P** **23 33 53.1 +1.6**
comp=Z,28nm,0.8s
SKLT Songkhla 43.16 240 P **P** **23 33 53.1 +1.6**
comp=Z,28nm,0.8s
SURT Suratani 43.28 243 P **P** **23 33 54.4 +1.9**
comp=Z,2.2nm,1.1s
SURT Suratani 43.28 243 P **P** **23 33 54.0 +1.5**
comp=Z,2.2nm,1.1s
TRTT Trang 43.37 241 P **P** **23 33 53.7 +0.5**
comp=Z,15nm,0.8s
TRTT Trang 43.37 241 P **P** **23 33 53.0 -0.2**
NRIK Noril'sk 44.36 337 P **P** **23 34 00.6 +0.3**
comp=Z,6.4nm,0.5s,baz=118,slow=7.2,SNR=12
NRIK PcP **PcP** **23 35 37.9 +0.4**
comp=Z,2.4nm,0.6s,baz=100,slow=5.3,SNR=4.1
NRIK Noril'sk 44.36 337 P **P** **23 34 00.4 +0.1**
TNA Tin City 44.91 29 P **P** **23 34 02.1 -2.6**
KURK Kurchatov 44.95 310 P **P** **23 34 05.8 +0.6**
KURK *PP **pP** **23 35 14.3 +0.8**
KURK 23 35 39.6
KURK Kurchatov 44.95 310 pP **23 35 14.3 +0.8**
KURBB Kurchatov Arra 45.01 310 P **P** **23 34 05.8 +0.1**
comp=Z,14nm,0.6s,baz=87,slow=6.9,SNR=102
KURBB pP **pP** **23 35 14.3 +0.3**
comp=Z,2.2nm,0.7s,baz=89,slow=8.2,SNR=2.6
KURBB PcP **PcP** **23 35 39.6 -0.5**
comp=Z,1.4nm,0.5s,baz=86,slow=3.8,SNR=2.5
PRZ Przheval'sk 45.97 298 P **P** **23 34 13.8 +0.4**
PRZ pmax pmax
comp=Z,25nm,0.7s
PRZ Przheval'sk 45.97 298 P **P** **23 34 13.8 +0.4**
PRZ IAmb IAmb 23 34 15.6
comp=Z,25nm,0.7s
PBA Port Blair 46.23 252 P **P** 23 34 16.1 +0.5
TARG Taragay, Kyrgy 46.54 297 P **P** **23 34 18.1 -0.1**
TARG IAmb IAmb 23 34 20.0
comp=Z,12nm,0.7s
PPBI Pangkal Pinang 46.54 225 P **P** **23 34 17.3 -0.7**
MTN Manton Dam 47.24 188 P **P** **23 34 22.3 -0.9**
MTN IAmb IAmb 23 34 23.1
comp=Z,13nm,0.7s
PSI Prapat 47.42 237 P **P** **23 34 24.1 -0.7**
PSI pmax pmax
comp=Z,10.0nm,0.8s
RPSI Rantau Prapat 47.49 237 P **P** **23 34 24.1 -1.1**
BOOM Boomskoye usch 47.75 299 P **P** **23 34 26.8 -0.3**
BOOM pmax pmax
comp=Z,5.0nm,0.8s
BOOM Boomskoye usch 47.75 299 P **P** **23 34 26.8 -0.3**
TKM2 Tomak 2 47.92 299 P **P** **23 34 29.4 +1.0**
SNR=17
KSH Kashi 48.38 295 P **P** **23 34 35.9 +4.0**
KSH pmax pmax
comp=Z,9.0nm,0.8s
KSH LR LR
comp=N,130nm,9.7s
KSH LR LR
comp=E,88nm,7.8s
MNSI Mandalling Nat 48.42 235 P **P** **23 34 31.5 -0.8**
KBK Kasagaybulak 48.44 299 P **P** **23 34 33.1 +0.8**
SNR=14
FRU1 Bishkek 48.63 300 P **P** **23 34 34.0 +0.3**
FRU1 pmax pmax
comp=Z,20nm,1.1s
FRU1 Bishkek 48.63 300 P **P** **23 34 34.0 +0.3**
FRU1 IAmb IAmb 23 34 35.2
comp=Z,20nm,1.1s
USP Ospenovka 48.63 300 P **P** **23 34 34.1 +0.5**
SNR=11
AAK Ala-Archa 48.77 299 *i* P **P** **23 34 35.3 +0.5**
SNR=11
AAK Ala-Archa 48.77 299*ce*P **P** **23 34 35.3 +0.5**
AAK pmax pmax
comp=Z,23nm,0.7s
AAK Ala-Archa 48.77 299 P **P** **23 34 34.6 -0.2**
UCH Uchtor 48.84 299 P **P** **23 34 36.6 +0.9**
SNR=7.4
EKS2 Erkin-Say 49.28 300 P **P** **23 34 39.1 +0.5**
SNR=7.3
GSI Gunungsitoli 49.42 237 P **P** **23 34 39.3 -0.6**
LHSI Lahat 49.43 227 P **P** **23 34 39.8 0.0**
comp=Z,58nm,0.7s
AML Almayashu 49.46 299 P **P** **23 34 41.4 +1.1**
SNR=38
AML Almayashu 49.46 299 *i* P **P** **23 34 41.4 +1.1**
SNR=9.0
LEM Lembang 49.55 220 P **P** **23 34 40.4 -0.5**
comp=Z,36nm,0.7s,baz=274,slow=21,SNR=7.7
MDSI Maura Dua 49.56 225 P **P** **23 34 40.3 -0.5**
comp=Z,17nm,0.7s
BVAR Bovoye Array 49.88 313 P **P** **23 34 42.9 +0.1**
comp=Z,5.9nm,0.6s,baz=120,slow=7.2,SNR=42
BVAR PcP **PcP** **23 35 57.8 +0.2**
comp=Z,4.5nm,0.6s,baz=134,slow=4.3,SNR=10
BVAR ScP **ScP** **23 39 18.9 -1.1**
comp=Z,1.0nm,0.7s,baz=108,slow=3.3,SNR=4.0
BVAR S **S** **23 41 24.0 -2.0**
comp=Z,0.5nm,0.7s,baz=111,slow=16,SNR=3.6
BRVK Borovoye 49.95 314*ce*P **P** **23 34 43.6 +0.4**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
BRVK Borovoye 49.95 314 P **P** **23 34 43.1 -0.1**
KNRA Kununurra 50.35 191 P **P** **23 34 46.6 +0.1**
KNRA IAmb IAmb 23 36 27.0
comp=Z,27nm,1.4s
O19K Port Alsworth 50.40 37 P **P** **23 34 47.6 +1.1**
O19K IAmb IAmb 23 36 26.2
comp=Z,60nm,1.6s
J20K Nowinta River 50.49 32 P **P** **23 34 48.8 +1.7**
J20K IAmb IAmb 23 35 41.0
comp=Z,33nm,1.9s
K20K Telida 50.51 33 P **P** **23 34 48.8 +1.5**
IMAR Indian Mountai 50.74 30 P **P** **23 34 50.1 +1.1**
Q19K Cape Douglas, 50.79 39 P **P** **23 34 50.2 +0.8**
P19K Oil Pt 50.96 38 P **P** **23 34 51.4 +0.7**
P19K IAmb IAmb 23 35 53.1
comp=Z,56nm,1.6s
OHAK Old Harbor 51.09 41 P **P** **23 34 52.1 +0.5**
H21K Melozitna Rive 51.11 30 P **P** **23 34 54.0 +2.3**
RSO Redoubt South 51.16 37 P **P** **23 34 52.7 +0.3**
PPLA Purkeypile 51.36 34 P **P** **23 34 55.2 +1.5**
PPLA IAmb IAmb 23 34 58.7
comp=Z,48nm,1.8s
CAST Castle Rocks 51.40 33 P **P** **23 34 56.2 +2.3**
KDAK Kodiak Island 51.42 40 P **P** **23 34 55.1 +1.0**
comp=Z,6.6nm,0.5s,baz=308,slow=2.5,SNR=26
DRK Karamyk 51.51 296 P **P** **23 34 55.4 -0.1**
DRK IAmb IAmb 23 34 56.7
comp=Z,9.9nm,0.8s
SKT Skwentna 51.69 35 P **P** **23 34 57.5 +1.5**
SKT IAmb IAmb 23 35 23.4
comp=Z,21nm,1.6s
BPAW Bear Paw Mtn. 51.88 32 P **P** **23 34 59.0 +1.6**
KTH Kantishna Hill 51.92 33 P **P** **23 34 59.3 +1.5**
KTH IAmb IAmb 23 36 25.7
comp=Z,21nm,1.7s
CAPN Captain Cook N 51.94 36 P **P** **23 35 00.5 +2.7**
MLY Manley 51.97 31 P **P** **23 34 59.9 +1.8**
CNPM China Poot 51.98 38 P **P** **23 34 59.0 +0.8**
SUA Susitna One 52.09 35 P **P** **23 35 00.2 +1.1**
BRLK Bradley Lake 52.14 38 P **P** **23 35 00.4 +1.0**
BRLK IAmb IAmb 23 36 44.2
comp=Z,27nm,1.4s
NIL Nilore 52.19 289 P **P** **23 35 00.4 +0.3**
NIL pmax pmax
comp=Z,15nm,0.8s
NIL Nilore 52.19 289 P **P** **23 35 00.4 +0.3**
NIL IAmb IAmb 23 35 02.1
comp=Z,14nm,0.8s
COLD Coldfoot 52.19 28 P **P** **23 35 01.9 +2.3**
TOLK Toolik Lake Re 52.45 26 P **P** **23 35 03.2 +1.7**
TOLK IAmb IAmb 23 36 45.6
comp=Z,24nm,1.9s
BWN Browne 52.55 32 P **P** **23 35 03.8 +1.6**
BWN IAmb IAmb 23 36 02.5
comp=Z,28nm,1.5s
I23K Minto, Yukon-K 52.55 31 P **P** **23 35 02.9 +0.7**
I23K IAmb IAmb 23 35 56.8
comp=Z,26nm,2.0s
RC01 Rabbit Creek A 52.60 36 P **P** **23 35 01.4 -1.3**
NEA2 Nenana 52.70 31 P **P** **23 35 03.5 +0.2**
GAR Garm 52.75 296 P **P** **23 35 03.9 -0.4**
GAR IAmb IAmb 23 35 05.2
comp=Z,28nm,1.1s
SEW Seward 52.83 37 P **P** **23 35 04.8 +0.5**
PMR Palmer 52.86 35 P **P** **23 35 04.7 +0.3**
PMR pmax pmax
comp=Z,7.0nm,1.0s
PMR Palmer 52.86 35 P **P** **23 35 04.7 +0.3**
RND Reindeer 52.86 33 P **P** **23 35 04.7 +0.2**
RND pmax pmax
comp=Z,6.0nm,0.6s
RND Reindeer 52.86 33 P **P** **23 35 04.7 +0.2**
GHO Glory Hole Cre 52.94 35 P **P** **23 35 05.7 +0.6**
MDM Murphy Dome 53.04 31 P **P** **23 35 07.0 +1.2**
H24K Noodor Dome 53.15 30 P **P** **23 35 07.7 +1.1**
KNK Knik Glacier 53.19 35 P **P** **23 35 06.3 -0.6**
SML Sawmill 53.22 35 P **P** **23 35 07.7 +0.6**
SML IAmb IAmb 23 35 29.8
comp=Z,37nm,1.7s
CCB Clear Creek Bu 53.24 31 P **P** **23 35 08.3 +1.1**
FITZ Fitzroy Crossi 53.26 194 P **P** **23 35 08.2 +0.3**
PWL Port Wells 53.31 36 P **P** **23 35 08.4 +0.6**
PWL IAmb IAmb 23 35 38.0
comp=Z,61nm,2.0s
DHY Denali Highway 53.55 33 P **P** **23 35 10.4 +0.8**
DHY IAmb IAmb 23 37 05.9
comp=Z,25nm,1.8s
ILAR Eielson Array 53.63 31 P **P** **23 35 10.8 +0.8**
comp=Z,0.8nm,0.7s,baz=281,slow=4.9,SNR=9.7
ILAR pP **pP** **23 36 21.9 +0.3**
comp=Z,1.2nm,0.8s,baz=278,slow=7.8,SNR=6.3
ILAR Eielson Array 53.63 31 P **P** **23 35 10.0 0.0**
HDA Harding Lake 53.63 32 P **P** **23 35 10.4 +0.4**
SCM Sheep Creek Mo 53.69 35 P **P** **23 35 12.1 +1.5**
SCM pmax pmax
comp=Z,66nm,2.0s
SCM Sheep Creek Mo 53.69 35 P **P** **23 35 12.1 +1.5**
SCM IAmb IAmb 23 37 11.8
comp=Z,66nm,2.0s
WB0 Warramunga Arr 53.84 183 P **P** **23 35 11.5 -0.6**
WB0 IAmb IAmb 23 35 12.2
comp=Z,9.1nm,0.7s
GLI Glacier Island 53.91 36 P **P** **23 35 13.2 +1.2**
WRAB Tennant Creek 54.01 183*ce*P **P** **23 35 12.3 -0.9**
WRAB pmax pmax
comp=Z,23nm,2.5s
WB2 Warramunga Arr 54.02 183 IAmb IAmb 23 35 13.6
comp=Z,10nm,0.6s
WRA Warramunga Arr 54.02 183 P **P** **23 35 12.8 -0.5**
comp=Z,12nm,0.5s,baz=359,slow=7.0,SNR=191
WRA ScP **ScP** **23 39 38.1 -0.2**
comp=Z,0.7nm,0.7s,baz=360,slow=5.4,SNR=2.7
WRA S **S** **23 42 19.5 -3.0**
comp=Z,1.0nm,0.6s,baz=0.2,slow=15,SNR=10
WR0 Warramunga Arr 54.02 183 P **P** **23 35 13.0 -0.4**
WR0 IAmb IAmb 23 35 13.6
comp=Z,16nm,0.6s
M24K Tolsona, Glenn 54.20 34 P **P** **23 35 15.6 +1.4**
M24K IAmb IAmb 23 35 59.2
comp=Z,52nm,1.8s
FID Port Fidalgo 54.22 36 P **P** **23 35 15.5 +1.2**
FID IAmb IAmb 23 35 16.3
comp=Z,8.1nm,0.6s
HIN Hinchinbrook I 54.26 36 P **P** **23 35 16.4 +1.8**
BMAR Burnt Mountain 54.37 28 P **P** **23 35 17.2 +1.9**
KLU Klutina 54.39 35 P **P** **23 35 17.3 +1.7**
KLU IAmb IAmb 23 35 26.9
comp=Z,22nm,1.4s
RIDG Independent Ri 54.61 32 P **P** **23 35 17.9 +0.8**
RIDG IAmb IAmb 23 37 22.1
comp=Z,36nm,2.0s
CTAO Charters Tower 54.78 170 P **P** **23 35 19.1 +0.3**
CTAO pmax pmax
comp=Z,9.0nm,0.9s
CTAO Charters Tower 54.78 170 P **P** **23 35 19.1 +0.3**
SVE Sverdlovsk 54.92 319 *e*P **P** **23 35 19.8 +0.5**
SVE pmax pmax
comp=Z,17nm,1.1s
SCRK Sand Creek 54.96 32 P **P** **23 35 20.5 +0.8**
DOT Dot Lake 54.97 32 P **P** **23 35 20.6 +0.9**
DOT IAmb IAmb 23 37 09.5
comp=Z,25nm,2.0s
N25K Chitina, Valde 55.01 35 P **P** **23 35 21.8 +1.8**
N25K IAmb IAmb 23 37 19.7
comp=Z,38nm,1.9s
BMRM Bremner River 55.10 36 P **P** **23 35 22.3 +1.7**
BMRM IAmb IAmb 23 35 36.0
comp=Z,48nm,1.8s
RAGM Ragged Mountai 55.16 36 P **P** **23 35 22.7 +1.7**
KBL Kabul 55.16 291 P **P** **23 35 21.6 -0.1**
KBL pmax pmax
comp=Z,9.0nm,1.1s
KBL Kabul 55.16 291 P **P** **23 35 21.6 -0.1**
KAIM Kayak Island 55.36 37 P **P** **23 35 22.9 +0.5**
GLB Gilahina Butte 55.41 35 P **P** **23 35 24.2 +1.4**
VRDI Verde Repeater 55.61 35 P **P** **23 35 26.1 +1.7**
VRDI IAmb IAmb 23 35 42.6
comp=Z,40nm,1.8s
M26K Nabesna, AK 55.63 34 P **P** **23 35 26.2 +1.9**
BERG Berg Lake 55.63 36 P **P** **23 35 26.4 +2.0**
MCARA McCarthy VSAT 55.79 35 P **P** **23 35 27.3 +1.9**
MCARA IAmb IAmb 23 36 28.2
comp=Z,26nm,1.4s
CRQM Cirque 55.84 36 P **P** **23 35 27.5 +1.4**
CRQM IAmb IAmb 23 37 03.4

comp=Z,49nm,1.6s
WAX Waxell Ridge 56.04 36 P P 23 35 28.6 +1.3
L27K Beaver Creek, 56.05 33 P P 23 35 28.7 +1.4
L27K IAmb IAmb 23 36 57.1
comp=Z,24nm,1.9s
EGAK Eagle 56.06 31 P P 23 35 28.0 +0.7
BCAR Beaver Creek A 56.07 33 P P 23 35 29.3 +1.9
ARU Arti 56.12 319 P P 23 35 27.8 -0.1
comp=Z,4.9nm,0.7s,baz=99,slow=3.7,SNR=28
ARU Arti 56.12 319 *d iP P 23 35 28.0 +0.2*
ARU 23 36 18.9
ARU *PP **pP** 23 36 39.7 0.0
ARU S S 23 42 53.7 +4.2
ARU SS SS 23 46 40.8 -0.4
ARU pmax pmax
comp=Z,18nm,0.8s
ARU Arti 56.12 319 P P 23 35 27.6 -0.3
ARU IAmb IAmb 23 35 28.9
comp=Z,17nm,0.8s
M27K Edge Creek, AK 56.15 34 P P 23 35 30.0 +1.9
M27K IAmb IAmb 23 35 43.4
comp=Z,33nm,1.9s
ISLE Juniper Island 56.26 36 P P 23 35 30.1 +1.2
GRNC Granite Creek 56.52 36 P P 23 35 31.2 +0.4
GRNC IAmb IAmb 23 36 46.5
comp=Z,47nm,1.7s
CTGM Chitina Glacie 56.67 35 P P 23 35 33.5 +1.7
ABKAR Akbulak array 57.05 310 P P 23 35 34.9 +0.5
ABKAR IAmb IAmb 23 35 35.4
comp=Z,16nm,0.6s
ABKAR Akbulak array 57.05 310 P P 23 35 34.9 +0.5
SANVU Saraoutou 57.15 145 P P 23 35 36.1 +0.7
EPYK Eagle Plains 57.58 28 P P 23 35 40.3 +2.4
EPYK IAmb IAmb 23 35 40.5
comp=Z,11nm,0.5s
ASAR Alice Springs 57.74 184 P P 23 35 39.2 -0.2
comp=Z,2.3nm,0.3s,baz=15,slow=12,SNR=42
ASAR S S 23 43 09.0 -2.2
comp=Z,1.8nm,0.8s,baz=18,slow=21,SNR=12
AKTO Aktyubinsk 57.92 312 P P 23 35 40.6 +0.1
comp=Z,9.6nm,0.6s,baz=89,slow=7.7,SNR=26
PSA00 Pilbara Seismi 57.96 199 P P 23 35 41.1 +0.1
PSA00 IAmb IAmb 23 37 41.2
comp=Z,23nm,2.0s
INK Inuvik 58.36 26 P P 23 35 43.9 +0.8
comp=Z,1.6nm,0.5s,baz=316,slow=9.3,SNR=5.6
INK Inuvik 58.36 26 P P 23 35 44.3 +1.2
INK pmax pmax
comp=Z,13nm,1.5s
INK Inuvik 58.36 26 P P 23 35 44.2 +1.2
PALK Pallekele 58.38 256 P P 23 35 44.1 -0.1
comp=Z,11nm,0.9s,baz=149,slow=9.7,SNR=5.8
PALK Pallekele 58.38 256 P P 23 35 44.6 +0.4
PALK pmax pmax
comp=Z,47nm,1.5s
PALK Pallekele 58.38 256 P P 23 35 44.6 +0.4
HYT Haines Junctio 58.53 35 P P 23 35 46.8 +2.3
HYT IAmb IAmb 23 36 45.9
comp=Z,55nm,1.9s
KIRV Kirov 60.33 323 P P 23 35 57.0 +0.3
comp=Z,17nm,0.6s,baz=234,slow=1.2,SNR=12
KIRV Kirov 60.33 323 *ce* P P 23 35 56.4 -0.2
HRA Herat 60.43 293 P P 23 35 58.4 +0.3
HRA IAmb IAmb 23 35 59.0
comp=Z,7.0nm,0.7s
EIDS Eidsvold 60.80 166 P P 23 36 01.0 +0.8
PRGR Permogore 61.16 327 *eP* P 23 36 01.8 -0.3*
PRGR pmax pmax
comp=Z,9.0nm,0.6s
GEYT Alibeck 62.11 299 P P 23 36 09.3 +0.4
comp=Z,46nm,0.5s,baz=244,slow=5.8,SNR=14
GYA0B ALIBECK ARRAY 62.11 299 P P 23 36 09.1 +0.2
GYA0B IAmb IAmb 23 36 10.1
comp=Z,9.6nm,0.7s
SPA0 Spitsbergen Ar 62.51 348 *eP* P 23 36 11.6 +0.8*
SPITS Spitsbergen Ar 62.51 348 P P 23 36 11.2 +0.4
comp=Z,2.1nm,0.6s,baz=87,slow=5.1,SNR=4.7
DZM Mont Dzumac 62.60 149 P P 23 36 13.2 +0.9
comp=Z,11nm,0.7s,baz=348,slow=23,SNR=10.0
DZM Mont Dzumac 62.60 149 P P 23 36 13.9 +1.6
OUENC Ouen Island, N 63.08 149 P P 23 36 14.3 -0.9
LVZ Lovozero 63.16 336 P P 23 36 15.0 -0.3
LVZ pmax pmax
comp=Z,44nm,1.6s
LVZ Lovozero 63.16 336 P P 23 36 15.0 -0.3
BELG Belogornoye 63.42 317 P P 23 36 17.2 +0.1
comp=Z,25nm,0.7s,baz=241,slow=0.9,SNR=7.3
DIB Dawson Inlet, 63.57 42 P P 23 36 18.5 +0.4
KLMR Klimovskoe 64.19 327 *eP* P 23 36 20.5 -1.5*
KLMR pmax pmax
comp=Z,5.0nm,0.6s
KLMR Klimovskoe 64.19 327 *eP* P 23 36 20.5 -1.5*
KLMR AMP 23 36 22.3
comp=Z,5.0nm,0.6s
KEV Kevo 64.74 339 P P 23 36 25.9 +0.6
KEV pmax pmax
comp=Z,76nm,1.9s
KEV Kevo 64.74 339 P P 23 36 25.9 +0.6
MSVF Nonsavu 64.75 136 P P 23 36 28.6 +2.4
comp=Z,5.6nm,0.7s,baz=326,slow=20,SNR=4.4
HAMF Hammerfest 65.23 340 *eP* P 23 36 28.9 +0.4*
ARA0 ARCESS Array S 65.31 339 *eP* P 23 36 29.4 +0.4*
ARCES ARCESS Array B 65.31 339 P P 23 36 29.4 +0.4
comp=Z,3.0nm,0.5s,baz=66,slow=8.9,SNR=42
STKA Stephens Creek 65.97 176 P P 23 36 33.9 +0.3
comp=Z,3.7nm,0.5s,baz=330,slow=6.6,SNR=9.1
KTK1 Kautokeino 66.27 339 *eP* P 23 36 35.2 +0.1*
JETT Jettan, Norway 66.77 340 *eP* P 23 36 39.4 +1.1*
TRO Tromso 67.14 340 *eP* P 23 36 40.9 +0.4*
VRH Novokhopyorsk 67.25 317 *eP* P 23 36 39.2 -2.3*
VRH pmax pmax
comp=Z,8.0nm,0.6s
LPSR Galich'ya Gora 68.14 319 *eP* P 23 36 45.7 -1.3*
LPSR pmax pmax
comp=Z,9.0nm,0.9s
OBN Obninsk 68.17 323 ⇑ *i*P P 23 36 47.2 +0.1
OBN *e*PP **pP** 23 38 00.0 -2.2
OBN *e* 23 39 25.6
OBN *eS* S 23 45 27.0 +8.0
OBN pmax pmax
comp=Z,6.0nm,0.9s
WSAR Wadi Sarin 68.19 284 P P 23 36 48.0 +0.1
comp=Z,6.5nm,0.9s,baz=98,slow=7.2,SNR=4.8
VORD Divnogorie 68.72 318 *eP* P 23 36 48.7 -1.9*
VORD pmax pmax
comp=Z,6.0nm,1.0s
BANOM Banah 68.76 287 P P 23 36 51.8 +0.5
SHME Shamm 68.82 288 *i* P P 23 36 52.3 +0.6*
SNR=6.0
MSFE Esma-Masafi 69.14 287 P P 23 36 54.5 +0.8
STEI Steigen 69.26 340 *eP* P 23 36 54.0 +0.4*
UOSS Minazif 69.30 287 P P 23 36 54.8 +0.1
HATD Hatta, Dubai 69.42 287 P P 23 36 55.8 +0.4
SOHO SOHO 69.44 286 P P 23 36 55.5 +0.1
ASHO Ashiyiah 69.55 286 P P 23 36 56.4 +0.2
FIA1 FINESS Array S 69.58 331 P P 23 36 55.8 +0.2
FIA1 IAmb IAmb 23 36 56.4
comp=Z,9.6nm,0.7s
FINES FINESS Array B 69.58 331 P P 23 36 55.6 0.0
comp=Z,6.2nm,0.5s,baz=73,slow=5.3,SNR=94
LOF Lofoten 69.61 341 *eP* P 23 36 55.4 -0.2*
FAUS Fauske 69.61 339 *eP* P 23 36 56.4 +0.7*
KBZ Khabaz 70.01 310 P P 23 36 59.3 +0.7
comp=Z,16nm,0.8s,baz=83,slow=3.2,SNR=27
KBZ Khabaz 70.01 310 *ce* P P 23 36 59.1 +0.5*
KBZ pmax pmax
comp=Z,3.0nm,0.6s
KIV Kislovodsk 70.04 310 *i* P P 23 36 60.0 +1.1*
SNR=10
KIV Kislovodsk 70.04 310 *eP* P 23 36 59.6 +0.7*
KIV pmax pmax
comp=Z,28nm,1.1s
KIV Kislovodsk 70.04 310 P P 23 36 59.4 +0.5
ASUD Al Ashush, Dub 70.15 287 P P 23 36 59.3 -0.4
ONI Oni 70.20 308 P P 23 37 00.4 +0.5
ONI pmax pmax
comp=Z,13nm,1.2s
ONI Oni 70.20 308 P P 23 37 00.4 +0.5
ONI IAmb IAmb 23 37 02.0
comp=Z,13nm,1.2s
GNI Garni 70.52 306 P P 23 37 02.7 +0.8
comp=Z,2.5nm,0.5s,baz=139,slow=11,SNR=3.3
GNI Garni 70.52 306 P P 23 37 02.8 +0.9
MOR8 Moi Rana 70.68 339 *eP* P 23 37 01.4 -0.9*

KONS Konsvik 70.84 339 *eP* P 23 37 03.9 +0.8*
NSS Namsos 72.57 338 *eP* P 23 37 13.9 +0.6*
NACGM Naroch 73.05 326 *i* P P 23 37 17.4 +1.1*
GURO Guroymak-BITLI 73.13 305 P P 23 37 17.6 +0.2
GURO IAmb IAmb 23 37 19.3
comp=Z,3.9nm,0.7s
AKASG Malin Array Be 74.28 321 P P 23 37 23.3 -0.2
comp=Z,4.6nm,0.6s,baz=50,slow=6.3,SNR=20
AKASG pP **pP** 23 38 40.0 -0.1
comp=Z,0.7nm,0.5s,baz=68,slow=4.1,SNR=2.1
AKASG Malin Array Be 74.28 321 *ce* P P 23 37 23.2 -0.3*
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 74.28 321 P P 23 37 22.5 -1.0
AKBB Malin Array Si 74.28 321 P P 23 37 23.3 -0.2
AKBB pmax pmax
comp=Z,7.0nm,0.8s
AKBB Malin Array Si 74.28 321 P P 23 37 23.3 -0.2
AKBB IAmb IAmb 23 37 24.3
comp=Z,6.9nm,0.8s
PINE Pine Mountain 74.73 47 P P 23 37 27.4 +0.9
PINE IAmb IAmb 23 37 29.7
comp=Z,8.4nm,0.8s
DOMB Dombas 75.28 337 *eP* P 23 37 29.3 +0.3*
NC204 NORSAR Array S 75.29 336 P P 23 37 28.9 -0.2
NB2 NORSAR Subarra 75.31 336 P P 23 37 29.0 -0.3
comp=Z,1.8nm,0.6s,baz=44,slow=5.9
NB2 NORSAR Subarra 75.31 336 P P 23 37 29.0 -0.3
baz=44,slow=5.9
NOA NORSAR Array B 75.31 336 P P 23 37 29.1 -0.1
comp=Z,1.7nm,0.5s,baz=44,slow=5.6,SNR=13
NC602 NORSAR Array S 75.42 336 *eP* P 23 37 29.8 -0.1*
BMO Blue Mountains 76.31 45 P P 23 37 35.9 +0.6
BMO pmax pmax
comp=Z,2.0nm,0.6s
BMO Blue Mountains 76.31 45 P P 23 37 35.9 +0.6
SKAR Skarslia 76.54 337 *eP* P 23 37 36.8 +0.7*
BNN Bunyan 77.07 308 P P 23 37 39.6 0.0
BEKR Beckworth 77.26 50 P P 23 37 41.0 +0.3
BEKR IAmb IAmb 23 37 42.9
comp=Z,3.7nm,0.8s
ODD1 Odda 77.67 337 *eP* P 23 37 43.1 +0.7*
PAHR Pah Rah Range 77.97 50 P P 23 37 44.7 +0.1
BR131 Keskin Array S 78.00 310 P P 23 37 44.5 -0.3
BR131 pmax pmax
comp=Z,10.0nm,0.9s
BR131 Keskin Array S 78.00 310 P P 23 37 44.5 -0.3
BR131 IAmb IAmb 23 37 46.2
comp=Z,10nm,0.8s
BRTR Keskin Array B 78.00 310 P P 23 37 45.0 +0.2
comp=Z,7.3nm,0.9s,baz=121,slow=4.7,SNR=38
BRTR pP **pP** 23 39 02.8 +0.5
comp=Z,3.0nm,0.9s,baz=97,slow=5.0,SNR=8.4
BRTR Keskin Array B 78.00 310 P P 23 37 44.9 +0.1
BUR08 Bucovina Ar. S 78.23 320 IAmb IAmb 23 37 47.3
comp=Z,6.7nm,1.1s
BURAR Bucovina Array 78.24 320 IAmb IAmb 23 37 47.7
comp=Z,8.5nm,1.1s
KWP Kalwaria Pacla 78.26 323 P P 23 37 46.0 +0.2
KWP pmax pmax
comp=Z,80nm,1.0s
KWP Kalwaria Pacla 78.26 323 P P 23 37 46.0 +0.2
KVN Kaiserville 79.16 50 P P 23 37 51.0 -0.1
KVN pmax pmax
comp=Z,8.0nm,1.2s
KVN Kaiserville 79.16 50 P P 23 37 51.0 -0.1
KVN IAmb IAmb 23 37 53.6
comp=Z,7.5nm,1.2s
MLR Muntele Rosu 79.16 318 P P 23 37 51.5 +0.6
comp=Z,1.2nm,0.4s,baz=336,slow=20
MLR Muntele Rosu 79.16 318 P P 23 37 51.0 +0.1
MLR IAmb IAmb 23 37 52.4
comp=Z,7.4nm,1.3s
NVAR Mina Array Bea 79.39 51 P P 23 37 54.2 +1.8
comp=Z,1.7nm,0.8s,baz=316,slow=4.2,SNR=8.5
NVAR Mina Array Bea 79.39 51 P P 23 37 53.0 +0.6
LANS Liptovska Anna 80.18 324 *eP* P 23 37 55.8 -0.3*
TPH Tonopah 80.29 50 P P 23 37 57.1 0.0
TPH pmax pmax
comp=Z,15nm,0.9s
TPH Tonopah 80.29 50 P P 23 37 57.1 0.0
MORC Moravsky Berou 80.68 325 P P 23 37 59.1 +0.3
MORC pmax pmax
comp=Z,3.0nm,0.8s
MORC Moravsky Berou 80.68 325 P P 23 37 59.0 +0.3
MORC IAmb IAmb 23 38 00.4
comp=Z,3.3nm,0.8s
MORC Moravsky Berou 80.68 325 *eP* P 23 37 59.4 +0.6*
HVU Hansel Valley 80.79 45 P P 23 38 00.1 +0.4
CHVC Chvalec 80.81 326 *eP* P 23 38 00.4 +1.0*
DPC Dobruska-Polom 80.85 326 *eP* P 23 38 00.4 +0.7*
UPC Upice 80.89 326 *eP* P 23 38 00.9 +1.1*
URZ Urewera 81.17 149 P P 23 38 01.1 -0.1
comp=Z,6.6nm,0.6s,baz=97,slow=20,SNR=1.4
JAVC Velka Javorina 81.25 324 *eP* P 23 38 03.4 +1.6*
VRAC Vranov 81.45 325 P P 23 38 02.7 -0.1
comp=Z,4.3nm,0.8s,baz=49,slow=4.2,SNR=7.2
VRAC Vranov 81.45 325 *eP* P 23 38 03.7 +0.9*
PVCC Panska Ves 81.53 327 *eP* P 23 38 04.1 +1.0*
PVCC Panska Ves 81.53 327 *eP* P 23 38 04.1 +1.0*
BRG Berggiesshubel 81.56 328 *eP* P 23 38 04.4 +1.1*
comp=Z,3.0nm,0.7s,baz=43,slow=5.1
TPNV Topopah Spring 81.58 51 P P 23 38 04.6 +0.7
TPNV pmax pmax
comp=Z,4.0nm,0.8s
TPNV Topopah Spring 81.58 51 P P 23 38 04.5 +0.7
TPNV IAmb IAmb 23 38 06.1
comp=Z,4.1nm,0.8s
SMOL Smolenice 81.60 324 *eP* P 23 38 05.0 +1.4*
SRO2 Moca 81.64 323 *eP* P 23 38 03.7 -0.1*
CLL Collm 81.66 328 *i* P P 23 38 04.2 +0.4*
comp=Z,6.0nm,1.0s
CLL *eS* S 23 47 44.0 -3.0*
CLL Collm 81.66 328 P P 23 38 03.3 -0.5
CLL pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 81.66 328 P P 23 38 03.3 -0.5
CLL IAmb IAmb 23 38 04.9
comp=Z,6.1nm,0.9s
CLL Collm 81.66 328 *eP* P 23 38 04.7 +0.9*
comp=Z,6.4nm,1.0s,baz=43,slow=5.1
KRUC Moravsky 81.72 325 *eP* P 23 38 04.8 +0.7*
QSM Queen of Sheba 81.76 52 P P 23 38 04.7 0.0
QSM IAmb IAmb 23 38 06.8
comp=Z,3.6nm,0.7s
MODS Modra-Piesok 81.77 324 *eP* P 23 38 04.9 +0.4*
FBE Freiberg 81.79 328 *eP* P 23 38 05.9 +1.4*
comp=Z,20nm,1.7s,baz=43,slow=5.1
PRU Pruhonice 81.92 327 *eP* P 23 38 06.0 +0.8*
PRU Pruhonice 81.92 327 *eP* P 23 38 06.0 +0.8*
ALN Alexandroupoli 81.96 314 IAmb IAmb 23 38 06.9
comp=Z,13nm,1.5s
PD31 Pinedale Array 82.03 43 P P 23 38 06.8 +0.5
PD31 IAmb IAmb 23 38 11.3
comp=Z,10.0nm,1.8s
PDAR Pinedale Array 82.03 43 P P 23 38 07.0 +0.8
comp=Z,1.5nm,0.8s,baz=302,slow=2.5,SNR=12
NEUB Neuenburg 82.26 329 *eP* P 23 38 08.0 +1.1*
comp=Z,14nm,1.0s,baz=43,slow=5.1
CLZ Clausthal 82.39 330 *eP* P 23 38 08.9 +1.3*
comp=Z,15nm,1.2s,baz=43,slow=5.1
VTS Vitosha 82.49 317 IAmb IAmb 23 38 10.5
comp=Z,8.9nm,1.0s
GUNZ Gunzen 82.64 328 *eP* P 23 38 10.2 +1.3*
comp=Z,5.9nm,0.9s,baz=43,slow=5.1
WERN Wernitzgruen 82.68 328 *eP* P 23 38 10.4 +1.3*
comp=Z,6.0nm,0.8s,baz=43,slow=5.1
MOX Moxa 82.75 329 *eP* P 23 38 10.5 +1.1*
comp=Z,11nm,1.6s,baz=43,slow=5.1
CONA Conrad Observa 82.76 325 *eP* P 23 38 10.6 +0.9*
comp=Z,5.7nm,0.7s
GTTG Gottingen 82.78 330 *eP* P 23 38 10.8 +1.2*
comp=Z,9.7nm,1.0s,baz=43,slow=5.1
CKRC Cesky Krumlov 82.86 326 *eP* P 23 38 10.7 +0.6*
KHC Kasperske Hory 82.97 327 *eP* P 23 38 11.1 +0.4*
KHC Kasperske Hory 82.97 327 *eP* P 23 38 11.1 +0.4*
MANZ Manzenberg 83.01 328 *eP* P 23 38 12.0 +1.1*
comp=Z,4.6nm,0.8s,baz=43,slow=5.1
GEC2 GERESS Array S 83.12 326 IAmb IAmb 23 38 12.5
comp=Z,6.9nm,0.8s
GEC2 GERESS Array B 83.12 326 *eP* P 23 38 12.3 +0.8*
comp=Z,7.9nm,1.0s,baz=43,slow=5.1
GERES GERESS Array B 83.12 326 P P 23 38 11.7 +0.1
comp=Z,4.1nm,0.6s,baz=42,slow=5.4,SNR=46
ROTZ Rotzenmuhle 83.13 328 *eP* P 23 38 12.9 +1.5*

comp=Z,17nm,1.4s,baz=43,slow=5.1
WET Wettzell 83.28 327 *eP* P 23 38 13.7 +1.4*
comp=Z,42nm,2.4s,baz=43,slow=5.1
ARSA Arzberg 83.40 324 *i* P P 23 38 12.9 +0.1*
comp=Z,1.5nm,0.3s
P17A Butcher Ranch, 83.44 46 P P 23 38 14.2 +0.8
P17A IAmb IAmb 23 38 16.1
comp=Z,4.5nm,0.9s
GRF Grafenberg Arr 83.62 328 *eP* P 23 38 15.4 +1.5*
comp=Z,14nm,0.9s,baz=43,slow=5.1
GRFO Grafenberg 83.62 328 P P 23 38 14.3 +0.4
GRFO pmax pmax
comp=Z,11nm,0.9s
GRFO Grafenberg 83.62 328 P P 23 38 14.3 +0.4
KNB Kanab 83.71 49 P P 23 38 15.5 +0.7
KNB pmax pmax
comp=Z,4.0nm,0.9s
KNB Kanab 83.71 49 P P 23 38 15.5 +0.7
KNB IAmb IAmb 23 38 17.7
comp=Z,3.6nm,0.9s
SRU San Rafael Swe 83.80 46 P P 23 38 16.3 +1.1
SRU pmax pmax
comp=Z,4.0nm,0.9s
SRU San Rafael Swe 83.80 46 P P 23 38 16.3 +1.1
SRU IAmb IAmb 23 38 17.5
comp=Z,3.6nm,0.9s
BUG Bochum-Univer 83.95 331 *eP* P 23 38 17.2 +1.8*
comp=Z,30nm,2.0s,baz=43,slow=5.1
RJOB Jochberg 84.34 326 *eP* P 23 38 18.9 +1.3*
comp=Z,24nm,1.1s,baz=43,slow=5.1
EKA Eskdalemuir Ar 84.47 338 P P 23 38 18.1 +0.2
comp=Z,0.9nm,0.5s,baz=46,slow=4.8,SNR=4.4
FUR Furstenfeldbru 84.72 327 *eP* P 23 38 20.6 +1.1*
comp=Z,13nm,0.8s,baz=43,slow=5.1
MEM Membach 85.10 331 *dP* P 23 38 20.7 -0.5*
comp=Z,5.9nm,0.9s
PV14 Lion Creek, Pa 85.17 46 P P 23 38 22.6 +0.4
PV14 IAmb IAmb 23 38 24.7
comp=Z,3.8nm,0.7s
WATA Walderalm 85.20 326 *eP* P 23 38 21.6 -0.4*
comp=Z,3.8nm,0.9s
WTTA Wattenberg 85.23 326 *i* P P 23 38 21.8 -0.3*
comp=Z,0.7nm,0.4s
MOTA Moosalm 85.41 327 *i* P P 23 38 22.6 -0.4*
comp=Z,0.6nm,0.3s
SQTA Sankt Quirin 85.45 326 *i* P P 23 38 22.7 -0.5*
comp=Z,0.7nm,0.4s
RETA Reutte 85.46 327 *i* P P 23 38 23.3 +0.2*
comp=Z,1.1nm,0.5s
FETA Feichten 85.82 327 *eP* P 23 38 25.0 -0.1*
comp=Z,1.5nm,0.6s
BMRD Maredsous 85.84 332 *dP* P 23 38 24.9 +0.1*
SNF Seneffe 85.86 332 *dP* P 23 38 24.8 -0.1*
comp=Z,4.5nm,0.7s
BFO Black Forest 85.90 329 *eP* P 23 38 25.9 +0.7*
comp=Z,3.9nm,0.8s,baz=43,slow=5.1
DAVA Damuels 86.01 327 *eP* P 23 38 26.0 +0.1*
comp=Z,2.6nm,0.8s
IDI Amoyia 86.22 311 P P 23 38 26.8 -0.2
comp=Z,5.8nm,0.7s,baz=6.6,slow=8.1,SNR=8.0
DAVOX Davos/Dischmat 86.39 327 P P 23 38 27.5 -0.3
comp=Z,4.5nm,0.6s,baz=4.1,slow=3.0,SNR=15
TXAR Lajitas Array 94.52 50 P P 23 39 07.4 +1.6
comp=Z,0.9nm,0.7s,baz=289,slow=2.8,SNR=14
TXAR pP **pP** 23 40 26.6 +0.8
comp=Z,0.8nm,0.9s,baz=318,slow=1.7,SNR=5.3
ESDC Sonseca Array 98.08 331 P P 23 39 21.2 -0.4
comp=Z,0.3nm,0.8s,baz=28,slow=5.8,SNR=2.3
TORD Torodi Ar. Bea 116.62 310 PKP PKPdf 23 44 26.9 -0.7
comp=Z,0.6nm,0.6s,baz=45,slow=1.4,SNR=12
BOSA Boshof 122.61 256 PKP PKPdf 23 44 38.6 -0.3
comp=Z,1.6nm,0.9s,baz=127,slow=5.1,SNR=1.3
DBIC Dimbokro 125.69 311 PKP PKPdf 23 44 44.7 -0.4
comp=Z,1.9nm,0.7s,baz=26,slow=7.5,SNR=1.8
LPAZ La Paz 151.06 58 PKPbc PKiKP 23 45 38.4 +0.5
comp=Z,0.9nm,0.7s,baz=16,slow=8.6,SNR=5.2

IDC 20 23:27:29.1±3.9, 30.68S×70.47W, h0km, mb3.3/1, mb1 3.5/2, mb1mx3.3/23, mbtmpg3.3/2, ML3.5/1, Error ellipse: s-maj=143.1km s-min=78.2km az=82.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	14.48	9	Pn		Pn		23 30 56.0	0.0
	0.1nm,0.3s,baz=188,slow=7.1,SNR=2.0								
TORD	Torodi Ar. Bea	81.81	70	P		P		23 39 50.5	0.0
	0.3nm,1.0s,baz=246,slow=4.4,SNR=1.6								
ZALV	Zalesovo Beam	150.70	30	PKPbc		PKPbc		23 47 22.4	-0.3
	0.8nm,0.5s,baz=296,slow=2.5,SNR=4.8								

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*IDC **20** 23:36:10.2±4.8, 19.88S×178.17W, h552km±34km, mb2.7/4, mb1 3.0/5, mb1mx2.8/23, mbtmp3.5/5, Error ellipse: s-maj=127.1km s-min=25.7km az=150.0*
ISC 20 23:36:09.6±1.7, 19.9S±0.5×178.2W±0.2, h550km, n7, σ1s17/7, mb3.2/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.21	301	P		P		23 37 33.4	+0.1
	1.4nm,0.3s,baz=143,slow=18,SNR=6.4								
ASAR	Alice Springs	44.51	256	P		P		23 43 33.2	+0.3
	0.8nm,0.5s,baz=93,slow=7.7,SNR=12								
WRA	Warramunga Arr	44.53	262	P		P		23 43 33.3	+0.2
	0.2nm,0.3s,baz=97,slow=7.7,SNR=5.3								
TXAR	Lajitas Array	86.88	57	P		P		23 47 57.3	+0.7
	0.1nm,0.5s,baz=238,slow=1.7,SNR=1.7								
ILAR	Eielson Array	87.81	13	P		P		23 48 00.1	+0.1
	0.3nm,0.5s,baz=216,slow=4.5,SNR=3.0								
AKASG	Malin Array Be	142.46	331	PKP		PKPdf		23 54 37.7	-2.2
	0.3nm,0.3s,baz=39,slow=4.3,SNR=8.6								
BRTR	Keskin Array B	146.36	313	PKPbc		PKPbc		23 54 49.7	+0.2
	0.6nm,1.1s,baz=82,slow=3.1,SNR=1.7								

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*IDC **20** 23:51:51.9±1.3, 2.59S×141.51E, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.7/23, mbtmp3.7/7, ML4.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/19, Error ellipse: s-maj=54.3km s-min=21.8km az=98.0*
*NEIC **20** 23:52:01.4±0.9, 2.8S±0.2×141.1E±0.1, h34km±10km, mb4.0/11, Error ellipse: s-maj=27.9km s-min=8.2km az=216.0*
ISC 20 23:51:57.3±0.9, 2.5S±0.1×141.1E±0.2, h31km, n29, σ0s99/21, mb3.7/7, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
COEN	Coen	11.53	170	Pn		Pn		23 54 39.2	-0.7
MTN	Manton Dam	14.25	224	Pn		Pn		23 55 16.1	-1.0
WB0	Warramunga Arr	18.35	201			P		23 56 09.2	-0.4
WB0						IAmb	IAmb	23 56 23.0	
	comp=Z,16nm,1.5s								
WR0	Warramunga Arr	18.48	200	P		P		23 56 11.0	+0.1
WR0						IAmb	IAmb	23 56 12.7	
	comp=Z,6.6nm,1.2s								
WB2	Warramunga Arr	18.53	200	P		P		23 56 11.4	-0.1
WB2						IAmb	IAmb	23 56 27.8	
	comp=Z,5.8nm,0.9s								
WRA	Warramunga Arr	18.54	201	P		P		23 56 10.7	-0.8
	comp=Z,0.7nm,0.3s,baz=21,slow=12,SNR=21								
WRA	Warramunga Arr	18.54	201	P		P		23 56 11.6	+0.1
TOLI2	Tolitoli	20.67	280	P		Pn		23 56 37.9	+0.5
TOLI2						IAmb	IAmb	23 56 42.1	
	comp=Z,14nm,1.4s								
FITZ	Fitzroy Crossi	21.69	223	P		P		23 56 45.3	-0.4
	comp=Z,2.3nm,0.6s,baz=36,slow=13,SNR=11								
FITZ	Fitzroy Crossi	21.69	223	P		P		23 56 46.4	+0.7
FITZ						IAmb	IAmb	23 56 54.1	
	comp=Z,3.5nm,0.8s								
AS31	Alice Springs	22.14	198	P		P		23 56 51.0	+0.3
ASAR	Alice Springs	22.14	198	P		P		23 56 50.5	-0.3
	comp=Z,0.9nm,0.6s,baz=31,slow=10,SNR=13								
ASAR	Alice Springs	22.14	198	P		P		23 56 51.3	+0.6
EIDS	Eidsvold	24.64	158	P		P		23 57 15.6	+0.3
EIDS						IAmb	IAmb	23 57 16.0	
	comp=Z,15nm,1.4s								
FORT	Forrest	30.70	202	P		P		23 58 08.8	-0.7
H11S3	WAKE ISLAND Hy	32.70	49	T		T		00 32 30.5	
	baz=232,slow=75,SNR=62								
H11S2	WAKE ISLAND Hy	32.71	49	T		T		00 32 31.3	
	baz=232,slow=75,SNR=51								
H11S1	WAKE ISLAND Hy	32.72	49	T		T		00 32 33.9	
	baz=232,slow=75,SNR=39								
H11N1	WAKE ISLAND Hy	33.59	48	T		T		00 33 53.0	

	baz=230,slow=75,SNR=5.0									
H11N2	**WAKE ISLAND Hy**	**33.61**	**48**	T	T		00 33 51.1			
	baz=230,slow=75,SNR=7.3									
H11N3	**WAKE ISLAND Hy**	**33.61**	**48**	T	T		00 33 49.8			
	baz=230,slow=75,SNR=5.8									
MORW	**Morawa**	**35.59**	**220**	P	**P**		**23 58 53.0**	**+0.7**		
MJAR	**Matsushiro Arr**	**38.97**	**356**	LR	LR		00 11 56.2			
	comp=Z,22nm,20.9s,baz=205,slow=31									
PLWZ	**Palliser**	**49.48**	**146**	P	**P**		**00 00 46.7**	**+1.7**		
MKAR	**Makanchi Array**	**71.14**	**322**	P	**P**		**00 03 15.0**	**+2.0**		
	comp=Z,0.2nm,0.3s,baz=108,slow=7.7,SNR=6.4									
ZALV	**Zalesovo Beam**	**73.02**	**329**	P	**P**		**00 03 24.4**	**+0.3**		
	comp=Z,0.3nm,0.3s,baz=120,slow=8.5,SNR=1.9									
VNDA	**Vanda**	**75.75**	**175**	P	**P**		**00 03 39.4**	**-0.2**		
	comp=Z,0.3nm,0.5s,baz=332,slow=4.8,SNR=1.9									
ILAR	**Eielson Array**	**84.67**	**24**	P	**P**		**00 04 25.4**	**-2.5**		
	comp=Z,0.4nm,0.7s,baz=243,slow=4.0,SNR=3.1									
DBIC	**Dimbokro**	**145.87**	**278**	PKPbc	**PKPab**		**00 11 35.7**	**+0.5**		
	comp=Z,3.7nm,0.9s,baz=55,slow=5.4,SNR=4.5									

UPA ***20*** *23:59:10.5±0.4,9.08N×84.22W,h34km±6km,MW4.2*
INET ***20*** *23:59:10.5,9.11N×83.99W,h28km,ML3.1*
UCR ***20*** *23:59:10.6±1.6,8.84N×84.09W,h10km,MD3.7,MW3.6*

ISC 20 23:59:09.3±1.8,8.82N±0.07×84.14W±0.06,h12km±12km, n20,σ0.74/29,3C-4D,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CDM	**Cerro de Muert**	**0.81**	**27**	*eP*		**Pg**	**23 59 24.8**	**-0.4**
CDM				*eS*		**Sg**	**23 59 36.2**	**+0.3**
LCR2	**La Lucha 2**	**0.92**	**8**	⇓*eP*		**Pg**	**23 59 27.0**	**-0.1**
LCR2				*eS*		**Sb**	**23 59 39.9**	**+0.2**
RIMA	**Rio Macho**	**0.97**	**16**	*eP*		**Pg**	**23 59 27.4**	**-0.8**
JACO	**JACO, Garabito**	**0.98**	**328**	⇑*eP*		**Pg**	**23 59 28.1**	**0.0**
OCM	**Ochomogo**	**1.08**	**9**	⇓*eP*		**Pg**	**23 59 29.6**	**-0.5**
OCM				*eS*		**Sb**	**23 59 44.5**	**+0.4**
LAFE	**Finca La Fe, P**	**1.24**	**322**	*eP*		**Pb**	**23 59 31.7**	**-0.9**
CVTR	**Volcan Turrial**	**1.25**	**18**	⇓*eP*		**Pg**	**23 59 32.9**	**-0.5**
CVTR				*eS*		**Sb**	**23 59 49.9**	**+0.7**
BRU2	**Volcan**	**1.43**	**91**	⇑*iP*		**Pn**	**23 59 36.0**	**+0.7**
BRU2				*i* S		**Sg**	**23 59 55.5**	**0.0**
BRU2	**Volcan**	**1.43**	**91**	⇑*iP*		**Pn**	**23 59 35.9**	**+0.7**
BRU2				*eS*		**Sb**	**23 59 54.7**	**+0.4**
RIFO	**Rio Frio, Sara**	**1.50**	**8**	*eP*		**Pn**	**23 59 36.9**	**+0.8**
BC3P	**Paso Ancho**	**1.51**	**90**	*eP*		**Pn**	**23 59 37.0**	**+0.6**
BC3P				*eS*		**Sn**	**23 59 54.2**	**-2.0**
BCO2	**Palmira**	**1.60**	**94**	⇓*iP*		**Pn**	**23 59 38.6**	**+1.0**
BCO2				*i* S		**Sb**	**23 59 59.9**	**+0.8**
JTS	**Las Juntas de**	**1.66**	**331**	*eP*		**Pn**	**23 59 38.9**	**+0.5**
CASO	**Castillo**	**1.70**	**340**	*eP*		**Pb**	**23 59 41.3**	**+0.7**
FORC	**Fortuna**	**1.71**	**342**	*iP*		**Pb**	**23 59 41.2**	**+0.4**
DVD	**David**	**1.71**	**103**	*eP*		**Pn**	**23 59 40.3**	**+1.3**
DVD				*eS*		**Sb**	**00 00 02.5**	**+0.2**
ARE1	**Arenal 1**	**1.72**	**341**	*eP*		**Pb**	**23 59 40.8**	**-0.1**
CHIR3	**Chiriqui UPA,**	**1.84**	**103**	*eP*		**Pb**	**23 59 42.8**	**-0.1**
CHGR2	**Aguacate**	**1.98**	**87**	*eP*		**Pn**	**23 59 42.8**	**+0.1**
CUI	**Cuipilapa**	**2.08**	**331**	*eP*		**Pb**	**23 59 46.5**	**-0.6**

IDC ***21*** *00:05:26.2±1.5,31.03S×71.53W,h0km,mb3.8/4, mb1 3.8/9,mb1mx3.7/22,mbtmp3.7/9,ML3.3/5,MS3.1/1, Ms1 3.2/1,ms1mx2.3/24,Error ellipse: s-maj=35.5km s-min=29.9km az=93.0*
NEIC ***21*** *00:05:32.9±1.7,30.81S±0.04×71.50W±0.07,h42km±10km, Error ellipse: s-maj=8.6km s-min=5.9km az=75.0*
GUC ***21*** *00:05:33.5±0.5,30.76S×71.46W,h40km±3km,ML4.4*

ISC 21 00:05:33.3±0.9,30.79S±0.03×71.47W±0.06,h37km±1km, n57,σ1.39/56,mb3.7/4,2C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**0.18**	**309**	⇓*iP*		**Pn**	**00 05 40.2**	**-3.0**
CO06				*i* S		Sn	00 05 44.7	-8.0
CO06	**Fray Jorge**	**0.18**	**309**			**Pn**	**00 05 40.1**	**-3.0**
CO06						Sn	00 05 44.7	-8.0
CO03	**El Pedregal**	**0.67**	**94**	⇑*iP*		**Pn**	**00 05 46.2**	**-0.2**
CO03				*i* S		**Sn**	**00 05 56.3**	**+0.5**
CO03	**El Pedregal**	**0.67**	**94**	Pn		**Pn**	**00 05 45.9**	**-0.6**
CO03						**Sn**	**00 05 55.4**	**-0.4**
GO04	**Tololo Observa**	**0.84**	**44**	*eP*		**Pn**	**00 05 48.6**	**-0.2**
GO04				*i* S		**Sn**	**00 06 00.5**	**+0.3**
GO04				IAML			00 06 02.9	
	comp=E,16μm,0.3s							
GO04	**Tololo Observa**	**0.84**	**44**			**Pn**	**00 05 48.5**	**-0.3**
GO04				Sn		**Sn**	**00 06 00.7**	**+0.4**
CO05	**La Serena**	**0.89**	**13**	*eP*		**Pn**	**00 05 49.1**	**-0.1**
CO05				*i* S		**Sn**	**00 06 01.6**	**+0.6**
CO05	**La Serena**	**0.89**	**13**			**Pn**	**00 05 49.2**	**-0.1**
CO05				Sn		**Sn**	**00 06 01.2**	**+0.3**
VA06	**Catapilco**	**1.77**	**175**	*eP*		**Pn**	**00 06 01.8**	**+0.5**
VA06				*i* S		**Sn**	**00 06 25.6**	**+2.9**
VA06				IAML			00 06 31.1	
	comp=N,4μm,0.5s							
LCO	**Las Campanas**	**1.89**	**21**	⇑*iP*		**Pn**	**00 06 04.0**	**+0.7**
LCO				*i* S		**Sn**	**00 06 27.8**	**+1.8**
VA03	**San Esteban**	**2.12**	**159**	IAML			00 06 42.6	
	comp=N,3μm,0.4s							
VA03	**San Esteban**	**2.12**	**159**			**Pn**	**00 06 07.5**	**+1.3**
ROCH	**El Roble**	**2.21**	**170**	*eP*		**Pn**	**00 06 08.3**	**+0.7**
ROCH				IAML			00 06 42.3	
	comp=N,3μm,0.6s							
VA01	**Torpederas**	**2.23**	**184**			**Pn**	**00 06 07.2**	**-0.5**
ZON	**Zonda**	**2.51**	**108**			**Pn**	**00 06 13.1**	**+1.5**
AC04	**Llanos de Chal**	**2.60**	**8**			**Pn**	**00 06 13.2**	**+0.4**
MT05	**Renca**	**2.67**	**167**	IAML			00 06 54.8	
	comp=E,3μm,0.3s							
MT05	**Renca**	**2.67**	**167**			**Pn**	**00 06 14.5**	**+0.7**
VA05	**Santo Domingo**	**2.86**	**182**	IAML			00 07 05.4	
	comp=E,2μm,0.4s							
VA05	**Santo Domingo**	**2.86**	**182**			**Pn**	**00 06 15.6**	**-0.8**
MT09	**Talagante**	**3.01**	**172**	*eP*		**Pn**	**00 06 19.4**	**+0.9**
MT09				IAML			00 07 09.5	
	comp=E,1μm,0.4s							
MT09	**Talagante**	**3.01**	**172**			**Pn**	**00 06 19.1**	**+0.6**
MT01	**Popeta**	**3.07**	**177**			**Pn**	**00 06 19.4**	**+0.2**
LMEL	**Las Melosas**	**3.23**	**161**	*eP*		**Pn**	**00 06 23.8**	**+2.2**
LMEL				*i* S		**Sn**	**00 07 03.0**	**+4.1**
LMEL				IAML			00 07 09.6	
	comp=N,1μm,0.4s							
GO03	**Copiap**	**3.36**	**19**			**Pn**	**00 06 24.9**	**+1.6**
AC06	**Mina Casimiro**	**3.56**	**16**			**Pn**	**00 06 26.6**	**+0.7**
BO01	**Tunca**	**3.61**	**175**			**Pn**	**00 06 26.6**	**0.0**
BO02	**Sierra Bellavi**	**4.04**	**172**			**Pn**	**00 06 33.0**	**+0.4**
GO05	**Huala**	**4.23**	**185**			**Pn**	**00 06 34.0**	**-1.1**
AC02	**Maricunga**	**4.44**	**28**			**Pn**	**00 06 39.9**	**+1.4**
ML02	**Panimavida**	**4.96**	**180**			**Pn**	**00 06 44.8**	**-0.4**
H03N1	**Juan Fernandez**	**6.84**	**245**	T	T		00 14 05.5	
	baz=73,slow=72,SNR=1751							
VA04	**Juan Fernndez**	**6.85**	**244**	Pn		**Pn**	**00 07 09.1**	**-2.1**
H03N3	**Juan Fernandez**	**6.86**	**245**	T	T		00 14 02.0	
	baz=73,slow=72,SNR=1608							
H03N2	**Juan Fernandez**	**6.86**	**245**	T	T		00 14 06.0	
	baz=73,slow=72,SNR=1518							
LC01	**Cunco**	**8.10**	**182**			**Pn**	**00 07 27.0**	**-1.2**
LVC	**Limon Verde**	**8.46**	**16**	Pn		**Pn**	**00 07 32.2**	**-1.4**
	comp=N,0.3nm,0.3s,baz=198,slow=9.6,SNR=1.7							
PLCA	**Paso Flores**	**9.95**	**176**	Pn		Pn	00 07 47.0	-6.7
	comp=N,0.0nm,0.3s,baz=0.0,slow=7.1,SNR=3.7							
PLCA	**Paso Flores**	**9.95**	**176**			**Pn**	**00 07 53.1**	**-0.6**
TRQA	**Tornquist**	**10.67**	**135**			**Pn**	**00 08 04.2**	**+0.7**
ITQB	**Itaqui**	**12.89**	**89**	Pn		**Pn**	**00 08 32.3**	**-1.6**
CPUP	**Villa Florida**	**13.20**	**74**	Pn		**Pn**	**00 08 38.6**	**+0.5**
	comp=N,0.1nm,0.3s,baz=214,slow=15,SNR=1.9							
CPUP				LR		LR	00 14 15.9	
	comp=N,84nm,18.4s,baz=216,slow=40							
CPUP	**Villa Florida**	**13.20**	**74**	Pn		**Pn**	**00 08 38.1**	**0.0**
LPAZ	**La Paz**	**14.75**	**13**	Pn		**Pn**	**00 09 02.1**	**+2.2**
	comp=N,0.1nm,0.3s,baz=183,slow=4.2,SNR=3.7							
LPAZ	**La Paz**	**14.75**	**13**			**Pn**	**00 08 59.2**	**-0.7**
PLTB	**Pedras Altas**	**15.31**	**98**	Pn		**Pn**	**00 09 04.6**	**-2.1**
PLTB				IAmb		IAmb	00 09 28.6	
	comp=Z,14nm,1.3s							
SIV	**San Ignacio**	**17.53**	**35**	P		**P**	**00 09 35.6**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=214,slow=9.6,SNR=5.8							
BDFB	**Brasilia**	**26.23**	**60**	P		**P**	**00 11 03.4**	**-1.6**
	comp=Z,0.8nm,0.4s,baz=228,slow=15,SNR=1.4							
BDFB	**Brasilia**	**26.23**	**60**	P		**P**	**00 11 03.6**	**-1.3**
BDFB				IAmb		IAmb	00 11 11.3	
	comp=Z,3.9nm,1.0s							
BCIP	**Isla Barro Col**	**40.53**	**347**	P		**P**	**00 13 06.2**	**-2.7**
TXAR	**Lajitas Array**	**67.19**	**330**	P		**P**	**00 16 23.4**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=146,slow=9.1,SNR=4.8							
DBIC	**Dimbokro**	**73.71**	**72**	P		**P**	**00 17 03.1**	**-0.6**
	comp=Z,3.9nm,1.1s,baz=218,slow=9.6,SNR=1.7							
TORD	**Torodi Ar. Bea**	**82.67**	**70**	P		**P**	**00 17 52.9**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=283,slow=5.9,SNR=9.1							
H11S2	**WAKE ISLAND Hy**	**26.24**	**271**	T	T		02 43 23.2	
	baz=115,slow=74,SNR=35							
H11S1	**WAKE ISLAND Hy**	**26.25**	**271**	T	T		02 43 24.4	
	baz=115,slow=74,SNR=14							
H11S3	**WAKE ISLAND Hy**	**26.26**	**271**	T	T		02 43 24.9	
	baz=115,slow=74,SNR=8.9							
ZALV	**Zalesovo Beam**	**151.23**	**30**	PKPbc	**PKPbc**		**00 25 21.7**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=225,slow=3.9,SNR=1.9							

MEX 21 00:07:14.8±0.5,15.89N×96.89W,h11km±4km,MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PEIG	**Puerto Escondi**	**0.28**	**294**	*iP*		Pg	00 07 20.0	-0.4
PEIG				*eS*		Sg	00 07 24.1	-0.2
VHO	**Vista Hermosa**	**1.19**	**7**	*eP*		Pb	00 07 33.7	-3.8
VHO				*eS*		Sb	00 07 47.7	-5.2
PNIG	**Pinotepa**	**1.29**	**293**	*eP*		Pn	00 07 35.0	-3.8
PNIG				*eS*		Sb	00 07 50.8	-5.0
TXIG	**Tlaxiaco**	**1.60**	**328**	*eP*		Pn	00 07 40.1	-3.1
TXIG				*eS*		Sn	00 07 59.1	-5.0
HLIG	**Huajuapan de L**	**2.12**	**336**	*eP*		Pn	00 07 47.6	-2.8
HLIG				*eS*		Sn	00 08 13.0	-3.8
MGIG	**Malinaltepec**	**2.15**	**309**	*eP*		Pn	00 07 46.6	-4.0
MGIG				*eS*		Sn	00 08 12.2	-5.2
CMIG	**Matias Romero**	**2.26**	**58**	*eP*		Pn	00 07 48.6	-3.5
CMIG				*eS*		Sn	00 08 15.9	-4.1
FTIG	**Fresnillo de T**	**2.34**	**329**	*eP*		Pn	00 07 50.7	-2.6
FTIG				*eS*		Sn	00 08 18.4	-3.6

IDC 21 00:07:22.7±2.5,30.92S×71.31W,h0km,mb3.6/3, mb1 3.8/4,mb1mx3.6/18,mbtmp3.7/4,ML3.4/1,MS2.7/1, Ms1 2.6/1,ms1mx2.3/25,Error ellipse: s-maj=77.3km s-min=44.6km az=180.0,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H03N1	**Juan Fernandez**	**6.92**	**247**	T		T	00 16 02.5	
	baz=70,slow=72,SNR=21							
H03N3	**Juan Fernandez**	**6.93**	**247**	T		T	00 16 03.1	
	baz=70,slow=72,SNR=26							
H03N2	**Juan Fernandez**	**6.94**	**247**	T		T	00 16 03.4	
	baz=70,slow=72,SNR=23							
PLCA	**Paso Flores**	**9.81**	**177**	LR		LR	00 14 11.9	
	comp=Z,40nm,20.0s,baz=342,slow=42							
SIV	**San Ignacio**	**17.56**	**34**	P		Pn	00 11 27.7	-1.3
	0.1nm,0.3s,baz=241,slow=14,SNR=4.3							
BDFB	**Brasilia**	**26.17**	**60**	P		P	00 12 59.8	+0.6
	0.7nm,0.3s,baz=216,slow=12,SNR=1.5							
TXAR	**Lajitas Array**	**67.38**	**330**	P		P	00 18 20.6	+0.7
	0.2nm,0.8s,baz=161,slow=5.7,SNR=1.8							
TORD	**Torodi Ar. Bea**	**82.58**	**70**	P		P	00 19 48.7	+0.7
	0.1nm,0.3s,baz=255,slow=5.7,SNR=3.0							
ZALV	**Zalesovo Beam**	**151.28**	**30**	PKPbc		PKPbc	00 27 16.4	-1.3
	2.0nm,0.6s,baz=293,slow=4.4,SNR=7.0							

MEX 21 00:14:23.6±0.4,14.69N×93.00W,h15km,MD3.6,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCIG		**1.03**	**348**	*iP*		Pb	00 14 39.9	-3.2
PCIG				*i* S		Sb	00 14 52.0	-4.4

SJA ***21*** *00:19:48.0,29.83S×72.34W,h10km,ML4.5*
IDC ***21*** *00:19:49.2±1.5,29.93S×71.76W,h0km,mb3.9/4, mb1 3.9/9,mb1mx3.8/26,mbtmp3.8/9,ML3.7/5,MS3.0/3, Ms1 3.1/3,ms1mx2.7/29,Error ellipse: s-maj=36.3km s-min=30.2km az=96.0*
NEIC ***21*** *00:19:50.2±2.4,29.87S±0.04×72.03W±0.07,h18km±2km, mb4.1/5,Mwr3.9/35,ML4.0(GUC),Error ellipse: s-maj=8.4km s-min=6.0km az=102.0*
GUC ***21*** *00:19:50.3±0.7,30.00S×71.84W,h36km±8km,ML4.0*
NEIC ***21*** *00:19:50.2,29.87S×72.03W,h20km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}6.17; $M_{\theta\theta}$1.81; $M_{\phi\phi}$-7.98; $M_{r\theta}$2.79; $M_{r\phi}$-1.30; $M_{\theta\phi}$-4.39; Fault plane solution: $M_0$9.01000×10^{14} NP1:ϕ_s163.81000°, δ64.37000°,λ63.76000°. NP2:ϕ_s32.54000°,δ36.03000°, λ132.66000°. Principal axes: T 8.7498, Plg61.0000°, Azm33.0000°; N 0.5029, Plg23.0000°, Azm176.0000°; P -9.2527, Plg15.0000°, Azm273.0000°;*

ISC 21 00:19:48.8±1.6,29.96S±0.03×71.94W±0.06,h8km±10km, n83,σ1.38/89,mb4.1/5,4C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO05	**La Serena**	**0.61**	**86**	⇑*eP*		**Pb**	**00 20 01.7**	**0.0**
CO05				*i* S		**Sb**	**00 20 10.2**	**-0.3**
CO05				IAML			00 20 13.0	
	comp=E,17μm,0.3s							
CO05	**La Serena**	**0.61**	**86**	Pg		**Pn**	**00 20 02.9**	**-0.8**
CO05				Sg		**Sb**	**00 20 09.7**	**-0.8**
CO06	**Fray Jorge**	**0.76**	**160**	⇑*eP*		**Pb**	**00 20 04.5**	**+0.2**
CO06				*i* S		**Sb**	**00 20 14.7**	**-0.1**
CO06	**Fray Jorge**	**0.76**	**160**	Pg		**Pn**	**00 20 06.1**	**+0.3**
CO06						**Sn**	**00 20 16.6**	**-1.0**
GO04	**Tololo Observa**	**1.01**	**102**	⇓*iP*		**Pn**	**00 20 09.7**	**+0.1**
GO04				*i* S		**Sn**	**00 20 22.7**	**-1.4**
GO04				IAML			00 20 25.7	
	comp=N,23μm,0.4s							
GO04	**Tololo Observa**	**1.01**	**102**			**Pn**	**00 20 10.1**	**+0.5**
GO04						**Sn**	**00 20 22.8**	**-1.3**
GO04	**Tololo Observa**	**1.01**	**102**	*iP*		**Pn**	**00 20 09.0**	**-0.5**
CO03	**El Pedregal**	**1.39**	**129**	*eP*		**Pg**	**00 20 15.8**	**+0.3**
CO03				IAML			00 20 38.6	
	comp=E,4μm,0.3s							
CO03	**El Pedregal**	**1.39**	**129**	Pn		**Pg**	**00 20 15.8**	**+0.3**
CO03	**El Pedregal**	**1.39**	**129**	*iP*		**Pg**	**00 20 16.0**	**+0.5**
LCO	**Las Campanas**	**1.43**	**49**	*eP*		**Pg**	**00 20 16.2**	**-0.2**
LCO				*i* S		**Sg**	**00 20 35.4**	**+0.4**
LCO	**Las Campanas**	**1.43**	**49**			**Pg**	**00 20 16.5**	**+0.1**
LCO				Sg		**Sg**	**00 20 35.4**	**+0.4**
LCO	**Las Campanas**	**1.43**	**49**	*iP*		**Pb**	**00 20 16.0**	**0.0**
AC04	**Llanos de Chal**	**1.91**	**24**	⇓*eP*		**Pn**	**00 20 21.7**	**+0.1**
AC04				*eS*		**Sn**	**00 20 45.0**	**-0.8**
AC04				IAML			00 20 53.5	
	comp=E,741nm,0.3s							
AC04	**Llanos de Chal**	**1.91**	**24**			**Pn**	**00 20 21.9**	**+0.3**
AC04	**Llanos de Chal**	**1.91**	**24**	*iP*		**Pn**	**00 20 22.0**	**+0.3**
AROD	**Rodeo**	**2.15**	**96**	*iP*		**Pg**	**00 20 29.0**	**-1.0**
ACDV	**Cuesta del Vie**	**2.45**	**96**	*iP*		**Pb**	**00 20 34.0**	**+0.7**
ACCO	**Cerro Coronel**	**2.56**	**105**	*iP*		**Pb**	**00 20 36.0**	**+0.7**
GO03	**Copiap**	**2.79**	**33**	IAML			00 21 24.8	
	comp=E,470nm,0.4s							
GO03	**Copiap**	**2.79**	**33**	Pn		**Pn**	**00 20 34.6**	**+0.7**
GO03	**Copiap**	**2.79**	**33**	*iP*		**Pn**	**00 20 35.0**	**+1.1**
RTLS	**Leoncito**	**2.92**	**130**	*iP*		**Pb**	**00 20 41.0**	**-0.3**
AC06	**Mina Casimiro**	**2.94**	**29**	⇑*eP*		**Pn**	**00 20 37.0**	**+1.0**
AC06				*eS*		**Sn**	**00 21 11.5**	**+0.1**
AC06				IAML			00 21 31.9	
	comp=E,449nm,0.8s							
AC06	**Mina Casimiro**	**2.94**	**29**			**Pn**	**00 20 36.7**	**+0.8**
AGUA	**GUANDACOL**	**3.04**	**82**	*iP*		**Pb**	**00 20 43.0**	**-0.2**
VA03	**San Esteban**	**3.04**	**157**	Pn		**Pn**	**00 20 39.3**	**+2.0**
VA01	**Torpederas**	**3.06**	**175**			**Pn**	**00 20 38.6**	**+1.0**
ZON	**Zonda**	**3.22**	**120**	Pn		**Pb**	**00 20 43.0**	**-3.3**
RTCV	**Cerro Valdivia**	**3.48**	**124**	*iP*		**Pb**	**00 20 49.0**	**-1.8**
MT05	**Renca**	**3.57**	**164**			**Pn**	**00 20 47.0**	**+2.4**
VA05	**Santo Domingo**	**3.70**	**176**			**Pn**	**00 20 47.6**	**+1.3**
MT09	**Talagante**	**3.89**	**168**			**Pn**	**00 20 51.1**	**+2.0**
MT01	**Popeta**	**3.94**	**172**			**Pn**	**00 20 50.6**	**+1.0**
AC02	**Maricunga**	**3.98**	**39**	Pn		**Pn**	**00 20 51.2**	**+0.7**
AC02	**Maricunga**	**3.98**	**39**	*iP*		**Pn**	**00 20 52.0**	**+1.4**
BO01	**Tunca**	**4.48**	**171**			**Pn**	**00 20 57.6**	**+0.6**
BO02	**Sierra Bellavi**	**4.92**	**169**	Pn		**Pn**	**00 21 05.0**	**+1.8**
GO05	**Huala**	**5.04**	**180**	Pn		**Pn**	**00 21 04.7**	**0.0**
GO05	**Huala**	**5.04**	**180**	*iP*		**Pn**	**00 21 06.0**	**+1.3**
PB14	**IPOC Station P**	**5.49**	**15**	Pn		**Pn**	**00 21 11.7**	**+0.5**
RFA	**San Rafael**	**5.63**	**149**	*iP*		**Pn**	**00 21 16.0**	**+3.2**
ML02	**Panimavida**	**5.80**	**176**	Pn		**Pn**	**00 21 14.8**	**-0.4**
PB10	**IPOC Station P**	**6.54**	**11**	Pn		**Pn**	**00 21 24.3**	**-1.0**
PB10	**IPOC Station P**	**6.54**	**11**	*iP*		**Pn**	**00 21 24.0**	**-1.3**
H03N1	**Juan Fernandez**	**6.88**	**238**	T	T		00 28 56.1	
	baz=66,slow=71,SNR=566							
H03N2	**Juan Fernandez**	**6.89**	**238**	T	T		00 28 57.3	
	baz=66,slow=71,SNR=595							
H03N3	**Juan Fernandez**	**6.90**	**238**	T	T		00 28 39.4	
	baz=66,slow=71,SNR=483							
VA04	**Juan Fernndez**	**6.92**	**236**	Pn		**Pn**	**00 21 29.3**	**-1.2**
PB15	**IPOC Station P**	**7.08**	**19**			**Pn**	**00 21 32.6**	**-0.4**
PB15	**IPOC Station P**	**7.08**	**19**	*iP*		**Pn**	**00 21 33.0**	**+0.1**
PB05	**IPOC Station P**	**7.25**	**13**	*iP*		**Pn**	**00 21 32.0**	**-3.2**
PB06	**IPOC Station P**	**7.53**	**17**	Pn		**Pn**	**00 21 36.4**	**-2.7**
PB06	**IPOC Station P**	**7.53**	**17**	*iP*		**Pn**	**00 21 37.0**	**-2.1**
AF01	**San Pedro de A**	**7.75**	**27**	Pn		**Pn**	**00 21 40.7**	**-1.5**
PB04	**IPOC Station P**	**7.76**	**12**	Pn		**Pn**	**00 21 39.6**	**-2.7**
LVC	**Limon Verde**	**7.81**	**21**	Pn		**Pn**	**00 21 42.1**	**-1.0**
	comp=E,0.3nm,0.3s,baz=172,slow=9.8,SNR=7.6							
LVC				LR		LR	00 24 56.8	
	comp=E,103nm,19.4s,baz=214,slow=40							
LVC	**Limon Verde**	**7.81**	**21**	*iP*		**Pn**	**00 21 43.0**	**-0.1**
PB07	**IPOC Station P**	**8.40**	**13**	Pn		**Pn**	**00 21 49.1**	**-2.0**
PB09	**IPOC Station P**	**8.48**	**17**	Pn		**Pn**	**00 21 51.6**	**-0.6**
PB09	**IPOC Station P**	**8.48**	**17**	*iP*		**Pn**	**00 21 51.0**	**-1.2**
LC01	**Cunco**	**8.92**	**180**	Pn		**Pn**	**00 21 59.5**	**+1.6**
PB01	**IPOC Station P**	**9.15**	**15**	Pn		**Pn**	**00 21 58.8**	**-2.5**
PB01	**IPOC Station P**	**9.15**	**15**	*iP*		**Pn**	**00 21 59.0**	**-2.3**
TA01	**Diego Aracena**	**9.49**	**10**	Pn		**Pn**	**00 22 04.1**	**-1.7**
PB08	**IPOC Station P**	**10.10**	**15**	Pn		**Pn**	**00 22 14.5**	**0.0**
PLCA	**Paso Flores**	**10.81**	**174**	Pn		**Pn**	**00 22 26.1**	**+2.2**
	comp=E,0.1nm,0.3s,baz=36,slow=3.8,SNR=3.2							
PLCA	**Paso Flores**	**10.81**	**174**			**Pn**	**00 22 25.6**	**+1.6**
TRQA	**Tornquist**	**11.55**	**137**	Pn		**Pn**	**00 22 36.6**	**+2.6**
ITQB	**Itaqui**	**13.30**	**93**	Pn		**Pn**	**00 22 58.0**	**0.0**
CPUP	**Villa Florida**	**13.39**	**78**	Pn		**Pn**	**00 22 59.4**	**+0.2**
	comp=E,0.1nm,0.3s,baz=249,slow=17,SNR=1.9							
CPUP				LR		LR	00 28 30.3	
	comp=E,95nm,19.2s,baz=220,slow=39							
LPAZ	**La Paz**	**14.05**	**15**	Pn		**Pn**	**00 23 11.1**	**+2.3**
	comp=E,0.2nm,0.3s,baz=178,slow=6.3,SNR=5.0							
LPAZ				LR		LR	00 29 42.0	
	comp=E,45nm,18.4s,baz=226,slow=42							
LPAZ	**La Paz**	**14.05**	**15**			**Pn**	**00 23 07.0**	**-1.8**
PLTB	**Pedras Altas**	**15.85**	**101**	Pn		**Pn**	**00 23 30.2**	**-2.2**
SIV	**San Ignacio**	**17.11**	**38**	Pn		**P**	**00 23 50.1**	**-0.1**
	comp=E,0.2nm,0.3s,baz=225,slow=12,SNR=11							
BDFB	**Brasilia**	**26.18**	**62**	P		**P**	**

*IDC **21** 01:38:46.9±0.7, 1°.08N×121°.62E, h0km, mb4.3/10, mb1 4.3/12, mb1mx4.0/41, mbtmp4.2/12, ML3.8/2, MS3.3/6, Ms1 3.4/6, ms1mx3.0/36, Error ellipse: s-maj=37.5km s-min=13.3km az=74.0*

*NEIC **21** 01:38:48.7±1.6, 1°.09N±0°.09×121°.44E±0°.04, h6km±6km, mb4.4/14, Error ellipse: s-maj=13.3km s-min=5.3km az=186.0*

*DJA **21** 01:38:49.2±0.4, 1°.N±4°×12°.1E±°, h10km, M4.5/9, mb4.7/4, mB4.9/1, MLv4.4/9, Mw(mB)4.1/1*

ISC 21 01:38:48.7±1.4, **1°.10N**±0°.05×**121°.46E**±0°.04, **h10**km±9km, **n51**, σ1§**33**/52, **mb4.3**/15, **MS3.4**/3, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOLI2	**Tolitoli**	**0.68**	**271**		**Pg**	**01 39 01.5**	**-0.5**
TOLI2					**Sg**	**01 39 09.4**	**-1.5**
MRSI	**Marisa**	**0.78**	**142**	P	**Pg**	**01 39 04.0**	**+0.1**
MRSI				S	**Sb**	**01 39 16.0**	**+0.8**
GTOI	**Gorontalo**	**1.61**	**107**	P	**Pn**	**01 39 15.4**	**-1.9**
GTOI				S	**Sn**	**01 39 35.7**	**-2.5**
MPSI	**Mapaga**	**1.74**	**244**	P	**Pn**	**01 39 19.6**	**+0.6**
MPSI				S	**Sn**	**01 39 41.5**	**+0.2**
APSI	**Ampana**	**2.01**	**175**	P	**Pn**	**01 39 22.2**	**-0.5**
LUWI	**Luwuk**	**2.50**	**148**		**Pn**	**01 39 30.9**	**+1.4**
LUWI	**Luwuk**	**2.50**	**148**	P	**Pn**	**01 39 30.9**	**+1.4**
LUWI				S	**Sb**	**01 40 04.6**	**0.0**
KMSI	**Cibinong**	**2.57**	**102**	P	**Pb**	**01 39 36.6**	**+1.6**
MNI	**Manado**	**3.39**	**84**	P	**Pn**	**01 39 45.8**	**+4.0**
TTSI	**Tana Toraja**	**4.43**	**202**	P	**Pn**	**01 39 58.2**	**+2.0**
MMSI	**Mamuju**	**4.55**	**214**	P	**Pn**	**01 39 58.4**	**+0.6**
SANI	**Sanana**	**5.50**	**125**	P	**Pn**	**01 40 10.5**	**-0.3**
	0.2nm29nm,0.9s						
BNSI	**Bone**	**5.63**	**194**	P	**Pn**	**01 40 14.4**	**+1.8**
	0.4nm920nm110nm,0.9s						
KAPI	**Kappang**	**6.31**	**196**	Pn	**Pn**	**01 40 22.2**	**+0.2**
	1.1nm,0.3s,baz=39,slow=6.6,SNR=1.6						
KAPI				Sn	**Sn**	**01 41 34.6**	**+0.4**
	baz=131,slow=20,SNR=0.8						
KAPI				LR	LR	01 43 15.4	
	comp=Z,294nm,18.3s,baz=52,slow=42						
KAPI	**Kappang**	**6.31**	**196**		**Pn**	**01 40 24.2**	**+2.2**
KAPI	**Kappang**	**6.31**	**196**	P	**Pn**	**01 40 22.8**	**+0.8**
DAV	**Davao City (W)**	**7.21**	**35**	LR	LR	01 43 40.3	
	comp=Z,159nm,19.0s,baz=163,slow=41						
BATI	**Baumata**	**11.45**	**169**	LR	LR	01 47 05.1	
	comp=Z,308nm,18.6s,baz=341,slow=44						
KNRA	**Kununurra**	**18.17**	**157**		**P**	**01 43 01.8**	**+0.2**
KNRA				IAmb	IAmb	01 43 06.5	
	comp=Z,53nm,1.4s						
FITZ	**Fitzroy Crossi**	**19.52**	**168**	P	**P**	**01 43 15.2**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=4.1,slow=10,SNR=9.2						
FITZ	**Fitzroy Crossi**	**19.52**	**168**	P	**P**	**01 43 15.4**	**-1.0**
YULB	**Yu-li**	**22.16**	**360**	P	**P**	**01 43 44.6**	**-0.4**
YULB				IAmb	IAmb	01 43 54.9	
	comp=Z,9.5nm,1.0s						
WB0	**Warramunga Arr**	**24.31**	**149**	P	**P**	**01 44 04.2**	**-2.6**
WRA	**Warramunga Arr**	**24.43**	**150**	P	**P**	**01 44 06.0**	**-1.8**
	comp=Z,7.9nm,0.5s,baz=330,slow=11,SNR=30						
WRA	**Warramunga Arr**	**24.43**	**150**	P	**P**	**01 44 07.9**	**+0.1**
WB2	**Warramunga Arr**	**24.44**	**150**	P	**P**	**01 44 06.5**	**-1.4**
WR0	**Warramunga Arr**	**24.55**	**149**	P	**P**	**01 44 07.4**	**-1.5**
AS31	**Alice Springs**	**27.43**	**155**	P	**P**	**01 44 34.7**	**-0.3**
AS31				IAmb	IAmb	01 44 41.2	
	comp=Z,2.1nm,0.4s						
ASAR	**Alice Springs**	**27.43**	**155**	P	**P**	**01 44 32.9**	**-2.1**
	comp=Z,1.9nm,0.8s,baz=338,slow=8.8,SNR=14						
ASAR	**Alice Springs**	**27.43**	**155**	P	**P**	**01 44 33.7**	**-1.3**
CMAR	**Chiang Mai Arr**	**28.03**	**309**	LR	LR	01 56 58.6	
	comp=Z,82nm,18.6s,baz=120,slow=39						
KSRS	**Korea Array**	**36.66**	**9**	LR	LR	02 00 07.6	
	comp=Z,26nm,19.9s,baz=244,slow=35						
STKA	**Stephens Creek**	**37.95**	**152**	P	**P**	**01 46 07.3**	**+0.7**
	comp=Z,8.2nm,0.8s,baz=319,slow=11,SNR=5.3						
STKA	**Stephens Creek**	**37.95**	**152**	P	**P**	**01 46 05.3**	**-1.4**
MJAR	**Matsushiro Arr**	**38.52**	**22**	P	**P**	**01 46 09.6**	**-1.9**
	comp=Z,0.7nm,0.3s,baz=194,slow=7.8,SNR=3.2						
USRK	**Ussuriysk Ar.**	**43.92**	**11**	P	**P**	**01 46 56.1**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=218,slow=4.8,SNR=5.2						
USRK	**Ussuriysk Ar.**	**43.92**	**11**	P	**P**	**01 46 55.7**	**-0.1**
MDJ	**Mudanjiang**	**43.92**	**8**	P	**P**	**01 46 56.3**	**+0.5**
MDJ				IAmb	IAmb	01 46 57.4	
	comp=Z,9.9nm,1.0s						
SONM	**Songino Array**	**48.35**	**346**	P	**P**	**01 47 31.8**	**+1.0**
	comp=Z,1.5nm,0.7s,baz=166,slow=9.8,SNR=7.7						
SONM	**Songino Array**	**48.35**	**346**	P	**P**	**01 47 31.8**	**+1.0**
SONM				IAmb	IAmb	01 47 32.3	
	comp=Z,1.9nm,1.0s						
MK31	**Makanchi Array**	**56.88**	**329**	P	**P**	**01 48 33.4**	**-0.5**
MK31				IAmb	IAmb	01 48 35.6	
	comp=Z,8.3nm,1.1s						
MKAR	**Makanchi Array**	**56.88**	**329**	P	**P**	**01 48 34.8**	**+0.9**
	comp=Z,5.5nm,0.8s,baz=130,slow=8.7,SNR=26						
MKAR	**Makanchi Array**	**56.88**	**329**	P	**P**	**01 48 33.8**	**-0.1**
ZAA0	**Zalesovo Array**	**60.69**	**336**	P	**P**	**01 48 59.8**	**-0.4**
ZAA0				IAmb	IAmb	01 49 00.9	
	comp=Z,5.3nm,0.8s						
ZALV	**Zalesovo Beam**	**60.69**	**336**	P	**P**	**01 48 59.9**	**-0.3**
	comp=Z,3.7nm,0.7s,baz=124,slow=7.4,SNR=12						
ZALV	**Zalesovo Beam**	**60.69**	**336**	P	**P**	**01 48 59.8**	**-0.4**
KKAR	**Karatay Array**	**61.69**	**320**	P	**P**	**01 49 08.4**	**+1.2**
SEY	**Seymchan**	**65.83**	**15**	LR	LR	02 20 28.1	
	comp=Z,23nm,18.9s,baz=180,slow=38						
BVAR	**Borovoye Array**	**66.75**	**329**	P	**P**	**01 49 40.5**	**+0.2**
	comp=Z,2.1nm,1.0s,baz=160,slow=14,SNR=7.4						
ABKAR	**Akbulak array**	**70.92**	**322**	P	**P**	**01 50 05.8**	**-0.5**
AKTO	**Aktyubinsk**	**72.51**	**323**	P	**P**	**01 50 15.9**	**0.0**
	comp=Z,1.5nm,0.8s,baz=68,slow=3.1,SNR=5.7						

*IDC **21** 01:42:12.6±1.1, 30°.69S×71°.90W, h0km, mb3.9/4, mb1 3.9/9, mb1mx3.8/25, mbtmp3.8/9, ML3.7/5, MS2.9/2, Ms1 2.9/2, ms1mx2.7/24, Error ellipse: s-maj=38.3km s-min=24.4km az=106.0*

*NEIC **21** 01:42:13.8±2.2, 30°.64S±0°.05×72°.10W±0°.03, h15km±4km, mb4.1/9, ML4.0(GUC), Error ellipse: s-maj=7.9km s-min=3.7km az=187.0*

*GUC **21** 01:42:16.4±0.7, 30°.73S×71°.74W, h30km±2km, ML4.0*

ISC 21 01:42:16.7±1.1, **30°.69S**±0°.04×**71°.86W**±0°.08, **h26**km±6km, **n49**, σ1§**14**/50, **mb4.0**/4, **4C-1D**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.20**	**86**	*e*P	**Pb**	**01 42 21.8**	**-0.7**
CO06				*i* S	**Sb**	**01 42 26.4**	**0.0**
CO06	**Fray Jorge**	**0.20**	**86**	Pg	**Pb**	**01 42 22.2**	**-0.2**
CO06				Sg	**Sb**	**01 42 27.3**	**+0.9**
CO05	**La Serena**	**0.94**	**35**‖	*e*P	**Pn**	**01 42 33.1**	**-1.0**
CO05				*i* S	**Sn**	**01 42 47.2**	**+0.5**
CO05				IAML		01 42 49.4	
	comp=N,6μm,0.5s						
CO05	**La Serena**	**0.94**	**35**		**Pn**	**01 42 32.9**	**-1.3**
CO05					**Sn**	**01 42 47.7**	**+1.0**
CO03	**El Pedregal**	**1.02**	**99**‖	*e*P	**Pn**	**01 42 34.2**	**-1.2**
CO03				*e*S	**Sn**	**01 42 47.5**	**-1.5**
CO03	**El Pedregal**	**1.02**	**99**		**Pn**	**01 42 35.2**	**-0.2**
GO04	**Tololo Observa**	**1.05**	**61**	*e*P	**Pb**	**01 42 35.8**	**-0.6**
GO04				*e*S	**Sb**	**01 42 50.5**	**+0.6**
GO04				IAML		01 42 57.7	
	comp=E,11μm,0.5s						
GO04	**Tololo Observa**	**1.05**	**61**		**Pn**	**01 42 35.4**	**-0.5**
VA06	**Catapilco**	**1.93**	**166**‖	*e*P	**Pn**	**01 42 49.2**	**+1.4**
VA06				*i* S	**Sn**	**01 43 13.5**	**+2.3**
VA06				IAML		01 43 23.3	
	comp=N,1μm,0.6s						
VA03	**San Esteban**	**2.35**	**152**‖	*e*P	**Pn**	**01 42 54.4**	**+0.7**
VA03				*i* S	**Sn**	**01 43 22.6**	**+0.7**
VA03				IAML		01 43 36.4	
	comp=N,2μm,0.6s						
ROCH	**El Roble**	**2.39**	**163**	*i* S	**Sn**	**01 43 22.1**	**-0.8**
ROCH				IAML		01 43 37.0	
	comp=N,759nm,0.6s						
AC04	**Llanos de Chal**	**2.57**	**16**	Pn	**Pn**	**01 42 54.4**	**-2.1**
VA05	**Santo Domingo**	**2.97**	**176**	IAML		01 44 05.7	
	comp=E,406nm,0.2s						
MT09	**Talagante**	**3.17**	**167**	IAML		01 44 07.3	
	comp=E,319nm,0.5s						
GO03	**Copiap**	**3.40**	**25**‖	*e*P	**Pn**	**01 43 10.0**	**+2.0**
GO03				*e*S	**Sn**	**01 43 51.2**	**+3.8**
GO03				IAML		01 44 09.1	
	comp=E,396nm,0.7s						
GO03	**Copiap**	**3.40**	**25**	Pn	**Pn**	**01 43 06.3**	**-1.7**
LMEL	**Las Melosas**	**3.45**	**156**	IAML		01 44 13.2	
	comp=N,189nm,0.3s						
AC06	**Mina Casimiro**	**3.57**	**22**		**Pn**	**01 43 09.2**	**-1.2**
AC02	**Maricunga**	**4.53**	**33**	Pn	**Pn**	**01 43 23.7**	**-0.3**
H03N1	**Juan Fernandez**	**6.58**	**244**	T	T	01 50 46.7	
	baz=71,slow=72,SNR=169						
H03N3	**Juan Fernandez**	**6.60**	**243**	T	T	01 50 45.1	
	baz=71,slow=72,SNR=165						
H03N2	**Juan Fernandez**	**6.60**	**244**	T	T	01 50 48.2	
	baz=71,slow=72,SNR=233						
VA04	**Juan Fernndez**	**6.60**	**242**	Pn	Pn	01 43 47.1	-4.8
PB15	**IPOC Station P**	**7.75**	**17**	Pn	**Pn**	**01 44 05.8**	**-2.2**
LC01	**Cunco**	**8.19**	**180**	Pn	Pn	01 44 07.8	-6.0
LVC	**Limon Verde**	**8.47**	**19**	Pn	**Pn**	**01 44 17.6**	**-0.4**
	comp=N,0.4nm,0.3s,baz=218,slow=17,SNR=1.2						
LVC				LR	LR	01 47 51.1	
	comp=N,51nm,20.3s,baz=208,slow=40						
LVC	**Limon Verde**	**8.47**	**19**		**Pn**	**01 44 16.0**	**-2.0**
PLCA	**Paso Flores**	**10.08**	**174**	Pn	**Pn**	**01 44 39.7**	**-0.1**
	comp=N,0.2nm,0.3s,baz=338,slow=13,SNR=3.1						
PLCA	**Paso Flores**	**10.08**	**174**		**Pn**	**01 44 40.0**	**+0.2**
TRQA	**Tornquist**	**10.98**	**135**	Pn	**Pn**	**01 44 52.2**	**+0.1**
CPUP	**Villa Florida**	**13.49**	**75**	Pn	**Pn**	**01 45 27.6**	**+1.1**
	comp=N,0.1nm,0.3s,baz=247,slow=15,SNR=2.1						
CPUP				LR	LR	01 50 48.7	
	comp=N,67nm,20.3s,baz=218,slow=38						
LPAZ	**La Paz**	**14.73**	**14**	Pn	**Pn**	**01 45 44.5**	**+0.5**
	comp=N,0.2nm,0.3s,baz=183,slow=7.3,SNR=7.7						
LPAZ	**La Paz**	**14.73**	**14**	P	**Pn**	**01 45 44.2**	**+0.3**
SIV	**San Ignacio**	**17.85**	**36**	P	**P**	**01 46 21.0**	**-0.6**
	comp=N,0.2nm,0.3s,baz=229,slow=12,SNR=17						
SAML	**Samuel**	**23.10**	**22**	P	**P**	**01 47 20.4**	**-0.1**
BDFB	**Brasilia**	**26.47**	**61**	P	**P**	**01 47 51.4**	**-0.6**
	comp=N,0.9nm,0.4s,baz=211,slow=9.4,SNR=5.8						
BDFB	**Brasilia**	**26.47**	**61**	P	**P**	**01 47 50.4**	**-1.5**
BDFB				IAmb	IAmb	01 47 52.5	
	comp=Z,4.6nm,1.0s						
SNAA	**Sanae**	**54.60**	**159**	P	**P**	**01 51 42.6**	**+0.1**
QSPA	**South Pole Qui**	**59.54**	**180**		**P**	**01 52 17.3**	**-0.3**
MAW	**Mawson**	**76.31**	**164**	P	**P**	**01 54 03.2**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=241,slow=21,SNR=3.7						
MAW	**Mawson**	**76.31**	**164**	P	**P**	**01 54 03.1**	**+0.4**
NVAR	**Mina Array Bea**	**81.26**	**325**	P	**P**	**01 54 30.5**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=116,slow=6.1,SNR=2.0						
TORD	**Torodi Ar. Bea**	**82.95**	**70**	P	**P**	**01 54 39.5**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=255,slow=5.0,SNR=7.1						
TORD	**Torodi Ar. Bea**	**82.95**	**70**	P	**P**	**01 54 39.6**	**-0.1**
TORD				IAmb	IAmb	01 54 55.3	
	comp=Z,1.9nm,1.2s						
BVAR	**Borovoye Array**	**144.70**	**40**	PKP	**PKPdf**	**02 01 50.5**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=305,slow=5.1,SNR=8.7						
KURBB	**Kurchatov Arra**	**150.29**	**39**	PKPbc	**PKPbc**	**02 02 05.0**	**0.0**
	comp=Z,0.7nm,0.7s,baz=308,slow=3.2,SNR=5.2						
KURK	**Kurchatov**	**150.29**	**39**		**PKPbc**	**02 02 05.0**	**0.0**
ZALV	**Zalesovo Beam**	**151.31**	**29**	PKPbc	**PKiKP**	**02 02 07.7**	**-0.1**
	comp=Z,3.8nm,0.7s,baz=293,slow=2.7,SNR=13						
ZALV	**Zalesovo Beam**	**151.31**	**29**		**PKPbc**	**02 02 07.2**	**-0.2**

*IDC **21** 01:43:57.2±2.1, 29°.50S×71°.71W, h0km, mb4.0/3, mb1 3.9/6, mb1mx3.7/23, mbtmp3.9/6, ML3.4/3, Error ellipse: s-maj=66.9km s-min=37.0km az=106.0*

ISC 21 01:44:02.2±2.0, **29°.5S**±0°.1×**71°.8W**±0°.4, **h35**km, **n11**, σ0§**89**/9, **mb3.9**/3, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H03N1	**Juan Fernandez**	**7.27**	**235**	T	T	01 53 14.4	
	baz=53						
LVC	**Limon Verde**	**7.29**	**21**	Pn	**Pn**	**01 45 44.9**	**-1.6**
	0.4nm,0.3s,baz=209,slow=19,SNR=2.0						
LVC				Sn	**Sn**	**01 47 08.5**	**+0.3**
	0.7nm,0.3s,baz=269,slow=18,SNR=1.8						
H03N2	**Juan Fernandez**	**7.29**	**235**	T	T	01 53 07.3	
	baz=53						
H03N3	**Juan Fernandez**	**7.29**	**235**	T	T	01 52 56.5	
	baz=53						
LPAZ	**La Paz**	**13.53**	**15**	Pn	**Pn**	**01 47 12.8**	**+0.6**
	0.2nm,0.3s,baz=200,slow=13,SNR=1.7						
SIV	**San Ignacio**	**16.63**	**39**	Pn	**Pn**	**01 47 53.7**	**+0.9**
	0.1nm,0.3s,baz=236,slow=13,SNR=3.1						
BDFB	**Brasilia**	**25.83**	**63**	P	**P**	**01 49 30.0**	**-0.6**
	1.8nm,0.7s,baz=207,slow=11,SNR=2.1						
DBIC	**Dimbokro**	**73.56**	**72**	P	**P**	**01 55 32.4**	**+0.4**
	1.6nm,0.6s,baz=203,slow=7.7,SNR=2.0						
TORD	**Torodi Ar. Bea**	**82.47**	**70**	P	**P**	**01 56 21.8**	**+0.3**
	0.8nm,0.7s,baz=254,slow=4.8,SNR=4.3						
KURBB	**Kurchatov Arra**	**149.29**	**38**	PKPbc	**PKPbc**	**02 03 46.9**	**0.0**
	0.1nm,0.3s,baz=299,slow=2.6,SNR=4.2						
ZALV	**Zalesovo Beam**	**150.19**	**28**	PKPbc	**PKiKP**	**02 03 49.4**	**-0.4**
	1.9nm,0.6s,baz=280,slow=3.5,SNR=5.6						

*NIED **21** 01:47:50.0, 39°.42N×142°.44E, h25km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr0.79; Mθθ-0.49; Mϕϕ-0.31; Mrθ1.65; Mθϕ-0.59; Mϕr0.48; Fault plane solution: M₀1.95000×10¹⁴ NP1:ϕs71.00000°, δ77.00000°, λ102.00000°. NP2:ϕs206.00000°, δ18.00000°, λ47.00000°.*

JMA 21 01:47:49.9±0.1, **39°.42N**×**142°.44E**, **h25**km±1km, **M3.7, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.51**	**288**	P	Pb	01 48 00.0	-0.2
MIYJ				S	Sb	01 48 07.1	-0.1
JTH	**Tanohata**	**0.68**	**320**	P	Pb	01 48 02.8	-0.4
JTH				S	Sb	01 48 12.0	-0.2
OFUJ	**Ofunato**	**0.69**	**241**	P	Pb	01 48 03.0	-0.3
OFUJ				S	Sb	01 48 12.1	-0.3
JOM	**Ohasama**	**0.89**	**274**	P	Pb	01 48 06.4	-0.3
JOM				S	Sb	01 48 18.1	-0.1
JKMT	**Kesennumamotoy**	**0.97**	**231**	P	Pn	01 48 07.3	-0.6
JKMT				S	Sb	01 48 19.6	-0.7
JKZ	**Kuzumaki**	**1.02**	**304**	P	Pn	01 48 08.8	+0.1
JKZ				S	Sb	01 48 21.6	-0.5
JMK	**Ichinoseki**	**1.06**	**244**	P	Pn	01 48 09.1	0.0
JMK				S	Sb	01 48 22.6	-0.3
JANG	**Nango**	**1.19**	**324**	P	Pn	01 48 10.4	-0.5
JANG				*e*S	Sn	01 48 25.6	-0.7
JIO	**Ouri**	**1.29**	**222**	P	Pn	01 48 11.8	-0.4
JIO				S	Sn	01 48 27.8	-0.9
JRG	**Rokugo**	**1.40**	**270**	P	Pb	01 48 15.3	0.0
JRG				*e*S	Sb	01 48 34.0	+1.2

*IDC **21** 01:53:32.9±1.8, 30°.42S×72°.60W, h0km, mb3.9/2, mb1 4.0/4, mb1mx3.7/18, mbtmp3.9/4, ML3.6/2, MS2.6/1, Ms1 2.6/1, ms1mx2.3/22, Error ellipse: s-maj=69.8km s-min=37.1km az=113.0*

*NEIC **21** 01:53:33.1±2.8, 30°.36S±0°.06×72°.67W±0°.06, h10km±1km, mb4.2/4, Error ellipse: s-maj=9.9km s-min=7.9km az=25.0*

ISC 21 01:53:34.9±0.9, **30°.36S**±0°.07×**72°.6W**±0°.1, **h19**km, **n40**, σ1§**37**/36, **mb3.8**/3, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.88**	**111**		**Pb**	**01 53 51.2**	**-0.4**
CO05	**La Serena**	**1.25**	**70**		**Pn**	**01 53 56.9**	**-0.5**
GO04	**Tololo Observa**	**1.56**	**84**	Pn	**Pn**	**01 54 02.4**	**+0.5**
CO03	**El Pedregal**	**1.71**	**107**		**Pn**	**01 54 03.8**	**0.0**
AC04	**Llanos de Chal**	**2.52**	**32**		**Pn**	**01 54 13.7**	**-1.2**
VA05	**Santo Domingo**	**3.39**	**166**		**Pn**	**01 54 25.1**	**-1.7**
GO03	**Copiap**	**3.44**	**37**	Pn	**Pn**	**01 54 27.2**	**-0.4**
ZON	**Zonda**	**3.56**	**110**		**Pn**	**01 54 26.6**	**-2.7**
AC06	**Mina Casimiro**	**3.58**	**34**		**Pn**	**01 54 29.1**	**-0.4**
MT09	**Talagante**	**3.67**	**159**	Pn	**Pn**	**01 54 29.2**	**-1.6**
MT01	**Popeta**	**3.67**	**162**		**Pn**	**01 54 27.6**	**-3.1**
BO01	**Tunca**	**4.22**	**163**	Pn	**Pn**	**01 54 36.9**	**-1.3**
AC02	**Maricunga**	**4.65**	**42**	Pn	**Pn**	**01 54 45.3**	**+0.7**
GO05	**Huala**	**4.67**	**173**		**Pn**	**01 54 42.5**	**-1.9**
BO02	**Sierra Bellavi**	**4.68**	**161**	Pn	**Pn**	**01 54 44.3**	**-0.3**
H03N1	**Juan Fernandez**	**6.19**	**239**	T	T	02 02 23.0	
	baz=71,slow=72,SNR=8.1						
H03N2	**Juan Fernandez**	**6.20**	**239**	T	T	02 02 22.2	
	baz=71,slow=72,SNR=8.0						
H03N3	**Juan Fernandez**	**6.21**	**239**	T	T	02 02 21.7	
	baz=71,slow=72,SNR=9.2						
LVC	**Limon Verde**	**8.39**	**24**	Pn	**Pn**	**01 55 34.9**	**-1.0**
LC01	**Cunco**	**8.54**	**176**	Pn	**Pn**	**01 55 35.3**	**-2.2**
PLCA	**Paso Flores**	**10.48**	**171**	Pn	**Pn**	**01 56 04.0**	**-0.2**
	0.1nm,0.3s,baz=310,slow=10,SNR=3.3						
PLCA	**Paso Flores**	**10.48**	**171**	Pn	**Pn**	**01 56 04.0**	**-0.2**
PSGCX	**Pisagua**	**10.95**	**12**	Pn	**Pn**	**01 56 09.3**	**-1.4**
TRQA	**Tornquist**	**11.66**	**134**	Pn	**Pn**	**01 56 21.0**	**+0.7**
CPUP	**Villa Florida**	**14.03**	**77**	LR	LR	02 01 45.5	
	comp=Z,27nm,20.1s,baz=216,slow=35						
LPAZ	**La Paz**	**14.59**	**17**	Pn	**Pn**	**01 56 58.8**	**-2.2**
SIV	**San Ignacio**	**17.78**	**39**	P	**P**	**01 57 42.9**	**+0.8**
	0.2nm,0.3s,baz=234,slow=12,SNR=22						
BDFB	**Brasilia**	**26.87**	**62**	P	**P**	**01 59 15.8**	**+1.1**
	1.2nm,0.5s,baz=217,slow=11,SNR=3.6						
VNA3	**Neumayer Olymp**	**52.91**	**159**	P	**P**	**02 02 50.6**	**+1.2**
VNA2	**Neumayer--Watz**	**53.55**	**158**	P	**P**	**02 02 52.3**	**-1.7**
SNAA	**Sanae**	**55.13**	**159**	P	**P**	**02 03 06.2**	**+0.6**
SNAA	**Sanae**	**55.13**	**159**	P	**P**	**02 03 06.3**	**+0.7**
QSPA	**South Pole Qui**	**59.87**	**180**	P	**P**	**02 03 40.5**	**+1.3**
QSPA				IAmb	IAmb	02 04 00.0	
	comp=Z,3.9nm,1.4s						
TORD	**Torodi Ar. Bea**	**83.43**	**71**	P	**P**	**02 06 02.8**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=269,slow=4.5,SNR=4.7						
TORD	**Torodi Ar. Bea**	**83.43**	**71**	P	**P**	**02 06 02.7**	**+1.2**
BVAR	**Borovoye Array**	**144.85**	**39**	PKP	**PKPdf**	**02 13 11.5**	**+1.4**
	comp=Z,1.0nm,0.6s,baz=250,slow=3.0,SNR=4.8						
KURK	**Kurchatov**	**150.43**	**38**		**PKiKP**	**02 13 25.8**	**+0.3**
KURBB	**Kurchatov Arra**	**150.43**	**39**	PKPbc	**PKiKP**	**02 13 25.8**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=306,slow=3.2,SNR=5.9						
ZALV	**Zalesovo Beam**	**151.32**	**28**	PKPbc	**PKiKP**	**02 13 27.6**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=305,slow=3.0,SNR=3.7						
ZALV	**Zalesovo Beam**	**151.32**	**28**		**PKPbc**	**02 13 24.8**	**-1.9**

MEX 21 01:58:20.8±1.3, **14°.65N**×**93°.76W**, **h17**km±316km, **MD3.9, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.18**	**26**	*e*P	Pg	01 58 46.6	+3.0
PCIG				*e*S	Sg	01 59 00.1	+1.2
TGIG		**2.21**	**16**	*e*P	Pg	01 59 04.5	+1.3
TGIG				*e*S	Sg	01 59 37.2	+5.3
CCIG	**Comitan**	**2.26**	**44**	*e*P	Pb	01 59 02.1	+0.8
CCIG				*e*S	Sb	01 59 30.6	+1.6
CMIG	**Matias Romero**	**2.66**	**336**	*e*P	Pg	01 59 13.6	+1.7
CMIG				*e*S	Sg	01 59 52.6	+6.3

*JMA **21** 02:10:08.6±0.7, 45°.21N×150°.31E, h30km, M4.9*

*NIED **21** 02:10:08.6, 45°.21N×150°.31E, h30km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-0.82; Mθθ4.53; Mϕϕ-3.71; Mrθ-3.82; Mθϕ-1.38; Mϕr5.59; Fault plane solution: M₀8.08000×10¹⁴ NP1: ϕs142.00000°, δ87.00000°, λ-57.00000°. NP2: ϕs238.00000°, δ33.00000°, λ-174.00000°.*

*SKHL **21** 02:10:09.2±0.6, 45°.10N×150°.40E, h70km±5km, mb4.9/5*

*MOS **21** 02:10:11.2±1.3, 45°.05N×150°.13E, h87km, mb4.0/3, Error ellipse: s-maj=14.9km s-min=10.0km az=169.3*

*NEIC **21** 02:10:14.1±1.7, 45°.2N±0°.2×150°.6E±0°.2, h85km±11km, mb4.2/11, Error ellipse: s-maj=29.1km s-min=12.9km az=152.0*

*IDC **21** 02:10:15.3±3.0, 45°.33N×149°.94E, h100km±25km, mb3.4/6, mb1 3.6/10, mb1mx3.3/50, mbtmp3.8/10, MS2.9/7, Ms1 2.9/7, ms1mx2.7/28, Error ellipse: s-maj=46.0km s-min=20.4km az=165.0*

ISC 21 02:10:08.5±0.7, **44°.95N**±0°.08×**150°.40E**±0°.07, **h50**km, **n91**, σ2§**00**/96, **mb4.0**/13, **1C, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.82**	**280**	*e*PN	**Pn**	**02 10 35.9**	**-1.3**
KUR				*e*S	**Sn**	**02

JBT2	Biratori 2	6.20	252	P		Pn		02 11 38.7	+1.3
JRBN	Rebuntou	6.62	277	P		Pn		02 11 45.7	+2.6
JNB	Noboribetsu	7.22	253	P		Pn		02 11 52.7	+1.3
JKB	Kayabe	7.48	249	P		Pn		02 11 55.6	+0.8
TYV	Tymovskoe	7.88	321	*e*P		Pn		02 11 59.4	-0.9
TYV					AMB	AMB		02 12 03.1	
	comp=Z,8.0nm,0.5s								
JANG	Nango	7.99	238	P		Pn		02 12 01.0	-0.9
JANG				*e*S		Sn		02 13 24.8	-6.0
JTM	Tenmabayashi	8.02	242	P		Pn		02 12 02.7	+0.4
JTM				*e*S		Sn		02 13 26.4	-5.1
OFUJ	Ofunato	8.75	231	P		Pn		02 12 11.6	-0.7
PETK	Petropavlovsk-	9.46	28	P		Pn		02 12 26.8	+4.8
	comp=Z,0.3nm,0.3s,baz=191,slow=21,SNR=4.1								
PETK					LR	LR		02 16 08.7	
	comp=Z,31nm,18.3s,baz=179,slow=38								
PETK	Petropavlovsk-	9.46	28	PN		Pn		02 12 26.9	+4.9
PETK	Petropavlovsk-	9.46	28			Pn		02 12 26.9	+4.9
JSD	Sado	11.42	237	Pn		Pn		02 12 50.3	+1.4
MJAR	Matsushiro Ar	12.48	232	LR		LR		02 17 56.4	
	comp=Z,39nm,20.4s,baz=215,slow=37								
USRK	Ussuriysk Ar.	13.15	273	P		Pn		02 13 13.0	+0.6
	baz=82,slow=14,SNR=7.8								
USRK	Ussuriysk Ar.	13.15	273	PN		Pn		02 13 13.3	+0.9
USRK	Ussuriysk Ar.	13.15	273			Pn		02 13 13.3	+0.9
KLR	Kul'dur	13.40	295	P		Pn		02 13 18.2	+2.4
	comp=Z,0.1nm,0.3s,baz=99,slow=16,SNR=6.4								
KLR					LR	LR		02 18 17.1	
	comp=Z,59nm,18.8s,baz=67,slow=37								
KLR	Kul'dur	13.40	295	*i* PN		Pn		02 13 16.9	+1.0
KLR	Kul'dur	13.40	295	*e*P		Pn		02 13 16.9	+1.0
KBG	Krutoberegovo	13.72	30	*e*P		Pn		02 13 18.1	-2.0
JWT	Wachi	14.98	235	P		P		02 13 44.7	+3.3
JHS	Saijyo	16.53	239	P		P		02 14 01.6	+2.8
JHS				IAmb		IAmb		02 14 09.5	
	comp=Z,7.7nm,1.0s								
KSRS	Korea Array	18.46	254	P		Pn		02 14 21.6	+1.1
	comp=Z,0.4nm,0.3s,baz=57,slow=11,SNR=7.0								
KSRS					LR	LR		02 20 15.2	
	comp=Z,40nm,20.1s,baz=199,slow=33								
KSRS	Korea Array	18.46	254	*e*P		Pn		02 14 21.9	+1.4
KSRS	Korea Array	18.46	254	*i* P		Pn		02 14 21.9	+1.4
YAK	Yakutsk	20.92	332	LR		LR		02 23 11.8	
	comp=Z,48nm,18.4s,baz=256,slow=38								
H11N2	WAKE ISLAND Hy	28.64	146	T		T		02 46 49.3	
	baz=336,slow=76,SNR=463								
H11N1	WAKE ISLAND Hy	28.65	146	T		T		02 46 50.4	
	baz=336,slow=76,SNR=368								
H11N3	WAKE ISLAND Hy	28.65	146	T		T		02 46 50.6	
	baz=336,slow=76,SNR=288								
H11S1	WAKE ISLAND Hy	29.67	147	T		T		02 48 04.4	
	baz=337,slow=76,SNR=308								
H11S3	WAKE ISLAND Hy	29.67	147	T		T		02 47 56.4	
	baz=337,slow=76,SNR=405								
H11S2	WAKE ISLAND Hy	29.68	147	T		T		02 47 57.7	
	baz=337,slow=76,SNR=354								
IMAR	Indian Mountai	36.33	35	P		P		02 17 07.5	+0.4
TOLK	Toolik Lake Re	38.27	31	P		P		02 17 23.9	+0.5
TOLK				IAmb		IAmb		02 17 38.0	
	comp=Z,6.3nm,1.3s								
SML	Sawmill	38.58	42	P		P		02 17 26.9	+0.7
SML				IAmb		IAmb		02 17 41.3	
	comp=Z,4.5nm,0.9s								
BMAR	Burnt Mountain	40.07	33	P		P		02 17 40.0	+1.5
GRNC	Granite Creek	41.85	43	P		P		02 17 55.2	+1.7
GRNC				IAmb		IAmb		02 18 21.9	
	comp=Z,14nm,1.3s								
ZALV	Zalesovo Beam	42.15	307	LR		LR		02 36 01.7	
	comp=Z,33nm,20.5s,baz=45,slow=37								
MK31	Makanchi Array	46.09	298	P		P		02 18 26.7	-0.7
MK31				pmax		pmax			
	comp=Z,2.0nm,1.0s								
MK31	Makanchi Array	46.09	298	P		P		02 18 26.7	-0.7
MK31				IAmb		IAmb		02 18 54.1	
	comp=Z,2.0nm,1.0s								
MKAR	Makanchi Array	46.09	298	P		P		02 18 26.3	-1.1
	comp=Z,0.3nm,0.5s,baz=72,slow=11,SNR=2.0								
MKAR	Makanchi Array	46.09	298	P		P		02 18 24.8	-2.6
BRVK	Borovoye	50.59	310	*i* P		P		02 19 00.4	-1.4
BRVK				pmax		pmax			
	comp=Z,1.0nm,0.5s								
BRVK	Borovoye	50.59	310	*e*P		P		02 19 00.4	-1.4
KKAR	Karatay Array	55.20	299	P		P		02 19 35.2	-0.9
KKAR	Karatay Array	55.20	299	P		P		02 19 35.2	-0.9
ABKAR	Akbulak array	58.12	310	P		P		02 19 55.7	-0.9
FINES	FINESS Array B	64.84	334	P		P		02 20 39.2	-2.5
	comp=Z,1.0nm,0.7s,baz=41,slow=6.1,SNR=4.7								
FINES	FINESS Array B	64.84	334	*e*P		P		02 20 39.6	-2.1
FINES				pmax		pmax			
	comp=Z,1.0nm,0.7s								
FINES	FINESS Array B	64.84	334	P		P		02 20 39.4	-2.4
NVAR	Mina Array Bea	64.96	60	P		P		02 20 45.1	+2.0
	comp=Z,0.4nm,0.6s,baz=300,slow=7.7,SNR=4.4								
NVAR	Mina Array Bea	64.96	60	P		P		02 20 45.6	+2.4
AKASG	Malin Array Be	71.96	325	P		P		02 21 24.8	-1.6
	comp=Z,0.6nm,0.4s,baz=39,slow=6.2,SNR=5.2								
BUR08	Bucovina Ar. S	76.00	325	P		P		02 21 49.6	-0.6
BUR08				IAmb		IAmb		02 22 07.7	
	comp=Z,1.5nm,1.1s								
BURAR	Bucovina Array	76.02	325	P		P		02 21 49.3	-0.9
GERES	GERESS Array B	79.21	333	P		P		02 22 06.7	-1.4
	comp=Z,0.3nm,0.5s,baz=36,slow=7.0,SNR=4.8								
GERES	GERESS Array B	79.21	333	P		P		02 22 07.1	-0.9
GERES	GERESS Array B	79.21	333	P		P		02 22 07.1	-0.9
TX31	Lajitas Ar. Si	80.04	58	P		P		02 22 14.8	+2.0
TX31				IAmb		IAmb		02 22 43.0	
	comp=Z,4.0nm,1.1s								
TX32	Lajitas Array	80.04	58	P		P		02 22 14.6	+1.7
TXAR	Lajitas Array	80.04	58	P		P		02 22 14.5	+1.6
	comp=Z,0.3nm,0.5s,baz=308,slow=5.0,SNR=6.8								
TXAR	Lajitas Array	80.04	58	P		P		02 22 14.2	+1.4

*NEIC **21** 02:24:03.1±3.0, 23.81S±0.10×175.40W±0.06, h10km±1km, mb4.6/15, Error ellipse: s-maj=16.7km s-min=10.0km az=3.0*

*IDC **21** 02:24:08.0±7.0, 23.90S×175.80W, h61km±52km, mb4.0/8, mb1 4.3/9, mb1mx3.9/29, mbtmp4.4/9, ML5.2/1, MS3.6/1, Ms1 3.6/1, ms1mx3.1/22, Error ellipse: s-maj=62.9km s-min=23.2km az=151.0*

ISC 21 02:24:04.3±0.5, 23.77S±0.08×175.49W±0.10, h28km, n48, σ1§93/41, mb4.5/16, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.88	201	Pn		Pn		02 25 27.4	-2.2
NIUE	Niue	6.97	49	Pn		Pn		02 25 38.8	-5.9
MSVF	Nonsavu	8.52	314	P		Pn		02 26 07.3	+1.4
	1.0nm,0.3s,baz=132,slow=14,SNR=15								
MSVF	Nonsavu	8.52	314	Pn		Pn		02 26 07.8	+1.9
AFI	Afiamalu	10.42	20	Pn		Pn		02 26 29.7	-2.3
RAR	Rarotonga	14.75	83	P		Pn		02 27 27.1	-4.0
	2.2nm,0.3s,baz=254,slow=5.7,SNR=7.3								
DZM	Mont Dzumac	16.73	272	*e*LR		LR		02 32 06.5	
	comp=Z,510nm,24.9s								
DZM	Mont Dzumac	16.73	272	P		P		02 28 02.0	+3.1
FOZ	Fox Glacier	23.13	208	P		P		02 29 10.3	+2.2
FOZ				IAmb		IAmb		02 29 26.6	
	comp=Z,32nm,1.2s								
TBI	Tubuai	23.86	94	*e*T		T		02 53 40.4	
	comp=Z,2.7nm,0.3s								
PAE	Paea	24.96	81	*e*T		T		02 54 48.5	
	comp=Z,1.2nm,0.2s								
PPT2	Papeete2	24.99	81	*e*S		S		02 33 46.7	-1.6
	comp=Z,80nm,28.8s								
PPT2				*e*LQ		LQ		02 34 27.2	
	comp=Z,247nm,22.2s								
PPT2				*e*LR		LR		02 35 29.6	
	comp=Z,330nm,25.2s,baz=253								
PPT2	Papeete2	24.99	81	*e*T		T		02 54 50.9	
	comp=Z,1.8nm,0.3s								
PPT	Papeete	25.00	81	LR		LR		02 38 41.5	
	comp=Z,131nm,18.9s,baz=272,slow=34								
CTA	Charters Tower	35.60	268	P		P		02 30 58.2	-1.7
	comp=Z,5.6nm,0.9s,baz=94,slow=12,SNR=4.1								
CTAO	Charters Tower	35.60	268	P		P		02 30 58.3	-1.5
CTAO				IAmb		IAmb		02 31 00.1	
	comp=Z,13nm,1.1s								
RKT	Rikitea	37.09	97	*e*T		T		03 10 15.5	
	comp=Z,0.7nm,0.1s								
AS31	Alice Springs	46.12	259	P		P		02 32 26.6	+0.1
ASAR	Alice Springs	46.12	259	P		P		02 32 24.5	-2.1
	comp=Z,2.3nm,0.9s,baz=92,slow=8.3,SNR=16								
ASAR	Alice Springs	46.12	259	P		P		02 32 25.0	-1.6
WR0	Warramunga Arr	46.34	265	P		P		02 32 23.8	-4.4
WR0				IAmb		IAmb		02 32 36.6	
	comp=Z,7.5nm,1.2s								
WB2	Warramunga Arr	46.52	265	P		P		02 32 26.7	-2.9
WB0	Warramunga Arr	46.53	265	P		P		02 32 26.4	-3.3
WB0				IAmb		IAmb		02 32 44.5	
	comp=Z,10nm,1.5s								
WRA	Warramunga Arr	46.53	265	P		P		02 32 26.3	-3.4
	comp=Z,2.8nm,0.9s,baz=99,slow=8.0,SNR=12								
WRA	Warramunga Arr	46.53	265	P		P		02 32 26.1	-3.6
SBA	Scott Base	54.80	185	P		P		02 33 29.3	-1.8
SBA				IAmb		IAmb		02 33 42.1	
	comp=Z,4.7nm,1.1s								
FITZ	Fitzroy Crossi	54.95	264	P		P		02 33 32.9	-0.3
FITZ				IAmb		IAmb		02 33 59.5	
	comp=Z,7.8nm,1.4s								
CASY	Casey	62.04	206	P		P		02 34 23.2	+1.3
QSPA	South Pole Qui	66.32	180	P		P		02 34 53.5	+3.4
QSPA				IAmb		IAmb		02 34 54.8	
	comp=Z,8.2nm,1.3s								
PETK	Petropavlovsk-	80.02	344	P		P		02 36 10.1	-0.7
	comp=Z,5.8nm,0.8s,baz=145,slow=10,SNR=4.9								
PETK	Petropavlovsk-	80.02	344	P		P		02 36 10.7	-0.1
NVAR	Mina Array Bea	81.84	42	P		P		02 36 22.4	+1.1
	comp=Z,0.9nm,0.9s,baz=227,slow=8.5,SNR=5.8								
USRK	Ussuriysk Ar.	82.96	325	P		P		02 36 26.5	-0.1
	comp=Z,0.9nm,0.3s,baz=126,slow=24,SNR=10.0								
PRN	Pahroc Range	83.25	44	P		P		02 36 29.6	+1.1
PRN				IAmb		IAmb		02 36 31.2	
	comp=Z,4.0nm,1.2s								
TX31	Lajitas Ar. Si	86.89	56	P		P		02 36 47.6	+0.7
TX32	Lajitas Array	86.89	56	P		P		02 36 47.9	+1.0
TX32				IAmb		IAmb		02 36 49.6	
	comp=Z,2.3nm,0.9s								
TXAR	Lajitas Array	86.89	56	P		P		02 36 48.4	+1.5
	comp=Z,1.9nm,0.9s,baz=214,slow=8.6,SNR=13								
TXAR	Lajitas Array	86.89	56	P		P		02 36 48.3	+1.4
CMAR	Chiang Mai Arr	93.38	289	P		P		02 37 17.7	+0.3
	comp=Z,1.3nm,0.5s,baz=145,slow=3.5,SNR=6.6								
CMAR	Chiang Mai Arr	93.38	289	P		P		02 37 17.5	+0.1
BORG	Borgarnes	135.70	16			PKiKP		02 43 23.3	+0.3
AKASG	Malin Array Be	146.99	331	PKPbc		PKPdf		02 43 42.7	+0.6
	comp=Z,6.8nm,0.9s,baz=41,slow=4.4,SNR=19								
AKASG	Malin Array Be	146.99	331			PKPdf		02 43 43.0	+0.9
AKBB	Malin Array Si	146.99	331			PKPdf		02 43 43.3	+1.2
BR131	Keskin Array S	150.73	310			PKPbc		02 43 53.4	-0.8
BRTR	Keskin Array B	150.73	310	PKPbc		PKPbc		02 43 52.2	-2.1
	comp=Z,1.3nm,0.8s,baz=145,slow=4.8,SNR=9.1								
BRTR	Keskin Array B	150.73	310			PKPbc		02 43 53.8	-0.5
CLL	Collm	151.73	349	*i* PKPbc		PKPbc		02 43 56.1	+0.1
	comp=Z,6.0nm,0.9s								
CLL				*i* PKPab		PKPab		02 44 05.6	+0.8
	comp=Z,5.0nm,0.9s								

*IDC **21** 02:24:51.5±1.0, 37.13S×73.82W, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.8/30, mbtmp3.8/8, ML3.6/2, MS3.3/5, Ms1 3.3/5, ms1mx3.0/22, Error ellipse: s-maj=27.6km s-min=16.0km az=67.0*

*VAO **21** 02:24:52.7±0.5, 37.13S×74.00W, h22km, mb4.3*

*NEIC **21** 02:24:52.1±2.5, 37.18S±0.05×73.88W±0.10, h10km±1km, mb4.3/20, ML4.4(GUC), Error ellipse: s-maj=13.3km s-min=8.2km az=266.0*

*GUC **21** 02:24:52.4±0.5, 37.28S×74.00W, h19km±3km, ML4.4*

ISC 21 02:24:55.4±0.5, 37.18S±0.04×73.87W±0.06, h35km, n119, σ1§30/122, mb4.2/9, MS3.4/3, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BI05	Punta Hualpn	0.69	52	*e*P		Pn		02 25 06.6	-2.1
BI05				*i* S		Sn		02 25 17.8	-0.3
BI05				IAML				02 25 19.1	
	comp=E,23μm,0.2s								
CCSP	San Pedro de C	0.69	62	*i* P		Pn		02 25 07.0	-1.7
CCSP				*i* S		Sn		02 25 17.8	-0.4
CCSP				IAML				02 25 21.3	
	comp=N,50μm,0.4s								
LC01	Cunco	2.33	138	*e*P		Pn		02 25 30.1	-1.2
LC01				*e*S		Sn		02 25 59.1	+0.4
LC01				IAML				02 26 13.6	
	comp=E,955nm,0.4s								
LC01	Cunco	2.33	138	Pn		Pn		02 25 30.3	-1.0
ML02	Panimavida	2.43	55	Pn		Pn		02 25 31.5	-1.1
GO05	Huala	2.67	37	Pn		Pn		02 25 34.5	-1.4
LR03	Panguipulli	2.73	154	Pn		Pn		02 25 36.0	-0.7
BO03	Pichilemu	3.09	31	*e*P		Pn		02 25 42.8	+1.1
BO03				*i* S		Sn		02 26 21.1	+3.7
BO03				IAML				02 26 43.4	
	comp=E,465nm,0.7s								
BO02	Sierra Bellavi	3.45	47	*e*P		Pn		02 25 46.1	-0.6
BO02				*i* S		Sn		02 26 29.8	+3.3
BO02				IAML				02 26 49.3	
	comp=E,1μm,0.7s								
BO02	Sierra Bellavi	3.45	47	Pn		Pn		02 25 45.7	-1.1
BO01	Tunca	3.58	40	*e*P		Pn		02 25 47.7	-0.7
BO01				*i* S		Sn		02 26 32.9	+3.3
BO01				IAML				02 26 57.0	
	comp=N,279nm,0.5s								
BO01	Tunca	3.58	40			Pn		02 25 47.6	-0.9
LL04	Puerto Octay	3.90	163	Pn		Pn		02 25 51.2	-1.6
MT01	Popeta	3.93	34	*e*P		Pn		02 25 51.7	-1.6
MT01	Popeta	3.93	34	Pn		Pn		02 25 51.7	-1.6
VA05	Santo Domingo	3.96	28	*e*P		Pn		02 25 51.7	-2.0
VA05	Santo Domingo	3.96	28			Pn		02 25 51.5	-2.2
LL03	Petrohue	4.12	164	Pn		Pn		02 25 56.0	+0.3
MT09	Talagante	4.13	36			Pn		02 25 54.9	-1.2
LL05	Los Muermos	4.23	176	Pn		Pn		02 25 55.6	-1.8
PLCA	Paso Flores	4.39	145	Pn		Pn		02 25 59.6	-0.1
	comp=N,0.6nm,0.3s,baz=322,slow=13,SNR=20								
PLCA				Lg		Lg		02 27 09.9	
	comp=N,3.5nm,0.3s,baz=5.0,slow=9.6,SNR=5.8								
PLCA	Paso Flores	4.39	145	Pn		Pn		02 25 59.7	0.0
PLCA	Paso Flores	4.39	145	*e*P		Pn		02 26 00.2	+0.5
VA01	Torpederas	4.53	24			Pn		02 25 58.8	-2.6
MT05	Renca	4.56	35	Pn		Pn		02 26 00.6	-1.4
VA03	San Esteban	5.18	33			Pn		02 26 08.7	-1.8
H03S1	Juan Fernandez	5.29	307	Pn		Pn		02 26 09.7	-1.9
	baz=92,slow=11,SNR=45								
H03S1				T		T		02 31 40.0	
	baz=128,slow=74,SNR=5495								
H03S3	Juan Fernandez	5.30	308	Pn		Pn		02 26 10.0	-1.8
	baz=92,slow=11,SNR=72								
H03S3				T		T		02 31 41.1	
	baz=128,slow=74,SNR=3930								
H03S2	Juan Fernandez	5.30	307	Pn		Pn		02 26 09.8	-2.0
	baz=92,slow=11,SNR=45								
H03S2				T		T		02 31 39.8	
	baz=128,slow=74,SNR=4017								
VA04	Juan Fernndez	5.37	310	Pn		Pn		02 26 11.0	-2.0
H03N3	Juan Fernandez	5.55	310	Pn		Pn		02 26 14.5	-0.8
	baz=146,slow=26,SNR=11								
H03N1	Juan Fernandez	5.56	311	Pn		Pn		02 26 13.9	-1.4
	baz=146,slow=26,SNR=16								
H03N2	Juan Fernandez	5.57	311	Pn		Pn		02 26 14.3	-1.2
	baz=146,slow=26,SNR=10								
GO07	Milladeo Hill,	5.93	179	Pn		Pn		02 26 18.6	-2.1
CO03	El Pedregal	6.85	24	Pn		Pn		02 26 32.8	-0.7
ZON	Zonda	7.07	39	Pn		Pn		02 26 34.6	-1.8
GO04	Tololo Observa	7.44	21	Pn		Pn		02 26 41.8	+0.1
TRQA	Tornquist	9.47	99	Pn		Pn		02 27 08.8	-0.6
TRQA	Tornquist	9.47	99	*e*P		Pn		02 27 08.9	-0.4
AC02	Maricunga	11.06	23	Pn		Pn		02 27 29.0	-2.6
PB10	IPOC Station P	13.91	13	Pn		Pn		02 28 11.6	+1.5
PB15	IPOC Station P	14.43	16	P		P		02 28 25.2	+1.5
LVC	Limon Verde	15.14	18	LR		LR		02 33 47.1	
	comp=N,58nm,20.9s,baz=138,slow=36								
LVC	Limon Verde	15.14	18	*e*P		Pn		02 28 25.2	-1.8
PB04	IPOC Station P	15.14	13	P		P		02 28 32.6	+1.0
PB07	IPOC Station P	15.78	14	P		P		02 28 39.3	+0.6
ITQB	Itaqui	16.21	68	*e*P		Pn		02 28 39.7	-0.7
PB01	IPOC Station P	16.52	15			Pn		02 28 43.0	-1.5
PB01				IAmb		IAmb		02 28 49.4	
	comp=Z,13nm,0.8s								
PLTB	Pedras Altas	17.55	78	*e*P		Pn		02 28 56.6	-0.7
CPUP	Villa Florida	17.71	57	P		P		02 29 00.1	+0.2
	comp=Z,0.1nm,0.3s,baz=228,slow=6.7,SNR=2.6								
CPUP				LR		LR		02 35 31.1	
	comp=Z,66nm,18.3s,baz=228,slow=36								
CPUP	Villa Florida	17.71	57	P		P		02 28 59.5	-0.4
CPUP	Villa Florida	17.71	57	*e*P		Pn		02 28 59.1	-0.2
PB11	IPOC Station P	17.74	13	P		P		02 29 00.0	-0.4
PB11				IAmb		IAmb		02 29 03.9	
	comp=Z,19nm,0.9s								
PSGCX	Pisagua	17.82	12	P		Pn		02 29 00.1	-0.7
CPSB	Cacapava Do Su	18.26	74	*e*P		P		02 29 05.3	-0.5
EFI	East Falkland	18.31	147	P		P		02 29 06.0	-0.3
CNLB	Canela	20.75	75	*e*P		P		02 29 33.0	-0.2
LPAZ	La Paz	21.42	15	P		P		02 29 42.2	+1.2
	comp=Z,3.3nm,0.8s,baz=184,slow=8.5,SNR=13								
LPAZ	La Paz	21.42	15	P		P		02 29 41.3	+0.3
LPAZ	La Paz	21.42	15	*e*P		P		02 29 37.9	-3.1
PTGB	Pinaga	22.39	62	*e*P		P		02 29 50.8	0.0
TER01	Tubaro-SC	22.45	75	*e*P		P		02 29 51.2	-0.2
AQDB	Aquidauana	22.96	49	P		P		02 29 53.7	-3.0
AQDB				IAmb		IAmb		02 30 04.9	
	comp=Z,5.8nm,0.7s								
AQDB	Aquidauana	22.96	49	*e*P		P		02 29 55.7	-1.1
TRCB	Terra Rica	23.24	58	P		P		02 29 59.0	-0.7
TRCB	Terra Rica	23.24	58	*e*P		P		02 29 59.2	-0.4
SIV	San Ignacio	23.95	32	P		P		02 30 06.3	-0.2
	comp=Z,2.3nm,0.8s,baz=226,slow=12,SNR=12								
SIV				LR		LR		02 41 22.6	
	comp=Z,133nm,19.4s,baz=270,slow=42								
TIJ01	Guaruva-PR	24.24	68	*e*P		P		02 30 08.4	-0.8
PCMB	Pacaembu	24.98	58	*e*P		P		02 30 15.5	-0.3
FRTB	Fartura	25.02	63	*e*P		P		02 30 15.9	-0.3
PTLB	Pontes e Lacer	25.29	35	*e*P		P		02 30 17.9	-0.7
PP1B	Ponte de Pedra	25.69	46	*e*P		P		02 30 21.7	-0.5
PET01	Itanhaem-SP	26.12	68	*e*P		P		02 30 26.1	0.0
SPB	Sao Paulo	26.42	67	*e*P		P		02 30 28.4	-0.4
SALV	Santo Antonio	26.61	42	*e*P		P		02 30 30.1	-0.5
ITRB	Iturama	26.91	56	*e*P		P		02 30 32.9	-0.4
VILB	Vilhena	27.05	30	*e*P		P		02 30 33.5	-1.1
RCLB	Rio Claro- Sao	27.06	64	*e*P		P		02 30 34.3	-0.4
VAO	Valinhos	27.11	66	*e*P		P		02 30 34.8	-0.3
BB19B	Bebedouro	27.22	61	*e*P		P		02 30 35.7	-0.5
PARB	Paraibuna	27.90	68	*e*P		P		02 30 42.5	+0.2
ETMB	Extrema	28.10	16	*e*P		P		02 30 44.8	+0.8
PMSA	Palmer Station	28.25	171	LR		LR		02 40 23.7	
	comp=Z,36nm,20.2s,baz=338,slow=33								
PMSA	Palmer Station	28.25	171	*e*P		P		02 30 44.4	-0.4
ESAR	Angra dos Reis	28.97	69	*e*P		P		02 30 52.1	+0.5
CZSB	Cruzeiro do Su	29.33	2	*e*P		P		02 30 53.6	-1.3
IPMB	Ipameri, GO	29.55	57	*e*P		P		02 30 56.4	-0.6
SAML	Samuel	29.72	22	*e*P		P		02 30 58.0	-0.4
BSCB	Bom Sucesso	29.95	66	*e*P		P		02 30 60.0	-0.5
VAS01	Vassouras-RJ	30.15	69	*e*P		P		02 31 01.6	-0.5
HOPE	Hope Point	30.73	136	P		P		02 31 06.3	-0.6
CLDB	Colider	30.84	36	*e*P		P		02 31 07.6	-0.6
DUB01	Friburgo-RJ	31.06	70	*e*P		P		02 31 09.9	-0.4
SNDB	Serra Nova Dou	32.25	45	*e*P		P		02 31 20.1	-0.6
PEXB	Peixe	33.89	49	*e*P		P		02 31 34.5	-0.5
JANB	Januaria	34.25	58	*e*P		P		02 31 37.4	-0.8
NPGB	Novo Progresso	34.40	34	*e*P		P		02 31 38.8	-0.7
SDBA	SAO DESIDERIO	35.79	54	*e*P		P		02 31 50.6	-0.9
GUA01	Guaratinga, BA	36.37	65	*e*P		P		02 31 56.2	-0.2
SMTB	Santa Maria do	36.89	47	*e*P		P		02 32 00.3	-0.5
CMC01	Camacan, BA	37.38	64	*e*P		P		02 32 04.5	-0.5
FLOC	Florencia	38.60	357	P		P		02 32 13.1	-2.1
FLOC				IAmb		IAmb		02 32 19.7	
	comp=Z,2.9nm,0.5s								
NBMA	Muriti-CE	43.55	56	*e*P		P		02 32 55.4	-0.6

comp=Z,278nm,20.6s,baz=124,slow=33
TAOE Nuku Hiva Isla 33.89 84 *e*LR LR 02 46 18.6
comp=Z,380nm,25.5s
TAOE Nuku Hiva Isla 33.89 84 *e*T T 03 13 18.8
28nm,0.2s
RKT Rikitea 37.93 108 *e*T T 03 18 18.9
14nm,0.3s
H11S2 WAKE ISLAND Hy 38.15 330 T T 03 18 17.3
baz=149,slow=75,SNR=34
H11S3 WAKE ISLAND Hy 38.16 330 T T 03 18 18.3
baz=149,slow=75,SNR=22
H11S1 WAKE ISLAND Hy 38.17 330 T T 03 18 16.8
baz=149,slow=75,SNR=15
H11N3 WAKE ISLAND Hy 39.11 331 T T 03 19 24.1
baz=151,slow=76,SNR=69
H11N1 WAKE ISLAND Hy 39.11 331 T T 03 19 24.4
baz=151,slow=76,SNR=65
H11N2 WAKE ISLAND Hy 39.12 331 T T 03 19 25.5
baz=151,slow=76,SNR=55
STKA Stephens Creek 43.55 239 LR LR 02 55 10.3
comp=Z,165nm,19.0s,baz=128,slow=34
AS31 Alice Springs 49.47 252 P **P** **02 39 26.0 -3.2**
ASAR Alice Springs 49.47 252 P **P** **02 39 25.0 -4.2**
3.1nm,0.9s,baz=85,slow=8.0,SNR=20
ASAR LR LR 02 59 35.7
comp=Z,100nm,18.4s,baz=104,slow=36
ASAR Alice Springs 49.47 252 P **P** **02 39 26.1 -3.1**
VNDA Vanda 63.75 186 P **P** **02 41 11.2 +1.4**
1.1nm,0.9s,baz=17,slow=1.8,SNR=4.4
VNDA Vanda 63.75 186 P **P** **02 41 08.9 -0.8**
VNDA IAmb IAmb 02 41 19.9
comp=Z,4.2nm,1.3s
MJAR Matsushiro Arr 68.06 320 LR LR 03 06 00.6
comp=Z,116nm,21.9s,baz=125,slow=31
NVAR Mina Array Bea 74.55 42 P **P** **02 42 19.7 +2.1**
comp=Z,0.8nm,0.8s,baz=227,slow=9.5,SNR=9.4
QSPA South Pole Qui 75.10 180 P **P** **02 42 21.3 +1.0**
KSRS Korea Array 75.25 316 LR LR 03 12 38.1
comp=Z,76nm,18.7s,baz=156,slow=34
TXAR Lajitas Array 81.05 56 P **P** **02 42 56.7 +2.8**
comp=Z,0.4nm,0.9s,baz=224,slow=7.6,SNR=3.9
TXAR LR LR 03 12 14.0
comp=Z,135nm,18.5s,baz=0.0,slow=31
ILAR Eielson Array 82.16 11 P **P** **02 43 00.3 +1.5**
comp=Z,1.5nm,1.0s,baz=224,slow=4.0,SNR=7.9
ILAR Eielson Array 82.16 11 P **P** **02 42 56.9 -1.9**
PDAR Pinedale Array 82.48 42 P **P** **02 43 03.4 +2.1**
comp=Z,0.7nm,0.8s,baz=270,slow=1.5,SNR=5.6
SDCO Great Sand Dun 83.02 48 P **P** **02 43 02.9 -1.4**
SDCO IAmb IAmb 02 43 12.9
comp=Z,4.9nm,1.2s
MAW Mawson 87.96 199 LR LR 03 20 45.5
comp=Z,122nm,18.9s,baz=64,slow=34
CMAR Chiang Mai Arr 91.68 289 LR LR 03 24 02.6
comp=Z,40nm,18.9s,baz=200,slow=35
ULM Lac du Bonnet 94.10 39 LR LR 03 20 25.8
comp=Z,106nm,19.9s,baz=274,slow=32
MORC Moravsky Berou 143.95 347 *e*PKP **PKiKP** **02 50 16.5 -0.8**
VRAC Vranov 144.59 348 *e*PKP **PKPdf** **02 50 14.4 -0.5**
VRAC *e* 02 50 19.8
JAVC Velka Javorina 144.78 346 *e*PKP **PKPdf** **02 50 16.0 +0.7**
JAVC *e* 02 50 20.8
KRUC Moravsky 144.87 348 *e*PKP **PKPdf** **02 50 15.0 -0.3**
KRUC *e* 02 50 20.0
BRTR Keskin Array B 145.28 321 PKP **PKPab** **02 50 16.4 0.0**
comp=Z,1.8nm,0.9s,baz=86,slow=2.6,SNR=8.0
BRTR Keskin Array B 145.28 321 **PKPbc** **02 50 13.7 -2.6**
KHC Kasperske Hory 145.30 351 *e*PKP **PKPdf** **02 50 16.8 +0.7**
KHC *ex* x 02 50 21.9
CKRC Cesky Krumlov 145.49 350 *e*PKP **PKPab** **02 50 17.7 +1.0**
CKRC *ex* x 02 50 22.2
GERES GERESS Array B 145.56 351 PKPbc **PKPab** **02 50 17.7 +0.6**
comp=Z,2.7nm,0.9s,baz=35,slow=4.9,SNR=15
CONA Conrad Observa 146.06 348 *e*P **PKiKP** **02 50 21.1 -0.6**
comp=Z,13nm,1.3s
MOA Molln 146.43 350 *e*P **PKiKP** **02 50 25.0 +2.5**
comp=Z,8.8nm,1.3s
ARSA Arzberg 146.77 348 *e*P **PKiKP** **02 50 26.4 +3.2**
comp=Z,8.0nm,1.2s
RETA Reutte 147.28 354 *e*P **PKiKP** **02 50 27.3 +3.1**
comp=Z,7.2nm,1.0s
WATA Walderalm 147.34 353 *e*P **PKiKP** **02 50 27.7 +3.2**
comp=Z,9.8nm,1.2s
MOTA Moosalm 147.38 353 *e*P **PKiKP** **02 50 27.8 +3.2**
comp=Z,9.2nm,1.0s
WTTA Wattenberg 147.40 353 *e*P **PKiKP** **02 50 27.6 +3.0**
comp=Z,15nm,1.3s
SOKA Soboth 147.42 348 *e*P **PKiKP** **02 50 27.3 +2.8**
comp=Z,8.1nm,0.9s
SQTA Sankt Quirin 147.50 353 *e*P **PKiKP** **02 50 28.0 +3.3**
comp=Z,7.2nm,0.9s
DAVA Damuels 147.57 355 *e*P **PKiKP** **02 50 28.3 +3.4**
comp=Z,13nm,1.1s
MYKA Terra Mystica 147.72 350 *e*P **PKPab** **02 50 27.9 +2.5**
comp=Z,8.5nm,1.0s
FETA Feichten 147.75 354 *e*P **PKPab** **02 50 29.4 +3.7**
comp=Z,9.3nm,1.1s
ABTA Abfaltersbach 147.79 351 *e*P **PKPab** **02 50 28.4 +2.7**
comp=Z,7.1nm,0.9s

*JMA **21** 02:35:53.9±0.1,24°.19N×121°.82E,h28km±2km,M2.9*
*TAP **21** 02:35:53.8,24°.27N×121°.86E,h15km,ML3.5,B*
ISC 21 02:35:53.2±1.0,24°.22N±0°.02×121°.90E±0°.02,h17km±8km, n115,σ0s67/158,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.17**	**301**	*e*P	**Pb**	**02 35 58.1**	**+0.2**
	baz=292						
EHP				*e*S	**Sb**	**02 36 01.6**	**+0.6**
	baz=292						
EWUT	**Wuta**	**0.25**	**334**	P	**Pb**	**02 35 59.0**	**-0.2**
	baz=337						
EWUT				*e*S	**Sb**	**02 36 02.8**	**-0.5**
	baz=337						
ENA	**Nanau**	**0.25**	**325**	P	**Pb**	**02 35 59.0**	**-0.3**
	baz=327						
ENA				S	**Sb**	**02 36 02.9**	**-0.5**
	baz=327						
ETL	**Fush Village**	**0.26**	**256**	P	**Pb**	**02 35 59.8**	**+0.4**
	baz=243						
ETL				*e*S	**Sb**	**02 36 04.9**	**+1.2**
	baz=243						
NACB	**Ninganchiao**	**0.28**	**260**	*e*P	**Pb**	**02 35 59.9**	**+0.1**
	baz=249						
NACB				*e*S	**Sb**	**02 36 04.7**	**+0.5**
	baz=249						
TWD	**Chiawan**	**0.31**	**243**	P	**Pb**	**02 36 00.9**	**+0.6**
	baz=231						
TWD				*e*S	**Sb**	**02 36 06.3**	**+1.2**
	baz=231						
HWA	**Hwalien**	**0.36**	**228**	*e*P	**Pn**	**02 36 02.8**	**-0.8**
	baz=217						
ETLH	**Xiulin Townshi**	**0.38**	**268**	*e*P	**Pb**	**02 36 01.5**	**-0.1**
	baz=260						
ETLH				*e*S	**Sb**	**02 36 07.1**	**-0.1**
	baz=260						
TWC	**Suao**	**0.39**	**353**	*e*P	**Pb**	**02 36 01.4**	**-0.2**
	baz=359						
TWC				*e*S	**Sg**	**02 36 06.7**	**+0.1**
	baz=359						
NDS	**Dongshan**	**0.44**	**338**	*e*P	**Pb**	**02 36 02.3**	**-0.3**
	baz=340						
NDS				*e*S	**Sg**	**02 36 08.2**	**-0.1**
	baz=340						
TEYL	**Yanliau Villag**	**0.45**	**218**	*e*P	**Pn**	**02 36 04.1**	**-0.7**
	baz=213						
ETM	**Tongmen**	**0.45**	**236**	P	**Pb**	**02 36 03.4**	**+0.8**
	baz=228						
ETM				S	**Sn**	**02 36 10.8**	**-1.8**
	baz=228						
NNSB	**Datong**	**0.51**	**294**	P	**Pb**	**02 36 03.9**	**0.0**
	baz=290						
NNSB				*e*S	**Sb**	**02 36 10.6**	**-0.4**
	baz=290						
ENTT	**Nioudou**	**0.52**	**324**	P	**Pb**	**02 36 03.7**	**-0.1**
	baz=324						
ENTT				S	**Sb**	**02 36 10.7**	**-0.2**
	baz=324						
NDT	**Datong Townshi**	**0.52**	**317**	P	**Pb**	**02 36 03.8**	**0.0**
	baz=316						
NDT				S	**Sb**	**02 36 11.0**	**0.0**
	baz=316						
NNS	**Nan Shan**	**0.53**	**294**	*e*P	**Pb**	**02 36 04.0**	**0.0**
	baz=291						
NNS				*e*S	**Sb**	**02 36 11.0**	**-0.4**
	baz=291						
TWE	**Neicheng**	**0.54**	**337**	P	**Pb**	**02 36 04.0**	**-0.2**
	baz=340						
TWE				*e*S	**Sb**	**02 36 11.8**	**+0.1**
	baz=340						
ILA	**Ilan**	**0.56**	**346**	*e*P	**Pb**	**02 36 04.8**	**+0.3**
	baz=349						
ILA				*e*S	**Sb**	**02 36 13.1**	**+0.9**
	baz=349						
WHF	**Hehuan Shan**	**0.58**	**263**	P	**Pb**	**02 36 05.3**	**+0.1**
	baz=257						
WHF				S	**Sb**	**02 36 13.6**	**+0.3**
	baz=257						
ESL	**Shilin**	**0.59**	**226**	*e*P	**Pb**	**02 36 05.6**	**+0.6**
	baz=220						
ESL				*e*S	**Sn**	**02 36 15.1**	**-0.9**
	baz=220						
FUSS	**Fushou**	**0.60**	**273**	P	**Pb**	**02 36 05.4**	**+0.1**
	baz=268						
FUSS				*e*S	**Sb**	**02 36 13.6**	**0.0**
	baz=268						
TEGC	**Jichi Village**	**0.61**	**213**	P	**Pn**	**02 36 06.7**	**-0.3**
	baz=207						
NTC	**Toucheng**	**0.63**	**354**	P	**Pb**	**02 36 05.8**	**0.0**
	baz=357						
NTC				*e*S	**Sb**	**02 36 14.3**	**-0.1**
	baz=357						
NWLT	**Wulai**	**0.66**	**327**	P	**Pb**	**02 36 06.1**	**-0.1**
	baz=327						
NWLT				*e*S	**Sg**	**02 36 14.9**	**-0.1**
	baz=327						
TWT	**Tachien**	**0.66**	**273**	*e*P	**Pn**	**02 36 07.0**	**-0.9**
	baz=268						
TWT				*e*S	**Sb**	**02 36 16.2**	**+0.8**
	baz=268						
TDCB	**Techi**	**0.68**	**273**	P	**Pb**	**02 36 06.9**	**+0.3**
	baz=268						
TDCB				*e*S	**Sb**	**02 36 16.1**	**+0.3**
	baz=268						
CHGB	**Renai**	**0.68**	**256**	P	**Pb**	**02 36 07.2**	**+0.4**
	baz=251						
CHGB				S	**Sb**	**02 36 16.8**	**+0.8**
	baz=251						
EGFH	**Guangfu**	**0.70**	**218**	*e*P	**Pn**	**02 36 07.9**	**-0.4**
	baz=213						
OWD	**Renai**	**0.71**	**248**	P	**Pn**	**02 36 07.7**	**-0.9**
	baz=243						
OWD				*e*S	**Sn**	**02 36 18.3**	**-0.9**
	baz=243						
TIPB	**Shuangxi**	**0.75**	**355**	P	**Pb**	**02 36 08.1**	**+0.3**
	baz=357						
TIPB				*e*S	**Sb**	**02 36 17.6**	**-0.1**
	baz=357						
TWB1	**Santiao Chiao**	**0.79**	**6**	*e*P	**Pn**	**02 36 09.1**	**-0.4**
	baz=9.0						
TWB1				*e*S	**Sb**	**02 36 19.0**	**+0.2**
	baz=9.0						
TWA	**Mucha**	**0.81**	**339**	*e*P	**Pn**	**02 36 09.6**	**-0.2**
	baz=341						
TWA				*e*S	**Sb**	**02 36 19.8**	**+0.4**
	baz=341						
NHDH	**Xindian Distri**	**0.81**	**335**	*e*P	**Pn**	**02 36 09.4**	**-0.4**
	baz=336						
TATO	**Taipei**	**0.84**	**334**	*e*P	**Pg**	**02 36 09.6**	**+0.1**
	baz=334						
TATO				*e*S	**Sg**	**02 36 20.3**	**-0.4**
	baz=334						
HGSD	**Ruisui**	**0.85**	**211**	*e*P	**Pn**	**02 36 10.9**	**+0.6**
	baz=207						
WFSB	**Wu-fen Shan**	**0.85**	**353**	*e*P	**Pn**	**02 36 10.2**	**-0.2**
	baz=354						
WFSB				S	**Sg**	**02 36 21.4**	**+0.4**
	baz=354						
WHP	**Taichung City**	**0.87**	**274**	*e*P	**Pn**	**02 36 10.4**	**-0.3**
	baz=270						
WHP				S	**Sn**	**02 36 22.2**	**-0.9**
	baz=270						
WPL	**Puli Township**	**0.89**	**257**	P	**Pn**	**02 36 10.7**	**-0.2**
	baz=253						
EHY	**Hungye**	**0.89**	**217**	*e*P	**Pn**	**02 36 10.6**	**-0.2**
	baz=212						
TAP	**Taipei**	**0.89**	**336**	*e*P	**Pg**	**02 36 10.3**	**-0.2**
	baz=337						
DPDB	**Guoxing**	**0.91**	**258**	P	**Pn**	**02 36 11.0**	**-0.2**
	baz=254						
DPDB				*e*S	**Sn**	**02 36 23.9**	**0.0**
	baz=254						
LIOB	**Emei**	**0.91**	**298**	*e*P	**Pn**	**02 36 11.3**	**+0.2**
	baz=296						
LIOB				*e*S	**Sg**	**02 36 23.2**	**+0.3**
	baz=296						
NSTT	**Nanjuang**	**0.91**	**297**	*e*P	**Pn**	**02 36 11.1**	**-0.2**
	baz=295						
NSTT				S	**Sg**	**02 36 22.8**	**-0.2**
	baz=295						
WCS	**Beigang Elemen**	**0.92**	**260**	P	**Pn**	**02 36 11.1**	**-0.2**
	baz=256						
TNOU	**National Taiwa**	**0.93**	**353**	*e*P	**Pb**	**02 36 08.6**	**-2.2**
	baz=354						
SSLB	**Suanglung**	**0.97**	**244**	*e*P	**Pn**	**02 36 11.9**	**0.0**
	baz=240						
SSLB				*e*S	**Sn**	**02 36 25.5**	**+0.1**
	baz=240						
YM01	**YM01**	**0.97**	**342**	*e*P	**Pn**	**02 36 12.4**	**+0.3**
	baz=343						
YM01				S	**Sg**	**02 36 24.6**	**-0.2**
	baz=343						
SMLT	**Sun Moon Lake**	**0.97**	**250**	P	**Pn**	**02 36 12.2**	**+0.1**
	baz=246						
TWS1	**Kuangyinshan**	**0.98**	**333**	P	**Pg**	**02 36 11.7**	**-0.4**
	baz=334						
JYNG	**Yonagunijimaku**	**0.98**	**76**	P	**Pn**	**02 36 13.2**	**+1.1**
JYNG				S	**Sn**	**02 36 27.4**	**+1.8**
NCU	**National Centr**	**0.99**	**319**	*e*P	**Pn**	**02 36 12.1**	**-0.1**
	baz=319						
NCUH	**Zhongli**	**0.99**	**319**	*e*P	**Pn**	**02 36 12.3**	**0.0**
	baz=318						
NCUH				*e*S	**Sn**	**02 36 26.3**	**+0.5**
	baz=318						
YULB	**Yu-li**	**0.99**	**214**	*e*P	**Pn**	**02 36 12.1**	**-0.3**
	baz=210						
YM08	**YM08**	**1.00**	**344**	P	**Pg**	**02 36 12.2**	**-0.5**
	baz=345						
TYC	**Yuchr**	**1.00**	**252**	P	**Pn**	**02 36 12.6**	**+0.1**
	baz=248						
SBCB	**Hsinchu**	**1.01**	**304**	*e*P	**Pn**	**02 36 13.1**	**+0.5**
	baz=303						
EYUL	**Yuli**	**1.02**	**212**	*e*P	**Pn**	**02 36 13.5**	**+0.8**
	baz=208						
NTST	**Danshui**	**1.02**	**337**	*e*P	**Pg**	**02 36 13.0**	**0.0**
	baz=337						
TWF1	**Yuli**	**1.03**	**213**	*e*P	**Pn**	**02 36 12.7**	**-0.1**
	baz=209						
TWQ1	**Liyutan**	**1.03**	**277**	*e*P	**Pg**	**02 36 14.3**	**+1.1**
	baz=274						
YOJ	**Yonaguni jima**	**1.04**	**77**	P	**Pg**	**02 36 14.0**	**+0.6**
YOJ				*e*S	**Sn**	**02 36 28.5**	**+1.4**
YOJ	**Yonaguni jima**	**1.04**	**77**	*e*P	**Pg**	**02 36 13.9**	**+0.6**
	baz=79						
NSY	**Sanyi**	**1.06**	**281**	*e*P	**Pg**	**02 36 14.7**	**+1.0**
	baz=278						
NMLH	**Miaoli**	**1.06**	**287**	*e*P	**Pg**	**02 36 14.6**	**+0.9**
	baz=285						
TWY	**Chenhua**	**1.08**	**346**	*e*P	**Pg**	**02 36 14.2**	**0.0**
	baz=347						
WHYT	**Xinyi Township**	**1.09**	**242**	*e*P	**Pg**	**02 36 14.6**	**+0.3**
	baz=238						
YUS	**Yu-Shan**	**1.13**	**230**	*e*P	**Pg**	**02 36 15.0**	**-0.2**
	baz=226						
WJS	**Zhushan**	**1.14**	**250**	*e*P	**Pg**	**02 36 15.4**	**+0.1**
	baz=246						
WDJ	**Dajia District**	**1.16**	**276**	*e*P	**Pg**	**02 36 15.5**	**0.0**
	baz=274						
FULB	**Fuli**	**1.16**	**209**	*e*P	**Pg**	**02 36 15.1**	**-0.5**
	baz=206						
WNT	**Mingjian**	**1.16**	**253**	*e*P	**Pg**	**02 36 15.8**	**+0.1**
	baz=250						
CHKT	**Chengkung**	**1.22**	**204**	*e*P	**Pg**	**02 36 16.1**	**-0.6**
	baz=200						
CHKT				*e*S	**Sg**	**02 36 33.5**	**+0.8**
	baz=200						
ALS	**Alishan**	**1.23**	**235**	*e*P	**Pg**	**02 36 16.9**	**-0.1**
	baz=231						
CHN5	**Tsauling**	**1.28**	**241**	*e*P	**Pg**	**02 36 18.0**	**+0.1**
	baz=238						
ELDTW	**Lidau**	**1.31**	**218**	*e*P	**Pb**	**02 36 17.1**	**-0.2**
	baz=215						
EDH	**Donghe**	**1.36**	**204**	*e*P	**Pb**	**02 36 17.8**	**-0.3**
	baz=201						
PCYT	**Pengchaiyu**	**1.41**	**6**	*e*P	**Pb**	**02 36 18.5**	**-0.5**
	baz=8.0						
WRL	**Guolierlin Hig**	**1.43**	**257**	*e*P	**Pb**	**02 36 19.5**	**+0.2**
	baz=255						
STYH	**Taoyuan**	**1.47**	**225**	*e*P	**Pb**	**02 36 20.3**	**+0.2**
	baz=222						
CHN4	**Tsaushan**	**1.48**	**234**	*e*P	**Pg**	**02 36 20.8**	**-0.8**
	baz=231						
WTK	**Tuku**	**1.48**	**249**	*e*P	**Pg**	**02 36 20.8**	**-0.9**
	baz=246						
TPUB	**Ta-pu**	**1.48**	**232**	*e*P	**Pg**	**02 36 20.8**	**-0.9**
	baz=229						
STYT	**Tauyuan**	**1.49**	**225**	*e*P	**Pb**	**02 36 20.6**	**+0.2**
	baz=222						
LONT	**Longtian**	**1.49**	**208**	*e*P	**Pg**	**02 36 20.8**	**-1.1**
	baz=206						
WTP	**Ta-pu**	**1.53**	**231**	*e*P	**Pg**	**02 36 21.4**	**-1.1**
	baz=228						
TWGBT	**Beinan**	**1.59**	**208**	*e*P	**Pb**	**02 36 21.9**	**-0.1**
	baz=206						
TWG	**Pinlang**	**1.59**	**209**	*e*P	**Pb**	**02 36 21.9**	**-0.1**
	baz=206						
TWK	**Hsinying**	**1.60**	**234**	*e*P	**Pg**	**02 36 22.9**	**-1.2**
	baz=231						
CHN1	**Nanshi**	**1.63**	**231**	*e*P	**Pg**	**02 36 23.6**	**-0.9**
	baz=228						
SGST	**Jiashian**	**1.66**	**227**	*e*P	**Pb**	**02 36 22.6**	**-0.6**
	baz=224						
IRIF	**Iriomote-Funau**	**1.67**	**86**	P	**Pb**	**02 36 22.6**	**-0.9**
SLGT	**Liugui**	**1.68**	**223**	*e*P	**Pb**	**02 36 24.1**	**+0.4**
	baz=221						
ICHU	**Yijhu**	**1.71**	**240**	*e*P	**Pb**	**02 36 23.7**	**-0.5**
	baz=238						
HATJ	**Hateruma jima**	**1.75**	**95**	P	**Pb**	**02 36 24.2**	**-0.6**
SSD	**Sandimen**	**1.87**	**219**	*e*P	**Pb**	**02 36 26.4**	**-0.6**
	baz=216						
TSMG	**Majia**	**1.90**	**218**	*e*P	**Pb**	**02 36 27.4**	**+0.1**
	baz=215						
JKRS	**Kuro-shima**	**1.93**	**89**	P	**Pb**	**02 36 26.5**	**-1.3**
JKRS				*e*S	**Sb**	**02 36 50.9**	**-0.7**
MASBT	**Mashibuluo**	**1.98**	**216**	*e*P	**Pb**	**02 36 27.9**	**-0.9**
	baz=214						
JIJ	**Ishigaki jima**	**2.05**	**86**	P	**Pn**	**02 36 28.0**	**+1.1**
JIJ				*e*S	**Sn**	**02 36 52.6**	**+0.5**
SCZT	**Fangliau**	**2.19**	**213**	*e*P	**Pb**	**02 36 31.1**	**-1.2**
	baz=210						
JISG	**Ishigakijimahi**	**2.23**	**80**	P	**Pn**	**02 36 29.9**	**+0.6**
JISG				S	**Sb**	**02 36 58.6**	**-1.7**
SLIU	**Shizi**	**2.24**	**207**	*e*P	**Pb**	**02 36 32.5**	**-0.6**
	baz=205						
PNG	**Penghu**	**2.24**	**254**	*e*P	**Pn**	**02 36 30.5**	**+1.0**
	baz=251						
PHUB	**P'eng-hu**	**2.24**	**252**	*e*P	**Pn**	**02 36 30.8**	**+1.3**
	baz=250						
WDGT	**Dungji**	**2.26**	**245**	*e*P	**Pn**	**02 36 30.6**	**+0.8**
	baz=243						
VCHM	**Qimei**	**2.48**	**246**	*e*P	**Pn**	**02 36 34.0**	**+1.3**
	baz=244						
JTJ	**Tarama**	**2.59**	**80**	P	**Pn**	**02 36 35.5**	**+1.2**
MATB	**Ma-tsu**	**2.61**	**318**	*e*P	**Pn**	**02 36 34.4**	**-0.2**
	baz=316						
PTMZ	**Houxiangcun**	**2.66**	**288**	*e*P	**Pn**	**02 36 35.4**	**+0.2**
	baz=287						
LYJJ	**Jianjiangzhen**	**3.02**	**321**	*e*P	**Pn**	**02 36 40.4**	**+0.2**
	baz=320						
XPSS	**Dashiqiu**	**3.11**	**331**	*e*P	**Pn**	**02 36 41.0**	**-0.4**
	baz=330						
KNM	**Kinmen**	**3.17**	**274**	*e*P	**Pn**	**02 36 44.2**	**+2.0**
	baz=272						
MHZQ	**Yeshan**	**3.20**	**306**	*e*P	**Pn**	**02 36 42.3**	**-0.4**
	baz=305						
KNMB	**Chin-men Tao**	**3.21**	**275**	*e*P	**Pn**	**02 36 43.0**	**+0.1**
	baz=273						
AXDP	**Jialang**	**3.64**	**281**	*e*P	**Pn**	**02 36 49.2**	**+0.5**
	baz=280						

MEX 21 02:48:28.8±0.9,14°.07N×92°.25W,h89km±26km,MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.83**	**359**	*e*P	Pn	02 48 44.9	-1.8
THIG				*e*S	Sn	02 48 58.1	-1.8
PCIG		**1.88**	**330**	*e*P	Pn	02 48 58.2	-1.2
PCIG				*e*S	Sn	02 49 20.4	-2.2
CCIG	**Comitan**	**2.20**	**3**	*e*P	Pn	02 49 03.4	-0.4
CCIG				*e*S	Sn	02 49 32.2	+1.6
TGIG		**2.82**	**343**	*e*P	Pn	02 49 12.9	+0.9
TGIG				*e*S	Sn	02 49 45.4	+0.2
CMIG	**Matias Romero**	**3.93**	**320**	*e*P	Pn	02 49 26.0	-0.9
CMIG				*e*S	Sn	02 50 07.5	-4.5

*TUL **21** 02:48:31.7±1.4,36°.27N±0°.02×98°.52W±0°.05,h1km±6km, ML3.1,mb_Lg2.9/78(NEIC),Error ellipse: s-maj=5.6km s-min=2.7km az=89.0*
*NEIC **21** 02:48:32.9±2.2,36°.257N±0°.006×98°.48W±0°.05,h7km±7km, Error ellipse: s-maj=6.0km s-min=0.9km az=87.0*
*ANF **21** 02:48:32.5±1.4,36°.20N×98°.51W,h4km±10km,ML3.7/6, Error ellipse: s-maj=4.4km s-min=3.0km az=134.0*
ISC 21 02:48:32.8±0.7,36°.25N±0°.03×98°.47W±0°.03,h10km,n97, σ1s12/88,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.45**	**286**	Pg	**Pg**	**02 48 40.2**	**-1.3**
U32A				Sg	**Sg**	**02 48 46.0**	**-1.5**
CROK	**Carrier**	**0.47**	**57**		**Pg**	**02 48 41.9**	**-0.1**
CROK				Sg	**Sg**	**02 48 49.1**	**+0.9**
OK032	**Salt Plains WL**	**0.59**	**21**		**Pg**	**02 48 43.6**	**-0.7**
OK032				Sg	**Sg**	**02 48 51.9**	**-0.1**
GC02	**Grant County #**	**0.77**	**39**		**Pg**	**02 48 47.2**	**-0.6**
GC02				Sg	**Sg**	**02 48 58.0**	**+0.1**
KAN14	**Manchester OK**	**0.81**	**30**		**Pg**	**02 48 47.7**	**-0.8**
KAN14				Sg	**Sg**	**02 48 59.1**	**-0.1**
BCOK	**Bluff Creek, N**	**0.92**	**130**		**Pg**	**02 48 49.9**	**-0.6**
BCOK				Sg	**Sb**	**02 49 03.2**	**0.0**
KAN10	**Anthony SW Sta**	**0.92**	**19**		**Pg**	**02 48 49.6**	**-0.9**
OK029	**Liberty Lake**	**0.94**	**119**		**Pg**	**02 48 50.3**	**-0.7**
KAN17	**Caldwell West**	**0.97**	**36**		**Pg**	**02 48 50.6**	**-1.0**
KAN05	**Bluff City Nor**	**0.98**	**29**		**Pg**	**02 48 50.6**	**-1.1**
KAN16	**Harper SW Stat**	**1.02**	**19**	Pg	**Pg**	**02 48 51.5**	**-1.1**
KAN08	**Anthony NE Sta**	**1.05**	**22**	Pg	**Pg**	**02 48 52.0**	**-1.1**
KAN13	**South Haven SW**	**1.10**	**46**		**Pb**	**02 48 53.0**	**-0.9**
KAN09	**Caldwell North**	**1.12**	**38**		**Pb**	**02 48 53.2**	**-1.1**
BLOK	**Blackwell**	**1.13**	**63**		**Pb**	**02 48 53.9**	**-0.6**
OK025	**Westminster Rd**	**1.14**	**126**		**Pb**	**02 48 53.9**	**-0.7**
OKCFA	**Oklahoma City**	**1.18**	**135**		**Pb**	**02 48 54.5**	**-0.8**
OKCSW	**OKLAHOMA CITY**	**1.19**	**135**		**Pb**	**02 48 54.5**	**-1.0**
KS20	**Mayfield South**	**1.22**	**37**		**Pn**	**02 48 55.0**	**-1.1**
FNO	**Franklin**	**1.32**	**138**		**Pn**	**02 48 57.0**	**-0.4**
OK031	**S. Brethren Rd**	**1.36**	**102**		**Pn**	**02 48 57.7**	**-0.1**
QUOK	**Quay**	**1.43**	**93**		**Pn**	**02 48 59.0**	**+0.2**
WMOK	**Wichita Mounta**	**1.53**	**190**		**Pn**	**02 48 59.9**	**-0.4**
WMOK	**Wichita Mounta**	**1.53**	**190**	P	**Pn**	**02 48 59.8**	**-0.5**
	baz=7.9						
WMOK				S	**Sb**	**02 49 20.1**	**-0.8**
	baz=7.9						
T35A	**Sooner Cattle**	**1.71**	**67**		**Pb**	**02 49 03.6**	**-0.8**
X34A	**Smith Ranch, M**	**1.73**	**162**	Pn	**Pb**	**02 49 03.5**	**-1.2**
X34A				IAmb_Lg		02 49 28.5	
	comp=Z,69nm,0.8s						
R32A	**Long Quarter,**	**2.17**	**355**	Pn	**Pn**	**02 49 09.4**	**+0.3**
TUL1	**Leonard**	**2.20**	**98**	P	**Pn**	**02 49 10.3**	**+0.9**
	baz=280					

W39A	**Magazine**	**3.96**	**104**	Pn	**Pn**	**02 49 34.6**	**+1.0**
W39A				lAmb_Lg		02 50 42.0	
	comp=Z,48nm,0.9s						
Z38A	**Mt. Pleasant**	**4.14**	**135**	Pn	**Pn**	**02 49 36.5**	**+0.4**
Z38A				lAmb_Lg		02 50 45.2	
	comp=Z,20nm,0.8s						
MSTX	**Muleshoe**	**4.20**	**238**	Pn	**Pn**	**02 49 37.0**	**0.0**
KSCO	**Kaye Shedlock'**	**4.30**	**311**	Pn	**Pn**	**02 49 39.0**	**+0.6**
KSCO				lAmb_Lg		02 50 45.0	
	comp=Z,22nm,0.8s						
WHTX	**Lake Whitney,**	**4.33**	**169**	Pn	**Pn**	**02 49 39.1**	**+0.3**
WHTX				lAmb_Lg		02 50 53.6	
	comp=Z,20nm,1.0s						
MIAR	**Mount Ida**	**4.35**	**112**	Pn	**Pn**	**02 49 40.2**	**+1.3**
MIAR				lAmb_Lg		02 51 02.2	
	comp=Z,24nm,0.7s						
MIAR	**Mount Ida**	**4.35**	**112**	S	**Sn**	**02 50 31.8**	**+2.1**
	baz=295						
S39A	**Bolivar**	**4.37**	**69**	Pn	**Pn**	**02 49 39.6**	**+0.4**
S39A				lAmb_Lg		02 50 54.6	
	comp=Z,17nm,0.8s						
U40A	**Yellville**	**4.54**	**87**	Pn	**Pn**	**02 49 43.8**	**+2.2**
U40A				lAmb_Lg		02 50 57.2	
	comp=Z,31nm,0.8s						
T25A	**Trinidad**	**4.85**	**282**	Pn	**Pn**	**02 49 44.5**	**-1.7**
T25A	**Trinidad**	**4.85**	**282**	P	**Pn**	**02 49 46.3**	**+0.1**
	baz=99						
T25A				Sb	**Sb**	**02 51 01.5**	**+4.9**
	baz=99						
X40A	**Basin Creek Fa**	**4.93**	**109**	Pn	**Pn**	**02 49 48.0**	**+1.0**
MGMO	**Mountain Grove**	**5.06**	**78**	Pn	**Pn**	**02 49 49.9**	**+1.1**
MGMO				lAmb_Lg		02 51 19.5	
	comp=Z,15nm,0.8s						
WLAR	**White Oak Lake**	**5.09**	**119**	lAmb_Lg		02 51 24.9	
	comp=Z,31nm,1.2s						
WHAR	**Wooly Hollow**	**5.12**	**99**	Pn	**Pn**	**02 49 51.5**	**+1.9**
WHAR				lAmb_Lg		02 51 29.1	
	comp=Z,32nm,0.9s						
BGNE	**Belgrade**	**5.15**	**3**	Pn	**Pn**	**02 49 49.6**	**-0.4**
FCAR	**Ozark Folk Cen**	**5.15**	**92**	Pn	**Pn**	**02 49 48.4**	**-1.6**
FCAR				lAmb_Lg		02 51 29.6	
	comp=Z,17nm,1.0s						
P38A	**Dawn**	**5.15**	**48**	Pn	**Pn**	**02 49 50.7**	**+0.7**
P38A				lAmb_Lg		02 51 26.9	
	comp=Z,27nm,0.8s						
R40A	**Maddies Statio**	**5.35**	**66**		**Pn**	**02 49 53.3**	**+0.6**
R40A				lAmb_Lg		02 51 28.9	
	comp=Z,19nm,1.1s						
OGNE	**Ogallala**	**5.45**	**330**	Pn	**Pn**	**02 49 54.7**	**+0.5**
OGNE				lAmb_Lg		02 51 34.9	
	comp=Z,20nm,0.8s						
OGNE	**Ogallala**	**5.45**	**330**	P	**Pn**	**02 49 55.4**	**+1.1**
	baz=148						
435B	**Jarrell**	**5.51**	**172**	lAmb_Lg		02 51 34.3	
	comp=Z,30nm,0.7s						
SDCO	**Great Sand Dun**	**5.82**	**287**		**Pn**	**02 50 00.9**	**+1.4**
LCAR	**Lake Charles**	**5.92**	**90**	lAmb_Lg		02 51 46.3	
	comp=Z,23nm,0.7s						
CCAR	**Cane Creek**	**5.97**	**111**	lAmb_Lg		02 51 54.7	
	comp=Z,26nm,0.9s						
T42A	**Van Buren**	**5.98**	**80**	Pn	**Pn**	**02 50 03.2**	**+1.7**
T42A				lAmb_Lg		02 51 49.5	
	comp=Z,12nm,0.8s						
P40A	**Paris**	**6.04**	**55**	Pn	**Pn**	**02 50 03.7**	**+1.4**
P40A				lAmb_Lg		02 51 55.1	
	comp=Z,15nm,0.7s						
N38A	**Joes South For**	**6.11**	**41**	Pn	**Pn**	**02 50 03.3**	**+0.1**
PBMO	**Poplar Bluff**	**6.50**	**83**	Pn	**Pn**	**02 50 08.6**	**+0.1**
PBMO				lAmb_Lg		02 51 58.5	
	comp=Z,26nm,0.7s						
ISCO	**Idaho Springs**	**6.66**	**304**	Pn	**Pn**	**02 50 12.1**	**+1.1**
FVM	**French Village**	**6.66**	**73**	lAmb_Lg		02 52 11.7	
	comp=Z,12nm,0.7s						
143A	**Socs Landing,**	**6.83**	**119**	lAmb_Lg		02 52 23.4	
	comp=Z,17nm,0.9s						
SCIA	**State Center**	**6.97**	**34**	lAmb_Lg		02 52 22.1	
	comp=Z,25nm,0.7s						
SLM	**Saint Louis**	**6.97**	**68**	lAmb_Lg		02 52 09.5	
	comp=Z,14nm,0.9s						
PHWY	**Pilot Hill**	**7.43**	**315**	lAmb_Lg		02 52 38.3	
	comp=Z,9.4nm,0.7s						
N41A	**Harden Midland**	**7.45**	**51**	lAmb_Lg		02 52 32.1	
	comp=Z,19nm,0.8s						
S44A	**Carbondale**	**7.52**	**76**	lAmb_Lg		02 52 39.8	
	comp=Z,14nm,0.7s						
SIUC	**Southern Illin**	**7.55**	**76**	Pn	**Pn**	**02 50 23.0**	**+0.1**
SIUC				lAmb_Lg		02 52 37.3	
	comp=Z,16nm,0.8s						
OXF	**Oxford**	**7.60**	**101**	Pn	**Pn**	**02 50 22.9**	**-0.8**
OXF				lAmb_Lg		02 52 38.9	
	comp=Z,20nm,0.8s						
ECSD	**EROS Data Cent**	**7.61**	**10**	lAmb_Lg		02 52 44.9	
	comp=Z,13nm,1.0s						
UTMT	**University of**	**7.76**	**87**	Pn	**Pn**	**02 50 25.9**	**+0.1**
Q44A	**Meyer Farm, Va**	**7.96**	**68**	Pn	**Pn**	**02 50 29.5**	**+1.0**
TX31	**Lajitas Ar. Si**	**8.17**	**214**	Pn	**Pn**	**02 50 30.4**	**-1.2**
TX32	**Lajitas Array**	**8.17**	**214**	Pn	**Pn**	**02 50 30.7**	**-0.9**
TXAR	**Lajitas Array**	**8.17**	**214**	Pn	**Pn**	**02 50 31.8**	**+0.2**
HDIL	**Hopedale**	**8.39**	**56**	Pn	**Pn**	**02 50 34.4**	**-0.1**
PV11	**David Mesa, Pa**	**8.54**	**287**	lAmb_Lg		02 53 12.0	
	comp=Z,15nm,1.2s						
PLAL	**Pickwick Lake**	**8.56**	**95**	lAmb_Lg		02 53 15.7	
	comp=Z,10nm,0.9s						
OLIL	**Olney**	**8.61**	**70**	lAmb_Lg		02 53 14.2	
	comp=Z,14nm,1.1s						
KVTX	**Kingsville**	**8.70**	**177**	Pn	**Pn**	**02 50 40.9**	**+2.2**
O44A	**Mansfield**	**8.78**	**61**	lAmb_Lg		02 53 20.0	
	comp=Z,16nm,0.8s						
346A	**Big Creek Wild**	**8.93**	**120**	lAmb_Lg		02 53 29.7	
	comp=Z,15nm,1.0s						
L42A	**Oliver, Polo**	**8.93**	**47**	Pn	**Pn**	**02 50 42.0**	**+0.1**
RSSD	**Black Hills**	**8.93**	**333**	Pn	**Pn**	**02 50 42.0**	**-0.2**
JFWS	**Jewell Farm**	**9.19**	**41**	Pn	**Pn**	**02 50 44.7**	**-0.7**
JFWS				lAmb_Lg		02 53 41.5	
	comp=Z,8.8nm,0.7s						
V48A	**Smith Brothers**	**9.46**	**90**	Pn	**Pn**	**02 50 49.3**	**+0.2**
I40A	**Norwalk**	**9.71**	**36**	lAmb_Lg		02 53 41.8	
	comp=Z,7.8nm,0.8s						
BLO	**Bloomington**	**9.90**	**69**	Pn	**Pn**	**02 50 56.0**	**+0.7**
WCI	**Wyandotte Cave**	**9.91**	**75**	Pn	**Pn**	**02 50 56.2**	**+0.9**
G40A	**Rib Lake**	**10.97**	**32**	Pn	**Pn**	**02 51 10.6**	**+0.8**

*IDC **21** 02:58:32.7±1.2,50°.36S×130°.38E, h0km, mb4.2/6, mb1 4.3/6, mb1mx4.1/27, mbtmp4.2/6, MS3.8/6, Ms1 3.7/6, ms1mx3.5/21, Error ellipse: s-maj=77.0km s-min=17.8km az=99.0*

*NEIC **21** 02:58:34.0±0.9, 50°.36S±0°.08×129°.8E±0°.3, h10km±2km, mb4.1/10, Error ellipse: s-maj=34.7km s-min=11.5km az=259.0*

ISC 21 02:58:34.0±0.9, **50°.3S**±0°.1×**129°.9E**±0°.3, **h10**km, **n21**, σ1°**03**/17, **mb4.1**/7, **MS3.6**/6, **Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOO	**Toolangi**	**16.97**	**47**	P	**P**	**03 02 34.6**	**+1.3**
TOO				lAmb	lAmb	03 02 55.4	
	comp=Z,22nm,1.4s						
BBOO	**Buckleboo**	**18.11**	**17**	P	**P**	**03 02 47.6**	**+1.7**
CASY	**Casey**	**18.78**	**205**	P	**Pn**	**03 02 52.7**	**-0.9**
CASY				lAmb	lAmb	03 02 55.7	
	comp=Z,7.1nm,1.2s						
H01W1	**Cape Leeuwin H**	**19.23**	**317**	T	T	03 23 04.2	
	baz=134,slow=70						
H01W2	**Cape Leeuwin H**	**19.23**	**317**	T	T	03 23 04.2	
	baz=134,slow=70						
H01W3	**Cape Leeuwin H**	**19.24**	**317**	T	T	03 23 05.0	
	baz=134,slow=70						
STKA	**Stephens Creek**	**20.41**	**30**	P	**P**	**03 03 10.2**	**-0.9**
	comp=Z,2.9nm,0.7s,baz=192,slow=13,SNR=3.9						
STKA				LR	LR	03 09 51.2	
	comp=Z,190nm,19.0s,baz=207,slow=34						
STKA	**Stephens Creek**	**20.41**	**30**	P	**P**	**03 03 10.2**	**-0.9**
ASAR	**Alice Springs**	**26.82**	**8**	P	**P**	**03 04 14.1**	**-0.3**
	comp=Z,4.2nm,0.9s,baz=180,slow=9.2,SNR=30						
ASAR				LR	LR	03 14 26.4	
	comp=Z,229nm,19.0s,baz=164,slow=36						
AS31	**Alice Springs**	**26.82**	**8**	P	**P**	**03 04 14.2**	**-0.2**
AS31				lAmb	lAmb	03 04 15.3	
	comp=Z,1.8nm,0.8s						
VNDA	**Vanda**	**29.82**	**167**	P	**P**	**03 04 39.7**	**-0.9**
VNDA				lAmb	lAmb	03 04 41.1	
	comp=Z,2.5nm,0.8s,baz=320,slow=8.7,SNR=15						
	comp=Z,139nm,21.3s,baz=325,slow=33						

VNDA	**Vanda**	**29.82**	**167**	P	**P**	**03 04 40.2**	**-0.5**
VNDA				lAmb	lAmb	03 04 41.1	
	comp=Z,3.2nm,0.9s						
WRA	**Warramunga Arr**	**30.54**	**8**	P	**P**	**03 04 47.1**	**-0.4**
	comp=Z,2.3nm,0.9s,baz=189,slow=11,SNR=8.4						
WRA				LR	LR	03 16 05.7	
	comp=Z,174nm,19.5s,baz=190,slow=34						
WRA	**Warramunga Arr**	**30.54**	**8**	P	**P**	**03 04 47.1**	**-0.4**
WR0	**Warramunga Arr**	**30.55**	**9**	P	**P**	**03 04 46.9**	**-0.6**
WR0				lAmb	lAmb	03 04 48.3	
	comp=Z,8.8nm,1.4s						
WB0	**Warramunga Arr**	**30.72**	**8**	P	**P**	**03 04 48.7**	**-0.4**
CTA	**Charters Tower**	**32.87**	**29**	P	**P**	**03 05 07.2**	**-0.8**
	comp=Z,3.4nm,0.9s,baz=180,slow=4.0,SNR=3.7						
SNAA	**Sanae**	**53.78**	**197**	P	**P**	**03 07 57.7**	**+1.7**
SNAA	**Sanae**	**53.78**	**197**	P	**P**	**03 07 57.2**	**+1.1**
	comp=Z,3.5nm,0.9s,baz=154,slow=11,SNR=14						
SNAA				LR	LR	03 30 15.6	
	comp=Z,142nm,18.2s,baz=110,slow=35						
SNAA	**Sanae**	**53.78**	**197**	P	**P**	**03 07 57.2**	**+1.1**
SNAA				lAmb	lAmb	03 07 58.4	
	comp=Z,3.6nm,0.9s						
PPT	**Papeete**	**70.69**	**94**	LR	LR	03 38 06.4	
	comp=Z,30nm,18.3s,baz=268,slow=34						

*IDC **21** 03:01:48.2±1.1, 32°.94S×178°.08W, h0km, mb4.4/4, mb1 4.5/5, mb1mx4.1/27, mbtmp4.4/5, ML3.4/1, Error ellipse: s-maj=32.0km s-min=25.1km az=108.0*

*WEL **21** 03:01:49.8±1.0, 33°.5S±10°×17°.8W±2°.6, h33km, M4.8/6, mB4.6/2, ML5.1/7, MLv4.8/6, Mw(mB)3.8/2, Error ellipse: s-maj=0.0km s-min=0.0km az=110.4*

*NEIC **21** 03:01:51.9±1.4, 33°.07S±0°.08×178°.28W±0°.07, h10km±1km, mb4.5/13, Error ellipse: s-maj=15.7km s-min=8.7km az=151.0*

ISC 21 03:01:53.8±0.8, **33°.06S**±0°.08×**178°.1W**±0°.2, **h34**km, **n57**, σ1°**67**/67, **mb4.5**/11, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.78**	**2**	P	Pn	03 02 40.5	-9.3
GLKZ				S	Sn	03 03 22.0	-11
RAO	**Raoul Island**	**3.79**	**2**	Pn	**Pn**	**03 02 51.5**	**+1.7**
MXZ	**Matakaoa Point**	**5.37**	**212**	Pn	**Pn**	**03 03 11.0**	**-0.5**
MXZ	**Matakaoa Point**	**5.37**	**212**	P	**Pn**	**03 03 09.4**	**-2.1**
MXZ				S	**Sn**	**03 04 14.0**	**+1.9**
WMGZ	**Waiomatatini S**	**5.54**	**210**	P	**Pn**	**03 03 09.2**	**-4.5**
WMGZ				S	**Sn**	**03 04 20.0**	**+3.8**
PKGZ	**Pakihiroa**	**5.74**	**212**	P	**Pn**	**03 03 15.0**	**-1.7**
PKGZ				S	**Sn**	**03 04 23.8**	**+2.5**
HAZ	**Te Kaha**	**5.77**	**214**	P	**Pn**	**03 03 16.5**	**-0.4**
HAZ				S	**Sn**	**03 04 25.2**	**+3.3**
PUZ	**Puketiti**	**5.82**	**210**	P	**Pn**	**03 03 15.4**	**-2.3**
PUZ				S	**Sn**	**03 04 24.3**	**+1.1**
RUGZ	**Raukumara Rang**	**5.99**	**214**	P	**Pn**	**03 03 18.8**	**-1.3**
RUGZ				S	**Sn**	**03 04 27.5**	**0.0**
CNGZ	**Carnagh Statio**	**6.19**	**208**	S	**Sn**	**03 04 35.7**	**+3.4**
TKGZ	**Te Karaka**	**6.30**	**210**	S	**Sn**	**03 04 37.0**	**+2.0**
URZ	**Urewera**	**6.49**	**216**	Pn	**Pn**	**03 03 25.2**	**-1.7**
	0.7nm,0.3s,baz=255,slow=3.0,SNR=7.8						
URZ				Sn	**Sn**	**03 04 41.5**	**+1.8**
	12nm,0.3s,baz=184,slow=20,SNR=18						
URZ	**Urewera**	**6.49**	**216**	Pn	**Pn**	**03 03 25.5**	**-1.4**
BKZ	**Black Stump Fm**	**7.50**	**214**	Pn	**Pn**	**03 03 40.9**	**+0.1**
BKZ	**Black Stump Fm**	**7.50**	**214**	P	**Pn**	**03 03 40.6**	**-0.2**
BKZ				P	**Sn**	**03 05 06.2**	**+1.5**
MCHZ	**McNeill Hill**	**7.63**	**212**	P	**Sn**	**03 05 09.2**	**+1.3**
KWHZ	**Kaweka Forest**	**7.74**	**213**	P	**Pn**	**03 03 46.6**	**+2.5**
KWHZ				S	**Sn**	**03 05 13.0**	**+2.5**
KRHZ	**Kereru**	**7.94**	**213**	P	**Sn**	**03 05 14.8**	**-0.7**
BHHZ	**Black Hill Sta**	**7.96**	**215**	P	**Pn**	**03 03 45.4**	**-1.7**
BHHZ				S	**Sn**	**03 05 15.8**	**-0.2**
WNXZ	**Wahianoa**	**8.06**	**217**	P	**Sn**	**03 05 20.0**	**+1.3**
PNHZ	**Pukenui**	**8.24**	**212**	P	**Sn**	**03 05 20.7**	**-2.0**
TSZ	**Takapari Road**	**8.46**	**213**	P	**Sn**	**03 05 26.7**	**-1.6**
DVHZ	**Dannevirke**	**8.57**	**211**	P	**Sn**	**03 05 28.6**	**-2.3**
POWZ	**Post Office Ro**	**8.82**	**212**	P	**Sn**	**03 05 35.2**	**-1.8**
BFZ	**Birch Farm**	**8.85**	**209**	P	**Sn**	**03 05 34.1**	**-3.7**
PRWZ	**Pori Road**	**8.86**	**211**	S	**Sn**	**03 05 35.9**	**-2.2**
EIDS	**Eidsvold**	**27.89**	**278**	P	**P**	**03 07 41.6**	**+0.9**
EIDS				lAmb	lAmb	03 07 46.8	
	comp=Z,11nm,1.1s						
CTA	**Charters Tower**	**34.22**	**283**	P	**P**	**03 08 37.3**	**+0.8**
	comp=Z,1.5nm,0.4s,baz=116,slow=10,SNR=5.5						
CTAO	**Charters Tower**	**34.22**	**283**	P	**P**	**03 08 36.9**	**+0.4**
COEN	**Coen**	**39.98**	**289**	P	**P**	**03 09 25.4**	**0.0**
COEN				lAmb	lAmb	03 09 49.1	
	comp=Z,23nm,1.4s						
AS31	**Alice Springs**	**42.94**	**270**	P	**P**	**03 09 49.3**	**-0.4**
ASAR	**Alice Springs**	**42.94**	**270**	P	**P**	**03 09 49.0**	**-0.6**
	comp=Z,4.6nm,0.8s,baz=108,slow=7.7,SNR=41						
ASAR	**Alice Springs**	**42.94**	**270**	P	**P**	**03 09 48.8**	**-0.9**
WR0	**Warramunga Arr**	**43.99**	**275**	P	**P**	**03 09 57.1**	**-1.0**
WR0				lAmb	lAmb	03 09 57.9	
	comp=Z,6.3nm,1.0s						
WB2	**Warramunga Arr**	**44.16**	**275**	P	**P**	**03 09 58.5**	**-0.9**
WB2				lAmb	lAmb	03 09 59.7	
	comp=Z,12nm,1.2s						
WRA	**Warramunga Arr**	**44.17**	**275**	P	**P**	**03 09 58.5**	**-1.1**
	comp=Z,5.0nm,0.7s,baz=120,slow=7.8,SNR=44						
WRA	**Warramunga Arr**	**44.17**	**275**	P	**P**	**03 09 58.4**	**-1.2**
WB0	**Warramunga Arr**	**44.21**	**275**	P	**P**	**03 09 58.9**	**-0.9**
WB0				lAmb	lAmb	03 09 59.5	
	comp=Z,6.1nm,0.7s						
FORT	**Forrest**	**45.34**	**258**	P	**P**	**03 10 08.5**	**-0.2**
FITZ	**Fitzroy Crossi**	**52.31**	**272**	P	**P**	**03 11 01.8**	**-0.6**
FITZ				lAmb	lAmb	03 11 03.0	
	comp=Z,6.7nm,1.2s						
CASY	**Casey**	**52.77**	**209**	P	**P**	**03 11 07.2**	**+2.2**
CASY				lAmb	lAmb	03 11 23.4	
	comp=Z,6.2nm,1.1s						
NWAO	**Narrogin (SRO)**	**53.42**	**251**	P	**P**	**03 11 10.1**	**-0.3**
QSPA	**South Pole Qui**	**57.06**	**180**	P	**P**	**03 11 37.5**	**+1.1**
	baz=69,slow=6.5						
QSPA	**South Pole Qui**	**57.06**	**180**	P	**P**	**03 11 37.7**	**+1.3**
USRK	**Ussuriysk Ar.**	**89.32**	**327**	P	**P**	**03 14 46.0**	**-0.3**
	comp=Z,2.1nm,0.9s,baz=158,slow=3.9,SNR=4.3						
KBZ	**Khabaz**	**146.45**	**301**	PKPbc	**PKPbc**	**03 21 30.9**	**-0.1**
	comp=Z,3.8nm,1.0s,baz=134,slow=9.6,SNR=5.0						
GURO	**Guroymak-BITLI**	**147.18**	**291**		**PKPbc**	**03 21 33.2**	**-0.4**
FINES	**FINESS Array B**	**147.59**	**338**	PKPbc	**PKPdf**	**03 21 31.4**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=45,slow=2.7,SNR=16						
FINES	**FINESS Array B**	**147.59**	**338**	PKPdf	**PKPbc**	**03 21 32.5**	**-1.2**
NB2	**NORSAR Subarra**	**151.35**	**351**	PKP	**PKPab**	**03 21 50.2**	**-1.2**
	comp=Z,3.3nm,1.2s,baz=17,slow=2.6						
NB2	**NORSAR Subarra**	**151.35**	**351**	PKPdf	**PKiKP**	**03 21 44.2**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=248,slow=1.9						
NOA	**NORSAR Array B**	**151.35**	**351**	PKPab	**PKPab**	**03 21 50.5**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=19,slow=2.9,SNR=9.6						
AKASG	**Malin Array Be**	**153.30**	**319**	PKPbc	**PKPbc**	**03 21 47.7**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=62,slow=2.5,SNR=2.4						
AKASG	**Malin Array Be**	**153.30**	**319**		**PKPbc**	**03 21 47.4**	**-0.4**
BRTR	**Keskin Array B**	**153.68**	**294**	PKPbc	**PKPbc**	**03 21 48.9**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=130,slow=3.9,SNR=4.6						
BRTR				PKPab	**sPKPbc**	**03 22 01.1**	**0.0**
	comp=Z,1.7nm,0.9s,baz=125,slow=3.9,SNR=4.7						
BRTR	**Keskin Array B**	**153.68**	**294**		**PKPbc**	**03 21 48.2**	**-1.1**
GERES	**GERESS Array B**	**161.91**	**334**	PKPab	**PKPab**	**03 22 35.9**	**-1.3**
	comp=Z,0.1nm,0.4s,baz=50,slow=4.2,SNR=3.5						

*SJA **21** 03:03:29.0, 30°.31S×72°.59W, h10km, ML4.7*

*NEIC **21** 03:03:31.7±2.1, 30°.41S±0°.03×72°.15W±0°.04, h10km±1km, mb4.2/9, Error ellipse: s-maj=6.5km s-min=4.8km az=263.0*

*IDC **21** 03:03:31.4±1.5, 30°.53S×71°.81W, h0km, mb3.9/3, mb1 4.1/6, mb1mx3.9/22, mbtmp3.9/6, ML3.8/3, MS3.3/3, Ms1 3.3/3, ms1mx2.9/30, Error ellipse: s-maj=42.0km s-min=32.3km az=99.0*

*GUC **21** 03:03:32.3±0.9, 30°.48S×72°.03W, h31km±4km, ML4.0*

ISC 21 03:03:32.4±1.0, **30°.44S**±0°.03×**72°.14W**±0°.05, **h15**km±6km, **n94**, σ1°**60**/106, **mb4.0**/6, **15C-3D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.49**	**119**	∥*eP*	**Pg**	**03 03 42.1**	**-0.1**
CO06				*eS*	**Sg**	**03 03 48.0**	**-0.9**
CO06				IAML		03 03 52.7	
	comp=N,10μm,0.5s						
CO06	**Fray Jorge**	**0.49**	**119**		**Pg**	**03 03 42.0**	**-0.2**
CO06				Sg	**Sg**	**03 03 48.5**	**-0.3**

CO05	**La Serena**	**0.94**	**57**	∥*eP*	**Pb**	**03 03 49.2**	**-1.1**
CO05				*eS*	**Sg**	**03 04 02.0**	**-0.7**
CO05				IAML		03 04 04.1	
	comp=N,7μm,0.4s						
CO05	**La Serena**	**0.94**	**57**		**Pb**	**03 03 49.2**	**-1.1**
CO05				Sg	**Sg**	**03 04 01.8**	**-0.9**
GO04	**Tololo Observa**	**1.19**	**78**	∥*eP*	**Pb**	**03 03 53.3**	**-1.5**
GO04				*eS*	**Sn**	**03 04 09.4**	**-1.4**
GO04				IAML		03 04 15.5	
	comp=E,11μm,0.5s						
GO04	**Tololo Observa**	**1.19**	**78**		**Pb**	**03 03 53.3**	**-1.5**
GO04	**Tololo Observa**	**1.19**	**78**	*i* P	**Pb**	**03 03 53.0**	**-1.8**
CO03	**El Pedregal**	**1.31**	**108**	∥*eP*	**Pn**	**03 03 55.2**	**-1.1**
CO03				*eS*	**Sb**	**03 04 12.3**	**-1.2**
CO03				IAML		03 04 17.2	
	comp=E,2μm,0.4s						
CO03	**El Pedregal**	**1.31**	**108**	Pn	**Pn**	**03 03 55.3**	**-1.0**
CO03	**El Pedregal**	**1.31**	**108**	*i* P	**Pn**	**03 03 55.0**	**-1.3**
LCO	**Las Campanas**	**1.89**	**42**	∥*eP*	**Pn**	**03 04 03.3**	**-1.2**
LCO				*eS*	**Sn**	**03 04 25.6**	**-2.7**
LCO	**Las Campanas**	**1.89**	**42**	*i* P	**Pn**	**03 04 04.0**	**-0.5**
VA06	**Catapilco**	**2.24**	**161**	∥*eP*	**Pn**	**03 04 08.7**	**-0.3**
VA06				*eS*	**Sn**	**03 04 34.5**	**-1.9**
VA06				IAML		03 04 38.8	
	comp=N,2μm,0.4s						
AROD	**Rodeo**	**2.32**	**84**	*i* P	**Pb**	**03 04 13.0**	**-1.2**
AC04	**Llanos de Chal**	**2.41**	**23**	∥*eP*	**Pn**	**03 04 09.6**	**-1.7**
AC04				*eS*	**Sn**	**03 04 38.4**	**-2.2**
AC04				IAML		03 04 59.0	
	comp=E,544nm,0.5s						
AC04	**Llanos de Chal**	**2.41**	**23**	Pn	**Pn**	**03 04 09.7**	**-1.7**
AC04	**Llanos de Chal**	**2.41**	**23**	*i* P	**Pn**	**03 04 09.0**	**-2.3**
VA01	**Torpederas**	**2.61**	**171**		**Pn**	**03 04 13.6**	**-0.5**
VA01	**Torpederas**	**2.61**	**171**	*i* P	**Pn**	**03 04 13.0**	**-1.1**
ACCO	**Cerro Coronel**	**2.66**	**94**	*i* P	**Pb**	**03 04 18.0**	**-1.9**
VA03	**San Esteban**	**2.69**	**150**	∥*eP*	**Pn**	**03 04 15.2**	**0.0**
VA03				*eS*	**Sn**	**03 04 48.3**	**+0.7**
VA03				IAML		03 04 58.9	
	comp=N,1μm,0.4s						
VA03	**San Esteban**	**2.69**	**150**		**Pn**	**03 04 15.3**	**+0.1**
VA03	**San Esteban**	**2.69**	**150**	*i* P	**Pn**	**03 04 16.0**	**+0.8**
ROCH	**El Roble**	**2.70**	**159**	∥*eP*	**Pn**	**03 04 16.0**	**+0.4**
ROCH				IAML		03 04 49.6	
	comp=N,964nm,0.4s						
ROCH				*eS*	**Sn**	**03 04 50.0**	**+1.8**
ROCH	**El Roble**	**2.70**	**159**	∥*eP*	**Pn**	**03 04 15.8**	**+0.2**
ROCH				*eS*	**Sn**	**03 04 47.0**	**-1.2**
ROCH				IAML		03 04 49.6	
	comp=N,974nm,0.4s						
RTLS	**Leoncito**	**2.79**	**120**	*i* P	**Pb**	**03 04 20.0**	**-2.1**
AUSP	**Uspallata**	**2.95**	**128**	*i* P	**Pb**	**03 04 22.0**	**-2.9**
ZON	**Zonda**	**3.17**	**111**		**Pn**	**03 04 23.4**	**+1.5**
ZON	**Zonda**	**3.17**	**111**	*i* P	**Pn**	**03 04 27.0**	**-1.5**
MT05	**Renca**	**3.18**	**158**	∥*eP*	**Pn**	**03 04 22.0**	**0.0**
MT05				*eS*	**Sn**	**03 04 59.4**	**-0.2**
MT05				IAML		03 05 16.6	
	comp=N,826nm,0.4s						
MT05	**Renca**	**3.18**	**158**		**Pn**	**03 04 22.6**	**+0.7**
MT05	**Renca**	**3.18**	**158**	*i* P	**Pn**	**03 04 23.0**	**+1.1**
VA05	**Santo Domingo**	**3.24**	**172**		**Pn**	**03 04 22.1**	**-0.6**
VA05	**Santo Domingo**	**3.24**	**172**	∥*eP*	**Pn**	**03 04 21.7**	**-1.0**
VA05				*eS*	**Sn**	**03 04 54.0**	**-7.1**
VA05				IAML		03 05 03.8	
	comp=E,520nm,0.5s						
GO03	**Copiap**	**3.29**	**31**		**Pn**	**03 04 22.0**	**-1.4**
GO03	**Copiap**	**3.29**	**31**	*i* P	**Pn**	**03 04 23.0**	**-0.5**
GO03	**Copiap**	**3.29**	**31**	∥*eP*	**Pn**	**03 04 22.4**	**-1.0**
GO03				*eS*	**Sn**	**03 04 59.9**	**-2.5**
GO03				IA

KKAR	**Karatay Array**	**147.78**	**56**	PKPbc	**PKPbc**	**03 23 16.0**	**-0.7**
ZALV	**Zalesovo Beam**	**151.21**	**29**	PKPbc	**PKiKP**	**03 23 25.5**	**+0.2**
	comp=Z,4.7nm,0.7s,baz=301,slow=3.4,SNR=18						
ZALV				pPKPbc	**PKPab**	**03 23 34.6**	**+2.0**
	comp=Z,3.8nm,0.5s,baz=309,slow=3.8,SNR=7.0						
ZALV	**Zalesovo Beam**	**151.21**	**29**	PKPbc	**PKPbc**	**03 23 25.1**	**+0.4**

*IDC **21** 03:17:11.4±1.9, 32°.26S×71°.75W, h0km, mb4.5/5, mb1 4.4/8, mb1mx4.0/29, mbtmp4.3/8, ML4.0/3, MS3.5/7, Ms1 3.5/7, ms1mx3.2/30, Error ellipse: s-maj=68.3km s-min=21.0km az=103.0*
*VAO **21** 03:17:12.4±0.4, 32°.24S×71°.97W, h10km, mb4.3*
*NEIC **21** 03:17:12.3±1.2, 32°.27S±0°.03×72°.00W±0°.07, h8km±4km, mb4.4/15, ML4.2(GUC), Error ellipse: s-maj=8.9km s-min=3.0km az=70.0*
*SJA **21** 03:17:12.0, 32°.33S×72°.32W, h10km, ML4.7*
*GUC **21** 03:17:12.4±0.8, 32°.22S×71°.85W, h36km±3km, ML4.2*

ISC 21 03:17:11.7±1.4, 32°.24S±0°.03×72°.00W±0°.05, h7km±8km, n151, σ0§98/153, mb4.5/8, MS3.8/4, 13C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**0.68**	**118**	*e*P	**Pg**	**03 17 24.9**	**+0.2**
VA06				*i* S	**Sg**	**03 17 33.3**	**-0.2**
VA06				IAML		03 17 36.9	
	comp=E,14μm,0.5s						
VA01	**Torpederas**	**0.83**	**159**	*e*P	**Pb**	**03 17 28.3**	**-0.2**
VA01				*i* S	**Sb**	**03 17 40.1**	**+0.2**
VA01	**Torpederas**	**0.83**	**159**	Pg	**Pb**	**03 17 28.3**	**-0.2**
VA01					**Sg**	**03 17 38.7**	**+0.1**
VA01	**Torpederas**	**0.83**	**159**	*i* P	**Pg**	**03 17 28.0**	**+0.3**
ROCH	**El Roble**	**1.11**	**131**	*i* P	**Pg**	**03 17 32.5**	**-0.5**
ROCH				*i* S	**Sg**	**03 17 47.5**	**+0.1**
ROCH				IAML		03 17 49.3	
	comp=N,9μm,0.3s						
VA03	**San Esteban**	**1.33**	**113**	*e*P	**Pn**	**03 17 36.0**	**-0.8**
VA03				*i* S	**Sb**	**03 17 52.2**	**-2.1**
VA03				IAML		03 17 55.6	
	comp=E,15μm,0.2s						
VA03	**San Esteban**	**1.33**	**113**	Pn	**Pn**	**03 17 36.0**	**-0.8**
VA03				Sn	**Sb**	**03 17 54.4**	**+0.1**
VA05	**Santo Domingo**	**1.45**	**167**	*e*P	**Pn**	**03 17 37.8**	**-0.5**
VA05				*e*S	**Sb**	**03 17 57.8**	**+0.2**
VA05				IAML		03 18 06.5	
	comp=E,4μm,0.6s						
VA05	**Santo Domingo**	**1.45**	**167**		**Pn**	**03 17 37.5**	**-0.8**
MT05	**Renca**	**1.56**	**137**	*e*P	**Pn**	**03 17 39.7**	**-0.2**
MT05				*e*S	**Sn**	**03 17 59.9**	**-0.6**
MT05				IAML		03 18 01.8	
	comp=E,7μm,0.4s						
MT05	**Renca**	**1.56**	**137**	Pn	**Pn**	**03 17 39.8**	**-0.2**
MT05	**Renca**	**1.56**	**137**	*i* P	**Pn**	**03 17 40.0**	**+0.1**
CO06	**Fray Jorge**	**1.59**	**11**	*e*P	**Pn**	**03 17 39.6**	**-0.7**
CO06				*i* S	**Sn**	**03 18 00.3**	**-0.9**
CO06				IAML		03 18 10.0	
	comp=E,3μm,0.4s						
CO06	**Fray Jorge**	**1.59**	**11**		**Pn**	**03 17 40.4**	**+0.1**
MT01	**Popeta**	**1.74**	**159**	*e*P	**Pn**	**03 17 42.2**	**-0.1**
MT01				*e*S	**Sb**	**03 18 05.5**	**-0.4**
MT01				IAML		03 18 11.6	
	comp=N,2μm,0.4s						
MT01	**Popeta**	**1.74**	**159**	Pn	**Pn**	**03 17 41.7**	**-0.6**
MT09	**Talagante**	**1.75**	**151**	*e*P	**Pn**	**03 17 42.7**	**+0.1**
MT09				*e*S	**Sn**	**03 18 04.3**	**-0.8**
MT09				IAML		03 18 13.4	
	comp=N,3μm,0.5s						
MT09	**Talagante**	**1.75**	**151**	Pn	**Pn**	**03 17 42.9**	**+0.3**
CO03	**El Pedregal**	**1.79**	**39**	*e*P	**Pb**	**03 17 44.3**	**-0.6**
CO03				*e*S	**Sn**	**03 18 05.3**	**-0.9**
CO03				IAML		03 18 10.7	
	comp=E,5μm,0.3s						
CO03	**El Pedregal**	**1.79**	**39**	Pn	**Pb**	**03 17 44.6**	**-0.3**
CO03	**El Pedregal**	**1.79**	**39**	*i* P	**Pb**	**03 17 45.0**	**+0.1**
LMEL	**Las Melosas**	**2.20**	**137**	*e*P	**Pn**	**03 17 48.5**	**-0.3**
LMEL				*e*		03 17 48.5	
LMEL				*e*S	**Sn**	**03 18 16.6**	**+0.2**
LMEL				IAML		03 18 26.7	
	comp=N,2μm,0.3s						
AUSP	**Uspallata**	**2.22**	**90**	*i* P	**Pb**	**03 17 52.0**	**-0.2**
BO03	**Pichilemu**	**2.25**	**179**	*e*P	**Pn**	**03 17 48.9**	**-0.4**
BO03				*i* S	**Sn**	**03 18 18.9**	**+1.6**
BO03				IAML		03 18 35.4	
	comp=E,632nm,0.5s						
BO01	**Tunca**	**2.28**	**161**	*e*P	**Pn**	**03 17 49.8**	**+0.1**
BO01				*e*S	**Sn**	**03 18 17.4**	**-0.5**
BO01				IAML		03 18 26.1	
	comp=E,781nm,0.6s						
BO01	**Tunca**	**2.28**	**161**	Pn	**Pn**	**03 17 49.7**	**+0.1**
GO04	**Tololo Observa**	**2.31**	**27**	*e*P	**Pn**	**03 17 50.8**	**+0.5**
GO04				*e*S	**Sn**	**03 18 19.5**	**+0.5**
GO04				IAML		03 18 28.3	
	comp=N,23μm,0.6s						
RTLS	**Leoncito**	**2.34**	**80**	*i* P	**Pb**	**03 17 54.0**	**-0.4**
CO05	**La Serena**	**2.41**	**16**	*e*P	**Pn**	**03 17 51.4**	**0.0**
CO05				*e*S	**Sn**	**03 18 21.3**	**+0.2**
CO05				IAML		03 18 37.6	
	comp=N,2μm,0.4s						
CO05	**La Serena**	**2.41**	**16**		**Pn**	**03 17 52.0**	**+0.5**
ARCO	**CERRO ARCO**	**2.66**	**104**	*i* P	**Pb**	**03 18 00.0**	**+0.2**
ASAL	**Salagasta**	**2.70**	**98**	*i* P	**Pb**	**03 18 01.0**	**+0.6**
BO02	**Sierra Bellavi**	**2.74**	**158**	Pn	**Pn**	**03 17 56.5**	**+0.4**
BO02	**Sierra Bellavi**	**2.74**	**158**	*i* P	**Pn**	**03 17 58.0**	**+1.9**
GO05	**Huala**	**2.76**	**179**	*e*P	**Pn**	**03 17 55.8**	**-0.6**
GO05				*e*S	**Sn**	**03 18 29.7**	**-0.2**
GO05				IAML		03 19 04.6	
	comp=N,376nm,0.8s						
GO05	**Huala**	**2.76**	**179**	Pn	**Pn**	**03 17 55.8**	**-0.6**
AAGR	**Agrelo**	**2.81**	**108**	*i* P	**Pb**	**03 18 01.0**	**-1.2**
ZON	**Zonda**	**2.91**	**77**	Pn	**Pn**	**03 18 00.6**	**+2.1**
ZON	**Zonda**	**2.91**	**77**	*i* P	**Pb**	**03 18 02.0**	**-2.0**
RTCV	**Cerro Valdivia**	**2.96**	**84**	*i* P	**Pb**	**03 18 03.0**	**-1.9**
AROD	**Rodeo**	**3.00**	**47**	*i* P	**Pb**	**03 18 06.0**	**+0.4**
ACCO	**Cerro Coronel**	**3.00**	**57**	*i* P	**Pb**	**03 18 04.0**	**-1.7**
LCO	**Las Campanas**	**3.41**	**20**	*i* P	**Pn**	**03 18 08.0**	**+2.5**
COIS	**El Sosneado**	**3.49**	**146**	*i* P	**Pn**	**03 18 09.0**	**+2.6**
ML02	**Panimavida**	**3.54**	**172**		**Pn**	**03 18 06.8**	**-0.3**
RFA	**San Rafael**	**3.88**	**131**	*i* P	**Pn**	**03 18 15.0**	**+3.1**
AC04	**Llanos de Chal**	**4.10**	**12**	Pn	**Pn**	**03 18 14.9**	**+0.1**
VCA	**Vinchina**	**4.79**	**44**	*i* P	Pn	03 18 30.0	±5.6
GO03	**Copiap**	**4.88**	**19**	Pn	**Pn**	**03 18 26.5**	**+0.9**
GO03	**Copiap**	**4.88**	**19**	*i* P	**Pn**	**03 18 27.0**	**+1.4**
AC06	**Mina Casimiro**	**5.08**	**17**	Pn	**Pn**	**03 18 28.6**	**+0.4**
H03N1	**Juan Fernandez** baz=84,slow=73,SNR=3236	**5.94**	**257**	T	T	03 25 20.1	
AC02	**Maricunga**	**5.94**	**26**	Pn	**Pn**	**03 18 40.4**	**-0.1**
AC02	**Maricunga**	**5.94**	**26**	*i* P	**Pn**	**03 18 43.0**	**+2.5**
H03N3	**Juan Fernandez** baz=84,slow=73,SNR=727	**5.95**	**256**	T	T	03 25 20.5	
H03N2	**Juan Fernandez** baz=84,slow=73,SNR=577	**5.95**	**257**	T	T	03 25 23.9	
H03S3	**Juan Fernandez** baz=70,slow=79,SNR=50	**6.01**	**253**	T	T	03 25 20.9	
H03S1	**Juan Fernandez** baz=70,slow=79,SNR=56	**6.01**	**253**	T	T	03 25 31.6	
H03S2	**Juan Fernandez** baz=70,slow=79,SNR=70	**6.03**	**253**	T	T	03 25 12.8	
CYA	**Choya**	**6.56**	**56**	*i* P	**Pn**	**03 18 50.0**	**+1.4**
LC01	**Cunco**	**6.64**	**179**	Pn	**Pn**	**03 18 49.1**	**-0.6**
LC01	**Cunco**	**6.64**	**179**	*i* P	**Pn**	**03 18 50.0**	**+0.3**
LR03	**Panguipulli**	**7.38**	**182**	Pn	**Pn**	**03 18 59.4**	**-0.4**
FSA	**Cafayete**	**8.06**	**42**	*i* P	**Pn**	**03 19 13.0**	**+3.6**
PLCA	**Paso Flores** comp=N,0.7nm,0.3s,baz=336,slow=11,SNR=34	**8.55**	**173**	Pn	**Pn**	**03 19 16.6**	**+0.7**
PLCA	**Paso Flores**	**8.55**	**173**	Pn	**Pn**	**03 19 16.4**	**+0.4**
PLCA	**Paso Flores**	**8.55**	**173**	*e*P	**Pn**	**03 19 16.6**	**+0.7**
LL04	**Puerto Octay**	**8.66**	**182**	Pn	**Pn**	**03 19 17.6**	**+0.3**
PB10	**IPOC Station P**	**8.79**	**9**	Pn	**Pn**	**03 19 19.6**	**+0.4**
LL05	**Los Muermos**	**9.22**	**187**	Pn	**Pn**	**03 19 24.7**	**-0.4**
LVC	**Limon Verde** comp=N,264nm,19.4s,baz=210,slow=39	**9.98**	**17**	LR	LR	03 23 37.6	
LVC	**Limon Verde**	**9.98**	**17**	Pn	**Pn**	**03 19 36.6**	**+0.8**
LVC	**Limon Verde**	**9.98**	**17**	*e*P	**Pn**	**03 19 36.6**	**+0.8**
LVC				*e*S	**Sn**	**03 21 29.6**	**+1.3**
TRQA	**Tornquist**	**10.04**	**128**	Pn	**Pn**	**03 19 37.9**	**+1.6**
TRQA	**Tornquist**	**10.04**	**128**	*e*P	**Pn**	**03 19 38.1**	**+1.6**
TRQA				*e*S	**Sn**	**03 21 30.6**	**+1.2**
TRQA	**Tornquist**	**10.04**	**128**	*i* P	**Pn**	**03 19 38.0**	**+1.6**
ITQB	**Itaqui**	**13.44**	**83**	Pn	**Pn**	**03 20 21.6**	**-1.3**
CPUP	**Villa Florida**	**14.09**	**69**	Pn	**Pn**	**03 20 34.1**	**+2.4**
	comp=N,0.3nm,0.3s,baz=240,slow=3.1,SNR=4.0						
CPUP	**Villa Florida**	**14.09**	**69**	Pn	**Pn**	**03 20 33.8**	**+2.1**
LPAZ	**La Paz**	**16.27**	**13**	Pn	**Pn**	**03 21 02.5**	**+1.2**
	comp=N,0.2nm,0.3s,baz=189,slow=5.9,SNR=24						
LPAZ				LR	LR	03 28 30.7	
	comp=N,133nm,18.1s,baz=159,slow=42						
LPAZ	**La Paz**	**16.27**	**13**	P	**Pn**	**03 21 02.5**	**+1.2**
LPAZ	**La Paz**	**16.27**	**13**	*e*P	**Pn**	**03 21 01.2**	**-0.1**
CNLB	**Canela**	**18.40**	**86**	*e*P	**Pn**	**03 21 27.3**	**-0.1**
AQDB	**Aqodauana**	**18.70**	**55**	*e*P	**Pn**	**03 21 31.8**	**+0.7**
SIV	**San Ignacio** comp=N,0.2nm,0.3s,baz=217,slow=11,SNR=11	**18.98**	**34**	P	**Pn**	**03 21 34.2**	**-0.3**
SIV				LR	LR	03 28 27.4	
	comp=N,30nm,21.8s,baz=217,slow=36						
PTGB	**Pitanga**	**19.05**	**72**	*e*P	**Pn**	**03 21 35.9**	**+0.6**
PTLB	**Pontes e Lacer**	**20.41**	**38**	*e*P	**P**	**03 21 49.7**	**+0.3**
NNA	**Nana** comp=N,76nm,19.4s,baz=181,slow=32	**20.65**	**346**	LR	LR	03 28 08.5	
PP1B	**Ponte de Pedra**	**21.25**	**51**	*e*P	**P**	**03 21 58.5**	**-0.1**
PCMB	**Pacaembu**	**21.27**	**65**	*e*P	**P**	**03 21 57.9**	**-0.9**
FRTB	**Fartura**	**21.71**	**72**	*e*P	**P**	**03 22 03.8**	**+0.3**
EFI	**East Falkland**	**21.94**	**156**	P	**P**	**03 22 04.1**	**-1.5**
SALV	**Santo Antonio**	**22.00**	**46**	*e*P	**P**	**03 22 07.0**	**+0.4**
VILB	**Vilhena**	**22.04**	**32**	*e*P	**P**	**03 22 07.0**	**0.0**
ETMB	**Extrema**	**22.95**	**15**	*e*P	**P**	**03 22 19.3**	**+2.7**
ITRB	**Iturama**	**23.07**	**62**	*e*P	**P**	**03 22 18.1**	**+0.3**
PET01	**Itanhaem-SP**	**23.14**	**76**	*e*P	**P**	**03 22 18.6**	**0.0**
SPB	**Sao Paulo**	**23.32**	**75**	P	**P**	**03 22 20.3**	**-0.1**
SPB				IAmb	IAmb	03 22 20.7	
	comp=Z,16nm,0.9s						
SPB	**Sao Paulo**	**23.32**	**75**	*e*P	**P**	**03 22 20.6**	**+0.3**
BB19B	**Bebedouro**	**23.70**	**68**	*e*P	**P**	**03 22 23.7**	**-0.5**
VAO	**Valinhos**	**23.97**	**74**	*e*P	**P**	**03 22 26.2**	**-0.7**
SAML	**Samuel**	**24.58**	**21**	*e*P	**P**	**03 22 32.7**	**+0.3**
PARB	**Paraibuna**	**24.92**	**76**	*e*P	**P**	**03 22 34.8**	**-0.8**
IPMB	**Ipameri, GO**	**25.72**	**62**	*e*P	**P**	**03 22 41.6**	**-1.2**
CLDB	**Colider**	**26.00**	**39**	*e*P	**P**	**03 22 45.2**	**-0.1**
BSCB	**Bom Sucesso**	**26.72**	**72**	*e*P	**P**	**03 22 50.6**	**-1.3**
BDFB	**Brasilia** comp=Z,5.0nm,0.6s,baz=235,slow=10.0,SNR=8.5	**27.36**	**58**	P	**P**	**03 22 57.1**	**-0.6**
BDFB	**Brasilia**	**27.36**	**58**	P	**P**	**03 22 56.4**	**-1.3**
BDFB				IAmb	IAmb	03 22 58.5	
	comp=Z,8.7nm,0.9s						
SNDB	**Serra Nova Dou**	**27.74**	**48**	*e*P	**P**	**03 23 01.2**	**+0.2**
TBTG	**Tabatinga, AM**	**27.98**	**4**	*e*P	**P**	**03 23 04.1**	**+1.0**
NPGB	**Novo Progresso**	**29.48**	**35**	*e*P	**P**	**03 23 15.6**	**-0.9**
PEXB	**Peixe**	**29.60**	**53**	*e*P	**P**	**03 23 16.7**	**-0.8**
SDBA	**SAO DESIDERIO**	**31.75**	**58**	*e*P	**P**	**03 23 36.0**	**-0.6**
SMTB	**Santa Maria do**	**32.46**	**50**	*e*P	**P**	**03 23 42.9**	**+0.1**
OTAV	**Otavalo**	**32.88**	**348**	*e*P	**P**	**03 23 46.4**	**-0.5**
PMSA	**Palmer Station** comp=Z,178nm,18.9s,baz=282,slow=36	**32.93**	**174**	LR	LR	03 37 11.4	
PRPB	**Parauapebas**	**33.19**	**43**	*e*P	**P**	**03 23 48.3**	**-0.8**
GDU01	**Guandu, BA**	**34.89**	**66**	*e*P	**P**	**03 24 03.7**	**-0.2**
BOAV	**Boa Vista**	**36.13**	**20**	*e*P	**P**	**03 24 14.8**	**+0.2**
NBPN	**Ponto Novo - B**	**36.22**	**61**	*e*P	**P**	**03 24 14.4**	**-1.0**
MCPB	**Macapa, AP**	**36.88**	**35**	*e*P	**P**	**03 24 21.1**	**+0.1**
NBAN	**Anadia - AL**	**39.93**	**64**	*e*P	**P**	**03 24 45.0**	**-1.7**
MDP	**Montagnes des** comp=Z,119nm,18.0s,baz=255,slow=38	**41.46**	**30**	LR	LR	03 43 37.0	
VNA3	**Neumayer Olymp**	**50.97**	**158**	P	**P**	**03 26 14.1**	**+0.5**
VNA1	**Neumayer--Stat**	**51.28**	**157**	P	**P**	**03 26 16.7**	**+0.9**
VNA2	**Neumayer--Watz** baz=292,slow=8.2	**51.62**	**158**	P	**P**	**03 26 18.9**	**+0.6**
SNAA	**Sanae**	**53.20**	**158**	P	**P**	**03 26 30.4**	**+0.3**
SNAA	**Sanae** comp=Z,3.4nm,0.7s,baz=270,slow=8.0,SNR=39	**53.20**	**158**	P	**P**	**03 26 30.6**	**+0.4**
SNAA	**Sanae**	**53.20**	**158**	P	**P**	**03 26 30.5**	**+0.4**
SNAA				IAmb	IAmb	03 26 31.1	
	comp=Z,4.2nm,0.8s						
QSPA	**South Pole Qui**	**57.99**	**180**	P	**P**	**03 27 05.6**	**+0.8**
QSPA				IAmb	IAmb	03 27 06.7	
	comp=Z,4.9nm,0.9s						
TKL	**Tuckaleechee C** comp=Z,45nm,18.9s,baz=89,slow=36	**68.44**	**350**	LR	LR	03 58 32.5	
DBIC	**Dimbokro** comp=Z,7.1nm,0.8s,baz=237,slow=4.1,SNR=10	**74.59**	**72**	P	**P**	**03 28 51.5**	**-0.3**
DBIC	**Dimbokro**	**74.59**	**72**	P	**P**	**03 28 51.5**	**-0.3**
MAW	**Mawson** comp=Z,1.8nm,0.7s,baz=208,slow=5.6,SNR=3.9	**74.85**	**164**	P	**P**	**03 28 52.9**	**+0.5**
MAW	**Mawson**	**74.85**	**164**	P	**P**	**03 28 52.8**	**+0.4**
KOWA	**Kowa**	**79.89**	**66**	P	**P**	**03 29 21.5**	**0.0**
KOWA				IAmb	IAmb	03 29 22.3	
	comp=Z,3.0nm,0.7s						
BOSA	**Boshof**	**80.86**	**118**	P	**P**	**03 29 26.7**	**-0.1**
TORD	**Torodi Ar. Bea** comp=Z,2.6nm,0.7s,baz=267,slow=4.5,SNR=19	**83.58**	**70**	P	**P**	**03 29 40.5**	**-0.5**
TORD	**Torodi Ar. Bea**	**83.58**	**70**	P	**P**	**03 29 40.9**	**-0.1**
TORD				IAmb	IAmb	03 29 41.5	
	comp=Z,3.0nm,0.8s						
H11S2	**WAKE ISLAND Hyl** baz=118,slow=75,SNR=48	**25.81**	**270**	T	T	05 55 16.0	
H11S1	**WAKE ISLAND Hyl** baz=118,slow=75,SNR=40	**25.82**	**270**	T	T	05 55 16.8	
H11S3	**WAKE ISLAND Hyl** baz=118,slow=75,SNR=36	**25.83**	**270**	T	T	05 55 17.2	
H11N3	**WAKE ISLAND Hyl** baz=117,slow=76,SNR=17	**26.18**	**272**	T	T	05 55 34.3	
H11N1	**WAKE ISLAND Hyl** baz=117,slow=76,SNR=7.2	**26.19**	**272**	T	T	05 55 46.6	
H11N2	**WAKE ISLAND Hyl** baz=117,slow=76,SNR=41	**26.19**	**272**	T	T	05 55 44.1	
TOLI2	**Tolitoli**	**146.77**	**204**	PKPbc	**PKPbc**	**03 36 54.6**	**-0.5**
KKAR	**Karatay Array**	**148.65**	**59**	PKPdf	**PKPdf**	**03 36 54.0**	**-1.7**
AAK	**Ala-Archa**	**151.61**	**59**	PKPbc	**PKiKP**	**03 37 07.8**	**+0.5**
ZALV	**Zalesovo Beam** comp=Z,2.3nm,0.6s,baz=292,slow=4.0,SNR=8.0	**152.71**	**30**	PKPbc	**PKiKP**	**03 37 09.0**	**+0.1**
ZALV	**Zalesovo Beam**	**152.71**	**30**	PKPbc	**PKiKP**	**03 37 09.0**	**+0.1**
MKAR	**Makanchi Array** comp=Z,1.1nm,0.6s,baz=291,slow=4.4,SNR=5.1	**155.56**	**46**	PKPab	**PKPab**	**03 37 31.9**	**+0.1**

RHSSO 21 03:19:37.5±0.3, 44°.24N×17°.89E, h6km±3km, ML1.7/7, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MGRS	**Mrkonjic Grad**	**0.61**	**288**	*e*Pg	Pg	03 19 47.9	-1.3
MGRS				*e*Sg	Sg	03 19 57.0	-0.1
BLY	**Banja Luka**	**0.72**	**316**	*e*Pg	Pg	03 19 50.7	-0.7
BLY				*e*Sg	Sg	03 20 01.3	+0.5
HAPS	**Han Pijesak,Bl**	**0.78**	**101**	*e*Pg	Pg	03 19 51.8	-0.6
HAPS				*e*Sg	Sg	03 20 02.9	+0.4
RICI	**Ricice**	**0.92**	**217**	*e*Pg	Pg	03 19 53.5	-1.7
RICI				Sg	Sg	03 20 07.0	-0.2
MRAK	**Mrakovica**	**1.05**	**318**	*e*Pg	Pg	03 19 56.6	-1.1
MRAK				*e*Sg	Sg	03 20 11.3	-0.1
BBLS	**Lazići**	**1.15**	**108**	*e*Pg	Pg	03 19 59.0	-1.6
BBLS				*e*Sg	Sg	03 20 13.8	-0.7
STON	**Ston**	**1.37**	**186**	*e*Pn	Pn	03 20 01.4	-1.8
TREB	**Trebinje**	**1.55**	**167**	*e*Pn	Pb	03 20 06.5	-0.2
TREB				*e*Sn	Sb	03 20 26.9	+0.3
MORI	**Morici**	**1.62**	**258**	*e*Pn	Pn	03 20 06.6	0.0
FRGS	**Fruska Gora**	**1.65**	**55**	*e*Sn	Sn	03 20 28.4	-0.2
ZIRJ	**Zirje**	**1.73**	**251**	*e*Pn	Pb	03 20 09.5	-0.1
ZIRJ				Sn	Sg	03 20 33.5	+0.6
DUGI	**Dugi Otok**	**2.06**	**264**	*e*Pn	Pb	03 20 14.2	-1.1
DRME	**Dracevica, Mon**	**2.25**	**155**	*e*Pn	Pn	03 20 15.4	0.0
DRME				*e*Sn	Sn	03 20 43.0	-0.5

*IPEC **21** 03:20:47.9±0.1, 47°.81N×15°.88E, h7km, ML1.2/6, Error ellipse: s-maj=2.8km s-min=0.7km az=110.0*
*PRU **21** 03:20:48.0±0.0, 47°.86N×15°.74E, h0km, Rohr Im Gebirge*
VIE 21 03:20:47.8±0.2, 47°.84N×15°.76E, h8km±1km, mb1.5/1, ml1.5/5, Error ellipse: s-maj=2.2km s-min=1.3km az=144.0 6 km SSE of Rohr im Gebirge, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CONA	**Conrad Observa** 2.8nm,0.1s	**0.11**	**39**	*e*Pg	Pg	03 20 50.5	+0.1
CONA				*e*Sg	Sg	03 20 52.3	+0.1
	2.8nm,0.1s						
ARSA	**Arzberg** 0.1nm,0.1s	**0.61**	**195**	*e*Pg	Pg	03 20 59.7	0.0
ARSA				*e*Sg	Sg	03 21 07.9	+0.3
	0.7nm,0.2s						
MOA	**Molln**	**1.00**	**271**	*e*Pg	Pg	03 21 06.8	-0.3
MOA				*e*Sg	Sb	03 21 21.0	+0.1
	0.4nm,0.1s						
KRUC	**Moravsky** baz=195	**1.29**	**19**	*e*Pg	Pn	03 21 12.1	-0.1
KRUC				*e*Sg	Sb	03 21 28.7	-0.4
	2.3nm,0.2s,baz=195						
KRUC	**Moravsky**	**1.29**	**19**	*e*PG	Pn	03 21 12.2	0.0
KRUC				*e*SG	Sb	03 21 28.7	-0.4
TREC	**Trest** comp=Z,3.2nm,0.6s	**1.46**	**353**	*e*SG	Sg	03 21 34.6	-0.3
VRAC	**Vranov** baz=198	**1.57**	**20**	*e*Pg	Pn	03 21 16.5	+0.5
VRAC				*e*Sg	Sb	03 21 37.1	0.0
	1.4nm,0.3s,baz=198						
VRAC	**Vranov**	**1.57**	**20**	*e*PG	Pn	03 21 16.5	+0.5
VRAC				*e*SG	Sb	03 21 37.2	+0.1
KHC	**Kasperske Hory**	**1.94**	**312**	*e*SG	Sb	03 21 48.9	+1.1

*IDC **21** 03:22:46.5±2.3, 30°.46S×72°.36W, h0km, mb3.8/3, mb1 3.8/6, mb1mx3.7/32, mbtmp3.8/6, ML3.6/3, Error ellipse: s-maj=76.9km s-min=25.9km az=103.0*
*SJA **21** 03:22:48.0, 30°.39S×72°.16W, h10km, ML4.6*
*NEIC **21** 03:22:48.0±2.0, 30°.36S±0°.04×72°.08W±0°.05, h10km±1km, mb4.3/3, Error ellipse: s-maj=7.9km s-min=6.4km az=57.0*

ISC 21 03:22:49.5±0.7, 30°.44S±0°.06×72°.08W±0°.07, h16km, n50, σ1§43/45, mb4.1/5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.45**	**122**	Pg	**Pg**	**03 22 56.8**	**-1.7**
CO06				Sg	**Sg**	**03 23 04.0**	**-0.6**
CO05	**La Serena**	**0.89**	**55**	Pg	**Pb**	**03 23 04.7**	**-1.8**
GO04	**Tololo Observa**	**1.14**	**77**		**Pb**	**03 23 08.8**	**-2.0**
GO04	**Tololo Observa**	**1.14**	**77**	*i* P	**Pb**	**03 23 09.0**	**-1.9**
CO03	**El Pedregal**	**1.26**	**109**		**Pn**	**03 23 11.2**	**-1.3**
CO03	**El Pedregal**	**1.26**	**109**	*i* P	**Pn**	**03 23 10.0**	**-2.5**
LCO	**Las Campanas**	**1.86**	**40**	*i* P	**Pn**	**03 23 20.0**	**-0.9**
AROD	**Rodeo**	**2.27**	**84**	*i* P	**Pn**	**03 23 28.0**	**+1.4**
AC04	**Llanos de Chal**	**2.39**	**22**	Pn	**Pn**	**03 23 25.9**	**-2.0**
AC04	**Llanos de Chal**	**2.39**	**22**	*i* P	**Pn**	**03 23 26.0**	**-2.0**
VA01	**Torpederas**	**2.60**	**172**	Pn	**Pn**	**03 23 30.2**	**-0.6**
VA03	**San Esteban**	**2.66**	**151**	Pn	**Pn**	**03 23 31.9**	**+0.1**
MT05	**Renca**	**3.16**	**159**	Pn	**Pn**	**03 23 39.5**	**+0.9**
VA05	**Santo Domingo**	**3.23**	**173**	Pn	**Pn**	**03 23 39.3**	**-0.2**
AGUA	**GUANDACOL**	**3.25**	**74**	*i* P	**Pb**	**03 23 44.0**	**-2.9**
GO03	**Copiap**	**3.26**	**30**	Pn	**Pn**	**03 23 38.7**	**-1.3**
GO03	**Copiap**	**3.26**	**30**	*i* P	**Pn**	**03 23 40.0**	**0.0**
AC06	**Mina Casimiro**	**3.42**	**27**	Pn	**Pn**	**03 23 40.9**	**-1.3**
MT09	**Talagante**	**3.45**	**165**		**Pn**	**03 23 43.5**	**+0.7**
MT01	**Popeta**	**3.49**	**169**	Pn	**Pn**	**03 23 42.9**	**-0.2**
BO01	**Tunca**	**4.03**	**168**	Pn	**Pn**	**03 23 50.5**	**0.0**
AC02	**Maricunga**	**4.43**	**37**	Pn	**Pn**	**03 23 56.4**	**-0.1**
BO02	**Sierra Bellavi**	**4.48**	**166**	Pn	**Pn**	**03 23 56.6**	**-0.1**
GO05	**Huala**	**4.56**	**178**	Pn	**Pn**	**03 23 56.5**	**-1.3**
GO05	**Huala**	**4.56**	**178**	*i* P	**Pn**	**03 23 57.0**	**-0.8**
ML02	**Panimavida**	**5.34**	**174**	Pn	**Pn**	**03 24 07.7**	**-0.8**
CYA	**Choya**	**5.82**	**72**	*i* P	**Pn**	**03 24 17.0**	**+1.8**
H03N1	**Juan Fernandez** baz=70,slow=72,SNR=248	**6.54**	**241**	T	T	03 31 27.8	
H03N2	**Juan Fernandez** baz

GRGR	**Grenville**	**1.89**	**12**	*eP*		**Pb**	**03 35 14.4**	**+0.6**
GRGR				*eS*		**Sn**	**03 35 33.2**	**-2.5**
GRGR	**Grenville**	**1.89**	**12**	*eS*		**Sg**	**03 35 38.4**	**-1.5**
GRHS	**Sauteurs**	**1.98**	**12**	*eP*		**Pb**	**03 35 14.6**	**-0.8**
GRHS				*eS*		**Sb**	**03 35 39.5**	**-0.7**
CUMV	**Cumana_UDO**	**2.10**	**274**	*eP*		**Pn**	**03 35 16.2**	**+1.8**
RIOV	**Rio Grande**	**2.20**	**173**	*eP*		**Pn**	**03 35 16.7**	**+0.8**
RIOV				*eS*		**Sn**	**03 35 44.6**	**+1.3**
GCMP	**Grenada, Carri**	**2.29**	**16**	*eP*		**Pb**	**03 35 20.4**	**-0.2**
GCMP				*eS*		**Sb**	**03 35 47.5**	**-1.5**
PCRV	**Puerto La Cruz**	**2.53**	**268**	*eP*		**Pn**	**03 35 21.8**	**+1.4**
PCRV				*eS*		**Sn**	**03 35 50.4**	**-1.0**
PRGV	**PARIAGUAN**	**2.96**	**240**	*eP*		**Pn**	**03 35 26.9**	**+0.7**
PRGV				*eS*		**Sn**	**03 36 01.4**	**-0.5**
MPOM	**Morne Pois Mar**	**4.31**	**16**	*eP*		**Pn**	**03 35 48.3**	**+3.5**
MPOM	**Morne Pois Mar**	**4.31**	**16**	*eS*		**Sn**	**03 36 33.7**	**-1.7**
BIM	**Bigot**	**4.33**	**13**	*eP*		**Pn**	**03 35 48.2**	**+3.1**
BIM	**Bigot**	**4.33**	**13**	*eS*		**Sn**	**03 36 36.4**	**+0.5**
TACV	**Tcata**	**4.88**	**269**	*eP*		**Pn**	**03 35 53.9**	**+1.1**
CACV	**CAICARA DEL OR**	**5.17**	**239**	*eP*		Pn	03 35 51.9	-4.8
CACV				*eS*		Sn	03 36 43.1	-14
BENV	**Beln**	**5.46**	**267**	*eP*		**Pn**	**03 36 01.6**	**+0.9**
BAUV	**El Baul**	**6.04**	**258**	*eP*		**Pn**	**03 36 09.3**	**+0.7**
BAUV				*eS*		**Sn**	**03 37 13.2**	**-4.8**

*NEIC **21** 03:34:58.8±1.0, 18°.9S±0°.2×177°.64W±0°.10, h537^{km}±13^{km}, mb4.3/23, Error ellipse: s-maj=28.1km s-min=11.2km az=165.0*

*IDC **21** 03:35:00.3±4.2, 18°.84S×177°.78W, h555^{km}±27^{km}, mb3.8/5, mb1 3.9/7, mb1mx3.3/38, mbtmp4.7/7, Error ellipse: s-maj=97.7km s-min=25.3km az=138.0*

ISC 21 03:34:59.5±0.8, 18°.9S±0°.2×177°.6W±0°.1, h570^{km}, n37, σ1^{s}52/37, mb4.3/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**4.30**	**285**	P		**P**	**03 36 23.1**	**-2.0**
	21nm,0.3s,baz=149,slow=5.3,SNR=86							
NIUE	**Niue**	**7.25**	**93**	P		**P**	**03 36 48.5**	**-2.2**
AFI	**Afiamalu**	**7.46**	**49**	P		**P**	**03 36 50.4**	**-2.5**
MARNC	**Mare, Loyalty**	**13.74**	**257**	P		**P**	**03 37 53.5**	**-2.5**
LIFNC	**LIFOU**	**14.39**	**260**	P		**P**	**03 37 59.5**	**-3.1**
PINNC	**Pines Island,**	**14.47**	**253**	P		**P**	**03 38 01.2**	**-2.1**
SANVU	**Saraoutou**	**14.93**	**281**	P		**P**	**03 38 06.9**	**-1.0**
DZM	**Mont Dzumac**	**15.29**	**255**	P		**P**	**03 38 12.0**	**+0.5**
	2.5nm,0.3s,baz=84,slow=23,SNR=17							
DZM	**Mont Dzumac**	**15.29**	**255**	P		**P**	**03 38 12.4**	**+0.9**
OUZ	**Omahuta**	**18.04**	**204**	P		**P**	**03 38 38.0**	**+1.5**
EIDS	**Eidsvold**	**29.68**	**252**	P		**P**	**03 40 20.2**	**+0.1**
EIDS				IAmb		IAmb	03 40 20.6	
	comp=Z,9.8nm,1.1s							
ARMA	**Armidale**	**30.14**	**242**	P		**P**	**03 40 24.8**	**+0.7**
CTA	**Charters Tower**	**34.06**	**262**	P		**P**	**03 40 57.9**	**+0.5**
	comp=Z,19nm,0.7s,baz=91,slow=10,SNR=22							
CTAO	**Charters Tower**	**34.06**	**262**	P		**P**	**03 40 57.9**	**+0.5**
TOO	**Toolangi**	**37.16**	**232**	P		**P**	**03 41 22.8**	**-0.1**
TOO				IAmb		IAmb	03 41 24.3	
	comp=Z,7.7nm,0.8s							
COEN	**Coen**	**37.90**	**271**	P		**P**	**03 41 30.0**	**+0.9**
COEN				IAmb		IAmb	03 41 34.0	
	comp=Z,3.3nm,0.8s							
STKA	**Stephens Creek**	**38.85**	**242**	P		**P**	**03 41 37.2**	**+0.6**
	comp=Z,9.0nm,0.8s,baz=74,slow=9.9,SNR=12							
STKA	**Stephens Creek**	**38.85**	**242**	P		**P**	**03 41 37.0**	**+0.4**
BBOO	**Buckleboo**	**43.62**	**242**	P		**P**	**03 42 14.6**	**+0.3**
WR0	**Warramunga Arr**	**45.03**	**260**	P		**P**	**03 42 25.4**	**0.0**
WR0				IAmb		IAmb	03 42 26.4	
	comp=Z,3.9nm,0.6s							
WB0	**Warramunga Arr**	**45.20**	**261**	P		**P**	**03 42 26.6**	**-0.1**
WB2	**Warramunga Arr**	**45.21**	**260**	P		**P**	**03 42 26.8**	**0.0**
WB2				IAmb		IAmb	03 42 27.4	
	comp=Z,11nm,0.8s							
WRA	**Warramunga Arr**	**45.22**	**260**	P		**P**	**03 42 26.9**	**+0.1**
	comp=Z,8.0nm,0.5s,baz=96,slow=8.3,SNR=62							
WRA	**Warramunga Arr**	**45.22**	**260**	P		**P**	**03 42 27.0**	**+0.1**
AS31	**Alice Springs**	**45.28**	**255**	P		**P**	**03 42 27.7**	**+0.4**
AS31				IAmb		IAmb	03 42 28.2	
	comp=Z,8.0nm,1.1s							
ASAR	**Alice Springs**	**45.28**	**255**	P		**P**	**03 42 27.3**	**+0.1**
	comp=Z,18nm,0.7s,baz=89,slow=8.2,SNR=152							
ASAR	**Alice Springs**	**45.28**	**255**	P		**P**	**03 42 27.7**	**+0.5**
MTN	**Manton Dam**	**49.55**	**269**	P		**P**	**03 42 59.6**	**+0.4**
MTN				IAmb		IAmb	03 43 00.1	
	comp=Z,9.5nm,0.8s							
FORT	**Forrest**	**50.29**	**245**	P		**P**	**03 43 04.3**	**-0.2**
FORT				IAmb		IAmb	03 43 13.2	
	comp=Z,16nm,1.1s							
KNRA	**Kununurra**	**51.17**	**265**	P		**P**	**03 43 11.6**	**+0.6**
KNRA				IAmb		IAmb	03 43 11.9	
	comp=Z,12nm,0.7s							
FITZ	**Fitzroy Crossi**	**53.64**	**261**	P		**P**	**03 43 29.6**	**+0.9**
PSA00	**Pilbara Seismi**	**58.42**	**256**	P		**P**	**03 44 01.9**	**+0.4**
PSA00				IAmb		IAmb	03 44 02.7	
	comp=Z,9.3nm,0.8s							
SUA	**Susitna One**	**82.92**	**13**	P		**P**	**03 46 27.5**	**+2.7**
SUA				IAmb		IAmb	03 46 27.8	
	comp=Z,4.2nm,0.7s							
GHO	**Glory Hole Cre**	**83.58**	**13**	P		**P**	**03 46 30.8**	**+2.8**
GHO				IAmb		IAmb	03 46 31.3	
	comp=Z,5.5nm,0.7s							
SCM	**Sheep Creek Mo**	**83.99**	**14**	P		**P**	**03 46 32.6**	**+2.6**
SCM				IAmb		IAmb	03 46 33.4	
	comp=Z,7.2nm,0.8s							
GLB	**Gilahina Butte**	**84.50**	**16**	P		**P**	**03 46 35.3**	**+2.8**
ILAR	**Eielson Array**	**86.67**	**13**	P		**P**	**03 46 44.9**	**+2.1**
	comp=Z,0.7nm,0.6s,baz=225,slow=4.8,SNR=11							

*IDC **21** 03:40:18.2±0.8, 5°.36S×68°.53E, h0^{km}, mb4.1/12, mb1 4.2/12, mb1mx3.9/41, mbtmp4.1/12, MS3.6/12, Ms1 3.6/12, ms1mx3.3/47, Error ellipse: s-maj=25.4km s-min=19.5km az=42.0*

*NEIC **21** 03:40:20.6±1.2, 5°.35S±0°.07×68°.5E±0°.1, h10^{km}±1^{km}, mb4.5/19, Error ellipse: s-maj=19.5km s-min=11.6km az=290.0*

ISC 21 03:40:20.2±0.7, 5°.4S±0°.1×68°.6E±0°.1, h13^{km}, n46, σ0^{s}81/35, mb4.4/18, MS3.7/11, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
DGAR	**Diego Garcia**	**4.36**	**118**	Pn		**Pn**	**03 41 25.6**	**-0.6**
H08S3	**Diego Garcia H**	**4.49**	**120**	T		T	03 46 08.2	
	baz=311,slow=74,SNR=13							
H08S1	**Diego Garcia H**	**4.49**	**120**	T		T	03 46 06.0	
	baz=311,slow=74,SNR=12							
H08S2	**Diego Garcia H**	**4.51**	**120**	T		T	03 46 13.1	
	baz=311,slow=74,SNR=14							
PALK	**Pallekele**	**17.46**	**44**	LR		LR	03 49 30.6	
	comp=Z,302nm,20.4s,baz=341,slow=32							
KMBO	**Kilima Mbogo**	**31.53**	**277**	LR		LR	03 57 17.1	
	comp=Z,33nm,18.7s,baz=98,slow=32							
CMAR	**Chiang Mai Arr**	**38.19**	**51**	P		**P**	**03 47 40.2**	**+0.4**
	1.0nm,0.3s,baz=229,slow=9.4,SNR=4.6							
CMAR				LR		LR	04 01 52.3	
	comp=Z,75nm,18.5s,baz=224,slow=34							
SHL	**Shillong**	**38.20**	**35**	P		**P**	**03 47 40.1**	**0.0**
SHL				IAmb		IAmb	03 47 40.9	
	comp=Z,11nm,1.1s							
NIL	**Nilore**	**39.07**	**6**	P		**P**	**03 47 47.0**	**0.0**
NIL				IAmb		IAmb	03 47 48.6	
	comp=Z,17nm,1.3s							
KBL	**Kabul**	**39.71**	**1**	P		**P**	**03 47 53.0**	**+0.4**
KBL				IAmb		IAmb	03 47 54.8	
	comp=Z,12nm,1.4s							
HRA	**Herat**	**40.00**	**352**	P		**P**	**03 47 54.6**	**-0.4**
BTK	**Batken**	**45.26**	**2**	P		**P**	**03 48 37.6**	**+0.1**
BTK				IAmb		IAmb	03 48 45.4	
	comp=Z,11nm,1.3s							
BOSA	**Boshof**	**47.05**	**235**	P		**P**	**03 48 51.6**	**-0.3**
	comp=Z,2.7nm,0.8s,baz=92,slow=9.3,SNR=4.3							
BOSA				LR		LR	04 05 23.1	
	comp=Z,113nm,21.3s,baz=17,slow=32							
BOSA	**Boshof**	**47.05**	**235**	P		**P**	**03 48 51.6**	**-0.3**
AAK	**Ala-Archa**	**48.09**	**6**	P		**P**	**03 49 00.8**	**+1.0**
	comp=Z,1.3nm,0.5s,baz=91,slow=21,SNR=5.5							
AAK	**Ala-Archa**	**48.09**	**6**	P		**P**	**03 49 00.6**	**+0.8**
AAK				IAmb		IAmb	03 49 01.5	
	comp=Z,5.3nm,1.1s							
KKAR	**Karatay Array**	**48.29**	**2**	P		**P**	**03 49 02.6**	**+1.5**
MKAR	**Makanchi Array**	**53.35**	**12**	P		**P**	**03 49 37.9**	**-1.3**
	comp=Z,1.1nm,0.7s,baz=202,slow=8.8,SNR=6.8							
KBZ	**Khabaz**	**54.09**	**337**	P		**P**	**03 49 45.1**	**+0.5**
	comp=Z,5.0nm,1.0s,baz=173,slow=9.1,SNR=6.1							
ABKAR	**Akbulak array**	**54.92**	**353**			**P**	**03 49 50.1**	**-0.5**
BR131	**Keskin Array S**	**55.23**	**327**	P		**P**	**03 49 53.0**	**-0.2**
BR131				IAmb		IAmb	03 50 01.5	
	comp=Z,4.7nm,1.1s							
BRTR	**Keskin Array B**	**55.23**	**327**	P		**P**	**03 49 53.3**	**+0.1**
	comp=Z,1.6nm,1.0s,baz=148,slow=10,SNR=8.0							
BRTR	**Keskin Array B**	**55.23**	**327**			**P**	**03 49 53.1**	**-0.1**
ZAA0	**Zalesovo Array**	**60.67**	**11**	P		**P**	**03 50 29.5**	**-1.4**
ZAA0				IAmb		IAmb	03 50 30.5	
	comp=Z,3.4nm,0.8s							
ZALV	**Zalesovo Beam**	**60.67**	**11**	P		**P**	**03 50 29.9**	**-1.0**
	comp=Z,2.2nm,0.6s,baz=208,slow=6.3,SNR=8.1							
ZALV				LR		LR	04 16 52.4	
	comp=Z,63nm,18.4s,baz=194,slow=36							
ZALV	**Zalesovo Beam**	**60.67**	**11**	P		**P**	**03 50 29.8**	**-1.1**
ARU	**Arti**	**62.14**	**354**	LR		LR	04 17 18.9	
	comp=Z,34nm,18.4s,baz=112,slow=36							
ARU	**Arti**	**62.14**	**354**	P		**P**	**03 50 40.3**	**-0.5**
MAW	**Mawson**	**62.25**	**182**	LR		LR	04 11 03.0	
	comp=Z,45nm,21.8s,baz=56,slow=30							
SONM	**Songino Array**	**62.55**	**28**	P		**P**	**03 50 44.3**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=219,slow=7.5,SNR=9.4							
SONM				LR		LR	04 17 40.5	
	comp=Z,99nm,19.6s,baz=176,slow=36							
SONM	**Songino Array**	**62.55**	**28**	P		**P**	**03 50 44.1**	**+0.2**
SONM				IAmb		IAmb	03 50 44.7	
	comp=Z,3.1nm,1.0s							
ASAR	**Alice Springs**	**65.29**	**113**	P		**P**	**03 51 02.3**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=280,slow=5.9,SNR=9.2							
AKASG	**Malin Array Be**	**65.30**	**334**	P		**P**	**03 51 00.6**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=125,slow=5.5,SNR=6.6							
WRA	**Warramunga Arr**	**65.43**	**109**	P		**P**	**03 51 03.8**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=293,slow=6.3,SNR=16							
WRA	**Warramunga Arr**	**65.43**	**109**	P		**P**	**03 51 03.6**	**+0.4**
WB2	**Warramunga Arr**	**65.44**	**109**	P		**P**	**03 51 03.6**	**+0.2**
WR0	**Warramunga Arr**	**65.62**	**109**	P		**P**	**03 51 04.7**	**+0.2**
KSRS	**Korea Array**	**69.67**	**47**	LR		LR	04 22 39.3	
	comp=Z,42nm,18.5s,baz=95,slow=36							
DBIC	**Dimbokro**	**74.25**	**278**	LR		LR	04 22 20.1	
	comp=Z,23nm,21.1s,baz=354,slow=34							
SENIN	**Lac Senin/Sane**	**74.67**	**321**				**03 51 59.5**	**-0.3**
SENIN				IAmb		IAmb	03 52 00.7	
	comp=Z,6.5nm,1.0s							
ESDC	**Sonseca Array**	**80.12**	**312**	P		**P**	**03 52 30.4**	**+0.1**
	comp=Z,0.8nm,0.9s,baz=86,slow=5.4,SNR=5.8							
ESDC	**Sonseca Array**	**80.12**	**312**	P		**P**	**03 52 31.8**	**+1.5**
ARCES	**ARCESS Array B**	**80.29**	**346**	LR		LR	04 29 09.5	
	comp=Z,39nm,19.5s,baz=125,slow=36							
YAK	**Yakutsk**	**81.69**	**25**	LR		LR	04 28 14.3	
	comp=Z,38nm,20.0s,baz=266,slow=35							
NVAR	**Mina Array Bea**	**146.51**	**10**	PKPbc		**PKPdf**	**04 00 02.8**	**+2.2**
	comp=Z,1.2nm,0.8s,baz=20,slow=2.8,SNR=14							
TXAR	**Lajitas Array**	**155.06**	**344**	PKPbc		PKPdf	04 00 23.2	+9.3
	comp=Z,0.3nm,0.7s,baz=42,slow=2.8,SNR=3.9							
TXAR				PKPab		**PKPab**	**04 00 38.8**	**+0.7**
	comp=Z,1.0nm,0.9s,baz=34,slow=2.2,SNR=6.3							

*GCG **21** 03:45:35.6±0.3, 15°.62N×92°.47W, h244^{km}, MD4.2*

*NEIC **21** 03:45:48.0±1.6, 15°.25N±0°.09×91°.84W±0°.08, h177^{km}±4^{km}, mb4.3/70, Error ellipse: s-maj=14.7km s-min=9.0km az=213.0*

*IDC **21** 03:45:49.3±2.1, 15°.22N×91°.50W, h191^{km}±19^{km}, mb3.8/8, mb1 3.9/10, mb1mx3.5/35, mbtmp4.3/10, MS2.6/1, Ms1 2.6/1, ms1mx2.3/35, Error ellipse: s-maj=28.5km s-min=12.0km az=58.0*

ISC 21 03:45:48.8±0.5, 15°.27N±0°.06×91°.73W±0°.06, h200^{km}, n121, σ1^{s}78/128, mb4.3/31, 1D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HUEH	**Huehuetenango**	**0.22**	**78**	Pn		**Pn**	**03 46 12.2**	**-3.2**
HUEH				Sn		**Sn**	**03 46 30.1**	**-5.8**
RTAL	**Retalhuleu**	**0.74**	**178**	Pn		**Pn**	**03 46 13.8**	**-3.3**
CCIG	**Comitan**	**1.08**	**339**	Pn		**Pn**	**03 46 16.5**	**-2.9**
CCIG				Sn		**Sn**	**03 46 38.0**	**-5.2**
FUG	**Fuego 3**	**1.18**	**134**	*eP*		**Pn**	**03 46 18.5**	**-1.6**
PCG	**Pacaya**	**1.39**	**129**	*eP*		**Pn**	**03 46 20.9**	**-1.0**
NBG	**Las Nubes**	**1.50**	**117**	*i* P		**Pn**	**03 46 22.1**	**-0.7**
NBG				*eS*		Sn	03 47 03.6	+14
ESQI	**Esquipulas**	**2.41**	**107**	Pn		**Pn**	**03 46 30.9**	**-1.0**
PETF	**Flores**	**2.42**	**47**	Pn		**Pn**	**03 46 29.8**	**-2.0**
MTO3	**Montecristo**	**2.45**	**110**	Pn		**Pn**	**03 46 30.9**	**-1.5**
SNET	**Serv Nac Est T**	**2.88**	**123**	Pn		**Pn**	**03 46 35.8**	**-1.4**
CMIG	**Matias Romero**	**3.53**	**301**	P		**Pn**	**03 46 41.1**	**-3.8**
	34nm,0.3s,baz=136,slow=7.4,SNR=554							
CMIG				S		**Sn**	**03 47 20.7**	**-8.1**
	56nm,0.3s,baz=12,slow=14,SNR=29							
TGUH	**Tegucigalpa,Un**	**4.48**	**105**	Pn		**Pn**	**03 46 56.3**	**-0.4**
CNGN	**Cerro Negro**	**5.61**	**119**	Pn		**Pn**	**03 47 09.8**	**-1.3**
TLIG	**Tlapa**	**6.95**	**290**			**Pn**	**03 47 27.6**	**-0.9**
ACON	**Acoyapa**	**7.17**	**116**	Pn		**Pn**	**03 47 31.5**	**+0.2**
HZTE	**Horizontes, Gu**	**7.50**	**126**	Pn		**Pn**	**03 47 36.3**	**+0.7**
ORTG	**Ortega, Santa**	**7.82**	**128**	Pn		**Pn**	**03 47 40.3**	**+0.4**
JTS	**Las Juntas de**	**8.25**	**126**	P		**Pn**	**03 47 45.2**	**-0.3**
	3.8nm,0.3s,baz=30,slow=13,SNR=20							
JTS				S		**Sn**	**03 49 11.5**	**-7.0**
	2.2nm,0.3s,baz=3.1,slow=22,SNR=2.9							
JTS				LR		LR	03 51 07.7	
	comp=Z,41nm,19.0s,baz=172,slow=40							
JACO	**JACO, Garabito**	**8.87**	**128**	Pn		**Pn**	**03 47 53.1**	**-0.3**
RIMA	**Rio Macho**	**9.43**	**125**			**Pn**	**03 48 01.1**	**+0.3**
PEZE	**Perez Zeledon,**	**9.80**	**126**	Pn		**Pn**	**03 48 06.0**	**+0.4**
SRBA	**San Rafael, Bu**	**10.14**	**125**			**Pn**	**03 48 09.7**	**-0.3**
SOR	**Soroa**	**11.13**	**46**	Pn		**Pn**	**03 48 22.1**	**-0.5**
MTDJ	**Mount Denham**	**13.91**	**76**	P		**P**	**03 49 01.5**	**+1.7**
061Z	**Ochoppi**	**14.61**	**42**	P		**P**	**03 49 09.3**	**+1.9**
GTBY	**Guantanamo Bay**	**16.50**	**71**	P		**Pn**	**03 49 30.9**	**+1.7**
SJCC	**San Jacinto, C**	**17.01**	**106**	P		**Pn**	**03 49 33.5**	**-0.5**
DBBC	**Dabeiba**	**17.28**	**117**	*eP*		**P**	**03 49 37.5**	**+0.5**
352A	**Blakely**	**17.29**	**20**	P		**Pn**	**03 49 39.2**	**+0.8**
UREC	**San Jos de Ur**	**17.53**	**113**	*eP*		**P**	**03 49 38.4**	**-1.2**
TXAR	**Lajitas Array**	**17.81**	**324**	P		**Pn**	**03 49 44.9**	**+0.1**
	0.3nm,0.3s,baz=152,slow=12,SNR=45							
TXAR				ScP		**ScP**	**03 57 30.3**	**+4.0**
	0.0nm,0.3s,baz=112,slow=5.6,SNR=4.5							
TXAR	**Lajitas Array**	**17.81**	**324**	P		**Pn**	**03 49 45.2**	**+0.5**
TX31	**Lajitas Ar. Si**	**17.81**	**324**	P		**Pn**	**03 49 45.0**	**+0.2**
TX31				IAmb		IAmb	03 49 45.9	
	comp=Z,11nm,0.8s							
TX32	**Lajitas Array**	**17.81**	**324**	P		**Pn**	**03 49 45.3**	**+0.6**
CBOC	**Ciudad Bolivar**	**18.04**	**120**	*eP*		**P**	**03 49 45.8**	**+0.3**
ZARC	**Zaragoza, Cauc**	**18.24**	**113**	*eP*		**P**	**03 49 46.4**	**-1.0**
SMLC	**San Martn de**	**18.42**	**108**	*eP*		**P**	**03 49 47.9**	**-1.4**
152A	**Waverly Hall**	**18.46**	**19**	P		**Pn**	**03 49 51.2**	**-0.9**
152A				IAmb		IAmb	03 49 55.9	
	comp=Z,11nm,0.8s							
LGNH	**Logne**	**18.58**	**77**	P		**Pn**	**03 49 54.4**	**+0.7**
ABTX	**Abilene, Hawle**	**18.72**	**339**	P		**Pn**	**03 49 54.5**	**-0.8**
ABTX				IAmb		IAmb	03 49 54.7	
	comp=Z,12nm,0.8s							
YOTC	**Yotoco, Valle**	**18.84**	**125**	*eP*		**P**	**03 49 54.3**	**+0.3**
GUY2C	**Guyana, Caldas**	**18.93**	**120**	*eP*		**P**	**03 49 55.8**	**+0.5**
154A	**Montrose**	**18.96**	**23**	P		**Pn**	**03 49 56.6**	**-1.5**
ANIL	**Santa Ana**	**19.30**	**122**	*eP*		**P**	**03 50 00.6**	**+1.5**
OCAC	**Ocana**	**19.32**	**109**	*eP*		**P**	**03 49 57.6**	**-1.6**
BBAC	**Balboa, Cauca**	**19.42**	**131**	*eP*		**P**	**03 50 01.9**	**+1.5**
POPC	**Popayan, Colom**	**19.50**	**129**	*eP*		**P**	**03 50 02.4**	**+1.2**
GOGA	**Godfrey**	**19.55**	**21**	P		**P**	**03 50 02.8**	**+1.5**
GOGA				IAmb		IAmb	03 50 03.2	
	comp=Z,7.3nm,0.7s							
ORTC	**Ortega, Tolima**	**19.77**	**123**	*eP*		**P**	**03 50 04.5**	**+0.7**
SPBC	**San Pablo de B**	**19.80**	**117**	*eP*		**P**	**03 50 02.5**	**-1.8**
PCON	**Cinco Dias**	**19.85**	**129**	*eP*		**P**	**03 50 06.9**	**+1.6**
OTAV	**Otavalo**	**19.88**	**138**	P		**P**	**03 50 07.2**	**+1.6**
OTAV				IAmb		IAmb	03 50 10.9	
	comp=Z,5.0nm,0.6s							
PRAC	**Prado**	**20.17**	**123**	*eP*		**P**	**03 50 08.4**	**+0.2**
SC01	**Santiago de lo**	**20.46**	**75**	P		**P**	**03 50 12.2**	**+1.0**
SWET	**Sewanee**	**20.53**	**14**	P		**P**	**03 50 12.8**	**+0.9**
RUSC	**La Rusia**	**20.54**	**115**	P		**P**	**03 50 11.0**	**-1.6**
RUSC				IAmb		IAmb	03 50 14.5	
	comp=Z,12nm,1.1s							
MNTX	**Cornudas Mount**	**20.56**	**325**	P		**P**	**03 50 12.9**	**+0.7**
CHIC	**Chingaza**	**20.62**	**119**	*eP*		**P**	**03 50 13.0**	**-0.3**
LCAR	**Lake Charles**	**20.72**	**1**	P		**P**	**03 50 13.5**	**-0.3**
FLOC	**Florencia**	**20.89**	**129**	P		**P**	**03 50 17.4**	**+1.5**
FLOC				IAmb		IAmb	03 50 20.7	
	comp=Z,9.3nm,0.8s							
FLOC	**Florencia**	**20.89**	**129**	*eP*		**P**	**03 50 16.8**	**+0.9**
WVT	**Waverly**	**21.06**	**9**	P		**P**	**03 50 18.6**	**+1.2**
CPCT	**Cooper Cave**	**21.11**	**17**	P		**P**	**03 50 19.4**	**+1.5**
CPCT				IAmb		IAmb	03 50 27.0	
	comp=Z,7.3nm,0.9s							
MSTX	**Muleshoe**	**21.12**	**334**	P		**P**	**03 50 18.7**	**+0.5**
BG3	**Lake Jocassee**	**21.17**	**20**	P		**P**	**03 50 20.5**	**+2.0**
BG3				IAmb		IAmb	03 50 20.8	
	comp=Z,5.5nm,0.7s							
PBMO	**Poplar Bluff**	**21.45**	**3**	P		**P**	**03 50 21.2**	**-0.3**
PBMO				IAmb		IAmb	03 50 22.9	
	comp=Z,6.2nm,0.6s							
TKL	**Tuckaleechee C**	**21.52**	**18**	P		**P**	**03 50 23.5**	**+1.3**
	comp=Z,3.6nm,0.7s,baz=194,slow=9.5,SNR=11							
TKL	**Tuckaleechee C**	**21.52**	**18**	P		**P**	**03 50 23.3**	**+1.2**
DR12	**Loma Pena Alta**	**21.65**	**78**	P		**P**	**03 50 25.0**	**+1.3**
T42A	**Van Buren**	**21.68**	**1**	P		**P**	**03 50 23.1**	**-0.7**
BIRD	**Birdtown, Kers**	**21.80**	**26**	P		**P**	**03 50 25.9**	**+0.9**
BIRD				IAmb		IAmb	03 50 26.4	
	comp=Z,7.3nm,0.7s							
U49A	**Red Boiling Sp**	**21.81**	**13**	P		**P**	**03 50 25.2**	**+0.2**
U49A				IAmb		IAmb	03 50 26.6	
	comp=Z,7.1nm,0.9s							
V53A	**Saluda**	**21.83**	**20**	P		**P**	**03 50 26.3**	**+1.0**
KMSC	**Kings Mountain**	**21.88**	**23**	P		**P**	**03 50 26.7**	**+1.0**
KMSC				IAmb		IAmb	03 50 27.6	
	comp=Z,12nm,0.8s							
T47A	**Sharon Grove**	**22.02**	**10**	P		**P**	**03 50 27.7**	**+0.6**
T47A				IAmb		IAmb	03 50 28.0	
	comp=Z,8.7nm,0.8s							
TZTN	**Tazewell**	**22.41**	**17**	P		**P**	**03 50 31.6**	**+0.8**
TZTN				IAmb		IAmb	03 50 58.6	
	comp=Z,7.9nm,1.1s							
W57A	**Gilead**	**22.43**	**26**	P		**P**	**03 50 31.4**	**+0.5**
W57A				IAmb		IAmb	03 50 33.0	
	comp=Z,9.7nm,1.0s							
S44A	**Carbondale**	**22.44**	**5**	P		**P**	**03 50 31.8**	**+0.8**
T50A	**Nancy**	**22.51**	**15**	P		**P**	**03 50 32.6**	**+0.9**
V55A	**Taylorsville**	**22.55**	**23**	P		**P**	**03 50 33.1**	**+1.0**
V55A				IAmb		IAmb	03 50 33.4	
	comp=Z,9.2nm,0.8s							
CCM	**Cathedral Cave**	**22.70**	**1**	P		**P**	**03 50 34.4**	**+1.0**
U56A	**King**	**23.30**	**24**	P		**P**	**03 50 40.1**	**+1.2**
MLPR	**Magueyes Islan**	**23.80**	**80**	P		**P**	**03 50 45.0**	**+1.4**
OBIP	**Obispado Ponce**	**24.22**	**80**	P		**P**	**03 50 48.3**	**+1.0**
OBIP				IAmb		IAmb	03 50 55.9	
	comp=Z,12nm,1.1s							
T57A	**Hurt**	**24.32**	**25**	P		**P**	**03 50 49.1**	**+1.1**
T57A				IAmb		IAmb	03 50 49.

LFRS	**El Faro**	**1.54**	**2**				**Pb**	**03 51 42.2 +0.1**
LFRS	**El Faro**	**1.54**	**2**				**Pb**	**03 51 42.2 +0.1**
COEG	**Centro de Oper**	**1.55**	**8**	*eP*		**Pb**	**03 51 42.1 -0.2**
COEG				*eS*		**Sg**	**03 52 01.9 -0.7**
COEG				AML	AML		03 52 07.0
	comp=Z,522nm,0.3s							
COEG	**Centro de Oper**	**1.55**	**8**	*eP*		**Pb**	**03 51 42.1 -0.2**
COEG				*eS*		**Sg**	**03 52 01.9 -0.7**
COEG				AML	AML		03 52 07.0
	comp=Z,522nm,0.3s							
LCY	**Lacayo**	**1.55**	**31**	*eP*		**Pb**	**03 51 42.3 -0.1**
LCY	**Lacayo**	**1.55**	**31**	*eP*		**Pb**	**03 51 42.3 -0.1**
PACA	**Pacayal**	**1.58**	**29**	*eP*		**Pg**	**03 51 43.0 -0.1**
PACA				AML	AML		03 52 05.6
	comp=Z,283nm,0.4s							
PACA	**Pacayal**	**1.58**	**29**	*eP*		**Pg**	**03 51 43.0 -0.1**
PACA				AML	AML		03 52 05.6
	comp=Z,283nm,0.4s							
JAYA	**Jayaque - finc**	**1.60**	**348**	*eP*		**Pb**	**03 51 43.3 +0.1**
JAYA				*eS*		**Sb**	**03 52 03.8 -0.1**
JAYA				AML	AML		03 52 06.3
	comp=Z,4μm,0.2s							
JAYA	**Jayaque - finc**	**1.60**	**348**	*eP*		**Pb**	**03 51 43.3 +0.1**
JAYA				*eS*		**Sb**	**03 52 03.8 -0.1**
JAYA				AML	AML		03 52 06.3
	comp=Z,4μm,0.2s							
SNET	**Serv Nac Est T**	**1.60**	**356**	*eP*		**Pb**	**03 51 43.3 +0.1**
SNET				*eS*		**Sg**	**03 52 04.3 0.0**
SNET				AML	AML		03 52 06.3
	comp=Z,1μm,0.4s							
SNET	**Serv Nac Est T**	**1.60**	**356**	*eP*		**Pb**	**03 51 43.3 +0.1**
SNET				*eS*		**Sg**	**03 52 04.3 0.0**
SNET				AML	AML		03 52 06.3
	comp=Z,1μm,0.4s							
OPAM	**Oficina de Pla**	**1.62**	**357**	*eP*		**Pb**	**03 51 43.8 +0.2**
OPAM				*eS*		**Sg**	**03 52 05.6 +0.5**
OPAM	**Oficina de Pla**	**1.62**	**357**	*eP*		**Pb**	**03 51 43.8 +0.2**
OPAM				*eS*		**Sg**	**03 52 05.6 +0.5**
PQSS	**Presa 15 de Se**	**1.63**	**19**	*eP*		**Pb**	**03 51 43.6 +0.1**
PQSS				*eS*		**Sg**	**03 52 05.3 +0.2**
PQSS				AML	AML		03 52 06.6
	comp=Z,519nm,0.2s							
PAVA	**Las Pavas**	**1.63**	**6**	*eP*		**Pb**	**03 51 43.6 -0.1**
PAVA				*eS*		**Sg**	**03 52 05.5 +0.2**
PAVA				AML	AML		03 52 09.8
	comp=Z,850nm,0.3s							
PAVA	**Las Pavas**	**1.63**	**6**	*eP*		**Pb**	**03 51 43.6 -0.1**
PAVA				*eS*		**Sg**	**03 52 05.5 +0.2**
PAVA				AML	AML		03 52 09.8
	comp=Z,850nm,0.3s							
LBRS	**Las Brisas**	**1.65**	**2**	*eP*		**Pb**	**03 51 44.4 +0.4**
LBRS	**Las Brisas**	**1.65**	**2**	*eP*		**Pb**	**03 51 44.4 +0.4**
BOQS	**Boqueron**	**1.65**	**354**	*eP*		**Pb**	**03 51 44.3 +0.1**
BOQS				*eS*		**Sg**	**03 52 06.0 0.0**
BOQS	**Boqueron**	**1.65**	**354**	*eP*		**Pb**	**03 51 44.3 +0.1**
BOQS				*eS*		**Sg**	**03 52 06.0 0.0**
LFU	**La Fuente**	**1.66**	**360**	*eP*		**Pb**	**03 51 44.3 +0.2**
LFU				*eS*		**Sg**	**03 52 06.3 +0.2**
LFU	**La Fuente**	**1.66**	**360**	*eP*		**Pb**	**03 51 44.3 +0.2**
LFU				*eS*		**Sg**	**03 52 06.3 +0.2**
LCND	**La Caada**	**1.71**	**44**	*eP*		**Pb**	**03 51 43.9 -1.0**
LCND				AML	AML		03 52 06.3
	comp=Z,329nm,0.4s							
LCND				*eS*		**Sg**	**03 52 06.7 -1.0**
LCND	**La Caada**	**1.71**	**44**	*eP*		**Pb**	**03 51 43.9 -1.0**
LCND				AML	AML		03 52 06.3
	comp=Z,329nm,0.4s							
LCND				*eS*		**Sg**	**03 52 06.7 -1.0**
CEDA	**San Andres**	**1.73**	**351**	*eP*		**Pb**	**03 51 45.4 0.0**
CEDA				*eS*		**Sb**	**03 52 07.7 -0.1**
CEDA				AML	AML		03 52 10.3
	comp=Z,2μm,0.3s							
CEDA	**San Andres**	**1.73**	**351**	*eP*		**Pb**	**03 51 45.4 0.0**
CEDA				*eS*		**Sb**	**03 52 07.7 -0.1**
CEDA				AML	AML		03 52 10.3
	comp=Z,2μm,0.3s							
CEVE	**Cerro Verde**	**1.81**	**344**	*eP*		**Pb**	**03 51 46.8 0.0**
CEVE				*eS*		**Sb**	**03 52 09.8 -0.2**
CEVE				AML	AML		03 52 17.6
	comp=Z,2μm,0.5s							
CEVE	**Cerro Verde**	**1.81**	**344**	*eP*		**Pb**	**03 51 46.8 0.0**
CEVE				*eS*		**Sb**	**03 52 09.8 -0.2**
CEVE				AML	AML		03 52 17.6
	comp=Z,2μm,0.5s							
SBLS	**San Blas**	**1.82**	**344**	*eP*		**Pb**	**03 51 46.9 0.0**
SBLS	**San Blas**	**1.82**	**344**	*eP*		**Pb**	**03 51 46.9 0.0**
SNJE	**San Jose**	**1.84**	**345**	*eP*		**Pb**	**03 51 47.1 -0.3**
SNJE				*eS*		**Sb**	**03 52 10.8 -0.1**
SNJE	**San Jose**	**1.84**	**345**	*eP*		**Pb**	**03 51 47.1 -0.3**
SNJE				*eS*		**Sb**	**03 52 10.8 -0.1**
TACO	**Tacachico**	**1.89**	**353**	*eP*		**Pb**	**03 51 47.6 -0.5**
TACO				*eS*		**Sb**	**03 52 11.8 -0.5**
TACO	**Tacachico**	**1.89**	**353**	*eP*		**Pb**	**03 51 47.6 -0.5**
TACO				*eS*		**Sb**	**03 52 11.8 -0.5**
SLOZ	**Alcaldia de Sa**	**2.04**	**341**	*eP*		**Pb**	**03 51 49.8 -0.8**
SLOZ				*eS*		**Sb**	**03 52 15.8 -0.8**
SLOZ				AML	AML		03 52 19.8
	comp=Z,523nm,0.5s							
MTO3	**Montecristo**	**2.32**	**354**	*eP*		**Pb**	**03 51 54.1 -1.4**
MTO3				*eS*		**Sb**	**03 52 23.1 -1.6**
MTO3				AML	AML		03 52 27.3
	comp=Z,168nm,0.5s							
MTO3	**Montecristo**	**2.32**	**354**	*eP*		**Pb**	**03 51 54.1 -1.4**
MTO3				*eS*		**Sb**	**03 52 23.1 -1.6**
MTO3				AML	AML		03 52 27.3
	comp=Z,168nm,0.5s							
TGUH	**Tegucigalpa,Un**	**2.66**	**42**	*eP*		**Pn**	**03 51 57.8 +1.0**
TGUH	**Tegucigalpa,Un**	**2.66**	**42**	*eP*		**Pn**	**03 51 57.8 +1.0**

MEX 21 03:56:18.7±0.6, 15°91.91N×95°71.71W, h34km±469km, MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEIG	**Puerto Escondi**	**1.39**	**274**	*eP*	Pn	03 56 39.9	-1.8
CMIG	**Matias Romero**	**1.42**	**34**	*eP*	Pn	03 56 40.0	-2.1
CMIG				*i* S	Sn	03 56 57.3	-2.4
VHO	**Vista Hermosa**	**1.52**	**320**	*eP*	Pn	03 56 41.9	-1.8
VHO				*eS*	Sn	03 57 00.2	-2.2
PNIG	**Pinotepa**	**2.37**	**282**	*eP*	Pn	03 56 53.8	-1.5
PNIG				*eS*	Sn	03 57 20.4	-2.8

IDC ***21*** *03:57:31.7±0.8, 38°.16S×75°.39W, h0km, mb4.1/9, mb1 4.3/10, mb1mx4.1/23, mbtmp4.1/10, ML4.0/1, MS3.5/2, Ms1 3.6/2, ms1mx3.1/16, Error ellipse: s-maj=30.7km s-min=16.3km az=61.0*

NEIC ***21*** *03:57:33.2±2.3, 38°.18S±0°.04×75°.38W±0°.08, h11km±3km, mb4.7/25, Error ellipse: s-maj=9.9km s-min=5.3km az=105.0*

ISC 21 03:57:33.1±0.6, 38°.13S±0°.06×75°.36W±0°.08, h10km, n67, σ1§30/67, mb4.6/18, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LR03	**Panguipulli**	**2.79**	**123**	Pn	**Pn**	**03 58 16.6**	**-1.2**
LR03				Sn	**Sn**	**03 58 48.3**	**-3.2**
LC01	**Cunco**	**2.84**	**107**	Pn	**Pn**	**03 58 16.4**	**-2.1**
LL05	**Los Muermos**	**3.58**	**157**	Pn	**Pn**	**03 58 26.8**	**-1.9**
LL04	**Puerto Octay**	**3.59**	**142**	Pn	**Pn**	**03 58 26.9**	**-1.9**
LL03	**Petrohue**	**3.77**	**144**		**Pn**	**03 58 29.6**	**-1.7**
ML02	**Panimavida**	**3.94**	**54**	Pn	**Pn**	**03 58 31.7**	**-2.0**
GO05	**Huala**	**4.16**	**43**	Pn	**Pn**	**03 58 34.1**	**-2.6**
PLCA	**Paso Flores**	**4.54**	**126**	Pn	**Pn**	**03 58 41.0**	**-0.9**
	1.7nm,0.3s,baz=294,slow=14,SNR=16						
PLCA				Sn	**Sn**	**03 59 38.7**	**+3.9**
	5.4nm,0.3s,baz=23,slow=16,SNR=5.0						
PLCA	**Paso Flores**	**4.54**	**126**	Pn	**Pn**	**03 58 40.8**	**-1.1**
LL01	**San Ignacio de**	**4.80**	**153**	Pn	**Pn**	**03 58 44.0**	**-1.5**
LL07	**Hotel Espejo d**	**4.91**	**164**	Pn	**Pn**	**03 58 44.8**	**-2.2**
BO02	**Sierra Bellavi**	**4.97**	**49**	Pn	**Pn**	**03 58 45.0**	**-2.8**
GO07	**Milladeo Hill,**	**5.14**	**166**	Pn	**Pn**	**03 58 48.2**	**-2.0**
H03S1	**Juan Fernandez**	**5.15**	**325**	Pn	**Pn**	**03 58 48.5**	**-1.5**
	baz=113,slow=8.4,SNR=48						
H03S1				T	T	04 04 20.5	
	baz=146,slow=71,SNR=41						
H03S2	**Juan Fernandez**	**5.17**	**325**	Pn	**Pn**	**03 58 48.6**	**-1.7**
	baz=113,slow=8.4,SNR=53						
H03S2				T	T	04 04 19.8	
	baz=146,slow=71,SNR=44						
H03S3	**Juan Fernandez**	**5.17**	**325**	Pn	**Pn**	**03 58 48.9**	**-1.4**
	baz=113,slow=8.4,SNR=65						
H03S3				T	T	04 04 24.3	
	baz=146,slow=71,SNR=36						
VA04	**Juan Fernndez**	**5.29**	**327**	Pn	**Pn**	**03 58 50.2**	**-2.0**
H03N3	**Juan Fernandez**	**5.49**	**327**	Pn	**Pn**	**03 58 53.7**	**-1.0**
	baz=112,slow=70,SNR=31						
H03N3				T	T	04 04 19.0	
	baz=85						
H03N1	**Juan Fernandez**	**5.50**	**327**	Pn	**Pn**	**03 58 53.6**	**-1.2**
	baz=112,slow=70,SNR=1.8						
H03N1				T	T	04 04 19.7	
	baz=85						
H03N2	**Juan Fernandez**	**5.51**	**327**	Pn	**Pn**	**03 58 53.8**	**-1.1**
	baz=112,slow=70,SNR=14						
H03N2				T	T	04 04 20.2	
	baz=85						
TRQA	**Tornquist**	**10.55**	**94**	Pn	**Pn**	**04 00 03.6**	**-0.7**
PLTB	**Pedras Altas**	**18.91**	**77**	P	**Pn**	**04 01 55.1**	**+0.6**
LPAZ	**La Paz**	**22.67**	**18**	P	**P**	**04 02 37.1**	**+1.7**
	3.4nm,0.8s,baz=187,slow=6.1,SNR=6.1						
LPAZ	**La Paz**	**22.67**	**18**	P	**P**	**04 02 36.6**	**+1.3**
AQDB	**Aquidauana**	**24.48**	**50**	P	**P**	**04 02 52.0**	**-0.4**
TRCB	**Terra Rica**	**24.75**	**58**	P	**P**	**04 02 56.2**	**+1.2**
SIV	**San Ignacio**	**25.39**	**34**	P	**P**	**04 03 00.5**	**-0.2**
	4.5nm,0.9s,baz=233,slow=12,SNR=7.2						
VNA3	**Neumayer Olymp**	**46.62**	**156**	P	**P**	**04 06 01.3**	**+0.3**
SNAA	**Sanae**	**48.83**	**156**	P	**P**	**04 06 18.5**	**+0.2**
SNAA	**Sanae**	**48.83**	**156**	P	**P**	**04 06 18.3**	**+0.1**
	4.2nm,0.8s,baz=273,slow=7.9,SNR=17						
SNAA	**Sanae**	**48.83**	**156**	P	**P**	**04 06 17.8**	**-0.5**
SNAA				IAmb	IAmb	04 06 19.3	
	comp=Z,8.4nm,1.1s						
QSPA	**South Pole Qui**	**52.11**	**180**	P	**P**	**04 06 43.0**	**-0.2**
QSPA				IAmb	IAmb	04 06 44.5	
	comp=Z,6.1nm,0.9s						
VNDA	**Vanda**	**59.52**	**192**	LR	LR	04 28 51.6	
	comp=Z,29nm,18.2s,baz=294,slow=32						
MAW	**Mawson**	**69.97**	**164**	P	**P**	**04 08 44.2**	**0.0**
	comp=Z,1.3nm,0.8s,baz=200,slow=8.0,SNR=4.2						
MAW	**Mawson**	**69.97**	**164**	P	**P**	**04 08 44.5**	**+0.3**
GOGA	**Godfrey**	**71.58**	**353**	P	**P**	**04 08 53.8**	**-0.5**
GOGA				IAmb	IAmb	04 09 22.0	
	comp=Z,6.0nm,1.2s						
LRAL	**Lakeview Retre**	**71.63**	**350**	P	**P**	**04 08 54.8**	**+0.2**
LRAL				IAmb	IAmb	04 08 57.9	
	comp=Z,3.9nm,0.7s						
Z47A	**Carrollton**	**71.95**	**349**	P	**P**	**04 08 57.0**	**+0.5**
TXAR	**Lajitas Array**	**72.15**	**334**	P	**P**	**04 08 58.6**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=153,slow=8.2,SNR=13						
TXAR				LR	LR	04 34 25.2	
	comp=Z,44nm,19.8s,baz=0.0,slow=31						
TXAR	**Lajitas Array**	**72.15**	**334**	P	**P**	**04 08 58.9**	**+1.0**
TX31	**Lajitas Ar. Si**	**72.15**	**334**	P	**P**	**04 08 58.9**	**+0.9**
TX31				IAmb	IAmb	04 09 02.0	
	comp=Z,7.6nm,1.0s						
TX32	**Lajitas Array**	**72.15**	**334**	P	**P**	**04 08 59.0**	**+1.0**
SWET	**Sewanee**	**73.63**	**351**	P	**P**	**04 09 06.8**	**+0.2**
CPCT	**Cooper Cave**	**73.70**	**352**	P	**P**	**04 09 07.0**	**+0.1**
CPCT				IAmb	IAmb	04 09 09.8	
	comp=Z,6.5nm,0.7s						
V55A	**Taylorsville**	**73.81**	**355**	P	**P**	**04 09 07.6**	**+0.1**
V55A				IAmb	IAmb	04 09 07.6	
	comp=Z,8.9nm,1.1s						
LCAR	**Lake Charles**	**75.26**	**347**	P	**P**	**04 09 16.1**	**+0.1**
LCAR				IAmb	IAmb	04 09 18.6	
	comp=Z,6.9nm,0.7s						
FCAR	**Ozark Folk Cen**	**75.27**	**346**	P	**P**	**04 09 15.5**	**-0.5**
FCAR				IAmb	IAmb	04 09 18.9	
	comp=Z,6.3nm,1.0s						
R55A	**Marlinton**	**76.17**	**356**	P	**P**	**04 09 21.9**	**+0.7**
R55A				IAmb	IAmb	04 09 36.8	
	comp=Z,12nm,1.1s						
CCM	**Cathedral Cave**	**77.21**	**347**	P	**P**	**04 09 27.1**	**+0.1**
P48A	**Milroy**	**77.77**	**352**	P	**P**	**04 09 29.1**	**-0.9**
DBIC	**Dimbokro**	**79.02**	**73**	P	**P**	**04 09 37.5**	**-0.1**
	comp=Z,2.4nm,0.6s,baz=217,slow=3.2,SNR=5.9						
DBIC	**Dimbokro**	**79.02**	**73**	P	**P**	**04 09 37.5**	**-0.1**
DBIC				IAmb	IAmb	04 10 04.5	
	comp=Z,12nm,1.1s						
ECSD	**EROS Data Cent**	**83.73**	**345**	P	**P**	**04 10 01.9**	**0.0**
NVAR	**Mina Array Bea**	**85.83**	**328**	P	**P**	**04 10 14.2**	**+1.4**
	comp=Z,0.8nm,0.9s,baz=161,slow=5.5,SNR=5.4						
NVAR	**Mina Array Bea**	**85.83**	**328**	P	**P**	**04 10 13.6**	**+0.7**
PDAR	**Pinedale Array**	**86.31**	**335**	P	**P**	**04 10 15.6**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=142,slow=7.5,SNR=6.1						
TORD	**Torodi Ar. Bea**	**88.10**	**72**	P	**P**	**04 10 25.5**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=246,slow=4.4,SNR=8.2						
TORD	**Torodi Ar. Bea**	**88.10**	**72**	P	**P**	**04 10 23.9**	**-0.3**
TORD				IAmb	IAmb	04 10 30.2	
	comp=Z,1.8nm,0.8s						
GERES	**GERESS Array B**	**116.94**	**48**	PKP	**PKPdf**	**04 16 16.7**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=174,slow=13,SNR=3.9						
GERES	**GERESS Array B**	**116.94**	**48**		**PKiKP**	**04 16 18.0**	**+0.4**
BRTR	**Keskin Array B**	**126.11**	**65**	PKP	**PKPdf**	**04 16 35.4**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=208,slow=6.7,SNR=3.6						
BRTR	**Keskin Array B**	**126.11**	**65**		**PKPdf**	**04 16 35.0**	**-0.6**
TIXI	**Tiksi**	**144.20**	**347**	PKP	**PKPdf**	**04 17 07.4**	**-0.6**
	comp=Z,4.5nm,0.8s,baz=50,slow=4.8,SNR=4.4						
TIXI	**Tiksi**	**144.20**	**347**		PKPbc	04 17 07.0	+0.9
AKTO	**Aktyubinsk**	**144.99**	**54**	PKPbc	**PKPbc**	**04 17 08.9**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=263,slow=4.0,SNR=4.9						
ABKAR	**Akbulak array**	**146.28**	**56**		**PKPdf**	**04 17 12.1**	**-0.2**
BVAR	**Borovoye Array**	**152.10**	**47**	PKPbc	**PKPbc**	**04 17 28.1**	**0.0**
	comp=Z,1.1nm,0.6s,baz=284,slow=6.0,SNR=5.6						

NOU 21 03:57:57.2, 15°.96S×167°.40E, h34km, mb4.5/9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.91**	**157**	P	Pn	03 58 27.6	+0.2
RTV	**Rentapao**	**2.07**	**152**	P	Pn	03 58 29.6	0.0
LIFNC	**LIFOU**	**4.79**	**182**	P	Pn	03 59 06.3	-0.7
KOUNC	**Koumac, New Ca**	**5.44**	**212**	P	Pn	03 59 15.9	0.0
	18nm,0.5s						
YATNC	**Mamie plateau,**	**6.09**	**184**	P	Pn	03 59 24.4	-0.4
DZM	**Mont Dzumac**	**6.15**	**188**	P	Pn	03 59 26.1	+0.4
ONTNC	**Ouen Toro**	**6.38**	**188**	P	Pn	03 59 30.0	+1.2
OUENC	**Ouen Island, N**	**6.45**	**185**	P	Pn	03 59 29.8	+0.1

GUC 21 03:58:00.8±0.8, 32°.36S×72°.16W, h37km±3km, ML3.9, 4C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.76**	**106**	*i* P	Pn	03 58 14.8	-0.1
VA06				*i* S	Sn	03 58 25.1	0.0
VA01	**Torpederas**	**0.79**	**147**	*eP*	Pn	03 58 15.5	+0.1
VA01				*i* S	Sn	03 58 26.6	+0.6
VA01				IAML		03 58 28.7	
	comp=N,4μm,0.3s						
ROCH	**El Roble**	**1.15**	**123**	*eP*	Pn	03 58 21.4	+0.9
ROCH				*i* S	Sn	03 58 37.3	+2.2
ROCH				IAML		03 58 40.8	
	comp=N,5μm,0.3s						
VA05	**Santo Domingo**	**1.37**	**161**	*eP*	Pn	03 58 25.9	+2.5
VA05				*i* S	Sn	03 58 42.8	+2.4
VA05				IAML		03 58 53.3	
	comp=N,3μm,0.4s						
VA03	**San Esteban**	**1.42**	**107**	*eP*	Pn	03 58 25.5	+1.4
VA03				*i* S	Sn	03 58 44.0	+2.4
VA03				IAML		03 58 49.0	
	comp=N,5μm,0.4s						
MT05	**Renca**	**1.58**	**131**	*eP*	Pn	03 58 28.1	+1.8
MT05				*i* S	Sn	03 58 48.5	+2.9
MT05				IAML		03 58 54.6	
	comp=E,3μm,0.2s						
MT01	**Popeta**	**1.69**	**153**	*i* S	Sn	03 58 50.4	+2.4
MT01				IAML		03 58 57.5	
	comp=E,2μm,0.3s						
MT09	**Talagante**	**1.72**	**146**	*eP*	Pn	03 58 30.6	+2.3
MT09				*i* S	Sn	03 58 52.2	+3.0
MT09				IAML		03 58 56.2	
	comp=N,2μm,0.2s						
BO03	**Pichilemu**	**2.14**	**176**	*eP*	Pn	03 58 35.2	+1.2
BO03				*eS*	Sn	03 59 00.3	+1.1
LMEL	**Las Melosas**	**2.21**	**133**	*eP*	Pn	03 58 37.4	+2.3
LMEL				*eS*	Sn	03 59 04.8	+3.5
LMEL				IAML		03 59 12.3	
	comp=N,982nm,0.6s						
BO01	**Tunca**	**2.22**	**156**	*eP*	Pn	03 58 37.4	+2.3
BO01				*eS*	Sn	03 59 04.2	+3.0
BO02	**Sierra Bellavi**	**2.69**	**155**	*eP*	Pn	03 58 43.3	+1.7
BO02				*eS*	Sn	03 59 16.1	+3.2
BO02				IAML		03 59 27.7	
	comp=N,993nm,0.3s						

IDC ***21*** *04:11:30.7±0.6, 35°.32N×143°.64E, h0km, mb4.3/22, mb1 4.5/28, mb1mx4.4/58, mbtmp4.3/28, ML4.1/5, MS3.2/10, Ms1 3.2/10, ms1mx3.0/41, Error ellipse: s-maj=14.9km s-min=14.2km az=20.0*

NIED ***21*** *04:11:34.5, 35°.39N×143°.46E, h89km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=2.25; $M_{\theta\theta}$=0.28; $M_{\phi\phi}$=2.53; $M_{r\theta}$=1.14; $M_{r\phi}$=0.57; $M_{\theta\phi}$=1.67; Fault plane solution: M_0=3.18000×10^{15} NP1: ϕ_s=166.00000°, δ=65.00000°, λ=-115.00000°. NP2: ϕ_s=34.00000°, δ=35.00000°, λ=-47.00000°.*

BJI ***21*** *04:11:34.9±0.0, 35°.66N×143°.33E, h13km, mB4.7/28, mb4.5/45, Ms4.1/21, Ms7 3.8/16*

JMA ***21*** *04:11:34.5±0.4, 35°.39N×143°.46E, h89km, M4.4*

NEIC ***21*** *04:11:35.0±1.6, 35°.42N±0°.08×143°.6E±0°.1, h22km±4km, mb4.7/165, Error ellipse: s-maj=13.3km s-min=10.0km az=121.0*

MOS ***21*** *04:11:36.7±0.9, 35°.87N×143°.56E, h33km, mb4.8/27, Error ellipse: s-maj=8.8km s-min=5.3km az=101.8*

ISC 21 04:11:36.3±0.4, 35°.47N±0°.05×143°.59E±0°.05, h35km, n454, σ1§25/438, mb4.7/126, MS3.5/14, 6C-3D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**2.24**	**277**	P	**Pn**	**04 12 09.3**	**-1.5**
CHOJ				S	**Sn**	**04 12 35.7**	**-1.5**
BSO1	**Boso 1**	**2.29**	**250**	P	**Pn**	**04 12 08.9**	**-2.2**
BSO1				*eS*	**Sn**	**04 12 35.6**	**-2.2**
JIHU	**Itakohorinouch**	**2.54**	**282**	P	**Pn**	**04 12 14.2**	**-0.8**
JSMT	**Sammumatsuo**	**2.57**	**275**	P	**Pn**	**04 12 14.4**	**-0.9**
JHYU	**Hitachinakayam**	**2.59**	**291**	P	**Pn**	**04 12 13.9**	**-1.7**
JHYU				*eS*	**Sn**	**04 12 43.3**	**-2.6**
BSO3	**Boso 3**	**2.61**	**256**	P	**Pn**	**04 12 14.1**	**-1.6**
BSO3				S	**Sn**	**04 12 41.9**	**-4.1**
JYT	**Yasato**	**2.86**	**286**		**Pn**	**04 12 17.1**	**-2.3**
JMM	**Marumori**	**3.28**	**318**		**Pn**	**04 12 23.1**	**-2.1**
JFT	**Otama**	**3.33**	**309**	P	**Pn**	**04 12 25.1**	**-0.7**
JFT				S	**Sn**	**04 13 01.3**	**-2.8**
JAG	**Ashikaga**	**3.49**	**287**	P	**Pn**	**04 12 26.3**	**-1.7**
JOD2	**Odawara 2**	**3.68**	**268**	P	**Pn**	**04 12 28.7**	**-2.0**
JOD2				S	**Sn**	**04 13 09.9**	**-3.1**
JRY	**Ryogami san**	**3.85**	**280**	P	**Pn**	**04 12 32.2**	**-0.9**
JHJ2	**Mitsune**	**3.91**	**234**	P	**Pn**	**04 12 30.7**	**-3.1**
JHJ2	**Mitsune**	**3.91**	**234**	Pn	**Pn**	**04 12 30.8**	**-3.1**
JHJ	**Hachijo jima 2**	**3.93**	**234**	Pn	**Pn**	**04 12 30.7**	**-3.3**
	61nm,0.3s,baz=334,slow=17,SNR=60						
JHJ				Sn	**Sn**	**04 13 12.3**	**-6.7**
	276nm,0.3s,baz=88,slow=23,SNR=12						
JMK	**Ichinoseki**	**3.96**	**332**	P	**Pn**	**04 12 32.9**	**-1.6**
JMK				S	**Sn**	**04 13 16.6**	**-3.0**
JYN	**Shimob**	**4.12**	**272**	P	**Pn**	**04 12 34.9**	**-1.8**
JNS	**Sasagawa**	**4.16**	**306**	P	**Pn**	**04 12 36.6**	**-0.6**
JNS				S	**Sn**	**04 13 23.4**	**-1.2**
MJAR	**Matsushiro Arr**	**4.49**	**285**	Pn	**Pn**	**04 12 40.3**	**-1.6**
	4.8nm,0.3s,baz=96,slow=8.7,SNR=157						
MJAR	**Matsushiro Arr**	**4.49**	**285**	P	**Pn**	**04 12 40.4**	**-1.4**
MJAR	**Matsushiro Arr**	**4.49**	**285**		**Pn**	**04 12 40.4**	**-1.4**
MAJO	**Matsushiro**	**4.49**	**285**	P	**Pn**	**04 12 41.3**	**-0.6**
MAJO	**Matsushiro**	**4.49**	**285**		**Pn**	**04 12 41.3**	**-0.6**
MAT	**Matsushiro**	**4.49**	**285**	P	**Pn**	**04 12 41.2**	**-0.7**
MAT				S	**Sn**	**04 13 32.7**	**-0.2**
MJB9	**Matsu-Tunnel**	**4.50**	**285**	Pn	**Pn**	**04 12 40.6**	**-1.3**
JSD	**Sado**	**4.99**	**302**		**Pn**	**04 12 47.8**	**-0.8**
JGF	**Kuroka**	**5.08**	**273**		**Pn**	**04 12 49.2**	**-0.8**
INU	**Inuyama**	**5.37**	**271**		**Pn**	**04 12 52.8**	**-1.1**
JTM	**Tenmabayashi**	**5.67**	**340**		**Pn**	**04 12 57.8**	**-0.2**
JOT	**Ohata**	**6.23**	**342**	P	**Pn**	**04 13 04.9**	**-0.8**
ERM	**Erimo**	**6.54**	**357**	P	**Pn**	**04 13 07.6**	**-2.4**
ERM	**Erimo**	**6.54**	**357**	Pn	**Pn**	**04 13 07.6**	**-2.4**
JWT	**Wachi**	**6.69**	**271**	Pn	**Pn**	**04 13 11.2**	**-0.8**
NMR	**Nemuro--Hokkai**	**8.06**	**11**	*i* P	**Pn**	**04 13 26.9**	**-3.9**
NMR				*eS*	Sn	04 14 50.7	-10
**JM

HHC LR LR
comp=Z,150nm,14.5s
H11S1 WAKE ISLAND Hy 26.53 124 T T 04 44 52.2
baz=313
H11S3 WAKE ISLAND Hy 26.53 124 T T 04 44 56.4
baz=313,SNR=2.3
H11S2 WAKE ISLAND Hy 26.55 124 T T 04 44 55.9
baz=313
SEY Seymchan 28.03 9 P **P 04 17 25.3 +1.6**
comp=Z,1.3nm,0.3s,baz=183,slow=3.3,SNR=8.1
SEY LR LR 04 27 53.9
comp=Z,34nm,19.8s,baz=38,slow=35
XAN Xi'an 28.44 277 P **P 04 17 31.3 +3.5**
XAN pP sP 04 17 39.4 -0.2
XAN sP pwP 04 17 44.3 +0.7
XAN pmax pmax
comp=Z,12nm,1.2s
XAN LR LR
comp=Z,100nm,18.6s
XAN LR LR
comp=Z,130nm,20.6s
ENH Enshi 29.02 269 P **P 04 17 34.2 +1.2**
BOD Bodaibo 29.79 328 *e*P P 04 17 45.2 +5.8
BOD pmax pmax
comp=Z,19nm,1.8s
SONM Songino Array 30.12 306 P **P 04 17 44.3 +1.6**
comp=Z,5.7nm,0.8s,baz=105,slow=8.4,SNR=10.0
SONM LR LR 04 30 32.9
comp=Z,39nm,18.2s,baz=161,slow=38
SONM Songino Array 30.12 306 P **P 04 17 43.6 +0.9**
LZH Lanzhou 32.10 283 *e*P **P 04 18 01.3 +1.0**
LZH pP pP 04 18 08.3 -0.2
LZH sP sP 04 18 12.0 0.0
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,76nm,5.2s
LZH LR LR
comp=Z,190nm,13.3s
LZH LR LR
comp=Z,190nm,13.2s
LZH LR LR
comp=Z,140nm,15.6s
KIWB Kanaga Island 32.31 47 P **P 04 18 00.9 -0.8**
CD2 Chengdu 33.48 274 P **P 04 18 13.1 +0.8**
CD2 PP **PnPn 04 19 25.9 +1.9**
CD2 S **S 04 23 32.3 +0.5**
CD2 pmax pmax
comp=Z,10.0nm,0.4s
CD2 pmax pmax
comp=Z,140nm,7.1s
CD2 LR LR
comp=Z,260nm,15.9s
CD2 LR LR
comp=Z,200nm,17.1s
CD2 LR LR
comp=Z,250nm,17.7s
GTA Gaotai 34.73 290 *e*P **P 04 18 24.4 +1.3**
GTA pP sP 04 18 33.8 -1.1
GTA sP pwP 04 18 38.0 -1.3
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,62nm,6.2s
GTA LR LR
comp=Z,180nm,20.7s
GTA LR LR
comp=Z,180nm,20.4s
GTA LR LR
comp=Z,100nm,18.5s
BILL Bilibino 35.06 15 *i* P **P 04 18 25.0 -0.5**
BILL pmax pmax
comp=Z,5.0nm,1.1s
BILL MLR MLR
comp=Z,376nm,19.0s
KMI Kunming 36.52 265 ⇑P **P 04 18 39.0 +0.2**
KMI pmax pmax
comp=Z,9.0nm,0.6s
TIXI Tiksi 37.06 352 *i* P **P 04 18 39.6 -2.9**
NONG Nongkai 39.73 255 P **P 04 19 09.3 +3.7**
comp=Z,26nm,0.8s
PAYA Payao 41.64 259 P P 04 19 31.6 +10
UTTA Uttaradit 41.96 257 P **P 04 19 28.4 +4.4**
comp=Z,509nmcomp=Z,10nm,0.7s
DGZ Jazzator, Alta 42.73 307 *i* P **P 04 19 31.1 +1.0**
DGZ pmax pmax
comp=Z,3.0nm,0.5s
CMAR Chiang Mai Arr 42.86 259 P **P 04 19 34.1 +2.8**
comp=Z,1.3nm,0.3s,baz=52,slow=8.0,SNR=1.7
CMAR LR LR 04 40 39.7
comp=Z,56nm,18.7s,baz=210,slow=41
WMQ Urumqi 43.12 299 *e*P **P 04 19 35.3 +2.1**
ZAA0 Zalesovo Array 44.27 314 P **P 04 19 42.7 +0.5**
ZALV Zalesovo Beam 44.27 314 P **P 04 19 43.1 +1.0**
comp=Z,3.0nm,0.5s,baz=88,slow=6.1,SNR=11
ZALV PcP **PcP 04 21 25.9 -0.2**
comp=Z,2.0nm,0.7s,baz=114,slow=3.7,SNR=4.9
ZALV Zalesovo Beam 44.27 314 P **P 04 19 42.4 +0.2**
N18K Kilae Creek 45.53 37 P **P 04 19 54.0 +1.8**
N18K IAmb IAmb 04 19 55.0
comp=Z,14nm,1.1s
N18K Kilae Creek 45.53 37 P **P 04 19 53.7 +1.5**
baz=265
SVW2 Sparrevohn 45.72 36 P **P 04 19 55.4 +1.8**
SVW2 IAmb IAmb 04 19 56.4
comp=Z,10nm,1.0s
L19K White Mountain 46.17 35 P **P 04 19 58.9 +1.7**
L19K IAmb IAmb 04 19 59.4
comp=Z,17nm,1.3s
L19K White Mountain 46.17 35 P **P 04 19 58.6 +1.4**
baz=264
N19K Bonanza Creek 46.23 37 P **P 04 19 59.1 +1.3**
baz=266
M19K Big River Lodg 46.36 35 P **P 04 19 58.9 +0.2**
M19K IAmb IAmb 04 20 09.8
comp=Z,6.7nm,1.1s
MK31 Makanchi Array 46.44 304 P **P 04 20 01.1 +1.5**
MK31 pmax pmax
comp=Z,3.0nm,0.9s
MK31 Makanchi Array 46.44 304 P **P 04 20 01.1 +1.5**
MKAR Makanchi Array 46.44 304 P **P 04 20 00.2 +0.7**
comp=Z,1.2nm,0.6s,baz=80,slow=9.3,SNR=9.1
MKAR Makanchi Array 46.44 304 P **P 04 20 00.4 +0.8**
MKAR Makanchi Array 46.44 304 P **P 04 20 00.4 +0.8**
Q19K Cape Douglas, 46.56 39 P **P 04 20 01.9 +1.6**
baz=268
K20K Telida 46.65 33 P **P 04 20 02.6 +1.7**
K20K IAmb IAmb 04 20 04.8
comp=Z,19nm,1.4s
K20K Telida 46.65 33 P **P 04 20 02.4 +1.5**
baz=264,SNR=7.0
L20K Farewell, AK 46.65 35 P **P 04 20 02.0 +1.0**
baz=265
J20K Nowinta River 46.71 32 P **P 04 20 02.9 +1.5**
J20K IAmb IAmb 04 20 03.9
comp=Z,16nm,1.2s
J20K Nowinta River 46.71 32 P **P 04 20 02.6 +1.2**
baz=263
OHAK Old Harbor 46.73 42 P **P 04 20 01.8 +0.3**
RSO Redoubt South 47.06 37 P **P 04 20 05.3 +0.9**
KDAK Kodiak Island 47.10 41 P **P 04 20 04.9 +0.4**
KDAK pmax pmax
comp=Z,12nm,0.7s
KDAK Kodiak Island 47.10 41 P **P 04 20 04.9 +0.4**
KDAK Kodiak Island 47.10 41 P **P 04 20 05.4 +0.9**
baz=270
O20K Slope Mountain 47.11 38 P **P 04 20 06.1 +1.4**
baz=268
IMAR Indian Mountai 47.12 30 P **P 04 20 05.5 +1.0**
A21K Barrow 47.22 22 P **P 04 20 06.6 +1.4**
A21K Barrow 47.22 22 P **P 04 20 06.6 +1.4**
baz=254
SPCR Spurr Chakacha 47.35 36 P **P 04 20 07.9 +1.3**
baz=268,SNR=5.9
H21K Melozitna Rive 47.46 30 P **P 04 20 08.3 +1.1**
H21K IAmb IAmb 04 20 09.6
comp=Z,8.8nm,0.8s
H21K Melozitna Rive 47.46 30 P **P 04 20 08.6 +1.4**
baz=263,SNR=10
PPLA Purkeypile 47.46 34 P **P 04 20 08.5 +1.0**
PPLA Purkeypile 47.46 34 P **P 04 20 08.4 +1.0**
baz=266
CHUM Lake Minchumin 47.48 33 P **P 04 20 08.4 +1.0**
baz=265
CAST Castle Rocks 47.55 33 P **P 04 20 08.9 +0.9**
baz=266

SKT Skwentna 47.71 35 P **P 04 20 10.0 +0.8**
SKT IAmb IAmb 04 20 11.1
comp=Z,6.5nm,0.9s
SKT Skwentna 47.71 35 P **P 04 20 10.5 +1.3**
baz=267
I21K Tanana 47.75 31 P **P 04 20 10.4 +1.0**
baz=264
CNPM China Poot 47.80 39 P **P 04 20 10.4 +0.5**
CNPM IAmb IAmb 04 20 21.2
comp=Z,5.9nm,1.0s
BRSE Bradley Lake S 48.05 38 P **P 04 20 12.0 +0.1**
baz=270
SUA Susitna One 48.07 36 P **P 04 20 12.3 +0.1**
SUA IAmb IAmb 04 20 13.8
comp=Z,9.2nm,1.0s
SUA Susitna One 48.07 36 P **P 04 20 12.3 +0.1**
baz=269,SNR=5.6
KTH Kantishna Hill 48.08 33 P **P 04 20 12.8 +0.7**
KTH IAmb IAmb 04 20 14.6
comp=Z,13nm,1.2s
BPAW Bear Paw Mtn. 48.08 32 P **P 04 20 13.0 +0.9**
baz=266
MLY Manley 48.26 31 P **P 04 20 15.1 +1.6**
MLY IAmb IAmb 04 20 15.4
comp=Z,8.2nm,0.9s
MLY Manley 48.26 31 P **P 04 20 14.6 +1.2**
baz=265,SNR=8.1
KURK Kurchatov 48.28 309 P **P 04 20 14.8 +1.0**
KURK Kurchatov 48.28 309 P **P 04 20 14.8 +1.0**
KURBB Kurchatov Arra 48.35 309 P **P 04 20 14.8 +0.5**
comp=Z,4.6nm,0.5s,baz=84,slow=7.7,SNR=8.5
TRF Thorofare Moun 48.35 33 P **P 04 20 15.9 +1.6**
TRF IAmb IAmb 04 20 16.2
comp=Z,12nm,1.4s
TRF Thorofare Moun 48.35 33 P **P 04 20 14.6 +0.3**
baz=267
RC01 Rabbit Creek A 48.55 37 P **P 04 20 16.0 +0.2**
baz=270
COLD Coldfoot 48.68 28 P **P 04 20 17.7 +1.1**
COLD Coldfoot 48.68 28 P **P 04 20 17.4 +0.8**
baz=264
SEW Seward 48.70 38 P **P 04 20 17.8 +1.0**
baz=271
BWN Browne 48.75 32 P **P 04 20 17.3 +0.1**
H23K Yukon River 48.82 30 P **P 04 20 19.5 +1.8**
H23K IAmb IAmb 04 20 20.6
comp=Z,10nm,1.0s
H23K Yukon River 48.82 30 P **P 04 20 19.3 +1.6**
baz=266,SNR=9.3
PMR Palmer 48.84 36 P **P 04 20 17.5 -0.4**
PMR pmax pmax
comp=Z,16nm,1.0s
PMR Palmer 48.84 36 P **P 04 20 17.5 -0.4**
PMR Palmer 48.84 36 P **P 04 20 17.8 -0.1**
baz=270,SNR=6.1
I23K Minto, Yukon-K 48.85 31 P **P 04 20 17.7 -0.2**
baz=267
GHO Glory Hole Cre 48.94 36 P **P 04 20 18.8 0.0**
NEA2 Nenana 48.94 32 P **P 04 20 19.7 +1.0**
NEA2 IAmb IAmb 04 20 20.9
comp=Z,13nm,1.0s
NEA2 Nenana 48.94 32 P **P 04 20 19.2 +0.5**
baz=267,SNR=9.0
RND Reindeer 49.00 33 P **P 04 20 19.4 +0.2**
RND pmax pmax
comp=Z,15nm,1.2s
RND Reindeer 49.00 33 P **P 04 20 19.4 +0.2**
RND IAmb IAmb 04 20 20.6
comp=Z,15nm,1.2s
TOLK Toolik Lake Re 49.07 26 P **P 04 20 20.1 +0.5**
TOLK IAmb IAmb 04 20 22.5
comp=Z,9.1nm,0.9s
TOLK Toolik Lake Re 49.07 26 P **P 04 20 20.0 +0.4**
baz=263,SNR=5.4
WAT1 Susitna Watana 49.12 34 P **P 04 20 20.2 +0.1**
baz=269
KNK Knik Glacier 49.17 36 P **P 04 20 21.2 +0.7**
KNK Knik Glacier 49.17 36 P **P 04 20 20.8 +0.3**
baz=271,SNR=5.6
SML Sawmill 49.23 36 P **P 04 20 21.6 +0.7**
SML Sawmill 49.23 36 P **P 04 20 21.1 +0.2**
baz=270,SNR=6.2
PWL Port Wells 49.24 37 P **P 04 20 20.9 -0.1**
PWL IAmb IAmb 04 20 22.1
comp=Z,11nm,0.8s
MDM Murphy Dome 49.32 31 P **P 04 20 22.7 +1.2**
WRH Wood River Hil 49.36 32 P **P 04 20 22.1 +0.2**
TCOL CIGO, UAF Yank 49.47 32 P **P 04 20 23.9 +1.2**
TCOL IAmb IAmb 04 20 25.8
comp=Z,7.1nm,0.9s
CCB Clear Creek Bu 49.49 32 P **P 04 20 23.1 +0.3**
WAT6 Susitna Watana 49.50 35 P **P 04 20 23.5 +0.4**
baz=270
H24K Noodor Dome 49.50 30 P **P 04 20 23.9 +0.9**
H24K IAmb IAmb 04 20 25.6
comp=Z,5.8nm,0.8s
H24K Noodor Dome 49.50 30 P **P 04 20 23.5 +0.6**
baz=267,SNR=5.8
POKR Poker Plat Res 49.66 31 P **P 04 20 23.9 -0.2**
baz=268
DHY Denali Highway 49.66 34 P **P 04 20 24.6 +0.3**
baz=270
SCM Sheep Creek Mo 49.70 36 P **P 04 20 25.1 +0.5**
SCM pmax pmax
comp=Z,15nm,1.0s
SCM Sheep Creek Mo 49.70 36 P **P 04 20 25.1 +0.5**
GLI Glacier Island 49.84 37 P **P 04 20 25.8 +0.2**
baz=272
HDA Harding Lake 49.85 32 P **P 04 20 25.3 -0.3**
HDA IAmb IAmb 04 20 26.6
comp=Z,7.3nm,0.7s
HDA Harding Lake 49.85 32 P **P 04 20 25.7 0.0**
baz=269,SNR=9.1
IL31 49.89 32 P **P 04 20 25.4 -0.4**
IL31 IAmb IAmb 04 20 26.9
comp=Z,8.1nm,0.8s
ILAR Eielson Array 49.89 32 P **P 04 20 26.0 +0.1**
comp=Z,6.3nm,0.7s,baz=262,slow=6.2,SNR=65
ILAR Eielson Array 49.89 32 P **P 04 20 25.8 0.0**
FID Port Fidalgo 50.15 37 P **P 04 20 28.5 +0.6**
HIN Hinchinbrook I 50.16 37 P **P 04 20 29.4 +1.3**
M24K Tolsona, Glenn 50.24 35 P **P 04 20 29.9 +1.2**
M24K Tolsona, Glenn 50.24 35 P **P 04 20 29.2 +0.6**
baz=272
KLU Klutina 50.38 36 P **P 04 20 30.6 +0.8**
KLU Klutina 50.38 36 P **P 04 20 30.6 +0.8**
baz=273,SNR=5.2
PRP Porcupine Dome 50.47 31 P **P 04 20 31.2 +0.7**
baz=270
DIV Divide 50.48 36 P **P 04 20 30.9 +0.4**
PAX Paxson 50.53 34 P **P 04 20 31.8 +0.9**
baz=272
J25K Salcha River, 50.54 32 P **P 04 20 30.7 -0.2**
baz=271
HARP HARP 50.70 35 P **P 04 20 32.3 +0.2**
baz=273
RIDG Independent Ri 50.79 33 P **P 04 20 33.0 +0.3**
RIDG Independent Ri 50.79 33 P **P 04 20 33.0 +0.3**
baz=272
BMAR Burnt Mountain 50.86 28 P **P 04 20 35.5 +2.2**
BMRM Bremner River 51.05 37 P **P 04 20 34.9 +0.1**
baz=274
DOT Dot Lake 51.14 33 P **P 04 20 35.9 +0.6**
DOT IAmb IAmb 04 20 36.5
comp=Z,4.9nm,0.7s
SCRK Sand Creek 51.16 33 P **P 04 20 35.9 +0.3**
SCRK IAmb IAmb 04 20 37.0
comp=Z,7.1nm,0.8s
SCRK Sand Creek 51.16 33 P **P 04 20 35.8 +0.2**
baz=272,SNR=9.8
J26L Joseph Creek 51.32 32 P **P 04 20 37.0 +0.2**
baz=272,SNR=6.0
MENT Mentasta 51.33 34 P **P 04 20 38.2 +1.4**
L26K Log Cabin Wild 51.50 34 P **P 04 20 39.1 +1.1**
baz=274
VRDI Verde Repeater 51.59 36 P **P 04 20 40.0 +1.0**
VRDI IAmb IAmb 04 20 41.6
comp=Z,18nm,1.4s
M26K Nabesna, AK 51.70 35 P **P 04 20 40.9 +1.2**
baz=275
MCARA McCarthy VSAT 51.78 36 P **P 04 20 40.6 +0.4**
baz=275
CRQE Cirque 51.81 37 P **P 04 20 40.9 +0.4**
baz=276
K27K Chicken 52.00 33 P **P 04 20 42.5 +0.8**
baz=274

L27K Beaver Creek, 52.19 34 P **P 04 20 44.6 +1.4**
L27K Beaver Creek, 52.19 34 P **P 04 20 44.0 +0.8**
baz=275
BCAR Beaver Creek A 52.20 34 P **P 04 20 44.7 +1.4**
M27K Edge Creek, AK 52.23 35 P **P 04 20 44.5 +0.8**
baz=276
EGAK Eagle 52.34 32 P **P 04 20 44.7 +0.5**
EGAK Eagle 52.34 32 P **P 04 20 45.1 +0.9**
baz=274
MESA MESA 52.44 37 P **P 04 20 45.3 0.0**
baz=277
GRNC Granite Creek 52.47 37 P **P 04 20 45.6 +0.1**
GRNC IAmb IAmb 04 20 53.5
comp=Z,9.9nm,1.1s
BVCY Beaver Creek 52.69 35 P **P 04 20 47.9 +0.9**
baz=276
AAK Ala-Archa 52.79 300 *i* P **P 04 20 49.0 +0.9**
BVAR Borovoye Array 52.92 314 P **P 04 20 49.3 +0.5**
comp=Z,2.2nm,0.8s,baz=141,slow=9.6,SNR=9.7
DAWY Dawson 53.17 32 P **P 04 20 51.0 +0.6**
baz=276
PINM Pinnacle 53.29 37 P **P 04 20 51.7 +0.3**
baz=279
YUK4 Talbot Arm 53.88 36 P **P 04 20 56.7 +0.8**
baz=279
EPYK Eagle Plains 54.02 29 P **P 04 20 58.1 +1.4**
EPYK Eagle Plains 54.02 29 P **P 04 20 57.2 +0.6**
baz=277,SNR=6.6
YUK6 Outpost Mounta 54.08 36 P **P 04 20 57.9 +0.5**
baz=280
HYT Haines Junctio 54.51 36 P **P 04 21 02.5 +2.1**
HYT IAmb IAmb 04 21 03.6
comp=Z,9.9nm,0.9s
HYT Haines Junctio 54.51 36 P **P 04 21 01.1 +0.7**
baz=280,SNR=5.4
INK Inuvik 54.98 27 P **P 04 21 04.8 +1.3**
INK pmax pmax
comp=Z,7.0nm,1.2s
INK Inuvik 54.98 27 P **P 04 21 04.8 +1.3**
INK IAmb IAmb 04 21 11.9
comp=Z,7.2nm,1.1s
INK Inuvik 54.98 27 P **P 04 21 04.6 +1.1**
baz=278
KKAR Karatay Array 55.44 302 P **P 04 21 07.6 +0.3**
KKAR Karatay Array 55.44 302 P **P 04 21 07.6 +0.3**
WR0 Warramunga Arr 55.79 190 P **P 04 21 07.9 -1.9**
WR0 IAmb IAmb 04 21 19.8
comp=Z,6.5nm,1.1s
WB2 Warramunga Arr 55.80 191 P **P 04 21 08.7 -1.2**
WB2 IAmb IAmb 04 21 26.6
comp=Z,13nm,1.4s
WRA Warramunga Arr 55.80 191 P **P 04 21 08.4 -1.5**
comp=Z,2.4nm,0.7s,baz=15,slow=7.9,SNR=20
WRA Warramunga Arr 55.80 191 *i* P **P 04 21 09.5 -0.5**
WRA pmax pmax
comp=Z,2.0nm,0.6s
WRA Warramunga Arr 55.80 191 P **P 04 21 08.8 -1.1**
WHY Whitehorse 55.81 36 P **P 04 21 10.5 +0.8**
baz=283
FARO Faro, Yukon 56.18 34 P **P 04 21 13.4 +1.1**
baz=283
MMPY Sheldon Lake, 57.03 33 P **P 04 21 19.1 +0.7**
baz=284
ARU Arti 58.69 320 P **P 04 21 30.2 +0.1**
comp=Z,1.6nm,0.4s,baz=71,slow=5.0,SNR=9.6
ARU Arti 58.69 320 *d i* P **P 04 21 30.5 +0.5**
ARU 04 22 19.6
ARU S **S 04 29 34.1 +2.0**
ARU SS **SS 04 33 20.3 -4.4**
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 58.69 320 P **P 04 21 29.8 -0.3**
ARU IAmb IAmb 04 21 31.4
comp=Z,10nm,1.0s
DIB Dawson Inlet, 59.11 44 P **P 04 21 33.4 +0.5**
ASAR Alice Springs 59.52 190 P **P 04 21 34.8 -1.3**
comp=Z,0.5nm,0.6s,baz=16,slow=15,SNR=9.5
ASAR PcP **PcP 04 22 23.5 +0.2**
comp=Z,0.7nm,0.8s,baz=16,slow=3.2,SNR=4.2
ASAR Alice Springs 59.52 190 P **P 04 21 35.0 -1.1**
ABKAR Akbulak array 60.29 311 P **P 04 21 41.5 +0.4**
AKTO Aktyubinsk 61.03 313 P **P 04 21 46.2 0.0**
comp=Z,3.4nm,0.8s,baz=91,slow=11,SNR=8.1
KIRV Kirov 62.55 324 *ce* P **P 04 21 57.9 +1.7**
ARCES ARCESS Array B 66.07 340 P **P 04 22 20.4 +1.2**
comp=Z,2.4nm,0.8s,baz=37,slow=6.2,SNR=4.6
ARCES ARCESS Array B 66.07 340 P **P 04 22 20.1 +1.0**
ARCES IAmb IAmb 04 22 21.3
comp=Z,6.6nm,1.1s
NLWA Neilton Lookou 66.47 48 P **P 04 22 23.8 +1.7**
B05A Bryant 67.12 46 P **P 04 22 27.0 +0.8**
baz=298
D04E Lakebay 67.23 48 P **P 04 22 27.7 +0.8**
baz=298
E04D Cinebar 67.65 48 P **P 04 22 30.2 +0.7**
baz=298
F04A Amboy 68.03 49 P **P 04 22 33.3 +1.3**
J01E Myrtle Point 68.41 52 P **P 04 22 35.3 +0.9**
baz=299
H04D Lebanon 68.51 50 P **P 04 22 35.2 +0.2**
baz=299
I03D Drain, OR 68.53 51 P **P 04 22 36.0 +0.9**
baz=299
F05D White Salmon 68.64 48 P **P 04 22 36.6 +0.7**
baz=299
B08A Colville Reser 68.69 45 P **P 04 22 36.9 +0.8**
B08A IAmb IAmb 04 22 37.7
comp=Z,10nm,1.1s
H04A Detroit Lake 68.78 50 P **P 04 22 37.6 +0.9**
K02D Willamette Mer 68.81 52 P **P 04 22 38.0 +1.0**
baz=299
G05D Wamic, OR 69.05 49 P **P 04 22 39.4 +1.0**
baz=300
I04A Tendick Farm, 69.07 51 P **P 04 22 39.3 +0.7**
baz=299
L02E Cave Junction 69.11 53 P **P 04 22 39.7 +0.9**
baz=299
I05D Terrebonne, OR 69.48 50 P **P 04 22 41.7 +0.6**
baz=300
J04D Umpqua Nationa 69.54 51 P **P 04 22 42.5 +0.8**
baz=300
C09A Chrisman Ranch 69.59 45 P **P 04 22 41.7 0.0**
C09A IAmb IAmb 04 22 43.1
comp=Z,6.7nm,0.7s
L04D Klamath Falls 69.92 52 P **P 04 22 45.0 +1.0**
baz=300
M02C Callahan 69.98 53 P **P 04 22 45.2 +0.9**
baz=300
PINE Pine Mountain 70.00 50 P **P 04 22 45.9 +1.3**
NEW Newport 70.02 45 P **P 04 22 45.3 +0.9**
NEW pmax pmax
comp=Z,7.0nm,0.9s
NEW Newport 70.02 45 P **P 04 22 45.3 +0.9**
NEW IAmb IAmb 04 22 45.7
comp=Z,6.9nm,0.8s
NEW Newport 70.02 45 P **P 04 22 44.9 +0.5**
baz=301
J05D Fort Rock, OR 70.07 51 P **P 04 22 46.1 +1.2**
baz=300,SNR=5.4
K04D Chiloquin, OR 70.07 51 P **P 04 22 45.3 +0.4**
baz=300
N02D Trinity Center 70.28 53 P **P 04 22 46.8 +0.7**
baz=300
OBN Obninsk 70.39 324 *i* P **P 04 22 47.0 +0.6**
OBN pmax pmax
comp=Z,6.0nm,1.4s
M04C Macdoel 70.44 52 P **P 04 22 47.9 +0.7**
baz=300
K05A Summer Lake 70.57 51 P **P 04 22 49.3 +1.3**
O02D Mt. Diablo Mer 70.63 54 P **P 04 22 48.6 +0.3**
baz=300
FINES FINESS Array B 71.01 333 P **P 04 22 50.5 +0.5**
comp=Z,1.4nm,0.7s,baz=42,slow=8.9,SNR=5.5
FINES FINESS Array B 71.01 333 *i* P **P 04 22 51.7 +1.6**
FINES pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 71.01 333 P **P 04 22 50.3 +0.3**
O03E Paynes Creek 71.22 54 P **P 04 22 52.0 +0.1**
baz=301
BMO Blue Mountains 71.69 48 P **P 04 22 55.7 +1.1**
BMO pmax pmax
comp=Z,4.0nm,1.4s
BMO Blue Mountains 71.69 48 P **P 04 22 55.7 +1.1**
J08A Circle Bar Ran 71.76 50 P **P 04 22 55.9 +0.8**
J08A IAmb IAmb 04 22 57.0
comp=Z,6.3nm,0.9s

ORV	Oroville	71.80	54	P	P	04 22 55.6	+0.3	
ORV				pmax	pmax			
	comp=Z,3.0nm,1.0s							
ORV	Oroville	71.80	54	P	P	04 22 55.6	+0.3	
WVOR	Wild Horse Val	72.14	50	P	P	04 22 58.3	+0.9	
WVOR				pmax	pmax			
	comp=Z,4.0nm,1.0s							
WVOR	Wild Horse Val	72.14	50	P	P	04 22 58.3	+0.9	
BEKR	Beckworth	72.39	53	P	P	04 22 58.7	-0.3	
BEKR				IAmb	IAmb	04 23 00.3		
	comp=Z,5.6nm,0.9s							
MSO	Missoula	72.61	45	P	P	04 23 00.5	+0.4	
	baz=303							
PAHR	Pah Rah Range	73.11	53	P	P	04 23 03.5	+0.2	
KBZ	Khabaz	73.25	312	P	P	04 23 05.8	+2.0	
	comp=Z,4.8nm,0.8s,baz=118,slow=6.9,SNR=6.0							
KIV	Kislovodsk	73.26	312	*e*P	P	04 23 05.9	+1.9	
KIV				pmax	pmax			
	comp=Z,9.0nm,1.1s							
CMB	Columbia Colle	73.33	55	P	P	04 23 04.6	+0.1	
CMB				pmax	pmax			
	comp=Z,7.0nm,1.1s							
CMB	Columbia Colle	73.33	55	P	P	04 23 04.6	+0.1	
CMB				IAmb	IAmb	04 23 06.0		
	comp=Z,6.9nm,1.1s							
MFID	Camas Ranch	73.36	48	P	P	04 23 04.2	-0.5	
MFID				IAmb	IAmb	04 23 06.3		
	comp=Z,4.3nm,0.8s							
YERR	Yerington	73.59	54	P	P	04 23 06.2	+0.1	
YERR				IAmb	IAmb	04 23 07.8		
	comp=Z,6.5nm,1.0s							
HRY	Holter Researc	73.87	44	P	P	04 23 07.7	+0.1	
LRM	Limekiln Ridge	74.02	45	P	P	04 23 08.9	+0.2	
BMN	Battle Mountai	74.12	52	P	P	04 23 09.6	+0.4	
BMN				pmax	pmax			
	comp=Z,5.0nm,0.9s							
BMN	Battle Mountai	74.12	52	P	P	04 23 09.6	+0.4	
BMN				IAmb	IAmb	04 23 11.1		
	comp=Z,4.8nm,0.9s							
HLID	Hailey	74.14	48	P	P	04 23 09.9	+0.6	
	baz=304							
DLMT	Dillon	74.20	45	IAmb	IAmb	04 23 11.1		
	comp=Z,4.9nm,0.8s							
EGMT	Eagleton	74.27	42	P	P	04 23 10.3	+0.4	
	baz=306							
KVN	Kaiserville	74.30	53	IAmb	IAmb	04 23 11.9		
	comp=Z,5.6nm,0.9s							
LHV	Little Huntoon	74.47	54	IAmb	IAmb	04 23 13.3		
	comp=Z,11nm,1.0s							
NVAR	Mina Array Bea	74.50	54	P	P	04 23 12.2	+0.7	
	comp=Z,4.4nm,0.8s,baz=286,slow=6.0,SNR=43							
NVAR	Mina Array Bea	74.50	54	P	P	04 23 12.5	+1.0	
BOZ	Bozeman (W)	74.62	45	IAmb	IAmb	04 23 13.6		
	comp=Z,6.4nm,1.1s							
BOZ	Bozeman (W)	74.62	45	P	P	04 23 12.3	+0.2	
	baz=305,SNR=5.2							
QLMT	Earthquake Lak	75.18	45	P	P	04 23 16.3	+0.9	
YHB	Horse Butte	75.36	45	IAmb	IAmb	04 23 18.2		
	comp=Z,4.3nm,0.8s							
VES	Vestal, Richgr	75.39	56	P	P	04 23 16.6	+0.2	
	baz=303							
PKM	Mcpherson Peak	75.41	58	P	P	04 23 17.3	+0.5	
	baz=303							
LCH	Last Change Ra	75.60	55	P	P	04 23 17.9	+0.1	
CWC	Cottonwood Cre	75.74	55	P	P	04 23 18.9	+0.3	
	baz=304							
YPP	Pitchstone Pla	75.87	46	P	P	04 23 20.8	+1.3	
ISA	Isabella, Lake	75.91	56	P	P	04 23 19.5	0.0	
	baz=304							
GRAC	Grapevine Rang	75.91	55	P	P	04 23 20.2	+0.7	
	baz=304							
H17A	Grant Village	75.93	45	IAmb	IAmb	04 23 23.1		
	comp=Z,8.8nm,0.8s							
H17A	Grant Village	75.93	45	P	P	04 23 21.8	+2.1	
	baz=306							
ARVC	Arvin	75.96	57	P	P	04 23 20.2	+0.5	
	baz=304							
IMW	Indian Meadow	76.01	46	IAmb	IAmb	04 23 22.5		
	comp=Z,6.7nm,0.8s							
FXWY	Fox Creek	76.11	46	P	P	04 23 21.9	+1.1	
FXWY				IAmb	IAmb	04 23 23.0		
	comp=Z,6.2nm,1.1s							
HVU	Hansel Valley	76.14	48	IAmb	IAmb	04 23 22.7		
	comp=Z,6.7nm,0.8s							
MOOW	Moose Ponds	76.21	46	IAmb	IAmb	04 23 23.4		
	comp=Z,8.5nm,1.4s							
TPAW	Teton Pass	76.24	46	IAmb	IAmb	04 23 22.7		
	comp=Z,5.3nm,0.8s							
NB2	NORSAR Subarra	76.30	338	P	P	04 23 21.8	+0.6	
	comp=Z,0.7nm,0.6s,baz=38,slow=5.9							
NOA	NORSAR Array B	76.30	338	P	P	04 23 21.4	+0.2	
	comp=Z,1.1nm,0.7s,baz=38,slow=5.7,SNR=8.8							
NOA				LR	LR	05 02 15.6		
	comp=Z,20nm,18.3s,baz=250,slow=40							
R11A	Troy Canyon, C	76.33	53	P	P	04 23 21.3	-0.6	
R11A	Troy Canyon, C	76.33	53	P	P	04 23 22.2	+0.2	
	baz=304,SNR=8.0							
MPMC	Manual Prospec	76.35	55	P	P	04 23 22.3	+0.1	
	baz=304,SNR=5.8							
SNOW	Snow King Moun	76.37	46	IAmb	IAmb	04 23 24.3		
	comp=Z,4.3nm,0.8s							
BGU	Big Grassy Mou	76.48	49	P	P	04 23 23.4	+0.7	
BGU				IAmb	IAmb	04 23 25.7		
	comp=Z,8.2nm,1.5s							
FURC	Furnace Creek,	76.54	55	P	P	04 23 23.3	+0.4	
	baz=304							
LRMC	Laurel Mtn Rad	76.54	56	P	P	04 23 23.4	+0.2	
	baz=304							
AKASG	Malin Array Be	76.60	323	P	P	04 23 23.2	+0.1	
	comp=Z,2.4nm,0.6s,baz=44,slow=6.2,SNR=12							
AKBB	Malin Array Si	76.60	323	*ce*P	P	04 23 23.4	+0.4	
EDW2	Edwards Air Fo	76.67	57	P	P	04 23 24.1	+0.3	
	baz=304							
TPNV	Topopah Spring	76.68	54	IAmb	IAmb	04 23 25.3		
	comp=Z,5.0nm,0.9s							
TPNV	Topopah Spring	76.68	54	P	P	04 23 24.3	+0.3	
	baz=304,SNR=6.7							
SPR3	Spring Creek 3	76.76	52	P	P	04 23 25.5	+0.8	
QSM	Queen of Sheba	76.82	55	IAmb	IAmb	04 23 25.8		
	comp=Z,9.7nm,1.0s							
GWY	Greenwater Val	76.83	55	IAmb	IAmb	04 23 26.0		
	comp=Z,5.3nm,0.9s							
DGMT	Dagmar	76.95	39	P	P	04 23 24.4	-0.7	
DGMT				IAmb	IAmb	04 23 26.5		
	comp=Z,12nm,1.1s							
DGMT	Dagmar	76.95	39	P	P	04 23 25.5	+0.4	
	baz=309							
HWUT	Hardware Ranch	76.98	48	P	P	04 23 26.0	+0.3	
HWUT				IAmb	IAmb	04 23 27.6		
	comp=Z,8.9nm,1.1s							
LAO	LASA Array	76.99	42	IAmb	IAmb	04 23 27.1		
	comp=Z,8.7nm,1.1s							
LAO	LASA Array	76.99	42	P	P	04 23 25.3	-0.1	
	baz=308							
DUG	Dugway, Tooele	77.03	50	IAmb	IAmb	04 23 27.7		
	comp=Z,7.1nm,0.9s							
DUG	Dugway, Tooele	77.03	50	P	P	04 23 26.5	+0.6	
	baz=306,SNR=8.6							
PRN	Pahroc Range	77.21	53	P	P	04 23 27.0	+0.1	
GSC	Goldstone, Bar	77.24	56	P	P	04 23 26.9	-0.1	
	baz=304							
SHOC	Shoshone, Teco	77.25	55	P	P	04 23 27.3	+0.2	
	baz=305							
PSUT	Pine Spring	77.34	52	P	P	04 23 27.8	+0.1	
BW06	Boulder Array	77.49	46	P	P	04 23 27.7	-0.8	
BW06	Boulder Array	77.49	46	P	P	04 23 28.6	0.0	
	baz=307							
PDAR	Pinedale Array	77.49	46	P	P	04 23 28.4	-0.2	
	comp=Z,2.4nm,0.7s,baz=271,slow=2.5,SNR=26							
JLU	Jordanelle	77.64	49	P	P	04 23 29.6	+0.2	
JLU				IAmb	IAmb	04 23 31.2		
	comp=Z,6.4nm,1.1s							
TUQ	Turquoise Moun	77.75	55	P	P	04 23 30.2	+0.2	
	baz=305							
HEC	Hector,Ludlow	77.82	56	P	P	04 23 30.2	-0.1	
	baz=305							
MPU	Maple Canyon	77.87	49	P	P	04 23 30.9	+0.2	
MPU				IAmb	IAmb	04 23 32.4		
	comp=Z,5.8nm,1.0s							
MURC	Murrieta	77.93	57	P	P	04 23 31.1	+0.2	
	baz=305							
MVU	Marysvale	78.40	51	P	P	04 23 34.4	+0.7	
MSU	Marysvale	78.42	51	P	P	04 23 34.4	+0.7	
MSU	Marysvale	78.42	51	P	P	04 23 34.4	+0.7	
PFO	Pinyon Flats O	78.43	57	P	P	04 23 33.7	0.0	
	baz=305							
TPFO	Pinon Flats	78.44	57	P	P	04 23 33.8	0.0	
	baz=305							
BELC	Belle Mtn. Jos	78.52	56	P	P	04 23 34.1	-0.2	
	baz=305							
MTPU	Mount Pierson	78.69	51	P	P	04 23 35.8	+0.4	
P17A	Butcher Ranch,	78.75	49	P	P	04 23 35.8	+0.3	
P17A				IAmb	IAmb	04 23 37.1		
	comp=Z,7.8nm,0.8s							
Q16A	Castle Valley	78.81	50	P	P	04 23 36.4	+0.5	
Q16A				IAmb	IAmb	04 23 37.8		
	comp=Z,15nm,1.4s							
KNB	Kanab	78.88	52	P	P	04 23 37.2	+0.9	
KNB				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KNB	Kanab	78.88	52	P	P	04 23 37.2	+0.9	
KNB				IAmb	IAmb	04 23 38.2		
	comp=Z,8.7nm,1.0s							
IRM	Iron Mountain	79.01	56	P	P	04 23 36.9	+0.1	
	baz=305							
BC3	Big Chuckawall	79.09	57	P	P	04 23 37.5	+0.1	
	baz=305							
SRU	San Rafael Swe	79.10	50	P	P	04 23 37.6	+0.2	
SRU				pmax	pmax			
	comp=Z,10.0nm,0.7s							
SRU	San Rafael Swe	79.10	50	P	P	04 23 37.6	+0.2	
SRU				IAmb	IAmb	04 23 38.8		
	comp=Z,9.7nm,0.7s							
IKP	In-Ko-Pah, Jac	79.22	58	P	P	04 23 38.1	0.0	
	baz=305							
SWSC	Sam W. Stewart	79.26	57	P	P	04 23 38.3	+0.2	
	baz=305							
K22A	Casper	79.33	45	P	P	04 23 38.8	+0.2	
	baz=309							
PDMCI	Parker Dam,Lak	79.60	55	P	P	04 23 40.2	+0.3	
	baz=306							
GLA	Glamis	79.87	57	P	P	04 23 41.6	+0.1	
	baz=306							
O20A	White River Ci	79.88	48	IAmb	IAmb	04 23 42.9		
	comp=Z,11nm,1.2s							
O20A	White River Ci	79.88	48	P	P	04 23 41.3	-0.4	
	baz=308							
PV21	Cone Mtn., Par	80.39	49	IAmb	IAmb	04 23 46.0		
	comp=Z,8.3nm,0.7s							
KWP	Kalwaria Pacla	80.42	326	P	P	04 23 45.0	+0.9	
KWP				pmax	pmax			
	comp=Z,114nm,1.1s							
KWP	Kalwaria Pacla	80.42	326	P	P	04 23 45.0	+0.9	
PV22	Blue Mesa, Par	80.53	49	IAmb	IAmb	04 23 46.7		
	comp=Z,5.5nm,0.9s							
PV04	Paddox Valley	80.54	49	IAmb	IAmb	04 23 47.0		
	comp=Z,12nm,1.0s							
PV16	Nyswonger Mesa	80.58	50	IAmb	IAmb	04 23 47.1		
	comp=Z,8.7nm,0.8s							
BUR08	Bucovina Ar. S	80.61	323	P	P	04 23 45.6	+0.3	
PV03	Paradox Valley	80.66	50	P	P	04 23 45.8	-0.1	
PV03				IAmb	IAmb	04 23 47.5		
	comp=Z,10nm,1.0s							
WUAZ	Wupatki	80.72	53	IAmb	IAmb	04 23 47.8		
	comp=Z,5.7nm,0.9s							
WUAZ	Wupatki	80.72	53	P	P	04 23 46.3	+0.1	
	baz=307							
PV02	Paradox Valley	80.76	50	IAmb	IAmb	04 23 48.6		
	comp=Z,8.7nm,1.0s							
N23A	Red Feather La	80.77	46	P	P	04 23 46.6	+0.1	
	baz=309,SNR=6.6							
PV01	Paradox Valley	80.91	49	IAmb	IAmb	04 23 48.8		
	comp=Z,7.5nm,0.9s							
KOLS	Kolonicke sedl	81.11	325	*e*P	P	04 23 48.6	+0.7	
KOLS				pmax	pmax			
	comp=Z,15nm,1.1s							
KOLS	Kolonicke sedl	81.11	325	*e*P	P	04 23 48.6	+0.7	
AGMN	Agassiz Nation	81.20	36	P	P	04 23 47.1	-1.3	
	baz=315							
BR131	Keskin Array S	81.20	313	IAmb	IAmb	04 23 51.3		
	comp=Z,5.7nm,0.9s							
BRTR	Keskin Array B	81.20	313	P	P	04 23 48.9	+0.2	
	comp=Z,3.0nm,0.9s,baz=94,slow=4.7,SNR=16							
BRTR	Keskin Array B	81.20	313	*ce*P	P	04 23 49.5	+0.8	
BRTR				pmax	pmax			
	comp=Z,3.0nm,0.9s							
MVCO	Mesa Verde	81.52	50	P	P	04 23 50.4	-0.2	
	baz=308							
ISCO	Idaho Springs	81.66	47	P	P	04 23 51.8	+0.5	
	baz=310							
S22A	4UR Ranch, Cre	82.22	49	P	P	04 23 54.2	-0.1	
	baz=309,SNR=8.8							
SUSD	Miller	82.33	40	P	P	04 23 54.0	-0.4	
PPT	Papeete	82.36	119	LR	LR	05 00 09.4		
	comp=Z,17nm,18.6s,baz=20,slow=36							
DPC	Dobruska-Polom	82.71	329	*e*P	P	04 23 57.6	+1.3	
DPC	Dobruska-Polom	82.71	329	*e*P	P	04 23 57.6	+1.3	
VYHS	Vyhne	83.00	327	*e*P	P	04 23 57.1	-0.7	
VYHS	Vyhne	83.00	327	*e*P	P	04 23 57.1	-0.7	
SDCO	Great Sand Dun	83.04	48	IAmb	IAmb	04 24 00.2		
	comp=Z,4.7nm,1.1s							
SDCO	Great Sand Dun	83.04	48	P	P	04 23 58.5	0.0	
	baz=310,SNR=5.4							
TUC	Tucson	83.04	55	P	P	04 23 58.3	-0.1	
	baz=308							
EYMN	Ely	83.48	34	P	P	04 24 00.4	+0.2	
	baz=318							
SMOL	Smolenice	83.61	327	*e*P	P	04 24 02.0	+1.1	
SMOL				pmax	pmax			
	comp=Z,3.0nm,0.6s							
SMOL	Smolenice	83.61	327	*e*P	P	04 24 02.0	+1.1	
T25A	Trinidad	84.09	48	P	P	04 24 03.6	-0.3	
	baz=311,SNR=6.3							
ANMO	Albuquerque	84.23	51	*ce*P	P	04 24 05.5	+0.9	
ANMO				pmax	pmax			
	comp=Z,11nm,1.3s							
ANMO	Albuquerque	84.23	51	P	P	04 24 04.7	+0.1	
ANMO				IAmb	IAmb	04 24 06.7		
	comp=Z,7.7nm,1.0s							
ANMO	Albuquerque	84.23	51	P	P	04 24 04.6	0.0	
	baz=310							
BNM	Barren Site	84.62	52	P	P	04 24 07.1	+0.4	
KHC	Kasperske Hory	84.79	330	*e*P	P	04 24 07.5	+0.6	
KHC	Kasperske Hory	84.79	330	*e*P	P	04 24 07.5	+0.6	
121A	Cookes Peak, D	84.90	53	P	P	04 24 08.0	+0.1	
	baz=309							
GERES	GERESS Array B	84.96	329	P	P	04 24 08.0	+0.1	
	comp=Z,0.8nm,0.6s,baz=38,slow=7.3,SNR=8.1							
GERES	GERESS Array B	84.96	329	P	P	04 24 08.0	+0.1	
VTS	Vitosha	85.11	320	P	P	04 24 09.2	+0.4	
VTS				pmax	pmax			
	comp=Z,5.0nm,0.8s							
VTS	Vitosha	85.11	320	P	P	04 24 09.2	+0.4	
VTS				IAmb	IAmb	04 24 11.2		
	comp=Z,4.8nm,0.8s							
MNTX	Cornudas Mount	87.00	53	P	P	04 24 18.2	0.0	
	baz=310							
AMTX	Amarillo	87.24	48	P	P	04 24 19.4	0.0	
	baz=312							
GLMI	Grayling	88.93	32	P	P	04 24 26.8	-0.3	
	baz=323							
TX31	Lajitas Ar. Si	89.66	54	P	P	04 24 30.6	-0.3	
TX31				IAmb	IAmb	04 24 32.0		
	comp=Z,7.8nm,1.1s							
TX32	Lajitas Array	89.66	54	P	P	04 24 30.9	-0.1	
TXAR	Lajitas Array	89.66	54	P	P	04 24 30.8	-0.1	
	comp=Z,1.7nm,0.8s,baz=296,slow=3.4,SNR=16							
U40A	Yellville	91.33	42	P	P	04 24 37.6	-0.9	
	baz=317							
JCT	Junction City	91.38	51	P	P	04 24 38.4	-0.4	
	baz=313							
WHTX	Lake Whitney,	91.79	48	P	P	04 24 41.3	+0.6	
	baz=314							
MIAR	Mount Ida	92.25	44	P	P	04 24 41.8	-1.0	
MIAR				pmax	pmax			
	comp=Z,10.0nm,1.0s							
MIAR	Mount Ida	92.25	44	P	P	04 24 41.8	-1.0	
MIAR	Mount Ida	92.25	44	P	P	04 24 42.8	+0.1	
	baz=317							
ACSO	Alum Creek Sta	93.32	34	P	P	04 24 47.4	-0.2	
	baz=324							
M53A	WI Miller and	93.36	32	P	P	04 24 47.8	0.0	
	baz=325							
LPAZ	La Paz	145.88	64	PKPbc	PKPdf	04 31 12.7	+0.1	
	comp=Z,5.8nm,0.7s,baz=340,slow=2.0,SNR=42							
LPAZ	La Paz	145.88	64		PKPdf	04 31 12.2	-0.3	
PB11	IPOC Station P	146.84	71	PKPbc	PKPbc	04 31 15.2	-0.2	
SIV	San Ignacio	150.65	55	PKPbc	PKPbc	04 31 24.9	-0.3	
	comp=Z,4.1nm,0.8s,baz=297,slow=2.9,SNR=4.9							
PLCA	Paso Flores	152.74	111	PKPbc	PKiKP	04 31 29.4	0.0	
	comp=Z,2.2nm,0.8s,baz=246,slow=3.4,SNR=4.1							
PLCA	Paso Flores	152.74	111	PKiKP	PKPbc	04 31 28.7	-0.6	
PLCA	Paso Flores	152.74	111		PKPbc	04 31 28.7	-0.6	

IDC 21 04:19:23.1±2.2, 0.17N×127.32E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/31, mbtmp3.9/3, Error ellipse: s-maj=163.7km s-min=27.6km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.14	161	P	P	04 24 10.0	+0.2
	2.4nm,0.5s,baz=340,slow=12,SNR=20						
ASAR	Alice Springs	24.54	165	P	P	04 24 44.5	-0.1
	2.3nm,0.8s,baz=346,slow=12,SNR=13						
MKAR	Makanchi Array	60.81	326	P	P	04 29 37.1	-0.1
	0.4nm,0.5s,baz=124,slow=7.8,SNR=3.6						

IDC 21 04:19:28.6±5.8, 33.16S×178.94E, h652km±100km, mb3.1/2, mb1 3.5/3, mb1mx2.9/25, mbtmp4.3/3, Error ellipse: s-maj=192.8km s-min=37.1km az=4.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	5.30	196	P	P	04 21 06.7	-0.1
	3.6nm,0.3s,baz=160,slow=17,SNR=9.5						
ASAR	Alice Springs	40.46	272	P	P	04 26 14.0	+0.2
	2.9nm,0.9s,baz=113,slow=7.4,SNR=20						
WRA	Warramunga Arr	41.71	277	P	P	04 26 23.6	-0.1
	3.0nm,0.5s,baz=118,slow=7.6,SNR=26						
FINES	FINESS Array B	146.74	336	PKPbc	PKPbc	04 37 57.9	-0.6
	1.9nm,0.6s,baz=42,slow=4.5,SNR=8.1						

TEH 21 04:20:14.3,29.59N×51.98E,h5km,ML3.2
THR 21 04:20:15.3±0.6,29.59N×51.99E,h18km±6km,ML3.3
IDC 21 04:20:17.1±7.3,29.91N×51.36E,h0km,mb3.6/4, mb1 3.6/4,mb1mx3.4/34,mbtmp3.6/4, Error ellipse: s-maj=169.9km s-min=33.7km az=124.0

ISC 21 04:20:15.0±0.7, 29.62N±0.04×52.01E±0.03, h10km, n37, σ2.906/40, mb3.8/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAZ1	Kazerun	0.32	271	*e*Pg	Pg	04 20 20.2	-1.3
KAZ1				*e*Sg	Sg	04 20 25.6	-0.2
KAZ1				*e*		04 20 33.4	
	comp=Z,81μm,0.6s						
SHI	Shiraz	0.44	87	*e*Pg	Pg	04 20 23.3	-0.4
SHI				*e*		04 20 34.7	
	comp=Z,58μm,0.5s						
AHBU	AHRAM	0.98	220	*e*Pn	Pb	04 20 33.1	-1.0
KLNJ	Kolanjah	1.43	345	*e*Pn	Pb	04 20 41.5	-0.5
KLNJ				*e*		04 21 15.8	
	comp=Z,7μm,0.5s						
QIR1	Qir	1.46	141	*e*Pn	Pg	04 20 41.8	-1.2
JHRM	Jahrom	1.77	129	*e*Pg	Pg	04 20 49.9	+1.0
ABEH	Behbahan	1.81	303	*e*Pn	Pg	04 20 48.3	-1.4
IRAM	Ramesheh	2.21	8	*e*Pn	Pb	04 20 54.7	-0.5
IRAM				*e*		04 21 34.8	
	comp=Z,1μm,0.6s						
ISAD	Sadrabad	2.70	32	*e*		04 21 04.3	
	comp=Z,562nm,0.4s						
ISAD				*e*Pn	Pb	04 21 02.7	-1.0
IGAR	Gharneh	2.77	1	*e*Pn	Pn	04 21 01.9	+2.1
IMEH	Mehriz	2.86	51	*e*Pn	Pb	04 21 04.7	-1.6
IMEH				*e*		04 22 05.1	
	comp=Z,736nm,0.9s						
IPIR	Pirpir	3.20	343	*e*Pn	Pn	04 21 07.8	+2.1
IPIR				*e*		04 22 10.1	
	comp=Z,517nm,0.5s						
NASN	Na'in	3.24	12	*e*Pn	Pn	04 21 07.8	+1.5
NASN	Na'in	3.24	12	*e*Pn	Pn	04 21 07.8	+1.5
IZEF	Zefreh	3.28	5	*e*Pn	Pn	04 21 09.1	+2.4
ICHK	Chekchek	3.33	38	*e*Pn	Pb	04 21 11.2	-3.1
ICHK				*e*		04 21 35.0	
	comp=Z,433nm,0.6s						
YZKH	Yazd	3.54	38	*e*Pn	Pn	04 21 12.7	+2.5
YZKH	Yazd	3.54	38	*e*Pn	Pn	04 21 12.7	+2.5
QRN	Al-Qurain	3.68	257	*e*P	Pn	04 21 13.2	+1.2
QRN				*e*S	Sn	04 21 57.4	+1.9
IKLH	Kolahrood	3.71	354	*e*Pn	Pn	04 21 14.7	+2.1
IKLH				*e*		04 21 31.3	
	comp=Z,437nm,0.4s						
ANAR	Anarak	3.85	22	*e*Pn	Pn	04 21 16.9	+2.4
KHGB	Koh Gabri	3.95	78	*e*Pn	Pn	04 21 18.8	+2.9
KHGB				*e*		04 21 35.6	
	comp=Z,445nm,0.5s						
NGRK	Negar Kerman	4.11	89	*e*Pn	Pn	04 21 21.4	+3.1
NGRK				*e*		04 22 36.8	
	comp=Z,440nm,0.8s						
QAMS	Qamsar	4.14	353	*e*Pn	Pn	04 21 21.4	+2.9
QAMS				*e*		04 22 19.5	
	comp=Z,380nm,0.4s						
KRBR	Kerman	4.14	84	*e*Pn	Pn	04 21 20.6	+1.9
KRBR				*e*Sg	Sg	04 22 24.8	-3.5
KRBR				IAML		04 22 40.4	
	comp=E,25nm,0.8s						
KRBR				IAML		04 22 42.9	
	comp=N,29nm,0.8s						
TVBK	TV Kerman	4.14	84	*e*Pn	Pn	04 21 21.8	+3.1
BNDS	Bandar-Abbas	4.28	120	*e*Pn	Pn	04 21 21.7	+1.3
BNDS	Bandar-Abbas	4.28	120	*e*Pn	Pn	04 21 21.7	+1.3
KRSH	Karshahi	4.34	1	*e*Pn	Pn	04 21 23.2	+2.0
ISFB	Sefidab	4.72	2	*e*Pn	Pn	04 21 28.8	+2.4
IQOM	Qom	5.27	352	*e*Pn	Pn	04 21 36.2	+2.1
IVRN	Varamin	5.37	358	*e*Pn	Pn	04 21 37.7	+2.5
TKDS	Koohdasht(Taba	5.90	46	*e*Pn	Pn	04 21 45.4	+2.7
AKTO	Aktyubinsk	21.28	11	P	P	04 25 02.7	+1.2
	comp=N,1.3nm,0.6s,baz=186,slow=11,SNR=3.7						
FINES	FINESS Array B	36.15	339	P	P	04 27 17.9	+0.7
	comp=N,2.9nm,1.1s,baz=134,slow=11,SNR=5.1						
NOA	NORSAR Array B	41.38	331	P	P	04 27 59.1	-2.0
	comp=N,0.2nm,0.5s,baz=126,slow=8.7,SNR=2.0						
TORD	Torodi Ar. Bea	49.25	262	P	P	04 29 03.8	-0.4

ROCH				*i* S		**Sn**	**04 43 54.0**	**-1.0**	**-1.1**
ROCH				IAML			04 44 09.9		
	comp=N,2μm,0.3s								
VA03	**San Esteban**	**2.22**	**144**	*e*P		**Pn**	**04 43 28.8**	**+1.3**	
VA03				*i* S		**Sb**	**04 43 57.4**	**-1.0**	
VA03				IAML			04 44 02.9		
	comp=E,2μm,0.6s								
VA03	**San Esteban**	**2.22**	**144**	*i* P		**Pn**	**04 43 29.0**	**+1.6**	
LCO	**Las Campanas**	**2.29**	**32**⇑	*e*P		**Pn**	**04 43 28.2**	**-0.4**	
LCO				*e*S		**Sn**	**04 43 57.4**	**-0.1**	
LCO	**Las Campanas**	**2.29**	**32**	*i* P		**Pn**	**04 43 30.0**	**+1.3**	
AROD	**Rodeo**	**2.40**	**71**	*i* P		**Pb**	**04 43 33.0**	**-0.7**	
RTLS	**Leoncito**	**2.53**	**110**	*i* P		**Pb**	**04 43 35.0**	**-0.9**	
AUSP	**Uspallata**	**2.62**	**119**	*i* P		**Pb**	**04 43 37.0**	**-0.5**	
ACCO	**Cerro Coronel**	**2.63**	**82**	*i* P		**Pb**	**04 43 36.0**	**-1.7**	
ACDV	**Cuesta del Vie**	**2.68**	**73**	*i* P		**Pb**	**04 43 39.0**	**+0.5**	
VA05	**Santo Domingo**	**2.71**	**172**⇑	*e*P		**Pn**	**04 43 34.1**	**0.0**	
VA05				*e*S		**Sn**	**04 44 06.3**	**-1.0**	
VA05				IAML			04 44 26.7		
	comp=E,954nm,0.2s								
ZON	**Zonda**	**2.98**	**102**	*i* P		**Pb**	**04 43 43.0**	**-0.4**	
RTCV	**Cerro Valdivia**	**3.16**	**107**	*i* P		**Pb**	**04 43 44.0**	**-2.6**	
ASAL	**Salagasta**	**3.21**	**121**	*i* P		**Pb**	**04 43 46.0**	**-1.4**	
ARCO	**CERRO ARCO**	**3.27**	**126**	*i* P		**Pb**	**04 43 47.0**	**-1.5**	
LMEL	**Las Melosas**	**3.28**	**151**⇑	*e*P		**Pn**	**04 43 43.9**	**+1.7**	
LMEL				*e*S		**Sn**	**04 44 22.8**	**+1.1**	
LMEL				IAML			04 44 41.7		
	comp=N,490nm,0.3s								
AGUA	**GUANDACOL**	**3.45**	**66**	*i* P		**Pb**	**04 43 49.0**	**-2.5**	
AAGR	**Agrelo**	**3.48**	**128**	*i* P		**Pb**	**04 43 49.0**	**-3.1**	
BO01	**Tunca**	**3.52**	**166**	*i* P		**Pn**	**04 43 46.0**	**+0.8**	
BO02	**Sierra Bellavi**	**3.97**	**164**	*i* P		**Pn**	**04 43 53.0**	**+1.5**	
GO05	**Huala**	**4.03**	**178**	*i* P		**Pn**	**04 43 52.0**	**-0.3**	
VCA	**Vinchina**	**4.04**	**58**	*i* P		**Pb**	**04 43 58.0**	**-3.7**	
RFA	**San Rafael**	**4.86**	**142**	*i* P		**Pn**	**04 44 07.0**	**+3.2**	
AC02	**Maricunga**	**4.87**	**33**	*i* P		**Pn**	**04 44 07.0**	**+2.7**	
CYA	**Choya**	**6.02**	**67**	*i* P		**Pn**	**04 44 22.0**	**+2.3**	
H03N1	**Juan Fernandez**	**6.28**	**245**	T		T	04 51 00.1		
	baz=75,slow=72,SNR=584								
H03N3	**Juan Fernandez**	**6.30**	**245**	T		T	04 50 58.6		
	baz=75,slow=72,SNR=584								
H03N2	**Juan Fernandez**	**6.30**	**245**	T		T	04 51 00.1		
	baz=75,slow=72,SNR=592								
FSA	**Cafayete**	**7.23**	**49**	*i* P		**Pn**	**04 44 40.0**	**+3.5**	
LC01	**Cunco**	**7.91**	**179**	*i* P		**Pn**	**04 44 47.0**	**+1.4**	
PLCA	**Paso Flores**	**9.82**	**173**	Pn		**Pn**	**04 45 12.8**	**+0.9**	
	comp=N,0.3nm,0.3s,baz=330,slow=14,SNR=5.3								
LPAZ	**La Paz**	**15.06**	**15**	Pn		**Pn**	**04 46 26.0**	**+2.0**	
	comp=N,0.1nm,0.3s,baz=200,slow=9.0,SNR=5.1								
SIV	**San Ignacio**	**17.99**	**37**	P		**P**	**04 47 01.4**	**0.0**	
	comp=N,0.1nm,0.3s,baz=217,slow=8.1,SNR=8.9								
SIV				LR		LR	04 55 10.0		
	comp=N,66nm,19.1s,baz=137,slow=41								
QSPA	**South Pole Qui**	**59.26**	**180**	LR		LR	05 16 29.7		
	comp=N,35nm,20.8s,baz=314,slow=34								
TXAR	**Lajitas Array**	**67.08**	**330**	P		**P**	**04 53 45.4**	**+0.9**	
	comp=N,0.2nm,0.5s,baz=147,slow=9.1,SNR=4.7								
TORD	**Torodi Ar. Bea**	**83.23**	**70**	P		**P**	**04 55 17.3**	**-0.6**	
	comp=N,0.4nm,0.7s,baz=258,slow=5.4,SNR=3.1								

IDC 21 04:43:53.8±5.8, 11°17S×12°66W, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.6/32, mbtmp3.9/5, MS3.2/5, Ms1 3.1/5, ms1mx2.9/35, Error ellipse: s-maj=237.8km s-min=108.4km az=124.0, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**2.94**	**318**	T	T	04 47 22.7	
	baz=80,slow=74,SNR=174						
H10S3	**ASCENSION HYDR**	**2.96**	**318**	T	T	04 46 52.7	
	baz=140,slow=74,SNR=182						
DBIC	**Dimbokro**	**19.35**	**24**	LR	LR	04 54 16.1	
	comp=Z,28nm,18.1s,baz=208,slow=32						
KOWA	**Kowa**	**26.90**	**19**	P	P	04 49 36.8	+0.1
	2.3nm,0.6s,baz=190,slow=7.3,SNR=7.0						
KOWA				LR	LR	04 58 58.9	
	comp=Z,61nm,18.1s,baz=324,slow=34						
TORD	**Torodi Ar. Bea**	**28.05**	**31**	P	P	04 49 47.2	+0.2
	1.5nm,0.8s,baz=220,slow=8.8,SNR=6.6						
TORD				LR	LR	04 59 57.0	
	comp=Z,52nm,18.1s,baz=175,slow=34						
BOSA	**Boshof**	**39.43**	**122**	LR	LR	05 05 47.4	
	comp=Z,32nm,20.4s,baz=4.0,slow=33						
GERES	**GERESS Array B**	**64.13**	**19**	P	P	04 54 29.5	-0.5
	0.1nm,0.3s,baz=190,slow=3.9,SNR=4.2						
BRTR	**Keskin Array B**	**66.40**	**37**	LR	LR	05 23 55.8	
	comp=Z,20nm,20.6s,baz=216,slow=36						
AKASG	**Malin Array Be**	**71.58**	**27**	P	P	04 55 16.5	-0.3
	0.6nm,0.4s,baz=223,slow=6.9,SNR=3.5						
FINES	**FINESS Array B**	**78.52**	**18**	P	P	04 55 57.3	+0.6
	1.6nm,0.8s,baz=253,slow=2.3,SNR=4.0						

MEX 21 04:55:25.7±1.1, 19°26N×103°76W, h13km±3km, MD3.7, Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COIG	**Colima**	**0.10**	**140**	*e*P	Pg	04 55 27.5	-1.3
COIG				*i* S	Sg	04 55 30.2	-0.8
R15V		**0.23**	**248**	*e*P	Pg	04 55 30.4	-0.3
R15V				*e*S	Sb	04 55 35.0	-0.8
EZ5V		**0.27**	**33**	*e*P	Pg	04 55 30.7	-0.8
MMIG	**Aquila**	**1.04**	**158**	*i* P	Pb	04 55 42.3	-3.3
MMIG				*i* S	Sb	04 55 55.5	-3.6

IDC 21 05:07:32.7±1.1, 33°01S×71°92W, h0km, mb4.0/6, mb1 4.0/9, mb1mx3.9/28, mbtmp3.9/9, ML3.8/3, MS2.8/2, Ms1 2.8/2, ms1mx2.6/22, Error ellipse: s-maj=39.0km s-min=21.7km az=101.0

NEIC 21 05:07:34.8, 33°04S×72°06W, h32km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.21; $M_{\theta\theta}$0.02; $M_{\phi\phi}$-0.23; $M_{r\theta}$0.39; $M_{\theta\phi}$-0.56; $M_{\phi r}$-1.04; Fault plane solution: M_{θ}1.27000×10^{15} NP1:ϕ_s71.94000°, δ28.30000°, λ170.66000°. NP2:ϕ_s170.18000°, δ85.59000°, λ62.02000°. Principal axes: T 1.3781, Plg43.0000°, Azm53.0000°; N -0.2667, Plg28.0000°, Azm173.0000°; P -1.1114, Plg35.0000°, Azm284.0000°;

SJA 21 05:07:34.0, 33°13S×72°32W, h10km, ML4.5

NEIC 21 05:07:35.2±1.5, 33°05S±0°04×72°06W±0°07, h17km±4km, mb4.2/10, Mwr4.0/25, Error ellipse: s-maj=9.2km s-min=4.6km az=66.0

GUC 21 05:07:35.5±0.7, 33°06S×72°10W, h24km±6km, ML4.1

ISC 21 05:07:33.0±2.1, 33°05S±0°03×72°17W±0°05, h8km±13km, n89, σ1°18/95, mb4.2/7, 7C-6D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.44**	**87**⇓	*e*P	**Pb**	**05 07 43.3**	**+0.2**
VA01				*i* S	**Sb**	**05 07 49.1**	**-0.7**
VA01	**Torpederas**	**0.44**	**87**		**Pb**	**05 07 43.4**	**+0.2**
VA01	**Torpederas**	**0.44**	**87**	*i* P	**Pb**	**05 07 43.0**	**-0.1**
VA05	**Santo Domingo**	**0.76**	**143**⇓	*e*P	**Pb**	**05 07 48.8**	**+0.2**
VA05				*i* S	**Sb**	**05 07 58.9**	**-0.3**
VA05				IAML		05 08 00.6	
	comp=N,16μm,0.2s						
VA05	**Santo Domingo**	**0.76**	**143**		**Pb**	**05 07 48.8**	**+0.2**
VA06	**Catapilco**	**0.88**	**57**⇓	*e*P	**Pb**	**05 07 51.0**	**+0.4**
VA06				*i* S	**Sg**	**05 08 02.1**	**+0.6**
VA06				IAML		05 08 06.2	
	comp=N,21μm,0.4s						
ROCH	**El Roble**	**0.98**	**86**⇓	*e*P	**Pb**	**05 07 52.2**	**-0.2**
ROCH				*e*S	**Sg**	**05 08 04.4**	**-0.2**
ROCH				IAML		05 08 05.8	
	comp=N,6μm,0.2s						
MT01	**Popeta**	**1.12**	**137**⇓	*i*P	**Pb**	**05 07 54.4**	**-0.2**
MT01				*i* S	**Sb**	**05 08 08.5**	**-0.9**
MT01				IAML		05 08 09.7	
	comp=N,8μm,0.2s						
MT01	**Popeta**	**1.12**	**137**	Pn	**Pb**	**05 07 54.5**	**-0.2**
MT01	**Popeta**	**1.12**	**137**	*i* P	**Pb**	**05 07 54.0**	**-0.7**
MT09	**Talagante**	**1.23**	**126**⇓	*i*P	**Pn**	**05 07 56.2**	**-0.5**
MT09				*i* S	**Sb**	**05 08 11.6**	**-1.1**
MT09				IAML		05 08 12.7	
	comp=N,7μm,0.3s						
MT09	**Talagante**	**1.23**	**126**		**Pn**	**05 07 56.2**	**-0.5**
MT05	**Renca**	**1.25**	**106**⇑	*i*P	**Pn**	**05 07 56.7**	**-0.2**
MT05				*i* S	**Sb**	**05 08 12.3**	**-0.9**
MT05				IAML		05 08 15.6	
	comp=E,8μm,0.3s						
MT05	**Renca**	**1.25**	**106**	Pn	**Pn**	**05 07 56.6**	**-0.2**
MT05	**Renca**	**1.25**	**106**	*i* P	**Pn**	**05 07 56.0**	**-0.9**
VA03	**San Esteban**	**1.39**	**79**⇑	*i*P	**Pn**	**05 07 58.8**	**-0.1**
VA03				*i* S	**Sn**	**05 08 16.4**	**-1.2**
VA03				IAML		05 08 20.8	
	comp=N,5μm,0.5s						
VA03	**San Esteban**	**1.39**	**79**		**Pn**	**05 07 58.7**	**-0.3**
BO03	**Pichilemu**	**1.45**	**173**⇓	*e*P	**Pn**	**05 07 59.5**	**-0.1**
BO03				*e*S	**Sn**	**05 08 15.7**	**-3.2**
BO01	**Tunca**	**1.62**	**146**		**Pn**	**05 08 01.6**	**-0.3**
BO01	**Tunca**	**1.62**	**146**	*i* P	**Pn**	**05 08 01.0**	**-0.9**
LMEL	**Las Melosas**	**1.83**	**116**⇑	*i*P	**Pn**	**05 08 06.0**	**-0.9**
LMEL				*i* S	**Sb**	**05 08 29.1**	**-0.9**
LMEL				IAML		05 08 34.4	
	comp=N,5μm,0.3s						
GO05	**Huala**	**1.96**	**174**⇑	*e*P	**Pn**	**05 08 06.5**	**-0.3**
GO05				*i* S	**Sb**	**05 08 33.7**	**-0.1**
GO05	**Huala**	**1.96**	**174**		**Pn**	**05 08 07.0**	**+0.3**
GO05	**Huala**	**1.96**	**174**	*i* P	**Pn**	**05 08 06.0**	**-0.7**
BO02	**Sierra Bellavi**	**2.09**	**147**⇑	*e*P	**Pn**	**05 08 09.0**	**+0.5**
BO02				*e*S	**Sn**	**05 08 34.2**	**-0.5**
BO02				IAML		05 08 44.9	
	comp=N,2μm,0.4s						
BO02	**Sierra Bellavi**	**2.09**	**147**		**Pn**	**05 08 09.0**	**+0.5**
BO02	**Sierra Bellavi**	**2.09**	**147**	*i* P	**Pn**	**05 08 09.0**	**+0.5**
CO06	**Fray Jorge**	**2.41**	**11**		**Pn**	**05 08 12.8**	**-0.1**
AUSP	**Uspallata**	**2.49**	**71**	*i* P	**Pb**	**05 08 17.0**	**-1.2**
CO03	**El Pedregal**	**2.54**	**30**⇑	*e*P	**Pn**	**05 08 15.5**	**+0.7**
CO03				*e*S	**Sn**	**05 08 46.3**	**+0.4**
CO03				IAML		05 08 56.2	
	comp=E,980nm,0.4s						
CO03	**El Pedregal**	**2.54**	**30**	Pn	**Pn**	**05 08 15.4**	**+0.7**
ARCO	**CERRO ARCO**	**2.73**	**87**	*i* P	**Pb**	**05 08 21.0**	**-1.3**
RTLS	**Leoncito**	**2.73**	**64**	*i* P	**Pn**	**05 08 20.0**	**+2.5**
ML02	**Panimavida**	**2.78**	**167**	Pn	**Pn**	**05 08 18.3**	**+0.5**
AAGR	**Agrelo**	**2.81**	**92**	*i* P	**Pb**	**05 08 22.0**	**-1.5**
ASAL	**Salagasta**	**2.85**	**82**	*i* P	**Pb**	**05 08 22.0**	**-2.2**
COIS	**El Sosneado**	**2.96**	**135**	*i* P	**Pn**	**05 08 23.0**	**+2.5**
GO04	**Tololo Observa**	**3.10**	**23**		**Pn**	**05 08 23.0**	**+0.5**
CO05	**La Serena**	**3.22**	**15**		**Pn**	**05 08 24.4**	**+0.4**
RTCV	**Cerro Valdivia**	**3.29**	**70**	*i* P	**Pn**	**05 08 28.0**	**+3.0**
ZON	**Zonda**	**3.32**	**64**	*i* P	**Pb**	**05 08 30.0**	**-2.2**
RFA	**San Rafael**	**3.53**	**120**	*i* P	**Pn**	**05 08 30.0**	**+1.7**
ACCO	**Cerro Coronel**	**3.61**	**48**	*i* P	**Pn**	**05 08 33.0**	**+3.4**
LCO	**Las Campanas**	**4.22**	**18**	Pn	**Pn**	**05 08 38.6**	**+0.6**
AVFE	**Valle Fertil**	**4.67**	**61**	*i* P	**Pn**	**05 08 47.0**	**+3.1**
AGUA	**GUANDACOL**	**4.75**	**43**	*i* P	**Pn**	**05 08 48.0**	**+2.9**
AC04	**Llanos de Chal**	**4.92**	**11**		**Pn**	**05 08 46.8**	**-0.6**
VCA	**Vinchina**	**5.49**	**39**	*i* P	**Pn**	**05 08 57.0**	**+1.7**
VA04	**Juan Fernndez**	**5.60**	**262**	Pn	**Pn**	**05 08 58.2**	**+1.5**
H03N1	**Juan Fernandez**	**5.66**	**264**	T	T	05 15 57.2	
	baz=87,slow=73,SNR=239						
H03N3	**Juan Fernandez**	**5.67**	**264**	T	T	05 16 00.9	
	baz=87,slow=73,SNR=243						
H03N2	**Juan Fernandez**	**5.68**	**264**	T	T	05 16 02.2	
	baz=87,slow=73,SNR=211						
H03S1	**Juan Fernandez**	**5.68**	**260**	T	T	05 15 12.8	
	baz=85,slow=75,SNR=935						
H03S3	**Juan Fernandez**	**5.69**	**260**	T	T	05 15 18.7	
	baz=85,slow=75,SNR=880						
GO03	**Copiap**	**5.69**	**18**	Pn	**Pn**	**05 08 58.0**	**0.0**
GO03	**Copiap**	**5.69**	**18**	*i* P	**Pn**	**05 09 00.0**	**+2.0**
H03S2	**Juan Fernandez**	**5.70**	**260**	T	T	05 15 14.4	
	baz=85,slow=75,SNR=912						
LC01	**Cunco**	**5.84**	**178**	Pn	**Pn**	**05 08 59.9**	**-0.1**
LC01	**Cunco**	**5.84**	**178**	*i* P	**Pn**	**05 09 00.0**	**+0.0**
AC06	**Mina Casimiro**	**5.89**	**16**	Pn	**Pn**	**05 08 59.8**	**-0.9**
AC02	**Maricunga**	**6.73**	**24**	Pn	**Pn**	**05 09 12.4**	**-0.3**
AC02	**Maricunga**	**6.73**	**24**	*i* P	**Pn**	**05 09 13.0**	**+0.3**
PLCA	**Paso Flores**	**7.78**	**171**	Pn	**Pn**	**05 09 27.7**	**+1.1**
	comp=E,0.6nm,0.3s,baz=334,slow=11,SNR=9.0						
PLCA				LR	LR	05 12 13.5	
	comp=E,40nm,21.2s,baz=348,slow=36						
PLCA	**Paso Flores**	**7.78**	**171**	*i* P	**Pn**	**05 09 28.0**	**+1.4**
LL04	**Puerto Octay**	**7.85**	**181**	Pn	**Pn**	**05 09 28.5**	**+1.0**
LL05	**Los Muermos**	**8.40**	**187**	Pn	**Pn**	**05 09 36.8**	**+1.6**
TRQA	**Tornquist**	**9.69**	**124**	Pn	**Pn**	**05 09 54.0**	**+1.2**
PB07	**IPOC Station P**	**11.46**	**11**	Pn	**Pn**	**05 10 17.2**	**-0.1**
TA01	**Diego Aracena**	**12.56**	**9**	Pn	**Pn**	**05 10 33.1**	**+0.9**
TA02	**Huaiquique**	**12.86**	**9**	Pn	**Pn**	**05 10 36.5**	**+0.3**
PB11	**IPOC Station P**	**13.43**	**10**	Pn	**Pn**	**05 10 45.2**	**+1.1**
PSGCX	**Pisagua**	**13.52**	**8**	Pn	**Pn**	**05 10 44.7**	**-0.7**
CPUP	**Villa Florida**	**14.53**	**66**	LR	LR	05 16 47.0	
	comp=E,71nm,19.1s,baz=218,slow=39						
CPUP	**Villa Florida**	**14.53**	**66**	Pn	**Pn**	**05 10 59.0**	**0.0**
LPAZ	**La Paz**	**17.09**	**13**	P	**Pn**	**05 11 33.9**	**+1.0**
	comp=E,0.1nm,0.3s,baz=190,slow=6.6,SNR=13						
LPAZ	**La Paz**	**17.09**	**13**	P	**Pn**	**05 11 34.2**	**+1.3**
SIV	**San Ignacio**	**19.73**	**33**	P	**P**	**05 12 02.7**	**-0.7**
	comp=E,0.1nm,0.3s,baz=225,slow=11,SNR=10						
SAML	**Samuel**	**25.38**	**21**	P	**P**	**05 12 60.0**	**-1.0**
SAML				IAmb	IAmb	05 13 03.5	
	comp=Z,3.5nm,0.8s						
BDFB	**Brasilia**	**27.91**	**57**	P	**P**	**05 13 23.1**	**-0.8**
	comp=Z,1.5nm,0.5s,baz=215,slow=5.6,SNR=6.1						
BDFB	**Brasilia**	**27.91**	**57**	P	**P**	**05 13 22.9**	**-1.0**
BDFB				IAmb	IAmb	05 13 28.3	
	comp=Z,7.3nm,1.2s						
QSPA	**South Pole Qui**	**57.18**	**180**	P	**P**	**05 17 21.7**	**+1.4**
	comp=Z,2.0nm,0.9s,baz=152,slow=1.6,SNR=8.4						
QSPA	**South Pole Qui**	**57.18**	**180**	P	**P**	**05 17 21.6**	**+1.2**
QSPA				IAmb	IAmb	05 17 43.5	
	comp=Z,5.5nm,1.4s						
TXAR	**Lajitas Array**	**68.85**	**331**	P	**P**	**05 18 39.5**	**+1.3**
	comp=Z,0.2nm,0.7s,baz=164,slow=6.5,SNR=3.5						
TXAR	**Lajitas Array**	**68.85**	**331**	P	**P**	**05 18 39.1**	**+0.8**
DBIC	**Dimbokro**	**74.98**	**72**	P	**P**	**05 19 15.1**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=192,slow=8.0,SNR=3.8						
BOSA	**Boshof**	**80.61**	**118**	P	**P**	**05 19 46.8**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=195,slow=2.6,SNR=3.2						
TORD	**Torodi Ar. Bea**	**83.99**	**70**	P	**P**	**05 20 04.0**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=258,slow=4.8,SNR=9.8						
TORD	**Torodi Ar. Bea**	**83.99**	**70**	P	**P**	**05 20 04.0**	**-0.3**
TORD				IAmb	IAmb	05 20 05.4	
	comp=Z,1.5nm,0.9s						
ZALV	**Zalesovo Beam**	**153.48**	**31**	PKPbc	**PKiKP**	**05 27 31.9**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=243,slow=1.3,SNR=4.0						

SJA 21 05:30:22.0, 32°45S×72°66W, h10km, ML4.6

IDC 21 05:30:22.9±1.2, 32°37S×72°12W, h0km, mb4.0/3, mb1 4.2/6, mb1mx3.9/27, mbtmp4.0/6, ML4.0/3, MS3.1/1, Ms1 3.1/1, ms1mx2.8/23, Error ellipse: s-maj=38.6km s-min=28.8km az=107.0

NEIC 21 05:30:24.7±2.6, 32°42S±0°04×72°38W±0°05, h29km±7km, mb4.2/8, ML4.2(GUC), Error ellipse: s-maj=7.6km s-min=2.9km az=54.0

GUC 21 05:30:25.1±0.8, 32°45S×72°28W, h35km±3km, ML4.2

ISC 21 05:30:21.1±1.7, 32°35S±0°04×72°39W±0°06, h3km±10km, n95, σ1°61/100, mb4.3/4, 6C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.92**	**137**⇓	*i*P	**Pg**	**05 30 40.0**	**+1.2**
VA01				*e*S	**Sg**	**05 30 50.6**	**-0.1**
VA01	**Torpederas**	**0.92**	**137**		**Pg**	**05 30 39.9**	**+1.2**
VA01				Sn	**Sg**	**05 30 51.5**	**+0.8**
VA01	**Torpederas**	**0.92**	**137**	*i* P	**Pg**	**05 30 40.0**	**+1.2**
VA06	**Catapilco**	**0.95**	**103**⇓	*i*P	**Pg**	**05 30 39.9**	**+0.6**
VA06				*i* S	**Sg**	**05 30 51.9**	**+0.2**
VA06				IAML		05 30 54.1	
	comp=E,21μm,0.4s						
ROCH	**El Roble**	**1.32**	**118**	*e*P	**Pg**	**05 30 46.3**	**-0.2**
ROCH				*i* S	**Sg**	**05 31 01.9**	**-1.7**
ROCH				IAML		05 31 06.3	
	comp=N,10μm,0.3s						
VA05	**Santo Domingo**	**1.46**	**154**⇑	*i*P	**Pn**	**05 30 48.4**	**+0.1**
VA05				*i* S	**Sb**	**05 31 05.2**	**-2.7**
VA05	**Santo Domingo**	**1.46**	**154**		**Pn**	**05 30 48.4**	**+0.1**
VA05				Sn	**Sb**	**05 31 06.0**	**-1.8**
VA03	**San Esteban**	**1.61**	**105**⇑	*i*P	**Pn**	**05 30 50.2**	**-0.3**
VA03				*i* S	**Sn**	**05 31 09.4**	**-2.4**
VA03				IAML		05 31 13.8	
	comp=N,8μm,0.5s						
VA03	**San Esteban**	**1.61**	**105**		**Pn**	**05 30 50.2**	**-0.3**
VA03				Sn	**Sn**	**05 31 10.4**	**-1.4**
VA03	**San Esteban**	**1.61**	**105**	*i* P	**Pn**	**05 30 50.0**	**-0.5**
MT05	**Renca**	**1.74**	**127**⇑	*i*P	**Pn**	**05 30 52.8**	**+0.6**
MT05				*i* S	**Sn**	**05 31 13.4**	**-1.5**
MT05				IAML		05 31 18.6	
	comp=E,7μm,0.3s						
MT05	**Renca**	**1.74**	**127**		**Pn**	**05 30 52.8**	**+0.6**
MT05	**Renca**	**1.74**	**127**	*i* P	**Pn**	**05 30 53.0**	**+0.8**
CO06	**Fray Jorge**	**1.79**	**21**		**Pn**	**05 30 53.5**	**+0.6**
MT01	**Popeta**	**1.79**	**148**⇑	*i*P	**Pn**	**05 30 52.9**	**+0.1**
MT01				*i* S	**Sn**	**05 31 14.6**	**-1.5**
MT01				IAML		05 31 22.8	
	comp=E,3μm,0.2s						
MT01	**Popeta**	**1.79**	**148**	Pn	**Pn**	**05 30 52.9**	**+0.1**
MT01	**Popeta**	**1.79**	**148**	*i* P	**Pn**	**05 30 53.0**	**+0.1**
MT09	**Talagante**	**1.85**	**141**⇑	*i*P	**Pn**	**05 30 54.2**	**+0.4**
MT09				*i* S	**Sn**	**05 31 15.5**	**-2.3**
MT09				IAML		05 31 27.1	
	comp=N,4μm,0.3s						
MT09	**Talagante**	**1.85**	**141**		**Pn**	**05 30 54.4**	**+0.6**
FSR	**Penalolen**	**1.93**	**126**	*e*P	**Pn**	**05 30 56.8**	**+1.9**
FSR				*i* S	**Sn**	**05 31 19.9**	**+0.2**
CO03	**El Pedregal**	**2.09**	**44**	Pn	**Pn**	**05 30 58.2**	**+1.1**
BO01	**Tunca**	**2.31**	**152**⇑	*i*P	**Pn**	**05 31 00.4**	**+0.3**
BO01	**Tunca**	**2.31**	**152**		**Pn**	**05 31 00.4**	**+0.3**
BO01	**Tunca**	**2.31**	**152**	*i* P	**Pn**	**05 31 00.0**	**-0.1**
LMEL	**Las Melosas**	**2.37**	**130**	*e*P	**Pn**	**05 31 01.9**	**+0.9**
LMEL				*i* S	**Sn**	**05 31 29.6**	**-1.1**
LMEL				IAML		05 31 40.8	
	comp=N,2μm,0.3s						
AUSP	**Uspallata**	**2.55**	**88**	*i* P	**Pn**	**05 31 06.0**	**+2.4**
GO04	**Tololo Observa**	**2.56**	**33**		**Pn**	**05 31 04.8**	**+1.0**
CO05	**La Serena**	**2.62**	**23**		**Pn**	**05 31 05.7**	**+1.4**
GO05	**Huala**	**2.68**	**172**	Pn	**Pn**	**05 31 05.6**	**+0.4**
GO05	**Huala**	**2.68**	**172**	*i* P	**Pn**	**05 31 06.0**	**+0.8**
RTLS	**Leoncito**	**2.69**	**79**	*i* P	**Pb**	**05 31 09.0**	**-1.0**
BO02	**Sierra Bellavi**	**2.78**	**152**	Pn	**Pn**	**05 31 07.7**	**+1.1**
BO02	**Sierra Bellavi**	**2.78**	**152**	*i* P	**Pn**	**05 31 08.0**	**+1.4**
ARCO	**CERRO ARCO**	**2.96**	**100**	*i* P	**Pb**	**05 31 14.0**	**-0.6**
ASAL	**Salagasta**	**3.02**	**96**	*i* P	**Pb**	**05 31 14.0**	**-1.5**
AAGR	**Agrelo**	**3.09**	**105**	*i* P	**Pb**	**05 31 16.0**	**-0.8**
ZON	**Zonda**	**3.26**	**77**		**Pn**	**05 31 16.3**	**+3.2**
ZON	**Zonda**	**3.26**	**77**	*i* P	**Pb**	**05 31 18.0**	**-1.6**
RTCV	**Cerro Valdivia**	**3.31**	**83**	*i* P	**Pn**	**05 31 17.0**	**+3.2**
ACCO	**Cerro Coronel**	**3.34**	**59**	*i* P	**Pn**	**05 31 18.0**	**+3.5**
ML02	**Panimavida**	**3.50**	**167**	Pn	**Pn**	**05 31 17.4**	**+1.0**
COIS	**El Sosneado**	**3.61**	**140**	*i* P	**Pn**	**05 31 21.0**	**+3.1**
LCO	**Las Campanas**	**3.63**	**24**		**Pn**	**05 31 20.0**	**+1.5**
LCO	**Las Campanas**	**3.63**	**24**	*i* P	**Pn**	**05 31 21.0**	**+2.5**
RFA	**San Rafael**	**4.07**	**127**	*i* P	**Pn**	**05 31 28.0**	**+3.7**
AC04	**Llanos de Chal**	**4.29**	**16**		**Pn**	**05 31 27.7**	**+0.5**
AGUA	**GUANDACOL**	**4.40**	**51**	*i* P	**Pn**	**05 31 33.0**	**+4.1**
AVFE	**Valle Fertil**	**4.54**	**70**	*i* P	**Pn**	**05 31 34.0**	**+3.2**
ACHE	**Chepes**	**5.02**	**78**	*i* P	Pn	05 31 43.0	±5.5
GO03	**Copiap**	**5.09**	**22**		**Pn**	**05 31 39.3**	**+0.9**
GO03	**Copiap**	**5.09**	**22**	*i* P	**Pn**	**05 31 41.0**	**+2.6**
VCA	**Vinch

WRA			PcP	**PcP**	**05 38 36.4**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=87,slow=2.5,SNR=8.7						
WRA	**Warramunga Arr**	**26.00 243**	P	**P**	**05 35 24.3**	**-0.5**
STKA	**Stephens Creek**	**27.58 213**	P	**P**	**05 35 39.0**	**+0.4**
	comp=Z,5.6nm,0.4s,baz=37,slow=8.9,SNR=16						
STKA	**Stephens Creek**	**27.58 213**	P	**P**	**05 35 38.7**	**+0.1**
AS31	**Alice Springs**	**27.84 236**	P	**P**	**05 35 40.5**	**-0.5**
ASAR	**Alice Springs**	**27.84 236**	P	**P**	**05 35 40.7**	**-0.4**
	comp=Z,6.1nm,0.6s,baz=67,slow=8.9,SNR=81						
ASAR			PcP	**PcP**	**05 38 40.5**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=74,slow=2.8,SNR=7.7						
ASAR			S	**S**	**05 39 45.0**	**-3.8**
	comp=Z,0.7nm,0.9s,baz=54,slow=14,SNR=4.4						
ASAR	**Alice Springs**	**27.84 236**	P	**P**	**05 35 40.4**	**-0.7**
KNRA	**Kununurra**	**30.11 255**	P	**P**	**05 36 01.3**	**+0.4**
BBOO	**Buckleboo**	**31.48 219**	P	**P**	**05 36 12.9**	**+0.4**
BBOO			IAmb	IAmb	05 36 13.4		
	comp=Z,20nm,0.8s						
FITZ	**Fitzroy Crossi**	**33.46 251**	P	**P**	**05 36 29.5**	**0.0**
FITZ			IAmb	IAmb	05 36 30.8		
	comp=Z,4.8nm,0.9s						
FORT	**Forrest**	**35.79 229**	P	**P**	**05 36 49.3**	**+0.4**
PSA00	**Pilbara Seismi**	**39.48 247**	P	**P**	**05 37 19.5**	**+0.2**
PSA00			IAmb	IAmb	05 37 20.5		
	comp=Z,19nm,0.9s						
MORW	**Morawa**	**44.70 238**	P	**P**	**05 38 00.7**	**+0.3**
MORW			IAmb	IAmb	05 38 08.5		
	comp=Z,37nm,1.5s						
NWAO	**Narrogin (SRO)**	**45.01 232**	P	**P**	**05 38 03.3**	**+0.5**
NWAO			IAmb	IAmb	05 38 08.1		
	comp=Z,17nm,1.2s						
USRK	**Ussuriysk Ar.**	**58.66 338**	P	**P**	**05 39 41.5**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=178,slow=8.9,SNR=5.1						
USRK	**Ussuriysk Ar.**	**58.66 338**	P	**P**	**05 39 41.8**	**+0.7**
GSI	**Gunungsitoli**	**62.04 276**	P	**P**	**05 40 04.1**	**-0.1**
GSI			IAmb	IAmb	05 40 06.1		
	comp=Z,20nm,0.8s						
KLR	**Kul'dur**	**63.06 340**	P	**P**	**05 40 10.4**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=179,slow=5.9,SNR=4.1						
CMAR	**Chiang Mai Arr**	**65.35 295**	P	**P**	**05 40 25.9**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=127,slow=4.5,SNR=8.4						
CMAR	**Chiang Mai Ar**	**65.35 295**	P	**P**	**05 40 26.4**	**+1.2**
VNDA	**Vanda**	**68.14 179**	P	**P**	**05 40 41.2**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=342,slow=6.6,SNR=9.3						
VNDA	**Vanda**	**68.14 179**	P	**P**	**05 40 40.8**	**-0.7**
ULN	**Ulaanbaatar**	**73.13 326**	P	**P**	**05 41 11.8**	**+0.1**
ULN			IAmb	IAmb	05 41 13.3		
	comp=Z,6.2nm,1.0s						
SONM	**Songino Array**	**73.47 326**	P	**P**	**05 41 14.2**	**+0.6**
	comp=Z,6.0nm,0.7s,baz=142,slow=5.8,SNR=27						
SONM	**Songino Array**	**73.47 326**	P	**P**	**05 41 13.7**	**+0.1**
SONM			IAmb	IAmb	05 41 15.0		
	comp=Z,5.5nm,0.7s						
QSPA	**South Pole Qui**	**80.61 180**	P	**P**	**05 41 51.3**	**-1.0**
KTH	**Kantishna Hill**	**82.03 20**	P	**P**	**05 41 58.6**	**-0.9**
MCK	**McKinley**	**82.83 21**	P	**P**	**05 42 02.4**	**-1.1**
MCK			IAmb	IAmb	05 42 03.2		
	comp=Z,6.7nm,1.0s						
ILAR	**Eielson Array**	**84.18 20**	P	**P**	**05 42 08.1**	**-2.1**
	comp=Z,0.4nm,0.5s,baz=243,slow=5.6,SNR=9.6						
MKAR	**Makanchi Array**	**87.78 318**	P	**P**	**05 42 27.3**	**-0.5**
	comp=Z,2.9nm,0.6s,baz=90,slow=6.9,SNR=19						
ZALV	**Zalesovo Beam**	**88.35 325**	P	**P**	**05 42 28.5**	**-1.8**
	comp=Z,0.9nm,0.4s,baz=111,slow=8.3,SNR=3.6						
AKASG	**Malin Array Be**	**121.74 325**		**PKPdf**	**05 48 27.2**	**-1.8**
NOA	**NORSAR Array B**	**123.20 342**	PKP	**PKPdf**	**05 48 30.2**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=45,slow=1.9,SNR=3.4						
GERES	**GERESS Array B**	**131.09 330**	PKP	**PKPdf**	**05 48 46.5**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=86,slow=4.3,SNR=3.9						
GERES	**GERESS Array B**	**131.09 330**		**PKPdf**	**05 48 46.2**	**-0.9**
ESDC	**Sonseca Array**	**146.20 336**	PKPbc	**PKPdf**	**05 49 16.0**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=39,slow=1.6,SNR=4.8						
TORD	**Torodi Ar. Bea**	**157.40 282**	PKPab	**PKPab**	**05 50 06.0**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=85,slow=4.5,SNR=7.0						

*BJI **21** 05:39:32.6±0.0,31.55S×71.70W,h20km,mB5.9/62, Ms6.2/82,Ms7 6.1/80*

*NEIC **21** 05:39:34.7,31.57S×71.74W,h30km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}9.03; $M_{\theta\theta}$-1.44; $M_{\phi\phi}$-7.59; $M_{r\theta}$2.37; $M_{\theta\phi}$0.52; $M_{\phi r}$-4.36; Fault plane solution: $M_0$9.78000×10^{17} NP1:ϕ_s164.47000°, δ60.13000°,λ80.78000°. NP2:ϕ_s2.52000°,δ31.13000°, λ105.58000°. Principal axes: T 10.5090, Plg73.0000°, Azm51.0000°; N -1.6814, Plg8.0000°, Azm169.0000°; P -8.8276, Plg15.0000°, Azm261.0000°;*

*MOS **21** 05:39:34.0±1.0,31.52S×71.56W,h32km,mb6.2/68, MS6.0/43 Error ellipse: s-maj=10.7km s-min=5.6km az=98.1*

*IDC **21** 05:39:34.5±0.4,31.60S×71.46W,h31km±2km,mb5.6/18, mb1 5.7/21,mb1mx5.7/21,mbtmp5.8/21,ML5.3/3,MS5.8/17, Ms1 5.8/17,ms1mx5.7/23,Error ellipse: s-maj=15.7km s-min=11.1km az=79.0*

*NEIC **21** 05:39:34.7,31.57S×71.74W,h39km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}6.26; $M_{\theta\theta}$-2.23; $M_{\phi\phi}$-4.03; $M_{r\theta}$1.33; $M_{\theta\phi}$0.30; $M_{\phi r}$-6.73; Fault plane solution: $M_0$8.80000×10^{17} NP1:ϕ_s169.14000°, δ71.50000°,λ89.59000°. NP2:ϕ_s350.43000°,δ18.50000°, λ91.22000°. Principal axes: T 9.6848, Plg63.0000°, Azm78.0000°; N -2.1838, Plg0.0000°, Azm169.0000°; P -7.5009, Plg27.0000°, Azm259.0000°;*

*NEIC **21** 05:39:34.9±2.2,31.58S±0.03×71.74W±0.05,h30km±1km, mb6.0/664,Ms_20 5.8/372,Mwb5.9/56,Mwc6.2/66, Mwr5.9/45,Mww6.1,ML6.2(GUC),Mwc6.1(GCMT) Error ellipse: s-maj=7.5km s-min=4.4km az=272.0*

*GUC **21** 05:39:34.3±0.9,31.69S×71.80W,h38km±3km,ML6.2, MW6.2*

*VAO **21** 05:39:34.3±0.2,31.49S×71.35W,h23km,mb6.0*

*SVSA **21** 05:39:34.9,31.58S×71.74W,h30km,MW6.1(NEIC)*

*NEIC **21** 05:39:37,31.59S×71.83W,h40km,Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.58; $M_{\theta\theta}$0.06; $M_{\phi\phi}$-1.64; $M_{r\theta}$0.30; $M_{\theta\phi}$0.09; $M_{\phi r}$-0.72; Fault plane solution: $M_0$1.79000×10^{18} NP1:ϕ_s6.00000°, δ33.00000°,λ104.00000°. NP2:ϕ_s168.00000°,δ58.00000°, λ81.00000°. Principal axes: T 1.7774, Plg75.0000°, Azm51.0000°; N 0.0289, Plg8.0000°, Azm174.0000°; P -1.8063, Plg12.0000°, Azm265.0000°;*

*GCMT **21** 05:39:38.9±0.1,31.66S×71.84W,h38km,MW6.1/159, Moment Tensor Solution. s159,c368; s157,c552; Duration: 2s7 Moment tensor: Scale 10^{18}Nm; M_{rr}1.41±.01; $M_{\theta\theta}$0.07±.01; $M_{\phi\phi}$-1.48±.01; $M_{r\theta}$0.25±.01; $M_{\theta\phi}$0.11±.01; $M_{\phi r}$-1.01±.01; Best double couple: $M_0$1.78500×10^{18} NP1:ϕ_s2.00000°,δ28.00000°, λ101.00000°. NP2:ϕ_s170.00000°,δ63.00000°,λ84.00000°. Principal axes: T 1.7540, Plg72.0000°, Azm67.0000°; N 0.0610, Plg5.0000°, Azm173.0000°; P -1.8160, Plg18.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **21** 05:39:40,31.71S×71.94W,h39km,Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.34; $M_{\theta\theta}$0.16; $M_{\phi\phi}$-1.50; $M_{r\theta}$0.23; $M_{\theta\phi}$0.07; $M_{\phi r}$-1.05; Fault plane solution: $M_0$1.79000×10^{18} NP1:ϕ_s5.00000°, δ27.00000°,λ103.00000°. NP2:ϕ_s171.00000°,δ64.00000°, λ84.00000°. Principal axes: T 1.7118, Plg71.0000°, Azm67.0000°; N 0.1442, Plg6.0000°, Azm174.0000°; P -1.8560, Plg18.0000°, Azm266.0000°;*

*NEIC **21** 05:39:45.3,31.92S×71.71W,h38km,Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.58; $M_{\theta\theta}$-0.08; $M_{\phi\phi}$-1.50; $M_{r\theta}$0.55; $M_{\theta\phi}$0.13; $M_{\phi r}$-1.68; Fault plane solution: $M_0$2.35000×10^{18} NP1:ϕ_s165.45000°, δ69.55000°,λ83.80000°. NP2:ϕ_s2.72000°,δ21.33000°, λ106.15000°. Principal axes: T 2.4046, Plg65.0000°, Azm65.0000°; N -0.1067, Plg6.0000°, Azm168.0000°; P -2.2980, Plg24.0000°, Azm260.0000°;*

ISC 21 05:39:32.9±0.3,**31.61S**±0.02×**71.61W**±0.03,**h23**km±1km, **h23**km:**pP-P, n1984,** σ1**965**/2074,**mb6.0**/393,**MS5.8**/248, **381C-66D,Fault plane solution: NP1:**ϕ_s203.05913°, δ48.37515°,λ111.97566°. **NP2:**ϕ_s351.78046°,δ46.11619°, λ67.16318°. **Principal axes:** T Plg73.7114°, Azm183.6944°; N Plg16.2440°, Azm8.0539°; P Plg1.1729°, Azm277.7122°; **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.94**	**359**	*eP*	**Pn**	**Pn**	**05 39 51.4**	**+0.7**
CO06				*i* S	**Sn**	**Sn**	**05 40 05.2**	**+1.8**
CO06	**Fray Jorge**	**0.94**	**359**	Pn	**Pn**	**Pn**	**05 39 51.5**	**+0.7**
CO06				Sn	**Sn**	**Sn**	**05 40 05.3**	**+1.8**
VA06	**Catapilco**	**0.98**	**165**	*eP*	**Pn**	**Pn**	**05 39 51.7**	**+0.4**
VA06				*i* S	**Sn**	**Sn**	**05 40 04.8**	**+0.3**
VA06				IAML			05 40 11.3	
	comp=N,1508μm,0.4s							
CO03	**El Pedregal**	**1.10**	**46**	↓↓*iP*	**Pb**	**Pb**	**05 39 54.3**	**+1.0**
CO03				*i* S	**Sn**	**Sn**	**05 40 09.6**	**+1.9**
CO03				IAML			05 40 11.4	
	comp=E,534μm,0.3s							
CO03				IAML			05 40 15.6	
	comp=N,490μm,0.3s							
CO03	**El Pedregal**	**1.10**	**46**	Pn	**Pb**	**Pb**	**05 39 54.4**	**+1.0**
CO03				Sn	**Sn**	**Sn**	**05 40 09.5**	**+1.9**
CO03	**El Pedregal**	**1.10**	**46**	*i* P	**Pb**	**Pb**	**05 39 54.5**	**+1.1**
VA01	**Torpederas**	**1.41**	**181**	*eP*	**Pn**	**Pn**	**05 39 57.6**	**+0.4**
VA01				*eS*	**Sn**	**Sn**	**05 40 14.9**	**0.0**
VA01	**Torpederas**	**1.41**	**181**	Pn	**Pn**	**Pn**	**05 39 57.6**	**+0.4**
VA01				Sn	**Sn**	**Sn**	**05 40 14.3**	**-0.6**
VA01	**Torpederas**	**1.41**	**181**	*eP*	**Pn**	**Pn**	**05 39 57.6**	**+0.4**
ROCH	**El Roble**	**1.45**	**160**	*eP*	**Pb**	**Pb**	**05 39 59.4**	**+0.1**
ROCH				*i* S	**Sb**	**Sb**	**05 40 19.1**	**+1.7**
ROCH				IAML			05 40 25.8	
	comp=N,504μm,0.9s							
ROC1	**El Roble**	**1.45**	**160**	*eP*	**Pb**	**Pb**	**05 39 59.5**	**+0.1**
ROC1				*eS*	**Sb**	**Sb**	**05 40 17.9**	**+0.5**
VA03	**San Esteban**	**1.46**	**142**	*eP*	**Pb**	**Pb**	**05 40 00.1**	**+0.7**
VA03				*i* S	**Sb**	**Sb**	**05 40 20.0**	**+2.4**
VA03				IAML			05 40 22.8	
	comp=E,1233μm,0.6s							
VA03	**San Esteban**	**1.46**	**142**	Pn	**Pb**	**Pb**	**05 39 60.0**	**+0.6**
VA03				Sn	**Sb**	**Sb**	**05 40 19.4**	**+1.9**
VA03	**San Esteban**	**1.46**	**142**	*eP*	**Pb**	**Pb**	**05 40 00.1**	**+0.7**
GO04	**Tololo Observa**	**1.60**	**26**	↑↑*iP*	**Pb**	**Pb**	**05 40 01.7**	**-0.2**
GO04	**Tololo Observa**	**1.60**	**26**	Pn	**Pb**	**Pb**	**05 40 01.8**	**-0.1**
GO04	**Tololo Observa**	**1.60**	**26**	*eP*	**Pb**	**Pb**	**05 40 02.2**	**+0.3**
CO05	**La Serena**	**1.72**	**11**	*eP*	**Pb**	**Pb**	**05 40 02.7**	**-1.1**
CO05				*i* S	**Sb**	**Sb**	**05 40 26.1**	**+1.0**
CO05				IAML			05 40 33.8	
	comp=E,403μm,0.4s							
CO05	**La Serena**	**1.72**	**11**	Pn	**Pb**	**Pb**	**05 40 02.7**	**-1.1**
CO05				Sn	**Sn**	**Sn**	**05 40 23.4**	**+0.7**
MT05	**Renca**	**1.92**	**158**	*eP*	**Pb**	**Pb**	**05 40 06.2**	**-1.1**
MT05				*i* S	**Sb**	**Sb**	**05 40 30.7**	**-0.1**
MT05				IAML			05 40 36.1	
	comp=E,249μm,0.3s							
MT05	**Renca**	**1.92**	**158**	Pn	**Pb**	**Pb**	**05 40 06.1**	**-1.1**
MT05				Sn	**Sb**	**Sb**	**05 40 32.3**	**+1.4**
RTLS	**Leoncito**	**1.98**	**96**	*eP*	**Pb**	**Pb**	**05 40 09.4**	**+0.9**
RTLS				*i* S	**Sb**	**Sb**	**05 40 34.9**	**+2.1**
RTLS				IAML			05 40 40.5	
	comp=Z,52μm,1.2s							
AUSP	**Uspallata**	**1.98**	**108**	*i* P	**Pb**	**Pb**	**05 40 09.2**	**+0.7**
VA05	**Santo Domingo**	**2.04**	**180**	*eP*	**Pn**	**Pn**	**05 40 06.4**	**+0.5**
VA05				*i* S	**Sn**	**Sn**	**05 40 31.4**	**+0.8**
VA05				IAML			05 40 46.2	
	comp=E,249μm,0.6s							
VA05	**Santo Domingo**	**2.04**	**180**	Pn	**Pn**	**Pn**	**05 40 06.2**	**+0.4**
VA05				Sn	**Sb**	**Sb**	**05 40 33.5**	**-0.7**
MT09	**Talagante**	**2.22**	**167**	*eP*	**Pb**	**Pb**	**05 40 10.5**	**-1.9**
MT09				*i* S	**Sb**	**Sb**	**05 40 38.1**	**-1.4**
MT09				IAML			05 40 47.3	
	comp=E,188μm,0.8s							
MT09	**Talagante**	**2.22**	**167**	Pn	**Pb**	**Pb**	**05 40 10.5**	**-1.9**
MT09				Sn	**Sb**	**Sb**	**05 40 39.1**	**-0.5**
MT01	**Popeta**	**2.26**	**172**	*eP*	**Pn**	**Pn**	**05 40 10.9**	**+1.9**
MT01				IAML			05 40 49.3	
	comp=N,129μm,0.6s							
MT01	**Popeta**	**2.26**	**172**	Pn	**Pn**	**Pn**	**05 40 10.5**	**+1.5**
MT01	**Popeta**	**2.26**	**172**	*eP*	**Pn**	**Pn**	**05 40 10.7**	**+1.7**
AROD	**Rodeo**	**2.33**	**52**	*i* P	**Pb**	**Pb**	**05 40 15.1**	**+0.6**
ACCO	**Cerro Coronel**	**2.41**	**66**	*i* P	**Pb**	**Pb**	**05 40 16.0**	**+0.2**
ZON	**Zonda**	**2.50**	**89**	P	**Pb**	**Pb**	**05 40 17.0**	**-0.2**
ZON	**Zonda**	**2.50**	**89**	Pn	**Pb**	**Pb**	**05 40 17.0**	**-0.2**
LMEL	**Las Melosas**	**2.52**	**152**	IAML			05 40 55.3	
	comp=N,84μm,0.9s							
ASAL	**Salagasta**	**2.55**	**113**	*i* P	**Pb**	**Pb**	**05 40 18.6**	**+0.6**
ARCO	**CERRO ARCO**	**2.58**	**119**	*eP*	**Pb**	**Pb**	**05 40 19.0**	**+0.4**
ACDV	**Cuesta del Vie**	**2.58**	**57**	*eP*	**Pb**	**Pb**	**05 40 18.7**	**+0.1**
ACDV				*i* S	**Sb**	**Sb**	**05 40 54.6**	**+4.7**
ACDV				IAML			05 41 13.8	
	comp=Z,41μm,2.0s							
LCO	**Las Campanas**	**2.71**	**17**	P	**Pn**	**Pn**	**05 40 16.9**	**+1.5**
LCO	**Las Campanas**	**2.71**	**17**	Pn	**Pn**	**Pn**	**05 40 16.9**	**+1.5**
LCO	**Las Campanas**	**2.71**	**17**	↑↑P	**Pn**	**Pn**	**05 40 16.9**	**+1.5**
LCO	**Las Campanas**	**2.71**	**17**	*i* P	**Pn**	**Pn**	**05 40 17.0**	**+1.5**
LCO				*i* S	**Sb**	**Sb**	**05 40 52.6**	**-1.2**
AAGR	**Agrelo**	**2.77**	**123**	*i* P	**Pb**	**Pb**	**05 40 21.3**	**-0.5**
BO01	**Tunca**	**2.81**	**171**	*eP*	**Pn**	**Pn**	**05 40 17.9**	**+1.5**
BO01				*eS*	**Sn**	**Sn**	**05 40 50.5**	**+0.9**
BO01	**Tunca**	**2.81**	**171**	Pn	**Pn**	**Pn**	**05 40 18.9**	**+2.5**
BO01	**Tunca**	**2.81**	**171**	*eP*	**Pn**	**Pn**	**05 40 19.0**	**+2.5**
BO02	**Sierra Bellavi**	**3.25**	**168**	IAML			05 41 19.1	
	comp=E,98μm,0.5s							
BO02	**Sierra Bellavi**	**3.25**	**168**	Pn	**Pn**	**Pn**	**05 40 25.0**	**+2.5**
GO05	**Huala**	**3.40**	**184**	*eP*	**Pn**	**Pn**	**05 40 24.3**	**-0.2**
GO05	**Huala**	**3.40**	**184**	Pn	**Pn**	**Pn**	**05 40 24.4**	**-0.2**
GO05	**Huala**	**3.40**	**184**	*eP*	**Pn**	**Pn**	**05 40 24.2**	**-0.4**
AC04	**Llanos de Chal**	**3.43**	**8**	Pn	**Pn**	**Pn**	**05 40 25.6**	**+0.6**
AC04	**Llanos de Chal**	**3.43**	**8**	*eP*	**Pn**	**Pn**	**05 40 25.6**	**+0.6**
AC04				*i* S	**Sb**	**Sb**	**05 41 12.9**	**-1.4**
COIS	**El Sosneado**	**3.87**	**155**	*eP*	**Pn**	**Pn**	**05 40 34.6**	**+3.5**
LAMA	**Las Malvinas**	**3.87**	**149**	*eP*	**Pn**	**Pn**	**05 40 35.1**	**+4.0**
VCA	**Vinchina**	**4.11**	**47**	*i* P	**Pb**	**Pb**	**05 40 40.0**	**-4.7**
VCA				*i* S	**Sb**	**Sb**	**05 41 30.3**	**-3.8**
VCA				IAML			05 42 32.9	
	comp=Z,25μm,1.2s							
ML02	**Panimavida**	**4.14**	**178**	Pn	**Pn**	**Pn**	**05 40 36.3**	**+1.5**
GO03	**Copiap**	**4.18**	**17**	Pn	**Pn**	**Pn**	**05 40 36.6**	**+1.1**
GO03	**Copiap**	**4.18**	**17**	↓↓P	**Pn**	**Pn**	**05 40 36.5**	**+1.1**
GO03	**Copiap**	**4.18**	**17**	*i* P	**Pn**	**Pn**	**05 40 36.5**	**+1.1**
GO03				*i* S	**Sn**	**Sn**	**05 41 29.1**	**+5.5**
AC06	**Mina Casimiro**	**4.38**	**15**	Pn	**Pn**	**Pn**	**05 40 38.8**	**+0.6**
TINO	**Tinogasta**	**4.98**	**46**	*i* P	Pn	Pn	05 40 52.0	+5.5
AC02	**Maricunga**	**5.23**	**25**	Pn	**Pn**	**Pn**	**05 40 51.7**	**+1.5**
AC02	**Maricunga**	**5.23**	**25**	*i* P	**Pn**	**Pn**	**05 40 53.0**	**+2.8**
CYA	**Choya**	**5.94**	**59**	*eP*	**Pn**	**Pn**	**05 41 01.3**	**+1.7**
CYA				*i* S	**Sn**	**Sn**	**05 42 11.5**	**+4.5**
CYA				IAML			05 42 32.1	
	comp=Z,10μm,1.7s							
VA04	**Juan Fernndez**	**6.42**	**250**	Pn	**Pn**	**Pn**	**05 41 04.9**	**-1.2**
H03N1	**Juan Fernandez**	**6.43**	**252**	Pn	**Pn**	**Pn**	**05 41 06.3**	**+0.3**
	baz=115,slow=19,SNR=1108							
H03N1				T	T	T	05 47 50.7	
	baz=77,slow=72,SNR=2132							
H03N3	**Juan Fernandez**	**6.45**	**252**	Pn	**Pn**	**Pn**	**05 41 06.1**	**-0.1**
	baz=115,slow=19,SNR=658							
H03N3				T	T	T	05 47 46.7	
	baz=77,slow=72,SNR=2486							
H03N2	**Juan Fernandez**	**6.45**	**252**	Pn	**Pn**	**Pn**	**05 41 06.3**	**0.0**
	baz=115,slow=19,SNR=668							
H03N2				T	T	T	05 47 51.2	
	baz=77,slow=72,SNR=1293							
H03S3	**Juan Fernandez**	**6.54**	**248**	Pn	**Pn**	**Pn**	**05 41 06.5**	**-0.9**
	baz=31,slow=20,SNR=940							
H03S3				T	T	T	05 48 23.5	
	baz=86,slow=74,SNR=114							
H03S1	**Juan Fernandez**	**6.54**	**248**	Pn	**Pn**	**Pn**	**05 41 06.3**	**-1.2**
	baz=31,slow=20,SNR=872							
H03S1				T	T	T	05 48 21.1	
	baz=86,slow=74,SNR=132							
H03S2	**Juan Fernandez**	**6.55**	**248**	Pn	**Pn**	**Pn**	**05 41 06.5**	**-1.2**
	baz=31,slow=20,SNR=1198							
H03S2				T	T	T	05 48 09.4	
	baz=86,slow=74,SNR=132							
PB14	**IPOC Station P**	**7.04**	**9**	Pn	**Pn**	**Pn**	**05 41 13.5**	**-1.5**
PB14	**IPOC Station P**	**7.04**	**9**	*i* P	**Pn**	**Pn**	**05 41 13.5**	**-1.5**
PB14				IAML			05 43 09.9	
	comp=Z,21μm,0.9s							
LC01	**Cunco**	**7.27**	**182**		**Pn**	**Pn**	**05 41 17.6**	**-0.1**
LC01	**Cunco**	**7.27**	**182**	*i* P	**Pn**	**Pn**	**05 41 16.9**	**-0.9**
FSA	**Cafayete**	**7.38**	**43**	*i* P	**Pn**	**Pn**	**05 41 20.1**	**+0.7**
LR03	**Panguipulli**	**8.02**	**184**	Pn	**Pn**	**Pn**	**05 41 27.4**	**-0.7**
PB10	**IPOC Station P**	**8.12**	**7**	Pn	**Pn**	**Pn**	**05 41 27.7**	**-1.8**
PB15	**IPOC Station P**	**8.59**	**13**		**Pn**	**Pn**	**05 41 35.5**	**-0.6**
SLA	**San Lorenzo**	**8.72**	**40**	*i* P	**Pn**	**Pn**	**05 41 42.0**	**+4.1**
PB06	**IPOC Station P**	**9.06**	**12**		**Pn**	**Pn**	**05 41 41.4**	**-1.1**
PLCA	**Paso Flores**	**9.14**	**175**	Pn	**Pn**	**Pn**	**05 41 44.7**	**+1.2**
	comp=Z,9.5nm,0.3s,baz=333,slow=11,SNR=92							
PLCA				LR		LR	05 45 19.1	
	comp=Z,61μm,20.5s,baz=346,slow=38							
PLCA	**Paso Flores**	**9.14**	**175**	Pn	**Pn**	**Pn**	**05 41 44.4**	**+0.9**
PLCA	**Paso Flores**	**9.14**	**175**	↓↓P	**Pn**	**Pn**	**05 41 44.6**	**+1.2**
PLCA	**Paso Flores**	**9.14**	**175**	*eP*	**Pn**	**Pn**	**05 41 44.7**	**+1.2**
AF01	**San Pedro de A**	**9.15**	**20**	Pn	**Pn**	**Pn**	**05 41 42.8**	**-1.1**
LVC	**Limon Verde**	**9.28**	**16**	*eP*	**Pn**	**Pn**	**05 41 44.1**	**-1.7**
LVC	**Limon Verde**	**9.28**	**16**	Pn	**Pn**	**Pn**	**05 41 44.0**	**-1.8**
LVC	**Limon Verde**	**9.28**	**16**	↑↑P	**Pn**	**Pn**	**05 41 43.0**	**-2.8**
LVC	**Limon Verde**	**9.28**	**16**	*eP*	**Pn**	**Pn**	**05 41 44.0**	**-1.8**
LL04	**Puerto Octay**	**9.30**	**184**	Pn	**Pn**	**Pn**	**05 41 44.1**	**-1.4**
PB04	**IPOC Station P**	**9.33**	**8**		**Pn**	**Pn**	**05 41 44.0**	**-2.3**
LL03	**Petrohue**	**9.53**	**184**	Pn	**Pn**	**Pn**	**05 41 47.8**	**-0.9**
LL05	**Los Muermos**	**9.89**	**188**	Pn	**Pn**	**Pn**	**05 41 53.1**	**-0.5**
PB07	**IPOC Station P**	**9.97**	**9**	Pn	**Pn**	**Pn**	**05 41 50.9**	**-4.1**
PB09	**IPOC Station P**	**10.00**	**13**		**Pn**	**Pn**	**05 41 54.1**	**-1.4**
HJA	**Humahuaca**	**10.02**	**35**	*i* P	**Pn**	**Pn**	**05 41 56.7**	**+0.8**
TRQA	**Tornquist**	**10.19**	**132**	P	**Pn**	**Pn**	**05 41 59.4**	**+1.6**
TRQA	**Tornquist**	**10.19**	**132**	Pn	**Pn**	**Pn**	**05 41 59.4**	**+1.6**
TRQA	**Tornquist**	**10.19**	**132**	↑↑P	**Pn**	**Pn**	**05 41 58.9**	**+1.1**
TRQA	**Tornquist**	**10.19**	**132**	*eP*	**Pn**	**Pn**	**05 41 59.2**	**+1.4**
PB01	**IPOC Station P**	**10.70**	**11**	Pn	**Pn**	**Pn**	**05 42 01.2**	**-3.7**
LL01	**San Ignacio de**	**10.76**	**183**	Pn	**Pn**	**Pn**	**05 42 04.7**	**-0.9**
TA01	**Diego Aracena**	**11.08**	**7**	Pn	**Pn**	**Pn**	**05 42 08.8**	**-1.2**
LL07	**Hotel Espejo d**	**11.30**	**187**	Pn	**Pn**	**Pn**	**05 42 12.9**	**0.0**
TA02	**Huaiquique**	**11.37**	**7**		**Pn**	**Pn**	**05 42 15.5**	**+1.4**
LL02	**Futaleuf**	**11.56**	**181**		**Pn**	**Pn**	**05 42 17.5**	**+1.0**
GO07	**Milladeo Hill,**	**11.60**	**188**	Pn	**Pn**	**Pn**	**05 42 14.7**	**-2.3**
PB08	**IPOC Station P**	**11.64**	**12**		**Pn**	**Pn**	**05 42 14.8**	**-3.2**
LPA	**La Plata**	**11.91**	**110**	*i* P	**Pn**	**Pn**	**05 42 23.4**	**+2.1**
LPA				pPP			05 42 32.0	
LPA				sP			05 42 38.6	
LPA				PP	**PbPb**	**PbPb**	**05 42 59.1**	**-1.6**
LPA				PPP	PPP	PPP	05 43 11.9	
LPA				S	**Sn**	**Sn**	**05 44 28.4**	**-5.0**
LPA				SS	**SnSn**	**SnSn**	**05 44 44.5**	**-0.9**
LPA				SSS	SSS	SSS	05 44 59.4	
LPA				SCS	**ScS**	**ScS**	**05 55 12.5**	**-2.3**
LPA				PKIKS			05 56 06.1	
LPA				SKIKP			05 59 26.7	
LPA				PKIKP			05 59 33

RIB01 Linhares ES 30.61 74 *e*P P 05 45 43.9 -1.6
ITTB Itaituba 30.94 32 *e*P P 05 45 47.0 -1.3
SDBA SAO DESIDERIO 31.13 58 *e*P P 05 45 49.2 -0.9
NAN01 Guarapari, ES 31.58 72 *e*P P 05 45 53.1 -0.9
PTLC Puerto Leguiza 31.76 354 *e*P P 05 45 51.7 -3.8
SMTB Santa Maria do 31.79 50 *e*P P 05 45 55.6 -0.3
OTAV Otavalo 32.34 347 P P 05 46 02.5 +1.4
OTAV pmax pmax
comp=Z,173nm,1.3s
OTAV Otavalo 32.34 347 P P 05 46 02.5 +1.4
OTAV IAmb IAmb 05 46 28.7
comp=Z,173nm,1.2s
OTAV Otavalo 32.34 347 *e*P P 05 46 03.1 +2.1
OTAV Otavalo 32.34 347 ⇑P P 05 46 03.2 +2.1
OTAV ⇑P PcP 05 48 51.8 +2.9
OTAV Otavalo 32.34 347 *e*P P 05 46 02.7 +1.6
CUSE Cuicocha Este 32.39 347 *e*P P 05 46 03.2 +1.7
PAC1 Pacto, Paraso 32.43 347 *e*P P 05 45 59.7 -1.8
PRPB Parauapebas 32.50 43 *e*P P 05 46 00.5 -1.6
GUA01 Guaratinga, BA 32.51 70 *e*P P 05 46 00.5 -1.7
PTGA Pitinga 32.63 22 P P 05 46 02.8 -0.4
PTGA IAmb_20 IAmb_20 06 00 59.7
comp=Z,25µm,20.0s
TULM Tulcn-Chalpat 32.68 349 *e*P P 05 46 06.4 +2.2
RPN Rapa Nui 33.07 268 IAms_20 IAms_20 05 55 28.8
comp=Z,18µm,22.0s
GCUF Volcan Galeras 33.11 349 *e*P P 05 46 10.2 +2.3
PTGL Punta Galera 33.20 344⇑*e*P P 05 46 11.3 +3.2
FLOC Florencia 33.24 353 P P 05 46 09.6 +1.1
FLOC IAmb IAmb 05 46 30.6
comp=Z,352nm,1.4s
FLOC Florencia 33.24 353 *e*P P 05 46 11.2 +2.7
CMC01 Camacan, BA 33.42 69 *e*P P 05 46 09.2 -0.9
PMSA Palmer Station 33.51 174 P P 05 46 12.1 +1.7
PMSA Palmer Station 33.51 174 ⇓P P 05 46 11.6 +1.2
PMSA Palmer Station 33.51 174 *e*P P 05 46 12.7 +2.4
MACC Macarena, Meta 33.64 356 *e*P P 05 46 12.1 +0.1
HOPE Hope Point 33.72 143 P P 05 46 13.5 +1.2
HOPE pmax pmax
comp=Z,191nm,1.0s
HOPE MLR MLR
comp=Z,20µm,21.0s
HOPE Hope Point 33.72 143 P P 05 46 13.5 +1.2
HOPE IAmb IAmb 05 46 35.0
comp=Z,191nm,1.0s
HOPE Hope Point 33.72 143 IAMs_20 IAMs_20 05 59 15.9
comp=Z,20µm,21.0s
HOPE Hope Point 33.72 143 ⇑P P 05 46 13.3 +1.0
NBIT Itapeh - BA 33.73 68 *e*P P 05 46 12.6 -0.2
MALB Monte Alegre 33.83 32 *e*P P 05 46 12.6 -1.0
BBAC Balboa, Cauca 33.88 350 *e*P P 05 46 12.9 -1.4
TUMC Tumaco 33.94 347 P P 05 46 16.6 +2.1
TUMC IAmb IAmb 05 46 19.2
comp=Z,349nm,1.0s
TUMC Tumaco 33.94 347⇑*e*P P 05 46 14.6 +0.1
PCON Cinco Dias 34.06 351 *e*P P 05 46 17.9 +1.6
POPC Popayan, Colom 34.31 351 *e*P P 05 46 19.2 +1.2
GDU01 Guandu, BA 34.33 66 *e*P P 05 46 16.9 -1.1
MARP Paez Belalcaza 34.52 352 *e*P P 05 46 18.9 -1.0
PRAC Prado 35.27 354⇑*e*P P 05 46 25.7 -0.4
BOAV Boa Vista 35.42 19 *e*P P 05 46 26.5 -0.9
PAYG Puerto Ayora 35.48 327 P P 05 46 26.1 -1.8
PAYG Puerto Ayora 35.48 327 IAMs_20 IAMs_20 05 57 17.6
comp=Z,17µm,20.0s
ORTC Ortega, Tolima 35.49 354 *e*P P 05 46 30.1 +2.1
VILC Villavicencio, 35.58 356 *e*P P 05 46 30.9 +2.0
PTGC Puerto Gaitan, 35.62 359 *e*P P 05 46 28.3 -0.7
NBPN Ponto Novo - B 35.62 62 *e*P P 05 46 27.8 -1.4
YOTC Yotoco, Valle 35.69 352 *e*P P 05 46 30.6 +0.8
ANIL Santa Ana 36.09 354 *e*P P 05 46 33.5 +0.1
CHIC Chingaza 36.10 356 *e*P P 05 46 33.5 -0.2
MCPB Macapa, AP 36.17 35 *e*P P 05 46 33.2 -0.7
ROSC El Rosal 36.34 355 P P 05 46 37.9 +2.2
comp=Z,87nm,0.9s,baz=39,slow=3.1,SNR=26
ROSC El Rosal 36.34 355 P P 05 46 37.5 +1.8
ROSC IAmb IAmb 05 47 20.5
comp=Z,290nm,1.3s
ROSC El Rosal 36.34 355 *e*P P 05 46 36.2 +0.5
ROSC *e*P pP 05 46 39.6 -3.0
TMAB Tom-Au,PA,Br 36.57 42 *e*P P 05 46 35.8 -1.4
GUY2C Guyana, Caldas 36.81 354 *e*P P 05 46 40.3 +0.5
NORC Norcasia 37.10 355 *e*P P 05 46 41.4 -0.4
SPBC San Pablo de B 37.13 356 *e*P P 05 46 41.5 -0.6
RUSC La Rusia 37.32 358 P P 05 46 45.2 +1.0
NBLA Lagarto - SE 37.36 64 *e*P P 05 46 42.3 -1.7
CBOC Ciudad Bolivar 37.50 353 *e*P P 05 46 45.4 0.0
HELC Santa Helena 37.78 354 *e*P P 05 46 45.9 -2.0
TAMC Tame, Arauca 37.84 360 *e*P P 05 46 49.6 +1.6
BARC Barichara 38.02 357 *e*P P 05 46 45.4 -4.4
SOLC Bahia Solano 38.03 351⇑*e*P P 05 46 52.0 +2.4
PTBC PUERTO BERRIO, 38.04 355 *e*P P 05 46 50.6 +0.9
ROSB Rosrio 38.55 48 *e*P P 05 46 52.9 -1.1
BRRC Barranca, Sant 38.55 357 *e*P P 05 46 51.9 -2.1
PAMC Pamplona, Colo 38.75 358 *e*P P 05 46 54.5 -1.7
NBMA Muriti-CE 38.98 59 *e*P P 05 46 57.0 -0.7
PTAC Punta Ardita, 39.00 350 *e*P P 05 46 58.4 +0.7
ZARC Zaragoza, Cauc 39.01 355 *e*P P 05 46 57.8 0.0
NBPS Pedro II - PI 39.17 52 *e*P P 05 46 58.3 -1.1
UREC San Jos de Ur 39.32 354 *e*P P 05 46 59.4 -1.1
NBAN Anadia - AL 39.35 64 *e*P P 05 46 59.2 -1.6
NBPB Pedra_Branca-C 39.64 56 *e*P P 05 47 02.8 -0.4
OCAC Ocana 39.66 357 *e*P P 05 46 59.4 -4.0
CACAO El Cacao, Vera 39.74 346⇑*e*P P 05 47 02.7 -1.2
AZU Azuero 40.05 347 *e*P P 05 47 06.0 -0.5
SMLC San Martn de 40.26 356⇑*e*P P 05 47 07.1 -1.1
SDV Santo Domingo 40.28 1 P P 05 47 08.3 -0.4
SDV IAmb IAmb 05 47 27.6
comp=Z,161nm,0.8s
SDV Santo Domingo 40.28 1 IAMs_20 IAMs_20 06 04 42.3
comp=Z,17µm,21.0s
SDV Santo Domingo 40.28 1 *e*P P 05 47 07.1 -1.5
SDV Santo Domingo 40.28 1 *e*P P 05 47 08.7 +0.1
NBLV Livramento - P 40.34 61 *e*P P 05 47 08.0 -1.1
CAPC Capurgana 40.40 351 *e*P P 05 47 10.3 +0.9
CAP2 Capurgana 40.41 351 P P 05 47 09.2 -0.3
BAUV El Baul 40.47 5 *e*P P 05 47 02.9 -7.1
NBMO Morrinhos-CE 40.92 53 *e*P P 05 47 12.4 -1.4
LL1C La Loma 1 Cana 40.96 357 *e*P P 05 47 12.9 -1.1
LL2C La Loma 2 Cana 40.97 357 *e*P P 05 47 10.7 -3.4
UPA Univ. de Panam 41.07 348 *e*P P 05 47 14.2 -0.7
NBPA Parau_RN 41.27 59 *e*P P 05 47 15.3 -1.3
BCIP Isla Barro Col 41.31 348 P P 05 47 17.9 +1.1
BCIP pmax pmax
comp=Z,128nm,1.0s
BCIP Isla Barro Col 41.31 348 P P 05 47 17.9 +1.1
BCIP Isla Barro Col 41.31 348 *e*P P 05 47 16.8 -0.1
BCIP Isla Barro Col 41.31 348 ⇑P P 05 47 18.6 +1.7
ARGC Ariguani, Magd 41.31 356 *e*P P 05 47 16.8 -0.1
SJCC San Jacinto, C 41.42 355 P P 05 47 18.8 +1.0
SJCC IAmb IAmb 05 47 37.3
comp=Z,354nm,1.0s
SJCC San Jacinto, C 41.42 355 *e*P P 05 47 17.4 -0.5
NBCL Cascavel-CE 41.48 56 *e*P P 05 47 16.5 -1.8
BRU2 Volcan 41.56 343 P P 05 47 21.5 +2.4
BRU2 IAmb IAmb 05 47 45.8
comp=Z,357nm,1.1s
RIOS Rincon, Osa 41.67 342 P P 05 47 22.0 +2.1
RCBR Riachuelo 42.11 60 P P 05 47 24.0 +0.4
RCBR pmax pmax
comp=Z,160nm,1.2s
RCBR MLR MLR
comp=Z,80µm,22.0s
RCBR Riachuelo 42.11 60 P P 05 47 24.0 +0.4
RCBR Riachuelo 42.11 60 ⇑P P 05 47 23.2 -0.4
RCBR Riachuelo 42.11 60 *e*P P 05 47 23.0 -0.5
SRBA San Rafael, Bu 42.14 343 P P 05 47 25.9 +2.0
NBPV Pedro Velho 42.17 61 *e*P P 05 47 23.2 -0.9
RGM0 Gandoca 42.30 344 P P 05 47 27.5 +2.5
PEZE Perez Zeledon, 42.37 342 P P 05 47 27.8 +2.1
CRJC Cerrejon, Guaj 42.41 358 *e*P P 05 47 21.3 -4.6
CDM Cerro de Muert 42.56 342 *i*P P 05 47 29.6 +1.9
RIMA Rio Macho 42.79 342 P P 05 47 31.1 +1.9
LCR2 La Lucha 2 42.80 342 *i*P P 05 47 31.1 +1.8
TPP Pointe-a-Pierr 42.81 15 *e*P P 05 47 30.3 +1.1
JACO JACO, Garabito 42.90 341⇑*i*P P 05 47 31.0 +1.1
JACO JACO, Garabito 42.90 341 P P 05 47 31.6 +1.7
BATAN Batan 42.98 343 P P 05 47 33.7 +3.2
CVTR Volcan Turrial 43.00 342⇑*i*P P 05 47 33.0 +1.9
CVTR Volcan Turrial 43.00 342 P P 05 47 33.6 +2.4
CAO2 Cobano, Puntar 43.05 340 P P 05 47 33.1 +2.0
URIC Uribia, Colomb 43.07 359 P P 05 47 29.2 -2.0
URIC Uribia, Colomb 43.07 359 *e*P P 05 47 26.1 -5.1
TRN Trinidad (W) 43.14 15 *e*P P 05 47 30.3 -1.6
TRN Trinidad (W) 43.14 15 *e* 05 53 53.7
INDI Punta indio, G 43.34 340 *i*P P 05 47 34.7 +1.3
GRZA Playa Garza 43.42 340 *i*P P 05 47 36.3 +2.2
DUNO Dulce Nombre, 43.54 340 P P 05 47 35.2 +0.2
JTS Las Juntas de 43.58 341 *i*P P 05 47 37.3 +1.8
JTS pmax pmax
comp=Z,56nm,1.0s
JTS MLR MLR
comp=Z,7µm,20.0s
JTS Las Juntas de 43.58 341⇑*i*P P 05 47 37.2 +1.8
JTS Las Juntas de 43.58 341 P P 05 47 36.3 +0.9
JTS Las Juntas de 43.58 341⇑P P 05 47 37.2 +1.8
HATO Hato, Curacao 43.62 4 P P 05 47 34.7 -0.9
HATO IAmb IAmb 05 47 51.2
comp=Z,259nm,1.0s
HATO IAMs_20 IAMs_20 06 07 49.9
comp=Z,14µm,19.0s
ARE1 Arenal 1 43.68 341⇑*i*P P 05 47 37.7 +1.5
ORTG Ortega, Santa 43.80 340 P P 05 47 38.5 +1.3
BOT Bacolet 43.80 16 *e*P P 05 47 37.1 0.0
COVE Coope Vega, Sa 43.84 342 P P 05 47 39.4 +2.0
COVE IAmb IAmb 05 47 58.5
comp=Z,211nm,0.9s
TOSP Speyside 43.97 16 *e*P P 05 47 35.1 -3.3
CUI Cuipilapa 43.99 341 *e*P P 05 47 40.5 +1.8
BUEV Buena Vista 44.20 340 *e*P P 05 47 42.0 +1.5
GRGR Grenville 44.53 14 *e*P P 05 47 41.9 -1.1
GRGR Grenville 44.53 14 ⇓P P 05 47 42.0 -1.0
GRHS Sauteurs 44.62 14 *e*P P 05 47 43.1 -0.6
GRSS Sisters 44.70 14 *e*P P 05 47 45.2 +0.9
GCMP Grenada, Carri 44.92 14 *e*P P 05 47 41.9 -4.1
SVOC Richmond Hill, 45.61 14 *e*P P 05 47 52.0 +0.4
PRVC Isla de Provid 45.70 347 P P 05 47 52.2 -0.1
SVB Belmont 45.72 14 *e*P P 05 47 51.1 -1.4
SVB Belmont 45.72 14 P P 05 47 50.3 -2.2
SVB IAmb IAmb 05 47 54.0
comp=Z,256nm,0.8s
BHS Barnard House 45.77 14 *e*P P 05 47 52.5 -0.3
SVV Soufriere Volc 45.77 14 *e*P P 05 47 52.1 -0.8
SSV Crater Summit 45.79 14 *e*P P 05 47 52.2 -0.8
SFAN Fancy Village 45.85 14 *e*P P 05 47 52.1 -1.4
BBGH Gun Hill 45.98 16 *e*P P 05 47 54.9 +0.4
MCLT Moule a Chique 46.21 14 *e*P P 05 47 51.7 -4.6
SLB Belfond 46.30 14 *e*P P 05 47 55.2 -1.8
CRIN San Cristobal 46.48 339 IAmb IAmb 05 48 24.6
comp=Z,155nm,0.9s
SLCP Castries, St. 46.49 14 *e*P P 05 47 58.3 -0.1
SLBI Saint Lucia, B 46.51 14 *e*P P 05 47 55.9 -2.7
H05S1 Guadeloupe/Mar 46.93 14 P P 05 48 00.6 -1.3
SNR=117
MPOM Morne Pois Mar 46.94 14 *e*P P 05 48 00.2 -1.8
MPOM Morne Pois Mar 46.94 14 P P 05 48 00.5 -1.5
BIM Bigot 46.97 14 *e*P P 05 47 57.9 -4.4
BIM Bigot 46.97 14 P P 05 48 00.6 -1.6
FDF Fort de France 47.16 14 *e*P P 05 47 59.8 -4.0
FDF Fort de France 47.16 14 IAMs_20 IAMs_20 06 11 04.5
comp=Z,14µm,20.0s
ILAM Ilet Lapin Mar 47.26 14 *e*P P 05 48 00.7 -3.8
SVN Savane Anatole 47.26 14 P P 05 48 03.9 -0.7
SVN IAMs_20 IAMs_20 06 11 06.1
comp=Z,15µm,20.0s
DLPL La Plaine 47.73 14 *e*P P 05 48 04.5 -3.6
DSLB Salisbury 47.79 13 *e*P P 05 48 04.2 -4.5
TGUH Tegucigalpa,Un 47.83 339 P P 05 48 09.7 +0.6
TGUH IAmb IAmb 05 48 25.8
comp=Z,217nm,0.9s
TGUH Tegucigalpa,Un 47.83 339⇑P P 05 48 09.9 +0.8
SNET Serv Nac Est T 48.11 337 IAmb IAmb 05 48 35.4
comp=Z,220nm,1.1s
TDBA Terre de Bas, 48.15 13 *e*P P 05 48 07.1 -4.3
MAGL Barre de l'ile 48.32 13 *e*P P 05 48 08.1 -4.6
CBE Ff. Capester 48.37 13 *e*P P 05 48 08.1 -5.0
H05N1 Guadeloupe/Mar 48.72 14 P P 05 48 13.7 -2.1
SNR=75
MTO3 Montecristo 48.82 337 P P 05 48 17.6 +0.7
ESQI Esquipulas 48.96 337 P P 05 48 19.0 +1.2
ANBD Bethesda, Anti 49.30 12 *e*P P 05 48 15.5 -4.7
ICMP Isla Caja de M 49.46 6 P P 05 48 20.7 -0.7
CDVI St. Croix 49.52 9 IAmb IAmb 05 48 25.4
comp=Z,179nm,0.9s
SEUS St. Eustatius 49.52 11 *e*P P 05 48 21.9 0.0
SEUS St. Eustatius 49.52 11 IAmb IAmb 05 48 53.0
comp=Z,230nm,1.1s
SEUS IAMs_20 IAMs_20 06 12 30.8
comp=Z,11µm,20.0s
CRPR Cabo Rojo, PR 49.52 6 P P 05 48 20.9 -1.0
JAKH Jacmel 49.57 359 P P 05 48 23.0 +0.7
JAKH IAmb IAmb 05 49 47.1
comp=Z,158nm,0.9s
OBIP Obispado Ponce 49.60 6 P P 05 48 20.6 -1.9
SJG San Juan 49.72 7 P P 05 48 21.9 -1.4
SJG pmax pmax
comp=Z,322nm,0.9s
SJG MLR MLR
comp=Z,9µm,19.0s
SJG San Juan 49.72 7 P P 05 48 21.9 -1.4
SJG San Juan 49.72 7 IAMs_20 IAMs_20 06 13 22.6
comp=Z,9µm,19.0s
SJG San Juan 49.72 7⇑P P 05 48 21.7 -1.6
BANI BANI 49.73 2 P P 05 48 23.7 +0.1
MTP Monte Pirata 49.77 8 P P 05 48 22.5 -1.3
MTP IAmb IAmb 05 48 24.6
comp=Z,111nm,0.9s
SDD Santo Domingo 49.81 2 P P 05 48 23.9 -0.2
LGNH Logne 49.85 359 P P 05 48 25.3 +1.0
LGNH IAmb IAmb 05 49 58.6
comp=Z,146nm,1.1s
MTDJ Mount Denham 49.88 353⇑P P 05 48 24.9 +0.2
AOPR Arecibo Observ 49.89 6 IAmb IAmb 05 48 31.3
comp=Z,173nm,0.9s
ANWB Willy Bob 49.90 12 *e*P P 05 48 17.4 -7.4
ANWB Willy Bob 49.90 12 P P 05 48 22.9 -1.9
ANWB IAmb IAmb 05 48 24.6
comp=Z,250nm,1.0s
ANWB IAMs_20 IAMs_20 06 12 18.8
comp=Z,13µm,21.0s
ANWB Willy Bob 49.90 12⇑P P 05 48 22.5 -2.2
CBYP Canovanas 49.91 7 P P 05 48 23.5 -1.4
GCPR Guaynabo City 49.92 7 P P 05 48 23.6 -1.3
GCPR IAmb IAmb 05 48 25.6
comp=Z,162nm,0.8s
AGPR Aguadilla, PR 49.98 6 P P 05 48 24.9 -0.5
AGPR IAmb IAmb 05 48 50.4
comp=Z,106nm,0.9s
CUPR Culebra, Puert 50.01 8 P P 05 48 23.5 -2.0
EMPR Esperanza - Ma 50.04 6 P P 05 48 24.8 -1.1
EMPR IAmb IAmb 05 48 26.5
comp=Z,226nm,1.0s
SMRT St. Maarten 50.05 11 *e*P P 05 48 22.2 -3.8
SMRT St. Maarten 50.05 11 P P 05 48 24.1 -1.8
SMRT IAmb IAmb 05 48 26.1
comp=Z,138nm,1.1s
SMRT IAMs_20 IAMs_20 06 12 47.8
comp=Z,11µm,20.0s
STVI Saint Thomas 50.09 8 P P 05 48 25.6 -0.6
DR12 Loma Pena Alta 50.16 3 P P 05 48 25.9 -0.9
SDDR Presa de Saban 50.31 0 P P 05 48 27.6 -0.3
ABVI Anegada Island 50.54 9 P P 05 48 28.4 -1.2
ABVI IAmb IAmb 05 48 30.5
comp=Z,251nm,0.9s
SC01 Santiago de lo 50.76 1 P P 05 48 31.7 +0.4
GTBY Guantanamo Bay 51.36 356 P P 05 48 36.0 +0.3
GTBY IAmb IAmb 05 48 38.1
comp=Z,174nm,0.9s
GTBY Guantanamo Bay 51.36 356⇑P P 05 48 35.9 +0.2
PTCN Pitcairn Island 51.38 262 IAMs_20 IAMs_20 06 05 04.0
comp=Z,6µm,18.0s
VNA3 Neumayer Olymp 51.43 159 P P 05 48 36.1 +0.3
VNA3 Neumayer Olymp 51.43 159 pP pP 05 48 44.1 +1.1
VNA3 Neumayer Olymp 51.43 159 sP sP 05 48 47.1 +1.4
CCIG Comitan 51.54 335 P P 05 48 37.6 +0.2
LCCY Blossom Villag 51.63 350 P P 05 48 38.2 +0.4
CBCY The Bluff, Cay 51.65 350 P P 05 48 39.0 +1.0
CBCY IAmb IAmb 05 49 53.9
comp=Z,143nm,1.0s
VNA1 Neumayer--Stat 51.73 158 P P 05 48 39.1 +1.1
VNA2 Neumayer--Watz 52.07 158 P P 05 48 40.8 +0.2
baz=290,slow=8.4
VNA2 Neumayer--Watz 52.07 158 pP pP 05 48 48.7 +0.9
VNA2 Neumayer--Watz 52.07 158 sP sP 05 48 51.2 +0.8
GRTK Grand Turk 52.83 1 IAmb IAmb 05 48 49.3
GRTK IAMs_20 IAMs_20 06 13 21.7
comp=Z,9µm,19.0s
GRTK Grand Turk 52.83 1⇑P P 05 48 47.1 +0.5
SNAA Sanae 53.66 159 P P 05 48 52.5 +0.2
SNAA Sanae 53.66 159 P P 05 48 52.3 0.0
comp=Z,465nm,1.2s,baz=281,slow=6.1,SNR=277
SNAA Sanae 53.66 159*e*P P 05 48 52.6 +0.2
SNAA pmax pmax
comp=Z,531nm,1.3s
SNAA MLR MLR
comp=Z,6µm,18.0s
SNAA Sanae 53.66 159 P P 05 48 51.6 -0.7
SNAA IAMs_20 IAMs_20 06 09 40.1
comp=Z,7µm,21.0s
SNAA Sanae 53.66 159⇑P P 05 48 52.2 -0.2
SOR Soroa 55.19 347 P P 05 49 03.4 -0.5
SOR pmax pmax
comp=Z,198nm,0.9s
SOR Soroa 55.19 347 P P 05 49 03.4 -0.5
SOR IAmb IAmb 05 49 06.1
comp=Z,198nm,0.9s
RKT Rikitea 56.24 262 *e*T T 06 49 17.9
comp=Z,53nm,0.3s
061Z Ochoppi 57.84 350 IAmb IAmb 05 49 25.3
comp=Z,221nm,0.9s
ASCN Ascension 58.08 79 P P 05 49 24.3 -0.5
ASCN IAMs_20 IAMs_20 06 11 33.0
comp=Z,8µm,22.0s
QSPA South Pole Qui 58.62 180 P P 05 49 28.4 +0.4
QSPA IAmb IAmb 05 49 41.2
comp=Z,195nm,1.0s
060A Indiantown 58.92 351 P P 05 49 30.8 +0.6
DWPF Disney Wildern 60.13 350 P P 05 49 38.4 -0.1
DWPF IAmb IAmb 05 49 40.9
comp=Z,152nm,1.0s
DWPF Disney Wildern 60.13 350⇑P P 05 49 38.6 +0.1
DWPF Disney Wildern 60.13 350 P P 05 49 38.6 +0.1
baz=170
DWPF S S 05 57 48.9 -1.6
baz=170
SHEL Horse Pasture 61.44 92⇑P P 05 49 49.1 +1.2
656A Willston 61.53 349 P P 05 49 47.4 -0.6
H06S1 SOCORRO T 62.70 317 T T 06 58 01.1
SNR=21
H06E1 SOCORRO T-PHAS 62.72 318 T T 06 58 09.3
SNR=133
451A Vernon 63.33 346 IAmb IAmb 05 50 02.5
comp=Z,220nm,1.0s
TIGA Tifton 63.73 349 P P 05 50 02.3 -0.4
TIGA IAmb IAmb 05 50 04.8
comp=Z,198nm,0.9s
TIGA Tifton 63.73 349 P P 05 50 01.7 -1.0
baz=169,SNR=39
TIGA S S 05 58 33.9 -2.1
baz=169
257A Skidaway Islan 63.87 351 P P 05 50 04.1 +0.5
BBSR BB Station 63.98 7 P P 05 50 04.6 +0.3
BBSR IAmb IAmb 05 50 16.5
comp=Z,119nm,0.9s
BBSR BB Station 63.98 7 ⇓P P 05 50 05.0 +0.7
352A Blakely 64.01 347 P P 05 50 03.8 -0.7
255A Hazlehurst 64.03 350 P P 05 50 04.2 -0.5
255A IAmb IAmb 05 50 06.8
comp=Z,166nm,0.9s
BRAL Brewton 64.14 345 P P 05 50 05.0 -0.4
BRAL Brewton 64.14 345⇑P P 05 50 04.4 -0.9
BRAL Brewton 64.14 345 P P 05 50 04.6 -0.8
baz=166,SNR=22
BRAL S S 05 58 39.2 -1.8
baz=166
CSU Charleston Sou 64.75 352 P P 05 50 09.5 +0.2
250A Grady 64.75 346 IAmb IAmb 05 50 10.9
comp=Z,132nm,0.9s
NHSC New Hope 64.88 352 P P 05 50 10.1 0.0
baz=172,SNR=54
NHSC S S 05 58 49.7 -0.5
baz=172
735A Kenedy 65.10 335 P P 05 50 13.1 +1.4
735A IAmb IAmb 05 50 15.2
comp=Z,188nm,0.9s
152A Waverly Hall 65.13 348 P P 05 50 11.0 -0.8
152A IAmb IAmb 05 50 13.6
comp=Z,143nm,0.8s
833A Chaparral WMA, 65.22 333 P P 05 50 13.0 +0.5
baz=154,SNR=109
833A S S 05 58 56.1 +1.7
baz=154
344A Westbrook Farm 65.29 342 P P 05 50 13.4 +0.5
344A IAmb IAmb 05 50 16.4
comp=Z,220nm,1.0s
SACV Santiago Islan 65.30 52 P P 05 50 13.2 -0.1
SACV IAMs_20 IAMs_20 06 18 41.1
comp=Z,8µm,19.0s
441A DeRidder 65.32 340 IAmb IAmb 05 50 17.0
comp=Z,141nm,0.9s
HKT Hockley 65.41 337 *i*P P 05 50 14.4 +0.8
HKT pmax pmax
comp=Z,114nm,2.0s
HKT MLR MLR
comp=Z,3µm,19.0s
HKT Hockley 65.41 337 P P 05 50 14.4 +0.8
HKT IAmb IAmb 05 50 27.2
comp=Z,236nm,1.8s
HKT Hockley 65.41 337⇑P P 05 50 14.1 +0.5
SBA Scott Base 65.48 191 P P 05 50 13.9 +0.2
SBA pmax pmax
comp=Z,83nm,1.1s
SBA Scott Base 65.48 191 P P 05 50 13.9 +0.2
Y59A Loris 65.61 353 IAmb IAmb 05 50 18.0
comp=Z,168nm,0.8s
GOGA Godfrey 65.64 349 P P 05 50 14.7 -0.4
GOGA pmax pmax
comp=Z,129nm,0.9s
GOGA Godfrey 65.64 349 P P 05 50 14.7 -0.4
GOGA IAmb IAmb 05 50 17.0
comp=Z,129nm,0.9s
GOGA Godfrey 65.64 349 P P 05 50 13.8 -1.4
baz=169,SNR=54
GOGA S S 05 58 56.1 -3.3
baz=169
342A Flagon Creek P 65.65 341 P P 05 50 16.5 +1.3
LRAL Lakeview Retre 65.92 346 P P 05 50 16.4 -0.6
LRAL IAmb IAmb 05 50 18.6
comp=Z,74nm,0.9s
LRAL Lakeview Retre 65.92 346 P P 05 50 16.9 -0.1
baz=166,SNR=45
LRAL S S 05 58 59.5 -3.5
baz=166
VBMS Vicksburg 65.96 342 P P 05 50 18.2 +1.0
baz=162,SNR=19
VBMS S S 05 59 03.7 +0.3
baz=162
SLBS Sierra La Lagu 66.10 322 P P 05 50 18.2 -0.2
SLBS IAmb IAmb 05 50 31.2
comp=Z,118nm,1.4s
SLBS Sierra La Lagu 66.10 322 ⇓P P 05 50 20.1 +1.7
JSC Jenkinsville 66.17 351 P P 05 50 18.1 -0.4
JSC pmax pmax
comp=Z,155nm,0.9s
JSC Jenkinsville 66.17 351 P P 05 50 18.1 -0.4
JSC IAmb IAmb 05 50 20.7
comp=Z,155nm,0.9s
HODGE Hodges 66.26 350 IAmb IAmb 05 50 21.3
comp=Z,90nm,0.9s
BIRD Birdtown, Kers 66.43 352 IAmb IAmb 05 50 21.9
comp=Z,88nm,0.9s
VNDA Vanda 66.51 191 P P 05 50 22.0 +1.7
comp=Z,18nm,0.9s,baz=133,slow=6.1,SNR=52
VNDA S S 05 59 12.9 +3.7
comp=Z,0.9nm,0.9s,baz=279,slow=7.5,SNR=1.3
VNDA LR LR 06 15 44.7
comp=Z,2µm,19.3s,baz=134,slow=33
VNDA P(PPKP P'P'df 06 18 39.4 -19
comp=Z,2.4nm,1.1s,baz=358,slow=1.3,SNR=5.2
VNDA Vanda 66.51 191 P P 05 50 20.9 +0.7
VNDA IAmb IAmb 05 50 40.7
comp=Z,181nm,1.9s
Y49A Blount Mountai 66.60 347 P P 05 50 21.0 -0.4
Y49A IAmb IAmb 05 50 23.4
comp=Z,132nm,1.1s
143A Socs Landing, 66.65 342 P P 05 50 22.6 +1.0
HPIG 66.67 327 P P 05 50 23.2 +1.0
NATX Nacogdoches 66.70 339 P P 05 50 22.5 +0.5
NATX IAmb IAmb 05 50 25.0
comp=Z,131nm,0.9s

NATX Nacogdoches 66.70 339 P **P** **05 50 23.0 +1.0**
baz=159,SNR=15
NATX S **S** **05 59 13.0 +0.5**
baz=159
CNNC Cliffs of the 66.76 354 P **P** **05 50 22.8 +0.5**
CNNC Cliffs of the 66.76 354 ⇓P **P** **05 50 22.7 +0.5**
CNNC Cliffs of the 66.76 354 P **P** **05 50 22.5 +0.3**
baz=174,SNR=42
CNNC S **S** **05 59 12.7 -0.3**
baz=174
435B Jarrell 66.77 336 IAmb IAmb 05 50 54.5
comp=Z,86nm,1.1s
435B Jarrell 66.77 336 P **P** **05 50 23.1 +0.6**
baz=156,SNR=11
435B S **S** **05 59 13.3 -0.1**
baz=156
PAULI Pauline 66.78 351 P **P** **05 50 22.4 0.0**
PAULI IAmb IAmb 05 50 24.8
comp=Z,190nm,1.0s
W57A Gilead 66.88 353 IAmb IAmb 05 50 25.2
comp=Z,188nm,0.9s
X51A Calhoun 67.00 348 P **P** **05 50 23.6 -0.3**
KMSC Kings Mountain 67.03 351 IAmb IAmb 05 50 26.2
comp=Z,166nm,0.9s
KMSC Kings Mountain 67.03 351 P **P** **05 50 24.1 +0.1**
baz=171,SNR=44
KMSC S **S** **05 59 12.8 -3.5**
baz=171
FPAL Fort Paine 67.11 347 IAmb IAmb 05 50 26.6
comp=Z,152nm,1.0s
237A Washetta, Mont 67.29 338 IAmb IAmb 05 50 29.3
comp=Z,210nm,0.9s
JCT Junction City 67.30 334 P **P** **05 50 26.4 +0.5**
JCT pmax pmax
comp=Z,156nm,1.0s
JCT Junction City 67.30 334 P **P** **05 50 26.4 +0.5**
JCT IAmb IAmb 05 50 28.6
comp=Z,156nm,0.9s
JCT Junction City 67.30 334 ⇑P **P** **05 50 26.2 +0.3**
JCT Junction City 67.30 334 P **P** **05 50 26.2 +0.3**
baz=154,SNR=116
JCT S **S** **05 59 21.2 +1.3**
baz=154
X48A Hartselle 67.30 346 P **P** **05 50 25.4 -0.3**
W52A Murphy 67.36 349 IAmb IAmb 05 50 28.6
comp=Z,190nm,0.9s
V58A Windy Hill, Pi 67.42 353 P **P** **05 50 26.1 -0.4**
V58A IAmb IAmb 05 50 28.7
comp=Z,188nm,0.9s
Z41A Richland Creek 67.56 341 P **P** **05 50 28.3 +0.9**
baz=161,SNR=18
Z41A S **S** **05 59 23.4 +0.8**
baz=161
V55A Taylorsville 67.72 352 P **P** **05 50 28.2 -0.2**
WHTX Lake Whitney, 67.83 336 P **P** **05 50 29.3 +0.2**
WHTX IAmb IAmb 05 50 31.6
comp=Z,134nm,0.9s
WHTX Lake Whitney, 67.83 336 P **P** **05 50 29.2 +0.1**
baz=156,SNR=20
WHTX S **S** **05 59 26.4 +0.4**
baz=156
TXAR Lajitas Array 67.84 330 P **P** **05 50 30.0 +0.5**
comp=Z,37nm,1.0s,baz=147,slow=7.1,SNR=116
TXAR LR LR 06 15 52.6
comp=Z,8μm,18.8s,baz=0.0,slow=32
TXAR PKPPKP **P'P'df** **06 18 48.9 +3.6**
comp=Z,9.9nm,1.2s,baz=210,slow=1.4,SNR=13
TXAR Lajitas Array 67.84 330 P **P** **05 50 30.1 +0.6**
TXAR Lajitas Array 67.84 330 P **P** **05 50 30.1 +0.6**
TX31 Lajitas Ar. Si 67.85 330 P **P** **05 50 29.8 +0.3**
TX31 IAmb IAmb 05 50 32.1
comp=Z,143nm,1.0s
U59A Littleton 67.86 355 IAmb IAmb 05 50 32.2
comp=Z,173nm,1.0s
OXF Oxford 67.88 344 P **P** **05 50 28.9 -0.5**
OXF pmax pmax
comp=Z,737nm,0.9s
OXF Oxford 67.88 344 P **P** **05 50 28.9 -0.5**
OXF Oxford 67.88 344 P **P** **05 50 28.8 -0.5**
baz=164,SNR=238
OXF S **S** **05 59 24.8 -1.6**
baz=164
CCAR Cane Creek 67.90 342 P **P** **05 50 30.6 +1.1**
CCAR IAmb IAmb 05 50 32.2
comp=Z,106nm,0.9s
SYO Syowa Base 67.95 159⇓ *e*P **P** **05 50 28.7 -0.8**
SYO Syowa Base 67.95 159⇑ *i*pP pP 05 50 37.6 +0.7
SYO Syowa Base 67.95 159⇓ *es*P sP 05 50 40.3 +0.8
PLAL Pickwick Lake 68.03 345 P **P** **05 50 29.6 -0.8**
PLAL IAmb IAmb 05 50 32.4
comp=Z,177nm,0.9s
V52A Sevierville 68.04 350 P **P** **05 50 29.6 -0.8**
WLAR White Oak Lake 68.05 341 P **P** **05 50 31.0 +0.6**
WLAR IAmb IAmb 05 50 53.6
comp=Z,267nm,1.3s
U56A King 68.11 352 IAmb IAmb 05 50 33.4
comp=Z,209nm,0.9s
V51A Loudon 68.12 349 P **P** **05 50 29.9 -1.0**
Z38A Mt. Pleasant 68.20 339 P **P** **05 50 32.0 +0.5**
Z38A IAmb IAmb 05 50 34.1
comp=Z,101nm,0.9s
TBI Tubuai 68.25 255 *e*S **S** **05 59 35.8 +4.1**
comp=Z,6μm,27.0s
TBI Tubuai 68.25 255 *e*LR LR 06 11 10.0
comp=Z,20μm,25.5s,baz=110
TBI Tubuai 68.25 255 *e*T T 07 04 17.3
comp=Z,39nm,0.3s
W45A Hickory Valley 68.44 345 P **P** **05 50 32.6 -0.3**
U54A Nelsons Funny 68.45 351 P **P** **05 50 32.5 -0.6**
V48A Smith Brothers 68.51 347 P **P** **05 50 32.8 -0.6**
T60A Surry 68.56 356 P **P** **05 50 35.1 +1.5**
T57A Hurt 68.63 353 P **P** **05 50 34.1 0.0**
T57A IAmb IAmb 05 50 36.4
comp=Z,114nm,0.8s
TZTN Tazewell 68.72 350 P **P** **05 50 34.2 -0.4**
TZTN IAmb IAmb 05 50 36.1
comp=Z,126nm,0.9s
TZTN IAMs_20 IAMs_20 06 22 10.1
comp=Z,6μm,22.0s
TZTN Tazewell 68.72 350 P **P** **05 50 34.4 -0.3**
baz=169,SNR=34
TZTN S **S** **05 59 34.1 -2.4**
baz=169
X40A Basin Creek Fa 68.72 341 P **P** **05 50 34.6 -0.1**
X40A Basin Creek Fa 68.72 341 P **P** **05 50 34.4 -0.3**
baz=161,SNR=15
X40A S **S** **05 59 35.1 -1.5**
baz=161
BLA Blacksburg 68.96 352 IAmb IAmb 05 50 39.4
comp=Z,73nm,0.8s
BLA Blacksburg 68.96 352 P **P** **05 50 36.2 0.0**
baz=172,SNR=18
BLA S **S** **05 59 37.5 -1.9**
baz=172
MIAR Mount Ida 68.98 341 P **P** **05 50 36.9 +0.6**
MIAR pmax pmax
comp=Z,82nm,1.1s
MIAR Mount Ida 68.98 341 P **P** **05 50 36.9 +0.6**
MIAR Mount Ida 68.98 341 ⇓P **P** **05 50 36.4 0.0**
MIAR ⇑P **P** **05 50 36.5 +0.2**
MIAR Mount Ida 68.98 341 P **P** **05 50 36.5 +0.2**
baz=160,SNR=50
MIAR S **S** **05 59 38.0 -1.6**
baz=160
U49A Red Boiling Sp 69.06 348 IAmb IAmb 05 50 38.3
comp=Z,130nm,0.8s
WVT Waverly 69.09 346 P **P** **05 50 36.3 -0.6**
WVT pmax pmax
comp=Z,497nm,0.9s
WVT Waverly 69.09 346 P **P** **05 50 36.3 -0.6**
WVT Waverly 69.09 346 ⇑P **P** **05 50 36.0 -0.9**
WVT ⇑P pP 05 50 36.4 -7.9
WVT Waverly 69.09 346 P **P** **05 50 36.4 -0.6**
baz=165
WVT S **S** **05 59 37.4 -3.4**
baz=165
LPAR Lepanto 69.13 344 P **P** **05 50 37.1 0.0**
LPAR IAmb IAmb 05 50 41.1
comp=Z,208nm,0.9s
HBAR Harrisburg 69.17 343 IAmb IAmb 05 50 39.9
comp=Z,137nm,0.9s
ABTX Abilene, Hawle 69.17 335 P **P** **05 50 37.8 +0.2**
ABTX IAmb IAmb 05 50 40.5
comp=Z,177nm,0.9s
ABTX Abilene, Hawle 69.17 335 P **P** **05 50 37.8 +0.2**
baz=155,SNR=54
ABTX S **S** **05 59 42.2 +0.2**
baz=155
HALT Halls 69.20 345 P **P** **05 50 37.9 +0.3**
W41B Gary Mavity, V 69.21 342 P **P** **05 50 37.6 -0.1**
baz=161,SNR=44
W41B S **S** **05 59 40.9 -1.5**
baz=161
WHAR Wooly Hollow 69.33 342 P **P** **05 50 38.0 -0.5**
WHAR IAmb IAmb 05 50 40.5
comp=Z,84nm,0.9s
S57A Dark Hollow, R 69.36 354 IAmb IAmb 05 50 41.2
comp=Z,181nm,0.9s
GNAR Gosnell 69.41 344 P **P** **05 50 39.7 +0.8**
R58B Mineral 69.47 355 IAmb IAmb 05 50 42.5
comp=Z,190nm,1.0s
UTMT University of 69.51 345 P **P** **05 50 39.4 -0.1**
PEBM Pemiscott Bayo 69.52 344 P **P** **05 50 40.1 +0.5**
X37A Clayton 69.55 339 IAmb IAmb 05 51 15.1
comp=Z,102nm,1.1s
MEH Mehetia 69.55 261 *e*T T 07 05 55.3
comp=Z,175nm,0.2s
LOOK Love County 69.57 337 P **P** **05 50 40.5 +0.5**
LOOK IAmb IAmb 05 50 42.3
comp=Z,102nm,0.9s
S54A Dingess, Beckl 69.65 352 P **P** **05 50 39.8 -0.7**
S54A IAmb IAmb 05 50 42.4
comp=Z,214nm,1.0s
W39A Magazine 69.65 341 P **P** **05 50 40.1 -0.3**
baz=160,SNR=159
W39A S **S** **05 59 48.1 +0.6**
baz=160
CBN Corbin Frederi 69.67 355 P **P** **05 50 41.0 +0.6**
CBN IAmb IAmb 05 50 42.9
comp=Z,106nm,0.9s
CBN Corbin Frederi 69.67 355 P **P** **05 50 40.5 +0.1**
baz=175,SNR=14
CBN S **S** **05 59 48.5 +0.9**
baz=175
LCAR Lake Charles 69.78 343 P **P** **05 50 40.7 -0.5**
PENMO Penman 69.78 345 P **P** **05 50 42.1 +0.9**
FCAR Ozark Folk Cen 69.86 342 P **P** **05 50 41.5 -0.2**
FCAR IAmb IAmb 05 50 43.4
comp=Z,74nm,0.8s
HENM Henderson Moun 70.00 345 P **P** **05 50 42.7 +0.1**
PARMO Parma 70.02 345 P **P** **05 50 42.6 0.0**
Q61A Milford 70.22 357 P **P** **05 50 43.4 -0.4**
baz=177
R53A Hurricane 70.25 351 P **P** **05 50 43.6 -0.4**
R53A IAmb IAmb 05 50 46.1
comp=Z,124nm,0.8s
PBMO Poplar Bluff 70.28 344 P **P** **05 50 43.9 -0.4**
PBMO IAmb IAmb 05 50 46.5
comp=Z,197nm,0.9s
X34A Smith Ranch, M 70.34 337 IAmb IAmb 05 50 47.6
comp=Z,214nm,0.9s
U40A Yellville 70.49 342 IAmb IAmb 05 50 48.0
comp=Z,164nm,0.9s
U40A Yellville 70.49 342 P **P** **05 50 45.2 -0.4**
baz=161,SNR=49
U40A S **S** **05 59 55.8 -1.6**
baz=161
R50A Paris 70.54 349 IAmb IAmb 05 50 47.8
comp=Z,113nm,0.9s
MNTX Cornudas Mount 70.63 330 P **P** **05 50 46.4 -0.2**
MNTX IAmb IAmb 05 50 48.5
comp=Z,91nm,0.9s
MNTX Cornudas Mount 70.63 330 P **P** **05 50 46.1 -0.4**
baz=150,SNR=162
MNTX S **S** **05 59 57.6 -1.5**
baz=150
Q56A Snyder Ridge, 70.65 354 IAmb IAmb 05 50 49.6
comp=Z,124nm,0.8s
T42A Van Buren 70.68 344 P **P** **05 50 46.4 -0.3**
R49A Shelbyville 70.69 349 P **P** **05 50 46.2 -0.5**
R49A IAmb IAmb 05 50 49.3
comp=Z,109nm,0.8s
HHAR Hobbs 70.71 341 P **P** **05 50 46.7 -0.2**
HHAR IAmb IAmb 05 50 49.3
comp=Z,160nm,0.9s
Q54A Coxs Mills 70.76 352 P **P** **05 50 46.3 -0.8**
Q54A IAmb IAmb 05 50 48.9
comp=Z,100nm,0.8s
TIAR Tiarei 70.78 261 *e*T T 07 07 27.7
comp=Z,16nm,0.3s
WMOK Wichita Mounta 70.78 337 P **P** **05 50 46.8 -0.6**
baz=156,SNR=54
WMOK S **S** **05 59 59.9 -0.9**
baz=156
FNO Franklin 70.80 338 P **P** **05 50 47.6 +0.1**
FNO IAmb IAmb 05 51 08.8
comp=Z,178nm,1.3s
WCI Wyandotte Cave 70.82 348 P **P** **05 50 46.0 -1.5**
WCI pmax pmax
comp=Z,150nm,0.8s
WCI MLR MLR
comp=Z,5μm,22.0s
WCI Wyandotte Cave 70.82 348 P **P** **05 50 46.0 -1.5**
WCI IAmb IAmb 05 50 49.1
comp=Z,150nm,0.8s
WCI Wyandotte Cave 70.82 348 IAMs_20 IAMs_20 06 25 08.6
comp=Z,5μm,22.0s
WCI Wyandotte Cave 70.82 348 ⇓P **P** **05 50 46.7 -0.8**
WCI ⇑P **P** **05 50 47.0 -0.6**
WCI Wyandotte Cave 70.82 348 P **P** **05 50 46.9 -0.6**
baz=167
WCI S **S** **05 59 56.8 -4.3**
baz=167
USIN University of 70.83 347 P **P** **05 50 46.8 -0.8**
TUL1 Leonard 70.90 339 P **P** **05 50 47.5 -0.6**
baz=158,SNR=77
TUL1 S **S** **05 59 59.6 -2.6**
baz=158
SIUC Southern Illin 70.91 345 P **P** **05 50 47.6 -0.4**
Q52A Bidwell 70.91 351 P **P** **05 50 47.8 -0.3**
PAE Paea 70.92 261 *e*T T 07 07 38.2
comp=Z,2.7nm,0.3s
PPTF Pamatai, Papee 70.95 261 IAMs_20 IAMs_20 06 13 08.6
comp=Z,4μm,21.0s
PPT2 Papeete2 70.96 261 *e*S **S** **06 00 07.9 +4.1**
comp=Z,7μm,28.0s
PPT2 Papeete2 70.96 261 *e*LR LR 06 12 24.7
comp=Z,9μm,25.0s,baz=113
PPT2 Papeete2 70.96 261 *e*T T 07 07 40.3
comp=Z,4.8nm,0.2s
OKCFA Oklahoma City 70.96 338 IAmb IAmb 05 50 50.8
comp=Z,147nm,1.1s
HSIG 70.97 324 P **P** **05 50 48.5 -0.1**
PPT Papeete 70.97 261 P **P** **05 50 51.0 +2.0**
comp=Z,70nm,0.9s,baz=129,slow=17,SNR=4.9
PPT LR LR 06 13 29.4
comp=Z,3μm,20.0s,baz=148,slow=29
PPT Papeete 70.97 261 P **P** **05 50 51.0 +2.0**
U38A Gravette 70.98 341 P **P** **05 50 48.5 -0.1**
P57A Homestead Farm 70.99 355 P **P** **05 50 49.4 +0.8**
P61A Hammonton 70.99 357 P **P** **05 50 49.4 +0.9**
OK025 Westminster Rd 71.08 338 P **P** **05 50 48.8 -0.4**
MGMO Mountain Grove 71.09 343 P **P** **05 50 49.1 -0.1**
MGMO IAmb IAmb 05 50 51.7
comp=Z,123nm,0.9s
P60A Greenville 71.16 357 P **P** **05 50 50.7 +1.2**
P60A IAmb IAmb 05 50 52.7
comp=Z,137nm,1.0s
P60A Greenville 71.16 357 P **P** **05 50 50.2 +0.7**
baz=176,SNR=18
P60A S **S** **06 00 06.3 +1.3**
baz=176
BCOK Bluff Creek, N 71.23 338 P **P** **05 50 50.0 -0.1**
BCOK IAmb IAmb 05 51 10.6
comp=Z,117nm,1.0s
OK031 S. Brethren Rd 71.26 339 P **P** **05 50 49.6 -0.7**
OK031 IAmb IAmb 05 50 52.6
comp=Z,200nm,1.0s
WUPA West Chester U 71.28 357 P **P** **05 50 50.5 +0.2**
WUPA IAmb IAmb 05 50 53.6
comp=Z,146nm,0.9s
OK029 Liberty Lake 71.31 338 IAmb IAmb 05 50 52.9
comp=Z,156nm,1.0s
P53A Whipple 71.32 352 IAmb IAmb 05 50 52.9
comp=Z,170nm,1.0s
MCWV Mont Chateau 71.32 353 P **P** **05 50 50.3 -0.3**
MCWV IAmb IAmb 05 50 53.1
comp=Z,147nm,0.8s
MCWV Mont Chateau 71.32 353 P **P** **05 50 50.7 +0.1**
baz=173,SNR=44
MCWV S **S** **06 00 05.8 -1.0**
baz=173
MVL Millersville 71.39 356 P **P** **05 50 51.4 +0.5**
MVL IAmb IAmb 05 50 54.3
comp=Z,149nm,1.0s
QUOK Quay 71.42 339 IAmb IAmb 05 50 53.2
comp=Z,140nm,1.1s
MSTX Muleshoe 71.54 333 P **P** **05 50 52.0 -0.2**
MSTX Muleshoe 71.54 333 P **P** **05 50 52.6 +0.4**
baz=152
MSTX S **S** **06 00 09.0 -0.9**
baz=152
P52A Corning 71.56 351 P **P** **05 50 51.1 -0.8**
P52A Corning 71.56 351 P **P** **05 50 51.7 -0.2**
baz=171,SNR=123
P52A S **S** **06 00 05.6 -4.0**
baz=171
PAGS Pennsylvania G 71.64 356 IAmb IAmb 05 50 55.4
comp=Z,176nm,0.9s
OLIL Olney 71.65 346 P **P** **05 50 52.1 -0.5**
OLIL IAmb IAmb 05 50 54.4
comp=Z,233nm,1.0s
CCM Cathedral Cave 71.69 344 P **P** **05 50 52.6 -0.2**
CCM pmax pmax
comp=Z,353nm,0.9s
CCM Cathedral Cave 71.69 344 P **P** **05 50 52.6 -0.2**
CCM Cathedral Cave 71.69 344 ⇑P **P** **05 50 52.5 -0.3**
CCM ⇑P **P** **05 50 52.6 -0.2**
CCM Cathedral Cave 71.69 344 P **P** **05 50 53.1 +0.3**
baz=163
CCM S **S** **06 00 10.1 -1.0**
baz=163
BLO Bloomington 71.78 348 IAmb IAmb 05 50 55.7
comp=Z,179nm,0.8s
O56A Blue Knob Stat 71.81 354 P **P** **05 50 54.0 +0.5**
O56A IAmb IAmb 05 50 56.0
comp=Z,127nm,0.9s
O56A Blue Knob Stat 71.81 354 P **P** **05 50 53.9 +0.3**
baz=174,SNR=32
O56A S **S** **06 00 11.7 -0.9**
baz=174
P49A Miami Univ. Ec 71.83 349 IAmb IAmb 05 50 55.2
comp=Z,174nm,0.8s
P49A Miami Univ. Ec 71.83 349 P **P** **05 50 53.0 -0.6**
baz=168,SNR=52
P49A S **S** **06 00 09.2 -3.4**
baz=168
S39A Bolivar 71.87 342 IAmb IAmb 05 50 56.5
comp=Z,208nm,1.1s
P48A Milroy 71.87 349 P **P** **05 50 52.7 -1.2**
P48A IAmb IAmb 05 50 55.4
comp=Z,250nm,0.9s
O54A Avella 71.90 353 P **P** **05 50 53.8 -0.2**
O54A IAmb IAmb 05 50 56.7
comp=Z,86nm,0.8s
LUPA Lehigh Univers 71.94 357 IAmb IAmb 05 50 57.4
comp=Z,141nm,0.9s
AMTX Amarillo 71.94 334 P **P** **05 50 54.8 +0.3**
AMTX IAmb IAmb 05 50 57.4
comp=Z,227nm,1.1s
AMTX Amarillo 71.94 334 P **P** **05 50 54.9 +0.3**
baz=153
AMTX S **S** **06 00 13.4 -1.0**
baz=153
O52A Adamsville 72.00 352 P **P** **05 50 54.2 -0.4**
O52A IAmb IAmb 05 50 56.6
comp=Z,179nm,0.8s
Q44A Meyer Farm, Va 72.00 346 IAmb IAmb 05 50 56.3
comp=Z,146nm,0.9s
SLM Saint Louis 72.01 345 P **P** **05 50 54.7 0.0**
SLM pmax pmax
comp=Z,341nm,0.9s
SLM Saint Louis 72.01 345 P **P** **05 50 54.6 0.0**
T35A Sooner Cattle 72.05 339 IAmb IAmb 05 50 57.8
comp=Z,185nm,1.1s
O53A New Philadelph 72.05 352 IAmb IAmb 05 50 56.6
comp=Z,105nm,0.9s
O53A New Philadelph 72.05 352 P **P** **05 50 54.3 -0.7**
baz=172,SNR=28
O53A S **S** **06 00 11.3 -3.9**
baz=172
CPNY Central Park 72.08 358 P **P** **05 50 55.3 +0.3**
319A Douglas 72.10 327 P **P** **05 50 57.0 +1.4**
BLOK Blackwell 72.12 339 IAmb IAmb 05 50 58.2
comp=Z,124nm,0.9s
SSPA Standing Stone 72.12 355 P **P** **05 50 55.4 +0.1**
SSPA IAmb IAmb 05 50 58.2
comp=Z,158nm,0.9s
SSPA Standing Stone 72.12 355 P **P** **05 50 55.8 +0.5**
baz=174
SSPA S **S** **06 00 15.9 -0.2**
baz=174
CROK Carrier 72.13 338 P **P** **05 50 55.5 0.0**
CROK IAmb IAmb 05 50 58.0
comp=Z,156nm,0.9s
R40A Maddies Statio 72.17 343 P **P** **05 50 55.1 -0.5**
N62A Caumsett State 72.20 359 IAmb IAmb 05 50 58.8
comp=Z,226nm,0.8s
N58A Sunbury 72.25 356 P **P** **05 50 55.9 -0.2**
N58A IAmb IAmb 05 50 59.1
comp=Z,201nm,0.9s
ACSO Alum Creek Sta 72.26 351 P **P** **05 50 55.9 -0.3**
ACSO Alum Creek Sta 72.26 351 P **P** **05 50 55.6 -0.6**
baz=170,SNR=139
ACSO S **S** **06 00 14.1 -3.5**
baz=170
N59A State Game Lan 72.27 357 P **P** **05 50 57.0 +0.7**
N59A IAmb IAmb 05 50 59.7
comp=Z,245nm,0.9s
N59A State Game Lan 72.27 357 P **P** **05 50 57.3 +1.1**
baz=176,SNR=54
N59A S **S** **06 00 19.1 +1.3**
baz=176
PAL Palisades 72.29 358 P **P** **05 50 56.8 +0.5**
PAL pmax pmax
comp=Z,76nm,1.0s
PAL Palisades 72.29 358 P **P** **05 50 56.8 +0.5**
PAL Palisades 72.29 358 P **P** **05 50 57.0 +0.7**
baz=178,SNR=10
PAL S **S** **06 00 20.1 +2.2**
baz=178
U32A Winter Ranch, 72.35 337 P **P** **05 50 56.8 0.0**
U32A IAmb IAmb 05 50 59.6
comp=Z,144nm,0.8s
ODNJ Ogdensburg 72.39 358 IAmb IAmb 05 51 00.0
comp=Z,155nm,0.9s
121A Cookes Peak, D 72.39 328 IAmb IAmb 05 51 01.4
comp=Z,169nm,1.1s
121A Cookes Peak, D 72.39 328 P **P** **05 50 58.4 +1.1**
baz=148,SNR=73
121A S **S** **06 00 22.3 +2.5**
baz=148
GC02 Grant County # 72.41 338 P **P** **05 50 57.5 +0.3**
KAN13 South Haven SW 72.44 339 P **P** **05 50 57.5 +0.2**
KAN13 IAmb IAmb 05 51 00.1
comp=Z,202nm,1.0s
TRNY Table Rock, Ra 72.44 358 IAmb IAmb 05 50 59.8
comp=Z,127nm,1.1s
WSPT Westport, CT 72.44 359 P **P** **05 50 58.4 +1.2**
WSPT IAmb IAmb 05 50 59.7
comp=Z,151nm,1.0s
WSPT IAMs_20 IAMs_20 06 23 37.0
comp=Z,4μm,22.0s
OK032 Salt Plains WL 72.48 338 P **P** **05 50 57.7 +0.2**
OK032 IAmb IAmb 05 51 00.3
comp=Z,162nm,1.0s
KAN14 Manchester OK 72.54 338 IAmb IAmb 05 51 00.6
comp=Z,102nm,1.0s
KAN17 Caldwell West 72.55 338 IAmb IAmb 05 51 00.2
comp=Z,120nm,0.9s
N53A Lisbon 72.56 353 P **P** **05 50 58.1 +0.1**
N53A IAmb IAmb 05 51 00.4
comp=Z,133nm,1.1s
YLE Yale 72.58 359 IAMs_20 IAMs_20 06 26 44.6
comp=Z,5μm,21.0s
KAN09 Caldwell North 72.59 338 IAmb IAmb 05 51 00.5
comp=Z,180nm,1.0s
N54A Moraine State 72.63 353 IAmb IAmb 05 51 00.9
comp=Z,228nm,0.9s
N54A Moraine State 72.63 353 P **P** **05 50 58.2 -0.2**
baz=173,SNR=67
N54A S **S** **06 00 19.5 -2.3**
baz=173
KAN05 Bluff City Nor 72.65 338 IAmb IAmb 05 51 01.5
comp=Z,225nm,1.0s
KS20 Mayfield South 72.66 339 P **P** **05 50 58.4 -0.2**
KAN10 Anthony SW Sta 72.73 338 IAmb IAmb 05 51 01.9
comp=Z,109nm,0.9s
M57A Sunshine Farm, 72.77 356 IAmb IAmb 05 51 01.7

KAN08 **Anthony NE Sta** 72.79 338 IAmb IAmb 05 51 02.3
comp=Z,262nm,0.9s
KAN16 **Harper SW Stat** 72.81 338 IAmb IAmb 05 51 02.5
comp=Z,234nm,0.9s
M65A **Busby, Falmout** 72.82 1 P **P** **05 50 59.3 -0.1**
baz=181
P43A **Skaggs, Pawnee** 72.82 346 P **P** **05 50 59.0 -0.5**
N51A **Ashland** 72.85 351 P **P** **05 50 59.1 -0.6**
N51A IAmb IAmb 05 51 01.6
comp=Z,234nm,0.9s
KAN12 **Harper NE Stat** 72.86 338 IAmb IAmb 05 51 02.8
comp=Z,232nm,1.0s
KSPA **Keystone Colle** 72.91 357 P **P** **05 51 00.2 +0.2**
KSPA IAmb IAmb 05 51 02.5
comp=Z,104nm,0.9s
KSCT **Kent School, K** 73.00 359 P **P** **05 51 01.6 +1.1**
M55A **Ridgway** 73.02 354 P **P** **05 51 00.2 -0.5**
UCCT **U. Connecticut** 73.05 360 P **P** **05 51 01.5 +0.7**
SFIN **Lafayette** 73.06 348 P **P** **05 50 59.8 -1.2**
SFIN IAmb IAmb 05 51 02.2
comp=Z,111nm,0.9s
SFIN **Lafayette** 73.06 348 P **P** **05 50 59.7 -1.2**
baz=166,SNR=42
SFIN S **S** **06 00 21.3 -5.4**
baz=166
O44A **Mansfield** 73.10 347 P **P** **05 51 00.5 -0.6**
O44A IAmb IAmb 05 51 02.6
comp=Z,221nm,0.9s
M54A **Oil Creek Stat** 73.14 354 IAmb IAmb 05 51 03.6
comp=Z,172nm,0.9s
M54A **Oil Creek Stat** 73.14 354 P **P** **05 51 00.4 -1.0**
baz=173,SNR=45
M54A S **S** **06 00 25.1 -2.6**
baz=173
BRYW **Bryant College** 73.17 0 P **P** **05 51 02.6 +1.1**
BRYW IAmb IAmb 05 51 04.8
comp=Z,188nm,1.0s
M53A **WI Miller and** 73.17 353 P **P** **05 51 01.4 -0.2**
baz=172,SNR=44
M53A S **S** **06 00 25.0 -3.0**
baz=172
L64A **Middleborough** 73.19 1 P **P** **05 51 01.3 -0.3**
baz=181,SNR=8.5
L64A S **S** **06 00 29.3 +1.2**
baz=181
BNM **Barren Site** 73.27 330 P **P** **05 51 04.0 +1.4**
P40A **Paris** 73.29 344 P **P** **05 51 02.1 -0.2**
Y22D **IRIS PASSCAL I** 73.32 330 P **P** **05 51 01.2 -1.6**
Y22D **IRIS PASSCAL I** 73.32 330 P **P** **05 51 04.3 +1.5**
baz=149
Y22D S **SKiKP** **06 00 32.9 0.0**
baz=149
ALLY **Alegheny Colle** 73.33 353 IAmb IAmb 05 51 04.7
comp=Z,229nm,0.9s
M52A **Chesterland** 73.35 352 P **P** **05 51 02.4 -0.2**
M50A **Fremont** 73.42 351 P **P** **05 51 02.7 -0.3**
L59A **Walton** 73.51 357 P **P** **05 51 04.3 +0.7**
L59A IAmb IAmb 05 51 06.7
comp=Z,270nm,0.9s
QUA2 **Belchertown** 73.53 359 IAmb IAmb 05 51 06.8
comp=Z,167nm,1.0s
BINY **Binghamton** 73.56 357 P **P** **05 51 04.7 +0.8**
BINY IAmb IAmb 05 51 06.8
comp=Z,135nm,0.9s
BINY **Binghamton** 73.56 357 P **P** **05 51 04.5 +0.6**
baz=176,SNR=39
BINY S **S** **06 00 31.9 -0.5**
baz=176
BCX **Boston College** 73.59 0 P **P** **05 51 05.1 +1.1**
TUC **Tucson** 73.59 326 P **P** **05 51 05.3 +1.0**
TUC pmax pmax
comp=Z,34nm,1.1s
TUC **Tucson** 73.59 326 P **P** **05 51 05.3 +1.0**
TUC **Tucson** 73.59 326 IAMs_20 IAMs_20 06 18 57.1
comp=Z,5μm,20.0s
TUC **Tucson** 73.59 326 P **P** **05 51 05.4 +1.0**
baz=146
TUC S **S** **06 00 34.8 +1.5**
baz=146
L56A **Greenwood** 73.59 355 P **P** **05 51 04.5 +0.4**
HDIL **Hopedale** 73.65 346 IAmb IAmb 05 51 05.9
comp=Z,182nm,0.8s
HDIL **Hopedale** 73.65 346 P **P** **05 51 03.7 -0.7**
baz=164,SNR=50
HDIL S **SKiKP** **06 00 29.8 -3.2**
baz=164
LIC **Lamto** 73.68 72 *e*P **P** **05 51 04.5 -0.7**
comp=Z,1μm,1.0s
L61B **Northampton** 73.71 359 P **P** **05 51 05.6 +0.9**
baz=179,SNR=39
L61B S **S** **06 00 35.8 +1.8**
baz=179
P38A **Dawn** 73.75 343 IAmb IAmb 05 51 07.2
comp=Z,190nm,0.9s
HRV **Adam Dziewonsk** 73.76 0 P **P** **05 51 05.9 +1.0**
HRV pmax pmax
comp=Z,113nm,1.0s
HRV **Adam Dziewonsk** 73.76 0 P **P** **05 51 05.9 +1.0**
HRV IAmb IAmb 05 51 07.8
comp=Z,114nm,0.9s
HRV **Adam Dziewonsk** 73.76 0 P **P** **05 51 05.4 +0.4**
baz=180
HRV S **S** **06 00 37.0 +2.4**
baz=180
ERPA **Erie** 73.77 354 P **P** **05 51 04.7 -0.4**
baz=173,SNR=42
ERPA S **SKiKP** **06 00 32.2 -0.9**
baz=173
ANMO **Albuquerque** 73.88 331 *ce*P **P** **05 51 07.4 +1.3**
ANMO pmax pmax
comp=Z,84nm,1.1s
ANMO **Albuquerque** 73.88 331 P **P** **05 51 07.0 +0.9**
ANMO **Albuquerque** 73.88 331 P **P** **05 51 07.1 +0.9**
baz=150
ANMO S **S** **06 00 37.3 +0.7**
baz=150
K62A **Royalston** 73.92 360 IAmb IAmb 05 51 09.4
comp=Z,146nm,1.1s
K62A **Royalston** 73.92 360 P **P** **05 51 06.8 +0.9**
baz=180,SNR=19
K62A S **S** **06 00 39.0 +2.7**
baz=180
TIC **Toumodi** 73.93 72 *e*P **P** **05 51 07.0 +0.3**
K61A **Williamstown** 73.94 359 P **P** **05 51 06.6 +0.6**
baz=179,SNR=14
K61A S **S** **06 00 39.8 +3.2**
baz=179
KIC **Kosan Boka** 73.99 72 *e*P **P** **05 51 06.5 -0.6**
comp=Z,906nm,1.0s
TRY **Troy** 74.01 358 P **P** **05 51 07.5 +1.1**
TRY IAMs_20 IAMs_20 06 22 54.4
comp=Z,4μm,22.0s
DBIC **Dimbokro** 74.08 72 P **P** **05 51 07.1 -0.5**
comp=Z,270nm,0.7s,baz=225,slow=5.1,SNR=187
DBIC LR LR 06 20 12.8
comp=Z,16μm,21.8s,baz=240,slow=33
DBIC **Dimbokro** 74.08 72 P **P** **05 51 07.0 -0.5**
CER **Ceres** 74.08 120 *e*P **P** **05 51 06.1 -1.3**
KSU1 **Kansas State U** 74.10 340 P **P** **05 51 06.9 -0.2**
baz=158,SNR=14
KSU1 S **SKiKP** **06 00 35.2 +1.5**
baz=158
R32A **Long Quarter,** 74.11 338 IAmb IAmb 05 51 10.2
comp=Z,131nm,0.9s
K57A **Scipio Center** 74.12 356 IAmb IAmb 05 51 09.5
comp=Z,113nm,0.8s
MMNY **Mt. Morris Dam** 74.21 355 P **P** **05 51 07.4 -0.2**
214A **Organ Pipe Nat** 74.28 324 P **P** **05 51 09.5 +1.1**
baz=144,SNR=28
214A S **S** **06 00 42.2 +1.2**
baz=144
AAM **Ann Arbor** 74.38 351 P **P** **05 51 07.8 -0.9**
AAM pmax pmax
comp=Z,111nm,0.9s
AAM MLR MLR
comp=Z,2μm,20.0s
AAM **Ann Arbor** 74.38 351 P **P** **05 51 07.8 -0.9**
AAM IAmb IAmb 05 51 10.1
comp=Z,111nm,0.9s
AAM **Ann Arbor** 74.38 351 P **P** **05 51 08.2 -0.4**
baz=170,SNR=15
AAM S **S** **06 00 38.0 -3.6**
baz=170
L46A **Eue Claire** 74.50 349 P **P** **05 51 08.3 -1.0**
HQIL **Hanson Quary C** 74.57 347 IAMs_20 IAMs_20 06 25 51.9
comp=Z,5μm,22.0s

SFX **San Felipe** 74.58 322 P **P** **05 51 11.2 +1.2**
J61A **Chester** 74.60 359 P **P** **05 51 10.9 +1.0**
baz=179,SNR=26
J61A S **S** **06 00 46.6 +2.7**
baz=179
ACCN **Adirondack Com** 74.66 358 P **P** **05 51 10.9 +0.7**
ACCN IAmb IAmb 05 51 13.4
comp=Z,123nm,0.9s
MEDO **Medina** 74.68 355 IAmb IAmb 05 51 11.8
comp=Z,198nm,0.9s
J56A **Wolcott** 74.68 356 IAmb IAmb 05 51 12.6
comp=Z,215nm,0.8s
J58A **Remsen** 74.69 357 P **P** **05 51 10.0 -0.4**
FFD **Franklin Falls** 74.72 360 IAmb IAmb 05 51 14.3
comp=Z,224nm,0.9s
J55A **Hilton** 74.73 355 P **P** **05 51 10.5 -0.1**
J55A IAmb IAmb 05 51 12.5
comp=Z,147nm,0.9s
J59A **Piesco** 74.76 358 P **P** **05 51 11.2 +0.3**
J59A IAmb IAmb 05 51 13.7
comp=Z,180nm,1.0s
J57A **Williamstown** 74.77 357 IAmb IAmb 05 51 13.4
comp=Z,239nm,0.9s
CBKS **Cedar Bluff** 74.80 338 P **P** **05 51 11.5 +0.3**
CBKS pmax pmax
comp=Z,239nm,1.0s
CBKS **Cedar Bluff** 74.80 338 P **P** **05 51 11.5 +0.3**
CBKS IAmb IAmb 05 51 14.3
comp=Z,239nm,0.9s
CBKS **Cedar Bluff** 74.80 338 P **P** **05 51 11.6 +0.3**
baz=156,SNR=31
CBKS S **S** **06 00 46.3 -0.3**
baz=156
J54A **Appleton** 74.80 355 P **P** **05 51 10.6 -0.4**
J54A IAmb IAmb 05 51 13.4
comp=Z,232nm,0.9s
L44A **Lake County Fo** 74.95 348 IAMs_20 IAMs_20 06 26 02.8
comp=Z,5μm,22.0s
L44A **Lake County Fo** 74.95 348 P **P** **05 51 11.3 -0.6**
baz=166,SNR=18
L44A S **S** **06 00 43.9 -4.0**
baz=166
HNH **Hanover** 74.96 359 P **P** **05 51 13.1 +1.1**
HNH IAmb IAmb 05 51 15.5
comp=Z,190nm,1.0s
T25A **Trinidad** 74.96 333 P **P** **05 51 13.1 +0.7**
T25A IAmb IAmb 05 51 16.3
comp=Z,211nm,0.9s
T25A IAMs_20 IAMs_20 06 20 52.7
comp=Z,4μm,19.0s
T25A **Trinidad** 74.96 333 P **P** **05 51 13.2 +0.8**
baz=152,SNR=171
T25A S **S** **06 00 50.1 +1.3**
baz=152
I60A **Shoreham** 75.11 359 P **P** **05 51 13.5 +0.7**
baz=179,SNR=57
I60A S **S** **06 00 51.4 +1.8**
baz=179
L42A **Oliver, Polo** 75.12 346 P **P** **05 51 12.5 -0.4**
I62A **Tamworth** 75.12 0 P **P** **05 51 13.3 +0.4**
baz=180,SNR=14
I62A S **S** **06 00 52.4 +2.6**
baz=180
NCB **Newcomb** 75.26 358 P **P** **05 51 14.2 +0.5**
NCB IAmb IAmb 05 51 16.4
comp=Z,114nm,0.9s
CVNA **Calvinia** 75.31 118 *e*P **P** **05 51 12.9 -1.7**
I63A **Otisfield** 75.31 1 IAmb IAmb 05 51 17.8
comp=Z,263nm,1.1s
PECO **Prince Edward** 75.34 356 IAmb IAmb 05 51 16.6
comp=Z,162nm,0.9s
MAW **Mawson** 75.36 164 P **P** **05 51 14.2 +0.1**
comp=Z,133nm,0.9s,baz=213,slow=7.0,SNR=23
MAW pP **sP** **05 51 24.8 +0.7**
comp=Z,54nm,0.8s,baz=11,slow=7.9,SNR=6.1
MAW LR LR 06 27 48.4
comp=Z,10μm,18.5s,baz=225,slow=38
MAW **Mawson** 75.36 164 P **P** **05 51 13.8 -0.3**
W18A **Petrified Fore** 75.44 328 P **P** **05 51 16.5 +1.3**
W18A IAmb IAmb 05 51 19.1
comp=Z,187nm,1.2s
W18A **Petrified Fore** 75.44 328 P **P** **05 51 16.1 +1.0**
baz=147,SNR=42
W18A S **S** **06 00 56.1 +2.0**
baz=147
J47A **Sunmer** 75.47 350 IAmb IAmb 05 51 28.4
comp=Z,154nm,0.8s
LBNH **Lisbon** 75.49 360 IAmb IAmb 05 51 18.3
comp=Z,186nm,0.9s
LBNH **Lisbon** 75.49 360 P **P** **05 51 15.6 +0.6**
baz=180,SNR=34
LBNH S **S** **06 00 55.9 +2.0**
baz=180
K43A **Burlington** 75.53 347 IAmb IAmb 05 51 17.4
comp=Z,216nm,0.9s
X16A **Lo Mia Camp, P** 75.63 327 P **P** **05 51 17.6 +1.3**
SUR **Sutherland** 75.67 119 P **P** **05 51 17.8 +1.0**
SUR IAmb IAmb 05 51 20.2
comp=Z,228nm,1.2s
SCIA **State Center** 75.82 344 IAmb IAmb 05 51 19.5
comp=Z,316nm,1.1s
SCIA **State Center** 75.82 344 P **P** **05 51 17.2 +0.3**
baz=161,SNR=20
SCIA S **S** **06 00 54.8 -2.8**
baz=161
H62A **Milan** 75.83 0 P **P** **05 51 17.9 +1.0**
SDCO **Great Sand Dun** 75.91 333 P **P** **05 51 18.5 +0.6**
SDCO IAMs_20 IAMs_20 06 21 11.9
comp=Z,4μm,19.0s
SDCO **Great Sand Dun** 75.91 333 P **P** **05 51 18.9 +0.9**
baz=151,SNR=93
SDCO S **S** **06 01 00.7 +1.3**
baz=151
LONY **Lake Ozonia** 75.92 358 P **P** **05 51 17.6 +0.1**
LONY IAmb IAmb 05 51 20.3
comp=Z,223nm,1.0s
LONY **Lake Ozonia** 75.92 358 P **P** **05 51 18.0 +0.6**
baz=178,SNR=68
LONY S **S** **06 00 59.2 +0.6**
baz=178
KSCO **Kaye Shedlock'** 75.96 336 IAmb IAmb 05 51 21.1
comp=Z,173nm,1.1s
KSCO **Kaye Shedlock'** 75.96 336 P **P** **05 51 18.9 +0.9**
baz=153,SNR=21
KSCO S **S** **06 00 59.9 +0.3**
baz=153
DELO **Deloro Mine** 75.97 356 IAmb IAmb 05 51 20.2
comp=Z,131nm,1.0s
EMMW **East Machias** 76.05 3 P **P** **05 51 19.2 +1.1**
EMMW IAMs_20 IAMs_20 06 22 42.8
comp=Z,4μm,22.0s
FRNY **Flat Rock** 76.11 359 P **P** **05 51 19.0 +0.5**
FRNY IAmb IAmb 05 51 21.4
comp=Z,210nm,0.9s
JFWS **Jewell Farm** 76.11 346 P **P** **05 51 18.3 -0.3**
JFWS pmax pmax
comp=Z,237nm,1.0s
JFWS **Jewell Farm** 76.11 346 P **P** **05 51 18.3 -0.3**
JFWS IAmb IAmb 05 51 21.0
comp=Z,237nm,0.9s
JFWS **Jewell Farm** 76.11 346 IAMs_20 IAMs_20 06 30 25.6
comp=Z,5μm,19.0s
JFWS **Jewell Farm** 76.11 346 P **P** **05 51 18.7 +0.1**
baz=164,SNR=88
JFWS S **S** **06 00 58.3 -2.5**
baz=164
GLA **Glamis** 76.17 324 P **P** **05 51 20.2 +1.0**
baz=143,SNR=19
GLA S **S** **06 01 04.9 +2.9**
baz=143
HAL **Halifax** 76.24 6 P **P** **05 51 20.1 +0.9**
HAL pmax pmax
comp=Z,108nm,0.9s
HAL **Halifax** 76.24 6 P **P** **05 51 20.1 +0.9**
HAL IAmb IAmb 05 51 32.4
comp=Z,108nm,0.9s
SADO **Sadowa** 76.33 354 P **P** **05 51 19.3 -0.5**
K38A **Parkersburg** 76.42 344 IAmb IAmb 05 51 22.2
comp=Z,136nm,0.8s
S22A **4UR Ranch, Cre** 76.44 332 P **P** **05 51 22.1 +1.1**
baz=150,SNR=49
S22A S **S** **06 01 07.8 +2.5**
baz=150
PLVO **Plevna** 76.45 356 P **P** **05 51 20.7 +0.2**
PLVO IAmb IAmb 05 51 23.1
comp=Z,184nm,1.0s
I45A **Fountain** 76.47 349 IAmb IAmb 05 51 22.1
comp=Z,206nm,1.1s
G62A **West of Eustis** 76.47 1 P **P** **05 51 21.7 +1.1**
WUAZ **Wupatki** 76.51 328 P **P** **05 51 22.6 +1.4**
WUAZ IAmb IAmb 05 51 25.3
comp=Z,114nm,1.1s
WUAZ IAMs_20 IAMs_20 06 19 52.5
comp=Z,4μm,22.0s
WUAZ **Wupatki** 76.51 328 P **P** **05 51 22.4 +1.2**
baz=146,SNR=67
WUAZ S **S** **06 01 09.9 +4.0**
baz=146
IKP **In-Ko-Pah, Jac** 76.51 323 P **P** **05 51 22.8 +1.6**
baz=142,SNR=25
IKP S **S** **06 01 08.4 +2.6**
baz=142
PKME **Peaks-Kenny Pk** 76.54 2 P **P** **05 51 22.0 +1.1**
PKME IAmb IAmb 05 51 23.7
comp=Z,114nm,0.9s
PKME **Peaks-Kenny Pk** 76.54 2 P **P** **05 51 21.8 +0.9**
baz=182,SNR=20
PKME S **S** **06 01 06.9 +1.5**
baz=182
SWSC **Sam W. Stewart** 76.58 323 P **P** **05 51 22.7 +1.2**
baz=142,SNR=24
SWSC S **S** **06 01 10.6 +4.2**
baz=142
MVCO **Mesa Verde** 76.67 330 P **P** **05 51 22.8 +0.6**
MVCO IAmb IAmb 05 51 25.9
comp=Z,107nm,1.1s
MVCO IAMs_20 IAMs_20 06 21 46.7
comp=Z,7μm,19.0s
MVCO **Mesa Verde** 76.67 330 P **P** **05 51 23.2 +1.0**
baz=148,SNR=84
MVCO S **S** **06 01 09.9 +2.3**
baz=148
BGNE **Belgrade** 76.68 340 P **P** **05 51 22.1 +0.2**
baz=157,SNR=21
BGNE S **S** **06 01 04.3 -2.8**
baz=157
L34A **Svendsen Farm,** 76.69 341 IAmb IAmb 05 51 24.8
comp=Z,257nm,0.9s
GRAN **Grantham** 76.71 120 *e*P **P** **05 51 22.0 -0.6**
MNTQ **Montreal, Queb** 76.77 359 IAmb IAmb 05 51 25.3
comp=Z,133nm,1.1s
I42A **Draeger Farm,** 76.79 347 P **P** **05 51 21.6 -0.8**
I42A IAmb IAmb 05 51 24.7
comp=Z,225nm,1.0s
BAR **Barrett** 76.83 322 P **P** **05 51 24.2 +1.3**
PDMCI **Parker Dam,Lak** 76.83 325 P **P** **05 51 23.9 +1.0**
baz=144,SNR=11
PDMCI S **S** **06 01 10.9 +1.9**
baz=144
Q24A **Divide** 76.84 334 P **P** **05 51 24.4 +1.1**
baz=151,SNR=123
Q24A S **S** **06 01 12.1 +2.5**
baz=151
MONP2 **Monument Peak** 76.86 322 P **P** **05 51 24.6 +1.3**
baz=142,SNR=21
MONP2 S **S** **06 01 12.0 +2.0**
baz=142
BC3 **Big Chuckawall** 76.97 324 P **P** **05 51 25.0 +1.2**
baz=143,SNR=74
BC3 S **S** **06 01 14.4 +3.6**
baz=143
F63A **Nahmakanta, Br** 76.99 2 P **P** **05 51 24.8 +1.3**
F63A IAmb IAmb 05 51 27.0
comp=Z,124nm,1.0s
GLMI **Grayling** 76.99 351 IAmb IAmb 05 51 37.8
comp=Z,228nm,0.8s
GLMI IAMs_20 IAMs_20 06 29 55.1
comp=Z,4μm,19.0s
GLMI **Grayling** 76.99 351 P **P** **05 51 23.2 -0.4**
baz=169,SNR=28
GLMI S **S** **06 01 05.2 -5.2**
baz=169
I40A **Norwalk** 77.13 346 IAmb IAmb 05 51 26.4
comp=Z,187nm,1.0s
F62A **Pittston Farm,** 77.16 1 P **P** **05 51 25.8 +1.3**
F62A IAmb IAmb 05 51 28.0
comp=Z,212nm,0.9s
F64A **Sherman** 77.17 2 IAmb IAmb 05 51 27.3
comp=Z,180nm,1.1s
IRM **Iron Mountain** 77.21 324 P **P** **05 51 26.3 +1.2**
baz=143,SNR=52
IRM S **S** **06 01 16.0 +2.7**
baz=143
109C **Camp Elliot, M** 77.22 322 IAMs_20 IAMs_20 06 20 23.2
comp=Z,4μm,18.0s
109C **Camp Elliot, M** 77.22 322 P **P** **05 51 26.3 +1.2**
baz=142
109C S **S** **06 01 14.8 +1.5**
baz=142
LMN **Caledonia Moun** 77.35 5 IAmb IAmb 05 51 38.4
comp=Z,146nm,0.9s
W13A **Hualapai Mount** 77.35 326 P **P** **05 51 27.6 +1.5**
G45A **Suttons Bay** 77.36 350 P **P** **05 51 25.0 -0.6**
G45A IAmb IAmb 05 51 27.4
comp=Z,163nm,1.0s
NEE2 **Needles Airpor** 77.44 325 P **P** **05 51 27.0 +0.7**
baz=144,SNR=8.5
NEE2 S **S** **06 01 17.5 +1.9**
baz=144
TPFO **Pinon Flats** 77.44 323 P **P** **05 51 27.8 +1.3**
baz=142,SNR=50
TPFO S **S** **06 01 20.0 +4.0**
baz=142
PFO **Pinyon Flats O** 77.45 323 P **P** **05 51 28.1 +1.6**
PFO pmax pmax
comp=Z,80nm,1.0s
PFO **Pinyon Flats O** 77.45 323 P **P** **05 51 28.1 +1.6**
PFO **Pinyon Flats O** 77.45 323 IAMs_20 IAMs_20 06 18 42.2
comp=Z,5μm,20.0s
PFO **Pinyon Flats O** 77.45 323 P **P** **05 51 27.9 +1.4**
baz=142,SNR=52
PFO S **S** **06 01 20.3 +4.2**
baz=142
OGNE **Ogallala** 77.48 337 P **P** **05 51 27.9 +1.4**
OGNE **Ogallala** 77.48 337 P **P** **05 51 27.1 +0.6**
baz=154,SNR=7.4
OGNE S **S** **06 01 16.7 +0.7**
baz=154
BELC **Belle Mtn. Jos** 77.52 323 P **P** **05 51 28.3 +1.4**
baz=142,SNR=29
BELC S **S** **06 01 20.0 +3.1**
baz=142
PV13 **Radium Mtn., P** 77.60 331 P **P** **05 51 28.4 +0.9**
PV13 IAmb IAmb 05 51 31.0
comp=Z,112nm,1.0s
PV15 **Paradox Valley** 77.62 331 IAmb IAmb 05 51 41.4
comp=Z,209nm,1.6s
PV05 **Paradox Valley** 77.65 331 IAmb IAmb 05 51 30.5
comp=Z,117nm,1.2s
RAR **Rarotonga** 77.69 253 IAMs_20 IAMs_20 06 18 52.6
comp=Z,9μm,18.0s
PV12 **Saucer Basin,** 77.73 331 P **P** **05 51 28.8 +0.7**
ISCO **Idaho Springs** 77.74 334 P **P** **05 51 28.8 +0.5**
ISCO pmax pmax
comp=Z,70nm,1.1s
ISCO **Idaho Springs** 77.74 334 P **P** **05 51 28.8 +0.5**
ISCO IAMs_20 IAMs_20 06 22 09.4
comp=Z,4μm,20.0s
ISCO **Idaho Springs** 77.74 334 P **P** **05 51 28.9 +0.5**
baz=151,SNR=97
ISCO S **S** **06 01 21.3 +1.9**
baz=151
MURC **Murrieta** 77.82 322 P **P** **05 51 29.8 +1.3**
baz=142,SNR=36
MURC S **S** **06 01 23.4 +3.5**
baz=142
PV04 **Paradox Valley** 77.84 331 IAmb IAmb 05 51 41.4
comp=Z,148nm,1.4s
I37A **Lemond, Waseca** 77.86 344 P **P** **05 51 28.0 -0.4**
I37A IAmb IAmb 05 51 30.7
comp=Z,217nm,0.9s
PV14 **Lion Creek, Pa** 77.87 331 IAmb IAmb 05 51 41.4
comp=Z,148nm,1.3s
E62A **Clayton Lake** 77.89 1 IAmb IAmb 05 51 32.0
comp=Z,235nm,1.0s
PV23 **Carpenter Ridg** 77.93 331 P **P** **05 51 30.6 +1.3**
K31A **O'Neill** 77.97 340 P **P** **05 51 29.3 +0.2**
PQI **Presque Isle** 77.99 3 IAmb IAmb 05 51 31.7
comp=Z,149nm,1.0s
SCI2 **San Clemente I** 78.05 321 P **P** **05 51 31.0 +1.3**
baz=141
SCI2 S **S** **06 01 26.3 +3.9**
baz=141
BBRC **Big Bear Solar** 78.19 323 P **P** **05 51 32.3 +1.5**

baz=142,SNR=17
BBRC S **S** **06 01 28.0 +3.7**

baz=142
CIS **Catalina Islan** **78.31 321** P **P** **05 51 32.4 +1.2**
baz=141,SNR=6.5
CIS S **S** **06 01 27.7 +2.6**

baz=141
HEC **Hector,Ludlow** **78.34 324** P **P** **05 51 32.9 +1.5**
baz=142,SNR=65
HEC S **S** **06 01 29.1 +3.5**

baz=142
G40A **Rib Lake** **78.36 347** P **P** **05 51 31.2 0.0**
G40A IAmb IAmb 05 51 33.5
comp=Z,115nm,1.0s
D62A **Allapoint, All** **78.37 2** P **P** **05 51 31.8 +0.7**
D62A IAmb IAmb 05 51 34.2
comp=Z,285nm,1.0s
ECSD **EROS Data Cent** **78.40 342** P **P** **05 51 31.5 +0.1**
baz=158,SNR=276
ECSD S **S** **06 01 23.5 -2.1**

baz=158
KNB **Kanab** **78.41 327** IAmb IAmb 05 51 35.4
comp=Z,135nm,1.1s
F42A **Maple Grove Fa** **78.46 348** IAmb IAmb 05 51 34.0
comp=Z,208nm,0.8s
E46A **Sault Ste Mari** **78.46 351** P **P** **05 51 31.5 -0.1**
FMP **Fort Macarthur** **78.48 322** P **P** **05 51 33.0 +0.9**
baz=141
FMP S **S** **06 01 30.5 +3.6**

baz=141
BFSC **Mount Baldy Ra** **78.56 323** P **P** **05 51 33.4 +0.8**
baz=141
BFSC S **S** **06 01 31.4 +3.4**

baz=141
TUQ **Turquoise Moun** **78.62 324** P **P** **05 51 34.1 +1.1**
baz=143,SNR=83
TUQ S **S** **06 01 31.1 +2.5**

baz=143
BATG **Bathurst New B** **78.69 4** P **P** **05 51 33.6 +0.7**
RRX **Edison Barstow** **78.71 323** P **P** **05 51 34.8 +1.4**
baz=142,SNR=7.9
RRX S **S** **06 01 32.3 +2.8**

baz=142
LMQ **La Malbaie** **78.81 1** P **P** **05 51 34.0 +0.4**
LMQ IAmb IAmb 05 51 36.4
comp=Z,200nm,1.0s
N23A **Red Feather La** **78.82 334** P **P** **05 51 34.8 +0.6**
baz=151,SNR=40
N23A S **S** **06 01 31.8 +0.9**

baz=151
E43A **Lone Tree Farm** **78.86 349** P **P** **05 51 33.6 -0.3**
E43A IAmb IAmb 05 51 36.3
comp=Z,235nm,0.9s
SPMN **Marine on St.** **78.87 345** IAmb IAmb 05 51 35.8
comp=Z,129nm,0.9s
SPMN **Marine on St.** **78.87 345** P **P** **05 51 33.6 -0.4**
baz=162,SNR=56
SPMN S **S** **06 01 27.3 -3.3**

baz=162
DECC **Green Verdugo** **78.92 322** P **P** **05 51 35.5 +0.9**
baz=141,SNR=10
DECC S **S** **06 01 35.0 +3.3**

baz=141
GSC **Goldstone, Bar** **78.95 324** P **P** **05 51 36.2 +1.4**
baz=142,SNR=46
GSC S **S** **06 01 35.2 +3.1**

baz=142
MTPU **Mount Pierson** **78.96 328** P **P** **05 51 36.4 +1.3**
COWI **Conover** **78.96 348** IAmb IAmb 05 51 36.9
comp=Z,102nm,1.0s
O20A **White River Ci** **79.05 332** P **P** **05 51 36.5 +1.2**
O20A IAmb IAmb 05 51 48.9
comp=Z,205nm,1.4s
O20A **White River Ci** **79.05 332** P **P** **05 51 36.2 +0.9**
baz=149,SNR=50
O20A S **S** **06 01 34.6 +1.4**

baz=149
CCUT **Cedar City** **79.09 327** P **P** **05 51 37.4 +1.7**
SRU **San Rafael Swe** **79.12 330** P **P** **05 51 36.5 +0.8**
SRU pmax pmax
comp=Z,100nm,1.1s
SRU **San Rafael Swe** **79.12 330** P **P** **05 51 36.5 +0.8**
SHOC **Shoshone, Teco** **79.16 324** P **P** **05 51 36.8 +1.0**
baz=142,SNR=21
SHOC S **S** **06 01 35.6 +1.5**

baz=142
EDW2 **Edwards Air Fo** **79.23 323** P **P** **05 51 37.3 +1.0**
baz=141,SNR=81
EDW2 S **S** **06 01 36.4 +1.4**

baz=141
Q16A **Castle Valley** **79.24 330** IAmb IAmb 05 51 40.2
comp=Z,144nm,1.2s
KOWA **Kowa** **79.32 66** P **P** **05 51 36.6 -0.5**
KOWA **Kowa** **79.32 66** P **P** **05 51 36.8 -0.4**
MSU **Marysvale** **79.34 329** P **P** **05 51 38.2 +1.2**
MSU **Marysvale** **79.34 329** P **P** **05 51 38.2 +1.2**
OSI **Osito Audit: C** **79.40 322** IAmb IAmb 05 51 40.9
comp=Z,154nm,0.9s
OSI **Osito Audit: C** **79.40 322** P **P** **05 51 38.4 +1.2**
baz=141,SNR=20
OSI S **S** **06 01 39.2 +2.3**

baz=141
P17A **Butcher Ranch,** **79.52 330** IAmb IAmb 05 51 41.2
comp=Z,143nm,1.1s
TSUM **Tsumeb** **79.52 106** *e*P **P** **05 51 37.4 -1.0**
TSUM **Tsumeb** **79.52 106** P **P** **05 51 38.8 +0.4**
TSUM IAmb IAmb 05 51 41.3
comp=Z,214nm,1.1s
LRMC **Laurel Mtn Rad** **79.53 323** P **P** **05 51 39.2 +1.2**
baz=142,SNR=65
LRMC S **S** **06 01 39.9 +1.5**

baz=142
TMUT **Trail Mountain** **79.57 330** P **P** **05 51 39.1 +0.7**
GWY **Greenwater Val** **79.58 324** P **P** **05 51 39.2 +0.9**
F36A **Milaca** **79.63 345** IAmb IAmb 05 51 40.0
comp=Z,176nm,0.9s
SUSD **Miller** **79.70 340** IAmb IAmb 05 51 40.8
comp=Z,140nm,0.8s
SUSD **Miller** **79.70 340** P **P** **05 51 38.5 -0.1**
baz=157,SNR=9.2
SUSD S **S** **06 01 38.3 -1.2**

baz=157
PRN **Pahroc Range** **79.76 326** P **P** **05 51 40.2 +1.0**
PRN IAmb IAmb 05 51 43.5
comp=Z,179nm,1.1s
D41A **Chassel** **79.79 348** P **P** **05 51 39.3 +0.3**
SBC **Santa Barbara** **79.80 321** P **P** **05 51 40.2 +1.0**
baz=140
ARVC **Arvin** **79.85 322** P **P** **05 51 41.0 +1.4**
baz=141,SNR=16
ARVC S **S** **06 01 44.1 +2.6**

baz=141
MPMC **Manual Prospec** **79.89 324** P **P** **05 51 40.7 +0.7**
baz=142,SNR=58
MPMC S **S** **06 01 45.3 +3.0**

baz=142
FURC **Furnace Creek,** **79.90 324** P **P** **05 51 40.7 +1.0**
baz=142,SNR=37
FURC S **S** **06 01 45.1 +3.3**

baz=142
E38A **The Farm, Brul** **79.92 346** IAmb IAmb 05 51 41.7
comp=Z,97nm,0.9s
RDMU **Red Mountain** **79.95 332** P **P** **05 51 40.2 -0.1**
RDMU IAmb IAmb 05 51 43.4
comp=Z,108nm,1.0s
TPNV **Topopah Spring** **79.97 325** IAMs_20 IAMs_20 06 21 58.2
comp=Z,4µm,19.0s
TPNV **Topopah Spring** **79.97 325** P **P** **05 51 41.7 +1.3**
baz=143,SNR=134
TPNV S **S** **06 01 46.5 +3.4**

baz=143
H07S1 **FLORES T-PHASE** **79.98 31** *e*P **P** **05 51 40.8 +0.6**
comp=Z,302nm,1.2s
RWWY **Rawlins** **79.98 334** P **P** **05 51 41.2 +0.7**
RWWY IAmb IAmb 05 51 43.8
comp=Z,131nm,1.0s
RWWY IAMs_20 IAMs_20 06 23 20.7
comp=Z,5µm,21.0s
ISA **Isabella, Lake** **80.08 323** IAmb IAmb 05 51 44.9
comp=Z,122nm,0.9s
ISA **Isabella, Lake** **80.08 323** P **P** **05 51 42.3 +1.4**
baz=141,SNR=163
ISA S **S** **06 01 46.8 +2.7**

baz=141
PKM **Mcpherson Peak** **80.19 322** P **P** **05 51 43.0 +1.4**
baz=140,SNR=97
PKM S **S** **06 01 48.7 +3.2**

baz=140
F33A **5 Mile Ranch,** **80.28 343** P **P** **05 51 41.4 -0.2**
MPU **Maple Canyon** **80.35 330** P **P** **05 51 43.3 +0.9**
HOR **Horta** **80.44 33** *e*P **P** **05 51 43.7 +1.1**
comp=Z,93nm,0.8s
CALA **Caldeira** **80.45 33** *e*P **P** **05 51 43.0 +0.2**
comp=Z,104nm,1.6s
PCAN **Candelaria** **80.46 33** *e*P **P** **05 51 44.1 +1.3**
comp=Z,120nm,0.8s
CWC **Cottonwood Cre** **80.48 324** P **P** **05 51 44.4 +1.3**
baz=141
CWC S **S** **06 01 51.9 +3.5**

baz=141
PICO **Pico** **80.52 33** *e*P **P** **05 51 46.5 +3.3**
comp=Z,126nm,0.3s
VES **Vestal, Richgr** **80.54 323** P **P** **05 51 44.2 +1.0**
baz=141,SNR=73
VES S **S** **06 01 52.1 +3.5**

baz=141
GRAC **Grapevine Rang** **80.56 324** P **P** **05 51 44.6 +1.2**
baz=142,SNR=47
GRAC S **S** **06 01 52.1 +3.1**

baz=142
K22A **Casper** **80.56 335** P **P** **05 51 44.5 +1.1**
K22A **Casper** **80.56 335** P **P** **05 51 44.2 +0.8**
baz=150,SNR=60
K22A S **S** **06 01 51.0 +2.0**

baz=150
SMMC **Simmler** **80.61 322** P **P** **05 51 45.2 +1.5**
baz=140,SNR=59
SMMC S **S** **06 01 53.2 +3.7**

baz=140
PID **Ribeirinha** **80.61 33** *e*P **P** **05 51 45.8 +2.2**
comp=Z,296nm,1.1s
SPR3 **Spring Creek 3** **80.71 328** IAmb IAmb 05 51 57.7
comp=Z,185nm,1.4s
R11A **Troy Canyon, C** **80.77 326** P **P** **05 51 45.6 +0.9**
R11A **Troy Canyon, C** **80.77 326** P **P** **05 51 45.8 +1.1**
baz=143,SNR=141
R11A S **S** **06 01 54.2 +2.8**

baz=143
ROSA **Rosais** **80.78 33** *e*P **P** **05 51 46.5 +2.0**
comp=Z,202nm,1.1s
ROSA **Rosais** **80.78 33** IAmb IAmb 05 51 48.3
comp=Z,193nm,1.0s
PMAN **Manadas** **80.78 33** *e*P **P** **05 51 46.3 +1.8**
comp=Z,249nm,1.0s
BOSA **Boshof** **80.86 118** P **P** **05 51 45.5 0.0**
comp=Z,166nm,1.0s,baz=237,slow=5.5,SNR=86
BOSA LR LR 06 26 01.0
comp=Z,7µm,18.0s,baz=240,slow=34
BOSA **Boshof** **80.86 118** *e*P **P** **05 51 43.8 -1.7**
BOSA **Boshof** **80.86 118** P **P** **05 51 44.5 -1.0**
BOSA IAmb IAmb 05 51 47.8
comp=Z,225nm,1.1s
PSMA **Santa Maria** **80.92 36** *e*P **P** **05 51 43.5 -1.7**
comp=Z,63nm,1.1s
PSMN **Pico do Norte,** **80.96 36** *e*P **P** **05 51 45.2 -0.3**
comp=Z,139nm,1.0s
RSSD **Black Hills** **80.98 337** P **P** **05 51 45.7 0.0**
RSSD pmax pmax
comp=Z,83nm,1.0s
RSSD **Black Hills** **80.98 337** P **P** **05 51 45.6 0.0**
RSSD **Black Hills** **80.98 337** P **P** **05 51 46.3 +0.6**
baz=153
RSSD S **S** **06 01 54.6 +1.2**

baz=153
DUG **Dugway, Tooele** **81.01 329** P **P** **05 51 46.8 +1.0**
DUG pmax pmax
comp=Z,106nm,1.3s
DUG **Dugway, Tooele** **81.01 329** P **P** **05 51 46.8 +1.0**
DUG **Dugway, Tooele** **81.01 329** P **P** **05 51 46.8 +1.0**
baz=146,SNR=79
DUG S **S** **06 01 55.3 +1.6**

baz=146
TIN **Tinemaha, Big** **81.04 324** P **P** **05 51 47.0 +1.0**
baz=141,SNR=63
TIN S **S** **06 01 56.0 +1.9**

baz=141
VOG **Valley Oaks Go** **81.06 323** P **P** **05 51 46.2 +0.2**
baz=140
VOG S **S** **06 01 53.6 -0.5**

baz=140
PAGB **Antelope Grade** **81.06 322** IAmb IAmb 05 51 50.1
comp=Z,93nm,0.9s
TCUT **Toone Canyon** **81.17 331** IAmb IAmb 05 52 00.1
comp=Z,137nm,1.2s
EYMN **Ely** **81.19 347** P **P** **05 51 46.2 -0.2**
EYMN IAmb IAmb 05 51 48.5
comp=Z,147nm,1.0s
EYMN **Ely** **81.19 347** IAMs_20 IAMs_20 06 29 44.9
comp=Z,4µm,22.0s
EYMN **Ely** **81.19 347** P **P** **05 51 46.2 -0.2**
baz=163,SNR=40
EYMN S **S** **06 01 51.1 -3.8**

baz=163
ADH **Angra Heroismo** **81.20 34** *e*P **P** **05 51 47.8 +1.1**
comp=Z,198nm,0.8s
PDA **Ponta Delgada** **81.24 35** *e*P **P** **05 51 47.1 +0.2**
comp=Z,104nm,1.6s
PSET **Sete Cidades** **81.27 35** *e*P **P** **05 51 46.0 -1.2**
comp=Z,86nm,1.1s
PSCM **Serra do Cume** **81.29 34** *e*P **P** **05 51 48.7 +1.5**
comp=Z,100nm,1.0s
PAGU **Agualva, Azore** **81.31 34** *e*P **P** **05 51 49.2 +1.9**
comp=Z,140nm,0.8s
GRON **Grota Negra** **81.32 35** *e*P **P** **05 51 48.8 +1.4**
comp=Z,111nm,1.2s
CMLA **Cha da Macela** **81.32 35** P **P** **05 51 49.0 +1.6**
CMLA pmax pmax
comp=Z,155nm,0.9s
CMLA **Cha da Macela** **81.32 35** *e*P **P** **05 51 48.5 +1.1**
comp=Z,181nm,1.1s
CMLA **Cha da Macela** **81.32 35** P **P** **05 51 49.0 +1.6**
CMLA IAmb IAmb 05 51 50.6
comp=Z,155nm,0.9s
DRLN **Deer Lake** **81.48 9** P **P** **05 51 48.1 +0.1**
DRLN IAmb IAmb 05 51 59.9
comp=Z,398nm,1.9s
BART **Pico Bartolome** **81.51 35** *e*P **P** **05 51 48.8 +0.3**
comp=Z,448nm,1.1s
HWUT **Hardware Ranch** **81.64 331** P **P** **05 51 49.2 -0.1**
D32A **Dogwood Acres,** **81.66 343** IAmb IAmb 05 51 51.4
comp=Z,192nm,0.9s
BGU **Big Grassy Mou** **81.70 330** P **P** **05 51 49.6 +0.1**
PMPB **Monarch Peak** **81.72 322** IAmb IAmb 05 52 04.8
comp=Z,154nm,1.2s
SPUT **South Promonto** **81.77 330** P **P** **05 51 49.8 -0.1**
SPUT IAmb IAmb 05 52 02.8
comp=Z,247nm,1.5s
MLAC **Mammoth, Mammo** **81.79 324** P **P** **05 51 51.5 +1.3**
baz=141,SNR=34
MLAC S **S** **06 02 03.8 +1.7**

baz=141
BW06 **Boulder Array** **81.81 333** P **P** **05 51 50.0 -0.2**
BW06 IAMs_20 IAMs_20 06 24 31.9
comp=Z,6µm,21.0s
BW06 **Boulder Array** **81.81 333** P **P** **05 51 49.8 -0.3**
baz=148,SNR=33
BW06 S **S** **06 02 02.3 +0.2**

baz=148
PDAR **Pinedale Array** **81.81 333** P **P** **05 51 50.1 0.0**
comp=Z,11nm,0.8s,baz=144,slow=5.1,SNR=77
PDAR pP **sP** **05 52 00.3 0.0**
comp=Z,8.2nm,0.8s,baz=143,slow=4.8,SNR=8.4
PDAR PKKPbc **PKKPbc** **06 10 20.1 -3.0**
comp=Z,2.2nm,0.7s,baz=220,slow=0.7,SNR=15
PDAR PKPPKP **P'P'df** **06 18 26.2 +5.3**
comp=Z,1.6nm,1.0s,baz=17,slow=1.5,SNR=6.3
PDAR LR LR 06 24 52.7
comp=Z,5µm,20.1s,baz=144,slow=33
PDAR **Pinedale Array** **81.81 333** P **P** **05 51 49.6 -0.5**
MDPB **Devils Postpil** **81.91 324** P **P** **05 51 51.7 +0.9**
B35A **Bob, Littlefor** **82.04 345** P **P** **05 51 50.8 -0.1**
B35A IAmb IAmb 05 51 53.0
comp=Z,161nm,0.9s
LHV **Little Huntoon** **82.10 325** P **P** **05 51 53.1 +1.6**
LHV IAmb IAmb 05 51 55.6
comp=Z,121nm,0.9s
NVAR **Mina Array Bea** **82.14 325** P **P** **05 51 52.9 +0.9**
comp=Z,61nm,0.9s,baz=154,slow=5.5,SNR=162
NVAR PKKP **PKKPdf** **06 10 10.8 -2.5**
comp=Z,1.3nm,1.0s,baz=186,slow=0.7,SNR=4.2
NVAR PKKPbc **PKKPbc** **06 10 21.3 -0.6**
comp=Z,4.9nm,0.8s,baz=307,slow=1.7,SNR=15
NVAR PKPPKP **P'P'df** **06 18 27.3 +6.3**
comp=Z,3.6nm,1.0s,baz=325,slow=1.3,SNR=6.4

NVAR **Mina Array Bea** **82.14 325** P **P** **05 51 52.4 +0.4**
E28A **Huff** **82.14 340** P **P** **05 51 52.0 +0.4**
E28A IAmb IAmb 05 51 53.9
comp=Z,169nm,0.9s
PMOZ **Porto Moniz, M** **82.14 44** *e*P **P** **05 51 53.3 +1.3**
comp=Z,132nm,1.0s
PMOZ **Porto Moniz, M** **82.14 44** *e*SKSac **SKSac** **06 02 15.5 +4.3**
PMOZ **Porto Moniz, M** **82.14 44** *e*LR LR 06 20 51.0
comp=Z,7µm,18.0s
FUL **Funchal** **82.20 44** *e*P **P** **05 51 53.4 +1.3**
comp=Z,298nm,1.2s
PMAR **Madeira** **82.24 44** *e*P **P** **05 51 53.6 +1.0**
comp=Z,335nm,1.1s
HVU **Hansel Valley** **82.29 330** P **P** **05 51 52.8 +0.2**
HVU pmax pmax
comp=Z,63nm,1.1s
HVU **Hansel Valley** **82.29 330** P **P** **05 51 52.8 +0.2**
CASY **Casey** **82.41 181** P **P** **05 51 53.5 +0.7**
CASY IAmb IAmb 05 52 06.3
comp=Z,198nm,1.2s
CASY **Casey** **82.41 181** IAMs_20 IAMs_20 06 29 59.3
comp=Z,5µm,20.0s
AHID **Auburn Hatcher** **82.42 332** P **P** **05 51 53.5 +0.2**
AHID IAmb IAmb 05 52 06.0
comp=Z,188nm,1.6s
AHID IAMs_20 IAMs_20 06 24 51.0
comp=Z,5µm,20.0s
AGMN **Agassiz Nation** **82.47 344** P **P** **05 51 53.0 -0.2**
AGMN IAmb IAmb 05 51 55.3
comp=Z,94nm,0.8s
AGMN IAMs_20 IAMs_20 06 34 40.6
comp=Z,3µm,19.0s
AGMN **Agassiz Nation** **82.47 344** P **P** **05 51 52.8 -0.3**
baz=159,SNR=52
AGMN S **S** **06 02 04.6 -3.5**

baz=159
SAO **San Andreas Ge** **82.47 322** P **P** **05 51 54.5 +1.0**
SAO pmax pmax
comp=Z,44nm,1.1s
SAO **San Andreas Ge** **82.47 322** P **P** **05 51 54.5 +1.0**
SAO IAMs_20 IAMs_20 06 20 56.3
comp=Z,4µm,21.0s
KVN **Kaiserville** **82.53 325** P **P** **05 51 54.3 +0.3**
KVN pmax pmax
comp=Z,89nm,1.0s
KVN **Kaiserville** **82.53 325** P **P** **05 51 54.3 +0.3**
KVN IAmb IAmb 05 51 57.1
comp=Z,89nm,1.0s
ELK **Elko** **82.53 328** P **P** **05 51 54.3 +0.3**
ELK pmax pmax
comp=Z,51nm,1.0s
ELK **Elko** **82.53 328** P **P** **05 51 54.3 +0.3**
ELK IAMs_20 IAMs_20 06 23 37.9
comp=Z,4µm,21.0s
REDW **Red Top Meadow** **82.82 332** P **P** **05 51 55.7 +0.3**
REDW IAMs_20 IAMs_20 06 24 49.7
comp=Z,5µm,20.0s
PMPS **Porto Santo** **82.82 44** *e*P **P** **05 51 56.6 +1.3**
PMPST **Porto Santo, M** **82.84 44** *e*P **P** **05 51 57.3 +1.8**
comp=Z,232nm,1.1s
SNOW **Snow King Moun** **82.86 332** IAMs_20 IAMs_20 06 24 52.9
comp=Z,6µm,21.0s
CMB **Columbia Colle** **82.88 323** P **P** **05 51 55.9 +0.2**
CMB pmax pmax
comp=Z,56nm,1.2s
CMB **Columbia Colle** **82.88 323** P **P** **05 51 55.9 +0.2**
TPAW **Teton Pass** **82.97 332** IAMs_20 IAMs_20 06 24 53.5
comp=Z,4µm,21.0s
LBTB **Lobatse** **82.98 115** *e*P **P** **05 51 55.0 -1.7**
LBTB **Lobatse** **82.98 115** P **P** **05 51 56.1 -0.6**
LBTB pmax pmax
comp=Z,245nm,1.1s
LBTB **Lobatse** **82.98 115** P **P** **05 51 56.0 -0.6**
LBTB IAmb IAmb 05 51 58.8
comp=Z,244nm,1.1s
MDND **Maddock** **83.00 341** P **P** **05 51 56.0 +0.1**
MDND **Maddock** **83.00 341** P **P** **05 51 55.9 -0.1**
baz=156,SNR=67
MDND S **S** **06 02 11.4 -2.2**

baz=156
YERR **Yerington** **83.04 325** P **P** **05 51 57.5 +0.8**
YERR IAmb IAmb 05 52 00.4
comp=Z,136nm,1.0s
TORD **Torodi Ar. Bea** **83.06 70** P **P** **05 51 56.4 -0.6**
comp=Z,376nm,1.0s,baz=253,slow=4.1,SNR=482
TORD pP **sP** **05 52 06.9 -0.4**
comp=Z,139nm,0.9s,baz=261,slow=3.0,SNR=7.5
TORD ScS **ScS** **06 02 27.1 -2.5**
comp=Z,2.2nm,1.3s,baz=214,slow=3.8,SNR=3.8
TORD PKKPbc **PKKPbc** **06 10 17.7 -0.4**
comp=Z,1.0nm,0.9s,baz=21,slow=5.3,SNR=3.9
TORD LR LR 06 25 38.2
comp=Z,13µm,21.6s,baz=230,slow=33
TORD **Torodi Ar. Bea** **83.06 70** P **P** **05 51 56.6 -0.4**
FXWY **Fox Creek** **83.12 332** IAMs_20 IAMs_20 06 24 59.6
comp=Z,5µm,21.0s
BMN **Battle Mountai** **83.19 327** P **P** **05 51 57.6 +0.3**
BMN pmax pmax
comp=Z,28nm,1.1s
BMN **Battle Mountai** **83.19 327** P **P** **05 51 57.6 +0.3**
PNTR **Pine Nut** **83.30 324** P **P** **05 51 59.0 +1.1**
PNTR IAmb IAmb 05 52 01.8
comp=Z,174nm,0.9s
IMW **Indian Meadow** **83.30 333** IAMs_20 IAMs_20 06 25 17.4
comp=Z,6µm,20.0s
VCNR **Virginia City** **83.48 324** P **P** **05 52 00.3 +1.4**
RUBR **Rubicon Trail** **83.54 324** P **P** **05 52 00.6 +1.4**
RUBR IAmb IAmb 05 52 06.5
comp=Z,196nm,1.0s
H17A **Grant Village** **83.58 333** P **P** **05 52 00.4 +1.0**
baz=148,SNR=8.5
H17A S **S** **06 02 21.9 +1.8**

baz=148
PAHR **Pah Rah Range** **83.66 325** P **P** **05 52 00.7 +0.9**
PAHR IAmb IAmb 05 52 03.5
comp=Z,110nm,1.0s
RLMT **Red Lodge** **83.70 334** IAmb IAmb 05 52 22.1
comp=Z,99nm,1.4s
RLMT IAMs_20 IAMs_20 06 28 09.9
comp=Z,3µm,18.0s
RLMT **Red Lodge** **83.70 334** P **P** **05 52 00.3 +0.4**
baz=148,SNR=14
RLMT S **S** **06 02 19.8 -1.4**

baz=148
YNE **Yellowstone No** **83.88 334** P **P** **05 52 01.2 +0.3**
YMR **Madison River** **83.96 333** P **P** **05 52 02.4 +1.1**
YMR IAmb IAmb 05 52 04.8
comp=Z,118nm,1.1s
LAO **LASA Array** **83.97 337** IAmb IAmb 05 52 03.7
comp=Z,92nm,1.0s
LAO **LASA Array** **83.97 337** P **P** **05 52 01.2 +0.1**
baz=151,SNR=46
LAO S **S** **06 02 22.4 -1.1**

baz=151
YHH **Holmes Hill** **84.02 333** IAmb IAmb 05 52 05.0
comp=Z,125nm,1.2s
YHB **Horse Butte** **84.12 333** P **P** **05 52 03.1 +1.0**
YHL **Hebgen Lake** **84.20 333** P **P** **05 52 03.7 +1.1**
YHL IAmb IAmb 05 52 16.1
comp=Z,130nm,1.6s
BEKR **Beckworth** **84.27 324** P **P** **05 52 03.5 +0.6**
BEKR IAmb IAmb 05 52 06.3
comp=Z,74nm,1.0s
ULM **Lac du Bonnet** **84.30 345** P **P** **05 52 02.1 -0.3**
comp=Z,110nm,0.9s,baz=165,slow=3.9,SNR=43
ULM PKKPbc **PKKPbc** **06 10 14.8 -2.4**
comp=Z,3.5nm,0.9s,baz=298,slow=6.2,SNR=3.0
ULM **Lac du Bonnet** **84.30 345** P **P** **05 52 02.2 -0.3**
ULM IAmb IAmb 05 52 04.4
comp=Z,127nm,0.9s
GCMT **Greycliff** **84.42 334** P **P** **05 52 03.4 -0.1**
HLID **Hailey** **84.45 330** P **P** **05 52 04.5 +0.8**
HLID IAmb IAmb 05 52 25.5
comp=Z,82nm,1.1s
HLID IAMs_20 IAMs_20 06 24 56.7
comp=Z,4µm,21.0s
HLID **Hailey** **84.45 330** P **P** **05 52 04.5 +0.8**
baz=144,SNR=86
HLID S **S** **06 02 30.1 +1.4**

baz=144
ORV **Oroville** **84.60 324** P **P** **05 52 05.7 +1.4**
ORV pmax pmax
comp=Z,122nm,1.1s
ORV **Oroville** **84.60 324** P **P** **05 52 05.7 +1.4**
ORV IAmb IAmb 05 52 08.1
comp=Z,122nm,1.1s

MQZ McQueen's Vall 84.81 221 IAMs_20 IAMs_20 06 21 40.2
comp=Z,4µm,20.0s
MCMT McKenzie Canyo 84.84 332 P **P** **05 52 06.6 +0.9**
DGMT Dagmar 84.89 339 P **P** **05 52 05.5 -0.1**
DGMT Dagmar 84.89 339 P **P** **05 52 06.3 +0.7**
baz=153,SNR=92
DGMT S **S** **06 02 32.5 0.0**
baz=153
MFID Camas Ranch 84.93 329 P **P** **05 52 06.8 +0.7**
MFID IAMs_20 IAMs_20 06 25 50.6
comp=Z,6µm,21.0s
HOPS Hopland Field 84.99 322 P **P** **05 52 08.2 +1.9**
HOPS IAmb IAmb 05 52 20.3
comp=Z,141nm,1.3s
BOZ Bozeman (W) 84.99 333 P **P** **05 52 06.6 +0.2**
BOZ pmax pmax
comp=Z,41nm,1.2s
BOZ Bozeman (W) 84.99 333 P **P** **05 52 06.6 +0.2**
BOZ IAMs_20 IAMs_20 06 26 26.2
comp=Z,5µm,20.0s
BOZ Bozeman (W) 84.99 333 P **P** **05 52 06.6 +0.2**
baz=147,SNR=39
BOZ S **S** **06 02 33.4 -0.6**
baz=147
ODZ Otahua Downs 85.05 219 P **P** **05 52 08.3 +1.5**
ODZ IAmb IAmb 05 52 10.8
comp=Z,82nm,1.0s
KHZ Kahutara 85.12 222 P **P** **05 52 08.3 +1.2**
SNZO South Karori 85.13 224 IAMs_20 IAMs_20 06 20 33.9
comp=Z,4µm,22.0s
DLMT Dillon 85.18 332 IAmb IAmb 05 52 10.6
comp=Z,92nm,1.1s
DLMT IAMs_20 IAMs_20 06 26 18.1
comp=Z,4µm,22.0s
CGR Cap Guir 85.19 50 P **P** **05 52 09.0 +1.5**
CGR Cap Guir 85.19 50 P **P** **05 52 10.0 +2.5**
MXZ Matakaoa Point 85.19 229 IAMs_20 IAMs_20 06 20 40.5
comp=Z,6µm,22.0s
O03E Paynes Creek 85.31 324 P **P** **05 52 07.7 -0.3**
baz=139,SNR=38
O03E S **S** **06 02 35.2 -2.0**
baz=139
OXZ Oxford 85.40 221 IAmb IAmb 05 52 14.0
comp=Z,80nm,1.0s
WVOR Wild Horse Val 85.42 327 P **P** **05 52 09.4 +0.8**
WVOR pmax pmax
comp=Z,102nm,1.4s
WVOR Wild Horse Val 85.42 327 P **P** **05 52 09.3 +0.8**
WVOR IAmb IAmb 05 52 21.6
comp=Z,102nm,1.4s
WVOR IAMs_20 IAMs_20 06 26 35.4
comp=Z,4µm,19.0s
LRM Limekiln Ridge 85.50 333 P **P** **05 52 09.8 +0.8**
URZ Urewera 85.53 227 LR LR 06 21 01.1
comp=Z,7µm,20.8s,baz=211,slow=29
URZ Urewera 85.53 227 IAMs_20 IAMs_20 06 20 39.5
comp=Z,7µm,22.0s
RPZ Rata Peaks 85.69 220 P **P** **05 52 11.3 +1.3**
O02D Mt. Diablo Mer 85.72 323 P **P** **05 52 10.8 +0.7**
baz=138,SNR=14
O02D S **S** **06 02 41.3 +0.1**
baz=138
LBZ Lake Benmore 85.73 219 P **P** **05 52 10.8 +0.6**
LBZ IAmb IAmb 05 52 14.0
comp=Z,68nm,1.0s
LBZ IAMs_20 IAMs_20 06 21 33.5
comp=Z,5µm,20.0s
KCPM Cahto Peak 85.77 322 IAmb IAmb 05 52 14.7
comp=Z,131nm,1.0s
WDC Whiskeytown Da 85.90 324 P **P** **05 52 10.3 -0.5**
WDC pmax pmax
comp=Z,42nm,0.9s
WDC Whiskeytown Da 85.90 324 P **P** **05 52 10.3 -0.5**
WHZ Wether Hill Ro 85.91 217 P **P** **05 52 12.0 +1.0**
WHZ IAmb IAmb 05 52 14.9
comp=Z,101nm,1.2s
WHZ IAMs_20 IAMs_20 06 20 58.2
comp=Z,6µm,20.0s
HRY Holter Researc 86.00 334 P **P** **05 52 11.6 +0.2**
EAH EAH 86.05 49 P **P** **05 52 14.0 +2.2**
EAH EAH 86.05 49 P **P** **05 52 14.0 +2.2**
WKZ Wanaka 86.06 218 IAmb IAmb 05 52 29.2
comp=Z,99nm,1.2s
J08A Circle Bar Ran 86.07 328 P **P** **05 52 12.4 +0.7**
TTIG Tnine Tigouga, 86.08 50 P **P** **05 52 13.0 +0.9**
TTIG Tnine Tigouga, 86.08 50 P **P** **05 52 14.0 +1.9**
MLZ Mavora Lakes 86.17 218 P **P** **05 52 12.8 +0.4**
MLZ IAmb IAmb 05 52 26.2
comp=Z,154nm,1.7s
SCHQ Schefferville 86.19 3 P **P** **05 52 11.7 -0.2**
comp=Z,128nm,1.1s,baz=168,slow=4.2,SNR=27
SCHQ LR LR 06 30 09.9
comp=Z,2µm,21.9s,baz=180,slow=35
SCHQ Schefferville 86.19 3 P **P** **05 52 12.2 +0.2**
SCHQ IAmb IAmb 05 52 14.2
comp=Z,195nm,1.1s
N02D Trinity Center 86.28 324 P **P** **05 52 13.1 +0.3**
baz=138,SNR=15
N02D S **S** **06 02 46.1 -0.5**
baz=138
EGMT Eagleton 86.34 335 P **P** **05 52 12.8 -0.1**
EGMT IAmb IAmb 05 52 15.1
comp=Z,85nm,1.1s
EGMT Eagleton 86.34 335 P **P** **05 52 12.8 -0.1**
baz=148,SNR=29
EGMT S **S** **06 02 44.4 -2.6**
baz=148
PLID Pearl Lake 86.35 330 P **P** **05 52 13.6 +0.4**
PLID IAmb IAmb 05 52 35.2
comp=Z,194nm,1.4s
M04C Macdoel 86.45 325 P **P** **05 52 14.2 +0.5**
baz=139,SNR=77
M04C S **S** **06 02 49.5 +1.1**
baz=139
FOZ Fox Glacier 86.49 220 P **P** **05 52 14.1 +0.1**
M02C Callahan 86.66 324 P **P** **05 52 15.1 +0.4**
baz=138,SNR=25
M02C S **S** **06 02 50.7 +0.3**
baz=138
K05A Summer Lake 86.71 326 P **P** **05 52 16.1 +1.1**
K05A IAmb IAmb 05 52 18.7
comp=Z,168nm,1.0s
QRZ Quartz Range 86.72 223 IAmb IAmb 05 52 18.0
comp=Z,116nm,1.0s
QRZ IAMs_20 IAMs_20 06 22 43.8
comp=Z,3µm,20.0s
BMO Blue Mountains 86.72 329 P **P** **05 52 15.4 +0.5**
BMO pmax pmax
comp=Z,58nm,1.2s
BMO Blue Mountains 86.72 329 P **P** **05 52 15.4 +0.5**
BMO IAMs_20 IAMs_20 06 27 26.9
comp=Z,6µm,19.0s
KHMM Horse Mountain 86.72 323 IAmb IAmb 05 52 18.9
comp=Z,111nm,1.0s
JCC Jacoby Creek, 86.83 323 P **P** **05 52 16.7 +1.3**
JCC IAmb IAmb 05 52 19.2
comp=Z,151nm,1.1s
YBH Yreka Blue Hor 86.84 324 IAMs_20 IAMs_20 06 24 27.0
comp=Z,3µm,22.0s
OUK Oukaimeden 86.88 50 P **P** **05 52 17.0 +0.7**
OUK Oukaimeden 86.88 50 P **P** **05 52 18.0 +1.7**
MSO Missoula 86.92 332 P **P** **05 52 16.2 +0.4**
MSO Missoula 86.92 332 P **P** **05 52 16.4 +0.6**
baz=145,SNR=22
L04D Klamath Falls 87.01 325 P **P** **05 52 16.6 +0.3**
baz=139,SNR=26
L04D S **S** **06 02 53.6 -0.3**
baz=139
K04D Chiloquin, OR 87.05 325 P **P** **05 52 17.3 +0.8**
baz=139,SNR=12
K04D S **S** **06 02 54.7 +0.5**
baz=139
CRZF Crozet Islands 87.06 145 IAMs_20 IAMs_20 06 28 53.2
comp=Z,3µm,20.0s
I07A Izee 87.10 328 P **P** **05 52 17.4 +0.7**
I07A IAmb IAmb 05 52 20.2
comp=Z,84nm,1.0s
KRMB Red Mountain 87.29 324 IAmb IAmb 05 52 21.4
comp=Z,96nm,1.0s
J05D Fort Rock, OR 87.30 326 P **P** **05 52 19.0 +1.2**
baz=140,SNR=63
J05D S **S** **06 02 58.2 +1.6**
baz=140
RAO Raoul Island 87.47 237 LR LR 06 23 06.8
comp=Z,1µm,21.9s,baz=140,slow=30
RAO Raoul Island 87.47 237 IAMs_20 IAMs_20 06 21 02.3
comp=Z,5µm,22.0s
XMAS Kiritimati 87.51 274 IAMs_20 IAMs_20 06 21 22.9
comp=Z,6µm,22.0s
PINE Pine Mountain 87.54 327 P **P** **05 52 19.8 +0.8**
PINE IAmb IAmb 05 52 22.7
comp=Z,142nm,0.9s
F10A Beach Ranch, E 87.58 330 IAmb IAmb 05 52 38.3
comp=Z,83nm,1.2s
L02E Cave Junction 87.61 324 P **P** **05 52 20.5 +1.4**
baz=138,SNR=24
L02E S **S** **06 03 00.7 +1.4**
baz=138
J04D Umpqua Nationa 87.68 326 P **P** **05 52 20.6 +0.9**
baz=139,SNR=30
J04D S **S** **06 03 01.4 +1.0**
baz=139
G08A Pilot Rock 87.79 329 P **P** **05 52 20.5 +0.4**
JTMT Jette 87.80 333 P **P** **05 52 20.2 +0.1**
JTMT IAmb IAmb 05 52 36.1
comp=Z,60nm,1.0s
K02D Willamette Mer 88.03 324 P **P** **05 52 22.3 +1.1**
baz=138,SNR=48
K02D S **S** **06 03 04.8 +1.3**
baz=138
TZRR Tazzarine 88.14 52 P **P** **05 52 23.0 +1.0**
TZRR Tazzarine 88.14 52 P **P** **05 52 24.0 +1.9**
DBO Dodson Butte 88.14 325 IAmb IAmb 05 52 24.7
comp=Z,86nm,1.1s
I05D Terrebonne, OR 88.14 327 P **P** **05 52 23.0 +1.3**
baz=140,SNR=65
I05D S **S** **06 03 05.2 +0.7**
baz=140
I04A Tendick Farm, 88.24 326 P **P** **05 52 22.2 0.0**
baz=139,SNR=28
I04A S **S** **06 03 03.8 -1.6**
baz=139
AVE Averroes 88.51 49 P **P** **05 52 24.9 +1.3**
AVE S S 06 03 24.4 +16
AVE Averroes 88.51 49 P **P** **05 52 25.4 +1.8**
AVE Averroes 88.51 49 P **P** **05 52 25.4 +1.8**
J01E Myrtle Point 88.51 325 P **P** **05 52 24.1 +0.8**
baz=138,SNR=7.9
J01E S **S** **06 03 08.4 +0.6**
baz=138
I03D Drain, OR 88.62 325 P **P** **05 52 24.5 +0.7**
baz=138,SNR=17
I03D S **S** **06 03 09.0 +0.1**
baz=138
F07A Phinny Hill Vi 88.69 329 IAmb IAmb 05 52 27.1
comp=Z,74nm,1.1s
WALA Waterton Lakes 88.73 334 P **P** **05 52 24.7 +0.3**
H04A Detroit Lake 88.80 327 P **P** **05 52 25.2 +0.4**
H04A IAmb IAmb 05 52 27.4
comp=Z,76nm,1.0s
BUCK Buck Mountain 88.82 326 P **P** **05 52 25.6 +0.7**
G05D Wamic, OR 88.82 327 P **P** **05 52 25.8 +1.0**
baz=140,SNR=11
G05D S **S** **06 03 12.9 +2.2**
baz=140
HAWA Hanford 88.90 329 IAmb IAmb 05 52 28.4
comp=Z,107nm,1.1s
HAWA IAMs_20 IAMs_20 06 28 04.5
comp=Z,6µm,20.0s
H04D Lebanon 88.94 326 P **P** **05 52 25.6 +0.3**
baz=138
H04D S **S** **06 03 10.5 -1.4**
baz=138
ZHG ZHG 89.10 49 P **P** **05 52 27.0 +0.5**
ZHG ZHG 89.10 49 P **P** **05 52 27.0 +0.5**
D08A Wollman Farm, 89.15 330 P **P** **05 52 26.6 +0.3**
I02D Swisshome 89.17 325 P **P** **05 52 27.5 +1.1**
baz=138,SNR=6.8
I02D S **S** **06 03 15.6 +1.7**
baz=138
COR Corvallis 89.26 326 P **P** **05 52 29.2 +2.4**
COR pmax pmax
comp=Z,167nm,1.2s
COR Corvallis 89.26 326 P **P** **05 52 29.2 +2.4**
COR IAmb IAmb 05 52 30.7
comp=Z,167nm,1.1s
NEW Newport 89.35 332 P **P** **05 52 26.9 -0.4**
NEW pmax pmax
comp=Z,36nm,1.1s
NEW Newport 89.35 332 P **P** **05 52 26.9 -0.4**
NEW Newport 89.35 332 P **P** **05 52 26.8 -0.4**
baz=143,SNR=18
NEW S **S** **06 03 10.7 -4.9**
baz=143
F05D White Salmon 89.37 328 P **P** **05 52 27.9 +0.5**
baz=139,SNR=16
F05D S **S** **06 03 17.1 +1.2**
baz=139
C09A Chrisman Ranch 89.46 331 P **P** **05 52 28.2 +0.5**
C09A IAmb IAmb 05 52 30.4
comp=Z,82nm,0.9s
OUZ Omahuta 89.63 228 IAMs_20 IAMs_20 06 22 54.9
comp=Z,5µm,22.0s
G03D McMinnville, O 89.70 326 P **P** **05 52 29.8 +0.9**
baz=138
G03D S **S** **06 03 18.4 -0.5**
baz=138
F04A Amboy 89.85 327 P **P** **05 52 29.8 +0.2**
F04A IAmb IAmb 05 52 32.2
comp=Z,48nm,0.7s
FFC Flin Flon 89.88 343 P **P** **05 52 29.2 -0.3**
FFC pmax pmax
comp=Z,62nm,1.0s
FFC Flin Flon 89.88 343 P **P** **05 52 29.2 -0.3**
FFC IAmb IAmb 05 52 31.5
comp=Z,62nm,1.0s
FFC Flin Flon 89.88 343 IAMs_20 IAMs_20 06 38 43.7
comp=Z,3µm,19.0s
CZD Col de Zad 89.89 50 P **P** **05 52 32.0 +1.5**
CZD Col de Zad 89.89 50 P **P** **05 52 32.0 +1.5**
MDT Midelt 90.04 51 P **P** **05 52 32.3 +1.4**
MDT Midelt 90.04 51 P **P** **05 52 32.3 +1.4**
LTY Liberty 90.06 329 IAmb IAmb 05 52 43.2
comp=Z,93nm,1.4s
PFVI Vila Bisbo 90.10 45 *e*P **P** **05 52 31.9 +0.9**
comp=Z,117nm,1.7s
PFVI Vila Bisbo 90.10 45 *e*PP PP 05 56 04.9 0.0
PFVI Vila Bisbo 90.10 45 P **P** **05 52 31.2 +0.3**
PFVI IAmb IAmb 05 52 33.5
comp=Z,108nm,1.1s
PFVI Vila Bisbo 90.10 45 P **P** **05 52 31.3 +0.4**
PFVI Vila Bisbo 90.10 45 P **P** **05 52 31.3 +0.4**
IFR Ifrane 90.13 50 P **P** **05 52 32.0 +0.6**
IFR SKS **S** **06 03 17.4 -6.5**
LON Longmire 90.19 328 P **P** **05 52 31.3 +0.1**
LON pmax pmax
comp=Z,29nm,0.9s
LON Longmire 90.19 328 P **P** **05 52 31.3 +0.1**
LSZ Lusaka 90.20 108 P **P** **05 52 33.1 +0.9**
LSZ pmax pmax
comp=Z,195nm,1.1s
LSZ Lusaka 90.20 108 P **P** **05 52 33.1 +0.9**
LSZ Lusaka 90.20 108 *i* P **P** **05 52 34.0 +1.7**
F04D Rainier, OR 90.23 327 P **P** **05 52 32.6 +1.2**
baz=138
F04D S **S** **06 03 23.6 -0.2**
baz=138
MORF Marmelete 90.31 45 *e*P **P** **05 52 33.0 +1.0**
MORF *e*SKSac **SKSac** **06 03 02.4 +0.5**
MORF IAMs_20 IAMs_20 06 30 59.6
comp=Z,10µm,21.9s
MORF Marmelete 90.31 45 *e*P **P** **05 52 33.0 +1.0**
MORF *e* 06 03 02.3
MORF Marmelete 90.31 45 *e*P **P** **05 52 32.8 +0.7**
comp=Z,90nm,1.1s
MORF Marmelete 90.31 45 *e*PP PP 05 56 06.5 -0.2
B08A Colville Reser 90.34 330 P **P** **05 52 31.2 -0.7**
E04D Cinebar 90.38 328 P **P** **05 52 33.5 +1.4**
baz=139,SNR=7.4
E04D S **S** **06 03 24.5 -0.6**
baz=139
LCRM LCR 90.41 50 P **P** **05 52 35.0 +2.2**
LCRM LCR 90.41 50 P **P** **05 52 35.0 +2.2**
PTEO Sao Teotonio 90.43 45 *e*P **P** **05 52 33.1 +0.6**
comp=Z,231nm,1.0s
PTEO Sao Teotonio 90.43 45 *e*PP PP 05 56 08.4 +0.9
RSA Sarsar 90.53 49 P **P** **05 52 34.0 +0.9**
RSA Sarsar 90.53 49 P **P** **05 52 34.0 +0.9**
D05A Enumclaw 90.60 328 P **P** **05 52 33.6 +0.5**
D05A IAmb IAmb 05 52 35.7
comp=Z,88nm,1.0s
C06D Leavenworth 90.67 329 P **P** **05 52 33.2 -0.2**
baz=140
PBDV Barranco-do-Ve 90.71 46 *e*P **P** **05 52 34.4 +0.5**
comp=Z,189nm,1.2s
PBDV Barranco-do-Ve 90.71 46 *e*PP PP 05 56 10.0 +0.2
E03A Lebam 90.83 327 P **P** **05 52 35.2 +1.1**
E03A IAmb IAmb 05 52 38.5
comp=Z,62nm,1.0s
PCVE Castro Verde 90.90 45 *e*P **P** **05 52 36.0 +1.3**
comp=Z,86nm,1.3s
PCVE Castro Verde 90.90 45 *e*PP PP 05 56 11.2 -0.1
PCVE *e*SKSac **SKSac** **06 03 08.8 +3.7**
PNCL Nicolau / Gran 90.91 45 *e*P **P** **05 52 34.9 +0.2**
comp=Z,84nm,1.1s
PNCL Nicolau / Gran 90.91 45 *e*PP PP 05 56 11.1 -0.2
MESJ Messejana 90.92 45 *e*P **P** **05 52 36.0 +1.3**
MESJ *e*PP **PP** **05 56 11.9 +0.4**
MESJ *e*SKSac **SKSac** **06 03 05.8 +0.6**
MESJ IAMs_20 IAMs_20 06 30 47.7
comp=Z,7µm,17.6s
MESJ Messejana 90.92 45 *e*P **P** **05 52 36.0 +1.3**
MESJ *e* 05 56 11.8
MESJ *e* 06 03 05.7
MESJ Messejana 90.92 45 *e*P **P** **05 52 36.1 +1.3**
comp=Z,86nm,1.4s
LIS Lisbon 90.94 44 *e*P **P** **05 52 35.9 +1.0**
LIS *e*PP **PP** **05 56 11.9 +0.4**
LIS *e*SKSac **SKSac** **06 03 05.7 +0.5**
LIS IAMs_20 IAMs_20 06 29 21.8
comp=Z,7µm,16.9s
LIS Lisbon 90.94 44 *e*P **P** **05 52 35.8 +1.0**
LIS *e* 05 56 11.9
LIS *e* 06 03 05.6
D04E Lakebay 90.94 328 P **P** **05 52 35.6 +1.0**
baz=138
PVAQ Vaqueiros 90.95 46 *e*P **P** **05 52 35.3 +0.4**
comp=Z,97nm,1.2s
PVAQ Vaqueiros 90.95 46 *e*PP PP 05 56 11.6 -0.1
PVAQ *e*SKSac **SKSac** **06 03 14.4 +9.1**
PVAQ Vaqueiros 90.95 46 *e*LR LR 06 25 01.5
comp=Z,11µm,20.0s
PVAQ Vaqueiros 90.95 46 P **P** **05 52 34.6 -0.3**
PVAQ IAmb IAmb 05 52 37.8
comp=Z,70nm,1.2s
PVAQ Vaqueiros 90.95 46 P **P** **05 52 35.5 +0.6**
PVAQ Vaqueiros 90.95 46 P **P** **05 52 35.5 +0.6**
CHEFC Chefchaouen 90.98 49 P **P** **05 52 37.0 +1.7**
CHEFC Chefchaouen 90.98 49 P **P** **05 52 37.0 +1.7**
PMAFR Mafra 91.01 44 *e*P **P** **05 52 35.1 -0.1**
comp=Z,120nm,1.2s
PMAFR Mafra 91.01 44 *e*SKSac **SKSac** **06 03 08.6 +2.9**
PBEJ Beja 91.25 45 *e*P **P** **05 52 36.6 +0.3**
comp=Z,66nm,1.0s
SFS San Fernando 91.28 47 P **P** **05 52 36.1 -0.3**
SFS S **S** **06 03 28.5 -5.3**
SMIR Smir Dam 91.31 48 P **P** **05 52 38.0 +1.3**
SMIR Smir Dam 91.31 48 P **P** **05 52 38.0 +1.3**
ARNO Arenosillo 91.36 46 P **P** **05 52 36.9 +0.1**
ARNO S S 06 03 24.0 -10
B06A Marblemount 91.38 329 IAmb IAmb 05 52 38.5
comp=Z,57nm,0.9s
CEU Ceuta 91.45 48 P **P** **05 52 37.2 0.0**
CEU S **S** **06 03 29.2 -6.2**
B05A Bryant 91.46 329 P **P** **05 52 37.0 0.0**
baz=139,SNR=8.3
EVO Evora 91.49 45 P P 05 52 24.2 -13
EVO S S 06 03 25.0 -11
EVO Evora 91.49 45 *e*P **P** **05 52 38.4 +1.0**
comp=Z,40nm,1.3s
EVO Evora 91.49 45 *e*PP PP 05 56 15.9 -0.1
NLWA Neilton Lookou 91.60 327 P **P** **05 52 37.8 +0.1**
NLWA IAmb IAmb 05 54 13.1
comp=Z,84nm,1.6s
NLWA IAMs_20 IAMs_20 06 34 10.0
comp=Z,3µm,20.0s
PSBE So Bento 91.66 44 *e*P **P** **05 52 38.2 0.0**
comp=Z,148nm,1.1s
PSBE So Bento 91.66 44 *e*PP PP 05 56 17.3 0.0
PMTG Montargil 91.71 44 *e*P **P** **05 52 38.3 -0.1**
comp=Z,146nm,1.1s
PMTG Montargil 91.71 44 *e*PP PP 05 56 17.4 -0.3
FIGM Figuig 91.87 53 P **P** **05 52 40.1 +0.5**
FIGM Figuig 91.87 53 P **P** **05 52 41.0 +1.5**
TDRA Tendrara 91.89 52 P **P** **05 52 41.0 +1.3**
TDRA Tendrara 91.89 52 P **P** **05 52 41.0 +1.3**
EDM Edmonton 91.95 336 P **P** **05 52 37.9 -1.4**
EDM pmax pmax
comp=Z,110nm,1.0s
EDM Edmonton 91.95 336 P **P** **05 52 37.9 -1.4**
EDM IAmb IAmb 05 52 41.2
comp=Z,110nm,1.0s
PESTR Estremoz 91.96 45 *e*P **P** **05 52 39.6 0.0**
comp=Z,70nm,1.1s
PESTR Estremoz 91.96 45 *e*PP PP 05 56 19.7 0.0
PESTR *e*SKSac **SKSac** **06 03 15.2 +4.1**
PESTR Estremoz 91.96 45 P **P** **05 52 39.8 +0.2**
PESTR Estremoz 91.96 45 P **P** **05 52 39.8 +0.2**
PESTR Estremoz 91.96 45 P **P** **05 52 39.8 +0.2**
FCC Fort Churchill 91.97 348 P **P** **05 52 39.0 -0.1**
FCC pmax pmax
comp=Z,111nm,1.2s
FCC Fort Churchill 91.97 348 P **P** **05 52 39.0 -0.1**
FCC IAmb IAmb 05 52 41.8
comp=Z,111nm,1.1s
A04D Lummi Island 92.07 329 P **P** **05 52 40.8 +1.0**
baz=138
PCAS Casmilo, Conde 92.19 43 *e*P **P** **05 52 40.6 0.0**
comp=Z,63nm,1.1s
PCAS Casmilo, Conde 92.19 43 *e*PP PP 05 56 21.3 -0.1
PCAS *e*SKSac SKSac 06 03 25.0 +13
JBK JBK 92.31 51 P **P** **05 52 42.0 +0.4**
JBK JBK 92.31 51 P **P** **05 52 42.0 +0.4**
COI Coimbra 92.34 43 *e*P **P** **05 52 42.5 +1.2**
comp=Z,136nm,1.1s
COI Coimbra 92.34 43 *e*PP PP 05 56 22.4 -0.2
COI *e*SKSac **SKSac** **06 03 19.2 +6.1**
PMRV Marv??o 92.44 44 *e*P **P** **05 52 41.3 -0.5**
comp=Z,62nm,1.1s
PMRV Marv??o 92.44 44 *e*PP PP 05 56 23.3 -0.1
PMRV *e*SKSac **SKSac** **06 03 23.1 +9.3**
PMRV Marv??o 92.44 44 *e*LR LR 06 23 59.0
comp=Z,6µm,20.0s
EMAL Malaga-Limoner 92.58 48 P **P** **05 52 42.0 -0.5**
EMAL S **S** **06 03 41.8 -3.8**
MELI Melilla 92.65 50 P **P** **05 52 42.0 -0.8**
MELI SKS **SKSac** **06 03 24.8 +10**
PCBR Castelo Branco 92.65 44 *e*P **P** **05 52 42.4 -0.3**
comp=Z,75nm,1.2s
PCBR Castelo Branco 92.65 44 *e*PP PP 05 56 25.6 +0.5
TAF Taforalt 92.70 50 P **P** **05 52 45.0 +1.8**
TAF Taforalt 92.70 50 P **P** **05 52 45.0 +1.8**
PVIS Viseu 92.97 43 *e*P **P** **05 52 44.6 +0.3**
comp=Z,51nm,1.1s
PVIS Viseu 92.97 43 *e*PP PP 05 56 28.0 +0.4
MTE Manteigas 92.97 43 *e*P **P** **05 52 44.1 -0.2**
comp=Z,108nm,1.1s
MTE Manteigas 92.97 43 *e*PP PP 05 56 27.5 -0.1
MTE *e*SKSac **SKSac** **06 03 19.9 +3.1**
MTE Manteigas 92.97 43 *e*LR LR 06 23 57.0
comp=Z,8µm,22.0s
MTE Manteigas 92.97 43 P **P** **05 52 43.7 -0.6**
MTE IAmb IAmb 05 52 46.3
comp=Z,90nm,1.0s
PVRL Vila Real 93.43 43 *e*P **P** **05 52 45.9 -0.5**
comp=Z,80nm,1.1s
POLO Lamas de Olo 93.45 43 *e*P **P** **05 52 46.6 +0.1**
comp=Z,22nm,1.2s
POLO Lamas de Olo 93.45 43 *e*PP PP 05 56 31.3 -0.1
PCAB Cabril 93.53 42 *e*P **P** **05 52 46.7 -0.1**
comp=Z,54nm,1.2s
PCAB Cabril 93.53 42 *e*PP PP 05 56 32.3 +0.3
PGAV Gavieira, Arco 93.55 42 *e*P **P** **05 52 47.4 +0.4**
PGAV Gavieira, Arco 93.55 42 *e*PP PP 05 56 32.1 -0.2
PGAV *e*SKSac **SKSac** **06 03 28.8 +8.8**
PGAV Gavieira, Arco 93.55 42 *e*LR LR 06 24 33.0
comp=Z,9µm,22.0s
MVO Moncorvo 93.76 43 *e*P **P** **05 52 47.8 -0.1**
comp=Z,116nm,1.0s
MVO Moncorvo 93.76 43 *e*PP **PP** **05 56 33.9 +0.1**
MVO *e*SKSac **SKSac** **06 03 29.6 +8.5**
MVO Moncorvo 93.76 43 *e*LR LR 06 24 07.2
comp=Z,9µm,22.0s
CBB Campbell River 94.21 329 P **P** **05 52 49.6 -0.1**
PBRG Braganca 94.33 43 *e*P **P** **05 52 50.3 -0.2**
comp=Z,61nm,1.4s

PBRG Braganca 94.33 43 *e*PP **PP** 05 56 38.1 -0.2
PAB San Pablo 94.35 46 P **P** 05 52 50.0 -0.7
PAB pmax pmax
comp=Z,50nm,1.1s
PAB MLR MLR
comp=Z,9µm,20.0s
PAB San Pablo 94.35 46 P **P** 05 52 50.0 -0.7
PAB IAmb IAmb 05 52 53.0
comp=Z,50nm,1.1s
PAB San Pablo 94.35 46 P **P** 05 52 51.1 +0.4
PAB San Pablo 94.35 46 P **P** 05 52 51.1 +0.4
ESDC Sonseca Array 94.66 46 P **P** 05 52 52.2 +0.1
comp=Z,26nm,1.0s,baz=244,slow=4.3,SNR=77
ESDC LR LR 06 34 18.5
comp=Z,7µm,19.5s,baz=245,slow=35
ESDC Sonseca Array 94.66 46 P **P** 05 52 51.7 -0.4
NRS Narsarsuaq 94.88 12 IAMs_20 IAMs_20 06 35 54.3
comp=Z,4µm,21.0s
POHA Pohakuloa 95.18 290 IAMs_20 IAMs_20 06 24 50.5
comp=Z,3µm,21.0s
CART Cartagena 95.27 49 P **P** 05 52 53.9 -1.0
CART S SKSac 06 03 44.9 +16
CART Cartagena 95.27 49 P **P** 05 52 54.7 -0.1
CART IAmb IAmb 05 52 56.1
comp=Z,56nm,1.2s
CART IAMs_20 IAMs_20 06 35 18.5
comp=Z,3µm,21.0s
UCM Universidad Co 95.48 46 P **P** 05 52 55.7 -0.2
UCM S SKSac 06 03 49.3 +19
MSVF Nonsavu 97.17 244 IAMs_20 IAMs_20 06 30 11.0
comp=Z,4µm,20.0s
TAU Tasmania Unive 97.69 208 IAMs_20 IAMs_20 06 27 12.8
comp=Z,4µm,20.0s
KIP Kipapa 98.03 290 IAMs_20 IAMs_20 06 27 10.4
comp=Z,4µm,20.0s
MANDA Manda 98.05 107 *i* P Pdif 05 53 11.2 +3.0
JILO Lwanjilo 98.17 105 *i* P **P** 05 53 08.5 -0.4
CHML Chimala 98.50 106 *i* P Pdif 05 53 12.1 +1.8
GAWA Igawa 98.82 106 *i* P Pdif 05 53 12.5 +0.8
KIDE Kidegembe 99.06 107 *i* P **Pdif** 05 53 12.8 -0.1
SFJD Kangerlussuaq 99.59 8 IAMs_20 IAMs_20 06 36 19.6
comp=Z,3µm,22.0s
DY2G Dye2 99.69 10 *i* P **Pdif** 05 53 14.4 0.0
DY2G IAmb IAmb 05 53 16.1
comp=Z,25nm,1.0s
YKA Yellowknife Ar 99.92 341 P **Pdif** 05 53 14.4 -0.8
comp=Z,7.5nm,0.8s,baz=136,slow=5.5,SNR=11
YKA pP **sP** 05 53 25.8 +0.4
comp=Z,7.2nm,0.9s,baz=136,slow=5.8,SNR=5.1
YKA PKKPbc **PKKPbc** 06 09 33.8 -2.8
comp=Z,2.1nm,0.7s,baz=324,slow=3.5,SNR=3.5
YKA Yellowknife Ar 99.92 341 **Pdif** 05 53 14.8 -0.4
CCA1 Carnmenellis 100.36 37 *e*P **Pdif** 05 53 16.3 -1.2
DYA Yadsworthy 101.17 37 *e*P **Pdif** 05 53 20.1 -0.9
KEST Kesra 101.19 55 P **Pdif** 05 53 23.1 +1.4
comp=Z,11nm,0.9s,baz=270,slow=2.0,SNR=5.5
WRAK Wrangell Islan 101.65 330 IAMs_20 IAMs_20 06 46 32.8
comp=Z,2µm,20.0s
ILULI Ilulissat 101.65 7 IAMs_20 IAMs_20 06 41 23.0
comp=Z,4µm,19.0s
CLGH Cloghs, Cushen 102.91 32 *e*P **Pdif** 05 53 30.7 +2.1
DZM Mont Dzumac 102.94 234 *e*PP **PP** 05 57 49.6 +5.9
comp=Z,482nm,26.8s
DZM Mont Dzumac 102.94 234 *e*PS PS 06 06 55.6 +3.4
comp=Z,2µm,29.6s
DZM *e*SS SS 06 12 31.6 +8.1
comp=Z,8µm,27.9s
DZM Mont Dzumac 102.94 234 *e*LR LR 06 27 14.4
comp=Z,13µm,27.6s,baz=133
ICESG Greenland Ices 103.12 11 *i* P **Pdif** 05 53 29.3 -0.4
ICESG IAmb IAmb 05 53 31.7
comp=Z,32nm,1.2s
LIFNC LIFOU 103.24 235 IAMs_20 IAMs_20 06 29 32.8
comp=Z,2µm,22.0s
CAN Canberra 103.26 213 IAMs_20 IAMs_20 06 30 40.6
comp=Z,2µm,21.0s
TGTN Hyland Airport 103.48 336 P **Pdif** 05 53 31.8 +0.6
baz=133,SNR=7.9
HMNX Herstmonceux 103.65 38 *e*P **Pdif** 05 53 29.8 -2.2
JIS Juneau Island 103.69 331 IAMs_20 IAMs_20 06 37 29.7
comp=Z,3µm,21.0s
CWF Charnwood Fore 103.84 36 *e*P **Pdif** 05 53 33.5 +0.6
ESK Eskdalemuir 104.39 33 *e*P **Pdif** 05 53 36.8 +1.6
LMK Market Rasen 104.73 36 *e*P **Pdif** 05 53 31.5 -5.3
WACR West Acre 104.82 37 *e*P **Pdif** 05 53 30.7 -6.4
GDLE Glaisdale, N Y 105.03 35 *e*P **Pdif** 05 53 32.3 -5.8
MMPY Sheldon Lake, 105.26 336 PKiKP **PKiKP** 05 57 55.9 +2.9
baz=130
BMRD Maredsous 105.75 40 *d*Pdif **Pdif** 05 53 41.5 +0.1
FARO Faro, Yukon 105.77 335 PKiKP **PKiKP** 05 57 57.8 +3.9
baz=129
BGES Gesves 105.96 40 *d*Pdif **Pdif** 05 53 42.9 +0.6
VLC Villacollemand 106.06 48 IAMs_20 IAMs_20 06 42 50.1
comp=Z,3µm,20.0s
WLF Walferdange 106.20 41 *d*Pdif **Pdif** 05 53 44.7 +1.2
SUMG Summit 106.39 10 *i* P **Pdif** 05 53 46.0 +1.8
SUMG Summit 106.39 10 *i* P **PP** 05 58 08.7 -0.8
SUMG IAmb IAmb 05 58 10.1
comp=Z,21nm,1.1s
SUMG IAMs_20 IAMs_20 06 39 06.6
comp=Z,5µm,25.3s
SUMG Summit 106.39 10 IAMs_20 IAMs_20 06 41 05.4
comp=Z,5µm,21.0s
BTNL Ternell 106.64 41 *d*Pdif **Pdif** 05 53 46.9 +1.4
SANVU Saraoutou 106.74 239 IAMs_20 IAMs_20 06 30 49.6
comp=Z,3µm,21.0s
BCPM Bancas Point 106.87 331 IAMs_20 IAMs_20 06 39 13.7
comp=Z,2µm,22.0s
DAVA Damuels 107.22 45 *e*P **Pdif** 05 53 49.4 +1.1
comp=Z,9.0nm,0.9s
DAVA *e*P **PKiKP** 05 57 57.8 +0.6
comp=Z,14nm,1.0s
YUK4 Talbot Arm 107.25 332 PKiKP **PKiKP** 05 58 00.6 +3.7
baz=125
FETA Feichten 107.61 45 *e*P **Pdif** 05 53 50.8 +0.8
comp=Z,15nm,1.1s
FETA *e*P **PKiKP** 05 57 58.7 +0.8
comp=Z,11nm,1.2s
TABL Table Mountain 107.76 331 IAMs_20 IAMs_20 06 38 10.4
comp=Z,3µm,21.0s
RETA Reutte 107.85 45 *e*P **Pdif** 05 53 52.0 +1.1
comp=Z,9.9nm,1.0s
RETA *e*P **PKiKP** 05 57 59.7 +1.5
comp=Z,9.5nm,1.1s
TULEG Thule 107.91 1 IAMs_20 IAMs_20 06 44 23.9
comp=Z,2µm,20.0s
LOGN Logan Glacier 107.92 331 IAMs_20 IAMs_20 06 44 20.4
comp=Z,2µm,19.0s
MESA MESA 107.96 330 IAMs_20 IAMs_20 06 38 10.6
comp=Z,2µm,22.0s
YAH Yahtse 107.97 331 IAMs_20 IAMs_20 06 39 48.9
comp=Z,3µm,22.0s
MOTA Moosalm 107.99 45 *e*P **Pdif** 05 53 52.8 +1.1
comp=Z,13nm,1.2s
MOTA *e*P **PKiKP** 05 57 59.5 +0.9
comp=Z,16nm,1.4s
SQTA Sankt Quirin 108.00 45 *e*P **Pdif** 05 53 52.8 +1.1
comp=Z,19nm,1.0s
GRNC Granite Creek 108.18 331 IAMs_20 IAMs_20 06 38 10.3
comp=Z,2µm,21.0s
KASTN Kahler Asten 108.21 41 *e*PP **PP** 05 58 20.5 -2.4
baz=243,slow=7.3
WATA Walderalm 108.27 45 *e*P **Pdif** 05 53 54.1 +1.1
comp=Z,4.8nm,0.6s
WATA *e*P **PKiKP** 05 58 00.9 +1.8
comp=Z,4.5nm,0.7s
WTTA Wattenberg 108.28 45 *e*P **Pdif** 05 53 54.4 +1.5
comp=Z,16nm,1.1s
WTTA *e*P **PKiKP** 05 58 00.6 +1.4
comp=Z,14nm,1.1s
ISLE Juniper Island 108.35 331 IAMs_20 IAMs_20 06 38 24.9
comp=Z,3µm,22.0s
IBBN Ibbenburen 108.36 39 *e*PP **PP** 05 58 22.0 -1.9
baz=243,slow=7.3
WAX Waxell Ridge 108.49 330 IAMs_20 IAMs_20 06 50 30.5
comp=Z,2µm,19.0s
ABTA Abfaltersbach 108.58 46 *e*P **Pdif** 05 53 55.8 +1.6
comp=Z,3.5nm,0.6s
ABTA *e*P **PKiKP** 05 57 59.8 +0.1
comp=Z,18nm,1.2s
TGL Tana Glacier 108.64 331 IAMs_20 IAMs_20 06 38 44.5
comp=Z,3µm,21.0s
SUCK Suckling Hills 108.68 330 IAMs_20 IAMs_20 06 53 33.7
comp=Z,3µm,18.0s
CRQM Cirque 108.77 331 IAMs_20 IAMs_20 06 38 36.3
comp=Z,3µm,22.0s

BERG Berg Lake 108.82 330 IAMs_20 IAMs_20 06 38 08.2
comp=Z,2µm,22.0s
KAIM Kayak Island 108.89 329 IAMs_20 IAMs_20 06 52 45.1
comp=Z,2µm,18.0s
UBBA Unterbreizbach 108.92 42 *e*PP **PP** 05 58 26.3 -1.6
baz=243,slow=7.3
HMT Hamilton 109.03 330 IAMs_20 IAMs_20 06 53 32.8
comp=Z,3µm,18.0s
MCARA McCarthy VSAT 109.05 331 IAMs_20 IAMs_20 06 39 21.3
comp=Z,2µm,20.0s
GRF Grafenberg Arr 109.12 43 *e*PS PS 06 08 07.9 +12
GRF *e*L L 06 42 07.9
comp=Z,5µm,20.7s
VRDI Verde Repeater 109.14 331 IAMs_20 IAMs_20 06 49 04.9
comp=Z,2µm,21.0s
RJOB Jochberg 109.19 45 *e*PP **PP** 05 58 28.2 -1.9
baz=243,slow=7.3
MYKA Terra Mystica 109.23 47 *e*P **Pdif** 05 53 58.7 +1.7
comp=Z,6.6nm,0.9s
MYKA *e*P **PKiKP** 05 58 04.2 +3.4
comp=Z,3.2nm,0.8s
KBA Koelnbreinsper 109.24 46 *e*P **PKiKP** 05 58 02.1 +1.1
comp=Z,8.8nm,1.0s
HLG Helgoland 109.30 38 *e*PP **PP** 05 58 29.6 -1.1
baz=243,slow=7.3
L27K Beaver Creek, 109.44 333 IAMs_20 IAMs_20 06 41 29.8
comp=Z,4µm,20.0s
STKA Stephens Creek 109.46 210 PKKPbc PKKPbc 06 09 05.0 -1.5
comp=Z,3.7nm,0.7s,baz=18,slow=6.2,SNR=4.1
NEEM North Greenlan 109.53 5 *i* P **Pdif** 05 54 11.0 +13
NEEM IAmb IAmb 05 54 12.3
comp=Z,9.7nm,1.0s
NEEM North Greenlan 109.53 5 *i* P **PKiKP** 05 58 03.9 +3.1
NEEM IAMs_20 IAMs_20 06 42 57.0
comp=Z,2µm,20.0s
LJU Ljubljana 109.53 48 *e*PP **PP** 05 58 30.2 -2.3
M26K Nabesna, AK 109.56 332 IAMs_20 IAMs_20 06 52 46.9
comp=Z,3µm,19.0s
INK Inuvik 109.57 340 PKKPbc PKKPbc 06 09 05.5 -1.7
comp=Z,13nm,1.1s,baz=208,slow=0.8,SNR=5.8
CLZ Clausthal 109.59 41 *e*PKiKP **PKiKP** 05 58 03.4 +2.1
baz=242,slow=1.7
CLZ *e*PP **PP** 05 58 31.3 -1.5
baz=243,slow=7.3
ROTZ Rotzenmuhle 109.72 43 *e*PP **PP** 05 58 32.0 -1.9
baz=243,slow=7.3
NRDL Niedersach Rie 109.73 40 *e*PKiKP **PKiKP** 05 58 03.5 +2.1
baz=242,slow=1.7
NRDL *e*PP **PP** 05 58 32.9 -0.8
baz=243,slow=7.3
OBKA Obir 109.74 47 *e*P **Pdif** 05 54 01.8 +2.4
comp=Z,14nm,1.3s
OBKA *e*P **PKiKP** 05 58 02.6 +0.7
comp=Z,16nm,1.3s
MANZ Manzenberg 109.76 43 *e*PKiKP **PKiKP** 05 58 03.2 +1.5
baz=242,slow=1.7
MANZ *e*PP **PP** 05 58 32.2 -2.0
baz=243,slow=7.3
MOX Moxa 109.76 42 *e*PKiKP **PKiKP** 05 58 03.3 +1.7
baz=242,slow=1.7
MOX *e*PP **PP** 05 58 32.5 -1.7
baz=243,slow=7.3
MOX *e*PS **PS** 06 08 10.2 +7.7
MOX *e*L L 06 43 17.0
comp=Z,8µm,20.1s
A36M Sachs Harbour 109.78 345 IAMs_20 IAMs_20 06 44 13.8
comp=Z,4µm,22.0s
WET Wettzell 109.85 44 *e*PKiKP **PKiKP** 05 58 03.2 +1.4
baz=242,slow=1.7
ASSE Asse, Remlinge 109.88 41 *e*PKiKP **PKiKP** 05 58 03.6 +1.9
baz=242,slow=1.7
ASSE *e*PP **PP** 05 58 33.6 -1.3
baz=243,slow=7.3
PLN Plauen 110.01 43 *e*PKiKP **PKiKP** 05 58 03.7 +1.6
baz=242,slow=1.7
PLN *e*PP **PP** 05 58 34.0 -1.9
baz=243,slow=7.3
L26K Log Cabin Wild 110.02 333 IAMs_20 IAMs_20 06 42 17.0
comp=Z,3µm,20.0s
HIN Hinchinbrook I 110.02 329 IAMs_20 IAMs_20 06 51 43.2
comp=Z,2µm,19.0s
K27K Chicken 110.05 334 IAMs_20 IAMs_20 06 41 49.7
comp=Z,3µm,20.0s
WERN Wernitzgruen 110.05 43 *e*PKiKP **PKiKP** 05 58 04.0 +1.8
baz=242,slow=1.7
WERN *e*PP **PP** 05 58 34.3 -2.0
baz=243,slow=7.3
GUNZ Gunzen 110.06 43 *e*PKiKP **PKiKP** 05 58 03.9 +1.6
baz=242,slow=1.7
GUNZ *e*PP **PP** 05 58 34.5 -1.8
baz=243,slow=7.3
WERD Werda 110.08 43 *e*PKiKP **PKiKP** 05 58 03.7 +1.4
baz=242,slow=1.7
WERD *e*PP **PP** 05 58 34.5 -1.9
baz=243,slow=7.3
EGAK Eagle 110.10 335 IAMs_20 IAMs_20 06 43 13.1
comp=Z,2µm,19.0s
NEUB Neuenburg 110.10 42 *e*PKiKP **PKiKP** 05 58 03.8 +1.6
baz=242,slow=1.7
SOKA Soboth 110.11 47 *e*P **Pdif** 05 54 02.1 +1.1
comp=Z,6.0nm,1.3s
SOKA *e*P **PKiKP** 05 58 03.1 +0.6
comp=Z,11nm,1.2s
MOA Molln 110.13 46 *e*P **PKiKP** 05 58 03.6 +1.1
comp=Z,9.5nm,1.2s
PERS Pernice 110.15 47 *e*Pdiff **Pdif** 05 54 01.7 +0.5
PERS *e*PP **PP** 05 58 34.5 -2.6
PERS *e*PS PS 06 07 59.9 -6.5
TANN Tannenbergstha 110.15 43 *e*PKiKP **PKiKP** 05 58 04.2 +1.8
baz=242,slow=1.7
TANN *e*PP **PP** 05 58 35.2 -1.8
baz=243,slow=7.3
GEC2 GERESS Array S 110.21 45 *e*PKiKP **PKiKP** 05 58 03.8 +1.1
baz=242,slow=1.7
GEC2 *e*PP **PP** 05 58 34.7 -2.8
baz=243,slow=7.3
GERES GERESS Array B 110.21 45 Pdiff **Pdif** 05 54 02.0 +0.5
comp=Z,1.2nm,0.9s,baz=207,slow=2.4,SNR=5.3
GERES PKiKP **PKiKP** 05 58 00.4 -2.3
comp=Z,10nm,1.1s,baz=205,slow=2.8,SNR=16
GERES PKKPbc **PKKPbc** 06 09 05.0 +0.2
comp=Z,2.0nm,0.8s,baz=90,slow=4.0,SNR=8.2
GERES PKPPKP 06 17 30.7
comp=Z,0.3nm,0.2s,baz=150,slow=2.9,SNR=4.0
GERES GERESS Array B 110.21 45 **Pdif** 05 54 02.8 +1.3
KHC Kasperske Hory 110.26 44 *e*P **Pdif** 05 54 04.2 +2.6
KHC *e* 05 58 03.1
KHC *e* 05 58 14.5
KHC *e* 05 58 35.6
KHC *e*SS SS 06 14 13.8 +10
KHC MLR MLR
comp=Z,6µm,20.1s
KHC Kasperske Hory 110.26 44 *e*PDIF **Pdif** 05 54 04.2 +2.6
KHC *e*PKP **PKiKP** 05 58 03.1 +0.4
KHC *e*pPKP PP 05 58 14.5 -23
KHC *e*PP PP 05 58 35.6 -2.2
KHC *e*SS SS 06 14 13.8 +10
KHC AMS AMS 06 43 20.0
comp=Z,6µm,20.1s
FLTG Flechtingen 110.28 40 *e*PKiKP **PKiKP** 05 58 03.8 +1.3
baz=242,slow=1.7
FLTG *e*PP **PP** 05 58 35.9 -1.9
baz=243,slow=7.3
BSEG Bad Segeberg 110.48 39 *e*PKiKP **PKiKP** 05 58 04.7 +1.9
baz=242,slow=1.7
BSEG *e*PP **PP** 05 58 37.5 -1.6
baz=243,slow=7.3
CKRC Cesky Krumlov 110.57 45 *e*PDIF **Pdif** 05 54 04.0 +1.1
CKRC *e*PP **PP** 05 58 37.2 -2.8
CKRC *e*SP SP 06 08 03.9 -3.0
CKRC *e*SS SS 06 14 21.0 +13
CKRC AMS AMS 06 39 30.0
comp=Z,6µm,24.4s
ARSA Arzberg 110.66 47 *e*P **Pdif** 05 54 03.7 +0.3
comp=Z,5.0nm,0.9s
ARSA *e*P **PKiKP** 05 58 04.7 +1.3
comp=Z,4.3nm,0.9s
M24K Tolsona, Glenn 110.71 331 IAMs_20 IAMs_20 06 53 38.2
comp=Z,2µm,21.0s
SCRK Sand Creek 110.75 333 IAMs_20 IAMs_20 06 42 11.2
comp=Z,4µm,21.0s
KOGS Kog 110.78 48 *e*PP **PP** 05 58 37.9 -3.6
CLL Collm 110.84 42 *e*Pdif **Pdif** 05 54 02.0 -2.0
CLL *i* PKiKP **PKiKP** 05 58 03.8 +0.2
comp=Z,16nm,0.9s
CLL *e*PP **PP** 05 58 37.0 -4.9
CLL *e*PPP PPP 06 00 54.0

CLL *e*SKSac **SKSac** 06 04 43.0 +1.4
CLL *e*PS **PS** 06 08 14.0 +1.5
CLL *e*SS SS 06 14 30.0 +19
CLL *e*SSS SSS 06 18 12.0
CLL *e* 06 22 36.0
CLL Lmax 06 43 00.0
CLL Lm MLR 06 43 00.0
comp=N,2µm,19.3s
CLL Lm MLR 06 43 00.0
comp=E,7µm,19.4s
CLL Lm MLR 06 43 00.0
comp=Z,9µm,19.6s
CLL Collm 110.84 42 *e*P **Pdif** 05 54 02.0 -2.0
CLL *i* 05 58 03.8
CLL pmax pmax
comp=Z,16nm,0.9s
CLL MLR MLR
comp=Z,9µm,19.6s
CLL Collm 110.84 42 *e*PKiKP **PKiKP** 05 58 05.2 +1.6
baz=242,slow=1.7
CLL *e*PP **PP** 05 58 40.3 -1.5
baz=243,slow=7.3
SNART Snartemo 110.85 34 *e*SKSac **SKSac** 06 04 42.1 +0.8
FBE Freiberg 110.88 42 *e*PKiKP **PKiKP** 05 58 05.5 +1.8
baz=242,slow=1.7
FBE *e*PP **PP** 05 58 40.3 -1.8
baz=243,slow=7.3
BER Bergen 110.92 31 *e*Pdif **Pdif** 05 54 04.8 +0.7
BER *e*PP **PP** 05 58 41.3 -0.8
BER *e*SKSdf **SKSdf** 06 05 15.1 +1.4
BER *e*SP SP 06 08 10.2 +0.9
BER *e*SS **SS** 06 14 11.4 -0.2
BER IVMs_BB IVMs_BB 06 45 37.6
comp=Z,2µm,16.7s
RIDG Independent Ri 110.96 333 IAMs_20 IAMs_20 06 42 45.9
comp=Z,3µm,20.0s
SUE Sulen 110.97 30 *e*Pdif **Pdif** 05 54 04.2 -0.1
SUE *e*PP **PP** 05 58 42.1 -0.4
SUE *e*SP SP 06 08 09.5 -0.4
SUE *e*SS **SS** 06 14 13.6 +1.2
SUE IVMs_BB IVMs_BB 06 48 39.5
comp=Z,2µm,15.5s
BLS5 Blasjo 110.98 32 *e*Pdif **Pdif** 05 54 04.4 -0.1
BLS5 *e*PP **PP** 05 58 41.3 -1.4
BLS5 *e*SKPdf **SKiKP** 06 01 38.6 +1.0
BLS5 *e*PS **PS** 06 08 13.0 -0.6
BLS5 IVMs_BB IVMs_BB 06 45 53.7
comp=Z,2µm,21.2s
PWL Port Wells 111.04 329 IAMs_20 IAMs_20 06 41 14.0
comp=Z,2µm,22.0s
SCM Sheep Creek Mo 111.06 330 IAMs_20 IAMs_20 06 55 16.5
comp=Z,2µm,19.0s
PRA Prague 111.16 44 *e*P **Pdif** 05 54 06.2 +0.7
PRA *e* 05 58 40.5
PRA *e*SS SS 06 14 29.1 +14
PRA MLR MLR
comp=Z,5µm,20.8s
PRA Prague 111.16 44 *e*PDIF **Pdif** 05 54 06.2 +0.7
PRA *e*PP **PP** 05 58 40.5 -3.7
PRA *e*SS SS 06 14 29.1 +14
PRA AMS AMS 06 43 10.0
comp=Z,5µm,20.8s
PRU Pruhonice 111.19 44 *e*P **Pdif** 05 54 08.0 +2.4
PRU *e*SP SP 06 08 11.6 -0.9
PRU *e*SS SS 06 14 31.5 +16
PRU MLR MLR
comp=Z,5µm,21.0s
PRU MLR MLR
comp=Z,400nm,17.1s
PRU Pruhonice 111.19 44 *e*PDIF **Pdif** 05 54 08.0 +2.4
PRU *e*PP **PP** 05 58 39.9 -4.5
PRU *e*SP SP 06 08 11.6 -0.9
PRU *e*SS SS 06 14 31.5 +16
PRU AMS AMS 06 43 20.0
comp=Z,5µm,21.0s
BRG Berggiesshubel 111.20 43 *e*PKiKP **PKiKP** 05 58 05.8 +1.5
baz=242,slow=1.7
BRG *e*PP **PP** 05 58 42.4 -2.1
baz=243,slow=7.3
BRG Berggiesshubel 111.20 43 ⇓Pif **Pdif** 05 54 07.0 +1.4
BRG Amp 05 54 23.0
comp=Z,5.2nm,1.2s
BRG Berggiesshubel 111.20 43 *e*PKP **PKiKP** 05 58 04.9 +0.6
BRG Amp 05 58 06.9
comp=Z,12nm,1.1s
BRG Berggiesshubel 111.20 43 P PKiKP 05 58 16.5 +12
BRG Amp 05 58 17.8
comp=Z,12nm,1.0s
BRG PP **PP** 05 58 42.6 -1.9
BRG Amp 05 58 44.8
comp=Z,14nm,1.3s
BRG Berggiesshubel 111.20 43 PS PS 06 08 07.0 -8.8
BRG PKKP **PKKPbc** 06 09 03.2 +1.8
BRG Amp 06 09 04.5
comp=Z,5.0nm,1.0s
FOO Floro 111.34 30 *e*Pdif **Pdif** 05 54 05.6 -0.3
FOO *e*PP **PP** 05 58 46.0 +0.9
FOO *e*SP SP 06 08 14.0 +0.8
FOO IVMs_BB IVMs_BB 06 44 24.4
comp=Z,2µm,19.9s
KNK Knik Glacier 111.35 330 IAMs_20 IAMs_20 06 54 04.1
comp=Z,2µm,21.0s
PVCC Panska Ves 111.42 43 *e*P **Pdif** 05 54 07.0 +0.4
PVCC *e* 05 58 42.1
PVCC *e*SS SS 06 14 35.6 +17
PVCC MLR MLR
comp=Z,7µm,20.7s
PVCC Panska Ves 111.42 43 *e*PDIF **Pdif** 05 54 07.0 +0.4
PVCC *e*PP **PP** 05 58 42.1 -4.0
PVCC *e*SS SS 06 14 35.6 +17
PVCC AMS AMS 06 43 10.0
comp=Z,7µm,20.7s
HOMB Homborsund 111.43 34 *e*Pdif **Pdif** 05 54 02.3 -4.1
HOMB *e*SP SP 06 08 14.3 +0.1
TREC Trest 111.47 45 *e*P **Pdif** 05 54 09.1 +2.2
TREC *e* 05 58 43.8
TREC MLR MLR
comp=Z,5µm,19.4s
TREC Trest 111.47 45 *e*PDIF **Pdif** 05 54 09.1 +2.2
TREC *e*PP **PP** 05 58 43.8 -2.7
TREC AMS AMS 06 44 30.0
comp=Z,5µm,19.4s
O22K Cooper Landing 111.48 329 IAMs_20 IAMs_20 06 52 18.7
comp=Z,3µm,22.0s
BRSE Bradley Lake S 111.61 328 PKiKP **PKiKP** 05 58 06.7 +1.8
baz=116
KDAK Kodiak Island 111.64 325 IAMs_20 IAMs_20 06 34 30.0
comp=Z,2µm,21.0s
DHY Denali Highway 111.65 332 IAMs_20 IAMs_20 06 54 09.2
comp=Z,2µm,20.0s
GHO Glory Hole Cre 111.71 330 IAMs_20 IAMs_20 06 54 30.6
comp=Z,2µm,20.0s
CNPM China Poot 111.75 327 IAMs_20 IAMs_20 06 39 18.8
comp=Z,2µm,21.0s
RC01 Rabbit Creek A 111.75 329 IAMs_20 IAMs_20 06 41 34.9
comp=Z,2µm,21.0s
RUE Ruedersdorf 111.76 41 *e*PP **PP** 05 58 46.8 -1.6
baz=243,slow=7.3
KRUC Moravsky 111.92 45 *e*PKiKP **PKiKP** 05 58 06.1 +0.3
KRUC *e* 05 58 48.6
SII Sitkinak Islan 111.92 324 IAMs_20 IAMs_20 06 34 25.5
comp=Z,3µm,21.0s
FIS Fire Island 111.99 329 IAMs_20 IAMs_20 06 56 15.1
comp=Z,2µm,19.0s
ZST Bratislava 112.01 46 *e*PP **PP** 05 58 48.0 -2.4
ZST *e* 06 08 17.9
PRP Porcupine Dome 112.07 334 IAMs_20 IAMs_20 06 42 37.1
comp=Z,3µm,21.0s
PRP Porcupine Dome 112.07 334 PKiKP **PKiKP** 05 58 06.1 +0.4
baz=118
HDA Harding Lake 112.09 333 IAMs_20 IAMs_20 06 43 41.8
comp=Z,3µm,20.0s
VRAC Vranov 112.14 45 *e*PKiKP **PKiKP** 05 58 06.4 +0.2
VRAC *e* 05 58 48.8
MODS Modra-Piesok 112.19 46 *e*PKiKP **PKiKP** 05 58 05.8 -0.5
MODS *e* 05 58 48.1
MODS *e* 06 08 25.1
MODS Modra-Piesok 112.19 46 *e*PKP **PKiKP** 05 58 05.8 -0.5
MODS *e*PP **PP** 05 58 48.1 -3.6
MODS *e* 06 08 25.1
MODS *e*L L 06 42 19.5
ILAR Eielson Array 112.23 333 Pdiff **Pdif** 05 54 08.7 -1.2
comp=Z,1.5nm,0.8s,baz=148,slow=3.4,SNR=11
ILAR PKiKP **PKiKP** 05 58 05.5 -0.4

ILAR PKKPbc **PKKPbc** **06 08 56.2 -2.2**
comp=Z,5.8nm,0.9s,baz=202,slow=1.1,SNR=18

ILAR Eielson Array 112.23 333 Pdif 05 54 09.1 -0.8
CAPN Captain Cook N 112.24 329 IAMs_20 IAMs_20 06 53 03.8
comp=Z,2.4nm,0.8s,baz=312,slow=3.0,SNR=6.1
comp=Z,3μm,22.0s

UPC Upice 112.26 44 *e*P **Pdif 05 54 13.3 +2.9**
UPC MLR MLR
comp=Z,6μm,20.4s

UPC Upice 112.26 44 *e*PDIF **Pdif 05 54 13.3 +2.9**
UPC *e*PP **PP 05 58 47.4 -4.7**
UPC AMS AMS 06 43 40.0
comp=Z,6μm,20.4s

CHVC Chvalec 112.32 44 *e*PDIF **Pdif 05 54 12.9 +2.2**
CHVC *e*PKP **PKiKP 05 58 06.9 +0.4**
CHVC *e*PP **PP 05 58 47.7 -4.8**
CHVC AMS AMS 06 43 50.0
comp=Z,5μm,19.7s

SMOL Smolenice 112.34 46 *e*PP **PP 05 58 49.1 -3.6**
SUA Susitna One 112.36 329 IAMs_20 IAMs_20 06 54 58.8
comp=Z,3μm,20.0s

CHIR Chirikof Islan 112.36 323 IAMs_20 IAMs_20 06 34 29.0
comp=Z,4μm,19.0s

SKAR Skarslia 112.37 32 *e*Pdif **Pdif 05 54 08.5 -2.2**
SKAR *e*PP **PP 05 58 50.4 -2.2**
SKAR *e*SP SP 06 08 24.7 +2.0
SKAR *e*SS **SS 06 14 31.3 +0.2**
SKAR IVMs_BB IVMs_BB 06 46 22.0
comp=Z,2μm,17.9s

DPC Dobruska-Polom 112.38 44 *e*P **Pdif 05 54 11.7 +0.7**
DPC *e* 05 58 07.3
DPC *e* 05 58 17.8
DPC *e*SS SS 06 14 47.3 +15
DPC MLR MLR
comp=Z,5μm,20.6s

DPC Dobruska-Polom 112.38 44 *e*PDIF **Pdif 05 54 11.7 +0.7**
DPC *e*PKP **PKiKP 05 58 07.3 +0.6**
DPC *ep*PKP PP 05 58 17.8 -35
DPC *e*PP PP 05 58 47.5 -5.5
DPC *e*SS SS 06 14 47.3 +15
DPC AMS AMS 06 43 30.0
comp=Z,5μm,20.6s

RND Reindeer 112.40 332 IAMs_20 IAMs_20 06 54 40.0
comp=Z,2μm,20.0s

OSTC Ostas 112.40 44 *e*PDIF **Pdif 05 54 10.8 -0.2**
OSTC *e*PKP **PKiKP 05 58 06.9 +0.2**
OSTC *e*PP **PP 05 58 48.3 -4.8**
OSTC AMS AMS 06 43 40.0
comp=Z,5μm,20.5s

AKN Aaknes 112.43 30 *e*Pdif **Pdif 05 54 10.6 -0.3**
AKN *e*PP **PP 05 58 50.6 -2.4**
AKN *e*SP SP 06 08 23.8 +0.5
AKN *e*SS **SS 06 14 32.8 +1.0**
AKN IVMs_BB IVMs_BB 06 48 32.4
comp=Z,2μm,21.6s

FYU Fort Yukon 112.45 335 IAMs_20 IAMs_20 06 44 24.3
comp=Z,3μm,20.0s

KONO Kongsberg 112.53 33*c* *i*PKiKP **PKiKP 05 58 08.2 +1.7**
KONO pmax pmax
comp=Z,18nm,1.3s

KONO MLR MLR
comp=Z,5μm,19.0s

KONO Kongsberg 112.53 33 *e*Pdif **Pdif 05 54 11.8 +0.5**
KONO *e*PP **PP 05 58 52.0 -1.8**
KONO *e*SP SP 06 08 25.9 +1.7
KONO IVMs_BB IVMs_BB 06 43 43.9
comp=Z,2μm,17.6s

CCB Clear Creek Bu 112.53 333 IAMs_20 IAMs_20 06 43 55.4
comp=Z,3μm,21.0s

KRLC Kraliky 112.55 44 *e*P **Pdif 05 54 14.4 +2.7**
KRLC *e* 05 58 07.6
KRLC *e*SS SS 06 14 50.6 +16
KRLC MLR MLR
comp=Z,5μm,19.0s

KRLC Kraliky 112.55 44 *e*PDIF **Pdif 05 54 14.4 +2.7**
KRLC *e*PKP **PKiKP 05 58 07.6 +0.6**
KRLC *e*PP **PP 05 58 49.1 -5.1**
KRLC *e*SS SS 06 14 50.6 +16
KRLC AMS AMS 06 44 50.0
comp=Z,5μm,19.0s

CUT Chulitna 112.55 330 IAMs_20 IAMs_20 06 54 53.9
comp=Z,3μm,20.0s

FRGS Fruska Gora 112.56 50 ⇑P **PKiKP 05 58 07.5 +0.4**
WRH Wood River Hil 112.56 333 IAMs_20 IAMs_20 06 43 57.3
comp=Z,4μm,21.0s

MCK McKinley 112.57 332 IAMs_20 IAMs_20 06 40 07.6
comp=Z,3μm,22.0s

MCK McKinley 112.57 332 PKiKP **PKiKP 05 58 07.1 +0.5**
baz=116

POKR Poker Plat Res 112.60 334 IAMs_20 IAMs_20 06 44 33.2
comp=Z,3μm,19.0s

JAVC Velka Javorina 112.62 46 *e*PKIKP **PKiKP 05 58 08.2 +1.0**
JAVC *e* 06 08 58.9

COLA College 112.65 333 IAMs_20 IAMs_20 06 43 57.6
comp=Z,3μm,20.0s

TCOL CIGO, UAF Yank 112.65 333 IAMs_20 IAMs_20 06 43 57.6
comp=Z,3μm,20.0s

MOL Molde 112.83 30 *e*PP **PP 05 58 54.6 -1.1**
MOL *e*SP SP 06 08 24.6 -2.2
MOL *e*SS **SS 06 14 35.5 -1.5**
MOL IVMs_BB IVMs_BB 06 50 52.1
comp=Z,2μm,20.8s

MDM Murphy Dome 112.83 333 IAMs_20 IAMs_20 06 44 03.4
comp=Z,3μm,20.0s

MORC Moravsky Berou 112.89 45 ⇑P **PKiKP 05 58 08.6 +0.9**
MORC Moravsky Berou 112.89 45 ⇑PKiKP **PKiKP 05 58 08.6 +0.9**
MORC Moravsky Berou 112.89 45 *e*PKIKP **PKiKP 05 58 07.2 -0.4**
MORC *e* 06 08 57.3

SKT Skwentna 112.91 330 IAMs_20 IAMs_20 06 55 15.5
comp=Z,2μm,20.0s

SKT Skwentna 112.91 330 PKiKP **PKiKP 05 58 08.5 +1.2**
baz=114

BWN Browne 112.97 332 IAMs_20 IAMs_20 06 43 17.4
comp=Z,3μm,21.0s

NEA2 Nenana 113.00 333 IAMs_20 IAMs_20 06 44 09.8
comp=Z,3μm,20.0s

NEA2 Nenana 113.00 333 PKiKP **PKiKP 05 58 08.1 +0.8**
baz=115

TRF Thorofare Moun 113.00 331 IAMs_20 IAMs_20 06 55 19.9
comp=Z,2μm,20.0s

TRF Thorofare Moun 113.00 331 PKiKP **PKiKP 05 58 08.6 +1.0**
baz=115

H24K Noodor Dome 113.08 334 IAMs_20 IAMs_20 06 43 45.0
comp=Z,3μm,20.0s

VYHS Vyhne 113.20 46 *e*PKIKP **PKiKP 05 58 09.0 +0.8**
VYHS *e* 05 58 55.8
VYHS MLR MLR
comp=Z,6μm,22.5s

VYHS Vyhne 113.20 46 *e*PKP **PKiKP 05 58 09.0 +0.8**
VYHS *e*PP **PP 05 58 55.8 -3.1**

BOVS Bovan 113.23 52 ⇑P **PKiKP 05 58 07.8 -0.6**
DOMB Dombas 113.26 30 *e*Pdif **Pdif 05 54 14.0 -0.6**
DOMB *e*PP **PP 05 58 59.4 +0.4**
DOMB *e*SP SP 06 08 32.8 +1.9
DOMB *e*SS **SS 06 14 45.8 +2.9**
DOMB IVMs_BB IVMs_BB 06 46 55.2
comp=Z,2μm,14.9s

OKC Ostrava-Krasne 113.28 45 *e*P **Pdif 05 54 20.3 +5.4**
OKC *e*SS SS 06 14 53.6 +10
OKC MLR MLR
comp=Z,4μm,18.4s

OKC Ostrava-Krasne 113.28 45 *e*PDIF **Pdif 05 54 20.3 +5.4**
OKC *e*PP **PP 05 58 54.7 -4.6**
OKC *e*SS SS 06 14 53.6 +10
OKC AMS AMS 06 46 10.0
comp=Z,4μm,18.4s

KTH Kantishna Hill 113.30 331 IAMs_20 IAMs_20 06 43 07.8
comp=Z,2μm,20.0s

I23K Minto, Yukon-K 113.35 333 IAMs_20 IAMs_20 06 44 30.0
comp=Z,3μm,20.0s

H23K Yukon River 113.70 334 IAMs_20 IAMs_20 06 45 16.3
comp=Z,3μm,19.0s

CAST Castle Rocks 113.73 331 IAMs_20 IAMs_20 06 45 22.0
comp=Z,2μm,21.0s

CAST Castle Rocks 113.73 331 PKiKP **PKiKP 05 58 08.3 -0.5**
baz=113

N19K Bonanza Creek 113.75 328 IAMs_20 IAMs_20 06 56 11.8
comp=Z,3μm,19.0s

NB2 NORSAR Subarra1 113.82 32 PKPdf **PKiKP 05 58 08.6 -0.5**
comp=Z,15nm,1.2s,baz=245,slow=1.9

NB2 NORSAR Subarra1 113.82 32 PKPdf **PKiKP 05 58 08.6 -0.5**
baz=245,slow=1.9

NOA NORSAR Array B 113.82 32 PKiKP **PKiKP 05 58 09.2 +0.1**
comp=Z,5.2nm,0.9s,baz=248,slow=1.8,SNR=13

NOA PP **PP 05 59 00.8 -2.1**
comp=Z,3.1nm,0.9s,baz=244,slow=6.9,SNR=4.6

NOA PKKPab **PKKPab** **06 08 58.0 +1.7**
comp=Z,4.3nm,0.9s,baz=69,slow=4.5,SNR=9.4

NOA PKPPKP 06 17 23.5
comp=Z,0.1nm,0.5s,baz=76,slow=2.8,SNR=1.3

LANS Liptovska Anna 113.83 46 *e*PKIKP **PKiKP 05 58 11.1 +1.7**
LANS Liptovska Anna 113.83 46 *e*PKP **PKiKP 05 58 11.1 +1.7**
MLY Manley 113.83 333 IAMs_20 IAMs_20 06 44 34.8
comp=Z,4μm,20.0s

NC602 NORSAR Array S 113.85 32 *e*Pdif **Pdif 05 54 17.5 +0.3**
NC602 *e*PP **PP 05 59 00.8 -2.4**
NC602 *e*SP SP 06 08 38.2 +2.0
NC602 IVMs_BB IVMs_BB 06 43 11.7
comp=Z,2μm,21.1s

BZS Buzias 113.91 50 ⇑P **PKiKP 05 58 10.3 +0.7**
BZS Buzias 113.91 50 ⇑PKIKP **PKiKP 05 58 10.3 +0.7**
ALE Alert 113.99 1 IAMs_20 IAMs_20 06 47 12.6
comp=Z,3μm,22.0s

HERR Herculane 114.17 51 ⇓P PKPdf 05 58 09.1 -1.1
SIRR Siria 114.17 49 ⇑P **PKiKP 05 58 10.9 +0.7**
KECS Kecovo 114.22 47 *e*PKIKP **PKiKP 05 58 11.2 +1.0**
KECS Kecovo 114.22 47 *e*PKP **PKiKP 05 58 11.2 +1.0**
N18K Kilae Creek 114.35 327 IAMs_20 IAMs_20 06 56 33.5
comp=Z,2μm,20.0s

I21K Tanana 114.37 333 IAMs_20 IAMs_20 06 44 12.1
comp=Z,4μm,22.0s

NIE Niedzica 114.43 46 *e*PKiKP **PKiKP 05 58 12.0 +1.4**
NIE *e*PP **PP 05 59 06.3 -1.3**
NIE *e*L L 06 42 48.6
comp=Z,4μm,25.1s

L19K White Mountain 114.43 329 IAMs_20 IAMs_20 06 57 17.7
comp=Z,2μm,19.0s

COLD Coldfoot 114.51 335 PKiKP **PKiKP 05 58 11.1 +0.9**
baz=113

GZR Gura Zlata 114.59 51 ⇓P PKPdf 05 58 08.8 -2.3
GZR Gura Zlata 114.59 51 ⇓PKIKP PKPdf 05 58 08.8 -2.3
TOLK Toolik Lake Re 114.85 337 IAMs_20 IAMs_20 06 44 30.6
comp=Z,3μm,21.0s

TOLK Toolik Lake Re 114.85 337 PKiKP **PKiKP 05 58 11.5 +0.7**
baz=113

J20K Nowinta River 114.86 331 IAMs_20 IAMs_20 06 43 53.0
comp=Z,2μm,22.0s

H21K Melozitna Rive 114.87 333 IAMs_20 IAMs_20 06 45 55.3
comp=Z,4μm,20.0s

DRGR 115.03 49 ⇓P **PKPdf 05 58 11.5 -0.4**
DRGR 115.03 49 ⇓PKIKP **PKPdf 05 58 11.5 -0.4**
ALN Alexandroupoli 115.23 56 *i* PKIKP **PKPdf 05 58 12.1 -0.2**
ALN Alexandroupoli 115.23 56 PKPdf 05 58 12.1 -0.2
TRPA Tarpa 115.38 48 ⇑P **PKiKP 05 58 13.0 +0.6**
UZH Uzhgorod 115.39 47 *i* PKIKP **PKPdf 05 58 11.4 -1.0**
UZH *e* 05 58 21.6
UZH *e* 06 04 54.4
UZH *e*PS **PS 06 08 51.8 -2.5**
UZH MLR MLR
comp=N,900nm,19.0s

UZH MLR MLR
comp=E,800nm,19.0s

UZH MLR MLR
comp=Z,400nm,19.0s

NSS Namsos 115.41 28 *e*PKPdf **PKPdf 05 58 11.8 -0.1**
NSS *e*SP SP 06 08 51.2 +1.0
NSS IVMs_BB IVMs_BB 06 48 36.8
comp=Z,1μm,23.7s

KOLS Kolonicke sedl 115.48 47 *e*PKIKP **PKiKP 05 58 13.4 +0.8**
KOLS Kolonicke sedl 115.48 47 *e*PKP **PKiKP 05 58 13.4 +0.8**
HUMR Humele 115.76 52 ⇓P **PKPdf 05 58 13.2 -0.1**
ARR Arges 115.81 51 ⇑P **PKPdf 05 58 13.1 -0.4**
VOIR 116.11 51 ⇑P **PKiKP 05 58 15.5 +1.5**
VOIR 116.11 51 ⇑PKIKP **PKiKP 05 58 15.5 +1.5**
ARCR ARCALIA 116.19 49 ⇑P **PKPdf 05 58 13.6 -0.4**
NOR Nord 116.35 8 *i* P **PKPdf 05 58 13.3 -0.1**
NOR IAmb IAmb 05 58 15.2
comp=Z,19nm,1.1s

NOR *i* 05 59 17.7
NOR IAMs_20 IAMs_20 06 44 42.9
comp=Z,4μm,25.2s

NOR Nord 116.35 8 *i* PKIKP **PKPdf 05 58 13.3 -0.1**
NOR *i* 05 59 17.7
NOR pmax pmax
comp=Z,19nm,1.1s

NOR MLR MLR
comp=Z,4μm,25.0s

DOPR Dopca 116.51 51 ⇓P **PKiKP 05 58 16.1 +1.4**
KONS Konsvik 116.51 27 *e*PKPdf **PKiKP 05 58 14.3 +0.4**
MLR Muntele Rosu 116.72 51 ⇑P **PKPdf 05 58 14.5 -0.7**
MLR Muntele Rosu 116.72 51 PKIKP **PKPdf 05 58 14.7 -0.6**
MLR MLR
comp=Z,9μm,20.0s

MLR Muntele Rosu 116.72 51 PKPdf **PKPdf 05 58 14.7 -0.6**
LVV L'vov 116.85 46 *e*PKIKP **PKiKP 05 58 16.3 +1.1**
LVV *e* 05 59 26.0
LVV *e* 06 01 58.9
LVV *e* 06 05 05.9
LVV *e* 06 08 56.9
LVV *e* 06 15 23.9
LVV MLR MLR
comp=E,3μm,25.0s

LVV MLR MLR
comp=N,3μm,23.0s

LVV MLR MLR
comp=Z,4μm,25.0s

BUR08 Bucovina Ar. S 116.92 49 PKPdf **PKiKP 05 58 15.6 0.0**
BURAR Bucovina Array 116.92 49 ⇑P **PKiKP 05 58 15.7 +0.2**
BURAR Bucovina Array 116.92 49 ⇑PKIKP **PKiKP 05 58 15.7 +0.2**
BURAR Bucovina Array 116.92 49 PKPdf 05 58 15.2 -0.4
MOR8 Moi Rana 116.92 27 *e*Pdif **Pdif 05 54 32.1 +1.3**
MOR8 *e*PKPdf **PKiKP 05 58 15.6 +0.7**
MOR8 *e*SKSac **SKSac 06 05 04.7 0.0**
MOR8 *e*SP **SP 06 09 05.8 +1.8**
MOR8 *e*SS **SS 06 15 34.0 +3.3**
MOR8 IVMs_BB IVMs_BB 06 42 59.9
comp=Z,1μm,19.5s

NEHR Nehoiu 116.93 51 ⇑P **PKPdf 05 58 15.4 -0.1**
ISR Istrita 117.00 52 ⇑P **PKiKP 05 58 15.8 +0.1**
ISR Istrita 117.00 52 ⇑PKIKP **PKiKP 05 58 15.8 +0.1**
CTA Charters Tower 117.06 220 PKKPbc PKKPbc 06 08 39.4 -1.4
comp=Z,9.2nm,0.9s,baz=304,slow=4.2,SNR=8.0

CTAO Charters Tower 117.06 220 IAMs_20 IAMs_20 06 38 35.3
comp=Z,3μm,19.0s

LOF Lofoten 117.17 25 *e*Pdif **Pdif 05 54 31.9 +0.1**
LOF *e*PKPdf **PKiKP 05 58 16.1 +0.9**
LOF *e*PP **PP 05 59 26.1 -0.1**
LOF *e*SP SP 06 09 05.5 -0.6
LOF IVMs_BB IVMs_BB 06 44 05.6
comp=Z,864nm,13.1s

BISRR Bisoca 117.25 51 ⇑P **PKiKP 05 58 16.2 0.0**
BIZ Bicaz 117.28 50 ⇑P **PKPdf 05 58 15.8 -0.3**
PLOR Plostina 117.30 51 ⇑P **PKPdf 05 58 15.7 -0.5**
PLOR Plostina 117.30 51 ⇑PKIKP **PKPdf 05 58 15.7 -0.5**
VRI Vrincioaia 117.36 51 ⇑P **PKPdf 05 58 15.0 -1.3**
VRI Vrincioaia 117.36 51 ⇑PKIKP **PKPdf 05 58 15.0 -1.3**
ISP Isparta 117.42 61 IAMs_20 IAMs_20 06 55 22.8
comp=Z,3μm,19.0s

TESR Tescani 117.51 50 ⇑P **PKiKP 05 58 16.6 +0.1**
SUW Suwalki 117.59 42 *e*P **PKiKP 05 58 17.3 +0.8**
SUW Suwalki 117.59 42 PKIKP **PKPdf 05 58 16.3 -0.1**
SUW MLR MLR
comp=Z,6μm,22.0s

SUW Suwalki 117.59 42 PKPdf 05 58 16.3 -0.1
FAUS Fauske 117.59 26 *e*Pdif **Pdif 05 54 34.6 +1.0**
FAUS *e*PKPdf **PKiKP 05 58 16.6 +0.5**
FAUS *e*PP **PP 05 59 29.0 -0.2**
FAUS *e*SKSac **SKSac 06 05 05.9 -1.1**
FAUS *e*SP SP 06 09 10.7 +0.7
FAUS IVMs_BB IVMs_BB 06 48 22.6
comp=Z,928nm,19.5s

AAL Aland 117.63 34 *e*P **PKPdf 05 58 16.1 -0.2**
STEI Steigen 117.72 25 *e*Pdif **Pdif 05 54 33.7 -0.5**
STEI *e*PKPdf **PKiKP 05 58 17.0 +0.7**
STEI *e*PP **PP 05 59 29.9 -0.2**
STEI *e*SP SP 06 09 10.5 -0.6
STEI *e*SS **SS 06 15 45.1 +4.2**
STEI IVMs_BB IVMs_BB 06 38 59.6
comp=Z,862nm,29.2s

CFR Carcaliu 118.09 52 ⇑P **PKPdf 05 58 17.4 -0.3**
CFR Carcaliu 118.09 52 ⇑PKIKP **PKPdf 05 58 17.4 -0.3**
TPGR Topolog 118.19 53 ⇑P **PKPdf 05 58 17.5 -0.5**
PABE Paberze 118.43 40 *e*P **PKiKP 05 58 18.1 0.0**
PABE Paberze 118.43 40 PKPdf **PKPdf 05 58 17.4 -0.6**
CSS Mathiatis 118.57 65 PKPdf **PKiKP 05 58 19.2 +0.2**
CSS IAMs_20 IAMs_20 06 49 55.6
comp=Z,3μm,22.0s

RAF Rauma 118.69 34 *e*P **PKiKP 05 58 18.6 +0.3**

MILM Milestii Mici 119.05 50 ⇑P **PKPdf 05 58 19.5 0.0**
KIS Kishinev 119.08 50 *e*P **Pdif 05 54 42.0 +1.2**
KIS Kishinev 119.08 50 *e*PKP **PKiKP 05 58 20.0 +0.4**
KIS Kishinev 119.08 50 *i* PP PP 05 59 32.0 -8.1
comp=Z,220nm,7.7s

KIS *e*SKS **SKSac 06 05 09.0 -4.3**
KIS Kishinev 119.08 50 *e*PS PS 06 09 28.0 +0.2
KIS *e*LR LR 06 42 09.0
comp=Z,1μm,22.0s

KIS Kishinev 119.08 50 *e*P **Pdif 05 54 42.0 +1.2**
KIS *e* 05 58 20.0
KIS *e* 05 59 50.0
KIS *e* 06 05 09.0
KIS *e*PS **PS 06 09 28.0 +0.2**
KIS pmax pmax
comp=Z,220nm,7.7s

KIS MLR MLR
comp=Z,1μm,22.0s

SORM Soroca 119.09 49 ⇑P **PKPdf 05 58 19.1 -0.4**
SORM Soroca 119.09 49 ⇑PKIKP **PKPdf 05 58 19.1 -0.4**
MTSE Matsula 119.15 37 *e*P **PKiKP 05 58 19.9 +0.6**
MORW Morawa 119.22 188 PKPdf **PKPdf 05 58 19.3 -1.3**
TRO Tromso 119.43 24 *e*Pdif **Pdif 05 54 41.4 -0.4**
TRO *e*PKPdf **PKiKP 05 58 19.9 +0.3**
TRO IVmB_BB 05 58 27.9
comp=Z,297nm,2.3s

TRO *e*PP **PP 05 59 41.0 -0.8**
TRO *e*SKSac **SKSac 06 05 13.0 -0.5**
TRO *e*SP SP 06 09 28.3 +1.9
TRO *e*SS **SS 06 16 04.7 +1.8**
TRO IVMs_BB IVMs_BB 06 43 41.3
comp=Z,890nm,19.7s

KBS Kingsbay 119.56 13 *e*Pdif **Pdif 05 54 42.8 +0.6**
KBS *e*PKPdf **PKiKP 05 58 20.3 +0.6**
KBS *e*PP **PP 05 59 42.0 -0.5**
KBS *e*SP SP 06 09 30.0 +2.8
KBS *e*SS **SS 06 16 06.6 +2.4**
KBS IVMs_BB IVMs_BB 06 43 37.8
comp=Z,766nm,26.6s

KBS Kingsbay 119.56 13 IAMs_20 IAMs_20 06 46 45.4
comp=Z,2μm,22.0s

ISAL Salakas 119.64 40 *e*P **PKiKP 05 58 20.8 +0.4**
IIGN Ignalina 119.64 41 *e*P **PKiKP 05 58 21.1 +0.7**
ANTO Ankara 119.76 59 PKIKP **PKiKP 05 58 21.8 +0.5**
ANTO MLR MLR
comp=Z,7μm,21.0s

ANTO Ankara 119.76 59 PKPdf **PKiKP 05 58 21.8 +0.5**
MEF Metsahovi 119.77 35 *e*P **PKPdf 05 58 20.1 -0.3**
NACGM Naroch 119.85 41 *i* PKP **PKiKP 05 58 20.9 +0.1**
AS31 Alice Springs 119.85 207 PKPdf **PKPdf 05 58 20.5 -1.4**
ASAR Alice Springs 119.85 207 PKP **PKPdf 05 58 20.4 -1.5**
comp=Z,22nm,0.9s,baz=145,slow=2.0,SNR=57

ASAR pPKP **sPKPdf 05 58 32.6 +0.3**
comp=Z,21nm,0.8s,baz=149,slow=2.0,SNR=13

ASAR PKKPbc **PKKPbc 06 08 30.6 -0.4**
comp=Z,6.2nm,0.6s,baz=336,slow=2.9,SNR=22

ASAR SKKPbc SKKPbc 06 12 12.5 -2.0
comp=Z,2.7nm,0.9s,baz=352,slow=4.1,SNR=4.7

ASAR Alice Springs 119.85 207 PKPdf **PKPdf 05 58 20.2 -1.7**
HSPB Hornsund (broa 119.90 15 *e*Pdif **Pdif 05 54 43.9 +0.2**
HSPB *e*PP **PP 05 59 45.8 +0.9**
HSPB *e*SP SP 06 09 29.2 -1.1
HSPB IVMs_BB IVMs_BB 06 47 04.1
comp=Z,994nm,21.0s

JETT Jettan, Norway 119.93 24 *e*Pdif **Pdif 05 54 45.1 +1.0**
JETT *e*PKPdf **PKiKP 05 58 21.5 +0.8**
JETT *e*PP **PP 05 59 45.6 +0.2**
JETT *e*PS **PS 06 09 35.2 +0.4**
JETT IVMs_BB IVMs_BB 06 44 06.2
comp=Z,902nm,26.0s

SPA0 Spitsbergen Ar 120.28 14 *e*PKPdf **PKiKP 05 58 21.8 +0.6**
SPA0 *e*SP SP 06 09 34.1 +0.4
SPA0 *e*SS **SKKSdf 06 16 16.5 +1.5**
SPA0 IVMs_BB IVMs_BB 06 46 06.8
comp=Z,1μm,24.5s

SPITS Spitsbergen Ar 120.28 14 PKKPbc PKKPbc 06 08 28.6 -1.6
comp=Z,8.4nm,0.8s,baz=96,slow=8.6,SNR=5.2

SPITS Spitsbergen Ar 120.28 14 PKIKP **PKiKP 05 58 21.2 +0.1**
AKASG Malin Array Be 120.30 46 PKP **PKPdf 05 58 20.5 -1.3**
comp=Z,31nm,0.9s,baz=275,slow=2.3,SNR=53

AKASG pPKP **sPKPdf 05 58 30.5 +1.1**
comp=Z,27nm,0.8s,baz=273,slow=2.3,SNR=13

AKASG PKKPbc **PKKPbc 06 08 29.5 0.0**
comp=Z,4.2nm,0.8s,baz=61,slow=4.3,SNR=7.2

BJO1 Bjornoya 120.32 18 *e*PKPdf **PKiKP 05 58 22.2 +0.9**
BJO1 *e*SP SP 06 09 35.1 +0.9
BRTR Keskin Array B 120.34 60 PKP **PKPdf 05 58 21.6 -0.8**
comp=Z,15nm,0.8s,baz=190,slow=3.4,SNR=33

BRTR pPKP **sPKPdf 05 58 32.5 -0.2**
comp=Z,14nm,0.8s,baz=192,slow=2.6,SNR=11

BRTR Keskin Array B 120.34 60 PKPdf **PKPdf 05 58 21.9 -0.5**
MNK Minsk 120.38 42 *i* PKIKP **PKPdf 05 58 20.2 -1.6**
MNK *i* 05 59 47.6
MNK *i* PPP PPP 06 02 24.4
MNK *i* 06 05 31.0
MNK *i* PS **PS 06 09 31.3 -8.0**
MNK *i* SS SS 06 16 21.3 +5.3
MNK *i* SSS SSS 06 20 50.5
MNK pmax pmax
comp=Z,140nm,1.1s

MNK pmax pmax
comp=E,3.0nm,0.9s

MNK pmax pmax
comp=N,28nm,0.8s

MNK MLR MLR
comp=N,1μm,17.0s

MNK MLR MLR
comp=Z,4μm,19.0s

MNK MLR MLR
comp=E,546nm,20.0s

MNK Minsk 120.38 42 *i* PKP **PKPdf 05 58 20.2 -1.6**
comp=E,3.0nm,0.8s

MNK *i* PKP **PKPdf 05 58 20.2 -1.6**
comp=N,28nm,0.8s

MNK *i* PKP **PKPdf 05 58 20.2 -1.6**
comp=Z,140nm,1.1s,baz=76

MNK *i* PP **PP 05 59 47.7 -1.1**
MNK *i* PPP PPP 06 02 24.4
MNK *i* SKS **SKSdf 06 05 31.1 -1.0**
MNK *i* PS **PS 06 09 31.4 -7.9**
MNK *i* SS **SS 06 16 21.4 +5.4**
MNK *i* SSS SSS 06 20 50.6
MNK *i* LR LR 06 43 27.1
MNK *i* LRM MLR 06 49 41.6
comp=N,1μm,17.4s

MNK *i* LRM MLR 06 49 46.0
comp=E,546nm,19.5s

MNK *i* LRM MLR 06 49 46.0
comp=Z,4μm,18.8s

VSU Vasula 120.59 37 *e*P **PKPdf 05 58 21.8 -0.2**
VSU Vasula 120.59 37 *i* PKIKP **PKPdf 05 58 21.8 -0.2**
VSU pmax pmax
comp=Z,257nm,1.0s

FINES FINESS Array B 120.82 34 PKP **PKPdf 05 58 21.8 -0.6**
comp=Z,20nm,1.0s,baz=166,slow=1.6,SNR=24

FINES pPKP **sPKPdf 05 58 32.1 -0.6**
comp=Z,18nm,0.9s,baz=270,slow=1.9,SNR=12

FINES PKKPbc **PKKPbc 06 08 27.5 -0.3**
comp=Z,8.9nm,1.0s,baz=120,slow=6.8,SNR=9.2

FINES FINESS Array B 120.82 34 PKPdf **PKPdf 05 58 22.3 -0.1**
FIA1 FINESS Array S 120.82 34 PKPdf **PKPdf 05 58 22.3 -0.1**
KTK1 Kautokeino 120.83 25 *e*Pdif **Pdif 05 54 49.4 +1.3**
KTK1 *e*PKPdf **PKPdf 05 58 21.8 -0.5**
KTK1 *e*PP **PP 05 59 51.2 -0.2**
KTK1 *e*SKSac **SKSac 06 05 18.7 +0.2**
KTK1 *e*SS **SKKSdf 06 16 13.8 0.0**
KTK1 IVMs_BB IVMs_BB 06 44 49.8
comp=Z,800nm,19.9s

HAMF Hammerfest 121.20 23 *e*Pdif **Pdif 05 54 48.9 -0.8**
HAMF *e*PKPdf **PKiKP 05 58 23.5 +0.5**
HAMF *e*PP **PP 05 59 54.0 0.0**
HAMF *e*SP SP 06 09 35.2 -6.9
HAMF *e*SS **SS 06 16 27.5 +1.9**
HAMF IVMs_BB IVMs_BB 06 44 44.3
comp=Z,765nm,19.4s

BZK Bozkurt 121.25 57 PKPdf **PKiKP 05 58 23.9 -0.1**
ARA0 ARCESS Array S 121.70 24 *e*PKPdf **PKiKP 05 58 24.8 +0.7**
ARA0 *e*PP **PP 05 59 57.2 -0.2**
ARCES ARCESS Array B 121.70 24 PKP **PKPdf 05 58 23.4 -0.5**
comp=Z,14nm,0.9s,baz=272,slow=2.4,SNR=26

ARCES pPKP **pPKPdf 05 58 32.6 +1.0**
comp=Z,9.0nm,0.8s,baz=271,slow=1.9,SNR=6.4

ARCES PKKPbc **PKKPbc 06 08 23.5 -1.2**
comp=Z,8.7nm,0.8s,baz=73,slow=4.1,SNR=12

BNN	Bunyan	121.72	61		PKPdf	PKPdf	05 58 24.6	-0.5	
HOPEN	Hopen	122.02	16		ePdif	Pdif	05 54 54.9	+1.7	
HOPEN					ePKPdf	PKPdf	05 58 24.4	0.0	
HOPEN					ePP	PP	05 59 57.6	-1.8	
HOPEN					IVMs_BB	IVMs_BB	06 40 31.6		
	comp=Z,857nm,3.3s								
DIKM	Dikmen	122.06	58	⇑	P	PKiKP	05 58 26.2	+0.6	
SIM	Simferopol'	122.10	54		ePKIKP	PKPdf	05 58 25.0	-0.4	
SIM					pmax	pmax			
	comp=Z,63nm,1.1s								
SNOP	Sinop	122.13	57		PKPdf	PKPdf	05 58 25.6	+0.1	
KEV	Kevo	122.24	24		PKiKP	PKiKP	05 58 25.3	+0.2	
KEV					MLR	MLR			
	comp=Z,3μm,21.0s								
KEV	Kevo	122.24	24		PKPdf	PKiKP	05 58 25.3	+0.2	
KEV					IAMs_20	IAMs_20	06 51 25.5		
	comp=Z,3μm,21.0s								
GAZ	Gaziantep	122.25	63			PKPdf	05 58 24.6	-1.4	
WR0	Warramunga Arr	122.92	210		PKPdf	PKPdf	05 58 27.0	-0.9	
WB2	Warramunga Arr	123.01	209		PKPdf	PKPdf	05 58 27.1	-1.0	
WRA	Warramunga Arr	123.02	209		PKP	PKPdf	05 58 27.0	-1.1	
	comp=Z,56nm,1.0s,baz=161,slow=1.9,SNR=86								
WRA					pPKP	sPKPdf	05 58 38.1	-0.3	
	comp=Z,41nm,0.9s,baz=156,slow=1.5,SNR=14								
WRA					PKKPbc	PKKPbc	06 08 19.2	+0.3	
	comp=Z,6.1nm,1.0s,baz=335,slow=4.1,SNR=19								
WRAB	Tennant Creek	123.02	209	c	iPKiKP	PKPdf	05 58 26.6	-1.5	
WRAB					pmax	pmax			
	comp=Z,74nm,1.0s								
WRAB	Tennant Creek	123.02	209			PKPdf	05 58 26.6	-1.5	
ADK	Adak	123.16	314		PKiKP	PKPdf	05 58 26.7	-0.5	
ADK	Adak	123.16	314		PKPdf	PKPdf	05 58 26.7	-0.5	
ADK	Adak	123.16	314		IAMs_20	IAMs_20	06 42 54.8		
	comp=Z,3μm,20.0s								
COEN	Coen	123.73	222		PKPdf	PKiKP	05 58 29.7	-0.1	
ANN	Anapa	124.37	55	i	PKiKP	PKiKP	05 58 29.9	-0.1	
ANN					e		06 05 30.3		
ANN					iPS	PS	06 10 15.8	+0.8	
ANN					pmax	pmax			
	comp=Z,109nm,1.1s								
ANN					MLR	MLR			
	comp=Z,3μm,21.0s								
APA	Apatity	124.51	27	⇓	iPKiKP	PKPdf	05 58 27.5	-1.8	
APA					pmax	pmax			
	comp=Z,36nm,0.9s								
APA					MLR	MLR			
	comp=Z,4μm,22.0s								
LVZ	Lovozero	124.98	26	c	iPKiKP	PKiKP	05 58 31.0	+0.3	
LVZ					pmax	pmax			
	comp=Z,92nm,1.0s								
LVZ	Lovozero	124.98	26		PKPdf	PKPdf	05 58 30.3	0.0	
LVZ					IAMs_20	IAMs_20	06 52 12.0		
	comp=Z,3μm,21.0s								
KTUT	Trabzon	125.19	60	⇑	P	PKiKP	05 58 32.1	+0.3	
OBN	Obninsk	125.44	42		PKP	PKPdf	05 58 31.2	-0.2	
	comp=Z,10nm,0.4s,baz=196,slow=1.3,SNR=2.3								
OBN					pPKP	sPKPdf	05 58 41.1	-0.6	
	comp=Z,6.7nm,0.3s,baz=187,slow=9.0,SNR=1.8								
OBN	Obninsk	125.44	42	d	iPKiKP	PKPdf	05 58 31.4	-0.1	
OBN					i		05 58 41.5		
OBN					i		06 00 21.3		
OBN					pmax	pmax			
	comp=Z,177nm,1.3s								
OBN	Obninsk	125.44	42		PKPdf	PKiKP	05 58 31.6	-0.2	
AMKA	Amchitka	125.55	313		PKPdf	PKPdf	05 58 30.8	-1.1	
SOC	Sochi	125.72	56	e	PKiKP	PKPdf	05 58 31.9	-0.5	
SOC					e		06 00 23.1		
SOC					ePPP	PPP	06 03 05.7		
SOC					ePS	PS	06 10 32.9	+5.9	
SOC					eSSS	SSS	06 22 06.6		
SOC					pmax	pmax			
	comp=Z,71nm,1.0s								
SOC					MLR	MLR			
	comp=Z,2μm,20.0s								
PSA00	Pilbara Seismi	125.99	193		PKPdf	PKPdf	05 58 33.0	-0.8	
PSA00	Pilbara Seismi	125.99	193		PKPdf	PKPdf	05 58 32.6	-1.1	
MOS	Moscow	126.10	41	i	PKiKP	PKPdf	05 58 31.9	-0.8	
MOS					i		05 58 42.4		
MOS					e		06 00 25.6		
MOS					ePS	PS	06 10 22.2	-7.6	
MOS					pmax	pmax			
	comp=Z,122nm,1.2s								
MOS					MLR	MLR			
	comp=N,3μm,21.0s								
MOS					MLR	MLR			
	comp=E,5μm,21.0s								
MOS					MLR	MLR			
	comp=Z,6μm,21.0s								
H11S2	WAKE ISLAND Hyl	126.14	271		T	T	08 17 25.7		
	baz=117,slow=75,SNR=2664								
H11S1	WAKE ISLAND Hyl	126.15	271		T	T	08 17 23.6		
	baz=117,slow=75,SNR=1132								
H11S3	WAKE ISLAND Hyl	126.16	271		T	T	08 17 24.4		
	baz=117,slow=75,SNR=1077								
H11N3	WAKE ISLAND Hyl	126.49	272		T	T	08 17 47.7		
	baz=116,slow=76,SNR=267								
H11N1	WAKE ISLAND Hyl	126.51	272		T	T	08 17 49.9		
	baz=116,slow=76,SNR=121								
H11N2	WAKE ISLAND Hyl	126.51	272		T	T	08 17 58.8		
	baz=116,slow=76,SNR=1004								
LPSR	Galich'ya Gora	126.58	45	e	PKiKP	PKPdf	05 58 33.7	0.0	
LPSR					pmax	pmax			
	comp=Z,150nm,1.1s								
LPSR					MLR	MLR			
	comp=Z,3μm,21.0s								
VORD	Divnogorie	126.62	47	e	PKiKP	PKPdf	05 58 33.5	-0.4	
VORD					pmax	pmax			
	comp=Z,70nm,1.1s								
BCA	Borcka	126.65	59	⇑	P	PKPdf	05 58 34.4	+0.1	
VORR	Voronezh	126.65	47	e	PKiKP	PKPdf	05 58 33.0	-0.9	
VORR					pmax	pmax			
	comp=Z,250nm,1.2s								
KLMR	Klimovskoe	127.26	35	c	iPKiKP	PKPdf	05 58 34.8	0.0	
KLMR					e		05 58 45.1		
KLMR					pmax	pmax			
	comp=Z,284nm,1.2s								
KLMR					MLR	MLR			
	comp=Z,4μm,20.0s								
KLMR	Klimovskoe	127.26	35	⇑	iPKPdf	PKPdf	05 58 34.8	0.0	
KLMR				⇑	iPKPdf	PKPdf	05 58 34.8	0.0	
KLMR				⇑	iPKPdf	PKPdf	05 58 34.8	0.0	
KLMR					AMP		05 58 37.2		
	comp=Z,284nm,1.2s								
KLMR					e		05 58 45.1		
KLMR					PP	PP	06 00 29.5	-5.3	
KLMR					LR	LR	06 38 38.6		
KLMR					AMP		06 52 26.7		
	comp=Z,4μm,20.4s								
KARS	Kars	127.56	61		PKIKP	PKiKP	05 58 37.4	+0.6	
KARS	Kars	127.56	61			PKiKP	05 58 37.4	+0.6	
FITZ	Fitzroy Crossi	127.87	201		PKP	PKPdf	05 58 37.1	-0.3	
	comp=Z,60nm,0.9s,baz=197,slow=4.2,SNR=44								
FITZ					pPKP	sPKPdf	05 58 47.5	-0.2	
	comp=Z,48nm,0.8s,baz=99,slow=0.2,SNR=10								
KIV	Kislovodsk	127.90	57	⇑	P	PKiKP	05 58 37.7	+0.4	
KIV	Kislovodsk	127.90	57	i	PKPdf	PKPdf	05 58 36.5	-0.3	
	SNR=7.9								
KIV	Kislovodsk	127.90	57	i	P	Pdif	05 55 20.1	-0.1	
KIV				i			05 58 37.5		
KIV				e			06 00 39.4		
KIV				ePS		PS	06 10 45.8	-0.6	
KIV				eSS		SS	06 17 52.9	+1.1	
KIV				pmax	pmax				
	comp=Z,71nm,1.1s								
KIV	Kislovodsk	127.90	57		PKPdf	PKiKP	05 58 37.3	0.0	
KIV					IAMs_20	IAMs_20	06 57 45.9		
	comp=Z,2μm,21.0s								
KBZ	Khabaz	128.01	57		PKP	PKPdf	05 58 36.6	-0.2	
	comp=Z,34nm,1.0s,baz=245,slow=2.0,SNR=19								
KBZ	Khabaz	128.01	57	c	iPKiKP	PKiKP	05 58 37.5	+0.2	
AKH	Akhalkalaki	128.02	60	⇑	P	PKiKP	05 58 38.4	+0.7	
VRH	Novokhopyorsk	128.17	47	e	PKiKP	PKPdf	05 58 35.7	-1.1	
VRH					pmax	pmax			
	comp=Z,70nm,0.8s								
GOF	Gofitskoye	128.33	55	⇑	ePKiKP	PKiKP	05 58 37.8	-0.2	
GOF					pmax	pmax			
	comp=Z,172nm,1.2s								
ZEI	Tsey	128.57	58	i	PKiKP	PKPdf	05 58 37.9	-0.3	
ZEI					pmax	pmax			
	comp=Z,11nm,1.1s								
GNI	Garni	128.70	62		PKP	PKPdf	05 58 38.8	+0.3	
	baz=313,slow=2.2								
GNI	Garni	128.70	62		PKPdf	PKPdf	05 58 38.6	+0.2	
GNI	Garni	128.70	62	c	iPKIKP	PKiKP	05 58 39.6	+0.5	
	comp=Z,78nm,1.7s								
GNI	Garni	128.70	62			PKiKP	05 58 39.2	+0.1	
KNRA	Kununurra	129.08	206		PKPdf	PKPdf	05 58 39.0	-0.7	
GROC	Groznyy	130.01	58	i	PKIKP	PKPdf	05 58 32.8	-7.8	
GROC				e	PS	PS	06 10 55.6	-8.9	
GROC				pmax	pmax				
	comp=Z,91nm,1.1s								
PRGR	Permogore	130.15	34	e	PKIKP	PKiKP	05 58 41.1	0.0	
PRGR					pmax	pmax			
	comp=Z,101nm,0.9s								
MTN	Manton Dam	130.71	210		PKPdf	PKPdf	05 58 42.5	-0.3	
BILL	Bilibino	130.84	335	c	iPKIKP	PKiKP	05 58 42.4	+0.1	
BILL					i		05 58 50.6		
BILL					i		06 00 59.6		
BILL					pmax	pmax			
	comp=Z,58nm,1.0s								
BILL	Bilibino	130.84	335			PKiKP	05 58 42.5	+0.1	
BILL					IAMs_20	IAMs_20	06 59 16.4		
	comp=Z,2μm,21.0s								
AKT	Akhty	131.17	60	e	PKIKP	PKiKP	05 58 44.0	0.0	
AKT					e		06 01 02.3		
AKT					pmax	pmax			
	comp=Z,100nm,1.1s								
MAK	Makhachkala	131.22	58	i	P	Pdif	05 55 31.1	-3.7	
MAK					e		06 00 57.5		
MAK					e		06 05 42.3		
MAK					eSS	SS	06 18 32.3	-0.2	
MAK					eSSS	SSS	06 23 21.4		
MAK					pmax	pmax			
	comp=Z,206nm,1.2s								
BELG	Belogornoye	131.88	46		PKP	PKPdf	05 58 44.1	+0.3	
	comp=Z,110nm,1.0s,baz=80,slow=1.3,SNR=20								
KIRV	Kirov	132.43	37		PKP	PKPdf	05 58 44.7	+0.1	
	comp=Z,58nm,1.0s,baz=280,slow=1.2,SNR=26								
ASUD	Al Ashush, Dub	133.06	85	i	PKPdf	PKPdf	05 58 46.5	-0.4	
	SNR=6.8								
ALNE	Al Ain	133.21	86	i	PKPdf	PKPdf	05 58 47.0	-0.3	
	SNR=5.3								
FAQ	Al Faqa, Dubai	133.33	85	i	PKPdf	PKPdf	05 58 46.8	-0.7	
	SNR=12								
NAZ	Nazwa, Dubai	133.47	84		PKPdf	PKPdf	05 58 47.8	+0.1	
ASHO	Ashiyiah	133.70	85		PKPdf	PKPdf	05 58 47.4	-0.9	
HATD	Hatta, Dubai	133.81	85		PKPdf	PKPdf	05 58 47.3	-1.1	
SOHO	SOHO	133.91	86	i	PKPdf	PKPdf	05 58 47.3	-1.2	
	SNR=7.7								
UOSS	Minazif	133.92	85		PKPdf	PKPdf	05 58 47.9	-0.7	
UOSS	Minazif	133.92	85			PKPdf	05 58 46.1	-2.5	
MSFE	Esma-Masafi	134.02	84		PKPdf	PKPdf	05 58 48.1	-0.7	
MDH	Madha	134.12	84		PKPdf	PKPdf	05 58 47.4	-1.5	
SHME	Shamm	134.24	83	i	PKPdf	PKPdf	05 58 48.6	-0.5	
	SNR=5.7								
BANOM	Banah	134.33	83		PKPdf	PKPdf	05 58 48.9	-0.5	
GENI	Genyem	134.52	228		PKP	PKiKP	05 58 52.6	+1.1	
BATI	Baumata	135.92	202		PKP	PKiKP	05 58 54.1	-0.2	
	comp=Z,65nm,0.7s,baz=141,slow=7.2,SNR=5.8								
BATI	Baumata	135.92	202		PKP	PKiKP	05 58 55.1	+0.8	
SOEI	Soe	136.15	203		PKP	PKPpre	05 58 43.1		
WBSI	Waikabubak, Su	137.65	196		PKP	PKiKP	05 58 57.8	-0.1	
ARU	Arti	137.69	39		PKhKP	PKPpre	05 58 44.1		
	comp=Z,3.0nm,0.2s,baz=271,slow=4.7,SNR=6.0								
ARU					PKP	PKPdf	05 58 54.9	+0.3	
	comp=Z,30nm,0.9s,baz=286,slow=1.8,SNR=56								
ARU	Arti	137.69	39	i	PKIKP	PKPdf	05 58 54.9	+0.3	
ARU							06 11 59.1		
ARU					MLR	MLR			
	comp=Z,5μm,22.0s								
MMRI	Maumere	137.84	201		IAMs_20	IAMs_20	06 52 52.2		
	comp=Z,2μm,22.0s								
EDFI	Ende, Flores	137.90	200		PKP	PKPpre	05 58 46.5		
SEY	Seymchan	138.13	332		PKhKP	PKPpre	05 58 47.3		
	comp=Z,11nm,0.8s,baz=93,slow=3.7,SNR=6.9								
SEY					PKP	PKPdf	05 58 56.2	+1.0	
	comp=Z,102nm,1.1s,baz=138,slow=3.1,SNR=8.3								
SEY					SKPbc	SKPbc	06 02 26.0	-1.9	
	comp=Z,9.1nm,1.0s,baz=101,slow=2.9,SNR=5.7								
PET	Petropavlovsk	138.18	316	i	PKHKP	PKPpre	05 58 46.1		
PET					e		06 01 50.1		
PET					ePPP	PPP	06 04 42.8		
PET					ePPS	PPS	06 13 54.6		
PET					eSS	SS	06 19 54.2	-1.2	
PET					pmax	pmax			
	comp=Z,600nm,12.6s								
PET					pmax	pmax			
	comp=Z,700nm,9.2s								
PET					pmax	pmax			
	comp=Z,500nm,10.2s								
PET	Petropavlovsk	138.18	316		IAMs_20	IAMs_20	06 48 04.0		
	comp=Z,2μm,21.0s								
TIXI	Tiksi	138.41	350	i	PKIKP	PKPdf	05 58 54.7	-0.8	
TIXI	Tiksi	138.41	350		IAMs_20	IAMs_20	06 58 06.8		
	comp=Z,2μm,22.0s								
AKTO	Aktyubinsk	138.50	48		PKhKP	PKPpre	05 58 47.8		
	comp=Z,4.2nm,0.8s,baz=333,slow=1.5,SNR=6.6								
AKTO					PKP	PKPdf	05 58 56.6	+0.3	
	comp=Z,42nm,1.1s,baz=275,slow=1.3,SNR=25								
GEYT	Alibeck	138.63	67		PKP	PKPdf	05 58 56.9	-0.2	
	comp=Z,22nm,0.9s,baz=236,slow=16,SNR=5.5								
GYA0B	ALIBECK ARRAY	138.63	67		PKPdf	PKPdf	05 58 56.8	-0.2	
LBFI	Labuhan Bajo,	138.64	197		PKP	PKPpre	05 58 49.7		
SVE	Sverdlovsk	138.68	38	i	PKIKP	PKPdf	05 58 56.8	+0.4	
SVE					pmax	pmax			
	comp=Z,76nm,1.3s								
SVE					MLR	MLR			
	comp=Z,5μm,23.0s								
PEA0B	Petropavlovsk-	138.72	316	c	iPKIKP	PKiKP	05 58 59.4	+0.6	
PEA0B	Petropavlovsk-	138.72	316		PKPdf	PKPdf	05 58 56.8	+0.2	
PETK	Petropavlovsk-	138.72	316		PKhKP	PKPpre	05 58 49.5		
	comp=Z,11nm,1.0s,baz=76,slow=6.3,SNR=5.2								
PETK					PKP	PKPdf	05 58 57.4	+0.8	
	comp=Z,58nm,0.9s,baz=94,slow=4.9,SNR=17								
PLAI	Plampang	138.80	194		PKP	PKPpre	05 58 51.4		
FAKI	Fak Fak	138.84	218		IAMs_20	IAMs_20	06 52 29.3		
	comp=Z,3μm,21.0s								
TWSI	Taliwang, Sumb	139.06	193		PKP	PKPpre	05 58 49.2		
AB31	Akbulak array	139.89	50		PKHKP	PKPpre	05 58 49.3		
ABKAR	Akbulak array	139.89	50		PKPdf	PKPdf	05 58 59.5	+0.6	
GMJI	Gumukmas	140.04	188		PKP	PKPpre	05 58 51.5		
SKR	Severo-Kuril's	140.14	313	i	PKHKP	PKPpre	05 58 42.4		
MA2	Magadan	140.34	327		PKhKP	PKPpre	05 58 52.1		
	comp=Z,13nm,0.8s,baz=280,slow=6.9,SNR=4.8								
MA2					PKP	PKiKP	05 59 01.4	-0.4	
	comp=Z,44nm,1.0s,baz=89,slow=3.1,SNR=7.1								
MA2	Magadan	140.34	327		PKPdf	PKiKP	05 59 00.8	-1.0	
MA2					IAMs_20	IAMs_20	07 11 38.5		
	comp=Z,2μm,20.0s								
KRAI	Karang Ratu	140.39	212		PKP	PKPpre	05 58 48.4		
NRIK	Noril'sk	140.41	11		PKhKP	PKPpre	05 58 52.9		
NRIK					PKP	PKPdf	05 58 59.9	+0.7	
	comp=Z,22nm,1.0s,baz=350,slow=2.5,SNR=5.2								
NRIK	Noril'sk	140.41	11			PKPdf	05 58 59.8	+0.6	
ABJI	Asem Bagus	140.42	189		PKP	PKPpre	05 58 55.4		
PWJI	Pagerwojo	140.45	185		PKP	PKPpre	05 58 53.0		
UGM	Wanagama	140.65	183		PKP	PKPdf	05 58 59.8	+0.4	
BSSI	Bau Bau, Buton	140.72	199		PKP	PKPpre	05 58 54.4		
SJI	Sawahan	140.74	185		PKP	PKPpre	05 58 55.5		
CMJI	Cimerak	140.82	180		PKP	PKPpre	05 58 56.5		
CISI	Cisompet, Garu	141.05	179		IAMs_20	IAMs_20	06 57 09.7		
	comp=Z,1μm,21.0s								
CISI	Cisompet, Garu	141.05	179		PKP	PKPdf	05 58 55.7	-6.5	
SIJI	Sorong	141.09	218		PKP	PKPdf	05 58 59.0	-3.2	
SWI	Sorong	141.10	218		PKP	PKiKP	05 59 05.1	+0.2	
KPJI	Karang Pucung	141.27	181		PKP	PKPdf	05 58 57.1	-5.4	
CNJI	Cibinong	141.28	178		PKP	PKPdf	05 58 57.9	-4.6	
SMRI	Semarang	141.50	183		PKPdf	PKPdf	05 59 01.4	-1.5	
BKSI	Bulukumba	141.60	199		PKP	PKPdf	05 58 57.7	-5.4	
BNSI	Bone	142.49	199		PKP	PKPdf	05 59 00.9	-3.8	
SANI	Sanana	142.58	210		PKP	PKPdf	05 59 00.6	-4.2	
KASI	Kota Agung	142.88	174		PKP	PKPdf	05 59 03.1	-2.3	
LWLI	Liwa	143.34	173		PKP	PKPbc	05 59 02.9	-0.4	
KLI	Kotabumi	143.57	174		PKP	PKPbc	05 59 03.8	0.0	
UBSI	University, Be	144.34	169		PKP	PKPbc	05 59 06.2	0.0	
TNTI	Ternate	144.46	214		PKP	PKPab	05 59 04.9	-1.4	
KBKI	Kotabaru	144.50	193		PKP	PKPab	05 59 06.3	-0.2	
BBKI	Banjar Baru	144.58	191		PKP	PKPbc	05 59 07.0	0.0	
PALK	Pallekele	144.59	127		PKIKP	PKPbc	05 59 07.1	0.0	
PALK	Pallekele	144.59	127			PKPbc	05 59 07.1	+0.1	
GOA	Goa	144.67	109	e	P	PKPab	05 59 06.2	-0.8	
BHUJ	Bhuj	144.77	94	e	P	PKPab	05 59 06.7	-0.6	
LUWI	Luwuk	144.77	205			PKPdf	05 59 08.4	-0.3	
LUWI					IAMs_20	IAMs_20	07 01 47.1		
	comp=Z,2μm,21.0s								
LUWI	Luwuk	144.77	205		PKP	PKPbc	05 59 08.1	+0.5	
BRVK	Borovoye	145.19	41		PKIKP	PKPdf	05 59 08.1	0.0	
BRVK					MLR	MLR			
	comp=Z,4μm,20.0s								
BRVK	Borovoye	145.19	41			PKPdf	05 59 08.1	0.0	
BVAR	Borovoye Array	145.26	41		PKPbc	PKPdf	05 59 08.3	0.0	
	comp=Z,227nm,0.7s,baz=242,slow=6.2,SNR=403								
APSI	Ampana	145.29	204		PKP	PKPdf	05 59 09.9	+0.3	
PMBI	Palembang	145.48	174		PKP	PKPbc	05 59 09.0	-0.8	
PBKI	Pangkalan Bun	145.73	186		PKP	PKPdf	05 59 07.5	-2.8	
KMSI	Cibinong	145.79	209		PKP	PKPab	05 59 11.3	+0.1	
PKKI	Palangkaraya	145.92	190		PKP	PKPbc	05 59 11.0	-0.2	
SISI	Saibi	146.07	163		PKP	PKPab	05 59 12.1	-0.2	
MNI	Manado	146.21	211		PKP	PKPbc	05 59 11.8	-0.4	
GTOI	Gorontalo	146.23	207		PKP	PKPdf	05 59 11.3	+0.1	
POO	Poona	146.26	104	e	P	PKPbc	05 59 12.4	+0.2	
BKB	Balikpapan	146.32	195		PKPbc	PKiKP	05 59 14.6	-1.1	
BKB					IAMs_20	IAMs_20	07 00 08.9		
	comp=Z,3μm,22.0s								
BKB	Balikpapan	146.32	195		PKP	PKPab	05 59 14.3	+1.1	
MRSI	Marisa	146.48	205		PKP	PKPdf	05 59 10.3	-1.3	
KUR	Kuril'sk	146.56	305	e	PKP2	PKPbc	05 59 11.9	-0.3	
KUR				e			06 02 36.5		
KUR				eSS		SS	06 21 34.8	+1.8	
KUR				eSSS		SSS	06 27 03.1		
KUR				pmax	pmax				
	comp=Z,5μm,7.1s								
KUR				pmax	pmax				
	comp=Z,602nm,1.3s								
KUR				MLR	MLR				
	comp=Z,2μm,14.0s								
YAK	Yakutsk	146.60	342		PKP	PKPdf	05 59 09.9	-0.4	
	comp=Z,526nm,0.8s,baz=221,slow=0.4,SNR=9.3								
YAK					PKPbc	PKPbc	05 59 11.6	-0.2	
	comp=Z,526nm,0.8s,baz=189,slow=0.2,SNR=10								
YAK	Yakutsk	146.60	342	e	PKiKP	PKPdf	05 59 10.1	-0.1	
YAK				e			06 02 34.9		
YAK				pmax	pmax				
	comp=Z,1μm,0.9s								
YAK				pmax	pmax				
	comp=N,138nm,1.1s								
YAK				pmax	pmax				
	comp=E,107nm,0.9s								
YAK				pmax	pmax				
	comp=Z,369nm,2.4s								
YAK				pmax	pmax				
	comp=N,244nm,2.0s								
YAK				pmax	pmax				
	comp=E,157nm,1.9s								
YAK				MLR	MLR				
	comp=Z,2μm,21.0s								
YAK	Yakutsk	146.60	342		IAMs_20	IAMs_20	07 00 39.6		
	comp=Z,2μm,21.0s								
JMBI	JAMBI	146.63	171		PKP	PKPdf	05 59 12.1	+0.2	
KBL	Kabul	147.04	74		PKiKP	PKPdf	05 59 12.8	+0.6	
KBL	Kabul	147.04	74			PKPdf	05 59 12.8	+0.6	
MTKI	Muara Teweh, K	147.04	192		PKP	PKPdf	05 59 02.1	-10	
MPSI	Mapaga	147.04	202		PKP	PKPdf	05 59 12.2	-0.3	
PBSI	Pulau Batu	147.08	161		PKP	PKPbc	05 59 15.2	+0.6	
CHGR	Chuyangaron	147.34	67			PKPbc	05 59 15.0	+0.2	
TOLI2	Tolitoli	147.48	204		PKPbc	PKPbc	05 59 15.0	-0.8	
TOLI2					IAMs_20	IAMs_20	07 05 55.7		
	comp=Z,2μm,22.0s								
DSRI	Dabo	147.88	173		PKP	PKPdf	05 59 14.2	+0.3	
KK31	Karatay Array	148.03	58		PKP2	PKPbc	05 59 16.7	+0.2	
KK31	Karatay Array	148.03	58		PKPbc	PKPbc	05 59 16.7	+0.2	
KKAR	Karatay Array	148.03	58		PKP2	PKPbc	05 59 16.9	+0.4	
KKAR	Karatay Array	148.03	58		PKPbc	PKPbc	05 59 16.9	+0.4	
GSI	Gunungsitoli	148.17	159		PKPbc	PKPbc	05 59 18.3	+0.7	
GSI	Gunungsitoli	148.17	159		PKP	PKPbc	05 59 16.5	-1.1	
YUK	Yuzh-Kuril'sk	148.18	304	e	PKiKP	PKPdf	05 59 12.7	-0.7	
YUK				e			06 02 44.5		
YUK				ePPP		PPP	06 06 02.5		
YUK				eS		SS	06 21 51.0	-0.4	
YUK				eSSS		SSS	06 27 26.0		
YUK				MLR	MLR				
	comp=N,801nm,20.0s								
YUK				MLR	MLR				
	comp=Z,2μm,20.0s								
YUK				MLR	MLR				
	comp=E,2μm,19.0s								

KBK	**Karagaybulak**	**151.32**	**58**	P		**PKiKP**	**05 59 25.6**	**+0.4**	
	SNR=11								
BHPL	**Bhopal**	**151.35**	**99**	*eP*		**PKPdf**	**05 59 17.4**	**-1.8**	
JEW	**Eniwo**	**151.56**	**303**			**PKiKP**	**05 59 26.0**	**+0.5**	
LHMI	**Lhok Sumawe**	**151.64**	**155**	PKPdf		**PKPdf**	**05 59 20.2**	**+0.4**	
LHMI				PKPbc		**PKPbc**	**05 59 25.7**	**-0.4**	
LHMI				IAMs_20	IAMs_20	07 10 37.6			
	comp=Z,2μm,19.0s								
LHMI	**Lhok Sumawe**	**151.64**	**155**	PKP		**PKPdf**	**05 59 20.4**	**+0.5**	
KZA	**Kyzart**	**151.65**	**59**	P		**PKiKP**	**05 59 27.9**	**+1.6**	
	SNR=13								
TKM2	**Tokmak 2**	**151.74**	**57**	P		**PKPdf**	**05 59 19.5**	**+0.1**	
	SNR=42								
TKM2	**Tokmak 2**	**151.74**	**57**	PKIKP		**PKPdf**	**05 59 18.4**	**-1.0**	
GRNR	**Gornyy**	**151.79**	**321**	⇓*i*	PKIKP	**PKPdf**	**05 59 20.1**	**+1.1**	
GRNR				pmax	pmax				
	comp=Z,20nm,1.2s								
ZAA0	**Zalesovo Array**	**152.00**	**30**	PKPdf		**PKPdf**	**05 59 19.1**	**0.0**	
ZAA0				PKPbc		**PKiKP**	**05 59 26.2**	**+0.1**	
ZAA0				PKPab		**sPKPbc**	**05 59 36.3**	**+0.3**	
ZALV	**Zalesovo Beam**	**152.00**	**30**	PKP		**PKPdf**	**05 59 19.0**	**-0.2**	
	comp=Z,32nm,1.0s,baz=299,slow=3.1,SNR=63								
ZALV				PKPbc		**PKPbc**	**05 59 25.7**	**0.0**	
	comp=Z,595nm,0.7s,baz=302,slow=2.1,SNR=123								
ZALV				pPKPbc		**sPKPbc**	**05 59 36.4**	**+0.4**	
	comp=Z,565nm,0.8s,baz=308,slow=3.1,SNR=13								
ULHL	**Ulahol**	**152.34**	**58**	P		**PKPdf**	**05 59 21.7**	**+1.3**	
	SNR=14								
KSH	**Kashi**	**152.58**	**64**	PKPbc		**PKPdf**	**05 59 20.9**	**+0.2**	
KSH				SS		SS	06 22 39.8	-1.3	
KSH				LR		LR			
	comp=Z,3μm,20.4s								
KSH				LR		LR			
	comp=Z,3μm,22.3s								
KSH				LR		LR			
	comp=Z,7μm,24.2s								
JMM	**Marumori**	**152.74**	**292**			**PKiKP**	**05 59 28.7**	**+0.6**	
DHRM	**DHARAMSHALA**	**152.81**	**80**	*eP*		**PKPdf**	**05 59 21.5**	**+0.1**	
KDJ	**Kajisay**	**153.05**	**58**	PKIKP		**PKPdf**	**05 59 21.4**	**0.0**	
KDJ	**Kajisay**	**153.05**	**58**			**PKPdf**	**05 59 21.4**	**0.0**	
KDJ				PKPab		**PKPab**	**05 59 41.2**	**+1.0**	
JYT	**Yasato**	**153.28**	**289**	PKPdf		**PKPdf**	**05 59 19.9**	**-1.7**	
JYT				PKPbc		**pPKPdf**	**05 59 30.1**	**+0.8**	
SMLA	**Simla**	**153.38**	**83**	*eP*		**PKPdf**	**05 59 22.3**	**+0.4**	
BOD	**Bodaibo**	**153.51**	**353**	⇑*i*	PKIKP	**PKPdf**	**05 59 20.7**	**-0.5**	
BOD				pmax	pmax				
	comp=Z,244nm,1.1s								
TARG	**Taragay, Kyrgy**	**153.59**	**59**			**PKPdf**	**05 59 21.7**	**-0.7**	
TARG				PKPab		**PKPab**	**05 59 43.2**	**+0.4**	
PRZ	**Przheval'sk**	**153.85**	**57**	PKIKP		**PKPdf**	**05 59 22.6**	**+0.1**	
PRZ	**Przheval'sk**	**153.85**	**57**	PKPdf		**PKPdf**	**05 59 22.6**	**+0.1**	
PRZ				PKPab		**PKPab**	**05 59 45.5**	**+1.9**	
DDI	**Dehra Dun**	**153.99**	**85**	*eP*		**PKPdf**	**05 59 23.9**	**+1.0**	
ZEA	**Zeya**	**154.06**	**334**	*ce*	PKIKP	**PKPdf**	**05 59 21.8**	**-0.3**	
ZEA				*e*			05 59 42.9		
ZEA				*e*			06 03 20.1		
ZEA				*e*			06 22 50.9		
ZEA				*e*			06 28 47.2		
ZEA				pmax	pmax				
	comp=E,10.0nm,0.6s								
ZEA				pmax	pmax				
	comp=N,20nm,1.0s								
ZEA				pmax	pmax				
	comp=Z,40nm,1.0s								
ZEA				pmax	pmax				
	comp=Z,700nm,6.7s								
ZEA				pmax	pmax				
	comp=N,200nm,7.3s								
ZEA				pmax	pmax				
	comp=Z,400nm,16.4s								
UZB	**Uzynbulak**	**154.11**	**55**	*e*	PKIKP	**PKPdf**	**05 59 22.7**	**-0.1**	
TEY	**Ternei**	**154.28**	**309**	⇑*e*	PKIKP	**PKPdf**	**05 59 22.2**	**-0.5**	
TEY				*e*			05 59 30.1		
TEY				*e*			06 03 20.7		
TEY				pmax	pmax				
	comp=Z,10.0nm,1.0s								
TEY				pmax	pmax				
	comp=N,100nm,5.7s								
PDGK	**Podgornoye**	**154.38**	**55**	PKIKP		**PKPdf**	**05 59 22.8**	**-0.3**	
SHLS	**Shalkode**	**154.41**	**55**	*e*	PKIKP	**PKPdf**	**05 59 24.1**	**+0.9**	
PKDT	**Phuket**	**154.60**	**156**	PKP		**PKPdf**	**05 59 25.0**	**+0.9**	
SKLT	**Songkhla**	**154.62**	**162**	PKP		**PKPdf**	**05 59 24.2**	**0.0**	
MAKZ	**Makanchi**	**154.68**	**46**	PKIKP		**PKPdf**	**05 59 23.4**	**+0.1**	
MAKZ	**Makanchi**	**154.68**	**46**			**PKPdf**	**05 59 23.4**	**+0.1**	
MAKZ				PKPab		**PKPab**	**05 59 47.7**	**+0.9**	
JSD	**Sado**	**154.73**	**293**	PKPdf		**PKPdf**	**05 59 21.4**	**-2.2**	
MJAR	**Matsushiro Arr**	**154.87**	**289**	PKP		**PKPdf**	**05 59 22.9**	**-1.0**	
	comp=N,28nm,1.1s,baz=129,slow=1.4,SNR=42								
MJAR				PKPbc		**PKiKP**	**05 59 33.1**	**+0.5**	
	comp=N,7.4nm,0.9s,baz=115,slow=2.4,SNR=6.2								
MJAR	**Matsushiro Arr**	**154.87**	**289**	PKPdf		**PKPdf**	**05 59 23.4**	**-0.5**	
MAJO	**Matsushiro**	**154.88**	**289**	PKIKP		**PKPdf**	**05 59 23.1**	**-0.8**	
MAJO	**Matsushiro**	**154.88**	**289**	PKPdf		**PKPdf**	**05 59 23.1**	**-0.8**	
MAJO	**Matsushiro**	**154.88**	**289**	IAMs_20	IAMs_20	06 59 45.3			
	comp=Z,2μm,20.0s								
MAT	**Matsushiro**	**154.88**	**289**	PKP		**PKPdf**	**05 59 23.2**	**-0.7**	
MK31	**Makanchi Array**	**154.88**	**45**	PKIKP		**PKPdf**	**05 59 23.2**	**-0.4**	
MK31	**Makanchi Array**	**154.88**	**45**	PKPdf		**PKPdf**	**05 59 23.2**	**-0.4**	
MKAR	**Makanchi Array**	**154.88**	**45**	PKP		**PKPdf**	**05 59 22.8**	**-0.8**	
	comp=Z,16nm,1.0s,baz=321,slow=1.7,SNR=29								
MKAR				PKPbc		**PKPbc**	**05 59 32.1**	**-0.2**	
	comp=Z,80nm,1.0s,baz=323,slow=1.8,SNR=24								
MKAR	**Makanchi Array**	**154.88**	**45**	PKPdf		**PKPdf**	**05 59 23.1**	**-0.4**	
TRTT	**Trang**	**154.99**	**159**	PKP		**PKPdf**	**05 59 24.7**	**0.0**	
KLR	**Kul'dur**	**155.15**	**322**	PKP		**PKPdf**	**05 59 23.2**	**-0.6**	
	comp=Z,35nm,1.0s,baz=16,slow=2.8,SNR=43								
KLR				PKPbc		**sPKPdf**	**05 59 33.0**	**-1.2**	
	comp=Z,33nm,0.9s,baz=47,slow=2.4,SNR=17								
PBA	**Port Blair**	**155.44**	**141**	PKPdf	PKPdf		05 59 23.9	-1.3	
SURT	**Suratani**	**155.75**	**156**	PKP		**PKPdf**	**05 59 27.5**	**+1.8**	
INU	**Inuyama**	**155.87**	**287**	PKPdf		**PKPdf**	**05 59 23.6**	**-1.6**	
INU				IAMs_20	IAMs_20	06 57 05.3			
	comp=Z,2μm,21.0s								
SURA	**Surathani**	**156.22**	**158**	PKP		**PKPdf**	**05 59 26.6**	**+0.3**	
USA0B	**Ussuriysk Arra**	**157.63**	**311**	PKIKP		**PKPdf**	**05 59 26.7**	**-0.5**	
USA0B	**Ussuriysk Arra**	**157.63**	**311**	PKPdf		**PKPdf**	**05 59 26.7**	**-0.5**	
USA0B				PKPab		**PKPab**	**06 00 00.4**	**+1.0**	
USRK	**Ussuriysk Ar.**	**157.63**	**311**	PKP		**PKPdf**	**05 59 26.9**	**-0.3**	
	comp=Z,6.0nm,0.9s,baz=222,slow=2.3,SNR=17								
USRK				PKPbc		**sPKPdf**	**05 59 38.5**	**+1.0**	
	comp=Z,11nm,1.0s,baz=101,slow=1.9,SNR=14								
USRK				PKPab		**PKPab**	**06 00 00.4**	**+1.0**	
	comp=Z,18nm,0.9s,baz=57,slow=3.1,SNR=9.3								
USRK	**Ussuriysk Ar.**	**157.63**	**311**	PKPdf		**PKPdf**	**05 59 26.4**	**-0.8**	
USRK				PKPab		**PKPab**	**05 59 58.8**	**-0.7**	
JMN	**Monobe**	**158.46**	**282**	PKPdf		**PKPdf**	**05 59 28.4**	**-0.2**	
JMN				PKPab		**PKPab**	**06 00 00.9**	**-2.6**	
BOK	**Bokaro**	**158.63**	**106**	*eP*		**PKPdf**	**05 59 26.8**	**-2.3**	
MDJ	**Mudanjiang**	**158.94**	**314**	PKP		**PKPdf**	**05 59 28.3**	**-0.5**	
MDJ				PP		**PP**	**06 03 46.0**	**0.0**	
MDJ				SS		SS	06 23 50.1	+1.7	
MDJ				LR		LR			
	comp=Z,980nm,17.8s								
MDJ				LR		LR			
	comp=Z,2μm,20.5s								
MDJ				LR		LR			
	comp=Z,2μm,19.8s								
MDJ	**Mudanjiang**	**158.94**	**314**			**PKPdf**	**05 59 27.8**	**-1.0**	
MDJ				PKPab		**PKPab**	**06 00 03.4**	**-1.7**	
JHS	**Saijyo**	**159.08**	**286**	PKPdf		**PKPdf**	**05 59 28.2**	**-1.1**	
JHS				PKPab		**PKPab**	**06 00 03.3**	**-2.9**	
IRK	**Irkutsk**	**159.17**	**7**	*eP*	PKIKP	**PKPdf**	**05 59 28.5**	**-0.3**	
IRK				*e*			06 00 04.7		
IRK				pmax	pmax				
	comp=Z,133nm,3.5s								
MOY	**Mondy**	**159.24**	**13**	*eP*	PKIKP	**PKPdf**	**05 59 30.2**	**+1.1**	
MOY				pmax	pmax				
	comp=Z,173nm,3.5s								
CIT	**Chita**	**159.26**	**351**	*eP*	PKIKP	**PKPdf**	**05 59 28.5**	**-0.5**	
CIT				*e*			05 59 39.8		
CIT				*e*			06 00 06.7		
CIT				pmax	pmax				
	comp=Z,273nm,2.3s								
WMQ	**Urumqi**	**159.65**	**47**	PKP		**PKPdf**	**05 59 30.4**	**+0.6**	
WMQ				pPKP		sPKPdf	05 59 40.9	+0.8	
WMQ				PKPab		**PKPab**	**06 00 09.6**	**+1.2**	
WMQ				PP		**PP**	**06 03 52.8**	**+2.8**	
WMQ				SS		SS	06 23 58.8	+2.6	
WMQ				AMB		AMB			
	comp=Z,880nm,6.3s								
WMQ				LR		LR			
	comp=Z,4μm,21.3s								
WMQ				LR		LR			
	comp=Z,2μm,19.9s								
WMQ				LR		LR			
	comp=Z,5μm,22.9s								
PHET	**Kaeng Krachan**	**159.71**	**155**	PKP		**PKPdf**	**05 59 32.0**	**+1.4**	
HIA	**Hailar**	**160.41**	**337**	PKIKP		**PKPdf**	**05 59 29.5**	**-0.9**	
HIA							06 00 11.5		
HIA	**Hailar**	**160.41**	**337**	PKPdf		**PKPdf**	**05 59 29.5**	**-0.9**	
HIA						**PKPab**	**06 00 11.5**	**+0.2**	
SRDT	**SRDT**	**160.83**	**152**	PKP		**PKPdf**	**05 59 32.6**	**+0.8**	
ZAK	**Zakamensk**	**160.87**	**10**	*eP*	PKIKP	**PKPdf**	**05 59 30.7**	**-0.2**	
ZAK				pmax	pmax				
	comp=Z,24nm,1.3s								
JSU	**Suzuyama**	**161.20**	**275**	PKPdf		**PKPdf**	**05 59 30.6**	**-1.2**	
SRAK	**Srakaew**	**161.54**	**160**	PKP		**PKPdf**	**05 59 34.0**	**+1.5**	
CN2	**Changchun**	**161.87**	**317**	*eP*	PKP	**PKPdf**	**05 59 31.4**	**-0.7**	
CN2					PP	**PP**	**06 04 03.8**	**+2.1**	
CN2					SS	SS	06 24 16.9	-2.2	
CN2					AMB	AMB			
	comp=Z,800nm,8.0s								
CN2					LR	LR			
	comp=Z,2μm,20.0s								
CN2					LR	LR			
	comp=Z,1μm,20.0s								
CN2					LR	LR			
	comp=Z,2μm,22.0s								
UTHA	**Uthaitani**	**162.05**	**151**	PKP		**PKPdf**	**05 59 33.3**	**+0.3**	
KSRS	**Korea Array**	**162.90**	**295**	PKP		**PKPdf**	**05 59 32.6**	**-0.7**	
	comp=Z,16nm,1.0s,baz=133,slow=0.6,SNR=50								
KSRS				pPKP		**sPKPdf**	**05 59 44.0**	**+0.4**	
	comp=Z,12nm,1.0s,baz=104,slow=0.3,SNR=5.1								
KSRS				PKPab		**PKPab**	**06 00 24.1**	**+1.5**	
	comp=Z,17nm,1.0s,baz=89,slow=4.2,SNR=12								
KS19	**Wonju Array Si**	**162.93**	**295**			**PKPdf**	**05 59 33.0**	**-0.3**	
KSAR	**Wonju Array Be**	**162.93**	**295**	PKIKP		**PKPdf**	**05 59 32.8**	**-0.5**	
KSAR	**Wonju Array Be**	**162.93**	**295**			**PKPdf**	**05 59 32.8**	**-0.5**	
KSAR				PKPab		**PKPab**	**06 00 24.4**	**+1.6**	
CHAI	**Chaiyaphum**	**163.30**	**158**	PKP		**PKPdf**	**05 59 34.8**	**+0.5**	
UBPT	**Khong Chiam**	**163.52**	**170**	PKP		**PKPdf**	**05 59 35.3**	**+0.8**	
UBPT	**Khong Chiam**	**163.52**	**170**	PKPdf		**PKPdf**	**05 59 34.3**	**-0.1**	
MHMT	**Maesarieng**	**163.61**	**142**	PKP		**PKPdf**	**05 59 35.0**	**+0.5**	
SONM	**Songino Array**	**163.73**	**5**	PKP		**PKPdf**	**05 59 33.4**	**-0.5**	
	comp=Z,13nm,1.0s,baz=212,slow=0.8,SNR=25								
SONM				pPKP		**sPKPdf**	**05 59 44.9**	**+0.6**	
	comp=Z,17nm,1.0s,baz=149,slow=1.3,SNR=9.6								
SONM				PKPab		**PKPab**	**06 00 26.8**	**+0.8**	
	comp=Z,31nm,1.0s,baz=340,slow=3.3,SNR=12								
SONM				PP		**PP**	**06 04 11.2**	**+0.4**	
	comp=Z,9.1nm,1.0s,baz=350,slow=6.5,SNR=5.5								
ULN	**Ulaanbaatar**	**163.74**	**3**	PKIKP		**PKPdf**	**05 59 33.8**	**-0.2**	
ULN							06 00 27.0		
ULN	**Ulaanbaatar**	**163.74**	**3**			**PKPdf**	**05 59 33.8**	**-0.2**	
ULN				PKPab		**PKPab**	**06 00 27.0**	**+1.0**	
PHIT	**Phitsanulok**	**163.92**	**151**	PKP		**PKPdf**	**05 59 35.2**	**+0.4**	
SHL	**Shillong**	**164.30**	**108**	PKIKP		**PKPdf**	**05 59 35.1**	**-0.1**	
SHL							06 00 27.4		
SHL	**Shillong**	**164.30**	**108**			**PKPdf**	**05 59 35.1**	**-0.1**	
SHL				PKPab		**PKPab**	**06 00 27.4**	**-2.0**	
SHL	**Shillong**	**164.30**	**108**	*eP*		**PKPdf**	**05 59 33.8**	**-1.4**	
SHL				*i*	x	x	06 00 29.6		
CM13	**Chiang Mai Arr**	**164.31**	**145**	PKP		**PKPdf**	**05 59 35.7**	**+0.5**	
CM05	**Chiang Mai Arr**	**164.32**	**145**	PKP		**PKPdf**	**05 59 35.6**	**+0.4**	
CM04	**Chiang Mai Arr**	**164.33**	**145**	PKP		**PKPdf**	**05 59 35.7**	**+0.5**	
CM01	**Chiang Mai Arr**	**164.34**	**145**	PKP		**PKPdf**	**05 59 36.0**	**+0.8**	
CM02	**Chiang Mai Arr**	**164.34**	**145**	PKP		**PKPdf**	**05 59 35.8**	**+0.6**	
CM15	**Chiang Mai Arr**	**164.35**	**145**	PKP		**PKPdf**	**05 59 36.7**	**+1.5**	
CMAR	**Chiang Mai Arr**	**164.36**	**145**	PKP		**PKPdf**	**05 59 35.5**	**+0.3**	
	comp=Z,23nm,1.0s,baz=255,slow=2.3,SNR=47								
CMAR				pPKP		**sPKPdf**	**05 59 46.0**	**+0.4**	
	comp=Z,13nm,0.9s,baz=251,slow=2.5,SNR=5.1								
CMAR				PKPab		**PKPab**	**06 00 29.0**	**-0.4**	
	comp=Z,46nm,1.1s,baz=225,slow=5.1,SNR=13								
CMAR				PP		**PP**	**06 04 14.2**	**-0.4**	
	comp=Z,1.2nm,0.3s,baz=44,slow=56,SNR=2.2								
CMAR	**Chiang Mai Arr**	**164.36**	**145**			**PKPdf**	**05 59 34.9**	**-0.4**	
CMAR				PKPab		**PKPab**	**06 00 29.2**	**-0.2**	
CM09	**Chiang Mai Arr**	**164.37**	**145**	PKP		**PKPdf**	**05 59 36.2**	**+1.0**	
UTTA	**Uttaradit**	**164.47**	**151**	PKP		**PKPdf**	**05 59 36.1**	**+0.8**	
CHTO	**Chiang Mai**	**164.66**	**144**	PKIKP		**PKPdf**	**05 59 34.8**	**-0.7**	
CHTO							06 00 29.9		
CHTO	**Chiang Mai**	**164.66**	**144**	PKP		**PKPdf**	**05 59 35.5**	**0.0**	
CHTO	**Chiang Mai**	**164.66**	**144**			**PKPdf**	**05 59 34.8**	**-0.7**	
CHTO				PKPab		**PKPab**	**06 00 29.9**	**-0.8**	
CMMT	**Chiang Mai**	**164.67**	**144**	PKP		**PKPdf**	**05 59 35.3**	**-0.2**	
SILR	**SILCHAR**	**164.67**	**112**	*eP*		**PKPdf**	**05 59 35.9**	**+0.6**	
LAMP	**Lampang**	**164.75**	**147**	PKP		**PKPdf**	**05 59 36.5**	**+1.0**	
LSA	**Lhasa**	**165.03**	**93**	PKP		**PKPdf**	**05 59 36.8**	**+0.7**	
LSA				pPKP		**sPKPdf**	**05 59 47.6**	**+1.2**	
LSA				LR		LR			
	comp=Z,3μm,21.4s								
LSA				LR		LR			
	comp=Z,3μm,22.8s								
LSA				LR		LR			
	comp=Z,5μm,19.9s								
LSA	**Lhasa**	**165.03**	**93**	PKIKP		**PKPdf**	**05 59 36.5**	**+0.4**	
LSA	**Lhasa**	**165.03**	**93**			**PKPdf**	**05 59 36.5**	**+0.4**	
IMP	**Imphal**	**165.59**	**114**	*eP**		**PKPdf**	**05 59 36.3**	**+0.1**	
IMP				*i*	x	x	06 00 35.4		
NONG	**Nongkai**	**165.70**	**159**	PKP		**PKPdf**	**05 59 36.7**	**+0.4**	
KOHI	**KOHIMA**	**166.16**	**112**	*eP**		**PKPdf**	**05 59 36.7**	**0.0**	
KOHI				*i*	x	x	06 00 37.1		
TPUB	**Ta-pu**	**166.35**	**236**			**PKPdf**	**05 59 36.0**	**-0.8**	
TPUB				PKPab		**PKPab**	**06 00 38.4**	**+0.2**	
SSLB	**Suanglung**	**166.42**	**238**			**PKPdf**	**05 59 35.7**	**-1.1**	
ITAN	**ITANAGAR**	**166.46**	**105**	*eP**		**PKPdf**	**05 59 37.1**	**+0.4**	
ITAN				*i*	x	x	06 00 40.4		
JORH	**JORHAT**	**166.73**	**108**	*eP**		**PKPdf**	**05 59 37.1**	**+0.2**	
MOKO	**MOKOCHONG**	**166.76**	**110**	*eP**		**PKPdf**	**05 59 37.5**	**+0.3**	
DL2	**Dalian**	**166.97**	**308**	PKP		**PKPdf**	**05 59 35.9**	**-0.8**	
DL2				PKPab		**PKPab**	**06 00 42.3**	**+1.8**	
DL2				PP		**PP**	**06 04 30.9**	**+2.2**	
DL2				SS		SS	06 25 11.5	-0.5	
DL2				AMB		AMB			
	comp=Z,720nm,6.5s								
DL2				LR		LR			
	comp=Z,2μm,21.8s								
DL2				LR		LR			
	comp=Z,1μm,19.3s								
DL2				LR		LR			
	comp=Z,2μm,21.7s								
QIZ	**Qiongzhong**	**167.40**	**186**	PKP		**PKPdf**	**05 59 37.6**	**0.0**	
QIZ				PP		**PP**	**06 04 29.9**	**+0.2**	
QIZ				SS		SS	06 25 17.3	+3.2	
QIZ				AMB		AMB			
	comp=Z,970nm,12.4s								
QIZ				LR		LR			
	comp=Z,1μm,20.6s								
QIZ				LR		LR			
	comp=Z,1μm,22.6s								
QIZ				LR		LR			
	comp=Z,3μm,27.1s								
LKP	**Lekhapani**	**168.27**	**108**	*eP**		**PKPdf**	**05 59 39.2**	**+1.1**	
QZH	**Quanzhou**	**168.83**	**236**	*i*	PKP	**PKPdf**	**05 59 39.0**	**+0.6**	
QZH				PKPab		**PKPab**	**06 00 51.8**	**+2.7**	
QZH				SKKS			06 11 25.9		
QZH				SS		**SS**	**06 25 31.9**	**+1.1**	
QZH				AMB		AMB			
	comp=Z,620nm,7.5s								
QZH				LR		LR			
	comp=Z,2μm,19.6s								
QZH				LR		LR			
	comp=Z,980nm,17.5s								
QZH				LR		LR			
	comp=Z,3μm,21.8s								
SLVN	**Son La**	**169.00**	**158**			**PKPdf**	**05 59 39.4**	**+0.7**	
SLVN						**PKPab**	**06 00 49.1**	**-0.7**	
BJI	**Beijing**	**169.49**	**325**	PKP		**PKPdf**	**05 59 37.9**	**-0.5**	
BJI				SKS		**SKSdf**	**06 06 34.3**	**-6.2**	
BJI				SS		**SS**	**06 25 38.8**	**+2.7**	
BJI				AMB		AMB			
	comp=Z,2μm,13.4s								
BJI				LR		LR			
	comp=Z,3μm,19.6s								
BJI				LR		LR			
	comp=Z,1μm,21.1s								
BJI				LR		LR			
	comp=Z,4μm,21.4s								
BJT	**Baijiatuau**	**169.51**	**325**	PKIKP		**PKPdf**	**05 59 37.7**	**-0.7**	
BJT							06 00 51.4		
BJT	**Baijiatuau**	**169.51**	**325**			**PKPdf**	**05 59 37.7**	**-0.7**	
BJT				PKPab		**PKPab**	**06 00 51.4**	**-0.2**	
GTA	**Gaotai**	**169.55**	**40**	⇑*i*	PKP	**PKPdf**	**05 59 39.3**	**+0.7**	
GTA				pPKP		sPKPdf	05 59 49.8	+0.8	
GTA				PKPab		**PKPab**	**06 00 52.9**	**+0.9**	
GTA				PP		**PP**	**06 04 40.3**	**-1.3**	
GTA				SS		SS	06 25 40.6	+3.3	
GTA				AMB		AMB			
	comp=Z,960nm,6.5s								
GTA				LR		LR			
	comp=Z,2μm,22.5s								
GTA				LR		LR			
	comp=Z,3μm,20.7s								
GTA				LR		LR			
	comp=Z,7μm,20.7s								
HHC	**Hu-ho-hao-te**	**170.44**	**345**	*eP**		**PKPdf**	**05 59 39.9**	**+0.8**	
HHC				pPKP		sPKPdf	05 59 50.3	+0.9	
HHC				PKS		**PKSdf**	**06 03 11.8**	**+0.3**	
HHC				SKS		**SKSdf**	**06 06 34.3**	**-6.9**	
HHC				SKKS		**SKKSac**	**06 11 31.1**	**-0.4**	
HHC				AMB		AMB			
	comp=Z,490nm,5.2s								
HHC				LR		LR			
	comp=Z,2μm,18.7s								
HHC				LR		LR			
	comp=Z,2μm,19.6s								
HHC				LR		LR			
	comp=Z,5μm,20.4s								
BTO	**Baotou**	**170.93**	**352**	*eP**		**PKPdf**	**05 59 38.6**	**-0.7**	
BTO				LR		LR			
	comp=Z,7μm,24.1s								
BTO				LR		LR			
	comp=Z,6μm,20.4s								
NJ2	**Nanjing**	**171.09**	**276**	*eP**		**PKPdf**	**05 59 39.4**	**-0.1**	
NJ2				pPKP		**sPKPdf**	**05 59 49.6**	**-0.3**	
NJ2				sPKP			05 59 51.8		
NJ2				PP		**PP**	**06 04 51.0**	**+0.7**	
NJ2				SKKS			06 11 35.5		
NJ2				AMB		AMB			
	comp=Z,910nm,9.7s								
NJ2				LR		LR			
	comp=Z,2μm,19.0s								
NJ2				LR		LR			
	comp=Z,2μm,21.8s								
NJ2				LR		LR			
	comp=Z,3μm,20.8s								
TIA	**Tai'an**	**171.42**	**305**	PKP		**PKPdf**	**05 59 39.8**	**+0.2**	
TIA				SKKS			06 11 34.5		
TIA				LR		LR			
	comp=Z,1μm,18.1s								
TIA				LR		LR			
	comp=Z,2μm,19.2s								
TIA				LR		LR			
	comp=Z,3μm,20.6s								
KMI	**Kunming**	**171.84**	**141**	⇑PKP		**PKPdf**	**05 59 40.6**	**+0.2**	
KMI				pPKP		sPKPdf	05 59 51.3	+0.5	
TIY	**Taiyuan**	**173.06**	**332**	*eP**		**PKPdf**	**05 59 40.3**	**-0.1**	
TIY				PKPab		**PKPab**	**06 01 09.3**	**+1.8**	
TIY				PP		**PP**	**06 04 58.3**	**-0.3**	
TIY				SS		SS	06 26 09.9	-1.2	
TIY				AMB		AMB			
	comp=Z,960nm,9.8s								
TIY				LR		LR			
	comp=Z,1μm,11.2s								
TIY				LR		LR			
	comp=Z,2μm,20.0s								
TIY				LR		LR			
	comp=Z,4μm,22.0s								
LZH	**Lanzhou**	**174.15**	**39**	⇓PKP		**PKPdf**	**05 59 42.5**	**+1.5**	
LZH				pPKP		sPKPdf	05 59 51.8	+0.5	
LZH				PKPab		**PKPab**	**06 01 13.6**	**+1.0**	
LZH				PP		**PP**	**06 05 03.1**	**-1.3**	
LZH				AMB		AMB			
	comp=Z,2μm,9.5s								
LZH				LR		LR			
	comp=Z,3μm,17.6s								
LZH				LR		LR			
	comp=Z,2μm,17.9s								
LZH				LR		LR			
	comp=Z,3μm,20.1s								
GYA	**Guiyang**	**174.65**	**163**	⇓PKP		**PKPdf**	**05 59 41.5**	**+0.1**	
GYA				sPKP			05 59 51.5	

GAZ	**Gaziantep**	**1.62**	**22**	P	**Pn**	**05 41 14.3**	**-1.2**
GAZ				S	**Sb**	**05 41 37.7**	**+0.3**
GAZ				AML	AML	05 41 45.8	
	comp=E,0.7nm,0.6s						
GAZ				AML	AML	05 41 45.8	
	comp=E,0.7nm,0.6s						
GAZ				AML	AML	05 41 47.0	
	comp=E,0.6nm,0.5s						
GAZ				AML	AML	05 41 47.0	
	comp=E,0.6nm,0.5s						
HCB	**Kahramanmara**	**1.72**	**12**	*i* P	**Pn**	**05 41 16.4**	**-0.3**
HCB				*i* S	**Sn**	**05 41 36.7**	**-1.6**
HCB				IAML		05 41 50.0	
	comp=E,106nm,0.5s						
KHMN	**Narli-Kahraman**	**1.82**	**18**	PN	**Pn**	**05 41 18.4**	**+0.3**
BHL	**Bhannes**	**1.87**	**201**	*eP*	**Pn**	**05 41 19.1**	**+0.2**
BHL				*eS*	**Sn**	**05 41 40.5**	**-1.7**
KMRS	**Kahramanmaras**	**1.87**	**11**	PN	**Pn**	**05 41 19.5**	**+0.6**
KAHM	**Kahramanmaras,**	**1.90**	**13**	*i* P	**Pb**	**05 41 21.8**	**0.0**
KAHM				*i* S	**Sb**	**05 41 46.1**	**+0.9**
KAHM				IAML		05 41 52.0	
	comp=E,75nm,0.5s						
GZT	**Gaziantep**	**1.91**	**27**	*i* P	**Pg**	**05 41 23.6**	**-0.8**
GZT				*i* S	**Sb**	**05 41 47.0**	**+1.3**
GZT				IAML		05 41 54.0	
	comp=N,268nm,0.4s						
GZT				IAML		05 41 55.0	
	comp=E,218nm,0.3s						
ANDN	**Andirin**	**1.92**	**357**	*i* P	**Pn**	**05 41 19.2**	**-0.3**
ANDN				*i* S	**Sn**	**05 41 41.8**	**-1.6**
MERS	**Mersin**	**1.98**	**308**	PN	**Pn**	**05 41 20.6**	**+0.3**
KIZK	**Mersin**	**2.05**	**294**	*i* P	**Pn**	**05 41 21.4**	**+0.2**
KIZK				*i* S	**Sb**	**05 41 48.4**	**-1.1**
KIZK	**Mersin**	**2.05**	**294**	PN	**Pn**	**05 41 21.7**	**+0.5**
DQRL	**Deir Qamar**	**2.08**	**201**	*eP*	**Pn**	**05 41 22.1**	**+0.3**
DQRL				*eS*	**Sn**	**05 41 45.3**	**-2.1**
PARAL	**Paralimni**	**2.09**	**252**	P	**Pn**	**05 41 22.8**	**+1.0**
PARAL				AML	AML	05 41 47.6	
	comp=E,0.2nm,0.3s						
PARAL				AML	AML	05 41 47.8	
	comp=E,0.2nm,0.3s						
RCY	**Rachaya**	**2.22**	**194**	*eP*	**Pn**	**05 41 24.9**	**+1.2**
RCY				*eS*	**Sn**	**05 41 50.1**	**-0.7**
KARG	**Kargicak-Mersi**	**2.30**	**284**	PN	**Pn**	**05 41 24.9**	**+0.2**
TISA	**Tisan-Mersin**	**2.31**	**283**	PN	**Pn**	**05 41 24.7**	**-0.2**
CMRD	**Camardi-Nigde**	**2.32**	**330**	PN	**Pn**	**05 41 25.6**	**+0.5**
IKL	**Isikli**	**2.32**	**285**	PN	**Pn**	**05 41 25.1**	**+0.1**
KEBE	**Keben-Mersin**	**2.36**	**290**	PN	**Pn**	**05 41 25.9**	**+0.3**
AKKU	**Akkuyu-Mersin**	**2.41**	**283**	PN	**Pn**	**05 41 27.1**	**+0.8**
GULN	**MERSIN_Gulnar**	**2.42**	**283**	*i* P	**Pn**	**05 41 27.3**	**+0.9**
GULN				*i* S	**Sn**	**05 41 54.3**	**-1.3**
NATI	**Neve Ativ**	**2.47**	**194**	Pn	**Pb**	**05 41 29.4**	**-2.0**
NATI				Sn	**Sb**	**05 42 00.2**	**-1.3**
GEM	**Giv'at Ha'Em**	**2.53**	**195**	Pn	**Pn**	**05 41 29.5**	**+1.6**
GEM				Sn	**Sn**	**05 42 00.8**	**+2.5**
TEVE	**Tevekalti-Mers**	**2.56**	**288**	PN	**Pn**	**05 41 28.8**	**+0.4**
KERG	**Konya-Eregli**	**2.57**	**314**	*i* P	**Pn**	**05 41 30.2**	**+1.7**
URFA	**Urfa**	**2.60**	**46**	PN	**Pn**	**05 41 29.7**	**+0.8**
CSS	**Mathiatis**	**2.65**	**256**	PN	**Pn**	**05 41 28.9**	**-0.7**
CSS	**Mathiatis**	**2.65**	**256**	P	**Pn**	**05 41 30.8**	**+1.2**
BERE	**Bereket-Mersin**	**2.71**	**286**	PN	**Pn**	**05 41 31.3**	**+0.8**
SARI	**SarD1z-Kayseri**	**2.74**	**359**	PN	**Pn**	**05 41 31.6**	**+0.7**
TEKE	**Tekeli-Mersin**	**2.76**	**281**	PN	**Pn**	**05 41 31.0**	**0.0**
ASGA	**Asgata**	**2.77**	**253**	P	**Pn**	**05 41 32.4**	**+1.2**
HNTI	**Hanita**	**2.78**	**203**	Pn	**Pn**	**05 41 33.4**	**+2.0**
HNTI				Sn	**Sn**	**05 42 06.8**	**+2.3**
LEF	**Lefka**	**2.97**	**261**	PN	**Pn**	**05 41 34.6**	**+0.7**
DARE	**Darende-Malaty**	**3.02**	**15**	PN	**Pn**	**05 41 35.5**	**+0.8**
SZAC	**Souni**	**3.07**	**254**	P	**Pn**	**05 41 36.3**	**+1.0**
SZAC				AML	AML	05 42 15.4	
	comp=E,0.1nm,0.3s						
SZAC				AML	AML	05 42 15.8	
	comp=E,0.2nm,0.6s						
ALFC	**Alefka**	**3.19**	**262**	P	**Pn**	**05 41 38.8**	**+1.7**
MMLI	**Mount Malkishu**	**3.33**	**195**	Pn	**Pn**	**05 41 41.1**	**+2.2**
GAZI	**Gazipasa**	**3.41**	**281**	PN	**Pn**	**05 41 41.0**	**+1.0**
AKMS	**Akamas**	**3.43**	**260**	P	**Pn**	**05 41 41.5**	**+1.2**
HMDT	**Nahal Hemdat**	**3.49**	**193**	Pn	**Pn**	**05 41 43.4**	**+2.4**
SVRC	**Sivrice-ELAZID**	**3.54**	**39**	PN	**Pn**	**05 41 43.2**	**+1.3**
OSC2	**CSNet OBS 4**	**4.32**	**235**	P	**Pn**	**05 41 53.3**	**+0.9**

*SJA **21** 05:50:54.0, 32°.41S×72°.51W, h10km, ML4.7*
*IDC **21** 05:50:55.5±1.4, 32°.25S×72°.00W, h0km, mb4.2/3, mb1 4.4/5, mb1mx4.1/22, mbtmp4.2/5, ML4.0/2, Error ellipse: s-maj=50.1km s-min=33.3km az=65.0*
*NEIC **21** 05:50:55.8±1.8, 32°.38S±0°.03×72°.23W±0°.07, h10km±1km, mb4.7/8, ML4.3(GUC), Error ellipse: s-maj=10.4km s-min=5.6km az=263.0*
*GUC **21** 05:50:55.9±0.8, 32°.34S×72°.26W, h25km±37km, ML4.3*
ISC 21 05:50:54.5±1.7, 32°.35S±0°.05×72°.27W±0°.06, h6km±10km, n81, σ1°s26/82, mb4.5/6, 1C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op	ISC	h m s	ISC
VA06	**Catapilco**	**0.85**	**105**	⇓*iP*	**Pg**	**05 51 11.4**		**+0.6**
VA06				*i* S	**Sg**	**05 51 22.3**		**+0.4**
VA06				IAML		05 51 25.8		
	comp=N,35μm,0.5s							
VA01	**Torpederas**	**0.86**	**142**	⇓*iP*	**Pg**	**05 51 11.5**		**+0.5**
VA01				*i* S	**Sg**	**05 51 22.7**		**+0.6**
VA01	**Torpederas**	**0.86**	**142**	*i* P	**Pg**	**05 51 11.5**		**+0.5**
VA01	**Torpederas**	**0.86**	**142**	*i* P	**Pg**	**05 51 11.0**		**0.0**
ROCH	**El Roble**	**1.23**	**121**	⇓*iP*	**Pb**	**05 51 17.8**		**-0.6**
ROCH				*i* S	**Sg**	**05 51 34.0**		**-0.2**
ROCH				IAML		05 51 40.2		
	comp=N,13μm,0.4s							
VA05	**Santo Domingo**	**1.42**	**157**	*eP*	**Pn**	**05 51 20.0**		**-0.9**
VA05				IAML		05 51 52.5		
	comp=E,5μm,0.4s							
VA05	**Santo Domingo**	**1.42**	**157**		**Pn**	**05 51 20.3**		**-0.6**
VA05					**Sb**	**05 51 37.9**		**-2.0**
VA03	**San Esteban**	**1.51**	**107**	⇓*iP*	**Pn**	**05 51 22.1**		**-0.1**
VA03				*i* S	**Sn**	**05 51 40.9**		**-1.5**
VA03				IAML		05 51 45.6		
	comp=E,18μm,0.2s							
VA03	**San Esteban**	**1.51**	**107**		**Pn**	**05 51 22.2**		**-0.1**
VA03				Sn	**Sn**	**05 51 41.8**		**-0.5**
VA03	**San Esteban**	**1.51**	**107**	*i* P	**Pn**	**05 51 22.0**		**-0.3**
MT05	**Renca**	**1.66**	**129**	*eP*	**Pn**	**05 51 24.6**		**+0.3**
MT05				*i* S	**Sn**	**05 51 45.7**		**-0.3**
MT05				IAML		05 51 51.4		
	comp=E,10μm,0.4s							
MT05	**Renca**	**1.66**	**129**		**Pn**	**05 51 24.8**		**+0.5**
MT05				Sn	**Sn**	**05 51 45.8**		**-0.1**
MT05	**Renca**	**1.66**	**129**	*i* P	**Pn**	**05 51 25.0**		**+0.7**
MT01	**Popeta**	**1.74**	**151**	IAML		05 51 53.0		
	comp=E,3μm,0.6s							
MT01	**Popeta**	**1.74**	**151**		**Pn**	**05 51 25.2**		**-0.1**
MT01				Sn	**Sn**	**05 51 47.5**		**-0.4**
MT01	**Popeta**	**1.74**	**151**	*i* P	**Pn**	**05 51 25.0**		**-0.3**
CO06	**Fray Jorge**	**1.75**	**18**	*eP*	**Pn**	**05 51 25.1**		**-0.4**
CO06				IAML		05 52 03.1		
	comp=N,4μm,0.6s							
CO06	**Fray Jorge**	**1.75**	**18**		**Pn**	**05 51 25.8**		**+0.3**
MT09	**Talagante**	**1.79**	**143**	*eP*	**Pn**	**05 51 26.1**		**0.0**
MT09				IAML		05 51 58.3		
	comp=N,3μm,0.7s							
MT09	**Talagante**	**1.79**	**143**		**Pn**	**05 51 27.0**		**+0.9**
CO03	**El Pedregal**	**2.02**	**42**		**Pn**	**05 51 30.4**		**+1.1**
BO01	**Tunca**	**2.27**	**154**		**Pn**	**05 51 33.5**		**+0.9**
BO01	**Tunca**	**2.27**	**154**	*i* P	**Pn**	**05 51 33.0**		**+0.4**
LMEL	**Las Melosas**	**2.29**	**131**	IAML		05 52 14.8		
	comp=E,2μm,0.8s							
AUSP	**Uspallata**	**2.44**	**88**	*i* P	**Pb**	**05 51 38.0**		**-1.1**
GO04	**Tololo Observa**	**2.50**	**31**		**Pn**	**05 51 36.9**		**+0.8**
CO05	**La Serena**	**2.58**	**20**		**Pn**	**05 51 37.2**		**+0.4**
RTLS	**Leoncito**	**2.58**	**79**	*i* P	**Pb**	**05 51 41.0**		**-0.5**
GO05	**Huala**	**2.67**	**174**	Pn	**Pn**	**05 51 38.9**		**+0.7**
BO02	**Sierra Bellavi**	**2.74**	**153**	Pn	**Pn**	**05 51 40.0**		**+0.9**
BO02	**Sierra Bellavi**	**2.74**	**153**	*i* P	**Pn**	**05 51 40.0**		**+0.9**
ZON	**Zonda**	**3.15**	**76**	Pn	**Pn**	**05 51 45.4**		**+0.5**
RTCV	**Cerro Valdivia**	**3.20**	**82**	*i* P	**Pb**	**05 51 49.0**		**-2.9**
ML02	**Panimavida**	**3.48**	**169**		**Pn**	**05 51 50.6**		**+1.3**
LCO	**Las Campanas**	**3.59**	**23**	Pn	**Pn**	**05 51 52.1**		**+1.1**
LCO	**Las Campanas**	**3.59**	**23**	*i* P	**Pn**	**05 51 52.0**		**+1.1**
AC04	**Llanos de Chal**	**4.25**	**14**	Pn	**Pn**	**05 52 00.8**		**+0.9**
AC04	**Llanos de Chal**	**4.25**	**14**	*i* P	**Pn**	**05 51 59.0**		**-0.9**
VCA	**Vinchina**	**5.02**	**45**	*i* P	**Pn**	**05 52 14.0**		**+3.4**
GO03	**Copiap**	**5.05**	**21**	Pn	**Pn**	**05 52 11.2**		**+0.2**
GO03	**Copiap**	**5.05**	**21**	*i* P	**Pn**	**05 52 13.0**		**+2.0**
AC06	**Mina Casimiro**	**5.24**	**19**	Pn	**Pn**	**05 52 13.6**		**+0.1**
H03N1	**Juan Fernandez**	**5.69**	**257**	T	T	05 58 11.0		
	baz=88,slow=72,SNR=24							
H03N3	**Juan Fernandez**	**5.71**	**257**	T	T	05 58 14.4		
	baz=88,slow=72,SNR=25							
H03N2	**Juan Fernandez**	**5.71**	**257**	T	T	05 58 17.0		
	baz=88,slow=72,SNR=21							
H03S3	**Juan Fernandez**	**5.76**	**253**	T	T	05 59 02.6		
	baz=83,slow=75,SNR=2.7							
H03S1	**Juan Fernandez**	**5.77**	**253**	T	T	05 59 00.9		
	baz=83,slow=75,SNR=4.7							
H03S2	**Juan Fernandez**	**5.78**	**253**	T	T	05 59 02.6		
	baz=83,slow=75,SNR=6.2							
AC02	**Maricunga**	**6.13**	**27**	Pn	**Pn**	**05 52 26.9**		**+0.8**
AC02	**Maricunga**	**6.13**	**27**	*i* P	**Pn**	**05 52 27.0**		**+0.8**
LC01	**Cunco**	**6.55**	**177**	Pn	**Pn**	**05 52 32.0**		**+0.6**
LC01	**Cunco**	**6.55**	**177**	*i* P	**Pn**	**05 52 32.0**		**+0.6**
CYA	**Choya**	**6.81**	**57**	*i* P	**Pn**	**05 52 35.0**		**0.0**
LR03	**Panguipulli**	**7.27**	**180**		**Pn**	**05 52 41.3**		**0.0**
PB14	**IPOC Station P**	**7.86**	**13**	Pn	**Pn**	**05 52 49.2**		**-0.7**
FSA	**Cafayete**	**8.29**	**43**	*i* P	**Pn**	**05 52 56.0**		**+0.4**
PLCA	**Paso Flores**	**8.48**	**171**	Pn	**Pn**	**05 53 01.5**		**+3.4**
	comp=E,0.4nm,0.3s,baz=350,slow=13,SNR=1.1							
PLCA	**Paso Flores**	**8.48**	**171**		**Pn**	**05 52 57.9**		**-0.2**
LL04	**Puerto Octay**	**8.55**	**181**	Pn	**Pn**	**05 52 58.4**		**-0.5**
LL05	**Los Muermos**	**9.09**	**186**	Pn	**Pn**	**05 53 06.2**		**-0.1**
AF01	**San Pedro de A**	**10.03**	**22**	Pn	**Pn**	**05 53 19.0**		**-0.6**
LVC	**Limon Verde**	**10.14**	**18**	Pn	**Pn**	**05 53 19.6**		**-1.5**
PB04	**IPOC Station P**	**10.15**	**11**	Pn	**Pn**	**05 53 20.9**		**-0.1**
LPAZ	**La Paz**	**16.42**	**14**	Pn	**Pn**	**05 54 47.7**		**+1.3**
	comp=E,0.3nm,0.3s,baz=190,slow=6.4,SNR=8.0							
VNA3	**Neumayer Olymp**	**50.96**	**158**	P	**P**	**05 59 58.3**		**+1.7**
VNA1	**Neumayer--Stat**	**51.27**	**157**	P	**P**	**06 00 01.9**		**+3.1**
VNA2	**Neumayer--Watz**	**51.61**	**158**	P	**P**	**06 00 04.7**		**+3.3**
	baz=298,slow=7.1							
SNAA	**Sanae**	**53.19**	**158**	P	**P**	**06 00 14.6**		**+1.4**
SNAA	**Sanae**	**53.19**	**158**	P	**P**	**06 00 14.9**		**+1.7**
SNAA				IAmb	IAmb	06 00 27.5		
	comp=E,5.9nm,0.9s							
SYO	**Syowa Base**	**67.47**	**159**	⇑*eP*	**P**	**06 01 46.8**		**-4.0**
TX32	**Lajitas Array**	**68.20**	**331**	P	**P**	**06 01 57.9**		**+1.9**
TXAR	**Lajitas Array**	**68.20**	**331**	P	**P**	**06 01 58.1**		**+2.1**
	comp=E,0.5nm,0.6s,baz=151,slow=6.4,SNR=8.7							
TXAR	**Lajitas Array**	**68.20**	**331**	P	**P**	**06 01 57.0**		**+1.0**
TX31	**Lajitas Ar. Si**	**68.20**	**331**	P	**P**	**06 01 55.9**		**-0.1**
TX31				IAmb	IAmb	06 02 15.4		
	comp=Z,8.7nm,1.2s							
WHTX	**Lake Whitney,**	**68.28**	**337**	P	**P**	**06 01 55.4**		**-0.9**
LCAR	**Lake Charles**	**70.32**	**344**	P	**P**	**06 02 08.9**		**+0.1**
LCAR				IAmb	IAmb	06 02 30.2		
	comp=Z,6.5nm,1.2s							
MNTX	**Cornudas Mount**	**70.98**	**330**	P	**P**	**06 02 13.0**		**0.0**
DBIC	**Dimbokro**	**74.84**	**72**	P	**P**	**06 02 36.9**		**+0.5**
	comp=Z,4.5nm,0.9s,baz=271,slow=7.2,SNR=3.5							
TORD	**Torodi Ar. Bea**	**83.83**	**70**	P	**P**	**06 03 26.0**		**+0.6**
	comp=Z,2.2nm,0.8s,baz=253,slow=4.8,SNR=5.9							
KURBB	**Kurchatov Arra**	**151.78**	**41**	PKPbc	**PKiKP**	**06 10 51.0**		**+0.8**
	comp=Z,1.4nm,0.7s,baz=308,slow=2.7,SNR=6.1							
ZALV	**Zalesovo Beam**	**152.92**	**30**	PKPbc	**PKiKP**	**06 10 53.2**		**+0.9**
	comp=Z,2.6nm,0.7s,baz=296,slow=2.5,SNR=4.9							

IDC 21 06:15:00.0±4.6, 30°.42S×138°.35E, h0km, mb1 3.0/3, mb1mx3.0/26, mbtmp2.8/3, ML2.6/3, Error ellipse: s-maj=111.6km s-min=18.2km az=41.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.14**	**118**	Pn	**Pn**		06 15 51.6	+0.9
	0.2nm,0.3s,baz=293,slow=10,SNR=1.1							
STKA				Sn	Sn		06 16 27.1	-1.9
	0.5nm,0.3s,baz=282,slow=17,SNR=3.0							
STKA				Lg	Lg		06 16 38.8	
	1.3nm,0.3s,baz=353,slow=21,SNR=4.5							
ASAR	**Alice Springs**	**7.81**	**328**	Pn	**Pn**		06 16 54.9	0.0
	0.1nm,0.3s,baz=148,slow=12,SNR=4.2							
ASAR				Sn	Sn		06 18 23.8	-0.3
	0.1nm,0.3s,baz=154,slow=22,SNR=5.8							
WRA	**Warramunga Arr**	**11.05**	**340**	Pn	**Pn**		06 17 39.6	+0.2
	0.1nm,0.3s,baz=157,slow=11,SNR=2.0							

*IDC **21** 06:32:12.6±1.3, 30°.94S×72°.01W, h0km, mb3.7/4, mb1 3.9/8, mb1mx3.8/20, mbtmp3.6/8, ML3.4/4, Error ellipse: s-maj=34.5km s-min=29.7km az=98.0*
*SJA **21** 06:32:13.0, 30°.81S×72°.53W, h10km, ML4.5*
*NEIC **21** 06:32:13.1±2.6, 30°.98S±0°.02×72°.12W±0°.03, h10km±1km, mb4.2/3, Error ellipse: s-maj=5.2km s-min=2.8km az=68.0*
*GUC **21** 06:32:14.0±0.8, 30°.97S×71°.96W, h29km±5km, ML3.9*
ISC 21 06:32:13.1±1.7, 30°.97S±0°.03×72°.09W±0°.06, h9km±11km, n66, σ1°s34/73, mb3.9/6, 6C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.49**	**53**	⇑*iP*	**Pg**	**06 32 23.3**		**+0.6**
CO06				*i* S	**Sb**	**06 32 30.3**		**-1.1**
CO06				IAML		06 32 32.0		
	comp=N,9μm,0.2s							
CO06	**Fray Jorge**	**0.49**	**53**	Pg	**Pg**	**06 32 23.5**		**+0.8**
CO06				Sg	**Sb**	**06 32 30.8**		**-0.6**
CO03	**El Pedregal**	**1.21**	**84**	⇑*iP*	**Pn**	**06 32 35.1**		**-1.3**
CO03				*i* S	**Sb**	**06 32 50.8**		**-1.5**
CO03				IAML		06 32 53.7		
	comp=E,6μm,0.5s							
CO03	**El Pedregal**	**1.21**	**84**		**Pn**	**06 32 35.4**		**-1.0**
CO03				Sg	**Sb**	**06 32 51.4**		**-0.8**
CO05	**La Serena**	**1.28**	**35**	⇑*eP*	**Pn**	**06 32 36.6**		**-0.7**
CO05				*i* S	**Sb**	**06 32 53.0**		**-1.1**
CO05				IAML		06 32 56.2		
	comp=E,4μm,0.5s							
CO05	**La Serena**	**1.28**	**35**		**Pn**	**06 32 36.5**		**-0.7**
CO05				Sg	**Sb**	**06 32 53.6**		**-0.5**
GO04	**Tololo Observa**	**1.37**	**55**	⇑*eP*	**Pn**	**06 32 37.5**		**-1.2**
GO04				*eS*	**Sb**	**06 32 56.1**		**-0.7**
GO04				IAML		06 33 04.9		
	comp=N,7μm,0.4s							
GO04	**Tololo Observa**	**1.37**	**55**		**Pn**	**06 32 38.1**		**-0.6**
GO04					**Sn**	**06 32 56.8**		**-0.4**
GO04	**Tololo Observa**	**1.37**	**55**	*i* P	**Pn**	**06 32 38.0**		**-0.7**
VA06	**Catapilco**	**1.72**	**157**	*eP*	**Pn**	**06 32 43.3**		**-0.1**
VA06				*i* S	**Sb**	**06 33 06.0**		**-0.8**
VA06				IAML		06 33 15.5		
	comp=E,2μm,0.6s							
VA01	**Torpederas**	**2.08**	**170**	Pn	**Pn**	**06 32 47.9**		**-0.4**
ROCH	**El Roble**	**2.20**	**156**	*eP*	**Pb**	**06 32 52.9**		**-0.3**
ROCH				*i* S	**Sb**	**06 33 19.9**		**-0.7**
ROCH				IAML		06 33 30.1		
	comp=N,1μm,0.5s							
VA03	**San Esteban**	**2.22**	**144**	⇑*eP*	**Pn**	**06 32 51.0**		**+0.8**
VA03				*i* S	**Sb**	**06 33 19.5**		**-1.6**
VA03				IAML		06 33 25.9		
	comp=N,2μm,0.5s							
VA03	**San Esteban**	**2.22**	**144**	Pn	**Pn**	**06 32 51.0**		**+0.8**
LCO	**Las Campanas**	**2.30**	**32**	⇑*eP*	**Pn**	**06 32 49.1**		**-2.3**
LCO				*eS*	**Sn**	**06 33 18.2**		**-1.9**
LCO	**Las Campanas**	**2.30**	**32**	Pn	**Pn**	**06 32 51.1**		**-0.4**
LCO	**Las Campanas**	**2.30**	**32**	*i* P	**Pn**	**06 32 51.0**		**-0.5**
AROD	**Rodeo**	**2.40**	**71**	*i* P	**Pb**	**06 32 56.0**		**-0.7**
MT05	**Renca**	**2.67**	**155**	*eP*	**Pn**	**06 32 58.0**		**+1.5**
MT05				*i* S	**Sb**	**06 33 31.5**		**-2.7**
MT05	**Renca**	**2.67**	**155**	Pn	**Pn**	**06 32 58.0**		**+1.5**
MT05	**Renca**	**2.67**	**155**	*i* P	**Pb**	**06 33 01.0**		**-0.2**
ACDV	**Cuesta del Vie**	**2.69**	**73**	*i* P	**Pb**	**06 33 02.0**		**+0.5**
VA05	**Santo Domingo**	**2.71**	**172**	Pn	**Pn**	**06 32 57.2**		**+0.3**
AC04	**Llanos de Chal**	**2.90**	**18**	Pn	**Pn**	**06 32 58.0**		**-1.5**
AC04	**Llanos de Chal**	**2.90**	**18**	*i* P	**Pn**	**06 32 58.0**		**-1.5**
MT09	**Talagante**	**2.95**	**162**	Pn	**Pn**	**06 33 01.8**		**+1.4**
MT01	**Popeta**	**2.97**	**166**		**Pn**	**06 33 01.2**		**+0.6**
ZON	**Zonda**	**2.98**	**102**	*i* P	**Pb**	**06 33 06.0**		**-0.5**
RTCV	**Cerro Valdivia**	**3.16**	**107**	*i* P	**Pb**	**06 33 07.0**		**-2.6**
ARCO	**CERRO ARCO**	**3.27**	**126**	*i* P	**Pb**	**06 33 11.0**		**-0.5**
AAGR	**Agrelo**	**3.48**	**128**	*i* P	**Pb**	**06 33 12.0**		**-3.1**
BO01	**Tunca**	**3.52**	**166**	Pn	**Pn**	**06 33 08.9**		**+0.9**
GO03	**Copiap**	**3.74**	**26**	Pn	**Pn**	**06 33 10.7**		**-0.4**
GO03	**Copiap**	**3.74**	**26**	*i* P	**Pn**	**06 33 12.0**		**+0.9**
AC06	**Mina Casimiro**	**3.91**	**23**	Pn	**Pn**	**06 33 12.5**		**-0.9**
BO02	**Sierra Bellavi**	**3.97**	**164**	Pn	**Pn**	**06 33 11.1**		**-3.2**
GO05	**Huala**	**4.03**	**178**	Pn	**Pn**	**06 33 14.7**		**-0.5**
VCA	**Vinchina**	**4.04**	**58**	*i* P	Pb	**06 33 20.0**		**-4.7**
COIS	**El Sosneado**	**4.63**	**154**	*i* P	Pn	**06 33 28.0**		**+4.7**
ML02	**Panimavida**	**4.81**	**173**	Pn	**Pn**	**06 33 25.5**		**-0.3**
RFA	**San Rafael**	**4.86**	**142**	*i* P	**Pn**	**06 33 30.0**		**+3.4**
AC02	**Maricunga**	**4.87**	**33**	Pn	**Pn**	**06 33 27.2**		**+0.1**
AC02	**Maricunga**	**4.87**	**33**	*i* P	**Pn**	**06 33 27.0**		**-0.1**
CYA	**Choya**	**6.02**	**67**	*i* P	**Pn**	**06 33 45.0**		**+2.5**
H03N1	**Juan Fernandez**	**6.28**	**245**	T	T	06 40 28.7		
	baz=75,slow=72,SNR=12							
H03N2	**Juan Fernandez**	**6.30**	**245**	T	T	06 40 26.9		
	baz=75,slow=72,SNR=139							
H03N3	**Juan Fernandez**	**6.30**	**245**	T	T	06 40 35.2		
	baz=75,slow=72,SNR=160							
FSA	**Cafayete**	**7.24**	**49**	*i* P	Pn	06 34 04.0		+4.7
PB10	**IPOC Station P**	**7.55**	**11**	Pn	**Pn**	**06 34 02.9**		**-0.7**
LC01	**Cunco**	**7.91**	**179**	Pn	**Pn**	**06 34 08.3**		**-0.1**
LC01	**Cunco**	**7.91**	**179**	*i* P	**Pn**	**06 34 11.0**		**+2.6**
LVC	**Limon Verde**	**8.80**	**20**	Pn	**Pn**	**06 34 19.4**		**-1.5**
	comp=N,0.2nm,0.3s,baz=180,slow=12,SNR=1.5							
PLCA	**Paso Flores**	**9.82**	**173**	Pn	**Pn**	**06 34 35.2**		**+0.6**
	comp=N,0.1nm,0.3s,baz=341,slow=12,SNR=8.8							
PLCA	**Paso Flores**	**9.82**	**173**	Pn	**Pn**	**06 34 35.7**		**+1.0**
TRQA	**Tornquist**	**10.93**	**133**		**Pn**	**06 34 48.2**		**-1.5**
LPAZ	**La Paz**	**15.06**	**15**	Pn	**Pn**	**06 35 47.7**		**+0.9**
	comp=N,0.1nm,0.3s,baz=196,slow=10,SNR=7.4							
LPAZ	**La Paz**	**15.06**	**15**	Pn	**Pn**	**06 35 48.6**		**+1.8**
LPAZ				IAmb	IAmb	06 35 55.1		
	comp=Z,1.8nm,0.8s							
SIV	**San Ignacio**	**17.99**	**37**	P	**P**	**06 36 24.0**		**-0.2**
	comp=Z,0.1nm,0.3s,baz=255,slow=11,SNR=7.5							
BDFB	**Brasilia**	**26.78**	**61**	P	**P**	**06 37 53.6**		**-0.1**
	comp=Z,1.4nm,0.5s,baz=225,slow=10,0,SNR=4.5							
RUSC	**La Rusia**	**36.67**	**358**	P	**P**	**06 39 18.9**		**-2.0**
RUSC				IAmb	IAmb	06 39 34.9		
	comp=Z,12nm,1.3s							
SNAA	**Sanae**	**54.41**	**159**	P	**P**	**06 41 41.4**		**+1.1**
SNAA				IAmb	IAmb	06 41 42.1		
	comp=Z,3.7nm,1.3s							
TXAR	**Lajitas Array**	**67.08**	**330**	P	**P**	**06 43 07.9**		**+0.8**
	comp=Z,0.3nm,0.6s,baz=153,slow=10,SNR=5.7							
TXAR	**Lajitas Array**	**67.08**	**330**	P	**P**	**06 43 08.6**		**+1.5**
NVAR	**Mina Array Bea**	**81.38**	**325**	P	**P**	**06 44 31.8**		**+1.3**
	comp=Z,0.4nm,0.7s,baz=153,slow=7.5,SNR=4.7							
TORD	**Torodi Ar. Bea**	**83.23**	**70**	P	**P**	**06 44 41.5**		**+1.1**
	comp=Z,0.6nm,0.8s,baz=232,slow=7.1,SNR=3.2							
ZALV	**Zalesovo Beam**	**151.65**

comp=Z,1.8nm,0.5s,baz=297,slow=3.4,SNR=4.1

IDC 21 06:54:47.2±3.0, 54°02'N×86°65'E, h0km, mb1 3.0/2, mb1mx2.9/42, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=25.9km s-min=15.1km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.09**	**267**	*i*		07 02 18.1	
	baz=88,slow=325,SNR=4.8						
ZALV	**Zalesovo Beam**	**1.09**	**267**	Pg	Pg	06 55 06.7	-1.3
	1.0nm,0.3s,baz=81,slow=15,SNR=9.5						
ZALV				Lg	Lg	06 55 23.3	
	2.2nm,0.3s,baz=84,slow=28,SNR=11						
ZALV				Rg	Rg	06 55 29.3	
	3.7nm,0.5s,baz=98,slow=27,SNR=13						
KURBB	**Kurchatov Arra**	**6.03**	**239**	Pn	Pn	06 56 18.8	+1.3
	0.2nm,0.3s,baz=57,slow=14,SNR=5.0						
MKAR	**Makanchi Array**	**7.75**	**203**	Pn	Pn	06 56 42.0	+0.9
	0.2nm,0.3s,baz=22,slow=13,SNR=5.4						

SJA 21 07:18:35.0,30.67S×71.74W,h10km,ML4.7
VAO 21 07:18:36.6±0.4,30.70S×71.64W,h10km,mb4.3
GUC 21 07:18:37.3±0.9,30.67S×71.42W,h40km±3km,ML4.6
NEIC 21 07:18:38.1±2.9,30.67S±0.03×71.45W±0.05,h36km±8km, mb4.5/14,ML4.5(GUC),Error ellipse: s-maj=7.1km s-min=3.0km az=64.0
IDC 21 07:18:38.6±2.8,30.69S×71.37W,h43km±24km,mb3.7/6, mb1 3.8/11,mb1mx3.7/26,mbtmp3.9/11,ML3.9/5,Error ellipse: s-maj=28.0km s-min=21.7km az=89.0

ISC 21 07:18:38.4±0.5, 30.67S±0.03×71.49W±0.04, h33km, n155, σ1§81/164, mb4.3/10, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.12**	**270**	⇓*iP*	**Pb**	**07 18 45.2**	**+1.0**
CO06				*i* S	**Sb**	**07 18 50.3**	**+2.0**
CO06				IAML		07 18 51.8	
	comp=E,57μm,0.2s						
CO06	**Fray Jorge**	**0.12**	**270**		**Pb**	**07 18 45.0**	**+0.7**
CO06					**Sb**	**07 18 50.5**	**+2.1**
CO03	**El Pedregal**	**0.71**	**104**	⇓*iP*	**Pn**	**07 18 51.6**	**-0.6**
CO03				*i* S	**Sb**	**07 19 01.4**	**-0.6**
CO03				IAML		07 19 01.8	
	comp=E,39μm,0.4s						
CO03	**El Pedregal**	**0.71**	**104**		**Pn**	**07 18 51.2**	**-0.9**
CO03				Sn	**Sb**	**07 19 01.4**	**-0.6**
CO03	**El Pedregal**	**0.71**	**104**	*iP*	**Pn**	**07 18 51.0**	**-1.2**
GO04	**Tololo Observa**	**0.78**	**50**	⇑*eP*	**Pn**	**07 18 52.6**	**-0.6**
GO04				*i* S	**Sb**	**07 19 04.1**	**+0.1**
GO04				IAML		07 19 08.3	
	comp=E,28μm,0.4s						
GO04	**Tololo Observa**	**0.78**	**50**		**Pn**	**07 18 52.8**	**-0.4**
GO04				Sn	**Sn**	**07 19 03.2**	**-0.8**
GO04	**Tololo Observa**	**0.78**	**50**	*iP*	**Pn**	**07 18 52.0**	**-1.3**
CO05	**La Serena**	**0.78**	**16**	⇓*iP*	**Pn**	**07 18 52.7**	**-0.4**
CO05				*i* S	**Sn**	**07 19 03.7**	**0.0**
CO05	**La Serena**	**0.78**	**16**		**Pn**	**07 18 52.8**	**-0.4**
CO05				Sn	**Sn**	**07 19 03.7**	**0.0**
LCO	**Las Campanas**	**1.79**	**23**	⇓*iP*	**Pn**	**07 19 07.3**	**+0.1**
LCO	**Las Campanas**	**1.79**	**23**	Pn	**Pn**	**07 19 07.3**	**+0.1**
LCO				Sn	**Sn**	**07 19 30.1**	**+1.1**
LCO	**Las Campanas**	**1.79**	**23**	*iP*	**Pn**	**07 19 07.0**	**-0.3**
AROD	**Rodeo**	**1.81**	**74**	*iP*	**Pb**	**07 19 10.0**	**-1.2**
VA06	**Catapilco**	**1.89**	**175**	*eP*	**Pn**	**07 19 08.3**	**0.0**
VA06				IAML		07 19 41.3	
	comp=E,8μm,0.5s						
ACCO	**Cerro Coronel**	**2.09**	**88**	*iP*	**Pb**	**07 19 14.0**	**-1.9**
RTLS	**Leoncito**	**2.19**	**121**	*iP*	**Pn**	**07 19 15.0**	**+2.3**
VA03	**San Esteban**	**2.23**	**159**	*eP*	**Pn**	**07 19 14.1**	**+0.9**
VA03				*i* S	**Sb**	**07 19 42.8**	**-2.6**
VA03				IAML		07 19 49.3	
	comp=E,7μm,0.5s						
VA03	**San Esteban**	**2.23**	**159**		**Pn**	**07 19 14.2**	**+1.1**
VA03				Sn	**Sn**	**07 19 42.0**	**+2.4**
VA03	**San Esteban**	**2.23**	**159**	*iP*	**Pn**	**07 19 14.0**	**+0.9**
ROCH	**El Roble**	**2.33**	**170**	⇑*eP*	**Pn**	**07 19 14.8**	**+0.2**
ROCH				*eS*	**Sn**	**07 19 43.6**	**+1.5**
ROCH				IAML		07 19 55.2	
	comp=N,4μm,0.4s						
VA01	**Torpederas**	**2.35**	**183**	Pn	**Pn**	**07 19 13.6**	**-1.0**
VA01	**Torpederas**	**2.35**	**183**	*iP*	**Pn**	**07 19 13.0**	**-1.6**
AC04	**Llanos de Chal**	**2.49**	**9**	Pn	**Pn**	**07 19 16.9**	**+0.4**
AC04	**Llanos de Chal**	**2.49**	**9**	*iP*	**Pn**	**07 19 16.0**	**-0.6**
ZON	**Zonda**	**2.56**	**111**	*iP*	**Pn**	**07 19 20.0**	**+2.3**
MT05	**Renca**	**2.78**	**167**	*eP*	**Pn**	**07 19 21.4**	**+0.7**
MT05				*i* S	**Sn**	**07 19 56.5**	**+3.3**
MT05				IAML		07 20 02.7	
	comp=E,4μm,0.3s						
MT05	**Renca**	**2.78**	**167**	Pn	**Pn**	**07 19 20.7**	**0.0**
MT05	**Renca**	**2.78**	**167**	*iP*	**Pn**	**07 19 21.0**	**+0.3**
RTCV	**Cerro Valdivia**	**2.79**	**116**	*iP*	**Pn**	**07 19 23.0**	**+2.2**
AGUA	**GUANDACOL**	**2.86**	**66**	*iP*	**Pb**	**07 19 26.0**	**-2.7**
ASAL	**Salagasta**	**2.96**	**131**	*iP*	**Pn**	**07 19 26.0**	**+2.8**
VA05	**Santo Domingo**	**2.98**	**182**	*eP*	**Pn**	**07 19 22.2**	**-1.0**
VA05				IAML		07 20 13.3	
	comp=E,3μm,0.3s						
VA05	**Santo Domingo**	**2.98**	**182**		**Pn**	**07 19 22.2**	**-1.0**
ARCO	**CERRO ARCO**	**3.07**	**135**	*iP*	**Pn**	**07 19 28.0**	**+3.3**
MT09	**Talagante**	**3.12**	**172**	*eP*	**Pn**	**07 19 25.8**	**+0.3**
MT09				*eS*	**Sn**	**07 20 03.0**	**+1.4**
MT09				IAML		07 20 16.1	
	comp=N,2μm,0.3s						
MT09	**Talagante**	**3.12**	**172**		**Pn**	**07 19 25.7**	**+0.3**
MT01	**Popeta**	**3.19**	**176**	*eP*	**Pn**	**07 19 25.8**	**-0.4**
MT01				*eS*	**Sn**	**07 20 03.1**	**0.0**
MT01				IAML		07 20 17.1	
	comp=E,2μm,0.2s						
MT01	**Popeta**	**3.19**	**176**	Pn	**Pn**	**07 19 26.1**	**-0.1**
MT01	**Popeta**	**3.19**	**176**	*iP*	**Pn**	**07 19 26.0**	**-0.1**
GO03	**Copiap**	**3.26**	**20**	Pn	**Pn**	**07 19 27.6**	**+0.4**
GO03	**Copiap**	**3.26**	**20**	*iP*	**Pn**	**07 19 28.0**	**+0.8**
AAGR	**Agrelo**	**3.30**	**137**	*iP*	**Pn**	**07 19 29.0**	**+1.1**
VCA	**Vinchina**	**3.45**	**57**	*iP*	**Pn**	**07 19 34.0**	**+4.1**
AC06	**Mina Casimiro**	**3.45**	**17**	Pn	**Pn**	**07 19 29.8**	**-0.1**
AVFE	**Valle Fertil**	**3.48**	**91**	*iP*	**Pn**	**07 19 31.0**	**+0.8**
BO01	**Tunca**	**3.72**	**175**		**Pn**	**07 19 33.2**	**-0.3**
BO01	**Tunca**	**3.72**	**175**	*iP*	**Pn**	**07 19 33.0**	**-0.5**
BO02	**Sierra Bellavi**	**4.15**	**172**	Pn	**Pn**	**07 19 39.5**	**0.0**
BO02	**Sierra Bellavi**	**4.15**	**172**	*iP*	**Pn**	**07 19 40.0**	**+0.5**
ACHE	**Chepes**	**4.18**	**98**	*iP*	**Pn**	**07 19 41.0**	**+1.1**
GO05	**Huala**	**4.34**	**185**	Pn	**Pn**	**07 19 40.5**	**-1.6**
GO05	**Huala**	**4.34**	**185**	*iP*	**Pn**	**07 19 40.0**	**-2.0**
AC02	**Maricunga**	**4.35**	**29**	Pn	**Pn**	**07 19 42.7**	**+0.1**
AC02	**Maricunga**	**4.35**	**29**	*iP*	**Pn**	**07 19 44.0**	**+1.4**
LAMA	**Las Malvinas**	**4.66**	**156**	*iP*	**Pn**	**07 19 49.0**	**+2.5**
COIS	**El Sosneado**	**4.70**	**161**	*iP*	**Pn**	**07 19 48.0**	**+1.0**
RFA	**San Rafael**	**4.81**	**149**	*iP*	**Pn**	**07 19 49.0**	**+0.4**
ML02	**Panimavida**	**5.08**	**179**	Pn	**Pn**	**07 19 50.6**	**-1.5**
CYA	**Choya**	**5.43**	**67**	*iP*	**Pn**	**07 19 58.0**	**+0.9**
PB14	**IPOC Station P**	**6.10**	**9**	Pn	**Pn**	**07 20 03.7**	**-2.8**
AHML	**Horco Molle**	**6.65**	**56**	*iP*	**Pn**	**07 20 14.0**	**+0.2**
FSA	**Cafayete**	**6.65**	**48**	*iP*	**Pn**	**07 20 15.0**	**+1.0**
VA04	**Juan Fernndez**	**6.89**	**243**	Pn	**Pn**	**07 20 15.4**	**-1.7**
PB10	**IPOC Station P**	**7.18**	**7**	Pn	**Pn**	**07 20 18.6**	**-2.5**
LC01	**Cunco**	**8.21**	**182**		**Pn**	**07 20 32.8**	**-2.4**
LC01	**Cunco**	**8.21**	**182**	*iP*	**Pn**	**07 20 33.0**	**-2.2**
AF01	**San Pedro de A**	**8.24**	**22**	Pn	**Pn**	**07 20 33.5**	**-2.4**
LVC	**Limon Verde**	**8.36**	**17**	P	**Pn**	**07 20 36.2**	**-1.3**
	comp=E,0.4nm,0.3s,baz=164,slow=7.3,SNR=1.7						
LVC	**Limon Verde**	**8.36**	**17**	Pn	**Pn**	**07 20 35.8**	**-1.8**
LVC	**Limon Verde**	**8.36**	**17**	*eP*	**Pn**	**07 20 38.1**	**+0.6**
PB04	**IPOC Station P**	**8.39**	**9**	Pn	**Pn**	**07 20 36.2**	**-1.7**
LR03	**Panguipulli**	**8.96**	**184**	Pn	**Pn**	**07 20 43.5**	**-2.0**
PB01	**IPOC Station P**	**9.76**	**11**	Pn	**Pn**	**07 20 53.6**	**-2.9**
PLCA	**Paso Flores**	**10.07**	**176**	P	**Pn**	**07 21 00.3**	**-0.4**
	comp=E,0.3nm,0.3s,baz=351,slow=15,SNR=6.3						
PLCA	**Paso Flores**	**10.07**	**176**	Pn	**Pn**	**07 20 59.5**	**-1.2**
PLCA	**Paso Flores**	**10.07**	**176**	*eP*	**Pn**	**07 21 01.2**	**+0.5**
LL04	**Puerto Octay**	**10.24**	**184**	Pn	**Pn**	**07 21 00.6**	**-2.4**
PB08	**IPOC Station P**	**10.70**	**12**	Pn	**Pn**	**07 21 08.7**	**-0.9**
TRQA	**Tornquist**	**10.77**	**136**	Pn	**Pn**	**07 21 09.5**	**-0.7**
TRQA	**Tornquist**	**10.77**	**136**	*eP*	**Pn**	**07 21 10.7**	**+0.5**
TRQA	**Tornquist**	**10.77**	**136**	*iP*	**Pn**	**07 21 10.0**	**-0.2**
LL05	**Los Muermos**	**10.83**	**188**	Pn	**Pn**	**07 21 08.2**	**-2.8**
PSGCX	**Pisagua**	**11.10**	**7**	Pn	**Pn**	**07 21 14.4**	**-0.4**
ITQB	**Itaqui**	**12.90**	**89**	Pn	**Pn**	**07 21 36.6**	**-2.8**
CPUP	**Villa Florida**	**13.18**	**74**	P	**Pn**	**07 21 40.9**	**-2.3**
	comp=E,0.3nm,0.3s,baz=256,slow=11,SNR=7.6						
CPUP	**Villa Florida**	**13.18**	**74**	Pn	**Pn**	**07 21 40.6**	**-2.7**
CPUP	**Villa Florida**	**13.18**	**74**	*eP*	**Pn**	**07 21 47.0**	**+3.7**
LPAZ	**La Paz**	**14.65**	**13**	P	**Pn**	**07 22 04.9**	**+1.1**
	comp=E,0.1nm,0.3s,baz=199,slow=4.0,SNR=7.4						
LPAZ	**La Paz**	**14.65**	**13**	Pn	**Pn**	**07 22 02.5**	**-1.3**
LPAZ	**La Paz**	**14.65**	**13**	*eP*	**Pn**	**07 22 04.9**	**+1.1**
PLTB	**Pedras Altas**	**15.35**	**99**	Pn	**Pn**	**07 22 09.9**	**-2.6**
PLTB	**Pedras Altas**	**15.35**	**99**	*eP*	**Pn**	**07 22 14.7**	**+2.2**
CPSB	**Cacapava Do Su**	**15.56**	**94**	*eP*	**P**	**07 22 17.4**	**-1.8**
SIV	**San Ignacio**	**17.45**	**35**	P	**Pn**	**07 22 39.3**	**-0.1**
	comp=E,0.3nm,0.3s,baz=219,slow=8.0,SNR=13						
AQDB	**Aquidauana**	**17.48**	**58**	*eP*	**P**	**07 22 41.8**	**+1.3**
CNLB	**Canela**	**17.93**	**91**	*eP*	**P**	**07 22 48.8**	**+3.2**
PTLB	**Pontes e Lacer**	**18.92**	**40**	*eP*	**Pn**	**07 22 59.1**	**+1.9**
TER01	**Tubaro-SC**	**19.56**	**89**	*eP*	**Pn**	**07 23 06.4**	**+1.5**
PCMB	**Pacaembu**	**20.26**	**68**	*eP*	**Pn**	07 23 14.0	+0.8
VILB	**Vilhena**	**20.49**	**33**	*eP*	**Pn**	07 23 15.6	-0.4
ETMB	**Extrema**	**21.33**	**14**	*eP*	**P**	**07 23 24.7**	**+2.1**
GO10	**Punta Arenas**	**22.47**	**179**	P	**P**	**07 23 32.2**	**-2.4**
CZSB	**Cruzeiro do Su**	**22.86**	**357**	*eP*	**P**	**07 23 40.9**	**+1.9**
VAO	**Valinhos**	**23.15**	**77**	*eP*	**P**	**07 23 45.2**	**+3.1**
CLDB	**Colider**	**24.51**	**40**	*eP*	**P**	**07 23 57.4**	**+2.5**
IPMB	**Ipameri, GO**	**24.63**	**65**	*eP*	**P**	**07 23 58.9**	**+2.9**
BDFB	**Brasilia**	**26.18**	**60**	P	**P**	**07 24 08.5**	**-1.7**
	comp=E,2.8nm,0.6s,baz=250,slow=9.7,SNR=6.0						
SNDB	**Serra Nova Dou**	**26.38**	**49**	*eP*	**P**	**07 24 12.9**	**+1.1**
MACA	**Manacapuru-AM**	**29.21**	**23**	*eP*	**P**	**07 24 38.8**	**+1.8**
JANB	**Januaria**	**29.36**	**64**	*eP*	**P**	**07 24 41.3**	**+2.7**
ALF01	**Guarapari-ES**	**29.40**	**77**	*eP*	**P**	**07 24 42.9**	**+4.1**
SJMB	**Sao Joao De Ma**	**29.91**	**74**	*eP*	**P**	**07 24 46.2**	**+2.9**
ITTB	**Itaituba**	**30.09**	**33**	*eP*	**P**	**07 24 47.2**	**+2.3**
BSFB	**Barra de Sao F**	**30.12**	**74**	*eP*	**P**	**07 24 46.7**	**+1.5**
RIB01	**Linhares ES**	**30.27**	**75**	*eP*	**P**	**07 24 49.7**	**+3.2**
SDBA	**SAO DESIDERIO**	**30.56**	**59**	*eP*	**P**	**07 24 52.1**	**+3.0**
SMTB	**Santa Maria do**	**31.12**	**51**	*eP*	**P**	**07 24 56.5**	**+2.4**
NAN01	**Guarapari, ES**	**31.20**	**73**	*eP*	**P**	**07 24 55.9**	**+1.2**
OTAV	**Otavalo**	**31.45**	**347**	*eP*	**P**	**07 24 58.1**	**+0.7**
PRPB	**Parauapebas**	**31.76**	**44**	*eP*	**P**	**07 25 01.9**	**+2.3**
GUA01	**Guaratinga, BA**	**32.11**	**71**	*eP*	**P**	**07 25 04.9**	**+2.1**
MALB	**Monte Alegre**	**32.98**	**33**	*eP*	**P**	**07 25 12.9**	**+2.5**
CMC01	**Camacan, BA**	**32.99**	**70**	*eP*	**P**	**07 25 13.3**	**+2.8**
NBIT	**Itapeh - BA**	**33.30**	**69**	*eP*	**P**	**07 25 15.8**	**+2.7**
GDU01	**Guandu, BA**	**33.86**	**67**	*eP*	**P**	**07 25 20.9**	**+2.8**
BOAV	**Boa Vista**	**34.51**	**20**	*eP*	**P**	**07 25 25.6**	**+2.0**
NBPN	**Ponto Novo - B**	**35.10**	**63**	*eP*	**P**	**07 25 29.5**	**+0.7**
TMAB	**Tom-Au,PA,Br**	**35.81**	**43**	*eP*	**P**	**07 25 37.0**	**+2.1**
NBLA	**Lagarto - SE**	**36.87**	**65**	*eP*	**P**	**07 25 46.6**	**+2.7**
NBPS	**Pedro II - PI**	**38.53**	**53**	*eP*	**P**	**07 26 00.0**	**+2.0**
NBCL	**Cascavel-CE**	**40.87**	**57**	*eP*	**P**	**07 26 19.8**	**+2.3**
RCBR	**Riachuelo**	**41.56**	**61**	*eP*	**P**	**07 26 25.9**	**+2.7**
ICMP	**Isla Caja de M**	**48.52**	**6**	P	**P**	**07 27 15.1**	**-3.1**
MLPR	**Magueyes Islan**	**48.55**	**6**	P	**P**	**07 27 14.5**	**-4.0**
CRPR	**Cabo Rojo, PR**	**48.58**	**6**	P	**P**	**07 27 16.4**	**-2.3**
CRPR				IAmb	IAmb	07 27 17.7	
	comp=E,8.2nm,0.7s						
OBIP	**Obispado Ponce**	**48.66**	**6**	P	**P**	**07 27 17.0**	**-2.4**
OBIP				IAmb	IAmb	07 27 18.5	
	comp=Z,12nm,1.3s						
PDPR	**Patillas Dam,**	**48.70**	**7**	P	**P**	**07 27 17.5**	**-2.1**
PDPR				IAmb	IAmb	07 27 17.7	
	comp=Z,4.2nm,0.8s						
H06E1	**SOCORRO T-PHAS**	**52.09**	**317**	T	T	08 36 21.5	
	SNR=6.9						
TXAR	**Lajitas Array**	**67.08**	**330**	P	**P**	**07 29 27.6**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=151,slow=7.7,SNR=6.8						
TXAR	**Lajitas Array**	**67.08**	**330**	P	**P**	**07 29 27.9**	**-0.7**
TX31	**Lajitas Ar. Si**	**67.09**	**330**	P	**P**	**07 29 28.7**	**+0.1**
TX31				IAmb	IAmb	07 29 31.6	
	comp=Z,8.2nm,1.2s						
DBIC	**Dimbokro**	**73.69**	**72**	P	**P**	**07 30 07.8**	**-1.4**
	comp=Z,4.8nm,0.7s,baz=226,slow=5.5,SNR=14						
DBIC	**Dimbokro**	**73.69**	**72**	P	**P**	**07 30 06.5**	**-2.7**
DBIC				IAmb	IAmb	07 30 08.0	
	comp=Z,4.7nm,0.7s						
MAW	**Mawson**	**76.23**	**164**	P	**P**	**07 30 21.9**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=219,slow=6.0,SNR=6.9						
NVAR	**Mina Array Bea**	**81.44**	**325**	P	**P**	**07 30 52.5**	**+0.3**
	comp=Z,0.3nm,0.9s,baz=188,slow=5.5,SNR=2.7						
TORD	**Torodi Ar. Bea**	**82.64**	**70**	P	**P**	**07 30 57.3**	**-1.6**
	comp=Z,1.3nm,0.6s,baz=280,slow=6.1,SNR=23						
TORD				pP	**pP**	**07 31 09.3**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=262,slow=5.6,SNR=4.3						
TORD	**Torodi Ar. Bea**	**82.64**	**70**	P	**P**	**07 30 57.2**	**-1.6**
TORD				IAmb	IAmb	07 30 58.8	
	comp=Z,2.5nm,1.2s						
H11S2	**WAKE ISLAND Hyd**	**126.22**	**271**	T	T	09 56 22.7	
	baz=115,slow=75,SNR=65						
H11S1	**WAKE ISLAND Hyd**	**126.23**	**271**	T	T	09 56 23.6	
	baz=115,slow=75,SNR=56						
H11S3	**WAKE ISLAND Hyd**	**126.24**	**271**	T	T	09 56 24.1	
	baz=115,slow=75,SNR=62						
H11N3	**WAKE ISLAND Hyd**	**126.55**	**273**	T	T	09 56 55.9	
	baz=153,slow=74,SNR=8.6						
H11N2	**WAKE ISLAND Hyd**	**126.57**	**273**	T	T	09 56 58.3	
	baz=121,slow=74,SNR=27						
BVAR	**Borovoye Array**	**144.49**	**40**	PKP	**PKPab**	**07 38 08.4**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=270,slow=4.4,SNR=5.4						
ZALV	**Zalesovo Beam**	**151.14**	**29**	PKPbc	**PKPbc**	**07 38 25.8**	**-1.9**
	comp=Z,2.5nm,0.5s,baz=306,slow=4.5,SNR=7.5						
ZALV				pPKPbc	**pPKPbc**	**07 38 38.5**	**0.0**
	comp=Z,2.2nm,0.5s,baz=302,slow=2.7,SNR=4.7						

JMA 21 07:19:54.7,33.46N×132.61E,h45km,M3.5 Broadband fault plane solution: P waves. NP1:ϕs320.00000°, δ43.00000°,λ-137.00000°. NP2:ϕs196.00000°, δ62.00000°,λ-56.00000°. Principal axes: T Plg11.0000°, Azm262.0000°; N Plg30.0000°, Azm358.0000°; P Plg58.0000°, Azm154.0000°;
JMA Felt I J1.
IDC 21 07:19:55.3±2.3,33.49N×132.63E,h53km±22km,mb3.3/3, mb1 3.6/5,mb1mx3.2/51,mbtmp3.6/5,ML3.0/2 Error ellipse: s-maj=26.8km s-min=16.0km az=152.0

ISC 21 07:19:54.7±0.9, 33.46N±0.04×132.63E±0.04, h43km±7km, n15, σ0§53/24, mb3.6/3, 3C-4D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNA	**Nagahama**	**0.16**	**308**	⇓*iP*	**Pn**	**07 20 02.1**	**+0.1**
JNA				*i* S	**Sn**	**07 20 07.3**	**+0.1**
UWA2	**Uwa jima 2**	**0.24**	**181**	⇓*iP*	**Pn**	**07 20 02.7**	**0.0**
UWA2				*i* S	**Sn**	**07 20 08.4**	**+0.1**
JKU	**Kubokawa**	**0.39**	**112**	⇑*iP*	**Pn**	**07 20 04.5**	**+0.3**
JKU				*i* S	**Sn**	**07 20 11.4**	**+0.4**
JET	**Tanbara**	**0.47**	**47**	⇑*iP*	**Pn**	**07 20 05.3**	**0.0**
JET				*i* S	**Sn**	**07 20 12.8**	**+0.1**
JTO	**Tosashimizu**	**0.61**	**166**	⇓*iP*	**Pn**	**07 20 07.3**	**+0.2**
JTO				*eS*	**Sn**	**07 20 16.1**	**+0.2**
JHM	**Kurahashi**	**0.69**	**353**	⇓*iP*	**Pn**	**07 20 08.1**	**+0.1**
JHM				*eS*	**Sn**	**07 20 17.9**	**+0.3**
JMN	**Monobe**	**1.08**	**75**	⇑*iP*	**Pn**	**07 20 13.1**	**-0.3**
JHT	**Toyohira**	**1.21**	**352**	P	**Pn**	**07 20 15.5**	**+0.3**
JHT				*i* S	**Sn**	**07 20 30.7**	**+0.2**
JNU	**Nakatsue**	**1.50**	**258**	P	**Pn**	**07 20 19.6**	**+0.3**
	43nm,0.3s,baz=74,slow=8.0,SNR=172						
JNU				S	**Sn**	**07 20 38.9**	**+1.2**
	19nm,0.3s,baz=142,slow=0.7,SNR=8.2						
MAT	**Matsushiro**	**5.51**	**55**	P	**Pn**	**07 21 15.6**	**+1.3**
MAT				*eS*	**Sn**	**07 22 16.4**	**0.0**
MJAR	**Matsushiro Arr**	**5.52**	**55**	P	**Pn**	**07 21 15.2**	**+1.0**
	0.7nm,0.3s,baz=238,slow=14,SNR=37						
KSRS	**Korea Array**	**5.54**	**317**	P	**Pn**	**07 21 14.6**	**+0.1**
	0.3nm,0.3s,baz=137,slow=13,SNR=2.2						
SONM	**Songino Array**	**24.39**	**314**	P	**P**	**07 25 08.3**	**-0.6**
	0.7nm,0.7s,baz=134,slow=10,SNR=3.0						
WRA	**Warramunga Arr**	**53.13**	**178**	P	**P**	**07 29 07.8**	**-0.3**
	0.3nm,0.5s,baz=357,slow=7.8,SNR=5.1						
FINES	**FINESS Array B**	**68.48**	**330**	P	**P**	**07 30 51.7**	**-0.3**
	0.7nm,0.5s,baz=72,slow=6.2,SNR=4.6						

IDC 21 07:20:16.0±0.9,31.02S×72.70W,h0km,mb3.8/6, mb1 4.3/9,mb1mx4.1/24,mbtmp4.1/9,ML4.3/3,Error ellipse: s-maj=31.7km s-min=23.7km az=95.0
NEIC 21 07:20:17.4±2.2,31.08S±0.04×72.54W±0.05,h10km±1km, mb4.6/28,Error ellipse: s-maj=8.3km s-min=5.4km az=142.0

ISC 21 07:20:17.2±0.5, 31.07S±0.06×72.56W±0.06, h10km, n65, σ1§28/66, mb4.5/15, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.89**	**64**	Pg	**Pg**	**07 20 33.4**	**-1.0**
CO06				Sg	**Sb**	**07 20 47.4**	**+0.7**
CO05	**La Serena**	**1.62**	**45**	Pn	**Pn**	**07 20 45.5**	**-0.3**
CO05				Sn	**Sn**	**07 21 06.0**	**-0.8**
CO03	**El Pedregal**	**1.63**	**82**	Pn	**Pn**	**07 20 45.9**	**-0.1**
CO03				Sn	**Sn**	**07 21 07.0**	**-0.1**
GO04	**Tololo Observa**	**1.77**	**60**	Pn	**Pn**	**07 20 47.7**	**-0.3**
GO04				Sn	**Sn**	**07 21 10.9**	**+0.2**
VA01	**Torpederas**	**2.10**	**158**	Pn	**Pn**	**07 20 50.0**	**-2.4**
VA03	**San Esteban**	**2.40**	**135**	Pn	**Pn**	**07 20 56.4**	**-0.3**
LCO	**Las Campanas**	**2.61**	**39**	Pn	**Pn**	**07 20 58.8**	**-1.0**
MT05	**Renca**	**2.78**	**147**	Pn	**Pn**	**07 20 59.3**	**-2.6**
MT09	**Talagante**	**3.01**	**154**	Pn	**Pn**	**07 21 04.9**	**-0.1**
AC04	**Llanos de Chal**	**3.14**	**25**	Pn	**Pn**	**07 21 05.5**	**-1.2**
ZON	**Zonda**	**3.36**	**99**	Pn	**Pn**	**07 21 07.7**	**-2.1**
H03N1	**Juan Fernandez**	**5.87**	**245**	T	T	07 27 12.8	
	baz=73,slow=72,SNR=1426						
H03N2	**Juan Fernandez**	**5.89**	**245**	T	T	07 27 11.8	
	baz=73,slow=72,SNR=1094						
H03N3	**Juan Fernandez**	**5.89**	**245**	T	T	07 27 07.9	
	baz=73,slow=72,SNR=1694						
PB10	**IPOC Station P**	**7.74**	**14**	Pn	**Pn**	**07 22 08.7**	**-1.2**
LC01	**Cunco**	**7.83**	**176**	Pn	**Pn**	**07 22 09.3**	**-1.8**
PB15	**IPOC Station P**	**8.30**	**20**	Pn	**Pn**	**07 22 17.4**	**-0.5**
LR03	**Panguipulli**	**8.54**	**179**	Pn	**Pn**	**07 22 18.2**	**-2.7**
PB06	**IPOC Station P**	**8.75**	**18**	Pn	**Pn**	**07 22 21.4**	**-2.5**
PB04	**IPOC Station P**	**8.97**	**14**	Pn	**Pn**	**07 22 27.6**	**+0.7**
AF01	**San Pedro de A**	**8.98**	**27**	Pn	**Pn**	**07 22 28.1**	**+0.8**
LVC	**Limon Verde**	**9.04**	**22**	Pn	**Pn**	**07 22 27.8**	**-0.3**
PB07	**IPOC Station P**	**9.61**	**15**	Pn	**Pn**	**07 22 35.2**	**-0.6**
PB09	**IPOC Station P**	**9.70**	**19**	Pn	**Pn**	**07 22 38.7**	**+1.7**
PLCA	**Paso Flores**	**9.78**	**171**	Pn	**Pn**	**07 22 37.0**	**-0.9**
	0.3nm,0.3s,baz=332,slow=13,SNR=9.5						
PLCA	**Paso Flores**	**9.78**	**171**	Pn	**Pn**	**07 22 35.8**	**-2.1**
LL04	**Puerto Octay**	**9.82**	**179**	Pn	**Pn**	**07 22 35.8**	**-2.6**
PB01	**IPOC Station P**	**10.36**	**16**	Pn	**Pn**	**07 22 49.5**	**+3.5**
PSGCX	**Pisagua**	**11.64**	**11**	Pn	**Pn**	**07 23 03.7**	**+0.3**
CPUP	**Villa Florida**	**14.18**	**74**	Pn	**Pn**	**07 23 37.

PLCA	**Paso Flores**	**10.27**	**174**	Pn	**Pn**	**07 28 05.1**	**-1.3**	
	0.1nm,0.3s,baz=0.0,slow=11,SNR=1.1							
PSGCX	**Pisagua**	**11.02**	**10**	Pn	**Pn**	**07 28 13.3**	**-3.4**	
LPAZ	**La Paz**	**14.62**	**15**	Pn	**Pn**	**07 29 09.4**	**+2.9**	
	0.1nm,0.3s,baz=189,slow=8.7,SNR=7.5							
SIV	**San Ignacio**	**17.62**	**37**	P	**P**	**07 29 46.7**	**+1.1**	
	0.2nm,0.3s,baz=233,slow=9.6,SNR=9.1							
BDFB	**Brasilia**	**26.55**	**61**	P	**P**	**07 31 17.2**	**+0.1**	
	1.2nm,0.4s,baz=246,slow=7.1,SNR=3.0							
BDFB	**Brasilia**	**26.55**	**61**	IAmb	IAmb	07 31 28.8		
	comp=Z,5.1nm,1.2s							
SNAA	**Sanae**	**54.82**	**159**	P	**P**	**07 35 08.9**	**+0.3**	
SNAA				IAmb	IAmb	07 35 18.3		
	comp=Z,3.2nm,1.3s							
QSPA	**South Pole Qui**	**59.71**	**180**	P	**P**	**07 35 44.0**	**+0.7**	
TORD	**Torodi Ar. Bea**	**83.06**	**70**	P	**P**	**07 38 05.8**	**+0.9**	
	comp=Z,0.4nm,0.8s,baz=254,slow=4.9,SNR=4.1							
TORD	**Torodi Ar. Bea**	**83.06**	**70**	P	**P**	**07 38 05.5**	**+0.6**	
ZALV	**Zalesovo Beam**	**151.25**	**29**	PKPbc	**PKiKP**	**07 45 33.0**	**+0.6**	
	comp=Z,2.0nm,0.6s,baz=310,slow=4.7,SNR=5.6							

IDC 21 07:30:04.0±4.0, 6°38S×149°27E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.4/26, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=116.1km s-min=52.9km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.80**	**226**	P	P	07 34 36.3	0.0
	0.2nm,0.3s,baz=51,slow=11,SNR=9.0						
ASAR	**Alice Springs**	**22.66**	**219**	P	P	07 35 07.1	-0.1
	0.2nm,0.4s,baz=56,slow=9.1,SNR=4.5						
FITZ	**Fitzroy Crossi**	**25.82**	**241**	P	P	07 35 37.1	-0.2
	1.3nm,0.8s,baz=61,slow=9.3,SNR=1.6						
TORD	**Torodi Ar. Bea**	**147.37**	**284**	PKPbc	PKPbc	07 49 50.4	-0.5
	0.1nm,0.4s,baz=68,slow=3.5,SNR=1.7						

*NNC **21** 07:30:28.1±0.8, 50.01N×78.76E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=16.0km s-min=4.3km az=75.0, Suspected Mining explosion.*
*IDC **21** 07:30:29.4±1.2, 50.05N×78.77E, h0km, mb1 2.9/2, mb1mx2.9/41, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=13.9km s-min=7.7km az=63.0*
ISC 21 07:30:29.3±1.0, 50.01N±0.06×78.72E±0.07, h0km, n8, σ1§16/10, 5C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**0.62**	**349**	Pg	**Pg**	**07 30 40.6**	**-0.7**
	2.4nm,0.3s,baz=166,slow=18,SNR=48						
KURBB				Lg	Lg	07 30 49.7	
	2.4nm,0.3s,baz=163,slow=41,SNR=14						
KURBB	**Kurchatov Arra**	**0.62**	**349**	⇓P	**Pg**	**07 30 40.2**	**-1.1**
	27nm,0.4s						
KURBB				⇓S	**Sg**	**07 30 49.5**	**+0.2**
	48nm,0.8s						
MAKZ	**Makanchi**	**3.87**	**145**	⇑Pg	**Pb**	**07 31 36.5**	**-2.0**
	5.9nm,0.6s						
MAKZ				⇑Lg	Lg	07 32 27.6	
	7.6nm,0.6s						
MK31	**Makanchi Array**	**4.00**	**142**	⇓Pn	**Pn**	**07 31 32.6**	**+0.7**
	0.4nm,0.4s,baz=321,slow=10,SNR=12						
MK31				⇓Pg	**Pb**	**07 31 41.6**	**+0.9**
	1.7nm,0.6s,baz=324,slow=14,SNR=13						
MK31				⇑Lg	Lg	07 32 36.4	
	9.1nm,0.6s,baz=330,slow=27,SNR=14						
MKAR	**Makanchi Array**	**4.00**	**142**	Pn	**Pn**	**07 31 32.8**	**+0.9**
	0.4nm,0.3s,baz=329,slow=11,SNR=12						
MKAR				Lg	Lg	07 32 35.3	
	1.4nm,0.3s,baz=323,slow=26,SNR=5.6						
OTUK	**Ortayu**	**4.55**	**250**	⇓Pn	**Pn**	**07 31 39.6**	**+0.2**
	0.7nm,0.2s						
OTUK				⇑Pg	**Pb**	**07 31 50.1**	**+0.1**
	1.3nm,0.5s						
OTUK				⇑Lg	Lg	07 32 54.5	
	4.7nm,0.6s						
ZALV	**Zalesovo Beam**	**5.45**	**41**	Pn	**Pn**	**07 31 53.0**	**+1.2**
	0.7nm,0.3s,baz=228,slow=14,SNR=5.3						
I46RU	**ZALESOVO INFRA**	**5.45**	**41**	*i*		08 02 50.0	
	baz=223,slow=326,SNR=1.2						

MEX 21 08:20:02.7±0.3, 14.04N×93.30W, h5km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.66**	**3**	*e*P	Pn	08 20 29.0	-3.4
PCIG				*i* S	Sn	08 20 49.1	-5.1
CCIG	**Comitan**	**2.50**	**27**	*i* P	Pn	08 20 41.0	-3.1
CCIG				*i* S	Sn	08 21 11.5	-3.6
TGIG		**2.73**	**4**	*i* P	Pn	08 20 44.8	-2.5
TGIG				*i* S	Sn	08 21 17.1	-3.6

IDC 21 08:23:45.8±2.2, 5.49S×152.23E, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.6/27, mbtmp3.6/3, Error ellipse: s-maj=156.7km s-min=29.3km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.57**	**229**	P	P	08 28 47.9	0.0
	0.6nm,0.5s,baz=55,slow=10,SNR=6.6						
ASAR	**Alice Springs**	**25.26**	**222**	P	P	08 29 13.9	0.0
	0.8nm,0.8s,baz=56,slow=9.0,SNR=9.4						
ILAR	**Eielson Array**	**83.00**	**22**	P	P	08 36 12.7	0.0
	0.7nm,0.7s,baz=256,slow=5.1,SNR=5.8						

*KRNET **21** 08:32:57.9±0.1, 41.67N×77.61E, h15km, mb3.9*
*SOME **21** 08:32:58.1, 41.72N×77.60E, h10km*
*NNC **21** 08:32:59.3±0.8, 41.74N×77.61E, h0km, mb4.3, mpv4.1, Error ellipse: s-maj=5.7km s-min=3.2km az=1.0*
*KNET **21** 08:33:01.1±0.7, 41.74N×77.38E, h5km, 3km, ml3.2, Error ellipse: s-maj=6.4km s-min=2.7km az=59.0*
ISC 21 08:32:57.6±1.3, 41.67N±0.04×77.54E±0.02, h0km±11km, n87, σ1§26/151, 42C-18D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**0.21**	**72**	⇓*i*P	**Pg**	**08 33 01.8**	**+0.1**
	baz=66						
TARG				⇓*i*S	**Sg**	**08 33 04.3**	**-0.1**
	baz=66						
PRZ	**Przheval'sk**	**1.04**	**38**	⇑*i*P	**Pg**	**08 33 16.6**	**-1.0**
	baz=35						
PRZ				⇑*i*S	**Sg**	**08 33 29.9**	**-1.1**
	baz=35						
ANVS	**Anan'yevo**	**1.12**	**5**	⇑*i*P	**Pg**	**08 33 18.4**	**-0.7**
	baz=2.0						
ANVS				⇑*i*S	**Sg**	**08 33 33.3**	**-0.4**
	baz=2.0						
ULHL	**Ulahol**	**1.13**	**301**	⇑*i*P	**Pg**	**08 33 19.9**	**+0.7**
	baz=0.0						
ULHL				⇑*i*S	**Sn**	**08 33 35.4**	**-1.8**
	baz=0.0						
ULHL	**Ulahol**	**1.13**	**301**	⇓P	**Pg**	**08 33 19.9**	**+0.7**
	51nm,0.1s						
ULHL				⇓S	**Sn**	**08 33 35.5**	**-1.6**
	167nm,0.1s						
TNSS	**Tian-Shan**	**1.44**	**343**	*e*P	**Pb**	**08 33 24.9**	**-0.6**
	baz=41						
TNSS				*e*S	**Sg**	**08 33 44.6**	**+0.8**
	baz=41						
TNSS	**Tian-Shan**	**1.44**	**343**	*e*P	**Pb**	**08 33 24.9**	**-0.6**
	167nm,0.2s						
TNSS				*e*S	**Sg**	**08 33 44.7**	**+0.8**
	144nm,0.2s						
TNSS	**Tian-Shan**	**1.44**	**343**	P	**Pb**	**08 33 24.9**	**-0.6**
	167nm,0.2s						
TNSS				S	**Sg**	**08 33 44.7**	**+0.8**
	144nm,0.2s						
BOOM	**Boomskoye usch**	**1.45**	**305**	⇓*i*P	**Pb**	**08 33 25.2**	**-0.3**
	baz=4.0						
BOOM				⇓*i*S	**Sg**	**08 33 45.0**	**+0.9**
	baz=4.0						
IZV	**Izvestkoviy**	**1.53**	**334**	*e*P	**Pb**	**08 33 26.7**	**-0.3**
	baz=32						
IZV				*e*S	**Sg**	**08 33 47.5**	**+0.6**
	baz=32						
IZV	**Izvestkoviy**	**1.53**	**334**	*e*P	**Pb**	**08 33 26.7**	**-0.3**
	212nm,0.4s						
IZV				*e*S	**Sg**	**08 33 47.5**	**+0.6**
	305nm,0.2s						
IZV	**Izvestkoviy**	**1.53**	**334**	P	**Pb**	**08 33 26.7**	**-0.3**
	212nm,0.4s						
IZV				S	**Sg**	**08 33 47.5**	**+0.6**
	305nm,0.2s						
SATY	**Saty**	**1.54**	**25**	*e*P	**Pn**	**08 33 25.8**	**-0.6**
	baz=23						
SATY				*e*S	**Sb**	**08 33 45.6**	**-1.5**
	baz=23						
SATY	**Saty**	**1.54**	**25**	*e*P	**Pn**	**08 33 25.8**	**-0.6**
	59nm,0.4s						
SATY				*e*S	**Sb**	**08 33 45.6**	**-1.5**
	402nm,0.2s						
SATY	**Saty**	**1.54**	**25**	P	**Pn**	**08 33 25.8**	**-0.6**
	59nm,0.4s						
SATY				S	**Sb**	**08 33 45.6**	**-1.5**
	402nm,0.2s						
MDOK	**Medeo**	**1.54**	**347**	*e*P	**Pb**	**08 33 26.6**	**-0.6**
	baz=45						
MDOK				*e*S	**Sg**	**08 33 46.9**	**-0.2**
	baz=45						
MDOK	**Medeo**	**1.54**	**347**	*e*P	**Pb**	**08 33 26.6**	**-0.6**
	170nm,0.3s						
MDOK				*e*S	**Sg**	**08 33 46.9**	**-0.2**
	104nm,0.3s						
MDOK	**Medeo**	**1.54**	**347**	⇑P	**Pb**	**08 33 26.4**	**-0.7**
	52nm,0.3s						
MDOK				⇓S	**Sg**	**08 33 47.2**	**+0.1**
	68nm,0.4s						
MDOK	**Medeo**	**1.54**	**347**	Pg	**Pb**	**08 33 26.6**	**-0.6**
	170nm,0.3s						
MDOK				Lg	Lg	08 33 46.9	
	104nm,0.3s						
KNDC	**Almaty**	**1.61**	**345**	⇑P	**Pb**	**08 33 28.0**	**-0.2**
	191nm,0.3s						
KNDC				⇑S	**Sg**	**08 33 50.6**	**+1.3**
	203nm,0.3s						
AAA	**Alma-Ata**	**1.61**	**344**	*e*P	**Pg**	**08 33 28.5**	**0.0**
	baz=42						
AAA				*e*S	**Sg**	**08 33 50.7**	**+1.3**
	baz=42						
AAA	**Alma-Ata**	**1.61**	**344**	*e*P	**Pg**	**08 33 28.5**	**0.0**
	941nm,0.2s						
AAA				*e*S	**Sg**	**08 33 50.7**	**+1.3**
	59nm,0.2s						
AAA	**Alma-Ata**	**1.61**	**344**	P	**Pg**	**08 33 28.5**	**0.0**
	941nm,0.2s						
AAA				S	**Sg**	**08 33 50.7**	**+1.3**
	59nm,0.2s						
MTBS	**Maitube**	**1.68**	**331**	*e*P	**Pb**	**08 33 29.3**	**-0.2**
	baz=30						
MTBS				*e*S	**Sg**	**08 33 51.5**	**-0.1**
	baz=30						
MTBS	**Maitube**	**1.68**	**331**	*e*P	**Pb**	**08 33 29.2**	**-0.2**
	116nm,0.2s						
MTBS				*e*S	**Sg**	**08 33 51.5**	**-0.1**
	229nm,0.3s						
MTBS	**Maitube**	**1.68**	**331**	P	**Pb**	**08 33 29.3**	**-0.2**
	116nm,0.2s						
MTBS				S	**Sg**	**08 33 51.5**	**-0.1**
	229nm,0.3s						
KZA	**Kyzart**	**1.76**	**284**	⇑*i*P	**Pb**	**08 33 31.2**	**+0.2**
	baz=84						
KZA				⇑*i*S	**Sg**	**08 33 55.4**	**+1.3**
	baz=84						
KZA	**Kyzart**	**1.76**	**284**	⇑P	**Pb**	**08 33 31.4**	**+0.5**
	37nm,0.2s,SNR=16						
KZA				⇑S	**Sg**	**08 33 55.6**	**+1.5**
	49nm,0.2s						
KST	**Kastek**	**1.80**	**320**	*e*P	**Pb**	**08 33 31.9**	**+0.3**
	baz=19						
KST				*e*S	**Sg**	**08 33 56.2**	**+0.6**
	baz=19						
KST	**Kastek**	**1.80**	**320**	*e*P	**Pb**	**08 33 31.9**	**+0.3**
	148nm,0.4s						
KST				*e*S	**Sg**	**08 33 56.2**	**+0.6**
	314nm,0.7s						
KST	**Kastek**	**1.80**	**320**	P	**Pb**	**08 33 31.9**	**+0.3**
	148nm,0.4s						
KST				S	**Sg**	**08 33 56.2**	**+0.6**
	314nm,0.7s						
UZB	**Uzynbulak**	**1.84**	**36**	*e*P	**Pb**	**08 33 31.4**	**-0.9**
	baz=35						
UZB				*e*S	**Sg**	**08 33 55.6**	**-1.3**
	baz=35						
UZB	**Uzynbulak**	**1.84**	**36**	*e*P	**Pb**	**08 33 31.4**	**-0.9**
	36nm,0.4s						
UZB				*e*S	**Sg**	**08 33 55.6**	**-1.3**
	252nm,0.3s						
UZB	**Uzynbulak**	**1.84**	**36**	P	**Pb**	**08 33 31.4**	**-0.9**
	36nm,0.4s						
UZB				S	**Sg**	**08 33 55.6**	**-1.3**
	252nm,0.3s						
KURS	**Kuram**	**1.88**	**14**	*e*P	**Pb**	**08 33 32.0**	**-0.9**
	baz=13						
KURS				*e*S	**Sb**	**08 33 56.3**	**-0.7**
	baz=13						
KURS	**Kuram**	**1.88**	**14**	*e*P	**Pb**	**08 33 32.0**	**-0.9**
	57nm,0.4s						
KURS				*e*S	**Sb**	**08 33 56.2**	**-0.7**
	110nm,0.4s						
KURS	**Kuram**	**1.88**	**14**	P	**Pb**	**08 33 32.0**	**-0.9**
	57nm,0.4s						
KURS				S	**Sb**	**08 33 56.2**	**-0.7**
	110nm,0.4s						
TKM2	**Tokmak 2**	**1.91**	**312**	⇑*i*P	**Pb**	**08 33 33.0**	**-0.5**
	baz=11						
TKM2				⇑*i*S	**Sg**	**08 33 58.2**	**-0.8**
	baz=11						
TKM2	**Tokmak 2**	**1.91**	**312**	P	**Pb**	**08 33 33.8**	**+0.4**
	77nm,0.1s,SNR=124						
TKM2				⇓S	**Sg**	**08 33 59.9**	**+0.9**
	245nm,0.1s						
TKM2	**Tokmak 2**	**1.91**	**312**	⇓P	**Pb**	**08 33 33.7**	**+0.2**
	33nm,0.2s						
TKM2				⇑S	**Sg**	**08 33 59.7**	**+0.7**
	70nm,0.3s						
DGS	**Degeres**	**2.05**	**321**	*e*P	**Pb**	**08 33 35.9**	**+0.2**
	baz=20						
DGS				*e*S	**Sg**	**08 34 03.2**	**-0.2**
	baz=20						
DGS	**Degeres**	**2.05**	**321**	*e*P	**Pb**	**08 33 35.9**	**+0.2**
	53nm,0.4s						
DGS				*e*S	**Sg**	**08 34 03.2**	**-0.2**
	290nm,0.3s						
DGS	**Degeres**	**2.05**	**321**	Pg	**Pb**	**08 33 35.9**	**+0.2**
	53nm,0.4s						
DGS				Lg	Lg	08 34 03.2	
	290nm,0.3s						
SHLS	**Shalkode**	**2.06**	**43**	*e*P	**Pg**	**08 33 39.6**	**+2.5**
	112nm,0.3s						
SHLS				*e*S	**Sg**	**08 34 09.5**	**+5.6**
	321nm,0.4s						
SHLS	**Shalkode**	**2.06**	**43**	Pg	**Pg**	**08 33 39.6**	**+2.5**
	112nm,0.3s						
SHLS				Lg	Lg	08 34 09.5	
	321nm,0.4s						
KTBS	**Karatobe**	**2.14**	**343**	*e*P	**Pb**	**08 33 37.4**	**+0.1**
	baz=42						
KTBS				*e*S	**Sg**	**08 34 05.6**	**-0.8**
	baz=42						
KTBS	**Karatobe**	**2.14**	**343**	*e*P	**Pb**	**08 33 37.4**	**+0.1**
	68nm,0.2s						
KTBS				*e*S	**Sg**	**08 34 05.6**	**-0.8**
	477nm,0.4s						
KTBS	**Karatobe**	**2.14**	**343**	Pg	**Pb**	**08 33 37.4**	**+0.1**
	68nm,0.2s						
KTBS				Lg	Lg	08 34 05.6	
	477nm,0.4s						
KBK	**Karagaybulak**	**2.17**	**298**	⇑*i*P	**Pb**	**08 33 36.6**	**-1.2**
	baz=97						
KBK				⇑*i*S	**Sb**	**08 34 04.5**	**-0.7**
	baz=97						
PDGK	**Podgornoye**	**2.20**	**40**	Pg	**Pb**	**08 33 37.5**	**-0.9**
	18nm,0.2s						
PDGK				Lg	Lg	08 34 05.8	
	93nm,0.5s						
PDGK	**Podgornoye**	**2.20**	**40**	⇓P	**Pb**	**08 33 37.4**	**-1.0**
	15nm,0.4s						
PDGK				⇑S	**Sb**	**08 34 05.5**	**-0.8**
	119nm,0.5s						
CHKK	**Chushkaly**	**2.22**	**350**	*e*P	**Pb**	**08 33 38.5**	**-0.2**
	115nm,0.2s						
CHKK				*e*S	**Sg**	**08 34 07.9**	**-1.2**
	462nm,0.4s						
CHKK	**Chushkaly**	**2.22**	**350**	Pg	**Pb**	**08 33 38.5**	**-0.2**
	115nm,0.2s						
CHKK				Lg	Lg	08 34 07.9	
	462nm,0.4s						
UCH	**Uchtor**	**2.32**	**285**	⇑*i*P	**Pb**	**08 33 39.0**	**-1.7**
	baz=85						
UCH				⇑*i*S	**Sb**	**08 34 09.1**	**-1.0**
	baz=85						
UCH	**Uchtor**	**2.32**	**285**	⇓P	**Pg**	**08 33 41.9**	**-0.2**
	17nm,0.3s,SNR=22						
KUU	**Kurty**	**2.40**	**339**	*e*P	**Pb**	**08 33 41.2**	**-0.4**
	28nm,0.4s						
KUU				*e*S	**Sb**	**08 34 12.1**	**+0.3**
	159nm,0.5s						
KUU	**Kurty**	**2.40**	**339**	Pg	**Pb**	**08 33 41.2**	**-0.4**
	28nm,0.4s						
KUU				Lg	Lg	08 34 12.1	
	159nm,0.5s						
ARLS	**Aral**	**2.41**	**276**	⇑*e*P	**Pb**	**08 33 40.2**	**-1.8**
	baz=75						
ARLS				⇑*i*S	**Sb**	**08 34 10.9**	**-1.4**
	baz=75						
FRU1	**Bishkek**	**2.44**	**299**	⇑*i*P	**Pb**	**08 33 40.6**	**-1.9**
	baz=99						
FRU1				⇑*i*S	**Sb**	**08 34 11.7**	**-1.4**
	baz=99						
KRBS	**Karabastau**	**2.45**	**327**	*e*P	**Pb**	**08 33 42.7**	**+0.1**
	67nm,0.4s						
KRBS				*e*S	**Sg**	**08 34 14.8**	**-1.6**
	271nm,0.5s						
KRBS	**Karabastau**	**2.45**	**327**	Pg	**Pb**	**08 33 42.7**	**+0.1**
	67nm,0.4s						
KRBS				Lg	Lg	08 34 14.8	
	271nm,0.5s						
CHMS	**Chumysh**	**2.46**	**304**	⇓*i*P	**Pb**	**08 33 40.6**	**-2.1**
	baz=3.0						
CHMS				⇓*i*S	**Sb**	**08 34 11.4**	**-2.1**
	baz=3.0						
CHMS	**Chumysh**	**2.46**	**304**	⇑P	**Pb**	**08 33 43.2**	**+0.5**
	31nm,0.3s,SNR=11						
CHMS				⇓S	**Sg**	**08 34 15.8**	**-0.8**
	82nm,0.3s						
KTMS	**Ketmen**	**2.74**	**49**	*e*P	**Pb**	**08 33 46.9**	**-0.6**
	0.5nm,0.1s						
KTMS				*e*S	**Sb**	**08 34 21.9**	**+0.2**
	88nm,0.4s						
KTMS	**Ketmen**	**2.74**	**49**	Pg	**Pb**	**08 33 46.9**	**-0.6**
	0.5nm,0.1s						
KTMS				Lg	Lg	08 34 21.9	
	88nm,0.4s						
USP	**Ospenovka**	**2.76**	**306**	⇑*i*P	**Pn**	**08 33 44.6**	**+1.4**
	baz=6.0						
USP				⇑*i*S	**Sb**	**08 34 18.6**	**-3.6**
	baz=6.0						
USP	**Ospenovka**	**2.76**	**306**	⇑P	**Pb**	**08 33 47.4**	**-0.5**
	14nm,0.2s,SNR=19						
SGDS	**Sogindy**	**2.79**	**311**	Pg	**Pb**	**08 33 48.9**	**+0.5**
	14nm,0.3s						
SGDS				Lg	Lg	08 34 25.3	
	122nm,0.3s						
AML	**Almayashu**	**2.91**	**280**	⇑*i*P	**Pn**	**08 33 47.2**	**+1.7**
	baz=80						
AML				⇑*i*S	**Sn**	**08 34 23.2**	**+1.9**
	baz=80						
AML	**Almayashu**	**2.91**	**280**	⇓P	**Pb**	**08 33 49.1**	**-1.5**
	4.2nm,0.2s,SNR=15						
EKS2	**Erkin-Say**	**2.97**	**291**	⇑*i*P	**Pn**	**08 33 47.8**	**+1.7**
	baz=91						
EKS2				⇑*i*S	**Sn**	**08 34 23.8**	**+1.4**
	baz=91						
DJR	**Jarkent**	**3.14**	**31**	*e*P	**Pb**	**08 33 53.2**	**-1.1**
	12nm,0.3s						
DJR				*e*S	**Sb**	**08 34 32.8**	**-0.3**
	98nm,0.3s						
DJR	**Jarkent**	**3.14**	**31**	Pg	**Pb**	**08 33 53.2**	**-1.1**
	12nm,0.3s						
DJR				Lg	Lg	08 34 32.8	
	98nm,0.3s						
MRKS	**Merke**	**3.38**	**290**	*e*P	**Pg**	**08 34 01.5**	**-0.9**
	8.9nm,0.5s						
MRKS				*e*S	**Sg**	**08 34 47.0**	**+0.8**
	69nm,0.3s						
MRKS	**Merke**	**3.38**	**290**	Pg	**Pg**	**08 34 01.5**	**-0.9**
	8.9nm,0.5s						
MRKS				Lg	Lg	08 34 47.0	
	69nm,0.3s						
TDK	**Taldyqorghan**	**3.40**	**10**	*e*P	**Pb**	**08 33 58.4**	**-0.3**
	78nm,0.4s						
TDK				*e*S	**Sb**	**08 34 41.4**	**+0.9**
	69nm,0.4s						
TDK	**Taldyqorghan**	**3.40**	**10**	Pg	**Pb**	**08 33 58.4**	**-0.3**
	78nm,0.4s						
TDK				Lg	Lg	08 34 41.4	
	69nm,0.4s						
MNAS	**Manas**	**3.83**	**284**	⇑*i*P	**Pn**	**08 33 59.4**	**+1.4**
	baz=84						
MNAS				⇑*i*S	**Sn**	**08 34 44.8**	**+0.9**
	baz=84						
KAPS	**Kapalarasan**	**3.85**	**19**	*e*P	**Pb**	**08 34 06.0**	**-0.4**
	13nm,0.4s						
KAPS				*e*S	**Sb**	**08 34 54.7**	**+1.0**
	49nm,0.3s						
KAPS	**Kapalarasan**	**3.85**	**19**	Pg	**Pb**	**08 34 06.0**	**-0.4**
	13nm,0.4s						
KAPS				Lg	Lg	08 34 54.7	
	49nm,0.3s						
BTLS	**Baital**	**4.23**	**324**	*e*P	**Pb**	**08 34 14.5**	**+1.7**
	9.2nm,0.4s						
BTLS				*e*S	**Sg**	**08 35 09.0**	**-4.3**
	8.0nm,0.5s						
BTLS	**Baital**	**4.23**	**324**	Pg	**Pb**	**08 34 14.5**	**+1.7**
	9.2nm,0.4s						
BTLS				Lg	Lg	08 35 09.0	
	8.0nm,0.5s						
KK31	**Karatay Array**	**5.40**	**288**	⇑Pg	**Pg**	**08 34 39.6**	**-1.5**
	1.7nm,0.5s,baz=102,slow=16,SNR=30						
KK31				⇑Lg	Lg	08 35 48.2	
	4.3nm,0.4s,baz=99,slow=29,SNR=10						
MAKZ	**Makanchi**	**6.05**	**30**	⇑Pn	**Pn**	**08 34 24.6**	**-3.8**
	7.5nm,1.1s						
MAKZ				⇓Lg	Lg	08 36 09.9	
	10nm,1.4s						
MK31	**Makanchi Array**	**6.16**	**32**	⇑Pn	**Pn**	**08 34 32.7**	**+2.9**
	2.5nm,0.7s,baz=211,slow=16,SNR=13						
MK31				⇓Lg	Lg	08 36 12.0	
	2.4nm,0.6s,baz=210,slow=28,SNR=3.8						
OTUK	**Ortayu**	**7.54**	**333**	⇑Pn	**Pn**	**08 34 52.2**	**+3.4**
	2.5nm,1.1s						
OTUK				⇑Lg	Lg	08 37 00.8	
	11nm,0.8s						
KURBB	**Kurchatov Arra**	**8.99**	**4**	⇓Pn	**Pn**	**08 35 10.0**	**+1.5**
	1.4nm,0.6s						
KURBB				⇑Lg	Lg	08 37 39.7	
	13nm,0.8s						

*JMA **21** 08:38:34.9±0.1, 31.11N×142.25E, h35km, M4.2*
*NIED **21** 08:38:34.9, 31.11N×142.25E, h35km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}2.26; $M_{\theta\theta}$0.30; $M_{\phi\phi}$-2.57; $M_{r\theta}$2.45; $M_{\theta\phi}$-1.40; $M_{r\phi}$0.80; Fault plane solution: $M_0$3.80000×10^{15} NP1:ϕ_s52.00000°, δ69.00000°, λ121.00000°. NP2:ϕ_s174.00000°, δ37.00000°, λ38.00000°.*
*BJI **21** 08:38:36.8±0.0, 31.34N×141.82E, h10km, mB4.6/22, mb4.5/29, Ms4.3/18, Ms7 4.0/20*
*IDC **21** 08:38:36.1±0.6, 31.19N×141.89E, h0km, mb4.1/13, mb1 4.3/17, mb1mx4.1/48, mbtmp4.1/17, ML3.8/3, MS3.6/11, Ms1 3.7/11, ms1mx3.3/61, Error ellipse: s-maj=23.0km s-min=15.6km az=74.0*
*NEIC **21** 08:38:38.1±1.7, 31.23N±0.06×141.99E±0.10, h10km±1km, mb4.7/62, Error ellipse

JCJ Sn Sn 08 40 25.8 -1.1
21nm,0.3s,baz=96,slow=23,SNR=3.3
JCJ LR LR 08 41 03.1
comp=Z,354nm,18.9s,baz=10,slow=36
JCJ Chichijima 4.07 176 Pn Pn 08 39 40.4 +0.4
JSG Sagara 4.69 319 Pn Pn 08 39 49.7 +1.2
JYT Yasato 5.24 345 Pn Pn 08 39 56.1 +0.1
JRY Ryogami san 5.44 333 P Pn 08 39 59.5 +0.6
JRY eS Sn 08 41 02.9 +2.1
JAG Ashikaga 5.62 339 P Pn 08 40 00.4 -0.9
JAG eS Sn 08 41 05.7 +0.5
JGF Kuroka 5.83 321 Pn Pn 08 40 04.4 +0.2
INU Inuyama 5.84 317 Pn Pn 08 40 04.9 +0.6
MJAR Matsushiro Arr 6.17 331 Pn Pn 08 40 09.1 +0.1
0.6nm,0.3s,baz=143,slow=12,SNR=30
MJAR LR LR 08 42 40.0
comp=Z,297nm,18.9s,baz=155,slow=40
MJAR Matsushiro Arr 6.17 331 Pn 08 40 09.2 +0.3
MAJO Matsushiro 6.18 331 Pn 08 40 09.5 +0.5
MAT Matsushiro 6.18 331 P Pn 08 40 09.6 +0.6
MAT S Sn 08 41 19.6 +0.8
MAT Matsushiro 6.18 331 P Pn 08 40 09.2 +0.2
MAT eS Sn 08 41 20.2 +1.4
JFT Otama 6.46 349 P Pn 08 40 11.9 -1.0
JMM Marumori 6.74 353 Pn Pn 08 40 14.8 -1.9
JSD Sado 7.48 337 Pn Pn 08 40 25.9 -0.9
JMK Ichinoseki 7.78 356 P Pn 08 40 29.2 -1.8
JHS Saijyo 8.30 300 Pn Pn 08 40 39.5 +1.4
ERM Erimo 10.87 5 Pn Pn 08 41 10.8 -2.4
ASAJ Asahikawa 12.94 2 Pn Pn 08 41 38.1 -3.4
0.4nm,0.3s,baz=177,slow=28,SNR=1.6
ASAJ LR LR 08 47 23.8
comp=Z,261nm,20.6s,baz=175,slow=41
JKA Kamikawa-asahi 12.94 2 Pn Pn 08 41 39.0 -2.5
KSRS Korea Array 13.14 302 LR LR 08 46 46.2
comp=Z,260nm,18.4s,baz=108,slow=37
USRK Ussuriysk Ar. 15.17 332 Pn Pn 08 42 11.0 -0.9
baz=167,slow=13,SNR=4.6
USRK Ussuriysk Ar. 15.17 332 Pn Pn 08 42 11.9 -0.1
CN2 Changchun 18.11 319 eP Pn 08 42 47.4 -1.7
CN2 eS Sn 08 46 01.6 -8.8
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=N,300nm,15.0s
CN2 LR LR
comp=E,300nm,15.0s
CN2 LR LR
comp=Z,400nm,15.0s
NACB Ninganchiao 19.27 254 P P 08 43 01.3 -1.0
NACB IAmb IAmb 08 43 16.0
comp=Z,19nm,0.8s
KLR Kul'dur 19.60 340 P P 08 43 04.9 -0.7
comp=Z,0.3nm,0.3s,baz=148,slow=13,SNR=6.5
NJ2 Nanjing 19.65 279 eP Pn 08 43 07.4 -0.3
NJ2 pmax pmax
comp=Z,15nm,0.5s
YULB Yu-li 19.86 252 P P 08 43 08.7 0.0
YULB IAmb IAmb 08 43 10.8
comp=Z,17nm,0.8s
SSLB Suanglung 19.97 254 P P 08 43 10.6 +0.7
SSLB IAmb IAmb 08 43 11.8
comp=Z,76nm,1.4s
TWG Pinlang 20.32 251 P Pn 08 43 14.8 -0.9
TPUB Ta-pu 20.45 253 P Pn 08 43 16.3 -1.0
TPUB IAmb IAmb 08 43 19.1
comp=Z,38nm,1.1s
BJI Beijing 22.65 300 P P 08 43 37.0 -1.6
BJI pP pP 08 43 41.0 -2.8
BJI sP sP 08 43 43.6 -2.6
BJI pmax pmax
comp=Z,14nm,0.9s
BJI LR LR
comp=Z,230nm,16.0s
BJI LR LR
comp=Z,180nm,14.1s
BJI LR LR
comp=Z,260nm,12.8s
PETK Petropavlovsk- 24.75 23 LR LR 08 54 12.9
comp=Z,126nm,20.6s,baz=227,slow=38
HHC Hu-ho-hao-te 26.26 300 eP P 08 44 13.1 +0.4
HHC pmax pmax
comp=Z,27nm,0.9s
HHC pmax pmax
comp=Z,73nm,4.7s
HHC LR LR
comp=Z,250nm,14.5s
HHC LR LR
comp=Z,410nm,13.6s
HHC LR LR
comp=Z,450nm,11.9s
XAN Xi'an 27.86 285 P P 08 44 27.3 +0.2
XAN pP sP 08 44 33.4 -1.6
XAN sP pwP 08 44 36.1 -3.6
XAN pmax pmax
comp=Z,8.0nm,0.8s
XAN pmax pmax
comp=Z,84nm,5.5s
XAN LR LR
comp=Z,140nm,15.1s
XAN LR LR
comp=Z,220nm,15.8s
XAN LR LR
comp=Z,190nm,17.2s
ULN Ulaanbaatar 31.30 312 P P 08 44 58.6 +1.0
ULN IAmb IAmb 08 44 59.7
comp=Z,8.5nm,1.1s
SONM Songino Array 31.71 312 P P 08 45 01.6 +0.4
comp=Z,3.7nm,0.8s,baz=116,slow=8.7,SNR=24
SONM Songino Array 31.71 312 P P 08 45 01.9 +0.7
SONM IAmb IAmb 08 45 03.2
comp=Z,6.6nm,1.0s
LZH Lanzhou 31.93 289 eP P 08 44 55.8 -7.4
LZH pP pP 08 44 59.9 -8.9
LZH sP sP 08 45 02.3 -8.8
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,75nm,5.4s
LZH LR LR
comp=N,460nm,13.0s
LZH LR LR
comp=E,360nm,13.0s
LZH LR LR
comp=Z,280nm,16.3s
CD2 Chengdu 32.58 280 P P 08 45 08.8 -0.1
CD2 LR LR
comp=Z,280nm,12.2s
CD2 LR LR
comp=Z,490nm,14.9s
CD2 LR LR
comp=Z,430nm,13.5s
GTA Gaotai 35.07 295 eP P 08 45 29.9 -0.6
GTA pP pP 08 45 36.0 -0.1
GTA sP pwP 08 45 41.3 -1.7
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,25nm,5.8s
GTA LR LR
comp=Z,200nm,16.4s
GTA LR LR
comp=Z,360nm,15.3s
GTA LR LR
comp=Z,340nm,16.4s
SAUI Saumlaki 40.23 196 P P 08 46 13.8 -0.4
CHTO Chiang Mai 40.59 263 P P 08 46 16.9 -0.4
CMAR Chiang Mai Arr 40.75 262 LR LR 09 04 58.1
comp=Z,94nm,18.3s,baz=220,slow=39
HNR Honiara 43.92 154 P P 08 46 45.4 +1.1
WMQ Urumqi 44.09 302 eP P 08 46 48.1 +2.6
COEN Coen 44.88 178 P P 08 46 53.5 +1.5
COEN IAmb IAmb 08 46 57.0
comp=Z,13nm,1.1s
ZALV Zalesovo Beam 46.31 317 P P 08 47 03.2 +0.3
comp=Z,1.5nm,0.5s,baz=102,slow=6.8,SNR=4.9
ZALV PcP PcP 08 48 38.6 +0.7
comp=Z,1.2nm,0.6s,baz=117,slow=5.0,SNR=3.0
MK31 Makanchi Array 47.77 307 P P 08 47 15.3 +0.9
MK31 IAmb IAmb 08 47 28.3
comp=Z,5.6nm,1.0s
MKAR Makanchi Array 47.77 307 P P 08 47 14.5 0.0
comp=Z,2.4nm,0.8s,baz=93,slow=11,SNR=8.3
MKAR Makanchi Array 47.77 307 P P 08 47 15.2 +0.8
MAKZ Makanchi 47.98 307 P P 08 47 16.7 +0.6
MAKZ IAmb IAmb 08 47 24.4
comp=Z,15nm,1.4s
CHGN Chignik 48.03 40 P P 08 47 16.8 +0.6
SII Sitkinak Islan 50.39 40 P P 08 47 33.9 -0.5
N19K Bonanza Creek 50.53 35 P P 08 47 34.0 -1.4
N19K IAmb IAmb 08 47 36.6
comp=Z,10nm,1.3s
J20K Nowinta River 51.11 30 P P 08 47 41.0 +1.4
J20K IAmb IAmb 08 47 46.3
comp=Z,10nm,1.4s
CTAO Charters Tower 51.14 175 P P 08 47 40.2 -0.1
CTAO IAmb IAmb 08 47 47.7
comp=Z,15nm,1.4s
WB0 Warramunga Arr 51.16 189 P P 08 47 40.8 +0.4
WB0 IAmb IAmb 08 47 44.2
comp=Z,12nm,1.1s
KDAK Kodiak Island 51.30 39 P P 08 47 42.8 +1.7
WR0 Warramunga Arr 51.33 189 P P 08 47 42.2 +0.5
WR0 IAmb IAmb 08 47 46.8
comp=Z,5.9nm,0.8s
WRAB Tennant Creek 51.33 189 P P 08 47 43.0 +1.3
WRAB IAmb IAmb 08 47 44.3
comp=Z,19nm,1.4s
WB2 Warramunga Arr 51.34 189 P P 08 47 42.0 +0.2
WB2 IAmb IAmb 08 47 45.5
comp=Z,12nm,1.1s
WRA Warramunga Arr 51.34 189 P P 08 47 42.0 +0.3
comp=Z,5.5nm,0.7s,baz=6.9,slow=7.2,SNR=42
WRA Warramunga Arr 51.34 189 P P 08 47 42.4 +0.6
FITZ Fitzroy Crossi 51.42 200 P P 08 47 43.5 +1.2
FITZ IAmb IAmb 08 48 02.9
comp=Z,14nm,1.5s
TARG Taragay, Kyrgy 51.55 301 P P 08 47 43.7 -0.1
IMAR Indian Mountai 51.55 28 P P 08 47 43.1 +0.1
PPLA Purkeypile 51.82 32 P P 08 47 46.3 +1.1
PPLA IAmb IAmb 08 48 10.2
comp=Z,16nm,1.4s
CAST Castle Rocks 51.92 31 P P 08 47 44.9 -0.8
SKT Skwentna 52.05 33 P P 08 47 46.9 +0.1
SKT IAmb IAmb 08 48 13.8
comp=Z,9.9nm,1.5s
CNPM China Poot 52.06 36 P P 08 47 46.2 -0.6
CNPM IAmb IAmb 08 48 02.9
comp=Z,15nm,1.4s
SUA Susitna One 52.39 34 P P 08 47 50.6 +1.2
RC01 Rabbit Creek A 52.86 35 P P 08 47 52.6 -0.1
RC01 IAmb IAmb 08 48 05.2
comp=Z,8.4nm,1.0s
BWN Browne 53.15 31 P P 08 47 57.5 +2.8
PMR Palmer 53.17 34 P P 08 47 56.8 +1.8
PMR IAmb IAmb 08 48 03.9
comp=Z,13nm,1.4s
H23K Yukon River 53.24 29 P P 08 47 57.5 +2.0
MDM Murphy Dome 53.73 30 P P 08 48 00.6 +1.5
MDM IAmb IAmb 08 48 21.6
comp=Z,6.2nm,1.4s
AAK Ala-Archa 53.80 302 P P 08 48 00.3 +0.1
IL31 54.29 30 P P 08 48 03.0 -0.1
ILAR Eielson Array 54.29 30 P P 08 48 03.3 +0.2
comp=Z,0.6nm,0.7s,baz=263,slow=5.7,SNR=7.8
ILAR Eielson Array 54.29 30 P P 08 48 03.1 -0.1
BRVK Borovoye 54.98 316 P P 08 48 08.8 +0.5
BRVK IAmb IAmb 08 48 09.7
comp=Z,3.1nm,0.7s
AS31 Alice Springs 55.06 189 P P 08 48 09.6 +0.4
ASAR Alice Springs 55.06 189 P P 08 48 09.7 +0.5
comp=Z,1.6nm,0.5s,baz=11,slow=7.3,SNR=30
ASAR Alice Springs 55.06 189 P P 08 48 08.5 -0.7
RIDG Independent Ri 55.17 31 P P 08 48 09.6 0.0
BMAR Burnt Mountain 55.32 27 P P 08 48 11.5 +0.9
DOT Dot Lake 55.52 31 P P 08 48 12.3 +0.2
SCRK Sand Creek 55.55 31 P P 08 48 11.4 -1.0
PSA00 Pilbara Seismi 56.55 205 P P 08 48 21.1 +1.2
PSA00 IAmb IAmb 08 48 25.0
comp=Z,15nm,1.4s
KK31 Karatay Array 56.56 304 P P 08 48 20.6 +0.7
KKAR Karatay Array 56.56 304 P P 08 48 20.3 +0.5
BCAR Beaver Creek A 56.57 32 P P 08 48 21.2 +1.5
HPAH Hawaii Prepara 56.72 85 P P 08 48 20.6 -0.7
EGAK Eagle 56.75 30 P P 08 48 21.7 +0.9
GAR Garm 57.74 299 P P 08 48 28.9 +0.6
GAR IAmb IAmb 08 48 42.1
comp=Z,10nm,1.0s
EPYK Eagle Plains 58.46 28 P P 08 48 34.4 +1.5
EPYK IAmb IAmb 08 48 51.0
comp=Z,6.8nm,1.1s
CHGR Chuyangaron 58.70 299 P P 08 48 36.0 +1.0
KBL Kabul 60.05 294 P P 08 48 46.1 +1.5
KBL IAmb IAmb 08 48 48.1
comp=Z,3.8nm,0.8s
ARU Arti 61.09 321 P P 08 48 51.1 +0.1
ARU IAmb IAmb 08 48 52.1
comp=Z,6.5nm,0.7s
ABKAR Akbulak array 62.12 313 P P 08 48 58.4 +0.3
ABKAR Akbulak array 62.12 313 P P 08 48 58.4 +0.3
ABKAR IAmb IAmb 08 49 11.0
comp=Z,7.4nm,1.4s
KIRV Kirov 65.21 325 LR LR 09 20 27.3
comp=Z,100nm,18.7s,baz=48,slow=38
FINES FINESS Array B 74.20 333 P P 08 50 14.1 +0.4
comp=Z,1.1nm,0.7s,baz=107,slow=2.6,SNR=4.1
FINES FINESS Array B 74.20 333 P P 08 50 14.3 +0.7
KBZ Khabaz 75.08 312 P P 08 50 20.9 +1.9
comp=Z,3.8nm,0.8s,baz=64,slow=5.7,SNR=6.1
NVAR Mina Array Bea 78.21 52 P P 08 50 37.6 +0.3
comp=Z,0.9nm,0.8s,baz=290,slow=5.7,SNR=8.5
AKASG Malin Array Be 79.20 323 LR LR 09 29 04.7
comp=Z,108nm,18.3s,baz=30,slow=38
NB2 NORSAR Subarra 79.75 338 P P 08 50 44.7 -0.3
comp=Z,0.5nm,0.6s,baz=41,slow=5.3
NOA NORSAR Array B 79.75 338 P P 08 50 44.7 -0.3
comp=Z,0.9nm,0.8s,baz=40,slow=5.3,SNR=4.5
NOA LR LR 09 32 40.0
comp=Z,38nm,18.1s,baz=100,slow=41
PDAR Pinedale Array 81.50 45 P P 08 50 56.0 +0.9
comp=Z,0.4nm,0.7s,baz=316,slow=3.8,SNR=3.9
RDMU Red Mountain 82.75 47 P P 08 51 01.1 -0.5
RDMU IAmb IAmb 08 51 05.0
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 83.07 312 P P 08 51 03.7 +0.6
comp=Z,1.8nm,0.8s,baz=76,slow=5.2,SNR=7.5
BRTR Keskin Array B 83.07 312 P P 08 51 03.2 +0.1
PV14 Lion Creek, Pa 84.36 48 P P 08 51 10.7 +0.8
PV17 East Wray Mesa 84.46 48 P P 08 51 10.0 -0.4
CLL Collm 86.38 331 P P 08 51 22.1 +2.7
GERES GERESS Array B 87.91 329 LR LR 09 35 00.0
comp=Z,35nm,18.9s,baz=342,slow=38
TX31 Lajitas Ar. Si 93.36 53 P P 08 51 54.1 +1.4
TX32 Lajitas Array 93.36 53 P P 08 51 54.0 +1.2
TX32 IAmb IAmb 08 52 02.6
comp=Z,2.8nm,1.0s
TXAR Lajitas Array 93.36 53 P P 08 51 53.3 +0.6
comp=Z,1.5nm,0.8s,baz=300,slow=3.5,SNR=14
LPAZ La Paz 148.90 69 PKPbc PKPab 08 58 28.8 -1.5
comp=Z,1.4nm,0.9s,baz=347,slow=8.1,SNR=5.9

IDC 21 08:45:29.4±2.0, 17.99S×178.18E, h498km±17km, mb2.9/3, mb1 3.1/3, mb1mx2.8/25, mbtmp3.8/3, Error ellipse: s-maj=128.4km s-min=37.4km az=152.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**0.28**	**334**	P	P	08 46 29.6	+0.1
	0.6nm,0.3s,baz=155,slow=17,SNR=5.8						
STKA	**Stephens Creek**	**35.76**	**240**	P	P	08 51 45.9	+0.1
	1.4nm,0.7s,baz=86,slow=14,SNR=3.8						
WRA	**Warramunga Arr**	**41.42**	**260**	P	P	08 52 31.7	-0.3
	0.2nm,0.5s,baz=95,slow=7.0,SNR=5.9						
ASAR	**Alice Springs**	**41.64**	**254**	P	P	08 52 33.6	-0.2
	3.1nm,0.5s,baz=88,slow=8.3,SNR=70						

*TUL **21** 08:58:36.4±1.3, 36.57N±0.01×97.40W±0.02, h7km±7km, ML2.9, mb_Lg2.9/74(NEIC), Error ellipse: s-maj=2.6km s-min=1.7km az=68.0*

NEIC 21 08:58:36.5±1.1, 36.56N±0.01×97.40W±0.02, h4km±7km, Error ellipse: s-maj=2.7km s-min=1.7km az=68.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLOK	**Blackwell**	**0.25**	**37**		Pg	08 58 41.4	+0.1
BLOK				Sg	Sg	08 58 44.9	+0.3
KAN13	**South Haven SW**	**0.45**	**352**		Pg	08 58 45.3	+0.1
KAN13				Sg	Sg	08 58 51.8	+0.6
GC02	**Grant County #**	**0.47**	**308**		Pg	08 58 45.6	+0.1
GC02				Sg	Sg	08 58 52.2	+0.6
CROK	**Carrier**	**0.47**	**263**		Pg	08 58 45.7	+0.1
CROK				Sg	Sg	08 58 52.6	+0.9
KAN17	**Caldwell West**	**0.56**	**329**		Pg	08 58 47.3	0.0
KAN17				Sg	Sg	08 58 55.1	+0.5
KAN09	**Caldwell North**	**0.60**	**343**		Pg	08 58 47.9	0.0
KAN09				Sg	Sg	08 58 56.1	+0.4
KAN14	**Manchester OK**	**0.60**	**311**		Pg	08 58 47.9	-0.1
KAN14				Sg	Sg	08 58 56.1	+0.3
KAN05	**Bluff City Nor**	**0.66**	**325**		Pg	08 58 48.9	-0.3
KAN05				Sg	Sg	08 58 58.0	+0.2
KS20	**Mayfield South**	**0.68**	**350**		Pg	08 58 49.3	-0.2
KS20				Sg	Sg	08 58 58.4	+0.1
QUOK	**Quay**	**0.68**	**125**		Pg	08 58 49.4	-0.2
QUOK				Sg	Sg	08 58 58.4	0.0
OK032	**Salt Plains WL**	**0.69**	**290**		Pg	08 58 49.7	-0.1
OK032				Sg	Sg	08 58 59.2	+0.4
OK031	**S. Brethren Rd**	**0.76**	**143**		Pg	08 58 50.9	-0.1
OK029	**Liberty Lake**	**0.77**	**183**		Pg	08 58 51.1	0.0
OK029				Sg	Sg	08 59 01.6	+0.5
KAN10	**Anthony SW Sta**	**0.79**	**315**		Pg	08 58 51.5	-0.2
T35A	**Sooner Cattle**	**0.80**	**63**	Pg	Pg	08 58 51.4	-0.3
KAN08	**Anthony NE Sta**	**0.80**	**326**		Pg	08 58 51.8	-0.2
KAN16	**Harper SW Stat**	**0.85**	**321**	Pg	Pg	08 58 52.5	-0.2
KAN12	**Harper NE Stat**	**0.88**	**327**		Pg	08 58 53.0	-0.3
BCOK	**Bluff Creek, N**	**0.92**	**191**		Pg	08 58 53.9	-0.2
OK025	**Westminster Rd**	**0.98**	**177**		Pg	08 58 55.0	-0.3
OKCFA	**Oklahoma City**	**1.15**	**182**		Pg	08 58 57.9	-0.6
OKCSW	**OKLAHOMA CITY**	**1.16**	**182**		Pg	08 58 58.2	-0.5
U32A	**Winter Ranch,**	**1.30**	**262**		Pn	08 59 00.6	-0.8
FNO	**Franklin**	**1.30**	**180**		Pn	08 59 00.6	-0.9
X34A	**Smith Ranch, M**	**1.99**	**190**		Pn	08 59 10.1	-0.8
X34A				IAmb_Lg		08 59 42.8	
	comp=Z,44nm,0.7s						
R32A	**Long Quarter,**	**2.13**	**331**		Pn	08 59 12.2	-0.6
WMOK	**Wichita Mounta**	**2.14**	**212**		Pn	08 59 12.9	-0.1
WMOK				IAmb_Lg		08 59 46.5	
	comp=Z,46nm,0.7s						
U38A	**Gravette**	**2.43**	**92**		Pn	08 59 18.1	+1.1
U38A				IAmb_Lg		08 59 52.4	
	comp=Z,57nm,1.0s						
LOOK	**Love County**	**2.57**	**176**		Pn	08 59 19.3	+0.4
X37A	**Clayton**	**2.57**	**139**		Pn	08 59 18.6	-0.2
KSU1	**Kansas State U**	**2.61**	**14**		Pn	08 59 19.7	+0.3
HHAR	**Hobbs**	**2.81**	**95**		Pn	08 59 22.3	+0.2
CBKS	**Cedar Bluff**	**2.91**	**321**	Pn	Pn	08 59 24.3	+0.7
Z35A	**Perchaven, San**	**3.23**	**178**	Pn	Pn	08 59 28.8	+0.9
W39A	**Magazine**	**3.24**	**114**	Pn	Pn	08 59 28.9	+0.9
W39A				IAmb_Lg		09 00 25.5	
	comp=Z,31nm,0.7s						
S39A	**Bolivar**	**3.45**	**70**		Pn	08 59 32.0	+1.1
S39A				IAmb_Lg		09 00 29.0	
	comp=Z,28nm,0.8s						
U40A	**Yellville**	**3.67**	**92**	Pn	Pn	08 59 35.1	+1.1
U40A				IAmb_Lg		09 00 38.5	
	comp=Z,27nm,0.7s						
MIAR	**Mount Ida**	**3.71**	**122**	Pn	Pn	08 59 34.7	+0.1
MIAR				IAmb_Lg		09 00 38.2	
	comp=Z,35nm,0.8s						
Z38A	**Mt. Pleasant**	**3.85**	**148**	Pn	Pn	08 59 33.9	-2.5
Z38A				IAmb_Lg		09 00 48.7	
	comp=Z,29nm,0.8s						
AMTX	**Amarillo**	**3.87**	**246**	Pn	Pn	08 59 37.0	+0.2
AMTX				IAmb_Lg		09 00 44.3	
	comp=Z,29nm,0.7s						
MGMO	**Mountain Grove**	**4.16**	**80**		Pn	08 59 39.6	-1.1
MGMO				IAmb_Lg		09 00 50.5	
	comp=Z,25nm,0.8s						
X40A	**Basin Creek Fa**	**4.26**	**118**	Pn	Pn	08 59 43.3	+1.2
X40A				IAmb_Lg		09 00 51.8	
	comp=Z,19nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.32**	**97**	Pn	Pn	08 59 43.4	+0.5
FCAR				IAmb_Lg		09 00 54.6	
	comp=Z,18nm,0.8s						
P38A	**Dawn**	**4.32**	**44**	Pn	Pn	08 59 44.0	+1.1
P38A				IAmb_Lg		09 00 59.5	
	comp=Z,22nm,0.8s						
WHAR	**Wooly Hollow**	**4.34**	**106**	Pn	Pn	08 59 42.0	-1.2
WHAR				IAmb_Lg		09 00 53.0	
	comp=Z,27nm,0.9s						
ABTX	**Abilene, Hawle**	**4.34**	**206**	Pn	Pn	08 59 42.7	-0.6
R40A	**Maddies Statio**	**4.43**	**66**	Pn	Pn	08 59 44.2	-0.2
R40A				IAmb_Lg		09 01 00.4	
	comp=Z,16nm,0.8s						
N35A	**Tabor**	**4.51**	**17**	Pn	Pn	08 59 43.5	-1.9
237A	**Washetta, Mont**	**4.74**	**163**	Pn	Pn	08 59 48.6	0.0
BGNE	**Belgrade**	**4.87**	**353**	Pn	Pn	08 59 50.4	-0.2
BGNE				IAmb_Lg		09 01 23.2	
	comp=Z,38nm,0.7s						
T42A	**Van Buren**	**5.08**	**83**	Pn	Pn	08 59 52.2	-1.2
MSTX	**Muleshoe**	**5.10**	**241**	Pn	Pn	08 59 51.8	-1.9
CCM	**Cathedral Cave**	**5.13**	**71**	IAmb_Lg		09 01 20.0	
	comp=Z,26nm,0.9s						
P40A	**Paris**	**5.16**	**53**	IAmb_Lg		09 01 27.9	
	comp=Z,30nm,0.8s						
NATX	**Nacogdoches**	**5.30**	**154**	IAmb_Lg		09 01 37.2	
	comp=Z,15nm,0.9s						
HBAR	**Harrisburg**	**5.55**	**98**	IAmb_Lg		09 01 32.2	
	comp=Z,24nm,0.9s						
PBMO	**Poplar Bluff**	**5.61**	**86**	IAmb_Lg		09 01 36.1	
	comp=Z,18nm,0.8s						
OGNE	**Ogallala**	**5.68**	**322**	IAmb_Lg		09 01 50.6	
	comp=Z,17nm,0.8s						
FVM	**French Village**	**5.74**	**74**	IAmb_Lg		09 01 38.3	
	comp=Z,24nm,1.0s						
435B	**Jarrell**	**5.77**	**182**	IAmb_Lg		09 01 49.0	
	comp=Z,19nm,1.1s						
SLM	**Saint Louis**	**6.05**	**68**	IAmb_Lg		09 01 48.6	
	comp=Z,26nm,0.7s						
PARMO	**Parma**	**6.15**	**87**	IAmb_Lg		09 01 50.2	
	comp=Z,29nm,0.8s						
JCT	**Junction City**	**6.39**	**199**	IAmb_Lg		09 02 05.4	
	comp=Z,16nm,1.1s						
W45A	**Hickory Valley**	**6.82**	**99**	IAmb_Lg		09 02 17.8	
	comp=Z,12nm,0.7s						
K38A	**Parkersburg**	**7.05**	**29**	IAmb_Lg		09 02 29.8	
	comp=Z,19nm,0.8s						
L40A	**Anamosa**	**7.29**	**39**	IAmb_Lg		09 02 30.8	
	comp=Z,13nm,0.7s						
O44A	**Mansfield**	**7.88**	**60**	IAmb_Lg		09 02 50.0	
	comp=Z,21nm,0.8s						
USIN	**University of**	**7.89**	**77**	IAmb_Lg		09 02 57.8	
	comp=Z,20nm,1.0s						
T47A	**Sharon Grove**	**8.27**	**84**	IAmb_Lg		09 03 07.7	
	comp=Z,16nm,1.0s						
JFWS	**Jewell Farm**	**8.40**	**39**	IAmb_Lg		09 03 09.8	
	comp=Z,13nm,0.8s						
SFIN	**Lafayette**	**8.93**	**62**	IAmb_Lg		09 03 19.4	
	comp=Z,16nm,0.8s						
K22A	**Casper**	**9.30**	**314**	IAmb_Lg		09 03 52.1	
	comp=Z,16nm,1.2s						
W50A	**Signal Mountai**	**9.90**	**94**	IAmb_Lg		09 03 49.8	
	comp=Z,12nm,1.2s						

*IDC **21** 09:05:48.8±0.9, 41.46N×77.62E, h0km, mb3.9/13, mb1 4.0/19, mb1mx3.8/61, mbtmp3.9/19, ML3.1/6, MS3.3/2, Ms1 3.3/2, ms1mx2.7/57, Error ellipse: s-maj=16.2km s-min=12.0km az=168.0*

*KRNET **21** 09:05:50.5±0.1, 41.69N×77.58E, h17km, mb4.6*

*SOME **21** 09:05:50.1, 41.75N×77.60E, h10km, MS3.2*

*NNC **21** 09:05:51.6±0.8, 41.74N×77.59E, h0km, mb4.8, mpv4.7, Error ellipse: s-maj=5.9km s-min=3.3km az=1.0*

*BJI **21** 09:05:52.4±0.0, 41.49N×77.71E, h32km, mb3.9/2, ML3.8/6, Ms3.5/4, Ms7 3.2/3*

*KNET **21** 09:05:52.4±0.6, 41.74N×77.42E, h5km±2km, ml4.2, Error ellipse: s-maj=5.8km s-min=3.0km az=38.0*

*MOS **21** 09:05:54.9±1.2, 41.72N×77.65E, h48km, mb4.4/6, Error ellipse: s-maj=6.7km s-min=4.3km az=99.1*

*NEIC **21** 09:05:55.6±2.4, 41.69N±0.08×77.70E±0.09, h40km±8km, mb4.1/7, Error ellipse: s-maj=13.3km s-min=7.2km az=141.0*

ISC 21 09:05:52.2±0.8, 41.76N±0.02×77.58E±0.02, h14km±5km, n196, σ1979/280, mb4.1/22, MS3.8/4, 51C-18D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**0.17**	**101**	⇑iP	**Pg**	**09 05 53.8**	**-2.9**
	baz=75						

TARG ⇑*i*S **Sg** **09 05 56.9 -2.8**
baz=75
KDJ **Kajisay** **0.47 321** ⇑*i*P **Pg** **09 06 00.7 -0.9**
baz=27
KDJ ⇑*i*S **Sg** **09 06 08.1 +0.1**
baz=27
PRZ **Przheval'sk** **0.95 40** ⇑*i*P **Pb** **09 06 09.4 -1.1**
baz=37
PRZ ⇑*i*S **Sg** **09 06 23.7 +0.7**
baz=37
PRZ **Przheval'sk** **0.95 40** P **Pb** **09 06 09.0 -1.5**
PRZ **Przheval'sk** **0.95 40** **Pb** **09 06 09.0 -1.5**
ANVS **Anan'yevo** **1.02 4** ⇑*i*P **Pb** **09 06 10.9 -0.9**
baz=3.0
ANVS ⇑*i*S **Sb** **09 06 25.7 +0.5**
baz=3.0
ULHL **Ulahol** **1.10 296** ⇑*i*P **Pb** **09 06 12.0 -1.2**
baz=0.0
ULHL ⇑*i*S **Sb** **09 06 27.5 -0.1**
baz=0.0
ULHL **Ulahol** **1.10 296** P **Pb** **09 06 11.7 -1.6**
202nm,0.1s,SNR=803
ULHL ⇓S **Sb** **09 06 27.5 -0.1**
909nm,0.2s
TNSS **Tian-Shan** **1.36 340** *e*P **Pn** **09 06 16.9 -0.2**
baz=41
TNSS *e*S **Sg** **09 06 36.8 +0.7**
baz=41
TNSS **Tian-Shan** **1.36 340** *e*P **Pn** **09 06 16.9 -0.2**
365nm,0.4s
TNSS *e*S **Sg** **09 06 36.8 +0.7**
765nm,0.6s
TNSS **Tian-Shan** **1.36 340** P **Pn** **09 06 16.9 -0.2**
365nm,0.4s
TNSS S **Sg** **09 06 36.7 +0.7**
765nm,0.6s
TNSS **Tian-Shan** **1.36 340** *e*P **Pn** **09 06 16.9 -0.2**
TNSS *e*S **Sg** **09 06 36.8 +0.7**
BOOM **Boomskoye usch** **1.42 301** ⇑*i*P **Pn** **09 06 17.3 -0.4**
baz=4.0
BOOM ⇑*i*S **Sb** **09 06 37.2 +0.7**
baz=4.0
BOOM **Boomskoye usch** **1.42 301** P **Pn** **09 06 17.6 -0.1**
BOOM **Boomskoye usch** **1.42 301** Pn **Pn** **09 06 17.6 -0.1**
SATY **Saty** **1.44 25** *e*P **Pn** **09 06 17.8 -0.2**
baz=24
SATY *e*S **Sb** **09 06 37.4 +0.4**
baz=24
SATY **Saty** **1.44 25** *e*P **Pn** **09 06 17.8 -0.2**
394nm,0.7s
SATY *e*S **Sb** **09 06 37.4 +0.4**
846nm,0.3s
SATY **Saty** **1.44 25** P **Pn** **09 06 17.7 -0.2**
394nm,0.7s
SATY S **Sb** **09 06 37.4 +0.4**
846nm,0.3s
SATY **Saty** **1.44 25** *e*P **Pn** **09 06 17.8 -0.2**
SATY *e*S **Sb** **09 06 37.4 +0.4**
MDOK **Medeo** **1.45 345** *e*P **Pn** **09 06 18.6 +0.4**
baz=45
MDOK *e*S **Sg** **09 06 38.9 -0.2**
baz=45
MDOK **Medeo** **1.45 345** *e*P **Pn** **09 06 18.6 +0.4**
1µm,0.4s
MDOK *e*S **Sg** **09 06 38.9 -0.2**
976nm,0.4s
MDOK **Medeo** **1.45 345** ⇓P **Pn** **09 06 18.5 +0.2**
839nm,0.6s
MDOK ⇓S **Sg** **09 06 38.9 -0.2**
701nm,0.5s
MDOK **Medeo** **1.45 345** Pg **Pn** **09 06 18.6 +0.4**
1µm,0.4s
MDOK Lg Lg 09 06 38.9
976nm,0.4s
MDOK **Medeo** **1.45 345** *e*P **Pn** **09 06 18.6 +0.4**
MDOK *e*S **Sg** **09 06 38.9 -0.2**
IZV **Izvestkoviy** **1.46 331** *e*P **Pn** **09 06 18.7 +0.4**
baz=32
IZV *e*S **Sg** **09 06 39.9 +0.7**
baz=32
IZV **Izvestkoviy** **1.46 331** *e*P **Pn** **09 06 18.7 +0.4**
588nm,0.3s
IZV *e*S **Sg** **09 06 39.9 +0.7**
932nm,0.5s
IZV **Izvestkoviy** **1.46 331** P **Pn** **09 06 18.7 +0.4**
588nm,0.3s
IZV S **Sg** **09 06 39.9 +0.7**
932nm,0.5s
IZV **Izvestkoviy** **1.46 331** *e*P **Pn** **09 06 18.7 +0.4**
IZV *e*S **Sg** **09 06 39.9 +0.7**
KNDC **Almaty** **1.52 343** ⇓P **Pb** **09 06 20.2 0.0**
2µm,0.5s
KNDC ⇑S **Sg** **09 06 42.2 +0.9**
3µm,0.5s
KNDC **Almaty** **1.52 343** PN **Pb** **09 06 20.2 0.0**
KNDC S **Sg** **09 06 42.1 +0.9**
AAA **Alma-Ata** **1.53 342** *e*P **Pb** **09 06 20.5 +0.2**
baz=42
AAA *e*S **Sg** **09 06 42.1 +0.8**
baz=42
AAA **Alma-Ata** **1.53 342** *e*P **Pb** **09 06 20.5 +0.2**
4µm,0.4s
AAA *e*S **Sg** **09 06 42.1 +0.8**
105nm,0.4s
AAA **Alma-Ata** **1.53 342** P **Pb** **09 06 20.5 +0.2**
4µm,0.4s
AAA S **Sg** **09 06 42.1 +0.8**
105nm,0.4s
AAA **Alma-Ata** **1.53 342** *e*PN **Pb** **09 06 20.5 +0.2**
AAA *e*S **Sg** **09 06 42.2 +0.8**
MTBS **Maitube** **1.61 329** *e*P **Pn** **09 06 21.2 +0.9**
baz=30
MTBS *e*S **Sg** **09 06 43.5 -0.5**
baz=30
MTBS **Maitube** **1.61 329** *e*P **Pn** **09 06 21.2 +0.9**
527nm,0.4s
MTBS *e*S **Sg** **09 06 43.5 -0.5**
2µm,0.4s
MTBS **Maitube** **1.61 329** P **Pn** **09 06 21.2 +0.9**
527nm,0.4s
MTBS S **Sg** **09 06 43.5 -0.5**
2µm,0.4s
MTBS **Maitube** **1.61 329** *e*PN **Pn** **09 06 21.2 +0.9**
MTBS *e*S **Sg** **09 06 43.5 -0.5**
KST **Kastek** **1.75 318** *e*P **Pb** **09 06 24.0 -0.2**
baz=19
KST *e*S **Sg** **09 06 48.2 -0.4**
baz=19
KST **Kastek** **1.75 318** *e*P **Pb** **09 06 24.0 -0.2**
963nm,0.6s
KST *e*S **Sg** **09 06 48.1 -0.4**
4µm,0.5s
KST **Kastek** **1.75 318** P **Pb** **09 06 24.0 -0.2**
963nm,0.6s
KST S **Sg** **09 06 48.2 -0.4**
4µm,0.5s
KST **Kastek** **1.75 318** *e*PN **Pb** **09 06 24.0 -0.2**
KST *e*S **Sg** **09 06 48.2 -0.4**
UZB **Uzynbulak** **1.75 37** *e*P **Pn** **09 06 23.3 +1.0**
baz=36
UZB *e*S **Sg** **09 06 47.8 -0.8**
baz=36
UZB **Uzynbulak** **1.75 37** *e*P **Pn** **09 06 23.3 +1.0**
152nm,0.7s
UZB *e*S **Sg** **09 06 47.7 -0.8**
871nm,0.5s
UZB **Uzynbulak** **1.75 37** P **Pn** **09 06 23.3 +1.0**
152nm,0.7s
UZB S **Sg** **09 06 47.7 -0.8**
871nm,0.5s
UZB **Uzynbulak** **1.75 37** *e*PN **Pn** **09 06 23.3 +1.0**
UZB *e*S **Sg** **09 06 47.7 -0.8**
KZA **Kyzart** **1.76 281** ⇑*i*P **Pn** **09 06 23.2 +0.5**
baz=83
KZA ⇑*i*S **Sb** **09 06 47.4 +0.7**
baz=83
KZA **Kyzart** **1.76 281** P **Pn** **09 06 23.1 +0.5**
362nm,0.3s,SNR=128
KZA ⇑S **Sb** **09 06 47.7 +1.0**
479nm,0.2s
KURS **Kuram** **1.78 14** *e*P **Pb** **09 06 24.2 -0.4**
baz=13
KURS *e*S **Sb** **09 06 48.4 +1.6**
baz=13
KURS **Kuram** **1.78 14** *e*P **Pb** **09 06 24.2 -0.4**
357nm,0.8s
KURS *e*S **Sb** **09 06 48.4 +1.6**
692nm,0.7s
KURS **Kuram** **1.78 14** P **Pb** **09 06 24.2 -0.4**
357nm,0.8s
KURS S **Sb** **09 06 48.4 +1.6**
692nm,0.7s
KURS **Kuram** **1.78 14** *e*PN **Pb** **09 06 24.2 -0.4**
KURS *e*S **Sb** **09 06 48.4 +1.6**
TKM2 **Tokmak 2** **1.87 309** ⇑*i*P **Pn** **09 06 24.9 +0.9**
baz=11
TKM2 ⇑*i*S **Sb** **09 06 50.3 +0.7**
baz=11
TKM2 **Tokmak 2** **1.87 309** ⇓P **Pb** **09 06 25.6 -0.6**
409nm,0.2s,SNR=647
TKM2 ⇑S **Sg** **09 06 51.9 -0.5**
2µm,0.2s
TKM2 **Tokmak 2** **1.87 309** ⇑Pn **Pb** **09 06 25.7 -0.6**
204nm,0.3s
TKM2 ⇓Sn **Sg** **09 06 51.6 -0.7**
452nm,0.3s
TKM2 **Tokmak 2** **1.87 309** PN **Pb** **09 06 25.6 -0.6**
TKM2 S **Sg** **09 06 51.6 -0.7**
SHLS **Shalkode** **1.97 44** *e*P **Pg** **09 06 31.4 +1.4**
280nm,0.5s
SHLS *e*S **Sg** **09 07 01.5 +5.9**
2µm,0.5s
SHLS **Shalkode** **1.97 44** Pg **Pg** **09 06 31.4 +1.4**
280nm,0.5s
SHLS Lg Lg 09 07 01.5
2µm,0.5s
SHLS **Shalkode** **1.97 44** *e*PN **Pg** **09 06 31.4 +1.4**
SHLS *e*S **Sg** **09 07 01.5 +5.9**
DGS **Degeres** **1.99 319** *e*P **Pb** **09 06 28.1 -0.2**
263nm,0.5s
DGS *e*S **Sg** **09 06 55.2 -1.0**
3µm,0.6s
DGS **Degeres** **1.99 319** Pg **Pb** **09 06 28.1 -0.2**
263nm,0.5s
DGS Lg Lg 09 06 55.2
3µm,0.6s
DGS **Degeres** **1.99 319** *e*PN **Pb** **09 06 28.1 -0.2**
DGS *e*S **Sg** **09 06 55.2 -1.0**
PDGK **Podgornoye** **2.11 41** Pg **Pb** **09 06 29.6 -0.7**
82nm,0.5s
PDGK Lg Lg 09 06 57.7
628nm,0.7s
PDGK **Podgornoye** **2.11 41** ⇓Pn **Pb** **09 06 29.1 -1.3**
176nm,0.7s
PDGK ⇓Sn **Sb** **09 06 58.1 +1.6**
2µm,0.8s
PDGK **Podgornoye** **2.11 41** PN **Pb** **09 06 29.0 -1.3**
PDGK 09 06 58.0
CHKK **Chushkaly** **2.13 349** *e*P **Pb** **09 06 30.6 -0.1**
513nm,0.3s
CHKK *e*S **Sg** **09 07 00.1 -0.7**
4µm,0.5s
CHKK **Chushkaly** **2.13 349** Pg **Pb** **09 06 30.6 -0.1**
513nm,0.3s
CHKK Lg Lg 09 07 00.1
4µm,0.5s
CHKK **Chushkaly** **2.13 349** *e*PN **Pb** **09 06 30.6 -0.1**
CHKK *e*S **Sg** **09 07 00.1 -0.7**
KBK **Karagaybulak** **2.15 295** ⇑*i*P **Pn** **09 06 28.7 +0.9**
baz=97
KBK ⇑*i*S **Sb** **09 06 56.7 -0.8**
baz=97
KBK **Karagaybulak** **2.15 295** ⇑P **Pb** **09 06 30.7 -0.3**
223nm,0.4s,SNR=141
KBK ⇓S **Sg** **09 07 00.0 -1.2**
960nm,0.3s
KUU **Kurty** **2.31 337** *e*P **Pb** **09 06 33.5 -0.2**
312nm,0.5s
KUU *e*S **Sb** **09 07 04.5 +2.3**
1µm,0.5s
KUU **Kurty** **2.31 337** Pg **Pb** **09 06 33.5 -0.2**
312nm,0.5s
KUU Lg Lg 09 07 04.5
1µm,0.5s
KUU **Kurty** **2.31 337** *e*PN **Pb** **09 06 33.5 -0.2**
KUU *e*S **Sb** **09 07 04.5 +2.3**
UCH **Uchtor** **2.33 283** ⇑*i*P **Pn** **09 06 31.0 +0.5**
baz=84
UCH ⇑*i*S **Sn** **09 07 01.0 +1.8**
baz=84
UCH **Uchtor** **2.33 283** ⇑P **Pb** **09 06 33.3 -0.9**
69nm,0.3s,SNR=178
KRBS **Karabastau** **2.39 325** *e*P **Pb** **09 06 34.7 -0.3**
412nm,0.5s
KRBS *e*S **Sb** **09 07 06.5 +2.2**
3µm,0.5s
KRBS **Karabastau** **2.39 325** Pg **Pb** **09 06 34.7 -0.3**
412nm,0.5s
KRBS Lg Lg 09 07 06.5
3µm,0.5s
KRBS **Karabastau** **2.39 325** *e*PN **Pb** **09 06 34.7 -0.3**
KRBS *e*S **Sb** **09 07 06.5 +2.2**
FRU1 **Bishkek** **2.42 297** ⇑*i*P **Pn** **09 06 32.5 +1.0**
baz=99
FRU1 ⇑*i*S **Sb** **09 07 03.7 -1.7**
baz=99
FRU1 **Bishkek** **2.42 297** PN **Pb** **09 06 35.9 +0.3**
FRU1 **Bishkek** **2.42 297** Pn **Pb** **09 06 35.9 +0.3**
CHMS **Chumysh** **2.43 302** ⇓*i*P **Pn** **09 06 32.4 +0.9**
baz=3.0
CHMS ⇓*i*S **Sn** **09 07 03.3 +2.2**
baz=3.0
CHMS **Chumysh** **2.43 302** ⇓P **Pb** **09 06 34.8 -0.9**
102nm,0.3s,SNR=56
CHMS ⇓S **Sb** **09 07 07.4 +1.9**
735nm,0.4s
ARLS **Aral** **2.43 273** ⇑*e*P **Pn** **09 06 32.1 +0.4**
baz=75
ARLS ⇑*i*S **Sn** **09 07 02.8 +1.5**
baz=75
AAK **Ala-Archa** **2.45 292** Pn **Pb** **09 06 35.8 -0.3**
34nm,0.3s,baz=120,slow=9.2,SNR=156
AAK Lg Lg 09 07 09.2
143nm,0.3s,baz=306,slow=16,SNR=26
AAK LR LR 09 07 48.2
comp=Z,202nm,21.2s,baz=148,slow=46
AAK **Ala-Archa** **2.45 292** *c i*PN **Pb** **09 06 35.5 -0.6**
AAK *i* S **Sg** **09 07 09.0 -2.0**
AAK **Ala-Archa** **2.45 292** **Pb** **09 06 35.5 -0.6**
KSH **Kashi** **2.55 209** Pg **Pg** **09 06 42.8 +1.7**
KSH Sg **Sg** **09 07 18.4 +4.2**
KSH smax smax
comp=N,670nm,0.6s
KSH smax smax
comp=E,820nm,0.6s
KTMS **Ketmen** **2.65 50** *e*P **Pb** **09 06 38.9 -0.7**
174nm,0.6s
KTMS *e*S **Sb** **09 07 13.8 +1.7**
343nm,0.5s
KTMS **Ketmen** **2.65 50** Pg **Pb** **09 06 38.9 -0.7**
174nm,0.6s
KTMS Lg Lg 09 07 13.7
343nm,0.5s
KTMS **Ketmen** **2.65 50** *e*PN **Pb** **09 06 38.9 -0.7**
KTMS *e*S **Sb** **09 07 13.8 +1.7**
USP **Ospenovka** **2.73 305** ⇑*i*P **Pn** **09 06 36.6 +1.0**
baz=6.0
USP ⇑*i*S **Sn** **09 07 10.6 +2.2**
baz=6.0
USP **Ospenovka** **2.73 305** ⇑P **Pb** **09 06 39.3 -1.4**
100nm,0.3s,SNR=49
SGDS **Sogindy** **2.75 309** Pg **Pb** **09 06 40.9 -0.3**
127nm,0.5s
SGDS Lg Lg 09 07 17.0
1µm,0.3s
SGDS **Sogindy** **2.75 309** *e*PN **Pb** **09 06 40.9 -0.3**
AML **Almayashu** **2.92 279** ⇑*e*P **Pn** **09 06 39.1 +0.5**
baz=80
AML ⇑*i*S **Sn** **09 07 15.1 +1.5**
baz=80
AML **Almayashu** **2.92 279** ⇑P **Pn** **09 06 41.1 +2.5**
81nm,0.2s,SNR=35
EKS2 **Erkin-Say** **2.96 289** ⇑*i*P **Pn** **09 06 39.7 +0.8**
baz=90
EKS2 ⇑*i*S **Sn** **09 07 16.0 +1.7**
baz=90
DJR **Jarkent** **3.04 32** *e*P **Pb** **09 06 45.1 -1.0**
58nm,0.3s
DJR *e*S **Sb** **09 07 24.4 +1.3**
353nm,0.6s
DJR **Jarkent** **3.04 32** Pg **Pb** **09 06 45.1 -1.0**
58nm,0.3s
DJR Lg Lg 09 07 24.4
353nm,0.6s
DJR **Jarkent** **3.04 32** *e*PN **Pb** **09 06 45.1 -1.0**
DJR *e*S **Sb** **09 07 24.4 +1.3**
TDK **Taldyqorghan** **3.29 10** *e*P **Pb** **09 06 50.1 -0.3**
515nm,0.7s
TDK *e*S **Sb** **09 07 32.8 +2.4**
1µm,0.6s
TDK **Taldyqorghan** **3.29 10** Pg **Pb** **09 06 50.1 -0.3**
515nm,0.7s
TDK Lg Lg 09 07 32.8
1µm,0.6s
TDK **Taldyqorghan** **3.29 10** *e*PN **Pb** **09 06 50.1 -0.3**
TDK *e*S **Sb** **09 07 32.8 +2.4**
MRKS **Merke** **3.37 288** *e*P **Pb** **09 06 53.4 +1.6**
97nm,0.5s
MRKS *e*S **Sg** **09 07 39.0 -1.6**
475nm,0.4s
MRKS **Merke** **3.37 288** Pg **Pb** **09 06 53.4 +1.6**
97nm,0.5s
MRKS Lg Lg 09 07 39.0
475nm,0.4s
MRKS **Merke** **3.37 288** *e*PN **Pb** **09 06 53.4 +1.6**
KAPS **Kapalarasan** **3.75 20** *e*P **Pb** **09 06 56.4 -1.8**
104nm,0.7s
KAPS *e*S **Sb** **09 07 43.9 +0.3**
85nm,0.7s
KAPS **Kapalarasan** **3.75 20** Pg **Pb** **09 06 56.4 -1.8**
104nm,0.7s
KAPS Lg Lg 09 07 43.9
85nm,0.7s
KAPS **Kapalarasan** **3.75 20** *e*PN **Pb** **09 06 56.4 -1.8**
KAPS *e*S **Sb** **09 07 43.9 +0.3**
MNAS **Manas** **3.84 283** ⇑*i*P **Pn** **09 06 52.1 +1.1**
baz=84
MNAS ⇑*i*S **Sn** **09 07 36.9 +0.9**
baz=84
BTLS **Baital** **4.17 323** *e*P **Pb** **09 07 06.3 +1.0**
51nm,0.5s
BTLS *e*S **Sb** **09 08 00.8 +5.4**
84nm,0.7s
BTLS **Baital** **4.17 323** Pg **Pb** **09 07 06.3 +1.0**
51nm,0.5s
BTLS Lg Lg 09 08 00.8
84nm,0.7s
BTLS **Baital** **4.17 323** *e*PN **Pb** **09 07 06.3 +1.0**
DZA **Taraz** **4.76 286** *e*P **Pb** **09 07 18.3 +2.8**
125nm,0.1s
DZA *e*S **Sg** **09 08 21.6 -3.5**
258nm,0.5s
DZA **Taraz** **4.76 286** Pg **Pb** **09 07 18.3 +2.8**
125nm,0.1s
DZA Lg Lg 09 08 21.6
258nm,0.5s
DZA **Taraz** **4.76 286** *e*PN **Pb** **09 07 18.3 +2.8**
BTK **Batken** **5.39 254** PN **Pn** **09 07 14.1 +1.8**
BTK **Batken** **5.39 254** Pn **Pn** **09 07 14.1 +1.8**
KK31 **Karatay Array** **5.40 287** ⇑Pg **Pb** **09 07 29.4 +3.1**
17nm,0.5s,baz=104,slow=15,SNR=50
KK31 ⇑Lg Lg 09 08 41.8
51nm,0.5s,baz=98,slow=30,SNR=13
KK31 **Karatay Array** **5.40 287** PN **Pn** 09 07 18.1 +5.8
KK31 **Karatay Array** **5.40 287** **Pn** 09 07 18.1 +5.8
KKAR **Karatay Array** **5.40 287** PN **Pn** 09 07 18.4 +6.1
KKAR **Karatay Array** **5.40 287** **Pn** 09 07 18.4 +6.1
MAKZ **Makanchi** **5.95 31** ⇑Pg **Pg** 09 07 41.3 -4.8
19nm,0.9s
MAKZ ⇑Lg Lg 09 09 05.0
57nm,1.1s
MK31 **Makanchi Array** **6.06 32** ⇑Pn **Pn** **09 07 25.3 +3.8**
2.3nm,0.5s,baz=204,slow=9.4,SNR=38
MK31 ⇑Pg **Pg** **09 07 45.2 -3.0**
3.6nm,0.4s,baz=217,slow=15,SNR=5.4
MK31 ⇑Lg Lg 09 09 06.1
43nm,0.8s,baz=207,slow=27,SNR=4.9
MK31 **Makanchi Array** **6.06 32** PN **Pn** **09 07 25.2 +3.8**
MK31 **Makanchi Array** **6.06 32** Pn **Pn** **09 07 24.6 +3.2**
MKAR **Makanchi Array** **6.06 32** Pn **Pn** **09 07 24.4 +3.0**
0.6nm,0.3s,baz=206,slow=14,SNR=15
MKAR Lg Lg 09 09 07.6
2.8nm,0.3s,baz=209,slow=30,SNR=4.1
MKAR **Makanchi Array** **6.06 32** PN **Pn** **09 07 25.1 +3.7**
MKAR **Makanchi Array** **6.06 32** Pn **Pn** **09 07 25.1 +3.7**
GAR **Garm** **6.19 246** **Pn** **09 07 24.8 +1.6**
CHGR **Chuyangaron** **7.15 247** Pn **Pn** **09 07 36.6 +0.2**
OTUK **Ortayu** **7.47 332** ⇑Pn **Pn** **09 07 43.3 +2.6**
6.9nm,0.6s
OTUK ⇓Lg Lg 09 09 52.6
174nm,1.2s
ZSN **Zaisan** **7.71 40** *e*P **Pb** **09 08 09.5 +4.0**
12nm,0.8s
ZSN *e*S **Sg** **09 09 51.3 -7.9**
38nm,1.0s
ZSN **Zaisan** **7.71 40** Pg **Pb** **09 08 09.5 +4.0**
12nm,0.8s
ZSN Lg Lg 09 09 51.3
38nm,1.0s
WMQ **Urumqi** **7.72 71** *e*Pn **Pn** **09 07 47.9 +3.7**
WMQ Sn **Sn** **09 09 12.5 +1.0**
WMQ smax smax
comp=N,25nm,1.1s
WMQ smax smax
comp=E,35nm,1.1s
CHCP **Chirah Chowk** **8.78 204** P **Pn** **09 08 01.5 +2.8**
CHCP S **Sn** **09 09 32.0 -5.5**
NIL **Nilore** **8.79 204** P **Pn** **09 08 00.4 +1.5**
NIL **Nilore** **8.79 204** Pn **Pn** **09 08 00.4 +1.5**
KURBB **Kurchatov Arra** **8.89 4** Pn **Pn** **09 08 03.2 +3.1**
0.2nm,0.3s,baz=194,slow=12,SNR=7.1
KURBB Lg Lg 09 10 30.6
0.5nm,0.3s,baz=191,slow=30,SNR=7.4
KURBB **Kurchatov Arra** **8.89 4** ⇓Pn Pn 09 08 07.7 +7.6
5.7nm,0.6s
KURBB ⇑Lg Lg 09 10 35.8
87nm,0.7s
KURK **Kurchatov** **8.98 4** P **Pn** **09 08 03.2 +1.8**
KURK **Kurchatov** **8.98 4** **Pn** **09 08 03.2 +1.8**
CEP **Cherat** **9.10 211** P Pn 09 08 08.4 +5.1
THW **Thamme Wali** **10.08 209** P **Pn** **09 08 20.0 +3.4**
DGZ **Jazzator, Alta** **10.50 38** *i* P **Pn** **09 08 24.8 +2.4**
BVAR **Borovoye Array** **12.27 339** Pn **Pn** **09 08 46.6 +0.2**
0.7nm,0.3s,baz=165,slow=18,SNR=4.6
BVAR Lg Lg 09 12 15.8
0.9nm,0.3s,baz=166,slow=26,SNR=7.4
BRVK **Borovoye** **12.32 339** ⇓P **Pn** **09 08 49.1 +2.0**
3.9nm,0.6s
BRVK **Borovoye** **12.32 339** *i* P **Pn** **09 08 49.9 +2.8**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BRVK **Borovoye** **12.32 339** Pn **Pn** **09 08 48.4 +1.3**
ZAA0 **Zalesovo Array** **13.12 19** Pn **Pn** **09 09 00.6 +2.7**
ZALV **Zalesovo Beam** **13.12 19** Pn **Pn** **09 08 58.2 +0.3**
comp=Z,0.2nm,0.3s,baz=214,slow=15,SNR=4.1
ZALV **Zalesovo Beam** **13.12 19** *e*P **Pn** **09 09 00.4 +2.5**
AB31 **Akbulak array** **14.44 307** ⇑P **Pn** **09 09 15.5 -0.4**
comp=Z,1.8nm,0.7s,baz=116,slow=13,SNR=12
ABKAR **Akbulak array** **14.44 307** **Pn** **09 09 19.2 +3.3**
AKTO **Aktyubinsk** **16.06 309** ⇓P **Pn** **09 09 37.7 +0.2**
comp=Z,2.6nm,0.8s
ARU **Arti** **19.15 327** P **Pn** **09 10 16.7 +0.9**
comp=Z,0.0nm,0.3s,baz=179,slow=9.4,SNR=3.5
ARU **Arti** **19.15 327** *d i*P **Pn** **09 10 16.3 +0.6**
ARU S **S** **09 13 51.5 +0.1**
ARU pmax pmax
comp=Z,4.0nm,1.0s
SONM **Songino Array** **21.26 64** P **P** **09 10 38.2 +0.2**
comp=Z,1.7nm,0.8s,baz=260,slow=8.9,SNR=9.8
SONM **Songino Array** **21.26 64** IAmb IAmb 09 10 48.8
comp=Z,4.6nm,1.2s
ULN **Ulaanbaatar** **21.70 64** *i* P **P** **09 10 42.1 -0.7**
ULN pmax pmax
comp=Z,8.0nm,2.1s
GNI **Garni** **24.77 277** *i* P **P** **09 11 14.5 +0.9**
GNI pmax pmax
comp=Z,6.0nm,0.7s
NCK **Nalchik** **24.96 285** *i* P **P** **09 11 16.5 +1.3**
NCK pmax pmax
comp=Z,11nm,0.2s
KIV **Kislovodsk** **25.56 287** *e*P **P** **09 11 22.1 +1.5**
KIV pmax pmax
comp=Z,4.0nm,1.0s
CMAR **Chiang Mai Arr** **29.53 135** *e*P **P** **09 11 56.7 +0.4**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
OBN **Obninsk** **29.83 311** *i* P **P** **09 12 00.6 +2.0**
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN MLR MLR

comp=Z,103nm,18.0s
BRTR Keskin Array B 33.08 281 P **P** **09 12 28.3 +0.7**
comp=Z,2.2nm,0.8s,baz=93,slow=8.7,SNR=10
BRTR Keskin Array B 33.08 281 *eP* **P** **09 12 28.6 +1.0**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 34.08 302 P **P** **09 12 36.3 +0.4**
comp=Z,0.6nm,0.5s,baz=79,slow=7.7,SNR=2.3
MNK Minsk 34.79 309 *i* P P 09 12 37.0 -5.0
MNK *i* PPP PPP 09 14 07.6
MNK *i* 09 15 08.9
MNK *i* S **S** **09 18 05.8 -6.1**
MNK *i* SS **SnSn** **09 20 20.9 -4.5**
MNK *i* 09 23 04.5
MNK pmax pmax
comp=Z,17nm,0.7s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK pmax pmax
comp=N,18nm,0.8s
MNK MLR MLR
comp=Z,210nm,22.0s
MNK MLR MLR
comp=E,35nm,20.0s
MNK MLR MLR
comp=N,235nm,20.0s
MNK Minsk 34.79 309 *i* P P 09 12 37.0 -5.0
comp=E,3.0nm,0.8s
MNK *i* P P 09 12 37.0 -5.0
comp=N,18nm,0.8s
MNK *i* P P 09 12 37.0 -5.0
comp=Z,17nm,0.7s,baz=272
MNK *i* PP **PnPn** **09 13 54.3 -3.8**
MNK *i* PPP PPP 09 14 07.6
MNK *i* PcP **PcP** **09 15 08.9 -6.2**
MNK *i* S **S** **09 18 05.8 -6.1**
MNK *i* SS **SnSn** **09 20 21.0 -4.4**
MNK *i* SSS SSS 09 20 41.5
MNK *i* LQ LQ 09 24 07.5
MNK *i* LR LR 09 26 57.5
MNK *i* LRM MLR 09 28 40.0
comp=Z,210nm,21.7s
MNK *i* LRM MLR 09 29 01.7
comp=E,35nm,19.5s
MNK *i* LRM MLR 09 29 42.2
comp=N,235nm,19.5s
FINES FINESS Array B 36.32 321 P **P** **09 12 55.9 +0.8**
comp=N,1.7nm,0.5s,baz=101,slow=9.9,SNR=12
YAK Yakutsk 36.70 39 LR LR 09 28 22.9
comp=N,150nm,22.0s,baz=256,slow=37
YAK Yakutsk 36.70 39 *i* P **P** **09 12 58.4 +0.1**
YAK pmax pmax
comp=Z,6.0nm,0.9s
ARCES ARCESS Array B 38.47 334 P **P** **09 13 13.9 +0.6**
comp=Z,0.9nm,0.5s,baz=98,slow=8.8,SNR=13
ARCES ARCESS Array B 38.47 334 IAmb IAmb 09 13 19.6
comp=Z,7.4nm,1.4s
HFS Hagfors 42.33 318 P **P** **09 13 45.8 +0.5**
comp=Z,2.3nm,0.6s,baz=96,slow=9.2,SNR=11
NC405 NORSAR Array S 43.23 320 P **P** **09 13 52.5 -0.1**
NC303 NORSAR Array S 43.38 320 P **P** **09 13 54.8 +0.9**
NC303 IAmb IAmb 09 13 55.4
comp=Z,4.7nm,0.8s
NB2 NORSAR Subarra 43.48 320 P **P** **09 13 54.6 0.0**
comp=Z,1.3nm,0.5s,baz=86,slow=8.6
NOA NORSAR Array B 43.48 320 P **P** **09 13 54.7 +0.1**
comp=Z,1.5nm,0.6s,baz=86,slow=7.9,SNR=11
NOA NORSAR Array B 43.48 320 *eP* **P** **09 13 55.2 +0.6**
NOA pmax pmax
comp=Z,2.0nm,0.6s
CLL Collm 44.10 305 *i* P **P** **09 14 00.4 +0.7**
comp=Z,3.0nm,0.5s
CLL Collm 44.10 305 *i* P **P** **09 14 00.4 +0.7**
CLL pmax pmax
comp=Z,3.0nm,0.5s
GERES GERESS Array B 44.29 302 P **P** **09 14 02.1 +0.7**
comp=Z,0.3nm,0.2s,baz=81,slow=8.8,SNR=7.1
GERES GERESS Array B 44.29 302 *eP* **P** **09 14 03.3 +1.9**
DAVOX Davos/Dischmat 47.38 300 P **P** **09 14 26.4 +0.5**
comp=Z,2.6nm,0.6s,baz=128,slow=9.0,SNR=5.5
ESDC Sonseca Array 59.54 298 P **P** **09 15 55.3 +0.1**
comp=Z,1.0nm,0.7s,baz=38,slow=5.6,SNR=6.3
ESDC Sonseca Array 59.54 298 IAmb IAmb 09 15 56.0
comp=Z,1.6nm,1.0s
ILAR Eielson Array 68.24 19 P **P** **09 16 50.8 -1.2**
comp=Z,0.3nm,0.7s,baz=287,slow=4.1,SNR=4.9
ILAR Eielson Array 68.24 19 *eP* **P** **09 16 52.2 +0.2**
TORD Torodi Ar. Bea 70.87 271 P **P** **09 17 07.4 -1.5**
comp=Z,2.1nm,0.6s,baz=45,slow=5.4,SNR=14
TORD Torodi Ar. Bea 70.87 271 P **P** **09 17 07.6 -1.3**
TORD IAmb IAmb 09 17 14.0
comp=Z,2.3nm,1.1s
BCAR Beaver Creek A 70.89 18 P **P** **09 17 08.5 +0.1**
WRA Warramunga Arr 80.75 127 P **P** **09 18 03.2 -2.0**
comp=Z,0.4nm,0.5s,baz=322,slow=4.3,SNR=10

DJA 21 09:06:59.0±0.4, 9°S±4′×107°9E±°, h61km±11km, M4.1/12, mb4.5/1, MLv3.8/12, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SCJI	**Gunung Srandil**	**0.89**	**14**	P		Pn	09 07 16.3	+0.6
SCJI				S		Sn	09 07 29.8	+1.8
CMJI	**Cimerak**	**1.91**	**327**	P		Pn	09 07 16.4	+0.5
CMJI				S		Sn	09 07 29.6	+1.2
KPJI	**Karang Pucung**	**1.21**	**359**	P		Pn	09 07 20.4	+0.5
CISI	**Cisompet, Garu**	**1.50**	**311**	P		Pn	09 07 23.7	0.0
CISI				S		Sn	09 07 42.0	-0.3
YOGI	**Yogyakarta**	**1.52**	**61**	P		Pn	09 07 24.9	+0.9
YOGI				S		Sn	09 07 42.3	-0.5
CTJI	**Waduk Cacaban**	**1.55**	**9**	P		Pn	09 07 24.6	+0.2
CTJI				S		Sn	09 07 43.4	-0.2
UGM	**Wanagama**	**1.68**	**68**	P		Pn	09 07 26.4	+0.2
UGM				S		Sn	09 07 46.6	-0.2
SMRI	**Semarang**	**2.10**	**45**	P		Pn	09 07 32.0	+0.1
SMRI				S		Sn	09 07 58.2	+1.3
LEM	**Lembang**	**2.16**	**322**	P		Pn	09 07 33.3	+0.4
CNJI	**Cibinong**	**2.18**	**304**	P		Pn	09 07 32.7	-0.3
PCJI	**Pacitan**	**2.23**	**81**	P		Pn	09 07 34.4	+0.8
PCJI				S		Sn	09 07 59.5	-0.6
SKJI	**Sukabumi**	**2.83**	**303**	P		Pn	09 07 42.5	+0.7
SKJI				S		Sn	09 08 13.8	-0.9
PWJI	**Pagerwojo**	**2.87**	**80**	P		Pn	09 07 42.6	+0.2
PWJI				S		Sn	09 08 14.9	-0.9
SJI	**Sawahan**	**2.90**	**74**	P		Pn	09 07 43.7	+0.8
JAGI	**Jajag, Banyuwa**	**5.15**	**90**	P		Pn	09 08 14.0	+0.5
RGRI	**Rengat**	**10.48**	**321**	P		Pn	09 09 41.6	+15
EDFI	**Ende, Flores**	**12.60**	**92**	P		Pn	09 09 54.3	-1.3

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*INET **21** 09:20:08.7, 12°.85N×89°.81W, h15km, ML4.4*
*SNET **21** 09:20:18.9±1.4, 13°.17N×89°.57W, h33km±2km, ML4.5*
*IDC **21** 09:20:20.0±0.7, 13°.42N×89°.37W, h65km±6km, mb3.5/8, mb1 3.8/10, mb1mx3.5/44, mbtmp3.9/10, MS2.8/1, Ms1 2.8/1, ms1mx2.5/26, Error ellipse: s-maj=32.2km s-min=10.6km az=42.0*
*GCG **21** 09:20:21.0±0.5, 13°.40N×89°.83W, h0km±204km, MD4.0*
*NEIC **21** 09:20:21.5±1.7, 13°.47N±0°.04×89°.38W±0°.08, h62km±6km, mb4.3/20, Md4.5(SNET), Error ellipse: s-maj=11.1km s-min=4.6km az=71.0*
ISC 21 09:20:19.3±0.6, 13°33′N±0°.06×89°52′W±0°.04, h58km±4km, n125, σ1s58/169, mb4.2/14, 20D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAYA	**Jayaque - finc**	**0.33**	**11**	↓*iP*		**Pn**	**09 20 29.8**	**0.0**
JAYA				*eS*		**Sn**	**09 20 38.0**	**+0.8**
JAYA				AML		AML	09 20 38.8	
comp=Z,49µm,0.2s								
JAYA	**Jayaque - finc**	**0.33**	**11**	↓*iP*		**Pn**	**09 20 29.8**	**0.0**
JAYA				*eS*		**Sn**	**09 20 38.0**	**+0.8**
JAYA				AML		AML	09 20 38.8	
comp=Z,49µm,0.2s								
SNET	**Serv Nac Est T**	**0.45**	**38**	↓*iP*		**Pn**	**09 20 31.2**	**+0.5**
SNET				*eS*		**Sn**	**09 20 40.7**	**+1.7**
SNET				AML		AML	09 20 42.8	
comp=Z,17µm,0.3s								
SNET	**Serv Nac Est T**	**0.45**	**38**	↓*iP*		**Pn**	**09 20 31.2**	**+0.5**
SNET				*eS*		**Sn**	**09 20 40.7**	**+1.7**
SNET				AML		AML	09 20 42.8	
comp=Z,17µm,0.3s								
SNET	**Serv Nac Est T**	**0.45**	**38**	Pn		**Pn**	**09 20 31.2**	**+0.5**
BOQS	**Boqueron**	**0.46**	**30**	↓*iP*		**Pn**	**09 20 31.8**	**+0.7**
BOQS	**Boqueron**	**0.46**	**30**	↓*iP*		**Pn**	**09 20 31.8**	**+0.7**
UTEC	**Universidad Te**	**0.48**	**40**	*i* P		**Pn**	**09 20 31.6**	**+0.6**
UTEC				*eS*		**Sn**	**09 20 41.5**	**+2.0**
UTEC				AML		AML	09 20 42.6	
comp=Z,25µm,0.2s								
UTEC	**Universidad Te**	**0.48**	**40**	*i* P		**Pn**	**09 20 31.6**	**+0.6**
UTEC				*eS*		**Sn**	**09 20 41.5**	**+2.0**
UTEC				AML		AML	09 20 42.6	
comp=Z,25µm,0.2s								
CEDA	**San Andres**	**0.49**	**14**	*eP*		**Pn**	**09 20 31.9**	**+0.8**
CEDA				*eS*		**Sn**	**09 20 41.7**	**+2.1**
CEDA	**San Andres**	**0.49**	**14**	*eP*		**Pn**	**09 20 31.9**	**+0.8**
CEDA				*eS*		**Sn**	**09 20 41.7**	**+2.1**
OPAM	**Oficina de Pla**	**0.49**	**39**	↓*iP*		**Pn**	**09 20 31.9**	**+0.8**
OPAM				*eS*		**Sn**	**09 20 41.9**	**+2.2**
OPAM				AML		AML	09 20 43.2	
comp=Z,23µm,0.3s								
OPAM	**Oficina de Pla**	**0.49**	**39**	↓*iP*		**Pn**	**09 20 31.9**	**+0.8**
OPAM				*eS*		**Sn**	**09 20 41.9**	**+2.2**
OPAM				AML		AML	09 20 43.2	
comp=Z,23µm,0.3s								
UESS	**Universidad de**	**0.49**	**38**	*i* P		**Pn**	**09 20 32.0**	**+0.8**
UESS				AML		AML	09 20 42.6	
comp=Z,19µm,0.2s								
UESS	**Universidad de**	**0.49**	**38**	*i* P		**Pn**	**09 20 32.0**	**+0.8**
UESS				*eS*		**Sn**	**09 20 41.7**	**+1.9**
UESS				AML		AML	09 20 42.6	
comp=Z,19µm,0.2s								
CEVE	**Cerro Verde**	**0.51**	**348**	*eP*		**Pn**	**09 20 31.9**	**+0.4**
CEVE				*eS*		**Sn**	**09 20 44.5**	**+4.2**
CEVE				AML		AML	09 20 47.9	
comp=Z,32µm,0.5s								
CEVE	**Cerro Verde**	**0.51**	**348**	*eP*		**Pn**	**09 20 31.9**	**+0.4**
CEVE				*eS*		**Sn**	**09 20 44.5**	**+4.2**
CEVE				AML		AML	09 20 47.9	
comp=Z,32µm,0.5s								
IGN	**Direccin Gen**	**0.51**	**41**	*eP*		**Pn**	**09 20 32.1**	**+0.8**
IGN				*eS*		**Sn**	**09 20 42.3**	**+2.2**
IGN	**Direccin Gen**	**0.51**	**41**	*eP*		**Pn**	**09 20 32.1**	**+0.8**
IGN				*eS*		**Sn**	**09 20 42.3**	**+2.2**
SBLS	**San Blas**	**0.52**	**348**	↓*iP*		**Pn**	**09 20 32.0**	**+0.3**
SBLS	**San Blas**	**0.52**	**348**	↓*iP*		**Pn**	**09 20 32.0**	**+0.3**
UDBS	**Universidad Do**	**0.52**	**42**	↓*iP*		**Pn**	**09 20 32.2**	**+0.7**
UDBS				AML		AML	09 20 42.8	
comp=Z,19µm,0.3s								
UDBS	**Universidad Do**	**0.52**	**42**	↓*iP*		**Pn**	**09 20 32.2**	**+0.7**
UDBS				*eS*		**Sn**	**09 20 42.6**	**+2.3**
UDBS				AML		AML	09 20 42.8	
comp=Z,19µm,0.3s								
LFRS	**El Faro**	**0.53**	**56**	↓*iP*		**Pn**	**09 20 32.2**	**+0.6**
LFRS	**El Faro**	**0.53**	**56**	↓*iP*		**Pn**	**09 20 32.2**	**+0.6**
AEIL	**Aeropuerto Ilo**	**0.53**	**47**	*eP*		**Pn**	**09 20 32.6**	**+1.0**
AEIL				AML		AML	09 20 48.4	
comp=Z,21µm,0.3s								
AEIL	**Aeropuerto Ilo**	**0.53**	**47**	*eP*		**Pn**	**09 20 32.6**	**+1.0**
AEIL				*eS*		**Sn**	**09 20 44.0**	**+3.5**
AEIL				AML		AML	09 20 48.4	
comp=Z,21µm,0.3s								
SNJE	**San Jose**	**0.54**	**351**	↓*iP*		**Pn**	**09 20 32.4**	**+0.5**
SNJE	**San Jose**	**0.54**	**351**	↓*iP*		**Pn**	**09 20 32.4**	**+0.5**
SJTE	**Alcalda de S**	**0.57**	**60**	*eP*		**Pn**	**09 20 32.7**	**+0.6**
SJTE				*eS*		**Sn**	**09 20 41.6**	**+0.3**
SJTE				AML		AML	09 20 43.9	
comp=Z,13µm,0.2s								
SJTE	**Alcalda de S**	**0.57**	**60**	*eP*		**Pn**	**09 20 32.7**	**+0.6**
SJTE				*eS*		**Sn**	**09 20 41.6**	**+0.3**
SJTE				AML		AML	09 20 43.9	
comp=Z,13µm,0.2s								
LFU	**La Fuente**	**0.57**	**43**	*i* P		**Pn**	**09 20 33.2**	**+1.1**
LFU	**La Fuente**	**0.57**	**43**	*i* P		**Pn**	**09 20 33.2**	**+1.1**
LBRS	**Las Brisas**	**0.61**	**48**	↓*iP*		**Pn**	**09 20 33.6**	**+1.1**
LBRS	**Las Brisas**	**0.61**	**48**	↓*iP*		**Pn**	**09 20 33.6**	**+1.1**
UNIC	**Universidad Ca**	**0.65**	**357**	*i* P		**Pn**	**09 20 33.9**	**+0.9**
UNIC				*eS*		**Sn**	**09 20 46.1**	**+3.2**
UNIC	**Universidad Ca**	**0.65**	**357**	*i* P		**Pn**	**09 20 33.9**	**+0.9**
UNIC				*eS*		**Sn**	**09 20 46.1**	**+3.2**
TACO	**Tacachico**	**0.66**	**14**	*eP*		**Pn**	**09 20 34.0**	**+1.0**
TACO				AML		AML	09 20 47.3	
comp=Z,13µm,0.5s								
TACO	**Tacachico**	**0.66**	**14**	*eP*		**Pn**	**09 20 34.0**	**+1.0**
TACO				*eS*		**Sn**	**09 20 45.8**	**+2.8**
TACO				AML		AML	09 20 47.3	
comp=Z,13µm,0.5s								
PAVA	**Las Pavas**	**0.68**	**56**	↓*iP*		**Pn**	**09 20 34.6**	**+1.3**
PAVA				AML		AML	09 20 47.5	
comp=Z,36µm,0.4s								
PAVA	**Las Pavas**	**0.68**	**56**	↓*iP*		**Pn**	**09 20 34.6**	**+1.3**
PAVA				*eS*		**Sn**	**09 20 46.7**	**+3.1**
PAVA				AML		AML	09 20 47.5	
comp=Z,36µm,0.4s								
COEG	**Centro de Oper**	**0.68**	**65**	*i* P		**Pn**	**09 20 34.0**	**+0.6**
COEG				*eS*		**Sn**	**09 20 45.7**	**+2.1**
COEG				AML		AML	09 20 48.8	
comp=Z,29µm,0.3s								
COEG	**Centro de Oper**	**0.68**	**65**	*i* P		**Pn**	**09 20 34.0**	**+0.6**
COEG				*eS*		**Sn**	**09 20 45.7**	**+2.1**
COEG				AML		AML	09 20 48.8	
comp=Z,29µm,0.3s								
SLOZ	**Alcaldia de Sa**	**0.74**	**339**	*eP*		**Pn**	**09 20 34.7**	**+0.6**
SLOZ				*eS*		**Sn**	**09 20 47.3**	**+2.5**
SLOZ				AML		AML	09 20 51.7	
comp=Z,4µm,0.6s								
UESV	**Universidad de**	**0.77**	**67**	*eP*		**Pn**	**09 20 35.3**	**+0.9**
UESV	**Universidad de**	**0.77**	**67**	*eP*		**Pn**	**09 20 35.3**	**+0.9**
UESV				*eS*		**Sn**	**09 20 48.0**	**+2.5**
COEB	**Comit de Eme**	**0.97**	**80**	*i* P		**Pn**	**09 20 37.5**	**+0.5**
COEB				*eS*		**Sn**	**09 20 51.6**	**+1.5**
COEB				AML		AML	09 20 58.6	
comp=Z,6µm,0.3s								
COEB	**Comit de Eme**	**0.97**	**80**	*i* P		**Pn**	**09 20 37.5**	**+0.5**
COEB				*eS*		**Sn**	**09 20 51.6**	**+1.5**
COEB				AML		AML	09 20 58.6	
comp=Z,6µm,0.3s								
PQSS	**Presa 15 de Se**	**0.97**	**72**	*eP*		**Pn**	**09 20 38.0**	**+1.0**
TECA	**Tecapa**	**1.00**	**80**	*eP*		**Pn**	**09 20 37.9**	**+0.4**
TECA	**Tecapa**	**1.00**	**80**	*eP*		**Pn**	**09 20 37.9**	**+0.4**
PACA	**Pacayal**	**1.17**	**83**	*eP*		**Pn**	**09 20 40.9**	**+1.2**
PACA				*eS*		**Sn**	**09 20 57.8**	**+3.0**
PACA	**Pacayal**	**1.17**	**83**	*eP*		**Pn**	**09 20 40.9**	**+1.2**
PACA				*eS*		**Sn**	**09 20 57.8**	**+3.0**
LCY	**Lacayo**	**1.19**	**85**	*eP*		**Pn**	**09 20 40.8**	**+0.8**
LCY	**Lacayo**	**1.19**	**85**	*eP*		**Pn**	**09 20 40.8**	**+0.8**
VSM	**San Miguel**	**1.21**	**85**	*eP*		**Pn**	**09 20 41.1**	**+0.7**
VSM	**San Miguel**	**1.21**	**85**	*eP*		**Pn**	**09 20 41.1**	**+0.7**
NBG	**Las Nubes**	**1.49**	**327**	*eP*		**Pn**	**09 20 46.2**	**+2.1**
NBG				*eS*		**Sn**	**09 21 05.3**	**+2.6**
PCG	**Pacaya**	**1.50**	**315**	*eP*		**Pn**	**09 20 45.0**	**+0.7**
LCND	**La Caada**	**1.58**	**91**	*eP*		**Pn**	**09 20 45.8**	**+0.7**
LCND				*eS*		**Sn**	**09 21 07.0**	**+2.5**
LCND				AML		AML	09 21 11.4	
comp=Z,6µm,0.3s								
LCND	**La Caada**	**1.58**	**91**	*eP*		**Pn**	**09 20 45.8**	**+0.7**
LCND				*eS*		**Sn**	**09 21 07.0**	**+2.5**
LCND				AML		AML	09 21 11.4	
comp=Z,6µm,0.3s								
FUG	**Fuego 3**	**1.70**	**311**	*eP*		**Pn**	**09 20 48.0**	**+1.1**
FUG				*eS*		**Sn**	**09 21 09.2**	**+1.4**
TGUH	**Tegucigalpa,Un**	**2.30**	**71**	Pn		**Pn**	**09 20 55.7**	**+0.7**
CRIN	**San Cristobal**	**2.48**	**104**	Pn		**Pn**	**09 20 58.2**	**+0.7**
CNGN	**Cerro Negro**	**2.87**	**106**			**Pn**	**09 21 04.5**	**+1.8**
MATN	**Matagalpa**	**3.52**	**96**	Pn		**Pn**	**09 21 11.5**	**-0.1**
CCIG	**Comitan**	**3.88**	**320**	Pn		**Pn**	**09 21 18.7**	**+2.0**
ACON	**Acoyapa**	**4.45**	**107**	Pn		**Pn**	**09 21 24.8**	**+0.5**
HZTE	**Horizontes, Gu**	**4.63**	**124**	Pn		**Pn**	**09 21 28.6**	**+1.7**
GB1A	**Borinquen Arri**	**4.74**	**121**	*eP*		**Pn**	**09 21 29.8**	**+1.5**
BUEV	**Buena Vista**	**4.74**	**122**	*eP*		**Pn**	**09 21 29.8**	**+1.4**
BUAI	**Buenos Aires**	**4.76**	**120**	*eP*		**Pn**	**09 21 29.0**	**+0.4**
GUAB	**Guayabo de Bag**	**4.94**	**121**	*eP*		**Pn**	**09 21 33.3**	**+2.2**
SAJU	**San Juanillo,**	**4.94**	**131**	*eP*		**Pn**	**09 21 31.7**	**+0.6**
ORTG	**Ortega, Santa**	**4.95**	**126**	Pn		**Pn**	**09 21 32.7**	**+1.5**
GUAI	**GUAI**	**4.96**	**127**	*i* P		**Pn**	**09 21 32.5**	**+1.1**
HORNC	**Hornillas**	**4.98**	**121**	*eP*		**Pn**	**09 21 31.9**	**+0.3**
COLC	**Colonia**	**4.98**	**122**	*eP*		**Pn**	**09 21 33.9**	**+2.2**
CUI	**Cuipilapa**	**5.02**	**121**	*eP*		**Pn**	**09 21 33.8**	**+1.6**
JTS	**Las Juntas de**	**5.39**	**124**	P		**Pn**	**09 21 38.3**	**+1.0**
comp=Z,2.1nm,0.3s,baz=17,slow=9.6,SNR=32								
JTS				S		**Sn**	**09 22 38.1**	**0.0**
comp=Z,0.6nm,0.3s,baz=36,slow=18,SNR=1.0								
JTS				LR		LR	09 24 04.2	
comp=Z,87nm,19.6s,baz=320,slow=42								
JTS	**Las Juntas de**	**5.39**	**124**	*eP*		**Pn**	**09 21 38.5**	**+1.3**
JTS	**Las Juntas de**	**5.39**	**124**	Pn		**Pn**	**09 21 39.4**	**+2.1**
CEDE	**Laguna Cedeo**	**5.49**	**120**	*eP*		**Pn**	**09 21 41.3**	**+2.6**
ARE1	**Arenal 1**	**5.49**	**121**	*eP*		**Pn**	**09 21 40.5**	**+1.9**
CASO	**Castillo**	**5.49**	**121**	*eP*		**Pn**	**09 21 40.5**	**+1.8**
FORC	**Fortuna**	**5.53**	**120**	*eP*		**Pn**	**09 21 42.7**	**+3.5**
JACO	**JACO, Garabito**	**5.99**	**127**	*eP*		**Pn**	**09 21 47.0**	**+1.5**
JACO	**JACO, Garabito**	**5.99**	**127**	Pn		**Pn**	**09 21 47.5**	**+2.0**
HDC	**Heredia**	**6.24**	**121**	Pn		**Pn**	**09 21 51.0**	**+2.0**
CMIG	**Matias Romero**	**6.39**	**306**	P		**Pn**	**09 21 51.9**	**+0.9**
comp=Z,1.9nm,0.3s,baz=111,slow=8.7,SNR=24								
CMIG				S		**Sn**	**09 23 03.3**	**+0.7**
comp=Z,3.2nm,0.3s,baz=106,slow=23,SNR=8.1								
LCR2	**La Lucha 2**	**6.47**	**123**	*eP*		**Pn**	**09 21 53.5**	**+1.2**
RIMA	**Rio Macho**	**6.57**	**122**	*eP*		**Pn**	**09 21 55.4**	**+1.8**
RIMA	**Rio Macho**	**6.57**	**122**			**Pn**	**09 21 54.9**	**+1.2**
MRVA	**Moravia de Chi**	**6.89**	**120**	*eP*		**Pn**	**09 22 00.9**	**+2.9**
PEZE	**Perez Zeledon,**	**6.94**	**124**	Pn		**Pn**	**09 22 01.5**	**+3.0**
SRBA	**San Rafael, Bu**	**7.28**	**123**			**Pn**	**09 22 05.4**	**+2.1**
JCT	**Junction City**	**19.53**	**333**	P		**P**	**09 24 42.5**	**+0.3**
WHTX	**Lake Whitney,**	**19.95**	**340**	P		**P**	**09 24 47.1**	**+0.4**
WHTX				IAmb		IAmb	09 24 48.9	
comp=Z,8.8nm,0.6s								
TXAR	**Lajitas Array**	**20.64**	**323**	P		**P**	**09 24 56.2**	**+1.9**
comp=Z,1.2nm,0.5s,baz=143,slow=11,SNR=52								
TX31	**Lajitas Ar. Si**	**20.64**	**323**	P		**P**	**09 24 55.6**	**+1.3**
TX31				IAmb		IAmb	09 25 04.4	
comp=Z,18nm,1.4s								
TX32	**Lajitas Array**	**20.64**	**323**	P		**P**	**09 24 56.0**	**+1.7**
TKL	**Tuckaleechee C**	**22.83**	**12**	P		**P**	**09 25 18.0**	**+0.4**
comp=Z,1.1nm,0.5s,baz=177,slow=10,SNR=4.7								
FNO	**Franklin**	**22.97**	**343**	P		**P**	**09 25 17.3**	**-1.7**
FNO				IAmb		IAmb	09 25 20.6	
comp=Z,13nm,0.6s								
T47A	**Sharon Grove**	**23.66**	**5**	P		**P**	**09 25 25.8**	**+0.2**
T47A				IAmb		IAmb	09 25 27.6	
comp=Z,6.1nm,0.7s								
U54A	**Nelsons Funny**	**24.11**	**15**	P		**P**	**09 25 30.2**	**+0.5**
U54A				IAmb		IAmb	09 25 47.5	
comp=Z,7.3nm,0.9s								
S44A	**Carbondale**	**24.27**	**1**	P		**P**	**09 25 31.3**	**+0.2**
S44A				IAmb		IAmb	09 25 34.2	
comp=Z,8.8nm,0.6s								
SIUC	**Southern Illin**	**24.29**	**1**	P		**P**	**09 25 31.5**	**+0.3**
SIUC				IAmb		IAmb	09 25 58.4	
comp=Z,6.3nm,0.8s								
S39A	**Bolivar**	**24.50**	**353**	P		**P**	**09 25 32.1**	**-1.1**
CCM	**Cathedral Cave**	**24.68**	**357**	P		**P**	**09 25 34.7**	**-0.1**
SPMN	**Marine on St.**	**31.91**	**356**	P		**P**	**09 26 37.6**	**-1.7**
SPMN				IAmb		IAmb	09 26 41.2	
comp=Z,4.3nm,0.6s								
PDAR	**Pinedale Array**	**34.07**	**333**	P		**P**	**09 26 59.3**	**+0.9**
comp=Z,0.2nm,0.5s,baz=118,slow=11,SNR=2.6								
PDAR				PcP		**PcP**	**09 29 33.7**	**-1.3**
comp=Z,0.4nm,0.6s,baz=141,slow=4.2,SNR=4.5								
SAML	**Samuel**	**34.26**	**129**	P		**P**	**09 26 58.4**	**-1.7**
SAML				IAmb		IAmb	09 27 20.4	
comp=Z,5.7nm,1.2s								
REDW	**Red Top Meadow**	**35.12**	**333**	P		**P**	**09 27 07.6**	**+0.1**
SNOW	**Snow King Moun**	**35.15**	**333**	P		**P**	**09 27 07.8**	**0.0**
NVAR	**Mina Array Bea**	**35.73**	**320**	P		**P**	**09 27 14.5**	**+1.8**
comp=Z,0.5nm,0.5s,baz=139,slow=7.9,SNR=10								
NVAR				pP		**sP**	**09 27 30.4**	**-3.9**
comp=Z,1.2nm,0.8s,baz=139,slow=9.3,SNR=7.9								
NVAR				PcP		**PcP**	**09 29 40.4**	**+0.5**
comp=Z,0.9nm,0.7s,baz=112,slow=4.3,SNR=7.5								
DGMT	**Dagmar**	**37.09**	**344**	P		**P**	**09 27 23.9**	**-0.1**
SIV	**San Ignacio**	**40.49**	**135**	P		**P**	**09 27 52.3**	**-0.6**
comp=Z,1.1nm,0.5s,baz=317,slow=8.4,SNR=7.2								
SIV				pP		**pP**	**09 28 09.2**	**+1.4**
comp=Z,1.2nm,0.6s,baz=326,slow=8.3,SNR=4.3								
AC06	**Mina Casimiro**	**44.51**	**155**	P		**P**	**09 28 26.8**	**+1.4**
SCHQ	**Schefferville**	**45.05**	**18**	P		**P**	**09 28 27.1**	**-2.2**
comp=Z,3.0nm,0.7s,baz=233,slow=15,SNR=3.7								
SCHQ				PcP		**PcP**	**09 30 06.9**	**-2.3**
comp=Z,3.5nm,0.9s,baz=270,slow=3.0,SNR=1.2								
SCHQ	**Schefferville**	**45.05**	**18**	IAmb		IAmb	09 28 28.1	
comp=Z,14nm,1.2s								
YKA	**Yellowknife Ar**	**52.25**	**346**	P		**P**	**09 29 23.2**	**-1.2**
comp=Z,0.5nm,0.3s,baz=161,slow=6.8,SNR=17								
ARCES	**ARCESS Array B**	**86.01**	**19**	P		**P**	**09 32 51.1**	**-2.1**
comp=Z,1.1nm,0.8s,baz=270,slow=2.4,SNR=5.2								
WRA	**Warramunga Arr**	**137.56**	**255**	PKP		**PKPdf**	**09 39 37.9**	**+0.3**
comp=Z,0.5nm,0.5s,baz=92,slow=2.4,SNR=11								
WRA				pPKP		**pPKPdf**	**09 39 55.0**	**+0.2**
comp=Z,1.1nm,0.8s,baz=105,slow=2.1,SNR=4.1								
ASAR	**Alice Springs**	**137.71

NVAR				LR	LR	10 37 08.2			
	comp=Z,52nm,18.1s,baz=92,slow=36								
ILAR	**Eielson Array**	**67.44**	**334**	P	**P**	**10 09 48.6**	**-0.5**		
	0.7nm,0.9s,baz=34,slow=6.9,SNR=4.8								
ILAR				LR	LR	10 38 19.2			
	comp=Z,14nm,18.1s,baz=338,slow=35								
MKAR	**Makanchi Array**	**83.67**	**37**	P	**P**	**10 11 22.8**	**+0.3**		
	2.1nm,1.0s,baz=312,slow=14,SNR=4.1								

LVSN 21 10:02:36.4±2.9, 57.78N×25.94E, h0km±849km, ML2.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.80**	**31**	*e*S	Sg	10 03 00.9	-1.1
SLIT	**Slitere, Latvi**	**1.97**	**267**	*e*S	Sn	10 03 34.6	-1.6
SLIT				AML	AML	10 03 47.3	
	comp=E,34nm,0.8s						
MEF	**Metsahovi**	**2.57**	**343**	*e*P	Pn	10 03 18.1	-1.1
MEF				*e*S	Sn	10 03 50.2	-0.9
MEF				AML	AML	10 03 51.7	
	comp=N,24nm,0.6s						
MEF				AML	AML	10 04 05.9	
	comp=Z,13nm,0.8s						
MEF				AML	AML	10 04 06.2	
	comp=E,8.2nm,0.7s						
MEF	**Metsahovi**	**2.57**	**343**	SG	Sn	10 03 50.2	-0.9
RAF	**Rauma**	**3.89**	**328**	*e*S	Sn	10 04 18.9	-4.7
RAF				AML	AML	10 04 37.1	
	comp=E,6.2nm,0.5s						
RAF				AML	AML	10 04 37.3	
	comp=Z,7.9nm,0.6s						
RAF				AML	AML	10 04 39.7	
	comp=N,6.2nm,0.7s						

HEL 21 10:02:37.7±0.4, 60.63N×29.04E, h0km, ML1.6, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.74**	**263**	PG	Pg	10 02 50.6	-1.2
VJF	baz=82			SG	Sg	10 03 00.7	-0.7
PVF	**Pernaja**	**1.57**	**268**	PG	Pn	10 03 06.0	-0.8
PVF				MSG		10 03 24.9	
	comp=Z,4.3nm,0.2s						
PVF				SN	Sg	10 03 29.1	+1.0
FIA0	**FINESS Array S**	**1.66**	**301**	PG	Pn	10 03 07.2	-0.8
ARBE	**Arbavere**	**1.95**	**233**	PG	Pn	10 03 12.3	+0.4
ARBE				SG	Sb	10 03 38.8	0.0
KAF	**Kangasniemi**	**1.98**	**320**	SG	Sb	10 03 39.6	-0.2
MEF	**Metsahovi**	**2.34**	**262**	MSG		10 03 46.9	
	comp=Z,3.0nm,0.2s						
VSU	**Vasula**	**2.47**	**209**	SG	Sb	10 03 52.9	-1.0
SUF	**Sumiainen**	**2.51**	**328**	MSG		10 03 51.8	
	comp=Z,1.8nm,0.2s						
SUF				SG	Sb	10 03 53.7	-1.2
KEF	**Keuruu**	**2.53**	**309**	MSG		10 03 52.3	
	comp=Z,1.2nm,0.2s						
KEF				SB	Sn	10 03 53.3	+1.9
JOF	**Joensuu**	**2.54**	**24**	PG	Pb	10 03 22.8	-1.2
JOF				SG	Sb	10 03 55.0	-0.7
MTSE	**Matsula**	**3.27**	**236**	PN	Pn	10 03 30.8	+0.6
OUF	**Merijarvi**	**4.25**	**334**	SG	Sg	10 04 51.1	-2.9

*SJA **21** 10:13:07.0, 30.76S×71.68W, h10km, ML4.9*
*IDC **21** 10:13:09.4±0.6, 30.80S×71.29W, h41km±4km, mb4.1/9, mb1 4.2/14, mb1mx4.1/23, mbtmp4.2/14, ML3.9/5, MS3.4/3, Ms1 3.3/3, ms1mx3.0/20, Error ellipse: s-maj=18.8km s-min=16.8km az=74.0*
*GUC **21** 10:13:09.7±0.5, 30.73S×71.34W, h30km±8km, ML4.5*
*NEIC **21** 10:13:09.8±1.5, 30.76S±0.04×71.43W±0.06, h43km±3km, mb4.6/25, Mwr4.3/31, ML4.5(GUC), Error ellipse: s-maj=7.1km s-min=5.0km az=84.0*
*NEIC **21** 10:13:09.8, 30.76S×71.48W, h46km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_n2.91; M_{ee}0.16; M_{ep}-3.07; M_{ed}0.39; M_{np}0.32; M_{nr}0.08; Fault plane solution: M_o3.04000×10^{15} NP1:$\phi_1$2.44000°, $\delta_1$45.94000°, $\lambda_1$101.41000°. NP2:$\phi_2$166.26000°, $\delta_2$45.22000°, $\lambda_2$78.45000°. Principal axes: T 2.9714, Plg82.0000°, Azm352.0000°; N 0.1356, Plg8.0000°, Azm174.0000°; P -3.1070, Plg0.0000°, Azm84.0000°;*
*VAO **21** 10:13:13.7±0.6, 30.86S×71.24W, h90km±5km, mb4.3*
ISC 21 10:13:09.1±0.5, 30.79S±0.04×71.51W±0.04, h45km±4km, n181, σ1952/186, mb4.6/16, 3C-9D, Fault plane solution: NP1:$\phi_1$329.86920°, $\delta_1$55.99678°, $\lambda_1$94.52299°. **NP2:** $\phi_2$141.81804°, $\delta_2$34.26683°, $\lambda_2$83.33244°. **Principal axes:** T Plg78.4678°, Azm256.0650°; N Plg3.7484°, Azm147.3362°; P Plg10.8902°, Azm56.6139°; **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.15**	**316**	*i*P	**Pn**	**10 13 16.9**	**+0.3**
CO06				*i*S	**Sn**	**10 13 22.6**	**+0.8**
CO06				IAML		10 13 23.7	
	comp=E,41μm,0.4s						
CO06	**Fray Jorge**	**0.15**	**316**		**Pn**	**10 13 16.8**	**+0.2**
CO03	**El Pedregal**	**0.71**	**95**	*i*P	**Pn**	**10 13 22.2**	**-0.7**
CO03				*i*S	**Sn**	**10 13 32.9**	**-1.8**
CO03	**El Pedregal**	**0.71**	**95**		**Pn**	**10 13 22.2**	**-0.7**
CO03					**Sn**	**10 13 30.5**	**-2.2**
CO03	**El Pedregal**	**0.71**	**95**	*i*P	**Pn**	**10 13 22.0**	**-0.9**
GO04	**Tololo Observa**	**0.86**	**45**	*i*P	**Pn**	**10 13 24.6**	**-0.5**
GO04				*i*S	**Sn**	**10 13 36.6**	**-0.1**
GO04				IAML		10 13 39.1	
	comp=N,37μm,0.4s						
GO04	**Tololo Observa**	**0.86**	**45**		**Pn**	**10 13 25.0**	**-0.1**
GO04				Sn	**Sn**	**10 13 36.9**	**+0.1**
GO04	**Tololo Observa**	**0.86**	**45**	*i*P	**Pn**	**10 13 25.0**	**-0.1**
CO05	**La Serena**	**0.89**	**15**	*e*P	**Pn**	**10 13 25.4**	**+0.1**
CO05				*i*S	**Sn**	**10 13 37.4**	**+0.3**
CO05	**La Serena**	**0.89**	**15**		**Pn**	**10 13 25.2**	**0.0**
CO05				Sn	**Sn**	**10 13 36.6**	**-0.5**
VA06	**Catapilco**	**1.78**	**174**	*e*P	**Pn**	**10 13 38.4**	**+1.0**
VA06				*i*S	**Sn**	**10 14 01.5**	**+2.7**
VA06				IAML		10 14 07.9	
	comp=E,9μm,0.3s						
AROD	**Rodeo**	**1.86**	**71**	*i*P	**Pn**	**10 13 41.0**	**+2.2**
LCO	**Las Campanas**	**1.90**	**22**	*e*P	**Pn**	**10 13 38.8**	**-0.5**
LCO				*e*S	**Sn**	**10 14 02.4**	**+0.1**
LCO	**Las Campanas**	**1.90**	**22**	Pn	**Pn**	**10 13 39.7**	**+0.4**
LCO				Sn	**Sn**	**10 14 02.3**	**+0.1**
LCO	**Las Campanas**	**1.90**	**22**	*i*P	**Pn**	**10 13 40.0**	**+0.7**
ACCO	**Cerro Coronel**	**2.12**	**85**	*i*P	**Pn**	**10 13 45.0**	**+2.7**
VA03	**San Esteban**	**2.13**	**158**	*e*P	**Pn**	**10 13 43.9**	**+1.6**
VA03	**San Esteban**	**2.13**	**158**		**Pn**	**10 13 44.0**	**+1.6**
VA03				Sn	**Sn**	**10 14 10.6**	**+2.9**
VA03	**San Esteban**	**2.13**	**158**	*i*P	**Pn**	**10 13 44.0**	**+1.6**
RTLS	**Leoncito**	**2.15**	**119**	*i*P	**Pn**	**10 13 45.0**	**+2.3**
ACDV	**Cuesta del Vie**	**2.15**	**74**	*i*P	**Pn**	**10 13 45.0**	**+2.4**
VA01	**Torpederas**	**2.23**	**183**	*e*P	**Pn**	**10 13 43.9**	**+0.4**
VA01				IAML		10 14 25.3	
	comp=E,2μm,0.5s						
VA01	**Torpederas**	**2.23**	**183**	Pn	**Pn**	**10 13 44.0**	**+0.4**
VA01	**Torpederas**	**2.23**	**183**	*i*P	**Pn**	**10 13 44.0**	**+0.4**
AUSP	**Uspallata**	**2.31**	**129**	*i*P	**Pn**	**10 13 47.0**	**+2.1**
ZON	**Zonda**	**2.54**	**108**		**Pn**	**10 13 50.7**	**+2.8**
ZON	**Zonda**	**2.54**	**108**	*i*P	**Pn**	**10 13 51.0**	**+3.1**
AC04	**Llanos de Chal**	**2.60**	**9**	Pn	**Pn**	**10 13 49.1**	**+0.5**
AC04	**Llanos de Chal**	**2.60**	**9**	*i*P	**Pn**	**10 13 49.0**	**+0.4**
MT05	**Renca**	**2.68**	**166**	*e*P	**Pn**	**10 13 51.4**	**+1.6**
MT05	**Renca**	**2.68**	**166**		**Pn**	**10 13 51.5**	**+1.6**
MT05	**Renca**	**2.68**	**166**	*i*P	**Pn**	**10 13 52.0**	**+2.2**
RTCV	**Cerro Valdivia**	**2.76**	**114**	*i*P	**Pn**	**10 13 54.0**	**+3.1**
VA05	**Santo Domingo**	**2.87**	**182**		**Pn**	**10 13 52.7**	**+0.4**
ASAL	**Salagasta**	**2.91**	**129**	*i*P	**Pn**	**10 13 56.0**	**+3.1**
ARCO	**CERRO ARCO**	**3.00**	**134**	*i*P	**Pn**	**10 13 58.0**	**+3.7**
MT09	**Talagante**	**3.02**	**172**	IAML		10 14 41.1	
	comp=E,2μm,0.2s						
MT09	**Talagante**	**3.02**	**172**		**Pn**	**10 13 55.7**	**+1.2**
MT01	**Popeta**	**3.08**	**176**	*e*P	**Pn**	**10 13 56.2**	**+1.0**
MT01				IAML		10 14 45.3	
	comp=E,2μm,0.3s						
MT01	**Popeta**	**3.08**	**176**		**Pn**	**10 13 56.2**	**+1.0**
MT01	**Popeta**	**3.08**	**176**	*i*P	**Pn**	**10 13 56.0**	**+0.8**
AAGR	**Agrelo**	**3.23**	**136**	*i*P	**Pn**	**10 14 01.0**	**+3.6**
GO03	**Copiap**	**3.37**	**20**	Pn	**Pn**	**10 14 00.1**	**+0.8**
GO03	**Copiap**	**3.37**	**20**	*i*P	**Pn**	**10 14 01.0**	**+1.7**
AVFE	**Valle Fertil**	**3.49**	**89**	*i*P	**Pn**	**10 14 02.0**	**+1.0**
VCA	**Vinchina**	**3.52**	**55**	*i*P	**Pn**	**10 14 05.0**	**+3.5**
AC06	**Mina Casimiro**	**3.56**	**17**	Pn	**Pn**	**10 14 02.4**	**+0.5**
BO01	**Tunca**	**3.62**	**174**		**Pn**	**10 14 03.6**	**+1.0**
BO01	**Tunca**	**3.62**	**174**	*i*P	**Pn**	**10 14 04.0**	**+1.4**
BO02	**Sierra Bellavi**	**4.04**	**171**		**Pn**	**10 14 09.8**	**+1.2**
BO02	**Sierra Bellavi**	**4.04**	**171**	*i*P	**Pn**	**10 14 10.0**	**+1.5**
ACHE	**Chepes**	**4.18**	**96**	*i*P	**Pn**	**10 14 11.0**	**+0.5**
GO05	**Huala**	**4.23**	**185**	*i*P	**Pn**	**10 14 10.0**	**-1.0**
AC02	**Maricunga**	**4.46**	**29**	Pn	**Pn**	**10 14 15.9**	**+1.4**
AC02	**Maricunga**	**4.46**	**29**	*i*P	**Pn**	**10 14 16.0**	**+1.4**
LAMA	**Las Malvinas**	**4.57**	**156**	*i*P	**Pn**	**10 14 18.0**	**+2.3**
COIS	**El Sosneado**	**4.60**	**160**	*i*P	**Pn**	**10 14 18.0**	**+1.8**
ML02	**Panimavida**	**4.96**	**179**	Pn	**Pn**	**10 14 21.6**	**+0.6**
CYA	**Choya**	**5.49**	**66**	*i*P	**Pn**	**10 14 29.0**	**+0.6**
AHML	**Horco Molle**	**6.73**	**55**	*i*P	**Pn**	**10 14 47.0**	**+1.6**
FSA	**Cafayete**	**6.74**	**48**	*i*P	**Pn**	**10 14 47.0**	**+1.4**
H03N1	**Juan Fernandez**	**6.81**	**245**	T	T	10 21 37.8	
	baz=74,slow=72,SNR=1207						
VA04	**Juan Fernndez**	**6.83**	**243**	Pn	**Pn**	**10 14 45.8**	**-0.8**
H03N3	**Juan Fernandez**	**6.83**	**245**	T	T	10 21 37.7	
	baz=74,slow=72,SNR=1072						
H03N2	**Juan Fernandez**	**6.83**	**245**	T	T	10 21 39.9	
	baz=74,slow=72,SNR=1113						
LC01	**Cunco**	**8.10**	**182**	*i*P	**Pn**	**10 15 03.0**	**-1.1**
LVC	**Limon Verde**	**8.47**	**17**	P	**Pn**	**10 15 09.2**	**-0.3**
	comp=E,0.3nm,0.3s,baz=180,slow=8.1,SNR=1.6						
LVC	**Limon Verde**	**8.47**	**17**	Pn	**Pn**	**10 15 09.3**	**-0.2**
LVC	**Limon Verde**	**8.47**	**17**	*e*S	**Sn**	**10 16 48.1**	**+4.1**
PB04	**IPOC Station P**	**8.50**	**9**	Pn	**Pn**	**10 15 10.0**	**+0.1**
PB07	**IPOC Station P**	**9.14**	**10**	Pn	**Pn**	**10 15 20.1**	**+1.6**
PB01	**IPOC Station P**	**9.87**	**11**	Pn	**Pn**	**10 15 26.6**	**-1.9**
PLCA	**Paso Flores**	**9.96**	**176**	P	**Pn**	**10 15 29.6**	**+0.1**
	comp=E,0.3nm,0.3s,baz=342,slow=10.0,SNR=4.6						
PLCA				LR	LR	10 19 16.5	
	comp=E,124nm,21.0s,baz=328,slow=37						
PLCA	**Paso Flores**	**9.96**	**176**	*e*P	**Pn**	**10 15 32.6**	**+3.1**
LL04	**Puerto Octay**	**10.13**	**184**	Pn	**Pn**	**10 15 30.6**	**-1.3**
TRQA	**Tornquist**	**10.70**	**135**	Pn	**Pn**	**10 15 40.0**	**+0.3**
TRQA	**Tornquist**	**10.70**	**135**	*e*P	**Pn**	**10 15 40.2**	**+0.5**
ITQB	**Itaqui**	**12.92**	**89**	Pn	**Pn**	**10 16 07.6**	**-2.5**
CPUP	**Villa Florida**	**13.23**	**74**	P	**Pn**	**10 16 12.2**	**-2.0**
	comp=E,0.3nm,0.3s,baz=243,slow=9.9,SNR=3.8						
CPUP				LR	LR	10 21 46.7	
	comp=E,129nm,20.3s,baz=222,slow=40						
CPUP	**Villa Florida**	**13.23**	**74**		**Pn**	**10 16 13.5**	**-0.8**
CPUP	**Villa Florida**	**13.23**	**74**	*e*P	**Pn**	**10 16 17.4**	**+3.1**
LPAZ	**La Paz**	**14.76**	**13**	P	**Pn**	**10 16 36.7**	**+1.1**
	comp=E,0.2nm,0.3s,baz=190,slow=8.5,SNR=21						
LPAZ	**La Paz**	**14.76**	**13**	Pn	**Pn**	**10 16 36.3**	**+0.7**
LPAZ	**La Paz**	**14.76**	**13**	*e*P	**Pn**	**10 16 37.0**	**+1.4**
PLTB	**Pedras Altas**	**15.35**	**98**	Pn	**Pn**	**10 16 39.7**	**-3.0**
PLTB	**Pedras Altas**	**15.35**	**98**	*e*P	**Pn**	**10 16 43.2**	**+0.6**
CPSB	**Cacapava Do Su**	**15.57**	**93**	*e*P	**Pn**	**10 16 43.5**	**-2.1**
ITAB	**Concordia**	**17.32**	**83**	Pn	**Pn**	**10 17 01.1**	**-6.5**
SIV	**San Ignacio**	**17.55**	**35**	P	**Pn**	**10 17 10.1**	**-0.4**
	comp=E,0.5nm,0.3s,baz=231,slow=11,SNR=26						
CNLB	**Canela**	**17.95**	**91**	*e*P	**Pn**	**10 17 14.7**	**-0.7**
PTGB	**Pitanga**	**18.23**	**75**	*e*P	**Pn**	**10 17 18.8**	**-0.1**
PTLB	**Pontes e Lacer**	**19.01**	**39**	*e*P	**P**	**10 17 26.8**	**-0.5**
TER01	**Tubaro-SC**	**19.58**	**89**	*e*P	**P**	**10 17 32.4**	**-1.0**
PP1B	**Ponte de Pedra**	**20.03**	**53**	*e*P	**P**	**10 17 37.7**	**-0.6**
PCMB	**Pacaembu**	**20.31**	**68**	*e*P	**P**	**10 17 41.2**	**-0.2**
TIJ01	**Guaruva-PR**	**20.58**	**80**	*e*P	**P**	**10 17 41.0**	**-3.4**
VILB	**Vilhena**	**20.59**	**30**	*e*P	**P**	**10 17 44.3**	**-0.1**
SALV	**Santo Antonio**	**20.71**	**48**	*e*P	**P**	**10 17 45.0**	**-0.7**
ETMB	**Extrema**	**21.44**	**14**	*e*P	**P**	**10 17 54.5**	**+1.0**
ITRB	**Iturama**	**22.04**	**65**	*e*P	**P**	**10 17 58.9**	**-1.2**
PET01	**Itanhaem-SP**	**22.42**	**79**	*e*P	**P**	**10 18 03.2**	**-0.8**
SPB	**Sao Paulo**	**22.56**	**77**	*e*P	**P**	**10 18 05.5**	**0.0**
BB19B	**Bebedouro**	**22.79**	**70**	*e*P	**P**	**10 18 07.3**	**-0.6**
CZSB	**Cruzeiro do Su**	**22.96**	**357**	*e*P	**P**	**10 18 12.2**	**+2.5**
RCLB	**Rio Claro- Sao**	**22.97**	**75**	*e*P	**P**	**10 18 09.1**	**-0.8**
VAO	**Valinhos**	**23.19**	**76**	*e*P	**P**	**10 18 09.5**	**-2.6**
PARB	**Paraibuna**	**24.18**	**78**	*e*P	**P**	**10 18 19.9**	**-1.6**
CLDB	**Colider**	**24.60**	**40**	*e*P	**P**	**10 18 23.8**	**-1.5**
IPMB	**Ipameri, GO**	**24.69**	**64**	*e*P	**P**	**10 18 24.9**	**-1.2**
ESAR	**Ângra dos Reis**	**25.30**	**79**	*e*P	**P**	**10 18 30.0**	**-1.5**
BSCB	**Bom Sucesso**	**25.89**	**74**	*e*P	**P**	**10 18 35.7**	**-1.3**
BDFB	**Brasilia**	**26.25**	**60**	P	**P**	**10 18 39.2**	**-1.1**
	comp=E,8.4nm,0.7s,baz=231,slow=10,SNR=12						
BDFB	**Brasília**	**26.25**	**60**	P	**P**	**10 18 39.8**	**-0.6**
BDFB				IAmb	IAmb	10 18 40.7	
	comp=Z,9.1nm,0.9s						
VAS01	**Vassouras-RJ**	**26.45**	**78**	*e*P	**P**	**10 18 40.3**	**-1.7**
SNDB	**Serra Nova Dou**	**26.46**	**49**	*e*P	**P**	**10 18 41.6**	**-0.4**
TBTG	**Tabatinga, AM**	**26.50**	**4**	*e*P	**P**	**10 18 43.1**	**+0.7**
DUB01	**Friburgo-RJ**	**27.43**	**79**	*e*P	**P**	**10 18 49.2**	**-1.6**
NPGB	**Novo Progresso**	**28.05**	**36**	*e*P	**P**	**10 18 56.5**	**+0.1**
DIAM	**Diamantina, MG**	**28.12**	**70**	*e*P	**P**	**10 18 55.2**	**-1.9**
CAM01	**Campos-RJ**	**28.14**	**79**	*e*P	**P**	**10 18 55.2**	**-1.9**
PEXB	**Peixe**	**28.39**	**54**	*e*P	**P**	**10 18 58.6**	**-0.8**
MC01	**Montes Claros**	**28.77**	**67**	*e*P	**P**	**10 19 00.8**	**-2.0**
MACA	**Manacapuru-AM**	**29.32**	**23**	*e*P	**P**	**10 19 08.1**	**+0.5**
JANB	**Januaria**	**29.43**	**64**	*e*P	**P**	**10 19 07.1**	**-1.6**
ALF01	**Guarapari-ES**	**29.44**	**77**	*e*P	**P**	**10 19 07.0**	**-1.7**
SJMB	**Sao Joao De Ma**	**29.95**	**74**	*e*P	**P**	**10 19 11.7**	**-1.5**
BSFB	**Barra de Sao F**	**30.17**	**74**	*e*P	**P**	**10 19 13.6**	**-1.6**
ITTB	**Itaituba**	**30.19**	**33**	*e*P	**P**	**10 19 15.4**	**+0.1**
SDBA	**SAO DESIDERIO**	**30.63**	**59**	*e*P	**P**	**10 19 17.9**	**-1.4**
SMTB	**Santa Maria do**	**31.20**	**51**	*e*P	**P**	**10 19 23.8**	**-0.5**
NAN01	**Guarapari, ES**	**31.25**	**73**	*e*P	**P**	**10 19 21.5**	**-3.2**
OTAV	**Otavalo**	**31.55**	**347**	*e*P	**P**	**10 19 29.9**	**+2.1**
PRPB	**Paraiapebas**	**31.85**	**44**	*e*P	**P**	**10 19 29.5**	**-0.4**
BOAV	**Boa Vista**	**34.62**	**20**	*e*P	**P**	**10 19 54.1**	**+0.1**
RUSC	**La Rusia**	**36.50**	**357**	P	**P**	**10 20 11.0**	**+0.3**
NBLA	**Lagarto - SE**	**36.93**	**65**	*e*P	**P**	**10 20 12.4**	**-1.6**
NBMA	**Muriti-CE**	**38.48**	**60**	*e*P	**P**	**10 20 26.2**	**-0.9**
MLPR	**Magueyes Islan**	**48.66**	**6**	P	**P**	**10 21 48.7**	**-0.1**
CRPR	**Cabo Rojo, PR**	**48.69**	**6**	P	**P**	**10 21 49.1**	**+0.1**
OBIP	**Obispado Ponce**	**48.77**	**6**	P	**P**	**10 21 48.6**	**-1.0**
PDPR	**Patillas Dam,**	**48.81**	**7**	P	**P**	**10 21 48.7**	**-1.2**
VNA3	**Neumayer Olymp**	**52.17**	**159**	P	**P**	**10 22 15.1**	**+0.3**
VNA3	**Neumayer Olymp**	**52.17**	**159**	PcP	**PcP**	**10 23 24.2**	**-1.7**
VNA1	**Neumayer--Stat**	**52.46**	**158**	PcP	**PcP**	**10 23 27.4**	**+0.5**
VNA2	**Neumayer--Watz**	**52.81**	**158**	P	**P**	**10 22 19.8**	**+0.3**
	baz=288,slow=8.3						
VNA2	**Neumayer--Watz**	**52.81**	**158**	PcP	**PcP**	**10 23 28.1**	**-0.2**
	baz=304,slow=6.6						
SNAA	**Sanae**	**54.40**	**159**	P	**P**	**10 22 31.3**	**+0.1**
SNAA	**Sanae**	**54.40**	**159**	PcP	**PcP**	**10 23 34.4**	**-0.1**
TXAR	**Lajitas Array**	**67.17**	**330**	P	**P**	**10 23 59.9**	**+1.3**
	comp=Z,1.5nm,0.7s,baz=153,slow=8.3,SNR=21						
TXAR				pP	**pP**	**10 24 12.4**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=144,slow=8.6,SNR=7.3						
VNDA	**Vanda**	**67.33**	**191**	P	**P**	**10 24 00.4**	**+1.5**
	comp=Z,0.5nm,0.7s,baz=211,slow=5.1,SNR=5.7						
HHAR	**Hobbs**	**69.96**	**341**	P	**P**	**10 24 15.9**	**+0.2**
HHAR				IAmb	IAmb	10 24 17.1	
	comp=Z,7.2nm,0.7s						
CCM	**Cathedral Cave**	**70.92**	**344**	P	**P**	**10 24 20.9**	**-0.6**
CCM				IAmb	IAmb	10 24 23.1	
	comp=Z,7.7nm,0.8s						
LIC	**Lamto**	**73.35**	**72**	*e*P	**P**	**10 24 36.3**	**-0.3**
	comp=Z,28nm,1.3s						
TIC	**Toumodi**	**73.59**	**72**	*e*P	**P**	**10 24 37.7**	**-0.3**
KIC	**Kosan Boka**	**73.66**	**72**	*e*P	**P**	**10 24 38.1**	**-0.3**
	comp=Z,14nm,0.7s						
DBIC	**Dimbokro**	**73.74**	**72**	P	**P**	**10 24 38.8**	**-0.1**
	comp=Z,7.2nm,0.5s,baz=236,slow=5.4,SNR=24						
DBIC	**Dimbokro**	**73.74**	**72**	IAmb	IAmb	10 24 39.5	
	comp=Z,8.5nm,0.6s						
SDCO	**Great Sand Dun**	**75.22**	**333**	P	**P**	**10 24 47.9**	**+0.7**
SUR	**Sutherland**	**76.00**	**119**	P	**P**	**10 24 52.0**	**0.0**
SUR				IAmb	IAmb	10 25 00.7	
	comp=Z,15nm,1.3s						
MAW	**Mawson**	**76.13**	**164**	P	**P**	**10 24 52.3**	**+0.5**
	comp=Z,3.4nm,0.6s,baz=219,slow=6.3,SNR=6.6						
MAW				LR	LR	10 58 22.8	
	comp=Z,37nm,18.3s,baz=197,slow=36						
MAW	**Mawson**	**76.13**	**164**	IAmb	IAmb	10 24 53.0	
	comp=Z,0.8nm,0.8s						
SMCO	**Snowmass**	**77.03**	**332**	P	**P**	**10 24 58.9**	**+1.2**
SMCO				IAmb	IAmb	10 25 00.9	
	comp=Z,10nm,1.2s						
ECSD	**EROS Data Cent**	**77.64**	**342**	P	**P**	**10 25 01.1**	**+0.6**
F36A	**Milaca**	**78.86**	**345**	P	**P**	**10 25 07.0**	**-0.1**
F36A				IAmb	IAmb	10 25 07.6	
	comp=Z,5.6nm,0.7s						
D41A	**Chassel**	**79.00**	**348**	P	**P**	**10 25 08.6**	**+0.7**
PDAR	**Pinedale Array**	**81.11**	**333**	P	**P**	**10 25 20.4**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=129,slow=7.2,SNR=5.8						
PDAR				pP	**pP**	**10 25 34.2**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=130,slow=2.3,SNR=3.7						
PDAR	**Pinedale Array**	**81.11**	**333**	P	**P**	**10 25 20.6**	**+0.9**
BOSA	**Boshof**	**81.17**	**118**	P	**P**	**10 25 20.3**	**-0.2**
	comp=Z,3.4nm,0.9s,baz=323,slow=4.0,SNR=3.5						
BOSA	**Boshof**	**81.17**	**118**	IAmb	IAmb	10 25 28.4	
	comp=Z,17nm,1.5s						
NVAR	**Mina Array Bea**	**81.52**	**325**	P	**P**	**10 25 23.4**	**+1.5**
	comp=Z,1.0nm,0.9s,baz=153,slow=5.4,SNR=6.5						
NVAR				pP	**pP**	**10 25 36.0**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=153,slow=6.0,SNR=7.0						
NVAR	**Mina Array Bea**	**81.52**	**325**	P	**P**	**10 25 21.3**	**-0.6**
TORD	**Torodi Ar. Bea**	**82.70**	**70**	P	**P**	**10 25 28.5**	**+0.1**
	comp=Z,2.0nm,0.4s,baz=279,slow=6.7,SNR=41						
TORD				pP	**pP**	**10 25 40.5**	**-1.3**
	comp=Z,2.1nm,0.9s,baz=254,slow=4.8,SNR=6.1						
TORD				sP	**sP**	**10 25 45.4**	**-1.4**
	comp=Z,2.8nm,0.9s,baz=270,slow=4.3,SNR=6.0						
TORD	**Torodi Ar. Bea**	**82.70**	**70**	P	**P**	**10 25 28.3**	**-0.1**
TORD				IAmb	IAmb	10 25 29.0	
	comp=Z,3.1nm,0.6s						
WRA	**Warramunga Arr**	**123.78**	**210**	PKP	**PKPdf**	**10 32 01.7**	**-1.0**
	comp=Z,0.8nm,0.9s,baz=166,slow=1.3,SNR=5.7						
WRA				pPKP	**pPKPdf**	**10 32 15.4**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=162,slow=1.1,SNR=1.6						
H11S2	**WAKE ISLAND Hyl**	**26.21**	**271**	T	T	12 51 03.7	
	baz=116,slow=75,SNR=52						
H11S1	**WAKE ISLAND Hyl**	**26.22**	**271**	T	T	12 50 56.6	
	baz=116,slow=75,SNR=54						
H11S3	**WAKE ISLAND Hyl**	**26.23**	**271**	T	T	12 51 06.5	
	baz=116,slow=75,SNR=50						
H11N3	**WAKE ISLAND Hyl**	**26.54**	**273**	T	T	12 51 30.2	
	baz=120,slow=74,SNR=6.5						
H11N2	**WAKE ISLAND Hyl**	**26.56**	**273**	T	T	12 51 26.6	
	baz=154,slow=74,SNR=21						
ZALV	**Zalesovo Beam**	**151.25**	**30**	PKPbc	**PKPbc**	**10 32 57.0**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=301,slow=4.0,SNR=3.6						
HHC	**Hu-ho-hao-te**	**169.65**	**347**	*e*P	**PKPdf**	**10 33 11.8**	**+0.1**

*IDC **21** 10:14:48.5±1.9, 21.67N×143.15E, h291km±18km, mb3.6/19, mb1 3.8/22, mb1mx3.6/46, mbtmp4.3/22 Error ellipse: s-maj=15.4km s-min=10.2km az=87.0*
ISC 21 10:14:49.5±0.6, 21.82N±0.07×143.1E±0.1, h300km, n28, σ1986/32, mb3.8/18, Mariana Islands region

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

TXAR	**Lajitas Array**	**66.75**	**330**	P	P	10 44 15.8	0.0	
	0.1nm,0.5s,baz=152,slow=6.0,SNR=2.8							
DBIC	**Dimbokro**	**73.93**	**72**	LR	LR	11 15 29.0		
	comp=Z,51nm,19.4s,baz=191,slow=34							
TORD	**Torodi Ar. Bea**	**82.88**	**70**	P	P	10 45 49.3	-0.2	
	1.2nm,0.9s,baz=254,slow=4.2,SNR=4.6							
H11S2	**WAKE ISLAND Hyl**	**25.90**	**272**	T	T	13 11 06.3		
	baz=115,slow=75,SNR=19							
H11S1	**WAKE ISLAND Hyl**	**25.91**	**272**	T	T	13 11 09.7		
	baz=115,slow=75,SNR=24							
H11S3	**WAKE ISLAND Hyl**	**25.91**	**272**	T	T	13 11 10.6		
	baz=115,slow=75,SNR=23							
ZALV	**Zalesovo Beam**	**151.12**	**29**	PKPbc	PKPbc	10 53 16.7	-0.5	
	2.9nm,0.7s,baz=295,slow=3.8,SNR=9.8							

*IDC **21** 10:39:34.1±0.8,31°.09S×72°.63W,h27km±4km, mb3.7/6, mb1 3.9/9, mb1mx3.8/27, mbtmp3.9/9, ML3.8/3, Error ellipse: s-maj=28.2km s-min=19.7km az=98.0*

ISC 21 10:39:35.1±0.7, 31°.10S±0°.09×72°.6W±0°.2, h35km, n18, σ0.971/19, mb3.8/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H03N1	**Juan Fernandez**	**5.85**	**245**	T	T	10 47 14.7	
	baz=82,slow=72,SNR=3.0						
H03N3	**Juan Fernandez**	**5.86**	**245**	T	T	10 47 24.5	
	baz=82,slow=72,SNR=23						
H03N2	**Juan Fernandez**	**5.87**	**245**	T	T	10 47 13.3	
	baz=82,slow=72,SNR=3.8						
PLCA	**Paso Flores**	**9.75**	**171**	Pn	**Pn**	**10 41 52.2**	**-0.7**
	0.2nm,0.3s,baz=324,slow=14,SNR=3.3						
LPAZ	**La Paz**	**15.29**	**16**	Pn	**Pn**	**10 43 09.3**	**+0.3**
	0.1nm,0.3s,baz=189,slow=8.3,SNR=3.1						
SIV	**San Ignacio**	**18.35**	**38**	P	**Pn**	**10 43 47.1**	**+0.2**
	0.4nm,0.3s,baz=233,slow=11,SNR=37						
SIV				pP	**pP**	**10 43 55.5**	**+0.9**
	1.2nm,0.3s,baz=217,slow=9.7,SNR=18						
BDFB	**Brasilia**	**27.21**	**61**	P	**P**	**10 45 16.5**	**+0.6**
	2.3nm,0.5s,baz=220,slow=7.5,SNR=4.0						
PMSA	**Palmer Station**	**34.11**	**173**	P	**P**	**10 46 17.7**	**+1.6**
	5.2nm,0.9s,baz=0.9,slow=9.3,SNR=1.6						
VNA3	**Neumayer Olymp**	**52.21**	**159**	P	**P**	**10 48 42.2**	**+0.1**
VNA2	**Neumayer--Watz**	**52.86**	**158**	P	**P**	**10 48 46.8**	**0.0**
	baz=287,slow=6.8						
SNAA	**Sanae**	**54.44**	**159**	P	**P**	**10 48 58.4**	**-0.1**
VNDA	**Vanda**	**66.85**	**191**	P	**P**	**10 50 23.4**	**+0.5**
	0.2nm,0.5s,baz=115,slow=5.5,SNR=1.4						
TXAR	**Lajitas Array**	**66.99**	**331**	P	**P**	**10 50 24.6**	**+0.1**
	0.9nm,0.8s,baz=154,slow=7.8,SNR=11						
TXAR				pP	**pP**	**10 50 33.1**	**-0.2**
	0.5nm,0.8s,baz=158,slow=8.1,SNR=5.9						
NVAR	**Mina Array Bea**	**81.25**	**325**	P	**P**	**10 51 47.7**	**+0.1**
	0.2nm,0.6s,baz=157,slow=4.9,SNR=1.9						
TORD	**Torodi Ar. Bea**	**83.67**	**71**	P	**P**	**10 51 59.2**	**-1.4**
	0.4nm,0.6s,baz=245,slow=4.7,SNR=3.0						
WRA	**Warramunga Arr**	**123.04**	**211**	PKP	**PKPdf**	**10 58 27.6**	**-0.8**
	0.4nm,0.6s,baz=132,slow=1.4,SNR=7.4						
KURBB	**Kurchatov Arra**	**151.00**	**39**	PKPbc	**PKiKP**	**10 59 24.1**	**-0.3**
	0.8nm,0.6s,baz=300,slow=3.1,SNR=8.1						
KURBB				pPKPbc	**pPKPbc**	**10 59 32.8**	**-0.4**
	1.1nm,0.7s,baz=291,slow=2.9,SNR=5.0						
ZALV	**Zalesovo Beam**	**151.97**	**29**	PKPbc	**PKiKP**	**10 59 26.1**	**-0.2**
	2.1nm,0.6s,baz=303,slow=3.1,SNR=9.1						
ZALV				pPKPbc	**PKPab**	**10 59 34.6**	**-0.7**
	2.3nm,0.7s,baz=308,slow=3.0,SNR=4.5						

KRSC 21 10:48:49.4±1.5, 50°.46N×157°.68E, h40km±21km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.02**	**283**	*e*P	Pn	10 49 07.7	+0.5
SKR				*e*S	Sn	10 49 20.0	-0.3
PAU	**Pauzhetka**	**1.15**	**332**	*e*P	Pn	10 49 11.0	+2.0
PAU				*e*S	Sn	10 49 25.1	+1.6
KDTR	**Khodutka, Kamc**	**1.38**	**10**	*e*P	Pn	10 49 13.7	+1.6
KDTR				*e*S	Sn	10 49 31.1	+2.1
MIPR	**Malaya Ipel'ka**	**1.91**	**343**	*e*P	Pn	10 49 22.2	+2.8
MIPR				*e*S	Sn	10 49 45.3	+3.1
ASAK	**Asacha**	**1.93**	**4**	*e*P	Pn	10 49 22.8	+3.0
ASAK				*e*S	Sn	10 49 46.5	+3.6
RUS	**Russkaya**	**2.04**	**14**	*e*P	Pn	10 49 23.1	+1.8
RUS				*e*S	Sn	10 49 47.1	+1.6
MTVR	**Mutnovka**	**2.05**	**9**	*e*P	Pn	10 49 24.2	+2.7
MTVR				*e*S	Sn	10 49 48.4	+2.5
GRL	**Gorelyy**	**2.11**	**7**	*e*P	Pn	10 49 25.1	+2.8
GRL				*e*S	Sn	10 49 50.4	+3.0
KRMR	**Karymshinskiy**	**2.39**	**7**	*e*P	Pn	10 49 29.5	+3.5
KRMR				*e*S	Sn	10 49 57.4	+3.3
PET	**Petropavlovsk**	**2.64**	**13**	*e*P	Pn	10 49 32.5	+3.1
PET				*e*S	Sn	10 50 03.4	+3.2
DALK	**Dalny**	**2.66**	**14**	*e*P	Pn	10 49 32.5	+2.8
DALK				*e*S	Sn	10 50 03.5	+2.8
UGLR	**Uglovaya**	**2.84**	**14**	*e*P	Pn	10 49 36.7	+4.3
AVH	**Avacha**	**2.89**	**13**	*e*P	Pn	10 49 36.8	+3.9
SMAR	**Somma**	**2.89**	**14**	*e*P	Pn	10 49 36.5	+3.3
KOK	**Koryaka**	**2.90**	**11**	*e*P	Pn	10 49 36.9	+3.8
NLC	**Nalytchevo**	**2.91**	**20**	*e*S	Sn	10 50 09.3	+2.6
SDLR	**Sedlovina**	**2.92**	**14**	*e*P	Pn	10 49 36.1	+2.7
SDLR				*e*S	Sn	10 50 09.9	+2.6
KRER	**Koryakskii**	**2.93**	**13**	*e*P	Pn	10 49 36.9	+3.3
KRX	**Arik**	**2.97**	**11**	*e*P	Pn	10 49 38.1	+4.0
KRX				*e*S	Sn	10 50 12.8	+4.3
SPN	**Mys Shipunski**	**3.02**	**28**	*e*P	Pn	10 49 37.7	+3.1
SPN				*e*S	Sn	10 50 12.9	+3.4
GNL	**Ganaly**	**3.25**	**3**	*e*P	Pn	10 49 42.5	+4.6
MKZ	**Mys Kozlova**	**4.79**	**30**	*e*P	Pn	10 50 01.8	+2.8
KZV	**Kizimen**	**4.92**	**18**	*e*P	Pn	10 50 06.0	+5.0
TUMD	**Tumrok D**	**5.03**	**18**	*e*S	Sn	10 51 05.5	+6.4
TUMR	**Tumrok**	**5.06**	**16**	*e*P	Pn	10 50 08.3	+5.5

*IDC **21** 10:49:55.6±25.0, 30°.43N×104°.99E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.3/51, mbtmp3.6/3, Error ellipse: s-maj=611.3km s-min=43.4km az=120.0*

ISC 21 10:49:58.2±5.8, 30°.4N±0°.5×105°.2E±0°.9, h10km, n6, σ0.945/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XAN	**Xi'an**	**4.83**	**40**	Pg	**Pb**	**10 51 23.1**	**+0.2**
XAN	**Xi'an**	**4.83**	**40**	Sn	**Sn**	**10 52 06.6**	**-0.4**
XAN	**Xi'an**	**4.83**	**40**	Sg	**Sg**	**10 52 33.4**	**+0.1**
KSRS	**Korea Array**	**20.11**	**63**	P	Pn	10 54 32.2	-1.8
	1.2nm,0.6s,baz=262,slow=10,SNR=7.6						
WRA	**Warramunga Arr**	**57.35**	**147**	P	**P**	**10 59 46.9**	**+0.3**
	1.0nm,0.8s,baz=337,slow=7.5,SNR=10						
ASAR	**Alice Springs**	**60.38**	**150**	P	**P**	**11 00 07.4**	**-0.3**
	0.2nm,0.6s,baz=335,slow=6.5,SNR=4.7						

*IDC **21** 11:36:05.9±1.2, 57°.21S×148°.06E, h0km, mb4.4/7, mb1 4.6/7, mb1mx4.4/20, mbtmp4.4/7, MS4.5/13, Ms1 4.5/13, ms1mx4.4/18, Error ellipse: s-maj=68.2km s-min=16.6km az=84.0*

*NEIC **21** 11:36:07.7±1.1, 57°.31S±0°.09×147°.7E±0°.1, h9km±3km, mb5.0/39, Error ellipse: s-maj=13.8km s-min=10.7km az=171.0*

*GCMT **21** 11:36:09.7±0.1, 57°.25S±0°.01×147°.52E±0°.02, h12km, MW5.3/131, Moment Tensor Solution. s106,c163; s131,c237; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr=0.08±.01; Mθθ=0.51±.01; Mφφ=-0.42±.01; Mrθ=-0.12±.04; Mrφ=-1.03±.01; Mθφ=0.01±.04; Best double couple: M0=1.13800×10^17 NP1:φ=348.00000°, δ84.00000°, λ1.00000°. NP2:φ=258.00000°, δ89.00000°, λ174.00000°. Principal axes: T 1.1810, Plg5.0000°, Azm213.0000°; N -0.0870, Plg84.0000°, Azm66.0000°; P -1.0940, Plg3.0000°, Azm303.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 11:36:07.8±0.4, 57°.32S±0°.06×147°.90E±0°.07, h10km, n164, σ1§52/142, mb5.0/33, MS4.7/24, 1C, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCQ	**Macquarie Isla**	**6.83**	**70**	P	**Pn**	**11 37 50.9**	**+3.0**
	baz=7.0						
MCQ	**Macquarie Isla**	**6.83**	**70**	Pn	**Pn**	**11 37 49.0**	**+1.1**
TAU	**Tasmania Unive**	**14.43**	**358**	Pn	**Pn**	**11 39 31.8**	**-0.2**
MOO	**Moorlands**	**14.90**	**358**	P	**Pn**	**11 39 39.1**	**+0.8**
	baz=15,SNR=4.2						
WHZ	**Wether Hill Ro**	**16.83**	**56**	Pn	**Pn**	**11 40 03.2**	**-0.1**
MLZ	**Mavora Lakes**	**17.31**	**55**	Pn	**Pn**	**11 40 09.7**	**+0.3**
LBZ	**Lake Benmore**	**19.00**	**57**	P	**Pn**	**11 40 30.5**	**+0.4**
LBZ				IAmb	IAmb	11 40 33.2	
	comp=Z,64nm,1.2s						
CASY	**Casey**	**19.50**	**227**	P	**P**	**11 40 33.2**	**-1.5**
TOO	**Toolangi**	**19.82**	**354**	P	**P**	**11 40 39.1**	**+0.7**
	baz=20,SNR=4.3						
TOO	**Toolangi**	**19.82**	**354**	P	**P**	**11 40 38.5**	**0.0**
TOO				IAmb	IAmb	11 40 46.4	
	comp=Z,85nm,1.1s						
RPZ	**Rata Peaks**	**19.91**	**57**	P	**P**	**11 40 40.5**	**+1.1**
RPZ				IAmb	IAmb	11 40 43.7	
	comp=Z,54nm,1.2s						
MILA	**Mila**	**20.29**	**3**	P	Pn	11 40 45.6	+0.1
	baz=20,SNR=4.6						
VNDA	**Vanda**	**20.86**	**172**	P	**P**	**11 40 48.9**	**-0.5**
	comp=Z,7.5nm,1.0s,baz=341,slow=13,SNR=19						
VNDA				LR	LR	11 47 24.7	
	comp=Z,1μm,21.3s,baz=344,slow=32						
VNDA	**Vanda**	**20.86**	**172**	P	**P**	**11 40 48.9**	**-0.5**
ARPS	**Mount Arapiles**	**20.95**	**346**	P	**P**	**11 40 50.9**	**+0.3**
	baz=21,SNR=7.1						
SBA	**Scott Base**	**21.61**	**169**	P	**P**	**11 40 57.8**	**+0.3**
CAN	**Canberra**	**22.01**	**2**	P	**P**	**11 41 02.3**	**+0.1**
CAN				IAmb	IAmb	11 41 09.7	
	comp=Z,167nm,1.5s						
THZ	**Tophouse**	**22.29**	**56**	P	**P**	**11 41 05.1**	**0.0**
THZ				IAmb	IAmb	11 41 14.7	
	comp=Z,97nm,1.4s						
YNG	**Young**	**23.02**	**1**	P	**P**	**11 41 12.8**	**-0.1**
	baz=23,SNR=8.4						
HTT	**Hallett**	**24.66**	**342**	P	**P**	**11 41 28.0**	**-0.6**
	baz=24,SNR=10.0						
STKA	**Stephens Creek**	**25.81**	**348**	P	**P**	**11 41 39.2**	**+0.3**
	baz=26,SNR=14						
STKA	**Stephens Creek**	**25.81**	**348**	P	**P**	**11 41 39.3**	**+0.4**
	comp=Z,29nm,1.0s,baz=154,slow=13,SNR=12						
STKA				LR	LR	11 50 36.3	
	comp=Z,502nm,18.7s,baz=177,slow=34						
STKA	**Stephens Creek**	**25.81**	**348**	P	**P**	**11 41 39.0**	**+0.1**
STKA				IAmb	IAmb	11 41 46.8	
	comp=Z,20nm,1.2s						
BBOO	**Buckleboo**	**25.82**	**337**	P	**P**	**11 41 38.4**	**-0.5**
	baz=26,SNR=11						
BBOO	**Buckleboo**	**25.82**	**337**	P	**P**	**11 41 38.5**	**-0.5**
CMSA	**Cobar Meteorol**	**25.82**	**356**	P	**P**	**11 41 39.1**	**+0.1**
	baz=26,SNR=13						
BKZ	**Black Stump Fm**	**26.01**	**58**	P	**P**	**11 41 41.7**	**+1.0**
BKZ				IAmb	IAmb	11 41 43.6	
	comp=Z,60nm,1.3s						
ARMA	**Armidale**	**27.02**	**7**	P	**P**	**11 41 49.0**	**-1.0**
ARMA				IAmb	IAmb	11 42 01.0	
	comp=Z,20nm,1.1s						
URZ	**Urewera**	**27.02**	**58**	P	**P**	**11 41 49.4**	**-0.4**
FORT	**Forrest**	**29.89**	**324**	P	**P**	**11 42 14.4**	**-1.0**
	baz=30,SNR=14						
FORT	**Forrest**	**29.89**	**324**	P	**P**	**11 42 14.6**	**-0.8**
RMQ	**Roma**	**30.81**	**1**	P	**P**	**11 42 23.6**	**-0.1**
	baz=31,SNR=6.5						
QLP	**Quilpie**	**30.82**	**354**	P	**P**	**11 42 23.3**	**-0.4**
	baz=31,SNR=4.1						
H01W1	**Cape Leeuwin H**	**31.88**	**300**	T	T	12 15 55.6	
	baz=145,slow=75,SNR=800						
H01W2	**Cape Leeuwin H**	**31.88**	**300**	T	T	12 16 06.4	
	baz=145,slow=75,SNR=774						
H01W3	**Cape Leeuwin H**	**31.89**	**300**	T	T	12 16 00.3	
	baz=145,slow=75,SNR=750						
EIDS	**Eidsvold**	**32.00**	**5**	P	**P**	**11 42 34.0**	**0.0**
	baz=32,SNR=3.5						
EIDS	**Eidsvold**	**32.00**	**5**	P	**P**	**11 42 34.4**	**+0.3**
EIDS				IAmb	IAmb	11 42 36.0	
	comp=Z,42nm,1.4s						
QSPA	**South Pole Qui**	**32.79**	**180**	P	**P**	**11 42 41.3**	**+0.5**
	comp=Z,3.7nm,1.0s,baz=326,slow=1.3,SNR=11						
QSPA	**South Pole Qui**	**32.79**	**180**	P	**P**	**11 42 41.2**	**+0.3**
QSPA				IAmb	IAmb	11 43 05.4	
	comp=Z,15nm,1.5s						
QSPA				PcP	**PcP**	**11 45 25.4**	**-0.1**
ASAR	**Alice Springs**	**35.12**	**337**	P	**P**	**11 42 58.9**	**-2.4**
	comp=Z,4.1nm,0.7s,baz=159,slow=8.9,SNR=87						
ASAR				PcP	**PcP**	**11 45 31.8**	**-0.9**
	comp=Z,1.5nm,0.8s,baz=150,slow=3.9,SNR=4.9						
ASAR				LR	LR	11 54 54.8	
	comp=Z,905nm,21.8s,baz=165,slow=32						
ASAR	**Alice Springs**	**35.12**	**337**	P	**P**	**11 43 00.0**	**-1.3**
ASPA	**Alice Springs**	**35.12**	**337**	P	**P**	**11 42 59.0**	**-2.2**
	baz=35						
AS31	**Alice Springs**	**35.12**	**337**	P	**P**	**11 42 59.9**	**-1.4**
WRKA	**Wrakurna**	**35.20**	**328**	P	**P**	**11 43 00.7**	**-1.2**
	baz=35,SNR=20						
MEEK	**Meekatharra**	**37.05**	**313**	P	**P**	**11 43 15.8**	**-2.0**
	baz=37,SNR=4.0						
CTAO	**Charters Tower**	**37.20**	**357**	P	**P**	**11 43 19.2**	**+0.2**
CTAO				IAmb	IAmb	11 43 24.8	
	comp=Z,45nm,1.2s						
QIS	**Mount Isa**	**37.22**	**347**	P	**P**	**11 43 17.9**	**-1.4**
	baz=37,SNR=7.8						
MAW	**Mawson**	**37.45**	**219**	P	**P**	**11 43 21.0**	**+0.3**
	comp=Z,2.0nm,0.9s,baz=118,slow=11,SNR=6.4						
MAW				LR	LR	11 57 31.9	
	comp=Z,3μm,21.2s,baz=93,slow=34						
MAW	**Mawson**	**37.45**	**219**	P	**P**	**11 43 20.3**	**-0.4**
DZM	**Mont Dzumac**	**37.72**	**29**	*e*P	**P**	**11 43 24.4**	**+0.8**
	comp=Z,68nm,1.4s						
DZM				*e*S	**S**	**11 49 09.8**	**-4.0**
	comp=Z,468nm,25.6s						
DZM				*e*LQ	LQ	11 51 54.8	
	comp=Z,1μm,27.6s						
DZM				*e*LR	LR	11 53 28.5	
	comp=Z,6μm,25.6s,baz=209						
DZM	**Mont Dzumac**	**37.72**	**29**	P	**P**	**11 43 23.8**	**+0.2**
DZM				IAmb	IAmb	11 43 26.4	
	comp=Z,19nm,1.0s						
WR0	**Warramunga Arr**	**38.59**	**340**	P	**P**	**11 43 29.5**	**-1.3**
WR0				IAmb	IAmb	11 43 34.4	
	comp=Z,54nm,1.2s						
WC3	**Warramunga Arr**	**38.62**	**339**	P	**P**	**11 43 28.8**	**-2.3**
	baz=38						
WB2	**Warramunga Arr**	**38.64**	**339**	P	**P**	**11 43 29.1**	**-2.2**
	baz=38						
WB2	**Warramunga Arr**	**38.64**	**339**	P	**P**	**11 43 30.2**	**-1.1**
WRA	**Warramunga Arr**	**38.65**	**339**	P	**P**	**11 43 29.5**	**-1.8**
	comp=Z,22nm,0.9s,baz=165,slow=8.3,SNR=58						
WRA				LR	LR	11 59 16.6	
	comp=Z,381nm,19.1s,baz=155,slow=36						
WRA	**Warramunga Arr**	**38.65**	**339**	P	**P**	**11 43 30.1**	**-1.3**
WRAB	**Tennant Creek**	**38.65**	**339**	P	**P**	**11 43 29.8**	**-1.5**
WRAB				IAmb	IAmb	11 43 34.9	
	comp=Z,61nm,1.2s						
WB0	**Warramunga Arr**	**38.81**	**339**	P	**P**	**11 43 31.0**	**-1.6**
WB0				IAmb	IAmb	11 43 36.0	
	comp=Z,51nm,1.2s						
MTSU	**Mount Surprise**	**39.21**	**355**	P	**P**	**11 43 35.5**	**-0.6**
	baz=39,SNR=5.0						
PSA00	**Pilbara Seismi**	**41.17**	**318**	P	**P**	**11 43 51.3**	**-0.9**
PSA00				IAmb	IAmb	11 43 56.8	
	comp=Z,44nm,1.1s						
PSA00	**Pilbara Seismi**	**41.17**	**318**	P	**P**	**11 43 51.1**	**-1.2**
PSA00				IAmb	IAmb	11 43 56.8	
	comp=Z,28nm,1.2s						
FITZ	**Fitzroy Crossi**	**42.53**	**328**	P	**P**	**11 44 02.2**	**-1.1**
	baz=42,SNR=14						
FITZ	**Fitzroy Crossi**	**42.53**	**328**	P	**P**	**11 44 02.4**	**-0.9**
FITZ				IAmb	IAmb	11 44 08.3	
	comp=Z,49nm,1.2s						
COEN	**Coen**	**43.42**	**353**	P	**P**	**11 44 10.0**	**-0.7**
COEN				IAmb	IAmb	11 44 15.4	
	comp=Z,22nm,1.1s						
KNRA	**Kununurra**	**44.00**	**333**	P	**P**	**11 44 13.7**	**-1.6**
	baz=44,SNR=12						
KNRA	**Kununurra**	**44.00**	**333**	P	**P**	**11 44 14.4**	**-0.8**
KDU	**Kakadu**	**46.07**	**339**	P	**P**	**11 44 30.1**	**-1.6**
	baz=46,SNR=6.5						
MTN	**Manton Dam**	**46.20**	**337**	P	**P**	**11 44 31.6**	**-1.1**
	baz=46,SNR=5.3						
MTN	**Manton Dam**	**46.20**	**337**	P	**P**	**11 44 31.8**	**-0.9**
SNAA	**Sanae**	**49.68**	**192**	P	**P**	**11 44 58.6**	**-0.6**
SNAA	**Sanae**	**49.68**	**192**	P	**P**	**11 44 59.0**	**-0.1**
SNAA				IAmb	IAmb	11 45 15.8	
	comp=Z,11nm,1.1s						
VNA3	**Neumayer Olymp**	**50.76**	**189**	P	**P**	**11 45 06.9**	**-0.4**
SOEI	**Soe**	**50.85**	**329**	P	**P**	**11 45 08.0**	**-0.7**
SOEI	**Soe**	**50.85**	**329**	P	P	11 45 14.8	+6.1
VNA2	**Neumayer--Watz**	**50.86**	**190**	P	**P**	**11 45 09.2**	**+1.2**
VNA1	**Neumayer--Stat**	**51.20**	**190**	P	**P**	**11 45 11.0**	**+0.4**
MMRI	**Maumere**	**52.49**	**327**	P	**P**	**11 45 19.6**	**-1.2**
EDFI	**Ende, Flores**	**52.55**	**327**	P	**P**	**11 45 24.6**	**+3.2**
	comp=Z,11nm,1.1s						
FAKI	**Fak Fak**	**55.65**	**341**	P	**P**	**11 45 43.1**	**-0.8**
FAKI	**Fak Fak**	**55.65**	**341**	P	P	11 45 48.7	+4.8
	comp=Z,84nm,1.2s						
PMSA	**Palmer Station**	**55.83**	**164**	LR	LR	12 07 35.0	
	comp=Z,647nm,18.4s,baz=210,slow=34						
TBI	**Tubuai**	**55.93**	**80**	*e*S	**S**	**11 53 31.0**	**-2.5**
	comp=Z,301nm,28.5s						
TBI				*e*LQ	LQ	11 59 36.6	
	comp=Z,825nm,29.8s						
TBI				*e*LR	LR	12 01 57.7	
	comp=Z,564nm,24.5s,baz=213						
KAPI	**Kappang**	**56.67**	**326**	P	P	11 45 56.4	+5.3
	comp=Z,35nm,1.5s						
SJI	**Sawahan**	**56.87**	**316**	P	P	11 45 58.3	+5.6
	comp=Z,13nm,0.5s						
MMSI	**Mamuju**	**59.12**	**326**	P	**P**	**11 46 11.1**	**+2.7**
	comp=Z,1μmcomp=Z,57nm,0.6s						
BBKI	**Bangar Baru**	**59.72**	**321**	P	**P**	**11 46 17.1**	**+4.6**
	comp=Z,31nm,1.0s						
PPT2	**Papeete2**	**60.59**	**76**	*e*S	**S**	**11 54 32.1**	**-2.5**
	comp=Z,439nm,27.2s						
PPT2				*e*LQ	LQ	12 01 34.6	
	comp=Z,971nm,26.0s						
PPT2				*e*LR	LR	12 04 05.9	
	comp=Z,550nm,23.8s,baz=216						
PPT	**Papeete**	**60.60**	**76**	LR	LR	12 07 11.7	
	comp=Z,289nm,21.7s,baz=218,slow=31						
RKT	**Rikitea**	**63.94**	**93**	*e*T	T	12 55 29.6	
	comp=Z,46nm,0.2s						
STKI	**Sintang**	**64.17**	**319**	P	P	11 46 47.6	+5.1
DAV	**Davao City (W)**	**66.71**	**336**	LR	LR	12 16 05.7	
	comp=Z,246nm,19.6s,baz=132,slow=36						
TAOE	**Nuku Hiva Isla**	**72.87**	**79**	*e*LR	LR	12 09 52.7	
	comp=Z,518nm,25.4s						
H08S2	**Diego Garcia H**	**75.73**	**278**	T	T	13 10 54.2	
	baz=147,slow=76,SNR=184						
H08S1	**Diego Garcia H**	**75.74**	**278**	T	T	13 10 54.9	
	baz=147,slow=76,SNR=245						
H08S3	**Diego Garcia H**	**75.75**	**278**	T	T	13 10 49.0	
	baz=147,slow=76,SNR=209						
SURA	**Surathani**	**77.08**	**311**	P	P	11 48 06.2	+5.2
	comp=Z,5.2nm,1.0s						
PLCA	**Paso Flores**	**77.11**	**151**	LR	LR	12 15 48.5	
	comp=Z,571nm,19.1s,baz=184,slow=31						
H11S2	**WAKE ISLAND Hy**	**77.14**	**18**	T	T	13 12 38.0	
	baz=188,slow=76,SNR=6.0						
H11S3	**WAKE ISLAND Hy**	**77.14**	**18**	T	T	13 12 39.0	
	baz=188,slow=76,SNR=7.3						
H11S1	**WAKE ISLAND Hy**	**77.15**	**18**	T	T	13 12 40.1	
	baz=188,slow=76,SNR=6.8						
UBPT	**Khong Chiam**	**80.42**	**319**	P	P	11 48 24.9	+5.6
	comp=Z,21nm,2.3s						
H03S2	**Juan Fernandez**	**80.99**	**142**	T	T	13 18 28.6	
	baz=201,slow=74,SNR=34						
H03S1	**Juan Fernandez**	**80.99**	**142**	T	T	13 18 45.0	
	baz=201,slow=74,SNR=32						
H03S3	**Juan Fernandez**	**81.01**	**142**	T	T	13 18 33.7	
	baz=201,slow=74,SNR=40						
BOSA	**Boshof**	**81.79**	**228**	LR	LR	12 18 55.3	
	comp=Z,290nm,18.5s,baz=194,slow=31						
PANO	**Nakornpanom**	**82.45**	**319**	P	P	11 48 42.2	+12
UTHA	**Uthaitani**	**82.94**	**313**	P	P	11 48 37.8	+5.1
	comp=Z,11nm,1.0s						
PHIT	**Phitsanulok**	**84.04**	**315**	P	P	11 48 44.2	+5.9
CM31	**Chiang Mai Arr**	**85.77**	**314**	P	**P**	**11 48 46.2**	**-0.7**
CM31				IAmb	IAmb	11 48 51.9	
	comp=Z,8.1nm,1.1s						
CMAR	**Chiang Mai Arr**	**85.77**	**314**	P	**P**	**11 48 47.2**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=170,slow=5.5,SNR=2.4						
CMAR				LR	LR	12 26 25.5	
	comp=Z,448nm,19.1s,baz=198,slow=35						
CMAR	**Chiang Mai Arr**	**85.77**	**314**	P	**P**	**11 48 46.7**	**-0.3**
CHTO	**Chiang Mai**	**86.09**	**314**	P	**P**	**11 48 48.5**	**-0.1**
CHTO	**Chiang Mai**	**86.09**	**314**	P	**P**	**11 48 53.3**	**+4.7**
KMI	**Kunming**	**90.45**	**320**	⇑P	**P**	**11 49 08.9**	**-0.6**
KMI				PP	**PP**	**11 52 45.5**	**+1.1**
KMI				S	**S**	**12 00 10.0**	**+5.6**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KMI				pmax	pmax		
	comp=Z,200nm,7.3s						
KMI				LR	LR		
	comp=Z,240nm,23.7s						
KMI				LR	LR		
	comp=Z,290nm,23.1s						
KMI				LR	LR		
	comp=Z,510nm,24.8

SOKA	**Soboth**	**149.69**	**270**	*e*P		**PKiKP**	**11 55 58.5**	**+0.7**
	comp=Z,7.1nm,1.0s							
ARSA	**Arzberg**	**149.78**	**271**	*e*P		**PKPab**	**11 56 00.9**	**-1.5**
	comp=Z,12nm,1.4s							
OBKA	**Obir**	**149.85**	**269**	*e*P		**PKPab**	**11 56 01.9**	**-0.9**
	comp=Z,6.8nm,1.1s							
CONA	**Conrad Observa**	**150.00**	**273**	*e*P		**PKPab**	**11 56 01.6**	**-1.8**
	comp=Z,4.0nm,1.0s							
MORC	**Moravsky Berou**	**150.15**	**277**	*e*PKP		**PKPbc**	**11 55 57.6**	**-0.2**
KRUC	**Moravsky**	**150.37**	**275**	*e*PKP		**PKPbc**	**11 55 58.1**	**-0.2**
VRAC	**Vranov**	**150.40**	**275**	*e*PKP		**PKPbc**	**11 55 58.1**	**-0.2**
MYKA	**Terra Mystica**	**150.42**	**269**	*e*P		**PKiKP**	**11 56 01.4**	**+2.2**
	comp=Z,11nm,1.0s							
MOA	**Molln**	**150.82**	**271**	*e*P		**PKiKP**	**11 56 02.8**	**+2.8**
	comp=Z,1.2nm,0.5s							
KBA	**Koelnbreinsper**	**150.85**	**269**	*e*P		**PKiKP**	**11 56 01.8**	**+1.5**
	comp=Z,3.8nm,0.4s							
FINES	**FINESS Array B**	**150.95**	**303**	PKPbc		**PKPbc**	**11 55 58.3**	**-0.9**
	comp=Z,7.2nm,0.7s,baz=105,slow=4.5,SNR=19							
FINES	**FINESS Array B**	**150.95**	**303**			**PKPbc**	**11 55 58.9**	**-0.3**
ABTA	**Abfaltersbach**	**151.10**	**268**	*e*P		**PKiKP**	**11 56 01.6**	**+0.9**
	comp=Z,8.1nm,0.8s							
GERES	**GERESS Array B**	**151.70**	**272**	PKPbc		**PKiKP**	**11 56 02.2**	**+0.3**
	comp=Z,3.1nm,0.8s,baz=149,slow=2.8,SNR=11							
GERES	**GERESS Array B**	**151.70**	**272**			**PKPbc**	**11 56 00.4**	**-1.1**
WTTA	**Wattenberg**	**151.89**	**268**	*e*P		**PKiKP**	**11 56 04.9**	**+2.4**
	comp=Z,8.6nm,0.7s							
WATA	**Walderalm**	**151.97**	**268**	*e*P		**PKiKP**	**11 56 06.6**	**+4.0**
	comp=Z,3.3nm,0.7s							
SQTA	**Sankt Quirin**	**152.10**	**268**	*e*P		**PKiKP**	**11 56 06.9**	**+4.1**
	comp=Z,6.0nm,0.5s							
MOTA	**Moosalm**	**152.23**	**268**	*e*P		**PKiKP**	**11 56 06.5**	**+3.4**
	comp=Z,7.5nm,0.8s							
FETA	**Feichten**	**152.24**	**267**	*e*P		**PKPbc**	**11 56 02.9**	**0.0**
	comp=Z,9.1nm,0.9s							
RETA	**Reutte**	**152.50**	**268**	*e*P		**PKiKP**	**11 56 04.6**	**+1.0**
	comp=Z,5.1nm,1.0s							
ARCES	**ARCESS Array B**	**152.69**	**320**	PKPbc		**PKPbc**	**11 56 02.4**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=127,slow=1.8,SNR=7.0							
ARCES	**ARCESS Array B**	**152.69**	**320**			**PKPdf**	**11 55 55.9**	**0.0**
ARCES				PKPbc		**PKPbc**	**11 56 02.8**	**-0.2**
DAVA	**Damuels**	**152.86**	**267**	*e*P		**PKiKP**	**11 56 06.6**	**+2.1**
	comp=Z,1.8nm,0.3s							
CLL	**Collm**	**153.42**	**276**	*e*PKPdf		**PKPdf**	**11 55 58.0**	**+0.5**
CLL				*e*PKPbc		**PKiKP**	**11 56 06.0**	**+0.8**
CLL				*i* PKPab		**sPKPab**	**11 56 21.5**	**+0.6**
	comp=Z,10.0nm,1.3s							
CLL				*e*SS		SS	12 19 29.0	+2.1
CLL					L	L	13 06 00.0	
	comp=Z,200nm,21.9s							
ESDC	**Sonseca Array**	**154.61**	**238**	PKPbc		**PKiKP**	**11 56 09.3**	**+1.1**
	comp=Z,1.4nm,1.1s,baz=116,slow=2.4,SNR=5.6							
ESDC	**Sonseca Array**	**154.61**	**238**			**PKPdf**	**11 55 57.6**	**-2.0**
ESDC				PKPab		**PKPab**	**11 56 22.5**	**-0.5**

*DNK **21** 11:39:39.4±0.9,56.57N×14.87E,h0km, ML1.4, Explosion*
UPP 21 11:39:39.0±0.1,56.56N×14.86E,h1km±3km,ML1.6, Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VXJU	**Vaexsjoe**	**0.37**	**7**	P	Pg	11 39 46.0	-0.1
VXJU				S	Sg	11 39 50.9	0.0
VXJU	**Vaexsjoe**	**0.37**	**7**	P	Pg	11 39 46.0	-0.1
VXJU				S	Sg	11 39 50.9	0.0
DEL	**Delary**	**0.55**	**262**	*i* P	Pg	11 39 49.3	-0.3
DEL				P	Pb	11 39 49.3	-2.2
DEL				S	Sg	11 39 56.5	-0.2
DEL				IAML		11 40 02.9	
	comp=Z,8.7nm,0.4s						
DEL	**Delary**	**0.55**	**262**	P	Pg	11 39 49.3	-0.3
DEL				S	Sg	11 39 56.5	-0.2
BLEU	**Blekinge**	**0.59**	**115**	P	Pg	11 39 49.9	-0.3
BLEU				*i* P	Pb	11 39 50.5	-1.6
BLEU				S	Sg	11 39 57.9	0.0
BLEU	**Blekinge**	**0.59**	**115**	P	Pg	11 39 49.9	-0.3
BLEU				S	Sg	11 39 57.9	0.0
OSKU	**Oskarshamn**	**0.94**	**46**	P	Pg	11 39 56.5	-0.4
OSKU				S	Sg	11 40 08.4	-0.7
OSKU	**Oskarshamn**	**0.94**	**46**	P	Pg	11 39 56.5	-0.4
OSKU				S	Sg	11 40 08.4	-0.7
GNOU	**Gnosjoe**	**0.95**	**321**	P	Pg	11 39 56.6	-0.7
GNOU	**Gnosjoe**	**0.95**	**321**	P	Pg	11 39 56.6	-0.7
EKSU	**Eksjoe**	**1.05**	**13**	P	Pg	11 39 58.4	-0.7
EKSU	**Eksjoe**	**1.05**	**13**	P	Pg	11 39 58.4	-0.7
BJUU	**Bjuv**	**1.13**	**246**	P	Pg	11 40 00.1	-0.6
BJUU				*i* P	Pb	11 40 00.6	-0.7
BJUU	**Bjuv**	**1.13**	**246**	P	Pg	11 40 00.1	-0.6
LUNU	**Lund**	**1.22**	**221**	*i* P	Pg	11 40 01.9	-0.4
LUNU				P	Pb	11 40 02.1	-0.7
LUNU				*i* S	Sb	11 40 19.6	+0.6
LUNU	**Lund**	**1.22**	**221**	P	Pg	11 40 02.1	-0.2
BYXU	**Byxelkrok**	**1.39**	**57**	P	Pn	11 40 04.8	-0.7
BYXU	**Byxelkrok**	**1.39**	**57**	P	Pn	11 40 04.8	-0.7
VSTU	**Vaestervik**	**1.44**	**39**	P	Pn	11 40 04.8	-1.4
VSTU	**Vaestervik**	**1.44**	**39**	P	Pn	11 40 04.8	-1.4
BORU	**Boraas**	**1.57**	**314**	P	Pn	11 40 07.4	-0.6
BORU				*i* P	Pb	11 40 07.7	-1.2
BORU	**Boraas**	**1.57**	**314**	P	Pn	11 40 07.4	-0.6
LNKU	**Linkoeping**	**1.71**	**12**	P	Pn	11 40 10.1	+0.2
LNKU	**Linkoeping**	**1.71**	**12**	P	Pn	11 40 10.1	+0.2
FKPU	**Falk**	**1.72**	**340**	P	Pn	11 40 10.7	+0.5
FKPU	**Falk**	**1.72**	**340**	P	Pn	11 40 10.7	+0.5
ONAU	**Onsala**	**1.82**	**299**	*i* P	Pn	11 40 11.6	+0.2
ONAU				*e*S	Sb	11 40 35.8	-0.5

BER 21 11:40:27.1±1.1,60.38N×9.90E,h0km,ML0.8,Suspected explosion,Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSL	**Oslo**	**0.60**	**137**	*e*S	Sg	11 40 45.7	-0.8
NAO01	**NORSAR Array S**	**0.68**	**46**	*e*P	Pg	11 40 39.2	-0.8
NAO01				*e*S	Sg	11 40 49.0	+0.2
NAO01				IAML		11 40 54.5	
	comp=Z,3.4nm,0.2s						
NBO00	**NORSAR Array S**	**0.79**	**33**	*e*P	Pg	11 40 40.5	-1.6
NBO00				*e*S	Sg	11 40 51.1	-1.2
NBO00				IAML		11 41 02.3	
	comp=Z,4.2nm,0.8s						
SKAR	**Skarslia**	**0.84**	**292**	*e*P	Pg	11 40 42.0	-1.2
SKAR				*e*S	Sg	11 40 53.7	-0.5
SKAR				IAML		11 40 56.2	
	comp=Z,6.0nm,0.3s						
NC602	**NORSAR Array S**	**0.89**	**65**	*e*P	Pg	11 40 42.5	-1.6
NC602				*e*S	Sg	11 40 55.3	-0.2
NC602				IAML		11 41 01.8	
	comp=Z,2.5nm,0.5s						
NB201	**NORSAR Array S**	**0.96**	**45**	*e*P	Pg	11 40 44.2	-1.3
NB201				*e*S	Sg	11 40 57.6	-0.4
NB201				IAML		11 41 03.7	
	comp=Z,2.7nm,0.4s						
BLS5	**Blasjo**	**1.98**	**243**	*e*S	Sn	11 41 24.7	-2.7
HYA	**Hoyanger**	**1.99**	**295**	*e*Pg	Pn	11 41 02.3	+0.4
HYA				*e*Sg	Sb	11 41 29.4	+0.1
HYA				IAML		11 41 31.8	
	comp=Z,4.9nm,0.8s						
AKN	**Aaknes**	**2.29**	**323**	*e*Sg	Sb	11 41 37.9	-0.1

*ANF **21** 11:58:56.6±0.2,45.93N×122.59W,h14km±2km, ML2.1/5, Error ellipse: s-maj=2.4km s-min=1.9km az=82.0*
*NEIC **21** 11:58:57.0±1.1,45.94N±0.02×122.58W±0.02,h20km±2km, Error ellipse: s-maj=3.0km s-min=1.8km az=169.0*
*SEA **21** 11:58:57.7±1.2,45.96N±0.02×122.59W±0.01,h15km±2km, ML2.1/51,ML2.1/26(NEIC), Error ellipse: s-maj=2.5km s-min=0.8km az=153.0*
ISC 21 11:58:56.9±0.9,45.95N±0.02×122.60W±0.02,h17km±7km, n83,σ0.975/102,Washington-Oregon border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F04A	**Amboy**	**0.12**	**99**		**Pb**	**11 59 00.9**	**+0.2**
F04A					**Sb**	**11 59 03.6**	**+0.3**
F04A	**Amboy**	**0.12**	**99**	IAML		11 59 03.7	
	comp=N,536nm,0.1s						
F04A				IAML		11 59 03.7	
	comp=E,1μm,0.2s						
LVP	**Lakeview Peak**	**0.18**	**48**		**Pb**	**11 59 01.8**	**0.0**
RVW	**Rose Valley**	**0.22**	**333**		**Pg**	**11 59 02.2**	**0.0**
MTMW	**Mount Mitchell**	**0.28**	**74**		**Pb**	**11 59 03.5**	**0.0**
B203	**Quarry, Mount**	**0.28**	**40**		**Pg**	**11 59 03.4**	**+0.2**
B203					**Sb**	**11 59 07.9**	**-0.2**
FL2	**Flat Top 2**	**0.30**	**35**		**Pg**	**11 59 03.7**	**+0.3**
F04D	**Rainier, OR**	**0.32**	**295**		**Pg**	**11 59 04.0**	**+0.3**
F04D					**Sb**	**11 59 09.1**	**+0.2**
F04D	**Rainier, OR**	**0.32**	**295**	P	**Pg**	**11 59 04.0**	**+0.3**
	baz=113,SNR=12						
F04D				S	**Sb**	**11 59 09.2**	**+0.2**
	baz=113						
ALST	**Alston**	**0.34**	**298**		**Sb**	**11 59 09.8**	**+0.2**
SHW	**Mount Saint He**	**0.35**	**46**		**Pb**	**11 59 04.6**	**-0.1**
SWF2	**Southwest Flan**	**0.35**	**49**		**Pg**	**11 59 04.5**	**+0.2**
B023	**Clatskanie**	**0.37**	**296**		**Pg**	**11 59 04.6**	**0.0**
B023					**Sg**	**11 59 10.2**	**+0.3**
SEPW	**September Lobe**	**0.38**	**48**		**Pb**	**11 59 05.2**	**0.0**
STD	**Studebaker Rid**	**0.39**	**42**		**Pg**	**11 59 05.0**	**+0.1**
STD					**Sg**	**11 59 10.9**	**+0.5**
VALT	**Mount Saint He**	**0.39**	**47**		**Pb**	**11 59 05.3**	**-0.1**
ERK	**Elk Rock**	**0.40**	**26**		**Pg**	**11 59 05.0**	**-0.1**
ERK					**Sg**	**11 59 10.6**	**-0.1**
ESD	**East Dome**	**0.40**	**51**		**Pb**	**11 59 05.5**	**0.0**
WPO	**West Portland**	**0.40**	**200**		**Pb**	**11 59 05.5**	**0.0**
CDFW	**Cedar Flats**	**0.42**	**66**		**Pb**	**11 59 05.8**	**0.0**
JRO	**Jston Ridge Ob**	**0.42**	**39**		**Pg**	**11 59 05.5**	**0.0**
JRO					**Sb**	**11 59 11.8**	**-0.1**
B201	**Coldwater, Mou**	**0.42**	**33**		**Pg**	**11 59 05.4**	**-0.2**
B201					**Sg**	**11 59 11.4**	**0.0**
B202	**Windy Ridge, M**	**0.43**	**47**		**Pg**	**11 59 05.6**	**-0.1**
B202					**Sg**	**11 59 12.0**	**+0.2**
TDL	**Tradedollar La**	**0.48**	**33**		**Pg**	**11 59 06.5**	**-0.2**
PGO	**Gresham**	**0.49**	**168**		**Pb**	**11 59 07.1**	**0.0**
E04D	**Cinebar**	**0.61**	**2**		**Pg**	**11 59 08.7**	**-0.3**
E04D	**Cinebar**	**0.61**	**2**	P	**Pg**	**11 59 08.6**	**-0.3**
	baz=182,SNR=5.9						
E04D				S	**Sg**	**11 59 17.5**	**+0.5**
	baz=182						
GULW	**Guler Mountain**	**0.70**	**92**		**Pb**	**11 59 11.0**	**+0.4**
KMOR	**Kings Mountain**	**0.70**	**244**		**Pg**	**11 59 10.0**	**-0.7**
KMOR					**Sg**	**11 59 19.7**	**-0.3**
ASR	**Mount Adams--S**	**0.73**	**74**		**Pg**	**11 59 10.8**	**-0.4**
G04A	**Mulino**	**0.75**	**174**		**Pg**	**11 59 11.1**	**-0.4**
HYU	**Hyu Mountain**	**0.76**	**133**		**Pg**	**11 59 11.4**	**-0.3**
F05D	**White Salmon**	**0.80**	**94**		**Pb**	**11 59 12.4**	**+0.1**
F05D	**White Salmon**	**0.80**	**94**	P	**Pg**	**11 59 12.2**	**-0.3**
	baz=276						
F05D				S	**Sb**	**11 59 22.9**	**+0.2**
	baz=276						
TDH	**Tom, Dick, Har**	**0.87**	**139**		**Pb**	**11 59 13.1**	**-0.5**
G03D	**McMinnville, O**	**0.88**	**213**		**Pb**	**11 59 13.0**	**-0.6**
G03D	**McMinnville, O**	**0.88**	**213**	P	**Pb**	**11 59 12.8**	**-0.8**
	baz=32,SNR=15						
G03D				S	**Sb**	**11 59 25.0**	**0.0**
	baz=32						
SHRK	**Shell Rock**	**0.89**	**123**		**Pb**	**11 59 11.6**	**-2.4**
E03A	**Lebam**	**0.90**	**312**	Pg	Pn	**11 59 15.3**	**+0.7**
E03A				Sg	**Sb**	**11 59 25.4**	**-0.2**
E03A				IAML		11 59 34.0	
	comp=N,45nm,1.2s						
HOOD	**Mount Hood Mea**	**0.91**	**133**		**Pb**	**11 59 14.0**	**-0.3**
HOOD				Sg	**Sg**	**11 59 26.4**	**-0.3**
RADR	**Rader Ridge**	**0.96**	**300**	Pn	**Pn**	**11 59 16.5**	**+0.9**
RADR				IAML		11 59 27.1	
	comp=N,57nm,1.6s						
RADR				IAML		11 59 40.5	
	comp=E,54nm,2.3s						
LON	**Longmire**	**0.97**	**34**		**Pb**	**11 59 14.4**	**-0.8**
LON	**Longmire**	**0.97**	**34**		**Pb**	**11 59 14.8**	**-0.4**
LON	**Longmire**	**0.97**	**34**		**Sb**	**11 59 27.6**	**-0.1**
REMR	**Mount Rainier-**	**1.01**	**31**		**Pb**	**11 59 15.6**	**-0.5**
B019	**Raymond**	**1.01**	**314**		**Pb**	**11 59 15.9**	**-0.1**
WPW	**White Pass**	**1.04**	**44**		**Pb**	**11 59 16.1**	**-0.4**
B941	**Kapowsin**	**1.07**	**14**		**Pb**	**11 59 16.0**	**-0.8**
RCM	**Mount Rainier-**	**1.07**	**34**		**Pb**	**11 59 16.6**	**-0.5**
RVC	**Mount Rainier-**	**1.08**	**23**		**Pb**	**11 59 16.6**	**-0.5**
OBSR	**Observation Ro**	**1.09**	**29**		**Pb**	**11 59 17.2**	**-0.3**
RCS	**Mount Rainier-**	**1.10**	**33**		**Pb**	**11 59 17.0**	**-0.6**
GHW	**Garrison Hill**	**1.11**	**11**		**Pb**	**11 59 16.7**	**-1.0**
PANH	**Panhandle Gap,**	**1.12**	**36**		**Pb**	**11 59 14.1**	**-3.8**
PANH					**Pn**	**11 59 17.3**	**-0.7**
G05D	**Wamic, OR**	**1.14**	**128**	P	**Pb**	**11 59 18.2**	**0.0**
	baz=309,SNR=13						
G05D				S	**Sn**	**11 59 33.4**	**0.0**
	baz=309						
FMW	**Mount Fremont**	**1.17**	**33**		**Pn**	**11 59 18.4**	**-0.3**
SR41	**SR410 Landslid**	**1.19**	**38**		**Pn**	**11 59 18.3**	**-0.5**
D04E	**Lakebay**	**1.23**	**354**		**Pn**	**11 59 19.9**	**+0.6**
D04E	**Lakebay**	**1.23**	**354**	P	**Pn**	**11 59 19.5**	**+0.2**
	baz=174,SNR=30						
D04E				S	**Sg**	**11 59 37.3**	**+0.5**
	baz=174						
H04A	**Detroit Lake**	**1.30**	**167**		**Pn**	**11 59 19.7**	**-0.6**
H04A				IAML		11 59 39.4	
	comp=E,49nm,0.2s						
H04A				IAML		11 59 41.1	
	comp=N,57nm,0.2s						
D05A	**Enumclaw**	**1.31**	**18**	Pn	**Pn**	**11 59 20.7**	**+0.4**
D05A				IAML		12 00 04.6	
	comp=N,22nm,3.2s						
GSM	**Grass Mountain**	**1.37**	**24**		**Pn**	**11 59 21.9**	**+0.6**
H04D	**Lebanon**	**1.43**	**184**		**Pn**	**11 59 22.5**	**+0.5**
H04D	**Lebanon**	**1.43**	**184**	P	**Pn**	**11 59 22.0**	**0.0**
	baz=4.0,SNR=13						
H04D				S	**Sb**	**11 59 41.1**	**+0.1**
	baz=4.0						
COR	**Corvallis**	**1.45**	**200**	Pn	**Pn**	**11 59 22.9**	**+0.6**
COR				IAML		11 59 43.5	
	comp=N,31nm,2.4s						
COR				IAML		11 59 50.4	
	comp=N,30nm,3.0s						
RATT	**Rattlesnake La**	**1.57**	**20**		**Pn**	**11 59 24.9**	**+1.0**
GMW	**Gold Mountain**	**1.60**	**355**		**Pn**	**11 59 25.1**	**+0.7**
GNW	**Green Mountain**	**1.62**	**354**		**Pn**	**11 59 25.1**	**+0.5**
BROR	**Big Rock Looko**	**1.69**	**176**		**Pb**	**11 59 26.9**	**-0.5**
NLWA	**Neilton Lookou**	**1.69**	**329**	Pn	**Pn**	**11 59 26.4**	**+0.8**
NLWA				IAML		11 59 38.1	
	comp=N,26nm,3.6s						
NLWA				IAML		12 00 02.4	
	comp=N,21nm,3.1s						
HDW	**Hoodsport**	**1.73**	**350**		**Pn**	**11 59 27.0**	**+0.8**
BUCK	**Buck Mountain**	**1.78**	**189**	Pn	**Pn**	**11 59 27.9**	**+1.1**
BUCK				IAML		11 59 51.3	
	comp=N,24nm,2.3s						
C04A	**Brinnon**	**1.79**	**352**		**Pn**	**11 59 27.1**	**+0.3**
I05D	**Terrebonne, OR**	**1.84**	**151**	Sb	**Sb**	**11 59 54.4**	**+1.5**
	baz=332						
LTY	**Liberty**	**1.86**	**45**	Pn	**Pn**	**11 59 29.4**	**+1.4**
B013	**Quilcene**	**1.88**	**353**		**Pn**	**11 59 29.5**	**+1.4**
B013	**Quilcene**	**1.88**	**353**		**Pn**	**11 59 29.4**	**+1.4**
I02D	**Swisshome**	**2.05**	**206**	Pb	**Pb**	**11 59 32.4**	**-1.2**
	baz=25,SNR=11						
JCW	**Jim Creek**	**2.29**	**11**		**Pb**	**11 59 36.3**	**-1.4**
B05A	**Bryant**	**2.34**	**8**		**Pn**	**11 59 34.3**	**-0.2**
PINE	**Pine Mountain**	**2.46**	**151**	Pn	**Pn**	**11 59 37.7**	**+1.4**
PINE				IAML		12 00 07.2	
	comp=N,11nm,3.2s						
PINE				IAML		12 00 39.5	
	comp=E,10.0nm,3.4s						
DBO	**Dodson Butte**	**2.87**	**190**	Pn	**Pn**	**11 59 44.0**	**+2.2**
B926	**Mesachie Lake**	**3.05**	**341**		**Pb**	**11 59 51.3**	**+0.6**

*SJA **21** 11:59:09.0,30.99S×73.40W,h10km, ML4.7*
*IDC **21** 11:59:15.5±0.8,31.08S×72.61W,h28km±5km, mb4.0/4, mb1 4.2/7,mb1mx3.9/26,mbtmp4.2/7,ML4.1/3,Error ellipse: s-maj=33.2km s-min=18.6km az=95.0*
ISC 21 11:59:15.9±0.8,31.10S±0.08×72.8W±0.1,h35km,n23, σ1.905/22,mb4.0/4,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**3.58**	**98**	*i* P	**Pn**	**12 00 10.0**	**+1.0**
BO01	**Tunca**	**3.59**	**156**	*i* P	**Pn**	**12 00 07.0**	**-2.1**
GO03	**Copiap**	**4.17**	**34**	*i* P	**Pn**	**12 00 16.0**	**-1.1**
VCA	**Vinchina**	**4.65**	**61**	*i* P	**Pn**	**12 00 24.0**	**+0.1**
LAMA	**Las Malvinas**	**4.88**	**142**	*i* P	**Pn**	**12 00 29.0**	**+2.1**
H03N1	**Juan Fernandez**	**5.66**	**244**	T	T	12 05 55.5	
	baz=72,slow=72,SNR=20						
H03N2	**Juan Fernandez**	**5.67**	**244**	T	T	12 06 24.0	
	baz=72,slow=72,SNR=18						
H03N3	**Juan Fernandez**	**5.67**	**244**	T	T	12 05 55.1	
	baz=72,slow=72,SNR=20						
LC01	**Cunco**	**7.81**	**175**	*i* P	**Pn**	**12 01 06.0**	**-1.1**
PB05	**IPOC Station P**	**8.54**	**17**	*i* P	Pn	12 01 12.0	-5.3
PLCA	**Paso Flores**	**9.78**	**170**	Pn	**Pn**	**12 01 33.3**	**-0.9**
	0.3nm,0.3s,baz=328,slow=13,SNR=15						
PLCA	**Paso Flores**	**9.78**	**170**	*i* P	**Pn**	**12 01 34.0**	**-0.2**
LPAZ	**La Paz**	**15.36**	**17**	Pn	**Pn**	**12 02 50.4**	**-0.3**
	0.2nm,0.3s,baz=196,slow=6.9,SNR=14						
SIV	**San Ignacio**	**18.48**	**38**	P	**Pn**	**12 03 28.2**	**-1.2**
	1.5nm,0.3s,baz=222,slow=11,SNR=45						
BDFB	**Brasilia**	**27.40**	**61**	P	**P**	**12 04 57.2**	**-1.2**
	2.1nm,0.6s,baz=200,slow=6.2,SNR=3.7						
VNA3	**Neumayer Olymp**	**52.29**	**159**	P	**P**	**12 08 23.6**	**+0.1**
VNA2	**Neumayer--Watz**	**52.94**	**158**	P	**P**	**12 08 27.5**	**-0.8**
	baz=284,slow=8.0						
SNAA	**Sanae**	**54.51**	**159**	P	**P**	**12 08 39.8**	**-0.1**
QSPA	**South Pole Qui**	**59.12**	**180**	P	**P**	**12 09 14.0**	**+1.2**
	4.7nm,0.7s,baz=149,slow=2.3,SNR=51						
QSPA				pP	**pP**	**12 09 22.5**	**+0.7**
	3.4nm,0.9s,baz=283,slow=7.5,SNR=5.3						
TXAR	**Lajitas Array**	**66.89**	**331**	P	**P**	**12 10 05.8**	**+1.2**
	0.8nm,0.6s,baz=153,slow=7.8,SNR=7.1						
TXAR				pP	**pP**	**12 10 14.6**	**+0.6**
	0.7nm,0.8s,baz=159,slow=9.3,SNR=4.3						
TORD	**Torodi Ar. Bea**	**83.87**	**71**	P	**P**	**12 11 42.1**	**-0.3**
	0.5nm,0.6s,baz=263,slow=5.4,SNR=4.2						
WRA	**Warramunga Arr**	**122.93**	**211**	PKP	**PKPdf**	**12 18 08.8**	**-0.3**
	0.6nm,0.6s,baz=145,slow=1.1,SNR=8.6						
ZALV	**Zalesovo Beam**	**152.07**	**29**	PKPbc	**PKiKP**	**12 19 07.4**	**+0.1**
	3.3nm,0.6s,baz=312,slow=3.1,SNR=14						
ZALV				pPKPbc	**pPKPbc**	**12 19 16.3**	**-0.4**
	2.5nm,0.6s,baz=293,slow=2.3,SNR=6.0						

*IDC **21** 12:04:03.9±1.9,30.58S×71.89W,h0km,mb4.3/3, mb1 4.1/7,mb1mx3.9/26,mbtmp4.0/7,ML3.7/4,MS3.6/2, Ms1 3.6/2,ms1mx3.1/26,Error ellipse: s-maj=69.1km s-min=25.1km az=105.0*
*NEIC **21** 12:04:04.9±1.3,30.58S±0.05×72.11W±0.04,h18km±5km, Error ellipse: s-maj=7.0km s-min=4.6km az=188.0*
*GUC **21** 12:04:05.5±0.6,30.60S×72.07W,h17km±2km,ML4.1*
*SJA **21** 12:04:06.0,30.34S×72.18W,h10km,ML4.6*
ISC 21 12:04:03.9±1.7,30.59S±0.04×72.14W±0.06,h9km±10km, n71,σ1.952/69,mb4.4/4,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.44**	**101**	*e*P	**Pg**	**12 04 13.6**	**+1.1**
CO06				*i* S	**Sg**	**12 04 19.1**	**+0.8**
CO06				IAML		12 04 20.2	
	comp=E,16μm,0.2s						
CO06	**Fray Jorge**	**0.44**	**101**	Pg	**Pb**	**12 04 13.8**	**-0.1**
CO06				Sg	**Sg**	**12 04 18.9**	**+0.6**
CO05	**La Serena**	**1.03**	**49**	*e*P	**Pb**	**12 04 23.7**	**-0.1**
CO05				*i* S	**Sg**	**12 04 37.0**	**0.0**
CO05				IAML		12 04 42.8	
	comp=E,10μm,0.5s						
CO05	**La Serena**	**1.03**	**49**		**Pb**	**12 04 23.7**	**-0.1**
GO04	**Tololo Observa**	**1.23**	**71**	*e*P	**Pn**	**12 04 26.6**	**-0.9**
GO04				*i* S	**Sn**	**12 04 43.1**	**-1.2**
GO04				IAML		12 04 49.8	
	comp=N,16μm,0.2s						
GO04	**Tololo Observa**	**1.23**	**71**		**Pn**	**12 04 27.1**	**-0.4**
GO04	**Tololo Observa**	**1.23**	**71**	*i* P	**Pn**	**12 04 27.0**	**-0.4**
CO03	**El Pedregal**	**1.27**	**102**	*e*P	**Pn**	**12 04 26.9**	**-1.1**
CO03				*i* S	**Sb**	**12 04 43.7**	**-0.9**
CO03				IAML		12 04 46.0	
	comp=E,5μm,0.6s						
CO03	**El Pedregal**	**1.27**	**102**	Pn	**Pn**	**12 04 26.8**	**-1.1**
LCO	**Las Campanas**	**2.01**	**39**	*e*P	**Pn**	**12 04 38.1**	**-0.2**
LCO				*i* S	**Sb**	**12 05 05.3**	**-0.6**
LCO	**Las Campanas**	**2.01**	**39**	*i* P	**Pn**	**12 04 38.0**	**-0.2**
VA06	**Catapilco**	**2.09**	**160**	*e*P	**Pn**	**12 04 40.5**	**+1.4**
VA06				*i* S	**Sb**	**12 05 07.1**	**-1.0**
VA06				IAML		12 05 16.8	
	comp=E,3μm,0.4s						
AROD	**Rodeo**	**2.34**	**80**	*i* P	**Pb**	**12 04 45.0**	**-1.4**
VA01	**Torpederas**	**2.46**	**170**		**Pn**	**12 04 43.7**	**-0.5**
AC04	**Llanos de Chal**	**2.55**	**22**		**Pn**	**12 04 44.6**	**-0.9**
AC04	**Llanos de Chal**	**2.55**	**22**	*i* P	**Pn**	**12 04 44.0

Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.78**	**284**	*i*		12 21 10.0	
	baz=100,slow=332,SNR=2.8						
ZALV	**Zalesovo Beam**	**1.78**	**284**	Pn	Pn	12 09 51.5	-0.3
	1.0nm,0.3s,baz=105,slow=16,SNR=7.8						
ZALV				Sn	Sb	12 10 16.1	+0.1
	1.6nm,0.3s,baz=106,slow=26,SNR=8.2						
MKAR	**Makanchi Array**	**7.61**	**209**	Pn	Pn	12 11 13.2	+1.4
	0.1nm,0.3s,baz=30,slow=14,SNR=5.0						

*DJA **21** 12:17:44.0±0.5,9˚S±4˚×11˚8E±˚, h33km±7km, M3.9/12, MLv3.9/12*
*IDC **21** 12:18:01.2±2.8, 10˚.94S×119˚.52E, h0km, mb3.5/1, mb1 3.7/4, mb1mx3.5/28, mbtmp3.6/4, ML3.5/3, Error ellipse: s-maj=71.2km s-min=31.4km az=49.0*
ISC 21 12:17:43.3±1.1,**9˚.51S**±0˚.07×**117˚.95E**±0˚.04,**h35**km,**n18,** σ1f**19/23,Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.70**	**346**	P	**Pn**	**12 17 56.8**	**0.0**
PLAI				S	**Sn**	**12 18 06.7**	**+0.3**
TWSI	**Taliwang, Sumb**	**1.31**	**306**	P	**Pn**	**12 18 05.4**	**+0.3**
WBSI	**Waikabubak, Su**	**1.42**	**95**	P	**Pn**	**12 18 05.4**	**-1.3**
LBFI	**Labuhan Bajo,**	**2.17**	**62**	P	**Pn**	**12 18 17.7**	**+0.7**
LBFI				S	**Sn**	**12 18 41.9**	**-0.8**
BASI	**Baing, Sumba**	**2.68**	**105**	P	**Pn**	**12 18 25.0**	**+1.0**
DNP	**Denpasar**	**2.83**	**287**	P	**Pn**	**12 18 25.9**	**-0.2**
DNP				S	**Sn**	**12 19 00.9**	**+1.9**
SRBI	**Singaraja**	**3.06**	**297**	P	**Pn**	**12 18 29.8**	**+0.6**
SRBI				S	**Sn**	**12 19 04.9**	**+0.3**
EDFI	**Ende, Flores**	**3.77**	**79**	P	**Pn**	**12 18 40.1**	**+1.1**
EDFI				S	**Sn**	**12 19 24.1**	**+1.9**
JAGI	**Jajag, Banyuwa**	**3.90**	**285**	P	**Pn**	**12 18 41.0**	**+0.3**
ABJI	**Asem Bagus**	**4.05**	**295**	P	**Pn**	**12 18 42.5**	**-0.4**
BSSI	**Bau Bau, Buton**	**4.18**	**37**	P	Pn	12 18 49.4	+4.7
BSSI				S	**Sn**	**12 19 31.8**	**-0.6**
MMRI	**Maumere**	**4.32**	**79**	P	**Pn**	**12 18 49.2**	**+2.6**
GMJI	**Gumukmas**	**4.62**	**285**	P	**Pn**	**12 18 51.2**	**+0.5**
BKSI	**Bulukumba**	**4.69**	**27**	P	**Pn**	**12 18 52.7**	**+1.1**
BKSI				S	**Sn**	**12 19 43.8**	**-0.9**
BATI	**Baumata**	**5.67**	**97**	Pn	**Pn**	**12 19 06.0**	**+0.9**
	9.9nm,0.3s,baz=318,slow=4.1,SNR=5.6						
WRA	**Warramunga Arr**	**18.92**	**125**	Pn	**P**	**12 21 59.5**	**-1.8**
	0.1nm,0.3s,baz=299,slow=14,SNR=9.0						
ASAR	**Alice Springs**	**20.75**	**135**	P	**P**	**12 22 19.9**	**-1.3**
	0.1nm,0.3s,baz=315,slow=9.9,SNR=20						
SONM	**Songino Array**	**58.01**	**351**	P	P	12 28 07.5	+35
	0.2nm,0.3s,baz=146,slow=6.1,SNR=1.8						

*SJA **21** 12:35:46.0, 31˚.03S×73˚.17W, h10km, ML4.8*
*NEIC **21** 12:35:48.6±1.2, 31˚.08S±0˚.04×72˚.61W±0˚.09, h11km±4km, mb4.6/23, Error ellipse: s-maj=12.6km s-min=1.6km az=114.0*
*GUC **21** 12:35:49.1±0.8, 31˚.10S×72˚.62W, h38km±4km, ML4.1*
*VAO **21** 12:35:50.0±0.4, 31˚.06S×72˚.74W, h42km, mb4.6*
*IDC **21** 12:35:52.7±0.6, 31˚.11S×72˚.59W, h27km±3km, mb3.9/8, mb1 4.2/11, mb1mx4.1/26, mbtmp4.2/11, ML4.7/3, MS3.3/5, Ms1 3.3/5, ms1mx3.1/24, Error ellipse: s-maj=23.0km s-min=18.1km az=87.0*
ISC 21 12:35:49.4±0.7,**31˚.04S**±0˚.04×**72˚.52W**±0˚.05,**h17**km±4km, **n133,** σ1f**41**/146,**mb4.4**/14,**4C-1D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.84**	**65**	*eP*	**Pn**	**12 36 06.4**	**-0.2**
CO06				*i* S	**Sn**	**12 36 18.8**	**+0.2**
CO06				IAML		12 36 20.6	
CO06	**Fray Jorge**	**0.84**	**65**		**Pn**	**12 36 07.1**	**+0.5**
CO05	**La Serena**	**1.57**	**45**	⇑*iP*	**Pb**	**12 36 17.6**	**-0.4**
CO05				*i* S	**Sb**	**12 36 37.8**	**+0.1**
CO05	**La Serena**	**1.57**	**45**		**Pb**	**12 36 17.7**	**-0.4**
CO03	**El Pedregal**	**1.59**	**83**	⇑*iP*	**Pb**	**12 36 18.6**	**+0.2**
CO03				*i* S	**Sg**	**12 36 39.8**	**-0.8**
CO03				IAML		12 36 42.7	
	comp=E,2μm,0.3s						
CO03	**El Pedregal**	**1.59**	**83**	*i* P	**Pg**	**12 36 19.0**	**-1.0**
GO04	**Tololo Observa**	**1.72**	**60**	*eP*	**Pb**	**12 36 20.0**	**-0.7**
GO04				*i* S	**Sg**	**12 36 43.3**	**-1.5**
GO04				IAML		12 36 45.0	
	comp=N,7μm,0.4s						
GO04	**Tololo Observa**	**1.72**	**60**		**Pb**	**12 36 20.5**	**-0.2**
GO04	**Tololo Observa**	**1.72**	**60**	*i* P	**Pb**	**12 36 20.0**	**-0.7**
VA06	**Catapilco**	**1.84**	**146**	*eP*	**Pn**	**12 36 19.7**	**-0.6**
VA06				IAML		12 36 47.0	
	comp=E,2μm,0.3s						
VA01	**Torpederas**	**2.11**	**160**	Pn	**Pn**	**12 36 23.2**	**-0.8**
VA01	**Torpederas**	**2.11**	**160**	*i* P	**Pn**	**12 36 24.0**	**0.0**
ROCH	**El Roble**	**2.32**	**147**	*eP*	**Pn**	**12 36 27.3**	**+0.3**
ROCH				*eS*	**Sn**	**12 36 55.5**	**+0.3**
ROCH				IAML		12 36 58.6	
	comp=N,2μm,0.8s						
VA03	**San Esteban**	**2.40**	**136**	⇓*iP*	**Pn**	**12 36 29.4**	**+1.3**
VA03				*i* S	**Sn**	**12 36 57.7**	**+0.5**
VA03				IAML		12 37 05.0	
	comp=E,3μm,0.9s						
LCO	**Las Campanas**	**2.56**	**38**	*eP*	**Pn**	**12 36 31.6**	**+1.1**
LCO				*eS*	**Sb**	**12 37 03.6**	**-2.9**
LCO	**Las Campanas**	**2.56**	**38**	*i* P	**Pn**	**12 36 32.0**	**+1.5**
VA05	**Santo Domingo**	**2.72**	**164**	*eP*	**Pn**	**12 36 31.3**	**-1.1**
VA05				IAML		12 37 07.2	
	comp=N,548nm,0.6s						
AROD	**Rodeo**	**2.77**	**72**	*i* P	**Pb**	**12 36 38.0**	**-0.7**
MT05	**Renca**	**2.79**	**148**	⇑*eP*	**Pn**	**12 36 32.6**	**-0.8**
MT05				*eS*	**Sn**	**12 37 04.7**	**-2.1**
MT05				IAML		12 37 21.5	
	comp=E,870nm,0.5s						
MT05	**Renca**	**2.79**	**148**	Pn	**Pn**	**12 36 33.2**	**-0.2**
MT05	**Renca**	**2.79**	**148**	*i* P	**Pn**	**12 36 36.0**	**+2.6**
RTLS	**Leoncito**	**2.86**	**106**	*i* P	**Pb**	**12 36 39.0**	**-1.2**
AUSP	**Uspallata**	**2.92**	**115**	*i* P	**Pb**	**12 36 40.0**	**-1.3**
MT01	**Popeta**	**3.02**	**159**	*i* P	**Pn**	**12 36 36.0**	**-0.5**
MT09	**Talagante**	**3.02**	**155**	⇑*eP*	**Pn**	**12 36 36.9**	**+0.3**
MT09				*eS*	**Sn**	**12 37 11.8**	**-0.7**
MT09				IAML		12 37 17.5	
	comp=N,342nm,0.5s						
AC04	**Llanos de Chal**	**3.09**	**24**	Pn	**Pn**	**12 36 37.6**	**+0.1**
AC04	**Llanos de Chal**	**3.09**	**24**	*i* P	**Pn**	**12 36 38.0**	**+0.5**
ZON	**Zonda**	**3.33**	**100**		**Pn**	**12 36 41.3**	**+0.5**
ZON	**Zonda**	**3.33**	**100**	*i* P	**Pb**	**12 36 47.0**	**-1.1**
RTCV	**Cerro Valdivia**	**3.50**	**105**	*i* P	**Pb**	**12 36 49.0**	**-2.0**
BO01	**Tunca**	**3.56**	**160**		**Pn**	**12 36 43.5**	**-0.4**
BO01	**Tunca**	**3.56**	**160**	*i* P	**Pn**	**12 36 44.0**	**+0.1**
GO03	**Copiap**	**3.97**	**31**	*i* P	**Pn**	**12 36 52.0**	**+2.3**
GO05	**Huala**	**3.99**	**173**	*i* P	**Pn**	**12 36 49.0**	**-0.9**
BO02	**Sierra Bellavi**	**4.02**	**159**	*i* P	**Pn**	**12 36 51.0**	**+0.7**
AVFE	**Valle Fertil**	**4.37**	**86**	*i* P	**Pn**	**12 36 59.0**	**+3.8**
VCA	**Vinchina**	**4.39**	**60**	*i* P	Pb	12 37 01.0	-5.3
COIS	**El Sosneado**	**4.74**	**150**	*i* P	**Pn**	**12 37 04.0**	**+3.8**
LAMA	**Las Malvinas**	**4.78**	**145**	*i* P	**Pn**	**12 37 04.0**	**+3.3**
ML02	**Panimavida**	**4.80**	**169**	Pn	**Pn**	**12 37 00.4**	**-0.6**
ACHE	**Chepes**	**5.03**	**93**	*i* P	**Pn**	**12 37 08.0**	**+3.8**
AC02	**Maricunga**	**5.14**	**36**	*i* P	**Pn**	**12 37 09.0**	**+2.9**
PB14	**IPOC Station P**	**6.66**	**17**		**Pn**	**12 37 26.9**	**0.0**
PB10	**IPOC Station P**	**7.70**	**14**	*i* P	**Pn**	**12 37 41.0**	**+0.2**
LC01	**Cunco**	**7.86**	**176**		**Pn**	**12 37 42.0**	**-1.0**
LC01	**Cunco**	**7.86**	**176**	*i* P	**Pn**	**12 37 42.0**	**-1.0**
LVC	**Limon Verde**	**8.99**	**22**	LR	LR	12 41 34.8	
	comp=N,90nm,19.9s,baz=183,slow=38						
LVC	**Limon Verde**	**8.99**	**22**	Pn	**Pn**	**12 37 59.8**	**+0.8**
LVC	**Limon Verde**	**8.99**	**22**	*eP*	**Pn**	**12 37 58.5**	**-0.4**
LVC				*eS*	**Sn**	**12 39 40.4**	**+0.4**
PLCA	**Paso Flores**	**9.80**	**171**	Pn	**Pn**	**12 38 09.7**	**-0.1**
	comp=N,1.7nm,0.3s,baz=340,slow=11,SNR=31						
PLCA				LR	LR	12 41 48.9	
	comp=N,106nm,19.0s,baz=158,slow=37						
PLCA	**Paso Flores**	**9.80**	**171**		**Pn**	**12 38 08.7**	**-1.1**
PLCA	**Paso Flores**	**9.80**	**171**	*eP*	**Pn**	**12 38 08.7**	**-1.1**
LL04	**Puerto Octay**	**9.85**	**179**	Pn	**Pn**	**12 38 09.6**	**-0.7**
TRQA	**Tornquist**	**11.15**	**132**	Pn	**Pn**	**12 38 28.8**	**+0.6**
TRQA	**Tornquist**	**11.15**	**132**	*eP*	**Pn**	**12 38 28.4**	**+0.2**
PSGCX	**Pisagua**	**11.60**	**11**	Pn	**Pn**	**12 38 34.0**	**-0.4**
ITQB	**Itaqui**	**13.80**	**88**	*eP*	**Pn**	**12 39 04.6**	**+0.4**
CPUP	**Villa Florida**	**14.13**	**74**	LR	LR	12 44 22.5	
	comp=N,122nm,21.5s,baz=228,slow=36						
CPUP	**Villa Florida**	**14.13**	**74**	*eP*	**Pn**	**12 39 10.9**	**+2.0**
LPAZ	**La Paz**	**15.22**	**16**	Pn	**P**	**12 39 27.5**	**-1.7**
	comp=N,0.9nm,0.3s,baz=185,slow=7.0,SNR=53						
LPAZ	**La Paz**	**15.22**	**16**		**Pn**	**12 39 23.5**	**-0.8**
LPAZ				IAmb	IAmb	12 39 29.3	
	comp=Z,14nm,0.7s						
LPAZ	**La Paz**	**15.22**	**16**	*eP*	**Pn**	**12 39 22.3**	**-2.0**
CPSB	**Cacapava Do Su**	**16.43**	**93**	*eP*	**Pn**	**12 39 40.0**	**+0.8**
SIV	**San Ignacio**	**18.27**	**38**	P	**P**	**12 40 03.5**	**+1.1**
	comp=Z,3.3nm,0.3s,baz=234,slow=10.0,SNR=105						
SIV				LR	LR	12 48 28.8	
	comp=Z,184nm,19.9s,baz=123,slow=41						
AQDB	**Aquidauana**	**18.42**	**59**	P	**Pn**	**12 40 04.4**	**+0.3**
AQDB	**Aquidauana**	**18.42**	**59**	*eP*	**P**	**12 40 03.8**	**-0.2**
CNLB	**Canela**	**18.81**	**90**	*eP*	**P**	**12 40 07.9**	**-0.5**
PTGB	**Pitanga**	**19.14**	**76**	*eP*	**P**	**12 40 12.0**	**0.0**
TRCB	**Terra Rica**	**19.52**	**70**	*eP*	**P**	**12 40 15.5**	**-0.6**
PTLB	**Pontes e Lacer**	**19.77**	**41**	*eP*	**P**	**12 40 17.8**	**-1.0**
TER01	**Tubaro-SC**	**20.45**	**89**	*eP*	**P**	**12 40 25.5**	**-0.7**
PP1B	**Ponte de Pedra**	**20.88**	**54**	*eP*	**P**	**12 40 30.3**	**-0.5**
PCMB	**Pacaembu**	**21.21**	**69**	*eP*	**P**	**12 40 34.1**	**-0.4**
VILB	**Vilhena**	**21.29**	**35**	*eP*	**P**	**12 40 34.4**	**-0.8**
TIJ01	**Guaruva-PR**	**21.48**	**80**	*eP*	**P**	**12 40 36.6**	**-0.8**
SALV	**Santo Antonio**	**21.53**	**49**	*eP*	**P**	**12 40 36.9**	**-1.0**
FRTB	**Fartura**	**21.79**	**75**	*eP*	**P**	**12 40 40.5**	**-0.2**
ETMB	**Extrema**	**21.92**	**17**	*eP*	**P**	**12 40 41.5**	**-0.5**
ITRB	**Iturama**	**22.94**	**66**	*eP*	**P**	**12 40 52.6**	**-0.4**
CZSB	**Cruzeiro do Su**	**23.19**	**360**	*eP*	**P**	**12 40 53.6**	**-1.9**
PET01	**Itanhaem-SP**	**23.32**	**79**	*eP*	**P**	**12 40 56.3**	**-0.5**
SPB	**Sao Paulo**	**23.46**	**78**	P	**P**	**12 40 58.1**	**0.0**
SPB				IAmb	IAmb	12 41 11.9	
	comp=Z,17nm,0.8s						
SPB	**Sao Paulo**	**23.46**	**78**	*eP*	**P**	**12 40 56.7**	**-1.4**
SAML	**Samuel**	**23.64**	**24**	P	**P**	**12 41 00.2**	**+0.3**
SAML	**Samuel**	**23.64**	**24**	*eP*	**P**	**12 40 58.4**	**-1.5**
BB19B	**Bebedouro**	**23.69**	**71**	*eP*	**P**	**12 41 01.8**	**+1.3**
RCLB	**Rio Claro- Sao**	**23.87**	**75**	*eP*	**P**	**12 41 00.9**	**-1.4**
VAO	**Valinhos**	**24.09**	**77**	*eP*	**P**	**12 41 03.3**	**-1.1**
PARB	**Paraibuna**	**25.08**	**79**	*eP*	**P**	**12 41 12.4**	**-1.0**
CLDB	**Colider**	**25.36**	**41**	*eP*	**P**	**12 41 14.8**	**-1.0**
IPMB	**Ipameri, GO**	**25.59**	**65**	*eP*	**P**	**12 41 16.9**	**-1.1**
ESAR	**Angra dos Reis**	**26.21**	**79**	*eP*	**P**	**12 41 22.1**	**-1.4**
BSCB	**Bom Sucesso**	**26.80**	**75**	*eP*	**P**	**12 41 28.0**	**-0.9**
TBTG	**Tabatinga, AM**	**26.82**	**6**	*eP*	**P**	**12 41 26.4**	**-2.6**
BDFB	**Brasilia**	**27.14**	**61**	P	**P**	**12 41 34.8**	**+2.8**
	comp=Z,7.4nm,0.8s,baz=238,slow=11,SNR=8.7						
BDFB				LR	LR	12 53 29.8	
	comp=Z,162nm,19.5s,baz=347,slow=39						
BDFB	**Brasilia**	**27.14**	**61**	P	**P**	**12 41 31.8**	**-0.3**
BDFB				IAmb	IAmb	12 41 46.6	
	comp=Z,11nm,0.8s						
SNDB	**Serra Nova Dou**	**27.29**	**51**	*eP*	**P**	**12 41 32.0**	**-1.3**
ITTB	**Itaituba**	**30.88**	**34**	*eP*	**P**	**12 42 03.6**	**-1.5**
SMTB	**Santa Maria do**	**32.04**	**52**	*eP*	**P**	**12 42 13.6**	**-1.8**
PRPB	**Parauapebas**	**32.64**	**45**	*eP*	**P**	**12 42 19.2**	**-1.5**
RUSC	**La Rusia**	**36.73**	**359**	P	**P**	**12 42 55.2**	**-1.3**
VNA3	**Neumayer Olymp**	**52.25**	**159**	P	**P**	**12 45 00.8**	**+1.5**
VNA1	**Neumayer--Stat**	**52.56**	**158**	P	**P**	**12 45 03.8**	**+2.2**
VNA2	**Neumayer--Watz**	**52.90**	**158**	P	**P**	**12 45 05.5**	**+1.4**
	baz=286,slow=8.1						
SNAA	**Sanae**	**54.48**	**159**	P	**P**	**12 45 17.1**	**+1.4**
SNAA	**Sanae**	**54.48**	**159**	P	**P**	**12 45 15.2**	**-0.5**
QSPA	**South Pole Qui**	**59.19**	**180**	P	**P**	**12 45 49.3**	**-0.1**
SLBS	**Sierra La Lagu**	**65.17**	**322**	P	**P**	**12 46 29.0**	**-0.9**
VNDA	**Vanda**	**66.92**	**191**	P	**P**	**12 46 42.3**	**+2.0**
	comp=Z,0.8nm,0.7s,baz=108,slow=5.3,SNR=7.4						
VNDA	**Vanda**	**66.92**	**191**	P	**P**	**12 46 40.8**	**+0.4**
VNDA				IAmb	IAmb	12 46 50.8	
	comp=Z,3.4nm,1.2s						
TXAR	**Lajitas Array**	**66.96**	**331**	P	**P**	**12 46 43.3**	**+2.0**
	comp=Z,1.2nm,0.6s,baz=155,slow=8.1,SNR=15						
TXAR				pP	**pwP**	**12 46 51.6**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=150,slow=8.4,SNR=9.9						
TXAR	**Lajitas Array**	**66.96**	**331**	P	**P**	**12 46 41.9**	**+0.6**
TX31	**Lajitas Ar. Si**	**66.96**	**331**	P	**P**	**12 46 41.0**	**-0.3**
TX31				IAmb	IAmb	12 46 52.3	
	comp=Z,9.1nm,0.9s						
TX32	**Lajitas Array**	**66.96**	**331**	P	**P**	**12 46 41.7**	**+0.4**
TX32				IAmb	IAmb	12 46 52.3	
	comp=Z,3.2nm,0.9s						
MNTX	**Cornudas Mount**	**69.74**	**330**	P	**P**	**12 46 58.7**	**+0.1**
MNTX				IAmb	IAmb	12 47 00.9	
	comp=Z,5.0nm,1.1s						
DBIC	**Dimbokro**	**74.64**	**72**	P	**P**	**12 47 30.0**	**+1.7**
	comp=Z,1.1nm,0.5s,baz=244,slow=9.2,SNR=1.8						
DBIC	**Dimbokro**	**74.64**	**72**	P	**P**	**12 47 28.7**	**+0.4**
DBIC				IAmb	IAmb	12 47 45.9	
	comp=Z,8.2nm,1.2s						
MAW	**Mawson**	**76.13**	**164**	P	**P**	**12 47 37.6**	**+1.6**
	comp=Z,1.4nm,0.5s,baz=209,slow=6.6,SNR=8.2						
MAW	**Mawson**	**76.13**	**164**	P	**P**	**12 47 36.6**	**+0.7**
SUR	**Sutherland**	**76.63**	**120**	P	**P**	**12 47 39.4**	**-0.3**
SUR				IAmb	IAmb	12 48 02.1	
	comp=Z,9.0nm,1.1s						
ECSD	**EROS Data Cent**	**77.61**	**342**		**P**	**12 47 44.8**	**+0.3**
ECSD				IAmb	IAmb	12 47 55.6	
	comp=Z,12nm,1.1s						
PDAR	**Pinedale Array**	**80.94**	**333**	P	**P**	**12 48 04.2**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=151,slow=3.4,SNR=5.2						
NVAR	**Mina Array Bea**	**81.22**	**325**	P	**P**	**12 48 07.1**	**+2.5**
	comp=Z,0.3nm,0.6s,baz=149,slow=5.0,SNR=4.8						
TORD	**Torodi Ar. Bea**	**83.60**	**71**	P	**P**	**12 48 19.4**	**+2.1**
	comp=Z,1.2nm,0.6s,baz=282,slow=4.5,SNR=8.8						
TORD				pP	**pwP**	**12 48 27.5**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=272,slow=4.5,SNR=6.5						
TORD	**Torodi Ar. Bea**	**83.60**	**71**	P	**P**	**12 48 17.9**	**+0.6**
TORD				IAmb	IAmb	12 48 21.7	
	comp=Z,1.6nm,0.7s						
LBTB	**Lobatse**	**83.93**	**115**		**P**	**12 48 18.1**	**-1.0**
ASAR	**Alice Springs**	**120.00**	**208**	PKP	**PKPdf**	**12 54 39.7**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=123,slow=1.5,SNR=11						
WRA	**Warramunga Arr**	**123.12**	**210**	PKP	**PKiKP**	**12 54 46.2**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=153,slow=1.8,SNR=20						
WRA	**Warramunga Arr**	**123.12**	**210**		**PKPdf**	**12 54 43.2**	**-2.6**
BVAR	**Borovoye Array**	**145.33**	**40**	PKPbc	**PKiKP**	**12 55 28.2**	**-1.6**
	comp=Z,0.9nm,0.4s,baz=231,slow=7.1,SNR=8.6						
BVAR				pPKPbc	**sPKPdf**	**12 55 37.0**	**+6.2**
	comp=Z,1.9nm,0.8s,baz=240,slow=8.4,SNR=6.6						
KURBB	**Kurchatov Arra**	**150.92**	**39**	PKPbc	**PKiKP**	**12 55 42.8**	**+1.3**
	comp=Z,2.4nm,0.6s,baz=305,slow=2.9,SNR=21						
KURBB				pPKPbc	**pPKPab**	**12 55 51.4**	**-0.8**
	comp=Z,3.5nm,0.7s,baz=298,slow=2.8,SNR=13						
AAK	**Ala-Archa**	**151.35**	**57**	PKPbc	**PKiKP**	**12 55 44.3**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=226,slow=3.7,SNR=5.2						
AAK				pPKPbc	**pPKPab**	**12 55 53.0**	**-1.5**
	comp=Z,3.6nm,0.8s,baz=82,slow=4.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**151.89**	**29**	PKPbc	**PKiKP**	**12 55 44.8**	**+1.5**
	comp=Z,4.2nm,0.5s,baz=185,slow=5.5,SNR=5.6						
ZALV				pPKPbc	**PKPab**	**12 55 53.1**	**+1.0**
	comp=Z,7.9nm,0.7s,baz=305,slow=3.4,SNR=8.3						

TAP 21 12:40:06.9,24˚.77N×121˚.88E,h12km,ML2.6,4C-1D,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NTC	**Toucheng**	**0.09**	**333**	*i* P	Pg	12 40 10.4	+0.7
	baz=332						
NTC				*i* S	Sg	12 40 12.1	+0.4
	baz=332						
ILA	**Ilan**	**0.12**	**266**	P	Pg	12 40 10.4	+0.3
	baz=264						
ILA				S	Sg	12 40 13.2	+1.0
	baz=264						
TWC	**Suao**	**0.17**	**188**	*i* P	Pb	12 40 11.6	-0.3
	baz=184						
TWC				*i* S	Sg	12 40 14.0	+0.6
	baz=184						
TWE	**Neicheng**	**0.20**	**254**	⇑*iP*	Pb	12 40 12.2	-0.2
	baz=252						
TWE				*i* S	Sg	12 40 15.3	+1.1
	baz=252						
NDS	**Dongshan**	**0.20**	**226**	*i* P	Pb	12 40 12.4	-0.2
	baz=225						
NDS				*i* S	Sg	12 40 15.5	+1.2
	baz=225						
TIPB	**Shuangxi**	**0.20**	**347**	*i* P	Pg	12 40 12.0	+0.6
	baz=347						
TIPB				*i* S	Sg	12 40 15.2	+0.8
	baz=347						
TWB1	**Santiao Chiao**	**0.26**	**24**	*i* P	Pg	12 40 12.6	+0.3
	baz=25						
TWB1				*i* S	Sg	12 40 15.8	-0.1
	baz=25						
NWF	**Wu-fen Shan**	**0.31**	**344**	⇑*iP*	Pb	12 40 14.3	-0.1
	baz=344						
NWF				*i* S	Sb	12 40 19.1	-0.3
	baz=344						
WFSB	**Wu-fen Shan**	**0.31**	**344**	⇑P	Pb	12 40 14.3	0.0
	baz=343						
WFSB				S	Sb	12 40 19.1	-0.3
	baz=343						
ENTT	**Nioudou**	**0.31**	**245**	*i* P	Pb	12 40 14.5	+0.1
	baz=243						
ENTT				*i* S	Sb	12 40 19.6	+0.2
	baz=243						
TWA	**Mucha**	**0.34**	**308**	*i* P	Pb	12 40 14.8	0.0
	baz=308						
TWA				*i* S	Sb	12 40 19.7	-0.4
	baz=308						
EWUT	**Wuta**	**0.34**	**195**	*i* P	Pb	12 40 14.8	-0.1
	baz=195						
EWUT				*i* S	Sg	12 40 19.3	+0.9
	baz=195						
NWLT	**Wulai**	**0.34**	**271**	P	Pb	12 40 14.8	-0.1
	baz=270						
NWLT				*i* S	Sb	12 40 19.4	-0.9
	baz=270						
ENA	**Nanau**	**0.36**	**200**	*i* P	Pb	12 40 15.4	0.0
	baz=198						
ENA				*i* S	Sb	12 40 20.1	-0.8
	baz=198						
NHDH	**Xindian Distri**	**0.37**	**301**	*i* P	Pb	12 40 15.8	+0.4
	baz=300						
NHDH				*i* S	Sb	12 40 20.8	-0.3
	baz=300						
NDT	**Datong Townshi**	**0.37**	**243**	*i* P	Pb	12 40 15.6	+0.2
	baz=242						
NDT				S	Sb	12 40 20.6	-0.5
	baz=242						
TAP	**Taipei**	**0.43**	**308**	P	Pg	12 40 15.7	+0.3
	baz=308						
TAP				S	Sg	12 40 21.8	+0.7
	baz=308						
YM01	**YM01**	**0.46**	**323**	⇑P	Pb	12 40 17.6	+0.6
	baz=323						
YM01				S	Sb	12 40 23.8	0.0
	baz=323						
YHNB	**Yeheng**	**0.47**	**257**	P	Pb	12 40 17.0	-0.1
	baz=257						
YHNB				S	Sb	12 40 23.5	-0.4
	baz=257						
EHP	**Heping Village**	**0.48**	**195**	*eP*	Pb	12 40 16.8	-0.4
	baz=193						
EHP				S	Sb	12 40 24.2	0.0
	baz=193						
NSK	**Sanguang**	**0.48**	**258**	*i* P	Pb	12 40 17.1	-0.2
	baz=257						
NSK				S	Sb	12 40 23.8	-0.6
	baz=257						
ANP	**Anpu**	**0.52**	**322**	*i* P	Pb	12 40 18.5	+0.4
	baz=322						
ANP				*eS*	Sb	12 40 25.1	-0.6
	baz=322						
TWY	**Chenhua**	**0.56**	**333**	*i* P	Pb	12 40 19.1	+0.4
	baz=333						
TWY				*i* S	Sb	12 40 27.3	+0.7
	baz=333						
NNS	**Nan Shan**	**0.56**	**234**	P	Pb	12 40 18.5	-0.3
	baz=233						
NNS				S	Sb	12 40 27.0	+0.2
	baz=233						
NNSB	**Datong**	**0.56**	**233**	P	Pb	12 40 19.0	+0.2
	baz=232						
NNSB				S	Sb	12 40 26.5	-0.3
	baz=232						
NACB	**Ninganchiao**	**0.65**	**203**	⇓P	Pb	12 40 20.5	+0.4
	baz=203						
NACB				S	Sb	12 40 29.7	+0.5
	baz=203						
ETL	**Fush Village**	**0.65**	**201**	P	Pb	12 40 20.7	+0.4
	baz=200						
ETL				S	Sb	12 40 30.0	+0.6

	baz=39									
ETLH					*e*S		Sb	12 40 40.4	-0.4	
	baz=39									
TWD	**Chiawan**	**0.35**	**67**	*e*P			Pb	12 40 35.0	-0.2	
	baz=67									
TWD					*e*S		Sb	12 40 40.9	+0.1	
	baz=67									
TYC	**Yuchr**	**0.36**	**264**	P			Pg	12 40 34.4	+0.7	
	baz=263									
TYC					S		Sb	12 40 40.0	-1.2	
	baz=263									
NACB	**Ninganchiao**	**0.39**	**54**	*e*P			Pb	12 40 35.5	-0.4	
	baz=54									
NACB					*e*S		Sb	12 40 41.9	-0.3	
	baz=54									
ETL	**Fush Village**	**0.41**	**58**	*e*P			Pb	12 40 35.7	-0.5	
	baz=58									

NEIC ***21*** *12:49:23.7,31.°01S×73.°03W,h5km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=9.27; $M_{\theta\theta}$=1.03; $M_{\phi\phi}$=8.25; $M_{r\theta}$=-2.10; $M_{r\phi}$=-1.14; $M_{\theta\phi}$=-0.55; Fault plane solution: M_0=9.14000×10^{15} NP1:ϕ_s=2.66000°, δ=46.89000°,λ=-74.09000°. NP2:ϕ_s=160.02000°,δ=45.40000°, λ=-106.32000°. Principal axes: T 8.4239, Plg=1.0000°, Azm=81.0000°; N 1.2938, Plg=12.0000°, Azm=172.0000°; P -9.7176, Plg=78.0000°, Azm=348.0000°;*

SJA ***21*** *12:49:24.0,30.°86S×73.°05W,h10km,ML4.7*

IDC ***21*** *12:49:25.6±0.4,31.°07S×72.°59W,h0km,mb4.8/13, mb1 4.9/17,mb1mx4.8/30,mbtmp4.9/17,ML4.9/4,Error ellipse: s-maj=21.1km s-min=12.8km az=87.0*

MOS ***21*** *12:49:26.0±1.1,31.°14S×72.°63W,h11km,mb5.1/12,Error ellipse: s-maj=23.9km s-min=10.0km az=95.2*

NEIC ***21*** *12:49:26.4±2.8,31.°07S±0.°04×72.°66W±0.°08,h10km±1km, mb4.9/50,Mwr4.6/31,ML4.8(GUC),Error ellipse: s-maj=12.1km s-min=6.3km az=279.0*

GCMT ***21*** *12:49:27.7±0.3,31.°15S±0.°03×72.°85W±0.°02,h12km, MW4.8/99,Moment Tensor Solution. s19,c19; s99,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.24±.05; $M_{\theta\theta}$=0.13±.04; $M_{\phi\phi}$=2.11±.06; $M_{r\theta}$=-0.02±.24; $M_{r\phi}$=-0.08±.04; $M_{\theta\phi}$=-0.42±.21; Best double couple: M=2.21800×10^{16} NP1:ϕ_s=177.00000°,δ=39.00000°,λ=-91.00000°. NP2: ϕ_s=359.00000°,δ=51.00000°,λ=-89.00000°. Principal axes: T 2.1540, Plg=6.0000°, Azm=88.0000°; N 0.1290, Plg=1.0000°, Azm=178.0000°; P -2.2810, Plg=84.0000°, Azm=277.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

GUC ***21*** *12:49:27.2±0.6,31.°12S×72.°57W,h41km±4km,ML4.8*

VAO ***21*** *12:49:32.9±0.3,30.°91S×72.°08W,h20km,mb4.9*

ISC 21 12:49:29.6±0.3,31.°04S±0.°03×72.°71W±0.°05,h35km,n373,
σ2s01/382,mb4.9/31,MS4.5/6,6C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.99**	**69**	*e*P			**Pn**	**12 49 44.1**	**-3.0**
CO06				*i* S			**Sn**	**12 49 56.4**	**-3.5**
CO05	**La Serena**	**1.69**	**49**				**Pn**	**12 49 54.9**	**-1.8**
CO05				Sn			**Sn**	**12 50 15.2**	**-1.9**
CO03	**El Pedregal**	**1.75**	**84**	*e*P			**Pn**	**12 49 55.5**	**-2.0**
CO03				*i* S			**Sn**	**12 50 16.4**	**-2.3**
GO04	**Tololo Observa**	**1.86**	**63**	*e*P			**Pn**	**12 49 57.4**	**-1.9**
GO04				*i* S			**Sn**	**12 50 20.5**	**-1.2**
GO04				IAML				12 50 24.9	
	comp=N,33μm,0.7s								
GO04	**Tololo Observa**	**1.86**	**63**	Pn			**Pn**	**12 49 57.3**	**-1.9**
GO04				Sn			**Sn**	**12 50 20.9**	**-0.8**
GO04	**Tololo Observa**	**1.86**	**63**	*i* P			**Pn**	**12 49 57.0**	**-2.2**
VA06	**Catapilco**	**1.93**	**142**	*e*P			**Pn**	**12 49 57.3**	**-2.7**
VA06				*i* S			**Sn**	**12 50 19.7**	**-3.3**
VA06				IAML				12 50 24.1	
	comp=N,10μm,0.5s								
VA01	**Torpederas**	**2.17**	**156**	Pn			**Pn**	**12 50 00.4**	**-2.9**
VA01				Sn			**Sn**	**12 50 24.8**	**-4.1**
VA03	**San Esteban**	**2.51**	**134**	*e*P			**Pn**	**12 50 05.6**	**-2.5**
VA03				*i* S			**Sn**	**12 50 34.6**	**-2.9**
VA03				IAML				12 50 37.8	
	comp=N,4μm,0.4s								
LCO	**Las Campanas**	**2.67**	**41**	Pn			**Pn**	**12 50 08.8**	**-1.6**
LCO	**Las Campanas**	**2.67**	**41**	*i* P			**Pn**	**12 50 09.0**	**-1.4**
VA05	**Santo Domingo**	**2.77**	**161**				**Pn**	**12 50 08.6**	**-2.8**
MT05	**Renca**	**2.88**	**145**				**Pn**	**12 50 11.2**	**-1.9**
AROD	**Rodeo**	**2.92**	**73**	*i* P			**Pn**	**12 50 15.0**	**+1.1**
RTLS	**Leoncito**	**3.01**	**105**	*i* P			**Pn**	**12 50 16.0**	**+0.9**
AUSP	**Uspallata**	**3.07**	**113**	*i* P			**Pn**	**12 50 17.0**	**+1.1**
MT01	**Popeta**	**3.07**	**157**	*e*P			**Pn**	**12 50 13.0**	**-2.7**
MT01				*i* S			**Sn**	**12 50 47.6**	**-3.6**
MT09	**Talagante**	**3.09**	**152**	Pn			**Pn**	**12 50 14.6**	**-1.5**
AC04	**Llanos de Chal**	**3.17**	**27**	*e*P			**Pn**	**12 50 14.6**	**-2.4**
AC04				*i* S			**Sn**	**12 50 49.9**	**-3.6**
AC04				IAML				12 50 52.0	
	comp=E,1μm,0.6s								
AC04	**Llanos de Chal**	**3.17**	**27**	Pn			**Pn**	**12 50 14.4**	**-2.6**
ACCO	**Cerro Coronel**	**3.17**	**83**	*i* P			**Pn**	**12 50 19.0**	**+1.7**
ACDV	**Cuesta del Vie**	**3.21**	**75**	*i* P			**Pn**	**12 50 20.0**	**+2.2**
ZON	**Zonda**	**3.49**	**99**	*i* P			**Pn**	**12 50 23.0**	**+1.6**
BO03	**Pichilemu**	**3.50**	**170**	*e*P			**Pn**	**12 50 18.6**	**-2.9**
BO03				IAML				12 50 58.0	
	comp=E,2μm,0.3s								
LMEL	**Las Melosas**	**3.51**	**144**	*i* S			**Sn**	**12 50 58.5**	**-3.7**
BO01	**Tunca**	**3.61**	**158**	*e*P			**Pn**	**12 50 20.6**	**-2.4**
BO01				*i* S			**Sn**	**12 51 00.7**	**-3.7**
ASAL	**Salagasta**	**3.64**	**116**	*i* P			**Pn**	**12 50 26.0**	**+2.4**
RTCV	**Cerro Valdivia**	**3.66**	**104**	*i* P			**Pn**	**12 50 25.0**	**+1.3**
ARCO	**CERRO ARCO**	**3.68**	**120**	*i* P			**Pn**	**12 50 27.0**	**+2.8**
AAGR	**Agrelo**	**3.87**	**123**	*i* P			**Pn**	**12 50 29.0**	**+2.2**
GO05	**Huala**	**4.01**	**171**	Pn			**Pn**	**12 50 25.8**	**-2.8**
BO02	**Sierra Bellavi**	**4.08**	**157**	*e*P			**Pn**	**12 50 27.4**	**-2.1**
BO02				*i* S			**Sn**	**12 51 12.2**	**-3.8**
BO02				IAML				12 51 23.3	
	comp=E,1μm,0.3s								
AC06	**Mina Casimiro**	**4.21**	**30**	*e*P			**Pn**	**12 50 29.7**	**-1.7**
AC06				*i* S			**Sn**	**12 51 18.0**	**-1.3**
AC06				IAML				12 51 22.4	
	comp=E,596nm,0.3s								
VCA	**Vinchina**	**4.54**	**61**	*i* P			**Pn**	**12 50 38.0**	**+2.0**
COIS	**El Sosneado**	**4.82**	**148**	*i* P			**Pn**	**12 50 41.0**	**+1.2**
ML02	**Panimavida**	**4.83**	**167**				**Pn**	**12 50 37.0**	**-2.8**
LAMA	**Las Malvinas**	**4.87**	**144**	*i* P			**Pn**	**12 50 42.0**	**+1.6**
RFA	**San Rafael**	**5.15**	**137**	*i* P			**Pn**	**12 50 44.0**	**-0.3**
ACHE	**Chepes**	**5.19**	**93**	*i* P			**Pn**	**12 50 45.0**	**+0.1**
PUMA	**Malargue**	**5.21**	**149**	*i* P			**Pn**	**12 50 48.0**	**+2.9**
H03N1	**Juan Fernandez**	**5.77**	**244**	T			T	12 58 18.5	
	baz=72,slow=72,SNR=31								
H03N2	**Juan Fernandez**	**5.79**	**244**	T			T	12 58 08.0	
	baz=72,slow=72,SNR=23								
H03N3	**Juan Fernandez**	**5.79**	**244**	T			T	12 58 09.0	
	baz=72,slow=72,SNR=45								
CYA	**Choya**	**6.54**	**68**	*i* P			**Pn**	**12 51 03.0**	**-0.4**
PB14	**IPOC Station P**	**6.71**	**18**	Pn			**Pn**	**12 51 01.7**	**-4.3**
PB14	**IPOC Station P**	**6.71**	**18**	*i* P			**Pn**	**12 51 02.0**	**-4.0**
CANA	**Caviahue**	**6.96**	**169**	*i* P			**Pn**	**12 51 11.0**	**+1.7**
FSA	**Cafayete**	**7.69**	**52**	*i* P			**Pn**	**12 51 20.0**	**+0.7**
AHML	**Horco Molle**	**7.73**	**59**	*i* P			**Pn**	**12 51 19.0**	**-0.8**
PB10	**IPOC Station P**	**7.74**	**15**	Pn			**Pn**	**12 51 15.7**	**-4.2**
PB15	**IPOC Station P**	**8.32**	**21**	*i* P			**Pn**	**12 51 25.0**	**-3.0**
PB06	**IPOC Station P**	**8.76**	**19**				Pn	12 51 29.5	-4.5
PB06	**IPOC Station P**	**8.76**	**19**	*i* P			**Pn**	**12 51 30.0**	**-4.0**
PB04	**IPOC Station P**	**8.97**	**15**	*i* P			**Pn**	**12 51 33.0**	**-3.9**
LVC	**Limon Verde**	**9.06**	**23**	Pn			**Pn**	**12 51 35.1**	**-3.2**
	comp=E,1.5nm,0.3s,baz=199,slow=8.5,SNR=14								
LVC	**Limon Verde**	**9.06**	**23**	Pn			**Pn**	**12 51 34.7**	**-3.6**
LVC	**Limon Verde**	**9.06**	**23**	*e*S			**Sn**	**12 53 18.9**	**-0.3**
LVC	**Limon Verde**	**9.06**	**23**	*i* P			**Pn**	**12 51 35.0**	**-3.2**
PB09	**IPOC Station P**	**9.72**	**19**	*i* P			**Pn**	**12 51 44.0**	**-3.1**
PLCA	**Paso Flores**	**9.83**	**170**	Pn			**Pn**	**12 51 46.5**	**-1.9**
	comp=E,4.5nm,0.3s,baz=339,slow=11,SNR=99								
PLCA	**Paso Flores**	**9.83**	**170**				**Pn**	**12 51 46.4**	**-2.1**
PB02	**IPOC Station P**	**10.01**	**15**	*i* P			**Pn**	**12 51 47.0**	**-4.0**
PB01	**IPOC Station P**	**10.37**	**17**				Pn	12 51 51.4	-4.6
PB01	**IPOC Station P**	**10.37**	**17**	*i* P			Pn	12 51 51.0	-5.0
TRQA	**Tornquist**	**11.27**	**131**				**Pn**	**12 52 06.9**	**-1.3**
TRQA	**Tornquist**	**11.27**	**131**	*e*P			**Pn**	**12 52 07.3**	**-0.9**
PSGCX	**Pisagua**	**11.63**	**12**				**Pn**	**12 52 10.4**	**-2.9**
PSGCX	**Pisagua**	**11.63**	**12**	*i* P			Pn	12 52 08.0	-5.3
ITQB	**Itaqui**	**13.96**	**88**				**Pn**	**12 52 40.9**	**-4.0**
ITQB	**Itaqui**	**13.96**	**88**	*e*P			**Pn**	**12 52 40.7**	**-4.2**
CPUP	**Villa Florida**	**14.29**	**75**				**Pn**	12 52 44.3	-5.2
CPUP	**Villa Florida**	**14.29**	**75**	*e*P			**Pn**	**12 52 47.8**	**-1.7**
LPAZ	**La Paz**	**15.27**	**17**	Pn			**Pn**	**12 53 04.9**	**+1.7**
	comp=E,1.4nm,0.3s,baz=189,slow=6.9,SNR=69								
LPAZ	**La Paz**	**15.27**	**17**				**Pn**	**12 52 59.1**	**-4.2**
LPAZ				P			**P**	**12 53 05.2**	**-2.6**
LPAZ				IAmb			IAmb	12 53 05.7	
	comp=Z,27nm,0.7s								
LPAZ	**La Paz**	**15.27**	**17**	*e*P			**Pn**	**12 53 04.8**	**+1.5**
PLTB	**Pedras Altas**	**16.33**	**97**	*e*P			**Pn**	**12 53 15.5**	**-0.8**
CPSB	**Cacapava Do Su**	**16.59**	**93**	*e*P			**Pn**	**12 53 17.7**	**-1.8**
SIV	**San Ignacio**	**18.37**	**38**	P			**P**	**12 53 40.0**	**-1.5**
	comp=Z,6.7nm,0.3s,baz=235,slow=12,SNR=147								
AQDB	**Aquidauana**	**18.56**	**59**	P			**P**	**12 53 39.8**	**-3.8**
AQDB	**Aquidauana**	**18.56**	**59**	*e*P			**P**	**12 53 41.4**	**-2.1**
CNLB	**Canela**	**18.97**	**90**	*e*P			**Pn**	**12 53 47.7**	**-1.2**
PTGB	**Pitanga**	**19.29**	**76**	*e*P			**Pn**	**12 53 51.3**	**-1.6**
NNA	**Nana**	**19.34**	**348**	P			**Pn**	**12 53 54.7**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=210,slow=10,SNR=5.8								
NNA	**Nana**	**19.34**	**348**	P			**P**	**12 53 48.7**	**-3.5**
TRCB	**Terra Rica**	**19.68**	**70**	P			**P**	**12 53 55.4**	**-0.4**
TRCB				IAmb			IAmb	12 53 58.8	
	comp=Z,52nm,0.8s								
TRCB	**Terra Rica**	**19.68**	**70**	*e*P			**Pn**	**12 53 55.5**	**-1.8**
PTLB	**Pontes e Lacer**	**19.88**	**42**	*e*P			**P**	**12 53 58.1**	**+0.1**
TER01	**Tubaro-SC**	**20.61**	**89**	*e*P			Pn	12 54 05.9	-2.4
PP1B	**Ponte de Pedra**	**21.01**	**55**	*e*P			**P**	**12 54 09.7**	**-0.5**
PCMB	**Pacaembu**	**21.37**	**69**	*e*P			**P**	**12 54 13.4**	**-0.7**
VILB	**Vilhena**	**21.38**	**35**	*e*P			**P**	**12 54 15.2**	**+0.9**
SALV	**Santo Antonio**	**21.65**	**50**	*e*P			**P**	**12 54 17.0**	**-0.1**
FRTB	**Fartura**	**21.94**	**75**	*e*P			**P**	**12 54 19.2**	**-1.0**
ETMB	**Extrema**	**21.97**	**17**	*e*P			**P**	**12 54 22.2**	**+1.6**
ITRB	**Iturama**	**23.09**	**66**	*e*P			**P**	**12 54 31.0**	**-1.4**
CZSB	**Cruzeiro do Su**	**23.19**	**0**	*e*P			**P**	**12 54 35.6**	**+2.2**
EFI	**East Falkland**	**23.28**	**157**	*i* P			**P**	**12 54 33.3**	**-0.7**
EFI				pmax			pmax		
	comp=Z,68nm,0.9s								
EFI	**East Falkland**	**23.28**	**157**	P			**P**	**12 54 33.3**	**-0.7**
PET01	**Itanhaem-SP**	**23.48**	**80**	*e*P			**P**	**12 54 34.2**	**-2.0**
SPB	**Sao Paulo**	**23.62**	**78**	P			**P**	**12 54 35.9**	**-1.6**
SPB	**Sao Paulo**	**23.62**	**78**	*e*P			**P**	**12 54 36.5**	**-1.1**
SAML	**Samuel**	**23.71**	**24**	P			**P**	**12 54 37.8**	**-0.7**
SAML	**Samuel**	**23.71**	**24**	*e*P			**P**	**12 54 39.9**	**+1.5**
BB19B	**Bebedouro**	**23.84**	**71**	*e*P			**P**	**12 54 38.6**	**-1.2**
RCLB	**Rio Claro- Sao**	**24.03**	**75**	*e*P			**P**	**12 54 40.1**	**-1.4**
VAO	**Valinhos**	**24.25**	**77**	*e*P			**P**	**12 54 42.2**	**-1.3**
PARB	**Paraibuna**	**25.24**	**79**	*e*P			**P**	**12 54 50.5**	**-2.0**
CLDB	**Colider**	**25.47**	**42**	*e*P			**P**	**12 54 55.2**	**+0.6**
IPMB	**Ipameri, GO**	**25.73**	**65**	*e*P			**P**	**12 54 56.8**	**-0.3**
ESAR	**Angra dos Reis**	**26.36**	**79**	*e*P			**P**	**12 55 02.2**	**-0.4**
BSCB	**Bom Sucesso**	**26.96**	**75**	*e*P			**P**	**12 55 08.0**	**-0.1**
BDFB	**Brasilia**	**27.28**	**61**	P			**P**	**12 55 11.3**	**+0.3**
	comp=Z,26nm,0.8s,baz=227,slow=8.1,SNR=18								
BDFB	**Brasilia**	**27.28**	**61**	P			**P**	**12 55 11.2**	**+0.1**
SNDB	**Serra Nova Dou**	**27.42**	**51**	*e*P			**P**	**12 55 12.3**	**+0.2**
VAS01	**Vassouras-RJ**	**27.51**	**79**	*e*P			**P**	**12 55 13.7**	**+0.7**
DUB01	**Friburgo-RJ**	**28.49**	**79**	*e*P			**P**	**12 55 22.7**	**+1.0**
NPGB	**Novo Progresso**	**28.88**	**38**	*e*P			**P**	**12 55 25.3**	**+0.1**
DIAM	**Diamantina, MG**	**29.18**	**71**	*e*P			**P**	**12 55 29.0**	**+1.0**
CAM01	**Campos-RJ**	**29.20**	**79**	*e*P			**P**	**12 55 29.1**	**+1.1**
PEXB	**Peixe**	**29.38**	**55**	*e*P			**P**	**12 55 30.5**	**+0.8**
MC01	**Montes Claros**	**29.82**	**68**	*e*P			**P**	**12 55 34.1**	**+0.5**
JANB	**Januaria**	**30.47**	**65**	*e*P			**P**	**12 55 39.6**	**+0.2**
ALF01	**Guarapari-ES**	**30.51**	**78**	*e*P			**P**	**12 55 40.8**	**+1.2**
ITTB	**Itaituba**	**30.98**	**34**	*e*P			**P**	**12 55 44.1**	**+0.4**
SJMB	**Sao Joao De Ma**	**31.02**	**74**	*e*P			**P**	**12 55 45.1**	**+1.0**
PTLC	**Puerto Leguiza**	**31.11**	**356**	*e*P			**P**	**12 55 41.7**	**-3.2**
BSFB	**Barra de Sao F**	**31.23**	**75**	*e*P			**P**	**12 55 46.5**	**+0.5**
RIB01	**Linhares ES**	**31.38**	**76**	*e*P			**P**	**12 55 48.3**	**+1.0**
OTAV	**Otavalo**	**31.58**	**349**	*e*P			**P**	**12 55 53.3**	**+3.7**
SDBA	**SAO DESIDERIO**	**31.65**	**60**	*e*P			**P**	**12 55 50.1**	**+0.3**
PAC1	**Pucon, Paraso**	**31.67**	**348**	*e*P			**P**	**12 55 50.2**	**+0.3**
SMTB	**Santa Maria do**	**32.17**	**52**	*e*P			**P**	**12 55 54.5**	**+0.2**
PRPB	**Parauapebas**	**32.76**	**46**	*e*P			**P**	**12 56 00.5**	**+1.1**
MACC	**Macarena, Meta**	**33.02**	**358**	*e*P			**P**	**12 56 02.6**	**+0.9**
MACC				*e*P			**pP**	**12 56 05.5**	**-4.6**
GUA01	**Guaratinga, BA**	**33.22**	**72**	*e*P			**P**	**12 56 04.5**	**+1.0**
PCON	**Cinco Dias**	**33.37**	**353**	*e*P			**P**	**12 56 09.3**	**+3.9**
MALB	**Monte Alegre**	**33.87**	**35**	*e*P			**P**	**12 56 11.6**	**+2.5**
CMC01	**Camacan, BA**	**34.10**	**70**	*e*P			**P**	**12 56 11.8**	**+0.6**
PMSA	**Palmer Station**	**34.18**	**173**	P			**P**	**12 56 12.7**	**+1.4**
	comp=Z,12nm,0.9s,baz=343,slow=3.3,SNR=4.9								
PMSA	**Palmer Station**	**34.18**	**173**	*e*P			P	12 56 17.9	+6.6
PRAC	**Prado**	**34.62**	**356**	*e*P			**P**	**12 56 16.9**	**+1.3**
ORTC	**Ortega, Tolima**	**34.84**	**356**	*e*P			**P**	**12 56 18.8**	**+1.3**
GDU01	**Guandu, BA**	**34.97**	**68**	*e*P			**P**	**12 56 19.5**	**+0.8**
BOAV	**Boa Vista**	**35.22**	**21**	*e*P			**P**	**12 56 21.5**	**+0.7**
MCPB	**Macapa, AP**	**36.26**	**37**	*e*P			**P**	**12 56 30.1**	**+0.4**
RUSC	**La Rusia**	**36.73**	**359**	P			**P**	**12 56 36.1**	**+1.9**
RUSC				IAmb			IAmb	12 57 01.9	
	comp=Z,48nm,1.2s								
RUSC	**La Rusia**	**36.73**	**359**	*e*P			**P**	**12 56 37.9**	**+3.7**
TMAB	**Tom-Au,PA,Br**	**36.80**	**44**	*e*P			**P**	**12 56 36.1**	**+1.8**
CBOC	**Ciudad Bolivar**	**36.83**	**355**	*e*P			**P**	**12 56 36.0**	**+1.2**
HELC	**Santa Helena**	**37.12**	**355**	*e*P			**P**	**12 56 38.8**	**+1.4**
DBBC	**Dabeiba**	**37.99**	**354**	*e*P			**P**	**12 56 47.4**	**+2.9**
ZARC	**Zaragoza, Cauc**	**38.37**	**357**	*e*P			**P**	**12 56 45.5**	**-2.1**
ROSB	**Rosrio**	**38.88**	**50**	*e*P			**P**	**12 56 54.1**	**+2.2**
SMLC	**San Martn de**	**39.64**	**358**	*e*P			**P**	**12 56 58.9**	**+0.7**
SDV	**Santo Domingo**	**39.75**	**3**	*e*P			**P**	**12 57 02.5**	**+3.2**
BAUV	**El Baul**	**40.01**	**7**	P			**P**	**12 57 01.6**	**+0.4**
BAUV				IAmb			IAmb	12 57 21.4	
	comp=Z,27nm,1.1s								
SJCC	**San Jacinto, C**	**40.77**	**356**	*e*P			**P**	**12 57 10.0**	**+2.4**
RCBR	**Riachuelo**	**42.65**	**62**	*e*P			**P**	**12 57 24.4**	**+1.3**
JTS	**Las Juntas de**	**42.74**	**342**	*i* P			**P**	**12 57 24.2**	**+0.5**
JTS				pmax			pmax		
	comp=Z,17nm,1.8s								
PDPR	**Patillas Dam,**	**49.20**	**8**	P			**P**	**12 58 12.1**	**-2.3**
PDPR				IAmb			IAmb	12 58 15.4	
	comp=Z,11nm,0.7s								
CBYP	**Canovanas**	**49.47**	**9**	P			**P**	**12 58 15.3**	**-1.3**
CBYP				IAmb			IAmb	12 58 17.5	
	comp=Z,13nm,0.9s								
VNA3	**Neumayer Olymp**	**52.31**	**159**	P			**P**	**12 58 38.0**	**+0.6**
VNA1	**Neumayer--Stat**	**52.61**	**158**	P			**P**	**12 58 40.4**	**+0.9**
VNA2	**Neumayer--Watz**	**52.95**	**158**	P			**P**	**12 58 42.7**	**+0.6**
	baz=289,slow=8.3								
SNAA	**Sanae**	**54.53**	**159**	P			**P**	**12 58 54.3**	**+0.6**
SNAA	**Sanae**	**54.53**	**159**	P			**P**	**12 58 54.5**	**+0.7**
	comp=Z,23nm,0.6s,baz=276,slow=7.5,SNR=301								
SNAA	**Sanae**	**54.53**	**159**	*ce*P			**P**	**12 58 53.5**	**-0.2**
SNAA				pmax			pmax		
	comp=Z,37nm,1.0s								
SNAA	**Sanae**	**54.53**	**159**	P			**P**	**12 58 53.9**	**+0.2**
QSPA	**South Pole Qui**	**59.18**	**180**	P			**P**	**12 59 28.4**	**+1.5**
	comp=Z,41nm,0.6s,baz=151,slow=5.2,SNR=102								
QSPA	**South Pole Qui**	**59.18**	**180**	P			**P**	**12 59 28.1**	**+1.2**
833A	**Chaparral WMA,**	**64.28**	**334**	P			**P**	**13 00 03.9**	**+2.5**
	baz=155,SNR=11								
152A	**Waverly Hall**	**64.38**	**349**	P			**P**	**13 00 01.5**	**-0.5**
152A				IAmb			IAmb	13 00 02.9	
	comp=Z,5.5nm,0.7s								
HKT	**Hockley**	**64.52**	**338**	*i* P			**P**	**13 00 04.3**	**+1.5**
HKT				pmax			pmax		
	comp=Z,6.0nm,1.1s								
HKT	**Hockley**	**64.52**	**338**	P			**P**	**13 00 04.3**	**+1.5**
HKT				IAmb			IAmb	13 00 06.5	
	comp=Z,13nm,1.2s								
VBMS	**Vicksburg**	**65.14**	**343**	P			**P**	**13 00 08.9**	**+2.0**
	baz=164								
SBA	**Scott Base**	**65.85**	**192**	P			**P**	**13 00 12.8**	**+1.8**
SBA				IAmb			IAmb	13 00 14.1	
	comp=Z,7.9nm,0.9s								
CNNC	**Cliffs of the**	**66.11**	**355**	P			**P**	**13 00 14.5**	**+1.4**
	baz=176								
TAOE	**Nuku Hiva Isla**	**66.18**	**274**	*e*LR			LR	13 19 51.7	
	comp=Z,275nm,29.4s								
X51A	**Calhoun**	**66.26**	**349**	P			**P**	**13 00 14.3**	**+0.2**
JCT	**Junction City**	**66.38**	**335**	P			**P**	**13 00 17.0**	**+2.0**
JCT	**Junction City**	**66.38**	**335**	P			**P**	**13 00 16.9**	**+1.9**
	baz=155,SNR=10								
VNDA	**Vanda**	**66.88**	**191**	P			**P**	**13 00 20.1**	**+2.5**
	comp=Z,4.4nm,0.9s,baz=124,slow=6.1,SNR=22								
VNDA	**Vanda**	**66.88**	**191**	P			**P**	**13 00 19.8**	**+2.2**
VNDA				IAmb			IAmb	13 00 20.7	
	comp=Z,4.9nm,0.8s								
TXAR	**Lajitas Array**	**66.89**	**331**	P			**P**	**13 00 20.4**	**+2.1**
	comp=Z,11nm,0.8s,baz=153,slow=8.3,SNR=90								
WHTX	**Lake Whitney,**	**66.93**	**337**	P			**P**	**13 00 20.0**	**+1.6**
	baz=158								
OXF	**Oxford**	**67.08**	**345**	P			**P**	**13 00 20.3**	**+1.0**
	baz=165								
TKL	**Tuckaleechee C**	**67.16**	**350**	P			**P**	**13 00 20.1**	**+0.3**
PLAL	**Pickwick Lake**	**67.25**	**346**	P			**P**	**13 00 20.6**	**+0.2**
PLAL				IAmb			IAmb	13 00 21.6	
	comp=Z,7.3nm,0.9s								
TBI	**Tubuai**	**67.48**	**256**	*e*S			**S**	**13 09 17.5**	**+1.2**
	comp=Z,234nm,30.2s								
TBI	**Tubuai**	**67.48**	**256**	*e*LR			LR	13 20 34.3	
	comp=Z,300nm,28.8s,baz=113								
TZTN	**Tazewell**	**68.00**	**351**	P			**P**	**13 00 27.0**	**+1.9**
	baz=170								
MIAR	**Mount Ida**	**68.14**	**342**	P			**P**	**13 00 27.4**	**+1.3**
	baz=161								
ABTX	**Abilene, Hawle**	**68.26**	**336**	P			**P**	**13 00 28.6**	**+1.8**
ABTX	**Abilene, Hawle**	**68.26**	**336**	P			**P**	**13 00 28.7**	**+1.8**
	baz=156								
BLA	**Blacksburg**	**68.28**	**353**	P			**P**	**13 00 28.1**	**+1.2**
	baz=173								
WVT	**Waverly**	**68.31**	**347**	P			**P**	**13 00 28.1**	**+1.0**
	baz=166								
W41B	**Gary Mavity, V**	**68.38**	**343**	P			**P**	**13 00 29.0**	**+1.5**
	baz=162								
W39A	**Magazine**	**68.81**	**342**	P			**P**	**13 00 32.1**	**+1.9**
	baz=161,SNR=7.6								
U40A	**Yellville**	**69.66**	**343**	P			**P**	**13 00 36.8**	**+1.3**
	baz=162,SNR=5.9								
MNTX	**Cornudas Mount**	**69.66**	**331**	P			**P**	**13 00 36.5**	**+0.9**
	baz=151,SNR=17								
WMOK	**Wichita Mounta**	**69.89**	**337**	P			**P**	**13 00 38.0**	**+1.1**
	baz=157								
TUL1	**Leonard**	**70.04**

comp=Z,9.2nm,1.1s
DUG Dugway, Tooele 80.04 330 P P 13 01 37.8 +2.2
baz=146,SNR=6.0
RSSD Black Hills 80.09 338 P P 13 01 37.5 +1.7
baz=154
EYMN Ely 80.42 347 P P 13 01 38.2 +1.0
baz=164
TSUM Tsumeb 80.58 107 P P 13 01 39.5 +0.4
TSUM IAmb IAmb 13 01 43.4
comp=Z,20nm,1.1s
HWUT Hardware Ranch 80.69 332 P P 13 01 40.7 +1.6
HWUT IAmb IAmb 13 01 41.8
comp=Z,14nm,0.8s
BGU Big Grassy Mou 80.73 330 P P 13 01 40.6 +1.3
BW06 Boulder Array 80.87 333 P P 13 01 40.8 +0.7
BW06 Boulder Array 80.87 333 P P 13 01 41.7 +1.6
baz=149
PDAR Pinedale Array 80.87 333 P P 13 01 41.5 +1.3
comp=Z,1.5nm,0.6s,baz=142,slow=7.1,SNR=15
NVAR Mina Array Bea 81.14 325 P P 13 01 44.0 +2.4
comp=Z,2.1nm,0.8s,baz=154,slow=5.8,SNR=17
HVU Hansel Valley 81.33 331 P P 13 01 44.0 +1.5
HVU IAmb IAmb 13 01 45.0
comp=Z,9.1nm,0.7s
ELK Elko 81.55 329 P P 13 01 44.5 +0.7
ELK IAmb IAmb 13 01 46.7
comp=Z,5.1nm,0.8s
AGMN Agassiz Nation 81.66 345 P P 13 01 45.0 +1.2
baz=160,SNR=5.7
BOSA Boshof 81.96 118 P P 13 01 47.2 +1.0
comp=Z,13nm,0.9s,baz=228,slow=5.6,SNR=12
BOSA Boshof 81.96 118 P P 13 01 45.5 -0.8
MDND Maddock 82.17 342 P P 13 01 48.2 +1.7
baz=157,SNR=6.1
RLMT Red Lodge 82.78 335 P P 13 01 51.7 +1.6
baz=149
LAO LASA Array 83.08 337 P P 13 01 52.8 +1.4
baz=152
YHL Hebgen Lake 83.26 334 P P 13 01 55.3 +2.6
YHL IAmb IAmb 13 01 55.5
comp=Z,6.5nm,1.1s
HLID Hailey 83.49 331 P P 13 01 55.9 +2.2
baz=145,SNR=11
ULM Lac du Bonnet 83.50 345 P P 13 01 54.3 +0.9
comp=Z,10nm,0.8s,baz=176,slow=6.2,SNR=8.1
ULM Lac du Bonnet 83.50 345 P P 13 01 53.5 +0.2
ULM IAmb IAmb 13 01 55.1
comp=Z,12nm,0.9s
TORD Torodi Ar. Bea 83.75 71 P P 13 01 56.0 +0.5
comp=Z,5.0nm,0.8s,baz=282,slow=4.6,SNR=27
TORD Torodi Ar. Bea 83.75 71 P P 13 01 55.6 +0.1
TORD IAmb IAmb 13 01 58.5
comp=Z,5.5nm,0.7s
DGMT Dagmar 84.03 340 P P 13 01 57.9 +1.7
baz=154,SNR=11
BOZ Bozeman (W) 84.06 334 P P 13 01 57.8 +1.3
baz=148
LBTB Lobatse 84.07 115 P P 13 01 57.8 +0.5
O03E Paynes Creek 84.30 324 P P 13 01 59.7 +1.9
baz=140
O02D Mt. Diablo Mer 84.71 324 P P 13 02 02.4 +2.5
baz=139
N02D Trinity Center 85.26 324 P P 13 02 04.5 +1.9
baz=139
EGMT Eagleton 85.44 336 P P 13 02 04.3 +0.9
baz=149
M04C Macdoel 85.45 325 P P 13 02 05.6 +2.0
baz=140
YBH Yreka Blue Hor 85.83 325 P P 13 02 06.0 +0.5
L04D Klamath Falls 86.00 325 P P 13 02 08.2 +1.8
baz=139
K04D Chiloquin, OR 86.04 326 P P 13 02 08.5 +1.9
baz=140
J05D Fort Rock, OR 86.30 327 P P 13 02 09.9 +2.1
baz=140
L02E Cave Junction 86.59 325 P P 13 02 11.4 +2.3
baz=138
J04D Umpqua Nationa 86.68 326 P P 13 02 12.0 +2.3
baz=140
G08A Pilot Rock 86.82 329 P P 13 02 10.7 +0.4
K02D Willamette Mer 87.03 325 P P 13 02 13.6 +2.3
baz=138
I05D Terrebonne, OR 87.15 327 P P 13 02 13.7 +1.8
baz=140
I02D Swisshome 88.16 326 P P 13 02 19.1 +2.5
baz=138
F05D White Salmon 88.39 328 P P 13 02 19.5 +1.8
baz=140
B05A Bryant 90.48 330 P P 13 02 29.2 +1.8
baz=140
DZM Mont Dzumac 102.50 235 *e*LR LR 13 36 50.9
comp=Z,203nm,24.8s
ASAR Alice Springs 119.92 208 PKP **PKiKP 13 08 16.9 -0.2**
comp=Z,1.5nm,0.6s,baz=123,slow=1.6,SNR=50
ASAR PKKPbc **PKKPbc 13 18 27.1 +1.6**
comp=Z,0.6nm,0.5s,baz=336,slow=3.3,SNR=21
ASAR Alice Springs 119.92 208 PKPdf 13 08 16.6 -0.3
MNK Minsk 120.59 42 *i* PKIKP **PKPdf 13 08 12.6 -4.4**
MNK *i* 13 09 42.9
MNK *i* PPP PPP 13 12 23.0
MNK *i* 13 15 23.4
MNK *i* PS **PS 13 19 38.7 +2.5**
MNK *i* SSS SSS 13 30 42.6
MNK pmax pmax
comp=N,14nm,0.7s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK pmax pmax
comp=Z,7.0nm,0.7s
MNK MLR MLR
comp=E,21nm,22.0s
MNK MLR MLR
comp=N,157nm,21.0s
MNK MLR MLR
comp=Z,283nm,24.0s
MNK Minsk 120.59 42 *i* PKP **PKPdf 13 08 12.7 -4.4**
comp=E,3.0nm,0.8s
MNK *i* PKP **PKPdf 13 08 12.7 -4.4**
comp=N,14nm,0.7s
MNK *i* PKP **PKPdf 13 08 12.7 -4.4**
comp=Z,7.0nm,0.7s,baz=79
MNK *i* PP **PP 13 09 43.0 -2.2**
MNK *i* PPP PPP 13 12 23.0
MNK *i* SKS **SKSdf 13 15 23.5 -2.6**
MNK *i* PS **PS 13 19 38.7 +2.5**
MNK *i* SS **SKKSdf 13 26 00.4 -6.8**
MNK *i* SSS SSS 13 30 42.6
MNK *i* LQ LQ 13 52 35.4
MNK *i* LR LR 13 56 35.0
MNK *i* LRM MLR 13 59 09.1
comp=E,21nm,22.4s
MNK *i* LRM MLR 13 59 20.7
comp=N,157nm,21.0s
MNK *i* LRM MLR 13 59 23.6
comp=Z,283nm,23.9s
AKASG Malin Array Be 120.59 46 PKP **PKiKP 13 08 17.2 0.0**
comp=Z,2.2nm,0.6s,baz=268,slow=2.6,SNR=9.1
AKASG Malin Array Be 120.59 46 PKPdf 13 08 16.6 -0.6
AKBB Malin Array Si 120.59 46 *c i* PKIKP **PKiKP 13 08 17.5 +0.2**
BRTR Keskin Array B 120.86 60 PKP **PKiKP 13 08 19.0 +0.6**
comp=Z,1.2nm,0.9s,baz=163,slow=1.3,SNR=4.5
BRTR Keskin Array B 120.86 60 PKIKP **PKiKP 13 08 19.0 +0.6**
BRTR Keskin Array B 120.86 60 PKiKP 13 08 19.1 +0.6
ARCES ARCESS Array B 121.57 24 PKP **PKiKP 13 08 19.3 +0.6**
comp=Z,1.0nm,0.7s,baz=256,slow=2.5,SNR=4.2
WRA Warramunga Arr 123.04 211 PKP **PKiKP 13 08 23.4 +0.1**
comp=Z,4.9nm,0.6s,baz=132,slow=1.4,SNR=88
WRA PKKPbc **PKKPbc 13 18 14.5 +0.8**
comp=Z,0.7nm,0.7s,baz=335,slow=2.9,SNR=6.9
WRA Warramunga Arr 123.04 211 PKPdf **PKiKP 13 08 23.5 +0.3**
WRAB Tennant Creek 123.04 211 *c i* PKIKP **PKPdf 13 08 22.3 -0.7**
WRAB pmax pmax
comp=Z,4.0nm,1.0s
H11S2 WAKE ISLAND Hyd 125.19 272 T T 15 27 33.0
baz=115,slow=74,SNR=12
H11S1 WAKE ISLAND Hyd 125.20 272 T T 15 27 28.9
baz=115,slow=74,SNR=12
H11S3 WAKE ISLAND Hyd 125.20 272 T T 15 27 35.2
baz=115,slow=74,SNR=11
OBN Obninsk 125.65 42 *i* PKIKP **PKiKP 13 08 26.6 -0.5**
OBN pmax pmax
comp=Z,5.0nm,0.9s
KLMR Klimovskoe 127.33 35 *e*PKIKP **PKiKP 13 08 30.0 -0.3**
KLMR pmax pmax
comp=Z,6.0nm,0.9s
KLMR Klimovskoe 127.33 35 *e*PKPdf **PKiKP 13 08 30.0 -0.3**
KLMR AMP 13 08 31.8
comp=Z,6.0nm,0.9s
FITZ Fitzroy Crossi 128.06 202 PKP **PKiKP 13 08 33.5 +0.3**
comp=Z,5.5nm,0.7s,baz=186,slow=8.2,SNR=17
FITZ Fitzroy Crossi 128.06 202 PKiKP 13 08 33.0 -0.2
KIV Kislovodsk 128.37 56 *e*PKIKP **PKPdf 13 08 29.8 -2.7**
KIV pmax pmax
comp=Z,6.0nm,1.1s
BILL Bilibino 129.93 335 *i* PKIKP **PKPdf 13 08 34.5 -0.1**
BILL pmax pmax
comp=Z,10.0nm,1.5s
PRGR Permogore 130.19 33 *e*PKIKP **PKPdf 13 08 34.7 -0.5**
PRGR pmax pmax
comp=Z,34nm,1.3s
BELG Belogornoye 132.15 46 *i* PKIKP **PKPdf 13 08 39.2 0.0**
BELG pmax pmax
comp=Z,3.0nm,1.0s
ARU Arti 137.83 38 PKP **PKiKP 13 08 51.6 -0.1**
comp=Z,1.5nm,0.4s,baz=268,slow=2.4,SNR=8.5
ARU Arti 137.83 38 *i* PKIKP **PKiKP 13 08 50.7 -1.0**
ARU 13 11 38.5
ARU Arti 137.83 38 PKPdf **PKiKP 13 08 51.3 -0.4**
AKTO Aktyubinsk 138.82 47 PKP **PKiKP 13 08 53.4 -0.5**
comp=Z,1.5nm,0.6s,baz=275,slow=2.7,SNR=6.9
BRVK Borovoye 145.37 40 *c i* PKIKP **PKPab 13 09 04.1 +0.7**
BRVK pmax pmax
comp=Z,19nm,1.0s
BVAR Borovoye Array 145.44 40 PKPbc **PKiKP 13 09 05.5 -1.9**
comp=Z,8.6nm,0.8s,baz=240,slow=6.0,SNR=40
YAK Yakutsk 145.76 341 *e*PKP2 **PKPab 13 09 05.3 +0.7**
YAK pmax pmax
comp=Z,28nm,0.7s
YAK pmax pmax
comp=N,5.0nm,0.9s
YSS Yuzh-Sakhalins 148.51 310 *e*PKP2 **PKiKP 13 09 13.2 -0.7**
YSS pmax pmax
comp=Z,20nm,0.9s
HYB Hyderabad 150.59 111 *i* PKP **PKiKP 13 09 19.0 -0.2**
KURBB Kurchatov Arra 151.03 39 PKPbc **PKiKP 13 09 19.9 +0.9**
comp=Z,11nm,0.6s,baz=302,slow=3.0,SNR=75
KURK Kurchatov 151.03 39 PKIKP **PKiKP 13 09 19.9 +0.9**
AAK Ala-Archa 151.49 57 PKPbc **PKiKP 13 09 22.3 +1.8**
comp=Z,14nm,0.9s,baz=226,slow=1.4,SNR=23
AAK Ala-Archa 151.49 57 *c i* PKIKP **PKPbc 13 09 18.0 -2.0**
AAK pmax pmax
comp=Z,55nm,1.3s
AAK Ala-Archa 151.49 57 PKiKP 13 09 21.5 +1.1
ZALV Zalesovo Beam 151.97 29 PKP **PKPdf 13 09 14.9 +1.0**
comp=Z,2.5nm,0.5s,baz=186,slow=1.5,SNR=11
ZALV PKPbc **pPKPdf 13 09 21.8 -1.7**
comp=Z,26nm,0.5s,baz=303,slow=2.7,SNR=50
BOD Bodaibo 152.83 352 *e*PKIKP **PKiKP 13 09 22.5 0.0**
BOD pmax pmax
comp=Z,10.0nm,1.0s
ZEA Zeya 153.13 333 *e*PKIKP **PKiKP 13 09 24.4 +1.2**
MJAR Matsushiro Arr 153.79 290 PKP **PKiKP 13 09 18.6 +1.4**
comp=Z,1.4nm,0.6s,baz=270,slow=3.2,SNR=6.5
MJAR Matsushiro Arr 153.79 290 PKPdf 13 09 17.9 +0.7
KLR Kul'dur 154.11 322 PKP **PKPdf 13 09 18.4 +1.2**
comp=Z,1.1nm,0.6s,baz=333,slow=2.3,SNR=2.4
KLR PKPbc **pPKPdf 13 09 26.3 -0.5**
comp=Z,1.9nm,0.7s,baz=26,slow=4.4,SNR=5.0
MKAR Makanchi Array 155.13 44 PKPbc PKPdf 13 09 28.9 +10
comp=Z,1.7nm,0.6s,baz=174,slow=1.1,SNR=3.6
MKAR PKPab **PKPab 13 09 45.1 +1.6**
comp=Z,4.7nm,1.0s,baz=325,slow=1.5,SNR=5.2
WMQ Urumqi 159.94 45 *e*P **PKPdf 13 09 21.5 -3.4**
WMQ pmax pmax
comp=Z,120nm,3.9s
ZAK Zakamensk 160.45 8 *e*PKIKP **PKPdf 13 09 27.5 +2.2**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
KSRS Korea Array 161.80 296 PKP **PKPdf 13 09 27.8 +0.8**
comp=Z,0.3nm,0.3s,baz=256,slow=1.0,SNR=4.3
SONM Songino Array 163.22 2 PKPab **PKPab 13 10 20.6 +2.0**
comp=Z,3.0nm,1.0s,baz=341,slow=4.0,SNR=8.7
CMAR Chiang Mai Arr 165.36 147 PKP **PKPdf 13 09 32.4 +1.4**
comp=Z,0.7nm,0.4s,baz=247,slow=2.2,SNR=9.7
CMAR Chiang Mai Arr 165.36 147 PKPdf 13 09 31.5 +0.6
HHC Hu-ho-hao-te 169.62 342 *e*P PKPdf 13 09 25.3 -8.2
GTA Gaotai 169.66 34 *e*PKPbc **PKPdf 13 09 35.5 +1.9**
GTA pPKP pPKPdf 13 09 43.8 +0.6
GTA sPKP 13 09 48.5
GTA PKPab **13 10 49.0 +1.6**
GTA LR LR
comp=N,160nm,19.3s
GTA LR LR
comp=E,130nm,19.6s
GTA LR LR
comp=Z,63nm,19.6s
NJ2 Nanjing 170.08 279 *e*P **PKPdf 13 09 28.8 -5.0**
NJ2 pmax pmax
comp=Z,11nm,0.6s

IDC ***21*** *12:50:25.9±1.0, 31°.20S×72°.63W, h0km, mb4.1/4, mb1 4.5/6, mb1mx4.2/25, mbtmp4.3/6, ML4.2/2, Error ellipse: s-maj=44.7km s-min=29.3km az=83.0*

ISC 21 12:50:31.4±0.9, 31°.2S±0°.2×72°.5W±0°.3, h35km, n10, σ0s60/10, mb4.2/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**15.34**	**16**	Pn		**Pn**		**12 54 05.7**	**-0.2**
	0.4nm,0.3s,baz=194,slow=10,SNR=2.1								
SIV	**San Ignacio**	**18.37**	**37**	P		**P**		**12 54 43.8**	**+0.5**
	0.8nm,0.3s,baz=223,slow=13,SNR=2.0								
SNAA	**Sanae**	**54.38**	**159**	P		**P**		**12 59 55.0**	**+0.6**
	4.8nm,0.8s,baz=283,slow=7.7,SNR=3.2								
TXAR	**Lajitas Array**	**67.05**	**331**	P		**P**		**13 01 21.2**	**0.0**
	1.4nm,0.7s,baz=155,slow=8.5,SNR=5.2								
PDAR	**Pinedale Array**	**81.04**	**333**	P		**P**		**13 02 43.2**	**+0.4**
	0.4nm,0.6s,baz=147,slow=5.2,SNR=1.3								
TORD	**Torodi Ar. Bea**	**83.65**	**71**	P		**P**		**13 02 56.1**	**-0.7**
	1.5nm,0.7s,baz=265,slow=4.6,SNR=1.5								
ASAR	**Alice Springs**	**119.89**	**208**	PKP		**PKPdf**		**13 09 17.8**	**-0.9**
	0.4nm,0.6s,baz=138,slow=1.4,SNR=1.5								
WRA	**Warramunga Arr**	**123.01**	**210**	PKP		**PKPdf**		**13 09 24.1**	**-0.6**
	1.0nm,0.6s,baz=161,slow=2.1,SNR=4.7								
KURBB	**Kurchatov Arra**	**151.02**	**39**	PKPbc		**PKiKP**		**13 10 20.7**	**0.0**
	1.9nm,0.6s,baz=308,slow=3.1,SNR=2.0								
ZALV	**Zalesovo Beam**	**152.00**	**29**	PKPbc		**PKPbc**		**13 10 22.5**	**+0.2**
	5.6nm,0.6s,baz=310,slow=2.6,SNR=2.1								

MEX 21 12:52:45.9±0.8, 14°.21N×92°.72W, h10km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		**1.56**	**342**	*i* P		Pn		12 53 11.7	-2.1
PCIG				*i* S		Sn		12 53 27.9	-6.2
CCIG	**Comitan**	**2.14**	**15**	*i* P		Pn		12 53 22.1	+0.2
CCIG				*i* S		Sn		12 53 49.6	+1.1

NEIC ***21*** *12:54:05.8±1.2, 19°.71S±0°.09×177°.7W±0°.2, h598km±10km, mb4.4/23, Error ellipse: s-maj=23.5km s-min=11.4km az=107.0*

IDC ***21*** *12:54:06.3±6.2, 19°.93S×177°.85W, h599km±40km, mb3.2/4, mb1 3.4/6, mb1mx3.0/36, mbtmp4.1/6, Error ellipse: s-maj=153.0km s-min=27.0km az=143.0*

ISC 21 12:54:05.3±0.7, 19°.7S±0°.1×177°.7W±0°.1, h600km, n42, σ0s99/42, mb4.3/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.51**	**295**	P		**P**		**12 55 35.3**	**+0.7**
	2.0nm,0.3s,baz=194,slow=12,SNR=4.3								
MSVF	**Nonsavu**	**4.51**	**295**	P		**P**		**12 55 34.7**	**+0.1**
AFI	**Afiamalu**	**8.06**	**45**	P		**P**		**12 56 03.6**	**-1.8**
DZM	**Mont Dzumac**	**15.04**	**258**	P		**P**		**12 57 14.4**	**+0.5**
	0.4nm,0.3s,baz=100,slow=19,SNR=6.3								
DZM	**Mont Dzumac**	**15.04**	**258**	P		**P**		**12 57 14.6**	**+0.6**
OUZ	**Omahuta**	**17.28**	**205**	P		**P**		**12 57 34.1**	**-0.1**
URZ	**Urewera**	**19.04**	**193**	P		**P**		**12 57 49.3**	**-0.8**
URZ						IAmb	IAmb	12 58 10.1	
	comp=Z,25nm,1.2s								
BKZ	**Black Stump Fm**	**20.04**	**193**	P		**P**		**12 57 57.8**	**-1.5**
QRZ	**Quartz Range**	**22.66**	**200**	P		**P**		**12 58 22.9**	**+0.3**
NNZ	**Nelson**	**22.77**	**198**	P		**P**		**12 58 23.6**	**0.0**
THZ	**Tophouse**	**23.41**	**198**	P		**P**		**12 58 29.3**	**0.0**
LTZ	**Lake Taylor**	**24.53**	**198**	P		**P**		**12 58 38.1**	**-1.1**
LTZ						IAmb	IAmb	12 58 51.9	
	comp=Z,19nm,1.2s								
MLZ Mavora Lakes 28.17 202 P P 12 59 11.3 +0.2
MLZ IAmb IAmb 12 59 12.6
comp=Z,19nm,1.3s
WHZ Wether Hill Ro 28.69 201 P P 12 59 15.6 0.0
WHZ IAmb IAmb 12 59 18.1
comp=Z,17nm,0.6s
CTAO Charters Tower 33.89 263 P P 12 59 59.5 -0.7
CTAO IAmb IAmb 12 59 59.9
comp=Z,6.5nm,0.4s
COEN Coen 37.86 272 P P 13 00 32.5 -0.4
COEN IAmb IAmb 13 00 46.5
comp=Z,15nm,1.2s
STKA Stephens Creek 38.43 243 P P 13 00 36.9 -0.3
BBOO Buckleboo 43.19 243 P P 13 01 14.5 -0.3
BBOO IAmb IAmb 13 01 35.3
comp=Z,34nm,1.4s
WR0 Warramunga Arr 44.84 261 P P 13 01 26.7 -1.1
WB0 Warramunga Arr 45.01 261 P P 13 01 28.0 -1.1
WB0 IAmb IAmb 13 01 28.3
comp=Z,4.1nm,0.5s
AS31 Alice Springs 45.02 256 P P 13 01 28.6 -0.5
AS31 IAmb IAmb 13 01 29.9
comp=Z,2.1nm,0.3s
ASAR Alice Springs 45.02 256 P P 13 01 28.4 -0.7
comp=Z,3.6nm,0.7s,baz=86,slow=8.3,SNR=134
ASAR PcP **PcP 13 02 57.8 +0.8**
comp=Z,0.5nm,0.6s,baz=109,slow=3.6,SNR=4.5
ASAR Alice Springs 45.02 256 P P 13 01 28.0 -1.0
WB2 Warramunga Arr 45.02 261 P P 13 01 28.1 -1.1
WB2 IAmb IAmb 13 01 36.0
comp=Z,7.8nm,1.4s
WRA Warramunga Arr 45.03 261 P P 13 01 27.9 -1.3
comp=Z,1.6nm,0.3s,baz=102,slow=5.1,SNR=81
WRA Warramunga Arr 45.03 261 P P 13 01 27.9 -1.3
FORT Forrest 49.91 246 P P 13 02 04.5 -0.9
FORT IAmb IAmb 13 02 21.0
comp=Z,26nm,1.2s
KNRA Kununurra 51.03 265 P P 13 02 13.2 -0.5
KNRA IAmb IAmb 13 02 30.6
comp=Z,18nm,1.2s
FITZ Fitzroy Crossi 53.45 262 P P 13 02 31.0 0.0
FITZ IAmb IAmb 13 02 43.9
comp=Z,7.2nm,1.4s
QSPA South Pole Qui 70.36 180 P P 13 04 21.1 +1.4
CCB Clear Creek Bu 87.17 12 P P 13 05 49.4 +1.2
IMAR Indian Mountai 87.32 10 P P 13 05 50.4 +1.5
ILAR Eielson Array 87.47 13 P P 13 05 51.3 +1.7
comp=Z,0.6nm,0.9s,baz=208,slow=6.0,SNR=2.9
ILAR Eielson Array 87.47 13 P P 13 05 50.8 +1.2
CMAR Chiang Mai Arr 90.15 289 P P 13 06 04.7 +1.5
comp=Z,0.4nm,0.3s,baz=123,slow=2.2,SNR=4.4
CMAR Chiang Mai Arr 90.15 289 P P 13 06 02.2 -0.9
ARCES ARCESS Array B 128.20 350 PKP **PKPdf 13 12 03.9 +0.2**
comp=Z,1.3nm,0.9s,baz=33,slow=4.6,SNR=6.4
ARCES ARCESS Array B 128.20 350 PKPdf 13 12 04.1 +0.4
AKASG Malin Array Be 142.47 332 PKhKP PKPpre 13 12 27.9
comp=Z,0.7nm,0.4s,baz=44,slow=4.1,SNR=5.1
AKASG Malin Array Be 142.47 332 PKPdf 13 12 28.5 -2.1
CLL Collm 147.36 348 *i* PKPbc **PKiKP 13 12 44.1 +0.1**
GERES GERESS Array B 149.52 345 PKPbc **PKiKP 13 12 49.7 +1.1**
comp=Z,0.9nm,0.7s,baz=20,slow=4.3,SNR=5.2

IDC ***21*** *13:05:22.4±0.8, 31°.62S×71°.61W, h0km, mb4.4/6, mb1 4.4/10, mb1mx4.1/25, mbtmp4.2/10, ML3.9/4, MS3.7/4, Ms1 3.6/4, ms1mx3.2/24, Error ellipse: s-maj=27.4km s-min=24.4km az=81.0*

SJA ***21*** *13:05:23.0, 31°.60S×72°.16W, h10km, ML4.9*

NEIC ***21*** *13:05:24.9±1.8, 31°.60S±0°.03×71°.86W±0°.07, h19km±2km, mb4.7/24, Mwr4.1/29, ML4.3(GUC), Error ellipse: s-maj=8.4km s-min=4.3km az=98.0*

VAO ***21*** *13:05:24.7±0.5, 31°.56S×71°.99W, h20km, mb4.5*

GUC ***21*** *13:05:24.3±0.8, 31°.65S×71°.70W, h32km±5km, ML4.3*

NEIC ***21*** *13:05:25.1, 31°.60S×71°.85W, h24km, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr 1.63; Mθθ 0.30; Mϕϕ -1.93; Mrθ 0.78; Mrϕ -0.04; Mθϕ -0.63; Fault plane solution: M0 2.06000×10^15 NP1: ϕs 23.25000°, δ 40.05000°, λ 126.96000°. NP2: ϕs 158.74000°, δ 59.06000°, λ 63.19000°. Principal axes: T 2.0747, Plg65.0000°, Azm20.0000°; N -0.0317, Plg23.0000°, Azm173.0000°; P -2.0431, Plg10.0000°, Azm268.0000°:*

ISC 21 13:05:22.1±1.4, 31°.60S±0°.02×71°.87W±0°.05, h2km±9km, n165, σ1s11/162, mb4.6/15, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.95**	**12**	*e*P		**Pn**		**13 05 42.8**	**+0.5**
CO06				*i* S		**Sn**		**13 05 56.5**	**0.0**
CO06				IAML				13 05 59.3	
	comp=N,17μm,0.6s								
CO06	**Fray Jorge**	**0.95**	**12**			**Pn**		**13 05 42.9**	**+0.5**
CO06				Sn		**Sb**		**13 05 55.1**	**+0.9**
VA06	**Catapilco**	**1.07**	**153**	⇓*i* P		**Pb**		**13 05 43.5**	**+0.2**
VA06				*i* S		**Sg**		**13 05 56.3**	**-0.2**
VA06				IAML				13 05 59.8	
	comp=N,23μm,0.2s								
CO03	**El Pedregal**	**1.27**	**53**	⇓*i* P		**Pn**		**13 05 47.1**	**+0.1**
CO03				*i* S		**Sg**		**13 06 02.9**	**0.0**
CO03				IAML				13 06 06.8	
	comp=E,8μm,0.5s								
CO03	**El Pedregal**	**1.27**	**53**			**Pn**		**13 05 46.9**	**+0.1**
CO03				Sn		**Sg**		**13 06 02.8**	**0.0**
CO03	**El Pedregal**	**1.27**	**53**	*i* P		**Pn**		**13 05 47.0**	**+0.1**
VA01	**Torpederas**	**1.43**	**172**	*e*P		**Pn**		**13 05 49.2**	**+0.2**
VA01	**Torpederas**	**1.43**	**172**			**Pb**		**13 05 49.5**	**0.0**
VA01	**Torpederas**	**1.43**	**172**	*i* P		**Pg**		**13 05 50.0**	**+0.5**
ROCH	**El Roble**	**1.55**	**152**	⇓*i* P		**Pn**		**13 05 50.9**	**0.0**
ROCH				*i* S		**Sn**		**13 06 10.8**	**-0.9**
ROCH				IAML				13 06 15.1	
	comp=E,5μm,0.4s								
VA03	**San Esteban**	**1.61**	**136**	*e*P		**Pn**		**13 05 50.9**	**-0.7**
VA03				*i* S		**Sn**		**13 06 11.5**	**-1.5**
VA03				IAML				13 06 14.6	
	comp=N,13μm,0.1s								
VA03	**San Esteban**	**1.61**	**136**			**Pn**		**13 05 52.1**	**+0.5**
VA03	**San Esteban**	**1.61**	**136**	*i* P		**Pn**		**13 05 52.0**	**+0.4**
GO04	**Tololo Observa**	**1.70**	**33**	*e*P		**Pb**		**13 05 54.1**	**0.0**
GO04				*i* S		**Sg**		**13 06 17.3**	**+0.7**
GO04	**Tololo Observa**	**1.70**	**33**			**Pb**		**13 05 54.4**	**+0.3**
GO04	**Tololo Observa**	**1.70**	**33**	*i* P		**Pb**		**13 05 54.0**	**-0.2**
CO05	**La Serena**	**1.76**	**18**	*e*P		**Pn**		**13 05 54.5**	**+0.9**
CO05				*i* S		**Sg**		**13 06 18.8**	**0.0**
CO05				IAML				13 06 26.1	
	comp=E,4μm,0.4s								
CO05	**La Serena**	**1.76**	**18**			**Pb**		**13 05 55.0**	**-0.1**
MT05	**Renca**	**2.02**	**152**	*e*P		**Pn**		**13 05 58.4**	**+1.1**
MT05				*i* S		**Sn**		**13 06 23.2**	**-0.1**
MT05				IAML				13 06 31.7	
	comp=E,6μm,0.3s								
MT05	**Renca**	**2.02**	**152**			**Pn**		**13 05 58.4**	**+1.1**
MT05	**Renca**	**2.02**	**152**	*i* P		**Pn**		**13 05 58.0**	**+0.7**
VA05	**Santo Domingo**	**2.06**	**174**	*e*P		**Pn**		**13 05 58.1**	**+0.3**
VA05				*i* S		**Sn**		**13 06 24.6**	**+0.6**
VA05				IAML				13 06 32.8	
	comp=E,3μm,0.3s								
VA05	**Santo Domingo**	**2.06**	**174**			**Pn**		**13 05 58.6**	**+0.8**
AUSP	**Uspallata**	**2.20**	**107**	*i* P		**Pb**		**13 06 03.0**	**+0.2**
RTLS	**Leoncito**	**2.20**	**96**	*i* P		**Pb**		**13 06 03.0**	**+0.2**
MT09	**Talagante**	**2.29**	**161**	*e*P		**Pn**		**13 06 02.4**	**+1.3**
MT09				*i* S		**Sn**		**13 06 30.3**	**+0.4**
MT09				IAML				13 06 43.3	
	comp=N,3μm,0.5s								
MT09	**Talagante**	**2.29**	**161**			**Pn**		**13 06 02.7**	**+1.6**
MT01	**Popeta**	**2.31**	**167**	IAML				13 06 39.4	
	comp=E,2μm,0.2s								
MT01	**Popeta**	**2.31**	**167**			**Pn**		**13 06 02.0**	**+0.8**
MT01	**Popeta**	**2.31**	**167**	*i* P		**Pn**		**13 06 02.0**	**+0.7**
AROD	**Rodeo**	**2.51**	**56**	*i* P		**Pb**		**13 06 08.0**	**-0.1**
ACCO	**Cerro Coronel**	**2.61**	**68**	*i* P		**Pb**		**13 06 10.0**	**+0.2**
LMEL	**Las Melosas**	**2.64**	**148**	IAML				13 06 48.0	
	comp=N,3μm,0.4s								
ZON	**Zonda**	**2.72**	**90**			**Pn**		**13 06 08.6**	**+1.6**
ASAL	**Salagasta**	**2.76**	**112**	*i* P		**Pb**		**13 06 12.0**	**-0.2**
ACDV	**Cuesta del Vie**	**2.76**	**60**	*i* P		**Pb**		**13 06 12.0**	**-0.3**
LCO	**Las Campanas**	**2.77**	**22**	*i* P		**Pn**		**13 06 09.0**	**+1.2**
ARCO	**CERRO ARCO**	**2.78**	**117**	*i* P		**Pb**		**13 06 13.0**	**+0.4**
RTCV	**Cerro Valdivia**	**2.85**	**96**	*i* P		**Pb**		**13 06 12.0**	**-1.7**
BO01	**Tunca**	**2.86**	**167**			**Pn**		**13 06 09.4**	**+0.7**
BO01	**Tunca**	**2.86**	**167**	*i* P		**Pn**		**13 06 10.0**	**+1.3**
AAGR	**Agrelo**	**2.97**	**121**	*i* P		**Pb**		**13 06 15.0**	**-0.8**

BO02	**Sierra Bellavi**	**3.31**	**164**	Pn		**Pn**	**13 06 16.2**	**+1.2**
BO02	**Sierra Bellavi**	**3.31**	**164**	*i* P		**Pn**	**13 06 16.0**	**+1.0**
GO05	**Huala**	**3.40**	**181**	Pn		**Pn**	**13 06 16.2**	**0.0**
GO05	**Huala**	**3.40**	**181**	*i* P		**Pn**	**13 06 16.0**	**-0.2**
AC04	**Llanos de Chal**	**3.46**	**12**	Pn		**Pn**	**13 06 17.5**	**+0.5**
AC04	**Llanos de Chal**	**3.46**	**12**	*i* P		**Pn**	**13 06 18.0**	**+1.1**
AVFE	**Valle Fertil**	**3.90**	**77**	*i* P		**Pn**	**13 06 26.0**	**+2.9**
ML02	**Panimavida**	**4.17**	**175**			**Pn**	**13 06 27.9**	**+1.2**
GO03	**Copiap**	**4.24**	**20**	Pn		**Pn**	**13 06 28.8**	**+1.0**
GO03	**Copiap**	**4.24**	**20**	*i* P		**Pn**	**13 06 29.0**	**+1.2**
AC06	**Mina Casimiro**	**4.43**	**18**	Pn		**Pn**	**13 06 30.6**	**+0.2**
ACHE	**Chepes**	**4.47**	**86**	*i* P		**Pn**	**13 06 32.0**	**+0.9**
AC02	**Maricunga**	**5.32**	**27**	Pn		**Pn**	**13 06 43.7**	**+0.7**
AC02	**Maricunga**	**5.32**	**27**	*i* P		**Pn**	**13 06 45.0**	**+2.0**
CYA	**Choya**	**6.13**	**61**	*i* P		**Pn**	**13 06 55.0**	**+1.2**
H03N1	**Juan Fernandez**	**6.24**	**251**	T		T	13 13 36.9	
	baz=80,slow=72,SNR=2825							
H03N3	**Juan Fernandez**	**6.24**	**251**	T		T	13 13 37.4	
	baz=80,slow=72,SNR=2896							
H03N2	**Juan Fernandez**	**6.24**	**251**	T		T	13 13 36.5	
	baz=80,slow=72,SNR=3629							
PB14	**IPOC Station P**	**7.07**	**11**	Pn		**Pn**	**13 07 04.9**	**-2.1**
LC01	**Cunco**	**7.28**	**180**	Pn		**Pn**	**13 07 09.4**	**-0.1**
LC01	**Cunco**	**7.28**	**180**	*i* P		**Pn**	**13 07 10.0**	**+0.5**
PB10	**IPOC Station P**	**8.14**	**9**	Pn		**Pn**	**13 07 20.5**	**-0.8**
PB15	**IPOC Station P**	**8.63**	**15**			**Pn**	**13 07 27.0**	**-1.2**
PB06	**IPOC Station P**	**9.10**	**14**	Pn		**Pn**	**13 07 33.2**	**-1.4**
PLCA	**Paso Flores**	**9.17**	**174**	Pn		**Pn**	**13 07 36.6**	**+1.1**
	comp=N,0.3nm,0.3s,baz=336,slow=11,SNR=18							
PLCA				LR		LR	13 11 50.7	
	comp=N,168nm,19.5s,baz=338,slow=42							
PLCA	**Paso Flores**	**9.17**	**174**	Pn		**Pn**	**13 07 36.3**	**+0.8**
PLCA	**Paso Flores**	**9.17**	**174**	*eP*		**Pn**	**13 07 36.4**	**+0.9**
LL04	**Puerto Octay**	**9.30**	**183**	Pn		**Pn**	**13 07 36.8**	**-0.4**
LVC	**Limon Verde**	**9.34**	**17**	Pn		**Pn**	**13 07 35.7**	**-2.4**
	comp=N,0.4nm,0.3s,baz=195,slow=12,SNR=1.4							
LVC				LR		LR	13 11 22.8	
	comp=N,324nm,19.3s,baz=213,slow=39							
LVC	**Limon Verde**	**9.34**	**17**	Pn		**Pn**	**13 07 35.4**	**-2.6**
LVC	**Limon Verde**	**9.34**	**17**	*eP*		**Pn**	**13 07 38.9**	**+0.9**
LVC	**Limon Verde**	**9.34**	**17**	*i* P		**Pn**	**13 07 38.0**	**-0.1**
PB09	**IPOC Station P**	**10.04**	**14**	Pn		**Pn**	**13 07 46.9**	**-0.7**
TRQA	**Tornquist**	**10.37**	**131**	Pn		**Pn**	**13 07 52.9**	**+1.1**
TRQA	**Tornquist**	**10.37**	**131**	*eP*		**Pn**	**13 07 53.5**	**+1.7**
PB01	**IPOC Station P**	**10.73**	**12**	Pn		**Pn**	**13 07 53.4**	**-3.5**
PSGCX	**Pisagua**	**12.06**	**8**	Pn		**Pn**	**13 08 12.7**	**-2.4**
ITQB	**Itaqui**	**13.27**	**86**	Pn		**Pn**	**13 08 30.8**	**-0.7**
ITQB	**Itaqui**	**13.27**	**86**	*eP*		**Pn**	**13 08 34.0**	**+2.5**
CPUP	**Villa Florida**	**13.77**	**71**	LR		LR	13 14 21.4	
	comp=N,307nm,19.2s,baz=236,slow=40							
CPUP	**Villa Florida**	**13.77**	**71**	Pn		**Pn**	**13 08 37.1**	**-1.2**
PLTB	**Pedras Altas**	**15.55**	**95**	Pn		**Pn**	**13 08 57.7**	**-4.8**
PLTB	**Pedras Altas**	**15.55**	**95**	*eP*		**P**	**13 09 05.0**	**-2.0**
LPAZ	**La Paz**	**15.62**	**13**	Pn		**Pn**	**13 09 05.4**	**+1.4**
	comp=N,0.2nm,0.3s,baz=187,slow=9.6,SNR=8.9							
LPAZ	**La Paz**	**15.62**	**13**			**Pn**	**13 09 05.3**	**+1.3**
LPAZ	**La Paz**	**15.62**	**13**	*eP*		**Pn**	**13 09 04.1**	**+0.1**
AQDB	**Aquidauana**	**18.25**	**56**			**Pn**	**13 09 36.5**	**-0.1**
AQDB	**Aquidauana**	**18.25**	**56**	*eP*		**Pn**	**13 09 35.7**	**-0.8**
CNLB	**Canela**	**18.26**	**88**	*eP*		**P**	**13 09 40.0**	**+3.0**
SIV	**San Ignacio**	**18.39**	**35**	P		**Pn**	**13 09 38.1**	**-0.3**
	comp=N,0.6nm,0.3s,baz=250,slow=11,SNR=15							
PTGB	**Pitanga**	**18.75**	**73**	*eP*		**Pn**	**13 09 43.2**	**+0.5**
TRCB	**Terra Rica**	**19.21**	**68**	*eP*		**Pn**	**13 09 49.6**	**+1.3**
PTLB	**Pontes e Lacer**	**19.84**	**39**	*eP*		**P**	**13 09 53.9**	**-0.4**
TEO1	**Tubarao-SC**	**19.91**	**87**	*eP*		**Pn**	**13 09 56.8**	**+0.1**
PCMB	**Pacaembu**	**20.91**	**67**	*eP*		**P**	**13 10 05.5**	**-0.5**
FRTB	**Fartura**	**21.41**	**73**	*eP*		**P**	**13 10 12.5**	**+1.1**
VILB	**Vilhena**	**21.44**	**33**	*eP*		**P**	**13 10 12.5**	**+0.8**
SALV	**Santo Antonio**	**21.48**	**47**	*eP*		**P**	**13 10 11.1**	**-1.0**
ETMB	**Extrema**	**22.30**	**15**	*eP*		**P**	**13 10 21.6**	**+0.6**
ITRB	**Itarema**	**22.68**	**64**	*eP*		**P**	**13 10 25.4**	**+0.5**
PET01	**Itanhaem-SP**	**22.88**	**78**	*eP*		**P**	**13 10 26.9**	**-0.2**
SPB	**Sao Paulo**	**23.05**	**76**	P		**P**	**13 10 28.6**	**-0.2**
SPB				IAmb		IAmb	13 10 29.5	
	comp=Z,18nm,0.9s							
SPB	**Sao Paulo**	**23.05**	**76**	*eP*		**P**	**13 10 28.7**	**-0.1**
VAO	**Valinhos**	**23.69**	**75**	*eP*		**P**	**13 10 34.8**	**-0.6**
SAML	**Samuel**	**23.95**	**22**	*eP*		**P**	**13 10 37.9**	**+0.1**
IPMB	**Ipameri, GO**	**25.33**	**63**	*eP*		**P**	**13 10 50.2**	**-0.2**
BDFB	**Brasilia**	**26.93**	**59**	P		**P**	**13 11 03.5**	**-1.6**
	comp=Z,6.6nm,0.6s,baz=230,slow=9,SNR=8.7							
BDFB				LR		LR	13 22 52.5	
	comp=Z,431nm,19.7s,baz=236,slow=39							
BDFB	**Brasilia**	**26.93**	**59**	P		**P**	**13 11 03.8**	**-1.2**
BDFB				IAmb		IAmb	13 11 05.6	
	comp=Z,10nm,0.9s							
SNDB	**Serra Nova Dou**	**27.23**	**49**	*eP*		**P**	**13 11 07.7**	**+0.1**
DUB01	**Friburgo-RJ**	**27.90**	**77**	*eP*		**P**	**13 11 15.3**	**+1.7**
PEXB	**Peixe**	**29.12**	**53**	*eP*		**P**	**13 11 23.5**	**-1.0**
JANB	**Januaria**	**30.07**	**63**	*eP*		**P**	**13 11 34.4**	**+1.5**
MACA	**Manacapuru-AM**	**30.19**	**23**	*eP*		**P**	**13 11 34.4**	**+0.5**
SJMB	**Sao Joao De Ma**	**30.49**	**72**	*eP*		**P**	**13 11 38.5**	**+1.9**
BSFB	**Barra de Sao F**	**30.70**	**73**	*eP*		**P**	**13 11 40.2**	**+1.7**
SMTB	**Santa Maria do**	**31.96**	**50**	*eP*		**P**	**13 11 49.1**	**-0.5**
GDU01	**Guandu, BA**	**34.53**	**66**	*eP*		**P**	**13 12 13.7**	**+1.7**
BOAV	**Boa Vista**	**35.49**	**20**	*eP*		**P**	**13 12 20.1**	**-0.2**
MCPB	**Macapa, AP**	**36.29**	**35**	*eP*		**P**	**13 12 26.1**	**-1.1**
TMAB	**Tom-Au,PA,Br**	**36.71**	**42**	*eP*		**P**	**13 12 31.7**	**+0.9**
ROSB	**Rosrio**	**38.70**	**48**	*eP*		**P**	**13 12 47.9**	**+0.3**
SNAA	**Sanae**	**53.75**	**159**	P		**P**	**13 14 45.4**	**-0.1**
SNAA	**Sanae**	**53.75**	**159**	P		**P**	**13 14 45.1**	**-0.4**
H06E1	**SOCORRO T-PHAS**	**52.56**	**318**	T		T	14 23 54.7	
	SNR=12							
V55A	**Taylorsville**	**67.67**	**352**	P		**P**	**13 16 20.3**	**-0.3**
TXAR	**Lajitas Array**	**67.72**	**330**	P		**P**	**13 16 22.8**	**+1.6**
	comp=Z,0.7nm,1.0s,baz=151,slow=8.2,SNR=5.4							
LCAR	**Lake Charles**	**69.71**	**343**	P		**P**	**13 16 32.4**	**-0.8**
LCAR				IAmb		IAmb	13 16 34.5	
	comp=Z,3.0nm,0.6s							
MNTX	**Cornudas Mount**	**70.50**	**330**	P		**P**	**13 16 38.5**	**+0.2**
MNTX				IAmb		IAmb	13 16 40.7	
	comp=Z,5.5nm,1.4s							
LIC	**Lamto**	**73.89**	**72**	*eP*		**P**	**13 16 58.0**	**-1.0**
	comp=Z,17nm,0.5s							
TIC	**Toumodi**	**74.14**	**72**	*eP*		**P**	**13 16 59.4**	**-1.1**
KIC	**Kosan Boka**	**74.20**	**72**	*eP*		**P**	**13 17 00.0**	**-0.8**
	comp=Z,16nm,0.6s							
DBIC	**Dimbokro**	**74.29**	**72**	P		**P**	**13 17 00.7**	**-0.6**
	comp=Z,8.5nm,0.6s,baz=231,slow=5.7,SNR=17							
DBIC	**Dimbokro**	**74.29**	**72**	P		**P**	**13 17 00.5**	**-0.8**
FRNY	**Flat Rock**	**76.09**	**359**	P		**P**	**13 17 11.5**	**+0.6**
G62A	**West of Eustis**	**76.47**	**1**	P		**P**	**13 17 13.9**	**+0.8**
G62A				IAmb		IAmb	13 17 15.1	
	comp=Z,7.8nm,0.8s							
F64A	**Sherman**	**77.17**	**3**	P		**P**	**13 17 18.5**	**+1.5**
F64A				IAmb		IAmb	13 17 19.2	
	comp=Z,9.1nm,1.0s							
LMN	**Caledonia Moun**	**77.36**	**5**	P		**P**	**13 17 18.3**	**+0.3**
E62A	**Clayton Lake**	**77.89**	**2**	P		**P**	**13 17 20.9**	**-0.1**
E46A	**Sault Ste Mari**	**78.42**	**351**	P		**P**	**13 17 23.9**	**-0.1**
E46A				IAmb		IAmb	13 17 39.4	
	comp=Z,8.9nm,1.0s							
KOWA	**Kowa**	**79.52**	**66**	P		**P**	**13 17 29.8**	**-1.0**
KOWA				IAmb		IAmb	13 17 31.1	
	comp=Z,5.7nm,0.8s							
BOSA	**Boshof**	**81.06**	**118**	P		**P**	**13 17 38.8**	**-0.3**
	comp=Z,4.6nm,1.0s,baz=243,slow=6.8,SNR=3.6							
BOSA	**Boshof**	**81.06**	**118**	IAmb		IAmb	13 17 40.0	
	comp=Z,12nm,1.3s							
NVAR	**Mina Array Bea**	**82.01**	**325**	P		**P**	**13 17 45.1**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=156,slow=6.3,SNR=6.7							
KVN	**Kaiserville**	**82.39**	**325**	P		**P**	**13 17 44.1**	**-1.7**
TORD	**Torodi Ar. Bea**	**83.26**	**70**	P		**P**	**13 17 49.8**	**-0.8**
	comp=Z,5.4nm,0.8s,baz=267,slow=5.0,SNR=29							
TORD	**Torodi Ar. Bea**	**83.26**	**70**	P		**P**	**13 17 49.4**	**-1.3**
TORD				IAmb		IAmb	13 17 50.9	
	comp=Z,6.3nm,0.9s							
ASAR	**Alice Springs**	**119.76**	**207**	PKKPbc		PKKPbc	13 34 23.4	-0.5
	comp=Z,0.2nm,0.5s,baz=328,slow=3.3,SNR=6.9							
WRA	**Warramunga Arr**	**122.92**	**210**	PKP		**PKPdf**	**13 24 19.5**	**-1.1**
	comp=Z,1.1nm,1.0s,baz=162,slow=1.8,SNR=4.8							
H11S2	**WAKE ISLAND Hyl**	**25.92**	**271**	T		T	15 43 19.7	
	baz=117,slow=75,SNR=170							
H11S1	**WAKE ISLAND Hyl**	**25.93**	**271**	T		T	15 43 18.4	
	baz=117,slow=75,SNR=169							
H11S3	**WAKE ISLAND Hyl**	**25.93**	**271**	T		T	15 43 19.0	
	baz=117,slow=75,SNR=179							
H11N3	**WAKE ISLAND Hyl**	**26.27**	**272**	T		T	15 43 48.1	
	baz=116,slow=76,SNR=98							
H11N1	**WAKE ISLAND Hyl**	**26.28**	**272**	T		T	15 43 46.0	
	baz=116,slow=76,SNR=34							
H11N2	**WAKE ISLAND Hyl**	**26.28**	**272**	T		T	15 43 48.4	
	baz=116,slow=76,SNR=150							
BVAR	**Borovoye Array**	**145.40**	**41**	PKPbc		**PKPab**	**13 25 01.5**	**+0.2**
	comp=Z,7.7nm,0.6s,baz=260,slow=4.5,SNR=46							
YAK	**Yakutsk**	**146.52**	**342**	PKPbc		**PKPbc**	**13 25 04.2**	**0.0**
	comp=Z,3.9nm,0.5s,baz=223,slow=1.6,SNR=6.0							
KURBB	**Kurchatov Arra**	**150.99**	**40**	PKPbc		**PKPbc**	**13 25 16.4**	**+0.2**
	comp=Z,3.4nm,0.7s,baz=301,slow=3.0,SNR=27							
KURK	**Kurchatov**	**151.00**	**40**			**PKPbc**	**13 25 16.4**	**+0.2**
AAK	**Ala-Archa**	**151.18**	**58**	PKPbc		**PKPbc**	**13 25 17.3**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=270,slow=3.0,SNR=6.1							
AAK	**Ala-Archa**	**151.18**	**58**			**PKPbc**	**13 25 17.1**	**0.0**
ZALV	**Zalesovo Beam**	**152.11**	**30**	PKPbc		**PKPbc**	**13 25 18.3**	**-0.3**
	comp=Z,12nm,0.5s,baz=304,slow=3.2,SNR=40							
MKAR	**Makanchi Array**	**155.03**	**45**	PKPab		**PKPab**	**13 25 41.6**	**+0.8**
	comp=Z,2.0nm,1.0s,baz=335,slow=6.4,SNR=3.4							
SONM	**Songino Array**	**163.73**	**4**	PKPab		**PKPab**	**13 26 19.3**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=347,slow=4.6,SNR=3.8							

IDC 21 13:05:29.5±14.0, 47.77S×126.03E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/22, mbtmp3.8/3, MS3.6/3, Ms1 3.6/3, ms1mx3.1/22, Error ellipse: s-maj=334.5km s-min=67.0km az=152.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**15.63**	**321**	T	T	13 26 10.3	
	baz=148,slow=74,SNR=11						
H01W2	**Cape Leeuwin H**	**15.63**	**321**	T	T	13 26 06.4	
	baz=148,slow=74,SNR=14						
H01W3	**Cape Leeuwin H**	**15.65**	**321**	T	T	13 26 09.4	
	baz=148,slow=74,SNR=16						
ASAR	**Alice Springs**	**24.86**	**17**	P	P	13 10 54.0	+0.3
	2.1nm,0.8s,baz=189,slow=9.0,SNR=29						
WRA	**Warramunga Arr**	**28.57**	**17**	P	P	13 11 26.8	-0.3
	0.5nm,0.8s,baz=191,slow=12,SNR=2.4						
WRA				LR	LR	13 21 56.4	
	comp=Z,62nm,19.2s,baz=265,slow=34						
FITZ	**Fitzroy Crossi**	**29.60**	**359**	LR	LR	13 23 49.0	
	comp=Z,94nm,19.4s,baz=196,slow=37						
GUMO	**Guam**	**63.36**	**21**	LR	LR	13 42 34.3	
	comp=Z,92nm,21.6s,baz=100,slow=35						
CMAR	**Chiang Mai Arr**	**70.26**	**333**	P	P	13 16 44.4	0.0
	0.6nm,0.3s,baz=180,slow=6.2,SNR=4.2						

MEX 21 13:06:05.4±0.9, 15.58N×96.62W, h5km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PANG	**Puerto Angel**	**0.16**	**59**	*i* P	Pg	13 06 05.8	-2.9
PANG				*i* S	Sg	13 06 07.4	-3.5
PEIG	**Puerto Escondi**	**0.66**	**309**	*i* P	Pg	13 06 16.7	-1.3
PEIG				*i* S	Sg	13 06 26.8	+0.2
VHO	**Vista Hermosa**	**1.49**	**356**	*i* P	Pn	13 06 30.0	-3.0
VHO				*eS*	Sn	13 06 47.4	-5.5
PNIG	**Pinotepa**	**1.66**	**299**	*eP*	Pn	13 06 31.5	-3.8
PNIG				*i* S	Sn	13 06 51.6	-5.3
TOIG	**Toxpalan**	**2.54**	**350**	*eP*	Pn	13 06 46.9	-0.5
TOIG				*i* S	Sn	13 07 19.9	+1.2

MEX 21 13:09:15.8±1.0, 17.19N×94.54W, h120km±22km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGIG		**1.42**	**107**	*eP*	Pn	13 09 40.8	-1.6
TGIG				*eS*	Sn	13 10 01.1	-1.4
PCIG		**1.95**	**139**	*i* P	Pn	13 09 47.2	-1.4
PCIG				*i* S	Sn	13 10 12.5	-1.2
VHO	**Vista Hermosa**	**2.10**	**267**	*i* P	Pn	13 09 49.9	-0.8
VHO				*i* S	Sn	13 10 15.0	-2.3
CCIG	**Comitan**	**2.48**	**111**	*eP*	Pn	13 09 50.7	-4.8
CCIG				*eS*	Sn	13 10 22.0	-3.9
TOIG	**Toxpalan**	**2.57**	**291**	*eP*	Pn	13 09 55.3	-1.2
TOIG				*i* S	Sn	13 10 26.0	-1.9
PEIG	**Puerto Escondi**	**2.76**	**245**	*i* P	Pn	13 09 54.7	-4.4
PEIG				*i* S	Sn	13 10 28.5	-3.8
HLIG	**Huajuapan de L**	**3.17**	**282**	*eP*	Pn	13 10 03.2	-1.3
HLIG				*eS*	Sn	13 10 38.5	-3.7
FTIG	**Fresnillo de T**	**3.50**	**282**	*eP*	Pn	13 10 07.6	-1.2
FTIG				*eS*	Sn	13 10 49.0	-0.7
PNIG	**Pinotepa**	**3.52**	**257**	*eP*	Pn	13 10 05.1	-3.9
PNIG				*eS*	Sn	13 10 46.8	-3.4

MEX 21 13:21:15.1±0.4, 14.37N×94.16W, h16km±438km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.61**	**34**	*i* P	Pn	13 21 39.4	-3.5
PCIG				*i* S	Sn	13 21 58.2	-5.1

*IDC **21** 13:21:08.0±4.7, 30.18S×178.36W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/23, mbtmp3.3/2, Error ellipse: s-maj=250.9km s-min=70.8km az=166.0*
ISC 21 13:21:54.2±2.0, 31.1S×179.4W±0.3, h400km, n29, σ0.99/50, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.25**	**35**	P	Pn	13 22 37.9	-14
GLKZ				S	S	13 23 14.9	-23
MXZ	**Matakaoa Point**	**6.70**	**196**	P	**P**	**13 23 36.1**	**+1.2**
MXZ				S	**S**	**13 24 56.0**	**-0.1**
WMGZ	**Waiomatatini S**	**6.92**	**195**	P	**P**	**13 23 37.8**	**+0.4**
WMGZ				S	**S**	**13 25 00.3**	**-0.4**
HAZ	**Te Kaha**	**7.02**	**199**	P	**Pn**	**13 23 37.7**	**-0.2**
HAZ				S	**S**	**13 25 02.2**	**-0.4**
PKGZ	**Pakihiroa**	**7.06**	**197**	P	**Pn**	**13 23 38.1**	**-0.4**
PKGZ				S	**S**	**13 25 04.5**	**+0.8**
PUZ	**Puketiti**	**7.20**	**195**	P	**Pn**	**13 23 39.0**	**-0.9**
PUZ				S	**S**	**13 25 04.8**	**-1.6**
RUGZ	**Raukumara Rang**	**7.24**	**199**	P	**P**	**13 23 41.0**	**-0.1**
RUGZ				S	**S**	**13 25 04.1**	**-3.4**
TWGZ	**Tauwhareparae**	**7.36**	**196**	P	**P**	**13 23 43.7**	**+1.3**
TWGZ				S	**S**	**13 25 09.9**	**+0.1**
CNGZ	**Carnagh Statio**	**7.60**	**194**	P	**Pn**	**13 23 44.2**	**-0.3**
MWZ	**Matawai**	**7.63**	**199**	P	**P**	**13 23 46.0**	**+0.7**
MWZ				S	**S**	**13 25 15.0**	**-0.4**
TKGZ	**Te Karaka**	**7.64**	**197**	P	**P**	**13 23 46.0**	**+0.6**
TKGZ				S	**S**	**13 25 14.6**	**-1.0**
URZ	**Urewera**	**7.68**	**201**	P	**Pn**	**13 23 43.8**	**-1.6**
URZ				S	**S**	**13 25 16.7**	**+0.4**
RAGZ	**Rawiri**	**7.81**	**199**	P	**P**	**13 23 48.0**	**+0.7**
RAGZ				S	**S**	**13 25 20.1**	**+0.9**
RIGZ	**Rimuhau**	**7.92**	**196**	P	**P**	**13 23 48.0**	**-0.5**
RIGZ				S	**S**	**13 25 21.2**	**-0.2**
RTZ	**Ruatahuna**	**8.05**	**201**	P	**Pn**	**13 23 49.0**	**-0.6**
RTZ				S	**S**	**13 25 23.9**	**-0.3**
SNGZ	**Shannon Statio**	**8.10**	**198**	P	**P**	**13 23 51.5**	**+1.0**
SNGZ				S	**S**	**13 25 25.1**	**-0.1**
RAHZ	**Arahi**	**8.29**	**199**	P	**P**	**13 23 53.1**	**+0.5**
RAHZ				S	**S**	**13 25 29.7**	**+0.4**
MTHZ	**Maungataniwha**	**8.31**	**201**	P	**P**	**13 23 54.0**	**+1.2**
MTHZ				S	**S**	**13 25 30.7**	**+1.1**
NMHZ	**Naumai**	**8.54**	**200**	P	**P**	**13 23 56.8**	**+1.4**
ARHZ	**Aropaoanui**	**8.64**	**199**	P	**P**	**13 23 58.2**	**+1.7**
ARHZ				S	**S**	**13 25 38.5**	**+1.9**
BKZ	**Black Stump Fm**	**8.70**	**202**	P	**P**	**13 23 57.9**	**+0.6**
BKZ				S	**S**	**13 25 38.0**	**0.0**
MCHZ	**McNeill Hill**	**8.89**	**200**	P	**P**	**13 24 00.7**	**+1.4**
MCHZ				S	**S**	**13 25 43.8**	**+1.8**
KWHZ	**Kaweka Forest**	**8.96**	**201**	P	**P**	**13 24 00.5**	**+0.4**
KWHZ				S	**S**	**13 25 42.7**	**-0.8**
OTVZ	**Oturere**	**8.98**	**205**	P	**Pn**	**13 24 00.4**	**0.0**
BHHZ	**Black Hill Sta**	**9.13**	**203**	P	**P**	**13 24 01.5**	**-0.5**
BHHZ				S	**S**	**13 25 47.3**	**+0.2**
KRHZ	**Kereru**	**9.18**	**201**	P	**P**	**13 24 02.0**	**-0.5**
KRHZ				S	**S**	**13 25 47.4**	**-0.6**
ASAR	**Alice Springs**	**41.88**	**268**	P	**P**	**13 29 07.8**	**+0.3**
	0.1nm,0.4s,baz=105,slow=7.2,SNR=8.1						
WRA	**Warramunga Arr**	**42.94**	**274**	P	**P**	**13 29 15.4**	**-0.5**
	0.4nm,0.5s,baz=113,slow=7.9,SNR=9.8						
FINES	**FINESS Array B**	**145.40**	**339**	PKP	**PKPbc**	**13 40 45.5**	**+0.2**
	0.6nm,0.4s,baz=72,slow=4.8,SNR=5.0						

IDC 21 13:29:34.8±5.4, 29.88S×177.67W, h68km±40km, mb3.4/2, mb1 3.7/2, mb1mx3.3/20, mbtmp3.7/2, MS3.4/2, Ms1 3.4/2, ms1mx2.9/13, Error ellipse: s-maj=92.7km s-min=58.7km az=168.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.66**	**341**	P	Pn	13 29 48.7	-0.5
	48nm,0.3s,baz=97,slow=22,SNR=1.8						
RAO				S	Sn	13 30 01.3	+1.7
	684nm,0.3s,baz=68,slow=20,SNR=15						
DZM	**Mont Dzumac**	**16.25**	**295**	LR	LR	13 38 07.4	
	comp=Z,134nm,21.6s,baz=90,slow=32						
HNR	**Honiara**	**29.18**	**310**	LR	LR	13 46 24.6	
	comp=Z,61nm,19.0s,baz=214,slow=35						
ASAR	**Alice Springs**	**43.42**	**266**	P	P	13 37 30.6	-0.6
	0.3nm,0.4s,baz=106,slow=7.4,SNR=19						
WRA	**Warramunga Arr**	**44.37**	**271**	P	P	13 37 39.0	+0.2
	0.8nm,0.3s,baz=108,slow=8.0,SNR=34						
FINES	**FINESS Array B**	**144.76**	**340**	PKP	PKPdf	13 49 03.3	+0.1
	0.7nm,0.5s,baz=72,slow=4.5,SNR=6.2						

*IDC **21** 13:47:37.8±1.7, 30.83S×70.19W, h0km, mb3.6/1, mb1 4.0/3, mb1mx3.6/21, mbtmp3.9/3, ML4.0/2, Error ellipse: s-maj=92.6km s-min=40.2km az=100.0*
*GUC **21** 13:47:50.4±0.7, 30.30S×70.50W, h103km±4km, ML4.0*
ISC 21 13:47:51.1±0.9, 30.21S±0.04×70.5W±0.1, h102km±8km, n18, σ1.9/46/23, 7C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO04	**Tololo Observa**	**0.30**	**277**	↑*eP*	**Pn**	**13 48 06.5**	**+0.2**
GO04				*i* S	**Sn**	**13 48 18.1**	**+0.4**
GO04				IAML		13 48 19.5	
	comp=E,8μm,0.2s						
CO03	**El Pedregal**	**0.66**	**198**	↓*iP*	**Pn**	**13 48 08.4**	**-0.1**
CO03				*i* S	**Sn**	**13 48 21.1**	**-0.5**
CO05	**La Serena**	**0.74**	**293**	↑*iP*	**Pn**	**13 48 09.4**	**+0.3**
CO05				*i* S	**Sn**	**13 48 23.1**	**+0.5**
CO05				IAML		13 48 24.7	
	comp=N,3μm,0.4s						
CO06	**Fray Jorge**	**1.12**	**245**	↑*eP*	**Pn**	**13 48 12.5**	**-0.5**
CO06				*i* S	**Sn**	**13 48 29.2**	**-0.4**
CO06				IAML		13 48 37.5	
	comp=N,2μm,0.5s						
LCO	**Las Campanas**	**1.22**	**350**	↑*iP*	**Pn**	**13 48 15.0**	**+0.6**
LCO				*i* S	**Sn**	**13 48 32.8**	**+0.8**
AC04	**Llanos de Chal**	**2.07**	**345**	↑*iP*	**Pn**	**13 48 25.7**	**+1.0**
AC04				IAML		13 48 51.5	
	comp=N,1μm,0.2s						
VA03	**San Esteban**	**2.54**	**182**	IAML		13 49 03.5	
	comp=N,810nm,0.7s						
GO03	**Copiap**	**2.62**	**4**	↓*iP*	**Pn**	**13 48 32.8**	**+0.9**
GO03				*i* S	**Sn**	**13 48 58.2**	**-5.

	0.1nm,0.2s								
DJR					*e*S		**Sg**	13 55 33.7	-0.2
	0.3nm,0.3s								
DJR	**Jarkent**	**1.84**	**21**		P		**Pb**	13 55 09.0	0.0
	0.1nm,0.2s								
DJR					S		**Sg**	13 55 33.7	-0.2
	0.3nm,0.3s								
KTBS	**Karatobe**	**1.94**	**305**		*e*P		**Pb**	13 55 11.1	+0.4
	0.9nm,0.3s								
KTBS					*e*S		**Sg**	13 55 37.5	+0.5
	2.2nm,0.4s								
KTBS	**Karatobe**	**1.94**	**305**		Pg		**Pb**	13 55 11.1	+0.4
	0.9nm,0.3s								
KTBS					Lg		Lg	13 55 37.5	
	2.2nm,0.4s								
BOOM	**Boomskoye usch**	**2.17**	**268**	⇑	*i*P		**Pn**	13 55 11.5	-0.4
	baz=35								
BOOM				⇑	*i*S		**Sn**	13 55 38.5	-0.8
	baz=35								

*SOME **21** 13:58:51.3,40˚.57N×74˚.93E,h10km*
*KRNET **21** 13:58:52.2±0.1,40˚.49N×74˚.83E,h15km,mb2.8*
*NNC **21** 13:58:54.1±1.3,40˚.64N×74˚.97E,h0km,mb3.5,mpv3.1,*
Error ellipse: s-maj=9.9km s-min=6.9km az=165.0

ISC 21 13:58:50.6±1.5,40˚.40N±0˚.07×74.70E±0˚.03,h10km,n49,
σ1§04/76,26C-10D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ARLS	**Aral**	**1.49**	**349**	⇑	*e*P		**Pb**	**13 59 18.5**	**0.0**
	baz=45								
ARLS				⇑	*i*S		**Sg**	13 59 38.1	-0.4
	baz=45								
KZA	**Kyzart**	**1.73**	**14**	⇑	*i*P		**Pb**	13 59 22.5	-0.2
	baz=11								
KZA				⇑	*i*S		**Sb**	13 59 44.6	0.0
	baz=11								
KZA	**Kyzart**	**1.73**	**14**		P		**Pn**	13 59 20.7	-0.4
	SNR=6.2								
UCH	**Uchtor**	**1.83**	**356**	⇑	*i*P		**Pg**	13 59 24.9	-0.9
	baz=52								
UCH				⇑	*i*S		**Sg**	13 59 48.8	-0.8
	baz=52								
UCH	**Uchtor**	**1.83**	**356**		P		**Pb**	13 59 24.2	-0.3
	SNR=9.1								
AML	**Almayashu**	**1.89**	**337**	⇑	*i*P		**Pg**	13 59 26.4	-0.5
	baz=33								
AML				⇑	*i*S		**Sg**	13 59 51.7	+0.3
	baz=33								
AML	**Almayashu**	**1.89**	**337**		P		**Pg**	13 59 26.9	+0.1
	SNR=12								
ULHL	**Ulahol**	**2.18**	**32**	⇑	*i*P		**Pb**	13 59 29.5	-0.8
	baz=31								
ULHL				⇑	*i*S		**Sb**	13 59 56.7	-0.7
	baz=31								
ULHL	**Ulahol**	**2.18**	**32**		P		**Pb**	13 59 29.6	-0.7
	SNR=14								
KBK	**Karagaybulak**	**2.26**	**5**	⇑	*e*P		**Pb**	13 59 31.3	-0.4
	baz=2.0								
KBK				⇑	*i*S		**Sb**	13 59 59.7	-0.1
	baz=2.0								
KBK	**Karagaybulak**	**2.26**	**5**		P		**Pb**	13 59 31.6	-0.1
	SNR=8.3								
BOOM	**Boomskoye usch**	**2.29**	**24**	⇓	*e*P		**Pb**	13 59 31.3	-0.8
	baz=22								
BOOM				⇓	*i*S		**Sb**	13 59 59.7	-0.8
	baz=22								
EKS2	**Erkin-Say**	**2.36**	**343**	⇑	*i*P		**Pb**	13 59 33.2	-0.2
	baz=40								
EKS2				⇑	*i*S		**Sb**	14 00 03.4	+0.7
	baz=40								
FRU1	**Bishkek**	**2.41**	**359**	⇓	*i*P		**Pb**	13 59 33.7	-0.4
	baz=56								
FRU1				⇓	*i*S		**Sb**	14 00 04.1	+0.2
	baz=56								
KDJ	**Kajisay**	**2.55**	**46**	⇑	*i*P		**Pb**	13 59 35.1	-1.4
	baz=47								
KDJ				⇑	*i*S		**Sb**	14 00 06.2	-1.8
	baz=47								
MRKS	**Merke**	**2.59**	**335**		*e*P		**Pg**	13 59 38.9	-1.4
	4.6nm,0.6s								
MRKS					*e*S		**Sg**	14 00 13.5	-0.4
	13nm,0.5s								
MRKS	**Merke**	**2.59**	**335**		Pg		**Pg**	13 59 38.9	-1.4
	4.6nm,0.6s								
MRKS					Lg		Lg	14 00 13.5	
	13nm,0.5s								
CHMS	**Chumysh**	**2.60**		**1**	⇑	*i*P	**Pb**	13 59 35.8	-1.5
	baz=59								
CHMS				⇑	*i*S		**Sb**	14 00 07.8	-1.5
	baz=59								
CHMS	**Chumysh**	**2.60**		**1**	P		**Pb**	13 59 38.1	+0.8
	SNR=6.6								
TKM2	**Tokmak 2**	**2.61**		**15**	⇓	*e*P	**Pb**	13 59 35.8	-1.8
	baz=13								
TKM2				⇓	*i*S		**Sb**	14 00 07.7	-2.0
	baz=13								
TKM2	**Tokmak 2**	**2.61**		**15**	P		**Pb**	13 59 36.3	-1.3
	SNR=26								
TKM2	**Tokmak 2**	**2.61**		**15**	⇓	Pn	**Pb**	13 59 36.0	-1.5
	6.1nm,0.3s								
TKM2				⇑	Lg		Lg	14 00 08.2	
	14nm,0.9s								
MNAS	**Manas**	**2.66**	**322**	⇑	*e*P		**Pb**	13 59 38.1	-0.3
	baz=20								
MNAS				⇑	*i*S		**Sb**	14 00 11.6	+0.4
	baz=20								
TARG	**Taragay, Kyrgy**	**2.70**		**59**	⇑	*e*P	**Pb**	13 59 36.9	-2.3
	baz=60								
TARG				⇑	*i*S		**Sn**	14 00 09.5	+2.1
	baz=60								
KST	**Kastek**	**2.81**		**19**	*e*P		**Pb**	13 59 39.4	-1.6
	3.2nm,0.4s								
KST					*e*S		**Sb**	14 00 14.0	-1.4
	3.9nm,0.7s								
KST	**Kastek**	**2.81**		**19**	Pg		**Pb**	13 59 39.4	-1.6
	3.2nm,0.4s								
KST					Lg		Lg	14 00 14.0	
	3.9nm,0.7s								
TRKS	**Terek-Say**	**2.92**	**294**	⇑	*i*P		**Pb**	13 59 42.3	-0.6
	baz=90								
TRKS				⇑	*i*S		**Sb**	14 00 18.5	-0.3
	baz=90								
DGS	**Degeres**	**2.95**		**15**	*e*P		**Pb**	13 59 42.5	-0.9
	8.7nm,0.5s								
DGS					*e*S		**Sb**	14 00 19.7	+0.1
	7.8nm,0.5s								
DGS	**Degeres**	**2.95**		**15**	Pg		**Pb**	13 59 42.5	-0.9
	8.7nm,0.5s								
DGS					Lg		Lg	14 00 19.7	
	7.8nm,0.5s								
IZV	**Izvestkoviy**	**3.00**		**28**	*e*P		**Pb**	13 59 43.3	-0.9
	8.5nm,0.3s								
IZV					*e*S		**Sb**	14 00 20.8	-0.1
	5.1nm,0.7s								
IZV	**Izvestkoviy**	**3.00**		**28**	Pg		**Pb**	13 59 43.3	-0.9
	8.5nm,0.3s								
IZV					Lg		Lg	14 00 20.8	
	5.1nm,0.7s								
MTBS	**Maitube**	**3.02**		**25**	*e*P		**Pb**	13 59 43.5	-1.0
	4.0nm,0.4s								
MTBS					*e*S		**Sb**	14 00 21.0	-0.5
	7.4nm,0.3s								
MTBS	**Maitube**	**3.02**		**25**	Pg		**Pb**	13 59 43.6	-1.0
	4.0nm,0.4s								
MTBS					Lg		Lg	14 00 21.0	
	7.4nm,0.3s								
SGDS	**Sogindy**	**3.05**	**359**		Pg		**Pb**	13 59 45.1	+0.1
	3.6nm,0.4s								
SGDS					Lg		Lg	14 00 24.1	
	9.3nm,0.9s								
TNSS	**Tian-Shan**	**3.13**		**32**	Pg		**Pb**	13 59 46.2	-0.4
	4.9nm,0.5s								
TNSS					Lg		Lg	14 00 26.0	
	35nm,0.8s								
ANVS	**Anan'yevo**	**3.26**		**42**	⇓	*i*P	**Pn**	13 59 44.4	+2.4
	baz=42								
ANVS					⇓	*i*S	**Sn**	14 00 23.1	+2.2
	baz=42								
MDOK	**Medeo**	**3.27**		**32**	*e*P		**Pb**	13 59 47.8	-1.1
	2.8nm,0.3s								
MDOK					*e*S		**Sb**	14 00 28.7	-0.1
	6.6nm,0.7s								
MDOK	**Medeo**	**3.27**		**32**	Pg		**Pb**	13 59 47.8	-1.1
	2.8nm,0.3s								
MDOK					Lg		Lg	14 00 28.7	
	6.6nm,0.7s								
KRBS	**Karabastau**	**3.37**		**12**	*e*P		**Pb**	13 59 50.1	-0.4
	2.2nm,0.4s								
KRBS					*e*S		**Sb**	14 00 32.5	+0.9
	3.6nm,0.3s								
KRBS	**Karabastau**	**3.37**		**12**	Pg		**Pb**	13 59 50.1	-0.4
	2.2nm,0.4s								
KRBS					Lg		Lg	14 00 32.5	
	3.6nm,0.3s								
KTBS	**Karatobe**	**3.62**		**23**	*e*P		**Pb**	13 59 53.8	-1.0
	1.7nm,0.3s								
KTBS					*e*S		**Sb**	14 00 39.0	+0.1
	12nm,0.8s								
KTBS	**Karatobe**	**3.62**		**23**	Pg		**Pb**	13 59 53.8	-1.0
	1.7nm,0.3s								
KTBS					Lg		Lg	14 00 39.0	
	12nm,0.8s								
KUU	**Kurty**	**3.70**		**19**	*e*P		**Pb**	13 59 55.7	-0.3
	0.8nm,0.1s								
KUU					*e*S		**Sb**	14 00 42.2	+1.3
	9.9nm,0.7s								
KUU	**Kurty**	**3.70**		**19**	Pg		**Pb**	13 59 55.7	-0.3
	0.8nm,0.1s								
KUU					Lg		Lg	14 00 42.2	
	9.9nm,0.7s								
SATY	**Saty**	**3.84**		**45**	*e*P		**Pb**	13 59 57.9	-0.7
	1.2nm,0.2s								
SATY					*e*S		**Sb**	14 00 45.8	+0.6
	5.3nm,0.9s								
SATY	**Saty**	**3.84**		**45**	Pg		**Pb**	13 59 57.9	-0.7
	1.2nm,0.2s								
SATY					Lg		Lg	14 00 45.8	
	5.3nm,0.9s								
KK31	**Karatay Array**	**4.14**	**312**	⇓	Pg		**Pg**	14 00 08.6	-1.2
	0.3nm,0.5s,baz=120,slow=16,SNR=5.4								
KK31				⇑	Lg		Lg	14 01 04.3	
	0.7nm,0.5s,baz=119,slow=28,SNR=5.1								
KTMS	**Ketmen**	**5.20**		**52**	*e*P		**Pb**	14 00 21.4	-0.3
	4.4nm,0.3s								
KTMS					*e*S		**Sb**	14 01 26.1	+1.9
	0.7nm,0.1s								
KTMS	**Ketmen**	**5.20**		**52**	Pg		**Pb**	14 00 21.4	-0.3
	4.4nm,0.3s								
KTMS					Lg		Lg	14 01 26.1	
	0.7nm,0.1s								

*ANF **21** 14:00:25.3±0.2,60˚.75N×152˚.49W,h124km±3km,ML3.6/57,*
Error ellipse: s-maj=2.2km s-min=1.8km az=87.0
*NEIC **21** 14:00:25.3±1.0,60˚.75N±0˚.03×152˚.53W±0˚.07,*
h129km±2km,Error ellipse: s-maj=5.2km s-min=4.5km
az=71.0
*AEIC **21** 14:00:26.6±1.1,60˚.75N±0˚.03×152˚.48W±0˚.05,*
h124km±3km,ML3.3/151,ML3.5/144(NEIC),Error ellipse:
s-maj=4.8km s-min=3.0km az=207.0

ISC 21 14:00:24.3±1.2,60.74N±0˚.02×152˚.53W±0˚.03,
h137km±5km,n257,σ0§86/280,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DFR	**Drift River**	**0.17**	**208**				**Pn**	**14 00 43.0**	**-0.1**
DFR							**Sn**	**14 00 56.7**	**-0.6**
RDT	**Redoubt**	**0.18**	**161**				**Pn**	**14 00 43.1**	**0.0**
RDJH	**Redoubt Jeurge**	**0.20**	**222**				**Pn**	**14 00 43.3**	**+0.1**
RDJH							**Sn**	**14 00 56.6**	**-1.0**
NCT	**North Crescent**	**0.27**	**228**				**Pn**	**14 00 43.5**	**+0.2**
NCT							**Sn**	**14 00 56.8**	**-0.9**
REF	**Redoubt East F**	**0.27**	**199**				**Pn**	**14 00 43.4**	**0.0**
REF							**Sn**	**14 00 57.0**	**-1.0**
RDWB	**Redoubt West**	**0.30**	**211**				**Pn**	**14 00 43.3**	**-0.3**
RSO	**Redoubt South**	**0.30**	**202**		Pn		**Pn**	**14 00 43.5**	**-0.1**
RDSO	**Redoubt South**	**0.31**	**200**				**Pn**	**14 00 43.4**	**-0.2**
RED	**Redoubt Volcan**	**0.35**	**201**				**Pn**	**14 00 43.4**	**-0.2**
RED							**Sn**	**14 00 57.4**	**-0.8**
SPCR	**Spurr Chakacha**	**0.49**		**18**			**Pn**	**14 00 44.3**	**+0.1**
SPCR							**Sn**	**14 00 58.2**	**-1.2**
SPCR	**Spurr Chakacha**	**0.49**		**18**	P		**Pn**	**14 00 44.3**	**+0.1**
	baz=197,SNR=36								
SPCR					S		**Sn**	**14 00 58.0**	**-1.4**
	baz=197								
CKT	**Bend**	**0.49**		**19**			**Pn**	**14 00 44.3**	**+0.1**
SPCN	**Chakachatna No**	**0.51**		**19**			**Pn**	**14 00 44.7**	**+0.3**
SPBG	**Spurr Blockage**	**0.53**		**8**			**Pn**	**14 00 44.9**	**+0.5**
SPWE	**Spurr West**	**0.54**	**358**				**Pn**	**14 00 44.9**	**+0.4**
SPWE							**Sn**	**14 00 59.4**	**-0.5**
CP2	**Crater Peak Tw**	**0.54**		**15**			**Pn**	**14 00 44.4**	**-0.3**
SPCP	**Crater Peak Br**	**0.56**		**19**			**Pn**	**14 00 45.1**	**+0.4**
CRP	**Crater Peak**	**0.56**		**19**			**Pn**	**14 00 44.8**	**+0.1**
CRP							**Sn**	**14 00 59.2**	**-1.0**
SPCG	**Spurr Capps Gl**	**0.60**		**24**			**Pn**	**14 00 45.1**	**+0.1**
O20K	**Slope Mountain**	**0.66**	**184**				**Pn**	**14 00 45.8**	**+0.5**
O20K	**Slope Mountain**	**0.66**	**184**		P		**Pn**	**14 00 45.8**	**+0.5**
	baz=5.8,SNR=28								
O20K					S		**Sn**	**14 01 01.0**	**-0.2**
	baz=5.8								
CAPN	**Captain Cook N**	**0.68**	**87**				**Pn**	**14 00 46.8**	**+1.6**
CAPN	**Captain Cook N**	**0.68**	**87**		P		**Pn**	**14 00 47.2**	**+2.0**
	baz=269,SNR=5.7								
CAPN					S		**Sn**	**14 01 03.8**	**+2.7**
	baz=269								
IVE	**Iliamna Volcan**	**0.77**	**199**				**Pn**	**14 00 46.2**	**+0.2**
IVE							**Sn**	**14 01 01.6**	**-1.0**
ILSW	**Iliamna Southw**	**0.82**	**202**				**Pn**	**14 00 46.8**	**+0.3**
ILS	**Iliamna Low So**	**0.83**	**199**				**Pn**	**14 00 47.0**	**+0.4**
ILS							**Sn**	**14 01 03.3**	**-0.1**
STLK	**Strandline Lak**	**0.83**		**24**			**Pn**	**14 00 46.9**	**+0.4**
N19K	**Bonanza Creek**	**0.96**	**275**				**Pn**	**14 00 47.8**	**+0.1**
N19K	**Bonanza Creek**	**0.96**	**275**		IAML			14 01 05.2	
	comp=N,523nm,0.8s								
N19K	**Bonanza Creek**	**0.96**	**275**		P		**Pn**	**14 00 47.8**	**+0.1**
	baz=93,SNR=14								
N19K					S		**Sn**	**14 01 04.1**	**-1.2**
	baz=93								
O19K	**Port Alsworth**	**1.04**	**239**				**Pn**	**14 00 48.6**	**+0.4**
O19K	**Port Alsworth**	**1.04**	**239**		P		**Pn**	**14 00 48.6**	**+0.4**
	baz=58,SNR=39								
O19K					S		**Sn**	**14 01 05.8**	**-0.6**
	baz=58								
SUA	**Susitna One**	**1.13**		**49**			**Pn**	**14 00 50.0**	**+0.8**
SUA							**Sn**	**14 01 08.3**	**+0.2**
SUA	**Susitna One**	**1.13**		**49**	IAML			14 01 09.1	
	comp=E,1μm,0.8s								
SUA	**Susitna One**	**1.13**		**49**	P		**Pn**	**14 00 50.1**	**+0.9**
	baz=230,SNR=203								
SUA					S		**Sn**	**14 01 07.9**	**-0.3**
	baz=230								
OPT	**Oil Point**	**1.15**	**198**				**Pn**	**14 00 50.2**	**+0.9**
P19K	**Oil Pt**	**1.15**	**198**				**Pn**	**14 00 50.1**	**+0.8**
P19K							**Sn**	**14 01 08.6**	**+0.3**
P19K	**Oil Pt**	**1.15**	**198**		IAML			14 01 09.4	
	comp=N,557nm,0.8s								
P19K	**Oil Pt**	**1.15**	**198**		P		**Pn**	**14 00 50.0**	**+0.8**
	baz=18								
P19K					S		**Sn**	**14 01 08.8**	**+0.5**
	baz=18								
SLKM	**Skilak Lake**	**1.16**	**101**				**Pn**	**14 00 49.6**	**+0.2**
HOM	**Homer**	**1.17**	**158**				**Pn**	**14 00 50.6**	**+1.1**
HOM	**Homer**	**1.17**	**158**		P		**Pn**	**14 00 50.5**	**+1.1**
	baz=340,SNR=22								
HOM					S		**Sn**	**14 01 09.1**	**+0.5**
	baz=340								
FIS	**Fire Island**	**1.20**		**69**			**Pn**	**14 00 51.5**	**+1.8**
FIS	**Fire Island**	**1.20**		**69**	IAML			14 01 20.7	
	comp=E,1μm,0.6s								
FIS					IAML			14 01 26.7	
	comp=N,967nm,0.7s								
BRLK	**Bradley Lake**	**1.28**	**139**				**Pn**	**14 00 51.2**	**+0.6**
BRLK							**Sn**	**14 01 09.8**	**-0.8**
BRLK	**Bradley Lake**	**1.28**	**139**		IAML			14 01 11.4	
	comp=E,400nm,0.6s								
BRLK					IAML			14 01 11.5	
	comp=N,394nm,0.9s								
SKT	**Skwentna**	**1.33**		**21**			**Pn**	**14 00 51.7**	**+0.6**
SKT	**Skwentna**	**1.33**		**21**	IAML			14 01 12.2	
	comp=E,440nm,0.6s								
SKT					IAML			14 01 12.4	
	comp=N,371nm,0.8s								
SKT	**Skwentna**	**1.33**		**21**	P		**Pn**	**14 00 51.7**	**+0.6**
	baz=201,SNR=198								
SKT					S		**Sn**	**14 01 11.2**	**-0.4**
	baz=201								
BRSE	**Bradley Lake S**	**1.34**	**138**				**Pn**	**14 00 51.8**	**+0.5**
BRSE	**Bradley Lake S**	**1.34**	**138**		P		**Pn**	**14 00 51.7**	**+0.5**
	baz=320,SNR=93								
BRSE					S		**Sn**	**14 01 10.5**	**-1.2**
	baz=320								
CNPM	**China Poot**	**1.38**	**152**				**Pn**	**14 00 52.5**	**+0.8**
CNPM							**Sn**	**14 01 12.3**	**-0.1**
CNPM	**China Poot**	**1.38**	**152**		IAML			14 01 12.6	
	comp=E,584nm,0.6s								
CNPM					IAML			14 01 13.5	
	comp=N,772nm,0.5s								
O22K	**Cooper Landing**	**1.41**	**99**				**Pn**	**14 00 51.9**	**+0.1**
O22K	**Cooper Landing**	**1.41**	**99**		P		**Pn**	**14 00 52.3**	**+0.4**
	baz=282,SNR=15								
O22K					S		**Sn**	**14 01 12.4**	**-0.4**
	baz=282								
RC01	**Rabbit Creek A**	**1.41**	**74**				**Pn**	**14 00 52.3**	**+0.4**
RC01	**Rabbit Creek A**	**1.41**	**74**		IAML			14 01 13.7	
	comp=N,532nm,0.4s								
RC01					IAML			14 01 18.1	
	comp=E,385nm,0.4s								
RC01	**Rabbit Creek A**	**1.41**	**74**		P		**Pn**	**14 00 52.3**	**+0.4**
	baz=257,SNR=26								
RC01					S		**Sn**	**14 01 12.3**	**-0.6**
	baz=257								
AUW	**Augustine West**	**1.46**	**199**				**Pn**	**14 00 53.6**	**+1.2**
AUW							**Sn**	**14 01 14.2**	**+0.4**
M19K	**Big River Lodg**	**1.47**	**323**				**Pn**	**14 00 53.4**	**+0.8**
SVW2	**Sparrevohn**	**1.53**	**285**				**Pn**	**14 00 53.3**	**0.0**
SEW	**Seward**	**1.65**	**111**				**Pn**	**14 00 54.7**	**+0.1**
SEW							**Sn**	**14 01 16.1**	**-1.6**
SEW	**Seward**	**1.65**	**111**		P		**Pn**	**14 00 54.7**	**+0.1**
	baz=295,SNR=23								
SEW					S		**Sn**	**14 01 17.4**	**-0.2**
	baz=295								
N18K	**Kilae Creek**	**1.66**	**269**				**Pn**	**14 00 55.0**	**+0.3**
N18K	**Kilae Creek**	**1.66**	**269**		IAML			14 01 17.5	
	comp=E,260nm,0.6s								
L19K	**White Mountain**	**1.83**	**323**				**Pn**	**14 00 57.3**	**+0.7**
L19K							**Sn**	**14 01 21.2**	**-0.2**
L19K	**White Mountain**	**1.83**	**323**		P		**Pn**	**14 00 57.3**	**+0.7**
	baz=141,SNR=10								
L19K					S		**Sn**	**14 01 20.8**	**-0.6**
	baz=141								
PMR	**Palmer**	**1.85**	**61**				**Pn**	**14 00 56.7**	**-0.1**
PMR	**Palmer**	**1.85**	**61**		IAML			14 01 26.2	
	comp=N,295nm,1.0s								
PMR					IAML			14 01 27.4	
	comp=E,268nm,0.5s								
PMR	**Palmer**	**1.85**	**61**		P		**Pn**	**14 00 56.6**	**-0.3**
	baz=244,SNR=24								
PMR					S		**Sn**	**14 01 20.3**	**-1.6**
	baz=244								
L20K	**Farewell, AK**	**1.86**	**340**				**Pn**	**14 00 57.7**	**+0.7**
L20K	**Farewell, AK**	**1.86**	**340**		P		**Pn**	**14 00 57.7**	**+0.7**
	baz=158,SNR=50								
L20K					S		**Sn**	**14 01 22.0**	**-0.1**
	baz=158								
Q19K	**Cape Douglas,**	**1.90**	**198**				**Pn**	**14 00 58.3**	**+0.7**
Q19K	**Cape Douglas,**	**1.90**	**198**		IAML			14 01 30.2	
	comp=N,484nm,0.8s								
Q19K					IAML			14 01 43.6	
	comp=E,495nm,1.1s								
Q19K	**Cape Douglas,**	**1.90**	**198**		P		**Pn**	**14 00 58.0**	**+0.5**
	baz=17								
Q19K					S		**Sn**	**14 01 22.7**	**-0.3**
	baz=17								
CUT	**Chulitna**	**1.99**	**32**				**Pn**	**14 00 59.0**	**+0.6**
CUT							**Sn**	**14 01 24.1**	**-0.5**
CUT	**Chulitna**	**1.99**	**32**		P		**Pn**	**14 00 59.1**	**+0.6**
	baz=214,SNR=178								
CUT					S		**Sn**	**14 01 24.2**	**-0.5**
	baz=214								
GHO	**Glory Hole Cre**	**2.02**	**58**				**Pn**	**14 00 59.0**	**+0.1**
GHO	**Glory Hole Cre**	**2.02**	**58**		IAML			14 01 31.3	
	comp=N,524nm,0.6s								
PWL	**Port Wells**	**2.06**	**85**				**Pn**	**14 00 59.2**	**-0.1**
KNK	**Knik Glacier**	**2.09**	**69**				**Pn**	**14 00 59.5**	**-0.1**
KNK							**Sn**	**14 01 26.2**	**-0.7**
KNK	**Knik Glacier**	**2.09**	**69**		IAML			14 01 28.0	
	comp=E,419nm,0.6s								
KNK					IAML			14 01 37.5	
	comp=N,473nm,0.5s								
KNK	**Knik Glacier**	**2.09**	**69**		P		**Pn**	**14 00 59.6**	**-0.1**
	baz=253,SNR=9.8								
KNK					S		**Sn**	**14 01 26.0**	**-0.8**
	baz=253								
PPLA	**Purkeypile**	**2.17**		**4**			**Pn**	**14 01 01.6**	**+0.8**
PPLA	**Purkeypile**	**2.17**		**4**	P		**Pn**	**14 01 01.8**	**+1.0**
	baz=184,SNR=56								
PPLA					S		**Sn**	**14 01 29.0**	**+0.2**
	baz=184								
SML	**Sawmill**	**2.29**		**60**			**Pn**	**14 01 01.9**	**-0.3**
SML							**Sn**	**14 01 29.2**	**-2.2**
SML					IAML			14 01 31.7	
	comp=E,261nm,0.8s								
SML					IAML			14 01 41.1	
	comp=N,289nm,0.8s								
SML	**Sawmill**	**2.29**		**60**	P		**Pn**	**14 01 02.1**	**-0.1**
	baz=244,SNR=40								
SML					S		**Sn**	**14 01 29.8**	**-1.6**
	baz=244								
KAHG	**Katmai Hook Gl**	**2.48**	**205**				**Pn**	**14 01 06.0**	**+1.4**
GLI	**Glacier Island**	**2.67**	**85**				**Pn**	**14 01 07.0**	**+0.2**
GLI					IAML			14 01 47.1	
	comp=E,208nm,0.6s								
GLI					IAML			14 01 47.7	
	comp=N,236nm,0.7s								
GLI	**Glacier Island**	**2.67**	**85**		S		**Sn**	**14 01 37.9**	**-1.7**
	baz=270								
CAST	**Castle Rocks**	**2.69**		**4**			**Pn**	**14 01 07.5**	**+0.3**
CAST	**Castle Rocks**	**2.69**		**4**			**Sn**	**14 01 39.9**	**-0.4**
CAST	**Castle Rocks**	**2.69**		**4**	IAML			14 01 39.0	
	comp=N,35nm,1.8s								
CAST	**Castle Rocks**	**2.69**		**4**	P		**Pn**	**14 01 07.5**	**+0.3**

	comp=N,143nm,0.6s							
HIN					IAML		14 02 06.4	
	comp=E,122nm,0.9s							
CHUM	**Lake Minchumin**	**3.15**	**2**			**Pn**	**14 01 13.8**	**+0.7**
CHUM	**Lake Minchumin**	**3.15**	**2**	P		**Pn**	**14 01 13.5**	**+0.4**
	baz=182,SNR=37							
RND	**Reindeer**	**3.18**	**31**			**Pn**	**14 01 14.1**	**+0.6**
KLU	**Klutina**	**3.29**	**74**			**Pn**	**14 01 14.9**	**-0.1**
KLU	**Klutina**	**3.29**	**74**	IAML			14 01 55.1	
	comp=E,190nm,0.5s							
KLU	**Klutina**	**3.29**	**74**	P		**Pn**	**14 01 14.9**	**-0.1**
	baz=260,SNR=8.9							
KLU				S		**Sn**	**14 01 53.5**	**-0.7**
	baz=260							
DIV	**Divide**	**3.32**	**80**			**Pn**	**14 01 15.5**	**+0.2**
EYAK	**Cordova Ski Ar**	**3.34**	**90**			**Pn**	**14 01 16.5**	**+1.0**
EYAK	**Cordova Ski Ar**	**3.34**	**90**	P		**Pn**	**14 01 16.1**	**+0.6**
	baz=276							
M24K	**Tolsona, Glenn**	**3.34**	**63**			**Pn**	**14 01 16.6**	**+1.0**
M24K	**Tolsona, Glenn**	**3.34**	**63**	IAML			14 01 58.8	
	comp=N,183nm,1.0s							
M24K	**Tolsona, Glenn**	**3.34**	**63**	P		**Pn**	**14 01 16.6**	**+1.0**
	baz=249,SNR=36							
M24K				S		**Sn**	**14 01 55.8**	**+0.5**
	baz=249							
DHY	**Denali Highway**	**3.38**	**44**			**Pn**	**14 01 16.6**	**+0.5**
DHY	**Denali Highway**	**3.38**	**44**	IAML			14 01 58.9	
	comp=E,94nm,0.3s							
DHY				IAML			14 01 59.5	
	comp=N,88nm,0.4s							
DHY	**Denali Highway**	**3.38**	**44**	P		**Pn**	**14 01 16.7**	**+0.5**
	baz=228,SNR=41							
DHY				S		**Sn**	**14 01 54.9**	**-1.3**
	baz=228							
MCK	**McKinley**	**3.44**	**28**			**Pn**	**14 01 17.5**	**+0.7**
MCK	**McKinley**	**3.44**	**28**	IAML			14 02 27.1	
	comp=N,39nm,1.0s							
MCK	**McKinley**	**3.44**	**28**	P		**Pn**	**14 01 17.2**	**+0.4**
	baz=211,SNR=24							
BPAW	**Bear Paw Mtn.**	**3.45**	**11**			**Pn**	**14 01 16.9**	**0.0**
BPAW	**Bear Paw Mtn.**	**3.45**	**11**	IAML			14 01 58.5	
	comp=E,38nm,0.9s							
BPAW	**Bear Paw Mtn.**	**3.45**	**11**	P		**Pn**	**14 01 16.9**	**0.0**
	baz=192,SNR=32							
BPAW				S		**Sn**	**14 01 56.1**	**-1.5**
	baz=192							
J20K	**Nowinta River**	**3.53**	**348**			**Pn**	**14 01 18.3**	**+0.4**
J20K	**Nowinta River**	**3.53**	**348**	IAML			14 01 59.9	
	comp=E,38nm,0.7s							
J20K				IAML			14 02 00.6	
	comp=N,45nm,1.2s							
J20K	**Nowinta River**	**3.53**	**348**	P		**Pn**	**14 01 18.3**	**+0.4**
	baz=167,SNR=38							
J20K				S		**Sn**	**14 01 58.8**	**-0.7**
	baz=167							
OHAK	**Old Harbor**	**3.55**	**187**	Pn		**Pn**	**14 01 17.6**	**-0.6**
OHAK				IAML			14 02 01.1	
	comp=E,62nm,1.1s							
OHAK				IAML			14 02 09.7	
	comp=N,49nm,1.2s							
OHAK	**Old Harbor**	**3.55**	**187**	P		**Pn**	**14 01 17.5**	**-0.8**
	baz=6.3							
OHAK				S		**Sn**	**14 01 57.1**	**-3.0**
	baz=6.3							
BWN	**Browne**	**3.73**	**21**			**Pn**	**14 01 21.4**	**+0.9**
BWN	**Browne**	**3.73**	**21**	IAML			14 02 24.7	
	comp=E,64nm,1.0s							
BWN				IAML			14 02 38.1	
	comp=N,61nm,0.7s							
BMRM	**Bremner River**	**3.88**	**83**	Pn		**Pn**	**14 01 23.8**	**+1.2**
BMRM				IAML			14 02 12.3	
	comp=E,80nm,1.0s							
BMRM				IAML			14 02 22.6	
	comp=N,89nm,0.8s							
RAGM	**Ragged Mountai**	**3.89**	**92**	Pn		**Pn**	**14 01 23.0**	**+0.2**
HARP	**HAARP**	**3.90**	**62**			**Pn**	**14 01 23.5**	**+0.7**
HARP	**HAARP**	**3.90**	**62**	P		**Pn**	**14 01 23.9**	**+1.1**
	baz=248,SNR=19							
N25K	**Chitina, Valde**	**3.94**	**74**			**Pn**	**14 01 23.6**	**+0.2**
N25K	**Chitina, Valde**	**3.94**	**74**	IAML			14 02 09.8	
	comp=E,94nm,0.6s							
N25K				IAML			14 02 10.9	
	comp=N,97nm,0.8s							
N25K	**Chitina, Valde**	**3.94**	**74**	P		**Pn**	**14 01 23.6**	**+0.2**
	baz=261							
N25K				S		**Sn**	**14 02 08.5**	**-0.7**
	baz=261							
PAX	**Paxson**	**4.02**	**53**			**Pn**	**14 01 25.4**	**+1.0**
PAX	**Paxson**	**4.02**	**53**	P		**Pn**	**14 01 25.3**	**+0.8**
	baz=239,SNR=44							
HMT	**Hamilton**	**4.10**	**92**	Pn		**Pn**	**14 01 26.8**	**+1.2**
PS10	**TAPS Pump St10**	**4.16**	**47**			**Pn**	**14 01 27.2**	**+0.9**
NEA2	**Nenana**	**4.18**	**21**			**Pn**	**14 01 27.4**	**+0.9**
NEA2	**Nenana**	**4.18**	**21**	P		**Pn**	**14 01 27.0**	**+0.5**
	baz=204,SNR=23							
WRH	**Wood River Hil**	**4.27**	**27**			**Pn**	**14 01 28.0**	**+0.3**
SII	**Sitkinak Islan**	**4.28**	**192**	Pn		**Pn**	**14 01 29.4**	**+1.5**
GLB	**Gilahina Butte**	**4.29**	**77**			**Pn**	**14 01 28.7**	**+0.6**
GLB	**Gilahina Butte**	**4.29**	**77**	IAML			14 02 20.0	
	comp=E,37nm,0.8s							
GLB				IAML			14 02 42.3	
	comp=N,70nm,1.0s							
BERG	**Berg Lake**	**4.37**	**91**	Pn		**Pn**	**14 01 29.1**	**+0.1**
MLY	**Manley**	**4.38**	**10**			**Pn**	**14 01 28.9**	**-0.4**
MLY	**Manley**	**4.38**	**10**	P		**Pn**	**14 01 28.8**	**-0.4**
	baz=191,SNR=20							
VRDI	**Verde Repeater**	**4.45**	**80**			**Pn**	**14 01 30.4**	**+0.2**
VRDI	**Verde Repeater**	**4.45**	**80**	IAML			14 02 22.7	
	comp=N,79nm,0.7s							
VRDI				IAML			14 02 24.6	
	comp=E,32nm,0.8s							
I21K	**Tanana**	**4.46**	**3**			**Pn**	**14 01 30.6**	**+0.5**
I21K	**Tanana**	**4.46**	**3**	P		**Pn**	**14 01 30.1**	**-0.1**
	baz=183,SNR=11							
CCB	**Clear Creek Bu**	**4.48**	**27**			**Pn**	**14 01 30.9**	**+0.4**
HDA	**Harding Lake**	**4.49**	**33**			**Pn**	**14 01 31.3**	**+0.7**
HDA	**Harding Lake**	**4.49**	**33**	IAML			14 02 22.2	
	comp=E,36nm,0.5s							
HDA				IAML			14 02 23.1	
	comp=N,52nm,0.4s							
HDA	**Harding Lake**	**4.49**	**33**	P		**Pn**	**14 01 31.1**	**+0.5**
	baz=217,SNR=93							
CRQM	**Cirque**	**4.61**	**86**	Pn		**Pn**	**14 01 33.0**	**+0.7**
CRQE	**Cirque**	**4.63**	**86**	P		**Pn**	**14 01 33.1**	**+0.5**
	baz=274							
PS08	**TAPS Pump Stn8**	**4.63**	**32**			**Pn**	**14 01 33.0**	**+0.5**
I23K	**Minto, Yukon-K**	**4.65**	**17**			**Pn**	**14 01 33.5**	**+0.8**
I23K	**Minto, Yukon-K**	**4.65**	**17**	P		**Pn**	**14 01 33.3**	**+0.6**
	baz=199,SNR=23							
MCARA	**McCarthy VSAT**	**4.66**	**78**			**Pn**	**14 01 33.7**	**+0.8**
MCARA	**McCarthy VSAT**	**4.66**	**78**	P		**Pn**	**14 01 34.4**	**+1.5**
	baz=266							
TCOL	**CIGO, UAF Yank**	**4.67**	**25**			**Pn**	**14 01 33.6**	**+0.7**
TCOL	**CIGO, UAF Yank**	**4.67**	**25**	IAML			14 02 29.9	
	comp=E,69nm,0.5s							
TCOL				IAML			14 03 07.6	
	comp=N,67nm,0.6s							
TCOL	**CIGO, UAF Yank**	**4.67**	**25**	P		**Pn**	**14 01 33.4**	**+0.6**
	baz=209,SNR=9.7							
MDM	**Murphy Dome**	**4.67**	**23**			**Pn**	**14 01 33.6**	**+0.7**
COLA	**College**	**4.67**	**25**			**Pn**	**14 01 33.4**	**+0.5**
COLA	**College**	**4.67**	**25**	IAML			14 02 57.2	
	comp=N,74nm,0.5s							
COLA				IAML			14 03 07.6	
	comp=N,74nm,0.6s							
COLA	**College**	**4.67**	**25**	P		**Pn**	**14 01 33.4**	**+0.5**
	baz=209							
RIDG	**Independent Ri**	**4.68**	**47**			**Pn**	**14 01 34.4**	**+1.1**
RIDG	**Independent Ri**	**4.68**	**47**	IAML			14 02 44.3	
	comp=E,62nm,0.7s							
RIDG				IAML			14 02 46.5	
	comp=N,41nm,0.9s							
RIDG	**Independent Ri**	**4.68**	**47**	P		**Pn**	**14 01 34.5**	**+1.3**
	baz=233,SNR=67							
MENT	**Mentasta**	**4.72**	**58**			**Pn**	**14 01 34.8**	**+1.1**
MENT				IAML			14 02 48.9	
	comp=E,71nm,0.6s							
TGL	**Tana Glacier**	**4.76**	**86**	Pn		**Pn**	**14 01 35.8**	**+1.5**
TGL				IAML			14 02 33.8	
	comp=N,58nm,0.8s							
WAX	**Waxell Ridge**	**4.78**	**89**	Pn		**Pn**	**14 01 35.7**	**+1.2**
IL31		**4.80**	**30**			**Pn**	**14 01 35.3**	**+0.6**
ILAR	**Eielson Array**	**4.80**	**30**			**Pn**	**14 01 35.1**	**+0.4**
M26K	**Nabesna, AK**	**4.85**	**66**	Pn		**Pn**	**14 01 37.0**	**+1.6**
M26K				IAML			14 02 32.1	
	comp=E,24nm,0.6s							
M26K				IAML			14 02 33.7	
	comp=N,36nm,0.7s							
M26K	**Nabesna, AK**	**4.85**	**66**	P		**Pn**	**14 01 36.7**	**+1.3**
	baz=254,SNR=9.2							
L26K	**Log Cabin Wild**	**4.91**	**58**			**Pn**	**14 01 37.4**	**+1.2**
L26K	**Log Cabin Wild**	**4.91**	**58**	IAML			14 02 53.0	
	comp=E,54nm,0.5s							
L26K				IAML			14 02 57.2	
	comp=N,37nm,0.8s							
L26K	**Log Cabin Wild**	**4.91**	**58**	P		**Pn**	**14 01 37.8**	**+1.6**
	baz=246,SNR=47							
DOT	**Dot Lake**	**4.92**	**50**			**Pn**	**14 01 37.1**	**+0.7**
PTPK	**Patty Peak**	**4.92**	**80**			**Pn**	**14 01 37.1**	**+0.5**
H21K	**Melozitna Rive**	**4.94**	**359**			**Pn**	**14 01 36.7**	**+0.1**
H21K	**Melozitna Rive**	**4.94**	**359**	P		**Pn**	**14 01 36.5**	**0.0**
	baz=178,SNR=12							
BARK	**Barkley Ridge**	**4.96**	**90**			**Pn**	**14 01 37.9**	**+0.9**
POKR	**Poker Plat Res**	**4.97**	**26**			**Pn**	**14 01 37.8**	**+0.8**
POKR	**Poker Plat Res**	**4.97**	**26**	IAML			14 03 00.0	
	comp=N,14nm,0.8s							
POKR	**Poker Plat Res**	**4.97**	**26**	P		**Pn**	**14 01 37.5**	**+0.5**
	baz=210,SNR=9.8							
KIAG	**Kiagna River**	**4.98**	**83**			**Pn**	**14 01 38.1**	**+0.8**
BALM	**Baldy**	**4.98**	**82**			**Pn**	**14 01 38.2**	**+0.9**
J25K	**Salcha River,**	**5.09**	**37**			**Pn**	**14 01 39.4**	**+0.7**
J25K	**Salcha River,**	**5.09**	**37**	P		**Pn**	**14 01 39.5**	**+0.8**
	baz=223,SNR=134							
SCRK	**Sand Creek**	**5.13**	**47**			**Pn**	**14 01 39.6**	**+0.4**
SCRK	**Sand Creek**	**5.13**	**47**	IAML			14 02 45.2	
	comp=N,16nm,1.0s							
SCRK				IAML			14 02 55.4	
	comp=E,28nm,0.5s							
SCRK	**Sand Creek**	**5.13**	**47**	P		**Pn**	**14 01 39.8**	**+0.6**
	baz=234,SNR=35							
MESA	**MESA**	**5.26**	**92**	Pn		**Pn**	**14 01 42.0**	**+0.9**
H23K	**Yukon River**	**5.28**	**13**			**Pn**	**14 01 41.5**	**+0.4**
H23K	**Yukon River**	**5.28**	**13**	IAML			14 02 40.2	
	comp=E,10nm,1.5s							
H23K	**Yukon River**	**5.28**	**13**	P		**Pn**	**14 01 41.0**	**-0.1**
	baz=196,SNR=28							
GRNC	**Granite Creek**	**5.29**	**85**			**Pn**	**14 01 43.2**	**+1.8**
GRNC				IAML			14 02 43.1	
	comp=E,45nm,0.7s							
IM03		**5.29**	**355**			**Pn**	**14 01 41.6**	**+0.5**
IMAR	**Indian Mountai**	**5.29**	**355**	Pn		**Pn**	**14 01 41.7**	**+0.4**
BARN	**Barnard Glacie**	**5.32**	**82**			**Pn**	**14 01 42.5**	**+0.7**
YAH	**Yahtse**	**5.33**	**89**	Pn		**Pn**	**14 01 43.3**	**+1.3**
M27K	**Edge Creek, AK**	**5.34**	**68**			**Pn**	**14 01 44.2**	**+2.1**
M27K	**Edge Creek, AK**	**5.34**	**68**	P		**Pn**	**14 01 44.3**	**+2.1**
	baz=257,SNR=19							
CHGN	**Chignik**	**5.42**	**217**	Pn		**Pn**	**14 01 43.5**	**+0.6**
CTG	**Chitna Glacier**	**5.47**	**83**	P		**Pn**	**14 01 45.7**	**+1.8**
	baz=273							
CTGM	**Chitina Glacie**	**5.48**	**83**			**Pn**	**14 01 45.7**	**+1.8**
H24K	**Noodor Dome**	**5.53**	**20**			**Pn**	**14 01 45.2**	**+0.8**
H24K	**Noodor Dome**	**5.53**	**20**	P		**Pn**	**14 01 44.9**	**+0.5**
	baz=204,SNR=20							
L27K	**Beaver Creek,**	**5.57**	**61**			**Pn**	**14 01 46.3**	**+1.3**
L27K	**Beaver Creek,**	**5.57**	**61**	P		**Pn**	**14 01 46.0**	**+1.0**
	baz=250,SNR=18							
BC03		**5.59**	**61**			**Pn**	**14 01 46.5**	**+1.4**
BCAR	**Beaver Creek A**	**5.59**	**61**	Pn		**Pn**	**14 01 46.5**	**+1.2**
J26L	**Joseph Creek**	**5.60**	**44**	P		**Pn**	**14 01 46.0**	**+0.6**
	baz=232,SNR=54							
LOGN	**Logan Glacier**	**5.65**	**84**			**Pn**	**14 01 46.9**	**+0.7**
PRP	**Porcupine Dome**	**5.75**	**30**			**Pn**	**14 01 48.3**	**+0.9**
PRP	**Porcupine Dome**	**5.75**	**30**	P		**Pn**	**14 01 48.0**	**+0.5**
	baz=217,SNR=46							
K27K	**Chicken**	**5.87**	**51**			**Pn**	**14 01 49.7**	**+0.7**
PCA	**Pinnacle**	**6.11**	**91**	Pn		**Pn**	**14 01 54.1**	**+1.8**
PINM	**Pinnacle**	**6.12**	**91**	P		**Pn**	**14 01 53.6**	**+1.2**
	baz=282							
COLD	**Coldfoot**	**6.59**	**8**			**Pn**	**14 01 59.8**	**+1.2**
COLD	**Coldfoot**	**6.59**	**8**	P		**Pn**	**14 01 59.5**	**+0.8**
	baz=190,SNR=7.4							
EGAK	**Eagle**	**6.60**	**47**			**Pn**	**14 01 59.3**	**+0.6**
EGAK	**Eagle**	**6.60**	**47**	P		**Pn**	**14 01 59.1**	**+0.3**
	baz=237,SNR=23							
FYU	**Fort Yukon**	**6.68**	**26**	Pn		**Pn**	**14 02 00.3**	**+0.5**
DAWY	**Dawson**	**6.95**	**56**			**Pn**	**14 02 04.7**	**+1.2**
DAWY	**Dawson**	**6.95**	**56**	P		**Pn**	**14 02 04.0**	**+0.5**
	baz=247,SNR=22							
HYT	**Haines Junctio**	**7.36**	**83**	Pn		**Pn**	**14 02 10.5**	**+1.5**
BM03	**Burnt Mountain**	**7.54**	**24**			**Pn**	**14 02 10.8**	**-0.6**
BMAR	**Burnt Mountain**	**7.55**	**24**	Pn		**Pn**	**14 02 11.0**	**-0.6**
BM01	**Burnt Mountain**	**7.58**	**24**			**Pn**	**14 02 11.4**	**-0.5**
TOLK	**Toolik Lake Re**	**8.03**	**8**			**Pn**	**14 02 19.7**	**+1.8**
TOLK	**Toolik Lake Re**	**8.03**	**8**	P		**Pn**	**14 02 18.8**	**+0.8**
	baz=190							
INK	**Inuvik**	**11.11**	**39**	Pn		**Pn**	**14 02 59.5**	**+0.7**

***IDC 21** 14:15:17.8±3.0, 20°41'S×178°14'W, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.5/24, mbtmp3.4/3, Error ellipse: s-maj=309.9km s-min=35.2km az=161.0, Fiji Islands region*

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op		ISC		
ASAR	**Alice Springs**	**44.41**	**257**	P		P	14 23 30.1	-0.5
	0.3nm,0.0s,baz=96,slow=7.5,SNR=11							
WRA	**Warramunga Arr**	**44.48**	**262**	P		P	14 23 31.4	+0.2
	0.7nm,0.9s,baz=96,slow=8.3,SNR=9.8							
TXAR	**Lajitas Array**	**87.11**	**57**	P		P	14 28 06.0	0.0
	0.1nm,0.4s,baz=234,slow=5.5,SNR=3.5							

*NEIC **21** 14:26:05.9±1.9, 29°.99S±0°.05×72°.34W±0°.02, h6km±5km, mb4.3/6, ML4.2(GUC), Error ellipse: s-maj=7.6km s-min=2.0km az=199.0*
*IDC **21** 14:26:08.8±1.4, 30°.05S×71°.81W, h0km, mb4.1/4, mb1 4.1/8, mb1mx3.9/24, mbtmp4.0/8, ML3.9/4, MS3.2/2, Ms1 3.3/2, ms1mx2.8/22, Error ellipse: s-maj=38.7km s-min=29.0km az=94.0*
*GUC **21** 14:26:10.5±0.8, 30°.09S×71°.97W, h40km±4km, ML4.2*
*SJA **21** 14:26:14.0, 29°.89S×71°.89W, h10km, ML4.6*

ISC 21 14:26:06.4±1.7, 30°01'S±0'.04×72°25'W±0'.06, h3km±10km, n92, σ1°80/89, mb4.4/5, 5C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op		ISC		
CO06	**Fray Jorge**	**0.85**	**141**	↓*i*	P	**Pg**	**14 26 23.9**	**+1.1**
CO06				*i*	S	**Sg**	**14 26 34.1**	**+0.3**
CO06	**Fray Jorge**	**0.85**	**141**			**Pg**	**14 26 23.7**	**+1.0**
CO06				Sg		**Sg**	**14 26 33.2**	**-0.6**
CO05	**La Serena**	**0.88**	**84**	↓*i*	P	**Pg**	**14 26 24.2**	**+0.9**
CO05				*i*	S	**Sg**	**14 26 34.1**	**-0.7**
CO05				IAML			14 26 36.2	
	comp=E,15μm,0.1s							
CO05	**La Serena**	**0.88**	**84**			**Pg**	**14 26 24.1**	**+0.7**
GO04	**Tololo Observa**	**1.27**	**98**	↓*i*	P	**Pb**	**14 26 30.3**	**-0.9**
GO04				*i*	S	**Sb**	**14 26 44.9**	**-3.1**
GO04				IAML			14 26 53.1	
	comp=N,12μm,0.4s							
GO04	**Tololo Observa**	**1.27**	**98**			**Pb**	**14 26 30.4**	**-0.7**
GO04	**Tololo Observa**	**1.27**	**98**	*i*	P	**Pb**	**14 26 30.0**	**-1.1**
CO03	**El Pedregal**	**1.58**	**122**	↓*i*	P	**Pn**	**14 26 35.2**	**-0.3**
CO03				*i*	S	**Sn**	**14 26 53.8**	**-2.8**
CO03				IAML			14 26 58.7	
	comp=E,6μm,0.4s							
CO03	**El Pedregal**	**1.58**	**122**			**Pn**	**14 26 35.4**	**-0.1**
CO03	**El Pedregal**	**1.58**	**122**	*i*	P	**Pn**	**14 26 35.0**	**-0.5**
LCO	**Las Campanas**	**1.68**	**54**	↑*i*	P	**Pn**	**14 26 37.5**	**+0.5**
LCO				*i*	S	**Sn**	**14 26 58.0**	**-1.1**
LCO	**Las Campanas**	**1.68**	**54**		Pn	**Pn**	**14 26 37.3**	**+0.4**
LCO	**Las Campanas**	**1.68**	**54**	*i*	P	**Pn**	**14 26 37.0**	**+0.1**
AC04	**Llanos de Chal**	**2.07**	**30**	↑*i*	P	**Pn**	**14 26 42.7**	**+0.5**
AC04	**Llanos de Chal**	**2.07**	**30**		Pn	**Pn**	**14 26 42.5**	**+0.4**
AROD	**Rodeo**	**2.41**	**94**	*i*	P	**Pn**	**14 26 49.0**	**+1.9**
VA06	**Catapilco**	**2.67**	**162**	↑*i*	P	**Pn**	**14 26 51.2**	**+0.8**
VA06				*i*	S	**Sn**	**14 27 21.9**	**-1.3**
ACDV	**Cuesta del Vie**	**2.72**	**94**	*i*	P	**Pb**	**14 26 55.0**	**-0.8**
ACCO	**Cerro Coronel**	**2.81**	**103**	*i*	P	**Pn**	**14 26 56.0**	**+3.3**
GO03	**Copiap**	**2.98**	**37**	*eP*		**Pn**	**14 26 55.6**	**+0.8**
GO03				IAML			14 27 50.9	
	comp=N,489nm,0.6s							
GO03	**Copiap**	**2.98**	**37**	Pn		**Pn**	**14 26 55.4**	**+0.6**
GO03	**Copiap**	**2.98**	**37**	*i*	P	**Pn**	**14 26 56.0**	**+1.2**
VA01	**Torpederas**	**3.05**	**170**	Pn		**Pn**	**14 26 54.9**	**-0.6**
RTLS	**Leoncito**	**3.10**	**126**	*i*	P	**Pn**	**14 27 00.0**	**+3.4**
VA03	**San Esteban**	**3.11**	**153**	IAML			14 27 53.1	
	comp=N,935nm,0.6s							
VA03	**San Esteban**	**3.11**	**153**			**Pn**	**14 26 55.9**	**-0.6**
AC06	**Mina Casimiro**	**3.12**	**33**	*eP*		**Pn**	**14 26 57.7**	**+1.1**
AC06				IAML			14 27 59.7	
	comp=E,397nm,0.8s							
AC06	**Mina Casimiro**	**3.12**	**33**	Pn		**Pn**	**14 26 57.4**	**+0.8**
ROCH	**El Roble**	**3.14**	**161**	↑*eP*		**Pn**	**14 26 58.5**	**+1.5**
ROCH				*eS*		**Sn**	**14 27 34.4**	**-0.8**
AUSP	**Uspallata**	**3.30**	**133**	*i* P		**Pn**	**14 27 03.0**	**+3.7**
ZON	**Zonda**	**3.43**	**117**	Pn		Pn	14 26 56.1	-4.9
ZON	**Zonda**	**3.43**	**117**	*i* P		**Pb**	**14 27 06.0**	**-2.0**
MT05	**Renca**	**3.61**	**159**	IAML			14 28 12.5	
MT05	**Renca**	**3.61**	**159**	Pn		**Pn**	**14 27 01.8**	**-1.6**
MT05	**Renca**	**3.61**	**159**	*i* P		**Pb**	**14 27 11.0**	**0.0**
VA05	**Santo Domingo**	**3.68**	**172**			**Pn**	**14 27 04.2**	**0.0**
RTCV	**Cerro Valdivia**	**3.68**	**121**	*i* P		**Pn**	**14 27 08.0**	**+3.6**
VCA	**Vinchina**	**3.75**	**71**	*i* P		**Pn**	**14 27 10.0**	**+4.6**
ASAL	**Salagasta**	**3.90**	**132**	*i* P		**Pn**	**14 27 12.0**	**+4.7**
MT09	**Talagante**	**3.91**	**164**	↑*eP*		**Pn**	**14 27 08.9**	**+1.4**
MT09				*eS*		**Sn**	**14 27 51.3**	**-2.7**
MT09				IAML			14 28 22.7	
	comp=N,280nm,0.1s							
MT09	**Talagante**	**3.91**	**164**	Pn		**Pn**	**14 27 07.2**	**-0.3**
MT01	**Popeta**	**3.94**	**168**	Pn		**Pn**	**14 27 07.2**	**-0.6**
ARCO	**CERRO ARCO**	**4.00**	**136**	*i* P		Pn	14 27 14.0	+5.2
AC02	**Maricunga**	**4.19**	**42**	Pn		**Pn**	**14 27 12.7**	**+1.0**
AC02	**Maricunga**	**4.19**	**42**	*i* P		**Pn**	**14 27 13.0**	**+1.3**
AVFE	**Valle Fertil**	**4.20**	**100**	*i* P		**Pn**	**14 27 14.0**	**+2.6**
LMEL	**Las Melosas**	**4.21**	**156**	IAML			14 28 03.5	
	comp=N,237nm,0.3s							
AAGR	**Agrelo**	**4.24**	**137**	*i* P		Pn	14 27 17.0	+5.0
BO01	**Tunca**	**4.48**	**168**	Pn		**Pn**	**14 27 15.6**	**+0.3**
ACHE	**Chepes**	**4.95**	**105**	*i* P		**Pn**	**14 27 24.0**	**+2.1**
GO05	**Huala**	**5.00**	**177**	Pn		**Pn**	**14 27 21.9**	**-0.5**
PB14	**IPOC Station P**	**5.61**	**17**	Pn		**Pn**	**14 27 29.7**	**-1.4**
CYA	**Choya**	**5.85**	**76**	*i* P		**Pn**	**14 27 37.0**	**+2.9**
H03N1	**Juan Fernandez**	**6.63**	**237**	T		T	14 35 02.6	
	baz=69,slow=72,SNR=702							
H03N2	**Juan Fernandez**	**6.64**	**237**	T		T	14 35 06.3	
	baz=69,slow=72,SNR=583							
H03N3	**Juan Fernandez**	**6.64**	**237**	T		T	14 34 58.1	
	baz=69,slow=72,SNR=538							
PB10	**IPOC Station P**	**6.64**	**14**	Pn		**Pn**	**14 27 44.1**	**-0.9**
VA04	**Juan Fernndez**	**6.67**	**235**	Pn		Pn	**14 27 43.7**	**-1.6**
PB15	**IPOC Station P**	**7.21**	**21**			**Pn**	**14 27 50.9**	**-2.1**
PB06	**IPOC Station P**	**7.66**	**19**	Pn		**Pn**	**14 27 57.7**	**-1.4**
PB04	**IPOC Station P**	**7.87**	**14**	Pn		**Pn**	**14 28 00.2**	**-1.9**
LVC	**Limon Verde**	**7.95**	**23**	Pn		**Pn**	**14 28 02.3**	**-1.0**
	comp=N,1.0nm,0.3s,baz=164,slow=11,SNR=11							
LVC				Sn		**Sn**	**14 29 31.1**	**-2.9**
	comp=N,0.4nm,0.3s,baz=183,slow=23,SNR=1.2							
LVC	**Limon Verde**	**7.95**	**23**	Pn		**Pn**	**14 28 01.7**	**-1.6**
PB07	**IPOC Station P**	**8.52**	**15**	Pn		**Pn**	**14 28 08.8**	**-2.0**
PB09	**IPOC Station P**	**8.61**	**19**	Pn		**Pn**	**14 28 10.0**	**-2.2**
LCO1	**Cunco**	**8.87**	**178**	Pn		**Pn**	**14 28 14.4**	**-1.2**
PB01	**IPOC Station P**	**9.27**	**16**	Pn		**Pn**	**14 28 19.0**	**-2.1**
PSGCX	**Pisagua**	**10.54**	**11**	Pn		**Pn**	**14 28 35.8**	**-2.8**
PLCA	**Paso Flores**	**10.79**	**173**	Pn		**Pn**	**14 28 42.3**	**+0.4**
	comp=N,0.2nm,0.3s,baz=343,slow=13,SNR=12							
PLCA	**Paso Flores**	**10.79**	**173**	Pn		**Pn**	**14 28 42.5**	**+0.6**
TRQA	**Tornquist**	**11.70**	**136**	Pn		**Pn**	**14 28 53.5**	**-0.8**
CPUP	**Villa Florida**	**13.66**	**78**	Pn		**Pn**	**14 29 24.0**	**+2.9**
	comp=N,0.1nm,0.3s,baz=266,slow=16,SNR=3.

	comp=Z,2.3nm,0.9s,baz=275,slow=2.5,SNR=7.3							
QSPA	**South Pole Qui**	**32.85**	**180**	P	**P**	**14 58 00.5**	**0.0**	
QSPA				IAmb	IAmb	14 58 19.4		
	comp=Z,11nm,1.4s							
ASAR	**Alice Springs**	**35.01**	**338**	P	**P**	**14 58 19.0**	**-0.4**	
	comp=Z,1.6nm,0.6s,baz=162,slow=9.1,SNR=39							
ASAR				PcP	**PcP**	**15 00 51.5**	**+0.1**	
	comp=Z,0.7nm,0.9s,baz=170,slow=2.9,SNR=4.1							
ASAR				LR	LR	15 10 01.7		
	comp=Z,221nm,21.6s,baz=160,slow=32							
ASAR	**Alice Springs**	**35.01**	**338**	P	**P**	**14 58 17.4**	**-2.0**	
AS31	**Alice Springs**	**35.01**	**338**	P	**P**	**14 58 17.2**	**-2.2**	
MAW	**Mawson**	**37.41**	**219**	LR	LR	15 12 51.9		
	comp=Z,498nm,21.4s,baz=78,slow=35							
DZM	**Mont Dzumac**	**37.73**	**29**	*e*S	**S**	**15 04 37.0**	**+4.0**	
	comp=Z,76nm,25.9s							
DZM				*e*LR	LR	15 09 01.0		
	comp=Z,1µm,25.6s,baz=207							
WR0	**Warramunga Arr**	**38.49**	**340**	P	**P**	**14 58 47.9**	**-1.2**	
WB2	**Warramunga Arr**	**38.54**	**340**	P	**P**	**14 58 48.2**	**-1.3**	
WB2				IAmb	IAmb	14 59 03.4		
	comp=Z,11nm,0.9s							
WRA	**Warramunga Arr**	**38.55**	**340**	P	**P**	**14 58 47.9**	**-1.6**	
	comp=Z,5.6nm,0.7s,baz=169,slow=8.4,SNR=43							
WRA				LR	LR	15 12 51.8		
	comp=Z,136nm,19.6s,baz=165,slow=34							
WRA	**Warramunga Arr**	**38.55**	**340**	P	**P**	**14 58 47.9**	**-1.6**	
WRAB	**Tennant Creek**	**38.55**	**340**	P	**P**	**14 58 48.0**	**-1.6**	
WRAB				IAmb	IAmb	14 58 50.6		
	comp=Z,8.7nm,0.8s							
PSA00	**Pilbara Seismi**	**41.04**	**319**	P	**P**	**14 59 10.2**	**-0.1**	
PSA00				IAmb	IAmb	14 59 21.9		
	comp=Z,18nm,1.1s							
FITZ	**Fitzroy Crossi**	**42.41**	**328**	P	**P**	**14 59 21.7**	**+0.3**	
COEN	**Coen**	**43.35**	**354**	P	**P**	**14 59 29.1**	**0.0**	
COEN				IAmb	IAmb	14 59 38.8		
	comp=Z,9.4nm,1.1s							
KNRA	**Kununurra**	**43.89**	**333**	P	**P**	**14 59 32.9**	**-0.5**	
KNRA				IAmb	IAmb	14 59 40.3		
	comp=Z,14nm,1.0s							
SANVU	**Saraoutou**	**44.27**	**28**	P	**P**	**14 59 37.2**	**+0.7**	
MTN	**Manton Dam**	**46.09**	**337**	P	**P**	**14 59 50.5**	**-0.5**	
MTN				IAmb	IAmb	15 00 02.0		
	comp=Z,13nm,1.2s							
MMPI	**Merauke**	**49.00**	**350**	P	**P**	**15 00 13.0**	**-0.5**	
	comp=Z,250nm,1.1s							
SNAA	**Sanae**	**49.71**	**192**	P	**P**	**15 00 18.6**	**+0.1**	
SNAA	**Sanae**	**49.71**	**192**	P	**P**	**15 00 18.7**	**+0.2**	
SNAA				IAmb	IAmb	15 00 33.1		
	comp=Z,10nm,1.4s							
BATI	**Baumata**	**50.47**	**329**	P	**P**	**15 00 25.2**	**+0.4**	
	comp=Z,15nm,1.2s							
SOEI	**Soe**	**50.73**	**330**	P	**P**	**15 00 27.2**	**+0.3**	
	comp=Z,13nm,1.1s							
SAUI	**Saumlaki**	**50.78**	**339**	P	**P**	**15 00 27.2**	**+0.1**	
SAUI	**Saumlaki**	**50.78**	**339**	P	**P**	**15 00 26.8**	**-0.3**	
	comp=Z,130nm,0.6s							
VNA3	**Neumayer Olymp**	**50.80**	**189**	P	**P**	**15 00 26.7**	**+0.1**	
VNA2	**Neumayer--Watz**	**50.89**	**190**	P	**P**	**15 00 28.0**	**+0.6**	
VNA1	**Neumayer--Stat**	**51.24**	**190**	P	**P**	**15 00 30.2**	**+0.3**	
EDFI	**Ende, Flores**	**52.42**	**327**	P	**P**	**15 00 39.5**	**0.0**	
	comp=Z,3.7nm,0.8s							
LBFI	**Labuhan Bajo,**	**53.23**	**325**	P	**P**	**15 00 45.5**	**+0.2**	
PLAI	**Plampang**	**53.58**	**322**	P	**P**	**15 00 48.6**	**+0.6**	
	comp=Z,17nm,1.0s							
TWSI	**Taliwang, Sumb**	**53.97**	**321**	P	**P**	**15 00 51.2**	**+0.4**	
	comp=Z,13nm,1.3s							
BNDI	**Bandanaira**	**54.43**	**338**	P	**P**	**15 00 54.5**	**+0.4**	
	comp=Z,110nm,1.5s							
DNP	**Denpasar**	**54.60**	**319**	P	**P**	**15 00 55.7**	**+0.3**	
	comp=Z,255nm,1.1s							
GENI	**Genyem**	**54.83**	**351**	P	**P**	**15 00 57.1**	**+0.1**	
SRBI	**Singaraja**	**55.15**	**320**	P	**P**	**15 00 59.9**	**+0.5**	
	comp=Z,23nm,1.1s							
JAGI	**Jajag, Banyuwa**	**55.17**	**318**	P	**P**	**15 01 00.0**	**+0.5**	
	comp=Z,30nm,1.2s							
BSSI	**Bau Bau, Buton**	**55.25**	**326**	P	**P**	**15 01 00.5**	**+0.4**	
	comp=Z,16nm,1.0s							
BYJI	**Banyuwangi**	**55.34**	**319**	P	**P**	**15 01 00.8**	**+0.1**	
	comp=Z,164nm,1.4s							
FAKI	**Fak Fak**	**55.55**	**341**	P	**P**	**15 01 02.8**	**+0.6**	
	comp=Z,33nm,1.3s							
SMPI	**Sarmi**	**55.57**	**349**	P	**P**	**15 01 01.7**	**-0.6**	
	comp=Z,14nm,1.6s							
GMJI	**Gumukmas**	**55.62**	**318**	P	**P**	**15 01 03.2**	**+0.5**	
	comp=Z,39nm,0.7s							
ABJI	**Asem Bagus**	**55.77**	**319**	P	**P**	**15 01 04.3**	**+0.5**	
	comp=Z,56nm,1.1s							
TBI	**Tubuai**	**56.05**	**80**	*e*LR	LR	15 17 09.0		
	comp=Z,159nm,32.2s,baz=223							
KRKI	**Karangkates**	**56.09**	**317**	P	**P**	**15 01 06.3**	**+0.2**	
LEM	**Lembang**	**59.19**	**312**	LR	LR	15 23 55.7		
	comp=Z,212nm,21.0s,baz=164,slow=33							
PPT2	**Papeete2**	**60.70**	**77**	*e*S	**S**	**15 09 52.3**	**-2.8**	
	comp=Z,28nm,25.0s							
PPT2				*e*LQ	LQ	15 16 55.2		
	comp=Z,226nm,26.5s							
PPT2				*e*LR	LR	15 19 27.8		
	comp=Z,144nm,29.8s,baz=213							
RKT	**Rikitea**	**64.08**	**93**	*e*T	T	16 11 05.0		
	comp=Z,29nm,0.2s							
H08S2	**Diego Garcia H**	**75.59**	**278**	T	T	16 26 05.0		
	baz=147,slow=76,SNR=26							
H08S1	**Diego Carcia H**	**75.60**	**278**	T	T	16 26 06.5		
	baz=147,slow=76,SNR=35							
H08S3	**Diego Garcia H**	**75.61**	**278**	T	T	16 26 11.8		
	baz=147,slow=76,SNR=20							
H03S2	**Juan Fernandez**	**81.12**	**142**	T	T	16 33 58.7		
	baz=202,slow=74,SNR=20							
H03S1	**Juan Fernandez**	**81.12**	**142**	T	T	16 33 59.9		
	baz=202,slow=74,SNR=19							
H03S3	**Juan Fernandez**	**81.13**	**142**	T	T	16 33 54.3		
	baz=202,slow=74,SNR=19							
ILAR	**Eielson Array**	**131.43**	**31**	PKP	**PKiKP**	**15 10 39.3**	**+0.5**	
	comp=Z,0.2nm,0.8s,baz=253,slow=2.7,SNR=1.6							
AKASG	**Malin Array Be**	**144.33**	**286**	PKP	**PKPdf**	**15 11 02.6**	**+0.7**	
	comp=Z,0.2nm,0.3s,baz=114,slow=2.2,SNR=7.7							
JAVC	**Velka Javorina**	**149.43**	**276**	*e*PKP	**PKPab**	**15 11 18.3**	**-1.7**	
MORC	**Moravsky Berou**	**150.02**	**277**	*e*PKP	**PKPbc**	**15 11 16.6**	**+0.1**	
KRUC	**Moravsky**	**150.24**	**275**	*e*PKP	**PKiKP**	**15 11 18.7**	**+0.9**	
VRAC	**Vranov**	**150.27**	**276**	*e*PKP	**PKiKP**	**15 11 18.7**	**+0.8**	
FINES	**FINESS Array B**	**150.81**	**303**	PKPbc	**PKPbc**	**15 11 17.5**	**-0.4**	
	comp=Z,2.9nm,0.8s,baz=98,slow=4.8,SNR=3.0							
GERES	**GERESS Array B**	**151.57**	**273**	PKPbc	**PKPbc**	**15 11 18.6**	**-1.6**	
	comp=Z,0.4nm,0.6s,baz=169,slow=1.4,SNR=3.5							
ARCES	**ARCESS Array B**	**152.57**	**320**	PKPbc	**PKPbc**	**15 11 20.8**	**-1.0**	
	comp=Z,1.6nm,0.8s,baz=338,slow=5.6,SNR=4.4							
CLL	**Collm**	**153.28**	**277**	*e*PKPab	**PKPab**	**15 11 37.0**	**+1.1**	
CLL				L	L	16 07 00.0		
	comp=Z,100nm,21.5s							

*ROM **21** 14:57:51.4±0.2, 43˚.582N±0˚.007×13˚.787E±0˚.010, h5km, ML3.0/4, Error ellipse: s-maj=0.9km s-min=0.4km az=227.0*
*VIE **21** 14:58:00.4±1.2, 43˚.87N×13˚.82E, h13km±10km, mb2.3/6, ml2.3/6, Error ellipse: s-maj=12.4km s-min=8.2km az=150.0 109 km E of San Marino*
ISC 21 14:57:53.0±0.7, **43˚.51N**±0˚.02×**13˚.71E**±0˚.02, **h8km**, **n57**, **σ1§12/86**, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AOI	**Ancona**	**0.09**	**299**	P	**Pg**	**14 57 55.2**	**-0.1**
AOI				S	**Sg**	**14 57 57.0**	**0.0**
PP3	**Marolino**	**0.15**	**210**	P	**Pg**	**14 57 56.6**	**+0.5**
PP3				S	**Sg**	**14 58 00.3**	**+2.0**
PCRO	**Pietralacroce**	**0.17**	**308**	P	**Pg**	**14 57 56.9**	**+0.5**
PCRO				S	**Sg**	**14 58 00.6**	**+1.8**
CIMA	**Civitanova Mar**	**0.20**	**189**	P	**Pg**	**14 57 58.0**	**+1.0**
CIMA				S	**Sg**	**14 58 03.0**	**+3.2**
CADA	**Capodarco di F**	**0.31**	**173**	P	**Pb**	**14 57 59.8**	**-1.0**
CADA				S	**Sb**	**14 58 06.0**	**-0.1**
CING	**Cingoli**	**0.40**	**251**	P	**Pb**	**14 58 01.3**	**-1.1**
CING				S	**Sb**	**14 58 08.7**	**+0.1**
MNTP	**Montappone**	**0.41**	**206**	P	**Pb**	**14 58 02.2**	**-0.3**
GUMA	**Gualdo di Mace**	**0.47**	**160**	P	**Pb**	**14 58 03.7**	**+0.1**
EL6	**Elcito**	**0.48**	**249**	P	**Pb**	**14 58 02.7**	**-1.1**
MDAR	**Monte D'Aria**	**0.52**	**233**	P	**Pg**	**14 58 01.8**	**-1.3**
MDAR				S	**Sb**	**14 58 13.1**	**+0.9**
CSP1	**Cessapalombo**	**0.56**	**222**	P	**Pb**	**14 58 04.0**	**-1.1**
CSP1				S	**Sn**	**14 58 15.2**	**-1.6**
OFFI	**Offida**	**0.57**	**182**	P	**Pb**	**14 58 05.4**	**+0.1**
SNTG	**Esanatoglia**	**0.62**	**246**	P	**Pb**	**14 58 04.9**	**-1.1**
SNTG				S	**Sn**	**14 58 15.7**	**-2.5**
FDMO	**Fiordimonte**	**0.65**	**224**	P	**Pb**	**14 58 05.7**	**-1.0**
FDMO				S	**Sn**	**14 58 17.5**	**-1.6**
SSFR	**Montelago di S**	**0.68**	**265**	P	**Pb**	**14 58 06.2**	**-1.0**
SSFR				S	**Sb**	**14 58 17.3**	**+0.5**
MPAG	**Monte Paganucc**	**0.70**	**280**	P	**Pg**	**14 58 06.0**	**-0.5**
FSSB	**Fossombrone**	**0.70**	**286**	P	**Pb**	**14 58 07.0**	**-0.5**
TRTR	**Tortoreto Alta**	**0.71**	**168**	P	**Pb**	**14 58 07.9**	**+0.2**
FOSV	**Fossato di Vic**	**0.72**	**253**	P	**Pb**	**14 58 07.4**	**-0.5**
FOSV				S	**Sn**	**14 58 18.9**	**-2.0**
FEMA	**Monte Fema**	**0.73**	**222**	P	**Pb**	**14 58 07.3**	**-0.7**
FEMA				S	**Sn**	**14 58 19.7**	**-1.4**
CESI	**CESI - Serrava**	**0.77**	**230**	P	**Pb**	**14 58 08.1**	**-0.6**
CESI				S	**Sn**	**14 58 21.1**	**-1.0**
NRCA	**Norcia**	**0.80**	**213**	P	**Pg**	**14 58 08.1**	**-0.3**
NRCA				S	**Sn**	**14 58 22.3**	**-0.6**
ATFO	**Monte Foce - G**	**0.84**	**261**	P	**Pb**	**14 58 09.2**	**-0.8**
PIEI	**Pieia**	**0.86**	**272**	P	**Pb**	**14 58 09.1**	**-1.1**
PIEI				S	**Sb**	**14 58 21.9**	**+0.1**
TERO	**Teramo**	**0.89**	**185**	P	**Pb**	**14 58 10.3**	**-0.3**
TERO				S	**Sn**	**14 58 24.3**	**-0.6**
TERO				AML	AML		
	comp=E,232µm,0.4s						
TERO				AML	AML		
	comp=N,174µm,0.3s						
ATPI	**Pietralunga -**	**0.95**	**267**	P	**Pb**	**14 58 11.0**	**-0.9**
ATVO	**AVT- Monte Val**	**0.96**	**263**	P	**Pb**	**14 58 11.2**	**-0.7**
CAMP	**Campotosto**	**0.99**	**193**	P	**Pb**	**14 58 12.1**	**-0.5**
LNSS	**Leonessa**	**1.03**	**209**	P	**Pg**	**14 58 12.3**	**-0.5**
LNSS				S	**Sn**	**14 58 29.1**	**+0.6**
LNSS				AML	AML		
	comp=N,1135µm,0.4s						
LNSS				AML	AML		
	comp=N,1140µm,0.4s						
LNSS				AML	AML		
	comp=E,655µm,0.3s						
GIGS	**Gran Sasso**	**1.06**	**186**	P	**Pb**	**14 58 13.2**	**-0.5**
RM33	**Pellescritta (**	**1.06**	**200**	AML	AML		
	comp=N,1024µm,0.9s						
RM33				AML	AML		
	comp=E,972µm,0.4s						
RM33				AML	AML		
	comp=N,1026µm,0.9s						
RM33				AML	AML		
	comp=E,970µm,0.4s						
DUGI	**Dugi Otok**	**1.09**	**63**	*e*Pg	**Pb**	**14 58 14.0**	**-0.1**
DUGI				Sg	**Sn**	**14 58 29.4**	**-0.5**
MOMA	**Monte Martano**	**1.09**	**230**	P	**Pb**	**14 58 13.4**	**-0.7**
MOMA				S	**Sn**	**14 58 30.3**	**+0.3**
VCEL	**Villa Celiera**	**1.11**	**175**	P	**Pb**	**14 58 14.3**	**-0.3**
CESX	**Cesi**	**1.22**	**223**	P	**Pn**	**14 58 15.8**	**-0.6**
FAGN	**Fagnano**	**1.24**	**184**	P	**Pn**	**14 58 16.2**	**-0.5**
T0110	**Collepietro**	**1.28**	**178**	P	**Pg**	**14 58 17.3**	**-0.2**
T0110				AML	AML		
	comp=E,490µm,0.6s						
T0110				AML	AML		
	comp=E,490µm,0.6s						
T0110				AML	AML		
	comp=N,475µm,0.5s						
FIAM	**Fiamignano**	**1.31**	**200**	P	**Pg**	**14 58 17.6**	**-0.5**
FIAM				AML	AML		
	comp=N,262µm,0.9s						
FIAM				AML	AML		
	comp=E,447µm,0.6s						
BRJN	**Brijuni**	**1.40**	**1**	*e*Pn	**Pg**	**14 58 19.6**	**-0.3**
ZIRJ	**Zirje**	**1.41**	**83**	*e*Pn	**Pn**	**14 58 18.2**	**-0.8**
ZIRJ				Sg	**Sb**	**14 58 38.1**	**+0.4**
RABC	**Rab**	**1.46**	**31**	*e*Pn	**Pb**	**14 58 20.1**	**-0.4**
MORI	**Morici**	**1.49**	**75**	*e*Pn	**Pn**	**14 58 20.2**	**+0.1**
MORI				Sn	**Sg**	**14 58 41.2**	**+0.3**
LPEL	**Lama dei Pelig**	**1.50**	**166**	P	**Pb**	**14 58 20.5**	**-0.6**
INTR	**Introdacqua**	**1.50**	**175**	P	**Pb**	**14 58 20.7**	**-0.4**
INTR				AML	AML		
	comp=N,442µm,0.5s						
INTR				AML	AML		
	comp=E,296µm,1.3s						
VVLD	**Villa Vallelon**	**1.64**	**182**	P	**Pb**	**14 58 22.7**	**-0.8**
CERT	**Cerreto**	**1.65**	**199**	P	**Pb**	**14 58 23.0**	**-0.6**
UDBI	**Udbina**	**1.80**	**55**	*e*Pn	**Pb**	**14 58 25.7**	**-0.6**
KIJV	**Kijevo**	**2.01**	**75**	*e*Pn	**Pn**	**14 58 28.0**	**+0.7**
KIJV				Sn	**Sb**	**14 58 54.9**	**-0.2**
MAKA	**Makarska**	**2.42**	**94**	*e*Pn	**Pn**	**14 58 33.0**	**+0.2**
OZLJ	**Ozalj**	**2.46**	**30**	*e*Pn	**Pb**	**14 58 35.6**	**-1.7**
RICI	**Ricice**	**2.49**	**89**	*e*Pn	**Pn**	**14 58 33.4**	**-0.5**
OBKA	**Obir**	**3.06**	**11**	*e*Pn	**Pn**	**14 58 43.5**	**+1.7**
	comp=E,0.2nm,0.1s						
OBKA				Sn	**Sn**	**14 59 17.3**	**-1.4**
	comp=E,5.4nm,0.4s						
OBKA				Sg	**Sg**	**14 59 30.0**	**-1.4**
	comp=E,18nm,0.6s						
MYKA	**Terra Mystica**	**3.12**	**359**	*e*Pn	**Pn**	**14 58 44.3**	**+1.6**
	comp=E,1.1nm,0.2s						
MYKA				*e*Sn	**Sn**	**14 59 18.2**	**-1.9**
	comp=E,1.2nm,0.2s						
MYKA				Sg	**Sg**	**14 59 31.7**	**-1.7**
	comp=E,10nm,0.5s						
ABTA	**Abfaltersbach**	**3.35**	**346**	*i* Pn	**Pn**	**14 58 47.3**	**+1.5**
	comp=E,1.5nm,0.4s						
ABTA				*e*Sn	**Sn**	**14 59 25.6**	**-0.2**
	comp=E,7.4nm,0.9s						
KBA	**Koelnbreinsper**	**3.58**	**356**	*e*Pn	**Pn**	**14 58 50.7**	**+1.6**
	comp=E,1.1nm,0.3s						
KBA				*e*Sn	**Sn**	**14 59 32.3**	**+0.7**
	comp=E,2.5nm,0.4s						
FETA	**Feichten**	**4.10**	**330**	*i* Pn	**Pn**	**14 58 59.7**	**+3.6**
	comp=E,0.9nm,0.3s						
FETA				*i* Sn	**Sn**	**14 59 44.9**	**+0.7**
	comp=E,1.4nm,0.4s						
MOTA	**Moosalm**	**4.26**	**335**	*e*Sn	**Sn**	**14 59 50.5**	**+2.4**
	comp=E,3.0nm,0.5s						

*SFS **21** 15:01:05.0, 36˚.71N×10˚.90W, h50km, ML3.8, SW. CABO DE SAN VICENTE*
*CNRM **21** 15:01:06.2, 36˚.47N×10˚.77W, h34km, ml2.8*
*INMG **21** 15:01:07.6±1.3, 36˚.75N×10˚.87W, h31km±20km, ML1.9, Error ellipse: s-maj=15.4km s-min=5.1km az=71.0*
*MDD **21** 15:01:07.4±1.5, 36˚.94N×10˚.63W, h0km, mbLg2.0/13, Error ellipse: s-maj=13.5km s-min=11.7km az=41.0, PRXIMO*
*IGIL **21** 15:01:08.0, 36˚.87N×10˚.71W, h10km, ML1.8*
ISC 21 15:01:00.7±2.2, **36˚.63N**±0˚.04×**11˚.01W**±0˚.10, **h27**km±17km, **n44**, **σ2§06/79**, **3C**, **Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.82**	**73**	⇑P	**Pb**	**15 01 33.3**	**-0.1**
	7.9nm,0.2s,SNR=18						
PFVI				S	**Sn**	**15 01 52.3**	**-0.3**
	17nm,0.2s,SNR=6.7						
PFVI	**Vila Bisbo**	**1.82**	**73**	⇑*e*P	**Pb**	**15 01 33.4**	**-0.1**
PFVI				*e*S	**Sn**	**15 01 52.5**	**-0.1**
PFVI				A	A	15 01 54.0	
	7.5nm,0.2s						
MORF	**Marmelete**	**2.01**	**70**	*e*P	**Pb**	**15 01 35.9**	**-0.8**
MORF				*e*S	**Sn**	**15 01 56.4**	**-0.8**
MORF				IAML		15 01 58.0	
	comp=N,13nm,0.2s						
MORF	**Marmelete**	**2.01**	**70**	P	**Pb**	**15 01 35.9**	**-0.8**
MORF				S	**Sn**	**15 01 56.4**	**-0.8**
MORF	**Marmelete**	**2.01**	**70**	*e*P	**Pb**	**15 01 35.5**	**-1.1**
MORF				*e*S	**Sn**	**15 01 57.4**	**+0.2**
MORF				A	A	15 02 02.3	
	comp=N,7.1nm,0.1s						
PTEO	**Sao Teotonio**	**2.05**	**63**	P	**Pb**	**15 01 36.4**	**-0.8**
PTEO				S	**Sn**	**15 01 57.1**	**-1.0**
	comp=N,2.2nm,0.5s						
PTEO	**Sao Teotonio**	**2.05**	**63**	*e*P	**Pb**	**15 01 36.4**	**-0.8**
PTEO				*e*S	**Sn**	**15 01 57.1**	**-1.0**
PTEO				A	A	15 02 07.0	
	comp=N,4.4nm,0.5s						
PNCL	**Nicolau / Gran**	**2.47**	**52**	P	**Pn**	**15 01 41.7**	**+2.5**
PNCL				S	**Sn**	**15 02 07.0**	**-1.6**
	comp=N,3.7nm,0.3s						
PNCL	**Nicolau / Gran**	**2.47**	**52**	*e*P	**Pn**	**15 01 41.7**	**+2.5**
PNCL				*e*S	**Sn**	**15 02 07.0**	**-1.6**
PNCL				A	A	15 02 12.7	
	comp=N,3.7nm,0.3s						
MESJ	**Messejana**	**2.54**	**61**	*e*S	**Sn**	**15 02 08.5**	**-1.7**
MESJ				IAML		15 02 12.9	
	comp=N,4.4nm,0.2s						
MESJ	**Messejana**	**2.54**	**61**	P	**Pn**	**15 01 42.5**	**+2.4**
MESJ				S	**Sn**	**15 02 08.5**	**-1.7**
MESJ	**Messejana**	**2.54**	**61**	*e*P	**Pn**	**15 01 42.5**	**+2.4**
MESJ				*e*S	**Sn**	**15 02 09.7**	**-0.5**
PBDV	**Barranco-do-Ve**	**2.54**	**75**	P	**Pb**	**15 01 43.6**	**-2.1**
PBDV				S	**Sn**	**15 02 11.2**	**+0.8**
	comp=N,2.7nm,0.6s						
PBDV	**Barranco-do-Ve**	**2.54**	**75**	*e*P	**Pb**	**15 01 43.6**	**-2.1**
PBDV				*e*S	**Sn**	**15 02 11.2**	**+0.8**
PBDV				A	A	15 02 25.9	
	comp=N,2.7nm,0.6s						
PCVE	**Castro Verde**	**2.58**	**66**	P	**Pb**	**15 01 43.8**	**-2.5**
PCVE				S	**Sn**	**15 02 11.1**	**-0.1**
	comp=N,5.6nm,0.6s						
PCVE	**Castro Verde**	**2.58**	**66**	*e*P	**Pb**	**15 01 43.8**	**-2.5**
PCVE				*e*S	**Sn**	**15 02 11.1**	**-0.1**
PCVE				A	A	15 02 11.7	
	comp=N,5.6nm,0.6s						
PMAFR	**Mafra**	**2.70**	**30**	P	**Pn**	**15 01 44.6**	**+2.2**
	comp=N,11nm,0.2s,SNR=7.4						
PMAFR				S	**Sn**	**15 02 13.0**	**-1.2**
	comp=N,18nm,0.2s						
PMAFR	**Mafra**	**2.70**	**30**	*e*P	**Pn**	**15 01 44.6**	**+2.2**
PMAFR				*e*S	**Sn**	**15 02 13.0**	**-1.2**
PVAQ	**Vaqueiros**	**2.75**	**73**	P	**Pn**	**15 01 46.3**	**+3.2**
PVAQ				S	**Sn**	**15 02 15.3**	**-0.1**
	comp=N,2.7nm,0.2s						
PVAQ	**Vaqueiros**	**2.75**	**73**	⇑*e*P	**Pn**	**15 01 46.3**	**+3.2**
PVAQ				*e*S	**Sn**	**15 02 15.3**	**-0.1**
PVAQ				A	A	15 02 26.5	
	comp=N,2.7nm,0.2s						
PVAQ	**Vaqueiros**	**2.75**	**73**	P	**Pb**	**15 01 46.5**	**-2.7**
PVAQ				S	**Sn**	**15 02 16.8**	**+1.3**
EGRO	**El Granado**	**2.96**	**71**	P	**Pn**	**15 01 49.1**	**+3.1**
	comp=N,0.4nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**15 02 19.8**	**-0.9**
	comp=N,2.2nm,0.1s,SNR=5.5						
EVO	**Evora**	**3.05**	**51**	P	**Pn**	**15 01 49.7**	**+2.5**
EVO				S	**Sn**	**15 02 21.1**	**-1.7**
EVO	**Evora**	**3.05**	**51**	P	**Pb**	**15 01 57.7**	**+3.4**
EVO				S	**Sn**	**15 02 21.1**	**-1.7**
EVO	**Evora**	**3.05**	**51**	*e*P	**Pn**	**15 01 49.7**	**+2.5**
EVO				*e*S	**Sn**	**15 02 21.7**	**-1.1**
EVO				A	A	15 02 27.1	
	comp=N,4.3nm,0.3s						
PMTG	**Montargil**	**3.29**	**41**	P	**Pn**	**15 01 52.7**	**+2.2**
PMTG				S	**Sn**	**15 02 27.1**	**-1.6**
	comp=N,3.0nm,0.3s						
PMTG	**Montargil**	**3.29**	**41**	*e*P	**Pn**	**15 01 52.7**	**+2.2**
PMTG				*e*S	**Sn**	**15 02 27.1**	**-1.6**
PMTG				A	A	15 02 31.4	
	comp=N,3.0nm,0.3s						
EMIN	**Mina Concepcio**	**3.65**	**71**	P	**Pn**	**15 01 58.4**	**+2.9**
	comp=N,1.9nm,0.3s,SNR=6.0						
EMIN				S	**Sn**	**15 02 36.2**	**-1.4**
	comp=N,1.2nm,0.1s						
EBAD	**Badajoz**	**3.82**	**55**	P	**Pn**	**15 02 00.4**	**+2.6**
	comp=N,0.4nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**15 02 39.8**	**-2.0**
	comp=N,3.8nm,0.2s,SNR=7.9						
PMRV	**Marv??o**	**4.00**	**45**	P	**Pn**	**15 02 02.3**	**+2.0**
PMRV				S	**Sn**	**15 02 43.9**	**-2.4**
	comp=N,2.5nm,0.5s						
PMRV	**Marv??o**	**4.00**	**45**	*e*P	**Pn**	**15 02 02.3**	**+2.0**
PMRV				*e*S	**Sn**	**15 02 43.9**	**-2.4**
PMRV				A	A	15 02 46.5	
	comp=N,2.5nm,0.5s						
ECAB	**El Cabril**	**4.69**	**70**	P	**Pn**	**15 02 12.5**	**+2.8**
	comp=N,0.3nm,0.1s,SNR=8.6						
ECAB				S	**Sn**	**15 03 00.7**	**-2.6**
	comp=N,1.1nm,0.1s,SNR=7.7						
ZHG	**ZHG**	**4.79**	**130**	S	**Sn**	**15 03 03.9**	**-1.9**
ZHG	**ZHG**	**4.79**	**130**	P	**Pn**	**15 02 10.9**	**-0.3**
EPLA	**Plasencia**	**5.18**	**47**	S	**Sn**	**15 03 13.5**	**-1.8**
	comp=N,0.7nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**5.35**	**71**	P	**Pn**	**15 02 21.8**	**+2.9**
	comp=N,0.6nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**15 03 16.4**	**-3.2**
	comp=N,0.4nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.71**	**23**	P	**Pn**	**15 02 25.9**	**+2.1**
	comp=N,0.3nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**15 03 24.8**	**-3.7**
	comp=N,0.4nm,0.1s,SNR=11						
OUK	**Oukaimeden**	**6.01**	**153**	S	**Sn**	**15 03 36.6**	**+0.4**
OUK	**Oukaimeden**	**6.01**	**153**	P	**Pn**	**15 02 31.2**	**+3.0**
PAB	**San Pablo**	**6.01**	**59**	S	**Sn**

EGRO				S		**Sn**	**15 03 20.2**	**+0.3**
	comp=N,2.1nm,0.1s,SNR=7.9							
EVO	**Evora**	**2.70**	**53**	P		**Pg**	**15 02 57.0**	**+2.1**
EVO				S		**Sn**	**15 03 21.4**	**+1.1**
PMTG	**Montargil**	**2.92**	**43**	S		**Sn**	**15 03 27.0**	**+1.2**
	comp=N,3.4nm,0.4s							
PMTG	**Montargil**	**2.92**	**43**	*e*S		**Sn**	**15 03 27.0**	**+1.2**
PMTG				A		A	15 03 30.5	
	comp=N,3.4nm,0.4s							
EMIN	**Mina Concepcio**	**3.36**	**75**	P		**Pn**	**15 02 57.9**	**+1.5**
	comp=N,0.3nm,0.1s,SNR=4.0							
EMIN				S		**Sn**	**15 03 36.2**	**-0.5**
	comp=N,0.5nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**3.48**	**57**	P		**Pn**	**15 02 59.8**	**+1.8**
	comp=N,0.9nm,0.1s,SNR=4.0							
EBAD				S		**Sn**	**15 03 39.3**	**-0.2**
	comp=N,1.2nm,0.1s,SNR=7.9							
PMRV	**Marv??o**	**3.64**	**46**	S		**Sn**	**15 03 44.0**	**+0.5**
	comp=N,2.7nm,0.5s							
PMRV	**Marv??o**	**3.64**	**46**	*e*S		**Sn**	**15 03 44.0**	**+0.5**
PMRV				A		A	15 03 45.3	
	comp=N,2.7nm,0.5s							
ECAB	**El Cabril**	**4.40**	**73**	P		**Pn**	**15 03 12.3**	**+1.7**
	comp=N,0.8nm,0.1s,SNR=7.9							
ECAB				S		**Sn**	**15 04 00.5**	**-1.9**
	comp=N,0.5nm,0.1s,SNR=7.9							
EPLA	**Plasencia**	**4.82**	**48**	S		**Sn**	**15 04 12.3**	**-0.4**
	comp=N,0.7nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**5.07**	**74**	S		**Sn**	**15 04 17.3**	**-1.5**
	comp=N,0.6nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**5.35**	**22**	S		**Sn**	**15 04 23.7**	**-2.1**
	comp=N,1.1nm,0.1s,SNR=7.9							
ECAL	**Calabor**	**5.89**	**31**	S		**Sn**	**15 04 37.9**	**-1.1**
	comp=N,1.1nm,0.2s,SNR=7.9							

*PLV **21** 15:03:55.2±0.6,21°.49N×103°.46E,h27km±3km,ML4.0*
*IDC **21** 15:03:57.8±1.2,22°.08N×104°.55E,h0km,mb3.5/5, mb1 3.6/6,mb1mx3.4/33,mbtmp3.5/6,ML4.1/1,MS2.7/1, Ms1 2.9/1,ms1mx2.4/28,Error ellipse: s-maj=32.8km s-min=21.9km az=74.0*

ISC 21 15:03:57.5±1.4,21°.61N±0°.03×103°.61E±0°.05,h5km±11km, n29,σ2s69/35,mb3.6/5,1C,Vietnam

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
TGV	**Tuan Giao**	**0.18**	**264**	*i* Pg		**Pg**	**15 04 00.5**	**-0.5**
TGV				*e*Sg		**Sg**	**15 04 03.4**	**+0.1**
TGV				IAML			15 04 03.6	
	comp=N,25μm,0.6s							
TGV				IAML			15 04 03.6	
	comp=E,38μm,0.2s							
MLAV	**Muong La stati**	**0.60**	**316**	*i* Pg		**Pg**	**15 04 07.7**	**-1.3**
MLAV				*e*Sg		**Sg**	**15 04 16.7**	**-0.1**
MLAV				IAML			15 04 17.8	
	comp=N,3μm,0.2s							
MLAV				IAML			15 04 20.3	
	comp=E,3μm,0.2s							
HBVN	**Hoa-Binh**	**1.81**	**115**	*e*Pg		**Pn**	**15 04 29.6**	**+0.4**
HBVN				*e*Sg		**Sb**	**15 04 54.4**	**+0.4**
HBVN				IAML			15 04 57.0	
	comp=N,2μm,0.4s							
HBVN				IAML			15 04 58.0	
	comp=E,2μm,0.3s							
CRAI	**Chiangrai**	**3.32**	**246**	P		**Pn**	**15 04 49.7**	**-0.4**
CRAI				Sg		**Sg**	**15 05 41.9**	**-2.3**
KMI	**Kunming**	**3.59**	**347**	⇑Pg		**Pb**	**15 05 03.4**	**+1.8**
KMI				Sg		**Sg**	**15 05 53.8**	**+1.0**
KMI				smax		smax		
	comp=N,76nm,1.2s							
KMI				smax		smax		
	comp=E,87nm,1.1s							
KMI				LR		LR		
	comp=N,650nm,6.9s							
KMI				LR		LR		
	comp=E,790nm,7.0s							
KMI				LR		LR		
	comp=Z,380nm,5.6s							
PAYA	**Payao**	**4.16**	**238**	Pg		**Pb**	**15 05 13.6**	**+2.5**
PHRA	**Phrae**	**4.43**	**226**	Pg		**Pb**	**15 05 18.1**	**+2.3**
LOEI	**Loei**	**4.64**	**209**	P		**Pn**	**15 05 06.6**	**-1.6**
LAMP	**Lampang**	**4.84**	**231**	Pg		**Pg**	**15 05 26.3**	**-3.9**
CMMT	**Chiang Mai**	**5.18**	**238**	P		**Sg**	**15 06 46.0**	**+1.9**
	comp=Z,31nm,1.2s,comp=Z,433nm							
CMMT	**Chiang Mai**	**5.18**	**238**	P		**Pn**	**15 05 16.5**	**+0.7**
CMMT				Pg		**Pg**	**15 05 34.7**	**-2.2**
CHTO	**Chiang Mai**	**5.19**	**238**	P		**Sg**	**15 06 46.2**	**+2.0**
	comp=Z,32nm,1.2s,comp=Z,402nm							
CM09	**Chiang Mai Arr**	**5.36**	**235**	P		**Sg**	**15 06 55.1**	**+5.3**
	comp=Z,40nm,0.8s,comp=Z,256nm							
CM09	**Chiang Mai Arr**	**5.36**	**235**	P		**Pn**	**15 05 18.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**5.39**	**235**	Pn		**Pb**	**15 05 34.8**	**+2.6**
	comp=Z,1.2nm,0.3s,baz=52,slow=16,SNR=41							
CMAR				Sn		**Sg**	**15 06 45.9**	**-4.8**
	comp=Z,0.0nm,0.3s,baz=58,slow=15,SNR=4.9							
CMAR				LR		LR	15 08 33.7	
	comp=Z,67nm,20.3s,baz=215,slow=43							
CM04	**Chiang Mai Arr**	**5.40**	**235**	P		**Sg**	**15 06 53.7**	**+2.8**
	comp=Z,40nm,1.0s,comp=Z,275nm							
CM01	**Chiang Mai Arr**	**5.40**	**235**	P		**Sg**	**15 06 53.8**	**+2.8**
	comp=Z,61nm,0.9s,comp=Z,412nm							
CM02	**Chiang Mai Arr**	**5.40**	**235**	P		**Sg**	**15 06 52.4**	**+1.4**
	comp=Z,33nm,1.2s,comp=Z,261nm							
CM15	**Chiang Mai Arr**	**5.41**	**235**	P		**Sg**	**15 06 53.6**	**+2.4**
	comp=Z,32nm,1.0s,comp=Z,226nm							
CM05	**Chiang Mai Arr**	**5.42**	**235**	P		**Sg**	**15 06 58.2**	**+6.5**
	comp=Z,29nm,1.0s,comp=Z,198nm							
CM13	**Chiang Mai Arr**	**5.44**	**235**	P		**Sg**	**15 06 53.3**	**+1.0**
	comp=Z,32nm,1.0s,comp=Z,240nm							
PBKT	**Sadao Pong**	**5.60**	**207**	P		Sg	15 07 11.1	+14
	comp=Z,41nm,0.7s							
CHAI	**Chaiyaphum**	**5.88**	**195**	P		**Sg**	**15 07 01.0**	**-5.5**
UBPT	**Khong Chiam**	**6.54**	**164**	P		**Sg**	**15 07 30.2**	**+2.6**
	comp=Z,44nm,1.2s							
SONM	**Songino Array**	**26.26**	**4**	P		**P**	**15 09 31.3**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=186,slow=10,SNR=1.9							
MKAR	**Makanchi Array**	**30.50**	**331**	P		**P**	**15 10 11.9**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=138,slow=9.2,SNR=4.6							
ZALV	**Zalesovo Beam**	**35.31**	**341**	P		**P**	**15 10 52.7**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=134,slow=4.3,SNR=3.7							
WRA	**Warramunga Arr**	**51.07**	**142**	P		**P**	**15 13 00.2**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=325,slow=7.1,SNR=4.7							
ASAR	**Alice Springs**	**53.80**	**145**	P		**P**	**15 13 22.0**	**+0.6**
	comp=Z,0.1nm,0.5s,baz=323,slow=7.6,SNR=1.4							

MEX 21 15:15:48.3±0.6,16°.30N×98°.08W,h25km±6km,MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.10**	**335**	*i* P		Pb	15 15 51.6	-1.4
PNIG				*i* S		Sb	15 15 54.7	-1.5
PNIG	**Pinotepa**	**0.10**	**335**	*i* P		Pb	15 15 51.7	-1.4
PNIG				*i* S		Sb	15 15 54.8	-1.4
PEIG	**Puerto Escondi**	**0.95**	**108**	*i* P		Pn	15 16 03.0	-3.0
PEIG				*i* S		Sb	15 16 14.9	-3.4
TXIG	**Tlaxiaco**	**1.00**	**18**	*e*P		Pn	15 16 04.4	-2.6
TXIG				*e*S		Sb	15 16 16.2	-3.7
TXIG	**Tlaxiaco**	**1.00**	**18**	*e*P		Pn	15 16 04.4	-2.6
TXIG				*e*S		Sb	15 16 16.2	-3.8
HLIG	**Huajuapan de L**	**1.55**	**10**	*e*P		Pn	15 16 13.1	-1.4
HLIG				*e*S		Sn	15 16 31.7	-2.2
HLIG	**Huajuapan de L**	**1.55**	**10**	*e*P		Pn	15 16 12.3	-2.2
HLIG				*e*S		Sn	15 16 30.3	-3.6
FTIG	**Fresnillo de T**	**1.60**	**358**	*e*P		Pn	15 16 12.2	-3.0
FTIG				*e*S		Sn	15 16 31.7	-3.3
DAIG	**Los Arroyos**	**1.67**	**296**	*e*P		Pn	15 16 11.1	-4.9
DAIG				*e*S		Sn	15 16 37.4	+0.9
DAIG	**Los Arroyos**	**1.67**	**296**	*e*P		Pn	15 16 11.1	-4.8
DAIG				*e*S		Sb	15 16 38.1	-0.8

*IDC **21** 15:19:48.0±1.6,57°.12S×148°.01E,h0km,mb4.0/6, mb1 4.2/6,mb1mx4.0/16,mbtmp4.0/6,MS4.0/13, Ms1 4.0/13,ms1mx3.9/24,Error ellipse: s-maj=127.8km s-min=18.0km az=80.0*
*NEIC **21** 15:19:49.6±1.4,57°.3S±0°.1×147°.8E±0°.3,h10km±2km, mb4.5/20,Error ellipse: s-maj=24.5km s-min=15.7km az=93.0*
*GCMT **21** 15:19:51.6±0.3,57°.19S±0°.01×147°.64E±0°.05,h12km, MW4.9/78,Moment Tensor Solution. s17,c19; s78,c114; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.23±.10; Mθθ1.02±.09; Mϕϕ-1.24±.12; Mrθ-0.31±.31; Mθϕ-2.16±.07; Mϕr-0.77±.28; Best double couple: Mo2.55400×10¹⁶ NP1:ϕs77.00000°,δ76.00000°,λ-172.00000°. NP2: ϕs345.00000°,δ82.00000°,λ-14.00000°. Principal axes: T 2.3370, Plg4.0000°, Azm32.0000°; N 0.4390, Plg74.0000°, Azm136.0000°; P -2.7710, Plg15.0000°, Azm301.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 15:19:49.3±0.6,57°.22S±0°.08×147°.8E±0°.2,h10km,n53, σ0s82/33,mb4.5/12,MS4.0/16,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CASY	**Casey**	**19.53**	**227**	P		**P**	**15 24 15.9**	**-0.5**
TOO	**Toolangi**	**19.72**	**355**	P		**Pn**	**15 24 19.8**	**-0.4**
TOO				IAmb		IAmb	15 24 47.9	
	comp=Z,39nm,1.4s							
VNDA	**Vanda**	**20.96**	**172**	P		**P**	**15 24 32.6**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=334,slow=12,SNR=6.5							
VNDA				LR		LR	15 31 07.8	
	comp=Z,215nm,20.3s,baz=343,slow=32							
VNDA	**Vanda**	**20.96**	**172**	IAmb		IAmb	15 24 47.3	
	comp=Z,14nm,1.4s							
SBA	**Scott Base**	**21.71**	**169**	P		**P**	**15 24 38.6**	**-1.4**
STKA	**Stephens Creek**	**25.70**	**348**	P		**P**	**15 25 19.6**	**+0.2**
	comp=Z,5.5nm,0.7s,baz=152,slow=8.3,SNR=11							
STKA				LR		LR	15 33 55.6	
	comp=Z,161nm,19.2s,baz=185,slow=33							
STKA	**Stephens Creek**	**25.70**	**348**	P		**P**	**15 25 19.7**	**+0.2**
BBOO	**Buckleboo**	**25.71**	**337**	P		**P**	**15 25 19.6**	**+0.2**
BBOO				IAmb		IAmb	15 25 23.4	
	comp=Z,21nm,0.9s							
BKZ	**Black Stump Fm**	**26.00**	**58**	P		**P**	**15 25 22.7**	**+0.6**
URZ	**Urewera**	**27.01**	**58**	P		**P**	**15 25 30.8**	**-0.4**
FORT	**Forrest**	**29.79**	**324**	P		**P**	**15 25 55.8**	**-0.2**
H01W1	**Cape Leeuwin H**	**31.79**	**300**	T		T	15 59 36.3	
	baz=145,slow=75,SNR=178							
H01W2	**Cape Leeuwin H**	**31.79**	**300**	T		T	15 59 36.5	
	baz=145,slow=75,SNR=150							
H01W3	**Cape Leeuwin H**	**31.80**	**300**	T		T	15 59 39.0	
	baz=145,slow=75,SNR=132							
QSPA	**South Pole Qui**	**32.88**	**180**	P		**P**	**15 26 24.2**	**+1.1**
	comp=Z,0.7nm,0.4s,baz=10,slow=0.6,SNR=14							
QSPA	**South Pole Qui**	**32.88**	**180**	P		**P**	**15 26 21.6**	**-1.5**
QSPA				IAmb		IAmb	15 26 30.8	
	comp=Z,3.4nm,1.2s							
ASAR	**Alice Springs**	**35.01**	**337**	P		**P**	**15 26 41.5**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=159,slow=8.8,SNR=43							
ASAR				PcP		**PcP**	**15 29 13.4**	**-0.4**
	comp=Z,1.3nm,1.0s,baz=152,slow=2.9,SNR=1.9							
ASAR				LR		LR	15 40 07.4	
	comp=Z,167nm,18.8s,baz=164,slow=35							
AS31	**Alice Springs**	**35.01**	**337**	P		**P**	**15 26 41.2**	**-0.6**
MAW	**Mawson**	**37.49**	**219**	LR		LR	15 41 15.1	
	comp=Z,490nm,21.4s,baz=76,slow=34							
DZM	**Mont Dzumac**	**37.66**	**29**	*e*LR		LR	15 37 25.0	
	comp=Z,1μm,25.9s							
DZM	**Mont Dzumac**	**37.66**	**29**	P		**P**	**15 27 04.8**	**+0.2**
DZM				IAmb		IAmb	15 27 07.0	
	comp=Z,11nm,0.9s							
WR0	**Warramunga Arr**	**38.49**	**340**	P		**P**	**15 27 10.1**	**-1.3**
WR0				IAmb		IAmb	15 27 18.8	
	comp=Z,12nm,1.2s							
WB2	**Warramunga Arr**	**38.54**	**339**	P		**P**	**15 27 10.6**	**-1.3**
WB2				IAmb		IAmb	15 27 16.3	
	comp=Z,8.5nm,0.8s							
WRA	**Warramunga Arr**	**38.54**	**339**	P		**P**	**15 27 10.8**	**-1.1**
	comp=Z,4.8nm,0.6s,baz=168,slow=8.2,SNR=47							
WRA				LR		LR	15 40 26.4	
	comp=Z,84nm,19.9s,baz=135,slow=32							
WRA	**Warramunga Arr**	**38.54**	**339**	P		**P**	**15 27 10.4**	**-1.5**
WB0	**Warramunga Arr**	**38.70**	**340**	P		**P**	**15 27 11.6**	**-1.6**
WB0				IAmb		IAmb	15 27 21.4	
	comp=Z,14nm,1.4s							
FITZ	**Fitzroy Crossi**	**42.42**	**328**	P		**P**	**15 27 44.0**	**+0.1**
COEN	**Coen**	**43.32**	**353**	P		**P**	**15 27 51.1**	**-0.2**
COEN				IAmb		IAmb	15 27 59.1	
	comp=Z,16nm,1.4s							
KNRA	**Kununurra**	**43.90**	**333**	P		**P**	**15 27 55.4**	**-0.5**
SNAA	**Sanae**	**49.76**	**192**	P		**P**	**15 28 41.4**	**+0.2**
SNAA				IAmb		IAmb	15 28 49.1	
	comp=Z,5.8nm,1.2s							
BATI	**Baumata**	**50.48**	**329**	LR		LR	15 49 10.2	
	comp=Z,543nm,19.6s,baz=222,slow=35							
JAY	**Jayapura**	**54.84**	**351**	LR		LR	15 52 40.4	
	comp=Z,128nm,20.1s,slow=36							
FAKI	**Fak Fak**	**55.54**	**341**	P		**P**	**15 29 25.0**	**+0.4**
TBI	**Tubuai**	**55.96**	**80**	*e*LR		LR	15 45 43.8	
	comp=Z,154nm,26.0s							
KAPI	**Kappang**	**56.56**	**326**	LR		LR	15 53 57.6	
	comp=Z,144nm,18.5s,baz=152,slow=36							
LEM	**Lembang**	**59.23**	**312**	LR		LR	15 52 58.6	
	comp=Z,324nm,19.6s,baz=150,slow=34							
PPT2	**Papeete2**	**60.61**	**76**	*e*LQ		LQ	15 45 18.0	
	comp=Z,189nm,25.5s							
PPT2				*e*LR		LR	15 47 57.1	
	comp=Z,142nm,23.8s							
RKT	**Rikitea**	**63.99**	**93**	*e*T		T	16 39 38.4	
	comp=Z,29nm,0.2s							
DAV	**Davao City (W)**	**66.60**	**336**	LR		LR	15 57 43.4	
	comp=Z,166nm,21.4s,baz=132,slow=34							
GUMO	**Guam**	**70.59**	**357**	LR		LR	16 00 01.3	
	comp=Z,58nm,19.1s,baz=132,slow=34							
H08S2	**Diego Garcia H**	**75.67**	**278**	T		T	16 54 26.9	
	baz=147,slow=76,SNR=36							
H08S1	**Diego Carcia H**	**75.68**	**278**	T		T	16 54 27.8	
	baz=147,slow=76,SNR=25							
H08S3	**Diego Garcia H**	**75.69**	**278**	T		T	16 54 30.2	
	baz=147,slow=76,SNR=34							
H03S2	**Juan Fernandez**	**81.09**	**142**	T		T	17 02 26.9	
	baz=99,slow=74,SNR=6.8							
H03S3	**Juan Fernandez**	**81.11**	**142**	T		T	17 02 21.7	
	baz=201,slow=74,SNR=8.2							
CMAR	**Chiang Mai Arr**	**85.67**	**314**	P		**P**	**15 32 28.9**	**+0.9**
	comp=Z,0.8nm,0.9s,baz=179,slow=3.3,SNR=6.2							
CMAR				LR		LR	16 10 16.4	
	comp=Z,154nm,19.5s,baz=208,slow=35							
MJAR	**Matsushiro Arr**	**93.76**	**352**	LR		LR	16 10 55.0	
	comp=Z,32nm,21.4s,baz=275,slow=33							
TORD	**Torodi Ar. Bea**	**129.02**	**224**	PKP		**PKiKP**	**15 38 59.0**	**+1.1**
AKASG	**Malin Array Be**	**144.40**	**286**	PKP		**PKPdf**	**15 39 24.8**	**+0.3**
	comp=Z,0.1nm,0.2s,baz=120,slow=2.2,SNR=4.1							
KEST	**Kesra**	**145.00**	**250**	PKPbc		**PKPab**	**15 39 26.1**	**+0.6**
	comp=Z,4.9nm,0.8s,baz=304,slow=3.6,SNR=3.3							
FINES	**FINESS Array B**	**150.85**	**303**	PKPbc		**PKPbc**	**15 39 40.3**	**-0.1**
	comp=Z,4.1nm,0.7s,baz=113,slow=5.0,SNR=12							
GERES	**GERESS Array B**	**151.65**	**273**	PKPbc		**PKPbc**	**15 39 42.2**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=141,slow=0.9,SNR=7.1							
ARCES	**ARCESS Array B**	**152.59**	**320**	PKPbc		**PKPbc**	**15 39 44.6**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=62,slow=2.9,SNR=4.2							

*SJA **21** 15:37:01.9±1.1,31°.01S×72°.28W,h9km,ML6.1*
*BJI **21** 15:37:05.5±0.0,30°.60S×71°.94W,h20km,mB5.3/36, Ms5.4/44,Ms7 5.3/42*
*MOS **21** 15:37:06.1±1.0,30°.94S×71°.63W,h21km,mb5.5/49, MS5.0/21,Error ellipse: s-maj=12.4km s-min=6.3km az=98.2*
*GUC **21** 15:37:07.9±0.6,31°.11S×71°.79W,h30km±2km,MW6.0*
*VAO **21** 15:37:07.2±0.2,31°.06S×71°.76W,h25km,mb5.3*
*NEIC **21** 15:37:08.0±1.2,31°.02S±0°.04×71°.79W±0°.04,h26km±3km, mb5.4/321,Ms_20 5.0/189,Mwr5.3/57,Mww5.4, Mwr6.0(GUC),Error ellipse: s-maj=6.0km s-min=4.9km az=223.0*
*NEIC **21** 15:37:08,31°.04S×71°.86W,h33km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.78; Mθθ0.16; Mϕϕ-0.94; Mrθ0.26; Mθϕ0.00; Mϕr-0.61; Fault plane solution: Mo1.10000×10¹⁷ NP1:ϕs17.09000°, δ29.43000°,λ118.89000°. NP2:ϕs164.73000°,δ64.52000°, λ74.75000°. Principal axes: T 1.0456, Plg67.0000°, Azm46.0000°; N 0.0942, Plg14.0000°, Azm171.0000°; P -1.1398, Plg18.0000°, Azm266.0000°;*
*IDC **21** 15:37:09.7±3.3,31°.04S×71°.56W,h35km±25km,mb4.8/16, mb1 4.8/22,mb1mx4.8/26,mbtmp4.9/22,ML4.6/6,MS5.1/18, Ms1 5.1/18,ms1mx5.0/24 Error ellipse: s-maj=18.9km s-min=11.5km az=82.0*
*NEIC **21** 15:37:10,31°.03S×71°.80W,h24km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr1.12; Mθθ0.01; Mϕϕ-1.13; Mrθ0.09; Mθϕ0.05; Mϕr-1.36; Fault plane solution: Mo1.77000×10¹⁷ NP1:ϕs358.00000°, δ20.00000°,λ92.00000°. NP2:ϕs176.00000°,δ70.00000°, λ89.00000°. Principal axes: T 1.7644, Plg65.0000°, Azm85.0000°; N 0.0103, Plg1.0000°, Azm177.0000°; P -1.7747, Plg25.0000°, Azm267.0000°;*
*GCMT **21** 15:37:12.0±0.1,31°.17S±0°.01×71°.95W±0°.01,h31km, MW5.5/127,Moment Tensor Solution. s124,c214; s127,c226; Duration: 1s3 Moment tensor: Scale 10¹⁷ Nm; Mrr1.41±.02; Mθθ0.09±.02; Mϕϕ-1.50±.02; Mrθ0.19±.02; Mθϕ0.21±.01; Mϕr-1.34±.04; Best double couple: Mo1.99700×10¹⁷ NP1:ϕs353.00000°,δ24.00000°, λ90.00000°. NP2:ϕs172.00000°,δ66.00000°,λ90.00000°. Principal axes: T 1.9380, Plg69.0000°, Azm82.0000°; N 0.1180, Plg0.0000°, Azm172.0000°; P -2.0570, Plg21.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 15:37:07.7±0.7,31°.08S±0°.02×71°.84W±0°.04,h27km±4km, n1026,σ1s42/982,mb5.4/178,MS5.1/145,142C-20D,Fault plane solution: NP1:ϕs179.56474°,δ51.58892°, λ108.83057°. **NP2:**ϕs330.80292°,δ42.12918°,λ67.85006°. **Principal axes:** T Plg74.5234°, Azm148.3581°; N Plg14.6500°, Azm347.6020°; P Plg4.8812°, Azm256.3228°; **Fault plane solution: NP1:** ϕs145.06136°,δ66.08740°,λ47.15879°. **NP2:**ϕs31.45126°, δ47.90954°,λ146.89195°. **Principal axes:** T Plg49.5168°, Azm7.2795°; N Plg38.4333°, Azm165.6623°; P Plg10.7985°, Azm264.3676°; **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.44**	**23**	⇓*i* P		**Pb**	**15 37 17.4**	**+0.3**
CO06				*e*S		**Sb**	**15 37 23.9**	**+0.5**
CO06	**Fray Jorge**	**0.44**	**23**				**15 37 17.4**	**+0.3**
CO03	**El Pedregal**	**1.01**	**77**	⇓*e*P		**Pn**	**15 37 25.8**	**-0.4**
CO03				*e*S		**Sb**	**15 37 38.9**	**-0.8**
CO03	**El Pedregal**	**1.01**	**77**			**Pn**	**15 37 25.9**	**-0.4**
CO03				Sn		**Sb**	**15 37 38.3**	**-1.4**
CO03	**El Pedregal**	**1.01**	**77**	*i* P		**Pn**	**15 37 26.0**	**-0.3**
CO03				*i* S		**Sb**	**15 37 38.9**	**-0.8**
CO05	**La Serena**	**1.27**	**24**	⇓*e*P		**Pb**	**15 37 30.4**	**-0.6**
CO05				*e*S		**Sb**	**15 37 47.1**	**+0.2**
CO05	**La Serena**	**1.27**	**24**			**Pb**	**15 37 30.2**	**-0.7**
GO04	**Tololo Observa**	**1.27**	**45**	⇓*i* P		**Pn**	**15 37 30.4**	**+0.4**
GO04				*i* S		**Sb**	**15 37 47.0**	**-0.2**
GO04	**Tololo Observa**	**1.27**	**45**	Pn		**Pb**	**15 37 30.7**	**-0.5**
GO04	**Tololo Observa**	**1.27**	**45**	*i* P		**Pb**	**15 37 30.7**	**-0.5**
VA06	**Catapilco**	**1.54**	**163**	⇓*e*P		**Pn**	**15 37 33.8**	**+0.4**
VA06				*e*S		**Sn**	**15 37 53.4**	**+0.8**
VA01	**Torpederas**	**1.94**	**175**	⇑*i* P		**Pn**	**15 37 39.1**	**+0.2**
VA01				*e*S		**Sb**	**15 38 04.5**	**-1.7**
VA01	**Torpederas**	**1.94**	**175**	Pn		**Pn**	**15 37 39.1**	**+0.2**
VA01	**Torpederas**	**1.94**	**175**	*i* P		**Pn**	**15 37 39.1**	**+0.2**
VA01				*i* S		**Sb**	**15 38 06.9**	**+0.7**
VA03	**San Esteban**	**2.00**	**147**	⇑*i* P		**Pn**	**15 37 41.4**	**+1.5**
VA03				*e*S		**Sb**	**15 38 07.0**	**-1.1**
VA03	**San Esteban**	**2.00**	**147**			**Pn**	**15 37 41.3**	**+1.4**
VA03	**San Esteban**	**2.00**	**147**	*i* P		**Pb**	**15 37 41.5**	**-2.0**
VA03				*i* S		**Sb**	**15 38 07.4**	**-0.6**
ROCH	**El Roble**	**2.01**	**160**	⇑*i* P		**Pn**	**15 37 40.9**	**+0.8**
ROCH				*i* S		**Sb**	**15 38 07.1**	**-1.3**
ROC1	**El Roble**	**2.01**	**160**	*i* P		**Pn**	**15 37 41.1**	**+0.9**
ROC1				*i* S		**Sb**	**15 38 07.5**	**-1.0**
AROD	**Rodeo**	**2.23**	**66**	*i* P		**Pb**	**15 37 47.0**	**-0.6**
RTLS	**Leoncito**	**2.29**	**109**	*i* P		**Pb**	**15 37 48.1**	**-0.3**
RTLS				*i* S		**Sb**	**15 38 17.8**	**+1.4**
RTLS				IAML			15 38 20.4	
	comp=Z,21μm,0.7s							
LCO	**Las Campanas**	**2.29**	**26**	P		**Pn**	**15 37 44.6**	**+0.7**
LCO	**Las Campanas**	**2.29**	**26**	⇑*i* P		**Pn**	**15 37 44.6**	**+0.7**
LCO				*i* S		**Sn**	**15 38 13.5**	**+2.2**
LCO	**Las Campanas**	**2.29**	**26**	Pn		**Pn**	**15 37 44.6**	**+0.7**
LCO	**Las Campanas**	**2.29**	**26**	*i* P		**Pn**	**15 37 44.6**	**+0.7**
LCO				*i* S		**Sb**	**15 38 16.6**	**+0.2**
LCO				IAML			15 38 25.6	
	comp=Z,69μm,0.6s							
AUSP	**Uspallata**	**2.38**	**119**	*i* P		**Pb**	**15 37 49.2**	**-0.9**
ACCO	**Cerro Coronel**	**2.43**	**79**	*i* P		**Pb**	**15 37 50.0**	**-1.0**
ACCO				IAML			15 39 15.3	
	comp=Z,2μm,1.2s							
MT05	**Renca**	**2.48**	**158**	⇑*e*P		**Pn**	**15 37 47.6**	**+1.1**
MT05				*e*S		**Sn**	**15 38 18.4**	**+2.4**
MT05	**Renca**	**2.48**	**158**	Pn		**Pn**	**15 37 47.8**	**+1.3**
ACDV	**Cuesta del Vie**	**

AC02	**Maricunga**	**4.85**	**30**	*i* P		**Pn**	**15 38 20.5**	**+1.1**
AC02				*e*S		**Sb**	**15 39 23.2**	**-7.1**
CYA	**Choya**	**5.87**	**65**	*i* P		**Pn**	**15 38 34.7**	**+1.8**
CYA				IAML			15 40 21.4	
	comp=Z,3µm,1.2s							
H03N1	**Juan Fernandez**	**6.44**	**247**	T		T	15 45 28.3	
	baz=76,slow=72,SNR=3744							
VA04	**Juan Fernndez**	**6.45**	**245**			**Pn**	**15 38 39.6**	**-1.2**
H03N3	**Juan Fernandez**	**6.45**	**247**	T		T	15 45 23.7	
	baz=76,slow=72,SNR=2782							
H03N2	**Juan Fernandez**	**6.45**	**247**	T		T	15 45 30.2	
	baz=76,slow=72,SNR=3232							
PB14	**IPOC Station P**	**6.55**	**11**	Pn		**Pn**	**15 38 39.8**	**-2.9**
H03S3	**Juan Fernandez**	**6.58**	**244**	T		T	15 45 54.5	
	baz=84,slow=74,SNR=126							
H03S1	**Juan Fernandez**	**6.58**	**243**	T		T	15 45 46.9	
	baz=84,slow=74,SNR=179							
H03S2	**Juan Fernandez**	**6.59**	**244**	T		T	15 45 47.7	
	baz=84,slow=74,SNR=290							
CANA	**Caviahue**	**6.82**	**175**	*e*P		**Pn**	**15 38 47.9**	**+1.8**
CANA				IAML			15 40 58.7	
	comp=Z,2µm,1.1s							
AHML	**Horco Molle**	**7.12**	**55**	*i* P		**Pn**	**15 38 51.0**	**+0.8**
AHML				IAML			15 41 05.4	
	comp=Z,1µm,1.6s							
FSA	**Cafayete**	**7.14**	**48**	*i* P		**Pn**	**15 38 53.0**	**+2.4**
PB10	**IPOC Station P**	**7.62**	**9**			**Pn**	**15 38 55.6**	**-1.4**
PB10	**IPOC Station P**	**7.62**	**9**	*i* P		**Pn**	**15 38 56.0**	**-1.1**
PB10				IAML			15 41 18.8	
	comp=Z,624nm,0.9s							
LC01	**Cunco**	**7.80**	**180**			**Pn**	**15 38 58.5**	**-0.9**
LC01	**Cunco**	**7.80**	**180**	*i* P		**Pn**	**15 38 58.5**	**-0.9**
PB15	**IPOC Station P**	**8.12**	**16**			**Pn**	**15 39 01.9**	**-2.1**
PB15	**IPOC Station P**	**8.12**	**16**	*i* P		**Pn**	**15 39 02.9**	**-1.2**
PB05	**IPOC Station P**	**8.32**	**10**	*i* P		**Pn**	**15 39 04.0**	**-2.8**
LR03	**Panguipulli**	**8.54**	**183**	Pn		**Pn**	**15 39 08.2**	**-1.4**
PB06	**IPOC Station P**	**8.58**	**14**	Pn		**Pn**	**15 39 07.7**	**-2.7**
PB06	**IPOC Station P**	**8.58**	**14**	*i* P		**Pn**	**15 39 08.0**	**-2.4**
AF01	**San Pedro de A**	**8.73**	**23**	Pn		**Pn**	**15 39 11.7**	**-0.7**
LVC	**Limon Verde**	**8.83**	**18**	Pn		**Pn**	**15 39 11.8**	**-2.2**
	comp=Z,0.8nm,0.3s,baz=177,slow=6.5,SNR=9.8							
LVC				Sn		**Sn**	**15 41 00.2**	**+7.4**
	comp=Z,11nm,0.3s,baz=163,slow=15,SNR=3.3							
LVC				LR		LR	15 42 38.9	
	comp=Z,11µm,21.7s,baz=212,slow=38							
LVC	**Limon Verde**	**8.83**	**18**			**Pn**	**15 39 11.3**	**-2.6**
LVC	**Limon Verde**	**8.83**	**18**	*e*P		**Pn**	**15 39 12.2**	**-1.8**
LVC				*e*S		**Sn**	**15 40 52.5**	**-0.3**
LVC	**Limon Verde**	**8.83**	**18**	*i* P		Pn	15 39 08.7	-5.3
PB04	**IPOC Station P**	**8.84**	**10**			**Pn**	**15 39 10.9**	**-3.0**
PB04	**IPOC Station P**	**8.84**	**10**	*i* P		**Pn**	**15 39 11.2**	**-2.7**
PB07	**IPOC Station P**	**9.48**	**11**			**Pn**	**15 39 20.1**	**-2.6**
PB09	**IPOC Station P**	**9.53**	**15**			**Pn**	**15 39 21.0**	**-2.4**
PB09	**IPOC Station P**	**9.53**	**15**	*i* P		**Pn**	**15 39 22.1**	**-1.4**
PLCA	**Paso Flores**	**9.69**	**174**	Pn		**Pn**	**15 39 26.0**	**+0.6**
	comp=Z,4.1nm,0.3s,baz=339,slow=11,SNR=166							
PLCA				Lg		Lg	15 42 03.1	
	comp=Z,2.1nm,0.3s,baz=279,slow=23,SNR=1.4							
PLCA				LR		LR	15 43 17.8	
	comp=Z,9µm,20.4s,baz=348,slow=38							
PLCA	**Paso Flores**	**9.69**	**174**	*e*P		**Pn**	**15 39 25.5**	**+0.1**
PLCA				*e*S		**Sn**	**15 41 14.7**	**+1.4**
LL04	**Puerto Octay**	**9.82**	**183**	Pn		**Pn**	**15 39 25.6**	**-1.4**
LL03	**Petrohue**	**10.05**	**182**	Pn		Pn	15 39 25.2	-5.0
PB01	**IPOC Station P**	**10.22**	**12**			Pn	15 39 27.4	-5.3
TA01	**Diego Aracena**	**10.58**	**8**	Pn		**Pn**	**15 39 35.9**	**-1.6**
TRQA	**Tornquist**	**10.69**	**133**	P		**Pn**	**15 39 38.4**	**-0.7**
TRQA	**Tornquist**	**10.69**	**133**			**Pn**	**15 39 38.4**	**-0.7**
TRQA	**Tornquist**	**10.69**	**133**	*e*P		**Pn**	**15 39 39.4**	**+0.3**
PB08	**IPOC Station P**	**11.16**	**13**	Pn		**Pn**	**15 39 43.9**	**-2.0**
LL01	**San Ignacio de**	**11.29**	**182**	Pn		**Pn**	**15 39 46.4**	**-0.7**
PSGCX	**Pisagua**	**11.54**	**8**	Pn		**Pn**	**15 39 47.9**	**-2.9**
GO07	**Milladeo Hill,**	**12.10**	**186**			**Pn**	**15 39 54.4**	**-3.9**
ITQB	**Itaqui**	**13.21**	**88**	Pn		**Pn**	**15 40 11.1**	**-2.5**
ITQB	**Itaqui**	**13.21**	**88**	*e*P		**Pn**	**15 40 11.8**	**-1.7**
ITQB				*e*S		**Sn**	**15 42 38.5**	**-1.0**
CPUP	**Villa Florida**	**13.58**	**73**	Pn		**Pn**	**15 40 16.2**	**-2.4**
	comp=Z,1.0nm,0.3s,baz=242,slow=12,SNR=17							
CPUP				LR		LR	15 45 60.0	
	comp=Z,17µm,18.1s,baz=250,slow=40							
CPUP	**Villa Florida**	**13.58**	**73**			**Pn**	**15 40 15.3**	**-3.3**
CPUP	**Villa Florida**	**13.58**	**73**	*e*S		**Sn**	**15 42 49.4**	**+0.8**
LPAZ	**La Paz**	**15.11**	**14**	Pn		**Pn**	**15 40 39.4**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=186,slow=7.6,SNR=110							
LPAZ	**La Paz**	**15.11**	**14**	Pn		**Pn**	**15 40 38.5**	**-1.5**
LPAZ	**La Paz**	**15.11**	**14**	P	*e*P	**Pn**	**15 40 41.0**	**+1.0**
LPAZ	**La Paz**	**15.11**	**14**	*e*P		**Pn**	**15 40 39.5**	**-0.5**
PLTB	**Pedras Altas**	**15.58**	**97**	Pn		**Pn**	**15 40 42.7**	**-2.8**
CPSB	**Cacapava Do Su**	**15.84**	**92**	*e*P		**Pn**	**15 40 46.1**	**-2.6**
AQDB	**Aquidauana**	**17.94**	**58**	Pn		**Pn**	**15 41 11.7**	**-3.6**
SIV	**San Ignacio**	**17.95**	**36**	P		**Pn**	**15 41 14.4**	**-1.1**
	comp=Z,1.7nm,0.3s,baz=230,slow=11,SNR=88							
SIV				LR		LR	15 49 35.9	
	comp=Z,9µm,18.5s,baz=217,slow=42							
CNLB	**Canela**	**18.22**	**90**	*e*P		**Pn**	**15 41 18.0**	**-0.8**
PTGB	**Pitanga**	**18.58**	**75**	*e*P		**P**	**15 41 22.0**	**-0.9**
TRCB	**Terra Rica**	**18.99**	**69**	P		**P**	**15 41 26.1**	**-1.1**
TRCB	**Terra Rica**	**18.99**	**69**	*e*P		**P**	**15 41 27.0**	**-0.3**
PTLB	**Pontes e Lacer**	**19.42**	**40**	*e*P		**P**	**15 41 30.8**	**-1.1**
NNA	**Nana**	**19.56**	**345**	P		**Pn**	**15 41 34.6**	**-0.3**
	comp=Z,1.1nm,0.3s,baz=185,slow=9.5,SNR=9.1							
NNA				LR		LR	15 47 53.4	
	comp=Z,2µm,18.6s,baz=167,slow=33							
NNA	**Nana**	**19.56**	**345**	*ce*		**Pn**	**15 41 37.6**	**+2.6**
NNA				pmax		pmax		
	comp=Z,31nm,0.8s							
NNA	**Nana**	**19.56**	**345**	P		**P**	**15 41 30.3**	**-3.2**
TER01	**Tubaro-SC**	**19.86**	**88**	*e*P		**P**	**15 41 36.6**	**-0.2**
PP1B	**Ponte de Pedra**	**20.43**	**53**	*e*P		**P**	**15 41 41.6**	**-1.3**
PCMB	**Pacaembu**	**20.68**	**68**	*e*P		**P**	**15 41 45.2**	**-0.5**
VILB	**Vilhena**	**20.99**	**33**	*e*P		**P**	**15 41 48.6**	**-0.5**
SALV	**Santo Antonio**	**21.11**	**48**	*e*P		**P**	**15 41 49.5**	**-0.9**
FRTB	**Fartura**	**21.23**	**74**	*e*P		**P**	**15 41 50.8**	**-0.8**
ETMB	**Extrema**	**21.80**	**15**	*e*P		**P**	**15 41 58.7**	**+1.0**
GO10	**Punta Arenas**	**22.07**	**179**	P		**P**	**15 42 00.0**	**-0.3**
ITRB	**Iturama**	**22.42**	**65**	*e*P		**P**	**15 42 02.5**	**-2.0**
PET01	**Itanhaem-SP**	**22.75**	**79**	*e*P		**P**	**15 42 06.4**	**-1.5**
SPB	**Sao Paulo**	**22.90**	**77**	P		**P**	**15 42 08.0**	**-1.4**
SPB				IAMs_20	IAMs_20		15 51 27.2	
	comp=Z,8µm,19.0s							
SPB	**Sao Paulo**	**22.90**	**77**	*e*P		**P**	**15 42 08.1**	**-1.3**
EFI	**East Falkland**	**22.95**	**158**	*ce*P		**P**	**15 42 09.8**	**+0.1**
EFI				pmax		pmax		
	comp=Z,111nm,1.0s							
EFI	**East Falkland**	**22.95**	**158**	P		**P**	**15 42 08.6**	**-1.1**
EFI				IAmb		IAmb	15 42 21.5	
	comp=Z,191nm,1.0s							
EFI	**East Falkland**	**22.95**	**158**	IAMs_20	IAMs_20		15 51 56.5	
	comp=Z,5µm,19.0s							
BB19B	**Bebedouro**	**23.15**	**70**	*e*P		**P**	**15 42 09.8**	**-2.3**
RCLB	**Rio Claro- Sao**	**23.32**	**74**	*e*P		**P**	**15 42 12.1**	**-1.6**
SAML	**Samuel**	**23.45**	**22**	P		**P**	**15 42 14.5**	**-0.5**
SAML				pmax		pmax		
	comp=Z,95nm,1.1s							
SAML				MLR		MLR		
	comp=Z,3µm,21.0s							
SAML	**Samuel**	**23.45**	**22**	P		**P**	**15 42 14.5**	**-0.5**
SAML				IAmb		IAmb	15 42 17.1	
	comp=Z,95nm,1.1s							
SAML	**Samuel**	**23.45**	**22**	P	*e*P	**P**	**15 42 14.9**	**-0.1**
SAML	**Samuel**	**23.45**	**22**	*e*P		**P**	**15 42 14.9**	**-0.1**
VAO	**Valinhos**	**23.53**	**76**	*e*P		**P**	**15 42 14.1**	**-1.8**
USHA	**Ushuaia**	**23.86**	**175**	P		**P**	**15 42 19.8**	**+1.2**
	comp=Z,172nm,0.8s,baz=354,slow=4.7,SNR=26							
MG01	**Puerto William**	**24.03**	**174**	P		**P**	**15 42 19.1**	**-1.1**
PARB	**Paraibuna**	**24.52**	**78**	*e*P		**P**	**15 42 23.7**	**-1.4**
CLDB	**Colider**	**25.01**	**40**	*e*P		**P**	**15 42 28.0**	**-1.5**
IPMB	**Ipameri, GO**	**25.07**	**64**	*e*P		**P**	**15 42 28.9**	**-1.3**
ESR	**Angra dos Reis**	**25.64**	**78**	*e*P		**P**	**15 42 33.9**	**-1.2**
BSCB	**Bom Sucesso**	**26.25**	**74**	*e*P		**P**	**15 42 39.7**	**-1.1**
BDFB	**Brasilia**	**26.64**	**60**	P		**P**	**15 42 43.6**	**-0.8**
	comp=Z,54nm,0.5s,baz=231,slow=7.5,SNR=49							
BDFB				LR		LR	15 54 37.6	
	comp=Z,10µm,19.9s,baz=232,slow=40							
BDFB	**Brasilia**	**26.64**	**60**	P		**P**	**15 42 42.8**	**-1.7**
BDFB				IAmb		IAmb	15 42 44.9	
	comp=Z,74nm,0.9s							
VAS01	**Vassouras-RJ**	**26.78**	**78**	*e*P		**P**	**15 42 44.4**	**-1.2**
TBTG	**Tabatinga, AM**	**26.81**	**4**	*e*P		**P**	**15 42 46.7**	**+0.9**
TBTG	**Tabatinga, AM**	**26.81**	**4**	*e*P		**P**	**15 42 46.9**	**+1.1**
SNDB	**Serra Nova Dou**	**26.87**	**49**	*e*P		**P**	**15 42 45.6**	**-0.7**
NPGB	**Novo Progresso**	**28.45**	**36**	*e*P		**P**	**15 42 59.4**	**-1.2**
CAM01	**Campos-RJ**	**28.47**	**78**	*e*P		**P**	**15 42 59.9**	**-0.7**
DIAM	**Diamantina, MG**	**28.49**	**70**	*e*P		**P**	**15 43 00.2**	**-0.8**
PEXB	**Peixe**	**28.79**	**54**	*e*P		**P**	**15 43 03.0**	**-0.5**
MC01	**Montes Claros**	**29.14**	**67**	*e*P		**P**	**15 43 04.7**	**-2.0**
MACA	**Manacapuru-AM**	**29.70**	**23**	*e*P		**P**	**15 43 10.9**	**-0.6**
ALF01	**Guarapari-ES**	**29.78**	**77**	*e*P		**P**	**15 43 11.8**	**-0.5**
JANB	**Januaria**	**29.81**	**64**	*e*P		**P**	**15 43 11.5**	**-1.1**
SJMB	**Sao Joao De Ma**	**30.31**	**73**	*e*P		**P**	**15 43 15.6**	**-1.3**
BSFB	**Barra de Sao F**	**30.52**	**74**	*e*P		**P**	**15 43 18.1**	**-0.7**
ITTB	**Itaituba**	**30.59**	**33**	*e*P		**P**	**15 43 18.3**	**-1.2**
RIB01	**Linhares ES**	**30.66**	**75**	*e*P		**P**	**15 43 19.8**	**-0.3**
SDBA	**SAO DESIDERIO**	**31.02**	**59**	*e*P		**P**	**15 43 22.3**	**-1.1**
PTLC	**Puerto Leguiza**	**31.21**	**354**	*e*P		**P**	**15 43 24.1**	**-0.8**
SMTB	**Santa Maria do**	**31.61**	**51**	*e*P		**P**	**15 43 28.4**	**-0.1**
OTAV	**Otavalo**	**31.77**	**347**	*e*P		**P**	**15 43 32.9**	**+2.5**
OTAV	**Otavalo**	**31.77**	**347**	*e*P		**P**	**15 43 29.1**	**-1.3**
PAC1	**Pacto, Paraso**	**31.87**	**347**	*e*P		**P**	**15 43 32.8**	**+2.0**
PRPB	**Parauapebas**	**32.25**	**44**	*e*P		**P**	**15 43 32.8**	**-1.3**
GUA01	**Guaratinga, BA**	**32.52**	**71**	*e*P		**P**	**15 43 35.8**	**-0.7**
GCUF	**Volcan Galeras**	**32.55**	**350**	*e*P		**P**	**15 43 39.2**	**+2.0**
FLOC	**Florencia**	**32.69**	**353**	P		**P**	**15 43 37.7**	**-0.2**
FLOC	**Florencia**	**32.69**	**353**	*e*P		**P**	**15 43 40.4**	**+2.5**
RPN	**Rapa Nui**	**32.90**	**267**	LR		LR	15 53 29.6	
	comp=Z,2µm,18.0s,baz=108,slow=30							
MACC	**Macarena, Meta**	**33.10**	**356**	*e*P		**P**	**15 43 43.2**	**+1.7**
BBAC	**Balboa, Cauca**	**33.32**	**350**	*e*P		**P**	**15 43 42.7**	**-0.9**
SOTA	**Rioblanco**	**33.34**	**351**	*e*P		**P**	**15 43 47.5**	**+3.4**
CMC01	**Camacan, BA**	**33.41**	**69**	*e*P		**P**	**15 43 44.3**	**+0.1**
MALB	**Monte Alegre**	**33.49**	**33**	*e*P		**P**	**15 43 42.3**	**-2.6**
PCON	**Cinco Dias**	**33.51**	**352**	*e*P		**P**	**15 43 49.4**	**+3.7**
POPC	**Popayan, Colom**	**33.75**	**351**	*e*P		**P**	**15 43 50.0**	**+2.6**
MARP	**Para Belalcaza**	**33.96**	**353**	*e*P		**P**	**15 43 51.8**	**+2.5**
PMSA	**Palmer Station**	**34.06**	**174**	P		**P**	**15 43 51.0**	**+1.6**
	comp=Z,21nm,1.0s,baz=336,slow=7.7,SNR=4.9							
PMSA	**Palmer Station**	**34.06**	**174**	P		**P**	**15 43 49.6**	**+0.2**
PMSA				IAmb		IAmb	15 43 52.5	
	comp=Z,99nm,1.4s							
PMSA	**Palmer Station**	**34.06**	**174**	IAMs_20	IAMs_20		15 57 24.6	
	comp=Z,3µm,19.0s							
PMSA	**Palmer Station**	**34.06**	**174**	*e*P		**P**	**15 43 48.3**	**-1.0**
HOPE	**Hope Point**	**34.26**	**143**	P		**P**	**15 43 51.8**	**+0.6**
HOPE				pmax		pmax		
	comp=Z,78nm,1.1s							
HOPE				MLR		MLR		
	comp=Z,3µm,21.0s							
HOPE	**Hope Point**	**34.26**	**143**	P		**P**	**15 43 51.8**	**+0.6**
HOPE				IAmb		IAmb	15 43 55.7	
	comp=Z,78nm,1.1s							
HOPE	**Hope Point**	**34.26**	**143**	IAMs_20	IAMs_20		15 56 53.3	
	comp=Z,3µm,21.0s							
GDU01	**Guandu, BA**	**34.29**	**67**	*e*P		**P**	**15 43 50.3**	**-1.7**
PRAC	**Prado**	**34.72**	**355**	*e*P		**P**	**15 43 58.5**	**+2.9**
PAYG	**Puerto Ayora**	**34.93**	**326**	IAMs_20	IAMs_20		15 55 02.9	
	comp=Z,2µm,18.0s							
ORTC	**Ortega, Tolima**	**34.95**	**354**	*e*P		**P**	**15 44 00.4**	**+2.9**
BOAV	**Boa Vista**	**34.99**	**20**	*e*P		**P**	**15 43 58.1**	**+0.2**
PTGC	**Puerto Gaitan,**	**35.08**	**359**	*e*P		**P**	**15 43 59.8**	**+1.1**
YOTC	**Yotoco, Valle**	**35.13**	**352**	*e*P		**P**	**15 44 00.8**	**+1.5**
ANIL	**Santa Ana**	**35.54**	**354**	*e*P		**P**	**15 44 03.8**	**+0.9**
CHIC	**Chingaza**	**35.56**	**357**	*e*P		**P**	**15 44 05.3**	**+2.1**
ROSC	**El Rosal**	**35.80**	**356**	P		**P**	**15 44 07.2**	**+2.0**
	comp=Z,7.2nm,0.3s,baz=124,slow=8.2,SNR=6.3							
ROSC	**El Rosal**	**35.80**	**356**	*e*P		**P**	**15 44 08.6**	**+3.3**
MCPB	**Macapa, AP**	**35.85**	**35**	*e*P		**P**	**15 44 04.5**	**-0.8**
GUY2C	**Guyana, Caldas**	**36.26**	**354**	*e*P		**P**	**15 44 11.8**	**+2.5**
TMAB	**Tom-Au,PA,Br**	**36.31**	**43**	*e*P		**P**	**15 44 09.7**	**+0.4**
NORC	**Norcasia**	**36.55**	**355**	*e*P		**P**	**15 44 12.8**	**+1.5**
SPBC	**San Pablo de B**	**36.59**	**356**	*e*P		**P**	**15 44 21.9**	**+1.2**
RUSC	**La Rusia**	**36.78**	**358**	P		**P**	**15 44 11.6**	**-2.2**
RUSC	**La Rusia**	**36.78**	**358**	*e*P		**P**	**15 44 15.9**	**+2.1**
CBOC	**Ciudad Bolivar**	**36.95**	**353**	*e*P		**P**	**15 44 16.9**	**+2.0**
HELC	**Santa Helena**	**37.23**	**354**	*e*P		**P**	**15 44 19.1**	**+1.7**
TAMC	**Tame, Arauca**	**37.30**	**0**	*e*P		**P**	**15 44 18.7**	**+1.0**
BARC	**Barichara**	**37.48**	**358**	*e*P		**P**	**15 44 21.0**	**+1.5**
PTBC	**PUERTO BERRIO,**	**37.49**	**356**	*e*P		**P**	**15 44 18.5**	**-0.8**
ELOV	**Elorza**	**37.93**	**4**	*e*P		**P**	**15 44 23.4**	**+0.4**
BRRC	**Barranca, Sant**	**38.01**	**357**	*e*P		**P**	**15 44 20.9**	**-2.7**
DBBC	**Dabeiba**	**38.11**	**353**	*e*P		**P**	**15 44 27.5**	**+2.9**
ROSB	**Rosrio**	**38.34**	**48**	*e*P		**P**	**15 44 25.9**	**-0.5**
PTAC	**Punta Ardita,**	**38.44**	**350**	*e*P		**P**	**15 44 30.1**	**+2.9**
ZARC	**Zaragoza, Cauc**	**38.46**	**355**	*e*P		**P**	**15 44 27.9**	**+0.5**
UREC	**San Jos de Ur**	**38.77**	**354**	*e*P		**P**	**15 44 31.1**	**+1.1**
SMLC	**San Martn de**	**39.71**	**357**	*e*P		**P**	**15 44 37.2**	**-0.7**
SDV	**Santo Domingo**	**39.76**	**2**	IAMs_20	IAMs_20		16 03 15.9	
	comp=Z,3µm,18.0s							
SDV	**Santo Domingo**	**39.76**	**2**	*e*P		**P**	**15 44 38.6**	**+0.1**
SDV	**Santo Domingo**	**39.76**	**2**	*e*P		**P**	**15 44 37.0**	**-1.4**
CAPC	**Capurgana**	**39.84**	**351**	*e*P		P	15 44 29.2	-10
BAUV	**El Baul**	**39.96**	**6**	*e*P		**P**	**15 44 39.0**	**-1.0**
BCIP	**Isla Barro Col**	**40.75**	**348**	*e*P		**P**	**15 44 44.8**	**-1.6**
ARGC	**Ariguani, Magd**	**40.77**	**356**	*e*P		**P**	**15 44 45.8**	**-0.9**
SJCC	**San Jacinto, C**	**40.87**	**355**	P		**P**	**15 44 46.1**	**-1.4**
SJCC	**San Jacinto, C**	**40.87**	**355**	*e*P		**P**	**15 44 48.1**	**+0.6**
CRJC	**Cerrejon, Guaj**	**41.87**	**358**	*e*P		**P**	**15 44 54.0**	**-1.8**
RCBR	**Riachuelo**	**42.02**	**61**	P		**P**	**15 44 56.0**	**-1.1**
RCBR				pmax		pmax		
	comp=Z,76nm,1.3s							
RCBR				MLR		MLR		
	comp=Z,6µm,19.0s							
RCBR	**Riachuelo**	**42.02**	**61**	P		**P**	**15 44 56.0**	**-1.1**
RCBR				IAmb		IAmb	15 44 58.2	
	comp=Z,76nm,1.3s							
RCBR	**Riachuelo**	**42.02**	**61**	*e*P		**P**	**15 44 56.9**	**-0.2**
TRN	**Trinidad (W)**	**42.68**	**15**	*e*P		**P**	**15 44 58.2**	**-4.1**
JTS	**Las Juntas de**	**43.02**	**341**	P		**P**	**15 45 07.5**	**+2.5**
	comp=Z,1.5nm,0.4s,baz=210,slow=20,SNR=4.5							
HATO	**Hato, Curacao**	**43.10**	**4**	IAMs_20	IAMs_20		16 05 00.6	
	comp=Z,2µm,19.0s							
TOSP	**Speyside**	**43.51**	**16**	P		**P**	**15 45 09.0**	**+0.1**
GRGR	**Grenville**	**44.06**	**14**	*e*P		**P**	**15 45 12.4**	**-1.0**
GRGR	**Grenville**	**44.06**	**14**	IAMs_20	IAMs_20		16 06 57.0	
	comp=Z,2µm,20.0s							
GCMP	**Grenada, Carri**	**44.46**	**15**	*e*P		**P**	**15 45 12.8**	**-3.7**
SVB	**Belmont**	**45.26**	**15**	*e*P		**P**	**15 45 19.9**	**-3.0**
SVB	**Belmont**	**45.26**	**15**	P		**P**	**15 45 21.1**	**-1.8**
BBGH	**Gun Hill**	**45.52**	**17**	IAMs_20	IAMs_20		16 07 04.7	
	comp=Z,2µm,22.0s							
MCLT	**Moule a Chique**	**45.75**	**15**	*e*P		P	15 45 21.5	-5.4
MCLT	**Moule a Chique**	**45.75**	**15**	P		**P**	**15 45 25.8**	**-1.0**
SLBI	**Saint Lucia, B**	**46.04**	**15**	*e*P		**P**	**15 45 26.1**	**-3.0**
MPOM	**Morne Pois Mar**	**46.48**	**15**	*e*P		**P**	**15 45 29.8**	**-2.8**
MPOM	**Morne Pois Mar**	**46.48**	**15**	P		**P**	**15 45 31.5**	**-1.0**
BIM	**Bigot**	**46.50**	**14**	*e*P		**P**	**15 45 30.0**	**-2.8**
BIM	**Bigot**	**46.50**	**14**	P		**P**	**15 45 31.4**	**-1.4**
FDF	**Fort de France**	**46.69**	**14**	P		**P**	**15 45 32.7**	**-1.6**
FDF				pmax		pmax		
	comp=Z,69nm,0.9s							
FDF				MLR		MLR		
	comp=Z,2µm,20.0s							
FDF	**Fort de France**	**46.69**	**14**	*e*P		**P**	**15 45 31.0**	**-3.3**
FDF	**Fort de France**	**46.69**	**14**	P		**P**	**15 45 32.7**	**-1.6**
FDF				IAMs_20	IAMs_20		16 06 16.7	
	comp=Z,2µm,20.0s							
ILAM	**Ilet Lapin Mar**	**46.79**	**15**	*e*P		**P**	**15 45 32.5**	**-2.6**
ILAM	**Ilet Lapin Mar**	**46.79**	**15**	P		**P**	**15 45 33.6**	**-1.4**
SVN	**Savane Anatole**	**46.80**	**14**	IAMs_20	IAMs_20		16 08 51.4	
	comp=Z,2µm,20.0s							
TGUH	**Tegucigalpa,Un**	**47.27**	**339**	*e*P		**P**	**15 45 40.4**	**+1.5**
DSLB	**Salisbury**	**47.32**	**14**	*e*P		**P**	**15 45 35.5**	**-3.7**
TDBA	**Terre de Bas,**	**47.68**	**13**	*e*P		**P**	**15 45 39.3**	**-2.6**
CBE	**Ff, Capester**	**47.90**	**13**	*e*P		**P**	**15 45 45.0**	**+1.3**
MLPR	**Magueyes Islan**	**48.98**	**6**	P		**P**	**15 45 51.8**	**-0.2**
CRPR	**Cabo Rojo, PR**	**49.02**	**6**	P		**P**	**15 45 51.8**	**-0.4**
CDVI	**St. Croix**	**49.02**	**9**	P		**P**	**15 45 51.8**	**-0.4**
SEUS	**St. Eustatius**	**49.04**	**11**	IAMs_20	IAMs_20		16 09 46.8	
	comp=Z,2µm,21.0s							
OBIP	**Obispado Ponce**	**49.10**	**7**	P		**P**	**15 45 51.2**	**-1.6**
PDPR	**Patillas Dam,**	**49.13**	**7**	P		**P**	**15 45 52.3**	**-0.8**
BANI	**BANI**	**49.21**	**2**	P		**P**	**15 45 54.9**	**+1.0**
SJG	**San Juan**	**49.21**	**7**	P		**P**	**15 45 52.7**	**-1.0**
SJG				pmax		pmax		
	comp=Z,131nm,1.0s							
SJG				MLR		MLR		
	comp=Z,900nm,19.0s							
SJG	**San Juan**	**49.21**	**7**	P		**P**	**15 45 52.7**	**-1.0**
SJG	**San Juan**	**49.21**	**7**	P	*e*P	**P**	**15 45 53.3**	**-0.4**
MTP	**Monte Pirata**	**49.27**	**8**	P		**P**	**15 45 53.0**	**-1.1**
MTP				IAmb		IAmb	15 45 54.7	
	comp=Z,68nm,1.1s							
HUMP	**Col San Antoni**	**49.28**	**8**	P		**P**	**15 45 51.8**	**-2.4**
HUMP				IAmb		IAmb	15 45 54.4	
	comp=Z,49nm,1.1s							
SDD	**Santo Domingo**	**49.29**	**2**	P		**P**	**15 45 53.8**	**-0.5**
AOPR	**Arecibo Observ**	**49.38**	**6**	P		**P**	**15 45 54.0**	**-1.0**
CBYP	**Canovanas**	**49.40**	**7**	P		**P**	**15 45 54.3**	**-1.0**
GCPR	**Guaynabo City**	**49.42**	**7**	P		**P**	**15 45 54.0**	**-1.2**
ANWB	**Willy Bob**	**49.42**	**13**	P		**P**	**15 45 53.3**	**-2.0**
ANWB				IAMs_20	IAMs_20		16 09 30.0	
	comp=Z,2µm,20.0s							
CUPR	**Culebra, Puert**	**49.51**	**8**	P		**P**	**15 45 54.5**	**-1.5**
CUPR				IAmb		IAmb	15 45 56.1	
	comp=Z,25nm,0.8s							
SMRT	**St. Maarten**	**49.57**	**11**	P		**P**	**15 45 54.7**	**-1.7**
SMRT				IAMs_20	IAMs_20		16 07 30.9	
	comp=Z,2µm,21.0s							
STVI	**Saint Thomas**	**49.59**	**9**	P		**P**	**15 45 55.3**	**-1.3**
STVI				IAmb		IAmb	15 45 57.1	
	comp=Z,31nm,0.9s							
DR12	**Loma Pena Alta**	**49.64**	**3**	P		**P**	**15 45 56.1**	**-0.9**
ABVI	**Anegada Island**	**50.05**	**9**	P		**P**	**15 45 58.9**

comp=Z,1µm,29.1s,baz=130
VNDA Vanda 66.99 191 P **P** **15 47 59.7 +2.2**
comp=Z,4.8nm,1.0s,baz=140,slow=4.6,SNR=18
VNDA LR LR 16 14 57.4
comp=Z,277nm,18.2s,baz=130,slow=34
VNDA Vanda 66.99 191 P **P** **15 47 58.0 +0.5**
VNDA IAmb IAmb 15 48 10.5
comp=Z,39nm,1.4s
Z41A Richland Creek 66.99 341 P **P** **15 47 59.9 +1.9**
baz=161
W50A Signal Mountai 67.14 348 P **P** **15 47 58.7 -0.3**
V55A Taylorsville 67.16 352 P **P** **15 47 58.7 -0.3**
V55A IAmb IAmb 15 48 00.5
comp=Z,40nm,0.9s
V53A Saluda 67.19 350 P **P** **15 47 58.5 -0.9**
V53A IAmb IAmb 15 48 00.6
comp=Z,33nm,0.9s
CPCT Cooper Cave 67.25 349 P **P** **15 47 59.3 -0.3**
CPCT IAmb IAmb 15 48 01.0
comp=Z,40nm,1.0s
WHTX Lake Whitney, 67.26 337 P **P** **15 47 58.9 -0.9**
WHTX IAmb IAmb 15 48 13.3
comp=Z,69nm,1.4s
WHTX Lake Whitney, 67.26 337 P **P** **15 48 01.3 +1.6**
baz=156
SWET Sewanee 67.27 348 P **P** **15 47 59.1 -0.7**
TX31 Lajitas Ar. Si 67.29 330 P **P** **15 48 00.8 +0.7**
TX32 Lajitas Array 67.29 330 P **P** **15 48 00.4 +0.3**
TXAR Lajitas Array 67.29 330 P **P** **15 48 01.7 +1.6**
comp=Z,3.1nm,0.8s,baz=152,slow=7.9,SNR=42
TXAR LR LR 16 13 09.5
comp=Z,1µm,18.6s,baz=0.0,slow=32
TXAR PKPPKP P'P'df 16 16 33.5 +13
comp=Z,2.2nm,1.2s,baz=294,slow=1.2,SNR=7.7
TXAR Lajitas Array 67.29 330 P **P** **15 48 00.8 +0.7**
OXF Oxford 67.31 344 P **P** **15 48 00.0 0.0**
OXF pmax pmax
comp=Z,93nm,0.9s
OXF Oxford 67.31 344 P **P** **15 47 60.0 0.0**
OXF Oxford 67.31 344 P **P** **15 48 00.7 +0.7**
baz=164,SNR=9.0
U59A Littleton 67.31 355 P **P** **15 48 00.6 +0.6**
U59A IAmb IAmb 15 48 01.9
comp=Z,49nm,1.1s
TKL Tuckaleechee C 67.33 349 P **P** **15 48 00.2 +0.1**
TKL pmax pmax
comp=Z,39nm,0.9s
TKL Tuckaleechee C 67.33 349 P **P** **15 48 00.2 +0.1**
TKL IAmb IAmb 15 48 01.2
comp=Z,39nm,0.9s
PLAL Pickwick Lake 67.47 346 P **P** **15 48 01.1 +0.1**
PLAL IAmb IAmb 15 48 02.1
comp=Z,30nm,1.0s
V52A Sevierville 67.48 350 P **P** **15 48 00.9 -0.1**
V52A IAmb IAmb 15 48 02.1
comp=Z,44nm,0.9s
U56A King 67.55 353 P **P** **15 48 01.7 +0.2**
U56A IAmb IAmb 15 48 03.2
comp=Z,28nm,0.8s
V51A Loudon 67.56 349 P **P** **15 48 01.8 +0.2**
V51A IAmb IAmb 15 48 03.3
comp=Z,34nm,0.9s
U54A Nelsons Funny 67.90 351 P **P** **15 48 04.1 +0.4**
V48A Smith Brothers 67.94 347 P **P** **15 48 03.6 -0.4**
T57A Hurt 68.08 354 P **P** **15 48 05.0 +0.2**
X40A Basin Creek Fa 68.16 341 P **P** **15 48 05.3 0.0**
X40A Basin Creek Fa 68.16 341 P **P** **15 48 06.0 +0.7**
baz=161
TZTN Tazewell 68.16 350 P **P** **15 48 05.6 +0.2**
TZTN IAmb IAmb 15 48 06.5
comp=Z,30nm,1.1s
TZTN Tazewell 68.16 350 P **P** **15 48 05.8 +0.4**
baz=169
CLTN Cedars of Leba 68.19 347 P **P** **15 48 05.8 +0.3**
CLTN IAmb IAmb 15 48 07.0
comp=Z,38nm,0.9s
TBI Tubuai 68.20 255 *e*S S 15 57 17.7 +13
comp=Z,634nm,25.0s
TBI Tubuai 68.20 255 *e*LR LR 16 08 48.0
comp=Z,2µm,25.8s,baz=114
TBI Tubuai 68.20 255 *e*T T 17 02 06.7
comp=Z,18nm,0.3s
BLA Blacksburg 68.41 353 P **P** **15 48 07.3 +0.4**
BLA pmax pmax
comp=Z,38nm,1.3s
BLA Blacksburg 68.41 353 P **P** **15 48 07.3 +0.4**
BLA IAmb IAmb 15 48 10.3
comp=Z,38nm,1.2s
BLA Blacksburg 68.41 353 P **P** **15 48 07.9 +1.0**
baz=172
MIAR Mount Ida 68.42 341 P **P** **15 48 07.4 +0.5**
MIAR pmax pmax
comp=Z,41nm,1.5s
MIAR Mount Ida 68.42 341 P **P** **15 48 07.4 +0.5**
MIAR IAmb IAmb 15 48 09.5
comp=Z,41nm,1.4s
MIAR Mount Ida 68.42 341 P **P** **15 48 08.0 +1.0**
baz=160,SNR=8.7
Z35A Perchaven, San 68.42 337 P **P** **15 48 07.8 +0.8**
U49A Red Boiling Sp 68.50 348 P **P** **15 48 07.9 +0.5**
U49A IAmb IAmb 15 48 08.6
comp=Z,30nm,1.1s
SYO Syowa Base 68.52 159‖ *e*P **P** **15 48 05.8 -1.4**
SYO Syowa Base 68.52 159‖ *i*X **P** **15 48 07.4 +0.2**
SYO Syowa Base 68.52 159‖ *e*sP sP 15 48 18.4 -0.3
WVT Waverly 68.52 346 P **P** **15 48 07.6 0.0**
WVT pmax pmax
comp=Z,69nm,1.0s
WVT Waverly 68.52 346 P **P** **15 48 07.6 0.0**
WVT Waverly 68.52 346 P **P** **15 48 08.3 +0.7**
baz=165
ABTX Abilene, Hawle 68.61 335 P **P** **15 48 07.9 -0.3**
ABTX IAmb IAmb 15 48 21.8
comp=Z,51nm,1.3s
ABTX Abilene, Hawle 68.61 335 P **P** **15 48 09.8 +1.6**
baz=155,SNR=6.8
W41B Gary Mavity, V 68.65 342 P **P** **15 48 09.2 +0.9**
baz=161,SNR=7.6
WHAR Wooly Hollow 68.77 342 P **P** **15 48 09.2 +0.1**
WHAR IAmb IAmb 15 48 10.8
comp=Z,22nm,1.0s
S57A Dark Hollow, R 68.81 354 P **P** **15 48 09.6 +0.2**
S57A IAmb IAmb 15 48 11.1
comp=Z,32nm,0.9s
T50A Nancy 68.83 349 P **P** **15 48 09.4 -0.1**
R58B Mineral 68.92 355 P **P** **15 48 11.1 +1.1**
X37A Clayton 68.98 339 P **P** **15 48 10.8 +0.3**
X37A IAmb IAmb 15 48 37.0
comp=Z,37nm,1.5s
W39A Magazine 69.08 341 P **P** **15 48 12.1 +1.0**
W39A Magazine 69.08 341 P **P** **15 48 12.7 +1.6**
baz=160,SNR=26
S54A Dingess, Beckl 69.09 352 P **P** **15 48 11.1 -0.1**
S54A IAmb IAmb 15 48 12.3
comp=Z,31nm,0.9s
CBN Corbin Frederi 69.12 355 P **P** **15 48 12.8 +1.6**
baz=175
T47A Sharon Grove 69.21 347 P **P** **15 48 11.9 +0.1**
LCAR Lake Charles 69.22 343 P **P** **15 48 11.9 +0.1**
LCAR IAmb IAmb 15 48 13.7
comp=Z,37nm,0.8s
FCAR Ozark Folk Cen 69.29 342 P **P** **15 48 12.6 +0.2**
MEH Mehetia 69.44 261 *e*T T 17 03 45.0
comp=Z,39nm,0.2s
R55A Marlinton 69.44 353 P **P** **15 48 14.0 +0.7**
R55A IAmb IAmb 15 48 15.3
comp=Z,43nm,1.0s
PBMO Poplar Bluff 69.72 344 P **P** **15 48 15.2 +0.3**
PBMO IAmb IAmb 15 48 16.4
comp=Z,34nm,0.8s
X34A Smith Ranch, M 69.77 337 P **P** **15 48 15.5 +0.1**
X34A IAmb IAmb 15 48 17.4
comp=Z,30nm,0.9s
U40A Yellville 69.92 342 P **P** **15 48 16.5 +0.2**
U40A IAmb IAmb 15 48 18.4
comp=Z,32nm,0.8s
U40A Yellville 69.92 342 P **P** **15 48 17.0 +0.7**
baz=161,SNR=11
R50A Paris 69.98 350 P **P** **15 48 16.5 -0.1**
R50A IAmb IAmb 15 48 17.6
comp=Z,35nm,1.2s
MNTX Cornudas Mount 70.07 330 P **P** **15 48 17.1 -0.2**
MNTX IAMs_20 IAMs_20 16 14 28.8
comp=Z,1µm,20.0s
MNTX Cornudas Mount 70.07 330 P **P** **15 48 17.6 +0.3**
baz=150,SNR=20
T42A Van Buren 70.11 344 P **P** **15 48 16.9 -0.5**
R49A Shelbyville 70.13 349 P **P** **15 48 16.7 -0.8**
R49A IAmb IAmb 15 48 18.3
comp=Z,30nm,1.2s
HHAR Hobbs 70.15 341 P **P** **15 48 17.8 +0.2**
HHAR IAmb IAmb 15 48 19.7
comp=Z,31nm,0.8s
Q54A Coxs Mills 70.21 353 P **P** **15 48 17.8 -0.1**
WMOK Wichita Mounta 70.22 337 P **P** **15 48 17.8 -0.4**
WMOK pmax pmax
comp=Z,23nm,1.3s
WMOK MLR MLR
comp=Z,300nm,19.0s
WMOK Wichita Mounta 70.22 337 P **P** **15 48 17.8 -0.4**
WMOK Wichita Mounta 70.22 337 P **P** **15 48 18.4 +0.3**
baz=156,SNR=6.3
FNO Franklin 70.23 338 P **P** **15 48 18.2 0.0**
FNO IAmb IAmb 15 48 20.6
comp=Z,74nm,1.5s
WCI Wyandotte Cave 70.26 348 P **P** **15 48 17.3 -1.0**
WCI pmax pmax
comp=Z,31nm,1.0s
WCI Wyandotte Cave 70.26 348 P **P** **15 48 17.3 -1.0**
WCI IAmb IAmb 15 48 19.0
comp=Z,31nm,0.9s
WCI Wyandotte Cave 70.26 348 P **P** **15 48 18.4 +0.1**
baz=167
USIN University of 70.26 347 P **P** **15 48 17.9 -0.4**
S44A Carbondale 70.33 345 P **P** **15 48 18.2 -0.5**
TUL1 Leonard 70.33 340 P **P** **15 48 19.5 +0.7**
baz=158
SIUC Southern Illin 70.34 345 P **P** **15 48 18.5 -0.2**
Q52A Bidwell 70.36 351 P **P** **15 48 18.3 -0.6**
Q52A IAmb IAmb 15 48 20.6
comp=Z,41nm,1.0s
U38A Gravette 70.42 341 P **P** **15 48 18.9 -0.4**
P57A Homestead Farm 70.44 355 P **P** **15 48 19.7 +0.4**
P57A IAmb IAmb 15 48 21.8
comp=Z,49nm,1.1s
MGMO Mountain Grove 70.52 343 P **P** **15 48 19.9 0.0**
MGMO IAmb IAmb 15 48 21.5
comp=Z,30nm,1.1s
Q51A Peebles 70.57 351 P **P** **15 48 20.1 0.0**
Q51A IAmb IAmb 15 48 21.9
comp=Z,39nm,1.0s
P60A Greenville 70.62 357 P **P** **15 48 20.7 +0.3**
P60A IAmb IAmb 15 48 22.6
comp=Z,53nm,1.2s
P60A Greenville 70.62 357 P **P** **15 48 21.9 +1.5**
baz=176
TIAR Tiarei 70.67 261 *e*T T 17 05 17.3
comp=Z,4.6nm,0.3s
WUPA West Chester U 70.74 357 P **P** **15 48 21.7 +0.6**
WUPA IAmb IAmb 15 48 24.2
comp=Z,33nm,1.2s
OK029 Liberty Lake 70.75 338 P **P** **15 48 21.3 0.0**
OK029 IAmb IAmb 15 48 37.0
comp=Z,55nm,1.2s
P53A Whipple 70.77 352 P **P** **15 48 21.4 +0.1**
P53A IAmb IAmb 15 48 22.7
comp=Z,34nm,1.1s
MCWV Mont Chateau 70.77 353 P **P** **15 48 22.3 +0.9**
baz=173
MVL Millersville 70.84 356 P **P** **15 48 22.4 +0.6**
MVL IAmb IAmb 15 48 24.2
comp=Z,60nm,1.3s
PPT2 Papeete2 70.85 261 *e*S S 15 57 49.9 +14
comp=Z,806nm,27.5s
PPT2 Papeete2 70.85 261 *e*LR LR 16 10 00.6
comp=Z,1µm,24.2s,baz=118
PPT Papeete 70.86 261 LR LR 16 11 09.8
comp=Z,679nm,20.3s,baz=136,slow=29
FVM French Village 70.87 345 P **P** **15 48 22.3 +0.3**
FVM pmax pmax
comp=Z,49nm,1.0s
FVM French Village 70.87 345 P **P** **15 48 22.3 +0.3**
P51A Williamsport 70.98 351 P **P** **15 48 22.6 0.0**
P51A IAmb IAmb 15 48 23.6
comp=Z,36nm,0.8s
MSTX Muleshoe 70.98 333 P **P** **15 48 23.3 +0.4**
MSTX IAmb IAmb 15 48 25.3
comp=Z,44nm,0.9s
MSTX Muleshoe 70.98 333 P **P** **15 48 23.9 +1.0**
baz=152,SNR=19
P52A Corning 71.00 352 P **P** **15 48 22.8 0.0**
P52A Corning 71.00 352 P **P** **15 48 23.2 +0.4**
baz=171,SNR=7.4
OLIL Olney 71.09 347 P **P** **15 48 23.0 -0.3**
CCM Cathedral Cave 71.13 344 P **P** **15 48 23.7 +0.1**
CCM pmax pmax
comp=Z,52nm,0.9s
CCM Cathedral Cave 71.13 344 P **P** **15 48 23.7 +0.1**
CCM Cathedral Cave 71.13 344 P **P** **15 48 24.6 +1.0**
baz=162
BLO Bloomington 71.22 348 P **P** **15 48 23.8 -0.3**
BLO pmax pmax
comp=Z,34nm,1.1s
BLO Bloomington 71.22 348 P **P** **15 48 23.8 -0.3**
BLO IAmb IAmb 15 48 24.9
comp=Z,34nm,1.1s
O56A Blue Knob Stat 71.26 355 P **P** **15 48 25.8 +1.4**
baz=174
P49A Miami Univ. Ec 71.27 350 P **P** **15 48 23.9 -0.5**
P49A IAmb IAmb 15 48 25.2
comp=Z,28nm,0.9s
P49A Miami Univ. Ec 71.27 350 P **P** **15 48 24.7 +0.3**
baz=168
S39A Bolivar 71.30 342 P **P** **15 48 23.8 -0.9**
S39A IAmb IAmb 15 48 26.9
comp=Z,48nm,1.1s
P48A Milroy 71.31 349 P **P** **15 48 23.7 -0.9**
P48A IAmb IAmb 15 48 25.3
comp=Z,39nm,0.9s
AMTX Amarillo 71.38 334 P **P** **15 48 25.4 +0.1**
AMTX IAmb IAmb 15 48 41.5
comp=Z,51nm,1.2s
AMTX Amarillo 71.38 334 P **P** **15 48 26.7 +1.4**
baz=153
Q44A Meyer Farm, Va 71.44 346 P **P** **15 48 25.1 -0.4**
Q44A IAmb IAmb 15 48 40.4
comp=Z,23nm,0.7s
O52A Adamsville 71.44 352 P **P** **15 48 25.4 0.0**
O52A IAmb IAmb 15 48 26.6
comp=Z,31nm,0.9s
T35A Sooner Cattle 71.48 339 P **P** **15 48 25.9 +0.1**
T35A IAmb IAmb 15 48 28.3
comp=Z,52nm,1.3s
O53A New Philadelph 71.50 352 P **P** **15 48 25.7 -0.1**
O53A IAmb IAmb 15 48 27.0
comp=Z,35nm,1.2s
O53A New Philadelph 71.50 352 P **P** **15 48 27.9 +2.1**
baz=172
BLOK Blackwell 71.56 339 P **P** **15 48 26.3 +0.1**
BLOK IAmb IAmb 15 48 28.1
comp=Z,25nm,0.9s
CROK Carrier 71.56 338 P **P** **15 48 26.3 0.0**
CROK IAmb IAmb 15 48 27.9
comp=Z,20nm,0.7s
SSPA Standing Stone 71.58 355 P **P** **15 48 26.4 +0.2**
SSPA IAmb IAmb 15 48 37.9
comp=Z,32nm,1.1s
SSPA Standing Stone 71.58 355 P **P** **15 48 27.5 +1.3**
baz=174
R40A Maddies Statio 71.60 343 P **P** **15 48 26.7 +0.3**
ACSO Alum Creek Sta 71.70 351 P **P** **15 48 26.9 0.0**
ACSO IAmb IAmb 15 48 28.2
comp=Z,48nm,0.8s
ACSO Alum Creek Sta 71.70 351 P **P** **15 48 27.8 +0.8**
baz=170,SNR=8.5
N59A State Game Lan 71.73 357 P **P** **15 48 29.0 +1.8**
baz=176,SNR=6.9
PAL Palisades 71.75 358 P **P** **15 48 28.5 +1.3**
baz=178
P46A Rosedale 71.78 348 P **P** **15 48 27.1 -0.3**
P46A IAmb IAmb 15 48 28.0
comp=Z,37nm,0.9s
U32A Winter Ranch, 71.78 337 P **P** **15 48 27.5 -0.1**
U32A IAmb IAmb 15 48 29.6
comp=Z,31nm,1.1s
121A Cookes Peak, D 71.83 329 P **P** **15 48 30.2 +2.0**
baz=148,SNR=11
ODNJ Ogdensburg 71.85 358 P **P** **15 48 27.4 -0.4**
ODNJ IAmb IAmb 15 48 30.1
comp=Z,38nm,1.2s
O49A Covington 71.85 350 P **P** **15 48 27.2 -0.7**
O49A IAmb IAmb 15 48 28.9
comp=Z,47nm,1.0s
M66A Nantucket 72.00 1 P **P** **15 48 31.5 +2.8**
baz=182
N54A Moraine State 72.08 354 P **P** **15 48 28.8 -0.4**
N54A IAmb IAmb 15 48 30.8
comp=Z,44nm,1.1s
N54A Moraine State 72.08 354 P **P** **15 48 29.9 +0.6**
baz=173,SNR=6.0
KS20 Mayfield South 72.09 339 P **P** **15 48 29.0 -0.4**
KS20 IAmb IAmb 15 48 43.5
comp=Z,60nm,1.2s
KAN08 Anthony NE Sta 72.22 338 P **P** **15 48 30.1 -0.1**
M57A Sunshine Farm, 72.22 356 P **P** **15 48 30.4 +0.3**
M57A IAmb IAmb 15 48 32.2
comp=Z,41nm,1.1s
KAN16 Harper SW Stat 72.25 338 P **P** **15 48 30.0 -0.4**
KAN16 IAmb IAmb 15 48 46.6
comp=Z,57nm,1.1s
P43A Skaggs, Pawnee 72.26 346 P **P** **15 48 29.7 -0.6**
P43A IAmb IAmb 15 48 31.5
comp=Z,46nm,0.8s
M55A Ridgway 72.47 355 P **P** **15 48 31.6 0.0**
M55A IAmb IAmb 15 48 33.3
comp=Z,41nm,1.0s
SFIN Lafayette 72.50 348 P **P** **15 48 30.3 -1.4**
SFIN Lafayette 72.50 348 P **P** **15 48 31.6 -0.1**
baz=166
O44A Mansfield 72.53 347 P **P** **15 48 31.2 -0.7**
O44A IAmb IAmb 15 48 32.6
comp=Z,27nm,0.8s
N49A Columbus Grove 72.55 350 P **P** **15 48 32.2 +0.1**
M54A Oil Creek Stat 72.59 354 P **P** **15 48 32.9 +0.6**
baz=173,SNR=5.4
M53A WI Miller and 72.62 353 P **P** **15 48 32.5 0.0**
M53A IAmb IAmb 15 48 33.8
comp=Z,41nm,0.9s
M53A WI Miller and 72.62 353 P **P** **15 48 33.3 +0.8**
baz=172
BNM Barren Site 72.71 330 P **P** **15 48 32.7 -0.8**
P40A Paris 72.72 344 P **P** **15 48 33.2 +0.1**
N47A Urbana 72.74 349 P **P** **15 48 32.7 -0.5**
N47A IAmb IAmb 15 48 33.7
comp=Z,36nm,0.8s
M52A Chesterland 72.79 353 P **P** **15 48 33.4 -0.1**
M52A IAmb IAmb 15 48 34.8
comp=Z,45nm,0.9s
M50A Fremont 72.86 351 P **P** **15 48 33.5 -0.3**
M50A IAmb IAmb 15 48 35.0
comp=Z,49nm,0.9s
L59A Walton 72.97 358 P **P** **15 48 35.5 +0.9**
L59A IAmb IAmb 15 48 36.9
comp=Z,50nm,1.1s
BINY Binghamton 73.02 357 P **P** **15 48 35.2 +0.3**
BINY IAmb IAmb 15 48 36.7
comp=Z,39nm,1.2s
BINY Binghamton 73.02 357 P **P** **15 48 35.9 +1.0**
baz=176
TUC Tucson 73.04 326 IAMs_20 IAMs_20 16 16 15.5
comp=Z,744nm,20.0s
TUC Tucson 73.04 326 P **P** **15 48 37.0 +1.7**
baz=146
L56A Greenwood 73.05 356 P **P** **15 48 36.0 +0.9**
L56A IAmb IAmb 15 48 37.0
comp=Z,63nm,1.1s
HDIL Hopedale 73.09 346 P **P** **15 48 34.7 -0.6**
HDIL IAmb IAmb 15 48 36.4
comp=Z,28nm,0.8s
HDIL Hopedale 73.09 346 P **P** **15 48 36.0 +0.7**
baz=164
L61B Northampton 73.17 359 P **P** **15 48 37.2 +1.5**
baz=179
P38A Dawn 73.18 343 P **P** **15 48 35.4 -0.5**
P38A IAmb IAmb 15 48 37.6
comp=Z,30nm,0.8s
ERPA Erie 73.22 354 P **P** **15 48 36.7 +0.7**
baz=173
HRV Adam Dziewonsk 73.23 0 P **P** **15 48 37.7 +1.7**
baz=180
ANMO Albuquerque 73.32 331 *c*eP **P** **15 48 39.1 +2.1**
ANMO pmax pmax
comp=Z,26nm,1.5s
ANMO Albuquerque 73.32 331 IAMs_20 IAMs_20 16 16 26.7
comp=Z,948nm,20.0s
ANMO Albuquerque 73.32 331 P **P** **15 48 38.7 +1.7**
baz=150
K62A Royalston 73.39 360 P **P** **15 48 38.6 +1.7**
baz=180
K61A Williamstown 73.40 359 P **P** **15 48 38.8 +1.7**
baz=179
KSU1 Kansas State U 73.53 340 P **P** **15 48 38.6 +0.7**
baz=158
N41A Harden Midland 73.57 345 P **P** **15 48 38.0 0.0**
L48A N Adams 73.59 350 P **P** **15 48 37.4 -0.8**
L48A IAmb IAmb 15 48 39.0
comp=Z,32nm,0.8s
M44A Midewin, Midew 73.65 347 P **P** **15 48 37.1 -1.4**
M44A IAmb IAmb 15 48 39.4
comp=Z,48nm,0.9s
MMNY Mt. Morris Dam 73.66 355 P **P** **15 48 37.8 -0.8**
LIC Lamto 73.70 72 *e*P **P** **15 48 38.7 -0.8**
comp=Z,309nm,1.5s
214A Organ Pipe Nat 73.74 325 P **P** **15 48 41.2 +1.9**
baz=144
AAM Ann Arbor 73.83 351 P **P** **15 48 40.1 +0.6**
baz=169
TIC Toumodi 73.95 72 *e*P **P** **15 48 40.6 -0.4**
KIC Kosan Boka 74.02 72 *e*P **P** **15 48 40.5 -0.9**
comp=Z,270nm,1.3s
DBIC Dimbokro 74.10 72 P **P** **15 48 41.9 +0.1**
comp=Z,56nm,0.8s,baz=232,slow=5.2,SNR=66
DBIC LR LR 16 18 30.1
comp=Z,2µm,20.3s,baz=233,slow=34
DBIC Dimbokro 74.10 72 P **P** **15 48 41.3 -0.5**
ACCN Adirondack Com 74.12 359 P **P** **15 48 41.5 +0.2**
ACCN IAmb IAmb 15 48 43.5
comp=Z,56nm,1.3s
N38A Joes South For 74.21 343 P **P** **15 48 41.5 -0.3**
N38A IAmb IAmb 15 48 43.2
comp=Z,45nm,0.8s
J59A Piesco 74.22 358 P **P** **15 48 42.0 +0.2**
J59A IAmb IAmb 15 48 44.4
comp=Z,42nm,1.3s
J57A Williamstown 74.23 357 P **P** **15 48 42.3 +0.5**
J57A IAmb IAmb 15 48 44.2
comp=Z,53nm,1.2s
CBKS Cedar Bluff 74.24 338 P **P** **15 48 42.6 +0.5**
CBKS pmax pmax
comp=Z,55nm,1.1s
CBKS MLR MLR
comp=Z,200nm,18.0s
CBKS Cedar Bluff 74.24 338 P **P** **15 48 42.6 +0.5**
CBKS IAmb IAmb 15 48 56.5
comp=Z,55nm,1.1s
CBKS Cedar Bluff 74.24 338 P **P** **15 48 43.6 +1.5**
baz=155
L44A Lake County Fo 74.39 348 P **P** **15 48 42.8 0.0**
L44A IAmb IAmb 15 48 43.9
comp=Z,54nm,0.9s
L44A Lake County Fo 74.39 348 P **P** **15 48 43.2 +0.4**
baz=166
T25A Trinidad 74.40 333 P **P** **15 48 45.6 +2.3**
baz=151,SNR=24
L42A Oliver, Polo 74.56 346 P **P** **15 48 43.8 0.0**
L42A IAmb IAmb 15 48 44.9
comp=Z,32nm,0.9s
I60A Shoreham 74.58 359 P **P** **15 48 45.4 +1.5**
baz=179
I62A Tamworth 74.59 0 P **P** **15 48 45.6 +1.6**
baz=180
NCB Newcomb 74.72 358 P **P** **15 48 45.1 +0.3**
NCB IAmb IAmb 15 48 46.4
comp=Z,38nm,1.2s
PECO Prince Edward 74.80 356 P **P** **15 48 45.5 +0.4**
W18A Petrified Fore 74.88 329 P **P** **15 48 46.1 0.0**
W18A IAmb IAmb 15 49 01.2
comp=Z,49nm,1.2s
W18A Petrified Fore 74.88 329 P **P** **15 48 48.3 +2.1**
baz=147
L40A Anamosa 74.94 345 P **P** **15 48 45.8 -0.3**
LBNH Lisbon 74.96 360 P **P** **15 48 47.9 +1.8**
baz=180
SCIA State Center 75.25 344 P **P** **15 48 48.4 +0.6**
baz=161
I49A Point Hope 75.33 352 P **P** **15 48 47.2 -1.1**
I49A IAmb IAmb 15 48 49.1

comp=Z,45nm,1.1s
SDCO Great Sand Dun 75.35 333 P **P** **15 48 50.1 +1.2**
SDCO IAMs_20 IAMs_20 16 18 29.5
comp=Z,680nm,19.0s
SDCO Great Sand Dun 75.35 333 P **P** **15 48 50.7 +1.8**
baz=151,SNR=24
LONY Lake Ozonia 75.38 358 P **P** **15 48 49.0 +0.5**
LONY IAmb IAmb 15 48 51.0
comp=Z,37nm,1.1s
LONY Lake Ozonia 75.38 358 P **P** **15 48 49.7 +1.2**
baz=178,SNR=6.7
KSCO Kaye Shedlock' 75.39 336 P **P** **15 48 50.7 +1.7**
baz=153
DELO Deloro Mine 75.42 356 P **P** **15 48 49.2 +0.4**
DELO IAmb IAmb 15 48 50.2
comp=Z,40nm,1.2s
JFWS Jewell Farm 75.55 346 P **P** **15 48 49.4 -0.1**
JFWS pmax pmax
comp=Z,42nm,1.0s
JFWS Jewell Farm 75.55 346 P **P** **15 48 49.4 -0.1**
JFWS IAmb IAmb 15 48 51.0
comp=Z,42nm,1.0s
JFWS Jewell Farm 75.55 346 P **P** **15 48 50.3 +0.8**
baz=164,SNR=5.6
FRNY Flat Rock 75.57 359 P **P** **15 48 49.8 +0.2**
FRNY IAmb IAmb 15 48 51.5
comp=Z,28nm,0.9s
GLA Glamis 75.63 324 P **P** **15 48 52.5 +2.2**
baz=143
SADO Sadowa 75.78 355 P **P** **15 48 50.8 0.0**
SADO IAmb IAmb 15 48 52.1
comp=Z,38nm,1.0s
S22A 4UR Ranch, Cre 75.88 332 P **P** **15 48 53.8 +1.9**
baz=150,SNR=14
MAW Mawson 75.92 164 P **P** **15 48 52.3 +0.9**
comp=Z,38nm,1.0s,baz=217,slow=6.7,SNR=57
MAW LR LR 16 21 09.9
comp=Z,2µm,21.9s,baz=226,slow=35
MAW Mawson 75.92 164 P **P** **15 48 52.0 +0.5**
G62A West of Eustis 75.95 1 P **P** **15 48 53.1 +1.3**
WUAZ Wupatki 75.96 328 P **P** **15 48 53.4 +1.1**
WUAZ Wupatki 75.96 328 P **P** **15 48 54.5 +2.2**
baz=146,SNR=12
IKP In-Ko-Pah, Jac 75.97 323 P **P** **15 48 54.6 +2.3**
baz=142
PKME Peaks-Kenny Pk 76.02 2 P **P** **15 48 53.7 +1.6**
baz=182
SWSC Sam W. Stewart 76.04 323 P **P** **15 48 54.9 +2.4**
baz=142
SUR Sutherland 76.10 119 P **P** **15 48 53.3 -0.1**
SUR IAmb IAmb 15 49 19.2
comp=Z,38nm,1.1s
MVCO Mesa Verde 76.11 331 P **P** **15 48 54.3 +1.2**
MVCO IAMs_20 IAMs_20 16 19 11.6
comp=Z,965nm,18.0s
MVCO Mesa Verde 76.11 331 P **P** **15 48 55.1 +1.9**
baz=148,SNR=12
BGNE Belgrade 76.11 340 P **P** **15 48 53.8 +1.0**
baz=157
I42A Draeger Farm, 76.23 347 P **P** **15 48 53.7 +0.3**
I42A IAmb IAmb 15 48 54.7
comp=Z,35nm,1.0s
BC3 Big Chuckawall 76.42 324 P **P** **15 48 57.0 +2.0**
baz=143,SNR=5.9
I40A Norwalk 76.56 346 P **P** **15 48 55.2 -0.1**
I40A IAmb IAmb 15 48 56.5
comp=Z,36nm,1.1s
H43A Windswept, Lux 76.58 348 P **P** **15 48 54.9 -0.5**
H43A IAmb IAmb 15 48 56.6
comp=Z,30nm,0.9s
F64A Sherman 76.65 3 P **P** **15 48 57.0 +1.3**
F64A IAmb IAmb 15 48 58.1
comp=Z,43nm,1.1s
IRM Iron Mountain 76.67 324 P **P** **15 48 58.5 +2.3**
baz=143,SNR=5.2
109C Camp Elliot, M 76.68 322 P **P** **15 48 58.3 +2.1**
baz=141
W13A Hualapai Mount 76.80 326 P **P** **15 48 56.8 -0.4**
LMN Caledonia Moun 76.84 5 P **P** **15 48 57.7 +0.9**
LMN IAmb IAmb 15 48 59.4
comp=Z,72nm,1.1s
NEE2 Needles Airpor 76.89 325 P **P** **15 48 59.2 +1.8**
baz=143
TPFO Pinon Flats 76.90 323 P **P** **15 48 59.9 +2.3**
baz=142
PFO Pinyon Flats O 76.91 323 IAMs_20 IAMs_20 16 16 00.9
comp=Z,725nm,21.0s
PFO Pinyon Flats O 76.91 323 P **P** **15 49 00.0 +2.4**
baz=142
OGNE Ogallala 76.92 337 P **P** **15 48 59.0 +1.5**
baz=154
BELC Belle Mtn. Jos 76.97 324 P **P** **15 49 00.1 +2.1**
baz=142
PV13 Radium Mtn., P 77.05 331 P **P** **15 48 58.2 -0.3**
PV13 IAmb IAmb 15 49 12.6
comp=Z,42nm,1.3s
PV15 Paradox Valley 77.06 331 P **P** **15 48 58.6 0.0**
PV12 Saucer Basin, 77.17 331 P **P** **15 48 59.3 +0.1**
ISCO Idaho Springs 77.18 334 P **P** **15 49 01.1 +1.8**
baz=151,SNR=14
PV17 East Wray Mesa 77.21 331 P **P** **15 49 00.1 +0.7**
PV07 Paradox Valley 77.21 331 P **P** **15 48 60.0 +0.6**
PV16 Nyswonger Mesa 77.21 331 P **P** **15 48 59.4 0.0**
PV19 Morning Glory 77.24 331 P **P** **15 48 59.3 -0.3**
MURC Murrieta 77.28 322 P **P** **15 49 01.8 +2.2**
baz=141
I37A Lemond, Waseca 77.29 344 P **P** **15 48 59.1 -0.3**
I37A IAmb IAmb 15 49 00.7
comp=Z,38nm,0.8s
PV14 Lion Creek, Pa 77.31 331 P **P** **15 48 59.9 0.0**
PV10 Paradox Valley 77.32 331 P **P** **15 48 59.6 -0.4**
PV23 Carpenter Ridg 77.37 331 P **P** **15 48 59.8 -0.5**
K31A O'Neill 77.41 340 P **P** **15 49 00.4 +0.3**
SCI2 San Clemente I 77.52 321 P **P** **15 49 03.3 +2.4**
baz=140
BBRC Big Bear Solar 77.65 323 P **P** **15 49 04.2 +2.2**
baz=142
CIS Catalina Islan 77.77 322 P **P** **15 49 04.1 +1.7**
baz=140
HEC Hector,Ludlow 77.80 324 P **P** **15 49 05.0 +2.4**
baz=142,SNR=10
G40A Rib Lake 77.80 347 P **P** **15 49 02.4 +0.2**
ECSD EROS Data Cent 77.83 342 P **P** **15 49 02.8 +0.3**
ECSD IAmb IAmb 15 49 04.0
comp=Z,42nm,0.9s
ECSD EROS Data Cent 77.83 342 P **P** **15 49 03.3 +0.9**
baz=158,SNR=28
D62A Allapoint, All 77.84 2 P **P** **15 49 03.3 +0.9**
D62A IAmb IAmb 15 49 04.5
comp=Z,49nm,0.9s
E46A Sault Ste Mari 77.91 351 P **P** **15 49 02.8 0.0**
BFSC Mount Baldy Ra 78.02 323 P **P** **15 49 05.9 +2.0**
baz=141
TUQ Turquoise Moun 78.07 324 P **P** **15 49 06.3 +2.2**
baz=142,SNR=8.4
RRX Edison Barstow 78.17 323 P **P** **15 49 07.0 +2.5**
baz=142
LMQ La Malbaie 78.28 1 P **P** **15 49 05.4 +0.6**
LMQ IAmb IAmb 15 49 07.3
comp=Z,88nm,1.4s
E43A Lone Tree Farm 78.31 349 P **P** **15 49 05.4 +0.4**
E43A IAmb IAmb 15 49 06.5
comp=Z,35nm,0.9s
DECC Green Verdugo 78.38 322 P **P** **15 49 07.4 +1.6**
baz=141
COWI Conover 78.40 348 P **P** **15 49 05.8 +0.2**
COWI IAmb IAmb 15 49 07.0
comp=Z,41nm,1.2s
GSC Goldstone, Bar 78.41 324 P **P** **15 49 08.1 +2.2**
baz=142,SNR=6.5
PHWY Pilot Hill 78.43 335 P **P** **15 49 06.5 +0.3**
O20A White River Ci 78.49 332 P **P** **15 49 08.3 +1.9**
baz=149,SNR=12
SRU San Rafael Swe 78.56 330 P **P** **15 49 07.4 +0.6**
SRU pmax pmax
comp=Z,20nm,1.0s
SRU San Rafael Swe 78.56 330 P **P** **15 49 07.4 +0.6**
SHOC Shoshone, Teco 78.61 325 P **P** **15 49 08.8 +1.8**
baz=142
EDW2 Edwards Air Fo 78.69 323 P **P** **15 49 09.1 +1.6**
baz=141,SNR=6.6
MSU Marysvale 78.79 329 P **P** **15 49 07.8 -0.3**
MSU Marysvale 78.79 329 P **P** **15 49 07.8 -0.3**
P17A Butcher Ranch, 78.96 330 P **P** **15 49 09.0 0.0**
P17A IAmb IAmb 15 49 23.6
comp=Z,38nm,1.2s

LRMC Laurel Mtn Rad 78.99 323 P **P** **15 49 11.2 +2.0**
baz=141,SNR=7.0
F36A Milaca 79.07 345 P **P** **15 49 09.1 -0.1**
F36A IAmb IAmb 15 49 10.2
comp=Z,25nm,0.9s
SUSD Miller 79.13 341 P **P** **15 49 10.3 +0.6**
baz=157
D41A Chassel 79.23 348 P **P** **15 49 10.0 0.0**
KOWA Kowa 79.28 66 LR LR 16 24 34.3
comp=Z,2µm,18.4s,baz=230,slow=36
KOWA Kowa 79.28 66 P **P** **15 49 10.7 -0.4**
KOWA IAmb IAmb 15 49 12.0
comp=Z,66nm,1.2s
ARVC Arvin 79.31 322 P **P** **15 49 13.0 +2.2**
baz=140
MPMC Manual Prospec 79.34 324 P **P** **15 49 13.0 +1.8**
baz=141,SNR=6.8
FURC Furnace Creek, 79.35 325 P **P** **15 49 13.0 +2.1**
baz=142
RWWY Rawlins 79.42 334 P **P** **15 49 11.9 +0.3**
RWWY IAmb IAmb 15 49 25.6
comp=Z,50nm,1.2s
TPNV Topopah Spring 79.43 325 P **P** **15 49 13.7 +2.2**
baz=142,SNR=9.3
ISA Isabella, Lake 79.54 323 P **P** **15 49 14.4 +2.3**
baz=141,SNR=9.0
PSUT Pine Spring 79.56 328 P **P** **15 49 13.1 +0.8**
PKM Mcpherson Peak 79.65 322 P **P** **15 49 15.3 +2.4**
baz=140,SNR=5.1
TSUM Tsumeb 79.85 106 P **P** **15 49 13.9 -0.5**
TSUM IAmb IAmb 15 49 16.3
comp=Z,65nm,1.2s
NLU North Lily Min 79.93 330 P **P** **15 49 14.2 -0.2**
CWC Cottonwood Cre 79.94 324 P **P** **15 49 16.4 +2.0**
baz=141
VES Vestal, Richgr 80.00 323 P **P** **15 49 16.5 +2.0**
baz=140
K22A Casper 80.00 335 P **P** **15 49 16.1 +1.6**
baz=150,SNR=11
GRAC Grapevine Rang 80.02 325 P **P** **15 49 17.0 +2.4**
baz=142,SNR=7.5
SMMC Simmler 80.07 322 P **P** **15 49 17.4 +2.4**
baz=140
SPR3 Spring Creek 3 80.16 328 P **P** **15 49 16.2 +0.5**
JLU Jordanelle 80.20 330 P **P** **15 49 16.3 +0.5**
R11A Troy Canyon, C 80.22 327 P **P** **15 49 18.3 +2.4**
baz=143,SNR=23
RSSD Black Hills 80.42 337 P **P** **15 49 16.8 0.0**
RSSD pmax pmax
comp=Z,13nm,1.0s
RSSD Black Hills 80.42 337 P **P** **15 49 16.8 0.0**
RSSD Black Hills 80.42 337 P **P** **15 49 18.0 +1.2**
baz=152
DUG Dugway, Tooele 80.45 329 P **P** **15 49 17.1 +0.1**
DUG pmax pmax
comp=Z,22nm,1.3s
DUG Dugway, Tooele 80.45 329 P **P** **15 49 17.1 +0.1**
DUG IAMs_20 IAMs_20 16 21 21.6
comp=Z,947nm,19.0s
DUG Dugway, Tooele 80.45 329 P **P** **15 49 18.8 +1.8**
baz=145,SNR=10.0
TIN Tinemaha, Big 80.49 324 P **P** **15 49 19.5 +2.2**
baz=141
TCUT Toone Canyon 80.61 331 P **P** **15 49 17.8 -0.2**
TCUT IAmb IAmb 15 49 32.6
comp=Z,38nm,1.4s
EYMN Ely 80.62 347 P **P** **15 49 17.7 +0.1**
EYMN Ely 80.62 347 P **P** **15 49 18.3 +0.7**
baz=163
TPH Tonopah 80.79 325 P **P** **15 49 19.6 +0.6**
TPH pmax pmax
comp=Z,58nm,1.0s
TPH Tonopah 80.79 325 P **P** **15 49 19.6 +0.6**
TPH IAmb IAmb 15 49 33.3
comp=Z,58nm,1.0s
HWUT Hardware Ranch 81.08 331 P **P** **15 49 20.4 0.0**
HWUT IAMs_20 IAMs_20 16 21 41.3
comp=Z,976nm,20.0s
BGU Big Grassy Mou 81.14 330 P **P** **15 49 21.3 +0.5**
BW06 Boulder Array 81.25 333 P **P** **15 49 21.3 0.0**
BW06 IAMs_20 IAMs_20 16 21 37.5
comp=Z,648nm,20.0s
BW06 Boulder Array 81.25 333 P **P** **15 49 22.4 +1.1**
baz=148,SNR=8.1
PD31 Pinedale Array 81.25 333 P **P** **15 49 21.3 -0.1**
PDAR Pinedale Array 81.25 333 P **P** **15 49 22.1 +0.8**
comp=Z,1.9nm,0.8s,baz=141,slow=5.0,SNR=18
PDAR LR LR 16 22 09.5
comp=Z,536nm,20.0s,baz=150,slow=33
PDAR Pinedale Array 81.25 333 P **P** **15 49 21.2 -0.1**
BOSA Boshof 81.28 118 P **P** **15 49 21.9 +0.1**
comp=Z,26nm,1.0s,baz=235,slow=5.8,SNR=21
BOSA LR LR 16 23 08.3
comp=Z,1µm,18.4s,baz=244,slow=34
BOSA Boshof 81.28 118 P **P** **15 49 22.0 +0.1**
BOSA Boshof 81.28 118 P **P** **15 49 21.6 -0.3**
BOSA IAmb IAmb 15 49 23.2
comp=Z,56nm,1.2s
B35A Bob, Littlefor 81.48 345 P **P** **15 49 22.1 0.0**
B35A IAmb IAmb 15 49 23.2
comp=Z,29nm,0.8s
E28A Huff 81.58 340 P **P** **15 49 23.1 +0.4**
NVAR Mina Array Bea 81.60 325 P **P** **15 49 25.1 +1.8**
comp=Z,2.8nm,0.8s,baz=158,slow=6.1,SNR=26
HVU Hansel Valley 81.73 330 P **P** **15 49 24.3 +0.5**
HVU pmax pmax
comp=Z,15nm,1.0s
HVU Hansel Valley 81.73 330 P **P** **15 49 24.3 +0.5**
AHID Auburn Hatcher 81.86 332 P **P** **15 49 24.7 +0.2**
AHID IAMs_20 IAMs_20 16 22 17.8
comp=Z,705nm,19.0s
RYN Ryan 81.86 325 P **P** **15 49 25.2 +0.7**
AGMN Agassiz Nation 81.90 344 P **P** **15 49 24.4 0.0**
AGMN Agassiz Nation 81.90 344 P **P** **15 49 24.9 +0.6**
baz=159,SNR=7.8
ELK Elko 81.97 328 P **P** **15 49 25.7 +0.5**
ELK pmax pmax
comp=Z,13nm,1.0s
ELK Elko 81.97 328 P **P** **15 49 25.7 +0.5**
KVN Kaiserville 81.98 325 P **P** **15 49 25.8 +0.5**
KVN pmax pmax
comp=Z,14nm,1.0s
KVN Kaiserville 81.98 325 P **P** **15 49 25.8 +0.5**
REDW Red Top Meadow 82.26 332 P **P** **15 49 27.0 +0.3**
REDW IAMs_20 IAMs_20 16 22 44.2
comp=Z,600nm,19.0s
LOHW Long Hollow 82.37 333 P **P** **15 49 27.5 +0.3**
LOHW IAMs_20 IAMs_20 16 22 23.3
comp=Z,763nm,20.0s
TPAW Teton Pass 82.41 332 P **P** **15 49 27.5 0.0**
MDND Maddock 82.44 342 P **P** **15 49 27.3 +0.1**
MDND Maddock 82.44 342 P **P** **15 49 28.3 +1.1**
baz=156
MOOW Moose Ponds 82.54 333 P **P** **15 49 27.7 -0.4**
MOOW IAMs_20 IAMs_20 16 22 47.8
comp=Z,745nm,19.0s
FXWY Fox Creek 82.56 332 P **P** **15 49 28.2 0.0**
IMW Indian Meadow 82.74 333 P **P** **15 49 29.3 0.0**
IMW IAMs_20 IAMs_20 16 23 05.1
comp=Z,610nm,20.0s
FLWY Flagg Ranch 82.80 333 P **P** **15 49 29.6 +0.2**
FLWY IAMs_20 IAMs_20 16 23 07.7
comp=Z,802nm,19.0s
CASY Casey 82.93 181 P **P** **15 49 30.4 +0.8**
TORD Torodi Ar. Bea 83.06 70 P **P** **15 49 31.1 -0.1**
comp=Z,40nm,0.9s,baz=265,slow=4.8,SNR=197
TORD LR LR 16 24 14.8
comp=Z,2µm,19.8s,baz=230,slow=34
TORD Torodi Ar. Bea 83.06 70 P **P** **15 49 30.6 -0.6**
LKWY Lake 83.09 333 IAMs_20 IAMs_20 16 26 20.4
comp=Z,699nm,18.0s
RLMT Red Lodge 83.14 334 P **P** **15 49 30.3 -0.9**
RLMT Red Lodge 83.14 334 P **P** **15 49 32.2 +1.0**
baz=148
YNE Yellowstone No 83.32 334 P **P** **15 49 32.1 0.0**
LBTB Lobatse 83.38 115 P **P** **15 49 32.6 -0.3**
LBTB pmax pmax
comp=Z,76nm,1.3s
LBTB Lobatse 83.38 115 P **P** **15 49 32.6 -0.3**
LAO LASA Array 83.41 337 P **P** **15 49 33.2 +0.9**
baz=151
YHH Holmes Hill 83.45 333 P **P** **15 49 33.0 0.0**
BEKR Beckworth 83.72 325 P **P** **15 49 34.0 -0.3**
ULM Lac du Bonnet 83.73 345 P **P** **15 49 34.0 +0.2**
comp=Z,18nm,0.8s,baz=143,slow=3.3,SNR=12

ULM Lac du Bonnet 83.73 345 P **P** **15 49 33.5 -0.3**
ULM IAmb IAmb 15 49 34.7
comp=Z,36nm,1.1s
GCMT Greycliff 83.85 334 P **P** **15 49 34.6 -0.1**
HLID Hailey 83.89 330 P **P** **15 49 35.0 0.0**
HLID IAMs_20 IAMs_20 16 22 02.6
comp=Z,562nm,20.0s
HLID Hailey 83.89 330 P **P** **15 49 36.6 +1.6**
baz=144,SNR=9.7
ORV Oroville 84.06 324 P **P** **15 49 36.3 +0.5**
ORV pmax pmax
comp=Z,28nm,1.2s
ORV Oroville 84.06 324 P **P** **15 49 36.2 +0.5**
ORV IAmb IAmb 15 49 50.1
comp=Z,28nm,1.2s
MCMT McKenzie Canyo 84.28 332 P **P** **15 49 37.4 +0.3**
DGMT Dagmar 84.33 339 P **P** **15 49 37.5 +0.6**
DGMT Dagmar 84.33 339 P **P** **15 49 38.2 +1.3**
baz=152,SNR=9.7
MFID Camas Ranch 84.38 329 P **P** **15 49 38.0 +0.5**
MFID IAMs_20 IAMs_20 16 23 07.6
comp=Z,817nm,20.0s
BOZ Bozeman (W) 84.43 333 IAMs_20 IAMs_20 16 23 33.8
comp=Z,526nm,19.0s
BOZ Bozeman (W) 84.43 333 P **P** **15 49 38.6 +0.9**
baz=147
DLMT Dillon 84.62 332 P **P** **15 49 38.9 +0.3**
DLMT IAMs_20 IAMs_20 16 24 56.7
comp=Z,499nm,19.0s
O03E Paynes Creek 84.77 324 P **P** **15 49 40.1 +0.6**
baz=139
O02D Mt. Diablo Mer 85.18 323 P **P** **15 49 42.9 +1.4**
baz=138
HRY Holter Researc 85.44 334 P **P** **15 49 43.5 +0.8**
J08A Circle Bar Ran 85.51 328 P **P** **15 49 44.2 +1.1**
J08A IAmb IAmb 15 49 57.3
comp=Z,45nm,1.3s
SCHQ Schefferville 85.67 3 P **P** **15 49 42.7 -0.8**
comp=Z,17nm,1.1s,baz=186,slow=5.5,SNR=5.7
SCHQ LR LR 16 32 02.3
comp=Z,182nm,18.1s,baz=135,slow=38
SCHQ Schefferville 85.67 3 P **P** **15 49 43.1 -0.4**
SCHQ IAmb IAmb 15 49 45.1
comp=Z,52nm,1.4s
N02D Trinity Center 85.73 324 P **P** **15 49 45.2 +1.0**
baz=138
EGMT Eagleton 85.78 336 P **P** **15 49 44.0 -0.3**
EGMT Eagleton 85.78 336 P **P** **15 49 44.8 +0.5**
baz=148
PLID Pearl Lake 85.79 330 P **P** **15 49 45.0 +0.4**
M04C Macdoel 85.91 325 P **P** **15 49 46.5 +1.4**
baz=139
M02C Callahan 86.12 324 P **P** **15 49 47.2 +1.1**
baz=138
BMO Blue Mountains 86.17 329 P **P** **15 49 46.6 +0.3**
BMO pmax pmax
comp=Z,14nm,1.5s
BMO MLR MLR
comp=Z,800nm,20.0s
BMO Blue Mountains 86.17 329 P **P** **15 49 46.6 +0.3**
BMO IAMs_20 IAMs_20 16 24 13.9
comp=Z,779nm,20.0s
YBH Yreka Blue Hor 86.30 324 P **P** **15 49 47.1 +0.1**
YBH pmax pmax
comp=Z,13nm,1.3s
YBH Yreka Blue Hor 86.30 324 P **P** **15 49 47.1 +0.1**
MSO Missoula 86.36 333 IAMs_20 IAMs_20 16 26 09.7
comp=Z,774nm,18.0s
MSO Missoula 86.36 333 P **P** **15 49 48.5 +1.3**
baz=145
L04D Klamath Falls 86.46 325 P **P** **15 49 49.0 +1.1**
baz=138
K04D Chiloquin, OR 86.50 326 P **P** **15 49 49.3 +1.3**
baz=139
I07A Izee 86.55 328 P **P** **15 49 49.1 +0.8**
J05D Fort Rock, OR 86.75 326 P **P** **15 49 50.8 +1.6**
baz=139,SNR=5.8
F10A Beach Ranch, E 87.02 330 P **P** **15 49 50.8 +0.3**
L02E Cave Junction 87.06 324 P **P** **15 49 52.5 +1.9**
baz=138
J04D Umpqua Nationa 87.13 326 P **P** **15 49 52.7 +1.5**
baz=139
G08A Pilot Rock 87.24 329 P **P** **15 49 51.8 +0.2**
K02D Willamette Mer 87.49 325 P **P** **15 49 54.4 +1.6**
baz=138
I05D Terrebonne, OR 87.59 327 P **P** **15 49 54.6 +1.4**
baz=139
I04A Tendick Farm, 87.69 326 P **P** **15 49 54.8 +1.2**
baz=138
J01E Myrtle Point 87.96 325 P **P** **15 49 56.7 +1.8**
baz=137
I03D Drain, OR 88.07 325 P **P** **15 49 56.6 +1.2**
baz=138
WALA Waterton Lakes 88.17 334 P **P** **15 49 56.2 +0.2**
WALA IAmb IAmb 15 49 57.5
comp=Z,22nm,1.1s
G05D Wamic, OR 88.27 327 P **P** **15 49 57.5 +1.2**
baz=139
HAWA Hanford 88.34 329 P **P** **15 49 57.4 +0.8**
HAWA IAmb IAmb 15 50 02.3
comp=Z,21nm,1.2s
HAWA IAMs_20 IAMs_20 16 25 20.5
comp=Z,906nm,20.0s
NEW Newport 88.79 332 P **P** **15 49 59.3 +0.5**
baz=142
LTY Liberty 89.51 329 P **P** **15 50 02.7 +0.5**
LSZ Lusaka 90.55 108 P **P** **15 50 07.9 -0.1**
LSZ pmax pmax
comp=Z,72nm,1.2s
LSZ MLR MLR
comp=Z,1µm,18.0s
LSZ Lusaka 90.55 108 P **P** **15 50 07.8 -0.1**
ESDC Sonseca Array 94.43 46 P **P** **15 50 24.9 -0.3**
comp=Z,0.8nm,1.0s,baz=224,slow=4.1,SNR=5.7
ESDC LR LR 16 32 50.6
comp=Z,1µm,18.5s,baz=250,slow=36
ESDC Sonseca Array 94.43 46 IAmb IAmb 15 50 25.8
comp=Z,3.7nm,1.3s
CART Cartagena 95.06 49 IAMs_20 IAMs_20 16 31 26.9
comp=Z,476nm,21.0s
VSL Villasalto 102.94 52 IAMs_20 IAMs_20 16 36 49.6
comp=Z,527nm,21.0s
DZM Mont Dzumac 103.09 234 *e*SP SP 16 04 18.5 -6.2
comp=Z,329nm,28.2s
DZM *e*SS SS 16 10 11.4 +12
comp=Z,950nm,27.2s
DZM Mont Dzumac 103.09 234 *e*LR LR 16 24 50.3
comp=Z,2µm,23.4s,baz=137
KMBO Kilima Mbogo 105.69 101 IAMs_20 IAMs_20 16 36 00.1
comp=Z,692nm,20.0s
VLC Villacollemand 105.85 48 IAMs_20 IAMs_20 16 38 56.2
comp=Z,415nm,20.0s
BFO Black Forest 106.55 43 IAMs_20 IAMs_20 16 40 41.5
comp=Z,615nm,19.0s
YAH Yahtse 107.42 331 IAMs_20 IAMs_20 16 35 18.8
comp=Z,444nm,22.0s
ISLE Juniper Island 107.79 331 IAMs_20 IAMs_20 16 37 40.8
comp=Z,380nm,21.0s
WAX Waxell Ridge 107.93 330 IAMs_20 IAMs_20 16 46 02.4
comp=Z,353nm,19.0s
HMT Hamilton 108.47 330 IAMs_20 IAMs_20 16 51 19.7
comp=Z,346nm,18.0s
GRFO Grafenberg 108.86 43 IAMs_20 IAMs_20 16 39 28.7
comp=Z,570nm,20.0s
GRA1 Grafenberg Arr 108.86 43 IAMs_20 IAMs_20 16 39 18.7
comp=Z,562nm,20.0s
L27K Beaver Creek, 108.88 333 IAMs_20 IAMs_20 16 39 43.5
comp=Z,520nm,19.0s
A36M Sachs Harbour 109.22 345 IAMs_20 IAMs_20 16 42 15.5
comp=Z,556nm,20.0s
L26K Log Cabin Wild 109.46 333 IAMs_20 IAMs_20 16 37 39.7
comp=Z,407nm,21.0s
K27K Chicken 109.48 334 IAMs_20 IAMs_20 16 39 46.3
comp=Z,445nm,20.0s
EGAK Eagle 109.53 335 IAMs_20 IAMs_20 16 41 36.5
comp=Z,346nm,18.0s
NKC Novy Kostel 109.81 43 AMS AMS 16 38 40.0
comp=Z,900nm,23.4s
GERES GERESS Array B 109.97 44 PKiKP **PKiKP** **15 55 37.2 +0.9**
comp=Z,0.6nm,0.8s,baz=261,slow=2.6,SNR=5.8
KHC Kasperske Hory 110.02 44 AMS AMS 16 42 40.0
comp=Z,500nm,17.7s
SCRK Sand Creek 110.18 333 IAMs_20 IAMs_20 16 39 56.8
comp=Z,585nm,20.0s
CKRC Cesky Krumlov 110.33 45 AMS AMS 16 38 10.0
comp=Z,700nm,22.6s
RIDG Independent Ri 110.40 333 IAMs_20 IAMs_20 16 40 04.6

comp=Z,432nm,20.0s
CLL Collm 110.58 42 *e*PP **PP** 15 56 12.0 **-2.1**
CLL *e*PS **PS** **16 05 47.0 +2.7**
CLL *e*SS SS 16 11 54.0 +13
CLL *e*SSS SSS 16 15 42.0
CLL Lm MLR 16 41 00.0
comp=N,300nm,18.8s
CLL Lm MLR 16 41 00.0
comp=E,800nm,19.4s
CLL Lm MLR 16 41 00.0
comp=Z,1µm,19.5s
KNK Knik Glacier 110.79 330 IAMs_20 IAMs_20 16 47 52.0
comp=Z,329nm,18.0s
PRA Prague 110.91 43 AMS AMS 16 44 40.0
comp=Z,600nm,21.9s
PRU Pruhonice 110.94 44 *e*PP **PP** **15 56 24.5 +7.7**
PRU AMS AMS 16 42 50.0
comp=Z,400nm,17.1s
PVCC Panska Ves 111.17 43 AMS AMS 16 41 10.0
comp=Z,800nm,21.7s
TREC Trest 111.23 45 AMS AMS 16 43 20.0
comp=Z,700nm,19.1s
PRP Porcupine Dome 111.50 335 IAMs_20 IAMs_20 16 39 54.6
comp=Z,356nm,19.0s
HDA Harding Lake 111.53 333 IAMs_20 IAMs_20 16 40 39.4
comp=Z,391nm,20.0s
CCB Clear Creek Bu 111.97 333 IAMs_20 IAMs_20 16 41 02.0
comp=Z,436nm,20.0s
WRH Wood River Hil 112.00 333 IAMs_20 IAMs_20 16 40 52.9
comp=Z,391nm,20.0s
UPC Upice 112.01 43 AMS AMS 16 42 00.0
comp=Z,400nm,18.5s
MCK McKinley 112.01 332 IAMs_20 IAMs_20 16 39 21.3
comp=Z,378nm,22.0s
POKR Poker Plat Res 112.03 334 IAMs_20 IAMs_20 16 42 15.7
comp=Z,502nm,18.0s
RGN Rugen 112.04 39 IAMs_20 IAMs_20 16 41 44.6
comp=Z,636nm,21.0s
CHVC Chvalec 112.07 43 AMS AMS 16 42 00.0
comp=Z,400nm,18.5s
COLA College 112.09 333 IAMs_20 IAMs_20 16 41 16.2
comp=Z,433nm,19.0s
TCOL CIGO, UAF Yank 112.09 333 IAMs_20 IAMs_20 16 41 06.2
comp=Z,441nm,20.0s
DPC Dobruska-Polom 112.13 44 AMS AMS 16 40 50.0
comp=Z,400nm,21.6s
OSTC Ostas 112.15 43 AMS AMS 16 40 50.0
comp=Z,400nm,17.6s
KONO Kongsberg 112.19 33 IAMs_20 IAMs_20 16 40 06.2
comp=Z,617nm,20.0s
MDM Murphy Dome 112.27 333 IAMs_20 IAMs_20 16 41 11.0
comp=Z,447nm,19.0s
KRLC Kraliky 112.30 44 AMS AMS 16 44 10.0
comp=Z,400nm,16.6s
BWN Browne 112.41 332 IAMs_20 IAMs_20 16 41 04.1
comp=Z,410nm,20.0s
NEA2 Nenana 112.44 333 IAMs_20 IAMs_20 16 41 07.4
comp=Z,407nm,21.0s
H24K Noodor Dome 112.52 334 IAMs_20 IAMs_20 16 41 04.5
comp=Z,428nm,20.0s
I23K Minto, Yukon-K 112.78 333 IAMs_20 IAMs_20 16 41 35.5
comp=Z,378nm,20.0s
OKC Ostrava-Krasne 113.04 45 AMS AMS 16 44 30.0
comp=Z,600nm,17.4s
H23K Yukon River 113.14 334 IAMs_20 IAMs_20 16 42 24.8
comp=Z,407nm,19.0s
CAST Castle Rocks 113.17 331 IAMs_20 IAMs_20 16 43 40.8
comp=Z,312nm,19.0s
N19K Bonanza Creek 113.20 328 IAMs_20 IAMs_20 16 53 22.0
comp=Z,362nm,20.0s
MLY Manley 113.27 333 IAMs_20 IAMs_20 16 41 53.4
comp=Z,538nm,20.0s
I21K Tanana 113.81 333 IAMs_20 IAMs_20 16 42 07.7
comp=Z,431nm,20.0s
H21K Melozitna Rive 114.31 333 IAMs_20 IAMs_20 16 42 24.9
comp=Z,441nm,20.0s
HNR Honiara 116.11 240 IAMs_20 IAMs_20 16 33 49.7
comp=Z,392nm,18.0s
BURAR Bucovina Array 116.72 49 PKPdf **PKPdf** **15 55 49.0 -0.3**
ISP Isparta 117.33 61 IAMs_20 IAMs_20 16 47 45.7
comp=Z,474nm,22.0s
A21K Barrow 117.46 339 IAMs_20 IAMs_20 16 46 50.8
comp=Z,427nm,22.0s
CSS Mathiatis 118.52 64 IAMs_20 IAMs_20 16 45 30.4
comp=Z,505nm,22.0s
ANM Nome 119.09 330 IAMs_20 IAMs_20 16 53 10.5
comp=Z,296nm,20.0s
AKASG Malin Array Be 120.07 46 PKP **PKPdf** **15 55 54.6 -0.9**
comp=Z,3.6nm,0.8s,baz=263,slow=2.7,SNR=12
AKASG Malin Array Be 120.07 46 PKPdf **PKPdf** **15 55 53.9 -1.6**
AKBB Malin Array Si 120.07 46 PKIKP **PKPdf** **15 55 54.0 -1.4**
AKBB Malin Array Si 120.07 46 **PKPdf** **15 55 54.0 -1.4**
MNK Minsk 120.12 42 *i* PKIKP **PKPdf** **15 55 54.6 -0.8**
MNK *i* 15 57 21.2
MNK *i* PPP PPP 15 59 53.6
MNK *i* 16 03 04.9
MNK *i* PS **PS** **16 07 11.3 +0.2**
MNK *i* SS SS 16 13 55.1 +8.7
MNK pmax pmax
comp=E,4.0nm,1.0s
MNK pmax pmax
comp=Z,18nm,0.9s
MNK pmax pmax
comp=N,17nm,0.9s
MNK MLR MLR
comp=N,286nm,21.0s
MNK MLR MLR
comp=Z,588nm,24.0s
MNK MLR MLR
comp=E,80nm,20.0s
MNK Minsk 120.12 42 *i* PKP **PKPdf** **15 55 54.6 -0.8**
comp=E,4.0nm,1.0s
MNK *i* PKP **PKPdf** **15 55 54.6 -0.8**
comp=N,17nm,0.8s
MNK *i* PKP **PKPdf** **15 55 54.6 -0.8**
comp=Z,18nm,0.9s,baz=78
MNK *i* PP **PP** **15 57 21.2 0.0**
MNK *i* PPP PPP 15 59 53.7
MNK *i* SKS **SKSdf** **16 03 04.9 -0.4**
MNK *i* PS **PS** **16 07 11.3 +0.2**
MNK *i* SS **SKKSdf** **16 13 55.2 +7.0**
MNK *i* SSS SSS 16 18 38.1
MNK *i* LQ LQ 16 40 11.3
MNK *i* LR LR 16 43 14.4
MNK *i* LRM MLR 16 46 53.0
comp=N,286nm,21.0s
MNK *i* LRM MLR 16 47 16.3
comp=Z,588nm,23.9s
MNK *i* LRM MLR 16 47 21.9
comp=E,80nm,19.5s
ASAR Alice Springs 120.23 207 PKP **PKPdf** **15 55 56.0 -0.8**
comp=E,2.3nm,0.8s,baz=134,slow=2.0,SNR=24
ASAR PKKPbc **PKKPbc** **16 06 03.8 +0.1**
comp=E,0.4nm,0.8s,baz=331,slow=3.5,SNR=7.3
BRTR Keskin Array B 120.23 59 PKP **PiKiP** **15 55 56.4 -0.1**
comp=E,2.1nm,0.9s,baz=195,slow=3.8,SNR=11
BRTR Keskin Array B 120.23 59 **PKPdf** **15 55 55.8 -0.6**
ARCES ARCESS Array B 121.30 24 PKP **PKPdf** **15 55 57.1 -0.2**
comp=E,2.3nm,1.1s,baz=228,slow=1.5,SNR=4.2
KEV Kevo 121.84 24 IAMs_20 IAMs_20 16 44 06.8
comp=Z,455nm,21.0s
WR0 Warramunga Arr 123.28 210 PKPdf **PKPdf** **15 56 02.1 -0.6**
WB2 Warramunga Arr 123.38 210 PKPdf **PKPdf** **15 56 02.4 -0.6**
WRA Warramunga Arr 123.38 210 PKP **PKPdf** **15 56 02.9 0.0**
comp=Z,5.8nm,0.7s,baz=160,slow=1.8,SNR=34
WRA Warramunga Arr 123.38 210 PKPdf **PKPdf** **15 56 02.2 -0.7**
WRAB Tennant Creek 123.38 210*c* *i*PKIKP **PKPdf** **15 56 01.6 -1.3**
WRAB pmax pmax
comp=Z,26nm,2.5s
ANN Anapa 124.22 54 *i* PKIKP **PKiKP** **15 56 04.0 +0.1**
ANN pmax pmax
comp=Z,43nm,1.7s
ANN MLR MLR
comp=Z,497nm,21.0s
LVZ Lovozero 124.59 26 IAMs_20 IAMs_20 16 58 37.6
comp=Z,455nm,19.0s
OBN Obninsk 125.18 42 *i* PKIKP **PKPdf** **15 56 05.0 -0.1**
OBN *i* 15 56 13.6
OBN *i* 15 57 52.3
OBN *i* 16 03 14.9
OBN *i* SS SS 16 15 04.2 +14
OBN pmax pmax
comp=Z,14nm,0.5s
OBN MLR MLR
comp=Z,569nm,22.0s
OBN Obninsk 125.18 42 IAMs_20 IAMs_20 16 49 05.1
comp=Z,514nm,21.0s

SOC Sochi 125.59 56 *e*PKIKP **PKPdf** **15 56 05.3 -1.0**
SOC *e* 15 57 56.3
SOC *e*PPP PPP 16 00 46.2
SOC *e*PS **PS** **16 08 01.0 +0.9**
SOC *e*SSS SSS 16 19 40.2
SOC pmax pmax
comp=Z,8.0nm,0.5s
SOC MLR MLR
comp=Z,243nm,21.0s
H11S2 WAKE ISLAND Hyl 25.94 271 T T 18 14 58.8
baz=115,slow=75,SNR=857
H11S1 WAKE ISLAND Hyl 25.95 271 T T 18 14 57.4
baz=115,slow=75,SNR=573
H11S3 WAKE ISLAND Hyl 25.95 271 T T 18 14 58.3
baz=115,slow=75,SNR=626
H11N3 WAKE ISLAND Hyl 26.28 273 T T 18 15 23.6
baz=116,slow=75,SNR=235
H11N1 WAKE ISLAND Hyl 26.29 273 T T 18 15 23.6
baz=116,slow=75,SNR=71
H11N2 WAKE ISLAND Hyl 26.29 273 T T 18 15 24.9
baz=116,slow=75,SNR=529
PSA00 Pilbara Seismi 126.46 194 PKPdf **PKPdf** **15 56 08.2 -0.6**
KLMR Klimovskoe 126.93 35 *e*PKIKP **PKPdf** **15 56 06.5 -1.8**
KLMR pmax pmax
comp=Z,28nm,1.3s
KLMR Klimovskoe 126.93 35 *e*PKPdf **PKPdf** **15 56 06.6 -1.8**
KLMR AMP 15 56 26.5
comp=Z,28nm,1.3s
SHA1 Shidzhatmaz 127.71 56 *i* PKIKP **PKPdf** **15 56 10.6 -0.1**
KIV Kislovodsk 127.77 56 *i* PKIKP **PKiKP** **15 56 11.2 0.0**
KIV *e* 15 58 13.3
KIV *e*PS **PS** **16 08 19.4 0.0**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV Kislovodsk 127.77 56 IAMs_20 IAMs_20 16 55 18.8
comp=Z,312nm,21.0s
KBZ Khabaz 127.89 57 PKP **PKPdf** **15 56 10.8 +0.2**
comp=Z,5.1nm,1.1s,baz=340,slow=4.8,SNR=5.8
KBZ Khabaz 127.89 57*c* *i*PKIKP **PKiKP** **15 56 11.5 +0.3**
KBZ pmax pmax
comp=Z,7.0nm,1.1s
ONI Oni 128.10 58 PKIKP **PKPdf** **15 56 10.9 -0.3**
ONI Oni 128.10 58 **PKPdf** **15 56 10.9 -0.3**
FITZ Fitzroy Crossi 128.30 201 PKP **PKPdf** **15 56 12.3 0.0**
comp=Z,7.2nm,0.8s,baz=197,slow=5.2,SNR=16
FITZ Fitzroy Crossi 128.30 201 PKPdf **PKPdf** **15 56 11.3 -1.0**
GNI Garni 128.62 61*c* *i*PKIKP **PKiKP** **15 56 13.2 +0.1**
GNI pmax pmax
comp=Z,22nm,1.7s
GNI Garni 128.62 61 IAMs_20 IAMs_20 16 56 36.7
comp=Z,332nm,20.0s
PRGR Permogore 129.81 33 *e*PKIKP **PKiKP** **15 56 14.2 -0.3**
PRGR pmax pmax
comp=Z,32nm,1.1s
BILL Bilibino 130.28 335 *i* PKIKP **PKiKP** **15 56 15.7 +0.4**
BILL *i* 15 58 26.9
BILL pmax pmax
comp=Z,14nm,1.7s
BILL MLR MLR
comp=Z,274nm,18.0s
BILL Bilibino 130.28 335 IAMs_20 IAMs_20 16 54 55.8
comp=Z,301nm,19.0s
MAK Makhachkala 131.11 58 *i* P **Pdif** **15 53 06.3 -2.2**
MAK *i* 15 56 15.7
MAK *e* 15 58 33.5
MAK *e*PPP PPP 16 01 22.4
MAK *e* 16 03 25.9
MAK pmax pmax
comp=Z,221nm,1.0s
ARU Arti 137.40 39 *i* PKIKP **PKPdf** **15 56 28.8 +0.6**
ARU 15 59 11.3
ARU SS SS 16 17 12.5 -7.1
ARU MLR MLR
comp=Z,704nm,19.0s
ARU Arti 137.40 39 PKPdf **PKPdf** **15 56 28.3 +0.1**
TIXI Tiksi 137.86 350 IAMs_20 IAMs_20 16 55 13.3
comp=Z,271nm,22.0s
EDFI Emde, Flores 138.33 200 PKP **PKPdf** **15 56 31.6 +0.2**
SVE Sverdlovsk 138.38 38 *i* PKIKP **PKPdf** **15 56 30.8 +0.8**
SVE pmax pmax
comp=Z,18nm,1.5s
SVE MLR MLR
comp=Z,632nm,24.0s
GEYT Alibeck 138.60 66 PKP **PKPdf** **15 56 31.2 +0.1**
comp=Z,3.8nm,0.7s,baz=114,slow=1.8,SNR=5.0
AB31 Akbulak array 139.69 49 *i* PKIKP **PKPdf** **15 56 27.1 -5.5**
ABKAR Akbulak array 139.69 49 PKPdf **PKPdf** **15 56 31.9 -0.8**
NRIK Noril'sk 139.93 11 PKP **PKPdf** **15 56 33.6 +1.1**
comp=Z,1.0nm,0.3s,baz=321,slow=1.3,SNR=4.3
NRIK Noril'sk 139.93 11*c* *i*PKIKP **PKPdf** **15 56 33.2 +0.7**
NRIK pmax pmax
comp=Z,9.0nm,1.5s
BKSI Bulukumba 142.04 200 PKP **PKPdf** **15 56 38.6 +0.6**
MDSI Maura Dua 144.43 173 PKP PKPbc 15 56 40.7 +0.1
BRVK Borovoye 144.92 40 *i* PKIKP **PKPdf** **15 56 41.7 -0.1**
BRVK Borovoye 144.92 40 PKPdf PKPbc 15 56 41.3 +0.3
PALK Pallekele 145.07 127 PKIKP **PKPab** **15 56 42.7 -0.1**
PALK Pallekele 145.07 127 **PKPab** **15 56 42.7 -0.1**
PALK Pallekele 145.07 127 PKP **PKPab** **15 56 42.8 -0.1**
APSI Ampana 145.70 204 PKP **PKPbc** **15 56 44.6 -0.1**
YAK Yakutsk 146.03 342 *e*PKIKP **PKPdf** **15 56 42.9 -0.5**
YAK *e* 16 00 03.8
YAK pmax pmax
comp=Z,23nm,0.8s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=Z,80nm,1.8s
YAK pmax pmax
comp=N,72nm,1.8s
YAK pmax pmax
comp=E,19nm,1.5s
YAK Yakutsk 146.03 342 PKPdf **PKPbc** **15 56 44.1 -0.1**
YAK IAMs_20 IAMs_20 17 06 23.5
comp=Z,248nm,20.0s
POO Poona 146.58 104 *e*P **PKPdf** **15 56 44.0 -1.8**
KBL Kabul 147.08 73 PKIKP **PKPdf** **15 56 46.3 -0.1**
KBL Kabul 147.08 73 PKPdf **PKPdf** **15 56 46.3 -0.1**
CHGR Chuyangaron 147.31 66 PKPdf **PKPdf** **15 56 46.6 +0.2**
YUK Yuzh-Kuril'sk 147.72 304 *e*PKIKP **PKPdf** **15 56 46.8 0.0**
YUK 16 00 19.6
YUK PPP PPP 16 03 34.4
YUK SS SS 16 19 14.8 -5.2
YUK *e*SSS SSS 16 25 01.1
YUK MLR MLR
comp=Z,426nm,17.0s
NKL Nikolayevsk 147.76 323 *i* PKP2 **PKPbc** **15 56 49.8 +0.4**
NKL *e* 16 00 16.6
NKL MLR MLR
comp=E,26nm,13.0s
TOLI2 Tolitoli 147.88 204 **PKPbc** **15 56 50.1 -0.9**
TOLI2 IAMs_20 IAMs_20 16 59 50.7
comp=Z,392nm,22.0s
OTUK Ortayu 147.89 47 PKIKP **PKPdf** **15 56 47.6 +0.5**
KK31 Karatay Array 147.92 57 PKIKP **PKPdf** **15 56 47.7 +0.4**
KK31 Karatay Array 147.92 57 PKPdf **PKPdf** **15 56 47.6 +0.4**
KKAR Karatay Array 147.92 57 PKIKP **PKPdf** **15 56 47.5 +0.2**
KKAR Karatay Array 147.92 57 PKPdf **PKPdf** **15 56 47.4 +0.2**
KKAR Karatay Array 147.92 57 PKPdf **PKPdf** **15 56 47.5 +0.2**
BTK Batken 148.52 63 PKIKP **PKPdf** **15 56 48.0 -0.4**
BTK Batken 148.52 63 PKPdf **PKPdf** **15 56 48.0 -0.4**
GSI Gunungsitoli 148.73 159 PKPbc **PKPbc** **15 56 52.5 -0.8**
YSS Yuzh-Sakhalins 149.10 311 *i* PKIKP **PKPdf** **15 56 49.8 +0.8**
YSS pmax pmax
comp=Z,20nm,1.2s
YSS MLR MLR
comp=Z,300nm,21.0s
HYB Hyderabad 149.88 110 *i* PKP **PKPbc** **15 56 56.0 0.0**
HYB *es*PKP 15 57 08.0
EKS2 Erkin-Say 150.36 57 P **PKPdf** **15 56 52.5 +1.1**
SNR=5.3
AML Almayashu 150.40 58 P **PKiKP** **15 56 58.3 +0.5**
SNR=12
NIL Nilore 150.48 76 PKIKP **PKPdf** **15 56 51.1 -0.6**
NIL 15 56 56.8
NIL MLR MLR
comp=Z,400nm,22.0s
NIL Nilore 150.48 76 PKPdf **PKPdf** **15 56 51.1 -0.6**
NIL **PKPbc** **15 56 56.8 -0.3**
NIL Nilore 150.48 76 IAMs_20 IAMs_20 17 01 06.8
comp=Z,407nm,22.0s
KURBB Kurchatov Arra 150.58 40 PKIKP **PKPdf** **15 56 51.1 -0.1**

USP Ospenovka 150.74 56 P **PKiKP** **15 56 58.1 +0.1**
SNR=14
AAK Ala-Archa 150.88 57 PKIKP **PKPdf** **15 56 52.1 -0.1**
AAK 15 56 57.5
AAK MLR MLR
comp=Z,600nm,20.0s
AAK Ala-Archa 150.88 57 PKPdf **PKPdf** **15 56 52.1 -0.1**
AAK PKPbc **PKPbc** **15 56 57.5 -0.3**
FRU1 Bishkek 150.94 57 PKIKP **PKiKP** **15 56 58.3 -0.2**
FRU1 Bishkek 150.94 57 **PKiKP** **15 56 58.3 -0.2**
UCH Uchtor 150.98 58 P **PKPdf** **15 56 54.0 +1.2**
SNR=8.1
CHMS Chumysh 150.99 56 P **PKiKP** **15 56 58.7 +0.2**
SNR=12
KBK Karagaybulak 151.20 57 P **PKiKP** **15 56 59.6 +0.4**
SNR=11
KZA Kyzart 151.54 58 P **PKiKP** **15 57 01.2 +1.0**
SNR=6.4
TKM2 Tokmak 2 151.61 56 P **PKPdf** **15 56 53.9 +0.5**
SNR=6.5
TKM2 Tokmak 2 151.61 56 PKIKP **PKPdf** **15 56 52.7 -0.7**
ZAA0 Zalesovo Array 151.64 30 PKPdf **PKPdf** **15 56 52.2 -0.5**
ZAA0 PKPbc **PKPbc** **15 56 59.1 +0.1**
ZALV Zalesovo Beam 151.64 30 PKP **PKPdf** **15 56 52.9 +0.1**
comp=Z,5.1nm,0.9s,baz=236,slow=1.6,SNR=15
ZALV PKPbc **PKiKP** **15 56 59.3 -0.1**
comp=Z,19nm,0.5s,baz=309,slow=3.2,SNR=66
ZALV Zalesovo Beam 151.64 30 PKPdf **PKPdf** **15 56 52.2 -0.5**
ZALV PKPbc **PKPbc** **15 56 58.9 -0.1**
KSH Kashi 152.52 63 PKPbc **PKPdf** **15 56 51.0 -3.7**
KSH pPKP PKiKP 15 57 02.0 +0.1
KSH sPKP 15 57 06.1
KSH PP **PP** **16 00 43.3 -1.9**
KSH SKS **SKSdf** **16 03 51.0 -9.2**
KSH SKKS **SKKSac** **16 07 28.4 -5.1**
KSH AMB AMB
comp=Z,300nm,5.5s
KSH LR LR
comp=Z,350nm,18.5s
KSH LR LR
comp=Z,360nm,22.3s
KSH LR LR
comp=Z,830nm,21.3s
BOD Bodaibo 152.96 353 *e*PKIKP **PKPdf** **15 56 53.7 -0.9**
BOD pmax pmax
comp=Z,32nm,1.3s
ZEA Zeya 153.50 334 *e*PKIKP **PKPdf** **15 56 55.5 0.0**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
ZEA pmax pmax
comp=Z,100nm,5.3s
ZEA pmax pmax
comp=Z,100nm,6.4s
ZEA MLR MLR
comp=Z,200nm,25.0s
PDGK Podgornoye 154.23 54 PKIKP **PKPdf** **15 56 55.2 -1.9**
MJAR Matsushiro Arr 154.51 290 PKP **PKPdf** **15 56 57.6 +0.1**
comp=Z,1.2nm,0.8s,baz=99,slow=7.7,SNR=5.8
MJAR PKPbc **sPKPdf** **15 57 08.5 -0.5**
comp=Z,4.2nm,1.1s,baz=113,slow=2.0,SNR=6.6
MAT Matsushiro 154.51 290 PKP **PKPdf** **15 56 56.8 -0.7**
KLR Kul'dur 154.61 322*c* *i*PKIKP **PKiKP** **15 57 06.2 +0.5**
MKAR Makanchi Array 154.64 44 PKP **PKPdf** **15 56 56.9 -0.5**
comp=Z,2.5nm,0.9s,baz=135,slow=0.5,SNR=10
MKAR PKPbc **PiKiP** **15 57 06.0 0.0**
comp=Z,3.7nm,0.7s,baz=313,slow=2.4,SNR=16
MKAR Makanchi Array 154.64 44 PKPdf **PKPdf** **15 56 56.6 -0.8**
INU Inuyama 155.53 288 IAMs_20 IAMs_20 16 55 19.3
comp=Z,315nm,21.0s
USRK Ussuriysk Ar. 157.13 312 PKP **PKPdf** **15 57 01.1 +0.3**
comp=Z,1.3nm,0.6s,baz=150,slow=8.4,SNR=4.8
MDJ Mudanjiang 158.43 315 PKP **PKPdf** **15 57 01.8 -0.5**
MDJ Mudanjiang 158.43 315 IAMs_20 IAMs_20 17 02 32.2
comp=Z,337nm,20.0s
CIT Chita 158.70 351 *e*PKP2 **PKPab** **15 57 38.4 +0.4**
MOY Mondy 158.76 12 *e*PKIKP **PKPdf** **15 57 03.5 +0.8**
MOY pmax pmax
comp=Z,40nm,2.2s
WMQ Urumqi 159.43 46 *e*PKP **PKPdf** **15 57 04.0 +0.4**
WMQ LR LR
comp=Z,490nm,21.1s
WMQ LR LR
comp=Z,520nm,17.3s
WMQ LR LR
comp=Z,530nm,21.1s
ZAK Zakamensk 160.38 9 *e*PKIKP **PKPdf** **15 57 04.1 -0.4**
ZAK pmax pmax
comp=Z,6.0nm,1.8s
CN2 Changchun 161.35 318 *e*PKP **PKPdf** **15 57 09.6 +4.0**
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,400nm,18.0s
KSRS Korea Array 162.49 297 PKP **PKPdf** **15 57 07.2 +0.2**
comp=Z,1.2nm,1.1s,baz=173,slow=1.0,SNR=6.7
KSRS PKPab **PKPab** **15 57 57.2 +2.2**
comp=Z,1.8nm,0.9s,baz=75,slow=3.8,SNR=5.0
KSAR Wonju Array Be 162.52 297 PKIKP **PKPdf** **15 57 06.5 -0.5**
KSAR Wonju Array Be 162.52 297 **PKPdf** **15 57 06.5 -0.5**
UTHA Uthaitani 162.61 151 PKP **PKPdf** **15 57 08.9 +1.2**
SONM Songino Array 163.21 4 PKP **PKPdf** **15 57 07.4 -0.2**
comp=Z,1.2nm,0.8s,baz=333,slow=0.7,SNR=10
SONM PKPab **PKPab** **15 57 59.0 +1.1**
comp=Z,1.8nm,0.8s,baz=336,slow=3.7,SNR=6.1
SONM PP **PP** **16 01 44.6 +2.4**
comp=Z,0.4nm,0.3s,baz=344,slow=4.8,SNR=5.3
SONM Songino Array 163.21 4 **PKPdf** **15 57 07.0 -0.6**
ULN Ulaanbaatar 163.22 3 PKP2 **PKPab** **15 57 58.7 +0.8**
ULN Ulaanbaatar 163.22 3 PKPab **PKPab** **15 57 58.7 +0.8**
UBPT Khong Chiam 164.08 170 PKP **PKPdf** **15 57 11.6 +2.5**
MHMT Maesarieng 164.15 142 PKP **PKPdf** **15 57 10.3 +1.2**
PHIT Phitsanulok 164.48 151 PKP **PKPdf** **15 57 10.6 +1.2**
SHL Shillong 164.65 107 PKIKP **PKPdf** **15 57 08.9 -0.7**
SHL Shillong 164.65 107 **PKPdf** **15 57 08.9 -0.7**
CM13 Chiang Mai Arr 164.86 144 PKP **PKPdf** **15 57 11.0 +1.2**
CM05 Chiang Mai Arr 164.86 144 PKP **PKPdf** **15 57 10.8 +1.0**
CM04 Chiang Mai Arr 164.88 144 PKP **PKPdf** **15 57 11.1 +1.3**
CM01 Chiang Mai Arr 164.88 144 PKP **PKPdf** **15 57 11.2 +1.4**
CM02 Chiang Mai Arr 164.89 144 PKP **PKPdf** **15 57 11.0 +1.2**
CM15 Chiang Mai Arr 164.90 144 PKP **PKPdf** **15 57 11.1 +1.3**
CM31 Chiang Mai Arr 164.91 144 **PKPdf** **15 57 09.4 -0.4**
CM31 **PKPab** **15 58 04.8 -1.2**
CMAR Chiang Mai Arr 164.91 144 PKP **PKPdf** **15 57 10.2 +0.3**
comp=Z,4.4nm,1.0s,baz=257,slow=2.5,SNR=32
CMAR PKPab **PKPab** **15 58 05.5 -0.4**
comp=Z,8.3nm,1.0s,baz=227,slow=5.3,SNR=16
CMAR Chiang Mai Arr 164.91 144 **PKPdf** **15 57 09.5 -0.3**
CM09 Chiang Mai Arr 164.92 144 PKP **PKPdf** **15 57 11.1 +1.3**
UTTA Uttaradit 165.03 151 PKP **PKPdf** **15 57 11.1 +1.2**
CHTO Chiang Mai 165.21 144 PKIKP **PKPdf** **15 57 09.4 -0.7**
CHTO 15 58 06.3
CHTO Chiang Mai 165.21 144 PKP **PKPdf** **15 57 10.8 +0.7**
CHTO Chiang Mai 165.21 144 **PKPdf** **15 57 09.4 -0.7**
CHTO PKPab **PKPab** **15 58 06.3 -0.9**
CMMT Chiang Mai 165.21 144 PKP **PKPdf** **15 57 10.6 +0.5**
QIZ Qiongzhong 167.90 188 PKP **PKPdf** **15 57 10.4 -1.7**
QIZ PP **PP** **16 02 11.9 +5.4**
QIZ SS SS 16 23 01.8 +8.9
QIZ LR LR
comp=Z,200nm,17.9s
QIZ LR LR
comp=Z,240nm,20.6s
QIZ LR LR
comp=Z,350nm,22.1s
BJI Beijing 168.94 326 PKP **PKPdf** **15 57 11.4 -0.8**
BJI PP **PP** **16 02 13.6 +1.3**
BJI SKS **SKSdf** **16 04 11.3 -2.6**
BJI AMB AMB
comp=Z,200nm,5.1s
GTA Gaotai 169.25 37 ⇑PKP **PKPdf** **15 57 13.5 +0.9**
GTA pPKP pPKPdf 15 57 22.0 +0.5
GTA PKPab **PKPab** **15 58 25.9 +1.1**
GTA PP **PP** **16 02 13.0 -1.2**
GTA SKKS 16 09 02.1
GTA AMB AMB
comp=Z,170nm,9.8s
GTA LR LR
comp=Z,290nm,19.6s
GTA LR LR
comp=Z,230nm,19.6s
GTA LR LR
comp=Z,610nm,21.4s

HHC	**Hu-ho-hao-te**	**169.87**	**345**	*e*PKP	**PKPdf**	**15 57 10.6**	**-2.3**
HHC				PP	**PP**	**16 02 15.1**	**-1.6**
HHC				SS	SS	16 23 05.4	-7.6
HHC				LR	LR		
	comp=Z,260nm,15.3s						
HHC				LR	LR		
	comp=Z,300nm,18.7s						
HHC				LR	LR		
	comp=Z,680nm,18.7s						
NJ2	**Nanjing**	**170.83**	**279**	*e*PKP	**PKPdf**	**15 57 13.8**	**+0.3**
TIA	**Tai'an**	**170.95**	**307**	PKP	**PKPdf**	**15 57 14.0**	**+0.5**
TIA				pPKP	**pPKPdf**	**15 57 23.1**	**+1.0**
TIA				LR	LR		
	comp=Z,190nm,16.4s						
TIA				LR	LR		
	comp=Z,230nm,16.4s						
TIA				LR	LR		
	comp=Z,260nm,18.5s						
LZH	**Lanzhou**	**173.84**	**35**	⇑PKP	**PKPdf**	**15 57 16.0**	**+1.0**
LZH				sPKP		15 57 26.0	
LZH				PKPab	**PKPab**	**15 58 45.4**	**+0.1**
LZH				PP	**PP**	**16 02 35.6**	**-1.3**
LZH				AMB	AMB		
	comp=Z,210nm,8.7s						
LZH				LR	LR		
	comp=Z,410nm,19.0s						
LZH				LR	LR		
	comp=Z,450nm,19.0s						
LZH				LR	LR		
	comp=Z,400nm,19.5s						
WHN	**Wuhan**	**174.65**	**266**	PKP	**PKPdf**	**15 57 16.5**	**+1.3**
GYA	**Guiyang**	**175.21**	**164**	⇓PKP	**PKPdf**	**15 57 16.3**	**+0.7**
CD2	**Chengdu**	**176.21**	**91**	PKP	**PKPdf**	**15 57 16.4**	**+0.7**
CD2				PP	**PP**	**16 02 53.0**	**+3.5**
CD2				SKS	**SKSdf**	**16 04 15.0**	**-2.0**
CD2				AMB	AMB		
	comp=Z,510nm,9.8s						
CD2				LR	LR		
	comp=Z,690nm,19.8s						
CD2				LR	LR		
	comp=Z,510nm,18.6s						
CD2				LR	LR		
	comp=Z,540nm,18.0s						
XAN	**Xi'an**	**176.98**	**348**	PKP	**PKPdf**	**15 57 16.3**	**+0.6**
XAN				pPKP	pPKPdf	15 57 25.3	+1.0
XAN				PKPab	**PKPab**	**15 58 58.8**	**-0.2**
XAN				PP	**PP**	**16 02 48.3**	**-2.9**
XAN				AMB	AMB		
	comp=Z,400nm,12.4s						
XAN				LR	LR		
	comp=Z,150nm,20.6s						
XAN				LR	LR		
	comp=Z,310nm,20.6s						
XAN				LR	LR		
	comp=Z,370nm,22.0s						
ENH	**Enshi**	**178.60**	**235**		**PKPdf**	**15 57 15.4**	**-0.6**

*SOME **21** 15:37:22.2,40.°63N×74.°97E,h0km*
*KRNET **21** 15:37:23.4±0.1,40.°62N×75.°09E,h16km,mb3.4*
*NNC **21** 15:37:24.3±1.1,40.°61N×75.°03E,h0km,mb3.9,mpv3.6,*
Error ellipse: s-maj=7.6km s-min=5.6km az=176.0

ISC 21 15:37:25.6±1.4,40.°69N±0.°04×74.°95E±0.°02,h4km±11km, n73,σ1§32/111,34C-16D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**1.26**	**338**	⇑*i*P	**Pn**	**15 37 48.7**	**-1.5**
ARLS	baz=35			⇑*i*S	**Sn**	**15 38 07.5**	**-0.2**
KZA	**Kyzart**	**1.41**	**9**	⇑*e*P	**Pn**	**15 37 51.4**	**-0.9**
KZA	baz=5.0			⇑*i*S	**Sg**	**15 38 11.9**	**+1.1**
KZA	**Kyzart**	**1.41**	**9**	P	**Pn**	**15 37 51.6**	**-0.8**
	SNR=34						
UCH	**Uchtor**	**1.57**	**348**	⇑*i*P	**Pb**	**15 37 55.2**	**-0.3**
UCH	baz=45			⇑*i*S	**Sg**	**15 38 18.3**	**+2.1**
UCH	**Uchtor**	**1.57**	**348**	P	**Pb**	**15 37 55.1**	**-0.4**
	SNR=26						
OHH	**Osh**	**1.66**	**265**	⇓*i*P	**Pb**	**15 37 56.5**	**-0.2**
OHH	baz=68			⇓*i*S	**Sg**	**15 38 20.9**	**+2.0**
AML	**Almayashu**	**1.72**	**327**	⇑*e*P	**Pb**	**15 37 57.9**	**-0.1**
AML	baz=26			⇑*i*S	**Sg**	**15 38 22.9**	**+1.9**
AML	**Almayashu**	**1.72**	**327**	P	**Pb**	**15 37 57.9**	**-0.1**
	SNR=33						
ULHL	**Ulahol**	**1.83**	**31**	⇑*e*P	**Pn**	**15 37 57.7**	**-0.3**
ULHL	baz=28			⇑*i*S	**Sb**	**15 38 22.9**	**-0.2**
ULHL	**Ulahol**	**1.83**	**31**	P	**Pb**	**15 37 59.1**	**-0.7**
	SNR=38						
BOOM	**Boomskoye usch**	**1.94**	**22**	⇓*i*P	**Pn**	**15 38 00.0**	**+0.4**
BOOM	baz=19			⇓*i*S	**Sb**	**15 38 27.2**	**+0.8**
KBK	**Karagaybulak**	**1.96**	**360**	⇑*i*P	**Pb**	**15 38 01.1**	**-0.9**
KBK	baz=57			⇑*i*S	**Sg**	**15 38 29.0**	**+0.2**
KBK	**Karagaybulak**	**1.96**	**360**	P	**Pb**	**15 38 02.5**	**+0.5**
	SNR=19						
AAK	**Ala-Archa**	**1.98**	**350**	⇑*e*P	**Pb**	**15 38 01.5**	**-0.7**
AAK	baz=48			⇑*i*S	**Sg**	**15 38 29.6**	**+0.5**
AAK	**Ala-Archa**	**1.98**	**350**	P	**Pb**	**15 38 02.5**	**+0.3**
	SNR=45						
AAK	**Ala-Archa**	**1.98**	**350**	Pg	**Pb**	**15 38 02.2**	**0.0**
AAK	22nm,0.5s			Lg	Lg	15 38 33.0	
	38nm,0.6s						
FRU1	**Bishkek**	**2.13**	**354**	⇓*i*P	**Pb**	**15 38 04.0**	**-0.8**
FRU1	baz=51			⇓*i*S	**Sg**	**15 38 33.7**	**-0.4**
EKS2	**Erkin-Say**	**2.16**	**336**	⇓*i*P	**Pb**	**15 38 04.5**	**-0.8**
EKS2	baz=35			⇓*i*S	**Sg**	**15 38 34.5**	**-0.5**
EKS2	**Erkin-Say**	**2.16**	**336**	P	**Pg**	**15 38 06.2**	**-0.7**
	SNR=16						
KDJ	**Kajisay**	**2.21**	**49**	⇑*i*P	**Pn**	**15 38 03.6**	**+0.4**
KDJ	baz=46			⇑*i*S	**Sb**	**15 38 32.2**	**-1.7**
TKM2	**Tokmak 2**	**2.28**	**12**	⇓*i*P	**Pn**	**15 38 05.3**	**+1.1**
TKM2	baz=9.0			⇓*i*S	**Sb**	**15 38 35.9**	**-0.2**
TKM2	**Tokmak 2**	**2.28**	**12**	P	**Pb**	**15 38 07.2**	**-0.3**
	SNR=106						
TKM2	**Tokmak 2**	**2.28**	**12**	⇓Pg	**Pb**	**15 38 07.1**	**-0.3**
TKM2	22nm,0.3s			⇑Lg	Lg	15 38 39.2	
	70nm,0.8s						
CHMS	**Chumysh**	**2.31**	**356**	⇓*e*P	**Pb**	**15 38 05.9**	**-2.0**
CHMS	baz=54			⇓*i*S	**Sb**	**15 38 37.2**	**+0.4**
CHMS	**Chumysh**	**2.31**	**356**	P	**Pb**	**15 38 08.5**	**+0.7**
	SNR=30						
MRKS	**Merke**	**2.43**	**328**	*e*P	**Pb**	**15 38 09.8**	**-0.1**
MRKS	25nm,0.6s			*e*S	**Sg**	**15 38 44.5**	**+1.0**
	78nm,0.4s						
MRKS	**Merke**	**2.43**	**328**	Pg	**Pb**	**15 38 09.8**	**-0.1**
MRKS	25nm,0.6s			Lg	Lg	15 38 44.6	
	78nm,0.4s						
KST	**Kastek**	**2.47**	**17**	*e*P	**Pb**	**15 38 10.1**	**-0.5**
KST	12nm,0.4s			*e*S	**Sg**	**15 38 45.0**	**+0.1**
	22nm,0.7s						
KST	**Kastek**	**2.47**	**17**	Pg	**Pb**	**15 38 10.1**	**-0.5**
KST	12nm,0.4s			Lg	Lg	15 38 45.0	
	22nm,0.7s						
MNAS	**Manas**	**2.57**	**315**	⇑*i*P	**Pb**	**15 38 10.4**	**-1.9**
MNAS	baz=15			⇑*i*S	**Sb**	**15 38 44.6**	**+0.3**
USP	**Ospenovka**	**2.60**	**353**	⇑*i*P	**Pn**	**15 38 10.0**	**+1.6**
USP	baz=51			⇑*i*S	**Sb**	**15 38 44.2**	**-0.8**
USP	**Ospenovka**	**2.60**	**353**	P	**Pb**	**15 38 13.7**	**+1.0**
	SNR=19						
DGS	**Degeres**	**2.62**	**13**	*e*P	**Pb**	**15 38 12.9**	**-0.3**
DGS	11nm,0.6s			*e*S	**Sg**	**15 38 49.9**	**+0.1**
	44nm,0.5s						
DGS	**Degeres**	**2.62**	**13**	Pg	**Pb**	**15 38 12.9**	**-0.3**
DGS	29nm,0.4s			Lg	Lg	15 38 49.9	
IZV	**Izvestkoviy**	**2.65**	**27**	*e*P	**Pb**	**15 38 14.4**	**+0.7**
IZV	31nm,0.3s			*e*S	**Sg**	**15 38 52.2**	**+1.4**
	53nm,0.9s						
IZV	**Izvestkoviy**	**2.65**	**27**	Pg	**Pb**	**15 38 14.4**	**+0.7**
IZV	31nm,0.3s			Lg	Lg	15 38 52.2	
	53nm,0.9s						
MTBS	**Maitube**	**2.68**	**24**	*e*P	**Pb**	**15 38 14.4**	**+0.3**
MTBS	18nm,0.6s			*e*S	**Sg**	**15 38 52.0**	**+0.5**
	37nm,0.4s						
MTBS	**Maitube**	**2.68**	**24**	Pg	**Pb**	**15 38 14.4**	**+0.3**
MTBS	18nm,0.6s			Lg	Lg	15 38 52.0	
	37nm,0.4s						
DRK	**Karamyk**	**2.70**	**244**	⇓*i*P	**Pn**	**15 38 11.3**	**+1.2**
DRK	baz=47			⇓*i*S	**Sb**	**15 38 46.4**	**-1.9**
	baz=47						
SGDS	**Sogindy**	**2.77**	**355**	Pg	**Pb**	**15 38 16.5**	**+0.8**
SGDS	10.0nm,0.4s			Lg	Lg	15 38 55.6	
	48nm,0.9s						
TNSS	**Tian-Shan**	**2.78**	**32**	Pg	**Pb**	**15 38 16.6**	**+0.6**
TNSS	23nm,0.9s			Lg	Lg	15 38 56.2	
	143nm,1.1s						
AAA	**Alma-Ata**	**2.91**	**30**	*e*P	**Pb**	**15 38 19.1**	**+1.1**
AAA	20nm,0.1s			*e*S	**Sg**	**15 39 00.5**	**+1.3**
	190nm,0.7s						
AAA	**Alma-Ata**	**2.91**	**30**	Pg	**Pb**	**15 38 19.1**	**+1.1**
AAA	20nm,0.1s			Lg	Lg	15 39 00.5	
	190nm,0.7s						
ANVS	**Anan'yevo**	**2.92**	**43**	⇑*i*P	**Pn**	**15 38 13.3**	**+0.4**
ANVS	baz=41			⇑*i*S	**Sn**	**15 38 49.2**	**+0.7**
	baz=41						
MDOK	**Medeo**	**2.92**	**32**	*e*P	**Pb**	**15 38 18.7**	**+0.3**
MDOK	17nm,0.4s			*e*S	**Sg**	**15 38 59.7**	**+0.2**
	40nm,1.2s						
MDOK	**Medeo**	**2.92**	**32**	Pg	**Pb**	**15 38 18.5**	**+0.1**
MDOK	7.7nm,0.4s			Lg	Lg	15 38 60.0	
	42nm,0.8s						
MDOK	**Medeo**	**2.92**	**32**	Pg	**Pb**	**15 38 18.7**	**+0.3**
MDOK	17nm,0.4s			Lg	Lg	15 38 59.7	
	40nm,1.2s						
KNDC	**Almaty**	**2.94**	**30**	⇑Pg	**Pb**	**15 38 19.4**	**+0.9**
KNDC	48nm,0.8s			⇑Lg	Lg	15 39 00.3	
	323nm,0.8s						
TRKS	**Terek-Say**	**3.00**	**287**	⇑*i*P	**Pn**	**15 38 15.7**	**+1.6**
TRKS	baz=87			⇑*i*S	**Sb**	**15 38 53.5**	**-3.2**
	baz=87						
KRBS	**Karabastau**	**3.05**	**10**	*e*P	**Pb**	**15 38 20.9**	**+0.4**
KRBS	6.2nm,0.4s			*e*S	**Sg**	**15 39 03.5**	**-0.1**
	48nm,0.8s						
KRBS	**Karabastau**	**3.05**	**10**	Pg	**Pb**	**15 38 20.9**	**+0.4**
KRBS	6.2nm,0.4s			Lg	Lg	15 39 03.6	
	48nm,0.8s						
PRZ	**Przheval'sk**	**3.15**	**54**	⇑*i*P	**Pn**	**15 38 16.4**	**+0.3**
PRZ	baz=52			⇑*i*S	**Sn**	**15 38 54.6**	**+0.5**
	baz=52						
BTK	**Batken**	**3.22**	**260**	⇑*i*P	**Pn**	**15 38 18.8**	**+1.8**
BTK	baz=62			⇑*i*S	**Sb**	**15 38 59.3**	**-3.7**
	baz=62						
KTBS	**Karatobe**	**3.28**	**22**	*e*P	**Pb**	**15 38 24.7**	**+0.3**
KTBS	4.7nm,0.3s			*e*S	**Sg**	**15 39 09.9**	**-1.1**
	73nm,0.8s						
KTBS	**Karatobe**	**3.28**	**22**	Pg	**Pb**	**15 38 24.7**	**+0.3**
KTBS	4.7nm,0.3s			Lg	Lg	15 39 09.9	
	73nm,0.8s						
KUU	**Kurty**	**3.36**	**17**	*e*P	**Pb**	**15 38 26.2**	**+0.5**
KUU	4.4nm,0.4s			*e*S	**Sg**	**15 39 12.7**	**-0.9**
	55nm,0.9s						
KUU	**Kurty**	**3.36**	**17**	Pg	**Pb**	**15 38 26.2**	**+0.5**
KUU	4.4nm,0.4s			Lg	Lg	15 39 12.7	
	55nm,0.9s						
SATY	**Saty**	**3.50**	**46**	*e*P	**Pb**	**15 38 28.5**	**+0.3**
SATY	3.4nm,0.6s			*e*S	**Sg**	**15 39 16.3**	**-1.7**
	25nm,1.0s						
SATY	**Saty**	**3.50**	**46**	Pg	**Pb**	**15 38 28.5**	**+0.3**
SATY	3.4nm,0.6s			Lg	Lg	15 39 16.3	
	25nm,1.0s						
CHKK	**Chushkaly**	**3.50**	**25**	*e*P	**Pb**	**15 38 28.9**	**+0.8**
CHKK	4.1nm,0.5s			*e*S	**Sg**	**15 39 17.2**	**-0.9**
	22nm,0.9s						
CHKK	**Chushkaly**	**3.50**	**25**	Pg	**Pb**	**15 38 28.9**	**+0.8**
CHKK	4.1nm,0.5s			Lg	Lg	15 39 17.2	
	22nm,0.9s						
UZB	**Uzynbulak**	**3.90**	**50**	*e*P	**Pb**	**15 38 34.8**	**-0.3**
UZB	2.8nm,0.6s			*e*S	**Sg**	**15 39 26.9**	**-4.1**
	7.0nm,0.8s						
UZB	**Uzynbulak**	**3.90**	**50**	Pg	**Pb**	**15 38 34.8**	**-0.3**
UZB	2.8nm,0.6s			Lg	Lg	15 39 26.9	
	7.0nm,0.8s						
KPKS	**Kokpek**	**3.92**	**44**	*e*P	**Pb**	**15 38 35.4**	**0.0**
KPKS	5.8nm,0.4s			*e*S	**Sg**	**15 39 28.3**	**-3.4**
	25nm,0.7s						
KK31	**Karatay Array**	**4.10**	**307**	⇓Pg	**Pb**	**15 38 39.6**	**+1.3**
KK31	1.1nm,0.5s,baz=125,slow=17,SNR=8.7			⇑Lg	Lg	15 39 35.9	
	3.4nm,0.5s,baz=120,slow=30,SNR=9.1						
SHLS	**Shalkode**	**4.17**	**52**	*e*P	**Pg**	**15 38 45.4**	**-0.1**
SHLS	8.2nm,0.8s			*e*S	**Sg**	**15 39 45.0**	**+5.5**
	16nm,1.0s						
SHLS	**Shalkode**	**4.17**	**52**	Pg	**Pg**	**15 38 45.3**	**-0.1**
SHLS	8.2nm,0.8s			Lg	Lg	15 39 45.1	
	16nm,1.0s						
PDGK	**Podgornoye**	**4.29**	**51**	Pg	**Pb**	**15 38 40.9**	**-0.6**
PDGK	0.8nm,0.7s			Lg	Lg	15 39 37.9	
	7.9nm,1.3s						
PDGK	**Podgornoye**	**4.29**	**51**	⇑Pn	**Pn**	**15 38 33.3**	**+1.6**
PDGK	3.5nm,0.8s			⇑Lg	Lg	15 39 37.7	
	14nm,0.9s						
BTLS	**Baital**	**4.40**	**352**	*e*P	**Pb**	**15 38 44.8**	**+1.4**
BTLS	2.1nm,0.3s			*e*S	**Sg**	**15 39 44.5**	**-2.3**
	9.6nm,0.6s						
BTLS	**Baital**	**4.40**	**352**	Pg	**Pb**	**15 38 44.8**	**+1.4**
BTLS	2.1nm,0.3s			Lg	Lg	15 39 44.6	
	9.6nm,0.6s						
TDK	**Taldyqorghan**	**5.00**	**29**	*e*P	**Pb**	**15 38 56.0**	**+2.4**
TDK	19nm,0.3s			*e*S	**Sg**	**15 40 03.4**	**-2.8**
	19nm,1.1s						
TDK	**Taldyqorghan**	**5.00**	**29**	Pg	**Pb**	**15 38 56.0**	**+2.4**
TDK	19nm,0.3s			Lg	Lg	15 40 03.4	
	19nm,1.1s						

MAN 21 15:41:56.4,6.°06N×126.°53E,h2km,mb4.4,ML3.2,MS3.0, Mindanao

*IDC **21** 15:44:52.5±1.0,31.°07S×71.°74W,h0km,mb4.5/5,*
mb1 4.4/8,mb1mx4.2/25,mbtmp4.4/8,ML3.9/3,Error
ellipse: s-maj=37.8km s-min=21.2km az=95.0
*SJA **21** 15:44:53.0,31.°02S×72.°29W,h10km,ML4.8*
*NEIC **21** 15:44:55.1±1.4,31.°03S±0.°04×72.°09W±0.°06,h19km±4km,*
mb4.5/14,ML4.6(GUC),Error ellipse: s-maj=9.2km
s-min=4.5km az=125.0
*GUC **21** 15:44:58.0±0.6,30.°99S×71.°66W,h29km±3km,ML4.6*

ISC 21 15:44:53.7±1.9,31.°05S±0.°03×72.°09W±0.°06,h12km±12km, n104,σ1§46/102,mb4.6/9,6C-3D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.54**	**47**	⇓*i*P	**Pb**	**15 45 06.0**	**+0.8**
CO06				*i* S	**Sg**	**15 45 11.7**	**+0.2**
CO06	**Fray Jorge**	**0.54**	**47**	Pg	**Pb**	**15 45 06.0**	**+0.8**
CO06				Sg	**Sg**	**15 45 12.3**	**+0.7**
CO03	**El Pedregal**	**1.22**	**80**	⇓*i*P	**Pn**	**15 45 14.6**	**-2.2**
CO03				*i* S	**Sb**	**15 45 27.4**	**-5.3**
CO03	**El Pedregal**	**1.22**	**80**		**Pn**	**15 45 14.5**	**-2.2**
CO05	**La Serena**	**1.35**	**33**	⇑*i*P	**Pn**	**15 45 19.0**	**+0.7**
CO05				*i* S	**Sn**	**15 45 35.0**	**-1.2**
CO05				IAML		15 45 39.6	
	comp=N,12μm,0.4s						
CO05	**La Serena**	**1.35**	**33**		**Pn**	**15 45 18.9**	**+0.5**
GO04	**Tololo Observa**	**1.42**	**52**	⇓*i*P	**Pn**	**15 45 18.9**	**-0.7**
GO04				*i* S	**Sn**	**15 45 35.4**	**-2.8**
GO04				IAML		15 45 40.5	
	comp=N,41μm,0.4s						
GO04	**Tololo Observa**	**1.42**	**52**	Pn	**Pn**	**15 45 19.2**	**-0.3**
GO04	**Tololo Observa**	**1.42**	**52**	*i* P	**Pn**	**15 45 19.0**	**-0.5**
VA06	**Catapilco**	**1.65**	**156**	⇑*i*P	**Pn**	**15 45 22.6**	**+0.1**
VA06				*i* S	**Sn**	**15 45 42.5**	**-1.3**
VA06				IAML		15 45 47.1	
	comp=N,14μm,0.4s						
VA01	**Torpederas**	**2.00**	**169**	*e*P	**Pn**	**15 45 27.7**	**+0.3**
VA01	**Torpederas**	**2.00**	**169**		**Pn**	**15 45 27.6**	**+0.3**
VA01	**Torpederas**	**2.00**	**169**	*i* P	**Pn**	**15 45 27.0**	**-0.4**
ROCH	**El Roble**	**2.13**	**155**	*e*P	**Pn**	**15 45 29.6**	**+0.3**
ROCH				*i* S	**Sn**	**15 45 56.9**	**+1.2**
ROCH				IAML		15 46 04.7	
	comp=E,4μm,0.6s						
VA03	**San Esteban**	**2.15**	**143**	⇑*i*P	**Pn**	**15 45 30.0**	**+0.4**
VA03				*i* S	**Sn**	**15 45 56.6**	**+0.4**
VA03				IAML		15 46 00.5	
	comp=E,10μm,0.5s						
VA03	**San Esteban**	**2.15**	**143**	Pn	**Pn**	**15 45 30.0**	**+0.4**
VA03	**San Esteban**	**2.15**	**143**	*i* P	**Pn**	**15 45 30.0**	**+0.4**
LCO	**Las Campanas**	**2.36**	**31**	⇑*i*P	**Pn**	**15 45 33.1**	**+0.5**
LCO				*i* S	**Sn**	**15 46 03.4**	**+1.7**
LCO	**Las Campanas**	**2.36**	**31**	*i* P	**Pn**	**15 45 33.0**	**+0.5**
AROD	**Rodeo**	**2.42**	**69**	*i* P	**Pn**	**15 45 35.0**	**+1.5**
RTLS	**Leoncito**	**2.50**	**108**	*i* P	**Pn**	**15 45 36.0**	**+1.5**
AUSP	**Uspallata**	**2.59**	**118**	*i* P	**Pn**	**15 45 38.0**	**+2.3**
MT05	**Renca**	**2.60**	**154**	*e*P	**Pn**	**15 45 36.3**	**+0.6**
MT05				IAML		15 46 13.4	
	comp=E,6μm,0.5s						
MT05	**Renca**	**2.60**	**154**		**Pn**	**15 45 36.1**	**+0.5**
MT05	**Renca**	**2.60**	**154**	*i* P	**Pn**	**15 45 37.0**	**+1.3**
VA05	**Santo Domingo**	**2.63**	**171**	IAML		15 46 20.6	
	comp=N,4μm,0.4s						
VA05	**Santo Domingo**	**2.63**	**171**		**Pn**	**15 45 36.0**	**0.0**
ACCO	**Cerro Coronel**	**2.65**	**81**	*i* P	**Pn**	**15 45 38.0**	**+1.5**
ACDV	**Cuesta del Vie**	**2.71**	**72**	*i* P	**Pn**	**15 45 40.0**	**+2.8**
MT09	**Talagante**	**2.88**	**161**	⇑*i*P	**Pn**	**15 45 40.5**	**+1.0**
MT09				*i* S	**Sb**	**15 46 19.0**	**-1.2**
MT09				IAML		15 46 30.8	
	comp=N,2μm,0.4s						
MT09	**Talagante**	**2.88**	**161**	Pn	**Pn**	**15 45 40.0**	**+0.5**
MT01	**Popeta**	**2.90**	**166**	⇑*i*P	**Pn**	**15 45 40.2**	**+0.5**
MT01				IAML		15 46 27.8	
	comp=E,2μm,0.5s						
MT01	**Popeta**	**2.90**	**166**	Pn	**Pn**	**15 45 40.1**	**+0.5**
MT01	**Popeta**	**2.90**	**166**	*i* P	**Pn**	**15 45 40.0**	**+0.3**
ZON	**Zonda**	**2.96**	**100**		**Pn**	**15 45 42.5**	**+1.9**
ZON	**Zonda**	**2.96**	**100**	*i* P	**Pn**	**15 45 43.0**	**+2.3**
AC04	**Llanos de Chal**	**2.97**	**18**	Pn	**Pn**	**15 45 40.9**	**+0.3**
AC04	**Llanos de Chal**	**2.97**	**18**	*i* P	**Pn**	**15 45 41.0**	**+0.3**
RTCV	**Cerro Valdivia**	**3.14**	**106**	*i* P	**Pn**	**15 45 45.0**	**+1.9**
ASAL	**Salagasta**	**3.17**	**120**	*i* P	**Pn**	**15 45 46.0**	**+2.5**
LMEL	**Las Melosas**	**3.21**	**151**	IAML		15 46 35.1	
	comp=N,2μm,0.4s						
ARCO	**CERRO ARCO**	**3.23**	**124**	*i* P	**Pn**	**15 45 48.0**	**+3.6**
AAGR	**Agrelo**	**3.44**	**127**	*i* P	**Pn**	**15 45 50.0**	**+2.8**
BO01	**Tunca**	**3.44**	**166**	Pn	**Pn**	**15 45 47.6**	**+0.5**
BO01	**Tunca**	**3.44**	**166**	*i* P	**Pn**	**15 45 48.0**	**+0.9**
GO03	**Copiap**	**3.81**	**26**	Pn	**Pn**	**15 45 52.6**	**+0.4**
GO03	**Copiap**	**3.81**	**26**	*i* P	**Pn**	**15 45 53.0**	**+0.8**
BO02	**Sierra Bellavi**	**3.89**	**164**	Pn	**Pn**	**15 45 54.2**	**+0.7**
BO02	**Sierra Bellavi**	**3.89**	**164**	*i* P	**Pn**	**15 45 54.0**	**+0.6**
GO05	**Huala**	**3.95**	**178**	Pn	**Pn**	**15 45 53.9**	**-0.3**
GO05	**Huala**	**3.95**	**178**	*i* P	**Pn**	**15 45 54.0**	**-0.2**
AC06	**Mina Casimiro**	**3.98**	**23**	Pn	**Pn**	**15 45 54.5**	**-0.1**
AVFE	**Valle Fertil**	**4.01**	**86**	*i* P	**Pn**	**15 45 56.0**	**+1.0**
VCA	**Vinchina**	**4.09**	**57**	*i* P	**Pn**	**15 46 00.0**	**+3.8**
ACHE	**Chepes**	**4.66**	**93**	*i* P	**Pn**	**15 46 04.0**	**0.0**
ML02	**Panimavida**	**4.73**	**173**	Pn	**Pn**	**15 46 05.1**	**+0.1**
RFA	**San Rafael**	**4.80**	**142**	*i* P	**Pn**	**15 46 07.0**	**+1.1**
AC02	**Maricunga**	**4.94**	**32**	Pn	**Pn**	**15 46 08.5**	**+0.3**
AC02	**Maricunga**	**4.94**	**32**	*i* P	**Pn**	**15 46 09.0**	**+0.8**
CYA	**Choya**	**6.06**	**66**	*i* P	**Pn**	**15 46 23.0**	**-0.1**
H03N1	**Juan Fernandez**	**6.25**	**246**	T	T	15 53 17.3	
	baz=74,slow=72,SNR=1746						
H03N3	**Juan Fernandez**	**6.26**	**246**	T	T	15 53 16.3	
	baz=74,slow=72,SNR=2630						
H03N2	**Juan Fernandez**	**6.26**	**246**	T	T	15 53 17.6	
	baz=74,slow=72,SNR=2297						
FSA	**Cafayete**	**7.29**	**49**	*i* P	**Pn**	**15 46 42.0**	**+1.8**
AHML	**Horco Molle**	**7.29**	**56**	*i* P	**Pn**	**15 46 40.0**	**-0.1**
LC01	**Cunco**	**7.83**	**179**	Pn	**Pn**	**15 46 47.4**	**0.0**
LC01	**Cunco**	**7.83**	**179**	*i* P	**Pn**	**15 46 48.0**	**+0.5**
PB15	**IPOC Station P**	**8.15**	**17**	Pn	**Pn**	**15 46 51.9**	**-0.2**
PB06	**IPOC Station P**	**8.61**	**16**	Pn	**Pn**	**15 46 58.5**	**+0.1**
PB04	**IPOC Station P**	**8.85**	**12**	Pn	**Pn**	**15 47 01.9**	**+0.2**
LVC	**Limon Verde**	**8.87**	**19**	Pn	**Pn**	**15 47 00.6**	**-1.5**
	comp=N,0.2nm,0.3s,baz=321,slow=7.6,SNR=1.7						
LVC				Sn	**Sn**	**15 48 47.6**	**+5.3**
	comp=N,1.1nm,0.3s,baz=351,slow=19,SNR=2.7						
LVC	**Limon Verde**	**8.87**	**19**		**Pn**	**15 47 01.4**	**-0.8**
PLCA	**Paso Flores**	**9.74**	**173**	Pn	**Pn**	**15 47 14.1**	**+0.4**
	comp=N,0.4nm,0.3s,baz=336,slow=15,SNR=0.8						
TRQA	**Tornquist**	**10.88**	**133**	Pn	**Pn**	**15 47 28.9**	**-0.3**
TRQA	**Tornquist**	**10.88**	**133**	*i* P	**Pn**	**15 47 30.0**	**+0.8**
LPAZ	**La Paz**	**15.13**	**15**	Pn	**Pn**	**15 48 28.4**	**+0.4**
	comp=N,0.3nm,0.3s,baz=194,slow=8.9,SNR=4.8						
LPAZ	**La Paz**	**15.13**	**15**	IAmb	IAmb	15 48 34.1	
	comp=Z,14nm,1.3s						
TRCB	**Terra Rica**	**19.18**	**69**	P	**P**	**15 49 15.7**	**-1.7**
NNA	**Nana**	**19.47**	**346**	P	**P**	**15 49 17.5**	**-3.0**
NNA				IAmb	IAmb	15 49 38.6	
	comp=Z,16nm,1.2s						
SAML	**Samuel**	**23.51**	**23**	P	**P**	**15 50 04.1**	**+0.5**
BDFB	**Brasilia**	**26.82**	**61**	P	**P**	**15 50 33.9**	**-0.3**
	comp=Z,15nm,0.9s,baz=255,slow=11,SNR=3.6						
PDPR

DBIC	**Dimbokro**	**74.30**	**72**	P	**P**	**15 56 29.1**	**-2.2**	
	comp=Z,5.7nm,0.7s,baz=205,slow=5.2,SNR=6.0							
DBIC	**Dimbokro**	**74.30**	**72**	P	**P**	**15 56 30.9**	**-0.4**	
DBIC				IAmb	IAmb	15 56 31.4		
	comp=Z,6.6nm,0.8s							
MAW	**Mawson**	**76.02**	**164**	P	**P**	**15 56 40.5**	**+0.1**	
	comp=Z,1.2nm,0.5s,baz=236,slow=7.3,SNR=3.4							
MAW	**Mawson**	**76.02**	**164**	P	**P**	**15 56 41.0**	**+0.6**	
PV12	**Saucer Basin,**	**77.04**	**331**	P	**P**	**15 56 47.0**	**+0.3**	
PV12				IAmb	IAmb	15 57 07.6		
	comp=Z,7.3nm,1.5s							
TORD	**Torodi Ar. Bea**	**83.26**	**70**	P	**P**	**15 57 20.0**	**-0.6**	
	comp=Z,3.4nm,0.8s,baz=260,slow=4.8,SNR=13							
TORD	**Torodi Ar. Bea**	**83.26**	**70**	P	**P**	**15 57 19.2**	**-1.3**	
TORD				IAmb	IAmb	15 57 20.7		
	comp=Z,3.5nm,0.8s							
WRA	**Warramunga Arr**	**123.30**	**210**	PKP	**PKPdf**	**16 03 50.5**	**-0.7**	
	comp=Z,0.6nm,0.9s,baz=174,slow=3.4,SNR=4.7							
H11S2	**WAKE ISLAND Hyl**	**25.71**	**271**	T	T	18 22 44.7		
	baz=115,slow=75,SNR=55							
H11S1	**WAKE ISLAND Hyl**	**25.73**	**271**	T	T	18 22 49.1		
	baz=115,slow=75,SNR=38							
H11S3	**WAKE ISLAND Hyl**	**25.73**	**271**	T	T	18 22 46.1		
	baz=115,slow=75,SNR=44							
H11N3	**WAKE ISLAND Hyl**	**26.05**	**273**	T	T	18 23 08.3		
	baz=116,slow=75,SNR=37							
H11N1	**WAKE ISLAND Hyl**	**26.07**	**273**	T	T	18 23 09.7		
	baz=116,slow=75,SNR=13							
H11N2	**WAKE ISLAND Hyl**	**26.07**	**273**	T	T	18 23 12.5		
	baz=116,slow=75,SNR=124							
ZALV	**Zalesovo Beam**	**151.72**	**29**	PKPbc	**PKiKP**	**16 04 48.0**	**0.0**	
	comp=Z,2.9nm,0.5s,baz=309,slow=3.2,SNR=13							
ZALV	**Zalesovo Beam**	**151.72**	**29**		**PKPbc**	**16 04 47.5**	**-0.1**	

*IDC **21** 16:02:12.5±5.5,51°.86N×178°.51E,h94km±51km, mb3.2/9, mb1 3.5/11,mb1mx3.2/58,mbtmp3.7/11,MS3.6/2, Ms1 3.7/2,ms1mx2.9/23,Error ellipse: s-maj=32.1km s-min=18.0km az=177.0*
*NEIC **21** 16:02:13.9±1.3,51°.8N±0°.2×178°.39E±0°.09,h105km±3km, mb4.1/21,ML3.3(AEIC),Error ellipse: s-maj=23.1km s-min=8.2km az=181.0*
*AEIC **21** 16:02:14±1.5,51°.8N±0°.2×178°.37E±0°.09,h102km±3km, Error ellipse: s-maj=21.8km s-min=8.1km az=182.0*

ISC 21 16:02:13.8±0.7,51°.8N±0°.1×178°.40E±0°.05,h106km±5km, n65,σ0s73/73,mb3.6/13,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.16**	**27**			**Pn**	**16 02 28.8**	**+0.1**
LSSA						**Sn**	**16 02 39.8**	**-0.1**
LSNW	**Little Sitkin**	**0.18**	**24**			**Pn**	**16 02 28.6**	**-0.1**
LSNW						**Sn**	**16 02 38.9**	**-1.0**
LSPA	**Little Sitkin**	**0.18**	**36**			**Pn**	**16 02 28.8**	**+0.1**
LSPA						**Sn**	**16 02 40.5**	**+0.6**
AMKA	**Amchitka**	**0.71**	**127**			**Pn**	**16 02 32.0**	**+0.1**
AMKA						**Sn**	**16 02 45.1**	**-0.4**
CESW	**Semis' Southwe**	**0.73**	**82**			**Pn**	**16 02 31.8**	**-0.2**
CEAP	**Semis' Anvil P**	**0.76**	**75**			**Pn**	**16 02 32.5**	**+0.2**
CEAP						**Sn**	**16 02 46.0**	**-0.2**
CERB	**Semis' Cerberu**	**0.77**	**80**			**Pn**	**16 02 31.9**	**-0.6**
CERB						**Sn**	**16 02 47.2**	**+0.7**
CERAA	**Semis' Rag'd T**	**0.81**	**82**			**Pn**	**16 02 32.7**	**-0.1**
CERAA						**Sn**	**16 02 46.9**	**-0.1**
GASW	**Gareloi Southw**	**1.71**	**90**			**Pn**	**16 02 42.7**	**-0.2**
GASW						**Sn**	**16 03 04.6**	**-0.5**
GAKI	**Gareloi-Kavalg**	**1.76**	**97**			**Pn**	**16 02 43.1**	**-0.4**
GALAA	**Gareloi Lava P**	**1.76**	**90**			**Pn**	**16 02 43.6**	**0.0**
GAEA	**Gareloi East**	**1.77**	**90**			**Pn**	**16 02 43.8**	**0.0**
GAEA						**Sn**	**16 03 07.8**	**+1.2**
TASE	**Tanaga Southea**	**2.21**	**88**			**Pn**	**16 02 49.1**	**-0.3**
TAFP	**Tanaga Falls P**	**2.25**	**86**			**Pn**	**16 02 49.3**	**-0.5**
KIMD	**Kanaga Island**	**2.71**	**89**			**Pn**	**16 02 55.3**	**-0.5**
KICM	**Kanaga Island**	**2.73**	**86**			**Pn**	**16 02 56.3**	**+0.2**
KICM						**Sn**	**16 03 29.1**	**+0.4**
KIKV	**Kanaga Island**	**2.75**	**87**			**Pn**	**16 02 56.1**	**-0.3**
KIWB	**Kanaga Island**	**2.76**	**87**			**Pn**	**16 02 55.6**	**-0.9**
SMY	**Shemya**	**2.80**	**291**			**Pn**	**16 02 56.3**	**-0.6**
ADK	**Adak**	**3.05**	**87**			**Pn**	**16 02 59.7**	**-0.6**
GSTD	**Great Sitkin T**	**3.39**	**84**			**Pn**	**16 03 04.2**	**-0.7**
GSMY	**Great Sitkin M**	**3.44**	**84**			**Pn**	**16 03 04.9**	**-0.7**
GSTR	**Great Sitkin T**	**3.44**	**83**	Pn		**Pn**	**16 03 05.5**	**0.0**
ATKA	**Atka Island**	**4.59**	**82**	Pn		**Pn**	**16 03 20.5**	**-0.5**
NIKH	**Nikolski High**	**7.89**	**76**	Pn		**Pn**	**16 04 06.2**	**+0.6**
UNV	**Unalaska Valle**	**9.37**	**71**	Pn		**Pn**	**16 04 26.8**	**+1.1**
PET	**Petropavlovsk**	**12.12**	**284**	Pn		**Pn**	**16 05 03.3**	**+0.6**
PEA0B	**Petropavlovsk-**	**12.69**	**284**	Pn		**Pn**	**16 05 10.2**	**0.0**
PETK	**Petropavlovsk-**	**12.69**	**284**	P		**Pn**	**16 05 10.3**	**+0.1**
	0.4nm,0.3s,baz=102,slow=17,SNR=16							
SII	**Sitkinak Islan**	**16.68**	**63**			**Pn**	**16 06 00.9**	**0.0**
SVW2	**Sparrevohn**	**17.01**	**47**	P		**P**	**16 06 07.1**	**+2.0**
SVW2				IAmb		IAmb	16 06 09.2	
	comp=Z,13nm,1.4s							
KDAK	**Kodiak Island**	**17.68**	**59**	P		**P**	**16 06 09.5**	**-2.9**
	comp=Z,1.1nm,0.3s,baz=282,slow=6.5,SNR=24							
KDAK	**Kodiak Island**	**17.68**	**59**	P		**P**	**16 06 11.7**	**-0.7**
KDAK				IAmb		IAmb	16 06 27.6	
	comp=Z,25nm,1.2s							
SEY	**Seymchan**	**17.76**	**319**	LR		LR	16 12 26.4	
	comp=Z,100nm,20.7s,baz=113,slow=35							
RSO	**Redoubt South**	**18.13**	**50**	P		**P**	**16 06 18.2**	**+0.7**
K20K	**Telida**	**18.57**	**41**	P		**P**	**16 06 22.5**	**+0.4**
K20K				IAmb		IAmb	16 06 33.5	
	comp=Z,5.7nm,1.1s							
CNPM	**China Poot**	**18.65**	**54**	P		**P**	**16 06 22.5**	**-0.6**
BRLK	**Bradley Lake**	**18.87**	**53**	P		**P**	**16 06 24.6**	**-0.9**
BRLK				IAmb		IAmb	16 06 36.7	
	comp=Z,17nm,1.4s							
SKT	**Skwentna**	**19.14**	**46**	P		**P**	**16 06 28.6**	**+0.2**
SKT				IAmb		IAmb	16 06 34.4	
	comp=Z,4.9nm,1.1s							
PPLA	**Purkeypile**	**19.17**	**43**	P		**P**	**16 06 29.0**	**+0.2**
PPLA				IAmb		IAmb	16 06 54.5	
	comp=Z,17nm,1.5s							
SUA	**Susitna One**	**19.34**	**48**	P		**P**	**16 06 31.1**	**+0.5**
MLY	**Manley**	**20.61**	**38**	P		**P**	**16 06 44.1**	**-0.1**
GLI	**Glacier Island**	**20.93**	**51**	P		**P**	**16 06 46.6**	**-1.1**
GLI				IAmb		IAmb	16 07 10.9	
	comp=Z,13nm,1.1s							
SCM	**Sheep Creek Mo**	**21.02**	**48**	P		**P**	**16 06 48.2**	**-0.5**
SCM				IAmb		IAmb	16 07 07.8	
	comp=Z,20nm,1.3s							
M24K	**Tolsona, Glenn**	**21.61**	**48**	P		**P**	**16 06 55.5**	**+0.5**
M24K				IAmb		IAmb	16 07 12.9	
	comp=Z,20nm,1.2s							
IL31		**22.03**	**41**	P		**P**	**16 06 58.3**	**-1.0**
ILAR	**Eielson Array**	**22.03**	**41**	P		**P**	**16 06 58.1**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=233,slow=7.8,SNR=2.2							
H24K	**Noodor Dome**	**22.03**	**38**	P		**P**	**16 06 58.7**	**-0.6**
H24K				IAmb		IAmb	16 07 11.7	
	comp=Z,5.0nm,1.4s							
RAGM	**Ragged Mountai**	**22.04**	**53**	P		**P**	**16 06 58.1**	**-1.4**
SUCK	**Suckling Hills**	**22.46**	**54**	P		**P**	**16 07 04.0**	**+0.2**
CRQM	**Cirque**	**22.84**	**52**	P		**P**	**16 07 07.2**	**-0.6**
CRQM				IAmb		IAmb	16 07 30.8	
	comp=Z,23nm,1.5s							
DOT	**Dot Lake**	**22.89**	**44**	P		**P**	**16 07 07.5**	**-0.7**
L27K	**Beaver Creek,**	**23.76**	**46**	P		**P**	**16 07 16.7**	**+0.5**
BCAR	**Beaver Creek A**	**23.78**	**46**	P		**P**	**16 07 16.6**	**+0.2**
SONM	**Songino Array**	**44.88**	**295**	P		**P**	**16 10 18.3**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=72,slow=6.6,SNR=1.8							
NVAR	**Mina Array Bea**	**45.22**	**81**	P		**P**	**16 10 21.1**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=301,slow=7.0,SNR=3.7							
KURBB	**Kurchatov Arra**	**57.55**	**312**	P		**P**	**16 11 51.6**	**-0.3**
	comp=Z,0.4nm,0.2s,baz=44,slow=6.3,SNR=4.1							
MKAR	**Makanchi Array**	**58.38**	**307**	P		**P**	**16 11 58.4**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=60,slow=8.5,SNR=2.1							
BVAR	**Borovoye Array**	**59.42**	**318**	P		**P**	**16 12 04.2**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=37,slow=9.8,SNR=2.7							
TXAR	**Lajitas Array**	**60.30**	**79**	P		**P**	**16 12 10.3**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=294,slow=4.8,SNR=2.4							
NOA	**NORSAR Array B**	**67.03**	**353**	LR		LR	16 43 45.9	
	comp=Z,88nm,20.9s,baz=240,slow=37							
WRA	**Warramunga Arr**	**81.14**	**221**	P		**P**	**16 14 17.4**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=44,slow=4.6,SNR=7.3							
WRA	**Warramunga Arr**	**81.14**	**221**	P		**P**	**16 14 16.9**	**-0.5**
ASAR	**Alice Springs**	**84.65**	**220**	P		**P**	**16 14 36.1**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=22,slow=5.5,SNR=9.3							
ASAR	**Alice Springs**	**84.65**	**220**	P		**P**	**16 14 35.7**	**+0.3**

TAP 21 16:22:03.0,24°.25N×121°.59E,h37km±1km,ML1.3,B,

Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.07**	**180**	P		Pn	16 22 08.8	-0.4
	baz=179							
NACB				S		Sn	16 22 12.9	-0.5
	baz=179							
ETL	**Fush Village**	**0.09**	**164**	P		Pn	16 22 08.8	-0.5
	baz=163							
ETL				S		Sn	16 22 13.6	-0.1
	baz=163							
ETLH	**Xiulin Townshi**	**0.11**	**248**	*eP*		Pn	16 22 09.7	-6.5
	baz=247							
ETLH				*eS*		Sn	16 22 13.8	-15
	baz=247							
TWD	**Chiawan**	**0.17**	**179**	*eS*		Sn	16 22 14.9	-8.6
	baz=176							
ENA	**Nanau**	**0.22**	**37**	P		Pn	16 22 10.1	-1.7
	baz=38							
ENA				S		Sn	16 22 15.5	-4.8
	baz=38							
NNSB	**Datong**	**0.26**	**313**	*eS*		Sn	16 22 16.0	-3.1
	baz=312							
NNS	**Nan Shan**	**0.28**	**313**	*eS*		Sn	16 22 16.3	-2.5
	baz=314							
WHF	**Hehuan Shan**	**0.32**	**251**	*eP*		Pn	16 22 11.4	-0.3
	baz=250							
WHF				*eS*		Sn	16 22 17.1	-2.0
	baz=250							
FUSS	**Fushou**	**0.32**	**270**	*eP*		Pn	16 22 11.5	0.0
	baz=269							
FUSS				*eS*		Sn	16 22 16.7	-2.0
	baz=269							
TWT	**Tachien**	**0.38**	**271**	*eP*		Pn	16 22 12.5	+0.6
	baz=270							
TWT				*eS*		Sn	16 22 18.7	-0.2
	baz=270							
ENTT	**Nioudou**	**0.39**	**356**	*eP*		Pn	16 22 12.1	+0.2
	baz=357							
ENTT				*eS*		Sn	16 22 19.3	+0.6
	baz=357							
TDCB	**Techi**	**0.40**	**271**	*eP*		Pn	16 22 12.5	+0.4
	baz=270							
CHGB	**Renai**	**0.43**	**244**	*eP*		Pn	16 22 12.7	+0.1
	baz=243							
CHGB				*eS*		Sn	16 22 19.6	-0.1
	baz=243							
YHNB	**Yeheng**	**0.46**	**335**	*eP*		Pn	16 22 13.5	+0.5
	baz=334							
YHNB				*eS*		Sn	16 22 20.3	0.0
	baz=334							
NSK	**Sanguang**	**0.48**	**333**	*eP*		Pn	16 22 13.3	0.0
	baz=333							
NSK				*eS*		Sn	16 22 20.1	-0.4
	baz=333							
NWLT	**Wulai**	**0.53**	**351**	*eS*		Sn	16 22 22.3	+0.4
	baz=351							

JMA 21 16:22:23.1±0.1,24°.01N×122°.87E,h18km±3km,M2.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.45**	**9**	P		Pg	16 22 32.0	-0.2
JYNG				S		Sg	16 22 38.0	-0.3
YOJ	**Yonaguni jima**	**0.47**	**16**	P		Pg	16 22 32.4	-0.2
YOJ				S		Sg	16 22 38.8	-0.2
IRIF	**Iriomote-Funau**	**0.85**	**67**	P		Pb	16 22 39.0	-0.3
IRIF				S		Sb	16 22 50.5	+0.1
HATJ	**Hateruma jima**	**0.86**	**87**	P		Pb	16 22 38.9	-0.5
HATJ				S		Sb	16 22 50.2	-0.4
JKRS	**Kuro-shima**	**1.06**	**77**	P		Pb	16 22 43.0	0.0
JKRS				S		Sn	16 22 57.3	-0.2
JIJ	**Ishigaki jima**	**1.21**	**73**	P		Pn	16 22 45.1	-0.1
JIJ				S		Sb	16 23 00.9	0.0
JISG	**Ishigakijimahi**	**1.44**	**66**	P		Pn	16 22 48.3	+0.1
JISG				*eS*		Sn	16 23 06.5	-0.1
JTJ	**Tarama**	**1.79**	**69**	P		Pb	16 22 55.0	-0.3
JTJ				*eS*		Sb	16 23 17.3	0.0

*NNC **21** 16:22:49.4±2.7,39°.91N×75°.55E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=19.9km s-min=15.8km az=158.0*
*SOME **21** 16:22:49.3,39°.97N×75°.45E,h5km*
*KRNET **21** 16:22:50.6±0.1,39°.90N×75°.55E,mb3.1*

ISC 21 16:22:50.5±2.1,39°.74N±0°.06×75°.54E±0°.03,h1km±15km, n61,σ1s68/95,32C-12D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.59**	**281**	⇑*iP*		**Pb**	**16 23 20.5**	**-0.4**
	baz=75							
SFK				⇑*iS*		**Sg**	**16 23 42.4**	**+0.6**
	baz=75							
OHH	**Osh**	**2.26**	**291**	⇑*iP*		**Pb**	**16 23 30.5**	**-1.6**
	baz=87							
OHH				⇑*iS*		**Sb**	**16 24 00.4**	**-0.2**
	baz=87							
ARLS	**Aral**	**2.32**	**337**	⇓*iP*		**Pn**	**16 23 29.9**	**-0.1**
	baz=35							
ARLS				⇓*iS*		**Sn**	**16 23 58.8**	**-0.4**
	baz=35							
KZA	**Kyzart**	**2.35**	**355**	⇑*eP*		**Pn**	**16 23 30.4**	**-0.3**
	baz=54							
KZA				⇑*iS*		**Sn**	**16 24 00.3**	**-0.1**
	baz=54							
KZA	**Kyzart**	**2.35**	**355**	P		**Pb**	**16 23 32.5**	**-1.4**
	SNR=24							
ULHL	**Ulahol**	**2.56**	**12**	⇓*iP*		**Pn**	**16 23 33.5**	**+0.1**
	baz=12							
ULHL				⇓*iS*		**Sn**	**16 24 05.0**	**-0.4**
	baz=12							
ULHL	**Ulahol**	**2.56**	**12**	P		**Pb**	**16 23 35.6**	**-1.9**
	SNR=20							
UCH	**Uchtor**	**2.61**	**343**	⇓*eP*		**Pn**	**16 23 34.2**	**-0.1**
	baz=42							
UCH				⇓*iS*		**Sn**	**16 24 06.2**	**-0.6**
	baz=42							
UCH	**Uchtor**	**2.61**	**343**	P		**Pn**	**16 23 35.6**	**+1.4**
	SNR=18							
TARG	**Taragay, Kyrgy**	**2.63**	**40**	⇓*iP*		**Pn**	**16 23 35.3**	**+0.8**
	baz=42							
TARG				⇓*iS*		**Sn**	**16 24 07.4**	**+0.1**
	baz=42							
KDJ	**Kajisay**	**2.69**	**27**	⇑*iP*		**Pn**	**16 23 35.6**	**+0.4**
	baz=29							
KDJ				⇑*iS*		**Sn**	**16 24 08.6**	**0.0**
	baz=29							
BOOM	**Boomskoye usch**	**2.77**	**6**	⇑*iP*		**Pn**	**16 23 36.5**	**+0.3**
	baz=6.0							
BOOM				⇑*iS*		**Sn**	**16 24 10.3**	**-0.1**
	baz=6.0							
AML	**Almayashu**	**2.77**	**330**	⇑*eP*		**Pn**	**16 23 36.7**	**+0.2**
	baz=28							
AML				⇑*iS*		**Sn**	**16 24 10.5**	**-0.3**
	baz=28							
AML	**Almayashu**	**2.77**	**330**	P		**Pn**	**16 23 38.2**	**+1.7**
	SNR=11							
DRK	**Karamyk**	**2.90**	**266**	⇑*iP*		**Pb**	**16 23 41.0**	**-2.3**
	baz=63							
DRK				⇑*iS*		**Sb**	**16 24 18.0**	**-1.4**
	baz=63							
KBK	**Karagaybulak**	**2.95**	**351**	⇑*iP*		**Pn**	**16 23 39.0**	**+0.3**
	baz=51							
KBK				⇑*iS*		**Sn**	**16 24 14.5**	**-0.4**
	baz=51							
KBK	**Karagaybulak**	**2.95**	**351**	P		**Pb**	**16 23 43.8**	**-0.3**
	SNR=6.2							
TKM2	**Tokmak 2**	**3.18**	**1**	⇑*eP*		**Pn**	**16 23 42.1**	**+0.2**
	baz=1.0							
TKM2				⇑*iS*		**Sn**	**16 24 20.3**	**-0.4**
	baz=1.0							
TKM2	**Tokmak 2**	**3.18**	**1**	P		**Pn**	**16 23 43.5**	**+1.6**
	SNR=5.7							
TKM2	**Tokmak 2**	**3.18**	**1**	⇑Pn		**Pn**	**16 23 43.2**	**+1.3**
	3.8nm,0.3s							
TKM2				⇑Lg		Lg	16 24 28.8	
	10nm,0.7s							
EKS2	**Erkin-Say**	**3.21**	**336**	⇓*eP*		**Pn**	**16 23 42.4**	**+0.1**
	baz=35							
EKS2				⇓*iS*		**Sn**	**16 24 20.7**	**-0.6**
	baz=35							
CHMS	**Chumysh**	**3.31**	**350**	⇑*eP*		**Pn**	**16 23 43.6**	**0.0**
	baz=49							
CHMS				⇑*iS*		**Sn**	**16 24 23.0**	**-0.6**
	baz=49							
KST	**Kastek**	**3.32**	**5**	*eP*		**Pb**	**16 23 48.5**	**-1.8**
	3.6nm,1.1s							
KST				*eS*		**Sb**	**16 24 30.4**	**-0.8**
	5.1nm,0.7s							
KST	**Kastek**	**3.32**	**5**	Pg		**Pn**	**16 23 45.6**	**+1.9**
	3.6nm,1.1s							
KST				Lg		Lg	16 24 30.4	
	5.1nm,0.7s							
IZV	**Izvestkoviy**	**3.40**	**13**	*eP*		**Pb**	**16 23 50.2**	**-1.4**
	7.8nm,0.5s							
IZV				*eS*		**Sb**	**16 24 33.6**	**+0.2**
	16nm,0.6s							
IZV	**Izvestkoviy**	**3.40**	**13**	Pg		**Pn**	**16 23 46.8**	**+1.9**
	7.8nm,0.5s							
IZV				Lg		Lg	16 24 32.4	
	16nm,0.6s							
ANVS	**Anan'yevo**	**3.44**	**27**	⇑*iP*		**Pn**	**16 23 45.6**	**+0.1**
	baz=28							
ANVS				⇑*iS*		**Sn**	**16 24 25.9**	**-1.1**
	baz=28							
MTBS	**Maitube**	**3.46**	**11**	*eP*		**Pb**	**16 23 50.3**	**-2.3**
	0.6nm,0.2s							
MTBS				*eS*		**Sb**	**16 24 33.8**	**-1.4**
	7.2nm,0.4s							
MTBS	**Maitube**	**3.46**	**11**	Pg		**Pn**	**16 23 47.5**	**+1.9**
	4.0nm,0.2s							
MTBS				Lg		Lg	16 24 33.8	
	7.2nm,0.4s							
TNSS	**Tian-Shan**	**3.46**	**17**	Pg		**Pn**	**16 23 47.6**	**+1.6**
	7.5nm,0.6s							
TNSS				Lg		Lg	16 24 33.7	
	13nm,0.6s							
MRKS	**Merke**	**3.48**	**331**	*eP*		**Pb**	**16 23 51.8**	**-1.2**
	3.3nm,0.5s							
MRKS				*eS*		**Sb**	**16 24 36.7**	**+0.9**
	11nm,0.5s							
MRKS	**Merke**	**3.48**	**331**	Pg		**Pn**	**16 23 47.3**	**+1.4**
	4.0nm,0.7s							
MRKS				Lg		Lg	16 24 33.4	
	11nm,0.5s							
DGS	**Degeres**	**3.51**	**3**	*eP*		**Pb**	**16 23 51.6**	**-1.8**
	4.8nm,0.4s							
DGS				*eS*		**Sb**	**16 24 36.1**	**-0.5**
	9.9nm,0.4s							
DGS	**Degeres**	**3.51**	**3**	Pg		**Pn**	**16 23 48.1**	**+1.8**
	11nm,0.5s							
DGS				Lg		Lg	16 24 34.7	
	9.9nm,0.4s							
MNAS	**Manas**	**3.58**	**321**	⇑*eP*		**Pn**	**16 23 48.5**	**+1.1**
	baz=19							
MNAS				⇑*iS*		**Sn**	**16 24 30.5**	**+0.1**
	baz=19							
MDOK	**Medeo**	**3.61**	**18**	*eP*		**Pb**	**16 23 53.0**	**-2.2**
	2.6nm,0.6s							
MDOK				*eS*		**Sb**	**16 24 38.5**	**-1.0**
	6.8nm,0.9s							
MDOK	**Medeo**	**3.61**	**18**	Pn		**Pn**	**16 23 48.3**	**+0.6**
	3.3nm,0.5s							
MDOK				Lg		Lg	16 24 42.6	
	10nm,0.9s							
MDOK	**Medeo**	**3.61**	**18**	Pg		**Pn**	**16 23 50.7**	**+2.9**
	4.3nm,0.9s							
MDOK				Lg		Lg	16 24 38.9	
	6.8nm,0.9s							
USP	**Ospenovka**	**3.62**	**348**	⇑*iP*		**Pn**	**16 23 47.9**	**+0.2**
	baz=47							
USP				⇑*iS*		**Sn**	**16 24 29.8**	**-1.3**
	baz=47							
USP	**Ospenovka**	**3.62**	**348**	P		**Pn**	**16 23 49.5**	**+1.8**
	SNR=5.5							
SGDS	**Sogindy**	**3.78**	**350**	Pg		**Pn**	**16 23 53.7**	**+3.8**
	2.9nm,0.3s							
SGDS				Lg		Lg	16 24 44.3	
	8.8nm,0.5s							
TRKS	**Terek-Say**	**3.80**	**300**	⇓*eP*		**Pn**	**16 23 51.7**	**+1.3**
	baz=97							
TRKS				⇓*iS*		**Sn**	**16 24 35.2**	**-0.6**
	baz=97							
SATY	**Saty**	**3.96**	**32**	*eP*		**Pb**	**16 23 59.7**	**-1.4**
	1.7nm,0.6s							
SATY				*eS*		**Sb**	**16 24 50.8**	**+1.2**
	9.6nm,0.8s							
SATY	**Saty**	**3.96**	**32**	Pg		**Pb**	**16 23 57.6**	**-3.6**
	0.6nm,0.1s							
SATY				Lg		Lg	16 24 50.7	
	9.6nm,0.8s							
KRBS	**Karabastau**	**3.96**	**1**	*eP*		**Pb**	**16 23 59.9**	**-1.2**
	3.4nm,0.4s							
KRBS				*eS*		**Sb**	**16 24 50.3**	**+0.7**
	5.9nm,0.5s							
KRBS	**Karabastau**	**3.96**	**1**	Pg		**Pb**	**16 23 57.3**	**-3.8**
	3.4nm,0.4s							
KRBS				Lg		Lg	16 24 50.3	
	5.9nm,0.5s							
KTBS	**Karatobe**	**4.06**	**12**	*eP*		**Pb**	**16 24 01.7**	**-1.2**
	2.7nm,0.6s							
KTBS				*eS*		**Sb**	**16 24 53.5**	**+1.0**
	20nm,0.5s							
KTBS	**Karatobe**	**4.06**	**12**	Pg		**Pb**	**16 23 59.0**	**-3.9**
	2.7nm,0.6s							
KTBS				Lg		Lg	16 24 53.5	
	20nm,0.5s							
KUU	**Kurty**	**4.20**	**8**	*eP*		**Pb**	**16 24 03.8**	**-1.4**
	1.1nm,0.4s							
KUU				*eS*		**Sb**	**16 24 57.0**	**+0.6**
	5.7nm,0.7s							
KUU	**Kurty**	**4.20**	**8**	Pg		**Pb**	**16 24 01.2**	**-4.0**
	0.6nm,0.2s							
KUU				Lg	

TLIG					*e*S		Sn	16 26 51.2	-4.1
DAIG	**Los Arroyos**	**1.26**	**294**		*i* P		Pn	16 26 41.9	-2.4
DAIG					*i* S		Sn	16 26 57.7	-2.7
PEIG	**Puerto Escondi**	**1.34**	**112**		*i* P		Pn	16 26 45.9	+0.4
PEIG					*i* S		Sb	16 27 03.7	-0.4
FTIG	**Fresnillo de T**	**1.42**	**12**		*e*P		Pn	16 26 44.6	-2.0
HLIG	**Huajuapan de L**	**1.45**	**25**		*e*P		Pn	16 26 44.8	-2.3
HLIG					*i* S		Sn	16 27 02.2	-2.9
MEIG	**Mezcala**	**1.80**	**321**		*e*P		Pn	16 26 50.4	-1.4
MEIG					*e*S		Sn	16 27 14.3	+0.6

*IDC **21** 16:39:30.6±0.7, 57°.31S×26°.00W, h0km, mb4.2/8, mb1 4.3/9, mb1mx4.1/27, mbtmp4.2/9, ML3.8/1, Error ellipse: s-maj=28.6km s-min=18.5km az=75.0*
*NEIC **21** 16:39:39.8±2.0, 57°.44S±0°.07×26°.1W±0°.2, h72km±6km, mb4.3/10, Error ellipse: s-maj=19.1km s-min=10.2km az=95.0*
ISC 21 16:39:39.1±0.7, **57°.4S**±0°.1×**26°.0W**±0°.1, **h65**km, **n24, σ0s94/23, mb4.2/10, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**6.70**	**293**	Pn	**Pn**	**16 41 16.6**	**+1.9**
VNA1	**Neumayer--Stat**	**15.29**	**157**	P	**Pn**	**16 43 10.5**	**-0.2**
VNA3	**Neumayer Olymp**	**15.50**	**160**	P	**Pn**	**16 43 12.3**	**-1.0**
VNA2	**Neumayer--Watz**	**15.69**	**157**	P	**Pn**	**16 43 15.9**	**+0.2**
	baz=319,slow=14						
SNAA	**Sanae**	**17.24**	**155**	P	**P**	**16 43 36.5**	**+0.8**
SNAA	**Sanae**	**17.24**	**155**	P	**Pn**	**16 43 34.8**	**-0.3**
	0.3nm,0.3s,baz=325,slow=15,SNR=30						
TRQA	**Tornquist**	**30.48**	**294**	P	**P**	**16 45 43.9**	**-1.7**
TRQA				IAmb	IAmb	16 45 44.0	
	comp=Z,7.3nm,1.2s						
QSPA	**South Pole Qui**	**32.86**	**180**	P	**P**	**16 46 07.0**	**+0.6**
	comp=Z,3.6nm,0.5s,baz=226,slow=1.6,SNR=70						
QSPA	**South Pole Qui**	**32.86**	**180**	P	**P**	**16 46 06.6**	**+0.3**
QSPA				IAmb	IAmb	16 46 07.5	
	comp=Z,4.0nm,0.6s						
PLCA	**Paso Flores**	**32.91**	**281**	P	**P**	**16 46 05.9**	**-1.1**
	comp=Z,2.4nm,1.1s,baz=272,slow=6.0,SNR=3.4						
VNDA	**Vanda**	**45.26**	**182**	P	**P**	**16 47 50.4**	**+1.1**
	comp=Z,2.0nm,0.6s,baz=187,slow=6.5,SNR=30						
VNDA	**Vanda**	**45.26**	**182**		**P**	**16 47 49.9**	**+0.6**
VNDA				IAmb	IAmb	16 47 50.9	
	comp=Z,2.3nm,0.7s						
SIV	**San Ignacio**	**48.99**	**313**	P	**P**	**16 48 18.3**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=179,slow=9.9,SNR=8.3						
LPAZ	**La Paz**	**51.70**	**305**	P	**P**	**16 48 40.1**	**-0.1**
	comp=Z,1.9nm,0.3s,baz=154,slow=7.0,SNR=11						
LPAZ	**La Paz**	**51.70**	**305**	P	**P**	**16 48 39.8**	**-0.4**
SAML	**Samuel**	**56.23**	**314**	P	**P**	**16 49 11.6**	**-0.8**
SAML				IAmb	IAmb	16 49 14.3	
	comp=Z,3.2nm,1.1s						
DBIC	**Dimbokro**	**66.12**	**23**	P	**P**	**16 50 20.8**	**+1.5**
	comp=Z,3.2nm,0.9s,baz=159,slow=22,SNR=3.0						
DBIC	**Dimbokro**	**66.12**	**23**	IAmb	IAmb	16 50 34.1	
	comp=Z,6.2nm,1.1s						
TORD	**Torodi Ar. Bea**	**73.90**	**28**	P	**P**	**16 51 07.2**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=201,slow=6.5,SNR=12						
ASAR	**Alice Springs**	**97.50**	**161**	P	**P**	**16 53 04.7**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=175,slow=3.0,SNR=2.7						
FINES	**FINESS Array B**	**125.25**	**28**	PKP	**PKPdf**	**16 58 30.1**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=227,slow=4.7,SNR=4.6						
SONM	**Songino Array**	**150.11**	**88**	PKPbc	**PKPbc**	**16 59 21.0**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=240,slow=3.8,SNR=5.6						
ILAR	**Eielson Array**	**151.51**	**310**	PKPbc	**PKiKP**	**16 59 23.9**	**-0.5**
	comp=Z,3.3nm,0.7s,baz=150,slow=3.0,SNR=15						
ILAR	**Eielson Array**	**151.51**	**310**		**PKPbc**	**16 59 23.3**	**-0.7**

KRSC 21 16:42:33.3±0.8, **48°.57N×156°.37E, h15**km±17km, **ML3.7, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.12**	**356**	*e*P	Pn	16 43 09.0	+0.9
SKR				*e*S	Sb	16 43 36.0	-1.4
PAU	**Pauzhetka**	**2.91**	**5**	*e*S	Sn	16 43 56.6	+2.9
KDTR	**Khodutka, Kamc**	**3.42**	**18**	*e*P	Pb	16 43 29.8	-3.7
KDTR				*e*S	Sb	16 44 10.8	-4.1
ASAK	**Asacha**	**3.94**	**14**	*e*P	Pn	16 43 36.9	+3.7
MTVR	**Mutnovka**	**4.08**	**16**	*e*P	Pn	16 43 38.8	+3.6
MTVR				*e*S	Sn	16 44 27.9	+5.1
RUS	**Russkaya**	**4.10**	**19**	*e*P	Pn	16 43 38.6	+3.3
RUS				*e*S	Sn	16 44 27.2	+4.2
GRL	**Gorelyy**	**4.13**	**15**	*e*P	Pn	16 43 39.5	+3.6
AVH	**Avacha**	**4.93**	**17**	*e*P	Pn	16 43 51.4	+4.6
KOK	**Koryaka**	**4.94**	**16**	*e*P	Pn	16 43 51.8	+4.9
KRX	**Arik**	**5.00**	**16**	*e*P	Pn	16 43 52.0	+4.1

*IDC **21** 16:48:01.4±1.4, 30°.92S×71°.51W, h0km, mb4.1/3, mb1 4.0/8, mb1mx3.8/25, mbtmp3.8/8, ML3.7/5, Error ellipse: s-maj=36.7km s-min=29.8km az=84.0*
*SJA **21** 16:48:06.5±1.1, 30°.76S×71°.55W, h32km±4km, ML6.1*
*NEIC **21** 16:48:07.2±1.8, 30°.81S±0°.05×71°.65W±0°.08, h36km±7km, mb4.4/10, ML4.3(GUC), Error ellipse: s-maj=10.2km s-min=6.1km az=108.0*
*GUC **21** 16:48:07.4±0.7, 30°.83S×71°.46W, h49km±2km, ML4.3*
ISC 21 16:48:07.2±0.7, **30°.82S**±0°.03×**71°.60W**±0°.05, **h43**km±6km, **n91, σ1s51/98, mb4.4/7, 1C-7D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.15**	**348**	⇑*i*P	**Pn**	**16 48 15.8**	**+1.3**
CO06				*e*S	**Sn**	**16 48 20.8**	**+1.2**
CO06				IAML		16 48 22.1	
	comp=N,28μm,0.2s						
CO06	**Fray Jorge**	**0.15**	**348**		**Pn**	**16 48 15.8**	**+1.3**
CO06				Sn	**Sn**	**16 48 19.9**	**+0.4**
CO03	**El Pedregal**	**0.78**	**92**	⇓*i*P	**Pn**	**16 48 21.1**	**-0.9**
CO03				*i* S	**Sn**	**16 48 30.8**	**-1.8**
CO03	**El Pedregal**	**0.78**	**92**	Pn	**Pn**	**16 48 21.1**	**-0.9**
GO04	**Tololo Observa**	**0.94**	**47**	⇓*i*P	**Pn**	**16 48 24.0**	**-0.2**
GO04				*i* S	**Sn**	**16 48 36.2**	**-0.6**
GO04				IAML		16 48 37.6	
	comp=N,11μm,0.2s						
GO04	**Tololo Observa**	**0.94**	**47**	Pn	**Pn**	**16 48 24.1**	**-0.2**
GO04				Sn	**Sn**	**16 48 35.4**	**-1.3**
GO04	**Tololo Observa**	**0.94**	**47**	*e*P	**Pn**	**16 48 24.1**	**-0.2**
GO04				*i* S	**Sn**	**16 48 37.1**	**+0.3**
CO05	**La Serena**	**0.95**	**19**	⇓*i*P	**Pn**	**16 48 24.8**	**+0.6**
CO05				*e*S	**Sn**	**16 48 37.0**	**+0.5**
CO05	**La Serena**	**0.95**	**19**		**Pn**	**16 48 24.6**	**+0.4**
VA06	**Catapilco**	**1.75**	**172**	⇓*e*P	**Pn**	**16 48 36.1**	**+0.9**
VA06				*e*S	**Sn**	**16 48 57.6**	**+1.3**
VA06				IAML		16 49 03.2	
	comp=E,8μm,0.4s						
LCO	**Las Campanas**	**1.96**	**24**	⇓*i*P	**Pn**	**16 48 39.2**	**+0.9**
LCO				*e*S	**Sn**	**16 49 03.0**	**+1.1**
LCO	**Las Campanas**	**1.96**	**24**	Pn	**Pn**	**16 48 39.0**	**+0.7**
LCO	**Las Campanas**	**1.96**	**24**	*e*P	**Pn**	**16 48 39.3**	**+1.0**
LCO				*e*S	**Sn**	**16 49 03.7**	**+1.8**
VA03	**San Esteban**	**2.13**	**156**	⇓*e*P	**Pn**	**16 48 42.0**	**+1.5**
VA03				*e*S	**Sn**	**16 49 06.5**	**+0.6**
VA03				IAML		16 49 11.9	
	comp=N,2μm,0.2s						
VA03	**San Esteban**	**2.13**	**156**		**Pn**	**16 48 41.8**	**+1.3**
VA01	**Torpederas**	**2.20**	**181**	Pn	**Pn**	**16 48 41.3**	**0.0**
RTLS	**Leoncito**	**2.20**	**117**	*e*P	**Pn**	**16 48 44.0**	**+2.4**
RTLS				*e*S	**Sn**	**16 49 10.9**	**+3.2**
ROCH	**El Roble**	**2.20**	**167**	*e*P	**Pn**	**16 48 42.3**	**+0.7**
ROCH				*e*S	**Sn**	**16 49 09.2**	**+1.6**
ROCH				IAML		16 49 15.2	
	comp=N,2μm,0.5s						
AUSP	**Uspallata**	**2.35**	**127**	*e*P	**Pn**	**16 48 46.0**	**+2.4**
AUSP				*e*S	**Sn**	**16 49 15.7**	**+4.3**
ZON	**Zonda**	**2.61**	**107**	Pn	**Pn**	**16 48 49.1**	**+2.2**
AC04	**Llanos de Chal**	**2.65**	**10**	Pn	**Pn**	**16 48 48.1**	**+0.7**
AC04	**Llanos de Chal**	**2.65**	**10**	*e*P	**Pn**	**16 48 48.4**	**+1.0**
MT05	**Renca**	**2.67**	**164**	*e*P	**Pn**	**16 48 49.2**	**+1.4**
MT05				*e*S	**Sn**	**16 49 20.1**	**+1.2**
MT05				IAML		16 49 33.1	
	comp=E,3μm,0.4s						
MT05	**Renca**	**2.67**	**164**		**Pn**	**16 48 48.6**	**+0.8**
VA05	**Santo Domingo**	**2.83**	**180**	*e*P	**Pn**	**16 48 50.0**	**+0.1**
VA05				*e*S	**Sn**	**16 49 22.0**	**-0.8**
VA05				IAML		16 49 41.7	
	comp=N,1μm,0.3s						
VA05	**Santo Domingo**	**2.83**	**180**	Pn	**Pn**	**16 48 49.7**	**-0.2**
MT09	**Talagante**	**2.99**	**170**	⇓*e*P	**Pn**	**16 48 53.5**	**+1.2**
MT09				*e*S	**Sn**	**16 49 28.1**	**+1.1**
MT09				IAML		16 49 42.5	
	comp=N,1μm,0.3s						
MT09	**Talagante**	**2.99**	**170**		**Pn**	**16 48 52.2**	**-0.1**
MT01	**Popeta**	**3.05**	**175**	Pn	**Pn**	**16 48 53.3**	**+0.4**
GO03	**Copiap**	**3.43**	**21**	Pn	**Pn**	**16 48 58.8**	**+0.5**
GO03	**Copiap**	**3.43**	**21**	*e*P	**Pn**	**16 48 59.4**	**+1.2**
GO03				*e*S	**Sn**	**16 49 44.4**	**+6.7**
BO01	**Tunca**	**3.59**	**173**	Pn	**Pn**	**16 49 00.3**	**-0.1**
VCA	**Vinchina**	**3.61**	**56**	*e*P	**Pn**	**16 49 04.5**	**+3.8**
VCA				*e*S	Sn	16 49 50.2	+8.0
AC06	**Mina Casimiro**	**3.62**	**18**	Pn	**Pn**	**16 49 00.8**	**0.0**
BO02	**Sierra Bellavi**	**4.02**	**170**	Pn	**Pn**	**16 49 06.9**	**+0.6**
GO05	**Huala**	**4.19**	**184**	Pn	**Pn**	**16 49 07.8**	**-0.8**
TINO	**Tinogasta**	**4.46**	**53**	*e*P	Pn	16 49 19.2	+6.7
TINO				*e*S	Sn	16 50 14.1	+11
AC02	**Maricunga**	**4.52**	**29**	Pn	**Pn**	**16 49 14.0**	**+0.4**
AC02	**Maricunga**	**4.52**	**29**	*e*P	**Pn**	**16 49 15.4**	**+1.7**
AC02				*e*S	Sn	16 50 14.8	+10
CYA	**Choya**	**5.58**	**66**	*i* P	**Pn**	**16 49 28.4**	**+0.7**
CYA				*e*S	**Sn**	**16 50 30.9**	**+0.4**
PB14	**IPOC Station P**	**6.26**	**10**	Pn	**Pn**	**16 49 35.8**	**-1.6**
PB14	**IPOC Station P**	**6.26**	**10**	*e*P	Pn	16 49 42.9	+5.5
PB14				*e*S	Sn	16 51 04.6	+17
H03N1	**Juan Fernandez**	**6.73**	**245**	T	T	16 56 35.3	
	baz=77,slow=72,SNR=381						
VA04	**Juan Fernndez**	**6.74**	**243**	Pn	**Pn**	**16 49 43.6**	**0.0**
H03N3	**Juan Fernandez**	**6.75**	**245**	T	T	16 56 35.7	
	baz=77,slow=72,SNR=461						
H03N2	**Juan Fernandez**	**6.75**	**245**	T	T	16 56 37.0	
	baz=77,slow=72,SNR=539						
FSA	**Cafayete**	**6.82**	**48**	*e*P	**Pn**	**16 49 46.6**	**+1.7**
PB10	**IPOC Station P**	**7.34**	**8**	Pn	**Pn**	**16 49 52.3**	**+0.4**
PB15	**IPOC Station P**	**7.81**	**15**	Pn	**Pn**	**16 49 57.5**	**-1.1**
PB15	**IPOC Station P**	**7.81**	**15**	*e*P	**Pn**	**16 49 58.0**	**-0.6**
LC01	**Cunco**	**8.06**	**182**	Pn	**Pn**	**16 50 01.0**	**-0.7**
PB06	**IPOC Station P**	**8.28**	**13**	Pn	**Pn**	**16 50 03.0**	**-2.0**
LVC	**Limon Verde**	**8.52**	**17**	Pn	**Pn**	**16 50 07.7**	**-0.8**
	comp=N,0.3nm,0.3s,baz=186,slow=11,SNR=1.5						
LVC				Sn	Sn	16 51 58.1	+15
	comp=N,1.1nm,0.3s,baz=330,slow=13,SNR=3.4						
LVC	**Limon Verde**	**8.52**	**17**	Pn	**Pn**	**16 50 06.2**	**-2.3**
PB04	**IPOC Station P**	**8.55**	**9**	Pn	**Pn**	**16 50 06.7**	**-1.9**
PB07	**IPOC Station P**	**9.19**	**10**	Pn	**Pn**	**16 50 16.9**	**-0.5**
PB09	**IPOC Station P**	**9.23**	**14**	Pn	**Pn**	**16 50 17.4**	**-0.6**
PB01	**IPOC Station P**	**9.92**	**12**	Pn	**Pn**	**16 50 24.4**	**-2.9**
PLCA	**Paso Flores**	**9.93**	**175**	Pn	**Pn**	**16 50 26.1**	**-1.2**
	comp=N,0.1nm,0.3s,baz=314,slow=9.8,SNR=3.2						
PLCA	**Paso Flores**	**9.93**	**175**	Pn	**Pn**	**16 50 26.8**	**-0.6**
LL04	**Puerto Octay**	**10.09**	**184**	Pn	**Pn**	**16 50 27.8**	**-1.7**
TA02	**Huaiquique**	**10.59**	**8**	Pn	**Pn**	**16 50 36.2**	**-0.2**
TRQA	**Tornquist**	**10.73**	**135**	Pn	**Pn**	**16 50 37.3**	**-1.0**
PB11	**IPOC Station P**	**11.15**	**10**	Pn	**Pn**	**16 50 41.8**	**-0.5**
PSGCX	**Pisagua**	**11.25**	**7**	Pn	**Pn**	**16 50 43.2**	**-2.5**
CPUP	**Villa Florida**	**13.31**	**74**	Pn	**Pn**	**16 51 11.9**	**-1.7**
	comp=N,0.2nm,0.3s,baz=214,slow=11,SNR=2.2						
LPAZ	**La Paz**	**14.81**	**13**	Pn	**Pn**	**16 51 35.4**	**+0.9**
	comp=N,0.1nm,0.3s,baz=198,slow=7.4,SNR=6.9						
LPAZ	**La Paz**	**14.81**	**13**	Pn	**Pn**	**16 51 36.6**	**+2.1**
SIV	**San Ignacio**	**17.62**	**35**	P	**P**	**16 52 09.8**	**-0.5**
	comp=N,0.3nm,0.3s,baz=228,slow=10,SNR=10						
BCIP	**Isla Barro Col**	**40.54**	**347**	P	**P**	**16 55 40.9**	**-1.5**
BCIP				IAmb	IAmb	16 55 42.8	
	comp=Z,13nm,0.9s						
SJCC	**San Jacinto, C**	**40.63**	**355**	P	**P**	**16 55 41.7**	**-1.5**
SJCC				IAmb	IAmb	16 55 47.8	
	comp=Z,9.3nm,1.2s						
OBIP	**Obispado Ponce**	**48.82**	**6**	P	**P**	**16 56 48.3**	**0.0**
PDPR	**Patillas Dam,**	**48.85**	**7**	P	**P**	**16 56 47.9**	**-0.7**
VNA2	**Neumayer--Watz**	**52.80**	**158**	P	**P**	**16 57 17.8**	**0.0**
	baz=294,slow=8.8						
SNAA	**Sanae**	**54.39**	**159**	P	**P**	**16 57 29.3**	**-0.3**
SNAA	**Sanae**	**54.39**	**159**	P	**Pn**	**16 57 29.5**	**-0.1**
SNAA				IAmb	IAmb	16 57 42.9	
	comp=Z,4.3nm,1.1s						
QSPA	**South Pole Qui**	**59.41**	**180**	P	**P**	**16 58 05.4**	**+0.2**
TXAR	**Lajitas Array**	**67.16**	**330**	P	**P**	**16 58 58.5**	**+1.6**
	comp=Z,0.5nm,0.8s,baz=147,slow=7.1,SNR=5.9						
R40A	**Maddies Statio**	**71.41**	**343**	P	**P**	**16 59 23.6**	**+0.8**
R40A				IAmb	IAmb	16 59 24.3	
	comp=Z,5.0nm,0.7s						
DBIC	**Dimbokro**	**73.82**	**72**	P	**P**	**16 59 37.8**	**0.0**
	comp=Z,3.1nm,0.5s,baz=214,slow=3.6,SNR=7.3						
DBIC	**Dimbokro**	**73.82**	**72**	P	**P**	**16 59 37.3**	**-0.4**
TORD	**Torodi Ar. Bea**	**82.78**	**70**	P	**P**	**17 00 27.6**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=279,slow=6.5,SNR=12						
TORD	**Torodi Ar. Bea**	**82.78**	**70**	IAmb	IAmb	17 00 41.9	
	comp=Z,2.4nm,1.2s						
H11S2	**WAKE ISLAND Hyd**	**126.13**	**271**	T	T	19 25 53.5	
	baz=115,slow=74,SNR=28						
H11S1	**WAKE ISLAND Hyd**	**126.14**	**271**	T	T	19 25 59.7	
	baz=115,slow=74,SNR=32						
H11S3	**WAKE ISLAND Hyd**	**126.15**	**271**	T	T	19 25 54.2	
	baz=115,slow=74,SNR=23						
ZALV	**Zalesovo Beam**	**151.31**	**30**	PKPbc	**PKPbc**	**17 07 55.0**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=298,slow=3.1,SNR=5.0						
GTA	**Gaotai**	**168.92**	**37**	PKP	PKPab	17 09 36.8	+16
GTA	**Gaotai**	**168.92**	**37**	*e*PKPbc	**PKPdf**	**17 08 11.6**	**+1.9**
GTA	**Gaotai**	**168.92**	**37**	pPKP	pPKPdf	17 08 21.3	-2.0
GTA	**Gaotai**	**168.92**	**37**	sPKP		17 08 24.8	

*IDC **21** 16:52:33.5±1.0, 30°.70S×71°.75W, h0km, mb4.1/6, mb1 4.1/10, mb1mx3.9/27, mbtmp4.0/10, ML3.7/4, MS3.3/4, Ms1 3.2/4, ms1mx3.0/29, Error ellipse: s-maj=35.8km s-min=22.4km az=99.0*
*NEIC **21** 16:52:35.9±1.7, 30°.61S±0°.04×71°.99W±0°.05, h15km±3km, mb4.6/12, ML4.6(GUC), Error ellipse: s-maj=6.6km s-min=4.2km az=57.0*
*SJA **21** 16:52:36.0, 30°.57S×72°.01W, h10km, ML4.6*
*GUC **21** 16:52:37.6±0.7, 30°.69S×71°.63W, h30km±2km, ML4.4*
ISC 21 16:52:37.7±0.8, **30.70S**±0°.03×**71.78W**±0°.06, **h29**km±5km, **n93, σ1s72/93, mb4.3/10, 1C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.13**	**80**	⇓*i*P	**Pb**	**16 52 43.2**	**+0.1**
CO06				*i* S	**Sb**	**16 52 46.7**	**-0.1**
CO06				AMP		16 52 47.2	
CO06	**Fray Jorge**	**0.13**	**80**	Pg	**Pb**	**16 52 43.1**	**-0.1**
CO06				Sg	**Sb**	**16 52 46.4**	**-0.5**
CO05	**La Serena**	**0.91**	**31**	⇓*i*P	**Pn**	**16 52 53.9**	**-0.7**
CO05				*i* S	**Sb**	**16 53 05.7**	**-0.9**
CO05				IAML		16 53 08.1	
	comp=N,14μm,0.4s						
CO05	**La Serena**	**0.91**	**31**	Pg	**Pn**	**16 52 53.7**	**-0.8**
CO05				Sg	**Sb**	**16 53 05.6**	**-1.0**
CO03	**El Pedregal**	**0.95**	**99**	⇓*i*P	**Pn**	**16 52 54.6**	**-0.6**
CO03				*i* S	**Sn**	**16 53 06.3**	**-1.6**
CO03	**El Pedregal**	**0.95**	**99**		**Pn**	**16 52 54.5**	**-0.7**
CO03	**El Pedregal**	**0.95**	**99**	*i* P	**Pn**	**16 52 54.0**	**-1.2**
GO04	**Tololo Observa**	**1.00**	**59**	⇓*i*P	**Pn**	**16 52 55.5**	**-0.5**
GO04				*i* S	**Sb**	**16 53 08.8**	**-0.7**
GO04	**Tololo Observa**	**1.00**	**59**		**Pn**	**16 52 55.5**	**-0.5**
GO04	**Tololo Observa**	**1.00**	**59**	*i* P	**Pn**	**16 52 55.0**	**-1.0**
VA06	**Catapilco**	**1.90**	**168**	*e*P	**Pn**	**16 53 08.8**	**+0.6**
VA06				*i* S	**Sb**	**16 53 35.5**	**+0.3**
VA06				IAML		16 53 41.0	
	comp=E,5μm,0.6s						
LCO	**Las Campanas**	**1.93**	**30**	⇑*i*P	**Pn**	**16 53 09.0**	**+0.2**
LCO				*i* S	**Sn**	**16 53 32.4**	**+0.3**
LCO	**Las Campanas**	**1.93**	**30**	*i* P	**Pn**	**16 53 09.0**	**+0.2**
AROD	**Rodeo**	**2.06**	**76**	*i* P	**Pb**	**16 53 14.0**	**-0.7**
VA03	**San Esteban**	**2.31**	**153**	*e*P	**Pn**	**16 53 15.9**	**+2.0**
VA03				*i* S	**Sb**	**16 53 45.2**	**-1.8**
VA03				IAML		16 53 53.2	
	comp=N,3μm,0.3s						
VA03	**San Esteban**	**2.31**	**153**		**Pn**	**16 53 16.4**	**+2.4**
VA03	**San Esteban**	**2.31**	**153**	*i* P	**Pb**	**16 53 17.0**	**-1.8**
VA01	**Torpederas**	**2.32**	**177**		**Pn**	**16 53 14.8**	**+0.9**
ACCO	**Cerro Coronel**	**2.34**	**88**	*i* P	**Pb**	**16 53 18.0**	**-1.5**
ACDV	**Cuesta del Vie**	**2.36**	**78**	*i* P	**Pb**	**16 53 19.0**	**-0.7**
ROCH	**El Roble**	**2.36**	**164**	*e*P	**Pn**	**16 53 17.2**	**+2.5**
ROCH				*i* S	**Sb**	**16 53 48.4**	**-0.2**
ROCH				IAML		16 53 58.1	
	comp=N,2μm,0.5s						
RTLS	**Leoncito**	**2.40**	**118**	*i* P	**Pb**	**16 53 19.0**	**-1.4**
AUSP	**Uspallata**	**2.55**	**127**	*i* P	**Pb**	**16 53 21.0**	**-2.0**
AC04	**Llanos de Chal**	**2.56**	**14**		**Pn**	**16 53 16.6**	**-0.7**
AC04	**Llanos de Chal**	**2.56**	**14**	*i* P	**Pn**	**16 53 17.0**	**-0.3**
ZON	**Zonda**	**2.79**	**108**		**Pb**	**16 53 23.8**	**-3.2**
MT05	**Renca**	**2.83**	**162**	IAML		16 54 09.7	
	comp=E,2μm,0.4s						
MT05	**Renca**	**2.83**	**162**		**Pn**	**16 53 23.5**	**+2.4**
MT05	**Renca**	**2.83**	**162**	*i* P	**Pb**	**16 53 26.0**	**-1.6**
VA05	**Santo Domingo**	**2.96**	**177**	IAML		16 54 22.1	
	comp=E,1μm,0.4s						
RTCV	**Cerro Valdivia**	**3.01**	**114**	*i* P	**Pb**	**16 53 28.0**	**-2.7**
MT09	**Talagante**	**3.14**	**168**	IAML		16 54 18.9	
	comp=N,988nm,0.3s						
MT09	**Talagante**	**3.14**	**168**		**Pn**	**16 53 27.2**	**+1.8**
MT01	**Popeta**	**3.19**	**172**	*e*P	**Pn**	**16 53 26.8**	**+0.8**
MT01				IAML		16 54 21.2	
	comp=E,951nm,0.8s						
MT01	**Popeta**	**3.19**	**172**		**Pn**	**16 53 26.6**	**+0.6**
ARCO	**CERRO ARCO**	**3.24**	**132**	*i* P	**Pb**	**16 53 32.0**	**-2.6**
GO03	**Copiap**	**3.38**	**24**		**Pn**	**16 53 28.3**	**-0.3**
GO03	**Copiap**	**3.38**	**24**	*i* P	**Pn**	**16 53 29.0**	**+0.5**
LMEL	**Las Melosas**	**3.42**	**157**	*e*P	**Pn**	**16 53 31.8**	**+2.6**
LMEL				*i* S	**Sn**	**16 54 12.8**	**+4.1**
AC06	**Mina Casimiro**	**3.56**	**21**		**Pn**	**16 53 30.0**	**-0.9**
BO01	**Tunca**	**3.73**	**171**	Pn	**Pn**	**16 53 35.1**	**+1.7**
BO01	**Tunca**	**3.73**	**171**	*i* P	**Pn**	**16 53 37.0**	**+3.6**
BO02	**Sierra Bellavi**	**4.17**	**169**		**Pn**	**16 53 41.1**	**+1.6**
BO02	**Sierra Bellavi**	**4.17**	**169**	*i* P	**Pn**	**16 53 42.0**	**+2.5**
GO05	**Huala**	**4.30**	**182**	Pn	**Pn**	**16 53 40.4**	**-0.9**
GO05	**Huala**	**4.30**	**182**	*i* P	**Pn**	**16 53 41.0**	**-0.2**
AC02	**Maricunga**	**4.50**	**32**		**Pn**	**16 53 44.8**	**+0.4**
AC02	**Maricunga**	**4.50**	**32**	*i* P	**Pn**	**16 53 45.0**	**+0.6**
ML02	**Panimavida**	**5.06**	**177**	Pn	**Pn**	**16 53 52.9**	**+1.2**
CYA	**Choya**	**5.67**	**68**	*i* P	**Pn**	**16 54 02.0**	**+1.9**
PB14	**IPOC Station P**	**6.17**	**12**	Pn	**Pn**	**16 54 06.5**	**-0.7**
H03N1	**Juan Fernandez**	**6.64**	**244**	T	T	17 01 07.8	
	baz=72,slow=72,SNR=1018						
H03N2	**Juan Fernandez**	**6.66**	**244**	T	T	17 01 07.2	
	baz=72,slow=72,SNR=1596						
H03N3	**Juan Fernandez**	**6.66**	**244**	T	T	17 01 06.0	
	baz=72,slow=72,SNR=1814						
VA04	**Juan Fernndez**	**6.66**	**242**		**Pn**	**16 54 11.9**	**-1.6**
AHML	**Horco Molle**	**6.87**	**57**	*i* P	**Pn**	**16 54 18.0**	**+1.4**
PB10	**IPOC Station P**	**7.24**	**9**	Pn	**Pn**	**16 54 18.2**	**-3.3**
PB15	**IPOC Station P**	**7.74**	**16**	Pn	**Pn**	**16 54 27.9**	**-0.7**
LC01	**Cunco**	**8.18**	**181**	Pn	**Pn**	**16 54 35.0**	**+0.5**
LVC	**Limon Verde**	**8.45**	**18**	Pn	**Pn**	**16 54 36.1**	**-2.4**
	comp=E,0.4nm,0.3s,baz=250,slow=15,SNR=1.0						
LVC				Sn	**Sn**	**16 56 20.2**	**+6.9**
	comp=E,1.2nm,0.3s,baz=250,slow=20,SNR=3.2						
LVC				LR	LR	16 57 55.5	
	comp=E,182nm,20.9s,baz=201,slow=38						
PB04	**IPOC Station P**	**8.46**	**10**	Pn	**Pn**

KKSI	**Kolaka, Sulawe**	**8.60**	**287**	P		**Pn**	**17 00 31.1**	**+3.0**
	12nm,0.8s							
KNRA	**Kununurra**	**8.96**	**187**			**Pn**	**17 00 34.7**	**+2.0**
BKSI	**Bulukumba**	**9.83**	**278**	P		**Pn**	**17 00 48.4**	**+4.0**
	9.1nm,0.9s							
SMPI	**Sarmi**	**9.96**	**62**	P		**Pn**	**17 00 47.3**	**+1.1**
	19nm,0.9s							
JAY	**Jayapura**	**11.55**	**69**	P		**Pn**	**17 01 07.8**	**+0.6**
	0.2nm,0.3s,baz=255,slow=23,SNR=1.3							
FITZ	**Fitzroy Crossi**	**12.04**	**200**	P		**Pn**	**17 01 13.8**	**+0.4**
	1.1nm,0.3s,baz=31,slow=11,SNR=37							
FITZ				S		**Sn**	**17 03 21.0**	**-5.5**
	4.1nm,0.3s,baz=129,slow=18,SNR=6.8							
WB0	**Warramunga Arr**	**13.67**	**162**	Pn		**Pn**	**17 01 33.9**	**-0.6**
WRAB	**Tennant Creek**	**13.81**	**162**			**Pn**	**17 01 36.0**	**-0.3**
WRA	**Warramunga Arr**	**13.82**	**162**	P		**Pn**	**17 01 36.6**	**+0.2**
	1.0nm,0.3s,baz=338,slow=12,SNR=49							
WRA				S		**Sn**	**17 04 07.9**	**-1.5**
	3.0nm,0.3s,baz=331,slow=22,SNR=7.5							
WRA	**Warramunga Arr**	**13.82**	**162**			**Pn**	**17 01 36.0**	**-0.4**
WB2	**Warramunga Arr**	**13.82**	**162**			**Pn**	**17 01 36.1**	**-0.3**
WR0	**Warramunga Arr**	**13.89**	**162**			**Pn**	**17 01 36.8**	**-0.5**
COEN	**Coen**	**14.89**	**120**	P		**P**	**17 01 53.1**	**+1.2**
COEN				IAmb		IAmb	17 01 55.5	
	comp=Z,51nm,1.2s							
BBKI	**Banjar Baru**	**15.35**	**281**	P		**P**	**17 02 01.4**	**+4.4**
	comp=Z,8µmcomp=Z,34nm,0.8s							
JAGI	**Jajag, Banyuwa**	**15.71**	**263**	Pn		**Pn**	**17 01 56.3**	**-3.7**
JAGI				IAmb		IAmb	17 02 01.9	
	comp=Z,18nm,0.9s							
AS31	**Alice Springs**	**17.27**	**168**			**Pn**	**17 02 20.6**	**+1.7**
AS31				IAmb		IAmb	17 02 22.3	
	comp=Z,14nm,0.5s							
ASAR	**Alice Springs**	**17.27**	**168**	P		**Pn**	**17 02 20.8**	**+1.8**
	comp=Z,5.8nm,0.3s,baz=346,slow=10,SNR=414							
ASAR				S		**S**	**17 05 27.1**	**-3.7**
	comp=Z,0.5nm,0.3s,baz=352,slow=25,SNR=9.8							
ASAR	**Alice Springs**	**17.27**	**168**			**Pn**	**17 02 20.6**	**+1.7**
PSA00	**Pilbara Seismi**	**17.67**	**212**	P		**Pn**	**17 02 23.5**	**-0.2**
PSA00				IAmb		IAmb	17 02 24.5	
	comp=Z,19nm,0.5s							
PSA00	**Pilbara Seismi**	**17.67**	**212**	P		**P**	**17 02 22.9**	**+0.4**
PSA00				IAmb		IAmb	17 02 24.8	
	comp=Z,5.8nm,0.7s							
SJI	**Sawahan**	**18.02**	**266**	P		**Pn**	**17 02 32.7**	**+4.6**
CTA	**Charters Tower**	**20.68**	**131**	P		**P**	**17 02 56.8**	**+1.6**
	comp=Z,3.7nm,0.8s,baz=310,slow=14,SNR=3.9							
GIRL	**Giralia**	**21.87**	**222**	P		**P**	**17 03 08.4**	**+0.6**
FORT	**Forrest**	**23.98**	**184**	P		**P**	**17 03 28.0**	**+0.4**
FORT				IAmb		IAmb	17 03 33.7	
	comp=Z,39nm,1.5s							
XMIS	**Christmas Isla**	**24.26**	**259**	P		**P**	**17 03 28.5**	**-1.9**
BBOO	**Buckleboo**	**26.57**	**168**	P		**P**	**17 03 51.2**	**+0.3**
BBOO				IAmb		IAmb	17 04 15.4	
	comp=Z,31nm,1.4s							
STKA	**Stephens Creek**	**27.29**	**158**	P		**P**	**17 03 58.5**	**+1.1**
	comp=Z,4.5nm,0.6s,baz=342,slow=7.7,SNR=15							
STKA	**Stephens Creek**	**27.29**	**158**			**P**	**17 03 58.2**	**+0.7**
ARMA	**Armidale**	**31.16**	**142**	P		**P**	**17 04 33.5**	**+1.6**
ARMA				IAmb		IAmb	17 04 46.1	
	comp=Z,21nm,1.4s							
CAN	**Canberra**	**33.43**	**151**	P		**P**	**17 04 53.6**	**+2.0**
CAN				IAmb		IAmb	17 04 54.5	
	comp=Z,20nm,0.9s							
TOO	**Toolangi**	**33.81**	**157**	P		**P**	**17 04 57.4**	**+2.6**
TOO				IAmb		IAmb	17 05 11.4	
	comp=Z,12nm,1.1s							
CMAR	**Chiang Mai Arr**	**39.49**	**310**	P		**P**	**17 05 38.8**	**-4.3**
	comp=Z,0.3nm,0.3s,baz=134,slow=6.4,SNR=2.2							
QRZ	**Quartz Range**	**50.91**	**139**	P		**P**	**17 07 14.5**	**+1.6**
THZ	**Tophouse**	**51.63**	**139**	P		**P**	**17 07 19.1**	**+0.8**
THZ				IAmb		IAmb	17 07 34.2	
	comp=Z,25nm,1.2s							
TUWZ	**Tuamarina**	**52.14**	**139**	P		**P**	**17 07 22.1**	**+0.1**
BKZ	**Black Stump Fm**	**52.85**	**135**	P		**P**	**17 07 27.4**	**+0.1**
MKAR	**Makanchi Array**	**67.95**	**327**	P		**P**	**17 09 07.7**	**-2.0**
	comp=Z,1.3nm,0.5s,baz=116,slow=7.5,SNR=18							
MAKZ	**Makanchi**	**68.13**	**327**	P		**P**	**17 09 08.7**	**-2.1**
MAKZ				IAmb		IAmb	17 09 18.9	
	comp=Z,6.1nm,1.4s							
VNDA	**Vanda**	**72.72**	**173**	P		**P**	**17 09 37.2**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=310,slow=9.3,SNR=9.9							
VNDA	**Vanda**	**72.72**	**173**	IAmb		IAmb	17 09 38.5	
	comp=Z,1.1nm,0.7s							
KKAR	**Karatay Array**	**73.08**	**319**	P		**P**	**17 09 39.0**	**-1.8**
QSPA	**South Pole Qui**	**83.24**	**180**	P		**P**	**17 10 35.4**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=344,slow=5.4,SNR=13							
CPUP	**Villa Florida**	**146.39**	**168**	PKPbc		**PKPbc**	**17 17 50.4**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=181,slow=3.2,SNR=4.9							
LPAZ	**La Paz**	**150.98**	**142**	PKPbc		**PKPbc**	**17 18 01.7**	**-2.2**
	comp=Z,0.9nm,0.4s,baz=256,slow=2.6,SNR=6.7							

*IDC **21** 17:01:48.3±1.1,31°.63S×71°.83W,h0km,mb4.1/6, mb1 4.0/11,mb1mx3.9/31,mbtmp3.9/11,ML3.7/5,MS3.2/1, Ms1 3.2/1,ms1mx2.7/30,Error ellipse: s-maj=36.8km s-min=17.6km az=101.0*

*NEIC **21** 17:01:49.4±1.8,31°.67S±0°.04×72°.0W±0°.1,h10km±1km, mb4.1/7,ML3.9(GUC),Error ellipse: s-maj=16.9km s-min=6.2km az=268.0*

*GUC **21** 17:01:50.0±0.9,31°.72S×72°.13W,h31km±3km,ML3.9*

ISC 21 17:01:47.6±1.6,31°.71S±0°.03×72°.19W±0°.07,h3km±10km, n61,σ1s16/70,mb4.3/7,5C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**1.14**	**25**	*eP*	**Pg**	**17 02 09.5**	**+0.2**
CO06				*i* S	**Sg**	**17 02 24.9**	**+0.9**
CO06				IAML		17 02 33.0	
	comp=E,3µm,0.2s						
CO06	**Fray Jorge**	**1.14**	**25**		**Pg**	**17 02 09.3**	**0.0**
VA06	**Catapilco**	**1.14**	**139**	*i* P	**Pg**	**17 02 09.8**	**+0.4**
VA06				*i* S	**Sg**	**17 02 24.3**	**+0.1**
VA06				IAML		17 02 29.8	
	comp=N,8µm,0.6s						
VA01	**Torpederas**	**1.39**	**161**	*eP*	**Pn**	**17 02 13.7**	**-0.2**
VA01				*i* S	**Sb**	**17 02 30.8**	**-1.6**
VA01				IAML		17 02 32.1	
	comp=N,1µm,0.8s						
VA01	**Torpederas**	**1.39**	**161**	Pn	**Pn**	**17 02 13.8**	**-0.1**
CO03	**El Pedregal**	**1.55**	**56**	*eP*	**Pn**	**17 02 15.9**	**-0.3**
CO03				*i* S	**Sn**	**17 02 35.4**	**-1.5**
CO03				IAML		17 02 41.9	
	comp=E,3µm,0.4s						
CO03	**El Pedregal**	**1.55**	**56**		**Pn**	**17 02 15.8**	**-0.3**
ROCH	**El Roble**	**1.61**	**142**	*eP*	**Pn**	**17 02 17.1**	**0.0**
ROCH				*i* S	**Sn**	**17 02 38.0**	**-0.5**
ROCH				IAML		17 02 44.0	
	comp=N,3µm,0.5s						
VA03	**San Esteban**	**1.74**	**128**	*eP*	**Pn**	**17 02 19.1**	**+0.2**
VA03				*i* S	**Sn**	**17 02 41.3**	**-0.4**
VA03				IAML		17 02 45.8	
	comp=N,3µm,0.4s						
VA03	**San Esteban**	**1.74**	**128**		**Pn**	**17 02 19.1**	**+0.2**
GO04	**Tololo Observa**	**1.94**	**38**	*eP*	**Pn**	**17 02 22.4**	**+0.7**
GO04				*i* S	**Sn**	**17 02 47.6**	**+0.9**
GO04				IAML		17 02 51.9	
	comp=N,4µm,0.3s						
GO04	**Tololo Observa**	**1.94**	**38**	Pn	**Pn**	**17 02 21.4**	**-0.3**
CO05	**La Serena**	**1.96**	**25**	*i* S	**Sn**	**17 02 48.1**	**+1.3**
CO05	**La Serena**	**1.96**	**25**	Pn	**Pn**	**17 02 21.0**	**-0.7**
VA05	**Santo Domingo**	**2.00**	**166**	*eP*	**Pn**	**17 02 22.2**	**-0.1**
VA05				*eS*	**Sn**	**17 02 48.4**	**+0.4**
VA05				IAML		17 03 00.7	
	comp=E,3µm,0.3s						
VA05	**Santo Domingo**	**2.00**	**166**	Pn	**Pn**	**17 02 22.4**	**0.0**
MT05	**Renca**	**2.08**	**144**	*eP*	**Pn**	**17 02 23.8**	**+0.3**
MT05				*eS*	**Sn**	**17 02 49.5**	**-0.5**
MT05				IAML		17 02 55.7	
	comp=E,3µm,0.4s						
MT05	**Renca**	**2.08**	**144**		**Pn**	**17 02 23.9**	**+0.5**
MT01	**Popeta**	**2.29**	**160**	*i* P	**Pn**	**17 02 26.5**	**+0.2**
MT01	**Popeta**	**2.29**	**160**	Pn	**Pn**	**17 02 26.6**	**+0.2**
MT09	**Talagante**	**2.30**	**154**	*eP*	**Pn**	**17 02 27.4**	**+0.9**
MT09				*eS*	**Sn**	**17 02 54.8**	**-0.7**
MT09				IAML		17 03 08.5	
	comp=N,1µm,0.4s						
MT09	**Talagante**	**2.30**	**154**		**Pn**	**17 02 27.4**	**+0.9**
LMEL	**Las Melosas**	**2.71**	**142**	*eP*	**Pn**	**17 02 33.3**	**+1.0**
LMEL				*i* S	**Sn**	**17 03 06.2**	**+0.5**
BO03	**Pichilemu**	**2.79**	**176**	*eP*	**Pn**	**17 02 33.2**	**+0.1**
BO03				*eS*	**Sn**	**17 03 03.8**	**-3.5**
BO03				IAML		17 03 06.7	
	comp=N,254nm,0.3s						
BO01	**Tunca**	**2.83**	**161**	*eP*	**Pn**	**17 02 34.4**	**+0.7**
BO01				*eS*	**Sn**	**17 03 09.6**	**+1.1**
BO01				IAML		17 03 24.1	
	comp=N,228nm,0.8s						
BO01	**Tunca**	**2.83**	**161**	Pn	**Pn**	**17 02 34.0**	**+0.3**
ZON	**Zonda**	**3.00**	**88**	Pn	**Pn**	**17 02 36.4**	**+0.3**
BO02	**Sierra Bellavi**	**3.29**	**159**	Pn	**Pn**	**17 02 40.9**	**+0.7**
GO05	**Huala**	**3.30**	**176**	*eP*	**Pn**	**17 02 40.0**	**-0.2**
GO05				*eS*	**Sn**	**17 03 16.7**	**-3.3**
GO05	**Huala**	**3.30**	**176**		**Pn**	**17 02 40.1**	**-0.1**
AC04	**Llanos de Chal**	**3.62**	**16**	Pn	**Pn**	**17 02 43.6**	**-1.0**
ML02	**Panimavida**	**4.10**	**171**	Pn	**Pn**	**17 02 51.3**	**+0.1**
GO03	**Copiap**	**4.44**	**23**		**Pn**	**17 02 54.7**	**-1.2**
AC06	**Mina Casimiro**	**4.62**	**21**		**Pn**	**17 02 57.9**	**-0.4**
AC02	**Maricunga**	**5.54**	**30**	Pn	**Pn**	**17 03 08.4**	**-3.0**
PB14	**IPOC Station P**	**7.23**	**13**	Pn	**Pn**	**17 03 32.8**	**-1.7**
PB15	**IPOC Station P**	**8.80**	**17**	Pn	**Pn**	**17 03 54.0**	**-2.0**
PLCA	**Paso Flores**	**9.10**	**172**	Pn	**Pn**	**17 04 01.1**	**+1.2**
	comp=N,0.4nm,0.3s,baz=336,slow=12,SNR=16						
PLCA				LR	LR	17 07 52.1	
	comp=N,146nm,18.1s,baz=6.0,slow=40						
PLCA	**Paso Flores**	**9.10**	**172**	Pn	**Pn**	**17 04 00.6**	**+0.7**
LVC	**Limon Verde**	**9.52**	**19**	Pn	**Pn**	**17 04 03.8**	**-2.2**
	comp=N,0.2nm,0.3s,baz=219,slow=14,SNR=1.4						
TRQA	**Tornquist**	**10.51**	**130**	Pn	**Pn**	**17 04 19.1**	**0.0**
CPUP	**Villa Florida**	**14.06**	**71**	Pn	**Pn**	**17 05 06.1**	**-1.6**
	comp=N,0.1nm,0.3s,baz=266,slow=19,SNR=1.6						
LPAZ	**La Paz**	**15.79**	**14**	Pn	**Pn**	**17 05 31.6**	**+0.1**
	comp=N,0.1nm,0.3s,baz=188,slow=12,SNR=2.7						
LPAZ	**La Paz**	**15.79**	**14**	IAmb	IAmb	17 05 40.3	
	comp=Z,1.7nm,0.8s						
SIV	**San Ignacio**	**18.64**	**35**	P	**P**	**17 06 06.3**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=199,slow=4.2,SNR=4.0						
SAML	**Samuel**	**24.14**	**22**	P	**P**	**17 07 04.3**	**-0.7**
SAML				IAmb	IAmb	17 07 06.8	
	comp=Z,1.6nm,0.8s						
BDFB	**Brasilia**	**27.22**	**60**	P	**P**	**17 07 30.8**	**-2.2**
	comp=Z,2.1nm,0.4s,baz=201,slow=8.6,SNR=3.5						
BDFB	**Brasilia**	**27.22**	**60**	IAmb	IAmb	17 07 33.3	
	comp=Z,5.1nm,0.8s						
PMSA	**Palmer Station**	**33.47**	**174**	P	**P**	**17 08 30.4**	**+2.7**
	comp=Z,12nm,1.0s,baz=304,slow=8.0,SNR=2.9						
VNA3	**Neumayer Olymp**	**51.53**	**158**	P	**P**	**17 10 55.2**	**+0.9**
VNA2	**Neumayer--Watz**	**52.17**	**158**	P	**P**	**17 10 59.8**	**+0.7**
	baz=288,slow=8.3						
SNAA	**Sanae**	**53.75**	**158**	P	**P**	**17 11 11.4**	**+0.6**
SNAA	**Sanae**	**53.75**	**158**	P	**P**	**17 11 11.4**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=272,slow=7.7,SNR=31						
SNAA	**Sanae**	**53.75**	**158**	IAmb	IAmb	17 11 12.0	
	comp=Z,2.2nm,0.7s						
QSPA	**South Pole Qui**	**58.52**	**180**	P	**P**	**17 11 46.5**	**+1.4**
	comp=Z,1.7nm,0.9s,baz=153,slow=4.5,SNR=6.5						
TXAR	**Lajitas Array**	**67.68**	**330**	P	**P**	**17 12 48.1**	**+1.9**
	comp=Z,0.3nm,0.8s,baz=168,slow=8.9,SNR=2.5						
DBIC	**Dimbokro**	**74.58**	**72**	P	**P**	**17 13 27.8**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=191,slow=6.6,SNR=3.5						
DBIC	**Dimbokro**	**74.58**	**72**	IAmb	IAmb	17 13 37.9	
	comp=Z,4.7nm,1.1s						
TORD	**Torodi Ar. Bea**	**83.56**	**70**	P	**P**	**17 14 16.6**	**-0.9**
	comp=Z,2µm,0.4s,baz=260,slow=4.6,SNR=12						
TORD	**Torodi Ar. Bea**	**83.56**	**70**	IAmb	IAmb	17 14 16.8	
	comp=Z,1µm,1.4s						
ZALV	**Zalesovo Beam**	**152.33**	**30**	PKPbc	**PKPbc**	**17 21 44.8**	**+0.3**
	comp=Z,1.4nm,0.4s,baz=317,slow=3.1,SNR=6.2						

MEX 21 17:02:52.9±0.9,18°.27N×101°.69W,h89km±12km,MD4.2, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UON	**La Union**	**0.32**	**201**	*i* P	Pn	17 03 03.0	-3.3
UON				*i* S	Sn	17 03 11.9	-4.4
ARIG	**Puente Sto Nin**	**1.28**	**89**	*i* P	Pn	17 03 14.6	-1.3
ARIG				*i* S	Sn	17 03 31.7	-1.5
MMIG	**Aquila**	**1.57**	**271**	*i* P	Pn	17 03 18.2	-1.3
MMIG				*i* S	Sn	17 03 38.2	-1.4
COIG	**Colima**	**2.10**	**296**	*eP*	Pn	17 03 24.6	-1.8
COIG				*i* S	Sn	17 03 50.2	-1.8
EZ5V		**2.17**	**304**	*eP*	Pn	17 03 26.6	-1.0
EZ5V				*i* S	Sn	17 03 53.1	-0.9
R15V		**2.35**	**293**	*eP*	Pn	17 03 28.4	-1.4
R15V				*i* S	Sn	17 03 59.1	+1.2

MAN 21 17:04:34.8,13°.21N×120°.24E,h17km,mb3.6,ML2.3, MS1.7,1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.75**	**67**	*eP*	Pb	17 04 48.9	-0.5
PGP				*eS*	Sb	17 04 58.4	-1.0

*IDC **21** 17:15:08.0±0.9,0°.14S×124°.53E,h0km,mb3.7/6, mb1 3.9/7,mb1mx3.7/35,mbtmp3.7/7,ML3.4/1,Error ellipse: s-maj=56.2km s-min=17.2km az=69.0*

*DJA **21** 17:15:14.1±0.6,0°.5S±3°×12°.4E±°,h15km±5km,M4.3/19, mb4.4/11,mB5.1/3,MLv4.2/19,Mw(mB)4.5/3*

ISC 21 17:15:14.0±0.7,0°.13S±0°.05×124°.60E±0°.05,h35km,n30, σ2s22/35,mb3.8/6,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.94**	**318**	P	**Pn**	**17 15 30.9**	**+0.2**
KMSI				S	**Sn**	**17 15 40.7**	**-2.2**
MNI	**Manado**	**1.58**	**9**	P	**Pn**	**17 15 43.5**	**+3.9**
GTOI	**Gorontalo**	**1.77**	**296**	P	**Pn**	**17 15 44.1**	**+2.0**
GTOI				S	**Sn**	**17 16 08.4**	**+5.1**
LUWI	**Luwuk**	**2.04**	**244**	P	**Pn**	**17 15 48.4**	**+2.5**
LUWI				S	**Sn**	**17 16 12.3**	**+2.1**
SANI	**Sanana**	**2.36**	**144**	P	**Pn**	**17 15 49.8**	**-0.4**
MRSI	**Marisa**	**2.73**	**283**	P	**Pn**	**17 15 53.5**	**-1.9**
MRSI				S	**Sn**	**17 16 26.9**	**-0.3**
TNTI	**Ternate**	**2.91**	**72**	P	**Pn**	**17 16 00.8**	**+3.0**
APSI	**Ampana**	**3.06**	**255**	P	**Pn**	**17 16 01.4**	**+1.6**
GAMI	**Galela, Maluku**	**3.74**	**58**	P	**Pn**	**17 16 12.9**	**+3.7**
MPSI	**Mapaga**	**4.73**	**276**	P	**Pn**	**17 16 23.7**	**+0.9**
KRAI	**Karang Ratu**	**4.94**	**130**	P	**Pn**	**17 16 28.5**	**+2.8**
	0.5nm4µm40nm,0.6s						
KKSI	**Kolaka, Sulawe**	**4.98**	**216**	P	**Pn**	**17 16 26.9**	**+0.6**
MSAI	**Masohi**	**5.38**	**127**	P	**Pn**	**17 16 35.5**	**+3.8**
	0.0nm10.0nm,0.6s						
TTSI	**Tana Toraja**	**5.59**	**239**	P	**Pn**	**17 16 35.8**	**+1.1**
	0.1nm31nm,0.4s						
BNSI	**Bone**	**6.18**	**227**	P	**Pn**	**17 16 43.5**	**+0.7**
	0.1nm17nm,0.7s						
PMSI	**Majene**	**6.60**	**239**	P	**Pn**	**17 16 49.3**	**+0.7**
	0.4nm53nm,0.8s						
SWI	**Sorong**	**6.70**	**96**	P	**Pn**	**17 16 52.4**	**+2.5**
	0.2nm1µm37nm,0.4s						
BKSI	**Bulukumba**	**6.83**	**221**	P	**Pn**	**17 16 52.6**	**+0.9**
	0.1nm8.3nm,0.9s						
KAPI	**Kappang**	**6.86**	**225**	P	**Pn**	**17 16 53.7**	**+1.6**
	0.1nm14nm,1.3s						
BNDI	**Bandanaira**	**6.86**	**130**	P	**Pn**	**17 16 56.0**	**+3.8**
	0.6nm121nm,1.3s						
SGKI	**Sangatta, Kali**	**7.01**	**267**	P	**Pn**	**17 16 54.9**	**+0.6**
	1.2nm264nm,1.0s						
MKS	**Makassar**	**7.20**	**225**	P	**Pn**	**17 16 58.4**	**+1.6**
	0.2nm48nm,1.2s						
BSSI	**Bau Bau, Buton**	**7.25**	**214**	P	**Pn**	**17 16 58.9**	**+1.4**
FITZ	**Fitzroy Crossi**	**17.89**	**177**	P	**Pn**	**17 19 19.6**	**-0.5**
	0.1nm,0.3s,baz=20,slow=9.5,SNR=2.6						
WRA	**Warramunga Arr**	**21.88**	**155**	P	**P**	**17 20 01.9**	**-2.1**
	2.3nm,0.7s,baz=326,slow=11,SNR=13						
ASAR	**Alice Springs**	**25.08**	**160**	P	**P**	**17 20 35.2**	**-0.3**
	1.3nm,0.7s,baz=331,slow=6.9,SNR=19						
ASAR				PcP	**PcP**	**17 24 08.7**	**-1.0**
	0.2nm,0.4s,baz=352,slow=2.0,SNR=11						
CMAR	**Chiang Mai Arr**	**31.25**	**308**	P	**P**	**17 21 30.6**	**-0.1**
	0.3nm,0.6s,baz=138,slow=6.8,SNR=5.5						
USRK	**Ussuriysk Ar.**	**44.63**	**8**	P	**P**	**17 23 23.4**	**+0.4**
	1.3nm,0.4s,baz=204,slow=6.6,SNR=5.8						
SONM	**Songdo Array**	**50.33**	**344**	P	**P**	**17 24 06.1**	**-1.4**
	1.0nm,0.7s,baz=159,slow=9.0,SNR=7.0						
MKAR	**Makanchi Array**	**59.57**	**328**	P	**P**	**17 25 11.8**	**-2.5**
	0.9nm,0.6s,baz=113,slow=8.1,SNR=7.1						

MEX 21 17:17:58.9±0.9,15°.10N×93°.55W,h55km±28km,MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.68**	**28**	*i* P	Pn	17 18 10.8	-1.8
PCIG				*i* S	Sn	17 18 20.8	-1.8
THIG		**1.25**	**99**	*i* P	Pn	17 18 18.6	-1.5
THIG				*i* S	Sn	17 18 33.7	-2.3
TGIG		**1.72**	**14**	*i* P	Pn	17 18 25.4	-1.1
TGIG				*i* S	Sn	17 18 45.1	-2.2
CCIG	**Comitan**	**1.79**	**49**	*eP*	Pn	17 18 27.7	+0.1
CCIG				*i* S	Sn	17 18 48.3	-1.2

*IDC **21** 17:21:07.4±1.8,17°.36S×179°.12W,h536km±17km,mb3.1/9, mb1 3.3/11,mb1mx3.1/32,mbtmp4.0/11,Error ellipse: s-maj=66.1km s-min=15.5km az=149.0*

*NEIC **21** 17:21:07.8±0.8,17°.3S±0°.3×179°.1W±0°.2,h540km±12km, mb4.0/11,Error ellipse: s-maj=52.7km s-min=20.2km az=150.0*

ISC 21 17:21:07.5±1.1,17°.4S±0°.4×179°.1W±0°.2,h539km,n25, σ0s52/24,mb3.8/15,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.70**	**262**	P	**P**	**17 22 20.1**	**+0.1**
	1.8nm,0.3s,baz=114,slow=21,SNR=16						
MSVF	**Nonsavu**	**2.70**	**262**	P	**P**	**17 22 19.9**	**-0.1**
DZM	**Mont Dzumac**	**14.35**	**249**	P	**P**	**17 24 10.9**	**+0.3**
	0.3nm,0.3s,baz=272,slow=15,SNR=2.5						
TOO	**Toolangi**	**36.97**	**230**	P	**P**	**17 27 31.4**	**+0.1**
STKA	**Stephens Creek**	**38.28**	**240**	P	**P**	**17 27 42.1**	**+0.1**
	1.8nm,0.6s,baz=64,slow=10,SNR=6.3						
STKA	**Stephens Creek**	**38.28**	**240**	IAmb	IAmb	17 28 10.4	
	comp=Z,2.6nm,1.5s						
BBOO	**Buckleboo**	**43.06**	**240**	P	**P**	**17 28 20.0**	**-0.1**
WB0	**Warramunga Arr**	**44.01**	**259**	P	**P**	**17 28 27.1**	**-0.6**
WB0				IAmb	IAmb	17 28 48.9	
	comp=Z,6.8nm,1.4s						
WB2	**Warramunga Arr**	**44.03**	**259**	P	**P**	**17 28 26.9**	**-0.9**
WB2				IAmb	IAmb	17 28 40.3	
	comp=Z,9.7nm,1.5s						
WRAB	**Tennant Creek**	**44.03**	**259**	P	**P**	**17 28 27.4**	**-0.4**
WRAB				IAmb	IAmb	17 28 46.9	
	comp=Z,6.7nm,0.8s						
WRA	**Warramunga Arr**	**44.04**	**259**	P	**P**	**17 28 27.2**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=98,slow=6.7,SNR=7.7						
AS31	**Alice Springs**	**44.26**	**254**	P	**P**	**17 28 29.8**	**+0.2**
AS31				IAmb	IAmb	17 28 30.4	
	comp=Z,1.9nm,0.4s						
ASAR	**Alice Springs**	**44.27**	**254**	P	**P**	**17 28 29.9**	**+0.3**
	comp=Z,4.8nm,0.5s,baz=90,slow=7.9,SNR=282						
ASAR				PcP	**PcP**	**17 30 02.6**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=99,slow=4.2,SNR=4.6						
ASAR	**Alice Springs**	**44.27**	**254**	P	**P**	**17 28 29.5**	**-0.2**
KNRA	**Kununurra**	**49.85**	**264**	P	**P**	**17 29 12.0**	**+0.3**
KNRA				IAmb	IAmb	17 29 19.6	
	comp=Z,14nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.43**	**260**	P	**P**	**17 29 28.9**	**-1.5**
FITZ				IAmb	IAmb	17 29 29.2	
	comp=Z,8.7nm,1.5s						
YBH	**Yreka Blue Hor**	**78.56**	**40**	P	**P**	**17 32 13.4**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=207,slow=2.3,SNR=2.5						
NVAR	**Mina Array Bea**	**79.53**	**44**	P	**P**	**17 32 18.5**	**-0.3**
	baz=303,slow=7,SNR=62						
ELK	**Elko**	**82.75**	**43**	P	**P**	**17 32 34.7**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=195,slow=7.6,SNR=3.8						
ELK	**Elko**	**82.75**	**43**	IAmb	IAmb	17 32 36.0	
	comp=Z,1.1nm,0.9s						
SEY	**Seymchan**	**83.10**	**347**	P	**P**	**17 32 36.6**	**+0.3**
	comp=Z,2.5nm,0.8s,baz=126,slow=7.9,SNR=6.0						
TXAR	**Lajitas Array**	**86.30**	**58**	P	**P**	**17 32 53.1**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=217,slow=7.5,SNR=6.9						

Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}6.99; $M_{\theta\theta}$-0.41; $M_{\phi\phi}$-6.58; $M_{r\theta}$0.25; $M_{r\phi}$0.33; $M_{\theta\phi}$-2.84; Fault plane solution: $M_0$7.38000×10^{18} NP1:ϕ_s176.18000°, δ56.37000°, λ89.21000°. NP2:ϕ_s357.61000°, δ33.64000°, λ91.19000°. Principal axes: T 7.5643, Plg79.0000°, Azm83.0000°; N -0.3900, Plg1.0000°, Azm177.0000°; P -7.1744, Plg11.0000°, Azm267.0000°;

*MOS **21** 17:39:59.8±0.9,31°.37S×71°.37W,h35km,mb6.4/30, MS6.5/79 Error ellipse: s-maj=10.1km s-min=5.7km az=98.1*

*VAO **21** 17:39:59.8±0.2,31°.65S×71°.27W,h25km,mb6.4*

*NEIC **21** 17:40:00.1±1.6,31°.73S±0°.04×71°.38W±0°.10,h35km±1km, mb6.5/667,Ms_20 6.4/577,Mwb6.5/56,Mww6.6, Mwc6.6(GCMT),Mwr6.7(GUC),Error ellipse: s-maj=13.7km s-min=6.0km az=269.0*

*SVSA **21** 17:40:00.0,31°.75S×71°.63W,h34km,MW6.6(NEIC)*

*IDC **21** 17:40:01.1±2.0,31°.71S×71°.26W,h41km±17km,mb5.5/28, mb1 5.6/33,mb1mx5.5/37,mbtmp5.8/33,ML5.3/5,MS6.5/19, Ms1 6.5/19,ms1mx6.2/24,Error ellipse: s-maj=12.5km s-min=9.4km az=87.0*

*GCMT **21** 17:40:06.1±0.0,31°.77S×71°.81W,h39km,MW6.6/162, Moment Tensor Solution. s161,c416; s162,c689; Duration: 48 Moment tensor: Scale 10^{19}Nm; M_{rr}0.79±.00; $M_{\theta\theta}$0.02±.00; $M_{\phi\phi}$-0.80±.00; $M_{r\theta}$0.22±.00; $M_{r\phi}$0.00±.00; $M_{\theta\phi}$-0.54±.01; Best double couple: $M_0$0.96200×10^{19} NP1:ϕ_s1.00000°, δ28.00000°, λ92.00000°. NP2:ϕ_s178.00000°, δ62.00000°, λ89.00000°. Principal axes: T 0.9530, Plg73.0000°, Azm86.0000°; N 0.0170, Plg1.0000°, Azm179.0000°; P -0.9700, Plg17.0000°, Azm269.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **21** 17:40:06,31°.82S×71°.84W,h39km,Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}7.34; $M_{\theta\theta}$0.39; $M_{\phi\phi}$-7.73; $M_{r\theta}$0.11; $M_{r\phi}$-0.11; $M_{\theta\phi}$-5.57; Fault plane solution: $M_0$9.38000×10^{18} NP1:ϕ_s2.00000°, δ27.00000°, λ92.00000°. NP2:ϕ_s180.00000°, δ63.00000°, λ89.00000°. Principal axes: T 9.1774, Plg72.0000°, Azm87.0000°; N 0.3883, Plg1.0000°, Azm180.0000°; P -9.5657, Plg18.0000°, Azm270.0000°;*

*NEIC **21** 17:40:08,31°.84S×71°.87W,h36km,Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}7.06; $M_{\theta\theta}$0.65; $M_{\phi\phi}$-7.71; $M_{r\theta}$1.25; $M_{r\phi}$0.04; $M_{\theta\phi}$-4.84; Fault plane solution: $M_0$8.93000×10^{18} NP1:ϕ_s9.00000°, δ29.00000°, λ105.00000°. NP2:ϕ_s171.00000°, δ62.00000°, λ82.00000°. Principal axes: T 8.6797, Plg72.0000°, Azm62.0000°; N 0.4884, Plg7.0000°, Azm175.0000°; P -9.1681, Plg17.0000°, Azm268.0000°;*

*UPA **21** 17:40:34.2±2.3,27°.36S×72°.32W,h0km±999km,MW6.7*

ISC 21 17:39:58.7±0.4,**31°.74S**±0°.02×**71°.46W**±0°.03,**h25**km±2km, **h25**km:**pP-P,n2626,**σ1**971**/2877,**mb6.5**/432,**MS6.5**/407, **279C-91D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.83**	**170**	⇑*iP*			**Pn**	**17 40 15.1**	**+0.2**
VA06				*iS*			**Sn**	**17 40 26.3**	**+0.1**
VA06	**Catapilco**	**0.83**	**170**	⇑*iP*			**Pn**	**17 40 15.0**	**+0.2**
VA06				*eS*			**Sn**	**17 40 26.6**	**+0.3**
CO06	**Fray Jorge**	**1.07**	**352**	⇓*iP*			**Pb**	**17 40 18.6**	**0.0**
CO06				*eS*			**Sb**	**17 40 33.5**	**+1.2**
CO06	**Fray Jorge**	**1.07**	**352**				**Pb**	**17 40 18.6**	**0.0**
CO06							**Sn**	**17 40 29.5**	**-2.7**
CO06	**Fray Jorge**	**1.07**	**352**	⇓*iP*			**Pb**	**17 40 18.6**	**0.0**
CO06				*eS*			**Sb**	**17 40 33.7**	**+1.5**
CO03	**El Pedregal**	**1.11**	**37**	⇓*iP*			**Pb**	**17 40 20.1**	**+0.7**
CO03				*eS*			**Sb**	**17 40 36.9**	**+3.4**
CO03	**El Pedregal**	**1.11**	**37**	Pn			**Pb**	**17 40 20.1**	**+0.7**
CO03	**El Pedregal**	**1.11**	**37**	*iP*			**Pb**	**17 40 20.0**	**+0.7**
CO03	**El Pedregal**	**1.11**	**37**	⇓*iP*			**Pb**	**17 40 20.1**	**+0.7**
CO03				*eS*			**Sb**	**17 40 36.9**	**+3.4**
VA03	**San Esteban**	**1.28**	**143**	⇓*iP*			**Pb**	**17 40 22.5**	**+0.2**
VA03				*eS*			**Sb**	**17 40 40.5**	**+2.1**
VA03	**San Esteban**	**1.28**	**143**				**Pb**	**17 40 22.5**	**+0.2**
VA03	**San Esteban**	**1.28**	**143**	*iP*			**Pb**	**17 40 22.0**	**-0.2**
VA03	**San Esteban**	**1.28**	**143**	⇓*iP*			**Pb**	**17 40 22.5**	**+0.2**
VA03				*eS*			**Sb**	**17 40 40.5**	**+2.1**
ROCH	**El Roble**	**1.29**	**163**	⇓*iP*			**Pb**	**17 40 22.1**	**-0.3**
ROCH				*eS*			**Sb**	**17 40 39.9**	**+1.2**
ROCH	**El Roble**	**1.29**	**163**	⇓*iP*			**Pb**	**17 40 22.1**	**-0.3**
ROCH				*eS*			**Sb**	**17 40 41.3**	**+2.7**
VA01	**Torpederas**	**1.29**	**187**	⇑*iP*			**Pn**	**17 40 21.7**	**+0.6**
VA01				*eS*			**Sb**	**17 40 39.2**	**+0.7**
VA01	**Torpederas**	**1.29**	**187**				**Pn**	**17 40 21.5**	**+0.4**
VA01	**Torpederas**	**1.29**	**187**	*iP*			**Pn**	**17 40 21.0**	**-0.1**
VA01	**Torpederas**	**1.29**	**187**	⇑*iP*			**Pn**	**17 40 21.7**	**+0.6**
VA01				*eS*			**Sb**	**17 40 39.2**	**+0.7**
GO04	**Tololo Observa**	**1.66**	**20**	⇓*iP*			**Pb**	**17 40 28.0**	**-0.8**
GO04				*iS*			**Sb**	**17 40 51.0**	**+1.6**
GO04	**Tololo Observa**	**1.66**	**20**				**Pb**	**17 40 28.3**	**-0.6**
GO04	**Tololo Observa**	**1.66**	**20**	*iP*			**Pb**	**17 40 28.0**	**-0.8**
GO04	**Tololo Observa**	**1.66**	**20**	⇓*iP*			**Pb**	**17 40 28.0**	**-0.8**
GO04				*iS*			**Sb**	**17 40 51.0**	**+1.6**
MT05	**Renca**	**1.76**	**160**	⇑*iP*			**Pb**	**17 40 29.6**	**-0.8**
MT05				*eS*			**Sb**	**17 40 53.4**	**+1.3**
MT05	**Renca**	**1.76**	**160**				**Pn**	**17 40 29.0**	**+1.3**
MT05	**Renca**	**1.76**	**160**	*iP*			**Pn**	**17 40 29.0**	**+1.3**
MT05	**Renca**	**1.76**	**160**	⇑*iP*			**Pb**	**17 40 29.6**	**-0.8**
MT05				*eS*			**Sb**	**17 40 53.4**	**+1.3**
CO05	**La Serena**	**1.82**	**6**	*eP*			**Pb**	**17 40 29.9**	**-1.6**
CO05				*eS*			**Sb**	**17 40 55.6**	**+1.8**
CO05	**La Serena**	**1.82**	**6**				**Pn**	**17 40 29.8**	**+1.3**
CO05	**La Serena**	**1.82**	**6**	*eP*			**Pb**	**17 40 29.9**	**-1.6**
CO05				*eS*			**Sb**	**17 40 55.6**	**+1.8**
CO05				IAML				17 41 05.4	
	comp=N,278μm,0.4s								
AUSP	**Uspallata**	**1.83**	**106**	*iP*			**Pb**	**17 40 32.0**	**+0.3**
RTLS	**Leoncito**	**1.85**	**92**	*iP*			**Pb**	**17 40 33.0**	**+1.0**
VA05	**Santo Domingo**	**1.92**	**184**	⇓*iP*			**Pn**	**17 40 30.1**	**+0.4**
VA05				*eS*			**Sn**	**17 40 53.9**	**+0.8**
VA05	**Santo Domingo**	**1.92**	**184**				**Pn**	**17 40 30.1**	**+0.4**
VA05	**Santo Domingo**	**1.92**	**184**	⇓*iP*			**Pn**	**17 40 30.1**	**+0.4**
VA05				*eS*			**Sn**	**17 40 53.9**	**+0.8**
MT09	**Talagante**	**2.07**	**169**	⇑*iP*			**Pn**	**17 40 33.8**	**+1.8**
MT09				*eS*			**Sb**	**17 41 01.8**	**+0.7**
MT09	**Talagante**	**2.07**	**169**				**Pn**	**17 40 33.6**	**+1.6**
MT09	**Talagante**	**2.07**	**169**	⇑*iP*			**Pn**	**17 40 33.8**	**+1.8**
MT09				*eS*			**Sb**	**17 41 01.8**	**+0.7**
MT09				IAML				17 41 09.3	
	comp=E,184μm,0.4s								
MT01	**Popeta**	**2.13**	**175**	⇑*iP*			**Pn**	**17 40 33.9**	**+1.3**
MT01				*eS*			**Sb**	**17 41 02.9**	**+0.3**
MT01	**Popeta**	**2.13**	**175**	Pn			**Pn**	**17 40 33.6**	**+0.9**
MT01	**Popeta**	**2.13**	**175**	*iP*			**Pn**	**17 40 34.0**	**+1.3**
MT01	**Popeta**	**2.13**	**175**	⇑*iP*			**Pn**	**17 40 33.9**	**+1.3**
MT01				*eS*			**Sb**	**17 41 02.0**	**-0.6**
MT01				IAML				17 41 12.3	
	comp=E,119μm,0.3s								
AROD	**Rodeo**	**2.32**	**48**	*iP*			**Pb**	**17 40 40.0**	**-0.1**
ACCO	**Cerro Coronel**	**2.35**	**61**	*iP*			**Pb**	**17 40 41.0**	**+0.3**
LMEL	**Las Melosas**	**2.35**	**154**	⇓*iP*			**Pn**	**17 40 37.9**	**+2.0**
LMEL				*eS*			**Sb**	**17 41 10.1**	**+0.8**
LMEL	**Las Melosas**	**2.35**	**154**	⇓*iP*			**Pn**	**17 40 37.9**	**+2.0**
LMEL				*eS*			**Sb**	**17 41 10.1**	**+0.8**
ZON	**Zonda**	**2.38**	**86**				**Pb**	**17 40 40.8**	**-0.2**
ZON	**Zonda**	**2.38**	**86**	*iP*			**Pb**	**17 40 41.0**	**0.0**
ASAL	**Salagasta**	**2.38**	**112**	*iP*			**Pb**	**17 40 41.0**	**0.0**
ARCO	**CERRO ARCO**	**2.41**	**118**	*iP*			**Pb**	**17 40 42.0**	**+0.5**
RTCV	**Cerro Valdivia**	**2.49**	**94**	*iP*			**Pb**	**17 40 43.0**	**+0.2**
ACDV	**Cuesta del Vie**	**2.55**	**53**	*iP*			**Pb**	**17 40 44.0**	**+0.1**
AAGR	**Agrelo**	**2.60**	**122**	*iP*			**Pb**	**17 40 44.0**	**-0.7**
BO01	**Tunca**	**2.66**	**173**	*eP*			**Pn**	**17 40 41.1**	**+1.0**
BO01				*eS*			**Sb**	**17 41 16.2**	**-1.8**
BO01	**Tunca**	**2.66**	**173**	Pn			**Pn**	**17 40 40.8**	**+0.7**
BO01	**Tunca**	**2.66**	**173**	*iP*			**Pn**	**17 40 41.0**	**+1.0**
BO01	**Tunca**	**2.66**	**173**	*eP*			**Pn**	**17 40 41.1**	**+1.0**
BO01				*eS*			**Sb**	**17 41 16.2**	**-1.8**
BO03	**Pichilemu**	**2.78**	**189**	⇓*eP*			**Pn**	**17 40 41.3**	**-0.3**
BO03	**Pichilemu**	**2.78**	**189**	⇓*eP*			**Pn**	**17 40 41.3**	**-0.3**
BO03				IAML				17 41 37.9	
	comp=E,46μm,0.4s								
LCO	**Las Campanas**	**2.80**	**14**	P			**Pn**	**17 40 43.7**	**+1.6**
LCO	**Las Campanas**	**2.80**	**14**	⇑*iP*			**Pn**	**17 40 43.8**	**+1.6**
LCO				*eS*			**Sn**	**17 41 17.0**	**+1.8**
LCO	**Las Campanas**	**2.80**	**14**	Pn			**Pn**	**17 40 43.7**	**+1.6**
LCO	**Las Campanas**	**2.80**	**14**	⇑*iP*			**Pn**	**17 40 43.8**	**+1.6**
LCO	**Las Campanas**	**2.80**	**14**	*iP*			**Pn**	**17 40 44.0**	**+1.9**
LCO	**Las Campanas**	**2.80**	**14**	⇑*iP*			**Pn**	**17 40 43.8**	**+1.6**
LCO				*eS*			**Sn**	**17 41 17.0**	**+1.8**
BO02	**Sierra Bellavi**	**3.10**	**170**	⇓*eP*			**Pn**	**17 40 47.7**	**+1.6**
BO02	**Sierra Bellavi**	**3.10**	**170**	Pn			**Pn**	**17 40 47.1**	**+1.1**
BO02	**Sierra Bellavi**	**3.10**	**170**	*iP*			**Pn**	**17 40 48.0**	**+1.9**
BO02	**Sierra Bellavi**	**3.10**	**170**	⇓*eP*			**Pn**	**17 40 47.7**	**+1.6**
BO02				IAML				17 41 42.3	
	comp=N,97μm,0.3s								
GO05	**Huala**	**3.29**	**187**	⇓*iP*			**Pn**	**17 40 48.2**	**-0.4**
GO05	**Huala**	**3.29**	**187**	*iP*			**Pn**	**17 40 48.1**	**-0.6**
GO05	**Huala**	**3.29**	**187**	*iP*			**Pn**	**17 40 48.0**	**-0.6**
GO05	**Huala**	**3.29**	**187**	⇓*iP*			**Pn**	**17 40 48.2**	**-0.4**
AC04	**Llanos de Chal**	**3.54**	**6**	*eP*			**Pn**	**17 40 51.8**	**-0.3**
AC04	**Llanos de Chal**	**3.54**	**6**	Pn			**Pn**	**17 40 52.6**	**+0.6**
AC04	**Llanos de Chal**	**3.54**	**6**	*iP*			**Pn**	**17 40 53.0**	**+0.9**
AC04	**Llanos de Chal**	**3.54**	**6**	*eP*			**Pn**	**17 40 51.8**	**-0.3**
AVFE	**Valle Fertil**	**3.60**	**74**	*iP*			**Pn**	**17 40 56.0**	**+3.0**
COIS	**El Sosneado**	**3.71**	**156**	*iP*			**Pb**	**17 40 59.0**	**-4.5**
RFA	**San Rafael**	**3.93**	**141**	*iP*			**Pn**	**17 41 00.0**	**+2.5**
ML02	**Panimavida**	**4.01**	**179**	Pn			**Pn**	**17 40 59.0**	**+0.4**
PUMA	**Malargue**	**4.11**	**156**	*iP*			Pn	17 41 05.0	+5.1
VCA	**Vinchina**	**4.11**	**44**	*iP*			Pn	17 41 05.0	+4.9
ACHE	**Chepes**	**4.14**	**83**	*iP*			**Pn**	**17 41 04.0**	**+3.5**
GO03	**Copiap**	**4.27**	**15**	⇓*eP*			**Pn**	**17 41 03.5**	**+1.3**
GO03	**Copiap**	**4.27**	**15**				**Pn**	**17 41 03.0**	**+0.9**
GO03	**Copiap**	**4.27**	**15**	⇑*iP*			**Pn**	**17 41 03.4**	**+1.3**
GO03	**Copiap**	**4.27**	**15**	*iP*			**Pn**	**17 41 03.0**	**+0.9**
GO03	**Copiap**	**4.27**	**15**	⇓*eP*			**Pn**	**17 41 03.5**	**+1.3**
EDS3	**Malargue**	**4.37**	**157**	*iP*			Pn	17 41 09.0	+5.3
AC06	**Mina Casimiro**	**4.47**	**13**				**Pn**	**17 41 05.4**	**+0.5**
MRA	**San Martin**	**4.92**	**99**	*iP*			Pb	17 41 18.0	-6.3
TINO	**Tinogasta**	**4.98**	**44**	*iP*			Pn	17 41 18.0	+5.9
AC02	**Maricunga**	**5.29**	**23**	⇑*iP*			**Pn**	**17 41 18.8**	**+2.1**
AC02	**Maricunga**	**5.29**	**23**				**Pn**	**17 41 18.0**	**+1.3**
AC02	**Maricunga**	**5.29**	**23**	*iP*			**Pn**	**17 41 18.0**	**+1.3**
AC02	**Maricunga**	**5.29**	**23**	⇑*iP*			**Pn**	**17 41 18.8**	**+2.1**
CYA	**Choya**	**5.90**	**58**	*iP*			**Pn**	**17 41 26.0**	**+1.4**
VA04	**Juan Fernndez**	**6.49**	**251**				**Pn**	**17 41 29.9**	**-2.8**
H03N1	**Juan Fernandez**	**6.51**	**253**	T			T	17 48 12.2	
	baz=80,slow=72,SNR=1361								
H03N3	**Juan Fernandez**	**6.53**	**253**	T			T	17 48 10.3	
	baz=80,slow=72,SNR=1091								
H03N2	**Juan Fernandez**	**6.53**	**253**	T			T	17 48 15.7	
	baz=80,slow=72,SNR=1207								
H03S3	**Juan Fernandez**	**6.61**	**250**	T			T	17 48 23.6	
	baz=84,slow=75,SNR=117								
H03S1	**Juan Fernandez**	**6.61**	**250**	T			T	17 48 20.7	
	baz=84,slow=75,SNR=185								
H03S2	**Juan Fernandez**	**6.62**	**250**	T			T	17 48 25.5	
	baz=84,slow=75,SNR=171								
PB14	**IPOC Station P**	**7.15**	**8**				**Pn**	**17 41 40.2**	**-1.7**
PB14	**IPOC Station P**	**7.15**	**8**	*iP*			**Pn**	**17 41 40.0**	**-2.0**
LC01	**Cunco**	**7.15**	**183**				**Pn**	**17 41 40.6**	**-1.0**
LC01	**Cunco**	**7.15**	**183**	*iP*			**Pn**	**17 41 41.0**	**-0.7**
FSA	**Cafayete**	**7.38**	**42**	*iP*			**Pn**	**17 41 48.0**	**+2.9**
LR03	**Panguipulli**	**7.91**	**185**				**Pn**	**17 41 50.3**	**-1.7**
PB10	**IPOC Station P**	**8.23**	**6**				**Pn**	**17 41 54.0**	**-2.6**
PB15	**IPOC Station P**	**8.68**	**12**				**Pn**	**17 42 01.1**	**-1.8**
PLCA	**Paso Flores**	**9.01**	**176**	P			**Pn**	**17 42 08.2**	**+1.0**
	comp=N,6.4nm,0.3s,baz=338,slow=12,SNR=124								
PLCA						S	Sn	17 43 57.6	+10
	comp=N,4.1nm,0.3s,baz=343,slow=14,SNR=3.5								
PLCA						LR	LR	17 46 19.9	
	comp=N,208μm,20.7s,baz=345,slow=42								
PLCA	**Paso Flores**	**9.01**	**176**	Pn			**Pn**	**17 42 05.8**	**-1.3**
PLCA	**Paso Flores**	**9.01**	**176**	⇑*iP*			**Pn**	**17 42 07.9**	**+0.7**
PLCA	**Paso Flores**	**9.01**	**176**	*eP*			**Pn**	**17 42 08.8**	**+1.6**
PB06	**IPOC Station P**	**9.15**	**11**				**Pn**	**17 42 06.9**	**-2.5**
LL04	**Puerto Octay**	**9.18**	**184**	Pn			**Pn**	**17 42 07.9**	**-1.6**
AF01	**San Pedro de A**	**9.23**	**19**				**Pn**	**17 42 09.0**	**-1.4**
LVC	**Limon Verde**	**9.37**	**15**	P			**Pn**	**17 42 11.3**	**-1.3**
	comp=N,12nm,0.3s,baz=176,slow=7.6,SNR=13								
LVC						S	**Sn**	**17 44 01.1**	**+3.7**
	comp=N,80nm,0.3s,baz=217,slow=19,SNR=5.5								
LVC						LR	LR	17 46 22.9	
	comp=N,224μm,21.0s,baz=215,slow=41								
LVC	**Limon Verde**	**9.37**	**15**	P			**Pn**	**17 42 10.5**	**-2.0**
LVC								17 44 01.1	
LVC	**Limon Verde**	**9.37**	**15**				**Pn**	**17 42 10.5**	**-2.0**
LVC	**Limon Verde**	**9.37**	**15**	⇑*iP*			**Pn**	**17 42 10.4**	**-2.0**
LVC	**Limon Verde**	**9.37**	**15**	*eP*			**Pn**	**17 42 10.6**	**-2.0**
AZAP	**Zapla**	**9.38**	**39**	*iP*			**Pn**	**17 42 17.0**	**+4.5**
LL03	**Petrohue**	**9.41**	**184**				**Pn**	**17 42 11.2**	**-1.5**
PB04	**IPOC Station P**	**9.44**	**7**				**Pn**	**17 42 11.5**	**-1.8**
LL05	**Los Muermos**	**9.78**	**189**	Pn			**Pn**	**17 42 16.1**	**-1.7**
ASTB	**Santa Barbara**	**9.93**	**40**	*iP*			**Pn**	**17 42 24.0**	**+4.0**
TRQA	**Tornquist**	**10.02**	**132**	P			**Pn**	**17 42 19.5**	**-1.5**
TRQA	**Tornquist**	**10.02**	**132**	Pn			**Pn**	**17 42 19.5**	**-1.5**
TRQA	**Tornquist**	**10.02**	**132**	⇑*iP*			**Pn**	**17 42 22.5**	**+1.5**
TRQA	**Tornquist**	**10.02**	**132**	*eP*			**Pn**	**17 42 20.9**	**0.0**
HJA	**Humahuaca**	**10.05**	**34**	*iP*			Pn	17 42 27.0	+5.1
PB07	**IPOC Station P**	**10.07**	**8**	Pn			**Pn**	**17 42 18.9**	**-3.1**
PB09	**IPOC Station P**	**10.10**	**12**				**Pn**	**17 42 20.6**	**-1.8**
ALOL	**LOMAS DE OLMEDO**	**10.30**	**42**	*iP*			Pn	17 42 30.0	+5.0
LL01	**San Ignacio de**	**10.65**	**184**				**Pn**	**17 42 26.3**	**-3.2**
PB01	**IPOC Station P**	**10.80**	**10**	Pn			**Pn**	**17 42 27.9**	**-3.9**
TA01	**Diego Aracena**	**11.19**	**6**				**Pn**	**17 42 33.2**	**-3.9**
LL07	**Hotel Espejo d**	**11.19**	**188**	Pn			**Pn**	**17 42 33.7**	**-3.3**
GO07	**Milladeo Hill,**	**11.49**	**188**	Pn			**Pn**	**17 42 38.3**	**-2.8**
PB08	**IPOC Station P**	**11.73**	**11**				**Pn**	**17 42 41.0**	**-3.9**
LPA	**La Plata**	**11.75**	**109**	*iP*			Pn	17 42 38.0	-6.7
LPA				pP				17 42 48.6	
LPA				sP				17 42 52.3	
LPA				pPP				17 42 58.2	
LPA				PP			**PbPb**	**17 43 25.1**	**+1.4**
LPA				S			**Sn**	**17 44 51.6**	**-3.4**
LPA				SS			**SnSn**	**17 45 09.9**	**+3.0**
LPA				SSS			SSS	17 45 24.7	
LPA				PCP			**PcP**	**17 48 32.5**	**-0.3**
LPA				SCS			**ScS**	**17 55 43.4**	**+3.8**
LPA				PKIKP			**PKiKP**	**17 56 32.6**	**+1.7**
LPA				SKIKP				17 59 54.0	
LPA				SKIKS				18 03 26.6	
PSGCX	**Pisagua**	**12.15**	**6**	Pn			**Pn**	**17 42 46.1**	**-4.2**
AP01	**Chacalluta**	**13.35**	**5**				**Pn**	**17 43 04.9**	**-1.7**
CPUP	**Villa Florida**	**13.48**	**70**	P			**Pn**	**17 43 06.8**	**-1.7**
	comp=N,5.1nm,0.3s,baz=244,slow=12,SNR=102								
CPUP						S	**Sn**	**17 45 39.5**	**+2.1**
	comp=N,19nm,0.3s,baz=157,slow=6.1,SNR=5.4								
CPUP						LR	LR	17 49 03.2	
	comp=N,379μm,18.1s,baz=248,slow=41								
CPUP	**Villa Florida**	**13.48**	**70**				**Pn**	**17 43 06.5**	**-1.9**
CPUP	**Villa Florida**	**13.48**	**70**	⇑*iP*			**Pn**	**17 43 06.6**	**-1.9**
CPUP	**Villa Florida**	**13.48**	**70**	*eP*			**Pn**	**17 43 06.6**	**-1.9**
PLTB	**Pedras Altas**	**15.20**	**95**	Pn			**Pn**	**17 43 29.9**	**-1.8**
PLTB	**Pedras Altas**	**15.20**	**95**	*eP*			**Pn**	**17 43 30.5**	**-1.2**
CPSB	**Cacapava Do Su**	**15.50**	**90**	*eP*			**Pn**	**17 43 33.3**	**-2.4**
LPAZ	**La Paz**	**15.68**	**12**	P			**Pn**	**17 43 39.3**	**+0.7**
	comp=N,4.1nm,0.3s,baz=183,slow=7.2,SNR=119								
LPAZ	**La Paz**	**15.68**	**12**	Pn			**Pn**	**17 43 36.6**	**-2.0**
LPAZ	**La Paz**	**15.68**	**12**	⇑*iP*			**Pn**	**17 43 40.3**	**+1.7**
LPAZ	**La Paz**	**15.68**	**12**	⇓*iP*			**Pn**	**17 43 37.1**	**-1.5**
LPAZ	**La Paz**	**15.68**	**12**	*eP*			**Pn**	**17 43 36.8**	**-1.8**
CNLB	**Canela**	**17.92**	**88**	*eP*			**Pn**	**17 44 05.3**	**-0.9**
AQDB	**Aquidauana**	**18.04**	**55**				**Pn**	**17 44 05.7**	**-2.0**
AQDB	**Aquidauana**	**18.04**	**55**	*eP*			**Pn**	**17 44 07.2**	**-0.5**
SIV	**San Ignacio**	**18.31**	**34**	P			**P**	**17 44 10.0**	**-1.1**
	comp=N,13nm,0.3s,baz=224,slow=11,SNR=158								
PTGB	**Pitanga**	**18.46**	**73**	*eP*			**Pn**	**17 44 13.8**	**+0.9**
TRCB	**Terra Rica**	**18.94**	**67**	P			**P**	**17 44 16.1**	**-1.9**
TRCB						IAmb	IAmb	17 44 37.8	
	comp=Z,4μm,1.4s								
TRCB	**Terra Rica**	**18.94**	**67**	*eP*			**Pn**	**17 44 19.0**	**+0.3**
TER01	**Tubaro-SC**	**19.57**	**86**	*eP*			**P**	**17 44 24.0**	**-0.9**
PTLB	**Pontes e Lacer**	**19.73**	**38**	*eP*			**P**	**17 44 26.4**	**-0.2**
NNA	**Nana**	**20.27**	**345**	P			Pn	17 44 34.4	-0.2
	comp=Z,75nm,1.0s,baz=187,slow=11,SNR=71								
NNA						S	Sn	17 48 21.7	-0.7
	comp=Z,25nm,0.9s,baz=193,slow=12,SNR=1.4								
NNA	**Nana**	**20.27**	**345**	*ePcP*			Pn	17 44 34.5	-0.1
NNA						pmax	pmax		
	comp=Z,2μm,2.5s								
NNA	**Nana**	**20.27**	**345**	P			**P**	**17 44 32.4**	**-0.2**
NNA	**Nana**	**20.27**	**345**	⇑*iP*			**P**	**17 44 33.3**	**+0.8**
PP1B	**Ponte de Pedra**	**20.58**	**51**	*eP*			**P**	**17 44 35.5**	**-0.3**
PCMB	**Pacaembu**	**20.65**	**66**	*eP*			**P**	**17 44 36.2**	**-0.4**
TIJ01	**Guaruva-PR**	**20.72**	**78**	*eP*			**P**	**17 44 35.0**	**-2.4**
MG02	**Cerro Sombrero**	**21.09**	**176**	P			**P**	**17 44 42.2**	**+1.2**
MG02						IAmb	IAmb	17 44 54.7	
	comp=Z,2μm,1.4s								
FRTB	**Fartura**	**21.11**	**72**	*eP*			**P**	**17 44 40.9**	**-0.7**
SALV	**Santo Antonio**	**21.33**	**46**	*eP*			**P**	**17 44 43.0**	**-0.9**
VILB	**Vilhena**	**21.37**	**31**	*eP*			**P**	**17 44 43.9**	**-0.5**
GO10	**Punta Arenas**	**21.41**	**179**	P			**P**	**17 44 43.7**	**-0.7**
GO10						IAmb	IAmb	17 45 04.2	
	comp=Z,3μm,1.4s								
GO10	**Punta Arenas**	**21.41**	**179**	⇓*pP*			**P**	**17 44 46.6**	**+2.1**
EFI	**East Falkland**	**22.22**	**158**	*cP*			**P**	**17 44 53.3**	**+0.1**
EFI						pmax	pmax		
	comp=Z,1μm,1.2s								
EFI	**East Falkland**	**22.22**	**158**	P			**P**	**17 44 53.0**	**-0.2**
EFI	**East Falkland**	**22.22**	**158**			IAMs_20	IAMs_20	17 54 28.8	
	comp=Z,184μm,18.0s								
EFI	**East Falkland**	**22.22**	**158**	⇑*iP*			**P**	**17 44 53.8**	**+0.6**
ETMB	**Extrema**	**22.35**	**14**	*eP*			**P**	**17 44 55.0**	**+0.2**
ITRB	**Iturama**	**22.43**	**63**	*eP*			**P**	**17 44 54.5**	**-1.2**
PET01	**Itanhaem-SP**	**22.58**	**77**	*eP*			**P**	**17 44 56.4**	**-0.8**
SPB	**Sao Paulo**	**22.75**	**75**	P			**P**	**17 44 58.7**	**-0.3**
SPB						IAmb	IAmb	17 45 06.6	
	comp=Z,2μm,1.1s								
SPB

TAMC Tame, Arauca 37.96 359⇑*iP* P 17 47 14.4 -0.1
BARC Barichara 38.15 357 *eP* P 17 47 17.7 +1.3
PTBC PUERTO BERRIO, 38.17 355⇑*iP* P 17 47 15.9 -0.3
SOLC Bahia Solano 38.18 350 *eP* P 17 47 19.0 +2.7
ROSB Rosrio 38.54 47 *eP* P 17 47 18.9 -0.5
ELOV Elorza 38.57 3⇑*iP* P 17 47 19.9 +0.3
BRRC Barranca, Sant 38.69 356⇑*iP* P 17 47 19.7 -0.8
DBBC Dabeiba 38.80 352 *eP* P 17 47 22.9 +1.3
PAMC Pamplona, Colo 38.88 358 *eP* P 17 47 22.2 -0.4
PTAC Punta Ardita, 39.14 350⇑*iP* P 17 47 26.9 +2.6
ZARC Zaragoza, Cauc 39.15 355⇑*iP* P 17 47 24.3 -0.1
UREC San Jos de Ur 39.46 354⇑*eP* P 17 47 27.8 +0.8
OCAC Ocana 39.79 357⇑*iP* P 17 47 28.6 -1.4
SOCV Socops 39.80 1⇑*iP* P 17 47 29.2 -0.7
CACAO El Cacao, Vera 39.89 345⇑*iP* P 17 47 32.2 +1.6
CACAO *eS* S 17 53 20.2 -14
AZU Azuero 40.20 346⇑*iP* P 17 47 34.8 +1.6
PESE3 Pese, Herrera 40.38 346 *iP* P 17 47 36.8 +2.1
SMLC San Martn de 40.39 356⇑*iP* P 17 47 33.9 -0.8
SDV Santo Domingo 40.40 1 P P 17 47 33.7 -1.4
SDV Santo Domingo 40.40 1 IAMs_20 IAMs_20 18 05 11.1
comp=Z,91µm,22.0s
SDV Santo Domingo 40.40 1⇑*iP* P 17 47 34.5 -0.5
SDV Santo Domingo 40.40 1 *eP* P 17 47 34.8 -0.3
CAPC Capurgana 40.54 351⇑*iP* P 17 47 37.8 +1.8
UPD2 Meteti 40.55 350⇑*iP* P 17 47 38.2 +2.2
CAP2 Capurgana 40.55 351⇑*iP* P 17 47 37.8 +1.6
CAP2 Capurgana 40.55 351 P P 17 47 34.4 -1.7
CAP2 IAmb IAmb 17 47 50.8
comp=Z,1µm,1.3s
RSUS3 Rio de Jesus, 40.57 345 *eP* P 17 47 38.7 +2.5
BAUV El Baul 40.58 5 *eP* P 17 47 31.5 -4.8
BAUV El Baul 40.58 5 *e* 17 53 35.8
LCBC Los crdobas, 40.64 353⇑*eP* P 17 47 39.5 +2.7
STIA3 Santiago, Vera 40.64 345 *iP* P 17 47 39.7 +2.8
SFRA3 San Francisco, 40.79 346 *iP* P 17 47 40.3 +2.3
MDP Montagnes des 40.79 29 P P 17 47 37.1 -1.0
comp=Z,365nm,0.9s,baz=199,slow=9.5,SNR=52
PNME Penonome 40.89 347 *iP* P 17 47 41.1 +2.3
VTON El Valle, Cocl 40.97 347 *iP* P 17 47 42.4 +2.8
LL1C La Loma 1 Cana 41.09 357⇑*iP* P 17 47 40.7 +0.1
LL2C La Loma 2 Cana 41.10 357⇑*eP* P 17 47 39.6 -1.0
CHOR3 La Chorrera 41.18 347 *eP* P 17 47 43.5 +2.2
UPA Univ. de Panam 41.22 348⇑*iP* P 17 47 43.5 +2.0
UPA Univ. de Panam 41.22 348⇑*eP* P 17 47 43.2 +1.7
ARRA3 Arraijan, Pana 41.23 348 *eP* P 17 47 44.9 +3.2
ZANG Zanguenga, Cho 41.26 347⇑*iP* P 17 47 44.2 +2.3
DVD David 41.31 343 *iP* P 17 47 44.7 +2.4
CHPO Chepo, Panama 41.33 349 *iP* P 17 47 44.9 +2.4
GUAL3 Gualaca, Chiri 41.36 344 *eP* P 17 47 45.1 +2.3
ARGC Ariguani, Magd 41.45 356⇑*iP* P 17 47 43.9 +0.5
BCIP Isla Barro Col 41.46 347⇑*iP* P 17 47 45.3 +1.8
BCIP *eS* S 17 54 14.3 +17
BCIP Isla Barro Col 41.46 347 P P 17 47 43.1 -0.4
BCIP pmax pmax
comp=Z,2µm,1.5s
BCIP MLR MLR
comp=Z,25µm,20.0s
BCIP Isla Barro Col 41.46 347 P P 17 47 43.1 -0.4
BCIP IAmb IAmb 17 47 56.9
comp=Z,2µm,1.4s
BCIP Isla Barro Col 41.46 347⇑*iP* P 17 47 45.2 +1.7
BCIP Isla Barro Col 41.46 347⇑P P 17 47 44.5 +1.0
MAD3 Madden Dam 41.46 348 *eP* P 17 47 46.1 +2.6
FRIJ El Hiral 41.49 348 *iP* P 17 47 45.5 +1.7
MLIR Monte Lirio 41.53 347 *eP* P 17 47 45.9 +1.7
SJCC San Jacinto, C 41.55 354⇑*iP* P 17 47 45.0 +0.6
SJCC San Jacinto, C 41.55 354 P P 17 47 43.8 -0.6
SJCC IAmb IAmb 17 47 58.0
comp=Z,1µm,1.4s
SJCC San Jacinto, C 41.55 354⇑*iP* P 17 47 45.4 +1.0
BCO2 Palmira 41.60 343 *eP* P 17 47 48.1 +3.2
BRU2 Volcan 41.71 343⇑*iP* P 17 47 47.9 +2.1
BRU2 Volcan 41.71 343⇑*iP* P 17 47 47.9 +2.1
BRU2 Volcan 41.71 343 P P 17 47 45.4 -0.4
BRU2 Volcan 41.71 343⇑*iP* P 17 47 48.1 +2.3
BC3P Paso Ancho 41.71 343 *iP* P 17 47 48.4 +2.5
RIOS Rincon, Osa 41.83 342⇑*iP* P 17 47 47.9 +1.3
RIOS Rincon, Osa 41.83 342 P P 17 47 46.7 +0.1
RIOS IAmb IAmb 17 48 00.0
comp=Z,1µm,1.3s
RIOS IAMs_20 IAMs_20 18 00 49.0
comp=Z,46µm,22.0s
RCBR Riachuelo 42.06 60 P P 17 47 48.6 -0.1
RCBR pmax pmax
comp=Z,1µm,1.5s
RCBR MLR MLR
comp=Z,246µm,22.0s
RCBR Riachuelo 42.06 60 P P 17 47 48.6 -0.1
RCBR IAmb IAmb 17 48 06.1
comp=Z,1µm,1.5s
RCBR Riachuelo 42.06 60⇑P P 17 47 47.8 -0.9
RCBR Riachuelo 42.06 60 *eP* P 17 47 49.0 +0.4
SRBA San Rafael, Bu 42.30 342 P P 17 47 51.0 +0.4
SRBA IAmb IAmb 17 48 04.2
comp=Z,910nm,1.4s
RGM0 Gandoca 42.46 344⇑*iP* P 17 47 54.0 +2.3
PEZE Perez Zeledon, 42.53 342⇑*iP* P 17 47 53.7 +1.4
PEZE Perez Zeledon, 42.53 342 P P 17 47 51.6 -0.8
CRJC Cerrejon, Guaj 42.54 358⇑*iP* P 17 47 50.0 -2.4
CDM Cerro de Muert 42.71 342⇑*iP* P 17 47 55.9 +1.5
SMRC Santa Marta, M 42.74 356⇑*iP* P 17 47 54.4 +0.4
RIMA Rio Macho 42.94 342⇑*iP* P 17 47 57.0 +1.1
RIMA Rio Macho 42.94 342 P P 17 47 56.4 +0.5
LCR2 La Lucha 2 42.96 342⇑*iP* P 17 47 57.3 +1.2
JACO JACO, Garabito 43.06 341⇑*iP* P 17 47 58.1 +1.5
JACO JACO, Garabito 43.06 341 P P 17 47 57.7 +1.1
OCM Ochomogo 43.09 342⇑*iP* P 17 47 58.5 +1.4
BATAN Batan 43.13 343 P P 17 47 56.6 -0.6
BATAN IAmb IAmb 17 48 11.2
comp=Z,1µm,1.4s
CVTR Volcan Turrial 43.16 342⇑*iP* P 17 48 00.3 +2.4
CVTR Volcan Turrial 43.16 342 P P 17 47 57.6 -0.3
URIC Uribia, Colomb 43.20 359 P P 17 47 55.5 -2.2
URIC Uribia, Colomb 43.20 359⇑*iP* P 17 47 55.0 -2.7
TRN Trinidad (W) 43.23 15 *eP* P 17 47 57.1 -0.8
HDC Heredia 43.23 342⇑*iP* P 17 48 00.6 +2.4
LAFE Finca La Fe, P 43.27 340⇑*iP* P 17 47 58.3 0.0
SRA1 San Ramn 43.41 341⇑*iP* P 17 48 01.5 +1.9
RIFO Rio Frio, Sara 43.49 342⇑*iP* P 17 48 02.4 +2.4
INDI Punta indio, G 43.50 340⇑*iP* P 17 48 01.8 +1.7
GRZA Playa Garza 43.59 340⇑*iP* P 17 48 02.2 +1.4
HATO Hato, Curacao 43.73 4 P P 17 48 00.4 -1.6
HATO IAmb IAmb 17 48 12.3
comp=Z,615nm,1.1s
HATO IAMs_20 IAMs_20 18 08 19.6
comp=Z,66µm,20.0s
JTS Las Juntas de 43.74 341*c iP* P 17 48 02.9 +0.8
JTS pmax pmax
comp=Z,424nm,2.4s
JTS Las Juntas de 43.74 341⇑*iP* P 17 48 03.4 +1.2
JTS Las Juntas de 43.74 341 P P 17 48 02.9 +0.8
JTS Las Juntas de 43.74 341⇑*iP* P 17 48 03.7 +1.6
JTS Las Juntas de 43.74 341⇑P P 17 48 03.3 +1.2
SAJU San Juanillo, 43.75 339⇑*iP* P 17 48 02.7 +0.5
CASO Castillo 43.82 341 *eP* P 17 48 04.6 +1.8
ARE1 Arenal 1 43.84 341⇑*iP* P 17 48 05.0 +2.1
CEDE Laguna Cedeo 43.86 341 *eP* P 17 48 04.9 +1.8
GUAI GUAI 43.88 340⇑*eP* P 17 48 04.9 +1.6
ORTG Ortega, Santa 43.96 340 P P 17 48 04.4 +0.5
COVE Coope Vega, Sa 44.00 342⇑*iP* P 17 48 05.2 +1.1
COVE Coope Vega, Sa 44.00 342 P P 17 48 05.4 +1.3
COVE IAmb IAmb 17 48 17.6
comp=Z,1µm,1.3s
CUI Cuipilapa 44.15 340⇑*iP* P 17 48 07.0 +1.6
COLC Colonia 44.17 340 *eP* P 17 48 07.1 +1.5
HORNC Hornillas 44.21 340 *eP* P 17 48 07.4 +1.5
HZTE Horizontes, Gu 44.33 340⇑*iP* P 17 48 09.1 +2.3
HZTE Horizontes, Gu 44.33 340 P P 17 48 06.2 -0.6
GB1A Borinquen Arri 44.37 340 *eP* P 17 48 09.6 +2.3
BUAI Buenos Aires 44.41 340 *eP* P 17 48 08.5 +1.0
GRFF Grenada Fort F 44.52 14 *eP* P 17 48 04.7 -3.7
GRGR Grenville 44.62 14 *eP* P 17 48 08.9 -0.2
GRGR Grenville 44.62 14 P P 17 48 08.0 -1.2
GRGR Grenville 44.62 14⇑P P 17 48 07.9 -1.3
GCMP Grenada, Carri 45.01 14 *eP* P 17 48 08.1 -4.1
ACON Acoyapa 45.40 341 P P 17 48 15.2 -0.1
PRVC Isla de Provid 45.85 347 P P 17 48 18.5 -0.4
PRVC Isla de Provid 45.85 347 *eP* P 17 48 20.3 +1.4
SVV Soufriere Volc 45.87 14 *eP* P 17 48 19.8 +0.8
SSV Crater Summit 45.88 14 *eP* P 17 48 20.1 +0.9

SFAN Fancy Village 45.94 14 *eP* P 17 48 19.6 0.0
BCHC Barbados, Cave 46.04 16 *eP* P 17 48 20.5 +0.2
BBSP Saint Philip 46.05 16 *eP* P 17 48 20.5 +0.1
BBGH Gun Hill 46.06 16 *eP* P 17 48 20.5 0.0
CNGN Cerro Negro 46.35 339 P P 17 48 23.3 +0.5
SLB Belfond 46.40 14 *eP* P 17 48 23.7 +0.5
MATN Matagalpa 46.53 340 P P 17 48 24.1 -0.2
SLBI Saint Lucia, B 46.60 14 *eP* P 17 48 23.7 -1.0
CRIN San Cristobal 46.65 339 P P 17 48 24.8 -0.4
CRIN IAmb IAmb 17 48 37.3
comp=Z,572nm,1.4s
MPOM Morne Pois Mar 47.03 14 *eP* P 17 48 26.4 -1.7
MPOM Morne Pois Mar 47.03 14 P P 17 48 26.0 -2.2
BIM Bigot 47.06 14 *eP* P 17 48 25.2 -3.2
BIM Bigot 47.06 14 P P 17 48 26.2 -2.2
FDF Fort de France 47.25 14 P P 17 48 27.5 -2.4
FDF pmax pmax
comp=Z,711nm,1.1s
FDF MLR MLR
comp=Z,69µm,22.0s
FDF Fort de France 47.25 14 *eP* P 17 48 26.1 -3.8
FDF Fort de France 47.25 14 P P 17 48 27.5 -2.4
FDF IAmb IAmb 17 48 38.5
comp=Z,711nm,1.1s
FDF IAMs_20 IAMs_20 18 10 59.8
comp=Z,69µm,22.0s
FDF Fort de France 47.25 14⇑P P 17 48 28.1 -1.9
ILAM Ilet Lapin Mar 47.35 14 *eP* P 17 48 27.0 -3.6
ILAM Ilet Lapin Mar 47.35 14 P P 17 48 28.3 -2.3
ILAM IAmb IAmb 17 48 34.6
comp=Z,646nm,1.0s
SVN Savane Anatole 47.36 14 P P 17 48 27.9 -2.8
DSLB Salisbury 47.89 13 *eP* P 17 48 32.8 -2.0
TGUH Tegucigalpa,Un 47.99 339 P P 17 48 35.4 -0.4
TGUH Tegucigalpa,Un 47.99 339⇑*iP* P 17 48 36.1 +0.3
TGUH Tegucigalpa,Un 47.99 339⇑P P 17 48 35.7 -0.1
TDBA Terre de Bas, 48.25 13 *eP* P 17 48 35.7 -1.9
SNET Serv Nac Est T 48.27 337 P P 17 48 37.8 -0.1
MAGL Barre de l'Ile 48.41 13 *eP* P 17 48 34.6 -4.2
CBE Ff, Capster 48.47 13 *eP* P 17 48 36.3 -3.0
MTO3 Montecristo 48.98 337 P P 17 48 43.2 -0.3
ANBD Bethesda, Anti 49.39 12 *eP* P 17 48 43.3 -3.0
ANOC Antigua Open C 49.45 12 *eP* P 17 48 42.6 -4.2
SKI Saint Kitts 49.50 11 *eP* P 17 48 45.7 -1.5
ICMP Isla Caja de M 49.57 6 P P 17 48 46.4 -1.3
MLPR Magueyes Islan 49.60 6 P P 17 48 45.9 -2.1
SEUS St. Eustatius 49.62 11 *eP* P 17 48 45.7 -2.4
SEUS St. Eustatius 49.62 11 IAMs_20 IAMs_20 18 12 28.1
comp=Z,57µm,20.0s
CDVI St. Croix 49.62 8 P P 17 48 45.7 -2.4
CRPR Cabo Rojo, PR 49.64 5 P P 17 48 46.4 -1.8
JAKH Jacmel 49.70 359 P P 17 48 47.3 -1.3
OBIP Obispado Ponce 49.72 6 P P 17 48 46.5 -2.3
PDPR Patillas Dam, 49.75 7 P P 17 48 46.6 -2.4
PDPR IAmb IAmb 17 48 53.2
comp=Z,668nm,1.1s
STH Stony Hill 49.80 353 *iP* P 17 48 51.3 +1.9
SJG San Juan 49.83 7 P P 17 48 47.8 -1.9
SJG pmax pmax
comp=Z,648nm,1.1s
SJG MLR MLR
comp=Z,41µm,20.0s
SJG San Juan 49.83 7 P P 17 48 47.8 -1.9
SJG IAmb IAmb 17 48 54.4
comp=Z,648nm,1.1s
SJG San Juan 49.83 7 IAMs_20 IAMs_20 18 13 42.0
comp=Z,41µm,20.0s
SJG San Juan 49.83 7⇑*iP* P 17 48 48.8 -0.8
SJG San Juan 49.83 7⇑P P 17 48 47.7 -1.9
BANI BANI 49.86 1 P P 17 48 49.0 -1.0
MTP Monte Pirata 49.88 7 P P 17 48 48.0 -2.0
MTP IAmb IAmb 17 48 54.0
comp=Z,357nm,1.2s
HUMP Col San Antoni 49.89 7 P P 17 48 47.8 -2.3
HUMP IAmb IAmb 17 49 01.1
comp=Z,623nm,1.4s
SDD Santo Domingo 49.93 2 P P 17 48 49.6 -0.8
LGNH Logne 49.98 359 P P 17 48 50.0 -0.8
LGNH IAmb IAmb 17 48 56.7
comp=Z,417nm,1.3s
ANWB Willy Bob 49.99 12 *eP* P 17 48 48.5 -2.5
ANWB Willy Bob 49.99 12 P P 17 48 47.6 -3.3
ANWB IAmb IAmb 17 48 54.0
comp=Z,730nm,1.1s
ANWB IAMs_20 IAMs_20 18 12 48.4
comp=Z,52µm,21.0s
ANWB Willy Bob 49.99 12⇑P P 17 48 48.3 -2.6
AOPR Arecibo Observ 50.00 6 P P 17 48 49.4 -1.6
AOPR IAmb IAmb 17 49 14.1
comp=Z,323nm,0.9s
CBYP Canovanas 50.02 7 P P 17 48 48.7 -2.5
MTDJ Mount Denham 50.02 352 P P 17 48 50.3 -1.0
MTDJ Mount Denham 50.02 352⇑*iP* P 17 48 52.0 +0.8
MTDJ Mount Denham 50.02 352⇑P P 17 48 50.8 -0.4
GCPR Guaynabo City 50.03 7 P P 17 48 49.1 -2.0
GCPR IAmb IAmb 17 48 55.1
comp=Z,381nm,1.1s
PCDR Punta Cana, DR 50.05 4 P P 17 48 50.6 -0.7
PCDR IAmb IAmb 17 48 57.6
comp=Z,670nm,1.1s
AGPR Aguadilla, PR 50.09 5 P P 17 48 50.1 -1.5
AGPR IAmb IAmb 17 49 10.4
comp=Z,440nm,1.1s
CUPR Culebra, Puert 50.11 8 P P 17 48 49.2 -2.6
EMPR Esperanza - Ma 50.15 6 P P 17 48 49.3 -2.8
EMPR IAmb IAmb 17 48 55.9
comp=Z,591nm,1.1s
SMRT St. Maarten 50.16 10 *eP* P 17 48 49.2 -2.9
SMRT St. Maarten 50.16 10 P P 17 48 49.7 -2.4
SMRT IAmb IAmb 17 48 55.6
comp=Z,479nm,1.1s
SMRT IAMs_20 IAMs_20 18 12 08.2
comp=Z,52µm,19.0s
STVI Saint Thomas 50.19 8 P P 17 48 50.2 -2.2
DR12 Loma Pena Alta 50.28 3 P P 17 48 50.5 -2.6
SDDR Presa de Saban 50.43 0 P P 17 48 52.3 -2.0
ABVI Anegada Island 50.64 9 P P 17 48 53.6 -2.2
SC01 Santiago de lo 50.88 1 P P 17 48 56.3 -1.3
SC01 IAmb IAmb 17 49 03.3
comp=Z,797nm,1.1s
SC01 IAMs_20 IAMs_20 18 11 50.5
comp=Z,32µm,22.0s
VNA3 Neumayer Olymp 51.27 159 P P 17 49 00.6 +0.6
GTBY Guantanamo Bay 51.49 356 P P 17 49 01.3 -0.8
GTBY IAmb IAmb 17 49 20.9
comp=Z,511nm,1.2s
GTBY Guantanamo Bay 51.49 356⇑*iP* P 17 49 02.6 +0.5
GTBY Guantanamo Bay 51.49 356⇑P P 17 49 02.1 0.0
VNA1 Neumayer--Stat 51.57 158 P P 17 49 03.2 +1.0
FSCY Frank Sound, G 51.61 348 P P 17 49 02.0 -1.1
CCIG Comitan 51.70 334 P P 17 49 03.8 -0.2
LCCY Blossom Villag 51.78 350 P P 17 49 04.3 0.0
CBCY The Bluff, Cay 51.80 350 P P 17 49 03.9 -0.6
VNA2 Neumayer--Watz 51.91 158 P P 17 49 04.6 -0.3
baz=286,slow=8.3
GRTK Grand Turk 52.95 0 P P 17 49 12.5 -0.5
GRTK IAmb IAmb 17 49 31.7
comp=Z,856nm,1.2s
GRTK IAMs_20 IAMs_20 18 13 51.3
comp=Z,45µm,20.0s
GRTK Grand Turk 52.95 0⇑P P 17 49 12.9 -0.1
SNAA Sanae 53.50 158 P P 17 49 16.4 -0.2
SNAA Sanae 53.50 158 P P 17 49 16.3 -0.3
comp=Z,141nm,0.8s,baz=278,slow=6.7,SNR=338
SNAA Sanae 53.50 158*c iP* P 17 49 16.6 0.0
SNAA pmax pmax
comp=Z,442nm,1.2s
SNAA Sanae 53.50 158 P P 17 49 16.2 -0.4
SNAA IAmb IAmb 17 49 37.7
comp=Z,671nm,1.1s
SNAA IAMs_20 IAMs_20 18 09 53.5
comp=Z,32µm,22.0s
SNAA Sanae 53.50 158⇑P P 17 49 16.2 -0.4
SOR Soroa 55.34 347 P P 17 49 29.2 -1.2
SOR pmax pmax
comp=Z,707nm,1.3s
SOR Soroa 55.34 347 P P 17 49 29.2 -1.2
SOR IAmb IAmb 17 49 42.3
comp=Z,707nm,1.3s
TLIG Tlapa 55.49 328 P P 17 49 32.2 +0.5
RKT Rikitea 56.34 262 *eT* T 18 50 09.7
comp=Z,64nm,0.3s
UNM Universidad Na 57.31 329 P P 17 49 44.8 -0.1

UNM pmax pmax
comp=Z,830nm,1.4s
UNM MLR MLR
comp=Z,88µm,20.0s
UNM Universidad Na 57.31 329 P P 17 49 44.8 -0.1
UNM IAmb IAmb 17 50 02.6
comp=Z,830nm,1.4s
ASCN Ascension 57.98 79 P P 17 49 49.0 -0.5
ASCN IAMs_20 IAMs_20 18 11 13.0
comp=Z,52µm,22.0s
061Z Ochoppi 57.99 350 P P 17 49 48.4 -0.7
QSPA South Pole Qui 58.49 180 P P 17 49 52.9 +0.4
comp=Z,89nm,0.9s,baz=147,slow=2.4,SNR=255
QSPA S S 17 57 51.7 -2.5
comp=Z,7.5nm,1.0s,baz=142,slow=18,SNR=2.4
QSPA LR LR 18 13 27.9
comp=Z,16µm,21.7s,baz=158,slow=34
QSPA South Pole Qui 58.49 180 P P 17 49 51.7 -0.8
QSPA IAmb IAmb 17 50 06.0
comp=Z,463nm,1.1s
QSPA South Pole Qui 58.49 180⇑P P 17 49 52.5 0.0
060A Indiantown 59.06 351 P P 17 49 55.1 -1.5
DWPF Disney Wildern 60.27 350 P P 17 50 03.6 -1.4
DWPF IAmb IAmb 17 50 10.2
comp=Z,482nm,1.2s
DWPF Disney Wildern 60.27 350⇑P P 17 50 04.7 -0.2
DWPF Disney Wildern 60.27 350 P P 17 50 04.0 -0.9
baz=170
DWPF S S 17 58 15.8 -1.7
baz=170
SHEL Horse Pasture 61.31 92 P P 17 50 11.9 -0.6
SHEL pmax pmax
comp=Z,915nm,1.5s
SHEL Horse Pasture 61.31 92 P P 17 50 11.9 -0.6
SHEL Horse Pasture 61.31 92⇑P P 17 50 13.8 +1.4
656A Willston 61.68 349 P P 17 50 13.7 -0.8
ZAIG Zacatecas 61.84 327 P P 17 50 16.4 +0.3
553A Crawfordville 62.81 347 P P 17 50 20.9 -1.1
H06E1 SOCORRO T-PHAS 62.89 317 T T 18 58 29.5
SNR=148
456A Hilliard 62.93 350 P P 17 50 21.9 -0.9
451A Vernon 63.48 346 P P 17 50 26.1 -0.4
TIGA Tifton 63.88 348 P P 17 50 28.1 -1.0
TIGA IAmb IAmb 17 50 34.0
comp=Z,676nm,1.2s
TIGA Tifton 63.88 348 P P 17 50 28.6 -0.4
baz=169
TIGA S S 17 59 01.7 -1.3
baz=169
257A Skidaway Islan 64.01 351 P P 17 50 29.8 -0.2
257A IAMs_20 IAMs_20 18 23 14.4
comp=Z,29µm,19.0s
BBSR BB Station 64.08 6 P P 17 50 28.4 -2.0
BBSR IAmb IAmb 17 50 36.1
comp=Z,299nm,1.1s
BBSR BB Station 64.08 6⇑P P 17 50 31.1 +0.7
KVTX Kingsville 64.11 334 P P 17 50 32.4 +1.7
352A Blakely 64.16 347 P P 17 50 30.0 -0.9
255A Hazlehurst 64.17 350 P P 17 50 29.9 -1.2
255A IAMs_20 IAMs_20 18 16 39.5
comp=Z,24µm,22.0s
BRAL Brewton 64.29 345 P P 17 50 30.5 -1.3
BRAL Brewton 64.29 345⇑P P 17 50 31.3 -0.5
BRAL Brewton 64.29 345 P P 17 50 31.9 +0.1
baz=166
BRAL S S 17 59 06.2 -1.9
baz=166
RGRS Roger Stewart 64.83 352 P P 17 50 33.5 -1.8
CSU Charleston Sou 64.89 352 P P 17 50 34.3 -1.4
250A Grady 64.90 346 P P 17 50 34.5 -1.3
154A Montrose 64.94 349 P P 17 50 34.8 -1.3
NHSC New Hope 65.02 352 P P 17 50 35.8 -0.7
NHSC New Hope 65.02 352 P P 17 50 37.0 +0.4
baz=172
NHSC S S 17 59 15.9 -1.2
baz=172
346A Big Creek Wild 65.06 343 P P 17 50 36.5 -0.3
735A Kenedy 65.26 335 P P 17 50 38.4 +0.1
152A Waverly Hall 65.28 348 P P 17 50 36.5 -1.7
152A IAmb IAmb 17 50 42.9
comp=Z,288nm,1.1s
SACV Santiago Islan 65.28 52 P P 17 50 37.5 -1.1
SACV IAmb IAmb 17 50 44.5
comp=Z,533nm,1.1s
SACV IAMs_20 IAMs_20 18 19 08.2
comp=Z,30µm,19.0s
833A Chaparral WMA, 65.38 333 P P 17 50 39.3 +0.3
baz=154,SNR=112
833A S S 17 59 21.8 +0.1
baz=154
SBA Scott Base 65.38 191 P P 17 50 39.0 +0.5
SBA pmax pmax
comp=Z,129nm,1.2s
SBA Scott Base 65.38 191 P P 17 50 39.0 +0.5
344A Westbrook Farm 65.45 342 P P 17 50 38.4 -0.9
344A IAmb IAmb 17 50 45.7
comp=Z,546nm,1.2s
441A DeRidder 65.48 339 P P 17 50 38.3 -1.2
HKT Hockley 65.57 337 P P 17 50 40.1 0.0
HKT pmax pmax
comp=Z,146nm,1.5s
HKT MLR MLR
comp=Z,18µm,19.0s
HKT Hockley 65.57 337 P P 17 50 40.1 0.0
HKT Hockley 65.57 337 IAMs_20 IAMs_20 18 19 52.3
comp=Z,18µm,19.0s
HKT Hockley 65.57 337⇑P P 17 50 40.6 +0.5
Y60A Bolivia 65.70 354 P P 17 50 40.6 -0.3
Y58A Scranton 65.75 353 P P 17 50 41.2 0.0
Y58A IAmb IAmb 17 50 53.7
comp=Z,582nm,1.1s
Y59A Loris 65.75 353 P P 17 50 41.0 -0.3
Y59A IAmb IAmb 17 50 53.5
comp=Z,280nm,1.1s
GOGA Godfrey 65.78 349 P P 17 50 40.1 -1.4
GOGA pmax pmax
comp=Z,337nm,1.2s
GOGA MLR MLR
comp=Z,20µm,22.0s
GOGA Godfrey 65.78 349 P P 17 50 40.1 -1.4
GOGA IAmb IAmb 17 50 46.3
comp=Z,337nm,1.1s
GOGA Godfrey 65.78 349 IAMs_20 IAMs_20 18 17 27.2
comp=Z,20µm,22.0s
GOGA Godfrey 65.78 349 P P 17 50 41.2 -0.3
baz=169
GOGA S S 17 59 22.6 -3.8
baz=169
342A Flagon Creek P 65.81 340 P P 17 50 42.8 +1.1
342A IAmb IAmb 17 50 48.2
comp=Z,491nm,1.1s
Y57A Sumter 65.94 352 P P 17 50 41.9 -0.6
Y57A IAmb IAmb 17 50 47.7
comp=Z,504nm,1.1s
Z51A Franklin 65.99 347 P P 17 50 41.9 -1.0
LRAL Lakeview Retre 66.08 346 P P 17 50 42.3 -1.1
LRAL Lakeview Retre 66.08 346 P P 17 50 43.0 -0.3
baz=166
LRAL S S 17 59 25.8 -4.2
baz=166
VBMS Vicksburg 66.12 342 P P 17 50 43.2 -0.4
VBMS Vicksburg 66.12 342 P P 17 50 44.4 +0.8
baz=162
VBMS S S 17 59 29.7 -0.7
baz=162
146A Union 66.15 344 P P 17 50 43.3 -0.6
SLBS Sierra La Lagu 66.28 321 P P 17 50 44.0 -1.0
SLBS IAmb IAmb 17 50 59.4
comp=Z,368nm,1.3s
SLBS Sierra La Lagu 66.28 321⇑P P 17 50 46.2 +1.2
JSC Jenkinsville 66.31 351 P P 17 50 43.8 -1.1
JSC pmax pmax
comp=Z,333nm,1.1s
JSC MLR MLR
comp=Z,21µm,21.0s
JSC Jenkinsville 66.31 351 P P 17 50 43.8 -1.1
JSC IAmb IAmb 17 50 50.0
comp=Z,333nm,1.1s
JSC IAMs_20 IAMs_20 18 22 14.4
comp=Z,21µm,21.0s
Y52A Lilburn 66.33 349 P P 17 50 43.8 -1.2
Y52A IAmb IAmb 17 50 50.0
comp=Z,556nm,1.1s
X58A Rowland 66.36 353 P P 17 50 44.6 -0.5
X58A IAmb IAmb 17 50 57.5

comp=Z,356nm,0.9s
X58A IAMs_20 IAMs_20 18 18 37.6
comp=Z,19µm,21.0s
HODGE **Hodges** **66.40 350** P **P** **17 50 44.9 -0.5**
HODGE IAmb IAmb 17 50 57.6
comp=Z,387nm,1.3s
HODGE IAMs_20 IAMs_20 18 22 14.6
comp=Z,28µm,22.0s
VNDA **Vanda** **66.41 191** P **P** **17 50 46.2 +1.1**
comp=Z,11nm,0.9s,baz=125,slow=5.3,SNR=48
VNDA S **S** **17 59 34.6 +1.4**
comp=Z,1.0nm,0.9s,baz=168,slow=9.8,SNR=1.0
VNDA LR LR 18 16 55.2
comp=Z,10µm,18.1s,baz=134,slow=33
VNDA **Vanda** **66.41 191** P **P** **17 50 45.4 +0.3**
Z47A **Carrollton** **66.47 345** P **P** **17 50 45.5 -0.4**
Z47A IAmb IAmb 17 50 51.1
comp=Z,445nm,1.1s
BIRD **Birdtown, Kers** **66.57 352** P **P** **17 50 45.4 -1.1**
BIRD IAmb IAmb 17 50 51.8
comp=Z,341nm,1.2s
Y49A **Blount Mountai** **66.75 346** P **P** **17 50 45.9 -1.8**
143A **Socs Landing,** **66.81 342** P **P** **17 50 48.2 +0.2**
HPIG **66.84 327** P **P** **17 50 48.2 -0.5**
NATX **Nacogdoches** **66.86 339** P **P** **17 50 48.6 +0.1**
NATX IAmb IAmb 17 50 54.7
comp=Z,428nm,1.1s
NATX **Nacogdoches** **66.86 339** P **P** **17 50 49.0 +0.5**
baz=159
NATX S **S** **17 59 39.6 0.0**
baz=159
CNNC **Cliffs of the** **66.90 354** P **P** **17 50 48.4 -0.2**
CNNC **Cliffs of the** **66.90 354** ⇓P **P** **17 50 48.9 +0.4**
CNNC **Cliffs of the** **66.90 354** P **P** **17 50 49.1 +0.6**
baz=174
CNNC S **S** **17 59 38.8 -1.0**
baz=174
PAULI **Pauline** **66.92 351** P **P** **17 50 48.2 -0.6**
PAULI IAmb IAmb 17 51 01.8
comp=Z,606nm,1.3s
PAULI IAMs_20 IAMs_20 18 22 35.4
comp=Z,23µm,20.0s
435B **Jarrell** **66.93 336** P **P** **17 50 48.5 -0.4**
435B IAmb IAmb 17 51 02.9
comp=Z,513nm,1.4s
435B **Jarrell** **66.93 336** P **P** **17 50 48.9 0.0**
baz=156,SNR=7.8
435B S **S** **17 59 41.3 +0.8**
baz=156
W57A **Gilead** **67.02 352** P **P** **17 50 48.4 -1.0**
W57A IAmb IAmb 17 51 01.5
comp=Z,372nm,1.1s
X51A **Calhoun** **67.15 348** P **P** **17 50 49.3 -0.9**
KMSC **Kings Mountain** **67.17 351** P **P** **17 50 49.7 -0.7**
KMSC IAmb IAmb 17 51 02.5
comp=Z,409nm,1.1s
KMSC **Kings Mountain** **67.17 351** P **P** **17 50 50.7 +0.4**
baz=171
KMSC S **S** **17 59 40.5 -2.7**
baz=171
BG3 **Lake Jocassee** **67.25 350** P **P** **17 50 50.2 -0.6**
BG3 IAMs_20 IAMs_20 18 25 37.0
comp=Z,25µm,20.0s
FPAL **Fort Paine** **67.26 347** P **P** **17 50 49.9 -1.1**
FPAL IAmb IAmb 17 51 03.7
comp=Z,543nm,1.4s
TAOE **Nuku Hiva Isla** **67.29 274** *e*S **S** **17 59 49.5 +3.8**
comp=Z,28µm,27.2s
TAOE **Nuku Hiva Isla** **67.29 274** *e*LR LR 18 11 05.1
comp=Z,61µm,26.2s,baz=130
V61A **Roper** **67.35 355** P **P** **17 50 50.1 -1.3**
Y45A **Yeager Farm, C** **67.44 344** P **P** **17 50 51.8 -0.3**
237A **Washetta, Mont** **67.45 338** P **P** **17 50 52.1 -0.1**
X48A **Hartselle** **67.45 346** P **P** **17 50 51.1 -1.0**
X48A IAmb IAmb 17 50 57.4
comp=Z,601nm,1.1s
JCT **Junction City** **67.47 334** P **P** **17 50 51.8 -0.6**
JCT pmax pmax
comp=Z,1µm,1.5s
JCT MLR MLR
comp=Z,9µm,21.0s
JCT **Junction City** **67.47 334** P **P** **17 50 51.8 -0.6**
JCT **Junction City** **67.47 334** ⇑P **P** **17 50 52.3 -0.1**
JCT **Junction City** **67.47 334** P **P** **17 50 52.3 -0.1**
baz=154
JCT S **S** **17 59 47.0 0.0**
baz=154
W52A **Murphy** **67.50 349** P **P** **17 50 51.3 -1.2**
W52A IAmb IAmb 17 51 05.8
comp=Z,727nm,1.4s
V58A **Windy Hill, Pi** **67.56 353** P **P** **17 50 52.0 -0.7**
V58A IAmb IAmb 17 50 57.9
comp=Z,418nm,1.1s
V58A IAMs_20 IAMs_20 18 19 33.5
comp=Z,20µm,22.0s
Z41A **Richland Creek** **67.72 341** P **P** **17 50 54.1 +0.4**
baz=161
Z41A S **S** **17 59 50.2 +0.5**
baz=161
SYO **Syowa Base** **67.79 159**⇓*e*P **P** **17 50 50.6 -3.3**
SYO **Syowa Base** **67.79 159**⇓*r*pP pP 17 51 02.7 +0.7
SYO **Syowa Base** **67.79 159**⇑*r*sP sP 17 51 06.2 +1.1
W50A **Signal Mountai** **67.85 348** P **P** **17 50 53.5 -1.1**
V55A **Taylorsville** **67.86 351** P **P** **17 50 53.9 -0.7**
V55A IAmb IAmb 17 50 60.0
comp=Z,528nm,1.1s
V53A **Saluda** **67.90 350** P **P** **17 50 53.8 -1.2**
V53A IAmb IAmb 17 51 07.1
comp=Z,584nm,1.1s
V53A IAMs_20 IAMs_20 18 23 21.1
comp=Z,27µm,21.0s
CPCT **Cooper Cave** **67.95 349** P **P** **17 50 54.2 -1.1**
CPCT IAmb IAmb 17 51 00.4
comp=Z,531nm,1.1s
CPCT IAMs_20 IAMs_20 18 23 41.5
comp=Z,21µm,22.0s
WHTX **Lake Whitney,** **67.99 336** P **P** **17 50 55.2 -0.4**
WHTX IAmb IAmb 17 51 01.4
comp=Z,343nm,1.1s
WHTX **Lake Whitney,** **67.99 336** P **P** **17 50 55.4 -0.1**
baz=156,SNR=53
WHTX S **S** **17 59 52.8 -0.4**
baz=156
U59A **Littleton** **68.00 354** P **P** **17 50 55.4 -0.1**
U59A IAmb IAmb 17 51 08.5
comp=Z,765nm,1.4s
TX32 **Lajitas Array** **68.02 330** P **P** **17 50 55.7 -0.3**
TXAR **Lajitas Array** **68.02 330** P **P** **17 50 55.7 -0.2**
comp=Z,44nm,0.9s,baz=151,slow=6.7,SNR=121
TXAR LR LR 18 16 58.7
comp=Z,42µm,18.4s,baz=0.0,slow=33
TXAR PKPPKP **P'P'df** **18 19 17.5 +6.9**
comp=Z,8.3nm,1.2s,baz=298,slow=2.7,SNR=9.4
TX31 **Lajitas Ar. Si** **68.02 330** P **P** **17 50 55.6 -0.3**
TX31 **Lajitas Ar. Si** **68.02 330** ⇑P **P** **17 50 55.8 -0.2**
OXF **Oxford** **68.03 344** P **P** **17 50 54.1 -1.7**
OXF pmax pmax
comp=Z,935nm,0.9s
OXF **Oxford** **68.03 344** P **P** **17 50 54.1 -1.7**
OXF **Oxford** **68.03 344** P **P** **17 50 55.5 -0.3**
baz=164
OXF S **S** **17 59 50.9 -2.6**
baz=164
TKL **Tuckaleechee C** **68.03 349** P **P** **17 50 54.2 -1.6**
TKL pmax pmax
comp=Z,448nm,1.0s
TKL MLR MLR
comp=Z,23µm,19.0s
TKL **Tuckaleechee C** **68.03 349** P **P** **17 50 54.2 -1.6**
TKL IAmb IAmb 17 51 00.6
comp=Z,448nm,1.0s
TKL IAMs_20 IAMs_20 18 26 05.7
comp=Z,23µm,19.0s
CCAR **Cane Creek** **68.06 342** P **P** **17 50 56.0 +0.1**
PLAL **Pickwick Lake** **68.18 345** P **P** **17 50 55.5 -1.2**
PLAL IAmb IAmb 17 51 01.7
comp=Z,400nm,1.1s
V52A **Sevierville** **68.18 349** P **P** **17 50 55.3 -1.4**
V52A IAMs_20 IAMs_20 18 26 07.7
comp=Z,24µm,19.0s
WLAR **White Oak Lake** **68.20 341** P **P** **17 50 56.9 0.0**
U56A **King** **68.25 352** P **P** **17 50 56.4 -0.7**
U56A IAmb IAmb 17 51 09.7
comp=Z,417nm,1.1s
U56A IAMs_20 IAMs_20 18 19 34.5
comp=Z,23µm,22.0s
V51A **Loudon** **68.27 349** P **P** **17 50 55.8 -1.5**
V51A IAmb IAmb 17 51 02.2
comp=Z,451nm,1.0s
V51A IAMs_20 IAMs_20 18 24 00.9
comp=Z,22µm,21.0s
TBI **Tubuai** **68.34 255** *e*P P 17 51 03.5 +5.4
comp=Z,934nm,1.4s
TBI *e*S **S** **18 00 02.9 +5.0**
comp=Z,29µm,27.2s
TBI **Tubuai** **68.34 255** *e*LR LR 18 11 39.7
comp=Z,116µm,25.2s,baz=108
TBI **Tubuai** **68.34 255** *e*T T 19 05 09.6
comp=Z,51nm,0.2s
Z38A **Mt. Pleasant** **68.36 339** P **P** **17 50 58.4 +0.6**
Z38A IAmb IAmb 17 51 13.8
comp=Z,452nm,1.4s
T59A **Double "B" Far** **68.59 355** P **P** **17 50 58.7 -0.5**
U54A **Nelsons Funny** **68.59 351** P **P** **17 50 58.3 -1.0**
U54A IAmb IAmb 17 51 04.4
comp=Z,617nm,1.1s
W45A **Hickory Valley** **68.60 344** P **P** **17 50 58.4 -0.9**
V48A **Smith Brothers** **68.66 347** P **P** **17 50 58.8 -0.9**
T60A **Surry** **68.70 355** P **P** **17 50 59.8 0.0**
T60A IAMs_20 IAMs_20 18 22 06.8
comp=Z,21µm,22.0s
MET **Memphis--Engin** **68.74 344** P **P** **17 51 00.1 -0.1**
T57A **Hurt** **68.77 353** P **P** **17 50 59.7 -0.7**
TZTN **Tazewell** **68.86 350** P **P** **17 50 59.5 -1.5**
TZTN IAmb IAmb 17 51 13.7
comp=Z,612nm,1.2s
TZTN IAMs_20 IAMs_20 18 22 38.7
comp=Z,27µm,22.0s
TZTN **Tazewell** **68.86 350** P **P** **17 51 01.0 0.0**
baz=169
TZTN S **S** **18 00 00.0 -3.4**
baz=169
X40A **Basin Creek Fa** **68.88 341** P **P** **17 51 00.5 -0.6**
X40A **Basin Creek Fa** **68.88 341** P **P** **17 51 01.0 -0.1**
baz=161,SNR=16
X40A S **S** **18 00 01.8 -1.8**
baz=161
CLTN **Cedars of Leba** **68.90 347** P **P** **17 51 00.0 -1.2**
CLTN IAmb IAmb 17 51 06.4
comp=Z,469nm,1.0s
BLA **Blacksburg** **69.10 352** P **P** **17 51 01.2 -1.3**
BLA pmax pmax
comp=Z,284nm,1.2s
BLA MLR MLR
comp=Z,20µm,22.0s
BLA **Blacksburg** **69.10 352** P **P** **17 51 01.2 -1.3**
BLA IAMs_20 IAMs_20 18 19 59.2
comp=Z,20µm,22.0s
BLA **Blacksburg** **69.10 352** P **P** **17 51 02.3 -0.2**
baz=172
BLA S **S** **18 00 04.4 -1.9**
baz=172
MIAR **Mount Ida** **69.14 341** P **P** **17 51 01.9 -0.8**
MIAR pmax pmax
comp=Z,362nm,1.3s
MIAR **Mount Ida** **69.14 341** P **P** **17 51 01.9 -0.8**
MIAR IAmb IAmb 17 51 15.3
comp=Z,362nm,1.2s
MIAR **Mount Ida** **69.14 341** ⇑P **P** **17 51 03.1 +0.4**
MIAR **Mount Ida** **69.14 341** P **P** **17 51 02.3 -0.4**
baz=160
MIAR S **S** **18 00 04.8 -1.9**
baz=160
Z35A **Perchaven, Sp** **69.15 337** P **P** **17 51 02.3 -0.5**
U49A **Red Boiling Sp** **69.21 348** P **P** **17 51 02.1 -1.0**
U49A IAmb IAmb 17 51 08.1
comp=Z,391nm,1.1s
WVT **Waverly** **69.24 346** P **P** **17 51 02.2 -1.1**
WVT pmax pmax
comp=Z,857nm,1.0s
WVT MLR MLR
comp=Z,9µm,20.0s
WVT **Waverly** **69.24 346** P **P** **17 51 02.2 -1.1**
WVT **Waverly** **69.24 346** ⇑P **P** **17 51 02.3 -0.9**
WVT **Waverly** **69.24 346** P **P** **17 51 03.4 +0.2**
baz=165
WVT S **S** **18 00 04.6 -3.2**
baz=165
LPAR **Lepanto** **69.28 344** P **P** **17 51 03.7 +0.2**
LPAR IAmb IAmb 17 51 15.8
comp=Z,730nm,1.3s
HBAR **Harrisburg** **69.33 343** P **P** **17 51 02.9 -0.9**
HBAR IAmb IAmb 17 51 17.0
comp=Z,620nm,1.4s
ABTX **Abilene, Hawle** **69.34 335** P **P** **17 51 03.4 -0.6**
ABTX **Abilene, Hawle** **69.34 335** P **P** **17 51 04.1 +0.1**
baz=155,SNR=88
ABTX S **S** **18 00 08.2 -1.0**
baz=155
HALT **Halls** **69.35 345** P **P** **17 51 03.5 -0.5**
W41B **Gary Mavity, V** **69.37 342** P **P** **17 51 04.5 +0.4**
baz=161
W41B S **S** **18 00 06.7 -2.6**
baz=161
WHAR **Wooly Hollow** **69.49 342** P **P** **17 51 04.3 -0.5**
S57A **Dark Hollow, R** **69.49 354** P **P** **17 51 04.4 -0.4**
S57A IAmb IAmb 17 51 17.6
comp=Z,593nm,1.3s
MBO **M'Bour** **69.51 57** P **P** **17 51 05.7 +0.4**
T50A **Nancy** **69.54 349** P **P** **17 51 04.9 -0.2**
T50A IAmb IAmb 17 51 17.1
comp=Z,492nm,1.4s
T50A IAMs_20 IAMs_20 18 19 34.5
comp=Z,18µm,21.0s
GNAR **Gosnell** **69.56 344** P **P** **17 51 04.8 -0.5**
LNXT **Lenox** **69.57 344** P **P** **17 51 04.8 -0.5**
R58B **Mineral** **69.60 355** P **P** **17 51 05.5 0.0**
MEH **Mehetia** **69.65 261** *e*P P 17 51 11.4 +5.0
comp=Z,101nm,1.2s
MEH **Mehetia** **69.65 261** *e*T T 19 06 47.2
comp=Z,244nm,0.2s
UTMT **University of** **69.66 345** P **P** **17 51 05.6 -0.3**
PEBM **Pemiscott Bayo** **69.67 344** P **P** **17 51 05.2 -0.7**
GLAT **Glass** **69.69 345** P **P** **17 51 06.3 +0.3**
X37A **Clayton** **69.71 339** P **P** **17 51 05.7 -0.5**
LOOK **Love County** **69.73 337** P **P** **17 51 06.0 -0.4**
S54A **Dingess, Beckl** **69.79 352** P **P** **17 51 05.9 -0.8**
S54A IAmb IAmb 17 51 18.7
comp=Z,500nm,1.2s
CBN **Corbin Frederi** **69.80 355** P **P** **17 51 06.2 -0.5**
CBN IAmb IAmb 17 51 19.8
comp=Z,670nm,1.4s
CBN IAMs_20 IAMs_20 18 23 04.9
comp=Z,18µm,21.0s
CBN **Corbin Frederi** **69.80 355** P **P** **17 51 07.4 +0.7**
baz=175
CBN S **S** **18 00 14.4 +0.1**
baz=175
W39A **Magazine** **69.81 341** P **P** **17 51 06.6 -0.2**
W39A **Magazine** **69.81 341** P **P** **17 51 07.1 +0.3**
baz=160,SNR=239
W39A S **S** **18 00 13.6 -0.9**
baz=160
T47A **Sharon Grove** **69.92 347** P **P** **17 51 06.2 -1.3**
HICK **Hickman** **69.93 345** P **P** **17 51 06.9 -0.7**
LCAR **Lake Charles** **69.94 343** P **P** **17 51 06.7 -0.9**
LCAR IAmb IAmb 17 51 12.6
comp=Z,444nm,1.1s
PENMO **Penman** **69.94 344** P **P** **17 51 07.0 -0.5**
FCAR **Ozark Folk Cen** **70.01 342** P **P** **17 51 06.9 -1.2**
R55A **Marlinton** **70.13 353** P **P** **17 51 08.1 -0.7**
R55A IAmb IAmb 17 51 14.7
comp=Z,546nm,1.1s
HENM **Henderson Moun** **70.16 345** P **P** **17 51 08.0 -0.9**
PARMO **Parma** **70.17 344** P **P** **17 51 07.8 -1.1**
Q61A **Milford** **70.35 357** P **P** **17 51 11.8 +1.7**
baz=177
Q61A S **S** **18 00 24.0 +3.3**
baz=177
R53A **Hurricane** **70.39 351** P **P** **17 51 09.2 -1.2**
PBMO **Poplar Bluff** **70.44 344** P **P** **17 51 09.7 -0.9**
PBMO IAmb IAmb 17 51 15.8
comp=Z,615nm,1.2s
X34A **Smith Ranch, M** **70.50 337** P **P** **17 51 10.5 -0.6**
X34A IAmb IAmb 17 51 16.8
comp=Z,494nm,1.1s
VAH **Vaihoa** **70.53 264** *e*P P 17 51 16.7 +5.0
comp=Z,183nm,1.1s
U40A **Yellville** **70.64 342** P **P** **17 51 10.8 -1.2**
U40A IAmb IAmb 17 51 25.1
comp=Z,698nm,1.4s
U40A **Yellville** **70.64 342** P **P** **17 51 11.4 -0.5**
baz=161,SNR=119
U40A S **S** **18 00 21.6 -2.7**
baz=161
R50A **Paris** **70.69 349** P **P** **17 51 11.2 -0.9**
R50A IAmb IAmb 17 51 24.1
comp=Z,478nm,1.4s
R50A IAMs_20 IAMs_20 18 24 60.0
comp=Z,20µm,20.0s
Q56A **Snyder Ridge,** **70.79 354** P **P** **17 51 12.4 -0.4**
Q56A IAmb IAmb 17 51 26.0
comp=Z,492nm,1.1s
MNTX **Cornudas Mount** **70.80 330** P **P** **17 51 11.6 -1.4**
MNTX **Cornudas Mount** **70.80 330** P **P** **17 51 12.3 -0.7**
baz=150,SNR=210
MNTX S **S** **18 00 24.9 -1.4**
baz=150
R49A **Shelbyville** **70.83 349** P **P** **17 51 11.5 -1.5**
R49A IAmb IAmb 17 51 24.8
comp=Z,437nm,1.3s
T42A **Van Buren** **70.83 343** P **P** **17 51 11.6 -1.4**
HHAR **Hobbs** **70.87 341** P **P** **17 51 12.3 -1.0**
HHAR IAmb IAmb 17 51 25.6
comp=Z,790nm,1.5s
TIAR **Tiarei** **70.88 261** *e*P P 17 51 19.2 +5.3
comp=Z,22nm,1.2s
TIAR **Tiarei** **70.88 261** *e*T T 19 08 19.1
comp=Z,16nm,0.2s
Q54A **Coxs Mills** **70.90 352** P **P** **17 51 12.4 -1.0**
WMOK **Wichita Mounta** **70.94 336** P **P** **17 51 12.7 -1.1**
WMOK pmax pmax
comp=Z,457nm,1.5s
WMOK MLR MLR
comp=Z,10µm,22.0s
WMOK **Wichita Mounta** **70.94 336** P **P** **17 51 12.7 -1.1**
WMOK IAmb IAmb 17 51 26.0
comp=Z,457nm,1.4s
WMOK **Wichita Mounta** **70.94 336** ⇑P **P** **17 51 13.4 -0.4**
WMOK **Wichita Mounta** **70.94 336** P **P** **17 51 13.5 -0.3**
baz=156
WMOK S **S** **18 00 26.5 -1.4**
baz=156
FNO **Franklin** **70.96 338** P **P** **17 51 12.4 -1.5**
WCI **Wyandotte Cave** **70.97 348** P **P** **17 51 11.9 -2.0**
WCI pmax pmax
comp=Z,305nm,1.0s
WCI **Wyandotte Cave** **70.97 348** P **P** **17 51 11.9 -2.0**
WCI IAmb IAmb 17 51 18.4
comp=Z,305nm,1.0s
WCI **Wyandotte Cave** **70.97 348** ⇓P **P** **17 51 12.8 -1.1**
WCI **Wyandotte Cave** **70.97 348** P **P** **17 51 13.4 -0.4**
baz=167
WCI S **S** **18 00 23.3 -4.7**
baz=167
USIN **University of** **70.97 347** P **P** **17 51 12.4 -1.5**
PAE **Paea** **71.03 261** *e*P P 17 51 20.0 +5.2
comp=Z,105nm,1.4s
PAE **Paea** **71.03 261** *e*T T 19 08 30.8
comp=Z,3.5nm,0.2s
S44A **Carbondale** **71.05 345** P **P** **17 51 13.1 -1.2**
S44A IAmb IAmb 17 51 19.4
comp=Z,476nm,0.9s
PPTF **Pamatai, Papee** **71.05 261** IAMs_20 IAMs_20 18 13 36.5
comp=Z,18µm,20.0s
Q52A **Bidwell** **71.06 351** P **P** **17 51 12.9 -1.4**
Q52A IAmb IAmb 17 51 26.5
comp=Z,657nm,1.1s
PPT2 **Papeete2** **71.06 261** *e*P P 17 51 20.2 +5.1
comp=Z,505nm,1.4s
PPT2 *e*S **S** **18 00 34.1 +3.9**
comp=Z,37µm,28.8s
PPT2 **Papeete2** **71.06 261** *e*LR LR 18 12 54.8
comp=Z,42µm,23.5s,baz=114
PPT2 **Papeete2** **71.06 261** *e*T T 19 08 27.7
comp=Z,9.6nm,0.3s
SIUC **Southern Illin** **71.06 345** P **P** **17 51 13.0 -1.4**
SIUC IAmb IAmb 17 51 19.5
comp=Z,566nm,1.0s
TUL1 **Leonard** **71.06 339** P **P** **17 51 14.1 -0.4**
baz=158,SNR=43
TUL1 S **S** **18 00 25.9 -3.2**
baz=158
PPT **Papeete** **71.07 261** P **P** **17 51 17.1 +2.1**
comp=Z,63nm,0.8s,baz=89,slow=11,SNR=3.8
PPT LR LR 18 14 17.0
comp=Z,19µm,20.9s,baz=146,slow=29
P61A **Hammonton** **71.12 357** P **P** **17 51 14.9 +0.3**
P61A IAmb IAmb 17 51 20.9
comp=Z,681nm,1.1s
P61A IAMs_20 IAMs_20 18 26 35.9
comp=Z,17µm,20.0s
OKCFA **Oklahoma City** **71.12 338** P **P** **17 51 14.4 -0.5**
OKCFA IAmb IAmb 17 51 28.6
comp=Z,790nm,1.4s
P57A **Homestead Farm** **71.12 355** P **P** **17 51 14.9 +0.2**
HSIG **71.14 324** P **P** **17 51 15.0 -0.1**
U38A **Gravette** **71.14 341** P **P** **17 51 14.4 -0.5**
U38A IAmb IAmb 17 51 28.1
comp=Z,422nm,1.4s
OK025 **Westminster Rd** **71.24 338** P **P** **17 51 15.3 -0.2**
OK025 IAmb IAmb 17 51 29.1
comp=Z,659nm,1.2s
MGMO **Mountain Grove** **71.25 343** P **P** **17 51 14.8 -0.8**
Q51A **Peebles** **71.27 350** P **P** **17 51 14.7 -1.0**
Q51A IAmb IAmb 17 51 27.7
comp=Z,434nm,0.9s
Q51A IAMs_20 IAMs_20 18 25 48.4
comp=Z,17µm,20.0s
P60A **Greenville** **71.30 357** P **P** **17 51 16.2 +0.5**
P60A IAmb IAmb 17 51 21.9
comp=Z,420nm,1.2s
P60A IAMs_20 IAMs_20 18 26 38.5
comp=Z,16µm,20.0s
P60A **Greenville** **71.30 357** P **P** **17 51 16.8 +1.0**
baz=176,SNR=24
P60A S **S** **18 00 32.0 +0.4**
baz=176
BCOK **Bluff Creek, N** **71.39 338** P **P** **17 51 16.1 -0.4**
WUPA **West Chester U** **71.41 357** P **P** **17 51 16.3 -0.2**
WUPA IAmb IAmb 17 51 22.8
comp=Z,382nm,1.2s
OK031 **S. Brethren Rd** **71.42 338** P **P** **17 51 16.2 -0.5**
MCWV **Mont Chateau** **71.46 353** P **P** **17 51 16.2 -0.5**
MCWV IAmb IAmb 17 51 29.5
comp=Z,657nm,1.4s
MCWV **Mont Chateau** **71.46 353** P **P** **17 51 16.8 0.0**
baz=173
MCWV S **S** **18 00 31.6 -2.1**
baz=173
P53A **Whipple** **71.46 352** P **P** **17 51 15.8 -1.0**
P53A IAmb IAmb 17 51 29.2
comp=Z,594nm,1.2s
P53A IAMs_20 IAMs_20 18 21 12.7
comp=Z,19µm,22.0s
OK029 **Liberty Lake** **71.47 338** P **P** **17 51 16.4 -0.6**
MVL **Millersville** **71.52 356** P **P** **17 51 17.5 +0.4**
MVL IAmb IAmb 17 51 23.6
comp=Z,649nm,1.3s
MVL IAMs_20 IAMs_20 18 22 49.5
comp=Z,25µm,22.0s
QUOK **Quay** **71.58 339** P **P** **17 51 17.0 -0.6**
QUOK IAmb IAmb 17 51 23.0
comp=Z,403nm,1.3s
FVM **French Village** **71.59 344** P **P** **17 51 16.6 -1.0**
FVM **French Village** **71.59 344** P **P** **17 51 16.6 -1.0**
FVM IAmb IAmb 17 51 22.9
comp=Z,760nm,1.2s
P51A **Williamsport** **71.67 351** P **P** **17 51 16.9 -1.2**
P51A IAmb IAmb 17 51 23.0
comp=Z,584nm,1.1s
P52A **Corning** **71.70 351** P **P** **17 51 17.0 -1.3**
P52A IAmb IAmb 17 51 30.3
comp=Z,602nm,1.1s
P52A **Corning** **71.70 351** P **P** **17 51 17.9 -0.3**
baz=171,SNR=76
P52A S **S** **18 00 32.9 -3.4**
baz=171
MSTX **Muleshoe** **71.71 333** P **P** **17 51 17.5 -1.1**
MSTX IAmb IAmb 17 51 24.4
comp=Z,451nm,0.9s
MSTX **Muleshoe** **71.71 333** P **P** **17 51 17.5 -1.1**
baz=152
MSTX S **S** **18 00 35.8 -1.2**
baz=152
PAGS **Pennsylvania G** **71.77 356** P **P** **17 51 18.0 -0.6**
PAGS IAmb IAmb 17 51 24.6

comp=Z,491nm,1.2s
OLIL Olney 71.80 346 P **P** **17 51 17.8 -1.1**
OLIL IAmb IAmb 17 51 31.4
comp=Z,884nm,1.3s
CCM Cathedral Cave 71.85 344 P **P** **17 51 17.9 -1.3**
CCM pmax pmax
comp=Z,631nm,1.1s
CCM Cathedral Cave 71.85 344 P **P** **17 51 17.9 -1.3**
CCM IAmb IAmb 17 51 24.5
comp=Z,631nm,1.1s
CCM Cathedral Cave 71.85 344 ⇑P **P** **17 51 18.5 -0.7**
CCM Cathedral Cave 71.85 344 P **P** **17 51 19.0 -0.1**
baz=163
CCM S **S** **18 00 36.5 -1.7**
baz=163
BLO Bloomington 71.93 348 P **P** **17 51 18.1 -1.5**
BLO pmax pmax
comp=Z,302nm,1.1s
BLO MLR MLR
comp=Z,18µm,19.0s
BLO Bloomington 71.93 348 P **P** **17 51 18.1 -1.5**
BLO IAMs_20 IAMs_20 18 28 01.7
comp=Z,18µm,19.0s
O56A Blue Knob Stat 71.95 354 P **P** **17 51 19.8 0.0**
O56A IAmb IAmb 17 51 25.8
comp=Z,670nm,1.4s
O56A Blue Knob Stat 71.95 354 P **P** **17 51 20.5 +0.7**
baz=174
O56A S **S** **18 00 38.3 -1.1**
baz=174
P49A Miami Univ. Ec 71.97 349 P **P** **17 51 18.2 -1.6**
P49A IAmb IAmb 17 51 32.4
comp=Z,498nm,1.2s
P49A Miami Univ. Ec 71.97 349 P **P** **17 51 19.0 -0.9**
baz=168,SNR=30
P49A S **S** **18 00 35.9 -3.6**
baz=168
P48A Milroy 72.02 349 P **P** **17 51 18.2 -1.9**
P48A IAMs_20 IAMs_20 18 23 53.1
comp=Z,18µm,22.0s
S39A Bolivar 72.03 342 P **P** **17 51 19.2 -1.0**
S39A IAmb IAmb 17 51 32.7
comp=Z,824nm,1.4s
O54A Avella 72.03 353 P **P** **17 51 19.6 -0.7**
O54A IAMs_20 IAMs_20 18 27 00.9
comp=Z,18µm,20.0s
LUPA Lehigh Univers 72.07 357 P **P** **17 51 20.8 +0.4**
AMTX Amarillo 72.11 334 P **P** **17 51 20.2 -0.7**
AMTX Amarillo 72.11 334 P **P** **17 51 20.9 0.0**
baz=154
AMTX S **S** **18 00 38.7 -2.8**
baz=154
O52A Adamsville 72.14 352 P **P** **17 51 19.8 -1.0**
O52A IAmb IAmb 17 51 32.9
comp=Z,356nm,1.1s
Q44A Meyer Farm, Va 72.16 346 P **P** **17 51 19.8 -1.2**
SLM Saint Louis 72.17 345 P **P** **17 51 20.5 -0.5**
SLM pmax pmax
comp=Z,606nm,1.1s
SLM Saint Louis 72.17 345 P **P** **17 51 20.5 -0.5**
SLM IAmb IAmb 17 51 26.2
comp=Z,606nm,1.1s
O53A New Philadelph 72.19 352 P **P** **17 51 20.5 -0.7**
O53A IAmb IAmb 17 51 34.3
comp=Z,595nm,1.3s
O53A IAMs_20 IAMs_20 18 22 05.1
comp=Z,19µm,22.0s
O53A New Philadelph 72.19 352 P **P** **17 51 21.3 +0.1**
baz=172,SNR=36
O53A S **S** **18 00 38.8 -3.3**
baz=172
CPNY Central Park 72.20 358 P **P** **17 51 21.4 +0.2**
CPNY IAMs_20 IAMs_20 18 26 00.7
comp=Z,19µm,21.0s
T35A Sooner Cattle 72.21 339 P **P** **17 51 21.1 -0.3**
T35A IAmb IAmb 17 51 34.0
comp=Z,880nm,1.4s
SSPA Standing Stone 72.26 355 P **P** **17 51 21.5 -0.1**
SSPA IAmb IAmb 17 51 27.5
comp=Z,624nm,1.2s
SSPA Standing Stone 72.26 355 IAMs_20 IAMs_20 18 24 26.9
comp=Z,18µm,21.0s
SSPA Standing Stone 72.26 355 ⇑P **P** **17 51 21.9 +0.3**
SSPA Standing Stone 72.26 355 P **P** **17 51 22.2 +0.6**
baz=174
SSPA S **S** **18 00 42.5 -0.3**
baz=174
319A Douglas 72.27 327 P **P** **17 51 22.2 +0.2**
319A IAmb IAmb 17 51 35.6
comp=Z,637nm,1.5s
BLOK Blackwell 72.28 339 P **P** **17 51 21.5 -0.3**
BLOK IAmb IAmb 17 51 35.3
comp=Z,1µm,1.4s
CROK Carrier 72.29 338 P **P** **17 51 21.4 -0.5**
CROK IAmb IAmb 17 51 34.3
comp=Z,764nm,1.4s
R40A Maddies Statio 72.32 343 P **P** **17 51 21.0 -0.9**
N62A Caumsett State 72.33 358 P **P** **17 51 22.1 +0.2**
N62A IAmb IAmb 17 51 28.0
comp=Z,781nm,1.2s
N62A IAMs_20 IAMs_20 18 26 10.1
comp=Z,16µm,20.0s
N58A Sunbury 72.38 356 P **P** **17 51 22.7 +0.4**
N58A IAmb IAmb 17 51 28.4
comp=Z,740nm,1.2s
N58A IAMs_20 IAMs_20 18 25 54.2
comp=Z,16µm,20.0s
ACSO Alum Creek Sta 72.40 351 P **P** **17 51 21.0 -1.4**
ACSO IAmb IAmb 17 51 27.5
comp=Z,722nm,1.1s
ACSO Alum Creek Sta 72.40 351 P **P** **17 51 21.8 -0.6**
baz=170
ACSO S **S** **18 00 40.4 -4.0**
baz=170
N59A State Game Lan 72.40 357 P **P** **17 51 22.2 -0.3**
N59A IAmb IAmb 17 51 29.0
comp=Z,859nm,1.2s
N59A State Game Lan 72.40 357 P **P** **17 51 22.9 +0.4**
baz=176
N59A S **S** **18 00 46.7 +2.2**
baz=176
PAL Palisades 72.42 358 P **P** **17 51 22.0 -0.5**
PAL pmax pmax
comp=Z,292nm,1.3s
PAL MLR MLR
comp=Z,16µm,20.0s
PAL Palisades 72.42 358 P **P** **17 51 22.0 -0.5**
PAL Palisades 72.42 358 P **P** **17 51 22.9 +0.4**
baz=178,SNR=15
PAL S **S** **18 00 45.8 +1.3**
baz=178
P46A Rosedale 72.49 347 P **P** **17 51 21.6 -1.3**
P46A IAmb IAmb 17 51 27.4
comp=Z,487nm,1.1s
P46A IAMs_20 IAMs_20 18 28 23.5
comp=Z,16µm,20.0s
U32A Winter Ranch, 72.51 337 P **P** **17 51 22.7 -0.6**
U32A IAmb IAmb 17 51 35.8
comp=Z,770nm,1.5s
ODNJ Ogdensburg 72.52 358 P **P** **17 51 23.6 +0.5**
ODNJ IAmb IAmb 17 51 29.3
comp=Z,400nm,1.1s
ODNJ IAMs_20 IAMs_20 18 26 04.0
comp=Z,22µm,20.0s
O49A Covington 72.55 350 P **P** **17 51 22.3 -1.0**
O49A IAmb IAmb 17 51 28.2
comp=Z,765nm,1.1s
O49A IAMs_20 IAMs_20 18 27 24.4
comp=Z,17µm,20.0s
121A Cookes Peak, D 72.56 328 P **P** **17 51 23.9 +0.1**
121A Cookes Peak, D 72.56 328 P **P** **17 51 23.9 +0.1**
baz=148
121A S **S** **18 00 48.2 +1.3**
baz=148
TRNY Table Rock, Ra 72.57 358 P **P** **17 51 23.6 +0.2**
TRNY IAMs_20 IAMs_20 18 26 13.3
comp=Z,21µm,20.0s
WSPT Westport, CT 72.57 359 P **P** **17 51 23.7 +0.4**
WSPT IAmb IAmb 17 51 29.6
comp=Z,478nm,1.2s
WSPT IAMs_20 IAMs_20 18 24 05.4
comp=Z,22µm,22.0s
GC02 Grant County # 72.57 338 P **P** **17 51 23.7 +0.2**
KAN13 South Haven SW 72.60 338 P **P** **17 51 24.1 +0.5**
OK032 Salt Plains WL 72.64 338 P **P** **17 51 23.7 -0.2**
OK032 IAmb IAmb 17 51 38.3
comp=Z,894nm,1.5s
KAN14 Manchester OK 72.70 338 P **P** **17 51 23.6 -0.7**
KAN14 IAmb IAmb 17 51 37.7
comp=Z,696nm,1.4s
N53A Lisbon 72.70 353 P **P** **17 51 23.6 -0.7**
N53A IAmb IAmb 17 51 29.6
comp=Z,498nm,1.2s
YLE Yale 72.70 359 IAMs_20 IAMs_20 18 27 12.8
comp=Z,26µm,22.0s
KAN17 Caldwell West 72.72 338 P **P** **17 51 24.0 -0.4**
KAN17 IAmb IAmb 17 51 29.9
comp=Z,443nm,1.3s
KAN09 Caldwell North 72.75 338 P **P** **17 51 24.5 -0.1**
N54A Moraine State 72.77 353 P **P** **17 51 24.3 -0.3**
N54A IAmb IAmb 17 51 30.2
comp=Z,644nm,1.2s
N54A Moraine State 72.77 353 P **P** **17 51 24.9 +0.3**
baz=173
N54A S **S** **18 00 45.9 -2.6**
baz=173
M63A Gales Ferry 72.78 360 P **P** **17 51 25.2 +0.5**
M63A IAMs_20 IAMs_20 18 21 12.1
comp=Z,20µm,22.0s
KS20 Mayfield South 72.82 338 P **P** **17 51 25.1 +0.1**
KAN10 Anthony SW Sta 72.89 338 P **P** **17 51 25.5 +0.1**
M57A Sunshine Farm, 72.90 356 P **P** **17 51 25.2 -0.2**
M57A IAmb IAmb 17 51 31.5
comp=Z,551nm,1.2s
KAN06 Argonia West S 72.93 338 P **P** **17 51 25.5 -0.2**
KAN06 IAmb IAmb 17 51 31.4
comp=Z,438nm,1.1s
M65A Busby, Falmout 72.94 1 P **P** **17 51 26.3 +0.7**
baz=181
M65A S **S** **18 00 49.9 -0.5**
baz=181
KAN08 Anthony NE Sta 72.95 338 P **P** **17 51 25.8 0.0**
P43A Skaggs, Pawnee 72.97 346 P **P** **17 51 25.0 -0.8**
P43A IAmb IAmb 17 51 30.8
comp=Z,720nm,1.1s
KAN16 Harper SW Stat 72.98 338 P **P** **17 51 25.5 -0.4**
KAN16 IAmb IAmb 17 51 31.7
comp=Z,529nm,1.1s
N51A Ashland 73.00 351 P **P** **17 51 25.2 -0.7**
N51A IAmb IAmb 17 51 38.0
comp=Z,635nm,1.1s
N51A IAMs_20 IAMs_20 18 22 00.2
comp=Z,22µm,22.0s
KAN12 Harper NE Stat 73.02 338 P **P** **17 51 25.9 -0.3**
KAN12 IAmb IAmb 17 51 31.9
comp=Z,481nm,1.1s
KSPA Keystone Colle 73.04 357 P **P** **17 51 26.3 +0.1**
KSPA IAmb IAmb 17 51 39.4
comp=Z,495nm,1.4s
KSCT Kent School, K 73.13 358 P **P** **17 51 27.2 +0.5**
KSCT IAMs_20 IAMs_20 18 24 10.1
comp=Z,23µm,22.0s
M55A Ridgway 73.16 354 P **P** **17 51 26.5 -0.4**
UCCT U. Connecticut 73.17 359 P **P** **17 51 27.5 +0.5**
UCCT IAMs_20 IAMs_20 18 21 23.5
comp=Z,21µm,22.0s
SFIN Lafayette 73.20 348 P **P** **17 51 25.6 -1.6**
SFIN IAmb IAmb 17 51 38.6
comp=Z,629nm,1.4s
SFIN IAMs_20 IAMs_20 18 26 42.5
comp=Z,19µm,22.0s
SFIN Lafayette 73.20 348 P **P** **17 51 26.2 -1.0**
baz=166
SFIN S **S** **18 00 48.4 -5.1**
baz=166
O44A Mansfield 73.25 346 P **P** **17 51 25.7 -1.8**
O44A IAmb IAmb 17 51 31.9
comp=Z,414nm,1.1s
N49A Columbus Grove 73.25 350 P **P** **17 51 26.1 -1.3**
M54A Oil Creek Stat 73.28 354 P **P** **17 51 26.9 -0.8**
M54A IAmb IAmb 17 51 32.9
comp=Z,431nm,1.1s
M54A Oil Creek Stat 73.28 354 P **P** **17 51 27.8 +0.2**
baz=173,SNR=55
M54A S **S** **18 00 51.8 -2.6**
baz=173
BRYW Bryant College 73.29 360 P **P** **17 51 28.2 +0.5**
BRYW IAmb IAmb 17 51 34.1
comp=Z,586nm,1.2s
M53A WI Miller and 73.31 353 P **P** **17 51 27.1 -0.6**
M53A IAmb IAmb 17 51 33.0
comp=Z,587nm,1.1s
M53A WI Miller and 73.31 353 P **P** **17 51 28.1 +0.3**
baz=172
M53A S **S** **18 00 51.0 -3.7**
baz=172
L64A Middleborough 73.31 0 P **P** **17 51 28.5 +0.8**
L64A IAMs_20 IAMs_20 18 21 17.3
comp=Z,16µm,20.0s
L64A Middleborough 73.31 0 P **P** **17 51 29.1 +1.4**
baz=181
L64A S **S** **18 00 55.4 +0.8**
baz=181
L65A Cape Cod Natio 73.42 1 P **P** **17 51 29.6 +1.2**
baz=181
BNM Barren Site 73.43 330 P **P** **17 51 29.2 +0.2**
P40A Paris 73.44 344 P **P** **17 51 27.8 -0.8**
N47A Urbana 73.45 349 P **P** **17 51 26.9 -1.7**
N47A IAMs_20 IAMs_20 18 27 04.0
comp=Z,16µm,20.0s
ALLY Alegheny Colle 73.46 353 P **P** **17 51 28.4 -0.3**
ALLY IAmb IAmb 17 51 41.0
comp=Z,692nm,1.2s
ALLY IAMs_20 IAMs_20 18 26 39.7
comp=Z,18µm,21.0s
M52A Chesterland 73.49 352 P **P** **17 51 28.2 -0.6**
M52A IAmb IAmb 17 51 34.1
comp=Z,748nm,1.1s
Y22D IRIS PASSCAL I 73.49 330 P **P** **17 51 30.9 +1.6**
baz=149
Y22D S **SKiKP** **18 00 59.9 +1.6**
baz=149
M50A Fremont 73.56 351 P **P** **17 51 28.2 -1.1**
M50A IAmb IAmb 17 51 42.2
comp=Z,843nm,1.2s
LIC Lamto 73.61 72 *e*P **P** **17 51 29.2 -1.0**
comp=Z,1µm,1.1s
L59A Walton 73.64 357 P **P** **17 51 30.0 +0.2**
L59A IAmb IAmb 17 51 36.0
comp=Z,596nm,1.1s
L59A IAMs_20 IAMs_20 18 26 49.6
comp=Z,22µm,20.0s
QUA2 Belchertown 73.66 359 P **P** **17 51 30.2 +0.5**
QUA2 IAmb IAmb 17 51 36.0
comp=Z,427nm,1.1s
QUA2 IAMs_20 IAMs_20 18 21 38.3
comp=Z,19µm,22.0s
BINY Binghamton 73.69 356 P **P** **17 51 30.2 +0.1**
BINY IAmb IAmb 17 51 43.2
comp=Z,450nm,1.2s
BINY IAMs_20 IAMs_20 18 25 24.0
comp=Z,19µm,21.0s
BINY Binghamton 73.69 356 P **P** **17 51 31.0 +1.0**
baz=176,SNR=37
BINY S **S** **18 01 00.9 +1.8**
baz=176
BCX Boston College 73.71 0 P **P** **17 51 30.7 +0.6**
L56A Greenwood 73.73 355 P **P** **17 51 30.1 -0.1**
TUC Tucson 73.76 326 P **P** **17 51 30.8 0.0**
TUC pmax pmax
comp=Z,77nm,1.3s
TUC MLR MLR
comp=Z,28µm,20.0s
TUC Tucson 73.76 326 P **P** **17 51 30.8 0.0**
TUC Tucson 73.76 326 IAMs_20 IAMs_20 18 19 08.2
comp=Z,28µm,20.0s
TUC Tucson 73.76 326 ⇑P **P** **17 51 31.1 +0.3**
TUC Tucson 73.76 326 P **P** **17 51 31.2 +0.4**
baz=146
TUC S **S** **18 01 01.3 +1.0**
baz=146
WES Weston 73.76 0 P **P** **17 51 31.1 +0.7**
WES pmax pmax
comp=Z,190nm,1.2s
WES MLR MLR
comp=Z,18µm,22.0s
WES Weston 73.76 0 P **P** **17 51 31.1 +0.7**
WES IAMs_20 IAMs_20 18 21 51.0
comp=Z,18µm,22.0s
HDIL Hopedale 73.80 346 P **P** **17 51 29.5 -1.2**
HDIL IAmb IAmb 17 51 43.6
comp=Z,933nm,1.4s
HDIL Hopedale 73.80 346 P **P** **17 51 30.7 0.0**
baz=164
HDIL S **SKiKP** **18 00 56.6 -1.7**
baz=164
L61B Northampton 73.83 359 P **P** **17 51 31.9 +1.1**
baz=179
L61B S **S** **18 01 01.3 +0.7**
baz=179
TIC Toumodi 73.85 71 *e*P **P** **17 51 30.7 -1.0**
HRV Adam Dziewonsk 73.88 360 P **P** **17 51 31.7 +0.6**
HRV pmax pmax
comp=Z,449nm,1.3s
HRV MLR MLR
comp=Z,18µm,22.0s
HRV Adam Dziewonsk 73.88 360 P **P** **17 51 31.6 +0.6**
HRV IAmb IAmb 17 51 37.6
comp=Z,449nm,1.2s
HRV Adam Dziewonsk 73.88 360 IAMs_20 IAMs_20 18 21 54.2
comp=Z,18µm,22.0s
HRV Adam Dziewonsk 73.88 360 ⇑P **P** **17 51 32.7 +1.6**
HRV Adam Dziewonsk 73.88 360 P **P** **17 51 32.2 +1.1**
baz=180
HRV S **S** **18 01 04.4 +3.3**
baz=180
P38A Dawn 73.90 342 P **P** **17 51 30.5 -0.8**
P38A IAmb IAmb 17 51 44.3
comp=Z,523nm,1.1s
CER Ceres 73.91 119 *e*P **P** **17 51 30.8 -1.1**
ERPA Erie 73.91 353 P **P** **17 51 30.5 -0.8**
ERPA IAmb IAmb 17 51 36.6
comp=Z,693nm,1.1s
ERPA Erie 73.91 353 P **P** **17 51 31.4 +0.1**
baz=173
ERPA S **SKiKP** **18 00 58.8 +0.4**
baz=173
KIC Kosan Boka 73.92 72 *e*P **P** **17 51 31.1 -0.9**
comp=Z,578nm,0.7s
DBIC Dimbokro 74.00 72 P **P** **17 51 31.7 -0.8**
comp=Z,412nm,0.8s,baz=230,slow=5.8,SNR=166
DBIC PKPPKP **P'P'df** **18 19 10.6 +5.5**
comp=Z,6.5nm,1.1s,baz=93,slow=4.0,SNR=3.5
DBIC LR LR 18 20 39.3
comp=Z,60µm,21.9s,baz=240,slow=33
DBIC Dimbokro 74.00 72 P **P** **17 51 31.2 -1.3**
DBIC Dimbokro 74.00 72 ⇑P **P** **17 51 31.5 -1.0**
K62A Royalston 74.04 359 P **P** **17 51 32.6 +0.5**
K62A IAmb IAmb 17 51 38.7
comp=Z,512nm,1.2s
K62A IAMs_20 IAMs_20 18 21 49.5
comp=Z,18µm,22.0s
K62A Royalston 74.04 359 P **P** **17 51 33.5 +1.4**
baz=180
K62A S **S** **18 01 05.8 +2.9**
baz=180
ANMO Albuquerque 74.05 331 P **P** **17 51 32.8 +0.3**
ANMO pmax pmax
comp=Z,535nm,1.5s
ANMO MLR MLR
comp=Z,47µm,20.0s
ANMO Albuquerque 74.05 331 P **P** **17 51 32.8 +0.3**
ANMO IAmb IAmb 17 51 47.0
comp=Z,535nm,1.5s
ANMO Albuquerque 74.05 331 ⇑P **P** **17 51 32.7 +0.1**
ANMO Albuquerque 74.05 331 P **P** **17 51 33.7 +1.1**
baz=150
ANMO S **S** **18 01 05.1 +1.3**
baz=150
K61A Williamstown 74.06 359 P **P** **17 51 33.9 +1.7**
baz=179
K61A S **S** **18 01 06.4 +3.2**
baz=179
WVNY West Valley, N 74.07 355 P **P** **17 51 32.1 -0.2**
TRY Troy 74.13 358 P **P** **17 51 32.8 +0.3**
TRY IAMs_20 IAMs_20 18 23 11.8
comp=Z,16µm,21.0s
K57A Scipio Center 74.25 356 P **P** **17 51 32.9 -0.4**
K57A IAMs_20 IAMs_20 18 25 42.8
comp=Z,21µm,21.0s
KSU1 Kansas State U 74.26 340 P **P** **17 51 32.5 -0.9**
KSU1 Kansas State U 74.26 340 ⇑P **P** **17 51 33.0 -0.4**
KSU1 Kansas State U 74.26 340 P **P** **17 51 33.4 0.0**
baz=158
KSU1 S **S** **18 01 03.3 -2.2**
baz=158
R32A Long Quarter, 74.28 338 P **P** **17 51 33.1 -0.5**
N41A Harden Midland 74.28 345 P **P** **17 51 32.1 -1.4**
N41A IAmb IAmb 17 51 38.4
comp=Z,691nm,1.0s
L48A N Adams 74.29 350 P **P** **17 51 32.3 -1.2**
L48A IAmb IAmb 17 51 38.2
comp=Z,577nm,1.1s
MMNY Mt. Morris Dam 74.34 355 P **P** **17 51 33.0 -0.8**
MMNY IAMs_20 IAMs_20 18 27 09.1
comp=Z,17µm,20.0s
M44A Midewin, Midew 74.36 347 P **P** **17 51 32.8 -1.1**
M44A IAmb IAmb 17 51 38.7
comp=Z,673nm,1.0s
M44A IAMs_20 IAMs_20 18 29 38.0
comp=Z,17µm,20.0s
214A Organ Pipe Nat 74.46 324 P **P** **17 51 34.8 +0.1**
214A IAmb IAmb 17 51 49.4
comp=Z,694nm,1.4s
214A Organ Pipe Nat 74.46 324 P **P** **17 51 35.5 +0.7**
baz=144
214A S **S** **18 01 10.1 +1.9**
baz=144
AAM Ann Arbor 74.53 351 P **P** **17 51 34.1 -0.8**
AAM pmax pmax
comp=Z,292nm,1.2s
AAM MLR MLR
comp=Z,11µm,20.0s
AAM Ann Arbor 74.53 351 P **P** **17 51 34.1 -0.8**
AAM Ann Arbor 74.53 351 P **P** **17 51 34.5 -0.3**
baz=169
AAM S **S** **18 01 04.7 -3.7**
baz=169
L46A Eue Claire 74.65 349 P **P** **17 51 34.3 -1.3**
L46A IAmb IAmb 17 51 40.0
comp=Z,506nm,1.1s
HQIL Hanson Quary C 74.72 347 P **P** **17 51 35.2 -0.8**
SFX San Felipe 74.76 322 P **P** **17 51 37.1 +0.6**
ACCN Adirondack Com 74.79 358 P **P** **17 51 36.6 +0.2**
ACCN IAmb IAmb 17 51 42.6
comp=Z,498nm,1.2s
ACCN IAMs_20 IAMs_20 18 22 39.1
comp=Z,18µm,22.0s
J56A Wolcott 74.81 356 P **P** **17 51 36.0 -0.5**
J56A IAmb IAmb 17 51 41.9
comp=Z,429nm,1.1s
J56A IAMs_20 IAMs_20 18 26 01.7
comp=Z,21µm,22.0s
MEDO Medina 74.81 355 P **P** **17 51 35.2 -1.3**
MEDO IAmb IAmb 17 51 48.1
comp=Z,476nm,1.1s
MEDO IAMs_20 IAMs_20 18 27 14.6
comp=Z,16µm,20.0s
J58A Remsen 74.82 357 P **P** **17 51 36.4 -0.2**
J58A IAMs_20 IAMs_20 18 27 33.8
comp=Z,19µm,20.0s
FFD Franklin Falls 74.84 360 P **P** **17 51 37.1 +0.4**
FFD IAmb IAmb 17 51 43.5
comp=Z,642nm,1.1s
FFD IAMs_20 IAMs_20 18 22 22.7
comp=Z,18µm,22.0s
K50A Casco 74.86 352 P **P** **17 51 35.3 -1.5**
K50A IAMs_20 IAMs_20 18 23 06.4
comp=Z,20µm,22.0s
J55A Hilton 74.87 355 P **P** **17 51 36.1 -0.7**
J55A IAmb IAmb 17 51 50.2
comp=Z,947nm,1.5s
J55A IAMs_20 IAMs_20 18 27 24.0
comp=Z,19µm,21.0s
J59A Piesco 74.89 358 P **P** **17 51 37.0 -0.1**
J59A IAmb IAmb 17 51 42.9
comp=Z,460nm,1.1s
J57A Williamstown 74.90 357 P **P** **17 51 36.6 -0.4**
J57A IAmb IAmb 17 51 42.7
comp=Z,640nm,1.1s
J57A IAMs_20 IAMs_20 18 27 42.0
comp=Z,17µm,20.0s
MATJ Matjiesfontein 74.91 120 *e*P **P** **17 51 37.5 -0.2**
N38A Joes South For 74.93 343 P **P** **17 51 36.3 -1.0**
J54A Appleton 74.94 355 P **P** **17 51 36.2 -1.1**
J54A IAmb IAmb 17 51 42.7
comp=Z,596nm,1.2s
CBKS Cedar Bluff 74.96 337 P **P** **17 51 37.1 -0.5**

CBKS pmax pmax
comp=Z,1µm,1.4s
CBKS Cedar Bluff 74.96 337 P **P** **17 51 37.1 -0.5**
CBKS Cedar Bluff 74.96 337 ⇑P **P** **17 51 37.7 +0.1**
CBKS Cedar Bluff 74.96 337 P **P** **17 51 38.3 +0.7**
baz=156
CBKS S **S** **18 01 13.0 -0.6**
baz=156
HNH Hanover 75.08 359 P **P** **17 51 38.7 +0.6**
HNH IAmb IAmb 17 51 44.8
comp=Z,523nm,1.2s
L44A Lake County Fo 75.10 347 P **P** **17 51 36.7 -1.5**
L44A IAMs_20 IAMs_20 18 26 43.6
comp=Z,23µm,21.0s
L44A Lake County Fo 75.10 347 P **P** **17 51 38.0 -0.2**
baz=166
L44A S **S** **18 01 11.2 -3.5**
baz=166
T25A Trinidad 75.13 333 P **P** **17 51 38.9 +0.1**
T25A IAMs_20 IAMs_20 18 21 22.3
comp=Z,22µm,20.0s
T25A Trinidad 75.13 333 P **P** **17 51 40.3 +1.5**
baz=152
T25A S **S** **18 01 17.1 +1.3**
baz=152
MAW Mawson 75.20 164 P **P** **17 51 38.4 -0.2**
comp=Z,209nm,1.2s,baz=220,slow=7.1,SNR=92
MAW S **S** **18 01 12.7 -2.8**
comp=Z,1.5nm,1.0s,baz=316,slow=20,SNR=1.3
MAW LR LR 18 27 04.4
comp=Z,47µm,19.8s,baz=226,slow=38
MAW Mawson 75.20 164 P **P** **17 51 38.4 -0.2**
MAW Mawson 75.20 164 ⇑P **P** **17 51 38.3 -0.2**
X18A Snowflake 75.21 328 P **P** **17 51 39.3 0.0**
I60A Shoreham 75.24 359 P **P** **17 51 39.8 +0.9**
baz=179
I60A S **S** **18 01 17.4 +1.2**
baz=179
I62A Tamworth 75.25 0 P **P** **17 51 39.0 -0.1**
I62A Tamworth 75.25 0 P **P** **17 51 40.5 +1.5**
baz=180
I62A S **S** **18 01 18.9 +2.6**
baz=180
L42A Oliver, Polo 75.27 346 P **P** **17 51 38.3 -0.9**
L42A IAmb IAmb 17 51 44.1
comp=Z,576nm,1.1s
L42A IAMs_20 IAMs_20 18 30 15.1
comp=Z,18µm,19.0s
NCB Newcomb 75.39 358 P **P** **17 51 39.7 -0.2**
I63A Otisfield 75.43 1 P **P** **17 51 40.5 +0.5**
I63A IAmb IAmb 17 51 47.1
comp=Z,673nm,1.1s
PECO Prince Edward 75.48 356 P **P** **17 51 40.2 -0.1**
PECO IAmb IAmb 17 51 45.9
comp=Z,465nm,1.1s
PECO IAMs_20 IAMs_20 18 26 43.2
comp=Z,21µm,21.0s
SUR Sutherland 75.50 119 P **P** **17 51 41.2 -0.1**
comp=Z,119nm,1.0s,baz=246,slow=4.4,SNR=28
SUR Sutherland 75.50 119 P **P** **17 51 41.7 +0.5**
SUR IAmb IAmb 17 52 02.9
comp=Z,443nm,1.3s
SUR Sutherland 75.50 119 ⇑P **P** **17 51 42.1 +0.9**
113A Mohawk Valley, 75.59 324 P **P** **17 51 41.3 0.0**
W18A Petrified Fore 75.61 328 P **P** **17 51 41.6 +0.1**
W18A IAmb IAmb 17 51 55.2
comp=Z,959nm,1.5s
W18A Petrified Fore 75.61 328 P **P** **17 51 42.6 +1.1**
baz=147
W18A S **S** **18 01 23.0 +1.8**
baz=147
J47A Sunmer 75.61 350 P **P** **17 51 39.9 -1.2**
J47A IAmb IAmb 17 51 53.0
comp=Z,756nm,1.3s
LBNH Lisbon 75.62 360 P **P** **17 51 41.8 +0.7**
LBNH pmax pmax
comp=Z,402nm,1.1s
LBNH MLR MLR
comp=Z,16µm,22.0s
LBNH Lisbon 75.62 360 P **P** **17 51 41.8 +0.7**
LBNH IAmb IAmb 17 51 47.6
comp=Z,402nm,1.1s
LBNH IAMs_20 IAMs_20 18 22 46.1
comp=Z,16µm,22.0s
LBNH Lisbon 75.62 360 P **P** **17 51 42.1 +1.0**
baz=180
LBNH S **S** **18 01 23.4 +2.9**
baz=180
N35A Tabor 75.62 341 P **P** **17 51 40.0 -1.3**
L40A Anamosa 75.66 345 P **P** **17 51 40.0 -1.4**
L40A IAMs_20 IAMs_20 18 28 45.3
comp=Z,17µm,22.0s
K43A Burlington 75.68 347 P **P** **17 51 40.3 -1.2**
K43A IAmb IAmb 17 51 46.6
comp=Z,482nm,1.1s
K43A IAMs_20 IAMs_20 18 26 50.1
comp=Z,22µm,22.0s
VT1 Waterbury 75.72 359 P **P** **17 51 41.8 +0.1**
X16A Lo Mia Camp, P 75.81 327 P **P** **17 51 42.6 -0.1**
H62A Milan 75.95 0 P **P** **17 51 43.8 +0.8**
H62A IAMs_20 IAMs_20 18 23 07.0
comp=Z,17µm,22.0s
WVL Waterville 75.96 1 P **P** **17 51 43.7 +0.7**
WVL IAmb IAmb 17 51 49.7
comp=Z,504nm,1.3s
WVL IAMs_20 IAMs_20 18 26 53.3
comp=Z,19µm,22.0s
SCIA State Center 75.97 343 P **P** **17 51 43.0 -0.2**
SCIA IAmb IAmb 17 51 55.8
comp=Z,853nm,1.3s
SCIA State Center 75.97 343 P **P** **17 51 43.6 +0.3**
baz=161
SCIA S **S** **18 01 22.7 -1.8**
baz=161
I49A Point Hope 76.03 352 P **P** **17 51 42.2 -1.3**
LONY Lake Ozonia 76.05 358 P **P** **17 51 43.0 -0.6**
LONY IAmb IAmb 17 51 49.5
comp=Z,520nm,1.1s
LONY IAMs_20 IAMs_20 18 23 30.4
comp=Z,16µm,22.0s
LONY Lake Ozonia 76.05 358 P **P** **17 51 44.3 +0.7**
baz=177,SNR=101
LONY S **S** **18 01 25.3 +0.1**
baz=177
SDCO Great Sand Dun 76.08 333 P **P** **17 51 44.3 0.0**
SDCO IAMs_20 IAMs_20 18 21 51.5
comp=Z,24µm,19.0s
SDCO Great Sand Dun 76.08 333 P **P** **17 51 44.9 +0.6**
baz=151,SNR=178
SDCO S **S** **18 01 27.7 +1.2**
baz=151
CPBX Cerro Prieto 76.09 323 P **P** **17 51 44.6 +0.5**
DELO Deloro Mine 76.10 355 P **P** **17 51 43.6 -0.3**
DELO IAmb IAmb 17 51 49.4
comp=Z,463nm,1.2s
DELO IAMs_20 IAMs_20 18 26 52.6
comp=Z,26µm,21.0s
KSCO Kaye Shedlock' 76.12 335 P **P** **17 51 44.9 +0.5**
KSCO IAmb IAmb 17 51 50.8
comp=Z,638nm,1.4s
KSCO Kaye Shedlock' 76.12 335 P **P** **17 51 45.5 +1.2**
baz=153,SNR=11
KSCO S **S** **18 01 26.6 +0.1**
baz=153
Y14A Wickenburg 76.16 325 P **P** **17 51 44.7 +0.2**
EMMW East Machias 76.17 3 P **P** **17 51 45.3 +1.1**
EMMW IAmb IAmb 17 51 50.9
comp=Z,540nm,1.3s
EMMW IAMs_20 IAMs_20 18 23 12.0
comp=Z,17µm,22.0s
FRNY Flat Rock 76.23 358 P **P** **17 51 44.3 -0.3**
FRNY IAmb IAmb 17 51 50.6
comp=Z,508nm,1.1s
FRNY IAMs_20 IAMs_20 18 23 32.4
comp=Z,18µm,22.0s
JFWS Jewell Farm 76.27 346 P **P** **17 51 44.2 -0.6**
JFWS pmax pmax
comp=Z,1µm,1.3s
JFWS MLR MLR
comp=Z,20µm,19.0s
JFWS Jewell Farm 76.27 346 P **P** **17 51 44.2 -0.6**
JFWS Jewell Farm 76.27 346 IAMs_20 IAMs_20 18 31 04.4
comp=Z,20µm,19.0s
JFWS Jewell Farm 76.27 346 P **P** **17 51 45.4 +0.5**
baz=164
JFWS S **S** **18 01 24.9 -2.8**
baz=164
UABX UABC, Campus M 76.33 323 P **P** **17 51 45.2 -0.2**
GLA Glamis 76.35 324 P **P** **17 51 45.4 -0.2**
GLA pmax pmax
comp=Z,217nm,1.3s
GLA Glamis 76.35 324 P **P** **17 51 45.4 -0.2**
GLA Glamis 76.35 324 P **P** **17 51 46.9 +1.3**
baz=143,SNR=24
GLA S **S** **18 01 29.8 +0.8**
baz=143
HAL Halifax 76.35 6 P **P** **17 51 45.4 +0.1**
HAL pmax pmax
comp=Z,372nm,1.2s
HAL MLR MLR
comp=Z,21µm,22.0s
HAL Halifax 76.35 6 P **P** **17 51 45.4 +0.1**
HAL IAmb IAmb 17 52 04.6
comp=Z,372nm,1.2s
HAL IAMs_20 IAMs_20 18 26 36.0
comp=Z,21µm,22.0s
CCX Cicese 76.36 322 P **P** **17 51 46.3 +0.7**
SADO Sadowa 76.47 354 P **P** **17 51 44.4 -1.5**
SADO IAmb IAmb 17 51 58.4
comp=Z,828nm,1.2s
SADO IAMs_20 IAMs_20 18 28 26.2
comp=Z,19µm,20.0s
SADO Sadowa 76.47 354 ⇓P **P** **17 51 45.5 -0.4**
GRAN Grantham 76.55 120 eP **P** **17 51 46.3 -0.8**
K38A Parkersburg 76.57 344 P **P** **17 51 45.3 -1.3**
G62A West of Eustis 76.60 1 P **P** **17 51 46.9 +0.2**
G62A IAmb IAmb 17 51 53.4
comp=Z,697nm,1.1s
S22A 4UR Ranch, Cre 76.61 332 P **P** **17 51 48.2 +0.9**
baz=150,SNR=84
S22A S **S** **18 01 33.9 +1.7**
baz=150
I45A Fountain 76.61 349 P **P** **17 51 45.4 -1.4**
I45A IAmb IAmb 17 51 58.4
comp=Z,468nm,1.1s
I45A IAMs_20 IAMs_20 18 27 17.7
comp=Z,17µm,22.0s
RMX La Rumorosa 76.63 322 P **P** **17 51 46.5 -0.9**
G65A Princeton 76.66 3 P **P** **17 51 47.4 +0.4**
G65A IAmb IAmb 17 51 53.7
comp=Z,440nm,1.3s
PKME Peaks-Kenny Pk 76.67 2 P **P** **17 51 47.4 +0.4**
PKME IAmb IAmb 17 51 53.5
comp=Z,503nm,1.2s
PKME Peaks-Kenny Pk 76.67 2 P **P** **17 51 48.0 +1.0**
baz=182,SNR=37
PKME S **S** **18 01 34.0 +2.2**
baz=182
WUAZ Wupatki 76.68 327 P **P** **17 51 47.5 -0.1**
WUAZ IAmb IAmb 17 52 02.3
comp=Z,945nm,1.4s
WUAZ IAMs_20 IAMs_20 18 20 00.5
comp=Z,28µm,22.0s
WUAZ Wupatki 76.68 327 ⇑P **P** **17 51 48.0 +0.3**
WUAZ Wupatki 76.68 327 P **P** **17 51 48.8 +1.1**
baz=146,SNR=76
WUAZ S **S** **18 01 35.2 +2.3**
baz=146
IKP In-Ko-Pah, Jac 76.69 322 P **P** **17 51 49.0 +1.4**
baz=142,SNR=15
IKP S **S** **18 01 35.5 +2.6**
baz=142
MOQ Mont Orford 76.69 359 P **P** **17 51 47.5 +0.2**
CBX Cerro Bola 76.71 322 P **P** **17 51 48.4 +0.6**
SWSC Sam W. Stewart 76.76 323 P **P** **17 51 49.2 +1.3**
baz=142,SNR=18
SWSC S **S** **18 01 36.8 +3.4**
baz=142
MVCO Mesa Verde 76.83 330 P **P** **17 51 48.8 +0.3**
MVCO IAmb IAmb 17 52 02.9
comp=Z,783nm,1.4s
MVCO Mesa Verde 76.83 330 P **P** **17 51 49.5 +1.0**
baz=148,SNR=50
MVCO S **S** **18 01 36.1 +1.5**
baz=148
BGNE Belgrade 76.84 340 P **P** **17 51 47.8 -0.4**
BGNE Belgrade 76.84 340 P **P** **17 51 48.6 +0.4**
baz=157,SNR=30
BGNE S **S** **18 01 32.2 -1.9**
baz=157
L34A Svendsen Farm, 76.85 341 P **P** **17 51 46.8 -1.4**
L34A IAmb IAmb 17 52 00.3
comp=Z,684nm,1.3s
MNTQ Montreal, Queb 76.90 358 P **P** **17 51 48.5 +0.1**
MNTQ IAmb IAmb 17 52 02.2
comp=Z,480nm,1.2s
MNTQ Montreal, Queb 76.90 358 ⇑P **P** **17 51 49.2 +0.8**
I42A Draeger Farm, 76.94 347 P **P** **17 51 47.8 -0.8**
BAR Barrett 77.00 322 P **P** **17 51 49.4 +0.1**
PDMCI Parker Dam,Lak 77.01 325 P **P** **17 51 50.2 +1.0**
baz=144,SNR=14
PDMCI S **S** **18 01 37.8 +1.7**
baz=144
Q24A Divide 77.01 334 P **P** **17 51 50.3 +0.7**
baz=151,SNR=88
Q24A S **S** **18 01 38.1 +1.5**
baz=151
MONP2 Monument Peak 77.04 322 P **P** **17 51 50.9 +1.1**
baz=142,SNR=19
MONP2 S **S** **18 01 38.9 +1.9**
baz=142
F63A Nahmakanta, Br 77.11 2 P **P** **17 51 49.8 +0.2**
F63A IAmb IAmb 17 51 56.2
comp=Z,476nm,1.2s
GLMI Grayling 77.14 350 P **P** **17 51 49.5 -0.2**
GLMI IAmb IAmb 17 52 01.8
comp=Z,526nm,1.1s
GLMI IAMs_20 IAMs_20 18 24 16.7
comp=Z,17µm,22.0s
GLMI Grayling 77.14 350 P **P** **17 51 49.8 +0.1**
baz=169
GLMI S **S** **18 01 33.7 -3.4**
baz=169
BC3 Big Chuckawall 77.14 324 P **P** **17 51 50.9 +0.7**
baz=143,SNR=70
BC3 S **S** **18 01 40.4 +2.6**
baz=143
GAC Glen Almond 77.16 357 ⇑P **P** **17 51 49.4 -0.4**
I40A Norwalk 77.28 346 P **P** **17 51 49.1 -1.4**
I40A IAmb IAmb 17 52 03.5
comp=Z,894nm,1.4s
I40A IAMs_20 IAMs_20 18 31 33.2
comp=Z,19µm,19.0s
F62A Pittston Farm, 77.28 1 P **P** **17 51 50.8 +0.2**
F62A IAmb IAmb 17 51 57.2
comp=Z,657nm,1.1s
F62A IAMs_20 IAMs_20 18 23 37.3
comp=Z,16µm,22.0s
F64A Sherman 77.29 2 P **P** **17 51 50.5 0.0**
F64A IAmb IAmb 17 51 57.2
comp=Z,608nm,1.2s
F64A IAMs_20 IAMs_20 18 27 01.6
comp=Z,18µm,21.0s
H43A Windswept, Lux 77.29 348 P **P** **17 51 49.7 -0.9**
H43A IAMs_20 IAMs_20 18 24 47.7
comp=Z,18µm,22.0s
GBN Guysborough 77.31 7 P **P** **17 51 50.6 -0.1**
GBN IAMs_20 IAMs_20 18 27 32.6
comp=Z,29µm,21.0s
IRM Iron Mountain 77.39 324 P **P** **17 51 52.3 +0.9**
baz=143,SNR=45
IRM S **S** **18 01 42.3 +1.9**
baz=143
109C Camp Elliot, M 77.39 322 P **P** **17 51 50.8 -0.7**
109C IAMs_20 IAMs_20 18 20 53.4
comp=Z,19µm,19.0s
109C Camp Elliot, M 77.39 322 P **P** **17 51 52.4 +0.9**
baz=142
109C S **S** **18 01 41.3 +0.9**
baz=142
LMN Caledonia Moun 77.46 5 P **P** **17 51 50.8 -0.7**
LMN IAmb IAmb 17 51 57.8
comp=Z,550nm,1.2s
LMN IAMs_20 IAMs_20 18 27 02.3
comp=Z,23µm,22.0s
G45A Suttons Bay 77.50 350 P **P** **17 51 50.8 -1.0**
G45A IAmb IAmb 17 52 04.6
comp=Z,786nm,1.5s
G45A IAMs_20 IAMs_20 18 25 10.3
comp=Z,15µm,21.0s
W13A Hualapai Mount 77.52 325 P **P** **17 51 52.8 +0.3**
NEE2 Needles Airpor 77.61 325 P **P** **17 51 53.7 +1.1**
baz=164
NEE2 S **S** **18 01 43.1 +0.4**
baz=164
TPFO Pinon Flats 77.61 323 P **P** **17 51 54.1 +1.2**
baz=142,SNR=57
TPFO S **S** **18 01 44.9 +1.9**
baz=142
PFO Pinyon Flats O 77.62 323 LR LR 18 19 35.4
comp=Z,32µm,20.9s,baz=144,slow=31
PFO Pinyon Flats O 77.62 323 P **P** **17 51 53.6 +0.7**
PFO pmax pmax
comp=Z,487nm,1.4s
PFO MLR MLR
comp=Z,32µm,21.0s
PFO Pinyon Flats O 77.62 323 P **P** **17 51 53.5 +0.7**
PFO IAmb IAmb 17 52 06.8
comp=Z,487nm,1.4s
PFO Pinyon Flats O 77.62 323 P **P** **17 51 54.5 +1.6**
baz=142
PFO S **S** **18 01 45.9 +2.8**
baz=142
OGNE Ogallala 77.64 337 P **P** **17 51 52.5 -0.3**
OGNE IAmb IAmb 17 52 06.9
comp=Z,526nm,1.4s
OGNE Ogallala 77.64 337 P **P** **17 51 53.5 +0.6**
baz=154,SNR=25
OGNE S **S** **18 01 44.2 +1.2**
baz=154
PV01 Paradox Valley 77.65 331 P **P** **17 51 53.4 +0.3**
PV01 IAmb IAmb 17 52 06.8
comp=Z,637nm,1.5s
BELC Belle Mtn. Jos 77.69 323 P **P** **17 51 54.8 +1.5**
baz=142,SNR=27
BELC S **S** **18 01 44.9 +1.0**
baz=142
UPI Upington 77.77 116 eP **P** **17 51 52.8 -1.3**
PV13 Radium Mtn., P 77.77 331 P **P** **17 51 53.4 -0.4**
PV13 IAmb IAmb 17 52 08.0
comp=Z,813nm,1.5s
RAR Rarotonga 77.78 253 P **P** **17 51 55.4 +1.4**
comp=Z,25nm,0.8s,baz=208,slow=9.4,SNR=4.5
RAR LR LR 18 18 22.3
comp=Z,10µm,18.6s,baz=164,slow=30
RAR Rarotonga 77.78 253 P **P** **17 51 54.7 +0.7**
RAR Rarotonga 77.78 253 IAMs_20 IAMs_20 18 19 20.4
comp=Z,17µm,18.0s
PV02 Paradox Valley 77.78 331 P **P** **17 51 54.1 +0.3**
PV02 IAmb IAmb 17 52 08.1
comp=Z,583nm,1.5s
PV15 Paradox Valley 77.79 331 P **P** **17 51 54.1 +0.3**
PV05 Paradox Valley 77.82 330 P **P** **17 51 54.6 +0.6**
PV05 IAmb IAmb 17 52 07.3
comp=Z,640nm,1.4s
PV03 Paradox Valley 77.86 331 P **P** **17 51 53.9 -0.4**
PV18 Skein Mesa, Pa 77.88 331 P **P** **17 51 54.3 -0.1**
PV18 IAmb IAmb 17 52 07.7
comp=Z,606nm,1.5s
SMCO Snowmass 77.89 332 P **P** **17 51 55.1 +0.4**
SMCO IAMs_20 IAMs_20 18 24 08.5
comp=Z,19µm,20.0s
SMCO Snowmass 77.89 332 ⇑P **P** **17 51 55.3 +0.6**
PV12 Saucer Basin, 77.90 331 P **P** **17 51 54.8 +0.3**
PV12 IAmb IAmb 17 52 08.8
comp=Z,724nm,1.5s
ISCO Idaho Springs 77.91 334 P **P** **17 51 54.5 -0.1**
ISCO pmax pmax
comp=Z,480nm,1.5s
ISCO MLR MLR
comp=Z,21µm,21.0s
ISCO Idaho Springs 77.91 334 P **P** **17 51 54.5 -0.1**
ISCO IAmb IAmb 17 52 09.8
comp=Z,480nm,1.4s
ISCO IAMs_20 IAMs_20 18 22 39.4
comp=Z,21µm,21.0s
ISCO Idaho Springs 77.91 334 P **P** **17 51 55.7 +1.1**
baz=151,SNR=75
ISCO S **S** **18 01 46.5 +0.1**
baz=151
PV11 David Mesa, Pa 77.91 331 P **P** **17 51 55.2 +0.7**
PV11 IAmb IAmb 17 52 08.7
comp=Z,749nm,1.5s
PV17 East Wray Mesa 77.93 331 P **P** **17 51 55.0 +0.3**
PV07 Paradox Valley 77.94 331 P **P** **17 51 54.9 +0.3**
PV16 Nyswonger Mesa 77.94 331 P **P** **17 51 55.2 +0.5**
PV19 Morning Glory 77.97 331 P **P** **17 51 54.9 0.0**
PV20 West Nyswonger 77.99 331 P **P** **17 51 55.1 +0.2**
MURC Murrieta 77.99 322 P **P** **17 51 56.2 +1.3**
baz=142,SNR=16
MURC S **S** **18 01 49.4 +2.4**
baz=142
PV04 Paradox Valley 78.01 331 P **P** **17 51 55.0 0.0**
PV04 IAmb IAmb 17 52 09.3
comp=Z,831nm,1.5s
I37A Lemond, Waseca 78.01 344 P **P** **17 51 53.8 -0.9**
E62A Clayton Lake 78.02 1 P **P** **17 51 55.1 +0.5**
PV14 Lion Creek, Pa 78.04 331 P **P** **17 51 55.0 -0.2**
PV14 IAmb IAmb 17 52 09.4
comp=Z,740nm,1.5s
PV10 Paradox Valley 78.05 331 P **P** **17 51 54.6 -0.7**
PV10 IAmb IAmb 17 52 08.2
comp=Z,781nm,1.5s
PV22 Blue Mesa, Par 78.08 331 P **P** **17 51 55.5 +0.1**
PV22 IAmb IAmb 17 52 09.0
comp=Z,628nm,1.5s
PV23 Carpenter Ridg 78.10 331 P **P** **17 51 55.4 -0.3**
PV23 IAmb IAmb 17 52 09.9
comp=Z,446nm,1.4s
PQI Presque Isle 78.11 2 P **P** **17 51 55.2 +0.1**
PQI IAmb IAmb 17 52 01.5
comp=Z,460nm,1.2s
K31A O'Neill 78.13 340 P **P** **17 51 54.9 -0.5**
PV21 Cone Mtn., Par 78.18 331 P **P** **17 51 56.1 +0.1**
PV21 IAmb IAmb 17 52 09.5
comp=Z,443nm,1.4s
SCI2 San Clemente I 78.23 321 P **P** **17 51 57.3 +1.2**
baz=141
BBRC Big Bear Solar 78.37 323 P **P** **17 51 58.7 +1.6**
baz=142
BBRC S **S** **18 01 54.3 +2.9**
baz=142
CIS Catalina Islan 78.48 321 P **P** **17 51 58.7 +1.2**
baz=141
CIS S **S** **18 01 54.9 +2.7**
baz=141
D62A Allapoint, All 78.49 2 P **P** **17 51 57.3 +0.1**
D62A IAmb IAmb 17 52 03.5
comp=Z,641nm,1.1s
G40A Rib Lake 78.51 347 P **P** **17 51 56.3 -1.1**
G40A IAmb IAmb 17 52 09.8
comp=Z,419nm,1.2s
G40A IAMs_20 IAMs_20 18 28 40.0
comp=Z,28µm,22.0s
HEC Hector,Ludlow 78.52 324 P **P** **17 51 59.5 +1.7**
baz=142,SNR=53
HEC S **S** **18 01 55.6 +3.0**
baz=142
ECSD EROS Data Cent 78.56 342 P **P** **17 51 56.2 -1.4**
ECSD EROS Data Cent 78.56 342 P **P** **17 51 58.1 +0.4**
baz=158,SNR=191
ECSD S **S** **18 01 50.7 -1.8**
baz=158
KNB Kanab 78.58 327 P **P** **17 51 58.2 0.0**
KNB pmax pmax
comp=Z,652nm,1.5s
KNB Kanab 78.58 327 P **P** **17 51 58.2 0.0**
KNB IAmb IAmb 17 52 14.9
comp=Z,652nm,1.5s
F42A Maple Grove Fa 78.60 348 P **P** **17 51 56.8 -1.1**
F42A IAmb IAmb 17 52 03.2
comp=Z,322nm,1.0s
F42A IAMs_20 IAMs_20 18 25 38.4
comp=Z,14µm,21.0s
E46A Sault Ste Mari 78.61 351 P **P** **17 51 56.3 -1.5**
E46A IAMs_20 IAMs_20 18 25 09.6
comp=Z,17µm,21.0s
FMP Fort Macarthur 78.66 322 P **P** **17 51 59.6 +1.1**
baz=141
FMP S **S** **18 01 57.3 +3.3**
baz=141
PKCU Pink Cliffs 78.69 328 P **P** **17 51 59.2 +0.2**
BFSC Mount Baldy Ra 78.73 322 P **P** **17 52 00.0 +1.0**
baz=141,SNR=69
BFSC S **S** **18 01 57.7 +2.7**
baz=141
LCMT Little Creek M 78.77 327 P **P** **17 51 59.3 +0.1**
TUQ Turquoise Moun 78.79 324 P **P** **17 52 00.4 +1.1**

baz=143
TUQ S **S** **18 01 57.6 +2.0**
baz=143
BATG **Bathurst New B** **78.80 4** P **P** **17 51 58.8 -0.1**
BATG IAMs_20 IAMs_20 18 24 53.7
comp=Z,17µm,22.0s
RRX **Edison Barstow** **78.89 323** P **P** **17 52 01.4 +1.6**
baz=142
RRX S **S** **18 01 59.1 +2.6**
baz=142
MWC **Mount Wilson** **78.93 322** P **P** **17 52 00.7 +0.5**
MWC pmax pmax
comp=Z,557nm,1.4s
MWC **Mount Wilson** **78.93 322** P **P** **17 52 00.7 +0.5**
MWC IAmb IAmb 17 52 14.8
comp=Z,557nm,1.4s
LMQ **La Malbaie** **78.93 1** P **P** **17 51 59.3 -0.3**
LMQ IAmb IAmb 17 52 05.6
comp=Z,582nm,1.1s
LMQ IAMs_20 IAMs_20 18 25 10.9
comp=Z,20µm,22.0s
PASC **Pasadena Art C** **78.95 322** P **P** **17 52 00.4 +0.3**
PASC IAmb IAmb 17 52 13.9
comp=Z,507nm,1.3s
PASC **Pasadena Art C** **78.95 322** IAMs_20 IAMs_20 18 19 48.8
comp=Z,18µm,22.0s
N23A **Red Feather La** **78.99 334** P **P** **17 52 01.6 +1.1**
baz=151
N23A S **S** **18 01 57.6 -0.2**
baz=151
E43A **Lone Tree Farm** **79.01 349** P **P** **17 51 59.5 -0.6**
E43A IAmb IAmb 17 52 12.7
comp=Z,607nm,1.2s
SPMN **Marine on St.** **79.02 345** P **P** **17 51 59.1 -1.1**
SPMN IAmb IAmb 17 52 12.1
comp=Z,605nm,1.4s
SPMN IAMs_20 IAMs_20 18 32 55.2
comp=Z,15µm,18.0s
SPMN **Marine on St.** **79.02 345** P **P** **17 51 59.9 -0.3**
baz=162,SNR=14
SPMN S **S** **18 01 53.8 -3.5**
baz=162
DECC **Green Verdugo** **79.09 322** P **P** **17 52 02.0 +1.1**
baz=141
DECC S **S** **18 02 01.6 +2.8**
baz=141
COWI **Conover** **79.11 348** P **P** **17 51 59.9 -0.8**
COWI IAmb IAmb 17 52 13.2
comp=Z,481nm,1.4s
GSC **Goldstone, Bar** **79.12 324** P **P** **17 52 01.3 +0.2**
GSC pmax pmax
comp=Z,489nm,1.5s
GSC **Goldstone, Bar** **79.12 324** P **P** **17 52 01.3 +0.2**
GSC IAmb IAmb 17 52 15.8
comp=Z,489nm,1.4s
GSC **Goldstone, Bar** **79.12 324** P **P** **17 52 02.0 +0.9**
baz=142,SNR=42
GSC S **S** **18 02 01.3 +2.2**
baz=142
MTPU **Mount Pierson** **79.13 328** P **P** **17 52 01.4 -0.1**
PHWY **Pilot Hill** **79.16 335** P **P** **17 52 01.4 -0.1**
PHWY IAmb IAmb 17 52 14.7
comp=Z,569nm,1.4s
SZCU **Shurtz Canyon** **79.17 328** P **P** **17 52 01.6 +0.1**
O20A **White River Ci** **79.22 332** P **P** **17 52 01.5 -0.1**
O20A IAmb IAmb 17 52 15.1
comp=Z,820nm,1.4s
O20A **White River Ci** **79.22 332** P **P** **17 52 02.7 +1.0**
baz=149,SNR=33
O20A S **S** **18 02 02.1 +2.0**
baz=149
CCUT **Cedar City** **79.26 327** P **P** **17 52 02.5 +0.5**
CCUT IAmb IAmb 17 52 17.1
comp=Z,859nm,1.5s
KOWA **Kowa** **79.26 66** P **P** **17 52 01.6 -0.6**
comp=Z,186nm,0.7s,baz=234,slow=5.3,SNR=153
KOWA **Kowa** **79.26 66** P **P** **17 52 01.3 -0.9**
KOWA **Kowa** **79.26 66** ⇑P **P** **17 52 01.5 -0.6**
KOWA **Kowa** **79.26 66** P **P** **17 52 01.6 -0.6**
SRU **San Rafael Swe** **79.29 330** P **P** **17 52 01.7 -0.4**
SRU pmax pmax
comp=Z,790nm,1.5s
SRU **San Rafael Swe** **79.29 330** P **P** **17 52 01.7 -0.4**
SRU IAmb IAmb 17 52 15.9
comp=Z,790nm,1.5s
SHOC **Shoshone, Teco** **79.33 324** P **P** **17 52 03.3 +1.1**
baz=143,SNR=22
SHOC S **S** **18 02 02.9 +1.8**
baz=143
MACI **Morro de la Ar** **79.33 47** P **P** **17 52 02.2 -0.3**
MACI IAmb IAmb 17 52 17.8
comp=Z,703nm,1.1s
TSUM **Tsumeb** **79.36 106** P **P** **17 52 03.1 +0.1**
comp=Z,74nm,1.0s,baz=226,slow=5.9,SNR=63
TSUM **Tsumeb** **79.36 106** *e*P **P** **17 52 02.2 -0.8**
TSUM **Tsumeb** **79.36 106** P **P** **17 52 02.2 -0.8**
TSUM IAmb IAmb 17 52 17.0
comp=Z,415nm,1.2s
TSUM **Tsumeb** **79.36 106** ⇓P **P** **17 52 02.9 -0.1**
TSUM **Tsumeb** **79.36 106** *i* P **P** **17 52 03.6 +0.6**
EDW2 **Edwards Air Fo** **79.40 323** P **P** **17 52 03.6 +0.9**
baz=141
EDW2 S **S** **18 02 02.3 +0.3**
baz=141
Q16A **Castle Valley** **79.41 330** P **P** **17 52 02.7 0.0**
MSU **Marysvale** **79.51 329** P **P** **17 52 03.6 +0.3**
MSU **Marysvale** **79.51 329** P **P** **17 52 03.6 +0.3**
MVU **Marysvale** **79.52 329** P **P** **17 52 03.6 +0.2**
OSI **Osito Audit: C** **79.58 322** P **P** **17 52 03.9 +0.3**
OSI IAmb IAmb 17 52 17.2
comp=Z,703nm,1.4s
OSI **Osito Audit: C** **79.58 322** P **P** **17 52 04.9 +1.3**
baz=141,SNR=21
OSI S **S** **18 02 05.1 +1.2**
baz=141
QSM **Queen of Sheba** **79.68 324** P **P** **17 52 04.1 +0.1**
P17A **Butcher Ranch,** **79.69 330** P **P** **17 52 03.9 -0.3**
P17A IAmb IAmb 17 52 18.2
comp=Z,936nm,1.4s
LRMC **Laurel Mtn Rad** **79.71 323** P **P** **17 52 05.7 +1.4**
baz=142,SNR=92
LRMC S **S** **18 02 06.8 +1.4**
baz=142
TCRU **Three Creeks R** **79.71 329** P **P** **17 52 04.7 +0.3**
TMUT **Trail Mountain** **79.74 330** P **P** **17 52 04.3 -0.4**
GWY **Greenwater Val** **79.75 324** P **P** **17 52 04.6 0.0**
F36A **Milaca** **79.79 345** P **P** **17 52 03.1 -1.2**
F36A IAmb IAmb 17 52 16.3
comp=Z,445nm,1.2s
F36A IAMs_20 IAMs_20 18 33 30.5
comp=Z,18µm,18.0s
HVD **Gariep Dam** **79.85 120** *e*P **P** **17 52 04.7 -0.9**
SUSD **Miller** **79.86 340** P **P** **17 52 03.5 -1.3**
SUSD IAmb IAmb 17 52 17.9
comp=Z,798nm,1.4s
SUSD **Miller** **79.86 340** P **P** **17 52 04.8 0.0**
baz=157,SNR=9.6
SUSD S **S** **18 02 04.9 -1.5**
baz=157
PRN **Pahroc Range** **79.94 326** P **P** **17 52 06.1 +0.5**
PRN IAmb IAmb 17 52 19.6
comp=Z,625nm,1.3s
PRN **Pahroc Range** **79.94 326** ⇑P **P** **17 52 06.4 +0.8**
D41A **Chassel** **79.94 348** P **P** **17 52 04.1 -1.0**
D41A IAMs_20 IAMs_20 18 26 28.7
comp=Z,18µm,22.0s
SBC **Santa Barbara** **79.97 321** P **P** **17 52 06.1 +0.5**
baz=140
SBC S **S** **18 02 08.6 +0.8**
baz=140
ARVC **Arvin** **80.03 322** P **P** **17 52 06.5 +0.6**
baz=141
ARVC S **S** **18 02 10.4 +1.9**
baz=141
H07S1 **FLORES T-PHASE** **80.03 31** *e*P **P** **17 52 07.5 +1.6**
comp=Z,51nm,0.7s
MPMC **Manual Prospec** **80.06 324** P **P** **17 52 07.0 +0.6**
baz=142,SNR=62
MPMC S **S** **18 02 11.6 +2.3**
baz=142
E38A **The Farm, Brul** **80.07 346** P **P** **17 52 05.1 -0.7**
E38A IAmb IAmb 17 52 18.0
comp=Z,572nm,1.4s
FURC **Furnace Creek,** **80.07 324** P **P** **17 52 07.3 +1.2**
baz=142,SNR=50
FURC S **S** **18 02 10.7 +1.9**
baz=142
RDMU **Red Mountain** **80.12 331** P **P** **17 52 06.3 -0.3**
RDMU IAmb IAmb 17 52 19.7
comp=Z,494nm,1.2s
TPNV **Topopah Spring** **80.15 325** P **P** **17 52 06.8 0.0**
TPNV pmax pmax
comp=Z,503nm,1.3s
TPNV MLR MLR
comp=Z,22µm,19.0s
TPNV **Topopah Spring** **80.15 325** P **P** **17 52 06.8 0.0**
TPNV IAmb IAmb 17 52 20.7
comp=Z,503nm,1.3s
TPNV IAMs_20 IAMs_20 18 22 28.3
comp=Z,22µm,19.0s
TPNV **Topopah Spring** **80.15 325** ⇑P **P** **17 52 07.4 +0.6**
TPNV **Topopah Spring** **80.15 325** P **P** **17 52 07.6 +0.9**
baz=143,SNR=157
TPNV S **S** **18 02 12.5 +2.5**
baz=143
RWWY **Rawlins** **80.15 334** P **P** **17 52 06.5 -0.2**
RWWY IAmb IAmb 17 52 20.8
comp=Z,953nm,1.4s
RWWY IAMs_20 IAMs_20 18 23 49.7
comp=Z,24µm,21.0s
ISA **Isabella, Lake** **80.26 323** P **P** **17 52 07.6 +0.4**
ISA pmax pmax
comp=Z,414nm,1.2s
ISA **Isabella, Lake** **80.26 323** P **P** **17 52 07.6 +0.4**
ISA IAmb IAmb 17 52 21.1
comp=Z,414nm,1.1s
ISA **Isabella, Lake** **80.26 323** P **P** **17 52 08.5 +1.2**
baz=141,SNR=168
ISA S **S** **18 02 14.0 +3.0**
baz=141
PSUT **Pine Spring** **80.29 328** P **P** **17 52 08.0 +0.4**
H07N1 **FLORES T-PHASE** **80.32 30** *e*P **P** **17 52 09.5 +2.1**
comp=Z,93nm,0.8s
PKM **Mcpherson Peak** **80.36 321** P **P** **17 52 09.2 +1.2**
baz=140
PKM S **S** **18 02 14.5 +2.1**
baz=140
F33A **5 Mile Ranch,** **80.43 343** P **P** **17 52 06.9 -0.9**
CALA **Caldeira** **80.49 33** *e*P **P** **17 52 10.5 +2.1**
comp=Z,472nm,1.5s
PCAN **Candelaria** **80.50 33** *e*P **P** **17 52 10.2 +1.8**
comp=Z,486nm,1.7s
MPU **Maple Canyon** **80.52 330** P **P** **17 52 08.1 -0.7**
MPU IAmb IAmb 17 52 22.0
comp=Z,438nm,1.3s
PCED **Cedros** **80.53 33** *e*P **P** **17 52 07.8 -0.7**
comp=Z,664nm,1.5s
PICO **Pico** **80.56 33** *e*P **P** **17 52 10.7 +1.9**
comp=Z,908nm,1.5s
PPNO **Prainha do Nor** **80.61 33** *e*P **P** **17 52 08.4 -0.6**
comp=Z,1µm,1.4s
PID **Ribeirinha** **80.65 33** *e*P **P** **17 52 11.5 +2.3**
comp=Z,1µm,1.6s
CWC **Cottonwood Cre** **80.66 324** P **P** **17 52 10.4 +0.9**
baz=141
CWC S **S** **18 02 17.1 +1.7**
baz=141
NLU **North Lily Min** **80.66 330** P **P** **17 52 09.3 -0.2**
NLU IAmb IAmb 17 52 23.8
comp=Z,640nm,1.5s
BOSA **Boshof** **80.69 118** P **P** **17 52 09.9 -0.1**
comp=Z,109nm,0.9s,baz=241,slow=5.2,SNR=80
BOSA LR LR 18 26 17.1
comp=Z,22µm,18.1s,baz=240,slow=34
BOSA **Boshof** **80.69 118** *e*P **P** **17 52 08.8 -1.2**
BOSA **Boshof** **80.69 118** P **P** **17 52 08.9 -1.1**
BOSA **Boshof** **80.69 118** ⇓P **P** **17 52 09.5 -0.5**
VES **Vestal, Richgr** **80.71 323** P **P** **17 52 10.5 +1.0**
baz=141,SNR=37
VES S **S** **18 02 18.8 +3.2**
baz=141
K22A **Casper** **80.73 335** P **P** **17 52 09.7 0.0**
K22A IAmb IAmb 17 52 23.1
comp=Z,940nm,1.4s
K22A **Casper** **80.73 335** P **P** **17 52 10.6 +0.9**
baz=150,SNR=66
K22A S **S** **18 02 17.4 +1.5**
baz=150
GRAC **Grapevine Rang** **80.73 324** P **P** **17 52 10.8 +1.0**
baz=142
GRAC S **S** **18 02 19.4 +3.5**
baz=142
SMMC **Simmler** **80.78 322** P **P** **17 52 11.0 +0.9**
baz=140,SNR=43
SMMC S **S** **18 02 18.2 +1.7**
baz=140
NEPA **Kaukuwa** **80.80 105** *i* P **P** **17 52 11.3 +0.5**
ROSA **Rosais** **80.82 33** *e*P **P** **17 52 12.2 +2.1**
comp=Z,634nm,1.2s
ROSA **Rosais** **80.82 33** P **P** **17 52 10.8 +0.7**
ROSA IAmb IAmb 17 52 17.5
comp=Z,800nm,1.3s
PMAN **Manadas** **80.82 33** *e*P **P** **17 52 12.4 +2.3**
comp=Z,1µm,1.2s
SPR3 **Spring Creek 3** **80.88 328** P **P** **17 52 10.3 -0.5**
SPR3 IAmb IAmb 17 52 24.9
comp=Z,883nm,1.5s
JLU **Jordanelle** **80.93 330** P **P** **17 52 10.6 -0.4**
R11A **Troy Canyon, C** **80.94 326** P **P** **17 52 11.3 +0.3**
R11A IAmb IAmb 17 52 25.7
comp=Z,646nm,1.5s
R11A **Troy Canyon, C** **80.94 326** P **P** **17 52 12.5 +1.5**
baz=143
R11A S **S** **18 02 20.1 +1.8**
baz=143
PSMA **Santa Maria** **80.95 36** *e*P **P** **17 52 11.9 +1.1**
comp=Z,730nm,1.5s
ICQ **Pointe Anglais** **80.98 3** ⇑P **P** **17 52 11.4 +0.8**
PSMN **Pico do Norte,** **80.99 36** *e*P **P** **17 52 11.9 +0.9**
comp=Z,936nm,1.6s
LCH **Last Change Ra** **81.06 324** P **P** **17 52 11.5 -0.1**
CTU **Camp Tracy** **81.13 330** P **P** **17 52 11.8 -0.2**
RSSD **Black Hills** **81.14 337** P **P** **17 52 11.7 -0.3**
RSSD pmax pmax
comp=Z,356nm,1.3s
RSSD **Black Hills** **81.14 337** P **P** **17 52 11.7 -0.3**
RSSD **Black Hills** **81.14 337** ⇓P **P** **17 52 12.0 0.0**
RSSD **Black Hills** **81.14 337** P **P** **17 52 12.2 +0.2**
baz=153
RSSD S **S** **18 02 21.1 +0.8**
baz=153
SRBC **Serra Branca** **81.17 33** *e*P **P** **17 52 14.3 +2.4**
comp=Z,797nm,1.3s
DUG **Dugway, Tooele** **81.18 329** P **P** **17 52 11.8 -0.3**
DUG pmax pmax
comp=Z,916nm,1.5s
DUG MLR MLR
comp=Z,44µm,21.0s
DUG **Dugway, Tooele** **81.18 329** P **P** **17 52 11.8 -0.3**
DUG IAmb IAmb 17 52 26.5
comp=Z,916nm,1.4s
DUG **Dugway, Tooele** **81.18 329** P **P** **17 52 13.0 +0.8**
baz=146,SNR=76
DUG S **S** **18 02 21.9 +1.3**
baz=146
PGRA **Graciosa** **81.19 33** *e*P **P** **17 52 14.2 +2.2**
comp=Z,424nm,1.2s
TIN **Tinemaha, Big** **81.21 324** P **P** **17 52 13.7 +1.3**
baz=141,SNR=28
TIN S **S** **18 02 22.9 +1.9**
baz=141
VOG **Valley Oaks Go** **81.23 323** P **P** **17 52 12.4 +0.1**
baz=140
VOG S **S** **18 02 21.6 +0.6**
baz=140
ADH **Angra Heroismo** **81.23 34** *e*P **P** **17 52 11.8 -0.5**
comp=Z,514nm,1.5s
PAGB **Antelope Grade** **81.23 322** P **P** **17 52 13.1 +0.7**
PAGB IAmb IAmb 17 52 26.4
comp=Z,843nm,1.5s
PSET **Sete Cidades** **81.30 35** *e*P **P** **17 52 14.3 +1.6**
comp=Z,640nm,1.2s
PSCM **Serra do Cume** **81.33 34** *e*P **P** **17 52 15.1 +2.3**
comp=Z,597nm,1.2s
EYMN **Ely** **81.34 347** P **P** **17 52 11.5 -1.1**
EYMN IAmb IAmb 17 52 24.8
comp=Z,583nm,1.2s
EYMN **Ely** **81.34 347** IAMs_20 IAMs_20 18 30 14.6
comp=Z,19µm,21.0s
EYMN **Ely** **81.34 347** P **P** **17 52 12.6 -0.1**
baz=163
EYMN S **S** **18 02 17.1 -4.5**
baz=163
TCUT **Toone Canyon** **81.34 331** P **P** **17 52 13.2 +0.1**
TCUT IAmb IAmb 17 52 26.3
comp=Z,712nm,1.5s
PAGU **Agualva, Azore** **81.35 34** *e*P **P** **17 52 15.1 +2.2**
comp=Z,543nm,1.3s
GRON **Grota Negra** **81.35 35** *e*P **P** **17 52 15.1 +2.1**
comp=Z,867nm,1.3s
CMLA **Cha da Macela** **81.35 35** *e*P **P** **17 52 12.7 -0.3**
comp=Z,596nm,1.2s
PCALD **Caldeiras da R** **81.40 35** *e*P **P** **17 52 15.3 +2.1**
comp=Z,608nm,1.0s
KAPO **Kapuskasing** **81.42 353** ⇓P **P** **17 52 12.6 -0.4**
TPH **Tonopah** **81.51 325** P **P** **17 52 14.5 +0.4**
TPH **Tonopah** **81.51 325** P **P** **17 52 14.5 +0.4**
BART **Pico Bartolome** **81.54 35** *e*P **P** **17 52 15.8 +1.8**
comp=Z,2µm,1.2s
DRLN **Deer Lake** **81.59 9** P **P** **17 52 13.6 -0.3**
DRLN IAmb IAmb 17 52 19.8
comp=Z,508nm,1.4s
DRLN **Deer Lake** **81.59 9** ⇑P **P** **17 52 14.0 +0.1**
HWUT **Hardware Ranch** **81.81 331** P **P** **17 52 14.8 -0.8**
HWUT IAmb IAmb 17 52 30.2
comp=Z,729nm,1.4s
D32A **Dogwood Acres,** **81.82 343** P **P** **17 52 14.2 -1.0**
BGU **Big Grassy Mou** **81.87 329** P **P** **17 52 15.1 -0.7**
PMPB **Monarch Peak** **81.89 322** P **P** **17 52 16.9 +0.9**
PMPB IAmb IAmb 17 52 32.9
comp=Z,737nm,1.5s
SPUT **South Promonto** **81.94 330** P **P** **17 52 15.9 -0.2**
SPUT IAmb IAmb 17 52 29.1
comp=Z,742nm,1.5s
MLAC **Mammoth, Mammo** **81.96 324** P **P** **17 52 17.3 +0.8**
baz=141
MLAC S **S** **18 02 30.6 +1.6**
baz=141
BW06 **Boulder Array** **81.97 333** P **P** **17 52 15.9 -0.5**
BW06 **Boulder Array** **81.97 333** P **P** **17 52 16.6 +0.1**
baz=148
BW06 S **S** **18 02 28.1 -0.8**
baz=148
PD31 **Pinedale Array** **81.97 333** P **P** **17 52 15.8 -0.7**
PD31 **Pinedale Array** **81.97 333** ⇑P **P** **17 52 16.0 -0.4**
PD31 ⇑s P 17 52 28.0 +12
PDAR **Pinedale Array** **81.97 333** P **P** **17 52 16.4 -0.1**
comp=Z,17nm,0.9s,baz=116,slow=3.4,SNR=51
PDAR PKKPbc **PKKPbc** **18 10 45.3 -2.7**
comp=Z,1.4nm,0.5s,baz=307,slow=0.4,SNR=7.0
PDAR PKPPKP **P'P'df** **18 18 53.4 +7.3**
comp=Z,1.3nm,1.0s,baz=0.0,slow=3.0,SNR=4.2
PDAR LR LR 18 25 22.3
comp=Z,25µm,20.1s,baz=148,slow=33
PDAR **Pinedale Array** **81.97 333** P **P** **17 52 15.5 -0.9**
MDPB **Devils Postpil** **82.09 324** P **P** **17 52 17.3 +0.1**
PMOZ **Porto Moniz, M** **82.15 44** *e*P **P** **17 52 17.2 -0.2**
comp=Z,441nm,1.1s
PMOZ **Porto Moniz, M** **82.15 44** *e*LR LR 18 21 59.7
comp=Z,25µm,20.0s
PMOZ **Porto Moniz, M** **82.15 44** P **P** **17 52 17.4 0.0**
PMOZ **Porto Moniz, M** **82.15 44** ⇑P **P** **17 52 18.3 +0.9**
PMOZ **Porto Moniz, M** **82.15 44** P **P** **17 52 20.1 +2.7**
PMOZ **Porto Moniz, M** **82.15 44** P **P** **17 52 20.1 +2.7**
PMOZ **Porto Moniz, M** **82.15 44** P **P** **17 52 20.1 +2.7**
B35A **Bob, Littlefor** **82.19 345** P **P** **17 52 16.1 -1.1**
B35A IAmb IAmb 17 52 30.1
comp=Z,827nm,1.4s
FUL **Funchal** **82.20 44** *e*P **P** **17 52 19.8 +2.3**
comp=Z,643nm,1.2s
NV11 **Mina Array Sit** **82.25 325** P **P** **17 52 17.5 -0.4**
NV11 IAmb IAmb 17 52 33.5
comp=Z,405nm,1.4s
PMAR **Madeira** **82.25 44** *e*P **P** **17 52 18.4 +0.4**
comp=Z,986nm,1.2s
PMAR **Madeira** **82.25 44** *e*PP PP 17 55 27.6 +0.5
LHV **Little Huntoon** **82.28 324** P **P** **17 52 17.6 -0.2**
LHV IAmb IAmb 17 52 31.8
comp=Z,505nm,1.2s
CASY **Casey** **82.28 181** P **P** **17 52 17.0 -0.6**
CASY IAmb IAmb 17 52 32.4
comp=Z,452nm,1.4s
CASY **Casey** **82.28 181** IAMs_20 IAMs_20 18 27 31.9
comp=Z,29µm,22.0s
CASY **Casey** **82.28 181** ⇑P **P** **17 52 17.4 -0.1**
E28A **Huff** **82.30 340** P **P** **17 52 17.5 -0.3**
E28A IAmb IAmb 17 52 44.4
comp=Z,494nm,1.2s
NVAR **Mina Array Bea** **82.32 325** P **P** **17 52 18.8 +0.4**
comp=Z,53nm,0.8s,baz=152,slow=6.0,SNR=133
NVAR S **S** **18 02 32.3 -0.3**
comp=Z,0.1nm,0.3s,baz=150,slow=42,SNR=1.2
NVAR PKKPbc **PKKPbc** **18 10 45.2 -1.7**
comp=Z,4.2nm,0.9s,baz=283,slow=2.1,SNR=13
NVAR PKPPKP P'P'df 18 18 55.8 +10
comp=Z,2.0nm,0.9s,baz=242,slow=1.1,SNR=4.3
NVAR LR LR 18 22 26.0
comp=Z,17µm,20.9s,baz=142,slow=31
NVAR **Mina Array Bea** **82.32 325** P **P** **17 52 18.1 -0.2**
HVU **Hansel Valley** **82.46 330** P **P** **17 52 17.9 -1.0**
HVU pmax pmax
comp=Z,463nm,1.4s
HVU **Hansel Valley** **82.46 330** P **P** **17 52 17.9 -1.0**
HVU IAmb IAmb 17 52 32.5
comp=Z,463nm,1.4s
RYN **Ryan** **82.58 325** P **P** **17 52 19.6 0.0**
AHID **Auburn Hatcher** **82.59 332** P **P** **17 52 19.1 -0.5**
AHID IAmb IAmb 17 52 33.1
comp=Z,677nm,1.5s
AGMN **Agassiz Nation** **82.62 344** P **P** **17 52 17.9 -1.5**
AGMN IAmb IAmb 17 52 32.6
comp=Z,578nm,1.4s
AGMN IAMs_20 IAMs_20 18 35 09.4
comp=Z,15µm,20.0s
AGMN **Agassiz Nation** **82.62 344** P **P** **17 52 19.2 -0.2**
baz=159,SNR=40
AGMN S **S** **18 02 31.8 -3.0**
baz=159
SAO **San Andreas Ge** **82.65 322** P **P** **17 52 20.4 +0.6**
SAO pmax pmax
comp=Z,252nm,1.4s
SAO MLR MLR
comp=Z,20µm,20.0s
SAO **San Andreas Ge** **82.65 322** P **P** **17 52 20.4 +0.6**
SAO IAMs_20 IAMs_20 18 21 36.6
comp=Z,19µm,20.0s
SAO **San Andreas Ge** **82.65 322** ⇑P **P** **17 52 20.6 +0.9**
ELK **Elko** **82.70 328** P **P** **17 52 19.7 -0.6**
ELK pmax pmax
comp=Z,344nm,1.3s
ELK MLR MLR
comp=Z,22µm,21.0s
ELK **Elko** **82.70 328** P **P** **17 52 19.6 -0.6**
ELK IAmb IAmb 17 52 33.3
comp=Z,344nm,1.2s
ELK IAMs_20 IAMs_20 18 24 07.8
comp=Z,22µm,21.0s
KVN **Kaiserville** **82.70 325** P **P** **17 52 19.5 -0.8**
KVN pmax pmax
comp=Z,339nm,1.2s
KVN **Kaiserville** **82.70 325** P **P** **17 52 19.5 -0.8**
KVN IAmb IAmb 17 52 33.4
comp=Z,339nm,1.2s
LBTB **Lobatse** **82.81 115** P **P** **17 52 20.6 -0.7**
comp=Z,100nm,0.6s,baz=242,slow=5.4,SNR=93
LBTB **Lobatse** **82.81 115** *e*P **P** **17 52 18.9 -2.3**
LBTB **Lobatse** **82.81 115** P **P** **17 52 20.1 -1.1**
LBTB IAmb IAmb 17 52 27.3
comp=Z,543nm,1.4s
LBTB **Lobatse** **82.81 115** ⇑P **P** **17 52 18.9 -2.3**
LBTB **Lobatse** **82.81 115** *i* P **P** **17 52 22.4 +1.1**
PMPS **Porto Santo** **82.83 44** *e*P **P** **17 52 21.9 +1.1**
comp=Z,628nm,1.8s
PMPST **Porto Santo, M** **82.84 44** *e*P **P** **17 52 21.4 +0.5**
comp=Z,606nm,1.5s
PMPST A A 18 28 20.5
comp=Z,25µm,20.0s
TORD **Torodi Ar. Bea** **82.98 70** P **P** **17 52 21.1 -1.0**
comp=Z,227nm,0.8s,baz=251,slow=4.0,SNR=348
TORD ScS **ScS** **18 02 57.0 +2.8**
comp=Z,28nm,1.4s,baz=244,slow=3.1,SNR=9.2
TORD PKKPbc **PKKPbc** **18 10 44.4 +0.8**
comp=Z,1.6nm,0.9s,baz=54,slow=2.3,SNR=4.5
TORD PKPPKP **P'P'df** **18 18 49.0 +0.1**
comp=Z,1.9nm,1.1s,baz=350,slow=2.1,SNR=4.1
TORD LR LR 18 26 04.7
comp=Z,45µm,21.6s,baz=240,slow=33
TORD **Torodi Ar. Bea** **82.98 70** P **P** **17 52 20.7 -1.3**
REDW **Red Top Meadow** **82.99 332** P **P** **17 52 21.4 -0.3**

REDW IAMs_20 IAMs_20 18 25 18.3
comp=Z,27µm,20.0s
SNOW Snow King Moun 83.03 332 P **P** **17 52 21.7 -0.2**
CMB Columbia Colle 83.06 323 P **P** **17 52 22.4 +0.5**
CMB pmax pmax
comp=Z,277nm,1.5s
CMB MLR MLR
comp=Z,11µm,21.0s
CMB Columbia Colle 83.06 323 P **P** **17 52 22.4 +0.5**
LOHW Long Hollow 83.10 332 P **P** **17 52 22.1 -0.2**
TPAW Teton Pass 83.13 332 P **P** **17 52 21.2 -1.2**
TPAW IAMs_20 IAMs_20 18 25 23.2
comp=Z,24µm,20.0s
MDND Maddock 83.16 341 P **P** **17 52 21.6 -0.6**
MDND IAMs_20 IAMs_20 18 33 51.4
comp=Z,17µm,22.0s
MDND Maddock 83.16 341 P **P** **17 52 23.0 +0.8**
baz=156,SNR=43
MDND S **S** **18 02 39.2 -1.1**
baz=156
YERR Yerington 83.21 324 P **P** **17 52 22.8 -0.1**
YERR IAmb IAmb 17 52 36.6
comp=Z,623nm,1.3s
MOOW Moose Ponds 83.27 332 P **P** **17 52 22.5 -0.6**
FXWY Fox Creek 83.29 332 P **P** **17 52 22.6 -0.6**
FXWY IAMs_20 IAMs_20 18 25 29.3
comp=Z,24µm,21.0s
BMN Battle Mountai 83.36 327 P **P** **17 52 23.2 -0.4**
BMN pmax pmax
comp=Z,93nm,1.3s
BMN Battle Mountai 83.36 327 P **P** **17 52 23.2 -0.4**
PNTR Pine Nut 83.47 324 P **P** **17 52 23.5 -0.8**
PNTR IAmb IAmb 17 52 38.0
comp=Z,500nm,1.2s
IMW Indian Meadow 83.47 332 P **P** **17 52 23.8 -0.5**
FLWY Flagg Ranch 83.53 333 P **P** **17 52 24.0 -0.5**
FLWY IAmb IAmb 17 52 40.4
comp=Z,569nm,1.5s
EMB Emerald Bay 83.63 324 P **P** **17 52 25.4 +0.3**
VCNR Virginia City 83.65 324 P **P** **17 52 25.5 +0.4**
VCNR IAmb IAmb 17 52 38.9
comp=Z,348nm,1.4s
RUBR Rubicon Trail 83.72 324 P **P** **17 52 25.9 +0.3**
RUBR IAmb IAmb 17 52 44.4
comp=Z,368nm,1.1s
H17A Grant Village 83.75 333 P **P** **17 52 26.2 +0.6**
H17A Grant Village 83.75 333 P **P** **17 52 26.6 +1.0**
baz=148
H17A S **S** **18 02 48.6 +1.6**
baz=148
PAHR Pah Rah Range 83.84 325 P **P** **17 52 26.5 +0.4**
RLMT Red Lodge 83.86 334 P **P** **17 52 26.4 +0.3**
RLMT IAmb IAmb 17 52 40.8
comp=Z,523nm,1.4s
RLMT IAMs_20 IAMs_20 18 27 25.9
comp=Z,16µm,19.0s
RLMT Red Lodge 83.86 334 P **P** **17 52 26.5 +0.3**
baz=148
RLMT S **S** **18 02 46.4 -1.6**
baz=148
YMP Mirror Lake Pl 83.88 333 P **P** **17 52 27.3 +0.9**
YMP IAmb IAmb 17 52 49.5
comp=Z,386nm,1.4s
HRAO HartRAO 83.95 117 *e*P **P** **17 52 25.5 -1.7**
YNE Yellowstone No 84.05 334 P **P** **17 52 27.2 +0.1**
YNE IAmb IAmb 17 52 39.9
comp=Z,301nm,1.2s
YNR Norris Junctio 84.06 333 P **P** **17 52 28.1 +0.9**
YMR Madison River 84.13 333 P **P** **17 52 28.1 +0.6**
LAO LASA Array 84.14 337 P **P** **17 52 27.3 0.0**
LAO IAmb IAmb 17 52 40.0
comp=Z,674nm,1.4s
LAO IAMs_20 IAMs_20 18 27 01.4
comp=Z,16µm,22.0s
LAO LASA Array 84.14 337 P **P** **17 52 27.7 +0.4**
baz=151,SNR=12
LAO S **S** **18 02 48.8 -1.6**
baz=151
YHH Holmes Hill 84.18 333 P **P** **17 52 27.8 -0.1**
YHH IAmb IAmb 17 52 42.0
comp=Z,556nm,1.2s
YHB Horse Butte 84.28 333 P **P** **17 52 28.2 -0.1**
YHL Hebgen Lake 84.36 333 P **P** **17 52 29.5 +0.7**
YHL IAmb IAmb 17 52 43.2
comp=Z,472nm,1.4s
BEKR Beckworth 84.44 324 P **P** **17 52 29.1 -0.1**
BEKR IAmb IAmb 17 52 42.6
comp=Z,402nm,1.3s
QLMT Earthquake Lak 84.44 333 P **P** **17 52 30.0 +0.9**
ULM Lac du Bonnet 84.45 345 P **P** **17 52 28.8 +0.1**
comp=Z,168nm,1.0s,baz=161,slow=4.5,SNR=38
ULM S **SKSac** **18 02 43.9 -6.5**
comp=Z,2.0nm,0.4s,baz=80,slow=15,SNR=1.5
ULM Lac du Bonnet 84.45 345 P **P** **17 52 27.6 -1.0**
ULM IAMs_20 IAMs_20 18 35 39.9
comp=Z,12µm,19.0s
ULM Lac du Bonnet 84.45 345 ⇓P **P** **17 52 27.7 -1.0**
SLR Silverton 84.49 117 *e*P **P** **17 52 27.8 -2.1**
GCMT Greycliff 84.58 334 P **P** **17 52 28.9 -0.7**
HLID Hailey 84.61 330 P **P** **17 52 29.5 -0.5**
HLID IAmb IAmb 17 52 43.5
comp=Z,449nm,1.4s
HLID IAMs_20 IAMs_20 18 25 26.4
comp=Z,23µm,21.0s
HLID Hailey 84.61 330 P **P** **17 52 30.7 +0.8**
baz=145
HLID S **S** **18 02 57.1 +1.6**
baz=145
ORV Oroville 84.78 323 P **P** **17 52 30.5 -0.1**
ORV pmax pmax
comp=Z,637nm,1.4s
ORV MLR MLR
comp=Z,15µm,20.0s
ORV Oroville 84.78 323 P **P** **17 52 30.5 -0.1**
ORV IAMs_20 IAMs_20 18 23 45.9
comp=Z,15µm,20.0s
MQZ McQueen's Vall 84.80 221 IAMs_20 IAMs_20 18 22 05.0
comp=Z,25µm,21.0s
GDXM Geysers 84.88 322 P **P** **17 52 31.8 +0.5**
MCMT McKenzie Canyo 85.00 332 P **P** **17 52 31.9 -0.1**
ODZ Otahua Downs 85.03 219 P **P** **17 52 32.3 +0.2**
ODZ IAmb IAmb 17 52 47.3
comp=Z,455nm,1.5s
ODZ Otahua Downs 85.03 219 ⇑P **P** **17 52 34.2 +2.1**
DGMT Dagmar 85.05 339 P **P** **17 52 31.5 -0.3**
DGMT Dagmar 85.05 339 P **P** **17 52 32.4 +0.5**
baz=153,SNR=58
DGMT S **S** **18 02 58.1 -1.2**
baz=153
MFID Camas Ranch 85.10 329 P **P** **17 52 31.5 -0.8**
KHZ Kahutara 85.11 222 IAMs_20 IAMs_20 18 21 53.9
comp=Z,17µm,21.0s
KHZ Kahutara 85.11 222 ⇑P **P** **17 52 35.1 +2.6**
SNZO South Karori 85.13 224 IAMs_20 IAMs_20 18 24 14.0
comp=Z,18µm,18.0s
BOZ Bozeman (W) 85.16 333 P **P** **17 52 32.0 -0.6**
BOZ pmax pmax
comp=Z,197nm,1.3s
BOZ MLR MLR
comp=Z,26µm,21.0s
BOZ Bozeman (W) 85.16 333 P **P** **17 52 32.0 -0.6**
BOZ IAMs_20 IAMs_20 18 26 54.8
comp=Z,26µm,21.0s
BOZ Bozeman (W) 85.16 333 P **P** **17 52 32.7 +0.1**
baz=147
BOZ S **S** **18 02 59.9 -0.9**
baz=147
HOPS Hopland Field 85.17 322 P **P** **17 52 33.5 +0.9**
HOPS IAmb IAmb 17 52 55.4
comp=Z,272nm,1.3s
CGR Cap Guir 85.17 50 P **P** **17 52 35.0 +2.2**
CGR Cap Guir 85.17 50 P **P** **17 52 35.0 +2.2**
CGR Cap Guir 85.17 50 P **P** **17 52 35.0 +2.2**
MXZ Matakaoa Point 85.20 228 IAMs_20 IAMs_20 18 21 06.2
comp=Z,26µm,22.0s
DLMT Dillon 85.34 332 P **P** **17 52 33.2 -0.4**
DLMT IAmb IAmb 17 52 47.5
comp=Z,505nm,1.4s
DLMT IAMs_20 IAMs_20 18 26 46.7
comp=Z,20µm,22.0s
OXZ Oxford 85.38 221 P **P** **17 52 34.8 +0.9**
OXZ IAMs_20 IAMs_20 18 22 22.5
comp=Z,26µm,21.0s
O03E Paynes Creek 85.49 324 P **P** **17 52 34.1 -0.1**
baz=139,SNR=30
O03E S **S** **18 03 03.2 -0.9**
baz=139
URZ Urewera 85.54 227 ⇑P **P** **17 52 37.3 +2.5**
WVOR Wild Horse Val 85.59 327 P **P** **17 52 34.6 -0.2**
WVOR pmax pmax
comp=Z,372nm,1.4s
WVOR MLR MLR
comp=Z,19µm,19.0s
WVOR Wild Horse Val 85.59 327 P **P** **17 52 34.6 -0.2**
WVOR IAmb IAmb 17 52 48.0
comp=Z,372nm,1.4s
WVOR IAMs_20 IAMs_20 18 27 14.4
comp=Z,19µm,19.0s
WVOR Wild Horse Val 85.59 327 ⇑P **P** **17 52 34.5 -0.2**
LTZ Lake Taylor 85.60 221 P **P** **17 52 35.7 +0.7**
LRM Limekiln Ridge 85.67 333 P **P** **17 52 34.5 -0.7**
RPZ Rata Peaks 85.68 220 P **P** **17 52 36.6 +1.3**
LBZ Lake Benmore 85.71 219 P **P** **17 52 36.5 +1.0**
WHZ Wether Hill Ro 85.88 217 P **P** **17 52 36.8 +0.5**
THZ Tophouse 85.89 223 P **P** **17 52 38.0 +1.4**
O02D Mt. Diablo Mer 85.90 323 P **P** **17 52 36.6 +0.3**
baz=138,SNR=21
O02D S **S** **18 03 07.5 -0.6**
baz=138
KCPM Cahto Peak 85.94 322 P **P** **17 52 37.8 +1.2**
EAH EAH 86.03 49 P **P** **17 52 39.0 +1.9**
EAH EAH 86.03 49 P **P** **17 52 39.0 +1.9**
EAH EAH 86.03 49 P **P** **17 52 39.1 +2.0**
TTIG Tnine Tigouga, 86.06 50 P **P** **17 52 39.0 +1.6**
TTIG Tnine Tigouga, 86.06 50 P **P** **17 52 40.0 +2.6**
TTIG Tnine Tigouga, 86.06 50 P **P** **17 52 40.0 +2.6**
WDC Whiskeytown Da 86.07 324 P **P** **17 52 36.2 -0.9**
WDC pmax pmax
comp=Z,343nm,1.5s
WDC Whiskeytown Da 86.07 324 P **P** **17 52 36.2 -0.9**
WDC IAmb IAmb 17 52 49.2
comp=Z,343nm,1.4s
WDC Whiskeytown Da 86.07 324 ⇑P **P** **17 52 35.8 -1.2**
MLZ Mavora Lakes 86.15 218 P **P** **17 52 38.4 +0.7**
HRY Holter Researc 86.17 333 P **P** **17 52 37.2 -0.3**
J08A Circle Bar Ran 86.24 328 P **P** **17 52 37.7 -0.3**
SCHQ Schefferville 86.31 3 P **P** **17 52 37.5 -0.4**
comp=Z,374nm,1.1s,baz=174,slow=3.1,SNR=34
SCHQ S **SKSac** **18 02 55.3 -6.7**
comp=Z,6.2nm,1.1s,baz=94,slow=5.5,SNR=1.7
SCHQ LR LR 18 30 39.0
comp=Z,12µm,21.8s,baz=180,slow=35
SCHQ Schefferville 86.31 3 P **P** **17 52 37.8 -0.1**
SCHQ IAMs_20 IAMs_20 18 30 26.2
comp=Z,13µm,21.0s
SCHQ Schefferville 86.31 3 ⇑P **P** **17 52 37.2 -0.7**
LESE Lesego, Limpop 86.32 116 *i* P **P** **17 52 40.1 +1.1**
PYZ Puysegur Point 86.34 216 IAMs_20 IAMs_20 18 25 04.5
comp=Z,14µm,19.0s
KMRM Mail Ridge 86.40 323 P **P** **17 52 39.9 +1.1**
N02D Trinity Center 86.45 324 P **P** **17 52 38.9 -0.1**
baz=138,SNR=23
N02D S **S** **18 03 12.6 -0.9**
baz=138
FOZ Fox Glacier 86.47 220 P **P** **17 52 40.3 +1.1**
FOZ IAMs_20 IAMs_20 18 23 13.3
comp=Z,24µm,20.0s
EGMT Eagleton 86.51 335 P **P** **17 52 38.4 -0.8**
EGMT IAmb IAmb 17 52 51.4
comp=Z,410nm,1.3s
EGMT Eagleton 86.51 335 P **P** **17 52 38.9 -0.2**
baz=148,SNR=36
EGMT S **S** **18 03 11.8 -1.9**
baz=148
PLID Pearl Lake 86.52 330 P **P** **17 52 38.7 -0.8**
PLID IAMs_20 IAMs_20 18 27 48.8
comp=Z,23µm,19.0s
M04C Macdoel 86.62 325 P **P** **17 52 40.5 +0.5**
baz=139,SNR=21
M04C S **S** **18 03 15.9 +0.6**
baz=139
QRZ Quartz Range 86.71 223 P **P** **17 52 40.4 -0.1**
QRZ IAmb IAmb 17 52 59.5
comp=Z,285nm,1.3s
QRZ IAMs_20 IAMs_20 18 23 18.8
comp=Z,15µm,21.0s
M02C Callahan 86.84 324 P **P** **17 52 41.5 +0.6**
baz=138,SNR=27
M02C S **S** **18 03 17.3 +0.1**
baz=138
OUK Oukaimeden 86.86 50 P **P** **17 52 43.0 +1.4**
OUK Oukaimeden 86.86 50 P **P** **17 52 43.0 +1.4**
OUK Oukaimeden 86.86 50 P **P** **17 52 43.0 +1.4**
K05A Summer Lake 86.88 326 P **P** **17 52 41.7 +0.4**
BMO Blue Mountains 86.89 329 P **P** **17 52 40.7 -0.4**
BMO pmax pmax
comp=Z,293nm,1.4s
BMO MLR MLR
comp=Z,30µm,20.0s
BMO Blue Mountains 86.89 329 P **P** **17 52 40.7 -0.4**
BMO IAmb IAmb 17 52 53.9
comp=Z,293nm,1.4s
KHMM Horse Mountain 86.90 323 P **P** **17 52 42.0 +0.7**
YBH Yreka Blue Hor 87.02 324 S **SKSac** **18 03 01.2 -6.0**
comp=Z,1.3nm,0.7s,baz=276,slow=7.2,SNR=2.4
YBH Yreka Blue Hor 87.02 324 P **P** **17 52 41.4 -0.4**
YBH pmax pmax
comp=Z,209nm,1.3s
YBH MLR MLR
comp=Z,17µm,21.0s
YBH Yreka Blue Hor 87.02 324 P **P** **17 52 41.4 -0.4**
YBH IAMs_20 IAMs_20 18 24 56.2
comp=Z,17µm,21.0s
MSO Missoula 87.08 332 P **P** **17 52 41.9 -0.1**
MSO IAmb IAmb 17 52 56.1
comp=Z,269nm,1.4s
MSO Missoula 87.08 332 P **P** **17 52 42.7 +0.7**
baz=145
MSO S **S** **18 03 21.1 +1.7**
baz=145
L04D Klamath Falls 87.18 325 P **P** **17 52 43.2 +0.5**
baz=139
L04D S **S** **18 03 20.4 -0.2**
baz=139
K04D Chiloquin, OR 87.22 325 P **P** **17 52 43.2 +0.5**
baz=139,SNR=12
K04D S **S** **18 03 21.6 +0.6**
baz=139
I07A Izee 87.27 328 P **P** **17 52 42.5 -0.5**
KRMB Red Mountain 87.47 323 P **P** **17 52 44.9 +0.9**
KRMB IAmb IAmb 17 52 57.6
comp=Z,479nm,1.3s
J05D Fort Rock, OR 87.47 326 P **P** **17 52 44.8 +0.8**
baz=140,SNR=67
J05D S **S** **18 03 23.7 +0.3**
baz=140
RAO Raoul Island 87.50 237 IAMs_20 IAMs_20 18 21 28.2
comp=Z,24µm,22.0s
MATP Matopo 87.51 112 P **P** **17 52 44.5 -0.4**
comp=Z,18nm,0.6s,baz=246,slow=7.9,SNR=23
MATP Matopo 87.51 112 *e*P **P** **17 52 43.0 -1.9**
PINE Pine Mountain 87.71 327 P **P** **17 52 45.3 +0.1**
F10A Beach Ranch, E 87.75 330 P **P** **17 52 44.9 -0.3**
F10A IAmb IAmb 17 52 58.8
comp=Z,438nm,1.4s
F10A Beach Ranch, E 87.75 330 ⇑P **P** **17 52 45.2 0.0**
L02E Cave Junction 87.78 324 P **P** **17 52 46.0 +0.6**
baz=138,SNR=14
L02E S **S** **18 03 26.1 0.0**
baz=138
J04D Umpqua Nationa 87.85 326 P **P** **17 52 46.5 +0.6**
baz=139,SNR=31
J04D S **S** **18 03 26.5 -0.7**
baz=139
G08A Pilot Rock 87.96 329 P **P** **17 52 45.9 -0.4**
G08A IAmb IAmb 17 53 00.2
comp=Z,277nm,1.3s
JTMT Jette 87.97 333 P **P** **17 52 46.0 -0.3**
JTMT IAmb IAmb 17 53 00.9
comp=Z,297nm,1.4s
MOPA Mopani 88.07 116 *e*P **P** **17 52 47.3 -0.1**
TZRR Tazzarine 88.12 52 P **P** **17 52 49.0 +1.6**
TZRR Tazzarine 88.12 52 P **P** **17 52 49.0 +1.6**
TZRR Tazzarine 88.12 52 P **P** **17 52 49.0 +1.6**
K02D Willamette Mer 88.21 324 P **P** **17 52 48.2 +0.8**
baz=138,SNR=35
K02D S **S** **18 03 30.5 +0.2**
baz=138
DBO Dodson Butte 88.31 325 P **P** **17 52 48.3 +0.3**
I05D Terrebonne, OR 88.32 327 P **P** **17 52 49.3 +1.4**
baz=140
I05D S **S** **18 03 32.5 +1.2**
baz=140
I04A Tendick Farm, 88.41 326 P **P** **17 52 48.9 +0.6**
baz=139,SNR=20
I04A S **S** **18 03 32.0 -0.2**
baz=139
AVE Averroes 88.50 49 P **P** **17 52 49.9 +0.9**
AVE S **S** **18 03 31.9 -1.4**
AVE Averroes 88.50 49 ⇑P **P** **17 52 49.5 +0.5**
AVE Averroes 88.50 49 P **P** **17 52 51.3 +2.3**
AVE Averroes 88.50 49 P **P** **17 52 51.3 +2.3**
AVE Averroes 88.50 49 P **P** **17 52 51.3 +2.3**
E09A Wood Farm, Sta 88.56 330 P **P** **17 52 48.7 -0.3**
J01E Myrtle Point 88.68 325 P **P** **17 52 50.4 +0.8**
baz=138
J01E S **S** **18 03 34.1 -0.4**
baz=138
I03D Drain, OR 88.79 325 P **P** **17 52 50.9 +0.8**
baz=138
I03D S **S** **18 03 34.2 -1.4**
baz=138
F07A Phinny Hill Vi 88.86 328 P **P** **17 52 50.5 +0.1**
F07A IAmb IAmb 17 53 03.9
comp=Z,300nm,1.2s
WALA Waterton Lakes 88.90 334 P **P** **17 52 50.1 -0.5**
E08A Dider Farm, El 88.94 329 P **P** **17 52 50.4 -0.3**
E08A IAmb IAmb 17 53 03.4
comp=Z,220nm,1.2s
H04A Detroit Lake 88.97 326 P **P** **17 52 50.4 -0.6**
H04A IAmb IAmb 17 53 03.7
comp=Z,294nm,1.2s
BUCK Buck Mountain 88.99 326 P **P** **17 52 51.7 +0.5**
G05D Wamic, OR 88.99 327 P **P** **17 52 52.5 +1.5**
baz=140,SNR=22
G05D S **S** **18 03 38.0 +0.5**
baz=140
HAWA Hanford 89.07 329 P **P** **17 52 51.7 +0.4**
HAWA Hanford 89.07 329 ⇑P **P** **17 52 51.8 +0.4**
ZHG ZHG 89.09 49 P **P** **17 52 53.0 +1.1**
ZHG ZHG 89.09 49 P **P** **17 52 53.0 +1.1**
ZHG ZHG 89.09 49 P **P** **17 52 53.0 +1.1**
H04D Lebanon 89.11 326 P **P** **17 52 52.2 +0.6**
baz=139
H04D S **S** **18 03 36.7 -1.9**
baz=139
D08A Wollman Farm, 89.32 330 P **P** **17 52 52.1 -0.4**
D08A IAmb IAmb 17 53 05.4
comp=Z,430nm,1.5s
I02D Swisshome 89.34 325 P **P** **17 52 53.7 +1.1**
baz=138
I02D S **S** **18 03 39.6 -1.1**
baz=138
E07A Sunnyside 89.34 329 P **P** **17 52 52.9 +0.2**
E07A IAmb IAmb 17 53 05.8
comp=Z,250nm,1.2s
COR Corvallis 89.43 326 P **P** **17 52 53.3 +0.2**
COR pmax pmax
comp=Z,869nm,1.4s
COR Corvallis 89.43 326 P **P** **17 52 53.3 +0.2**
COR Corvallis 89.43 326 ⇑P **P** **17 52 54.4 +1.4**
NEW Newport 89.52 331 P **P** **17 52 52.8 -0.7**
NEW pmax pmax
comp=Z,166nm,1.3s
NEW MLR MLR
comp=Z,31µm,19.0s
NEW Newport 89.52 331 P **P** **17 52 52.8 -0.7**
NEW Newport 89.52 331 P **P** **17 52 53.2 -0.3**
baz=143,SNR=35
NEW S **S** **18 03 40.6 -1.8**
baz=143
F05D White Salmon 89.54 328 P **P** **17 52 53.9 +0.4**
baz=140,SNR=6.1
F05D S **S** **18 03 42.5 -0.1**
baz=140
C09A Chrisman Ranch 89.63 331 P **P** **17 52 53.1 -0.8**
OUZ Omahuta 89.63 228 IAMs_20 IAMs_20 18 23 32.5
comp=Z,22µm,22.0s
CZD Col de Zad 89.87 50 P **P** **17 52 58.0 +2.2**
CZD Col de Zad 89.87 50 P **P** **17 52 58.0 +2.2**
CZD Col de Zad 89.87 50 P **P** **17 52 58.0 +2.2**
G03D McMinnville, O 89.88 326 P **P** **17 52 56.4 +1.2**
baz=138
G03D S **S** **18 03 44.5 -1.2**
baz=138
F04A Amboy 90.02 327 P **P** **17 52 55.5 -0.3**
F04A IAmb IAmb 17 53 10.4
comp=Z,382nm,1.5s
MDT Midelt 90.02 51 P **P** **17 52 56.1 -0.1**
comp=Z,18nm,0.9s,baz=253,slow=5.0,SNR=45
MDT Midelt 90.02 51 P **P** **17 52 57.7 +1.4**
MDT Midelt 90.02 51 P **P** **17 52 57.7 +1.4**
MDT Midelt 90.02 51 P **P** **17 52 57.7 +1.4**
FFC Flin Flon 90.04 343 P **P** **17 52 55.1 -0.5**
FFC pmax pmax
comp=Z,508nm,1.5s
FFC MLR MLR
comp=Z,12µm,20.0s
FFC Flin Flon 90.04 343 P **P** **17 52 55.1 -0.5**
FFC IAmb IAmb 17 53 08.6
comp=Z,508nm,1.5s
FFC Flin Flon 90.04 343 IAMs_20 IAMs_20 18 39 11.8
comp=Z,12µm,20.0s
LSZ Lusaka 90.05 108 *e*P **P** **17 52 56.8 0.0**
LSZ Lusaka 90.05 108 P **P** **17 52 56.9 0.0**
LSZ pmax pmax
comp=Z,433nm,1.4s
LSZ MLR MLR
comp=Z,36µm,21.0s
LSZ Lusaka 90.05 108 P **P** **17 52 56.9 0.0**
LSZ IAmb IAmb 17 53 04.5
comp=Z,433nm,1.4s
LSZ Lusaka 90.05 108 ⇑P **P** **17 52 57.4 +0.5**
LSZ Lusaka 90.05 108 *i* P **P** **17 52 58.8 +1.9**
PFVI Vila Bisbo 90.10 45 *e*P **P** **17 52 55.4 -1.0**
comp=Z,278nm,1.5s
PFVI Vila Bisbo 90.10 45 *e*PP PP 17 56 28.6 -1.7
PFVI *e*S **S** **18 03 47.3 -0.8**
PFVI A A 18 31 51.2
comp=Z,34µm,20.0s
PFVI Vila Bisbo 90.10 45 P **P** **17 52 56.6 +0.2**
PFVI IAmb IAmb 17 53 09.9
comp=Z,274nm,1.3s
IFR Ifrane 90.12 50 P **P** **17 52 57.0 +0.2**
IFR S **S** **18 03 41.2 -7.6**
LTY Liberty 90.23 329 P **P** **17 52 56.3 -0.5**
LTY IAmb IAmb 17 53 09.5
comp=Z,313nm,1.4s
MORF Marmelete 90.32 45 *e*P **P** **17 52 58.2 +0.8**
MORF IAMs_20 IAMs_20 18 31 28.1
comp=Z,46µm,31.7s
MORF Marmelete 90.32 45 *e*P **P** **17 52 58.2 +0.8**
MORF Marmelete 90.32 45 *e*P **P** **17 52 58.3 +0.8**
comp=Z,186nm,1.2s
MORF Marmelete 90.32 45 *e*PP PP 17 56 31.3 -0.9
MORF *e*S **S** **18 03 46.2 -4.0**
MORF A A 18 31 57.8
comp=Z,34µm,22.0s
MORF Marmelete 90.32 45 ⇑P **P** **17 52 58.2 +0.8**
MORF ⇑P **P** **17 52 58.2 +0.8**
MORF ⇑P **pP** **17 53 03.2 -2.6**
LON Longmire 90.36 328 P **P** **17 52 56.7 -0.7**
LON pmax pmax
comp=Z,123nm,1.3s
LON Longmire 90.36 328 P **P** **17 52 56.6 -0.7**
LCRM LCR 90.40 50 P **P** **17 52 60.0 +1.9**
LCRM LCR 90.40 50 P **P** **17 52 60.0 +1.9**
LCRM LCR 90.40 50 P **P** **17 52 60.0 +1.9**
F04D Rainier, OR 90.41 327 P **P** **17 52 58.3 +0.7**
baz=138
F04D S **S** **18 03 49.3 -1.2**
baz=138
PTEO Sao Teotonio 90.43 45 *e*P **P** **17 52 59.1 +1.2**
comp=Z,367nm,1.2s
PTEO Sao Teotonio 90.43 45 *e*PP PP 17 56 31.6 -1.4
B08A Colville Reser 90.51 330 P **P** **17 52 57.6 -0.4**
RSA Sarsar 90.52 48 P **P** **17 53 00.1 +1.6**
RSA Sarsar 90.52 48 P **P** **17 52 60.0 +1.5**
RSA Sarsar 90.52 48 P **P** **17 52 60.0 +1.5**
E04D Cinebar 90.56 328 P **P** **17 52 59.1 +0.9**
baz=139,SNR=7.1
E04D S **S** **18 03 50.0 -1.9**
baz=139
PBDV Barranco-do-Ve 90.71 46 *e*P **P** **17 53 00.4 +1.1**
comp=Z,398nm,1.3s

PBDV Barranco-do-Ve 90.71 46 *e*PP PP 17 56 35.1 -0.2
PBDV *e*S **S** **18 03 49.0 -4.8**
PBDV A A 18 32 19.4
comp=Z,43µm,20.0s
D05A Enumclaw 90.77 328 P **P** **17 52 59.0 -0.2**
C06D Leavenworth 90.84 329 P **P** **17 52 59.3 -0.2**
baz=140
PCVE Castro Verde 90.90 45 *e*P **P** **17 53 00.3 +0.2**
comp=Z,193nm,1.3s
PCVE Castro Verde 90.90 45 *e*PP PP 17 56 36.9 +0.2
PCVE *e*S **S** **18 03 52.1 -3.3**
PCVE A A 18 32 15.4
comp=Z,31µm,20.0s
PNCL Nicolau / Gran 90.91 45 *e*P **P** **17 53 00.3 +0.2**
comp=Z,187nm,1.4s
PNCL Nicolau / Gran 90.91 45 *e*PP PP 17 56 36.6 -0.2
PNCL *e*S **S** **18 03 46.8 -8.7**
PNCL A A 18 32 16.3
comp=Z,25µm,20.0s
MESJ Messejana 90.92 45 *e*P **P** **17 53 01.0 +0.8**
MESJ *e*PP **PP** **17 56 37.4 +0.5**
MESJ *e*SKSac **SKSac** **18 03 29.9 -0.4**
MESJ IAMs_20 IAMs_20 18 31 13.5
comp=Z,28µm,24.8s
MESJ Messejana 90.92 45 *e*P **P** **17 53 00.9 +0.8**
MESJ *e* 17 56 37.4
MESJ *e* 18 03 29.9
MESJ Messejana 90.92 45 *e*P **P** **17 53 00.8 +0.6**
comp=Z,227nm,1.5s
PMST Lisbon--Monsan 90.93 44 *e*P **P** **17 53 00.3 +0.1**
comp=Z,300nm,1.8s
LIS Lisbon 90.94 44 *e*P **P** **17 53 01.0 +0.8**
LIS *e*PP **PP** **17 56 37.5 +0.5**
LIS *e*SKSac **SKSac** **18 03 30.0 -0.3**
LIS IAMs_20 IAMs_20 18 29 29.4
comp=Z,28µm,23.4s
LIS Lisbon 90.94 44 *e*P **P** **17 53 01.0 +0.8**
LIS *e* 17 56 37.4
LIS *e* 18 03 30.0
LIS Lisbon 90.94 44 *e*P **P** **17 53 01.4 +1.2**
comp=Z,283nm,1.7s
PVAQ Vaqueiros 90.94 46 *e*P **P** **17 52 59.6 -0.7**
comp=Z,260nm,1.5s
PVAQ Vaqueiros 90.94 46 *e*PP PP 17 56 37.1 0.0
PVAQ Vaqueiros 90.94 46 *e*LR LR 18 22 54.9
comp=Z,42nm,20.0s
PVAQ Vaqueiros 90.94 46 P **P** **17 53 00.1 -0.2**
PVAQ IAmb IAmb 17 53 06.8
comp=Z,188nm,1.3s
PVAQ Vaqueiros 90.94 46 P **P** **17 53 02.8 +2.5**
PVAQ Vaqueiros 90.94 46 P **P** **17 53 01.2 +0.9**
PVAQ Vaqueiros 90.94 46 P **P** **17 53 01.7 +1.4**
CHEFC Chefchaouen 90.97 49 P **P** **17 53 03.0 +2.4**
CHEFC Chefchaouen 90.97 49 P **P** **17 53 02.2 +1.6**
CHEFC Chefchaouen 90.97 49 P **P** **17 53 02.2 +1.6**
E03A Lebam 91.01 327 P **P** **17 53 00.8 +0.5**
E03A IAmb IAmb 17 53 13.3
comp=Z,194nm,1.1s
PMAFR Mafra 91.02 44 *e*P **P** **17 53 00.9 +0.3**
comp=Z,280nm,1.2s
PMAFR Mafra 91.02 44 *e*PP PP 17 56 37.2 -0.4
PMAFR *e*S **S** **18 03 50.5 -6.0**
PMAFR A A 18 30 45.3
comp=Z,28µm,22.0s
D04E Lakebay 91.11 328 P **P** **17 53 01.9 +1.1**
baz=138
PBEJ Beja 91.26 45 *e*P **P** **17 53 02.2 +0.5**
comp=Z,165nm,1.8s
SFS San Fernando 91.28 47 P **P** **17 53 02.0 +0.2**
SFS S **S** **18 03 52.0 -7.0**
SMIR Smir Dam 91.31 48 P **P** **17 53 04.0 +2.0**
SMIR Smir Dam 91.31 48 P **P** **17 53 03.2 +1.2**
SMIR Smir Dam 91.31 48 P **P** **17 53 03.2 +1.2**
ARNO Arenosillo 91.35 46 P **P** **17 53 02.0 -0.2**
ARNO S **S** **18 03 52.4 -7.2**
LBB Lubumbashi 91.43 105 *i* P **P** **17 53 05.5 +2.2**
CEU Ceuta 91.44 48 P **P** **17 53 02.3 -0.3**
CEU S S 18 03 51.4 -9.1
EVO Evora 91.50 45 P **P** **17 53 01.7 -1.1**
EVO S S 18 03 51.5 -9.4
EVO Evora 91.50 45 *e*P **P** **17 53 03.3 +0.5**
comp=Z,129nm,1.7s
EVO Evora 91.50 45 *e*PP PP 17 56 40.8 -0.6
B06A Marblemount 91.55 329 P **P** **17 53 02.2 -0.6**
B06A IAmb IAmb 17 53 14.8
comp=Z,189nm,1.1s
B05A Bryant 91.63 329 P **P** **17 53 02.8 -0.3**
baz=139,SNR=30
PSBE So Bento 91.67 43 *e*P **P** **17 53 02.8 -0.9**
comp=Z,332nm,1.3s
PSBE So Bento 91.67 43 *e*PP PP 17 56 42.4 -0.4
PSBE *e*S S 18 03 52.7 -10
PSBE A A 18 31 03.1
comp=Z,33µm,22.0s
PMTG Montargil 91.72 44 *e*P **P** **17 53 04.1 +0.3**
comp=Z,345nm,1.3s
PMTG Montargil 91.72 44 *e*PP PP 17 56 42.4 -0.7
PMTG *e*S S 18 03 52.7 -10
PMTG A A 18 31 06.3
comp=Z,18µm,22.0s
NLWA Neilton Lookou 91.77 327 P **P** **17 53 04.3 +0.4**
NLWA IAMs_20 IAMs_20 18 28 02.9
comp=Z,18µm,22.0s
NLWA Neilton Lookou 91.77 327 ⇑P **P** **17 53 04.8 +0.8**
FIGM Figuig 91.85 53 P **P** **17 53 06.0 +1.2**
FIGM Figuig 91.85 53 P **P** **17 53 07.0 +2.2**
FIGM Figuig 91.85 53 P **P** **17 53 07.0 +2.2**
TDRA Tendrara 91.87 52 P **P** **17 53 06.0 +1.0**
TDRA Tendrara 91.87 52 P **P** **17 53 06.0 +1.0**
TDRA Tendrara 91.87 52 P **P** **17 53 06.0 +1.0**
PALE Palemas 91.94 49 P **P** **17 53 07.0 +1.9**
PALE Palemas 91.94 49 P **P** **17 53 06.1 +1.1**
PALE Palemas 91.94 49 P **P** **17 53 07.0 +1.9**
PESTR Estremoz 91.96 45 *e*P **P** **17 53 05.1 0.0**
comp=Z,222nm,1.8s
PESTR Estremoz 91.96 45 *e*PP PP 17 56 45.1 0.0
PESTR *e*S **S** **18 03 58.5 -6.6**
PESTR A A 18 32 26.6
comp=Z,19µm,22.0s
PESTR Estremoz 91.96 45 P **P** **17 53 05.0 0.0**
PESTR Estremoz 91.96 45 ⇑P **P** **17 53 04.2 -0.9**
PESTR ⇑P **P** **17 53 05.8 +0.7**
PESTR ⇑P **pP** **17 53 10.7 -2.7**
PESTR Estremoz 91.96 45 P **P** **17 53 06.1 +1.1**
PESTR Estremoz 91.96 45 P **P** **17 53 06.1 +1.1**
PESTR Estremoz 91.96 45 P **P** **17 53 06.1 +1.1**
EDM Edmonton 92.11 336 P **P** **17 53 03.7 -1.7**
EDM pmax pmax
comp=Z,381nm,1.2s
EDM Edmonton 92.11 336 P **P** **17 53 03.7 -1.7**
FCC Fort Churchill 92.12 348 P **P** **17 53 05.3 +0.1**
FCC pmax pmax
comp=Z,724nm,1.5s
FCC MLR MLR
comp=Z,14µm,20.0s
FCC Fort Churchill 92.12 348 P **P** **17 53 05.3 +0.1**
FCC IAMs_20 IAMs_20 18 39 54.8
comp=Z,14µm,20.0s
PCAS Casmilo, Conde 92.19 43 *e*P **P** **17 53 05.6 -0.5**
comp=Z,187nm,2.0s
PCAS Casmilo, Conde 92.19 43 *e*PP PP 17 56 46.3 -0.6
PCAS *e*S S 18 03 55.8 -11
PCAS A A 18 31 08.0
comp=Z,32µm,22.0s
A04D Lummi Island 92.24 329 P **P** **17 53 06.4 +0.5**
baz=138
JBK JBK 92.30 51 P **P** **17 53 08.0 +1.1**
JBK JBK 92.30 51 P **P** **17 53 08.0 +1.1**
JBK JBK 92.30 51 P **P** **17 53 08.0 +1.1**
COI Coimbra 92.34 43 P **P** **17 53 05.9 -0.8**
COI pmax pmax
comp=Z,307nm,1.3s
COI MLR MLR
comp=Z,35µm,20.0s
COI Coimbra 92.34 43 *e*P **P** **17 53 05.9 -0.8**
comp=Z,313nm,1.3s
COI Coimbra 92.34 43 *e*PP PP 17 56 47.7 -0.4
COI *e*S S 18 03 57.2 -11
COI Coimbra 92.34 43 P **P** **17 53 05.9 -0.8**
COI IAmb IAmb 17 53 20.0
comp=Z,307nm,1.3s
PAF Port-aux-Franc 92.35 156 IAMs_20 IAMs_20 18 37 47.7
comp=Z,15µm,19.0s
PMRV Marv??o 92.44 44 *e*P **P** **17 53 06.6 -0.6**
comp=Z,130nm,1.3s
PMRV Marv??o 92.44 44 *e*PP PP 17 56 48.6 -0.3
PMRV *e*S S 18 03 59.0 -10
PMRV Marv??o 92.44 44 *e*LR LR 18 23 53.1
comp=Z,17µm,22.0s
PGC Sidney 92.51 328 P **P** **17 53 07.2 0.0**
PGC IAmb IAmb 17 53 20.1
comp=Z,157nm,1.3s
EMAL Malaga-Limoner 92.58 48 P **P** **17 53 07.7 -0.2**
EMAL S S 18 03 54.3 -16
MELI Melilla 92.64 50 P **P** **17 53 07.9 -0.3**
MELI S S 18 03 56.0 -15
PCBR Castelo Branco 92.66 44 *e*P **P** **17 53 08.4 +0.2**
comp=Z,158nm,1.4s
PCBR Castelo Branco 92.66 44 *e*PP PP 17 56 51.1 +0.6
TAF Taforalt 92.69 50 P **P** **17 53 10.0 +1.4**
TAF Taforalt 92.69 50 P **P** **17 53 10.0 +1.4**
TAF Taforalt 92.69 50 P **P** **17 53 10.0 +1.4**
CLRS Cowichan Lake 92.94 328 P **P** **17 53 09.1 -0.2**
PVIS Viseu 92.97 43 *e*P **P** **17 53 08.8 -0.9**
comp=Z,130nm,1.4s
PVIS Viseu 92.97 43 *e*PP PP 17 56 53.4 +0.3
MTE Manteigas 92.97 43 *e*P **P** **17 53 09.5 -0.2**
comp=Z,196nm,1.3s
MTE Manteigas 92.97 43 *e*PP PP 17 56 51.5 -1.6
MTE *e*S S 18 04 03.1 -11
MTE Manteigas 92.97 43 *e*LR LR 18 24 25.5
comp=Z,29µm,22.0s
MTE Manteigas 92.97 43 P **P** **17 53 09.0 -0.7**
MTE IAmb IAmb 17 53 22.6
comp=Z,179nm,1.2s
MTE Manteigas 92.97 43 ⇑P **P** **17 53 09.6 -0.2**
LLLB Lillooet 93.30 331 P **P** **17 53 10.4 -0.5**
PVRL Vila Real 93.44 43 *e*P **P** **17 53 11.9 +0.1**
comp=Z,214nm,1.5s
PVRL Vila Real 93.44 43 *e*PP PP 17 56 56.6 -0.1
POLO Lamas de Olo 93.46 43 *e*P **P** **17 53 10.0 -2.0**
comp=Z,75nm,1.7s
POLO Lamas de Olo 93.46 43 *e*PP PP 17 56 56.2 -0.7
POLO *e*S S 18 04 02.5 -16
POLO A A 18 31 45.3
comp=Z,22µm,22.0s
PCAB Cabril 93.54 42 *e*P **P** **17 53 11.0 -1.3**
comp=Z,159nm,1.6s
PCAB Cabril 93.54 42 *e*PP PP 17 56 57.2 -0.3
PGAV Gavieira, Arco 93.56 42 *e*P **P** **17 53 11.7 -0.8**
comp=Z,210nm,2.1s
PGAV Gavieira, Arco 93.56 42 *e*PP PP 17 56 57.5 -0.3
PGAV *e*S S 18 04 02.7 -17
PGAV Gavieira, Arco 93.56 42 *e*LR LR 18 23 42.7
comp=Z,37µm,22.0s
OZB Mount Ozzard 93.66 328 P **P** **17 53 12.6 0.0**
MVO Moncorvo 93.76 43 *e*P **P** **17 53 13.3 -0.1**
comp=Z,251nm,1.3s
MVO Moncorvo 93.76 43 *e*PP **PP** **17 56 59.5 +0.2**
MVO *e*S S 18 04 08.1 -13
MVO Moncorvo 93.76 43 *e*LR LR 18 24 26.4
comp=Z,33µm,22.0s
PBRG Braganca 94.34 43 *e*P **P** **17 53 16.5 +0.5**
comp=Z,189nm,1.5s
PBRG Braganca 94.34 43 *e*PP **PP** **17 57 03.6 -0.2**
PBRG *e*S S 18 04 08.0 -18
PBRG A A 18 32 22.5
comp=Z,39µm,22.0s
PAB San Pablo 94.35 46 P **P** **17 53 15.9 -0.2**
PAB pmax pmax
comp=Z,119nm,1.3s
PAB MLR MLR
comp=Z,30µm,20.0s
PAB San Pablo 94.35 46 P **P** **17 53 15.9 -0.2**
PAB San Pablo 94.35 46 ⇓P **P** **17 53 16.2 +0.1**
PAB San Pablo 94.35 46 P **P** **17 53 17.1 +1.0**
PAB San Pablo 94.35 46 P **P** **17 53 16.3 +0.1**
PAB San Pablo 94.35 46 P **P** **17 53 17.1 +1.0**
CBB Campbell River 94.38 328 P **P** **17 53 15.8 -0.1**
ODJA Bouhanifia 94.48 51 P **P** **17 53 20.0 +3.2**
ESDC Sonseca Array 94.66 46 P **P** **17 53 16.8 -0.7**
comp=Z,30nm,1.0s,baz=248,slow=4.6,SNR=37
ESDC LR LR 18 34 46.6
comp=Z,22µm,19.6s,baz=250,slow=35
ESDC Sonseca Array 94.66 46 P **P** **17 53 16.9 -0.5**
ESBB Sonseca Array 94.66 46 P **P** **17 53 16.9 -0.6**
NRS Narsarsuaq 94.97 12 *i* P **P** **17 53 19.8 +1.5**
NRS IAMs_20 IAMs_20 18 32 07.0
comp=Z,24µm,27.3s
NRS Narsarsuaq 94.97 12 *i* P **P** **17 53 19.7 +1.5**
NRS Narsarsuaq 94.97 12 IAMs_20 IAMs_20 18 36 45.4
comp=Z,11µm,20.0s
CART Cartagena 95.26 49 P **P** **17 53 19.0 -1.1**
CART S S 18 04 10.0 -24
CART Cartagena 95.26 49 IAMs_20 IAMs_20 18 35 46.4
comp=Z,15µm,21.0s
POHA Pohakuloa 95.34 290 IAMs_20 IAMs_20 18 25 29.6
comp=Z,13µm,20.0s
UCM Universidad Co 95.48 46 P **P** **17 53 21.1 -0.1**
UCM S S 18 04 13.7 -22
NUUK Nuuk 96.86 9 *i* P **P** **17 53 27.7 +1.0**
NUUK *i* 17 57 24.8
NUUK IAMs_20 IAMs_20 18 36 42.1
comp=Z,12µm,24.5s
MSVF Nonsavu 97.22 244 *i* P **P** **17 53 27.7 -2.1**
MSVF pmax pmax
comp=Z,67nm,1.5s
MSVF MLR MLR
comp=Z,11µm,16.0s
MSVF Nonsavu 97.22 244 IAMs_20 IAMs_20 18 29 32.9
comp=Z,16µm,20.0s
ITUM Tunduma 97.34 106 *i* P Pdif 17 53 32.3 +1.7
PDHT Panda Hill 97.61 105 *i* P Pdif 17 53 33.0 +1.3
MBAM Mbamba Bay 97.61 108 *i* P Pdif 17 53 33.3 +1.7
ILIND Ilindi 97.63 106 *i* P Pdif 17 53 32.8 +0.8
TAU Tasmania Unive 97.63 208 IAMs_20 IAMs_20 18 28 34.8
comp=Z,17µm,20.0s
MKIL Mkili 97.73 108 *i* P Pdif 17 53 33.9 +1.8
MZUN Kiwira 97.75 106 *i* P Pdif 17 53 33.1 +0.7
MANDA Manda 97.89 107 *i* P Pdif 17 53 35.4 +2.5
NKAL Nkalilsi 97.93 106 *i* P Pdif 17 53 35.7 +2.4
IGOM Igoma 97.94 106 *i* P Pdif 17 53 37.1 +3.7
TIRI Matiri 97.96 108 *i* P Pdif 17 53 33.9 +0.6
JILO Lwanjilo 98.02 105 *i* P Pdif 17 53 35.4 +1.6
NIND Nindi 98.06 107 *i* P Pdif 17 53 34.0 +0.3
UNDA Madunda 98.14 107 *i* P Pdif 17 53 36.5 +2.3
UKWA Ukwama 98.15 106 *i* P Pdif 17 53 36.6 +2.3
MAKE Makete 98.16 106 *i* P Pdif 17 53 36.3 +1.9
KIP Kipapa 98.18 290 IAMs_20 IAMs_20 18 27 09.0
comp=Z,18µm,21.0s
MATAM Matamba 98.22 106 *i* P Pdif 17 53 35.1 +0.5
LIGA Liganga 98.31 108 *i* P Pdif 17 53 37.8 +3.0
CHML Chimala 98.34 106 *i* P Pdif 17 53 37.3 +2.3
TOLA Matola 98.37 107 *i* P Pdif 17 53 38.7 +3.4
KIPE Kipengere 98.42 106 *i* P Pdif 17 53 38.6 +3.0
ZINI Mgazini 98.50 108 *i* P Pdif 17 53 37.7 +2.0
MUDIN Mudindi 98.51 107 *i* P Pdif 17 53 39.0 +3.2
UWEM Njombe 98.61 107 *i* P Pdif 17 53 37.1 +0.8
NGEA Songea 98.65 108 *i* P **P** **17 53 36.0 -0.4**
GAWA Igawa 98.67 106 *i* P Pdif 17 53 37.1 +0.6
CKHR Kef el Ahmar 98.67 53 P Pdif 17 53 39.6 +3.7
SET Setif 98.70 53 P Pdif 17 53 40.0 +4.1
WINO Wino 98.86 107 *i* P Pdif 17 53 38.9 +1.5
KIDE Kidegembe 98.91 107 *i* P Pdif 17 53 39.7 +2.1
BANG Mbangamawe 98.95 108 *i* P Pdif 17 53 39.9 +2.2
BAKO Makambako 98.97 106 *i* P Pdif 17 53 40.1 +2.3
MFRI Mfriga 99.13 107 *i* P **Pdif** **17 53 38.7 +0.1**
DFRA Djebel Bou Aff 99.21 53 P **Pdif** **17 53 40.9 +2.7**
SFJD Kangerlussuaq 99.70 8 *i* P **Pdif** **17 53 38.9 -0.6**
SFJD *i* 17 57 44.0
SFJD IAMs_20 IAMs_20 18 32 55.6
comp=Z,13µm,30.0s
SFJD Kangerlussuaq 99.70 8 *i* P **Pdif** **17 53 38.8 -0.6**
SFJD *i* 17 57 43.9
CKFL Kef-Lekhel 99.70 53 P **Pdif** **17 53 42.7 +2.2**
MBAR Mbarara 100.06 97 *i* P **Pdif** **17 53 41.3 -1.4**
MBAR Mbarara 100.06 97 *i* P **Pdif** **17 53 45.4 +2.8**
YKA Yellowknife Ar 100.08 341 P **Pdif** **17 53 39.9 -1.4**
comp=Z,11nm,0.8s,baz=136,slow=4.7,SNR=12
YKA PKKPbc **PKKPbc** **18 09 57.6 -3.9**
comp=Z,0.7nm,0.5s,baz=326,slow=3.2,SNR=4.1
YKA Yellowknife Ar 100.08 341 P **Pdif** **17 53 40.3 -1.0**
YKA Yellowknife Ar 100.08 341 Pdif **Pdif** **17 53 40.3 -1.0**
ABSA Djebel Ababsia 100.15 54 P **Pdif** **17 53 44.6 +2.2**
ISOG Isortoq, Green 100.19 13 *i* P **Pdif** **17 53 44.7 +3.1**
ISOG *i* 17 57 44.0
ISOG IAMs_20 IAMs_20 18 43 35.9
comp=Z,11µm,20.2s
CMAH Djebel Manchou 100.30 53 P **Pdif** **17 53 42.7 -0.3**
CCA1 Carnmenellis 100.39 37 *e*P **Pdif** **17 53 42.7 -0.3**
CCA1 *e* 17 57 47.7
CCA1 IAMs_20 IAMs_20 18 39 40.3
comp=Z,27µm,18.2s
TATN Tataouine 100.39 58 ⇑P **Pdif** **17 53 45.4 +1.9**
ANGG Ammassalik, Gr 100.51 14 *i* P **Pdif** **17 53 44.7 +1.6**
ANGG IAMs_20 IAMs_20 18 33 44.4
comp=Z,17µm,25.1s
ANGG Ammassalik, Gr 100.51 14 IAMs_20 IAMs_20 18 38 27.7
comp=Z,13µm,20.0s
GETA Geita 100.95 100 *i* P **Pdif** **17 53 45.1 -1.5**
KEST Kesra 101.17 55 P **Pdif** **17 53 46.2 -0.7**
comp=Z,5.5nm,0.9s,baz=294,slow=6.9,SNR=4.3
KEST Kesra 101.17 55 Pdif **Pdif** **17 53 47.4 +0.5**
DYA Yadsworthy 101.20 37 *e*P **Pdif** **17 53 45.9 -0.7**
DYA IAMs_20 IAMs_20 18 40 03.7
comp=Z,22µm,17.9s
HTL Hartland 101.25 36 *e*P **Pdif** **17 53 46.0 -0.8**
HTL IAMs_20 IAMs_20 18 40 24.9
comp=Z,24µm,18.4s
JSA Saint Aubin 101.39 39 *e*P **Pdif** **17 53 48.8 +1.4**
JSA IAMs_20 IAMs_20 18 36 40.1
comp=Z,27µm,21.3s
CRAG Craig 101.54 329 Pdiff **Pdif** **17 53 48.4 +0.5**
baz=130
RSBS Rosebush, Pemb 101.70 35 *e*P **Pdif** **17 53 49.3 +0.5**
RSBS IAMs_20 IAMs_20 18 36 09.9
comp=Z,27µm,21.6s
ILULI Ilulissat 101.76 7 *i* P **Pdif** **17 53 50.0 +1.4**
ILULI *i* 17 57 57.8
ILULI IAMs_20 IAMs_20 18 41 44.9
comp=Z,15µm,19.8s
ILULI Ilulissat 101.76 7 *i* P **Pdif** **17 53 50.0 +1.4**
ILULI *i* 17 57 57.7
ILULI MLR MLR
comp=Z,15µm,20.0s
ILULI Ilulissat 101.76 7 IAMs_20 IAMs_20 18 41 51.1
comp=Z,15µm,20.0s
WRAK Wrangell Islan 101.82 330 IAMs_20 IAMs_20 18 36 23.6
comp=Z,11µm,21.0s
WRAK Wrangell Islan 101.82 330 Pdiff **Pdif** **17 53 49.2 +0.1**
baz=131
WLF1 Llynfaes 102.67 35 *e*P **Pdif** **17 53 53.0 0.0**
WLF1 IAMs_20 IAMs_20 18 35 34.8
comp=Z,71µm,23.2s
WPS Cemaes, Angles 102.69 34 *e*P **Pdif** **17 53 54.9 +1.9**
WPS IAMs_20 IAMs_20 18 35 36.1
comp=Z,34µm,21.7s
STRD Stroud 102.89 37 *e*P **Pdif** **17 53 55.2 +1.1**
STRD IAMs_20 IAMs_20 18 41 33.1
comp=Z,22µm,18.4s
SWN1 Swindon 102.92 37 *e*P **Pdif** **17 53 55.7 +1.5**
SWN1 IAMs_20 IAMs_20 18 41 07.0
comp=Z,20µm,18.4s
CLGH Cloghs, Cushen 102.94 32 *e*P **Pdif** **17 53 56.7 +2.5**
CLGH *e* 17 58 04.2
CLGH IAMs_20 IAMs_20 18 34 07.1
comp=Z,23µm,26.5s
HLM1 Long Mynd 102.96 36 *e*P **Pdif** **17 53 54.2 -0.2**
HLM1 IAMs_20 IAMs_20 18 36 58.2
comp=Z,21µm,22.2s
DZM Mont Dzumac 102.96 234 *e*PP **PKiKP** **17 58 14.4 -1.1**
comp=Z,3µm,27.1s
DZM *e*SKSac **SKSac** **18 04 39.6 +5.6**
comp=Z,7µm,26.3s
DZM *e*SP **SP** **18 07 09.8 -4.9**
comp=Z,12µm,29.8s
DZM *e*SS **SS** **18 12 55.9 +6.8**
comp=Z,15µm,28.1s
DZM Mont Dzumac 102.96 234 *e*LQ LQ 18 23 19.5
comp=Z,23µm,36.1s
DZM *e*LR LR 18 27 39.5
comp=Z,68µm,27.6s,baz=135
FOEL Foel Wylfa 103.02 35 *e*P **Pdif** **17 53 55.1 +0.5**
FOEL *e* 17 58 09.9
FOEL IAMs_20 IAMs_20 18 37 32.6
comp=Z,30µm,20.5s
VSL Villasalto 103.10 52 IAMs_20 IAMs_20 18 40 36.9
comp=Z,19µm,22.0s
WOL Wolverton 103.11 37 *e*P **Pdif** **17 53 54.2 -0.8**
IOMK Kirk Michael 103.17 34 *e*P **Pdif** **17 53 56.4 +1.2**
IOMK IAMs_20 IAMs_20 18 36 55.4
comp=Z,77µm,22.6s
ICESG Greenland Ices 103.22 11 *i* P **Pdif** **17 53 55.0 -0.5**
ICESG IAmb IAmb 17 54 00.9
comp=Z,42nm,1.3s
ICESG *i* 17 58 11.1
ICESG IAMs_20 IAMs_20 18 37 57.1
comp=Z,26µm,24.5s
CAN Canberra 103.23 213 IAMs_20 IAMs_20 18 35 26.3
comp=Z,11µm,20.0s
WRGLY Wrigley 103.25 338 Pdiff **Pdif** **17 53 55.5 +0.2**
baz=137
LIFNC LIFOU 103.27 235 IAMs_20 IAMs_20 18 33 17.5
comp=Z,9µm,19.0s
SIT Sitka 103.50 330 Pdiff **Pdif** **17 53 57.5 +0.9**
baz=128
STNC Stoke 103.62 35 *e*P **Pdif** **17 53 58.2 +0.9**
STNC *e* 17 58 14.8
STNC IAMs_20 IAMs_20 18 37 50.8
comp=Z,27µm,21.6s
TGTN Hyland Airport 103.65 336 Pdiff **Pdif** **17 53 58.6 +1.3**
baz=133
HMNX Herstmonceux 103.67 38 *e*P **Pdif** **17 53 57.5 0.0**
HMNX IAMs_20 IAMs_20 18 38 40.7
comp=Z,30µm,20.6s
BORG Borgarnes 103.81 20 IAMs_20 IAMs_20 18 41 03.5
comp=Z,9µm,20.0s
NEWG New Galloway 103.83 33 *e*P **Pdif** **17 53 57.5 -0.7**
NEWG IAMs_20 IAMs_20 18 37 14.7
comp=Z,26µm,21.8s
JIS Juneau Island 103.86 331 IAMs_20 IAMs_20 18 37 59.4
comp=Z,16µm,20.0s
CWF Charnwood Fore 103.87 36 *e*P **Pdif** **17 53 59.9 +1.5**
CWF IAMs_20 IAMs_20 18 37 25.9
comp=Z,23µm,23.8s
LBWR Ladybower, Pea 104.04 35 *e*P **Pdif** **17 54 00.4 +1.3**
LBWR IAMs_20 IAMs_20 18 38 03.2
comp=Z,26µm,20.8s
KESW Keswick, Cumbr 104.05 34 *e*P **Pdif** **17 53 60.0 +0.8**
KESW IAMs_20 IAMs_20 18 36 16.2
comp=Z,38µm,22.3s
PGBU Glenifferbraes 104.12 32 *e*P **Pdif** **17 53 57.7 -1.7**
PGBU IAMs_20 IAMs_20 18 40 59.8
comp=Z,25µm,19.4s
HPK Haverah Park 104.40 35 *e*P **Pdif** **17 54 00.4 -0.3**
HPK IAMs_20 IAMs_20 18 36 38.2
comp=Z,26µm,22.9s
ESK Eskdalemuir 104.43 33 *e*P **Pdif** **17 54 01.4 +0.6**
ESK *e* 17 58 07.7
ESK IAMs_20 IAMs_20 18 37 00.2
comp=Z,26µm,20.9s
EKA Eskdalemuir Ar 104.46 33 Pdiff **Pdif** **17 53 60.0 -1.0**
comp=Z,16nm,1.0s,baz=226,slow=3.4,SNR=12
EKA PP **PP** **17 58 24.9 +4.4**
comp=Z,11nm,1.1s,baz=221,slow=6.3,SNR=4.3
LEWI Lewis, Hebride 104.47 30 *e*P **Pdif** **17 54 00.6 -0.4**
LEWI IAMs_20 IAMs_20 18 35 51.0
comp=Z,22µm,25.8s
KPL Plockton 104.51 31 *e*P **Pdif** **17 53 59.4 -1.7**
KPL IAMs_20 IAMs_20 18 36 58.6
comp=Z,21µm,21.6s
ELMS Elmsett, Ipswi 104.69 37 *e*P **Pdif** **17 54 01.2 -0.8**
ELMS IAMs_20 IAMs_20 18 38 41.2
comp=Z,20µm,19.9s
EDMD Edmundbyers 104.73 34 *e*P **Pdif** **17 54 03.5 +1.3**
EDMD IAMs_20 IAMs_20 18 36 35.7
comp=Z,38µm,22.8s
LMK Market Rasen 104.76 36 *e*P **Pdif** **17 54 00.6 -1.7**
LMK IAMs_20 IAMs_20 18 38 15.1
comp=Z,22µm,21.9s
EDI Edinburgh 104.78 33 *e*P **Pdif** **17 54 02.6 +0.3**
EDI IAMs_20 IAMs_20 18 37 30.6
comp=Z,27µm,21.3s
WACR West Acre 104.84 37 *e*P **Pdif** **17 54 03.1 +0.4**
WACR IAMs_20 IAMs_20 18 42 43.3
comp=Z,18µm,18.4s
SKAG Skagway 104.98 332 Pdiff **Pdif** **17 54 03.7 +0.6**
baz=128
GDLE Glaisdale, N Y 105.06 35 *e*P **Pdif** **17 54 05.3 +1.7**
GDLE IAMs_20 IAMs_20 18 35 43.3
comp=Z,31µm,25.6s
LINV Loch Inver, As 105.19 30 *e*P **Pdif** **17 54 06.9 +2.8**
LINV IAMs_20 IAMs_20 18 36 23.2

	comp=Z,20µm,23.3s									
KMBO	**Kilima Mbogo**	**105.25**	**101**		Pdiff	**Pdif**	**17 54 03.8**	**-2.1**		
	comp=Z,1.2nm,0.3s,baz=235,slow=19,SNR=3.7									
MMPY	**Sheldon Lake,**	**105.43**	**336**		Pdiff	**Pdif**	**17 54 05.7**	**+0.5**		
	baz=130									
WHY	**Whitehorse**	**105.53**	**333**		Pdiff	**Pdif**	**17 54 06.4**	**+0.7**		
	baz=128									
DOU	**Dourbes**	**105.56**	**40**	*d*	Pdif	**Pdif**	**17 54 05.7**	**-0.3**		
DOU				*d*	PKiKP	**PKiKP**	**17 58 18.2**	**-0.9**		
SNF	**Seneffe**	**105.60**	**40**	*d*	Pdif	**Pdif**	**17 54 06.7**	**+0.6**		
DRUM	**Mains of Drumt**	**105.67**	**32**	*e*	P	**Pdif**	**17 54 06.2**	**-0.1**		
DRUM				*e*			17 58 30.0			
DRUM					IAms_20	IAms_20	18 36 18.5			
	comp=Z,29µm,25.6s									
BMRD	**Maredsous**	**105.76**	**40**	*d*	Pdif	**Pdif**	**17 54 07.4**	**+0.6**		
BMRD				*dx*		x	17 58 46.4			
FARO	**Faro, Yukon**	**105.93**	**335**		Pdiff	**Pdif**	**17 54 07.5**	**+0.1**		
	baz=129									
BIGH	**Upper Bighouse**	**105.94**	**30**	*e*	P	**Pdif**	**17 54 08.2**	**+0.8**		
BIGH				*e*			17 58 32.4			
BIGH					IAms_20	IAms_20	18 37 18.7			
	comp=Z,38µm,22.3s									
RCHB	**Rochefort**	**105.94**	**41**	*d*	Pdif	**Pdif**	**17 54 08.3**	**+0.7**		
BGES	**Gesves**	**105.98**	**40**	*d*	Pdif	**Pdif**	**17 54 10.0**	**+2.2**		
BGES				*d*	PKiKP	**PKiKP**	**17 58 18.7**	**-1.2**		
VLC	**Villacollemand**	**106.05**	**48**		IAms_20	IAms_20	18 41 09.1			
	comp=Z,12µm,20.0s									
BCLA	**Clavier**	**106.12**	**40**	*d*	Pdif	**Pdif**	**17 54 10.0**	**+1.6**		
BCLA				*d*	PKiKP	**PP**	**17 58 31.5**	**-1.3**		
WLF	**Walferdange**	**106.21**	**41**	*d*	Pdif	**Pdif**	**17 54 10.2**	**+1.3**		
WLF				*dx*		x	17 54 14.3			
WLF	**Walferdange**	**106.21**	**41**	*e*	Pdiff	**Pdif**	**17 54 10.7**	**+1.8**		
	baz=244,slow=4.5									
WLF					PKKPab	PKKPab	18 10 11.5	+16		
	baz=63,slow=4.4									
BSTI	**Sart Tilman**	**106.34**	**40**	*d*	PKiKP	PKiKP	17 58 31.6	+11		
BHOU	**Houvegnez**	**106.47**	**41**	*d*	Pdif	**Pdif**	**17 54 11.1**	**+1.1**		
SUMG	**Summit**	**106.49**	**10**	*i*	P	**Pdif**	**17 54 12.5**	**+2.3**		
SUMG					IAms_20	IAms_20	18 41 27.6			
	comp=Z,19µm,22.0s									
SUMG	**Summit**	**106.49**	**10**		IAms_20	IAms_20	18 41 33.8			
	comp=Z,19µm,22.0s									
BEBN	**Eben Emael**	**106.51**	**40**	*d*	Pdif	**Pdif**	**17 54 11.1**	**+1.0**		
MEM	**Membach**	**106.60**	**40**	*d*	Pdif	**Pdif**	**17 54 11.8**	**+1.2**		
MEM				*d*	PKiKP	**PP**	**17 58 33.3**	**-3.1**		
MEM				*dx*		x	17 58 48.8			
BTNL	**Ternell**	**106.66**	**41**	*d*	Pdif	**Pdif**	**17 54 14.3**	**+3.5**		
BTNL				*d*	PKiKP	**PP**	**17 58 34.2**	**-2.7**		
HYT	**Haines Junctio**	**106.67**	**332**		Pdiff	**Pdif**	**17 54 11.1**	**+0.3**		
	baz=126									
SANVU	**Saraoutou**	**106.78**	**239**		IAms_20	IAms_20	18 31 16.8			
	comp=Z,14µm,21.0s									
BFO	**Black Forest**	**106.81**	**43**	*e*	Pdiff	**Pdif**	**17 54 13.0**	**+1.4**		
	baz=244,slow=4.5									
BFO					PKKPab	PKKPdf	18 10 08.2	+14		
	baz=63,slow=4.4									
DAVOX	**Davos/Dischmat**	**106.99**	**45**		Pdiff	**Pdif**	**17 54 13.1**	**+0.4**		
	comp=Z,10nm,0.9s,baz=11,slow=2.0,SNR=11									
DAVOX					PP	**PP**	**17 58 44.3**	**+4.7**		
	comp=Z,11nm,0.9s,baz=358,slow=9.6,SNR=3.1									
BCPM	**Bancas Point**	**107.03**	**331**		IAms_20	IAms_20	18 39 44.4			
	comp=Z,12µm,21.0s									
RER	**Riviere de l'E**	**107.04**	**129**		IAms_20	IAms_20	18 33 56.6			
	comp=Z,14µm,22.0s									
YUK6	**Outpost Mounta**	**107.08**	**332**		Pdiff	**Pdif**	**17 54 13.6**	**+0.8**		
	baz=125									
AHRW	**Bad Neuenahr-A**	**107.16**	**41**	*e*	Pdiff	**Pdif**	**17 54 15.0**	**+1.9**		
	baz=244,slow=4.5									
AHRW					PKKPab	PKKPdf	18 10 06.8	+14		
	baz=63,slow=4.4									
DAVA	**Damuels**	**107.23**	**45**	*e*	P	**Pdif**	**17 54 14.8**	**+1.1**		
	comp=Z,27nm,1.3s									
DAVA					P	**PP**	**17 58 40.4**	**-1.0**		
	comp=Z,60nm,1.2s									
RES	**Resolute Bay**	**107.27**	**354**		IAms_20	IAms_20	18 50 10.5			
	comp=Z,15µm,19.0s									
PINM	**Pinnacle**	**107.37**	**331**		Pdiff	**Pdif**	**17 54 14.4**	**+0.5**		
	baz=124									
YUK4	**Talbot Arm**	**107.42**	**332**		Pdiff	**Pdif**	**17 54 14.2**	**0.0**		
	baz=125									
STU	**Stuttgart**	**107.52**	**43**	*e*	Pdiff	**Pdif**	**17 54 16.3**	**+1.6**		
	baz=244,slow=4.5									
UBR	**Ueberruh**	**107.55**	**45**	*e*	Pdiff	**Pdif**	**17 54 16.9**	**+1.9**		
	baz=244,slow=4.5									
UBR					PKKPbc	**PKKPab**	**18 09 50.4**	**+0.4**		
	baz=66,slow=3.0									
UBR					PKKPab	PKKPdf	18 10 05.3	+13		
	baz=63,slow=4.4									
FETA	**Feichten**	**107.61**	**45**	*e*	P	**Pdif**	**17 54 15.3**	**-0.2**		
	comp=Z,18nm,1.1s									
FETA					P	**PP**	**17 58 43.0**	**-1.2**		
	comp=Z,61nm,1.4s									
FETA					P	**PKKPab**	**18 09 50.5**	**+0.7**		
	comp=Z,16nm,1.1s									
MAYO	**Mayo, Yukon**	**107.69**	**335**		Pdiff	**Pdif**	**17 54 15.9**	**+0.7**		
	baz=126									
BUG	**Bochum--Univer**	**107.70**	**40**	*e*	Pdiff	**Pdif**	**17 54 17.2**	**+1.8**		
	baz=244,slow=4.5									
BUG					PKKPbc	**PKKPab**	**18 09 50.0**	**+1.1**		
	baz=66,slow=3.0									
BUG					PKKPab	PKKPdf	18 10 04.3	+12		
	baz=63,slow=4.4									
TNS	**Taunus Mts**	**107.78**	**42**	*e*	Pdiff	**Pdif**	**17 54 17.6**	**+1.7**		
	baz=244,slow=4.5									
TNS					PKKPbc	**PKKPab**	**18 09 50.2**	**+1.4**		
	baz=66,slow=3.0									
TNS					PKKPab	PKKPdf	18 10 04.4	+12		
	baz=63,slow=4.4									
RETA	**Reutte**	**107.85**	**45**	*e*	P	**Pdif**	**17 54 17.4**	**+1.0**		
	comp=Z,15nm,1.1s									
RETA					P	**PP**	**17 58 44.0**	**-1.8**		
	comp=Z,42nm,1.7s									
SCO	**Scoresbysund**	**107.89**	**16**		IAms_20	IAms_20	18 38 59.2			
	comp=Z,13µm,22.0s									
TABL	**Table Mountain**	**107.93**	**331**		IAms_20	IAms_20	18 38 38.2			
	comp=Z,13µm,21.0s									
MOTA	**Moosalm**	**107.99**	**45**	*e*	P	**Pdif**	**17 54 17.8**	**+0.7**		
	comp=Z,34nm,1.4s									
MOTA					P	**PP**	**17 58 45.1**	**-1.8**		
	comp=Z,48nm,1.4s									
SQTA	**Sankt Quirin**	**108.00**	**45**	*e*	P	**Pdif**	**17 54 18.1**	**+1.1**		
	comp=Z,26nm,1.1s									
SQTA					P	**PP**	**17 58 44.8**	**-2.2**		
	comp=Z,45nm,1.2s									
LRW	**Lerwick**	**108.02**	**30**	*e*	P	**Pdif**	**17 54 18.6**	**+1.9**		
LRW					IAms_20	IAms_20	18 37 09.4			
	comp=Z,20µm,24.2s									
TULEG	**Thule**	**108.03**	**1**	*i*	P	**Pdif**	**17 54 17.7**	**+1.3**		
TULEG					IAms_20	IAms_20	18 41 39.5			
	comp=Z,17µm,25.6s									
TULEG	**Thule**	**108.03**	**1**		IAms_20	IAms_20	18 42 49.3			
	comp=Z,10µm,22.0s									
MILB	**Miltenberg**	**108.07**	**42**	*e*	Pdiff	**Pdif**	**17 54 18.5**	**+1.3**		
	baz=244,slow=4.5									
MILB					PKKPbc	**PKKPab**	**18 09 49.0**	**+1.6**		
	baz=66,slow=3.0									
MILB					PKKPab	PKKPdf	18 10 02.7	+11		
	baz=63,slow=4.4									
LOGN	**Logan Glacier**	**108.08**	**331**		IAms_20	IAms_20	18 44 49.2			
	comp=Z,10µm,20.0s									
MESA	**MESA**	**108.13**	**330**		IAms_20	IAms_20	18 38 41.4			
	comp=Z,12µm,21.0s									
MESA	**MESA**	**108.13**	**330**		Pdiff	**Pdif**	**17 54 17.2**	**-0.2**		
	baz=122									
YAH	**Yahtse**	**108.14**	**331**		IAms_20	IAms_20	18 38 42.7			
	comp=Z,15µm,22.0s									
KASTN	**Kahler Asten**	**108.22**	**41**	*e*	Pdiff	**Pdif**	**17 54 19.3**	**+1.4**		
	baz=244,slow=4.5									
KASTN					PKKPbc	**PKKPab**	**18 09 48.5**	**+1.8**		
	baz=66,slow=3.0									
KASTN					PKKPab	PKKPdf	18 10 02.1	+11		
	baz=63,slow=4.4									
WATA	**Walderalm**	**108.27**	**45**	*e*	P	**Pdif**	**17 54 18.2**	**-0.1**		
	comp=Z,18nm,1.3s									
WATA					P	**PP**	**17 58 46.9**	**-2.1**		
	comp=Z,40nm,1.3s									
WATA					P	**PKKPab**	**18 09 46.5**	**-0.4**		
	comp=Z,14nm,1.4s									
WTTA	**Wattenberg**	**108.28**	**45**	*i*	P	**Pdif**	**17 54 19.3**	**+0.9**		
	comp=Z,24nm,1.2s									
WTTA					P	**PP**	**17 58 47.4**	**-1.6**		
	comp=Z,46nm,1.1s									
CTGM	**Chitina Glacie**	**108.30**	**331**		IAms_20	IAms_20	18 38 53.8			
	comp=Z,10µm,22.0s									
CTG	**Chitna Glacier**	**108.30**	**331**		Pdiff	**Pdif**	**17 54 18.4**	**+0.3**		
	baz=123									
GRNC	**Granite Creek**	**108.34**	**331**		IAms_20	IAms_20	18 38 51.1			
	comp=Z,13µm,22.0s									
IBBN	**Ibbenburen**	**108.38**	**39**	*e*	Pdiff	**Pdif**	**17 54 20.3**	**+1.9**		
	baz=244,slow=4.5									
IBBN				*e*	PKKPab	PKKPdf	18 10 01.3	+10		
	baz=63,slow=4.4									
FUR	**Furstenfeldbru**	**108.47**	**44**	*e*	PKKPbc	PKKPbc	18 09 47.5	+12		
	baz=66,slow=3.0									
BARN	**Barnard Glacie**	**108.48**	**331**		IAms_20	IAms_20	18 38 59.7			
	comp=Z,10µm,22.0s									
ISLE	**Juniper Island**	**108.52**	**331**		IAms_20	IAms_20	18 38 54.7			
	comp=Z,16µm,22.0s									
ABTA	**Abfaltersbach**	**108.58**	**46**	*e*	P	**Pdif**	**17 54 20.7**	**+1.1**		
	comp=Z,16nm,1.3s									
ABTA				*e*	P	**PP**	**17 58 49.7**	**-1.4**		
	comp=Z,91nm,1.6s									
WAX	**Waxell Ridge**	**108.66**	**330**		IAms_20	IAms_20	18 38 56.3			
	comp=Z,12µm,22.0s									
BGLC	**Bering Glacier**	**108.67**	**330**		Pdiff	**Pdif**	**17 54 20.7**	**+1.2**		
	baz=122									
TGL	**Tana Glacier**	**108.81**	**331**		IAms_20	IAms_20	18 39 14.2			
	comp=Z,14µm,21.0s									
SUCK	**Suckling Hills**	**108.85**	**330**		IAms_20	IAms_20	18 54 03.6			
	comp=Z,14µm,18.0s									
CRQE	**Cirque**	**108.91**	**330**		Pdiff	**Pdif**	**17 54 20.7**	**-0.2**		
	baz=121									
UBBA	**Unterbreizbach**	**108.93**	**42**	*e*	Pdiff	**Pdif**	**17 54 23.1**	**+2.3**		
	baz=244,slow=4.5									
UBBA					PKKPbc	**PKKPab**	**18 09 46.3**	**+2.9**		
	baz=66,slow=3.0									
UBBA					PKKPab	PKKPdf	18 09 59.1	+9.3		
	baz=63,slow=4.4									
CRQM	**Cirque**	**108.94**	**330**		IAms_20	IAms_20	18 39 06.1			
	comp=Z,15µm,22.0s									
BERG	**Berg Lake**	**108.99**	**330**		IAms_20	IAms_20	18 38 27.0			
	comp=Z,10µm,20.0s									
KAIM	**Kayak Island**	**109.06**	**329**		IAms_20	IAms_20	18 51 37.9			
	comp=Z,9µm,20.0s									
KAIM	**Kayak Island**	**109.06**	**329**		Pdiff	**Pdif**	**17 54 21.6**	**+0.3**		
	baz=121									
CADS	**Cadrg**	**109.11**	**47**	*i*	Pdiff	**Pdif**	**17 54 22.6**	**+0.6**		
CADS				*i*	PP	**PP**	**17 58 52.1**	**-2.8**		
CADS				*e*			18 06 53.6			
GRF	**Grafenberg Arr**	**109.12**	**43**	*e*	Pdiff	**Pdif**	**17 54 24.1**	**+2.2**		
	baz=244,slow=4.5									
GRF					PKKPbc	**PKKPab**	**18 09 45.7**	**+2.8**		
	baz=66,slow=3.0									
GRF					PKKPab	PKKPdf	18 09 58.5	+9.0		
	baz=63,slow=4.4									
GRF					eL	L	18 42 35.8			
	comp=Z,27nm,20.9s									
RJOB	**Jochberg**	**109.19**	**45**	*e*	Pdiff	**Pdif**	**17 54 23.9**	**+1.7**		
	baz=244,slow=4.5									
RJOB					PKKPbc	**PKKPab**	**18 09 45.2**	**+2.4**		
	baz=66,slow=3.0									
RJOB					PKKPab	PKKPdf	18 09 58.1	+8.7		
	baz=63,slow=4.4									
HMT	**Hamilton**	**109.20**	**330**		IAms_20	IAms_20	18 54 02.6			
	comp=Z,11µm,18.0s									
MCARA	**McCarthy VSAT**	**109.21**	**331**		IAms_20	IAms_20	18 41 15.0			
	comp=Z,11µm,21.0s									
MCARA	**McCarthy VSAT**	**109.21**	**331**		Pdiff	**Pdif**	**17 54 22.4**	**+0.4**		
	baz=121									
MYKA	**Terra Mystica**	**109.22**	**47**	*e*	P	**Pdif**	**17 54 19.6**	**-2.9**		
	comp=Z,13nm,1.2s									
MYKA					P	**PP**	**17 58 54.2**	**-1.7**		
	comp=Z,60nm,1.3s									
DAWY	**Dawson**	**109.23**	**334**		Pdiff	**Pdif**	**17 54 21.8**	**-0.2**		
	baz=123									
KBA	**Koelnbreinsper**	**109.24**	**46**	*e*	P	**Pdif**	**17 54 22.1**	**-0.5**		
	comp=Z,13nm,1.2s									
KBA					P	**PP**	**17 58 54.1**	**-2.0**		
	comp=Z,37nm,1.3s									
GTTG	**Gottingen**	**109.24**	**41**	*e*	Pdiff	**Pdif**	**17 54 24.2**	**+1.9**		
	baz=244,slow=4.5									
GTTG					PKKPab	PKKPdf	18 09 57.9	+8.6		
	baz=63,slow=4.4									
M27K	**Edge Creek, AK**	**109.26**	**332**		IAms_20	IAms_20	18 41 38.2			
	comp=Z,11µm,21.0s									
M27K	**Edge Creek, AK**	**109.26**	**332**		Pdiff	**Pdif**	**17 54 22.7**	**+0.3**		
	baz=122									
VRDI	**Verde Repeater**	**109.31**	**331**		IAms_20	IAms_20	18 39 38.6			
	comp=Z,10µm,21.0s									
LJU	**Ljubljana**	**109.52**	**47**	*i*	Pdiff	**Pdif**	**17 54 24.5**	**+0.8**		
LJU				*e*			17 58 12.3			
LJU				*e*			17 58 44.9			
LJU				*i*	PP	**PP**	**17 58 56.3**	**-1.6**		
LJU				*e*			18 01 31.9			
LJU				*e*	SKSac	SKSac	18 05 13.1	+12		
LJU				*e*			18 06 14.0			
LJU				*e*			18 06 55.2			
LJU				*e*	SP	**SP**	**18 08 33.1**	**+11**		
LJU				*e*	SS	**SS**	**18 14 20.8**	**+1.9**		
LJU				*e*			18 32 15.2			
GLB	**Gilahina Butte**	**109.57**	**331**		IAms_20	IAms_20	18 41 25.4			
	comp=Z,11µm,22.0s									
CLZ	**Clausthal**	**109.60**	**41**	*e*	Pdiff	**Pdif**	**17 54 25.6**	**+1.6**		
	baz=244,slow=4.5									
CLZ					PP	**PP**	**17 58 56.5**	**-1.9**		
	baz=243,slow=7.1									
CLZ					PKKPab	**PKKPdf**	**18 09 56.4**	**+7.7**		
	baz=63,slow=4.4									
L27K	**Beaver Creek,**	**109.61**	**333**		Pdiff	**Pdif**	**17 54 24.1**	**+0.4**		
	baz=122									
NEEM	**North Greenlan**	**109.64**	**5**	*i*	P	**Pdif**	**17 54 26.1**	**+2.2**		
NEEM					IAmb	IAmb	17 54 39.2			
	comp=Z,22nm,0.9s									
BMRM	**Bremner River**	**109.66**	**330**		IAms_20	IAms_20	18 45 43.9			
	comp=Z,8µm,21.0s									
BMRM	**Bremner River**	**109.66**	**330**		Pdiff	**Pdif**	**17 54 24.1**	**+0.1**		
	baz=120									
INK	**Inuvik**	**109.73**	**340**		Pdiff	**Pdif**	**17 54 24.5**	**+0.5**		
	baz=127									
M26K	**Nabesna, AK**	**109.73**	**332**		IAms_20	IAms_20	18 41 41.6			
	comp=Z,16µm,22.0s									
M26K	**Nabesna, AK**	**109.73**	**332**		Pdiff	**Pdif**	**17 54 24.5**	**+0.1**		
	baz=121									
ROTZ	**Rotzenmuhle**	**109.73**	**43**	*e*	Pdiff	**Pdif**	**17 54 26.5**	**+2.0**		
	baz=244,slow=4.5									
ROTZ					PP	**PP**	**17 58 57.3**	**-2.0**		
	baz=243,slow=7.1									
ROTZ					PKKPab	**PKKPdf**	**18 09 56.0**	**+7.7**		
	baz=63,slow=4.4									
OBKA	**Obir**	**109.73**	**47**	*e*	P	**Pdif**	**17 54 26.3**	**+1.6**		
	comp=Z,15nm,1.4s									
OBKA					P	**PP**	**17 58 57.4**	**-2.1**		
	comp=Z,39nm,1.1s									
NRDL	**Niedersach Rie**	**109.75**	**40**	*e*	Pdiff	**Pdif**	**17 54 26.7**	**+2.3**		
	baz=244,slow=4.5									
NRDL					PP	**PP**	**17 58 58.2**	**-1.1**		
	baz=243,slow=7.1									
NRDL					PKKPbc	**PKKPdf**	**18 09 44.1**	**-4.2**		
	baz=66,slow=3.0									
NRDL					PKKPab	PKKPab	18 09 55.5	+16		
	baz=63,slow=4.4									
MANZ	**Manzenberg**	**109.77**	**43**	*e*	Pdiff	**Pdif**	**17 54 26.8**	**+2.1**		
	baz=244,slow=4.5									
MANZ					PP	**PP**	**17 58 57.8**	**-1.9**		
	baz=243,slow=7.1									
MANZ					PKKPab	**PKKPdf**	**18 09 55.5**	**+7.2**		
	baz=63,slow=4.4									
MOX	**Moxa**	**109.77**	**42**	*e*	Pdiff	**Pdif**	**17 54 26.7**	**+1.9**		
	baz=244,slow=4.5									
MOX					PP	**PP**	**17 58 57.9**	**-1.8**		
	baz=243,slow=7.1									
MOX					PKKPab	**PKKPdf**	**18 09 55.4**	**+7.0**		
	baz=63,slow=4.4									
MOX					eL	L	18 43 44.5			
	comp=Z,34µm,20.2s									
WET	**Wettzell**	**109.86**	**44**	*e*	Pdiff	**Pdif**	**17 54 26.7**	**+1.6**		
	baz=244,slow=4.5									
WET					PP	**PP**	**17 58 58.7**	**-1.5**		
	baz=243,slow=7.1									
WET					PKKPbc	**PKKPab**	**18 09 43.6**	**+3.9**		
	baz=66,slow=3.0									
WET					PKKPab	**PKKPdf**	**18 09 55.5**	**+7.4**		
	baz=63,slow=4.4									
ASSE	**Asse, Remlinge**	**109.90**	**40**	*e*	Pdiff	**Pdif**	**17 54 27.2**	**+2.1**		
	baz=244,slow=4.5									
ASSE					PP	**PP**	**17 58 58.7**	**-1.6**		
	baz=243,slow=7.1									
ASSE					PKKPbc	**PKKPab**	**18 09 43.3**	**+4.1**		
	baz=66,slow=3.0									
ASSE					PKKPab	**PKKPdf**	**18 09 54.8**	**+6.8**		
	baz=63,slow=4.4									
A36M	**Sachs Harbour**	**109.93**	**345**		Pdiff	**Pdif**	**17 54 25.0**	**+0.1**		
	baz=133									
EYAK	**Cordova Ski Ar**	**109.94**	**330**		Pdiff	**Pdif**	**17 54 25.2**	**0.0**		
	baz=119									
N25K	**Chitina, Valde**	**109.98**	**331**		IAms_20	IAms_20	18 45 47.2			
	comp=Z,10µm,22.0s									
N25K	**Chitina, Valde**	**109.98**	**331**		Pdiff	**Pdif**	**17 54 26.6**	**+1.2**		
	baz=120									
PLN	**Plauen**	**110.02**	**43**	*e*	Pdiff	**Pdif**	**17 54 27.8**	**+2.0**		
	baz=244,slow=4.5									
PLN					PP	**PP**	**17 58 59.7**	**-1.7**		
	baz=243,slow=7.1									
PLN					PKKPbc	**PKKPab**	**18 09 42.8**	**+4.0**		
	baz=66,slow=3.0									
PLN					PKKPab	**PKKPdf**	**18 09 54.3**	**+6.4**		
	baz=63,slow=4.4									
WERN	**Wernitzgruen**	**110.06**	**43**	*e*	Pdiff	**Pdif**	**17 54 28.3**	**+2.3**		
	baz=244,slow=4.5									
WERN					PP	**PP**	**17 58 60.0**	**-1.7**		
	baz=243,slow=7.1									
WERN					PKKPbc	**PKKPab**	**18 09 42.8**	**+4.1**		
	baz=66,slow=3.0									
WERN					PKKPab	**PKKPdf**	**18 09 54.3**	**+6.5**		
	baz=63,slow=4.4									
GUNZ	**Gunzen**	**110.06**	**43**	*e*	Pdiff	**Pdif**	**17 54 28.0**	**+2.0**		
	baz=244,slow=4.5									
GUNZ					PP	**PP**	**17 59 00.2**	**-1.6**		
	baz=243,slow=7.1									
GUNZ					PKKPbc	**PKKPab**	**18 09 42.6**	**+3.9**		
	baz=66,slow=3.0									
GUNZ					PKKPab	**PKKPdf**	**18 09 54.2**	**+6.4**		
	baz=63,slow=4.4									
NKC	**Novy Kostel**	**110.07**	**43**	*e*	P	**Pdif**	**17 54 25.2**	**-0.9**		
NKC				*e*			17 58 59.3			
NKC				*e*	SS	SS	18 14 41.9	+16		
NKC					MLR	MLR				
	comp=Z,26µm,20.2s									
NKC	**Novy Kostel**	**110.07**	**43**	*e*	PDIFF	**Pdif**	**17 54 25.2**	**-0.9**		
NKC				*e*	PP	**PP**	**17 58 59.3**	**-2.5**		
NKC				*ex*		x	18 05 25.5			
NKC				*e*	SS	SS	18 14 41.9	+16		
NKC					AMS	AMS	18 43 00.0			
	comp=Z,26µm,20.2s									
WERD	**Werda**	**110.08**	**43**	*e*	PP	**PP**	**17 58 60.0**	**-1.9**		
	baz=243,slow=7.1									
WERD					PKKPbc	**PKKPab**	**18 09 42.6**	**+4.1**		
	baz=66,slow=3.0									
WERD					PKKPab	**PKKPdf**	**18 09 54.0**	**+6.2**		
	baz=63,slow=4.4									
SOKA	**Soboth**	**110.11**	**47**	*e*	P	**Pdif**	**17 54 27.4**	**+1.0**		
	comp=Z,11nm,1.8s									
SOKA					P	**PP**	**17 58 59.8**	**-2.5**		
	comp=Z,36nm,1.3s									
NEUB	**Neuenburg**	**110.11**	**42**	*e*	Pdiff	**Pdif**	**17 54 28.2**	**+2.0**		
	baz=244,slow=4.5									
NEUB					PP	**PP**	**17 59 00.1**	**-1.9**		
	baz=243,slow=7.1									
NEUB					PKKPbc	**PKKPab**	**18 09 42.5**	**+4.1**		
	baz=66,slow=3.0									
NEUB					PKKPab	**PKKPdf**	**18 09 53.9**	**+6.3**		
	baz=63,slow=4.4									
MOA	**Molln**	**110.13**	**46**		P	**Pdif**	**17 54 27.3**	**+0.9**		
	comp=Z,9.9nm,1.2s									
MOA					P	**PP**	**17 58 59.4**	**-2.9**		
	comp=Z,47nm,1.2s									
TANN	**Tannenbergstha**	**110.16**	**43**	*e*	Pdiff	**Pdif**	**17 54 28.8**	**+2.3**		
	baz=244,slow=4.5									
TANN					PP	**PP**	**17 59 00.6**	**-1.9**		
	baz=243,slow=7.1									
TANN					PKKPbc	**PKKPab**	**18 09 42.2**	**+3.9**		
	baz=66,slow=3.0									
TANN					PKKPab	**PKKPdf**	**18 09 53.8**	**+6.2**		
	baz=63,slow=4.4									
L26K	**Log Cabin Wild**	**110.19**	**332**		IAms_20	IAms_20	18 42 45.7			
	comp=Z,15µm,20.0s									
L26K	**Log Cabin Wild**	**110.19**	**332**		Pdiff	**Pdif**	**17 54 26.5**	**+0.2**

CLL Lm MLR 18 44 00.0
comp=N,11µm,20.0s
CLL Lm MLR 18 44 00.0
comp=E,28µm,19.6s
CLL Lm MLR 18 44 00.0
comp=Z,35µm,19.8s
CLL Collm 110.85 42 *e*P **Pdif 17 54 31.0 +1.5**
CLL *e* 17 59 02.0
CLL *e*PS **PS 18 08 41.0 +3.0**
CLL pmax pmax
comp=Z,49nm,2.0s
CLL pmax pmax
comp=Z,1µm,3.6s
CLL MLR MLR
comp=Z,35µm,19.8s
CLL Collm 110.85 42 *e*Pdiff **Pdif 17 54 31.5 +2.1**
baz=244,slow=4.5
CLL *e*PP **PP 17 59 05.3 -2.1**
baz=243,slow=7.1
CLL *e*PKKPbc **PKKPdf 18 09 41.0 -5.2**
baz=66,slow=3.0
CLL *e*PKKPab PKKPab 18 09 50.2 +15
baz=63,slow=4.4
M24K Tolsona, Glenn 110.88 331 IAMs_20 IAMs_20 18 54 07.7
comp=Z,9µm,20.0s
M24K Tolsona, Glenn 110.88 331 Pdiff **Pdif 17 54 30.0 +0.6**
baz=119
SNART Snartemo 110.88 34 *e*PP **PP 17 59 06.1 -1.3**
SNART *e*SP SP 18 08 33.0 -1.4
FBE Freiberg 110.89 42 *e*Pdiff **Pdif 17 54 31.7 +2.1**
baz=244,slow=4.5
FBE *e*PP **PP 17 59 05.7 -1.9**
baz=243,slow=7.1
FBE *e*PKKPbc **PKKPdf 18 09 41.4 -4.8**
baz=66,slow=3.0
FBE *e*PKKPab PKKPab 18 09 50.7 +16
baz=63,slow=4.4
SCRK Sand Creek 110.91 333 Pdiff **Pdif 17 54 30.0 +0.4**
baz=120
ASK Askoy 110.94 31 *e*Pdif **Pdif 17 54 29.9 +0.3**
ASK *e*PP **PP 17 59 06.6 -1.2**
ASK *e*PS **PS 18 08 37.7 -0.8**
ASK IVMs_BB IVMs_BB 18 45 54.9
comp=Z,11µm,19.4s
BER Bergen 110.96 31 *e*Pdif **Pdif 17 54 31.3 +1.6**
BER IVmB_BB 17 54 31.9
comp=Z,933nm,3.6s
BER *e*PP **PP 17 59 08.2 +0.4**
BER *e*SP SP 18 08 34.3 -0.6
BER IVMs_BB IVMs_BB 18 45 54.5
comp=Z,6µm,22.4s
PAX Paxson 111.00 332 Pdiff **Pdif 17 54 29.8 -0.2**
baz=119
MUD Monsted U'grnd 111.00 36 *i* P **Pdif 17 54 33.6 +3.7**
MUD IAMs_20 IAMs_20 18 42 00.4
comp=Z,20µm,22.2s
DBG Daneborg 111.01 13 *e*P **Pdif 17 54 31.5 +1.8**
DBG IAMs_20 IAMs_20 18 45 01.8
comp=Z,16µm,22.2s
J26L Joseph Creek 111.01 334 Pdiff **Pdif 17 54 30.3 +0.3**
baz=120
SUE Sulen 111.02 30 *e*Pdif **Pdif 17 54 28.8 -1.1**
SUE IVmB_BB 17 54 32.5
comp=Z,1µm,4.3s
SUE *e*PP **PP 17 59 06.8 -1.5**
SUE *e*SP SP 18 08 35.8 +0.4
SUE *e*SS SS 18 14 39.7 +1.5
SUE IVMs_BB IVMs_BB 18 39 40.7
comp=Z,5µm,25.1s
BLS5 Blasjo 111.02 32 *e*Pdif **Pdif 17 54 28.0 -2.1**
BLS5 IVmB_BB 17 54 31.5
comp=Z,571nm,5.2s
BLS5 *e*PP **PP 17 59 07.4 -1.0**
BLS5 *e*SP SP 18 08 34.1 -1.5
BLS5 *e*SS SS 18 14 38.4 -0.1
BLS5 IVMs_BB IVMs_BB 18 42 16.6
comp=Z,7µm,20.6s
PDG Podgorica 111.09 53 IAMs_20 IAMs_20 18 45 49.4
comp=Z,16µm,22.0s
RIDG Independent Ri 111.13 333 Pdiff **Pdif 17 54 31.0 +0.5**
baz=119
CONA Conrad Observa 111.14 46 P **Pdif 17 54 31.6 +0.7**
comp=Z,12nm,2.3s
CONA P **PP 17 59 03.7 -6.0**
comp=Z,43nm,1.7s
CONA *e*P **PKKPdf 18 09 40.7 -5.0**
comp=Z,27nm,1.5s
PRA Prague 111.16 44 *e*P **Pdif 17 54 32.3 +1.4**
PRA *e* 17 59 04.8
PRA *e*SS SS 18 14 55.9 +15
PRA MLR MLR
comp=Z,23µm,20.8s
PRA Prague 111.16 44 *e*PDIFF **Pdif 17 54 32.3 +1.4**
PRA *e*PP **PP 17 59 04.8 -4.8**
PRA *e*SS SS 18 14 55.9 +15
PRA AMS AMS 18 43 40.0
comp=Z,23µm,20.8s
PRU Pruhonice 111.19 44 *e*P **Pdif 17 54 32.8 +1.8**
PRU *e* 17 59 05.7
PRU MLR MLR
comp=Z,23µm,21.0s
PRU Pruhonice 111.19 44 *e*PDIFF **Pdif 17 54 32.8 +1.8**
PRU *e*PP **PP 17 59 05.7 -4.2**
PRU *ex* x 18 05 27.4
PRU *e*SP SP 18 08 18.3 -19
PRU AMS AMS 18 43 40.0
comp=Z,23µm,21.0s
BRG Berggiesshubel 111.21 43 *e*Pdiff **Pdif 17 54 33.2 +2.1**
baz=244,slow=4.5
BRG *e*PP **PP 17 59 07.9 -2.1**
baz=243,slow=7.1
BRG *e*PKKPab **PKKPdf 18 09 48.9 +3.4**
baz=63,slow=4.4
BRG Berggiesshubel 111.21 43⇓ *e*Pif **Pdif 17 54 33.4 +2.3**
BRG Amp 17 54 38.0
comp=Z,13nm,1.5s
BRG Berggiesshubel 111.21 43 PKP **PKiKP 17 58 30.3 +0.6**
BRG Amp 17 58 35.0
comp=Z,22nm,1.3s
BRG PP **PP 17 59 11.7 +1.8**
BRG Amp 17 59 19.6
comp=Z,103nm,1.7s
BRG Berggiesshubel 111.21 43⇑ SKS SKSdf 18 05 26.0 -14
BRG Berggiesshubel 111.21 43 PS PS 18 08 35.0 -6.3
BRG PKKP 18 09 20.2
BRG Amp 18 09 25.9
comp=Z,13nm,1.6s
BRG Berggiesshubel 111.21 43 SS SS 18 14 25.0 -16
BRG Amp 18 44 31.0
comp=E,17nm,20.6s
BRG Amp 18 44 39.0
comp=Z,24nm,20.5s
BRG Amp 18 44 44.0
comp=N,4.2nm,23.1s
PWL Port Wells 111.21 329 IAMs_20 IAMs_20 18 41 42.8
comp=Z,11µm,22.0s
SCM Sheep Creek Mo 111.23 330 IAMs_20 IAMs_20 18 55 44.8
comp=Z,10µm,19.0s
GOET G??ttrup 111.28 35 *e*P **Pdif 17 54 31.5 +0.3**
GOET IAMs_20 IAMs_20 18 40 26.7
comp=Z,35µm,24.6s
SEW Seward 111.36 328 Pdiff **Pdif 17 54 31.2 -0.3**
baz=117
FOO Floro 111.39 30 *e*Pdif **Pdif 17 54 30.8 -0.8**
FOO *e*PP **PP 17 59 10.5 -0.4**
FOO *e*SP SP 18 08 38.1 -0.7
FOO IVMs_BB IVMs_BB 18 45 14.2
comp=Z,5µm,19.1s
PVCC Panska Ves 111.43 43 *e*P **Pdif 17 54 33.4 +1.3**
PVCC *e* 17 59 07.5
PVCC MLR MLR
comp=Z,33µm,20.8s
PVCC Panska Ves 111.43 43 *e*PDIFF **Pdif 17 54 33.4 +1.3**
PVCC *e*PP **PP 17 59 07.5 -4.1**
PVCC AMS AMS 18 43 30.0
comp=Z,33µm,20.8s
HOMB Homborsund 111.47 34 *e*Pdif **Pdif 17 54 31.6 -0.4**
HOMB IVmB_BB 17 54 46.3
comp=Z,690nm,4.3s
HOMB *e*PP **PP 17 59 09.7 -1.9**
HOMB *e*SP SP 18 08 36.4 -3.2
HOMB *e*SS SS 18 14 44.6 +0.3
HOMB IVMs_BB IVMs_BB 18 41 30.3
comp=Z,9µm,21.4s
TREC Trest 111.47 45 *e*P **Pdif 17 54 33.6 +1.3**
TREC *e* 17 59 08.3
TREC MLR MLR
comp=Z,20µm,19.3s
TREC Trest 111.47 45 *e*PDIFF **Pdif 17 54 33.6 +1.3**
TREC *e*PP **PP 17 59 08.3 -3.6**
TREC AMS AMS 18 45 10.0
comp=Z,20µm,19.3s
KNK Knik Glacier 111.52 330 IAMs_20 IAMs_20 18 56 04.9
comp=Z,9µm,19.0s
KNK Knik Glacier 111.52 330 Pdiff **Pdif 17 54 32.2 0.0**
baz=117
JMIC Jan Mayen 111.57 18 *e*Pdif **Pdif 17 54 30.0 -2.2**
JMIC *e*PP **PP 17 59 11.2 -0.8**
JMIC *e*SKSdf **SKSdf 18 05 35.1 -4.6**
JMIC *e*SP **SP 18 08 39.6 -0.4**
JMIC IVMs_BB IVMs_BB 18 41 34.5
comp=Z,5µm,25.0s
SML Sawmill 111.64 330 IAMs_20 IAMs_20 18 54 50.2
comp=Z,8µm,20.0s
SML Sawmill 111.64 330 Pdiff **Pdif 17 54 31.9 -0.9**
baz=117
O22K Cooper Landing 111.65 329 IAMs_20 IAMs_20 18 52 58.6
comp=Z,14µm,21.0s
HYA Hoyanger 111.69 31 *e*PP **PP 17 59 10.4 -2.7**
HYA *e*SP SP 18 08 41.2 -0.3
WAT6 Susitna Watana 111.74 331 Pdiff **Pdif 17 54 32.9 -0.5**
baz=117
J25K Salcha River, 111.75 334 Pdiff **Pdif 17 54 33.5 +0.2**
baz=118
RUE Ruedersdorf 111.77 41 *e*PP **PP 17 59 12.3 -1.6**
baz=243,slow=7.1
BRSE Bradley Lake S 111.78 328 Pdiff **Pdif 17 54 34.2 +0.8**
baz=116
KDAK Kodiak Island 111.81 325 IAMs_20 IAMs_20 18 35 27.1
comp=Z,13µm,22.0s
KDAK Kodiak Island 111.81 325 Pdiff **Pdif 17 54 34.4 +0.8**
baz=115
DHY Denali Highway 111.82 332 IAMs_20 IAMs_20 18 54 37.9
comp=Z,11µm,21.0s
DHY Denali Highway 111.82 332 Pdiff **Pdif 17 54 33.7 0.0**
baz=117
BRLK Bradley Lake 111.86 328 IAMs_20 IAMs_20 18 38 10.3
comp=Z,9µm,20.0s
EUNU Eureka 111.86 357 IAMs_20 IAMs_20 18 48 23.4
comp=Z,13µm,20.0s
GHO Glory Hole Cre 111.88 330 IAMs_20 IAMs_20 18 54 60.0
comp=Z,10µm,20.0s
PMR Palmer 111.88 330 Pdiff **Pdif 17 54 34.7 +0.9**
baz=116
CNPM China Poot 111.92 327 IAMs_20 IAMs_20 18 39 47.7
comp=Z,11µm,21.0s
KRUC Moravsky 111.92 45 *e*PDIFF **Pdif 17 54 35.6 +1.3**
KRUC *e*PP **PP 17 59 09.5 -5.7**
KRUC *e*SDIFF 18 07 17.7
KRUC *e* 18 08 46.8
RC01 Rabbit Creek A 111.92 329 Pdiff **Pdif 17 54 34.4 +0.4**
baz=116
ZST Bratislava 112.01 46 *e*PP **PP 17 59 13.0 -2.8**
ZST *e* 18 08 43.9
SII Sitkinak Islan 112.10 324 IAMs_20 IAMs_20 18 34 53.6
comp=Z,13µm,20.0s
SII Sitkinak Islan 112.10 324 Pdiff **Pdif 17 54 34.7 -0.2**
baz=114
VRAC Vranov 112.14 45⇓ P **PKiKP 17 58 31.7 +0.1**
VRAC Vranov 112.14 45 PKiKP **PKiKP 17 58 32.3 +0.7**
comp=Z,3.9nm,0.7s,baz=255,slow=5.8,SNR=6.6
VRAC Vranov 112.14 45 *e*PDIFF **Pdif 17 54 36.4 +1.1**
VRAC *e* 17 58 29.4
VRAC *e*PP **PP 17 59 11.5 -5.2**
VRAC *e*SDIFF 18 07 19.0
VRAC *e* 18 08 50.8
HOM Homer 112.16 327 IAMs_20 IAMs_20 18 40 52.3
comp=Z,9µm,22.0s
HOM Homer 112.16 327 Pdiff **Pdif 17 54 36.2 +1.1**
baz=115
MODS Modra-Piesok 112.19 46 *e*PKiKP **PKiKP 17 58 31.0 -0.7**
MODS *e* 17 59 13.0
MODS *e* 18 08 48.7
MODS Modra-Piesok 112.19 46 *e*PKP **PKiKP 17 58 31.0 -0.7**
MODS *e*PP **PP 17 59 13.0 -4.1**
MODS *e* 18 08 48.7
MODS *e*SS SS 18 15 28.4 +34
MODS *e*L L 18 42 47.3
WAT1 Susitna Watana 112.19 331 Pdiff **Pdif 17 54 35.2 0.0**
baz=116
IDI Anoyia 112.22 61 PKiKP **PKiKP 17 58 32.8 +0.6**
comp=Z,27nm,1.1s,baz=163,slow=3.4,SNR=3.6
PRP Porcupine Dome 112.23 334 Pdiff **Pdif 17 54 35.8 +0.3**
baz=118
HDA Harding Lake 112.26 333 Pdiff **Pdif 17 54 35.4 -0.1**
baz=117
UPC Upice 112.27 44 *e*P **Pdif 17 54 37.8 +2.0**
UPC *e* 17 59 12.7
UPC MLR MLR
comp=Z,28µm,21.4s
UPC Upice 112.27 44 *e*PDIFF **Pdif 17 54 37.8 +2.0**
UPC *e*PP **PP 17 59 12.7 -4.9**
UPC AMS AMS 18 43 50.0
comp=Z,28µm,21.4s
CHVC Chvalec 112.32 44 *e*PDIFF **Pdif 17 54 37.5 +1.4**
CHVC *e*PP **PP 17 59 15.5 -2.5**
CHVC AMS AMS 18 44 10.0
comp=Z,26µm,20.6s
SMOL Smolenice 112.34 46 *e*PP **PP 17 59 15.1 -3.0**
COP Copenhagen 112.34 38 *e*P **Pdif 17 54 39.5 +3.5**
COP IAMs_20 IAMs_20 18 44 02.3
comp=Z,121µm,21.2s
COP Copenhagen 112.34 38 *e*P **Pdif 17 54 39.4 +3.5**
DPC Dobruska-Polom 112.39 44 *e*P **Pdif 17 54 38.6 +2.2**
DPC *e* 17 59 15.9
DPC *e*SS SS 18 15 09.8 +13
DPC MLR MLR
comp=Z,24µm,20.9s
DPC Dobruska-Polom 112.39 44 *e*PDIFF **Pdif 17 54 38.6 +2.2**
DPC *e*PP **PP 17 59 15.9 -2.6**
DPC *e*SS SS 18 15 09.8 +13
DPC AMS AMS 18 43 50.0
comp=Z,24µm,20.9s
ILAR Eielson Array 112.40 333 Pdiff **Pdif 17 54 35.6 -0.5**
comp=Z,2.0nm,0.8s,baz=130,slow=2.4,SNR=10
ILAR PKiKP **PKiKP 17 58 31.7 +0.1**
comp=Z,4.2nm,0.8s,baz=152,slow=0.6,SNR=10.0
ILAR PP **PP 17 59 23.2 +5.1**
comp=Z,4.7nm,0.9s,baz=116,slow=7.0,SNR=5.9
ILAR PKKPbc **PKKPbc 18 09 22.7 -0.5**
comp=Z,1.5nm,0.7s,baz=322,slow=3.9,SNR=4.5
ILAR Eielson Array 112.40 333 **PKiKP 17 58 31.3 -0.3**
OSTC Ostas 112.41 44 *e*PDIFF **Pdif 17 54 38.3 +1.8**
OSTC *e*PP **PP 17 59 16.0 -2.6**
OSTC AMS AMS 18 43 50.0
comp=Z,26µm,20.7s
CAPN Captain Cook N 112.41 329 IAMs_20 IAMs_20 18 53 33.7
comp=Z,13µm,21.0s
AKN Aaknes 112.48 30 *e*Pdif **Pdif 17 54 36.5 0.0**
AKN *e*PP **PP 17 59 17.0 -1.8**
AKN *e*SP SP 18 08 46.1 -2.8
AKN IVMs_BB IVMs_BB 18 38 14.3
comp=Z,6µm,25.9s
SUA Susitna One 112.53 329 IAMs_20 IAMs_20 18 55 27.7
comp=Z,11µm,21.0s
SUA Susitna One 112.53 329 Pdiff **Pdif 17 54 37.1 +0.3**
baz=115
CHIR Chirikof Islan 112.53 323 IAMs_20 IAMs_20 18 34 28.3
comp=Z,17µm,21.0s
CHIR Chirikof Islan 112.53 323 Pdiff **Pdif 17 54 39.3 +2.4**
baz=114
FRGS Fruska Gora 112.54 50⇓ P **PKiKP 17 58 37.0 +4.5**
KRLC Kraliky 112.55 44 *e*P **Pdif 17 54 38.2 +1.0**
KRLC *e* 17 59 14.4
KRLC MLR MLR
comp=Z,18µm,19.8s
KRLC Kraliky 112.55 44 *e*PDIFF **Pdif 17 54 38.2 +1.0**
KRLC *e*PP **PP 17 59 14.4 -5.3**
KRLC AMS AMS 18 45 30.0
comp=Z,18µm,19.8s
KSP Ksiaz 112.56 43 *e*Pdif **Pdif 17 54 39.5 +2.4**
KSP *e*PKiKP **PKiKP 17 58 34.0 +1.7**
KSP *e*PP **PP 17 59 17.3 -2.4**
KSP *e*PS PKKPbc 18 09 11.6 -11
KSP *e*L L 18 44 18.5
comp=Z,24µm,22.1s
KONO Kongsberg 112.57 33 *i* PKiKP **PKiKP 17 58 30.9 -1.1**
KONO MLR MLR
comp=Z,7µm,19.0s
RND Reindeer 112.57 332 IAMs_20 IAMs_20 18 40 28.7
comp=Z,10µm,22.0s
SRO Srobarova 112.61 47 *e*PP **PP 17 59 17.1 -3.0**
JAVC Velka Javorina 112.62 46 *e*PDIFF **Pdif 17 54 39.2 +1.7**
JAVC *e*PP **PP 17 59 15.1 -5.1**
JAVC *e*SDIFF 18 07 24.9
JAVC *e* 18 08 57.8
CUT Chulitna 112.72 330 IAMs_20 IAMs_20 18 55 21.7
comp=Z,12µm,21.0s
CUT Chulitna 112.72 330 Pdiff **Pdif 17 54 37.4 -0.1**
baz=115
MCK McKinley 112.74 332 IAMs_20 IAMs_20 18 41 35.2
comp=Z,14µm,21.0s
MCK McKinley 112.74 332 Pdiff **Pdif 17 54 37.9 +0.2**
baz=116
POKR Poker Plat Res 112.76 334 Pdiff **Pdif 17 54 38.1 +0.4**
baz=116
O20K Slope Mountain 112.79 328 Pdiff **Pdif 17 54 39.3 +1.3**
baz=114
COLA College 112.82 333 Pdiff **Pdif 17 54 38.0 +0.2**
baz=116
TCOL CIGO, UAF Yank 112.82 333 Pdiff **Pdif 17 54 38.0 +0.1**
baz=116
MOL Molde 112.88 30 *e*Pdif **Pdif 17 54 37.0 -1.2**
MOL IVmBBB 17 54 40.5
comp=Z,493nm,3.1s
MOL *e*PP **PP 17 59 21.1 -0.5**
MOL *e*SP SP 18 08 51.4 -1.0
MOL IVMs_BB IVMs_BB 18 39 24.7
comp=Z,7µm,25.4s
MORC Moravsky Berou 112.89 45⇓ P **PKiKP 17 58 33.1 +0.1**
MORC Moravsky Berou 112.89 45⇓ PKiKP **PKiKP 17 58 33.1 +0.1**
MORC Moravsky Berou 112.89 45 *e*PDIFF **Pdif 17 54 39.6 +0.9**
MORC *e* 17 58 31.6
MORC *e*PP **PP 17 59 16.6 -5.5**
MORC *e*SDIFF 18 07 26.4
MORC *e* 18 08 56.8
P19K Oil Pt 112.89 327 Pdiff **Pdif 17 54 39.5 +1.1**
baz=114
MDM Murphy Dome 113.00 333 IAMs_20 IAMs_20 18 44 32.0
comp=Z,16µm,20.0s
SPCR Spurr Chakacha 113.06 329 Pdiff **Pdif 17 54 38.8 -0.4**
baz=114
SKT Skwentna 113.08 330 IAMs_20 IAMs_20 18 55 44.4
comp=Z,8µm,20.0s
SKT Skwentna 113.08 330 Pdiff **Pdif 17 54 39.8 +0.6**
baz=114
BWN Browne 113.14 332 IAMs_20 IAMs_20 18 43 46.1
comp=Z,17µm,21.0s
NEA2 Nenana 113.17 333 Pdiff **Pdif 17 54 39.0 -0.5**
baz=115
TRF Thorofare Moun 113.17 331 IAMs_20 IAMs_20 18 55 48.6
comp=Z,11µm,20.0s
TRF Thorofare Moun 113.17 331 Pdiff **Pdif 17 54 39.5 -0.2**
baz=115
VYHS Vyhne 113.19 46 *e*PKiKP **PKiKP 17 58 34.0 +0.4**
VYHS *e* 17 59 21.0
VYHS *e* 18 09 01.7
VYHS Vyhne 113.19 46 *e*PKP **PKiKP 17 58 34.0 +0.4**
VYHS *e*PP **PP 17 59 21.0 -3.3**
VYHS *e* 18 09 01.7
VYHS *e*L L 18 42 52.2
OSL Oslo 113.20 33 *e*PP **PP 17 59 23.2 -0.7**
OSL *e*SKSac **SKSac 18 05 15.0 -0.8**
OSL *e*SP **SP 18 08 56.2 +0.7**
OSL IVMs_BB IVMs_BB 18 40 26.4
comp=Z,6µm,24.7s
BOVS Bovan 113.21 52⇑ P **PKiKP 17 58 32.6 -1.2**
H24K Noodor Dome 113.25 334 Pdiff **Pdif 17 54 40.3 +0.5**
baz=116
OKC Ostrava-Krasne 113.28 45 *e*P **Pdif 17 54 42.4 +2.1**
OKC *e* 17 59 22.5
OKC *e*SS SS 18 15 22.1 +13
OKC MLR MLR
comp=Z,14µm,19.3s
OKC Ostrava-Krasne 113.28 45 *e*PDIFF **Pdif 17 54 42.4 +2.1**
OKC *e*PP **PP 17 59 22.5 -2.3**
OKC *e*SS SS 18 15 22.1 +13
OKC AMS AMS 18 46 30.0
comp=Z,14µm,19.3s
DOMB Dombas 113.31 30 *e*Pdif **Pdif 17 54 40.9 +0.7**
DOMB *e*PP **PP 17 59 24.3 -0.4**
DOMB *e*SP SP 18 08 56.4 0.0
DOMB IVMs_BB IVMs_BB 18 47 20.1
comp=Z,5µm,18.4s
KTH Kantishna Hill 113.47 331 IAMs_20 IAMs_20 18 43 37.6
comp=Z,11µm,21.0s
I23K Minto, Yukon-K 113.51 333 IAMs_20 IAMs_20 18 44 58.5
comp=Z,15µm,21.0s
I23K Minto, Yukon-K 113.51 333 Pdiff **Pdif 17 54 41.2 +0.2**
baz=115
O19K Port Alsworth 113.61 327 IAMs_20 IAMs_20 18 40 41.5
comp=Z,8µm,21.0s
MDVR Moldovita 113.65 51⇓ P **PKiKP 17 58 31.7 -3.0**
BPAW Bear Paw Mtn. 113.72 332 IAMs_20 IAMs_20 18 43 03.1
comp=Z,10µm,22.0s
BPAW Bear Paw Mtn. 113.72 332 Pdiff **Pdif 17 54 42.0 0.0**
baz=114
PPLA Purkeypile 113.73 330 Pdiff **Pdif 17 54 42.5 +0.3**
baz=114
LANS Liptovska Anna 113.82 46 *e*PKiKP **PKiKP 17 58 35.7 +0.9**
LANS *e* 17 59 26.3
LANS Liptovska Anna 113.82 46 *e*PKP **PKiKP 17 58 35.7 +0.9**
LANS *e*PP **PP 17 59 26.3 -2.5**
NB2 NORSAR Subarra 113.86 32 PKPdf **PKiKP 17 58 34.5 0.0**
comp=Z,75nm,1.7s,baz=248,slow=1.9
NB2 NORSAR Subarra 113.86 32 PKPdf **PKiKP 17 58 34.5 0.0**
baz=248,slow=1.9
NOA NORSAR Array B 113.86 32 Pdiff **Pdif 17 54 43.3 +0.6**
comp=Z,0.4nm,0.8s,baz=241,slow=4.3,SNR=2.0
NOA PKiKP **PKiKP 17 58 34.8 +0.3**
comp=Z,5.9nm,1.0s,baz=253,slow=2.0,SNR=12
NOA PKKPbc **PKKPab 18 09 20.3 -1.2**
comp=Z,1.1nm,0.8s,baz=69,slow=4.4,SNR=4.6
H23K Yukon River 113.86 334 IAMs_20 IAMs_20 18 45 56.2
comp=Z,16µm,20.0s
H23K Yukon River 113.86 334 Pdiff **Pdif 17 54 42.3 -0.3**
baz=114
VTS Vitosha 113.87 54⇓ P **PKiKP 17 58 32.8 -2.5**
VTS Vitosha 113.87 54⇓ PKiKP **PKiKP 17 58 32.8 -2.5**
NC602 NORSAR Array S 113.89 32 *e*Pdif **Pdif 17 54 42.0 -0.8**
NC602 IVmB_BB 17 54 45.5
comp=Z,351nm,4.8s
NC602 *e*PP **PP 17 59 25.4 -3.4**
NC602 *e*SP SP 18 09 00.4 -1.3
NC602 *e*SS SS 18 15 14.1 -2.3
NC602 IVMs_BB IVMs_BB 18 44 02.3
comp=Z,7µm,18.6s
BZS Buzias 113.89 50⇑ P **PKiKP 17 58 34.2 -0.8**
BZS Buzias 113.89 50⇑ PKiKP **PKiKP 17 58 34.2 -0.8**
CAST Castle Rocks 113.90 331 IAMs_20 IAMs_20 18 43 15.8
comp=Z,12µm,20.0s
CAST Castle Rocks 113.90 331 Pdiff **Pdif 17 54 43.0 +0.3**
baz=113
N19K Bonanza Creek 113.93 328 IAMs_20 IAMs_20 18 56 49.8
comp=Z,12µm,20.0s
N19K Bonanza Creek 113.93 328 Pdiff **Pdif 17 54 43.5 +0.5**
baz=112
MLY Manley 114.00 333 Pdiff **Pdif 17 54 43.4 +0.1**
baz=114
GKP Gorka Klasztor 114.01 41 *e*Pdif **Pdif 17 54 47.0 +3.5**
GKP *e*PP **PP 17 59 28.6 -1.3**
GKP *e*PS **PS 18 09 07.7 +0.7**
GKP *e*L L 18 44 47.7
comp=Z,37µm,21.8s
ALE Alert 114.11 1 IAMs_20 IAMs_20 18 49 55.5
comp=Z,14µm,20.0s
HERR Herculane 114.15 51⇑ P PKPdf 17 58 25.7 -10
CHGN Chignik 114.17 322 Pdiff **Pdif 17 54 44.2 +0.1**
baz=111
CHUM Lake Minchumin 114.17 331 Pdiff **Pdif 17 54 43.9 0.0**
baz=113
KECS Kecovo 114.21 47 *e*PP **PP 17 59 28.1 -3.4**
CHNA Chernabura Isl 114.26 321 Pdiff **Pdif 17 54 43.9 -0.6**
baz=111
TBLU Trondheim 114.29 29 *e*PP **PP 17 59 31.7 +0.2**
TBLU *e*SP SP 18 09 04.0 -1.3
TBLU *e*SS SS 18 15 25.1 +3.5
TBLU IVMs_BB IVMs_BB 18 40 46.0
comp=Z,5µm,23.7s
L20K Farewell, AK 114.29 330 Pdiff **Pdif 17 54 44.5 -0.1**
baz=112
M19K Big River Lodg 114.30 329 IAMs_20 IAMs_20 18 43 40.5
comp=Z,7µm,19.0s
M19K Big River Lodg 114.30 329 Pdiff **Pdif 17 54 45.3 +0.7**
baz=112

NIE	**Niedzica**	**114.43**	**46**	*e*Pdif	**Pdif**	**17 54 53.0**	**+7.5**		
NIE				*e*PKiKP	**PKiKP**	**17 58 38.7**	**+2.7**		
NIE				*e*PP	**PP**	**17 59 32.2**	**-0.8**		
NIE				*e*PS	**PKKPdf**	**18 09 34.6**	**-4.8**		
NIE				*e*L	L	18 43 05.0			
	comp=Z,20µm,24.9s								
N18K	**Kilae Creek**	**114.52**	**327**	IAMs_20	IAMs_20	18 57 11.4			
	comp=Z,9µm,19.0s								
I21K	**Tanana**	**114.54**	**333**	Pdiff	**Pdif**	**17 54 45.3**	**-0.3**		
	baz=113								
GZR	**Gura Zlata**	**114.57**	**51**	⇑P	PKPdf	17 58 36.3	-0.1		
GZR	**Gura Zlata**	**114.57**	**51**	⇑PKiKP	PKPdf	17 58 36.3	-0.1		
L19K	**White Mountain**	**114.60**	**329**	IAMs_20	IAMs_20	18 44 55.6			
	comp=Z,16µm,22.0s								
L19K	**White Mountain**	**114.60**	**329**	Pdiff	**Pdif**	**17 54 45.5**	**-0.5**		
	baz=112								
HFS	**Hagfors**	**114.66**	**33**	PKP	PKPdf	17 58 35.5	-0.5		
	comp=Z,2.9nm,0.7s,baz=204,slow=3.3,SNR=5.8								
HFS				PKKPbc	**PKKPab**	**18 09 18.7**	**+0.7**		
	comp=Z,3.7nm,0.8s,baz=66,slow=3.6,SNR=4.7								
COLD	**Coldfoot**	**114.67**	**335**	Pdiff	**Pdif**	**17 54 46.8**	**+0.7**		
	baz=113								
K20K	**Telida**	**114.70**	**331**	IAMs_20	IAMs_20	18 56 42.0			
	comp=Z,8µm,19.0s								
K20K	**Telida**	**114.70**	**331**	Pdiff	**Pdif**	**17 54 46.2**	**-0.2**		
	baz=112								
DEV	**Deva**	**114.83**	**50**	⇓P	PKiKP	17 58 49.9	+13		
SDPT	**Sand Point**	**114.92**	**321**	Pdiff	**Pdif**	**17 54 48.9**	**+1.5**		
	baz=110								
CRVS	**Cervenica-Dubn**	**114.96**	**47**	*e*PKiKP	**PKiKP**	**17 58 37.1**	**+0.1**		
CRVS				*e*		17 59 33.7			
CRVS				*e*		18 09 19.8			
CRVS	**Cervenica-Dubn**	**114.96**	**47**	*e*PKP	**PKiKP**	**17 58 37.0**	**+0.1**		
CRVS				*e*PP	**PP**	**17 59 33.7**	**-3.1**		
CRVS				*e*		18 09 19.8			
CRVS				*e*SS	SS	18 16 14.6	+43		
CRVS				*e*L	L	18 43 45.7			
STHS	**Stebnicka Huta**	**115.01**	**46**	*e*PKiKP	**PKiKP**	**17 58 42.7**	**+5.6**		
STHS	**Stebnicka Huta**	**115.01**	**46**	*e*PKP	**PKiKP**	**17 58 42.7**	**+5.6**		
TOLK	**Toolik Lake Re**	**115.01**	**337**	Pdiff	**Pdif**	**17 54 48.0**	**+0.4**		
	baz=113								
DRGR		**115.02**	**49**	⇑P	**PKiKP**	**17 58 37.2**	**0.0**		
DRGR		**115.02**	**49**	⇑PKiKP	**PKiKP**	**17 58 37.2**	**0.0**		
J20K	**Nowinta River**	**115.03**	**331**	IAMs_20	IAMs_20	18 48 12.7			
	comp=Z,8µm,20.0s								
J20K	**Nowinta River**	**115.03**	**331**	Pdiff	**Pdif**	**17 54 47.8**	**+0.1**		
	baz=111								
H21K	**Melozitna Rive**	**115.04**	**333**	Pdiff	**Pdif**	**17 54 48.3**	**+0.5**		
	baz=112								
NWAO	**Narrogin (SRO)**	**115.16**	**188**	IAMs_20	IAMs_20	18 42 56.4			
	comp=Z,14µm,22.0s								
TRPA	**Tarpa**	**115.37**	**48**	⇑P	**PKPdf**	**17 58 37.3**	**-0.5**		
UZH	**Uzhgorod**	**115.39**	**47**	*i* PKiKP	**PKiKP**	**17 58 39.0**	**+1.2**		
UZH				*e*		17 58 47.2			
UZH				*e*		17 58 53.4			
UZH				*e*		17 59 35.8			
UZH				*e*PPP	PPP	18 02 15.5			
UZH				*e*PS	**PKKPbc**	**18 09 07.8**	**-4.7**		
UZH				*e*SS	SS	18 15 46.8	+10		
UZH				*e*SSS	SSS	18 19 45.0			
NSS	**Namsos**	**115.46**	**28**	*e*PKPdf	**PKiKP**	**17 58 38.1**	**+0.7**		
NSS				*e*PP	**PP**	**17 59 39.7**	**-0.1**		
KOLS	**Kolonicke sedl**	**115.48**	**47**	*e*PP	**PP**	**17 59 36.7**	**-3.7**		
KOLS				*e*		18 09 21.6			
KOLS				*e*SS	SS	18 16 10.4	+32		
KOLS				*e*L	L	18 45 51.2			
IMAR	**Indian Mountai**	**115.52**	**333**		**PKPdf**	**17 58 37.3**	**-0.2**		
BEL	**Belsk**	**115.55**	**43**	*e*Pdif	**Pdif**	**17 54 54.7**	**+4.3**		
BEL				*e*PP	**PP**	**17 59 38.6**	**-2.2**		
BEL				*e*PS	**PS**	**18 09 23.5**	**+2.4**		
BEL				*e*L	L	18 47 27.4			
	comp=Z,31µm,20.6s								
HUMR	**Humele**	**115.74**	**52**	⇑P	**PKiKP**	**17 58 38.8**	**+0.2**		
ARR	**Arges**	**115.79**	**51**	⇑P	**PKiKP**	**17 58 38.9**	**+0.1**		
KWP	**Kalwaria Pacla**	**115.98**	**46**	*e*Pdif	**Pdif**	**17 54 56.9**	**+4.5**		
KWP				*e*PKiKP	**PKiKP**	**17 58 40.0**	**+1.1**		
KWP				*e*PP	**PP**	**17 59 41.1**	**-2.8**		
KWP				*e*PS	PKKPdf	18 09 44.6	+8.2		
KWP				*e*L	L	18 43 40.7			
	comp=Z,27µm,25.2s								
KWP	**Kalwaria Pacla**	**115.98**	**46**	PKiKP	**PKPdf**	**17 58 38.4**	**-0.5**		
KWP				MLR	MLR				
	comp=Z,125µm,19.0s								
KWP	**Kalwaria Pacla**	**115.98**	**46**		**PKPdf**	**17 58 38.4**	**-0.5**		
HNR	**Honiara**	**116.05**	**239**	IAMs_20	IAMs_20	18 37 45.3			
	comp=Z,8µm,22.0s								
BALB	**Balikesir**	**116.07**	**58**		**PKPdf**	**17 58 37.4**	**-2.0**		
VOIR		**116.09**	**51**	⇓P	**PKPdf**	**17 58 32.2**	**-7.2**		
VOIR		**116.09**	**51**	⇓PKiKP	**PKPdf**	**17 58 32.2**	**-7.2**		
KLNR	**Kaliningrad**	**116.12**	**40**	*i* PKiKP	**PKPdf**	**17 58 37.1**	**-1.8**		
KLNR				pmax	pmax				
	comp=Z,68nm,0.9s								
KLNR				MLR	MLR				
	comp=Z,17µm,23.0s								
ARCR	**ARCALIA**	**116.18**	**49**	⇓P	**PKiKP**	**17 58 39.4**	**0.0**		
UPP	**Uppsala**	**116.43**	**34**	*e*P	**PKiKP**	**17 58 42.9**	**+3.5**		
NOR	**Nord**	**116.46**	**8**	*i* P	**PKPdf**	**17 58 38.9**	**-0.2**		
NOR				*i*		17 58 51.4			
NOR	**Nord**	**116.46**	**8**	*i* P	**PKPdf**	**17 58 38.0**	**-1.0**		
NOR				*i*		17 58 51.4			
NOR	**Nord**	**116.46**	**8**	*i* PKiKP	**PKPdf**	**17 58 38.8**	**-0.2**		
NOR				*i*		17 58 51.3			
DOPR	**Dopca**	**116.49**	**51**	⇓P	**PKiKP**	**17 58 42.3**	**+2.2**		
KONS	**Konsvik**	**116.57**	**27**	*e*PKPdf	**PKiKP**	**17 58 39.8**	**+0.3**		
KONS				*e*PP	**PP**	**17 59 47.1**	**-0.4**		
SECR		**116.64**	**52**	⇑P	**PKiKP**	**17 58 40.9**	**+0.5**		
MLR	**Muntele Rosu**	**116.70**	**51**	⇑P	**PKPdf**	**17 58 40.1**	**-0.5**		
MLR	**Muntele Rosu**	**116.70**	**51**	PKP	**PKPdf**	**17 58 40.4**	**-0.2**		
	comp=Z,26nm,1.1s,baz=248,slow=5.9,SNR=9.9								
MLR				PP	**PP**	**17 59 52.8**	**+3.5**		
	comp=Z,70nm,1.1s,baz=224,slow=5.2,SNR=6.7								
MLR	**Muntele Rosu**	**116.70**	**51**	PKPdf	**PKPdf**	**17 58 39.4**	**-1.2**		
OZUR		**116.79**	**51**	⇓P	**PKiKP**	**17 58 42.5**	**+1.9**		
LVV	**L'vov**	**116.85**	**46**	*e*P	**Pdif**	**17 54 55.4**	**-0.8**		
LVV				*e*		17 58 40.4			
LVV				*e*		18 02 14.1			
LVV				*e*		18 09 26.4			
MIDW	**Midway**	**116.89**	**288**	IAMs_20	IAMs_20	18 36 08.7			
	comp=Z,14µm,21.0s								
BUR08	**Bucovina Ar. S**	**116.91**	**49**	PKPdf	**PKPdf**	**17 58 40.3**	**-0.6**		
BUR01	**Bucovina Ar. S**	**116.91**	**49**	⇓P	**PKiKP**	**17 58 40.9**	**0.0**		
BURAR	**Bucovina Array**	**116.91**	**49**	PKPdf	**PKPdf**	**17 58 40.0**	**-0.8**		
NEHR	**Nehoiu**	**116.92**	**51**	⇓P	**PKPdf**	**17 58 39.5**	**-1.3**		
MOR8	**Moi Rana**	**116.98**	**27**	*e*Pdif	**Pdif**	**17 54 56.9**	**+0.5**		
MOR8				*e*PKPdf	**PKiKP**	**17 58 40.8**	**+0.4**		
MOR8				*e*PP	**PP**	**17 59 51.1**	**+0.7**		
MOR8				*e*SP	SP	18 09 30.4	+0.8		
MOR8				*e*SS	SS	18 15 59.7	+3.1		
MOR8				IVMs_BB	IVMs_BB	18 43 50.2			
	comp=Z,5µm,24.5s								
COVR	**Voineasa-Covas**	**116.99**	**51**	⇑P	**PKiKP**	**17 58 41.8**	**+0.8**		
CTA	**Charters Tower**	**117.05**	**220**	PKP	**PKiKP**	**17 58 42.9**	**+0.9**		
	comp=Z,5.6nm,0.9s,baz=101,slow=1.1,SNR=3.8								
CTA				PKKPbc	**PKKPbc**	**18 09 08.7**	**+2.4**		
	comp=Z,17nm,1.1s,baz=179,slow=4.3,SNR=4.9								
CTAO	**Charters Tower**	**117.05**	**220**	IAMs_20	IAMs_20	18 38 40.9			
	comp=Z,12µm,20.0s								
BISRR	**Bisoca**	**117.23**	**51**	⇑P	**PKPdf**	**17 58 41.0**	**-0.6**		
LOF	**Lofoten**	**117.23**	**25**	*e*Pdif	**Pdif**	**17 54 56.6**	**-0.8**		
LOF				*e*PKPdf	**PKiKP**	**17 58 41.1**	**+0.4**		
LOF				*e*PP	**PP**	**17 59 51.6**	**-0.4**		
LOF				*e*SP	SP	18 09 29.2	-2.6		
LOF				*e*SS	SS	18 15 56.1	-3.6		
LOF				IVMs_BB	IVMs_BB	18 44 31.1			
	comp=Z,4µm,22.4s								
BIZ	**Bicaz**	**117.27**	**50**	⇓P	**PKPdf**	**17 58 41.2**	**-0.3**		
PLOR	**Plostina**	**117.29**	**51**	⇑P	**PKPdf**	**17 58 40.8**	**-0.8**		
PLOR	**Plostina**	**117.29**	**51**	⇑PKiKP	**PKPdf**	**17 58 40.8**	**-0.8**		
VRI	**Vrincioaia**	**117.34**	**51**	⇓P	**PKPdf**	**17 58 41.0**	**-0.7**		
VRI	**Vrincioaia**	**117.34**	**51**	⇓PKiKP	**PKPdf**	**17 58 41.0**	**-0.7**		
ISP	**Isparta**	**117.37**	**61**	IAMs_20	IAMs_20	18 55 49.9			
	comp=Z,11µm,20.0s								
PRAR	**RASCA**	**117.48**	**49**	⇓P	**PKPdf**	**17 58 41.3**	**-0.6**		
TESR	**Tescani**	**117.49**	**50**	⇑P	**PKPdf**	**17 58 41.7**	**-0.3**		
SUW	**Suwalki**	**117.60**	**42**	*e*Pdif	**Pdif**	**17 55 04.0**	**+4.6**		
SUW				*e*PP	**PP**	**17 59 49.4**	**-5.6**		
SUW				*e*PS	**PS**	**18 09 37.5**	**-2.1**		
SUW				*e*L	L	18 47 20.5			
	comp=Z,26µm,21.8s								
SUW	**Suwalki**	**117.60**	**42**	PKiKP	**PKPdf**	**17 58 40.7**	**-1.2**		
SUW				MLR	MLR				
	comp=Z,25µm,21.0s								
SUW	**Suwalki**	**117.60**	**42**		**PKPdf**	**17 58 40.7**	**-1.2**		
FAUS	**Fauske**	**117.65**	**26**	*e*PKPdf	**PKPdf**	**17 58 41.4**	**-0.1**		
FAUS				*e*PP	**PP**	**17 59 54.3**	**-0.7**		
HARR	**Harsova**	**117.78**	**53**	⇑P	**PKPdf**	**17 58 42.4**	**-0.1**		
HARR	**Harsova**	**117.78**	**53**	⇑PKiKP	**PKPdf**	**17 58 42.4**	**-0.1**		
STEI	**Steigen**	**117.79**	**25**	*e*PKPdf	**PKiKP**	**17 58 42.0**	**+0.2**		
STEI				*e*pPKPdf	**sPKPdf**	**17 58 52.4**	**-1.0**		
STEI				*e*PP	**PP**	**17 59 55.6**	**-0.3**		
GHRR		**117.85**	**51**	⇓P	**PKPdf**	**17 58 42.3**	**-0.3**		
EIL	**Elat**	**117.86**	**71**	PKP	**PKiKP**	**17 58 43.1**	**0.0**		
	comp=Z,5.0nm,0.8s,baz=131,slow=4.4,SNR=4.0								
TIRR	**Tirgusor**	**118.04**	**53**	⇑P	**PKPdf**	**17 58 42.5**	**-0.5**		
TIRR	**Tirgusor**	**118.04**	**53**	⇑PKiKP	**PKPdf**	**17 58 42.5**	**-0.5**		
TIRR	**Tirgusor**	**118.04**	**53**	PKPdf	**PKPdf**	**17 58 41.8**	**-1.2**		
CFR	**Carcaliu**	**118.07**	**52**	⇑P	**PKPdf**	**17 58 42.1**	**-0.9**		
CFR	**Carcaliu**	**118.07**	**52**	⇑PKiKP	**PKPdf**	**17 58 42.1**	**-0.9**		
SLIT	**Slitere, Latvi**	**118.12**	**37**	*e*P	**PKPdf**	**17 58 38.6**	**-4.1**		
TATR	**Tatarca**	**118.14**	**52**	⇓P	**PKiKP**	**17 58 43.8**	**+0.6**		
TPGR	**Topolog**	**118.16**	**53**	⇓P	**PKPdf**	**17 58 42.7**	**-0.6**		
A21K	**Barrow**	**118.19**	**339**	IAMs_20	IAMs_20	18 45 57.6			
	comp=Z,10µm,22.0s								
LEF	**Lefka**	**118.23**	**64**	⇓P	**PKiKP**	**17 58 48.4**	**+4.7**		
VLDR	**Vladesti**	**118.24**	**51**	⇑P	**PKiKP**	**17 58 43.6**	**+0.3**		
PABE	**Paberze**	**118.45**	**40**	*e*P	**PKPdf**	**17 58 43.3**	**-0.1**		
PABE	**Paberze**	**118.45**	**40**	PKPdf	**PKPdf**	**17 58 42.6**	**-0.8**		
CSS	**Mathiatis**	**118.51**	**65**	PKPdf	**PKPdf**	**17 58 43.4**	**-0.8**		
CSS				IAMs_20	IAMs_20	18 49 31.2			
	comp=Z,9µm,22.0s								
TLCR		**118.53**	**52**	⇓P	**PKPdf**	**17 58 43.4**	**-0.5**		
TLCR		**118.53**	**52**	⇓PKiKP	**PKPdf**	**17 58 43.4**	**-0.5**		
RAF	**Rauma**	**118.72**	**34**	*e*P	**PKiKP**	**17 58 47.3**	**+3.5**		
NIKH	**Nikolski High**	**118.89**	**317**	PKiKP	**PKPdf**	**17 58 43.9**	**-0.5**		
	baz=105								
MILM	**Milestii Mici**	**119.03**	**50**	⇓P	**PKPdf**	**17 58 43.5**	**-1.3**		
KIS	**Kishinev**	**119.06**	**50**	*e*P	**Pdif**	**17 55 07.0**	**+0.9**		
KIS	**Kishinev**	**119.06**	**50**	*e*PKP	**PKPdf**	**17 58 42.0**	**-2.9**		
KIS	**Kishinev**	**119.06**	**50**	*e*PP	PP	18 00 17.0	+12		
KIS	**Kishinev**	**119.06**	**50**	*e*PS	PS	18 09 55.0	+1.9		
KIS				*e*LQ	LQ	18 37 40.0			
	comp=Z,4µm,25.0s								
KIS				LRM	MLR	18 51 35.0			
	comp=Z,4µm,21.0s								
KIS	**Kishinev**	**119.06**	**50**	*e*P	**Pdif**	**17 55 07.0**	**+0.9**		
KIS				*e*PS	**PS**	**18 09 55.0**	**+1.9**		
SORM	**Soroca**	**119.08**	**49**	⇑P	**PKPdf**	**17 58 44.0**	**-0.9**		
SORM	**Soroca**	**119.08**	**49**	⇑PKiKP	**PKPdf**	**17 58 44.0**	**-0.9**		
MTSE	**Matsula**	**119.17**	**37**	*e*P	**PKPdf**	**17 58 41.2**	**-3.5**		
MMAI	**Mount Meron Ar**	**119.44**	**67**	PKP	**PKPdf**	**17 58 45.8**	**-0.4**		
	comp=Z,7.5nm,0.6s,baz=24,slow=1.0,SNR=13								
MMAI				PKKPbc	**PKKPab**	**18 09 01.4**	**+2.5**		
	comp=Z,3.0nm,0.8s,baz=89,slow=5.1,SNR=4.8								
TRO	**Tromso**	**119.50**	**24**	*e*Pdif	**Pdif**	**17 55 07.6**	**+0.1**		
TRO				*e*PKPdf	**PKiKP**	**17 58 45.4**	**+0.3**		
TRO				*e*PP	**PP**	**18 00 07.7**	**0.0**		
TRO				*e*SP	SP	18 09 52.3	+0.2		
TRO				*e*SS	SS	18 16 28.4	-0.6		
TRO				IVMs_BB	IVMs_BB	18 44 07.1			
	comp=Z,4µm,24.8s								
PURM	**Purcari**	**119.62**	**51**	⇓P	**PKiKP**	**17 58 46.3**	**+0.2**		
KBS	**Kingsbay**	**119.65**	**13**	*i* P	**Pdif**	**17 55 10.3**	**+2.3**		
KBS				IAMs_20	IAMs_20	18 47 06.7			
	comp=Z,22µm,21.6s								
KBS	**Kingsbay**	**119.65**	**13**	*i* PKiKP	**PKPdf**	**17 58 45.0**	**-0.2**		
KBS				MLR	MLR				
	comp=Z,6µm,18.0s								
KBS	**Kingsbay**	**119.65**	**13**	*e*PKPdf	**PKiKP**	**17 58 45.6**	**+0.4**		
KBS				*e*PP	**PP**	**18 00 07.5**	**-1.1**		
KBS	**Kingsbay**	**119.65**	**13**	IAMs_20	IAMs_20	18 47 14.4			
	comp=Z,10µm,22.0s								
ISAL	**Salakas**	**119.66**	**40**	*e*P	**PKiKP**	**17 58 49.2**	**+3.3**		
IIGN	**Ignalina**	**119.66**	**41**	*e*P	**PKiKP**	**17 58 50.1**	**+4.2**		
BR231	**Keskin MP Arra**	**119.70**	**59**		**PKPdf**	**17 58 46.3**	**-0.3**		
ANTO	**Ankara**	**119.72**	**59**	PKIKP	**PKPdf**	**17 58 45.2**	**-1.3**		
ANTO				MLR	MLR				
	comp=Z,26µm,21.0s								
ANTO	**Ankara**	**119.72**	**59**	PKPdf	**PKPdf**	**17 58 45.2**	**-1.3**		
ASAR	**Alice Springs**	**119.80**	**207**	PKP	**PKPdf**	**17 58 45.2**	**-2.0**		
	comp=Z,15nm,0.9s,baz=129,slow=1.6,SNR=78								
ASAR				PKKPbc	**PKKPbc**	**18 08 56.5**	**-0.1**		
	comp=Z,6.8nm,0.7s,baz=337,slow=2.7,SNR=22								
ASAR				SKKPbc	SKKPbc	18 12 43.9	+4.0		
	comp=Z,8.4nm,1.0s,baz=346,slow=3.6,SNR=4.8								
ASAR	**Alice Springs**	**119.80**	**207**	PKIKP	**PKPdf**	**17 58 44.6**	**-2.7**		
ASAR	**Alice Springs**	**119.80**	**207**	PKPdf	**PKPdf**	**17 58 44.6**	**-2.7**		
ASAR					**PKKPbc**	**18 08 55.0**	**-1.5**		
AS31	**Alice Springs**	**119.80**	**207**	PKPdf	**PKPdf**	**17 58 44.8**	**-2.5**		
MEF	**Metsahovi**	**119.80**	**35**	*e*P	**PKiKP**	**17 58 45.9**	**0.0**		
ANM	**Nome**	**119.82**	**330**	IAMs_20	IAMs_20	18 43 57.4			
	comp=Z,8µm,22.0s								
ANM	**Nome**	**119.82**	**330**	PKiKP	**PKiKP**	**17 58 46.7**	**+0.8**		
	baz=102								
NACGM	**Naroch**	**119.86**	**41**	*i* PKP	**PKPdf**	**17 58 45.8**	**-0.3**		
HSPB	**Hornsund (broa**	**119.99**	**15**	*e*Pdif	**Pdif**	**17 55 13.7**	**+4.2**		
HSPB				*e*PP	**PP**	**18 00 05.0**	**-5.9**		
HSPB				*e*PS	**PS**	**18 10 01.3**	**+0.8**		
HSPB				*e*L	L	18 41 27.8			
	comp=Z,9µm,32.8s								
HSPB	**Hornsund (broa**	**119.99**	**15**	*e*PKPdf	**PKiKP**	**17 58 46.2**	**+0.3**		
HSPB				*e*PP	**PP**	**18 00 10.0**	**-0.9**		
JETT	**Jettan, Norway**	**119.99**	**24**	*e*Pdif	**Pdif**	**17 55 10.8**	**+1.0**		
JETT				*e*PKPdf	**PKiKP**	**17 58 46.4**	**+0.2**		
JETT				*e*PP	**PP**	**18 00 11.3**	**+0.1**		
BR131	**Keskin Array S**	**120.29**	**60**	PKIKP	**PKPdf**	**17 58 46.3**	**-1.4**		
BR131	**Keskin Array S**	**120.29**	**60**		**PKPdf**	**17 58 46.3**	**-1.4**		
BRTR	**Keskin Array B**	**120.29**	**60**	PKP	**PKPdf**	**17 58 46.4**	**-1.4**		
	comp=Z,19nm,0.8s,baz=194,slow=2.9,SNR=41								
BRTR				PP	**PP**	**18 00 17.6**	**+3.4**		
	comp=Z,14nm,1.0s,baz=235,slow=5.9,SNR=3.6								
BRTR				PKKPbc	**PKKPbc**	**18 08 56.8**	**+2.0**		
	comp=Z,1.8nm,0.8s,baz=90,slow=3.8,SNR=4.7								
BRTR	**Keskin Array B**	**120.29**	**60**	PKIKP	**PKPdf**	**17 58 45.9**	**-1.8**		
BRTR	**Keskin Array B**	**120.29**	**60**	PKPdf	**PKPdf**	**17 58 45.9**	**-1.8**		
AKASG	**Malin Array Be**	**120.30**	**46**	PKP	**PKPdf**	**17 58 45.6**	**-1.5**		
	comp=Z,13nm,0.7s,baz=266,slow=2.5,SNR=38								
AKASG				PP	**PP**	**18 00 13.8**	**+0.1**		
	comp=Z,19nm,1.0s,baz=258,slow=6.6,SNR=5.7								
AKASG				PKKPbc	**PKKPbc**	**18 08 56.9**	**+2.0**		
	comp=Z,5.4nm,0.8s,baz=61,slow=4.3,SNR=10.0								
AKASG	**Malin Array Be**	**120.30**	**46**	PKIKP	**PKPdf**	**17 58 44.6**	**-2.5**		
AKASG						18 00 13.9			
AKASG	**Malin Array Be**	**120.30**	**46**	PKPdf	**PKPdf**	**17 58 44.6**	**-2.5**		
AKBB	**Malin Array Si**	**120.30**	**46**	*i* PKIKP	**PKPdf**	**17 58 46.2**	**-0.9**		
ASF	**Jabal al Asfar**	**120.33**	**69**	PKP	**PKPdf**	**17 58 47.4**	**-0.5**		
	comp=Z,17nm,0.9s,baz=208,slow=1.5,SNR=10.0								
SPA0	**Spitsbergen Ar**	**120.37**	**14**	*e*Pdif	**Pdif**	**17 55 10.1**	**-1.2**		
SPA0				*e*PKPdf	**PKiKP**	**17 58 46.9**	**+0.2**		
SPA0				*e*PP	**PP**	**18 00 12.4**	**-1.2**		
SPA0				*e*SKSac	**SKSac**	**18 05 41.6**	**-0.2**		
SPA0				*e*SP	**SP**	**18 10 00.2**	**+0.6**		
SPA0				IVMs_BB	IVMs_BB	18 46 35.3			
	comp=Z,5µm,22.6s								
SPITS	**Spitsbergen Ar**	**120.37**	**14**	PKP	**PKPdf**	**17 58 45.8**	**-0.8**		
	comp=Z,7.8nm,0.6s,baz=141,slow=11,SNR=6.9								
SPB2	**Spitsbergen Ar**	**120.37**	**14**		**PKiKP**	**17 58 46.6**	**-0.1**		
MNK	**Minsk**	**120.39**	**42**	*i* PKIKP	**PKPdf**	**17 58 46.1**	**-1.1**		
MNK				*i*		18 00 13.9			
MNK				*i* PPP	PPP	18 02 47.6			
MNK				*i*		18 05 55.4			
MNK				*i* PS	**PS**	**18 10 05.2**	**+0.4**		
MNK				*i* SS	SS	18 16 42.9	+1.6		
MNK				*i* SSS	SSS	18 21 10.8			
MNK				pmax	pmax				
	comp=N,26nm,1.0s								
MNK				pmax	pmax				
	comp=Z,123nm,0.9s								
MNK				pmax	pmax				
	comp=E,4.0nm,0.8s								
MNK				MLR	MLR				
	comp=Z,15µm,19.0s								
MNK				MLR	MLR				
	comp=N,6µm,20.0s								
MNK				MLR	MLR				
	comp=E,2µm,23.0s								
MNK	**Minsk**	**120.39**	**42**	*i* PKP	**PKPdf**	**17 58 46.1**	**-1.1**		
	comp=E,4.0nm,0.8s								
MNK				*i* PKP	**PKPdf**	**17 58 46.1**	**-1.1**		
	comp=N,26nm,1.0s								
MNK				*i* PKP	**PKPdf**	**17 58 46.1**	**-1.1**		
	comp=Z,123nm,0.9s,baz=257								
MNK				*i* PP	**PP**	**18 00 13.9**	**-0.4**		
MNK				*i* PPP	PPP	18 02 47.6			
MNK				*i* SKS	**SKSdf**	**18 05 55.5**	**-1.8**		
MNK				*i* PS	**PS**	**18 10 05.3**	**+0.4**		
MNK				*i* SS	**SS**	**18 16 43.0**	**+1.7**		
MNK				*i* SSS	SSS	18 21 10.9			
MNK				*i* LR	LR	18 38 23.9			
MNK				*i* LRM	MLR	18 50 19.9			
	comp=E,2µm,23.2s								
MNK				*i* LRM	MLR	18 50 19.9			
	comp=N,6µm,20.3s								
MNK				*i* LRM	MLR	18 50 19.9			
	comp=Z,15µm,18.8s								
BJO1	**Bjornoya**	**120.40**	**18**	*e*PKPdf	**PKPdf**	**17 58 46.3**	**-0.4**		
BJO1				*e*PP	**PP**	**18 00 12.1**	**-1.7**		
VSU	**Vasula**	**120.61**	**37**	*e*P	**PKPdf**	**17 58 47.0**	**-0.5**		
VSU	**Vasula**	**120.61**	**37**	*i* PKIKP	**PKPdf**	**17 58 47.3**	**-0.2**		
SPIA	**Saint Paul Isl**	**120.66**	**321**	PKiKP	**PKiKP**	**17 58 48.2**	**+0.4**		
	baz=102								
FINES	**FINESS Array B**	**120.85**	**34**	PKP	**PKPdf**	**17 58 46.5**	**-1.3**		
	comp=Z,16nm,0.8s,baz=125,slow=3.0,SNR=14								
FINES				PKKPbc	**PKKPbc**	**18 08 54.0**	**+1.0**		
	comp=Z,2.6nm,0.8s,baz=134,slow=8.2,SNR=4.4								
FINES	**FINESS Array B**	**120.85**	**34**	PKIKP	**PKPdf**	**17 58 46.8**	**-1.1**		
FINES	**FINESS Array B**	**120.85**	**34**	PKPdf	**PKPdf**	**17 58 46.8**	**-1.1**		
FIA1	**FINESS Array S**	**120.85**	**34**	PKPdf	**PKPdf**	**17 58 46.9**	**-1.0**		
KTK1	**Kautokeino**	**120.90**	**25**	*e*Pdif	**Pdif**	**17 55 10.9**	**-2.8**		
KTK1				*e*PKPdf	**PKiKP**	**17 58 47.9**	**0.0**		
KTK1				*e*PP	**PP**	**18 00 16.8**	**-0.6**		
KTK1				*e*SP	SP	18 10 05.0	+0.3		
KTK1				*e*SS	SS	18 16 45.0	-2.1		
KTK1				IVMs_BB	IVMs_BB	18 45 03.5			
	comp=Z,4µm,23.9s								
TNA	**Tin City

LPSR	**Galich'ya Gora**	**126.58**	**45**	*e*PKIKP	**PKPdf**	**17 58 59.1**	**0.0**		
LPSR				pmax	pmax				
	comp=Z,150nm,1.0s								
LPSR				MLR	MLR				
	comp=Z,18μm,20.0s								
BCA	**Borcka**	**126.61**	**59**	⇑P	**PKiKP**	**17 58 60.0**	**-0.1**		
VORD	**Divnogorie**	**126.62**	**47**	*e*PKIKP	**PKPdf**	**17 58 59.0**	**-0.2**		
VORD				pmax	pmax				
	comp=Z,90nm,1.2s								
H11N3	**WAKE ISLAND Hyl**	**126.62**	**272**	T	T	20 18 16.1			
	baz=116,slow=75,SNR=3016								
H11N1	**WAKE ISLAND Hyl**	**126.63**	**272**	T	T	20 18 16.5			
	baz=116,slow=75,SNR=923								
H11N2	**WAKE ISLAND Hyl**	**126.64**	**272**	T	T	20 18 24.5			
	baz=116,slow=75,SNR=4802								
VORR	**Voronezh**	**126.65**	**47**	PKIKP	**PKPdf**	**17 58 59.0**	**-0.3**		
VORR				pmax	pmax				
	comp=Z,200nm,2.0s								
WAKE	**Wake Island**	**126.65**	**271**	IAMs_20	IAMs_20	18 42 50.4			
	comp=Z,12μm,21.0s								
CHVG	**Ch'k'valeri**	**127.21**	**58**	⇑P	**PKiKP**	**17 59 05.9**	**+4.7**		
CHVG	**Ch'k'valeri**	**127.21**	**58**	⇑PKIKP	**PKiKP**	**17 59 05.9**	**+4.7**		
KLMR	**Klimovskoe**	**127.29**	**35***c*	*i*PKIKP	**PKiKP**	**17 59 00.6**	**-0.2**		
KLMR						18 00 57.0			
KLMR				MLR	MLR				
	comp=Z,17μm,20.0s								
KLMR	**Klimovskoe**	**127.29**	**35**⇑	*i*PKPdf	**PKiKP**	**17 59 00.6**	**-0.2**		
KLMR				*e*PKPdf	**PKiKP**	**17 59 00.6**	**-0.2**		
KLMR				*e*PKPdf	**PKiKP**	**17 59 00.6**	**-0.2**		
KLMR				AMP		17 59 14.2			
	comp=Z,587nm,1.2s								
KLMR				PP	**PP**	**18 00 57.1**	**-3.3**		
KLMR				LQ	LQ	18 33 52.7			
KLMR				LR	LR	18 39 11.4			
KLMR				AMP		18 52 55.2			
	comp=Z,17μm,19.8s								
KARS	**Kars**	**127.51**	**61**	PKIKP	**PKPdf**	**17 59 01.2**	**-0.4**		
KARS	**Kars**	**127.51**	**61**	PKPdf	**PKPdf**	**17 59 01.1**	**-0.4**		
RST	**Umm Al-Ruwaisa**	**127.62**	**75**	*e*P	**PKPdf**	**17 59 01.4**	**-0.5**		
NEY	**Neytrino**	**127.77**	**57**	*i*PKIKP	**PKPdf**	**17 59 01.2**	**-0.8**		
FITZ	**Fitzroy Crossi**	**127.80**	**201**	PKPdf	**PKPdf**	**17 59 01.3**	**-1.3**		
SHA1	**Shidzhatmaz**	**127.81**	**57***c*	*i*PKIKP	**PKiKP**	**17 59 01.7**	**-0.4**		
KIV	**Kislovodsk**	**127.87**	**57**	⇑P	**PKiKP**	**17 59 02.6**	**0.0**		
KIV	**Kislovodsk**	**127.87**	**57**	*i*PKPdf	**PKPdf**	**17 59 01.9**	**-0.1**		
	SNR=20								
KIV	**Kislovodsk**	**127.87**	**57**	*i*P	**Pdif**	**17 55 44.7**	**-0.8**		
KIV				*i*		17 59 01.6			
KIV				*e*		18 01 03.6			
KIV				*e*PS	**PS**	**18 11 10.6**	**-0.9**		
KIV				*e*SS	SS	18 18 16.3	-0.3		
KIV				*e*SSS	SSS	18 23 01.9			
KIV				pmax	pmax				
	comp=Z,84nm,1.1s								
KIV	**Kislovodsk**	**127.87**	**57**	PKPdf	**PKPdf**	**17 59 00.8**	**-1.3**		
KIV				IAMs_20	IAMs_20	18 58 13.5			
	comp=Z,8μm,21.0s								
KVAR	**Kislovodsk Arr**	**127.87**	**57**	PKP	**PKPdf**	**17 59 01.1**	**-1.0**		
	comp=Z,2.9nm,0.8s,baz=90,slow=20,SNR=1.8								
RDF	**Al-Radifah**	**127.89**	**76**	*e*P	**PKPdf**	**17 59 02.1**	**-0.3**		
AKH	**Akhalkalaki**	**127.98**	**60**	⇑P	**PKPdf**	**17 59 02.3**	**-0.2**		
KBZ	**Khabaz**	**127.98**	**57**	PKP	**PKPdf**	**17 59 00.5**	**-1.6**		
	comp=Z,120nm,0.8s,baz=178,slow=2.8,SNR=4.4								
KBZ	**Khabaz**	**127.98**	**57**	*i*PKIKP	**PKPdf**	**17 59 01.9**	**-0.2**		
KBZ				pmax	pmax				
	comp=Z,74nm,1.1s								
MIB	**Mutribah**	**128.00**	**75**	*e*P	**PKPdf**	**17 59 02.4**	**-0.2**		
KBD	**Kabd**	**128.09**	**76**	*e*P	**PKPdf**	**17 59 02.8**	**0.0**		
QRN	**Al-Qurain**	**128.13**	**77**	*e*P	**PKPdf**	**17 59 02.0**	**-0.8**		
VRH	**Novokhopyorsk**	**128.17**	**47**	*e*PKIKP	**PKPdf**	**17 59 01.6**	**-0.6**		
VRH				pmax	pmax				
	comp=Z,80nm,0.8s								
VRH				MLR	MLR				
	comp=Z,19μm,24.0s								
ONI	**Oni**	**128.17**	**58**	PKIKP	**PKPdf**	**17 59 02.0**	**-0.6**		
ONI	**Oni**	**128.17**	**58**		**PKPdf**	**17 59 02.0**	**-0.6**		
PYA1	**Pyatigorsk**	**128.18**	**57**	*i*PKIKP	**PKPdf**	**17 59 02.5**	**-0.1**		
UMR	**Umm Al-Rimmam**	**128.23**	**76**	*e*P	**PKPdf**	**17 59 02.7**	**-0.3**		
GOF	**Gofitskoye**	**128.30**	**55**⇑	*e*PKIKP	**PKPdf**	**17 59 02.8**	**+0.1**		
GOF				pmax	pmax				
	comp=Z,223nm,1.4s								
NCK	**Nalchik**	**128.44**	**57**	*i*PKIKP	**PKiKP**	**17 59 03.5**	**-0.2**		
NCK				pmax	pmax				
	comp=Z,100nm,1.1s								
ZEI	**Tsey**	**128.53**	**58**	*i*PKIKP	**PKiKP**	**17 59 04.0**	**-0.1**		
ZEI				pmax	pmax				
	comp=Z,18nm,1.3s								
GNI	**Garni**	**128.65**	**62**	PKP	**PKPdf**	**17 59 03.6**	**-0.1**		
	comp=Z,19nm,0.8s,baz=120,slow=1.3,SNR=12								
GNI	**Garni**	**128.65**	**62**	PKPdf	**PKiKP**	**17 59 04.1**	**-0.3**		
GNI	**Garni**	**128.65**	**62**	*i*PKIKP	**PKPdf**	**17 59 03.9**	**+0.1**		
GNI				pmax	pmax				
	comp=Z,115nm,1.3s								
GNI	**Garni**	**128.65**	**62**	PKPdf	**PKPdf**	**17 59 03.3**	**-0.4**		
GNI	**Garni**	**128.65**	**62**	IAMs_20	IAMs_20	18 58 05.6			
	comp=Z,13μm,21.0s								
KNRA	**Kununurra**	**129.02**	**205**	PKPdf	**PKPdf**	**17 59 03.7**	**-1.2**		
GROC	**Groznyy**	**129.97**	**58**	*i*PKIKP	**PKPdf**	**17 59 05.7**	**-0.2**		
GROC				*e*		18 01 16.7			
GROC				pmax	pmax				
	comp=Z,134nm,1.2s								
GROC				MLR	MLR				
	comp=Z,3μm,17.0s								
PRGR	**Permogore**	**130.18**	**34**	*e*PKIKP	**PKPdf**	**17 59 06.0**	**+0.3**		
PRGR				pmax	pmax				
	comp=Z,10.0nm,0.7s								
SHAO	**Shalim**	**130.53**	**93**	PKPdf	**PKPdf**	**17 59 07.6**	**-0.2**		
SHAO	**Shalim**	**130.53**	**93**	P	**PKPdf**	**17 59 07.1**	**-0.6**		
MTN	**Manton Dam**	**130.66**	**210**	PKPdf	**PKPdf**	**17 59 05.5**	**-2.7**		
JRN	**Qarnain Island**	**130.96**	**83**	P	**PKPdf**	**17 59 08.4**	**0.0**		
BILL	**Bilibino**	**131.01**	**335***d*	*i*PKIKP	**PKPdf**	**17 59 07.3**	**+0.2**		
BILL				*i*		17 59 18.5			
BILL				*i*		18 01 27.4			
BILL				pmax	pmax				
	comp=Z,61nm,1.1s								
BILL	**Bilibino**	**131.01**	**335**		**PKiKP**	**17 59 07.6**	**-0.4**		
BILL				IAMs_20	IAMs_20	18 57 51.2			
	comp=Z,9μm,19.0s								
AKT	**Akhty**	**131.12**	**61**⇑	*i*PKIKP	**PKiKP**	**17 59 09.5**	**+0.2**		
AKT				*e*		18 01 27.7			
AKT				pmax	pmax				
	comp=Z,185nm,1.3s								
MAK	**Makhachkala**	**131.18**	**59**	*i*P	**Pdif**	**17 56 00.3**	**+0.2**		
MAK				*i*		17 59 06.9			
MAK				*e*		18 01 26.0			
MAK				pmax	pmax				
	comp=Z,394nm,1.5s								
MZWR	**Madinat Zayed**	**131.40**	**85**	P	**PKPdf**	**17 59 09.3**	**+0.1**		
BELG	**Belogornoye**	**131.88**	**46**	PKP	**PKPdf**	**17 59 08.4**	**-0.8**		
	comp=Z,75nm,0.9s,baz=219,slow=0.1,SNR=29								
BELG	**Belogornoye**	**131.88**	**46**	*i*PKIKP	**PKPdf**	**17 59 08.9**	**-0.3**		
BELG				pmax	pmax				
	comp=Z,15nm,0.9s								
BELG				MLR	MLR				
	comp=Z,3μm,20.0s								
UMZA	**Um Al Zommool**	**132.09**	**87**	P	**PKPdf**	**17 59 10.7**	**+0.2**		
KIRV	**Kirov**	**132.45**	**38**	PKP	**PKPdf**	**17 59 09.7**	**-0.4**		
	comp=Z,22nm,0.6s,baz=296,slow=1.0,SNR=40								
KIRV	**Kirov**	**132.45**	**38**	*i*PKIKP	**PKPdf**	**17 59 09.9**	**-0.2**		
ASUD	**Al Ashush, Dub**	**132.95**	**85**	*i*PKPdf	**PKPdf**	**17 59 12.0**	**-0.1**		
	SNR=9.8								
ALNE	**Al Ain**	**133.10**	**86**	*i*PKPdf	**PKPdf**	**17 59 12.7**	**+0.2**		
	SNR=23								
FAQ	**Al Faqa, Dubai**	**133.22**	**85**	*i*PKPdf	**PKPdf**	**17 59 12.1**	**-0.5**		
	SNR=18								
NAZ	**Nazwa, Dubai**	**133.36**	**84**	*i*PKPdf	**PKPdf**	**17 59 12.6**	**-0.3**		
	SNR=9.4								
ASHO	**Ashiyiah**	**133.59**	**85**	*i*PKPdf	**PKPdf**	**17 59 13.0**	**-0.4**		
	SNR=6.9								
HATD	**Hatta, Dubai**	**133.70**	**85**	*i*PKPdf	**PKPdf**	**17 59 12.9**	**-0.7**		
	SNR=7.2								
SOHO	**SOHO**	**133.79**	**86**	*i*PKPdf	**PKPdf**	**17 59 13.0**	**-0.8**		
	SNR=24								
SOHO	**SOHO**	**133.79**	**86**	P	**PKPdf**	**17 59 13.3**	**-0.5**		
UOSS	**Minazif**	**133.81**	**85**	*i*PKPdf	**PKPdf**	**17 59 12.7**	**-1.1**		
	SNR=9.7								
UOSS	**Minazif**	**133.81**	**85**		**PKPdf**	**17 59 11.9**	**-1.9**		
UOSS	**Minazif**	**133.81**	**85**	P	**PKPdf**	**17 59 12.3**	**-1.4**		
MSFE	**Esma-Masafi**	**133.91**	**84**	*i*PKPdf	**PKPdf**	**17 59 13.8**	**-0.2**		
	SNR=7.2								
MDH	**Madha**	**134.01**	**84**	*i*PKPdf	**PKPdf**	**17 59 13.2**	**-0.9**		
	SNR=12								
MDH	**Madha**	**134.01**	**84**	P	**PKPdf**	**17 59 13.2**	**-0.9**		
SHME	**Shamm**	**134.13**	**83**	*i*PKPdf	**PKPdf**	**17 59 14.0**	**-0.4**		
	SNR=23								
BANOM	**Banah**	**134.23**	**83**	*i*PKPdf	**PKPdf**	**17 59 13.4**	**-1.1**		
	SNR=11								
JAY	**Jayapura**	**134.25**	**228**	PKP	**PKiKP**	**17 59 15.9**	**-0.5**		
	comp=Z,22nm,0.9s,baz=132,slow=2.0,SNR=8.1								
SAUI	**Saumlaki**	**134.91**	**213**	IAMs_20	IAMs_20	18 56 57.4			
	comp=Z,10μm,19.0s								
ARU	**Arti**	**137.71**	**39**	*i*PKIKP	**PKPdf**	**17 59 19.5**	**-0.5**		
ARU						18 02 01.8			
ARU						18 12 30.1			
ARU				MLR	MLR				
	comp=Z,18μm,22.0s								
ARU	**Arti**	**137.71**	**39**		PKPpre	17 59 10.0			
MMRI	**Maumere**	**137.77**	**200**	IAMs_20	IAMs_20	18 53 39.8			
	comp=Z,8μm,21.0s								
XMIS	**Christmas Isla**	**137.93**	**176**	IAMs_20	IAMs_20	18 57 10.2			
	comp=Z,8μm,20.0s								
SEY	**Seymchan**	**138.30**	**332**	PKhKP	PKPpre	17 59 13.2			
	comp=Z,10nm,0.9s,baz=120,slow=6.5,SNR=8.0								
SEY				PKP	**PKPdf**	**17 59 21.7**	**+0.8**		
	comp=Z,38nm,0.9s,baz=150,slow=3.3,SNR=25								
PET	**Petropavlovsk**	**138.35**	**316**	*e*P	**Pdif**	**17 56 42.2**	**+10**		
PET				*e*		17 59 18.6			
PET				*i*		17 59 32.8			
PET				*e*		18 02 16.5			
PET				*e*PPS	PPS	18 14 22.1			
PET				*e*SS	SS	18 20 24.6	+2.0		
PET				*e*SSS	SSS	18 25 26.6			
PET				pmax	pmax				
	comp=Z,400nm,21.2s								
PET	**Petropavlovsk**	**138.35**	**316**	IAMs_20	IAMs_20	18 48 31.6			
	comp=Z,10μm,21.0s								
AKTO	**Aktyubinsk**	**138.49**	**48**	PKIKP	**PKPdf**	**17 59 15.7**	**-6.0**		
TIXI	**Tiksi**	**138.56**	**350***c*	*i*PKIKP	**PKPdf**	**17 59 21.0**	**-0.1**		
TIXI	**Tiksi**	**138.56**	**350**	PKPdf	**PKPdf**	**17 59 20.2**	**-0.9**		
TIXI				IAMs_20	IAMs_20	18 58 36.4			
	comp=Z,11μm,22.0s								
GEYT	**Alibeck**	**138.57**	**67**	PKhKP	PKPpre	17 59 13.8			
	comp=Z,3.2nm,0.6s,baz=343,slow=1.5,SNR=5.5								
GEYT				PKP	**PKPdf**	**17 59 22.8**	**+0.5**		
	comp=Z,12nm,0.7s,baz=218,slow=17,SNR=13								
GYA0B	**ALIBECK ARRAY**	**138.57**	**67**		PKPpre	17 59 11.4			
SVE	**Sverdlovsk**	**138.71**	**38**	*i*PKIKP	**PKiKP**	**17 59 27.1**	**+3.1**		
SVE				pmax	pmax				
	comp=Z,195nm,1.5s								
SVE				MLR	MLR				
	comp=E,18μm,21.0s								
SVE				MLR	MLR				
	comp=Z,20μm,21.0s								
SVE				MLR	MLR				
	comp=N,6μm,20.0s								
PEA0B	**Petropavlovsk-**	**138.90**	**316**	PKIKP	**PKPdf**	**17 59 22.6**	**+0.2**		
PEA0B	**Petropavlovsk-**	**138.90**	**316**	PKPdf	**PKPdf**	**17 59 22.6**	**+0.2**		
PETK	**Petropavlovsk-**	**138.90**	**316**	PKhKP	PKPpre	17 59 14.8			
	comp=N,6.7nm,0.8s,baz=73,slow=9.9,SNR=5.9								
PETK				PKP	**PKPdf**	**17 59 22.8**	**+0.4**		
	comp=N,54nm,0.9s,baz=174,slow=4.4,SNR=14								
PETK	**Petropavlovsk-**	**138.90**	**316**	PKPdf	**PKPdf**	**17 59 22.4**	**+0.1**		
JAGI	**Jajag, Banyuwa**	**139.66**	**189**		**PKPdf**	**17 59 24.4**	**-0.6**		
JAGI				IAMs_20	IAMs_20	19 01 27.3			
	comp=Z,9μm,20.0s								
AB31	**Akbulak array**	**139.88**	**50**	*i*PKHKP	PKPpre	17 59 14.5			
ABKAR	**Akbulak array**	**139.88**	**50**		PKPpre	17 59 14.2			
SKR	**Severo-Kuril's**	**140.31**	**313**	*i*PKHKP	PKPpre	17 59 16.0			
SKR				*e*		18 02 30.6			
SKR				*e*SS	SS	18 21 22.9	+37		
SKR				pmax	pmax				
	comp=Z,100nm,1.7s								
SKR				pmax	pmax				
	comp=Z,2μm,6.8s								
MA2	**Magadan**	**140.51**	**327**	PKP	**PKPdf**	**17 59 25.1**	**+0.1**		
	comp=Z,37nm,0.9s,baz=94,slow=2.1,SNR=5.1								
MA2	**Magadan**	**140.51**	**327**	*i*PKIKP	**PKPdf**	**17 59 26.0**	**+1.0**		
MA2				pmax	pmax				
	comp=Z,322nm,3.1s								
MA2	**Magadan**	**140.51**	**327**	PKPdf	**PKPdf**	**17 59 25.5**	**+0.5**		
MA2				IAMs_20	IAMs_20	18 53 09.5			
	comp=Z,10μm,22.0s								
NRIK	**Noril'sk**	**140.51**	**12**	PKhKP	PKPpre	17 59 17.2			
	comp=Z,9.8nm,0.8s,baz=356,slow=2.1,SNR=10.0								
NRIK	**Noril'sk**	**140.51**	**12**	*i*PKIKP	**PKPdf**	**17 59 24.6**	**-0.2**		
NRIK				pmax	pmax				
	comp=Z,189nm,1.5s								
NRIK	**Noril'sk**	**140.51**	**12**		PKPpre	17 59 16.9			
CISI	**Cisompet, Garu**	**140.92**	**179**		PKPpre	17 59 17.6			
CISI				IAMs_20	IAMs_20	18 57 24.2			
	comp=Z,6μm,21.0s								
HRA	**Herat**	**141.37**	**73**		PKPpre	17 59 18.4			
HRA				PKPdf	**PKPdf**	**17 59 27.9**	**+0.2**		
LEM	**Lembang**	**141.64**	**179**	PKhKP	PKPpre	17 59 23.4			
	comp=Z,88nm,0.8s,baz=177,slow=9.6,SNR=10.0								
KAPI	**Kappang**	**141.92**	**198**	PKhKP	PKPpre	17 59 25.5			
	comp=Z,7.3nm,0.5s,baz=193,slow=1.5,SNR=6.0								
KAPI	**Kappang**	**141.92**	**198**	PKHKP	PKPpre	17 59 21.2			
KAPI				MLR	MLR				
	comp=Z,17μm,22.0s								
KAPI	**Kappang**	**141.92**	**198**		PKPpre	17 59 21.2			
GUMO	**Guam**	**142.15**	**250**	IAMs_20	IAMs_20	18 54 04.3			
	comp=Z,10μm,21.0s								
TRD	**Trivandrum**	**142.65**	**121**	*ex*	**PKPdf**	**17 59 26.8**	**-3.5**		
PALK	**Pallekele**	**144.42**	**127**	PKP	**PKPab**	**17 59 31.5**	**-0.1**		
	comp=Z,86nm,1.0s,baz=329,slow=2.7,SNR=20								
PALK	**Pallekele**	**144.42**	**127**	PKPdf	**PKPab**	**17 59 31.3**	**-0.4**		
PALK	**Pallekele**	**144.42**	**127**	P	PKPbc	17 59 32.0	+0.1		
TNTI	**Ternate**	**144.43**	**214**	PKPdf	**PKPab**	**17 59 29.9**	**-1.7**		
GOA	**Goa**	**144.51**	**109**	*e*P	PKPbc	17 59 32.3	+0.2		
BHUJ	**Bhuj**	**144.64**	**94**	*e*P	PKPbc	17 59 32.6	+0.3		
LUWI	**Luwuk**	**144.71**	**205**	PKPdf	**PKPab**	**17 59 32.1**	**-0.6**		
LUWI				IAMs_20	IAMs_20	19 02 12.7			
	comp=Z,8μm,22.0s								
BRVK	**Borovoye**	**145.21**	**41**	*i*PKIKP	**PKPbc**	**17 59 32.9**	**-0.3**		
BRVK	**Borovoye**	**145.21**	**41**		**PKPbc**	**17 59 32.3**	**-1.0**		
BRVK	**Borovoye**	**145.21**	**41**	P	**PKPdf**	**17 59 33.7**	**+0.2**		
PMBI	**Palembang**	**145.34**	**173**	IAMs_20	IAMs_20	19 05 06.2			
	comp=Z,10μm,20.0s								
KAD	**Karad**	**145.77**	**107**‖	*i*P	**PKPdf**	**17 59 35.5**	**-0.2**		
POO	**Poona**	**146.11**	**104**	*e*P	**PKPdf**	**17 59 36.0**	**-0.2**		
BKB	**Balikpapan**	**146.24**	**195**		**PKPbc**	**17 59 37.4**	**-0.2**		
KUR	**Kuril'sk**	**146.73**	**305**	*e*PKIKP	**PKPdf**	**17 59 35.7**	**-0.7**		
KUR				*i*		17 59 40.7			
KUR				*e*		18 03 01.7			
KUR				*e*SS	SS	18 21 57.4	-2.8		
KUR				*e*SSS	SSS	18 27 29.4			
YAK	**Yakutsk**	**146.75**	**342**	PKPbc	**PKPbc**	**17 59 36.9**	**-0.8**		
	comp=Z,432nm,0.7s,baz=38,slow=0.2,SNR=14								
YAK	**Yakutsk**	**146.75**	**342**	*e*PKIKP	**PKPdf**	**17 59 35.5**	**-0.3**		
YAK				*e*		18 02 58.1			
YAK				pmax	pmax				
	comp=Z,1μm,0.9s								
YAK				pmax	pmax				
	comp=N,217nm,1.2s								
YAK				pmax	pmax				
	comp=E,164nm,1.0s								
YAK				pmax	pmax				
	comp=Z,1μm,2.2s								
YAK				pmax	pmax				
	comp=N,794nm,1.8s								
YAK				pmax	pmax				
	comp=E,512nm,1.7s								
YAK	**Yakutsk**	**146.75**	**342**	PKPdf	**PKPdf**	**17 59 35.6**	**-0.3**		
YAK				IAMs_20	IAMs_20	19 01 09.3			
	comp=Z,11μm,22.0s								
KBL	**Kabul**	**146.95**	**74**	PKIKP	**PKPdf**	**17 59 37.1**	**-0.4**		
KBL	**Kabul**	**146.95**	**74**	PKPdf	**PKPdf**	**17 59 37.0**	**-0.4**		
KBL	**Kabul**	**146.95**	**74**	P	**PKPdf**	**17 59 37.9**	**+0.5**		
CHGR	**Chuyangaron**	**147.28**	**67**		**PKPdf**	**17 59 37.9**	**+0.2**		
TOLI2	**Tolitoli**	**147.41**	**203**	PKPdf	**PKPdf**	**17 59 37.8**	**-0.8**		
TOLI2				IAMs_20	IAMs_20	19 06 21.1			
	comp=Z,7μm,22.0s								
BRZS	**Berezniki**	**147.73**	**45**⇑	*i*PKP	**PKPdf**	**17 59 38.2**	**+0.2**		
	baz=45								
BRZS				*e*PP	**PP**	**18 03 06.9**	**-1.2**		
	baz=45								
BRZS	**Berezniki**	**147.73**	**45***c*	*i*PKIKP	**PKPdf**	**17 59 38.1**	**+0.2**		
BRZS				*e*		18 03 06.9			
KK31	**Karatay Array**	**148.00**	**58**	*i*PKIKP	**PKPdf**	**17 59 38.5**	**-0.2**		
KK31	**Karatay Array**	**148.00**	**58**	PKPdf	**PKPdf**	**17 59 38.4**	**-0.2**		
KKAR	**Karatay Array**	**148.00**	**58**	PKIKP	**PKPdf**	**17 59 38.1**	**-0.5**		
KKAR	**Karatay Array**	**148.00**	**58**	PKPdf	**PKPdf**	**17 59 38.1**	**-0.5**		
KKAR	**Karatay Array**	**148.00**	**58**		**PKPdf**	**17 59 38.4**	**-0.2**		
GSI	**Gununggsitoli**	**148.01**	**159**		**PKPdf**	**17 59 39.2**	**-0.3**		
MDRS	**Chennai**	**148.07**	**119**	*e*P	**PKPdf**	**17 59 40.4**	**+0.9**		
GAR	**Garm**	**148.18**	**66**		**PKPdf**	**17 59 39.7**	**+0.5**		
YUK	**Yuzh-Kuril'sk**	**148.35**	**304**	*i*PKIKP	**PKPbc**	**17 59 41.5**	**-1.1**		
YUK				*e*		18 03 11.8			
YUK				*e*PPP	PPP	18 06 43.0			
YUK				*e*SS	SS	18 22 19.4	+0.9		
NKL	**Nikolayevsk**	**148.47**	**322**	*i*PKIKP	**PKPbc**	**17 59 42.1**	**-0.5**		
NKL				*e*		18 03 12.6			
NKL				MLR	MLR				
	comp=N,6μm,13.0s								
NKL				MLR	MLR				
	comp=Z,7μm,20.0s								
BTK	**Batken**	**148.52**	**64**	PKIKP	**PKPdf**	**17 59 39.9**	**+0.2**		
BTK	**Batken**	**148.52**	**64**	PKPdf	**PKPdf**	**17 59 39.9**	**+0.2**		
DZA	**Taraz**	**148.62**	**59**⇑	*i*PKP	**PKPdf**	**17 59 40.1**	**+0.4**		
	baz=58								
DZA	**Taraz**	**148.62**	**59***c*	*i*PKIKP	**PKPdf**	**17 59 40.1**	**+0.4**		
DRK	**Karamyk**	**149.31**	**65**		**PKPdf**	**17 59 41.1**	**-0.1**		
HYB	**Hyderabad**	**149.35**	**111**	*e*P	**PKPdf**	**17 59 42.5**	**+0.9**		
HYB	**Hyderabad**	**149.35**	**111**	*i*PKP	**PKPdf**	**17 59 41.0**	**-0.6**		
HYB				*e*		17 59 44.0			
HYB				*e*SPKP		18 00 04.0			
HYB				*e*PP	**PP**	**18 03 20.0**	**+1.8**		
HYB				*e*PPP	PPP	18 13 44.0			
HYB				*e*SKKS		18 14 48.0			
UGL	**Uglegorsk**	**149.48**	**314***c*	*i*PKIKP	**PKPdf**	**17 59 40.8**	**0.0**		
UGL				*e*		18 03 18.8			
UGL				*e*SS	SS	18 22 35.7	+5.2		
UGL				pmax	pmax				
	comp=Z,9μm,3.5s								
UGL				pmax	pmax				
	comp=Z,400nm,1.2s								
YSS	**Yuzh-Sakhalins**	**149.77**	**310**	*i*PKIKP	**PKPdf**	**17 59 41.1**	**-0.2**		
YSS				*e*		17 59 57.8			
YSS				*e*		18 06 38.4			
YSS				*e*SS	SS	18 22 32.4	-1.7		
YSS				*e*SSS	SSS	18 28 20.2			
YSS				pmax	pmax				
	comp=Z,8μm,3.6s								
YSS				pmax	pmax				
	comp=Z,300nm,1.3s								
YSS	**Yuzh-Sakhalins**	**149.77**	**310**	PKPdf	**PKPdf**	**17 59 41.0**	**-0.3**		
BTLS	**Baital**	**150.12**	**54**⇑	*i*PKP	**PKPdf**	**17 59 40.6**	**-1.3**		
	baz=54								
BTLS				*e*PP	**PP**	**18 03 20.9**	**-1.3**		
	baz=54								
BTLS	**Baital**	**150.12**	**54***c*	*i*PKIKP	**PKPdf**	**17 59 40.6**	**-1.3**		
BTLS				*e*		18 03 20.8			
JMP	**Maruseppu**	**150.13**	**304**	P	**PKPdf**	**17 59 42.7**	**+0.7**		
NIL	**Nilore**	**150.33**	**77**	PKIKP	**PKPdf**	**17 59 41.8**	**-0.9**		
NIL				MLR	MLR				
	comp=Z,12μm,19.0s								
NIL	**Nilore**	**150.33**	**77**	PKPdf	**PKPdf**	**17 59 41.8**	**-0.9**		
CBIJ	**Chichi jima**	**150.40**	**270**	P	**PKPbc**	**17 59 47.6**	**-0.6**		
JCJ	**Chichijima**	**150.40**	**270**	PKPbc	**PKPbc**	**17 59 48.5**	**+0.3**		
	comp=Z,122nm,0.8s,baz=259,slow=3.9,SNR=9.6								
JCJ	**Chichijima**	**150.40**	**270**	PKPdf	**PKPdf**	**17 59 42.1**	**-0.9**		
EKS2	**Erkin-Say**	**150.44**	**58**	P	**

AAA	**Alma-Ata**	**152.57**	**56**	⇑*i*	PKP	**PKPdf**	**17 59 45.5**	**-0.4**
	baz=56							
AAA				*e*	PP	**PP**	**18 03 33.6**	**-2.8**
	baz=56							
AAA	**Alma-Ata**	**152.57**	**56**	*c i*	PKIKP	**PKPdf**	**17 59 45.4**	**-0.4**
AAA				*e*			18 03 33.5	
KNDC	**Almaty**	**152.61**	**56**		PKIKP	**PKPdf**	**17 59 44.1**	**-1.8**
MDOK	**Medeo**	**152.68**	**56**	*i*	PKP	**PKPdf**	**17 59 45.5**	**-0.7**
	baz=56							
MDOK				*e*	PP	**PP**	**18 03 36.2**	**-0.9**
	baz=56							
MDOK	**Medeo**	**152.68**	**56**	*i*	PKIKP	**PKPdf**	**17 59 45.4**	**-0.7**
MDOK				*e*			18 03 36.1	
BHK	**Bhakra**	**152.68**	**82**	*ex*		**PKPbc**	**17 59 56.0**	**+2.6**
DHRM	**DHARAMSHALA**	**152.71**	**80**	*e*	P	**PKPdf**	**17 59 47.1**	**+0.5**
JMM	**Marumori**	**152.90**	**292**			**PKPdf**	**17 59 44.1**	**-2.3**
TDK	**Taldyqorghan**	**153.09**	**52**	*i*	PKP	**PKPdf**	**17 59 44.6**	**-2.0**
	baz=52							
TDK				*e*	PP	**PP**	**18 03 37.9**	**-1.2**
	baz=52							
TDK	**Taldyqorghan**	**153.09**	**52**	*i*	PKIKP	**PKPdf**	**17 59 44.5**	**-2.0**
TDK				*e*			18 03 37.9	
SMLA	**Simla**	**153.27**	**83**	*e*	P	**PKPdf**	**17 59 47.1**	**-0.1**
JYT	**Yasato**	**153.44**	**288**		P	**PKPdf**	**17 59 46.8**	**-0.4**
JYT	**Yasato**	**153.44**	**288**		PKPdf	**PKPdf**	**17 59 45.9**	**-1.3**
BOD	**Bodaibo**	**153.65**	**353**	⇓*i*	PKIKP	**PKPdf**	**17 59 46.3**	**-0.5**
BOD					pmax	pmax		
	comp=Z,776nm,1.4s							
SATY	**Saty**	**153.67**	**56**	⇑*i*	PKP	**PKPdf**	**17 59 45.9**	**-1.7**
	baz=56							
SATY				*e*	PP	**PP**	**18 03 40.1**	**-2.6**
	baz=56							
SATY	**Saty**	**153.67**	**56**	*c i*	PKIKP	**PKPdf**	**17 59 45.8**	**-1.7**
SATY				*e*			18 03 40.1	
JYA	**Atsumi**	**153.70**	**294**		P	**PKPdf**	**17 59 47.9**	**+0.4**
KPKS	**Kokpek**	**153.75**	**55**	⇑*i*	PKP	**PKPdf**	**17 59 46.8**	**-0.9**
	baz=55							
KPKS				*e*	PP	**PP**	**18 03 40.1**	**-3.0**
	baz=55							
KPKS	**Kokpek**	**153.75**	**55**	*c i*	PKIKP	**PKPdf**	**17 59 46.7**	**-0.9**
KPKS				*e*			18 03 40.9	
PRZ	**Przheval'sk**	**153.81**	**57**		PKIKP	**PKPdf**	**17 59 48.3**	**+0.5**
PRZ	**Przheval'sk**	**153.81**	**57**		PKPdf	**PKPdf**	**17 59 48.3**	**+0.5**
DDI	**Dehra Dun**	**153.88**	**85**	*e*	P	**PKPdf**	**17 59 49.2**	**+1.0**
UZB	**Uzynbulak**	**154.08**	**56**	⇑*i*	PKP	**PKPdf**	**17 59 46.8**	**-1.4**
	baz=55							
UZB				*e*	PP	**PP**	**18 03 42.8**	**-2.3**
	baz=55							
UZB	**Uzynbulak**	**154.08**	**56**	*c i*	PKIKP	**PKPdf**	**17 59 46.7**	**-1.4**
UZB				*e*			18 03 42.7	
ZEA	**Zeya**	**154.22**	**334**	*ce*	PKIKP	**PKPdf**	**17 59 47.6**	**-0.2**
ZEA				*e*			18 03 46.1	
ZEA				*e*			18 23 23.3	
ZEA					pmax	pmax		
	comp=E,200nm,3.1s							
ZEA					pmax	pmax		
	comp=N,300nm,2.5s							
ZEA					pmax	pmax		
	comp=Z,2μm,4.1s							
ZEA					pmax	pmax		
	comp=E,20nm,1.1s							
ZEA					pmax	pmax		
	comp=N,40nm,1.3s							
ZEA					pmax	pmax		
	comp=Z,130nm,1.4s							
ZEA					pmax	pmax		
	comp=E,800nm,8.0s							
ZEA					pmax	pmax		
	comp=N,1μm,15.3s							
ZEA					pmax	pmax		
	comp=Z,2μm,15.0s							
JOD2	**Odawara 2**	**154.33**	**286**		P	**PKPdf**	**17 59 47.7**	**-0.9**
SHLS	**Shalkode**	**154.38**	**55**	⇑*i*	PKP	**PKPdf**	**17 59 48.1**	**-0.5**
	baz=55							
SHLS				*e*	PP	**PP**	**18 03 47.5**	**+0.9**
	baz=55							
SHLS	**Shalkode**	**154.38**	**55**	*c i*	PKIKP	**PKPdf**	**17 59 48.0**	**-0.5**
SHLS				*e*			18 03 47.5	
TEY	**Ternei**	**154.45**	**309**	⇑*e*	PKIKP	**PKPdf**	**17 59 48.0**	**-0.3**
TEY				*e*			18 03 45.9	
TEY					pmax	pmax		
	comp=N,10.0nm,1.8s							
TEY					pmax	pmax		
	comp=Z,400nm,3.6s							
TEY					pmax	pmax		
	comp=Z,20nm,2.5s							
SKLT	**Songkhla**	**154.46**	**162**		PKP	**PKPdf**	**17 59 50.9**	**+1.6**
JRY	**Ryogami san**	**154.49**	**288**		P	**PKPdf**	**17 59 48.5**	**-0.3**
MAKZ	**Makanchi**	**154.68**	**46**		PKIKP	**PKPdf**	**17 59 47.9**	**-0.8**
MAKZ					MLR	MLR		
	comp=Z,24μm,22.0s							
MAKZ	**Makanchi**	**154.68**	**46**		PKPdf	**PKPdf**	**17 59 47.9**	**-0.8**
TRTT	**Trang**	**154.83**	**159**		PKP	PKPdf	17 59 41.1	-8.8
MKAR	**Makanchi Array**	**154.88**	**46**		PKP	**PKPdf**	**17 59 48.1**	**-0.8**
	comp=Z,7.9nm,0.8s,baz=344,slow=1.8,SNR=32							
MKAR					PKPbc	**pPKPdf**	**17 59 58.0**	**+0.3**
	comp=Z,33nm,0.8s,baz=308,slow=1.5,SNR=27							
MKAR					PKPab	**PKPab**	**18 00 12.8**	**-0.2**
	comp=Z,116nm,0.9s,baz=286,slow=2.8,SNR=13							
MKAR	**Makanchi Array**	**154.88**	**46**		PKPdf	**PKPdf**	**17 59 47.6**	**-1.4**
JSD	**Sado**	**154.89**	**293**		P	**PKPdf**	**17 59 47.7**	**-1.5**
JSD	**Sado**	**154.89**	**293**		PKPdf	**PKPdf**	**17 59 48.0**	**-1.2**
MJAR	**Matsushiro Arr**	**155.03**	**289**		PKP	**PKPdf**	**17 59 48.4**	**-1.1**
	comp=Z,29nm,1.2s,baz=127,slow=2.3,SNR=28							
MJAR					PKPbc	**sPKPdf**	**18 00 00.3**	**-0.9**
	comp=Z,10.0nm,1.1s,baz=298,slow=15,SNR=19							
MJAR	**Matsushiro Arr**	**155.03**	**289**		PKPdf	**PKPdf**	**17 59 48.2**	**-1.3**
MAJO	**Matsushiro**	**155.03**	**289**		PKIKP	**PKPdf**	**17 59 48.1**	**-1.4**
MAJO					MLR	MLR		
	comp=Z,9μm,21.0s							
MAJO	**Matsushiro**	**155.03**	**289**		PKPdf	**PKPdf**	**17 59 48.0**	**-1.4**
MAJO	**Matsushiro**	**155.03**	**289**		IAMs_20	IAMs_20	19 00 12.6	
	comp=Z,9μm,21.0s							
MAT	**Matsushiro**	**155.03**	**289**		PKP	**PKPdf**	**17 59 47.9**	**-1.6**
MAT	**Matsushiro**	**155.03**	**289**		P	**PKPdf**	**17 59 48.1**	**-1.4**
PBA	**Port Blair**	**155.26**	**140**	*e*	P	PKPdf	17 59 51.0	+0.6
KLR	**Kul'dur**	**155.32**	**322**		PKP	**PKPdf**	**17 59 48.5**	**-1.0**
	comp=Z,21nm,0.9s,baz=359,slow=3.0,SNR=49							
SURT	**Suratani**	**155.59**	**156**		PKP	**PKPdf**	**17 59 52.6**	**+1.7**
JGF	**Kuroka**	**155.75**	**287**		P	**PKPdf**	**17 59 49.9**	**-0.6**
JGF	**Kuroka**	**155.75**	**287**			**PKPdf**	**17 59 49.0**	**-1.5**
JGN	**Niukaw**	**155.76**	**289**		P	**PKPdf**	**17 59 50.6**	**0.0**
RCP	**Roxas**	**156.02**	**216**	⇑*e*		**PKPdf**	**17 59 51.6**	**+0.2**
INU	**Inuyama**	**156.03**	**286**		PKPdf	**PKPdf**	**17 59 49.8**	**-1.0**
SURA	**Surathani**	**156.06**	**158**		PKP	**PKPdf**	**17 59 50.3**	**-1.2**
ZSN	**Zaisan**	**156.08**	**42**	⇑*i*	PKP	**PKPdf**	**17 59 49.4**	**-1.2**
	baz=42							
ZSN				*e*	PP	**PP**	**18 03 53.7**	**-1.9**
	baz=42							
ZSN	**Zaisan**	**156.08**	**42**	*c i*	PKIKP	**PKPdf**	**17 59 49.3**	**-1.2**
ZSN				*e*			18 03 53.6	
DGPR	**DIGLIPUR**	**156.62**	**139**	*e*	P	**PKPdf**	**17 59 52.9**	**+0.7**
JWT	**Wachi**	**157.35**	**286**			**PKPdf**	**17 59 51.6**	**-1.0**
USA0B	**Ussuriysk Arra**	**157.80**	**311**		PKIKP	**PKPdf**	**17 59 51.8**	**-1.0**
USA0B	**Ussuriysk Arra**	**157.80**	**311**		PKPdf	**PKPdf**	**17 59 51.8**	**-1.0**
USRK	**Ussuriysk Ar.**	**157.80**	**311**		PKP	**PKPdf**	**17 59 52.5**	**-0.3**
	comp=Z,4.9nm,0.7s,baz=225,slow=2.4,SNR=22							
USRK					PKPab	**PKPab**	**18 00 28.1**	**+2.5**
	comp=Z,20nm,0.9s,baz=71,slow=2.6,SNR=6.7							
USRK	**Ussuriysk Ar.**	**157.80**	**311**		PKPdf	**PKPdf**	**17 59 52.0**	**-0.8**
USRK						**PKPab**	**18 00 25.4**	**-0.2**
BOK	**Bokaro**	**158.48**	**106**	*e*		**PKPdf**	**17 59 54.7**	**+0.4**
PGP	**Puerto Galera**	**158.57**	**215**	⇑*e*		**PKPdf**	**17 59 51.8**	**-2.8**
JMN	**Monobe**	**158.60**	**282**		P	**PKPdf**	**17 59 54.2**	**0.0**
JMN	**Monobe**	**158.60**	**282**		PKPdf	**PKPdf**	**17 59 54.2**	**0.0**
LQP	**Lukban**	**158.79**	**217**	⇑*e*		**PKPdf**	**17 59 54.9**	**-0.2**
LUBP	**Lubang**	**159.11**	**214**	⇓*i*		**PKPdf**	**17 59 52.8**	**-2.5**
MDJ	**Mudanjiang**	**159.12**	**314**		PKP	**PKPdf**	**17 59 53.6**	**-0.8**
MDJ					PP	**PP**	**18 04 12.3**	**-0.1**
MDJ					SS	SS	18 24 14.9	-0.5
MDJ					LR	LR		
	comp=Z,4μm,20.4s							
MDJ					LR	LR		
	comp=Z,11μm,20.6s							
MDJ					LR	LR		
	comp=Z,11μm,19.7s							
MDJ	**Mudanjiang**	**159.12**	**314**			**PKPdf**	**17 59 52.5**	**-1.9**
JHS	**Saijyo**	**159.23**	**286**		P	**PKPdf**	**17 59 54.7**	**-0.2**
JHS	**Saijyo**	**159.23**	**286**		PKPdf	**PKPdf**	**17 59 53.2**	**-1.7**
IRK	**Irkutsk**	**159.27**	**7**	*e*	PKIKP	**PKPdf**	**17 59 54.3**	**0.0**
IRK				*e*			18 00 30.5	
IRK					pmax	pmax		
	comp=Z,512nm,3.1s							
MOY	**Mondy**	**159.33**	**13**	*e*	PKIKP	**PKPdf**	**17 59 55.7**	**+1.1**
MOY					pmax	pmax		
	comp=Z,754nm,3.2s							
CIT	**Chita**	**159.40**	**351**	*e*	PKIKP	**PKPdf**	**17 59 54.9**	**+0.3**
CIT				*e*			18 00 06.7	
CIT				*e*			18 00 34.1	
CIT					pmax	pmax		
	comp=Z,1μm,3.1s							
PHET	**Kaeng Krachan**	**159.55**	**154**		PKP	**PKPdf**	**17 59 57.3**	**+1.5**
PHET	**Kaeng Krachan**	**159.55**	**154**		P	**PKPab**	**18 00 33.7**	**-0.1**
WMQ	**Urumqi**	**159.65**	**48**		PKP	**PKPdf**	**17 59 55.8**	**+0.7**
WMQ					PKPab	**pPKPab**	**18 00 39.3**	**-2.9**
WMQ					PP	**PP**	**18 04 16.5**	**+1.1**
WMQ					SS	SS	18 24 25.8	+4.5
WMQ					AMB	AMB		
	comp=Z,6μm,11.7s							
WMQ					LR	LR		
	comp=Z,17μm,21.9s							
WMQ					LR	LR		
	comp=Z,13μm,23.7s							
WMQ					LR	LR		
	comp=Z,19μm,22.5s							
PATY	**Pattaya**	**159.99**	**158**		P	**PKPab**	**18 00 36.2**	**+0.6**
HIA	**Hailar**	**160.57**	**338**		PKIKP	**PKPdf**	**17 59 54.6**	**-1.3**
HIA	**Hailar**	**160.57**	**338**		PKPdf	**PKPdf**	**17 59 54.6**	**-1.3**
SRDT	**SRDT**	**160.66**	**151**		PKP	**PKPdf**	**17 59 58.4**	**+1.4**
ZAK	**Zakamensk**	**160.97**	**10**	*e*	PKIKP	**PKPdf**	**17 59 51.1**	**-5.3**
ZAK					pmax	pmax		
	comp=Z,63nm,2.2s							
JNU	**Nakatsue**	**161.09**	**280**		PKP	**PKPdf**	**17 59 57.2**	**+0.2**
	comp=Z,14nm,0.9s,baz=80,slow=3.7,SNR=5.6							
JNU	**Nakatsue**	**161.09**	**280**			**PKPdf**	**17 59 55.5**	**-1.6**
JSU	**Suzuyama**	**161.33**	**275**			**PKPdf**	**17 59 55.7**	**-1.6**
UTHA	**Uthaitani**	**161.88**	**151**		PKP	**PKPdf**	**17 59 58.4**	**+0.1**
CN2	**Changchun**	**162.05**	**317**	*e*	PKP	**PKPdf**	**17 59 56.3**	**-1.3**
CN2					PP	**PP**	**18 04 29.3**	**+1.3**
CN2					SS	SS	18 24 43.5	-2.6
CN2					AMB	AMB		
	comp=Z,4μm,10.0s							
CN2					LR	LR		
	comp=Z,7μm,18.0s							
CN2					LR	LR		
	comp=Z,6μm,18.0s							
CN2					LR	LR		
	comp=Z,8μm,18.0s							
GTK	**Tadong**	**162.10**	**99**	*e*	P	**PKPdf**	**17 59 58.8**	**+0.4**
JOW	**Kunigami**	**162.11**	**259**			**PKPdf**	**17 59 57.2**	**-1.0**
UMPA	**Umpang Tak**	**162.20**	**148**		PKP	**PKPdf**	**17 59 59.2**	**+0.6**
BRDH	**Bariadhala**	**162.49**	**117**		PKP	**PKPdf**	**17 59 59.2**	**+0.5**
	comp=Z,83nm,0.4s,baz=67,slow=3.2,SNR=5.4							
KSRS	**Korea Array**	**163.06**	**295**		PKP	**PKPdf**	**17 59 58.1**	**-0.7**
	comp=Z,18nm,0.8s,baz=92,slow=0.6,SNR=55							
KSRS					PP	**PP**	**18 04 41.4**	**+7.3**
	comp=Z,15nm,1.3s,baz=42,slow=3.6,SNR=4.8							
KS19	**Wonju Array Si**	**163.09**	**295**			**PKPdf**	**17 59 57.6**	**-1.3**
KSAR	**Wonju Array Be**	**163.09**	**295**		PKIKP	**PKPdf**	**17 59 57.1**	**-1.8**
KSAR	**Wonju Array Be**	**163.09**	**295**			**PKPdf**	**17 59 57.1**	**-1.8**
CHAI	**Chaiyaphum**	**163.14**	**158**		PKP	**PKPdf**	**17 59 59.6**	**+0.1**
UBPT	**Khong Chiam**	**163.38**	**170**		PKP	**PKPdf**	**18 00 00.7**	**+1.0**
UBPT	**Khong Chiam**	**163.38**	**170**			**PKPdf**	**17 59 59.2**	**-0.5**
PBKT	**Sadao Pong**	**163.41**	**154**		PKP	PKPdf	18 00 13.6	+14
MHMT	**Maesarieng**	**163.44**	**142**		PKP	**PKPdf**	**18 00 00.0**	**+0.3**
PHIT	**Phitsanulok**	**163.75**	**151**		PKP	**PKPdf**	**18 00 00.2**	**+0.2**
SONM	**Songino Array**	**163.84**	**5**		PKP	**PKPdf**	**17 59 58.3**	**-1.2**
	comp=Z,5.6nm,0.9s,baz=221,slow=0.5,SNR=25							
SONM					PKPab	**PKPab**	**18 00 52.0**	**+0.1**
	comp=Z,72nm,1.0s,baz=317,slow=3.2,SNR=15							
SONM					PP	**PP**	**18 04 39.5**	**+2.7**
	comp=Z,23nm,1.1s,baz=318,slow=4.0,SNR=6.5							
ULN	**Ulaanbaatar**	**163.85**	**4**		PKIKP	**PKPdf**	**17 59 58.6**	**-0.9**
ULN	**Ulaanbaatar**	**163.85**	**4**			**PKPdf**	**17 59 58.6**	**-0.9**
INCN	**Inchon**	**164.04**	**296**		PKIKP	**PKPdf**	**17 59 58.2**	**-1.6**
INCN	**Inchon**	**164.04**	**296**			**PKPdf**	**17 59 58.2**	**-1.6**
CM13	**Chiang Mai Arr**	**164.14**	**144**		PKP	**PKPdf**	**18 00 00.5**	**+0.1**
CM05	**Chiang Mai Arr**	**164.14**	**145**		PKP	**PKPdf**	**18 00 00.3**	**-0.1**
SHL	**Shillong**	**164.15**	**109**		PKIKP	**PKPdf**	**17 59 59.6**	**-0.9**
SHL	**Shillong**	**164.15**	**109**			**PKPdf**	**17 59 59.5**	**-0.9**
SHL	**Shillong**	**164.15**	**109**	*e*	P	**PKPdf**	**18 00 00.2**	**-0.2**
CM04	**Chiang Mai Arr**	**164.16**	**145**		PKP	**PKPdf**	**18 00 00.5**	**+0.1**
CM01	**Chiang Mai Arr**	**164.17**	**145**		PKP	**PKPdf**	**18 00 00.6**	**+0.2**
CM02	**Chiang Mai Arr**	**164.17**	**145**		PKP	**PKPdf**	**18 00 00.5**	**+0.1**
CM15	**Chiang Mai Arr**	**164.18**	**144**		PKP	**PKPdf**	**18 00 00.5**	**+0.1**
CM31	**Chiang Mai Arr**	**164.19**	**145**			**PKPdf**	**17 59 58.3**	**-2.2**
CMAR	**Chiang Mai Arr**	**164.19**	**145**		PKP	**PKPdf**	**17 59 59.9**	**-0.5**
	comp=Z,7.8nm,0.8s,baz=250,slow=2.7,SNR=68							
CMAR					PKPab	**PKPab**	**18 00 53.6**	**-0.4**
	comp=Z,27nm,1.0s,baz=229,slow=5.2,SNR=8.0							
CMAR	**Chiang Mai Arr**	**164.19**	**145**		PKIKP	**PKPdf**	**17 59 59.0**	**-1.4**
CMAR	**Chiang Mai Arr**	**164.19**	**145**			**PKPdf**	**17 59 59.0**	**-1.4**
CM09	**Chiang Mai Arr**	**164.20**	**145**		PKP	**PKPdf**	**18 00 00.8**	**+0.3**
UTTA	**Uttaradit**	**164.30**	**151**		PKP	**PKPdf**	**18 00 00.3**	**-0.2**
LOEI	**Loei**	**164.37**	**153**		PKP	**PKPdf**	**18 00 05.4**	**+4.8**
CHTO	**Chiang Mai**	**164.49**	**144**		PKIKP	**PKPdf**	**17 59 59.3**	**-1.4**
CHTO	**Chiang Mai**	**164.49**	**144**		PKP	**PKPdf**	**18 00 00.6**	**-0.1**
CHTO	**Chiang Mai**	**164.49**	**144**			**PKPdf**	**17 59 59.3**	**-1.4**
CMMT	**Chiang Mai**	**164.49**	**144**		PKP	**PKPdf**	**18 00 00.4**	**-0.3**
LAMP	**Lampang**	**164.58**	**146**		PKP	**PKPdf**	**18 00 02.0**	**+1.2**
LSA	**Lhasa**	**164.91**	**93**		PKP	**PKPdf**	**18 00 02.0**	**+0.6**
LSA					LR	LR		
	comp=Z,6μm,18.5s							
LSA					LR	LR		
	comp=Z,9μm,19.9s							
LSA					LR	LR		
	comp=Z,7μm,18.5s							
LSA	**Lhasa**	**164.91**	**93**	*i*	PKPdf	**PKPdf**	**18 00 02.3**	**+0.9**
	SNR=73							
LSA	**Lhasa**	**164.91**	**93**		PKIKP	**PKPdf**	**18 00 00.4**	**-1.0**
LSA	**Lhasa**	**164.91**	**93**			**PKPdf**	**18 00 00.3**	**-1.0**
PAYA	**Payao**	**165.41**	**146**		PKP	**PKPdf**	**18 00 04.8**	**+3.3**
ITAN	**ITANAGAR**	**166.31**	**106**	*e*	P	**PKPdf**	**18 00 03.2**	**+1.2**
SSLB	**Suanglung**	**166.46**	**237**			**PKPdf**	**18 00 01.2**	**-1.1**
JORH	**JORHAT**	**166.57**	**108**	*e*	P	**PKPdf**	**18 00 03.4**	**+1.2**
MOKO	**MOKOCHONG**	**166.60**	**110**	*e*	P	**PKPdf**	**18 00 03.8**	**+1.4**
TATO	**Taipei**	**166.76**	**243**			**PKPab**	**18 01 05.1**	**-0.2**
DL2	**Dalian**	**167.15**	**307**		PKP	**PKPdf**	**18 00 00.8**	**-1.4**
DL2					PKPab	**PKPab**	**18 01 06.3**	**-0.4**
DL2					PP	**PP**	**18 04 54.5**	**-0.5**
DL2					SS	SS	18 25 39.5	+0.6
DL2					AMB	AMB		
	comp=Z,3μm,7.8s							
DL2					LR	LR		
	comp=Z,10μm,20.4s							
DL2					LR	LR		
	comp=Z,8μm,18.7s							
DL2					LR	LR		
	comp=Z,13μm,20.9s							
QIZ	**Qiongzhong**	**167.29**	**186**		PKP	**PKPdf**	**18 00 00.1**	**-2.8**
QIZ					PKPab	**PKPab**	**18 01 07.9**	**+0.4**
QIZ					PP	**PP**	**18 04 57.4**	**+2.8**
QIZ					SKKS		18 11 36.4	
QIZ					SS	SS	18 25 40.3	+2.1
QIZ					AMB	AMB		
	comp=Z,4μm,13.7s							
QIZ					LR	LR		
	comp=Z,6μm,20.0s							
QIZ					LR	LR		
	comp=Z,7μm,22.0s							
QIZ					LR	LR		
	comp=Z,13μm,25.9s							
LKP	**Lekhapani**	**168.11**	**108**	*e*	P	**PKPdf**	**18 00 04.2**	**+0.9**
SLVN	**Son La**	**168.84**	**157**			**PKPdf**	**18 00 03.6**	**-0.4**
QZH	**Quanzhou**	**168.86**	**235**	*i*	PKP	**PKPdf**	**18 00 04.6**	**+0.8**
QZH					PKPab	**PKPab**	**18 01 17.6**	**+3.0**
QZH					SKKS		18 11 48.3	
QZH					SS	SS	18 25 57.3	+1.1
QZH					AMB	AMB		
	comp=Z,3μm,10.9s							
QZH					LR	LR		
	comp=Z,6μm,20.6s							
QZH					LR	LR		
	comp=Z,4μm,21.8s							
QZH					LR	LR		
	comp=Z,13μm,22.7s							
SSE	**Sheshan**	**169.17**	**270**		PKP	**PKPdf**	**18 00 03.1**	**-0.8**
SSE					PP	**PP**	**18 05 08.6**	**+2.5**
SSE					SS	SS	18 25 55.0	-5.5
SSE					LR	LR		
	comp=Z,4μm,22.1s							
SSE					LR	LR		
	comp=Z,2μm,18.1s							
HKC	**Hong Kong Obse**	**169.34**	**209**	⇑	P	**PKPdf**	**18 00 05.0**	**+0.8**
GTA	**Gaotai**	**169.56**	**40**	⇑	PKP	**PKPdf**	**18 00 03.5**	**-0.5**
GTA					sPKP		18 00 17.0	
GTA					PKPab	**PKPab**	**18 01 18.4**	**+0.9**
GTA					PP	**PP**	**18 05 07.1**	**0.0**
GTA					SKKS		18 11 56.9	
GTA					AMB	AMB		
	comp=Z,5μm,10.5s							
GTA					LR	LR		
	comp=Z,8μm,22.5s							
GTA					LR	LR		
	comp=Z,11μm,22.5s							
GTA					LR	LR		
	comp=Z,23μm,24.4s							
BJI	**Beijing**	**169.66**	**325**		PKP	**PKPdf**	**18 00 00.8**	**-3.1**
BJI					PP	**PP**	**18 05 05.9**	**-1.3**
BJI					AMB	AMB		
	comp=Z,4μm,9.2s							
BJI					LR	LR		
	comp=Z,12μm,23.0s							
BJI					LR	LR		
	comp=Z,7μm,21.3s							
BJI					LR	LR		
	comp=Z,18μm,21.7s							
BJT	**Baijiatuau**	**169.68**	**325**		PKIKP	**PKPdf**	**18 00 03.3**	**-0.6**
BJT	**Baijiatuau**	**169.68**	**325**			**PKPdf**	**18 00 03.3**	**-0.6**
GZH	**Guangzhou**	**170.38**	**208**	⇑*i*	PKP	**PKPdf**	**18 00 04.3**	**-0.5**
GZH					PKPab	**PKPab**	**18 01 25.0**	**+3.8**
GZH					PKS	**PKSdf**	**18 03 35.8**	**-1.5**
GZH					PP	**PP**	**18 05 15.4**	**+4.8**
GZH					SS	SS	18 26 13.5	+3.8
GZH					LR	LR		
	comp=Z,6μm,19.7s							
GZH					LR	LR		
	comp=Z,10μm,19.9s							
HHC	**Hu-ho-hao-te**	**170.59**	**346**	*e*	PKP	**PKPdf**	**18 00 04.4**	**-0.1**
HHC					pPKP	sPKPdf	18 00 15.3	-0.9
HHC					SKKS		18 11 51.8	
HHC					SS	SS	18 26 07.6	-3.9
HHC					LR	LR		
	comp=Z,7μm,21.3s							
HHC					LR	LR		
	comp=Z,9μm,20.4s							
HHC					LR	LR		
	comp=Z,19μm,19.6s							
BTO	**Baotou**	**171.07**	**353**	*e*	PKP	**PKPdf**	**18 00 04.4**	**-0.4**
BTO					LR	LR		
	comp=Z,35μm,20.2s							
BTO					LR	LR		
	comp=Z,32μm,21.8s							
NJ2	**Nanjing**	**171.22**	**275**	⇑	PKP	**PKPdf**	**18 00 05.3**	**+0.3**
NJ2					PKPab	**pPKPab**	**18 01 30.8**	**-2.6**
NJ2					PP	**PP**	**18 05 16.4**	**+0.1**
NJ2					SKKS		18 12 01.1	
NJ2					SS	SS	18 26 19.4	-1.4
NJ2					AMB	AMB		
	comp=Z,5μm,9.6s							
NJ2					LR	LR		
	comp=Z,9μm,21.1s							
NJ2					LR	LR		
	comp=Z,9μm,20.6s							
NJ2					LR	LR		
	comp=Z,13μm,21.8s							
TIA	**Tai'an**	**171.59**	**304**		PKP	**PKPdf**	**18 00 03.8**	**-1.3**
TIA					SKKS		18 11 59.5	
TIA					AMB	AMB		
	comp=Z,2μm,8.3s							
TIA					LR	LR		
	comp=Z,7μm,19.2s							
TIA					LR	LR		
	comp=Z,7μm,22.8s							
TIA					LR	LR		
	comp=Z,14μm,22.8s							
KMI	**Kunming**	**171.67**	**141**	⇑	PKP	**PKPdf**	**18 00 05.9**	**+0.2**
TIY	**Taiyuan**	**173.23**	**333**	⇑*i*	PKP	**PKPdf**	**18 00 05.3**	**-0.5**
TIY					PKPab	**PKPab**	**18 01 35.9**	**+2.3**
TIY					PP	**PP**	**18 05 24.5**	**-0.3**
TIY					AMB	AMB		
	comp=Z,5μm,8.3s							
TIY					LR	LR		
	comp=Z,8μm,19.0s							
TIY					LR	LR		
	comp=Z,8μm,18.2s							
TIY					LR	LR		
	comp=Z,17μm,19.8s							
LZH	**Lanzhou**	**174.17**	**41**	⇑	PKP	**PKPdf**	**18 00 07.6**	**+1.2**
LZH					PKPab	**PKPab**	**18 01 40.1**	**+2.1**
LZH					PP	**PP**	**18 05

comp=E,39nm,0.2s
PAX Paxson 1.01 122 Pg 17 41 43.3 -1.2
WRH Wood River Hil 1.01 342 Pg 17 41 44.3 -0.3
WRH IAML 17 41 60.0
comp=N,44nm,0.4s
WRH IAML 17 41 60.0
comp=E,32nm,0.2s
RIDG Independent Ri 1.14 78 Pg 17 41 46.2 -0.9
BWN Browne 1.15 306 Pg 17 41 46.0 -1.2
BWN IAML 17 42 03.2
comp=E,70nm,0.4s
BWN IAML 17 42 03.2
comp=N,66nm,0.5s
CCB Clear Creek Bu 1.15 350 Pg 17 41 46.7 -0.6
CCB IAML 17 42 02.7
comp=E,26nm,0.3s
IL31 1.28 9 Pg 17 41 48.5 -1.2
ILAR Eielson Array 1.28 9 Pg 17 41 47.3 -2.4
NEA2 Nenana 1.32 326 Pg 17 41 49.0 -1.4
TRF Thorofare Moun 1.32 268 Pg 17 41 49.5 -1.1
TRF IAML 17 42 11.3
comp=N,28nm,0.6s
COLA College 1.38 351 Pg 17 41 50.9 -0.8
TCOL CIGO, UAF Yank 1.38 351 Pg 17 41 51.2 -0.4
I53US FAIRBANKS INFR 1.38 351 *i* 17 42 44.6
baz=176,slow=334,SNR=2.8
DOT Dot Lake 1.48 83 Pn 17 41 51.8 -1.3
MDM Murphy Dome 1.50 346 Pn 17 41 52.4 -0.9
M24K Tolsona, Glenn 1.51 159 Pn 17 41 52.7 -0.9
M24K IAML 17 42 16.1
comp=E,38nm,0.8s
M24K IAML 17 42 16.2
comp=N,32nm,0.7s
SCRK Sand Creek 1.56 71 Pn 17 41 53.5 -0.8
KTH Kantishna Hill 1.60 273 Pn 17 41 54.2 -0.6
KTH IAML 17 42 17.5
comp=N,16nm,1.2s
KTH IAML 17 42 19.0
comp=E,13nm,0.5s
POKR Poker Plat Res 1.61 359 Pn Pn 17 41 53.4 -1.4
POKR IAML 17 42 16.8
comp=E,16nm,0.4s
POKR IAML 17 42 17.9
comp=N,17nm,0.4s
SCM Sheep Creek Mo 1.69 180 Pn Pn 17 41 55.5 -0.5
SCM IAML 17 42 19.5
comp=E,24nm,0.9s
BPAW Bear Paw Mtn. 1.72 292 Pn 17 41 55.3 -1.1
CUT Chulitna 1.74 231 Pn Pn 17 41 56.1 -0.4
MENT Mentasta 1.74 108 Pn 17 41 56.3 -0.4
SML Sawmill 1.77 195 Pn Pn 17 41 56.6 -0.6
SML IAML 17 42 23.7
comp=N,12nm,0.9s
SML IAML 17 42 26.9
comp=E,15nm,0.8s
I23K Minto, Yukon-K 1.86 333 Pn 17 41 58.0 -0.2
I23K IAML 17 42 28.6
comp=N,12nm,0.8s
L26K Log Cabin Wild 1.88 103 Pn 17 41 58.2 -0.3
GHO Glory Hole Cre 1.90 203 Pn Pn 17 41 59.0 +0.1
GHO IAML 17 42 28.0
comp=E,13nm,2.4s
GHO IAML 17 42 32.3
comp=N,12nm,0.5s
MLY Manley 2.12 317 Pn 17 42 00.5 -1.4
KLU Klutina 2.14 161 Pn 17 42 02.9 +0.7
KLU IAML 17 42 33.2
comp=N,13nm,0.3s
KLU IAML 17 42 34.8
comp=E,11nm,0.6s
PRP Porcupine Dome 2.16 21 Pn Pn 17 42 02.3 -0.2
PRP IAML 17 42 32.2
comp=E,9.8nm,0.6s
KNK Knik Glacier 2.17 194 Pn 17 42 01.9 -0.7
KNK IAML 17 42 35.8
comp=N,18nm,0.7s
PPLA Purkeypile 2.28 256 Pn Pn 17 42 05.4 +1.2
M26K Nabesna, AK 2.28 117 Pn 17 42 04.1 -0.1
M26K IAML 17 42 36.6
comp=N,17nm,0.4s
M26K IAML 17 42 37.5
comp=E,12nm,0.3s
N25K Chitina, Valde 2.30 145 Pn Pn 17 42 03.6 -0.8
N25K IAML 17 42 29.9
comp=N,8.9nm,2.9s
H24K Noodor Dome 2.34 355 Pn 17 42 03.6 -1.3
H24K IAML 17 42 38.8
comp=E,6.6nm,1.5s
K27K Chicken 2.40 75 Pn Pn 17 42 04.7 -1.0
SKT Skwentna 2.47 233 Pn Pn 17 42 05.8 -0.9
SKT IAML 17 42 53.8
comp=N,12nm,2.9s
SKT IAML 17 43 03.4
comp=E,8.9nm,3.0s
L27K Beaver Creek, 2.54 98 Pn 17 42 06.4 -1.2
L27K IAML 17 42 21.5
comp=N,6.2nm,3.8s
BCAR Beaver Creek A 2.55 98 Pn Pn 17 42 05.9 -1.9
SUA Susitna One 2.59 219 Pn Pn 17 42 08.1 -0.3
I21K Tanana 2.62 312 Pn 17 42 07.9 -0.8
I21K IAML 17 42 24.7
comp=E,9.5nm,3.1s
I21K IAML 17 42 47.0
comp=N,10nm,2.9s
GLI Glacier Island 2.65 177 Pn Pn 17 42 09.2 +0.1
GLB Gilahina Butte 2.65 140 Pn Pn 17 42 08.9 -0.3
GLB IAML 17 42 47.3
comp=N,6.5nm,2.0s
GLB IAML 17 43 29.6
comp=E,7.2nm,3.1s
PWL Port Wells 2.71 190 Pn Pn 17 42 11.0 +1.1
PWL IAML 17 42 29.5
comp=E,11nm,2.5s
M27K Edge Creek, AK 2.76 112 Pn Pn 17 42 10.7 -0.1
M27K IAML 17 43 00.2
comp=E,6.7nm,2.1s
M27K IAML 17 43 05.7
comp=N,6.7nm,3.4s
FID Port Fidalgo 2.81 171 Pn Pn 17 42 13.2 +1.9
BMRM Bremner River 2.86 152 Pn Pn 17 42 11.4 -0.6
VRDI Verde Repeater 2.93 140 Pn Pn 17 42 13.4 +0.3
VRDI IAML 17 42 41.9
comp=N,9.3nm,2.3s
VRDI IAML 17 43 29.3
comp=E,6.7nm,2.2s
EGAK Eagle 2.99 62 Pn Pn 17 42 13.4 -0.4
EGAK IAML 17 42 58.8
comp=E,6.7nm,2.6s
K20K Telida 3.02 270 Pn Pn 17 42 13.3 -1.0
K20K IAML 17 43 04.5
comp=N,7.1nm,3.0s
K20K IAML 17 43 21.1
comp=E,6.5nm,3.6s
J20K Nowinta River 3.08 285 Pn Pn 17 42 14.8 -0.3
J20K IAML 17 42 40.9
comp=N,6.4nm,2.7s
J20K IAML 17 43 42.6
comp=E,6.5nm,2.8s
H21K Melozitna Rive 3.19 315 Pn Pn 17 42 15.2 -1.3
H21K IAML 17 44 08.9
comp=N,4.8nm,3.1s
H21K IAML 17 44 17.3
comp=E,5.1nm,3.4s
IMAR Indian Mountai 3.69 315 Pn Pn 17 42 22.4 -1.1
BMAR Burnt Mountain 4.10 15 Pn Pn 17 42 28.3 -0.7
I18DK QAANAAQ INFRAS 26.80 28 *i* 20 17 30.0
baz=282,slow=332,SNR=3.4
I37NO I37NO 47.32 7 *i* 22 31 00.0
baz=352,slow=325,SNR=1.2

SJA 21 17:47:39.0, 31.54S×72.01W, h10km, ML4.7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO03	**El Pedregal**	**1.33**	**59**	*i* P	Pn	17 48 02.0	-1.7
VA01	**Torpederas**	**1.51**	**168**	*i* P	Pn	17 48 05.0	-1.1
MT05	**Renca**	**2.14**	**150**	*i* P	Pn	17 48 13.0	-1.8
RTLS	**Leoncito**	**2.33**	**97**	*i* P	Pn	17 48 17.0	-0.6
AUSP	**Uspallata**	**2.33**	**108**	*i* P	Pn	17 48 17.0	-0.7
MT01	**Popeta**	**2.40**	**165**	*i* P	Pn	17 48 19.0	+0.6
ACCO	**Cerro Coronel**	**2.70**	**70**	*i* P	Pn	17 48 24.0	+1.2
ZON	**Zonda**	**2.84**	**91**	*i* P	Pn	17 48 25.0	+0.5
ASAL	**Salagasta**	**2.89**	**112**	*i* P	Pn	17 48 26.0	+0.8
ARCO	**CERRO ARCO**	**2.91**	**117**	*i* P	Pn	17 48 27.0	+1.4
BO01	**Tunca**	**2.95**	**165**	*i* P	Pn	17 48 26.0	+0.1
RTCV	**Cerro Valdivia**	**2.98**	**97**	*i* P	Pn	17 48 27.0	+0.7
BO02	**Sierra Bellavi**	**3.40**	**163**	*i* P	Pn	17 48 34.0	+1.8
AVFE	**Valle Fertil**	**4.00**	**79**	*i* P	Pn	17 48 40.0	-0.5
ACHE	**Chepes**	**4.59**	**87**	*i* P	Pn	17 48 50.0	+1.4
CYA	**Choya**	**6.21**	**62**	*i* P	Pn	17 49 10.0	-0.7
AHML	**Horco Molle**	**7.52**	**53**	*i* P	Pn	17 49 30.0	+1.2

*IDC **21** 17:48:48.7±8.1, 10.20S×164.89E, h60km±33km, mb3.9/4, mb1 4.2/6, mb1mx3.7/46, mbtmp4.4/6, ML4.8/2, Error ellipse: s-maj=111.6km s-min=24.9km az=36.0*
*NEIC **21** 17:48:56.0±2.3, 11.01S±0.08×164.29E±0.10, h46km±9km, mb4.3/15, Error ellipse: s-maj=13.8km s-min=11.6km az=81.0*
ISC 21 17:48:53.2±0.8, 10.89S±0.09×164.40E±0.08, h29km, n43, σ2°20/38, mb4.3/9, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.62**	**288**	P	**Pn**	**17 50 01.6**	**+0.4**
	142nm,0.3s,baz=140,slow=6.3,SNR=67						
HNR				S	**Sn**	**17 50 56.5**	**+2.6**
	34nm,0.3s,baz=29,slow=20,SNR=3.8						
HNR	**Honiara**	**4.62**	**288**		**Pn**	**17 50 01.8**	**+0.6**
HNR	**Honiara**	**4.62**	**288**	P	**Pn**	**17 50 02.3**	**+1.1**
SANVU	**Saraoutou**	**5.29**	**149**		**Pn**	**17 50 12.1**	**+1.8**
SANVU	**Saraoutou**	**5.29**	**149**	P	**Pn**	**17 50 12.1**	**+1.8**
DVP	**Devils Point**	**7.72**	**152**	P	**Pn**	**17 50 46.1**	**+2.3**
LIFNC	**LIFOU**	**10.20**	**165**	Pn	**Pn**	**17 51 18.6**	**+0.8**
MARNC	**Mare, Loyalty**	**11.09**	**162**	Pn	**Pn**	**17 51 30.1**	**+0.2**
MARNC	**Mare, Loyalty**	**11.09**	**162**	P	**Pn**	**17 51 33.7**	**+3.7**
	0.9nm,0.9s						
DZM	**Mont Dzumac**	**11.29**	**170**	P	**Pn**	**17 51 34.5**	**+1.7**
	1.8nm,0.3s,baz=11,slow=5.7,SNR=36						
NOUC	**Port Laguerre**	**11.30**	**171**	P	**Pn**	**17 51 35.7**	**+2.9**
YATNC	**Mamie plateau,**	**11.36**	**168**	P	**Pn**	**17 51 37.2**	**+3.5**
ONTNC	**Ouen Toro**	**11.52**	**170**	Pn	**Pn**	**17 51 39.6**	**+3.7**
ONTNC	**Ouen Toro**	**11.52**	**170**	P	**Pn**	**17 51 39.9**	**+4.0**
OUENC	**Ouen Island, N**	**11.70**	**169**	Pn	**Pn**	**17 51 39.6**	**+1.3**
OUENC	**Ouen Island, N**	**11.70**	**169**	P	**Pn**	**17 51 42.2**	**+3.9**
PINNC	**Pines Island,**	**12.02**	**166**	Pn	**Pn**	**17 51 43.8**	**+1.1**
TARA	**Tarawa**	**14.82**	**35**	Pn	**P**	**17 52 24.4**	**-2.2**
EIDS	**Eidsvold**	**19.15**	**219**	Pn	**Pn**	**17 53 14.8**	**-0.6**
EIDS				IAmb	IAmb	17 53 19.8	
	comp=Z,7.0nm,0.9s						
CTA	**Charters Tower**	**19.72**	**240**	P	**Pn**	**17 53 21.6**	**-0.6**
	comp=Z,20nm,0.7s,baz=71,slow=12,SNR=29						
CTAO	**Charters Tower**	**19.72**	**240**	P	**P**	**17 53 21.1**	**+0.4**
CTAO				IAmb	IAmb	17 53 23.0	
	comp=Z,22nm,0.8s						
KWAJ	**Kwajalein Atol**	**19.82**	**9**	Pn	**Pn**	**17 53 26.6**	**+3.2**
COEN	**Coen**	**20.95**	**259**	P	**P**	**17 53 34.3**	**+0.2**
COEN				IAmb	IAmb	17 53 39.2	
	comp=Z,14nm,0.9s						
ARMA	**Armidale**	**22.78**	**210**	P	**P**	**17 53 51.5**	**-2.1**
ARMA				IAmb	IAmb	17 54 14.3	
	comp=Z,16nm,1.3s						
H11S2	**WAKE ISLAND Hy**	**29.28**	**4**	T	T	18 25 16.7	
	baz=184,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**29.28**	**4**	T	T	18 25 29.9	
	baz=184,slow=76,SNR=8.6						
H11S1	**WAKE ISLAND Hy**	**29.30**	**4**	T	T	18 25 19.9	
	baz=184,slow=76,SNR=7.0						
STKA	**Stephens Creek**	**29.66**	**222**	P	**P**	**17 54 57.1**	**+0.6**
	comp=Z,3.2nm,0.9s,baz=32,slow=13,SNR=3.3						
STKA	**Stephens Creek**	**29.66**	**222**	P	**P**	**17 54 55.7**	**-0.8**
WR0	**Warramunga Arr**	**30.12**	**249**	P	**P**	**17 54 58.0**	**-2.7**
WR0				IAmb	IAmb	17 55 02.1	
	comp=Z,5.2nm,1.1s						
WB0	**Warramunga Arr**	**30.22**	**249**	P	**P**	**17 54 59.4**	**-2.2**
WB0				IAmb	IAmb	17 55 01.5	
	comp=Z,4.1nm,0.8s						
WB2	**Warramunga Arr**	**30.29**	**249**	P	**P**	**17 55 00.8**	**-1.5**
WB2				IAmb	IAmb	17 55 03.2	
	comp=Z,3.4nm,0.8s						
WRA	**Warramunga Arr**	**30.30**	**249**	P	**P**	**17 55 01.0**	**-1.3**
	comp=Z,2.9nm,0.8s,baz=78,slow=9.3,SNR=14						
WRA	**Warramunga Arr**	**30.30**	**249**	P	**P**	**17 55 00.9**	**-1.5**
H11N1	**WAKE ISLAND Hy**	**30.51**	**5**	T	T	18 26 53.8	
	baz=184,slow=76,SNR=9.7						
H11N3	**WAKE ISLAND Hy**	**30.51**	**5**	T	T	18 26 55.7	
	baz=184,slow=76,SNR=12						
H11N2	**WAKE ISLAND Hy**	**30.52**	**5**	T	T	18 26 53.1	
	baz=184,slow=76,SNR=12						
AS31	**Alice Springs**	**31.69**	**242**	P	**P**	**17 55 12.4**	**-2.2**
ASAR	**Alice Springs**	**31.69**	**242**	P	**P**	**17 55 12.8**	**-1.9**
	comp=Z,0.6nm,0.5s,baz=64,slow=10.0,SNR=24						
MTN	**Manton Dam**	**32.61**	**263**	P	**P**	**17 55 20.1**	**-2.6**
MTN				IAmb	IAmb	17 55 34.2	
	comp=Z,13nm,1.4s						
BBOO	**Buckleboo**	**33.98**	**226**	P	**P**	**17 55 33.2**	**-1.2**
KNRA	**Kununurra**	**34.98**	**258**	P	**P**	**17 55 41.3**	**-2.1**
FITZ	**Fitzroy Crossi**	**38.15**	**255**	P	**P**	**17 56 08.7**	**-1.6**
FITZ				IAmb	IAmb	17 56 14.1	
	comp=Z,7.2nm,1.1s						

*NEIC **21** 17:58:13.9±1.8, 5.05N±0.07×94.40E±0.05, h35km±2km, mb4.9/35, Error ellipse: s-maj=12.5km s-min=8.6km az=179.0*
*IDC **21** 17:58:22.1±10.0, 5.17N×94.72E, h107km±87km, mb4.1/9, mb1 4.2/10, mb1mx3.6/73, mbtmp4.4/10, ML4.6/1, Error ellipse: s-maj=74.7km s-min=15.3km az=56.0*
ISC 21 17:58:13.9±0.5, 5.00N±0.07×94.46E±0.07, h43km, n65, σ1°27/58, mb4.8/24, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**2.49**	**85**		**Pn**	**17 58 53.5**	**+1.5**
GSI	**Gunungsitoli**	**4.81**	**140**	Pn	**Pn**	**17 59 24.4**	**+0.5**
RPSI	**Rantau Prapat**	**5.01**	**117**		**Pn**	**17 59 28.2**	**+1.6**
PBA	**Port Blair**	**6.83**	**346**	Pn	Pn	17 59 50.4	-1.2
PBKT	**Sadao Pong**	**13.16**	**29**	Pn	**Pn**	**18 01 22.0**	**+3.8**
PALK	**Pallekele**	**13.86**	**280**	Pn	**Pn**	**18 01 31.1**	**+3.1**
CM31	**Chiang Mai Arr**	**14.08**	**18**	P	**P**	**18 01 35.6**	**-2.1**
CMAR	**Chiang Mai Arr**	**14.08**	**18**	P	**P**	**18 01 35.0**	**-2.6**
	0.9nm,0.3s,baz=214,slow=12,SNR=12						
CMAR	**Chiang Mai Arr**	**14.08**	**18**		**P**	**18 01 35.5**	**-2.1**
MNCI	**Minicoy**	**21.50**	**280**	P	**P**	**18 02 59.2**	**-0.1**
JAGI	**Jajag, Banyuwa**	**23.77**	**124**	P	**P**	**18 03 23.0**	**+0.3**
JAGI				IAmb	IAmb	18 03 33.2	
	comp=Z,80nm,1.4s						
LSA	**Lhasa**	**24.77**	**353**	P	**P**	**18 03 33.4**	**+1.1**
LSA				IAmb	IAmb	18 03 60.0	
	comp=Z,52nm,1.5s						
H08S2	**Diego Garcia H**	**25.26**	**240**	T	T	18 29 34.3	
	baz=60,slow=76,SNR=132						
H08S3	**Diego Garcia H**	**25.26**	**240**	T	T	18 29 34.3	
	baz=60,slow=76,SNR=130						
H08S1	**Diego Garcia H**	**25.27**	**240**	T	T	18 29 35.5	
	baz=60,slow=76,SNR=62						
ENH	**Enshi**	**28.86**	**28**	P	**P**	**18 04 07.2**	**-1.3**
ENH				IAmb	IAmb	18 04 09.7	
	comp=Z,61nm,1.4s						
YHNB	**Yeheng**	**32.43**	**50**	P	**P**	**18 04 41.0**	**+0.8**
FITZ	**Fitzroy Crossi**	**38.38**	**128**	P	**P**	**18 05 31.3**	**0.0**
FITZ				IAmb	IAmb	18 05 36.9	
	comp=Z,23nm,1.4s						
FAKI	**Fak Fak**	**38.57**	**101**	P	**P**	**18 05 32.9**	**-0.1**
TARG	**Taragay, Kyrgy**	**39.48**	**340**	P	**P**	**18 05 41.8**	**+1.0**
TARG				IAmb	IAmb	18 05 54.0	
	comp=Z,56nm,1.5s						
KNRA	**Kununurra**	**39.69**	**122**	P	**P**	**18 05 41.7**	**-0.6**
KNRA				IAmb	IAmb	18 06 09.6	
	comp=Z,18nm,1.1s						
MKAR	**Makanchi Array**	**42.95**	**348**	P	**P**	**18 06 09.1**	**+0.4**
	comp=Z,7.8nm,0.7s,baz=170,slow=6.6,SNR=16						
MKAR	**Makanchi Array**	**42.95**	**348**	P	**P**	**18 06 08.9**	**+0.2**
MAKZ	**Makanchi**	**43.03**	**347**	P	**P**	**18 06 09.8**	**+0.5**
MAKZ				IAmb	IAmb	18 06 14.4	
	comp=Z,31nm,1.3s						
KKAR	**Karatay Array**	**43.47**	**334**	P	**P**	**18 06 13.6**	**+0.7**
NWAO	**Narrogin (SRO)**	**43.47**	**152**	P	**P**	**18 06 13.0**	**-0.1**
NWAO				IAmb	IAmb	18 06 29.3	
	comp=Z,33nm,1.4s						
INCN	**Inchon**	**43.68**	**38**	P	**P**	**18 06 14.3**	**-0.4**
SONM	**Songino Array**	**43.89**	**12**	P	**P**	**18 06 15.7**	**-0.7**
SONM				PcP	**PcP**	**18 08 02.4**	**+0.4**
	comp=Z,4.8nm,0.9s,baz=192,slow=4.2,SNR=5.5						
SONM	**Songino Array**	**43.89**	**12**	IAmb	IAmb	18 06 17.8	
	comp=Z,27nm,1.4s						
ULN	**Ulaanbaatar**	**44.06**	**12**	P	**P**	**18 06 15.9**	**-1.8**
ULN				IAmb	IAmb	18 06 17.6	
	comp=Z,54nm,1.4s						
KSAR	**Wonju Array Be**	**44.43**	**39**	P	**P**	**18 06 21.0**	**+0.4**
KS19	**Wonju Array Si**	**44.45**	**39**	P	**P**	**18 06 21.2**	**+0.3**
WB0	**Warramunga Arr**	**46.34**	**123**	P	**P**	**18 06 36.5**	**+0.3**
WB0				IAmb	IAmb	18 06 37.4	
	comp=Z,8.5nm,0.7s						
WRA	**Warramunga Arr**	**46.38**	**124**	P	**P**	**18 06 37.0**	**+0.6**
	comp=Z,10nm,0.8s,baz=302,slow=9.1,SNR=31						
WRA	**Warramunga Arr**	**46.38**	**124**	IAmb	IAmb	18 06 37.6	
	comp=Z,0.7nm,0.9s						
WB2	**Warramunga Arr**	**46.39**	**124**	P	**P**	**18 06 37.2**	**+0.7**
WB2				IAmb	IAmb	18 06 53.8	
	comp=Z,18nm,1.2s						
JHS	**Saijyo**	**46.52**	**45**	P	**P**	**18 06 38.1**	**+0.7**
JHS				IAmb	IAmb	18 06 38.6	
	comp=Z,20nm,1.3s						
WR0	**Warramunga Arr**	**46.56**	**123**	P	**P**	**18 06 38.5**	**+0.8**
WR0				IAmb	IAmb	18 06 39.4	
	comp=Z,9.0nm,0.6s						
KURBB	**Kurchatov Arra**	**47.40**	**346**	P	**P**	**18 06 44.6**	**+0.8**
	comp=Z,2.7nm,0.6s,baz=178,slow=5.6,SNR=9.3						
KURK	**Kurchatov**	**47.46**	**346**	P	**P**	**18 06 44.6**	**+0.3**
AS31	**Alice Springs**	**47.87**	**128**	P	**P**	**18 06 48.4**	**+0.4**
ASAR	**Alice Springs**	**47.87**	**128**	P	**P**	**18 06 48.6**	**+0.6**
	comp=Z,1.2nm,0.4s,baz=299,slow=7.8,SNR=34						
JWT	**Wachi**	**48.29**	**46**	P	**P**	**18 06 49.8**	**-1.2**
ZAA0	**Zalesovo Array**	**49.43**	**353**	P	**P**	**18 06 59.1**	**-0.3**
ZALV	**Zalesovo Beam**	**49.43**	**353**	P	**P**	**18 06 59.7**	**+0.2**
	comp=Z,2.8nm,0.3s,baz=173,slow=7.8,SNR=12						
JSD	**Sado**	**51.62**	**44**	P	**P**	**18 07 16.2**	**-0.1**
JSD				IAmb	IAmb	18 07 43.0	
	comp=Z,21nm,1.4s						
ABKAR	**Akbulak array**	**52.90**	**332**	P	**P**	**18 07 25.8**	**+0.2**
PATS	**Pohnpei**	**63.51**	**85**	P	**P**	**18 08 40.3**	**0.0**
MA2	**Magadan**	**69.16**	**27**	P	**P**	**18 09 15.0**	**-0.7**
TIXI	**Tiksi**	**69.98**	**11**	P	**P**	**18 09 19.9**	**-0.6**
TIXI				IAmb	IAmb	18 09 20.4	
	comp=Z,18nm,0.8s						
AKBB	**Malin Array Si**	**70.60**	**322**	P	**P**	**18 09 23.9**	**-0.8**
CASY	**Casey**	**72.05**	**173**	P	**P**	**18 09 32.7**	**-0.5**
VTS	**Vitosha**	**72.84**	**313**	P	**P**	**18 09 38.4**	**-0.2**
AGG	**Agios Georgios**	**73.00**	**309**	P	**P**	**18 09 36.7**	**-2.7**
ARCES	**ARCESS Array B**	**78.06**	**340**	P	**P**	**18 10 08.1**	**+0.3**
	comp=Z,2.9nm,1.0s,baz=99,slow=5.6,SNR=1.0						
ARCES	**ARCESS Array B**	**78.06**	**340**	IAmb	IAmb	18 10 13.1	
	comp=Z,15nm,1.4s						
GERES	**GERESS Array B**	**80.17**	**319**	P	**P**	**18 10 21.1**	**+1.2**
	comp=Z,1.9nm,0.4s,baz=121,slow=6.0,SNR=13						
GERES	**GERESS Array B**	**80.17**	**319**	P	**P**	**18 10 20.3**	**+0.4**
CLL	**Collm**	**80.78**	**321**	*ep*P	**pP**	**18 10 33.0**	**-2.0**
CLL				*es*P	sP	18 10 39.0	-0.5
EKA	**Eskdalemuir Ar**	**90.25**	**326**	P	**P**	**18 11 10.8**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=98,slow=5.2,SNR=5.0						
W13A	**Hualapai Mount**	**132.03**	**32**		**PKPdf**	**18 17 21.5**	**-2.2**
Y14A	**Wickenburg**	**133.38**	**32**		PKPpre	18 17 16.6	
X16A	**Lo Mia Camp, P**	**133.81**	**30**		**PKPdf**	**18 17 25.7**	**-1.3**
TXAR	**Lajitas Array**	**141.68**	**26**	PKP	**PKPdf**	**18 17 40.5**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=180,slow=1.5,SNR=3.6						
TXAR	**Lajitas Array**	**141.68**	**26**		**PKPdf**	**18 17 39.5**	**-2.1**

*IDC **21** 17:58:55.1±1.0, 32.81S×178.45W, h0km, mb4.2/5, mb1 4.4/5, mb1mx4.0/35, mbtmp4.2/5, Error ellipse: s-maj=37.2km s-min=28.5km az=12.0*
ISC 21 17:59:00.2±1.0, 32.98S±0.03×178.58W±0.02, h32km, n10, σ0°98/10, mb4.2/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.84**	**283**	P	**P**	**18 05 40.6**	**+0.9**
	2.6nm,0.6s,baz=122,slow=8.5,SNR=7.0						
ASAR	**Alice Springs**	**42.59**	**270**	P	**P**	**18 06 53.4**	**-0.1**
	3.2nm,0.7s,baz=109,slow=7.4,SNR=8.6						
WRA	**Warramunga Arr**	**43.80**	**275**	P	**P**	**18 07 03.4**	**+0.1**
	2.8nm,0.7s,baz=117,slow=7.5,SNR=11						
QSPA	**South Pole Qui**	**57.26**	**180**	P	**P**	**18 08 44.5**	**+0.1**
	1.9nm,1.0s,baz=306,slow=1.0,SNR=9.4						
TXAR	**Lajitas Array**	**94.08**	**58**	P	**P**	**18 12 16.9**	**+1.3**
	0.5nm,0.8s,baz=191,slow=1.3,SNR=3.5						
KURBB	**Kurchatov Arra**	**122.44**	**313**	PKP	**PKiKP**	**18 17 51.2**	**-0.7**
	0.5nm,0.7s,baz=117,slow=1.4,SNR=4.5						
FINES	**FINESS Array B**	**147.27**	**338**	PKPbc	**PKPbc**	**18 18 38.7**	**-0.9**
	6.1nm,0.7s,baz=47,slow=3.3,SNR=22						
NB2	**NORSAR Subarra**	**151.09**	**350**	PKP	**PKPbc**	**18 18 48.3**	**-1.0**
	comp=Z,0.7nm,1.1s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**151.09**	**350**	PKPbc	**PKPbc**	**18 18 48.3**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=14,slow=4.1,SNR=4.3						
AKASG	**Malin Array Be**	**152.92**	**319**	PKPbc	**PKPbc**	**18 18 52.8**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=67,slow=2.0,SNR=4.3						

*NEIC **21** 18:08:03.3±1.6, 31.04S±0.05×71.78W±0.1, h39km±12km, Error ellipse: s-maj=12.5km s-min=7.7km az=97.0*
*GUC **21** 18:08:03.4±0.9, 31.07S×71.69W, h36km±8km, ML4.2*
ISC 21 18:08:01.6±1.0, 31.09S±0.03×71.85W±0.07, h22km±5km, n32, σ1°25/40, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.46**	**24**	*i* P	**Pn**	**18 08 12.9**	**0.0**
CO06				*i* S	**Sn**	**18 08 19.8**	**-0.5**
CO06	**Fray Jorge**	**0.46**	**24**		**Pn**	**18 08 12.6**	**-0.3**
CO06				Sg	**Sn**	**18 08 18.7**	**-1.6**
CO03	**El Pedregal**	**1.03**	**76**	*e*P	**Pb**	**18 08 21.2**	**+0.4**
CO03				*i* S	**Sb**	**18 08 33.9**	**0.0**
CO03				IAML		18 08 34.5	
	comp=E,8μm,0.2s						
CO03	**El Pedregal**	**1.03**	**76**		**Pb**	**18 08 21.1**	**+0.3**
CO03					**Sb**	**18 08 32.9**	**-1.0**
CO05	**La Serena**	**1.29**	**24**	*e*P	**Pb**	**18 08 25.9**	**+0.9**
CO05				*i* S	**Sb**	**18 08 42.0**	**+0.9**
CO05	**La Serena**	**1.29**	**24**		**Pb**	**18 08 25.6**	**+0.6**
GO04	**Tololo Observa**	**1.29**	**45**	*e*P	**Pb**	**18 08 25.5**	**+0.2**
GO04				*i* S	**Sb**	**18 08 42.2**	**+0.7**
GO04				IAML		18 08 45.5	
	comp=N,11μm,0.5s						
GO04	**Tololo Observa**	**1.29**	**45**		**Pn**	**18 08 23.2**	**-1.4**
VA06	**Catapilco**	**1.54**	**162**	*e*P	**Pb**	**18 08 28.8**	**-0.5**
VA06				*i* S	**Sn**	**18 08 47.9**	**+0.9**
VA06				IAML		18 08 55.7	
	comp=E,6μm,0.4s						
VA01	**Torpederas**	**1.93**	**175**	Pn	**Pn**	**18 08 33.9**	**+0.8**
VA03	**San Esteban**	**2.00**	**147**	IAML		18 09 06.0	
	comp=E,4μm,0.4s						
VA03	**San Esteban**	**2.00**	**147**		**Pb**	**18 08 36.0**	**-1.3**
ROCH	**El Roble**	**2.00**	**159**	*e*P	**Pn**	**18 08 35.3**	**+1.0**
ROCH				IAML		18 09 06.2	
	comp=N,3μm,0.4s						
MT05	**Renca**	**2.48**	**158**	Pn	**Pn**	**18 08 42.3**	**+1.6**
VA05	**Santo Domingo**	**2.56**	**176**	*e*S	**Pb**	**18 08 45.9**	**-0.9**
VA

*IDC **21** 18:17:45.1±0.9,31°.63S×71°.69W,h0km,mb4.1/7, mb1 4.2/10,mb1mx4.1/25,mbtmp4.0/10,ML4.0/3,Error ellipse: s-maj=29.1km s-min=23.3km az=81.0*
*NEIC **21** 18:17:45.1±1.2,31°.58S±0°.04×72°.2W±0°.1,h9km±4km, mb4.7/8,ML4.5(GUC),Error ellipse: s-maj=14.6km s-min=5.2km az=99.0*
*SJA **21** 18:17:46.0,31°.615×72°.34W,h10km,ML5.4*
*GUC **21** 18:17:47.6±0.8,31°.655×72°.02W,h34km±3km,ML4.5*

ISC 21 18:17:47.1±2.0,31°.62S±0°.03×71°.99W±0°.06,h17km±12km, n91,σ1ş40/94,mb4.4/10,3C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**0.99**	**18**	*eP*		**Pb**	**18 18 05.4**	**-0.5**
CO06				*i* S		**Sg**	**18 18 19.9**	**+0.4**
CO06	**Fray Jorge**	**0.99**	**18**			**Pb**	**18 18 05.1**	**-0.8**
VA06	**Catapilco**	**1.11**	**148**	*eP*		**Pb**	**18 18 07.2**	**-0.6**
VA06				*i* S		**Sb**	**18 18 21.6**	**-0.2**
VA06				IAML			18 18 26.1	
	comp=N,26μm,0.5s							
CO03	**El Pedregal**	**1.36**	**55**ſ	*eP*		**Pn**	**18 18 11.2**	**-0.3**
CO03				*i* S		**Sn**	**18 18 27.5**	**-1.7**
CO03				IAML			18 18 33.8	
	comp=N,6μm,0.5s							
CO03	**El Pedregal**	**1.36**	**55**	Pn		**Pn**	**18 18 10.7**	**-0.8**
CO03	**El Pedregal**	**1.36**	**55**	*i* P		**Pn**	**18 18 11.0**	**-0.4**
VA01	**Torpederas**	**1.43**	**168**	*eP*		**Pn**	**18 18 12.1**	**-0.2**
VA01	**Torpederas**	**1.43**	**168**	Pn		**Pn**	**18 18 12.0**	**-0.2**
VA01	**Torpederas**	**1.43**	**168**	*i* P		**Pn**	**18 18 12.0**	**-0.2**
ROCH	**El Roble**	**1.58**	**149**	*eP*		**Pn**	**18 18 14.9**	**+0.3**
ROCH				*i* S		**Sb**	**18 18 35.8**	**0.0**
ROCH				IAML			18 18 41.3	
	comp=N,8μm,0.6s							
VA03	**San Esteban**	**1.67**	**133**	*eP*		**Pn**	**18 18 16.0**	**+0.4**
VA03				*i* S		**Sb**	**18 18 37.6**	**-0.6**
VA03				IAML			18 18 42.2	
	comp=E,11μm,0.5s							
VA03	**San Esteban**	**1.67**	**133**			**Pn**	**18 18 15.7**	**+0.1**
VA03	**San Esteban**	**1.67**	**133**	*i* P		**Pn**	**18 18 16.0**	**+0.4**
GO04	**Tololo Observa**	**1.77**	**36**	*eP*		**Pn**	**18 18 17.3**	**+0.1**
GO04				*i* S		**Sb**	**18 18 42.0**	**+0.6**
GO04				IAML			18 18 47.0	
	comp=N,15μm,0.5s							
GO04	**Tololo Observa**	**1.77**	**36**	Pn		**Pn**	**18 18 17.3**	**+0.1**
GO04	**Tololo Observa**	**1.77**	**36**	*i* P		**Pn**	**18 18 18.0**	**+0.8**
CO05	**La Serena**	**1.82**	**21**	*eP*		**Pn**	**18 18 18.8**	**+1.2**
CO05				*i* S		**Sb**	**18 18 42.9**	**+0.5**
CO05	**La Serena**	**1.82**	**21**	Pn		**Pn**	**18 18 17.6**	**0.0**
VA05	**Santo Domingo**	**2.05**	**171**	*eP*		**Pn**	**18 18 20.8**	**0.0**
VA05				*eS*		**Sn**	**18 18 45.5**	**-0.6**
VA05				IAML			18 18 55.4	
	comp=E,6μm,0.5s							
VA05	**Santo Domingo**	**2.05**	**171**	Pn		**Pn**	**18 18 20.6**	**-0.2**
MT05	**Renca**	**2.06**	**149**ſ	*eP*		**Pn**	**18 18 21.6**	**+0.6**
MT05				*i* S		**Sn**	**18 18 46.9**	**+0.7**
MT05				IAML			18 18 54.4	
	comp=E,7μm,0.4s							
MT05	**Renca**	**2.06**	**149**	Pn		**Pn**	**18 18 21.4**	**+0.5**
MT05	**Renca**	**2.06**	**149**	*i* P		**Pn**	**18 18 22.0**	**+1.0**
AUSP	**Uspallata**	**2.29**	**106**	*i* P		**Pb**	**18 18 27.0**	**-1.2**
RTLS	**Leoncito**	**2.30**	**95**	*i* P		**Pb**	**18 18 27.6**	**-0.8**
RTLS				IAML			18 19 00.5	
	comp=Z,3μm,1.9s							
MT09	**Talagante**	**2.31**	**159**ſ	*eP*		**Pn**	**18 18 25.6**	**+1.1**
MT09				*eS*		**Sn**	**18 18 53.9**	**+1.4**
MT09				IAML			18 19 04.0	
	comp=N,3μm,0.6s							
MT09	**Talagante**	**2.31**	**159**			**Pn**	**18 18 25.3**	**+0.8**
MT01	**Popeta**	**2.32**	**165**	*eP*		**Pn**	**18 18 24.9**	**+0.3**
MT01				*i* S		**Sn**	**18 18 53.7**	**+1.0**
MT01				IAML			18 19 04.3	
	comp=E,2μm,0.4s							
MT01	**Popeta**	**2.32**	**165**	Pn		**Pn**	**18 18 24.7**	**+0.2**
MT01	**Popeta**	**2.32**	**165**	*i* P		**Pn**	**18 18 25.0**	**+0.5**
ACCO	**Cerro Coronel**	**2.71**	**68**	*i* P		**Pb**	**18 18 33.0**	**-2.4**
ACCO				IAML			18 19 21.0	
	comp=Z,1μm,1.2s							
ZON	**Zonda**	**2.83**	**89**			**Pb**	**18 18 34.5**	**-2.7**
ZON	**Zonda**	**2.83**	**89**	*i* P		**Pb**	**18 18 36.0**	**-1.2**
ZON				IAML			18 19 21.1	
	comp=Z,1μm,0.7s							
ASAL	**Salagasta**	**2.85**	**111**	*i* P		**Pb**	**18 18 36.0**	**-1.5**
ASAL				IAML			18 19 26.3	
	comp=Z,822nm,1.2s							
ACDV	**Cuesta del Vie**	**2.86**	**60**	*i* P		**Pb**	**18 18 36.0**	**-1.8**
ACDV				IAML			18 19 28.6	
	comp=Z,940nm,1.0s							
ARCO	**CERRO ARCO**	**2.86**	**116**	*i* P		**Pb**	**18 18 37.0**	**-0.9**
ARCO				IAML			18 19 21.5	
	comp=Z,1μm,0.7s							
BO01	**Tunca**	**2.86**	**165**	Pn		**Pn**	**18 18 32.4**	**+0.4**
BO01	**Tunca**	**2.86**	**165**	*i* P		**Pn**	**18 18 32.0**	**0.0**
RTCV	**Cerro Valdivia**	**2.95**	**96**	*i* P		**Pb**	**18 18 37.0**	**-2.3**
RTCV				IAML			18 19 22.7	
	comp=Z,537nm,1.4s							
AAGR	**Agrelo**	**3.05**	**119**	*i* P		**Pb**	**18 18 39.0**	**-2.0**
AAGR				IAML			18 19 30.2	
	comp=Z,1μm,0.9s							
BO02	**Sierra Bellavi**	**3.32**	**163**	Pn		**Pn**	**18 18 38.6**	**+0.3**
BO02	**Sierra Bellavi**	**3.32**	**163**	*i* P		**Pn**	**18 18 39.0**	**+0.7**
GO05	**Huala**	**3.38**	**179**			**Pn**	**18 18 38.0**	**-1.0**
GO05	**Huala**	**3.38**	**179**	*i* P		**Pn**	**18 18 39.0**	**-0.1**
AC04	**Llanos de Chal**	**3.50**	**13**			**Pn**	**18 18 40.5**	**-0.2**
AC04	**Llanos de Chal**	**3.50**	**13**	*i* P		**Pn**	**18 18 42.0**	**+1.3**
AVFE	**Valle Fertil**	**4.01**	**77**	*i* P		**Pn**	**18 18 50.0**	**+2.2**
AVFE				IAML			18 19 52.7	
	comp=Z,932nm,0.9s							
ML02	**Panimavida**	**4.16**	**174**			**Pn**	**18 18 49.4**	**-0.4**
GO03	**Copiap**	**4.30**	**21**	Pn		**Pn**	**18 18 51.4**	**-0.4**
RFA	**San Rafael**	**4.31**	**138**	*i* P		**Pn**	**18 18 54.0**	**+2.0**
RFA				IAML			18 20 07.6	
	comp=Z,337nm,0.7s							
VCA	**Vinchina**	**4.36**	**50**	*i* P		**Pn**	**18 18 56.0**	**+3.3**
VCA				IAML			18 20 14.3	
	comp=Z,870nm,0.9s							
AC06	**Mina Casimiro**	**4.49**	**19**	Pn		**Pn**	**18 18 53.2**	**-1.1**
ACHE	**Chepes**	**4.58**	**86**	*i* P		**Pn**	**18 19 00.0**	**+4.3**
AC02	**Maricunga**	**5.39**	**28**	Pn		**Pn**	**18 19 06.8**	**-0.3**
AC02	**Maricunga**	**5.39**	**28**	*i* P		**Pn**	**18 19 08.0**	**+0.9**
H03N1	**Juan Fernandez**	**6.12**	**251**	T		T	18 25 52.1	
	baz=80,slow=72,SNR=874							
H03N3	**Juan Fernandez**	**6.13**	**251**	T		T	18 25 52.3	
	baz=80,slow=72,SNR=1006							
H03N2	**Juan Fernandez**	**6.13**	**251**	T		T	18 25 58.1	
	baz=80,slow=72,SNR=824							
H03S3	**Juan Fernandez**	**6.23**	**248**	T		T	18 26 12.3	
	baz=83,slow=74,SNR=13							
H03S1	**Juan Fernandez**	**6.23**	**247**	T		T	18 26 09.7	
	baz=83,slow=74,SNR=11							
CYA	**Choya**	**6.23**	**61**	*i* P		**Pn**	**18 19 20.0**	**+1.6**
CYA				IAML			18 20 37.6	
	comp=Z,216nm,1.0s							
H03S2	**Juan Fernandez**	**6.25**	**247**	T		T	18 26 06.0	
	baz=83,slow=74,SNR=14							
PB14	**IPOC Station P**	**7.11**	**12**	Pn		Pn	18 19 25.8	-4.9
LC01	**Cunco**	**7.26**	**179**	Pn		**Pn**	**18 19 28.4**	**-4.0**
AHML	**Horco Molle**	**7.56**	**52**	*i* P		**Pn**	**18 19 39.0**	**+2.5**
AHML				IAML			18 21 47.9	
	comp=Z,106nm,0.9s							
PLCA	**Paso Flores**	**9.16**	**173**	Pn		**Pn**	**18 19 59.2**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=336,slow=11,SNR=34							
PLCA	**Paso Flores**	**9.16**	**173**	*i* P		**Pn**	**18 19 59.0**	**+0.4**
LVC	**Limon Verde**	**9.39**	**18**	Pn		**Pn**	**18 20 05.1**	**+3.1**
	comp=Z,0.8nm,0.3s,baz=177,slow=6.8,SNR=1.8							
TRQA	**Tornquist**	**10.43**	**131**			**Pn**	**18 20 18.2**	**+2.3**
ITQB	**Itaqui**	**13.38**	**86**	Pn		**Pn**	**18 20 58.6**	**+2.5**
CPUP	**Villa Florida**	**13.87**	**71**	Pn		**Pn**	**18 21 05.6**	**+2.7**
LPAZ	**La Paz**	**15.67**	**14**	Pn		**Pn**	**18 21 28.1**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=202,slow=7.8,SNR=5.0							
LPAZ	**La Paz**	**15.67**	**14**			**Pn**	**18 21 28.7**	**+1.0**
SIV	**San Ignacio**	**18.47**	**35**	P		**P**	**18 22 02.3**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=209,slow=12,SNR=4.3							
BDFB	**Brasilia**	**27.03**	**59**	P		**P**	**18 23 27.2**	**-1.5**
	comp=Z,4.4nm,0.5s,baz=220,slow=5.8,SNR=5.0							
BDFB	**Brasilia**	**27.03**	**59**	P		**P**	**18 23 27.0**	**-1.6**
BDFB				IAmb		IAmb	18 23 42.0	
	comp=Z,18nm,1.3s							
RUSC	**La Rusia**	**37.32**	**358**	P		**P**	**18 24 56.3**	**-2.8**
RUSC				IAmb		IAmb	18 25 11.7	
	comp=Z,26nm,1.5s							
SNAA	**Sanae**	**53.77**	**158**	P		**P**	**18 27 07.9**	**-0.3**
SNAA				IAmb		IAmb	18 27 09.9	
	comp=Z,6.8nm,0.8s							
QSPA	**South Pole Qui**	**58.61**	**180**	P		**P**	**18 27 42.6**	**-0.2**
TXAR	**Lajitas Array**	**67.69**	**330**	P		**P**	**18 28 45.0**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=154,slow=6.9,SNR=3.5							
DBIC	**Dimbokro**	**74.39**	**72**	P		**P**	**18 29 23.5**	**-0.9**
	comp=Z,4.9nm,0.7s,baz=250,slow=5.3,SNR=7.4							
DBIC	**Dimbokro**	**74.39**	**72**	IAmb		IAmb	18 29 24.6	
	comp=Z,5.9nm,0.8s							
MAW	**Mawson**	**75.44**	**164**	P		**P**	**18 29 30.4**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=240,slow=2.8,SNR=3.9							
BOSA	**Boshof**	**81.14**	**118**	P		**P**	**18 30 01.8**	**-0.3**
	comp=Z,3.9nm,1.1s,baz=257,slow=3.1,SNR=3.5							
PDAR	**Pinedale Array**	**81.67**	**333**	P		**P**	**18 30 07.0**	**+2.6**
	comp=Z,0.2nm,0.5s,baz=204,slow=2.0,SNR=1.4							
NVAR	**Mina Array Bea**	**81.96**	**325**	P		**P**	**18 30 07.2**	**+1.1**
	comp=Z,0.8nm,0.9s,baz=155,slow=5.8,SNR=4.5							
TORD	**Torodi Ar. Bea**	**83.37**	**70**	P		**P**	**18 30 13.3**	**-0.3**
	comp=Z,24nm,0.4s,baz=265,slow=4.7,SNR=20							
WRA	**Warramunga Arr**	**122.84**	**210**	PKP		**PKiKP**	**18 36 43.6**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=169,slow=4.8,SNR=1.7							
WRA	**Warramunga Arr**	**122.84**	**210**			**PKPdf**	**18 36 40.5**	**-2.4**
ZALV	**Zalesovo Beam**	**152.18**	**30**	PKPbc		**PKiKP**	**18 37 41.5**	**+0.1**
	comp=Z,6.7nm,0.5s,baz=311,slow=3.3,SNR=28							
ZALV	**Zalesovo Beam**	**152.18**	**30**			**PKiKP**	**18 37 41.3**	**-0.2**

MEX 21 18:20:31.0±0.9,25°.01N×109°.51W,h16km±18km,MD3.7, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TSIG	**Topolobambo**	**0.72**	**36**	*i* P		Pg	18 20 42.4	-2.8
TSIG				*eS*		Sg	18 20 51.5	-3.3
LPIG	**La Paz**	**1.16**	**219**	*i* P		Pn	18 20 49.4	-3.1
LPIG				*eS*		Sb	18 21 01.7	-5.8
CSIG	**Choix**	**2.08**	**29**	*i* P		Pn	18 21 03.0	-2.3
CSIG				*i* S		Sn	18 21 31.5	+0.7

*IDC **21** 18:36:12.3±1.9,5°.18N×126°.04E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.5/34,mbtmp3.8/5,Error ellipse: s-maj=101.0km s-min=26.7km az=68.0*
*DJA **21** 18:36:15.2±1.8,5°.N±3°×12°.5E±°,h30km±24km,M4.3/18, mB5.4/2,mb4.3/18,MLv4.3/13,Mw(mB)4.8/2*
*MAN **21** 18:36:20.5,5°.00N×125°.40E,h19km,mb4.6,ML3.5,MS3.3*

ISC 21 18:36:14.8±0.8,5°.12N±0°.05×125°.5E±0°.1,h10km,n31, σ2ş34/31,mb3.6/5,1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SGSI	**Sangihe**	**1.43**	**178**	P		**Pn**	**18 36 42.2**	**+1.4**
KCP	**Kidapawan**	**1.92**	**348**ſ	*eP*		**Pg**	**18 36 54.2**	**+2.7**
KCP				*i* S		**Sg**	**18 37 19.5**	**+3.0**
DAV	**Davao City (W)**	**1.94**	**3**	P		Pn	18 36 42.6	-5.2
DAV				S		**Sn**	**18 37 04.6**	**-7.7**
MNI	**Manado**	**3.71**	**190**	P		**Pn**	**18 37 13.7**	**+1.5**
GAMI	**Galela, Maluku**	**3.99**	**145**	P		**Pn**	**18 37 19.1**	**+3.0**
TNTI	**Ternate**	**4.71**	**156**	P		**Pn**	**18 37 28.1**	**+2.1**
	0.2nm23nm,1.2s							
KMSI	**Cibinong**	**4.76**	**198**	P		**Pn**	**18 37 28.0**	**+1.4**
GTOI	**Gorontalo**	**5.09**	**209**	P		**Pn**	**18 37 30.0**	**-1.2**
	0.2nm14nm,1.0s							
MRSI	**Marisa**	**5.81**	**218**	P		**Pn**	**18 37 41.7**	**+0.6**
	0.4nm21nm,0.7s							
LUWI	**Luwuk**	**6.69**	**204**	P		**Pn**	**18 37 55.5**	**+2.3**
	0.4nm1μm35nm,1.2s							
APSI	**Ampana**	**7.11**	**213**	P		**Pn**	**18 38 01.2**	**+2.3**
	0.1nm25nm,0.8s							
SANI	**Sanana**	**7.14**	**176**	P		**Pn**	**18 37 59.8**	**+0.4**
	0.1nm14nm,0.8s							
MPSI	**Mapaga**	**7.32**	**230**	P		Pn	18 37 58.3	-3.6
	0.1nm3.4nm,0.7s							
SWI	**Sorong**	**8.29**	**136**	P		**Pn**	**18 38 17.4**	**+2.3**
	22nm,0.8s							
KRAI	**Karang Ratu**	**8.88**	**161**	P		**Pn**	**18 38 24.3**	**+1.1**
	3μm40nm,0.8s							
MSAI	**Masohi**	**9.09**	**158**	P		**Pn**	**18 38 28.0**	**+1.9**
	9.5nm,0.8s							
TTSI	**Tana Toraja**	**9.89**	**215**	P		**Pn**	**18 38 37.0**	**-0.1**
	9.1nm,1.1s							
KKSI	**Kolaka, Sulawe**	**9.99**	**203**	P		**Pn**	**18 38 39.2**	**+0.7**
	7.6nm,0.9s							
MMSI	**Mamuju**	**10.16**	**220**	P		**Pn**	**18 38 40.5**	**-0.4**
	6.2nm,1.1s							
FAKI	**Fak Fak**	**10.47**	**140**	P		**Pn**	**18 38 47.8**	**+2.8**
	54nm,1.2s							
BNDI	**Bandanaira**	**10.55**	**155**	P		**Pn**	**18 38 48.6**	**+2.4**
	93nm,1.0s							
BKB	**Balikpapan**	**10.66**	**234**	P		**Pn**	**18 38 45.2**	**-2.5**
	164nm,1.4s							
PMSI	**Majene**	**10.79**	**218**	P		**Pn**	**18 38 49.3**	**-0.1**
	68nm,1.0s							
BNSI	**Bone**	**10.87**	**210**	P		**Pn**	**18 38 50.2**	**-0.4**
	11nm,1.0s							
BKSI	**Bulukumba**	**11.67**	**207**	P		**Pn**	**18 39 02.4**	**+0.9**
	9.1nm,1.5s							
BSSI	**Bau Bau, Buton**	**12.25**	**204**	P		**Pn**	**18 39 10.5**	**+1.1**
FITZ	**Fitzroy Crossi**	**23.07**	**180**	P		**P**	**18 41 18.7**	**-2.0**
	1.6nm,0.8s,baz=15,slow=10,SNR=14							
WRA	**Warramunga Arr**	**26.39**	**161**	P		**P**	**18 41 49.0**	**-2.5**
	0.9nm,0.3s,baz=344,slow=11,SNR=12							
ASAR	**Alice Springs**	**29.77**	**164**	P		**P**	**18 42 20.9**	**-1.0**
	0.6nm,0.6s,baz=345,slow=7.7,SNR=11							
STKA	**Stephens Creek**	**39.87**	**158**	P		**P**	**18 43 47.6**	**-1.2**
	0.8nm,0.3s,baz=357,slow=5.4,SNR=4.4							
MKAR	**Makanchi Array**	**55.71**	**325**	P		**P**	**18 45 52.4**	**+0.8**
	0.4nm,0.7s,baz=114,slow=7.0,SNR=2.5							

*IDC **21** 18:36:49.0±0.4,31°.01S×71°.58W,h0km,mb5.3/23, mb1 5.3/29,mb1mx5.2/34,mbtmp5.2/29,ML4.7/6,MS5.2/12, Ms1 5.2/12,ms1mx4.9/36,Error ellipse: s-maj=17.0km s-min=10.1km az=84.0*
*BJI **21** 18:36:50.5±0.0,30°.86S×71°.77W,h20km,mB5.9/5, Ms5.7/13,Ms7 5.7/13*
*VAO **21** 18:36:52.3±0.3,31°.01S×71°.41W,h10km,mb5.4*
*NEIC **21** 18:36:53.1,31°.055×71°.72W,h32km,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr0.65; Mθθ-0.24; Mφφ-0.41; Mrθ0.28; Mθφ0.02; Mφr-0.90; Fault plane solution: M0 1.11000×10^17^ NP1:ϕs163.68000°, δ75.41000°,λ88.23000°. NP2:ϕs350.67000°,δ14.69000°, λ96.76000°. Principal axes: T 1.2065, Plg60.0000°, Azm71.0000°; N -0.2437, Plg2.0000°, Azm164.0000°; P -0.9629, Plg30.0000°, Azm255.0000°;*
*GUC **21** 18:36:53.0±0.9,31°.09S×71°.77W,h31km±5km,MW5.8*
*NEIC **21** 18:36:53.5±1.7,31°.05S±0°.04×71°.82W±0°.07,h27km±3km, mb5.7/567,Ms_20 5.7/16,Mwr5.3/51,Mww5.5, Mwr5.8(GUC),Error ellipse: s-maj=9.3km s-min=5.8km az=101.0*
*MOS **21** 18:36:53.4±0.9,30°.90S×71°.60W,h35km,mb5.7/18, MS5.7/10,Error ellipse: s-maj=11.6km s-min=5.4km az=97.1*
*GCMT **21** 18:36:57.5±0.5,31°.14S±0°.03×72°.02W±0°.04,h39km±1km, MW5.8/70,Moment Tensor Solution. s18,c18; s70,c88; Duration: 1ş9 Moment tensor: Scale 10^17^Nm; Mrr5.86±.45; Mθθ-0.85±.24; Mφφ-5.00±.26; Mrθ0.30±.18; Mθφ0.84±.10; Mφr-2.66±.23; Best double couple: M0 6.12800×10^17^ NP1:ϕs347.00000°,δ32.00000°, λ87.00000°. NP2:ϕs171.00000°,δ58.00000°,λ92.00000°. Principal axes: T 6.4780, Plg77.0000°, Azm86.0000°; N -0.6960, Plg2.0000°, Azm350.0000°; P -5.7770, Plg13.0000°, Azm259.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **21** 18:36:59,31°.05S×71°.70W,h36km,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr1.98; Mθθ-0.13; Mφφ-1.85; Mrθ0.14; Mθφ0.04; Mφr-1.28; Fault plane solution: M0 2.31000×10^17^ NP1:ϕs1.00000°, δ28.00000°,λ94.00000°. NP2:ϕs176.00000°,δ62.00000°, λ88.00000°. Principal axes: T 2.3774, Plg73.0000°, Azm81.0000°; N -0.1349, Plg2.0000°, Azm177.0000°; P -2.2425, Plg17.0000°, Azm268.0000°;*

ISC 21 18:36:50.9±0.7,31°.06S±0°.03×71°.77W±0°.04,h15km±4km, n1181,σ1ş13/1200,mb5.7/320,MS5.7/28,152C-48D,Fault plane solution: NP1:ϕs340.81485°,δ40.01020°, λ72.26793°. NP2:ϕs183.47421°,δ52.23826°,λ104.34072°. Principal axes: T Plg77.0618°, Azm144.9393°; N Plg11.2922°, Azm354.5764°; P Plg6.2333°, Azm263.3267°**; Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**0.40**	**17**	*eP*		**Pn**	**18 37 02.2**	**+0.1**
CO06				*i* S		**Sn**	**18 37 08.8**	**-0.5**
CO06	**Fray Jorge**	**0.40**	**17**			**Pn**	**18 37 02.3**	**+0.3**
CO03	**El Pedregal**	**0.95**	**77**	*eP*		**Pn**	**18 37 10.2**	**+0.5**
CO03				*i* S		**Sn**	**18 37 23.1**	**0.0**
CO03	**El Pedregal**	**0.95**	**77**	Pn		**Pn**	**18 37 10.3**	**+0.5**
CO03	**El Pedregal**	**0.95**	**77**	*i* P		**Pn**	**18 37 10.0**	**+0.2**
GO04	**Tololo Observa**	**1.21**	**44**	*eP*		**Pg**	**18 37 14.6**	**+0.3**
GO04				*i* S		**Sg**	**18 37 31.3**	**+1.1**
GO04	**Tololo Observa**	**1.21**	**44**	Pn		**Pg**	**18 37 14.9**	**+0.6**
GO04	**Tololo Observa**	**1.21**	**44**	*i* P		**Pg**	**18 37 15.0**	**+0.6**
CO05	**La Serena**	**1.22**	**22**	*eP*		**Pg**	**18 37 14.7**	**+0.2**
CO05				*i* S		**Sg**	**18 37 31.2**	**+0.9**
CO05	**La Serena**	**1.22**	**22**			**Pg**	**18 37 14.8**	**+0.4**
VA06	**Catapilco**	**1.55**	**165**	*eP*		**Pb**	**18 37 18.7**	**-0.7**
VA06				*i* S		**Sb**	**18 37 39.2**	**+0.4**
VA01	**Torpederas**	**1.96**	**177**	*eP*		**Pn**	**18 37 23.6**	**0.0**
VA01	**Torpederas**	**1.96**	**177**	Pn		**Pn**	**18 37 24.2**	**+0.6**
VA03	**San Esteban**	**1.99**	**149**	*eP*		**Pb**	**18 37 26.1**	**-0.8**
VA03				*i* S		**Sb**	**18 37 51.6**	**0.0**
VA03	**San Esteban**	**1.99**	**149**	Pn		**Pb**	**18 37 25.9**	**-1.0**
VA03	**San Esteban**	**1.99**	**149**	*i* P		**Pb**	**18 37 27.0**	**+0.1**
ROCH	**El Roble**	**2.02**	**162**ſ	*i* P		**Pb**	**18 37 26.0**	**-1.4**
ROCH				*i* S		**Sb**	**18 37 52.6**	**+0.2**
LCO	**Las Campanas**	**2.24**	**25**	*eP*		**Pn**	**18 37 28.0**	**+0.4**
LCO	**Las Campanas**	**2.24**	**25**	*i* P		**Pn**	**18 37 29.0**	**+1.4**
RTLS	**Leoncito**	**2.24**	**110**	*i* P		**Pb**	**18 37 32.5**	**+1.3**
ACDV	**Cuesta del Vie**	**2.45**	**70**	*i* P		**Pb**	**18 37 36.0**	**+1.3**
MT05	**Renca**	**2.49**	**160**	*eP*		**Pn**	**18 37 32.7**	**+1.8**
MT05				*i* S		**Sb**	**18 38 03.6**	**-2.2**
MT05	**Renca**	**2.49**	**160**	Pn		**Pn**	**18 37 32.1**	**+1.2**
MT05	**Renca**	**2.49**	**160**	*i* P		**Pn**	**18 37 33.0**	**+2.1**
VA05	**Santo Domingo**	**2.60**	**177**	*eP*		**Pn**	**18 37 32.0**	**-0.3**
VA05	**Santo Domingo**	**2.60**	**177**	Pn		**Pn**	**18 37 32.4**	**+0.1**
FSR	**Penalolen**	**2.63**	**157**ſ	*eP*		**Pb**	**18 37 35.8**	**-2.1**
FSR				*eS*		**Sb**	**18 38 07.7**	**-2.4**
ZON	**Zonda**	**2.69**	**101**	P		**Pb**	**18 37 38.4**	**-0.3**
ZON	**Zonda**	**2.69**	**101**	Pn		**Pb**	**18 37 38.4**	**-0.3**
MT09	**Talagante**	**2.79**	**167**	*eP*		**Pn**	**18 37 36.8**	**+1.6**
MT09	**Talagante**	**2.79**	**167**	Pn		**Pn**	**18 37 36.6**	**+1.4**
MT01	**Popeta**	**2.83**	**171**	*eP*		**Pn**	**18 37 36.4**	**+0.8**
MT01	**Popeta**	**2.83**	**171**	Pn		**Pn**	**18 37 35.7**	**+0.1**
RTCV	**Cerro Valdivia**	**2.87**	**107**	*i* P		**Pb**	**18 37 41.0**	**-0.9**
AC04	**Llanos de Chal**	**2.90**	**12**	*eP*		**Pn**	**18 37 37.6**	**+1.0**
AC04	**Llanos de Chal**	**2.90**	**12**	Pn		**Pn**	**18 37 37.5**	**+0.9**
AC04	**Llanos de Chal**	**2.90**	**12**	*i* P		**Pn**	**18 37 38.0**	**+1.4**
LMEL	**Las Melosas**	**3.08**	**155**	*eP*		**Pn**	**18 37 41.8**	**+2.2**
BO01	**Tunca**	**3.38**	**170**	Pn		**Pn**	**18 37 44.3**	**+1.2**
BO01	**Tunca**	**3.38**	**170**	*i* P		**Pn**	**18 37 46.0**	**+2.9**
GO03	**Copiap**	**3.70**	**22**	Pn		**Pn**	**18 37 48.8**	**+1.2**
GO03	**Copiap**	**3.70**	**22**	*i* P		**Pn**	**18 37 49.0**	**+1.4**
AVFE	**Valle Fertil**	**3.73**	**85**	*i* P		**Pn**	**18 37 52.0**	**+4.0**
BO02	**Sierra Bellavi**	**3.82**	**168**	Pn		**Pn**	**18 37 51.8**	**+2.6**
VCA	**Vinchina**	**3.86**	**54**	*i* P		**Pb**	**18 37 56.0**	**-2.8**
AC06	**Mina Casimiro**	**3.89**	**19**	Pn		**Pn**	**18 37 51.1**	**+1.0**
GO05	**Huala**	**3.95**	**182**	Pn		**Pn**	**18 37 50.3**	**-0.6**
GO05	**Huala**	**3.95**	**182**	*i* P		**Pn**	**18 37 51.0**	**+0.1**
ACHE	**Chepes**	**4.38**	**93**	*i* P		**Pn**	**18 38 01.0**	**+4.0**
COIS	**El Sosneado**	**4.

NNA Nana 19.55 345 P **P** **18 41 16.4 -1.7**
TER01 Tubaro-SC 19.80 88 *e*P **P** **18 41 20.0 -0.8**
PP1B Ponte de Pedra 20.36 53 *e*P **P** **18 41 26.8 -0.2**
PCMB Pacaembu 20.62 68 *e*P **P** **18 41 29.6 -0.1**
TIJ01 Guaruva-PR 20.85 80 *e*P **P** **18 41 29.3 -3.0**
VILB Vilhena 20.94 33 *e*P **P** **18 41 33.3 +0.1**
SALV Santo Antonio 21.05 48 *e*P **P** **18 41 33.8 -0.6**
FRTB Fartura 21.17 74 *e*P **P** **18 41 35.2 -0.4**
ETMB Extrema 21.75 15 *e*P **P** **18 41 43.4 +1.4**
MG02 Cerro Sombrero 21.79 176 P **P** **18 41 44.4 +2.4**
MG02 IAmb IAmb 18 41 49.4
comp=Z,502nm,1.2s
GO10 Punta Arenas 22.09 179 P **P** **18 41 46.0 +0.7**
GO10 IAmb IAmb 18 42 12.3
comp=Z,487nm,1.2s
ITRB Iturama 22.36 65 *e*P **P** **18 41 47.5 -1.0**
PET01 Itanhaem-SP 22.69 79 *e*P **P** **18 41 50.6 -1.3**
SPB Sao Paulo 22.83 77 P **P** **18 41 52.2 -1.2**
SPB IAmb IAmb 18 42 01.4
comp=Z,374nm,1.3s
SPB Sao Paulo 22.83 77 *e*P **P** **18 41 52.2 -1.2**
EFI East Falkland 22.95 158 *i* P **P** **18 41 55.1 +0.7**
EFI pmax pmax
comp=Z,265nm,1.0s
EFI East Falkland 22.95 158 P **P** **18 41 53.0 -1.5**
EFI IAmb IAmb 18 41 57.7
comp=Z,203nm,0.9s
BB19B Bebedouro 23.09 70 *e*P **P** **18 41 54.3 -1.9**
CZSB Cruzeiro do Su 23.22 358 *e*P **P** **18 41 59.4 +1.9**
RCLB Rio Claro- Sao 23.25 74 *e*P **P** **18 41 56.2 -1.7**
SAML Samuel 23.41 22 P **P** **18 41 59.1 -0.2**
SAML pmax pmax
comp=Z,109nm,1.0s
SAML Samuel 23.41 22 P **P** **18 41 59.1 -0.2**
SAML Samuel 23.41 22 *e*P **P** **18 41 58.5 -0.8**
SAML Samuel 23.41 22 *e*P **P** **18 41 59.3 0.0**
VAO Valinhos 23.47 76 *e*P **P** **18 41 58.8 -1.2**
USHA Ushuaia 23.89 175 P **P** **18 42 04.7 +1.0**
comp=Z,213nm,0.8s,baz=352,slow=5.6,SNR=38
USHA LR LR 18 52 41.5
comp=Z,7µm,19.2s,baz=359,slow=40
MG01 Puerto William 24.05 174 P **P** **18 42 05.3 +0.1**
MG01 IAmb IAmb 18 42 32.1
comp=Z,334nm,1.2s
PARB Paraibuna 24.45 78 *e*P **P** **18 42 08.3 -1.1**
CLDB Colider 24.95 40 *e*P **P** **18 42 13.0 -0.8**
IPMB Ipameri, GO 25.01 64 *e*P **P** **18 42 13.2 -1.2**
ESAR Ângra dos Reis 25.57 78 *e*P **P** **18 42 19.1 -0.3**
BSCB Bom Sucesso 26.18 74 *e*P **P** **18 42 24.5 -0.5**
BDFB Brasilia 26.58 60 P **P** **18 42 28.3 -0.4**
comp=Z,85nm,0.9s,baz=229,slow=9.1,SNR=65
BDFB LR LR 18 54 20.8
comp=Z,14µm,18.5s,baz=249,slow=40
BDFB Brasilia 26.58 60 P **P** **18 42 28.0 -0.7**
BDFB IAmb IAmb 18 42 29.6
comp=Z,150nm,1.1s
VAS01 Vassouras-RJ 26.72 78 *e*P **P** **18 42 29.9 +0.1**
TBTG Tabatinga, AM 26.78 4 *e*P **P** **18 42 29.0 -1.4**
TBTG Tabatinga, AM 26.78 4 *e*P **P** **18 42 31.9 +1.5**
SNDB Serra Nova Dou 26.81 49 *e*P **P** **18 42 30.2 -0.4**
DUB01 Friburgo-RJ 27.70 78 *e*P **P** **18 42 38.6 -0.1**
NPGB Novo Progresso 28.40 36 *e*P **P** **18 42 44.0 -0.9**
CAM01 Campos-RJ 28.41 78 *e*P **P** **18 42 45.0 +0.1**
DIAM Diamantina, MG 28.43 70 *e*P **P** **18 42 45.2 -0.1**
PEXB Peixe 28.73 54 *e*P **P** **18 42 47.9 +0.1**
MC01 Montes Claros 29.07 67 *e*P **P** **18 42 50.4 -0.6**
MACA Manacapuru-AM 29.65 23 *e*P **P** **18 42 56.5 +0.5**
ALF01 Guarapari-ES 29.72 77 *e*P **P** **18 42 56.1 -0.5**
JANB Januaria 29.75 64 *e*P **P** **18 42 56.5 -0.4**
SJMB Sao Joao De Ma 30.24 73 *e*P **P** **18 43 00.6 -0.6**
BSFB Barra de Sao F 30.46 74 *e*P **P** **18 43 02.5 -0.7**
ITTB Itaituba 30.54 33 *e*P **P** **18 43 03.0 -0.9**
RIB01 Linhares ES 30.60 75 *e*P **P** **18 43 03.7 -0.6**
SDBA SAO DESIDERIO 30.96 59 *e*P **P** **18 43 07.0 -0.6**
PTLC Puerto Leguiza 31.19 354 *e*P **P** **18 43 08.6 -1.0**
SMTB Santa Maria do 31.54 51 *e*P **P** **18 43 13.0 +0.3**
OTAV Otavalo 31.76 347 P **P** **18 43 16.6 +1.5**
OTAV pmax pmax
comp=Z,22nm,1.2s
OTAV Otavalo 31.76 347 P **P** **18 43 16.6 +1.5**
OTAV Otavalo 31.76 347 *e*P P 18 43 25.7 +11
OTAV Otavalo 31.76 347 *e*P **P** **18 43 17.9 +2.8**
PTGA Pitinga 32.17 23 P **P** **18 43 18.4 +0.3**
comp=Z,143nm,0.7s,baz=42,slow=0.3,SNR=37
PTGA Pitinga 32.17 23 IAMs_20 IAMs_20 18 53 02.2
comp=Z,10µm,19.0s
PRPB Parauapebas 32.19 44 *e*P **P** **18 43 17.6 -0.8**
GUA01 Guaratinga, BA 32.46 71 *e*P **P** **18 43 20.9 +0.2**
FLOC Florencia 32.67 353 P **P** **18 43 22.7 +0.1**
FLOC Florencia 32.67 353 *e*P **P** **18 43 25.0 +2.4**
RPN Rapa Nui 32.96 267 LR LR 18 53 07.6
comp=Z,4µm,20.0s,baz=56,slow=30
SOTA Rioblanco 33.33 351 *e*P **P** **18 43 30.9 +2.0**
CMC01 Camacan, BA 33.35 69 *e*P **P** **18 43 28.1 -0.5**
MALB Monte Alegre 33.43 33 *e*P **P** **18 43 28.8 -0.4**
PMSA Palmer Station 34.08 174 P **P** **18 43 36.4 +2.1**
comp=Z,34nm,1.0s,baz=5.1,slow=8.5,SNR=8.5
PMSA LR LR 18 57 32.0
comp=Z,4µm,18.9s,baz=350,slow=36
PMSA Palmer Station 34.08 174 P **P** **18 43 35.4 +1.1**
PMSA IAmb IAmb 18 43 37.4
comp=Z,128nm,1.4s
PMSA Palmer Station 34.08 174 *e*P **P** **18 43 35.7 +1.3**
GDU01 Guandu, BA 34.23 67 *e*P **P** **18 43 35.1 -1.1**
HOPE Hope Point 34.25 143 P **P** **18 43 36.4 +0.5**
HOPE pmax pmax
comp=Z,128nm,1.1s
HOPE Hope Point 34.25 143 P **P** **18 43 36.4 +0.5**
HOPE IAmb IAmb 18 43 38.2
comp=Z,128nm,1.1s
PRAC Prado 34.70 355 *e*P **P** **18 43 41.5 +1.2**
ORTC Ortega, Tolima 34.93 354 *e*P **P** **18 43 43.9 +1.7**
BOAV Boa Vista 34.95 20 *e*P **P** **18 43 42.8 +0.5**
VILC Villavicencio, 35.02 357 *e*P **P** **18 43 44.8 +1.6**
ANIL Santa Ana 35.52 354 *e*P **P** **18 43 50.4 +2.8**
CHIC Chingaza 35.53 357 *e*P **P** **18 43 48.9 +1.0**
ROSC El Rosal 35.78 356 P **P** **18 43 49.4 -0.5**
ROSC pmax pmax
comp=Z,74nm,1.4s
ROSC El Rosal 35.78 356 P **P** **18 43 49.4 -0.5**
MCPB Macapa, AP 35.80 35 *e*P **P** **18 43 49.7 0.0**
TMAB Tom-Àu,PA,Br 36.25 43 *e*P **P** **18 43 53.8 +0.1**
SPBC San Pablo de B 36.57 356 *e*P **P** **18 43 57.9 +1.6**
RUSC La Rusia 36.76 358 P **P** **18 44 00.0 +1.6**
RUSC La Rusia 36.76 358 *e*P **P** **18 43 59.5 +1.0**
CBOC Ciudad Bolivar 36.93 353 *e*P **P** **18 44 01.2 +1.6**
TAMC Tame, Arauca 37.28 360 *e*P **P** **18 44 01.2 -1.1**
BARC Barichara 37.46 358 *e*P **P** **18 44 05.2 +1.1**
ELOV Elorza 37.90 4 *e*P **P** **18 44 06.5 -1.1**
DBBC Dabeiba 38.09 353 *e*P **P** **18 44 12.2 +2.9**
ROSB Rosrio 38.27 48 *e*P **P** **18 44 10.5 -0.3**
ZARC Zaragoza, Cauc 38.44 355 *e*P **P** **18 44 11.1 -1.1**
SMLC San Martn de 39.69 356 *e*P **P** **18 44 21.8 -0.8**
SDV Santo Domingo 39.73 2 P **P** **18 44 23.6 +0.5**
comp=Z,13nm,0.5s,baz=194,slow=5.7,SNR=30
SDV Santo Domingo 39.73 2 P **P** **18 44 23.5 +0.4**
SDV Santo Domingo 39.73 2 *e*P **P** **18 44 23.6 +0.5**
BCIP Isla Barro Col 40.73 348 *e*P **P** **18 44 31.9 +0.6**
ARGC Ariguani, Magd 40.75 356 *e*P **P** **18 44 29.0 -2.4**
SJCC San Jacinto, C 40.85 355 P **P** **18 44 31.9 -0.3**
SJCC San Jacinto, C 40.85 355 *e*P **P** **18 44 32.8 +0.6**
BRU2 Volcan 40.98 343 P **P** **18 44 35.5 +2.1**
RIOS Rincon, Osa 41.10 342 P **P** **18 44 35.7 +1.4**
PLCV Puerto La Cruz 41.56 11 P **P** **18 44 38.7 +0.7**
PCRV Puerto La Cruz 41.56 11 P **P** **18 44 38.7 +0.7**
comp=Z,75nm,1.0s,baz=203,slow=4.8,SNR=21
SRBA San Rafael, Bu 41.57 343 P **P** **18 44 40.2 +2.0**
RCBR Riachuelo 41.95 61 P **P** **18 44 40.9 -0.5**
RCBR pmax pmax
comp=Z,114nm,1.3s
RCBR Riachuelo 41.95 61 P **P** **18 44 40.9 -0.5**
RCBR IAmb IAmb 18 44 42.9
comp=Z,114nm,1.2s
RCBR Riachuelo 41.95 61 *e*P **P** **18 44 41.6 +0.2**
SMRC Santa Marta, M 42.04 356 *e*P **P** **18 44 41.5 -0.4**
RIMA Rio Macho 42.22 342 P **P** **18 44 43.4 -0.2**
CVTR Volcan Turrial 42.43 342 P **P** **18 44 45.5 -0.2**
URIC Uribia, Colomb 42.51 360 P **P** **18 44 44.5 -1.3**
JTS Las Juntas de 43.01 341 *i* P **P** **18 44 50.4 +0.5**
JTS pmax pmax
comp=Z,44nm,1.9s
JTS MLR MLR
comp=Z,1µm,15.0s
COVE Coope Vega, Sa 43.27 342 P **P** **18 44 54.0 +2.1**
TOSP Speyside 43.47 16 P **P** **18 44 53.8 +0.3**
TOSP IAmb IAmb 18 44 55.7
comp=Z,228nm,1.1s
GRGR Grenville 44.02 14 P **P** **18 44 55.7 -2.3**
GRGR IAmb IAmb 18 45 07.3
comp=Z,190nm,0.9s
ACON Acoyapa 44.67 341 P **P** **18 45 03.5 +0.3**
SVB Belmont 45.22 14 P **P** **18 45 06.7 -0.8**
SVB IAmb IAmb 18 45 08.7
comp=Z,84nm,0.9s
MCLT Moule a Chique 45.71 15 P **P** **18 45 09.2 -2.2**
MATN Matagalpa 45.80 341 P **P** **18 45 10.3 -2.0**
MPOM Morne Pois Mar 46.44 15 P **P** **18 45 15.7 -1.5**
BIM Bigot 46.46 14 P **P** **18 45 16.1 -1.2**
FDF Fort de France 46.66 14 P **P** **18 45 17.8 -1.1**
FDF pmax pmax
comp=Z,172nm,1.2s
FDF Fort de France 46.66 14 P **P** **18 45 17.8 -1.1**
ILAM Ilet Lapin Mar 46.75 15 P **P** **18 45 18.4 -1.2**
SVN Savane Anatole 46.76 14 P **P** **18 45 18.9 -0.8**
TGUH Tegucigalpa,Un 47.26 339 P **P** **18 45 24.1 +0.3**
MTO3 Montecristo 48.25 337 P **P** **18 45 30.8 -0.8**
ESQI Esquipulas 48.40 337 P **P** **18 45 30.6 -2.0**
ICMP Isla Caja de M 48.92 7 P **P** **18 45 36.3 0.0**
MLPR Magueyes Islan 48.95 6 P **P** **18 45 36.5 -0.1**
CRPR Cabo Rojo, PR 48.98 6 P **P** **18 45 36.5 -0.4**
CDVI St. Croix 48.99 9 P **P** **18 45 35.8 -1.2**
CDVI IAmb IAmb 18 45 37.6
comp=Z,61nm,0.8s
SEUS St. Eustatius 49.00 11 P **P** **18 45 35.9 -1.2**
OBIP Obispado Ponce 49.07 7 P **P** **18 45 36.1 -1.4**
PDPR Patillas Dam, 49.10 7 P **P** **18 45 37.0 -0.8**
BANI BANI 49.18 2 P **P** **18 45 39.3 +0.7**
SJG San Juan 49.18 7 P **P** **18 45 38.1 -0.3**
SJG pmax pmax
comp=Z,237nm,1.0s
SJG San Juan 49.18 7 P **P** **18 45 38.1 -0.3**
SJG San Juan 49.18 7 *e*P **P** **18 45 38.0 -0.3**
MTP Monte Pirata 49.23 8 P **P** **18 45 37.7 -1.1**
HUMP Col San Antoni 49.24 7 P **P** **18 45 38.3 -0.5**
HUMP IAmb IAmb 18 45 39.7
comp=Z,140nm,1.2s
SDD Santo Domingo 49.26 2 P **P** **18 45 38.6 -0.4**
LGNH Logne 49.29 359 P **P** **18 45 39.1 -0.1**
LGNH IAmb IAmb 18 45 41.8
comp=Z,138nm,1.4s
MTDJ Mount Denham 49.31 353 P **P** **18 45 40.6 +1.1**
MTDJ IAmb IAmb 18 45 42.1
comp=Z,150nm,1.4s
AOPR Arecibo Observ 49.35 6 P **P** **18 45 38.8 -0.9**
CBYP Canovanas 49.37 7 P **P** **18 45 38.8 -1.1**
GCPR Guaynabo City 49.38 7 P **P** **18 45 38.9 -1.0**
ANWB Willy Bob 49.38 13 P **P** **18 45 38.1 -1.8**
PCDR Punta Cana, DR 49.39 4 P **P** **18 45 41.1 +1.2**
CUPR Culebra, Puert 49.47 8 P **P** **18 45 39.9 -0.7**
CUPR IAmb IAmb 18 45 41.4
comp=Z,60nm,1.1s
EMPR Esperanza - Ma 49.50 7 P **P** **18 45 39.6 -1.2**
SMRT St. Maarten 49.53 11 P **P** **18 45 39.2 -1.9**
SMRT IAmb IAmb 18 45 41.0
comp=Z,139nm,1.1s
STVI Saint Thomas 49.56 9 P **P** **18 45 39.4 -1.8**
STVI IAmb IAmb 18 45 41.9
comp=Z,56nm,1.1s
DR12 Loma Pena Alta 49.61 3 P **P** **18 45 40.7 -1.0**
ABVI Anegada Island 50.01 9 P **P** **18 45 44.1 -0.6**
SC01 Santiago de lo 50.20 1 P **P** **18 45 47.1 +1.0**
PETF Flores 50.77 337 P **P** **18 45 50.7 +0.2**
PETF IAmb IAmb 18 45 53.4
comp=Z,96nm,1.3s
GTBY Guantanamo Bay 50.79 356 P **P** **18 45 50.7 +0.1**
GTBY IAmb IAmb 18 45 52.8
comp=Z,138nm,1.2s
FSCY Frank Sound, G 50.89 349 P **P** **18 45 51.8 +0.5**
CCIG Comitan 50.98 335 P **P** **18 45 52.1 -0.2**
VNA3 Neumayer Olymp 52.00 159 P **P** **18 45 59.8 +0.6**
GRTK Grand Turk 52.27 1 P **P** **18 46 01.3 -0.4**
GRTK IAmb IAmb 18 46 04.1
comp=Z,186nm,1.2s
VNA1 Neumayer--Stat 52.30 158 P **P** **18 46 02.2 +0.9**
VNA2 Neumayer--Watz 52.64 158 P **P** **18 46 04.5 +0.6**
baz=289,slow=8.9
SNAA Sanae 54.23 159 P **P** **18 46 16.1 +0.4**
SNAA Sanae 54.23 159 P **P** **18 46 16.0 +0.4**
comp=Z,85nm,0.8s,baz=280,slow=6.3,SNR=228
SNAA Sanae 54.23 159 *i* P **P** **18 46 16.8 +1.2**
SNAA pmax pmax
comp=Z,135nm,0.9s
SNAA MLR MLR
comp=Z,2µm,15.0s
SNAA Sanae 54.23 159 P **P** **18 46 15.2 -0.4**
SOR Soroa 54.61 347 P **P** **18 46 19.0 +0.1**
SOR pmax pmax
comp=Z,128nm,1.2s
SOR Soroa 54.61 347 P **P** **18 46 19.0 +0.1**
SOR IAmb IAmb 18 46 20.8
comp=Z,128nm,1.2s
TLIG Tlapa 54.77 328 P **P** **18 46 19.3 -1.0**
061Z Ochoppi 57.27 350 P **P** **18 46 38.4 +0.6**
QSPA South Pole Qui 59.17 180 P **P** **18 46 51.9 +0.9**
comp=Z,93nm,0.9s,baz=153,slow=2.4,SNR=179
QSPA South Pole Qui 59.17 180 P **P** **18 46 51.3 +0.3**
DWPF Disney Wildern 59.55 350 P **P** **18 46 53.9 +0.2**
baz=170
656A Willston 60.96 349 P **P** **18 47 03.7 +0.4**
ZAIG Zacatecas 61.13 327 P **P** **18 47 05.5 +0.6**
553A Crawfordville 62.09 348 P **P** **18 47 11.4 +0.5**
456A Hilliard 62.21 350 P **P** **18 47 11.7 0.0**
H06E1 SOCORRO T-PHAS 62.21 317 T T 19 54 36.9
SNR=61
451A Vernon 62.75 346 P **P** **18 47 15.4 0.0**
TIGA Tifton 63.16 349 P **P** **18 47 17.9 -0.1**
TIGA IAmb IAmb 18 47 19.8
comp=Z,95nm,1.1s
TIGA Tifton 63.16 349 P **P** **18 47 18.3 +0.3**
baz=169
257A Skidaway Islan 63.30 351 P **P** **18 47 18.8 -0.2**
352A Blakely 63.43 347 P **P** **18 47 19.3 -0.6**
BBSR BB Station 63.44 7 P **P** **18 47 20.6 +0.7**
255A Hazlehurst 63.46 350 P **P** **18 47 18.5 -1.5**
BRAL Brewton 63.56 345 P **P** **18 47 20.8 +0.1**
BRAL Brewton 63.56 345 P **P** **18 47 22.0 +1.2**
baz=166
RGRS Roger Stewart 64.11 352 P **P** **18 47 25.1 +0.8**
250A Grady 64.18 346 P **P** **18 47 24.7 -0.1**
250A IAmb IAmb 18 47 26.4
comp=Z,139nm,1.4s
CSU Charleston Sou 64.18 352 P **P** **18 47 25.1 +0.3**
154A Montrose 64.23 349 P **P** **18 47 24.8 -0.3**
NHSC New Hope 64.31 352 P **P** **18 47 25.8 +0.2**
NHSC New Hope 64.31 352 P **P** **18 47 26.6 +1.0**
baz=172
346A Big Creek Wild 64.33 343 P **P** **18 47 26.3 +0.5**
735A Kenedy 64.54 335 P **P** **18 47 28.8 +1.6**
152A Waverly Hall 64.55 348 P **P** **18 47 27.0 -0.3**
152A IAmb IAmb 18 47 28.6
comp=Z,61nm,1.1s
833A Chaparral WMA, 64.66 333 P **P** **18 47 29.9 +1.9**
baz=154,SNR=26
344A Westbrook Farm 64.72 342 P **P** **18 47 29.3 +0.9**
441A DeRidder 64.75 340 P **P** **18 47 30.4 +1.8**
441A IAmb IAmb 18 47 32.1
comp=Z,68nm,0.8s
HKT Hockley 64.84 337 P **P** **18 47 30.3 +1.2**
HKT pmax pmax
comp=Z,93nm,1.5s
HKT Hockley 64.84 337 P **P** **18 47 30.3 +1.2**
HKT IAmb IAmb 18 47 32.5
comp=Z,93nm,1.4s
Y60A Bolivia 65.00 354 P **P** **18 47 30.0 0.0**
Y58A Scranton 65.04 353 P **P** **18 47 30.9 +0.5**
Y59A Loris 65.04 353 P **P** **18 47 30.1 -0.3**
Y59A IAmb IAmb 18 47 31.8
comp=Z,73nm,1.2s
GOGA Godfrey 65.06 349 P **P** **18 47 30.3 -0.2**
GOGA pmax pmax
comp=Z,101nm,1.4s
GOGA Godfrey 65.06 349 P **P** **18 47 30.3 -0.2**
GOGA IAmb IAmb 18 47 32.2
comp=Z,101nm,1.4s
GOGA Godfrey 65.06 349 P **P** **18 47 30.8 +0.2**
baz=169,SNR=14
342A Flagon Creek P 65.08 341 P **P** **18 47 32.0 +1.3**
Y57A Sumter 65.23 352 P **P** **18 47 31.3 -0.3**
Y57A IAmb IAmb 18 47 33.6
comp=Z,79nm,0.9s
Z51A Franklin 65.27 348 P **P** **18 47 31.2 -0.7**
Z51A IAmb IAmb 18 47 33.0
comp=Z,43nm,1.1s
LRAL Lakeview Retre 65.35 346 P **P** **18 47 32.3 -0.1**
LRAL IAmb IAmb 18 47 34.2
comp=Z,76nm,1.4s
LRAL Lakeview Retre 65.35 346 P **P** **18 47 32.9 +0.5**
baz=166,SNR=12
VBMS Vicksburg 65.39 343 P **P** **18 47 32.3 -0.4**
VBMS Vicksburg 65.39 343 P **P** **18 47 34.2 +1.6**
baz=162,SNR=6.1
146A Union 65.43 344 P **P** **18 47 33.0 +0.1**
SLBS Sierra La Lagu 65.58 322 P **P** **18 47 34.7 +0.5**
JSC Jenkinsville 65.60 351 P **P** **18 47 34.1 +0.1**
JSC pmax pmax
comp=Z,65nm,1.1s
JSC Jenkinsville 65.60 351 P **P** **18 47 34.0 +0.1**
JSC IAmb IAmb 18 47 35.9
comp=Z,65nm,1.1s
Y52A Lilburn 65.61 349 P **P** **18 47 33.5 -0.5**
X58A Rowland 65.65 353 P **P** **18 47 34.1 -0.2**
X58A IAmb IAmb 18 47 36.3
comp=Z,85nm,0.9s
HODGE Hodges 65.69 350 P **P** **18 47 34.6 0.0**
HODGE IAmb IAmb 18 47 36.4
comp=Z,70nm,1.3s
Z47A Carrollton 65.74 345 P **P** **18 47 35.3 +0.4**
Z47A IAmb IAmb 18 47 37.0
comp=Z,121nm,1.4s
BIRD Birdtown, Kers 65.86 352 P **P** **18 47 35.6 -0.1**
BIRD IAmb IAmb 18 47 37.0
comp=Z,57nm,1.2s
SBA Scott Base 66.00 191 P **P** **18 47 37.7 +1.6**
SBA pmax pmax
comp=Z,33nm,1.3s
SBA Scott Base 66.00 191 P **P** **18 47 37.7 +1.6**
Y49A Blount Mountai 66.03 347 P **P** **18 47 36.9 +0.1**
Y49A IAmb IAmb 18 47 38.5
comp=Z,53nm,1.1s
143A Socs Landing, 66.08 342 P **P** **18 47 38.5 +1.3**
HPIG 66.13 327 P **P** **18 47 38.8 +1.0**
HPIG IAmb IAmb 18 47 41.0
comp=Z,75nm,1.5s
NATX Nacogdoches 66.14 339 P **P** **18 47 37.3 -0.2**
NATX Nacogdoches 66.14 339 P **P** **18 47 39.0 +1.4**
baz=159,SNR=5.3
CNNC Cliffs of the 66.19 355 P **P** **18 47 38.6 +0.8**
435B Jarrell 66.20 336 P **P** **18 47 39.0 +1.0**
435B IAmb IAmb 18 47 40.9
comp=Z,96nm,1.5s
435B Jarrell 66.20 336 P **P** **18 47 39.5 +1.5**
baz=156
PAULI Pauline 66.21 351 P **P** **18 47 38.5 +0.6**
W57A Gilead 66.31 353 P **P** **18 47 38.5 -0.1**
W57A IAmb IAmb 18 47 40.4
comp=Z,81nm,1.1s
X51A Calhoun 66.43 348 P **P** **18 47 39.5 +0.2**
KMSC Kings Mountain 66.46 351 P **P** **18 47 39.1 -0.4**
KMSC IAmb IAmb 18 47 41.4
comp=Z,86nm,1.1s
KMSC Kings Mountain 66.46 351 P **P** **18 47 40.0 +0.5**
baz=171,SNR=11
BG3 Lake Jocassee 66.53 350 P **P** **18 47 40.0 0.0**
BG3 IAmb IAmb 18 47 42.2
comp=Z,124nm,1.2s
FPAL Fort Paine 66.54 348 P **P** **18 47 39.9 -0.2**
FPAL IAmb IAmb 18 47 41.7
comp=Z,95nm,1.3s
V61A Roper 66.65 356 P **P** **18 47 41.5 +0.8**
Y45A Yeager Farm, C 66.72 344 P **P** **18 47 42.0 +0.8**
237A Washetta, Mont 66.72 338 P **P** **18 47 43.0 +1.7**
X48A Hartselle 66.73 346 P **P** **18 47 41.6 +0.4**
JCT Junction City 66.74 334 P **P** **18 47 42.3 +0.8**
JCT pmax pmax
comp=Z,167nm,1.5s
JCT Junction City 66.74 334 P **P** **18 47 42.3 +0.8**
JCT Junction City 66.74 334 P **P** **18 47 42.8 +1.3**
baz=154,SNR=18
W52A Murphy 66.79 349 P **P** **18 47 42.1 +0.5**
W52A IAmb IAmb 18 47 43.8
comp=Z,97nm,1.1s
V58A Windy Hill, Pi 66.85 354 P **P** **18 47 42.4 +0.4**
V58A IAmb IAmb 18 47 43.9
comp=Z,88nm,1.1s
Z41A Richland Creek 66.98 341 P **P** **18 47 44.3 +1.4**
baz=161
VNDA Vanda 67.03 191 P **P** **18 47 44.6 +1.8**
comp=Z,7.3nm,1.0s,baz=134,slow=6.6,SNR=24
VNDA Vanda 67.03 191 P **P** **18 47 44.5 +1.8**
W50A Signal Mountai 67.12 348 P **P** **18 47 44.3 +0.4**
V55A Taylorsville 67.14 352 P **P** **18 47 44.2 +0.4**
V53A Saluda 67.18 350 P **P** **18 47 44.6 +0.4**
CPCT Cooper Cave 67.23 349 P **P** **18 47 44.8 +0.4**
WHTX Lake Whitney, 67.26 336 P **P** **18 47 45.5 +0.8**
WHTX IAmb IAmb 18 47 48.2
comp=Z,97nm,1.3s
WHTX Lake Whitney, 67.26 336 P **P** **18 47 45.8 +1.1**
baz=156,SNR=7.8
U59A Littleton 67.29 355 P **P** **18 47 45.6 +0.8**
TX32 Lajitas Array 67.29 330 P **P** **18 47 46.0 +0.9**
TXAR Lajitas Array 67.29 330 P **P** **18 47 46.6 +1.5**
comp=Z,8.1nm,0.9s,baz=152,slow=8.0,SNR=63
TXAR PKPPKP **P'P'df** **19 16 12.7 +7.6**
comp=Z,1.2nm,1.1s,baz=240,slow=4.2,SNR=6.4
TXAR Lajitas Array 67.29 330 P **P** **18 47 46.1 +1.0**
TX31 Lajitas Ar. Si 67.30 330 P **P** **18 47 45.8 +0.7**
TX31 IAmb IAmb 18 47 47.3
comp=Z,71nm,1.1s
OXF Oxford 67.30 344 P **P** **18 47 45.0 +0.1**
OXF pmax pmax
comp=Z,222nm,1.1s
OXF Oxford 67.30 344 P **P** **18 47 45.0 +0.1**
OXF Oxford 67.30 344 P **P** **18 47 45.3 +0.4**
baz=164,SNR=23
TKL Tuckaleechee C 67.31 349 P **P** **18 47 45.1 +0.1**
TKL pmax pmax
comp=Z,119nm,1.2s
TKL Tuckaleechee C 67.31 349 P **P** **18 47 45.0 +0.1**
CCAR Cane Creek 67.33 342 P **P** **18 47 45.7 +0.7**
CCAR IAmb IAmb 18 47 47.2
comp=Z,57nm,1.0s
PLAL Pickwick Lake 67.46 346 P **P** **18 47 45.8 0.0**
PLAL IAmb IAmb 18 47 47.5
comp=Z,83nm,1.2s
V52A Sevierville 67.47 350 P **P** **18 47 46.0 +0.1**
WLAR White Oak Lake 67.47 341 P **P** **18 47 47.4 +1.3**
U56A King 67.53 352 P **P** **18 47 46.7 +0.4**
U56A IAmb IAmb 18 47 48.6
comp=Z,104nm,1.2s
V51A Loudon 67.55 349 P **P** **18 47 46.3 -0.2**
V51A IAmb IAmb 18 47 48.1
comp=Z,80nm,1.1s
Z38A Mt. Pleasant 67.63 339 P **P** **18 47 48.2 +1.2**
Z38A IAmb IAmb 18 47 49.2
comp=Z,73nm,1.1s
X43A Marvell 67.67 343 P **P** **18 47 50.6 +3.4**
baz=162
W45A Hickory Valley 67.87 345 P **P** **18 47 49.1 +0.7**
U54A Nelsons Funny 67.88 351 P **P** **18 47 48.9 +0.3**
T59A Double "B" Far 67.89 355 P **P** **18 47 49.1 +0.5**
V48A Smith Brothers 67.93 347 P **P** **18 47 49.2 +0.4**
MET Memphis--Engin 68.01 344 P **P** **18 47 49.9 +0.5**
T57A Hurt 68.06 354 P **P** **18 47 50.3 +0.7**
T57A IAmb IAmb 18 47 51.7
comp=Z,54nm,1.1s
TZTN Tazewell 68.15 350 P **P** **18 47 50.0 -0.2**
TZTN Tazewell 68.15 350 P **P** **18 47 50.4 +0.2**
baz=169,SNR=13
X40A Basin Creek Fa 68.15 341 P **P** **18 47 50.2 0.0**
X40A Basin Creek Fa 68.15 341 P **P** **18 47 50.7 +0.4**
baz=161
CLTN Cedars of Leba 68.18 347 P **P** **18 47 50.6 +0.3**
CLTN IAmb IAmb 18 47 52.3
comp=Z,98nm,1.1s
BLA Blacksburg 68.39 353 P **P** **18 47 52.2 +0.4**
BLA pmax pmax
comp=Z,46nm,1.2s
BLA Blacksburg 68.39 353 P **P** **18 47 52.2 +0.4**
BLA IAmb IAmb 18 47 54.0
comp=Z,46nm,1.1s

BLA Blacksburg 68.39 353 P **P** 18 47 52.7 +0.9
baz=172
MIAR Mount Ida 68.41 341 P **P** 18 47 52.5 +0.6
MIAR pmax pmax
comp=Z,98nm,1.4s
MIAR Mount Ida 68.41 341 P **P** 18 47 52.5 +0.6
MIAR IAmb IAmb 18 47 54.2
comp=Z,98nm,1.4s
MIAR Mount Ida 68.41 341 P **P** 18 47 52.3 +0.4
baz=160,SNR=21
Z35A Perchaven, San 68.42 337 P **P** 18 47 52.7 +0.8
U49A Red Boiling Sp 68.49 348 P **P** 18 47 52.4 +0.1
U49A IAmb IAmb 18 47 54.1
comp=Z,114nm,1.4s
WVT Waverly 68.51 346 P **P** 18 47 52.6 +0.1
WVT pmax pmax
comp=Z,224nm,1.3s
WVT Waverly 68.51 346 P **P** 18 47 52.6 +0.1
WVT Waverly 68.51 346 P **P** 18 47 53.1 +0.6
baz=165
SYO Syowa Base 68.52 159⇑*iP* **P** 18 47 52.0 -0.2
SYO Syowa Base 68.52 159⇑*ep*P pP 18 47 58.0 +1.1
SYO Syowa Base 68.52 159⇓*es*P sP 18 48 01.6 +3.0
LPAR Lepanto 68.56 344 P **P** 18 47 52.5 -0.3
LPAR IAmb IAmb 18 47 54.1
comp=Z,97nm,1.0s
HBAR Harrisburg 68.60 344 P **P** 18 47 53.0 0.0
HBAR IAmb IAmb 18 47 55.0
comp=Z,103nm,1.2s
ABTX Abilene, Hawle 68.61 335 P **P** 18 47 54.2 +1.0
ABTX Abilene, Hawle 68.61 335 P **P** 18 47 54.4 +1.2
baz=155,SNR=14
HALT Halls 68.63 345 P **P** 18 47 52.6 -0.5
W41B Gary Mavity, V 68.64 342 P **P** 18 47 54.2 +0.9
baz=161,SNR=15
WHAR Wooly Hollow 68.76 342 P **P** 18 47 54.6 +0.5
WHAR IAmb IAmb 18 47 56.3
comp=Z,104nm,1.4s
S57A Dark Hollow, R 68.79 354 P **P** 18 47 54.6 +0.4
S57A IAmb IAmb 18 47 56.5
comp=Z,92nm,1.2s
T50A Nancy 68.82 349 P **P** 18 47 54.2 -0.2
GNAR Gosnell 68.84 344 P **P** 18 47 54.9 +0.4
LNXT Lenox 68.84 345 P **P** 18 47 55.5 +0.9
R58B Mineral 68.90 355 P **P** 18 47 55.8 +1.0
UTMT University of 68.94 345 P **P** 18 47 55.6 +0.5
PEBM Pemiscott Bayo 68.94 344 P **P** 18 47 56.0 +0.8
GLAT Glass 68.96 345 P **P** 18 47 55.7 +0.4
X37A Clayton 68.98 339 P **P** 18 47 56.2 +0.8
X37A IAmb IAmb 18 48 10.8
comp=Z,56nm,1.4s
LOOK Love County 69.00 338 P **P** 18 47 56.6 +1.0
LOOK IAmb IAmb 18 47 58.2
comp=Z,110nm,1.4s
S54A Dingess, Beckl 69.08 352 P **P** 18 47 55.8 -0.2
S54A IAmb IAmb 18 47 57.6
comp=Z,98nm,1.2s
W39A Magazine 69.08 341 P **P** 18 47 56.8 +0.8
W39A Magazine 69.08 341 P **P** 18 47 57.5 +1.4
baz=160,SNR=41
CBN Corbin Frederi 69.10 355 P **P** 18 47 56.5 +0.4
CBN Corbin Frederi 69.10 355 P **P** 18 47 57.1 +1.0
baz=175
T47A Sharon Grove 69.20 347 P **P** 18 47 57.0 +0.3
HICK Hickman 69.21 345 P **P** 18 47 57.2 +0.4
LCAR Lake Charles 69.21 343 P **P** 18 47 57.1 +0.3
LCAR IAmb IAmb 18 47 58.6
comp=Z,81nm,1.0s
PENMO Penman 69.21 345 P **P** 18 47 57.9 +1.1
FCAR Ozark Folk Cen 69.28 342 P **P** 18 47 57.3 0.0
FCAR IAmb IAmb 18 47 59.1
comp=Z,55nm,1.3s
MBO M'Bour 69.36 58 P **P** 18 47 58.5 +0.3
R55A Marlinton 69.42 353 P **P** 18 47 59.0 +0.9
R55A IAmb IAmb 18 48 00.7
comp=Z,120nm,1.2s
HENM Henderson Moun 69.43 345 P **P** 18 47 58.4 +0.3
PARMO Parma 69.44 345 P **P** 18 47 59.1 +0.8
Q61A Milford 69.66 357 P **P** 18 48 01.1 +1.6
baz=177
R53A Hurricane 69.68 351 P **P** 18 47 59.1 -0.6
R53A IAmb IAmb 18 48 01.3
comp=Z,45nm,1.1s
PBMO Poplar Bluff 69.71 344 P **P** 18 48 00.2 +0.3
PBMO IAmb IAmb 18 48 01.8
comp=Z,115nm,1.2s
X34A Smith Ranch, M 69.77 337 P **P** 18 48 01.4 +1.0
X34A IAmb IAmb 18 48 02.9
comp=Z,109nm,1.2s
U40A Yellville 69.92 342 P **P** 18 48 01.9 +0.7
U40A IAmb IAmb 18 48 03.2
comp=Z,96nm,1.1s
U40A Yellville 69.92 342 P **P** 18 48 02.0 +0.8
baz=161,SNR=34
R50A Paris 69.97 350 P **P** 18 48 01.3 -0.1
R50A IAmb IAmb 18 48 03.1
comp=Z,79nm,1.4s
MNTX Cornudas Mount 70.08 330 P **P** 18 48 02.6 +0.3
MNTX Cornudas Mount 70.08 330 P **P** 18 48 02.3 0.0
baz=150,SNR=51
Q56A Snyder Ridge, 70.08 354 P **P** 18 48 02.8 +0.7
Q56A IAmb IAmb 18 48 05.0
comp=Z,102nm,1.3s
T42A Van Buren 70.11 344 P **P** 18 48 02.1 -0.3
R49A Shelbyville 70.11 349 P **P** 18 48 02.1 -0.3
R49A IAmb IAmb 18 48 03.1
comp=Z,48nm,1.1s
HHAR Hobbs 70.14 341 P **P** 18 48 03.0 +0.4
HHAR IAmb IAmb 18 48 04.5
comp=Z,78nm,1.0s
Q54A Coxs Mills 70.19 352 P **P** 18 48 02.8 0.0
WMOK Wichita Mounta 70.22 337 P **P** 18 48 03.2 +0.1
WMOK pmax pmax
comp=Z,51nm,1.4s
WMOK Wichita Mounta 70.22 337 P **P** 18 48 03.2 +0.1
WMOK IAmb IAmb 18 48 05.0
comp=Z,52nm,1.4s
WMOK Wichita Mounta 70.22 337 P **P** 18 48 03.5 +0.4
baz=156,SNR=15
FNO Franklin 70.23 338 P **P** 18 48 03.3 +0.1
FNO IAmb IAmb 18 48 05.2
comp=Z,68nm,1.1s
WCI Wyandotte Cave 70.25 348 P **P** 18 48 02.8 -0.4
WCI pmax pmax
comp=Z,43nm,1.0s
WCI Wyandotte Cave 70.25 348 P **P** 18 48 02.8 -0.4
WCI IAmb IAmb 18 48 03.8
comp=Z,43nm,0.9s
WCI Wyandotte Cave 70.25 348 P **P** 18 48 03.2 0.0
baz=167
USIN University of 70.25 347 P **P** 18 48 02.9 -0.3
S44A Carbondale 70.32 345 P **P** 18 48 03.9 +0.3
S44A IAmb IAmb 18 48 05.4
comp=Z,121nm,1.1s
SIUC Southern Illin 70.33 345 P **P** 18 48 04.1 +0.4
TUL1 Leonard 70.33 339 P **P** 18 48 04.1 +0.4
baz=158,SNR=9.6
Q52A Bidwell 70.34 351 P **P** 18 48 03.6 -0.1
OKCFA Oklahoma City 70.39 338 P **P** 18 48 04.2 +0.1
U38A Gravette 70.41 341 P **P** 18 48 04.2 0.0
P57A Homestead Farm 70.42 355 P **P** 18 48 05.0 +0.8
P57A IAmb IAmb 18 48 07.2
comp=Z,115nm,1.1s
OK025 Westminster Rd 70.51 338 P **P** 18 48 04.8 0.0
MGMO Mountain Grove 70.52 343 P **P** 18 48 05.4 +0.5
MGMO IAmb IAmb 18 48 07.0
comp=Z,58nm,1.1s
Q51A Peebles 70.55 350 P **P** 18 48 04.8 -0.3
Q51A IAmb IAmb 18 48 06.7
comp=Z,97nm,1.1s
P60A Greenville 70.60 357 P **P** 18 48 06.3 +1.0
P60A IAmb IAmb 18 48 08.0
comp=Z,137nm,1.5s
P60A Greenville 70.60 357 P **P** 18 48 06.4 +1.2
baz=176,SNR=5.2
BCOK Bluff Creek, N 70.66 338 P **P** 18 48 05.6 -0.2
BCOK IAmb IAmb 18 48 07.8
comp=Z,94nm,1.3s
OK031 S. Brethren Rd 70.69 339 P **P** 18 48 06.1 +0.1
OK031 IAmb IAmb 18 48 07.9
comp=Z,94nm,1.1s
WUPA West Chester U 70.72 357 P **P** 18 48 07.1 +1.1
WUPA IAmb IAmb 18 48 08.9
comp=Z,74nm,1.2s
OK029 Liberty Lake 70.74 338 P **P** 18 48 06.2 0.0
OK029 IAmb IAmb 18 48 08.2
comp=Z,148nm,1.4s
P53A Whipple 70.75 352 P **P** 18 48 05.8 -0.4
P53A IAmb IAmb 18 48 08.2
comp=Z,110nm,1.2s
MCWV Mont Chateau 70.75 353 P **P** 18 48 06.7 +0.4
MCWV IAmb IAmb 18 48 08.5
comp=Z,88nm,1.2s
MCWV Mont Chateau 70.75 353 P **P** 18 48 07.0 +0.8
baz=173,SNR=7.8
MVL Millersville 70.82 356 P **P** 18 48 08.2 +1.5
MVL IAmb IAmb 18 48 09.6
comp=Z,82nm,1.2s
QUOK Quay 70.85 339 P **P** 18 48 07.0 +0.1
QUOK IAmb IAmb 18 48 09.1
comp=Z,133nm,1.4s
FVM French Village 70.86 344 P **P** 18 48 07.2 +0.3
FVM pmax pmax
comp=Z,124nm,1.1s
FVM French Village 70.86 344 P **P** 18 48 07.2 +0.3
P51A Williamsport 70.96 351 P **P** 18 48 07.4 -0.1
MSTX Muleshoe 70.98 333 P **P** 18 48 08.0 +0.1
MSTX IAmb IAmb 18 48 10.1
comp=Z,102nm,1.0s
MSTX Muleshoe 70.98 333 P **P** 18 48 08.5 +0.6
baz=152,SNR=37
P52A Corning 70.99 352 P **P** 18 48 07.4 -0.3
P52A Corning 70.99 352 P **P** 18 48 07.8 +0.2
baz=171,SNR=16
PAGS Pennsylvania G 71.07 356 P **P** 18 48 09.1 +1.0
PAGS IAmb IAmb 18 48 10.8
comp=Z,71nm,1.2s
OLIL Olney 71.08 347 P **P** 18 48 07.7 -0.5
OLIL IAmb IAmb 18 48 09.6
comp=Z,104nm,1.1s
CCM Cathedral Cave 71.12 344 P **P** 18 48 08.7 +0.2
CCM pmax pmax
comp=Z,136nm,1.1s
CCM Cathedral Cave 71.12 344 P **P** 18 48 08.7 +0.2
CCM Cathedral Cave 71.12 344 P **P** 18 48 09.3 +0.8
baz=162
BLO Bloomington 71.20 348 P **P** 18 48 08.7 -0.3
BLO pmax pmax
comp=Z,49nm,1.1s
BLO Bloomington 71.20 348 P **P** 18 48 08.7 -0.3
BLO IAmb IAmb 18 48 09.6
comp=Z,49nm,1.1s
O56A Blue Knob Stat 71.24 355 P **P** 18 48 09.6 +0.4
O56A IAmb IAmb 18 48 11.1
comp=Z,69nm,1.2s
O56A Blue Knob Stat 71.24 355 P **P** 18 48 10.1 +0.8
baz=174,SNR=9.6
P49A Miami Univ. Ec 71.25 349 P **P** 18 48 09.0 -0.2
P49A IAmb IAmb 18 48 10.5
comp=Z,99nm,1.2s
P49A Miami Univ. Ec 71.25 349 P **P** 18 48 09.4 +0.1
baz=168,SNR=7.9
S39A Bolivar 71.30 342 P **P** 18 48 09.9 +0.3
S39A IAmb IAmb 18 48 11.7
comp=Z,107nm,1.1s
P48A Milroy 71.30 349 P **P** 18 48 09.3 -0.3
O54A Avella 71.33 353 P **P** 18 48 09.7 0.0
LUPA Lehigh Univers 71.37 357 P **P** 18 48 11.4 +1.4
LUPA IAmb IAmb 18 48 12.9
comp=Z,50nm,1.1s
AMTX Amarillo 71.38 334 P **P** 18 48 10.8 +0.5
AMTX IAmb IAmb 18 48 12.8
comp=Z,119nm,1.2s
AMTX Amarillo 71.38 334 P **P** 18 48 11.4 +1.1
baz=153
O52A Adamsville 71.42 352 P **P** 18 48 10.2 -0.1
O52A IAmb IAmb 18 48 11.9
comp=Z,101nm,1.4s
Q44A Meyer Farm, Va 71.43 346 P **P** 18 48 10.2 -0.1
Q44A IAmb IAmb 18 48 11.6
comp=Z,75nm,1.1s
SLM Saint Louis 71.44 345 P **P** 18 48 10.6 +0.2
SLM pmax pmax
comp=Z,173nm,1.2s
SLM Saint Louis 71.44 345 P **P** 18 48 10.6 +0.2
T35A Sooner Cattle 71.48 339 P **P** 18 48 11.4 +0.7
T35A IAmb IAmb 18 48 13.1
comp=Z,112nm,1.2s
O53A New Philadelph 71.48 352 P **P** 18 48 10.7 0.0
O53A IAmb IAmb 18 48 12.5
comp=Z,137nm,1.5s
O53A IAMs_20 IAMs_20 19 19 26.1
comp=Z,2μm,19.0s
O53A New Philadelph 71.48 352 P **P** 18 48 10.8 +0.2
baz=172,SNR=7.7
CPNY Central Park 71.52 358 P **P** 18 48 11.1 +0.3
BLOK Blackwell 71.55 339 P **P** 18 48 11.7 +0.5
BLOK IAmb IAmb 18 48 13.5
comp=Z,130nm,1.4s
SSPA Standing Stone 71.56 355 P **P** 18 48 11.7 +0.6
SSPA IAmb IAmb 18 48 13.6
comp=Z,129nm,1.4s
SSPA Standing Stone 71.56 355 P **P** 18 48 11.6 +0.6
baz=174
319A Douglas 71.56 327 P **P** 18 48 12.5 +1.0
319A IAmb IAmb 18 48 14.9
comp=Z,93nm,1.5s
CROK Carrier 71.56 338 P **P** 18 48 11.5 +0.2
CROK IAmb IAmb 18 48 13.3
comp=Z,78nm,1.2s
R40A Maddies Statio 71.59 343 P **P** 18 48 11.7 +0.3
N58A Sunbury 71.68 356 P **P** 18 48 12.5 +0.7
N58A IAmb IAmb 18 48 14.6
comp=Z,94nm,1.2s
ACSO Alum Creek Sta 71.69 351 P **P** 18 48 12.3 +0.4
ACSO Alum Creek Sta 71.69 351 P **P** 18 48 11.9 +0.1
baz=170,SNR=17
N59A State Game Lan 71.71 357 P **P** 18 48 13.4 +1.4
N59A IAmb IAmb 18 48 15.2
comp=Z,146nm,1.3s
N59A State Game Lan 71.71 357 P **P** 18 48 13.6 +1.6
baz=176,SNR=13
P46A Rosedale 71.76 347 P **P** 18 48 11.7 -0.6
P46A IAmb IAmb 18 48 13.5
comp=Z,106nm,1.1s
U32A Winter Ranch, 71.78 337 P **P** 18 48 13.2 +0.6
U32A IAmb IAmb 18 48 15.0
comp=Z,77nm,1.2s
U32A IAMs_20 IAMs_20 19 10 21.7
comp=Z,2μm,18.0s
ODNJ Ogdensburg 71.83 358 P **P** 18 48 13.8 +1.1
ODNJ IAmb IAmb 18 48 15.5
comp=Z,104nm,1.3s
O49A Covington 71.84 350 P **P** 18 48 12.8 0.0
121A Cookes Peak, D 71.84 328 P **P** 18 48 15.0 +1.8
121A IAmb IAmb 18 48 16.8
comp=Z,77nm,1.1s
121A Cookes Peak, D 71.84 328 P **P** 18 48 15.3 +2.1
baz=148,SNR=25
KAN13 South Haven SW 71.87 339 P **P** 18 48 14.0 +0.9
KAN13 IAmb IAmb 18 48 15.5
comp=Z,146nm,1.3s
TRNY Table Rock, Ra 71.88 358 P **P** 18 48 14.4 +1.4
TRNY IAmb IAmb 18 48 15.8
comp=Z,67nm,1.2s
OK032 Salt Plains WL 71.91 338 P **P** 18 48 14.0 +0.7
OK032 IAmb IAmb 18 48 15.7
comp=Z,142nm,1.4s
KAN14 Manchester OK 71.97 338 P **P** 18 48 14.3 +0.7
KAN14 IAmb IAmb 18 48 15.9
comp=Z,78nm,1.3s
KAN17 Caldwell West 71.98 338 P **P** 18 48 14.3 +0.5
KAN17 IAmb IAmb 18 48 16.2
comp=Z,110nm,1.4s
N53A Lisbon 71.99 353 P **P** 18 48 13.7 0.0
N53A IAmb IAmb 18 48 15.7
comp=Z,83nm,1.3s
KAN09 Caldwell North 72.02 339 P **P** 18 48 14.9 +0.9
N54A Moraine State 72.06 353 P **P** 18 48 14.6 +0.4
N54A IAmb IAmb 18 48 16.3
comp=Z,108nm,1.3s
N54A Moraine State 72.06 353 P **P** 18 48 15.0 +0.9
baz=173,SNR=8.8
KAN05 Bluff City Nor 72.08 338 P **P** 18 48 14.9 +0.5
KAN05 IAmb IAmb 18 48 16.8
comp=Z,143nm,1.3s
KS20 Mayfield South 72.09 339 P **P** 18 48 14.9 +0.5
KAN10 Anthony SW Sta 72.16 338 P **P** 18 48 15.2 +0.4
KAN06 Argonia West S 72.20 338 P **P** 18 48 16.1 +1.1
KAN06 IAmb IAmb 18 48 17.6
comp=Z,178nm,1.4s
M57A Sunshine Farm, 72.20 356 P **P** 18 48 16.1 +1.1
M57A IAmb IAmb 18 48 17.7
comp=Z,116nm,1.4s
KAN08 Anthony NE Sta 72.22 338 P **P** 18 48 16.2 +1.1
P43A Skaggs, Pawnee 72.25 346 P **P** 18 48 15.3 +0.1
P43A IAmb IAmb 18 48 16.8
comp=Z,119nm,1.1s
KAN16 Harper SW Stat 72.25 338 P **P** 18 48 16.1 +0.8
KAN16 IAmb IAmb 18 48 17.9
comp=Z,159nm,1.3s
N51A Ashland 72.28 352 P **P** 18 48 15.3 -0.1
N51A IAmb IAmb 18 48 17.0
comp=Z,159nm,1.4s
KAN12 Harper NE Stat 72.29 338 P **P** 18 48 16.0 +0.4
KSPA Keystone Colle 72.35 357 P **P** 18 48 17.1 +1.3
KSPA IAmb IAmb 18 48 18.5
comp=Z,83nm,1.4s
KSCT Kent School, K 72.44 359 P **P** 18 48 17.2 +0.9
M55A Ridgway 72.45 354 P **P** 18 48 17.3 +0.8
M55A IAmb IAmb 18 48 18.6
comp=Z,139nm,1.2s
SFIN Lafayette 72.48 348 P **P** 18 48 15.9 -0.8
SFIN IAmb IAmb 18 48 17.6
comp=Z,76nm,1.4s
SFIN Lafayette 72.48 348 P **P** 18 48 16.2 -0.4
baz=166,SNR=7.2
O44A Mansfield 72.52 347 P **P** 18 48 16.5 -0.4
O44A IAmb IAmb 18 48 17.9
comp=Z,72nm,1.1s
N49A Columbus Grove 72.53 350 P **P** 18 48 16.8 -0.1
M54A Oil Creek Stat 72.57 354 P **P** 18 48 17.3 +0.1
M54A IAmb IAmb 18 48 19.0
comp=Z,58nm,1.1s
M54A Oil Creek Stat 72.57 354 P **P** 18 48 17.6 +0.4
baz=173,SNR=7.5
M53A WI Miller and 72.60 353 P **P** 18 48 17.4 0.0
M53A IAmb IAmb 18 48 19.1
comp=Z,108nm,1.1s
M53A WI Miller and 72.60 353 P **P** 18 48 17.5 +0.2
baz=172,SNR=7.4
BRYW Bryant College 72.61 0 P **P** 18 48 18.1 +0.7
BRYW IAmb IAmb 18 48 20.3
comp=Z,172nm,1.4s
L64A Middleborough 72.64 1 P **P** 18 48 18.7 +1.2
baz=181
BNM Barren Site 72.71 330 P **P** 18 48 19.9 +1.4
P40A Paris 72.71 344 P **P** 18 48 18.6 +0.6
N47A Urbana 72.73 349 P **P** 18 48 17.6 -0.5
N47A IAmb IAmb 18 48 19.2
comp=Z,155nm,1.3s
ALLY Alegheny Colle 72.75 353 P **P** 18 48 18.0 -0.2
ALLY IAmb IAmb 18 48 20.2
comp=Z,108nm,1.2s
M52A Chesterland 72.78 352 P **P** 18 48 18.7 +0.3
M52A IAmb IAmb 18 48 20.1
comp=Z,123nm,1.1s
M50A Fremont 72.85 351 P **P** 18 48 19.0 +0.2
LENM Lemitar 72.87 330 P **P** 18 48 20.7 +1.4
L59A Walton 72.95 357 P **P** 18 48 20.5 +1.1
L59A IAmb IAmb 18 48 22.2
comp=Z,123nm,1.2s
QUA2 Belchertown 72.97 360 P **P** 18 48 20.1 +0.6
QUA2 IAmb IAmb 18 48 22.3
comp=Z,100nm,1.3s
BINY Binghamton 73.00 357 P **P** 18 48 21.1 +1.4
BINY IAmb IAmb 18 48 22.3
comp=Z,103nm,1.4s
BINY Binghamton 73.00 357 P **P** 18 48 20.7 +1.0
baz=176,SNR=6.9
L56A Greenwood 73.03 356 P **P** 18 48 20.7 +0.8
TUC Tucson 73.05 326 P **P** 18 48 21.5 +1.2
TUC pmax pmax
comp=Z,21nm,1.3s
TUC Tucson 73.05 326 P **P** 18 48 21.5 +1.2
TUC Tucson 73.05 326 P **P** 18 48 21.3 +1.0
baz=146
HDIL Hopedale 73.08 346 P **P** 18 48 19.7 -0.5
HDIL IAmb IAmb 18 48 21.8
comp=Z,98nm,1.2s
HDIL Hopedale 73.08 346 P **P** 18 48 20.5 +0.3
baz=164
WES Weston 73.08 0 P **P** 18 48 21.1 +1.0
WES pmax pmax
comp=Z,67nm,1.2s
WES Weston 73.08 0 P **P** 18 48 21.1 +1.0
WES IAmb IAmb 18 48 22.9
comp=Z,66nm,1.2s
L61B Northampton 73.15 359 P **P** 18 48 22.0 +1.5
baz=179,SNR=11
P38A Dawn 73.17 343 P **P** 18 48 20.9 +0.2
P38A IAmb IAmb 18 48 22.5
comp=Z,69nm,1.0s
HRV Adam Dziewonsk 73.20 0 P **P** 18 48 22.0 +1.2
HRV pmax pmax
comp=Z,81nm,1.2s
HRV Adam Dziewonsk 73.20 0 P **P** 18 48 22.0 +1.2
HRV IAmb IAmb 18 48 23.9
comp=Z,81nm,1.2s
HRV Adam Dziewonsk 73.20 0 P **P** 18 48 22.4 +1.5
baz=180
ERPA Erie 73.20 354 P **P** 18 48 21.2 +0.3
ERPA IAmb IAmb 18 48 22.7
comp=Z,139nm,1.3s
ERPA Erie 73.20 354 P **P** 18 48 21.4 +0.5
baz=173
ANMO Albuquerque 73.32 331 *ce*P **P** 18 48 23.8 +1.8
ANMO pmax pmax
comp=Z,50nm,1.3s
ANMO Albuquerque 73.32 331 P **P** 18 48 23.5 +1.5
ANMO IAmb IAmb 18 48 25.3
comp=Z,65nm,1.4s
ANMO Albuquerque 73.32 331 P **P** 18 48 23.8 +1.8
baz=150
K62A Royalston 73.36 360 P **P** 18 48 23.5 +1.7
baz=180
K61A Williamstown 73.38 359 P **P** 18 48 23.4 +1.5
baz=179
TRY Troy 73.44 359 P **P** 18 48 23.9 +1.6
KSU1 Kansas State U 73.53 340 P **P** 18 48 22.9 0.0
KSU1 IAmb IAmb 18 48 24.7
comp=Z,82nm,1.4s
KSU1 Kansas State U 73.53 340 P **P** 18 48 23.4 +0.5
baz=158
R32A Long Quarter, 73.55 338 P **P** 18 48 23.9 +0.8
R32A IAmb IAmb 18 48 25.6
comp=Z,103nm,1.3s
K57A Scipio Center 73.55 356 P **P** 18 48 23.4 +0.5
K57A IAmb IAmb 18 48 24.3
comp=Z,68nm,1.4s
N41A Harden Midland 73.56 345 P **P** 18 48 22.8 -0.2
L48A N Adams 73.57 350 P **P** 18 48 22.7 -0.4
L48A IAmb IAmb 18 48 24.4
comp=Z,106nm,1.1s
M44A Midewin, Midew 73.63 347 P **P** 18 48 23.1 -0.3
M44A IAmb IAmb 18 48 24.8
comp=Z,112nm,1.1s
LIC Lamto 73.64 72 *e*P **P** 18 48 23.0 -1.2
comp=Z,283nm,1.1s
MMNY Mt. Morris Dam 73.64 355 P **P** 18 48 23.6 +0.2
214A Organ Pipe Nat 73.75 324 P **P** 18 48 26.3 +1.9
214A IAmb IAmb 18 48 27.9
comp=Z,76nm,1.4s
214A Organ Pipe Nat 73.75 324 P **P** 18 48 26.4 +1.9
baz=144,SNR=8.8
AAM Ann Arbor 73.81 351 P **P** 18 48 24.5 +0.1
AAM pmax pmax
comp=Z,31nm,1.0s
AAM Ann Arbor 73.81 351 P **P** 18 48 24.5 +0.1
AAM Ann Arbor 73.81 351 P **P** 18 48 24.5 +0.1
baz=170
TIC Toumodi 73.89 72 *e*P **P** 18 48 24.7 -0.9
L46A Eue Claire 73.93 349 P **P** 18 48 24.7 -0.5
L46A IAmb IAmb 18 48 26.1
comp=Z,121nm,1.1s
KIC Kosan Boka 73.95 72 *e*P **P** 18 48 25.2 -0.8
comp=Z,236nm,1.0s
HQIL Hanson Quary C 74.00 348 P **P** 18 48 25.4 -0.2
DBIC Dimbokro 74.03 72 P **P** 18 48 26.5 0.0
comp=Z,103nm,0.9s,baz=230,slow=5.4,SNR=83
DBIC Dimbokro 74.03 72 P **P** 18 48 26.2 -0.2
ACCN Adirondack Com 74.10 359 P **P** 18 48 27.3 +1.2
ACCN IAmb IAmb 18 48 28.9
comp=Z,124nm,1.4s
MEDO Medina 74.11 355 P **P** 18 48 25.7 -0.5

MEDO IAmb IAmb 18 48 27.2
comp=Z,120nm,1.4s
J56A Wolcott 74.12 356 P P 18 48 26.6 +0.4
J56A IAmb IAmb 18 48 28.1
comp=Z,93nm,1.2s
J58A Remsen 74.12 357 P P 18 48 26.9 +0.6
K50A Casco 74.14 352 P P 18 48 25.8 -0.6
FFD Franklin Falls 74.16 0 P P 18 48 27.4 +0.9
FFD IAmb IAmb 18 48 29.8
comp=Z,95nm,1.1s
J55A Hilton 74.17 355 P P 18 48 26.7 +0.2
J55A IAmb IAmb 18 48 28.6
comp=Z,87nm,1.1s
N38A Joes South For 74.20 343 P P 18 48 27.2 +0.5
J59A Piesco 74.20 358 P P 18 48 27.3 +0.6
J59A IAmb IAmb 18 48 29.2
comp=Z,85nm,1.2s
J57A Williamstown 74.20 357 P P 18 48 26.9 +0.2
J57A IAmb IAmb 18 48 28.9
comp=Z,90nm,1.1s
CBKS Cedar Bluff 74.23 338 P P 18 48 27.7 +0.6
CBKS pmax pmax
comp=Z,103nm,1.1s
CBKS Cedar Bluff 74.23 338 P P 18 48 27.7 +0.6
CBKS IAmb IAmb 18 48 29.7
comp=Z,102nm,1.1s
CBKS Cedar Bluff 74.23 338 P P 18 48 28.4 +1.3
baz=155,SNR=11
J54A Appleton 74.23 355 P P 18 48 27.5 +0.7
J54A IAmb IAmb 18 48 28.9
comp=Z,105nm,1.3s
L44A Lake County Fo 74.37 348 P P 18 48 27.8 +0.1
L44A IAmb IAmb 18 48 29.3
comp=Z,148nm,1.2s
L44A Lake County Fo 74.37 348 P P 18 48 27.9 +0.1
baz=166
HNH Hanover 74.40 360 P P 18 48 28.6 +0.8
HNH IAmb IAmb 18 48 31.1
comp=Z,81nm,1.2s
T25A Trinidad 74.40 333 P P 18 48 29.7 +1.4
T25A IAmb IAmb 18 48 31.7
comp=Z,120nm,1.1s
T25A Trinidad 74.40 333 P P 18 48 30.4 +2.1
baz=151,SNR=50
X18A Snowflake 74.50 328 P P 18 48 30.2 +1.4
L42A Oliver, Polo 74.55 346 P P 18 48 28.4 -0.3
L42A IAmb IAmb 18 48 30.3
comp=Z,91nm,1.1s
I60A Shoreham 74.55 359 P P 18 48 30.1 +1.4
baz=179,SNR=9.5
I62A Tamworth 74.57 0 P P 18 48 29.2 +0.3
I62A IAmb IAmb 18 48 31.3
comp=Z,90nm,1.5s
I62A Tamworth 74.57 0 P P 18 48 30.5 +1.6
baz=180
NCB Newcomb 74.70 358 P P 18 48 30.2 +0.6
NCB IAmb IAmb 18 48 31.9
comp=Z,64nm,1.3s
I63A Otisfield 74.75 1 P P 18 48 31.5 +1.6
I63A IAmb IAmb 18 48 33.3
comp=Z,127nm,1.2s
PECO Prince Edward 74.78 356 P P 18 48 30.6 +0.5
PECO IAmb IAmb 18 48 32.2
comp=Z,108nm,1.4s
113A Mohawk Valley, 74.88 324 P P 18 48 32.2 +1.3
N35A Tabor 74.89 341 P P 18 48 31.1 +0.3
W18A Petrified Fore 74.89 329 P P 18 48 32.8 +1.6
W18A IAmb IAmb 18 48 34.5
comp=Z,108nm,1.2s
W18A Petrified Fore 74.89 329 P P 18 48 33.2 +2.1
baz=147,SNR=6.6
J47A Sunmer 74.89 350 P P 18 48 30.3 -0.5
J47A IAmb IAmb 18 48 31.4
comp=Z,100nm,1.2s
L40A Anamosa 74.93 345 P P 18 48 30.9 -0.1
LBNH Lisbon 74.93 360 P P 18 48 31.6 +0.6
LBNH Lisbon 74.93 360 P P 18 48 31.6 +0.6
LBNH IAmb IAmb 18 48 33.8
comp=Z,69nm,1.1s
LBNH Lisbon 74.93 360 P P 18 48 32.7 +1.7
baz=180,SNR=5.7
K43A Burlington 74.96 347 P P 18 48 30.7 -0.5
K43A IAmb IAmb 18 48 32.8
comp=Z,74nm,1.2s
X16A Lo Mia Camp, P 75.09 327 P P 18 48 34.2 +1.9
X16A IAmb IAmb 18 48 35.8
comp=Z,54nm,1.1s
SCIA State Center 75.25 344 P P 18 48 33.3 +0.5
SCIA IAmb IAmb 18 48 35.0
comp=Z,120nm,1.1s
SCIA State Center 75.25 344 P P 18 48 33.7 +0.8
baz=161
WVL Waterville 75.28 2 P P 18 48 34.0 +1.1
WVL IAmb IAmb 18 48 35.4
comp=Z,95nm,1.5s
I49A Point Hope 75.32 352 P P 18 48 33.0 -0.2
I49A IAmb IAmb 18 48 34.5
comp=Z,126nm,1.2s
SDCO Great Sand Dun 75.35 333 P P 18 48 35.2 +1.3
SDCO Great Sand Dun 75.35 333 P P 18 48 35.7 +1.8
baz=151,SNR=36
LONY Lake Ozonia 75.36 358 P P 18 48 34.0 +0.6
LONY IAmb IAmb 18 48 35.8
comp=Z,85nm,1.2s
LONY Lake Ozonia 75.36 358 P P 18 48 34.4 +1.0
baz=178,SNR=16
KSCO Kaye Shedlock' 75.39 336 P P 18 48 35.3 +1.4
KSCO Kaye Shedlock' 75.39 336 P P 18 48 35.5 +1.6
baz=153
DELO Deloro Mine 75.40 356 P P 18 48 34.1 +0.5
DELO IAmb IAmb 18 48 35.8
comp=Z,79nm,1.3s
Y14A Wickenburg 75.45 326 P P 18 48 35.5 +1.2
JFWS Jewell Farm 75.54 346 P P 18 48 34.7 +0.2
JFWS pmax pmax
comp=Z,123nm,1.2s
JFWS Jewell Farm 75.54 346 P P 18 48 34.7 +0.2
JFWS IAmb IAmb 18 48 36.4
comp=Z,123nm,1.2s
JFWS Jewell Farm 75.54 346 P P 18 48 35.3 +0.8
baz=164,SNR=12
FRNY Flat Rock 75.55 359 P P 18 48 35.2 +0.8
FRNY IAmb IAmb 18 48 36.9
comp=Z,81nm,1.1s
GLA Glamis 75.64 324 P P 18 48 36.9 +1.5
GLA pmax pmax
comp=Z,35nm,1.3s
GLA Glamis 75.64 324 P P 18 48 36.9 +1.5
GLA Glamis 75.64 324 P P 18 48 37.3 +2.0
baz=143
SADO Sadowa 75.76 355 P P 18 48 35.5 -0.2
SADO IAmb IAmb 18 48 37.5
comp=Z,117nm,1.2s
K38A Parkersburg 75.84 344 P P 18 48 35.9 -0.3
K38A IAmb IAmb 18 48 37.1
comp=Z,42nm,0.9s
S22A 4UR Ranch, Cre 75.88 332 P P 18 48 38.7 +1.7
baz=150,SNR=27
PLVO Plevna 75.89 356 P P 18 48 37.1 +0.7
PLVO IAmb IAmb 18 48 38.6
comp=Z,97nm,1.3s
I45A Fountain 75.89 349 P P 18 48 36.0 -0.4
I45A IAmb IAmb 18 48 37.5
comp=Z,48nm,0.8s
G62A West of Eustis 75.92 1 P P 18 48 38.3 +1.7
G62A IAmb IAmb 18 48 39.6
comp=Z,141nm,1.2s
MAW Mawson 75.93 164 P P 18 48 37.1 +0.6
comp=Z,61nm,1.0s,baz=217,slow=7.1,SNR=84
MAW LR LR 19 24 11.0
comp=Z,2µm,18.4s,baz=256,slow=37
MAW Mawson 75.93 164 P P 18 48 36.6 +0.1
RMX La Rumorosa 75.93 323 P P 18 48 36.7 -0.5
WUAZ Wupatki 75.97 328 P P 18 48 39.3 +1.9
WUAZ IAmb IAmb 18 48 40.8
comp=Z,83nm,1.2s
WUAZ Wupatki 75.97 328 P P 18 48 39.6 +2.3
baz=146,SNR=26
IKP In-Ko-Pah, Jac 75.98 323 P P 18 48 39.4 +2.0
baz=142
G65A Princeton 75.99 3 P P 18 48 38.7 +1.8
G65A IAmb IAmb 18 48 40.0
comp=Z,91nm,1.4s
PKME Peaks-Kenny Pk 75.99 2 P P 18 48 37.9 +0.9
PKME IAmb IAmb 18 48 39.8
comp=Z,73nm,1.2s
PKME Peaks-Kenny Pk 75.99 2 P P 18 48 38.4 +1.4
baz=182,SNR=6.9
MOQ Mont Orford 76.01 360 P P 18 48 38.3 +1.1
SWSC Sam W. Stewart 76.06 323 P P 18 48 39.5 +1.9
baz=142
SUR Sutherland 76.06 119 P P 18 48 39.1 +0.9
BGNE Belgrade 76.11 340 P P 18 48 38.5 +0.7
BGNE Belgrade 76.11 340 P P 18 48 38.6 +0.8
baz=157
MVCO Mesa Verde 76.11 331 P P 18 48 39.5 +1.3
MVCO IAmb IAmb 18 48 41.3
comp=Z,72nm,1.1s
MVCO Mesa Verde 76.11 331 P P 18 48 39.8 +1.6
baz=148,SNR=26
L34A Svendsen Farm, 76.12 341 P P 18 48 37.9 +0.1
L34A IAmb IAmb 18 48 39.4
comp=Z,93nm,1.2s
MNTQ Montreal, Queb 76.21 359 P P 18 48 38.9 +0.7
MNTQ IAmb IAmb 18 48 40.7
comp=Z,120nm,1.5s
I42A Draeger Farm, 76.22 347 P P 18 48 38.6 +0.2
I42A IAmb IAmb 18 48 40.2
comp=Z,122nm,1.3s
Q24A Divide 76.28 334 P P 18 48 41.0 +1.8
baz=151,SNR=39
PDMCI Parker Dam,Lak 76.30 325 P P 18 48 40.5 +1.5
baz=144
BAR Barrett 76.30 322 P P 18 48 40.6 +1.5
MONP2 Monument Peak 76.34 323 P P 18 48 40.9 +1.4
baz=142
GLMI Grayling 76.42 351 P P 18 48 39.1 -0.3
GLMI IAmb IAmb 18 48 40.8
comp=Z,81nm,0.9s
GLMI IAMs_20 IAMs_20 19 19 40.7
comp=Z,3µm,18.0s
F63A Nahmakanta, Br 76.43 2 P P 18 48 41.0 +1.5
F63A IAmb IAmb 18 48 42.5
comp=Z,81nm,1.3s
BC3 Big Chuckawall 76.44 324 P P 18 48 41.7 +1.8
baz=143,SNR=14
I40A Norwalk 76.55 346 P P 18 48 39.6 -0.6
I40A IAmb IAmb 18 48 41.9
comp=Z,71nm,1.1s
H43A Windswept, Luc 76.57 348 P P 18 48 39.9 -0.4
H43A IAmb IAmb 18 48 42.1
comp=Z,126nm,1.3s
F62A Pittston Farm, 76.61 1 P P 18 48 41.8 +1.3
F62A IAmb IAmb 18 48 43.6
comp=Z,121nm,1.2s
F64A Sherman 76.62 2 P P 18 48 41.6 +1.1
F64A IAmb IAmb 18 48 43.5
comp=Z,89nm,1.2s
IRM Iron Mountain 76.68 324 P P 18 48 43.1 +1.9
baz=143,SNR=18
109C Camp Elliot, M 76.69 322 P P 18 48 43.2 +2.0
baz=141
G45A Suttons Bay 76.78 350 P P 18 48 41.1 -0.4
G45A IAmb IAmb 18 48 42.9
comp=Z,88nm,1.2s
LMN Caledonia Moun 76.81 5 P P 18 48 42.5 +0.9
LMN IAmb IAmb 18 48 44.1
comp=Z,119nm,1.1s
W13A Hualapai Mount 76.81 326 P P 18 48 43.6 +1.5
TPFO Pinon Flats 76.91 323 P P 18 48 44.4 +1.7
baz=142,SNR=8.5
OGNE Ogallala 76.92 337 P P 18 48 43.8 +1.3
OGNE IAmb IAmb 18 48 45.3
comp=Z,70nm,1.3s
OGNE Ogallala 76.92 337 P P 18 48 43.7 +1.3
baz=154,SNR=6.0
PFO Pinyon Flats O 76.92 323 P P 18 48 44.0 +1.3
comp=Z,12nm,1.0s,baz=129,slow=7.5,SNR=12
PFO Pinyon Flats O 76.92 323 P P 18 48 44.0 +1.3
PFO Pinyon Flats O 76.92 323 P P 18 48 43.8 +1.1
PFO Pinyon Flats O 76.92 323 P P 18 48 44.3 +1.6
baz=142,SNR=8.0
PV01 Paradox Valley 76.92 331 P P 18 48 44.5 +1.8
PV01 IAmb IAmb 18 48 46.1
comp=Z,68nm,1.4s
BELC Belle Mtn. Jos 76.99 324 P P 18 48 44.8 +1.7
baz=142,SNR=5.7
PV13 Radium Mtn., P 77.05 331 P P 18 48 45.0 +1.5
PV13 IAmb IAmb 18 48 46.5
comp=Z,54nm,1.1s
PV02 Paradox Valley 77.06 331 P P 18 48 45.0 +1.5
PV15 Paradox Valley 77.06 331 P P 18 48 45.2 +1.6
PV05 Paradox Valley 77.10 331 P P 18 48 45.0 +1.2
PV05 IAmb IAmb 18 48 46.6
comp=Z,60nm,1.1s
PV03 Paradox Valley 77.14 331 P P 18 48 44.5 +0.6
PV18 Skein Mesa, Pa 77.16 331 P P 18 48 45.0 +1.0
PV12 Saucer Basin, 77.18 331 P P 18 48 45.4 +1.2
ISCO Idaho Springs 77.18 334 P P 18 48 45.6 +1.3
ISCO pmax pmax
comp=Z,49nm,1.2s
ISCO Idaho Springs 77.18 334 P P 18 48 45.6 +1.3
ISCO Idaho Springs 77.18 334 P P 18 48 45.9 +1.6
baz=151,SNR=26
PV11 David Mesa, Pa 77.19 331 P P 18 48 45.1 +0.9
PV17 East Wray Mesa 77.21 331 P P 18 48 45.6 +1.2
PV07 Paradox Valley 77.22 331 P P 18 48 44.8 +0.4
PV16 Nyswonger Mesa 77.22 331 P P 18 48 45.5 +1.1
PV19 Morning Glory 77.25 331 P P 18 48 45.9 +1.4
PV20 West Nyswonger 77.27 331 P P 18 48 45.9 +1.3
I37A Lemond, Waseca 77.28 344 P P 18 48 45.0 +0.7
I37A IAmb IAmb 18 48 47.0
comp=Z,146nm,1.4s
PV04 Paradox Valley 77.28 331 P P 18 48 46.0 +1.3
MURC Murrieta 77.29 322 P P 18 48 47.0 +2.3
baz=141,SNR=5.2
PV14 Lion Creek, Pa 77.32 331 P P 18 48 46.3 +1.3
PV14 IAmb IAmb 18 48 47.8
comp=Z,51nm,1.1s
PV10 Paradox Valley 77.33 331 P P 18 48 46.1 +1.1
PV10 IAmb IAmb 18 48 47.4
comp=Z,50nm,1.0s
E62A Clayton Lake 77.34 2 P P 18 48 45.9 +1.3
E62A IAmb IAmb 18 48 47.5
comp=Z,132nm,1.2s
PV22 Blue Mesa, Par 77.36 331 P P 18 48 46.5 +1.4
PV23 Carpenter Ridg 77.38 331 P P 18 48 45.9 +0.5
K31A O'Neill 77.40 340 P P 18 48 46.4 +1.3
PQI Presque Isle 77.44 3 P P 18 48 45.7 +0.5
PQI IAmb IAmb 18 48 47.2
comp=Z,77nm,1.2s
PV21 Cone Mtn., Par 77.45 331 P P 18 48 47.1 +1.3
G40A Rib Lake 77.79 347 P P 18 48 47.3 +0.1
G40A IAmb IAmb 18 48 49.0
comp=Z,53nm,1.1s
HEC Hector,Ludlow 77.81 324 P P 18 48 50.0 +2.4
baz=142,SNR=9.3
D62A Allapoint, All 77.81 2 P P 18 48 48.2 +1.0
D62A IAmb IAmb 18 48 49.8
comp=Z,130nm,1.1s
ECSD EROS Data Cent 77.83 342 P P 18 48 47.6 +0.2
ECSD IAmb IAmb 18 48 49.4
comp=Z,100nm,1.1s
ECSD EROS Data Cent 77.83 342 P P 18 48 48.2 +0.8
baz=158,SNR=45
KNB Kanab 77.86 327 P P 18 48 49.8 +1.8
KNB pmax pmax
comp=Z,113nm,1.4s
KNB Kanab 77.86 327 P P 18 48 49.8 +1.8
KNB IAmb IAmb 18 48 51.6
comp=Z,113nm,1.4s
F42A Maple Grove Fa 77.88 348 P P 18 48 47.8 +0.1
F42A IAmb IAmb 18 48 49.5
comp=Z,47nm,0.9s
E46A Sault Ste Mari 77.89 351 P P 18 48 47.5 -0.1
PKCU Pink Cliffs 77.98 328 P P 18 48 49.8 +0.9
BFSC Mount Baldy Ra 78.03 323 P P 18 48 50.6 +1.7
baz=141
LCMT Little Creek M 78.05 327 P P 18 48 50.3 +1.3
TUQ Turquoise Moun 78.08 324 P P 18 48 50.8 +1.6
baz=142,SNR=14
BATG Bathurst New B 78.14 4 P P 18 48 50.0 +0.9
BATG IAmb IAmb 18 48 51.8
comp=Z,53nm,1.1s
RRX Edison Barstow 78.19 323 P P 18 48 51.4 +1.7
baz=142
LMQ La Malbaie 78.25 1 P P 18 48 50.6 +0.9
LMQ IAmb IAmb 18 48 52.0
comp=Z,108nm,1.2s
N23A Red Feather La 78.26 334 P P 18 48 51.7 +1.5
baz=151,SNR=20
E43A Lone Tree Farm 78.29 349 P P 18 48 50.3 +0.4
E43A IAmb IAmb 18 48 51.8
comp=Z,67nm,1.0s
SPMN Marine on St. 78.29 345 P P 18 48 49.4 -0.6
SPMN IAmb IAmb 18 48 51.2
comp=Z,67nm,1.2s
SPMN Marine on St. 78.29 345 P P 18 48 50.1 +0.2
baz=162
COWI Conover 78.39 348 P P 18 48 51.1 +0.7
COWI IAmb IAmb 18 48 52.4
comp=Z,62nm,1.2s
DECC Green Verdugo 78.40 322 P P 18 48 52.6 +1.8
baz=141
MTPU Mount Pierson 78.41 328 P P 18 48 52.3 +1.1
GSC Goldstone, Bar 78.42 324 P P 18 48 52.6 +1.6
GSC pmax pmax
comp=Z,23nm,1.2s
GSC Goldstone, Bar 78.42 324 P P 18 48 52.6 +1.6
GSC Goldstone, Bar 78.42 324 P P 18 48 52.9 +1.9
baz=142
PHWY Pilot Hill 78.43 335 P P 18 48 52.4 +1.2
SZCU Shurtz Canyon 78.46 328 P P 18 48 52.8 +1.5
O20A White River Ci 78.49 332 P P 18 48 53.1 +1.7
O20A IAmb IAmb 18 48 54.5
comp=Z,94nm,1.3s
O20A White River Ci 78.49 332 P P 18 48 52.9 +1.5
baz=149,SNR=23
CCUT Cedar City 78.55 327 P P 18 48 53.9 +2.0
CCUT IAmb IAmb 18 48 55.6
comp=Z,56nm,1.2s
SRU San Rafael Swe 78.57 330 P P 18 48 53.0 +1.1
SRU pmax pmax
comp=Z,46nm,1.1s
SRU San Rafael Swe 78.57 330 P P 18 48 53.0 +1.1
SHOC Shoshone, Teco 78.62 325 P P 18 48 53.6 +1.6
baz=142,SNR=6.4
Q16A Castle Valley 78.69 330 P P 18 48 54.0 +1.4
Q16A IAmb IAmb 18 48 55.7
comp=Z,68nm,1.2s
EDW2 Edwards Air Fo 78.70 323 P P 18 48 53.9 +1.3
baz=141,SNR=9.1
MSU Marysvale 78.80 329 P P 18 48 54.5 +1.3
MSU Marysvale 78.80 329 P P 18 48 54.5 +1.3
MVU Marysvale 78.80 329 P P 18 48 55.0 +1.8
OSI Osito Audit: C 78.88 322 P P 18 48 54.8 +1.2
OSI IAmb IAmb 18 48 56.7
comp=Z,66nm,1.4s
OSI Osito Audit: C 78.88 322 P P 18 48 55.3 +1.8
baz=140
P17A Butcher Ranch, 78.97 330 P P 18 48 55.1 +1.0
P17A IAmb IAmb 18 48 56.8
comp=Z,73nm,1.2s
QSM Queen of Sheba 78.97 324 P P 18 48 55.2 +1.3
TCRU Three Creeks R 79.00 329 P P 18 48 56.0 +1.7
LRMC Laurel Mtn Rad 79.01 323 P P 18 48 56.1 +1.8
baz=141,SNR=15
TMUT Trail Mountain 79.02 330 P P 18 48 55.5 +1.0
GWY Greenwater Val 79.05 324 P P 18 48 55.9 +1.4
F36A Milaca 79.06 345 P P 18 48 54.0 -0.1
F36A IAmb IAmb 18 48 55.5
comp=Z,53nm,1.0s
SUSD Miller 79.13 341 P P 18 48 54.7 +0.1
SUSD IAmb IAmb 18 49 09.1
comp=Z,50nm,0.6s
SUSD Miller 79.13 341 P P 18 48 55.2 +0.6
baz=157
D41A Chassel 79.22 348 P P 18 48 55.5 +0.6
KOWA Kowa 79.22 66 P P 18 48 55.5 -0.2
KOWA IAmb IAmb 18 48 57.3
comp=Z,144nm,1.3s
PRN Pahroc Range 79.22 326 P P 18 48 57.3 +1.9
PRN IAmb IAmb 18 48 59.1
comp=Z,66nm,1.2s
SBC Santa Barbara 79.27 321 P P 18 48 57.3 +1.7
baz=140
ARVC Arvin 79.33 322 P P 18 48 57.8 +2.0
baz=140
E38A The Farm, Brul 79.34 346 P P 18 48 55.7 0.0
MPMC Manual Prospec 79.36 324 P P 18 48 57.6 +1.3
baz=141,SNR=9.8
FURC Furnace Creek, 79.36 324 P P 18 48 57.9 +1.9
baz=142,SNR=13
RDMU Red Mountain 79.40 332 P P 18 48 57.3 +0.9
RDMU IAmb IAmb 18 48 59.0
comp=Z,58nm,1.0s
RWWY Rawlins 79.42 334 P P 18 48 57.8 +1.2
RWWY IAmb IAmb 18 48 59.4
comp=Z,81nm,1.1s
TPNV Topopah Spring 79.44 325 P P 18 48 58.4 +1.7
TPNV pmax pmax
comp=Z,49nm,1.3s
TPNV Topopah Spring 79.44 325 P P 18 48 58.4 +1.7
TPNV Topopah Spring 79.44 325 P P 18 48 58.9 +2.2
baz=142,SNR=25
ISA Isabella, Lake 79.56 323 P P 18 48 59.0 +1.8
ISA pmax pmax
comp=Z,50nm,1.3s
ISA Isabella, Lake 79.56 323 P P 18 48 59.0 +1.8
ISA Isabella, Lake 79.56 323 P P 18 48 59.1 +1.8
baz=141,SNR=18
PSUT Pine Spring 79.57 328 P P 18 48 58.9 +1.5
PKM Mcpherson Peak 79.67 322 P P 18 48 59.9 +1.9
baz=140,SNR=11
F33A 5 Mile Ranch, 79.70 343 P P 18 48 57.1 -0.5
MPU Maple Canyon 79.80 330 P P 18 48 59.6 +1.0
TSUM Tsumeb 79.81 106 P P 18 48 59.1 -0.1
TSUM IAmb IAmb 18 49 01.0
comp=Z,81nm,1.1s
NLU North Lily Min 79.94 330 P P 18 49 00.8 +1.4
CWC Cottonwood Cre 79.95 324 P P 18 49 01.3 +1.8
baz=141
K22A Casper 80.00 335 P P 18 49 00.8 +1.2
K22A IAmb IAmb 18 49 02.5
comp=Z,124nm,1.4s
K22A Casper 80.00 335 P P 18 49 00.7 +1.2
baz=150,SNR=20
VES Vestal, Richgr 80.01 323 P P 18 49 01.3 +1.8
baz=140,SNR=5.7
GRAC Grapevine Rang 80.03 324 P P 18 49 01.8 +2.1
baz=142,SNR=16
SMMC Simmler 80.09 322 P P 18 49 02.3 +2.2
baz=140,SNR=5.5
SPR3 Spring Creek 3 80.17 328 P P 18 49 01.7 +1.0
SPR3 IAmb IAmb 18 49 03.6
comp=Z,77nm,1.4s
JLU Jordanelle 80.21 330 P P 18 49 02.1 +1.2
R11A Troy Canyon, C 80.23 326 P P 18 49 02.5 +1.6
R11A Troy Canyon, C 80.23 326 P P 18 49 02.7 +1.8
baz=143,SNR=52
LCH Last Change Ra 80.35 324 P P 18 49 02.7 +1.2
RSSD Black Hills 80.42 337 P P 18 49 02.5 +0.7
RSSD pmax pmax
comp=Z,39nm,1.2s
RSSD Black Hills 80.42 337 P P 18 49 02.5 +0.7
RSSD Black Hills 80.42 337 P P 18 49 02.8 +0.9
baz=152
DUG Dugway, Tooele 80.46 329 P P 18 49 03.2 +1.1
DUG pmax pmax
comp=Z,71nm,1.4s
DUG Dugway, Tooele 80.46 329 P P 18 49 03.2 +1.1
DUG IAmb IAmb 18 49 05.1
comp=Z,71nm,1.4s
DUG Dugway, Tooele 80.46 329 P P 18 49 03.4 +1.3
baz=145,SNR=26
TIN Tinemaha, Big 80.51 324 P P 18 49 04.3 +2.0
baz=141,SNR=5.6
PAGB Antelope Grade 80.54 322 P P 18 49 04.0 +1.6
EYMN Ely 80.61 347 P P 18 49 02.4 -0.1
EYMN IAmb IAmb 18 49 04.0
comp=Z,80nm,1.1s
EYMN Ely 80.61 347 P P 18 49 03.0 +0.5
baz=163,SNR=14
TCUT Toone Canyon 80.62 331 P P 18 49 04.0 +1.0
TPH Tonopah 80.80 325 P P 18 49 05.4 +1.4
TPH pmax pmax
comp=Z,362nm,1.5s
TPH Tonopah 80.80 325 P P 18 49 05.4 +1.4
HWUT Hardware Ranch 81.09 331 P P 18 49 05.8 +0.4
D32A Dogwood Acres, 81.09 343 P P 18 49 05.1 0.0
D32A IAmb IAmb 18 49 07.0
comp=Z,141nm,1.2s
BGU Big Grassy Mou 81.15 330 P P 18 49 06.0 +0.2
SPUT South Promonto 81.22 330 P P 18 49 06.9 +0.8
SPUT IAmb IAmb 18 49 08.6

comp=Z,70nm,1.3s
BOSA Boshof 81.24 118 P **P** **18 49 06.6 -0.2**
comp=Z,50nm,1.0s,baz=246,slow=5.2,SNR=41
BOSA LR LR 19 22 16.9
comp=Z,2µm,19.1s,baz=358,slow=34
BOSA Boshof 81.24 118 P **P** **18 49 06.5 -0.2**
BOSA IAmb IAmb 18 49 07.8
comp=Z,60nm,1.0s
BW06 Boulder Array 81.25 333 P **P** **18 49 06.8 +0.5**
BW06 Boulder Array 81.25 333 P **P** **18 49 07.0 +0.6**
baz=148,SNR=15
PD31 Pinedale Array 81.25 333 P **P** **18 49 06.8 +0.5**
PDAR Pinedale Array 81.25 333 P **P** **18 49 06.8 +0.5**
comp=Z,8.5nm,1.1s,baz=141,slow=5.0,SNR=36
PDAR PKKPbc **PKKPbc** **19 07 41.9 -1.6**
comp=Z,1.0nm,0.9s,baz=323,slow=0.7,SNR=5.7
PDAR Pinedale Array 81.25 333 P **P** **18 49 06.3 -0.1**
MLAC Mammoth, Mammo 81.26 324 P **P** **18 49 08.3 +1.8**
baz=141
MDPB Devils Postpil 81.38 324 P **P** **18 49 08.0 +0.7**
B35A Bob, Littlefor 81.47 345 P **P** **18 49 07.0 -0.1**
B35A IAmb IAmb 18 49 08.6
comp=Z,90nm,1.1s
NV11 Mina Array Sit 81.54 325 P **P** **18 49 09.1 +1.2**
LHV Little Huntoon 81.57 325 P **P** **18 49 09.7 +1.8**
LHV IAmb IAmb 18 49 11.4
comp=Z,65nm,1.4s
E28A Huff 81.57 340 P **P** **18 49 08.5 +0.8**
E28A IAmb IAmb 18 49 10.0
comp=Z,152nm,1.4s
NVAR Mina Array Bea 81.61 325 P **P** **18 49 10.0 +1.6**
comp=Z,6.3nm,0.9s,baz=148,slow=6.0,SNR=51
NVAR PKKPbc **PKKPbc** **19 07 41.5 -0.9**
comp=Z,1.1nm,0.9s,baz=319,slow=0.7,SNR=5.9
NVAR Mina Array Bea 81.61 325 P **P** **18 49 09.6 +1.2**
HVU Hansel Valley 81.74 330 P **P** **18 49 09.7 +0.8**
HVU pmax pmax
comp=Z,28nm,1.1s
HVU Hansel Valley 81.74 330 P **P** **18 49 09.7 +0.8**
AHID Auburn Hatcher 81.86 332 P **P** **18 49 09.8 +0.2**
RYN Ryan 81.87 325 P **P** **18 49 11.0 +1.3**
AGMN Agassiz Nation 81.89 344 P **P** **18 49 09.5 +0.2**
AGMN IAmb IAmb 18 49 11.0
comp=Z,43nm,0.9s
AGMN Agassiz Nation 81.89 344 P **P** **18 49 09.5 +0.2**
baz=159,SNR=12
ELK Elko 81.98 328 P **P** **18 49 11.5 +1.2**
comp=Z,14nm,0.9s,baz=147,slow=2.8,SNR=42
ELK Elko 81.98 328 P **P** **18 49 10.8 +0.6**
KVN Kaiserville 81.99 325 P **P** **18 49 11.2 +0.9**
KVN pmax pmax
comp=Z,40nm,1.3s
KVN Kaiserville 81.99 325 P **P** **18 49 11.2 +0.9**
REDW Red Top Meadow 82.26 332 P **P** **18 49 11.8 +0.1**
CMB Columbia Colle 82.36 323 P **P** **18 49 12.8 +0.7**
CMB pmax pmax
comp=Z,21nm,1.4s
CMB Columbia Colle 82.36 323 P **P** **18 49 12.8 +0.7**
LOHW Long Hollow 82.37 333 P **P** **18 49 12.6 +0.4**
TPAW Teton Pass 82.41 332 P **P** **18 49 12.4 -0.1**
MDND Maddock 82.43 342 P **P** **18 49 12.7 +0.6**
MDND Maddock 82.43 342 P **P** **18 49 13.2 +1.0**
baz=156,SNR=6.5
YERR Yerington 82.50 325 P **P** **18 49 14.1 +1.1**
YERR IAmb IAmb 18 49 16.3
comp=Z,76nm,1.4s
MOOW Moose Ponds 82.54 333 P **P** **18 49 13.1 -0.1**
FXWY Fox Creek 82.56 332 P **P** **18 49 14.0 +0.7**
IMW Indian Meadow 82.74 333 P **P** **18 49 14.8 +0.6**
PNTR Pine Nut 82.76 324 P **P** **18 49 15.8 +1.4**
PNTR IAmb IAmb 18 49 17.6
comp=Z,54nm,1.2s
FLWY Flagg Ranch 82.81 333 P **P** **18 49 15.7 +1.2**
EMB Emerald Bay 82.93 324 P **P** **18 49 16.7 +1.5**
VCNR Virginia City 82.94 325 P **P** **18 49 16.7 +1.4**
CASY Casey 82.96 181 P **P** **18 49 15.5 +0.6**
CASY IAmb IAmb 18 49 25.3
comp=Z,91nm,1.2s
TORD Torodi Ar. Bea 83.00 70 P **P** **18 49 15.7 -0.2**
comp=Z,70nm,0.9s,baz=254,slow=4.8,SNR=214
TORD Torodi Ar. Bea 83.00 70 P **P** **18 49 15.4 -0.4**
PAHR Pah Rah Range 83.13 325 P **P** **18 49 17.5 +1.4**
RLMT Red Lodge 83.14 334 P **P** **18 49 16.7 +0.5**
RLMT Red Lodge 83.14 334 P **P** **18 49 17.4 +1.2**
baz=148
YNE Yellowstone No 83.32 334 P **P** **18 49 17.6 +0.5**
LBTB Lobatse 83.34 115 P **P** **18 49 17.3 -0.4**
LBTB pmax pmax
comp=Z,82nm,1.0s
LBTB Lobatse 83.34 115 P **P** **18 49 17.3 -0.4**
LBTB IAmb IAmb 18 49 18.7
comp=Z,82nm,1.0s
YMR Madison River 83.40 333 P **P** **18 49 18.6 +1.1**
YMR IAmb IAmb 18 49 20.5
comp=Z,81nm,1.5s
LAO LASA Array 83.41 337 P **P** **18 49 17.8 +0.5**
LAO IAmb IAmb 18 49 19.4
comp=Z,52nm,1.4s
LAO LASA Array 83.41 337 P **P** **18 49 18.2 +0.8**
baz=151
YHH Holmes Hill 83.46 333 P **P** **18 49 18.9 +1.0**
YHH IAmb IAmb 18 49 20.7
comp=Z,46nm,1.4s
YHB Horse Butte 83.56 333 P **P** **18 49 19.3 +0.9**
YHL Hebgen Lake 83.64 333 P **P** **18 49 20.2 +1.4**
ULM Lac du Bonnet 83.72 345 P **P** **18 49 18.8 +0.1**
comp=Z,44nm,1.0s,baz=160,slow=3.2,SNR=23
ULM Lac du Bonnet 83.72 345 P **P** **18 49 18.5 -0.3**
ULM IAmb IAmb 18 49 20.1
comp=Z,73nm,1.1s
BEKR Beckworth 83.73 324 P **P** **18 49 20.5 +1.2**
GCMT Greycliff 83.85 334 P **P** **18 49 20.2 +0.5**
HLID Hailey 83.89 330 P **P** **18 49 20.7 +0.7**
HLID Hailey 83.89 330 P **P** **18 49 21.7 +1.6**
baz=144,SNR=20
ORV Oroville 84.07 324 P **P** **18 49 22.2 +1.4**
ORV pmax pmax
comp=Z,93nm,1.5s
ORV Oroville 84.07 324 P **P** **18 49 22.2 +1.4**
ORV IAmb IAmb 18 49 24.0
comp=Z,93nm,1.5s
MCMT McKenzie Canyo 84.28 332 P **P** **18 49 23.2 +1.2**
DGMT Dagmar 84.32 339 P **P** **18 49 22.6 +0.7**
DGMT Dagmar 84.32 339 P **P** **18 49 23.2 +1.3**
baz=153
MFID Camas Ranch 84.38 329 P **P** **18 49 23.1 +0.6**
BOZ Bozeman (W) 84.44 333 P **P** **18 49 23.2 +0.5**
BOZ pmax pmax
comp=Z,17nm,1.4s
BOZ Bozeman (W) 84.44 333 P **P** **18 49 23.2 +0.5**
BOZ Bozeman (W) 84.44 333 P **P** **18 49 23.1 +0.4**
baz=147,SNR=8.9
DLMT Dillon 84.62 332 P **P** **18 49 24.4 +0.7**
DLMT IAmb IAmb 18 49 26.4
comp=Z,42nm,1.4s
O03E Paynes Creek 84.78 324 P **P** **18 49 24.8 +0.2**
baz=139,SNR=6.0
WVOR Wild Horse Val 84.88 327 P **P** **18 49 25.5 +0.5**
WVOR pmax pmax
comp=Z,41nm,1.5s
WVOR Wild Horse Val 84.88 327 P **P** **18 49 25.5 +0.5**
LRM Limekiln Ridge 84.94 333 P **P** **18 49 26.2 +0.8**
O02D Mt. Diablo Mer 85.19 323 P **P** **18 49 27.8 +1.2**
baz=138
WDC Whiskeytown Da 85.37 324 P **P** **18 49 26.7 -0.6**
WDC pmax pmax
comp=Z,30nm,1.5s
WDC Whiskeytown Da 85.37 324 P **P** **18 49 26.7 -0.6**
HRY Holter Researc 85.44 334 P **P** **18 49 29.1 +1.4**
J08A Circle Bar Ran 85.52 328 P **P** **18 49 29.2 +1.0**
J08A IAmb IAmb 18 49 31.1
comp=Z,79nm,1.2s
SCHQ Schefferville 85.64 3 P **P** **18 49 28.9 +0.5**
comp=Z,45nm,1.1s,baz=166,slow=4.1,SNR=9.6
SCHQ LR LR 19 30 02.3
comp=Z,2µm,18.9s,baz=352,slow=37
SCHQ Schefferville 85.64 3 P **P** **18 49 28.8 +0.4**
SCHQ IAmb IAmb 18 49 29.9
comp=Z,102nm,1.3s
N02D Trinity Center 85.75 324 P **P** **18 49 29.9 +0.6**
baz=138
EGMT Eagleton 85.78 336 P **P** **18 49 29.0 -0.3**
EGMT Eagleton 85.78 336 P **P** **18 49 29.7 +0.4**
baz=148
PLID Pearl Lake 85.80 330 P **P** **18 49 30.3 +0.6**
PLID IAMs_20 IAMs_20 19 22 04.7
comp=Z,3µm,20.0s
M04C Macdoel 85.92 325 P **P** **18 49 31.1 +0.9**
baz=139,SNR=6.6
M02C Callahan 86.13 324 P **P** **18 49 32.4 +1.1**
baz=138,SNR=6.3
K05A Summer Lake 86.17 326 P **P** **18 49 33.0 +1.5**
K05A IAmb IAmb 18 49 33.9
comp=Z,57nm,1.3s
BMO Blue Mountains 86.17 329 P **P** **18 49 31.1 -0.3**
BMO pmax pmax
comp=Z,32nm,1.5s
BMO Blue Mountains 86.17 329 P **P** **18 49 31.1 -0.3**
YBH Yreka Blue Hor 86.31 324 P **P** **18 49 32.4 +0.3**
comp=Z,5.0nm,0.8s,baz=108,slow=3.1,SNR=9.2
YBH Yreka Blue Hor 86.31 324 P **P** **18 49 32.0 -0.1**
MSO Missoula 86.36 332 P **P** **18 49 32.8 +0.6**
MSO Missoula 86.36 332 P **P** **18 49 33.1 +0.8**
baz=145
L04D Klamath Falls 86.47 325 P **P** **18 49 33.4 +0.4**
baz=138
K04D Chiloquin, OR 86.51 326 P **P** **18 49 34.1 +1.0**
baz=139
I07A Izee 86.56 328 P **P** **18 49 34.2 +0.9**
J05D Fort Rock, OR 86.76 326 P **P** **18 49 35.6 +1.2**
baz=139,SNR=12
PINE Pine Mountain 87.00 327 P **P** **18 49 36.6 +1.1**
PINE IAmb IAmb 18 49 38.6
comp=Z,69nm,1.4s
F10A Beach Ranch, E 87.02 330 P **P** **18 49 36.3 +0.8**
L02E Cave Junction 87.07 324 P **P** **18 49 37.4 +1.7**
baz=138
J04D Umpqua Nationa 87.14 326 P **P** **18 49 37.0 +0.7**
baz=139,SNR=5.5
G08A Pilot Rock 87.24 329 P **P** **18 49 37.3 +0.7**
K02D Willamette Mer 87.50 325 P **P** **18 49 39.0 +1.1**
baz=138,SNR=6.0
I05D Terrebonne, OR 87.60 327 P **P** **18 49 39.9 +1.6**
baz=139,SNR=6.4
DBO Dodson Butte 87.61 325 P **P** **18 49 39.9 +1.5**
DBO IAmb IAmb 18 49 49.5
comp=Z,53nm,1.5s
I04A Tendick Farm, 87.70 326 P **P** **18 49 39.6 +0.9**
baz=138
I03D Drain, OR 88.08 325 P **P** **18 49 41.7 +1.2**
baz=138
WALA Waterton Lakes 88.17 334 P **P** **18 49 41.3 +0.3**
WALA IAmb IAmb 18 49 43.0
comp=Z,54nm,1.3s
G05D Wamic, OR 88.28 327 P **P** **18 49 42.5 +1.0**
baz=139
BUCK Buck Mountain 88.28 326 P **P** **18 49 41.1 -0.4**
BUCK IAmb IAmb 18 49 44.0
comp=Z,82nm,1.4s
HAWA Hanford 88.35 329 P **P** **18 49 42.3 +0.6**
HAWA IAmb IAmb 18 49 44.4
comp=Z,65nm,1.4s
D08A Wollman Farm, 88.60 330 P **P** **18 49 43.0 +0.2**
NEW Newport 88.79 332 P **P** **18 49 43.1 -0.7**
comp=Z,6.5nm,1.1s,baz=140,slow=7.3,SNR=8.1
NEW Newport 88.79 332 P **P** **18 49 43.8 0.0**
NEW pmax pmax
comp=Z,22nm,1.4s
NEW Newport 88.79 332 P **P** **18 49 43.8 0.0**
NEW Newport 88.79 332 P **P** **18 49 43.2 -0.7**
baz=142
F05D White Salmon 88.83 328 P **P** **18 49 45.1 +1.1**
baz=139
C09A Chrisman Ranch 88.91 331 P **P** **18 49 44.1 -0.2**
C09A IAmb IAmb 18 49 46.3
comp=Z,34nm,1.3s
FFC Flin Flon 89.31 343 P **P** **18 49 45.8 -0.2**
FFC pmax pmax
comp=Z,47nm,1.3s
FFC Flin Flon 89.31 343 P **P** **18 49 45.8 -0.2**
FFC IAmb IAmb 18 49 47.3
comp=Z,47nm,1.3s
LTY Liberty 89.52 329 P **P** **18 49 47.3 0.0**
LTY IAmb IAmb 18 49 49.3
comp=Z,39nm,1.5s
LON Longmire 89.64 328 P **P** **18 49 47.5 -0.3**
LON pmax pmax
comp=Z,12nm,1.1s
LON Longmire 89.64 328 P **P** **18 49 47.5 -0.3**
B08A Colville Reser 89.78 331 P **P** **18 49 48.3 -0.1**
D05A Enumclaw 90.05 328 P **P** **18 49 49.9 +0.2**
D05A IAmb IAmb 18 49 52.2
comp=Z,40nm,1.2s
LSZ Lusaka 90.50 108 P **P** **18 49 53.6 +0.8**
LSZ pmax pmax
comp=Z,98nm,1.1s
LSZ Lusaka 90.50 108 P **P** **18 49 53.6 +0.8**
EDM Edmonton 91.38 336 P **P** **18 49 54.5 -1.3**
EDM pmax pmax
comp=Z,27nm,1.1s
EDM Edmonton 91.38 336 P **P** **18 49 54.5 -1.3**
EDM IAmb IAmb 18 49 56.1
comp=Z,27nm,1.1s
PAB San Pablo 94.06 46 P **P** **18 50 08.7 +0.2**
PAB pmax pmax
comp=Z,12nm,1.4s
PAB San Pablo 94.06 46 P **P** **18 50 08.7 +0.2**
ESDC Sonseca Array 94.37 46 P **P** **18 50 09.2 -0.8**
comp=Z,2.6nm,1.1s,baz=231,slow=4.8,SNR=9.7
ESDC Sonseca Array 94.37 46 IAmb IAmb 18 50 10.5
comp=Z,8.8nm,1.4s
GLI Glacier Island 109.96 330 IAMs_20 IAMs_20 19 31 09.8
comp=Z,3µm,19.0s
CLL Collm 110.52 42 *e*PP **PP** **18 55 55.0 -3.6**
CLL *i* pPP 18 56 06.7
CLL Lm MLR 19 54 00.0
comp=Z,2µm,20.2s
GHO Glory Hole Cre 111.16 330 IAMs_20 IAMs_20 19 31 53.3
comp=Z,3µm,19.0s
KRUC Moravsky 111.63 45 *e*PKIKP **PKiKP** **18 55 23.6 -0.8**
KRUC *e*PP **PP** **18 56 01.7 -5.0**
CHIR Chirikof Islan 111.83 323 IAMs_20 IAMs_20 19 38 54.5
comp=Z,3µm,20.0s
VRAC Vranov 111.84 45 *e*PKIKP **PKiKP** **18 55 25.2 +0.4**
VRAC *e*PP **PP** **18 56 03.6 -4.7**
VRAC *e* 18 56 15.3
JAVC Velka Javorina 112.33 46 *e*PKIKP **PKiKP** **18 55 25.5 -0.3**
MORC Moravsky Berou 112.59 45 *e*PKIKP **PKiKP** **18 55 25.9 -0.4**
CHNA Chernabura Isl 113.57 321 PKiKP **PKiKP** **18 55 29.5 +1.6**
baz=111
L20K Farewell, AK 113.57 330 PKiKP **PKiKP** **18 55 29.7 +2.0**
baz=112
TOLK Toolik Lake Re 114.28 337 PKiKP **PKiKP** **18 55 29.8 +0.9**
baz=113
H21K Melozitna Rive 114.31 333 PKiKP **PKiKP** **18 55 30.7 +1.6**
baz=112
TTA Tatalina 114.65 330 PKiKP **PKiKP** **18 55 31.3 +1.5**
baz=110
UZH Uzhgorod 115.11 47 *e*PKIKP **PKiKP** **18 55 31.8 +0.7**
UZH *e* 18 55 41.8
UZH *e* 18 55 47.4
KWP Kalwaria Pacla 115.69 46 PKIKP **PKPdf** **18 55 31.7 -0.5**
KWP Kalwaria Pacla 115.69 46 **PKPdf** **18 55 31.6 -0.5**
MLR Muntele Rosu 116.48 51 PKIKP **PKPdf** **18 55 32.8 -1.2**
MLR Muntele Rosu 116.48 51 PKPdf **PKPdf** **18 55 32.8 -1.2**
BUR08 Bucovina Ar. S 116.65 49 **PKPdf** **18 55 33.0 -1.3**
BURAR Bucovina Array 116.65 49 PKPdf **PKPdf** **18 55 33.2 -1.0**
SUW Suwalki 117.26 41 PKIKP **PKPdf** **18 55 34.1 -0.9**
SUW Suwalki 117.26 41 **PKPdf** **18 55 34.1 -0.9**
ANM Nome 119.10 330 PKiKP **PKiKP** **18 55 39.8 +1.5**
baz=102
AKASG Malin Array Be 120.02 46 PKP **PKPdf** **18 55 39.0 -1.4**
comp=Z,6.1nm,0.9s,baz=278,slow=2.4,SNR=21
AKASG PP **PP** **18 57 01.9 -3.6**
comp=Z,0.1nm,0.2s,baz=261,slow=6.3,SNR=4.9
MNK Minsk 120.06 42 *i* PKIKP **PKPdf** **18 55 39.9 -0.5**
MNK *i* 18 57 06.0
MNK *i* PPP PPP 18 59 38.1
MNK *i* PS **PS** **19 06 55.7 +0.3**
MNK *i* SS SS 19 13 34.4 +2.7
MNK *i* SSS SSS 19 18 00.8
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=Z,23nm,1.0s
MNK pmax pmax
comp=N,10.0nm,0.9s
MNK MLR MLR
comp=Z,3µm,21.0s
MNK MLR MLR
comp=N,2µm,20.0s
MNK MLR MLR
comp=E,353nm,20.0s
MNK Minsk 120.06 42 *i* PKP **PKPdf** **18 55 40.0 -0.4**
comp=E,1.0nm,0.8s
MNK *i* PKP **PKPdf** **18 55 40.0 -0.4**
comp=N,10.0nm,0.9s
MNK *i* PKP **PKPdf** **18 55 40.0 -0.4**
comp=Z,23nm,1.1s,baz=258
MNK *i* PP **PP** **18 57 06.1 +0.4**
MNK *i* PPP PPP 18 59 38.1
MNK *i* PS **PS** **19 06 55.7 +0.3**
MNK *i* SS SS 19 13 34.4 +2.7
MNK *i* SSS SSS 19 18 00.8
MNK *i* LR LR 19 43 48.0
MNK *i* LRM MLR 19 46 56.2
comp=N,2µm,20.4s
MNK *i* LRM MLR 19 46 56.2
comp=Z,3µm,21.1s
MNK *i* LRM MLR 19 47 00.1
comp=E,353nm,19.7s
BRTR Keskin Array B 120.17 59 PKP **PKPdf** **18 55 40.2 -1.1**
comp=E,4.3nm,0.9s,baz=192,slow=3.5,SNR=24
BRTR PP **PP** **18 57 06.5 -0.6**
comp=E,2.6nm,0.9s,baz=241,slow=5.1,SNR=6.5
VSU Vasula 120.22 37 *i* PKIKP **PKiKP** **18 55 41.1 +0.4**
VSU pmax pmax
comp=Z,28nm,1.1s
VSU MLR MLR
comp=Z,3µm,20.0s
TNA Tin City 120.34 331 PKiKP **PKiKP** **18 55 41.1 +0.4**
baz=99
FINES FINESS Array B 120.43 34 PKP **PKPdf** **18 55 40.6 -0.2**
comp=Z,5.8nm,1.1s,baz=184,slow=5.7,SNR=4.8
BNN Bunyan 121.56 61 PKPdf **PKPdf** **18 55 42.8 -1.2**
GAMB Gambell 121.71 329 PKiKP **PKiKP** **18 55 44.6 +1.2**
baz=96
PUL Pulkovo 122.26 36 *i* PKIKP **PKiKP** **18 55 44.7 +0.1**
PUL pmax pmax
comp=Z,39nm,0.8s
PUL MLR MLR
comp=Z,2µm,18.0s
APA Apatity 124.07 27 ⇓ *i* PKIKP **PKPdf** **18 55 45.1 -2.6**
APA pmax pmax
comp=Z,4.0nm,0.9s
APA MLR MLR
comp=Z,4µm,19.0s
ANN Anapa 124.15 54 *i* PKIKP **PKPdf** **18 55 48.5 -0.1**
ANN *e* 19 02 49.0
ANN pmax pmax
comp=Z,29nm,1.2s
ANN MLR MLR
comp=N,2µm,21.0s
ANN MLR MLR
comp=Z,2µm,19.0s
LVZ Lovozero 124.54 26 *i* PKIKP **PKiKP** **18 55 48.9 -0.1**
LVZ pmax pmax
comp=Z,14nm,1.2s
LVZ MLR MLR
comp=Z,2µm,18.0s
OBN Obninsk 125.12 42 *i* PKIKP **PKPdf** **18 55 49.3 -0.8**
OBN pmax pmax
comp=Z,36nm,1.4s
SOC Sochi 125.52 56 *e*PKIKP **PKPdf** **18 55 50.6 -0.7**
SOC *e* 18 57 41.6
SOC *e*PPP PPP 19 00 20.4
SOC *e*SS SS 19 14 42.0 +0.2
SOC *e*SSS SSS 19 19 15.1
MOS Moscow 125.77 41 *i* PKIKP **PKPdf** **18 55 48.1 -3.2**
MOS pmax pmax
comp=Z,30nm,0.9s
H11S2 WAKE ISLAND Hyl 125.99 271 T T 21 14 40.6
baz=116,slow=75,SNR=270
H11S1 WAKE ISLAND Hyl 126.00 271 T T 21 14 37.8
baz=116,slow=75,SNR=370
H11S3 WAKE ISLAND Hyl 126.01 271 T T 21 14 38.5
baz=116,slow=75,SNR=289
GURO Guroymak-BITLI 126.17 63 **PKPdf** **18 55 53.0 +0.1**
H11N3 WAKE ISLAND Hyl 126.33 273 T T 21 14 52.6
baz=116,slow=75,SNR=158
H11N1 WAKE ISLAND Hyl 126.35 273 T T 21 15 05.7
baz=116,slow=75,SNR=44
H11N2 WAKE ISLAND Hyl 126.35 273 T T 21 15 07.3
baz=116,slow=75,SNR=273
PSA00 Pilbara Seismi 126.50 193 **PKPdf** **18 55 52.9 -1.0**
KLMR Klimovskoe 126.88 35 *e*PKIKP **PKPdf** **18 55 51.3 -2.0**
KLMR pmax pmax
comp=Z,40nm,1.2s
KLMR Klimovskoe 126.88 35 *e*PKPdf **PKPdf** **18 55 51.3 -2.0**
KLMR AMP 18 55 54.5
comp=Z,40nm,1.2s
KARS Kars 127.40 60 PKIKP **PKiKP** **18 55 55.6 -0.1**
KARS Kars 127.40 60 PKPdf **PKiKP** **18 55 55.6 -0.1**
NEY Neytrino 127.62 57 *i* PKIKP **PKiKP** **18 55 56.3 +0.2**
NEY MLR MLR
comp=Z,575nm,17.0s
KIV Kislovodsk 127.71 56 *e*PKIKP **PKiKP** **18 55 55.9 -0.2**
KIV pmax pmax
comp=Z,13nm,1.0s
KBZ Khabaz 127.82 57 PKP **PKPdf** **18 55 55.9 +0.3**
comp=Z,5.8nm,0.9s,baz=328,slow=6.5,SNR=8.6
KBZ Khabaz 127.82 57 *c* *i* PKIKP **PKiKP** **18 55 56.8 +0.6**
KBZ MLR MLR
comp=Z,2µm,18.0s
ONI Oni 128.04 58 PKIKP **PKPdf** **18 55 55.9 -0.3**
ONI Oni 128.04 58 **PKPdf** **18 55 55.9 -0.3**
NCK Nalchik 128.29 57 *i* PKIKP **PKPdf** **18 55 56.9 +0.3**
NCK pmax pmax
comp=Z,14nm,1.1s
NCK MLR MLR
comp=Z,2µm,19.0s
ZEI Tsey 128.40 58 *i* PKIKP **PKPdf** **18 55 57.1 0.0**
ZEI pmax pmax
comp=Z,2.0nm,1.0s
GNI Garni 128.56 61 *c* *i* PKIKP **PKiKP** **18 55 58.8 +0.7**
GNI pmax pmax
comp=Z,21nm,1.7s
GNI MLR MLR
comp=Z,1µm,17.0s
PRGR Permogore 129.76 33 *e*PKIKP **PKPdf** **18 55 58.4 -0.3**
PRGR pmax pmax
comp=Z,47nm,1.1s
GROC Groznyy 129.83 58 *i* PKIKP **PKPdf** **18 55 59.2 -0.3**
GROC *e* 18 58 11.0
GROC pmax pmax
comp=Z,30nm,1.1s
BILL Bilibino 130.28 335 *i* PKIKP **PKiKP** **18 56 00.6 +0.2**
BILL *i* 18 58 12.3
BILL pmax pmax
comp=Z,18nm,1.4s
AKT Akhty 131.01 60 *e*PKIKP **PKiKP** **18 56 02.9 0.0**
AKT *e* 18 58 18.6
AKT pmax pmax
comp=Z,29nm,1.2s
MAK Makhachkala 131.04 58 *i* PKIKP **PKPdf** **18 55 57.7 -4.1**
MAK pmax pmax
comp=Z,217nm,0.9s
KIRV Kirov 132.07 37 *c* *i* PKIKP **PKiKP** **18 56 04.2 0.0**
JAY Jayapura 134.50 229 PKP **PKiKP** **18 56 10.4 -0.3**
comp=Z,16nm,0.9s,baz=207,slow=2.3,SNR=3.9
ARU Arti 137.34 39 *i* PKIKP **PKPdf** **18 56 13.9 +0.7**
ARU 18 58 57.5
PET Petropavlovsk 137.68 316 *c* *i* PKIKP **PKiKP** **18 56 17.0 +1.2**
PET pmax pmax
comp=Z,31nm,1.3s
SVE Sverdlovsk 138.33 38 *e*PKIKP **PKPdf** **18 56 14.4 -0.6**
GEYT Alibeck 138.54 66 PKP **PKPdf** **18 56 16.6 +0.5**
comp=Z,7.5nm,0.9s,baz=199,slow=3.1,SNR=8.2
ABKAR Akbulak array 139.63 49 PKPdf **PKPdf** **18 56 17.2 -0.4**
ABKAR Akbulak array 139.63 49 **PKPdf** **18 56 17.5 -0.1**
NRIK Noril'sk 139.90 11 PKP **PKPdf** **18 56 18.6 +1.1**
comp=Z,1.5nm,0.4s,baz=67,slow=2.6,SNR=5.4
SIJI Sorong 141.44 219 PKP **PKPdf** **18 56 22.4 +0.4**
comp=Z,26nm,0.8s,baz=168,slow=6.9,SNR=3.8
BRVK Borovoye 144.86 40 PKIKP **PKPdf** **18 56 26.4 -0.4**
BRVK Borovoye 144.86 40 PKPdf PKPbc 18 56 26.4 +0.4
PALK Pallekele 145.04 127 PKP2 **PKPbc** **18 56 27.3 -0.4**
PALK pmax pmax
comp=Z,192nm,1.2s
PALK Pallekele 145.04 127 **PKPbc** **18 56 27.3 -0.4**
LUWI Luwuk 145.22 206 **PKPbc** **18 56 27.7 -0.5**
YAK Yakutsk 146.02 342 *e*PKP2 **PKPdf** **18 56 28.8 +0.3**
YAK pmax pmax
comp=Z,52nm,0.8s
YAK pmax pmax

	comp=N,4.0nm,0.9s									
YAK					pmax	pmax				
	comp=E,10.0nm,1.0s									
YAK					pmax	pmax				
	comp=Z,29nm,1.3s									
YAK					pmax	pmax				
	comp=N,21nm,1.1s									
YAK	**Yakutsk**	**146.02**	**342**	PKPdf	**PKPdf**	**18 56 28.4**	**-0.1**			
POO	**Poona**	**146.53**	**104**	*e*P	**PKPdf**	**18 56 28.0**	**-2.8**			
KBL	**Kabul**	**147.01**	**73**	PKIKP	**PKPdf**	**18 56 31.0**	**-0.4**			
KBL	**Kabul**	**147.01**	**73**	PKPdf	**PKPdf**	**18 56 31.0**	**-0.4**			
CHGR	**Chuyangaron**	**147.24**	**66**	PKPdf	**PKPdf**	**18 56 31.8**	**+0.3**			
TYV	**Tymovskoe**	**147.75**	**318**	*e*PKP2	**PKPbc**	**18 56 34.8**	**+0.2**			
TYV				pmax	pmax					
	comp=Z,30nm,1.6s									
TYV				pmax	pmax					
	comp=Z,700nm,8.0s									
KK31	**Karatay Array**	**147.85**	**57**	PKIKP	**PKPdf**	**18 56 31.7**	**-0.5**			
KK31	**Karatay Array**	**147.85**	**57**	PKPdf	**PKPdf**	**18 56 31.7**	**-0.5**			
KKAR	**Karatay Array**	**147.85**	**57**	PKIKP	**PKPdf**	**18 56 31.6**	**-0.7**			
KKAR	**Karatay Array**	**147.85**	**57**		**PKPdf**	**18 56 32.0**	**-0.3**			
KKAR	**Karatay Array**	**147.85**	**57**	PKPdf	**PKPdf**	**18 56 31.6**	**-0.7**			
TOLI2	**Tolitoli**	**147.93**	**204**		**PKPbc**	**18 56 34.8**	**-1.4**			
GAR	**Garm**	**148.13**	**65**		**PKPdf**	**18 56 33.4**	**+0.4**			
BTK	**Batken**	**148.45**	**63**	PKIKP	**PKPdf**	**18 56 33.2**	**-0.2**			
BTK	**Batken**	**148.45**	**63**	PKPdf	**PKPdf**	**18 56 33.2**	**-0.2**			
GSI	**Gunungsitoli**	**148.74**	**159**		**PKPdf**	**18 56 34.5**	**0.0**			
UGL	**Uglegorsk**	**148.81**	**315**	*e*PKP2	**PKPbc**	**18 56 36.5**	**-0.9**			
UGL				pmax	pmax					
	comp=Z,30nm,1.4s									
YSS	**Yuzh-Sakhalins**	**149.13**	**311**	*e*PKP2	**PKPbc**	**18 56 38.6**	**+0.3**			
YSS				pmax	pmax					
	comp=Z,20nm,1.0s									
YSS	**Yuzh-Sakhalins**	**149.13**	**311**		**PKPdf**	**18 56 34.9**	**+0.7**			
DRK	**Karamyk**	**149.25**	**64**		**PKPdf**	**18 56 35.4**	**+0.4**			
HYB	**Hyderabad**	**149.83**	**110**	*i* PKP	**PKPdf**	**18 56 35.0**	**-1.2**			
HYB				*e*		18 56 40.0				
HYB				*es*PKP		18 56 53.0				
BTDF	**Bukit Timah Da**	**150.17**	**171**	PKP	**PKPbc**	**18 56 42.3**	**+0.4**			
NIL	**Nilore**	**150.42**	**76**	PKIKP	**PKPdf**	**18 56 36.2**	**-0.5**			
NIL						18 56 41.5				
NIL	**Nilore**	**150.42**	**76**		**PKPdf**	**18 56 36.2**	**-0.5**			
NIL				PKPbc	**pPKPdf**	**18 56 41.5**	**0.0**			
RPSI	**Rantau Prapat**	**150.45**	**161**		**PKPdf**	**18 56 36.7**	**-0.6**			
PSI	**Prapat**	**150.55**	**161**	PKIKP	**PKPdf**	**18 56 36.7**	**-0.9**			
FRU1	**Bishkek**	**150.88**	**57**	PKIKP	**PKPdf**	**18 56 37.5**	**+0.4**			
FRU1	**Bishkek**	**150.88**	**57**		**PKPdf**	**18 56 37.5**	**+0.4**			
FRU1				PKPbc	**PKiKP**	**18 56 43.1**	**-0.3**			
ZAA0	**Zalesovo Array**	**151.59**	**30**	PKPdf	**PKPdf**	**18 56 37.2**	**-0.5**			
ZAA0				PKPbc	**pPKPdf**	**18 56 43.3**	**+0.6**			
ZALV	**Zalesovo Beam**	**151.59**	**30**	PKP	**PKPdf**	**18 56 37.8**	**+0.1**			
	comp=Z,14nm,1.0s,baz=298,slow=3.2,SNR=20									
ZALV				PKPbc	**sPKPdf**	**18 56 44.2**	**-0.1**			
	comp=Z,44nm,0.9s,baz=298,slow=3.2,SNR=49									
ZALV	**Zalesovo Beam**	**151.59**	**30**	PKPdf	**PKPdf**	**18 56 36.7**	**-1.1**			
ZALV					**PKPbc**	**18 56 44.0**	**0.0**			
KSH	**Kashi**	**152.46**	**63**	PKPbc	**PKPdf**	**18 56 40.0**	**+0.3**			
KSH				PP	**PP**	**19 00 29.8**	**0.0**			
KSH				LR	LR					
	comp=Z,730nm,22.3s									
KSH				LR	LR					
	comp=Z,1μm,19.9s									
KSH				LR	LR					
	comp=Z,2μm,18.5s									
BHK	**Bhakra**	**152.84**	**81**	*ex*	x	18 57 03.4				
BOD	**Bodaibo**	**152.94**	**353**	*e*PKIKP	**PKPdf**	**18 56 38.6**	**-1.0**			
BOD				pmax	pmax					
	comp=Z,50nm,1.4s									
MAKZ	**Makanchi**	**154.39**	**45**	PKIKP	**PKPdf**	**18 56 41.1**	**-1.0**			
MAKZ						18 56 50.1				
MAKZ	**Makanchi**	**154.39**	**45**	PKPdf	**PKPdf**	**18 56 41.0**	**-1.0**			
MAKZ					**PKPbc**	**18 56 50.1**	**-0.3**			
MJAR	**Matsushiro Arr**	**154.55**	**291**	PKP	**PKPdf**	**18 56 42.5**	**-0.2**			
	comp=Z,5.5nm,1.1s,baz=134,slow=1.5,SNR=11									
MJAR				PKPab	**PKPab**	**18 57 06.5**	**+0.8**			
	comp=Z,4.6nm,0.9s,baz=98,slow=1.7,SNR=8.0									
MJAR	**Matsushiro Arr**	**154.55**	**291**	PKPdf	**PKPdf**	**18 56 41.9**	**-0.8**			
MAT	**Matsushiro**	**154.56**	**291**	*e*PKP	**PKPdf**	**18 56 41.5**	**-1.2**			
MKAR	**Makanchi Array**	**154.58**	**44**	PKP	**PKPdf**	**18 56 42.0**	**-0.4**			
	comp=Z,5.1nm,1.0s,baz=311,slow=4.5,SNR=16									
MKAR				PKPbc	**PKPbc**	**18 56 50.3**	**-0.6**			
	comp=Z,10nm,1.0s,baz=342,slow=1.5,SNR=17									
MKAR				PKPab	**PKPab**	**18 57 05.8**	**+0.2**			
	comp=Z,15nm,1.1s,baz=268,slow=4.7,SNR=10									
MKAR	**Makanchi Array**	**154.58**	**44**	PKPdf	**PKPdf**	**18 56 41.5**	**-0.9**			
INU	**Inuyama**	**155.58**	**288**	PKPdf	**PKPdf**	**18 56 44.0**	**-0.1**			
USRK	**Ussuriysk Ar.**	**157.16**	**312**	PKIKP	**PKPdf**	**18 56 44.3**	**-1.5**			
USRK	**Ussuriysk Ar.**	**157.16**	**312**	PKPdf	**PKPdf**	**18 56 44.3**	**-1.5**			
IRK	**Irkutsk**	**158.63**	**7**	*e*PKIKP	**PKPdf**	**18 56 45.8**	**-1.6**			
IRK				*e*		18 57 22.1				
IRK				*e*		19 01 03.9				
IRK				pmax	pmax					
	comp=Z,71nm,2.4s									
CIT	**Chita**	**158.69**	**351**	*e*PKP2	**PKPab**	**18 57 24.4**	**+1.5**			
CIT				*e*		19 01 03.8				
CIT				*e*		19 04 54.0				
CIT				pmax	pmax					
	comp=Z,89nm,2.0s									
MOY	**Mondy**	**158.72**	**12**	*e*PKIKP	**PKPdf**	**18 56 48.5**	**+0.8**			
MOY				pmax	pmax					
	comp=Z,37nm,2.1s									
WMQ	**Urumqi**	**159.37**	**46**	*e*PKP	**PKPdf**	**18 56 49.3**	**+0.6**			
WMQ				LR	LR					
	comp=Z,980nm,19.7s									
WMQ				LR	LR					
	comp=Z,710nm,18.5s									
WMQ				LR	LR					
	comp=Z,1μm,21.7s									
ZAK	**Zakamensk**	**160.34**	**9**	*e*PKP2	**PKPab**	**18 57 29.9**	**-0.3**			
ZAK				pmax	pmax					
	comp=Z,15nm,1.6s									
ZAK				pmax	pmax					
	comp=Z,7.0nm,0.7s									
CN2	**Changchun**	**161.37**	**318**	*e*P	PKPdf	18 57 00.9	+10			
SRDT	**SRDT**	**161.39**	**151**	PKP	**PKPdf**	**18 56 53.5**	**+1.9**			
KHLT	**Khaolaem Dam**	**161.56**	**149**	PKP	**PKPdf**	**18 56 52.8**	**+1.0**			
KSRS	**Korea Array**	**162.53**	**297**	PKP	**PKPdf**	**18 56 50.5**	**-1.6**			
	comp=Z,4.7nm,1.2s,baz=137,slow=1.5,SNR=7.6									
KSRS				PKPab	**PKPab**	**18 57 42.0**	**+1.8**			
	comp=Z,3.9nm,1.0s,baz=90,slow=4.2,SNR=7.5									
KSAR	**Wonju Array Be**	**162.56**	**297**	PKIKP	**PKPdf**	**18 56 51.1**	**-1.1**			
KSAR						18 57 41.2				
KSAR	**Wonju Array Be**	**162.56**	**297**		**PKPdf**	**18 56 51.1**	**-1.1**			
KSAR					**PKPab**	**18 57 41.2**	**+0.8**			
UTHA	**Uthaitani**	**162.60**	**150**	PKP	**PKPdf**	**18 56 53.8**	**+1.0**			
SONM	**Songino Array**	**163.18**	**4**	PKPab	**PKPab**	**18 57 43.0**	**+0.3**			
	comp=Z,5.4nm,1.0s,baz=339,slow=3.8,SNR=8.2									
SONM				PP	**PP**	**19 01 29.1**	**+2.0**			
	comp=Z,2.9nm,1.0s,baz=338,slow=3.9,SNR=7.5									
UBPT	**Khong Chiam**	**164.09**	**170**	PKP	**PKPdf**	**18 56 55.8**	**+1.6**			
UBPT	**Khong Chiam**	**164.09**	**170**		**PKPdf**	**18 56 54.1**	**-0.2**			
UBPT	**Khong Chiam**	**164.09**	**170**	PKP	**PKPdf**	**18 56 55.8**	**+1.6**			
MHMT	**Maesarieng**	**164.14**	**142**	PKP	**PKPdf**	**18 56 55.1**	**+0.9**			
PHIT	**Phitsanulok**	**164.47**	**151**	PKP	**PKPdf**	**18 56 55.5**	**+1.0**			
SHL	**Shillong**	**164.60**	**107**	PKIKP	**PKPdf**	**18 56 52.7**	**-2.0**			
SHL						18 57 48.2				
SHL	**Shillong**	**164.60**	**107**	PKPdf	**PKPdf**	**18 56 52.7**	**-2.0**			
SHL					**PKPab**	**18 57 48.2**	**-1.8**			
CM13	**Chiang Mai Arr**	**164.85**	**144**	PKP	**PKPdf**	**18 56 55.9**	**+1.0**			
CM05	**Chiang Mai Arr**	**164.85**	**144**	PKP	**PKPdf**	**18 56 60.0**	**+1.1**			
CM04	**Chiang Mai Arr**	**164.87**	**144**	PKP	**PKPdf**	**18 56 56.4**	**+1.5**			
CM01	**Chiang Mai Arr**	**164.87**	**144**	PKP	**PKPdf**	**18 56 56.5**	**+1.6**			
CM02	**Chiang Mai Arr**	**164.88**	**144**	PKP	**PKPdf**	**18 56 56.1**	**+1.2**			
CM15	**Chiang Mai Arr**	**164.88**	**144**	PKP	**PKPdf**	**18 56 56.3**	**+1.4**			
CM31	**Chiang Mai Arr**	**164.90**	**144**		**PKPdf**	**18 56 54.2**	**-0.7**			
CM31					**PKPab**	**18 57 50.1**	**-0.8**			
CMAR	**Chiang Mai Arr**	**164.90**	**144**	PKP	**PKPdf**	**18 56 54.8**	**-0.2**			
	comp=Z,8.0nm,1.0s,baz=257,slow=2.6,SNR=18									
CMAR				PKPab	**PKPab**	**18 57 50.3**	**-0.6**			
	comp=Z,13nm,1.0s,baz=224,slow=5.4,SNR=19									
CMAR	**Chiang Mai Arr**	**164.90**	**144**		**PKPdf**	**18 56 54.4**	**-0.5**			
CMAR				PKPab	**PKPab**	**18 57 49.9**	**-1.0**			
CM09	**Chiang Mai Arr**	**164.91**	**144**	PKP	**PKPdf**	**18 56 56.5**	**+1.6**			
UTTA	**Uttaradit**	**165.03**	**150**	PKP	**PKPdf**	**18 56 55.9**	**+0.9**			
CHTO	**Chiang Mai**	**165.19**	**143**	PKIKP	**PKPdf**	**18 56 54.2**	**-0.9**			
CHTO						18 57 51.0				
CHTO	**Chiang Mai**	**165.19**	**143**	PKP	**PKPdf**	**18 56 55.7**	**+0.5**			
CHTO	**Chiang Mai**	**165.19**	**143**		**PKPdf**	**18 56 54.2**	**-0.9**			
CHTO				PKPab	**PKPab**	**18 57 51.0**	**-1.2**			
CMMT	**Chiang Mai**	**165.20**	**143**	PKP	**PKPdf**	**18 56 55.5**	**+0.3**			
CMMT	**Chiang Mai**	**165.20**	**143**	PKP	**PKPdf**	**18 56 55.5**	**+0.3**			
QIZ	**Qiongzhong**	**167.94**	**187**	PKP	**PKPdf**	**18 56 57.5**	**+0.3**			
QIZ				PP	**PP**	**19 01 52.8**	**+1.2**			
QIZ				SS	SS	19 22 46.4	+6.9			
QIZ	**Qiongzhong**	**167.94**	**187**		**PKPdf**	**18 56 58.2**	**+1.0**			
GTA	**Gaotai**	**169.19**	**37**	*e*PKP	**PKPdf**	**18 56 57.0**	**-0.7**			
GTA				pPKP	sPKPdf	18 57 06.9	+2.7			
GTA				PKPab	**PKPab**	**18 58 10.6**	**+1.0**			
SLVN	**Son La**	**169.57**	**157**		**PKPdf**	**18 56 58.6**	**+0.3**			
HHC	**Hu-ho-hao-te**	**169.86**	**345**	*e*P	**PKPdf**	**18 56 58.0**	**0.0**			
HHC	**Hu-ho-hao-te**	**169.86**	**345**	*e*PKP	**PKPdf**	**18 56 58.6**	**+0.6**			
NJ2	**Nanjing**	**170.88**	**279**	*e*PKP	**PKPdf**	**18 56 59.3**	**+0.7**			
TIA	**Tai'an**	**170.98**	**307**	PKP	**PKPdf**	**18 56 58.8**	**+0.2**			
KMI	**Kunming**	**172.36**	**139**	⇑PKP	**PKPdf**	**18 56 59.6**	**-0.3**			
KMI				sPKP		18 57 08.9				
LZH	**Lanzhou**	**173.79**	**35**	⇑PKP	**PKPdf**	**18 57 01.3**	**+1.2**			
LZH				sPKP		18 57 09.3				
LZH				PKPab	**PKPab**	**18 58 31.0**	**+0.9**			
GYA	**Guiyang**	**175.22**	**163**	⇓PKP	**PKPdf**	**18 57 01.0**	**+0.3**			
CD2	**Chengdu**	**176.16**	**91**	PKP	**PKPdf**	**18 57 00.3**	**-0.5**			
XAN	**Xi'an**	**176.97**	**349**	PKP	**PKPdf**	**18 57 00.8**	**0.0**			
XAN				pPKP	sPKPdf	18 57 09.9	+2.5			
XAN				PKPab	**PKPab**	**18 58 43.8**	**-0.2**			
XAN				PP	**PP**	**19 02 35.1**	**-1.1**			
XAN				LR	LR					
	comp=Z,570nm,18.5s									
XAN				LR	LR					
	comp=Z,380nm,17.9s									
XAN				LR	LR					
	comp=Z,840nm,22.0s									
ENH	**Enshi**	**178.67**	**234**		**PKPdf**	**18 57 00.3**	**-0.8**			

*MOS **21** 18:46:26.3±0.9,2˚.60S×138˚.70E,h13km,mb5.1/14 Error ellipse: s-maj=12.0km s-min=6.9km az=109.4*
*IDC **21** 18:46:26.2±0.5,2˚.615S×138˚.72E, h0km,mb4.6/17, mb1 4.8/21,mb1mx4.7/33,mbtmp4.7/21,ML4.4/4, Error ellipse: s-maj=16.2km s-min=11.9km az=78.0*
*NEIC **21** 18:46:28.0±1.9,2˚.59S±0˚.08×138˚.70E±0˚.03,h9km±4km, mb5.0/81,Error ellipse: s-maj=12.1km s-min=3.3km az=171.0*
*DJA **21** 18:46:28.3±0.2,3˚S±3˚×13˚9E±˚,h10km,M4.9/38, mb4.8/38,mB5.5/9,MLv4.9/7,Mw(mB)4.9/9,MwMwp6.2/1, Mwp6.2/1*

ISC 21 18:46:27.6±0.3,**2˚.62S**±0˚.04×**138˚.74E**±0˚.05,**h10**km**,n264,** σ1§**44**/267,**mb4.9**/105,**6C-1D,Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.62**	**357**			P	**Pg**	**18 46 38.9**	**-0.8**
GENI	**Genyem**	**1.43**	**89**			P	**Pn**	**18 46 52.9**	**-0.7**
JAY	**Jayapura**	**1.96**	**87**	Pn		Pn	**Pn**	**18 46 60.0**	**-1.0**
	44nm,0.3s,baz=227,slow=12,SNR=79								
JAY				Sn		Sn	**Sb**	**18 47 28.8**	**+0.7**
	322nm,0.3s,baz=97,slow=17,SNR=13								
JAY	**Jayapura**	**1.96**	**87**	P		Pn	**Pn**	**18 47 00.0**	**-1.0**
JAY	**Jayapura**	**1.96**	**87**	P		Pn	**Pn**	**18 47 00.2**	**-0.8**
SRPI	**Serui, Papua**	**2.61**	**286**	P		Pn	**Pn**	**18 47 09.8**	**-0.1**
MMPI	**Merauke**	**6.04**	**164**	P		Pn	**Pn**	**18 48 00.3**	**+3.3**
	4.9nm10μm630nm,0.7s								
FAKI	**Fak Fak**	**6.49**	**267**	Pn		Pn	**Pn**	**18 48 02.7**	**-0.6**
SIJI	**Sorong**	**7.67**	**283**	Pn		Pn	**Pn**	**18 48 19.0**	**-0.6**
	3.9nm,0.3s,baz=312,slow=22,SNR=2.3								
SIJI	**Sorong**	**7.67**	**283**	P		Pn	**Pn**	**18 48 22.1**	**+2.6**
	0.1nm23nm,0.8s								
SWI	**Sorong**	**7.68**	**283**	P		Pn	**Pn**	**18 48 21.7**	**+2.1**
	0.3nm61nm,1.2s								
MANU	**Manus Island**	**8.64**	**86**	Pn		Pn	**Pn**	**18 48 34.3**	**+1.5**
MSAI	**Masohi**	**9.83**	**266**	P		Pn	**Pn**	**18 48 50.9**	**+1.8**
	783nm20nm,1.0s								
KRAI	**Karang Ratu**	**10.36**	**266**	P		Pn	**Pn**	**18 48 59.4**	**+3.0**
	78nm,0.8s								
GAMI	**Galela, Maluku**	**11.81**	**292**	P		Pn	**Pn**	**18 49 18.3**	**+2.0**
	81μm3μm185nm,1.4s								
COEN	**Coen**	**12.09**	**159**	Pn		Pn	**Pn**	**18 49 20.9**	**+0.8**
MTN	**Manton Dam**	**12.65**	**216**	Pn		Pn	**Pn**	**18 49 26.5**	**-1.2**
SANI	**Sanana**	**12.76**	**272**	P		Pn	**Pn**	**18 49 29.4**	**+0.2**
	62nm,1.0s								
KMSI	**Cibinong**	**15.09**	**282**	P		Pn	**Pn**	**18 50 03.0**	**+1.9**
	4μm74nm,0.8s								
SOEI	**Soe**	**16.04**	**243**	P		Pn	**Pn**	**18 50 13.9**	**+0.3**
SOEI	**Soe**	**16.04**	**243**	P		P	**P**	**18 50 15.6**	**-1.4**
	285nm,1.1s								
LUWI	**Luwuk**	**16.04**	**275**	P		Pn	**Pn**	**18 50 11.7**	**-1.8**
LUWI	**Luwuk**	**16.04**	**275**	P		P	**P**	**18 50 16.4**	**-0.5**
	176nm,1.1s								
GTOI	**Gorontalo**	**16.05**	**281**	P		P	**P**	**18 50 17.6**	**+0.5**
	23nm,1.3s								
KNRA	**Kununurra**	**16.28**	**217**	Pn		Pn	**Pn**	**18 50 13.6**	**-2.9**
BATI	**Baumata**	**16.77**	**243**	Pn		Pn	**Pn**	**18 50 22.9**	**+0.1**
	5.4nm,0.3s,baz=135,slow=4.6,SNR=15								
BATI	**Baumata**	**16.77**	**243**	P		Pn	**Pn**	**18 50 23.6**	**+0.8**
	100nm,0.8s								
MRSI	**Marisa**	**17.07**	**280**	P		P	**P**	**18 50 31.0**	**+2.6**
	46nm,1.2s								
KKSI	**Kolaka, Sulawe**	**17.13**	**264**	P		P	**P**	**18 50 33.5**	**+4.5**
APSI	**Ampana**	**17.17**	**275**	P		P	**P**	**18 50 29.9**	**+0.4**
	1μm90nm,1.2s								
WR0	**Warramunga Arr**	**17.72**	**193**	Pn		Pn	**Pn**	**18 50 31.0**	**-3.6**
WRAB	**Tennant Creek**	**17.74**	**194**	*i* P		Pn	**Pn**	**18 50 35.0**	**+0.1**
WRAB				pmax		pmax			
	comp=Z,63nm,1.1s								
WRAB	**Tennant Creek**	**17.74**	**194**	P		Pn	**Pn**	**18 50 32.6**	**-2.3**
WB2	**Warramunga Arr**	**17.75**	**194**	Pn		Pn	**Pn**	**18 50 32.1**	**-2.9**
WRA	**Warramunga Arr**	**17.75**	**194**	P		Pn	**Pn**	**18 50 33.0**	**-2.0**
	comp=Z,1.0nm,0.3s,baz=11,slow=12,SNR=31								
WRA				S		Sn		18 53 42.4	-11
	baz=11,slow=22,SNR=7.5								
WRA	**Warramunga Arr**	**17.75**	**194**	P		Pn	**Pn**	**18 50 31.8**	**-3.3**
WRA								18 53 42.4	
WRA				pmax		pmax			
	comp=Z,3.0nm,1.1s								
WRA	**Warramunga Arr**	**17.75**	**194**	P		Pn	**Pn**	**18 50 31.8**	**-3.3**
EDFI	**Ende, Flores**	**18.02**	**250**	P		Pn	**Pn**	**18 50 36.7**	**-1.8**
	comp=Z,12nm,0.9s								
TOLI2	**Tolitoli**	**18.33**	**281**	Pn		Pn	**Pn**	**18 50 37.3**	**-4.9**
BNSI	**Bone**	**18.68**	**264**	P		Pn	**Pn**	**18 50 48.2**	**+1.7**
	comp=Z,40nm,1.2s								
BKSI	**Bulukumba**	**18.77**	**261**	P		Pn	**Pn**	**18 50 49.6**	**+2.1**
	comp=Z,18nm,2.0s								
CTA	**Charters Tower**	**18.85**	**158**	P		P	**P**	**18 50 48.5**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=337,slow=12,SNR=16								
CTAO	**Charters Tower**	**18.85**	**158**	P		P	**P**	**18 50 46.9**	**-1.1**
CTAO				pmax		pmax			
	comp=Z,45nm,1.3s								
CTAO	**Charters Tower**	**18.85**	**158**			P	**P**	**18 50 46.9**	**-1.1**
TTSI	**Tana Toraja**	**18.91**	**268**	P		Pn	**Pn**	**18 50 50.7**	**+1.5**
	comp=Z,40nm,1.4s								
MPSI	**Mapaga**	**19.07**	**279**	P		Pn	**Pn**	**18 50 55.3**	**+4.1**
	comp=Z,2μmcomp=Z,27nm,1.0s								
MMSI	**Mamuju**	**19.81**	**269**	P		Pn	**Pn**	**18 51 00.1**	**0.0**
	comp=Z,37nm,0.9s								
FITZ	**Fitzroy Crossi**	**20.04**	**219**	P		P	**P**	**18 51 00.3**	**-0.8**
	comp=Z,8.1nm,1.0s,baz=45,slow=15,SNR=16								
FITZ	**Fitzroy Crossi**	**20.04**	**219**	P		P	**P**	**18 50 59.7**	**-1.3**
WBSI	**Waikabubak, Su**	**20.45**	**249**	P		Pn		18 51 12.3	+4.5
AS31	**Alice Springs**	**21.44**	**192**	P		P	**P**	**18 51 15.3**	**-0.9**
ASAR	**Alice Springs**	**21.44**	**192**	P		P	**P**	**18 51 15.5**	**-0.7**
	comp=Z,47nm,1.0s,baz=22,slow=10,SNR=124								
ASAR				S		S	**S**	**18 55 12.5**	**-1.8**
	comp=Z,10nm,1.1s,baz=11,slow=25,SNR=4.4								
ASAR	**Alice Springs**	**21.44**	**192**	P		P	**P**	**18 51 14.9**	**-1.3**
ASAR	**Alice Springs**	**21.44**	**192**	P		P	**P**	**18 51 14.9**	**-1.3**
HNR	**Honiara**	**22.14**	**109**	P		P	**P**	**18 51 24.1**	**+0.5**
	comp=Z,33nm,0.5s,baz=52,slow=5.7,SNR=3.5								
HNR	**Honiara**	**22.14**	**109**	P		P	**P**	**18 51 24.2**	**+0.5**
HNR				pmax		pmax			
	comp=Z,63nm,0.7s								
KBKI	**Kotabaru**	**22.55**	**268**	P		P	**P**	**18 51 33.8**	**+5.6**
	comp=Z,503nmcomp=Z,40nm,0.9s								
BBKI	**Banjar Baru**	**23.88**	**267**	P		P	**P**	**18 51 45.4**	**+3.7**
	comp=Z,70nm,1.3s								
MTKI	**Muara Teweh, K**	**23.89**	**274**	P		P	**P**	**18 51 44.1**	**+2.3**
	comp=Z,22nm,1.0s								
PKKI	**Palangkaraya**	**24.75**	**270**	P		P	P	18 51 58.6	+8.9
EIDS	**Eidsvold**	**25.55**	**153**	P		P	**P**	**18 51 58.1**	**+1.3**
EIDS						IAmb	IAmb	18 52 25.2	
	comp=Z,23nm,0.9s								
PSA00	**Pilbara Seismi**	**26.32**	**223**	P		P	**P**	**18 52 02.1**	**-1.7**
PSA00	**Pilbara Seismi**	**26.32**	**223**	P		P	**P**	**18 52 02.7**	**-1.1**
PSA00						IAmb	IAmb	18 52 19.0	
	comp=Z,7.7nm,0.9s								
STKI	**Sintang**	**27.39**	**275**	P		P	**P**	**18 52 18.5**	**+5.0**
STKA	**Stephens Creek**	**29.23**	**175**	P		P	**P**	**18 52 30.4**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=5.7,slow=10,SNR=5.1								
STKA	**Stephens Creek**	**29.23**	**175**	*e*P		P	**P**	**18 52 32.1**	**+2.4**
STKA				pmax		pmax			
	comp=Z,2.0nm,0.7s								
STKA	**Stephens Creek**	**29.23**	**175**	P		P	**P**	**18 52 29.4**	**-0.3**
FORT	**Forrest**	**29.78**	**199**	P		P	**P**	**18 52 33.2**	**-1.4**
FORT				IAmb		IAmb		18 52 58.2	
	comp=Z,17nm,0.8s								
NACB	**Ninganchiao**	**31.42**	**329**	P		P	**P**	**18 52 47.4**	**-1.8**
SSLB	**Suanglung**	**31.44**	**328**	P		P	**P**	**18 52 47.3**	**-2.2**
MDSI	**Maura Dua**	**34.54**	**266**	P		P	**P**	**18 53 18.4**	**+1.7**
	comp=Z,8.7nm,2.0s								
QIZ	**Qiongzhong**	**35.64**	**308**	P		P	**P**	**18 53 24.3**	**-1.8**
QIZ				S		S	**S**	**18 59 05.9**	**+3.2**
QIZ				pmax		pmax			
	comp=Z,29nm,1.7s								
QIZ	**Qiongzhong**	**35.64**	**308**	P		P	**P**	**18 53 25.7**	**-0.4**
JNU	**Nakatsue**	**36.31**	**349**	P		P	**P**	**18 53 30.6**	**-1.1**
	comp=Z,21nm,1.1s,baz=147,slow=6.3,SNR=5.1								
JNU	**Nakatsue**	**36.31**	**349**	P		P	**P**	**18 53 31.5**	**-0.2**
JNU				IAmb		IAmb		18 53 32.5	
	comp=Z,34nm,1.2s								
JMN	**Monobe**	**36.44**	**353**	P		P	**P**	**18 53 32.2**	**-0.5**
JMN				IAmb		IAmb		18 54 00.4	
	comp=Z,35nm,1.3s								
UBPT	**Khong Chiam**	**37.42**	**299**	P		P	**P**	**18 53 41.6**	**+0.3**
	comp=Z,30nm,1.4s								
UBPT	**Khong Chiam**	**37.42**	**299**	P		P	**P**	**18 53 40.3**	**-1.1**
UBPT				IAmb		IAmb		18 53 42.0	
	comp=Z,46nm,1.3s								
UBPT	**Khong Chiam**	**37.42**	**299**	P		P	**P**	**18 53 41.6**	**+0.3**
	comp=Z,28nm,1.4s								
MAJO	**Matsushiro**	**38.96**	**359**	*i* P		P	**P**	**18 53 53.9**	**-0.1**
MAJO				pmax		pmax			
	comp=Z,14n

KLR	**Kul'dur**	**51.99**	**354**	*i* P		**P**		**18 55 37.1**	**0.0**
KLR				pmax		pmax			
	comp=Z,12nm,1.1s								
SHL	**Shillong**	**53.31**	**305**	P		**P**		**18 55 44.3**	**-3.1**
SHL				pmax		pmax			
	comp=Z,27nm,1.0s								
SHL	**Shillong**	**53.31**	**305**	P		**P**		**18 55 44.3**	**-3.1**
HIA	**Hailar**	**54.23**	**345**	*i* P		**P**		**18 55 54.0**	**+0.4**
HIA				pmax		pmax			
	comp=Z,22nm,1.4s								
HIA	**Hailar**	**54.23**	**345**	P		**P**		**18 55 52.3**	**-1.4**
HIA				lAmb		lAmb		18 55 55.9	
	comp=Z,24nm,1.4s								
GTA	**Gaotai**	**55.01**	**324**	⇑P		**P**		**18 55 59.8**	**+0.2**
GTA				pP		sP		18 56 05.0	+0.6
GTA				sP		pP		18 56 08.4	+5.3
GTA				pmax		pmax			
	comp=Z,9.0nm,0.9s								
LSA	**Lhasa**	**55.68**	**309**	P		**P**		**18 56 04.3**	**-0.7**
LSA				pmax		pmax			
	comp=Z,9.0nm,1.0s								
LSA	**Lhasa**	**55.68**	**309**	P		**P**		**18 56 04.3**	**-0.7**
ZEA	**Zeya**	**56.97**	**352**	*e*P		**P**		**18 56 13.4**	**+0.2**
ZEA				pmax		pmax			
	comp=Z,10.0nm,1.2s								
ULN	**Ulaanbaatar**	**57.40**	**335**	*i* P		**P**		**18 56 16.5**	**0.0**
ULN				pmax		pmax			
	comp=Z,19nm,1.2s								
ULN	**Ulaanbaatar**	**57.40**	**335**	P		**P**		**18 56 16.3**	**-0.2**
ULN				lAmb		lAmb		18 56 18.4	
	comp=Z,16nm,1.1s								
ULN	**Ulaanbaatar**	**57.40**	**335**	P		**P**		**18 56 17.4**	**+0.9**
	comp=Z,63nm,1.1s								
SONM	**Songino Array**	**57.65**	**335**	P		**P**		**18 56 18.8**	**+0.5**
	comp=Z,4.8nm,1.0s,baz=151,slow=7.6,SNR=19								
SONM	**Songino Array**	**57.65**	**335**	P		**P**		**18 56 18.3**	**0.0**
PETK	**Petropavlovsk-**	**57.76**	**13**	P		**P**		**18 56 20.2**	**+1.4**
	comp=Z,2.7nm,0.8s,baz=241,slow=3.0,SNR=2.2								
CIT	**Chita**	**58.47**	**342**	*e*P		**P**		**18 56 24.8**	**+1.0**
CIT				*e*				18 56 32.2	
CIT				pmax		pmax			
	comp=Z,94nm,1.8s								
PALK	**Pallekele**	**58.74**	**280**	P		**P**		**18 56 28.2**	**+1.8**
	comp=Z,6µmcomp=Z,141nm,1.3s								
ZAK	**Zakamensk**	**60.92**	**335**	*e*P		**P**		**18 56 41.0**	**+0.2**
ZAK				pmax		pmax			
	comp=Z,32nm,1.4s								
YAK	**Yakutsk**	**64.84**	**355**	*i* P		**P**		**18 57 07.0**	**+0.5**
YAK				pmax		pmax			
	comp=Z,126nm,1.7s								
WMQ	**Urumqi**	**64.96**	**322**	*e*P		**P**		**18 57 08.8**	**+1.0**
WMQ				pP		sP		18 57 13.8	+1.2
WMQ				pmax		pmax			
	comp=Z,26nm,1.3s								
DGZ	**Jazzator, Alta**	**68.22**	**327**	*i* P		**P**		**18 57 28.2**	**-0.5**
DGZ				pmax		pmax			
	comp=Z,8.0nm,0.7s								
MKAR	**Makanchi Array**	**69.73**	**322**	P		**P**		**18 57 37.6**	**-0.3**
	comp=Z,9.8nm,0.8s,baz=96,slow=8.7,SNR=4.8								
BILL	**Bilibino**	**73.07**	**10**	*i* P		**P**		**18 57 58.1**	**+0.5**
BILL				pmax		pmax			
	comp=Z,7.0nm,1.2s								
BILL				MLR		MLR			
	comp=Z,2µm,17.0s								
VNDA	**Vanda**	**75.87**	**175**	P		**P**		**18 58 14.1**	**+0.3**
	comp=Z,5.3nm,0.8s,baz=322,slow=6.5,SNR=25								
VNDA	**Vanda**	**75.87**	**175**	P		**P**		**18 58 14.1**	**+0.3**
VNDA				pmax		pmax			
	comp=Z,7.0nm,0.9s								
VNDA	**Vanda**	**75.87**	**175**	P		**P**		**18 58 14.1**	**+0.3**
SBA	**Scott Base**	**76.64**	**174**	P		**P**		**18 58 19.8**	**+1.7**
SBA				pmax		pmax			
	comp=Z,12nm,1.1s								
SBA	**Scott Base**	**76.64**	**174**	P		**P**		**18 58 19.8**	**+1.7**
SBA				lAmb		lAmb		18 58 21.3	
	comp=Z,12nm,1.1s								
BRVK	**Borovoye**	**79.33**	**325**	P		**P**		**18 58 32.7**	**-0.9**
BRVK				pmax		pmax			
	comp=Z,25nm,1.0s								
BRVK	**Borovoye**	**79.33**	**325**	P		**P**		**18 58 32.6**	**-0.9**
NRIK	**Noril'sk**	**79.64**	**344**	P		**P**		**18 58 35.1**	**+0.2**
	comp=Z,5.3nm,0.6s,baz=108,slow=6.0,SNR=6.4								
NRIK	**Noril'sk**	**79.64**	**344**	*i* P		**P**		**18 58 34.8**	**-0.1**
NRIK				pmax		pmax			
	comp=Z,17nm,1.3s								
NRIK	**Noril'sk**	**79.64**	**344**	P		**P**		**18 58 33.4**	**-1.5**
OHAK	**Old Harbor**	**80.46**	**31**	P		**P**		**18 58 41.0**	**+1.4**
	baz=250								
N18K	**Kilae Creek**	**80.48**	**27**	P		**P**		**18 58 41.6**	**+1.9**
	baz=247								
KDAK	**Kodiak Island**	**81.01**	**30**	P		**P**		**18 58 42.8**	**+0.3**
	comp=Z,12nm,0.8s,baz=300,slow=4.6,SNR=4.5								
KDAK	**Kodiak Island**	**81.01**	**30**	P		**P**		**18 58 42.8**	**+0.3**
KDAK				pmax		pmax			
	comp=Z,16nm,0.9s								
KDAK	**Kodiak Island**	**81.01**	**30**	lAmb		lAmb		18 58 47.7	
	comp=Z,16nm,0.8s								
N19K	**Bonanza Creek**	**81.17**	**27**	P		**P**		**18 58 45.4**	**+1.9**
	baz=248								
L19K	**White Mountain**	**81.52**	**26**	P		**P**		**18 58 46.4**	**+1.3**
L19K				lAmb		lAmb		18 58 47.2	
	comp=Z,18nm,1.1s								
L19K	**White Mountain**	**81.52**	**26**	P		**P**		**18 58 46.9**	**+1.7**
	baz=248								
M19K	**Big River Lodg**	**81.61**	**26**	P		**P**		**18 58 47.5**	**+1.8**
	baz=248								
L20K	**Farewell, AK**	**82.05**	**26**	P		**P**		**18 58 49.8**	**+1.8**
	baz=249								
MAW	**Mawson**	**82.22**	**202**	P		**P**		**18 58 49.2**	**+0.5**
	comp=Z,8.9nm,1.0s,baz=74,slow=4.7,SNR=5.2								
K20K	**Telida**	**82.29**	**25**	P		**P**		**18 58 50.6**	**+1.4**
K20K				lAmb		lAmb		18 58 51.3	
	comp=Z,16nm,1.1s								
K20K	**Telida**	**82.29**	**25**	P		**P**		**18 58 50.9**	**+1.7**
	baz=248								
J20K	**Nowinta River**	**82.56**	**24**	P		**P**		**18 58 52.0**	**+1.5**
J20K				lAmb		lAmb		18 58 52.6	
	comp=Z,12nm,1.0s								
J20K	**Nowinta River**	**82.56**	**24**	P		**P**		**18 58 52.5**	**+1.9**
	baz=248								
CAST	**Castle Rocks**	**83.15**	**25**	P		**P**		**18 58 54.3**	**+0.6**
	baz=250								
CHUM	**Lake Minchumin**	**83.21**	**25**	P		**P**		**18 58 55.6**	**+1.7**
	baz=250								
IMAR	**Indian Mountai**	**83.39**	**22**	P		**P**		**18 58 55.5**	**+0.6**
RC01	**Rabbit Creek A**	**83.44**	**28**	P		**P**		**18 58 55.7**	**+0.5**
	baz=253								
H21K	**Melozitna Rive**	**83.64**	**23**	P		**P**		**18 58 57.6**	**+1.5**
	baz=249								
KTH	**Kantishna Hill**	**83.69**	**25**	P		**P**		**18 58 57.6**	**+1.1**
KTH				lAmb		lAmb		18 59 07.9	
	comp=Z,9.4nm,0.9s								
I21K	**Tanana**	**83.80**	**23**	P		**P**		**18 58 58.4**	**+1.4**
	baz=250								
PMR	**Palmer**	**83.87**	**27**	P		**P**		**18 58 58.3**	**+0.9**
	baz=253								
PWL	**Port Wells**	**84.03**	**28**	P		**P**		**18 58 58.7**	**+0.4**
KNK	**Knik Glacier**	**84.13**	**28**	P		**P**		**18 58 59.2**	**+0.4**
KNK	**Knik Glacier**	**84.13**	**28**	P		**P**		**18 58 59.5**	**+0.8**
	baz=254								
GEYT	**Alibeck**	**84.21**	**308**	P		**P**		**18 58 59.5**	**-0.2**
	comp=Z,2.5nm,0.6s,baz=67,slow=11,SNR=4.4								
MLY	**Manley**	**84.24**	**24**	P		**P**		**18 58 60.0**	**+0.7**
MLY				lAmb		lAmb		18 59 02.5	
	comp=Z,8.7nm,0.9s								
MLY	**Manley**	**84.24**	**24**	P		**P**		**18 59 00.4**	**+1.1**
	baz=251								
SML	**Sawmill**	**84.30**	**27**	P		**P**		**18 59 00.0**	**+0.4**
SML	**Sawmill**	**84.30**	**27**	P		**P**		**18 59 00.5**	**+0.9**
	baz=254								
WAT1	**Susitna Watana**	**84.49**	**26**	P		**P**		**18 59 01.0**	**+0.4**
	baz=254								
RND	**Reindeer**	**84.53**	**26**	P		**P**		**18 59 00.5**	**-0.3**
RND				pmax		pmax			
	comp=Z,17nm,1.0s								
RND	**Reindeer**	**84.53**	**26**	P		**P**		**18 59 00.5**	**-0.3**
ABKAR	**Akbulak array**	**84.67**	**320**	P		**P**		**18 59 00.8**	**-0.9**
ABKAR	**Akbulak array**	**84.67**	**320**	P		**P**		**18 59 01.2**	**-0.5**
ABKAR				lAmb		lAmb		18 59 02.6	
	comp=Z,11nm,1.0s								
NEA2	**Nenana**	**84.78**	**24**	P		**P**		**18 59 00.9**	**-1.0**
NEA2				lAmb		lAmb		18 59 08.2	
	comp=Z,14nm,1.3s								
I23K	**Minto, Yukon-K**	**84.83**	**24**	P		**P**		**18 59 02.4**	**+0.2**
I23K	**Minto, Yukon-K**	**84.83**	**24**	P		**P**		**18 59 03.4**	**+1.3**
	baz=252								
H23K	**Yukon River**	**84.97**	**23**	P		**P**		**18 59 03.8**	**+0.9**
H23K				lAmb		lAmb		18 59 10.2	
	comp=Z,6.0nm,0.9s								
H23K	**Yukon River**	**84.97**	**23**	P		**P**		**18 59 04.3**	**+1.4**
	baz=252								
DHY	**Denali Highway**	**85.07**	**26**	P		**P**		**18 59 03.0**	**-0.7**
DHY				lAmb		lAmb		18 59 10.4	
	comp=Z,14nm,1.0s								
DHY	**Denali Highway**	**85.07**	**26**	P		**P**		**18 59 04.6**	**+0.9**
	baz=254								
COLD	**Coldfoot**	**85.16**	**22**	P		**P**		**18 59 04.8**	**+1.0**
COLD				lAmb		lAmb		18 59 07.0	
	comp=Z,7.8nm,1.0s								
COLD	**Coldfoot**	**85.16**	**22**	P		**P**		**18 59 05.4**	**+1.6**
	baz=252								
WRH	**Wood River Hil**	**85.16**	**25**	P		**P**		**18 59 03.3**	**-0.5**
WRH				lAmb		lAmb		18 59 09.8	
	comp=Z,14nm,1.1s								
DIV	**Divide**	**85.31**	**28**	P		**P**		**18 59 05.1**	**+0.3**
CCB	**Clear Creek Bu**	**85.32**	**24**	P		**P**		**18 59 03.5**	**-1.2**
CCB				lAmb		lAmb		18 59 06.0	
	comp=Z,12nm,0.9s								
KLU	**Klutina**	**85.32**	**28**	P		**P**		**18 59 06.2**	**+1.3**
	baz=256								
HDA	**Harding Lake**	**85.61**	**25**	P		**P**		**18 59 05.6**	**-0.5**
HDA				lAmb		lAmb		18 59 07.3	
	comp=Z,10nm,1.0s								
HDA	**Harding Lake**	**85.61**	**25**	P		**P**		**18 59 06.3**	**+0.2**
	baz=255								
H24K	**Noodor Dome**	**85.62**	**23**	P		**P**		**18 59 06.8**	**+0.5**
H24K				lAmb		lAmb		18 59 09.0	
	comp=Z,8.4nm,1.0s								
H24K	**Noodor Dome**	**85.62**	**23**	P		**P**		**18 59 07.3**	**+1.1**
	baz=254								
IL31		**85.74**	**24**	P		**P**		**18 59 05.5**	**-1.1**
IL31				lAmb		lAmb		18 59 07.7	
	comp=Z,9.4nm,0.9s								
ILAR	**Eielson Array**	**85.74**	**24**	P		**P**		**18 59 06.0**	**-0.7**
	comp=Z,7.7nm,0.8s,baz=258,slow=4.7,SNR=33								
ILAR	**Eielson Array**	**85.74**	**24**	P		**P**		**18 59 05.7**	**-1.0**
TOLK	**Toolik Lake Re**	**85.83**	**20**	P		**P**		**18 59 08.4**	**+1.3**
TOLK				lAmb		lAmb		18 59 09.2	
	comp=Z,11nm,0.9s								
TOLK	**Toolik Lake Re**	**85.83**	**20**	P		**P**		**18 59 08.8**	**+1.6**
	baz=252								
GLB	**Gilahina Butte**	**86.30**	**28**	P		**P**		**18 59 10.3**	**+0.6**
GLB				lAmb		lAmb		18 59 11.3	
	comp=Z,6.6nm,0.9s								
J25K	**Salcha River,**	**86.33**	**25**	P		**P**		**18 59 09.9**	**+0.2**
	baz=256								
RIDG	**Independent Ri**	**86.34**	**26**	P		**P**		**18 59 10.2**	**+0.4**
RIDG				lAmb		lAmb		18 59 12.0	
	comp=Z,12nm,0.9s								
RIDG	**Independent Ri**	**86.34**	**26**	P		**P**		**18 59 10.4**	**+0.6**
	baz=257								
DOT	**Dot Lake**	**86.66**	**26**	P		**P**		**18 59 10.8**	**-0.6**
DOT				lAmb		lAmb		18 59 17.2	
	comp=Z,8.1nm,1.0s								
ARU	**Arti**	**86.74**	**327**	*c i* P		**P**		**18 59 11.1**	**-0.7**
ARU				S		S		19 09 36.8	-13
ARU				pmax		pmax			
	comp=Z,15nm,1.2s								
ARU	**Arti**	**86.74**	**327**	P		**P**		**18 59 10.5**	**-1.4**
ARU				lAmb		lAmb		18 59 12.0	
	comp=Z,13nm,1.1s								
SCRK	**Sand Creek**	**86.77**	**26**	P		**P**		**18 59 11.9**	**-0.1**
SCRK	**Sand Creek**	**86.77**	**26**	P		**P**		**18 59 12.7**	**+0.7**
	baz=258								
L26K	**Log Cabin Wild**	**86.84**	**27**	P		**P**		**18 59 13.5**	**+1.2**
	baz=258								
FYU	**Fort Yukon**	**86.85**	**23**	P		**P**		**18 59 12.9**	**+0.8**
J26L	**Joseph Creek**	**87.06**	**25**	P		**P**		**18 59 13.7**	**+0.3**
	baz=258								
BARN	**Barnard Glacie**	**87.24**	**29**	P		**P**		**18 59 14.2**	**-0.2**
BARN				lAmb		lAmb		18 59 16.3	
	comp=Z,10nm,0.9s								
BMAR	**Burnt Mountain**	**87.31**	**22**	P		**P**		**18 59 15.3**	**+0.8**
QSPA	**South Pole Qui**	**87.33**	**180**	P		**P**		**18 59 14.3**	**-0.4**
	comp=Z,17nm,1.0s,baz=336,slow=2.0,SNR=15								
QSPA	**South Pole Qui**	**87.33**	**180**	P		**P**		**18 59 14.8**	**+0.1**
M27K	**Edge Creek, AK**	**87.38**	**27**	P		**P**		**18 59 16.6**	**+1.6**
	baz=260								
CTG	**Chitina Glacier**	**87.38**	**29**	P		**P**		**18 59 16.8**	**+1.7**
	baz=260								
CTGM	**Chitina Glacie**	**87.38**	**29**	P		**P**		**18 59 16.2**	**+1.2**
L27K	**Beaver Creek,**	**87.53**	**27**	P		**P**		**18 59 16.5**	**+0.9**
L27K				lAmb		lAmb		18 59 22.4	
	comp=Z,5.6nm,0.9s								
L27K	**Beaver Creek,**	**87.53**	**27**	P		**P**		**18 59 17.0**	**+1.4**
	baz=260								
BCAR	**Beaver Creek A**	**87.55**	**27**	P		**P**		**18 59 16.4**	**+0.6**
K27K	**Chicken**	**87.60**	**26**	P		**P**		**18 59 16.3**	**+0.4**
K27K				lAmb		lAmb		18 59 18.2	
	comp=Z,13nm,1.1s								
K27K	**Chicken**	**87.60**	**26**	P		**P**		**18 59 17.7**	**+1.8**
	baz=259								
EGAK	**Eagle**	**88.13**	**25**	P		**P**		**18 59 19.0**	**+0.6**
EGAK				lAmb		lAmb		18 59 19.9	
	comp=Z,10nm,1.1s								
EGAK	**Eagle**	**88.13**	**25**	P		**P**		**18 59 19.8**	**+1.4**
	baz=260								
DAWY	**Dawson**	**88.77**	**26**	P		**P**		**18 59 22.6**	**+1.0**
DAWY	**Dawson**	**88.77**	**26**	P		**P**		**18 59 23.3**	**+1.8**
	baz=262								
KIV	**Kislovodsk**	**96.17**	**314**	*e*P		**P**		**18 59 52.1**	**-4.1**
KIV				pmax		pmax			
	comp=Z,6.0nm,1.0s								
OBN	**Obninsk**	**99.10**	**325**	*i* P		**Pdif**		**19 00 08.1**	**-0.9**
OBN				*i*				19 04 11.2	
OBN				pmax		pmax			
	comp=Z,5.0nm,1.1s								
S39A	**Bolivar**	**120.98**	**47**			**PKPdf**		**19 05 19.2**	**-1.8**
TORD	**Torodi Ar. Bea**	**136.26**	**286**	PKP		**PKPdf**		**19 05 51.2**	**+0.6**
	comp=Z,2.5nm,0.9s,baz=94,slow=2.7,SNR=9.2								
TORD	**Torodi Ar. Bea**	**136.26**	**286**	PKPdf		**PKPdf**		**19 05 47.6**	**-3.0**
DBIC	**Dimbokro**	**143.50**	**278**	PKP		**PKPdf**		**19 06 03.4**	**-0.4**
	comp=Z,5.0nm,1.0s,baz=21,slow=5.9,SNR=3.1								
CPUP	**Villa Florida**	**147.29**	**153**	PKPbc		**PKPbc**		**19 06 12.3**	**+0.1**
	comp=Z,18nm,1.1s,baz=227,slow=2.2,SNR=8.1								
LPAZ	**La Paz**	**147.47**	**126**	PKPbc		**PKPbc**		**19 06 13.9**	**+0.2**
	comp=Z,5.3nm,0.9s,baz=24,slow=0.1,SNR=14								
LPAZ	**La Paz**	**147.47**	**126**	PKIKP		**PKPdf**		**19 06 10.7**	**-0.6**
LPAZ	**La Paz**	**147.47**	**126**			**PKPdf**		**19 06 10.7**	**-0.6**

*SJA **21** 18:47:05.0,31.˙75S×71.˚82W,h10km,ML5.0*
*IDC **21** 18:47:07.0±0.6,31.˙77S×71.˚48W,h35km±4km, mb4.2/7, mb1 4.3/12, mb1mx4.1/38, mbtmp4.4/12, ML4.2/5, Error ellipse: s-maj=23.6km s-min=17.0km az=89.0*
*GUC **21** 18:47:06.8±0.7, 31.˙76S×71.˚57W, h37km±2km, ML4.6*
*NEIC **21** 18:47:07.5±1.1, 31.˙75S±0.˚03×71.˚64W±0.˚07, h38km±6km, mb4.7/16, ML4.6(GUC), Error ellipse: s-maj=8.6km s-min=3.2km az=103.0*

ISC 21 18:47:06.7±0.6, **31.˙76S**±0.˚03×**71.˚74W**±0.˚06, **h37**km±1km, **n125,σ1s37**/129, **mb4.7**/12, **10C-9D**, **Fault plane solution: NP1:**ϕs320.97635°, δ46.08184°, λ31.99332°. **NP2:** ϕs207.54849°, δ67.56431°, λ131.37224°. **Principal axes:** T Plg49.4938°, Azm163.5647°; N Plg37.6561°, Azm8.9690°; P Plg12.7446°, Azm268.9175°; **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
VA06	**Catapilco**	**0.88**	**155**	⇓*e*P		**Pn**	**18 47 22.2**	**-0.3**
VA06				*e*S		**Sn**	**18 47 33.4**	**-0.7**
VA06				lAML			18 47 36.6	
	comp=N,26µm,0.2s							
CO06	**Fray Jorge**	**1.09**	**5**	⇑*i*P		**Pn**	**18 47 26.1**	**+0.7**
CO06				*e*S		**Sn**	**18 47 41.0**	**+1.8**
CO06	**Fray Jorge**	**1.09**	**5**			**Pn**	**18 47 26.2**	**+0.8**
CO06				Sn		**Sn**	**18 47 39.9**	**+0.7**
VA01	**Torpederas**	**1.26**	**177**	*e*P		**Pn**	**18 47 28.7**	**+1.0**
VA01				*e*S		**Sn**	**18 47 45.2**	**+1.8**
VA01	**Torpederas**	**1.26**	**177**	Pn		**Pn**	**18 47 28.7**	**+1.0**
VA01	**Torpederas**	**1.26**	**177**	*i* P		**Pn**	**18 47 29.0**	**+1.3**
CO03	**El Pedregal**	**1.28**	**45**	*e*P		**Pn**	**18 47 27.9**	**-0.3**
CO03				*e*S		**Sn**	**18 47 43.6**	**-0.5**
CO03				lAML			18 47 44.2	
	comp=E,18µm,0.4s							
CO03	**El Pedregal**	**1.28**	**45**	Pn		**Pn**	**18 47 27.8**	**-0.3**
CO03				Sn		**Sn**	**18 47 43.0**	**-1.1**
CO03	**El Pedregal**	**1.28**	**45**	*i* P		**Pn**	**18 47 28.0**	**-0.2**
ROCH	**El Roble**	**1.35**	**153**	⇓*e*P		**Pn**	**18 47 29.3**	**+0.1**
ROCH				*e*S		**Sn**	**18 47 46.8**	**+0.7**
ROCH				lAML			18 47 51.5	
	comp=N,12µm,0.4s							
VA03	**San Esteban**	**1.42**	**135**	⇓*i*P		**Pn**	**18 47 30.1**	**0.0**
VA03				*e*S		**Sn**	**18 47 47.7**	**+0.3**
VA03				lAML			18 47 49.8	
	comp=N,38µm,0.4s							
VA03	**San Esteban**	**1.42**	**135**			**Pn**	**18 47 29.9**	**-0.1**
VA03				Sn		**Sn**	**18 47 47.0**	**-0.5**
VA03	**San Esteban**	**1.42**	**135**	*i* P		**Pn**	**18 47 30.0**	**0.0**
GO04	**Tololo Observa**	**1.78**	**27**	*e*P		**Pn**	**18 47 35.9**	**+0.8**
GO04				*e*S		**Sn**	**18 47 58.3**	**+1.8**
GO04	**Tololo Observa**	**1.78**	**27**			**Pn**	**18 47 35.5**	**+0.4**
GO04				Sn		**Sn**	**18 47 57.9**	**+1.4**
GO04	**Tololo Observa**	**1.78**	**27**	*i* P		**Pn**	**18 47 36.0**	**+0.9**
MT05	**Renca**	**1.83**	**153**	⇑*e*P		**Pn**	**18 47 36.8**	**+1.1**
MT05				*i* S		**Sn**	**18 47 59.6**	**+2.0**
MT05				lAML			18 48 09.4	
	comp=E,15µm,0.4s							
MT05	**Renca**	**1.83**	**153**			**Pn**	**18 47 36.6**	**+1.0**
MT05				Sn		**Sn**	**18 47 58.5**	**+0.9**
MT05	**Renca**	**1.83**	**153**	*i* P		**Pn**	**18 47 37.0**	**+1.3**
CO05	**La Serena**	**1.89**	**13**	⇑*e*P		**Pn**	**18 47 37.5**	**+1.2**
CO05				*e*S		**Sn**	**18 48 02.3**	**+3.4**
CO05				lAML			18 48 09.7	
	comp=E,8µm,0.5s							
CO05	**La Serena**	**1.89**	**13**	Pn		**Pn**	**18 47 37.2**	**+0.9**
CO05				Sn		**Sn**	**18 48 00.1**	**+1.2**
VA05	**Santo Domingo**	**1.89**	**177**	Pn		**Pn**	**18 47 36.9**	**+0.4**
AUSP	**Uspallata**	**2.05**	**104**	*i* P		**Pn**	**18 47 40.0**	**+1.1**
RTLS	**Leoncito**	**2.08**	**92**	*i* P		**Pn**	**18 47 41.0**	**+1.7**
MT09	**Talagante**	**2.11**	**163**	⇑*e*P		**Pn**	**18 47 41.0**	**+1.4**
MT09				*e*S		**Sn**	**18 48 07.1**	**+2.6**
MT09				lAML			18 48 16.4	
	comp=E,7µm,0.2s							
MT09	**Talagante**	**2.11**	**163**	Pn		**Pn**	**18 47 40.8**	**+1.2**
MT01	**Popeta**	**2.14**	**169**	*e*P		**Pn**	**18 47 41.0**	**+1.2**
MT01				lAML			18 48 16.0	
	comp=N,4µm,0.4s							
MT01	**Popeta**	**2.14**	**169**			**Pn**	**18 47 40.9**	**+1.1**
MT01	**Popeta**	**2.14**	**169**	*i* P		**Pn**	**18 47 41.0**	**+1.2**
AROD	**Rodeo**	**2.51**	**51**	*i* P		**Pn**	**18 47 48.0**	**+2.7**
ACCO	**Cerro Coronel**	**2.57**	**64**	*i* P		**Pn**	**18 47 49.0**	**+2.9**
ASAL	**Salagasta**	**2.60**	**109**	*i* P		**Pn**	**18 47 49.0**	**+2.8**
ARCO	**CERRO ARCO**	**2.61**	**115**	*i* P		Pn	18 47 50.0	+3.6
ZON	**Zonda**	**2.62**	**86**			**Pn**	**18 47 48.9**	**+2.5**
ZON	**Zonda**	**2.62**	**86**	*i* P		**Pn**	**18 47 49.0**	**+2.5**
BO01	**Tunca**	**2.68**	**168**	Pn		**Pn**	**18 47 47.9**	**+0.7**
BO01	**Tunca**	**2.68**	**168**	*i* P		**Pn**	**18 47 48.0**	**+0.7**
RTCV	**Cerro Valdivia**	**2.72**	**93**	*i* P		**Pn**	**18 47 50.0**	**+2.1**
ACDV	**Cuesta del Vie**	**2.75**	**55**	*i* P		Pn	18 47 52.0	+3.6
AAGR	**Agrelo**	**2.79**	**119**	*i* P		**Pn**	**18 47 52.0**	**+3.1**
LCO	**Las Campanas**	**2.88**	**18**	⇑*e*P		**Pn**	**18 47 51.4**	**+1.0**
LCO	**Las Campanas**	**2.88**	**18**	*i* P		**Pn**	**18 47 52.0**	**+1.7**
BO02	**Sierra Bellavi**	**3.13**	**165**			**Pn**	**18 47 54.8**	**+1.3**
BO02	**Sierra Bellavi**	**3.13**	**165**	*i* P		**Pn**	**18 47 56.0**	**+2.5**
GO05	**Huala**	**3.24**	**183**	Pn		**Pn**	**18 47 55.1**	**0.0**
GO05	**Huala**	**3.24**	**183**	*i* P		**Pn**	**18 47 55.0**	**0.0**
AC04	**Llanos de Chal**	**3.59**	**9**	Pn		**Pn**	**18 47 60.0**	**+0.2**
AC04	**Llanos de Chal**	**3.59**	**9**	*i* P		**Pn**	**18 48 01.0**	**+1.2**
COIS	**El Sosneado**	**3.79**	**152**	*i* P		**Pn**	**18 48 06.0**	**+3.5**
AVFE	**Valle Fertil**	**3.83**	**74**	*i* P		**Pn**	**18 48 04.0**	**+0.9**
ML02	**Panimavida**	**4.00**	**176**	Pn		**Pn**	**18 48 06.0**	**+0.6**
RFA	**San Rafael**	**4.06**	**138**	*i* P		**Pn**	**18 48 08.0**	**+1.6**
VCA	**Vinchina**	**4.29**	**46**	*i* P		**Pn**	**18 48 13.0**	**+3.4**
GO03	**Copiap**	**4.35**	**18**	Pn		**Pn**	**18 48 10.8**	**+0.4**
GO03	**Copiap**	**4.35**	**18**	*i* P		**Pn**	**18 48 12.0**	**+1.6**
ACHE	**Chepes**	**4.38**	**83**	*i* P		**Pn**	**18 48 12.0**	**+1.3**
AC06	**Mina Casimiro**	**4.55**	**16**	Pn		**Pn**	**18 48 13.2

TORD						IAmb	IAmb	18 59 29.7		
	comp=Z,5.6nm,0.8s									
BOZ	**Bozeman (W)**	**85.08**	**333**		P	**P**		**18 59 37.8**	**-0.7**	
BOZ						IAmb	IAmb	18 59 38.2		
	comp=Z,3.1nm,0.7s									
ASAR	**Alice Springs**	**119.67**	**207**		PKP	**PKPdf**		**19 05 52.8**	**-0.5**	
	comp=Z,0.8nm,0.9s,baz=138,slow=1.5,SNR=7.1									
WRA	**Warramunga Arr**	**122.83**	**209**		PKP	**PKPdf**		**19 05 58.5**	**-0.9**	
	comp=Z,1.2nm,0.6s,baz=132,slow=1.4,SNR=16									
WRA					pPKP	**pPKPdf**		**19 06 10.2**	**-0.9**	
	comp=Z,0.6nm,0.5s,baz=172,slow=2.0,SNR=2.5									
H11S2	**WAKE ISLAND Hyl**	**26.03**	**271**		T	T		21 25 02.2		
	baz=117,slow=75,SNR=53									
H11S1	**WAKE ISLAND Hyl**	**26.04**	**271**		T	T		21 24 56.6		
	baz=117,slow=75,SNR=40									
H11S3	**WAKE ISLAND Hyl**	**26.05**	**271**		T	T		21 24 58.0		
	baz=117,slow=75,SNR=40									
H11N3	**WAKE ISLAND Hyl**	**26.39**	**272**		T	T		21 25 30.1		
	baz=116,slow=75,SNR=28									
H11N1	**WAKE ISLAND Hyl**	**26.40**	**272**		T	T		21 25 31.5		
	baz=116,slow=75,SNR=7.3									
H11N2	**WAKE ISLAND Hyl**	**26.40**	**272**		T	T		21 25 31.3		
	baz=116,slow=75,SNR=58									
HYB	**Hyderabad**	**149.56**	**111**	*i*	PKP	**PKPbc**		**19 06 52.0**	**-0.8**	
ZALV	**Zalesovo Beam**	**152.19**	**30**		PKPbc	**PKiKP**		**19 06 57.9**	**-0.2**	
	comp=Z,7.3nm,0.6s,baz=308,slow=3.3,SNR=25									
ZALV					pPKPbc	**pPKPbc**		**19 07 09.4**	**-0.1**	
	comp=Z,7.3nm,0.6s,baz=315,slow=2.8,SNR=10									
MKAR	**Makanchi Array**	**155.06**	**46**		PKPbc			19 07 04.2		
	comp=Z,1.0nm,0.8s,baz=96,slow=1.2,SNR=4.4									
MKAR					PKPab	sPKPbc		19 07 20.2	-0.1	
	comp=Z,1.7nm,0.7s,baz=306,slow=2.9,SNR=6.1									
XAN	**Xi'an**	**177.66**	**346**		PKP	**PKPdf**		**19 07 14.6**	**+1.3**	
XAN					sPKP			19 07 23.3		

*IDC **21** 18:57:35.3±1.3, 30°.97S×72°.01W, h0km, mb4.4/1, mb1 4.1/2, mb1mx3.6/28, mbtmp3.9/2, ML3.8/1 Error ellipse: s-maj=47.1km s-min=9.3km az=99.0*
*NEIC **21** 18:57:39.5±1.1, 31°.07S±0°.03×72°.0W±0°.1, h24km±10km, mb4.4/1, ML4.0(GUC), Error ellipse: s-maj=13.6km s-min=4.8km az=93.0*
*GUC **21** 18:57:40.4±0.7, 31°.11S×71°.73W, h31km±2km, ML4.0*
ISC 21 18:57:40.2±1.2, 31°.06S±0°.04×71°.88W±0°.09, h30km±9km, n39, σ1=917/50, 10C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.44**	**28**	↑	*eP*	**Pb**		**18 57 50.0**	**+0.3**
CO06					*i* S	**Sb**		**18 57 56.4**	**+0.3**
CO06					IAML			18 57 58.3	
	comp=E,13μm,0.3s								
CO06	**Fray Jorge**	**0.44**	**28**		Pg	**Pb**		**18 57 50.0**	**+0.3**
CO06					Sg	**Sb**		**18 57 55.7**	**-0.4**
CO03	**El Pedregal**	**1.04**	**78**	↑	*eP*	**Pn**		**18 57 57.1**	**-1.7**
CO03					*i* S	**Sn**		**18 58 10.1**	**-2.4**
CO03					IAML			18 58 10.3	
	comp=E,5μm,0.2s								
CO03	**El Pedregal**	**1.04**	**78**		Pn	**Pn**		**18 57 57.6**	**-1.3**
CO05	**La Serena**	**1.27**	**26**	↑	*eP*	**Pn**		**18 58 02.2**	**+0.4**
CO05					*i* S	**Sn**		**18 58 18.9**	**+1.1**
CO05					IAML			18 58 30.1	
	comp=E,1μm,0.5s								
CO05	**La Serena**	**1.27**	**26**			**Pn**		**18 58 02.5**	**+0.6**
GO04	**Tololo Observa**	**1.28**	**47**	↑	*eP*	**Pn**		**18 58 02.1**	**-0.2**
GO04					*i* S	**Sn**		**18 58 18.5**	**-0.1**
GO04					IAML			18 58 24.4	
	comp=N,8μm,0.6s								
GO04	**Tololo Observa**	**1.28**	**47**		Pn	**Pn**		**18 58 02.9**	**+0.6**
VA06	**Catapilco**	**1.57**	**162**	↓	*iP*	**Pn**		**18 58 06.2**	**+0.1**
VA06					*i* S	**Sn**		**18 58 25.5**	**+0.1**
VA06					IAML			18 58 30.7	
	comp=N,4μm,0.4s								
VA01	**Torpederas**	**1.96**	**174**		*eP*	**Pn**		**18 58 10.9**	**-0.5**
VA01	**Torpederas**	**1.96**	**174**			**Pn**		**18 58 11.1**	**-0.4**
VA03	**San Esteban**	**2.04**	**147**	↑	*iP*	**Pn**		**18 58 13.3**	**+0.7**
VA03					*i* S	**Sn**		**18 58 38.2**	**+1.2**
VA03					IAML			18 58 43.2	
	comp=E,3μm,0.3s								
VA03	**San Esteban**	**2.04**	**147**			**Pn**		**18 58 13.2**	**+0.7**
ROCH	**El Roble**	**2.04**	**159**	↓	*iP*	**Pn**		**18 58 13.2**	**+0.5**
ROCH					*i* S	**Sn**		**18 58 39.3**	**+2.0**
ROCH					IAML			18 58 43.8	
	comp=N,2μm,0.4s								
LCO	**Las Campanas**	**2.29**	**27**	↑	*eP*	**Pn**		**18 58 17.3**	**+1.2**
LCO					*eS*	**Sn**		**18 58 46.8**	**+3.4**
MT05	**Renca**	**2.52**	**158**	↑	*eP*	**Pn**		**18 58 19.8**	**+0.7**
MT05					*i* S	**Sn**		**18 58 50.1**	**+1.3**
MT05					IAML			18 58 59.0	
	comp=E,3μm,0.4s								
MT05	**Renca**	**2.52**	**158**			**Pn**		**18 58 19.6**	**+0.5**
VA05	**Santo Domingo**	**2.60**	**175**	↑	*eP*	**Pn**		**18 58 20.1**	**-0.1**
VA05					*eS*	**Sn**		**18 58 50.8**	**+0.1**
VA05	**Santo Domingo**	**2.60**	**175**		Pn	**Pn**		**18 58 19.9**	**-0.1**
ZON	**Zonda**	**2.78**	**101**			**Pn**		**18 58 26.5**	**+3.8**
MT09	**Talagante**	**2.81**	**165**		*eP*	**Pn**		**18 58 23.9**	**+0.7**
MT09	**Talagante**	**2.81**	**165**		Pn	**Pn**		**18 58 23.9**	**+0.7**
MT01	**Popeta**	**2.84**	**169**		*eP*	**Pn**		**18 58 23.6**	**0.0**
MT01	**Popeta**	**2.84**	**169**		Pn	**Pn**		**18 58 23.6**	**-0.1**
AC04	**Llanos de Chal**	**2.93**	**14**		Pn	**Pn**		**18 58 24.7**	**-0.1**
LMEL	**Las Melosas**	**3.12**	**153**	↑	*eP*	**Pn**		**18 58 27.8**	**+0.4**
LMEL					*eS*	**Sn**		**18 59 04.6**	**+0.8**
LMEL					IAML			18 59 16.3	
	comp=N,731nm,0.3s								
BO01	**Tunca**	**3.39**	**169**		Pn	**Pn**		**18 58 30.8**	**-0.2**
GO03	**Copiap**	**3.74**	**23**		Pn	**Pn**		**18 58 36.8**	**+0.8**
BO02	**Sierra Bellavi**	**3.83**	**166**		Pn	**Pn**		**18 58 37.9**	**+0.7**
GO05	**Huala**	**3.94**	**181**		Pn	**Pn**		**18 58 37.4**	**-1.2**
ML02	**Panimavida**	**4.70**	**175**		Pn	**Pn**		**18 58 49.1**	**0.0**
LC01	**Cunco**	**7.82**	**180**		Pn	**Pn**		**18 59 30.5**	**-1.3**
LVC	**Limon Verde**	**8.82**	**18**			**Pn**		**18 59 43.9**	**-2.2**
PLCA	**Paso Flores**	**9.71**	**174**		Pn	**Pn**		**18 59 57.8**	**0.0**
	comp=N,0.2nm,0.3s,baz=349,slow=14,SNR=11								
TRQA	**Tornquist**	**10.73**	**133**		Pn	**Pn**		**19 00 10.3**	**-1.5**
BDFB	**Brasilia**	**26.66**	**60**		P	**P**		**19 03 16.9**	**+0.2**
	comp=N,2.0nm,0.4s,baz=241,slow=13,SNR=1.8								
BDFB	**Brasilia**	**26.66**	**60**		IAmb	IAmb		19 03 38.6	
	comp=Z,15nm,1.4s								
TORD	**Torodi Ar. Bea**	**83.09**	**70**		P	**P**		**19 10 03.4**	**0.0**
	comp=Z,0.7nm,0.8s,baz=244,slow=6.3,SNR=3.6								
ZALV	**Zalesovo Beam**	**151.64**	**29**		PKPbc	**PKPbc**		**19 17 30.9**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=318,slow=1.9,SNR=5.6								

*NEIC **21** 19:00:09.7±2.5, 10°.13N±0°.02×126°.1E±0°.1, h43km±7km, mb4.5/35, Error ellipse: s-maj=17.8km s-min=2.1km az=98.0*
*MAN **21** 19:00:09.3, 10°.05N×126°.08E, h17km, mb4.8, ML3.7, MS3.7*
*IDC **21** 19:00:12.2±5.8, 9°.94N×125°.97E, h76km±54km, mb3.8/19, mb1 3.9/19, mb1mx3.7/48, mbtmp4.1/19, Error ellipse: s-maj=27.2km s-min=12.9km az=74.0*
ISC 21 19:00:03.3±1.7, 10°.06N±0°.04×126°.09E±0°.05, h3km±10km, n76, σ1=920/75, mb4.3/35, 6C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.65**	**245**	↑	*eP*	**Pn**		**19 00 22.2**	**+2.7**
SCPH					*eS*	**Sn**		**19 00 32.4**	**+2.1**
BIPH	**Bislig**	**1.88**	**172**	↓	*eP*	**Pg**		**19 00 40.4**	**+1.0**
BIPH					*eS*	**Sg**		**19 01 03.3**	**-0.5**
LLP	**Lapu-Lapu**	**2.10**	**277**	↑	*iP*	**Pg**		**19 00 44.2**	**+0.5**
LLP					*i* S	**Sg**		**19 01 10.3**	**-0.6**
BUKP	**Musuan**	**2.39**	**205**	↑	*iP*	**Pg**		**19 00 48.3**	**-0.8**
BUKP					*i* S	**Sg**		**19 01 18.5**	**-1.6**
SNPH	**Sibulan**	**2.90**	**256**	↑	*eP*	**Pb**		**19 00 55.8**	**+0.1**
SNPH					*eS*	**Sg**		**19 01 37.2**	**+0.7**
DAV	**Davao City (W)**	**3.01**	**190**		P	**Pg**		**19 01 00.9**	**-0.1**
DAV	52nm,0.3s,baz=219,slow=14,SNR=1.6				S		**Sb**	**19 01 34.5**	**-0.3**
	22nm,0.3s,baz=279,slow=18,SNR=1.5								
DAV	**Davao City (W)**	**3.01**	**190**			**Pb**		**19 00 55.8**	**-1.8**
DCPH	**Dipolog City**	**3.07**	**242**	↑	*eP*	**Pb**		**19 00 58.4**	**-0.2**
DCPH					*eS*	**Sb**		**19 01 34.0**	**-2.6**
KCP	**Kidapawan**	**3.19**	**198**	↓	*iP*	**Pb**		**19 00 59.6**	**-1.0**
KCP					*i* S	**Sb**		**19 01 38.1**	**-1.7**
RCP	**Roxas**	**3.61**	**295**	↑	*eP*	**Pb**		**19 01 06.0**	**-1.8**
LQP	**Lukban**	**6.00**	**313**		*eP*	Pn		19 01 38.9	+5.6
TPUB	**Ta-pu**	**14.17**	**339**		P	**P**		**19 03 33.9**	**+1.2**
FAKI	**Fak Fak**	**14.28**	**154**		P	**P**		**19 03 35.6**	**+1.7**
BATI	**Baumata**	**20.27**	**187**		P	Pn		19 04 42.0	-0.2

	16nm,0.7s,baz=48,slow=2.3,SNR=4.1									
JAGI	**Jajag, Banyuwa**	**21.91**	**213**		P	**P**		**19 05 00.8**	**+2.9**
MTN	**Manton Dam**	**23.30**	**167**		P	**P**		**19 05 12.3**	**-0.2**
MTN					IAmb	IAmb		19 05 15.8		
	comp=Z,10.0nm,0.7s									
KNRA	**Kununurra**	**25.70**	**174**		P	**P**		**19 05 34.2**	**-0.8**
KNRA					IAmb	IAmb		19 05 42.1		
	comp=Z,10nm,0.8s									
JWT	**Wachi**	**26.51**	**17**		P	**P**		**19 05 41.7**	**-0.4**
JWT					IAmb	IAmb		19 06 05.2		
	comp=Z,23nm,1.4s									
KSRS	**Korea Array**	**27.33**	**3**		P	**P**		**19 05 51.2**	**+1.8**
	comp=Z,0.4nm,0.7s,baz=173,slow=11,SNR=4.4									
CMAR	**Chiang Mai Arr**	**27.57**	**291**		P	**P**		**19 05 52.7**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=132,slow=2.1,SNR=6.3									
FITZ	**Fitzroy Crossi**	**27.98**	**181**		P	**P**		**19 05 54.8**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=356,slow=5.6,SNR=15									
WRA	**Warramunga Arr**	**30.90**	**165**		P	**P**		**19 06 19.2**	**-2.2**
	comp=Z,1.3nm,0.7s,baz=345,slow=9.6,SNR=5.9									
WR0	**Warramunga Arr**	**30.97**	**164**		P	**P**		**19 06 21.8**	**-0.2**
PSA00	**Pilbara Seismi**	**32.02**	**191**		P	**P**		**19 06 32.4**	**+1.1**
AS31	**Alice Springs**	**34.38**	**167**		P	**P**		**19 06 51.2**	**-0.6**
ASAR	**Alice Springs**	**34.38**	**167**		P	**P**		**19 06 51.1**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=358,slow=7.9,SNR=15									
ASAR	**Alice Springs**	**34.38**	**167**		P	**P**		**19 06 50.6**	**-1.2**
H11N1	**WAKE ISLAND Hy**	**40.49**	**71**		T	T		19 51 07.3		
	baz=265,slow=74,SNR=52									
H11N2	**WAKE ISLAND Hy**	**40.50**	**71**		T	T		19 51 05.3		
	baz=265,slow=74,SNR=48									
H11N3	**WAKE ISLAND Hy**	**40.51**	**71**		T	T		19 51 02.1		
	baz=265,slow=74,SNR=60									
FORT	**Forrest**	**40.65**	**177**		P	**P**		**19 07 45.1**	**+0.3**
ULN	**Ulaanbaatar**	**40.96**	**340**		P	**P**		**19 07 46.9**	**-0.5**
ULN					IAmb	IAmb		19 08 01.2		
	comp=Z,7.1nm,1.2s									
SONM	**Songino Array**	**41.16**	**340**		P	**P**		**19 07 49.6**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=160,slow=10,SNR=3.6									
SONM	**Songino Array**	**41.16**	**340**		IAmb	IAmb		19 07 50.6		
	comp=Z,2.9nm,1.3s									
BBOO	**Buckleboo**	**43.67**	**168**		P	**P**		**19 08 09.6**	**0.0**
STKA	**Stephens Creek**	**44.26**	**161**		P	**P**		**19 08 14.0**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=335,slow=13,SNR=6.8									
LIFNC	**LIFOU**	**50.75**	**127**		P	**P**		**19 09 05.3**	**+0.3**
DZM	**Mont Dzumac**	**50.85**	**129**		P	**P**		**19 09 06.8**	**+1.0**
MKAR	**Makanchi Array**	**52.09**	**323**		P	**P**		**19 09 14.6**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=120,slow=8.5,SNR=8.0									
MKAR	**Makanchi Array**	**52.09**	**323**		P	**P**		**19 09 14.7**	**0.0**
ZAA0	**Zalesovo Array**	**54.73**	**331**		P	**P**		**19 09 31.7**	**-2.2**
ZALV	**Zalesovo Beam**	**54.73**	**331**		P	**P**		**19 09 33.6**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=120,slow=5.2,SNR=3.3									
SEY	**Seymchan**	**56.07**	**14**		P	**P**		**19 09 45.0**	**+1.5**
	comp=Z,1.9nm,1.0s,baz=189,slow=12,SNR=4.2									
CHGR	**Chuyangaron**	**58.08**	**309**		P	**P**		**19 09 57.1**	**-1.2**
KKAR	**Karatay Array**	**58.27**	**315**		P	**P**		**19 09 58.4**	**-1.1**
TIXI	**Tiksi**	**61.57**	**1**		P	**P**		**19 10 21.1**	**-0.4**
	comp=Z,9.2nm,0.8s,baz=151,slow=18,SNR=3.1									
TIXI	**Tiksi**	**61.57**	**1**		IAmb	IAmb		19 10 22.5		
	comp=Z,13nm,0.9s									
BRVK	**Borovoye**	**61.81**	**325**		P	**P**		**19 10 22.3**	**-1.2**
BRVK					IAmb	IAmb		19 10 23.5		
	comp=Z,2.7nm,0.7s									
KNTN	**Kanton**	**63.22**	**98**		P	**P**		**19 10 33.8**	**+0.2**
ABKAR	**Akulak array**	**66.92**	**319**		P	**P**		**19 10 55.6**	**-1.4**
IMAR	**Indian Mountai**	**76.87**	**24**		P	**P**		**19 11 57.0**	**+0.5**
KDAK	**Kodiak Island**	**76.94**	**33**		P	**P**		**19 11 57.6**	**+0.6**
	comp=Z,3.3nm,0.7s,baz=268,slow=10,SNR=1.4									
H21K	**Melozitna Rive**	**77.23**	**25**		P	**P**		**19 11 59.9**	**+1.3**
H21K					IAmb	IAmb		19 12 01.5		
	comp=Z,8.6nm,1.4s									
I21K	**Tanana**	**77.55**	**25**		P	**P**		**19 12 01.7**	**+1.4**
I21K					IAmb	IAmb		19 12 03.0		
	comp=Z,12nm,1.3s									
BPAW	**Bear Paw Mtn.**	**77.93**	**26**		P	**P**		**19 12 02.5**	**-0.1**
BPAW					IAmb	IAmb		19 12 04.8		
	comp=Z,7.8nm,1.2s									
MLY	**Manley**	**78.07**	**26**		P	**P**		**19 12 04.2**	**+0.9**
MLY					IAmb	IAmb		19 12 05.1		
	comp=Z,3.0nm,0.7s									
KBZ	**Khabaz**	**78.22**	**313**		P	**P**		**19 12 03.4**	**-1.1**
	comp=Z,2.4nm,0.9s,baz=39,slow=2.4,SNR=3.8									
TRF	**Thorofare Moun**	**78.22**	**27**		P	**P**		**19 12 04.9**	**+0.5**
TRF					IAmb	IAmb		19 12 05.8		
	comp=Z,5.7nm,1.1s									
H23K	**Yukon River**	**78.59**	**25**		P	**P**		**19 12 07.7**	**+1.6**
H23K					IAmb	IAmb		19 12 08.5		
	comp=Z,2.8nm,0.8s									
TOLK	**Toolik Lake Re**	**78.64**	**22**		P	**P**		**19 12 07.6**	**+1.2**
TOLK					IAmb	IAmb		19 12 11.0		
	comp=Z,6.1nm,1.1s									
MDM	**Murphy Dome**	**79.13**	**26**		P	**P**		**19 12 09.7**	**+0.5**
GURO	**Guroymak-BITLI**	**79.18**	**307**		P	**P**		**19 12 10.1**	**0.0**
GURO					IAmb	IAmb		19 12 11.1		
	comp=Z,3.1nm,0.7s									
H24K	**Noodor Dome**	**79.27**	**25**		P	**P**		**19 12 11.0**	**+1.0**
HDA	**Harding Lake**	**79.69**	**26**		P	**P**		**19 12 10.7**	**-1.5**
HDA					IAmb	IAmb		19 12 12.2		
	comp=Z,2.4nm,0.6s									
ILAR	**Eielson Array**	**79.71**	**26**		P	**P**		**19 12 12.4**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=232,slow=5.2,SNR=6.1									
K27K	**Chicken**	**81.84**	**26**		P	**P**		**19 12 23.8**	**+0.1**
K27K					IAmb	IAmb		19 12 27.0		
	comp=Z,8.5nm,1.3s									
CTGM	**Chitina Glacie**	**82.54**	**29**		P	**P**		**19 12 28.8**	**+1.2**
CTGM					IAmb	IAmb		19 12 30.6		
	comp=Z,10.0nm,0.9s									
ARCES	**ARCESS Array B**	**84.33**	**340**		P	**P**		**19 12 35.8**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=79,slow=7.7,SNR=9.4									
ARCES	**ARCESS Array B**	**84.33**	**340**		IAmb	IAmb		19 12 40.0		
	comp=Z,7.6nm,1.4s									
BRTR	**Keskin Array B**	**85.53**	**309**		P	**P**		**19 12 41.8**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=91,slow=4.6,SNR=6.2									
FINES	**FINESS Array B**	**85.99**	**332**		P	**P**		**19 12 43.8**	**-1.2**
	comp=Z,1.8nm,0.7s,baz=98,slow=7.9,SNR=8.9									
AKASG	**Malin Array Be**	**86.61**	**321**		P	**P**		**19 12 47.3**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=60,slow=5.8,SNR=7.5									
AKASG	**Malin Array Be**	**86.61**	**321**		IAmb	IAmb		19 13 01.8		
	comp=Z,3.1nm,1.5s									
BUR08	**Bucovina Ar. S**	**89.88**	**318**		P	**P**		**19 13 02.6**	**-1.4**
BUR08					IAmb	IAmb		19 13 04.7		
	comp=Z,1.3nm,0.8s									
TORD	**Torodi Ar. Bea**	**120.18**	**292**		PKP	**PKPdf**		**19 18 55.1**	**-1.7**
	comp=Z,0.8nm,0.8s,baz=7.6,slow=2.2,SNR=4.2									
PLCA	**Paso Flores**	**146.08**	**157**		PKPbc	**PKPbc**		**19 19 44.8**	**-0.4**
	comp=Z,1.9nm,1.0s,baz=240,slow=5.4,SNR=3.7									

*NEIC **21** 19:08:03.3±2.4, 31°.62S±0°.04×71°.9W±0°.1, h23km±5km, mb4.2/7, ML4.5(GUC), Error ellipse: s-maj=13.3km s-min=5.5km az=95.0*
*SJA **21** 19:08:04.0, 31°.59S×71°.70W, h10km, ML4.5*
*IDC **21** 19:08:05.5±0.8, 31°.59S×71°.41W, h42km±6km, mb3.8/5, mb1 4.0/10, mb1mx3.8/29, mbtmp4.0/10, ML4.1/5, Error ellipse: s-maj=27.5km s-min=20.4km az=108.0*
*GUC **21** 19:08:05.0±0.7, 31°.60S×71°.57W, h36km±2km, ML4.5*
ISC 21 19:08:03.5±0.6, 31°.61S±0°.02×71°.58W±0°.05, h30km±4km, n111, σ1=957/112, mb4.3/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.94**	**357**		*eP*	**Pb**		**19 08 21.9**	**+0.7**
CO06					*i* S	**Sb**		**19 08 34.8**	**+1.5**
CO06	**Fray Jorge**	**0.94**	**357**			**Pb**		**19 08 21.8**	**+0.6**
VA06	**Catapilco**	**0.98**	**166**		*eP*	**Pb**		**19 08 22.9**	**+1.1**
VA06					*i* S	**Sb**		**19 08 36.2**	**+1.8**
VA06					IAML			19 08 41.6	
	comp=E,17μm,0.4s								
CO03	**El Pedregal**	**1.09**	**45**		*eP*	**Pb**		**19 08 24.1**	**+0.3**
CO03					*i* S	**Sb**		**19 08 37.5**	**-0.1**
CO03					IAML			19 08 39.7	
	comp=E,22μm,0.1s								
CO03	**El Pedregal**	**1.09**	**45**			**Pb**		**19 08 23.9**	**+0.1**
CO03	**El Pedregal**	**1.09**	**45**		*iP*	**Pb**		**19 08 24.0**	**+0.2**
VA01	**Torpederas**	**1.41**	**182**		*eP*	**Pb**		**19 08 29.2**	**+0.1**
VA01					*i* S	**Sb**		**19 08 48.2**	**+1.5**
VA01	**Torpederas**	**1.41**	**182**		Pn	**Pn**		**19 08 28.3**	**+1.2**
ROCH	**El Roble**	**1.44**	**161**		*eP*	**Pn**		**19 08 28.7**	**+0.9**
ROCH					*i* S	**Sb**		**19 08 49.9**	**+2.1**
ROCH					IAML			19 08 52.2	
	comp=N,14μm,0.4s								
VA03	**San Esteban**	**1.44**	**143**		*eP*	**Pb**		**19 08 30.2**	**+0.4**
VA03					*i* S	**Sb**		**19 08 49.0**	**+1.2**
VA03					IAML			19 08 50.5	
	comp=E,10μm,0.2s								
VA03	**San Esteban**	**1.44**	**143**			**Pb**		**19 08 29.5**	**-0.3**

VA03	**San Esteban**	**1.44**	**143**		*i* P	**Pb**		**19 08 30.0**	**+0.2**	
GO04	**Tololo Observa**	**1.58**	**25**		*eP*	**Pb**		**19 08 31.7**	**-0.6**	
GO04					*i* S	**Sb**		**19 08 52.9**	**+0.9**	
GO04					IAML			19 08 53.7		
	comp=N,24μm,0.5s									
GO04	**Tololo Observa**	**1.58**	**25**		Pn	**Pb**		**19 08 31.7**	**-0.6**	
GO04	**Tololo Observa**	**1.58**	**25**		*i* P	**Pb**		**19 08 32.0**	**-0.3**	
CO05	**La Serena**	**1.71**	**10**		*eP*	**Pb**		**19 08 33.6**	**-0.7**	
CO05					*i* S	**Sb**		**19 08 56.0**	**+0.5**	
CO05	**La Serena**	**1.71**	**10**			**Pb**		**19 08 33.4**	**-1.0**	
MT05	**Renca**	**1.91**	**158**		*eP*	**Pb**		**19 08 37.0**	**-0.8**	
MT05					*i* S	**Sb**		**19 09 01.7**	**+0.4**	
MT05					IAML			19 09 05.7		
	comp=N,6μm,0.3s									
MT05	**Renca**	**1.91**	**158**			**Pb**		**19 08 36.7**	**-1.0**	
MT05	**Renca**	**1.91**	**158**		*i* P	**Pb**		**19 08 37.0**	**-0.8**	
RTLS	**Leoncito**	**1.96**	**96**		*i* P	**Pb**		**19 08 38.5**	**-0.2**	
VA05	**Santo Domingo**	**2.04**	**181**		*eP*	**Pb**		**19 08 38.7**	**-1.2**	
VA05	**Santo Domingo**	**2.04**	**181**			**Pn**		**19 08 36.2**	**+0.4**	
MT09	**Talagante**	**2.21**	**167**		*eP*	**Pb**		**19 08 41.7**	**-1.3**	
MT09					*i* S	**Sb**		**19 09 09.2**	**-0.8**	
MT09					IAML			19 09 17.0		
	comp=N,4μm,0.3s									
MT09	**Talagante**	**2.21**	**167**			**Pn**		**19 08 39.5**	**+1.1**	
MT01	**Popeta**	**2.26**	**173**		*eP*	**Pb**		**19 08 42.2**	**-1.5**	
MT01					*i* S	**Sb**		**19 09 10.4**	**-0.9**	
MT01	**Popeta**	**2.26**	**173**			**Pn**		**19 08 40.7**	**+1.8**	
AROD	**Rodeo**	**2.32**	**52**		*i* P	**Pb**		**19 08 44.0**	**-0.8**	
ACCO	**Cerro Coronel**	**2.39**	**65**		*i* P	**Pb**		**19 08 45.0**	**-1.0**	
ZON	**Zonda**	**2.48**	**89**			**Pb**		**19 08 46.0**	**-1.5**	
ZON	**Zonda**	**2.48**	**89**		*i* P	**Pb**		**19 08 46.0**	**-1.4**	
LMEL	**Las Melosas**	**2.51**	**153**		*eP*	**Pb**		**19 08 46.1**	**-2.0**	
LMEL					*i* S	**Sb**		**19 09 16.8**	**-1.9**	
ACDV	**Cuesta del Vie**	**2.56**	**56**		*i* P	**Pb**		**19 08 48.0**	**-0.8**	
LCO	**Las Campanas**	**2.70**	**17**		*i* P	**Pn**		**19 08 47.0**	**+1.8**	
BO01	**Tunca**	**2.80**	**172**		*eP*	**Pn**		**19 08 48.9**	**+2.5**	
BO01	**Tunca**	**2.80**	**172**			**Pn**		**19 08 47.9**	**+1.6**	
BO01	**

σ1⁰17/14, **mb3.7**/8, **Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEN	**Coen**	**9.20**	**187**	Pn	**Pn**	**19 27 18.1**	**+1.2**
WB0	**Warramunga Arr**	**17.75**	**212**	P	**P**	**19 29 06.3**	**-1.1**
WB0				IAmb	IAmb	19 29 10.6	
	comp=Z,7.3nm,1.1s						
WR0	**Warramunga Arr**	**17.84**	**211**	P	**P**	**19 29 06.1**	**-2.1**
WR0				IAmb	IAmb	19 29 26.8	
	comp=Z,7.9nm,1.1s						
WB2	**Warramunga Arr**	**17.92**	**212**	P	**P**	**19 29 08.1**	**-1.0**
WB2				IAmb	IAmb	19 29 25.4	
	comp=Z,6.0nm,0.7s						
WRA	**Warramunga Arr**	**17.93**	**212**	P	**P**	**19 29 07.8**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=31,slow=12,SNR=8.7						
KNRA	**Kununurra**	**18.71**	**233**	P	**P**	**19 29 16.3**	**-1.5**
AS31	**Alice Springs**	**21.29**	**207**	P	**P**	**19 29 45.6**	**-0.2**
ASAR	**Alice Springs**	**21.29**	**207**	P	**P**	**19 29 45.2**	**-0.6**
	comp=Z,3.0nm,0.7s,baz=37,slow=11,SNR=24						
ASAR	**Alice Springs**	**21.29**	**207**	P	**P**	**19 29 45.6**	**-0.1**
MJAR	**Matsushiro Arr**	**41.48**	**353**	P	P	19 32 43.2	-1.0
	comp=Z,1.0nm,0.7s,baz=172,slow=9.5,SNR=3.0						
KSRS	**Korea Array**	**44.68**	**341**	P	**P**	**19 33 10.2**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=166,slow=8.5,SNR=5.2						
PBKT	**Sadao Pong**	**47.78**	**297**	P	P	19 33 33.8	-0.8
CMAR	**Chiang Mai Arr**	**50.29**	**299**	P	**P**	**19 33 55.0**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=122,slow=6.9,SNR=4.1						
MKAR	**Makanchi Array**	**74.84**	**321**	P	**P**	**19 36 36.6**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=107,slow=7.7,SNR=6.4						
MAKZ	**Makanchi**	**75.04**	**321**	P	**P**	**19 36 37.6**	**-0.2**
MAKZ				IAmb	IAmb	19 37 02.3	
	comp=Z,3.8nm,1.1s						
ZALV	**Zalesovo Beam**	**76.54**	**328**	P	P	19 36 45.5	-0.6
	comp=Z,1.0nm,0.6s,baz=113,slow=6.9,SNR=4.2						
ILAR	**Eielson Array**	**85.43**	**24**	P	**P**	**19 37 32.4**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=251,slow=5.5,SNR=5.4						

*IDC **21** 19:25:07.9±0.9,2˚.63S×138˚.73E,h0km,mb3.6/7, mb1 4.0/9,mb1mx3.8/31,mbtmp3.8/9,ML4.0/2,Error ellipse: s-maj=21.1km s-min=20.5km az=121.0*

*NEIC **21** 19:25:10.1±1.5,2˚.66S±0˚.08×138˚.69E±0˚.07,h14km±6km, mb4.0/6,Error ellipse: s-maj=12.1km s-min=9.7km az=169.0*

ISC 21 19:25:12.4±0.7,**2˚.69S**±0˚.10×**138˚.65E**±0˚.06,**h32**km,**n19,** σ1⁰**20**/17, **mb3.8**/6, **Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.06**	**85**	Pn	**Pn**	**19 25 43.3**	**-1.5**
JAY	5.8nm,0.3s,baz=235,slow=11,SNR=42			Sn	**Sn**	**19 26 08.9**	**-0.6**
	13nm,0.3s,baz=99,slow=19,SNR=7.9						
FAKI	**Fak Fak**	**6.40**	**268**	Pn	**Pn**	**19 26 42.7**	**-1.8**
COEN	**Coen**	**12.06**	**158**	Pn	**Pn**	**19 28 02.6**	**+0.4**
SOEI	**Soe**	**15.92**	**243**		**Pn**	**19 28 52.4**	**-2.0**
SOEI				IAmb	IAmb	19 29 10.1	
	comp=Z,25nm,0.9s						
KNRA	**Kununurra**	**16.17**	**216**		**Pn**	**19 28 55.2**	**-2.2**
KNRA				IAmb	IAmb	19 29 22.0	
	comp=Z,11nm,0.8s						
BATI	**Baumata**	**16.65**	**243**	Pn	**Pn**	**19 29 04.7**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=117,slow=4.5,SNR=2.2						
WRA	**Warramunga Arr**	**17.66**	**193**	P	**Pn**	**19 29 15.8**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=19,slow=13,SNR=11						
WRA	**Warramunga Arr**	**17.66**	**193**	IAmb	IAmb	19 29 23.0	
	comp=Z,0.5nm,1.3s						
FITZ	**Fitzroy Crossi**	**19.93**	**219**	P	**P**	**19 29 41.8**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=42,slow=12,SNR=1.0						
FITZ	**Fitzroy Crossi**	**19.93**	**219**	IAmb	IAmb	19 30 07.2	
	comp=Z,6.4nm,1.2s						
ASAR	**Alice Springs**	**21.36**	**192**	P	**P**	**19 29 58.2**	**+1.0**
	comp=Z,3.4nm,0.8s,baz=22,slow=10,SNR=11						
CMAR	**Chiang Mai Arr**	**44.38**	**300**	P	**P**	**19 33 21.4**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=122,slow=6.7,SNR=4.5						
SONM	**Songino Array**	**57.67**	**335**	P	**P**	**19 35 00.4**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=143,slow=5.0,SNR=1.7						
MKAR	**Makanchi Array**	**69.73**	**322**	P	**P**	**19 36 19.6**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=106,slow=8.9,SNR=6.7						
MKAR	**Makanchi Array**	**69.73**	**322**	P	**P**	**19 36 19.3**	**-0.1**
MAKZ	**Makanchi**	**69.93**	**322**	P	**P**	**19 36 20.9**	**+0.4**
VNDA	**Vanda**	**75.81**	**175**	P	**P**	**19 36 55.8**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=318,slow=8.0,SNR=6.9						
VNDA	**Vanda**	**75.81**	**175**	IAmb	IAmb	19 36 57.1	
	comp=Z,0.7nm,0.7s						
ILAR	**Eielson Array**	**85.84**	**24**	P	**P**	**19 37 48.3**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=243,slow=6.0,SNR=1.4						

*IDC **21** 19:27:50.4±0.8,53˚.98N×164˚.34W,h0km,mb4.2/20, mb1 4.3/23,mb1mx4.1/57,mbtmp4.2/23,ML3.8/3,MS5.0/1, Ms1 5.0/1,ms1mx3.8/61,Error ellipse: s-maj=22.7km s-min=12.1km az=172.0*

*AEIC **21** 19:27:54.6±2.2,53˚.78N±0˚.05×164˚.08W±0˚.04,h26km±4km, Error ellipse: s-maj=6.9km s-min=3.2km az=162.0*

*MOS **21** 19:27:54.2±0.9,53˚.95N×164˚.22W,h38km,mb4.6/15, Error ellipse: s-maj=11.6km s-min=6.8km az=89.1*

*ANF **21** 19:27:54.1±0.7,53˚.58N×163˚.95W,h79km±11km,ML4.7/5, Error ellipse: s-maj=10.3km s-min=3.8km az=177.0*

*NEIC **21** 19:27:55.9±2.0,53˚.87N±0˚.04×164˚.10W±0˚.06,h43km±6km, mb4.7/64,ML4.3/6,ML4.2/59(AEIC),Error ellipse: s-maj=6.8km s-min=3.9km az=143.0*

ISC 21 19:27:56.1±0.7,**53˚.85N**±0˚.06×**164˚.08W**±0˚.04,**h46**km±6km, **n383,** σ1⁰**32**/408, **mb4.6**/92, **5C-6D**, **Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.69**	**335**		**Pn**	**19 28 09.1**	**-0.6**
WESP	**Westdahl Peak**	**0.75**	**330**		**Pn**	**19 28 09.8**	**-0.6**
WESP					**Sn**	**19 28 20.9**	**+0.1**
WECS	**Westdahl Cape**	**0.80**	**329**		**Pn**	**19 28 10.4**	**-0.6**
WECS					**Sn**	**19 28 21.5**	**-0.3**
BRPK	**Brown Peak**	**0.82**	**14**		**Pn**	**19 28 10.6**	**-0.7**
BRPK					**Sn**	**19 28 22.2**	**-0.2**
WEBT	**Westdahl Beart**	**0.84**	**332**		**Pn**	**19 28 11.2**	**-0.3**
SSLS	**Shishaldin Sou**	**0.87**	**3**		**Pn**	**19 28 11.4**	**-0.6**
SSLS					**Sn**	**19 28 23.1**	**-0.5**
ISLZ	**Isanotski Laza**	**0.91**	**14**		**Pn**	**19 28 11.7**	**-0.8**
ISLZ					**Sn**	**19 28 24.6**	**+0.1**
SSLW	**Shishaldin Wes**	**0.93**	**359**		**Pn**	**19 28 12.4**	**-0.3**
AKSA	**Akutan Strait**	**1.00**	**288**		**Pn**	**19 28 12.8**	**-0.9**
AKSA	**Akutan Strait**	**1.00**	**288**		**Pn**	**19 28 12.6**	**-1.0**
AKSA					**Sn**	**19 28 25.9**	**-0.6**
ISNN	**Isanotski Nort**	**1.00**	**10**		**Pn**	**19 28 13.9**	**+0.2**
AKUT	**Akutan**	**1.04**	**287**		**Pn**	**19 28 13.4**	**-0.8**
AKUT				IAML		19 28 34.4	
	comp=E,7μm,0.3s						
AKBBA	**Akutan Broad B**	**1.12**	**284**		**Pn**	**19 28 14.6**	**-0.8**
AKBBA					**Sn**	**19 28 29.9**	**+0.3**
ZRO	**Akutan Zero**	**1.15**	**283**		**Pn**	**19 28 15.0**	**-0.6**
AKLV	**Akutan Long Va**	**1.15**	**287**		**Pn**	**19 28 15.0**	**-0.7**
AKMO	**Akutan Morgan**	**1.17**	**283**		**Pn**	**19 28 15.3**	**-0.6**
AKMO					**Sn**	**19 28 30.8**	**+0.1**
AKGG	**Akutan Green G**	**1.18**	**288**		**Pn**	**19 28 15.6**	**-0.5**
LVA	**Lava Point**	**1.19**	**286**		**Pn**	**19 28 15.9**	**-0.4**
AKRB	**Akutan Reef Bi**	**1.21**	**284**		**Pn**	**19 28 15.9**	**-0.6**
AKRB					**Sn**	**19 28 33.6**	**+1.9**
UNV	**Unalaska Valle**	**1.44**	**271**	P	**Pn**	**19 28 18.2**	**-1.4**
	baz=92,SNR=45						
UNV				S	**Sn**	**19 28 38.5**	**+1.3**
	baz=92						
MNAT	**Makushin Natee**	**1.54**	**272**		**Pn**	**19 28 20.1**	**-1.0**
MTBL	**Makushin Table**	**1.54**	**276**		**Pn**	**19 28 20.3**	**-0.8**
MSW	**Makushin Switc**	**1.60**	**274**		**Pn**	**19 28 20.8**	**-1.1**
MSW					**Sn**	**19 28 41.5**	**+0.2**
DT1	**Dutton Round H**	**1.64**	**39**		**Pn**	**19 28 22.1**	**-0.4**
MGOD	**Makushin Gods**	**1.66**	**269**		**Pn**	**19 28 22.0**	**-0.7**
MCIR	**Makushin Cirqu**	**1.67**	**275**		**Pn**	**19 28 22.3**	**-0.5**
MAPS	**Pakushin South**	**1.69**	**270**		**Pn**	**19 28 22.1**	**-1.1**
MAPS					**Sn**	**19 28 43.3**	**-0.4**
HAG	**Hague Volcano**	**1.94**	**40**	P	**Pn**	**19 28 27.2**	**+0.6**
HAG	**Hague Volcano**	**1.94**	**40**		**Pn**	**19 28 27.2**	**+0.6**
PS4A	**Pavlof South-4**	**1.98**	**40**		**Pn**	**19 28 27.6**	**+0.5**
PVV	**Pavlof Volcano**	**2.03**	**40**		**Pn**	**19 28 28.1**	**+0.4**
OKFG	**Magazine Ridge**	**2.32**	**261**		**Pn**	**19 28 31.5**	**-0.3**
OKFG					**Sn**	**19 29 02.0**	**+2.9**
OKTU	**Okmok Mt. Tuli**	**2.40**	**260**		**Pn**	**19 28 33.1**	**+0.2**
OKNC	**Okmok New Cone**	**2.44**	**262**		**Pn**	**19 28 33.5**	**+0.2**
OKCE	**Okmok Cone E**	**2.47**	**262**		**Pn**	**19 28 33.4**	**-0.3**
OKSO	**Okmok South**	**2.48**	**260**		**Pn**	**19 28 33.5**	**-0.4**
OKSO					**Sn**	**19 29 03.8**	**+0.8**
OKSP	**Okmok Steeple**	**2.58**	**258**		**Pn**	**19 28 35.1**	**-0.3**
SDPT	**Sand Point**	**2.58**	**53**	Pn	**Pn**	**19 28 35.4**	**+0.2**
SDPT				IAML		19 29 26.4	
	comp=N,2μm,0.9s						
SDPT	**Sand Point**	**2.58**	**53**	P	**Pn**	**19 28 35.2**	**-0.1**
	baz=235,SNR=14						
SDPT				S	**Sn**	**19 29 06.1**	**+0.7**
	baz=235						
CNBA	**Chernabura Isl**	**2.81**	**68**	Pn	**Pn**	**19 28 37.9**	**-0.5**
CNBA	**Chernabura Isl**	**2.81**	**68**		**Sn**	**19 29 10.8**	**-0.1**
CNBA	**Chernabura Isl**	**2.81**	**68**	IAML		19 29 41.5	
	comp=E,432nm,0.7s						
CHNA	**Chernabura Isl**	**2.81**	**68**	P	**Pn**	**19 28 37.6**	**-0.8**
	baz=250						
CHNA				S	**Sn**	**19 29 10.4**	**-0.6**
	baz=250						
NIKH	**Nikolski High**	**2.99**	**255**	Pn	**Pn**	**19 28 40.2**	**-0.7**
NIKH	**Nikolski High**	**2.99**	**255**	P	**Pn**	**19 28 40.2**	**-0.7**
	baz=72,SNR=21						
NIKH				S	**Sn**	**19 29 13.7**	**-1.7**
	baz=72						
VNFG	**Fog Glacier, M**	**3.57**	**45**		**Pn**	**19 28 50.2**	**+1.3**
VNSG	**Veniaminof 6**	**3.67**	**50**		**Pn**	**19 28 51.5**	**+1.1**
VNHG	**Veniaminof 1**	**3.70**	**48**		**Pn**	**19 28 52.1**	**+1.4**
CHGN	**Chignik**	**4.08**	**51**	Pn	**Pn**	**19 28 56.2**	**+0.4**
CHGN				IAML		19 29 51.6	
	comp=E,429nm,0.7s						
ANPB	**Aniakchak Plen**	**4.44**	**46**		**Pn**	**19 29 02.1**	**+1.3**
SPIA	**Saint Paul Isl**	**4.84**	**316**		**Pn**	**19 29 07.1**	**+0.9**
SPIA	**Saint Paul Isl**	**4.84**	**316**	P	**Pn**	**19 29 07.9**	**+1.7**
	baz=132						
SPIA				S	**Sn**	**19 30 05.1**	**+4.2**
	baz=132						
ATKA	**Atka Island**	**6.32**	**259**	Pn	**Pn**	**19 29 25.5**	**-1.0**
OHAK	**Old Harbor**	**7.00**	**57**	Pn	**Pn**	**19 29 33.9**	**-1.9**
OHAK	**Old Harbor**	**7.00**	**57**	P	**Pn**	**19 29 34.3**	**-1.5**
	baz=245						
KDAK	**Kodiak Island**	**7.58**	**54**	Pn	**Pn**	**19 29 42.6**	**-1.2**
	comp=E,1.8nm,0.3s,baz=261,slow=6.9,SNR=24						
KDAK					**Sn**	**19 31 03.6**	**-4.6**
	baz=303,slow=11,SNR=1.5						
KDAK	**Kodiak Island**	**7.58**	**54**	P	**Pn**	**19 29 43.7**	**-0.1**
KDAK	**Kodiak Island**	**7.58**	**54**		**Pn**	**19 29 43.7**	**-0.1**
KDAK	**Kodiak Island**	**7.58**	**54**	P	**Pn**	**19 29 42.6**	**-1.2**
	baz=243						
KDAK				S	**Sn**	**19 31 05.7**	**-2.5**
	baz=243						
Q19K	**Cape Douglas,**	**7.71**	**44**	Pn	**Pn**	**19 29 46.5**	**+0.9**
Q19K	**Cape Douglas,**	**7.71**	**44**	P	**Pn**	**19 29 46.0**	**+0.4**
	baz=233						
ADK	**Adak**	**7.88**	**261**	P	**Pn**	**19 29 48.8**	**+0.9**
ADK	**Adak**	**7.88**	**261**		**Pn**	**19 29 48.8**	**+0.9**
N18K	**Kilae Creek**	**8.16**	**30**	Pn	**Pn**	**19 29 52.0**	**+0.3**
KNWB	**Kanaga Island**	**8.16**	**261**	Pn	**Pn**	**19 29 53.0**	**+1.2**
P19K	**Oil Pt**	**8.32**	**41**	Pn	**Pn**	**19 29 56.2**	**+2.2**
SVW2	**Sparrevohn**	**8.58**	**29**		**Pn**	**19 29 57.4**	**-0.1**
N19K	**Bonanza Creek**	**8.69**	**33**	Pn	**Pn**	**19 30 01.0**	**+1.9**
N19K	**Bonanza Creek**	**8.69**	**33**	P	**Pn**	**19 30 00.3**	**+1.2**
	baz=220						
N19K				S	**Sn**	**19 31 37.7**	**+2.0**
	baz=220						
RSO	**Redoubt South**	**9.04**	**38**	Pn	**Pn**	**19 30 05.0**	**+1.1**
CNPM	**China Poot**	**9.07**	**46**	Pn	**Pn**	**19 30 04.0**	**-0.1**
BRLK	**Bradley Lake**	**9.35**	**45**	Pn	**Pn**	**19 30 08.2**	**+0.2**
BRSE	**Bradley Lake S**	**9.39**	**46**	P	**Pn**	**19 30 08.3**	**-0.4**
	baz=236						
BRSE				S	**Sn**	**19 31 53.9**	**+1.1**
	baz=236						
M19K	**Big River Lodg**	**9.57**	**29**		**Pn**	**19 30 12.1**	**+1.0**
M19K	**Big River Lodg**	**9.57**	**29**	P	**Pn**	**19 30 11.9**	**+0.8**
	baz=217						
M19K				S	**Sn**	**19 31 58.1**	**+0.9**
	baz=217						
L19K	**White Mountain**	**9.67**	**27**	Pn	**Pn**	**19 30 12.8**	**+0.3**
L19K	**White Mountain**	**9.67**	**27**	P	**Pn**	**19 30 13.2**	**+0.7**
	baz=214,SNR=6.6						
L19K				S	**Sn**	**19 32 03.8**	**+4.1**
	baz=214						
SEW	**Seward**	**10.14**	**46**		**Pn**	**19 30 17.6**	**-1.2**
SEW	**Seward**	**10.14**	**46**	P	**Pn**	**19 30 18.1**	**-0.7**
	baz=238						
SEW				S	**Sn**	**19 32 09.3**	**-1.6**
	baz=238						
L20K	**Farewell, AK**	**10.18**	**28**	P	**Pn**	**19 30 20.5**	**+1.1**
	baz=216,SNR=8.3						
O22K	**Cooper Landing**	**10.23**	**44**		**Pn**	**19 30 19.9**	**-0.2**
O22K	**Cooper Landing**	**10.23**	**44**	P	**Pn**	**19 30 19.6**	**-0.4**
	baz=236						
AMKA	**Amchitka**	**10.40**	**263**	Pn	**Pn**	**19 30 22.0**	**-0.4**
SUA	**Susitna One**	**10.44**	**38**	Pn	**Pn**	**19 30 23.3**	**+0.3**
SUA	**Susitna One**	**10.44**	**38**	P	**Pn**	**19 30 23.0**	**+0.1**
	baz=229						
SKT	**Skwentna**	**10.52**	**34**		**Pn**	**19 30 24.4**	**+0.3**
SKT	**Skwentna**	**10.52**	**34**	P	**Pn**	**19 30 24.7**	**+0.7**
	baz=225						
RC01	**Rabbit Creek A**	**10.58**	**41**	Pn	**Pn**	**19 30 24.1**	**-0.7**
RC01	**Rabbit Creek A**	**10.58**	**41**	P	**Pn**	**19 30 25.2**	**+0.4**
	baz=233						
K20K	**Telida**	**10.86**	**25**	Pn	**Pn**	**19 30 28.8**	**+0.2**
K20K	**Telida**	**10.86**	**25**	P	**Pn**	**19 30 29.3**	**+0.7**
	baz=213,SNR=18						
K20K				S	**Sn**	**19 32 30.8**	**+2.3**
	baz=213						
PPLA	**Purkeypile**	**10.99**	**30**		**Pn**	**19 30 30.9**	**+0.3**
PWL	**Port Wells**	**11.01**	**44**		**Pn**	**19 30 29.2**	**-1.5**
KNK	**Knik Glacier**	**11.27**	**42**	Pn	**Pn**	**19 30 33.7**	**-0.6**
KNK	**Knik Glacier**	**11.27**	**42**	P	**Pn**	**19 30 32.5**	**-1.8**
	baz=234						
KNK				S	**Sn**	**19 32 37.9**	**-0.8**
	baz=234						
CAST	**Castle Rocks**	**11.43**	**28**		**Pn**	**19 30 35.3**	**-1.1**
J20K	**Nowinta River**	**11.54**	**22**	Pn	**Pn**	**19 30 37.6**	**-0.2**
J20K	**Nowinta River**	**11.54**	**22**	P	**Pn**	**19 30 38.8**	**+0.9**
	baz=211,SNR=10						
J20K				S	**Sn**	**19 32 47.5**	**+2.4**
	baz=211						
GLI	**Glacier Island**	**11.54**	**46**	Pn	**Pn**	**19 30 35.5**	**-2.4**
GLI	**Glacier Island**	**11.54**	**46**	P	**Pn**	**19 30 36.1**	**-1.8**
	baz=240						
GLI				S	**Sn**	**19 32 41.2**	**-3.9**
	baz=240						
SML	**Sawmill**	**11.55**	**40**	Pn	**Pn**	**19 30 36.8**	**-1.3**
SML	**Sawmill**	**11.55**	**40**	P	**Pn**	**19 30 37.2**	**-1.0**
	baz=233						
HIN	**Hinchinbrook I**	**11.56**	**48**		**Pn**	**19 30 36.9**	**-1.4**
CHUM	**Lake Minchumin**	**11.74**	**26**	P	**Pn**	**19 30 41.6**	**+1.0**
	baz=216,SNR=5.7						
FID	**Port Fidalgo**	**11.74**	**47**	Pn	**Pn**	**19 30 39.0**	**-1.6**
KTH	**Kantishna Hill**	**11.87**	**30**		**Pn**	**19 30 44.0**	**+1.5**
TNA	**Tin City**	**11.91**	**352**	Pn	**Pn**	**19 30 43.1**	**+0.2**
SCM	**Sheep Creek Mo**	**11.96**	**41**	P	**Pn**	**19 30 41.7**	**-2.0**
SCM	**Sheep Creek Mo**	**11.96**	**41**		**Pn**	**19 30 41.7**	**-2.0**
EYAK	**Cordova Ski Ar**	**11.97**	**49**	P	**Pn**	**19 30 42.3**	**-1.4**
	baz=244						
TRF	**Thorofare Moun**	**11.98**	**31**		**Pn**	**19 30 44.9**	**+0.8**
WAT1	**Susitna Watana**	**12.11**	**36**	P	**Pn**	**19 30 44.4**	**-1.4**
	baz=229						
DIV	**Divide**	**12.22**	**46**		**Pn**	**19 30 45.5**	**-1.8**
WAT6	**Susitna Watana**	**12.24**	**38**	P	**Pn**	**19 30 46.3**	**-1.4**
	baz=232						
BPAW	**Bear Paw Mtn.**	**12.27**	**28**	Pn	**Pn**	**19 30 49.4**	**+1.5**
BPAW	**Bear Paw Mtn.**	**12.27**	**28**	P	**Pn**	**19 30 49.0**	**+1.1**
	baz=219,SNR=15						
KLU	**Klutina**	**12.34**	**44**		**Pn**	**19 30 46.7**	**-2.3**
KLU	**Klutina**	**12.34**	**44**	P	**Pn**	**19 30 46.9**	**-2.0**
	baz=240,SNR=32						
RAGM	**Ragged Mountai**	**12.38**	**50**	Pn	**Pn**	**19 30 49.3**	**-0.2**
RND	**Reindeer**	**12.40**	**33**	P	**Pn**	**19 30 49.5**	**-0.3**
RND	**Reindeer**	**12.40**	**33**		**Pn**	**19 30 49.5**	**-0.3**
HMT	**Hamilton**	**12.55**	**51**	Pn	**Pn**	**19 30 49.9**	**-1.9**
M24K	**Tolsona, Glenn**	**12.56**	**42**		**Pn**	**19 30 50.3**	**-1.6**
M24K	**Tolsona, Glenn**	**12.56**	**42**	P	**Pn**	**19 30 50.6**	**-1.3**
	baz=237						
BMRM	**Bremner River**	**12.66**	**48**		**Pn**	**19 30 53.2**	**0.0**
BMRM	**Bremner River**	**12.66**	**48**	P	**Pn**	**19 30 51.4**	**-1.8**
	baz=244						
DHY	**Denali Highway**	**12.68**	**37**		**Pn**	**19 30 51.2**	**-2.5**
DHY	**Denali Highway**	**12.68**	**37**	P	**Pn**	**19 30 52.5**	**-1.2**
	baz=231						
BERG	**Berg Lake**	**12.83**	**51**	Pn	**Pn**	**19 30 53.5**	**-2.0**
I21K	**Tanana**	**12.88**	**23**		**Pn**	**19 30 57.5**	**+1.2**
I21K	**Tanana**	**12.88**	**23**	P	**Pn**	**19 30 57.2**	**+1.0**
	baz=214,SNR=18						
N25K	**Chitina, Valde**	**12.95**	**45**		**Pn**	**19 30 55.6**	**-1.6**
N25K	**Chitina, Valde**	**12.95**	**45**	P	**Pn**	**19 30 55.6**	**-1.6**
	baz=242,SNR=6.8						
MLY	**Manley**	**13.07**	**26**	Pn	**Pn**	**19 30 59.1**	**+0.3**
MLY	**Manley**	**13.07**	**26**	P	**Pn**	**19 30 58.5**	**-0.3**
	baz=217,SNR=13						
H21K	**Melozitna Rive**	**13.11**	**21**		**Pn**	**19 30 60.0**	**+0.7**
H21K	**Melozitna Rive**	**13.11**	**21**	P	**Pn**	**19 31 00.5**	**+1.2**
	baz=211,SNR=10.0						
HARP	**HAARP**	**13.12**	**42**	P	**Pn**	**19 30 57.9**	**-1.6**
	baz=238						
NEA2	**Nenana**	**13.19**	**29**		**Pn**	**19 31 01.9**	**+1.5**
IMAR	**Indian Mountai**	**13.20**	**19**		**Pn**	**19 31 02.0**	**+1.5**
GLB	**Gilahina Butte**	**13.21**	**47**		**Pn**	**19 30 58.8**	**-2.0**
CRQM	**Cirque**	**13.23**	**50**		**Pn**	**19 30 59.7**	**-1.4**
WAX	**Waxell Ridge**	**13.24**	**52**	Pn	**Pn**	**19 30 59.2**	**-2.1**
VRDI	**Verde Repeater**	**13.27**	**48**		**Pn**	**19 30 59.4**	**-2.4**
PAX	**Paxson**	**13.31**	**39**	P	**Pn**	**19 31 00.5**	**-1.8**
PAX	**Paxson**	**13.31**	**39**		**Pn**	**19 31 00.5**	**-1.8**
PAX	**Paxson**	**13.31**	**39**	P	**Pn**	**19 30 59.4**	**-2.8**
	baz=235						
TGL	**Tana Glacier**	**13.37**	**50**	Pn	**Pn**	**19 30 59.7**	**-3.2**
WRH	**Wood River Hil**	**13.39**	**31**		**Pn**	**19 30 59.1**	**-4.1**
I23K	**Minto, Yukon-K**	**13.53**	**27**		**Pn**	**19 31 03.8**	**-1.2**
I23K	**Minto, Yukon-K**	**13.53**	**27**	P	**Pn**	**19 31 03.9**	**-1.0**
	baz=220						
MCARA	**McCarthy VSAT**	**13.53**	**48**	Pn	**Pn**	**19 31 06.2**	**+1.1**
MCARA	**McCarthy VSAT**	**13.53**	**48**	P	**Pn**	**19 31 03.2**	**-1.8**
	baz=245						
ISLE	**Juniper Island**	**13.54**	**51**	Pn	**Pn**	**19 31 03.4**	**-1.9**
MESA	**MESA**	**13.58**	**53**	Pn	**Pn**	**19 31 06.4**	**+0.5**
CCB	**Clear Creek Bu**	**13.60**	**31**		**Pn**	**19 31 03.2**	**-2.8**
MDM	**Murphy Dome**	**13.70**	**29**		**Pn**	**19 31 05.3**	**-2.1**
YAH	**Yahtse**	**13.73**	**53**		**Pn**	**19 31 07.1**	**-0.9**
TCOL	**CIGO, UAF Yank**	**13.75**	**30**	P	**Pn**	**19 31 06.5**	**-1.5**
	baz=224						
GRNC	**Granite Creek**	**13.85**	**51**		**Pn**	**19 31 08.4**	**-1.2**
MENT	**Mentasta**	**13.97**	**41**		**Pn**	**19 31 10.8**	**-0.3**
ILAR	**Eielson Array**	**13.97**	**32**	Pn	**Pn**	**19 31 08.2**	**-2.9**
	comp=E,0.3nm,0.3s,baz=225,slow=12,SNR=6.5						
ILAR	**Eielson Array**	**13.97**	**32**	*e*P	**Pn**	**19 31 12.1**	**+1.0**
M26K	**Nabesna, AK**	**13.99**	**44**	Pn	**Pn**	**19 31 09.2**	**-2.2**
M26K	**Nabesna, AK**	**13.99**	**44**	P	**Pn**	**19 31 09.0**	**-2.4**
	baz=242						
RIDG	**Independent Ri**	**13.99**	**37**		**Pn**	**19 31 09.8**	**-1.6**
RIDG	**Independent Ri**	**13.99**	**37**	P	**Pn**	**19 31 10.3**	**-1.1**
	baz=234,SNR=6.2						
H23K	**Yukon River**	**14.01**	**25**		**Pn**	**19 31 11.9**	**+0.3**
H23K	**Yukon River**	**14.01**	**25**	P	**Pn**	**19 31 11.9**	**+0.3**
	baz=218,SNR=21						
BARN	**Barnard Glacie**	**14.01**	**50**		**Pn**	**19 31 11.5**	**-0.3**
TABL	**Table Mountain**	**14.04**	**53**		**Pn**	**19 31 11.7**	**-0.6**
CTG	**Chitna Glacier**	**14.12**	**51**	P	**Pn**	**19 31 11.9**	**-1.3**
	baz=250						
CTGM	**Chitina Glacie**	**14.12**	**51**		**Pn**	**19 31 12.1**	**-1.2**
L26K	**Log Cabin Wild**	**14.16**	**41**		**Pn**	**19 31 13.2**	**-0.5**
DOT	**Dot Lake**	**14.23**	**38**		**Pn**	**19 31 14.3**	**-0.2**
LOGN	**Logan Glacier**	**14.23**	**51**		**Pn**	**19 31 13.3**	**-1.4**
J25K	**Salcha River,**	**14.35**	**34**	P	**Pn**

comp=Z,2μm,18.1s,baz=348,slow=34
H11S1 WAKE ISLAND Hy 41.85 224 T T 20 20 35.5
baz=26,slow=76,SNR=23
H11S2 WAKE ISLAND Hy 41.86 224 T T 20 20 32.8
baz=26,slow=76,SNR=11
H11S3 WAKE ISLAND Hy 41.87 224 T T 20 20 36.8
baz=26,slow=76,SNR=20
JSD Sado 41.88 272 P **P** **19 35 41.0 -0.6**
JSD IAmb IAmb 19 35 41.8
comp=Z,7.0nm,0.7s
MJA0 Matsu Arr-Jizo 42.88 270 *e*P **P** **19 35 49.2 -0.6**
MJA0 pmax pmax
comp=Z,2.0nm,0.9s
MJAR Matsushiro Arr 42.91 270 P **P** **19 35 49.3 -0.7**
comp=Z,2.3nm,0.9s,baz=43,slow=6.5,SNR=5.9
MJAR Matsushiro Arr 42.91 270 P **P** **19 35 48.5 -1.4**
MJAR pmax pmax
comp=Z,4.0nm,1.4s
MJAR Matsushiro Arr 42.91 270 P **P** **19 35 48.5 -1.4**
MAJO Matsushiro 42.91 270 P **P** **19 35 49.1 -0.8**
MAJO pmax pmax
comp=Z,7.0nm,0.9s
MAJO Matsushiro 42.91 270 P **P** **19 35 49.1 -0.8**
MAJO IAmb IAmb 19 35 51.2
comp=Z,7.2nm,0.9s
MAT Matsushiro 42.91 270 P **P** **19 35 49.2 -0.7**
NOR Nord 43.66 7 *i*P **P** **19 35 54.9 -0.6**
NOR IAmb IAmb 19 35 56.7
comp=Z,2.2nm,0.8s
NOR Nord 43.66 7 *i*P **P** **19 35 54.9 -0.6**
NOR pmax pmax
comp=Z,2.0nm,0.8s
JWT Wachi 45.43 271 P **P** **19 36 11.0 +0.9**
JWT IAmb IAmb 19 36 33.8
comp=Z,28nm,1.5s
DAG Danmarks Havn 47.81 10 *i*P **P** **19 36 27.3 -0.9**
DAG IAmb IAmb 19 36 29.0
comp=Z,7.4nm,0.6s
DAG Danmarks Havn 47.81 10 *i*P **P** **19 36 27.3 -0.9**
SPB2 Spitsbergen Ar 48.24 360 P **P** **19 36 30.8 -0.7**
KSRS Korea Array 48.36 279 P **P** **19 36 33.4 +0.4**
comp=Z,8nm,0.8s,baz=52,slow=7.6,SNR=14
SUMG Summit 48.38 19 *i*P **P** **19 36 33.0 -0.2**
SUMG IAmb IAmb 19 36 34.2
comp=Z,12nm,0.6s
SUMG Summit 48.38 19 P **P** **19 36 33.5 +0.3**
SUMG pmax pmax
comp=Z,16nm,0.8s
SUMG Summit 48.38 19 P **P** **19 36 33.5 +0.3**
P40A Paris 49.31 76 P **P** **19 36 39.5 -0.7**
P40A IAmb IAmb 19 36 40.2
comp=Z,10nm,1.0s
TXAR Lajitas Array 49.60 94 P **P** **19 36 43.6 +0.9**
comp=Z,0.5nm,0.6s,baz=304,slow=5.4,SNR=7.0
TXAR PcP **PcP** **19 38 04.3 +0.6**
comp=Z,0.5nm,0.5s,baz=220,slow=1.7,SNR=5.6
TXAR Lajitas Array 49.60 94 P **P** **19 36 43.7 +1.0**
TXAR Lajitas Array 49.60 94 P **P** **19 36 43.7 +1.0**
ICESG Greenland Ices 50.83 22 *i*P **P** **19 36 50.4 -1.4**
ICESG IAmb IAmb 19 36 53.6
comp=Z,11nm,0.6s
ULN Ulaanbaatar 52.88 302 *ce*P **P** **19 37 07.8 +0.7**
ULN pmax pmax
comp=Z,2.0nm,1.0s
ULN Ulaanbaatar 52.88 302 P **P** **19 37 06.7 -0.4**
ULN IAmb IAmb 19 37 07.6
comp=Z,4.1nm,1.1s
SONM Songino Array 53.23 303 P **P** **19 37 07.9 -1.7**
comp=Z,0.8nm,0.3s,baz=37,slow=7.6,SNR=9.1
SONM PcP **PcP** **19 38 17.1 +0.1**
comp=Z,2.0nm,0.8s,baz=57,slow=1.6,SNR=7.8
SONM Songino Array 53.23 303 *e*P **P** **19 37 09.7 +0.1**
SONM pmax pmax
comp=Z,1.0nm,0.3s
HHC Hu-ho-hao-te 55.31 293 *e*P **P** **19 37 26.9 +2.0**
KEV Kevo 56.44 355 P **P** **19 37 31.9 -0.4**
KEV pmax pmax
comp=Z,11nm,1.1s
KEV Kevo 56.44 355 P **P** **19 37 31.9 -0.4**
KEV IAmb IAmb 19 37 33.5
comp=Z,11nm,1.1s
ARCES ARCESS Array B 56.73 356 P **P** **19 37 32.9 -1.5**
comp=Z,2.4nm,0.8s,baz=12,slow=7.4,SNR=13
ARCES ARCESS Array B 56.73 356 *e*P **P** **19 37 33.6 -0.9**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 56.73 356 P **P** **19 37 33.5 -0.9**
ARCES IAmb IAmb 19 37 34.7
comp=Z,10nm,1.3s
NJ2 Nanjing 57.45 281 *e*P **P** **19 37 39.1 -0.9**
NJ2 pmax pmax
comp=Z,13nm,0.5s
F64A Sherman 57.66 55 P **P** **19 37 40.8 -0.6**
LVZ Lovozero 57.77 352 *ce*P **P** **19 37 43.7 +1.9**
LVZ pmax pmax
comp=Z,21nm,1.7s
LVZ Lovozero 57.77 352 P **P** **19 37 40.7 -1.1**
ZALV Zalesovo Beam 58.42 320 P **P** **19 37 46.5 0.0**
comp=Z,0.8nm,0.3s,baz=27,slow=6.8,SNR=2.8
ZALV PcP **PcP** **19 38 37.2 +0.5**
comp=Z,1.8nm,0.7s,baz=20,slow=4.7,SNR=4.7
LMN Caledonia Moun 59.38 53 P **P** **19 37 52.0 -1.3**
XAN Xi'an 61.67 290 P **P** **19 38 08.5 -0.6**
XAN pP pP 19 38 21.6 -0.5
XAN pmax pmax
comp=Z,8.0nm,1.3s
SSLB Suanglung 62.36 273 P **P** **19 38 14.0 +0.1**
PRGR Permogore 62.48 345 *e*P **P** **19 38 13.4 -0.7**
PRGR pmax pmax
comp=Z,7.0nm,0.6s
GTA Gaotai 62.58 300 ||P **P** **19 38 14.8 -0.4**
GTA pP pP 19 38 25.3 -3.0
GTA sP sP 19 38 29.5 -4.0
GTA pmax pmax
comp=Z,3.0nm,0.8s
KLMR Klimovskoe 64.11 347 *e*P **P** **19 38 21.3 -3.5**
KLMR pmax pmax
comp=Z,5.0nm,0.8s
KLMR Klimovskoe 64.11 347 *e*P **P** **19 38 21.3 -3.5**
KLMR AMP 19 38 24.6
comp=Z,5.0nm,0.8s
BRVK Borovoye 64.28 327 *ce*P **P** **19 38 25.8 -0.3**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
ARU Arti 64.68 335 *d i*P **P** **19 38 28.6 0.0**
ARU 19 39 01.8
ARU S **S** **19 47 07.0 +2.0**
ARU pmax pmax
comp=Z,8.0nm,1.0s
KIRV Kirov 64.70 341 *ce*P **P** **19 38 28.8 +0.1**
FIA1 FINESS Array S 64.77 355 P **P** **19 38 28.2 -1.0**
FIA1 IAmb IAmb 19 38 54.1
comp=Z,16nm,1.3s
FINES FINESS Array B 64.77 355 P **P** **19 38 28.6 -0.6**
comp=Z,2.6nm,0.5s,baz=20,slow=7.9,SNR=25
FINES FINESS Array B 64.77 355 P **P** **19 38 28.3 -0.8**
WMQ Urumqi 65.06 311 *e*P **P** **19 38 33.3 +1.9**
NC204 NORSAR Array S 65.15 3 P **P** **19 38 31.2 -0.5**
NC204 IAmb IAmb 19 38 32.2
comp=Z,13nm,0.9s
NC303 NORSAR Array S 65.22 2 P **P** **19 38 31.8 -0.3**
NC303 IAmb IAmb 19 38 33.0
comp=Z,8.2nm,1.1s
NC405 NORSAR Array S 65.34 2 P **P** **19 38 31.6 -1.2**
NC405 IAmb IAmb 19 38 32.0
comp=Z,8.0nm,0.7s
NB201 NORSAR Array S 65.39 2 P **P** **19 38 33.1 -0.1**
NB201 IAmb IAmb 19 38 33.8
comp=Z,6.0nm,0.8s
NB2 NORSAR Subarra 65.40 3 P **P** **19 38 32.8 -0.5**
comp=Z,3.1nm,0.9s,baz=0.7,slow=6.9
NOA NORSAR Array B 65.40 3 P **P** **19 38 32.9 -0.5**
comp=Z,2.4nm,0.8s,baz=358,slow=6.6,SNR=15
CD2 Chengdu 66.89 291 ||*i*P **P** **19 38 43.9 +0.6**
CD2 pmax pmax
comp=Z,30nm,0.8s
GYA Guiyang 68.66 286 ||*i*P **P** **19 38 55.4 +0.8**
GYA pmax pmax
comp=Z,15nm,0.9s
OBN Obninsk 70.08 348 *i*P **P** **19 39 02.0 -0.7**
OBN *i* 19 39 25.1
OBN pmax pmax
comp=Z,5.0nm,0.9s
ABKAR Akbulak array 70.77 331 P **P** **19 39 06.8 -0.2**
ABKAR IAmb IAmb 19 39 08.2
comp=Z,7.5nm,0.9s
PABE Paberze 70.81 355 P **P** **19 39 07.4 +0.2**
BOOM Boomskoye usch 71.15 317 P **P** **19 39 09.7 0.0**
BOOM pmax pmax
comp=Z,18nm,1.4s
BOOM Boomskoye usch 71.15 317 P **P** **19 39 09.7 0.0**
BOOM IAmb IAmb 19 39 14.1
comp=Z,18nm,1.4s
AAK Ala-Archa 71.60 318 P **P** **19 39 13.1 +0.7**
AAK pmax pmax
comp=Z,7.0nm,0.8s
AAK Ala-Archa 71.60 318 P **P** **19 39 13.1 +0.7**
AAK IAmb IAmb 19 39 13.8
comp=Z,7.1nm,0.8s
KK31 Karatay Array 72.72 321 P **P** **19 39 19.0 0.0**
KK31 pmax pmax
comp=Z,6.0nm,0.8s
KK31 Karatay Array 72.72 321 P **P** **19 39 19.0 0.0**
KK31 IAmb IAmb 19 39 19.7
comp=Z,6.1nm,0.8s
KKAR Karatay Array 72.72 321 P **P** **19 39 19.0 0.0**
KKAR pmax pmax
comp=Z,6.0nm,0.8s
KKAR Karatay Array 72.72 321 P **P** **19 39 19.0 0.0**
KKAR Karatay Array 72.72 321 P **P** **19 39 19.2 +0.2**
KKAR IAmb IAmb 19 39 19.7
comp=Z,6.1nm,0.8s
KSH Kashi 73.64 316 P **P** **19 39 28.5 +3.9**
KSH pP PcP 19 39 41.1 +0.9
KSH PcP **sP** **19 39 44.3 +1.2**
KSH sP pP 19 39 46.8 +8.9
KSH pmax pmax
comp=Z,12nm,1.0s
KSH LR LR
comp=N,760nm,26.5s
KSH LR LR
comp=E,1μm,20.8s
KSH LR LR
comp=Z,1μm,17.8s
CLL Collm 75.19 2 *i*P **P** **19 39 32.5 -0.7**
comp=Z,3.0nm,1.1s
CLL Collm 75.19 2 *i*P **P** **19 39 32.5 -0.7**
CLL pmax pmax
comp=Z,3.0nm,1.1s
AKASG Malin Array Be 75.23 351 P **P** **19 39 32.6 -0.8**
comp=Z,3.5nm,0.6s,baz=13,slow=6.1,SNR=18
AKASG Malin Array Be 75.23 351 P **P** **19 39 32.6 -0.8**
AKASG pmax pmax
comp=Z,1.0nm,1.0s
AKASG Malin Array Be 75.23 351 IAmb IAmb 19 39 33.7
comp=Z,1.3nm,0.9s
AKBB Malin Array Si 75.23 351 *i*P **P** **19 39 34.3 +0.9**
BTK Batken 75.23 320 P **P** **19 39 33.7 -0.1**
BTK pmax pmax
comp=Z,13nm,1.0s
BTK Batken 75.23 320 P **P** **19 39 33.7 -0.1**
BTK IAmb IAmb 19 39 34.9
comp=Z,12nm,1.0s
DRK Karamyk 75.35 319 P **P** **19 39 35.2 +0.5**
MEM Membach 75.58 7 *dP* **P** **19 39 35.2 -0.3**
BTNL Ternell 75.61 6 *dP* **P** **19 39 35.7 0.0**
comp=Z,6.7nm,1.1s
GAR Garm 76.34 319 P **P** **19 39 40.3 +0.1**
LVV L'vov 76.48 355 *e*P **P** **19 39 40.8 +0.2**
KWP Kalwaria Pacla 76.74 355 P **P** **19 39 42.6 +0.6**
KWP pmax pmax
comp=Z,92nm,1.3s
KWP Kalwaria Pacla 76.74 355 P **P** **19 39 42.6 +0.6**
MORC Moravsky Berou 76.74 359 *e*P **P** **19 39 41.6 -0.5**
CHGR Chuyangaron 77.09 320 P **P** **19 39 44.3 0.0**
VRAC Vranov 77.22 360 *e*P **P** **19 39 45.2 +0.4**
KRUC Moravsky 77.46 360 *e*P **P** **19 39 46.4 +0.3**
JAVC Velka Javorina 77.66 359 *e*P **P** **19 39 49.5 +2.2**
GERES GERESS Array B 77.67 1 P **P** **19 39 48.0 +0.6**
comp=Z,0.5nm,0.6s,baz=21,slow=1.9,SNR=4.9
GERES GERESS Array B 77.67 1 *e*P **P** **19 39 48.4 +1.0**
GERES pmax pmax
comp=Z,1.0nm,0.6s
UBPT Khong Chiam 78.08 279 P **P** **19 39 50.4 +0.4**
UBPT IAmb IAmb 19 39 50.9
comp=Z,7.2nm,1.0s
BUR08 Bucovina Ar. S 78.58 354 P **P** **19 39 52.8 +0.3**
BURAR Bucovina Array 78.61 354 P **P** **19 39 52.6 0.0**
JIRN Jiri 78.78 302 *e*P **P** **19 39 54.6 +0.4**
comp=Z,111nm,0.5s
UTTA Uttaradit 78.98 285 P **P** **19 39 55.4 +0.5**
comp=Z,11nm,0.8s
WATA Walderalm 79.12 3 *e*P **P** **19 39 56.8 +1.3**
comp=Z,9.3nm,1.5s
KKN Kakani 79.13 302 *e*P **P** **19 39 56.1 +0.1**
RAMN Ramite 79.15 301 *e*P **P** **19 39 56.3 +0.2**
comp=Z,39nm,0.5s
PKI Pulchoki 79.25 302 *e*P **P** **19 39 56.1 -0.6**
comp=Z,1μm,0.6s
PKIN Phulchoki 79.25 302 *e*P **P** **19 39 56.3 -0.4**
comp=Z,8.9nm,0.6s
GKN Gorkha 79.28 303 *e*P **P** **19 39 56.7 0.0**
comp=Z,3μm,0.8s
CM09 Chiang Mai Arr 79.31 286 P **P** **19 39 58.2 +1.4**
comp=Z,52nmcomp=Z,7.3nm,1.0s
CM31 Chiang Mai Arr 79.33 287 P **P** **19 39 57.0 +0.1**
CM31 IAmb IAmb 19 39 58.8
comp=Z,10nm,1.2s
CMAR Chiang Mai Arr 79.33 287 P **P** **19 39 57.1 +0.2**
comp=Z,3.4nm,0.7s,baz=12,slow=5.3,SNR=27
CMAR Chiang Mai Arr 79.33 287 P **P** **19 39 57.2 +0.3**
CM15 Chiang Mai Arr 79.34 287 P **P** **19 39 57.6 +0.6**
comp=Z,43nmcomp=Z,4.5nm,0.9s
CM02 Chiang Mai Arr 79.34 286 P **P** **19 39 57.7 +0.7**
comp=Z,54nmcomp=Z,6.0nm,0.9s
CM01 Chiang Mai Arr 79.35 286 P **P** **19 39 58.2 +1.2**
comp=Z,55nmcomp=Z,5.4nm,1.0s
CM04 Chiang Mai Arr 79.35 286 P **P** **19 39 57.8 +0.8**
comp=Z,62nmcomp=Z,7.2nm,1.0s
CM05 Chiang Mai Arr 79.37 286 P **P** **19 39 57.8 +0.7**
comp=Z,49nmcomp=Z,4.5nm,1.0s
CM13 Chiang Mai Arr 79.38 287 P **P** **19 39 57.5 +0.3**
FETA Feichten 79.41 4 *i*P **P** **19 39 58.7 +1.6**
comp=Z,6.3nm,1.1s
DANN Dangsing 79.42 304 *e*P **P** **19 39 58.2 +0.5**
comp=Z,7μm,0.7s
KBA Koelnbreinsper 79.43 2 *e*P **P** **19 39 59.2 +2.0**
comp=Z,7.0nm,1.1s
ABTA Abfaltersbach 79.74 2 *e*P **P** **19 40 00.3 +1.4**
comp=Z,4.9nm,0.9s
NIL Nilore 79.78 314 P **P** **19 39 59.7 +0.6**
NIL pmax pmax
comp=Z,12nm,0.8s
NIL Nilore 79.78 314 P **P** **19 39 59.7 +0.6**
NIL IAmb IAmb 19 40 00.7
comp=Z,12nm,0.8s
SOKA Soboth 79.85 1 *i*P **P** **19 40 01.1 +1.7**
comp=Z,5.4nm,1.0s
KIV Kislovodsk 79.92 341 *e*P **P** **19 40 01.0 +1.2**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV Kislovodsk 79.92 341 P **P** **19 40 00.6 +0.7**
KIV IAmb IAmb 19 40 01.6
comp=Z,5.9nm,0.7s
KOLN Koldanda 79.98 304 *e*P **P** **19 40 00.7 +0.1**
comp=Z,26nm,0.9s
PYUN Piuthan 80.01 304 *e*P **P** **19 40 00.8 +0.1**
comp=Z,88nm,0.7s
OBKA Obir 80.01 1 *i*P **P** **19 40 01.8 +1.5**
comp=Z,7.9nm,1.0s
KBZ Khabaz 80.09 340 P **P** **19 40 01.8 +1.2**
comp=Z,6.1nm,0.9s,baz=62,slow=1.6,SNR=9.9
SHA1 Shidzhatmaz 80.13 341 *i*P **P** **19 40 01.5 +0.3**
ZEI Tsey 80.79 340 *e*P **P** **19 40 04.1 -0.6**
ZEI pmax pmax
comp=Z,2.0nm,0.7s
BNI Bardonecchia 81.16 7 P **P** **19 40 06.9 +0.3**
BNI pmax pmax
comp=Z,7.0nm,1.0s
BNI Bardonecchia 81.16 7 P **P** **19 40 06.8 +0.3**
BNI IAmb IAmb 19 40 09.9
comp=Z,7.1nm,1.0s
AKT Akhty 81.19 336 *e*P **P** **19 40 07.6 +0.9**
AKT *e* 19 40 14.5
AKT pmax pmax
comp=Z,24nm,1.1s
GEYT Alibeck 81.61 328 P **P** **19 40 09.6 +0.7**
comp=Z,355nm,0.8s,baz=32,slow=13,SNR=5.1
ESDC Sonseca Array 85.29 15 P **P** **19 40 27.8 0.0**
comp=Z,3.1nm,0.8s,baz=347,slow=4.8,SNR=20
ESDC Sonseca Array 85.29 15 P **P** **19 40 28.2 +0.4**
ESDC IAmb IAmb 19 40 29.7
comp=Z,2.7nm,0.9s
BR131 Keskin Array S 85.56 346 P **P** **19 40 29.5 +0.3**
BR131 pmax pmax
comp=Z,8.0nm,0.9s
BR131 Keskin Array S 85.56 346 P **P** **19 40 29.5 +0.3**
BR131 IAmb IAmb 19 40 31.2
comp=Z,8.4nm,0.9s
BRTR Keskin Array B 85.56 346 P **P** **19 40 30.1 +0.9**
comp=Z,4.0nm,0.8s,baz=52,slow=2.5,SNR=28
BRTR Keskin Array B 85.56 346 P **P** **19 40 29.9 +0.7**
BNN Bunyan 86.08 345 P **P** **19 40 32.2 +0.4**
H03N2 Juan Fernandez 113.57 115 T T 21 50 15.6
baz=322,slow=77,SNR=31
H03N1 Juan Fernandez 113.59 115 T T 21 50 12.1
baz=322,slow=77,SNR=37
H03N3 Juan Fernandez 113.59 115 T T 21 50 14.1
baz=322,slow=77,SNR=26

JMA 21 19:37:08.5±0.2,25°.11N×123°.64E,h20km,M1.3, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.78**	**174**	P	Pb		19 37 23.0	-0.3
IRIF				*e*S	Sb		19 37 33.4	0.0
JSG	**Ishigakijimahi**	**0.80**	**130**	P	Pb		19 37 23.5	-0.2
YOJ	**Yonaguni jima**	**0.86**	**222**	P	Pb		19 37 24.1	-0.7
YOJ				*e*S	Sb		19 37 35.7	-0.2
JIJ	**Ishigaki jima**	**0.87**	**148**	P	Pb		19 37 24.5	-0.5
JIJ				S	Sb		19 37 35.8	-0.4
JYNG	**Yonagunijimaku**	**0.91**	**224**	P	Pb		19 37 25.6	0.0
JYNG				*e*S	Sb		19 37 37.0	-0.3
JKRS	**Kuro-shima**	**0.93**	**159**	P	Pb		19 37 25.6	-0.4
JKRS				*e*S	Sb		19 37 37.3	-0.6

TAP 21 19:37:51.7,24°.84N×121°.98E,h7km±1km,ML1.6,D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NTC	**Toucheng**	**0.14**	**278**	*e*P	Pg		19 37 55.6	+1.0
NTC	baz=277			*e*S	Sg		19 37 58.2	+1.7
TWB1	**Santiao Chiao**	**0.17**	**2**	*i*P	Pg		19 37 56.2	+1.1
TWB1	baz=4.0			*i*S	Sg		19 37 58.7	+1.2
TIPB	**Shuangxi**	**0.20**	**314**	*i*P	Pg		19 37 56.9	+1.2
TIPB	baz=313			S	Sg		19 37 59.9	+1.6
TWC	**Suao**	**0.26**	**208**	*e*P	Pg		19 37 57.4	+0.7
NWF	**Wu-fen Shan**	**0.30**	**322**	P	Pb		19 37 58.9	-0.5
NWF	baz=322			S	Sb		19 38 03.7	-0.9
TWE	**Neicheng**	**0.31**	**248**	P	Pg		19 37 58.6	+0.9
TWE	baz=246			*e*S	Sb		19 38 03.7	-1.1
TWA	**Mucha**	**0.39**	**292**	*e*P	Pb		19 38 00.6	-0.3
ENTT	**Nioudou**	**0.43**	**243**	P	Pb		19 38 01.0	-0.5
YM01	**YM01**	**0.48**	**310**	P	Pb		19 38 02.9	+0.3
NDT	**Datong Townshi**	**0.49**	**242**	*e*P	Pb		19 38 02.2	-0.3
YHNB	**Yeheng**	**0.58**	**253**	*e*P	Pb		19 38 03.5	-0.6
NSK	**Sanguang**	**0.59**	**254**	*e*P	Pg		19 38 03.6	+0.5
NACB	**Ninganchiao**	**0.75**	**208**	*e*P	Pb		19 38 07.3	+0.3
NACB	baz=208			*e*S	Sb		19 38 17.1	-0.4
NACB	**Ninganchiao**	**0.75**	**208**	P	Pb		19 38 07.3	+0.3

TAP 21 19:41:25.6,25°.41N×122°.73E,h76km,ML2.9,D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PCYT	**Pengchaiyu**	**0.63**	**290**	*e*S	Sn		19 41 52.2	+1.1
TWB1	**Santiao Chiao**	**0.78**	**239**	*e*P	Pn		19 41 40.3	-1.6
NWF	**Wu-fen Shan**	**0.92**	**249**	*e*P	Pn		19 41 44.1	+0.5
NWF	baz=249			*e*S	Sn		19 41 57.4	+0.4
TIPB	**Shuangxi**	**0.93**	**242**	*e*P	Pn		19 41 43.1	-0.5
TIPB	baz=242			*e*S	Sn		19 41 57.1	+0.1
YOJ	**Yonaguni jima**	**0.98**	**165**	*i*S	Sn		19 41 58.1	+0.1
YM01	**YM01**	**1.08**	**256**	*e*P	Pn		19 41 47.4	+1.9
TWC	**Suao**	**1.13**	**225**	*e*P	Pn		19 41 43.5	-2.5
TWE	**Neicheng**	**1.18**	**235**	*e*P	Pn		19 41 45.5	-1.2
TWE	baz=240			*e*S	Sn		19 42 01.6	-0.9
NWLT	**Wulai**	**1.28**	**241**	*e*P	Pn		19 41 48.3	+0.3
ENTT	**Nioudou**	**1.30**	**234**	*e*P	Pn		19 41 48.4	+0.1
YHNB	**Yeheng**	**1.43**	**239**	*e*P	Pn		19 41 50.2	+0.3
NNSB	**Datong**	**1.57**	**232**	*e*P	Pn		19 41 51.9	+0.1
NACB	**Ninganchiao**	**1.61**	**220**	*e*P	Pn		19 41 51.2	-1.0
WHF	**Hehuan Shan**	**1.83**	**227**	*e*P	Pn		19 41 56.4	+0.8
CHGB	**Renai**	**1.95**	**227**	*e*P	Pn		19 41 58.8	+1.8

*JMA **21** 19:41:31.6,24°.82N×122°.42E,h1km±1km,M1.8*
TAP 21 19:41:33.6,25°.00N×122°.66E,h21km±1km,ML2.6,C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.61**	**155**	P	Pb		19 41 43.7	-1.9
JYNG				*e*S	Sb		19 41 52.2	-1.5
TWB1	**Santiao Chiao**	**0.61**	**271**	*e*P	Pb		19 41 45.5	-0.1
YOJ	**Yonaguni jima**	**0.63**	**149**	P	Pb		19 41 44.4	-1.5
YOJ				*e*S	Sb		19 41 53.4	-0.9
YOJ	**Yonaguni jima**	**0.63**	**149**	*i*P	Pb		19 41 44.5	-1.4
TIPB	**Shuangxi**	**0.76**	**268**	P	Pb		19 41 48.0	-0.1
NWF	**Wu-fen Shan**	**0.80**	**275**	P	Pn		19 41 49.3	-0.4
TWC	**Suao**	**0.83**	**242**	P	Pb		19 41 48.5	-0.9
TWC	baz=248			*e*S	Sb		19 41 59.7	-0.4
TWE	**Neicheng**	**0.94**	**253**	P	Pb		19 41 51.0	-0.2
TWY	**Chenhua**	**1.00**	**286**	*e*S	Sn		19 42 05.7	0.0
ENA	**Nanau**	**1.01**	**236**	*e*P	Pb		19 41 52.0	-0.4
ENA	baz=235			*e*S	Sb		19 42 04.9	-0.3
NHDH	**Xindian Distri**	**1.03**	**268**	*e*P	Pn		19 41 52.9	+0.2
ENTT	**Nioudou**	**1.06**	**250**	P	Pb		19 41 53.3	+0.2
YHNB	**Yeheng**	**1.21**	**254**	*e*P	Pn		19 41 55.5	+0.2
NSK	**Sanguang**	**1.23**	**255**	*e*P	Pn		19 41 55.6	0.0
NSK	baz=262			*e*S	Sb		19 42 11.1	-0.4
NACB	**Ninganchiao**	**1.27**	**230**	*e*P	Pn		19 41 56.0	-0.1

	baz=237							
NACB					*e*S	Sn	19 42 12.2	-0.4
	baz=237							
NNS	**Nan Shan**	**1.30**	**245**		*e*P	Pn	19 41 56.6	+0.1
	baz=244							
WHF	**Hehuan Shan**	**1.53**	**236**		*e*P	Pb	19 42 01.4	-0.1
	baz=235							

*IDC **21** 19:42:10.8±0.9,2°.67S×138°.68E, h0km, mb3.7/6, mb1 3.9/9, mb1mx3.8/28, mbtmp3.7/9, ML3.5/3, Error ellipse: s-maj=22.8km s-min=19.8km az=67.0*

*DJA **21** 19:42:14.0±0.7,2°.5±6°×13°.9E±°, h25km±7km, M3.9/4, mb4.4/2, MLv3.6/4*

ISC 21 19:42:11.9±1.8, 2°.62S±0°.07×138°.65E±0°.04, h8km±12km, n14, σ0°99/19, mb3.7/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SMPI	**Sarmi**	**0.63**	**5**	P		**Pg**	**19 42 23.9**	**-0.2**
SMPI				S		**Sb**	**19 42 33.4**	**-0.8**
GENI	**Genyem**	**1.51**	**89**	P		**Pn**	**19 42 37.8**	**-1.4**
GENI				S		**Sg**	**19 43 01.4**	**+0.8**
JAY	**Jayapura**	**2.05**	**87**	Pn		**Pn**	**19 42 46.5**	**-0.2**
	6.8nm,0.3s,baz=141,slow=17,SNR=8.8							
JAY				Sn		**Sn**	**19 43 12.8**	**+0.3**
	16nm,0.3s,baz=100,slow=19,SNR=4.8							
JAY	**Jayapura**	**2.05**	**87**	P		**Pn**	**19 42 46.3**	**-0.4**
JAY				S		**Sn**	**19 43 11.5**	**-1.0**
SRPI	**Serui, Papua**	**2.52**	**287**	P		**Pn**	**19 42 53.2**	**0.0**
SRPI				S		**Sn**	**19 43 22.1**	**-2.1**
SOEI	**Soe**	**15.95**	**243**	P		**P**	**19 46 01.8**	**+1.2**
	35nm,1.0s							
WRA	**Warramunga Arr**	**17.72**	**193**	P		**Pn**	**19 46 17.6**	**-1.5**
	0.4nm,0.3s,baz=18,slow=12,SNR=16							
FITZ	**Fitzroy Crossi**	**19.98**	**219**	P		**P**	**19 46 45.2**	**+0.3**
	0.1nm,0.3s,baz=60,slow=8.0,SNR=1.9							
ASAR	**Alice Springs**	**21.42**	**192**	P		**P**	**19 47 00.1**	**-0.3**
	3.4nm,0.9s,baz=21,slow=10,SNR=23							
CMAR	**Chiang Mai Arr**	**44.35**	**300**	P		**P**	**19 50 23.4**	**+0.5**
	0.9nm,1.0s,baz=117,slow=6.5,SNR=7.1							
SONM	**Songino Array**	**57.62**	**335**	P		**P**	**19 52 03.5**	**+1.0**
	0.3nm,0.6s,baz=163,slow=8.7,SNR=2.6							
MKAR	**Makanchi Array**	**69.59**	**322**	P		**P**	**19 53 22.9**	**+0.7**
	2.0nm,0.9s,baz=113,slow=8.0,SNR=7.8							
ZALV	**Zalesovo Beam**	**71.83**	**330**	P		**P**	**19 53 35.1**	**+0.1**
	0.3nm,0.4s,baz=99,slow=8.9,SNR=1.9							
VNDA	**Vanda**	**75.87**	**175**	P		**P**	**19 53 58.7**	**+0.4**
	0.7nm,0.6s,baz=326,slow=6.5,SNR=8.2							

MEX 21 19:42:56.1±0.5, 17°.03N×96°.46W, h72km±4km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VHO	**Vista Hermosa**	**0.27**	**279**	*i* P		Pn	19 43 06.0	-1.5
VHO				*i* S		Sn	19 43 14.2	-1.8
PEIG	**Puerto Escondi**	**1.22**	**213**	*i* P		Pn	19 43 15.9	-1.6
PEIG				*i* S		Sn	19 43 32.1	-1.5
TXIG	**Tlaxiaco**	**1.27**	**280**	*e*P		Pn	19 43 17.3	-1.2
TXIG				*e*S		Sn	19 43 33.5	-1.7
PNIG	**Pinotepa**	**1.72**	**249**	*i* P		Pn	19 43 22.9	-1.2
PNIG				*i* S		Sn	19 43 41.7	-3.6

*ANF **21** 19:50:27.7±0.4, 36°.24N×98°.51W, h3km±3km, ML4.3/14, Error ellipse: s-maj=2.5km s-min=2.1km az=25.0*

*TUL **21** 19:50:27.6±1.1, 36°.27N±0°.03×98°.53W±0°.06, h6km±7km, ML3.8, mb_Lg3.5/120(NEIC), Error ellipse: s-maj=6.4km s-min=4.6km az=105.0*

*NEIC **21** 19:50:27.5±1.3, 36°.27N±0°.03×98°.51W±0°.05, h5km±2km, Error ellipse: s-maj=7.4km s-min=5.5km az=283.0*

ISC 21 19:50:27.4±1.1, 36°.26N±0°.02×98°.52W±0°.02, h6km±10km, n137, σ0°87/109, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.41**	**287**	Pg		**Pg**	**19 50 35.6**	**+0.4**
U32A				Sg		**Sg**	**19 50 41.6**	**+1.0**
U32A	**Winter Ranch,**	**0.41**	**287**	P		**Pg**	**19 50 35.7**	**+0.4**
	baz=106,SNR=72							
U32A				S		**Sg**	**19 50 41.6**	**+1.0**
	baz=106							
CROK	**Carrier**	**0.50**	**60**			**Pg**	**19 50 37.5**	**+0.5**
OK032	**Salt Plains WL**	**0.60**	**24**			**Pg**	**19 50 39.1**	**+0.2**
OK032				Sg		**Sg**	**19 50 47.7**	**+1.0**
GC02	**Grant County #**	**0.80**	**42**			**Pg**	**19 50 42.7**	**0.0**
KAN14	**Manchester OK**	**0.83**	**33**			**Pg**	**19 50 43.2**	**-0.1**
KAN14				Sg		**Sg**	**19 50 54.7**	**+0.7**
KAN10	**Anthony SW Sta**	**0.93**	**21**			**Pg**	**19 50 45.2**	**0.0**
KAN10				Sg		**Sg**	**19 50 57.6**	**+0.3**
BCOK	**Bluff Creek, N**	**0.95**	**129**			**Pg**	**19 50 45.7**	**+0.1**
OK029	**Liberty Lake**	**0.98**	**118**			**Pg**	**19 50 46.2**	**+0.1**
KAN17	**Caldwell West**	**0.99**	**38**			**Pg**	**19 50 46.2**	**-0.2**
KAN05	**Bluff City Nor**	**0.99**	**31**			**Pg**	**19 50 46.5**	**0.0**
KAN16	**Harper SW Stat**	**1.03**	**21**	Pg		**Pg**	**19 50 47.0**	**-0.2**
KAN08	**Anthony NE Sta**	**1.06**	**24**			**Pg**	**19 50 47.6**	**-0.2**
KAN12	**Harper NE Stat**	**1.12**	**22**			**Pg**	**19 50 48.5**	**-0.3**
KAN06	**Argonia West S**	**1.12**	**28**			**Pg**	**19 50 48.8**	**-0.1**
KAN13	**South Haven SW**	**1.13**	**48**			**Pg**	**19 50 48.8**	**-0.2**
KAN09	**Caldwell North**	**1.14**	**39**			**Pg**	**19 50 48.9**	**-0.3**
BLOK	**Blackwell**	**1.16**	**64**			**Pg**	**19 50 49.4**	**-0.2**
OK025	**Westminster Rd**	**1.17**	**125**			**Pg**	**19 50 49.5**	**-0.4**
OKCFA	**Oklahoma City**	**1.21**	**134**			**Pg**	**19 50 50.4**	**-0.2**
OKCFA	**Oklahoma City**	**1.21**	**134**	P		**Pg**	**19 50 50.1**	**-0.4**
	baz=314							
OKCFA				S		**Sb**	**19 51 06.5**	**0.0**
	baz=314							
OKCSW	**OKLAHOMA CITY**	**1.22**	**134**			**Pb**	**19 50 50.4**	**-0.4**
KS20	**Mayfield South**	**1.24**	**38**			**Pb**	**19 50 50.7**	**-0.5**
FNO	**Franklin**	**1.35**	**137**			**Pn**	**19 50 52.7**	**-0.1**
OK031	**S. Brethren Rd**	**1.39**	**102**			**Pn**	**19 50 53.2**	**-0.2**
QUOK	**Quay**	**1.47**	**93**			**Pn**	**19 50 54.5**	**+0.1**
WMOK	**Wichita Mounta**	**1.53**	**188**	IAmb_Lg			19 51 18.3	
	comp=Z,182nm,0.7s							
WMOK	**Wichita Mounta**	**1.53**	**188**	P		**Pn**	**19 50 55.2**	**-0.1**
	baz=7.5							
WMOK				S		**Sn**	**19 51 15.7**	**+0.2**
	baz=7.5							
WMOK	**Wichita Mounta**	**1.53**	**188**	P		**Pn**	**19 50 55.2**	**-0.1**
	baz=7.5							
WMOK				S		**Sn**	**19 51 15.7**	**+0.2**
	baz=7.5							
T35A	**Sooner Cattle**	**1.74**	**67**	Pn		**Pn**	**19 50 58.8**	**+0.6**
T35B	**Sooner Cattle**	**1.74**	**67**	P		**Pn**	**19 50 59.0**	**+0.8**
	baz=249,SNR=117							
T35B				S		**Sb**	**19 51 22.5**	**+0.6**
	baz=249							
X34A	**Smith Ranch, M**	**1.75**	**161**			**Pn**	**19 50 57.9**	**-0.2**
R32A	**Long Quarter,**	**2.17**	**356**	Pn		**Pn**	**19 51 05.2**	**+1.1**
R32A	**Long Quarter,**	**2.17**	**356**	P		**Pn**	**19 51 05.1**	**+1.1**
	baz=176,SNR=104							
R32A				S		**Sb**	**19 51 33.3**	**-0.8**
	baz=176							
TUL1	**Leonard**	**2.24**	**98**	IAmb_Lg			19 51 42.4	
	comp=Z,224nm,0.9s							
TUL1	**Leonard**	**2.24**	**98**	P		**Pn**	**19 51 05.6**	**+0.7**
	baz=280,SNR=23							
TUL1	**Leonard**	**2.24**	**98**	P		**Pn**	**19 51 05.9**	**+1.0**
	baz=280							
TUL1				S		**Sb**	**19 51 35.2**	**-0.9**
	baz=280							
LOOK	**Love County**	**2.51**	**154**	Pn		**Pn**	**19 51 09.8**	**+1.1**
LOOK				IAmb_Lg			19 51 51.2	
	comp=Z,133nm,0.7s							
CBKS	**Cedar Bluff**	**2.73**	**340**			**Pn**	**19 51 11.0**	**-0.8**
AMTX	**Amarillo**	**2.92**	**243**	Pn		**Pn**	**19 51 15.5**	**+1.1**
AMTX				IAmb_Lg			19 51 59.8	
	comp=Z,160nm,0.9s							
AMTX	**Amarillo**	**2.92**	**243**	P		**Pn**	**19 51 16.2**	**+1.8**
	baz=61,SNR=92							
AMTX	**Amarillo**	**2.92**	**243**	Pb		**Pb**	**19 51 20.6**	**+0.7**
	baz=61							
X37A	**Clayton**	**3.06**	**122**			**Pn**	**19 51 17.0**	**+0.8**
X37A				IAmb_Lg			19 52 08.7	
	comp=Z,115nm,0.9s							
X37A	**Clayton**	**3.06**	**122**	P		**Pn**	**19 51 17.2**	**+0.9**
	baz=304,SNR=22							
Z35A	**Perchaven, San**	**3.10**	**160**	Pn		**Pn**	**19 51 17.5**	**+0.7**
Z35A	**Perchaven, San**	**3.10**	**160**	P		**Pn**	**19 51 18.2**	**+1.4**
	baz=341,SNR=16							
KSU1	**Kansas State U**	**3.22**	**28**	Pn		**Pn**	**19 51 18.2**	**-0.2**
KSU1	**Kansas State U**	**3.22**	**28**	S		**Sn**	**19 51 58.0**	**+1.0**
	baz=209							
KSU1	**Kansas State U**	**3.22**	**28**	Sb		**Sg**	**19 52 08.2**	**-2.4**
	baz=209							
U38A	**Gravette**	**3.34**	**86**			**Pn**	**19 51 20.5**	**+0.4**
HHAR	**Hobbs**	**3.70**	**88**			**Pn**	**19 51 25.5**	**+0.4**
ABTX	**Abilene, Hawle**	**3.74**	**195**			**Pn**	**19 51 25.8**	**+0.1**
ABTX	**Abilene, Hawle**	**3.74**	**195**	P		**Pn**	**19 51 26.3**	**+0.6**
	baz=14							
W39A	**Magazine**	**4.00**	**104**	Pn		**Pn**	**19 51 29.1**	**+0.1**
W39A	**Magazine**	**4.00**	**104**	P		**Pn**	**19 51 30.0**	**+0.9**
	baz=287,SNR=8.5							
W39A	**Magazine**	**4.00**	**104**	P		**Pn**	**19 51 30.0**	**+0.9**
	baz=287							
MSTX	**Muleshoe**	**4.17**	**238**	Pn		**Pn**	**19 51 31.1**	**-0.5**
Z38A	**Mt. Pleasant**	**4.17**	**135**			**Pn**	**19 51 30.7**	**-0.8**
Z38A				IAmb_Lg			19 52 40.6	
	comp=Z,82nm,0.8s							
KSCO	**Kaye Shedlock'**	**4.26**	**311**			**Pn**	**19 51 32.7**	**-0.2**
WHTX	**Lake Whitney,**	**4.35**	**168**			**Pn**	**19 51 34.0**	**+0.1**
WHTX	**Lake Whitney,**	**4.35**	**168**	P		**Pn**	**19 51 35.0**	**+1.1**
	baz=348,SNR=14							
WHTX	**Lake Whitney,**	**4.35**	**168**	P		**Pn**	**19 51 35.1**	**+1.2**
	baz=348							
MIAR	**Mount Ida**	**4.38**	**112**			**Pn**	**19 51 34.5**	**+0.1**
MIAR				IAmb_Lg			19 52 49.3	
	comp=Z,109nm,0.9s							
MIAR	**Mount Ida**	**4.38**	**112**	P		**Pn**	**19 51 36.1**	**+1.7**
	baz=294							
MIAR				S		**Sn**	**19 52 27.4**	**+1.6**
	baz=294							
S39A	**Bolivar**	**4.40**	**69**			**Pn**	**19 51 35.0**	**+0.3**
S39A				IAmb_Lg			19 52 50.8	
	comp=Z,84nm,0.8s							
S39A	**Bolivar**	**4.40**	**69**	P		**Pn**	**19 51 35.2**	**+0.5**
	baz=253,SNR=8.9							
U40A	**Yellville**	**4.58**	**87**	Pn		**Pn**	**19 51 37.5**	**+0.4**
U40A				IAmb_Lg			19 53 00.7	
	comp=Z,79nm,0.7s							
237A	**Washetta, Mont**	**4.80**	**151**	IAmb_Lg			19 53 07.2	
	comp=Z,70nm,1.0s							
T25A	**Trinidad**	**4.81**	**282**			**Pn**	**19 51 40.4**	**-0.2**
T25A	**Trinidad**	**4.81**	**282**	P		**Pn**	**19 51 41.8**	**+1.3**
	baz=99							
T25A				Sb		**Sg**	**19 52 57.2**	**-4.8**
	baz=99							
X40A	**Basin Creek Fa**	**4.97**	**109**			**Pn**	**19 51 42.9**	**+0.4**
MGMO	**Mountain Grove**	**5.10**	**78**			**Pn**	**19 51 44.7**	**+0.4**
MGMO				IAmb_Lg			19 53 22.0	
	comp=Z,67nm,0.7s							
N35A	**Tabor**	**5.12**	**25**			**Pn**	**19 51 44.4**	**-0.1**
WLAR	**White Oak Lake**	**5.13**	**118**	IAmb_Lg			19 53 09.0	
	comp=Z,61nm,0.8s							
BGNE	**Belgrade**	**5.15**	**3**			**Pn**	**19 51 44.7**	**-0.3**
BGNE	**Belgrade**	**5.15**	**3**	P		**Pn**	**19 51 45.3**	**+0.3**
	baz=183							
WHAR	**Wooly Hollow**	**5.16**	**99**	Pn		**Pn**	**19 51 45.1**	**+0.1**
WHAR				IAmb_Lg			19 53 18.0	
	comp=Z,94nm,0.7s							
P38A	**Dawn**	**5.18**	**48**	Pn		**Pn**	**19 51 45.8**	**+0.5**
P38A				IAmb_Lg			19 53 19.0	
	comp=Z,127nm,0.8s							
FCAR	**Ozark Folk Cen**	**5.19**	**92**			**Pn**	**19 51 46.8**	**+1.2**
FCAR				IAmb_Lg			19 53 17.5	
	comp=Z,102nm,0.9s							
W41B	**Gary Mavity, V**	**5.22**	**100**	P		**Pn**	**19 51 46.1**	**+0.3**
	baz=284,SNR=17							
W41B	**Gary Mavity, V**	**5.22**	**100**	P		**Pn**	**19 51 46.3**	**+0.4**
	baz=284							
R40A	**Maddies Statio**	**5.38**	**66**			**Pn**	**19 51 47.9**	**-0.3**
OGNE	**Ogallala**	**5.43**	**331**	Pn		**Pn**	**19 51 50.0**	**+1.2**
OGNE				IAmb_Lg			19 53 34.6	
	comp=Z,92nm,0.8s							
OGNE	**Ogallala**	**5.43**	**331**	P		**Pn**	**19 51 50.7**	**+1.8**
	baz=149							
435B	**Jarrell**	**5.52**	**172**	IAmb_Lg			19 53 25.1	
	comp=Z,93nm,0.7s							
SDCO	**Great Sand Dun**	**5.78**	**287**	Pn		**Pn**	**19 51 55.0**	**+1.1**
SDCO				IAmb_Lg			19 53 39.2	
	comp=Z,45nm,1.0s							
JCT	**Junction City**	**5.86**	**191**			**Pn**	**19 51 54.4**	**-0.5**
L34A	**Svendsen Farm,**	**5.94**	**16**			**Pn**	**19 51 55.8**	**0.0**
LCAR	**Lake Charles**	**5.96**	**90**	IAmb_Lg			19 53 42.4	
	comp=Z,64nm,0.9s							
CCAR	**Cane Creek**	**6.00**	**111**	IAmb_Lg			19 53 49.5	
	comp=Z,91nm,0.7s							
T42A	**Van Buren**	**6.02**	**80**			**Pn**	**19 51 56.7**	**-0.2**
T42A				IAmb_Lg			19 53 44.5	
	comp=Z,45nm,0.9s							
T42A	**Van Buren**	**6.02**	**80**	P		**Pn**	**19 51 57.9**	**+1.0**
	baz=265,SNR=10							
P40A	**Paris**	**6.07**	**56**			**Pn**	**19 51 58.0**	**+0.4**
CCM	**Cathedral Cave**	**6.08**	**71**			**Pn**	**19 51 57.2**	**-0.5**
CCM				IAmb_Lg			19 53 40.6	
	comp=Z,68nm,1.0s							
N38A	**Joes South For**	**6.13**	**41**	Pn		**Pn**	**19 51 58.2**	**-0.3**
PBMO	**Poplar Bluff**	**6.54**	**83**	IAmb_Lg			19 53 54.1	
	comp=Z,81nm,0.7s							
ANMO	**Albuquerque**	**6.60**	**261**			**Pn**	**19 52 05.2**	**+0.2**
ISCO	**Idaho Springs**	**6.62**	**304**	Pn		**Pn**	**19 52 05.0**	**-0.4**
FVM	**French Village**	**6.69**	**73**	Pn		**Pn**	**19 52 05.2**	**-1.0**
FVM				IAmb_Lg			19 54 07.4	
	comp=Z,42nm,0.8s							
143A	**Socs Landing,**	**6.86**	**119**	IAmb_Lg			19 54 18.7	
	comp=Z,49nm,0.8s							
SLM	**Saint Louis**	**7.00**	**68**	IAmb_Lg			19 54 17.6	
	comp=Z,40nm,0.7s							
Y22D	**IRIS PASSCAL I**	**7.22**	**255**	IAmb_Lg			19 54 32.8	
	comp=Z,59nm,0.8s							
MNTX	**Cornudas Mount**	**7.29**	**233**	P		**Pn**	**19 52 15.3**	**+0.9**
	baz=49,SNR=6.1							
PHWY	**Pilot Hill**	**7.40**	**315**	IAmb_Lg			19 54 20.8	
	comp=Z,40nm,0.9s							
735A	**Kenedy**	**7.41**	**175**	IAmb_Lg			19 54 37.6	
	comp=Z,52nm,0.8s							
S44A	**Carbondale**	**7.55**	**76**	IAmb_Lg			19 54 27.3	
	comp=Z,57nm,0.7s							
SIUC	**Southern Illin**	**7.58**	**76**	IAmb_Lg			19 54 32.9	
	comp=Z,67nm,0.9s							
ECSD	**EROS Data Cent**	**7.61**	**10**	Pn		**Pn**	**19 52 19.0**	**+0.3**
ECSD				IAmb_Lg			19 54 31.5	
	comp=Z,36nm,0.8s							
OXF	**Oxford**	**7.64**	**101**	Pn		**Pn**	**19 52 19.6**	**+0.4**
OXF				IAmb_Lg			19 54 39.3	
	comp=Z,74nm,0.8s							
W45A	**Hickory Valley**	**7.67**	**96**	IAmb_Lg			19 54 47.4	
	comp=Z,76nm,0.8s							
Y45A	**Yeager Farm, C**	**7.74**	**105**	IAmb_Lg			19 54 54.9	
	comp=Z,60nm,1.0s							
L40A	**Anamosa**	**8.10**	**42**	IAmb_Lg			19 54 58.0	
	comp=Z,54nm,0.8s							
TX31	**Lajitas Ar. Si**	**8.15**	**214**			**Pn**	**19 52 26.3**	**+0.1**
TX31	**Lajitas Ar. Si**	**8.15**	**214**	P		**Pn**	**19 52 26.6**	**+0.3**
	baz=31,SNR=24							
SUSD	**Miller**	**8.18**	**358**	IAmb_Lg			19 55 00.1	
	comp=Z,55nm,0.8s							
PV02	**Paradox Valley**	**8.38**	**286**	IAmb_Lg			19 55 04.4	
	comp=Z,32nm,1.1s							
PV12	**Saucer Basin,**	**8.45**	**287**	IAmb_Lg			19 55 05.6	
	comp=Z,27nm,1.0s							
PV11	**David Mesa, Pa**	**8.50**	**287**	IAmb_Lg			19 55 02.4	
	comp=Z,28nm,0.9s							
PV16	**Nyswonger Mesa**	**8.54**	**287**	IAmb_Lg			19 55 06.0	
	comp=Z,41nm,1.3s							
PV20	**West Nyswonger**	**8.58**	**287**	IAmb_Lg			19 55 06.1	
	comp=Z,42nm,1.2s							
PLAL	**Pickwick Lake**	**8.60**	**95**	IAmb_Lg			19 55 04.3	
	comp=Z,31nm,0.9s							
PV14	**Lion Creek, Pa**	**8.63**	**287**	IAmb_Lg			19 55 07.6	
	comp=Z,31nm,1.3s							
PV21	**Cone Mtn., Par**	**8.63**	**289**	IAmb_Lg			19 55 09.3	
	comp=Z,27nm,1.2s							
PV23	**Carpenter Ridg**	**8.64**	**288**	IAmb_Lg			19 55 12.9	
	comp=Z,48nm,1.1s							
OLIL	**Olney**	**8.64**	**70**	IAmb_Lg			19 55 17.8	
	comp=Z,50nm,1.0s							
PV10	**Paradox Valley**	**8.64**	**287**	IAmb_Lg			19 55 16.4	
	comp=Z,28nm,1.1s							
USIN	**University of**	**8.84**	**76**	IAmb_Lg			19 55 26.0	
	comp=Z,49nm,1.0s							
K22A	**Casper**	**8.89**	**318**	IAmb_Lg			19 55 18.3	
	comp=Z,32nm,1.0s							
RSSD	**Black Hills**	**8.91**	**333**	IAmb_Lg			19 55 21.9	
	comp=Z,33nm,1.2s							
JFWS	**Jewell Farm**	**9.21**	**41**	IAmb_Lg			19 55 27.4	
	comp=Z,44nm,0.7s							
P46A	**Rosedale**	**9.54**	**66**	IAmb_Lg			19 55 37.9	
	comp=Z,46nm,0.8s							
M44A	**Midewin, Midew**	**9.64**	**55**	IAmb_Lg			19 55 45.3	
	comp=Z,54nm,1.1s							
F33A	**5 Mile Ranch,**	**9.72**	**9**	IAmb_Lg			19 55 45.8	
	comp=Z,30nm,1.0s							
I40A	**Norwalk**	**9.73**	**36**	IAmb_Lg			19 55 38.0	
	comp=Z,27nm,0.8s							
SFIN	**Lafayette**	**9.87**	**62**	IAmb_Lg			19 55 55.3	
	comp=Z,38nm,0.8s							
BLO	**Bloomington**	**9.94**	**69**	IAmb_Lg			19 55 46.4	
	comp=Z,40nm,0.7s							
SPMN	**Marine on St.**	**9.95**	**24**	IAmb_Lg			19 55 53.9	
	comp=Z,22nm,0.7s							

*IDC **21** 19:51:42.5±0.6, 31°.77N×129°.72E, h194km±5km, mb2.9/3, mb1 3.2/4, mb1mx2.9/46, mbtmp3.4/4, Error ellipse: s-maj=17.6km s-min=7.2km az=146.0*

*JMA **21** 19:51:43.2±0.1, 31°.28N×130°.44E, h151km±1km, M3.4*

ISC 21 19:51:42.7±1.2, 31°.25N±0°.06×130°.39E±0°.10, h153km±8km, n14, σ0°53/21, mb3.4/3, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JSU	**Suzuyama**	**0.26**	**13**	P		**Pn**	**19 52 03.8**	**+0.3**
JSU				S		**Sn**	**19 52 19.6**	**+0.1**
JTSR	**Tashiro 2**	**0.47**	**100**	P		**Pn**	**19 52 04.3**	**0.0**
JTSR				S		**Sn**	**19 52 19.7**	**-0.9**
JSJ	**Shimokoshiki**	**0.71**	**307**	P		**Pn**	**19 52 05.5**	**-0.1**
JSJ				*e*S		**Sn**	**19 52 23.1**	**0.0**
JTN	**Tanegashima 3**	**0.78**	**139**	P		**Pn**	**19 52 06.3**	**+0.2**
JTN				S		**Sn**	**19 52 23.6**	**-0.3**
JTZ	**Takazaki**	**0.88**	**42**	P		**Pn**	**19 52 06.8**	**0.0**
JTZ				*e*S		**Sn**	**19 52 25.3**	**0.0**
JMTN	**Minamitane**	**0.96**	**152**	P		**Pn**	**19 52 07.8**	**+0.4**
JMTN				*e*S		**Sn**	**19 52 26.5**	**+0.2**
JYAK	**Yakushimahirau**	**1.01**	**174**	P		**Pn**	**19 52 08.1**	**+0.2**
JYAK				*e*S		**Sn**	**19 52 26.9**	**-0.2**
JIU3	**Izumi3**	**1.34**	**15**	P		**Pn**	**19 52 11.1**	**+0.2**
JNN	**Nakanoshima**	**1.47**	**198**	P		**Pn**	**19 52 12.9**	**+0.7**
JNN				*e*S		**Sn**	**19 52 35.5**	**+0.6**
JNU	**Nakatsue**	**1.91**	**12**	P		**Pn**	**19 52 17.1**	**+0.1**
	14nm,0.3s,baz=207,slow=11,SNR=286							
MJAR	**Matsushiro Arr**	**8.37**	**49**	P		**Pn**	**19 53 42.4**	**+1.4**
	0.2nm,0.3s,baz=234,slow=18,SNR=17							
SONM	**Songino Array**	**24.68**	**319**	P		P	19 56 38.6	-11
	0.2nm,0.4s,baz=108,slow=4.8,SNR=3.7							
WRA	**Warramunga Arr**	**51.04**	**175**	P		**P**	**20 00 28.6**	**-0.7**
	0.3nm,0.4s,baz=355,slow=8.1,SNR=1.9							
ASAR	**Alice Springs**	**54.71**	**176**	P		**P**	**20 00 56.0**	**-0.1**
	0.3nm,0.4s,baz=359,slow=6.1,SNR=5.4							

IDC 21 19:53:06.4±3.7, 2°.68S×137°.96E, h0km, mb3.7/3, mb1 3.7/5, mb1mx3.5/27, mbtmp3.6/5, ML3.4/2, Error ellipse: s-maj=138.2km s-min=26.3km az=89.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.52**	**191**	P		Pn	19 57 10.9	-1.3
	0.2nm,0.3s,baz=12,slow=12,SNR=9.9							
FITZ	**Fitzroy Crossi**	**19.51**	**217**	P		P	19 57 35.3	-0.1
	0.1nm,0.3s,baz=29,slow=13,SNR=1.4							
ASAR	**Alice Springs**	**21.23**	**190**	P		P	19 57 54.9	+0.8
	0.6nm,0.4s,baz=22,slow=8.9,SNR=9.3							
MKAR	**Makanchi Array**	**69.31**	**323**	P		P	20 04 16.1	+0.3
	0.6nm,0.8s,baz=120,slow=8.5,SNR=2.6							
KURBB	**Kurchatov Arra**	**73.27**	**325**	P		P	20 04 39.3	-0.3
	0.4nm,0.3s,baz=109,slow=7.2,SNR=1.4							

*IDC **21** 19:56:04.1±0.3, 31°.76S×71°.51W, h0km, mb5.2/29, mb1 5.3/34, mb1mx5.3/38, mbtmp5.2/34, ML4.9/5, MS5.2/15, Ms1 5.2/15, ms1mx4.9/28, Error ellipse: s-maj=15.9km s-min=10.1km az=72.0*

*SJA **21** 19:56:05.0, 31°.73S×71°.98W, h25km, ML6.0(GUC)*

*NEIC **21** 19:56:06.7, 31°.77S×71°.77W, h32km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; M_rr 1.39; M_θθ 0.11; M_φφ -1.50; M_rθ 0.33; M_θφ 0.48; M_φr -0.89; Fault plane solution: M_0 1.80000×10^17^ NP1:φ_s 161.66000°, δ 60.96000°, λ 86.91000°. NP2:φ_s 348.00000°, δ 29.19000°, λ 95.54000°. Principal axes: T 1.6664, Plg74.0000°, Azm64.0000°; N 0.

MT05 *i* S **Sb** **19 57 02.3 +1.2**
MT05 Renca 1.77 154 Pb 19 56 39.0 -0.2
MT05 Renca 1.77 154 *i* P **Pb** **19 56 39.0 -0.2**
VA05 Santo Domingo 1.86 179 *eP* **Pn** **19 56 39.1 +1.2**
VA05 Santo Domingo 1.86 179 Pn 19 56 39.1 +1.2
CO05 La Serena 1.90 11 *eP* **Pb** **19 56 40.2 -1.1**
CO05 La Serena 1.90 11 Pb 19 56 39.9 -1.4
FSR Penalolen 1.93 151 *eP* **Pb** **19 56 43.0 +1.0**
FSR *i* S **Sb** **19 57 07.3 +1.7**
AUSP Uspallata 1.97 103 *i* P **Pb** **19 56 43.0 +0.3**
RTLS Leoncito 2.01 91 *i* P **Pb** **19 56 44.0 +0.7**
RTLS IAML 19 57 20.9
comp=Z,17µm,0.9s
MT09 Talagante 2.06 164 *eP* **Pb** **19 56 43.5 -0.6**
MT09 *i* S **Sb** **19 57 09.6 +0.3**
MT09 Talagante 2.06 164 Pb 19 56 43.0 -1.1
MT01 Popeta 2.10 171 *eP* **Pb** **19 56 43.0 -1.6**
MT01 Popeta 2.10 171 Pb 19 56 43.1 -1.6
MT01 Popeta 2.10 171 *i* P **Pb** **19 56 43.0 -1.6**
LMEL Las Melosas 2.39 150 ⇑ *i*P **Pb** **19 56 48.2 -1.5**
LMEL *i* S **Sb** **19 57 17.2 -1.6**
AROD Rodeo 2.47 50 *i* P **Pb** **19 56 51.0 -0.3**
ASAL Salagasta 2.52 109 *i* P **Pb** **19 56 52.0 +0.1**
ACCO Cerro Coronel 2.52 62 *i* P **Pb** **19 56 52.0 -0.1**
ACCO IAML 19 58 05.9
comp=Z,2µm,1.6s
ARCO CERRO ARCO 2.53 115 *i* P **Pb** **19 56 53.0 +0.8**
ARCO IAML 19 57 34.4
comp=Z,60µm,1.6s
ZON Zonda 2.55 85 P **Pb** **19 56 51.8 -0.6**
ZON Zonda 2.55 85 Pb 19 56 51.8 -0.6
ZON Zonda 2.55 85 *i* P **Pb** **19 56 52.0 -0.4**
ZON IAML 19 57 36.7
comp=Z,33µm,1.1s
BO01 Tunca 2.64 170 Pn **Pn** **19 56 50.3 +1.7**
BO01 Tunca 2.64 170 *i* P **Pn** **19 56 50.0 +1.4**
RTCV Cerro Valdivia 2.65 92 *i* P **Pb** **19 56 53.0 -1.1**
RTCV IAML 19 57 41.5
comp=Z,1µm,2.9s
ACDV Cuesta del Vie 2.71 54 *i* P **Pb** **19 56 55.0 -0.2**
ACDV IAML 19 57 41.0
comp=Z,29µm,1.3s
BO03 Pichilemu 2.71 185 ⇓ *i*P **Pn** **19 56 50.3 +0.7**
AAGR Agrelo 2.71 119 *i* P **Pb** **19 56 55.0 -0.3**
LCO Las Campanas 2.89 17 P **Pn** **19 56 53.8 +1.6**
LCO Las Campanas 2.89 17 ⇑ *i*P **Pn** **19 56 53.9 +1.6**
LCO *i* S **Sn** **19 57 28.9 +2.5**
LCO Las Campanas 2.89 17 Pn 19 56 53.8 +1.6
LCO Las Campanas 2.89 17 *i* P **Pn** **19 56 54.0 +1.7**
LCO IAML 19 57 41.0
comp=Z,129µm,1.0s
BO02 Sierra Bellavi 3.08 167 Pn 19 56 56.6 +1.9
BO02 Sierra Bellavi 3.08 167 *i* P **Pn** **19 56 57.0 +2.3**
GO05 Huala 3.22 184 Pn **Pn** **19 56 57.1 +0.5**
GO05 Huala 3.22 184 *i* P **Pn** **19 56 57.0 +0.5**
AC04 Llanos de Chal 3.61 8 Pn **Pn** **19 57 02.6 +0.7**
AC04 Llanos de Chal 3.61 8 *i* P **Pn** **19 57 03.0 +1.1**
COIS El Sosneado 3.73 153 *i* P **Pb** **19 57 09.0 -3.5**
LAMA Las Malvinas 3.74 148 *i* P **Pb** **19 57 10.0 -2.7**
ML02 Panimavida 3.97 177 Pn **Pn** **19 57 08.2 +1.4**
RFA San Rafael 3.99 139 *i* P **Pn** **19 57 11.0 +3.7**
RFA IAML 19 58 18.7
comp=Z,9µm,0.6s
VCA Vinchina 4.26 45 *i* P **Pn** **19 57 15.0 +4.0**
VCA IAML 19 58 18.6
comp=Z,53µm,0.7s
GO03 Copiap 4.36 17 Pn **Pn** **19 57 13.2 +0.9**
GO03 Copiap 4.36 17 *i* P **Pn** **19 57 13.0 +0.7**
AC06 Mina Casimiro 4.56 15 Pn **Pn** **19 57 15.6 +0.6**
MRA San Martin 5.08 99 *i* P Pb 19 57 29.0 -6.5
MRA IAML 19 58 49.4
comp=Z,13nm,0.8s
AC02 Maricunga 5.41 25 Pn **Pn** **19 57 28.5 +1.4**
AC02 Maricunga 5.41 25 *i* P **Pn** **19 57 28.0 +0.9**
CYA Choya 6.07 58 *i* P **Pn** **19 57 37.0 +1.2**
CYA IAML 19 58 54.1
comp=Z,11µm,1.9s
CANA Caviahue 6.10 176 *i* P **Pn** **19 57 40.0 +3.7**
VA04 Juan Fernndez 6.32 251 Pn 19 57 39.4 +0.2
H03N1 Juan Fernandez 6.34 253 T T 20 04 18.8
baz=80,slow=72,SNR=1857
H03N3 Juan Fernandez 6.36 253 T T 20 04 21.2
baz=80,slow=72,SNR=2196
H03N2 Juan Fernandez 6.36 253 T T 20 04 22.5
baz=80,slow=72,SNR=2697
H03S3 Juan Fernandez 6.44 250 T T 20 04 39.3
baz=84,slow=75,SNR=265
H03S1 Juan Fernandez 6.44 250 T T 20 04 37.9
baz=84,slow=75,SNR=295
H03S2 Juan Fernandez 6.45 250 T T 20 04 35.0
baz=84,slow=75,SNR=421
LC01 Cunco 7.09 181 Pn 19 57 50.0 +0.2
LC01 Cunco 7.09 181 *i* P **Pn** **19 57 50.0 +0.2**
PB14 IPOC Station P 7.22 9 Pn **Pn** **19 57 49.1 -2.7**
PB14 IPOC Station P 7.22 9 *i* P **Pn** **19 57 51.0 -0.9**
PB14 IAML 19 59 46.5
comp=Z,7µm,1.7s
FSA Cafayete 7.53 43 *i* P **Pn** **19 57 57.0 +1.0**
LR03 Panguipulli 7.84 184 Pn 19 58 00.0 -0.1
PB10 IPOC Station P 8.30 7 Pn **Pn** **19 58 06.8 +0.4**
PB10 IPOC Station P 8.30 7 *i* P **Pn** **19 58 03.0 -3.4**
PB10 IAML 20 00 19.4
comp=Z,1µm,1.4s
PB15 IPOC Station P 8.77 13 Pn 19 58 10.5 -2.4
PB15 IPOC Station P 8.77 13 *i* P **Pn** **19 58 11.0 -2.0**
PB15 IAML 20 00 29.4
comp=Z,4µm,0.9s
PLCA Paso Flores 8.97 175 Pn **Pn** **19 58 16.9 +1.3**
comp=Z,3.1nm,0.3s,baz=334,slow=12,SNR=60
PLCA LR LR 20 01 47.2
comp=Z,12µm,21.3s,baz=350,slow=38
PLCA Paso Flores 8.97 175 P **Pn** **19 58 17.3 +1.7**
PLCA Paso Flores 8.97 175 Pn **Pn** **19 58 17.3 +1.7**
PLCA Paso Flores 8.97 175 *eP* **Pn** **19 58 17.9 +2.3**
LL04 Puerto Octay 9.12 184 Pn **Pn** **19 58 19.9 -0.7**
PB06 IPOC Station P 9.24 12 Pn 19 58 15.8 -3.6
PB06 IPOC Station P 9.24 12 *i* P **Pn** **19 58 16.0 -3.4**
PB06 IAML 20 00 43.5
comp=Z,5µm,1.3s
LL03 Petrohue 9.35 183 Pn 19 58 19.5 -1.2
LVC Limon Verde 9.46 16 Pn **Pn** **19 58 20.2 -2.5**
comp=Z,4.4nm,0.3s,baz=202,slow=6.2,SNR=24
LVC Sn Sn 20 00 22.0 +13
comp=Z,41nm,0.3s,baz=209,slow=8.9,SNR=6.8
LVC LR LR 20 02 22.2
comp=Z,17µm,21.7s,baz=214,slow=40
LVC Limon Verde 9.46 16 Pn **Pn** **19 58 19.9 -2.8**
LVC Limon Verde 9.46 16 *eP* **Pn** **19 58 21.4 -1.3**
PB04 IPOC Station P 9.52 8 Pn 19 58 20.8 -2.4
PB04 IPOC Station P 9.52 8 *i* P **Pn** **19 58 20.0 -3.2**
AZAP Zapla 9.52 39 *i* P **Pn** **19 58 25.0 +1.7**
AZAP IAML 20 00 52.7
comp=Z,2µm,2.1s
LL05 Los Muermos 9.71 188 Pn **Pn** **19 58 24.2 -1.4**
ASTB Santa Barbara 10.08 41 *i* P Pn 19 58 36.0 +5.1
TRQA Tornquist 10.10 131 P **Pn** **19 58 32.6 +1.5**
TRQA Tornquist 10.10 131 Pn 19 58 32.6 +1.5
TRQA Tornquist 10.10 131 *eP* **Pn** **19 58 32.7 +1.5**
PB07 IPOC Station P 10.15 9 Pn 19 58 29.5 -2.4
PB09 IPOC Station P 10.18 13 Pn 19 58 28.8 -3.6
ALOL LOMAS DE OLMED 10.45 42 *i* P **Pn** **19 58 39.0 +3.1**
PB01 IPOC Station P 10.88 11 Pn **Pn** **19 58 37.8 -4.1**
GO07 Milladeo Hill, 11.41 187 Pn 19 58 47.9 -1.0
TA02 Huaiquique 11.55 7 Pn 19 58 52.3 +1.3
LPA La Plata 11.89 109 *i* P Pn 19 58 44.4 -11
LPA pP 19 58 56.7
LPA pPP 19 59 06.2
LPA S **Sn** **20 01 00.1 -7.3**
LPA sS 20 01 16.2
LPA SSS SSS 20 01 31.2
LPA SS **SbSb** **20 02 05.1 +8.0**
LPA PCP **PcP** **20 04 43.7 +1.7**
LPA SCS **ScS** **20 11 47.6 -1.7**
LPA PKIKP **PKiKP** **20 12 34.3 -5.8**
LPA SKIKP 20 16 10.4
LPA PKIKS 20 16 16.3
PB11 IPOC Station P 12.11 9 Pn **Pn** **19 58 54.4 -4.4**
PSGCX Pisagua 12.22 7 Pn 19 58 57.4 -2.8
CPUP Villa Florida 13.65 70 Pn **Pn** **19 59 17.9 -1.7**
comp=Z,2.0nm,0.3s,baz=242,slow=12,SNR=97
CPUP Sn **Sn** **20 01 50.7 +0.1**
comp=Z,19nm,0.3s,baz=212,slow=13,SNR=3.8
CPUP LR LR 20 05 02.0
comp=Z,18µm,19.1s,baz=256,slow=40
CPUP Villa Florida 13.65 70 P **Pn** **19 59 18.0 -1.7**
CPUP Villa Florida 13.65 70 *eP* **Pn** **19 59 17.2 -2.4**
PLTB Pedras Altas 15.35 95 P **Pn** **19 59 39.8 -2.8**
PLTB Pedras Altas 15.35 95 *eP* **Pn** **19 59 40.0 -2.7**
CPSB Cacapava Do Su 15.67 90 *eP* **Pn** **19 59 43.7 -3.0**
LPAZ La Paz 15.76 13 Pn **Pn** **19 59 48.8 +0.2**
comp=Z,2.2nm,0.3s,baz=183,slow=9.3,SNR=110
LPAZ La Paz 15.76 13 P **Pn** **19 59 48.5 -0.1**
LPAZ La Paz 15.76 13 *eP* **Pn** **19 59 47.4 -1.2**
AQDB Aquidauana 18.20 56 P **Pn** **20 00 15.9 -2.7**
AQDB Aquidauana 18.20 56 *eP* **Pn** **20 00 17.4 -1.2**
SIV San Ignacio 18.45 34 P **P** **20 00 19.5 -2.0**
comp=Z,2.8nm,0.3s,baz=232,slow=12,SNR=92
SIV LR LR 20 08 49.2
comp=Z,9µm,20.5s,baz=226,slow=42
PTGB Pitanga 18.63 73 *eP* **P** **20 00 22.6 -0.9**
TRCB Terra Rica 19.11 67 P **P** **20 00 26.7 -2.1**
TRCB IAmb IAmb 20 00 37.4
comp=Z,251nm,0.8s
TRCB Terra Rica 19.11 67 *eP* **P** **20 00 26.6 -2.1**
TER01 Tubaro-SC 19.74 86 *eP* **P** **20 00 33.9 -1.7**
PTLB Pontes e Lacer 19.87 38 *eP* **P** **20 00 36.4 -0.7**
NNA Nana 20.28 345 P **P** **20 00 41.9 +0.3**
comp=Z,26nm,0.8s,baz=189,slow=10,SNR=21
NNA LR LR 20 06 58.5
comp=Z,4µm,20.9s,baz=178,slow=32
NNA Nana 20.28 345 *ceP* Pn 20 00 43.3 -0.4
NNA pmax pmax
comp=Z,216nm,1.7s
NNA Nana 20.28 345 P **P** **20 00 42.0 +0.3**
PP1B Ponte de Pedra 20.74 51 *eP* **P** **20 00 45.5 -1.1**
PCMB Pacaembu 20.82 66 *eP* **P** **20 00 46.1 -1.3**
GO10 Punta Arenas 21.36 179 P **P** **20 00 52.4 -0.6**
GO10 IAmb IAmb 20 00 59.3
comp=Z,375nm,1.2s
SALV Santo Antonio 21.48 46 *eP* **P** **20 00 53.3 -1.2**
VILB Vilhena 21.50 32 *eP* **P** **20 00 54.1 -0.7**
EFI East Falkland 22.24 157 *ceP* **P** **20 01 03.6 +1.3**
EFI pmax pmax
comp=Z,231nm,1.0s
EFI East Falkland 22.24 157 P **P** **20 01 03.3 +0.9**
EFI IAmb IAmb 20 01 10.5
comp=Z,334nm,1.1s
ETMB Extrema 22.44 14 *eP* **P** **20 01 05.0 +0.2**
ITRB Iturama 22.59 63 *eP* **P** **20 01 04.9 -1.6**
PET01 Itanhaem-SP 22.75 77 *eP* **P** **20 01 06.2 +1.8**
SPB Sao Paulo 22.91 75 P **P** **20 01 08.5 -1.3**
SPB Sao Paulo 22.91 75 *eP* **P** **20 01 08.4 -1.3**
USHA Ushuaia 23.14 175 P **P** **20 01 12.7 +0.8**
comp=Z,203nm,0.9s,baz=360,slow=5.7,SNR=24
USHA LR LR 20 11 50.0
comp=Z,5µm,19.3s,baz=0.5,slow=41
BB19B Bebedouro 23.25 68 *eP* **P** **20 01 11.2 -2.1**
MG01 Puerto William 23.31 174 P **P** **20 01 14.2 +0.7**
MG01 IAmb IAmb 20 01 27.2
comp=Z,282nm,1.1s
RCLB Rio Claro- Sao 23.37 72 *eP* **P** **20 01 12.1 -2.4**
VAO Valinhos 23.56 74 *eP* **P** **20 01 14.9 -1.5**
CZSB Cruzeiro do Su 23.96 357 *eP* **P** **20 01 21.2 +1.1**
SAML Samuel 24.05 21 P **P** **20 01 20.6 -0.4**
SAML pmax pmax
comp=Z,155nm,1.2s
SAML Samuel 24.05 21 P **P** **20 01 20.6 -0.4**
SAML IAmb IAmb 20 01 36.5
comp=Z,155nm,1.1s
SAML Samuel 24.05 21 *eP* **P** **20 01 20.5 -0.4**
PARB Paraibuna 24.52 76 *eP* **P** **20 01 23.8 -1.6**
IPMB Ipameri, GO 25.25 63 *eP* **P** **20 01 30.6 -1.4**
CLDB Colider 25.46 39 *eP* **P** **20 01 33.0 -0.8**
ESAR Angra dos Reis 25.64 77 *eP* **P** **20 01 35.0 -0.3**
BSCB Bom Sucesso 26.30 72 *eP* **P** **20 01 40.5 -1.0**
VAS01 Vassouras-RJ 26.79 76 *eP* **P** **20 01 45.5 -0.3**
BDFB Brasília 26.87 59 P **P** **20 01 45.9 -0.8**
comp=Z,475nm,1.0s,baz=229,slow=9.2,SNR=196
BDFB Brasília 26.87 59 P **P** **20 01 45.7 -1.0**
SNDB Serra Nova Dou 27.22 48 *eP* **P** **20 01 49.0 -0.7**
TBTG Tabatinga, AM 27.51 4 *eP* **P** **20 01 53.1 +0.8**
DUB01 Friburgo-RJ 27.76 77 *eP* **P** **20 01 53.8 -0.8**
CAM01 Campos-RJ 28.47 77 *eP* **P** **20 02 00.0 -0.8**
DIAM Diamantina, MG 28.59 69 *eP* **P** **20 02 01.4 -0.8**
NPGB Novo Progresso 28.94 35 *eP* **P** **20 02 03.5 -1.6**
PEXB Peixe 29.09 53 *eP* **P** **20 02 06.1 -0.3**
MC01 Montes Claros 29.28 66 *eP* **P** **20 02 06.5 -1.6**
ALF01 Guarapari-ES 29.80 76 *eP* **P** **20 02 12.0 -0.6**
JANB Januaria 29.99 63 *eP* **P** **20 02 13.2 -1.2**
MACA Manacapuru-AM 30.29 22 *eP* **P** **20 02 16.6 -0.4**
SJMB Sao Joao De Ma 30.37 72 *eP* **P** **20 02 16.6 -1.1**
BSFB Barra de Sao F 30.58 72 *eP* **P** **20 02 18.2 -1.3**
RIB01 Linhares ES 30.70 74 *eP* **P** **20 02 19.9 -0.8**
ITTB Itaituba 31.11 32 *eP* **P** **20 02 22.5 -1.7**
SDBA SAO DESIDERIO 31.26 58 *eP* **P** **20 02 24.4 -1.2**
SMTB Santa Maria do 31.94 50 *eP* **P** **20 02 31.1 -0.5**
OTAV Otavalo 32.50 347 P **P** **20 02 38.2 +1.2**
OTAV pmax pmax
comp=Z,83nm,1.5s
OTAV Otavalo 32.50 347 P **P** **20 02 38.2 +1.2**
OTAV IAmb IAmb 20 02 56.8
comp=Z,82nm,1.4s
OTAV Otavalo 32.50 347 *eP* **P** **20 02 38.4 +1.4**
PRPB Parauapebas 32.66 43 *eP* **P** **20 02 36.4 -1.5**
PMSA Palmer Station 33.34 174 P **P** **20 02 44.1 +0.7**
PMSA Palmer Station 33.34 174 *eP* **P** **20 02 46.0 +2.7**
FLOC Florencia 33.41 353 P **P** **20 02 45.0 +0.6**
FLOC IAmb IAmb 20 03 11.7
comp=Z,65nm,1.2s
CMC01 Camacan, BA 33.52 68 *eP* **P** **20 02 44.4 -1.1**
HOPE Hope Point 33.60 142 P **P** **20 02 46.8 +1.0**
HOPE pmax pmax
comp=Z,106nm,0.8s
HOPE Hope Point 33.60 142 P **P** **20 02 46.8 +1.0**
HOPE IAmb IAmb 20 02 48.8
comp=Z,106nm,0.8s
MALB Monte Alegre 34.00 32 *eP* **P** **20 02 48.5 -1.1**
GDU01 Guanilu, BA 34.43 66 *eP* **P** **20 02 52.0 -1.3**
BOAV Boa Vista 35.60 19 *eP* **P** **20 03 03.3 -0.1**
MCPB Macapa, AP 36.34 34 *eP* **P** **20 03 09.4 -0.4**
ROSC El Rosal 36.52 356 P **P** **20 03 11.9 +0.3**
comp=Z,9.7nm,0.4s,baz=165,slow=4.9,SNR=9.7
ROSC El Rosal 36.52 356 P **P** **20 03 11.1 -0.5**
ROSC IAmb IAmb 20 03 27.8
comp=Z,114nm,1.4s
TMAB Tom-Au,PA,Br 36.73 42 *eP* **P** **20 03 12.8 -0.3**
ROSB Rosrio 38.69 48 *eP* **P** **20 03 29.0 -0.7**
SDV Santo Domingo 40.46 2 P **P** **20 03 44.3 -0.3**
comp=Z,36nm,1.1s,baz=200,slow=7.3,SNR=23
SDV Santo Domingo 40.46 2 P **P** **20 03 44.1 -0.4**
SDV Santo Domingo 40.46 2 *eP* **P** **20 03 44.4 -0.1**
MDP Montagnes des 40.92 30 P **P** **20 03 47.4 -0.8**
comp=Z,157nm,1.1s,baz=202,slow=10,SNR=26
SJCC San Jacinto, C 41.59 355 P **P** **20 03 53.8 +0.1**
SJCC IAmb IAmb 20 04 06.2
comp=Z,148nm,1.2s
BRU2 Volcan 41.71 343 P **P** **20 03 55.9 +1.0**
RCBR Riachuelo 42.23 60 P **P** **20 03 57.9 -1.1**
RCBR pmax pmax
comp=Z,105nm,1.2s
RCBR Riachuelo 42.23 60 P **P** **20 03 57.9 -1.1**
RCBR IAmb IAmb 20 04 00.1
comp=Z,105nm,1.2s
RCBR Riachuelo 42.23 60 *eP* **P** **20 03 58.5 -0.6**
PLCV Puerto La Cruz 42.26 10 P **P** **20 03 58.9 -0.3**
PCRV Puerto La Cruz 42.27 10 P **P** **20 03 58.9 -0.4**
comp=Z,29nm,1.0s,baz=194,slow=2.5,SNR=9.7
SRBA San Rafael, Bu 42.30 343 P **P** **20 03 59.3 -0.3**
RIMA Rio Macho 42.94 342 P **P** **20 04 01.9 -3.0**
CVTR Volcan Turrial 43.16 342 P **P** **20 04 03.4 -3.6**
URIC Uribia, Colomb 43.25 360 P **P** **20 04 04.1 -3.0**
JTS Las Juntas de 43.74 341 P **P** **20 04 10.6 -0.6**
comp=Z,3.8nm,0.3s,baz=72,slow=3.4,SNR=6.1
JTS Las Juntas de 43.74 341 P **P** **20 04 12.4 +1.3**
JTS pmax pmax
comp=Z,22nm,1.1s
JTS Las Juntas de 43.74 341 P **P** **20 04 12.4 +1.3**
ORTG Ortega, Santa 43.95 340 P **P** **20 04 13.7 +0.8**
COVE Coope Vega, Sa 44.00 342 P **P** **20 04 14.1 +0.9**
COVE IAmb IAmb 20 04 41.9
comp=Z,123nm,1.3s
TOSP Speyside 44.15 16 P **P** **20 04 13.9 -0.4**
GRGR Grenville 44.71 14 P **P** **20 04 16.1 -2.8**
ACON Acoyapa 45.40 341 P **P** **20 04 22.9 -1.4**
SVB Belmont 45.90 14 P **P** **20 04 27.5 -0.9**
SVB IAmb IAmb 20 04 36.8
comp=Z,66nm,0.8s
MCLT Moule a Chique 46.39 14 P **P** **20 04 29.4 -2.8**
MATN Matagalpa 46.52 341 P **P** **20 04 30.3 -3.0**
MPOM Morne Pois Mar 47.12 14 P **P** **20 04 36.2 -1.6**
BIM Bigot 47.15 14 P **P** **20 04 36.6 -1.6**
FDF Fort de France 47.34 14 P **P** **20 04 37.7 -2.0**
FDF pmax pmax
comp=Z,71nm,0.8s
FDF Fort de France 47.34 14 P **P** **20 04 37.7 -2.0**
FDF IAmb IAmb 20 04 53.2
comp=Z,70nm,0.8s
ILAM Ilet Lapin Mar 47.44 14 P **P** **20 04 38.3 -2.1**
SVN Savane Anatole 47.44 14 P **P** **20 04 39.7 -0.8**
TGUH Tegucigalpa,Un 47.98 339 P **P** **20 04 44.8 0.0**
TGUH IAmb IAmb 20 05 06.9
comp=Z,103nm,1.2s
MTO3 Montecristo 48.97 337 P **P** **20 04 53.0 +0.5**
ESQI Esquipulas 49.11 337 P **P** **20 04 53.2 -0.2**
ESQI IAmb IAmb 20 05 19.7
comp=Z,91nm,1.4s
ICMP Isla Caja de M 49.64 6 P **P** **20 04 56.3 -0.9**
MLPR Magueyes Islan 49.67 6 P **P** **20 04 56.8 -0.7**
CDVI St. Croix 49.70 9 P **P** **20 04 55.9 -1.8**
CDVI IAmb IAmb 20 05 14.2
comp=Z,61nm,0.8s
SEUS St. Eustatius 49.70 11 P **P** **20 04 56.5 -1.2**
CRPR Cabo Rojo, PR 49.70 6 P **P** **20 04 56.8 -1.0**
OBIP Obispado Ponce 49.78 6 P **P** **20 04 56.3 -2.1**
OBIP IAmb IAmb 20 05 19.0
comp=Z,88nm,0.9s
PDPR Patillas Dam, 49.82 7 P **P** **20 04 56.9 -1.7**
SJG San Juan 49.90 7 P **P** **20 04 57.9 -1.3**
SJG pmax pmax
comp=Z,192nm,1.4s
SJG San Juan 49.90 7 P **P** **20 04 57.9 -1.3**
BANI BANI 49.91 2 P **P** **20 04 58.9 -0.6**
MTP Monte Pirata 49.95 8 P **P** **20 04 58.1 -1.5**
MTP IAmb IAmb 20 04 59.7
comp=Z,98nm,1.4s
HUMP Col San Antoni 49.96 7 P **P** **20 04 58.1 -1.5**
HUMP IAmb IAmb 20 05 00.0
comp=Z,120nm,1.5s
SDD Santo Domingo 49.99 2 P **P** **20 04 59.5 -0.3**
MTDJ Mount Denham 50.05 353 P **P** **20 05 00.3 -0.2**
MTDJ IAmb IAmb 20 05 01.7
comp=Z,43nm,0.9s
AOPR Arecibo Observ 50.07 6 P **P** **20 04 58.7 -1.8**
AOPR IAmb IAmb 20 05 26.4
comp=Z,41nm,0.6s
ANWB Willy Bob 50.08 12 P **P** **20 04 58.3 -2.3**
ANWB IAmb IAmb 20 04 59.7
comp=Z,119nm,1.1s
CBYP Canovanas 50.09 7 P **P** **20 04 59.1 -1.6**
GCPR Guaynabo City 50.10 7 P **P** **20 04 57.6 -3.2**
GCPR IAmb IAmb 20 05 18.1
comp=Z,68nm,1.1s
CUPR Culebra, Puert 50.19 8 P **P** **20 05 00.3 -1.1**
SMRT St. Maarten 50.23 11 P **P** **20 04 59.4 -2.4**
SMRT IAmb IAmb 20 05 01.2
comp=Z,124nm,1.3s
ABVI Anegada Island 50.72 9 P **P** **20 05 03.8 -1.6**
SC01 Santiago de lo 50.93 1 P **P** **20 05 07.1 +0.1**
VNA3 Neumayer Olymp 51.28 159 P **P** **20 05 10.2 +1.0**
PETF Flores 51.49 338 P **P** **20 05 11.6 +0.4**
PETF IAmb IAmb 20 05 13.6
comp=Z,94nm,1.4s
GTBY Guantanamo Bay 51.53 356 P **P** **20 05 11.4 0.0**
GTBY IAmb IAmb 20 05 13.1
comp=Z,82nm,1.2s
VNA1 Neumayer--Stat 51.58 158 P **P** **20 05 12.6 +1.3**
FSCY Frank Sound, G 51.63 348 P **P** **20 05 11.5 -0.7**
CCIG Comitan 51.68 335 P **P** **20 05 12.8 -0.1**
VNA2 Neumayer--Watz 51.92 158 P **P** **20 05 14.9 +1.0**
baz=286,slow=8.4
GRTK Grand Turk 53.00 1 P **P** **20 05 22.0 -0.4**
GRTK IAmb IAmb 20 05 23.5
comp=Z,131nm,1.2s
CMIG Matias Romero 53.47 332 P **P** **20 05 26.4 +0.5**
comp=Z,11nm,1.0s,baz=154,slow=5.8,SNR=9.0
SNAA Sanae 53.51 158 P **P** **20 05 26.6 +0.8**
SNAA Sanae 53.51 158 *ceP* **P** **20 05 26.4 +0.7**
SNAA pmax pmax
comp=Z,188nm,1.3s
SNAA Sanae 53.51 158 P **P** **20 05 25.9 +0.1**
TLIG Tlapa 55.45 328 P **P** **20 05 41.3 +0.8**
RKT Rikitea 56.17 262 *e*T T 21 06 09.2
comp=Z,10nm,0.3s
QSPA South Pole Qui 58.44 180 P **P** **20 06 01.9 +0.7**
QSPA IAmb IAmb 20 06 23.0
comp=Z,74nm,0.9s
060A Indiantown 59.09 351 P **P** **20 06 05.7 -0.1**
DWPF Disney Wildern 60.29 350 P **P** **20 06 13.4 -0.8**
DWPF IAmb IAmb 20 06 15.0
comp=Z,94nm,1.2s
DWPF Disney Wildern 60.29 350 P **P** **20 06 14.1 0.0**
baz=171
656A Willston 61.70 349 P **P** **20 06 23.7 +0.1**
ZAIG Zacatecas 61.80 327 P **P** **20 06 22.5 -2.4**
H06E1 SOCORRO T-PHAS 62.82 318 T T 21 14 35.7
SNR=38
553A Crawfordville 62.82 348 P **P** **20 06 30.6 -0.6**
456A Hilliard 62.95 350 P **P** **20 06 32.2 +0.3**
451A Vernon 63.49 346 P **P** **20 06 35.6 0.0**
451A IAmb IAmb 20 06 36.6
comp=Z,70nm,1.0s
TIGA Tifton 63.90 349 P **P** **20 06 37.3 -1.0**
TIGA IAmb IAmb 20 06 38.9
comp=Z,63nm,0.9s
TIGA Tifton 63.90 349 P **P** **20 06 37.7 -0.6**
baz=169
352A Blakely 64.17 347 P **P** **20 06 39.5 -0.6**
255A Hazlehurst 64.19 350 P **P** **20 06 39.9 -0.3**
255A IAmb IAmb 20 06 40.8
comp=Z,57nm,1.1s
BRAL Brewton 64.30 345 P **P** **20 06 40.9 0.0**
baz=166
RGRS Roger Stewart 64.86 352 P **P** **20 06 44.6 +0.1**
250A Grady 64.92 346 P **P** **20 06 44.3 -0.6**
250A IAmb IAmb 20 06 45.5
comp=Z,65nm,1.1s
CSU Charleston Sou 64.92 352 P **P** **20 06 44.4 -0.6**
154A Montrose 64.97 349 P **P** **20 06 44.6 -0.6**
NHSC New Hope 65.05 352 P **P** **20 06 46.1 +0.3**
NHSC New Hope 65.05 352 P **P** **20 06 46.3 +0.5**
baz=172
346A Big Creek Wild 65.06 343 P **P** **20 06 45.2 -0.7**
735A Kenedy 65.24 335 P **P** **20 06 48.0 +0.9**
152A Waverly Hall 65.29 348 P **P** **20 06 46.6 -0.7**
152A IAmb IAmb 20 06 47.8
comp=Z,42nm,0.9s
SBA Scott Base 65.30 191 P **P** **20 06 48.6 +1.6**
SBA pmax pmax
comp=Z,44nm,1.4s
SBA Scott Base 65.30 191 P **P** **20 06 48.5 +1.6**
833A Chaparral WMA, 65.36 333 P **P** **20 06 49.3 +1.4**
baz=154,SNR=9.3
SACV Santiago Islan 65.44 52 P **P** **20 06 48.6 -0.1**
344A Westbrook Farm 65.45 342 P **P** **20 06 49.2 +0.8**
344A IAmb IAmb 20 07 03.2
comp=Z,43nm,0.8s
441A DeRidder 65.47 340 P **P** **20 06 49.6 +1.1**
441A IAmb IAmb 20 07 01.7
comp=Z,72nm,1.2s
HKT Hockley 65.56 337 *i* P **P** **20 06 49.4 +0.3**
HKT pmax pmax
comp=Z,23nm,1.6s
HKT Hockley 65.56 337 P **P** **20 06 49.1 +0.1**
HKT IAmb IAmb 20 07 05.6
comp=Z,53nm,1.5s
Y58A Scranton 65.78 353 P **P** **20 06 50.0 -0.5**
Y59A Loris 65.78 353 P **P** **20 06 48.1 -2.4**
Y59A IAmb IAmb 20 07 02.1
comp=Z,59nm,0.9s
342A Flagon Creek P 65.81 341 P **P** **20 06 50.0 -0.7**
342A IAmb IAmb 20 06 53.1
comp=Z,94nm,1.1s
GOGA Godfrey 65.81 349 P **P** **20 06 50.1 -0.6**
GOGA pmax pmax
comp=Z,42nm,1.1s
GOGA Godfrey 65.81 349 P **P** **20 06 50.1 -0.6**
GOGA IAmb IAmb 20 06 51.2
comp=Z,42nm,1.1s
GOGA Godfrey 65.81 349 P **P** **20 06 50.3 -0.3**

baz=169,SNR=11
Y57A Sumter 65.97 352 P **P** **20 06 50.7 -1.0**
Y57A IAmb IAmb 20 06 52.6
comp=Z,57nm,0.9s
Z51A Franklin 66.00 348 P **P** **20 06 51.9 -0.1**
Z51A IAmb IAmb 20 06 52.7
comp=Z,33nm,1.0s
LRAL Lakeview Retre 66.09 346 P **P** **20 06 51.8 -0.7**
LRAL Lakeview Retre 66.09 346 P **P** **20 06 52.6 +0.1**
baz=166,SNR=7.7
VBMS Vicksburg 66.12 343 P **P** **20 06 53.0 +0.3**
VBMS Vicksburg 66.12 343 P **P** **20 06 53.9 +1.3**
baz=163
146A Union 66.16 344 P **P** **20 06 53.0 +0.1**
146A IAmb IAmb 20 06 54.7
comp=Z,92nm,1.1s
SLBS Sierra La Lagu 66.22 322 P **P** **20 06 54.7 +1.1**
VNDA Vanda 66.33 191 P **P** **20 06 55.7 +2.1**
comp=Z,5.0nm,0.8s,baz=137,slow=5.5,SNR=29
VNDA LR LR 20 32 04.7
comp=Z,1µm,20.9s,baz=1.0,slow=33
VNDA Vanda 66.33 191 P **P** **20 06 55.4 +1.9**
JSC Jenkinsville 66.34 351 P **P** **20 06 54.1 0.0**
JSC pmax pmax
comp=Z,37nm,0.9s
JSC Jenkinsville 66.34 351 P **P** **20 06 54.1 0.0**
JSC IAmb IAmb 20 06 54.9
comp=Z,37nm,0.9s
Y52A Lilburn 66.34 349 P **P** **20 06 54.0 -0.2**
X58A Rowland 66.39 353 P **P** **20 06 54.3 -0.1**
X58A IAmb IAmb 20 06 55.4
comp=Z,84nm,0.9s
HODGE Hodges 66.43 350 P **P** **20 06 54.3 -0.4**
HODGE IAmb IAmb 20 06 55.4
comp=Z,38nm,1.1s
Z47A Carrollton 66.47 345 P **P** **20 06 54.6 -0.3**
Z47A IAmb IAmb 20 06 56.0
comp=Z,55nm,0.9s
BIRD Birdtown, Kers 66.60 352 P **P** **20 06 55.5 -0.2**
BIRD IAmb IAmb 20 06 56.6
comp=Z,42nm,1.1s
Y49A Blount Mountai 66.77 347 P **P** **20 06 56.5 -0.3**
HPIG 66.80 327 P **P** **20 06 58.2 +0.8**
143A Socs Landing, 66.81 342 P **P** **20 06 58.0 +0.9**
NATX Nacogdoches 66.86 339 P **P** **20 06 58.4 +0.9**
NATX IAmb IAmb 20 06 59.5
comp=Z,101nm,1.3s
NATX Nacogdoches 66.86 339 P **P** **20 06 58.8 +1.4**
baz=159
435B Jarrell 66.92 336 P **P** **20 06 58.8 +0.9**
435B IAmb IAmb 20 06 59.7
comp=Z,63nm,1.4s
435B Jarrell 66.92 336 P **P** **20 06 58.8 +0.9**
baz=156
CNNC Cliffs of the 66.93 354 P **P** **20 06 58.2 +0.4**
CNNC Cliffs of the 66.93 354 P **P** **20 06 58.5 +0.7**
baz=174
PAULI Pauline 66.95 351 P **P** **20 06 58.1 +0.2**
PAULI IAmb IAmb 20 06 58.9
comp=Z,49nm,1.0s
W57A Gilead 67.05 353 P **P** **20 06 58.4 -0.2**
W57A IAmb IAmb 20 06 59.4
comp=Z,50nm,1.0s
X51A Calhoun 67.17 348 P **P** **20 06 59.4 0.0**
KMSC Kings Mountain 67.20 351 P **P** **20 06 58.9 -0.6**
KMSC IAmb IAmb 20 07 00.4
comp=Z,51nm,1.1s
KMSC Kings Mountain 67.20 351 P **P** **20 06 59.6 +0.1**
baz=171,SNR=11
BG3 Lake Jocassee 67.27 350 P **P** **20 07 00.1 0.0**
BG3 IAmb IAmb 20 07 01.1
comp=Z,62nm,1.0s
FPAL Fort Paine 67.28 348 P **P** **20 06 59.9 -0.2**
FPAL IAmb IAmb 20 07 00.7
comp=Z,55nm,1.2s
237A Washetta, Mont 67.44 338 P **P** **20 07 02.1 +0.9**
JCT Junction City 67.44 334 P **P** **20 07 02.2 +0.9**
JCT pmax pmax
comp=Z,164nm,1.5s
JCT Junction City 67.44 334 P **P** **20 07 02.2 +0.9**
JCT Junction City 67.44 334 P **P** **20 07 02.2 +0.9**
baz=154,SNR=7.2
Y45A Yeager Farm, C 67.45 344 P **P** **20 07 01.9 +0.8**
X48A Hartselle 67.47 346 P **P** **20 07 01.5 +0.3**
X48A IAmb IAmb 20 07 02.3
comp=Z,79nm,1.0s
W52A Murphy 67.53 349 P **P** **20 07 01.5 -0.2**
W52A IAmb IAmb 20 07 02.7
comp=Z,66nm,1.1s
V58A Windy Hill, Pi 67.59 353 P **P** **20 07 01.4 -0.6**
V58A IAmb IAmb 20 07 02.8
comp=Z,52nm,0.9s
Z41A Richland Creek 67.71 341 P **P** **20 07 03.4 +0.6**
baz=161
SYO Syowa Base 67.80 159⇑ *i*P **P** **20 07 03.0 0.0**
SYO Syowa Base 67.80 159⇓ *e*pP pP 20 07 10.2 +0.1
W50A Signal Mountai 67.86 348 P **P** **20 07 03.9 +0.1**
W50A IAmb IAmb 20 07 04.8
comp=Z,83nm,1.0s
V55A Taylorsville 67.88 352 P **P** **20 07 03.9 +0.1**
V53A Saluda 67.92 350 P **P** **20 07 03.5 -0.7**
V53A IAmb IAmb 20 07 05.0
comp=Z,59nm,1.0s
CPCT Cooper Cave 67.97 349 P **P** **20 07 04.2 -0.3**
CPCT IAmb IAmb 20 07 05.3
comp=Z,72nm,1.0s
WHTX Lake Whitney, 67.97 336 P **P** **20 07 05.2 +0.7**
WHTX IAmb IAmb 20 07 06.1
comp=Z,59nm,0.9s
WHTX Lake Whitney, 67.97 336 P **P** **20 07 05.3 +0.7**
baz=157,SNR=8.3
TX32 Lajitas Array 67.98 330 P **P** **20 07 04.3 -0.4**
TXAR Lajitas Array 67.98 330 P **P** **20 07 05.8 +1.0**
comp=Z,8.4nm,0.8s,baz=150,slow=7.6,SNR=20
TXAR PKPPKP **P'P'df** **20 35 24.8 +5.3**
comp=Z,1.9nm,1.2s,baz=284,slow=5.0,SNR=6.4
TXAR Lajitas Array 67.98 330 P **P** **20 07 05.6 +0.8**
TX31 Lajitas Ar. Si 67.98 330 P **P** **20 07 04.9 +0.1**
TX31 IAmb IAmb 20 07 06.5
comp=Z,58nm,1.0s
U59A Littleton 68.03 355 P **P** **20 07 05.3 +0.6**
OXF Oxford 68.04 344 P **P** **20 07 04.7 -0.1**
OXF pmax pmax
comp=Z,156nm,1.1s
OXF Oxford 68.04 344 P **P** **20 07 04.7 -0.1**
OXF Oxford 68.04 344 P **P** **20 07 04.8 -0.1**
baz=164,SNR=15
TKL Tuckaleechee C 68.05 349 P **P** **20 07 04.9 -0.1**
comp=Z,37nm,0.8s,baz=168,slow=6.2,SNR=29
TKL Tuckaleechee C 68.05 349 P **P** **20 07 04.6 -0.4**
TKL IAmb IAmb 20 07 05.5
comp=Z,61nm,0.9s
CCAR Cane Creek 68.05 342 P **P** **20 07 04.2 -0.7**
CCAR IAmb IAmb 20 07 19.4
comp=Z,58nm,1.1s
TBI Tubuai 68.17 255 *e*LR LR 20 27 43.4
comp=Z,5µm,25.5s
TBI Tubuai 68.17 255 *e*T T 21 21 08.6
comp=Z,29nm,0.3s
PLAL Pickwick Lake 68.19 346 P **P** **20 07 05.5 -0.3**
PLAL IAmb IAmb 20 07 06.5
comp=Z,52nm,1.1s
WLAR White Oak Lake 68.20 341 P **P** **20 07 07.2 +1.3**
V52A Sevierville 68.20 350 P **P** **20 07 05.1 -0.8**
V52A IAmb IAmb 20 07 06.5
comp=Z,76nm,1.0s
U56A King 68.28 352 P **P** **20 07 06.3 -0.1**
V51A Loudon 68.29 349 P **P** **20 07 06.0 -0.4**
V51A IAmb IAmb 20 07 07.1
comp=Z,54nm,1.0s
Z38A Mt. Pleasant 68.35 339 P **P** **20 07 05.6 -1.2**
W45A Hickory Valley 68.60 345 P **P** **20 07 08.1 -0.3**
U54A Nelsons Funny 68.62 351 P **P** **20 07 08.2 -0.4**
U54A IAmb IAmb 20 07 09.3
comp=Z,77nm,0.9s
T59A Double "B" Far 68.63 355 P **P** **20 07 09.1 +0.6**
V48A Smith Brothers 68.67 347 P **P** **20 07 08.5 -0.3**
T57A Hurt 68.80 353 P **P** **20 07 09.4 -0.2**
T57A IAmb IAmb 20 07 10.7
comp=Z,38nm,1.1s
X40A Basin Creek Fa 68.88 341 P **P** **20 07 10.5 +0.3**
X40A Basin Creek Fa 68.88 341 P **P** **20 07 10.2 +0.1**
baz=161
TZTN Tazewell 68.89 350 P **P** **20 07 09.8 -0.4**
TZTN IAmb IAmb 20 07 11.6
comp=Z,134nm,1.5s
TZTN Tazewell 68.89 350 P **P** **20 07 10.2 0.0**
baz=169,SNR=6.7
CLTN Cedars of Leba 68.92 347 P **P** **20 07 10.4 0.0**
CLTN IAmb IAmb 20 07 11.3
comp=Z,63nm,1.0s
Z35A Perchaven, San 69.13 337 P **P** **20 07 12.2 +0.4**
BLA Blacksburg 69.13 353 P **P** **20 07 12.0 +0.3**
BLA pmax pmax
comp=Z,54nm,1.3s
BLA Blacksburg 69.13 353 P **P** **20 07 12.0 +0.3**
BLA IAmb IAmb 20 07 12.8
comp=Z,54nm,1.2s
BLA Blacksburg 69.13 353 P **P** **20 07 12.0 +0.3**
baz=172
MIAR Mount Ida 69.14 341 P **P** **20 07 11.7 -0.1**
MIAR pmax pmax
comp=Z,76nm,1.4s
MIAR Mount Ida 69.14 341 P **P** **20 07 11.7 -0.1**
MIAR IAmb IAmb 20 07 13.8
comp=Z,76nm,1.4s
MIAR Mount Ida 69.14 341 P **P** **20 07 12.1 +0.3**
baz=160,SNR=15
U49A Red Boiling Sp 69.22 348 P **P** **20 07 11.9 -0.4**
U49A IAmb IAmb 20 07 13.0
comp=Z,51nm,1.1s
WVT Waverly 69.25 346 P **P** **20 07 12.0 -0.4**
WVT pmax pmax
comp=Z,111nm,1.0s
WVT Waverly 69.25 346 P **P** **20 07 12.0 -0.4**
WVT Waverly 69.25 346 P **P** **20 07 12.5 +0.1**
baz=166
ABTX Abilene, Hawle 69.31 335 P **P** **20 07 13.4 +0.5**
ABTX IAmb IAmb 20 07 14.5
comp=Z,74nm,1.1s
ABTX Abilene, Hawle 69.31 335 P **P** **20 07 13.8 +0.9**
baz=155,SNR=15
HALT Halls 69.36 345 P **P** **20 07 13.5 +0.4**
W41B Gary Mavity, V 69.37 342 P **P** **20 07 13.5 +0.4**
baz=162,SNR=9.2
MEH Mehtia 69.48 261 *e*T T 21 22 47.7
comp=Z,66nm,0.3s
WHAR Wooly Hollow 69.49 342 P **P** **20 07 14.0 +0.1**
WHAR IAmb IAmb 20 07 15.9
comp=Z,126nm,1.5s
S57A Dark Hollow, R 69.53 354 P **P** **20 07 14.2 +0.1**
S57A IAmb IAmb 20 07 15.4
comp=Z,59nm,1.1s
T50A Nancy 69.56 349 P **P** **20 07 13.2 -1.0**
T50A IAmb IAmb 20 07 14.8
comp=Z,58nm,1.4s
GNAR Gosnell 69.57 344 P **P** **20 07 14.1 -0.3**
LNXT Lenox 69.58 345 P **P** **20 07 15.1 +0.7**
R58B Mineral 69.64 355 P **P** **20 07 14.6 -0.1**
R58B IAmb IAmb 20 07 16.6
comp=Z,113nm,1.2s
UTMT University of 69.67 345 P **P** **20 07 14.4 -0.6**
MBO M'Bour 69.67 57 P **P** **20 07 15.6 +0.1**
PEBM Pemiscott Bayo 69.67 344 P **P** **20 07 15.3 +0.3**
GLAT Glass 69.69 345 P **P** **20 07 15.0 -0.1**
X37A Clayton 69.70 339 P **P** **20 07 15.7 +0.5**
X37A IAmb IAmb 20 07 36.6
comp=Z,44nm,1.3s
LOOK Love County 69.72 338 P **P** **20 07 16.2 +0.8**
LOOK IAmb IAmb 20 07 31.1
comp=Z,53nm,1.1s
W39A Magazine 69.81 341 P **P** **20 07 16.6 +0.8**
W39A Magazine 69.81 341 P **P** **20 07 17.0 +1.1**
baz=160,SNR=32
S54A Dingess, Becki 69.82 352 P **P** **20 07 15.3 -0.6**
CBN Corbin Frederi 69.84 355 P **P** **20 07 16.4 +0.5**
CBN IAmb IAmb 20 07 18.4
comp=Z,60nm,1.0s
CBN Corbin Frederi 69.84 355 P **P** **20 07 16.8 +0.8**
baz=175
T47A Sharon Grove 69.93 347 P **P** **20 07 16.0 -0.6**
LCAR Lake Charles 69.94 343 P **P** **20 07 16.1 -0.5**
LCAR IAmb IAmb 20 07 18.3
comp=Z,108nm,1.4s
HICK Hickman 69.94 345 P **P** **20 07 16.5 -0.1**
PENMO Penman 69.94 345 P **P** **20 07 16.7 0.0**
FCAR Ozark Folk Cen 70.01 342 P **P** **20 07 16.8 -0.3**
R55A Marlinton 70.16 353 P **P** **20 07 18.4 +0.3**
R55A IAmb IAmb 20 07 19.6
comp=Z,82nm,1.1s
HENM Henderson Moun 70.16 345 P **P** **20 07 18.0 0.0**
PARMO Parma 70.18 345 P **P** **20 07 18.0 -0.1**
R53A Hurricane 70.42 351 P **P** **20 07 19.4 -0.2**
R53A IAmb IAmb 20 07 20.2
comp=Z,35nm,0.9s
PBMO Poplar Bluff 70.44 344 P **P** **20 07 19.5 -0.2**
PBMO IAmb IAmb 20 07 20.6
comp=Z,61nm,1.1s
X34A Smith Ranch, M 70.49 337 P **P** **20 07 20.8 +0.7**
U40A Yellville 70.64 342 P **P** **20 07 20.9 0.0**
U40A IAmb IAmb 20 07 22.8
comp=Z,125nm,1.4s
U40A Yellville 70.64 342 P **P** **20 07 21.1 +0.1**
baz=161,SNR=17
R50A Paris 70.71 349 P **P** **20 07 20.9 -0.4**
R50A IAmb IAmb 20 07 21.9
comp=Z,36nm,1.1s
TIAR Tiarei 70.71 261 *e*T T 21 24 20.2
comp=Z,6.0nm,0.3s
MNTX Cornudas Mount 70.76 330 P **P** **20 07 21.4 -0.4**
MNTX Cornudas Mount 70.76 330 P **P** **20 07 21.8 0.0**
baz=150,SNR=29
Q56A Snyder Ridge, 70.82 354 P **P** **20 07 22.0 0.0**
Q56A IAmb IAmb 20 07 23.8
comp=Z,78nm,1.2s
T42A Van Buren 70.84 344 P **P** **20 07 21.6 -0.5**
T42A IAmb IAmb 20 07 34.3
comp=Z,57nm,1.5s
R49A Shelbyville 70.85 349 P **P** **20 07 21.5 -0.7**
R49A IAmb IAmb 20 07 22.6
comp=Z,42nm,1.1s
HHAR Hobbs 70.87 341 P **P** **20 07 21.9 -0.5**
HHAR IAmb IAmb 20 07 23.4
comp=Z,56nm,1.1s
WMOK Wichita Mounta 70.93 337 P **P** **20 07 22.4 -0.4**
WMOK pmax pmax
comp=Z,36nm,1.3s
WMOK Wichita Mounta 70.93 337 P **P** **20 07 22.4 -0.4**
WMOK Wichita Mounta 70.93 337 P **P** **20 07 22.7 -0.1**
baz=156,SNR=13
Q54A Coxs Mills 70.93 352 P **P** **20 07 22.5 -0.1**
FNO Franklin 70.95 338 P **P** **20 07 22.2 -0.6**
FNO IAmb IAmb 20 07 24.6
comp=Z,55nm,1.0s
WCI Wyandotte Cave 70.99 348 P **P** **20 07 22.1 -0.9**
WCI pmax pmax
comp=Z,44nm,1.0s
WCI Wyandotte Cave 70.99 348 P **P** **20 07 22.1 -0.9**
WCI IAmb IAmb 20 07 23.3
comp=Z,44nm,1.0s
WCI Wyandotte Cave 70.99 348 P **P** **20 07 22.6 -0.4**
baz=167
USIN University of 70.99 347 P **P** **20 07 22.3 -0.7**
TUL1 Leonard 71.05 339 P **P** **20 07 23.5 +0.1**
baz=159,SNR=6.2
S44A Carbondale 71.05 345 P **P** **20 07 23.1 -0.3**
S44A IAmb IAmb 20 07 24.2
comp=Z,66nm,1.1s
SIUC Southern Illin 71.07 345 P **P** **20 07 22.9 -0.6**
SIUC IAmb IAmb 20 07 24.3
comp=Z,78nm,1.1s
Q52A Bidwell 71.08 351 P **P** **20 07 23.7 +0.1**
HSIG 71.09 324 P **P** **20 07 24.3 +0.5**
OKCFA Oklahoma City 71.11 338 P **P** **20 07 23.2 -0.7**
OKCFA IAmb IAmb 20 07 25.3
comp=Z,116nm,1.4s
U38A Gravette 71.14 341 P **P** **20 07 23.5 -0.5**
P57A Homestead Farm 71.16 355 P **P** **20 07 25.0 +1.0**
OK025 Westminster Rd 71.22 338 P **P** **20 07 24.2 -0.4**
OK025 IAmb IAmb 20 07 25.8
comp=Z,80nm,1.0s
MGMO Mountain Grove 71.25 343 P **P** **20 07 24.6 0.0**
MGMO IAmb IAmb 20 07 45.4
comp=Z,72nm,1.4s
Q51A Peebles 71.29 350 P **P** **20 07 24.1 -0.7**
P60A Greenville 71.34 357 P **P** **20 07 25.2 +0.1**
P60A IAmb IAmb 20 07 27.4
comp=Z,128nm,1.4s
P60A Greenville 71.34 357 P **P** **20 07 26.1 +1.0**
baz=176,SNR=6.6
BCOK Bluff Creek, N 71.38 338 P **P** **20 07 25.1 -0.4**
BCOK IAmb IAmb 20 07 26.4
comp=Z,44nm,1.0s
OK031 S. Brethren Rd 71.41 339 P **P** **20 07 25.0 -0.6**
OK031 IAmb IAmb 20 07 27.1
comp=Z,63nm,0.9s
WUPA West Chester U 71.46 357 P **P** **20 07 26.2 +0.4**
WUPA IAmb IAmb 20 07 28.4
comp=Z,103nm,1.2s
OK029 Liberty Lake 71.46 338 P **P** **20 07 25.1 -0.9**
OK029 IAmb IAmb 20 07 26.9
comp=Z,55nm,0.9s
P53A Whipple 71.49 352 P **P** **20 07 25.6 -0.4**
P53A IAmb IAmb 20 07 26.9
comp=Z,62nm,1.1s
MCWV Mont Chateau 71.49 353 P **P** **20 07 26.2 +0.2**
MCWV IAmb IAmb 20 07 27.2
comp=Z,86nm,1.2s
MCWV Mont Chateau 71.49 353 P **P** **20 07 26.5 +0.5**
baz=173,SNR=6.0
MVL Millersville 71.56 356 P **P** **20 07 27.2 +0.8**
MVL IAmb IAmb 20 07 29.1
comp=Z,104nm,1.2s
QUOK Quay 71.57 339 P **P** **20 07 26.6 -0.1**
QUOK IAmb IAmb 20 07 39.2
comp=Z,93nm,1.3s
FVM French Village 71.59 344 P **P** **20 07 26.4 -0.3**
FVM pmax pmax
comp=Z,154nm,1.4s
FVM French Village 71.59 344 P **P** **20 07 26.4 -0.3**
MSTX Muleshoe 71.68 333 P **P** **20 07 27.4 0.0**
MSTX IAmb IAmb 20 07 29.2
comp=Z,74nm,0.8s
MSTX Muleshoe 71.68 333 P **P** **20 07 27.8 +0.3**
baz=153,SNR=32
P51A Williamsport 71.70 351 P **P** **20 07 26.8 -0.5**
P52A Corning 71.73 351 P **P** **20 07 26.8 -0.7**
P52A Corning 71.73 351 P **P** **20 07 27.4 0.0**
baz=171,SNR=5.2
PAGS Pennsylvania G 71.81 356 P **P** **20 07 28.2 +0.2**
PAGS IAmb IAmb 20 07 30.2
comp=Z,121nm,1.3s
OLIL Olney 71.82 347 P **P** **20 07 27.4 -0.6**
OLIL IAmb IAmb 20 07 29.1
comp=Z,129nm,1.3s
CCM Cathedral Cave 71.85 344 P **P** **20 07 28.1 -0.1**
CCM pmax pmax
comp=Z,158nm,1.4s
CCM Cathedral Cave 71.85 344 P **P** **20 07 28.1 -0.1**
CCM Cathedral Cave 71.85 344 P **P** **20 07 28.7 +0.4**
baz=163
BLO Bloomington 71.94 348 P **P** **20 07 27.9 -0.9**
BLO pmax pmax
comp=Z,67nm,1.2s
BLO Bloomington 71.94 348 P **P** **20 07 27.9 -0.9**
BLO IAmb IAmb 20 07 29.1
comp=Z,67nm,1.1s
O56A Blue Knob Stat 71.98 354 P **P** **20 07 29.3 +0.3**
O56A IAmb IAmb 20 07 31.4
comp=Z,152nm,1.4s
O56A Blue Knob Stat 71.98 354 P **P** **20 07 29.9 +0.9**
baz=174,SNR=11
P49A Miami Univ. Ec 71.99 349 P **P** **20 07 28.5 -0.5**
P49A IAmb IAmb 20 07 29.4
comp=Z,65nm,1.1s
P49A Miami Univ. Ec 71.99 349 P **P** **20 07 28.6 -0.5**
baz=168,SNR=7.1
S39A Bolivar 72.03 342 P **P** **20 07 29.0 -0.3**
S39A IAmb IAmb 20 07 30.4
comp=Z,78nm,1.3s
P48A Milroy 72.04 349 P **P** **20 07 28.2 -1.1**
P48A IAmb IAmb 20 07 29.5
comp=Z,85nm,1.1s
AMTX Amarillo 72.08 334 P **P** **20 07 29.9 0.0**
AMTX **sP** **20 07 41.8 +2.5**
AMTX IAmb IAmb 20 07 42.8
comp=Z,109nm,1.3s
AMTX Amarillo 72.08 334 P **P** **20 07 30.4 +0.6**
baz=154
LUPA Lehigh Univers 72.11 357 P **P** **20 07 29.6 -0.2**
LUPA IAmb IAmb 20 07 32.2
comp=Z,115nm,1.4s
O52A Adamsville 72.17 352 P **P** **20 07 29.7 -0.4**
O52A IAmb IAmb 20 07 30.7
comp=Z,56nm,1.0s
Q44A Meyer Farm, Va 72.17 346 P **P** **20 07 28.7 -1.4**
Q44A IAmb IAmb 20 07 31.1
comp=Z,47nm,1.1s
SLM Saint Louis 72.17 345 P **P** **20 07 29.8 -0.3**
SLM pmax pmax
comp=Z,202nm,1.5s
SLM Saint Louis 72.17 345 P **P** **20 07 29.8 -0.3**
T35A Sooner Cattle 72.20 339 P **P** **20 07 30.5 +0.1**
O53A New Philadelph 72.22 352 P **P** **20 07 30.3 -0.1**
O53A IAmb IAmb 20 07 32.9
comp=Z,103nm,1.4s
O53A New Philadelph 72.22 352 P **P** **20 07 30.3 -0.1**
baz=172,SNR=9.0
319A Douglas 72.23 327 P **P** **20 07 29.7 -1.1**
CPNY Central Park 72.25 358 P **P** **20 07 30.4 -0.1**
CPNY IAmb IAmb 20 07 32.7
comp=Z,78nm,1.4s
BLOK Blackwell 72.27 339 P **P** **20 07 30.8 0.0**
BLOK IAmb IAmb 20 07 32.1
comp=Z,53nm,1.1s
CROK Carrier 72.28 338 P **P** **20 07 31.3 +0.5**
CROK IAmb IAmb 20 07 31.9
comp=Z,51nm,1.0s
SSPA Standing Stone 72.30 355 P **P** **20 07 31.3 +0.5**
SSPA IAmb IAmb 20 07 33.0
comp=Z,134nm,1.4s
SSPA Standing Stone 72.30 355 P **P** **20 07 31.7 +0.8**
baz=175
R40A Maddies Statio 72.32 343 P **P** **20 07 30.7 -0.4**
N62A Caumsett State 72.38 359 P **P** **20 07 31.5 +0.2**
N58A Sunbury 72.42 356 P **P** **20 07 32.2 +0.7**
N58A IAmb IAmb 20 07 33.9
comp=Z,147nm,1.4s
ACSO Alum Creek Sta 72.43 351 P **P** **20 07 31.0 -0.7**
ACSO Alum Creek Sta 72.43 351 P **P** **20 07 31.6 0.0**
baz=170,SNR=15
N59A State Game Lan 72.44 357 P **P** **20 07 32.5 +0.8**
N59A State Game Lan 72.44 357 P **P** **20 07 32.9 +1.2**
baz=176,SNR=17
PAL Palisades 72.46 358 P **P** **20 07 32.5 +0.7**
baz=178
U32A Winter Ranch, 72.50 337 P **P** **20 07 32.6 +0.4**
U32A IAmb IAmb 20 07 33.6
comp=Z,40nm,0.9s
P46A Rosedale 72.50 347 P **P** **20 07 31.1 -1.0**
P46A IAmb IAmb 20 07 32.9
comp=Z,106nm,1.2s
121A Cookes Peak, D 72.52 329 P **P** **20 07 34.5 +1.9**
baz=148
ODNJ Ogdensburg 72.56 358 P **P** **20 07 33.2 +0.8**
ODNJ IAmb IAmb 20 07 34.8
comp=Z,158nm,1.4s
O49A Covington 72.58 350 P **P** **20 07 32.0 -0.5**
KAN13 South Haven SW 72.58 339 P **P** **20 07 32.6 0.0**
KAN13 IAmb IAmb 20 07 34.0
comp=Z,63nm,1.0s
TRNY Table Rock, Ra 72.61 358 P **P** **20 07 33.2 +0.5**
TRNY IAmb IAmb 20 07 35.1
comp=Z,98nm,1.4s
WSPT Westport, CT 72.61 359 P **P** **20 07 33.4 +0.7**
WSPT IAmb IAmb 20 07 34.5
comp=Z,81nm,1.3s
OK032 Salt Plains WL 72.62 338 P **P** **20 07 33.1 +0.2**
OK032 IAmb IAmb 20 07 34.2
comp=Z,70nm,1.1s
KAN14 Manchester OK 72.69 338 P **P** **20 07 33.5 +0.2**
M66A Nantucket 72.70 1 P **P** **20 07 34.6 +1.4**
baz=182
KAN17 Caldwell West 72.70 338 P **P** **20 07 33.7 +0.4**
KAN17 IAmb IAmb 20 07 46.3
comp=Z,113nm,1.5s
N53A Lisbon 72.73 353 P **P** **20 07 33.0 -0.5**
N53A IAmb IAmb 20 07 35.2
comp=Z,103nm,1.3s
KAN09 Caldwell North 72.74 339 P **P** **20 07 34.4 +0.8**
KAN09 IAmb IAmb 20 07 46.5
comp=Z,121nm,1.4s
KAN05 Bluff City Nor 72.80 338 P **P** **20 07 33.6 -0.3**
KAN05 IAmb IAmb 20 07 35.4
comp=Z,68nm,1.0s

N54A Moraine State 72.80 353 P P 20 07 34.0 +0.2
N54A IAmb IAmb 20 07 35.7
comp=Z,155nm,1.4s
N54A Moraine State 72.80 353 P P 20 07 34.3 +0.5
baz=173,SNR=12
KS20 Mayfield South 72.81 339 P P 20 07 34.0 0.0
KS20 IAmb IAmb 20 07 46.9
comp=Z,121nm,1.3s
KAN10 Anthony SW Sta 72.88 338 P P 20 07 34.2 -0.2
KAN06 Argonia West S 72.92 338 P P 20 07 35.4 +0.8
KAN06 IAmb IAmb 20 07 47.7
comp=Z,150nm,1.5s
KAN08 Anthony NE Sta 72.94 338 P P 20 07 35.4 +0.6
KAN08 IAmb IAmb 20 07 36.3
comp=Z,72nm,1.0s
M57A Sunshine Farm, 72.94 356 P P 20 07 35.7 +1.1
M57A IAmb IAmb 20 07 36.3
comp=Z,109nm,1.3s
KAN16 Harper SW Stat 72.97 338 P P 20 07 35.4 +0.5
KAN16 IAmb IAmb 20 07 36.4
comp=Z,70nm,1.0s
P43A Skaggs, Pawnee 72.98 346 P P 20 07 34.4 -0.6
P43A IAmb IAmb 20 07 36.3
comp=Z,113nm,1.2s
KAN12 Harper NE Stat 73.01 338 P P 20 07 36.0 +0.8
N51A Ashland 73.02 352 P P 20 07 34.8 -0.4
N51A IAmb IAmb 20 07 35.7
comp=Z,81nm,1.1s
KSPA Keystone Colle 73.08 357 P P 20 07 36.3 +0.8
KSPA IAmb IAmb 20 07 37.8
comp=Z,88nm,1.3s
KSCT Kent School, K 73.17 359 P P 20 07 37.0 +1.0
KSCT IAmb IAmb 20 07 38.5
comp=Z,89nm,1.4s
M55A Ridgway 73.19 354 P P 20 07 36.4 +0.2
SFIN Lafayette 73.22 348 P P 20 07 35.1 -1.2
SFIN IAmb IAmb 20 07 36.3
comp=Z,51nm,1.2s
SFIN Lafayette 73.22 348 P P 20 07 35.6 -0.7
baz=166,SNR=7.8
O44A Mansfield 73.26 347 P P 20 07 34.2 -2.3
O44A IAmb IAmb 20 07 37.5
comp=Z,81nm,1.2s
N49A Columbus Grove 73.27 350 P P 20 07 36.3 -0.4
M54A Oil Creek Stat 73.31 354 P P 20 07 36.4 -0.5
M54A IAmb IAmb 20 07 37.8
comp=Z,70nm,1.1s
M54A Oil Creek Stat 73.31 354 P P 20 07 37.0 +0.1
baz=173,SNR=11
M53A WI Miller and 73.34 353 P P 20 07 36.7 -0.3
M53A WI Miller and 73.34 353 P P 20 07 37.4 +0.4
baz=172,SNR=11
BRYW Bryant College 73.35 0 P P 20 07 37.2 +0.1
L64A Middleborough 73.37 1 P P 20 07 38.2 +1.0
baz=181
P40A Paris 73.44 344 P P 20 07 37.5 -0.2
Y22D IRIS PASSCAL I 73.46 330 P P 20 07 39.7 +1.6
baz=149
N47A Urbana 73.47 349 P P 20 07 36.8 -0.9
ALLY Alegheny Colle 73.50 353 P P 20 07 38.4 +0.5
M52A Chesterland 73.52 352 P P 20 07 38.0 -0.1
M50A Fremont 73.59 351 P P 20 07 37.4 -1.0
M50A IAmb IAmb 20 07 39.1
comp=Z,90nm,1.1s
L59A Walton 73.68 357 P P 20 07 39.9 +0.8
QUA2 Belchertown 73.71 359 P P 20 07 40.2 +1.0
QUA2 IAmb IAmb 20 07 41.5
comp=Z,109nm,1.2s
TUC Tucson 73.71 326 P P 20 07 38.2 -1.3
TUC pmax pmax
comp=Z,14nm,1.2s
TUC Tucson 73.71 326 P P 20 07 38.2 -1.3
TUC Tucson 73.71 326 P P 20 07 41.0 +1.5
baz=146
BINY Binghamton 73.73 357 P P 20 07 39.7 +0.4
BINY IAmb IAmb 20 07 41.6
comp=Z,133nm,1.4s
BINY Binghamton 73.73 357 P P 20 07 39.8 +0.5
baz=176,SNR=9.9
L56A Greenwood 73.77 355 P P 20 07 39.9 +0.3
LIC Lamto 73.77 72 eP P 20 07 38.9 -1.3
comp=Z,425nm,1.1s
WES Weston 73.81 0 P P 20 07 40.5 +0.8
WES pmax pmax
comp=Z,106nm,1.4s
WES Weston 73.81 0 P P 20 07 40.5 +0.8
WES IAmb IAmb 20 07 42.2
comp=Z,106nm,1.4s
HDIL Hopedale 73.81 346 P P 20 07 39.8 0.0
HDIL IAmb IAmb 20 07 40.4
comp=Z,55nm,0.9s
HDIL Hopedale 73.81 346 P P 20 07 39.7 0.0
baz=165,SNR=5.4
L61B Northampton 73.88 359 P P 20 07 40.9 +0.8
baz=179,SNR=15
P38A Dawn 73.90 343 P P 20 07 40.3 -0.1
P38A IAmb IAmb 20 07 41.1
comp=Z,50nm,1.0s
HRV Adam Dziewonsk 73.93 0 P P 20 07 40.3 -0.2
HRV pmax pmax
comp=Z,77nm,1.3s
HRV Adam Dziewonsk 73.93 0 P P 20 07 40.2 -0.2
HRV IAmb IAmb 20 07 43.0
comp=Z,77nm,1.2s
HRV Adam Dziewonsk 73.93 0 P P 20 07 39.9 -0.6
baz=180
ERPA Erie 73.94 354 P P 20 07 40.5 0.0
ERPA IAmb IAmb 20 07 42.1
comp=Z,134nm,1.2s
ERPA Erie 73.94 354 P P 20 07 40.7 +0.1
baz=173,SNR=6.5
ANMO Albuquerque 74.01 331 P P 20 07 42.8 +1.4
comp=Z,9.6nm,1.0s,baz=146,slow=8.1,SNR=26
ANMO LR LR 20 35 59.8
comp=Z,2μm,21.2s,baz=60,slow=32
ANMO Albuquerque 74.01 331 P P 20 07 41.9 +0.6
ANMO Albuquerque 74.01 331 P P 20 07 42.5 +1.2
baz=150
TIC Toumodi 74.02 72 eP P 20 07 40.7 -1.0
KIC Kosan Boka 74.08 72 eP P 20 07 40.9 -1.2
comp=Z,257nm,0.8s
K62A Royalston 74.09 360 P P 20 07 42.3 +0.9
K62A IAmb IAmb 20 07 44.2
comp=Z,120nm,1.2s
K62A Royalston 74.09 360 P P 20 07 42.6 +1.2
baz=180,SNR=6.7
K61A Williamstown 74.11 359 P P 20 07 42.6 +1.1
baz=179,SNR=8.4
DBIC Dimbokro 74.17 72 P P 20 07 42.4 -0.1
comp=Z,173nm,0.9s,baz=228,slow=5.5,SNR=125
DBIC LR LR 20 36 35.7
comp=Z,3μm,21.9s,baz=242,slow=33
DBIC Dimbokro 74.17 72 P P 20 07 42.0 -0.6
TRY Troy 74.18 358 P P 20 07 42.5 +0.6
KSU1 Kansas State U 74.25 340 P P 20 07 41.4 -1.1
KSU1 Kansas State U 74.25 340 P P 20 07 42.3 -0.1
baz=158
R32A Long Quarter, 74.26 338 P P 20 07 42.5 0.0
R32A IAmb IAmb 20 07 55.6
comp=Z,106nm,1.4s
N41A Harden Midland 74.29 345 P P 20 07 41.4 -1.2
K57A Scipio Center 74.29 356 P P 20 07 41.5 -1.1
K57A IAmb IAmb 20 07 43.6
comp=Z,49nm,1.0s
L48A N Adams 74.31 350 P P 20 07 41.5 -1.2
M44A Midewin, Midew 74.37 347 P P 20 07 42.3 -0.8
MMNY Mt. Morris Dam 74.38 355 P P 20 07 43.0 -0.1
214A Organ Pipe Nat 74.40 324 P P 20 07 44.6 +1.1
214A Organ Pipe Nat 74.40 324 P P 20 07 45.3 +1.8
baz=145,SNR=7.8
AAM Ann Arbor 74.55 351 P P 20 07 43.8 -0.3
AAM pmax pmax
comp=Z,107nm,1.3s
AAM Ann Arbor 74.55 351 P P 20 07 43.8 -0.3
AAM IAmb IAmb 20 07 45.4
comp=Z,107nm,1.2s
AAM Ann Arbor 74.55 351 P P 20 07 43.6 -0.4
baz=170
L46A Eue Claire 74.67 349 P P 20 07 43.7 -1.0
L46A IAmb IAmb 20 07 45.5
comp=Z,110nm,1.2s
HQIL Hanson Quary C 74.73 348 P P 20 07 44.5 -0.6
ACCN Adirondack Com 74.83 358 P P 20 07 46.3 +0.6
ACCN IAmb IAmb 20 07 48.1
comp=Z,130nm,1.3s
MEDO Medina 74.85 355 P P 20 07 44.7 -1.1
MEDO IAmb IAmb 20 07 46.5
comp=Z,158nm,1.4s
J56A Wolcott 74.86 356 P P 20 07 45.6 -0.2
J56A IAmb IAmb 20 07 46.8
comp=Z,75nm,0.9s
J58A Remsen 74.86 357 P P 20 07 46.0 +0.1
J58A IAmb IAmb 20 07 47.8
comp=Z,48nm,1.1s
K50A Casco 74.88 352 P P 20 07 44.9 -1.1
K50A IAmb IAmb 20 07 46.3
comp=Z,86nm,0.8s
FFD Franklin Falls 74.90 360 P P 20 07 47.6 +1.6
J55A Hilton 74.91 355 P P 20 07 45.9 -0.2
N38A Joes South For 74.93 343 P P 20 07 46.4 0.0
J59A Piesco 74.94 358 P P 20 07 47.0 +0.7
J59A IAmb IAmb 20 07 48.4
comp=Z,104nm,1.2s
J57A Williamstown 74.94 357 P P 20 07 46.4 +0.1
CBKS Cedar Bluff 74.95 338 P P 20 07 46.9 +0.4
CBKS pmax pmax
comp=Z,58nm,1.0s
CBKS Cedar Bluff 74.95 338 P P 20 07 46.9 +0.4
CBKS IAmb IAmb 20 07 48.2
comp=Z,58nm,1.0s
CBKS Cedar Bluff 74.95 338 P P 20 07 47.6 +1.0
baz=156,SNR=7.0
J54A Appleton 74.97 355 P P 20 07 45.6 -0.9
J54A IAmb IAmb 20 07 47.5
comp=Z,76nm,1.0s
T25A Trinidad 75.10 333 P P 20 07 48.4 +0.7
T25A IAmb IAmb 20 08 01.6
comp=Z,106nm,1.2s
T25A Trinidad 75.10 333 P P 20 07 49.1 +1.4
baz=152,SNR=34
L44A Lake County Fo 75.11 348 P P 20 07 46.3 -1.0
L44A Lake County Fo 75.11 348 P P 20 07 47.1 -0.3
baz=166
HNH Hanover 75.13 360 P P 20 07 48.6 +1.2
HNH IAmb IAmb 20 07 50.3
comp=Z,134nm,1.3s
X18A Snowflake 75.17 328 P P 20 07 48.0 -0.1
MAW Mawson 75.20 164 P P 20 07 47.2 -0.4
comp=Z,52nm,1.0s,baz=213,slow=6.9,SNR=52
MAW LR LR 20 41 41.1
comp=Z,2μm,19.9s,baz=225,slow=36
MAW Mawson 75.20 164 P P 20 07 47.9 +0.3
MAW pmax pmax
comp=Z,17nm,1.1s
MAW Mawson 75.20 164 P P 20 07 47.9 +0.3
L42A Oliver, Polo 75.28 346 P P 20 07 47.7 -0.7
L42A IAmb IAmb 20 07 49.6
comp=Z,92nm,1.2s
I60A Shoreham 75.29 359 P P 20 07 49.2 +0.9
baz=179,SNR=15
I62A Tamworth 75.30 0 P P 20 07 48.5 +0.1
I62A IAmb IAmb 20 07 51.3
comp=Z,104nm,1.4s
I62A Tamworth 75.30 0 P P 20 07 49.8 +1.5
baz=180,SNR=5.4
NCB Newcomb 75.43 358 P P 20 07 49.2 0.0
NCB IAmb IAmb 20 07 51.1
comp=Z,83nm,1.3s
I63A Otisfield 75.48 1 P P 20 07 50.9 +1.5
I63A IAmb IAmb 20 07 52.5
comp=Z,130nm,1.2s
PECO Prince Edward 75.52 356 P P 20 07 49.7 +0.1
PECO IAmb IAmb 20 07 50.8
comp=Z,74nm,1.0s
W18A Petrified Fore 75.57 329 P P 20 07 51.2 +0.8
W18A IAmb IAmb 20 08 04.4
comp=Z,110nm,1.4s
W18A Petrified Fore 75.57 329 P P 20 07 51.8 +1.4
baz=147,SNR=13
SUR Sutherland 75.61 119 P P 20 07 51.5 +0.5
SUR IAmb IAmb 20 07 53.4
comp=Z,66nm,0.9s
N35A Tabor 75.62 341 P P 20 07 50.1 -0.2
J47A Sunmer 75.64 350 P P 20 07 49.7 -0.6
J47A IAmb IAmb 20 07 52.2
comp=Z,99nm,1.1s
L40A Anamosa 75.67 345 P P 20 07 50.0 -0.5
L40A IAmb IAmb 20 08 10.7
comp=Z,92nm,0.9s
LBNH Lisbon 75.67 360 P P 20 07 50.7 +0.2
LBNH pmax pmax
comp=Z,90nm,1.2s
LBNH Lisbon 75.67 360 P P 20 07 50.7 +0.2
LBNH IAmb IAmb 20 07 53.0
comp=Z,90nm,1.2s
LBNH Lisbon 75.67 360 P P 20 07 52.0 +1.6
baz=180,SNR=8.3
K43A Burlington 75.70 347 P P 20 07 50.2 -0.5
K43A IAmb IAmb 20 07 51.4
comp=Z,73nm,1.2s
X16A Lo Mia Camp, P 75.76 327 P P 20 07 52.6 +1.1
SCIA State Center 75.98 344 P P 20 07 52.3 0.0
SCIA IAmb IAmb 20 07 54.1
comp=Z,70nm,1.0s
SCIA State Center 75.98 344 P P 20 07 52.6 +0.3
baz=161
WVL Waterville 76.01 1 P P 20 07 52.5 +0.1
WVL IAmb IAmb 20 07 55.2
comp=Z,87nm,1.2s
SDCO Great Sand Dun 76.05 333 P P 20 07 54.2 +0.9
SDCO Great Sand Dun 76.05 333 P P 20 07 54.5 +1.2
baz=151,SNR=28
I49A Point Hope 76.06 352 P P 20 07 52.1 -0.5
LONY Lake Ozonia 76.09 358 P P 20 07 53.1 +0.2
LONY IAmb IAmb 20 07 55.0
comp=Z,134nm,1.3s
LONY pP sP 20 08 03.5 +0.8
LONY Lake Ozonia 76.09 358 P P 20 07 53.7 +0.7
baz=178,SNR=20
KSCO Kaye Shedlock' 76.11 336 P P 20 07 54.1 +0.8
KSCO IAmb IAmb 20 07 55.4
comp=Z,52nm,1.1s
KSCO Kaye Shedlock' 76.11 336 P P 20 07 54.8 +1.5
baz=153
Y14A Wickenburg 76.11 326 P P 20 07 53.9 +0.5
DELO Deloro Mine 76.14 356 P P 20 07 53.1 -0.1
DELO IAmb IAmb 20 07 54.9
comp=Z,91nm,1.3s
EMMW East Machias 76.23 3 P P 20 07 54.6 +1.0
EMMW IAmb IAmb 20 07 56.4
comp=Z,118nm,1.3s
JFWS Jewell Farm 76.28 346 P P 20 07 53.8 -0.2
JFWS IAmb IAmb 20 07 54.9
comp=Z,84nm,1.1s
JFWS pP sP 20 08 04.1 +0.3
JFWS Jewell Farm 76.28 346 P P 20 07 54.1 +0.1
baz=164,SNR=11
FRNY Flat Rock 76.28 359 P P 20 07 53.8 -0.2
GLA Glamis 76.29 324 P P 20 07 54.2 -0.2
GLA pmax pmax
comp=Z,19nm,1.1s
GLA Glamis 76.29 324 P P 20 07 54.2 -0.2
GLA Glamis 76.29 324 P P 20 07 55.9 +1.6
baz=143
SADO Sadowa 76.50 355 P P 20 07 55.4 +0.2
comp=Z,66nm,1.0s,baz=207,slow=5.4,SNR=20
SADO Sadowa 76.50 355 P P 20 07 54.9 -0.3
K38A Parkersburg 76.57 344 P P 20 07 55.0 -0.7
K38A IAmb IAmb 20 07 56.2
comp=Z,44nm,1.0s
S22A 4UR Ranch, Cre 76.58 332 P P 20 07 57.3 +1.1
baz=150,SNR=9.9
PLVO Plevna 76.62 356 P P 20 07 56.3 +0.4
IKP In-Ko-Pah, Jac 76.63 323 P P 20 07 58.0 +1.7
baz=142
WUAZ Wupatki 76.64 328 P P 20 07 57.5 +1.0
WUAZ IAmb IAmb 20 08 10.7
comp=Z,56nm,1.2s
WUAZ Wupatki 76.64 328 P P 20 07 58.2 +1.8
baz=146,SNR=11
G62A West of Eustis 76.65 1 P P 20 07 57.1 +1.1
SWSC Sam W. Stewart 76.70 323 P P 20 07 58.2 +1.6
baz=143
G65A Princeton 76.72 3 P P 20 07 57.5 +1.1
G65A IAmb IAmb 20 07 59.2
comp=Z,113nm,1.4s
PKME Peaks-Kenny Pk 76.72 2 P P 20 07 56.7 +0.3
PKME IAmb IAmb 20 07 59.0
comp=Z,112nm,1.2s
PKME pP PcP 20 08 07.0 -0.7
PKME Peaks-Kenny Pk 76.72 2 P P 20 07 57.4 +1.0
baz=182,SNR=9.4
MOQ Mont Orford 76.74 360 P P 20 07 56.8 +0.2
MVCO Mesa Verde 76.80 331 P P 20 07 58.1 +0.7
MVCO PcP 20 08 09.9 +1.3
MVCO IAmb IAmb 20 08 11.2
comp=Z,68nm,1.4s
MVCO Mesa Verde 76.80 331 P P 20 07 58.7 +1.3
baz=149,SNR=15
BGNE Belgrade 76.83 340 P P 20 07 57.4 +0.2
BGNE Belgrade 76.83 340 P P 20 07 57.6 +0.4
baz=157
L34A Svendsen Farm, 76.85 341 P P 20 07 56.7 -0.6
L34A IAmb IAmb 20 07 57.9
comp=Z,61nm,1.0s
MNTQ Montreal, Queb 76.95 359 P P 20 07 57.8 +0.1
MNTQ IAmb IAmb 20 07 59.8
comp=Z,90nm,1.2s
I42A Draeger Farm, 76.95 347 P P 20 07 57.8 0.0
I42A IAmb IAmb 20 07 58.7
comp=Z,74nm,1.1s
PDMCI Parker Dam,Lak 76.95 325 P P 20 07 59.5 +1.5
baz=144
MONP2 Monument Peak 76.98 323 P P 20 08 00.1 +1.6
baz=142
Q24A Divide 76.98 334 P P 20 08 00.1 +1.6
baz=151,SNR=14
BC3 Big Chuckawall 77.09 324 P P 20 08 00.5 +1.6
baz=143,SNR=11
GLMI Grayling 77.16 351 P P 20 07 57.7 -1.2
GLMI Grayling 77.16 351 P P 20 07 58.9 0.0
baz=169
F63A Nahmakanta, Br 77.16 2 P P 20 07 59.6 +0.7
F63A IAmb IAmb 20 08 01.6
comp=Z,120nm,1.2s
I40A Norwalk 77.29 346 P P 20 07 59.1 -0.6
I40A IAmb IAmb 20 08 00.4
comp=Z,54nm,1.1s
H43A Windswept, Lux 77.31 348 P P 20 07 59.6 -0.2
109C Camp Elliot, M 77.33 322 P P 20 08 01.4 +1.2
baz=142
IRM Iron Mountain 77.33 324 P P 20 08 01.7 +1.5
baz=143,SNR=6.6
F62A Pittston Farm, 77.34 1 P P 20 08 00.6 +0.7
F64A Sherman 77.35 2 P P 20 08 00.8 +0.9
W13A Hualapai Mount 77.47 326 P P 20 08 02.1 +0.9
G45A Suttons Bay 77.52 350 P P 20 08 00.3 -0.7
G45A IAmb IAmb 20 08 02.2
comp=Z,120nm,1.4s
LMN Caledonia Moun 77.53 5 P P 20 08 01.3 +0.3
LMN IAmb IAmb 20 08 03.2
comp=Z,135nm,1.2s
TPFO Pinon Flats 77.56 323 P P 20 08 03.4 +1.8
baz=142,SNR=7.1
NEE2 Needles Airpor 77.56 325 P P 20 08 02.6 +1.2
baz=144
PFO Pinyon Flats O 77.56 323 P P 20 08 03.5 +1.9
comp=Z,14nm,0.9s,baz=86,slow=1.1,SNR=11
PFO Pinyon Flats O 77.56 323 P P 20 08 02.1 +0.4
PFO Pinyon Flats O 77.56 323 P P 20 08 03.3 +1.6
baz=142,SNR=6.7
PV01 Paradox Valley 77.61 331 P P 20 08 02.8 +0.9
OGNE Ogallala 77.63 337 P P 20 08 01.2 -0.6
OGNE Ogallala 77.63 337 P P 20 08 02.8 +1.0
baz=154
BELC Belle Mtn. Jos 77.64 324 P P 20 08 03.0 +1.0
baz=143
PV13 Radium Mtn., P 77.74 331 P P 20 08 03.5 +0.9
PV02 Paradox Valley 77.75 331 P P 20 08 02.7 0.0
PV15 Paradox Valley 77.75 331 P P 20 08 04.2 +1.4
PV15 IAmb IAmb 20 08 16.8
comp=Z,50nm,1.2s
PV05 Paradox Valley 77.79 331 P P 20 08 03.5 +0.6
PV05 IAmb IAmb 20 08 16.4
comp=Z,54nm,1.2s
PV03 Paradox Valley 77.83 331 P P 20 08 03.8 +0.6
PV18 Skein Mesa, Pa 77.85 331 P P 20 08 04.3 +1.0
PV12 Saucer Basin, 77.87 331 P P 20 08 04.4 +1.0
PV11 David Mesa, Pa 77.88 331 P P 20 08 04.4 +1.1
PV11 IAmb IAmb 20 08 17.0
comp=Z,72nm,1.5s
ISCO Idaho Springs 77.89 334 P P 20 08 04.6 +1.1
ISCO *PP PcP 20 08 14.7 +1.4
ISCO Idaho Springs 77.89 334 P P 20 08 04.6 +1.1
ISCO pP PcP 20 08 14.7 +1.4
ISCO Idaho Springs 77.89 334 P P 20 08 04.5 +1.1
baz=151,SNR=17
PV17 East Wray Mesa 77.90 331 P P 20 08 04.1 +0.6
PV07 Paradox Valley 77.91 331 P P 20 08 04.5 +0.9
PV16 Nyswonger Mesa 77.91 331 P P 20 08 04.3 +0.8
PV16 IAmb IAmb 20 08 17.2
comp=Z,58nm,1.4s
PV19 Morning Glory 77.94 331 P P 20 08 04.1 +0.3
MURC Murrieta 77.94 322 P P 20 08 05.1 +1.5
baz=142
PV20 West Nyswonger 77.95 331 P P 20 08 04.2 +0.4
PV04 Paradox Valley 77.97 331 P P 20 08 03.4 -0.4
PV14 Lion Creek, Pa 78.00 331 P P 20 08 05.1 +1.0
PV14 IAmb IAmb 20 08 17.7
comp=Z,59nm,1.3s
PV10 Paradox Valley 78.01 331 P P 20 08 04.4 +0.2
PV10 IAmb IAmb 20 08 17.3
comp=Z,52nm,1.1s
I37A Lemond, Waseca 78.02 344 P P 20 08 03.4 -0.4
I37A IAmb IAmb 20 08 04.6
comp=Z,66nm,0.9s
PV22 Blue Mesa, Par 78.05 331 P P 20 08 05.4 +1.1
PV23 Carpenter Ridg 78.07 331 P P 20 08 05.2 +0.7
E62A Clayton Lake 78.07 2 P P 20 08 05.0 +1.0
K31A O'Neill 78.12 340 P P 20 08 04.5 +0.1
PV21 Cone Mtn., Par 78.14 331 P P 20 08 05.5 +0.6
SCI2 San Clemente I 78.17 321 P P 20 08 06.8 +2.0
baz=141
PQI Presque Isle 78.17 3 P P 20 08 05.6 +1.2
PQI IAmb IAmb 20 08 07.0
comp=Z,132nm,1.3s
BBRC Big Bear Solar 78.31 323 P P 20 08 07.6 +1.6
baz=142
CIS Catalina Islan 78.42 322 P P 20 08 07.7 +1.4
baz=141
HEC Hector,Ludlow 78.46 324 P P 20 08 08.5 +2.0
baz=142,SNR=8.2
G40A Rib Lake 78.53 347 P P 20 08 06.1 -0.4
KNB Kanab 78.53 327 P P 20 08 08.7 +1.7
KNB pmax pmax
comp=Z,89nm,1.3s
KNB Kanab 78.53 327 P P 20 08 08.7 +1.7
KNB IAmb IAmb 20 08 21.3
comp=Z,89nm,1.3s
D62A Allapoint, All 78.54 2 P P 20 08 06.9 +0.3
ECSD EROS Data Cent 78.55 342 P P 20 08 06.6 -0.1
ECSD IAmb IAmb 20 08 07.8
comp=Z,68nm,1.0s
ECSD EROS Data Cent 78.55 342 P P 20 08 07.1 +0.4
baz=159,SNR=35
F42A Maple Grove Fa 78.62 348 P P 20 08 06.6 -0.4
F42A IAmb IAmb 20 08 08.0
comp=Z,61nm,1.1s
E46A Sault Ste Mari 78.63 351 P P 20 08 06.6 -0.5
PKCU Pink Cliffs 78.65 328 P P 20 08 06.7 -1.2
BFSC Mount Baldy Ra 78.67 323 P P 20 08 09.3 +1.5
baz=142
LCMT Little Creek M 78.72 327 P P 20 08 08.7 +0.7
TUQ Turquoise Moun 78.74 324 P P 20 08 09.7 +1.6
baz=143,SNR=11
RRX Edison Barstow 78.83 323 P P 20 08 10.3 +1.8
baz=142
N23A Red Feather La 78.96 334 P P 20 08 10.7 +1.3
baz=151,SNR=11
LMQ La Malbaie 78.98 1 P P 20 08 09.0 0.0
LMQ IAmb IAmb 20 08 11.0
comp=Z,145nm,1.3s
SPMN Marine on St. 79.03 345 P P 20 08 08.6 -0.7
SPMN Marine on St. 79.03 345 P P 20 08 08.8 -0.4
baz=162
E43A Lone Tree Farm 79.03 349 P P 20 08 09.0 -0.2
E43A IAmb IAmb 20 08 21.8
comp=Z,44nm,0.8s
DECC Green Verdugo 79.04 322 P P 20 08 11.1 +1.4
baz=141
GSC Goldstone, Bar 79.07 324 P P 20 08 11.1 +1.2
GSC pmax pmax
comp=Z,48nm,1.4s
GSC Goldstone, Bar 79.07 324 P P 20 08 11.1 +1.2
GSC Goldstone, Bar 79.07 324 P P 20 08 11.6 +1.7

baz=142,SNR=7.1
MTPU Mount Pierson 79.09 328 P P 20 08 11.0 +0.7
COWI Conover 79.13 348 P P 20 08 09.8 0.0
COWI pP **sP 20 08 20.0 +0.2**
SZCU Shurtz Canyon 79.13 328 P P 20 08 11.2 +0.9
PHWY Pilot Hill 79.14 335 P P 20 08 11.0 +0.6
O20A White River Ci 79.19 332 P P 20 08 11.0 +0.4
O20A lAmb lAmb 20 08 24.2
comp=Z,67nm,1.2s
O20A White River Ci 79.19 332 P P 20 08 11.7 +1.1
baz=149,SNR=8.8
CCUT Cedar City 79.22 327 P P 20 08 12.2 +1.4
SRU San Rafael Swe 79.26 330 P P 20 08 11.2 +0.3
SRU pmax pmax
comp=Z,35nm,1.1s
SRU San Rafael Swe 79.26 330 P P 20 08 11.2 +0.3
SHOC Shoshone, Teco 79.28 325 P P 20 08 11.9 +0.9
baz=143
EDW2 Edwards Air Fo 79.35 323 P P 20 08 12.8 +1.4
baz=141,SNR=5.1
Q16A Castle Valley 79.37 330 P P 20 08 12.7 +1.1
Q16A lAmb lAmb 20 08 25.4
comp=Z,75nm,1.4s
KOWA Kowa 79.43 66 P P 20 08 11.9 -0.3
KOWA Kowa 79.43 66 P P 20 08 12.9 +0.7
MSU Marysvale 79.47 329 P P 20 08 13.4 +1.2
MSU Marysvale 79.47 329 P P 20 08 13.3 +1.2
MVU Marysvale 79.48 329 P P 20 08 13.4 +1.1
TSUM Tsumeb 79.51 106 P P 20 08 12.9 0.0
comp=Z,54nm,1.0s,baz=233,slow=6.7
TSUM Tsumeb 79.51 106 P P 20 08 12.8 0.0
TSUM lAmb lAmb 20 08 14.5
comp=Z,89nm,1.1s
OSI Osito Audit: C 79.52 322 P P 20 08 13.7 +1.4
baz=141
QSM Queen of Sheba 79.62 324 P P 20 08 13.6 +0.8
P17A Butcher Ranch, 79.65 330 P P 20 08 13.5 +0.4
P17A lAmb lAmb 20 08 26.5
comp=Z,61nm,1.3s
LRMC Laurel Mtn Rad 79.65 323 P P 20 08 14.4 +1.3
baz=142,SNR=8.1
TCRU Three Creeks R 79.67 329 P P 20 08 14.3 +1.0
GWY Greenwater Val 79.70 324 P P 20 08 14.0 +0.6
TMUT Trail Mountain 79.70 330 P P 20 08 14.2 +0.7
F36A Milaca 79.79 345 P P 20 08 13.3 -0.1
SUSD Miller 79.85 341 P P 20 08 13.7 -0.1
baz=157
PRN Pahroc Range 79.89 326 P P 20 08 16.2 +1.8
PRN lAmb lAmb 20 08 28.7
comp=Z,59nm,1.2s
D41A Chassel 79.96 348 P P 20 08 14.3 +0.1
D41A lAmb lAmb 20 08 25.9
comp=Z,100nm,1.0s
ARVC Arvin 79.97 322 P P 20 08 16.3 +1.7
baz=141
MPMC Manual Prospec 80.01 324 P P 20 08 16.5 +1.4
baz=142,SNR=7.9
FURC Furnace Creek, 80.02 324 P P 20 08 16.8 +1.9
baz=142,SNR=6.5
E38A The Farm, Brul 80.08 346 P P 20 08 14.3 -0.7
RDMU Red Mountain 80.09 332 P P 20 08 16.0 +0.5
RDMU lAmb lAmb 20 08 28.7
comp=Z,50nm,1.1s
TPNV Topopah Spring 80.10 325 P P 20 08 16.5 +0.9
TPNV pmax pmax
comp=Z,39nm,1.1s
TPNV Topopah Spring 80.10 325 P P 20 08 16.4 +0.9
TPNV Topopah Spring 80.10 325 P P 20 08 17.3 +1.8
baz=143,SNR=5.9
RWWY Rawlins 80.12 334 P P 20 08 16.8 +1.1
RWWY lAmb lAmb 20 08 29.1
comp=Z,72nm,1.2s
ISA Isabella, Lake 80.20 323 P P 20 08 17.4 +1.4
ISA pmax pmax
comp=Z,44nm,1.0s
ISA Isabella, Lake 80.20 323 P P 20 08 17.4 +1.4
ISA lAmb lAmb 20 08 30.2
comp=Z,44nm,1.0s
ISA Isabella, Lake 80.20 323 P P 20 08 17.7 +1.7
baz=141,SNR=18
PSUT Pine Spring 80.24 328 P P 20 08 17.7 +1.3
PKM Mcpherson Peak 80.30 322 P P 20 08 18.6 +1.8
baz=140,SNR=10
MPU Maple Canyon 80.48 330 P P 20 08 18.7 +1.1
CWC Cottonwood Cre 80.60 324 P P 20 08 20.1 +1.8
baz=142
NLU North Lily Min 80.62 330 P P 20 08 19.3 +0.9
VES Vestal, Richgr 80.65 323 P P 20 08 19.9 +1.6
baz=141,SNR=6.4
GRAC Grapevine Rang 80.68 324 P P 20 08 20.3 +1.8
baz=142
K22A Casper 80.70 335 P P 20 08 19.5 +0.8
K22A lAmb lAmb 20 08 32.2
comp=Z,127nm,1.4s
K22A Casper 80.70 335 P P 20 08 19.8 +1.1
baz=151,SNR=11
SMMC Simmler 80.72 322 P P 20 08 20.7 +1.9
baz=140
BOSA Boshof 80.81 118 P P 20 08 19.6 -0.2
comp=Z,82nm,0.9s,baz=240,slow=5.3,SNR=67
BOSA LR LR 20 42 13.8
comp=Z,1µm,18.2s,baz=242,slow=34
BOSA Boshof 80.81 118 P P 20 08 19.3 -0.4
BOSA lAmb lAmb 20 08 20.9
comp=Z,117nm,1.1s
SPR3 Spring Creek 3 80.84 328 P P 20 08 20.6 +0.9
JLU Jordanelle 80.89 330 P P 20 08 20.3 +0.5
R11A Troy Canyon, C 80.89 326 P P 20 08 20.9 +1.0
R11A Troy Canyon, C 80.89 326 P P 20 08 20.8 +1.0
baz=143,SNR=18
ROSA Rosais 80.95 33 P P 20 08 20.7 +0.9
LCH Last Change Ra 81.01 324 P P 20 08 21.2 +0.8
RSSD Black Hills 81.13 337 P P 20 08 21.3 +0.3
RSSD pmax pmax
comp=Z,28nm,1.1s
RSSD Black Hills 81.13 337 P P 20 08 21.3 +0.3
RSSD Black Hills 81.13 337 P P 20 08 21.8 +0.9
baz=153
DUG Dugway, Tooele 81.14 329 P P 20 08 21.8 +0.8
DUG pmax pmax
comp=Z,66nm,1.4s
DUG Dugway, Tooele 81.14 329 P P 20 08 21.8 +0.8
DUG lAmb lAmb 20 08 34.8
comp=Z,66nm,1.4s
DUG Dugway, Tooele 81.14 329 P P 20 08 22.2 +1.2
baz=146,SNR=11
TIN Tinemaha, Big 81.16 324 P P 20 08 22.7 +1.6
baz=141
PAGB Antelope Grade 81.18 322 P P 20 08 22.5 +1.4
VOG Valley Oaks Go 81.18 323 P P 20 08 20.9 -0.2
baz=141
TCUT Toone Canyon 81.31 331 P P 20 08 22.1 +0.1
EYMN Ely 81.35 347 P P 20 08 21.9 +0.2
EYMN lAmb lAmb 20 08 22.4
comp=Z,47nm,1.1s
EYMN Ely 81.35 347 P P 20 08 21.6 -0.1
baz=163,SNR=8.7
TPH Tonopah 81.46 325 P P 20 08 23.6 +0.8
TPH pmax pmax
comp=Z,195nm,1.1s
TPH Tonopah 81.46 325 P P 20 08 23.6 +0.8
DRLN Deer Lake 81.67 9 P P 20 08 23.4 0.0
DRLN lAmb lAmb 20 08 25.0
comp=Z,125nm,1.4s
HWUT Hardware Ranch 81.78 331 P P 20 08 24.6 +0.2
BGU Big Grassy Mou 81.83 330 P P 20 08 25.2 +0.5
SPUT South Promonto 81.90 330 P P 20 08 25.4 +0.4
SPUT lAmb lAmb 20 08 38.2
comp=Z,61nm,1.2s
MLAC Mammoth, Mammo 81.91 324 P P 20 08 26.6 +1.3
baz=141
BW06 Boulder Array 81.95 333 P P 20 08 25.2 -0.1
BW06 Boulder Array 81.95 333 P P 20 08 25.8 +0.5
baz=148,SNR=12
PD31 Pinedale Array 81.95 333 P P 20 08 25.4 0.0
PDAR Pinedale Array 81.95 333 P P 20 08 25.5 +0.2
comp=Z,4.8nm,0.9s,baz=142,slow=5.1,SNR=28
PDAR LR LR 20 41 11.2
comp=Z,787nm,20.9s,baz=116,slow=33
PDAR Pinedale Array 81.95 333 P P 20 08 25.4 0.0
MDPB Devils Postpil 82.03 324 P P 20 08 26.5 +0.6
NV11 Mina Array Sit 82.19 325 P P 20 08 27.8 +1.1
B35A Bob, Littlefor 82.20 345 P P 20 08 25.4 -0.9
B35A lAmb lAmb 20 08 26.8
comp=Z,45nm,0.9s

LHV Little Huntoon 82.22 325 P P 20 08 27.4 +0.9
CASY Casey 82.23 181 P P 20 08 27.4 +1.1
CASY lAmb lAmb 20 08 40.0
comp=Z,73nm,1.2s
NVAR Mina Array Bea 82.27 325 P P 20 08 28.5 +1.4
comp=Z,9.3nm,0.8s,baz=156,slow=6.1,SNR=33
NVAR PKKPbc **PKKPbc 20 26 56.0 0.0**
comp=Z,1.8nm,0.9s,baz=297,slow=1.6,SNR=9.8
NVAR PKPPKP P'P'df 20 35 05.3 +10
comp=Z,2.5nm,1.0s,baz=288,slow=1.2,SNR=9.0
NVAR Mina Array Bea 82.27 325 P P 20 08 27.7 +0.6
E28A Huff 82.30 340 P P 20 08 27.4 +0.6
PMOZ Porto Moniz, M 82.30 44 *e*LR LR 20 38 03.9
comp=Z,1µm,20.0s
FUL Funchal 82.36 44 *e*P **P 20 08 27.7 +0.3**
comp=Z,152nm,1.3s
PMAR Madeira 82.40 44 *e*P **P 20 08 29.4 +1.5**
comp=Z,198nm,1.2s
HVU Hansel Valley 82.43 330 P P 20 08 28.3 +0.5
HVU pmax pmax
comp=Z,25nm,1.0s
HVU Hansel Valley 82.43 330 P P 20 08 28.3 +0.5
RYN Ryan 82.53 325 P P 20 08 28.7 +0.3
AHID Auburn Hatcher 82.56 332 P P 20 08 28.4 -0.1
AGMN Agassiz Nation 82.62 344 P P 20 08 28.4 0.0
AGMN lAmb lAmb 20 08 29.2
comp=Z,33nm,0.9s
AGMN Agassiz Nation 82.62 344 P P 20 08 28.6 +0.2
baz=160,SNR=8.2
KVN Kaiserville 82.65 325 P P 20 08 30.2 +1.1
KVN pmax pmax
comp=Z,30nm,1.0s
KVN Kaiserville 82.65 325 P P 20 08 30.2 +1.1
ELK Elko 82.66 328 P P 20 08 30.0 +0.9
comp=Z,12nm,0.8s,baz=136,slow=4.0,SNR=16
ELK Elko 82.66 328 P P 20 08 30.0 +0.9
ELK Elko 82.66 328 P P 20 08 29.8 +0.7
LBTB Lobatse 82.94 115 P P 20 08 31.0 0.0
comp=Z,68nm,0.8s,baz=241,slow=5.8,SNR=7.0
LBTB Lobatse 82.94 115 P P 20 08 30.4 -0.5
REDW Red Top Meadow 82.96 332 P P 20 08 30.9 +0.3
PMPST Porto Santo, M 82.99 44 *e*P **P 20 08 32.6 +1.9**
comp=Z,179nm,1.9s
CMB Columbia Colle 83.00 323 P P 20 08 31.4 +0.7
CMB pmax pmax
comp=Z,17nm,1.2s
CMB Columbia Colle 83.00 323 P P 20 08 31.4 +0.7
TPAW Teton Pass 83.10 332 P P 20 08 30.9 -0.5
TORD Torodi Ar. Bea 83.15 70 P P 20 08 31.6 -0.4
comp=Z,98nm,0.9s,baz=255,slow=4.7,SNR=269
TORD LR LR 20 42 01.6
comp=Z,3µm,21.9s,baz=210,slow=33
TORD Torodi Ar. Bea 83.15 70 P P 20 08 31.6 -0.4
MDND Maddock 83.16 341 P P 20 08 31.8 +0.6
MDND Maddock 83.16 341 P P 20 08 31.8 +0.6
baz=156,SNR=10
YERR Yerington 83.16 325 P P 20 08 32.3 +0.6
YERR lAmb lAmb 20 08 45.8
comp=Z,47nm,1.1s
MOOW Moose Ponds 83.24 333 P P 20 08 32.2 +0.2
FXWY Fox Creek 83.26 332 P P 20 08 32.4 +0.2
PNTR Pine Nut 83.42 324 P P 20 08 33.7 +0.6
PNTR lAmb lAmb 20 08 47.1
comp=Z,43nm,1.1s
IMW Indian Meadow 83.44 333 P P 20 08 33.4 +0.3
FLWY Flagg Ranch 83.50 333 P P 20 08 34.1 +0.7
FLWY lAmb lAmb 20 08 46.8
comp=Z,54nm,1.4s
VCNR Virginia City 83.60 325 P P 20 08 34.9 +0.9
H17A Grant Village 83.72 333 P P 20 08 36.1 +1.6
baz=148
PAHR Pah Rah Range 83.79 325 P P 20 08 36.3 +1.5
PAHR lAmb lAmb 20 08 48.8
comp=Z,47nm,1.1s
RLMT Red Lodge 83.84 334 P P 20 08 35.1 0.0
RLMT Red Lodge 83.84 334 P P 20 08 35.7 +0.6
baz=149,SNR=9.5
YNE Yellowstone No 84.02 334 P P 20 08 36.8 +0.7
YMR Madison River 84.10 333 P P 20 08 37.5 +1.1
YMR lAmb lAmb 20 08 50.0
comp=Z,69nm,1.3s
LAO LASA Array 84.12 337 P P 20 08 36.0 -0.2
baz=151
YHH Holmes Hill 84.16 333 P P 20 08 37.5 +0.7
YHL Hebgen Lake 84.34 333 P P 20 08 38.2 +0.5
BEKR Beckworth 84.39 324 P P 20 08 38.8 +0.9
BEKR lAmb lAmb 20 08 51.7
comp=Z,33nm,1.2s
QLMT Earthquake Lak 84.42 333 P P 20 08 38.1 +0.1
ULM Lac du Bonnet 84.46 345 P P 20 08 37.5 -0.3
comp=Z,25nm,1.0s,baz=160,slow=6.0,SNR=12
ULM Lac du Bonnet 84.46 345 P P 20 08 37.2 -0.5
ULM lAmb lAmb 20 08 38.2
comp=Z,41nm,1.1s
HLID Hailey 84.58 330 P P 20 08 39.5 +0.7
HLID Hailey 84.58 330 P P 20 08 39.7 +0.9
baz=145,SNR=15
ORV Oroville 84.72 324 P P 20 08 40.6 +1.2
ORV pmax pmax
comp=Z,53nm,1.3s
ORV Oroville 84.72 324 P P 20 08 40.6 +1.2
ORV lAmb lAmb 20 08 53.5
comp=Z,53nm,1.3s
MCMT McKenzie Canyo 84.97 332 P P 20 08 41.6 +0.8
DGMT Dagmar 85.04 339 P P 20 08 41.6 +0.8
DGMT Dagmar 85.04 339 P P 20 08 41.6 +0.8
baz=153,SNR=9.1
MFID Camas Ranch 85.07 329 P P 20 08 41.9 +0.7
MFID lAmb lAmb 20 08 54.6
comp=Z,38nm,1.4s
BOZ Bozeman (W) 85.13 333 P P 20 08 41.9 +0.4
BOZ **sP 20 08 53.4 +2.3**
BOZ Bozeman (W) 85.13 333 P P 20 08 41.7 +0.2
baz=147,SNR=8.1
DLMT Dillon 85.32 332 P P 20 08 43.2 +0.7
DLMT lAmb lAmb 20 08 44.9
comp=Z,43nm,1.4s
CGR Cap Guir 85.33 50 P P 20 08 45.0 +2.3
O03E Paynes Creek 85.43 324 P P 20 08 43.3 +0.2
baz=139
RPZ Rata Peaks 85.53 220 P P 20 08 44.2 +0.5
WVOR Wild Horse Val 85.55 327 P P 20 08 44.3 +0.6
WVOR pmax pmax
comp=Z,22nm,1.1s
WVOR Wild Horse Val 85.55 327 P P 20 08 44.3 +0.6
LRM Limekiln Ridge 85.64 333 P P 20 08 44.7 +0.6
O02D Mt. Diablo Mer 85.84 323 P P 20 08 45.7 +0.6
baz=138
WDC Whiskeytown Da 86.02 324 P P 20 08 45.8 -0.1
WDC pmax pmax
comp=Z,34nm,1.4s
WDC Whiskeytown Da 86.02 324 P P 20 08 45.8 -0.1
HRY Holter Researc 86.14 334 P P 20 08 46.7 +0.2
EAH EAH 86.19 49 P P 20 08 49.0 +2.0
J08A Circle Bar Ran 86.20 328 P P 20 08 48.1 +1.3
TTIG Tnine Tigouga, 86.22 51 P P 20 08 49.0 +1.7
SCHQ Schefferville 86.37 3 P P 20 08 47.5 +0.3
comp=Z,77nm,1.1s,baz=156,slow=2.7,SNR=18
SCHQ LR LR 20 46 47.4
comp=Z,442nm,21.7s,baz=184,slow=35
SCHQ Schefferville 86.37 3 P P 20 08 47.1 -0.1
N02D Trinity Center 86.40 324 P P 20 08 48.1 +0.3
baz=139
PLID Pearl Lake 86.48 330 P P 20 08 48.9 +0.6
PLID lAmb lAmb 20 09 01.4
comp=Z,41nm,1.1s
EGMT Eagleton 86.49 335 P P 20 08 47.8 -0.3
EGMT lAmb lAmb 20 09 00.4
comp=Z,38nm,1.2s
EGMT Eagleton 86.49 335 P P 20 08 48.3 +0.2
baz=148,SNR=5.9
M04C Macdoel 86.57 325 P P 20 08 49.5 +0.7
baz=139
M02C Callahan 86.78 324 P P 20 08 50.8 +1.1
baz=138
K05A Summer Lake 86.83 326 P P 20 08 51.4 +1.3
K05A lAmb lAmb 20 09 04.0
comp=Z,41nm,1.0s
BMO Blue Mountains 86.85 329 P P 20 08 50.4 +0.4
BMO pmax pmax
comp=Z,23nm,1.1s
BMO Blue Mountains 86.85 329 P P 20 08 50.4 +0.4
YBH Yreka Blue Hor 86.97 324 P P 20 08 50.7 +0.1
comp=Z,7.1nm,1.0s,baz=121,slow=4.1,SNR=7.8
YBH Yreka Blue Hor 86.97 324 P P 20 08 50.7 +0.1

OUK Oukaimeden 87.02 50 P P 20 08 53.0 +1.5
MSO Missoula 87.06 332 P P 20 08 51.6 +0.6
MSO pP **sP 20 09 01.9 +1.4**
MSO Missoula 87.06 332 P P 20 08 51.6 +0.6
baz=145
L04D Klamath Falls 87.13 325 P P 20 08 51.4 -0.1
baz=139
K04D Chiloquin, OR 87.17 325 P P 20 08 52.2 +0.6
baz=139
I07A Izee 87.23 328 P P 20 08 52.0 +0.1
I07A lAmb lAmb 20 09 05.5
comp=Z,38nm,1.1s
J05D Fort Rock, OR 87.42 326 P P 20 08 54.3 +1.4
baz=140,SNR=13
MATP Matopo 87.64 112 P P 20 08 55.1 +0.5
comp=Z,13nm,0.8s,baz=238,slow=10.0,SNR=16
PINE Pine Mountain 87.67 327 P P 20 08 55.5 +1.4
PINE **sP 20 09 06.7 +3.0**
F10A Beach Ranch, E 87.71 330 P P 20 08 54.3 +0.2
F10A lAmb lAmb 20 09 06.1
comp=Z,31nm,1.3s
L02E Cave Junction 87.73 324 P P 20 08 55.2 +1.0
baz=138
J04D Umpqua Nationa 87.80 326 P P 20 08 55.7 +1.0
baz=139
G08A Pilot Rock 87.92 329 P P 20 08 55.3 +0.2
JTMT Jette 87.94 333 P P 20 08 55.5 +0.3
K02D Willamette Mer 88.16 324 P P 20 08 57.9 +1.6
baz=138,SNR=5.9
DBO Dodson Butte 88.26 325 P P 20 08 57.4 +0.6
DBO lAmb lAmb 20 09 17.8
comp=Z,47nm,1.4s
I05D Terrebonne, OR 88.27 327 P P 20 08 58.3 +1.5
baz=140
TZRR Tazzarine 88.28 52 P P 20 08 59.1 +1.9
I04A Tendick Farm, 88.36 326 P P 20 08 58.1 +0.9
baz=139
J01E Myrtle Point 88.63 325 P P 20 09 00.2 +1.8
baz=138
AVE Averroes 88.65 49 P P 20 09 00.1 +1.4
I03D Drain, OR 88.74 325 P P 20 09 00.6 +1.7
baz=138
WALA Waterton Lakes 88.87 334 P P 20 08 59.7 +0.1
WALA lAmb lAmb 20 09 12.4
comp=Z,67nm,1.3s
H04A Detroit Lake 88.93 327 P P 20 09 00.1 +0.3
H04A lAmb lAmb 20 09 12.7
comp=Z,20nm,0.9s
G05D Wamic, OR 88.95 327 P P 20 09 01.2 +1.4
baz=140
HAWA Hanford 89.03 329 P P 20 09 00.8 +0.6
HAWA lAmb lAmb 20 09 13.6
comp=Z,39nm,1.1s
H04D Lebanon 89.07 326 P P 20 09 01.0 +0.6
baz=139
ZHG ZHG 89.25 49 P P 20 09 03.0 +1.3
D08A Wollman Farm, 89.28 330 P P 20 09 01.5 +0.1
I02D Swisshome 89.29 325 P P 20 09 02.5 +1.0
baz=138
E07A Sunnyside 89.30 329 P P 20 09 01.1 -0.4
NEW Newport 89.49 332 P P 20 09 02.7 +0.4
comp=Z,2.2nm,0.4s,baz=167,slow=7.4,SNR=8.8
NEW Newport 89.49 332 P P 20 09 01.8 -0.5
NEW Newport 89.49 332 P P 20 09 02.0 -0.4
baz=143
F05D White Salmon 89.50 328 P P 20 09 03.7 +1.3
baz=140
C09A Chrisman Ranch 89.59 331 P P 20 09 03.0 +0.2
C09A lAmb lAmb 20 09 15.6
comp=Z,21nm,0.9s
CZD Col de Zad 90.03 50 P P 20 09 07.1 +1.5
FFC Flin Flon 90.04 343 P P 20 09 04.6 -0.1
FFC pmax pmax
comp=Z,17nm,1.0s
FFC Flin Flon 90.04 343 P P 20 09 04.6 -0.1
MDT Midelt 90.18 51 P P 20 09 06.7 +0.7
LSZ Lusaka 90.18 108 P P 20 09 07.3 +0.7
LSZ pmax pmax
comp=Z,79nm,1.0s
LSZ Lusaka 90.18 108 P P 20 09 07.3 +0.7
LTY Liberty 90.20 329 P P 20 09 05.8 +0.1
LON Longmire 90.31 328 P P 20 09 06.4 +0.1
LON pmax pmax
comp=Z,11nm,1.0s
LON Longmire 90.31 328 P P 20 09 06.3 +0.1
B08A Colville Reser 90.47 330 P P 20 09 06.7 -0.2
E04D Cinebar 90.51 328 P P 20 09 07.5 +0.4
baz=139
LCRM LCR 90.55 50 P P 20 09 10.0 +2.2
PTEO Sao Teotonio 90.58 45 *e*P **P 20 09 08.9 +1.2**
comp=Z,34nm,1.1s
RSA Sarsar 90.68 49 P P 20 09 10.0 +1.7
PBDV Barranco-do-Ve 90.86 46 *e*P **P 20 09 09.8 +0.8**
comp=Z,92nm,1.4s
PBDV *i* LQ LQ 20 10 05.9
PCVE Castro Verde 91.05 45 *e*P **P 20 09 10.4 +0.5**
comp=Z,35nm,1.3s
PCVE *i* LQ LQ 20 10 06.9
PNCL Nicolau / Gran 91.06 45 *e*P **P 20 09 10.9 +1.0**
comp=Z,20nm,1.3s
MESJ Messejana 91.07 45 *e*P **P 20 09 09.7 -0.3**
comp=Z,41nm,1.4s
MESJ *i* LQ LQ 20 10 06.9
PVAQ Vaqueiros 91.10 46 *e*P **P 20 09 10.5 +0.4**
comp=Z,51nm,1.5s
PVAQ *i* LQ LQ 20 10 06.9
PVAQ Vaqueiros 91.10 46 *e*LR LR 20 42 40.1
comp=Z,2µm,20.0s
PVAQ Vaqueiros 91.10 46 P P 20 09 10.4 +0.4
PVAQ lAmb lAmb 20 09 11.9
comp=Z,35nm,1.4s
CHEFC Chefchaouen 91.13 49 P P 20 09 13.0 +2.6
PBEJ Beja 91.41 45 *e*P **P 20 09 11.9 +0.4**
comp=Z,31nm,1.9s
PBEJ *i* LQ LQ 20 10 12.0
B05A Bryant 91.59 329 P P 20 09 12.0 0.0
baz=139
EVO Evora 91.64 45 *e*P **P 20 09 12.7 +0.1**
comp=Z,21nm,2.3s
PMTG Montargil 91.86 44 *e*P **P 20 09 13.6 0.0**
comp=Z,44nm,1.2s
PMTG *i* LQ LQ 20 10 09.3
FIGM Figuig 92.01 53 P P 20 09 16.0 +1.3
TDRA Tendrara 92.03 52 P P 20 09 16.1 +1.3
EDM Edmonton 92.10 336 P P 20 09 13.3 -1.1
EDM pmax pmax
comp=Z,30nm,1.0s
EDM Edmonton 92.10 336 P P 20 09 13.3 -1.1
EDM lAmb lAmb 20 09 13.9
comp=Z,30nm,1.0s
PESTR Estremoz 92.11 45 *e*P **P 20 09 15.7 +0.9**
comp=Z,26nm,1.7s
PESTR *i* LQ LQ 20 10 15.2
A04D Lummi Island 92.20 329 P P 20 09 15.5 +0.7
baz=139
JBK JBK 92.45 51 P P 20 09 18.0 +1.3
PMRV Marv??o 92.59 44 *e*P **P 20 09 16.8 -0.2**
comp=Z,34nm,1.4s
PMRV *i* LQ LQ 20 10 16.8
PMRV Marv??o 92.59 44 *e*LR LR 20 43 03.6
comp=Z,1µm,20.0s
PCBR Castelo Branco 92.80 44 *e*P **P 20 09 18.0 +0.1**
comp=Z,28nm,1.3s
PCBR *i* LQ LQ 20 10 19.1
TAF Taforalt 92.84 50 P P 20 09 20.0 +1.6
MTE Manteigas 93.12 43 *e*P **P 20 09 19.4 -0.1**
comp=Z,27nm,1.2s
MTE Manteigas 93.12 43 *e*LR LR 20 43 09.2
comp=Z,2µm,22.0s
MTE Manteigas 93.12 43 P P 20 09 19.2 -0.3
MTE lAmb lAmb 20 09 21.4
comp=Z,17nm,1.0s
PVRL Vila Real 93.58 43 *e*P **P 20 09 21.7 +0.1**
comp=Z,27nm,1.3s
POLO Lamas de Olo 93.60 43 *e*P **P 20 09 20.7 -1.0**
comp=Z,14nm,2.0s
PGAV Gavieira, Arco 93.71 42 *e*LR LR 20 44 15.8
comp=Z,2µm,24.0s
MVO Moncorvo 93.91 43 *e*P **P 20 09 23.3 +0.2**
comp=Z,33nm,1.0s
MVO Moncorvo 93.91 43 *e*LR LR 20 43 55.9
comp=Z,2µm,18.0s
PBRG Braganca 94.49 43 *e*P **P 20 09 26.1 +0.4**
comp=Z,40nm,1.4s
ESDC Sonseca Array 94.81 46 P P 20 09 27.1 -0.1
comp=Z,6.2nm,1.0s,baz=245,slow=4.8,SNR=20

ESDC LR LR 20 51 04.0
comp=Z,1µm,19.3s,baz=260,slow=35
ESDC Sonseca Array 94.81 46 P **P 20 09 26.7 -0.5**
ESBB Sonseca Array 94.81 46 P **P 20 09 27.3 0.0**
WRAK Wrangell Islan 101.79 330 P **Pdif 20 09 58.4 +0.4**
baz=131
DZM Mont Dzumac 102.80 234 *e*SS SS 20 29 00.0 +3.8
comp=Z,2µm,31.4s
DZM Mont Dzumac 102.80 234 *e*LR LR 20 43 48.7
comp=Z,3µm,28.1s
TGTN Hyland Airport 103.63 336 P **Pdif 20 10 06.3 0.0**
baz=133
SKAG Skagway 104.95 332 P **PKiKP 20 14 27.1 +0.3**
baz=128
DOU Dourbes 105.70 41 *d*Pdif **Pdif 20 10 16.2 +0.5**
BMRD Maredsous 105.91 40 *d*Pdif **Pdif 20 10 16.9 +0.3**
BTNL Ternell 106.80 41 *d*Pdif **Pdif 20 10 21.1 +0.5**
BGLC Bering Glacier 108.63 330 P **PKiKP 20 14 35.3 +1.7**
baz=122
BMRM Bremner River 109.63 330 P **PKiKP 20 14 37.7 +2.1**
baz=120
N25K Chitina, Valde 109.94 331 P **PKiKP 20 14 35.8 -0.4**
baz=120
NKC Novy Kostel 110.22 43 AMS AMS 20 59 20.0
comp=Z,2µm,19.5s
GERES **GERESS Array B 110.37 45** PKiKP **PKiKP 20 14 37.5 0.0**
comp=Z,2.7nm,0.9s,baz=191,slow=2.2,SNR=11
GERES **GERESS Array B 110.37 45** **PKiKP 20 14 37.0 -0.4**
KHC Kasperske Hory 110.41 44 AMS AMS 20 59 40.0
comp=Z,1µm,22.4s
CKRC Cesky Krumlov 110.72 45 *e*PKP **PKiKP 20 14 43.7 +5.7**
CKRC AMS AMS 20 55 00.0
comp=Z,1µm,25.7s
SCRK Sand Creek 110.89 333 P **PKiKP 20 14 38.8 +0.8**
baz=120
PBCC Pribram 110.89 44 AMS AMS 20 56 20.0
comp=Z,1µm,27.0s
J26L Joseph Creek 110.99 334 P **PKiKP 20 14 39.3 +1.2**
baz=120
CLL Collm 111.00 42 *i* PKiKP **PKiKP 20 14 39.7 +1.3**
CLL *e*PP **PP 20 15 14.0 -3.5**
CLL *e*PKKPab **PKKPab 20 25 45.0 +1.5**
CLL *ep*PKKPab 20 25 55.0
CLL Lm MLR 21 00 00.0
comp=N,600nm,20.1s
CLL Lm MLR 21 00 00.0
comp=E,2µm,20.5s
CLL Lm MLR 21 00 00.0
comp=Z,2µm,19.6s
CLL Collm 111.00 42 *i* PKiKP **PKiKP 20 14 39.7 +1.3**
CLL MLR MLR
comp=Z,2µm,19.6s
RIDG Independent Ri 111.10 333 P **PKiKP 20 14 40.1 +1.8**
baz=119
PRA Prague 111.31 44 AMS AMS 20 59 50.0
comp=Z,1µm,19.6s
PRU Pruhonice 111.34 44 AMS AMS 20 59 50.0
comp=Z,1µm,19.3s
BRG Berggiesshubel 111.36 43 *e*PKP **PKiKP 20 14 39.8 +0.7**
BRG Amp 20 14 41.2
comp=Z,4.9nm,1.1s
BRG PP **PP 20 15 17.0 -3.0**
BRG Amp 20 15 18.6
comp=Z,6.1nm,1.3s
PVCC Panska Ves 111.58 43 *e*PKiKP **PKiKP 20 14 40.4 +0.9**
PVCC MLR MLR
comp=Z,2µm,20.6s
PVCC Panska Ves 111.58 43 *e*PKP **PKiKP 20 14 40.4 +0.9**
PVCC AMS AMS 20 59 40.0
comp=Z,2µm,20.6s
TREC Trest 111.62 45 AMS AMS 21 01 30.0
comp=Z,1µm,18.6s
WAT6 Susitna Watana 111.71 331 P **PKiKP 20 14 40.8 +1.2**
baz=117
J25K Salcha River, 111.72 334 P **PKiKP 20 14 40.9 +1.4**
baz=118
KDAK Kodiak Island 111.77 325 P **PKiKP 20 14 41.4 +1.7**
baz=115
OHAK Old Harbor 111.87 325 P **PKiKP 20 14 41.6 +1.7**
baz=115
RC01 Rabbit Creek A 111.89 329 P **PKiKP 20 14 41.2 +1.4**
baz=116
KRUC Moravsky 112.08 45 *e*PKiKP **PKiKP 20 14 40.7 +0.2**
VRAC Vranov 112.29 45 *e*PKiKP **PKiKP 20 14 40.8 -0.1**
MORH Mrgy, Hungar 112.35 49 ⇓P **PP 20 15 23.1 -4.2**
ILAR Eielson Array 112.38 333 PKiKP **PKiKP 20 14 40.8 +0.1**
comp=Z,2.5nm,1.1s,baz=233,slow=2.0,SNR=8.7
UPC Upice 112.42 44 AMS AMS 21 00 40.0
comp=Z,2µm,20.0s
CHVC Chvalec 112.47 44 *e*PKP **PKiKP 20 14 41.3 0.0**
CHVC AMS AMS 21 00 00.0
comp=Z,1µm,20.0s
DPC Dobruska-Polom 112.54 44 *e*PKiKP **PKiKP 20 14 41.5 +0.1**
DPC MLR MLR
comp=Z,1µm,20.1s
DPC Dobruska-Polom 112.54 44 *e*PKP **PKiKP 20 14 41.5 +0.1**
DPC AMS AMS 20 59 40.0
comp=Z,1µm,20.1s
OSTC Ostas 112.55 44 *e*PKP **PKiKP 20 14 42.0 +0.6**
OSTC AMS AMS 21 00 10.0
comp=Z,2µm,22.0s
KRLC Kraliky 112.70 44 *e*PKiKP **PKiKP 20 14 41.7 -0.1**
KRLC MLR MLR
comp=Z,1µm,18.9s
KRLC Kraliky 112.70 44 *e*PKP **PKiKP 20 14 41.7 -0.1**
KRLC AMS AMS 21 01 40.0
comp=Z,1µm,18.9s
JAVC Velka Javorina 112.77 46 *e*PKiKP **PKiKP 20 14 42.9 +1.0**
MORC Moravsky Berou 113.04 45 ⇓P **PKiKP 20 14 42.9 +0.5**
MORC Moravsky Berou 113.04 45 ⇓PKiKP **PKiKP 20 14 42.9 +0.5**
MORC Moravsky Berou 113.04 45 *e*PKiKP **PKiKP 20 14 41.6 -0.8**
SKT Skwentna 113.05 330 P **PKiKP 20 14 42.3 +0.3**
baz=114
NEA2 Nenana 113.14 333 P **PKiKP 20 14 42.7 +0.7**
baz=116
TRF Thorofare Moun 113.14 331 P **PKiKP 20 14 42.1 -0.3**
baz=115
OKC Ostrava-Krasne 113.43 45 AMS AMS 21 02 40.0
comp=Z,700nm,18.3s
BPAW Bear Paw Mtn. 113.69 332 P **PKiKP 20 14 43.6 +0.4**
baz=114
PPLA Purkeypile 113.70 330 P **PKiKP 20 14 44.8 +1.4**
baz=114
H23K Yukon River 113.84 334 P **PKiKP 20 14 45.0 +1.6**
baz=115
CAST Castle Rocks 113.86 331 P **PKiKP 20 14 44.6 +1.0**
baz=114
NOA NORSAR Array B 113.99 32 PKiKP **PKiKP 20 14 43.5 -0.4**
comp=Z,1.2nm,0.9s,baz=250,slow=2.0,SNR=4.9
BZS Buzias 114.05 50 ⇓P **PKiKP 20 14 44.6 +0.2**
BZS Buzias 114.05 50 ⇓PKiKP **PKiKP 20 14 44.6 +0.2**
CHUM Lake Minchumin 114.14 331 P **PKiKP 20 14 44.6 +0.7**
baz=113
CHNA Chernabura Isl 114.20 321 P **PKiKP 20 14 45.7 +1.4**
baz=111
HERR Herculane 114.31 51 ⇑P **PKiKP 20 14 45.5 +0.6**
COLD Coldfoot 114.65 335 P **PKiKP 20 14 45.6 +0.7**
baz=113
K20K Telida 114.66 331 P **PKiKP 20 14 46.2 +1.2**
baz=112
SDPT Sand Point 114.86 321 P **PKiKP 20 14 46.1 +0.5**
baz=110
TOLK Toolik Lake Re 115.00 337 P PKPdf 20 14 46.9 +1.3
baz=113
J20K Nowinta River 115.00 331 P PKPdf 20 14 46.5 +0.9
baz=111
H21K Melozitna Rive 115.01 333 P **PKPdf 20 14 46.8 +1.1**
baz=112
DRGR 115.18 49 ⇓P **PKiKP 20 14 46.7 0.0**
DRGR 115.18 49 ⇓PKiKP **PKiKP 20 14 46.7 0.0**
TTA Tatalina 115.33 330 P **PKPdf 20 14 48.6 +2.2**
baz=110
IMAR Indian Mountai 115.49 333 **PKPdf 20 14 47.0 +0.4**
TRPA Tarpa 115.53 48 ⇓P **PKiKP 20 14 47.3 +0.2**
HUMR Humele 115.90 52 ⇑P **PKiKP 20 14 48.4 +0.4**
KWP Kalwaria Pacla 116.13 46 *e*PKiKP **PKiKP 20 14 48.9 +0.6**
KWP *eL* L 20 59 39.0
comp=Z,1µm,25.3s
KWP Kalwaria Pacla 116.13 46 PKiKP **PKPdf 20 14 48.2 -0.1**
KWP Kalwaria Pacla 116.13 46 **PKPdf 20 14 48.2 -0.1**
VOIR 116.25 51 ⇑P **PKiKP 20 14 48.9 +0.2**
VOIR 116.25 51 ⇑PKiKP **PKiKP 20 14 48.9 +0.2**
KLNR Kaliningrad 116.26 40 *i* PKiKP **PKiKP 20 14 48.7 +0.4**
ARCR ARCALIA 116.34 49 ⇓P **PKPdf 20 14 48.3 -0.5**
DOPR Dopca 116.65 51 ⇑P **PKPdf 20 14 49.2 -0.3**
MLR Muntele Rosu 116.86 51 ⇓P **PKPdf 20 14 49.6 -0.4**
MLR Muntele Rosu 116.86 51 PKP **PKPdf 20 14 49.5 -0.4**
comp=Z,6.1nm,0.9s,baz=80,slow=2.7,SNR=11
LVV L'vov 117.00 46 *e*PKiKP **PKiKP 20 14 50.0 0.0**
BUR08 Bucovina Ar. S 117.06 49 **PKiKP 20 14 50.4 +0.1**
BUR01 Bucovina Ar. S 117.06 49 ⇓P **PKiKP 20 14 50.7 +0.4**
BURAR Bucovina Array 117.06 49 PKPdf **PKPdf 20 14 50.0 -0.3**
BIZ Bicaz 117.43 50 ⇑P **PKPdf 20 14 49.2 -1.7**
PLOR Plostina 117.44 51 ⇑P **PKiKP 20 14 51.4 +0.4**
PLOR Plostina 117.44 51 ⇑PKiKP **PKiKP 20 14 51.4 +0.4**
VRI Vrincioaia 117.50 51 ⇑P **PKPdf 20 14 50.6 -0.5**
VRI Vrincioaia 117.50 51 ⇑PKiKP **PKPdf 20 14 50.6 -0.5**
SUW Suwalki 117.75 42 *e*PKPdf **PKiKP 20 14 51.9 +0.7**
SUW Suwalki 117.75 42 *e*P **PKiKP 20 14 51.5 +0.3**
SUW Suwalki 117.75 42 PKiKP **PKPdf 20 14 51.2 0.0**
SUW Suwalki 117.75 42 **PKPdf 20 14 51.2 0.0**
TIRR Tirgusor 118.20 53 ⇓P **PKiKP 20 14 53.4 +1.0**
TIRR Tirgusor 118.20 53 ⇓PKiKP **PKiKP 20 14 53.4 +1.0**
CFR Carcaliu 118.23 52 ⇓P **PKPdf 20 14 51.5 -0.9**
CFR Carcaliu 118.23 52 ⇓PKiKP **PKPdf 20 14 51.5 -0.9**
PABE Paberze 118.59 40 *e*P **PKiKP 20 14 53.0 +0.2**
CSS Mathiatis 118.68 65 PKPdf **PKPdf 20 14 53.4 -0.3**
NIKH Nikolski High 118.82 317 P **PKiKP 20 14 54.8 +1.4**
baz=106
RAF Rauma 118.86 34 *e*P **PKiKP 20 14 54.3 +1.1**
MILM Milestii Mici 119.19 51 ⇓P **PKPdf 20 14 53.7 -0.5**
KIS Kishinev 119.22 50 *e*PP PP 20 16 18.0 +2.5
KIS *e*LR LR 21 00 20.0
comp=Z,300nm,21.0s
SORM Soroca 119.23 49 ⇑P **PKPdf 20 14 53.8 -0.4**
SORM Soroca 119.23 49 ⇑PKiKP **PKPdf 20 14 53.8 -0.4**
MTSE Matsula 119.31 37 *e*P **PKiKP 20 14 55.1 +1.0**
MMAI Mount Meron Ar 119.61 68 PKP **PKPdf 20 14 54.6 -1.0**
comp=Z,3.3nm,0.5s,baz=60,slow=2.0,SNR=10
ASAR Alice Springs 119.68 207 PKP **PKPdf 20 14 55.2 -0.9**
comp=Z,6.8nm,0.9s,baz=138,slow=1.9,SNR=32
ASAR PKKPbc **PKKPbc 20 25 06.0 -0.1**
comp=Z,3.0nm,0.9s,baz=347,slow=3.3,SNR=14
ASAR Alice Springs 119.68 207 PKiKP **PKPdf 20 14 54.9 -1.2**
ASAR Alice Springs 119.68 207 **PKPdf 20 14 54.9 -1.2**
ASAR **PKKPbc 20 25 05.9 -0.1**
AS31 Alice Springs 119.68 207 PKPdf **PKPdf 20 14 55.2 -0.9**
ISAL Salakas 119.80 40 *e*P **PKiKP 20 14 56.1 +0.9**
IIGN Ignalina 119.80 41 *e*P **PKiKP 20 14 56.1 +0.9**
ANTO Ankara 119.88 59 PKiKP **PKiKP 20 14 56.0 0.0**
ANTO Ankara 119.88 59 **PKiKP 20 14 56.0 0.0**
MEF Metsahovi 119.94 35 *e*P **PKiKP 20 14 55.8 +0.5**
NACGM **Naroch 120.01 41** *i* PKP **PKiKP 20 14 55.6 0.0**
AKASG **Malin Array Be 120.45 46** PKP **PKPdf 20 14 55.4 -1.1**
comp=Z,8.2nm,0.8s,baz=273,slow=2.3,SNR=30
AKASG PP **PP 20 16 19.2 -4.6**
comp=Z,5.1nm,0.9s,baz=256,slow=6.7,SNR=7.6
AKASG Malin Array Be 120.45 46 PKPdf **PKPdf 20 14 55.3 -1.2**
AKBB Malin Array Si 120.45 46 *i* PKiKP **PKPdf 20 14 55.3 -1.2**
BR131 Keskin Array S 120.46 60 PKiKP **PKPdf 20 14 56.7 -0.4**
BR131 Keskin Array S 120.46 60 **PKPdf 20 14 56.7 -0.4**
BRTR Keskin Array B 120.46 60 PKP **PKPdf 20 14 56.1 -1.0**
comp=Z,11nm,1.0s,baz=210,slow=3.5,SNR=26
BRTR PP **PP 20 16 30.2 +5.8**
comp=Z,4.0nm,1.1s,baz=231,slow=7.8,SNR=5.1
BRTR Keskin Array B 120.46 60*c* *i* PKiKP **PKPdf 20 14 57.0 -0.1**
BRTR pmax pmax
comp=Z,10.0nm,1.0s
BRTR Keskin Array B 120.46 60 PKPdf **PKPdf 20 14 55.6 -1.5**
ASF Jabal al Asfar 120.50 69 PKP **PKiKP 20 14 58.0 +0.6**
comp=Z,5.3nm,0.9s,baz=143,slow=2.2,SNR=6.3
MNK Minsk 120.54 42 *i* PKiKP **PKPdf 20 14 56.1 -0.5**
MNK *i* 20 16 24.9
MNK *i* PPP PPP 20 18 58.3
MNK *i* 20 22 05.4
MNK *i* PS **PS 20 26 16.0 +0.9**
MNK *i* SS SS 20 32 54.2 +1.7
MNK *i* SSS SSS 20 37 22.3
MNK pmax pmax
comp=Z,52nm,1.1s
MNK pmax pmax
comp=N,11nm,1.1s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK MLR MLR
comp=Z,892nm,22.0s
MNK MLR MLR
comp=N,365nm,21.0s
MNK MLR MLR
comp=E,51nm,17.0s
MNK Minsk 120.54 42 *i* PKP **PKPdf 20 14 56.1 -0.4**
comp=E,2.0nm,0.9s
MNK *i* PKP **PKPdf 20 14 56.1 -0.4**
comp=N,11nm,1.1s
MNK *i* PKP **PKPdf 20 14 56.1 -0.4**
comp=Z,52nm,1.1s,baz=258
MNK *i* PP **PP 20 16 24.9 +0.6**
MNK *i* PPP PPP 20 18 58.4
MNK *i* SKS **SKSdf 20 22 05.5 -1.5**
MNK *i* PS PKKPdf 20 26 16.1 +39
MNK *i* SS **SS 20 32 54.2 +1.7**
MNK *i* SSS SSS 20 37 22.4
MNK *i* LR LR 21 02 40.2
MNK *i* LRM MLR 21 05 53.4
comp=Z,892nm,21.7s
MNK *i* LRM MLR 21 06 33.8
comp=N,365nm,21.0s
MNK *i* LRM MLR 21 06 44.8
comp=E,51nm,16.6s
VSU Vasula 120.75 37 *e*P **PKiKP 20 14 56.9 0.0**
VSU Vasula 120.75 37 *i* PKiKP **PKPdf 20 14 56.7 -0.1**
FINES FINESS Array B 120.98 34 PKP **PKPdf 20 14 56.9 -0.3**
comp=E,7.9nm,1.1s,baz=131,slow=7.8,SNR=7.7
FINES FINESS Array B 120.98 34*c* *i* PKiKP **PKiKP 20 14 57.5 +0.2**
FINES pmax pmax
comp=Z,8.0nm,1.0s
TNA Tin City 121.03 331 P **PKiKP 20 14 59.6 +2.3**
baz=99
ARCES ARCESS Array B 121.88 24 PKP **PKPdf 20 14 58.4 -0.4**
comp=Z,3.6nm,0.9s,baz=250,slow=2.5,SNR=10
ARCES PKKPbc PKKPbc 20 25 09.9 +12
comp=Z,2.4nm,0.9s,baz=97,slow=5.0,SNR=3.7
DIKM Dikmen 122.19 58 ⇓P **PKPdf 20 15 00.2 +0.1**
WR0 Warramunga Arr 122.74 210 PKPdf **PKPdf 20 15 01.6 -0.4**
PUL Pulkovo 122.79 36 *i* PKiKP **PKiKP 20 15 01.2 +0.3**
PUL pmax pmax
comp=Z,43nm,0.8s
WB2 Warramunga Arr 122.84 209 PKPdf **PKPdf 20 15 01.4 -0.8**
WRA Warramunga Arr 122.84 209 PKP **PKPdf 20 15 01.8 -0.5**
comp=Z,12nm,0.6s,baz=169,slow=1.9,SNR=93
WRA PKKPbc **PKKPbc 20 24 54.4 +0.3**
comp=Z,2.9nm,1.0s,baz=346,slow=3.1,SNR=7.8
WRA Warramunga Arr 122.84 209 PKiKP **PKPdf 20 15 01.5 -0.7**
WRA Warramunga Arr 122.84 209 **PKPdf 20 15 01.5 -0.7**
WRA **PKKPbc 20 24 54.8 +0.8**
WRAB Tennant Creek 122.85 209*c* *i* PKiKP **PKPdf 20 14 59.8 -2.4**
WRAB pmax pmax
comp=Z,23nm,1.0s
ANN Anapa 124.50 55 *i* PKiKP **PKPdf 20 15 04.1 -0.4**
ANN *e* 20 22 04.6
ANN pmax pmax
comp=Z,35nm,1.1s
ANN MLR MLR
comp=Z,721nm,21.0s
ANN MLR MLR
comp=N,319nm,21.0s
LVZ Lovozero 125.15 26*c* *i* PKiKP **PKiKP 20 15 06.1 +0.6**
LVZ pmax pmax
comp=Z,62nm,2.5s
LVZ Lovozero 125.15 26 PKPdf **PKPdf 20 15 05.2 +0.1**
OBN Obninsk 125.60 42 PKP **PKPdf 20 15 05.3 -0.9**
comp=Z,5.4nm,0.4s,baz=281,slow=20,SNR=11
OBN Obninsk 125.60 42 *i* PKiKP **PKPdf 20 15 05.2 -1.0**
OBN *i* 20 16 56.4
OBN pmax pmax
comp=Z,53nm,1.3s
PSA00 Pilbara Seismi 125.81 193 PKPdf **PKPdf 20 15 07.4 -0.5**
PSA00 Pilbara Seismi 125.81 193 PKPdf **PKPdf 20 15 07.1 -0.8**
SOC Sochi 125.85 57 *e*PKiKP **PKPdf 20 15 05.9 -1.2**
SOC *e* 20 16 57.3
SOC *e*PPP PPP 20 19 41.9
SOC *e*SSS SSS 20 38 42.4
SOC pmax pmax
comp=Z,15nm,0.8s
SOC MLR MLR
comp=Z,338nm,19.0s
H11S2 WAKE ISLAND Hyl 126.10 271 T T 22 34 06.0
baz=116,slow=75,SNR=391
H11S1 WAKE ISLAND Hyl 126.11 271 T T 22 34 05.6
baz=116,slow=75,SNR=321
H11S3 WAKE ISLAND Hyl 126.12 271 T T 22 34 11.6
baz=116,slow=75,SNR=399
MOS Moscow 126.25 41 *i* PKiKP **PKPdf 20 15 06.7 -0.8**
MOS *e* 20 15 17.6
MOS *e* 20 16 59.6
MOS pmax pmax
comp=Z,51nm,0.9s
MOS MLR MLR
comp=N,600nm,20.0s
MOS MLR MLR
comp=E,1µm,20.0s
MOS MLR MLR
comp=Z,2µm,20.0s
GURO Guroymak-BITLI 126.41 63 **PKPdf 20 15 08.7 +0.1**
H11N3 WAKE ISLAND Hyl 126.46 272 T T 22 34 25.0
baz=116,slow=75,SNR=276
H11N1 WAKE ISLAND Hyl 126.47 272 T T 22 34 33.6
baz=116,slow=75,SNR=61
H11N2 WAKE ISLAND Hyl 126.48 272 T T 22 34 26.4
baz=116,slow=75,SNR=374
LPSR Galich'ya Gora 126.73 45 *e*PKiKP **PKPdf 20 15 07.9 -0.6**
LPSR pmax pmax
comp=Z,30nm,0.9s
KLMR Klimovskoe 127.42 35 *e*PKiKP **PKPdf 20 15 07.9 -1.6**
KLMR pmax pmax
comp=Z,98nm,1.3s
KLMR MLR MLR
comp=Z,869nm,18.0s
KLMR Klimovskoe 127.42 35 *e*PKPdf **PKPdf 20 15 08.0 -1.6**
KLMR AMP 20 15 10.9
comp=Z,98nm,1.3s
KLMR *e*PP PP 20 17 01.5 -8.9
KLMR LR LR 21 01 50.6
KLMR AMP 21 11 07.9
comp=Z,869nm,17.5s
KARS Kars 127.68 61 PKiKP **PKPdf 20 15 10.5 -0.4**
KARS Kars 127.68 61 **PKPdf 20 15 10.5 -0.4**
FITZ Fitzroy Crossi 127.69 201 PKPdf **PKPdf 20 15 11.0 -0.5**
SHA1 Shidzhatmaz 127.97 57 *i* PKiKP **PKPdf 20 15 09.2 -2.3**
KIV Kislovodsk 128.03 57 ⇑P **PKPdf 20 15 11.3 -0.1**
KIV Kislovodsk 128.03 57 *i* PKPdf **PKiKP 20 15 11.8 -0.2**
SNR=9.6
KIV Kislovodsk 128.03 57 ⇑PKiKP **PKPdf 20 15 11.3 -0.1**
KBZ Khabaz 128.14 57 PKP **PKiKP 20 15 12.2 +0.2**
comp=Z,15nm,1.0s,baz=217,slow=3.5,SNR=17
AKH Akhalkalaki 128.14 60 ⇓P **PKiKP 20 15 12.8 +0.3**
VRH Novokhopyorsk 128.32 47 *e*PKiKP **PKPdf 20 15 10.8 -0.8**
VRH pmax pmax
comp=Z,20nm,1.1s
ONI Oni 128.34 58 PKiKP **PKPdf 20 15 12.3 +0.3**
ONI Oni 128.34 58 **PKPdf 20 15 12.3 +0.3**
GOF Gofitskoye 128.46 55⇑ *e*PKiKP **PKPdf 20 15 10.9 -1.2**
GOF pmax pmax
comp=Z,28nm,0.5s
ZEI Tsey 128.70 58 *i* PKiKP **PKPdf 20 15 12.4 -0.5**
ZEI pmax pmax
comp=Z,5.0nm,1.2s
GNI Garni 128.82 62 PKP **PKPdf 20 15 13.4 +0.3**
comp=Z,11nm,1.0s,baz=249,slow=0.9,SNR=10
GNI Garni 128.82 62 PKiKP **PKiKP 20 15 14.0 +0.2**
GNI Garni 128.82 62 PKPdf **PKPdf 20 15 13.0 -0.2**
PRGR Permogore 130.32 34 *e*PKiKP **PKiKP 20 15 16.1 +0.2**
PRGR *e* 20 17 25.5
PRGR pmax pmax
comp=Z,137nm,1.3s
MTN Manton Dam 130.53 210 PKPdf **PKPdf 20 15 16.9 -0.1**
BILL Bilibino 130.99 335 *i* PKiKP **PKiKP 20 15 17.5 +0.4**
BILL *i* 20 15 23.7
BILL *i* 20 17 35.8
BILL pmax pmax
comp=Z,30nm,1.0s
AKT Akhty 131.29 61 *e*PKiKP **PKiKP 20 15 19.0 +0.3**
AKT *e* 20 17 44.9
AKT pmax pmax
comp=Z,30nm,1.0s
BELG Belogornoye 132.03 46 PKP **PKiKP 20 15 19.1 -0.5**
comp=Z,42nm,1.0s,baz=62,slow=2.0,SNR=9.7
KIRV Kirov 132.59 38 PKP **PKiKP 20 15 20.6 +0.1**
comp=Z,15nm,0.6s,baz=188,slow=2.6,SNR=13
ASUD Al Ashush, Dub 133.11 85 PKiKP **PKPdf 20 15 22.1 +0.6**
FAQ Al Faqa, Dubai 133.38 85 PKiKP **PKPdf 20 15 22.4 +0.4**
ASHO Ashiyiah 133.75 85 PKPdf **PKPdf 20 15 22.0 -0.8**
HATD Hatta, Dubai 133.87 85 PKPdf **PKPdf 20 15 22.6 -0.4**
SOHO SOHO 133.96 86 *i* PKPdf **PKPdf 20 15 22.4 -0.7**
SNR=7.0
MSFE Esma-Masafi 134.08 84 PKPdf **PKPdf 20 15 21.7 -1.7**
WSAR Wadi Sarin 135.41 88 PKP **PKPdf 20 15 26.4 +0.5**
comp=Z,17nm,0.9s,baz=265,slow=3.7,SNR=11
BATI Baumata 135.74 202 PKP **PKPdf 20 15 27.6 +0.7**
BATI PKP **PKiKP 20 15 27.9 -0.5**
BATI PKP **pPKPdf 20 15 28.4 -5.0**
BATI PKP **sPKPdf 20 15 33.3 -3.7**
SOEI Soe 135.97 203 PKPdf **PKPdf 20 15 22.3 -5.1**
EDFI Ende, Flores 137.72 200 PKP **PKPdf 20 15 29.9 -0.7**
EDFI PKP **PKiKP 20 15 30.4 -2.2**
ARU Arti 137.85 39 PKhKP PKPpre 20 15 24.0
comp=Z,1.3nm,0.9s,baz=357,slow=6.9,SNR=4.4
ARU PKP **PKPdf 20 15 29.4 0.0**
comp=Z,9.1nm,0.9s,baz=291,slow=2.9,SNR=16
ARU Arti 137.85 39 *i* PKiKP **PKPdf 20 15 30.2 +0.8**
ARU 20 18 17.2
TIXI Tiksi 138.58 350*c* *i* PKiKP **PKPdf 20 15 31.0 +0.7**
AKTO Aktyubinsk 138.65 48 PKP **PKPdf 20 15 30.1 -1.0**
comp=Z,15nm,1.2s,baz=306,slow=1.1,SNR=17
AKTO PP **PP 20 18 20.0 -2.5**
comp=Z,6.1nm,1.0s,baz=287,slow=7.8,SNR=5.5
GEYT Alibeck 138.74 67 PKP **PKPdf 20 15 29.9 -1.8**
comp=Z,522nm,0.6s,baz=15,slow=6.1,SNR=9.0
PEA0B Petropavlovsk- 138.82 316*c* *i* PKiKP **PKiKP 20 15 33.6 +0.1**
PEA0B Petropavlovsk- 138.82 316 PKPdf **PKiKP 20 15 33.1 -0.4**
PETK Petropavlovsk- 138.82 316 PKP **PKiKP 20 15 33.0 -0.5**
comp=Z,23nm,1.0s,baz=80,slow=8.1,SNR=10
PETK Petropavlovsk- 138.82 316 PKiKP **PKiKP 20 15 33.0 -0.5**
PETK Petropavlovsk- 138.82 316 PKPdf **PKiKP 20 15 32.6 -0.9**
SVE Sverdlovsk 138.84 38 *i* PKiKP **PKPdf 20 15 31.4 +0.2**
SVE pmax pmax
comp=Z,29nm,1.3s
SVE MLR MLR
comp=Z,978nm,21.0s
TWSI Taliwang, Sumb 138.88 193 PKP PKPdf 20 15 23.7 -8.9
TWSI PKP **PKiKP 20 15 33.2 -1.6**
TWSI PKP pPKPdf 20 15 33.8 -6.3
ABKAR **Akbulak array 140.04 50** PKPpre 20 15 25.4
ABKAR **Akbulak array 140.04 50** PKPpre 20 15 25.5
PWJI Pagerwojo 140.27 185 PKP **PKiKP 20 15 38.5 +0.8**
NRIK Noril'sk 140.59 11 PKhKP PKPpre 20 15 27.6
comp=Z,3.0nm,0.9s,baz=359,slow=3.8,SNR=5.0
NRIK PKP **PKPdf 20 15 34.2 +0.2**
comp=Z,19nm,1.2s,baz=343,slow=2.6,SNR=13
NRIK Noril'sk 140.59 11*c* *i* PKiKP **PKPdf 20 15 34.9 +0.9**
NRIK pmax pmax
comp=Z,25nm,1.3s
NRIK Noril'sk 140.59 11 PKPpre 20 15 27.9
CISI Cisompet, Garu 140.87 179 PKPpre 20 15 27.6
CISI Cisompet, Garu 140.87 179 PKP **PKPdf 20 15 36.4 +0.1**
CISI PKP **PKiKP 20 15 41.3 +2.3**
BKSI Bulukumba 141.42 199 PKP **PKPdf 20 15 33.1 -4.1**
BKSI PKP **PKiKP 20 15 39.1 -0.9**
HRA Herat 141.54 73 PKPpre 20 15 29.2
KAPI Kappang 141.82 199 PKiKP **PKPdf 20 15 36.8 -1.1**
KAPI Kappang 141.82 199 PKPdf **PKPdf 20 15 36.8 -1.1**
KAPI Kappang 141.82 199 PKP **PKPdf 20 15 33.6 -4.4**
KAPI PKP **PKiKP 20 15 38.6 -2.2**
KAPI PKP **pPKPdf 20 15 40.3 -5.2**
DBJI Dramaga 141.84 177 PKP **PKPdf 20 15 33.4 -4.6**
BNSI Bone 142.31 199 PKP **PKPdf 20 15 39.1 +0.3**
BNSI PKP **PKiKP 20 15 40.6 -1.2**
BNSI PKP **pPKPdf 20 15 40.8 -5.5**
SANI Sanana 142.41 210 PKP **PKPdf 20 15 34.3 -4.7**
SANI PKP **PKiKP 20 15 35.9 -6.1**
SANI PKP **pPKPdf 20 15 39.9 -6.6**
TRD Trivandrum 142.76 122 *eP* **PKPdf 20 15 39.5 0.0**
MDSI Maura Dua 143.71 173 PKP PKPab 20 15 37.7 -0.3
MDSI PKP PKPbc 20 15 38.7 0.0
LHSI Lahat 144.28 172 PKP **PKPdf 20 15 41.4 -0.9**
KBKI Kotabaru 144.32 193 PKP **PKPdf 20 15 42.6 +0.2**
KSI Kapahiang 144.33 170 PKP **PKPdf 20 15 41.8 -0.7**
BBKI Banjar Baru 144.40 191 PKP **PKPdf 20 15 42.1 -0.4**
PALK Pallekele 144.52 128 PKP PKPbc 20 15 41.7 +0.4
comp=Z,75nm,1.0s,baz=315,slow=4.0,SNR=12
PALK Pallekele 144.52 128 PKiKP PKPbc 20 15 41.9 +0.6
PALK Pallekele 144.52 128 PKPdf PKPbc 20 15 41.9 +0.6
LUWI Luwuk 144.60 205 PKPdf PKPbc 20 15 41.9 +0.4

LUWI	**Luwuk**	**144.60**	**205**	PKP		**PKPdf**	**20 15 43.5**	**+0.7**
GOA	**Goa**	**144.65**	**109**	*e*P		**PKPab**	**20 15 41.1**	**-0.3**
MASI	**Maura Aman, Be**	**144.78**	**169**	PKP		**PKPdf**	**20 15 43.2**	**0.0**
BHUJ	**Bhuj**	**144.79**	**94**	*e*P		**PKPab**	**20 15 41.8**	**0.0**
GAMI	**Galela, Maluku**	**145.01**	**215**	PKP		**PKPab**	**20 15 42.3**	**-0.6**
GAMI				PKP		**PKPdf**	**20 15 44.5**	**+0.9**
BRVK	**Borovoye**	**145.35**	**41**	PKIKP		**PKPab**	**20 15 43.4**	**+0.4**
BRVK	**Borovoye**	**145.35**	**41**			**PKPab**	**20 15 43.4**	**+0.4**
BVAR	**Borovoye Array**	**145.42**	**41**	PKPbc		**PKPab**	**20 15 43.7**	**+0.5**
	comp=Z,42nm,0.6s,baz=251,slow=4.5,SNR=196							
KMSI	**Cibinong**	**145.61**	**208**	PKP		**PKiKP**	**20 15 50.8**	**+2.2**
PKKI	**Palangkaraya**	**145.74**	**190**	PKP		**PKPab**	**20 15 46.2**	**+0.7**
GTOI	**Gorontalo**	**146.05**	**207**	PKP		**PKiKP**	**20 15 54.6**	**+5.1**
POO	**Poona**	**146.25**	**105**	*e*P		**PKPdf**	**20 15 44.7**	**-0.8**
POO	**Poona**	**146.25**	**105**	*e*P		**PKPdf**	**20 15 44.0**	**-1.5**
PDSI	**Padang**	**146.63**	**166**	PKP		**PKPbc**	**20 15 47.5**	**-0.4**
YAK	**Yakutsk**	**146.75**	**342**	*e*PKIKP		**PKPdf**	**20 15 43.9**	**-1.1**
YAK				*e*			20 19 07.9	
YAK				pmax	pmax			
	comp=Z,123nm,0.9s							
YAK				pmax	pmax			
	comp=N,29nm,1.0s							
YAK				pmax	pmax			
	comp=E,25nm,1.0s							
YAK				pmax	pmax			
	comp=Z,268nm,2.5s							
YAK				pmax	pmax			
	comp=N,73nm,1.5s							
YAK	**Yakutsk**	**146.75**	**342**	PKPdf		**PKPdf**	**20 15 45.5**	**+0.5**
MTKI	**Muara Teweh, K**	**146.86**	**192**	PKP		**PKPab**	**20 15 49.8**	**0.0**
KBL	**Kabul**	**147.12**	**74**	PKIKP		**PKPdf**	**20 15 47.1**	**+0.3**
KBL	**Kabul**	**147.12**	**74**	PKPdf		**PKPdf**	**20 15 47.1**	**+0.3**
TOLI2	**Tolitoli**	**147.30**	**203**			**PKPdf**	**20 15 47.2**	**-0.2**
CHGR	**Chuyangaron**	**147.45**	**67**	PKPdf		**PKPdf**	**20 15 47.4**	**+0.4**
GSI	**Gunungsitoli**	**148.01**	**159**			**PKPdf**	**20 15 47.7**	**-0.9**
GSI	**Gunungsitoli**	**148.01**	**159**	PKP		**PKiKP**	**20 15 53.2**	**-0.4**
MNSI	**Mandailing Nat**	**148.08**	**163**	PKP		**PKPbc**	**20 15 51.1**	**-0.8**
KK31	**Karatay Array**	**148.16**	**58**	PKIKP		**PKPdf**	**20 15 48.7**	**+0.7**
KK31	**Karatay Array**	**148.16**	**58**	PKPdf		**PKPdf**	**20 15 48.6**	**+0.7**
KKAR	**Karatay Array**	**148.16**	**58**	PKIKP		**PKPdf**	**20 15 48.0**	**0.0**
KKAR	**Karatay Array**	**148.16**	**58**	PKPdf		**PKPdf**	**20 15 48.0**	**0.0**
KKAR	**Karatay Array**	**148.16**	**58**			**PKPdf**	**20 15 48.5**	**+0.5**
STKI	**Sintang**	**148.31**	**186**	PKP		**PKPbc**	**20 15 51.2**	**-1.3**
GAR	**Garm**	**148.35**	**66**			**PKPdf**	**20 15 49.7**	**+1.1**
SBSI	**Sibolga**	**148.62**	**162**	PKP		**PKPbc**	**20 15 51.9**	**-1.4**
BTK	**Batken**	**148.69**	**64**	PKIKP		**PKPdf**	**20 15 49.3**	**+0.2**
BTK	**Batken**	**148.69**	**64**	PKPdf		**PKPdf**	**20 15 49.3**	**+0.2**
UGL	**Uglegorsk**	**149.40**	**314**	*e*PKHKP		**PKPdf**	**20 15 51.8**	**+2.1**
UGL				pmax	pmax			
	comp=Z,50nm,2.2s							
DRK	**Karamyk**	**149.48**	**65**			**PKPdf**	**20 15 51.4**	**+0.8**
HYB	**Hyderabad**	**149.49**	**111**	*e*P		**PKPdf**	**20 15 51.3**	**+0.4**
HYB	**Hyderabad**	**149.49**	**111**	*i* PKP		**PKPdf**	**20 15 51.0**	**+0.1**
HYB				*e*			20 15 55.0	
HYB				*e*SPKP			20 16 12.5	
YSS	**Yuzh-Sakhalins**	**149.68**	**310**	*e*PKHKP		**PKPdf**	**20 15 51.5**	**+1.3**
YSS				pmax	pmax			
	comp=Z,30nm,0.9s							
YSS				MLR	MLR			
	comp=Z,500nm,20.0s							
YSS	**Yuzh-Sakhalins**	**149.68**	**310**	PKPdf		**PKPdf**	**20 15 51.3**	**+1.0**
TPTI		**149.74**	**157**	PKP		**PKPbc**	**20 15 56.2**	**+0.1**
TSI	**Tuntungan**	**150.39**	**160**	PKP		**PKPbc**	**20 15 58.0**	**+0.3**
NIL	**Nilore**	**150.50**	**77**	PKIKP		**PKPdf**	**20 15 51.9**	**-0.1**
NIL	**Nilore**	**150.50**	**77**	PKPdf		**PKPdf**	**20 15 51.9**	**-0.1**
JKA	**Kamikawa-asahi**	**150.53**	**304**	PKPdf		**PKPdf**	**20 15 52.2**	**+0.5**
ASAJ	**Asahikawa**	**150.54**	**304**	PKIKP		**PKPdf**	**20 15 52.2**	**+0.5**
EKS2	**Erkin-Say**	**150.60**	**58**	P		**PKiKP**	**20 15 58.4**	**+0.2**
	SNR=18							
AML	**Almayashu**	**150.63**	**60**	P		**PKPdf**	**20 15 53.7**	**+1.3**
	SNR=20							
AML	**Almayashu**	**150.63**	**60**	*i* PKPdf		**PKPdf**	**20 15 53.5**	**+1.0**
	SNR=14							
USP	**Ospenovka**	**151.00**	**57**	P		**PKiKP**	**20 15 58.9**	**0.0**
	SNR=21							
AAK	**Ala-Archa**	**151.12**	**58**	PKP		**PKPdf**	**20 15 53.8**	**+0.9**
	comp=Z,12nm,0.9s,baz=229,slow=3.7,SNR=18							
AAK				PKPbc		**PKiKP**	**20 15 59.3**	**0.0**
	comp=Z,141nm,1.1s,baz=204,slow=1.9,SNR=46							
AAK	**Ala-Archa**	**151.12**	**58**	P		**PKPdf**	**20 15 54.2**	**+1.2**
	SNR=8.7							
AAK	**Ala-Archa**	**151.12**	**58**	*i* PKPdf		**PKPdf**	**20 15 54.1**	**+1.2**
	SNR=68							
AAK	**Ala-Archa**	**151.12**	**58**	PKPdf		**PKPdf**	**20 15 53.4**	**+0.5**
FRU1	**Bishkek**	**151.19**	**58**	PKIKP		**PKPdf**	**20 15 53.7**	**+0.8**
FRU1	**Bishkek**	**151.19**	**58**			**PKPdf**	**20 15 53.7**	**+0.8**
UCH	**Uchtor**	**151.21**	**59**	P		**PKPdf**	**20 15 54.4**	**+0.9**
	SNR=15							
CHMS	**Chumysh**	**151.24**	**58**	P		**PKiKP**	**20 15 59.5**	**+0.1**
	SNR=21							
BHPL	**Bhopal**	**151.36**	**100**	*e*P		**PKPbc**	**20 15 59.4**	**-0.4**
KBK	**Karagaybulak**	**151.45**	**58**	P		**PKPdf**	**20 15 54.6**	**+1.2**
	SNR=6.5							
LHMI	**Lhok Sumawe**	**151.50**	**156**	PKPdf		**PKPdf**	**20 15 53.5**	**-0.6**
KZA	**Kyzart**	**151.78**	**59**	P		**PKiKP**	**20 16 02.0**	**+1.0**
	SNR=11							
TKM2	**Tokmak 2**	**151.86**	**57**	P		**PKiKP**	**20 16 01.8**	**+0.9**
	SNR=5.8							
GRNR	**Gornyy**	**151.90**	**321**	⇓*i* PKIKP		**PKPdf**	**20 15 54.5**	**+0.9**
GRNR				pmax	pmax			
	comp=Z,5.0nm,1.0s							
GRNR				MLR	MLR			
	comp=E,160nm,19.0s							
ZAA0	**Zalesovo Array**	**152.18**	**30**	PKPdf		**PKPdf**	**20 15 53.1**	**-0.8**
ZALV	**Zalesovo Beam**	**152.18**	**30**	PKP		**PKPdf**	**20 15 53.7**	**-0.2**
	comp=E,12nm,1.0s,baz=282,slow=2.7,SNR=37							
ZALV				PKPbc		**PKPbc**	**20 16 00.3**	**-0.2**
	comp=E,138nm,0.8s,baz=308,slow=3.0,SNR=96							
ZALV	**Zalesovo Beam**	**152.18**	**30**	PKPdf		**PKPdf**	**20 15 52.7**	**-1.2**
ULHL	**Ulahol**	**152.47**	**59**	P		**PKiKP**	**20 16 02.9**	**+0.7**
	SNR=6.4							
KSH	**Kashi**	**152.69**	**65**	PKPbc		**PKPdf**	**20 15 55.4**	**+0.1**
KSH				PP		**PP**	**20 19 45.4**	**-1.1**
KSH				SS		SS	20 39 11.4	-5.5
KSH				AMB	AMB			
	comp=E,650nm,3.5s							
KSH				LR	LR			
	comp=E,850nm,21.3s							
KSH				LR	LR			
	comp=E,850nm,22.7s							
KSH				LR	LR			
	comp=E,1μm,21.1s							
DHRM	**DHARAMSHALA**	**152.87**	**80**	*e*P		**PKPdf**	**20 15 56.4**	**+0.5**
JYT	**Yasato**	**153.30**	**288**			**PKPdf**	**20 15 54.2**	**-1.9**
BOD	**Bodaibo**	**153.69**	**353**	*e*PKIKP		**PKPdf**	**20 15 54.9**	**-1.1**
BOD				pmax	pmax			
	comp=Z,74nm,1.3s							
DDI	**Dehra Dun**	**154.05**	**85**	*e*P		**PKPdf**	**20 15 58.2**	**+0.8**
ZEA	**Zeya**	**154.20**	**334**	*e*PKIKP		**PKPdf**	**20 15 56.4**	**-0.4**
ZEA				*e*			20 16 05.5	
ZEA				pmax	pmax			
	comp=Z,20nm,1.3s							
SKLT	**Songkhla**	**154.46**	**162**	PKP		**PKiKP**	**20 16 11.1**	**+4.3**
JSD	**Sado**	**154.76**	**293**			**PKPdf**	**20 15 57.1**	**-1.0**
MAKZ	**Makanchi**	**154.83**	**46**	PKIKP		**PKPdf**	**20 15 57.3**	**-0.7**
MAKZ	**Makanchi**	**154.83**	**46**	PKPdf		**PKPdf**	**20 15 57.3**	**-0.7**
TRTT	**Trang**	**154.84**	**159**	PKP		**PKiKP**	**20 16 08.7**	**+1.1**
MJAR	**Matsushiro Arr**	**154.90**	**289**	PKP		**PKPdf**	**20 15 57.9**	**-0.5**
	comp=Z,11nm,1.1s,baz=138,slow=0.9,SNR=23							
MJAR	**Matsushiro Arr**	**154.90**	**289**	PKPdf		**PKPdf**	**20 15 57.1**	**-1.3**
MAJO	**Matsushiro**	**154.90**	**289**	PKIKP		**PKPdf**	**20 15 57.5**	**-0.9**
MAJO	**Matsushiro**	**154.90**	**289**			**PKPdf**	**20 15 57.5**	**-0.9**
MAT	**Matsushiro**	**154.90**	**289**	*e*PKP		**PKPdf**	**20 15 57.5**	**-0.9**
MKAR	**Makanchi Array**	**155.03**	**46**	PKP		**PKPdf**	**20 15 57.8**	**-0.5**
	comp=Z,6.9nm,1.0s,baz=318,slow=1.6,SNR=22							
MKAR				PKPab		**PKPab**	**20 16 23.0**	**+0.3**
	comp=Z,34nm,1.1s,baz=288,slow=3.9,SNR=11							
MKAR				PP		**PP**	**20 20 00.2**	**+1.3**
	comp=Z,9.1nm,1.0s,baz=318,slow=5.1,SNR=4.7							
MKAR	**Makanchi Array**	**155.03**	**46**	PKPdf		**PKPdf**	**20 15 57.2**	**-1.1**
PBA	**Port Blair**	**155.33**	**141**			PKPdf	20 15 57.4	-2.2
INU	**Inuyama**	**155.89**	**286**	PKPdf		**PKPdf**	**20 15 58.9**	**-0.9**
USRK	**Ussuriysk Ar.**	**157.72**	**310**	PKP		**PKPdf**	**20 16 00.5**	**-1.3**
	comp=Z,2.6nm,0.9s,baz=64,slow=4.4,SNR=6.9							
USRK	**Ussuriysk Ar.**	**157.72**	**310**	PKIKP		**PKPdf**	**20 16 00.7**	**-1.1**
USRK	**Ussuriysk Ar.**	**157.72**	**310**	PKPdf		**PKPdf**	**20 16 00.7**	**-1.1**
MDJ	**Mudanjiang**	**159.03**	**314**	PKP		**PKPdf**	**20 16 02.8**	**-0.6**
MDJ				AMB	AMB			
	comp=Z,240nm,4.2s							
MDJ	**Mudanjiang**	**159.03**	**314**			**PKPdf**	**20 16 02.1**	**-1.3**
IRK	**Irkutsk**	**159.35**	**7**	*e*PKIKP		**PKPdf**	**20 16 02.1**	**-1.4**
IRK				*e*			20 16 39.0	
IRK				*e*			20 20 21.1	
	comp=Z,69nm,3.1s			pmax	pmax			
MOY	**Mondy**	**159.42**	**13**	*e*PKIKP		**PKPdf**	**20 16 03.9**	**+0.1**
MOY				pmax	pmax			
	comp=Z,72nm,3.1s							
CIT	**Chita**	**159.43**	**351**	*e*PKIKP		**PKPdf**	**20 16 02.9**	**-0.8**
CIT				*e*			20 16 14.4	
CIT				*e*			20 16 41.6	
CIT				*e*			20 20 19.7	
CIT				pmax	pmax			
	comp=Z,138nm,2.3s							
WMQ	**Urumqi**	**159.80**	**48**	PKP		**PKPdf**	**20 16 05.4**	**+1.0**
WMQ				pPKP		sPKPdf	20 16 15.8	+1.3
WMQ				PKPab		**PKPab**	**20 16 44.4**	**+0.9**
WMQ				PP		**PP**	**20 20 27.3**	**+2.0**
WMQ				AMB	AMB			
	comp=Z,440nm,6.1s							
WMQ				LR	LR			
	comp=Z,770nm,19.9s							
WMQ				LR	LR			
	comp=Z,830nm,24.5s							
WMQ				LR	LR			
	comp=Z,750nm,22.3s							
HIA	**Hailar**	**160.55**	**337**	PKIKP		**PKPdf**	**20 16 03.6**	**-1.4**
HIA	**Hailar**	**160.55**	**337**	PKPdf		**PKPdf**	**20 16 03.5**	**-1.4**
KHLT	**Khaolaem Dam**	**160.88**	**150**	PKP		**PKPdf**	**20 16 08.3**	**+2.0**
ZAK	**Zakamensk**	**161.05**	**10**	*e*PKIKP		**PKPdf**	**20 16 04.7**	**-0.9**
ZAK				pmax	pmax			
	comp=Z,9.0nm,1.5s							
UTHA	**Uthaitani**	**161.92**	**151**	PKP		**PKPdf**	**20 16 08.5**	**+1.1**
CN2	**Changchun**	**161.97**	**317**	*e*PKP		**PKPdf**	**20 16 05.1**	**-1.5**
CN2				PP		**PP**	**20 20 38.3**	**+1.6**
CN2				LR	LR			
	comp=Z,300nm,18.0s							
CN2				LR	LR			
	comp=Z,300nm,18.0s							
CN2				LR	LR			
	comp=Z,400nm,18.0s							
KSRS	**Korea Array**	**162.94**	**295**	PKP		**PKPdf**	**20 16 07.5**	**-0.2**
	comp=Z,6.4nm,1.0s,baz=124,slow=0.4,SNR=30							
KSRS				PKPab		**PKPab**	**20 16 56.6**	**-0.6**
	comp=Z,1.6nm,0.9s,baz=137,slow=1.4,SNR=1.6							
KSRS				SKKPbc			20 26 05.4	
	comp=Z,0.5nm,0.4s,baz=268,slow=4.6,SNR=4.7							
KSAR	**Wonju Array Be**	**162.97**	**295**	PKIKP		**PKPdf**	**20 16 06.9**	**-0.9**
KSAR	**Wonju Array Be**	**162.97**	**295**			**PKPdf**	**20 16 06.9**	**-0.9**
UBPT	**Khong Chiam**	**163.35**	**170**	PKP		**PKPdf**	**20 16 10.4**	**+1.6**
UBPT	**Khong Chiam**	**163.35**	**170**			**PKPdf**	**20 16 07.8**	**-1.0**
MHMT	**Maesarieng**	**163.50**	**143**	PKP		**PKPdf**	**20 16 09.8**	**+0.9**
PHIT	**Phitsanulok**	**163.78**	**152**	PKP		**PKPdf**	**20 16 10.3**	**+1.1**
SONM	**Songino Array**	**163.91**	**5**	PKP		**PKPdf**	**20 16 07.6**	**-1.0**
	comp=Z,4.3nm,1.1s,baz=139,slow=0.5,SNR=14							
SONM				PKPab		**PKPab**	**20 17 02.2**	**+0.9**
	comp=Z,15nm,1.0s,baz=340,slow=3.3,SNR=21							
SONM				PP		**PP**	**20 20 48.2**	**+1.9**
	comp=Z,7.4nm,1.1s,baz=325,slow=3.0,SNR=8.2							
SONM	**Songino Array**	**163.91**	**5**	PKIKP		**PKPdf**	**20 16 07.9**	**-0.7**
SONM							20 16 59.9	
SONM	**Songino Array**	**163.91**	**5**			**PKPdf**	**20 16 07.9**	**-0.7**
SONM				PKPab		**PKPab**	**20 16 59.9**	**-1.3**
ULN	**Ulaanbaatar**	**163.91**	**3**	PKIKP		**PKPdf**	**20 16 07.5**	**-1.1**
ULN							20 17 01.7	
ULN	**Ulaanbaatar**	**163.91**	**3**			**PKPdf**	**20 16 07.5**	**-1.1**
ULN				PKPab		**PKPab**	**20 17 01.7**	**+0.4**
CM13	**Chiang Mai Arr**	**164.19**	**145**	PKP		**PKPdf**	**20 16 10.3**	**+0.8**
CM05	**Chiang Mai Arr**	**164.19**	**145**	PKP		**PKPdf**	**20 16 10.2**	**+0.7**
CM04	**Chiang Mai Arr**	**164.21**	**145**	PKP		**PKPdf**	**20 16 10.5**	**+0.9**
CM01	**Chiang Mai Arr**	**164.22**	**145**	PKP		**PKPdf**	**20 16 10.4**	**+0.8**
CM02	**Chiang Mai Arr**	**164.22**	**145**	PKP		**PKPdf**	**20 16 10.3**	**+0.7**
CM15	**Chiang Mai Arr**	**164.23**	**145**	PKP		**PKPdf**	**20 16 10.4**	**+0.8**
CM31	**Chiang Mai Arr**	**164.24**	**145**			**PKPdf**	**20 16 08.2**	**-1.3**
CM31						**PKPab**	**20 17 01.1**	**-2.2**
CMAR	**Chiang Mai Arr**	**164.24**	**145**	PKP		**PKPdf**	**20 16 09.3**	**-0.3**
	comp=Z,14nm,1.1s,baz=250,slow=2.4,SNR=62							
CMAR				PKPab		**PKPab**	**20 17 02.9**	**-0.5**
	comp=Z,16nm,1.1s,baz=225,slow=5.8,SNR=15							
CMAR				PP		**PP**	**20 20 52.2**	**+3.8**
	comp=Z,1.5nm,1.0s,baz=216,slow=3.2,SNR=4.4							
CM09	**Chiang Mai Arr**	**164.25**	**145**	PKP		**PKPdf**	**20 16 10.4**	**+0.8**
SHL	**Shillong**	**164.28**	**109**	PKIKP		**PKPdf**	**20 16 08.7**	**-1.0**
SHL	**Shillong**	**164.28**	**109**			**PKPdf**	**20 16 08.7**	**-1.0**
SHL	**Shillong**	**164.28**	**109**	*e*P		**PKPdf**	**20 16 07.7**	**-2.0**
UTTA	**Uttaradit**	**164.34**	**151**	PKP		**PKPdf**	**20 16 10.3**	**+0.7**
CHTO	**Chiang Mai**	**164.54**	**144**	PKIKP		**PKPdf**	**20 16 09.1**	**-0.8**
CHTO	**Chiang Mai**	**164.54**	**144**	PKP		**PKPdf**	**20 16 10.0**	**+0.2**
CHTO	**Chiang Mai**	**164.54**	**144**			**PKPdf**	**20 16 09.1**	**-0.8**
CMMT	**Chiang Mai**	**164.54**	**145**	PKP		**PKPdf**	**20 16 09.8**	**-0.1**
LAMP	**Lampang**	**164.62**	**147**	PKP		**PKPdf**	**20 16 11.8**	**+1.9**
SKNT	**Sakolnakorn**	**164.72**	**164**	PKP		**PKPdf**	**20 16 10.9**	**+0.9**
LSA	**Lhasa**	**165.06**	**94**	*i* PKPdf		**PKPdf**	**20 16 11.4**	**+0.8**
	SNR=9.4							
LSA	**Lhasa**	**165.06**	**94**	PKIKP		**PKPdf**	**20 16 10.7**	**+0.1**
LSA							20 17 05.9	
LSA	**Lhasa**	**165.06**	**94**			**PKPdf**	**20 16 10.7**	**+0.1**
LSA						**PKPab**	**20 17 05.9**	**-1.7**
ITAN	**ITANAGAR**	**166.45**	**106**	*e*P		**PKPdf**	**20 16 11.3**	**+0.1**
MOKO	**MOKOCHONG**	**166.73**	**111**	*e*P		**PKPdf**	**20 16 10.6**	**-1.0**
LKP	**Lekhapani**	**168.25**	**109**	*e*P		**PKPdf**	**20 16 12.0**	**-0.5**
QZH	**Quanzhou**	**168.69**	**235**	*e*PKP		**PKPdf**	**20 16 13.6**	**+0.8**
QZH				LR	LR			
	comp=Z,310nm,18.1s							
QZH				LR	LR			
	comp=Z,310nm,20.3s							
QZH				LR	LR			
	comp=Z,650nm,20.8s							
SLVN	**Son La**	**168.85**	**158**			**PKPdf**	**20 16 13.7**	**+0.6**
SLVN						**PKPab**	**20 17 23.3**	**-0.4**
BJI	**Beijing**	**169.61**	**325**	PKP		**PKPdf**	**20 16 10.8**	**-2.1**
BJI				LR	LR			
	comp=Z,340nm,20.7s							
BJI				LR	LR			
	comp=Z,280nm,19.9s							
BJI				LR	LR			
	comp=Z,590nm,22.0s							
GTA	**Gaotai**	**169.71**	**40**	⇑PKP		**PKPdf**	**20 16 13.8**	**+0.6**
GTA				pPKP		sPKPdf	20 16 23.3	0.0
GTA				sPKP			20 16 28.1	
GTA				PP		**PP**	**20 21 18.9**	**+2.0**
GTA				AMB	AMB			
	comp=Z,170nm,7.3s							
GTA				LR	LR			
	comp=Z,660nm,20.4s							
GTA				LR	LR			
	comp=Z,540nm,20.0s							
GTA				LR	LR			
	comp=Z,1μm,21.1s							
HHC	**Hu-ho-hao-te**	**170.60**	**345**	*e*PKP		**PKPdf**	**20 16 14.1**	**+0.5**
HHC				AMB	AMB			
	comp=Z,620nm,4.9s							
HHC				LR	LR			
	comp=Z,550nm,16.2s							
HHC				LR	LR			
	comp=Z,540nm,17.9s							
HHC				LR	LR			
	comp=Z,570nm,16.2s							
NJ2	**Nanjing**	**171.06**	**274**	PKP		**PKPdf**	**20 16 13.9**	**-0.1**
NJ2				pPKP		**sPKPdf**	**20 16 23.9**	**-0.2**
TIA	**Tai'an**	**171.49**	**304**	PKP		**PKPdf**	**20 16 14.0**	**-0.1**
TIA				pPKP		**sPKPdf**	**20 16 25.6**	**+1.4**
TIA				AMB	AMB			
	comp=Z,530nm,14.2s							
TIA				LR	LR			
	comp=Z,380nm,18.5s							
TIA				LR	LR			
	comp=Z,390nm,17.8s							
TIA				LR	LR			
	comp=Z,400nm,19.9s							
KMI	**Kunming**	**171.73**	**142**	⇑PKP		**PKPdf**	**20 16 15.6**	**+0.8**
KMI				sPKP			20 16 25.3	
TIY	**Taiyuan**	**173.20**	**331**	⇑PKP		**PKPdf**	**20 16 15.4**	**+0.5**
TIY				AMB	AMB			
	comp=Z,360nm,9.1s							
TIY				LR	LR			
	comp=Z,870nm,18.8s							
TIY				LR	LR			
	comp=Z,220nm,12.6s							
TIY				LR	LR			
	comp=Z,990nm,21.4s							
LZH	**Lanzhou**	**174.31**	**40**	⇑PKP		**PKPdf**	**20 16 16.5**	**+1.0**
LZH				pPKP		pPKPdf	20 16 22.3	-0.7
LZH				sPKP			20 16 26.3	
LZH				PP		**PP**	**20 21 38.8**	**-0.9**
LZH				AMB	AMB			
	comp=Z,490nm,8.7s							
LZH				LR	LR			
	comp=Z,640nm,18.0s							
LZH				LR	LR			
	comp=Z,530nm,18.4s							
LZH				LR	LR			
	comp=Z,600nm,20.6s							
GYA	**Guiyang**	**174.49**	**164**	⇓PKP		**PKPdf**	**20 16 16.1**	**+0.3**
GYA				LR	LR			
	comp=Z,280nm,19.9s							
WHN	**Wuhan**	**174.71**	**258**	⇓PKP		**PKPdf**	**20 16 16.3**	**+0.8**
WHN				pPKP		**sPKPdf**	**20 16 26.6**	**+1.0**
XAN	**Xi'an**	**177.71**	**348**	PKP		**PKPdf**	**20 16 16.0**	**-0.2**
XAN				pPKP		sPKPdf	20 16 27.3	+1.0
XAN				PKPab		PKPab	20 18 02.0	-0.6
XAN				PP		**PP**	**20 21 53.0**	**-2.0**
XAN				SS		SS	20 43 22.3	-7.0
XAN				AMB	AMB			
	comp=Z,640nm,9.6s							
XAN				LR	LR			
	comp=Z,550nm,21.3s							
XAN				LR	LR			
	comp=Z,700nm,20.6s							
ENH	**Enshi**	**178.20**	**213**			**PKPdf**	**20 16 16.2**	**-0.1**

JMA ***21*** *20:01:17.0±0.1,24.83N×122.42E,h1km±2km,M2.3*
TAP ***21*** *20:01:17.3,24.87N×122.39E,h8km,ML2.9,D*
ISC 21 20:01:17.1±1.1,24.86N±0.03×122.41E±0.02,h5km±10km,
n55,σ0.65/98,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
TWB1	**Santiao Chiao**	**0.41**	**291**	*e*P		**Pg**	**20 01 25.9**	**+0.9**
	baz=290							
TWB1				*e*S		**Sb**	**20 01 32.0**	**-1.3**
	baz=290							
NTC	**Toucheng**	**0.53**	**270**	*e*P		**Pb**	**20 01 29.5**	**+0.7**
	baz=267							
NTC				*e*S		**Sb**	**20 01 37.5**	**+0.8**
	baz=267							
TIPB	**Shuangxi**	**0.54**	**282**	*i* P		**Pb**	**20 01 28.7**	**-0.4**
	baz=280							
TIPB				S		**Sb**	**20 01 36.7**	**-0.4**
	baz=280							
TWC	**Suao**	**0.57**	**244**	P		**Pb**	**20 01 29.2**	**-0.3**
	baz=241							
TWC				S		**Sb**	**20 01 37.0**	**-0.8**
	baz=241							
NWF	**Wu-fen Shan**	**0.61**	**290**	*i* P		**Pb**	**20 01 30.0**	**-0.3**
	baz=289							
NWF				S		**Sb**	**20 01 39.1**	**0.0**
	baz=289							
WFSB	**Wu-fen Shan**	**0.61**	**290**	P		**Pb**	**20 01 29.9**	**-0.2**
	baz=289							
WFSB				S		**Sb**	**20 01 39.7**	**+0.7**
	baz=289							
JYNG	**Yonagunijimaku**	**0.64**	**130**	P		**Pg**	**20 01 29.2**	**-0.1**
JYNG				S		**Sg**	**20 01 37.6**	**0.0**
NDS	**Dongshan**	**0.67**	**250**	P		**Pg**	**20 01 30.4**	**+0.5**
	baz=248							
NDS				S		**Sb**	**20 01 41.2**	**+0.4**
	baz=248							
YOJ	**Yonaguni jima**	**0.68**	**126**	P		**Pg**	**20 01 29.9**	**-0.2**
YOJ				S		**Sg**	**20 01 38.6**	**-0.3**
TWE	**Neicheng**	**0.69**	**259**	P		**Pb**	**20 01 31.1**	**-0.4**
	baz=256							
TWE				*e*S		**Sb**	**20 01 41.3**	**-0.1**
	baz=256							
EWUT	**Wuta**	**0.71**	**234**	*e*P		**Pb**	**20 01 31.5**	**-0.4**
	baz=232							
EWUT				*e*S		**Sb**	**20 01 42.7**	**+0.8**
	baz=232							
ENA	**Nanau**	**0.74**	**235**	P		**Pg**	**20 01 31.9**	**+0.5**
	baz=232							
ENA				S		**Sb**	**20 01 43.0**	**0.0**
	baz=232							
TWA	**Mucha**	**0.76**	**279**	P		**Pb**	**20 01 32.

TWT				*e*S		**Sn**	**20 02 00.9**	**+1.7**
	baz=240							
LIOB	**Emei**	**1.28 261**	*e*P			**Pg**	**20 01 40.9**	**-0.9**
	baz=259							
TDCB	**Techi**	**1.29 242**	*e*P			**Pg**	**20 01 41.0**	**-0.8**
	baz=241							
TDCB				*e*S		**Sn**	**20 02 00.8**	**+1.2**
	baz=241							
NSTT	**Nanjuang**	**1.30 260**	P			**Pn**	**20 01 40.4**	**-1.5**
	baz=259							
NSTT				S		**Sn**	**20 02 01.4**	**+1.8**
	baz=259							
IRIF	**Iriomote-Funau**	**1.31 113**	P			**Pn**	**20 01 41.7**	**-0.3**
IRIF			S			**Sg**	**20 01 59.3**	**0.0**
ESL	**Shilin**	**1.37 221**	P			**Pg**	**20 01 44.1**	**+0.7**
	baz=219							
ESL				*e*S		**Sn**	**20 02 03.2**	**+1.9**
	baz=219							
CHGB	**Renai**	**1.38 235**	*e*P			**Pg**	**20 01 43.7**	**+0.2**
	baz=233							
CHGB				*e*S		**Sn**	**20 02 01.8**	**-0.1**
	baz=233							
OWD	**Renai**	**1.44 232**	*e*P			**Pn**	**20 01 43.9**	**-0.1**
	baz=230							
WHP	**Taichung City**	**1.45 247**	P			**Pg**	**20 01 45.9**	**+1.0**
	baz=245							
WHP				*e*S		**Sg**	**20 02 04.2**	**+0.4**
	baz=245							
WCS	**Beigang Elemen**	**1.58 240**	*e*P			**Pg**	**20 01 47.5**	**+0.1**
	baz=238							
JKRS	**Kuro-shima**	**1.58 113**	P			**Pn**	**20 01 46.1**	**+0.3**
JKRS			*e*S			**Sn**	**20 02 06.6**	**0.0**
JIJ	**Ishigaki jima**	**1.65 107**	P			**Pn**	**20 01 47.1**	**+0.4**
SMLT	**Sun Moon Lake**	**1.69 235**	*e*P			**Pb**	**20 01 48.6**	**0.0**
	baz=233							
SSLB	**Suanglung**	**1.70 231**	*e*P			**Pb**	**20 01 48.2**	**-0.7**
	baz=230							
SSLB				*e*S		**Sg**	**20 02 11.5**	**-0.4**
	baz=230							
TYC	**Yuchr**	**1.71 236**	*e*P			**Pb**	**20 01 48.5**	**-0.4**
	baz=235							
YULB	**Yu-li**	**1.78 215**	*e*P			**Pb**	**20 01 49.8**	**-0.4**
	baz=214							
YUS	**Yu-Shan**	**1.91 225**	*e*P			**Pn**	**20 01 51.1**	**+0.4**
	baz=223							
CHN5	**Tsauling**	**2.02 232**	*e*P			**Pb**	**20 01 53.7**	**-0.7**
	baz=230							
WTCT	**Ta-ch'eng**	**2.18 243**	*e*P			**Pn**	**20 01 52.2**	**-1.7**
	baz=242							
WTCT				*e*S		**Sn**	**20 02 19.2**	**-2.1**
	baz=242							

JMA ***21*** *20:02:16.5±0.1, 24°.90N×122°.45E, h15km, M2.0*
TAP ***21*** *20:02:16.8, 24°.86N×122°.36E, h3km±1km, ML2.9, D*
ISC 21 20:02:16.2±1.3**, 24°.88N**±0°.04×**122°.41E**±0°.06**, h5**km±14km**,
n34, σ0**965/63, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
TWB1	**Santiao Chiao**	**0.40 288**		*e*P	**Pb**	**20 02 25.2**		**-0.5**
	baz=293							
TWB1				*e*S	**Sb**	**20 02 30.9**		**-1.3**
	baz=293							
TIPB	**Shuangxi**	**0.54 280**		*i* P	**Pb**	**20 02 28.1**		**0.0**
	baz=282							
TIPB				S	**Sb**	**20 02 36.1**		**-0.1**
	baz=282							
TWC	**Suao**	**0.58 242**		P	**Pb**	**20 02 28.4**		**-0.4**
	baz=241							
TWC				*e*S	**Sb**	**20 02 36.3**		**-0.9**
	baz=241							
NWF	**Wu-fen Shan**	**0.60 288**		P	**Pb**	**20 02 29.3**		**+0.1**
	baz=291							
NWF				*e*S	**Sb**	**20 02 38.0**		**-0.1**
	baz=291							
WFSB	**Wu-fen Shan**	**0.60 288**		*e*P	**Pb**	**20 02 29.1**		**0.0**
	baz=291							
WFSB				*e*S	**Sb**	**20 02 38.1**		**+0.1**
	baz=291							
ILA	**Ilan**	**0.61 259**		*e*S	**Sn**	**20 02 40.1**		**-1.6**
	baz=260							
JYNG	**Yonagunijimaku**	**0.65 131**		P	**Pg**	**20 02 28.6**		**0.0**
JYNG				*e*S	**Sg**	**20 02 37.0**		**-0.1**
NDS	**Dongshan**	**0.68 249**		*e*P	**Pb**	**20 02 30.2**		**-0.3**
	baz=248							
NDS				*e*S	**Sb**	**20 02 40.5**		**+0.4**
	baz=248							
YOJ	**Yonaguni jima**	**0.69 127**		P	**Pg**	**20 02 29.3**		**-0.1**
YOJ				*e*S	**Sg**	**20 02 38.1**		**-0.3**
YOJ	**Yonaguni jima**	**0.69 127**		*e*P	**Pg**	**20 02 29.6**		**+0.2**
	baz=123							
TWE	**Neicheng**	**0.69 257**		P	**Pb**	**20 02 30.5**		**-0.2**
	baz=257							
TWE				S	**Sb**	**20 02 40.8**		**+0.2**
	baz=257							
EWUT	**Wuta**	**0.72 233**		*e*P	**Pb**	**20 02 31.2**		**0.0**
	baz=232							
EWUT				*e*S	**Sb**	**20 02 41.5**		**+0.2**
	baz=232							
TWA	**Mucha**	**0.76 278**		*e*P	**Pb**	**20 02 31.5**		**-0.3**
	baz=279							
TWA				*e*S	**Sb**	**20 02 43.4**		**+0.9**
	baz=279							
ENA	**Nanau**	**0.76 234**		*e*P	**Pb**	**20 02 31.9**		**+0.1**
	baz=232							
ENA				*e*S	**Sb**	**20 02 42.4**		**0.0**
	baz=232							
ENTT	**Nioudou**	**0.80 253**		*e*P	**Pb**	**20 02 33.1**		**+0.5**
	baz=252							
ENTT				*e*S	**Sb**	**20 02 44.0**		**+0.3**
	baz=252							
YM08	**YM08**	**0.80 292**		*e*P	**Pb**	**20 02 32.7**		**0.0**
	baz=295							
YM08				*e*S	**Sn**	**20 02 45.5**		**-1.0**
	baz=295							
YM01	**YM01**	**0.81 289**		*e*P	**Pg**	**20 02 31.5**		**-0.2**
	baz=291							
YM01				*e*S	**Sn**	**20 02 45.3**		**-1.3**
	baz=291							
NHDH	**Xindian Distri**	**0.81 276**		*e*P	**Pb**	**20 02 32.6**		**-0.1**
	baz=277							
NWLT	**Wulai**	**0.83 263**		*e*S	**Sb**	**20 02 44.5**		**-0.1**
	baz=263							
TWY	**Chenhua**	**0.83 298**		*e*P	**Pb**	**20 02 33.5**		**+0.4**
	baz=301							
TWY				*e*S	**Sb**	**20 02 45.8**		**+1.1**
	baz=301							
ANP	**Anpu**	**0.86 291**		*e*P	**Pb**	**20 02 34.1**		**+0.4**
	baz=293							
ANP				*e*S	**Sb**	**20 02 46.5**		**+0.9**
	baz=293							
YHNB	**Yeheng**	**0.96 258**		*e*P	**Pb**	**20 02 35.3**		**-0.1**
	baz=258							
YHNB				*e*S	**Sn**	**20 02 49.4**		**-1.2**
	baz=258							
NSK	**Sanguang**	**0.98 258**		*e*P	**Pb**	**20 02 35.5**		**-0.1**
	baz=258							
NSK				*e*S	**Sb**	**20 02 49.5**		**+0.6**
	baz=258							
NACB	**Ninganchiao**	**1.02 227**		*e*P	**Pb**	**20 02 36.6**		**+0.2**
	baz=225							
NACB				*e*S	**Sn**	**20 02 50.7**		**-1.2**
	baz=225							
NNSB	**Datong**	**1.04 244**		*e*P	**Pb**	**20 02 36.7**		**0.0**
	baz=244							
NNSB				*e*S	**Sn**	**20 02 51.7**		**-0.8**
	baz=244							
NNS	**Nan Shan**	**1.04 245**		P	**Pb**	**20 02 36.9**		**+0.2**
	baz=244							
NNS				S	**Sb**	**20 02 51.0**		**+0.3**
	baz=244							
ETLH	**Xiulin Townshi**	**1.08 232**		*e*P	**Pn**	**20 02 37.9**		**-0.1**
	baz=230							
ETLH				*e*S	**Sn**	**20 02 52.5**		**-0.9**
	baz=230							
TWD	**Chiawan**	**1.09 223**		*e*P	**Pn**	**20 02 37.9**		**-0.2**
	baz=221							
TWD				*e*S	**Sn**	**20 02 52.8**		**-0.7**
	baz=221							
WHF	**Hehuan Shan**	**1.27 235**		P	**Pn**	**20 02 41.2**		**+0.2**
	baz=234							
WHF				S	**Sn**	**20 02 58.7**		**0.0**
	baz=234							
TWT	**Tachien**	**1.28 241**		*e*P	**Pn**	**20 02 41.7**		**+0.7**
	baz=240							
TWT				*e*S	**Sn**	**20 02 59.8**		**+1.2**
	baz=240							
TDCB	**Techi**	**1.30 241**		*e*P	**Pn**	**20 02 41.7**		**+0.5**
	baz=241							
TDCB				*e*S	**Sn**	**20 02 59.9**		**+1.0**
	baz=241							
NSTT	**Nanjuang**	**1.30 259**		*e*P	**Pn**	**20 02 41.6**		**+0.6**
	baz=259							
NSTT				*e*S	**Sn**	**20 03 00.3**		**+1.4**
	baz=259							
CHGB	**Renai**	**1.39 234**		*e*P	**Pn**	**20 02 42.6**		**+0.1**
	baz=233							
CHGB				*e*S	**Sn**	**20 03 01.7**		**+0.4**
	baz=233							
WHP	**Taichung City**	**1.46 246**		*e*S	**Sn**	**20 03 03.9**		**+1.0**
	baz=245							

JMA ***21*** *20:03:02.4±0.1, 24°.27N×121°.87E, h0km, M2.0*
TAP ***21*** *20:03:02.8, 24°.27N×121°.84E, h14km, ML2.8, B*
ISC 21 20:03:03.2±0.9**, 24°.27N**±0°.01×**121°.86E**±0°.02**, h19**km±2km**,
n96, σ1**900/176, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
EHP	**Heping Village**	**0.11 292**		P	**Pg**	**20 03 06.6**		**-0.6**
	baz=293							
EHP				S	**Sg**	**20 03 09.7**		**-0.1**
	baz=293							
ENA	**Nanau**	**0.19 327**		P	**Pg**	**20 03 07.5**		**-0.6**
	baz=331							
ENA				S	**Sg**	**20 03 11.2**		**-0.3**
	baz=331							
EWUT	**Wuta**	**0.19 339**		P	**Pg**	**20 03 07.7**		**-0.4**
	baz=341							
EWUT				S	**Sg**	**20 03 11.6**		**+0.1**
	baz=341							
ETL	**Fush Village**	**0.24 243**		P	**Pg**	**20 03 08.4**		**-0.5**
	baz=240							
ETL				S	**Sg**	**20 03 12.6**		**-0.1**
	baz=240							
NACB	**Ninganchiao**	**0.26 249**		P	**Pg**	**20 03 08.6**		**-0.6**
	baz=246							
NACB				S	**Sb**	**20 03 13.3**		**+0.4**
	baz=246							
TWD	**Chiawan**	**0.30 232**		P	**Pb**	**20 03 09.5**		**-0.6**
	baz=228							
TWD				S	**Sb**	**20 03 14.7**		**+0.1**
	baz=228							
TWC	**Suao**	**0.34 359**		*i* P	**Pb**	**20 03 10.1**		**-0.7**
	baz=3.0							
TWC				*i* S	**Sb**	**20 03 15.5**		**-0.4**
	baz=3.0							
ETLH	**Xiulin Townshi**	**0.35 260**		P	**Pg**	**20 03 10.2**		**-0.6**
	baz=258							
ETLH				S	**Sb**	**20 03 15.7**		**-0.4**
	baz=258							
HWA	**Hwalien**	**0.37 218**		*e*P	**Pb**	**20 03 11.1**		**-0.2**
	baz=215							
HWA				*e*S	**Sb**	**20 03 18.4**		**+1.8**
	baz=215							
NDS	**Dongshan**	**0.39 341**		P	**Pb**	**20 03 11.1**		**-0.5**
	baz=342							
NDS				S	**Sb**	**20 03 16.9**		**-0.3**
	baz=342							
ETM	**Tongmen**	**0.45 228**		*e*P	**Pg**	**20 03 11.5**		**-1.0**
	baz=226							
ETM				*e*S	**Sb**	**20 03 19.3**		**+0.4**
	baz=226							
ENTT	**Nioudou**	**0.46 325**		P	**Pb**	**20 03 12.2**		**-0.5**
	baz=326							
ENTT				S	**Sb**	**20 03 19.1**		**-0.1**
	baz=326							
NDT	**Datong Townshi**	**0.46 317**		*i* P	**Pb**	**20 03 12.4**		**-0.4**
	baz=317							
NDT				*i* S	**Sb**	**20 03 19.5**		**+0.3**
	baz=317							
NNSB	**Datong**	**0.46 290**		P	**Pb**	**20 03 12.3**		**-0.6**
	baz=290							
NNSB				S	**Sg**	**20 03 18.8**		**-0.3**
	baz=290							
TEYL	**Yanliau Villag**	**0.46 211**		*e*P	**Pg**	**20 03 12.2**		**-0.5**
	baz=210							
TEYL				*e*S	**Sb**	**20 03 19.5**		**+0.2**
	baz=210							
NNS	**Nan Shan**	**0.47 291**		*i* P	**Pb**	**20 03 12.5**		**-0.5**
	baz=291							
NNS				S	**Sg**	**20 03 19.2**		**-0.3**
	baz=291							
TWE	**Neicheng**	**0.48 339**		*i* P	**Pb**	**20 03 12.8**		**-0.3**
	baz=342							
TWE				S	**Sb**	**20 03 20.3**		**+0.4**
	baz=342							
ILA	**Ilan**	**0.51 349**		*e*S	**Sb**	**20 03 21.2**		**+0.7**
	baz=351							
WHF	**Hehuan Shan**	**0.55 257**		P	**Pg**	**20 03 13.6**		**-0.9**
	baz=256							
WHF				S	**Sb**	**20 03 22.2**		**+0.1**
	baz=256							
FUSS	**Fushou**	**0.56 268**		P	**Pg**	**20 03 13.7**		**-0.8**
	baz=267							
FUSS				S	**Sb**	**20 03 22.5**		**+0.4**
	baz=267							
NTC	**Toucheng**	**0.58 358**		*e*P	**Pb**	**20 03 15.2**		**+0.4**
	baz=359							
NTC				*e*S	**Sb**	**20 03 23.0**		**+0.3**
	baz=359							
YHNB	**Yeheng**	**0.59 313**		P	**Pb**	**20 03 14.7**		**-0.2**
	baz=313							
YHNB				S	**Sg**	**20 03 22.7**		**-0.4**
	baz=313							
ESL	**Shilin**	**0.59 221**		P	**Pg**	**20 03 14.2**		**-0.9**
	baz=218							
ESL				S	**Sb**	**20 03 23.9**		**+1.0**
	baz=218							
NWLT	**Wulai**	**0.60 328**		P	**Pb**	**20 03 15.0**		**-0.1**
	baz=328							
NWLT				S	**Sb**	**20 03 23.4**		**+0.3**
	baz=328							
NSK	**Sanguang**	**0.61 312**		P	**Pg**	**20 03 14.9**		**-0.5**
	baz=312							
NSK				S	**Sb**	**20 03 23.5**		**+0.1**
	baz=312							
TWT	**Tachien**	**0.62 269**		P	**Pb**	**20 03 15.2**		**-0.2**
	baz=267							
TWT				S	**Sb**	**20 03 24.7**		**+0.9**
	baz=267							
TDCB	**Techi**	**0.64 269**		P	**Pb**	**20 03 15.5**		**-0.3**
	baz=268							
TDCB				S	**Sb**	**20 03 24.4**		**+0.1**
	baz=268							
CHGB	**Renai**	**0.66 252**		P	**Pg**	**20 03 15.6**		**-0.7**
	baz=250							
CHGB				S	**Sb**	**20 03 25.8**		**+0.9**
	baz=250							
OWD	**Renai**	**0.69 243**		P	**Pg**	**20 03 16.3**		**-0.7**
	baz=242							
OWD				S	**Sb**	**20 03 26.9**		**+0.8**
	baz=242							
TIPB	**Shuangxi**	**0.70 358**		P	**Pb**	**20 03 17.0**		**+0.1**
	baz=358							
TIPB				S	**Sb**	**20 03 26.6**		**+0.4**
	baz=358							
EGFH	**Guangfu**	**0.71 213**		P	**Pb**	**20 03 17.3**		**+0.2**
	baz=212							
EGFH				S	**Sb**	**20 03 28.3**		**+1.8**
	baz=212							
TWB1	**Santiao Chiao**	**0.75 9**		*e*S	**Sb**	**20 03 27.8**		**+0.3**
	baz=11							
NHDH	**Xindian Distri**	**0.75 337**		P	**Pn**	**20 03 18.8**		**0.0**
	baz=337							
NHDH				*e*S	**Sb**	**20 03 29.1**		**+1.5**
	baz=337							
NWF	**Wu-fen Shan**	**0.80 355**		P	**Pb**	**20 03 19.2**		**+0.6**
	baz=356							
NWF				S	**Sb**	**20 03 30.2**		**+1.1**
	baz=356							
WFSB	**Wu-fen Shan**	**0.80 355**		P	**Pb**	**20 03 19.1**		**+0.5**
	baz=356							
WFSB				S	**Sb**	**20 03 30.3**		**+1.2**
	baz=356							
BACT	**New Taipei Cit**	**0.82 333**		*e*P	**Pb**	**20 03 19.6**		**+0.8**
	baz=333							
WHP	**Taichung City**	**0.83 271**		P	**Pb**	**20 03 19.2**		**+0.1**
	baz=270							
WHP				S	**Sb**	**20 03 30.5**		**+0.6**
	baz=270							
NJD	**Zhudong**	**0.84 304**		*e*P	**Pg**	**20 03 17.3**		**-2.4**
	baz=303							
NJD				*e*S	**Sb**	**20 03 31.8**		**+1.7**
	baz=303							
LIOB	**Emei**	**0.85 296**		P	**Pb**	**20 03 19.4**		**-0.1**
	baz=296							
LIOB				*e*S	**Sb**	**20 03 31.6**		**+1.1**
	baz=296							
NSTT	**Nanjuang**	**0.86 295**		*i* P	**Pb**	**20 03 19.9**		**+0.3**
	baz=295							
NSTT				S	**Sb**	**20 03 32.0**		**+1.4**
	baz=295							
WPL	**Puli Township**	**0.86 253**		*e*P	**Pg**	**20 03 19.3**		**-0.8**
	baz=252							
WPL				*e*S	**Sb**	**20 03 31.5**		**+0.8**
	baz=252							
HGSD	**Ruisui**	**0.87 207**		*e*P	**Pb**	**20 03 20.2**		**+0.5**
	baz=206							
HGSD				*e*S	**Sb**	**20 03 31.8**		**+0.9**
	baz=206							
DPDB	**Guoxing**	**0.88 255**		*e*P	**Pg**	**20 03 19.5**		**-0.9**
	baz=254							
DPDB				*e*S	**Sb**	**20 03 31.8**		**+0.5**
	baz=254							
TNOU	**National Taiwa**	**0.88 355**		P	**Pg**	**20 03 17.5**		**-3.0**
	baz=355							
TNOU				S	**Sg**	**20 03 29.1**		**-3.0**
	baz=355							
WCS	**Beigang Elemen**	**0.89 257**		*e*P	**Pg**	**20 03 19.9**		**-0.7**
	baz=255							
WCS				*e*S	**Sb**	**20 03 32.0**		**+0.6**
	baz=255							
EHY	**Hungye**	**0.90 213**		*e*P	**Pg**	**20 03 19.9**		**-1.0**
	baz=211							
EHY				*e*S	**Sb**	**20 03 32.8**		**+0.9**
	baz=211							
YM01	**YM01**	**0.91 344**		P	**Pb**	**20 03 20.8**		**+0.3**
	baz=344							
YM01				*e*S	**Sb**	**20 03 33.8**		**+1.5**
	baz=344							
TWS1	**Kuangyinshan**	**0.92 334**		*e*P	**Pg**	**20 03 20.5**		**-0.7**
	baz=335							
TWS1				*e*S	**Sb**	**20 03 33.9**		**+1.5**
	baz=335							
YM08	**YM08**	**0.95 345**		*e*P	**Pb**	**20 03 21.4**		**+0.3**
	baz=345							
YM08				*e*S	**Sb**	**20 03 34.4**		**+1.1**
	baz=345							
SSLB	**Suanglung**	**0.95 240**		*e*P	**Pg**	**20 03 20.6**		**-1.2**
	baz=239							
SSLB				*e*S	**Sb**	**20 03 34.5**		**+1.1**
	baz=239							
SMLT	**Sun Moon Lake**	**0.95 247**		P	**Pg**	**20 03 20.9**		**-0.9**
	baz=245							
SMLT				*e*S	**Sn**	**20 03 36.2**		**+1.3**
	baz=245							
NTST	**Danshui**	**0.97 338**		*e*S	**Sb**	**20 03 34.6**		**+0.9**
	baz=338							
TYC	**Yuchr**	**0.98 249**		*e*P	**Pg**	**20 03 21.5**		**-0.8**
	baz=247							
TYC				*e*S	**Sb**	**20 03 35.0**		**+0.8**
	baz=247							
TWQ1	**Liyutan**	**0.99 275**		P	**Pb**	**20 03 22.5**		**+0.7**
	baz=274							
TWQ1				*e*S	**Sb**	**20 03 35.5**		**+1.0**
	baz=274							
NMLH	**Miaoli**	**1.01 286**		*e*P	**Pn**	**20 03 23.3**		**+0.9**
	baz=285							
YULB	**Yu-li**	**1.01 210**		*e*P	**Pg**	**20 03 20.6**		**-2.3**
	baz=209							
YULB				*e*S	**Sg**	**20 03 35.4**		**-0.8**
	baz=209							
JYNG	**Yonagunijimaku**	**1.01 79**		P	**Pg**	**20 03 22.1**		**-0.8**
ECBN	**Changbin**	**1.02 201**		*e*S	**Sb**	**20 03 35.8**		**+0.6**
	baz=200							
TWY	**Chenhua**	**1.03 347**		*e*P	**Pn**	**20 03 23.6**		**+1.0**
	baz=348							
TWY				*e*S	**Sn**	**20 03 38.9**		**+2.3**
	baz=348							
EYUL	**Yuli**	**1.04 208**		*e*P	**Pg**	**20 03 22.6**		**-0.9**
	baz=207							
NHW	**Xinwu Township**	**1.04 315**		*e*P	**Pg**	**20 03 22.2**		**-1.2**
	baz=315							
NHW				*e*S	**Sn**	**20 03 38.1**		**+1.2**
	baz=315							
TWF1	**Yuli**	**1.04 209**		*e*P	**Pg**	**20 03 21.3**		**-2.3**
	baz=208							
TWF1				*e*S	**Sn**	**20 03 39.0**		**+2.1**
	baz=208							
YOJ	**Yonaguni jima**	**1.07 79**		P	**Pg**	**20 03 23.1**		**-0.9**
YOJ				*e*S	**Sg**	**20 03 37.2**		**-1.0**
YOJ	**Yonaguni jima**	**1.07 79**		*e*P	**Pg**	**20 03 23.2**		**-0.9**
	baz=79							
YOJ				*e*S	**Sn**	**20 03 38.5**		**+0.9**
	baz=79							
WHYT	**Xinyi Township**	**1.08 238**		*e*P	**Pg**	**20 03 22.8**		**-1.4**
	baz=237							
WHYT				*e*S	**Sb**	**20 03 38.2**		**+1.2**
	baz=237							
WDJ	**Dajia District**	**1.11 274**		*e*P	**Pg**	**20 03 23.6**		**-1.2**
	baz=273							
WDJ				*e*S	**Sn**	**20 03 41.0**		**+2.5**
	baz=273							
WJS	**Zhushan**	**1.12 247**		*e*P	**Pb**	**20 03 24.2**		**+0.2**
	baz=246							
YUS	**Yu-Shan**	**1.13 227**		*e*P	**Pg**	**20 03 24.0**		**-1.3**
	baz=226							
YUS				*e*S	**Sb**	**20 03 40.0**		**+0.9**
	baz=226							
WNT	**Mingjian**	**1.14 250**		*e*P	**Pg**	**20 03 24.1**		**-1.2**
	baz=249							
WNT				*e*S	**Sb**	**20 03 40.1**		**+1.4**
	baz=249							
FULB	**Fuli**	**1.18 206**		*e*P	**Pg**	**20 03 25.3**		**-0.9**
	baz=205							
FULB				*e*S	**Sn**	**20 03 41.6**		**+1.3**
	baz=205							
WYL	**Yuanlin Townsh**	**1.20 256**		*e*S	**Sg**	**20 03 40.7**		**-1.7**
	baz=255							
ALS	**Alishan**	**1.22 232**		*e*P	**Pg**	**20 03 25.8**		**-1.2**
	baz=231							
ALS				*e*S	**Sg**	**20 03 41.8**		**-1.3**
	baz=231							
CHN5	**Tsauling**	**1.27 238**		*e*P	**Pn**	**20 03 25.7**		**-0.4**
	baz=237							
CHN5				*e*S	**Sn**	**20 03 44.5**		**+1.9**
	baz=237							
ELDTW	**Lidau**	**1.32 216**		*e*P	**Pn**	**20 03 26.5**		**-0.3**
	baz=214							
WDLH	**Douliu**	**1.33 245**		*e*P	**Pn**	**20 03 26.7**		**-0.1**
	baz=244							
WDLH				*e*S	**Sn**	**20 03 46.8**		**+2.7**
	baz=244							
EDH	**Donghe**	**1.39 202**		*e*P	**Pn**	**20 03 27.6**		**0.0**
	baz=200							
EDH				*e*S	**Sb**	**20 03 44.6**		**-1.2**
	baz=200							
WTK	**Tuku**	**1.46 247**		*e*P	**Pn**	**20 03 28.3**		**-0.3**
	baz=246							
WTK				*e*S	**Sg**	**20 03 49.4**		**-1.1**
	baz=246							
CHN4	**Tsaushan**	**1.47 232**		*e*P	**Pn**	**20 03 29.7**		**+0.9**
	baz=231							
CHN4				*e*S	**Sg**	**20 03 51.5**		**+0.6**
	baz=231							
STYH	**Taoyuan**	**1.47 222**		*e*P	**Pn**	**20 03 28.3**		**-0.5**
	baz=221							
STYH				*e*S	**Sn**	**20 03 47.8**		**+0.3**
	baz=221							
TPUB	**Ta-pu**	**1.48 230**		*e*P	**Pn**	**20 03 29.0**		**+0.1**
	baz=228							
TPUB				*e*S	**Sn**	**20 03 48.0**		**+0.3**
	baz=228							
STYT	**Tauyuan**	**1.49 223**		*e*P	**Pn**	**20 03 29.0**		**-0.1**
	baz=221							
STYT				*e*S	**Sg**	**20 03 51.3**		**-0.2**
	baz=221							
WTP	**Ta-pu**	**1.52 228**		*e*P	**Pn**	**20 03 29.6**		**0.0**
	baz=227							
WTP				*e*S	**Sg**	**20 03 51.8**		**-0.8**
	baz=227							
TWK	**Hsinying**	**1.60 232**		*e*P	**Pn**	**20 03 31.3**		**+0.8**
	baz=230							
TWK				*e*S	**Sg**	**20 03 53.7**		**-1.3**
	baz=230							
CHN1	**Nanshi**	**1.62 229**		*e*P	**Pb**	**20 03 32.6**		**0.0**
	baz=228							
CHN1				*e*S	**Sg**	**20 03 55.1**		**-0.6**
	baz=228							
LDUT	**Ludao**	**1.63 193**		*e*S	**Sn**	**20 03 49.1**		**-2.2**
	baz=192							

SLGT	**Liugui**	**1.68**	**221**	*eP*		**Pn**	**20 03 32.0**	**+0.4**
	baz=220							
SLGT				*eS*		**Sb**	**20 03 55.4**	**+0.9**
	baz=220							
IRIF	**Iriomote-Funau**	**1.71**	**87**	P		**Pn**	**20 03 33.0**	**+0.9**
IRIF				*eS*		**Sn**	**20 03 55.4**	**+2.0**
ECL	**Taimali**	**1.86**	**207**	*eP*		**Pb**	**20 03 36.0**	**-0.6**
	baz=205							
SCST	**Cishan**	**1.86**	**222**	*eP*		**Pn**	**20 03 34.4**	**+0.3**
	baz=221							
SSD	**Sandimen**	**1.89**	**217**	*eP*		**Pn**	**20 03 34.9**	**+0.4**
	baz=215							
SSD				*eS*		**Sn**	**20 03 59.0**	**+1.3**
	baz=215							
JKRS	**Kuro-shima**	**1.97**	**90**	*eS*		**Sb**	**20 04 02.7**	**+0.1**
MASBT	**Mashibuluo**	**1.99**	**214**	*eP*		**Pn**	**20 03 37.4**	**+1.4**
	baz=213							
MASBT				*eS*		**Sb**	**20 04 03.9**	**+0.5**
	baz=213							
PNG	**Penghu**	**2.22**	**252**	*eP*		**Pn**	**20 03 39.4**	**+0.4**
	baz=251							
PNG				*eS*		**Sn**	**20 04 06.7**	**+0.8**
	baz=251							
PHUB	**P'eng-hu**	**2.22**	**251**	*eP*		**Pn**	**20 03 38.7**	**-0.4**
	baz=249							
PHUB				*eS*		**Sn**	**20 04 06.0**	**0.0**
	baz=249							
WDGT	**Dungji**	**2.25**	**244**	*eP*		**Pn**	**20 03 39.0**	**-0.4**
	baz=243							
PTMZ	**Houxiangcun**	**2.60**	**288**	*eP*		**Pn**	**20 03 43.3**	**-1.0**
	baz=287							
PTMZ				*eS*		**Sn**	**20 04 14.8**	**-0.7**
	baz=287							

NEIC ***21*** *20:05:38.4±2.2,32.°17S±0.°04×72.°31W±0.°09,h10km±2km, mb4.2/2,ML4.0(GUC),Error ellipse: s-maj=12.7km s-min=6.0km az=254.0*
IDC ***21*** *20:05:39.5±1.7,32.°14S×71.°59W,h0km,mb4.1/2, mb1 4.3/3,mb1mx3.8/28,mbtmp4.2/3,ML3.9/1,Error ellipse: s-maj=72.5km s-min=17.7km az=98.0*
SJA ***21*** *20:05:40.0,32.°20S×72.°26W,h10km,ML4.6*
GUC ***21*** *20:05:41.6±0.6,32.°19S×71.°88W,h8km±3km,ML4.1*

ISC 21 20:05:39.7±1.6,32.°18S±0.°03×71.°99W±0.°06,h8km±10km, n62,σ1§35/70,3C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
VA06	**Catapilco**	**0.70**	**123**	*eP*		**Pb**	**Pb**	**20 05 54.2**	**0.0**
VA06				*i* S		**Sb**	**Sb**	**20 06 03.2**	**-0.8**
VA06				IAML				20 06 05.5	
	comp=N,13μm,0.5s								
VA01	**Torpederas**	**0.89**	**161**	*eP*		**Pg**	**Pg**	**20 05 57.9**	**+1.0**
VA01				*i* S		**Sb**	**Sb**	**20 06 10.8**	**+1.3**
VA01	**Torpederas**	**0.89**	**161**			**Pg**	**Pg**	**20 05 57.9**	**+1.0**
VA01				Sg		**Sb**	**Sb**	**20 06 10.0**	**+0.5**
VA01	**Torpederas**	**0.89**	**161**	*i* P		**Pg**	**Pg**	**20 05 58.0**	**+1.0**
ROCH	**El Roble**	**1.15**	**134**	*eP*		**Pg**	**Pg**	**20 06 01.7**	**-0.1**
ROCH				*i* S		**Sn**	**Sn**	**20 06 17.6**	**-0.7**
ROCH				IAML				20 06 19.9	
	comp=N,7μm,0.4s								
VA03	**San Esteban**	**1.35**	**116**	*eP*		**Pn**	**Pn**	**20 06 04.7**	**-0.3**
VA03				*i* S		**Sg**	**Sg**	**20 06 22.1**	**-1.2**
VA03				IAML				20 06 26.5	
	comp=N,10μm,0.4s								
VA03	**San Esteban**	**1.35**	**116**			**Pn**	**Pn**	**20 06 04.8**	**-0.1**
VA03	**San Esteban**	**1.35**	**116**	*i* P		**Pn**	**Pn**	**20 06 04.0**	**-0.9**
VA05	**Santo Domingo**	**1.51**	**168**	*eP*		**Pn**	**Pn**	**20 06 07.2**	**+0.2**
VA05				*i* S		**Sb**	**Sb**	**20 06 28.5**	**+1.2**
VA05	**Santo Domingo**	**1.51**	**168**	Pn		**Pn**	**Pn**	**20 06 07.2**	**+0.2**
CO06	**Fray Jorge**	**1.53**	**12**			**Pn**	**Pn**	**20 06 06.6**	**-0.6**
MT05	**Renca**	**1.61**	**139‖**	*eP*		**Pn**	**Pn**	**20 06 09.3**	**+0.9**
MT05				*eS*		**Sg**	**Sg**	**20 06 30.4**	**-1.1**
MT05				IAML				20 06 35.6	
	comp=E,6μm,0.4s								
MT05	**Renca**	**1.61**	**139**	Pn		**Pn**	**Pn**	**20 06 09.2**	**+0.7**
MT05	**Renca**	**1.61**	**139**	*i* P		**Pn**	**Pn**	**20 06 09.0**	**+0.6**
CO03	**El Pedregal**	**1.74**	**40**	*eP*		**Pn**	**Pn**	**20 06 11.1**	**+0.8**
CO03				*i* S		**Sn**	**Sn**	**20 06 32.9**	**+0.3**
CO03				IAML				20 06 37.7	
	comp=E,4μm,0.2s								
CO03	**El Pedregal**	**1.74**	**40**	Pn		**Pn**	**Pn**	**20 06 10.8**	**+0.5**
CO03	**El Pedregal**	**1.74**	**40**	*i* P		**Pn**	**Pn**	**20 06 11.0**	**+0.8**
MT01	**Popeta**	**1.79**	**160**	*eP*		**Pn**	**Pn**	**20 06 11.2**	**+0.3**
MT01				*i* S		**Sb**	**Sb**	**20 06 36.0**	**+0.5**
MT01	**Popeta**	**1.79**	**160**			**Pn**	**Pn**	**20 06 11.3**	**+0.3**
MT01	**Popeta**	**1.79**	**160**	*i* P		**Pn**	**Pn**	**20 06 11.0**	**0.0**
MT09	**Talagante**	**1.81**	**152‖**	*eP*		**Pn**	**Pn**	**20 06 12.1**	**+0.9**
MT09				*eS*		**Sn**	**Sn**	**20 06 34.6**	**+0.2**
MT09				IAML				20 06 43.1	
	comp=N,2μm,0.4s								
MT09	**Talagante**	**1.81**	**152**			**Pn**	**Pn**	**20 06 12.3**	**+1.1**
AUSP	**Uspallata**	**2.21**	**92**	*i* P		**Pb**	**Pb**	**20 06 20.0**	**0.0**
GO04	**Tololo Observa**	**2.24**	**27**	*eP*		**Pn**	**Pn**	**20 06 17.1**	**-0.2**
GO04				*i* S		**Sb**	**Sb**	**20 06 50.1**	**+1.5**
GO04	**Tololo Observa**	**2.24**	**27**	Pn		**Pn**	**Pn**	**20 06 17.1**	**-0.2**
LMEL	**Las Melosas**	**2.25**	**138‖**	*eP*		**Pn**	**Pn**	**20 06 18.4**	**+1.1**
LMEL				*eS*		**Sb**	**Sb**	**20 06 46.9**	**-1.7**
LMEL				IAML				20 06 54.1	
	comp=N,1μm,0.2s								
BO03	**Pichilemu**	**2.31**	**179**	*eP*		**Pn**	**Pn**	**20 06 18.0**	**-0.1**
BO03				*i* S		**Sn**	**Sn**	**20 06 44.6**	**-2.1**
RTLS	**Leoncito**	**2.32**	**81**	*i* P		**Pb**	**Pb**	**20 06 21.0**	**-1.0**
BO01	**Tunca**	**2.34**	**161**	Pn		**Pn**	**Pn**	**20 06 19.1**	**+0.6**
BO01	**Tunca**	**2.34**	**161**	*i* P		**Pn**	**Pn**	**20 06 19.0**	**+0.6**
CO05	**La Serena**	**2.34**	**16**	*eP*		**Pn**	**Pn**	**20 06 21.9**	**+3.5**
CO05				*i* S		**Sb**	**Sb**	**20 06 52.4**	**+1.2**
CO05				IAML				20 06 59.7	
	comp=E,2μm,0.3s								
CO05	**La Serena**	**2.34**	**16**	Pn		**Pn**	Pn	20 06 15.2	-3.2
ARCO	**CERRO ARCO**	**2.67**	**105**	*i* P		**Pb**	**Pb**	**20 06 27.0**	**-0.8**
ASAL	**Salagasta**	**2.70**	**100**	*i* P		**Pb**	**Pb**	**20 06 28.0**	**-0.4**
BO02	**Sierra Bellavi**	**2.80**	**159**			**Pn**	**Pn**	**20 06 25.5**	**+0.7**
BO02	**Sierra Bellavi**	**2.80**	**159**	*i* P		**Pn**	**Pn**	**20 06 26.0**	**+1.2**
AAGR	**Agrelo**	**2.82**	**110**	*i* P		**Pb**	**Pb**	**20 06 29.0**	**-1.3**
GO05	**Huala**	**2.83**	**179**	Pn		**Pn**	**Pn**	**20 06 23.8**	**-1.3**
GO05	**Huala**	**2.83**	**179**	*i* P		**Pn**	**Pn**	**20 06 25.0**	**-0.2**
ZON	**Zonda**	**2.89**	**78**	Pn		**Pb**	**Pb**	**20 06 29.4**	**-2.1**
ZON	**Zonda**	**2.89**	**78**	*i* P		**Pb**	**Pb**	**20 06 30.0**	**-1.5**
RTCV	**Cerro Valdivia**	**2.95**	**85**	*i* P		**Pn**	**Pn**	**20 06 30.0**	**+3.1**
ACCO	**Cerro Coronel**	**2.96**	**58**	*i* P		**Pb**	**Pb**	**20 06 31.0**	**-1.9**
ML02	**Panimavida**	**3.61**	**173**	Pn		**Pn**	**Pn**	**20 06 35.2**	**-0.7**
RFA	**San Rafael**	**3.92**	**132**	*i* P		**Pn**	**Pn**	**20 06 44.0**	**+3.7**
AC04	**Llanos de Chal**	**4.04**	**12**			Pn	Pn	20 06 35.8	-6.0
GO03	**Copiap**	**4.81**	**19**			Pn	Pn	20 06 49.3	-3.2
GO03	**Copiap**	**4.81**	**19**	*i* P		**Pn**	**Pn**	**20 06 55.0**	**+2.5**
AC06	**Mina Casimiro**	**5.01**	**17**			Pn	Pn	20 06 51.6	-3.5
AC02	**Maricunga**	**5.88**	**26**			**Pn**	**Pn**	**20 07 04.6**	**-3.0**
AC02	**Maricunga**	**5.88**	**26**	*i* P		**Pn**	**Pn**	**20 07 07.0**	**-0.5**
CYA	**Choya**	**6.52**	**57**	*i* P		**Pn**	**Pn**	**20 07 18.0**	**+2.1**
LC01	**Cunco**	**6.71**	**179**			**Pn**	**Pn**	**20 07 17.2**	**-1.3**
AHML	**Horco Molle**	**7.91**	**49**	*i* P		**Pn**	**Pn**	**20 07 38.0**	**+3.0**
PLCA	**Paso Flores**	**8.62**	**173**	Pn		**Pn**	**Pn**	**20 07 45.5**	**+0.8**
	comp=E,0.3nm,0.3s,baz=345,slow=15,SNR=1.3								
PLCA	**Paso Flores**	**8.62**	**173**	*i* P		**Pn**		**20 07 46.0**	**+1.3**
KOWA	**Kowa**	**79.85**	**66**	P		**P**		**20 17 48.8**	**-0.3**
	comp=E,1.1nm,0.5s,baz=214,slow=3.7,SNR=1.9								
KOWA	**Kowa**	**79.85**	**66**	IAmb		IAmb		20 18 05.0	
	comp=Z,4.7nm,1.2s								
TORD	**Torodi Ar. Bea**	**83.56**	**70**	P		**P**		**20 18 07.7**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=235,slow=5.1,SNR=3.8								
TORD	**Torodi Ar. Bea**	**83.56**	**70**	IAmb		IAmb		20 18 08.7	
	comp=Z,1.0nm,0.8s								
BVAR	**Borovoye Array**	**145.90**	**41**	PKPbc		**PKPdf**		**20 25 19.7**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=251,slow=4.4,SNR=4.1								
ZALV	**Zalesovo Beam**	**152.65**	**30**	PKPbc		**PKPbc**		**20 25 36.0**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=326,slow=3.0,SNR=2.9								

ATH 21 20:12:34.9,38.°31N×22.°11E,h6km±3km,ML1.7/2,Error ellipse: s-maj=3.5km s-min=1.0km az=296.0,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
TRIZ	**Trizonia**	**0.06**	**334**	P		Pg		20 12 36.5	0.0
TRIZ				S		Sg		20 12 37.7	0.0
SERG	**Sergoula**	**0.11**	**339**	P		Pg		20 12 37.3	-0.1
SERG				S		Sg		20 12 39.1	+0.1
SERG				AML		AML		20 12 39.3	
	comp=N,2051μm,0.3s								
SERG				AML		AML		20 12 39.4	
	comp=E,1379μm,0.3s								
LAKA	**Lakka**	**0.12**	**236**	P		Pg		20 12 37.5	0.0
LAKA				S		Sg		20 12 39.5	+0.1
LAKA				AML		AML		20 12 39.8	
	comp=E,1034μm,0.1s								
LAKA				AML		AML		20 12 39.9	
	comp=N,951μm,0.1s								
EFP	**Efpalio**	**0.20**	**307**	P		Pg		20 12 38.0	-0.8
EFP				S		Sg		20 12 41.7	+0.2
KLV	**Kalavryta, Ach**	**0.27**	**173**	P		Pg		20 12 40.2	0.0
KLV				S		Sg		20 12 43.9	+0.2
ANX	**Ano Chora**	**0.32**	**333**	P		Pg		20 12 41.0	-0.2
ANX				S		Sg		20 12 45.8	+0.3

TAP ***21*** *20:14:23.5,24.°89N×122.°43E,h8km±1km,ML3.2,C*
JMA ***21*** *20:14:23.6±0.2,24.°85N×122.°43E,h1km±2km,M2.9*

ISC 21 20:14:23.7±1.1,24.°87N±0.°03×122.°42E±0.°02,h6km±10km, n80,σ0§58/134,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
TWB1	**Santiao Chiao**	**0.42**	**289**	P		**Pb**	**Pb**	**20 14 32.7**	**-0.8**
	baz=286								
TWB1				S		**Sb**	**Sb**	**20 14 39.0**	**-1.2**
	baz=286								
NTC	**Toucheng**	**0.54**	**268**	*eP*		**Pb**	**Pb**	**20 14 35.1**	**-0.5**
	baz=266								
NTC				*eS*		**Sb**	**Sb**	**20 14 44.2**	**+0.5**
	baz=266								
TIPB	**Shuangxi**	**0.55**	**280**	*i* P		**Pb**	**Pb**	**20 14 35.4**	**-0.4**
	baz=278								
TIPB				*i* S		**Sb**	**Sb**	**20 14 43.7**	**-0.3**
	baz=278								
TWC	**Suao**	**0.58**	**243**	*i* P		**Pb**	**Pb**	**20 14 36.0**	**-0.4**
	baz=241								
TWC				S		**Sb**	**Sb**	**20 14 44.4**	**-0.6**
	baz=241								
NWF	**Wu-fen Shan**	**0.62**	**289**	*i* P		**Pb**	**Pb**	**20 14 36.5**	**-0.5**
	baz=286								
NWF				*eS*		**Sb**	**Sb**	**20 14 46.1**	**+0.1**
	baz=286								
WFSB	**Wu-fen Shan**	**0.62**	**289**	*eP*		**Pg**	**Pg**	**20 14 36.1**	**+0.6**
	baz=286								
WFSB				*eS*		**Sb**	**Sb**	**20 14 46.0**	**+0.2**
	baz=286								
JYNG	**Yonagunijimaku**	**0.63**	**131**	P		**Pg**	**Pg**	**20 14 35.8**	**-0.1**
YOJ	**Yonaguni jima**	**0.67**	**127**	P		**Pg**	**Pg**	**20 14 36.7**	**0.0**
YOJ				S		**Sg**	**Sg**	**20 14 45.4**	**0.0**
YOJ	**Yonaguni jima**	**0.67**	**127**	*eP*		**Pg**	**Pg**	**20 14 37.0**	**+0.3**
	baz=129								
YOJ				*eS*		**Sg**	**Sg**	**20 14 45.8**	**+0.4**
	baz=129								
NDS	**Dongshan**	**0.69**	**250**	*eP*		**Pb**	**Pb**	**20 14 37.9**	**-0.2**
	baz=248								
NDS				*eS*		**Sb**	**Sb**	**20 14 48.4**	**+0.5**
	baz=248								
TWE	**Neicheng**	**0.70**	**258**	P		**Pb**	**Pb**	**20 14 38.5**	**+0.1**
	baz=255								
TWE				*eS*		**Sb**	**Sb**	**20 14 50.0**	**+1.6**
	baz=255								
EWUT	**Wuta**	**0.73**	**234**	P		**Pb**	**Pb**	**20 14 38.8**	**0.0**
	baz=233								
EWUT				S		**Sb**	**Sb**	**20 14 50.4**	**+1.4**
	baz=233								
ENA	**Nanau**	**0.76**	**235**	P		**Pb**	**Pb**	**20 14 39.2**	**-0.3**
	baz=233								
ENA				S		**Sb**	**Sb**	**20 14 50.2**	**+0.1**
	baz=233								
NWRT	**Kuosheng**	**0.77**	**296**	*eS*		**Sb**	**Sb**	**20 14 50.8**	**+0.6**
	baz=293								
TWA	**Mucha**	**0.77**	**278**	*i* P		**Pg**	**Pg**	**20 14 39.0**	**+0.5**
	baz=276								
TWA				*eS*		**Sb**	**Sb**	**20 14 50.2**	**-0.1**
	baz=276								
ENTT	**Nioudou**	**0.81**	**254**	P		**Pb**	**Pb**	**20 14 40.3**	**0.0**
	baz=252								
ENTT				S		**Sb**	**Sb**	**20 14 52.2**	**+0.7**
	baz=252								
PCYT	**Pengchaiyu**	**0.82**	**337**	P		**Pg**	**Pg**	**20 14 39.0**	**-0.4**
	baz=336								
YM08	**YM08**	**0.82**	**293**	*eP*		**Pg**	**Pg**	**20 14 39.8**	**+0.4**
	baz=291								
YM08				*eS*		**Sb**	**Sb**	**20 14 53.1**	**+1.4**
	baz=291								
NHDH	**Xindian Distri**	**0.82**	**276**	P		**Pb**	**Pb**	**20 14 40.5**	**0.0**
	baz=274								
NHDH				*eS*		**Sb**	**Sb**	**20 14 51.7**	**0.0**
	baz=274								
YM01	**YM01**	**0.82**	**290**	*eP*		**Pb**	**Pb**	**20 14 40.1**	**-0.4**
	baz=287								
YM01				*eS*		**Sb**	**Sb**	**20 14 52.6**	**+0.8**
	baz=287								
TAP1	**Taipei**	**0.83**	**282**	*eP*		**Pb**	**Pb**	**20 14 40.4**	**-0.3**
	baz=279								
TAP1				*eS*		**Sn**	**Sn**	**20 14 53.7**	**-0.9**
	baz=279								
NWLT	**Wulai**	**0.84**	**264**	*i* P		**Pb**	**Pb**	**20 14 40.4**	**-0.4**
	baz=262								
NWLT				*eS*		**Sb**	**Sb**	**20 14 53.1**	**+0.7**
	baz=262								
TWY	**Chenhua**	**0.85**	**298**	P		**Pg**	**Pg**	**20 14 40.2**	**+0.2**
	baz=296								
TWY				*eS*		**Sb**	**Sb**	**20 14 52.8**	**+0.2**
	baz=296								
TAP	**Taipei**	**0.85**	**281**	*eP*		**Pb**	**Pb**	**20 14 41.2**	**+0.3**
	baz=279								
TAP				*eS*		**Sb**	**Sb**	**20 14 53.4**	**+0.8**
	baz=279								
NSM	**Shimen**	**0.86**	**299**	*eS*		**Sb**	**Sb**	**20 14 54.1**	**+1.1**
	baz=297								
NDT	**Datong Townshi**	**0.87**	**252**	P		**Pb**	**Pb**	**20 14 41.0**	**-0.3**
	baz=250								
NDT				S		**Sb**	**Sb**	**20 14 53.9**	**+0.7**
	baz=250								
ANP	**Anpu**	**0.88**	**291**	*i* P		**Pg**	**Pg**	**20 14 40.6**	**0.0**
	baz=289								
ANP				S		**Sb**	**Sb**	**20 14 53.0**	**-0.5**
	baz=289								
TWS1	**Kuangyinshan**	**0.94**	**284**	*eP*		**Pb**	**Pb**	**20 14 42.1**	**-0.3**
	baz=282								
TWS1				*eS*		**Sb**	**Sb**	**20 14 55.9**	**+0.6**
	baz=282								
YHNB	**Yeheng**	**0.97**	**258**	P		**Pb**	**Pb**	**20 14 43.1**	**0.0**
	baz=257								
YHNB				S		**Sb**	**Sb**	**20 14 57.2**	**+1.0**
	baz=257								
NSK	**Sanguang**	**0.99**	**259**	P		**Pb**	**Pb**	**20 14 43.2**	**-0.2**
	baz=257								
NSK				*eS*		**Sn**	**Sn**	**20 14 57.9**	**-0.7**
	baz=257								
ETL	**Fush Village**	**1.02**	**226**	*eP*		**Pb**	**Pb**	**20 14 43.5**	**-0.3**
	baz=225								
ETL				*eS*		**Sb**	**Sb**	**20 14 58.4**	**+0.9**
	baz=225								
NACB	**Ninganchiao**	**1.03**	**227**	*eP*		**Pg**	**Pg**	**20 14 43.5**	**+0.1**
	baz=226								
NACB				*eS*		**Sb**	**Sb**	**20 14 58.2**	**+0.5**
	baz=226								
NNSB	**Datong**	**1.05**	**245**	P		**Pg**	**Pg**	**20 14 43.5**	**-0.3**
	baz=244								
NNSB				S		**Sn**	**Sn**	**20 14 59.9**	**-0.2**
	baz=244								
NNS	**Nan Shan**	**1.05**	**246**	P		**Pb**	**Pb**	**20 14 44.2**	**-0.2**
	baz=244								
NNS				S		**Sb**	**Sb**	**20 14 59.2**	**+0.7**
	baz=244								
ETLH	**Xiulin Townshi**	**1.08**	**232**	P		**Pb**	**Pb**	**20 14 45.2**	**+0.2**
	baz=231								
ETLH				S		**Sn**	**Sn**	**20 15 01.1**	**0.0**
	baz=231								
TWD	**Chiawan**	**1.09**	**224**	P		**Pg**	**Pg**	**20 14 44.1**	**-0.6**
	baz=223								
TWD				S		**Sn**	**Sn**	**20 15 00.5**	**-0.5**
	baz=223								
ETM	**Tongmen**	**1.24**	**223**	P		**Pn**	**Pn**	**20 14 47.7**	**0.0**
	baz=222								
ETM				S		**Sn**	**Sn**	**20 15 04.7**	**-0.1**
	baz=222								
FUSS	**Fushou**	**1.24**	**240**	P		**Pn**	**Pn**	**20 14 48.4**	**+0.5**
	baz=239								
FUSS				S		**Sn**	**Sn**	**20 15 05.3**	**+0.1**
	baz=239								
WHF	**Hehuan Shan**	**1.28**	**236**	P		**Pn**	**Pn**	**20 14 48.8**	**+0.2**
	baz=234								
WHF				*eS*		**Sn**	**Sn**	**20 15 06.2**	**-0.1**
	baz=234								
TWT	**Tachien**	**1.29**	**242**	*eP*		**Pg**	**Pg**	**20 14 48.4**	**-0.2**
	baz=241								
LIOB	**Emei**	**1.30**	**260**	*eP*		**Pn**	**Pn**	**20 14 48.0**	**-0.5**
	baz=259								
IRIF	**Iriomote-Funau**	**1.30**	**114**	P		**Pb**	**Pb**	**20 14 48.7**	**0.0**
IRIF				*eS*		**Sg**	**Sg**	**20 15 04.9**	**-0.8**
TDCB	**Techi**	**1.31**	**242**	*eP*		**Pg**	**Pg**	**20 14 48.3**	**-0.5**
	baz=241								
TDCB				*eS*		**Sn**	**Sn**	**20 15 06.7**	**+0.1**
	baz=241								
NSTT	**Nanjuang**	**1.32**	**260**	*eP*		**Pn**	**Pn**	**20 14 48.1**	**-0.6**
	baz=258								
NSTT				*eS*		**Sn**	**Sn**	**20 15 07.3**	**+0.7**
	baz=258								
ESL	**Shilin**	**1.39**	**221**	*eP*		**Pn**	**Pn**	**20 14 49.7**	**0.0**
	baz=220								
ESL				*eS*		**Sg**	**Sg**	**20 15 08.2**	**-0.1**
	baz=220								
CHGB	**Renai**	**1.40**	**235**	*eP*		**Pn**	**Pn**	**20 14 49.9**	**-0.2**
	baz=234								
CHGB				*eS*		**Sg**	**Sg**	**20 15 08.6**	**0.0**
	baz=234								
OWD	**Renai**	**1.46**	**231**	*eP*		**Pn**	**Pn**	**20 14 51.0**	**+0.2**
	baz=230								
OWD				*eS*		**Sg**	**Sg**	**20 15 11.0**	**+0.3**
	baz=230								
WHP	**Taichung City**	**1.47**	**247**	*eP*		**Pb**	**Pb**	**20 14 51.6**	**+0.1**
	baz=245								
WHP				*eS*		**Sb**	**Sb**	**20 15 10.0**	**-0.6**
	baz=245								
HATJ	**Hateruma jima**	**1.50**	**123**	P		**Pb**	**Pb**	**20 14 51.6**	**-0.4**
HATJ				*eS*		**Sn**	**Sn**	**20 15 10.6**	**-0.5**
EGFH	**Guangfu**	**1.50**	**217**	*eP*		**Pn**	**Pn**	**20 14 51.2**	**-0.1**
	baz=216								
EGFH				*eS*		**Sn**	**Sn**	**20 15 10.6**	**-0.7**
	baz=216								
JKRS	**Kuro-shima**	**1.58**	**113**	P		**Pb**	**Pb**	**20 14 53.0**	**-0.3**
JKRS				*eS*		**Sg**	**Sg**	**20 15 14.4**	**0.0**
WPL	**Puli Township**	**1.59**	**238**	*eP*		**Pb**	**Pb**	**20 14 53.1**	**-0.4**
	baz=237								
WPL				*eS*		**Sg**	**Sg**	**20 15 14.8**	**+0.1**
	baz=237								
TWQ1	**Liyutan**	**1.59**	**251**	*eP*		**Pg**	**Pg**	**20 14 54.1**	**-0.1**
	baz=250								
DPDB	**Guoxing**	**1.60**	**239**	*eP*		**Pb**	**Pb**	**20 14 53.5**	**-0.2**
	baz=238								
JIJ	**Ishigaki jima**	**1.65**	**108**	P		**Pn**	**Pn**	**20 14 53.2**	**0.0**
HGSD	**Ruisui**	**1.65**	**214**	*eP*		**Pn**	**Pn**	**20 14 53.4**	**+0.1**
	baz=213								
EHY	**Hungye**	**1.69**	**217**	*eP*		**Pn**	**Pn**	**20 14 54.1**	**+0.2**
	baz=216								
SMLT	**Sun Moon Lake**	**1.70**	**235**	*eP*		**Pn**	**Pn**	**20 14 53.5**	**-0.6**
	baz=234								
SMLT				*eS*		**Sb**	**Sb**	**20 15 17.2**	**-0.1**
	baz=234								
SSLB	**Suanglung**	**1.72**	**231**	*eP*		**Pb**	**Pb**	**20 14 56.1**	**+0.2**
	baz=230								
SSLB				*eS*		**Sb**	**Sb**	**20 15 17.9**	**+0.2**
	baz=230								
TYC	**Yuchr**	**1.72**	**236**	P		**Pn**	**Pn**	**20 14 54.3**	**0.0**
	baz=235								
JISG	**Ishigakijimahi**	**1.74**	**99**	P		**Pn**	**Pn**	**20 14 55.1**	**+0.6**
YULB	**Yu-li**	**1.80**	**215**	*eP*		**Pb**	**Pb**	**20 14 56.5**	**-0.7**
	baz=214								
YULB				*eS*		**Sn**	**Sn**	**20 15 17.9**	**-0.6**
	baz=214								
TWF1	**Yuli**	**1.83**	**214**	*eP*		**Pn**	**Pn**	**20 14 55.5**	**-0.3**
	baz=213								
WHYT	**Xinyi Township**	**1.85**	**231**	*eP*		**Pn**	**Pn**	**20 14 56.5**	**+0.3**
	baz=230								
WJS	**Zhushan**	**1.87**	**236**	*eP*		**Pn**	**Pn**	**20 14 55.9**	**-0.4**
	baz=235								
YUS	**Yu-Shan**	**1.93**	**225**	*eP*		**Pn**	**Pn**	**20 14 56.2**	**-1.3**
	baz=223								
FULB	**Fuli**	**1.96**	**212**	*eP*		**Pn**	**Pn**	**20 14 57.8**	**+0.2**
	baz=211								
FULB				*eS*		**Sn**	**Sn**	**20 15 22.2**	**-0.4**
	baz=211								
ALS	**Alishan**	**2.01**	**228**	*eP*		**Pb**	**Pb**	**20 15 00.1**	**-0.7**
	baz=227								
CHN5	**Tsauling**	**

VA05				*i* S		**Sb**	**20 25 27.9**	**-1.9**		
VA05				IAML			20 25 42.6			
	comp=E,5µm,0.3s									
VA05	**Santo Domingo**	**1.85**	**170**	Pn		**Pn**	**20 25 04.0**	**-0.6**		
MT05	**Renca**	**1.89**	**146**			**Pb**	**20 25 06.1**	**-1.6**		
MT05	**Renca**	**1.89**	**146**	*i* P		**Pb**	**20 25 07.0**	**-0.7**		
GO04	**Tololo Observa**	**1.95**	**32**	*e*P		**Pg**	**20 25 08.5**	**-2.6**		
GO04				*i* S		**Sg**	**20 25 35.0**	**-1.5**		
GO04	**Tololo Observa**	**1.95**	**32**	Pn		**Pn**	**20 25 05.5**	**-0.7**		
CO05	**La Serena**	**2.02**	**19**	*e*P		**Pb**	**20 25 09.1**	**-0.8**		
CO05				*i* S		**Sg**	**20 25 35.3**	**-3.3**		
CO05				IAML			20 25 45.5			
	comp=E,6µm,0.6s									
CO05	**La Serena**	**2.02**	**19**			**Pb**	**20 25 07.2**	**-2.6**		
MT09	**Talagante**	**2.12**	**156**			**Pb**	**20 25 09.4**	**-2.3**		
MT01	**Popeta**	**2.12**	**163**	*e*P		**Pb**	**20 25 09.0**	**-2.7**		
MT01				*i* S		**Sn**	**20 25 34.5**	**+0.1**		
MT01	**Popeta**	**2.12**	**163**			**Pn**	**20 25 08.6**	**+0.2**		
MT01	**Popeta**	**2.12**	**163**	*i* P		**Pb**	**20 25 09.0**	**-2.7**		
AUSP	**Uspallata**	**2.26**	**101**	*i* P		**Pg**	**20 25 14.0**	**-3.0**		
RTLS	**Leoncito**	**2.30**	**90**	*i* P		**Pg**	**20 25 15.2**	**-2.7**		
BO03	**Pichilemu**	**2.66**	**179**	*e*P		**Pn**	**20 25 15.6**	**-0.1**		
BO01	**Tunca**	**2.67**	**163**	*e*P		**Pn**	**20 25 16.4**	**+0.6**		
BO01				*i* S		**Sn**	**20 25 48.1**	**+0.4**		
BO01	**Tunca**	**2.67**	**163**	Pn		**Pn**	**20 25 16.4**	**+0.6**		
BO01	**Tunca**	**2.67**	**163**	*i* P		**Pb**	**20 25 17.0**	**-3.9**		
ARCO	**CERRO ARCO**	**2.79**	**112**	*i* P		**Pb**	**20 25 23.0**	**-0.1**		
ASAL	**Salagasta**	**2.79**	**107**	*i* P		**Pg**	**20 25 24.0**	**-3.2**		
ACCO	**Cerro Coronel**	**2.81**	**65**	*i* P		**Pg**	**20 25 24.0**	**-3.5**		
ZON	**Zonda**	**2.85**	**85**	*i* P		**Pg**	**20 25 25.0**	**-3.3**		
AAGR	**Agrelo**	**2.96**	**116**	*i* P		**Pb**	**20 25 26.0**	**0.0**		
BO02	**Sierra Bellavi**	**3.13**	**161**			**Pn**	**20 25 22.4**	**+0.2**		
BO02	**Sierra Bellavi**	**3.13**	**161**	*i* P		**Pn**	**20 25 24.0**	**+1.8**		
GO05	**Huala**	**3.17**	**179**	Pn		**Pn**	**20 25 22.0**	**-0.8**		
GO05	**Huala**	**3.17**	**179**	*i* P		**Pn**	**20 25 22.0**	**-0.8**		
AC04	**Llanos de Chal**	**3.70**	**13**	Pn		**Pn**	**20 25 29.3**	**-0.7**		
AC04	**Llanos de Chal**	**3.70**	**13**	*i* P		**Pn**	**20 25 32.0**	**+1.9**		
ML02	**Panimavida**	**3.95**	**173**	Pn		**Pn**	**20 25 33.7**	**+0.2**		
RFA	**San Rafael**	**4.17**	**136**	*i* P		Pb	20 25 41.0	-5.6		
GO03	**Copiap**	**4.49**	**20**			**Pn**	**20 25 41.3**	**+0.2**		
GO03	**Copiap**	**4.49**	**20**	*i* P		Pn	20 25 45.0	+4.0		
VCA	**Vinchina**	**4.50**	**48**	*i* P		Pb	20 25 47.0	-5.4		
AC06	**Mina Casimiro**	**4.68**	**18**			**Pn**	**20 25 43.4**	**-0.1**		
AC02	**Maricunga**	**5.57**	**27**			**Pn**	**20 25 55.9**	**-0.3**		
AC02	**Maricunga**	**5.57**	**27**	*i* P		**Pn**	**20 25 58.0**	**+1.7**		
H03N1	**Juan Fernandez**	**6.04**	**253**	T		T	20 32 54.3			
	baz=81,slow=72,SNR=75									
H03N3	**Juan Fernandez**	**6.06**	**253**	T		T	20 32 41.9			
	baz=81,slow=72,SNR=1197									
H03N2	**Juan Fernandez**	**6.06**	**253**	T		T	20 32 43.2			
	baz=81,slow=72,SNR=954									
H03S3	**Juan Fernandez**	**6.14**	**249**	T		T	20 32 52.0			
	baz=84,slow=75,SNR=9.1									
H03S1	**Juan Fernandez**	**6.15**	**249**	T		T	20 32 50.6			
	baz=84,slow=75,SNR=9.7									
H03S2	**Juan Fernandez**	**6.16**	**249**	T		T	20 32 51.8			
	baz=84,slow=75,SNR=11									
CYA	**Choya**	**6.34**	**59**	*i* P		Pn	20 26 10.0	+3.6		
LC01	**Cunco**	**7.05**	**179**	Pn		**Pn**	**20 26 15.3**	**-0.8**		
LC01	**Cunco**	**7.05**	**179**	*i* P		**Pn**	**20 26 16.0**	**-0.1**		
PLCA	**Paso Flores**	**8.96**	**173**	Pn		**Pn**	**20 26 43.0**	**+0.6**		
	comp=E,2.5nm,0.3s,baz=334,slow=12,SNR=69									
PLCA	**Paso Flores**	**8.96**	**173**	Pn		**Pn**	**20 26 42.8**	**+0.5**		
PLCA	**Paso Flores**	**8.96**	**173**	*e*P		**Pn**	**20 26 43.4**	**+1.1**		
PLCA	**Paso Flores**	**8.96**	**173**	*i* P		**Pn**	**20 26 43.0**	**+0.6**		
LL04	**Puerto Octay**	**9.07**	**182**	Pn		**Pn**	**20 26 43.0**	**-0.7**		
LVC	**Limon Verde**	**9.59**	**17**	Sn		Sn	20 28 58.4	+20		
	comp=E,0.7nm,0.3s,baz=237,slow=7.6,SNR=5.5									
TRQA	**Tornquist**	**10.30**	**130**	Pn		**Pn**	**20 27 03.9**	**+3.2**		
TRQA	**Tornquist**	**10.30**	**130**	*e*P		**Pn**	**20 27 02.1**	**+1.4**		
CPUP	**Villa Florida**	**13.95**	**71**	Pn		**Pn**	**20 27 51.6**	**+1.1**		
	comp=E,0.1nm,0.3s,baz=250,slow=16,SNR=2.9									
CPUP	**Villa Florida**	**13.95**	**71**	*e*P		**Pn**	**20 27 50.6**	**+0.1**		
PLTB	**Pedras Altas**	**15.65**	**95**	*e*P		**P**	**20 28 14.2**	**-3.3**		
LPAZ	**La Paz**	**15.87**	**14**	Pn		**P**	**20 28 18.1**	**-2.5**		
	comp=E,0.2nm,0.3s,baz=180,slow=7.3,SNR=7.6									
LPAZ	**La Paz**	**15.87**	**14**			**Pn**	**20 28 16.5**	**-0.4**		
LPAZ	**La Paz**	**15.87**	**14**	*e*P		**P**	**20 28 17.9**	**-2.7**		
CPSB	**Cacapava Do Su**	**15.96**	**90**	*e*P		**P**	**20 28 19.0**	**-1.9**		
AQDB	**Aquidauana**	**18.47**	**56**	*e*P		**Pn**	**20 28 50.6**	**+1.7**		
SIV	**San Ignacio**	**18.65**	**35**	P		**Pn**	**20 28 50.3**	**-0.8**		
	comp=E,0.3nm,0.3s,baz=233,slow=11,SNR=9.9									
PTGB	**Pitanga**	**18.92**	**73**	*e*P		**Pn**	**20 28 56.1**	**+1.7**		
TRCB	**Terra Rica**	**19.40**	**67**	*e*P		**Pn**	**20 28 58.8**	**-1.3**		
TER01	**Tubaro-SC**	**20.04**	**86**	*e*P		Pn	20 29 06.5	-1.2		
PTLB	**Pontes e Lacer**	**20.09**	**39**	*e*P		Pn	20 29 09.1	+0.8		
PP1B	**Ponte de Pedra**	**21.00**	**52**	*e*P		Pn	20 29 16.7	-2.3		
PCMB	**Pacaembu**	**21.11**	**66**	*e*P		**P**	**20 29 18.7**	**+1.2**		
VILB	**Vilhena**	**21.70**	**33**	*e*P		**P**	**20 29 25.0**	**+1.2**		
ETMB	**Extrema**	**22.55**	**15**	*e*P		**P**	**20 29 34.6**	**+1.6**		
ITRB	**Iturama**	**22.88**	**63**	*e*P		**P**	**20 29 35.9**	**-0.6**		
PET01	**Itanhaem-SP**	**23.05**	**77**	*e*P		**P**	**20 29 38.8**	**+0.6**		
SPB	**Sao Paulo**	**23.21**	**75**	P		**P**	**20 29 41.2**	**+1.4**		
SPB				IAmb		IAmb	20 29 42.2			
	comp=Z,30nm,0.8s									
SPB	**Sao Paulo**	**23.21**	**75**	*e*P		**P**	**20 29 40.9**	**+1.0**		
BB19B	**Bebedouro**	**23.55**	**69**	*e*P		**P**	**20 29 43.6**	**+0.3**		
RCLB	**Rio Claro- Sao**	**23.67**	**73**	*e*P		**P**	**20 29 44.7**	**+0.2**		
VAO	**Valinhos**	**23.86**	**75**	*e*P		**P**	**20 29 46.3**	**0.0**		
CZSB	**Cruzeiro do Su**	**23.99**	**358**	*e*P		**P**	**20 29 50.4**	**+3.0**		
SAML	**Samuel**	**24.20**	**22**	P		**P**	**20 29 49.1**	**-0.3**		
SAML	**Samuel**	**24.20**	**22**	*e*P		**P**	**20 29 50.4**	**+1.0**		
PARB	**Paraibuna**	**24.82**	**77**	*e*P		**P**	**20 29 56.3**	**+1.1**		
IPMB	**Ipameri, GO**	**25.53**	**63**	*e*P		**P**	**20 30 02.1**	**+0.5**		
CLDB	**Colider**	**25.68**	**39**	*e*P		**P**	**20 30 04.0**	**+1.1**		
ESAR	**Angra dos Reis**	**25.94**	**77**	*e*P		**P**	**20 30 05.4**	**+0.3**		
BSCB	**Bom Sucesso**	**26.60**	**73**	*e*P		**P**	**20 30 11.5**	**+0.2**		
BDFB	**Brasilia**	**27.14**	**59**	P		**P**	**20 30 16.0**	**-0.2**		
	comp=Z,20nm,0.9s,baz=239,slow=6.7,SNR=16									
BDFB	**Brasilia**	**27.14**	**59**	P		**P**	**20 30 15.8**	**-0.5**		
BDFB				IAmb		IAmb	20 30 18.2			
	comp=Z,21nm,0.9s									
SNDB	**Serra Nova Dou**	**27.47**	**49**	*e*P		**P**	**20 30 19.7**	**+0.7**		
TBTG	**Tabatinga, AM**	**27.57**	**5**	*e*P		**P**	**20 30 21.6**	**+1.8**		
CAM01	**Campos-RJ**	**28.77**	**77**	*e*P		**P**	**20 30 31.1**	**+0.5**		
DIAM	**Diamantina, MG**	**28.88**	**69**	*e*P		**P**	**20 30 32.8**	**+0.9**		
PEXB	**Peixe**	**29.35**	**53**	*e*P		**P**	**20 30 36.0**	**+0.2**		
MC01	**Montes Claros**	**29.57**	**66**	*e*P		**P**	**20 30 38.5**	**+0.7**		
JANB	**Januaria**	**30.27**	**63**	*e*P		**P**	**20 30 43.9**	**-0.1**		
MACA	**Manacapuru-AM**	**30.44**	**23**	*e*P		**P**	**20 30 46.6**	**+1.1**		
SJMB	**Sao Joao De Ma**	**30.66**	**72**	*e*P		**P**	**20 30 47.4**	**0.0**		
BSFB	**Barra de Sao F**	**30.87**	**73**	*e*P		**P**	**20 30 48.9**	**-0.3**		
RIB01	**Linhares ES**	**31.00**	**74**	*e*P		**P**	**20 30 51.2**	**+0.9**		
SDBA	**SAO DESIDERIO**	**31.53**	**58**	*e*P		**P**	**20 30 55.1**	**-0.1**		
SMTB	**Santa Maria do**	**32.19**	**50**	*e*P		**P**	**20 31 01.9**	**+1.1**		
PRPB	**Parauapebas**	**32.89**	**44**	*e*P		**P**	**20 31 07.2**	**+0.2**		
GUA01	**Guaratinga, BA**	**32.90**	**70**	*e*P		**P**	**20 31 09.3**	**+2.2**		
CMC01	**Camacan, BA**	**33.81**	**69**	*e*P		**P**	**20 31 15.1**	**0.0**		
MALB	**Monte Alegre**	**34.19**	**33**	*e*P		**P**	**20 31 20.6**	**+2.3**		
GDU01	**Guandu, BA**	**34.72**	**66**	*e*P		**P**	**20 31 24.1**	**+1.2**		
BOAV	**Boa Vista**	**35.74**	**20**	*e*P		**P**	**20 31 32.6**	**+1.0**		
MCPB	**Macapa, AP**	**36.55**	**35**	*e*P		**P**	**20 31 39.4**	**+0.8**		
RUSC	**La Rusia**	**37.53**	**358**	P		**P**	**20 31 46.2**	**-1.2**		
RUSC				IAmb		IAmb	20 32 05.8			
	comp=Z,18nm,1.1s									
ROSB	**Rosrio**	**38.94**	**48**	*e*P		**P**	**20 32 01.2**	**+2.4**		
SDV	**Santo Domingo**	**40.51**	**2**	*e*P		**P**	**20 32 14.8**	**+2.8**		
MLPR	**Magueyes Islan**	**49.74**	**6**	P		**P**	**20 33 25.2**	**+0.1**		
PDPR	**Patillas Dam,**	**49.90**	**7**	P		**P**	**20 33 25.3**	**-1.0**		
PDPR				IAmb		IAmb	20 33 27.0			
	comp=Z,12nm,0.9s									
CBYP	**Canovanas**	**50.16**	**8**	P		**P**	**20 33 27.7**	**-0.7**		
CBYP				IAmb		IAmb	20 33 29.6			
	comp=Z,20nm,1.1s									
VNA3	**Neumayer Olymp**	**51.36**	**158**	P		**P**	**20 33 39.6**	**+2.8**		
VNA2	**Neumayer--Watz**	**52.00**	**158**	P		**P**	**20 33 43.8**	**+2.2**		
	baz=284,slow=8.8									
SNAA	**Sanae**	**53.58**	**158**	P		**P**	**20 33 54.8**	**+1.5**		
SNAA	**Sanae**	**53.58**	**158**	P		**P**	**20 33 54.7**	**+1.3**		
SNAA				IAmb		IAmb	20 34 04.7			
	comp=Z,9.5nm,1.2s									
QSPA	**South Pole Qui**	**58.40**	**180**	P		**P**	**20 34 28.9**	**+0.9**		
QSPA				IAmb		IAmb	20 34 40.1			
	comp=Z,7.8nm,0.9s									
VNDA	**Vanda**	**66.23**	**191**	P		**P**	**20 35 20.3**	**+0.2**		
	comp=Z,1.2nm,1.0s,baz=291,slow=6.5,SNR=4.8									
VNDA	**Vanda**	**66.23**	**191**	P		**P**	**20 35 18.5**	**-1.6**		
BIRD	**Birdtown, Kers**	**66.60**	**352**	P		**P**	**20 35 23.3**	**+0.4**		
BIRD				IAmb		IAmb	20 35 47.0			
	comp=Z,8.6nm,1.1s									
HPIG		**66.67**	**327**	P		**P**	**20 35 22.6**	**-1.2**		
Y49A	**Blount Mountai**	**66.73**	**347**	P		**P**	**20 35 22.7**	**-1.1**		

JCT	**Junction City**	**67.35**	**334**	P		**P**	**20 35 24.2**	**-3.6**		
237A	**Washetta, Mont**	**67.36**	**338**	P		**P**	**20 35 26.6**	**-1.2**		
X48A	**Hartselle**	**67.44**	**347**	P		**P**	**20 35 25.1**	**-3.1**		
W52A	**Murphy**	**67.51**	**349**	P		**P**	**20 35 29.5**	**+0.8**		
TX31	**Lajitas Ar. Si**	**67.86**	**330**	P		P	20 35 25.4	-5.8		
TX32	**Lajitas Array**	**67.86**	**330**	P		**P**	**20 35 31.6**	**+0.4**		
TX32				IAmb		IAmb	20 35 32.9			
	comp=Z,17nm,1.5s									
TXAR	**Lajitas Array**	**67.86**	**330**	P		**P**	**20 35 33.0**	**+1.9**		
	comp=Z,1.6nm,0.6s,baz=151,slow=9.2,SNR=15									
TXAR	**Lajitas Array**	**67.86**	**330**	P		P	20 35 23.8	-7.4		
SYO	**Syowa Base**	**67.87**	**159**	*e*P		**P**	**20 35 30.6**	**0.0**		
ABTX	**Abilene, Hawle**	**69.22**	**335**	P		**P**	**20 35 39.6**	**+0.1**		
W39A	**Magazine**	**69.75**	**341**	P		**P**	**20 35 43.6**	**+1.0**		
W39A				IAmb		IAmb	20 35 46.4			
	comp=Z,11nm,1.0s									
U40A	**Yellville**	**70.59**	**342**	P		**P**	**20 35 48.4**	**+0.6**		
U40A				IAmb		IAmb	20 35 50.2			
	comp=Z,12nm,1.1s									
MSTX	**Muleshoe**	**71.58**	**333**	P		**P**	**20 35 54.8**	**+0.8**		
MSTX				IAmb		IAmb	20 35 56.5			
	comp=Z,8.1nm,0.8s									
CCM	**Cathedral Cave**	**71.81**	**344**	P		**P**	**20 35 55.9**	**+0.8**		
S39A	**Bolivar**	**71.97**	**342**	P		**P**	**20 35 53.9**	**-2.2**		
S39A				IAmb		IAmb	20 35 58.6			
	comp=Z,13nm,1.2s									
AMTX	**Amarillo**	**71.99**	**335**	P		**P**	**20 35 56.7**	**+0.3**		
AMTX				IAmb		IAmb	20 35 58.7			
	comp=Z,20nm,1.5s									
R40A	**Maddies Statio**	**72.28**	**343**	P		**P**	**20 35 58.0**	**+0.2**		
R40A				IAmb		IAmb	20 36 00.3			
	comp=Z,17nm,1.2s									
LIC	**Lamto**	**74.07**	**72**	*e*P		**P**	**20 36 09.2**	**+0.1**		
	comp=Z,42nm,1.7s									
TIC	**Toumodi**	**74.32**	**72**	*e*P		**P**	**20 36 11.3**	**+0.7**		
KIC	**Kosan Boka**	**74.38**	**72**	*e*P		**P**	**20 36 11.5**	**+0.6**		
	comp=Z,15nm,0.8s									
DBIC	**Dimbokro**	**74.47**	**72**	P		**P**	**20 36 12.3**	**+0.9**		
	comp=Z,7.6nm,0.7s,baz=233,slow=5.3,SNR=11									
DBIC	**Dimbokro**	**74.47**	**72**	IAmb		IAmb	20 36 13.3			
	comp=Z,8.2nm,0.8s									
T25A	**Trinidad**	**75.00**	**334**	P		**P**	**20 36 14.1**	**-0.1**		
T25A				IAmb		IAmb	20 36 24.8			
	comp=Z,8.5nm,1.1s									
MAW	**Mawson**	**75.25**	**164**	P		**P**	**20 36 15.4**	**+0.3**		
	comp=Z,1.9nm,0.8s,baz=222,slow=8.7,SNR=2.6									
X16A	**Lo Mia Camp, P**	**75.63**	**327**	P		**P**	**20 36 18.3**	**+0.4**		
SDCO	**Great Sand Dun**	**75.95**	**333**	P		**P**	**20 36 20.7**	**+0.9**		
KNB	**Kanab**	**78.41**	**328**	P		**P**	**20 36 34.6**	**+1.1**		
KNB				IAmb		IAmb	20 36 37.7			
	comp=Z,11nm,1.4s									
ECSD	**EROS Data Cent**	**78.50**	**342**	P		**P**	**20 36 33.4**	**-0.2**		
ECSD				IAmb		IAmb	20 36 36.6			
	comp=Z,5.5nm,0.8s									
CCUT	**Cedar City**	**79.09**	**328**	P		**P**	**20 36 38.5**	**+1.2**		
CCUT				IAmb		IAmb	20 36 41.7			
	comp=Z,6.2nm,1.2s									
KOWA	**Kowa**	**79.72**	**66**			**P**	**20 36 42.2**	**+1.3**		
KOWA				IAmb		IAmb	20 36 42.9			
	comp=Z,4.4nm,0.7s									
PRN	**Pahroc Range**	**79.75**	**326**	P		**P**	**20 36 41.4**	**+0.7**		
SPR3	**Spring Creek 3**	**80.71**	**328**	P		**P**	**20 36 47.8**	**+1.7**		
R11A	**Troy Canyon, C**	**80.76**	**327**	P		**P**	**20 36 45.2**	**-1.1**		
HWUT	**Hardware Ranch**	**81.67**	**331**	P		**P**	**20 36 52.3**	**+1.4**		
HWUT				IAmb		IAmb	20 37 00.6			
	comp=Z,4.1nm,0.8s									
PDAR	**Pinedale Array**	**81.85**	**333**	P		**P**	**20 36 53.3**	**+1.4**		
	comp=Z,0.4nm,0.5s,baz=138,slow=8.4,SNR=3.9									
NVAR	**Mina Array Bea**	**82.13**	**325**	P		**P**	**20 36 55.8**	**+2.2**		
	comp=Z,1.4nm,0.8s,baz=138,slow=5.3,SNR=7.4									
HVU	**Hansel Valley**	**82.31**	**330**	P		**P**	**20 36 55.7**	**+1.4**		
KVN	**Kaiserville**	**82.51**	**326**	P		**P**	**20 36 55.2**	**-0.2**		
ELK	**Elko**	**82.53**	**328**	P		**P**	**20 36 56.8**	**+1.2**		
TORD	**Torodi Ar. Bea**	**83.45**	**70**	P		**P**	**20 37 01.6**	**+1.0**		
	comp=Z,5.8nm,0.7s,baz=269,slow=4.3,SNR=34									
TORD	**Torodi Ar. Bea**	**83.45**	**70**	P		**P**	**20 37 01.2**	**+0.6**		
TORD				IAmb		IAmb	20 37 02.5			
	comp=Z,7.1nm,0.8s									
YHH	**Holmes Hill**	**84.06**	**333**	P		**P**	**20 37 05.3**	**+1.8**		
YHH				IAmb		IAmb	20 37 06.8			
	comp=Z,3.1nm,0.9s									
J08A	**Circle Bar Ran**	**86.07**	**328**	P		**P**	**20 37 14.4**	**+1.1**		
J08A				IAmb		IAmb	20 37 16.9			
	comp=Z,12nm,1.3s									
PLID	**Pearl Lake**	**86.37**	**330**	P		**P**	**20 37 16.6**	**+1.7**		
PLID				IAmb		IAmb	20 37 18.4			
	comp=Z,6.6nm,1.1s									
ASAR	**Alice Springs**	**119.51**	**207**	PKKPbc		PKKPbc	20 53 35.7	+1.9		
	comp=Z,4nm,1.0s,baz=333,slow=2.9,SNR=4.2									
WRA	**Warramunga Arr**	**122.66**	**210**	PKP		**PKiKP**	**20 43 28.7**	**-0.5**		
	comp=Z,0.8nm,0.7s,baz=169,slow=1.9,SNR=7.1									
H11S2	**WAKE ISLAND Hyd**	**25.80**	**271**	T		T	23 02 42.8			
	baz=117,slow=74,SNR=82									
H11S1	**WAKE ISLAND Hyd**	**25.82**	**271**	T		T	23 02 30.9			
	baz=117,slow=74,SNR=49									
H11S3	**WAKE ISLAND Hyd**	**25.82**	**271**	T		T	23 02 27.1			
	baz=117,slow=74,SNR=63									
H11N3	**WAKE ISLAND Hyd**	**26.16**	**272**	T		T	23 02 46.9			
	baz=117,slow=75,SNR=26									
H11N1	**WAKE ISLAND Hyd**	**26.18**	**272**	T		T	23 02 51.9			
	baz=117,slow=75,SNR=8.9									
H11N2	**WAKE ISLAND Hyd**	**26.18**	**272**	T		T	23 02 50.9			
	baz=117,slow=75,SNR=65									
HYB	**Hyderabad**	**149.75**	**111**	*i* PKP		**PKiKP**	**20 44 24.0**	**-0.2**		
ZALV	**Zalesovo Beam**	**152.36**	**30**	PKPbc		**PKiKP**	**20 44 29.6**	**+1.2**		
	comp=Z,9.2nm,0.5s,baz=304,slow=3.4,SNR=35									
ZALV	**Zalesovo Beam**	**152.36**	**30**			**PKiKP**	**20 44 29.1**	**+0.7**		
MKAR	**Makanchi Array**	**155.27**	**45**	PKPbc		PKPdf	20 44 35.8	+10		
	comp=Z,0.5nm,0.7s,baz=328,slow=4.3,SNR=4.0									
MKAR				PKPab		pPKPab	20 44 52.4	-3.3		
	comp=Z,2.3nm,1.0s,baz=305,slow=4.3,SNR=6.6									
SONM	**Songino Array**	**163.97**	**4**	PKPab		**PKPab**	**20 45 30.4**	**+1.8**		
	comp=Z,1.2nm,0.9s,baz=352,slow=9.4,SNR=5.3									

IDC ***21*** *20:26:22.4±0.8, 19°.52S×173°.87W, h0km, mb4.6/13, mb1 4.8/14, mb1mx4.6/31, mbtmp4.6/14, ML4.6/1, MS4.6/12, Ms1 4.6/12, ms1mx4.2/59, Error ellipse: s-maj=31.3km s-min=17.3km az=148.0*

NEIC ***21*** *20:26:22.5±2.6, 19°.49S±0°.08×173°.32W±0°.10, h10km±1km, mb5.1/90, Error ellipse: s-maj=16.0km s-min=13.4km az=66.0*

BJI ***21*** *20:26:22.1±0.0, 19°.42S×173°.36W, h13km, mB5.6/12, mb5.0/26, Ms5.1/8, Ms7 4.9/8*

BGR ***21*** *20:26:25.0±0.0, 19°.93S×172°.54W, h19km±1km*

MOS ***21*** *20:26:27.3±2.8, 18°.64S×174°.47W, h10km, mb5.0/13, MS5.0/5, Error ellipse: s-maj=13.1km s-min=10.9km az=66.5*

NOU ***21*** *20:26:28.6, 19°.26S×173°.12W, h103km, MLv5.1/26, Tonga Islands*

ISC 21 20:26:22.5±0.7, 19°.55S±0°.06×173°.47W±0°.05, h10km±3km, h10km:pP-P, n459, σ1°.78/438, mb5.1/92, MS4.9/22, 40C-35D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.38**	**83**	P		**Pn**	**20 27 12.5**	**-2.8**
	baz=3.3,SNR=44							
NIUE	**Niue**	**3.38**	**83**	Pn		**Pn**	**20 27 12.2**	**-3.1**
NIUE	**Niue**	**3.38**	**83**	P		**Pn**	**20 27 13.0**	**-2.3**
AFI	**Afiamalu**	**5.84**	**16**	Pn		**Pn**	**20 27 45.9**	**-3.3**
	19nm,0.3s,baz=61,slow=0.7,SNR=20							
AFI				Sn		Sn	20 28 43.2	-13
	14nm,0.3s,baz=35,slow=23,SNR=7.2							
AFI	**Afiamalu**	**5.84**	**16**	P		**Pn**	**20 27 46.7**	**-2.6**
AFI	**Afiamalu**	**5.84**	**16**			**Pn**	**20 27 46.7**	**-2.6**
AFI	**Afiamalu**	**5.84**	**16**	P		**Pn**	**20 27 47.5**	**-1.7**
MSVF	**Nonsavu**	**8.24**	**281**	Pn		Pn	20 28 28.0	+5.7
	2.3nm,0.3s,baz=118,slow=10,SNR=23							
MSVF				LR		LR	20 31 12.7	
	comp=Z,9µm,18.8s,baz=48,slow=37							
MSVF	**Nonsavu**	**8.24**	**281**	*i* P		**Pn**	**20 28 26.0**	**+3.8**
MSVF	**Nonsavu**	**8.24**	**281**	Pn		Pn	20 28 28.1	+5.9
MSVF	**Nonsavu**	**8.24**	**281**	P		Pn	20 28 29.2	+7.0
RAR	**Rarotonga**	**12.95**	**100**	Pn		**Pn**	**20 29 24.8**	**-1.8**
	5.2nm,0.3s,baz=255,slow=7.8,SNR=13							
RAR				LR		LR	20 32 44.4	
	comp=Z,1µm,21.5s,baz=232,slow=29							
RAR	**Rarotonga**	**12.95**	**100**	Pn		**Pn**	**20 29 24.0**	**-2.6**
RAR	**Rarotonga**	**12.95**	**100**	P		**Pn**	**20 29 25.5**	**-1.1**
MARNC	**Mare, Loyalty**	**17.44**	**260**	P		**Pn**	**20 30 25.5**	**-0.4**
PINNC	**Pines Island,**	**18.07**	**257**	P		**P**	**20 30 34.8**	**+0.7**
PINNC				IAmb		IAmb	20 30 52.4	
	comp=Z,124nm,1.4s							
LIFNC	**LIFOU**	**18.15**	**263**			**P**	**20 30 35.4**	**+0.3**
LIFNC				IAmb		IAmb	20 30 36.5	
	comp=Z,70nm,0.8s							
YATNC	**Mamie plateau,**	**18.53**	**259**	P		**Pn**	**20 30 41.0**	**+1.6**
OUENC	**Ouen Island, N**	**18.61**	**258**	P		**P**	**20 30 35.4**	**-4.7**
OUENC	**Ouen Island, N**	**18.61**	**258**	P		**Pn**	**20 30 40.9**	**+0.6**
SANVU	**Saraoutou**	**18.88**	**279**	P		**P**	**20 30 38.9**	**-4.2**
SANVU				IAmb		IAmb	20 30 58.6	
	comp=Z,101nm,1.0s							
DZM	**Mont Dzumac**	**18.95**	**259**	*e*P		**Pn**	**20 30 44.9**	**+0.4**
	comp=Z,157nm,0.9s							
DZM				*e*LR		LR	20 35 13.7	
	comp=Z,3µm,22.1s							
DZM	**Mont Dzumac**	**18.95**	**259**	P		**P**	**20 30 42.4**	**-1.6**
	comp=Z,1.7nm,0.3s,baz=76,slow=14,SNR=33							
DZM				LR		LR	20 36 51.5	
	comp=Z,2µm,20.7s,baz=99,

SOEI	Soe	60.75	270	P		P		20 36 34.9	-0.1
SOEI	Soe	60.75	270	P		P		20 36 33.1	-2.0
	comp=Z,61nm,1.0s								
PSA00	Pilbara Seismi	62.03	255			P		20 36 41.7	-1.8
PSA00	Pilbara Seismi	62.03	255			P		20 36 41.8	-1.7
PSA00					IAmb	IAmb		20 36 42.8	
	comp=Z,15nm,0.9s								
MEEK	Meekatharra	62.25	250	P		P		20 36 43.8	-1.1
	baz=62,SNR=4.5								
BLDU	Ballidu	63.32	245	P		P		20 36 52.0	0.0
	baz=64,SNR=9.6								
MUN	Mundaring	63.56	243	P		P		20 36 53.7	+0.1
	baz=64,SNR=4.4								
MORW	Morawa	64.12	247	P		P		20 36 57.2	-0.1
	baz=64,SNR=3.6								
MORW	Morawa	64.12	247	P		P		20 36 56.1	-1.2
GIRL	Giralia	66.91	253	P		P		20 37 14.3	-1.1
TOLI2	Tolitoli	67.61	280	P		P		20 37 18.9	-1.1
TOLI2					IAmb	IAmb		20 37 31.7	
	comp=Z,16nm,1.0s								
TWSI	Taliwang, Sumb	68.01	268	P		P		20 37 20.7	-1.8
	comp=Z,14nm,0.9s								
MPSI	Mapaga	68.16	279	P		P		20 37 20.5	-2.9
JHJ	Hachijo jima 2	68.82	319	LR		LR		21 07 08.1	
	comp=Z,162nm,18.5s,baz=210,slow=36								
QSPA	South Pole Qui	70.51	180	P		P		20 37 39.4	+2.1
QSPA					IAmb	IAmb		20 37 44.1	
	comp=Z,19nm,1.4s								
MJAR	Matsushiro Arr	72.08	321	P		P		20 37 46.9	-0.1
	comp=Z,17nm,0.9s,baz=156,slow=6.1,SNR=35								
MJAR	Matsushiro Arr	72.08	321	P		P		20 37 46.3	-0.7
MJAR					IAmb	IAmb		20 37 47.7	
	comp=Z,10nm,0.8s								
MAJO	Matsushiro	72.08	321	*i* P		P		20 37 47.1	+0.1
MAJO					pmax	pmax			
	comp=Z,20nm,0.8s								
MAJO	Matsushiro	72.08	321	P		P		20 37 46.6	-0.4
MAJO					IAmb	IAmb		20 37 47.9	
	comp=Z,22nm,0.9s								
MAT	Matsushiro	72.08	321	P		P		20 37 46.9	-0.1
JMN	Monobe	72.97	316	P		P		20 37 52.5	+0.1
JWT	Wachi	72.97	318	P		P		20 37 52.1	-0.2
JWT					IAmb	IAmb		20 37 53.7	
	comp=Z,24nm,1.3s								
JSD	Sado	73.05	322	P		P		20 37 53.4	+0.7
JHS	Saijyo	74.25	317	P		P		20 38 00.4	+0.5
JHS					IAmb	IAmb		20 38 01.8	
	comp=Z,32nm,1.3s								
JNU	Nakatsue	74.60	314	P		P		20 38 02.1	+0.1
JNU	Nakatsue	74.60	314	P		P		20 38 01.7	-0.3
JNU					IAmb	IAmb		20 38 03.3	
	comp=Z,17nm,0.9s								
LPIG	La Paz	75.29	57	LR		LR		21 02 47.6	
	comp=Z,332nm,20.1s,baz=210,slow=29								
ISA	Isabella, Lake	75.67	44	P		P		20 38 03.7	-4.5
ISA					pmax	pmax			
	comp=Z,7.0nm,1.1s								
ISA	Isabella, Lake	75.67	44	P		P		20 38 03.7	-4.5
TWG	Pinlang	76.52	300	P		P		20 38 10.9	-2.3
TWG					IAmb	IAmb		20 38 19.8	
	comp=Z,22nm,0.9s								
PETK	Petropavlovsk-	76.55	343	P		P		20 38 13.4	+0.8
	comp=Z,6.0nm,0.8s,baz=179,slow=12,SNR=4.5								
PETK					LR	LR		21 05 00.2	
	comp=Z,411nm,21.4s,baz=78,slow=30								
YULB	Yu-li	76.61	301	P		P		20 38 11.2	-2.5
YULB					IAmb	IAmb		20 38 13.8	
	comp=Z,14nm,0.9s								
YSS	Yuzh-Sakhalins	77.05	331	*e*P		P		20 38 17.1	+1.5
YSS				*e*				20 38 28.7	
YSS	Yuzh-Sakhalins	77.05	331	P		P		20 38 16.5	+0.9
SSLB	Suanglung	77.07	301	P		P		20 38 15.3	-1.0
SSLB					IAmb	IAmb		20 38 16.5	
	comp=Z,30nm,1.2s								
TPUB	Ta-pu	77.11	301	P		P		20 38 15.3	-1.2
NVAR	Mina Array Bea	77.46	41	P		P		20 38 20.9	+2.5
	comp=Z,1.7nm,0.7s,baz=222,slow=9.0,SNR=12								
NVAR	Mina Array Bea	77.46	41	P		P		20 38 16.0	-2.4
NV11	Mina Array Sit	77.55	41	P		P		20 38 16.8	-2.0
TPNV	Topopah Spring	77.88	44	P		P		20 38 22.3	+1.6
TPNV					pmax	pmax			
	comp=Z,6.0nm,1.1s								
TPNV	Topopah Spring	77.88	44	P		P		20 38 22.3	+1.6
TPH	Tonopah	77.92	42	P		P		20 38 19.3	-1.7
TPH					pmax	pmax			
	comp=Z,27nm,1.0s								
TPH	Tonopah	77.92	42	P		P		20 38 19.3	-1.7
KVN	Kaiserville	77.96	41	P		P		20 38 23.3	+2.2
KVN					pmax	pmax			
	comp=Z,7.0nm,1.3s								
KVN	Kaiserville	77.96	41	P		P		20 38 23.3	+2.2
KDAK	Kodiak Island	78.98	11	LR		LR		21 07 18.8	
	comp=Z,435nm,20.6s,baz=190,slow=31								
KSRS	Korea Array	79.08	316	P		P		20 38 27.6	+0.5
	comp=Z,6.6nm,0.8s,baz=131,slow=6.0,SNR=26								
KSAR	Wonju Array Be	79.10	316	P		P		20 38 27.2	0.0
KSAR	Wonju Array Be	79.10	316	P		P		20 38 27.2	0.0
KS19	Wonju Array Si	79.14	316			P		20 38 26.6	-0.9
KS19					IAmb	IAmb		20 38 29.3	
	comp=Z,13nm,1.1s								
USRK	Ussuriysk Ar.	80.66	324	P		P		20 38 36.5	+1.0
	comp=Z,1.8nm,0.6s,baz=53,slow=7.7,SNR=2.5								
USRK	Ussuriysk Ar.	80.66	324	P		P		20 38 34.3	-1.2
G08A	Pilot Rock	81.32	36	P		P		20 38 36.4	-2.8
MDJ	Mudanjiang	82.27	323	P		P		20 38 45.3	+1.3
MDJ					pmax	pmax			
	comp=Z,11nm,1.4s								
MDJ					pmax	pmax			
	comp=Z,320nm,10.3s								
NJ2	Nanjing	82.62	308	*e*P		P		20 38 47.0	+0.8
NJ2					pmax	pmax			
	comp=Z,11nm,0.7s								
MNTX	Cornudas Mount	82.76	53	P		P		20 38 42.5	-4.5
HLID	Hailey	82.87	39	P		P		20 38 43.0	-4.5
H03S2	Juan Fernandez	82.98	123	T		T		22 11 27.2	
	baz=250,slow=75,SNR=125								
TXAR	Lajitas Array	82.98	56	P		P		20 38 52.6	+4.3
	comp=Z,2.3nm,1.0s,baz=205,slow=5.5,SNR=12								
TXAR	Lajitas Array	82.98	56	P		P		20 38 46.3	-2.0
H03S1	Juan Fernandez	82.99	123	T		T		22 11 30.7	
	baz=250,slow=75,SNR=121								
H03S3	Juan Fernandez	83.00	123	T		T		22 11 25.2	
	baz=250,slow=75,SNR=131								
H03N2	Juan Fernandez	83.10	123	T		T		22 11 34.5	
	SNR=3.4								
H03N1	Juan Fernandez	83.12	123	T		T		22 12 10.5	
	SNR=6.4								
PV05	Paradox Valley	83.25	46	P		P		20 38 47.5	-2.1
PV05					IAmb	IAmb		20 38 59.9	
	comp=Z,23nm,1.5s								
ANMO	Albuquerque	83.52	50	*ce*P		P		20 38 53.0	+2.0
ANMO					pmax	pmax			
	comp=Z,16nm,2.5s								
SCM	Sheep Creek Mo	83.75	12	P		P		20 38 52.2	+0.8
SCM					pmax	pmax			
	comp=Z,13nm,0.8s								
SCM	Sheep Creek Mo	83.75	12	P		P		20 38 52.2	+0.8
SCM					IAmb	IAmb		20 39 05.3	
	comp=Z,13nm,0.8s								
MAW	Mawson	83.86	199	P		P		20 38 53.6	+1.7
	comp=Z,2.4nm,0.8s,baz=163,slow=6.0,SNR=4.6								
KLR	Kul'dur	83.96	327	*ce*P		P		20 38 53.6	+0.9
KLR					pmax	pmax			
	comp=Z,6.0nm,1.6s								
N25K	Chitina, Valde	84.11	13	P		P		20 38 54.1	+0.8
N25K					IAmb	IAmb		20 39 07.4	
	comp=Z,9.4nm,1.0s								
N25K	Chitina, Valde	84.11	13	P		P		20 38 55.0	+1.7
	baz=207								
NEW	Newport	84.16	34	LR		LR		21 09 37.6	
	comp=Z,297nm,20.6s,baz=210,slow=31								
CN2	Changchun	84.22	320	*e*P		P		20 38 55.3	+1.2
CN2					pmax	pmax			
	comp=Z,10.0nm,0.7s								
CTG	Chitna Glacier	84.31	15	P		P		20 38 56.1	+1.8
	baz=210								
WAT6	Susitna Watana	84.35	12	P		P		20 38 56.3	+1.7
	baz=204								
WAT1	Susitna Watana	84.43	11	P		P		20 38 56.1	+1.3
	baz=203								
S22A	4UR Ranch, Cre	84.63	47	P		P		20 38 59.7	+3.0
	baz=240								
TRF	Thorofare Moun	84.70	10	P		P		20 38 57.0	+0.6
TRF					IAmb	IAmb		20 39 10.9	
	comp=Z,15nm,1.0s								
TRF	Thorofare Moun	84.70	10	P		P		20 38 57.2	+0.9
	baz=202								
J20K	Nowinta River	84.80	8	P		P		20 38 57.3	+0.7
J20K	Nowinta River	84.80	8	P		P		20 38 58.6	+2.0
	baz=198								
RND	Reindeer	84.91	11	P		P		20 38 58.8	+1.5
RND					pmax	pmax			
	comp=Z,20nm,1.1s								
RND	Reindeer	84.91	11	P		P		20 38 58.8	+1.5
PAX	Paxson	85.15	12	P		P		20 39 00.2	+1.6
	baz=206								
MCK	McKinley	85.19	11	P		P		20 38 57.7	-0.9
MCK					pmax	pmax			
	comp=Z,24nm,0.9s								
MCK	McKinley	85.19	11	P		P		20 38 57.7	-0.9
CMIG	Matias Romero	85.33	70	LR		LR		21 07 12.2	
	comp=Z,203nm,20.1s,baz=184,slow=29								
M27K	Edge Creek, AK	85.39	14	P		P		20 39 00.5	+0.7
M27K					IAmb	IAmb		20 39 14.7	
	comp=Z,12nm,1.0s								
M27K	Edge Creek, AK	85.39	14	P		P		20 39 02.1	+2.3
	baz=210								
PDAR	Pinedale Array	85.39	42	P		P		20 39 02.4	+2.0
	comp=Z,0.3nm,0.3s,baz=204,slow=3.3,SNR=3.7								
L26K	Log Cabin Wild	85.65	13	P		P		20 39 00.8	-0.1
L26K	Log Cabin Wild	85.65	13	P		P		20 39 03.0	+2.1
	baz=208								
BOZ	Bozeman (W)	85.67	38	P		P		20 39 02.5	+0.9
BOZ					pmax	pmax			
	comp=Z,4.0nm,1.1s								
BOZ	Bozeman (W)	85.67	38	P		P		20 39 02.5	+0.9
BOZ	Bozeman (W)	85.67	38	P		P		20 39 03.8	+2.2
	baz=236								
MSTX	Muleshoe	85.75	52	P		P		20 39 02.8	+0.6
MSTX					IAmb	IAmb		20 39 17.6	
	comp=Z,18nm,0.9s								
RIDG	Independent Ri	85.97	12	P		P		20 39 04.3	+1.8
	baz=207								
L27K	Beaver Creek,	86.02	14	P		P		20 39 04.9	+2.1
	baz=210								
WRH	Wood River Hil	86.02	11	P		P		20 39 02.9	+0.2
DOT	Dot Lake	86.05	13	P		P		20 39 03.9	+1.0
DOT					IAmb	IAmb		20 39 17.0	
	comp=Z,9.6nm,0.9s								
I21K	Tanana	86.06	9	P		P		20 39 04.8	+2.0
	baz=200								
MLY	Manley	86.10	9	P		P		20 39 03.0	-0.2
MLY					IAmb	IAmb		20 39 16.5	
	comp=Z,9.2nm,1.2s								
MLY	Manley	86.10	9	P		P		20 39 03.8	+0.7
	baz=201								
HDA	Harding Lake	86.17	11	P		P		20 39 04.4	+1.0
HDA					IAmb	IAmb		20 39 18.0	
	comp=Z,8.7nm,0.8s								
HDA	Harding Lake	86.17	11	P		P		20 39 04.9	+1.4
	baz=205								
CCB	Clear Creek Bu	86.23	11	P		P		20 39 03.9	+0.2
CCB					IAmb	IAmb		20 39 18.9	
	comp=Z,15nm,1.1s								
SCRK	Sand Creek	86.36	13	P		P		20 39 05.0	+0.5
SCRK	Sand Creek	86.36	13	P		P		20 39 06.5	+2.0
	baz=208								
H21K	Melozitna Rive	86.39	8	P		P		20 39 05.9	+1.4
H21K					IAmb	IAmb		20 39 19.8	
	comp=Z,13nm,1.2s								
H21K	Melozitna Rive	86.39	8	P		P		20 39 07.3	+2.8
	baz=199								
MDM	Murphy Dome	86.44	10	P		P		20 39 05.1	+0.3
MDM					IAmb	IAmb		20 39 18.5	
	comp=Z,19nm,1.3s								
ILAR	Eielson Array	86.51	11	P		P		20 39 05.0	-0.1
	comp=Z,2.1nm,0.7s,baz=215,slow=5.8,SNR=10								
ILAR	Eielson Array	86.51	11	P		P		20 39 05.1	0.0
IMAR	Indian Mountai	86.57	8	P		P		20 39 05.8	+0.4
J25K	Salcha River,	86.65	12	P		P		20 39 07.7	+1.9
	baz=206								
K27K	Chicken	86.81	13	P		P		20 39 09.0	+2.5
	baz=209								
UBPT	Khong Chiam	86.89	287	P		P		20 39 08.0	-0.1
UBPT					IAmb	IAmb		20 39 10.2	
	comp=Z,13nm,1.0s								
J26L	Joseph Creek	86.91	12	P		P		20 39 09.8	+2.7
	baz=208								
PRP	Porcupine Dome	87.44	11	P		P		20 39 10.7	+1.0
PRP					IAmb	IAmb		20 39 24.0	
	comp=Z,13nm,1.2s								
PRP	Porcupine Dome	87.44	11	P		P		20 39 11.6	+1.9
	baz=206								
DAWY	Dawson	87.44	14	P		P		20 39 11.3	+1.6
DAWY					IAmb	IAmb		20 39 24.4	
	comp=Z,10.0nm,1.0s								
DAWY	Dawson	87.44	14	P		P		20 39 12.1	+2.4
	baz=212								
BILL	Bilibino	88.59	353	*i* P		P		20 39 13.0	-2.0
BILL				*i*				20 39 21.6	
BILL					pmax	pmax			
	comp=Z,12nm,1.1s								
VNA3	Neumayer Olymp	88.75	175	P		P		20 39 17.9	+1.9
SNAA	Sanae	88.78	177	P		P		20 39 17.4	+1.1
SNAA	Sanae	88.78	177	*ce*P		P		20 39 17.4	+1.1
SNAA					pmax	pmax			
	comp=Z,5.0nm,1.3s								
SNAA	Sanae	88.78	177	P		P		20 39 16.8	+0.6
SKNT	Sakolnakorn	88.83	288	P		P		20 39 19.2	+1.9
	comp=Z,15nm,1.0s								
ZEA	Zeya	88.94	329	*e*P		P		20 39 18.3	+1.3
ZEA					pmax	pmax			
	comp=Z,10.0nm,1.7s								
WMOK	Wichita Mounta	89.06	53	P		P		20 39 17.3	-0.8
WMOK					pmax	pmax			
	comp=Z,6.0nm,0.3s								
WMOK	Wichita Mounta	89.06	53	P		P		20 39 17.3	-0.8
ENH	Enshi	89.08	303	P		P		20 39 19.3	+1.0
VNA2	Neumayer--Watz	89.24	175	P		P		20 39 20.4	+2.1
	baz=197,slow=3.9								
VNA1	Neumayer--Stat	89.44	175	P		P		20 39 21.2	+2.0
TRTT	Trang	89.63	278	P		P		20 39 23.7	+2.5
	comp=Z,43nm,1.2s								
GYA	Guiyang	89.93	298	⇑P		P		20 39 23.3	+0.9
GYA					pmax	pmax			
	comp=Z,7.0nm,0.8s								
SURA	Surathani	90.13	280	P		P		20 39 27.3	+3.8
	comp=Z,4µmcomp=Z,20nm,1.3s								
XAN	Xi'an	91.00	306	P		P		20 39 28.8	+1.6
XAN					sP	pwP		20 39 39.4	+3.8
XAN					pmax	pmax			
	comp=Z,8.0nm,1.6s								
XAN					LR	LR			
	comp=Z,300nm,25.4s								
XAN					LR	LR			
	comp=Z,320nm,22.7s								
XAN					LR	LR			
	comp=Z,730nm,24.7s								
PHET	Kaeng Krachan	91.39	283	P		P		20 39 33.6	+4.3
	comp=Z,366nmcomp=Z,30nm,1.1s								
HHC	Hu-ho-hao-te	91.79	313	*e*P		P		20 39 32.8	+2.0
PHIT	Phitsanulok	92.10	287	P		P		20 39 36.2	+3.6
	comp=Z,672nmcomp=Z,55nm,1.2s								
UTTA	Uttaradit	92.16	288	P		P		20 39 36.4	+3.6
	comp=Z,13nm,1.2s								
UTHA	Uthaitani	92.44	286	P		P		20 39 47.3	+13
KMI	Kunming	92.75	296	⇓P		P		20 39 43.0	+7.3
KMI					pP	pwP		20 39 48.8	+4.6
KMI					pmax	pmax			
	comp=Z,14nm,1.0s								
YAK	Yakutsk	92.88	337	*ce*P		P		20 39 35.5	+0.4
YAK					pmax	pmax			
	comp=Z,6.0nm,0.8s								
UMPA	Umpang Tak	93.18	286	P		P		20 39 51.0	+13
LAMP	Lampang	93.25	288	P		P		20 39 51.3	+13
CM04	Chiang Mai Arr	93.79	288	P		P		20 39 43.8	+3.4
	comp=Z,107nmcomp=Z,12nm,1.1s								
CM09	Chiang Mai Arr	93.80	288	P		P		20 39 44.2	+3.8
	comp=Z,101nmcomp=Z,11nm,1.1s								
CM01	Chiang Mai Arr	93.82	288	P		P		20 39 44.3	+3.8
	comp=Z,114nmcomp=Z,12nm,1.2s								
CM05	Chiang Mai Arr	93.82	288	P		P		20 39 43.7	+3.2
	comp=Z,69nmcomp=Z,7.1nm,1.2s								
CM02	Chiang Mai Arr	93.83	288	P		P		20 39 44.3	+3.7
	comp=Z,114nmcomp=Z,12nm,1.2s								
CM31	Chiang Mai Arr	93.84	288	P		P		20 39 42.0	+1.4
CMAR	Chiang Mai Arr	93.84	288	P		P		20 39 41.6	+1.0
	comp=Z,5.0nm,1.1s,baz=117,slow=2.6,SNR=26								
CMAR	Chiang Mai Arr	93.84	288	*i* P		P		20 39 42.5	+1.9
CMAR					pmax	pmax			
	comp=Z,5.0nm,1.0s								
CMAR	Chiang Mai Arr	93.84	288	P		P		20 39 40.4	-0.2
CM15	Chiang Mai Arr	93.86	288	P		P		20 39 44.4	+3.7
	comp=Z,4.2nm,0.4s								
CM13	Chiang Mai Arr	93.86	288	P		P		20 39 44.4	+3.7
	comp=Z,70nmcomp=Z,7.6nm,1.2s								
CMMT	Chiang Mai	93.96	288	P		P		20 39 43.4	+2.3
	comp=Z,10nm,1.1s								
CHTO	Chiang Mai	93.96	288	P		P		20 39 41.5	+0.3
CHTO					pmax	pmax			
	comp=Z,12nm,1.1s								
CHTO	Chiang Mai	93.96	288	P		P		20 39 43.5	+2.4
CHTO	Chiang Mai	93.96	288	P		P		20 39 41.5	+0.3
CHTO					IAmb	IAmb		20 39 54.3	
	comp=Z,12nm,1.1s								
CHTO	Chiang Mai	93.96	288	P		P		20 39 43.5	+2.4
TIXI	Tiksi	98.96	344	*i* P		Pdif		20 40 03.8	+1.2
GTA	Gaotai	99.70	308	*e*PKP		PKiKP		20 44 42.5	+6.8
GTA				sPKP				20 44 53.3	
GTA				PKP				20 45 57.3	
GTA	Gaotai	99.70	308	*e*P		Pdif		20 40 13.8	+6.9
GTA				pP		pwP		20 40 17.9	+2.6
GTA				sP		sP		20 40 21.6	+12
GTA				pmax		pmax			
	comp=Z,2.0nm,1.3s								
GTA				pmax		pmax			
	comp=Z,46nm,5.8s								
GTA				LR		LR			
	comp=N,300nm,17.8s								
GTA				LR		LR			
	comp=E,290nm,18.5s								
GTA				LR		LR			
	comp=Z,530nm,21.5s								
MKAR	Makanchi Array	113.65	313	*ci* PKIKP		PKiKP		20 45 03.5	+2.4
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
AAK	Ala-Archa	119.05	309	*i* PKIKP		PKiKP		20 45 12.0	+0.1
ARU	Arti	126.80	327	*i* PKIKP		PKiKP		20 45 27.6	+1.1
ARU								20 47 22.7	
ARU					SP	SP		20 57 26.8	+1.7
ARCES	ARCESS Array B	128.69	352		PKP	PKiKP		20 45 30.5	+0.5
	comp=Z,3.2nm,0.9s,baz=9.1,slow=1.8,SNR=16								
FINES	FINESS Array B	135.95	347		PKP	PKiKP		20 45 45.9	+1.1
	comp=Z,3.3nm,1.0s,baz=57,slow=5.2,SNR=5.6								
FINES	FINESS Array B	135.95	347	*ci* PKIKP		PKiKP		20 45 48.0	+3.2
FINES					pmax	pmax			
	comp=Z,1.0nm,0.5s								
OBN	Obninsk	137.85	335	*i* PKIKP		PKiKP		20 45 48.5	-0.3
OBN					pmax	pmax			
	comp=Z,5.0nm,0.8s								
MNK	Minsk	141.49	340	*i* PKIKP		PKPdf		20 45 54.4	+0.9
MNK				*i*				20 48 58.3	
MNK				*i* PPP		PPP		20 52 05.1	
MNK				pmax		pmax			
	comp=E,1.0nm,1.0s								
MNK				pmax		pmax			
	comp=N,5.0nm,0.9s								
MNK				pmax		pmax			
	comp=Z,6.0nm,1.1s								
MNK				MLR		MLR			
	comp=Z,409nm,21.0s								
MNK				MLR		MLR			
	comp=N,65nm,17.0s								
MNK				MLR		MLR			
	comp=E,23nm,22.0s								
MNK	Minsk	141.49	340	*i* PKP		PKPdf		20 45 54.5	+0.9
	comp=E,1.0nm,1.0s								
MNK				*i* PKP		PKPdf		20 45 54.5	+0.9
	comp=N,5.0nm,0.9s								
MNK				*i* PKP		PKPdf		20 45 54.5	+0.9
	comp=Z,6.0nm,1.1s,baz=215								
MNK				*i* PP		PP		20 48 58.3	+2.1
MNK				*i* SKP				20 49 29.1	
MNK				*i* PKS		PKSdf		20 49 30.3	+1.1
MNK				*i* PPP		PPP		20 52 05.1	
MNK				*i* SKS		SKSdf		20 53 04.5	+0.9
MNK				*i* SKKS		SKKSdf		21 02 25.5	-1.9
MNK				*i* SS		SS		21 07 31.2	+5.3
MNK				*i* SSS		SSS		21 12 55.5	
MNK				*i* LQ		LQ		21 41 22.8	
MNK				*i* LR		LR		21 44 23.9	
MNK				*i* LRM		MLR		21 48 25.2	
	comp=Z,409nm,21.0s								
MNK				*i* LRM		MLR		21 48 39.4	
	comp=N,65nm,17.4s								
MNK				*i* LRM		MLR		21 49 05.4	
	comp=E,23nm,21.7s								
KMBO	Kilima Mbogo	143.52	239	PKP		PKPdf		20 45 58.1	-0.6
	comp=E,1.0nm,0.4s,baz=131,slow=3.4,SNR=4.7								
GURO	Guroymak-BITLI	143.95	309		PKPbc	PKPbc		20 45 57.2	+0.8
AKASG	Malin Array Be	144.10	335	PKP		PKPbc		20 45 56.9	+0.6
	comp=E,0.5nm,0.4s,baz=36,slow=3.7,SNR=15								
AKASG	Malin Array Be	144.10	335	*ci* PKIKP		PKiKP		20 46 03.5	+1.7
AKASG					pmax	pmax			
	comp=Z,3.0nm,0.8s								
AKASG	Malin Array Be	144.10	335	PKPdf		PKPbc		20 45 56.2	-0.1
AKBB	Malin Array Si	144.10	335	PKHKP		PKPab		20 45 56.7	+0.9
AKBB	Malin Array Si	144.10	335			PKPbc		20 45 56.7	+0.5
BSEG	Bad Segeberg	145.56	356	*e*PKPbc		PKiKP		20 46 02.9	-1.8
	baz=7.1,slow=2.6								
SORM	Soroca	146.46	333	⇑P		PKPab		20 46 04.8	+0.1
SORM	Soroca	146.46	333	⇑PKP2		PKPab		20 46 04.8	+0.1
LVV	L'vov	146.72	339	*e*PKIKP		PKPab		20 46 05.8	+0.1
PURM	Purcari	146.98	330	⇑P		PKPab		20 46 07.0	+0.3
NRDL	Niedersach Rie	147.00	356	*e*PKPbc		PKiKP		20 46 07.5	-0.2
	baz=7.1,slow=2.6								
FLTG	Flechtingen	147.08	355	*e*PKPbc		PKiKP		20 46 07.4	-0.5

BRG	**Berggiesshubel**	**148.20**	**351**		Amp		21 00 43.0
	comp=N,0.4nm,25.5s						
BRG	**Berggiesshubel**	**148.20**	**351**		Amp		21 00 55.0
	comp=Z,1.2nm,19.9s						
BNN	**Bunyan**	**148.20**	**313**			**PKPdf**	**20 46 05.6 -0.2**
FBE	**Freiberg**	**148.24**	**352**	*e*PKPbc		**PKPab**	**20 46 11.1 -0.5**
	baz=7.1,slow=2.6						
DPC	**Dobruska-Polom**	**148.30**	**348**	*e*PKP2		**PKiKP**	**20 46 11.1 +0.5**
DPC				MLR		MLR	
	comp=Z,200nm,17.5s						
DPC	**Dobruska-Polom**	**148.30**	**348**⇑	*e*PKP		**PKiKP**	**20 46 11.1 +0.5**
DPC				AMS		AMS	21 50 00.0
	comp=Z,200nm,17.5s						
UZH	**Uzhgorod**	**148.32**	**340**	*e*PKP2		**PKiKP**	**20 46 10.5 -0.1**
BIZ	**Bicaz**	**148.34**	**334**	⇑P		**PKPab**	**20 46 11.4 -0.8**
CRVS	**Cervenica-Dubn**	**148.35**	**341**	*e*PKIKP		**PKPbc**	**20 46 09.6 +0.6**
CRVS	**Cervenica-Dubn**	**148.35**	**341**	*e*		**PKPab**	**20 46 14.4 +2.3**
CRVS	**Cervenica-Dubn**	**148.35**	**341**	*e*PKP		**PKPbc**	**20 46 09.6 +0.6**
KASTN	**Kahler Asten**	**148.38**	**358**	*e*PKPbc		**PKiKP**	**20 46 11.1 +0.4**
	baz=7.1,slow=2.6						
PVCC	**Panska Ves**	**148.44**	**350**	*e*PKP2		**PKPab**	**20 46 11.6 -0.8**
PVCC				MLR		MLR	
	comp=Z,300nm,16.3s						
PVCC	**Panska Ves**	**148.44**	**350**	*e*PKPAB		**PKPab**	**20 46 11.6 -0.8**
PVCC				AMS		AMS	21 53 00.0
	comp=Z,300nm,16.3s						
TESR	**Tescani**	**148.45**	**333**	⇓P		**PKiKP**	**20 46 11.1 +0.1**
KRLC	**Kraliky**	**148.47**	**347**	*e*PKP2		**PKiKP**	**20 46 11.3 +0.4**
KRLC	**Kraliky**	**148.47**	**347**⇑	*e*PKP		**PKiKP**	**20 46 11.3 +0.4**
KRLC				*e*PKPAB		**pPKPab**	**20 46 14.4 -0.1**
MORC	**Moravsky Berou**	**148.59**	**346**	⇓P		**PKiKP**	**20 46 11.8 +0.6**
MORC	**Moravsky Berou**	**148.59**	**346**	⇓PKP2		**PKiKP**	**20 46 11.8 +0.6**
MORC	**Moravsky Berou**	**148.59**	**346**			**PKPdf**	**20 46 03.6 -2.4**
MORC	**Moravsky Berou**	**148.59**	**346**	*e*PKP		**PKiKP**	**20 46 11.4 +0.2**
TRPA	**Tarpa**	**148.68**	**339**	⇓P		**PKiKP**	**20 46 11.8 +0.5**
UBBA	**Unterbreizbach**	**148.68**	**356**	*e*PKPbc		**PKiKP**	**20 46 11.8 +0.7**
	baz=7.1,slow=2.6						
LANS	**Liptovska Anna**	**148.69**	**344**	*e*PKP2		**PKiKP**	**20 46 11.9 +0.5**
LANS	**Liptovska Anna**	**148.69**	**344**	*e*PKP		**PKiKP**	**20 46 11.9 +0.5**
IZVR	**Izvoarele**	**148.69**	**331**	⇑P		**PKPab**	**20 46 19.8 +6.2**
MOX	**Moxa**	**148.72**	**354**	*e*PKPbc		**PKiKP**	**20 46 11.9 +0.5**
	baz=7.1,slow=2.6						
BMR	**Baia Mare**	**148.74**	**338**	⇓P		**PKiKP**	**20 46 12.1 +0.6**
CFR	**Carcaliu**	**148.80**	**330**	⇓P		**PKiKP**	**20 46 12.1 +0.4**
CFR	**Carcaliu**	**148.80**	**330**	⇓PKP2		**PKiKP**	**20 46 12.1 +0.4**
PLN	**Plauen**	**148.81**	**353**	*e*PKPbc		**PKiKP**	**20 46 12.2 +0.7**
	baz=7.1,slow=2.6						
WERD	**Werda**	**148.83**	**353**	*e*PKPbc		**PKiKP**	**20 46 12.5 +0.8**
	baz=7.1,slow=2.6						
TANN	**Tannenbergstha**	**148.85**	**353**	*e*PKPbc		**PKiKP**	**20 46 12.5 +0.8**
	baz=7.1,slow=2.6						
TPGR	**Topolog**	**148.90**	**329**	⇓P		**PKiKP**	**20 46 12.3 +0.3**
GUNZ	**Gunzen**	**148.91**	**353**	*e*PKPbc		**PKiKP**	**20 46 12.8 +0.9**
	baz=7.1,slow=2.6						
ARCR	**ARCALIA**	**148.91**	**336**	⇓P		**PKiKP**	**20 46 12.8 +0.9**
VRI	**Vrincioaia**	**148.92**	**332**	⇑P		**PKiKP**	**20 46 12.6 +0.7**
VRI	**Vrincioaia**	**148.92**	**332**	⇑PKP2		**PKiKP**	**20 46 12.6 +0.7**
MBAR	**Mbarara**	**148.94**	**233***c*	*i*PKIKP		**PKiKP**	**20 46 13.9 +0.7**
MBAR	**Mbarara**	**148.94**	**233**			**PKPdf**	**20 46 05.2 -2.7**
PLOR	**Plostina**	**148.96**	**332**	⇑P		**PKiKP**	**20 46 12.5 +0.4**
PLOR	**Plostina**	**148.96**	**332**	⇑PKP2		**PKiKP**	**20 46 12.5 +0.4**
PRU	**Pruhonice**	**148.97**	**350**	*e*PKP2		**PKiKP**	**20 46 12.4 +0.5**
PRU				MLR		MLR	
	comp=Z,400nm,16.7s						
PRU	**Pruhonice**	**148.97**	**350**⇑	*e*PKP		**PKiKP**	**20 46 12.4 +0.5**
PRU				*ex*		x	20 46 18.5
PRU				AMS		AMS	21 52 10.0
	comp=Z,400nm,16.7s						
WERN	**Wernitzgruen**	**148.98**	**353**	*e*PKPbc		**PKiKP**	**20 46 13.2 +1.2**
	baz=7.1,slow=2.6						
MEM	**Membach**	**149.01**	**1**	*d*PKPab		**PKiKP**	**20 46 12.3 +0.4**
BTNL	**Ternell**	**149.03**	**0**	*d*PKPab		**PKiKP**	**20 46 12.3 +0.3**
AHRW	**Bad Neuenahr-A**	**149.08**	**359**	*e*PKPbc		**PKiKP**	**20 46 13.1 +1.1**
	baz=7.1,slow=2.6						
OZUR		**149.14**	**333**	⇑P		**PKiKP**	**20 46 13.2 +0.8**
BISRR	**Bisoca**	**149.17**	**332**	⇑P		**PKPab**	**20 46 22.7 +7.0**
BGES	**Gesves**	**149.22**	**2**	*d*PKPdf		**PKPdf**	**20 46 05.7 -1.2**
BGES				*d*PKPab		**sPKPbc**	**20 46 13.5 -0.2**
BR131	**Keskin Array S**	**149.22**	**317**	PKHKP		**PKPdf**	**20 46 06.6 -0.9**
BR131	**Keskin Array S**	**149.22**	**317**			**PKPdf**	**20 46 06.6 -0.9**
BRTR	**Keskin Array B**	**149.22**	**317**	PKP		**PKPdf**	**20 46 08.2 +0.7**
	comp=Z,2.3nm,0.7s,baz=29,slow=2.8,SNR=5.9						
BRTR				PKPbc		**PKiKP**	**20 46 12.8 -0.2**
	comp=Z,5.5nm,0.7s,baz=130,slow=3.3,SNR=30						
BRTR	**Keskin Array B**	**149.22**	**317**			**PKPdf**	**20 46 06.4 -1.1**
VRAC	**Vranov**	**149.23**	**347**	*e*PKP		**PKiKP**	**20 46 13.2 +0.7**
HARR	**Harsova**	**149.25**	**329**	⇓P		**PKPbc**	**20 46 10.6 -0.8**
HARR	**Harsova**	**149.25**	**329**	⇓PKIKP		**PKPbc**	**20 46 10.6 -0.8**
BHOU	**Houvegnez**	**149.26**	**1**	*d*PKiKP		**PKPbc**	**20 46 11.2 -0.1**
BMRD	**Maredsous**	**149.29**	**2**	*d*PKiKP		**PKPbc**	**20 46 11.6 +0.2**
MANZ	**Manzenberg**	**149.31**	**353**	*e*PKPbc		**PKiKP**	**20 46 13.8 +1.2**
	baz=7.1,slow=2.6						
TNS	**Taunus Mts**	**149.36**	**358**	*e*PKPbc		**PKiKP**	**20 46 13.7 +1.0**
	baz=7.1,slow=2.6						
DOPR	**Dopca**	**149.41**	**334**	⇑P		**PKiKP**	**20 46 14.2 +1.2**
JAVC	**Velka Javorina**	**149.42**	**345**	*e*PKP		**PKiKP**	**20 46 14.5 +1.6**
VYHS	**Vyhne**	**149.44**	**344**	*e*PKP2		**PKiKP**	**20 46 13.6 +0.6**
VYHS	**Vyhne**	**149.46**	**344**	*e*PKP		**PKiKP**	**20 46 13.6 +0.6**
DOU	**Dourbes**	**149.49**	**2**	*d*PKPab		**PKPdf**	**20 46 13.7 +0.8**
KOLL	**Kolacno**	**149.50**	**344**	*e*PKP		**PKiKP**	**20 46 13.8 +0.8**
KRUC	**Moravsky**	**149.51**	**347**	*e*PKP		**PKiKP**	**20 46 13.6 +0.6**
ROTZ	**Rotzenmuhle**	**149.51**	**353**	*e*PKPbc		**PKiKP**	**20 46 14.2 +1.1**
	baz=7.1,slow=2.6						
MLR	**Muntele Rosu**	**149.55**	**333**	⇓P		**PKiKP**	**20 46 14.3 +0.9**
MLR	**Muntele Rosu**	**149.55**	**333**	⇓PKP2		**PKiKP**	**20 46 14.3 +0.9**
MLR	**Muntele Rosu**	**149.55**	**333**			**PKPdf**	**20 46 05.5 -2.3**
ISR	**Istrita**	**149.58**	**331**	⇓P		**PKiKP**	**20 46 14.4 +1.0**
ISR	**Istrita**	**149.58**	**331**	⇓PKP2		**PKiKP**	**20 46 14.4 +1.0**
ANTO	**Ankara**	**149.69**	**318**	PKIKP		**PKiKP**	**20 46 13.4 -0.4**
ANTO	**Ankara**	**149.69**	**318**			**PKiKP**	**20 46 13.4 -0.4**
PSZ	**Piszkesteto**	**149.69**	**342**	⇓P		**PKiKP**	**20 46 14.4 +0.9**
PSZ	**Piszkesteto**	**149.69**	**342**	PKIKP		**PKPbc**	**20 46 11.3 -1.2**
PSZ	**Piszkesteto**	**149.69**	**342**			**PKPbc**	**20 46 11.3 -1.2**
GRF	**Grafenberg Arr**	**149.70**	**354**	*e*PKPbc		**PKiKP**	**20 46 14.7 +1.3**
	baz=7.1,slow=2.6						
GRF					*ep*PKPbc	**sPKPab**	**20 46 20.0 -0.1**
MILB	**Miltenberg**	**149.71**	**356**	*e*PKPbc		**PKiKP**	**20 46 14.9 +1.4**
	baz=7.1,slow=2.6						
DRGR		**149.77**	**338**	⇑P		**PKiKP**	**20 46 14.4 +0.7**
DRGR		**149.77**	**338**	⇑PKP2		**PKiKP**	**20 46 14.4 +0.7**
SECR		**149.85**	**332**	⇑P		**PKiKP**	**20 46 15.1 +1.2**
KHC	**Kasperske Hory**	**149.95**	**351**	*e*PKIKP		**PKiKP**	**20 46 14.8 +0.8**
KHC				MLR		MLR	
	comp=Z,300nm,16.4s						
KHC	**Kasperske Hory**	**149.95**	**351**⇑	*e*PKP		**PKiKP**	**20 46 14.8 +0.8**
KHC				*e*PKPAB		**sPKPab**	**20 46 21.2 0.0**
KHC				*ex*		x	20 46 31.5
KHC				AMS		AMS	21 54 00.0
	comp=Z,300nm,16.4s						
WLF	**Walferdange**	**149.96**	**0**	*d*PKPab		**PKiKP**	**20 46 14.9 +0.9**
MODS	**Modra-Piesok**	**149.96**	**346**	*e*PKP2		**PKiKP**	**20 46 14.7 +0.7**
MODS	**Modra-Piesok**	**149.96**	**346**	*e*PKP		**PKiKP**	**20 46 14.7 +0.7**
VOIR		**149.98**	**333**	⇑P		**PKiKP**	**20 46 15.6 +1.3**
VOIR		**149.98**	**333**	⇑PKP2		**PKiKP**	**20 46 15.6 +1.3**
WET	**Wettzell**	**150.04**	**352**	*e*PKPbc		**PKiKP**	**20 46 15.3 +1.1**
	baz=7.1,slow=2.6						
WET					*ep*PKPbc	**pPKPab**	**20 46 21.1 +0.2**
CKRC	**Cesky Krumlov**	**150.14**	**350**⇑	*e*PKP		**PKiKP**	**20 46 15.5 +1.1**
CKRC				*ex*		x	20 46 21.6
CKRC				AMS		AMS	21 52 20.0
	comp=Z,200nm,15.4s						
ARR	**Arges**	**150.21**	**334**	⇑P		**PKiKP**	**20 46 16.3 +1.6**
GEC2	**GERESS Array S**	**150.21**	**350**			**PKiKP**	**20 46 15.0 +0.4**
GEC2	**GERESS Array S**	**150.21**	**350**	*e*PKPbc		**PKiKP**	**20 46 15.8 +1.2**
	baz=7.1,slow=2.6						
GEC2					*ep*PKPbc	**pPKPab**	**20 46 21.6 -0.1**
GERES	**GERESS Array B**	**150.21**	**350**	PKPbc		**PKiKP**	**20 46 15.5 +0.9**
	comp=Z,3.7nm,0.9s,baz=38,slow=2.4,SNR=27						
GERES	**GERESS Array B**	**150.21**	**350**			**PKiKP**	**20 46 14.7 +0.1**
MDUB	**Mudurnu**	**150.33**	**320**			**PKPbc**	**20 46 14.0 -0.4**
DEV	**Deva**	**150.47**	**336**	⇓P		**PKiKP**	**20 46 17.3 +2.2**
DEV	**Deva**	**150.47**	**336**	⇓PKP2		**PKiKP**	**20 46 17.3 +2.2**
LOT	**Lotru**	**150.50**	**335**	⇑P		**PKiKP**	**20 46 16.2 +0.9**
SIRR	**Siria**	**150.59**	**338**	⇑P		**PKiKP**	**20 46 17.3 +1.9**
CONA	**Conrad Observa**	**150.70**	**347**	*e*P		**PKiKP**	**20 46 16.7 +1.0**
	comp=Z,21nm,1.5s,SNR=8.5						
GZR	**Gura Zlata**	**150.93**	**336**	⇓P		**PKiKP**	**20 46 17.1 +0.9**
GZR	**Gura Zlata**	**150.93**	**336**	⇓PKIKP		**PKiKP**	**20 46 17.1 +0.9**
MOA	**Molln**	**151.08**	**349**	*e*P		**PKiKP**	**20 46 17.3 +0.9**
	comp=Z,13nm,1.7s						
BZS	**Buzias**	**151.17**	**338**	⇓P		**PKiKP**	**20 46 17.9 +1.3**
BZS	**Buzias**	**151.17**	**338**	⇓PKHKP		**PKiKP**	**20 46 17.9 +1.3**
FUR	**Furstenfeldbru**	**151.20**	**353**	*e*PKPbc		**PKiKP**	**20 46 18.2 +1.6**
	baz=7.1,slow=2.6						
BFO	**Black Forest**	**151.26**	**358**	PKIKP		**PKPbc**	**20 46 14.9 -1.3**
BFO	**Black Forest**	**151.26**	**358**			**PKPbc**	**20 46 14.9 -1.3**
BFO	**Black Forest**	**151.26**	**358**	*e*PKPbc		**PKiKP**	**20 46 18.3 +1.5**
	baz=7.1,slow=2.6						
ARSA	**Arzberg**	**151.41**	**347**	*e*P		**PKiKP**	**20 46 17.6 +0.5**
	comp=Z,5.8nm,1.0s						
RJOB	**Jochberg**	**151.43**	**351**	*e*PKPbc		**PKiKP**	**20 46 18.4 +1.3**
	baz=7.1,slow=2.6						
HERR	**Herculane**	**151.50**	**336**	⇑P		**PKiKP**	**20 46 18.4 +1.1**
MORH	**Mrgy, Hungar**	**151.60**	**342**	⇓P		**PKiKP**	**20 46 18.6 +1.1**
UBR	**Ueberruh**	**151.79**	**355**	*e*PKPbc		**PKiKP**	**20 46 19.2 +1.3**
	baz=7.1,slow=2.6						
MDVR	**Moldovita**	**151.85**	**337**	⇓P		**PKiKP**	**20 46 19.4 +1.3**
RETA	**Reutte**	**151.92**	**354**	*e*P		**PKiKP**	**20 46 18.5 +0.3**
	comp=Z,11nm,1.2s						
WATA	**Walderalm**	**151.98**	**353**	*e*P		**PKiKP**	**20 46 19.5 +1.1**
	comp=Z,10nm,1.2s						
MOTA	**Moosalm**	**152.03**	**353**	*e*P		**PKiKP**	**20 46 19.4 +0.9**
	comp=Z,14nm,1.2s,SNR=5.3						
WTTA	**Wattenberg**	**152.05**	**353**	*i* P		**PKiKP**	**20 46 19.8 +1.3**
	comp=Z,9.0nm,0.7s						
SOKA	**Soboth**	**152.06**	**347**	*e*P		**PKiKP**	**20 46 20.0 +1.5**
	comp=Z,11nm,1.5s						
SQTA	**Sankt Quirin**	**152.14**	**353**	*e*P		**PKiKP**	**20 46 19.1 +0.4**
	comp=Z,8.6nm,1.0s						
FRGS	**Fruska Gora**	**152.19**	**340**	⇑P		**PKiKP**	**20 46 20.3 +1.6**
DAVA	**Damuels**	**152.20**	**355**	*i* P		**PKiKP**	**20 46 19.8 +0.9**
	comp=Z,6.9nm,0.9s						
FETA	**Feichten**	**152.39**	**354**	*i* P		**PKiKP**	**20 46 20.5 +1.2**
	comp=Z,10nm,1.0s						
ABTA	**Abfaltersbach**	**152.44**	**351**	*e*P		**PKiKP**	**20 46 19.7 +0.5**
	comp=Z,14nm,1.1s,SNR=5.5						
VTS	**Vitosha**	**153.02**	**332**	⇓P		**PKiKP**	**20 46 22.3 +1.6**
VTS	**Vitosha**	**153.02**	**332**	PKIKP		**PKiKP**	**20 46 21.5 +0.8**
VTS	**Vitosha**	**153.02**	**332**			**PKiKP**	**20 46 21.5 +0.8**
DIVS	**Divibare**	**153.06**	**338**			**PKiKP**	**20 46 21.3 +0.7**
BNI	**Bardonecchia**	**154.57**	**360**	PKPab		**PKPab**	**20 46 35.8 -2.4**
TORD	**Torodi Ar. Bea**	**172.12**	**143**	PKP		**PKPdf**	**20 46 33.0 +0.5**
	comp=Z,0.8nm,0.9s,baz=31,slow=1.5,SNR=4.8						
TORD	**Torodi Ar. Bea**	**172.12**	**143**			**PKPdf**	**20 46 32.0 -0.5**

*ANF **21** 20:29:39.2±0.2, 45°.93N×122°.58W, h14km±2km, ML2.5/8, Error ellipse: s-maj=2.5km s-min=1.6km az=99.0*
*NEIC **21** 20:29:39.4±0.9, 45°.95N±0°.02×122°.59W±0°.03, h20km±4km, Error ellipse: s-maj=3.6km s-min=3.2km az=115.0*
*SEA **21** 20:29:40.2±1.5, 45°.95N±0°.01×122°.61W±0°.02, h15km±2km, ML2.4/74, ML2.1/12(NEIC), Error ellipse: s-maj=1.8km s-min=1.6km az=153.0*

ISC 21 20:29:39.3±0.8, 45°.95N±0°.02×122°.60W±0°.02, h16km, n77, σ0s53/94, Washington-Oregon border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
F04A	**Amboy**	**0.13**	**97**			**Pb**	**20 29 43.5**	**+0.2**
F04A						**Sb**	**20 29 46.2**	**+0.1**
F04A	**Amboy**	**0.13**	**97**	IAML			20 29 46.2	
	comp=N,993nm,0.1s							
F04A				IAML			20 29 46.3	
	comp=E,2µm,0.2s							
LVP	**Lakeview Peak**	**0.18**	**48**			**Pb**	**20 29 44.4**	**0.0**
RVW	**Rose Valley**	**0.23**	**334**			**Pg**	**20 29 44.8**	**+0.3**
RVW						**Sg**	**20 29 48.2**	**+0.2**
MTMW	**Mount Mitchell**	**0.28**	**74**			**Pb**	**20 29 46.0**	**-0.1**
MTMW						**Sb**	**20 29 50.5**	**-0.1**
ROSS	**Ross**	**0.29**	**188**			**Pb**	**20 29 46.0**	**0.0**
ROSS						**Sb**	**20 29 50.6**	**0.0**
B203	**Quarry, Mount**	**0.29**	**40**			**Pg**	**20 29 46.0**	**+0.4**
B203						**Sb**	**20 29 50.5**	**-0.3**
FL2	**Flat Top 2**	**0.30**	**35**			**Pb**	**20 29 46.3**	**-0.2**
F04D	**Rainier, OR**	**0.32**	**296**			**Pg**	**20 29 46.6**	**+0.7**
F04D						**Sb**	**20 29 51.8**	**+0.3**
F04D	**Rainier, OR**	**0.32**	**296**	P		**Pg**	**20 29 46.5**	**+0.5**
	baz=115,SNR=14							
F04D				S		**Sb**	**20 29 51.6**	**+0.1**
	baz=115							
HUBA	**Hudson Bay Hig**	**0.32**	**186**			**Pb**	**20 29 46.7**	**+0.1**
ALST	**Alston**	**0.34**	**299**			**Sb**	**20 29 52.4**	**+0.3**
SHW	**Mount Saint He**	**0.35**	**46**			**Pb**	**20 29 47.2**	**-0.1**
SWF2	**Southwest Flan**	**0.35**	**49**			**Pg**	**20 29 47.1**	**+0.4**
HSR	**South Ridge**	**0.37**	**52**			**Pb**	**20 29 47.5**	**-0.1**
B023	**Clatskanie**	**0.37**	**296**			**Pg**	**20 29 47.3**	**+0.4**
B023						**Sg**	**20 29 52.8**	**+0.8**
JLK	**June Lake**	**0.37**	**57**			**Pb**	**20 29 47.4**	**-0.2**
SEPW	**September Lobe**	**0.38**	**48**			**Pb**	**20 29 47.7**	**-0.1**
STD	**Studebaker Rid**	**0.39**	**42**			**Pg**	**20 29 47.6**	**+0.2**
STD						**Sb**	**20 29 53.5**	**-0.3**
VALT	**Mount Saint He**	**0.39**	**47**			**Pg**	**20 29 47.9**	**-0.1**
ERK	**Elk Rock**	**0.40**	**27**			**Pg**	**20 29 47.6**	**+0.1**
ESD	**East Dome**	**0.40**	**51**			**Pg**	**20 29 47.9**	**+0.4**
CDFW	**Cedar Flats**	**0.42**	**66**			**Pb**	**20 29 48.3**	**-0.1**
JRO	**Jston Ridge Ob**	**0.42**	**39**			**Pg**	**20 29 48.1**	**+0.2**
JRO						**Sb**	**20 29 54.4**	**-0.3**
B201	**Coldwater, Mou**	**0.43**	**33**			**Pg**	**20 29 48.0**	**0.0**
B201						**Sg**	**20 29 54.0**	**+0.2**
SOSW	**Source of Smit**	**0.44**	**47**			**Pg**	**20 29 48.5**	**+0.3**
B202	**Windy Ridge, M**	**0.44**	**47**			**Pg**	**20 29 48.2**	**0.0**
B202						**Sg**	**20 29 54.6**	**+0.4**
TDL	**Tradedollar La**	**0.48**	**34**			**Pg**	**20 29 49.1**	**0.0**
E04D	**Cinebar**	**0.61**	**2**			**Pg**	**20 29 51.3**	**-0.1**
E04D	**Cinebar**	**0.61**	**2**	P		**Pg**	**20 29 51.2**	**-0.1**
	baz=182,SNR=171							
E04D				S		**Sb**	**20 30 00.1**	**+0.1**
	baz=182							
KMOR	**Kings Mountain**	**0.69**	**244**			**Pg**	**20 29 52.5**	**-0.4**
KMOR						**Sg**	**20 30 02.3**	**+0.2**
GULW	**Guler Mountain**	**0.70**	**92**			**Pg**	**20 29 53.0**	**-0.1**
ASR	**Mount Adams--S**	**0.73**	**73**			**Pg**	**20 29 53.4**	**-0.2**
G04A	**Mulino**	**0.75**	**173**			**Pg**	**20 29 53.6**	**-0.2**
HIYU	**Hiyu Mountain**	**0.76**	**132**			**Pg**	**20 29 54.0**	**-0.1**
F05D	**White Salmon**	**0.80**	**94**			**Pg**	**20 29 55.0**	**+0.1**
F05D	**White Salmon**	**0.80**	**94**	P		**Pb**	**20 29 54.7**	**-0.1**
	baz=275							
VLL	**Laurance Lake**	**0.81**	**126**			**Pg**	**20 29 55.0**	**-0.1**
G03D	**McMinnville, O**	**0.87**	**213**			**Pb**	**20 29 55.6**	**-0.4**
G03D	**McMinnville, O**	**0.87**	**213**	P		**Pb**	**20 29 55.5**	**-0.6**
	baz=32,SNR=10							
G03D				S		**Sb**	**20 30 07.6**	**+0.2**
	baz=32							
TDH	**Tom, Dick, Har**	**0.87**	**139**			**Pb**	**20 29 55.8**	**-0.4**
SHRK	**Shell Rock**	**0.89**	**122**			**Pb**	**20 29 56.5**	**0.0**
E03A	**Lebam**	**0.90**	**312**			**Pb**	**20 29 55.1**	**-1.3**
E03A				IAML			20 30 16.6	
	comp=N,52nm,0.4s							
GLK	**Glacier Lake**	**0.93**	**48**			**Pb**	**20 29 56.9**	**-0.2**
LON	**Longmire**	**0.97**	**34**			**Pb**	**20 29 57.1**	**-0.7**
LON				IAML			20 30 10.5	
	comp=N,53nm,0.2s							
LON				IAML			20 30 10.5	
	comp=E,49nm,0.2s							
LON	**Longmire**	**0.97**	**34**			**Pb**	**20 29 57.4**	**-0.5**
B019	**Raymond**	**1.01**	**315**			**Pb**	**20 29 58.5**	**0.0**
REMR	**Mount Rainier-**	**1.02**	**31**			**Pb**	**20 29 58.2**	**-0.5**
WPW	**White Pass**	**1.05**	**44**			**Pb**	**20 29 58.8**	**-0.4**
B941	**Kapowsin**	**1.07**	**14**			**Pb**	**20 29 58.8**	**-0.7**
RVC	**Mount Rainier-**	**1.09**	**23**			**Pb**	**20 29 59.2**	**-0.6**
OBSR	**Observation Ro**	**1.10**	**29**			**Pb**	**20 29 59.5**	**-0.6**
RCS	**Mount Rainier-**	**1.10**	**33**			**Pb**	**20 29 59.6**	**-0.6**
GHW	**Garrison Hill**	**1.12**	**12**			**Pb**	**20 29 58.8**	**-1.5**
PANH	**Panhandle Gap,**	**1.13**	**36**			**Pb**	**20 29 59.9**	**-0.7**
G05D	**Wamic, OR**	**1.15**	**128**	S		**Sn**	**20 30 16.0**	**-0.1**
	baz=309							
FMW	**Mount Fremont**	**1.18**	**33**			**Pn**	**20 30 01.0**	**-0.3**
SR41	**SR410 Landslid**	**1.19**	**38**			**Pn**	**20 30 01.0**	**-0.5**
D04E	**Lakebay**	**1.24**	**355**	P		**Pn**	**20 30 02.3**	**+0.3**
	baz=175							
D04E				S		**Sg**	**20 30 19.9**	**+0.6**
	baz=175							
H04A	**Detroit Lake**	**1.30**	**167**			**Pn**	**20 30 02.4**	**-0.4**
GSM	**Grass Mountain**	**1.38**	**24**			**Pn**	**20 30 04.2**	**+0.3**
H04D	**Lebanon**	**1.43**	**184**			**Pn**	**20 30 04.8**	**+0.3**
H04D	**Lebanon**	**1.43**	**184**	P		**Pn**	**20 30 04.5**	**0.0**
	baz=3.7,SNR=6.7							
H04D				S		**Sb**	**20 30 23.8**	**+0.4**
	baz=3.7							
RATT	**Rattlesnake La**	**1.58**	**20**			**Pb**	**20 30 07.6**	**-0.5**
GNW	**Green Mountain**	**1.62**	**355**			**Pn**	**20 30 07.7**	**+0.5**
BROR	**Big Rock Looko**	**1.68**	**176**			**Pb**	**20 30 09.7**	**-0.2**
EBG	**Ellensburg**	**1.71**	**55**			**Pb**	**20 30 11.1**	**+0.8**
HDW	**Hoodsport**	**1.73**	**350**			**Pn**	**20 30 09.3**	**+0.5**
C04A	**Brinnon**	**1.79**	**352**			**Pn**	**20 30 10.2**	**+0.8**
PRLK	**Prince Lake**	**1.80**	**165**			**Pb**	**20 30 11.9**	**0.0**
LTY	**Liberty**	**1.87**	**45**			**Pn**	**20 30 10.1**	**-0.6**
HUOR	**Husband**	**1.90**	**163**			**Pb**	**20 30 13.3**	**-0.5**
HTW	**Haystack Looko**	**1.94**	**17**			**Pb**	**20 30 13.4**	**-1.0**
JCW	**Jim Creek**	**2.29**	**11**			**Pb**	**20 30 18.9**	**-1.4**
C06D	**Leavenworth**	**2.30**	**30**	Pb		**Pb**	**20 30 20.3**	**-0.1**
	baz=211							
C06D				Sb		**Sb**	**20 30 50.5**	**+2.0**
	baz=211							
MBW	**Mount Baker**	**2.88**	**9**			**Pb**	**20 30 28.6**	**-1.8**
I07A	**Izee**	**2.88**	**129**	Pn		**Pn**	**20 30 24.1**	**-0.5**
I07A				IAML			20 31 32.5	
	comp=N,6.8nm,4.2s							
I07A				IAML			20 32 14.9	
	comp=E,7.1nm,3.7s							

MEX 21 20:31:54.8±0.8, 13°.91N×93°.46W, h10km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PCIG		**1.80**	**7**	*i* P		Pn	20 32 22.7	-3.2
PCIG				*i* S		Sn	20 32 44.1	-4.8
CMIG	**Matias Romero**	**3.45**	**337**	*i* P		Pn	20 32 50.8	+2.1
CMIG				*i* S		Sn	20 33 23.5	-6.1

*IDC **21** 20:37:28.0±1.7, 32°.18S×70°.37W, h0km, mb3.6/1, mb1 3.5/2, mb1mx3.4/15, mbtmp3.4/2, ML3.6/1, Error ellipse: s-maj=90.4km s-min=15.4km az=101.0*
*GUC **21** 20:37:28.7±0.8, 32°.13S×72°.14W, h37km±3km, ML3.3*

**ISC 21 20:37:26.5±1.9, 32°.17S±0°.05×72°.14W±0°.08, h17km±10km, n16, σ1s47/27, 8C,

ENTT	**Nioudou**	**1.04 315**	P	**Pb**	**20 38 48.1**	**-0.2**
	baz=300					
ENTT			*e*S	**Sn**	**20 39 00.6**	**-0.7**
	baz=300					
WHF	**Hehuan Shan**	**1.05 283**	*e*P	**Pn**	**20 38 47.6**	**-0.5**
	baz=280					
WHF			*e*S	**Sn**	**20 39 01.9**	**0.0**
	baz=280					
NNSB	**Datong**	**1.05 300**	*e*P	**Pn**	**20 38 48.0**	**+0.2**
	baz=287					
NNSB			S	**Sn**	**20 39 01.1**	**-0.5**
	baz=287					
EHY	**Hungye**	**1.05 248**	*e*P	**Pn**	**20 38 47.6**	**-0.2**
	baz=245					
EHY			*e*S	**Sn**	**20 39 00.1**	**-1.4**
	baz=245					
NDT	**Datong Townshi**	**1.05 311**	*e*P	**Pb**	**20 38 48.2**	**-0.3**
	baz=308					
NDT			*e*S	**Sb**	**20 39 02.0**	**+0.1**
	baz=308					
NNS	**Nan Shan**	**1.06 300**	*e*P	**Pn**	**20 38 48.0**	**0.0**
	baz=288					
NNS			*e*S	**Sn**	**20 39 00.9**	**-1.1**
	baz=288					
NTC	**Toucheng**	**1.07 332**	*e*P	**Pb**	**20 38 49.0**	**+0.2**
	baz=330					
NTC			*e*S	**Sb**	**20 39 03.1**	**+0.7**
	baz=330					
FUSS	**Fushou**	**1.09 288**	*e*P	**Pn**	**20 38 48.8**	**+0.3**
	baz=285					
FUSS			*e*S	**Sb**	**20 39 03.4**	**0.0**
	baz=285					
OWD	**Renai**	**1.10 273**	*e*P	**Pn**	**20 38 48.6**	**0.0**
	baz=270					
OWD			*e*S	**Sn**	**20 39 02.1**	**-0.9**
	baz=270					
CHGB	**Renai**	**1.12 278**	P	**Pn**	**20 38 48.8**	**0.0**
	baz=266					
CHGB			*e*S	**Sb**	**20 39 04.3**	**+0.3**
	baz=266					
YULB	**Yu-li**	**1.12 243**	*e*P	**Pn**	**20 38 48.8**	**+0.1**
	baz=230					
YULB			S	**Sn**	**20 39 02.7**	**-0.5**
	baz=230					
EYUL	**Yuli**	**1.12 240**	P	**Pn**	**20 38 49.0**	**+0.3**
	baz=238					
EYUL			*e*S	**Sn**	**20 39 03.8**	**+0.6**
	baz=238					
TWF1	**Yuli**	**1.14 241**	*e*P	**Pn**	**20 38 49.3**	**+0.3**
	baz=238					
TWF1			*e*S	**Sn**	**20 39 03.7**	**0.0**
	baz=238					
TWB1	**Santiao Chiao**	**1.15 342**	*e*P	**Pb**	**20 38 50.8**	**+0.6**
	baz=341					
TWB1			*e*S	**Sb**	**20 39 04.9**	**+0.1**
	baz=341					
TWT	**Tachien**	**1.16 288**	*e*P	**Pb**	**20 38 50.1**	**-0.2**
	baz=275					
TWT			*e*S	**Sb**	**20 39 05.5**	**+0.4**
	baz=275					
TDCB	**Techi**	**1.17 287**	*e*P	**Pn**	**20 38 49.9**	**+0.4**
	baz=277					
TIPB	**Shuangxi**	**1.18 335**	*e*P	**Pb**	**20 38 50.8**	**+0.2**
	baz=333					
TIPB			*e*S	**Sb**	**20 39 05.1**	**-0.3**
	baz=333					
NWLT	**Wulai**	**1.18 317**	*e*P	**Pb**	**20 38 50.9**	**+0.2**
	baz=315					
NWLT			*e*S	**Sb**	**20 39 05.4**	**-0.2**
	baz=315					
YHNB	**Yeheng**	**1.19 310**	P	**Pn**	**20 38 50.2**	**+0.4**
	baz=307					
YHNB			*e*S	**Sn**	**20 39 03.8**	**-1.2**
	baz=307					
NSK	**Sanguang**	**1.21 309**	*e*P	**Pn**	**20 38 50.4**	**+0.5**
	baz=307					
NSK			*e*S	**Sn**	**20 39 05.0**	**-0.4**
	baz=307					
FULB	**Fuli**	**1.22 235**	*e*P	**Pn**	**20 38 49.9**	**-0.2**
	baz=222					
FULB			*e*S	**Sn**	**20 39 05.2**	**-0.5**
	baz=222					
CHKT	**Chengkung**	**1.23 229**	*e*P	**Pn**	**20 38 48.8**	**-1.4**
	baz=218					
CHKT			*e*S	**Sn**	**20 39 04.3**	**-1.6**
	baz=218					
NWF	**Wu-fen Shan**	**1.28 335**	*e*P	**Pb**	**20 38 52.7**	**+0.2**
	baz=333					
NWF			*e*S	**Sb**	**20 39 09.0**	**+0.4**
	baz=333					
WFSB	**Wu-fen Shan**	**1.28 335**	*e*P	**Pb**	**20 38 52.7**	**+0.3**
	baz=333					
WFSB			*e*S	**Sb**	**20 39 08.8**	**+0.3**
	baz=333					
IRIF	**Iriomote-Funau**	**1.30 71**	P	**Pb**	**20 38 52.6**	**-0.1**
IRIF			*e*S	**Sb**	**20 39 11.1**	**+2.0**
WPL	**Puli Township**	**1.31 275**	*e*P	**Pn**	**20 38 52.1**	**+0.8**
	baz=272					
WPL			*e*S	**Sn**	**20 39 08.5**	**+0.7**
	baz=272					
SSLB	**Suanglung**	**1.31 265**	*e*P	**Pn**	**20 38 52.0**	**+0.6**
	baz=262					
SSLB			*e*S	**Sn**	**20 39 07.3**	**-0.6**
	baz=262					
DPDB	**Guoxing**	**1.34 276**	*e*P	**Pn**	**20 38 52.6**	**+0.9**
	baz=273					
DPDB			*e*S	**Sb**	**20 39 10.2**	**+0.1**
	baz=273					
ECS	**Chishang**	**1.34 233**	*e*P	**Pn**	**20 38 52.2**	**+0.5**
	baz=222					
ECS			*e*S	**Sn**	**20 39 08.0**	**-0.6**
	baz=222					
WCS	**Beigang Elemen**	**1.35 277**	*e*P	**Pn**	**20 38 52.4**	**+0.5**
	baz=274					
WCS			*e*S	**Sb**	**20 39 09.8**	**-0.7**
	baz=274					
SMLT	**Sun Moon Lake**	**1.36 269**	*e*P	**Pn**	**20 38 52.7**	**+0.7**
	baz=266					
SMLT			*e*S	**Sn**	**20 39 09.3**	**+0.1**
	baz=266					
EDH	**Donghe**	**1.36 227**	*e*P	**Pn**	**20 38 51.5**	**-0.5**
	baz=217					
EDH			*e*S	**Sn**	**20 39 07.1**	**-2.0**
	baz=217					
WHP	**Taichung City**	**1.36 286**	*e*P	**Pb**	**20 38 53.8**	**0.0**
	baz=274					
WHP			*e*S	**Sb**	**20 39 10.4**	**-0.5**
	baz=274					
YUS	**Yu-Shan**	**1.38 253**	*e*P	**Pn**	**20 38 53.2**	**+0.6**
	baz=251					
TYC	**Yuchr**	**1.40 270**	*e*P	**Pn**	**20 38 53.2**	**+0.7**
	baz=267					
TYC			*e*S	**Sn**	**20 39 10.2**	**+0.2**
	baz=267					
WHYT	**Xinyi Township**	**1.42 262**	*e*P	**Pb**	**20 38 54.8**	**+0.1**
	baz=249					
WHYT			*e*S	**Sn**	**20 39 10.8**	**+0.2**
	baz=249					
YM01	**YM01**	**1.44 329**	*e*P	**Pb**	**20 38 54.1**	**-1.0**
	baz=343					
YM01			*e*S	**Sb**	**20 39 13.1**	**+0.1**
	baz=343					
ELDTW	**Lidau**	**1.44 241**	*e*P	**Pn**	**20 38 53.2**	**-0.1**
	baz=238					
ELDTW			*e*S	**Sn**	**20 39 10.4**	**-0.9**
	baz=238					
LIOB	**Emei**	**1.45 301**	*e*P	**Pb**	**20 38 55.1**	**-0.1**
	baz=288					
LIOB			*e*S	**Sb**	**20 39 13.1**	**-0.1**
	baz=288					
NSTT	**Nanjuang**	**1.45 300**	*e*P	**Pb**	**20 38 55.0**	**-0.3**
	baz=287					
NSTT			*e*S	**Sb**	**20 39 12.8**	**-0.6**
	baz=287					
LDUT	**Ludao**	**1.49 215**	*e*P	**Pn**	**20 38 53.3**	**-0.5**
	baz=213					
LDUT			*e*S	**Sn**	**20 39 10.9**	**-1.4**
	baz=213					
ALS	**Alishan**	**1.50 255**	*e*P	**Pn**	**20 38 55.3**	**+1.1**
	baz=252					
ALS			*e*S	**Sn**	**20 39 13.3**	**+0.3**
	baz=252					
WJS	**Zhushan**	**1.52 267**	*e*P	**Pb**	**20 38 56.9**	**+0.5**
	baz=264					
WJS			*e*S	**Sb**	**20 39 15.0**	**-0.2**
	baz=264					
JKRS	**Kuro-shima**	**1.52 77**	P	**Pb**	**20 38 55.6**	**-0.9**
JKRS			*e*S	**Sb**	**20 39 15.5**	**+0.1**
LONT	**Longtian**	**1.52 229**	*e*P	**Pn**	**20 38 54.3**	**+0.1**
	baz=221					
LONT			*e*S	**Sn**	**20 39 12.9**	**-0.2**
	baz=221					
TWQ1	**Liyutan**	**1.53 287**	*e*P	**Pb**	**20 38 56.2**	**-0.4**
	baz=284					
TWQ1			*e*S	**Sb**	**20 39 15.9**	**+0.1**
	baz=284					
WWF	**Wufeng**	**1.55 275**	*e*P	**Pb**	**20 38 57.5**	**+0.6**
	baz=269					
WWF			*e*S	**Sb**	**20 39 19.0**	**+2.9**
	baz=269					
WNT	**Mingjian**	**1.56 269**	*e*P	**Pb**	**20 38 58.0**	**+1.0**
	baz=267					
WNT			*e*S	**Sb**	**20 39 16.3**	**0.0**
	baz=267					
WNT1	**Nantou City**	**1.56 270**	*e*P	**Pb**	**20 38 57.3**	**+0.2**
	baz=268					
WNT1			*e*S	**Sb**	**20 39 18.2**	**+1.8**
	baz=268					
CHN5	**Tsauling**	**1.59 259**	*e*P	**Pb**	**20 38 57.0**	**-0.7**
	baz=248					
CHN5			*e*S	**Sb**	**20 39 16.5**	**-1.0**
	baz=248					
STYH	**Taoyuan**	**1.65 244**	*e*P	**Pn**	**20 38 57.4**	**+1.4**
	baz=235					
STYH			*e*S	**Sn**	**20 39 17.3**	**+1.1**
	baz=235					
STYT	**Tauyuan**	**1.67 244**	*e*P	**Pn**	**20 38 57.5**	**+1.3**
	baz=234					
STYT			*e*S	**Sn**	**20 39 18.1**	**+1.4**
	baz=234					
JIJ	**Ishigaki jima**	**1.67 74**	P	**Pb**	**20 38 59.2**	**+0.2**
JIJ			*e*S	**Sb**	**20 39 19.7**	**+0.1**
WGK	**Gukeng**	**1.68 263**	*e*P	**Pb**	**20 38 58.3**	**-0.9**
	baz=260					
WGK			*e*S	**Sb**	**20 39 20.7**	**+0.8**
	baz=260					
WDLH	**Douliu**	**1.70 263**	*e*P	**Pb**	**20 38 58.5**	**-1.0**
	baz=260					
WDLH			*e*S	**Sb**	**20 39 21.9**	**+1.3**
	baz=260					
TPUB	**Ta-pu**	**1.72 250**	*e*P	**Pb**	**20 38 58.9**	**-1.0**
	baz=255					
TPUB			*e*S	**Sb**	**20 39 20.1**	**-1.0**
	baz=255					
CHN4	**Tsaushan**	**1.73 252**	*e*P	**Pb**	**20 38 59.6**	**-0.5**
	baz=249					
CHN4			*e*S	**Sb**	**20 39 21.2**	**-0.2**
	baz=249					
WTP	**Ta-pu**	**1.75 248**	*e*P	**Pn**	**20 38 58.9**	**+1.5**
	baz=236					
WTP			*e*S	**Sb**	**20 39 21.6**	**-0.4**
	baz=236					
WRL	**Guolierlin Hig**	**1.83 270**	*e*P	**Pb**	**20 39 00.9**	**-0.9**
	baz=268					
WRL			*e*S	**Sb**	**20 39 23.8**	**-0.6**
	baz=268					
SLGT	**Liugui**	**1.84 241**	*e*P	**Pn**	**20 39 00.3**	**+1.8**
	baz=231					
SLGT			*e*S	**Sb**	**20 39 23.4**	**-1.0**
	baz=231					
WTK	**Tuku**	**1.84 264**	*e*P	**Pb**	**20 39 01.2**	**-0.7**
	baz=261					
WTK			*e*S	**Sb**	**20 39 23.9**	**-0.5**
	baz=261					
SGST	**Jiashian**	**1.84 244**	*e*P	**Pb**	**20 39 01.1**	**-0.9**
	baz=234					
SGST			*e*S	**Sn**	**20 39 23.0**	**+1.9**
	baz=234					
CHN1	**Nanshi**	**1.85 247**	*e*P	**Pb**	**20 39 02.1**	**+0.1**
	baz=245					
CHN1			*e*S	**Sb**	**20 39 24.3**	**-0.4**
	baz=245					
ECL	**Taimali**	**1.85 225**	*e*P	**Pn**	**20 38 58.5**	**-0.3**
	baz=223					
ECL			*e*S	**Sn**	**20 39 19.8**	**-1.4**
	baz=223					
TWK	**Hsinying**	**1.85 250**	*e*P	**Pb**	**20 39 01.1**	**-1.0**
	baz=248					
TWK			*e*S	**Sb**	**20 39 24.3**	**-0.6**
	baz=248					
JISG	**Ishigakijimahi**	**1.89 69**	P	**Pn**	**20 39 00.0**	**+0.8**
JISG			*e*S	**Sb**	**20 39 24.2**	**-1.6**
SSD	**Sandimen**	**1.98 235**	*e*P	**Pb**	**20 39 02.9**	**-1.4**
	baz=228					
SSD			*e*S	**Sn**	**20 39 26.8**	**+2.3**
	baz=228					
TSMG	**Majia**	**2.00 234**	*e*P	**Pn**	**20 39 02.9**	**+2.2**
	baz=227					
TSMG			*e*S	**Sn**	**20 39 26.1**	**+1.3**
	baz=227					
LAY	**Lan-yu**	**2.01 203**	*e*P	**Pn**	**20 39 00.6**	**-0.4**
	baz=201					
LAY			*e*S	**Sn**	**20 39 24.2**	**-1.0**
	baz=201					
SCST	**Cishan**	**2.01 240**	*e*P	**Pb**	**20 39 04.2**	**-0.6**
	baz=226					
SCST			*e*S	**Sb**	**20 39 30.3**	**+0.8**
	baz=226					
MASBT	**Mashibuluo**	**2.06 232**	*e*P	**Pn**	**20 39 02.9**	**+1.2**
	baz=225					
MASBT			*e*S	**Sn**	**20 39 28.2**	**+1.7**
	baz=225					
SCZT	**Fangliau**	**2.23 227**	*e*P	**Pn**	**20 39 05.8**	**+1.9**
	baz=219					
SCZT			*e*S	**Sn**	**20 39 31.7**	**+1.2**
	baz=219					
WDGT	**Dungji**	**2.58 256**	*e*P	**Pn**	**20 39 10.3**	**+1.6**
	baz=254					
WDGT			*e*S	**Sn**	**20 39 40.3**	**+1.1**
	baz=254					
PHUB	**P'eng-hu**	**2.61 262**	*e*P	**Pn**	**20 39 10.2**	**+1.1**
	baz=260					
PHUB			*e*S	**Sn**	**20 39 40.4**	**+0.6**
	baz=260					
PNG	**Penghu**	**2.61 263**	*e*P	**Pn**	**20 39 10.4**	**+1.2**
	baz=261					
PNG			*e*S	**Sn**	**20 39 41.0**	**+1.0**
	baz=261					
PTMZ	**Houxiangcun**	**3.18 291**	*e*P	**Pn**	**20 39 17.3**	**+0.3**
	baz=289					
PTMZ			*e*S	**Sn**	**20 39 52.4**	**-1.6**
	baz=289					

*JMA **21** 20:39:50.4±0.1,24°.84N×122°.42E,h0km,M2.3*
*TAP **21** 20:39:50.2,24°.95N×122°.47E,h22km±1km,ML2.8,C*
ISC 21 20:39:50.5±1.0,24°91N±0°03×122°47E±0°02,h17km±8km,
n54,σ0°52/104,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.44 283**		P		**Pg**	**20 39 59.3**	**-0.2**
	baz=278							
TWB1				S		**Sg**	**20 40 05.7**	**+0.1**
	baz=278							
NTC	**Toucheng**	**0.58 265**		*e*P		**Pg**	**20 40 02.1**	**+0.1**
	baz=261							
TIPB	**Shuangxi**	**0.58 277**		*i* P		**Pb**	**20 40 02.1**	**-0.2**
	baz=272							
TIPB				S		**Sg**	**20 40 10.4**	**+0.5**
	baz=272							
JYNG	**Yonagunijimaku**	**0.63 136**		P		**Pb**	**20 40 02.8**	**-0.2**
JYNG				*e*S		**Sb**	**20 40 11.6**	**+0.1**
TWC	**Suao**	**0.63 242**		P		**Pb**	**20 40 02.5**	**-0.5**
	baz=239							
TWC				S		**Sb**	**20 40 10.7**	**-0.9**
	baz=239							
NWF	**Wu-fen Shan**	**0.64 285**		*e*P		**Pg**	**20 40 03.2**	**+0.1**
	baz=281							
NWF				*e*S		**Sg**	**20 40 12.1**	**+0.3**
	baz=281							
WFSB	**Wu-fen Shan**	**0.64 285**		P		**Pg**	**20 40 03.2**	**0.0**
	baz=281							
WFSB				*e*S		**Sg**	**20 40 11.9**	**+0.2**
	baz=281							
YOJ	**Yonaguni jima**	**0.67 132**		P		**Pb**	**20 40 03.6**	**0.0**
YOJ				*e*S		**Sb**	**20 40 12.4**	**-0.1**
YOJ	**Yonaguni jima**	**0.67 132**		*i* P		**Pb**	**20 40 03.4**	**-0.2**
	baz=128							
YOJ				S		**Sb**	**20 40 12.2**	**-0.3**
	baz=128							
NDS	**Dongshan**	**0.73 248**		*e*P		**Pb**	**20 40 04.5**	**-0.3**
	baz=246							
NDS				*e*S		**Sg**	**20 40 15.4**	**+0.8**
	baz=246							
TWE	**Neicheng**	**0.75 256**		*e*P		**Pb**	**20 40 04.5**	**-0.5**
	baz=252							
TWE				*e*S		**Sb**	**20 40 14.8**	**-0.1**
	baz=252							
EWUT	**Wuta**	**0.78 234**		P		**Pb**	**20 40 05.2**	**-0.3**
	baz=232							
EWUT				S		**Sb**	**20 40 15.5**	**-0.2**
	baz=232							
TWA	**Mucha**	**0.80 276**		*e*P		**Pb**	**20 40 05.9**	**-0.1**
	baz=272							
TWA				*e*S		**Sg**	**20 40 17.2**	**+0.4**
	baz=272							
PCYT	**Pengchaiyu**	**0.80 334**		*e*P		**Pb**	**20 40 05.3**	**-0.7**
	baz=316							
PCYT				*e*S		**Sn**	**20 40 19.4**	**+0.9**
	baz=316							
ENA	**Nanau**	**0.81 234**		*e*P		**Pb**	**20 40 05.6**	**-0.5**
	baz=232							
ENA				*e*S		**Sb**	**20 40 16.5**	**-0.3**
	baz=232							
YM08	**YM08**	**0.84 290**		*e*P		**Pb**	**20 40 06.2**	**-0.4**
	baz=286							
YM08				*e*S		**Sg**	**20 40 18.1**	**0.0**
	baz=286							
YM01	**YM01**	**0.85 287**		*e*P		**Pb**	**20 40 06.5**	**-0.3**
	baz=283							
YM01				*e*S		**Sn**	**20 40 19.8**	**+0.1**
	baz=283							
NHDH	**Xindian Distri**	**0.85 274**		*e*P		**Pb**	**20 40 06.9**	**+0.1**
	baz=271							
NHDH				*e*S		**Sb**	**20 40 18.0**	**0.0**
	baz=271							
ENTT	**Nioudou**	**0.86 252**		*e*P		**Pb**	**20 40 06.7**	**-0.2**
	baz=233							
ENTT				*e*S		**Sg**	**20 40 18.8**	**+0.2**
	baz=233							
TWY	**Chenhua**	**0.87 295**		*e*P		**Pb**	**20 40 06.8**	**-0.3**
	baz=292							
TWY				*e*S		**Sn**	**20 40 19.5**	**-0.6**
	baz=292							
NWLT	**Wulai**	**0.88 262**		*e*P		**Pb**	**20 40 07.0**	**-0.3**
	baz=259							
NWLT				*e*S		**Sb**	**20 40 18.8**	**-0.1**
	baz=259							
TATO	**Taipei**	**0.89 275**		*e*P		**Pb**	**20 40 07.2**	**-0.2**
	baz=260							
TATO				*e*S		**Sg**	**20 40 19.8**	**+0.2**
	baz=260							
ANP	**Anpu**	**0.90 288**		*e*P		**Pg**	**20 40 08.1**	**0.0**
	baz=285							
ANP				*e*S		**Sn**	**20 40 20.4**	**-0.7**
	baz=285							
NDT	**Datong Townshi**	**0.92 251**		*e*P		**Pb**	**20 40 08.2**	**+0.3**
	baz=234							
NDT				*e*S		**Sn**	**20 40 21.5**	**+0.2**
	baz=234							
NTST	**Danshui**	**0.96 286**		*e*P		**Pb**	**20 40 08.7**	**+0.1**
	baz=283							
NTST				*e*S		**Sb**	**20 40 21.0**	**0.0**
	baz=283							
YHNB	**Yeheng**	**1.02 257**		*e*P		**Pb**	**20 40 09.1**	**-0.6**
	baz=241							
YHNB				*e*S		**Sn**	**20 40 24.2**	**+0.2**
	baz=241							
NSK	**Sanguang**	**1.03 257**		*e*P		**Pb**	**20 40 09.5**	**-0.4**
	baz=267							
NSK				*e*S		**Sb**	**20 40 23.4**	**+0.2**
	baz=267							
ETL	**Fush Village**	**1.07 226**		*e*P		**Pn**	**20 40 10.7**	**+0.1**
	baz=233							
ETL				*e*S		**Sb**	**20 40 24.2**	**0.0**
	baz=233							
NACB	**Ninganchiao**	**1.08 228**		*e*P		**Pb**	**20 40 09.8**	**-0.8**
	baz=234							
NACB				*e*S		**Sb**	**20 40 24.0**	**-0.4**
	baz=234							
NNSB	**Datong**	**1.09 244**		*e*P		**Pb**	**20 40 10.7**	**-0.3**
	baz=243							
NNSB				*e*S		**Sn**	**20 40 25.7**	**-0.2**
	baz=243							
NNS	**Nan Shan**	**1.10 245**		*e*P		**Pb**	**20 40 10.8**	**-0.2**
	baz=243							
NNS				*e*S		**Sb**	**20 40 24.8**	**-0.3**
	baz=243							
ETLH	**Xiulin Townshi**	**1.13 232**		*e*P		**Pn**	**20 40 11.7**	**0.0**
	baz=242							
ETLH				*e*S		**Sn**	**20 40 26.5**	**-0.3**
	baz=242							
IRIF	**Iriomote-Funau**	**1.28 116**		P		**Pg**	**20 40 15.6**	**+0.3**
FUSS	**Fushou**	**1.29 240**		*e*P		**Pb**	**20 40 14.3**	**-0.1**
	baz=238							
FUSS				*e*S		**Sn**	**20 40 31.1**	**+0.2**
	baz=238							
WHF	**Hehuan Shan**	**1.33 236**		*e*P		**Pn**	**20 40 14.9**	**+0.3**
	baz=245							
WHF				*e*S		**Sb**	**20 40 32.5**	**+0.4**
	baz=245							
TWT	**Tachien**	**1.34 241**		*e*P		**Pb**	**20 40 15.4**	**+0.2**
	baz=240							
TWT				*e*S		**Sg**	**20 40 33.9**	**0.0**
	baz=240							
LIOB	**Emei**	**1.34 259**		*e*P		**Pn**	**20 40 14.1**	**-0.4**
	baz=257							
LIOB				*e*S		**Sb**	**20 40 32.6**	**+0.6**
	baz=257							
TDCB	**Techi**	**1.35 242**		*e*P		**Pb**	**20 40 15.3**	**-0.2**
	baz=240							
TDCB				*e*S		**Sg**	**20 40 34.3**	**-0.1**
	baz=240							
NSTT	**Nanjuang**	**1.36 259**		*e*P		**Pn**	**20 40 14.5**	**-0.1**
	baz=257							
NSTT				*e*S		**Sb**	**20 40 32.9**	**+0.4**
	baz=257							
ESL	**Shilin**	**1.44 221**		*e*P		**Pb**	**20 40 17.5**	**+0.7**
	baz=205							
ESL				*e*S		**Sb**	**20 40 35.4**	**+0.5**
	baz=205							
CHGB	**Renai**	**1.45 235**		*e*P		**Pb**	**20 40 17.0**	**-0.1**
	baz=243							
CHGB				*e*S		**Sg**	**20 40 36.9**	**-0.4**
	baz=243							
OWD	**Renai**	**1.51 231**		*e*P		**Pn**	**20 40 17.4**	**+0.6**
	baz=214							
OWD				*e*S		**Sb**	**20 40 37.8**	**+0.8**
	baz=214							
WHP	**Taichung City**	**1.52 246**		*e*P		**Pb**	**20 40 18.6**	**+0.4**
	baz=245							
WHP				*e*S		**Sg**	**20 40 38.5**	**-1.0**
	baz=245							
JKRS	**Kuro-shima**	**1.56 115**		P		**Pg**	**20 40 20.5**	**+0.1**
JIJ	**Ishigaki jima**	**1.62 109**		P		**Pg**	**20 40 21.4**	**-0.3**
WCS	**Beigang Elemen**	**1.65 239**		*e*P		**Pb**	**20 40 20.8**	**+0.4**
	baz=238							
WCS				*e*S		**Sb**	**20 40 42.0**	**+1.1**
	baz=238							
DPDB	**Guoxing**	**1.65 239**		*e*P		**Pb**	**20 40 20.7**	**+0.3**
	baz=238							
DPDB				*e*S		**Sg**	**20 40 43.0**	**-0.7**
	baz=238							
SMLT	**Sun Moon Lake**	**1.75 235**		*e*P		**Pb**	**20 40 21.8**	**-0.5**
	baz=243							
SMLT				*e*S		**Sb**	**20 40 44.7**	**+0.7**
	baz=243							
SSLB	**Suanglung**	**1.77 231**		*e*P		**Pb**	**20 40 21.8**	**-0.7**
	baz=216							
SSLB				*e*S		**Sb**	**20 40 43.6**	**-0.9**
	baz=216							
TYC	**Yuchr**	**1.77 236**		*e*P		**Pb**	**20 40 22.7**	**+0.2**
	baz=220							
TYC				*e*S		**Sg**	**20 40 46.4**	**-1.3**
	baz=220							
WHYT	**Xinyi Township**	**1.90 231**		*e*P		**Pb**	**20 40 25.1**	**+0.4**
	baz=216							
WHYT				*e*S		**Sb**	**20 40 48.6**	**+0.4**
	baz=216							
ALS	**Alishan**	**2.06 228**		*e*P		**Pb**	**20 40 26.3**	**-1.2**
	baz=214							
ALS				*e*S		**Sb**	**20 40 51.7**	**-1.2**
	baz=214							
CHN5	**Tsauling**	**2.09 232**		*e*P		**Pb**	**20 40 28.2**	**+0.2**
	baz=217							
CHN5				*e*S		**Sb**	**20 40 55.4**	**+1.8**
	baz=217							
CHN4	**Tsaushan**	**2.31 228**		*e*P		**Pb**	**20 40 30.6**	**-1.0**
	baz=215							
CHN4				*e*S		**Sn**	**20 40 57.1**	**+1.4**
	baz=215							

*ISK **21** 20:43:41.0, 37.09N×28.89E, h2km, ML2.6/15*

DDA 21 20:43:41.2, 37.13N×28.88E±10km, h10km±2km, ML2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVA	**DENIZLI_Tavas**	**0.34**	**4**	*i* P	Pg	20 43 48.2	+0.1
TAVA				*i* S	Sg	20 43 52.7	+0.1
TAVA				IAML		20 43 55.0	
	comp=N,622nm,0.5s						
TAVA				IAML		20 43 55.0	
	comp=E,407nm,0.3s						
CAEL	**Denizli, Camel**	**0.35**	**90**	*i* P	Pg	20 43 48.5	+0.2
CAEL				*i* S	Sg	20 43 52.9	-0.1
CAEL				IAML		20 43 56.0	
	comp=E,562nm,0.4s						
CAEL				IAML		20 43 58.0	
	comp=N,440nm,0.4s						
DALY	**Dalyan (Mula)**	**0.36**	**211**	*i* P	Pg	20 43 48.7	+0.5
DALY				*i* S	Sb	20 43 54.8	-0.5
DALY				IAML		20 43 59.0	
	comp=N,383nm,0.3s						
DALY	**Dalyan (Mula)**	**0.36**	**211**	PG	Pg	20 43 48.7	+0.4
DALY				SG	Sg	20 43 53.9	+0.9
CAME	**Cameli-Denizli**	**0.38**	**118**	PG	Pg	20 43 48.8	0.0
CAME				SG	Sb	20 43 55.1	-1.1
MULA	**Mugla, Merkez-**	**0.47**	**286**	*i* P	Pb	20 43 51.2	-0.3
MULA				*i* S	Sb	20 43 57.5	-1.0
MULA				IAML		20 44 01.0	
	comp=E,299nm,0.4s						
YER	**Yerkesik**	**0.48**	**271**	PG	Pb	20 43 51.6	-0.1
YER				SG	Sb	20 43 59.2	+0.4
FETY	**Fethiye**	**0.52**	**162**	PG	Pg	20 43 51.4	+0.1
FETY				SG	Sg	20 43 58.6	+0.5
GOLH	**Golhisar**	**0.56**	**78**	*i* P	Pg	20 43 52.3	+0.3
GOLH				*i* S	Sg	20 44 00.1	+0.8
TURN	**Turunc**	**0.62**	**236**	*i* P	Pg	20 43 53.5	+0.3
TURN				*i* S	Sb	20 44 02.7	-0.1
TURN	**Turunc**	**0.62**	**236**	PG	Pg	20 43 53.6	+0.4
MLSB	**Milas**	**0.90**	**281**	PG	Pb	20 43 58.9	0.0
MLSB				SG	Sn	20 44 12.6	-0.3
ELL	**Elmali**	**0.91**	**114**	PG	Pb	20 43 58.9	-0.2
ELL				SG	Sb	20 44 12.1	+0.9
AYDN	**Tasoluk**	**0.96**	**304**	*i* P	Pb	20 44 00.1	+0.2
AYDN				*i* S	Sn	20 44 13.8	-0.8
AKAS	**Kas**	**1.06**	**147**	*i* P	Pn	20 44 03.2	+0.9
AKAS				*i* S	Sn	20 44 18.8	+1.5
AKAS	**Kas**	**1.06**	**147**	PG	Pb	20 44 01.9	+0.1
ARG	**Arkhangelos**	**1.09**	**214**	PG	Pn	20 44 02.5	0.0
BRDR	**BURDUR-Merkez**	**1.10**	**58**	*i* P	Pn	20 44 03.5	+0.7
BRDR				*i* S	Sn	20 44 19.2	+1.1
BRDR				IAML		20 44 24.0	
	comp=E,95nm,0.5s						
AYDB	**Zeytinkoy-Aydi**	**1.14**	**316**	PN	Pn	20 44 03.2	-0.1
BDRM	**Kayabasi**	**1.15**	**267**	*i* P	Pn	20 44 04.0	+0.7
BDRM				*i* S	Sn	20 44 19.5	+0.3
KORT	**Korkueli**	**1.18**	**96**	PN	Pg	20 44 04.4	+0.5
BASM	**Basmaki-Afyon**	**1.22**	**49**	PN	Pg	20 44 05.8	+1.1
BODT	**Bodrum**	**1.26**	**268**	PN	Pg	20 44 05.8	+0.5
PASA	**Karahalli, USA**	**1.31**	**21**	*i* P	Pn	20 44 05.5	-0.2
PASA				*i* S	Sb	20 44 22.6	-0.3
DDIM	**Aydin, Didim**	**1.35**	**285**	*i* P	Pg	20 44 07.7	+0.6
DDIM				*i* S	Sg	20 44 25.2	+0.6
DDIM				IAML		20 44 32.0	
	comp=E,92nm,0.9s						
DDIM				IAML		20 44 34.0	
	comp=N,87nm,1.0s						
BUCA	**Burdur, Bucak-**	**1.35**	**81**	*i* P	Pg	20 44 08.2	+0.9
BUCA				*i* S	Sg	20 44 25.4	+0.6
MANT	**Manisa**	**1.39**	**349**	*i* P	Pn	20 44 07.0	+0.2
MANT				*i* S	Sb	20 44 24.9	-0.3
KULA	**Kula-Manisa**	**1.40**	**353**	PN	Pb	20 44 07.2	-0.2
AKUM	**Antalya-Kumluc**	**1.42**	**124**	*i* P	Pg	20 44 09.3	+0.8
AKUM				*i* S	Sg	20 44 29.9	+2.9
GCAM	**G?zelcaml?**	**1.43**	**294**	*i* P	Pg	20 44 08.3	+0.3
GCAM				*i* S	Sg	20 44 27.4	+0.2
GCAM				IAML		20 44 28.0	
	comp=N,87nm,1.0s						
GCAM				IAML		20 44 36.0	
	comp=E,64nm,0.8s						
ANTB	**Antalya**	**1.44**	**99**	PN	Pg	20 44 09.1	+0.3
NIS1	**Nisyros Isl.**	**1.46**	**250**	PN	Pg	20 44 09.5	+0.3
KZIL	**AFYON_Kizioren**	**1.51**	**41**	*i* P	Pb	20 44 09.6	+0.2
KZIL				*i* S	Sg	20 44 29.9	+0.1
USAK	**Uak-Merkez**	**1.59**	**4**	*i* P	Pb	20 44 10.4	-0.3
USAK				*i* S	Sn	20 44 29.2	-0.9
USAK				IAML		20 45 11.0	
	comp=E,81nm,2.4s						
BAGO	**Egridir - ISPA**	**1.75**	**60**	*i* P	Pg	20 44 14.4	-0.2
BAGO				*i* S	Sg	20 44 37.8	+0.4
DGB	**zmir**	**1.84**	**301**	*i* P	Pn	20 44 12.4	-0.3
DEMI	**Demirci**	**1.92**	**356**	*i* P	Pn	20 44 14.7	+0.7
DEMI				*i* S	Sb	20 44 40.7	+0.4
URLA	**Izmir**	**2.19**	**305**	*i* P	Pn	20 44 18.9	+1.2
URLA				*i* S	Sb	20 44 47.6	-0.5
ZEDA	**zmir-Bergama**	**2.32**	**323**	*i* P	Pn	20 44 20.0	+0.5
ZEDA				*i* S	Sn	20 44 49.9	+1.7

ROM 21 20:43:52.8±0.3, 43.643N±0.010×12.344E±0.007, h10km±1km, ML0.7/2,1C, Error ellipse: s-maj=1.1km s-min=0.2km az=6.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARC	**Parchiule**	**0.08**	**274**	P	Pg	20 43 55.6	+0.4
PARC				S	Sg	20 43 57.2	+0.2
PARC				AML	AML		
	comp=N,154μm,0.2s						
PARC				AML	AML		
	comp=E,80μm,0.2s						
APEC	**Apecchio**	**0.10**	**147**	P	Pg	20 43 56.1	+0.6
APEC				S	Sg	20 43 58.6	+1.2
BADI	**Badiali**	**0.15**	**209**	⇑P	Pg	20 43 56.8	+0.6
BADI				S	Sg	20 43 59.4	+0.8
NARO	**Abbazia di Nar**	**0.17**	**100**	P	Pg	20 43 57.3	+0.7
NARO				S	Sg	20 44 00.3	+1.1
PIEI	**Pieia**	**0.17**	**127**	P	Pg	20 43 57.1	+0.4
PIEI				S	Sg	20 44 00.1	+0.8
PIEI				AML	AML		
	comp=N,22μm,1.6s						
PIEI				AML	AML		
	comp=E,29μm,0.4s						

IDC 21 20:51:54.2±3.6, 6.30S×148.22E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/55, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=104.2km s-min=47.7km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.13**	**224**	P	P	20 56 19.3	+0.3
	0.1nm,0.3s,baz=50,slow=11,SNR=2.2						
ASAR	**Alice Springs**	**22.09**	**217**	P	P	20 56 51.5	+0.4
	0.5nm,0.5s,baz=50,slow=8.9,SNR=11						
FITZ	**Fitzroy Crossi**	**24.96**	**240**	P	P	20 57 19.3	-0.3
	1.6nm,0.8s,baz=66,slow=13,SNR=6.0						
TORD	**Torodi Ar. Bea**	**146.34**	**284**	PKPbc	PKPdf	21 11 37.1	+0.2
	0.5nm,0.8s,baz=80,slow=3.0,SNR=4.0						

*NEIC **21** 20:55:14.7±1.6, 36.04N±0.06×140.13E±0.09, h65km±5km, mb4.4/15, Error ellipse: s-maj=11.3km s-min=8.0km az=105.0*

*IDC **21** 20:55:14.6±1.6, 36.01N×140.16E, h71km±14km, mb3.7/16, mb1 3.7/20, mb1mx3.6/79, mbtmp4.0/20, Error ellipse: s-maj=23.4km s-min=9.7km az=75.0*

*JMA **21** 20:55:15.3±0.1, 36.02N×140.07E, h61km±1km, M3.8 Broadband fault plane solution: P waves. NP1: ϕs197.00000°, δ27.00000°, λ101.00000°. NP2:ϕs5.00000°, δ63.00000°, λ85.00000°. Principal axes: T Plg71.0000°, Azm263.0000°; N Plg5.0000°, Azm7.0000°; P Plg18.0000°, Azm99.0000°;*

JMA Felt II J1.

ISC 21 20:55:14.0±0.6, 36.02N±0.05×140.11E±0.06, h60km, n72, σ1s20/72, mb4.1/24, 2C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.21**	**18**	⇑P	**Pn**	**20 55 25.2**	**+1.6**
JYT	**Yasato**	**0.21**	**18**	Pn	**Pn**	**20 55 25.1**	**+1.5**
JIHU	**Itakohorinouch**	**0.34**	**100**	⇑P	**Pn**	**20 55 26.6**	**+2.2**
JAG	**Ashikaga**	**0.67**	**307**	⇓P	**Pn**	**20 55 29.3**	**+1.4**
JRY	**Ryogami san**	**0.98**	**270**	⇓P	**Pn**	**20 55 33.1**	**+1.2**
JKT	**Katashina**	**1.02**	**317**	⇓P	**Pn**	**20 55 33.5**	**+1.1**
JOD2	**Odawara 2**	**1.13**	**228**	⇓P	**Pn**	**20 55 34.6**	**+0.8**
JOD2				S	**Sn**	**20 55 48.4**	**0.0**
JYN	**Shimob**	**1.38**	**248**	⇓P	**Pn**	**20 55 38.6**	**+1.4**
JIM2	**Oshima 2**	**1.42**	**203**	*eS*	**Sn**	**20 55 54.9**	**-0.4**
JFY	**Yanaizu**	**1.42**	**347**	⇓P	**Pn**	**20 55 39.2**	**+1.5**
JFNN	**Fujinakano**	**1.43**	**235**	P	**Pn**	**20 55 38.8**	**+1.1**
JFK	**Kawauchi**	**1.47**	**24**	P	**Pn**	**20 55 39.6**	**+1.2**
MJAR	**Matsushiro Arr**	**1.62**	**289**	P	**Pn**	**20 55 40.6**	**+0.3**
	17nm,0.3s,baz=87,slow=16,SNR=759						
MJAR	**Matsushiro Arr**	**1.62**	**289**	Pn	**Pn**	**20 55 41.2**	**+0.8**
MAJO	**Matsushiro**	**1.62**	**289**		**Pn**	**20 55 41.2**	**+0.8**
MAT	**Matsushiro**	**1.62**	**289**	P	**Pn**	**20 55 41.1**	**+0.7**
MAT				*eS*	**Sn**	**20 56 00.5**	**+0.2**
JMM	**Marumori**	**1.92**	**16**		**Pn**	**20 55 45.7**	**+1.3**
JSG	**Sagara**	**2.07**	**230**	Pn	**Pn**	**20 55 48.3**	**+1.8**
JGF	**Kuroka**	**2.28**	**260**		**Pn**	**20 55 51.4**	**+2.1**
JSD	**Sado**	**2.50**	**324**	Pn	**Pn**	**20 55 53.5**	**+1.3**
INU	**Inuyama**	**2.61**	**256**	Pn	**Pn**	**20 55 55.1**	**+1.4**
JHJ	**Hachijo jima 2**	**2.91**	**185**	P	**Pn**	**20 55 58.8**	**+0.9**
	40nm,0.3s,baz=108,slow=23,SNR=12						
JHJ				S	**Sn**	**20 56 33.2**	**+1.6**
	66nm,0.3s,baz=75,slow=23,SNR=8.4						
JHJ2	**Mitsune**	**2.92**	**185**	Pn	**Pn**	**20 55 59.9**	**+1.9**
JWT	**Wachi**	**3.91**	**260**	Pn	**Pn**	**20 56 12.5**	**+1.0**
JTM	**Tenmabayashi**	**4.81**	**9**	Pn	**Pn**	**20 56 24.7**	**+0.7**
JMN	**Monobe**	**5.61**	**248**	Pn	**Pn**	**20 56 36.5**	**+1.6**
JHS	**Saijyo**	**5.80**	**262**	Pn	**Pn**	**20 56 39.1**	**+1.6**
ERM	**Erimo**	**6.43**	**21**	Pn	**Pn**	**20 56 45.0**	**-1.1**
ASAJ	**Asahikawa**	**8.30**	**12**	P	**Pn**	**20 57 11.7**	**0.0**
	0.6nm,0.3s,baz=201,slow=14,SNR=10						
JKA	**Kamikawa-asahi**	**8.30**	**13**	Pn	**Pn**	**20 57 11.5**	**-0.2**
JCJ	**Chichijima**	**9.07**	**168**	P	**Pn**	**20 57 20.9**	**-1.5**
	3.1nm,0.3s,baz=15,slow=19,SNR=9.3						
KSRS	**Korea Array**	**9.89**	**282**	P	**Pn**	**20 57 36.2**	**+2.9**
	0.3nm,0.3s,baz=93,slow=14,SNR=7.1						
HHC	**Hu-ho-hao-te**			*eP*	**P**	**21 00 10.0**	**-2.1**
XAN	**Xi'an**	**25.57**	**275**	P	**P**	**21 00 38.0**	**+0.6**
XAN				pP	pP	21 00 52.3	+0.3
XAN				pmax	pmax		
	comp=E,4.0nm,0.9s						
SONM	**Songino Array**	**27.50**	**306**	P	**P**	**21 00 54.0**	**-0.8**
	comp=E,1.3nm,0.6s,baz=104,slow=8.7,SNR=8.4						
GTA	**Gaotai**	**31.87**	**288**	*eP*	**P**	**21 01 34.3**	**+0.7**
GTA				pP	pP	21 01 46.4	-2.0
GTA				sP	sP	21 01 50.5	-5.0
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WMQ	**Urumqi**	**40.37**	**298**	*eP*	**P**	**21 02 48.3**	**+2.3**
ZAA0	**Zalesovo Array**	**41.83**	**313**	P	**P**	**21 02 57.3**	**-0.4**
ZAA0				IAmb	IAmb	21 02 58.8	
	comp=Z,6.3nm,1.4s						
ZALV	**Zalesovo Beam**	**41.83**	**313**	P	**P**	**21 02 57.7**	**0.0**
	comp=Z,1.8nm,0.6s,baz=92,slow=6.2,SNR=10						
ZALV	**Zalesovo Beam**	**41.83**	**313**	P	**P**	**21 02 57.4**	**-0.3**
MKAR	**Makanchi Array**	**43.77**	**303**	P	**P**	**21 03 13.6**	**0.0**
	comp=Z,2.0nm,0.7s,baz=82,slow=10.0,SNR=14						
MKAR	**Makanchi Array**	**43.77**	**303**	P	**P**	**21 03 13.4**	**-0.2**
MAKZ	**Makanchi**	**43.99**	**303**	P	**P**	**21 03 15.5**	**+0.1**
MAKZ				IAmb	IAmb	21 03 16.1	
	comp=Z,3.3nm,0.8s						
KURBB	**Kurchatov Arra**	**45.80**	**309**	P	**P**	**21 03 29.4**	**-0.2**
	comp=Z,3.9nm,0.7s,baz=85,slow=8.2,SNR=28						
WRH	**Wood River Hil**	**50.40**	**32**	P	**P**	**21 04 06.4**	**+1.5**
BVAR	**Borovoye Array**	**50.48**	**313**	P	**P**	**21 04 05.4**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=138,slow=9.0,SNR=4.5						
BRVK	**Borovoye**	**50.54**	**313**	P	**P**	**21 04 06.9**	**+0.8**
ILAR	**Eielson Array**	**50.91**	**32**	P	**P**	**21 04 08.8**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=270,slow=6.5,SNR=6.3						
CHGR	**Chuyangaron**	**55.15**	**296**	P	**P**	**21 04 40.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**55.54**	**197**	P	**P**	**21 04 42.7**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=18,slow=1.9,SNR=3.8						
FITZ	**Fitzroy Crossi**	**55.54**	**197**	P	**P**	**21 04 42.9**	**-0.3**
FITZ				IAmb	IAmb	21 04 44.2	
	comp=Z,2.9nm,1.1s						
WR0	**Warramunga Arr**	**55.93**	**186**	P	**P**	**21 04 44.5**	**-1.4**
WR0				IAmb	IAmb	21 04 59.3	
	comp=Z,7.7nm,1.4s						
WB2	**Warramunga Arr**	**55.93**	**187**	P	**P**	**21 04 42.9**	**-3.1**
WB2				IAmb	IAmb	21 04 44.1	
	comp=Z,5.4nm,1.3s						
WRA	**Warramunga Arr**	**55.93**	**187**	P	**P**	**21 04 45.0**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=0.9,slow=7.5,SNR=18						
WRA	**Warramunga Arr**	**55.93**	**187**	P	**P**	**21 04 43.9**	**-2.1**
ARU	**Arti**	**56.42**	**319**	P	**P**	**21 04 48.4**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=41,slow=5.4,SNR=7.7						
ARU	**Arti**	**56.42**	**319**	P	**P**	**21 04 48.5**	**-0.7**
ABKAR	**Akbulak array**	**57.79**	**310**	P	**P**	**21 04 58.2**	**-0.7**
ABKAR				IAmb	IAmb	21 04 59.2	
	comp=Z,2.1nm,1.1s						
AKTO	**Aktyubinsk**	**58.57**	**312**	P	**P**	**21 05 04.8**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=73,slow=7.2,SNR=4.7						
ASAR	**Alice Springs**	**59.66**	**187**	P	**P**	**21 05 11.0**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=20,slow=11,SNR=6.7						
PSA00	**Pilbara Seismi**	**60.41**	**202**	P	**P**	**21 05 16.5**	**-0.7**
PSA00				IAmb	IAmb	21 05 33.7	
	comp=Z,6.2nm,1.4s						
BELG	**Belogornoye**	**63.82**	**317**	P	**P**	**21 05 39.3**	**-0.5**
	comp=Z,2.3nm,0.4s,baz=38,slow=1.7,SNR=4.1						
ARCES	**ARCESS Array B**	**64.57**	**339**	P	**P**	**21 05 43.9**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=40,slow=7.9,SNR=6.2						
ARCES	**ARCESS Array B**	**64.57**	**339**	P	**P**	**21 05 44.3**	**-0.2**
ARCES				IAmb	IAmb	21 06 12.8	
	comp=Z,5.3nm,1.2s						
FINES	**FINESS Array B**	**69.22**	**332**	P	**P**	**21 06 14.0**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=44,slow=11,SNR=5.7						
AKASG	**Malin Array Be**	**74.45**	**222**	P	**P**	**21 06 44.7**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=48,slow=6.2,SNR=4.3						
NC204	**NORSAR Array S**	**74.67**	**337**	P	**P**	**21 06 46.8**	**0.0**
NB2	**NORSAR Subarra**	**74.71**	**337**	P	**P**	**21 06 46.4**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**74.71**	**337**	P	**P**	**21 06 46.7**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=41,slow=5.8,SNR=6.9						
H03N2	**Juan Fernandez**	**147.95**	**97**	T	T	00 01 40.2	
	baz=281,slow=75,SNR=161						
H03N3	**Juan Fernandez**	**147.96**	**97**	T	T	00 01 41.4	
	baz=281,slow=130						
H03N1	**Juan Fernandez**	**147.97**	**97**	T	T	00 01 41.3	
	baz=281,slow=75,SNR=167						

*JMA **21** 20:56:53.6±0.4, 30.92N×139.05E, h4km±4km, M4.9*

*NIED **21** 20:56:53.6, 30.92N×139.05E, h4km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr=0.18; Mθθ=0.83; Mϕϕ1.02; Mrθ=-0.39; Mϕθ0.39; Mϕr0.59; Fault plane solution: M₀1.24000×10¹⁶ NP1: ϕs149.00000°, δ84.00000°, λ-144.00000°. NP2: ϕs55.00000°, δ54.00000°, λ-7.00000°.*

*IDC **21** 20:56:55.6±0.7, 30.92N×139.36E, h0km, mb4.0/18, mb1 4.1/27, mb1mx4.0/78, mbtmp4.0/27, ML3.9/7, MS3.8/5, Ms1 3.8/5, ms1mx3.5/54 Error ellipse: s-maj=17.9km s-min=14.9km az=92.0*

*NEIC **21** 20:57:00.4±1.6, 30.95N±0.06×139.3E±0.1, h29km±6km, mb4.6/68, Error ellipse: s-maj=13.1km s-min=8.4km az=96.0*

*MOS **21** 20:57:00.2±2.5, 30.96N×139.35E, h38km, mb4.5/13, Error ellipse: s-maj=12.0km s-min=6.1km az=103.4*

ISC 21 20:57:01.4±0.5, 30.92N±0.05×139.19E±0.05, h35km, n191, σ2s01/197, mb4.5/69, MS4.0/4, 10C-1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.61**	**17**	P	**Pn**	**20 57 23.7**	**-3.7**
JHCJ	**Hachijojimakas**	**2.20**	**13**	P	**Pn**	**20 57 32.2**	**-3.3**
JHJ2	**Mitsune**	**2.25**	**13**	Pn	**Pn**	**20 57 33.8**	**-2.3**
JHJ	**Hachijo jima 2**	**2.25**	**13**	Pn	**Pn**	**20 57 34.9**	**-1.2**
	81nm,0.3s,baz=209,slow=13,SNR=4.2						
JHJ				LR	LR	20 58 28.5	
	comp=Z,2μm,20.0s,baz=217,slow=42						
TK01	**Tokai 1**	**3.14**	**335**	*eS*	**Sn**	**20 58 22.0**	**-2.2**
TK02	**Tokai 2**	**3.25**	**338**	P	**Pn**	**20 57 46.2**	**-3.5**
TK02				S	**Sn**	**20 58 25.3**	**-1.7**
TTO1	**TONANKAI O.B.S**	**3.38**	**323**	P	**Pn**	**20 57 47.8**	**-3.5**
TTO1				*eS*	**Sn**	**20 58 27.5**	**-2.5**
JSG	**Sagara**	**3.83**	**348**		**Pn**	**20 57 55.4**	**-2.5**
JIE	**Ise**	**4.04**	**329**	P	**Pn**	**20 57 56.9**	**-3.9**
JIE				*eS*	**Sn**	**20 58 43.0**	**-3.9**
JTNC	**Tanabenakahech**	**4.18**	**315**	P	**Pn**	**20 57 58.6**	**-4.1**
JTNC				S	**Sn**	**20 58 45.6**	**-4.8**
CBIJ	**Chichi jima**	**4.63**	**145**	P	**Pn**	**20 58 06.7**	**-2.1**
JCJ	**Chichijima**	**4.63**	**145**	Pn	**Pn**	**20 58 06.2**	**-2.6**
	4.2nm,0.3s,baz=263,slow=20,SNR=2.5						
JCJ				Sn	**Sn**	**20 58 57.1**	**-4.2**
	13nm,0.3s,baz=289,slow=23,SNR=1.4						
JCJ	**Chichijima**	**4.63**	**145**	Pn	**Pn**	**20 58 06.0**	**-2.9**
INU	**Inuyama**	**4.78**	**338**	Pn	**Pn**	**20 58 07.2**	**-3.6**
JGF	**Kuroka**	**4.91**	**342**		**Pn**	**20 58 08.9**	**-3.9**
JMN	**Monobe**	**5.30**	**303**	Pn	**Pn**	**20 58 15.1**	**-2.9**
JYT	**Yasato**	**5.36**	**9**	Pn	**Pn**	**20 58 14.2**	**-4.6**
JWT	**Wachi**	**5.39**	**325**	Pn	**Pn**	**20 58 15.7**	**-3.5**
MJAR	**Matsushiro Arr**	**5.66**	**352**	Pn	**Pn**	**20 58 21.9**	**-1.1**
	0.3nm,0.3s,baz=178,slow=13,SNR=5.6						
MJAR				Sn	**Sn**	**20 59 27.1**	**+0.3**
	0.6nm,0.3s,baz=156,slow=19,SNR=1.5						
MJAR				LR	LR	21 00 24.1	
	comp=Z,712nm,21.7s,baz=170,slow=37						
MJAR	**Matsushiro Arr**	**5.66**	**352**	P	**Pn**	**20 58 19.9**	**-3.1**
MJAR						20 59 27.1	
MJAR	**Matsushiro Arr**	**5.66**	**352**	Pn	**Pn**	**20 58 19.9**	**-3.1**
MAJO	**Matsushiro**	**5.66**	**352**	*i* P	**Pn**	**20 58 23.0**	**-0.1**
MAJO	**Matsushiro**	**5.66**	**352**		**Pn**	**20 58 22.7**	**-0.3**
MAT	**Matsushiro**	**5.66**	**352**	P	**Pn**	**20 58 22.6**	**-0.5**
MAT				S	**Sn**	**20 59 27.2**	**+0.3**
MJB9	**Matsu-Tunnel**	**5.67**	**352**	Pn	**Pn**	**20 58 19.3**	**-3.8**
JTO	**Tosashimizu**	**5.77**	**291**	P	**Pn**	**20 58 21.3**	**-3.2**
JTO				*eS*	**Sn**	**20 59 26.4**	**-3.0**
JHS	**Saijyo**	**6.53**	**310**	P	**Pn**	**20 58 32.4**	**-2.5**
JHS				*eS*	**Sn**	**20 59 47.2**	**-0.9**
JHS	**Saijyo**	**6.53**	**310**	Pn	**Pn**	**20 58 31.7**	**-3.2**
JMM	**Marumori**	**7.05**	**10**		**Pn**	**20 58 40.0**	**-2.1**
JSD	**Sado**	**7.14**	**354**	Pn	**Pn**	**20 58 44.5**	**+1.2**
JOI	**OKI**	**7.29**	**319**	P	**Pn**	**20 58 41.9**	**-3.5**
JOI				*eS*	**Sn**	**21 00 02.9**	**-4.1**
JNU	**Nakatsue**	**7.39**	**289**	Pn	**Pn**	**20 58 45.7**	**-1.1**
	6.0nm,0.3s,baz=156,slow=2.5,SNR=27						
JNU				Sn	**Sn**	**21 00 10.6**	**+1.1**
	5.7nm,0.3s,baz=205,slow=15,SNR=9.4						
JNU				LR	LR	21 01 26.5	
	comp=Z,1μm,21.9s,baz=91,slow=36						
JNU	**Nakatsue**	**7.39**	**289**		**Pn**	**20 58 45.3**	**-1.5**
JSU	**Suzuyama**	**7.51**	**277**	Pn	**Pn**	**20 58 47.6**	**-0.8**
JSJ	**Shimokoshiki**	**8.14**	**278**	P	**Pn**	**20 58 56.3**	**-0.8**
JMK	**Ichinoseki**	**8.18**	**11**	P	**Pn**	**20 58 55.7**	**-1.9**
JMZ	**Minamidaito 2**	**8.67**	**236**	P	**Pn**	**20 59 04.4**	**+0.1**
JMZ	**Minamidaito 2**	**8.67**	**236**	Pn	**Pn**	**20 59 03.9**	**-0.4**
JTU	**Tsushima**	**9.00**	**296**	Pn	**Pn**	**20 59 06.3**	**-2.4**
JAMN	**Amaminishikomi**	**9.12**	**255**	P	**Pn**	**20 59 10.6**	**+0.1**
JTM	**Tenmabayashi**	**9.96**	**8**	Pn	**Pn**	**20 59 18.9**	**-3.0**
JOW	**Kunigami**	**10.40**	**250**	Pn	**Pn**	**20 59 26.5**	**-1.5**
	5.6nm,0.3s,baz=117,slow=23,SNR=28						
JOW				LR	LR	21 03 05.9	
	comp=Z,515nm,21.1s,baz=110,slow=35						
JOW	**Kunigami**	**10.40**	**250**	Pn	**Pn**	**20 59 26.9**	**-1.1**
KSRS	**Korea Array**	**11.38**	**308**	Pn	**Pn**	**20 59 40.5**	**-0.8**
	0.2nm,0.3s,baz=137,slow=8.8,SNR=1.9						
KSRS				Sn	**Sn**	**21 01 44.0**	**-3.1**
	0.3nm,0.3s,baz=125,slow=24,SNR=5.7						
KSRS				LR	LR	21 04 01.5	
	comp=Z,523nm,19.2s,baz=116,slow=37						
ERM	**Erimo**	**11.52**	**15**	*i* P	**Pn**	**20 59 44.1**	**+0.8**
ERM	**Erimo**	**11.52**	**15**	Pn	Pn	20 59 38.1	-5.1
ASAJ	**Asahikawa**	**13.44**	**11**	Pn	**Pn**	**21 00 05.2**	**-4.3**
	0.5nm,0.3s,baz=200,slow=12,SNR=5.0						
JKA	**Kamikawa-asahi**	**13.44**	**11**		**Pn**	**21 00 05.2**	**-4.3**
USRK	**Ussuriysk Ar.**	**14.42**	**339**	Pn	**Pn**	**21 00 20.9**	**-2.0**
	baz=147,slow=11,SNR=3.7						
USRK	**Ussuriysk Ar.**	**14.42**	**339**	Pn	**Pn**	**21 00 20.1**	**-2.9**
MDJ	**Mudanjiang**	**15.62**	**334**	P	**P**	**21 00 46.3**	**+3.7**
MDJ				pmax	pmax		
	comp=Z,16nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,190nm,6.2s						
YSS	**Yuz

YAK						pmax	pmax				
	comp=Z,4.0nm,1.0s										
GTA	**Gaotai**	**33.08**	**296**	*e*P		**P**	**P**	**21 03 34.3**	**+0.4**		
GTA						pP	pP	21 03 38.4	-5.1		
GTA						sP	pwP	21 03 41.3	-4.4		
GTA						pmax	pmax				
	comp=Z,2.0nm,1.0s										
SEY	**Seymchan**	**33.13**	**11**		P	**P**	**P**	**21 03 33.1**	**-0.8**		
	comp=Z,2.6nm,0.8s,baz=323,slow=20,SNR=1.4										
SKNT	**Sakolnakorn**	**34.88**	**255**		P	**P**		**21 03 51.4**	**+1.7**		
	comp=Z,11nm,1.2s										
CHAI	**Chaiyaphum**	**37.08**	**255**		P	**P**		**21 04 09.6**	**+1.2**		
	comp=Z,14nm,1.1s										
UTTA	**Uttaradit**	**37.38**	**259**		P	P		21 04 19.2	+8.2		
	comp=Z,9.2nm,0.8s										
PHIT	**Phitsanulok**	**37.76**	**258**		P	P		21 04 23.2	+9.0		
	comp=Z,23nm,1.1s										
CMMT	**Chiang Mai**	**38.26**	**261**		P	**P**		**21 04 19.1**	**+0.7**		
	comp=Z,6.6nm,1.0s										
CHTO	**Chiang Mai**	**38.26**	**261**		P	**P**		**21 04 18.3**	**-0.1**		
CHTO						pmax	pmax				
	comp=Z,8.0nm,1.2s										
CHTO	**Chiang Mai**	**38.26**	**261**		P	**P**		**21 04 19.2**	**+0.8**		
	comp=Z,6.7nm,1.0s										
CHTO	**Chiang Mai**	**38.26**	**261**		P	**P**		**21 04 18.3**	**-0.1**		
CMAR	**Chiang Mai Arr**	**38.42**	**261**		P	**P**		**21 04 20.4**	**+0.6**		
	comp=Z,0.7nm,0.7s,baz=43,slow=9.7,SNR=7.5										
CMAR	**Chiang Mai Arr**	**38.42**	**261**		P	**P**		**21 04 20.0**	**+0.2**		
BILL	**Bilibino**	**40.39**	**15**	*i*	P	**P**		**21 04 39.0**	**+3.4**		
BILL				*i*				21 06 13.4			
BILL				*i*				21 06 43.3			
BILL						pmax	pmax				
	comp=Z,8.0nm,1.0s										
WMQ	**Urumqi**	**42.26**	**303**	*e*P		**P**	**P**	**21 04 51.8**	**+0.4**		
WMQ						pP	pP	21 04 58.0	-3.2		
WMQ						pmax	pmax				
	comp=Z,44nm,0.7s										
WMQ						pmax	pmax				
	comp=Z,210nm,5.3s										
WMQ						LR	LR				
	comp=N,570nm,22.3s										
WMQ						LR	LR				
	comp=E,810nm,18.9s										
WMQ						LR	LR				
	comp=Z,760nm,21.9s										
DGZ	**Jazzator, Alta**	**42.76**	**311**	*i*	P	**P**		**21 04 57.9**	**+2.5**		
DGZ						pmax	pmax				
	comp=Z,3.0nm,1.1s										
ZAA0	**Zalesovo Array**	**44.90**	**317**		P	**P**		**21 05 12.0**	**-0.4**		
ZALV	**Zalesovo Beam**	**44.90**	**317**		P	**P**		**21 05 11.4**	**-0.9**		
	comp=Z,0.5nm,0.6s,baz=59,slow=44,SNR=2.1										
ZALV	**Zalesovo Beam**	**44.90**	**317**		P	**P**		**21 05 10.5**	**-1.9**		
MKAR	**Makanchi Array**	**46.05**	**307**		P	**P**		**21 05 21.1**	**-0.6**		
	comp=Z,1.5nm,0.7s,baz=79,slow=8.8,SNR=8.1										
MKAR	**Makanchi Array**	**46.05**	**307**	*ce*P		P		21 05 28.0	+6.3		
MKAR						pmax	pmax				
	comp=Z,2.0nm,0.8s										
MKAR	**Makanchi Array**	**46.05**	**307**		P	**P**		**21 05 20.7**	**-1.0**		
MAKZ	**Makanchi**	**46.27**	**307**		P	**P**		**21 05 22.9**	**-0.5**		
MAKZ						pmax	pmax				
	comp=Z,3.0nm,1.0s										
MAKZ	**Makanchi**	**46.27**	**307**		P	**P**		**21 05 22.9**	**-0.5**		
NRIK	**Noril'sk**	**48.14**	**338**		P	**P**		**21 05 37.1**	**-0.4**		
	comp=Z,0.8nm,0.3s,baz=112,slow=9.3,SNR=1.8										
NRIK	**Noril'sk**	**48.14**	**338**	*ce*P		P		21 05 42.2	+4.7		
NRIK						pmax	pmax				
	comp=Z,7.0nm,1.1s										
NRIK	**Noril'sk**	**48.14**	**338**		P	**P**		**21 05 36.6**	**-0.9**		
NRIK						IAmb	IAmb	21 05 44.3			
	comp=Z,10nm,1.3s										
KURK	**Kurchatov**	**48.46**	**312**		P	**P**		**21 05 40.4**	**+0.1**		
KURK	**Kurchatov**	**48.46**	**312**		P	**P**		**21 05 40.4**	**+0.1**		
KURBB	**Kurchatov Arra**	**48.52**	**312**		P	**P**		**21 05 40.4**	**-0.3**		
	comp=Z,1.4nm,0.8s,baz=92,slow=6.8,SNR=6.5										
FITZ	**Fitzroy Crossi**	**50.45**	**197**		P	**P**		**21 05 55.5**	**-0.2**		
WB2	**Warramunga Arr**	**50.79**	**186**		P	**P**		**21 05 57.6**	**-0.7**		
WR0	**Warramunga Arr**	**50.79**	**186**		P	**P**		**21 05 56.5**	**-1.8**		
WR0						IAmb	IAmb	21 06 20.8			
	comp=Z,5.6nm,0.9s										
WRA	**Warramunga Arr**	**50.79**	**186**		P	**P**		**21 05 57.0**	**-1.2**		
	comp=Z,0.9nm,0.5s,baz=1.7,slow=8.1,SNR=5.6										
WRA	**Warramunga Arr**	**50.79**	**186**		P	**P**		**21 05 56.9**	**-1.4**		
N18K	**Kilae Creek**	**51.36**	**35**		P	**P**		**21 06 02.2**	**0.0**		
N18K						IAmb	IAmb	21 06 29.4			
	comp=Z,9.5nm,1.2s										
SVW2	**Sparrevohn**	**51.55**	**34**		P	**P**		**21 06 01.7**	**-1.9**		
SVW2						IAmb	IAmb	21 06 15.1			
	comp=Z,7.1nm,1.1s										
M19K	**Big River Lodg**	**52.18**	**33**		P	**P**		**21 06 07.5**	**-0.8**		
M19K						IAmb	IAmb	21 06 14.6			
	comp=Z,13nm,1.3s										
K20K	**Telida**	**52.45**	**31**		P	**P**		**21 06 10.2**	**-0.1**		
K20K						IAmb	IAmb	21 06 11.6			
	comp=Z,12nm,1.2s										
J20K	**Nowinta River**	**52.50**	**30**		P	**P**		**21 06 10.6**	**+0.1**		
J20K						IAmb	IAmb	21 06 11.4			
	comp=Z,6.1nm,0.8s										
IMAR	**Indian Mountai**	**52.87**	**28**		P	**P**		**21 06 12.6**	**-0.7**		
KDAK	**Kodiak Island**	**52.95**	**39**		P	**P**		**21 06 12.0**	**-2.0**		
	comp=Z,11nm,0.7s,baz=289,slow=5.9,SNR=8.3										
KDAK	**Kodiak Island**	**52.95**	**39**		P	**P**		**21 06 12.3**	**-1.7**		
KDAK						pmax	pmax				
	comp=Z,37nm,1.4s										
KDAK	**Kodiak Island**	**52.95**	**39**		P	**P**		**21 06 12.3**	**-1.7**		
H21K	**Melozitna Rive**	**53.22**	**29**		P	**P**		**21 06 16.2**	**+0.3**		
H21K						IAmb	IAmb	21 06 22.4			
	comp=Z,5.5nm,0.9s										
PPLA	**Purkeypile**	**53.27**	**32**		P	**P**		**21 06 16.0**	**-0.5**		
PPLA						IAmb	IAmb	21 06 38.9			
	comp=Z,8.6nm,1.1s										
SKT	**Skwentna**	**53.53**	**33**		P	**P**		**21 06 17.4**	**-0.9**		
BRVK	**Borovoye**	**53.53**	**316**	*i*	P	**P**		21 06 23.6	+5.2		
BRVK						pmax	pmax				
	comp=Z,2.0nm,0.9s										
SUA	**Susitna One**	**53.90**	**34**		P	**P**		**21 06 20.6**	**-0.5**		
SUA						IAmb	IAmb	21 06 32.5			
	comp=Z,11nm,1.1s										
MLY	**Manley**	**54.03**	**30**		P	**P**		**21 06 21.6**	**-0.3**		
AS31	**Alice Springs**	**54.51**	**186**		P	**P**		**21 06 26.5**	**+0.7**		
ASAR	**Alice Springs**	**54.52**	**186**		P	**P**		**21 06 25.5**	**-0.3**		
	comp=Z,0.4nm,0.8s,baz=14,slow=13,SNR=7.7										
H23K	**Yukon River**	**54.57**	**29**		P	**P**		**21 06 26.0**	**+0.2**		
H23K						IAmb	IAmb	21 06 32.8			
	comp=Z,6.8nm,1.1s										
NEA2	**Nenana**	**54.73**	**30**		P	**P**		**21 06 26.4**	**-0.5**		
TOLK	**Toolik Lake Re**	**54.76**	**25**		P	**P**		**21 06 26.3**	**-0.8**		
TOLK						IAmb	IAmb	21 06 33.6			
	comp=Z,7.2nm,1.1s										
KK31	**Karatay Array**	**54.76**	**303**		P	**P**		**21 06 26.5**	**-1.0**		
KK31						pmax	pmax				
	comp=Z,6.0nm,1.2s										
KK31	**Karatay Array**	**54.76**	**303**		P	**P**		**21 06 26.5**	**-1.0**		
KK31						IAmb	IAmb	21 06 31.7			
	comp=Z,5.9nm,1.2s										
KKAR	**Karatay Array**	**54.76**	**303**		P	**P**		**21 06 26.1**	**-1.4**		
KKAR	**Karatay Array**	**54.76**	**303**			**P**		**21 06 27.2**	**-0.3**		
KKAR	**Karatay Array**	**54.76**	**303**		P	**P**		**21 06 26.1**	**-1.4**		
KKAR						IAmb	IAmb	21 06 31.8			
	comp=Z,5.9nm,1.2s										
MCK	**McKinley**	**54.77**	**31**		P	**P**		**21 06 27.0**	**-0.2**		
MCK						pmax	pmax				
	comp=Z,11nm,1.2s										
MCK	**McKinley**	**54.77**	**31**		P	**P**		**21 06 27.0**	**-0.2**		
MCK						IAmb	IAmb	21 06 34.3			
	comp=Z,11nm,1.2s										
RND	**Reindeer**	**54.80**	**32**		P	**P**		**21 06 26.0**	**-1.6**		
RND						pmax	pmax				
	comp=Z,5.0nm,0.8s										
RND	**Reindeer**	**54.80**	**32**		P	**P**		**21 06 26.0**	**-1.6**		
RND						IAmb	IAmb	21 06 27.0			
	comp=Z,5.3nm,0.8s										
KNK	**Knik Glacier**	**54.99**	**34**		P	**P**		**21 06 27.8**	**-1.2**		
SML	**Sawmill**	**55.05**	**34**		P	**P**		**21 06 28.3**	**-1.1**		
SML						IAmb	IAmb	21 06 50.3			
	comp=Z,8.1nm,1.0s										
PWL	**Port Wells**	**55.07**	**35**		P	**P**		**21 06 27.9**	**-1.6**		
PWL						IAmb	IAmb	21 06 34.8			
	comp=Z,6.6nm,0.9s										
MDM	**Murphy Dome**	**55.09**	**30**		P	**P**		**21 06 29.1**	**-0.5**		
MDM						IAmb	IAmb	21 06 35.9			
	comp=Z,9.6nm,1.0s										
WRH	**Wood River Hil**	**55.15**	**30**		P	**P**		**21 06 29.9**	**0.0**		
H24K	**Noodor Dome**	**55.26**	**29**		P	**P**		**21 06 30.7**	**-0.1**		
CCB	**Clear Creek Bu**	**55.27**	**30**		P	**P**		**21 06 30.6**	**-0.2**		
PSA00	**Pilbara Seismi**	**55.40**	**202**		P	**P**		**21 06 32.3**	**+0.1**		
DHY	**Denali Highway**	**55.47**	**32**		P	**P**		**21 06 31.7**	**-0.8**		
SCM	**Sheep Creek Mo**	**55.52**	**33**		P	**P**		**21 06 31.4**	**-1.4**		
SCM						pmax	pmax				
	comp=Z,32nm,1.5s										
SCM	**Sheep Creek Mo**	**55.52**	**33**		P	**P**		**21 06 31.4**	**-1.4**		
HDA	**Harding Lake**	**55.64**	**30**		P	**P**		**21 06 31.6**	**-1.9**		
HDA						IAmb	IAmb	21 06 38.6			
	comp=Z,3.9nm,0.8s										
ILAR	**Eielson Array**	**55.67**	**30**		P	**P**		**21 06 32.5**	**-1.1**		
	comp=Z,1.4nm,0.7s,baz=271,slow=6.0,SNR=9.7										
ILAR	**Eielson Array**	**55.67**	**30**		P	**P**		**21 06 31.2**	**-2.5**		
GLI	**Glacier Island**	**55.67**	**35**		P	**P**		**21 06 30.6**	**-3.2**		
GLI						IAmb	IAmb	21 06 39.5			
	comp=Z,7.7nm,0.9s										
GAR	**Garm**	**55.82**	**299**		P	**P**		**21 06 33.2**	**-2.1**		
GAR						IAmb	IAmb	21 06 54.1			
	comp=Z,7.7nm,1.1s										
FID	**Port Fidalgo**	**55.98**	**35**		P	**P**		**21 06 34.4**	**-1.6**		
HIN	**Hinchinbrook I**	**55.99**	**35**		P	**P**		**21 06 34.6**	**-1.5**		
KLU	**Klutina**	**56.21**	**34**		P	**P**		**21 06 36.5**	**-1.2**		
KLU						IAmb	IAmb	21 06 43.2			
	comp=Z,8.3nm,1.2s										
PAX	**Paxson**	**56.34**	**32**		P	**P**		**21 06 37.6**	**-1.1**		
PAX						pmax	pmax				
	comp=Z,12nm,1.4s										
PAX	**Paxson**	**56.34**	**32**		P	**P**		**21 06 37.5**	**-1.1**		
PAX						IAmb	IAmb	21 06 47.0			
	comp=Z,12nm,1.4s										
BMAR	**Burnt Mountain**	**56.59**	**27**		P	**P**		**21 06 40.5**	**+0.2**		
RIDG	**Independent Ri**	**56.59**	**31**		P	**P**		**21 06 38.8**	**-1.6**		
RIDG						IAmb	IAmb	21 06 52.2			
	comp=Z,6.3nm,1.3s										
CHGR	**Chuyangaron**	**56.78**	**298**		P	**P**		**21 06 42.0**	**-0.2**		
BMRM	**Bremner River**	**56.88**	**34**		P	**P**		**21 06 42.5**	**0.0**		
DOT	**Dot Lake**	**56.94**	**31**		P	**P**		**21 06 41.1**	**-1.7**		
DOT						IAmb	IAmb	21 06 42.4			
	comp=Z,4.8nm,0.8s										
SCRK	**Sand Creek**	**56.95**	**31**		P	**P**		**21 06 42.8**	**-0.2**		
L26K	**Log Cabin Wild**	**57.30**	**32**		P	**P**		**21 06 44.9**	**-0.5**		
BERG	**Berg Lake**	**57.38**	**35**		P	**P**		**21 06 45.9**	**-0.1**		
VRDI	**Verde Repeater**	**57.42**	**34**			**P**		**21 06 45.6**	**-0.8**		
MCARA	**McCarthy VSAT**	**57.61**	**34**		P	**P**		**21 06 47.1**	**-0.5**		
CRQM	**Cirque**	**57.62**	**35**		P	**P**		**21 06 47.6**	**-0.3**		
WAX	**Waxell Ridge**	**57.79**	**35**		P	**P**		**21 06 48.2**	**-0.7**		
L27K	**Beaver Creek,**	**57.99**	**32**		P	**P**		**21 06 50.0**	**-0.2**		
L27K						IAmb	IAmb	21 06 56.3			
	comp=Z,6.7nm,1.4s										
BCAR	**Beaver Creek A**	**58.01**	**32**		P	**P**		**21 06 50.0**	**-0.4**		
ISLE	**Juniper Island**	**58.02**	**35**		P	**P**		**21 06 49.5**	**-1.2**		
M27K	**Edge Creek, AK**	**58.04**	**33**		P	**P**		**21 06 50.1**	**-0.6**		
M27K						IAmb	IAmb	21 07 02.5			
	comp=Z,11nm,1.3s										
GRNC	**Granite Creek**	**58.30**	**35**		P	**P**		**21 06 50.4**	**-2.2**		
GRNC						IAmb	IAmb	21 06 54.4			
	comp=Z,10nm,1.2s										
CTGM	**Chitina Glacie**	**58.47**	**34**		P	**P**		**21 06 52.3**	**-1.5**		
CTGM						IAmb	IAmb	21 06 60.0			
	comp=Z,8.3nm,1.0s										
ARU	**Arti**	**59.81**	**321**	*d*	*i*P	**P**		**21 07 01.6**	**-1.3**		
ARU								21 07 49.5			
ARU						S	**S**	**21 15 05.8**	**-5.9**		
ARU						pmax	pmax				
	comp=Z,3.0nm,1.2s										
ABKAR	**Akbulak array**	**60.57**	**312**		P	**P**		**21 07 08.0**	**-0.2**		
ABKAR	**Akbulak array**	**60.57**	**312**		P	**P**		**21 07 07.8**	**-0.5**		
AKTO	**Aktyubinsk**	**61.48**	**314**		P	**P**		**21 07 15.8**	**+1.3**		
	comp=Z,2.2nm,0.8s,baz=58,slow=7.6,SNR=11										
OBN	**Obninsk**	**71.90**	**324**	*i*	P	**P**		**21 08 24.6**	**+3.9**		
OBN						pmax	pmax				
	comp=Z,4.0nm,0.8s										
FINES	**FINESS Array B**	**73.36**	**333**		P	**P**		**21 08 27.5**	**-1.8**		
	comp=Z,1.9nm,0.9s,baz=44,slow=6.2,SNR=1.9										
FINES	**FINESS Array B**	**73.36**	**333**	*ce*P		P		21 08 34.2	+4.9		
FINES						pmax	pmax				
	comp=Z,2.0nm,0.9s										
FINES	**FINESS Array B**	**73.36**	**333**		P	**P**		**21 08 27.8**	**-1.5**		
KBZ	**Khabaz**	**73.51**	**311**		P	**P**		**21 08 29.6**	**-0.8**		
	comp=Z,2.5nm,0.9s,baz=218,slow=1.2,SNR=4.5										
KBZ	**Khabaz**	**73.51**	**311**	*ce*P		**P**		**21 08 35.0**	**+4.5**		
KBZ						pmax	pmax				
	comp=Z,7.0nm,1.0s										
KIV	**Kislovodsk**	**73.54**	**312**	*e*P		**P**		**21 08 34.6**	**+3.8**		
KIV						pmax	pmax				
	comp=Z,6.0nm,1.1s										
AKASG	**Malin Array Be**	**77.99**	**322**		P	**P**		**21 08 56.8**	**+0.8**		
	comp=Z,0.4nm,0.4s,baz=52,slow=5.6,SNR=1.8										
NB2	**NORSAR Subarra**	**79.09**	**337**		P	**P**		**21 09 05.3**	**+3.4**		
	comp=Z,2.2nm,1.0s,baz=44,slow=5.3										
NOA	**NORSAR Array B**	**79.09**	**337**		P	**P**		**21 09 03.6**	**+1.7**		
	comp=Z,0.5nm,0.7s,baz=96,slow=7.6,SNR=1.5										
NVAR	**Mina Array Bea**	**80.19**	**51**		P	**P**		**21 09 07.9**	**-0.7**		
	comp=Z,0.3nm,0.5s,baz=316,slow=6.3,SNR=1.4										
BRTR	**Keskin Array B**	**81.50**	**311**		P	**P**		**21 09 17.2**	**+1.8**		
	comp=Z,1.2nm,0.9s,baz=92,slow=4.9,SNR=6.1										
BRTR	**Keskin Array B**	**81.50**	**311**	*ce*P		P		21 09 20.7	+5.2		
BRTR						pmax	pmax				
	comp=Z,1.0nm,0.9s										

VAO ***21*** *20:59:36.5±0.4, 29°.52S×72°.35W, h10km, mb4.2*
SJA ***21*** *20:59:37.0, 29°.37S×72°.47W, h10km, ML5.0*
NEIC ***21*** *20:59:37.2±2.5, 29°.47S±0°.05×72°.27W±0°.06, h10km±1km, mb4.5/15, ML4.0(GUC), Error ellipse: s-maj=9.2km s-min=7.7km az=246.0*
IDC ***21*** *20:59:39.2±1.1, 29°.54S×71°.75W, h0km, mb4.3/4, mb1 4.2/8, mb1mx3.9/40, mbtmp4.2/8, ML3.9/4, Error ellipse: s-maj=49.4km s-min=21.8km az=112.0*
GUC ***21*** *20:59:47.3±0.6, 30°.03S×71°.57W, h50km±6km, ML4.1*

ISC 21 20:59:36.9±1.0, 29°.61S±0°.03×72°.12W±0°.05, h9km±6km, n134, σ1§80/131, mb4.5/8, 5C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.83**	**112**	*i*		S	**Sb**	**21 00 04.5**	**-0.2**
CO05						IAML		21 00 11.2	
	comp=N,14μm,0.7s								
CO05	**La Serena**	**0.83**	**112**				**Pn**	**20 59 55.4**	**+0.7**
CO06	**Fray Jorge**	**1.15**	**158**	‖	*e*P		**Pn**	**21 00 01.1**	**+2.0**
CO06					*e*S		**Sb**	**21 00 11.8**	**-2.1**
CO06	**Fray Jorge**	**1.15**	**158**		Pn		**Pn**	**21 00 00.9**	**+1.8**
GO04	**Tololo Observa**	**1.28**	**117**	‖	*e*P		**Pg**	**21 00 02.1**	**+0.5**
GO04					*i* S		**Sb**	**21 00 14.2**	**-3.7**
GO04					IAML			21 00 26.7	
	comp=N,35μm,0.5s								
GO04	**Tololo Observa**	**1.28**	**117**		Pn		**Pg**	**21 00 03.1**	**+1.6**
GO04	**Tololo Observa**	**1.28**	**117**	*i*	P		**Pg**	**21 00 03.0**	**+1.5**
LCO	**Las Campanas**	**1.38**	**65**	*e*	P		**Pg**	**21 00 03.5**	**+0.1**
LCO					*e*S		**Sg**	**21 00 21.1**	**-0.2**
LCO	**Las Campanas**	**1.38**	**65**		Pn		**Pg**	**21 00 03.5**	**+0.1**
LCO	**Las Campanas**	**1.38**	**65**	*i*	P		**Pg**	**21 00 03.0**	**-0.3**
AC04	**Llanos de Chal**	**1.67**	**34**		Pn		**Pb**	**21 00 06.1**	**-1.8**
AC04	**Llanos de Chal**	**1.67**	**34**	*i*	P		**Pb**	**21 00 06.0**	**-1.8**
CO03	**El Pedregal**	**1.75**	**135**	‖	*e*P		**Pn**	**21 00 06.9**	**-0.6**
CO03					*e*S		**Sn**	**21 00 24.0**	**-5.9**
CO03					IAML			21 00 42.4	
	comp=E,3μm,0.3s								
CO03	**El Pedregal**	**1.75**	**135**		Pn		**Pg**	**21 00 10.2**	**-0.3**
AROD	**Rodeo**	**2.37**	**104**	*i*	P		**Pg**	**21 00 22.0**	**-0.3**
GO03	**Copiap**	**2.60**	**40**	*e*	P		**Pn**	**21 00 19.2**	**0.0**
GO03					*e*S		**Sn**	**21 00 49.7**	**-1.2**
GO03					IAML			21 01 09.6	
	comp=E,1μm,0.7s								
GO03	**Copiap**	**2.60**	**40**		Pn		**Pn**	**21 00 19.7**	**+0.5**
GO03	**Copiap**	**2.60**	**40**	*i*	P		**Pn**	**21 00 20.0**	**+0.8**
AC06	**Mina Casimiro**	**2.73**	**35**	‖	*e*P		**Pn**	**21 00 21.9**	**+1.0**
AC06					*e*S		**Sn**	**21 00 53.6**	**-0.4**
AC06					IAML			21 01 10.8	
	comp=E,775nm,0.3s								
AC06	**Mina Casimiro**	**2.73**	**35**		Pn		**Pn**	**21 00 21.7**	**+0.8**
ACCO	**Cerro Coronel**	**2.83**	**111**	*i*	P		**Pb**	**21 00 28.0**	**+0.3**
VA03	**San Esteban**	**3.42**	**157**				**Pb**	**21 00 33.9**	**-3.9**
VA01	**Torpederas**	**3.43**	**173**		Pn		**Pn**	**21 00 32.2**	**+1.7**
AUSP	**Uspallata**	**3.51**	**139**	*i*	P		**Pb**	**21 00 38.0**	**-1.4**
VCA	**Vinchina**	**3.53**	**77**	*i*	P		**Pb**	**21 00 38.0**	**-1.7**
ZON	**Conda**	**3.54**	**124**				**Pb**	**21 00 36.9**	**-3.0**
RTCV	**Cerro Valdivia**	**3.82**	**127**	*i*	P		**Pb**	**21 00 41.8**	**-2.6**
AC02	**Maricunga**	**3.82**	**44**		Pn		**Pn**	**21 00 37.4**	**+1.1**
AC02	**Maricunga**	**3.82**	**44**	*i*	P		**Pn**	**21 00 38.0**	**+1.7**
MT05	**Renca**	**3.96**	**163**				**Pn**	**21 00 40.6**	**+2.8**
VA05	**Santo Domingo**	**4.06**	**174**		Pn		**Pn**	**21 00 42.4**	**+3.2**
ARCO	**CERRO ARCO**	**4.23**	**141**	*i*	P		**Pb**	**21 00 49.0**	**-2.5**
MT09	**Talagante**	**4.27**	**167**				**Pn**	**21 00 45.4**	**+3.2**
MT01	**Popeta**	**4.31**	**170**				**Pn**	**21 00 44.0**	**+1.4**
LMEL	**Las Melosas**	**4.54**	**159**	‖	*e*P		**Pn**	**21 00 49.5**	**+3.6**
BO01	**Tunca**	**4.85**	**170**		Pn		**Pn**	**21 00 51.8**	**+1.8**
BO01	**Tunca**	**4.85**	**170**	*i*	P		Pn	21 00 55.0	+4.9
PB14	**IPOC Station P**	**5.19**	**18**		Pn		**Pn**	**21 00 52.5**	**-2.5**
BO02	**Sierra Bellavi**	**5.30**	**168**		Pn		**Pn**	**21 00 59.2**	**+3.0**
BO02	**Sierra Bellavi**	**5.30**	**168**	*i*	P		Pn	21 01 01.0	+4.8
GO05	**Huala**	**5.39**	**178**		Pn		**Pn**	**21 00 58.9**	**+1.4**
GO05	**Huala**	**5.39**	**178**	*i*	P		**Pn**	**21 01 00.0**	**+2.5**
CYA	**Choya**	**5.66**	**80**	*i*	P		**Pn**	**21 01 04.0**	**+2.8**
RFA	**San Rafael**	**6.01**	**150**	*i*	P		**Pn**	**21 01 10.0**	**+3.9**
ML02	**Panimavida**	**6.17**	**175**		Pn		**Pn**	**21 01 08.6**	**+0.4**
PB10	**IPOC Station P**	**6.23**	**13**	*i*	P		**Pn**	**21 01 08.0**	**-1.0**
PB15	**IPOC Station P**	**6.80**	**21**		Pn		**Pn**	**21 01 15.7**	**-1.4**
PB05	**IPOC Station P**	**6.94**	**15**	*i*	P		**Pn**	**21 01 18.0**	**-0.9**
H03N1	**Juan Fernandez**	**6.94**	**235**		T		T	21 09 16.4	
	baz=63,slow=72,SNR=157								
H03N2	**Juan Fernandez**	**6.96**	**235**		T		T	21 09 16.1	
	baz=63,slow=72,SNR=116								
H03N3	**Juan Fernandez**	**6.96**	**235**		T		T	21 09 14.9	
	baz=63,slow=72,SNR=138								
VA04	**Juan Fernndez**	**6.99**	**233**		Pn		**Pn**	**21 01 20.0**	**+0.5**
PB06	**IPOC Station P**	**7.24**	**19**		Pn		**Pn**	**21 01 20.9**	**-2.2**
PB04	**IPOC Station P**	**7.46**	**14**		Pn		**Pn**	**21 01 24.6**	**-1.4**
LVC	**Limon Verde**	**7.54**	**23**		Pn		**Pn**	**21 01 26.2**	**-1.2**
	comp=E,0.9nm,0.3s,baz=205,slow=11,SNR=2.4								
LVC						Lg	Lg	21 03 23.8	
	comp=E,2.1nm,0.3s,baz=332,slow=23,SNR=3.6								
LVC	**Limon Verde**	**7.54**	**23**		Pn		**Pn**	**21 01 25.4**	**-2.0**
LVC	**Limon Verde**	**7.54**	**23**	*e*	P		**Pn**	**21 01 26.1**	**-1.3**
LVC					*e*S		**Sn**	**21 02 53.1**	**-0.1**
PB07	**IPOC Station P**	**8.10**	**15**		Pn		**Pn**	**21 01 33.4**	**-1.5**
PB09	**IPOC Station P**	**8.20**	**19**		Pn		**Pn**	**21 01 35.9**	**-0.3**
PB01	**IPOC Station P**	**8.85**	**16**		Pn		**Pn**	**21 01 42.6**	**-2.5**
LC01	**Cunco**	**9.27**	**179**		Pn		**Pn**	**21 01 51.2**	**+0.4**
PB08	**IPOC Station P**	**9.80**	**17**		Pn		**Pn**	**21 01 55.7**	**-2.7**
**

comp=E,238nm,0.8s
RWWY IAML 21 05 50.5
comp=E,244nm,0.8s
LAO LASA Array 2.99 347 Pn **Pn 21 05 22.5 +2.5**
RLMT Red Lodge 3.17 297 **Pn 21 05 22.7 +0.2**
RLMT IAML 21 06 19.4
comp=E,74nm,1.0s
RLMT IAML 21 06 20.5
comp=E,70nm,1.0s
BW06 Boulder Array 3.29 254 **Pn 21 05 24.4 +0.1**
BW06 IAML 21 06 13.8
comp=E,59nm,0.7s
BW06 IAML 21 06 21.0
comp=E,69nm,0.7s
PD31 Pinedale Array 3.29 254 **Pn 21 05 24.2 -0.1**
PDAR Pinedale Array 3.29 254 Pn **Pn 21 05 24.2 -0.1**
comp=E,7.6nm,0.3s,baz=68,slow=16,SNR=78
PDAR Lg Lg 21 06 09.6
comp=E,17nm,0.3s,baz=75,slow=34,SNR=8.0
YNE Yellowstone No 3.62 292 **Pn 21 05 28.7 -0.1**
YNE IAML 21 06 28.5
comp=N,66nm,0.6s
YNE IAML 21 06 45.3
comp=E,73nm,0.9s
YMP Mirror Lake Pl 3.64 287 Pn **Pn 21 05 29.8 +0.7**
YMP IAML 21 06 33.8
comp=E,131nm,0.6s
OGNE Ogallala 3.71 139 Pn **Pn 21 05 31.0 +1.2**
GCMT Greycliff 3.73 304 Pn **Pn 21 05 31.0 +0.8**
LOHW Long Hollow 3.88 269 Pn **Pn 21 05 33.4 +1.1**
H17A Grant Village 3.88 281 **Pn 21 05 33.9 +1.5**
H17A IAML 21 06 35.2
comp=N,58nm,0.7s
FLWY Flagg Ranch 3.94 276 **Pn 21 05 34.0 +0.9**
FLWY IAML 21 06 43.5
comp=N,60nm,1.7s
FLWY IAML 21 06 48.6
comp=N,51nm,1.3s
MOOW Moose Ponds 3.97 271 Pn **Pn 21 05 35.0 +1.4**
ISCO Idaho Springs 3.98 184 Pn **Pn 21 05 34.9 +1.1**
YPP Pitchstone Pla 4.03 279 Pn **Pn 21 05 34.5 +0.1**
REDW Red Top Meadow 4.08 266 **Pn 21 05 35.7 +0.6**
REDW IAML 21 06 42.7
comp=N,79nm,0.8s
IMW Indian Meadow 4.11 274 Pn **Pn 21 05 36.9 +1.3**
IMW IAML 21 06 43.6
comp=N,34nm,1.0s
IMW IAML 21 06 46.2
comp=N,47nm,0.6s
YHH Holmes Hill 4.14 286 Pn **Pn 21 05 35.7 -0.2**
YHH IAML 21 06 48.1
comp=N,30nm,0.9s
TPAW Teton Pass 4.14 268 **Pn 21 05 36.0 +0.1**
TPAW IAML 21 06 56.1
comp=N,35nm,1.1s
TPAW IAML 21 07 02.0
comp=N,66nm,1.0s
FXWY Fox Creek 4.18 270 Pn **Pn 21 05 37.5 +1.0**
AHID Auburn Hatcher 4.38 259 Pn **Pn 21 05 40.2 +1.0**
AHID IAML 21 07 01.2
comp=N,38nm,0.6s
AHID IAML 21 07 02.5
comp=N,60nm,0.7s
YHL Hebgen Lake 4.38 286 Pn **Pn 21 05 40.1 +0.8**
YHL IAML 21 06 54.3
comp=N,41nm,1.1s
YHL IAML 21 07 12.8
comp=E,50nm,1.1s
RDMU Red Mountain 4.53 226 **Pn 21 05 42.6 +1.4**
RDMU IAML 21 07 00.2
comp=E,33nm,1.0s
RDMU IAML 21 07 03.5
comp=N,42nm,0.9s
DGMT Dagmar 4.75 9 Pn **Pn 21 05 45.4 +1.3**
BOZ Bozeman (W) 4.89 294 Pn **Pn 21 05 46.0 -0.1**
BOZ IAML 21 07 08.0
comp=N,29nm,0.9s
BOZ IAML 21 07 08.5
comp=N,20nm,1.2s
HWUT Hardware Ranch 5.12 247 **Pn 21 05 49.1 -0.3**
HWUT IAML 21 07 24.6
comp=N,40nm,1.0s
KSCO Kaye Shedlock' 5.16 156 Pn **Pn 21 05 49.9 0.0**
TCUT Toone Canyon 5.26 242 Pn **Pn 21 05 52.7 +1.3**
EGMT Eagleton 5.28 325 **Pn 21 05 50.9 -0.5**
HRY Holter Researc 5.49 305 **Pn 21 05 54.5 +0.2**
LRM Limekiln Ridge 5.51 294 Pn **Pn 21 05 55.4 +0.6**
SPUT South Promonto 5.85 248 Pn **Pn 21 05 59.3 -0.1**
PV22 Blue Mesa, Par 5.87 208 Pn **Pn 21 06 00.3 +0.6**
HVU Hansel Valley 5.88 253 Pn **Pn 21 06 00.2 +0.5**
PV07 Paradox Valley 5.91 207 **Pn 21 06 00.8 +0.5**
P17A Butcher Ranch, 5.94 226 Pn **Pn 21 06 02.4 +1.7**
SDCO Great Sand Dun 6.03 182 Pn **Pn 21 06 03.0 +1.1**
MPU Maple Canyon 6.06 234 Pn **Pn 21 06 02.8 +0.6**
PV12 Saucer Basin, 6.07 207 Pn **Pn 21 06 03.5 +1.0**
PV14 Lion Creek, Pa 6.10 209 Pn **Pn 21 06 03.5 +0.6**
PV10 Paradox Valley 6.10 209 Pn **Pn 21 06 04.3 +1.3**
SRU San Rafael Swe 6.11 222 Pn **Pn 21 06 02.0 -1.0**
PV18 Skein Mesa, Pa 6.17 208 **Pn 21 06 04.4 +0.6**
ECSD EROS Data Cent 6.27 87 **Pn 21 06 06.0 +1.0**
TMUT Trail Mountain 6.32 227 Pn **Pn 21 06 06.5 +0.6**
BGLI Big Grassy Mou 6.42 249 Pn **Pn 21 06 07.7 +0.5**
Q16A Castle Valley 6.58 224 Pn **Pn 21 06 09.7 +0.3**
HLID Hailey 6.64 271 Pn **Pn 21 06 11.7 +1.5**
T25A Trinidad 6.66 174 Pn **Pn 21 06 10.4 -0.2**
DUG Dugway, Tooele 6.67 240 Pn **Pn 21 06 10.1 -0.5**
MSO Missoula 6.84 300 Pn **Pn 21 06 12.7 -0.1**
MSU Marysvale 7.41 227 Pn **Pn 21 06 21.5 +0.7**
MVU Marysvale 7.43 227 Pn **Pn 21 06 21.7 +0.6**
JTMT Jette 7.45 305 Pn **Pn 21 06 21.3 +0.1**
TCRU Three Creeks R 7.48 229 Pn **Pn 21 06 21.0 -0.8**
AGMN Agassiz Nation 7.95 52 Pn **Pn 21 06 30.3 +2.3**
WALA Waterton Lakes 7.97 315 Pn **Pn 21 06 27.5 -0.9**
CCUT Cedar City 8.75 227 Pn **Pn 21 06 40.1 +1.0**
ULM Lac du Bonnet 9.11 41 Pn **Pn 21 06 43.5 -0.3**
comp=N,2.3nm,0.3s,baz=234,slow=11,SNR=12
ULM Pg 21 07 16.2
comp=N,1.9nm,0.3s,baz=220,slow=15,SNR=5.7
ULM Lg Lg 21 09 15.3
comp=N,0.4nm,0.3s,baz=125,slow=19,SNR=2.0
ULM Lac du Bonnet 9.11 41 Pn **Pn 21 06 43.0 -0.9**
FFC Flin Flon 11.16 10 Pn **Pn 21 07 10.7 -1.3**
PFO Pinyon Flats O 13.38 224 LR LR 21 13 43.0
comp=N,293nm,20.4s,baz=272,slow=43
YKA Yellowknife Ar 19.53 347 P **Pn 21 09 01.1 0.0**
comp=N,0.9nm,0.7s,baz=179,slow=12,SNR=2.2
ILAR Eielson Array 31.24 327 P **P 21 10 55.2 +3.0**
comp=N,0.4nm,0.4s,baz=106,slow=8.6,SNR=1.5
ARCES ARCESS Array B 61.38 18 P **P 21 14 46.8 -1.7**
comp=N,1.1nm,0.7s,baz=342,slow=7.6,SNR=5.3
ZALV Zalesovo Beam 82.27 354 P **P 21 16 53.2 -1.0**
comp=N,0.9nm,0.6s,baz=3.6,slow=8.3,SNR=1.9
BVAR Borovoye Array 83.50 3 P **P 21 16 59.4 -1.2**
comp=N,0.5nm,0.5s,baz=343,slow=9.3,SNR=2.7
MKAR Makanchi Array 89.56 355 P **P 21 17 30.2 -0.2**
comp=N,0.6nm,0.8s,baz=77,slow=6.4,SNR=3.9

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*MOS **21** 21:08:19.5±1.2,53.˙28N×108.˚55E, h10km, mb3.7/1, Error ellipse: s-maj=13.4km s-min=9.1km az=67.1*
*BYKL **21** 21:08:20.5±0.1,53.˙28N×108.˚53E, h15km±2km*
*IDC **21** 21:08:22.3±6.1,53.˙20N×108.˚10E, h0km, mb3.2/1, mb1 3.2/4, mb1mx3.0/59, mbtmp3.2/4, ML2.8/3, Error ellipse: s-maj=83.5km s-min=24.8km az=73.0*

ISC 21 21:08:20.6±0.8,53˚24N±0˙02×108˚60E±0˙02, h12km±6km, n52, σ2s11/121, 11C-13D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MXMB	**Maximikha**	**0.09**	**75**	⇑*i*Pg		**Pg**	**21 08 23.7**		**+0.3**
MXMB					*e*Sg	**Sg**	**21 08 26.1**		**+0.7**
KELR	**Kotokel**	**0.58**	**213**	⇓*i*Pg		**Pg**	**21 08 31.2**		**-0.7**
KELR					*e*Sg	**Sb**	**21 08 39.5**		**-1.2**
OGRR	**Ongureny**	**0.72**	**304**	⇑*i*Pg		**Pg**	**21 08 34.7**		**0.0**
	694nm,0.5s								
OGRR				⇓*i*Pg		**Pg**	**21 08 34.7**		**0.0**
	814nm,0.5s								
OGRR				⇑*i*Pg		**Pg**	**21 08 34.7**		**0.0**
	1μm,0.5s								
OGRR				Pmax			21 08 34.8		
	853nm,0.3s								
OGRR				*e*Sg		**Sg**	**21 08 43.4**		**-0.8**
OGRR				Smax			21 08 44.5		
	2μm,0.3s								
OGRR	**Ongureny**	**0.72**	**304**	⇑*i*PG		**Pg**	**21 08 34.7**		**0.0**
OGRR				*e*			21 08 43.1		
OGRR				pmax	pmax				
	comp=Z,862nm,0.3s								
OGRR				smax	smax				
	comp=E,2μm,0.3s								
SYVR	**Suvo**	**0.93**	**63**	⇓*i*Pg		**Pg**	**21 08 38.0**		**-0.7**
	comp=E,123nm,0.5s								
SYVR				⇓*i*Pg		**Pg**	**21 08 38.0**		**-0.7**
	comp=E,198nm,0.5s								
SYVR				⇓*i*Pg		**Pg**	**21 08 38.0**		**-0.7**
	comp=E,312nm,0.5s								
SYVR				Pmax			21 08 39.6		
	comp=E,244nm,0.3s								
SYVR				*e*Sg		**Sg**	**21 08 50.8**		**0.0**
SYVR				*e*Sb		**Sn**	**21 08 55.2**		**+2.3**
SYVR				max			21 08 55.6		
	comp=E,1μm,0.5s								
SYVR	**Suvo**	**0.93**	**63**	⇓*i*PG		**Pg**	**21 08 37.9**		**-0.7**
SYVR				*e*			21 08 51.0		
SYVR				pmax	pmax				
	comp=Z,251nm,0.3s								
SYVR				smax	smax				
	comp=E,1μm,0.4s								
ZRHB	**Zarechye**	**1.12**	**233**	*e*Pg		**Pg**	**21 08 40.7**		**-1.4**
ZRHB				*e*Pb		**Pn**	**21 08 42.0**		**0.0**
ZRHB				max			21 08 42.2		
	comp=E,1μm,0.5s								
ZRHB				*e*Sg		**Sg**	**21 08 55.9**		**-0.7**
ZRHB				Smax			21 08 58.9		
	comp=E,7μm,0.7s								
TRG	**Tyrgan**	**1.45**	**251**	⇓*i*Pg		**Pn**	**21 08 45.2**		**-1.4**
TRG				*e*Pb		**Pb**	**21 08 46.4**		**-1.1**
TRG				max			21 08 46.5		
	comp=E,290nm,0.4s								
TRG				*e*Sg		**Sn**	**21 09 04.6**		**-0.9**
TRG				Smax			21 09 06.5		
	comp=E,3μm,0.4s								
TRG				*e*			21 09 08.4		
TRG	**Tyrgan**	**1.45**	**251**	⇓*i*PG		**Pn**	**21 08 45.3**		**-1.4**
TRG				*e*			21 09 04.7		
TRG				pmax	pmax				
	comp=Z,290nm,0.3s								
TRG				smax	smax				
	comp=N,3μm,0.3s								
UUDB	**Ulan-Yde**	**1.49**	**203**	⇑*i*Pg		**Pb**	**21 08 47.8**		**-0.4**
	comp=N,141nm,0.5s								
UUDB				⇑*i*Pg		**Pb**	**21 08 47.8**		**-0.4**
	comp=N,98nm,0.5s								
UUDB				⇓*i*Pg		**Pb**	**21 08 47.8**		**-0.4**
	comp=N,409nm,0.5s								
UUDB				Pmax			21 08 48.2		
	comp=N,432nm,0.6s								
UUDB				*e*			21 08 50.6		
UUDB				*e*Sg		**Sg**	**21 09 07.7**		**-0.9**
UUDB				*e*Sb		**Sb**	**21 09 10.1**		**+3.0**
UUDB				max			21 09 10.5		
	comp=N,4μm,0.5s								
FFNB	**Fofonovo**	**1.64**	**224**	*e*Pn		**Pn**	**21 08 49.3**		**+0.1**
FFNB				*e*Pg		**Pb**	**21 08 50.3**		**-0.4**
FFNB				*e*Sg		**Sb**	**21 09 11.7**		**+0.4**
KAB	**Kabansk**	**1.68**	**226**	*e*Pg		**Pb**	**21 08 50.8**		**-0.7**
KAB				Pmax			21 08 52.0		
	comp=N,481nm,0.7s								
KAB				*e*Sg		**Sg**	**21 09 13.5**		**-1.2**
KAB				Smax			21 09 20.3		
	comp=N,3μm,1.1s								
KAB	**Kabansk**	**1.68**	**226**	*e*PN		**Pb**	**21 08 50.7**		**-0.7**
KAB				*e*			21 09 13.6		
KAB				pmax	pmax				
	comp=Z,614nm,0.4s								
KAB				smax	smax				
	comp=N,3μm,0.9s								
STDB	**Stepnoy Dvoret**	**1.73**	**233**	*e*Pn		**Pn**	**21 08 51.0**		**+0.5**
STDB				*e*Pg		**Pb**	**21 08 52.3**		**-0.1**
STDB				*e*Sg		**Sg**	**21 09 15.5**		**-0.8**
HRMR	**Khuramsha**	**1.90**	**213**	*e*Pn		**Pn**	**21 08 53.7**		**+0.8**
HRMR				⇑*i*Pg		**Pb**	**21 08 54.8**		**-0.5**
	comp=N,374nm,0.6s								
HRMR				⇑*i*Pg		**Pb**	**21 08 54.8**		**-0.5**
	comp=N,208nm,0.6s								
HRMR				⇓*i*Pg		**Pb**	**21 08 54.8**		**-0.5**
	comp=N,436nm,0.6s								
HRMR				Pmax			21 08 55.5		
	comp=N,1μm,0.5s								
HRMR				*e*Sg		**Sg**	**21 09 20.6**		**-1.2**
HRMR				Smax			21 09 22.5		
	comp=N,8μm,0.4s								
YLYR	**Ulyunkhan**	**2.23**	**42**	⇓*i*Pn		**Pn**	**21 08 57.9**		**+0.6**
YLYR				⇓*i*Pg		**Pb**	**21 08 59.8**		**-1.0**
YLYR				Pmax			21 09 00.2		
	comp=N,335nm,0.6s								
YLYR				*e*Sg		**Sb**	**21 09 30.0**		**+1.7**
YLYR				Smax			21 09 35.7		
	comp=N,878nm,1.3s								
BGT	**Bolshoye Golou**	**2.29**	**240**	*e*Pn		**Pn**	**21 08 57.6**		**-0.5**
BGT				*e*Pg		**Pb**	**21 09 01.3**		**-0.5**
BGT				Pmax			21 09 01.8		
	comp=N,213nm,0.5s								
BGT				*e*Sg		**Sb**	**21 09 30.3**		**+0.4**
BGT				Smax			21 09 35.4		
	comp=N,584nm,0.5s								
NIZ	**Nizh Angarsk**	**2.60**	**12**	*e*Pn		**Pn**	**21 09 03.0**		**+0.6**
NIZ				*e*Pg		**Pb**	**21 09 06.6**		**-0.5**
NIZ				Pmax			21 09 07.0		
	comp=N,129nm,0.6s								
NIZ				*e*Sg		**Sb**	**21 09 40.0**		**+1.1**
NIZ				Smax			21 09 41.9		
	comp=N,694nm,0.8s								
NIZ	**Nizh Angarsk**	**2.60**	**12**	⇑*e*PN		**Pn**	**21 09 02.4**		**0.0**
NIZ				*i*			21 09 06.6		
NIZ				*e*S		**Sn**	**21 09 34.0**		**+0.1**
NIZ				*e*			21 09 39.9		
NIZ				pmax	pmax				
	comp=Z,119nm,0.3s								
NIZ				smax	smax				
	comp=N,611nm,0.5s								
LSTR	**Listvyanka**	**2.68**	**241**	*e*Pn		**Pn**	**21 09 03.3**		**-0.3**
LSTR				*e*Pg		**Pb**	**21 09 07.7**		**-0.8**
LSTR				Pmax			21 09 08.6		
	comp=N,101nm,0.5s								
LSTR				*e*Sn		**Sn**	**21 09 35.7**		**-0.2**
LSTR				*e*Sg		**Sb**	**21 09 41.6**		**+0.3**
LSTR				Smax			21 09 44.4		
	comp=N,336nm,1.2s								
IRK	**Irkutsk**	**2.82**	**251**	*e*Pg		**Pb**	**21 09 10.4**		**-0.4**
IRK				Pmax			21 09 12.4		
	comp=N,106nm,0.3s								
IRK				*e*Sg		**Sb**	**21 09 45.7**		**+0.5**
IRK				Smax			21 09 50.9		
	comp=N,2μm,0.5s								
IRK	**Irkutsk**	**2.82**	**251**	*e*PN		**Pb**	**21 09 09.5**		**-1.3**
IRK				*e*			21 09 45.5		
IRK				pmax	pmax				
	comp=Z,100nm,0.2s								
IRK				smax	smax				
	comp=N,2μm,0.5s								
IVK	**Ivanovka**	**2.94**	**242**	*e*Pn		**Pn**	**21 09 06.7**		**-0.4**
IVK				*e*Pg		**Pb**	**21 09 12.5**		**-0.4**
IVK				Pmax			21 09 13.2		
	comp=N,88nm,0.5s								
IVK				*e*Sn		**Sn**	**21 09 42.1**		**-0.1**
IVK				*e*Sg		**Sb**	**21 09 50.7**		**+2.0**
IVK				Smax			21 09 52.5		
	comp=N,640nm,0.8s								
KMO	**Kumora**	**3.05**	**29**	⇓*i*Pn		**Pn**	**21 09 09.2**		**+0.5**
KMO				*e*Pg		**Pb**	**21 09 14.4**		**-0.4**
KMO				Pmax			21 09 15.3		
	comp=N,324nm,0.9s								
KMO				*e*Sg		**Sb**	**21 09 54.2**		**+2.2**
KMO				Smax			21 10 12.6		
	comp=N,667nm,1.1s								
KMO	**Kumora**	**3.05**	**29**	*e*PN		**Pn**	**21 09 09.1**		**+0.4**
KMO				*e*			21 09 13.9		
KMO				*e*S		**Sn**	**21 09 42.7**		**-2.4**
KMO				*e*			21 09 54.8		
KMO				pmax	pmax				
	comp=Z,324nm,0.4s								
KMO				smax	smax				
	comp=N,639nm,0.8s								
CIT	**Chita**	**3.25**	**110**	*e*Pg		**Pb**	**21 09 19.2**		**+0.9**
CIT				Pmax			21 09 25.4		
	comp=N,158nm,0.5s								
CIT				*e*Sg		**Sg**	**21 10 03.2**		**-1.9**
CIT				Smax			21 10 05.2		
	comp=N,927nm,0.6s								
CIT	**Chita**	**3.25**	**110**	*e*PN		**Pb**	**21 09 15.1**		**-3.2**
CIT				*e*			21 09 21.7		
CIT				*e*			21 10 02.7		
CIT				pmax	pmax				
	comp=Z,159nm,0.7s								
CIT				smax	smax				
	comp=E,934nm,0.5s								
TLY	**Talaya**	**3.41**	**245**	*e*Pn		**Pn**	**21 09 13.3**		**-0.3**
TLY				*e*Pg		**Pb**	**21 09 20.9**		**-0.1**
TLY				Pmax			21 09 21.6		
	comp=E,30nm,0.5s								
TLY				*e*Sg		**Sb**	**21 10 05.3**		**+2.9**
TLY				Smax			21 10 10.5		
	comp=E,363nm,0.8s								
TLY	**Talaya**	**3.41**	**245**	*e*PN		**Pb**	**21 09 20.7**		**-0.3**
TLY				*e*			21 10 05.4		
TLY				pmax	pmax				
	comp=Z,36nm,0.6s								
TLY				smax	smax				
	comp=E,363nm,0.6s								
YOA	**Uoyan**	**3.42**	**31**	*e*Pn		**Pn**	**21 09 12.2**		**-1.5**
YOA				*e*Pg		**Pb**	**21 09 20.7**		**-0.4**
YOA				Pmax			21 09 24.9		
	comp=E,293nm,1.0s								
YOA				*e*Sg		**Sg**	**21 10 07.3**		**-3.0**
YOA				Smax			21 10 20.4		
	comp=E,2μm,1.1s								
YOA	**Uoyan**	**3.42**	**31**	*e*PN		**Pb**	**21 09 20.4**		**-0.7**
YOA				*i*			21 10 09.1		
YOA				pmax	pmax				
	comp=Z,173nm,0.5s								
YOA				smax	smax				
	comp=N,2μm,0.8s								
UKT	**Uakit**	**3.70**	**51**	*e*PN		**Pb**	**21 09 27.5**		**+1.5**
UKT				*e*			21 10 15.9		
UKT				pmax	pmax				
	comp=Z,98nm,0.9s								
UKT				smax	smax				
	comp=E,165nm,0.6s								
SVKR	**Severomuysk**	**4.07**	**43**	*e*Pn		**Pn**	**21 09 24.3**		**+1.6**
SVKR				*e*Pg		**Pb**	**21 09 33.8**		**+1.6**
SVKR				Pmax			21 09 36.2		
	comp=E,227nm,1.3s								
SVKR				*e*Sg		**Sg**	**21 10 27.6**		**-3.7**
SVKR				Smax			21 10 34.3		
	comp=E,652nm,1.2s								
KPC	**Khapcheranga**	**4.26**	**145**	⇑*i*Pn		**Pn**	**21 09 25.4**		**+0.2**
KPC				*e*Pg		**Pb**	**21 09 37.7**		**+2.3**
KPC				Pmax			21 09 43.4		
	comp=E,63nm,0.5s								
KPC				*e*Sn		**Sn**	**21 10 15.8**		**+1.0**
KPC				*e*Sg		**Sg**	**21 10 33.2**		**-4.0**
KPC				*e*			21 10 39.3		
KPC				max			21 10 45.5		
	comp=E,173nm,1.4s								
KPC	**Khapcheranga**	**4.26**	**145**	⇑*i*PN		**Pn**	**21 09 25.5**		**+0.2**
KPC				*e*			21 09 36.9		
KPC				*e*S		**Sn**	**21 10 15.9**		**+1.1**
KPC				*e*			21 10 33.1		
KPC				pmax	pmax				
	comp=Z,62nm,0.3s								
KPC				smax	smax				
	comp=E,164nm,0.4s								
ZAK	**Zakamensk**	**4.37**	**231**	*e*Pn		**Pn**	**21 09 27.3**		**+0.4**
ZAK				*e*Pg		**Pb**	**21 09 37.9**		**+0.6**
ZAK				Pmax			21 09 41.4		
	comp=E,51nm,1.0s								
ZAK				*e*			21 09 45.3		
ZAK				*e*Sg		**Sg**	**21 10 35.4**		**-5.4**
ZAK				Smax			21 10 45.4		
	comp=E,201nm,1.5s								
ZAK	**Zakamensk**	**4.37**	**231**	*e*PN		**Pn**	**21 09 27.2**		**+0.4**
ZAK				*e*			21 09 37.8		
ZAK				*e*			21 10 35.2		
ZAK				pmax	pmax				
	comp=Z,44nm,0.5s								
ZAK				smax	smax				
	comp=N,141nm,0.5s								
MOY	**Mondy**	**4.91**	**254**	*e*Pn		**Pn**	**21 09 35.4**		**+1.1**
MOY				*e*Pg		**Pb**	**21 09 47.8**		**+1.2**
MOY				Pmax			21 09 49.1		
	comp=N,24nm,0.6s								
MOY				*e*			21 10 30.7		
MOY				*e*Sg		**Sb**	**21 10 50.9**		**+5.3**
MOY				Smax			21 10 51.8		
	comp=N,344nm,1.3s								
MOY	**Mondy**	**4.91**	**254**	*e*PN		**Pn**	**21 09 36.3**		**+2.0**
MOY				*e*			21 09 49.0		
MOY				*e*S		**Sn**	**21 10 31.5**		**+0.4**
MOY				*e*			21 10 50.6		
MOY				pmax	pmax				
	comp=Z,38nm,0.5s								
MOY				smax	smax				
	comp=N,342nm,1.0s								
NLYR	**Nelyaty**	**5.24**	**49**	*e*Pn		**Pn**	**21 09 39.1**		**+0.5**
NLYR				*e*Pg		**Pb**	**21 09 54.7**		**+2.7**
NLYR				Pmax			21 09 59.2		
	comp=N,43nm,0.9s								
NLYR				*e*Sg		**Sg**	**21 11 04.4**		**-4.2**
NLYR				Smax			21 11 19.6		
	comp=N,288nm,1.3s								
ORL	**Orlik**	**5.37**	**266**	*e*Pn		**Pn**	**21 09 41.7**		**+1.1**
ORL				max			21 09 50.6		
	comp=N,43nm,0.9s								
ORL				*e*			21 10 41.2		
ORL				*e*Sg		**Sb**	**21 11 04.0**		**+5.2**
ORL				Smax			21 11 09.7		
	comp=N,306nm,1.3s								
ORL	**Orlik**	**5.37**	**266**	*e*PN		**Pn**	**21 09 41.9**		**+1.3**
ORL				*e*			21 09 57.3		
ORL				*e*			21 11 03.8		
ORL				pmax	pmax				
	comp=Z,46nm,0.6s								
ORL				smax	smax				
	comp=N,311nm,1.0s								
BOD	**Bodaibo**	**5.52**	**32**	*e*Pn		**Pn**	**21 09 42.7**		**+0.2**
BOD				*e*Pg		**Pb**	**21 09 58.5**		**+1.7**
BOD				Pmax			21 09 59.5		
	comp=N,12nm,0.9s								
BOD				*e*Sg		**Sb**	**21 11 10.1**		**+7.3**
BOD				Smax			21 11 28.1		
	comp=N,125nm,1.4s								
BOD	**Bodaibo**	**5.52**	**32**	*e*PN		**Pn**	**21 09 42.5**		**0.0**
BOD				*e*			21 09 58.2		
BOD				*e*			21 11 10.1		
BOD				pmax	pmax				
	comp=Z,16nm,0.9s								
BOD				smax	smax				
	comp=E,126nm,1.5s								
SONM	**Songino Array**	**5.59**	**195**	Pn		**Pn**	**21 09 44.7**		**+1.1**
	comp=E,0.7nm,0.3s,baz=7.3,slow=12,SNR=17								
SONM				Pg		**Pb**	**21 10 02.2**		**+4.0**
	comp=E,4.4nm,0.3s,baz=4.2,slow=15,SNR=12								
SONM				Lg	Lg		21 11 16.8		
	comp=E,20nm,0.3s,baz=10,slow=29,SNR=17								
CRS	**Chara**	**6.65**	**53**	*e*Pn		**Pn**	**21 09 58.9**		**+0.8**
CRS				*e*Pg		Pb	21 10 21.1		+5.0
CRS				Pmax			21 10 27.6		
	comp=E,78nm,1.3s								
CRS				*e*Sg		**Sg**	**21 11 46.9**		**-7.0**
CRS				Smax			21 11 58.9		
	comp=E,118nm,1.6s								
CRS	**Chara**	**6.65**	**53**	*e*PG		Pb	21 10 21.8		+5.7
CRS				*e*			21 11 47.3		
CRS				pmax	pmax				
	comp=Z,77nm,1.0s								
CRS				smax	smax				
	comp=E,117nm,1.2s								
TUP	**Tupik**	**6.82**	**75**	*e*Pn		**Pn**	**21 10 00.9**		**+0.4**
TUP				*e*Pg		**Pb**	**21 10 23.7**		**+4.7**
TUP				Pmax			21 10 26.1		
	comp=E,10.0nm,1.1s								
TUP				*e*Sn		**Sn**	**21 11 15.7**		**-2.3**
TUP				*e*Sg		**Sg**	**21 11 52.8**		**-6.7**
TUP				Smax			21 11 59.6		
	comp=E,489nm,1.7s								
TUP	**Tupik**	**6.82**	**75**	*e*PG		**Pb**	**21 10 23.8**		**+4.7**
TUP				*e*S		**Sg**	**21 11 52.6**		**-6.8**
TUP				smax	smax				
	comp=N,385nm,1.1s								
ZALV	**Zalesovo Beam**	**14.13**	**282**	Pn		**Pn**	**21 11 40.5**		**+0.1**
	comp=N,0.1nm,0.3s,baz=77,slow=16,SNR=1.3								
ZALV				Lg	Lg		21 15 34.4

MKAR	**Makanchi Array**	**18.03**	**260**	P		**Pn**	**21 12 31.3**	**+0.4**
	comp=N,0.0nm,0.3s,baz=55,slow=12,SNR=1.4							
BVAR	**Borovoye Array**	**22.75**	**285**	P		**P**	**21 13 22.4**	**0.0**
	comp=N,0.5nm,0.4s,baz=64,slow=13,SNR=2.5							

*IDC **21** 21:17:06.0±0.8, 33.07S×71.83W, h0km, mb4.2/8, mb1 4.2/13, mb1mx4.1/28, mbtmp4.1/13, ML3.9/5, MS4.2/1, Ms1 4.2/1, ms1mx3.1/25, Error ellipse: s-maj=29.2km s-min=17.9km az=96.0*
*VAO **21** 21:17:06.8±0.4, 33.07S×72.14W, h13km, mb4.2*
*NEIC **21** 21:17:07.7±1.7, 33.06S±0.03×72.15W±0.05, h12km±3km, mb4.4/19, ML4.1(GUC), Error ellipse: s-maj=7.1km s-min=3.1km az=62.0*
*GUC **21** 21:17:08.6±0.8, 33.06S×72.10W, h28km±8km, ML4.0*

ISC 21 21:17:07.2±1.9, **33.06S**±0.03×**72.12W**±0.05, **h12**km±11km, **n124,** σ0§**83**/131, **mb4.3**/14, **7C-5D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VA01	**Torpederas**	**0.40**	**84**↑	*eP*		**Pb**	**21 17 16.6**	**+0.5**
VA01				*i* S		**Sb**	**21 17 22.3**	**0.0**
VA01	**Torpederas**	**0.40**	**84**			**Pb**	**21 17 16.7**	**+0.5**
VA01				Sg		**Sb**	**21 17 22.6**	**+0.3**
VA05	**Santo Domingo**	**0.73**	**144**↓	*iP*		**Pb**	**21 17 22.1**	**+0.3**
VA05				*i* S		**Sb**	**21 17 31.9**	**+0.1**
VA05				IAML			21 17 32.7	
	comp=E,33μm,0.3s							
VA05	**Santo Domingo**	**0.73**	**144**			**Pb**	**21 17 22.0**	**+0.3**
VA05				Sg		**Sb**	**21 17 31.9**	**+0.1**
VA06	**Catapilco**	**0.86**	**54**↓	*iP*		**Pb**	**21 17 24.3**	**+0.3**
VA06				*i* S		**Sb**	**21 17 35.6**	**+0.2**
VA06				IAML			21 17 37.9	
	comp=N,10μm,0.3s							
ROCH	**El Roble**	**0.94**	**85**↓	*iP*		**Pg**	**21 17 25.4**	**+0.1**
ROCH				*i* S		**Sb**	**21 17 37.9**	**-0.1**
ROCH				IAML			21 17 39.7	
	comp=E,5μm,0.7s							
MT01	**Popeta**	**1.08**	**138**↓	*iP*		**Pb**	**21 17 27.6**	**-0.2**
MT01				*i* S		**Sb**	**21 17 41.6**	**-0.3**
MT01				IAML			21 17 42.9	
	comp=E,10μm,0.3s							
MT01	**Popeta**	**1.08**	**138**			**Pb**	**21 17 27.6**	**-0.2**
MT01				Sn		**Sb**	**21 17 41.5**	**-0.4**
MT09	**Talagante**	**1.19**	**127**↓	*iP*		**Pb**	**21 17 29.4**	**-0.3**
MT09				*i* S		**Sb**	**21 17 44.8**	**-0.2**
MT09				IAML			21 17 46.0	
	comp=N,13μm,0.5s							
MT09	**Talagante**	**1.19**	**127**			**Pb**	**21 17 29.4**	**-0.3**
MT09				Sn		**Sb**	**21 17 44.7**	**-0.4**
MT05	**Renca**	**1.21**	**106**	*eP*		**Pn**	**21 17 29.9**	**-0.1**
MT05				*i* S		**Sb**	**21 17 45.8**	**+0.2**
MT05				IAML			21 17 49.7	
	comp=N,5μm,0.3s							
MT05	**Renca**	**1.21**	**106**	Pn		**Pn**	**21 17 29.9**	**-0.1**
VA03	**San Esteban**	**1.36**	**78**	*iP*		**Pn**	**21 17 31.9**	**-0.1**
VA03				*i* S		**Sb**	**21 17 49.4**	**-0.6**
VA03				IAML			21 17 54.5	
	comp=N,4μm,0.4s							
VA03	**San Esteban**	**1.36**	**78**	Pn		**Pn**	**21 17 32.2**	**+0.1**
BO03	**Pichilemu**	**1.44**	**175**↑	*eP*		**Pn**	**21 17 32.9**	**-0.2**
BO03				*i* S		**Sn**	**21 17 49.3**	**-2.6**
BO03				IAML			21 18 01.4	
	comp=E,1μm,0.6s							
BO01	**Tunca**	**1.58**	**147**↑	*eP*		**Pn**	**21 17 34.9**	**-0.2**
BO01				*e*S		**Sn**	**21 17 55.1**	**-0.4**
BO01				IAML			21 18 03.5	
	comp=E,1μm,0.2s							
BO01	**Tunca**	**1.58**	**147**	Pn		**Pn**	**21 17 34.9**	**-0.2**
LMEL	**Las Melosas**	**1.79**	**116**↑	*iP*		**Pn**	**21 17 39.2**	**+1.2**
LMEL				*i* S		**Sb**	**21 18 02.0**	**-0.4**
LMEL				IAML			21 18 08.2	
	comp=N,3μm,0.3s							
GO05	**Huala**	**1.95**	**175**↑	*iP*		**Pn**	**21 17 39.9**	**-0.3**
GO05	**Huala**	**1.95**	**175**	Pn		**Pn**	**21 17 40.0**	**-0.1**
BO02	**Sierra Bellavi**	**2.05**	**147**↑	*eP*		**Pn**	**21 17 42.4**	**+0.8**
BO02				*e*S		**Sn**	**21 18 07.6**	**+0.4**
BO02				IAML			21 18 23.5	
	comp=E,3μm,0.4s							
BO02	**Sierra Bellavi**	**2.05**	**147**			**Pn**	**21 17 42.2**	**+0.6**
CO06	**Fray Jorge**	**2.42**	**10**			**Pn**	**21 17 46.0**	**-0.6**
CO03	**El Pedregal**	**2.53**	**29**↑	*eP*		**Pn**	**21 17 49.2**	**+1.0**
CO03				*e*S		**Sn**	**21 18 18.3**	**-0.7**
CO03				IAML			21 18 29.7	
	comp=E,921nm,0.5s							
CO03	**El Pedregal**	**2.53**	**29**	Pn		**Pn**	**21 17 48.7**	**+0.5**
ML02	**Panimavida**	**2.75**	**168**	Pn		**Pn**	**21 17 51.6**	**+0.4**
GO04	**Tololo Observa**	**3.10**	**22**	Pn		**Pn**	**21 17 56.5**	**+0.4**
CO05	**La Serena**	**3.23**	**14**	Pn		**Pn**	**21 17 57.4**	**-0.3**
ZON	**Zonda**	**3.29**	**63**	Pn		**Pn**	**21 18 01.1**	**+2.6**
AC04	**Llanos de Chal**	**4.93**	**11**	Pn		**Pn**	**21 18 20.0**	**-1.1**
GO03	**Copiap**	**5.69**	**17**			**Pn**	**21 18 31.0**	**-0.6**
H03N1	**Juan Fernandez**	**5.70**	**264**	T		T	21 25 14.3	
	baz=88,slow=73,SNR=45							
H03N3	**Juan Fernandez**	**5.71**	**264**	T		T	21 25 33.2	
	baz=88,slow=73,SNR=15							
H03N2	**Juan Fernandez**	**5.72**	**264**	T		T	21 25 34.5	
	baz=88,slow=73,SNR=20							
H03S1	**Juan Fernandez**	**5.72**	**260**	T		T	21 24 47.0	
	baz=86,slow=75,SNR=1566							
H03S3	**Juan Fernandez**	**5.72**	**261**	T		T	21 24 51.9	
	baz=86,slow=75,SNR=1382							
H03S2	**Juan Fernandez**	**5.74**	**260**	T		T	21 24 51.3	
	baz=86,slow=75,SNR=1266							
LC01	**Cunco**	**5.83**	**178**	Pn		**Pn**	**21 18 33.2**	**-0.2**
AC06	**Mina Casimiro**	**5.89**	**16**			**Pn**	**21 18 33.4**	**-1.0**
AC02	**Maricunga**	**6.73**	**23**			**Pn**	**21 18 46.1**	**-0.2**
PLCA	**Paso Flores**	**7.76**	**171**	Pn		**Pn**	**21 19 00.7**	**+0.7**
	comp=E,1.0nm,0.3s,baz=333,slow=12,SNR=38							
PLCA	**Paso Flores**	**7.76**	**171**	Pn		**Pn**	**21 19 01.0**	**+1.0**
PLCA	**Paso Flores**	**7.76**	**171**	*eP*		**Pn**	**21 18 59.4**	**-0.6**
TRQA	**Tornquist**	**9.65**	**124**	Pn		**Pn**	**21 19 26.6**	**+0.8**
TRQA	**Tornquist**	**9.65**	**124**	*eP*		**Pn**	**21 19 26.1**	**+0.3**
LVC	**Limon Verde**	**10.79**	**16**	Pn		**Pn**	**21 19 41.5**	**-0.5**
	comp=E,0.2nm,0.3s,baz=166,slow=8.3,SNR=1.6							
LVC	**Limon Verde**	**10.79**	**16**			**Pn**	**21 19 42.1**	**+0.2**
LVC	**Limon Verde**	**10.79**	**16**	*eP*		**Pn**	**21 19 41.8**	**-0.1**
CPUP	**Villa Florida**	**14.49**	**66**	Pn		**Pn**	**21 20 30.9**	**-1.3**
	comp=E,0.2nm,0.3s,baz=258,slow=14,SNR=1.5							
CPUP	**Villa Florida**	**14.49**	**66**	*eP*		**Pn**	**21 20 31.7**	**-0.5**
PLTB	**Pedras Altas**	**15.70**	**90**	*eP*		**Pn**	**21 20 48.1**	**-0.1**
CPSB	**Cacapava Do Su**	**16.12**	**86**	*eP*		**Pn**	**21 20 53.4**	**-0.2**
LPAZ	**La Paz**	**17.09**	**13**	P		**Pn**	**21 21 07.2**	**+0.5**
	comp=E,0.2nm,0.3s,baz=184,slow=8.5,SNR=8.8							
LPAZ	**La Paz**	**17.09**	**13**	*eP*		**Pn**	**21 21 07.5**	**+0.9**
LPAZ	**La Paz**	**17.09**	**13**	*eP*		**Pn**	**21 21 05.8**	**-0.8**
CNLB	**Canela**	**18.57**	**84**	*eP*		**P**	**21 21 23.7**	**-0.5**
AQDB	**Aquidauana**	**19.26**	**53**	*eP*		**P**	**21 21 31.9**	**+0.2**
PTGB	**Pitanga**	**19.41**	**70**	*eP*		**P**	**21 21 33.3**	**-0.1**
SIV	**San Ignacio**	**19.72**	**33**	P		**P**	**21 21 36.5**	**-0.2**
	comp=E,0.2nm,0.3s,baz=222,slow=10,SNR=12							
TER01	**Tubaro-SC**	**20.25**	**83**	*eP*		**P**	**21 21 41.2**	**-1.2**
PTLB	**Pontes e Lacer**	**21.12**	**37**	*eP*		**P**	**21 21 51.8**	**-0.2**
TIJ01	**Guaruva-PR**	**21.58**	**75**	*eP*		**P**	**21 21 55.8**	**-1.1**
PCMB	**Pacaembu**	**21.72**	**64**	*eP*		**P**	**21 21 57.0**	**-1.3**
USHA	**Ushuaia**	**21.92**	**174**	LR		LR	21 31 44.1	
	comp=E,609nm,21.2s,baz=280,slow=40							
SALV	**Santo Antonio**	**22.65**	**45**	*eP*		**P**	**21 22 07.0**	**-1.3**
VILB	**Vilhena**	**22.79**	**31**	*eP*		**P**	**21 22 09.4**	**-0.4**
PET01	**Itanhaem-SP**	**23.44**	**75**	*eP*		**P**	**21 22 16.3**	**-0.2**
ITRB	**Iturama**	**23.54**	**61**	*eP*		**P**	**21 22 16.2**	**-1.3**
SPB	**Sao Paulo**	**23.65**	**73**	P		**P**	**21 22 18.2**	**-0.3**
SPB				IAmb		IAmb	21 22 19.5	
	comp=Z,15nm,0.8s							
SPB	**Sao Paulo**	**23.65**	**73**	*eP*		**P**	**21 22 18.4**	**-0.1**
ETMB	**Extrema**	**23.77**	**15**	*eP*		**P**	**21 22 19.3**	**-0.3**
BB19B	**Bebedouro**	**24.11**	**66**	*eP*		**P**	**21 22 22.3**	**-0.7**
VAO	**Valinhos**	**24.31**	**72**	*eP*		**P**	**21 22 24.3**	**-0.5**
PARB	**Paraibuna**	**25.23**	**74**	*eP*		**P**	**21 22 32.9**	**-0.3**
SAML	**Samuel**	**25.38**	**21**	P		**P**	**21 22 34.0**	**-0.4**
SAML				IAmb		IAmb	21 22 37.0	
	comp=Z,8.2nm,0.9s							
SAML	**Samuel**	**25.38**	**21**	*eP*		**P**	**21 22 34.6**	**+0.2**
IPMB	**Ipameri, GO**	**26.20**	**61**	*eP*		**P**	**21 22 40.1**	**-1.8**
VAS01	**Vassouras-RJ**	**27.50**	**74**	*eP*		**P**	**21 22 53.0**	**-0.6**
BDFB	**Brasilia**	**27.88**	**57**	P		**P**	**21 22 55.4**	**-1.7**
	comp=Z,2.3nm,0.5s,baz=280,slow=2.1,SNR=5.1							
BDFB	**Brasilia**	**27.88**	**57**	P		**P**	**21 22 55.6**	**-1.5**
BDFB				IAmb		IAmb	21 22 57.2	
	comp=Z,6.6nm,1.1s							
SNDB	**Serra Nova Dou**	**28.37**	**47**	*eP*		**P**	**21 23 01.5**	**+0.1**
DUB01	**Friburgo-RJ**	**28.46**	**75**	*eP*		**P**	**21 23 02.0**	**-0.2**
TBTG	**Tabatinga, AM**	**28.80**	**5**	*eP*		**P**	**21 23 04.7**	**-0.5**
DIAM	**Diamantina, MG**	**29.44**	**67**	*eP*		**P**	**21 23 10.3**	**-0.7**
MC01	**Montes Claros**	**30.18**	**64**	*eP*		**P**	**21 23 17.3**	**-0.2**
PEXB	**Peixe**	**30.18**	**52**	*eP*		**P**	**21 23 17.4**	**-0.1**
NPGB	**Novo Progresso**	**30.21**	**35**	*eP*		**P**	**21 23 16.5**	**-1.2**
PRPB	**Parauapebas**	**33.86**	**43**	*eP*		**P**	**21 23 49.0**	**-0.8**
CMC01	**Camacan, BA**	**34.37**	**67**	*eP*		**P**	**21 23 53.1**	**-1.1**
BOAV	**Boa Vista**	**36.93**	**20**	*eP*		**P**	**21 24 15.4**	**-0.8**
VNA3	**Neumayer Olymp**	**50.25**	**158**	P		**P**	**21 26 03.7**	**+0.9**
VNA1	**Neumayer--Stat**	**50.56**	**157**	P		**P**	**21 26 06.8**	**+1.7**
VNA2	**Neumayer--Watz**	**50.90**	**157**	P		**P**	**21 26 08.5**	**+0.8**
	baz=284,slow=8.7							
SNAA	**Sanae**	**52.48**	**158**	P		**P**	**21 26 20.1**	**+0.6**
SNAA	**Sanae**	**52.48**	**158**			**P**	**21 26 20.2**	**+0.6**
SNAA				IAmb		IAmb	21 26 21.1	
	comp=Z,3.5nm,1.0s							
QSPA	**South Pole Qui**	**57.17**	**180**	P		**P**	**21 26 54.5**	**+0.8**
	comp=Z,2.9nm,0.8s,baz=162,slow=1.3,SNR=12							
QSPA	**South Pole Qui**	**57.17**	**180**	P		**P**	**21 26 55.0**	**+1.3**
QSPA				IAmb		IAmb	21 26 57.4	
	comp=Z,4.8nm,1.1s							
TX31	**Lajitas Ar. Si**	**68.89**	**331**	P		**P**	**21 28 13.3**	**+1.4**
TX31				IAmb		IAmb	21 28 33.9	
	comp=Z,5.4nm,1.2s							
TX32	**Lajitas Array**	**68.89**	**331**	P		**P**	**21 28 13.6**	**+1.7**
TXAR	**Lajitas Array**	**68.89**	**331**	P		**P**	**21 28 13.4**	**+1.5**
	comp=Z,0.5nm,0.7s,baz=150,slow=8.1,SNR=6.6							
TXAR	**Lajitas Array**	**68.89**	**331**	P		**P**	**21 28 13.0**	**+1.1**
W50A	**Signal Mountai**	**69.03**	**348**	P		**P**	**21 28 13.1**	**+0.5**
V55A	**Taylorsville**	**69.08**	**352**	P		**P**	**21 28 13.2**	**+0.4**
MNTX	**Cornudas Mount**	**71.66**	**330**	P		**P**	**21 28 29.6**	**+0.8**
MNTX				IAmb		IAmb	21 28 30.1	
	comp=Z,1.8nm,0.9s							
MAW	**Mawson**	**74.09**	**164**	P		**P**	**21 28 43.7**	**+1.0**
	comp=Z,1.5nm,0.4s,baz=178,slow=7.2,SNR=4.8							
MAW	**Mawson**	**74.09**	**164**	P		**P**	**21 28 43.5**	**+0.7**
DBIC	**Dimbokro**	**74.95**	**72**	P		**P**	**21 28 48.4**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=324,slow=0.5,SNR=4.6							
DBIC	**Dimbokro**	**74.95**	**72**	P		**P**	**21 28 48.6**	**+0.1**
KOWA	**Kowa**	**80.32**	**66**	P		**P**	**21 29 18.8**	**+0.3**
KOWA				IAmb		IAmb	21 29 30.3	
	comp=Z,2.1nm,0.8s							
BOSA	**Boshof**	**80.57**	**118**	P		**P**	**21 29 20.0**	**0.0**
	comp=Z,1.2nm,0.5s,baz=273,slow=3.4,SNR=9.2							
BOSA	**Boshof**	**80.57**	**118**	P		**P**	**21 29 19.9**	**0.0**
LBTB	**Lobatse**	**82.76**	**115**	P		**P**	**21 29 31.8**	**+0.2**
NVAR	**Mina Array Bea**	**83.08**	**325**	P		**P**	**21 29 34.8**	**+2.0**
	comp=Z,0.2nm,0.4s,baz=125,slow=7.8,SNR=2.7							
TORD	**Torodi Ar. Bea**	**83.96**	**70**	P		**P**	**21 29 36.5**	**-1.2**
	comp=Z,3.1nm,0.8s,baz=266,slow=4.5,SNR=18							
TORD	**Torodi Ar. Bea**	**83.96**	**70**	P		**P**	**21 29 37.1**	**-0.5**
TORD				IAmb		IAmb	21 29 38.4	
	comp=Z,3.4nm,0.8s							
H11S2	**WAKE ISLAND Hyd**	**25.71**	**270**	T		T	23 55 04.8	
	baz=118,slow=75,SNR=17							
H11S1	**WAKE ISLAND Hyd**	**25.72**	**270**	T		T	23 55 01.1	
	baz=118,slow=75,SNR=22							
H11S3	**WAKE ISLAND Hyd**	**25.73**	**270**	T		T	23 54 53.8	
	baz=118,slow=75,SNR=11							
KKAR	**Karatay Array**	**149.15**	**60**	PKPbc		**PKiKP**	**21 36 56.9**	**+0.3**
ZALV	**Zalesovo Beam**	**153.47**	**31**	PKPbc		**PKPbc**	**21 37 04.7**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=291,slow=4.1,SNR=6.9							
ZALV	**Zalesovo Beam**	**153.47**	**31**			**PKPbc**	**21 37 03.5**	**-1.5**
MKAR	**Makanchi Array**	**156.19**	**47**	PKPab		**PKPab**	**21 37 27.2**	**-2.1**
	comp=Z,0.7nm,0.7s,baz=304,slow=2.8,SNR=5.7							
MKAR	**Makanchi Array**	**156.19**	**47**			**PKPab**	**21 37 27.4**	**-1.8**
USA0B	**Ussuriysk Arra**	**158.21**	**308**	PKPdf		**PKPdf**	**21 37 03.8**	**-0.1**

*IDC **21** 21:20:08.9±4.2, 14.36N×56.62E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.5/58, mbtmp3.7/8, Error ellipse: s-maj=94.7km s-min=32.1km az=153.0*
*OMAN **21** 21:20:11.8±0.5, 14.42N×56.86E, h10km, mb5.0/1, ml3.6/5, Error ellipse: s-maj=12.9km s-min=7.5km az=31.0*

ISC 21 21:20:09.5±1.4, **14.3N**±0.1×**56.9E**±0.1, **h10**km, **n17,** σ1§**14/17, mb3.8/8, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SOCY	**Socotra**	**3.49**	**234**	P		Pn	21 20 56.5	-7.5
SOCY				S		Sn	21 21 31.0	-14
DMTO	**DMTO**	**3.88**	**332**	P		**Pn**	**21 21 09.8**	**+0.5**
	SNR=19							
DMTO				S		**Sn**	**21 21 55.0**	**0.0**
SHAO	**Shalim**	**3.91**	**342**	P		**Pn**	**21 21 10.5**	**+0.9**
	SNR=10							
SHAO				S		**Sn**	**21 21 53.3**	**-2.3**
RBK	**Rabkut**	**4.10**	**322**	P		**Pn**	**21 21 13.2**	**+0.8**
RBK				S		**Sn**	**21 22 00.7**	**+0.2**
ABTO	**Aybut**	**4.60**	**312**	P		**Pn**	**21 21 19.9**	**+0.7**
ABTO				S		**Sn**	**21 22 13.3**	**+0.5**
WHFO	**Wadi Hawf**	**4.68**	**321**	P		**Pn**	**21 21 22.4**	**+2.0**
	SNR=5.4							
MKAR	**Makanchi Array**	**38.77**	**28**	P		**P**	**21 27 35.9**	**+1.7**
	0.7nm,0.8s,baz=221,slow=9.0,SNR=3.9							
AKASG	**Malin Array Be**	**42.67**	**334**	P		**P**	**21 28 05.8**	**-0.5**
	1.4nm,0.7s,baz=137,slow=7.1,SNR=7.3							
ZALV	**Zalesovo Beam**	**45.26**	**23**	P		**P**	**21 28 27.2**	**+0.1**
	0.5nm,0.5s,baz=232,slow=9.1,SNR=4.2							
FINES	**FINESS Array B**	**52.04**	**342**	P		**P**	**21 29 19.1**	**0.0**
	1.4nm,0.6s,baz=115,slow=8.6,SNR=8.5							
TORD	**Torodi Ar. Bea**	**53.50**	**276**	P		**P**	**21 29 30.1**	**-0.6**
	0.8nm,0.9s,baz=84,slow=6.3,SNR=3.9							
NOA	**NORSAR Array B**	**57.05**	**335**	P		**P**	**21 29 54.8**	**-0.8**
	0.4nm,0.7s,baz=122,slow=7.7,SNR=2.5							
ARCES	**ARCESS Array B**	**58.63**	**348**	P		**P**	**21 30 07.1**	**+0.6**
	1.6nm,0.9s,baz=140,slow=7.8,SNR=6.1							
ESDC	**Sonseca Array**	**58.63**	**308**	P		**P**	**21 30 06.0**	**-1.2**
	1.1nm,1.2s,baz=89,slow=6.8,SNR=7.4							
H01W3	**Cape Leeuwin H**	**73.06**	**134**	T		T	22 51 09.9	
	baz=302,slow=75,SNR=6.4							
H01W2	**Cape Leeuwin H**	**73.06**	**134**	T		T	22 51 09.2	
	baz=302,slow=75,SNR=9.9							
H01W1	**Cape Leeuwin H**	**73.08**	**134**	T		T	22 51 11.0	
	baz=302,slow=75,SNR=6.6							

*IDC **21** 21:22:54.9±6.0, 32.48S×178.58W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.6/34, mbtmp3.8/2, MS3.4/1, Ms1 3.4/1, ms1mx3.0/27, Error ellipse: s-maj=268.5km s-min=55.2km az=160.0*
*NEIC **21** 21:22:58.4±0.3, 33.1S±0.2×178.7W±0.5, h12km±14km, mb4.0/7, Error ellipse: s-maj=59.5km s-min=5.4km az=113.0*

ISC 21 21:22:60.0±2.1, **33.2S**±0.2×**178.5W**±0.3, **h32**km, **n14,** σ1§**24/13, mb3.9/7, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**3.96**	**8**	LR		LR	21 24 34.8	
	comp=Z,534nm,20.5s,baz=231,slow=30							
RAO	**Raoul Island**	**3.96**	**8**	Pn		**Pn**	**21 23 58.4**	**0.0**
URZ	**Urewera**	**6.19**	**214**	Pn		**Pn**	**21 24 28.8**	**-0.2**
BKZ	**Black Stump Fm**	**7.20**	**213**	Pn		**Pn**	**21 24 42.6**	**-0.5**
STKA	**Stephens Creek**	**33.52**	**261**	P		**P**	**21 29 38.5**	**+1.8**
STKA				IAmb		IAmb	21 29 54.8	
	comp=Z,2.1nm,1.4s							
ASAR	**Alice Springs**	**42.60**	**270**	P		**P**	**21 30 52.4**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=112,slow=7.4,SNR=4.7							
WR0	**Warramunga Arr**	**43.66**	**275**	P		**P**	**21 31 00.7**	**-1.2**
WR0				IAmb		IAmb	21 31 10.6	
	comp=Z,4.7nm,1.2s							
WB2	**Warramunga Arr**	**43.83**	**275**	P		**P**	**21 31 02.0**	**-1.3**
WRA	**Warramunga Arr**	**43.84**	**275**	P		**P**	**21 31 02.1**	**-1.2**
	comp=Z,1.0nm,0.4s,baz=116,slow=7.6,SNR=8.8							
WRA	**Warramunga Arr**	**43.84**	**275**	P		**P**	**21 31 01.7**	**-1.6**
WB0	**Warramunga Arr**	**43.88**	**276**	P		**P**	**21 31 02.5**	**-1.2**
WB0				IAmb		IAmb	21 31 19.9	
	comp=Z,7.3nm,1.4s							
FITZ	**Fitzroy Crossi**	**51.98**	**272**	P		**P**	**21 32 05.0**	**-1.4**
FITZ				IAmb		IAmb	21 32 19.5	
	comp=Z,5.0nm,1.4s							
NWAO	**Narrogin (SRO)**	**53.05**	**251**			**P**	**21 32 14.8**	**+0.6**
NWAO				IAmb		IAmb	21 32 15.5	
	comp=Z,0.1nm,0.7s							
FINES	**FINESS Array B**	**147.58**	**338**	PKPbc		**PKPdf**	**21 42 37.8**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=50,slow=4.3,SNR=13							

MEX 21 21:30:51.9±0.4, **17.21N**×**99.94W**, **h57**km±11km, **MD3.5, Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DAIG	**Los Arroyos**	**0.33**	**124**	*i* P		Pn	21 31 00.5	-1.5
DAIG				*i* S		Sn	21 31 07.5	-1.8
MEIG	**Mezcala**	**0.78**	**23**	*i* P		Pn	21 31 05.5	-1.6
MEIG				*i* S		Sn	21 31 14.7	-3.5
ARIG	**Puente Sto Nin**	**1.14**	**340**	*i* P		Pn	21 31 10.3	-1.4
ARIG				*i* S		Sn	21 31 24.2	-2.2

*SOF **21** 21:33:57.7, 41.60N×25.57E, h10km, MD2.5*
*ISK **21** 21:33:59.5, 41.63N×25.54E, h5km, ML2.3/11*
*DDA **21** 21:34:03.7, 41.57N×25.82E, h7km±2km, ML2.2*

ISC 21 21:33:59.3±1.1, **41.67N**±0.03×**25.52E**±0.02, **h13**km±8km, **n32,** σ0§**95/42, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDZ	**Kurdzhali**	**0.08**	**255**	*i* Pg		**Pg**	**21 34 02.0**	**0.0**
DIM	**Dimitrovgrad**	**0.38**	**1**	*i* Pg		**Pg**	**21 34 06.7**	**-0.2**
RDO	**Rodhopi**	**0.53**	**179**	PG		**Pb**	**21 34 10.1**	**-0.3**
RDO				SG		**Sb**	**21 34 17.5**	**-0.4**
RZN	**Rozhen**	**0.60**	**272**	*i* Pg		**Pg**	**21 34 09.8**	**-1.3**
PLD	**Plovdiv**	**0.75**	**306**	PG		**Pg**	**21 34 13.1**	**-0.7**
PLD	**Plovdiv**	**0.75**	**306**	Pg		**Pb**	**21 34 14.8**	**+0.6**
ALN	**Alexandroupoli**	**0.87**	**153**	PG		**Pb**	**21 34 16.6**	**+0.4**
ALN				SG		**Sn**	**21 34 29.8**	**0.0**
EDRB	**Edirne**	**0.93**	**79**	PG		**Pb**	**21 34 17.7**	**+0.4**
EDRB				SG		**Sn**	**21 34 32.5**	**+1.1**
UKOP	**Uzunkopru-Edir**	**1.00**	**123**	PG		**Pn**	**21 34 19.2**	**+0.2**
ENEZ	**Enez**	**1.05**	**153**	PG		**Pn**	**21 34 20.0**	**+0.3**
ENEZ				SG		**Sn**	**21 34 34.9**	**+0.7**
CAVK	**Edirne/Enez-Ca**	**1.09**	**153**	*i* P		**Pn**	**21 34 21.6**	**+1.3**
CAVK				*i* S		**Sn**	**21 34 35.0**	**-0.4**
CAVK				IAML			21 34 39.0	
	comp=N,87nm,0.4s							
CAVK				IAML			21 34 39.0	
	comp=E,85nm,0.3s							
JMB	**Yambol**	**1.12**	**44**	Pg		**Pb**	**21 34 20.6**	**0.0**
KIRK	**Kırklareli**	**1.19**	**84**	*i* P		**Pn**	**21 34 22.2**	**+0.6**
KIRK				*i* S		**Sb**	**21 34 36.7**	**-0.2**
KESN	**Edirne-Kesan**	**1.22**	**134**	*i* P		**Pn**	**21 34 24.1**	**+1.6**
KESN				*i* S		**Sn**	**21 34 39.2**	**+0.4**
KESN				IAML			21 34 42.0	
	comp=N,74nm,0.2s							
KESN				IAML			21 34 42.0	
	comp=E,60nm,0.2s							
ERIK	**Erikli-Kesan**	**1.25**	**143**	PN		**Pg**	**21 34 23.7**	**+0.4**
ERIK				SN		**Sn**	**21 34 41.2**	**+2.0**
MMB	**Musomiste**	**1.35**	**267**	P		**Pn**	**21 34 23.4**	**-0.5**
ARMN	**Kirklareli, Me**	**1.44**	**82**	*i* P		**Pg**	**21 34 26.8**	**-0.1**
ARMN				*i* S		**Sn**	**21 34 42.5**	**-1.4**
GADA	**Gvkgeada**	**1.51**	**169**	PN		**Pg**	**21 34

ROSC	El Rosal	62.60	279		LR	LR	22 14 10.5		
	comp=Z,155nm,18.8s,baz=56,slow=35								
MLR	Muntele Rosu	62.74	30		P	P	21 47 42.2	-0.1	
BR131	Keskin Array S	63.24	39		P	P	21 47 45.2	-0.5	
BR131					IAmb	IAmb	21 48 02.0		
	comp=Z,4.7nm,1.0s								
BRTR	Keskin Array B	63.24	39		P	P	21 47 45.4	-0.4	
	comp=Z,0.2nm,0.3s,baz=240,slow=11,SNR=4.8								
BRTR	Keskin Array B	63.24	39		P	P	21 47 46.0	+0.3	
SJCC	San Jacinto, C	64.45	284		P	P	21 47 54.6	+0.6	
SNAA	Sanae	64.82	177		P	P	21 47 57.0	+1.5	
	comp=Z,2.0nm,0.8s,baz=321,slow=4.4,SNR=9.3								
SNAA	Sanae	64.82	177		P	P	21 47 57.0	+1.5	
SNAA					IAmb	IAmb	21 48 00.3		
	comp=Z,2.8nm,0.9s								
AKASG	Malin Array Be	67.98	27		P	P	21 48 14.6	-1.3	
	comp=Z,1.3nm,0.5s,baz=226,slow=6.5,SNR=9.0								
AKASG	Malin Array Be	67.98	27		P	P	21 48 14.8	-1.2	
AKASG					IAmb	IAmb	21 48 23.4		
	comp=Z,5.1nm,1.1s								
AKBB	Malin Array Si	67.98	27		P	P	21 48 14.8	-1.2	
NOA	NORSAR Array B	70.46	12		P	P	21 48 31.1	0.0	
	comp=Z,0.7nm,0.9s,baz=202,slow=5.9,SNR=2.8								
KBZ	Khabaz	71.22	39		P	P	21 48 37.7	+1.6	
	comp=Z,2.5nm,1.0s,baz=180,slow=4.0,SNR=2.8								
FINES	FINESS Array B	74.68	18		P	P	21 48 57.1	+0.9	
	comp=Z,1.6nm,0.8s,baz=246,slow=9.6,SNR=5.3								
ARCES	ARCESS Array B	80.82	13		P	P	21 49 31.8	+1.5	
	comp=Z,2.3nm,0.8s,baz=242,slow=3.8,SNR=5.5								
ARCES	ARCESS Array B	80.82	13		P	P	21 49 31.4	+1.0	
TXAR	Lajitas Array	94.24	299		P	P	21 50 38.5	+1.7	
	comp=Z,0.1nm,0.3s,baz=102,slow=8.4,SNR=2.3								
VNDA	Vanda	95.48	179		LR	LR	22 27 01.0		
	comp=Z,88nm,19.8s,baz=248,slow=31								
PDAR	Pinedale Array	99.77	312		LR	LR	22 29 50.6		
	comp=Z,101nm,21.5s,baz=38,slow=32								

*KRSC **21** 21:44:19.7±1.1,56.22N×163.06E,h20km±7km,ML4.9*
*MOS **21** 21:44:21.8±1.0,56.33N×162.85E,h25km,mb4.4/11, Error ellipse: s-maj=7.2km s-min=3.6km az=68.4*
*NEIC **21** 21:44:25.6±2.1,56.32N±0.10×162.5E±0.1,h45km±5km, mb4.4/78, Error ellipse: s-maj=14.7km s-min=10.2km az=163.0*
*IDC **21** 21:44:25.8±3.0,56.21N×162.63E,h50km±27km,mb3.9/21, mb1 4.1/25,mb1mx4.0/40,mbtmp4.2/25,ML4.2/4,MS3.8/2, Ms1 3.8/2,ms1mx3.2/46, Error ellipse: s-maj=15.2km s-min=11.7km az=134.0*
ISC 21 21:44:22.3±0.5,56°29N±0°03×162°86E±0°03,h22km±4km, n299,σ1§57/335,mb4.4/81,9C,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
KBTR	Krutoberegovo	0.09	193	Op	ISC		
KBTR	Krutoberegovo	0.09	193	PN	Pb	21 44 25.0	-1.5
KBG	Krutoberegovo	0.09	245	*i* P	Pb	21 44 25.0	-1.5
KBG	Krutoberegovo	0.09	245	PN	Pb	21 44 25.3	-1.2
KBG				*i* P	Pb	21 44 25.3	-1.2
SMKR	Semkarok	0.82	291	*e*S	Sb	21 44 28.6	-0.7
SMKR	Semkarok	0.82	291	PN	Pb	21 44 37.4	-0.6
BDR	Baidarnaya	0.96	287	*i* P	Pb	21 44 37.4	-0.6
BDR	Baidarnaya	0.96	287	PN	Pn	21 44 40.0	-0.5
SRKR	Sorokina	1.00	292	*i* P	Pn	21 44 40.0	-0.5
SRKR	Sorokina	1.00	292	PN	Pn	21 44 40.7	-0.4
ZLN	Zelenaya	1.18	257	*i* P	Pn	21 44 40.7	-0.4
ZLN	Zelenaya	1.18	257	PN	Pn	21 44 43.6	0.0
CIRR	Tsirk	1.19	262	*e*P	Pn	21 44 43.6	0.0
CIRR	Tsirk	1.19	262	PN	Pn	21 44 43.7	-0.1
KLY	Klyuchi	1.23	272	*i* P	Pn	21 44 43.7	-0.1
KLY				PN	Pn	21 44 42.0	-2.1
KLY				S	Sn	21 44 57.8	-2.2
KLY	Klyuchi	1.23	272	*i* P	Pn	21 44 42.0	-2.1
KLY				*e*S	Sn	21 44 57.8	-2.2
LGNR	Loginova	1.23	261	PN	Pn	21 44 44.6	+0.2
LGNR	Loginova	1.23	261	*e*P	Pn	21 44 44.6	+0.2
BZGR	Bezymyannyi-Gr	1.26	255	PN	Pn	21 44 44.6	-0.1
BZGR	Bezymyannyi-Gr	1.26	255	*e*P	Pn	21 44 44.6	-0.1
KRSR	Krestovskiy	1.28	267	PN	Pn	21 44 44.3	-0.7
KRSR				S	Sn	21 45 01.1	-0.4
KRSR	Krestovskiy	1.28	267	*e*P	Pn	21 44 44.3	-0.7
KRSR				*e*S	Sn	21 45 01.1	-0.4
BZWR	Bezymyannyi-We	1.36	257	PN	Pn	21 44 46.2	0.0
BZWR	Bezymyannyi-We	1.36	257	*i* P	Pn	21 44 46.2	0.0
KIRR	Kirishev	1.45	257	PN	Pn	21 44 47.3	0.0
KIRR				S	Sb	21 45 07.1	+0.4
KIRR	Kirishev	1.45	257	*e*P	Pn	21 44 47.3	0.0
KIRR				*e*S	Sb	21 45 07.1	+0.4
KPT	Kopyto	1.51	259	PN	Pn	21 44 48.6	+0.5
KPT				S	Sb	21 45 09.6	+1.2
KPT	Kopyto	1.51	259	*i* P	Pn	21 44 48.6	+0.5
KPT				*e*S	Sb	21 45 09.6	+1.2
KMNR	Kamenistaya	1.57	251	PN	Pn	21 44 49.5	+0.6
KMNR	Kamenistaya	1.57	251	*e*P	Pn	21 44 49.5	+0.6
KOZ	Kozyrevsk	1.68	263	PN	Pn	21 44 51.5	+1.0
KOZ				S	Sb	21 45 14.1	+0.8
KOZ	Kozyrevsk	1.68	263	*i* P	Pn	21 44 51.5	+1.0
KOZ				*e*S	Sb	21 45 14.1	+0.8
TUMD	Tumrok D	1.77	233	*e*P	Pn	21 44 52.4	+0.8
TUMD				*e*S	Sn	21 45 15.1	+1.7
TUMR	Tumrok	1.84	238	PN	Pn	21 44 53.8	+1.2
TUMR				S	Sn	21 45 17.7	+2.5
TUMR	Tumrok	1.84	238	*e*P	Pn	21 44 53.8	+1.2
TUMR				*e*S	Sn	21 45 17.7	+2.5
MKZ	Mys Kozlova	1.86	201	PN	Pn	21 44 52.3	-0.5
MKZ				S	Sn	21 45 16.1	+0.6
MKZ	Mys Kozlova	1.86	201	*e*P	Pn	21 44 52.3	-0.5
MKZ				*e*S	Sn	21 45 16.1	+0.6
KZV	Kizimen	1.87	232	PN	Pn	21 44 53.9	+0.7
KZV	Kizimen	1.87	232	*e*P	Pn	21 44 53.9	+0.7
BKI	Bering	2.07	121	PN	Pn	21 44 55.4	-0.3
BKI				S	Sn	21 45 19.8	-1.0
BKI	Bering	2.07	121	*e*P	Pn	21 44 55.4	-0.3
BKI				*e*S	Sn	21 45 19.8	-1.0
ESO	Esso	2.36	263	PN	Pb	21 45 02.7	-1.4
ESO				S	Sn	21 45 30.8	+2.9
ESO	Esso	2.36	263	*e*P	Pb	21 45 02.7	-1.4
ESO				*e*S	Sn	21 45 30.8	+2.9
OSSR	Ossora	2.97	2	PN	Pn	21 45 08.3	+0.3
OSSR	Ossora	2.97	2	*e*P	Pn	21 45 08.3	+0.3
KII	Karymskiy	2.99	222	PN	Pn	21 45 09.4	+1.0
KII	Karymskiy	2.99	222	*e*P	Pn	21 45 09.4	+1.0
PALN	Palana	3.20	332	PN	Pn	21 45 14.3	+3.0
PALN				S	Sb	21 45 54.3	-2.7
PALN	Palana	3.20	332	*e*P	Pn	21 45 14.3	+3.0
PALN				*e*S	Sb	21 45 54.3	-2.7
SPN	Mys Shipunski	3.60	208	PN	Pn	21 45 16.3	-0.4
SPN	Mys Shipunski	3.60	208	*e*P	Pn	21 45 16.3	-0.4
SPN				*e*S	Sn	21 45 58.2	-0.3
NLC	Nalytchevo	3.73	214	PN	Pn	21 45 19.4	+0.9
NLC	Nalytchevo	3.73	214	*e*P	Pn	21 45 19.4	+0.9
NLC				*e*S	Sn	21 46 02.5	+0.7
SDLR	Sedlovina	3.80	219	PN	Pn	21 45 20.6	+1.0
SDLR	Sedlovina	3.80	219	*e*P	Pn	21 45 20.6	+1.0
KRX	Arik	3.82	221	PN	Pn	21 45 21.8	+1.9
KRX	Arik	3.82	221	*e*P	Pn	21 45 21.8	+1.9
KRER	Koryakskii	3.82	220	PN	Pn	21 45 21.7	+1.7
KRER	Koryakskii	3.82	220	*e*P	Pn	21 45 21.7	+1.7
SMAR	Somma	3.84	219	PN	Pn	21 45 21.4	+1.2
SMAR	Somma	3.84	219	*e*P	Pn	21 45 21.4	+1.2
GNL	Ganaly	3.85	229	PN	Pn	21 45 21.7	+1.5
GNL	Ganaly	3.85	229	*e*P	Pn	21 45 21.7	+1.5
AVH	Avacha	3.86	220	PN	Pn	21 45 22.1	+1.7
AVH	Avacha	3.86	220	*e*P	Pn	21 45 22.1	+1.7
KOK	Koryaka	3.88	221	PN	Pn	21 45 22.4	+1.8
KOK	Koryaka	3.88	221	*e*P	Pn	21 45 22.4	+1.8
UGLR	Uglovaya	3.88	219	PN	Pn	21 45 22.2	+1.6
UGLR	Uglovaya	3.88	219	*e*P	Pn	21 45 22.2	+1.6
DALK	Dalny	4.04	218	PN	Pn	21 45 23.9	+1.1
DALK	Dalny	4.04	218	*e*P	Pn	21 45 23.9	+1.1
DALK				*e*S	Sn	21 46 10.4	+0.9
PET	Petropavlovsk	4.08	218	*e*PN	Pn	21 45 24.8	+1.4
PET				pmax	pmax		
	comp=Z,253nm,0.7s						
PET				MLR	MLR		
	comp=Z,1μm,14.0s						
PET				MLR	MLR		
	comp=Z,1μm,14.0s						
PET	Petropavlovsk	4.08	218	*e*P	Pn	21 45 24.4	+1.0
PET				*e*S	Sn	21 46 12.2	+1.7
PET	Petropavlovsk	4.08	218		Pn	21 45 24.4	+1.0
PEA0B	Petropavlovsk-	4.37	225	PN	Pn	21 45 29.0	+1.6
PEA0B	Petropavlovsk-	4.37	225		Pn	21 45 29.0	+1.6
PETK	Petropavlovsk-	4.37	225	P	Pn	21 45 27.4	0.0
	comp=Z,8.1nm,0.3s,baz=72,slow=15,SNR=140						
PETK				S	Sb	21 46 27.4	-3.3
	comp=Z,5.5nm,0.3s,baz=61,slow=33,SNR=5.6						
PETK				LR	LR	21 47 21.4	
	comp=Z,1μm,18.3s,baz=307,slow=42						
PETK	Petropavlovsk-	4.37	225	PN	Pn	21 45 28.4	+1.0
PETK	Petropavlovsk-	4.37	225		Pn	21 45 28.4	+1.0
KRMR	Karymshinskiy	4.43	220	PN	Pn	21 45 31.6	+3.5
KRMR				S	Sn	21 46 23.7	+4.8
KRMR	Karymshinskiy	4.43	220	*e*P	Pn	21 45 31.6	+3.5
KRMR				*e*S	Sn	21 46 23.7	+4.8
TILK	Tilichiki	4.51	21	PN	Pn	21 45 30.3	+1.1
TILK	Tilichiki	4.51	21	*e*P	Pn	21 45 30.3	+1.1
RUS	Russkaya	4.63	215	PN	Pn	21 45 31.8	+1.0
RUS	Russkaya	4.63	215	*e*P	Pn	21 45 31.8	+1.0
RUS				*e*S	Sn	21 46 25.2	+1.4
GRL	Gorelyy	4.67	219	PN	Pn	21 45 34.3	+2.7
GRL				S	Sn	21 46 29.6	+4.4
GRL	Gorelyy	4.67	219	*e*P	Pn	21 45 34.3	+2.7
GRL				*e*S	Sn	21 46 29.6	+4.4
MTVR	Mutnovka	4.69	218	PN	Pn	21 45 33.9	+2.0
MTVR	Mutnovka	4.69	218	*e*P	Pn	21 45 33.9	+2.0
MTVR				*e*S	Sn	21 46 27.9	+2.2
APC	Apacha	4.73	227	PN	Pn	21 45 33.4	+1.2
APC	Apacha	4.73	227	*e*P	Pn	21 45 33.4	+1.2
ASAK	Asacha	4.87	219	PN	Pn	21 45 36.8	+2.5
ASAK	Asacha	4.87	219	*e*P	Pn	21 45 36.8	+2.5
KDTR	Khodutka, Kamc	5.30	214	PN	Pn	21 45 40.5	+0.4
KDTR				S	Sn	21 46 44.8	+4.4
KDTR	Khodutka, Kamc	5.30	214	*e*P	Pn	21 45 40.5	+0.4
KDTR				*e*S	Sn	21 46 44.8	+4.4
MIPR	Malaya Ipel'ka	5.38	224	PN	Pn	21 45 43.7	+2.5
MIPR	Malaya Ipel'ka	5.38	224	*e*P	Pn	21 45 43.7	+2.5
PAU	Pauzhetka	6.01	219	PN	Pn	21 45 52.3	+2.4
PAU	Pauzhetka	6.01	219	*e*P	Pn	21 45 52.3	+2.4
KMSK	Kamenskaya	6.42	14	PN	Pn	21 45 57.6	+2.1
KMSK	Kamenskaya	6.42	14	*e*P	Pn	21 45 57.6	+2.1
SKR	Severo-Kuril's	6.91	218	*e*PN	Pn	21 46 05.5	+3.4
SKR				pmax	pmax		
	comp=Z,44nm,0.8s						
SKR				MLR	MLR		
	comp=Z,600nm,12.0s						
SKR	Severo-Kuril's	6.91	218	P	Pn	21 46 05.1	+3.0
SMY	Shemya	7.45	114	PN	Pn	21 46 14.7	+5.1
SMY	Shemya	7.45	114	Pn	Pn	21 46 14.7	+5.1
BILL	Bilibino	11.89	6	*i* PN	Pn	21 47 15.5	+5.2
BILL				*i* S	Sn	21 49 35.8	+14
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,310nm,14.0s						
ATKA	Atka Island	14.00	97	Pn	P	21 47 45.0	-2.0
YSS	Yuzh-Sakhalins	15.54	241	*ce*P	Pn	21 48 01.9	+2.0
YSS				pmax	pmax		
	comp=Z,14nm,1.3s						
JKA	Kamikawa-asahi	17.71	235	P	P	21 48 29.1	+1.1
JKA				IAmb	IAmb	21 48 30.0	
	comp=Z,32nm,0.8s						
ASAJ	Asahikawa	17.71	235	P	Pn	21 48 26.9	-0.4
	comp=Z,0.9nm,0.3s,baz=66,slow=6.3,SNR=21						
ASAJ	Asahikawa	17.71	235	P	P	21 48 29.1	+1.0
ASAJ				pmax	pmax		
	comp=Z,32nm,0.8s						
YAK	Yakutsk	17.80	302	P	P	21 48 29.4	+0.4
	comp=Z,0.2nm,0.3s,baz=235,slow=2.3,SNR=6.5						
YAK	Yakutsk	17.80	302	P	P	21 48 28.6	-0.3
YAK				IAmb	IAmb	21 48 38.0	
	comp=Z,23nm,0.7s						
ERM	Erimo	19.14	230	P	P	21 48 42.2	-1.5
ERM				pmax	pmax		
	comp=Z,62nm,1.2s						
ERM	Erimo	19.14	230	P	P	21 48 42.2	-1.5
KLR	Kul'dur	19.98	262	P	P	21 48 53.0	+0.1
	comp=Z,0.2nm,0.3s,baz=52,slow=11,SNR=15						
ZEA	Zeya	20.43	278	*e*P	P	21 48 58.5	+0.7
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TIXI	Tiksi	20.96	330	P	Pn	21 49 04.9	-1.1
	comp=Z,9.9nm,0.8s,baz=109,slow=16,SNR=4.8						
TIXI	Tiksi	20.96	330	P	P	21 49 03.4	+0.1
TIXI				IAmb	IAmb	21 49 09.3	
	comp=Z,16nm,1.1s						
JTM	Tenmabayashi	21.05	232	P	P	21 49 04.1	-0.4
J20K	Nowinta River	22.35	52	P	P	21 49 21.7	+3.4
K20K	Telida	22.39	54	P	P	21 49 20.6	+1.8
IMAR	Indian Mountai	22.59	47	P	P	21 49 22.2	+1.2
H21K	Melozitna Rive	22.96	48	P	P	21 49 26.9	+2.0
H21K				IAmb	IAmb	21 49 33.6	
	comp=Z,20nm,1.4s						
CAST	Castle Rocks	23.28	54	P	P	21 49 30.7	+2.6
I21K	Tanana	23.29	49	P	P	21 49 30.2	+2.1
JMM	Marumori	23.60	228	P	P	21 49 29.9	-1.4
JMM				IAmb	IAmb	21 49 44.2	
	comp=Z,39nm,1.5s						
BPAW	Bear Paw Mtn.	23.73	52	P	P	21 49 33.5	+1.0
BPAW				IAmb	IAmb	21 49 40.1	
	comp=Z,25nm,1.4s						
KTH	Kantishna Hill	23.79	53	P	P	21 49 36.7	+3.6
KTH				IAmb	IAmb	21 50 01.9	
	comp=Z,14nm,1.3s						
MLY	Manley	23.82	50	P	P	21 49 33.9	+0.6
TRF	Thorofare Moun	24.08	53	P	P	21 49 37.6	+1.6
TRF				IAmb	IAmb	21 49 39.5	
	comp=Z,8.1nm,0.8s						
COLD	Coldfoot	24.10	44	P	P	21 49 36.3	+0.4
COLD				IAmb	IAmb	21 49 43.5	
	comp=Z,15nm,1.2s						
H23K	Yukon River	24.31	48	P	P	21 49 39.1	+1.2
H23K				IAmb	IAmb	21 49 47.0	
	comp=Z,20nm,1.1s						
I23K	Minto, Yukon-K	24.40	49	P	P	21 49 41.1	+2.5
I23K				IAmb	IAmb	21 49 47.0	
	comp=Z,9.8nm,0.9s						
TOLK	Toolik Lake Re	24.46	41	P	P	21 49 40.3	+1.1
TOLK				IAmb	IAmb	21 49 47.4	
	comp=Z,16nm,0.9s						
JSD	Sado	24.54	232	P	P	21 49 38.1	-2.1
JSD				IAmb	IAmb	21 49 39.7	
	comp=Z,6.9nm,0.7s						
NEA2	Nenana	24.54	51	P	P	21 49 39.9	-0.1
RND	Reindeer	24.73	53	P	P	21 49 43.6	+1.8
RND				pmax	pmax		
	comp=Z,11nm,1.1s						
RND	Reindeer	24.73	53	P	P	21 49 43.6	+1.8
RND				IAmb	IAmb	21 49 55.1	
	comp=Z,11nm,1.1s						
WRH	Wood River Hil	24.97	51	P	P	21 49 45.1	+1.3
WRH				IAmb	IAmb	21 49 53.2	
	comp=Z,12nm,1.0s						
H24K	Noodor Dome	25.00	48	P	P	21 49 46.4	+2.2
H24K				IAmb	IAmb	21 49 54.9	
	comp=Z,12nm,1.2s						
CCB	Clear Creek Bu	25.08	50	P	P	21 49 45.8	+1.0
CCB				IAmb	IAmb	21 49 59.2	
	comp=Z,10.0nm,0.9s						
SML	Sawmill	25.19	57	P	P	21 49 47.1	+1.2
SML				IAmb	IAmb	21 50 06.8	
	comp=Z,7.8nm,0.8s						
ILAR	Eielson Array	25.47	50	P	P	21 49 49.4	+1.0
	comp=Z,3.1nm,0.7s,baz=260,slow=8.1,SNR=20						
ILAR	Eielson Array	25.47	50	P	P	21 49 48.5	+0.1
HDA	Harding Lake	25.47	51	P	P	21 49 48.8	+0.4
SCM	Sheep Creek Mo	25.65	57	P	P	21 49 50.6	+0.5
SCM				pmax	pmax		
	comp=Z,22nm,1.1s						
SCM	Sheep Creek Mo	25.65	57	P	P	21 49 50.6	+0.5
SCM				IAmb	IAmb	21 49 52.9	
	comp=Z,22nm,1.1s						
MAJO	Matsushiro	25.81	230	P	P	21 49 50.4	-1.3
MAJO				pmax	pmax		
	comp=Z,12nm,0.8s						
MAJO	Matsushiro	25.81	230	P	P	21 49 50.4	-1.3
MAJO				IAmb	IAmb	21 49 51.4	
	comp=Z,12nm,0.8s						
MAT	Matsushiro	25.81	230	P	P	21 49 49.8	-1.9
MJAR	Matsushiro Arr	25.81	230	P	P	21 49 50.4	-1.3
	comp=Z,5.6nm,0.7s,baz=36,slow=8.3,SNR=24						
MJAR				LR	LR	22 00 37.4	
	comp=Z,208nm,19.0s,baz=335,slow=38						
MJAR	Matsushiro Arr	25.81	230	P	P	21 49 49.6	-2.1
GLI	Glacier Island	25.95	59	P	P	21 49 56.1	+3.4
GLI				IAmb	IAmb	21 50 01.5	
	comp=Z,25nm,1.4s						
PRP	Porcupine Dome	25.99	48	P	P	21 49 54.6	+1.4
PRP				IAmb	IAmb	21 50 00.6	
	comp=Z,13nm,1.2s						
BMAR	Burnt Mountain	26.28	44	P	P	21 49 57.0	+1.3
SCRK	Sand Creek	26.81	52	P	P	21 49 59.9	-0.7
SCRK				IAmb	IAmb	21 50 08.2	
	comp=Z,5.0nm,0.7s						
SCRK				PcP	PcP	21 53 23.6	+1.0
DOT	Dot Lake	26.83	52	P	P	21 50 01.1	+0.5
VRDI	Verde Repeater	27.59	57	P	P	21 50 07.5	-0.2
VRDI				IAmb	IAmb	21 50 17.3	
	comp=Z,13nm,1.5s						
EGAK	Eagle	27.90	49	P	P	21 50 10.6	+0.3
EGAK				IAmb	IAmb	21 50 21.5	
	comp=Z,6.0nm,0.8s						
L27K	Beaver Creek,	27.93	53	P	P	21 50 12.4	+1.9
BCAR	Beaver Creek A	27.94	53	P	P	21 50 12.0	+1.3
M27K	Edge Creek, AK	28.05	55	P	P	21 50 13.6	+1.8
CTGM	Chitina Glacie	28.66	57	P	P	21 50 17.4	+0.2
BCPM	Bancas Point	29.76	59	P	P	21 50 26.8	0.0
NRIK	Noril'sk	34.28	322	*i* P	P	21 51 06.2	-0.1
ULN	Ulaanbaatar	34.44	280	*ce*P	P	21 51 07.6	-0.5
ULN				pmax	pmax		
	comp=Z,7.0nm,2.5s						
SONM	Songino Array	34.81	280	P	P	21 51 10.9	-0.4
	comp=Z,1.6nm,0.5s,baz=59,slow=8.3,SNR=11						
SONM	Songino Array	34.81	280	P	P	21 51 11.0	-0.4
SONM						21 53 44.4	
SONM				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM	Songino Array	34.81	280	P	P	21 51 11.0	-0.4
SONM				PcP	PcP	21 53 44.4	+0.4
DLBC	Dease Lake	34.91	58	P	P	21 51 14.8	+2.9
DLBC				IAmb	IAmb	21 51 27.2	
	comp=Z,7.0nm,1.1s						
HHC	Hu-ho-hao-te	36.35	267	*e*P	P	21 51 22.5	-2.1
H11N2	WAKE ISLAND Hy	36.63	174	T	T	22 30 15.1	
	baz=357,slow=76,SNR=219						
H11N3	WAKE ISLAND Hy	36.65	174	T	T	22 30 19.9	
	baz=357,slow=76,SNR=227						
H11N1	WAKE ISLAND Hy	36.65	174	T	T	22 30 19.3	
	baz=357,slow=76,SNR=210						
NJ2	Nanjing	38.83	250	*e*P	P	21 51 45.3	-0.2
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
YKA	Yellowknife Ar	39.75	46	P	P	21 51 53.5	+0.8
	comp=Z,1.7nm,0.7s,baz=302,slow=7.7,SNR=3.5						
YKA	Yellowknife Ar	39.75	46	P	P	21 51 55.7	+2.9
YKA	Yellowknife Ar	39.75	46	P	P	21 51 55.7	+2.9
XAN	Xi'an	42.68	262	P	P	21 52 27.3	+10
XAN				pP	sP	21 52 38.3	+12
XAN				pmax	pmax		
	comp=Z,4.0nm,1.2s						
DGZ	Jazzator, Alta	43.74	295	*i* P	P	21 52 24.7	-1.1
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.6s						
GTA	Gaotai	43.88	275	⇑P	P	21 52 26.3	-0.7
GTA				pP	sP	21 52 38.8	+2.3
GTA				sP	pP	21 52 43.4	+10
GTA				pmax	pmax		
	comp=Z,20nm,0.9s						
GTA				pmax	pmax		
	comp=Z,55nm,6.2s						
GTA				LR	LR		
	comp=N,250nm,18.9s						
GTA				LR	LR		
	comp=E,160nm,17.8s						
GTA				LR	LR		
	comp=Z,220nm,17.8s						
SPITS	Spitsbergen Ar	44.23	351	P	P	21 52 29.8	+0.6
	comp=Z,7.3nm,0.6s,baz=62,slow=8.9,SNR=13						
WMQ	Urumqi	47.46	288	*e*P	P	21 52 55.4	+0.3
WMQ				pmax	pmax		
	comp=Z,25nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,95nm,4.3s						
MKAR	Makanchi Array	48.24	295	P	P	21 52 59.4	-1.7
	comp=Z,2.3nm,0.6s,baz=52,slow=7.0,SNR=23						
MKAR	Makanchi Array	48.24	295	P	P	21 52 59.7	-1.4
MKAR	Makanchi Array	48.24	295	P	P	21 52 59.7	-1.4
MAKZ	Makanchi	48.39	295	P	P	21 53 00.4	-1.9
MAKZ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MAKZ	Makanchi	48.39	295	P	P	21 53 00.4	-1.9
MAKZ				IAmb	IAmb	21 53 01.4	
	comp=Z,4.7nm,1.0s						
JTMT	Jette	48.75	63	P	P	21 53 06.6	+1.4
BRVK	Borovoye	49.70	308	*i* P	P	21 53 11.7	-0.5
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PLID	Pearl Lake	49.70	67	P	P	21 53 13.6	+1.0
PLID				IAmb	IAmb	21 53 17.5	
	comp=Z,2.3nm,0.8s						
ARCES	ARCESS Array B	50.73	342	P	P	21 53 20.2	+0.4
	comp=Z,1.9nm,0.8s,baz=25,slow=9.8,SNR=7.0						
ARCES

FINES	FINESS Array B	57.80	337	P		P	21 54 11.4	+0.1
FINES	FINESS Array B	57.80	337	P		P	21 54 11.4	+0.1
PV22	Blue Mesa, Par	58.16	67	P		P	21 54 16.5	+2.1
BTK	Batken	58.87	296	P		P	21 54 17.3	-1.9
BTK				pmax	pmax			
	comp=Z,5.0nm,0.7s							
BTK	Batken	58.87	296	P		P	21 54 17.3	-1.9
GAR	Garm	59.93	296	P		P	21 54 25.2	-1.4
CMAR	Chiang Mai Arr	60.40	259	P		P	21 54 28.7	-1.2
	comp=Z,0.8nm,0.6s,baz=16,slow=6.8,SNR=8.0							
CMAR				PcP		PcP	21 55 13.8	-0.9
	comp=Z,1.3nm,0.6s,baz=23,slow=2.4,SNR=4.8							
CMAR	Chiang Mai Arr	60.40	259	P		P	21 54 27.6	-2.3
CMAR				PcP		PcP	21 55 13.2	-1.5
KKN	Kakani	60.58	277	*eP*		P	21 54 29.6	-1.7
OBN	Obninsk	60.66	328	*i* P		P	21 54 30.5	-0.7
OBN				*i*			21 56 45.9	
OBN				pmax	pmax			
	comp=Z,7.0nm,1.0s							
PKI	Pulchoki	60.67	276	*eP*		P	21 54 30.0	-2.1
	comp=Z,13nm,0.7s							
PKIN	Phulchoki	60.68	276	*eP*		P	21 54 30.0	-2.0
	comp=Z,10nm,0.6s							
NC204	NORSAR Array S	60.73	345	P		P	21 54 30.9	-0.8
GKN	Gorkha	60.77	277	*eP*		P	21 54 29.8	-2.7
CHGR	Chuyangaron	60.77	296	P		P	21 54 30.3	-2.0
NB2	NORSAR Subarra	60.89	345	P		P	21 54 32.2	-0.5
	comp=Z,1.0nm,0.6s,baz=18,slow=6.9							
NOA	NORSAR Array B	60.89	345	P		P	21 54 32.6	-0.1
	comp=Z,1.0nm,0.7s,baz=18,slow=6.9,SNR=7.2							
KOLN	Koldanda	61.52	278	*eP*		P	21 54 35.7	-1.9
	comp=Z,16nm,0.6s							
PYUN	Piuthan	61.60	279	*eP*		P	21 54 36.3	-1.9
ANMO	Albuquerque	62.10	68	*ce*P		P	21 54 44.1	+2.6
ANMO				pmax	pmax			
	comp=Z,3.0nm,1.7s							
TOLI2	Tolitoli	64.55	228	P		P	21 54 56.3	-1.3
MNTX	Cornudas Mount	65.20	70	P		P	21 55 03.4	+1.7
MNTX				IAmb	IAmb		21 55 04.7	
	comp=Z,4.5nm,0.9s							
AKASG	Malin Array Be	66.67	330	P		P	21 55 10.1	-0.8
	comp=Z,0.8nm,0.3s,baz=30,slow=6.5,SNR=8.0							
AKASG	Malin Array Be	66.67	330	P		P	21 55 10.9	+0.1
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.8s							
AKASG	Malin Array Be	66.67	330	P		P	21 55 10.9	+0.1
AKBB	Malin Array Si	66.67	330	*ce*P		P	21 55 10.8	0.0
AKBB	Malin Array Si	66.67	330	P		P	21 55 10.2	-0.6
AKBB				IAmb	IAmb		21 55 13.7	
	comp=Z,7.9nm,1.2s							
TX31	Lajitas Ar. Si	67.97	70	P		P	21 55 21.1	+1.5
TX32	Lajitas Array	67.97	70	P		P	21 55 21.3	+1.8
TX32				IAmb	IAmb		21 55 22.2	
	comp=Z,6.5nm,1.1s							
TXAR	Lajitas Array	67.97	70	P		P	21 55 20.6	+1.1
	comp=Z,4.4nm,1.0s,baz=297,slow=4.0,SNR=35							
TXAR	Lajitas Array	67.97	70	P		P	21 55 20.8	+1.2
TXAR	Lajitas Array	67.97	70	P		P	21 55 20.8	+1.2
KWP	Kalwaria Pacla	69.36	334	*eP*		P	21 55 29.0	+1.2
KWP	Kalwaria Pacla	69.36	334	P		P	21 55 28.7	+0.9
KWP				pmax	pmax			
	comp=Z,160nm,1.1s							
KWP	Kalwaria Pacla	69.36	334	P		P	21 55 28.7	+0.9
STHS	Stebnicka Huta	69.92	334	*eP*		P	21 55 31.9	+0.6
STHS	Stebnicka Huta	69.92	334	*eP*		P	21 55 31.9	+0.6
DPC	Dobruska-Polom	70.15	338	*eP*		P	21 55 34.0	+1.3
DPC	Dobruska-Polom	70.15	338	*eP*		P	21 55 34.0	+1.3
KRLC	Kraliky	70.32	338	*eP*		P	21 55 34.5	+0.8
KRLC				*e*			21 55 40.2	
KRLC	Kraliky	70.32	338	*eP*		P	21 55 34.5	+0.8
KRLC				*ex*		x	21 55 40.2	
BUR08	Bucovina Ar. S	70.55	331	P		P	21 55 35.2	-0.1
BURAR	Bucovina Array	70.57	331	P		P	21 55 35.6	+0.2
LANS	Liptovska Anna	70.59	335	*eP*		P	21 55 36.3	+0.9
LANS				pmax	pmax			
	comp=Z,4.0nm,0.9s							
LANS	Liptovska Anna	70.59	335	*eP*		P	21 55 36.3	+0.9
KHC	Kasperske Hory	71.87	339	*eP*		P	21 55 43.9	+0.8
KHC	Kasperske Hory	71.87	339	*eP*		P	21 55 43.9	+0.8
GERES	GERESS Array B	72.12	339	P		P	21 55 45.6	+0.9
	comp=Z,0.9nm,0.8s,baz=28,slow=6.0,SNR=5.4							
MLR	Muntele Rosu	72.32	330	P		P	21 55 46.3	+0.3
MLR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
MLR	Muntele Rosu	72.32	330	P		P	21 55 46.3	+0.3
MLR				IAmb	IAmb		21 55 55.4	
	comp=Z,3.4nm,0.8s							
CONA	Conrad Observa	72.55	337	*i* P		P	21 55 48.9	+1.6
	comp=Z,4.0nm,1.2s							
KBA	Koelnbreinsper	73.88	339	*i* P		P	21 55 57.1	+1.8
	comp=Z,6.0nm,1.1s							
OBKA	Obir	74.17	338	*i* P		P	21 55 57.0	+0.1
	comp=Z,4.5nm,0.8s							
ABTA	Abfaltersbach	74.36	339	*i* P		P	21 55 58.2	+0.3
	comp=Z,6.1nm,1.1s							
FETA	Feichten	74.44	341	*eP*		P	21 56 00.8	+2.3
	comp=Z,5.1nm,1.1s							
BRTR	Keskin Array B	75.13	322	P		P	21 56 03.1	+0.5
	comp=Z,0.4nm,0.6s,baz=63,slow=2.2,SNR=3.6							
CTAO	Charters Tower	77.37	196	P		P	21 56 14.8	-0.4
CTAO				pmax	pmax			
	comp=Z,7.0nm,0.8s							
CTAO	Charters Tower	77.37	196	P		P	21 56 14.8	-0.4
WRAB	Tennant Creek	79.66	207	*ce*P		P	21 56 28.2	+0.4
WRAB				pmax	pmax			
	comp=Z,5.0nm,1.7s							
WRA	Warramunga Arr	79.67	207	P		P	21 56 26.4	-1.4
	comp=Z,2.2nm,1.0s,baz=21,slow=3.9,SNR=6.1							
WRA	Warramunga Arr	79.67	207	*ce*P		P	21 56 28.3	+0.4
WRA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
WRA	Warramunga Arr	79.67	207	P		P	21 56 27.3	-0.6
ASAR	Alice Springs	83.34	207	P		P	21 56 46.0	-1.2
	comp=Z,1.8nm,0.9s,baz=15,slow=6.6,SNR=14							
ASAR	Alice Springs	83.34	207	P		P	21 56 47.6	+0.4
ASAR	Alice Springs	83.34	207	P		P	21 56 47.6	+0.4
ESDC	Sonseca Array	83.75	350	P		P	21 56 49.8	+0.4
	comp=Z,0.9nm,1.0s,baz=15,slow=4.6,SNR=5.0							
ESDC	Sonseca Array	83.75	350	P		P	21 56 50.1	+0.7
STKA	Stephens Creek	89.67	198	P		P	21 57 17.8	-0.2
	comp=Z,2.1nm,1.0s,baz=13,slow=4.0,SNR=4.3							
VNDA	Vanda	133.55	180	PKIKP		PKiKP	22 03 36.3	0.0
VNDA	Vanda	133.55	180	PKPdf		PKiKP	22 03 36.3	0.0
PLTB	Pedras Altas	144.77	61	PKPdf		PKPbc	22 03 56.4	+0.5
TRQA	Tornquist	145.26	78	PKIKP		PKPbc	22 03 56.7	-0.6
TRQA	Tornquist	145.26	78	PKPdf		PKPbc	22 03 56.7	-0.6
QSPA	South Pole Qui	146.05	180	PKPbc		PKPdf	22 03 57.8	-0.1
	comp=Z,7.3nm,0.9s,baz=310,slow=1.0,SNR=28							
SNAA	Sanae	163.42	196	PKPab		PKPab	22 05 10.9	-2.0
SNAA	Sanae	163.42	196	PKPab		PKPab	22 05 11.5	-1.4
	comp=Z,0.8nm,0.8s,baz=217,slow=8.4,SNR=5.7							
SNAA	Sanae	163.42	196	PKPab		PKPab	22 05 11.2	-1.7
VNA3	Neumayer Olymp	164.66	189	PKPab		PKPab	22 05 16.5	-1.7
VNA2	Neumayer--Watz	164.72	192	PKPab		PKPab	22 05 17.3	-1.2
VNA1	Neumayer--Stat	165.08	192	PKPab		PKPab	22 05 18.2	-1.9

IDC ***21*** *22:25:26.3±2.1,31.26S×71.68W,h0km,mb4.3/3, mb1 4.0/8,mb1mx3.8/26,mbtmp3.9/8,ML3.7/5,Error ellipse: s-maj=59.4km s-min=29.1km az=102.0*
SJA ***21*** *22:25:30.0,31.69S×71.94W,h10km,ML4.5*
GUC ***21*** *22:25:30.9±0.8,31.71S×71.68W,h35km±2km,ML4.1*
NEIC ***21*** *22:25:30.8,31.68S×71.71W,h30km,Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr3.53; Mθθ0.82; Mφφ-4.35; Mrθ0.50; Mrφ-0.79; Mθφ-2.96; Fault plane solution: M0 5.07000×10^14^ NP1:φ=24.29000°, δ29.01000°, λ115.34000°. NP2:φ=175.85000°, δ64.01000°, λ76.65000°. Principal axes: T 4.6563, Plg68.0000°, Azm60.0000°; N 0.7379, Plg12.0000°, Azm182.0000°; P -5.3943, Plg18.0000°, Azm276.0000°;*
NEIC ***21*** *22:25:31.6±1.5,31.683S±0.008×71.70W±0.08, h27km±5km,mb4.2/3,Mwr3.7/31,ML4.1(GUC) Error ellipse: s-maj=10.2km s-min=1.2km az=89.0*

ISC 21 22:25:29.9±0.6,**31.69S**±0.02×**71.74W**±0.05,**h21**km±3km, **n88**,σ1°**28**/94,**mb4.2**/5,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
VA06	**Catapilco**	**0.95**	**157**	*eP*		**Pn**	**22 25 47.7**	**-0.3**
VA06				*i* S		**Sb**	**22 25 59.8**	**0.0**
VA06				IAML			22 26 03.0	
	comp=E,15μm,0.5s							

CO06	**Fray Jorge**	**1.01**	**5**	*eP*		**Pb**	**22 25 49.3**	**+0.5**
CO06				*i* S		**Sn**	**22 26 03.5**	**+0.9**
CO06				IAML			22 26 06.4	
	comp=N,6μm,0.6s							
CO06	**Fray Jorge**	**1.01**	**5**	Pn		**Pb**	**22 25 49.7**	**+1.0**
CO06				Sn		**Sn**	**22 26 03.4**	**+0.9**
CO03	**El Pedregal**	**1.23**	**47**	*eP*		**Pb**	**22 25 52.4**	**-0.2**
CO03				*i* S		**Sb**	**22 26 08.0**	**0.0**
CO03				IAML			22 26 09.3	
	comp=E,7μm,0.2s							
CO03	**El Pedregal**	**1.23**	**47**	Pn		**Pb**	**22 25 52.3**	**-0.2**
CO03				Sn		**Sb**	**22 26 07.6**	**-0.4**
CO03	**El Pedregal**	**1.23**	**47**	*i* P		**Pn**	**22 25 52.0**	**0.0**
VA01	**Torpederas**	**1.34**	**177**	*eP*		**Pn**	**22 25 53.7**	**+0.3**
VA01				*i* S		**Sn**	**22 26 10.7**	**+0.3**
VA01	**Torpederas**	**1.34**	**177**	Pn		**Pn**	**22 25 53.6**	**+0.3**
VA01				Sn		**Sb**	**22 26 12.6**	**+1.7**
VA01	**Torpederas**	**1.34**	**177**	*i* P		**Pn**	**22 25 54.0**	**+0.7**
ROCH	**El Roble**	**1.42**	**155**	*eP*		**Pn**	**22 25 54.9**	**+0.1**
ROCH				*i* S		**Sb**	**22 26 13.9**	**+0.2**
VA03	**San Esteban**	**1.47**	**137**	*eP*		**Pn**	**22 25 55.6**	**+0.3**
VA03				*i* S		**Sb**	**22 26 14.4**	**-0.5**
VA03				IAML			22 26 17.4	
	comp=E,6μm,0.4s							
VA03	**San Esteban**	**1.47**	**137**	Pn		**Pb**	**22 25 56.1**	**-0.6**
VA03				Sn		**Sb**	**22 26 14.3**	**-0.7**
VA03	**San Esteban**	**1.47**	**137**	*i* P		**Pn**	**22 25 56.0**	**+0.7**
GO04	**Tololo Observa**	**1.71**	**28**	*eP*		**Pb**	**22 26 00.0**	**-0.8**
GO04				*i* S		**Sb**	**22 26 22.7**	**+0.8**
GO04				IAML			22 26 29.9	
	comp=N,5μm,0.4s							
GO04	**Tololo Observa**	**1.71**	**28**	Pn		**Pb**	**22 26 00.3**	**-0.5**
GO04				Sn		**Sb**	**22 26 21.6**	**-0.4**
CO05	**La Serena**	**1.81**	**14**	*eP*		**Pb**	**22 26 01.9**	**-0.5**
CO05				*i* S		**Sb**	**22 26 24.9**	**+0.2**
CO05	**La Serena**	**1.81**	**14**	Pn		**Pb**	**22 26 01.9**	**-0.5**
CO05				Sn		**Sb**	**22 26 24.2**	**-0.5**
MT05	**Renca**	**1.90**	**154**	*eP*		**Pn**	**22 26 02.7**	**+1.6**
MT05				*i* S		**Sb**	**22 26 26.5**	**-0.8**
MT05				IAML			22 26 33.7	
	comp=E,4μm,0.3s							
MT05	**Renca**	**1.90**	**154**	Pn		**Pn**	**22 26 02.6**	**+1.4**
MT05	**Renca**	**1.90**	**154**	*i* P		**Pb**	**22 26 03.0**	**-0.9**
VA05	**Santo Domingo**	**1.97**	**177**	Pn		**Pn**	**22 26 01.9**	**-0.2**
AUSP	**Uspallata**	**2.07**	**106**	*i* P		**Pb**	**22 26 07.0**	**+0.1**
RTLS	**Leoncito**	**2.08**	**94**	*i* P		**Pb**	**22 26 07.0**	**-0.2**
MT09	**Talagante**	**2.18**	**163**	*eP*		**Pn**	**22 26 06.6**	**+1.5**
MT09				*i* S		**Sn**	**22 26 33.0**	**+1.5**
MT09	**Talagante**	**2.18**	**163**	Pn		**Pn**	**22 26 06.3**	**+1.2**
MT01	**Popeta**	**2.21**	**169**	*eP*		**Pn**	**22 26 06.4**	**+0.9**
MT01				*i* S		**Sn**	**22 26 34.1**	**+2.0**
MT01	**Popeta**	**2.21**	**169**	Pn		**Pn**	**22 26 06.3**	**+0.9**
AROD	**Rodeo**	**2.46**	**53**	*i* P		**Pb**	**22 26 13.0**	**-0.7**
ACCO	**Cerro Coronel**	**2.54**	**65**	*i* P		**Pb**	**22 26 14.0**	**-1.0**
ZON	**Zonda**	**2.61**	**88**	*i* P		**Pb**	**22 26 15.0**	**-1.1**
ASAL	**Salagasta**	**2.62**	**111**	*i* P		**Pb**	**22 26 16.0**	**-0.3**
ARCO	**CERRO ARCO**	**2.64**	**117**	*i* P		**Pb**	**22 26 16.0**	**-0.6**
ACDV	**Cuesta del Vie**	**2.71**	**57**	*i* P		**Pb**	**22 26 17.0**	**-0.8**
RTCV	**Cerro Valdivia**	**2.73**	**95**	*i* P		**Pb**	**22 26 16.0**	**-2.0**
BO01	**Tunca**	**2.75**	**169**	*eP*		**Pn**	**22 26 14.1**	**+1.3**
BO01				*i* S		**Sn**	**22 26 46.7**	**+1.2**
BO01	**Tunca**	**2.75**	**169**	Pn		**Pn**	**22 26 14.2**	**+1.3**
BO01	**Tunca**	**2.75**	**169**	*i* P		**Pn**	**22 26 16.0**	**+3.1**
LCO	**Las Campanas**	**2.81**	**19**	*eP*		**Pn**	**22 26 15.1**	**+1.2**
AAGR	**Agrelo**	**2.83**	**120**	*i* P		**Pb**	**22 26 18.0**	**-1.8**
BO02	**Sierra Bellavi**	**3.20**	**166**	Pn		**Pn**	**22 26 20.6**	**+1.5**
BO02	**Sierra Bellavi**	**3.20**	**166**	*i* P		**Pn**	**22 26 22.0**	**+2.9**
GO05	**Huala**	**3.32**	**183**	Pn		**Pn**	**22 26 20.2**	**-0.4**
GO05	**Huala**	**3.32**	**183**	*i* P		**Pn**	**22 26 21.0**	**+0.3**
AC04	**Llanos de Chal**	**3.52**	**10**	Pn		**Pn**	**22 26 24.0**	**+0.6**
AVFE	**Valle Fertil**	**3.81**	**76**	*i* P		**Pn**	**22 26 30.0**	**+2.6**
ML02	**Panimavida**	**4.08**	**176**	Pn		**Pn**	**22 26 31.5**	**+0.5**
RFA	**San Rafael**	**4.12**	**139**	*i* P		**Pn**	**22 26 34.0**	**+2.3**
VCA	**Vinchina**	**4.24**	**47**	*i* P		**Pn**	**22 26 38.0**	**+4.6**
GO03	**Copiap**	**4.28**	**18**	Pn		**Pn**	**22 26 34.8**	**+0.9**
GO03	**Copiap**	**4.28**	**18**	*i* P		**Pn**	**22 26 36.0**	**+2.1**
ACHE	**Chepes**	**4.37**	**84**	*i* P		**Pn**	**22 26 38.0**	**+2.8**
AC06	**Mina Casimiro**	**4.48**	**16**	Pn		**Pn**	**22 26 37.0**	**+0.4**
AC02	**Maricunga**	**5.34**	**26**	Pn		**Pn**	**22 26 50.6**	**+1.7**
CYA	**Choya**	**6.07**	**59**	*i* P		**Pn**	**22 27 00.0**	**+1.4**
H03N1	**Juan Fernandez**	**6.31**	**252**	T		T	22 33 42.9	
	baz=79,slow=73,SNR=1918							
H03N3	**Juan Fernandez**	**6.32**	**252**	T		T	22 33 42.3	
	baz=79,slow=73,SNR=1205							
H03N2	**Juan Fernandez**	**6.32**	**252**	T		T	22 33 43.2	
	baz=79,slow=73,SNR=1267							
H03S3	**Juan Fernandez**	**6.41**	**249**	T		T	22 33 49.5	
	baz=84,slow=75,SNR=22							
H03S1	**Juan Fernandez**	**6.41**	**248**	T		T	22 33 48.1	
	baz=84,slow=75,SNR=20							
H03S2	**Juan Fernandez**	**6.43**	**249**	T		T	22 33 51.8	
	baz=84,slow=75,SNR=23							
LC01	**Cunco**	**7.20**	**181**	*i* P		**Pn**	**22 27 14.0**	**+0.1**
AHML	**Horco Molle**	**7.42**	**50**	*i* P		**Pn**	**22 27 18.0**	**+0.9**
FSA	**Cafayete**	**7.50**	**44**	*i* P		**Pn**	**22 27 22.0**	**+3.7**
PLCA	**Paso Flores**	**9.08**	**174**	Pn		**Pn**	**22 27 40.8**	**+0.9**
	comp=E,0.2nm,0.3s,baz=333,slow=12,SNR=6.9							
PLCA	**Paso Flores**	**9.08**	**174**	Pn		**Pn**	**22 27 40.4**	**+0.6**
PLCA	**Paso Flores**	**9.08**	**174**	*i* P		**Pn**	**22 27 41.0**	**+1.2**
LVC	**Limon Verde**	**9.38**	**16**	Pn		**Pn**	**22 27 43.0**	**-1.3**
	comp=E,0.2nm,0.3s,baz=173,slow=8.1,SNR=1.5							
LVC	**Limon Verde**	**9.38**	**16**	Pn		**Pn**	**22 27 43.8**	**-0.5**
TRQA	**Tornquist**	**10.22**	**131**	Pn		**Pn**	**22 27 55.9**	**+0.4**
TRQA	**Tornquist**	**10.22**	**131**	*i* P		**Pn**	**22 27 57.0**	**+1.6**
CPUP	**Villa Florida**	**13.69**	**71**	Pn		**Pn**	**22 28 42.8**	**0.0**
	comp=E,0.3nm,0.3s,baz=250,slow=14,SNR=1.9							
LPAZ	**La Paz**	**15.68**	**13**	Pn		**Pn**	**22 29 11.1**	**+0.9**
	comp=E,0.1nm,0.3s,baz=233,slow=5.2,SNR=3.9							
SIV	**San Ignacio**	**18.40**	**34**	P		**P**	**22 29 43.4**	**-0.3**
	comp=E,0.2nm,0.3s,baz=224,slow=11,SNR=8.8							
BDFB	**Brasilia**	**26.87**	**59**	P		**P**	**22 31 08.9**	**-0.6**
	comp=E,1.6nm,0.4s,baz=172,slow=7.0,SNR=3.2							
SNAA	**Sanae**	**53.63**	**158**	P		**P**	**22 34 49.5**	**0.0**
SNAA				IAmb	IAmb		22 35 05.0	
	comp=Z,2.1nm,0.9s							
QSPA	**South Pole Qui**	**58.55**	**180**	P		**P**	**22 35 24.9**	**+0.2**
QSPA				IAmb	IAmb		22 35 38.4	
	comp=Z,4.2nm,1.4s							
DBIC	**Dimbokro**	**74.20**	**72**	P		**P**	**22 37 04.4**	**-1.1**
	comp=Z,2.4nm,0.5s,baz=236,slow=5.2,SNR=7.5							
DBIC	**Dimbokro**	**74.20**	**72**	P		**P**	**22 37 04.1**	**-1.4**
PDAR	**Pinedale Array**	**81.82**	**333**	P		**P**	**22 37 48.4**	**+0.9**
TORD	**Torodi Ar. Bea**	**83.18**	**70**	P		**P**	**22 37 53.7**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=271,slow=4.6,SNR=6.2							
TORD	**Torodi Ar. Bea**	**83.18**	**70**	P		**P**	**22 37 54.4**	**-0.5**
TORD				IAmb	IAmb		22 37 54.8	
	comp=Z,2.2nm,1.1s							
H11S2	**WAKE ISLAND Hyl**	**26.03**	**271**	T		T	01 03 24.8	
	baz=117,slow=75,SNR=81							
H11S1	**WAKE ISLAND Hyl**	**26.04**	**271**	T		T	01 03 25.7	
	baz=117,slow=75,SNR=73							
H11S3	**WAKE ISLAND Hyl**	**26.05**	**271**	T		T	01 03 25.1	
	baz=117,slow=75,SNR=91							
H11N3	**WAKE ISLAND Hyl**	**26.39**	**272**	T		T	01 03 51.3	
	baz=117,slow=75,SNR=45							
H11N1	**WAKE ISLAND Hyl**	**26.40**	**272**	T		T	01 03 52.4	
	baz=117,slow=75,SNR=115							
H11N2	**WAKE ISLAND Hyl**	**26.40**	**272**	T		T	01 03 52.6	
	baz=117,slow=75,SNR=115							
ZALV	**Zalesovo Beam**	**152.12**	**30**	PKPbc		**PKPbc**	**22 45 23.0**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=310,slow=2.9,SNR=7.7							

TRN ***21*** *22:34:01.6,13.93N×58.59W,h80km,MD4.3*

ISC 21 22:33:58.8±2.1,**13.98N**±0.04×**58.5W**±0.1,**h10**km,**n41**, σ1°**67**/66,**2C**,**North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BBSP	**Saint Philip**	**1.26**	**227**	*eS*		**Sn**	**22 34 40.9**	**+1.4**
BBGH	**Gun Hill**	**1.31**	**231**	*i*P		**Pb**	**22 34 24.9**	**+1.4**
BBGH				*eS*		**Sg**	**22 34 41.1**	**+0.1**
BCHC	**Barbados, Cave**	**1.37**	**232**	*eP*		**Pn**	**22 34 24.9**	**+0.9**
BCHC				*eS*		**Sb**	**22 34 42.2**	**+0.1**
MPOM	**Morne Pois Mar**	**2.32**	**282**	*eP*		**Pn**	**22 34 37.5**	**+0.4**
MPOM				*eS*		**Sn**	**22 35 04.7**	**-1.0**
MCLT	**Moule a Chique**	**2.37**	**264**	*eP*		**Pn**	**22 34 38.1**	**+0.3**
MCLT				*eS*		**Sn**	**22 35 05.8**	**-1.2**
SLBI	**Saint Lucia, B**	**2.39**	**271**	*eP*		**Pn**	**22 34 38.7**	**+0.7**
SLBI				*eS*		**Sn**	**22 35 06.2**	**-1.1**
SLCP	**Castries, St.**	**2.40**	**271**	*eP*		**Pn**	**22 34 39.1**	**+0.9**
SLCP				*eS*		**Sn**	**22 35 06.7**	**-1.0**
ILAM	**Ilet Lapin Mar**	**2.42**	**289**	*eP*		**Pn**	**22 34 39.5**	**+1.0**
SLB	**Belfond**	**2.46**	**267**	*eP*		**Pn**	**22 34 40.0**	**+1.0**
SLB				*eS*		**Sn**	**22 35 07.2**	**-1.9**
ZAM	**Aeronautique**	**2.51**	**284**	*eP*		**Pn**	**22 34 40.6**	**+0.9**
BIM	**Bigot**	**2.54**	**283**	*eP*		**Pn**	**22 34 40.9**	**+0.8**
BIM				*eS*		**Sn**	**22 35 10.5**	**-0.6**
SFAN	**Fancy Village**	**2.65**	**257**	*eP*		**Pn**	**22 34 42.6**	**+1.0**
SFAN				*eS*		**Sn**	**22 35 13.2**	**-0.7**
FDF	**Fort de France**	**2.66**	**287**	*eP*		**Pn**	**22 34 43.2**	**+1.4**
FDF				*eS*		**Sn**	**22 35 13.7**	**-0.6**
SSV	**Crater Summit**	**2.68**	**256**	*eP*		**Pn**	**22 34 43.4**	**+1.2**
SSV				*eS*		**Sn**	**22 35 13.9**	**-0.9**
SVV	**Soufriere Volc**	**2.71**	**256**	*eP*		**Pn**	**22 34 44.0**	**+1.6**
SVV				*eS*		**Sn**	**22 35 14.2**	**-1.0**
PML	**Morne Lenard**	**2.71**	**288**	*eP*		**Pn**	**22 34 44.0**	**+1.6**
SVN	**Savane Anatole**	**2.71**	**289**	*eP*		**Pn**	**22 34 43.8**	**+1.3**
SVB	**Belmont**	**2.75**	**256**	*eP*		**Pn**	**22 34 43.4**	**+0.4**
SVB				*eS*		**Sn**	**22 35 14.8**	**-1.6**
DLPL	**La Plaine**	**2.97**	**297**	*e*		**Pn**	**22 34 44.4**	**-1.6**
DLPL	**La Plaine**	**2.97**	**297**	*eP*		**Pn**	**22 34 48.3**	**+2.3**
DLPL				*eS*		**Sn**	**22 35 20.3**	**-1.4**
DSLB	**Salisbury**	**3.17**	**298**	*eP*		**Pn**	**22 34 50.4**	**+1.6**
DSLB				*eS*		**Sn**	**22 35 25.3**	**-1.3**
GCMP	**Grenada, Carri**	**3.20**	**243**	*eP*		**Pn**	**22 34 49.7**	**+0.6**
GCMP				*eS*		**Sn**	**22 35 24.2**	**-3.2**
MDPV	**Dominica, Penn**	**3.26**	**301**	*eS*		**Sn**	**22 35 28.5**	**-0.4**
MDCT	**Cottage Hill,**	**3.29**	**300**	*eP*		**Pn**	**22 34 51.4**	**+1.0**
MDCT				*eS*		**Sn**	**22 35 27.3**	**-2.2**
TOSP	**Speyside**	**3.31**	**217**	*eP*		**Pn**	**22 34 51.5**	**+0.7**
TOSP				*eS*		**Sn**	**22 35 27.1**	**-3.1**
MAGL	**Barre de l'ile**	**3.32**	**307**	*eP*		**Pn**	**22 34 52.4**	**+1.6**
MAGL				*eS*		**Sn**	**22 35 28.9**	**-1.4**
GRSS	**Sisters**	**3.45**	**241**	*eP*		**Pn**	**22 34 54.2**	**+1.6**
GRSS				*eS*		**Sn**	**22 35 31.8**	**-1.7**
GRHS	**Sauteurs**	**3.51**	**241**	*eP*		**Pn**	**22 34 54.6**	**+1.2**
GRHS				*eS*		**Sn**	**22 35 32.8**	**-2.2**
TDBA	**Terre de Bas,**	**3.54**	**302**	*eP*		**Pn**	**22 34 55.7**	**+1.7**
TDBA				*eS*		**Sn**	**22 35 35.3**	**-0.7**
TBG	**Guadaloupe-3**	**3.56**	**302**	*eP*		**Pn**	**22 34 55.4**	**+1.3**
TBG				*eS*		**Sn**	**22 35 35.0**	**-1.2**
GRGR	**Grenville**	**3.56**	**239**	*eP*		**Pn**	**22 34 54.9**	**+0.6**
GRGR				*eS*		**Sn**	**22 35 34.1**	**-2.

GTA					pmax	pmax			
	comp=Z,39nm,5.5s								
GTA					LR	LR			
	comp=N,110nm,18.2s								
GTA					LR	LR			
	comp=E,160nm,18.2s								
GTA					LR	LR			
	comp=Z,110nm,18.2s								
VNDA	**Vanda**	**71.55**	**178**		P	**P**	**22 49 34.1**	**+0.9**	
	comp=Z,1.9nm,0.9s,baz=327,slow=6.5,SNR=11								
VNDA	**Vanda**	**71.55**	**178**		P	**P**	**22 49 33.8**	**+0.7**	
VNDA					IAmb	IAmb	22 49 35.0		
	comp=Z,5.0nm,1.2s								
WMQ	**Urumqi**	**75.89**	**318**	*e*	P	**P**	**22 50 00.6**	**+1.3**	
P19K	**Oil Pt**	**78.66**	**25**		P	**P**	**22 50 14.0**	**-0.3**	
L19K	**White Mountain**	**79.44**	**23**		P	**P**	**22 50 18.3**	**-0.4**	
L19K					IAmb	IAmb	22 50 35.8		
	comp=Z,11nm,1.3s								
MKAR	**Makanchi Array**	**80.52**	**319**		P	**P**	**22 50 23.0**	**-1.8**	
	comp=Z,0.3nm,0.4s,baz=94,slow=7.1,SNR=5.6								
MKAR	**Makanchi Array**	**80.52**	**319**		P	**P**	**22 50 24.3**	**-0.5**	
J20K	**Nowinta River**	**80.86**	**21**		P	**P**	**22 50 25.4**	**-0.8**	
J20K					IAmb	IAmb	22 50 46.7		
	comp=Z,5.4nm,1.1s								
ZALV	**Zalesovo Beam**	**81.58**	**327**		P	**P**	**22 50 27.2**	**-2.9**	
	comp=Z,0.4nm,0.5s,baz=114,slow=6.5,SNR=2.0								
ZALV	**Zalesovo Beam**	**81.58**	**327**		P	**P**	**22 50 27.1**	**-3.1**	
SML	**Sawmill**	**81.84**	**25**		P	**P**	**22 50 31.0**	**-0.5**	
SML					IAmb	IAmb	22 50 44.0		
	comp=Z,8.1nm,1.1s								
IMAR	**Indian Mountai**	**82.05**	**20**		P	**P**	**22 50 30.6**	**-1.8**	
MLY	**Manley**	**82.56**	**21**		P	**P**	**22 50 33.7**	**-1.5**	
MLY					IAmb	IAmb	22 50 43.6		
	comp=Z,6.7nm,1.4s								
BMRM	**Bremner River**	**83.04**	**26**		P	**P**	**22 50 37.5**	**-0.3**	
BMRM					IAmb	IAmb	22 51 03.2		
	comp=Z,10nm,1.2s								
QSPA	**South Pole Qui**	**83.83**	**180**		P	**P**	**22 50 42.4**	**+0.4**	
ILAR	**Eielson Array**	**83.85**	**22**		P	**P**	**22 50 39.7**	**-2.1**	
	comp=Z,1.3nm,0.6s,baz=256,slow=4.9,SNR=7.5								
MAW	**Mawson**	**83.87**	**203**		P	**P**	**22 50 41.6**	**-0.3**	
	comp=Z,2.5nm,0.5s,baz=88,slow=6.2,SNR=8.7								
MAW	**Mawson**	**83.87**	**203**		P	**P**	**22 50 42.4**	**+0.5**	
DOT	**Dot Lake**	**84.44**	**24**		P	**P**	**22 50 44.2**	**-0.6**	
DOT					IAmb	IAmb	22 50 53.5		
	comp=Z,6.9nm,1.3s								
SCRK	**Sand Creek**	**84.61**	**24**		P	**P**	**22 50 45.0**	**-0.8**	
NVAR	**Mina Array Bea**	**93.87**	**52**		P	**P**	**22 51 32.0**	**+1.5**	
	comp=Z,0.8nm,0.8s,baz=260,slow=6.8,SNR=6.6								
VNA2	**Neumayer--Watz**	**101.82**	**187**		Pdiff	**Pdif**	**22 52 06.0**	**+0.7**	
MLR	**Muntele Rosu**	**118.87**	**319**		PKPdf	**PKPdf**	**22 57 00.1**	**-1.1**	
KRLC	**Kraliky**	**122.17**	**327**	*e*	PKP	**PKPdf**	**22 57 07.3**	**0.0**	
CKRC	**Cesky Krumlov**	**124.22**	**327**	*e*	PKP	**PKiKP**	**22 57 11.6**	**+0.1**	
KHC	**Kasperske Hory**	**124.42**	**328**	*e*	PKP	**PKiKP**	**22 57 12.0**	**+0.1**	
GERES	**GERESS Array B**	**124.53**	**327**		PKP	**PKPdf**	**22 57 11.1**	**-0.9**	
	comp=Z,1.2nm,0.6s,baz=81,slow=1.7,SNR=12								
GERES	**GERESS Array B**	**124.53**	**327**		PKPdf	**PKPdf**	**22 57 11.6**	**-0.3**	
LPAZ	**La Paz**	**134.84**	**120**		PKP	**PKiKP**	**22 57 34.5**	**0.0**	
	comp=Z,1.0nm,0.9s,baz=15,slow=2.4,SNR=3.6								
TORD	**Torodi Ar. Bea**	**149.51**	**285**		PKPbc	**PKPbc**	**22 58 01.2**	**-1.6**	
	comp=Z,3.5nm,0.6s,baz=41,slow=2.3,SNR=24								
BDFB	**Brasilia**	**150.94**	**138**		PKPbc	**PKPbc**	**22 58 06.6**	**+0.3**	
	comp=Z,4.1nm,0.4s,baz=168,slow=3.3,SNR=8.3								
BDFB	**Brasilia**	**150.94**	**138**		PKPbc	**PKPbc**	**22 58 06.4**	**+0.1**	

MEX 21 22:40:41.9±1.4, 16°40N×98°25W, h13km±6km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.11**	**92**	*i* P	Pg	22 40 44.0	-1.1
PNIG				*i* S	Sg	22 40 46.7	-0.7
MGIG	**Malinaltepec**	**0.91**	**336**	*i* P	Pg	22 40 56.2	-3.4
MGIG				*i* S	Sg	22 41 08.2	-3.4
TXIG	**Tlaxiaco**	**0.97**	**28**	*i* P	Pg	22 40 57.1	-3.5
TXIG				*i* S	Sg	22 41 09.3	-4.0
PEIG	**Puerto Escondi**	**1.13**	**110**	*i* P	Pb	22 40 59.6	-3.6
PEIG				*i* S	Sb	22 41 13.8	-4.0
TLIG	**Tlapa**	**1.20**	**345**	*e* P	Pn	22 41 01.2	-3.3
TLIG				*e* S	Sb	22 41 17.1	-2.9
HLIG	**Huajuapan de L**	**1.49**	**16**	*e* P	Pn	22 41 06.0	-2.5
HLIG				*e* S	Sn	22 41 24.4	-3.5
FTIG	**Fresnillo de T**	**1.51**	**4**	*e* P	Pn	22 41 05.8	-2.9
FTIG				*e* S	Sn	22 41 24.3	-4.0

*IDC **21** 22:50:31.4±1.9, 5°41S×150°68E, h0km, mb4.2/4, mb1 4.4/5, mb1mx3.8/37, mbtmp4.2/5, ML3.7/1, Error ellipse: s-maj=63.0km s-min=30.9km az=113.0*
*NEIC **21** 22:50:32.1±0.9, 6°1S±0°1×151°6E±0°2, h11km±5km, mb4.1/12, Error ellipse: s-maj=37.4km s-min=6.9km az=110.0*
*DJA **21** 22:50:38.2±0.7, 6°S±6°×15°2E±1°1, h81km±13km, M4.9/5, mB5.7/4, mb4.3/5, MLv5.2/2, Mw(mB)5.3/4*

ISC 21 22:50:35.7±0.8, 6°0S±0°1×151°5E±0°2, h41km, n25, σ1§45/25, mb4.1/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.87**	**21**	Pn	**Pn**	**22 51 05.2**	**0.0**
CTA	**Charters Tower**	**14.95**	**199**	Pn	**P**	**22 54 09.2**	**-0.1**
	0.2nm,0.3s,baz=26,slow=14,SNR=6.1						
CTAO	**Charters Tower**	**14.95**	**199**	P	**P**	**22 54 09.3**	**+0.1**
MTN	**Manton Dam**	**21.21**	**250**	P	**P**	**22 55 18.3**	**+0.2**
MTN				IAmb	IAmb	22 55 42.4	
	comp=Z,11nm,1.1s						
WB0	**Warramunga Arr**	**21.56**	**229**	P	**P**	**22 55 20.6**	**-1.3**
WB0				IAmb	IAmb	22 55 26.7	
	comp=Z,12nm,1.1s						
WR0	**Warramunga Arr**	**21.57**	**228**	P	**P**	**22 55 20.7**	**-1.3**
WR0				IAmb	IAmb	22 55 23.2	
	comp=Z,7.5nm,0.8s						
WB2	**Warramunga Arr**	**21.70**	**229**	P	**P**	**22 55 22.1**	**-1.3**
WB2				IAmb	IAmb	22 55 37.0	
	comp=Z,7.1nm,0.7s						
WRA	**Warramunga Arr**	**21.71**	**229**	P	**P**	**22 55 22.1**	**-1.4**
	comp=Z,3.2nm,0.6s,baz=52,slow=11,SNR=18						
WRA	**Warramunga Arr**	**21.71**	**229**	P	**P**	**22 55 21.9**	**-1.6**
AS31	**Alice Springs**	**24.43**	**222**	P	**P**	**22 55 50.0**	**-0.7**
ASAR	**Alice Springs**	**24.43**	**222**	P	**P**	**22 55 49.6**	**-1.1**
	comp=Z,7.6nm,0.8s,baz=56,slow=9.4,SNR=51						
ASAR	**Alice Springs**	**24.43**	**222**	P	**P**	**22 55 50.2**	**-0.5**
STKA	**Stephens Creek**	**27.41**	**199**	P	**P**	**22 56 22.0**	**+4.5**
	comp=Z,2.7nm,0.7s,baz=18,slow=13,SNR=3.9						
STKA	**Stephens Creek**	**27.41**	**199**	P	**P**	**22 56 17.6**	**0.0**
SGSI	**Sangihe**	**27.63**	**290**	P	**P**	**22 56 22.1**	**+2.3**
FITZ	**Fitzroy Crossi**	**27.97**	**242**	P	**P**	**22 56 20.6**	**-2.1**
	comp=Z,2.1nm,0.5s,baz=62,slow=8.3,SNR=17						
FITZ	**Fitzroy Crossi**	**27.97**	**242**	P	**P**	**22 56 21.4**	**-1.3**
FORT	**Forrest**	**33.08**	**219**	P	**P**	**22 57 06.4**	**-1.4**
VNDA	**Vanda**	**71.74**	**178**	P	**P**	**23 01 53.3**	**+0.1**
VNDA				IAmb	IAmb	23 02 09.4	
	comp=Z,2.8nm,1.3s						
MAW	**Mawson**	**84.02**	**203**	P	**P**	**23 03 01.7**	**+0.2**
MAW				IAmb	IAmb	23 03 24.5	
	comp=Z,1.5nm,1.5s						
QSPA	**South Pole Qui**	**84.02**	**180**		**P**	**23 03 01.8**	**0.0**
GERES	**GERESS Array B**	**124.33**	**327**	PKP	**PKPdf**	**23 09 30.1**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=46,slow=2.8,SNR=7.6						
GERES	**GERESS Array B**	**124.33**	**327**		**PKiKP**	**23 09 30.2**	**-0.5**
TORD	**Torodi Ar. Bea**	**149.39**	**286**	PKPbc	**PKPbc**	**23 10 21.0**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=64,slow=3.2,SNR=23						
TORD	**Torodi Ar. Bea**	**149.39**	**286**		**PKPbc**	**23 10 20.6**	**-0.8**

*NEIC **21** 22:54:42.8±1.7, 41°11N±0°01×112°96W±0°04, h0km±2km, ML1.6/28, Error ellipse: s-maj=5.3km s-min=3.1km az=272.0*
*IDC **21** 22:54:43.2±1.8, 41°03N×112°89W, h0km, mb1 2.7/1, mb1mx2.7/42, mbtmp2.2/1, ML3.3/1, Error ellipse: s-maj=44.1km s-min=6.1km az=160.0*

ISC 21 22:54:41.1±1.0, 41°26N±0°05×112°89W±0°04, h0km, n20, σ0§70/19, Utah

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPUT	**South Promonto**	**0.34**	**81**		**Pb**	**22 54 50.7**	**+0.7**
SPUT				Sg	**Sb**	**22 54 56.5**	**+0.5**
SPUT				IAML		22 55 00.9	
	comp=N,44nm,0.3s						
BGU	**Big Grassy Mou**	**0.35**	**198**		**Pg**	**22 54 47.6**	**-0.2**
HVU	**Hansel Valley**	**0.53**	**9**		**Pn**	**22 54 55.6**	**-0.4**
HVU				IAML		22 55 10.2	
	comp=E,40nm,0.4s						
CTU	**Camp Tracy**	**1.03**	**123**		**Pb**	**22 55 01.9**	**0.0**
CTU				IAML		22 55 19.1	
	comp=N,21nm,0.4s						
CTU				IAML		22 55 23.4	
	comp=E,15nm,0.5s						
HWUT	**Hardware Ranch**	**1.05**	**70**		**Pn**	**22 55 03.9**	**+0.6**
HWUT				IAML		22 55 25.2	
	comp=E,10nm,0.4s						
HWUT				IAML		22 55 26.4	
	comp=E,10nm,0.5s						
DUG	**Dugway, Tooele**	**1.06**	**177**		**Pg**	**22 55 01.2**	**-0.3**
DUG				IAML		22 55 20.0	
	comp=E,17nm,0.5s						
DUG				IAML		22 55 22.5	
	comp=E,19nm,0.4s						
TCUT	**Toone Canyon**	**1.13**	**97**	Pg	**Pn**	**22 55 05.1**	**+0.7**
JLU	**Jordanelle**	**1.27**	**121**	Pg	**Pn**	**22 55 06.2**	**-0.1**
JLU				IAML		22 55 24.4	
	comp=N,10nm,3.3s						
JLU				IAML		22 55 44.0	
	comp=E,7.5nm,4.0s						
NLU	**North Lily Min**	**1.44**	**154**	Pg	**Pg**	**22 55 07.5**	**-1.2**
MPU	**Maple Canyon**	**1.57**	**142**	Pn	**Pn**	**22 55 10.4**	**+0.1**
MPU				IAML		22 55 43.0	
	comp=E,5.8nm,1.4s						
ELK	**Elko**	**1.85**	**255**	Pn	**Pb**	**22 55 15.5**	**-0.4**
	comp=E,1.1nm,0.3s,baz=79,slow=9.7,SNR=12						
ELK				Lg	Lg	22 55 39.9	
	comp=E,1.3nm,0.3s,baz=195,slow=22,SNR=9.3						
ELK	**Elko**	**1.85**	**255**		**Pn**	**22 55 15.2**	**+0.9**
ELK				IAML		22 55 43.9	
	comp=E,5.2nm,0.4s						
SPR3	**Spring Creek 3**	**2.51**	**207**		**Pn**	**22 55 24.5**	**+1.0**
SPR3				IAML		22 55 38.0	
	comp=N,3.5nm,3.4s						
PSUT	**Pine Spring**	**2.82**	**196**		**Pn**	**22 55 27.5**	**-0.1**
PSUT				IAML		22 55 54.0	
	comp=N,3.4nm,4.0s						
PD31	**Pinedale Array**	**2.90**	**58**	Pn	**Pb**	**22 55 32.6**	**-1.3**
PDAR	**Pinedale Array**	**2.90**	**58**	Pn	**Pb**	**22 55 34.7**	**+0.8**
	comp=N,0.5nm,0.3s,baz=222,slow=12,SNR=12						
PDAR				Lg	Lg	22 56 17.8	
	comp=N,0.6nm,0.3s,baz=227,slow=30,SNR=7.7						
PDAR	**Pinedale Array**	**2.90**	**58**	Pn	**Pb**	**22 55 33.7**	**-0.2**
MOOW	**Moose Ponds**	**2.95**	**32**	Pn	**Pb**	**22 55 34.9**	**+0.2**
I56US	**NEWPORT INFRAS**	**7.62**	**338**	*i*		23 43 30.0	
	baz=156,slow=322,SNR=1.1						
I10CA	**LAC DU BONNET**	**14.76**	**47**	*i*		00 20 10.0	
	baz=234,slow=324,SNR=2.4						

IDC 21 22:54:42.8±2.5, 6°06S×151°45E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/32, mbtmp3.8/3, MS3.3/2, Ms1 3.3/2, ms1mx2.8/37, Error ellipse: s-maj=116.2km s-min=36.9km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**11.28**	**288**	LR	LR	23 01 50.2	
	comp=Z,90nm,21.0s,slow=38						
WRA	**Warramunga Arr**	**21.61**	**229**	P	P	22 59 35.5	+0.8
	1.7nm,0.8s,baz=54,slow=10,SNR=5.8						
ASAR	**Alice Springs**	**24.32**	**222**	P	P	23 00 02.5	0.0
	1.5nm,0.5s,baz=58,slow=8.7,SNR=15						
FITZ	**Fitzroy Crossi**	**27.89**	**242**	P	P	23 00 33.5	-1.1
	1.1nm,0.6s,baz=54,slow=9.9,SNR=2.0						
JNU	**Nakatsue**	**43.59**	**335**	LR	LR	23 18 52.6	
	comp=Z,54nm,20.5s,baz=42,slow=33						
GERES	**GERESS Array B**	**124.40**	**327**	PKP	PKPdf	23 13 44.1	0.0
	0.3nm,0.5s,baz=48,slow=2.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**149.38**	**286**	PKPbc	PKPbc	23 14 34.4	-0.5
	1.1nm,0.6s,baz=65,slow=2.5,SNR=10						

*IDC **21** 23:05:55.0±0.6, 5°90S×151°42E, h0km, mb4.6/15, mb1 4.7/16, mb1mx4.6/30, mbtmp4.6/16, ML3.6/1, MS4.0/10, Ms1 4.0/10, ms1mx3.8/26, Error ellipse: s-maj=21.5km s-min=15.0km az=101.0*
*BJI **21** 23:05:57.4±0.0, 6°25S×151°30E, h16km, mB5.0/18, mb4.7/37, Ms4.6/18, Ms7 4.3/19*
*MOS **21** 23:05:58.6±1.1, 6°01S×151°40E, h28km, mb4.9/15, Error ellipse: s-maj=10.9km s-min=7.9km az=93.3*
*NEIC **21** 23:05:58.0±1.1, 5°99S±0°07×151°41E±0°07, h10km±1km, mb5.0/92, Error ellipse: s-maj=11.9km s-min=11.2km az=92.0*
*DJA **21** 23:05:59.1±0.3, 6°S±4°×15°1E±°, h10km, M5.2/24, mB5.4/7, mb5.0/24, MLv5.5/1, Mw(mB)4.9/7, MwMwp7.5/1, Mwp7.2/1*

ISC 21 23:06:01.8±0.3, 6°07S±0°05×151°45E±0°05, h41km, n298, σ1§43/273, mb4.9/89, MS4.2/18, 1C-5D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.00**	**21**	Pn	**Pn**	**23 06 31.1**	**-2.1**
RABL	**Rabaul**	**2.00**	**21**	P	**Pn**	**23 06 31.7**	**-1.4**
MANU	**Manus Island**	**5.71**	**314**	Pn	**Pn**	**23 07 21.6**	**-2.5**
HNR	**Honiara**	**9.06**	**112**	Pn	**Pn**	**23 08 13.2**	**+3.1**
	24nm,0.3s,baz=256,slow=6.7,SNR=7.1						
HNR				LR	LR	23 11 16.9	
	comp=Z,1μm,20.1s,baz=278,slow=35						
HNR	**Honiara**	**9.06**	**112**	P	**Pn**	**23 08 09.9**	**-0.2**
HNR	**Honiara**	**9.06**	**112**	Pn	**Pn**	**23 08 09.9**	**-0.2**
HNR	**Honiara**	**9.06**	**112**	P	Pn	23 08 14.2	+4.1
COEN	**Coen**	**11.31**	**225**	Pn	**Pn**	**23 08 40.6**	**-0.4**
MTSU	**Mount Surprise**	**13.87**	**210**	P	**Pn**	**23 09 16.5**	**+0.5**
	baz=14,SNR=10						
CTA	**Charters Tower**	**14.82**	**199**	Pn	**Pn**	**23 09 28.2**	**-0.6**
	0.2nm,0.3s,baz=17,slow=14,SNR=7.2						
CTAO	**Charters Tower**	**14.82**	**199**	P	**Pn**	**23 09 27.8**	**-1.0**
CTAO	**Charters Tower**	**14.82**	**199**	Pn	**Pn**	**23 09 27.8**	**-1.0**
SANVU	**Saraoutou**	**18.05**	**122**		**Pn**	**23 10 08.5**	**-1.2**
SANVU				IAmb	IAmb	23 10 13.3	
	comp=Z,109nm,1.1s						
SANVU	**Saraoutou**	**18.05**	**122**	P	**P**	**23 10 13.5**	**+3.7**
	comp=Z,105nm,1.6s						
QIS	**Mount Isa**	**18.43**	**217**	P	**Pn**	**23 10 13.6**	**-0.7**
	baz=18,SNR=32						
EIDS	**Eidsvold**	**19.20**	**181**	P	**Pn**	**23 10 23.7**	**+0.2**
	baz=19,SNR=6.2						
EIDS	**Eidsvold**	**19.20**	**181**	P	**Pn**	**23 10 22.6**	**-0.9**
KDU	**Kakadu**	**19.84**	**249**	P	**P**	**23 10 28.5**	**-0.9**
	baz=20,SNR=9.0						
RMQ	**Roma**	**20.47**	**187**	P	Pn	23 10 38.2	-0.3
	baz=21,SNR=22						
GUMO	**Guam**	**20.59**	**342**	LR	LR	23 18 44.3	
	comp=Z,315nm,18.9s,baz=136,slow=38						
SIJI	**Sorong**	**20.79**	**284**	LR	LR	23 20 03.5	
	comp=Z,332nm,20.6s,baz=80,slow=41						
MTN	**Manton Dam**	**21.13**	**250**	P	**P**	**23 10 43.0**	**-0.4**
	baz=21,SNR=4.7						
MTN	**Manton Dam**	**21.13**	**250**	P	**P**	**23 10 42.1**	**-1.3**
MTN				IAmb	IAmb	23 11 31.1	
	comp=Z,194nm,1.9s						
LIFNC	**LIFOU**	**21.17**	**135**	P	**P**	**23 10 43.2**	**-0.6**
LIFNC				IAmb	IAmb	23 11 00.3	
	comp=Z,74nm,1.0s						
NOUC	**Port Laguerre**	**21.45**	**139**	P	**P**	**23 10 50.7**	**+4.0**
WB0	**Warramunga Arr**	**21.46**	**229**	P	**P**	**23 10 46.2**	**-0.7**
WR0	**Warramunga Arr**	**21.46**	**228**	P	**P**	**23 10 46.3**	**-0.7**
DZM	**Mont Dzumac**	**21.52**	**139**	*e*P	**P**	**23 10 47.0**	**-0.6**
	comp=Z,74nm,1.3s						
DZM				*e*LR	LR	23 15 58.8	
	comp=Z,1μm,22.7s						
DZM	**Mont Dzumac**	**21.52**	**139**	P	**P**	**23 10 47.8**	**+0.2**
	comp=Z,17nm,0.8s,baz=337,slow=16,SNR=12						
DZM	**Mont Dzumac**	**21.52**	**139**	P	**P**	**23 10 48.0**	**+0.4**
DZM	**Mont Dzumac**	**21.52**	**139**	P	**P**	**23 10 49.2**	**+1.6**
QLP	**Quilpie**	**21.53**	**198**	P	**P**	**23 10 48.9**	**+1.3**
	baz=22,SNR=13						
WRAB	**Tennant Creek**	**21.59**	**229**	*i* P	**P**	**23 10 47.6**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,174nm,1.5s						
WRAB	**Tennant Creek**	**21.59**	**229**	P	**P**	**23 10 47.3**	**-1.0**
WB2	**Warramunga Arr**	**21.60**	**229**	P	**P**	**23 10 47.3**	**-1.1**
WRA	**Warramunga Arr**	**21.61**	**229**	P	**P**	**23 10 47.7**	**-0.8**
	comp=Z,75nm,1.1s,baz=52,slow=9.9,SNR=72						
WRA				S	**S**	**23 14 44.5**	**-1.3**
	comp=Z,7.7nm,1.2s,baz=44,slow=19,SNR=3.5						
WRA				PcP	**PcP**	**23 14 49.8**	**+0.4**
	comp=Z,2.2nm,0.9s,baz=44,slow=2.8,SNR=3.2						
WRA				ScP	**ScP**	**23 18 26.3**	**+2.8**
	comp=Z,7.2nm,1.0s,baz=44,slow=3.1,SNR=10						
WRA	**Warramunga Arr**	**21.61**	**229**	*e*P	**P**	**23 10 48.1**	**-0.4**
WRA				pmax	pmax		
	comp=Z,75nm,1.1s						
WRA	**Warramunga Arr**	**21.61**	**229**	P	**P**	**23 10 47.2**	**-1.2**
ONTNC	**Ouen Toro**	**21.69**	**140**	P	**P**	**23 10 48.9**	**-0.4**
YATNC	**Mamie plateau,**	**21.80**	**138**	P	**P**	**23 10 53.7**	**+3.1**
	comp=Z,62nm,1.2s						
OUENC	**Ouen Island, N**	**22.02**	**139**	P	**P**	**23 10 53.7**	**+0.7**
OUENC				IAmb	IAmb	23 11 06.5	
	comp=Z,105nm,1.8s						
KNRA	**Kununurra**	**24.22**	**245**	P	**P**	**23 11 13.5**	**-1.5**
	baz=24,SNR=7.3						
KNRA	**Kununurra**	**24.22**	**245**	P	**P**	**23 11 14.6**	**-0.4**
KNRA				IAmb	IAmb	23 11 42.0	
	comp=Z,56nm,0.9s						
ARMA	**Armidale**	**24.22**	**180**	P	**P**	**23 11 15.9**	**+0.9**
	baz=24,SNR=4.6						
ARMA	**Armidale**	**24.22**	**180**	P	**P**	**23 11 15.3**	**+0.3**
AS31	**Alice Springs**	**24.31**	**222**	P	**P**	**23 11 16.0**	**+0.2**
ASAR	**Alice Springs**	**24.32**	**222**	P	**P**	**23 11 15.8**	**0.0**
	comp=Z,56nm,0.9s,baz=56,slow=9.3,SNR=249						
ASAR				ScP	**ScP**	**23 18 33.4**	**+2.8**
	comp=Z,4.5nm,1.1s,baz=51,slow=3.5,SNR=12						
ASAR				LR	LR	23 22 00.9	
	comp=Z,592nm,18.3s,baz=47,slow=40						
ASAR	**Alice Springs**	**24.32**	**222**	P	**P**	**23 11 15.6**	**-0.2**
ASAR	**Alice Springs**	**24.32**	**222**	P	**P**	**23 11 15.6**	**-0.2**
CMSA	**Cobar Meteorol**	**25.91**	**191**	P	**P**	**23 11 30.1**	**0.0**
	baz=26,SNR=9.5						
LHI	**Lord Howe Isla**	**26.31**	**165**	P	**P**	**23 11 35.1**	**+1.4**
	baz=27,SNR=3.5						
LHI	**Lord Howe Isla**	**26.31**	**165**	P	**P**	**23 11 33.9**	**+0.1**
SOEI	**Soe**	**27.17**	**261**	P	**P**	**23 11 41.9**	**0.0**
SOEI	**Soe**	**27.17**	**261**	P	**P**	**23 11 43.1**	**+1.2**
	comp=Z,55nm,1.3s						
STKA	**Stephens Creek**	**27.28**	**199**	P	**P**	**23 11 42.6**	**0.0**
	baz=28,SNR=14						
STKA	**Stephens Creek**	**27.28**	**199**	P	**P**	**23 11 41.4**	**-1.2**
	comp=Z,18nm,0.8s,baz=357,slow=10,SNR=12						
STKA				LR	LR	23 23 42.1	
	comp=Z,486nm,18.1s,baz=29,slow=39						
STKA	**Stephens Creek**	**27.28**	**199**	P	**P**	**23 11 42.4**	**-0.1**
STKA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
STKA	**Stephens Creek**	**27.28**	**199**	P	**P**	**23 11 42.4**	**-0.1**
BATI	**Baumata**	**27.81**	**260**	P	**P**	**23 11 47.8**	**+0.3**
	comp=Z,12nm,0.3s,baz=100,slow=6.1,SNR=1.8						
BATI	**Baumata**	**27.81**	**260**	P	P	23 11 59.3	+12
FITZ	**Fitzroy Crossi**	**27.88**	**242**	P	**P**	**23 11 46.5**	**-1.6**
	baz=28,SNR=24						
FITZ	**Fitzroy Crossi**	**27.88**	**242**	P	**P**	**23 11 47.0**	**-1.1**
	comp=Z,9.9nm,0.7s,baz=79,slow=6.3,SNR=24						
FITZ	**Fitzroy Crossi**	**27.88**	**242**	P	**P**	**23 11 47.0**	**-1.1**
FITZ				IAmb	IAmb	23 11 57.4	
	comp=Z,36nm,1.1s						
MSVF	**Nonsavu**	**28.44**	**116**	P	**P**	**23 11 53.2**	**0.0**
MSVF				pmax	pmax		
	comp=Z,29nm,1.2s						
MSVF	**Nonsavu**	**28.44**	**116**	P	**P**	**23 11 53.2**	**0.0**
MSVF				IAmb	IAmb	23 12 08.3	
	comp=Z,30nm,1.2s						
MMRI	**Maumere**	**29.08**	**263**	P	**P**	**23 11 57.5**	**-1.3**
MMRI	**Maumere**	**29.08**	**263**	P	P	23 12 10.5	+12
WRKA	**Warakurna**	**29.12**	**227**	P	**P**	**23 11 58.4**	**-0.7**
	baz=29,SNR=9.7						
HTT	**Hallett**	**29.61**	**202**	P	**P**	**23 12 03.5**	**+0.2**
	baz=30,SNR=5.0						
EDFI	**Ende, Flores**	**29.63**	**263**	P	**P**	**23 12 02.4**	**-1.4**
	comp=Z,25nm,1.2s						
BBOO	**Buckleboo**	**30.23**	**206**	P	**P**	**23 12 08.4**	**-0.3**
ARPS	**Mount Arapiles**	**31.80**	**195**	P	**P**	**23 12 23.3**	**+0.7**
	baz=32,SNR=5.2						
TOO	**Toolangi**	**31.82**	**189**	P	**P**	**23 12 22.7**	**-0.1**
TOO				pmax	pmax		
	comp=Z,38nm,1.3s						
TOO	**Toolangi**	**31.82**	**189**	P	**P**	**23 12 22.7**	**-0.1**
TOO				IAmb	IAmb	23 12 25.1	
	comp=Z,38nm,1.3s						
FORT	**Forrest**	**32.96**	**219**	P	**P**	**23 12 32.0**	**-0.8**
PSA00	**Pilbara Seismi**	**34.24**	**240**	P	**P**	**23 12 42.4**	**-1.6**
PSA00				IAmb	IAmb	23 12 59.2	
	comp=Z,30nm,1.1s						
PSA00	**Pilbara Seismi**	**34.24**	**240**	P	**

GYA	**Guiyang**	**54.12**	**309**	⇑P		**P**		**23 15 26.3**	**+3.1**
GYA				pmax		pmax			
	comp=Z,11nm,0.7s								
CN2	**Changchun**	**54.92**	**337**	*e*P		P		23 15 40.1	+12
CN2				*e*S		S		23 23 21.8	+15
CN2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
CN2				LR		LR			
	comp=N,200nm,14.0s								
CN2				LR		LR			
	comp=E,100nm,14.0s								
CN2				LR		LR			
	comp=Z,200nm,15.0s								
PHIT	**Phitsanulok**	**55.46**	**296**	P		P		23 15 41.4	+8.5
SNSI	**Sinabang, Aceh**	**55.69**	**277**	P		**P**		**23 15 35.6**	**+1.0**
	comp=Z,618µmcomp=Z,183µmcomp=Z,3µm,1.5s								
XAN	**Xi'an**	**56.63**	**318**	P		**P**		**23 15 44.6**	**+3.5**
XAN				pP		pP		23 15 50.8	-0.9
XAN				sP		sP		23 15 53.3	-2.8
XAN				PcP		**PcP**		**23 16 38.3**	**+1.2**
XAN				S		S		23 23 39.1	+8.5
XAN				SS		**SS**		**23 27 23.9**	**+5.0**
XAN				pmax		pmax			
	comp=Z,9.0nm,1.0s								
XAN				LR		LR			
	comp=Z,170nm,16.5s								
XAN				LR		LR			
	comp=Z,120nm,16.5s								
XAN				LR		LR			
	comp=Z,260nm,17.9s								
CMAR	**Chiang Mai Arr**	**57.22**	**296**	ScP		**ScP**		**23 20 37.8**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=116,slow=2.1,SNR=4.4								
CMAR				LR		LR		23 40 27.3	
	comp=Z,44nm,19.1s,baz=200,slow=36								
CMAR				PKP2ab				23 46 01.2	
	comp=Z,1.2nm,0.3s,baz=291,slow=2.5,SNR=4.6								
CMMT	**Chiang Mai**	**57.33**	**297**	P		P		23 15 59.9	+14
CMMT	**Chiang Mai**	**57.33**	**297**	P		P		23 15 59.9	+14
CHTO	**Chiang Mai**	**57.34**	**297**	P		P		23 16 00.1	+14
CHTO	**Chiang Mai**	**57.34**	**297**	P		P		23 16 00.1	+14
KLR	**Kul'dur**	**57.69**	**345**	*i* P		**P**		**23 15 47.6**	**-0.6**
KLR				pmax		pmax			
	comp=Z,6.0nm,1.0s								
CD2	**Chengdu**	**58.56**	**312**	P		**P**		**23 15 54.8**	**+0.1**
CD2				LR		LR			
	comp=Z,260nm,14.9s								
CD2				LR		LR			
	comp=Z,320nm,18.2s								
CD2				LR		LR			
	comp=Z,340nm,22.0s								
HHC	**Hu-ho-hao-te**	**59.31**	**326**	*e*P		**P**		**23 16 01.8**	**+2.0**
LZH	**Lanzhou**	**61.22**	**317**	*e*P		P		23 16 16.9	+3.9
LZH				pP		pP		23 16 23.8	0.0
LZH				sP		sP		23 16 27.0	-1.1
LZH				pmax		pmax			
	comp=Z,26nm,1.3s								
LZH				LR		LR			
	comp=Z,170nm,16.3s								
LZH				LR		LR			
	comp=Z,150nm,18.4s								
LZH				LR		LR			
	comp=Z,130nm,19.5s								
HIA	**Hailar**	**61.65**	**337**	*i* P		**P**		**23 16 14.8**	**-0.7**
HIA				pmax		pmax			
	comp=Z,3.0nm,0.5s								
GTA	**Gaotai**	**65.69**	**318**	*e*P		P		23 16 49.6	+7.2
GTA				pP		sP		23 16 56.0	-1.7
GTA				sP		pwP		23 16 59.6	+1.6
GTA				pmax		pmax			
	comp=Z,3.0nm,1.4s								
GTA				pmax		pmax			
	comp=Z,29nm,4.0s								
GTA				LR		LR			
	comp=N,100nm,18.2s								
GTA				LR		LR			
	comp=E,180nm,19.6s								
GTA				LR		LR			
	comp=Z,110nm,18.2s								
ULN	**Ulaanbaatar**	**66.37**	**329**	*i* P		**P**		**23 16 45.9**	**-0.8**
ULN				pmax		pmax			
	comp=Z,7.0nm,1.2s								
ULN	**Ulaanbaatar**	**66.37**	**329**	P		P		23 16 56.9	+10
SONM	**Songino Array**	**66.69**	**329**	P		**P**		**23 16 47.7**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=123,slow=5.3,SNR=6.6								
SONM				PKP2bc				23 45 22.9	
	comp=Z,0.2nm,0.4s,baz=343,slow=4.5,SNR=1.4								
SONM	**Songino Array**	**66.69**	**329**	P		**P**		**23 16 47.7**	**-1.0**
SONM				pmax		pmax			
	comp=Z,9.0nm,1.2s								
ZAK	**Zakamensk**	**69.88**	**329**	*e*P		**P**		**23 17 07.1**	**-1.5**
ZAK				pmax		pmax			
	comp=Z,13nm,1.4s								
YAK	**Yakutsk**	**69.95**	**349**	*i* P		**P**		**23 17 08.4**	**-0.2**
YAK				pmax		pmax			
	comp=Z,12nm,0.9s								
VNDA	**Vanda**	**71.62**	**178**	P		**P**		**23 17 19.1**	**+0.5**
	comp=Z,3.5nm,0.9s,baz=329,slow=5.9,SNR=21								
VNDA	**Vanda**	**71.62**	**178**	P		**P**		**23 17 19.3**	**+0.7**
VNDA				pmax		pmax			
	comp=Z,7.0nm,1.1s								
VNDA	**Vanda**	**71.62**	**178**	P		**P**		**23 17 19.3**	**+0.7**
MOY	**Mondy**	**71.81**	**330**	*e*P		P		23 17 28.6	+8.3
MOY				pmax		pmax			
	comp=Z,14nm,1.6s								
SBA	**Scott Base**	**72.19**	**177**	P		**P**		**23 17 23.3**	**+1.3**
SBA				pmax		pmax			
	comp=Z,18nm,1.5s								
SBA	**Scott Base**	**72.19**	**177**	P		**P**		**23 17 23.3**	**+1.3**
SBA				IAmb		IAmb		23 17 54.2	
	comp=Z,18nm,1.4s								
BILL	**Bilibino**	**74.67**	**6**	*i* P		**P**		**23 17 37.0**	**+0.3**
BILL				*i*				23 17 55.0	
BILL				pmax		pmax			
	comp=Z,9.0nm,1.2s								
WMQ	**Urumqi**	**75.77**	**318**	*e*P		**P**		**23 17 45.3**	**+1.7**
WMQ				LR		LR			
	comp=Z,150nm,22.5s								
WMQ				LR		LR			
	comp=Z,100nm,19.5s								
N18K	**Kilae Creek**	**78.14**	**24**	P		**P**		**23 17 57.4**	**+0.9**
	baz=234								
DGZ	**Jazzator, Alta**	**78.29**	**323**	*i* P		**P**		**23 17 57.1**	**-0.7**
DGZ				pmax		pmax			
	comp=Z,2.0nm,0.8s								
L19K	**White Mountain**	**79.43**	**23**	IAmb		IAmb		23 18 44.3	
	comp=Z,12nm,1.0s								
L19K	**White Mountain**	**79.43**	**23**	P		**P**		**23 18 03.8**	**+0.2**
	baz=235								
L20K	**Farewell, AK**	**79.97**	**23**	P		**P**		**23 18 07.9**	**+1.3**
	baz=236								
K20K	**Telida**	**80.40**	**22**	P		**P**		**23 18 09.1**	**+0.3**
MKAR	**Makanchi Array**	**80.40**	**319**	P		**P**		**23 18 06.7**	**-2.5**
	comp=Z,1.2nm,1.0s,baz=100,slow=7.0,SNR=3.2								
MKAR	**Makanchi Array**	**80.40**	**319**	*e*P		**P**		**23 18 11.1**	**+1.9**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.9s								
J20K	**Nowinta River**	**80.84**	**21**	P		**P**		**23 18 11.7**	**+0.5**
J20K				IAmb		IAmb		23 18 32.0	
	comp=Z,16nm,1.2s								
RC01	**Rabbit Creek A**	**80.88**	**25**	P		**P**		**23 18 11.5**	**+0.1**
RC01				IAmb		IAmb		23 18 23.0	
	comp=Z,11nm,0.9s								
RC01	**Rabbit Creek A**	**80.88**	**25**	P		**P**		**23 18 11.5**	**+0.1**
	baz=240								
CAST	**Castle Rocks**	**81.18**	**22**	P		**P**		**23 18 12.8**	**-0.1**
PWL	**Port Wells**	**81.36**	**25**	P		**P**		**23 18 13.3**	**-0.7**
PWL				IAmb		IAmb		23 18 21.6	
	comp=Z,20nm,0.9s								
ZAA0	**Zalesovo Array**	**81.46**	**327**	P		**P**		**23 18 13.1**	**-1.6**
ZALV	**Zalesovo Beam**	**81.46**	**327**	P		**P**		**23 18 11.8**	**-2.9**
	comp=Z,1.2nm,0.6s,baz=93,slow=4.9,SNR=5.1								
KNK	**Knik Glacier**	**81.58**	**25**	P		**P**		**23 18 14.7**	**-0.5**
	baz=241								
SML	**Sawmill**	**81.83**	**25**	P		**P**		**23 18 15.6**	**-0.9**
	baz=241								
TRF	**Thorofare Moun**	**81.88**	**23**	P		**P**		**23 18 16.7**	**-0.1**
GLI	**Glacier Island**	**81.90**	**26**	P		**P**		**23 18 17.1**	**+0.3**
GLI				IAmb		IAmb		23 18 28.0	
	comp=Z,12nm,0.9s								
GLI	**Glacier Island**	**81.90**	**26**	P		**P**		**23 18 17.3**	**+0.5**
	baz=242								
I21K	**Tanana**	**82.18**	**21**	P		**P**		**23 18 18.0**	**-0.2**
I21K				IAmb		IAmb		23 18 33.4	
	comp=Z,34nm,1.9s								
WAT1	**Susitna Watana**	**82.24**	**24**	P		**P**		**23 18 19.3**	**+0.7**
	baz=240								
SCM	**Sheep Creek Mo**	**82.25**	**25**	P		**P**		**23 18 19.2**	**+0.4**
SCM				pmax		pmax			
	comp=Z,13nm,0.9s								
SCM	**Sheep Creek Mo**	**82.25**	**25**	P		**P**		**23 18 19.1**	**+0.4**
SCM				IAmb		IAmb		23 18 27.0	
	comp=Z,13nm,0.9s								
RND	**Reindeer**	**82.41**	**23**	IAmb		IAmb		23 18 24.4	
	comp=Z,9.6nm,0.8s								
MCK	**McKinley**	**82.54**	**23**	P		**P**		**23 18 20.2**	**0.0**
MCK				pmax		pmax			
	comp=Z,26nm,1.0s								
MCK	**McKinley**	**82.54**	**23**	P		**P**		**23 18 20.1**	**0.0**
MLY	**Manley**	**82.54**	**21**	P		**P**		**23 18 19.1**	**-1.1**
	baz=238								
DIV	**Divide**	**82.59**	**26**	P		**P**		**23 18 21.2**	**+0.7**
DIV				IAmb		IAmb		23 18 26.1	
	comp=Z,13nm,1.2s								
KLU	**Klutina**	**82.69**	**25**	IAmb		IAmb		23 18 27.4	
	comp=Z,14nm,1.0s								
KSH	**Kashi**	**82.74**	**311**	P		P		23 18 27.3	+5.4
DHY	**Denali Highway**	**82.83**	**24**	P		**P**		**23 18 21.3**	**-0.6**
DHY				IAmb		IAmb		23 18 41.7	
	comp=Z,12nm,1.2s								
NEA2	**Nenana**	**82.93**	**22**	P		**P**		**23 18 21.4**	**-0.7**
NEA2				IAmb		IAmb		23 18 25.9	
	comp=Z,7.4nm,0.9s								
NEA2	**Nenana**	**82.93**	**22**	P		**P**		**23 18 22.8**	**+0.7**
	baz=240								
WRH	**Wood River Hil**	**83.23**	**22**	IAmb		IAmb		23 18 42.7	
	comp=Z,11nm,1.0s								
CCB	**Clear Creek Bu**	**83.43**	**22**	P		**P**		**23 18 23.4**	**-1.2**
CCB				IAmb		IAmb		23 18 43.4	
	comp=Z,8.5nm,1.0s								
GLB	**Gilahina Butte**	**83.58**	**26**	P		**P**		**23 18 25.9**	**+0.4**
NIL	**Nilore**	**83.59**	**305**	P		**P**		**23 18 25.2**	**-1.1**
NIL				pmax		pmax			
	comp=Z,41nm,1.7s								
NIL	**Nilore**	**83.59**	**305**	P		**P**		**23 18 25.2**	**-1.1**
CRQE	**Cirque**	**83.60**	**27**	P		**P**		**23 18 27.4**	**+1.6**
	baz=246								
HDA	**Harding Lake**	**83.64**	**23**	P		**P**		**23 18 24.6**	**-1.1**
	baz=242								
ILAR	**Eielson Array**	**83.83**	**22**	P		**P**		**23 18 24.4**	**-2.4**
	comp=Z,4.3nm,0.7s,baz=247,slow=5.4,SNR=30								
ILAR				LR		LR		23 52 49.2	
	comp=Z,96nm,19.1s,baz=266,slow=34								
MAW	**Mawson**	**83.89**	**203**	P		**P**		**23 18 25.0**	**-2.0**
	baz=84,SNR=5.0								
MAW	**Mawson**	**83.89**	**203**	P		**P**		**23 18 27.3**	**+0.3**
	comp=Z,5.1nm,1.0s,baz=75,slow=7.7,SNR=7.6								
MAW	**Mawson**	**83.89**	**203**	P		**P**		**23 18 27.6**	**+0.6**
MAW				pmax		pmax			
	comp=Z,5.0nm,1.5s								
MAW	**Mawson**	**83.89**	**203**	P		**P**		**23 18 27.6**	**+0.6**
QSPA	**South Pole Qui**	**83.90**	**180**	P		**P**		**23 18 27.6**	**+0.3**
H24K	**Noodor Dome**	**83.98**	**21**	P		**P**		**23 18 28.6**	**+1.0**
H24K				IAmb		IAmb		23 19 23.7	
	comp=Z,15nm,1.6s								
H24K	**Noodor Dome**	**83.98**	**21**	P		**P**		**23 18 29.0**	**+1.4**
	baz=241								
RIDG	**Independent Ri**	**84.15**	**24**	P		**P**		**23 18 28.6**	**+0.1**
RIDG				IAmb		IAmb		23 18 43.1	
	comp=Z,13nm,1.2s								
RIDG	**Independent Ri**	**84.15**	**24**	P		**P**		**23 18 28.6**	**+0.1**
	baz=244								
J25K	**Salcha River,**	**84.34**	**23**	P		**P**		**23 18 28.2**	**-1.2**
	baz=243								
BARN	**Barnard Glacie**	**84.37**	**27**	P		**P**		**23 18 29.6**	**-0.2**
DOT	**Dot Lake**	**84.42**	**24**	IAmb		IAmb		23 18 32.0	
	comp=Z,7.3nm,0.8s								
CTGM	**Chitina Glacie**	**84.48**	**27**	IAmb		IAmb		23 18 42.6	
	comp=Z,17nm,1.0s								
AAK	**Ala-Archa**	**84.56**	**314**	*i* P		**P**		**23 18 31.4**	**+0.2**
AAK				pmax		pmax			
	comp=Z,24nm,1.4s								
SCRK	**Sand Creek**	**84.59**	**24**	P		**P**		**23 18 30.3**	**-0.5**
	baz=244								
M27K	**Edge Creek, AK**	**84.79**	**25**	IAmb		IAmb		23 18 37.9	
	comp=Z,9.8nm,0.8s								
M27K	**Edge Creek, AK**	**84.79**	**25**	P		**P**		**23 18 32.5**	**+0.7**
	baz=246								
J26L	**Joseph Creek**	**84.99**	**23**	P		**P**		**23 18 32.7**	**0.0**
	baz=245								
L27K	**Beaver Creek,**	**85.09**	**25**	P		**P**		**23 18 33.4**	**+0.2**
L27K	**Beaver Creek,**	**85.09**	**25**	P		**P**		**23 18 33.9**	**+0.7**
	baz=246								
K27K	**Chicken**	**85.38**	**24**	P		**P**		**23 18 35.5**	**+0.9**
	baz=246								
EGAK	**Eagle**	**86.05**	**23**	P		**P**		**23 18 38.4**	**+0.6**
EGAK				IAmb		IAmb		23 19 01.0	
	comp=Z,7.9nm,0.8s								
DAWY	**Dawson**	**86.49**	**24**	P		**P**		**23 18 41.3**	**+1.1**
	baz=249								
NRIK	**Noril'sk**	**86.73**	**341**	P		**P**		**23 18 39.0**	**-2.1**
	comp=Z,1.1nm,0.6s,baz=131,slow=10.0,SNR=1.4								
NRIK	**Noril'sk**	**86.73**	**341**	*i* P		**P**		**23 18 41.1**	**0.0**
NRIK				pmax		pmax			
	comp=Z,5.0nm,1.1s								
WHY	**Whitehorse**	**87.34**	**28**	P		**P**		**23 18 44.7**	**+0.2**
WHY				IAmb		IAmb		23 18 47.4	
	comp=Z,8.3nm,1.1s								
KKAR	**Karatay Array**	**87.53**	**314**	P		**P**		**23 18 44.7**	**-0.9**
KKAR	**Karatay Array**	**87.53**	**314**	P		**P**		**23 18 44.7**	**-0.9**
FARO	**Faro, Yukon**	**88.50**	**27**	P		**P**		**23 18 50.2**	**+0.4**
	baz=254								
BRVK	**Borovoye**	**89.52**	**323**	*i* P		**P**		**23 18 54.4**	**-0.3**
BRVK				pmax		pmax			
	comp=Z,3.0nm,1.0s								
PINE	**Pine Mountain**	**92.43**	**46**	P		**P**		**23 19 08.9**	**+0.1**
PAHR	**Pah Rah Range**	**93.19**	**51**	P		**P**		**23 19 11.9**	**-0.4**
PAHR				IAmb		IAmb		23 19 24.0	
	comp=Z,7.2nm,1.1s								
I07A	**Izee**	**93.49**	**46**	P		**P**		**23 19 14.3**	**+0.7**
I07A				IAmb		IAmb		23 19 24.6	
	comp=Z,14nm,1.3s								
HAWA	**Hanford**	**93.67**	**44**	P		**P**		**23 19 14.3**	**+0.2**
HAWA				IAmb		IAmb		23 19 26.4	
	comp=Z,9.5nm,1.1s								
NVAR	**Mina Array Bea**	**93.92**	**52**	P		**P**		**23 19 16.4**	**+0.6**
	comp=Z,2.5nm,0.9s,baz=255,slow=6.1,SNR=9.5								
NVAR	**Mina Array Bea**	**93.92**	**52**	P		**P**		**23 19 16.3**	**+0.5**
NV11	**Mina Array Sit**	**94.03**	**52**	P		**P**		**23 19 16.8**	**+0.5**
QSM	**Queen of Sheba**	**94.88**	**54**	P		**P**		**23 19 20.5**	**+0.5**
QSM				IAmb		IAmb		23 19 31.5	
	comp=Z,12nm,1.2s								
BMN	**Battle Mountai**	**94.90**	**50**	P		**P**		**23 19 20.2**	**0.0**
BMN				pmax		pmax			
	comp=Z,4.0nm,1.1s								
BMN	**Battle Mountai**	**94.90**	**50**			**P**		**23 19 20.2**	**0.0**
BMO	**Blue Mountains**	**95.11**	**46**	P		**P**		**23 19 21.0**	**0.0**
BMO				pmax		pmax			
	comp=Z,7.0nm,1.2s								
BMO	**Blue Mountains**	**95.11**	**46**	P		**P**		**23 19 21.0**	**0.0**
BMO				IAmb		IAmb		23 19 32.2	
	comp=Z,7.2nm,1.1s								
TPNV	**Topopah Spring**	**95.44**	**54**	P		**P**		**23 19 22.1**	**-0.6**
TPNV				pmax		pmax			
	comp=Z,6.0nm,1.1s								
TPNV	**Topopah Spring**	**95.44**	**54**	P		**P**		**23 19 22.1**	**-0.6**
TPNV				IAmb		IAmb		23 19 34.1	
	comp=Z,5.9nm,1.1s								
PRN	**Pahroc Range**	**96.42**	**53**	P		**P**		**23 19 26.2**	**-1.0**
PRN				IAmb		IAmb		23 19 39.4	
	comp=Z,9.4nm,1.2s								
ARU	**Arti**	**96.61**	**326**	*d* *i* P		**P**		**23 19 27.1**	**-0.3**
ARU								23 23 22.5	
ARU				S		**SKSac**		**23 30 02.8**	**+2.0**
ARU				pmax		pmax			
	comp=Z,3.0nm,1.4s								
HLID	**Hailey**	**97.14**	**47**			Pdif		23 19 30.3	-0.1
HLID				IAmb		IAmb		23 19 43.6	
	comp=Z,14nm,2.0s								
W13A	**Hualapai Mount**	**97.26**	**55**			Pdif		23 19 31.1	-0.1
W13A				IAmb		IAmb		23 19 43.6	
	comp=Z,7.1nm,1.4s								
CCUT	**Cedar City**	**97.77**	**53**	P		Pdif		23 19 32.9	-0.5
CCUT				IAmb		IAmb		23 19 45.9	
	comp=Z,9.5nm,1.6s								
SNAA	**Sanae**	**100.60**	**188**	*i* P		**Pdif**		**23 19 47.4**	**+2.3**
SNAA				pmax		pmax			
	comp=Z,2.0nm,1.2s								
PDAR	**Pinedale Array**	**100.69**	**48**	P		**Pdif**		**23 19 46.1**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=242,slow=1.9,SNR=1.8								
PDAR				PP		**PP**		**23 23 56.0**	**+2.0**
	comp=Z,0.3nm,0.8s,baz=243,slow=5.0,SNR=1.6								
AKASG	**Malin Array Be**	**114.73**	**324**	PKP		**PKiKP**		**23 24 36.5**	**-1.4**
	comp=Z,1.3nm,0.4s,baz=70,slow=1.6,SNR=2.5								
BRTR	**Keskin Array B**	**115.13**	**311**	PKP		**PKPdf**		**23 24 38.6**	**-0.7**
	comp=Z,1.6nm,1.1s,baz=147,slow=2.9,SNR=5.8								
BRTR	**Keskin Array B**	**115.13**	**311**	*i* PKIKP		**PKPdf**		**23 24 38.4**	**-0.9**
BRTR	**Keskin Array B**	**115.13**	**311**			**PKPdf**		**23 24 38.4**	**-0.9**
NOA	**NORSAR Array B**	**117.63**	**339**	PKP		**PKPdf**		**23 24 40.4**	**-2.8**
	comp=Z,0.4nm,0.7s,baz=48,slow=2.1,SNR=2.4								
MLR	**Muntele Rosu**	**118.75**	**319**	PKIKP		**PKiKP**		**23 24 46.3**	**+0.3**
MLR	**Muntele Rosu**	**118.75**	**319**	PKPdf		**PKiKP**		**23 24 46.3**	**+0.3**
KOLS	**Kolonicke sedl**	**119.55**	**324**	*e*PKIKP		**PKiKP**		**23 24 50.0**	**+2.6**
KOLS	**Kolonicke sedl**	**119.55**	**324**	*e*PKP		**PKiKP**		**23 24 50.0**	**+2.6**
CRVS	**Cervenica-Dubn**	**120.04**	**324**	*e*PKIKP		**PKiKP**		**23 24 52.8**	**+4.5**
CRVS	**Cervenica-Dubn**	**120.04**	**324**	*e*PKP		**PKiKP**		**23 24 52.8**	**+4.5**
LANS	**Liptovska Anna**	**121.06**	**325**	*e*PKIKP		**PKiKP**		**23 24 52.4**	**+2.0**
LANS	**Liptovska Anna**	**121.06**	**325**	*e*PKP		**PKiKP**		**23 24 52.4**	**+2.0**
VTS	**Vitosha**	**121.67**	**317**	PKIKP		**PKiKP**		**23 24 51.4**	**-0.5**
VTS	**Vitosha**	**121.67**	**317**	PKPdf		**PKiKP**		**23 24 51.4**	**-0.5**
VYHS	**Vyhne**	**121.76**	**325**	*e*PKIKP		PKiKP		23 24 59.2	+7.5
MORC	**Moravsky Berou**	**121.81**	**327**	*e*PKP		**PKiKP**		**23 24 51.6**	**-0.2**
KRLC	**Kraliky**	**122.06**	**327**	*e*PKIKP		**PKiKP**		**23 24 52.5**	**+0.2**
KRLC	**Kraliky**	**122.06**	**327**	*e*PKPDF		**PKiKP**		**23 24 52.5**	**+0.2**
DPC	**Dobruska-Polom**	**122.15**	**328**	*e*PKIKP		**PKiKP**		**23 24 53.6**	**+1.1**
DPC	**Dobruska-Polom**	**122.15**	**328**	*e*PKPDF		**PKiKP**		**23 24 53.6**	**+1.1**
JAVC	**Velka Javorina**	**122.23**	**326**	*e*PKP		**PKiKP**		**23 24 54.0**	**+1.3**
MODS	**Modra-Piesok**	**122.71**	**325**	*e*PKIKP		**PKiKP**		**23 24 57.9**	**+4.3**
MODS	**Modra-Piesok**	**122.71**	**325**	*e*PKP		**PKiKP**		**23 24 57.8**	**+4.2**
KRUC	**Moravsky**	**122.83**	**326**	*e*PKP		**PKiKP**		**23 24 53.4**	**-0.4**
ZST	**Bratislava**	**122.90**	**325**	*e*PKP		**PKiKP**		**23 24 59.2**	**+5.3**
BRG	**Berggiesshubel**	**123.08**	**329**	*e*PKP		**PKiKP**		**23 24 54.9**	**+0.7**
BRG				Amp				23 24 60.0	
	comp=Z,13nm,1.3s								
CLL	**Collm**	**123.29**	**330**	*i* PKPdf		**PKiKP**		**23 24 54.2**	**-0.4**
	comp=Z,5.0nm,0.7s								
CLL				L		L		00 16 00.0	
	comp=Z,100nm,21.0s								
CLL	**Collm**	**123.29**	**330**	*i* PKIKP		**PKiKP**		**23 24 54.2**	**-0.4**
CLL				pmax		pmax			
	comp=Z,5.0nm,0.7s								
CONA	**Conrad Observa**	**123.74**	**326**	*i* P		**PKiKP**		**23 24 56.1**	**+0.3**
	comp=Z,2.9nm,1.0s								
CKRC	**Cesky Krumlov**	**124.10**	**327**	*e*PKPDF		**PKiKP**		**23 24 56.6**	**+0.3**
KHC	**Kasperske Hory**	**124.31**	**328**	*e*PKIKP		**PKiKP**		**23 24 57.5**	**+0.7**
KHC	**Kasperske Hory**	**124.31**	**328**	*e*PKPDF		**PKiKP**		**23 24 57.5**	**+0.7**
GEC2	**GERESS Array S**	**124.41**	**327**	PKPdf		**PKiKP**		**23 24 57.0**	**0.0**
GERES	**GERESS Array B**	**124.41**	**327**	PKP		**PKiKP**		**23 24 56.5**	**-0.5**
	comp=Z,2.4nm,0.7s,baz=71,slow=2.2,SNR=22								
GERES	**GERESS Array B**	**124.41**	**327**	PKIKP		**PKiKP**		**23 24 56.9**	**-0.2**
GERES	**GERESS Array B**	**124.41**	**327**			**PKiKP**		**23 24 56.9**	**-0.2**
MOA	**Molln**	**124.68**	**326**	*i* P		**PKiKP**		**23 24 58.1**	**+0.5**
	comp=Z,4.8nm,1.5s								
SOKA	**Soboth**	**124.90**	**325**	*e*P		**PKiKP**		**23 24 57.5**	**-0.5**
	comp=Z,7.5nm,1.1s								
ABTA	**Abfaltersbach**	**126.29**	**326**	*e*P		**PKiKP**		**23 25 01.2**	**+0.3**
	comp=Z,14nm,1.6s								
WATA	**Walderalm**	**126.45**	**327**	*e*P		**PKiKP**		**23 25 00.7**	**-0.5**
	comp=Z,9.0nm,1.1s								
WTTA	**Wattenberg**	**126.47**	**327**	*e*P		**PKiKP**		**23 25 01.1**	**-0.2**
	comp=Z,14nm,1.1s								
MOTA	**Moosalm**	**126.70**	**327**	*e*P		**PKiKP**		**23 25 01.6**	**-0.1**
	comp=Z,11nm,1.1s								
SQTA	**Sankt Quirin**	**126.72**	**327**	*e*P		**PKiKP**		**23 25 01.6**	**-0.2**
	comp=Z,8.1nm,1.1s								
MEM	**Membach**	**127.07**	**333**	*d*PKP		**PKiKP**		**23 25 02.5**	**+0.4**
FETA	**Feichten**	**127.11**	**327**	*e*P		**PKiKP**		**23 25 02.4**	**-0.2**
	comp=Z,9.8nm,1.1s								
DAVA	**Damuels**	**127.39**	**328**	*e*P		**PKiKP**		**23 25 02.9**	**-0.3**
	comp=Z,8.1nm,1.1s								
BCLA	**Clavier**	**127.52**	**333**	*d*PKP		**PKiKP**		**23 25 03.7**	**+0.6**
BMRD	**Maredsous**	**127.84**	**334**	*d*PKP		**PKiKP**		**23 25 04.5**	**+0.8**
DOU	**Dourbes**	**128.07**	**333**	*d*PKP		**PKiKP**		**23 25 05.6**	**+1.4**
CPUP	**Villa Florida**	**137.38**	**140**	PKP		**PKiKP**		**23 25 21.8**	**-1.9**
	comp=Z,1.1nm,0.6s,baz=297,slow=6.8,SNR=2.0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**7.36**	**73**	Pn	**Pn**	**23 25 26.7**	**-0.2**
PYZ	**Puysegur Point**	**16.51**	**56**	Pn	**Pn**	**23 27 31.0**	**0.0**
PYZ				IAmb	IAmb	23 27 32.2	
	comp=Z,49nm,0.9s						
MLZ	**Mavora Lakes**	**17.77**	**57**		**P**	**23 27 48.3**	**+0.7**
WKZ	**Wanaka**	**18.59**	**57**	P	**P**	**23 27 56.9**	**+0.2**
CASY	**Casey**	**19.10**	**227**	P	**P**	**23 28 00.3**	**-1.6**
TOO	**Toolangi**	**19.75**	**357**	P	**P**	**23 28 07.2**	**-2.2**
TOO				IAmb	IAmb	23 28 11.8	
	comp=Z,78nm,1.5s						
VNDA	**Vanda**	**20.98**	**171**	P	**P**	**23 28 21.4**	**-1.0**
	comp=Z,4.3nm,1.0s,baz=337,slow=12,SNR=7.8						
VNDA				LR	LR	23 34 57.6	
	comp=Z,390nm,20.4s,baz=344,slow=32						
VNDA	**Vanda**	**20.98**	**171**	P	**P**	**23 28 21.5**	**-0.9**
VNDA				IAmb	IAmb	23 28 29.7	
	comp=Z,27nm,1.3s						
OXZ	**Oxford**	**21.14**	**59**	P	**P**	**23 28 24.1**	**-0.3**
OXZ				IAmb	IAmb	23 28 29.0	
	comp=Z,53nm,1.2s						
SBA	**Scott Base**	**21.75**	**169**	P	**P**	**23 28 30.9**	**+0.2**
NNZ	**Nelson**	**23.41**	**58**	P	**P**	**23 28 48.1**	**-0.3**
STKA	**Stephens Creek**	**25.66**	**350**	P	**P**	**23 29 10.2**	**+0.9**
	comp=Z,10.0nm,1.0s,baz=140,slow=9.4,SNR=8.8						
STKA				LR	LR	23 38 03.5	
	comp=Z,174nm,21.3s,baz=175,slow=34						
STKA	**Stephens Creek**	**25.66**	**350**	P	**P**	**23 29 09.8**	**+0.5**
URZ	**Urewera**	**27.50**	**59**	LR	LR	23 40 16.3	
	comp=Z,729nm,18.1s,baz=211,slow=37						
FORT	**Forrest**	**29.54**	**326**	P	**P**	**23 29 44.1**	**+0.1**
H01W1	**Cape Leeuwin H**	**31.37**	**301**	T	T	00 03 24.7	
	baz=145,slow=76,SNR=282						
H01W2	**Cape Leeuwin H**	**31.37**	**301**	T	T	00 03 25.0	
	baz=145,slow=76,SNR=285						
H01W3	**Cape Leeuwin H**	**31.38**	**301**	T	T	00 03 25.4	
	baz=145,slow=76,SNR=298						
NWAO	**Narrogin (SRO)**	**31.64**	**308**	LR	LR	23 38 34.0	
	comp=Z,190nm,21.7s,baz=115,slow=28						
EIDS	**Eidsvold**	**32.04**	**7**	P	**P**	**23 30 06.0**	**-0.1**
EIDS				IAmb	IAmb	23 30 08.3	
	comp=Z,9.3nm,1.1s						
QSPA	**South Pole Qui**	**32.82**	**180**	P	**P**	**23 30 12.0**	**-0.8**
	comp=Z,1.9nm,1.0s,baz=6.5,slow=8.7,SNR=3.1						
QSPA	**South Pole Qui**	**32.82**	**180**	P	**P**	**23 30 12.9**	**0.0**
QSPA				IAmb	IAmb	23 30 27.0	
	comp=Z,12nm,1.5s						
ASAR	**Alice Springs**	**34.87**	**339**	P	**P**	**23 30 29.7**	**-1.2**
	comp=Z,3.1nm,1.0s,baz=160,slow=8.5,SNR=15						
ASAR				PcP	**PcP**	**23 33 03.1**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=154,slow=2.6,SNR=7.7						
ASAR				LR	LR	23 42 22.0	
	comp=Z,382nm,21.1s,baz=166,slow=32						
ASAR	**Alice Springs**	**34.87**	**339**	P	**P**	**23 30 30.9**	**0.0**
MAW	**Mawson**	**37.11**	**219**	LR	LR	23 45 04.2	
	comp=Z,947nm,21.0s,baz=92,slow=34						
CTA	**Charters Tower**	**37.15**	**359**	LR	LR	23 44 40.9	
	comp=Z,1μm,18.9s,baz=187,slow=34						
CTAO	**Charters Tower**	**37.15**	**359**	P	**P**	**23 30 50.6**	**+0.3**
RAO	**Raoul Island**	**37.27**	**56**	LR	LR	23 44 42.1	
	comp=Z,231nm,19.7s,baz=217,slow=34						
OUENC	**Ouen Island, N**	**37.76**	**31**	P	**P**	**23 30 55.3**	**-0.2**
DZM	**Mont Dzumac**	**37.98**	**30**	*e*P	**P**	**23 30 57.0**	**-0.5**
	comp=Z,36nm,1.1s						
DZM	**Mont Dzumac**	**37.98**	**30**	*e*LR	LR	23 41 03.2	
	comp=Z,2μm,25.7s						
DZM	**Mont Dzumac**	**37.98**	**30**	P	**P**	**23 30 56.5**	**-1.0**
DZM				IAmb	IAmb	23 30 59.4	
	comp=Z,16nm,1.1s						
WR0	**Warramunga Arr**	**38.37**	**341**	P	**P**	**23 30 59.8**	**-0.9**
WR0				IAmb	IAmb	23 31 14.4	
	comp=Z,28nm,1.4s						
WB2	**Warramunga Arr**	**38.42**	**341**	P	**P**	**23 30 59.6**	**-1.5**
WB2				IAmb	IAmb	23 31 03.6	
	comp=Z,14nm,0.9s						
WRA	**Warramunga Arr**	**38.42**	**341**	P	**P**	**23 30 59.3**	**-1.8**
	comp=Z,6.6nm,0.7s,baz=168,slow=8.4,SNR=20						
WRA				PcP	**PcP**	**23 33 15.7**	**+1.3**
	comp=Z,1.7nm,1.0s,baz=179,slow=2.9,SNR=2.8						
WRA				LR	LR	23 44 59.4	
	comp=Z,226nm,21.5s,baz=165,slow=33						
WRA	**Warramunga Arr**	**38.42**	**341**	P	**P**	**23 31 00.3**	**-0.8**
WB0	**Warramunga Arr**	**38.58**	**341**	P	**P**	**23 31 01.4**	**-1.1**
WB0				IAmb	IAmb	23 31 14.7	
	comp=Z,9.1nm,0.9s						
PSA00	**Pilbara Seismi**	**40.77**	**320**	P	**P**	**23 31 19.6**	**-1.1**
PSA00	**Pilbara Seismi**	**40.77**	**320**	P	**P**	**23 31 19.6**	**-1.1**
PSA00				IAmb	IAmb	23 31 21.3	
	comp=Z,23nm,1.1s						
FITZ	**Fitzroy Crossi**	**42.20**	**329**	LR	LR	23 47 46.4	
	comp=Z,338nm,20.3s,baz=164,slow=34						
FITZ	**Fitzroy Crossi**	**42.20**	**329**	P	**P**	**23 31 32.2**	**-0.2**
FITZ				IAmb	IAmb	23 31 36.5	
	comp=Z,10nm,1.1s						
KNRA	**Kununurra**	**43.72**	**334**	P	**P**	**23 31 44.6**	**-0.1**
KNRA				IAmb	IAmb	23 31 51.1	
	comp=Z,13nm,0.9s						
SNAA	**Sanae**	**49.59**	**192**	P	**P**	**23 32 30.8**	**+0.6**
SNAA	**Sanae**	**49.59**	**192**	P	**P**	**23 32 30.0**	**-0.2**
SNAA				IAmb	IAmb	23 32 38.3	
	comp=Z,13nm,1.3s						
VNA3	**Neumayer Olymp**	**50.69**	**190**	P	**P**	**23 32 38.9**	**+0.4**
VNA2	**Neumayer--Watz**	**50.78**	**191**	P	**P**	**23 32 39.4**	**+0.3**
VNA1	**Neumayer--Stat**	**51.13**	**190**	P	**P**	**23 32 42.4**	**+0.6**
TBI	**Tubuai**	**56.49**	**81**	*e*LR	LR	23 49 34.0	
	comp=Z,276nm,24.0s						
LUWI	**Luwuk**	**59.28**	**332**	P	**P**	**23 33 39.7**	**-1.5**
PPT2	**Papeete2**	**61.14**	**77**	*e*LR	LR	23 51 26.6	
	comp=Z,254nm,30.2s						
PPT	**Papeete**	**61.16**	**77**	LR	LR	23 56 34.7	
	comp=Z,75nm,18.0s,baz=188,slow=32						
TOLI2	**Tolitoli**	**61.87**	**330**	P	**P**	**23 33 59.1**	**+0.3**
RKT	**Rikitea**	**64.52**	**93**	*e*T	T	00 43 28.2	
	comp=Z,48nm,0.2s						
H08S2	**Diego Garcia H**	**75.16**	**279**	T	T	00 58 14.1	
	baz=147,slow=76,SNR=55						
H08S1	**Diego Garcia H**	**75.17**	**279**	T	T	00 58 11.5	
	baz=147,slow=76,SNR=62						
H08S3	**Diego Garcia H**	**75.18**	**279**	T	T	00 58 15.8	
	baz=147,slow=76,SNR=51						
PLCA	**Paso Flores**	**77.41**	**152**	LR	LR	00 03 21.5	
	comp=Z,234nm,19.3s,baz=197,slow=31						
H03S2	**Juan Fernandez**	**81.36**	**143**	T	T	01 06 20.4	
	baz=201,slow=74,SNR=18						
H03S1	**Juan Fernandez**	**81.37**	**143**	T	T	01 06 19.1	
	baz=201,slow=74,SNR=17						
BOSA	**Boshof**	**81.37**	**229**	P	**P**	**23 35 58.7**	**+2.2**
	comp=Z,6.7nm,1.2s,baz=158,slow=5.4,SNR=3.6						
BOSA				LR	LR	00 08 00.1	
	comp=Z,143nm,18.4s,baz=172,slow=33						
BOSA	**Boshof**	**81.37**	**229**	P	**P**	**23 35 55.8**	**-0.7**
H03S3	**Juan Fernandez**	**81.38**	**143**	T	T	01 06 13.7	
	baz=201,slow=74,SNR=19						
CMAR	**Chiang Mai Arr**	**85.34**	**315**	P	**P**	**23 36 17.9**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=181,slow=3.6,SNR=1.5						
CMAR				LR	LR	00 14 03.2	
	comp=Z,253nm,18.9s,baz=206,slow=35						
CMAR	**Chiang Mai Arr**	**85.34**	**315**	P	**P**	**23 36 16.4**	**-0.2**
NJ2	**Nanjing**	**92.08**	**336**	*e*P	**P**	**23 36 51.5**	**+3.2**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CPUP	**Villa Florida**	**94.25**	**158**	LR	LR	00 13 50.4	
	comp=Z,93nm,21.3s,baz=197,slow=32						
KSRS	**Korea Array**	**95.72**	**345**	LR	LR	00 19 33.0	
	comp=Z,47nm,20.5s,baz=182,slow=35						
XAN	**Xi'an**	**96.44**	**329**	P	**P**	**23 37 10.0**	**+1.6**
XAN				pP	pwP	23 37 21.6	+6.5
XAN				sP	sP	23 37 28.0	+17
XAN				pmax	pmax		
	comp=Z,3.0nm,1.4s						
TORD	**Torodi Ar. Bea**	**128.60**	**225**	PKP	**PKiKP**	**23 42 46.8**	**-0.5**
	comp=Z,0.7nm,1.0s,baz=173,slow=2.9,SNR=3.3						
AKASG	**Malin Array Be**	**143.91**	**287**	PKP	PKPbc	23 43 11.2	-0.5
	comp=Z,0.3nm,0.3s,baz=102,slow=2.4,SNR=6.1						
KEST	**Kesra**	**144.48**	**251**	PKP	**PKPdf**	**23 43 15.5**	**0.0**
	comp=Z,26nm,1.2s,baz=152,slow=4.0,SNR=5.2						
SOKA	**Soboth**	**149.12**	**271**	P	**PKiKP**	**23 43 29.6**	**+1.3**
	comp=Z,6.9nm,1.1s						
MORC	**Moravsky Berou**	**149.58**	**278**	*e*PKP	**PKPbc**	**23 43 28.1**	**0.0**
KRUC	**Moravsky**	**149.79**	**276**	*e*PKP	**PKiKP**	**23 43 30.3**	**+0.8**
VRAC	**Vranov**	**149.83**	**276**	*e*PKP	**PKPbc**	**23 43 28.8**	**+0.1**
KRLC	**Kraliky**	**150.15**	**278**↑	*e*PKP	**PKiKP**	**23 43 31.0**	**+0.7**
FINES	**FINESS Array B**	**150.45**	**303**	PKPbc	**PKPbc**	**23 43 29.4**	**-0.3**
	comp=Z,3.5nm,0.7s,baz=48,slow=2.8,SNR=8.6						
ABTA	**Abfaltersbach**	**150.53**	**269**	*e*P	**PKiKP**	**23 43 32.5**	**+1.3**
	comp=Z,5.0nm,0.9s						
DPC	**Dobruska-Polom**	**150.55**	**278**↑	*e*PKP	**PKiKP**	**23 43 31.6**	**+0.5**
CHVC	**Chvalec**	**150.82**	**278**↑	*e*PKP	**PKiKP**	**23 43 32.8**	**+1.1**
GERES	**GERESS Array B**	**151.13**	**273**	PKPbc	**PKPbc**	**23 43 31.8**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=102,slow=1.9,SNR=8.4						
WTTA	**Wattenberg**	**151.32**	**269**	*e*P	**PKiKP**	**23 43 34.3**	**+1.3**
	comp=Z,6.9nm,1.3s						
KHC	**Kasperske Hory**	**151.36**	**274**	*e*PKPDF	**PKPbc**	**23 43 29.5**	**-2.9**
KHC				↑*e*PKP	**PKiKP**	**23 43 33.4**	**+0.6**
WATA	**Walderalm**	**151.40**	**269**	*e*P	**PKiKP**	**23 43 34.4**	**+1.3**
	comp=Z,6.9nm,1.4s						
SQTA	**Sankt Quirin**	**151.53**	**269**	*e*P	**PKPbc**	**23 43 32.7**	**-0.2**
	comp=Z,11nm,1.1s						
MOTA	**Moosalm**	**151.66**	**269**	*e*P	**PKiKP**	**23 43 34.1**	**+0.4**
	comp=Z,7.0nm,1.2s						
FETA	**Feichten**	**151.66**	**268**	*e*P	**PKiKP**	**23 43 34.5**	**+0.8**
	comp=Z,5.5nm,1.0s						
RETA	**Reutte**	**151.93**	**269**	*e*P	**PKiKP**	**23 43 35.6**	**+1.5**
	comp=Z,6.7nm,1.1s						
ARCES	**ARCESS Array B**	**152.30**	**320**	PKPbc	**PKPbc**	**23 43 33.5**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=66,slow=4.1,SNR=7.0						
CLL	**Collm**	**152.84**	**277**	*e*PKPdf	**PKPdf**	**23 43 31.0**	**+2.6**
CLL				*e*PKPbc	**pPKPbc**	**23 43 37.0**	**-0.8**
CLL				*e*PKPab	**PKPab**	**23 43 46.0**	**-0.8**
ESDC	**Sonseca Array**	**154.13**	**240**	PKPab	**PKPab**	**23 43 51.5**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=82,slow=2.0,SNR=4.3						

*SIGU **21** 23:27:49.2, 45°.51N × 26°.40E, h126km, mb3.1*
*SOF **21** 23:27:50.0, 45°.46N × 26°.38E, h100km, MD3.4*

ISC 21 23:27:48.2±1.3, 45°.50N±0°.02×26°.39E±0°.02, h133km±6km, n141, σ0°80/144, 62C-67D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEHR	**Nehoiu**	**0.10**	**223**	↑P	**Pn**	**23 28 06.8**	**+0.6**
NEHR	**Nehoiu**	**0.10**	**223**	↑S	**Sn**	**23 28 19.6**	**-0.3**
BISRR	**Bisoca**	**0.23**	**78**	↑P	**Pn**	**23 28 07.3**	**+0.8**
BISRR	**Bisoca**	**0.23**	**78**	↑S	**Sn**	**23 28 20.1**	**-0.3**
MLR	**Muntele Rosu**	**0.31**	**269**	↑P	**Pn**	**23 28 07.3**	**+0.5**
MLR	**Muntele Rosu**	**0.31**	**269**	↑S	**Sn**	**23 28 20.8**	**-0.2**
COVR	**Voineasa-Covas**	**0.37**	**339**	↑P	**Pn**	**23 28 07.1**	**+0.1**
COVR	**Voineasa-Covas**	**0.37**	**339**	↑S	**Sn**	**23 28 19.9**	**-1.3**
ISR	**Istrita**	**0.40**	**164**	↑P	**Pn**	**23 28 07.8**	**+0.6**
ISR	**Istrita**	**0.40**	**164**	↑S	**Sn**	**23 28 20.1**	**-1.4**
PLOR	**Plostina**	**0.40**	**27**	↑P	**Pn**	**23 28 07.4**	**+0.3**
PLOR	**Plostina**	**0.40**	**27**	↓S	**Sn**	**23 28 21.5**	**0.0**
GRER		**0.43**	**106**	↓S	**Sn**	**23 28 20.1**	**-1.4**
VRI	**Vrincioaia**	**0.44**	**33**	↑P	**Pn**	**23 28 07.8**	**+0.5**
VRI	**Vrincioaia**	**0.44**	**33**	↑S	**Sn**	**23 28 21.3**	**-0.4**
SECR		**0.52**	**206**	↓P	**Pn**	**23 28 08.5**	**+0.8**
SECR		**0.52**	**206**	↑S	**Sn**	**23 28 21.4**	**-1.1**
ODBI	**Odobesti**	**0.54**	**60**	↓P	**Pn**	**23 28 08.9**	**+1.2**
ODBI	**Odobesti**	**0.54**	**60**	↓S	**Sn**	**23 28 22.5**	**-0.1**
PETR	**Petresti**	**0.63**	**69**	↑P	**Pn**	**23 28 09.3**	**+1.0**
PETR	**Petresti**	**0.63**	**69**	↓S	**Sn**	**23 28 23.6**	**0.0**
PLAR	**PLOIESTI**	**0.64**	**204**	↓P	**Pn**	**23 28 09.2**	**+0.8**
PGOR	**Pogoanele**	**0.72**	**144**	↓P	**Pn**	**23 28 09.6**	**+0.6**
PGOR	**Pogoanele**	**0.72**	**144**	↓S	**Sn**	**23 28 24.8**	**+0.1**
OZUR		**0.73**	**325**	↑P	**Pn**	**23 28 09.2**	**+0.1**
OZUR		**0.73**	**325**	↑S	**Sn**	**23 28 23.9**	**-1.2**
SULR		**0.83**	**187**	↓P	**Pn**	**23 28 10.5**	**+0.7**
SULR		**0.83**	**187**	↓S	**Sn**	**23 28 25.8**	**-0.4**
DOPR	**Dopca**	**0.84**	**304**	↑P	**Pn**	**23 28 10.2**	**+0.2**
DOPR	**Dopca**	**0.84**	**304**	↑S	**Sn**	**23 28 25.8**	**-0.8**
TUDR		**0.90**	**84**	↓P	**Pn**	**23 28 10.5**	**+0.1**
TUDR		**0.90**	**84**	↓S	**Sn**	**23 28 26.8**	**-0.5**
GHRR		**0.91**	**51**	↑P	**Pn**	**23 28 11.4**	**+1.0**
GHRR		**0.91**	**51**	↑S	**Sn**	**23 28 27.5**	**+0.1**
VOIR		**0.95**	**267**	↑P	**Pn**	**23 28 11.3**	**+0.4**
VOIR		**0.95**	**267**	↓S	**Sn**	**23 28 27.0**	**-1.2**
IZVR	**Izvoarele**	**0.97**	**87**	↑P	**Pn**	**23 28 11.0**	**0.0**
IZVR	**Izvoarele**	**0.97**	**87**	↑S	**Sn**	**23 28 27.0**	**-1.3**
SCHL	**Schela**	**1.01**	**89**	↓P	**Pn**	**23 28 11.5**	**+0.1**
SCHL	**Schela**	**1.01**	**89**	↓S	**Sn**	**23 28 28.1**	**-0.9**
TESR	**Tescani**	**1.03**	**10**	↑P	**Pn**	**23 28 11.8**	**+0.2**
TESR	**Tescani**	**1.03**	**10**	↓S	**Sn**	**23 28 28.1**	**-1.3**
LEHL	**Lehliu**	**1.07**	**163**	↓P	**Pn**	**23 28 12.7**	**+0.7**
LEHL	**Lehliu**	**1.07**	**163**	↓S	**Sn**	**23 28 30.5**	**+0.5**
INCR	**INCERC-Sediu C**	**1.07**	**189**	↓P	**Pn**	**23 28 12.5**	**+0.5**
INCR	**INCERC-Sediu C**	**1.07**	**189**	↓S	**Sn**	**23 28 29.9**	**-0.1**
VARL	**Varlezi**	**1.10**	**68**	↑P	**Pn**	**23 28 13.1**	**+0.9**
VARL	**Varlezi**	**1.10**	**68**	↓S	**Sn**	**23 28 30.8**	**+0.3**
AMRR	**Amara**	**1.11**	**143**	↓P	**Pn**	**23 28 13.1**	**+0.7**
AMRR	**Amara**	**1.11**	**143**	↓S	**Sn**	**23 28 30.8**	**+0.1**
SCTR	**Scanteiesti**	**1.14**	**81**	↓P	**Pn**	**23 28 13.4**	**+0.8**
SCTR	**Scanteiesti**	**1.14**	**81**	↓S	**Sn**	**23 28 31.3**	**+0.1**
BIR	**Birlad**	**1.16**	**48**	↓P	**Pn**	**23 28 13.5**	**+0.8**
BIR	**Birlad**	**1.16**	**48**	↓S	**Sn**	**23 28 31.1**	**-0.4**
TATR	**Tatarca**	**1.17**	**85**	↓P	**Pn**	**23 28 13.7**	**+0.8**
TATR	**Tatarca**	**1.17**	**85**	↓S	**Sn**	**23 28 31.5**	**-0.3**
GISR	**Galati**	**1.17**	**92**	↓P	**Pn**	**23 28 13.3**	**+0.4**
GISR	**Galati**	**1.17**	**92**	↓S	**Sn**	**23 28 31.8**	**0.0**
BUC1	**Bucharest**	**1.18**	**193**	↓P	**Pn**	**23 28 13.7**	**+0.7**
BUC1	**Bucharest**	**1.18**	**193**	↓S	**Sn**	**23 28 32.1**	**+0.2**
STFAR	**Stefanesti-Arg**	**1.20**	**238**	↓P	**Pn**	**23 28 13.9**	**+0.7**
STFAR	**Stefanesti-Arg**	**1.20**	**238**	↓S	**Sn**	**23 28 32.1**	**-0.2**
VLDR	**Vladesti**	**1.23**	**73**	↓P	**Pn**	**23 28 14.3**	**+0.7**
VLDR	**Vladesti**	**1.23**	**73**	↓S	**Sn**	**23 28 32.9**	**0.0**
ARR	**Arges**	**1.24**	**265**	↑P	**Pn**	**23 28 14.4**	**+0.6**
ARR	**Arges**	**1.24**	**265**	↑S	**Sn**	**23 28 33.0**	**-0.3**
CFR	**Carcaliu**	**1.27**	**104**	↓P	**Pn**	**23 28 13.9**	**0.0**
CFR	**Carcaliu**	**1.27**	**104**	↓S	**Sn**	**23 28 32.2**	**-1.3**
GIUM	**Giurgiulesti**	**1.28**	**90**	↑S	**Sn**	**23 28 33.7**	**-0.1**
GIUM	**Giurgiulesti**	**1.28**	**90**	S	**Sn**	**23 28 33.6**	**-0.1**
SGRR	**Singureni**	**1.31**	**193**	↑S	**Sn**	**23 28 33.5**	**-0.9**
HARR	**Harsova**	**1.36**	**126**	↓P	**Pn**	**23 28 15.3**	**+0.4**
HUMR	**Humele**	**1.39**	**226**	↑P	**Pn**	**23 28 15.7**	**+0.4**
HUMR	**Humele**	**1.39**	**226**	↓S	**Sn**	**23 28 35.8**	**-0.1**
RASA	**Rasa**	**1.39**	**157**	↓P	**Pn**	**23 28 15.7**	**+0.5**
RASA	**Rasa**	**1.39**	**157**	↓S	**Sn**	**23 28 34.9**	**-1.0**
BIZ	**Bicaz**	**1.45**	**352**	↓P	**Pn**	**23 28 17.1**	**+1.2**
BIZ	**Bicaz**	**1.45**	**352**	↓S	**Sn**	**23 28 37.7**	**+0.5**
VASR	**Vaslui**	**1.50**	**40**	↑P	**Pn**	**23 28 17.1**	**+0.4**
VASR	**Vaslui**	**1.50**	**40**	↑S	**Sn**	**23 28 37.3**	**-0.8**
TLBR	**Topalu**	**1.51**	**129**	↓P	**Pn**	**23 28 17.1**	**+0.5**
TLBR	**Topalu**	**1.51**	**129**	↑S	**Sn**	**23 28 37.0**	**-1.2**
MDB	**Medias**	**1.54**	**295**	↑P	**Pn**	**23 28 17.9**	**+1.0**
TPGR	**Topolog**	**1.57**	**113**	↓P	**Pn**	**23 28 17.8**	**+0.5**
TPGR	**Topolog**	**1.57**	**113**	↑S	**Sn**	**23 28 38.4**	**-1.1**
COPA	**Copaceanca**	**1.60**	**212**	↑P	**Pn**	**23 28 18.0**	**+0.4**
COPA	**Copaceanca**	**1.60**	**212**	↓S	**Sn**	**23 28 39.6**	**-0.4**
CVDA	**Cernavoda**	**1.65**	**134**	↓P	**Pn**	**23 28 18.7**	**+0.6**
CVDA	**Cernavoda**	**1.65**	**134**	↓S	**Sn**	**23 28 41.5**	**+0.5**
ICOR	**Ion Corvin**	**1.71**	**144**	↓P	**Pn**	**23 28 19.7**	**+0.9**
ICOR	**Ion Corvin**	**1.71**	**144**	↑S	**Sn**	**23 28 42.1**	**-0.1**
TLCR		**1.74**	**100**	↓P	**Pn**	**23 28 19.8**	**+0.7**
TLCR		**1.74**	**100**	↑S	**Sn**	**23 28 42.8**	**0.0**
TIRR	**Tirgusor**	**1.77**	**125**	↓P	**Pn**	**23 28 20.0**	**+0.5**
TIRR	**Tirgusor**	**1.77**	**125**	↑S	**Sn**	**23 28 42.7**	**-0.8**
LOT	**Lotru**	**1.84**	**269**	↓P	**Pn**	**23 28 21.4**	**+0.6**
LOT	**Lotru**	**1.84**	**269**	↑S	**Sn**	**23 28 45.2**	**0.0**
IAS	**Iasi**	**1.88**	**25**	↑P	**Pn**	**23 28 21.2**	**+0.4**
IAS	**Iasi**	**1.88**	**25**	↓S	**Sn**	**23 28 44.5**	**-1.3**
RAZG	**Razgrad**	**1.94**	**177**	↑P	**Pn**	**23 28 21.8**	**+0.3**
RAZG	**Razgrad**	**1.94**	**177**	↑S	**Sn**	**23 28 45.7**	**-1.4**
ZIMR		**1.98**	**202**	↑P	**Pn**	**23 28 23.2**	**+1.2**
ZIMR		**1.98**	**202**	↓S	**Sn**	**23 28 47.0**	**-0.9**
EFOR	**EFORIE**	**2.14**	**131**	↓P	**Pn**	**23 28 24.5**	**+0.7**
MILM	**Milestii Mici**	**2.20**	**49**	↓P	**Pn**	**23 28 25.4**	**+0.7**
PSN	**Preselentsi**	**2.22**	**144**	*i* P	**Pn**	**23 28 26.1**	**+1.1**
KIS	**Kishinev** 20nm,0.1s	**2.25**	**47**	↓*i* P	**Pn**	**23 28 26.0**	**+0.6**
KIS				*e*S	**Sn**	**23 28 52.8**	**-1.1**
	80nm,0.2s						
KIS	**Kishinev**	**2.25**	**47**	↑P	**Pn**	**23 28 25.9**	**+0.6**
KIS	**Kishinev**	**2.25**	**47**	P	**Pn**	**23 28 26.0**	**+0.6**
KIS				Pm		23 28 26.2	
KIS				S	**Sn**	**23 28 52.8**	**-1.1**
KIS				Sm		23 28 52.9	
KIS				m		23 28 54.6	
SZH	**Strazhica**	**2.26**	**189**	*i* P	**Pn**	**23 28 26.0**	**+0.6**
BURAR	**Bucovina Array**	**2.27**	**339**	↓P	**Pn**	**23 28 27.7**	**+2.1**
BURAR	**Bucovina Array**	**2.27**	**339**	↓S	**Sn**	**23 28 56.1**	**+1.7**
CJR	**Cluj-Napoca**	**2.29**	**303**	↓P	**Pn**	**23 28 26.9**	**+1.0**
MANR	**Mangalia**	**2.30**	**136**	↑P	**Pn**	**23 28 26.5**	**+0.6**
PVL	**Pavlikeni**	**2.41**	**199**	P	**Pn**	**23 28 29.5**	**+2.2**
SRE	**Strehaia**	**2.41**	**251**	↓P	**Pn**	**23 28 27.7**	**+0.4**
SRE	**Strehaia**	**2.41**	**251**	↓S	**Sn**	**23 28 56.4**	**-0.9**
PRD	**Provadia**	**2.41**	**162**	*i* P	**Pn**	**23 28 28.4**	**+1.1**
GZR	**Gura Zlata**	**2.55**	**269**	↓P	**Pn**	**23 28 30.5**	**+1.4**
GZR	**Gura Zlata**	**2.55**	**269**	↑S	**Sn**	**23 29 01.0**	**+0.4**
KALB	**Balgarevo**	**2.55**	**145**	↓P	**Pn**	**23 28 30.1**	**+1.0**
BAIL	**Bailesti**	**2.63**	**237**	↑P	**Pn**	**23 28 30.3**	**+0.3**
BAIL	**Bailesti**	**2.63**	**237**	↑S	**Sn**	**23 29 01.2**	**-1.0**
PURM	**Purcari**	**2.64**	**66**	↓P	**Pn**	**23 28 30.6**	**+0.5**
PURM	**Purcari**	**2.64**	**66**	↓S	**Sn**	**23 29 01.5**	**-0.9**
PUNG	**Punghina**	**2.75**	**245**	↑P	**Pn**	**23 28 31.5**	**0.0**
RMGR	**Halanga-Turnu**	**2.75**	**254**	↑P	**Pn**	**23 28 31.6**	**0.0**
MPEP	**Malo Peshtene**	**2.86**	**222**	*i* P	**Pn**	**23 28 34.7**	**+1.6**
DRGR		**2.87**	**298**	↓P	**Pn**	**23 28 33.4**	**+0.3**
HERR	**Herculane**	**2.88**	**259**	↑P	**Pn**	**23 28 33.3**	**0.0**
SORM	**Soroca**	**2.96**	**26**	↑P	**Pn**	**23 28 34.6**	**+0.4**
NSLU	**Nyzhne Selyshc**	**3.01**	**335**	*e*P	**Pn**	**23 28 40.7**	**+5.8**
JMB	**Yambol**	**3.04**	**177**	*i* P	**Pn**	**23 28 35.7**	**+0.4**
KMPD	**K-Podol'skiy**	**3.06**	**1**	*i* S	**Sn**	**23 29 10.4**	**-1.9**
NDNU	**Novodnistrovsk**	**3.17**	**12**↓	*i* P	**Pn**	**23 28 37.2**	**+0.2**
NDNU				Pm		23 28 37.7	
NDNU				*e*S	**Sn**	**23 29 13.1**	**-1.6**
NDNU				Sm		23 29 13.5	
BZS	**Buzias**	**3.36**	**274**	↓P	**Pn**	**23 28 39.8**	**+0.3**
MDVR	**Moldovita**	**3.39**	**259**	↑P	**Pn**	**23 28 40.3**	**+0.4**
VTS	**Vitosha**	**3.67**	**219**	↓P	**Pn**	**23 28 44.5**	**+0.7**
HORU	**Horodok**	**3.72**	**0**	*e*P	**Pn**	**23 28 44.4**	**+0.3**
HORU				*e*S	**Sn**	**23 29 27.8**	**+0.2**
BOVS	**Bovan**	**3.83**

baz=201,slow=74,SNR=14

BOSA	**Boshof**	**81.59**	**229**	P	**P**	**23 41 51.8 -0.5**
	comp=Z,1.6nm,0.9s,baz=110,slow=4.8,SNR=1.6					
BOSA	**Boshof**	**81.59**	**229**	IAmb	IAmb	23 41 59.3
	comp=Z,7.6nm,1.3s					
CMAR	**Chiang Mai Arr**	**85.53**	**315**	P	**P**	**23 42 12.8 +0.5**
	comp=Z,1.6nm,0.4s,baz=179,slow=4.3,SNR=6.3					
CMAR	**Chiang Mai Arr**	**85.53**	**315**	P	**P**	**23 42 12.0 -0.2**
NJ2	**Nanjing**	**92.18**	**336**	*e*P	**P**	**23 42 46.3 +2.8**
NJ2				pmax	pmax	
	comp=Z,11nm,0.8s					
CPUP	**Villa Florida**	**94.16**	**158**	P	**P**	**23 42 52.2 -0.9**
	comp=Z,2.0nm,1.0s,baz=202,slow=9.3,SNR=2.9					
CPUP	**Villa Florida**	**94.16**	**158**	IAmb	IAmb	23 42 56.7
	comp=Z,10nm,1.4s					
HHC	**Hu-ho-hao-te**	**102.29**	**333**	*e*P	**Pdif**	**23 43 32.0 +2.8**
WMQ	**Urumqi**	**112.38**	**317**	*e*P	**PKiKP**	**23 48 11.0 +1.5**
WMQ				pmax	pmax	
	comp=Z,110nm,4.9s					
TORD	**Torodi Ar. Bea**	**128.81**	**225**	PKP	**PKiKP**	**23 48 42.3 -0.2**
	comp=Z,1.2nm,0.9s,baz=189,slow=1.7,SNR=5.9					
AKASG	**Malin Array Be**	**144.18**	**287**	PKP	**PKPab**	**23 49 06.9 +0.1**
	comp=Z,0.2nm,0.2s,baz=123,slow=2.0,SNR=8.2					
AKASG	**Malin Array Be**	**144.18**	**287**		**PKPdf**	**23 49 09.1 +0.1**
CRVS	**Cervenica-Dubn**	**147.25**	**279**	*e*PKP	**PKiKP**	**23 49 20.6 +1.5**
JAVC	**Velka Javorina**	**149.27**	**276**	*e*PKP	**PKPab**	**23 49 27.7 +0.9**
SOKA	**Soboth**	**149.40**	**271**	*i* P	**PKPab**	**23 49 27.0 -0.4**
	comp=Z,6.6nm,1.0s					
ARSA	**Arzberg**	**149.48**	**272**	*i* P	**PKiKP**	**23 49 25.6 +1.9**
	comp=Z,8.4nm,1.0s					
CONA	**Conrad Observa**	**149.70**	**273**	*e*P	**PKPab**	**23 49 26.9 -1.7**
	comp=Z,3.7nm,1.0s					
MORC	**Moravsky Berou**	**149.86**	**277**	*e*PKP	**PKiKP**	**23 49 26.5 +2.1**
KRUC	**Moravsky**	**150.07**	**275**	*e*PKP	**PKiKP**	**23 49 26.8 +2.0**
VRAC	**Vranov**	**150.10**	**276**	*e*PKP	**PKiKP**	**23 49 27.0 +2.1**
KBA	**Koelnbreinsper**	**150.56**	**270**	*i* P	**PKiKP**	**23 49 28.9 +2.7**
	comp=Z,3.2nm,0.8s					
FINES	**FINESS Array B**	**150.68**	**303**	PKPbc	**PKPbc**	**23 49 24.4 -0.6**
	comp=Z,6.6nm,0.8s,baz=114,slow=4.8,SNR=10.0					
FINES	**FINESS Array B**	**150.68**	**303**		**PKiKP**	**23 49 26.4 +0.7**
ABTA	**Abfaltersbach**	**150.81**	**268**	*i* P	**PKPab**	**23 49 29.9 -3.3**
	comp=Z,4.0nm,0.7s					
DPC	**Dobruska-Polom**	**150.83**	**278**	*e*PKP	**PKPab**	**23 49 30.4 -2.7**
OSTC	**Ostas**	**151.00**	**278**	*e*PKP	**PKPab**	**23 49 30.8 -3.0**
CKRC	**Cesky Krumlov**	**151.06**	**273**	*e*PKP	**PKiKP**	**23 49 30.1 +3.2**
GERES	**GERESS Array B**	**151.41**	**273**	PKPbc	**PKPbc**	**23 49 27.1 -0.2**
	comp=Z,1.7nm,0.8s,baz=150,slow=2.9,SNR=12					
GERES	**GERESS Array B**	**151.41**	**273**		**PKiKP**	**23 49 28.3 +0.6**
KHC	**Kasperske Hory**	**151.64**	**273**	*e*PKP	**PKiKP**	**23 49 31.9 +3.8**
WATA	**Walderalm**	**151.68**	**269**	*e*P	**PKiKP**	**23 49 31.6 +3.2**
	comp=Z,4.7nm,0.8s					
SQTA	**Sankt Quirin**	**151.81**	**268**	*e*P	**PKiKP**	**23 49 32.2 +3.6**
	comp=Z,11nm,0.8s					
MOTA	**Moosalm**	**151.94**	**268**	*i* P	**PKiKP**	**23 49 32.4 +3.5**
	comp=Z,5.3nm,0.9s					
FETA	**Feichten**	**151.94**	**267**	*i* P	**PKiKP**	**23 49 32.8 +3.8**
	comp=Z,6.0nm,0.9s					
ARCES	**ARCESS Array B**	**152.47**	**320**	PKPbc	**PKPbc**	**23 49 28.3 -0.7**
	comp=Z,0.4nm,0.4s,baz=111,slow=4.0,SNR=5.4					
CLL	**Collm**	**153.12**	**277**	*e*PKPdf	**PKPbc**	**23 49 28.0 -2.9**
CLL				*e*PKPbc	**pPKPbc**	**23 49 33.0 -0.4**
CLL				*e*(PKPab)	**PKPab**	**23 49 40.0 -2.6**
ESDC	**Sonseca Array**	**154.38**	**239**	PKPab	**PKPab**	**23 49 47.8 -0.6**
	comp=Z,0.4nm,0.7s,baz=141,slow=3.2,SNR=4.1					

*TRN **21** 23:55:36.7, 10°.93N×62°.10W, h88km, MD3.8*
*FUNV **21** 23:55:36.6, 10°.91N×62°.07W, h23km, MW4.2*

ISC 21 23:55:34.9±1.2, 10°.92N±0°.03×62°.09W±0°.04, h102km±11km, n58, σ1§67/85, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.73**	**111**		*e*P	**Pn**		**23 55 54.1**	**+1.3**
TRN	**Trinidad (W)**	**0.73**	**111**		*e*	Pn		23 56 01.2	+8.4
TRN					eS	**Sn**		**23 56 05.4**	**-0.8**
TPP	**Pointe-a-Pierr**	**0.87**	**133**		*e*P	**Pn**		**23 55 55.3**	**+1.1**
CRUV	**Carupano**	**1.15**	**258**		*e*P	**Pn**		**23 55 58.0**	**+0.9**
CRUV					eS	**Sn**		**23 56 13.5**	**-0.4**
GRFF	**Grenada Fort F**	**1.18**	**17**		*e*P	**Pn**		**23 55 57.8**	**+0.2**
GRFF					eS	**Sn**		**23 56 13.8**	**-0.8**
GRGR	**Grenville**	**1.28**	**20**		*e*P	**Pn**		**23 55 59.2**	**+0.5**
GRGR					eS	**Sn**		**23 56 16.0**	**-0.7**
GRGR	**Grenville**	**1.28**	**20**		*e*P	**Pn**		**23 55 59.3**	**+0.5**
GRGR					eS	**Sn**		**23 56 14.5**	**-2.2**
BOT	**Bacolet**	**1.37**	**79**		*e*P	**Pn**		**23 56 00.9**	**+1.1**
GRHS	**Sauteurs**	**1.37**	**19**		*e*P	**Pn**		**23 56 02.4**	**+2.6**
GRHS					eS	**Sn**		**23 56 20.0**	**+1.4**
GRSS	**Sisters**	**1.45**	**19**		*e*P	**Pn**		**23 56 03.4**	**+2.7**
GRSS					eS	**Sn**		**23 56 23.0**	**+0.1**
TOSP	**Speyside**	**1.57**	**76**		*e*P	**Pn**		**23 56 02.9**	**+0.7**
TOSP					eS	**Sn**		**23 56 22.5**	**-0.4**
TOSP	**Speyside**	**1.57**	**76**		*e*P	**Pn**		**23 56 02.3**	**+0.1**
TOSP					eS	**Sn**		**23 56 21.9**	**-1.1**
GCMP	**Grenada, Carri**	**1.69**	**23**		*e*P	**Pn**		**23 56 04.3**	**+0.7**
GCMP					eS	**Sn**		**23 56 24.9**	**-0.6**
CUMV	**Cumana_UDO**	**2.12**	**257**		*e*P	**Pn**		**23 56 10.8**	**+1.7**
CUMV					eS	**Sn**		**23 56 35.3**	**0.0**
SVB	**Belmont**	**2.48**	**19**		*e*P	**Pn**		**23 56 14.9**	**+1.0**
SVB					eS	**Sn**		**23 56 43.3**	**-0.5**
SVV	**Soufriere Volc**	**2.54**	**20**		*e*P	**Pn**		**23 56 16.8**	**+2.2**
SVV					eS	**Sn**		**23 56 45.3**	**+0.2**
SSV	**Crater Summit**	**2.55**	**20**		*e*P	**Pn**		**23 56 17.0**	**+2.1**
SSV					eS	**Sn**		**23 56 44.3**	**-1.2**
PCRV	**Puerto La Cruz**	**2.61**	**254**		*e*P	**Pn**		**23 56 17.1**	**+1.5**
SFAN	**Fancy Village**	**2.61**	**20**		*e*P	**Pn**		**23 56 17.6**	**+2.0**
SFAN					eS	**Sn**		**23 56 46.7**	**-0.2**
RIOV	**Rio Grande**	**2.84**	**174**		*e*P	**Pn**		**23 56 20.2**	**+1.5**
RIOV					eS	**Sn**		**23 56 53.0**	**+0.6**
SLB	**Belfond**	**3.07**	**19**		*e*P	**Pn**		**23 56 23.2**	**+1.4**
SLCP	**Castries, St.**	**3.26**	**19**		eS	**Sn**		**23 57 01.6**	**-0.6**
SLBI	**Saint Lucia, B**	**3.27**	**19**		*e*P	**Pn**		**23 56 25.6**	**+1.2**
SLBI					eS	**Sn**		**23 57 01.1**	**-1.5**
PRGV	**PARIAGUAN**	**3.31**	**230**		*e*P	**Pn**		**23 56 26.2**	**+1.3**
PRGV					eS	**Sn**		**23 57 03.1**	**-0.3**
BBGH	**Gun Hill**	**3.32**	**48**		*e*P	**Pn**		**23 56 27.7**	**+2.6**
BBGH					eS	**Sn**		**23 57 04.0**	**+0.2**
BBSP	**Saint Philip**	**3.37**	**50**		*e*P	**Pn**		**23 56 27.7**	**+2.0**
BBSP					eS	**Sn**		**23 57 04.2**	**-0.8**
MPOM	**Morne Pois Mar**	**3.71**	**19**		*e*P	**Pn**		**23 56 32.0**	**+1.7**
MPOM					eS	**Sn**		**23 57 11.7**	**-1.3**
BIM	**Bigot**	**3.71**	**15**		*e*P	**Pn**		**23 56 31.3**	**+0.9**
BIM					eS	**Sn**		**23 57 12.2**	**-1.1**
TRMF	**Trois Ilets**	**3.74**	**16**		*e*P	**Pn**		**23 56 32.5**	**+1.9**
ZAM	**Aeronautique**	**3.78**	**16**		*e*P	**Pn**		**23 56 33.7**	**+2.5**
LPMF	**Morne Lapointe**	**3.80**	**17**		*e*P	**Pn**		**23 56 33.6**	**+2.1**
FDF	**Fort de France**	**3.90**	**14**		*e*P	**Pn**		**23 56 34.4**	**+1.4**
FDF					eS	**Sn**		**23 57 15.6**	**-2.2**
PML	**Morne Lenard**	**3.94**	**13**		*e*P	**Pn**		**23 56 34.6**	**+1.1**
PCM	**Pelee Case Pet**	**3.97**	**12**		*e*P	**Pn**		**23 56 34.9**	**+1.1**
CXM	**Morne La Croix**	**3.97**	**13**		*e*P	**Pn**		**23 56 36.3**	**+2.3**
BAMF	**Morne Balai**	**3.98**	**13**		*e*P	**Pn**		**23 56 35.0**	**+0.9**
SVN	**Savane Anatole**	**4.00**	**13**		*e*P	**Pn**		**23 56 35.4**	**+1.1**
ILAM	**Ilet Lapin Mar**	**4.01**	**17**		*e*P	**Pn**		**23 56 36.2**	**+1.8**
BIRV	**Birongo**	**4.13**	**264**		*e*P	**Pn**		**23 56 37.9**	**+1.9**
BIRV					eS	**Sn**		**23 57 22.9**	**-0.3**
MERV	**Las Mercedes**	**4.46**	**249**		*e*P	**Pn**		**23 56 42.2**	**+1.8**
MERV					eS	**Sn**		**23 57 29.3**	**-2.0**
DSLB	**Salisbury**	**4.54**	**8**		*e*P	**Pn**		**23 56 43.8**	**+2.3**
DSLB	**Salisbury**	**4.54**	**8**		eS	**Sn**		**23 57 31.3**	**-1.9**
TDBA	**Terre de Bas,**	**4.92**	**5**		*e*P	**Pn**		**23 56 50.2**	**+3.5**
TDBA	**Terre de Bas,**	**4.92**	**5**		eS	**Sn**		**23 57 41.6**	**-0.8**
TBG	**Guadaloupe-3**	**4.92**	**5**		*e*P	**Pn**		**23 56 49.4**	**+2.7**
TBG	**Guadaloupe-3**	**4.92**	**5**		eS	**Sn**		**23 57 40.9**	**-1.6**
MAGL	**Barre de l'ile**	**5.06**	**9**		*e*P	**Pn**		**23 56 49.7**	**+1.1**
MAGL	**Barre de l'ile**	**5.06**	**9**		eS	**Sn**		**23 57 43.9**	**-2.0**
LUEV	**Luepa**	**5.08**	**173**		*e*P	**Pn**		**23 56 49.0**	**+0.1**
LUEV					eS	**Sn**		**23 57 43.5**	**-3.1**
CBE	**Ff, Capester**	**5.14**	**5**		*e*P	**Pn**		**23 56 51.1**	**+1.4**
CBE	**Ff, Capester**	**5.14**	**5**		eS	**Sn**		**23 57 46.2**	**-1.6**
BENV	**Beln**	**5.50**	**261**		*e*P	**Pn**		**23 56 54.5**	**-0.1**
BENV					eS	**Sn**		**23 57 54.9**	**-1.7**
CACV	**CAICARA DEL OR**	**5.51**	**233**		*e*P	Pn		23 56 50.4	-4.3
CACV					eS	Sn		23 57 44.9	-12
ANBD	**Bethesda, Anti**	**6.10**	**3**		*e*P	**Pn**		**23 57 04.3**	**+1.6**
ANBD	**Bethesda, Anti**	**6.10**	**3**		eS	**Sn**		**23 58 09.1**	**-2.0**
BAUV	**El Baul**	**6.18**	**252**		*e*P	**Pn**		**23 57 04.9**	**+1.2**
BAUV	**El Baul**	**6.18**	**252**		*e*P	**Pn**		**23 57 03.6**	**-0.2**
BAUV					eS	**Sn**		**23 58 10.0**	**-3.1**
PAYV	**Puerto Ayacuch**	**7.75**	**226**		*e*P	**Pn**		**23 57 26.0**	**+0.8**
PAYV					eS	**Sn**		**23 58 46.3**	**-5.2**

IDC 22 00:06:04.2±26.0, 21°.32S×173°.29W, h0km, mb4.3/4, mb1 4.4/4, mb1mx3.9/38, mbtmp4.3/4, MS3.3/1, Ms1 3.3/1, ms1mx2.7/32, Error ellipse: s-maj=481.3km s-min=160.5km az=74.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.80**	**204**		LR	LR		00 18 34.0	
	comp=Z,84nm,18.7s,baz=211,slow=40								
CTA	**Charters Tower**	**37.79**	**264**		P	P		00 13 23.1	+0.6
	6.8nm,0.4s,baz=102,slow=11,SNR=16								
STKA	**Stephens Creek**	**41.43**	**246**		P	P		00 13 52.2	-0.5
	0.9nm,0.2s,baz=90,slow=15,SNR=3.1								
ASAR	**Alice Springs**	**48.62**	**257**		P	P		00 14 49.7	-0.3
	1.4nm,0.6s,baz=88,slow=8.2,SNR=16								
WRA	**Warramunga Arr**	**48.84**	**262**		P	P		00 14 51.4	-0.4
	1.0nm,0.4s,baz=100,slow=8.0,SNR=11								

IDC 22 00:07:31.2±2.9, 32°.81S×178°.28W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/41, mbtmp3.8/3, ML3.0/1, Error ellipse: s-maj=71.5km s-min=36.5km az=120.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.61**	**213**		Pn	Pn		00 09 09.0	-0.6
	0.3nm,0.3s,baz=299,slow=24,SNR=1.4								
URZ					Sn	Sn		00 10 26.6	+0.9
	2.2nm,0.3s,baz=302,slow=23,SNR=2.6								
ASAR	**Alice Springs**	**42.80**	**270**		P	P		00 15 31.1	+0.1
	0.8nm,0.5s,baz=106,slow=7.6,SNR=6.5								
WRA	**Warramunga Arr**	**44.01**	**275**		P	P		00 15 40.5	-0.2
	0.7nm,0.4s,baz=115,slow=7.9,SNR=8.9								
FINES	**FINESS Array B**	**147.31**	**338**	PKPbc		PKPbc		00 27 15.1	-0.8
	1.0nm,0.5s,baz=49,slow=4.2,SNR=9.6								

MEX 22 00:08:26.2±0.6, 14°.15N×93°.17W, h10km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		**1.54**	**358**		*e*P	Pn		00 08 50.3	-3.5
PCIG					*e*S	Sn		00 09 05.4	-8.5

IDC 22 00:08:42.1±3.1, 32°.62S×178°.21W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/40, mbtmp3.9/3, ML3.5/1, Error ellipse: s-maj=73.3km s-min=37.1km az=117.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.80**	**213**		Pn	Pn		00 10 22.1	-0.9
	1.0nm,0.3s,baz=123,slow=23,SNR=1.9								
URZ					Sn	Sn		00 11 39.7	-1.4
	1.9nm,0.3s,baz=302,slow=23,SNR=2.1								
ASAR	**Alice Springs**	**42.86**	**269**		P	P		00 16 42.4	+0.1
	0.8nm,0.5s,baz=106,slow=7.8,SNR=5.6								
WRA	**Warramunga Arr**	**44.05**	**275**		P	P		00 16 52.0	+0.1
	0.6nm,0.3s,baz=113,slow=8.0,SNR=6.6								
FINES	**FINESS Array B**	**147.15**	**339**	PKPbc		PKPbc		00 28 25.6	-0.8
	0.8nm,0.5s,baz=56,slow=3.9,SNR=6.0								

*IDC **22** 00:10:56.1±1.0, 25°.69N×97°.24E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.5/48, mbtmp3.6/8, ML4.1/1, MS3.8/1, Ms1 3.9/1, ms1mx2.8/47, Error ellipse: s-maj=73.0km s-min=17.6km az=60.0*

ISC 22 00:10:57.0±0.8, 25°.88N±0°.08×97°.7E±0°.2, h10km, n26, σ3§20/22, mb3.6/7, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRAI	**Chiangrai**	**6.15**	**156**			**Pg**		**00 12 52.7**	**-2.2**
CRAI						Sg		**00 14 13.3**	**-1.4**
CM33	**Chiang Mai Arr**	**7.13**	**170**			Sg		**00 14 32.5**	**+6.3**
CHTO	**Chiang Mai**	**7.13**	**170**			P		00 13 07.9	-5.8
	7.6nm,0.7s								
CMMT	**Chiang Mai**	**7.13**	**170**			P		00 13 07.7	-6.0
	8.0nm,0.7s								
CMMT	**Chiang Mai**	**7.13**	**170**			Pg		**00 13 05.0**	**+3.9**
CM32	**Chiang Mai Arr**	**7.28**	**171**			Pg		**00 13 12.2**	**-4.2**
CMAR	**Chiang Mai Arr**	**7.48**	**171**			Pn		**00 12 45.8**	**-0.5**
	0.8nm,0.3s,baz=334,slow=12,SNR=1.9								
CMAR						Pg		**00 13 10.3**	**+3.3**
	0.7nm,0.3s,baz=338,slow=16,SNR=7.0								
CMAR						Lg		00 14 43.3	
	0.1nm,0.3s,baz=325,slow=28,SNR=1.7								
CM09	**Chiang Mai Arr**	**7.50**	**170**			P		**00 13 19.0**	**-1.7**
	7.1nm,0.7s								
CM02	**Chiang Mai Arr**	**7.51**	**171**			P		**00 13 16.9**	**-3.9**
	7.2nm,0.9s								
CM13	**Chiang Mai Arr**	**7.51**	**171**			P		**00 13 18.4**	**-2.5**
	7.8nm,0.9s								
CM01	**Chiang Mai Arr**	**7.52**	**171**			P		00 13 15.8	-5.3
	9.9nm,0.8s								
CM01	**Chiang Mai Arr**	**7.52**	**171**			Pg		00 13 12.1	+4.5
CM05	**Chiang Mai Arr**	**7.54**	**171**			P		**00 13 18.9**	**-2.5**
	7.8nm,0.8s								
CM05	**Chiang Mai Arr**	**7.54**	**171**			Pg		00 13 12.2	+4.3
CM04	**Chiang Mai Arr**	**7.54**	**170**			P		00 13 13.9	-7.6
	98nm9.7nm,0.7s								
MHMT	**Maesarieng**	**7.67**	**178**			P		**00 13 21.2**	**-2.8**
	21nm,0.8s								
MHMT	**Maesarieng**	**7.67**	**178**			Pg		**00 13 11.6**	**+1.4**
PHRA	**Phrae**	**7.72**	**162**			Pg		**00 13 20.3**	**-4.6**
PHRA						Sg		**00 14 59.4**	**-5.5**
MKAR	**Makanchi Array**	**24.18**	**334**			P		**00 16 15.4**	**+1.8**
	1.8nm,0.7s,baz=139,slow=7.8,SNR=12								
AAK	**Ala-Archa**	**25.30**	**317**			P		**00 16 24.2**	**+0.3**
	0.9nm,0.4s,baz=0.0,slow=0.0,SNR=2.0								
KURBB	**Kurchatov Arra**	**28.74**	**334**			P		**00 16 55.3**	**+0.8**
	0.6nm,0.6s,baz=146,slow=8.5,SNR=5.0								
BRTR	**Keskin Array B**	**54.51**	**302**			P		**00 20 24.2**	**-1.1**
	0.3nm,0.6s,baz=99,slow=9.3,SNR=1.9								
WRA	**Warramunga Arr**	**57.82**	**138**			P		**00 20 50.9**	**+1.9**
	0.4nm,0.7s,baz=330,slow=7.7,SNR=1.9								
ARCES	**ARCESS Array B**	**59.77**	**337**			LR		00 51 11.0	
	comp=Z,82nm,18.5s,baz=250,slow=40								
ASAR	**Alice Springs**	**60.47**	**141**			P		**00 21 08.2**	**+0.9**
	0.3nm,0.6s,baz=327,slow=7.8,SNR=2.5								
NOA	**NORSAR Array B**	**66.02**	**328**			P		**00 21 42.1**	**-1.5**
	0.2nm,0.7s,baz=82,slow=6.5,SNR=1.5								

*IDC **22** 00:13:34.5±1.4, 13°.68N×91°.51W, h0km, mb3.9/7, mb1 4.1/9, mb1mx3.8/53, mbtmp3.9/9, ML3.7/2, Error ellipse: s-maj=45.5km s-min=22.4km az=49.0*
*UCR **22** 00:13:35.7±1.1, 13°.77N×91°.90W, h2km±96km, ML3.5, mb4.2(NEIC)*
*SNET **22** 00:13:35.8±1.1, 13°.74N×91°.95W, h8km±88km, ML3.7*
*NEIC **22** 00:13:42.6±1.1, 13°.80N±0°.09×91°.7W±0°.1, h4km±13km, mb4.2/18, Error ellipse: s-maj=17.7km s-min=8.6km az=50.0*
*GCG **22** 00:13:55.9±0.4, 14°.20N×90°.85W, h0km±8km, MD3.8*

ISC 22 00:13:37.2±0.8, 13°.78N±0°.07×91°.78W±0°.05, h10km, n57, σ1§55/60, mb4.2/13, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.75**	**6**			**Pn**		**00 13 55.9**	**+2.0**
FUG	**Fuego 3**	**1.13**	**54**		*e*P	**Pn**		**00 14 02.4**	**+3.1**
FUG					*e*S	**Sg**		**00 14 07.5**	**-6.1**
PCG	**Pacaya**	**1.29**	**62**		*e*P	**Pg**		**00 14 03.8**	**+1.7**
HUEH	**Huehuetenango**	**1.56**	**10**		*e*P	**Pn**		**00 14 05.1**	**-0.1**
HUEH	**Huehuetenango**	**1.56**	**10**			**Pb**		**00 14 07.3**	**+1.0**
NBG	**Las Nubes**	**1.60**	**60**		*e*P	**Pg**		**00 14 10.0**	**+2.0**
CEVE	**Cerro Verde**	**2.09**	**88**		*e*P	**Pn**		**00 14 13.2**	**+0.6**
CEVE					IAML			00 14 59.2	
	comp=Z,742nm,0.4s								
CEVE	**Cerro Verde**	**2.09**	**88**		*e*P	**Pn**		**00 14 13.2**	**+0.6**
CEVE					IAML			00 14 59.2	
	comp=Z,742nm,0.4s								
JAYA	**Jayaque - finc**	**2.27**	**93**		*e*P	**Pn**		**00 14 15.2**	**+0.3**
JAYA					IAML			00 14 50.0	
	comp=Z,224nm,0.2s								
JAYA	**Jayaque - finc**	**2.27**	**93**		*e*P	**Pn**		**00 14 15.2**	**+0.3**
JAYA					IAML			00 14 50.0	
	comp=Z,224nm,0.2s								
MTO3	**Montecristo**	**2.42**	**75**		*e*P	**Pn**		**00 14 18.9**	**+1.7**
MTO3					*e*S	**Sb**		**00 14 52.0**	**+0.8**
MTO3	**Montecristo**	**2.42**	**75**		*e*P	**Pn**		**00 14 18.9**	**+1.7**
MTO3					*e*S	**Sb**		**00 14 52.0**	**+0.8**
MTO3	**Montecristo**	**2.42**	**75**		*e*P	**Pn**		**00 14 18.6**	**+1.5**
ESQI	**Esquipulas**	**2.49**	**71**		Pn	**Pn**		**00 14 18.1**	**+0.2**
CCIG	**Comitan**	**2.52**	**352**			**Pb**		**00 14 22.0**	**-0.6**
LFRS	**El Faro**	**2.64**	**93**		*e*P	**Pn**		**00 14 21.5**	**+1.4**
LFRS	**El Faro**	**2.64**	**93**		*e*P	**Pn**		**00 14 21.5**	**+1.4**
COEG	**Centro de Oper**	**2.82**	**93**		*e*P	**Pn**		**00 14 24.1**	**+1.7**
COEG	**Centro de Oper**	**2.82**	**93**		*e*P	**Pn**		**00 14 24.1**	**+1.7**
TGIG		**3.25**	**337**			**Pn**		**00 14 29.8**	**+1.4**
PETF	**Flores**	**3.62**	**30**		Pn	**Pn**		**00 14 36.6**	**+3.1**
TGUH	**Tegucigalpa,Un**	**4.38**	**86**		Pn	**Pn**		**00 14 45.6**	**+1.6**
CMIG	**Matias Romero**	**4.45**	**318**		Pn	**Pn**		**00 14 44.7**	**-0.2**
	comp=Z,1.7nm,0.3s,baz=136,slow=9.1,SNR=11								
CMIG					Sn	**Sn**		**00 15 37.3**	**+0.5**
	comp=Z,4.1nm,0.3s,baz=108,slow=7.0,SNR=1.9								
ORTG	**Ortega, Santa**	**7.05**	**118**			**Pn**		**00 15 22.6**	**+1.9**
SRBA	**San Rafael, Bu**	**9.40**	**118**			**Pn**		**00 15 54.3**	**+1.3**
BRU2	**Volcan**	**10.19**	**118**		Pn	**Pn**		**00 16 05.3**	**+1.4**
TX32	**Lajitas Array**	**19.00**	**326**		P	**Pn**		**00 18 00.6**	**+0.6**
TXAR	**Lajitas Array**	**19.00**	**326**		P	**Pn**		**00 18 01.0**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=147,slow=8.6,SNR=14								
TXAR	**Lajitas Array**	**19.00**	**326**		P	**P**		**00 18 00.3**	**+1.1**
TX31	**Lajitas Ar. Si**	**19.00**	**326**		P	**Pn**		**00 18 00.9**	**+0.9**
H06E1	**SOCORRO T-PHASE**	**19.04**	**288**		T	T		00 37 29.4	
	SNR=5.3								
RUSC	**La Rusia**	**20.00**	**111**		P	**P**		**00 18 11.1**	**+0.3**
RUSC					IAmb	IAmb		00 18 12.6	
	comp=Z,16nm,1.4s								
FLOC	**Florencia**	**20.03**	**126**		P	**P**		**00 18 10.9**	**+0.4**
FLOC					IAmb	IAmb		00 18 28.2	
	comp=Z,16nm,1.2s								
ABTX	**Abilene, Hawle**	**20.09**	**340**		P	**P**		**00 18 11.4**	**+0.3**
ABTX					IAmb	IAmb		00 18 13.1	
	comp=Z,14nm,1.4s								
Y52A	**Lilburn**	**21.19**	**18**		P	**P**		**00 18 23.0**	**0.0**
Y52A					IAmb	IAmb		00 18 34.0	
	comp=Z,15nm,1.2s								
MNTX	**Cornudas Mount**	**21.77**	**327**		P	**P**		**00 18 29.8**	**+0.6**
MSTX	**Muleshoe**	**22.45**	**335**		P	**P**		**00 18 36.5**	**-0.1**
MSTX					IAmb	IAmb		00 18 37.1	
	comp=Z,5.5nm,0.6s								
AMTX	**Amarillo**	**22.84**	**339**		P	**P**		**00 18 40.5**	**-0.2**
TKL	**Tuckaleechee C**	**22.95**	**17**		P	**P**		**00 18 42.1**	**+0.3**
	comp=Z,3.6nm,0.8s,baz=190,slow=12,SNR=4.3								
TKL	**Tuckaleechee C**	**22.95**	**17**		P	**P**		**00 18 42.2**	**+0.5**
TKL					IAmb	IAmb		00 18 47.4	
	comp=Z,18nm,1.4s								
U49A	**Red

JAYA *eS* **Sg** **00 18 33.4 +0.5**
MTO3 Montecristo 2.33 75 *eP* **Pb** **00 18 06.2 +1.1**
MTO3 Montecristo 2.33 75 *eP* **Pb** **00 18 06.2 +1.1**
MTO3 Montecristo 2.33 75 Pn **Pb** **00 18 05.5 +0.4**
SNET Serv Nac Est T 2.38 93 Pn **Pn** **00 18 04.4 +2.3**
CCIG Comitan 2.50 350 **Pg** **00 18 09.2 -1.8**
LFRS El Faro 2.55 94 *eP* **Pb** **00 18 09.2 +0.3**
LFRS El Faro 2.55 94 *eP* **Pb** **00 18 09.2 +0.3**
SJTE Alcalda de S 2.60 94 *eP* **Pb** **00 18 09.6 -0.2**
SJTE Alcalda de S 2.60 94 *eP* **Pb** **00 18 09.6 -0.2**
TGUH Tegucigalpa,Un 4.29 86 **Pn** **00 18 30.3 +1.9**
CMIG Matias Romero 4.50 317 Pn **Pn** **00 18 31.5 +0.4**
comp=Z,1.9nm,0.3s,baz=136,slow=7.4,SNR=3.6
CMIG Sn **Sn** **00 19 22.3 -1.3**
comp=Z,2.6nm,0.3s,baz=121,slow=12,SNR=4.0
CRIN San Cristobal 4.64 103 Pn **Pn** **00 18 33.9 +0.7**
CNGN Cerro Negro 5.02 104 Pn **Pn** **00 18 38.9 +0.4**
MATN Matagalpa 5.67 98 Pn **Pn** **00 18 48.6 +1.3**
ORTG Ortega, Santa 6.98 119 Pn **Pn** **00 19 08.1 +2.7**
TLIG Tlapa 7.61 300 Pn **Pn** **00 19 15.4 +1.3**
RIMA Rio Macho 8.64 117 **Pn** **00 19 29.2 +0.9**
PRVC Isla de Provid 10.04 91 Pn **Pn** **00 19 47.6 +0.3**
342A Flagon Creek P 17.50 358 P **P** **00 21 29.3 +1.1**
342A IAmb IAmb 00 21 34.5
comp=Z,16nm,0.8s
553A Crawfordville 17.62 21 P **P** **00 21 30.8 +1.1**
237A Washetta, Mont 18.50 349 P **P** **00 21 39.2 -0.2**
352A Blakely 18.65 18 P **P** **00 21 40.3 -0.7**
352A IAmb IAmb 00 21 49.4
comp=Z,13nm,0.9s
OTAV Otavalo 18.80 135 P **P** **00 21 40.5 -2.7**
146A Union 18.90 7 P **Pn** **00 21 44.2 -0.1**
146A IAmb IAmb 00 21 45.1
comp=Z,14nm,1.1s
TXAR Lajitas Array 19.03 326 P **Pn** **00 21 48.0 +2.0**
comp=Z,0.1nm,0.3s,baz=149,slow=11,SNR=17
TXAR Lajitas Array 19.03 326 P **Pn** **00 21 46.4 +0.4**
TX31 Lajitas Ar. Si 19.03 326 P **Pn** **00 21 45.9 -0.2**
TX31 IAmb IAmb 00 21 50.8
comp=Z,14nm,1.1s
TX32 Lajitas Array 19.03 326 P **Pn** **00 21 46.0 0.0**
H06E1 SOCORRO T-PHAS 19.12 288 T T 00 41 07.5
SNR=8.3
ROSC El Rosal 19.29 116 P **P** **00 21 46.0 -2.6**
Z47A Carrollton 19.59 9 P **P** **00 21 51.5 +0.3**
Z47A IAmb IAmb 00 21 56.9
comp=Z,11nm,0.8s
152A Waverly Hall 19.82 18 P **P** **00 21 53.9 0.0**
WLAR White Oak Lake 19.84 356 P **Pn** **00 21 55.1 -0.4**
WLAR IAmb IAmb 00 22 06.2
comp=Z,7.6nm,0.6s
SLBS Sierra La Lagu 19.87 302 P **P** **00 21 54.7 +0.2**
SLBS IAmb IAmb 00 21 58.4
comp=Z,27nm,1.4s
255A Hazlehurst 19.91 24 P **Pn** **00 21 55.7 -0.7**
255A IAmb IAmb 00 22 04.3
comp=Z,11nm,1.1s
RUSC La Rusia 19.93 111 P **P** **00 21 54.0 -1.6**
RUSC IAmb IAmb 00 22 09.2
comp=Z,14nm,1.4s
FLOC Florencia 19.97 126 P **P** **00 21 53.6 -2.0**
FLOC IAmb IAmb 00 22 07.2
comp=Z,6.6nm,0.6s
ABTX Abilene, Hawle 20.09 340 P **P** **00 21 57.5 +0.7**
ABTX IAmb IAmb 00 22 00.4
comp=Z,13nm,1.1s
154A Montrose 20.29 21 P **P** **00 21 59.7 +0.7**
MIAR Mount Ida 20.72 356 P **P** **00 22 03.9 +0.4**
GOGA Godfrey 20.90 20 P **P** **00 22 06.3 +0.8**
X48A Hartselle 20.98 11 P **P** **00 22 06.9 +0.6**
X48A IAmb IAmb 00 22 10.8
comp=Z,7.0nm,0.8s
Y52A Lilburn 21.13 18 P **P** **00 22 09.6 +1.5**
PLAL Pickwick Lake 21.34 8 P **P** **00 22 10.5 +0.3**
MNTX Cornudas Mount 21.80 327 P **P** **00 22 15.6 +0.4**
WMOK Wichita Mounta 21.81 344 P **P** **00 22 15.6 +0.2**
SWET Sewanee 21.94 13 P **P** **00 22 17.0 +0.3**
SWET IAmb IAmb 00 22 20.5
comp=Z,5.9nm,0.7s
LCAR Lake Charles 22.18 1 P **P** **00 22 18.8 -0.3**
OK025 Westminster Rd 22.27 348 P **P** **00 22 20.0 -0.3**
OK025 IAmb IAmb 00 22 23.6
comp=Z,13nm,1.1s
V48A Smith Brothers 22.27 10 P **P** **00 22 20.3 +0.1**
MSTX Muleshoe 22.46 335 P **P** **00 22 23.0 +0.6**
MSTX IAmb IAmb 00 22 25.5
comp=Z,6.0nm,0.7s
CPCT Cooper Cave 22.50 15 P **P** **00 22 21.8 -0.9**
CPCT IAmb IAmb 00 22 23.4
comp=Z,12nm,1.4s
WVT Waverly 22.50 8 P **P** **00 22 23.2 +0.6**
WVT IAmb IAmb 00 22 25.2
comp=Z,5.2nm,0.7s
CLTN Cedars of Leba 22.71 11 P **P** **00 22 24.2 -0.7**
CLTN IAmb IAmb 00 22 27.7
comp=Z,6.8nm,0.8s
AMTX Amarillo 22.85 338 P **P** **00 22 26.5 0.0**
TKL Tuckaleechee C 22.89 17 P **P** **00 22 28.5 +1.6**
comp=Z,6.7nm,0.8s,baz=184,slow=12,SNR=7.1
TKL Tuckaleechee C 22.89 17 P **P** **00 22 26.9 0.0**
TKL IAmb IAmb 00 22 30.3
comp=Z,6.3nm,0.8s
PBMO Poplar Bluff 22.91 3 P **P** **00 22 26.7 -0.2**
PBMO IAmb IAmb 00 22 28.9
comp=Z,8.2nm,0.8s
T42A Van Buren 23.14 1 P **P** **00 22 28.6 -0.7**
T42A IAmb IAmb 00 22 31.3
comp=Z,6.0nm,0.9s
U49A Red Boiling Sp 23.22 12 P **P** **00 22 30.3 +0.1**
U49A IAmb IAmb 00 22 33.5
comp=Z,5.5nm,0.8s
MGMO Mountain Grove 23.26 359 P **P** **00 22 31.0 +0.4**
MGMO IAmb IAmb 00 22 33.5
comp=Z,6.9nm,1.1s
T47A Sharon Grove 23.45 9 P **P** **00 22 32.0 -0.4**
X58A Rowland 23.48 26 P **P** **00 22 31.6 -1.3**
TZTN Tazewell 23.79 16 P **P** **00 22 35.8 -0.1**
S39A Bolivar 23.83 357 P **P** **00 22 35.6 -0.7**
S39A IAmb IAmb 00 22 39.0
comp=Z,5.7nm,0.8s
S44A Carbondale 23.89 5 P **P** **00 22 35.7 -1.1**
S44A IAmb IAmb 00 22 39.2
comp=Z,12nm,1.0s
SIUC Southern Illin 23.91 5 P **P** **00 22 35.4 -1.6**
SIUC IAmb IAmb 00 22 39.4
comp=Z,14nm,1.1s
CRPR Cabo Rojo, PR 23.99 77 P **P** **00 22 35.6 -2.3**
CCM Cathedral Cave 24.16 1 P **P** **00 22 38.1 -1.2**
CCM IAmb IAmb 00 22 40.5
comp=Z,7.7nm,0.8s
U54A Nelsons Funny 24.29 20 P **P** **00 22 39.7 -0.9**
U54A IAmb IAmb 00 22 53.5
comp=Z,10.0nm,1.0s
USIN University of 24.32 8 P **P** **00 22 38.9 -1.9**
BNM Barren Site 24.37 329 P **P** **00 22 41.6 0.0**
R40A Maddies Statio 24.39 359 P **P** **00 22 40.3 -1.1**
WCI Wyandotte Cave 24.79 10 P **P** **00 22 44.2 -0.9**
ANMO Albuquerque 24.92 330 P **P** **00 22 48.8 +2.3**
comp=Z,2.3nm,0.7s,baz=159,slow=12,SNR=8.4
ANMO Albuquerque 24.92 330 P **P** **00 22 46.6 +0.1**
MVCO Mesa Verde 27.72 330 P **P** **00 23 11.2 -0.6**
PV13 Radium Mtn., P 28.63 331 P **P** **00 23 20.0 0.0**
PV13 IAmb IAmb 00 23 23.9
comp=Z,5.8nm,1.1s
PV03 Paradox Valley 28.72 331 P **P** **00 23 20.8 0.0**
PV03 IAmb IAmb 00 23 24.7
comp=Z,5.0nm,1.1s
PV17 East Wray Mesa 28.80 331 P **P** **00 23 20.5 -0.9**
PV17 IAmb IAmb 00 23 25.2
comp=Z,6.6nm,1.0s
PV16 Nyswonger Mesa 28.80 331 P **P** **00 23 21.5 0.0**
PV16 IAmb IAmb 00 23 25.3
comp=Z,6.4nm,1.2s
PV20 West Nyswonger 28.85 331 P **P** **00 23 21.6 -0.2**
PV20 IAmb IAmb 00 23 25.6
comp=Z,5.3nm,1.1s
PV04 Paradox Valley 28.86 331 P **P** **00 23 22.9 +1.0**
PV04 IAmb IAmb 00 23 32.7
comp=Z,4.5nm,1.0s
CCUT Cedar City 30.53 325 P **P** **00 23 37.0 +0.3**
I49A Point Hope 30.98 12 P **P** **00 23 37.0 -3.4**
SPR3 Spring Creek 3 32.09 326 P **P** **00 23 50.9 +0.3**
SPR3 IAmb IAmb 00 24 02.3
comp=Z,4.2nm,1.4s

TCUT Toone Canyon 32.19 331 P **P** **00 23 52.2 +0.7**
PDAR Pinedale Array 32.73 335 P **P** **00 23 58.0 +1.9**
comp=Z,0.3nm,0.7s,baz=129,slow=7.1,SNR=1.9
REDW Red Top Meadow 33.75 334 P **P** **00 24 04.7 -0.3**
REDW IAmb IAmb 00 24 08.3
comp=Z,5.2nm,1.1s
ELK Elko 33.82 327 P **P** **00 24 08.4 +2.7**
comp=Z,1.3nm,0.8s,baz=129,slow=4.8,SNR=7.0
TPAW Teton Pass 33.90 334 P **P** **00 24 04.5 -1.8**
TPAW IAmb IAmb 00 24 15.6
comp=Z,4.2nm,0.9s
NVAR Mina Array Bea 34.02 321 P **P** **00 24 10.1 +2.7**
comp=Z,2.2nm,0.9s,baz=135,slow=9.0,SNR=9.6
NVAR Mina Array Bea 34.02 321 P **P** **00 24 08.2 +0.9**
MCMT McKenzie Canyo 35.78 334 P **P** **00 24 21.4 -1.1**
MFID Camas Ranch 36.06 330 P **P** **00 24 23.9 -1.0**
LRM Limekiln Ridge 36.42 335 P **P** **00 24 27.2 -0.8**
MCCM Marconi Confer 36.77 317 P **P** **00 24 29.4 -1.4**
J08A Circle Bar Ran 37.37 327 P **P** **00 24 35.0 -1.0**
F10A Beach Ranch, E 38.63 331 P **P** **00 24 45.4 -1.1**
H04A Detroit Lake 40.25 326 P **P** **00 24 58.3 -1.7**
LON Longmire 41.42 329 P **P** **00 25 09.4 -0.2**
LON IAmb IAmb 00 25 14.7
comp=Z,5.6nm,1.1s
SIV San Ignacio 42.33 133 P **P** **00 25 17.0 -0.5**
comp=Z,1.2nm,0.7s,baz=314,slow=8.3,SNR=7.0
SCHQ Schefferville 45.30 20 P **P** **00 25 40.9 +0.1**
comp=Z,6.0nm,0.6s,baz=209,slow=8.4,SNR=5.7
YKA Yellowknife Ar 51.29 347 P **P** **00 26 27.9 +1.1**
comp=Z,1.5nm,0.6s,baz=146,slow=8.1,SNR=6.2
INK Inuvik 60.71 343 P **P** **00 27 35.6 +1.4**
comp=Z,4.1nm,0.8s,baz=133,slow=5.8,SNR=4.6
ILAR Eielson Array 63.14 337 P **P** **00 27 51.8 +1.2**
comp=Z,0.5nm,0.5s,baz=109,slow=5.3,SNR=6.4
CMAR Chiang Mai Arr 146.27 342 PKPbc **PKPdf** **00 37 04.0 +0.3**
comp=Z,1.9nm,0.8s,baz=348,slow=3.3,SNR=7.8

UPA 22 00:19:33.4±1.0, 7.75N×82.76W, h0km±27km, MW3.2, 1C, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BCO2	**Palmira**	**0.99**	**13**	*eP*	Pn	00 19 54.5	-0.3
BCO2				*eS*	Sn	00 20 08.8	-0.9
BRU2	**Volcan**	**1.04**	**4**	*eP*	Pb	00 19 54.6	+0.1
BRU2				*eS*	Sn	00 20 10.8	-0.1
BC3P	**Paso Ancho**	**1.07**	**8**	*eP*	Pb	00 19 54.8	-0.3
BC3P				*eS*	Sn	00 20 11.1	-0.6
GMAL	**Guarumal, Vera**	**1.51**	**89**	*eP*	Pn	00 20 00.4	-1.4
GMAL				*eS*	Sg	00 20 22.0	-0.2
CNI2	**El Empalme, Bo**	**1.69**	**10**	*eP*	Pn	00 20 03.1	-1.2

*IDC **22** 00:29:14.3±10.0, 1.76N×127.31E, h92km±94km, mb3.4/4, mb1 3.5/5, mb1mx3.2/55, mbtmp3.8/5, ML3.6/1, Error ellipse: s-maj=73.0km s-min=21.9km az=58.0*
*DJA **22** 00:29:20.4±0.6, 1.1N±5.1×12.7E±1.1, h134km±7km, M3.9/6, MLv3.9/6*
ISC 22 00:29:20.0±1.1, 1.47N±0.08×127.17E±0.09, h150km, n11, σ1°49/13, mb3.7/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.72**	**164**	P	**Pn**	**00 29 40.4**	**-2.3**
TNTI				S	**Sn**	**00 29 59.3**	**-0.7**
MNI	**Manado**	**2.33**	**269**	P	**Pn**	**00 29 56.9**	**-2.2**
SGSI	**Sangihe**	**2.74**	**323**	P	**Pn**	**00 30 04.5**	**+0.3**
SANI	**Sanana**	**3.69**	**199**	P	**Pn**	**00 30 15.6**	**-0.7**
GTOI	**Gorontalo**	**4.24**	**259**	P	**Pn**	**00 30 23.6**	**+0.2**
SUI	**Sorong**	**4.71**	**120**	P	**Pn**	**00 30 29.7**	**+0.1**
KAPI	**Kappang**	**9.82**	**229**	P	**Pn**	**00 31 37.5**	**-0.2**
	0.5nm,0.3s,baz=166,slow=7.7,SNR=1.6						
KAPI				S	**Sn**	**00 33 27.5**	**+0.9**
	0.6nm,0.3s,baz=257,slow=21,SNR=1.7						
WRA	**Warramunga Arr**	**22.41**	**162**	P	**P**	**00 34 07.6**	**+1.2**
	0.7nm,0.4s,baz=343,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**25.83**	**166**	P	**P**	**00 34 40.2**	**+2.6**
	0.1nm,0.4s,baz=348,slow=13,SNR=1.9						
MKAR	**Makanchi Array**	**59.65**	**326**	P	**P**	**00 39 08.7**	**+0.2**
	0.8nm,0.5s,baz=109,slow=6.7,SNR=11						
KURBB	**Kurchatov Arra**	**63.87**	**328**	P	**P**	**00 39 35.0**	**-1.5**
	0.7nm,0.2s,baz=127,slow=5.8,SNR=5.9						

*JMA **22** 00:43:30.9±0.2, 24.83N×122.42E, h0km, M2.7*
*TAP **22** 00:43:31.7, 24.86N×122.45E, h7km, ML3.2, C*
ISC 22 00:43:31.6±1.1, 24.86N±0.03×122.45E±0.02, h9km±12km, n59, σ0°64/86, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.44**	**289**	*i* P	**Pg**	**00 43 40.0**	**-0.3**
	baz=289						
TWB1				*i* S	**Sg**	**00 43 46.1**	**+0.1**
	baz=289						
NTC	**Toucheng**	**0.56**	**269**	*eP*	**Pg**	**00 43 42.6**	**+0.1**
	baz=268						
TIPB	**Shuangxi**	**0.57**	**281**	*i* P	**Pg**	**00 43 42.8**	**0.0**
	baz=280						
TIPB				S	**Sg**	**00 43 50.9**	**+0.6**
	baz=280						
TWC	**Suao**	**0.60**	**245**	*i* P	**Pg**	**00 43 43.1**	**-0.1**
	baz=244						
TWC				*eS*	**Sg**	**00 43 51.1**	**+0.1**
	baz=244						
JYNG	**Yonagunijimaku**	**0.61**	**132**	P	**Pg**	**00 43 43.4**	**-0.1**
JYNG				*eS*	**Sg**	**00 43 51.7**	**+0.2**
NWF	**Wu-fen Shan**	**0.64**	**289**	P	**Pg**	**00 43 43.8**	**-0.2**
	baz=288						
NWF				*i* S	**Sg**	**00 43 52.8**	**+0.4**
	baz=288						
WFSB	**Wu-fen Shan**	**0.64**	**289**	P	**Pg**	**00 43 43.8**	**-0.2**
	baz=288						
WFSB				*eS*	**Sg**	**00 43 53.1**	**+0.8**
	baz=288						
YOJ	**Yonaguni jima**	**0.65**	**128**	P	**Pg**	**00 43 43.6**	**-0.6**
YOJ				*eS*	**Sg**	**00 43 52.9**	**+0.2**
YOJ	**Yonaguni jima**	**0.65**	**128**	*i* P	**Pg**	**00 43 44.0**	**-0.2**
	baz=127						
YOJ				*i* S	**Sg**	**00 43 53.0**	**+0.2**
	baz=127						
NDS	**Dongshan**	**0.70**	**251**	P	**Pg**	**00 43 45.0**	**-0.2**
	baz=250						
NDS				*eS*	**Sg**	**00 43 54.7**	**+0.3**
	baz=250						
TWE	**Neicheng**	**0.72**	**259**	*i* P	**Pg**	**00 43 45.3**	**-0.3**
	baz=258						
TWE				*eS*	**Sg**	**00 43 55.5**	**+0.5**
	baz=258						
EWUT	**Wuta**	**0.74**	**236**	*i* P	**Pg**	**00 43 45.7**	**-0.2**
	baz=235						
EWUT				*eS*	**Sg**	**00 43 55.2**	**-0.2**
	baz=235						
ENA	**Nanau**	**0.77**	**236**	P	**Pg**	**00 43 46.2**	**-0.4**
	baz=235						
ENA				*i* S	**Sg**	**00 43 57.0**	**+0.3**
	baz=235						
NWRT	**Kuosheng**	**0.79**	**296**	*eP*	**Pg**	**00 43 46.8**	**-0.1**
	baz=295						
NWRT				*eS*	**Sb**	**00 43 58.1**	**-0.3**
	baz=295						
TWA	**Mucha**	**0.79**	**279**	P	**Pg**	**00 43 46.5**	**-0.4**
	baz=278						
TWA				*eS*	**Sg**	**00 43 57.7**	**+0.4**
	baz=278						
NHY	**Taipei**	**0.81**	**283**	*eP*	**Pg**	**00 43 47.1**	**-0.2**
	baz=282						
ENTT	**Nioudou**	**0.83**	**255**	P	**Pg**	**00 43 47.4**	**-0.2**
	baz=254						
ENTT				*i* S	**Sg**	**00 43 58.8**	**+0.3**
	baz=254						
PCYT	**Pengchaiyu**	**0.83**	**336**	*eP*	**Pg**	**00 43 46.1**	**-1.7**
	baz=336						
NHDH	**Xindian Distri**	**0.84**	**277**	*i* P	**Pg**	**00 43 47.6**	**-0.3**
	baz=276						
YM08	**YM08**	**0.84**	**293**	*eP*	**Pg**	**00 43 46.8**	**-1.1**
	baz=292						
YM01	**YM01**	**0.84**	**290**	*eP*	**Pg**	**00 43 47.1**	**-0.8**
	baz=289						
NWLT	**Wulai**	**0.86**	**264**	*eP*	**Pg**	**00 43 47.8**	**-0.5**
	baz=264						
NWLT				S	**Sg**	**00 43 59.8**	**+0.4**
	baz=264						
TWY	**Chenhua**	**0.87**	**298**	*eP*	**Pg**	**00 43 48.4**	**0.0**
	baz=298						
TWY				*i* S	**Sg**	**00 44 00.0**	**+0.3**
	baz=298						
TATO	**Taipei**	**0.88**	**278**	*eP*	**Pg**	**00 43 48.0**	**-0.6**
	baz=277						
NSM	**Shimen**	**0.89**	**299**	*eP*	**Pg**	**00 43 48.6**	**-0.1**
	baz=298						
NDT	**Datong Townshi**	**0.89**	**253**	*eP*	**Pg**	**00 43 48.4**	**-0.3**
	baz=252						
NDT				*i* S	**Sg**	**00 44 00.8**	**+0.6**
	baz=252						
YHNB	**Yeheng**	**0.99**	**259**	*eP*	**Pg**	**00 43 50.0**	**-0.8**
	baz=258						
YHNB				*i* S	**Sg**	**00 44 03.8**	**+0.2**
	baz=258						
NSK	**Sanguang**	**1.01**	**260**	*eP*	**Pg**	**00 43 50.2**	**-0.8**
	baz=259						
NSK				*i* S	**Sg**	**00 44 04.0**	**-0.1**
	baz=259						
ETL	**Fush Village**	**1.03**	**227**	*eP*	**Pg**	**00 43 51.1**	**-0.3**
	baz=226						
ETL				*eS*	**Sg**	**00 44 04.6**	**-0.2**
	baz=226						
NACB	**Ninganchiao**	**1.04**	**229**	*eP*	**Pg**	**00 43 50.5**	**-1.1**
	baz=228						
NACB				*eS*	**Sg**	**00 44 04.7**	**-0.3**
	baz=228						
NNSB	**Datong**	**1.06**	**246**	*eP*	**Pg**	**00 43 51.3**	**-0.7**
	baz=245						
NNSB				*i* S	**Sg**	**00 44 05.7**	**-0.1**
	baz=245						
NNS	**Nan Shan**	**1.06**	**247**	*eP*	**Pg**	**00 43 51.5**	**-0.6**
	baz=246						
NNS				*eS*	**Sg**	**00 44 05.5**	**-0.4**
	baz=246						
ETLH	**Xiulin Townshi**	**1.09**	**234**	*eP*	**Pg**	**00 43 52.0**	**-0.7**
	baz=233						
ETLH				S	**Sg**	**00 44 06.7**	**-0.3**
	baz=233						
TWD	**Chiawan**	**1.10**	**225**	*eP*	**Pg**	**00 43 52.4**	**-0.3**
	baz=224						
FUSS	**Fushou**	**1.25**	**241**	*eP*	**Pg**	**00 43 54.9**	**-0.9**
	baz=240						
FUSS				*eS*	**Sg**	**00 44 11.8**	**-0.3**
	baz=240						
IRIF	**Iriomote-Funau**	**1.28**	**114**	P	**Pn**	**00 43 55.9**	**+0.1**
WHF	**Hehuan Shan**	**1.29**	**237**	*eP*	**Pg**	**00 43 55.4**	**-1.1**
	baz=236						
WHF				*eS*	**Sg**	**00 44 12.7**	**-0.6**
	baz=236						
TWT	**Tachien**	**1.31**	**243**	*eP*	**Pn**	**00 43 55.8**	**-0.5**
	baz=242						
LIOB	**Emei**	**1.32**	**261**	*eP*	**Pn**	**00 43 55.0**	**-1.3**
	baz=260						
TDCB	**Techi**	**1.32**	**243**	*eP*	**Pn**	**00 43 55.9**	**-0.6**
	baz=242						
NSTT	**Nanjuang**	**1.33**	**260**	*eP*	**Pn**	**00 43 55.2**	**-1.3**
	baz=259						
ESL	**Shilin**	**1.40**	**222**	*eP*	**Pb**	**00 43 58.0**	**+0.1**
	baz=221						
CHGB	**Renai**	**1.41**	**236**	*eP*	**Pn**	**00 43 57.5**	**-0.2**
	baz=235						
WHP	**Taichung City**	**1.48**	**247**	*eP*	**Pn**	**00 43 59.0**	**+0.4**
	baz=246						
WCS	**Beigang Elemen**	**1.61**	**240**	*eP*	**Pn**	**00 44 00.6**	**+0.3**
	baz=240						
HGSD	**Ruisui**	**1.65**	**215**	*eP*	**Pn**	**00 44 01.2**	**+0.3**
	baz=214						
EHY	**Hungye**	**1.70**	**217**	*eP*	**Pn**	**00 44 01.7**	**+0.2**
	baz=216						
SMLT	**Sun Moon Lake**	**1.71**	**236**	*eP*	**Pn**	**00 44 02.7**	**+0.9**
	baz=235						
SSLB	**Suanglung**	**1.73**	**232**	*eP*	**Pn**	**00 44 02.4**	**+0.4**
	baz=231						
TYC	**Yuchr**	**1.73**	**237**	*eP*	**Pn**	**00 44 03.0**	**+1.0**
	baz=236						
WHYT	**Xinyi Township**	**1.86**	**232**	*eP*	**Pn**	**00 44 04.2**	**+0.5**
	baz=231						
YUS	**Yu-Shan**	**1.93**	**225**	*eP*	**Pn**	**00 44 05.2**	**0.0**
	baz=224						
FULB	**Fuli**	**1.96**	**213**	*eP*	**Pn**	**00 44 05.0**	**-0.2**
	baz=212						
ALS	**Alishan**	**2.02**	**228**	*eP*	**Pn**	**00 44 06.7**	**+0.5**
	baz=227						
CHN5	**Tsauling**	**2.05**	**232**	*eP*	**Pn**	**00 44 07.8**	**+1.4**
	baz=231						
TPUB	**Ta-pu**	**2.27**	**227**	*eP*	**Pn**	**00 44 10.8**	**+1.3**
	baz=226						
WTP	**Ta-pu**	**2.32**	**227**	*eP*	**Pn**	**00 44 11.5**	**+1.3**
	baz=225						
TWK	**Hsinying**	**2.39**	**229**	*eP*	**Pn**	**00 44 13.1**	**+2.0**
	baz=228						
MATB	**Ma-tsu**	**2.60**	**300**	*eP*	**Pn**	**00 44 15.2**	**+1.4**
	baz=299						

*IDC **22** 00:48:26.5±1.6, 30.43S×72.56W, h0km, mb3.7/3, mb1 3.8/7, mb1mx3.7/26, mbtmp3.7/7, ML3.8/4, Error ellipse: s-maj=43.5km s-min=30.2km az=99.0*
ISC 22 00:48:29.1±1.2, 30.5S±0.1×72.5W±0.2, h19km, n11, σ1°70/8, mb3.8/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**8.45**	**23**	Pn	**Pn**	**00 50 28.4**	**-2.4**
	0.5nm,0.3s,baz=197,slow=11,SNR=1.7						
PLCA	**Paso Flores**	**10.39**	**172**	Pn	**Pn**	**00 50 56.3**	**-0.8**
	0.3nm,0.3s,baz=344,slow=12,SNR=9.1						
LPAZ	**La Paz**	**14.66**	**17**	Pn	**Pn**	**00 51 57.4**	**+1.3**
	0.1nm,0.3s,baz=188,slow=9.3,SNR=5.7						
SIV	**San Ignacio**	**17.80**	**39**	P	**Pn**	**00 52 37.4**	**+1.4**
	0.3nm,0.3s,baz=222,slow=12,SNR=10						
BDFB	**Brasilia**	**26.86**	**62**	P	**P**	**00 54 08.0**	**-0.8**
	2.1nm,0.7s,baz=226,slow=14,SNR=2.2						
TXAR	**Lajitas Array**	**66.45**	**330**	P	**P**	**00 59 17.2**	**-0.2**
	0.1nm,0.6s,baz=139,slow=8.4,SNR=1.5						
TORD	**Torodi Ar. Bea**	**83.40**	**71**	P	**P**	**01 00 57.4**	**+1.8**
	0.3nm,0.4s,baz=246,slow=1.8,SNR=1.1						
H11S2	**WAKE ISLAND Hyl**	**25.33**	**272**	T	T	03 24 26.2	
	baz=118						
H11S1	**WAKE ISLAND Hyl**	**25.34**	**272**	T	T	03 24 23.8	
	baz=119						
H11S3	**WAKE ISLAND Hyl**	**25.35**	**272**	T	T	03 24 25.8	
	baz=118						
ZALV	**Zalesovo Beam**	**151.37**	**28**	PKPbc	**PKiKP**	**01 08 22.1**	**+0.6**
	0.7nm,0.5s,baz=316,slow=4.0,SNR=4.3						

*IDC **22** 00:56:05.2±1.4, 30.99S×71.98W, h0km, mb3.7/2, mb1 3.8/5, mb1mx3.7/21, mbtmp3.6/5, ML3.6/3, MS3.5/1, Ms1 3.5/1, ms1mx2.8/21, Error ellipse: s-maj=50.9km s-min=33.0km az=86.0*
*NEIC **22** 00:56:08.8±1.0, 30.84S±0.03×71.93W±0.04, h24km±2km, Mwr3.9/38, ML4.2(GUC), Error ellipse: s-maj=6.9km s-min=3.7km az=294.0*
*NEIC **22** 00:56:08, 30.85S×71.95W, h31km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=7.57; $M_{\theta\theta}$=0.49; $M_{\phi\phi}$=8.06; $M_{r\theta}$=0.09; $M_{\theta\phi}$=1.85; $M_{r\phi}$=3.87; Fault plane solution: M_o=8.93000×10^{14} NP1:ϕ_s=186.71000°, δ=57.92000°, λ=-95.69000°. NP2:ϕ_s=17.33000°, δ=32.53000°, λ=-81.02000°. Principal axes: T 9.3059, Plg13.0000°, Azm281.0000°; N -0.8180, Plg5.0000°, Azm190.0000°; P -8.4879, Plg76.0000°, Azm79.0000°;*
*GUC **22** 00:56:08.3±0.7, 30.85S×71.95W, h32km±3km, ML4.2*
*SJA **22** 00:56:09.0, 30.70S×72.19W, h10km, ML4.5*
ISC 22 00:56:08.8±1.2, 30.87S±0.03×71.93W±0.06, h20km±4km, n68, σ1°19/75, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.32**	**53**	*i* P	**Pg**	**00 56 15.7**	**-0.1**
CO06				*i* S	**Sb**	**00 56 20.9**	**+0.3**
CO06				IAML		00 56 21.5	
	comp=E,22μm,0.2s						
CO06	**Fray Jorge**	**0.32**	**53**	Pg	**Pg**	**00 56 15.6**	**-0.2**
CO06				Sg	**Sb**	**00 56 20.9**	**+0.3**
CO03	**El Pedregal**	**1.07**	**89**	*i* P	**Pb**	**00 56 27.8**	**-0.9**
CO03				*i* S	**Sb**	**00 56 42.4**	**+0.1**
CO03				IAML		00 56 44.3	
	comp=E,5μm,0.2s						
CO03	**El Pedregal**	**1.07**	**89**	Pn	**Pb**	**00 56 27.8**	**-0.9**
CO03					**Sb**	**00 56 42.0**	**-0.3**
CO03	**El Pedregal**	**1.07**	**89**

comp=N,4µm,0.4s
CO05 La Serena 1.12 32 Pn 00 56 28.2 -1.1
CO05 **Sb 00 56 43.0 -0.7**
GO04 Tololo Observa 1.20 55 ⇓ *i* P Pn 00 56 29.8 -0.9
GO04 *i* S **Sb 00 56 45.8 -0.4**
GO04 IAML 00 56 50.4
comp=N,18µm,0.5s
GO04 Tololo Observa 1.20 55 Pn 00 56 30.1 -0.6
GO04 Sg **Sn 00 56 46.7 +0.2**
VA06 Catapilco 1.77 162 *eP* **Pn 00 56 38.0 -0.4**
VA06 *eS* **Sb 00 57 01.7 -0.8**
VA06 IAML 00 57 08.4
comp=E,4µm,0.5s
LCO Las Campanas 2.13 30 *eP* **Pn 00 56 43.2 -0.4**
LCO *eS* **Sn 00 57 10.6 +0.9**
LCO Las Campanas 2.13 30 Pn **Pn 00 56 43.8 +0.1**
LCO Las Campanas 2.13 30 *i* P **Pn 00 56 45.0 +1.4**
VA01 Torpederas 2.16 174 *eP* **Pn 00 56 42.8 -0.9**
VA01 *eS* **Sn 00 57 11.5 +1.5**
VA01 Torpederas 2.16 174 Pn 00 56 43.7 -0.1
VA01 Pg **Pb 00 56 48.3 +1.0**
VA01 **Sb 00 57 14.9 +1.2**
VA03 San Esteban 2.23 149 ⇑ *eP* **Pn 00 56 45.5 +0.7**
VA03 *eS* **Sb 00 57 13.5 -2.1**
VA03 IAML 00 57 23.1
comp=N,4µm,0.4s
VA03 San Esteban 2.23 149 Pn 00 56 44.9 +0.2
AROD Rodeo 2.23 72 *i* P **Pb 00 56 48.0 -0.7**
ROCH El Roble 2.24 160 ⇑ *eP* **Pn 00 56 44.7 -0.4**
ROCH *i* S **Sb 00 57 14.6 -1.6**
ROCH IAML 00 57 26.6
comp=N,3µm,0.4s
RTLS Leoncito 2.44 113 *i* P **Pb 00 56 52.0 -0.2**
ACCO Cerro Coronel 2.48 84 *i* P **Pb 00 56 52.0 -1.0**
AUSP Uspallata 2.56 123 *i* P **Pb 00 56 53.0 -1.2**
MT05 Renca 2.71 158 *eP* **Pn 00 56 53.6 +2.2**
MT05 *i* S **Sb 00 57 26.5 -3.1**
MT05 IAML 00 57 34.3
comp=E,2µm,0.4s
MT05 Renca 2.71 158 Pn 00 56 51.3 -0.1
MT05 **Pb 00 56 55.2 -1.5**
MT05 Renca 2.71 158 *i* P **Pb 00 56 55.0 -1.7**
AC04 Llanos de Chal 2.76 16 Pn **Pn 00 56 51.1 -0.9**
AC04 Llanos de Chal 2.76 16 *i* P **Pn 00 56 50.0 -1.9**
VA05 Santo Domingo 2.79 175 Pn 00 56 53.0 +0.5
VA05 **Pb 00 56 57.8 -0.2**
ZON Zonda 2.87 104 Pn 00 56 52.9 -0.6
ZON Zonda 2.87 104 *i* P **Pb 00 56 58.0 -1.4**
MT09 Talagante 3.01 165 *eP* **Pn 00 56 36.3 +0.7**
MT09 *i* S **Sn 00 57 31.4 +0.3**
MT09 IAML 00 57 47.8
comp=E,1µm,0.7s
MT09 Talagante 3.01 165 Pn 00 56 55.3 -0.2
MT01 Popeta 3.04 169 Pn 00 56 55.6 -0.3
RTCV Cerro Valdivia 3.06 110 *i* P **Pb 00 57 02.0 -0.7**
ASAL Salagasta 3.15 124 *i* P **Pb 00 57 02.0 -2.2**
ARCO CERRO ARCO 3.22 128 *i* P **Pb 00 57 04.0 -1.5**
AGUA GUANDACOL 3.28 66 *i* P **Pb 00 57 04.0 -2.4**
AAGR Agrelo 3.44 131 *i* P **Pb 00 57 07.0 -2.2**
GO03 Copiap 3.58 25 Pn 00 57 02.5 -0.8
GO03 Copiap 3.58 25 *i* P **Pn 00 57 04.0 +0.6**
BO01 Tunca 3.59 169 Pn 00 57 02.9 -0.4
AC06 Mina Casimiro 3.76 22 Pn **Pn 00 57 05.3 -0.5**
BO02 Sierra Bellavi 4.03 166 Pn 00 57 10.1 +0.6
GO05 Huala 4.13 180 Pn **Pn 00 57 11.0 +0.1**
COIS El Sosneado 4.66 156 *i* P Pb 00 57 24.0 -5.9
AC02 Maricunga 4.71 32 Pn 00 57 18.0 -1.2
AC02 Maricunga 4.71 32 *i* P **Pn 00 57 20.0 +0.8**
RFA San Rafael 4.86 144 *i* P Pn 00 57 26.0 +5.0
ML02 Panimavida 4.90 175 Pn 00 57 20.7 -0.7
CYA Choya 5.85 67 *i* P **Pn 00 57 37.0 +2.4**
H03N1 Juan Fernandez 6.45 245 T T 01 04 31.1
baz=72,slow=72,SNR=799
H03N2 Juan Fernandez 6.47 245 T T 01 04 32.3
baz=72,slow=72,SNR=751
H03N3 Juan Fernandez 6.47 245 T T 01 04 32.8
baz=72,slow=72,SNR=757
LC01 Cunco 8.01 180 Pn **Pn 00 58 03.8 -0.4**
LC01 Cunco 8.01 180 *i* P **Pn 00 58 07.0 +2.9**
PLCA Paso Flores 9.91 174 Pn **Pn 00 58 28.9 -1.3**
comp=E,0.3nm,0.3s,baz=341,slow=14,SNR=7.5
LPAZ La Paz 14.92 14 Pn **Pn 00 59 41.0 +1.7**
comp=E,0.1nm,0.3s,baz=187,slow=8,0,SNR=2.8
SIV San Ignacio 17.83 36 P **P 01 00 18.2 +1.7**
comp=E,0.1nm,0.3s,baz=201,slow=12,SNR=3.3
SNAA Sanae 54.45 159 LR LR 01 28 26.7
comp=E,38nm,18.4s,baz=145,slow=36
TXAR Lajitas Array 67.06 330 P **P 01 07 01.1 +0.2**
comp=E,0.3nm,0.7s,baz=153,slow=8.1,SNR=5.3
TORD Torodi Ar. Bea 83.06 70 P **P 01 08 32.8 -0.6**
comp=E,0.5nm,0.7s,baz=256,slow=5.5,SNR=5.3
H11S2 WAKE ISLAND Hyl 25.85 271 T T 03 33 54.3
baz=115,slow=75,SNR=40
H11S1 WAKE ISLAND Hyl 25.86 271 T T 03 33 55.3
baz=115,slow=75,SNR=16
H11S3 WAKE ISLAND Hyl 25.87 271 T T 03 33 56.5
baz=115,slow=75,SNR=21
H11N3 WAKE ISLAND Hyl 26.18 273 T T 03 34 24.4
baz=108
H11N1 WAKE ISLAND Hyl 26.20 273 T T 03 34 22.1
baz=108
H11N2 WAKE ISLAND Hyl 26.20 273 T T 03 34 23.1
baz=108
ZALV Zalesovo Beam 151.49 29 PKPbc **PKPbc 01 16 00.6 -0.3**
comp=E,2.4nm,0.7s,baz=301,slow=2.5,SNR=11

MEX 22 01:11:30.0±1.3, 14°.67N×92°.41W, h83km±15km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
THIG		**0.27**	**30**	***eP***		Pn	01 11 40.8	-1.6
THIG				*eS*		Sn	01 11 49.9	-1.7
PCIG		**1.29**	**323**	***eP***		Pn	01 11 51.8	-0.9
PCIG				*eS*		Sn	01 12 08.1	-1.8
CCIG	**Comitan**	**1.62**	**9**	***eP***		Pn	01 11 57.9	+0.8
CCIG				*eS*		Sn	01 12 19.0	+1.3
TGIG		**2.20**	**342**	***eP***		Pn	01 11 57.0	-7.8
CMIG	**Matias Romero**	**3.38**	**316**	***eP***		Pn	01 12 21.1	+0.4
CMIG				*eS*		Sn	01 12 56.1	-3.7

*IDC **22** 01:14:53.7±0.7, 32°.08S×71°.87W, h0km, mb4.6/9, mb1 4.6/13, mb1mx4.4/23, mbtmp4.5/13, ML4.3/4, MS4.0/10, Ms1 4.0/10, ms1mx3.7/24, Error ellipse: s-maj=26.5km s-min=14.6km az=94.0*
*SJA **22** 01:14:54.0, 32°.12S×72°.45W, h10km, ML5.0*
*NEIC **22** 01:14:54.7, 32°.13S×72°.05W, h21km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}5.19; $M_{\theta\theta}$0.06; $M_{\phi\phi}$-5.25; $M_{r\theta}$1.10; $M_{\theta\phi}$0.27; $M_{\phi r}$-0.23; Fault plane solution: M_o5.35000×10^{15} NP1:ϕ_s165.84000°, δ47.70000°, λ74.44000°. NP2:ϕ_s8.31000°, δ44.56000°, λ106.42000°. Principal axes: T 5.4169, Plg78.0000°, Azm5.0000°; N -0.1404, Plg11.0000°, Azm176.0000°; P -5.2765, Plg2.0000°, Azm267.0000°;*
*NEIC **22** 01:14:55.8±1.4, 32°.16S±0°.03×72°.11W±0°.08, h16km±3km, mb4.8/19, Mwr4.4/59, ML4.6(GUC) Error ellipse: s-maj=9.2km s-min=3.7km az=96.0*
*VAO **22** 01:14:57.0±0.3, 32°.05S×71°.72W, h10km, mb4.5*
*GUC **22** 01:14:57.0±1.9, 32°.14S×71°.92W, h32km±12km, ML4.6*

ISC 22 01:14:55.3±1.4, 32°.12S±0°.02×71°.98W±0°.04, h12km±8km, n193, σ1$\hat{\theta}$09/189, mb4.8/16, MS4.0/9, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.72**	**127**	⇓ ***iP***		**Pg**	**01 15 09.7**	**+0.4**
VA06				*iS*		**Sg**	**01 15 18.8**	**-0.1**
VA06				IAML			01 15 21.0	
comp=N,66µm,0.4s								
VA01	**Torpederas**	**0.94**	**163**	***eP***		**Pb**	**01 15 13.6**	**+0.1**
VA01				*eS*		**Sb**	**01 15 25.7**	**-0.3**
VA01	**Torpederas**	**0.94**	**163**			**Pb**	**01 15 13.4**	**-0.1**
VA01					Sn	**Sg**	**01 15 26.2**	**+0.4**
VA01	**Torpederas**	**0.94**	**163**	***iP***		**Pb**	**01 15 13.0**	**-0.5**
ROCH	**El Roble**	**1.18**	**136**	⇓ ***iP***		**Pb**	**01 15 17.2**	**-0.5**
ROCH				*iS*		**Sb**	**01 15 31.9**	**-1.1**
ROCH				IAML			01 15 34.3	
comp=N,32µm,0.4s								
VA03	**San Esteban**	**1.37**	**118**	⇓ ***iP***		**Pn**	**01 15 20.2**	**-0.1**
VA03				*eS*		**Sn**	**01 15 39.8**	
VA03				IAML			01 15 39.8	
comp=N,30µm,0.4s								
VA03	**San Esteban**	**1.37**	**118**			**Pn**	**01 15 20.2**	**-0.1**
VA03					Sn	**Sn**	**01 15 37.5**	**-0.9**
VA03	**San Esteban**	**1.37**	**118**	***i*** P		**Pn**	**01 15 20.0**	**-0.3**
CO06	**Fray Jorge**	**1.47**	**12**			**Pb**	**01 15 22.5**	**-0.1**
CO06					Sn	**Sb**	**01 15 41.6**	**+0.4**
VA05	**Santo Domingo**	**1.56**	**169**	⇑ ***iP***		**Pn**	**01 15 22.6**	**-0.2**
VA05				*iS*		**Sg**	**01 15 46.1**	**+0.6**
VA05				IAML			01 15 52.7	
comp=N,13µm,0.6s								
VA05	**Santo Domingo**	**1.56**	**169**		Pn	**Pn**	**01 15 22.6**	**-0.2**
VA05					Sn	**Sn**	**01 15 41.3**	**-1.7**
MT05	**Renca**	**1.64**	**141**	⇑ ***iP***		**Pn**	**01 15 24.6**	**+0.6**
MT05				*iS*		**Sn**	**01 15 44.9**	**-0.2**
MT05				IAML			01 15 50.9	
comp=N,14µm,0.3s								
MT05	**Renca**	**1.64**	**141**			**Pn**	**01 15 24.6**	**+0.6**
MT05					Sn	**Sn**	**01 15 45.3**	**+0.2**
MT05	**Renca**	**1.64**	**141**	***i*** P		**Pn**	**01 15 24.0**	**0.0**
CO03	**El Pedregal**	**1.69**	**41**			**Pb**	**01 15 26.1**	**-0.2**
CO03					Sn	**Sb**	**01 15 48.2**	**+0.7**
CO03	**El Pedregal**	**1.69**	**41**	***i*** P		**Pb**	**01 15 26.0**	**-0.3**
MT01	**Popeta**	**1.84**	**161**	⇑ ***iP***		**Pn**	**01 15 26.9**	**+0.2**
MT01				*iS*		**Sn**	**01 15 47.3**	**-2.7**
MT01				IAML			01 16 00.5	
comp=E,5µm,0.5s								
MT01	**Popeta**	**1.84**	**161**			**Pn**	**01 15 26.9**	**+0.2**
MT01	**Popeta**	**1.84**	**161**	***i*** P		**Pn**	**01 15 27.0**	**+0.3**
MT09	**Talagante**	**1.85**	**154**	⇑ ***iP***		**Pn**	**01 15 27.7**	**+0.7**
MT09				*iS*		**Sb**	**01 15 51.8**	**-0.4**
MT09				IAML			01 15 59.9	
comp=N,7µm,0.6s								
MT09	**Talagante**	**1.85**	**154**			**Pn**	**01 15 27.7**	**+0.7**
GO04	**Tololo Observa**	**2.19**	**28**	***eP***		**Pn**	**01 15 32.9**	**+1.2**
GO04	**Tololo Observa**	**2.19**	**28**			**Pn**	**01 15 33.0**	**+1.2**
AUSP	**Uspallata**	**2.20**	**93**	***i*** P		**Pb**	**01 15 35.0**	**-0.2**
LMEL	**Las Melosas**	**2.28**	**140**	⇑ ***iP***		**Pn**	**01 15 34.1**	**+1.2**
LMEL				*iS*		**Sn**	**01 16 02.1**	**+1.2**
LMEL				IAML			01 16 11.4	
comp=E,4µm,0.5s								
CO05	**La Serena**	**2.29**	**16**	Pn		**Pn**	**01 15 33.9**	**+1.1**
RTLS	**Leoncito**	**2.30**	**83**	***i*** P		**Pb**	**01 15 37.0**	**+0.1**
BO01	**Tunca**	**2.38**	**162**	Pn		**Pn**	**01 15 34.5**	**+0.3**
BO01	**Tunca**	**2.38**	**162**	***i*** P		**Pn**	**01 15 35.0**	**+0.8**
ARCO	**CERRO ARCO**	**2.67**	**106**	***i*** P		**Pb**	**01 15 43.0**	**-0.2**
ASAL	**Salagasta**	**2.70**	**101**	***i*** P		**Pb**	**01 15 43.0**	**-0.6**
AAGR	**Agrelo**	**2.83**	**111**	***i*** P		**Pb**	**01 15 45.0**	**-0.8**
BO02	**Sierra Bellavi**	**2.85**	**160**			**Pn**	**01 15 41.2**	**+0.6**
BO02	**Sierra Bellavi**	**2.85**	**160**	***i*** P		**Pn**	**01 15 42.0**	**+1.4**
ZON	**Zonda**	**2.87**	**79**			**Pb**	**01 15 44.5**	**-1.9**
ZON	**Zonda**	**2.87**	**79**	***i*** P		**Pb**	**01 15 45.0**	**-1.4**
GO05	**Huala**	**2.88**	**179**			**Pn**	**01 15 40.5**	**-0.6**
GO05	**Huala**	**2.88**	**179**	***i*** P		**Pn**	**01 15 40.0**	**-1.0**
ACCO	**Cerro Coronel**	**2.92**	**59**	***i*** P		**Pb**	**01 15 46.0**	**-1.5**
RTCV	**Cerro Valdivia**	**2.93**	**86**	***i*** P		**Pb**	**01 15 46.0**	**-1.5**
LCO	**Las Campanas**	**3.29**	**20**	***i*** P		**Pn**	**01 15 48.0**	**+1.1**
COIS	**El Sosneado**	**3.58**	**147**	***i*** P		**Pn**	**01 15 54.0**	**+3.3**
LAMA	**Las Malvinas**	**3.63**	**141**	***i*** P		**Pb**	**01 15 56.0**	**-3.5**
ML02	**Panimavida**	**3.66**	**173**			**Pn**	**01 15 51.8**	**0.0**
RFA	**San Rafael**	**3.95**	**133**	***i*** P		**Pn**	**01 15 59.0**	**+3.2**
AC04	**Llanos de Chal**	**3.98**	**12**			**Pn**	**01 15 56.3**	**+0.1**
AC04	**Llanos de Chal**	**3.98**	**12**	***i*** P		**Pn**	**01 15 57.0**	**+0.9**
AGUA	**GUANDACOL**	**3.99**	**50**	***i*** P		**Pb**	**01 16 01.0**	**-4.5**
VCA	**Vinchina**	**4.69**	**45**	***i*** P		Pn	01 16 11.0	+5.0
GO03	**Copiap**	**4.76**	**19**			**Pn**	**01 16 07.5**	**+0.6**
GO03	**Copiap**	**4.76**	**19**	***i*** P		**Pn**	**01 16 08.0**	**+1.1**
AC06	**Mina Casimiro**	**4.95**	**17**			**Pn**	**01 16 09.8**	**+0.3**
AC02	**Maricunga**	**5.82**	**26**			**Pn**	**01 16 22.9**	**+1.0**
AC02	**Maricunga**	**5.82**	**26**	***i*** P		**Pn**	**01 16 23.0**	**+1.1**
H03N1	**Juan Fernandez**	**5.99**	**255**	T		T	01 23 04.1	
baz=86,slow=73,SNR=968								
H03N3	**Juan Fernandez**	**6.00**	**255**	T		T	01 23 03.8	
baz=86,slow=73,SNR=874								
H03N2	**Juan Fernandez**	**6.00**	**255**	T		T	01 23 01.8	
baz=86,slow=73,SNR=952								
H03S3	**Juan Fernandez**	**6.07**	**252**	T		T	01 22 58.8	
baz=83,slow=75,SNR=84								
H03S1	**Juan Fernandez**	**6.07**	**252**	T		T	01 22 57.4	
baz=83,slow=75,SNR=104								
H03S2	**Juan Fernandez**	**6.08**	**252**	T		T	01 23 01.6	
baz=83,slow=75,SNR=92								
CYA	**Choya**	**6.48**	**57**	***i*** P		**Pn**	**01 16 32.0**	**+1.5**
LC01	**Cunco**	**6.76**	**179**	Pn		**Pn**	**01 16 33.8**	**-0.5**
LC01	**Cunco**	**6.76**	**179**	***i*** P		**Pn**	**01 16 34.0**	**-0.3**
FSA	**Cafayete**	**7.96**	**43**	***i*** P		**Pn**	**01 16 52.0**	**+1.0**
PLCA	**Paso Flores**	**8.67**	**173**	Pn		**Pn**	**01 17 01.4**	**+0.8**
PLCA	comp=E,1.6nm,0.3s,baz=334,slow=11,SNR=73				LR	LR	01 20 58.3	
comp=E,487nm,19.0s,baz=348,slow=42								
PLCA	**Paso Flores**	**8.67**	**173**			**Pn**	**01 17 00.1**	**-0.5**
PLCA	**Paso Flores**	**8.67**	**173**	***eP***		**Pn**	**01 17 02.7**	**+2.1**
PB05	**IPOC Station P**	**9.37**	**13**	***i*** P		**Pn**	**01 17 08.0**	**-2.2**
LVC	**Limon Verde**	**9.86**	**17**	Pn		**Pn**	**01 17 14.3**	**-2.9**
comp=E,1.2nm,0.3s,baz=188,slow=3.5,SNR=9.7								
LVC					Sn	**Sn**	**01 19 06.4**	**-1.5**
comp=E,1.1nm,0.3s,baz=176,slow=16,SNR=3.1								
LVC					LR	LR	01 21 19.8	
comp=E,904nm,18.6s,baz=213,slow=40								
LVC	**Limon Verde**	**9.86**	**17**			**Pn**	**01 17 13.9**	**-3.2**
LVC						**Sn**	**01 19 06.8**	**-1.1**
LVC	**Limon Verde**	**9.86**	**17**	***eP***		**Pn**	**01 17 16.1**	**-1.1**
LVC	**Limon Verde**	**9.86**	**17**	***i*** P		**Pn**	**01 17 15.0**	**-2.2**
TRQA	**Tornquist**	**10.11**	**129**			**Pn**	**01 17 20.5**	**+0.3**
TRQA	**Tornquist**	**10.11**	**129**	***eP***		**Pn**	**01 17 20.9**	**+0.7**
CPUP	**Villa Florida**	**14.03**	**69**	Pn		**Pn**	**01 18 16.3**	**+2.4**
comp=E,0.2nm,0.3s,baz=246,slow=9.9,SNR=5.3								
CPUP					Sn	**Sn**	**01 20 50.6**	**+1.1**
comp=E,0.4nm,0.3s,baz=106,slow=14,SNR=2.1								
CPUP					LR	LR	01 23 52.6	
comp=E,495nm,19.0s,baz=248,slow=39								
CPUP	**Villa Florida**	**14.03**	**69**	***eP***		**Pn**	**01 18 13.3**	**-0.6**
PLTB	**Pedras Altas**	**15.61**	**94**	***eP***		**Pn**	**01 18 35.2**	**+0.1**
CPSB	**Cacapava Do Su**	**15.95**	**89**	***eP***		**Pn**	**01 18 39.2**	**-0.3**
LPAZ	**La Paz**	**16.15**	**13**	Pn		**Pn**	**01 18 43.5**	**+0.8**
comp=E,0.4nm,0.3s,baz=186,slow=8.2,SNR=39								
LPAZ	**La Paz**	**16.15**	**13**	P		**Pn**	**01 18 42.8**	**+0.1**
LPAZ	**La Paz**	**16.15**	**13**	***eP***		**Pn**	**01 18 42.9**	**+0.2**
CNLB	**Canela**	**18.38**	**87**	***eP***		**Pn**	**01 19 09.7**	**-0.3**
AQDB	**Aquidauana**	**18.61**	**55**	***eP***		**P**	**01 19 12.3**	**-0.4**
SIV	**San Ignacio**	**18.87**	**34**	Pn		**P**	**01 19 14.9**	**-0.6**
SIV	comp=E,0.3nm,0.3s,baz=227,slow=12,SNR=38				LR	LR	01 27 49.4	
comp=E,477nm,18.0s,baz=245,slow=41								
PTGB	**Pitanga**	**18.99**	**72**	***eP***		**Pn**	**01 19 17.4**	**-0.1**
TRCB	**Terra Rica**	**19.49**	**66**	***eP***		**P**	**01 19 21.2**	**-1.1**
TER01	**Tubaro-SC**	**20.04**	**86**	***eP***		**P**	**01 19 26.2**	**-2.0**
PTLB	**Pontes e Lacer**	**20.30**	**38**	***eP***		**P**	**01 19 30.8**	**-0.3**
NNA	**Nana**	**20.53**	**346**	P		Pn	01 19 36.5	+0.7
comp=E,4.9nm,0.4s,baz=194,slow=12,SNR=1.8								
NNA					LR	LR	01 25 51.8	
comp=E,181nm,19.8s,baz=92,slow=32								
PP1B	**Ponte de Pedra**	**21.16**	**51**	***eP***		**P**	**01 19 39.9**	**-0.5**
PCMB	**Pacaembu**	**21.21**	**66**	***eP***		**P**	**01 19 40.2**	**-0.7**
TIJ01	**Guaruva-PR**	**21.23**	**77**	***eP***		**P**	**01 19 41.2**	**-0.1**
FRTB	**Fartura**	**21.65**	**72**	***eP***		**P**	**01 19 45.2**	**-0.5**
SALV	**Santo Antonio**	**21.91**	**46**	***eP***		**P**	**01 19 47.8**	**-0.6**
VILB	**Vilhena**	**21.93**	**32**	***eP***		**P**	**01 19 48.4**	**-0.3**
ETMB	**Extrema**	**22.83**	**15**	***eP***		**P**	**01 19 59.5**	**+1.2**
USHA	**Ushuaia**	**22.84**	**175**	P		**P**	**01 19 58.5**	**+0.4**
comp=E,24nm,0.3s,baz=23,slow=0.9,SNR=3.3								
ITRB	**Iturama**	**22.99**	**63**	***eP***		**P**	**01 19 59.9**	**-0.1**
PET01	**Itanhaem-SP**	**23.09**	**76**	***eP***		**P**	**01 20 00.7**	**-0.3**
SPB	**Sao Paulo**	**23.27**	**75**	***eP***		**P**	**01 20 03.0**	**+0.2**
BB19B	**Bebedouro**	**23.63**	**68**	***eP***		**P**	**01 20 05.9**	**-0.6**
RCLB	**Rio Claro- Sao**	**23.74**	**72**	***eP***		**P**	**01 20 07.0**	**-0.5**
VAO	**Valinhos**	**23.92**	**74**	***eP***		**P**	**01 20 08.4**	**-0.9**
CZSB	**Cruzeiro do Su**	**24.28**	**358**	***eP***		**P**	**01 20 14.3**	**+1.8**
SAML	**Samuel**	**24.46**	**21**	P		**P**	**01 20 13.5**	**-0.7**
PARB	**Paraibuna**	**24.87**	**76**	***eP***		**P**	**01 20 17.2**	**-0.7**
IPMB	**Ipameri, GO**	**25.65**	**62**	***eP***		**P**	**01 20 23.9**	**-1.1**
CLDB	**Colider**	**25.89**	**39**	***eP***		**P**	**01 20 27.3**	**+0.2**
ESAR	**Angra dos Reis**	**25.98**	**76**	***eP***		**P**	**01 20 28.3**	**+0.4**
BSCB	**Bom Sucesso**	**26.66**	**72**	***eP***		**P**	**01 20 33.2**	**-1.0**
VAS01	**Vassouras-RJ**	**27.14**	**76**	***eP***		**P**	**01 20 39.3**	**+0.9**
BDFB	**Brasilia**	**27.28**	**59**	P		**P**	**01 20 39.4**	**-0.4**
comp=E,26nm,1.1s,baz=226,slow=6.6,SNR=20								
BDFB					LR	LR	01 33 00.2	
comp=E,684nm,18.2s,baz=243,slow=40								
BDFB	**Brasilia**	**27.28**	**59**	P		**P**	**01 20 39.0**	**-0.8**
SNDB	**Serra Nova Dou**	**27.64**	**48**	***eP***		**P**	**01 20 42.9**	**0.0**
TBTG	**Tabatinga, AM**	**27.86**	**4**	***eP***		**P**	**01 20 46.3**	**+1.5**
DUB01	**Friburgo-RJ**	**28.11**	**77**	***eP***		**P**	**01 20 47.3**	**+0.1**
CAM01	**Campos-RJ**	**28.82**	**77**	***eP***		**P**	**01 20 54.0**	**+0.7**
DIAM	**Diamantina, MG**	**28.97**	**68**	***eP***		**P**	**01 20 55.1**	**+0.2**
NPGB	**Novo Progresso**	**29.37**	**35**	***eP***		**P**	**01 20 57.5**	**-0.8**
PEXB	**Peixe**	**29.51**	**53**	***eP***		**P**	**01 20 59.3**	**-0.3**
MC01	**Montes Claros**	**29.67**	**66**	***eP***		**P**	**01 21 00.3**	**-0.7**
ALF01	**Guarapari-ES**	**30.15**	**75**	***eP***		**P**	**01 21 06.5**	**+1.3**
JANB	**Januaria**	**30.39**	**62**	***eP***		**P**	**01 21 07.0**	**-0.4**
MACA	**Manacapuru-AM**	**30.70**	**23**	***eP***		**P**	**01 21 11.1**	**+1.0**
SJMB	**Sao Joao De Ma**	**30.73**	**72**	***eP***		**P**	**01 21 11.3**	**+0.9**
BSFB	**Barra de Sao F**	**30.94**	**72**	***eP***		**P**	**01 21 12.2**	**0.0**
ITTB	**Itatuba**	**31.53**	**32**	***eP***		**P**	**01 21 16.8**	**-0.6**
SDBA	**SAO DESIDERIO**	**31.67**	**58**	***eP***		**P**	**01 21 17.9**	**-0.8**
NAN01	**Guarapari, ES**	**32.04**	**71**	***eP***		**P**	**01 21 21.8**	**-0.1**
SMTB	**Santa Maria do**	**32.36**	**50**	***eP***		**P**	**01 21 25.0**	**+0.2**
OTAV	**Otavalo**	**32.76**	**348**	***eP***		**P**	**01 21 32.4**	**+3.7**
GUA01	**Guaratinga, BA**	**32.98**	**70**	***eP***		**P**	**01 21 30.2**	**0.0**
PMSA	**Palmer Station**	**33.05**	**174**	***eP***		**P**	**01 21 32.2**	**+2.0**
PRPB	**Parauapebas**	**33.09**	**43**	***eP***		**P**	**01 21 30.4**	**-0.8**
CMC01	**Camacan, BA**	**33.90**	**68**	***eP***		**P**	**01 21 37.3**	**-0.9**
MALB	**Monte Alegre**	**34.42**	**33**	***eP***		**P**	**01 21 43.9**	**+1.2**
GDU01	**Guandu, BA**	**34.82**	**66**	***eP***		**P**	**01 21 45.2**	**-1.0**
BOAV	**Boa Vista**	**36.01**	**20**	***eP***		**P**	**01 21 56.8**	**+0.5**
MCPB	**Macapa, AP**	**36.77**	**35**	***eP***		**P**	**01 22 03.2**	**+0.3**
TMAB	**Tom-Au,PA,Br**	**37.16**	**42**	***eP***		**P**	**01 22 06.7**	**+0.5**
RUSC	**La Rusia**	**37.82**	**358**	P		**P**	**01 22 12.1**	**-0.2**
ROSB	**Rosrio**	**39.12**	**48**	***eP***		**P**	**01 22 22.9**	**+0.2**
MDP	**Montagnes des**	**41.34**	**30**	LR		LR	01 41 58.4	
comp=E,240nm,18.5s,baz=204,slow=39								
RCBR	**Riachuelo**	**42.64**	**60**	***eP***		**P**	**01 22 51.3**	**-0.5**
SJG	**San Juan**	**50.26**	**7**	P		**P**	**01 23 50.9**	**-0.5**
CBYP	**Canovanas**	**50.45**	**8**	P		**P**	**01 23 53.0**	**+0.1**
CBYP					IAmb	IAmb	01 23 53.5	
comp=Z,14nm,0.9s								
VNA3	**Neumayer Olymp**	**51.08**	**158**	P		**P**	**01 23 58.2**	**+1.0**
VNA1	**Neumayer--Stat**	**51.08**	**158**	P		**P**	**01 24 00.4**	**+1.0**
VNA2	**Neumayer--Watz**	**51.72**	**158**	P		**P**	**01 24 02.8**	**+0.8**
baz=282,slow=8.3								
SNAA	**Sanae**	**53.30**	**158**	P		**P**	**01 24 14.7**	**+0.9**
SNAA	**Sanae**	**53.30**	**158**	P		**P**	**01 24 14.3**	**+0.6**
comp=Z,11nm,1.1s,baz=284,slow=8.9,SNR=29								
SNAA	**Sanae**	**53.30**	**158**	P		**P**	**01 24 12.8**	**-1.0**
SNAA					IAmb	IAmb	01 24 15.7	
comp=Z,17nm,1.1s								
RKT	**Rikitea**	**55.85**	**262**	*eT*		T	02 24 55.5	
comp=Z,3.0nm,0.3s								
QSPA	**South Pole Qui**	**58.11**	**180**	P		**P**	**01 24 49.7**	**+1.3**
comp=Z,4.6nm,1.0s,baz=137,slow=2.7,SNR=20								
QSPA	**South Pole Qui**	**58.11**	**180**	P		**P**	**01 24 47.9**	**-0.5**
QSPA					IAmb	IAmb	01 24 56.5	
comp=Z,4.7nm,0.8s								
VNDA	**Vanda**	**65.95**	**191**	LR		LR	01 52 33.0	
comp=Z,59nm,18.3s,baz=345,slow=34								
TAOE	**Nuku Hiva Isla**	**66.88**	**274**	*eLR*		LR	01 45 53.1	
comp=Z,120nm,26.5s								
TBI	**Tubuai**	**67.82**	**256**	*eLR*		LR	01 46 24.1	
comp=Z,144nm,23.5s						

GO03	Copiap	3.01	30	*i* P		Pn	01 35 06.0	+1.3	
AGUA	GUANDACOL	3.08	77	*i* P		Pb	01 35 12.0	-0.7	
ASAL	Salagasta	3.55	133	*i* P		Pn	01 35 13.0	+0.8	
VCA	Vinchina	3.57	66	*i* P		Pb	01 35 19.0	-2.1	
ARCO	CERRO ARCO	3.66	136	*i* P		Pn	01 35 16.0	+2.2	
AC02	Maricunga	4.18	37	*i* P		Pn	01 35 22.0	+0.8	
BO02	Sierra Bellavi	4.66	168	*i* P		Pn	01 35 26.0	-1.5	
GO05	Huala	4.78	180	*i* P		Pn	01 35 23.0	-6.0	
RFA	San Rafael	5.40	148	*i* P		Pn	01 35 39.0	+1.4	
CYA	Choya	5.63	73	*i* P		Pn	01 35 45.0	+4.2	
H03N1	Juan Fernandez	6.75	240	T		T	01 42 52.8		
	baz=71,slow=72,SNR=248								
H03N2	Juan Fernandez	6.77	240	T		T	01 42 53.2		
	baz=71,slow=72,SNR=295								
H03N3	Juan Fernandez	6.77	240	T		T	01 42 51.5		
	baz=71,slow=72,SNR=254								
PB05	IPOC Station P	7.50	12	*i* P		Pn	01 36 03.0	-3.5	
LVC	Limon Verde	8.05	20	Pn		Pn	01 36 11.6	-2.6	
	comp=N,0.3nm,0.3s,baz=214,slow=7.3,SNR=2.2								
PLCA	Paso Flores	10.55	174	Pn		Pn	01 36 50.2	+2.0	
	comp=N,0.1nm,0.3s,baz=339,slow=13,SNR=5.6								
PLCA				LR		LR	01 41 36.8		
	comp=N,39nm,18.1s,baz=127,slow=41								
LPAZ	La Paz	14.30	15	Pn		Pn	01 37 39.5	-0.6	
	comp=N,0.1nm,0.3s,baz=229,slow=11,SNR=5.7								
SIV	San Ignacio	17.31	38	P		Pn	01 38 18.0	-0.7	
	comp=N,0.2nm,0.3s,baz=227,slow=12,SNR=7.2								
DBIC	Dimbokro	73.91	72	P		P	01 45 52.9	+0.9	
	comp=N,2.1nm,0.6s,baz=237,slow=2.6,SNR=3.3								
TORD	Torodi Ar. Bea	82.85	70	P		P	01 46 43.3	+2.0	
	comp=N,1.2nm,0.7s,baz=226,slow=5.6,SNR=8.8								
H11S2	WAKE ISLAND Hy	25.83	272	T		T	04 12 11.5		
	baz=115,slow=74,SNR=16								
H11S1	WAKE ISLAND Hy	25.84	272	T		T	04 12 12.3		
	baz=115,slow=74,SNR=6.0								
H11S3	WAKE ISLAND Hy	25.85	272	T		T	04 12 12.8		
	baz=115,slow=74,SNR=10								
ZALV	Zalesovo Beam	150.93	29	PKPbc		PKiKP	01 54 10.8	+1.6	
	comp=N,1.8nm,0.4s,baz=297,slow=3.4,SNR=7.5								

IDC ***22*** *01:47:00.5±1.4,32°.62S×178°.14W,h0km,mb4.2/4, mb1 4.4/5,mb1mx3.9/30,mbtmp4.2/5,ML4.1/1,MS3.2/1, Ms1 3.2/1,ms1mx2.6/23,Error ellipse: s-maj=37.6km s-min=31.2km az=138.0*

NEIC ***22*** *01:47:05.2±1.6,32°.8S±0°.1×178°.5W±0°.2,h10km±2km, mb4.6/11,Error ellipse: s-maj=27.9km s-min=18.2km az=121.0*

ISC 22 01:47:02.1±1.3,32°.8S±0°.1×178°.1W±0°.2,h10km,n30, σ1§31/27,mb4.4/8,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.69	214	Pn	Pn	01 48 42.1	+1.7
	3.5nm,0.3s,baz=263,slow=3.5,SNR=13						
URZ				Sn	Sn	01 49 58.9	+2.2
	6.8nm,0.3s,baz=250,slow=20,SNR=12						
URZ	Urewera	6.69	214		Pn	01 48 41.1	+0.7
URZ					Sn	01 49 55.3	-1.4
BKZ	Black Stump Fm	7.71	213	Pn	Pn	01 48 53.7	-0.7
THZ	Tophouse	11.45	216	Pn	Pn	01 49 46.1	+0.5
AFI	Afiamalu	19.67	19	LR	LR	01 59 34.2	
	comp=Z,68nm,19.6s,baz=150,slow=39						
CTA	Charters Tower	34.15	283	P	P	01 53 48.1	+0.5
	2.4nm,0.5s,baz=112,slow=8.1,SNR=6.6						
CTAO	Charters Tower	34.15	283	P	P	01 53 48.9	+1.3
CTAO				IAmb	IAmb	01 53 56.1	
	comp=Z,12nm,1.4s						
TARA	Tarawa	35.01	344	P	P	01 53 57.4	+2.5
AS31	Alice Springs	42.93	270	P	P	01 55 01.3	0.0
ASAR	Alice Springs	42.93	270	P	P	01 55 01.1	-0.3
	comp=Z,1.1nm,0.6s,baz=110,slow=7.7,SNR=28						
ASAR	Alice Springs	42.93	270	P	P	01 55 01.0	-0.3
WR0	Warramunga Arr	43.96	275	P	P	01 55 08.9	-0.7
WR0				IAmb	IAmb	01 55 21.5	
	comp=Z,6.0nm,1.2s						
WB2	Warramunga Arr	44.13	275	P	P	01 55 09.9	-1.1
WB2				IAmb	IAmb	01 55 11.0	
	comp=Z,14nm,1.4s						
WRA	Warramunga Arr	44.14	275	P	P	01 55 10.4	-0.7
	comp=Z,1.8nm,0.4s,baz=113,slow=7.6,SNR=29						
WRA	Warramunga Arr	44.14	275	P	P	01 55 10.5	-0.5
WB0	Warramunga Arr	44.17	275	P	P	01 55 10.4	-0.9
WB0				IAmb	IAmb	01 55 22.6	
	comp=Z,11nm,1.3s						
FORT	Forrest	45.38	257	P	P	01 55 19.8	-1.0
MTN	Manton Dam	50.30	281	P	P	01 55 57.0	-2.1
MTN				IAmb	IAmb	01 56 04.3	
	comp=Z,17nm,1.4s						
FITZ	Fitzroy Crossi	52.29	272	P	P	01 56 13.2	-0.9
	comp=Z,1.9nm,0.8s,baz=124,slow=15,SNR=2.0						
FITZ	Fitzroy Crossi	52.29	272	P	P	01 56 12.0	-2.0
FITZ				IAmb	IAmb	01 56 22.2	
	comp=Z,5.4nm,1.2s						
SNAA	Sanae	75.77	178	P	P	01 59 00.4	+13
VNA3	Neumayer Olymp	75.93	176	P	P	01 59 01.3	+13
VNA2	Neumayer--Watz	76.36	177	P	P	01 59 03.9	+13
	baz=181,slow=4.8						
VNA1	Neumayer--Stat	76.59	177	P	P	01 59 05.5	+13
FINES	FINESS Array B	147.34	339	PKPbc	PKPbc	02 06 43.6	-1.6
	comp=Z,2.9nm,0.7s,baz=28,slow=3.8,SNR=14						
FINES	FINESS Array B	147.34	339		PKPbc	02 06 43.9	-1.3
NB2	NORSAR Subarra	151.10	351	PKP	PKiKP	02 06 54.4	-0.9
	comp=Z,0.9nm,0.8s,baz=38,slow=2.6						
NOA	NORSAR Array B	151.10	351	PKPbc	PKPbc	02 06 53.8	-1.0
	comp=Z,0.2nm,0.5s,baz=15,slow=4.2,SNR=1.8						
BRTR	Keskin Array B	153.57	294	PKPbc	PKiKP	02 07 00.9	-0.3
	comp=Z,0.4nm,0.6s,baz=44,slow=2.2,SNR=0.2						
TORD	Torodi Ar. Bea	160.44	179	PKPab	PKPab	02 07 44.7	+1.3
	comp=Z,0.4nm,0.7s,baz=173,slow=3.6,SNR=4.3						

IDC ***22*** *01:54:29.3±0.6,6°.03S×146°.78E,h0km,mb4.3/14, mb1 4.4/16,mb1mx4.3/30,mbtmp4.2/16,ML3.7/2,MS3.7/14, Ms1 3.7/14,ms1mx3.6/26,Error ellipse: s-maj=21.2km s-min=12.0km az=99.0*

NEIC ***22*** *01:54:37.2±1.9,6°.03S±0°.03×146°.7E±0°.1,h49km±6km, mb4.6/16,Error ellipse: s-maj=19.3km s-min=3.7km az=97.0*

ISC 22 01:54:35.0±0.5,6°.03S±0°.07×146°.8E±0°.1,h35km,n77, σ1§08/67,mb4.6/28,MS3.7/12,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	4.00	9		Pn	01 55 35.4	+1.5
COEN	Coen	8.63	204		Pn	01 56 38.6	+1.1
CTA	Charters Tower	13.98	182	Pn	Pn	01 57 50.5	-0.3
	0.1nm,0.3s,baz=329,slow=5.9,SNR=2.2						
CTAO	Charters Tower	13.98	182	Pn	Pn	01 57 52.5	+1.7
SIJI	Sorong	16.29	288	LR	LR	02 06 00.2	
	comp=Z,337nm,21.3s,baz=278,slow=42						
WR0	Warramunga Arr	18.24	219	P	P	01 58 45.4	-0.1
WB2	Warramunga Arr	18.35	220	P	P	01 58 46.0	-0.7
WRA	Warramunga Arr	18.36	220	P	P	01 58 45.5	-1.2
	0.5nm,0.3s,baz=44,slow=12,SNR=18						
WRA				PcP	PcP	02 03 18.5	+1.1
	0.3nm,0.3s,baz=45,slow=1.3,SNR=7.1						
WRA	Warramunga Arr	18.36	220	P	Pn	01 58 47.3	+0.3
GUMO	Guam	19.58	354	LR	LR	02 05 30.1	
	comp=Z,97nm,18.6s,baz=138,slow=34						
TNTI	Ternate	20.51	289	P	P	01 59 10.8	+0.5
AS31	Alice Springs	21.46	214	P	P	01 59 20.9	+0.3
AS31				PcP	PcP	02 03 21.9	-1.1
ASAR	Alice Springs	21.46	214	P	P	01 59 20.4	-0.2
	2.4nm,0.7s,baz=43,slow=10.0,SNR=18						
ASAR				S	S	02 03 18.5	+1.6
	1.5nm,0.9s,baz=38,slow=15,SNR=4.8						
ASAR				LR	LR	02 08 41.9	
	comp=Z,256nm,19.9s,baz=48,slow=40						
ASAR	Alice Springs	21.46	214	P	P	01 59 21.4	+0.8
SANVU	Saraoutou	22.14	117	P	P	01 59 30.9	+3.1
FITZ	Fitzroy Crossi	23.85	238	P	P	01 59 44.6	-0.6
	23nm,0.8s,baz=68,slow=6.7,SNR=44						
FITZ	Fitzroy Crossi	23.85	238	P	P	01 59 44.4	-0.9
FITZ				IAmb	IAmb	01 59 46.2	
	comp=Z,20nm,0.8s						
DZM	Mont Dzumac	24.82	132	P	P	01 59 53.5	-0.8
	comp=Z,10nm,0.9s,baz=298,slow=19,SNR=6.2						
DZM	Mont Dzumac	24.82	132	P	P	01 59 53.4	-0.8
DZM				IAmb	IAmb	02 00 03.4	
	comp=Z,11nm,0.9s						
STKA	Stephens Creek	26.17	190	P	P	02 00 04.6	-1.6
	comp=Z,0.9nm,0.3s,baz=339,slow=14,SNR=2.0						
STKA				LR	LR	02 11 16.7	
	comp=Z,495nm,19.0s,baz=18,slow=38						
H11S3	WAKE ISLAND Hy	31.30	38	T	T	02 33 41.1	
	baz=220,slow=74,SNR=11						
H11S2	WAKE ISLAND Hy	31.31	39	T	T	02 33 40.5	
	baz=220,slow=74,SNR=9.7						
H11S1	WAKE ISLAND Hy	31.32	38	T	T	02 33 42.0	
	baz=220,slow=74,SNR=7.1						
H11N1	WAKE ISLAND Hy	32.35	37	T	T	02 34 58.1	
	baz=221						
H11N3	WAKE ISLAND Hy	32.37	37	T	T	02 34 58.4	
	baz=221,slow=74,SNR=4.6						
H11N2	WAKE ISLAND Hy	32.37	37	T	T	02 34 58.5	
	baz=221,slow=74,SNR=13						
AFI	Afiamalu	41.53	104	LR	LR	02 16 06.5	
	comp=Z,98nm,18.5s,baz=288,slow=31						
URZ	Urewera	42.27	144	LR	LR	02 20 09.5	
	comp=Z,91nm,18.6s,baz=31,slow=36						
MJAR	Matsushiro Arr	43.10	350	LR	LR	02 20 13.1	
	comp=Z,44nm,18.0s,baz=190,slow=36						
KSRS	Korea Array	46.69	339	P	P	02 03 01.0	+0.6
	comp=Z,4.4nm,0.9s,baz=160,slow=9.4,SNR=13						
KSRS				LR	LR	02 19 26.2	
	comp=Z,111nm,21.4s,baz=159,slow=32						
KSAR	Wonju Array Be	46.70	339	P	P	02 03 01.0	+0.6
SKNT	Sakolnakorn	48.06	299	P	P	02 03 12.1	+0.6
	comp=Z,13nm,0.9s						
PHIT	Phitsanulok	51.27	298	P	P	02 03 37.3	+1.4
	comp=Z,31nm,0.9s						
UTHA	Uthaitani	51.53	295	P	P	02 03 38.8	+0.9
	comp=Z,18nm,0.9s						
USRK	Ussuriysk Ar.	51.74	346	P	P	02 03 39.0	0.0
	comp=Z,0.9nm,0.6s,baz=165,slow=8.4,SNR=4.7						
USRK				LR	LR	02 23 19.0	
	comp=Z,32nm,20.2s,baz=167,slow=33						
USRK	Ussuriysk Ar.	51.74	346	P	P	02 03 39.3	+0.3
UMPA	Umpang Tak	52.29	296	P	P	02 03 44.4	+0.9
CM04	Chiang Mai Arr	53.00	298	P	P	02 03 50.1	+1.3
	comp=Z,9.4nm,1.0s						
CM09	Chiang Mai Arr	53.01	298	P	P	02 03 50.7	+1.9
	comp=Z,312nmcomp=Z,6.0nm,0.9s						
CM01	Chiang Mai Arr	53.03	298	P	P	02 03 50.9	+2.0
	comp=Z,136nmcomp=Z,6.1nm,0.8s						
CM05	Chiang Mai Arr	53.03	298	P	P	02 03 50.3	+1.3
	comp=Z,60nmcomp=Z,6.7nm,1.0s						
CM02	Chiang Mai Arr	53.04	298	P	P	02 03 50.5	+1.4
	comp=Z,7.4nm,0.9s						
CMAR	Chiang Mai Arr	53.05	298	P	P	02 03 50.1	+1.0
	comp=Z,3.0nm,0.5s,baz=123,slow=6.1,SNR=17						
CMAR	Chiang Mai Arr	53.05	298	P	P	02 03 48.5	-0.6
CM15	Chiang Mai Arr	53.07	298	P	P	02 03 50.9	+1.6
CM13	Chiang Mai Arr	53.07	298	P	P	02 03 50.6	+1.3
	comp=Z,7.5nm,1.0s						
RAR	Rarotonga	53.85	112	LR	LR	02 23 09.4	
	comp=Z,41nm,20.4s,baz=270,slow=32						
PETK	Petropavlovsk-	59.64	8	LR	LR	02 26 00.0	
	comp=Z,127nm,21.9s,baz=201,slow=32						
PPT	Papeete	63.11	107	LR	LR	02 27 38.4	
	comp=Z,43nm,21.6s,baz=288,slow=32						
SONM	Songino Array	64.31	331	P	P	02 05 07.0	-0.1
	comp=Z,2.2nm,0.9s,baz=141,slow=7.3,SNR=7.4						
VNDA	Vanda	71.90	177	P	P	02 05 54.1	0.0
	comp=Z,1.8nm,0.7s,baz=330,slow=7.2,SNR=17						
VNDA	Vanda	71.90	177	P	P	02 05 54.7	+0.6
VNDA				IAmb	IAmb	02 06 04.1	
	comp=Z,3.3nm,0.9s						
MKAR	Makanchi Array	77.37	321	P	P	02 06 25.6	-0.7
	comp=Z,1.1nm,0.8s,baz=95,slow=9.9,SNR=5.7						
ZALV	Zalesovo Beam	78.91	328	P	P	02 06 32.9	-1.8
	comp=Z,1.0nm,0.4s,baz=99,slow=6.7,SNR=6.1						
ZALV				LR	LR	02 40 40.0	
	comp=Z,43nm,21.7s,baz=58,slow=35						
MAW	Mawson	82.13	203	P	P	02 06 51.7	-0.1
	comp=Z,1.6nm,0.6s,baz=72,slow=3.2,SNR=2.4						
MAW	Mawson	82.13	203	P	P	02 06 51.4	-0.4
PWL	Port Wells	83.37	27	P	P	02 06 57.3	-1.0
QSPA	South Pole Qui	83.94	180	P	P	02 07 00.4	-0.9
QSPA				IAmb	IAmb	02 07 14.6	
	comp=Z,9.6nm,1.2s						
MLY	Manley	84.23	22	IAmb	IAmb	02 07 03.2	
	comp=Z,5.1nm,1.0s						
MLY				P	P	02 07 03.2	+0.5
NRIK	Noril'sk	85.23	342	P	P	02 07 05.8	-1.8
	comp=Z,1.7nm,0.5s,baz=120,slow=7.2,SNR=3.6						
IL31		85.60	23	P	P	02 07 08.5	-1.0
IL31				IAmb	IAmb	02 07 08.8	
	comp=Z,3.8nm,0.8s						
ILAR	Eielson Array	85.60	23	P	P	02 07 07.8	-1.7
	comp=Z,2.7nm,0.7s,baz=250,slow=5.1,SNR=10						
ILAR				LR	LR	02 41 28.4	
	comp=Z,48nm,20.4s,baz=270,slow=33						
ILAR	Eielson Array	85.60	23	P	P	02 07 08.4	-1.1
CRQM	Cirque	85.68	28	P	P	02 07 11.6	+1.4
K27K	Chicken	87.26	25	P	P	02 07 18.5	+0.8
K27K				IAmb	IAmb	02 07 20.3	
	comp=Z,12nm,1.4s						
DAWY	Dawson	88.40	25	P	P	02 07 23.5	+0.3
DAWY				IAmb	IAmb	02 07 24.1	
	comp=Z,5.3nm,1.1s						
CLL	Collm	120.86	328	*e*PKPdf	PKPdf	02 13 23.0	-0.6
PLCA	Paso Flores	122.23	147	PKP	PKiKP	02 13 27.8	+0.9
	comp=Z,0.9nm,0.7s,baz=267,slow=2.6,SNR=5.6						
PLCA	Paso Flores	122.23	147	PKPdf	PKPdf	02 13 26.3	-0.4
LPAZ	La Paz	138.97	123	PKhKP	PKPpre	02 13 53.2	
	comp=Z,1.3nm,0.7s,baz=247,slow=1.7,SNR=5.9						
LPAZ				PKP	PKiKP	02 14 01.1	-0.8
	comp=Z,3.5nm,0.8s,baz=231,slow=3.2,SNR=11						
TORD	Torodi Ar. Bea	144.87	284	PKP	PKPab	02 14 08.3	-0.3
	comp=Z,11nm,0.8s,baz=54,slow=2.3,SNR=58						
KIC	Kosan Boka	151.67	272	*e*PKP1	PKPbc	02 14 26.9	0.0
	comp=Z,37nm,0.8s						
DBIC	Dimbokro	151.79	273	PKPbc	PKPbc	02 14 27.3	+0.2
	comp=Z,12nm,0.6s,baz=87,slow=2.1,SNR=19						
DBIC	Dimbokro	151.79	273		PKPbc	02 14 25.8	-1.3
TIC	Toumodi	151.95	273	*e*PKP1	PKPbc	02 14 27.6	0.0
LIC	Lamto	151.95	272	*e*PKP1	PKPbc	02 14 27.5	0.0
	comp=Z,55nm,0.8s						
BDFB	Brasilia	153.97	146	PKP	PKPdf	02 14 24.4	+0.4
	comp=Z,1.7nm,0.4s,baz=106,slow=7.4,SNR=4.3						
BDFB				PKPbc	PKPbc	02 14 31.3	-0.8
	comp=Z,2.8nm,0.4s,baz=189,slow=1.9,SNR=7.7						

NEIC ***22*** *02:02:03.8±0.9,59°.93N±0°.03×152°.60W±0°.06,h88km±3km, Error ellipse: s-maj=4.5km s-min=4.4km az=119.0*

ANF ***22*** *02:02:03.8±0.2,59°.91N×152°.49W,h84km±3km,ML3.5/48, ML3.5/48,Error ellipse: s-maj=2.5km s-min=2.3km az=170.0*

AEIC ***22*** *02:02:04.9±1.1,59°.91N±0°.02×152°.57W±0°.06,h85km±2km, ML3.1/160,ML3.4/118(NEIC),Error ellipse: s-maj=4.5km s-min=3.3km az=109.0*

ISC 22 02:02:03.1±1.3,59°.90N±0°.03×152°.54W±0°.03,h94km±6km, n252,σ0§76/263,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O20K	Slope Mountain	0.19	347		Pn	02 02 16.7	0.0
O20K					Sn	02 02 26.2	-0.5
O20K	Slope Mountain	0.19	347	P	Pn	02 02 16.6	0.0
	baz=171,SNR=7.1						
O20K				S	Sn	02 02 25.9	-0.8
	baz=171						
IVE	Iliamna Volcan	0.27	296		Pn	02 02 16.6	-0.4
IVE					Sn	02 02 26.5	-0.8
ILS	Iliamna Low So	0.27	283		Pn	02 02 16.9	-0.1
ILS					Sn	02 02 26.4	-0.9
ILSW	Iliamna Southw	0.32	286		Pn	02 02 17.0	-0.2
ILSW					Sn	02 02 26.9	-0.9
OPT	Oil Point	0.43	235		Pn	02 02 17.9	+0.2
P19K	Oil Pt	0.43	235		Pn	02 02 17.9	+0.1
P19K	Oil Pt	0.43	235	IAML		02 02 29.6	
	comp=E,576nm,0.4s						
P19K	Oil Pt	0.43	235	P	Pn	02 02 17.9	+0.1
	baz=52,SNR=5.8						
P19K				S	Sn	02 02 27.7	-1.0
	baz=52						
HOM	Homer	0.51	118		Pn	02 02 19.0	+0.6
HOM					Sn	02 02 30.4	+0.8
HOM	Homer	0.51	118	P	Pn	02 02 19.0	+0.6
	baz=299,SNR=9.3						
HOM				S	Sn	02 02 30.5	+0.8
	baz=299						
RED	Redoubt Volcan	0.54	347		Pn	02 02 18.5	-0.1
RDSO	Redoubt South	0.57	350		Pn	02 02 18.8	-0.1
RSO	Redoubt South	0.58	349		Pn	02 02 19.1	0.0
RDWB	Redoubt West	0.61	346		Pn	02 02 19.2	-0.1
RDWB					Sn	02 02 30.5	-0.9
AU22	Augustine Moun	0.67	219		Pn	02 02 20.1	+0.4
AUL	Augustine Lava	0.69	222		Pn	02 02 20.2	+0.4
NCT	North Crescent	0.69	344		Pn	02 02 19.8	-0.2
NCT					Sn	02 02 32.0	-0.6
DFR	Drift River	0.70	354		Pn	02 02 20.0	0.0
AUQ	Augustine Qik'	0.70	220		Pn	02 02 20.5	+0.5
AUQ					Sn	02 02 32.5	-0.2
AGU	Augustine-Summ	0.71	220		Pn	02 02 20.5	+0.4
AUCH	Augustine Cone	0.71	221		Pn	02 02 20.6	+0.5
AUW	Augustine West	0.71	222		Pn	02 02 20.5	+0.5
AUW					Sn	02 02 33.1	+0.4
CNPM	China Poot	0.76	119		Pn	02 02 21.1	+0.6
CNPM	China Poot	0.76	119	IAML		02 02 35.0	
	comp=N,1μm,0.7s						
CNPM				IAML		02 02 35.0	
	comp=E,1μm,0.5s						
BRLK	Bradley Lake	0.84	98		Pn	02 02 21.9	+0.5
BRLK					Sn	02 02 35.7	+0.5
BRLK	Bradley Lake	0.84	98	IAML		02 02 36.7	
	comp=E,1μm,0.3s						
BRSE	Bradley Lake S	0.92	99		Pn	02 02 22.8	+0.6
BRSE	Bradley Lake S	0.92	99	P	Pn	02 02 22.5	+0.3
	baz=281,SNR=24						
BRSE				S	Sn	02 02 36.7	+0.1
	baz=281						
O19K	Port Alsworth	0.94	289		Pn	02 02 22.6	+0.2
O19K	Port Alsworth	0.94	289	P	Pn	02 02 22.6	+0.2
	baz=107,SNR=9.2						
O19K				S	Sn	02 02 36.3	-0.6
	baz=107						
CAPN	Captain Cook N	1.11	38		Pn	02 02 26.5	+2.2
CAPN	Captain Cook N	1.11	38	P	Pn	02 02 26.4	+2.2
	baz=220						
Q19K	Cape Douglas,	1.13	211		Pn	02 02 24.9	+0.4
Q19K					Sn	02 02 40.6	0.0
Q19K	Cape Douglas,	1.13	211	IAML		02 02 42.0	
	comp=E,726nm,0.5s						
Q19K				IAML		02 02 46.8	
	comp=N,629nm,0.6s						
Q19K	Cape Douglas,	1.13	211	P	Pn	02 02 24.9	+0.4
	baz=28,SNR=22						
Q19K				S	Sn	02 02 40.8	+0.1
	baz=28						
SLKM	Skilak Lake	1.31	61		Pn	02 02 27.4	+0.7
SPCR	Spurr Chakacha	1.32	7		Pn	02 02 27.2	+0.4
SPCR	Spurr Chakacha	1.32	7	P	Pn	02 02 27.2	+0.4
	baz=188,SNR=37						
SPCR				S	Sn	02 02 44.0	-0.8
	baz=188						
N19K	Bonanza Creek	1.33	314		Pn	02 02 27.2	+0.2
N19K					Sn	02 02 44.3	-0.9
N19K	Bonanza Creek	1.33	314	P	Pn	02 02 27.3	+0.2
	baz=133,SNR=40						
N19K				S	Sn	02 02 44.4	-0.8
	baz=133						
SPCN	Chakachatna No	1.34	7		Pn	02 02 27.7	+0.6
SPBG	Spurr Blockage	1.37	3		Pn	02 02 28.0	+0.5
SPBG					Sn	02 02 46.1	+0.3
SPWE	Spurr West	1.38	360		Pn	02 02 28.3	+0.6
SPCP	Crater Peak Br	1.39	8		Pn	02 02 28.3	+0.6
SPCG	Spurr Capps Gl	1.42	10		Pn	02 02 28.7	+0.6
SPCG					Sn	02 02 47.5	+0.4
O22K	Cooper Landing	1.52	66		Pn	02 02 30.4	+1.1
O22K	Cooper Landing	1.52	66	P	Pn	02 02 29.7	+0.4
	baz=249,SNR=11						
O22K				S	Sn	02 02 48.5	-0.5
	baz=249						
SEW	Seward	1.56	81		Pn	02 02 30.3	+0.6
SEW					Sn	02 02 49.8	-0.2
SEW	Seward	1.56	81	P	Pn	02 02 30.2	+0.4
	baz=264,SNR=9.2						
SEW				S	Sn	02 02 49.6	-0.4
	baz=264						
KAPH	Katmai Pasha	1.60	216		Pn	02 02 31.0	+0.6
STLK	Strandline Lak	1.64	12		Pn	02 02 31.5	+0.7
FIS	Fire Island	1.70	42		Pn	02 02 33.0	+1.6
FIS	Fire Island	1.70	42	IAML		02 02 59.4	
	comp=E,326nm,0.6s						
FIS				IAML		02 03 16.5	
	comp=N,401nm,0.7s						
SUA	Susitna One	1.80	29		Pn	02 02 33.8	+0.9
SUA					Sn	02 02 56.9	+1.3
SUA	Susitna One	1.80	29	IAML		02 02 57.4	
	comp=N,262nm,0.6s						
SUA				IAML		02 02 58.2	
	comp=E,401nm,0.5s						
SUA	Susitna One	1.80	29	P	Pn	02 02 33.8	+0.9
	baz=211,SNR=60						
SUA				S	Sn	02 02 55.8	+0.2
	baz=211						
RC01	Rabbit Creek A	1.83	48		Pn	02 02 33.9	+0.7
RC01	Rabbit Creek A	1.83	48	IAML		02 02 58.0	
	comp=N,475nm,0.5s						
RC01				IAML		02 02 59.5	
	comp=E,435nm,0.4s						
RC01	Rabbit Creek A	1.83	48	P	Pn	02 02 33.9	+0.7
	baz=231,SNR=17						

SML					Sn	02 03 17.9	-1.4
SML	**Sawmill**	**2.81**	**45**	IAML		02 03 20.2	
	comp=E,134nm,0.6s						
SML				IAML		02 03 24.2	
	comp=N,110nm,0.3s						
SML	**Sawmill**	**2.81**	**45**	P	Pn	**02 02 46.3**	**+0.1**
	baz=229						
GLI	**Glacier Island**	**2.88**	**68**		Pn	**02 02 45.8**	**-1.2**
GLI	**Glacier Island**	**2.88**	**68**	P	Pn	**02 02 45.6**	**-1.3**
	baz=253						
GLI				S	Sn	**02 03 17.7**	**-3.0**
	baz=253						
PPLA	**Purkeypile**	**3.01**	**3**		Pn	**02 02 49.8**	**+0.9**
PPLA	**Purkeypile**	**3.01**	**3**	P	Pn	**02 02 50.6**	**+1.6**
	baz=184,SNR=16						
HIN	**Hinchinbrook I**	**3.06**	**78**		Pn	**02 02 48.8**	**-0.7**
HIN	**Hinchinbrook I**	**3.06**	**78**	IAML		02 03 26.1	
	comp=E,113nm,0.5s						
HIN				IAML		02 03 26.2	
	comp=N,93nm,0.3s						
FID	**Port Fidalgo**	**3.13**	**72**		Pn	**02 02 49.0**	**-1.4**
JPK	**Jack Peak**	**3.16**	**66**		Pn	**02 02 50.4**	**-0.4**
Q23K	**Middleton Isla**	**3.17**	**96**		Pn	**02 02 51.7**	**+0.7**
Q23K	**Middleton Isla**	**3.17**	**96**	IAML		02 03 41.5	
	comp=E,136nm,2.5s						
Q23K				IAML		02 05 02.9	
	comp=N,104nm,1.6s						
Q23K	**Middleton Isla**	**3.17**	**96**	P	Pn	**02 02 51.7**	**+0.7**
	baz=281						
Q23K				S	Sn	**02 03 27.9**	**+0.1**
	baz=281						
SCM	**Sheep Creek Mo**	**3.20**	**50**		Pn	**02 02 51.8**	**+0.4**
SCM	**Sheep Creek Mo**	**3.20**	**50**	IAML		02 03 29.5	
	comp=N,111nm,0.4s						
SCM				IAML		02 03 32.4	
	comp=E,123nm,0.3s						
WAT7	**Susitna Watana**	**3.44**	**29**		Pn	**02 02 55.2**	**+0.6**
EYAK	**Cordova Ski Ar**	**3.45**	**76**	P	Pn	**02 02 53.8**	**-0.8**
	baz=262						
EYAK				S	Sn	**02 03 31.5**	**-2.9**
	baz=262						
TT01	**Tatalina**	**3.45**	**332**		Pn	**02 02 54.9**	**+0.2**
SII	**Sitkinak Islan**	**3.46**	**195**	P	Pn	**02 02 55.2**	**+0.3**
	baz=14						
WAT1	**Susitna Watana**	**3.51**	**31**		Pn	**02 02 56.4**	**+0.9**
WAT1	**Susitna Watana**	**3.51**	**31**	P	Pn	**02 02 56.4**	**+0.9**
	baz=215						
CAST	**Castle Rocks**	**3.54**	**3**		Pn	**02 02 56.8**	**+0.9**
CAST	**Castle Rocks**	**3.54**	**3**	P	Pn	**02 02 56.8**	**+0.9**
	baz=184,SNR=19						
K20K	**Telida**	**3.55**	**349**		Pn	**02 02 56.5**	**+0.4**
K20K	**Telida**	**3.55**	**349**	P	Pn	**02 02 56.8**	**+0.8**
	baz=168,SNR=13						
WAT6	**Susitna Watana**	**3.55**	**39**		Pn	**02 02 56.9**	**+0.7**
WAT6	**Susitna Watana**	**3.55**	**39**	P	Pn	**02 02 57.1**	**+0.9**
	baz=223,SNR=23						
DIV	**Divide**	**3.56**	**67**		Pn	**02 02 55.7**	**-0.6**
KLU	**Klutina**	**3.62**	**61**		Pn	**02 02 56.8**	**-0.3**
KLU	**Klutina**	**3.62**	**61**	IAML		02 03 40.0	
	comp=E,100nm,0.2s						
KLU	**Klutina**	**3.62**	**61**	P	Pn	**02 02 56.9**	**-0.3**
	baz=247,SNR=8.4						
KLU				S	Sn	**02 03 36.6**	**-2.2**
	baz=247						
TRF	**Thorofare Moun**	**3.72**	**16**		Pn	**02 02 59.1**	**+0.6**
TRF	**Thorofare Moun**	**3.72**	**16**	IAML		02 03 45.6	
	comp=E,43nm,0.6s						
TRF				IAML		02 03 48.1	
	comp=N,66nm,0.5s						
TRF	**Thorofare Moun**	**3.72**	**16**	P	Pn	**02 02 58.9**	**+0.4**
	baz=198,SNR=19						
KTH	**Kantishna Hill**	**3.75**	**11**		Pn	**02 02 59.2**	**+0.5**
KTH	**Kantishna Hill**	**3.75**	**11**	IAML		02 03 49.0	
	comp=N,28nm,0.6s						
M24K	**Tolsona, Glenn**	**3.81**	**52**		Pn	**02 03 00.1**	**+0.6**
M24K	**Tolsona, Glenn**	**3.81**	**52**	IAML		02 03 46.9	
	comp=N,79nm,0.5s						
M24K				IAML		02 03 47.7	
	comp=E,73nm,0.6s						
M24K	**Tolsona, Glenn**	**3.81**	**52**	P	Pn	**02 02 59.8**	**+0.2**
	baz=238						
RND	**Reindeer**	**3.93**	**25**		Pn	**02 03 01.6**	**+0.3**
RND	**Reindeer**	**3.93**	**25**	IAML		02 03 48.2	
	comp=N,28nm,0.6s						
RND				IAML		02 03 50.5	
	comp=E,34nm,0.5s						
GOAT	**Goat Mountain**	**3.95**	**77**		Pn	**02 03 00.8**	**-0.7**
CHUM	**Lake Minchumin**	**4.00**	**1**		Pn	**02 03 03.0**	**+0.9**
CHUM	**Lake Minchumin**	**4.00**	**1**	P	Pn	**02 03 02.5**	**+0.5**
	baz=182,SNR=25						
DHY	**Denali Highway**	**4.04**	**36**		Pn	**02 03 03.5**	**+0.8**
DHY	**Denali Highway**	**4.04**	**36**	P	Pn	**02 03 03.5**	**+0.8**
	baz=220,SNR=12						
BMRM	**Bremner River**	**4.07**	**71**		Pn	**02 03 02.5**	**-0.6**
BMRM	**Bremner River**	**4.07**	**71**	IAML		02 03 49.0	
	comp=E,39nm,0.3s						
BMRM				IAML		02 04 03.3	
	comp=N,38nm,0.6s						
BMRM	**Bremner River**	**4.07**	**71**	P	Pn	**02 03 02.4**	**-0.8**
	baz=258						
KAIM	**Kayak Island**	**4.09**	**86**	P	Pn	**02 03 03.2**	**-0.1**
	baz=273						
HMT	**Hamilton**	**4.16**	**80**		Pn	**02 03 03.8**	**-0.6**
MCK	**McKinley**	**4.21**	**22**		Pn	**02 03 05.5**	**+0.5**
MCK	**McKinley**	**4.21**	**22**	IAML		02 03 55.9	
	comp=N,31nm,0.3s						
MCK				IAML		02 03 59.8	
	comp=E,25nm,0.6s						
MCK	**McKinley**	**4.21**	**22**	P	Pn	**02 03 06.1**	**+1.1**
	baz=206,SNR=12						
N25K	**Chitina, Valde**	**4.25**	**63**		Pn	**02 03 05.3**	**-0.3**
N25K	**Chitina, Valde**	**4.25**	**63**	IAML		02 03 54.6	
	comp=E,41nm,0.7s						
N25K				IAML		02 03 56.4	
	comp=N,32nm,0.6s						
N25K	**Chitina, Valde**	**4.25**	**63**	P	Pn	**02 03 05.3**	**-0.3**
	baz=250						
BPAW	**Bear Paw Mtn.**	**4.28**	**9**		Pn	**02 03 06.0**	**0.0**
BPAW	**Bear Paw Mtn.**	**4.28**	**9**	P	Pn	**02 03 05.9**	**0.0**
	baz=191,SNR=10						
NICHA	**Nichawak Mount**	**4.31**	**82**		Pn	**02 03 06.8**	**+0.5**
J20K	**Nowinta River**	**4.36**	**351**		Pn	**02 03 07.8**	**+0.9**
J20K	**Nowinta River**	**4.36**	**351**	P	Pn	**02 03 07.8**	**+0.9**
	baz=170,SNR=16						
HARP	**HAARP**	**4.37**	**52**	P	Pn	**02 03 07.5**	**+0.4**
	baz=238						
BERG	**Berg Lake**	**4.45**	**80**		Pn	**02 03 08.7**	**+0.5**
BERG	**Berg Lake**	**4.45**	**80**	IAML		02 03 58.9	
	comp=N,59nm,0.2s						
BERG				IAML		02 03 59.8	
	comp=E,59nm,0.5s						
BWN	**Browne**	**4.53**	**17**		Pn	**02 03 10.6**	**+1.4**
BWN				IAML		02 04 27.8	
	comp=E,32nm,1.2s						
BWN				IAML		02 04 29.0	
	comp=N,42nm,0.8s						
GLB	**Gilahina Butte**	**4.56**	**66**		Pn	**02 03 09.5**	**-0.3**
GLB	**Gilahina Butte**	**4.56**	**66**	IAML		02 04 01.6	
	comp=N,27nm,0.4s						
GLB				IAML		02 04 02.0	
	comp=E,27nm,0.4s						
PAX	**Paxson**	**4.58**	**45**		Pn	**02 03 10.8**	**+0.8**
PAX	**Paxson**	**4.58**	**45**	P	Pn	**02 03 10.5**	**+0.4**
	baz=231,SNR=6.2						
GRIN	**Grindle Hills**	**4.63**	**81**		Pn	**02 03 11.2**	**+0.5**
BGLC	**Bering Glacier**	**4.65**	**83**	P	Pn	**02 03 12.5**	**+1.6**
	baz=272						
KHIT	**Khitrov Hills**	**4.67**	**79**		Pn	**02 03 11.4**	**+0.1**
VRDI	**Verde Repeater**	**4.68**	**70**		Pn	**02 03 10.9**	**-0.6**
VRDI	**Verde Repeater**	**4.68**	**70**	IAML		02 04 03.7	
	comp=N,15nm,0.2s						
CRQM	**Cirque**	**4.75**	**76**		Pn	**02 03 12.8**	**+0.3**
CRQM	**Cirque**	**4.75**	**76**	IAML		02 04 04.8	
	comp=E,32nm,0.2s						
CRQM				IAML		02 04 06.3	
	comp=N,31nm,0.4s						
CRQE	**Cirque**	**4.77**	**76**	P	Pn	**02 03 13.2**	**+0.5**
	baz=264						
WAX	**Waxell Ridge**	**4.87**	**79**		Pn	**02 03 14.6**	**+0.7**
TGL	**Tana Glacier**	**4.90**	**76**		Pn	**02 03 14.6**	**+0.2**
TGL	**Tana Glacier**	**4.90**	**76**	IAML		02 04 11.7	
	comp=E,24nm,0.5s						
TGL				IAML		02 04 12.8	
	comp=N,23nm,0.4s						
MCARA	**McCarthy VSAT**	**4.91**	**68**	P	Pn	**02 03 15.4**	**+0.9**
	baz=257						

KULT	**Kultieth River**	**4.93**	**82**		Pn	**02 03 15.7**	**+0.9**
NEA2	**Nenana**	**4.98**	**17**		Pn	**02 03 16.0**	**+0.6**
NEA2	**Nenana**	**4.98**	**17**	P	Pn	**02 03 15.7**	**+0.3**
	baz=201,SNR=7.2						
WRH	**Wood River Hil**	**5.04**	**22**		Pn	**02 03 16.6**	**+0.4**
WRH	**Wood River Hil**	**5.04**	**22**	IAML		02 04 12.9	
	comp=E,15nm,0.5s						
WRH				IAML		02 04 13.4	
	comp=N,14nm,0.6s						
BARK	**Barkley Ridge**	**5.05**	**80**		Pn	**02 03 17.0**	**+0.6**
PTPK	**Patty Peak**	**5.14**	**71**		Pn	**02 03 18.5**	**+0.8**
KIAG	**Kiagna River**	**5.15**	**74**		Pn	**02 03 18.8**	**+0.9**
BALM	**Baldy**	**5.17**	**73**		Pn	**02 03 18.5**	**+0.4**
MLY	**Manley**	**5.22**	**8**		Pn	**02 03 19.3**	**+0.6**
MLY	**Manley**	**5.22**	**8**	P	Pn	**02 03 19.2**	**+0.5**
	baz=190,SNR=9.8						
HDA	**Harding Lake**	**5.23**	**28**		Pn	**02 03 19.5**	**+0.7**
HDA	**Harding Lake**	**5.23**	**28**	P	Pn	**02 03 19.4**	**+0.6**
	baz=213,SNR=15						
BAGL	**Bagley Icefiel**	**5.25**	**79**		Pn	**02 03 20.0**	**+1.0**
CCB	**Clear Creek Bu**	**5.25**	**23**		Pn	**02 03 19.5**	**+0.5**
CCB	**Clear Creek Bu**	**5.25**	**23**	IAML		02 04 20.2	
	comp=E,24nm,0.3s						
CCB				IAML		02 04 20.3	
	comp=N,11nm,0.3s						
M26K	**Nabesna, AK**	**5.26**	**57**	Pn	Pn	**02 03 20.6**	**+1.4**
M26K				IAML		02 04 19.6	
	comp=E,14nm,0.5s						
M26K				IAML		02 04 20.9	
	comp=N,22nm,0.5s						
M26K	**Nabesna, AK**	**5.26**	**57**	P	Pn	**02 03 19.1**	**-0.1**
	baz=246						
RIDG	**Independent Ri**	**5.30**	**40**		Pn	**02 03 21.1**	**+1.3**
RIDG	**Independent Ri**	**5.30**	**40**	P	Pn	**02 03 20.8**	**+1.0**
	baz=227,SNR=18						
I21K	**Tanana**	**5.31**	**3**		Pn	**02 03 21.0**	**+1.2**
I21K	**Tanana**	**5.31**	**3**	IAML		02 04 16.4	
	comp=N,9.0nm,3.3s						
I21K				IAML		02 04 56.2	
	comp=E,11nm,3.1s						
I21K	**Tanana**	**5.31**	**3**	P	Pn	**02 03 20.4**	**+0.6**
	baz=183,SNR=17						
MESA	**MESA**	**5.32**	**82**	P	Pn	**02 03 20.9**	**+0.8**
	baz=272						
PS08	**TAPS Pump Stn8**	**5.37**	**27**		Pn	**02 03 21.3**	**+0.6**
YAH	**Yahtse**	**5.42**	**80**		Pn	**02 03 22.7**	**+1.2**
GRNC	**Granite Creek**	**5.42**	**76**		Pn	**02 03 22.4**	**+0.7**
TCOL	**CIGO, UAF Yank**	**5.45**	**22**	Pn	Pn	**02 03 22.8**	**+1.1**
TCOL	**CIGO, UAF Yank**	**5.45**	**22**	P	Pn	**02 03 22.1**	**+0.4**
	baz=206						
COLA	**College**	**5.45**	**22**	P	Pn	**02 03 22.2**	**+0.6**
	baz=206						
MDM	**Murphy Dome**	**5.46**	**20**		Pn	**02 03 22.6**	**+0.8**
I23K	**Minto, Yukon-K**	**5.47**	**14**		Pn	**02 03 23.1**	**+1.2**
I23K	**Minto, Yukon-K**	**5.47**	**14**	P	Pn	**02 03 23.0**	**+1.0**
	baz=197,SNR=14						
BARN	**Barnard Glacie**	**5.50**	**73**		Pn	**02 03 23.0**	**+0.3**
IL31		**5.55**	**26**		Pn	**02 03 23.5**	**+0.4**
ILAR	**Eielson Array**	**5.55**	**26**		Pn	**02 03 23.4**	**+0.2**
RKAV	**Rock Avalanche**	**5.61**	**81**		Pn	**02 03 25.0**	**+0.9**
CTG	**Chitna Glacier**	**5.65**	**74**	P	Pn	**02 03 25.3**	**+0.7**
	baz=264,SNR=5.5						
CTGM	**Chitina Glacie**	**5.65**	**74**		Pn	**02 03 25.4**	**+0.7**
TABL	**Table Mountain**	**5.71**	**80**		Pn	**02 03 26.2**	**+0.7**
M27K	**Edge Creek, AK**	**5.72**	**60**	P	Pn	**02 03 26.0**	**+0.4**
	baz=249						
POKR	**Poker Flat Res**	**5.75**	**22**	P	Pn	**02 03 26.1**	**+0.3**
	baz=207						
SCRK	**Sand Creek**	**5.75**	**41**		Pn	**02 03 26.5**	**+0.6**
SCRK	**Sand Creek**	**5.75**	**41**	P	Pn	**02 03 26.4**	**+0.6**
	baz=229,SNR=6.4						
H21K	**Melozitna Rive**	**5.78**	**359**		Pn	**02 03 27.0**	**+0.7**
H21K	**Melozitna Rive**	**5.78**	**359**	P	Pn	**02 03 26.6**	**+0.4**
	baz=179,SNR=6.9						
J25K	**Salcha River,**	**5.79**	**32**		Pn	**02 03 26.8**	**+0.4**
J25K	**Salcha River,**	**5.79**	**32**	P	Pn	**02 03 27.2**	**+0.7**
	baz=219,SNR=12						
LOGN	**Logan Glacier**	**5.80**	**76**		Pn	**02 03 27.1**	**+0.4**
YUK2	**White River**	**6.02**	**67**		Pn	**02 03 29.7**	**+0.1**
H23K	**Yukon River**	**6.10**	**12**		Pn	**02 03 31.1**	**+0.5**
H23K	**Yukon River**	**6.10**	**12**	P	Pn	**02 03 31.3**	**+0.7**
	baz=194,SNR=11						
IM03		**6.13**	**355**		Pn	**02 03 31.5**	**+0.6**
IMAR	**Indian Mountai**	**6.13**	**355**	Pn	Pn	**02 03 31.9**	**+0.8**
PCA	**Pinnacle**	**6.17**	**83**		Pn	**02 03 32.5**	**+1.0**
PINM	**Pinnacle**	**6.17**	**83**	P	Pn	**02 03 32.5**	**+0.9**
	baz=274						
YUK3	**Moose Creek**	**6.20**	**67**		Pn	**02 03 32.4**	**+0.3**
YUK3	**Moose Creek**	**6.20**	**67**	P	Pn	**02 03 32.0**	**-0.1**
	baz=258						
J26L	**Joseph Creek**	**6.24**	**38**	P	Pn	**02 03 33.5**	**+0.9**
	baz=226,SNR=11						
YUK1	**Sand Pete Hill**	**6.26**	**64**		Pn	**02 03 33.4**	**+0.5**
H24K	**Noodor Dome**	**6.33**	**18**		Pn	**02 03 34.2**	**+0.5**
H24K	**Noodor Dome**	**6.33**	**18**	P	Pn	**02 03 34.3**	**+0.6**
	baz=202						
BCPM	**Bancas Point**	**6.49**	**84**		Pn	**02 03 36.0**	**+0.1**
PRP	**Porcupine Dome**	**6.49**	**27**		Pn	**02 03 36.4**	**+0.4**
PRP	**Porcupine Dome**	**6.49**	**27**	P	Pn	**02 03 36.5**	**+0.4**
	baz=213,SNR=18						
PNL	**Peninsula**	**6.64**	**86**		Pn	**02 03 38.5**	**+0.6**
YUK4	**Talbot Arm**	**6.99**	**72**	P	Pn	**02 03 43.9**	**+1.1**
	baz=264						
YUK6	**Outpost Mounta**	**7.10**	**75**		Pn	**02 03 45.2**	**+0.9**
YUK6	**Outpost Mounta**	**7.10**	**75**	P	Pn	**02 03 44.9**	**+0.5**
	baz=268						
YUK7	**Dusty Glacier**	**7.20**	**79**		Pn	**02 03 46.6**	**+0.8**
EGAK	**Eagle**	**7.21**	**42**		Pn	**02 03 45.9**	**+0.4**
EGAK	**Eagle**	**7.21**	**42**	P	Pn	**02 03 46.1**	**+0.5**
	baz=233						
COLD	**Coldfoot**	**7.43**	**7**	P	Pn	**02 03 49.3**	**+0.6**
	baz=189						
DAWY	**Dawson**	**7.46**	**50**	P	Pn	**02 03 49.7**	**+0.6**
	baz=242						
HYT	**Haines Junctio**	**7.51**	**76**	P	Pn	**02 03 50.4**	**+0.5**
	baz=270						
BM03	**Burnt Mountain**	**8.32**	**22**		Pn	**02 04 00.7**	**-0.2**
BM01	**Burnt Mountain**	**8.37**	**22**		Pn	**02 04 01.4**	**+0.1**
WHY	**Whitehorse**	**8.80**	**77**	P	Pn	**02 04 07.9**	**+0.5**
	baz=273						

SJA 22 02:08:45.0,30°.84S×73°.54W,h10km,ML4.6,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO03	**El Pedregal**	**2.45**	**91**	*i* P	Pn	02 09 23.0	-2.2
GO04	**Tololo Observa**	**2.46**	**75**	*i* P	Pn	02 09 23.0	-2.4
LCO	**Las Campanas**	**3.06**	**64**	*i* P	Pn	02 09 33.0	-0.8
AC04	**Llanos de Chal**	**3.39**	**40**	*i* P	Pn	02 09 36.0	-2.0
MT05	**Renca**	**3.48**	**138**	*i* P	Pn	02 09 37.0	-2.3
AROD	**Rodeo**	**3.57**	**80**	*i* P	Pn	02 09 41.0	+0.2
RTLS	**Leoncito**	**3.75**	**106**	*i* P	Pn	02 09 43.0	-0.3
AUSP	**Uspallata**	**3.81**	**112**	*i* P	Pn	02 09 41.0	-3.0
ACCO	**Cerro Coronel**	**3.86**	**87**	*i* P	Pn	02 09 46.0	+1.2
BO01	**Tunca**	**4.10**	**150**	*i* P	Pn	02 09 50.0	+2.2
RTCV	**Cerro Valdivia**	**4.40**	**105**	*i* P	Pn	02 09 55.0	+3.1
ARCO	**CERRO ARCO**	**4.40**	**118**	*i* P	Pn	02 09 52.0	0.0
AGUA	**GUANDACOL**	**4.58**	**74**	*i* P	Pn	02 09 57.0	+2.6
AAGR	**Agrelo**	**4.59**	**120**	*i* P	Pn	02 09 56.0	+1.4
VCA	**Vinchina**	**5.09**	**67**	*i* P	Pn	02 10 03.0	+1.5
AC02	**Maricunga**	**5.56**	**45**	*i* P	Pn	02 10 08.0	-0.2
PB15	**IPOC Station P**	**8.42**	**26**	*i* P	Pn	02 10 48.0	+0.7

IDC 22 02:31:41.7±3.5,2°.74S×138°.55E,h0km,mb3.7/2, mb1 3.9/4,mb1mx3.6/24,mbtmp3.7/4,ML3.7/2,MS3.4/1, Ms1 3.3/1,ms1mx2.6/28,Error ellipse: s-maj=117.5km s-min=29.0km az=89.0,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.59**	**193**	P	Pn	02 35 48.3	-0.1
	0.4nm,0.3s,baz=16,slow=13,SNR=11						
FITZ	**Fitzroy Crossi**	**19.83**	**219**	P	P	02 36 13.6	-0.6
	0.1nm,0.3s,baz=40,slow=12,SNR=2.2						
ASAR	**Alice Springs**	**21.29**	**192**	P	P	02 36 30.9	+0.8
	1.5nm,0.6s,baz=25,slow=9.3,SNR=11						
STKA	**Stephens Creek**	**29.13**	**175**	LR	LR	02 51 20.1	
	comp=Z,74nm,19.2s,baz=206,slow=40						
MKAR	**Makanchi Array**	**69.71**	**322**	P	P	02 42 53.4	-0.1
	1.2nm,0.9s,baz=99,slow=8.9,SNR=4.6						

*SJA **22** 02:34:54.0,29°.58S×72°.58W,h10km,ML5.0*
*NEIC **22** 02:34:55.1±1.4,29°.74S±0°.03×72°.19W±0°.03,h10km±1km, mb4.1/2,ML3.8(GUC),Error ellipse: s-maj=5.4km s-min=4.3km az=335.0*
*IDC **22** 02:34:55.8±1.0,29°.71S×71°.74W,h0km,mb4.0/7, mb1 4.0/11,mb1mx3.9/26,mbtmp4.0/11,ML3.9/4,MS2.9/1, Ms1 2.9/1,ms1mx2.5/23,Error ellipse: s-maj=36.4km s-min=19.2km az=103.0*
*GUC **22** 02:34:56.8±0.6,29°.65S×72°.09W,h35km±3km,ML4.0*
ISC 22 02:34:54.7±0.6,29°.65S±0°.03×72°.20W±0°.05,h10km,n83, σ1§46/90,**mb4.1/8,3C-1D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO05	**La Serena**	**0.87**	**108**	⇓*i* P	**Pb**	**02 35 11.4**	**-0.5**
CO05				*i* S	**Sg**	**02 35 22.4**	**-0.6**
CO05				IAML		02 35 24.4	
	comp=E,10µm,0.7s						
CO05	**La Serena**	**0.87**	**108**		**Pb**	**02 35 11.4**	**-0.5**
CO05					**Sg**	**02 35 22.6**	**-0.4**
CO06	**Fray Jorge**	**1.13**	**155**	*e*P	**Pn**	**02 35 16.1**	**-0.6**
CO06	**Fray Jorge**	**1.13**	**155**	Pn	**Pn**	**02 35 15.8**	**-0.8**
CO06				Sn	**Sb**	**02 35 27.9**	**-3.3**
GO04	**Tololo Observa**	**1.32**	**114**	*e*P	**Pn**	**02 35 18.8**	**-0.6**
GO04	**Tololo Observa**	**1.32**	**114**		**Pn**	**02 35 18.8**	**-0.6**
GO04	**Tololo Observa**	**1.32**	**114**	*i* P	**Pb**	**02 35 19.0**	**-0.7**
LCO	**Las Campanas**	**1.45**	**64**	*e*P	**Pb**	**02 35 21.1**	**-0.9**
LCO				*i* S	**Sn**	**02 35 39.2**	**-1.3**
LCO	**Las Campanas**	**1.45**	**64**	Pn	**Pg**	**02 35 22.0**	**-0.6**
LCO				Sn	**Sb**	**02 35 40.2**	**-0.4**
LCO	**Las Campanas**	**1.45**	**64**	*i* P	**Pg**	**02 35 22.0**	**-0.6**
AC04	**Llanos de Chal**	**1.74**	**35**	⇑*i* P	**Pb**	**02 35 25.8**	**-0.9**
AC04				*i* S	**Sb**	**02 35 47.6**	**-1.1**
AC04				IAML		02 35 59.7	
	comp=E,818nm,0.4s						
AC04	**Llanos de Chal**	**1.74**	**35**	Pn	**Pb**	**02 35 25.9**	**-0.9**
AC04				Sn	**Sb**	**02 35 47.2**	**-1.5**
AC04	**Llanos de Chal**	**1.74**	**35**	*i* P	**Pb**	**02 35 26.0**	**-0.8**
CO03	**El Pedregal**	**1.76**	**133**	⇑*i* P	**Pb**	**02 35 25.6**	**-1.5**
CO03				*i* S	**Sn**	**02 35 47.7**	**-0.2**
CO03				IAML		02 35 51.7	
	comp=E,3µm,0.4s						
CO03	**El Pedregal**	**1.76**	**133**	Pn	**Pn**	**02 35 25.2**	**-0.2**
CO03				Sn	**Sn**	**02 35 45.5**	**-2.4**
AROD	**Rodeo**	**2.42**	**103**	*i* P	**Pb**	**02 35 37.0**	**-1.5**
GO03	**Copiap**	**2.67**	**41**	*e*P	**Pn**	**02 35 38.7**	**+0.8**
GO03				*i* S	**Sn**	**02 36 10.6**	**+0.2**
GO03	**Copiap**	**2.67**	**41**	Pn	**Pn**	**02 35 39.3**	**+1.4**
GO03	**Copiap**	**2.67**	**41**	*i* P	**Pn**	**02 35 39.0**	**+1.1**
AC06	**Mina Casimiro**	**2.80**	**36**	⇑*i* P	**Pb**	**02 35 41.4**	**-3.5**
AC06				*i* S	**Sn**	**02 36 13.1**	**-0.3**
AC06				IAML		02 36 31.4	
	comp=E,394nm,0.5s						
AC06	**Mina Casimiro**	**2.80**	**36**	Pn	**Pb**	**02 35 41.3**	**-3.5**
VA06	**Catapilco**	**3.00**	**165**	*e*P	**Pn**	**02 35 41.3**	**-1.1**
AGUA	**GUANDACOL**	**3.23**	**88**	*i* P	**Pb**	**02 35 50.0**	**-2.2**
VA01	**Torpederas**	**3.40**	**172**	Pn	**Pn**	**02 35 47.3**	**-0.4**
VA03	**San Esteban**	**3.41**	**156**	*e*P	**Pn**	**02 35 49.2**	**+1.1**
VA03				*e*S	**Sn**	**02 36 29.5**	**+0.9**
VA03				IAML		02 36 47.2	
	comp=N,799nm,0.5s						
VA03	**San Esteban**	**3.41**	**156**		**Pn**	**02 35 48.5**	**+0.4**
VCA	**Vinchina**	**3.60**	**76**	*i* P	**Pb**	**02 35 56.0**	**-2.6**
RTCV	**Cerro Valdivia**	**3.84**	**126**	*i* P	**Pb**	**02 35 58.0**	**-4.6**
AC02	**Maricunga**	**3.89**	**45**	Pn	**Pn**	**02 35 56.5**	**+1.4**
AC02	**Maricunga**	**3.89**	**45**	*i* P	**Pn**	**02 35 57.0**	**+1.9**
MT05	**Renca**	**3.94**	**162**	Pn	**Pn**	**02 35 55.9**	**+0.7**
MT05	**Renca**	**3.94**	**162**	*i* P	**Pn**	**02 35 56.0**	**+0.7**
VA05	**Santo Domingo**	**4.03**	**173**	Pn	**Pn**	**02 35 55.8**	**-0.6**
ASAL	**Salagasta**	**4.11**	**136**	*i* P	Pb	02 36 02.0	-5.2
ARCO	**CERRO ARCO**	**4.24**	**140**	*i* P	Pb	02 36 04.0	-5.4
MT09	**Talagante**	**4.24**	**166**		**Pn**	**02 35 59.5**	**0.0**
MT01	**Popeta**	**4.28**	**169**		**Pn**	**02 35 59.4**	**-0.5**
AAGR	**Agrelo**	**4.48**	**141**	*i* P	Pn	02 36 07.0	+4.3
BO01	**Tunca**	**4.82**	**169**	Pn	**Pn**	**02 36 06.0**	**-1.4**
BO01	**Tunca**	**4.82**	**169**	*i* P	**Pn**	**02 36 08.0**	**+0.6**
BO02	**Sierra Bellavi**	**5.27**	**167**		**Pn**	**02 36 13.5**	**0.0**
BO02	**Sierra Bellavi**	**5.27**	**167**	*i* P	**Pn**	**02 36 14.0**	**+0.4**
GO05	**Huala**	**5.35**	**178**	Pn	**Pn**	**02 36 13.6**	**-1.1**
GO05	**Huala**	**5.35**	**178**	*i* P	**Pn**	**02 36 14.0**	**-0.7**
CYA	**Chova**	**5.72**	**79**	*i* P	**Pn**	**02 36 22.0**	**+2.2**
COIS	**El Sosneado**	**5

baz=0.0
KK31 **Karatay Array** 1.50 7 P Pb 02 43 54.6 -0.2
1.3nm,0.2s,baz=192,slow=110
KK31 ⇑S Sb 02 44 14.1 +0.1
12nm,0.3s,baz=185,slow=31,SNR=16
BTK Batken 1.62 164 ⇑*i*P Pn 02 43 55.2 -0.4
baz=63
BTK ⇑*i*S Sb 02 44 16.9 -0.5
baz=63
MNAS Manas 1.89 62⇑*e*P Pn 02 44 00.9 -0.7
baz=61
MNAS ⇑*i*S Sg 02 44 26.6 -1.0
baz=61
OHH Osh 2.20 119 ⇑*i*P Pn 02 44 04.9 +1.2
baz=18
OHH ⇑*i*S Sb 02 44 33.2 -1.1
baz=18
DRK Karamyk 2.44 151 ⇓*i*P Pn 02 44 08.1 +1.0
baz=50
DRK ⇓*i*S Sn 02 44 38.9 +1.8
baz=50
MRKS Merke 2.48 62 *e*P Pb 02 44 11.4 -0.2
3.0nm,0.4s
MRKS *e*S Sb 02 44 43.0 +0.7
23nm,0.4s
MRKS Merke 2.48 62 Pg Pb 02 44 12.7 +1.0
5.6nm,0.3s
MRKS Lg Lg 02 44 43.0
23nm,0.4s
AML Almayashu 2.62 78⇑*e*P Pn 02 44 11.4 +1.7
baz=77
AML ⇑*i*S Sn 02 44 43.9 +2.2
baz=77
EKS2 Erkin-Say 2.82 67⇑*i*P Pn 02 44 13.9 +1.7
baz=67
EKS2 ⇑*i*S Sn 02 44 48.7 +2.4
baz=67
UCH Uchtor 3.24 78⇓*e*P Pn 02 44 20.0 +1.8
baz=77
UCH ⇓*i*S Sn 02 44 59.0 +2.0
baz=77
USP Ospenovka 3.55 61⇑*e*P Pn 02 44 24.0 +1.9
baz=61
USP ⇑*i*S Sn 02 45 06.1 +2.0
baz=61
SGDS Sogindy 3.72 59 Pg Pg 02 44 35.9 -2.3
2.1nm,0.3s
SGDS Lg Lg 02 45 22.5
5.3nm,0.3s
KZA Kyzart 3.76 81⇑*e*P Pn 02 44 27.2 +1.8
baz=81
KZA ⇑*i*S Sn 02 45 11.7 +1.8
baz=81
TKM2 Tokmak 2 4.17 70 ⇑Pg Pg 02 44 45.5 -1.4
3.5nm,1.0s
TKM2 ⇑Lg Lg 02 45 39.5
3.8nm,0.5s
BTLS Baital 4.40 38 *e*P Pb 02 44 47.6 +3.3
2.0nm,0.7s
BTLS *e*S Sg 02 45 46.0 -2.1
5.8nm,0.3s
KST Kastek 4.46 70 *e*P Pb 02 44 47.9 +2.4
0.9nm,0.5s
KST *e*S Sg 02 45 46.4 -3.9
4.4nm,0.5s
KST Kastek 4.46 70 Pg Pg 02 44 49.8 -2.7
0.9nm,0.1s
KST Lg Lg 02 45 46.4
4.4nm,0.5s
KRBS Karabastau 4.50 61 *e*P Pg 02 44 50.7 -2.5
1.6nm,0.4s
KRBS *e*S Sg 02 45 49.8 -1.7
4.0nm,0.3s
KRBS Karabastau 4.50 61 Pg Pg 02 44 49.7 -3.5
2.6nm,0.6s
KRBS Lg Lg 02 45 46.6
3.4nm,0.4s
KUU Kurty 5.02 61 *e*P Pb 02 44 57.6 +2.7
0.8nm,0.5s
KUU *e*S Sg 02 46 03.2 -5.0
3.9nm,0.7s
KUU Kurty 5.02 61 Pg Pg 02 45 00.2 -2.9
1.7nm,0.7s
KUU Lg Lg 02 46 04.1
3.9nm,0.7s
TNSS Tian-Shan 5.16 72 Pg Pg 02 45 03.4 -2.4
1.7nm,0.5s
TNSS Lg Lg 02 46 10.9
2.8nm,0.5s

TRN ***22*** *02:45:20.4, 13°.91N×58°.65W, h80km, MD4.2*
ISC 22 02:45:18.4±2.2, 13°.93N±0°.04×58°.6W±0°.1, h10km, n44, σ1§66/67, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.19**	**226**	*e*P	**Pg**	**02 45 42.8**	**+1.4**
BBSP				*e*S	**Sg**	**02 45 58.2**	**+1.3**
BBGH	**Gun Hill**	**1.24**	**231**	*e*P	**Pn**	**02 45 42.8**	**+1.0**
BBGH				*e*S	**Sb**	**02 45 58.6**	**+0.6**
BCHC	**Barbados, Cave**	**1.30**	**233**	*e*P	**Pn**	**02 45 43.5**	**+0.9**
MPOM	**Morne Pois Mar**	**2.28**	**283**	*e*P	**Pn**	**02 45 55.4**	**-0.6**
MPOM	**Morne Pois Mar**	**2.28**	**283**	*e*	**Pg**	**02 46 04.6**	**+2.5**
MPOM				*e*S	**Sn**	**02 46 21.9**	**-2.3**
MCLT	**Moule a Chique**	**2.31**	**265**	*e*P	**Pn**	**02 45 56.1**	**-0.5**
MCLT				*e*S	**Sn**	**02 46 24.8**	**-0.4**
SLBI	**Saint Lucia, B**	**2.33**	**273**	*e*P	**Pn**	**02 45 55.8**	**-1.0**
SLBI				*e*S	**Sn**	**02 46 23.2**	**-2.4**
MVM	**Montagne Vaucl**	**2.34**	**286**	*e*P	**Pn**	**02 45 56.8**	**-0.1**
SLCP	**Castries, St.**	**2.35**	**272**	*e*P	**Pn**	**02 45 57.1**	**0.0**
SLCP				*e*S	**Sn**	**02 46 24.3**	**-1.7**
ILAM	**Ilet Lapin Mar**	**2.38**	**291**	*e*P	**Pn**	**02 45 57.1**	**-0.5**
ILAM				*e*S	**Sn**	**02 46 25.5**	**-1.4**
SLB	**Belfond**	**2.40**	**268**	*e*P	**Pn**	**02 45 58.3**	**+0.5**
SLB				*e*S	**Sn**	**02 46 25.2**	**-2.2**
LPMF	**Morne Lapointe**	**2.41**	**286**	*e*P	**Pn**	**02 45 57.8**	**-0.1**
ZAM	**Aeronautique**	**2.47**	**285**	*e*P	**Pn**	**02 45 58.6**	**0.0**
TRMF	**Trois Ilets**	**2.48**	**284**	*e*P	**Pn**	**02 45 58.6**	**-0.2**
BIM	**Bigot**	**2.49**	**284**	*e*P	**Pn**	**02 45 58.9**	**-0.2**
BIM				*e*S	**Sn**	**02 46 27.9**	**-1.8**
SFAN	**Fancy Village**	**2.59**	**258**	*e*P	**Pn**	**02 46 00.3**	**0.0**
SSV	**Crater Summit**	**2.62**	**257**	*e*P	**Pn**	**02 46 01.5**	**+0.6**
SSV				*e*S	**Sn**	**02 46 31.2**	**-1.6**
FDF	**Fort de France**	**2.62**	**288**	*e*P	**Pn**	**02 46 01.1**	**+0.2**
FDF				*e*S	**Sn**	**02 46 31.8**	**-1.0**
SVV	**Soufriere Volc**	**2.64**	**257**	*e*P	**Pn**	**02 46 01.9**	**+0.8**
SVV				*e*S	**Sn**	**02 46 31.7**	**-1.6**
BAMF	**Morne Balai**	**2.65**	**290**	*e*P	**Pn**	**02 46 01.7**	**+0.5**
CXM	**Morne La Croix**	**2.67**	**289**	*e*P	**Pn**	**02 46 01.9**	**+0.4**
PML	**Morne Lenard**	**2.67**	**289**	*e*P	**Pn**	**02 46 02.1**	**+0.6**
SVN	**Savane Anatole**	**2.67**	**290**	*e*P	**Pn**	**02 46 02.0**	**+0.4**
SVB	**Belmont**	**2.69**	**256**	*e*P	**Pn**	**02 46 01.4**	**-0.3**
SVB				*e*S	**Sn**	**02 46 31.4**	**-3.1**
PCM	**Pelee Case Pet**	**2.71**	**289**	*e*P	**Pn**	**02 46 02.6**	**+0.6**
GCMP	**Grenada, Carri**	**3.13**	**243**	*e*P	**Pn**	**02 46 07.6**	**-0.2**
GCMP				*e*S	**Sn**	**02 46 42.9**	**-2.4**
DSLB	**Salisbury**	**3.14**	**299**	*e*P	**Pn**	**02 46 08.4**	**+0.5**
DSLB				*e*S	**Sn**	**02 46 42.7**	**-2.9**
MDPV	**Dominica, Penn**	**3.23**	**302**	*e*S	**Sn**	**02 46 46.1**	**-1.7**
TOSP	**Speyside**	**3.25**	**216**	*e*P	**Pn**	**02 46 09.6**	**+0.2**
TOSP				*e*S	**Sn**	**02 46 45.2**	**-2.9**
MDCT	**Cottage Hill,**	**3.26**	**301**	*e*P	**Pn**	**02 46 09.7**	**+0.1**
MDCT				*e*S	**Sn**	**02 46 46.3**	**-2.3**
MAGL	**Barre de l'ile**	**3.30**	**308**	*e*P	**Pn**	**02 46 10.6**	**+0.4**
MAGL				*e*S	**Sn**	**02 46 47.8**	**-1.7**
GRSS	**Sisters**	**3.38**	**242**	*e*P	**Pn**	**02 46 11.2**	**0.0**
GRHS	**Sauteurs**	**3.44**	**241**	*e*P	**Pn**	**02 46 12.6**	**+0.5**
GRGR	**Grenville**	**3.50**	**240**	*e*P	**Pn**	**02 46 12.9**	**+0.1**
GRGR				*e*S	**Sn**	**02 46 52.1**	**-2.2**
TDBA	**Terre de Bas,**	**3.52**	**303**	*e*P	**Pn**	**02 46 13.6**	**+0.3**
TDBA				*e*S	**Sn**	**02 46 52.9**	**-2.1**
TBG	**Guadaloupe-3**	**3.53**	**303**	*e*P	**Pn**	**02 46 13.4**	**+0.1**
TBG				*e*S	**Sn**	**02 46 53.0**	**-2.2**
GRFF	**Grenada Fort F**	**3.61**	**239**	*e*P	**Pn**	**02 46 14.5**	**0.0**
GRFF				*e*S	**Sn**	**02 46 53.0**	**-4.1**
CBE	**Ff, Capester**	**3.62**	**306**	*e*P	**Pn**	**02 46 15.5**	**+0.8**
CBE				*e*S	**Sn**	**02 46 55.5**	**-2.0**
TRN	**Trinidad (W)**	**4.28**	**221**	*e*P	**Pn**	**02 46 24.1**	**+0.5**
TRN	**Trinidad (W)**	**4.28**	**221**	*e*S	**Sn**	**02 47 09.5**	**-4.2**
ANBD	**Bethesda, Anti**	**4.37**	**316**	*e*P	**Pn**	**02 46 25.1**	**+0.3**
ANOC	**Antigua Open C**	**4.46**	**316**	*e*S	**Sn**	**02 47 14.2**	**-4.0**
SKI	**Saint Kitts**	**5.25**	**311**	*e*P	**Pn**	**02 46 38.1**	**+1.1**
SKI	**Saint Kitts**	**5.25**	**311**	*e*S	**Sn**	**02 47 33.6**	**-4.0**

SJA ***22*** *02:46:35.0, 31°.73S×73°.41W, h10km, ML4.6*
IDC ***22*** *02:46:38.4±0.8, 31°.74S×72°.55W, h0km, mb4.0/7, mb1 4.2/12, mb1mx4.0/34, mbtmp4.0/12, ML4.2/5, MS3.0/3, Ms1 3.0/3, ms1mx2.8/23, Error ellipse: s-maj=28.6km s-min=18.6km az=102.0*
NEIC ***22*** *02:46:39.6±1.9, 31°.72S±0°.04×72°.77W±0°.07, h17km±5km, mb4.2/12, ML4.1(GUC), Error ellipse: s-maj=9.5km s-min=3.9km az=115.0*
GUC ***22*** *02:46:42.4±0.8, 32°.02S×72°.77W, h32km±4km, ML4.0*
VAO ***22*** *02:46:58.8±1.2, 31°.22S×72°.26W, h144km±7km, mb4.2*
ISC 22 02:46:40.6±2.6, 31°.92S±0°.04×72°.81W±0°.06, h14km±15km, n143, σ1§67/122, mb4.2/9, 4C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**1.44**	**117**	⇓*e*P	**Pn**	**02 47 05.7**	**-0.6**
VA06				*e*S	**Sb**	**02 47 24.0**	**-1.4**
VA06				IAML		02 47 26.0	
	comp=E,7μm,0.5s						
VA01	**Torpederas**	**1.48**	**138**	*e*P	**Pn**	**02 47 06.7**	**-0.2**
VA01				*e*S	**Sb**	**02 47 25.8**	**-0.8**
VA01				IAML		02 47 28.1	
	comp=N,1μm,0.1s						
VA01	**Torpederas**	**1.48**	**138**	Pn	**Pn**	**02 47 06.6**	**-0.3**
VA01				Sn	**Sg**	**02 47 26.6**	**-1.7**
VA01	**Torpederas**	**1.48**	**138**	*i* P	**Pn**	**02 47 07.0**	**+0.1**
CO06	**Fray Jorge**	**1.60**	**39**		Pn	02 47 02.4	-6.1
CO06				Sn	Sn	02 47 21.8	-7.2
ROCH	**El Roble**	**1.85**	**125**	*e*P	**Pn**	**02 47 12.5**	**+0.2**
ROCH				*e*S	**Sn**	**02 47 35.3**	**-0.3**
ROCH				IAML		02 47 38.5	
	comp=E,2μm,0.7s						
VA05	**Santo Domingo**	**2.01**	**150**	*e*P	**Pn**	**02 47 14.3**	**+0.2**
VA05				*e*S	**Sn**	**02 47 38.5**	**-0.6**
VA05				IAML		02 47 41.6	
	comp=N,4μm,0.3s						
VA05	**Santo Domingo**	**2.01**	**150**	Pn	**Pn**	**02 47 14.5**	**+0.3**
VA03	**San Esteban**	**2.09**	**114**	*e*P	**Pn**	**02 47 15.8**	**+0.3**
VA03				*e*S	**Sn**	**02 47 41.9**	**+0.5**
VA03				IAML		02 47 45.1	
	comp=N,3μm,0.4s						
VA03	**San Esteban**	**2.09**	**114**	Pn	**Pn**	**02 47 14.3**	**-1.2**
VA03				Sn	**Sn**	**02 47 41.7**	**+0.3**
VA03	**San Esteban**	**2.09**	**114**	*i* P	**Pn**	**02 47 15.0**	**-0.5**
CO03	**El Pedregal**	**2.11**	**60**	*e*P	Pn	02 47 13.2	-2.5
CO03	**El Pedregal**	**2.11**	**60**	Pn	Pn	02 47 12.7	-3.0
CO03				Sn	**Sn**	**02 47 38.1**	**-3.8**
CO03	**El Pedregal**	**2.11**	**60**	*i* P	Pn	02 47 13.0	-2.7
MT05	**Renca**	**2.29**	**131**	⇑*e*P	**Pn**	**02 47 19.0**	**+0.9**
MT05				*e*S	**Sn**	**02 47 46.3**	**+0.2**
MT05				IAML		02 47 50.0	
	comp=E,2μm,0.4s						
MT05	**Renca**	**2.29**	**131**	Pn	**Pn**	**02 47 17.5**	**-0.6**
MT05	**Renca**	**2.29**	**131**	*i* P	**Pn**	**02 47 19.0**	**+0.9**
MT01	**Popeta**	**2.34**	**146**	⇑*e*P	**Pn**	**02 47 19.0**	**+0.2**
MT01				*e*S	**Sn**	**02 47 47.0**	**-0.5**
MT01				IAML		02 47 51.9	
	comp=E,848nm,0.6s						
MT01	**Popeta**	**2.34**	**146**		**Pn**	**02 47 19.1**	**+0.2**
MT01	**Popeta**	**2.34**	**146**	*i* P	**Pn**	**02 47 19.0**	**+0.2**
MT09	**Talagante**	**2.41**	**141**	⇓*e*P	**Pn**	**02 47 20.8**	**+1.0**
MT09				*e*S	**Sn**	**02 47 49.3**	**+0.1**
MT09				IAML		02 47 52.4	
	comp=N,1μm,0.3s						
MT09	**Talagante**	**2.41**	**141**		**Pn**	**02 47 20.2**	**+0.4**
CO05	**La Serena**	**2.41**	**35**	Pn	Pn	02 47 15.5	-4.2
GO04	**Tololo Observa**	**2.45**	**45**	Pn	Pn	02 47 16.9	-3.7
BO03	**Pichilemu**	**2.67**	**165**	*e*P	**Pn**	**02 47 23.2**	**-0.1**
BO03				*e*S	**Sn**	**02 47 54.0**	**-1.5**
BO03				IAML		02 47 56.6	
	comp=E,703nm,0.5s						
BO01	**Tunca**	**2.86**	**150**	*e*P	**Pn**	**02 47 26.4**	**+0.5**
BO01				*e*S	**Sn**	**02 48 00.3**	**+0.1**
BO01				IAML		02 48 03.2	
	comp=E,325nm,0.4s						
BO01	**Tunca**	**2.86**	**150**	Pn	**Pn**	**02 47 26.5**	**+0.5**
BO01	**Tunca**	**2.86**	**150**	*i* P	**Pn**	**02 47 26.0**	**+0.1**
LMEL	**Las Melosas**	**2.92**	**132**	⇑*e*P	**Pn**	**02 47 26.9**	**0.0**
LMEL				*i* S	**Sn**	**02 48 00.8**	**-1.1**
LMEL				IAML		02 48 08.3	
	comp=N,1μm,0.1s						
RTLS	**Leoncito**	**3.00**	**89**	*i* P	**Pn**	**02 47 30.0**	**+2.0**
GO05	**Huala**	**3.17**	**167**	Pn	**Pn**	**02 47 29.6**	**-0.6**
GO05	**Huala**	**3.17**	**167**	*i* P	**Pn**	**02 47 29.0**	**-1.2**
BO02	**Sierra Bellavi**	**3.33**	**150**		**Pn**	**02 47 32.9**	**+0.4**
BO02	**Sierra Bellavi**	**3.33**	**150**	*i* P	**Pn**	**02 47 34.0**	**+1.5**
AROD	**Rodeo**	**3.36**	**60**	*i* P	**Pn**	**02 47 32.0**	**-1.0**
ARCO	**CERRO ARCO**	**3.41**	**107**	*i* P	**Pn**	**02 47 38.0**	**+4.4**
LCO	**Las Campanas**	**3.42**	**33**	*i* P	Pn	02 47 00.1	-3.9
ACCO	**Cerro Coronel**	**3.47**	**69**	*i* P	**Pn**	**02 47 35.0**	**+0.4**
ZON	**Zonda**	**3.54**	**85**		**Pn**	**02 47 32.9**	**-2.4**
AAGR	**Agrelo**	**3.56**	**110**	*i* P	**Pn**	**02 47 40.0**	**+4.3**
AC04	**Llanos de Chal**	**4.00**	**23**	Pn	Pn	02 47 36.1	-5.5
AC04	**Llanos de Chal**	**4.00**	**23**	*i* P	Pn	02 47 36.0	-5.5
ML02	**Panimavida**	**4.01**	**164**	Pn	**Pn**	**02 47 41.9**	**+0.2**
AGUA	**GUANDACOL**	**4.44**	**58**	*i* P	**Pn**	**02 47 47.0**	**-0.8**
RFA	**San Rafael**	**4.62**	**129**	*i* P	**Pn**	**02 47 53.0**	**+2.8**
GO03	**Copiap**	**4.86**	**28**	Pn	Pn	02 47 48.9	-4.5
GO03	**Copiap**	**4.86**	**28**	*i* P	Pn	02 47 50.0	-3.4
AC06	**Mina Casimiro**	**5.02**	**26**	Pn	Pn	02 47 51.0	-4.7
VCA	**Vinchina**	**5.09**	**53**	*i* P	**Pn**	**02 47 57.0**	**+0.3**
H03N1	**Juan Fernandez**	**5.36**	**252**	T	T	02 53 32.5	
	baz=78,slow=71,SNR=17						
H03N3	**Juan Fernandez**	**5.38**	**252**	T	T	02 53 30.0	
	baz=78,slow=71,SNR=26						
H03N2	**Juan Fernandez**	**5.38**	**252**	T	T	02 53 26.4	
	baz=78,slow=71,SNR=25						
H03S3	**Juan Fernandez**	**5.47**	**248**	T	T	02 54 57.5	
	baz=83,slow=74,SNR=5.2						
H03S1	**Juan Fernandez**	**5.47**	**248**	T	T	02 55 02.9	
	baz=83,slow=74,SNR=5.6						
H03S2	**Juan Fernandez**	**5.49**	**248**	T	T	02 55 04.6	
	baz=83,slow=74,SNR=6.3						
AC02	**Maricunga**	**6.00**	**33**	Pn	Pn	02 48 05.3	-4.2
AC02	**Maricunga**	**6.00**	**33**	*i* P	Pn	02 48 06.0	-3.5
CYA	**Choya**	**6.99**	**62**	*i* P	**Pn**	**02 48 21.0**	**-1.7**
LC01	**Cunco**	**7.01**	**174**	*i* P	**Pn**	**02 48 23.0**	**+0.1**
FSA	**Cafayete**	**8.32**	**48**	*i* P	Pn	02 48 39.0	-2.1
PB10	**IPOC Station P**	**8.61**	**14**	*i* P	Pn	02 48 41.0	-3.9
PLCA	**Paso Flores**	**8.98**	**169**	Pn	**Pn**	**02 48 51.5**	**+1.4**
	comp=N,2.6nm,0.3s,baz=335,slow=11,SNR=78						
PLCA				LR	LR	02 52 05.5	
	comp=N,105nm,19.9s,baz=344,slow=36						
PLCA	**Paso Flores**	**8.98**	**169**	Pn	**Pn**	**02 48 51.2**	**+1.1**
LVC	**Limon Verde**	**9.90**	**21**	Pn	Pn	02 48 56.6	-6.3
	comp=N,0.4nm,0.3s,baz=224,slow=6.9,SNR=6.2						
LVC				LR	LR	02 52 53.8	
	comp=N,62nm,19.7s,baz=220,slow=39						
LVC	**Limon Verde**	**9.90**	**21**		Pn	02 48 56.2	-6.8
LVC	**Limon Verde**	**9.90**	**21**	*e*P	**Pn**	**02 49 06.0**	**+3.0**
TRQA	**Tornquist**	**10.79**	**128**	*i* P	**Pn**	**02 49 19.0**	**+4.2**
ITQB	**Itaqui**	**14.10**	**85**	*e*P	**P**	**02 50 05.9**	**-1.8**
CPUP	**Villa Florida**	**14.63**	**72**	Pn	Pn	02 50 01.0	-6.3
	comp=N,0.1nm,0.3s,baz=45,slow=20,SNR=2.5						
CPUP	**Villa Florida**	**14.63**	**72**		Pn	02 49 59.9	-7.4
CPUP	**Villa Florida**	**14.63**	**72**	*e*P	**Pn**	**02 50 10.5**	**+3.2**
LPAZ	**La Paz**	**16.13**	**16**	Pn	Pn	02 50 23.4	-4.3
	comp=N,0.2nm,0.3s,baz=189,slow=8.5,SNR=15						
LPAZ	**La Paz**	**16.13**	**16**	P	Pn	02 50 23.6	-4.1
PLTB	**Pedras Altas**	**16.33**	**95**	*e*P	**P**	**02 50 35.4**	**+2.9**
CPSB	**Cacapava Do Su**	**16.66**	**90**	*e*P	**P**	**02 50 38.9**	**+2.8**
CNLB	**Canela**	**19.08**	**88**	*e*P	**Pn**	**02 51 06.0**	**+2.3**
AQDB	**Aquidauana**	**19.09**	**58**	P	**P**	**02 50 59.9**	**-3.2**
AQDB	**Aquidauana**	**19.09**	**58**	*e*P	**P**	**02 51 02.6**	**-0.5**
SIV	**San Ignacio**	**19.12**	**37**	P	**P**	**02 51 01.0**	**-2.4**
	comp=N,1.0nm,0.3s,baz=218,slow=7.9,SNR=44						
TRCB	**Terra Rica**	**20.07**	**68**	*e*P	**P**	**02 51 13.1**	**-0.7**
NNA	**Nana**	**20.18**	**349**	LR	LR	02 57 07.8	
	comp=N,65nm,19.7s,baz=174,slow=31						
PTLB	**Pontes e Lacer**	**20.60**	**40**	*e*P	**P**	**02 51 17.3**	**-2.2**
TER01	**Tubaro-SC**	**20.73**	**87**	*e*P	**P**	**02 51 28.3**	**+1.4**
PP1B	**Ponte de Pedra**	**21.60**	**53**	*e*P	**P**	**02 51 28.0**	**-2.3**
PCMB	**Pacaembu**	**21.77**	**67**	*e*P	**P**	**02 51 30.4**	**-1.8**
VILB	**Vilhena**	**22.15**	**34**	*e*P	**P**	**02 51 34.8**	**-1.4**
FRTB	**Fartura**	**22.27**	**73**	*e*P	**P**	**02 51 36.6**	**-0.9**
SALV	**Santo Antonio**	**22.29**	**48**	*e*P	**P**	**02 51 35.4**	**-2.3**
ETMB	**Extrema**	**22.83**	**17**	*e*P	**P**	**02 51 41.6**	**-1.8**
PET01	**Itanhaem-SP**	**23.74**	**78**	*e*P	**P**	**02 51 51.7**	**-0.9**
SPB	**Sao Paulo**	**23.90**	**76**	*e*P	**P**	**02 51 53.5**	**-0.6**

CZSB	**Cruzeiro do Su**	**24.07**	**0**	*e*P	**P**	**02 51 55.5**	**-0.2**
BB19B	**Bebedouro**	**24.22**	**69**	*e*P	**P**	**02 51 56.7**	**-0.5**
RCLB	**Rio Claro- Sao**	**24.35**	**73**	*e*P	**P**	**02 51 58.4**	**0.0**
SAML	**Samuel**	**24.54**	**23**	P	**P**	**02 51 57.2**	**-2.8**
SAML				IAmb	IAmb	02 52 02.0	
	comp=Z,5.1nm,1.1s						
SAML	**Samuel**	**24.54**	**23**	*e*P	**P**	**02 51 58.2**	**-1.9**
VAO	**Valinhos**	**24.55**	**75**	*e*P	**P**	**02 52 00.3**	**+0.1**
PARB	**Paraibuna**	**25.51**	**77**	*e*P	**P**	**02 52 08.9**	**-0.1**
CLDB	**Colider**	**26.19**	**41**	*e*P	**P**	**02 52 12.9**	**-2.1**
IPMB	**Ipameri, GO**	**26.19**	**64**	*e*P	**P**	**02 52 13.2**	**-1.9**
BSCB	**Bom Sucesso**	**27.28**	**73**	*e*P	**P**	**02 52 24.4**	**-0.6**
VAS01	**Vassouras-RJ**	**27.78**	**77**	*e*P	**P**	**02 52 27.9**	**-1.4**
BDFB	**Brasilia**	**27.78**	**60**	P	**P**	**02 52 27.7**	**-1.8**
	comp=Z,4.2nm,0.7s,baz=196,slow=7.0,SNR=6.5						
BDFB	**Brasilia**	**27.78**	**60**	P	**P**	**02 52 26.9**	**-2.6**
SNDB	**Serra Nova Dou**	**28.05**	**50**	*e*P	**P**	**02 52 29.8**	**-1.9**
DUB01	**Friburgo-RJ**	**28.75**	**78**	*e*P	**P**	**02 52 37.6**	**-0.5**
NPGB	**Novo Progresso**	**29.62**	**37**	*e*P	P	02 52 42.3	-3.4
PEXB	**Peixe**	**29.96**	**54**	*e*P	**P**	**02 52 47.2**	**-1.5**
MC01	**Montes Claros**	**30.23**	**67**	*e*P	**P**	**02 52 49.1**	**-2.1**
MACA	**Manacapuru-AM**	**30.80**	**24**	*e*P	**P**	**02 52 54.3**	**-1.8**
JANB	**Januaria**	**30.93**	**64**	*e*P	**P**	**02 52 55.5**	**-1.9**
SJMB	**Sao Joao De Ma**	**31.35**	**73**	*e*P	**P**	**02 53 00.2**	**-0.8**
BSFB	**Barra de Sao F**	**31.56**	**73**	*e*P	**P**	**02 53 02.2**	**-0.6**
SDBA	**SAO DESIDERIO**	**32.17**	**59**	*e*P	**P**	**02 53 06.5**	**-1.8**
NAN01	**Guarapari, ES**	**32.65**	**72**	*e*P	**P**	**02 53 11.5**	**-1.0**
SMTB	**Santa Maria do**	**32.78**	**51**	*e*P	**P**	**02 53 11.6**	**-2.0**
PRPB	**Paraupebas**	**33.44**	**45**	*e*P	P	02 53 17.1	-2.2
GUA01	**Guaratinga, BA**	**33.58**	**71**	*e*P	**P**	**02 53 19.7**	**-0.9**
CMC01	**Camacan, BA**	**34.49**	**69**	*e*P	**P**	**02 53 27.2**	**-1.3**
GDU01	**Guandu, BA**	**35.39**	**67**	*e*P	**P**	**02 53 34.4**	**-1.8**
VNA3	**Neumayer Olymp**	**51.53**	**158**	P	**P**	**02 55 46.9**	**+1.2**
VNA3	**Neumayer Olymp**	**51.53**	**158**	PP	PP	02 57 44.0	+1.3
VNA1	**Neumayer--Stat**	**51.84**	**157**	PP	PP	02 57 44.7	-0.8
VNA2	**Neumayer--Watz**	**52.18**	**158**	P	**P**	**02 55 51.3**	**+0.8**
	baz=284,slow=8.7						
VNA2	**Neumayer--Watz**	**52.18**	**158**	PP	PP	02 57 46.4	-2.2
	baz=287,slow=8.2						
SNAA	**Sanae**	**53.75**	**158**	P	**P**	**02 56 02.9**	**+0.7**
SNAA	**Sanae**	**53.75**	**158**	PP	PP	02 57 58.0	-4.9
SNAA	**Sanae**	**53.75**	**158**	P	**P**	**02 56 02.9**	**+0.7**
SNAA				IAmb	IAmb	02 56 10.4	
	comp=Z,5.7nm,1.2s						
QSPA	**South Pole Qui**	**58.31**	**180**	P	**P**	**02 56 35.2**	**+0.2**
VNDA	**Vanda**	**66.01**	**191**	P	**P**	**02 57 28.1**	**+1.9**
	comp=Z,0.6nm,0.8s,baz=109,slow=10.0,SNR=4.2						
VNDA	**Vanda**	**66.01**	**191**	P	**P**	**02 57 27.0**	**+0.8**
VNDA				IAmb	IAmb	02 57 44.8	
	comp=Z,1.4nm,1.1s						
TXAR	**Lajitas Array**	**67.60**	**331**	P	**P**	**02 57 37.4**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=163,slow=8.3,SNR=4.4						
ANMO	**Albuquerque**	**73.65**	**332**	P	**P**	**02 58 14.3**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=125,slow=18,SNR=2.4						
MAW	**Mawson**	**75.36**	**164**	P	**P**	**02 58 24.1**	**+0.9**
	comp=Z,3.3nm,0.8s,baz=221,slow=9.3,SNR=6.3						
MAW	**Mawson**	**75.36**	**164**	P	**P**	**02 58 23.1**	**-0.2**
BOSA	**Boshof**	**81.62**	**118**	P	**P**	**02 58 58.6**	**-0.1**
	comp=Z,2.7nm,0.8s,baz=234,slow=3.9,SNR=6.9						
BOSA	**Boshof**	**81.62**	**118**	P	**P**	**02 58 57.0**	**-1.7**
BOSA				IAmb	IAmb	02 59 13.3	
	comp=Z,4.9nm,1.1s						
TORD	**Torodi Ar. Bea**	**84.13**	**71**	P	**P**	**02 59 09.5**	**-2.2**
	comp=Z,1.1nm,0.7s,baz=288,slow=5.0,SNR=11						
TORD	**Torodi Ar. Bea**	**84.13**	**71**	P	**P**	**02 59 09.8**	**-1.9**
TORD				IAmb	IAmb	02 59 10.7	
	comp=Z,1.5nm,0.9s						
ASAR	**Alice Springs**	**119.11**	**208**	PKP	**PKPdf**	**03 05 28.4**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=146,slow=1.8,SNR=4.4						
WRA	**Warramunga Arr**	**122.24**	**211**	PKhKP	PKPpre	03 05 31.2	
	comp=Z,0.8nm,0.8s,baz=178,slow=3.4,SNR=3.8						
WRA				PKP	**PKPdf**	**03 05 35.1**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=180,slow=3.9,SNR=5.4						
ZALV	**Zalesovo Beam**	**152.78**	**29**	PKPbc	**PKPdf**	**03 06 35.5**	**+6.0**
	comp=Z,1.6nm,0.7s,baz=318,slow=4.2,SNR=7.2						

LALI	**Alcalda de L**	**0.50**	**324**	*eP*		**Pn**	**02 49 08.9**	**-0.2**
LALI				*eS*		**Sn**	**02 49 17.0**	**-1.3**
SJTE	**Alcalda de S**	**0.53**	**1**	*eP*		**Pn**	**02 49 09.8**	**+0.2**
SJTE				*eS*		**Sn**	**02 49 19.8**	**+0.7**
SJTE	**Alcalda de S**	**0.53**	**1**	*eP*		**Pn**	**02 49 09.8**	**+0.2**
SJTE				*eS*		**Sn**	**02 49 19.8**	**+0.7**
LFRS	**El Faro**	**0.55**	**356**	*eP*		**Pn**	**02 49 09.9**	**+0.2**
LFRS	**El Faro**	**0.55**	**356**	*eP*		**Pn**	**02 49 09.9**	**+0.2**
COEG	**Centro de Oper**	**0.56**	**14**	*eP*		**Pn**	**02 49 10.2**	**+0.4**
COEG				*eS*		**Sn**	**02 49 20.5**	**+1.0**
COEG	**Centro de Oper**	**0.56**	**14**	*eP*		**Pn**	**02 49 10.2**	**+0.4**
COEG				*eS*		**Sn**	**02 49 20.5**	**+1.0**
SNVI	**San Vicente**	**0.56**	**18**	*eP*		**Pn**	**02 49 10.3**	**+0.3**
SNVI	**San Vicente**	**0.56**	**18**	*eP*		**Pn**	**02 49 10.3**	**+0.3**
UESV	**Universidad de**	**0.60**	**22**	*eP*		**Pn**	**02 49 10.9**	**+0.7**
UESV				*eS*		**Sn**	**02 49 21.8**	**+1.6**
UESV				IAML			02 49 23.8	
	comp=Z,13µm,0.5s							
UESV	**Universidad de**	**0.60**	**22**	*eP*		**Pn**	**02 49 10.9**	**+0.7**
UESV				*eS*		**Sn**	**02 49 21.8**	**+1.6**
UESV				IAML			02 49 23.8	
	comp=Z,13µm,0.5s							
AEIL	**Aeropuerto Ilo**	**0.62**	**351**	*eP*		**Pn**	**02 49 10.9**	**+0.4**
AEIL				*eS*		**Sn**	**02 49 22.5**	**+1.8**
AEIL				IAML			02 49 25.4	
	comp=Z,10µm,0.2s							
AEIL	**Aeropuerto Ilo**	**0.62**	**351**	*eP*		**Pn**	**02 49 10.9**	**+0.4**
AEIL				*eS*		**Sn**	**02 49 22.5**	**+1.8**
AEIL				IAML			02 49 25.4	
	comp=Z,10µm,0.2s							
COEB	**Comit de Eme**	**0.63**	**49**	*eP*		**Pn**	**02 49 11.5**	**+0.8**
COEB				*eS*		**Sn**	**02 49 22.8**	**+1.8**
COEB				IAML			02 49 27.0	
	comp=Z,20µm,0.3s							
COEB	**Comit de Eme**	**0.63**	**49**	*eP*		**Pn**	**02 49 11.5**	**+0.8**
COEB				*eS*		**Sn**	**02 49 22.8**	**+1.8**
COEB				IAML			02 49 27.0	
	comp=Z,20µm,0.3s							
PAVA	**Las Pavas**	**0.64**	**7**	*eP*		**Pn**	**02 49 11.4**	**+0.7**
PAVA	**Las Pavas**	**0.64**	**7**	*eP*		**Pn**	**02 49 11.4**	**+0.7**
SNET	**Serv Nac Est T**	**0.64**	**341**	*eS*		**Sn**	**02 49 21.5**	**+0.5**
SNET				IAML			02 49 25.4	
	comp=Z,8µm,0.2s							
SNET	**Serv Nac Est T**	**0.64**	**341**	*eS*		**Sn**	**02 49 21.5**	**+0.5**
SNET				IAML			02 49 25.4	
	comp=Z,8µm,0.2s							
SNET	**Serv Nac Est T**	**0.64**	**341**			**Pn**	**02 49 11.0**	**+0.3**
SNET				Sn		**Sn**	**02 49 21.6**	**+0.5**
UDBS	**Universidad Do**	**0.65**	**348**	*eP*		**Pn**	**02 49 11.3**	**+0.5**
UDBS	**Universidad Do**	**0.65**	**348**	*eP*		**Pn**	**02 49 11.3**	**+0.5**
IGN	**Direccin Gen**	**0.65**	**347**	*eP*		**Pn**	**02 49 11.2**	**+0.4**
IGN				*eP*		**Pn**	**02 49 11.3**	**+0.4**
IGN				*eS*		**Sn**	**02 49 22.1**	**+0.9**
IGN	**Direccin Gen**	**0.65**	**347**	*eP*		**Pn**	**02 49 11.2**	**+0.4**
IGN				*eP*		**Pn**	**02 49 11.3**	**+0.4**
IGN				*eS*		**Sn**	**02 49 22.1**	**+0.9**
TECA	**Tecapa**	**0.65**	**50**⇑	*iP*		**Pn**	**02 49 11.8**	**+0.9**
TECA	**Tecapa**	**0.65**	**50**⇑	*iP*		**Pn**	**02 49 11.8**	**+0.9**
SEMO	**Seminario San**	**0.65**	**342**	*eP*		**Pn**	**02 49 10.9**	**0.0**
OPAM	**Oficina de Pla**	**0.66**	**345**	*eP*		**Pn**	**02 49 11.3**	**+0.5**
OPAM	**Oficina de Pla**	**0.66**	**345**	*eP*		**Pn**	**02 49 11.3**	**+0.5**
LBRS	**Las Brisas**	**0.66**	**358**	*eP*		**Pn**	**02 49 11.7**	**+0.8**
LBRS	**Las Brisas**	**0.66**	**358**	*eP*		**Pn**	**02 49 11.7**	**+0.8**
UEES	**Universidad Ev**	**0.67**	**341**	*eP*		**Pn**	**02 49 11.3**	**+0.2**
UEES	**Universidad Ev**	**0.67**	**341**	*eP*		**Pn**	**02 49 11.3**	**+0.2**
LFU	**La Fuente**	**0.67**	**352**⇓	*iP*		**Pn**	**02 49 11.8**	**+0.7**
LFU	**La Fuente**	**0.67**	**352**⇓	*iP*		**Pn**	**02 49 11.8**	**+0.7**
BOQS	**Boqueron**	**0.70**	**339**⇑	*iP*		**Pn**	**02 49 12.1**	**+0.5**
BOQS	**Boqueron**	**0.70**	**339**⇑	*iP*		**Pn**	**02 49 12.1**	**+0.5**
PQSS	**Presa 15 de Se**	**0.70**	**39**	*eS*		**Sn**	**02 49 24.6**	**+2.4**
JAYA	**Jayaque - finc**	**0.71**	**324**	*eS*		**Sn**	**02 49 22.4**	**-0.1**
JAYA	**Jayaque - finc**	**0.71**	**324**	*eS*		**Sn**	**02 49 22.4**	**-0.1**
JUCU	**Jucuarįn**	**0.77**	**77**	*eP*		**Pn**	**02 49 12.5**	**+0.3**
JUCU				*eS*		**Sn**	**02 49 25.0**	**+1.4**
JUCU	**Jucuarįn**	**0.77**	**77**	*eP*		**Pn**	**02 49 12.5**	**+0.3**
JUCU				*eS*		**Sn**	**02 49 25.0**	**+1.4**
CEDA	**San Andres**	**0.81**	**333**	*eP*		**Pn**	**02 49 13.1**	**+0.4**
CEDA				*eS*		**Sn**	**02 49 26.1**	**+1.6**
CEDA				IAML			02 49 34.0	
	comp=Z,6µm,0.3s							
CEDA	**San Andres**	**0.81**	**333**	*eP*		**Pn**	**02 49 13.1**	**+0.4**
CEDA				*eS*		**Sn**	**02 49 26.1**	**+1.6**
CEDA				IAML			02 49 34.0	
	comp=Z,6µm,0.3s							
CNRM	**Centro Naciona**	**0.92**	**64**	*eP*		**Pn**	**02 49 14.9**	**+1.0**
CNRM				*eS*		**Sn**	**02 49 29.8**	**+3.1**
CNRM	**Centro Naciona**	**0.92**	**64**	*eP*		**Pn**	**02 49 14.9**	**+1.0**
CNRM				*eS*		**Sn**	**02 49 29.8**	**+3.1**
TACO	**Tacachico**	**0.95**	**340**	*eP*		**Pn**	**02 49 14.8**	**+0.5**
TACO	**Tacachico**	**0.95**	**340**	*eP*		**Pn**	**02 49 14.8**	**+0.5**
CEVE	**Cerro Verde**	**0.95**	**322**	*eP*		**Pn**	**02 49 15.2**	**+0.6**
CEVE				*eS*		**Sn**	**02 49 29.2**	**+1.3**
CEVE				IAML			02 49 30.8	
	comp=Z,9µm,0.4s							
CEVE	**Cerro Verde**	**0.95**	**322**	*eP*		**Pn**	**02 49 15.2**	**+0.6**
CEVE				*eS*		**Sn**	**02 49 29.2**	**+1.3**
CEVE				IAML			02 49 30.8	
	comp=Z,9µm,0.4s							
SBLS	**San Blas**	**0.96**	**322**	*eP*		**Pn**	**02 49 15.2**	**+0.5**
SBLS	**San Blas**	**0.96**	**322**	*eP*		**Pn**	**02 49 15.2**	**+0.5**
UNIC	**Universidad Ca**	**1.04**	**330**	*eP*		**Pn**	**02 49 16.3**	**+0.8**
UNIC				*eS*		**Sn**	**02 49 30.4**	**+0.9**
UNIC	**Universidad Ca**	**1.04**	**330**	*eP*		**Pn**	**02 49 16.3**	**+0.8**
UNIC				*eS*		**Sn**	**02 49 30.4**	**+0.9**
LCND	**La Caada**	**1.12**	**78**	*eP*		**Pn**	**02 49 17.5**	**+1.0**
LCND	**La Caada**	**1.12**	**78**	*eP*		**Pn**	**02 49 17.5**	**+1.0**
LOAL	**Lomas de Alarc**	**1.18**	**321**	*eS*		**Sn**	**02 49 36.0**	**+3.3**
MTO3	**Montecristo**	**1.35**	**346**	*eP*		**Pn**	**02 49 20.8**	**+1.0**
MTO3				*eS*		**Sn**	**02 49 39.4**	**+2.3**
MTO3	**Montecristo**	**1.35**	**346**	*eP*		**Pn**	**02 49 20.8**	**+1.0**
MTO3				*eS*		**Sn**	**02 49 39.4**	**+2.3**
MTO3	**Montecristo**	**1.35**	**346**			**Pn**	**02 49 20.9**	**+1.0**
MTO3				Sn		**Sn**	**02 49 37.2**	**+0.1**
ESQI	**Esquipulas**	**1.51**	**348**			**Pn**	**02 49 23.3**	**+1.6**
ESQI				Sn		**Sn**	**02 49 39.7**	**-0.8**
CRIN	**San Cristobal**	**1.96**	**101**			**Pn**	**02 49 28.4**	**+0.8**
CRIN				Sn		**Sn**	**02 49 51.5**	**+0.2**
TGUH	**Tegucigalpa,Un**	**1.96**	**60**	*eP*		**Pn**	**02 49 29.1**	**+1.4**
TGUH	**Tegucigalpa,Un**	**1.96**	**60**	*eP*		**Pn**	**02 49 29.1**	**+1.4**
TGUH	**Tegucigalpa,Un**	**1.96**	**60**	Pn		**Pn**	**02 49 29.2**	**+1.4**
TGUH				Sn		**Sn**	**02 49 48.1**	**-3.3**
NBG	**Las Nubes**	**1.98**	**320**	*eP*		**Pn**	**02 49 30.6**	**+2.4**
PCG	**Pacaya**	**2.02**	**310**	*eP*		**Pn**	**02 49 31.1**	**+2.4**
FUG	**Fuego 3**	**2.23**	**308**	*eP*		**Pn**	**02 49 33.1**	**+1.6**
FUG				*eS*		**Sn**	**02 50 00.3**	**+2.1**
CNGN	**Cerro Negro**	**2.34**	**104**			**Pn**	**02 49 33.2**	**+0.4**
RTAL	**Retalhuleu**	**2.97**	**299**			**Pn**	**02 49 43.4**	**+2.0**
MATN	**Matagalpa**	**3.02**	**92**	Pn		**Pn**	**02 49 42.2**	**0.0**
ACON	**Acoyapa**	**3.91**	**106**			**Pn**	**02 49 54.1**	**-0.2**
ORTG	**Ortega, Santa**	**4.41**	**127**	Pn		**Pn**	**02 50 02.2**	**+1.1**
DUNO	**Dulce Nombre,**	**4.56**	**130**			**Pn**	**02 50 04.1**	**+1.0**
JTS	**Las Juntas de**	**4.85**	**124**	P		**Pn**	**02 50 08.2**	**+1.1**
	comp=Z,3.4nm,0.3s,baz=177,slow=23,SNR=18							
JTS				S		**Sn**	**02 51 00.2**	**-1.9**
	comp=Z,4.3nm,0.3s,baz=330,slow=20,SNR=1.8							
JTS	**Las Juntas de**	**4.85**	**124**	Pn		**Pn**	**02 50 08.4**	**+1.2**
RIMA	**Rio Macho**	**6.03**	**123**			**Pn**	**02 50 24.7**	**+1.3**
RIMA				Sn		**Sn**	**02 51 31.4**	**+0.2**
PEZE	**Perez Zeledon,**	**6.40**	**124**			**Pn**	**02 50 29.8**	**+1.4**
SRBA	**San Rafael, Bu**	**6.74**	**124**	Pn		**Pn**	**02 50 34.8**	**+1.7**
CMIG	**Matias Romero**	**6.93**	**306**	P		**Pn**	**02 50 37.3**	**+1.7**
	comp=Z,0.9nm,0.3s,baz=148,slow=12,SNR=18							
CMIG				S		**Sn**	**02 51 51.4**	**-1.5**
	comp=Z,1.0nm,0.3s,baz=121,slow=13,SNR=1.5							
CMIG				LR		LR	02 52 54.6	
	comp=Z,48nm,21.6s,baz=62,slow=34							
CMIG	**Matias Romero**	**6.93**	**306**			**Pn**	**02 50 37.4**	**+1.9**
BRU2	**Volcan**	**7.53**	**124**	Pn		**Pn**	**02 50 45.5**	**+1.5**
SOR	**Soroa**	**11.22**	**30**	Pn		**Pn**	**02 51 32.3**	**-2.0**
SJCC	**San Jacinto, C**	**13.93**	**102**			**P**	**02 52 16.1**	**-1.0**
FLOC	**Florencia**	**17.48**	**130**	P		**Pn**	**02 52 55.2**	**-0.9**
FLOC				IAmb		IAmb	02 53 12.2	
	comp=Z,14nm,0.9s							
SDV	**Santo Domingo**	**18.52**	**101**	P		**P**	**02 53 07.2**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=290,slow=5.0,SNR=6.7							
SDV	**Santo Domingo**	**18.52**	**101**	P		**P**	**02 53 07.2**	**-0.9**
435B	**Jarrell**	**19.31**	**337**	P		**P**	**02 53 16.6**	**+0.2**
435B				IAmb		IAmb	02 53 19.1	
	comp=Z,11nm,0.6s							
JCT	**Junction City**	**19.98**	**332**	P		**P**	**02 53 24.4**	**+0.6**
JCT				IAmb		IAmb	02 53 25.4	

	comp=Z,6.5nm,0.8s							
TXAR	**Lajitas Array**	**21.13**	**322**	P		**P**	**02 53 38.2**	**+1.9**
	comp=Z,2.1nm,0.5s,baz=141,slow=10,SNR=62							
TXAR				LR		LR	03 04 00.9	
	comp=Z,22nm,19.4s,baz=0.0,slow=43							
TXAR	**Lajitas Array**	**21.13**	**322**	P		**P**	**02 53 37.8**	**+1.5**
TX31	**Lajitas Ar. Si**	**21.13**	**322**	P		**P**	**02 53 37.9**	**+1.6**
TX32	**Lajitas Array**	**21.13**	**322**	P		**P**	**02 53 37.9**	**+1.7**
MIAR	**Mount Ida**	**21.77**	**350**	P		**P**	**02 53 44.1**	**+1.3**
MIAR				IAmb		IAmb	02 53 46.5	
	comp=Z,5.4nm,0.7s							
FCAR	**Ozark Folk Cen**	**22.89**	**354**	P		**P**	**02 53 53.4**	**-1.3**
U40A	**Yellville**	**23.43**	**352**	P		**P**	**02 53 59.9**	**-0.2**
U40A				IAmb		IAmb	02 54 04.0	
	comp=Z,7.3nm,1.0s							
MGMO	**Mountain Grove**	**24.15**	**354**	P		**P**	**02 54 08.3**	**+1.7**
MGMO				IAmb		IAmb	02 54 09.2	
	comp=Z,7.4nm,0.8s							
MSTX	**Muleshoe**	**24.27**	**331**	P		**P**	**02 54 07.8**	**0.0**
MSTX				IAmb		IAmb	02 54 08.4	
	comp=Z,12nm,1.0s							
S39A	**Bolivar**	**24.81**	**352**	P		**P**	**02 54 12.2**	**-0.3**
S39A				IAmb		IAmb	02 54 15.2	
	comp=Z,4.2nm,0.7s							
CCM	**Cathedral Cave**	**24.96**	**356**	P		**P**	**02 54 13.3**	**-0.5**
CCM				IAmb		IAmb	02 54 14.7	
	comp=Z,5.0nm,0.7s							
ANMO	**Albuquerque**	**26.89**	**327**	P		**P**	**02 54 31.5**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=143,slow=10,SNR=1.7							
ANMO				LR		LR	03 06 35.5	
	comp=Z,32nm,18.5s,baz=207,slow=40							
ANMO	**Albuquerque**	**26.89**	**327**	P		**P**	**02 54 32.2**	**+0.6**
PV17	**East Wray Mesa**	**30.73**	**328**	P		**P**	**02 55 06.7**	**+0.9**
PV17				IAmb		IAmb	02 55 08.2	
	comp=Z,3.8nm,0.7s							
SPMN	**Marine on St.**	**32.20**	**355**	P		**P**	**02 55 17.8**	**-0.6**
P17A	**Butcher Ranch,**	**32.54**	**328**	P		**P**	**02 55 22.3**	**+0.7**
P17A				IAmb		IAmb	02 55 24.2	
	comp=Z,2.9nm,0.8s							
PDAR	**Pinedale Array**	**34.51**	**333**	P		**P**	**02 55 39.0**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=148,slow=8.7,SNR=4.3							
PDAR	**Pinedale Array**	**34.51**	**333**	P		**P**	**02 55 39.3**	**+0.6**
REDW	**Red Top Meadow**	**35.56**	**332**	P		**P**	**02 55 48.7**	**+1.0**
REDW				IAmb		IAmb	02 55 49.3	
	comp=Z,3.9nm,0.6s							
SNOW	**Snow King Moun**	**35.60**	**332**	P		**P**	**02 55 48.3**	**+0.2**
LOHW	**Long Hollow**	**35.65**	**333**	P		**P**	**02 55 47.1**	**-1.4**
LOHW				IAmb		IAmb	02 55 51.0	
	comp=Z,1.8nm,0.8s							
NVAR	**Mina Array Bea**	**36.23**	**319**	P		**P**	**02 55 54.4**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=123,slow=8.4,SNR=4.7							
NVAR				PcP		**PcP**	**02 58 18.4**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=138,slow=4.2,SNR=4.9							
ULM	**Lac du Bonnet**	**37.49**	**353**	P		**P**	**02 56 01.9**	**-1.9**
	comp=Z,2.3nm,0.5s,baz=126,slow=8.7,SNR=1.9							
MCMT	**McKenzie Canyo**	**37.61**	**332**	P		**P**	**02 56 05.8**	**+0.6**
EGMT	**Eagleton**	**38.89**	**338**	P		**P**	**02 56 13.9**	**-1.8**
SIV	**San Ignacio**	**39.98**	**135**	P		**P**	**02 56 26.9**	**+1.9**
	comp=Z,0.8nm,0.7s,baz=326,slow=7.3,SNR=2.6							
SCHQ	**Schefferville**	**45.14**	**18**	P		**P**	**02 57 04.8**	**-1.6**
	comp=Z,2.4nm,0.8s,baz=230,slow=17,SNR=1.9							
CO06	**Fray Jorge**	**46.60**	**159**	P		**P**	**02 57 17.3**	**-0.9**
PLCA	**Paso Flores**	**56.21**	**163**	LR		LR	03 18 23.2	
	comp=Z,227nm,18.9s,baz=352,slow=31							
ILAR	**Eielson Array**	**64.83**	**336**	P		**P**	**02 59 27.3**	**-1.0**
	comp=Z,0.4nm,0.9s,baz=172,slow=4.5,SNR=7.9							
WRA	**Warramunga Arr**	**137.96**	**255**	PKP		**PKiKP**	**03 08 17.9**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=109,slow=2.7,SNR=1.7							
ASAR	**Alice Springs**	**138.07**	**249**	PKP		**PKiKP**	**03 08 17.0**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=94,slow=2.8,SNR=2.8							

GUC ***22*** *03:11:12.5±0.8,30.05S×72.11W,h41km±4km, ML4.5*
IDC ***22*** *03:11:12.4±0.7,30.05S×71.85W,h0km,mb4.3/9, mb1 4.4/14,mb1mx4.3/28,mbtmp4.3/14, ML4.2/5, MS3.8/5, Ms1 3.8/5,ms1mx3.4/22, Error ellipse: s-maj=23.4km s-min=20.5km az=83.0*
NEIC ***22*** *03:11:12.9±1.8,30.07S±0.03×72.13W±0.04,h11km±4km, mb4.7/15, Mwr4.4/39, ML4.4(GUC), Error ellipse: s-maj=5.2km s-min=4.1km az=98.0*
SJA ***22*** *03:11:12.0,29.85S×72.48W,h10km, ML5.0*
NEIC ***22*** *03:11:14.5,30.01S×72.03W,h18km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr2.93; Mθθ0.75; Mφφ-3.68; Mrθ1.12; Mrφ-0.24; Mθφ-2.35; Fault plane solution: M=4.26000×10¹⁵ NP1:φ=24.39000°, δ31.27000°, λ125.78000°. NP2:φ=164.25000°, δ65.10000°, λ70.45000°. Principal axes: T 4.0730, Plg64.0000°, Azm41.0000°; N 0.3593, Plg18.0000°, Azm173.0000°; P -4.4323, Plg18.0000°, Azm269.0000°;*
VAO ***22*** *03:11:18.2±0.6,30.08S×71.87W,h44km±6km, mb4.6*
ISC 22 03:11:11.8±1.6,30.03S±0.03×72.11W±0.05,h3km±9km, n161,σ1§43/162,mb4.5/15,MS3.9/3,4C-3D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.76**	**147**		*eP*	**Pg**	**03 11 27.1**	**+0.7**
CO06					*i* S	**Sb**	**03 11 38.5**	**+0.1**
CO06					IAML		03 11 39.5	
	comp=E,41µm,0.8s							
CO06	**Fray Jorge**	**0.76**	**147**		Pg	**Pg**	**03 11 27.8**	**+1.3**
CO06					Sg	**Sg**	**03 11 37.5**	**+1.1**
CO05	**La Serena**	**0.77**	**82**⇓		*iP*	**Pb**	**03 11 28.0**	**+0.2**
CO05					*i* S	**Sn**	**03 11 39.0**	**-2.6**
CO05					IAML		03 11 39.8	
	comp=E,26µm,0.3s							
CO05	**La Serena**	**0.77**	**82**			**Pb**	**03 11 28.0**	**+0.2**
CO05					Sg	**Sn**	**03 11 39.0**	**-2.6**
GO04	**Tololo Observa**	**1.15**	**97**⇓		*iP*	**Pg**	**03 11 34.1**	**+0.2**
GO04					*i* S	**Sn**	**03 11 50.9**	**-0.5**
GO04					IAML		03 11 53.1	
	comp=E,30µm,0.4s							
GO04	**Tololo Observa**	**1.15**	**97**		Pn	**Pg**	**03 11 34.0**	**+0.2**
CO03	**El Pedregal**	**1.47**	**123**⇓		*iP*	**Pn**	**03 11 39.0**	**-0.3**
CO03					*i* S	**Sb**	**03 11 58.2**	**-0.7**
CO03					IAML		03 12 00.8	
	comp=E,13µm,0.4s							
CO03	**El Pedregal**	**1.47**	**123**		Pn	**Pn**	**03 11 38.9**	**-0.4**
CO03					Sn	**Sb**	**03 11 58.3**	**-0.7**
LCO	**Las Campanas**	**1.60**	**51**⇑		*eP*	**Pn**	**03 11 41.4**	**+0.2**
LCO					*eS*	**Sg**	**03 12 03.0**	**-0.2**
LCO	**Las Campanas**	**1.60**	**51**			**Pn**	**03 11 41.4**	**+0.2**
LCO	**Las Campanas**	**1.60**	**51**		*i* P	**Pn**	**03 11 41.0**	**-0.2**
AC04	**Llanos de Chal**	**2.04**	**27**⇑		*eP*	**Pn**	**03 11 46.3**	**-0.7**
AC04					*eS*	**Sn**	**03 12 12.9**	**-0.1**
AC04	**Llanos de Chal**	**2.04**	**27**		Pn	**Pn**	**03 11 46.7**	**-0.4**
AROD	**Rodeo**	**2.29**	**94**		*i* P	**Pb**	**03 11 53.0**	**-1.0**
ACDV	**Cuesta del Vie**	**2.60**	**94**		*i* P	**Pb**	**03 12 00.0**	**+0.8**
ACCO	**Cerro Coronel**	**2.69**	**103**		*i* P	**Pb**	**03 12 00.0**	**-0.9**
GO03	**Copiap**	**2.94**	**35**		*eP*	**Pn**	**03 11 59.5**	**0.0**
GO03					*eS*	**Sn**	**03 12 33.7**	**-1.6**
GO03					IAML		03 12 53.6	
	comp=N,947nm,0.2s							
GO03	**Copiap**	**2.94**	**35**		Pn	**Pn**	**03 11 59.5**	**0.0**
GO03	**Copiap**	**2.94**	**35**		*i* P	**Pn**	**03 12 00.0**	**+0.5**
AC06	**Mina Casimiro**	**3.08**	**31**⇑		*eP*	**Pn**	**03 12 01.6**	**+0.2**
AC06					*eS*	**Sn**	**03 12 39.6**	**+0.8**
AC06					IAML		03 13 03.8	
	comp=E,968nm,0.8s							
AC06	**Mina Casimiro**	**3.08**	**31**		Pn	**Pn**	**03 12 01.5**	**0.0**
AUSP	**Uspallata**	**3.20**	**134**		*i* P	**Pb**	**03 12 07.0**	**-2.5**
ZON	**Zonda**	**3.32**	**118**		*i* P	**Pb**	**03 12 09.0**	**-2.4**
RTCV	**Cerro Valdivia**	**3.57**	**122**		*i* P	**Pb**	**03 12 12.0**	**-3.7**
ASAL	**Salagasta**	**3.79**	**133**		*i* P	**Pn**	**03 12 15.0**	**+3.8**
ARCO	**CERRO ARCO**	**3.90**	**137**		*i* P	**Pb**	**03 12 18.0**	**-3.4**
AC02	**Maricunga**	**4.13**	**40**		Pn	**Pn**	**03 12 16.9**	**+0.6**
AC02	**Maricunga**	**4.13**	**40**		*i* P	**Pn**	**03 12 17.0**	**+0.7**
COIS	**El Sosneado**	**5.49**	**158**		*i* P	**Pn**	**03 12 38.0**	**+3.5**
RFA	**San Rafael**	**5.64**	**148**		*i* P	**Pn**	**03 12 39.0**	**+2.4**
CYA	**Choya**	**5.74**	**76**		*i* P	**Pn**	**03 12 39.0**	**+1.0**
PB10	**IPOC Station P**	**6.64**	**12**			**Pn**	**03 12 48.5**	**-1.8**
PB10	**IPOC Station P**	**6.64**	**12**		*i* P	**Pn**	**03 12 48.0**	**-2.4**
H03N1	**Juan Fernandez**	**6.71**	**238**		T	T	03 20 00.4	
	baz=69,slow=72,SNR=200							
H03N2	**Juan Fernandez**	**6.73**	**238**		T	T	03 20 00.4	
	baz=69,slow=72,SNR=208							
H03N3	**Juan Fernandez**	**6.73**	**238**		T	T	03 20 00.4	
	baz=69,slow=72,SNR=197							
VA04	**Juan Fernndez**	**6.75**	**236**		Pn	**Pn**	**03 12 50.5**	**-1.4**
H03S3	**Juan Fernandez**	**6.90**	**235**		T	T	03 20 17.8	
	baz=84,slow=75,SNR=2.5							

H03S1	**Juan Fernandez**	**6.91**	**235**		T	T	03 20 14.6	
	baz=84,slow=75,SNR=3.3							
H03S2	**Juan Fernandez**	**6.92**	**235**		T	T	03 20 11.1	
	baz=84,slow=75,SNR=3.5							
PB15	**IPOC Station P**	**7.20**	**20**			**Pn**	**03 12 56.8**	**-1.4**
PB15	**IPOC Station P**	**7.20**	**20**		*i* P	**Pn**	**03 12 58.0**	**-0.2**
PB05	**IPOC Station P**	**7.35**	**14**		*i* P	**Pn**	**03 12 57.0**	**-3.2**
PB06	**IPOC Station P**	**7.64**	**18**			**Pn**	**03 13 01.1**	**-3.2**
PB04	**IPOC Station P**	**7.87**	**13**			**Pn**	**03 13 03.9**	**-3.4**
PB04	**IPOC Station P**	**7.87**	**13**		*i* P	**Pn**	**03 13 04.0**	**-3.4**
AF01	**San Pedro de A**	**7.88**	**27**			**Pn**	**03 13 07.7**	**+0.1**
LVC	**Limon Verde**	**7.93**	**22**	Pn		**Pn**	**03 13 06.2**	**-2.2**
	comp=E,2.1nm,0.3s,baz=195,slow=5.5,SNR=15							
LVC				Sn		**Sn**	**03 14 35.4**	**-3.5**
	comp=E,1.6nm,0.3s,baz=219,slow=13,SNR=2.0							
LVC	**Limon Verde**	**7.93**	**22**	Pn		**Pn**	**03 13 04.7**	**-3.7**
LVC	**Limon Verde**	**7.93**	**22**	*i* P		**Pn**	**03 13 06.0**	**-2.4**
PB07	**IPOC Station P**	**8.51**	**14**			**Pn**	**03 13 12.2**	**-4.0**
PB02	**IPOC Station P**	**8.90**	**13**	*i* P		**Pn**	**03 13 20.0**	**-1.5**
PB01	**IPOC Station P**	**9.26**	**15**	Pn		**Pn**	**03 13 22.8**	**-3.6**
LR03	**Panguipulli**	**9.58**	**181**			**Pn**	**03 13 30.0**	**-0.6**
PSGCX	**Pisagua**	**10.55**	**10**	*i* P		**Pn**	**03 13 40.0**	**-4.0**
PLCA	**Paso Flores**	**10.75**	**174**	Pn		**Pn**	**03 13 47.1**	**+0.3**
	comp=E,1.3nm,0.3s,baz=336,slow=11,SNR=41							
PLCA	**Paso Flores**	**10.75**	**174**			**Pn**	**03 13 46.8**	**+0.1**
PLCA	**Paso Flores**	**10.75**	**174**	*eP*		**Pn**	**03 13 47.4**	**+0.6**
TRQA	**Tornquist**	**11.60**	**136**	Pn		**Pn**	**03 13 58.5**	**+0.2**
TRQA	**Tornquist**	**11.60**	**136**	*eP*		**Pn**	**03 13 59.3**	**+1.0**
CPUP	**Villa Florida**	**13.55**	**78**	Pn		**Pn**	**03 14 24.6**	**-0.4**
	comp=E,0.3nm,0.3s,baz=270,slow=12,SNR=7.2							
CPUP	**Villa Florida**	**13.55**	**78**	*eP*		**Pn**	**03 14 24.4**	**-0.6**
LPAZ	**La Paz**	**14.16**	**16**	Pn	

BVAR	Borovoye Array	144.34	39	PKP	PKPdf	03 30 48.8	-0.2	
	comp=Z,1.1nm,0.6s,baz=326,slow=18,SNR=4.3							
KURBB	Kurchatov Arra	149.92	39	PKPbc	PKiKP	03 31 03.9	-0.2	
	comp=Z,3.3nm,0.8s,baz=302,slow=3.1,SNR=23							
ZALV	Zalesovo Beam	150.84	28	PKPbc	PKiKP	03 31 06.3	+0.4	
	comp=Z,20nm,0.7s,baz=297,slow=3.2,SNR=39							
MKAR	Makanchi Array	154.05	43	PKPbc	PKPbc	03 31 12.8	0.0	
	comp=Z,0.7nm,0.7s,baz=337,slow=5.3,SNR=4.4							
MKAR	Makanchi Array	154.05	43		PKiKP	03 31 13.1	+0.3	

TAP ***22*** *03:16:55.8,24.˚12N×122.˚04E,h41km,ML4.2,B*
JMA ***22*** *03:16:55.0±0.1,24.˚05N×122.˚05E,h38km±3km,M3.9*
NEIC ***22*** *03:16:55.3±1.0,24.˚10N±0.˚04×122.˚07E±0.˚02,h39km±7km, mb4.6/7,ML4.4(TAP),Error ellipse: s-maj=6.4km s-min=2.0km az=190.0*
NIED ***22*** *03:16:55.1,24.˚05N×122.˚05E,h38km,MW3.8,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; Mrr4.74; Mθθ-0.00; Mϕϕ-4.74; Mrθ2.36; Mθϕ-1.09; Mϕr1.34; Fault plane solution: M₀5.56000×10¹⁴ NP1:ϕs32.00000°, δ59.00000°,λ112.00000°. NP2:ϕs174.00000°,δ38.00000°, λ58.00000°.*
IDC ***22*** *03:16:56.5±5.2,24.˚14N×122.˚18E,h58km±49km,mb3.5/6, mb1 3.8/7,mb1mx3.4/44,mbtmp3.9/7,ML4.2/1 Error ellipse: s-maj=42.8km s-min=25.7km az=56.0*
ISC 22 03:16:55.0±0.8,24.˚10N±0.˚02×122.˚08E±0.˚02,h40km±7km, n167,σ1$72/291,mb3.9/11,6C-34D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
EHP	**Heping Village**	**0.37**	**305**	*i*	P		**Pn**	**03 17 04.6**	**+0.5**
	baz=305								
EHP				*e*	S		**Sn**	**03 17 12.0**	**+1.5**
	baz=305								
ETL	**Fush Village**	**0.42**	**279**	*i*	P		**Pn**	**03 17 05.0**	**+0.4**
	baz=276								
ETL					S		**Sn**	**03 17 12.5**	**+1.0**
	baz=276								
TWD	**Chiawan**	**0.44**	**268**	⇓	*i*	P	**Pn**	**03 17 05.2**	**+0.3**
	baz=265								
TWD					*i*	S	**Sn**	**03 17 12.2**	**+0.4**
	baz=265								
EWUT	**Wuta**	**0.44**	**322**	⇓	*i*	P	**Pn**	**03 17 05.6**	**+0.6**
	baz=323								
EWUT					S		**Sn**	**03 17 13.1**	**+1.2**
	baz=323								
HWA	**Hwalien**	**0.45**	**255**	*i*	P		**Pn**	**03 17 05.8**	**+0.8**
	baz=250								
HWA					S		**Sn**	**03 17 13.6**	**+1.6**
	baz=250								
NACB	**Ninganchiao**	**0.45**	**280**	⇓	*i*	P	**Pn**	**03 17 05.3**	**+0.3**
	baz=278								
NACB					*i*	S	**Sn**	**03 17 12.5**	**+0.4**
	baz=278								
NACB	**Ninganchiao**	**0.45**	**280**				**Pn**	**03 17 04.8**	**-0.2**
NACB						Sn	**Sn**	**03 17 12.4**	**+0.4**
ENA	**Nanau**	**0.45**	**317**	⇓	*i*	P	**Pn**	**03 17 05.6**	**+0.5**
	baz=319								
ENA					*e*	S	**Sn**	**03 17 13.4**	**+1.2**
	baz=319								
TEYL	**Yanliau Villag**	**0.49**	**243**	⇓	*i*	P	**Pn**	**03 17 06.2**	**+0.6**
	baz=242								
TEYL					S		**Sn**	**03 17 14.4**	**+1.4**
	baz=242								
ETM	**Tongmen**	**0.55**	**257**		P		**Pn**	**03 17 06.7**	**+0.3**
	baz=253								
ETM					*e*	S	**Sn**	**03 17 14.7**	**+0.3**
	baz=253								
TWC	**Suao**	**0.55**	**338**	⇓	*i*	P	**Pn**	**03 17 07.0**	**+0.5**
	baz=341								
TWC					*e*	S	**Sn**	**03 17 14.7**	**+0.2**
	baz=341								
ETLH	**Xiulin Townshi**	**0.56**	**282**	⇓	*i*	P	**Pn**	**03 17 06.8**	**+0.2**
	baz=280								
ETLH					*i*	S	**Sn**	**03 17 15.0**	**+0.3**
	baz=280								
TEGC	**Jichi Village**	**0.62**	**232**		*e*	P	**Pn**	**03 17 08.0**	**+0.6**
	baz=228								
TEGC					*e*	S	**Sn**	**03 17 17.6**	**+1.4**
	baz=228								
NDS	**Dongshan**	**0.63**	**329**	⇓	*i*	P	**Pn**	**03 17 08.2**	**+0.7**
	baz=330								
NDS					*i*	S	**Sn**	**03 17 17.1**	**+0.7**
	baz=330								
ESL	**Shilin**	**0.65**	**245**	⇓	*i*	P	**Pn**	**03 17 07.9**	**+0.2**
	baz=241								
ESL					S		**Sn**	**03 17 17.9**	**+1.0**
	baz=241								
ENTT	**Nioudou**	**0.71**	**319**	⇓	*i*	P	**Pn**	**03 17 09.3**	**+0.6**
	baz=320								
ENTT					S		**Sn**	**03 17 19.8**	**+1.3**
	baz=320								
NNSB	**Datong**	**0.71**	**298**	⇓	*i*	P	**Pn**	**03 17 09.3**	**+0.5**
	baz=297								
NNSB					S		**Sn**	**03 17 19.4**	**+0.8**
	baz=297								
NDT	**Datong Townshi**	**0.72**	**315**	⇓	*i*	P	**Pn**	**03 17 09.5**	**+0.8**
	baz=315								
NDT					*e*	S	**Sn**	**03 17 20.3**	**+1.7**
	baz=315								
TWE	**Neicheng**	**0.73**	**329**	⇓	*i*	P	**Pn**	**03 17 09.7**	**+0.9**
	baz=331								
TWE					*e*	S	**Sn**	**03 17 19.8**	**+1.1**
	baz=331								
NNS	**Nan Shan**	**0.73**	**298**	⇓	*i*	P	**Pn**	**03 17 09.3**	**+0.4**
	baz=298								
NNS					S		**Sn**	**03 17 19.8**	**+0.9**
	baz=298								
EGFH	**Guangfu**	**0.73**	**235**	⇓	*i*	P	**Pn**	**03 17 09.1**	**+0.3**
	baz=231								
EGFH					S		**Sn**	**03 17 20.0**	**+1.2**
	baz=231								
ILA	**Ilan**	**0.73**	**336**		*e*	P	**Pn**	**03 17 09.8**	**+0.9**
	baz=338								
ILA					*e*	S	**Sn**	**03 17 20.6**	**+1.7**
	baz=338								
WHF	**Hehuan Shan**	**0.74**	**274**	⇓	*i*	P	**Pn**	**03 17 09.7**	**+0.3**
	baz=272								
WHF					*i*	S	**Sn**	**03 17 20.5**	**+0.8**
	baz=272								
FUSS	**Fushou**	**0.78**	**281**	⇓	*i*	P	**Pn**	**03 17 10.3**	**+0.6**
	baz=280								
FUSS					*e*	S	**Sn**	**03 17 21.2**	**+1.0**
	baz=280								
NTC	**Toucheng**	**0.79**	**343**		P		**Pn**	**03 17 10.8**	**+1.2**
	baz=345								
NTC					*e*	S	**Sn**	**03 17 21.1**	**+0.9**
	baz=345								
CHGB	**Renai**	**0.83**	**268**	⇓	*i*	P	**Pn**	**03 17 11.1**	**+0.7**
	baz=266								
CHGB					*e*	S	**Sn**	**03 17 22.6**	**+1.2**
	baz=266								
OWD	**Renai**	**0.83**	**261**	*i*	P		**Pn**	**03 17 11.2**	**+0.7**
	baz=258								
OWD					*e*	S	**Sn**	**03 17 21.8**	**+0.2**
	baz=258								
HGSD	**Ruisui**	**0.85**	**225**	⇑	*i*	P	**Pn**	**03 17 10.8**	**+0.4**
	baz=222								
HGSD					*e*	S	**Sn**	**03 17 22.5**	**+0.8**
	baz=222								
TDCB	**Techi**	**0.85**	**281**	⇓	*i*	P	**Pn**	**03 17 11.5**	**+0.9**
	baz=279								
TDCB					S		**Sn**	**03 17 22.9**	**+0.8**
	baz=279								
NWLT	**Wulai**	**0.86**	**323**	*i*	P		**Pn**	**03 17 11.5**	**+0.9**
	baz=323								
NWLT					*e*	S	**Sn**	**03 17 22.8**	**+0.8**
	baz=323								
YHNB	**Yeheng**	**0.86**	**312**	⇓	*i*	P	**Pn**	**03 17 11.5**	**+0.8**
	baz=312								
YHNB					*e*	S	**Sn**	**03 17 22.5**	**+0.4**
	baz=312								
YHNB	**Yeheng**	**0.86**	**312**				**Pn**	**03 17 10.4**	**-0.3**
YHNB						Sn	**Sn**	**03 17 22.2**	**+0.1**
JYNG	**Yonagunijimaku**	**0.87**	**66**		P		**Pn**	**03 17 11.8**	**+1.1**
JYNG						S	**Sn**	**03 17 23.6**	**+1.4**
NSK	**Sanguang**	**0.87**	**312**	⇓	*i*	P	**Pn**	**03 17 11.6**	**+0.7**
	baz=312								
NSK					*e*	S	**Sn**	**03 17 22.6**	**+0.1**
	baz=312								
TIPB	**Shuangxi**	**0.90**	**345**	⇑	*i*	P	**Pn**	**03 17 12.6**	**+1.4**
	baz=347								
TIPB					*e*	S	**Sn**	**03 17 24.6**	**+1.5**
	baz=347								
EHY	**Hungye**	**0.91**	**230**	⇓	*i*	P	**Pn**	**03 17 11.5**	**+0.3**
	baz=227								
EHY					*e*	S	**Sn**	**03 17 23.8**	**+0.7**
	baz=227								
TWB1	**Santiao Chiao**	**0.91**	**355**	⇑		P	**Pn**	**03 17 12.2**	**+0.9**
	baz=357								
TWB1					*e*	S	**Sn**	**03 17 24.1**	**+0.8**
	baz=357								
YOJ	**Yonaguni jima**	**0.93**	**67**		P		**Pn**	**03 17 12.6**	**+1.0**
YOJ					*e*	S	**Sn**	**03 17 24.8**	**+1.2**
YOJ	**Yonaguni jima**	**0.93**	**67**	⇓	*i*	P	**Pn**	**03 17 12.6**	**+1.0**
	baz=68								
YOJ					*i*	S	**Sn**	**03 17 24.8**	**+1.2**
	baz=68								
YOJ	**Yonaguni jima**	**0.93**	**67**				**Pn**	**03 17 11.9**	**+0.4**
YOJ						Sn	**Sn**	**03 17 24.9**	**+1.2**
ECBN	**Changbin**	**0.96**	**217**	*e*	P		**Pn**	**03 17 12.6**	**+0.5**
	baz=214								
ECBN					*e*	S	**Sn**	**03 17 24.9**	**+0.4**
	baz=214								
TWA	**Mucha**	**0.99**	**333**	*e*	P		**Pn**	**03 17 14.2**	**+1.8**
	baz=334								
TWA					*e*	S	**Sn**	**03 17 27.0**	**+1.8**
	baz=334								
YULB	**Yu-li**	**1.00**	**226**		P		**Pn**	**03 17 13.1**	**+0.5**
	baz=223								
YULB					*e*	S	**Sn**	**03 17 25.0**	**-0.4**
	baz=223								
YULB	**Yu-li**	**1.00**	**226**				**Pn**	**03 17 12.5**	**0.0**
NHDH	**Xindian Distri**	**1.00**	**330**		P		**Pn**	**03 17 14.4**	**+1.8**
	baz=331								
NHDH					*e*	S	**Sn**	**03 17 26.9**	**+1.5**
	baz=331								
NWF	**Wu-fen Shan**	**1.01**	**345**	⇑	P		**Pn**	**03 17 14.2**	**+1.4**
	baz=346								
NWF					*e*	S	**Sn**	**03 17 26.9**	**+1.1**
	baz=346								
WFSB	**Wu-fen Shan**	**1.01**	**345**	⇑	P		**Pn**	**03 17 14.2**	**+1.5**
	baz=346								
WFSB					*e*	S	**Sn**	**03 17 26.9**	**+1.3**
	baz=346								
EYUL	**Yuli**	**1.02**	**223**	*e*	P		**Pn**	**03 17 13.2**	**+0.5**
	baz=221								
EYUL					*e*	S	**Sn**	**03 17 26.4**	**+0.5**
	baz=221								
WPL	**Puli Township**	**1.03**	**266**	*e*	P		**Pn**	**03 17 14.1**	**+1.2**
	baz=264								
WPL					*e*	S	**Sn**	**03 17 27.8**	**+1.7**
	baz=264								
TATO	**Taipei**	**1.03**	**329**	*e*	P		**Pn**	**03 17 14.5**	**+1.6**
	baz=330								
TATO					*e*	S	**Sn**	**03 17 27.7**	**+1.6**
	baz=330								
TATO	**Taipei**	**1.03**	**329**				**Pn**	**03 17 13.2**	**+0.3**
TWF1	**Yuli**	**1.03**	**224**	*i*	P		**Pn**	**03 17 13.3**	**+0.4**
	baz=221								
TWF1					*e*	S	**Sn**	**03 17 26.4**	**+0.3**
	baz=221								
WHP	**Taichung City**	**1.05**	**280**	⇓	*i*	P	**Pn**	**03 17 14.7**	**+1.4**
	baz=279								
WHP					*e*	S	**Sn**	**03 17 28.6**	**+1.8**
	baz=279								
DPDB	**Guoxing**	**1.05**	**267**	⇓	*e*	P	**Pn**	**03 17 14.6**	**+1.3**
	baz=265								
WCS	**Beigang Elemen**	**1.07**	**268**	⇓		P	**Pn**	**03 17 14.7**	**+1.3**
	baz=267								
WCS					*e*	S	**Sn**	**03 17 29.3**	**+2.2**
	baz=267								
SSLB	**Suanglung**	**1.07**	**254**	⇓	*i*	P	**Pn**	**03 17 14.5**	**+1.0**
	baz=252								
SSLB					*e*	S	**Sn**	**03 17 27.5**	**+0.2**
	baz=252								
SSLB	**Suanglung**	**1.07**	**254**				**Pn**	**03 17 14.3**	**+0.7**
TAP	**Taipei**	**1.07**	**331**	*e*	P		**Pn**	**03 17 15.5**	**+1.9**
	baz=332								
TAP					*e*	S	**Sn**	**03 17 29.7**	**+2.5**
	baz=332								
TNOU	**National Taiwa**	**1.09**	**345**	*e*	P		**Pn**	**03 17 11.8**	**-1.9**
	baz=347								
SMLT	**Sun Moon Lake**	**1.10**	**259**	⇓		P	**Pn**	**03 17 15.1**	**+1.2**
	baz=257								
SMLT					*e*	S	**Sn**	**03 17 29.2**	**+1.2**
	baz=257								
LIOB	**Emei**	**1.11**	**300**	⇓		P	**Pn**	**03 17 16.2**	**+2.1**
	baz=299								
LIOB					*e*	S	**Sn**	**03 17 30.2**	**+2.0**
	baz=299								
NSTT	**Nanjuang**	**1.12**	**299**	⇓		P	**Pn**	**03 17 16.1**	**+2.0**
	baz=298								
NSTT					*e*	S	**Sn**	**03 17 30.1**	**+1.8**
	baz=298								
TYC	**Yuchr**	**1.13**	**261**	⇓	*e*	P	**Pn**	**03 17 15.6**	**+1.3**
	baz=259								
YM01	**YM01**	**1.14**	**336**	*e*	P		**Pn**	**03 17 16.2**	**+1.7**
	baz=337								
YM01					*e*	S	**Sn**	**03 17 30.8**	**+1.8**
	baz=337								
FULB	**Fuli**	**1.15**	**219**	*e*	P		**Pn**	**03 17 14.8**	**+0.2**
	baz=217								
FULB					*e*	S	**Sn**	**03 17 29.1**	**+0.1**
	baz=217								
TWS1	**Kuangyinshan**	**1.17**	**329**	*e*	P		**Pn**	**03 17 15.4**	**+0.5**
	baz=330								
CHKT	**Chengkung**	**1.19**	**214**	*e*	P		**Pn**	**03 17 14.7**	**-0.4**
	baz=211								
CHKT					*e*	S	**Sn**	**03 17 28.8**	**-1.2**
	baz=211								
WHYT	**Xinyi Township**	**1.19**	**251**	*e*	P		**Pn**	**03 17 16.6**	**+1.4**
	baz=249								
WHYT					*e*	S	**Sn**	**03 17 31.5**	**+1.4**
	baz=249								
NCU	**National Centr**	**1.19**	**317**	*e*	P		**Pn**	**03 17 16.9**	**+1.8**
	baz=318								
NCU					*e*	S	**Sn**	**03 17 32.5**	**+2.4**
	baz=318								
NCUH	**Zhongli**	**1.19**	**317**	*e*	P		**Pn**	**03 17 16.8**	**+1.7**
	baz=317								
NCUH					*e*	S	**Sn**	**03 17 32.0**	**+1.9**
	baz=317								
ANP	**Anpu**	**1.20**	**335**	*e*	P		**Pn**	**03 17 16.7**	**+1.3**
	baz=336								
ANP					*e*	S	**Sn**	**03 17 30.8**	**+0.3**
	baz=336								
SBCB	**Hsinchu**	**1.21**	**305**	*e*	P		**Pn**	**03 17 17.5**	**+2.0**
	baz=305								
SBCB					*e*	S	**Sn**	**03 17 33.3**	**+2.6**
	baz=305								
TWQ1	**Liyutan**	**1.22**	**282**		P		**Pn**	**03 17 17.7**	**+2.2**
	baz=281								
TWQ1					*e*	S	**Sn**	**03 17 33.9**	**+3.1**
	baz=281								
HSN	**Hsinchu**	**1.23**	**305**	*e*	P		**Pn**	**03 17 17.9**	**+2.2**
	baz=307								
HSN					*e*	S	**Sn**	**03 17 34.0**	**+2.9**
	baz=307								
NSY	**Sanyi**	**1.24**	**285**	*e*	P		**Pn**	**03 17 18.4**	**+2.5**
	baz=284								
NSY					*e*	S	**Sn**	**03 17 35.1**	**+3.6**
	baz=284								
NMLH	**Miaoli**	**1.25**	**291**	*e*	P		**Pn**	**03 17 18.4**	**+2.4**
	baz=290								
NMLH					*e*	S	**Sn**	**03 17 34.7**	**+3.0**
	baz=290								
TWY	**Chenhua**	**1.25**	**340**	*e*	P		**Pn**	**03 17 18.1**	**+2.1**
	baz=341								
TWY					*e*	S	**Sn**	**03 17 34.6**	**+3.0**
	baz=341								
WWF	**Wufeng**	**1.26**	**268**	*e*	P		**Pn**	**03 17 19.1**	**+3.0**
	baz=266								
WJS	**Zhushan**	**1.26**	**258**	*e*	P		**Pn**	**03 17 18.4**	**+2.2**
	baz=256								
WJS					*e*	S	**Sn**	**03 17 34.8**	**+2.8**
	baz=256								
TCU	**Taichung**	**1.28**	**273**	*e*	P		**Pn**	**03 17 19.0**	**+2.7**
	baz=271								
TCU					*e*	S	**Sn**	**03 17 35.7**	**+3.3**
	baz=271								
WNT1	**Nantou City**	**1.29**	**262**	*e*	P		**Pn**	**03 17 19.3**	**+2.8**
	baz=260								
WNT	**Mingjian**	**1.29**	**261**	*e*	P		**Pn**	**03 17 19.0**	**+2.5**
	baz=259								
WNT					*e*	S	**Sn**	**03 17 36.4**	**+3.7**
	baz=259								
ALS	**Alishan**	**1.30**	**244**	⇓		P	**Pn**	**03 17 18.6**	**+1.7**
	baz=242								
ALS					*e*	S	**Sn**	**03 17 35.0**	**+1.7**
	baz=242								
NHW	**Xinwu Township**	**1.30**	**314**	*e*	P		**Pn**	**03 17 18.3**	**+1.6**
	baz=314								
EDH	**Donghe**	**1.32**	**213**	*e*	P		**Pn**	**03 17 16.7**	**-0.2**
	baz=211								
EDH					*e*	S	**Sn**	**03 17 32.6**	**-0.8**
	baz=211								
ELDTW	**Lidau**	**1.33**	**227**	*e*	P		**Pn**	**03 17 17.6**	**+0.5**
	baz=225								
ELDTW					*e*	S	**Sn**	**03 17 31.3**	**-2.3**
	baz=225								
WDJ	**Dajia District**	**1.33**	**281**	*e*	P		**Pn**	**03 17 19.4**	**+2.3**
	baz=280								
WDJ					*e*	S	**Sn**	**03 17 36.2**	**+2.5**
	baz=280								
CHN5	**Tsauling**	**1.37**	**249**	*e*	P		**Pn**	**03 17 19.8**	**+2.1**
	baz=247								
CHN5					*e*	S	**Sn**	**03 17 38.0**	**+3.3**
	baz=247								
WCHH	**Zhanghua**	**1.39**	**270**	*e*	P		**Pn**	**03 17 20.2**	**+2.4**
	baz=268								
WCHH					*e*	S	**Sn**	**03 17 39.0**	**+4.0**
	baz=268								
WDLH	**Douliu**	**1.47**	**254**		P		**Pn**	**03 17 21.5**	**+2.6**
	baz=253								
WDLH					*e*	S	**Sn**	**03 17 40.6**	**+3.7**
	baz=253								
LONT	**Longtian**	**1.47**	**216**	*e*	P		**Pn**	**03 17 19.3**	**+0.4**
	baz=215								
STYH	**Taoyuan**	**1.51**	**233**	⇓	P		**Pn**	**03 17 21.1**	**+1.6**
	baz=231								
STYH					*e*	S	**Sn**	**03 17 39.6**	**+1.8**
	baz=231								
LDUT	**Ludao**	**1.52**	**202**		P		**Pn**	**03 17 19.2**	**-0.5**
	baz=200								
LDUT					*e*	S	**Sn**	**03 17 36.5**	**-1.8**
	baz=200								
STYT	**Tauyuan**	**1.52**	**233**	*e*	P		**Pn**	**03 17 21.5**	**+1.7**
	baz=231								
IRIF	**Iriomote-Funau**	**1.53**	**81**		P		**Pn**	**03 17 20.8**	**+1.0**
IRIF					*e*	S	**Sn**	**03 17 39.6**	**+1.2**
PCYT	**Pengchaiyu**	**1.53**	**360**		P		**Pn**	**03 17 20.6**	**+0.8**
	baz=1.0								
TPUB	**Ta-pu**	**1.54**	**239**	*e*	P		**Pn**	**03 17 22.3**	**+2.2**
	baz=238								
TPUB					*e*	S	**Sn**	**03 17 41.8**	**+2.9**
	baz=238								
TPUB	**Ta-pu**	**1.54**	**239**				**Pn**	**03 17 21.2**	**+1.2**
CHN4	**Tsaushan**	**1.55**	**242**	*e*	P		**Pn**	**03 17 22.3**	**+2.3**
	baz=240								
TWGBT	**Beinan**	**1.57**	**216**	*e*	P		**Pn**	**03 17 20.3**	**-0.1**
	baz=214								
TWGBT					*e*	S	**Sn**	**03 17 38.7**	**-0.7**
	baz=214								
WRL	**Guolierlin Hig**	**1.57**	**263**	*e*	P		**Pn**	**03 17 22.4**	**+2.2**
	baz=262								
WRL					*e*	S	**Sn**	**03 17 42.1**	**+2.7**
	baz=262								
TWG	**Pinlang**	**1.57**	**216**	*e*	P		**Pn**	**03 17 20.2**	**-0.1**
	baz=214								
TWG					*e*	S	**Sn**	**03 17 38.6**	**-0.8**
	baz=214								
TWG	**Pinlang**	**1.57**	**216**				**Pn**	**03 17 20.3**	**-0.1**
CHN2	**Minshiung**	**1.57**	**249**	*e*	P		**Pn**	**03 17 23.5**	**+3.1**
	baz=248								
HATJ	**Hateruma jima**	**1.58**	**91**		P		**Pn**	**03 17 22.0**	**+1.5**
HATJ					*e*	S	**Sn**	**03 17 41.6**	**+1.9**
WTP	**Ta-pu**	**1.58**	**238**	⇓	*e*	P	**Pn**	**03 17 22.9**	**+2.3**
	baz=236								
WTP					*e*	S	**Sn**	**03 17 43.2**	**+3.3**
	baz=236								
WTK	**Tuku**	**1.60**	**256**	⇑	*e*	P	**Pn**	**03 17 23.3**	**+2.6**
	baz=254								
WTK					*e*	S	**Sn**	**03 17 43.5**	**+3.4**
	baz=254								
CHY	**Chiayi**	**1.63**	**249**	*e*	P		**Pn**	**03 17 23.7**	**+2.6**
	baz=247								
CHY					*e*	S	**Sn**	**03 17 44.4**	**+3.5**
	baz=247								
TWK	**Hsinying**	**1.67**	**241**	*e*	P		**Pn**	**03 17 24.1**	**+2.2**
	baz=239								
TWK					*e*	S	**Sn**	**03 17 45.4**	**+3.2**
	baz=239								
CHN1	**Nanshi**	**1.68**	**238**	*e*	P		**Pn**	**03 17 24.2**	**+2.3**
	baz=236								
CHN1					*e*	S	**Sn**	**03 17 46.1**	**+3.8**
	baz=236								
SGST	**Jiashian**	**1.70**	**234**	*e*	P		**Pn**	**03 17 24.1**	**+1.9**
	baz=232								
SGST					*e*	S	**Sn**	**03 17 45.5**	**+2.8**
	baz=232								
SLGT	**Liugui**	**1.71**	**230**	*e*	P		**Pn**	**03 17 24.7**	**+2.4**
	baz=229								
SLGT					*e*	S	**Sn**	**03 17 46.7**	**+3.8**
	baz=229								
WSF	**Szhu**	**1.76**	**255**	*e*	P		**Pn**	**03 17 23.8**	**+0.8**
	baz=254								
WSF					*e*	S	**Sn**	**03 17 48.6**	**+4.5**
	baz=254								
JKRS	**Kuro-shima**	**1.77**	**85**		P		**Pn**	**03 17 24.7**	**+1.6**
JKRS						S	**Sn**	**03 17 46.6**	**+2.2**
ICHU	**Yijhu**	**1.80**	**246**	*e*	P		**Pn**	**03 17 25.3**	**+1.8**
	baz=245								
ICHU					*e*	S	**Sn**	**03 17 47.6**	**+2.5**
	baz=245								
ECL	**Taimali**	**1.81**	**215**	*e*	P		**Pn**	**03 17 24.0**	**+0.3**
	baz=213								
ECL					*e*	S	**Sn**	**03 17 45.4**	**0.0**
	baz=213								
SCST	**Cishan**	**1.89**	**231**	*e*	P		**Pn**	**03 17 28.3**	**+3.6**
	baz=229								
SCST					*e*	S	**Sn**	**03 17 51.5**	**+4.2**
	baz=229								
SSD	**Sandimen**	**1.89**	**225**	*e*	P		**Pn**	**03 17 26.9**	**+2.2**
	baz=223								
SSD					*e*	S	**Sn**	**03 17 50.9**	**+3.5**
	baz=223								
JIJ	**Ishigaki jima**	**1.91**	**82**		P		**Pn**	**03 17 26.0**	**+1.0**
JIJ						S	**Sn**	**03 17 48.0**	**+0.3**
TSMG	**Majia**	**1.91**	**224**	*e*	P		**Pn**	**03 17 27.8**	**+2.7**
	baz=222								
TSMG					*e*	S	**Sn**	**03 17 51.5**	**+3.6**
	baz=222								
MASBT	**Mashibuluo**	**1.98**	**222**	*e*	P		**Pn**	**03 17 26.4**	**+0.4**
	baz=221								
MASBT					*e*	S	**Sn**	**03 17 53.4**	**+3.7**
	baz=221								
EAST	**Anshuo**	**2.04**	**214**	*e*	P		**Pn**	**03 17 27.2**	**+0.3**
	baz=212								
JISG	**Ishigakijimahi**	**2.10**	**76**		P		**Pn**	**03 17 28.3**	**+0.7**
JISG					*e*	S	**Sn**	**03 17 53.3**	**+0.9**
SCZT	**Fangliau**	**2.18**	**218**	*e*	P		**Pn**	**03 17 31.4**	**+2.7**
	baz=217								
SCZT					*e*	S	**Sn**	**03 17 58.7**	**+4

	baz=289							
JIRB	**Irabujima**	**2.91**	**75**	P		**Pn**	**03 17 40.4**	**+1.6**
JIRB				S		**Sn**	**03 18 14.2**	**+1.6**
JIKM	**Ikemajima**	**3.00**	**73**	P		**Pn**	**03 17 41.9**	**+1.8**
JIKM				*eS*		**Sn**	**03 18 17.3**	**+2.5**
JMJ2	**Miyako jima3**	**3.03**	**77**	P		**Pn**	**03 17 42.6**	**+2.1**
JMJ2				S		**Sn**	**03 18 17.7**	**+2.2**
JOGS	**Gusukube**	**3.11**	**77**	P		**Pn**	**03 17 43.1**	**+1.6**
LYJJ	**Jianjiangzhen** baz=320	**3.22**	**320**	*eP*		**Pn**	**03 17 43.3**	**+0.2**
LYJJ				*eS*		**Sn**	**03 18 18.9**	**-1.3**
	baz=320							
XPSS	**Dashiqiu** baz=329	**3.30**	**329**	*eP*		**Pn**	**03 17 44.7**	**+0.6**
XPSS				*eS*		**Sn**	**03 18 21.3**	**-0.7**
	baz=329							
KNM	**Kinmen** baz=275	**3.34**	**276**	*eP*		**Pn**	**03 17 47.0**	**+2.4**
KNM				*eS*		**Sn**	**03 18 23.9**	**+0.8**
	baz=275							
KNMB	**Chin-men Tao** baz=276	**3.39**	**277**	*eP*		**Pn**	**03 17 45.9**	**+0.6**
KNMB				*eS*		**Sn**	**03 18 21.6**	**-2.7**
	baz=276							
KNMB	**Chin-men Tao**	**3.39**	**277**	Pn		**Pn**	**03 17 45.8**	**+0.4**
MHZQ	**Yeshan** baz=306	**3.41**	**306**	*eP*		**Pn**	**03 17 45.9**	**+0.3**
MHZQ				*eS*		**Sn**	**03 18 23.0**	**-1.8**
	baz=306							
AXDP	**Jialang** baz=282	**3.83**	**283**	*eP*		**Pn**	**03 17 52.8**	**+1.4**
AXDP				*eS*		**Sn**	**03 18 33.6**	**-1.5**
	baz=282							
ZPLA	**Ao Xicun** baz=267	**3.96**	**269**	*eP*		**Pn**	**03 17 53.9**	**+0.7**
ZPLA				*eS*		**Sn**	**03 18 36.2**	**-2.2**
	baz=267							
JOW	**Kunigami** 14nm,0.3s,baz=86,slow=30,SNR=55	**6.23**	**63**	P		**Pn**	**03 18 24.4**	**0.0**
JOW	**Kunigami**	**6.23**	**63**			**Pn**	**03 18 24.2**	**-0.2**
JMZ	**Minamidaito 2**	**8.47**	**76**	Pn		**Pn**	**03 18 52.1**	**-3.0**
KSRS	**Korea Array** 0.1nm,0.3s,baz=197,slow=12,SNR=4.5	**14.23**	**19**	P		**P**	**03 20 20.0**	**-0.4**
ULN	**Ulaanbaatar**	**26.56**	**337**	P		**P**	**03 22 29.0**	**-0.3**
ULN				IAmb		IAmb	03 22 30.0	
	comp=Z,2.6nm,0.6s							
SONM	**Songino Array** comp=Z,1.7nm,0.6s,baz=148,slow=12,SNR=4.7	**26.77**	**336**	P		**P**	**03 22 31.2**	**0.0**
SONM	**Songino Array**	**26.77**	**336**	P		**P**	**03 22 29.5**	**-1.7**
MKAR	**Makanchi Array** comp=Z,0.9nm,0.5s,baz=95,slow=8.6,SNR=7.5	**38.97**	**316**	P		**P**	**03 24 18.0**	**+0.7**
MKAR	**Makanchi Array**	**38.97**	**316**	P		**P**	**03 24 17.9**	**+0.6**
MAKZ	**Makanchi**	**39.18**	**316**	P		**P**	**03 24 18.9**	**-0.1**
MAKZ				IAmb		IAmb	03 25 21.3	
	comp=Z,16nm,1.8s							
ZALV	**Zalesovo Beam** comp=Z,0.9nm,0.4s,baz=108,slow=8.3,SNR=4.4	**40.76**	**327**	P		**P**	**03 24 30.4**	**-1.7**
ZALV	**Zalesovo Beam**	**40.76**	**327**	P		**P**	**03 24 30.7**	**-1.3**
WRA	**Warramunga Arr** comp=Z,0.5nm,0.7s,baz=344,slow=8.7,SNR=2.8	**45.37**	**164**	P		**P**	**03 25 09.4**	**-0.3**
WB2	**Warramunga Arr**	**45.38**	**164**	P		**P**	**03 25 09.2**	**-0.4**
WB2				IAmb		IAmb	03 26 16.2	
	comp=Z,28nm,1.8s							
WR0	**Warramunga Arr**	**45.44**	**163**	P		**P**	**03 25 09.1**	**-1.0**
WR0				IAmb		IAmb	03 25 11.0	
	comp=Z,34nm,2.0s							
ABKAR	**Akbulak array**	**54.09**	**314**	P		**P**	**03 26 16.0**	**+0.4**
ABKAR				IAmb		IAmb	03 26 17.1	
	comp=Z,2.9nm,0.7s							
PPLA	**Purkeypile**	**66.92**	**30**	P		**P**	**03 27 43.5**	**+0.3**
ILAR	**Eielson Array** comp=Z,0.3nm,0.5s,baz=293,slow=6.7,SNR=6.3	**68.92**	**27**	P		**P**	**03 27 54.7**	**-0.8**
BMAR	**Burnt Mountain**	**69.27**	**24**	P		**P**	**03 27 58.6**	**+0.8**
GERES	**GERESS Array B** comp=Z,0.7nm,0.8s,baz=48,slow=4.0,SNR=4.3	**83.43**	**321**	P		**P**	**03 29 17.6**	**-0.8**

KMA 22 03:29:43.5±0.8**, 38.97N**×**126.09E, h0**km**, Error ellipse: s-maj=10.0km s-min=4.6km az=9.0, North Korea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YNCB	**YEONCHEON** SNR=21	**1.13**	**144**	P	Pg	03 30 04.6	-0.5
YNCB	**YEONCHEON** SNR=21	**1.13**	**144**	P	Pg	03 30 04.6	-0.5
YNCB	**YEONCHEON** SNR=21	**1.13**	**144**	P	Pg	03 30 04.6	-0.5
KSMUS	**Musan** SNR=8.1	**1.20**	**154**	P	Pb	03 30 06.8	-0.2
KSMUS	**Musan** SNR=8.1	**1.20**	**154**	P	Pb	03 30 06.8	-0.2
KSCWO	**Cheorwon** SNR=7.7	**1.42**	**128**	P	Pn	03 30 10.2	-0.5
KSCWO	**Cheorwon** SNR=7.7	**1.42**	**128**	P	Pn	03 30 10.2	-0.5
HWCB	**Hwacheon**	**1.44**	**120**	P	Pn	03 30 11.0	+0.1
HWCB	**Hwacheon**	**1.44**	**120**	P	Pn	03 30 11.0	+0.1
KSBAR	**Backryungdo** SNR=22	**1.46**	**228**	P	Pn	03 30 11.1	0.0
KSBAR	**Backryungdo** SNR=22	**1.46**	**228**	P	Pn	03 30 11.1	0.0
KSBAR	**Backryungdo** SNR=22	**1.46**	**228**	P	Pn	03 30 11.1	0.0
DACB	**Daecheong-do R** SNR=14	**1.57**	**224**	P	Pn	03 30 12.6	0.0
DACB	**Daecheong-do R** SNR=14	**1.57**	**224**	P	Pn	03 30 12.6	0.0
DACB	**Daecheong-do R** SNR=14	**1.57**	**224**	P	Pn	03 30 12.6	0.0
KSDEI	**Deokjeokdo** SNR=12	**1.71**	**180**	P	Pn	03 30 14.5	0.0
KSCHC	**Chuncheon** SNR=20	**1.80**	**131**	P	Pn	03 30 16.5	+0.7
KSCHC	**Chuncheon** SNR=20	**1.80**	**131**	P	Pn	03 30 16.5	+0.7
KSCHC	**Chuncheon** SNR=20	**1.80**	**131**	P	Pn	03 30 16.5	+0.7
SEHB	**SEOHWA** SNR=12	**1.83**	**112**	P	Pb	03 30 18.2	+0.3
KSIJA	**INJE** SNR=15	**1.86**	**121**	P	Pb	03 30 18.2	-0.1
HAWB	**Hwaseong-si** SNR=9.5	**1.95**	**164**	P	Pb	03 30 19.0	-1.0

*CNRM **22** 03:32:22.7, 34.73N×4.33W, h1km, ml3.3*
*SFS **22** 03:32:23.0, 34.88N×4.76W, ML2.3, TARGUIST (MARRUECOS)*
*INMG **22** 03:32:24.1±1.6, 34.86N×4.21W, h10km±7km, ML2.4, Error ellipse: s-maj=4.2km s-min=2.9km az=119.0*
*MDD **22** 03:32:24.8±1.0, 34.93N×4.23W, h0km, mbLg2.4/27, Error ellipse: s-maj=9.8km s-min=4.3km az=5.0, PRXIMO*
*IGIL **22** 03:32:24.5, 34.73N×4.28W, h10km*

ISC 22 03:32:23.8±1.0**, 34.82N**±0.02×**4.21W**±0.01**, h10**km±8km**, n179**, σ1.88/269**, Morocco**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKLM	**AKL**	**0.42**	**136**	P	**Pg**	**03 32 29.1**	**-3.0**
AKLM				S	**Sg**	**03 32 36.6**	**-1.1**
PALE	**Palemas**	**0.46**	**29**	P	**Pb**	**03 32 34.0**	**-0.1**
PALE	**Palemas**	**0.46**	**29**	P	**Pg**	**03 32 32.7**	**-0.2**
PALE				S	**Sb**	**03 32 41.4**	**+0.4**
PALE	**Palemas**	**0.46**	**29**	P	**Pg**	**03 32 32.7**	**-0.2**
PALE				S	**Sb**	**03 32 41.4**	**+0.4**
PALE	**Palemas**	**0.46**	**29**	P	**Pg**	**03 32 32.5**	**-0.3**
PALE	**Palemas**	**0.46**	**29**	P	**Pg**	**03 32 32.5**	**-0.3**
PALE	**Palemas**	**0.46**	**29**	P	**Pg**	**03 32 32.5**	**-0.3**
PALE	**Palemas**	**0.46**	**29**	P	**Pb**	**03 32 34.0**	**-0.1**
PALE	**Palemas**	**0.46**	**29**	P	**Pg**	**03 32 33.0**	**+0.2**
PALE	**Palemas**	**0.46**	**29**	P	**Pb**	**03 32 34.0**	**-0.1**
CHEFC	**Chefchaouen**	**0.97**	**288**	P	**Pg**	**03 32 40.4**	**-2.1**
CHEFC	**Chefchaouen**	**0.97**	**288**	P	**Pg**	**03 32 41.6**	**-0.9**
CHEFC				S	**Sg**	**03 32 55.0**	**-0.1**
CHEFC	**Chefchaouen**	**0.97**	**288**	P	**Pg**	**03 32 41.6**	**-0.9**
CHEFC				S	**Sg**	**03 32 55.0**	**-0.1**
CHEFC	**Chefchaouen**	**0.97**	**288**	P	**Pn**	**03 32 45.0**	**+1.4**
CHEFC	**Chefchaouen**	**0.97**	**288**	P	**Pg**	**03 32 41.0**	**-1.5**
CHEFC	**Chefchaouen**	**0.97**	**288**	P	**Pg**	**03 32 41.0**	**-1.5**
CHEFC	**Chefchaouen**	**0.97**	**288**	P	**Pg**	**03 32 41.0**	**-1.5**
CHEFC	**Chefchaouen**	**0.97**	**288**	P	**Pn**	**03 32 45.0**	**+1.4**
CHEFC	**Chefchaouen**	**0.97**	**288**	P	**Pn**	**03 32 45.0**	**+1.4**
CHEFC	**Chefchaouen**	**0.97**	**288**	P	**Pn**	**03 32 45.0**	**+1.4**
GOG	**Mont Gurugu**	**1.08**	**68**	P	**Pg**	**03 32 45.0**	**+0.4**
GOG	**Mont Gurugu**	**1.08**	**68**	P	**Pn**	**03 32 45.9**	**+0.9**
GOG				S	**Sn**	**03 33 03.0**	**+2.9**
GOG	**Mont Gurugu**	**1.08**	**68**	P	**Pn**	**03 32 45.9**	**+0.9**
GOG				S	**Sn**	**03 33 03.0**	**+2.9**
GOG	**Mont Gurugu**	**1.08**	**68**	P	**Pn**	**03 32 46.0**	**+0.9**
GOG	**Mont Gurugu**	**1.08**	**68**	P	**Pg**	**03 32 45.0**	**+0.4**
GOG	**Mont Gurugu**	**1.08**	**68**	P	**Pn**	**03 32 46.0**	**+0.9**
EMEL	**Melilla** 127nm,0.4s,SNR=11	**1.14**	**65**	P	**Pb**	**03 32 44.3**	**-1.3**
EMEL				S	**Sb**	**03 32 59.2**	**-1.2**
	547nm,0.4s,SNR=7.6						
MELI	**Melilla** 94nm,0.4s,SNR=7.9	**1.15**	**65**	P	**Pb**	**03 32 46.1**	**+0.3**
MELI				S	**Sg**	**03 33 01.6**	**+0.6**
	631nm,0.8s,SNR=7.9						
MELI	**Melilla**	**1.15**	**65**	P	**Pb**	**03 32 45.1**	**-0.7**
MELI				S	**Sn**	**03 33 02.0**	**+0.2**
LCRM	**LCR**	**1.25**	**206**	P	**Pn**	**03 32 44.2**	**-3.3**
LCRM	**LCR**	**1.25**	**206**	P	**Pn**	**03 32 46.7**	**-0.7**
LCRM				S	**Sb**	**03 33 01.9**	**-1.8**
LCRM	**LCR**	**1.25**	**206**	P	**Pn**	**03 32 46.7**	**-0.7**
LCRM				S	**Sb**	**03 33 01.9**	**-1.8**
LCRM	**LCR**	**1.25**	**206**	P	**Pn**	**03 32 44.5**	**-3.0**
LCRM	**LCR**	**1.25**	**206**	P	**Pn**	**03 32 44.5**	**-3.0**
SMIR	**Smir Dam**	**1.29**	**312**	P	**Pn**	**03 32 46.0**	**-1.0**
SMIR	**Smir Dam**	**1.29**	**312**	P	**Pn**	**03 32 47.0**	**-0.9**
SMIR				S	**Sg**	**03 33 04.4**	**-1.0**
SMIR	**Smir Dam**	**1.29**	**312**	P	**Pn**	**03 32 45.2**	**-2.7**
SMIR	**Smir Dam**	**1.29**	**312**	P	**Pn**	**03 32 47.0**	**-0.9**
SMIR				S	**Sg**	**03 33 04.4**	**-1.0**
SMIR	**Smir Dam**	**1.29**	**312**	P	**Pn**	**03 32 47.0**	**-0.9**
SMIR	**Smir Dam**	**1.29**	**312**	P	**Pn**	**03 32 45.2**	**-2.7**
SMIR	**Smir Dam**	**1.29**	**312**	P	**Pn**	**03 32 45.2**	**-2.7**
SMIR	**Smir Dam**	**1.29**	**312**	P	**Pn**	**03 32 47.0**	**-0.9**
SMIR	**Smir Dam**	**1.29**	**312**	P	**Pn**	**03 32 47.0**	**-0.9**
SMIR	**Smir Dam**	**1.29**	**312**	P	**Pg**	**03 32 52.0**	**+3.5**
RSA	**Sarsar**	**1.32**	**273**	P	**Pg**	**03 32 51.0**	**+1.7**
RSA	**Sarsar**	**1.32**	**273**	P	**Pb**	**03 32 49.4**	**+0.6**
RSA				S	**Sb**	**03 33 05.4**	**-0.4**
RSA	**Sarsar**	**1.32**	**273**	P	**Pg**	**03 32 51.0**	**+1.7**
RSA	**Sarsar**	**1.32**	**273**	P	**Pb**	**03 32 49.4**	**+0.6**
RSA				S	**Sb**	**03 33 05.4**	**-0.4**
RSA	**Sarsar**	**1.32**	**273**	P	**Pg**	**03 32 51.0**	**+1.7**
RSA	**Sarsar**	**1.32**	**273**	P	**Pn**	**03 32 49.0**	**+0.5**
RSA	**Sarsar**	**1.32**	**273**	P	**Pg**	**03 32 51.0**	**+1.7**
RSA	**Sarsar**	**1.32**	**273**	P	**Pg**	**03 32 51.0**	**+1.7**
CEU	**Ceuta**	**1.44**	**319**	P	**Pn**	**03 32 46.7**	**-3.2**
CEU				S	Sb	03 32 59.1	-10
CEU	**Ceuta**	**1.44**	**319**	P	**Pn**	**03 32 46.7**	**-3.2**
CEU				S	Sb	03 32 59.1	-10
ECEU	**Ceuta** 6.0nm,0.4s,SNR=7.2	**1.44**	**319**	P	**Pn**	**03 32 47.6**	**-2.4**
ECEU				S	**Sb**	**03 33 06.4**	**-2.8**
	37nm,1.0s,SNR=5.2						
JBK	**JBK**	**1.44**	**109**	P	**Pn**	**03 32 48.3**	**-1.8**
JBK				S	**Sn**	**03 33 07.0**	**-2.2**
JBK	**JBK**	**1.44**	**109**	P	**Pn**	**03 32 48.3**	**-1.8**
JBK				S	**Sn**	**03 33 07.0**	**-2.2**
JBK	**JBK**	**1.44**	**109**	P	**Pn**	**03 32 49.0**	**-1.2**
JBK	**JBK**	**1.44**	**109**	P	**Pn**	**03 32 47.3**	**-2.8**
JBK	**JBK**	**1.44**	**109**	P	**Pn**	**03 32 47.3**	**-2.8**
JBK	**JBK**	**1.44**	**109**	P	**Pn**	**03 32 49.0**	**-1.2**
EALB	**Alboran** 20nm,0.6s,SNR=7.9	**1.48**	**40**	P	**Pn**	**03 32 48.7**	**-1.8**
EALB				S	**Sn**	**03 33 08.3**	**-1.6**
	78nm,0.5s						
TAF	**Taforalt**	**1.48**	**90**	P	**Pn**	**03 32 49.0**	**-1.6**
TAF	**Taforalt**	**1.48**	**90**	P	**Pn**	**03 32 50.7**	**+0.1**
TAF				S	**Sg**	**03 33 12.9**	**+1.5**
TAF	**Taforalt**	**1.48**	**90**	P	**Pn**	**03 32 49.0**	**-1.6**
TAF	**Taforalt**	**1.48**	**90**	P	**Pn**	**03 32 50.7**	**+0.1**
TAF				S	**Sg**	**03 33 12.9**	**+1.5**
TAF	**Taforalt**	**1.48**	**90**	P	**Pn**	**03 32 51.0**	**+0.4**
TAF	**Taforalt**	**1.48**	**90**	P	**Pn**	**03 32 49.0**	**-1.6**
TAF	**Taforalt**	**1.48**	**90**	P	**Pn**	**03 32 49.0**	**-1.6**
TAF	**Taforalt**	**1.48**	**90**	P	**Pn**	**03 32 51.0**	**+0.4**
IFR	**Ifrane**	**1.50**	**211**	P	**Pn**	**03 32 48.8**	**-2.1**
IFR				S	**Sn**	**03 33 08.6**	**-2.1**
EMIJ	**Mijas** 1.9nm,0.2s,SNR=10	**1.80**	**346**	P	**Pn**	**03 32 51.8**	**-3.2**
EMIJ				S	**Sn**	**03 33 15.1**	**-2.9**
	26nm,0.4s,SNR=4.5						
CZD	**Col de Zad**	**1.91**	**201**	P	**Pb**	**03 32 60.0**	**+1.1**
CZD	**Col de Zad**	**1.91**	**201**	P	**Pn**	**03 32 56.6**	**-0.1**
CZD				S	**Sn**	**03 33 20.9**	**0.0**
CZD	**Col de Zad**	**1.91**	**201**	P	**Pn**	**03 32 56.6**	**-0.1**
CZD				S	**Sn**	**03 33 20.9**	**0.0**
CZD	**Col de Zad**	**1.91**	**201**	P	**Pn**	**03 32 56.1**	**-0.6**
CZD	**Col de Zad**	**1.91**	**201**	P	**Pn**	**03 32 56.0**	**-0.6**
CZD	**Col de Zad**	**1.91**	**201**	P	**Pb**	**03 32 60.0**	**+1.1**
EJIF	**Jimena Fronter** SNR=7.9	**1.93**	**328**	P	**Pn**	**03 32 57.1**	**+0.4**
EJIF				S	**Sn**	**03 33 19.5**	**-1.5**
	SNR=7.9						
EMAL	**Malaga-Limoner**	**1.95**	**355**	P	**Pn**	**03 32 56.4**	**-0.6**
EMAL				S	**Sn**	**03 33 20.4**	**-1.1**
EMAL	**Malaga-Limoner**	**1.95**	**355**	P	**Pn**	**03 32 56.4**	**-0.6**
EMAL				S	**Sn**	**03 33 20.4**	**-1.1**
MD31	**MD31**	**2.00**	**193**	P	**Pn**	**03 32 56.9**	**-0.8**
MD31				S	**Sn**	**03 33 24.4**	**+1.6**
MD31	**MD31**	**2.00**	**193**	P	**Pn**	**03 32 56.9**	**-0.8**
MD31				S	**Sn**	**03 33 24.4**	**+1.6**
MDT	**Midelt**	**2.02**	**189**	P	**Pn**	**03 32 58.7**	**+0.6**
MDT	**Midelt**	**2.02**	**189**	P	**Pn**	**03 32 57.1**	**-0.9**
MDT				S	**Sn**	**03 33 23.1**	**-0.4**
MDT	**Midelt**	**2.02**	**189**	P	**Pn**	**03 32 57.1**	**-0.9**
MDT				S	**Sn**	**03 33 23.1**	**-0.4**
MDT	**Midelt**	**2.02**	**189**	P	**Pn**	**03 32 56.4**	**-1.7**
MDT	**Midelt**	**2.02**	**189**	P	**Pn**	**03 32 56.4**	**-1.7**
MDT	**Midelt**	**2.02**	**189**	P	**Pn**	**03 32 56.4**	**-1.7**
MDT	**Midelt**	**2.02**	**189**	P	**Pn**	**03 32 57.8**	**-0.3**
MDT	**Midelt**	**2.02**	**189**	P	**Pn**	**03 32 58.7**	**+0.6**
ELGU	**Los Guajares,** 5.5nm,0.4s,SNR=7.9	**2.10**	**13**	P	**Pn**	**03 32 56.9**	**-2.2**
ELGU				S	**Sn**	**03 33 23.3**	**-2.2**
	79nm,0.4s,SNR=7.9						
EGOR	**Sierra Gorda,** 1.3nm,0.3s,SNR=7.9	**2.29**	**2**	P	**Pn**	**03 33 00.1**	**-1.7**
EGOR				S	**Sn**	**03 33 28.5**	**-1.6**
	40nm,0.5s,SNR=7.9						
EBER	**Berja** 2.9nm,0.4s,SNR=9.3	**2.34**	**27**	P	**Pn**	**03 33 01.1**	**-1.4**
EBER				S	**Sn**	**03 33 30.0**	**-1.4**
	51nm,0.8s,SNR=6.1						
ZHG	**ZHG**	**2.43**	**237**	P	**Pg**	**03 33 11.0**	**+0.5**
ZHG	**ZHG**	**2.43**	**237**	P	**Pn**	**03 33 02.2**	**-1.5**
ZHG				S	**Sn**	**03 33 35.3**	**+1.8**
ZHG	**ZHG**	**2.43**	**237**	P	**Pg**	**03 33 11.0**	**+0.5**
ZHG	**ZHG**	**2.43**	**237**	P	**Pn**	**03 33 02.2**	**-1.5**
ZHG				S	**Sn**	**03 33 35.3**	**+1.8**
ZHG	**ZHG**	**2.43**	**237**	P	**Pg**	**03 33 11.0**	**+0.5**
ZHG	**ZHG**	**2.43**	**237**	P	**Pn**	**03 33 03.0**	**-0.7**
ZHG	**ZHG**	**2.43**	**237**	P	**Pn**	**03 33 03.0**	**-0.7**
ZHG	**ZHG**	**2.43**	**237**	P	**Pn**	**03 33 03.0**	**-0.7**
ZHG	**ZHG**	**2.43**	**237**	P	**Pg**	**03 33 11.0**	**+0.5**
ZHG	**ZHG**	**2.43**	**237**	P	**Pg**	**03 33 11.0**	**+0.5**
ESPR	**Espera** 0.7nm,0.2s,SNR=7.9	**2.44**	**327**	P	**Pn**	**03 33 03.2**	**-0.6**
ESPR				S	**Sn**	**03 33 31.1**	**-2.7**
	2.5nm,0.2s,SNR=7.9						
EQUE	**Quentar** 2.6nm,0.3s,SNR=9.0	**2.47**	**15**	P	**Pn**	**03 33 02.5**	**-1.6**
EQUE				S	**Sn**	**03 33 31.5**	**-2.9**
	9.4nm,0.5s						
TDRA	**Tendrara**	**2.54**	**134**	P	**Pn**	**03 33 03.8**	**-1.4**
TDRA				S	**Sn**	**03 33 38.3**	**+2.0**
TDRA	**Tendrara**	**2.54**	**134**	P	**Pb**	**03 33 09.0**	**-0.6**
TDRA	**Tendrara**	**2.54**	**134**	P	**Pn**	**03 33 03.8**	**-1.4**
TDRA				S	**Sn**	**03 33 38.3**	**+2.0**
TDRA	**Tendrara**	**2.54**	**134**	P	**Pb**	**03 33 11.1**	**+1.5**
TDRA	**Tendrara**	**2.54**	**134**	P	**Pn**	**03 33 03.0**	**-2.3**
TDRA	**Tendrara**	**2.54**	**134**	P	**Pn**	**03 33 03.0**	**-2.3**
TDRA	**Tendrara**	**2.54**	**134**	P	**Pn**	**03 33 03.0**	**-2.3**
TDRA	**Tendrara**	**2.54**	**134**	P	**Pb**	**03 33 11.1**	**+1.5**
ENIJ	**Nijar** 11nm,0.6s,SNR=7.9	**2.70**	**37**	P	**Pn**	**03 33 06.7**	**-0.6**
ENIJ				S	**Sn**	**03 33 37.3**	**-2.7**
	12nm,0.4s,SNR=7.9						
GORA	**Gorafe** 2.9nm,0.3s,SNR=7.9	**2.82**	**19**	P	**Pn**	**03 33 09.8**	**+0.7**
GORA				S	**Sn**	**03 33 41.8**	**-1.3**
	37nm,0.7s,SNR=7.9						
AVE	**Averroes**	**3.06**	**241**	P	**Pn**	**03 33 13.0**	**+0.8**
AVE				S	**Sb**	**03 33 54.2**	**-1.5**
AVE	**Averroes**	**3.06**	**241**	P	**Pn**	**03 33 11.8**	**-0.4**
AVE				S	**Sn**	**03 33 42.6**	**-6.3**
AVE	**Averroes**	**3.06**	**241**	P	**Pn**	**03 33 11.8**	**-0.4**
AVE				S	**Sn**	**03 33 42.6**	**-6.3**
EQES	**Quesada** 3.7nm,0.3s,SNR=27	**3.12**	**17**	P	**Pn**	**03 33 14.3**	**+1.1**
EQES				S	**Sn**	**03 33 46.9**	**-3.7**
	21nm,0.4s						
EADA	**Adamuz** 2.1nm,0.3s,SNR=15	**3.36**	**355**	P	**Pn**	**03 33 16.3**	**-0.1**
EADA				S	**Sn**	**03 33 56.8**	**+0.5**
	8.1nm,0.5s,SNR=4.5						
ECAB	**El Cabril** 0.9nm,0.4s,SNR=5.6	**3.40**	**344**	P	**Pn**	**03 33 16.2**	**-0.6**
ECAB				S	**Sn**	**03 33 55.8**	**-1.4**
	6.3nm,0.5s,SNR=5.8						
EMIN	**Mina Concepcio** SNR=7.9	**3.55**	**327**	P	**Pn**	**03 33 18.9**	**-0.2**
EMIN				S	**Sn**	**03 34 00.7**	**-0.4**
	1.7nm,0.3s,SNR=7.9						
SESP	**Santiago Espad** 5.7nm,0.4s,SNR=7.9	**3.56**	**22**	P	**Pn**	**03 33 20.7**	**+1.4**
SESP				S	**Sn**	**03 34 01.3**	**-0.2**
	27nm,0.6s,SNR=7.9						
FIGM	**Figuig**	**3.64**	**137**	P	**Pn**	**03 33 18.5**	**-1.8**
FIGM				S	**Sn**	**03 34 06.9**	**+3.5**
FIGM	**Figuig**	**3.64**	**137**	P	**Pn**	**03 33 18.5**	**-1.8**
FIGM				S	**Sn**	**03 34 06.9**	**+3.5**
FIGM	**Figuig**	**3.64**	**137**	P	**Pn**	**03 33 19.0**	**-1.3**
FIGM	**Figuig**	**3.64**	**137**	P	**Pn**	**03 33 19.0**	**-1.3**
EGRO	**El Granado** 2.7nm,0.3s,SNR=8.2	**3.79**	**317**	P	**Pn**	**03 33 21.4**	**-0.8**
EGRO				S	**Sn**	**03 34 06.5**	**-0.4**
	2.4nm,0.4s						
PVAQ	**Vaqueiros** 7.9nm,0.5s	**3.84**	**313**	P	**Pn**	**03 33 21.0**	**-1.9**
PVAQ				S	**Sn**	**03 34 06.3**	**-1.8**
	7.9nm,0.5s						
PVAQ	**Vaqueiros**	**3.84**	**313**	*e*Pn	**Pn**	**03 33 21.0**	**-1.9**
PVAQ				*e*Sn	**Sn**	**03 34 06.3**	**-1.8**
PVAQ				A	A	03 34 14.4	
	7.9nm,0.5s						
PVAQ	**Vaqueiros**	**3.84**	**313**	P	**Pn**	**03 33 23.6**	**+0.7**
PVAQ				S	**Sn**	**03 34 10.1**	**+2.0**
PVAQ	**Vaqueiros**	**3.84**	**313**	P	**Pn**	**03 33 23.6**	**+0.7**
PVAQ				S	**Sn**	**03 34 10.1**	**+2.0**
EMUR	**La Murta** 3.8nm,0.3s,SNR=7.9	**3.86**	**38**	S	**Sn**	**03 34 06.6**	**-2.0**
PBDV	**Barranco-do-Ve** 5.6nm,0.5s	**3.87**	**310**	P	**Pn**	**03 33 22.1**	**-1.3**
PBDV				S	**Sn**	**03 34 07.9**	**-1.0**
	5.6nm,0.5s						
PBDV	**Barranco-do-Ve**	**3.87**	**310**	*e*Pn	**Pn**	**03 33 22.1**	**-1.3**
PBDV				*e*Sn	**Sn**	**03 34 07.9**	**-1.0**
PBDV				A	A	03 34 12.1	
	5.6nm,0.5s						
TZRR	**Tazzarine**	**4.18**	**196**	P	**Pn**	**03 33 28.4**	**+0.7**
TZRR				S	**Sn**	**03 34 14.6**	**-2.0**
TZRR	**Tazzarine**	**4.18**	**196**	P	**Pn**	**03 33 28.4**	**+0.7**
TZRR				S	**Sn**	**03 34 14.6**	**-2.0**
PCVE	**Castro Verde**	**4.18**	**313**	P	**Pn**	**03 33 26.7**	**-0.9**
PCVE				S	**Sn**	**03 34 19.1**	**+2.6**
PCVE	**Castro Verde**	**4.18**	**313**	*e*Pn	**Pn**	**03 33 26.7**	**-0.9**
PCVE				*e*Sn	**Sn**	**03 34 19.1**	**+2.6**
ETOB	**Tobarra** 3.2nm,0.3s,SNR=9.3	**4.38**	**28**	P	**Pn**	**03 33 31.2**	**+0.8**
ETOB				S	**Sn**	**03 34 17.7**	**-3.9**
	2.8nm,0.4s						
MESJ	**Messejana**	**4.42**	**314**	*e*P	**Pn**	**03 33 30.2**	**-0.8**
MESJ	**Messejana**	**4.42**	**314**	P	**Pn**	**03 33 30.2**	**-0.8**
MESJ				S	**Sn**	**03 34 23.8**	**+1.2**
	4.4nm,0.5s						
MESJ	**Messejana**	**4.42**	**314**	*e*Pn	**Pn**	**03 33 30.5**	**-0.5**
MESJ				*e*Sn	**Sn**	**03 34 23.8**	**+1.2**
MESJ				A	A	03 34 30.6	
	4.4nm,0.5s						
EBAD	**Badajoz** 0.3nm,0.3s,SNR=6.2	**4.53**	**331**	P	**Pn**	**03 33 32.4**	**-0.1**
EBAD				S	**Sn**	**03 34 22.2**	**-2.9**
	3.6nm,0.5s						
PTEO	**Sao Teotonio**	**4.55**	**308**	P	**Pn**	**03 33 33.7**	**+0.9**
PTEO				S	**Sn**	**03 34 23.9**	**-1.

GUC 22 03:38:47.2±0.6,31°.71S×72°.18W,h32km±3km,ML3.9
ISC 22 03:38:45.7±2.1,31°.71S±0°.03×72°.23W±0°.06,h8km±14km, n68,σ1§27/69,mb4.1/7,2C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**1.15**	**26**	*eP*	**Pb**	**03 39 07.5**	**-0.3**
CO06				*i* S	**Sb**	**03 39 22.2**	**-0.7**
CO06	**Fray Jorge**	**1.15**	**26**	Pn	**Pb**	**03 39 07.9**	**0.0**
CO06				Sn	**Sb**	**03 39 22.4**	**-0.5**
VA06	**Catapilco**	**1.16**	**137**	*i* P	**Pb**	**03 39 07.1**	**-0.8**
VA06				*i* S	**Sb**	**03 39 22.1**	**-1.1**
VA06				IAML		03 39 26.1	
	comp=E,5μm,0.7s						
VA01	**Torpederas**	**1.40**	**160**	*eP*	**Pn**	**03 39 11.1**	**-0.4**
VA01				*i* S	**Sn**	**03 39 27.9**	**-2.2**
VA01	**Torpederas**	**1.40**	**160**	Pn	**Pn**	**03 39 11.6**	**+0.1**
VA01				Sn	**Sg**	**03 39 31.4**	**+0.8**
CO03	**El Pedregal**	**1.58**	**57**	*eP*	**Pn**	**03 39 14.0**	**0.0**
CO03				*i* S	**Sn**	**03 39 34.1**	**-0.6**
CO03				IAML		03 39 36.7	
	comp=E,2μm,0.5s						
CO03	**El Pedregal**	**1.58**	**57**	Pn	**Pn**	**03 39 14.1**	**0.0**
CO03				Sn	**Sn**	**03 39 34.0**	**-0.6**
ROCH	**El Roble**	**1.63**	**141**	*eP*	**Pn**	**03 39 14.7**	**-0.1**
ROCH				*i* S	**Sn**	**03 39 36.2**	**+0.1**
ROCH				IAML		03 39 40.1	
	comp=N,2μm,0.4s						
ROCH				IAML		03 39 43.0	
	comp=N,2μm,0.5s						
VA03	**San Esteban**	**1.77**	**127**	*i* P	**Pn**	**03 39 16.6**	**0.0**
VA03				*i* S	**Sn**	**03 39 39.0**	**-0.4**
VA03				IAML		03 39 44.3	
	comp=E,3μm,0.3s						
VA03	**San Esteban**	**1.77**	**127**	Pn	**Pn**	**03 39 16.9**	**+0.2**
GO04	**Tololo Observa**	**1.96**	**39**	*i* S	**Sn**	**03 39 43.7**	**-0.7**
GO04	**Tololo Observa**	**1.96**	**39**	Pn	**Pn**	**03 39 19.9**	**+0.4**
CO05	**La Serena**	**1.98**	**26**	*eP*	**Pn**	**03 39 20.1**	**+0.7**
CO05				IAML		03 39 55.3	
	comp=E,2μm,0.6s						
CO05	**La Serena**	**1.98**	**26**	Pn	**Pn**	**03 39 19.7**	**+0.2**
VA05	**Santo Domingo**	**2.01**	**165**	IAML		03 39 59.3	
	comp=E,3μm,0.5s						
VA05	**Santo Domingo**	**2.01**	**165**		**Pn**	**03 39 19.7**	**-0.2**
MT05	**Renca**	**2.10**	**143**	*eP*	**Pn**	**03 39 21.6**	**+0.4**
MT05				*i* S	**Sn**	**03 39 48.0**	**+0.5**
MT05				IAML		03 39 55.2	
	comp=E,2μm,0.4s						
MT05	**Renca**	**2.10**	**143**		**Pn**	**03 39 21.1**	**-0.1**
MT05	**Renca**	**2.10**	**143**	*i* P	**Pb**	**03 39 23.0**	**-1.0**
MT01	**Popeta**	**2.30**	**159**	IAML		03 40 05.2	
	comp=N,567nm,0.6s						
MT09	**Talagante**	**2.31**	**153**	*eP*	**Pn**	**03 39 25.0**	**+0.8**
MT09				IAML		03 40 03.8	
	comp=N,807nm,0.2s						
AUSP	**Uspallata**	**2.47**	**103**	*i* P	**Pb**	**03 39 29.0**	**-1.5**
LMEL	**Las Melosas**	**2.73**	**142**	*eP*	**Sn**	**03 39 30.8**	**+0.9**
LMEL				*i* S	**Sn**	**03 40 03.9**	**+0.7**
LMEL				IAML		03 40 23.4	
	comp=N,463nm,0.3s						
BO03	**Pichilemu**	**2.79**	**175**	*eP*	**Pn**	**03 39 30.2**	**-0.4**
AROD	**Rodeo**	**2.82**	**58**	*i* P	**Pb**	**03 39 36.0**	**-0.5**
LCO	**Las Campanas**	**3.00**	**27**	*eP*	**Pn**	**03 39 34.1**	**+0.4**
LCO				*i* S	**Sn**	**03 40 09.7**	**-0.2**
ARCO	**CERRO ARCO**	**3.01**	**113**	*i* P	**Pb**	**03 39 41.0**	**+1.4**
AAGR	**Agrelo**	**3.19**	**116**	*i* P	**Pb**	**03 39 43.0**	**+0.4**
GO05	**Huala**	**3.30**	**176**	Pn	**Pn**	**03 39 37.7**	**0.0**
ML02	**Panimavida**	**4.10**	**171**	Pn	**Pn**	**03 39 49.3**	**+0.8**
RFA	**San Rafael**	**4.39**	**135**	*i* P	Pn	03 39 58.0	+5.3
GO03	**Copiap**	**4.46**	**23**	*i* P	**Pn**	**03 39 54.0**	**+0.4**
AC02	**Maricunga**	**5.56**	**30**		**Pn**	**03 40 08.5**	**-0.6**
AC02	**Maricunga**	**5.56**	**30**	*i* P	**Pn**	**03 40 10.0**	**+0.8**
H03N1	**Juan Fernandez** baz=79,slow=72,SNR=37	**5.90**	**251**	T	T	03 47 01.6	
H03N3	**Juan Fernandez** baz=79,slow=72,SNR=49	**5.91**	**251**	T	T	03 47 02.7	
H03N2	**Juan Fernandez** baz=79,slow=72,SNR=49	**5.92**	**251**	T	T	03 47 03.3	
H03S3	**Juan Fernandez** baz=83,slow=74,SNR=4.0	**6.01**	**248**	T	T	03 47 07.7	
H03S1	**Juan Fernandez** baz=83	**6.01**	**248**	T	T	03 47 06.7	
H03S2	**Juan Fernandez** baz=83,slow=74,SNR=4.0	**6.03**	**248**	T	T	03 47 09.0	
CYA	**Choya**	**6.45**	**61**	*i* P	**Pn**	**03 40 24.0**	**+3.0**
LC01	**Cunco**	**7.18**	**178**	*i* P	**Pn**	**03 40 31.0**	**+0.1**
AHML	**Horco Molle**	**7.77**	**53**	*i* P	**Pn**	**03 40 42.0**	**+2.9**
PLCA	**Paso Flores** comp=N,0.3nm,0.3s,baz=329,slow=12,SNR=10	**9.11**	**172**	Pn	**Pn**	**03 40 58.9**	**+1.5**
PLCA	**Paso Flores**	**9.11**	**172**		**Pn**	**03 40 58.1**	**+0.7**
LVC	**Limon Verde** comp=N,0.1nm,0.3s,baz=280,slow=6.1,SNR=2.0	**9.53**	**19**	Pn	**Pn**	**03 41 00.7**	**-2.9**
LVC	**Limon Verde**	**9.53**	**19**	Pn	**Pn**	**03 41 01.8**	**-1.8**
TRQA	**Tornquist**	**10.53**	**130**	*i* P	**Pn**	**03 41 20.0**	**+3.1**
CPUP	**Villa Florida** comp=N,217nm,18.2s,baz=244,slow=40	**14.09**	**71**	LR	LR	03 47 55.0	
LPAZ	**La Paz** comp=N,0.1nm,0.3s,baz=218,slow=6.5,SNR=4.6	**15.80**	**15**	Pn	**Pn**	**03 42 30.1**	**+1.0**
LPAZ	**La Paz** comp=N,0.0nm,0.3s,baz=232,slow=12,SNR=3.0	**15.80**	**15**	Pn	**Pn**	**03 42 26.4**	**-2.7**
SIV	**San Ignacio**	**18.66**	**36**	P	**P**	**03 43 03.9**	**-0.2**
SIV				LR	LR	03 51 36.0	
	comp=N,86nm,18.7s,baz=238,slow=42						
NNA	**Nana** comp=N,44nm,21.2s,baz=168,slow=31	**20.09**	**347**	LR	LR	03 48 59.7	
BDFB	**Brasilia** comp=N,2.9nm,0.9s,baz=232,slow=4.1,SNR=5.1	**27.25**	**60**	P	**P**	**03 44 29.3**	**-1.3**
OTAV	**Otavalo**	**32.32**	**348**	P	**P**	**03 45 16.6**	**+0.8**
OTAV				IAmb	IAmb	03 45 31.2	
	comp=Z,3.1nm,1.2s						
JTS	**Las Juntas de**	**43.51**	**342**	P	**P**	**03 46 51.0**	**+1.3**
JTS				IAmb	IAmb	03 47 05.0	
	comp=Z,8.5nm,1.1s						
VNA3	**Neumayer Olymp**	**51.54**	**158**	P	**P**	**03 47 50.6**	**-1.0**
VNA2	**Neumayer--Watz** baz=287,slow=7.9	**52.18**	**158**	P	**P**	**03 47 54.8**	**-1.6**
SNAA	**Sanae**	**53.76**	**158**	P	**P**	**03 48 05.6**	**-2.5**
SNAA	**Sanae**	**53.76**	**158**	P	**P**	**03 48 08.5**	**+0.4**
SNAA				IAmb	IAmb	03 48 15.5	
	comp=Z,3.2nm,0.9s						
QSPA	**South Pole Qui**	**58.52**	**180**	P	**P**	**03 48 41.5**	**-0.8**
TXAR	**Lajitas Array** comp=Z,0.4nm,0.8s,baz=161,slow=9.3,SNR=3.9	**67.67**	**331**	P	**P**	**03 49 45.4**	**+2.0**
NVAR	**Mina Array Bea** comp=Z,0.2nm,0.6s,baz=182,slow=6.3,SNR=4.1	**81.92**	**325**	P	**P**	**03 51 08.4**	**+2.5**
NVAR	**Mina Array Bea**	**81.92**	**325**	P	**P**	**03 51 04.7**	**-1.3**
TORD	**Torodi Ar. Bea** comp=Z,1.0nm,0.8s,baz=242,slow=4.9,SNR=4.8	**83.59**	**70**	P	**P**	**03 51 15.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**83.59**	**70**	P	**P**	**03 51 13.0**	**-1.9**
TORD				IAmb	IAmb	03 51 18.0	
	comp=Z,2.0nm,1.1s						
ZALV	**Zalesovo Beam** comp=Z,0.9nm,0.6s,baz=300,slow=3.2,SNR=2.3	**152.35**	**30**	PKPbc	**PKiKP**	**03 58 43.7**	**+1.8**
ZALV	**Zalesovo Beam**	**152.35**	**30**		**PKiKP**	**03 58 43.0**	**+1.0**

IDC 22 03:44:34.1±1.6,30°.56S×72°.55W,h0km,mb3.7/3, mb1 3.9/6,mb1mx3.8/23,mbtmp3.7/6,ML3.6/3,Error ellipse: s-maj=42.7km s-min=34.1km az=96.0
ISC 22 03:44:36.9±1.2,30°.6S±0°.1×72°.5W±0°.3,h19km,n7,σ0§39/7, mb3.9/3,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores** 0.1nm,0.3s,baz=347,slow=14,SNR=1.6	**10.28**	**172**	Pn	**Pn**	**03 47 03.3**	**-0.2**
LPAZ	**La Paz** 0.1nm,0.3s,baz=188,slow=8.0,SNR=6.1	**14.75**	**17**	Pn	**Pn**	**03 48 04.9**	**-0.3**
SIV	**San Ignacio** 0.2nm,0.3s,baz=233,slow=13,SNR=18	**17.88**	**38**	P	**P**	**03 48 45.0**	**-0.3**
BDFB	**Brasilia** 3.2nm,0.8s,baz=175,slow=9.3,SNR=4.6	**26.89**	**62**	P	**P**	**03 50 17.4**	**+0.4**
TXAR	**Lajitas Array** 0.3nm,0.9s,baz=145,slow=9.6,SNR=2.3	**66.54**	**330**	P	**P**	**03 55 26.0**	**+0.3**
TORD	**Torodi Ar. Bea** 0.6nm,0.8s,baz=224,slow=7.4,SNR=5.0	**83.43**	**71**	P	**P**	**03 57 03.8**	**+0.3**
ZALV	**Zalesovo Beam** 0.7nm,0.4s,baz=305,slow=5.1,SNR=2.1	**151.46**	**28**	PKPbc	**PKiKP**	**04 04 29.3**	**-0.3**

IDC 22 03:50:14.6±1.7,10°.36S×112°.50E,h0km,mb4.0/6, mb1 4.0/7,mb1mx3.8/40,mbtmp3.9/7,ML3.5/1,MS3.3/1, Ms1 3.3/1,ms1mx2.6/34,Error ellipse: s-maj=111.1km s-min=18.7km az=46.0

NEIC 22 03:50:17.7±1.9,10°.76S±0°.07×112°.28E±0°.06,h33km±3km, mb4.2/8,Error ellipse: s-maj=10.7km s-min=7.5km az=210.0
DJA 22 03:50:17.5±0.6,10°.5±6°×11°.2E±°,h10km,M4.6/13, mb4.6/4,mB5.7/2,MLv4.6/13,Mw(mB)5.2/2
ISC 22 03:50:16.3±0.6,10°.70S±0°.06×112°.30E±0°.05,h24km,n48, σ1§47/53,mb4.2/10,South of Java

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRKI	**Karangkates**	**2.53**	**3**	P	**Pn**	**03 50 54.9**	**-0.9**
GMJI	**Gumukmas**	**2.66**	**25**	P	**Pn**	**03 50 57.5**	**-0.2**
PWJI	**Pagerwojo**	**2.70**	**349**	P	**Pn**	**03 50 57.1**	**-1.2**
PCJI	**Pacitan**	**2.72**	**336**	P	**Pn**	**03 50 57.1**	**-1.4**
JAGI	**Jajag, Banyuwa**	**2.87**	**40**		**Pn**	**03 51 01.6**	**+1.0**
JAGI				Sn	**Sn**	**03 51 31.9**	**-2.5**
JAGI	**Jajag, Banyuwa**	**2.87**	**40**	P	**Pn**	**03 51 01.3**	**+0.7**
JAGI				S	**Sn**	**03 51 31.8**	**-2.5**
SJI	**Sawahan**	**2.99**	**350**	P	**Pn**	**03 51 02.3**	**0.0**
UGM	**Wanagama**	**3.27**	**327**		**Pn**	**03 51 06.8**	**+0.6**
UGM				Sn	**Sn**	**03 51 43.1**	**-1.3**
UGM	**Wanagama**	**3.27**	**327**	P	**Pn**	**03 51 06.2**	**0.0**
UGM				S	**Sn**	**03 51 42.8**	**-1.7**
ABJI	**Asem Bagus**	**3.46**	**34**	P	**Pn**	**03 51 11.1**	**+2.5**
YOGI	**Yogyakarta**	**3.48**	**325**	P	**Pn**	**03 51 09.1**	**+0.1**
GRJI	**Gresik**	**3.76**	**3**	P	**Pn**	**03 51 13.9**	**+1.1**
SRBI	**Singaraja**	**3.87**	**48**	P	**Pn**	**03 51 16.0**	**+1.7**
SMRI	**Semarang**	**4.06**	**333**	Pn	**Pn**	**03 51 18.3**	**+1.3**
SMRI				Sn	**Sn**	**03 52 04.5**	**+0.7**
SMRI	**Semarang**	**4.06**	**333**	P	**Pn**	**03 51 18.2**	**+1.2**
KPJI	**Karang Pucung**	**4.72**	**315**	P	**Pn**	**03 51 27.0**	**+1.0**
CTJI	**Waduk Cacaban**	**4.79**	**320**	P	**Pn**	**03 51 28.4**	**+1.4**
TWSI	**Taliwang, Sumb**	**4.92**	**67**	P	**Pn**	**03 51 30.7**	**+2.0**
CISI	**Cisompet, Garu**	**5.42**	**305**	Pn	**Pn**	**03 51 36.2**	**+0.6**
CISI					**Sn**	**03 52 36.5**	**-0.8**
PLAI	**Plampang**	**5.71**	**71**	P	**Pb**	**03 51 53.4**	**-1.8**
CNJI	**Cibinong** 0.6nm5μm63nm,1.3s	**6.12**	**303**	P	**Pn**	**03 51 45.8**	**+0.6**
XMIS	**Christmas Isla**	**6.54**	**271**	Pn	**Pn**	**03 51 50.5**	**-0.6**
BBKI	**Banjar Baru** 0.4nm6μm30nm,0.6s	**7.62**	**20**	P	**Pn**	**03 52 07.5**	**+1.7**
BKSI	**Bulukumba**	**9.41**	**56**	P	**Pn**	**03 52 32.9**	**+2.5**
GIRL	**Giralia**	**12.02**	**171**	Pn	**Pn**	**03 53 05.5**	**-0.7**
PSA00	**Pilbara Seismi**	**13.01**	**147**	Pn	**Pn**	**03 53 17.4**	**-2.4**
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=296,slow=9.1,SNR=10	**14.86**	**121**	Pn	**Pn**	**03 53 44.4**	**-0.6**
FITZ				Sn	Sn	03 56 13.6	-16
	0.2nm,0.3s,baz=213,slow=17,SNR=2.2						
FITZ	**Fitzroy Crossi**	**14.86**	**121**		**Pn**	**03 53 44.7**	**-0.3**
MORW	**Morawa**	**18.61**	**170**	P	**P**	**03 54 29.8**	**-2.3**
DAV	**Davao City (W)** comp=Z,69nm,18.1s,baz=164,slow=42	**22.05**	**37**	LR	LR	04 05 29.1	
WB0	**Warramunga Arr**	**23.12**	**116**	P	**P**	**03 55 20.9**	**0.0**
WB0				IAmb	IAmb	03 55 37.0	
	comp=Z,8.6nm,0.9s						
WRA	**Warramunga Arr** comp=Z,2.8nm,0.7s,baz=293,slow=12,SNR=26	**23.13**	**116**	P	**P**	**03 55 22.2**	**+1.3**
WRA	**Warramunga Arr**	**23.13**	**116**	P	**P**	**03 55 20.3**	**-0.6**
WB2	**Warramunga Arr**	**23.14**	**116**	P	**P**	**03 55 20.4**	**-0.6**
WB2				IAmb	IAmb	03 55 37.2	
	comp=Z,8.8nm,0.9s						
WR0	**Warramunga Arr**	**23.32**	**116**	P	**P**	**03 55 23.2**	**+0.4**
WR0				IAmb	IAmb	03 55 39.3	
	comp=Z,9.4nm,0.9s						
ASAR	**Alice Springs** comp=Z,1.4nm,0.5s,baz=302,slow=9.1,SNR=21	**24.29**	**125**	P	**P**	**03 55 34.4**	**+2.3**
ASAR	**Alice Springs**	**24.29**	**125**	P	**P**	**03 55 30.1**	**-1.9**
FORT	**Forrest**	**24.77**	**146**	P	**P**	**03 55 36.4**	**+0.1**
STKA	**Stephens Creek** comp=Z,2.6nm,0.9s,baz=298,slow=7.0,SNR=4.8	**34.29**	**132**	P	**P**	**03 57 03.4**	**+2.5**
MKAR	**Makanchi Array** comp=Z,0.8nm,0.5s,baz=145,slow=7.1,SNR=9.0	**63.21**	**337**	P	**P**	**04 00 42.9**	**+0.3**
MKAR	**Makanchi Array**	**63.21**	**337**	P	**P**	**04 00 43.1**	**+0.6**
ZALV	**Zalesovo Beam** comp=Z,1.1nm,0.5s,baz=132,slow=2.2,SNR=3.7	**68.49**	**343**	P	**P**	**04 01 16.4**	**0.0**
ZALV	**Zalesovo Beam**	**68.49**	**343**	P	**P**	**04 01 16.5**	**+0.1**
ABKAR	**Akbulak array**	**75.29**	**328**	P	**P**	**04 01 58.2**	**+0.9**
ABKAR	**Akbulak array**	**75.29**	**328**	P	**P**	**04 01 58.4**	**+1.1**
ABKAR				IAmb	IAmb	04 02 04.5	
	comp=Z,1.7nm,0.7s						
BRTR	**Keskin Array B** comp=Z,0.7nm,0.8s,baz=184,slow=3.7,SNR=4.2	**88.19**	**311**	P	**P**	**04 03 07.0**	**+1.3**
BRTR	**Keskin Array B**	**88.19**	**311**	P	**P**	**04 03 03.4**	**-2.4**
NVAR	**Mina Array Bea** comp=Z,0.3nm,0.7s,baz=318,slow=2.0,SNR=4.0	**127.16**	**50**	PKP	**PKiKP**	**04 09 23.1**	**+3.2**

IPEC 22 03:55:48.4±0.3,51°.49N×16°.26E,h0km,ML2.2/3,Error ellipse: s-maj=3.3km s-min=1.7km az=65.0
PRU 22 03:55:49.7±0.0,51°.44N×16°.12E,h0km
IDC 22 03:55:49.8±1.1,51°.45N×16°.02E,h0km,mb1 3.3/4, mb1mx3.2/38,mbtmp3.1/4,ML2.8/4,Error ellipse: s-maj=22.1km s-min=9.7km az=126.0
VIE 22 03:55:50.0±0.7,51°.40N×16°.23E,h0km,mb2.4/3,ml2.7/3, Error ellipse: s-maj=10.9km s-min=5.0km az=71.0 64 km WNW of Wroclaw Suspected Mining induced.
ISC 22 03:55:47.5±0.8,51°.54N±0°.04×16°.12E±0°.03,h0km,n33, σ1§00/64,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**171**	*i* Pg	**Pg**	**03 56 01.2**	**+0.3**
KSP				*e*Sg	**Sg**	**03 56 09.2**	**-0.8**
CHVC	**Chvalec**	**0.95**	**183**	*e*PG	**Pg**	**03 56 05.9**	**+0.2**
CHVC				*e*SG	**Sg**	**03 56 17.7**	**-0.3**
	comp=Z,38nm,0.5s						
OSTC	**Ostas**	**0.98**	**177**	*e*PG	**Pg**	**03 56 06.7**	**+0.4**
OSTC				*e*SG	**Sg**	**03 56 18.5**	**-0.5**
UPC	**Upice**	**1.03**	**184**	*e*PG	**Pg**	**03 56 07.5**	**+0.2**
UPC				*e*SG	**Sg**	**03 56 19.9**	**-0.7**
DPC	**Dobruska-Polom**	**1.20**	**174**	*e*PG	**Pg**	**03 56 10.0**	**-0.4**
DPC				*e*SG	**Sg**	**03 56 24.5**	**-1.3**
	comp=Z,26nm,0.4s						
PVCC	**Panska Ves**	**1.41**	**225**	*e*PG	**Pb**	**03 56 14.8**	**+0.2**
PVCC				*e*SG	**Sb**	**03 56 32.9**	**-0.2**
	comp=Z,117nm,0.7s						
KRLC	**Kraliky**	**1.52**	**164**	*e*PG	**Pn**	**03 56 16.0**	**0.0**
KRLC				*e*SG	**Sg**	**03 56 35.7**	**-0.6**
	comp=Z,82nm,0.9s						
BRG	**Berggiesshubel**	**1.52**	**245**	Pg	**Pb**	**03 56 16.9**	**+0.3**
BRG				Sg	**Sn**	**03 56 37.1**	**+0.6**
BRG				Amp		03 56 37.6	
	comp=Z,28nm,0.5s						
PRU	**Pruhonice**	**1.85**	**214**	*e*PG	**Pn**	**03 56 21.4**	**+1.0**
PRU				*e*SG	**Sb**	**03 56 45.4**	**-0.4**
	comp=Z,25nm,0.4s						
CLL	**Collm**	**1.97**	**265**	*e*Pn	**Pn**	**03 56 23.0**	**+0.9**
CLL				*i* Pg	**Pg**	**03 56 25.5**	**+0.3**
CLL				*i*		03 56 28.1	
CLL				*e*Sg	**Sg**	**03 56 52.0**	**+1.3**
	comp=Z,17nm,0.7s						
MORC	**Moravsky Berou** baz=335	**1.98**	**152**	*e*Pn	**Pn**	**03 56 21.9**	**-0.4**
MORC				*e*Sg	**Sn**	**03 56 47.8**	**0.0**
	comp=Z,26nm,0.5s,baz=335						
MORC	**Moravsky Berou**	**1.98**	**152**	*e*PN	**Pn**	**03 56 21.9**	**-0.4**
MORC				*e*SG	**Sn**	**03 56 47.9**	**+0.1**
OKC	**Ostrava-Krasne**	**2.13**	**142**	*e*PG	**Pb**	**03 56 27.4**	**+0.4**
OKC				*e*SG	**Sb**	**03 56 54.2**	**+0.2**
	comp=Z,45nm,0.8s						
VRAC	**Vranov** baz=355	**2.25**	**172**	*e*Pn	**Pn**	**03 56 26.2**	**+0.2**
VRAC				*e*Sg	**Sb**	**03 56 57.1**	**-0.3**
	comp=Z,8.2nm,0.3s,baz=355						
VRAC	**Vranov**	**2.25**	**172**	*e*PN	**Pn**	**03 56 26.2**	**+0.2**
VRAC				*e*SG	**Sb**	**03 56 57.1**	**-0.3**
TREC	**Trest** comp=Z,15nm,0.5s	**2.28**	**191**	*e*SG	**Sb**	**03 56 58.9**	**+0.6**
KRUC	**Moravsky** baz=358	**2.48**	**176**	*e*Pg	**Pb**	**03 56 32.8**	**-0.2**
KRUC				*e*Sg	**Sb**	**03 57 04.5**	**+0.5**
	comp=Z,13nm,0.5s,baz=358						
KRUC	**Moravsky**	**2.48**	**176**	*e*PG	**Pb**	**03 56 32.9**	**-0.1**
KRUC				*e*SG	**Sb**	**03 57 04.6**	**+0.5**
NKC	**Novy Kostel**	**2.67**	**242**	*e*PN	**Pn**	**03 56 32.4**	**+0.7**
NKC				*e*PG	**Pg**	**03 56 38.3**	**-0.3**
NKC				*e*SG	**Sg**	**03 57 13.6**	**+0.4**
	comp=Z,20nm,0.5s						
JAVC	**Velka Javorina**	**2.86**	**159**	*e*PN	**Pn**	**03 56 35.4**	**+1.0**
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN	**Pn**	**03 56 35.0**	**-0.1**
KHC				*e*PG	**Pb**	**03 56 41.3**	**+1.1**
KHC				*e*SG	**Sg**	**03 57 20.4**	**-0.5**
	comp=Z,10nm,0.6s						
CKRC	**Cesky Krumlov**	**2.96**	**204**	*e*PN	**Pn**	**03 56 36.3**	**+0.6**
CKRC				*e*PG	**Pb**	**03 56 42.0**	**+0.9**
CKRC				*e*SG	**Sb**	**03 57 19.8**	**+2.0**
	comp=Z,9.6nm,0.5s						
GERES	**GERESS Array B** comp=Z,0.6nm,0.3s,baz=31,slow=13,SNR=15	**3.11**	**211**	Pn	**Pn**	**03 56 38.5**	**+0.6**
GERES				Pg	**Pb**	**03 56 44.6**	**+0.9**
	comp=Z,2.1nm,0.3s,baz=31,slow=17,SNR=35						
GERES				Lg		03 57 23.6	
	comp=Z,1.7nm,0.3s,baz=33,slow=27,SNR=7.4						
LANS	**Liptovska Anna**	**3.21**	**137**	*e*PG	**Pg**	**03 56 47.6**	**-1.4**
LANS				*e*SG	**Sg**	**03 57 29.5**	**-1.0**
MODS	**Modra-Piesok**	**3.25**	**166**	*e*PG	**Pb**	**03 56 48.1**	**+2.0**
MODS				*e*SG	**Sb**	**03 57 28.0**	**+1.8**
ZST	**Bratislava**	**3.40**	**169**	*e*PG	**Pg**	**03 56 53.0**	**+0.3**
NIE	**Niedzica**	**3.41**	**127**	*e*Pg	**Pg**	**03 56 52.8**	**0.0**
NIE				*e*Sg	**Sg**	**03 57 36.4**	**-0.5**
CONA	**Conrad Observa** comp=Z,0.7nm,0.2s	**3.62**	**183**	*i* Pn	**Pn**	**03 56 45.6**	**+0.8**
CONA				*e*Sg	**Sg**	**03 57 42.5**	**-1.1**
	comp=Z,5.9nm,0.4s						
MOA	**Molln** comp=Z,0.4nm,0.1s	**3.88**	**199**	*i* Pn	**Pn**	**03 56 49.2**	**+0.8**
MOA				*e*Sg	**Sg**	**03 57 51.7**	**-0.5**
	comp=Z,8.5nm,0.5s						
STHS	**Stebnicka Huta**	**3.90**	**121**	*e*PG	**Pg**	**03 57 04.2**	**+2.0**
STHS				*e*SG	**Sg**	**03 57 56.6**	**+3.9**
AKASG	**Malin Array Be** comp=Z,0.4nm,0.3s,baz=275,slow=12,SNR=1.7	**8.29**	**91**	Pn	**Pn**	**03 57 48.8**	**0.0**
FINES	**FINESS Array B** comp=Z,0.2nm,0.3s,baz=209,slow=11,SNR=4.4	**11.34**	**25**	Pn	**Pn**	**03 58 29.6**	**-0.9**
ARCES	**ARCESS Array B** baz=196,slow=13,SNR=1.8	**18.59**	**10**	Pn	**P**	**04 00 03.1**	**-2.8**

CNRM 22 03:56:16.9,34°.82N×4°.28W,h26km,ml3.0
MDD 22 03:56:16.9±1.1,34°.81N×4°.23W,h0km,mbLg2.3/26,Error ellipse: s-maj=11.1km s-min=4.9km az=1.0,PRXIMO
INMG 22 03:56:16.7±2.1,34°.84N×4°.26W,h2km±11km,ML2.2,Error ellipse: s-maj=5.0km s-min=4.9km az=116.0
SFS 22 03:56:17.0,34°.91N×4°.27W,ML1.9,TARGUIST (MARRUECOS)
ISC 22 03:56:16.0±1.1,34°.82N±0°.02×4°.23W±0°.02,h5km±9km, n122,σ1§60/184,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKLM	**AKL**	**0.43**	**135**	P	**Pg**	**03 56 22.6**	**-1.7**
AKLM				S	**Sg**	**03 56 29.2**	**-0.8**
PALE	**Palemas**	**0.47**	**31**	P	**Pb**	**03 56 27.0**	**+0.2**
PALE	**Palemas**	**0.47**	**31**	P	**Pg**	**03 56 26.0**	**+1.0**
PALE				S	**Sb**	**03 56 33.5**	**-0.6**
PALE	**Palemas**	**0.47**	**31**	P	**Pb**	**03 56 27.0**	**+0.2**
PALE	**Palemas**	**0.47**	**31**	P	**Pb**	**03 56 27.0**	**+0.2**
PALE	**Palemas**	**0.47**	**31**	P	**Pb**	**03 56 27.0**	**+0.2**
CHEFC	**Chefchaouen**	**0.95**	**288**	P	**Pg**	**03 56 34.1**	**-0.2**
CHEFC	**Chefchaouen**	**0.95**	**288**	P	**Pg**	**03 56 34.6**	**+0.3**
CHEFC				S	**Sb**	**03 56 48.9**	**+0.8**
CHEFC	**Chefchaouen**	**0.95**	**288**	P	**Pg**	**03 56 34.1**	**-0.2**
CHEFC	**Chefchaouen**	**0.95**	**288**	P	**Pg**	**03 56 34.1**	**-0.2**
CHEFC	**Chefchaouen**	**0.95**	**288**	P	**Pg**	**03 56 34.1**	**-0.2**
GOG	**Mont Gurugu**	**1.09**	**68**	P	**Pb**	**03 56 39.0**	**+1.5**
GOG	**Mont Gurugu**	**1.09**	**68**	P	**Pg**	**03 56 38.4**	**+1.4**
GOG				S	**Sn**	**03 56 55.7**	**+2.0**
GOG	**Mont Gurugu**	**1.09**	**68**	P	**Pb**	**03 56 39.0**	**+1.5**
GOG	**Mont Gurugu**	**1.09**	**68**	P	**Pb**	**03 56 39.0**	**+1.5**
EMEL	**Melilla** 14nm,0.2s,SNR=6.4	**1.15**	**65**	P	**Pg**	**03 56 37.2**	**-0.9**
EMEL				S	**Sb**	**03 56 54.8**	**+1.0**
	530nm,0.5s,SNR=6.3						
MELI	**Melilla** 36nm,0.3s,SNR=7.9	**1.17**	**66**	P	**Pg**	**03 56 38.0**	**-0.4**
MELI				S	**Sb**	**03 56 55.6**	**+1.5**
	337nm,0.7s,SNR=7.9						
MELI	**Melilla**	**1

ESPR				S		Sn	03 57 22.9	-3.7
	0.6nm,0.1s							
EQUE	**Quentar**	**2.47**	**15**	P		**Pn**	**03 56 56.7**	**-0.4**
	0.1nm,0.1s,SNR=11							
EQUE				S		**Sn**	**03 57 26.4**	**-1.3**
	5.1nm,0.3s							
TDRA	**Tendrara**	**2.55**	**133**	P		**Pn**	**03 56 56.7**	**-1.5**
TDRA				S		**Sn**	**03 57 32.9**	**+3.2**
ENIJ	**Nijar**	**2.71**	**37**	P		**Pn**	**03 57 00.8**	**+0.5**
	1.0nm,0.2s,SNR=7.9							
ENIJ				S		**Sn**	**03 57 31.8**	**-1.6**
	8.4nm,0.4s,SNR=7.9							
GORA	**Gorafe**	**2.83**	**20**	P		**Pn**	**03 57 03.2**	**+1.3**
	0.8nm,0.1s,SNR=7.9							
GORA				S		**Sn**	**03 57 37.7**	**+1.2**
	10nm,0.4s,SNR=7.9							
AVE	**Averroes**	**3.04**	**241**	P		**Pn**	**03 57 07.6**	**+2.8**
AVE				S		**Sg**	**03 57 54.9**	**+1.2**
AVE	**Averroes**	**3.04**	**241**	P		**Pn**	**03 57 03.5**	**-1.3**
AVE				S		**Sn**	**03 57 37.5**	**-4.1**
EQES	**Quesada**	**3.12**	**17**	P		**Pn**	**03 57 07.6**	**+1.5**
	0.1nm,0.2s,SNR=31							
EQES				S		**Sn**	**03 57 45.2**	**+1.3**
	13nm,0.4s							
EADA	**Adamuz**	**3.36**	**355**	P		**Pn**	**03 57 10.3**	**+1.1**
	0.1nm,0.2s,SNR=7.9							
EADA				S		**Sn**	**03 57 49.1**	**-0.4**
	2.7nm,0.4s,SNR=7.9							
ECAB	**El Cabril**	**3.39**	**344**	P		**Pn**	**03 57 09.7**	**+0.1**
	0.1nm,0.2s,SNR=7.9							
ECAB				S		**Sn**	**03 57 49.2**	**-1.0**
	3.9nm,0.4s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.54**	**327**	P		**Pn**	**03 57 12.7**	**+1.0**
	0.5nm,0.2s,SNR=7.9							
EMIN				S		**Sn**	**03 57 53.1**	**-0.9**
	1.5nm,0.3s,SNR=7.9							
SESP	**Santiago Espad**	**3.57**	**22**	P		**Pn**	**03 57 14.0**	**+1.8**
	0.6nm,0.1s,SNR=7.9							
SESP				S		**Sn**	**03 57 54.5**	**-0.4**
	6.6nm,0.4s,SNR=7.9							
FIGM	**Figuig**	**3.65**	**136**	P		**Pn**	**03 57 12.4**	**-0.9**
FIGM				S		**Sn**	**03 57 55.9**	**-0.9**
EGRO	**El Granado**	**3.78**	**317**	P		**Pn**	**03 57 14.6**	**-0.3**
	0.6nm,0.1s,SNR=14							
EGRO				S		**Sn**	**03 57 57.5**	**-2.3**
	3.4nm,0.4s							
PVAQ	**Vaqueiros**	**3.82**	**313**	P		**Pn**	**03 57 16.0**	**+0.4**
PVAQ	**Vaqueiros**	**3.82**	**313**	*e*Pn		**Pn**	**03 57 16.0**	**+0.4**
PVAQ	**Vaqueiros**	**3.82**	**313**	P		**Pn**	**03 57 16.5**	**+0.9**
PVAQ				S		**Sn**	**03 58 01.9**	**+0.9**
PBDV	**Barranco-do-Ve**	**3.85**	**310**	P		**Pn**	**03 57 15.1**	**-0.9**
PBDV				S		**Sn**	**03 58 02.3**	**+0.6**
	3.9nm,0.5s							
PBDV	**Barranco-do-Ve**	**3.85**	**310**	*e*Pn		**Pn**	**03 57 15.1**	**-0.9**
PBDV				*e*Sn		**Sn**	**03 58 02.3**	**+0.6**
PBDV				A		A	03 58 05.7	
	3.9nm,0.5s							
EMUR	**La Murta**	**3.87**	**38**	S		**Sn**	**03 57 59.5**	**-2.5**
	6.4nm,0.5s,SNR=7.9							
PCVE	**Castro Verde**	**4.17**	**314**	P		**Pn**	**03 57 21.4**	**+1.1**
PCVE	**Castro Verde**	**4.17**	**314**	*e*Pn		**Pn**	**03 57 21.4**	**+1.1**
TZRR	**Tazzarine**	**4.17**	**196**	P		**Pn**	**03 57 18.6**	**-1.8**
TZRR				S		**Sn**	**03 58 14.3**	**+4.6**
ETOB	**Tobarra**	**4.39**	**29**	P		**Pn**	**03 57 25.1**	**+1.8**
	0.5nm,0.2s,SNR=6.4							
ETOB				S		**Sn**	**03 58 11.8**	**-3.1**
	1.8nm,0.5s							
MESJ	**Messejana**	**4.41**	**314**	P		**Pn**	**03 57 23.9**	**+0.3**
MESJ				S		**Sn**	**03 58 15.1**	**-0.3**
	3.6nm,0.4s							
MESJ	**Messejana**	**4.41**	**314**	*e*Pn		**Pn**	**03 57 23.9**	**+0.3**
MESJ				*e*Sn		**Sn**	**03 58 15.1**	**-0.3**
MESJ				A		A	03 58 22.4	
	3.6nm,0.4s							
EBAD	**Badajoz**	**4.52**	**331**	P		**Pn**	**03 57 26.1**	**+1.0**
	0.1nm,0.1s,SNR=7.9							
EBAD				S		**Sn**	**03 58 16.5**	**-1.6**
	1.3nm,0.2s,SNR=7.9							
PTEO	**Sao Teotonio**	**4.54**	**308**	P		**Pn**	**03 57 26.6**	**+1.2**
PTEO	**Sao Teotonio**	**4.54**	**308**	*e*Pn		**Pn**	**03 57 26.6**	**+1.2**
OUK	**Oukaimeden**	**4.72**	**221**	P		**Pn**	**03 57 27.0**	**-1.2**
OUK				S		**Sn**	**03 58 21.6**	**-1.9**
PAB	**San Pablo**	**4.72**	**359**	P		**Pn**	**03 57 29.9**	**+1.9**
	0.1nm,0.1s,SNR=7.9							
PAB				S		**Sn**	**03 58 23.5**	**+0.3**
	5.9nm,0.7s,SNR=7.9							
PNCL	**Nicolau / Gran**	**4.77**	**315**	P		**Pn**	**03 57 29.0**	**+0.4**
PNCL				S		**Sn**	**03 58 23.7**	**-0.6**
PNCL	**Nicolau / Gran**	**4.77**	**315**	*e*Pn		**Pn**	**03 57 29.0**	**+0.4**
PNCL				*e*Sn		**Sn**	**03 58 23.7**	**-0.6**
EVO	**Evora**	**4.79**	**322**	P		**Pn**	**03 57 29.4**	**+0.5**
EVO				S		**Sn**	**03 58 22.7**	**-2.1**
EVO	**Evora**	**4.79**	**322**	P		**Pn**	**03 57 29.4**	**+0.5**
EVO				S		**Sn**	**03 58 22.7**	**-2.1**
EVO	**Evora**	**4.79**	**322**	*e*Pn		**Pn**	**03 57 29.6**	**+0.7**
ESDC	**Sonseca Array**	**4.86**	**2**	P		**Pn**	**03 57 31.4**	**+1.6**
	0.6nm,0.5s,baz=183,slow=12,SNR=11							
ESDC				S		**Sn**	**03 58 24.6**	**-1.8**
	4.3nm,0.7s,baz=189,slow=23,SNR=5.1							
PESTR	**Estremoz**	**4.86**	**327**	*e*Pn		**Pn**	**03 57 31.2**	**+1.4**
PESTR	**Estremoz**	**4.86**	**327**	P		Pn	03 57 25.4	-4.4
PESTR				S		**Sn**	**03 58 23.5**	**-3.0**
PMTG	**Montargil**	**5.31**	**324**	P		**Pn**	**03 57 35.3**	**-0.7**
PMTG	**Montargil**	**5.31**	**324**	*e*Pn		**Pn**	**03 57 35.3**	**-0.7**
ECHE	**Chera**	**5.43**	**28**	P		**Pn**	**03 57 39.6**	**+1.9**
	0.6nm,0.4s,SNR=4.0							
EPLA	**Plasencia**	**5.44**	**345**	P		**Pn**	**03 57 38.6**	**+0.8**
	0.1nm,0.2s,SNR=7.9							
EPLA				S		**Sn**	**03 58 38.5**	**-2.3**
	1.6nm,0.5s,SNR=7.9							
EAH	**EAH**	**5.48**	**236**	P		**Pn**	**03 57 37.0**	**-1.4**
EAH				S		**Sn**	**03 58 37.0**	**-4.9**
UCM	**Universidad Co**	**5.54**	**8**	P		**Pn**	**03 57 40.1**	**+0.9**
UCM				S		**Sn**	**03 58 37.8**	**-5.4**
UCM	**Universidad Co**	**5.54**	**8**	P		**Pn**	**03 57 40.1**	**+0.9**
UCM				S		**Sn**	**03 58 37.8**	**-5.4**
TTIG	**Tnine Tigouga,**	**5.54**	**221**	P		**Pn**	**03 57 36.7**	**-2.6**
TTIG				S		**Sn**	**03 58 46.2**	**+2.7**
ETOR	**Torete**	**6.24**	**15**	S		**Sn**	**03 59 00.3**	**-0.2**
	SNR=7.9							
MVO	**Moncorvo**	**6.71**	**342**	P		**Pn**	**03 57 55.3**	**0.0**
	0.2nm,0.2s,SNR=7.9							
MVO				S		**Sn**	**03 59 07.7**	**-4.5**
	7.0nm,0.6s,SNR=7.9							
MVO	**Moncorvo**	**6.71**	**342**	*e*Pn		**Pn**	**03 57 56.0**	**+0.7**
PBRG	**Braganca**	**7.25**	**345**	P		**Pn**	**03 58 03.9**	**+1.2**
PBRG	**Braganca**	**7.25**	**345**	*e*Pn		**Pn**	**03 58 03.9**	**+1.2**
ECAL	**Calabor**	**7.38**	**345**	P		**Pn**	**03 58 05.2**	**+0.7**
	0.2nm,0.2s,SNR=4.0							
ECAL				S		**Sn**	**03 59 26.6**	**-2.0**
	3.5nm,0.4s,SNR=4.0							

GCMT ***22*** *04:03:11.7±0.1, 13°.28N±0°.01×50°.75E±0°.01, h12km, MW5.3/138, Moment Tensor Solution. s106,c173; s138,c270; Duration: 1ꝛ1 Moment tensor: Scale 10^17 Nm; Mrr-0.96±.01; Mθθ 0.79±.01; Mϕϕ 0.17±.01; Mrθ 0.16±.03; Mθϕ-0.54±.01; Mϕr 0.53±.04; Best double couple: Mo1.16700×10^17 NP1:ϕs≠277.00000°, δ47.00000°, λ-127.00000°. NP2:ϕs≠144.00000°, δ54.00000°, λ-57.00000°. Principal axes: T 1.1040, Plg4.0000°, Azm212.0000°; N 0.1250, Plg26.0000°, Azm304.0000°; P -1.2300, Plg64.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***22*** *04:03:12.5±0.4, 13°.18N×51°.08E, h0km, mb4.7/32, mb1 4.8/34, mb1mx4.8/41, mbtmp4.7/34, ML4.7/2, MS4.7/37, Ms1 4.7/37, ms1mx4.6/49 Error ellipse: s-maj=11.2km s-min=10.9km az=12.0*

MOS ***22*** *04:03:12.3±1.0, 13°.17N×51°.08E, h10km, mb5.3/80, MS4.7/20, Error ellipse: s-maj=6.5km s-min=3.7km az=89.0*

OMAN ***22*** *04:03:13.3±0.5, 13°.24N×51°.14E, h15km, ml4.8/3, Mwp5.6/6, Error ellipse: s-maj=15.6km s-min=12.0km az=328.0*

NEIC ***22*** *04:03:14.7±1.8, 13°.09N±0°.06×51°.12E±0°.07, h10km±1km, mb5.2/108, Error ellipse: s-maj=12.6km s-min=8.1km az=233.0*

BGR ***22*** *04:03:26.4±0.0, 14°.24N×50°.41E, h16km±1km, mb5.3, Ms4.4*

ISC 22 04:03:14.5±0.4, 13°.16N±0°.03×51°.11E±0°.03, h12km±2km, h12km:pP-P,n619,σ1ꝛ67/718, mb5.1/235, MS4.7/83, 36C-26D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCY	**Socotra**	**2.97**	**109**	Pn	**Pn**	**04 03 58.7**	**-2.8**
SOCY				Sn	**Sn**	**04 04 32.3**	**-4.8**
SOCY	**Socotra**	**2.97**	**109**	S	**Sn**	**04 04 32.4**	**-4.7**
ABTO	**Aybut**	**4.68**	**27**	P	**Pn**	**04 04 22.2**	**-2.8**
	SNR=23						
ABTO				P	**Pn**	**04 04 22.2**	**-2.8**
	SNR=23						
ABTO				S	**Sn**	**04 05 11.3**	**-8.0**
ABTO				S	**Sn**	**04 05 11.3**	**-8.0**
RBK	**Rabkut**	**5.25**	**34**	S	**Sn**	**04 05 29.3**	**-4.2**
RBK				S	**Sn**	**04 05 29.3**	**-4.2**
WHFO	**Wadi Hawf**	**5.38**	**28**	P	**Pn**	**04 04 32.0**	**-2.7**
	SNR=55						
WHFO				P	**Pn**	**04 04 32.0**	**-2.7**
	SNR=55						
SHAO	**Shalim**	**6.51**	**41**	Pn	**Pn**	**04 04 48.6**	**-1.5**
ATD	**Arta Tunnel**	**8.23**	**260**	Pn	**Pn**	**04 05 11.4**	**-2.5**
	69nm,0.3s,baz=225,slow=22,SNR=76						
ATD				Sn	**Sn**	**04 06 46.8**	**-0.2**
	2.9nm,0.3s,baz=107,slow=20,SNR=2.0						
ATD				LR	LR	04 07 36.8	
	comp=Z,14μm,20.0s,baz=76,slow=32						
HARA	**HARA**	**8.59**	**244**	*e*P	Pn	04 05 32.9	+14
HARA				*i* S	Sg	04 07 30.5	-20
TEND	**Ethiopian Broa**	**9.96**	**263**	*e*P	**Pn**	**04 05 40.9**	**+3.3**
TEND				*e*S	Sn	04 07 40.5	+11
DESE	**Dese**	**11.40**	**261**	*e*P	**Pn**	**04 05 58.4**	**+0.8**
DESE				*e*S	Sn	04 08 20.1	+15
ALNE	**Al Ain**	**11.70**	**21**	*i* Pn	**Pn**	**04 06 00.2**	**-1.1**
	SNR=5.6						
ANKE	**Ethiopia-Afar**	**11.70**	**254**	*e*P	Pn	04 06 06.8	+5.1
ANKE				*e*S	**Sn**	**04 08 14.4**	**+1.8**
SOHO	**SOHO**	**12.07**	**24**	*i* Pn	Pn	04 06 01.4	-4.9
	SNR=8.7						
ASUD	**Al Ashush, Dub**	**12.09**	**19**	*i* Pn	Pn	04 06 01.2	-5.4
	SNR=10						
FAQ	**Al Faqa, Dubai**	**12.28**	**20**	Pn	Pn	04 06 03.3	-6.0
WSAR	**Wadi Sarin**	**12.31**	**34**	Pn	**Pn**	**04 06 06.7**	**-3.0**
	0.3nm,0.3s,baz=226,slow=15,SNR=6.0						
WSAR				Sn	**Sn**	**04 08 33.9**	**+7.0**
	0.4nm,0.3s,baz=54,slow=18,SNR=2.3						
WSAR				LR	LR	04 10 35.0	
	comp=Z,12μm,20.3s,baz=235,slow=36						
NAZ	**Nazwa, Dubai**	**12.53**	**19**	*i* Pn	**Pn**	**04 06 08.7**	**-3.9**
	SNR=7.2						
HATD	**Hatta, Dubai**	**12.54**	**21**	Pn	Pn	04 06 06.9	-5.9
UOSS	**Minazif**	**12.68**	**22**	*i* Pn	**Pn**	**04 06 10.5**	**-4.1**
	SNR=8.2						
UOSS	**Minazif**	**12.68**	**22**	Pn	**Pn**	**04 06 12.7**	**-2.0**
UOSS				Sn	**Sn**	**04 08 39.1**	**+3.3**
AAE	**Adis Abeba**	**12.79**	**253**	*e*P	**Pn**	**04 06 14.8**	**-1.8**
AAE				*e*S	Sn	04 08 56.2	+17
MDH	**Madha**	**13.03**	**21**	*i* Pn	**Pn**	**04 06 16.1**	**-3.4**
	SNR=6.6						
MSFE	**Esma-Masafi**	**13.04**	**21**	*i* Pn	**Pn**	**04 06 15.0**	**-4.6**
	SNR=13						
BANOM	**Banah**	**13.61**	**20**	Pn	Pn	04 06 21.5	-5.9
SHME	**Shamm**	**13.67**	**19**	*i* Pn	**Pn**	**04 06 23.7**	**-4.6**
	SNR=9.0						
DILA	**Dilla**	**14.29**	**243**	*e*P	**Pn**	**04 06 36.2**	**-0.7**
MSEY	**Mahe Island**	**18.24**	**166**	P	**Pn**	**04 07 23.6**	**-4.0**
MSEY				pmax	pmax		
	comp=Z,143nm,1.1s						
MSEY	**Mahe Island**	**18.24**	**166**	Pn	**Pn**	**04 07 23.6**	**-4.0**
MSEY				IAmb	IAmb	04 07 37.4	
	comp=Z,143nm,1.1s						
LODK	**Lodwar**	**18.32**	**240**		**Pn**	**04 07 27.2**	**-1.5**
KMBO	**Kilima Mbogo**	**19.76**	**225**	P	**P**	**04 07 43.3**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=43,slow=10,SNR=12						
KMBO				LR	LR	04 15 13.9	
	comp=Z,4μm,19.2s,baz=37,slow=36						
KMBO	**Kilima Mbogo**	**19.76**	**225**	P	**P**	**04 07 43.2**	**-1.5**
KMBO				IAmb	IAmb	04 07 51.3	
	comp=Z,143nm,1.7s						
KIBK	**Kibwezi**	**20.13**	**221**	P	**P**	**04 07 47.7**	**-0.9**
EIL	**Elat**	**22.23**	**320**	P	**P**	**04 08 10.8**	**-0.4**
	comp=Z,14nm,0.9s,baz=175,slow=5.4,SNR=8.5						
EIL				LR	LR	04 16 09.5	
	comp=Z,2μm,18.6s,baz=138,slow=35						
ASF	**Jabal al Asfar**	**22.98**	**328**	P	**P**	**04 08 18.8**	**-0.4**
	comp=Z,5.9nm,0.8s,baz=226,slow=3.6,SNR=16						
ASF				LR	LR	04 17 29.5	
	comp=Z,2μm,18.2s,baz=225,slow=37						
GHAJ	**Ghor Haditha**	**23.04**	**324**	P	**P**	**04 08 20.3**	**+0.7**
GHAJ				IAmb	IAmb	04 08 38.0	
	comp=Z,70nm,0.9s						
HRA	**Herat**	**23.43**	**24**	P	**P**	**04 08 23.9**	**0.0**
HRA				IAmb	IAmb	04 08 35.4	
	comp=Z,118nm,1.2s						
MBAR	**Mbarara**	**24.39**	**237**	P	**P**	**04 08 34.1**	**+1.0**
	comp=Z,3.2nm,0.2s,baz=49,slow=9.6,SNR=8.6						
MBAR				LR	LR	04 17 18.9	
	comp=Z,982nm,20.2s,baz=50,slow=35						
MBAR	**Mbarara**	**24.39**	**237**	P	**P**	**04 08 33.3**	**+0.2**
MMAI	**Mount Meron Ar**	**24.43**	**327**	P	**P**	**04 08 33.6**	**+0.4**
	comp=Z,7.2nm,0.9s,baz=134,slow=11,SNR=8.0						
MMAI				LR	LR	04 18 17.5	
	comp=Z,1μm,19.2s,baz=115,slow=37						
GEYT	**Alibeck**	**25.45**	**13**	P	**P**	**04 08 43.1**	**+0.8**
	comp=Z,2μm,0.9s,baz=199,slow=13,SNR=28						
GEYT				LR	LR	04 20 33.4	
	comp=Z,8μm,18.8s,baz=180,slow=41						
GYA0B	**ALIBECK ARRAY**	**25.45**	**13**	P	**P**	**04 08 42.5**	**+0.2**
SIRT	**Sirnak**	**25.45**	**344**	P	**P**	**04 08 42.6**	**+0.2**
GURO	**Guroymak-BITLI**	**26.55**	**344**	P	**P**	**04 08 53.6**	**+1.2**
KBL	**Kabul**	**26.79**	**34**	P	**P**	**04 08 56.3**	**+1.6**
KBL				pmax	pmax		
	comp=Z,76nm,1.4s						
KBL	**Kabul**	**26.79**	**34**	P	**P**	**04 08 56.2**	**+1.6**
KBL				IAmb	IAmb	04 09 06.4	
	comp=Z,76nm,1.4s						
HYB	**Hyderabad**	**26.80**	**77**	*i* P	**P**	**04 08 56.0**	**+1.3**
GAZ	**Gaziantep**	**26.96**	**335**	P	**P**	**04 09 00.6**	**+4.6**
GAZ				IAmb	IAmb	04 09 08.1	
	comp=Z,40nm,1.1s						
GNI	**Garni**	**27.47**	**349**	P	**P**	**04 09 01.9**	**+1.2**
	comp=Z,50nm,0.9s,baz=334,slow=2.2,SNR=21						
GNI				LR	LR	04 21 60.0	
	comp=Z,4μm,20.3s,baz=172,slow=41						
GNI	**Garni**	**27.47**	**349**	P	**P**	**04 09 01.6**	**+1.0**
GNI	**Garni**	**27.47**	**349**	P	**P**	**04 09 01.9**	**+1.2**
KARS	**Kars**	**28.26**	**347**	P	**P**	**04 09 08.9**	**+1.2**
KARS				pmax	pmax		
	comp=Z,275nm,1.3s						
KARS	**Kars**	**28.26**	**347**	P	**P**	**04 09 08.9**	**+1.2**
AKT	**Akhty**	**28.37**	**355**	*e*P	**P**	**04 09 11.1**	**+2.4**
AKT				*e*		04 09 57.6	
AKT				*e*		04 12 22.4	
AKT				pmax	pmax		
	comp=Z,35nm,1.2s						
NIL	**Nilore**	**28.68**	**41**	P	**P**	**04 09 10.9**	**-0.5**
NIL				pmax	pmax		
	comp=Z,27nm,1.3s						
NIL	**Nilore**	**28.68**	**41**	P	**P**	**04 09 10.9**	**-0.5**
BNN	**Bunyan**	**28.95**	**335**	P	**P**	**04 09 14.8**	**+0.9**
PALK	**Pallekele**	**29.69**	**98**	LR	LR	04 18 40.5	
	comp=Z,639nm,21.4s,baz=27,slow=31						
MAK	**Makhachkala**	**29.86**	**355**	*e*P	P	04 09 16.8	-4.9
MAK				*e*S	**S**	**04 14 11.3**	**-7.2**
MAK				pmax	pmax		
	comp=Z,119nm,1.0s						
MAK				MLR	MLR		
	comp=Z,2μm,17.0s						
CHGR	**Chuyangaron**	**30.02**	**29**	P	**P**	**04 09 23.8**	**+0.5**
ONI	**Oni**	**30.07**	**349**	P	**P**	**04 09 26.0**	**+2.3**
ONI				pmax	pmax		
	comp=Z,33nm,1.5s						
ONI	**Oni**	**30.07**	**349**	P	**P**	**04 09 26.0**	**+2.3**
ZEI	**Tsey**	**30.18**	**349**	*e*P	**P**	**04 09 23.9**	**-0.9**
ZEI				*e*		04 10 38.3	
ZEI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ELL	**Elmali**	**30.21**	**325**	P	**P**	**04 09 25.3**	**+0.2**
ELL				pmax	pmax		
	comp=Z,127nm,1.1s						
ELL	**Elmali**	**30.21**	**325**	P	**P**	**04 09 25.3**	**+0.2**
GROC	**Groznyy**	**30.29**	**352**	*e*P	**P**	**04 09 25.8**	**+0.3**
GROC				*e*		04 10 21.9	
GROC				*e*S	**S**	**04 14 30.6**	**+5.4**
GROC				*e*SS	**SnSn**	**04 16 03.5**	**+3.8**
GROC				pmax	pmax		
	comp=Z,34nm,1.0s						
GROC				MLR	MLR		
	comp=Z,727nm,11.0s						
BR131	**Keskin Array S**	**30.62**	**333**	P	**P**	**04 09 28.8**	**+0.1**
BR131				pmax	pmax		
	comp=Z,30nm,1.2s						
BR131	**Keskin Array S**	**30.62**	**333**	P	**P**	**04 09 28.8**	**+0.1**
BR131				IAmb	IAmb	04 09 39.2	
	comp=Z,30nm,1.2s						
BRTR	**Keskin Array B**	**30.62**	**333**	P	**P**	**04 09 28.9**	**+0.3**
	comp=Z,7.2nm,0.9s,baz=161,slow=8.8,SNR=35						
BRTR				PcP	**PcP**	**04 12 27.1**	**+0.1**
	comp=Z,3.5nm,1.0s,baz=174,slow=5.0,SNR=5.7						
BRTR				LR	LR	04 22 33.6	
	comp=Z,1μm,18.3s,baz=146,slow=38						
BRTR	**Keskin Array B**	**30.62**	**333**	P	**P**	**04 09 28.8**	**+0.1**
BRTR				PcP	**PcP**	**04 12 26.8**	**-0.3**
NEY	**Neytrino**	**30.85**	**348**	*i* P	**P**	**04 09 31.3**	**+0.6**
NEY				pmax	pmax		
	comp=Z,5.0nm,1.4s						
GAR	**Garm**	**30.85**	**30**	P	**P**	**04 09 32.2**	**+1.5**
GAR				IAmb	IAmb	04 09 37.3	
	comp=Z,32nm,1.0s						
NCK	**Nalchik**	**30.92**	**349**	*i* P	**P**	**04 09 31.9**	**+0.8**
NCK				pmax	pmax		
	comp=Z,51nm,1.7s						
BR231	**Keskin MP Arra**	**31.11**	**332**	P	**P**	**04 09 33.7**	**+0.8**
ANTO	**Ankara**	**31.12**	**332**	P	**P**	**04 09 33.6**	**+0.6**
ANTO				pmax	pmax		
	comp=Z,68nm,0.9s						
ANTO	**Ankara**	**31.12**	**332**	P	**P**	**04 09 33.6**	**+0.6**
KBZ	**Khabaz**	**31.27**	**348**	P	**P**	**04 09 35.5**	**+1.3**
	comp=Z,25nm,0.9s,baz=171,slow=7.6,SNR=38						
KBZ				LR	LR	04 24 14.3	
	comp=Z,4μm,21.2s,baz=160,slow=40						
KIV	**Kislovodsk**	**31.53**	**348**	*i* P	**P**	**04 09 37.0**	**+0.3**
	SNR=14						
KIV	**Kislovodsk**	**31.53**	**348**	*e*P	**P**	**04 09 37.7**	**+1.1**
KIV				*e*		04 10 39.6	
KIV				*e*PPP	PPP	04 10 50.5	
KIV				*e*S	**S**	**04 14 47.0**	**+2.1**
KIV				pmax	pmax		
	comp=Z,62nm,1.1s						
KIV				pmax	pmax		
	comp=Z,66nm,3.7s						
KIV				MLR	MLR		
	comp=Z,2μm,15.0s						
KIV	**Kislovodsk**	**31.53**	**348**	P	**P**	**04 09 36.6**	**0.0**
OPO	**Ambohidratompo**	**31.76**	**187**	P	**P**	**04 09 41.9**	**+3.0**
	comp=Z,5.3nm,0.8s,baz=34,slow=9.4,SNR=3.5						
SOC	**Sochi**	**31.87**	**344**	*e*P	**P**	**04 09 37.9**	**-1.5**
SOC				*e*		04 10 41.7	
SOC				*e*S	**S**	**04 14 49.1**	**-0.8**
SOC				*e*SS	**SnSn**	**04 16 40.4**	**+2.3**
SOC				pmax	pmax		
	comp=Z,29nm,1.1s						
SOC				MLR	MLR		
	comp=Z,2μm,12.0s						
BTK	**Batken**	**31.92**	**29**	P	**P**	**04 09 40.9**	**+0.8**
BTK				pmax	pmax		
	comp=Z,49nm,1.3s						
BTK	**Batken**	**31.92**	**29**	P	**P**	**04 09 40.9**	**+0.8**
BTK				IAmb	IAmb	04 09 52.4	
	comp=Z,49nm,1.2s						
DRK	**Karamyk**	**31.95**	**31**	P	**P**	**04 09 41.4**	**+0.7**
DRK				IAmb	IAmb	04 09 48.5	
	comp=Z,23nm,0.7s						
MDUB	**Mudurnu**	**32.34**	**331**	P	**P**	**04 09 44.5**	**+0.8**
GOF	**Gofitskoye**	**32.53**	**349**	*e*P	**P**	**04 09 45.1**	**-0.1**
GOF				pmax	pmax		
	comp=Z,26nm,0.4s						
PYUN	**Piuthan**	**33.21**	**58**	*e*P	**P**	**04 09 53.4**	**+1.7**
	comp=Z,136nm,1.0s						
KOLN	**Koldanda**	**33.60**	**59**	*e*P	**P**	**04 09 56.7**	**+1.6**
	comp=Z,90nm,1.0s						
ANN	**Anapa**	**33.63**	**342**	*e*P	**P**	**04 09 56.0**	**+1.2**
ANN				*e**PP	**sP**	**04 09 59.3**	**+0.7**
ANN				*e*		04 11 05.0	
ANN				*e*S	**S**	**04 15 21.8**	**+4.5**
ANN				pmax	pmax		
	comp=Z,32nm,1.0s						
ANN				MLR	MLR		
	comp=N,2μm,15.0s						
ANN				MLR	MLR		
	comp=Z,2μm,15.0s						
DANN	**Dangsing**	**33.93**	**58**	*e*P	**P**	**04 09 59.5**	**+1.4**
	comp=Z,218nm,1.0s						
KSH	**Kashi**	**34.21**	**35**	P	**P**	**04 09 57.3**	**-2.8**
KSH				pP	pP	04 10 02.0	-0.9
KSH				sP	sP	04 10 04.9	+0.9
KSH				PP	**PnPn**	**04 11 11.6**	**-2.5**
KSH				PcP	**PcP**	**04 12 37.1**	**+0.2**
KSH				S	**S**	**04 15 20.5**	**-6.2**
KSH				sS	pS	04 15 28.1	-2.0
KSH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,200nm,8.5s						
KSH				LR	LR		
	comp=Z,440nm,12.8s						
KSH				LR	LR		
	comp=Z,410nm,11.1s						
KK31	**Karatay Array**	**34.22**	**26**	*i* P	**P**	**04 10 01.8**	**+1.8**
**KK

ABKAR IAmb IAmb 04 10 31.9
comp=Z,62nm,1.3s
TIRR Tirgusor 36.74 332 ⇑P P 04 10 21.7 +0.1
TIRR Tirgusor 36.74 332 P **P 04 10 21.7 +0.1**
TIRR pmax pmax
comp=Z,84nm,1.0s
TIRR Tirgusor 36.74 332 P **P 04 10 21.7 +0.1**
TARG Taragay, Kyrgy 36.74 34 P **P 04 10 22.8 +0.6**
TARG IAmb IAmb 04 10 39.1
comp=Z,32nm,1.0s
MTBS Maitube 37.00 31 *e*P **P 04 10 25.9 +1.9**
baz=33
MTBS *e*PP **PnPn 04 11 48.8 +0.3**
baz=33
MTBS *e*S **S 04 16 08.5 -0.9**
baz=33
TPGR Topolog 37.05 333 ⇓P P 04 10 24.4 +0.1
HARR Harsova 37.13 332 ⇓P P 04 10 25.4 +0.4
TNSS Tian-Shan 37.19 32 *e*P **P 04 10 27.0 +1.0**
baz=34
BTLS Baital 37.30 27 *e*P **P 04 10 26.6 +0.1**
comp=Z,28nm,2.2s,baz=29
BTLS *e*PP **PnPn 04 11 53.1 +1.1**
baz=29
BTLS *i* S **S 04 16 15.1 +1.4**
comp=Z,49nm,5.5s,baz=29
BTLS Baital 37.30 27 *e*P **P 04 10 26.5 +0.1**
BTLS *e* 04 11 53.1
BTLS *i* S **S 04 16 15.1 +1.4**
BTLS pmax pmax
comp=Z,27nm,2.2s
BTLS smax smax
comp=E,49nm,5.5s
MDOK Medeo 37.34 32 *e*P **P 04 10 25.1 -1.9**
baz=34
MDOK *e*PP **PP 04 11 51.9 -0.2**
baz=34
MDOK *e*S **S 04 16 13.9 -0.7**
baz=34
MDOK Medeo 37.34 32 *e*P **P 04 10 25.0 -1.9**
MDOK *e* 04 11 51.8
MDOK *e*S **S 04 16 13.9 -0.7**
CFR Carcaliu 37.42 333 ⇑P P 04 10 27.8 +0.3
AKTO Aktyubinsk 37.60 7 P **P 04 10 29.2 +0.3**
CHKK Chushkaly 37.80 31 *e*P **P 04 10 31.3 +0.6**
baz=33
FNA Florina 37.87 322 P **P 04 10 31.9 +0.5**
FNA pmax pmax
comp=Z,64nm,1.7s
FNA Florina 37.87 322 P **P 04 10 31.9 +0.5**
FNA IAmb IAmb 04 10 43.8
comp=Z,64nm,1.7s
SATY Saty 37.97 33 *e*P **P 04 10 33.0 +0.6**
comp=Z,35nm,2.2s,baz=35
SATY *e*S **S 04 16 24.2 -0.1**
baz=35
SATY Saty 37.97 33 *e*P **P 04 10 32.9 +0.6**
SATY *e*S **S 04 16 24.1 -0.1**
SATY pmax pmax
comp=Z,35nm,2.2s
VTS Vitosha 37.99 326 ⇑P P 04 10 32.6 +0.2
VTS Vitosha 37.99 326 P **P 04 10 32.7 +0.2**
VTS pmax pmax
comp=Z,13nm,1.0s
VTS Vitosha 37.99 326 P **P 04 10 32.7 +0.2**
ISR Istrita 38.10 332 ⇑P P 04 10 33.4 +0.1
KBN Korca 38.12 322 P **P 04 10 33.0 -0.6**
KBN pmax pmax
comp=Z,50nm,1.1s
KBN Korca 38.12 322 P **P 04 10 33.0 -0.6**
KBN IAmb IAmb 04 10 45.2
comp=Z,50nm,1.1s
BISRR Bisoca 38.35 332 ⇑P P 04 10 35.7 +0.4
UZB Uzynbulak 38.36 34 *e*P **P 04 10 37.2 +1.6**
comp=Z,60nm,3.0s,baz=35
UZB *e*PP **PP 04 12 02.1 -1.3**
baz=35
UZB *e*S **S 04 16 32.2 +2.0**
baz=35
UZB Uzynbulak 38.36 34 *e*P **P 04 10 37.2 +1.6**
UZB *e* 04 12 02.0
UZB *e*S **S 04 16 32.2 +2.0**
UZB pmax pmax
comp=Z,61nm,3.0s
KPKS Kokpek 38.40 33 *e*P **P 04 10 35.1 -0.8**
comp=Z,99nm,2.8s,baz=35
KPKS *e*PP **PP 04 12 03.3 -0.5**
baz=35
KPKS Kokpek 38.40 33 *e*P **P 04 10 35.1 -0.8**
KPKS *e* 04 12 03.2
KPKS pmax pmax
comp=Z,99nm,2.8s
VRI Vrincioaia 38.58 332 ⇑P P 04 10 37.5 +0.2
PLOR Plostina 38.61 332 ⇓P P 04 10 38.2 +0.7
SHLS Shalkode 38.61 34 *e*P **P 04 10 39.5 +1.8**
comp=Z,41nm,2.4s,baz=36
SHLS *e*PP **PnPn 04 12 08.8 +0.8**
baz=36
SHLS Shalkode 38.61 34 *e*P **P 04 10 39.4 +1.8**
SHLS *e* 04 12 08.8
SHLS pmax pmax
comp=Z,41nm,2.4s
MLR Muntele Rosu 38.66 331 ⇑P P 04 10 37.9 -0.2
MLR Muntele Rosu 38.66 331 P **P 04 10 38.8 +0.8**
MLR pmax pmax
comp=Z,25nm,1.1s
MLR Muntele Rosu 38.66 331 P **P 04 10 38.8 +0.8**
VRH Novokhopyorsk 38.70 351 *e*P **P 04 10 36.3 -1.8**
VRH *e* 04 12 06.8
VRH pmax pmax
comp=Z,40nm,1.0s
VRH MLR MLR
comp=Z,2μm,22.0s
PDGK Podgornoye 38.74 34 P **P 04 10 38.4 -0.4**
VORD Divnogorie 38.91 348 *e*P **P 04 10 37.6 -2.3**
VORD *e* 04 12 08.0
VORD pmax pmax
comp=Z,20nm,0.9s
VOIR 39.04 331 ⇓P P 04 10 41.5 +0.4
TESR Tescani 39.11 333 ⇑P P 04 10 41.9 +0.2
OTUK Ortayu 39.18 23 P **P 04 10 42.4 +0.1**
OZUR 39.18 332 ⇓P P 04 10 43.1 +0.8
ARR Arges 39.19 330 ⇓P P 04 10 42.5 +0.1
BELG Belogornoye 39.24 357 *i* P **P 04 10 42.5 -0.1**
BELG pmax pmax
comp=Z,5.0nm,1.0s
DOPR Dopca 39.27 331 ⇓P P 04 10 42.5 -0.5
TDK Taldyqorghan 39.33 31 *e*P **P 04 10 43.9 +0.3**
baz=33
TDK *e*S **S 04 16 45.2 +0.7**
baz=33
TDK Taldyqorghan 39.33 31 *e*P **P 04 10 43.8 +0.3**
TDK *e*S **S 04 16 45.2 +0.7**
BOVS Bovan 39.50 326 ⇑P P 04 10 43.9 -1.1
LOT Lotru 39.67 330 ⇑P P 04 10 45.9 -0.6
SORM Soroca 39.68 336 ⇓P P 04 10 45.8 -0.5
BIZ Bicaz 39.68 333 ⇓P P 04 10 46.9 +0.5
PRAR RASCA 39.95 334 ⇓P P 04 10 49.0 +0.3
HERR Herculane 39.96 328 ⇑P P 04 10 48.5 -0.3
MATP Matopo 40.10 214 P **P 04 10 50.3 0.0**
comp=Z,5.1nm,1.1s,baz=21,slow=16,SNR=5.5
GZR Gura Zlata 40.13 329 ⇑P P 04 10 50.6 +0.4
SHL Shillong 40.24 66 P **P 04 10 51.3 -0.3**
SHL pmax pmax
comp=Z,38nm,1.3s
SHL Shillong 40.24 66 P **P 04 10 51.3 -0.3**
MDVR Moldovita 40.26 327 ⇑P P 04 10 50.8 -0.5
LPSR Galich'ya Gora 40.54 349 *e*P **P 04 10 51.3 -2.1**
LPSR *e* 04 12 25.5
LPSR pmax pmax
comp=Z,40nm,1.1s
LPSR MLR MLR
comp=Z,2μm,23.0s
ARCR ARCALIA 40.58 332 ⇑P P 04 10 53.7 -0.2
BURAR Bucovina Array 40.59 333 ⇓P P 04 10 54.1 0.0
BURAR Bucovina Array 40.59 333 P **P 04 10 53.7 -0.3**
BUR08 Bucovina Ar. S 40.62 333 P **P 04 10 54.4 +0.1**
DIVS Divibare 40.74 325 P **P 04 10 56.3 +0.9**
BRZS Berezniki 40.75 21 *e*P **P 04 10 55.0 -0.4**
comp=Z,48nm,3.0s,baz=23
BRZS *e*PP **PP 04 12 28.3 -1.0**
baz=23
BRZS Berezniki 40.75 21 *e*P **P 04 10 54.9 -0.4**
BRZS *e* 04 12 28.2

BRZS pmax pmax
comp=Z,48nm,3.0s
BZS Buzias 40.87 328 ⇑P P 04 10 55.4 -0.9
DRGR 41.14 330 ⇑P P 04 10 59.0 +0.4
SIRR Siria 41.30 329 ⇑P P 04 11 00.1 +0.3
AKASG Malin Array Be 41.47 339 P **P 04 11 00.3 -0.8**
comp=Z,16nm,0.9s,baz=146,slow=7.1,SNR=43
AKASG PP **PP 04 12 33.5 -3.5**
comp=Z,0.7nm,0.5s,baz=150,slow=7.5,SNR=2.2
AKASG PcP **PcP 04 12 58.7 -0.1**
comp=Z,7.2nm,1.0s,baz=151,slow=2.3,SNR=7.2
AKASG LR LR 04 31 33.3
comp=Z,576nm,18.1s,baz=135,slow=41
AKASG Malin Array Be 41.47 339 P **P 04 10 59.5 -1.6**
AKASG PP **PP 04 12 38.0 +1.0**
AKASG **PcP 04 12 57.8 -1.0**
AKBB Malin Array Si 41.47 339 *i* P **P 04 11 00.4 -0.7**
AKBB Malin Array Si 41.47 339 P **P 04 11 00.3 -0.7**
AKBB IAmb IAmb 04 11 07.0
comp=Z,31nm,1.1s
CORL Corleone 41.65 313 P **P 04 11 04.1 +1.2**
CORL IAmb IAmb 04 11 12.8
comp=Z,48nm,1.0s
TRPA Tarpa 42.18 332 ⇑P P 04 11 07.2 +0.2
TRPA Tarpa 42.18 332 *e*P **P 04 11 07.3 +0.3**
MAKZ Makanchi 42.38 32 P **P 04 11 09.0 +0.3**
MAKZ pmax pmax
comp=Z,37nm,1.3s
MAKZ Makanchi 42.38 32 P **P 04 11 09.0 +0.3**
MAKZ IAmb IAmb 04 11 21.2
comp=Z,37nm,1.2s
MKAR Makanchi Array 42.53 32 P **P 04 11 10.3 +0.3**
comp=Z,7.1nm,0.7s,baz=223,slow=8.2,SNR=29
MKAR Makanchi Array 42.53 32 *i* P **P 04 11 10.5 +0.6**
MKAR pmax pmax
comp=Z,7.0nm,0.7s
MKAR Makanchi Array 42.53 32 P **P 04 11 10.0 0.0**
BRVK Borovoye 42.64 17 *ce*P **P 04 11 11.3 +0.6**
BRVK pmax pmax
comp=Z,11nm,0.8s
BRVK Borovoye 42.64 17 P **P 04 11 11.2 +0.5**
BRVK IAmb IAmb 04 11 17.4
comp=Z,136nm,1.9s
UZH Uzhgorod 42.66 332 *e*P **P 04 11 10.6 -0.3**
UZH *e* 04 11 19.4
UZH *i* S **S 04 17 31.0 -2.8**
UZH *i* SS **SS 04 20 42.2 -1.9**
UZH *i* SSS SSS 04 21 23.2
LVV L'vov 42.77 334 *e*P **P 04 11 10.5 -1.3**
KOLS Kolonicke sedl 42.89 332 *e*P **P 04 11 14.0 +1.2**
KOLS pmax pmax
comp=Z,24nm,1.1s
KOLS Kolonicke sedl 42.89 332 *e*P **P 04 11 14.0 +1.2**
KOVH Kovagotottos 43.04 326 *e*P **P 04 11 13.9 -0.1**
KWP Kalwaria Pacla 43.20 333 P **P 04 11 14.9 -0.4**
KWP pmax pmax
comp=Z,113nm,0.9s
KWP Kalwaria Pacla 43.20 333 P **P 04 11 14.9 -0.4**
CRVS Cervenica-Dubn 43.24 332 *e*P **P 04 11 15.8 +0.2**
CRVS pmax pmax
comp=Z,24nm,1.0s
CRVS Cervenica-Dubn 43.24 332 *e*P **P 04 11 15.8 +0.2**
OBN Obninsk 43.38 348 *ce*P **P 04 11 16.6 0.0**
OBN *i* 04 11 21.1
OBN *e* 04 12 56.2
OBN *i* S **S 04 17 49.2 +5.0**
OBN *e*SS **SS 04 20 55.1 -2.9**
OBN pmax pmax
comp=Z,12nm,0.4s
OBN MLR MLR
comp=Z,2μm,20.0s
KURBB Kurchatov Arra 43.52 25 P **P 04 11 17.0 -0.8**
ARU Arti 43.56 6 *d* *i* P **P 04 11 17.7 -0.4**
ARU 04 12 59.8
ARU S **S 04 17 49.2 +2.3**
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU MLR MLR
comp=Z,1μm,17.0s
ARU Arti 43.56 6 P **P 04 11 18.3 +0.3**
STHS Stebnicka Huta 43.70 332 *e*P **P 04 11 20.6 +1.2**
STHS Stebnicka Huta 43.70 332 *e*P **P 04 11 20.6 +1.2**
KEST Kesra 43.73 308 P **P 04 11 20.3 +0.4**
comp=Z,13nm,1.2s,baz=279,slow=1.4,SNR=4.0
KEST PcP **PcP 04 13 07.0 +0.2**
comp=Z,11nm,1.0s,baz=1.1,slow=4.9,SNR=4.2
KEST LR LR 04 31 28.8
comp=Z,494nm,19.3s,baz=28,slow=39
KEST Kesra 43.73 308 P **P 04 11 20.4 +0.6**
MOS Moscow 43.76 349 *e*P **P 04 11 19.9 +0.2**
MOS *e* 04 13 01.2
MOS *e* 04 13 04.8
MOS *e*S **S 04 17 45.6 -4.2**
MOS pmax pmax
comp=Z,67nm,1.5s
MOS pmax pmax
comp=Z,200nm,2.3s
MOS MLR MLR
comp=Z,2μm,21.0s
WMQ Urumqi 43.76 39 *e*P **P 04 11 21.3 +1.3**
WMQ pP pwP 04 11 26.0 -1.0
WMQ sP sP 04 11 31.3 +7.4
WMQ PP **PP 04 13 02.0 +0.1**
WMQ S **S 04 17 54.3 +3.9**
WMQ sS sS 04 17 58.9 +3.9
WMQ pmax pmax
comp=Z,49nm,1.1s
WMQ pmax pmax
comp=Z,430nm,4.9s
WMQ LR LR
comp=Z,660nm,21.9s
WMQ LR LR
comp=Z,760nm,21.9s
WMQ LR LR
comp=Z,850nm,21.9s
MPLH Magyarpolny 44.02 327 *e*P **P 04 11 26.2 +4.3**
SRO Srobarova 44.03 328 *e*P **P 04 11 22.7 +0.7**
SRO Srobarova 44.03 328 *e*P **P 04 11 22.7 +0.7**
SEM Semipalatinsk 44.09 27 *e*P **P 04 11 22.3 -0.4**
baz=28
SEM Semipalatinsk 44.09 27 *e*P **P 04 11 22.3 -0.4**
SVE Sverdlovsk 44.19 8 *e*P **P 04 11 24.0 +0.9**
SVE *e*S **S 04 17 59.8 +3.8**
SVE *e* 04 21 25.3
SVE pmax pmax
comp=Z,32nm,1.5s
SVE MLR MLR
comp=Z,2μm,15.0s
VYHS Vyhne 44.22 329 *e*P **P 04 11 23.0 -0.5**
VYHS pmax pmax
comp=Z,15nm,1.2s
VYHS Vyhne 44.22 329 *e*P **P 04 11 23.0 -0.5**
ZSN Zaisan 44.30 33 *e*P **P 04 11 23.5 -0.6**
baz=34
ZSN *e*S **S 04 17 58.3 +0.4**
baz=34
ZSN Zaisan 44.30 33 *e*P **P 04 11 23.5 -0.6**
ZSN *e*S **S 04 17 58.3 +0.4**
MODS Modra-Piesok 44.92 328 *e*P **P 04 11 28.6 -0.6**
MODS Modra-Piesok 44.92 328 *e*P **P 04 11 28.6 -0.6**
JAVC Velka Javorina 45.04 329 *e*P **P 04 11 30.1 0.0**
SOKA Soboth 45.08 325 *i* P **P 04 11 30.2 -0.3**
comp=Z,9.3nm,1.4s
MNK Minsk 45.11 341 *i* P **P 04 11 28.1 -2.3**
MNK *i* 04 13 13.6
MNK *i* PPP PPP 04 13 51.7
MNK *i* S **S 04 18 08.1 -1.3**
MNK *i* 04 21 16.6
MNK *i* SS **SS 04 21 31.7 +0.1**
MNK *i* SSS SSS 04 22 16.4
MNK pmax pmax
comp=N,13nm,0.9s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,17nm,0.9s
MNK MLR MLR
comp=N,514nm,20.0s
MNK MLR MLR
comp=E,117nm,20.0s
MNK MLR MLR
comp=Z,608nm,19.0s
MNK Minsk 45.11 341 *i* P **P 04 11 28.2 -2.3**
comp=E,2.0nm,0.9s

MNK *i* P **P 04 11 28.2 -2.3**
comp=N,13nm,0.9s
MNK *i* P **P 04 11 28.2 -2.3**
comp=Z,17nm,0.9s,baz=147
MNK *i* PcP **PcP 04 13 08.6 -2.4**
MNK *i* PP **PP 04 13 13.7 -2.2**
MNK *i* PPP PPP 04 13 51.8
MNK *i* S **S 04 18 08.1 -1.2**
MNK *i* SS **SS 04 21 31.7 +0.1**
MNK *i* SSS SSS 04 22 16.4
MNK *i* LQ LQ 04 26 57.6
MNK *i* LR LR 04 29 46.6
MNK *i* LRM MLR 04 31 53.8
comp=N,514nm,19.7s
MNK *i* LRM MLR 04 31 54.5
comp=E,117nm,19.7s
MNK *i* LRM MLR 04 33 15.9
comp=Z,608nm,18.8s
VSL Villasalto 45.11 313 P **P 04 11 30.9 +0.2**
VSL IAmb IAmb 04 11 38.0
comp=Z,40nm,0.9s
ARSA Arzberg 45.15 326 *i* P **P 04 11 30.9 -0.1**
comp=Z,8.0nm,0.7s
OBKA Obir 45.26 325 *e*P **P 04 11 31.9 0.0**
comp=Z,27nm,1.1s
MHMT Maesarieng 45.27 77 P **P 04 11 34.0 +1.7**
comp=Z,36nm,0.7s
KIRV Kirov 45.36 359 *ce*P **P 04 11 32.8 +0.4**
LBTB Lobatse 45.37 213 P **P 04 11 33.1 0.0**
LBTB pmax pmax
comp=Z,48nm,1.3s
LBTB Lobatse 45.37 213 P **P 04 11 33.1 0.0**
LBTB IAmb IAmb 04 11 35.9
comp=Z,48nm,1.2s
CONA Conrad Observa 45.38 327 *e*P **P 04 11 32.7 -0.2**
comp=Z,22nm,1.2s
OKC Ostrava-Krasne 45.45 330 AMS AMS 04 35 00.0
comp=Z,400nm,16.1s
MORC Moravsky Berou 45.70 330 ⇓P P 04 11 34.7 -0.7
MORC Moravsky Berou 45.70 330 P **P 04 11 34.4 -1.0**
MORC pmax pmax
comp=Z,9.0nm,1.0s
MORC Moravsky Berou 45.70 330 P **P 04 11 34.4 -1.0**
MORC Moravsky Berou 45.70 330 *e*P **P 04 11 34.2 -1.2**
NACGM Naroch 45.79 341 *i* P P 04 11 41.9 +6.0
KRUC Moravsky 45.81 329 *e*P **P 04 11 35.2 -1.0**
MYKA Terra Mystica 45.84 324 *e*P **P 04 11 36.4 -0.2**
comp=Z,19nm,1.3s
VRAC Vranov 45.87 329 *e*P **P 04 11 36.0 -0.6**
TSUM Tsumeb 46.09 226 P **P 04 11 38.6 -0.3**
STAL STALIGIAL 46.17 323 P **P 04 11 38.8 -0.3**
STAL IAmb IAmb 04 11 46.8
comp=Z,44nm,1.3s
ZOU Zoufplan 46.18 324 P **P 04 11 38.9 -0.5**
ZOU IAmb IAmb 04 11 46.2
comp=Z,33nm,1.1s
CM13 Chiang Mai Arr 46.19 77 P **P 04 11 40.3 +0.7**
comp=Z,333nmcomp=Z,49nm,0.9s
MOA Molln 46.19 326 *e*P **P 04 11 38.4 -0.8**
comp=Z,20nm,1.6s
CM15 Chiang Mai Arr 46.21 77 P **P 04 11 40.8 +1.1**
UMPA Umpang Tak 46.21 80 P **P 04 11 42.2 +2.4**
CHTO Chiang Mai 46.22 77 P **P 04 11 39.3 -0.6**
CHTO pmax pmax
comp=Z,11nm,0.9s
CHTO Chiang Mai 46.22 77 P **P 04 11 40.8 +0.9**
comp=Z,16nm,0.9s
CHTO Chiang Mai 46.22 77 P **P 04 11 39.3 -0.6**
CHTO Chiang Mai 46.22 77 P **P 04 11 38.7 -1.2**
comp=Z,8.9nm,0.9s
CMAR Chiang Mai Arr 46.22 77 P **P 04 11 40.6 +0.7**
comp=Z,44nm,0.8s,baz=275,slow=8.9,SNR=92
CMAR LR LR 04 31 23.0
comp=Z,160nm,18.5s,baz=320,slow=37
CMAR Chiang Mai Arr 46.22 77 *i* P **P 04 11 40.7 +0.8**
CMAR pmax pmax
comp=Z,44nm,0.8s
CMAR Chiang Mai Arr 46.22 77 P **P 04 11 40.3 +0.4**
CMMT Chiang Mai 46.23 77 P **P 04 11 40.4 +0.5**
comp=Z,16nm,0.9s
CMMT Chiang Mai 46.23 77 P **P 04 11 40.4 +0.5**
comp=Z,15nm,0.9s
CM05 Chiang Mai Arr 46.23 77 P **P 04 11 40.5 +0.6**
comp=Z,410nmcomp=Z,62nm,0.9s
CM02 Chiang Mai Arr 46.23 77 P **P 04 11 40.7 +0.8**
comp=Z,468nmcomp=Z,74nm,0.9s
CM01 Chiang Mai Arr 46.24 77 P **P 04 11 40.8 +0.8**
comp=Z,467nmcomp=Z,72nm,0.9s
CM04 Chiang Mai Arr 46.26 77 P **P 04 11 40.9 +0.7**
comp=Z,546nmcomp=Z,87nm,0.9s
KBA Koelnbreinsper 46.26 325 *e*P **P 04 11 39.6 -0.4**
comp=Z,15nm,1.0s
CM09 Chiang Mai Arr 46.27 77 P **P 04 11 41.2 +1.0**
comp=Z,468nmcomp=Z,66nm,0.9s
KRLC Kraliky 46.27 330 *e*P **P 04 11 39.1 -0.7**
KRLC MLR MLR
comp=Z,400nm,13.1s
KRLC Kraliky 46.27 330 *e*P **P 04 11 39.1 -0.7**
KRLC AMS AMS 04 35 00.0
comp=Z,400nm,13.1s
SUW Suwalki 46.33 338 *e*P **P 04 11 40.0 -0.1**
SUW *e*L L 04 29 31.1
comp=Z,611nm,30.0s
SUW Suwalki 46.33 338 *e*P **P 04 11 40.1 0.0**
SUW Suwalki 46.33 338 P **P 04 11 39.6 -0.6**
SUW pmax pmax
comp=Z,78nm,1.2s
SUW Suwalki 46.33 338 P **P 04 11 39.5 -0.6**
ABTA Abfaltersbach 46.55 324 *e*P **P 04 11 41.7 -0.5**
comp=Z,8.6nm,1.2s
DPC Dobruska-Polom 46.67 330 *e*P **P 04 11 42.4 -0.6**
DPC *e*S **S 04 18 30.4 -1.8**
DPC MLR MLR
comp=Z,500nm,17.8s
DPC Dobruska-Polom 46.67 330 *e*P **P 04 11 42.4 -0.6**
DPC *e*S **S 04 18 30.4 -1.8**
DPC AMS AMS 04 34 20.0
comp=Z,500nm,17.8s
CTI Castel Tesino 46.68 323 P **P 04 11 41.9 -1.3**
CTI pmax pmax
comp=Z,9.0nm,0.9s
CTI Castel Tesino 46.68 323 P **P 04 11 41.9 -1.3**
CKRC Cesky Krumlov 46.75 327 *e*P **P 04 11 42.8 -0.8**
CKRC *e*S **S 04 18 30.0 -3.3**
CKRC AMS AMS 04 36 00.0
comp=Z,400nm,17.9s
UTHA Uthaitani 46.81 81 P **P 04 11 45.8 +1.3**
comp=Z,387nmcomp=Z,52nm,0.8s
OSTC Ostas 46.86 330 *e*P **P 04 11 43.8 -0.6**
OSTC AMS AMS 04 35 50.0
comp=Z,400nm,16.1s
UPC Upice 46.93 330 *e*S **S 04 18 36.1 +0.4**
UPC AMS AMS 04 36 10.0
comp=Z,400nm,14.5s
RJOB Jochberg 46.94 325 *e*P **P 04 11 46.0 +0.9**
comp=Z,132nm,1.9s,baz=125,slow=7.8
CHVC Chvalec 46.96 330 *e*P **P 04 11 44.5 -0.7**
CHVC *ex* x 04 11 49.7
KSP Ksiaz 47.01 330 *e*P **P 04 11 45.3 -0.2**
KSP *e*S **S 04 18 36.0 -0.8**
KSP *e*L L 04 28 23.7
comp=Z,691nm,34.0s
DGZ Jazzator, Alta 47.03 32 *i* P **P 04 11 46.3 +0.4**
DGZ pmax pmax
comp=Z,3.0nm,0.7s
GEC2 GERESS Array S 47.09 327 P **P 04 11 44.8 -1.5**
GEC2 IAmb IAmb 04 11 51.7
comp=Z,20nm,1.6s
GEC2 GERESS Array S 47.09 327 *e*P **P 04 11 47.3 +1.0**
comp=Z,81nm,2.6s,baz=125,slow=7.8
GERES GERESS Array B 47.09 327 P **P 04 11 44.8 -1.5**
comp=Z,1.0nm,0.7s,baz=123,slow=9.7,SNR=8.6
GERES PcP **PcP 04 13 17.7 -0.5**
comp=Z,2.1nm,0.8s,baz=149,slow=3.1,SNR=5.8
GERES LR LR 04 35 01.1
comp=Z,279nm,18.1s,baz=112,slow=41
GERES GERESS Array B 47.09 327 P **P 04 11 44.4 -1.9**
PABE Paberze 47.22 339 *e*P **P 04 11 47.0 -0.1**
KHC Kasperske Hory 47.32 327 *e*P **P 04 11 48.9 +0.9**
KHC *e*S **S 04 18 37.4 -4.1**
KHC MLR MLR
comp=Z,400nm,18.7s
KHC Kasperske Hory 47.32 327 *e*P **P 04 11 48.9 +0.9**
KHC *e*S **S 04 18 37.4 -4.1**
KHC AMS AMS 04 37 10.0

comp=Z,400nm,18.7s
PRU Pruhonice 47.34 328 *e*P **P** **04 11 47.5 -0.6**
PRU *e*S **S** **04 18 37.8 -3.8**
PRU MLR MLR
comp=Z,500nm,18.5s
PRU Pruhonice 47.34 328 *e*P **P** **04 11 47.5 -0.6**
PRU *e*S **S** **04 18 37.8 -3.8**
PRU AMS AMS 04 35 00.0
comp=Z,500nm,18.5s
WTTA Wattenberg 47.34 324 *e*P **P** **04 11 47.4 -0.9**
comp=Z,15nm,1.3s
WATA Walderalm 47.41 324 *e*P **P** **04 11 47.5 -1.5**
comp=Z,16nm,1.0s
PRA Prague 47.44 328 AMS AMS 04 35 00.0
comp=Z,400nm,16.1s
SQTA Sankt Quirin 47.56 324 *e*P **P** **04 11 48.7 -1.3**
comp=Z,13nm,1.2s
PHIT Phitsanulok 47.66 79 P **P** **04 11 52.7 +1.6**
comp=Z,66nm,0.9s
MOTA Moosalm 47.69 324 *e*P **P** **04 11 49.6 -1.5**
comp=Z,18nm,1.1s
WET Wettzell 47.70 327 *e*P **P** **04 11 51.3 +0.3**
comp=Z,41nm,2.2s,baz=125,slow=7.8
FETA Feichten 47.73 323 *e*P **P** **04 11 50.4 -1.0**
comp=Z,9.4nm,1.2s
RETA Reutte 47.96 324 *e*P **P** **04 11 51.4 -1.7**
comp=Z,13nm,0.9s
FUR Furstenfeldbru 48.03 325 *e*P **P** **04 11 54.5 +0.9**
comp=Z,38nm,1.4s,baz=125,slow=7.8
TORD Torodi Ar. Bea 48.05 276 P **P** **04 11 53.5 -0.7**
comp=Z,9.6nm,0.8s,baz=88,slow=7.9,SNR=44
TORD PcP **PcP** **04 13 22.2 +0.1**
comp=Z,3.5nm,1.1s,baz=60,slow=5.3,SNR=2.2
TORD Torodi Ar. Bea 48.05 276 P **P** **04 11 54.0 -0.2**
BRG Berggiesshubel 48.18 329 *e*P **P** **04 11 55.7 +1.1**
comp=Z,134nm,3.1s,baz=125,slow=7.8
BRG *e*pP **sP** **04 11 60.0 +1.5**
baz=126,slow=7.7
BRG Berggiesshubel 48.18 329 *e*P **P** **04 11 53.9 -0.8**
BRG Amp 04 11 56.0
comp=Z,13nm,1.2s
DAVA Damuels 48.37 323 *e*P **P** **04 11 54.8 -1.5**
comp=Z,17nm,1.1s
PSI Prapat 48.37 98 P **P** **04 11 56.4 -0.4**
PSI pmax pmax
comp=Z,15nm,1.1s
KLMR Klimovskoe 48.37 352*c i*P **P** **04 11 55.2 -0.6**
KLMR S **S** **04 18 56.6 +0.7**
KLMR pmax pmax
comp=Z,59nm,1.1s
KLMR MLR MLR
comp=Z,2μm,19.0s
KLMR Klimovskoe 48.37 352⇑ *i*P **P** **04 11 55.3 -0.6**
KLMR *e*P **P** **04 11 55.3 -0.6**
KLMR *e*P **P** **04 11 55.3 -0.6**
KLMR AMP 04 12 02.5
comp=Z,59nm,1.1s
KLMR S **S** **04 18 56.6 +0.7**
KLMR S **S** **04 18 56.6 +0.7**
KLMR SS **SS** **04 22 32.9 +7.5**
KLMR SS **SS** **04 22 32.9 +7.5**
KLMR LQ LQ 04 28 29.7
KLMR LQ LQ 04 28 29.7
KLMR LR LR 04 30 54.0
KLMR AMP 04 35 16.1
comp=Z,2μm,19.3s
RPSI Rantau Prapat 48.40 98 P **P** **04 11 56.4 -0.4**
RPSI IAmb IAmb 04 12 08.6
comp=Z,14nm,1.1s
ROTZ Rotzenmuhle 48.42 327 *e*P **P** **04 11 57.3 +0.8**
comp=Z,90nm,2.8s,baz=125,slow=7.8
ROTZ *e*pP **sP** **04 12 01.5 +1.1**
baz=126,slow=7.7
BOSA Boshof 48.47 211 P **P** **04 11 57.4 +0.1**
comp=Z,19nm,1.2s,baz=35,slow=8.3,SNR=8.3
BOSA LR LR 04 34 28.7
comp=Z,1μm,18.5s,baz=46,slow=39
BOSA Boshof 48.47 211 P **P** **04 11 57.3 +0.1**
BOSA IAmb IAmb 04 12 01.8
comp=Z,41nm,1.3s
FBE Freiberg 48.51 329 *e*P **P** **04 11 58.3 +1.1**
comp=Z,19nm,1.3s,baz=125,slow=7.8
FBE *e*pP **pwP** **04 12 02.8 -1.7**
baz=126,slow=7.7
NKC Novy Kostel 48.56 328 AMS AMS 04 36 10.0
comp=Z,500nm,22.0s
PRGR Permogore 48.57 357 *e*P **P** **04 11 56.0 -1.4**
PRGR *e* 04 13 21.4
PRGR pmax pmax
comp=Z,9.0nm,0.9s
ZALV Zalesovo Beam 48.59 26 P **P** **04 11 57.1 -0.6**
comp=Z,9.0nm,0.7s,baz=232,slow=7.7,SNR=27
ZALV LR LR 04 35 17.3
comp=Z,797nm,19.2s,baz=237,slow=40
ZALV Zalesovo Beam 48.59 26 P **P** **04 11 56.9 -0.9**
MANZ Manzenberg 48.60 327 *e*P **P** **04 11 58.8 +0.9**
comp=Z,110nm,3.3s,baz=125,slow=7.8
MANZ *e*pP **sP** **04 12 02.9 +1.1**
baz=126,slow=7.7
WERN Wernitzgruen 48.63 328 *e*P **P** **04 11 59.5 +1.4**
comp=Z,153nm,2.8s,baz=125,slow=7.8
TANN Tannenbergstha 48.66 328 *e*P **P** **04 11 59.6 +1.2**
comp=Z,44nm,2.1s,baz=125,slow=7.8
GUNZ Gunzen 48.70 328 *e*P **P** **04 12 00.0 +1.3**
comp=Z,164nm,2.7s,baz=125,slow=7.8
WERD Werda 48.76 328 *e*P **P** **04 12 00.3 +1.1**
comp=Z,28nm,1.4s,baz=125,slow=7.8
WERD *e*pP **sP** **04 12 04.6 +1.6**
baz=126,slow=7.7
VSU Vasula 48.80 343 *e*P **P** **04 11 56.4 -2.8**
PLN Plauen 48.86 328 *e*P **P** **04 12 01.1 +1.2**
comp=Z,32nm,1.6s,baz=125,slow=7.8
GRF Grafenberg Arr 48.90 326 *e*L L 04 38 33.6
comp=Z,298nm,18.5s
CLL Collm 48.92 329 *i* P **P** **04 12 00.8 +0.5**
comp=Z,121nm,2.5s
CLL *e*S **S** **04 19 04.0 +0.1**
CLL *e*S **S** **04 19 04.0 +0.1**
CLL *e*S **S** **04 19 04.0 +0.1**
CLL *e*SS SS 04 22 54.0 +19
CLL LmV 04 36 00.0
comp=Z,300nm,18.3s
CLL Collm 48.92 329 *i* P **P** **04 12 00.8 +0.5**
CLL *e*S **S** **04 19 04.0 +0.1**
CLL pmax pmax
comp=Z,121nm,2.5s
CLL MLR MLR
comp=Z,300nm,18.3s
CLL Collm 48.92 329 P **P** **04 12 00.9 +0.7**
CLL IAmb IAmb 04 12 03.3
comp=Z,46nm,2.0s
CLL Collm 48.92 329 *e*P **P** **04 12 01.7 +1.4**
comp=Z,22nm,1.5s,baz=125,slow=7.8
CHAI Chaiyaphum 49.23 80 P **P** **04 12 05.2 +1.9**
comp=Z,11nm,0.9s
MOX Moxa 49.23 328 *e*P **P** **04 12 04.1 +1.3**
comp=Z,17nm,1.4s,baz=125,slow=7.8
MOX *e*L L 04 37 54.8
comp=Z,438nm,18.9s
SENIN Lac Senin/Sane 49.46 321 P **P** **04 12 04.5 -0.4**
SENIN IAmb IAmb 04 12 19.1
comp=Z,14nm,0.9s
NEUB Neuenburg 49.48 328 *e*P **P** **04 12 05.7 +1.2**
comp=Z,446nm,1.4s,baz=125,slow=7.8
LNIZ Loecknitz 49.70 332 *e*P **P** **04 12 07.7 +1.4**
comp=Z,42nm,1.1s,baz=125,slow=7.8
BFO Black Forest 49.79 324 P **P** **04 12 06.9 -0.2**
BFO pmax pmax
comp=Z,21nm,1.1s
BFO Black Forest 49.79 324 P **P** **04 12 06.9 -0.2**
BFO IAmb IAmb 04 12 13.5
comp=Z,21nm,1.1s
BFO Black Forest 49.79 324 *e*P **P** **04 12 08.4 +1.2**
comp=Z,24nm,1.2s,baz=125,slow=7.8
KMI Kunming 49.94 68 ⇓P **P** **04 12 09.8 +1.0**
KMI sP pwP 04 12 15.3 -0.5
KMI PP **PP** **04 14 05.3 +1.6**
KMI S **S** **04 19 19.3 -0.2**
KMI SS **SS** **04 22 49.9 -2.5**
KMI pmax pmax
comp=Z,12nm,1.0s
KMI LR LR
comp=Z,580nm,22.9s
KMI LR LR
comp=Z,720nm,20.7s
KMI LR LR
comp=Z,1μm,22.9s
KHON Khomkaen 50.01 80 P **P** **04 12 11.9 +2.8**
GTA Gaotai 50.13 49 *e*P **P** **04 12 10.8 +0.8**
GTA pP pwP 04 12 16.6 -0.4
GTA sP sP 04 12 20.3 +6.3
GTA PcP **PcP** **04 13 30.5 +1.1**
GTA PP **PP** **04 14 07.8 +2.7**
GTA sS sS 04 19 28.6 +2.3
GTA SS **SS** **04 22 54.8 -0.1**
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA pmax pmax
comp=Z,170nm,4.7s
GTA LR LR
comp=Z,420nm,18.2s
GTA LR LR
comp=Z,860nm,18.5s
GTA LR LR
comp=Z,1μm,21.1s
FLTG Flechtingen 50.41 329 *e*P **P** **04 12 12.3 +0.7**
comp=Z,16nm,1.2s,baz=125,slow=7.8
FLTG *e*pP **sP** **04 12 16.9 +1.4**
baz=126,slow=7.7
ASSE Asse, Remlinge 50.57 329 *e*P **P** **04 12 14.1 +1.3**
comp=Z,30nm,1.8s,baz=125,slow=7.8
SLVN Son La 50.88 73 P **P** **04 12 15.5 -0.3**
MEF Metsahovi 50.92 343 *e*P **P** **04 12 15.4 0.0**
NRDL Niedersach Rie 51.07 329 *e*P **P** **04 12 18.2 +1.7**
comp=Z,20nm,1.4s,baz=125,slow=7.8
NRDL *e*pP **pwP** **04 12 22.6 -1.1**
baz=126,slow=7.7
FIGM Figuig 51.37 301 P **P** **04 12 20.0 +0.5**
FIGM Figuig 51.37 301 P **P** **04 12 20.0 +0.5**
CD2 Chengdu 51.42 61 P **P** **04 12 18.8 -0.9**
CD2 LR LR
comp=Z,800nm,31.6s
CD2 LR LR
comp=Z,830nm,24.5s
CD2 LR LR
comp=Z,980nm,23.7s
FIA1 FINESS Array S 51.51 345 P **P** **04 12 19.5 -0.2**
FIA1 IAmb IAmb 04 12 20.6
comp=Z,26nm,1.3s
FINES FINESS Array B 51.51 345 P **P** **04 12 19.1 -0.6**
comp=Z,5.8nm,0.8s,baz=142,slow=7.2,SNR=10
FINES LR LR 04 37 45.5
comp=Z,620nm,19.8s,baz=143,slow=40
AHRW Bad Neuenahr-A 51.61 326 *e*P **P** **04 12 22.3 +1.6**
comp=Z,34nm,1.5s,baz=125,slow=7.8
WLF Walferdange 51.70 324 *d*P **P** **04 12 20.7 -0.7**
WLF Walferdange 51.70 324 P **P** **04 12 21.8 +0.4**
WLF pmax pmax
comp=Z,23nm,0.9s
WLF Walferdange 51.70 324 P **P** **04 12 21.8 +0.4**
WLF IAmb IAmb 04 12 28.0
comp=Z,23nm,0.9s
BHOU Houvegnez 52.12 325 *d*P **P** **04 12 24.4 -0.1**
comp=Z,11nm,1.0s
TDRA Tendrara 52.15 302 P **P** **04 12 27.0 +1.6**
TDRA Tendrara 52.15 302 P **P** **04 12 27.0 +1.6**
BTNL Ternell 52.16 325 *d*pP pP 04 12 27.4 -0.3
IBBN Ibbenburen 52.16 328 *e*P **P** **04 12 26.3 +1.5**
baz=125,slow=7.8
AAL Aland 52.22 341 *e*P **P** **04 12 23.8 -1.3**
RAF Rauma 52.34 342 *e*P **P** **04 12 26.5 +0.6**
LZH Lanzhou 52.38 54 *e*P P 04 12 34.4 +7.4
LZH pP pwP 04 12 40.4 +6.4
LZH PP **PP** **04 14 32.8 +7.1**
LZH S **S** **04 19 54.3 +1.4**
LZH sS sS 04 20 03.3 +5.7
LZH pmax pmax
comp=Z,10.0nm,0.9s
LZH pmax pmax
comp=Z,180nm,4.2s
LZH LR LR
comp=Z,570nm,16.8s
LZH LR LR
comp=Z,1μm,16.8s
LZH LR LR
comp=Z,940nm,15.2s
BEBN Eben Emael 52.51 325 *b*P **P** **04 12 27.8 +0.4**
BCLA Clavier 52.54 325 *b*P **P** **04 12 27.3 -0.4**
BGES Gesves 52.65 325 *b*P **P** **04 12 28.3 -0.2**
TAF Taforalt 52.77 304 P **P** **04 12 31.0 +1.2**
TAF Taforalt 52.77 304 P **P** **04 12 31.0 +1.2**
DOU Dourbes 52.79 324 *b*P **P** **04 12 29.0 -0.5**
comp=Z,14nm,0.9s
JBK JBK 52.81 303 P **P** **04 12 31.0 +0.8**
JBK JBK 52.81 303 P **P** **04 12 31.0 +0.8**
CLF Chambon-Foret 53.28 321 P **P** **04 12 33.5 +0.3**
KOWA Kowa 53.44 278 P **P** **04 12 34.0 -0.8**
GYA Guiyang 53.55 67 ⇑P **P** **04 12 37.4 +1.7**
GYA pP pwP 04 12 41.6 -1.1
GYA PcP **PcP** **04 13 43.1 +0.7**
GYA S **S** **04 20 08.5 -0.5**
GYA sS sS 04 20 22.9 +9.2
GYA pmax pmax
comp=Z,14nm,1.0s
GYA pmax pmax
comp=Z,180nm,9.0s
GYA LR LR
comp=Z,210nm,22.2s
GYA LR LR
comp=Z,370nm,17.6s
GYA LR LR
comp=Z,1μm,22.6s
SUR Sutherland 53.77 212 P **P** **04 12 35.9 -1.2**
SUR IAmb IAmb 04 12 40.6
comp=Z,44nm,1.1s
AKLM AKL 53.90 303 P **P** **04 12 39.9 +1.9**
PALE Palemas 54.07 304 P **P** **04 12 43.2 +3.9**
MDT Midelt 54.27 301 P **P** **04 12 41.5 +0.7**
LCRM LCR 54.59 302 P **P** **04 12 45.0 +1.8**
LCRM LCR 54.59 302 P **P** **04 12 45.1 +1.9**
CZD Col de Zad 54.66 301 P **P** **04 12 45.0 +1.1**
CZD Col de Zad 54.66 301 P **P** **04 12 45.0 +1.1**
TZRR Tazzarine 54.85 298 P **P** **04 12 46.0 +0.9**
TZRR Tazzarine 54.85 298 P **P** **04 12 46.0 +0.9**
ESBB Sonseca Array 54.95 309 P **P** **04 12 45.2 -0.4**
ESBB IAmb IAmb 04 12 46.4
comp=Z,48nm,1.4s
ESDC Sonseca Array 54.95 309 P **P** **04 12 45.1 -0.5**
comp=Z,13nm,1.0s,baz=92,slow=6.5,SNR=48
ESDC LR LR 04 37 41.5
comp=Z,154nm,20.9s,baz=100,slow=38
ESDC Sonseca Array 54.95 309 P **P** **04 12 45.5 -0.1**
ESDC IAmb IAmb 04 12 46.4
comp=Z,35nm,1.4s
CHEFC Chefchaouen 55.19 304 P P 04 12 53.1 +5.6
PAB San Pablo 55.22 309 P **P** **04 12 46.6 -0.9**
PAB pmax pmax
comp=Z,41nm,1.3s
PAB San Pablo 55.22 309 P **P** **04 12 46.6 -0.9**
PAB IAmb IAmb 04 12 48.4
comp=Z,41nm,1.3s
PAB San Pablo 55.22 309 P **P** **04 12 48.0 +0.5**
SMIR Smir Dam 55.31 304 P P 04 12 59.9 +12
KIC Kosan Boka 55.36 269 *e*P **P** **04 12 49.2 +0.3**
comp=Z,67nm,1.7s
MOY Mondy 55.40 35 *e*P **P** **04 12 49.2 +0.5**
MOY pmax pmax
comp=Z,44nm,2.1s
DBIC Dimbokro 55.41 269 P **P** **04 12 48.8 -0.5**
comp=Z,8.3nm,0.9s,baz=95,slow=5.5,SNR=7.1
DBIC LR LR 04 36 14.8
comp=Z,393nm,19.5s,baz=90,slow=36
NC602 NORSAR Array S 55.53 338 P **P** **04 12 47.8 -1.5**
NC602 IAmb IAmb 04 12 57.6
comp=Z,30nm,1.1s
RSA Sarsar 55.55 303 P **P** **04 12 51.0 +1.0**
RSA Sarsar 55.55 303 P P 04 13 01.6 +12
RSA Sarsar 55.55 303 P **P** **04 12 50.2 +0.2**
TIC Toumodi 55.58 269 *e*P **P** **04 12 51.5 +1.0**
LIC Lamto 55.67 269 *e*P **P** **04 12 52.0 +0.9**
comp=Z,105nm,1.8s
NOA NORSAR Array B 55.85 338 P **P** **04 12 49.6 -2.1**
comp=Z,3.2nm,0.9s,baz=125,slow=7.5,SNR=9.7
NOA PcP **PcP** **04 13 49.8 -0.7**
comp=Z,2.7nm,1.0s,baz=118,slow=4.0,SNR=4.6
NOA LR LR 04 40 28.1
comp=Z,665nm,18.1s,baz=130,slow=40
XAN Xi'an 56.16 58 ⇑P **P** **04 12 54.3 -0.1**
XAN sP pwP 04 13 01.0 -0.4
XAN PcP **PcP** **04 13 51.6 -0.6**
XAN S **S** **04 20 38.8 -4.9**
XAN SS **SS** **04 24 32.4 +2.2**
XAN pmax pmax
comp=Z,15nm,1.0s
XAN pmax pmax
comp=Z,170nm,4.2s
XAN LR LR
comp=Z,450nm,20.6s
XAN LR LR
comp=Z,200nm,18.5s
XAN LR LR
comp=Z,380nm,26.1s
ZAK Zakamensk 56.21 37 *e*P **P** **04 12 50.8 -3.7**
ZAK pmax pmax
comp=Z,12nm,1.5s
QIZ Qiongzhong 56.52 76 P **P** **04 12 56.8 -0.3**
QIZ S **S** **04 20 47.8 -1.0**
QIZ LR LR
comp=Z,240nm,25.8s
QIZ LR LR
comp=Z,320nm,21.8s
QIZ LR LR
comp=Z,340nm,22.1s
OUK Oukaimeden 56.85 299 P **P** **04 13 01.0 +1.2**
SONM Songino Array 57.26 41 P **P** **04 13 03.1 +1.1**
comp=Z,17nm,0.9s,baz=245,slow=7.4,SNR=28
SONM LR LR 04 40 41.9
comp=Z,733nm,21.9s,baz=266,slow=39
SONM Songino Array 57.26 41 P **P** **04 13 02.6 +0.5**
SONM IAmb IAmb 04 13 05.6
comp=Z,17nm,1.0s
TTIG Tnine Tigouga, 57.30 298 P **P** **04 13 05.0 +2.3**
PVAQ Vaqueiros 57.43 306 *e*P **P** **04 13 02.1 -1.2**
comp=Z,34nm,2.0s
PBRG Braganca 57.47 311 *e*P **P** **04 13 03.0 -0.6**
comp=Z,38nm,2.4s
PMRV Marv??o 57.51 308 *e*P **P** **04 13 02.9 -0.9**
comp=Z,37nm,1.8s
MVO Moncorvo 57.55 311 *e*P **P** **04 13 03.9 -0.3**
comp=Z,40nm,1.6s
PESTR Estremoz 57.56 308 *e*P **P** **04 13 03.2 -1.0**
comp=Z,26nm,1.9s
PBEJ Beja 57.64 307 *e*P **P** **04 13 04.3 -0.5**
comp=Z,34nm,1.7s
PCBR Castelo Branco 57.64 309 *e*P **P** **04 13 03.9 -0.8**
comp=Z,23nm,1.6s
ULN Ulaanbaatar 57.69 41*ce*P **P** **04 13 06.3 +1.2**
ULN pmax pmax
comp=Z,14nm,0.8s
ULN Ulaanbaatar 57.69 41 P **P** **04 13 05.6 +0.5**
ULN IAmb IAmb 04 13 08.1
comp=Z,14nm,0.9s
ULN Ulaanbaatar 57.69 41 P **P** **04 13 06.4 +1.3**
comp=Z,1μmcomp=Z,73nm,0.9s
MTE Manteigas 57.79 310 *e*P **P** **04 13 03.8 -2.1**
comp=Z,28nm,1.3s
EVO Evora 57.83 307 *e*P **P** **04 13 05.8 -0.3**
comp=Z,39nm,2.0s
MESJ Messejana 57.89 306 *e*P **P** **04 13 05.7 -0.8**
comp=Z,33nm,1.6s
PMTG Montargil 58.08 308 *e*P **P** **04 13 05.1 -2.7**
comp=Z,29nm,2.0s
PVRL Vila Real 58.08 311 *e*P **P** **04 13 07.6 -0.3**
comp=Z,44nm,1.7s
PVIS Viseu 58.11 310 *e*P **P** **04 13 08.0 -0.1**
comp=Z,32nm,1.6s
POLO Lamas de Olo 58.16 311 *e*P **P** **04 13 08.4 -0.1**
comp=Z,21nm,1.3s
PTEO Sao Teotonio 58.24 306 *e*P **P** **04 13 09.1 +0.1**
comp=Z,46nm,1.1s
PFVI Vila Bisbo 58.27 306 *e*P **P** **04 13 08.6 -0.6**
comp=Z,50nm,1.2s
PCAB Cabril 58.40 311 *e*P **P** **04 13 10.0 0.0**
comp=Z,45nm,1.6s
PCAS Casmilo, Conde 58.45 309 *e*P **P** **04 13 09.7 -0.7**
comp=Z,37nm,1.6s
KEV Kevo 58.57 350 P **P** **04 13 09.8 -0.9**
KEV pmax pmax
comp=Z,22nm,1.0s
KEV Kevo 58.57 350 P **P** **04 13 09.8 -0.9**
KEV IAmb IAmb 04 13 14.7
comp=Z,22nm,1.0s
ARCES ARCESS Array B 58.62 350 P **P** **04 13 10.2 -0.9**
comp=Z,8.2nm,1.1s,baz=334,slow=16,SNR=10
ARCES LR LR 04 41 11.3
comp=Z,2μm,20.7s,baz=145,slow=39
ARCES ARCESS Array B 58.62 350 P **P** **04 13 11.0 -0.1**
ARCES pmax pmax
comp=Z,26nm,1.4s
ARCES ARCESS Array B 58.62 350 P **P** **04 13 11.0 -0.1**
ARCES IAmb IAmb 04 13 28.9
comp=Z,26nm,1.4s
PMAFR Mafra 58.88 308 *e*P **P** **04 13 14.9 +1.5**
comp=Z,100nm,1.5s
HHC Hu-ho-hao-te 59.22 50 *e*P **P** **04 13 16.8 +0.9**
HHC pP pwP 04 13 22.3 -0.7
HHC S **S** **04 21 17.8 -6.0**
HHC SS **SS** **04 25 16.5 -1.7**
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,260nm,6.6s
HHC LR LR
comp=Z,430nm,18.3s
HHC LR LR
comp=Z,810nm,24.6s
HHC LR LR
comp=Z,1μm,24.2s
TIY Taiyuan 59.44 54⇑ *e*P **P** **04 13 18.6 +1.2**
TIY S **S** **04 21 26.6 0.0**
TIY SS **SS** **04 25 25.8 +4.1**
TIY pmax pmax
comp=Z,180nm,4.2s
TIY LR LR
comp=Z,930nm,20.0s
TIY LR LR
comp=Z,1μm,22.7s
TIY LR LR
comp=Z,1μm,21.2s
LEM Lembang 59.53 106 P **P** **04 13 19.7 +1.2**
comp=Z,23nm,0.4s,baz=323,slow=20,SNR=4.3
LEM LR LR 04 34 36.2
comp=Z,349nm,20.3s,baz=272,slow=32
CISI Cisompet, Garu 59.96 107 P **P** **04 13 21.2 -0.1**
WHN Wuhan 60.48 62 P **P** **04 13 28.8 +4.2**
WHN S **S** **04 21 38.3 -1.7**
WHN LR LR
comp=Z,520nm,15.1s
WHN LR LR
comp=Z,730nm,15.5s
WHN LR LR
comp=Z,2μm,17.5s
NRIK Noril'sk 60.69 14 P **P** **04 13 25.4 0.0**
comp=Z,13nm,0.9s,baz=221,slow=5.3,SNR=10
NRIK LR LR 04 44 30.2
comp=Z,1μm,19.4s,baz=229,slow=41
CTJI Waduk Cacaban 61.06 106 P **P** **04 13 27.4 -1.3**
comp=Z,32nm,0.9s
BJI Beijing 62.60 52 P **P** **04 13 39.6 +0.9**
BJI PP **PP** **04 15 54.8 -1.6**
BJI S **S** **04 22 08.4 +1.7**
BJI SS **SS** **04 26 15.1 +4.2**
BJI pmax pmax
comp=Z,7.0nm,0.9s
BJI pmax pmax
comp=Z,250nm,4.1s
BJI LR LR
comp=Z,690nm,17.8s
BJI LR LR
comp=Z,490nm,17.2s
BJI LR LR
comp=Z,1μm,23.1s
CIT Chita 62.85 38 *e*P **P** **04 13 40.9 +0.6**
CIT pmax pmax
comp=Z,80nm,3.1s
TIA Tai'an 63.05 56 ⇑P **P** **04 13 42.3 +0.5**
TIA pmax pmax
comp=Z,13nm,0.9s
NJ2 Nanjing 64.36 61 *e*P **P** **04 13 51.0 +0.5**
NJ2 pP **sP** **04 13 54.9 +0.4**
NJ2 pmax pmax
comp=Z,24nm,0.6s
BOD Bodaibo 64.62 32 *e*P **P** **04 13 50.6 -1.2**
BOD pmax pmax
comp=Z,7.0nm,1.8s
HIA Hailar 66.21 42 P **P** **04 14 02.9 +0.6**
HIA pmax pmax
comp=Z,16nm,0.8s

HIA	**Hailar**	**66.21**	**42**	P	**P**	**04 14 02.9**	**+0.6**
HIA				IAmb	IAmb	04 14 05.3	
	comp=Z,16nm,0.8s						
SSE	**Sheshan**	**66.36**	**62**	P	**P**	**04 14 04.9**	**+1.4**
SSE				S	**S**	**04 22 54.9**	**+1.4**
SSE				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SSE				pmax	pmax		
	comp=Z,110nm,4.5s						
SSE				LR	LR		
	comp=Z,160nm,20.0s						
SSE				LR	LR		
	comp=Z,130nm,19.2s						
DL2	**Dalian**	**66.74**	**53**	*e*P	**P**	**04 14 06.3**	**+0.5**
DL2				S	**S**	**04 22 59.1**	**+1.3**
DL2				pmax	pmax		
	comp=Z,33nm,0.8s						
DL2				pmax	pmax		
	comp=Z,220nm,4.5s						
DL2				LR	LR		
	comp=Z,510nm,20.1s						
DL2				LR	LR		
	comp=Z,450nm,16.3s						
DL2				LR	LR		
	comp=Z,480nm,16.4s						
CN2	**Changchun**	**69.73**	**48**	*e*P	**P**	**04 14 24.8**	**+0.3**
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
CN2				pmax	pmax		
	comp=Z,220nm,4.0s						
CN2				LR	LR		
	comp=Z,300nm,16.0s						
CN2				LR	LR		
	comp=Z,500nm,16.0s						
CN2				LR	LR		
	comp=Z,730nm,19.0s						
TOLI2	**Tolitoli**	**69.96**	**94**	P	**P**	**04 14 25.2**	**-1.1**
TOLI2				IAmb	IAmb	04 14 28.2	
	comp=Z,25nm,1.0s						
KAPI	**Kappang**	**70.50**	**100**	P	**P**	**04 14 29.0**	**-0.7**
	comp=Z,21nm,1.0s,baz=271,slow=9.4,SNR=5.6						
KAPI	**Kappang**	**70.50**	**100**	P	**P**	**04 14 29.0**	**-0.7**
KAPI	**Kappang**	**70.50**	**100**	P	**P**	**04 14 28.9**	**-0.7**
KAPI	**Kappang**	**70.50**	**100**	P	**P**	**04 14 28.8**	**-0.9**
	comp=Z,37nm,1.1s						
ZEA	**Zeya**	**71.30**	**38**	*e*P	**P**	**04 14 34.6**	**+0.7**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ZEA				MLR	MLR		
	comp=E,200nm,19.0s						
ZEA				MLR	MLR		
	comp=Z,300nm,17.0s						
WBSI	**Waikabubak, Su**	**71.47**	**105**	P	**P**	**04 14 34.0**	**-1.6**
	comp=Z,97nm,0.9s						
KSAR	**Wonju Array Be**	**71.68**	**55**	P	**P**	**04 14 35.0**	**-1.5**
KSAR	**Wonju Array Be**	**71.68**	**55**	P	**P**	**04 14 35.0**	**-1.5**
KSRS	**Korea Array**	**71.71**	**55**	P	**P**	**04 14 36.0**	**-0.6**
	comp=Z,4.4nm,0.9s,baz=265,slow=7.2,SNR=19						
DBG	**Daneborg**	**72.39**	**344**	*i* P	**P**	**04 14 40.2**	**+0.2**
DBG				IAmb	IAmb	04 14 40.7	
	comp=Z,20nm,1.0s						
DAG	**Danmarks Havn**	**72.68**	**347**	*i* P	**P**	**04 14 40.8**	**-0.9**
DAG				IAmb	IAmb	04 14 41.7	
	comp=Z,22nm,1.0s						
DAG	**Danmarks Havn**	**72.68**	**347**	*i* P	**P**	**04 14 40.8**	**-0.9**
DAG				pmax	pmax		
	comp=Z,22nm,1.0s						
MDJ	**Mudanjiang**	**72.71**	**47**	P	**P**	**04 14 42.3**	**-0.2**
MDJ				S	**S**	**04 24 08.4**	**+0.6**
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,210nm,7.4s						
MDJ				LR	LR		
	comp=Z,280nm,15.7s						
MDJ				LR	LR		
	comp=Z,400nm,21.4s						
MDJ				LR	LR		
	comp=Z,770nm,17.1s						
YAK	**Yakutsk**	**73.12**	**29**	LR	LR	04 50 27.3	
	comp=Z,297nm,19.9s,baz=270,slow=39						
YAK	**Yakutsk**	**73.12**	**29**	*ce*P	**P**	**04 14 43.5**	**-1.0**
YAK				pmax	pmax		
	comp=Z,32nm,1.0s						
EDFI	**Ende, Flores**	**73.38**	**103**	P	**P**	**04 14 43.5**	**-3.6**
	comp=Z,13nm,2.0s						
NOR	**Nord**	**73.87**	**352**	*i* P	**P**	**04 14 48.0**	**-0.7**
NOR				IAmb	IAmb	04 14 50.3	
	comp=Z,9.1nm,1.0s						
NOR	**Nord**	**73.87**	**352**	*i* P	**P**	**04 14 48.0**	**-0.7**
NOR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KLR	**Kul'dur**	**74.06**	**42**	LR	LR	04 50 58.7	
	comp=Z,669nm,20.3s,baz=262,slow=39						
KLR	**Kul'dur**	**74.06**	**42**	*ce*P	**P**	**04 14 49.6**	**-0.8**
KLR				pmax	pmax		
	comp=Z,19nm,1.0s						
USRK	**Ussuriysk Ar.**	**74.44**	**47**	P	**P**	**04 14 51.4**	**-1.3**
	comp=Z,3.8nm,0.9s,baz=270,slow=5.8,SNR=5.7						
USRK				LR	LR	04 51 05.8	
	comp=Z,280nm,20.0s,baz=265,slow=39						
USRK	**Ussuriysk Ar.**	**74.44**	**47**	P	**P**	**04 14 52.2**	**-0.5**
USRK	**Ussuriysk Ar.**	**74.44**	**47**	P	**P**	**04 14 52.2**	**-0.5**
PSA00	**Pilbara Seismi**	**75.75**	**116**	P	**P**	**04 15 00.7**	**+0.1**
PSA00				IAmb	IAmb	04 15 06.5	
	comp=Z,32nm,1.4s						
SOEI	**Soe**	**76.11**	**104**	P	**P**	**04 15 02.9**	**0.0**
GRNR	**Gornyy**	**76.98**	**41**	⇓*i* P	**P**	**04 15 06.7**	**-0.4**
GRNR				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GRNR				MLR	MLR		
	comp=E,330nm,19.0s						
GRNR				MLR	MLR		
	comp=N,130nm,20.0s						
GRNR				MLR	MLR		
	comp=Z,350nm,17.0s						
SUMG	**Summit**	**77.42**	**342**	⇓*i* P	**P**	**04 15 09.6**	**0.0**
SUMG				IAmb	IAmb	04 15 12.1	
	comp=Z,51nm,1.1s						
SUMG	**Summit**	**77.42**	**342**	P	**P**	**04 15 10.0**	**+0.4**
SUMG				pmax	pmax		
	comp=Z,53nm,1.1s						
SUMG	**Summit**	**77.42**	**342**	P	**P**	**04 15 10.0**	**+0.4**
TEY	**Ternei**	**77.66**	**46**	*e*P	**P**	**04 15 09.0**	**-2.0**
ICESG	**Greenland Ices**	**78.09**	**338**	*i* P	**P**	**04 15 12.5**	**-0.9**
ICESG				IAmb	IAmb	04 15 13.7	
	comp=Z,26nm,1.1s						
INU	**Inuyama**	**79.22**	**56**	P	**P**	**04 15 18.0**	**-1.8**
INU				IAmb	IAmb	04 15 22.0	
	comp=Z,24nm,1.0s						
FITZ	**Fitzroy Crossi**	**79.79**	**111**	P	**P**	**04 15 22.9**	**-0.3**
	comp=Z,20nm,1.0s,baz=302,slow=2.7,SNR=16						
FITZ	**Fitzroy Crossi**	**79.79**	**111**	P	**P**	**04 15 21.5**	**-1.6**
FITZ				IAmb	IAmb	04 15 25.9	
	comp=Z,23nm,1.0s						
NEEM	**North Greenlan**	**79.88**	**347**	⇓*i* P	**P**	**04 15 22.5**	**-0.5**
NEEM				IAmb	IAmb	04 15 24.9	
	comp=Z,37nm,0.9s						
MAJO	**Matsushiro**	**79.99**	**55**	P	**P**	**04 15 22.9**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,23nm,1.5s						
MAJO	**Matsushiro**	**79.99**	**55**	P	**P**	**04 15 22.9**	**-1.1**
MAT	**Matsushiro**	**79.99**	**55**	P	**P**	**04 15 22.1**	**-2.0**
MAT				*e*S	**S**	**04 25 24.2**	**-4.0**
MJAR	**Matsushiro Arr**	**79.99**	**55**	P	**P**	**04 15 23.3**	**-0.8**
	comp=Z,5.2nm,1.0s,baz=293,slow=3.7,SNR=10						
MJAR				LR	LR	04 53 23.8	
	comp=Z,260nm,20.3s,baz=290,slow=38						
MJAR	**Matsushiro Arr**	**79.99**	**55**	P	**P**	**04 15 24.1**	**0.0**
MJAR				pmax	pmax		
	comp=Z,13nm,1.2s						
MJAR	**Matsushiro Arr**	**79.99**	**55**	P	**P**	**04 15 24.1**	**0.0**
DY2G	**Dye2**	**80.97**	**336**	*i* P	**P**	**04 15 29.1**	**+0.1**
DY2G				IAmb	IAmb	04 15 30.2	
	comp=Z,40nm,1.0s						
MAW	**Mawson**	**80.99**	**175**	P	**P**	**04 15 30.5**	**+2.0**
	comp=Z,2.9nm,0.8s,baz=320,slow=7.5,SNR=6.4						
MAW				LR	LR	04 45 21.8	
	comp=Z,567nm,21.2s,baz=18,slow=31						
MAW	**Mawson**	**80.99**	**175**	P	**P**	**04 15 27.8**	**-0.7**
YSS	**Yuzh-Sakhalins**	**81.63**	**44**	*e*P	**P**	**04 15 32.2**	**-0.3**
YSS				*e**SP	**sP**	**04 15 36.2**	**-0.4**
YSS				*e*S	**S**	**04 25 42.2**	**-2.6**
YSS				*e*PS	PnS	04 26 48.4	+16
YSS				*e*SS	**SS**	**04 31 06.1**	**+4.5**
YSS				pmax	pmax		
	comp=Z,20nm,1.3s						
KNRA	**Kununurra**	**81.96**	**108**	P	**P**	**04 15 34.0**	**-0.8**
ASAJ	**Asahikawa**	**82.03**	**47**	LR	LR	04 55 11.1	
	comp=Z,486nm,19.1s,baz=336,slow=38						
SYO	**Syowa Base**	**82.36**	**184**	⇓*e*pP	pP	04 15 39.8	+1.1
SEY	**Seymchan**	**83.45**	**27**	LR	LR	04 56 03.3	
	comp=Z,207nm,21.6s,baz=270,slow=38						
EUNU	**Eureka**	**84.39**	**353**	P	**P**	**04 15 47.0**	**+0.6**
EUNU				IAmb	IAmb	04 15 47.8	
	comp=Z,19nm,0.9s						
FORT	**Forrest**	**85.75**	**123**	P	**P**	**04 15 54.5**	**+0.6**
BILL	**Bilibino**	**86.92**	**20**	⇓*i* P	**P**	**04 15 59.7**	**+0.7**
BILL				*i*		04 16 05.8	
BILL				*e*S	**S**	**04 26 33.1**	**-3.9**
BILL				*e*SS	**SS**	**04 32 21.5**	**+3.0**
BILL				pmax	pmax		
	comp=Z,15nm,1.0s						
WRA	**Warramunga Arr**	**88.20**	**111**	P	**P**	**04 16 06.5**	**+0.3**
	comp=Z,27nm,1.1s,baz=300,slow=3.8,SNR=49						
WRA				LR	LR	04 52 06.0	
	comp=Z,81nm,19.2s,baz=165,slow=33						
WRA	**Warramunga Arr**	**88.20**	**111**	P	**P**	**04 16 06.1**	**0.0**
WRAB	**Tennant Creek**	**88.21**	**111**	*ce*P	**P**	**04 16 06.4**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,44nm,1.3s						
WRAB	**Tennant Creek**	**88.21**	**111**	P	**P**	**04 16 06.4**	**+0.2**
WB2	**Warramunga Arr**	**88.21**	**111**	P	**P**	**04 16 06.4**	**+0.2**
WR0	**Warramunga Arr**	**88.39**	**111**	P	**P**	**04 16 05.9**	**-1.1**
RCBR	**Riachuelo**	**88.41**	**264**	*e*P	**P**	**04 16 08.9**	**+1.6**
ASAR	**Alice Springs**	**88.75**	**115**	P	**P**	**04 16 09.1**	**+0.4**
	comp=Z,18nm,1.1s,baz=288,slow=4.6,SNR=58						
ASAR				PKKP	**PKKPbc**	**04 33 47.9**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=136,slow=2.9,SNR=4.3						
ASAR				LR	LR	04 50 16.8	
	comp=Z,138nm,21.2s,baz=310,slow=32						
ASAR	**Alice Springs**	**88.75**	**115**	P	**P**	**04 16 08.8**	**+0.1**
AS31	**Alice Springs**	**88.75**	**115**	P	**P**	**04 16 08.5**	**-0.2**
PETK	**Petropavlovsk-**	**89.27**	**35**	LR	LR	05 00 22.9	
	comp=Z,420nm,20.6s,baz=289,slow=38						
SNAA	**Sanae**	**91.90**	**195**	P	**P**	**04 16 23.7**	**+1.4**
SNAA	**Sanae**	**91.90**	**195**	P	**P**	**04 16 21.8**	**-0.5**
SNAA				pmax	pmax		
	comp=Z,34nm,2.0s						
SNAA	**Sanae**	**91.90**	**195**	P	**P**	**04 16 21.8**	**-0.5**
VNA2	**Neumayer--Watz**	**92.65**	**196**	P	**P**	**04 16 27.2**	**+1.5**
	baz=62,slow=3.1						
VNA1	**Neumayer--Stat**	**92.74**	**197**	P	**P**	**04 16 28.6**	**+2.6**
VNA3	**Neumayer Olymp**	**93.45**	**196**	P	**P**	**04 16 31.8**	**+2.4**
GUA01	**Guaratinga, BA**	**94.53**	**254**	*e*P	**P**	**04 16 37.3**	**+1.7**
NAN01	**Guarapari, ES**	**95.10**	**253**	*e*P	**P**	**04 16 40.2**	**+2.0**
RIB01	**Linhares ES**	**95.65**	**252**	*e*P	**P**	**04 16 42.8**	**+2.1**
STKA	**Stephens Creek**	**97.23**	**121**	LR	LR	04 58 18.0	
	comp=Z,180nm,19.8s,baz=233,slow=34						
BMAR	**Burnt Mountain**	**98.82**	**6**		Pdif	04 16 55.0	+0.9
H21K	**Melozitna Rive**	**99.40**	**10**	P	**Pdif**	**04 16 55.5**	**-1.1**
H21K				IAmb	IAmb	04 16 57.4	
	comp=Z,7.9nm,1.3s						
H21K	**Melozitna Rive**	**99.40**	**10**	P	**Pdif**	**04 16 57.1**	**+0.4**
	baz=336						
BPAW	**Bear Paw Mtn.**	**101.14**	**10**	P	**Pdif**	**04 17 04.6**	**+0.1**
	baz=338						
SCRK	**Sand Creek**	**102.23**	**7**	P	**Pdif**	**04 17 10.5**	**+1.0**
	baz=345						
DZM	**Mont Dzumac**	**118.11**	**108**	*e*LR	LR	04 57 59.9	
	comp=Z,245nm,22.1s						
MSO	**Missoula**	**118.80**	**348**	P	**PKiKP**	**04 22 03.3**	**+0.2**
	baz=17						
BOZ	**Bozeman (W)**	**119.48**	**346**	P	**PKiKP**	**04 22 05.0**	**+0.5**
	baz=19						
TBTG	**Tabatinga, AM**	**121.14**	**273**	*e*P	**PKPdf**	**04 22 07.8**	**-0.4**
FXWY	**Fox Creek**	**121.17**	**345**		**PKiKP**	**04 22 08.2**	**+0.2**
TPAW	**Teton Pass**	**121.29**	**345**		**PKPdf**	**04 22 08.0**	**-0.2**
LPAZ	**La Paz**	**121.33**	**259**	*e*P	**PKPdf**	**04 22 08.6**	**-0.7**
BW06	**Boulder Array**	**121.59**	**343**		**PKPdf**	**04 22 07.9**	**-0.9**
BW06	**Boulder Array**	**121.59**	**343**	P	**PKPdf**	**04 22 08.6**	**-0.2**
	baz=22						
PD31	**Pinedale Array**	**121.59**	**343**		**PKPdf**	**04 22 07.8**	**-0.9**
PDAR	**Pinedale Array**	**121.59**	**343**	PKP	**PKPdf**	**04 22 06.3**	**-2.4**
	comp=Z,2.8nm,1.1s,baz=27,slow=1.7,SNR=9.6						
PDAR	**Pinedale Array**	**121.59**	**343**	PKPdf	**PKPdf**	**04 22 08.5**	**-0.3**
PLCA	**Paso Flores**	**122.38**	**230**	PKP	**PKPdf**	**04 22 09.8**	**-0.3**
	comp=Z,1.6nm,1.1s,baz=92,slow=9.4,SNR=3.3						
PLCA	**Paso Flores**	**122.38**	**230**	*e*P	**PKiKP**	**04 22 10.4**	**+0.2**
MFID	**Camas Ranch**	**122.45**	**349**	PKPdf	**PKPdf**	**04 22 09.6**	**-0.6**
LVC	**Limon Verde**	**122.47**	**251**	*e*P	**PKiKP**	**04 22 11.4**	**+0.1**
KSCO	**Kaye Shedlock'**	**122.60**	**336**	PKPdf	**PKPdf**	**04 22 10.2**	**-0.4**
HWUT	**Hardware Ranch**	**123.21**	**345**		**PKiKP**	**04 22 12.0**	**0.0**
WMOK	**Wichita Mounta**	**124.45**	**330**	PKIKP	**PKPdf**	**04 22 11.8**	**-2.4**
WMOK	**Wichita Mounta**	**124.45**	**330**		**PKPdf**	**04 22 11.8**	**-2.4**
WMOK	**Wichita Mounta**	**124.45**	**330**	P	**PKiKP**	**04 22 14.5**	**+0.1**
	baz=36						
CZSB	**Cruzeiro do Su**	**124.57**	**270**	*e*P	**PKiKP**	**04 22 15.8**	**+0.6**
SDCO	**Great Sand Dun**	**124.81**	**337**		**PKPdf**	**04 22 13.7**	**-1.4**
SDCO	**Great Sand Dun**	**124.81**	**337**	P	**PKiKP**	**04 22 15.6**	**+0.1**
	baz=28						
DUG	**Dugway, Tooele**	**124.86**	**345**	PKIKP	**PKPdf**	**04 22 14.4**	**-0.6**
DUG	**Dugway, Tooele**	**124.86**	**345**	PKPdf	**PKPdf**	**04 22 14.4**	**-0.6**
DUG	**Dugway, Tooele**	**124.86**	**345**	P	**PKiKP**	**04 22 15.4**	**+0.1**
	baz=19						
NLU	**North Lily Min**	**124.90**	**344**		**PKPdf**	**04 22 15.0**	**-0.2**
PV22	**Blue Mesa, Par**	**125.25**	**341**		**PKPdf**	**04 22 15.0**	**-0.9**
SRU	**San Rafael Swe**	**125.25**	**343**	PKIKP	**PKPdf**	**04 22 14.9**	**-0.9**
SRU	**San Rafael Swe**	**125.25**	**343**		**PKPdf**	**04 22 14.9**	**-0.9**
S22A	**4UR Ranch, Cre**	**125.30**	**339**	P	**PKiKP**	**04 22 16.4**	**0.0**
	baz=26						
PV12	**Saucer Basin,**	**125.45**	**341**		**PKPdf**	**04 22 12.5**	**-3.7**
PV11	**David Mesa, Pa**	**125.49**	**341**		**PKPdf**	**04 22 15.3**	**-1.0**
PV13	**Radium Mtn., P**	**125.60**	**341**		**PKPdf**	**04 22 14.8**	**-1.7**
MSU	**Marysvale**	**126.28**	**344**	PKIKP	**PKPdf**	**04 22 16.6**	**-1.3**
MSU	**Marysvale**	**126.28**	**344**		**PKPdf**	**04 22 16.6**	**-1.3**
MVU	**Marysvale**	**126.29**	**344**		**PKPdf**	**04 22 15.5**	**-2.4**
PAHR	**Pah Rah Range**	**126.67**	**351**	PKPdf	**PKPdf**	**04 22 16.2**	**-2.2**
MTPU	**Mount Pierson**	**126.72**	**344**	PKPdf	**PKPdf**	**04 22 17.4**	**-1.5**
MSTX	**Muleshoe**	**126.95**	**333**		**PKPdf**	**04 22 17.3**	**-1.8**
MSTX	**Muleshoe**	**126.95**	**333**	P	**PKiKP**	**04 22 20.0**	**+0.4**
	baz=32						
PKCU	**Pink Cliffs**	**127.31**	**343**		**PKPdf**	**04 22 19.3**	**-0.6**
RYN	**Ryan**	**127.58**	**350**		**PKPdf**	**04 22 18.4**	**-1.9**
NV11	**Mina Array Sit**	**127.71**	**349**		**PKPdf**	**04 22 19.8**	**-0.7**
NVAR	**Mina Array Bea**	**127.74**	**349**	PKP	**PKiKP**	**04 22 21.8**	**+0.6**
	comp=Z,4.8nm,1.0s,baz=38,slow=0.8,SNR=23						
NVAR	**Mina Array Bea**	**127.74**	**349**		**PKPdf**	**04 22 19.8**	**-0.9**
LCMT	**Little Creek M**	**127.97**	**344**		**PKPdf**	**04 22 20.1**	**-1.0**
OTAV	**Otavalo**	**128.28**	**281**	*e*P	**PKiKP**	**04 22 23.4**	**+0.2**
JCT	**Junction City**	**128.37**	**328**	PKIKP	**PKPdf**	**04 22 20.4**	**-1.4**
JCT	**Junction City**	**128.37**	**328**	PKPdf	**PKPdf**	**04 22 20.4**	**-1.4**
JCT	**Junction City**	**128.37**	**328**	P	**PKiKP**	**04 22 22.2**	**-0.2**
	baz=37						
LCH	**Last Change Ra**	**128.78**	**348**		**PKPdf**	**04 22 21.3**	**-1.2**
FURC	**Furnace Creek,**	**129.36**	**347**	P	**PKiKP**	**04 22 25.6**	**+1.4**
	baz=15						
GWY	**Greenwater Val**	**129.59**	**347**	PKPdf	**PKPdf**	**04 22 24.1**	**-0.1**
CWC	**Cottonwood Cre**	**129.63**	**349**	P	**PKiKP**	**04 22 25.6**	**+0.6**
	baz=14						
833A	**Chaparral WMA,**	**129.85**	**326**	P	**PKiKP**	**04 22 26.1**	**+0.7**
	baz=38						
X16A	**Lo Mia Camp, P**	**129.87**	**341**		**PKPdf**	**04 22 23.9**	**-0.8**
MPMC	**Manual Prospec**	**129.88**	**348**	P	**PKiKP**	**04 22 26.4**	**+0.8**
	baz=14						
MNTX	**Cornudas Mount**	**130.03**	**334**	PKPdf	**PKPdf**	**04 22 23.7**	**-1.2**
MNTX	**Cornudas Mount**	**130.03**	**334**	P	**PKiKP**	**04 22 25.7**	**0.0**
	baz=30						
121A	**Cookes Peak, D**	**130.29**	**337**		**PKPdf**	**04 22 22.7**	**-2.9**
TGUH	**Tegucigalpa,Un**	**130.70**	**302**	PKPdf	**PKPdf**	**04 22 25.2**	**-1.5**
IRM	**Iron Mountain**	**131.17**	**345**	P	**PKiKP**	**04 22 29.7**	**+1.7**
	baz=18						
PETF	**Flores**	**131.23**	**307**		**PKPdf**	**04 22 25.9**	**-1.5**
TX31	**Lajitas Ar. Si**	**131.24**	**330**		**PKPdf**	**04 22 26.5**	**-0.9**
TX32	**Lajitas Array**	**131.24**	**330**		**PKPdf**	**04 22 26.4**	**-1.0**
TXAR	**Lajitas Array**	**131.24**	**330**	PKP	**PKPdf**	**04 22 27.5**	**+0.1**
	comp=Z,3.9nm,1.1s,baz=90,slow=2.5,SNR=13						
TXAR	**Lajitas Array**	**131.24**	**330**	PKPdf	**PKPdf**	**04 22 26.4**	**-1.0**
BELC	**Belle Mtn. Jos**	**131.53**	**346**	P	**PKiKP**	**04 22 30.0**	**+1.2**
	baz=17						
TBI	**Tubuai**	**158.02**	**120**	*e*LR	LR	05 16 22.8	
	comp=Z,215nm,27.2s						
PPT2	**Papeete2**	**159.58**	**105**	*e*LR	LR	05 17 13.9	
	comp=Z,324nm,24.0s						

IDC ***22*** *04:34:24.8±3.0,* ***30°.55S*** *×* ***72°.50W,*** ***h0****km,* ***mb3.7****/1,*
mb1 3.6*/3,****mb1mx3.4****/19,****mbtmp3.5****/3,****ML3.4****/2,****Error ellipse: s-maj=113.5km s-min=40.1km az=102.0,Off***

coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**10.28**	**172**	Pn	Pn	04 36 53.5	-0.2
	0.1nm,0.3s,baz=357,slow=15,SNR=1.5						
SIV	**San Ignacio**	**17.88**	**38**	P	Pn	04 38 34.8	-0.2
	0.1nm,0.3s,baz=221,slow=13,SNR=5.0						
TORD	**Torodi Ar. Bea**	**83.42**	**71**	P	P	04 46 54.7	+0.2
	0.4nm,0.7s,baz=235,slow=5.1,SNR=5.0						
ZALV	**Zalesovo Beam**	**151.46**	**28**	PKPbc	PKPbc	04 54 19.9	-0.3
	0.7nm,0.5s,baz=316,slow=4.1,SNR=4.2						

IDC ***22*** *04:47:24.6±5.1,45°.87N×150°.32E,h192****km****±28****km****,mb3.1/1,*
mb1 3.2/5,mb1mx2.9/46,mbtmp3.8/5,Error ellipse:
s-maj=125.7km s-min=22.6km az=141.0
JMA ***22*** *04:47:27.5±0.5,45°.48N×150°.03E,h14****km****,M3.7*
ISC 22 04:47:22.3±1.9, 45°.7N±0°.2×150°.3E±0°.2, h150km, n14,
σ2s30/17, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**4.02**	**235**	P	**Pn**	**04 48 24.5**	**+1.8**
NEM2				*e*S	**Sn**	**04 49 08.7**	**-0.9**
JNK	**Nakash**	**4.51**	**243**	P	**Pn**	**04 48 31.2**	**+2.0**
JAK	**Akkeshi**	**4.85**	**238**	P	**Pn**	**04 48 35.6**	**+2.0**
JAK				*e*S	**Sn**	**04 49 28.5**	**-0.7**
JAR	**Ashorobuto**	**5.25**	**245**	P	**Pn**	**04 48 42.4**	**+3.4**
JOB	**Onbets**	**5.42**	**241**	*e*S	**Sn**	**04 49 41.2**	**-1.6**
JKK2	**Kamakawa 2**	**5.67**	**253**	P	**Pn**	**04 48 47.5**	**+3.0**
ASAJ	**Asahikawa**	**5.69**	**256**	P	**Pn**	**04 48 47.7**	**+2.9**
	1.5nm,0.3s,baz=84,slow=16,SNR=14						
ASAJ	**Asahikawa**	**5.69**	**256**	P	**Pn**	**04 48 47.9**	**+3.2**
JCH	**Churui**	**5.87**	**240**	P	**Pn**	**04 48 48.9**	**+1.7**
JCH				*e*S	**Sn**	**04 49 51.8**	**-1.8**
JKB	**Kayabe**	**7.71**	**243**	P	**Pn**	**04 49 12.5**	**+0.8**
PETK	**Petropavlovsk-**	**8.81**	**31**	P	**Pn**	**04 49 27.4**	**+1.1**
	0.3nm,0.3s,baz=201,slow=12,SNR=5.2						
USRK	**Ussuriysk Ar.**	**13.04**	**270**	P	**Pn**	**04 50 22.1**	**+0.3**
	baz=85,slow=14,SNR=5.5						
KSRS	**Korea Array**	**18.61**	**251**	P	**Pn**	**04 51 30.6**	**+0.5**
	0.3nm,0.3s,baz=58,slow=9.1,SNR=6.1						
AKASG	**Malin Array Be**	**71.26**	**325**	P	**P**	**04 58 21.4**	**-3.4**
	0.2nm,0.3s,baz=39,slow=6.3,SNR=2.4						

IDC ***22*** *04:53:53.9±5.4,17°.63S×178°.43W,h579****km****±64****km****,mb3.5/6,*
mb1 3.8/6,mb1mx3.3/31,mbtmp4.4/6,Error ellipse:
s-maj=89.4km s-min=22.9km az=153.0
NEIC ***22*** *04:53:54.9±0.7,17°.9S±0°.2×178°.31W±0°.07,h591****km****±10****km****,*
mb4.4/22,Error ellipse: s-maj=25.9km s-min=4.7km
az=159.0
ISC 22 04:53:53.6±0.6, 17°.8S±0°.1×178°.31W±0°.09, h579km, n39,
σ0s98/43, mb4.4/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.47**	**271**	P	**P**	**04 55 16.3**	**+2.4**
MSVF				S	**S**	**04 56 22.1**	**+2.7**
NIUE	**Niue**	**8.06**	**100**	P	**P**	**04 55 53.5**	**+0.7**
DZM	**Mont Dzumac**	**14.94**	**251**	P	**P**	**04 57 03.3**	**+1.4**
OUZ	**Omahuta**	**18.76**	**201**	P	**P**	**04 57 37.0**	**+0.1**
OUZ				IAmb	IAmb	04 57 51.8	
	comp=Z,16nm,1.1s						
QRZ	**Quartz Range**	**24.24**	**197**	P	**P**	**04 58 23.9**	**-2.0**
EIDS	**Eidsvold**	**29.38**	**250**	P	**P**	**04 59 10.8**	**-0.4**
EIDS				IAmb	IAmb	04 59 11.7	
	comp=Z,6.1nm,0.6s						
ARMA	**Armidale**	**30.06**	**240**	P	**P**	**04 59 16.9**	**-0.2**
ARMA				IAmb	IAmb	04 59 31.6	
	comp=Z,12nm,1.1s						
RABL	**Rabaul**	**31.92**	**292**	P	**P**	**04 59 30.4**	**-2.7**
CTAO	**Charters Tower**	**33.55**	**260**	P	**P**	**04 59 46.6**	**-0.1**
CTAO				IAmb	IAmb	04 59 47.8	
	comp=Z,4.8nm,0.6s						
CAN	**Canberra**	**33.83**	**232**	P	**P**	**04 59 48.5**	**-0.4**
COEN	**Coen**	**37.20**	**270**	P	**P**	**05 00 16.7**	**-0.3**
COEN				IAmb	IAmb	05 00 19.0	
	comp=Z,10nm,0.7s						
TOO	**Toolangi**	**37.29**	**231**	P	**P**

BC3P				eS		Sb	05 12 31.1	-0.1
MLIR3	**Monte Lirio, C**	**0.38**	**334**	⇑*i*P		**Pb**	**05 12 26.3**	**+0.4**
MLIR3				eS		Sb	05 12 31.8	+0.2
EDSV	**San Vito**	**0.48**	**319**	*e*P		**Pb**	**05 12 27.8**	**+0.1**
PTJ1	**Puerto Jimnez**	**0.65**	**277**	*e*P		**Pg**	**05 12 29.7**	**-0.6**
PTJ1				eS		Sb	05 12 39.7	+0.5
PTJ1	**Puerto Jimnez**	**0.65**	**277**	*e*P		**Pg**	**05 12 29.7**	**-0.6**
PTJ1				eS		Sg	05 12 39.5	+0.5
CHGR2	**Aguacate**	**0.70**	**46**	*e*P		**Pg**	**05 12 30.4**	**-0.9**
CHGR2				eS		Sg	05 12 39.9	-0.7
RIOS	**Rincon, Osa**	**0.89**	**286**	*e*P		**Pg**	**05 12 32.8**	**-2.0**
RIOS				eS		Sg	05 12 45.5	-1.1
CNI2	**El Empalme, Bo**	**0.98**	**11**	⇓*i*P		**Pg**	**05 12 35.6**	**-1.1**
CNI2				eS		Sg	05 12 48.3	-1.2
PVID3	**Puerto Vidal,**	**1.11**	**111**	*e*P		**Pb**	**05 12 37.3**	**-1.0**
RGM0	**Gandoca**	**1.13**	**2**	*e*P		**Pb**	**05 12 39.1**	**+0.4**
RGM0				eS		Sb	05 12 53.4	+0.2
RGM0	**Gandoca**	**1.13**	**2**	*e*P		**Pb**	**05 12 39.1**	**+0.4**
PEZE	**Perez Zeledon,**	**1.37**	**312**	*e*P		**Pn**	**05 12 42.0**	**-0.1**
RSUS3	**Rio de Jesus,**	**1.55**	**107**	*e*P		**Pn**	**05 12 43.7**	**-0.7**
RSUS3				eS		Sn	05 13 04.0	-0.1
GMAL	**Guarumal, Vera**	**1.56**	**116**	*e*P		**Pn**	**05 12 42.9**	**-1.7**
GMAL				eS		Sn	05 13 04.2	-0.3
MRVA	**Moravia de Chi**	**1.57**	**330**	*e*P		**Pn**	**05 12 45.0**	**+0.1**
SFRA3	**San Francisco,**	**1.68**	**97**	eS		**Sn**	**05 13 06.9**	**-0.4**
STIA3	**Santiago, Vera**	**1.70**	**102**	*e*P		**Pn**	**05 12 46.3**	**-0.2**
STIA3				eS		Sn	05 13 08.0	+0.1
PONU3	**Ponuga, Veragu**	**1.75**	**109**	*e*P		**Pn**	**05 12 47.7**	**+0.5**
BATAN	**Batan**	**1.78**	**336**	*e*P		**Pn**	**05 12 47.7**	**+0.1**
BATAN				eS		Sn	05 13 10.2	+0.3
LCR2	**La Lucha 2**	**1.85**	**314**	*e*P		**Pn**	**05 12 49.0**	**+0.3**
CVTR	**Volcan Turrial**	**1.90**	**325**	*e*P		**Pn**	**05 12 50.2**	**+0.5**
CACAO	**El Cacao, Vera**	**2.09**	**122**	*e*P		**Pn**	**05 12 52.1**	**+0.2**
CACAO				eS		Sn	05 13 17.9	+0.5
HDC	**Heredia**	**2.11**	**317**	*e*P		**Pn**	**05 12 53.0**	**+0.8**
HDC				eS		Sn	05 13 19.3	+1.2
HDC	**Heredia**	**2.11**	**317**	*e*P		**Pb**	**05 12 54.9**	**-0.5**
PNME	**Penonome**	**2.30**	**89**	*e*P		**Pn**	**05 12 54.9**	**+0.2**
PNME				eS		Sn	05 13 23.2	+0.5
JACO	**JACO, Garabito**	**2.32**	**301**	*e*P		**Pn**	**05 12 56.8**	**+1.9**
AZU	**Azuero**	**2.45**	**105**	*e*P		**Pn**	**05 12 57.5**	**+0.8**
AZU				eS		Sn	05 13 27.0	+0.7
GRZA	**Playa Garza**	**3.28**	**297**	*e*P		**Pn**	**05 13 09.5**	**+1.2**
SAJU	**San Juanillo,**	**3.42**	**298**	*e*P		**Pn**	**05 13 11.5**	**+1.3**

IDC ***22*** *05:21:38.7±2.3, 33°12N×142°16E, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.5/32, mbtmp3.8/4, ML3.3/2, Error ellipse: s-maj=47.3km s-min=23.9km az=54.0*
JMA ***22*** *05:21:43.8±0.2, 33°44N×142°02E, h58km, M3.2*
ISC 22 05:21:40.9±1.2, 33°27N±0°06×142°3E±0°1, h35km, n15, σ1§82/22, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
BSO1	**Boso 1**	**1.78**	**321**	P	**Pn**	**05 22 08.9**		**+0.2**
BSO1				eS	Sn	05 22 27.3		-2.6
JHJ2	**Mitsune**	**2.12**	**266**	P	**Pn**	**05 22 14.2**		**+0.4**
JHCJ	**Hachijojimakas**	**2.14**	**265**	P	**Pn**	**05 22 14.5**		**+0.4**
JHJ	**Hachijo jima 2**	**2.15**	**267**	Pn	**Pn**	**05 22 14.3**		**+0.2**
	19nm,0.3s,baz=66,slow=20,SNR=1.4							
JHJ				Sn	**Sn**	**05 22 37.9**		**-1.7**
	44nm,0.3s,baz=66,slow=24,SNR=8.1							
JMKN	**Mikurajimanish**	**2.37**	**286**	P	**Pn**	**05 22 17.5**		**+0.2**
JHU	**Hanno**	**3.60**	**316**	eS	**Sn**	**05 23 11.8**		**-3.8**
JHO	**Hitachi**	**3.63**	**337**	P	**Pn**	**05 22 35.0**		**+0.3**
JHO				eS	Sn	05 23 14.3		-2.0
JRY	**Ryogami san**	**3.94**	**315**	P	**Pn**	**05 22 39.5**		**+0.6**
JFK	**Kawauchi**	**4.26**	**344**	P	**Pn**	**05 22 42.8**		**-0.5**
JFT	**Otama**	**4.54**	**340**	P	**Pn**	**05 22 47.8**		**+0.6**
JFT				eS	Sn	05 23 37.1		-1.6
MJAR	**Matsushiro Arr**	**4.71**	**315**	Pn	**Pn**	**05 22 51.0**		**+1.6**
	0.2nm,0.3s,baz=151,slow=14,SNR=8.0							
MJAR				Sn	**Sn**	**05 23 40.7**		**-2.0**
	0.2nm,0.3s,baz=141,slow=14,SNR=2.5							
MAT	**Matsushiro**	**4.71**	**315**	P	**Pn**	**05 22 50.7**		**+1.3**
MAT				S	Sn	05 23 41.9		-0.9
JCJ	**Chichijima**	**6.16**	**181**	Pn	**Pn**	**05 23 08.5**		**-0.9**
	4.6nm,0.3s,baz=3.3,slow=19,SNR=8.2							
JCJ				Sn	**Sn**	**05 24 14.9**		**-3.6**
	4.4nm,0.3s,baz=264,slow=19,SNR=2.6							
MKAR	**Makanchi Array**	**46.83**	**305**	P	**P**	**05 30 09.5**		**+2.2**
	0.9nm,0.6s,baz=79,slow=9.4,SNR=6.0							
WRA	**Warramunga Arr**	**53.46**	**189**	P	**P**	**05 30 59.5**		**+1.8**
	0.4nm,0.4s,baz=7.8,slow=7.7,SNR=6.9							

MDD ***22*** *05:29:56.8±2.4, 34°73N×4°07W, h0km, mbLg2.0/4, Error ellipse: s-maj=23.9km s-min=12.2km az=158.0, PRXIMO*
CNRM ***22*** *05:29:59.8, 34°65N×4°25W, h0km, ml2.7*
INMG ***22*** *05:29:59.4±0.8, 34°74N×4°23W, h5km±8km, ML2.0, Error ellipse: s-maj=5.4km s-min=5.3km az=87.0*
SFS ***22*** *05:30:03.7, 34°70N×4°10W, h22km, ML2.0, TARGUIST (MARRUECOS)*
ISC 22 05:29:59.1±1.2, 34°75N±0°02×4°15W±0°02, h13km±9km, n69, σ1§91/106, Morocco

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
AKLM	**AKL**	**0.34**	**136**	P	**Pg**	**05 30 05.2**		**-0.9**
AKLM				S	**Sb**	05 30 11.8		-0.5
CHEFC	**Chefchaouen**	**1.04**	**290**	P	**Pg**	**05 30 19.0**		**-0.3**
CHEFC				S	**Sn**	**05 30 40.0**		**+6.0**
CHEFC	**Chefchaouen**	**1.04**	**290**	P	**Pg**	**05 30 17.4**		**-1.9**
CHEFC				S	**Sg**	**05 30 32.1**		**-0.7**
CHEFC	**Chefchaouen**	**1.04**	**290**	S	**Sn**	**05 30 40.0**		**+6.0**
CHEFC	**Chefchaouen**	**1.04**	**290**	P	**Pg**	**05 30 19.0**		**-0.3**
GOG	**Mont Gurugu**	**1.05**	**63**	P	**Pn**	**05 30 22.0**		**+2.3**
GOG	**Mont Gurugu**	**1.05**	**63**	P	**Pn**	**05 30 21.4**		**+1.7**
GOG				S	**Sn**	**05 30 37.9**		**+3.6**
GOG	**Mont Gurugu**	**1.05**	**63**	P	**Pn**	**05 30 22.0**		**+2.3**
GOG	**Mont Gurugu**	**1.05**	**63**	P	**Pn**	**05 30 22.0**		**+2.3**
GOG	**Mont Gurugu**	**1.05**	**63**	P	**Pn**	**05 30 22.0**		**+2.3**
MELI	**Melilla**	**1.13**	**61**	P	**Pn**	**05 30 25.0**		**+4.4**
MELI				S	**Sn**	**05 30 38.7**		**+2.7**
LCRM	**LCR**	**1.22**	**209**	P	**Pg**	**05 30 21.0**		**-1.6**
LCRM	**LCR**	**1.22**	**209**	P	**Pg**	**05 30 21.9**		**-0.7**
LCRM				S	**Sb**	**05 30 39.1**		**+1.4**
LCRM	**LCR**	**1.22**	**209**	P	**Pg**	**05 30 21.0**		**-1.6**
JBK	**JBK**	**1.37**	**107**	P	**Pn**	**05 30 23.1**		**-1.0**
JBK				S	**Sb**	**05 30 42.2**		**0.0**
JBK	**JBK**	**1.37**	**107**	P	**Pn**	**05 30 23.0**		**-1.1**
SMIR	**Smir Dam**	**1.37**	**313**	P	**Pg**	**05 30 27.0**		**+1.5**
SMIR	**Smir Dam**	**1.37**	**313**	P	**Pn**	**05 30 23.4**		**-0.6**
SMIR				S	**Sb**	**05 30 42.4**		**+0.4**
SMIR	**Smir Dam**	**1.37**	**313**	P	**Pg**	**05 30 27.0**		**+1.5**
SMIR	**Smir Dam**	**1.37**	**313**	P	**Pg**	**05 30 27.0**		**+1.5**
SMIR	**Smir Dam**	**1.37**	**313**	P	**Pg**	**05 30 27.3**		**+1.8**
RSA	**Sarsar**	**1.38**	**276**	P	**Pn**	**05 30 25.2**		**+1.0**
RSA	**Sarsar**	**1.38**	**276**	P	**Pn**	**05 30 25.6**		**+1.5**
RSA				S	**Sb**	**05 30 43.4**		**+0.9**
RSA	**Sarsar**	**1.38**	**276**	P	**Pg**	**05 30 27.0**		**+1.2**
RSA	**Sarsar**	**1.38**	**276**	P	**Pn**	**05 30 25.2**		**+1.0**
RSA	**Sarsar**	**1.38**	**276**	P	**Pg**	**05 30 27.0**		**+1.2**
TAF	**Taforalt**	**1.43**	**87**	P	**Pn**	**05 30 25.0**		**+0.2**
TAF	**Taforalt**	**1.43**	**87**	P	**Pn**	**05 30 25.4**		**+0.6**
TAF				S	**Sn**	**05 30 45.2**		**+1.7**
TAF	**Taforalt**	**1.43**	**87**	P	**Pn**	**05 30 25.0**		**+0.2**
TAF	**Taforalt**	**1.43**	**87**	P	**Pn**	**05 30 25.0**		**+0.2**
IFR	**Ifrane**	**1.48**	**214**	P	**Pn**	**05 30 24.3**		**-1.3**
IFR				S	**Sb**	**05 30 43.7**		**-1.6**
CZD	**Col de Zad**	**1.87**	**204**	P	**Pn**	**05 30 31.0**		**-0.1**
CZD	**Col de Zad**	**1.87**	**204**	P	**Pn**	**05 30 31.9**		**+0.8**
CZD				S	**Sn**	**05 30 54.7**		**0.0**
CZD	**Col de Zad**	**1.87**	**204**	P	**Pn**	**05 30 31.0**		**-0.1**
CZD	**Col de Zad**	**1.87**	**204**	P	**Pn**	**05 30 31.0**		**-0.1**
EMIJ	**Mijas**	**1.88**	**344**	P	**Pn**	**05 30 28.0**		**-2.9**
	1.5nm,0.4s,SNR=7.9							
EMIJ				S	**Sn**	**05 30 50.4**		**-4.1**
	5.1nm,0.3s,SNR=7.9							
MD31	**MD31**	**1.95**	**195**	P	**Pn**	**05 30 32.9**		**+0.9**
MD31				S	**Sn**	**05 30 56.9**		**+0.6**
MDT	**Midelt**	**1.97**	**191**	P	**Pn**	**05 30 33.4**		**+1.1**
MDT	**Midelt**	**1.97**	**191**	P	**Pn**	**05 30 32.6**		**+0.3**
MDT				S	**Sn**	**05 30 57.4**		**+0.5**
MDT	**Midelt**	**1.97**	**191**	P	**Pn**	**05 30 33.4**		**+1.1**
MDT	**Midelt**	**1.97**	**191**	P	**Pn**	**05 30 33.4**		**+1.1**
EMAL	**Malaga-Limoner**	**2.02**	**354**	P	**Pn**	**05 30 32.1**		**-0.7**
EMAL				S	**Sn**	**05 30 55.6**		**-2.2**
EMAL	**Malaga-Limoner**	**2.02**	**354**	P	**Pn**	**05 30 32.1**		**-0.7**
EMAL				S	**Sn**	**05 30 55.6**		**-2.2**
ELGU	**Los Guajares,**	**2.15**	**11**	P	**Pn**	**05 30 31.9**		**-2.9**
	1.4nm,0.5s,SNR=7.9							
ELGU				S	**Sn**	**05 30 59.4**		**-2.0**
	14nm,0.5s,SNR=7.9							
EGOR	**Sierra Gorda,**	**2.35**	**1**	P	**Pn**	**05 30 36.4**		**-1.2**
	2.3nm,0.5s,SNR=7.9							
EGOR				S	**Sn**	**05 31 07.4**		**+1.0**
	4.8nm,0.4s,SNR=7.9							
EBER	**Berja**	**2.37**	**25**	P	**Pn**	**05 30 35.6**		**-2.3**
	1.8nm,0.6s,SNR=7.9							
EBER				S	**Sn**	**05 31 06.3**		**-0.6**
	9.4nm,0.6s,SNR=7.9							
ZHG	**ZHG**	**2.45**	**238**	P	**Pn**	**05 30 40.9**		**+2.1**
ZHG				S	**Sn**	**05 31 08.5**		**-0.2**
TDRA	**Tendrara**	**2.45**	**134**	P	**Pn**	**05 30 39.7**		**+0.6**
TDRA				S	**Sn**	**05 31 06.2**		**-2.8**
EQUE	**Quentar**	**2.51**	**13**	P	**Pn**	**05 30 37.1**		**-2.7**
	0.5nm,0.6s,SNR=7.9							
EQUE				S	**Sn**	**05 31 10.5**		**+0.2**
	2.9nm,0.4s,SNR=7.9							
AVE	**Averroes**	**3.08**	**243**	P	**Pb**	**05 30 55.8**		**+2.1**
AVE				S	**Sn**	**05 31 28.0**		**+3.9**
EQES	**Quesada**	**3.17**	**16**	P	**Pn**	**05 30 50.1**		**+1.3**
	2.0nm,0.3s,SNR=7.9							
EQES				S	**Sb**	**05 31 32.9**		**-0.9**
	3.9nm,0.4s,SNR=7.9							
EADA	**Adamuz**	**3.42**	**354**	P	**Pn**	**05 30 54.3**		**+2.0**
	0.5nm,0.2s,SNR=7.9							
EADA				S	**Sb**	**05 31 39.8**		**-1.4**
	3.4nm,0.4s,SNR=7.9							
FIGM	**Figuig**	**3.56**	**136**	P	**Pn**	**05 30 53.9**		**-0.2**
FIGM				S	**Sn**	**05 31 34.8**		**-1.3**
PVAQ	**Vaqueiros**	**3.92**	**313**	P	**Pn**	**05 30 58.2**		**-0.8**
PVAQ				S	**Sn**	**05 31 43.2**		**-1.6**
	3.4nm,0.7s							
PVAQ	**Vaqueiros**	**3.92**	**313**	*e*Pn	**Pn**	**05 30 58.2**		**-0.8**
PVAQ				*e*Sn	**Sn**	**05 31 43.2**		**-1.6**
PVAQ				A	A	05 31 49.6		
	3.4nm,0.7s							
PVAQ	**Vaqueiros**	**3.92**	**313**	P	**Pn**	**05 30 58.2**		**-0.8**
PVAQ				S	**Sn**	**05 31 43.4**		**-1.4**
PBDV	**Barranco-do-Ve**	**3.95**	**310**	P	**Pn**	**05 30 57.8**		**-1.6**
PBDV				S	**Sn**	**05 31 43.9**		**-1.7**
PBDV	**Barranco-do-Ve**	**3.95**	**310**	*e*Pn	**Pn**	**05 30 57.8**		**-1.6**
PBDV				*e*Sn	**Sn**	**05 31 43.9**		**-1.7**
PCVE	**Castro Verde**	**4.26**	**314**	P	**Pn**	**05 31 03.0**		**-0.7**
PCVE	**Castro Verde**	**4.26**	**314**	*e*Pn	**Pn**	**05 31 03.0**		**-0.7**
MESJ	**Messejana**	**4.51**	**314**	P	**Pn**	**05 31 07.1**		**+0.1**
MESJ	**Messejana**	**4.51**	**314**	*e*Pn	**Pn**	**05 31 07.1**		**+0.1**
OUK	**Oukaimeden**	**4.72**	**222**	P	**Pn**	**05 31 08.9**		**-1.4**
OUK				S	**Sn**	**05 32 05.2**		**+0.1**
PNCL	**Nicolau / Gran**	**4.87**	**315**	P	**Pn**	**05 31 11.5**		**-0.5**
PNCL	**Nicolau / Gran**	**4.87**	**315**	*e*Pn	**Pn**	**05 31 11.5**		**-0.5**
EVO	**Evora**	**4.89**	**322**	P	**Pn**	**05 31 13.6**		**+1.3**
EVO				S	**Sn**	**05 32 04.2**		**-4.4**
EVO	**Evora**	**4.89**	**322**	P	**Pn**	**05 31 13.6**		**+1.3**
EVO				S	**Sn**	**05 32 04.2**		**-4.4**
EAH	**EAH**	**5.51**	**237**	P	**Pn**	**05 31 19.0**		**-1.9**
EAH				S	**Sn**	**05 32 21.4**		**-2.7**
TTIG	**Tnine Tigouga,**	**5.54**	**222**	P	**Pn**	**05 31 20.2**		**-1.2**
TTIG				S	**Sn**	**05 32 22.7**		**-2.3**

IDC 22 05:30:11.3±2.2, 2°96N×127°6E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/29, mbtmp3.5/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/28, Error ellipse: s-maj=145.0km s-min=28.8km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
WRA	**Warramunga Arr**	**23.66**	**164**	P	P	05 35 23.6		-1.1
	1.0nm,0.5s,baz=344,slow=11,SNR=6.1							
ASAR	**Alice Springs**	**27.14**	**168**	P	P	05 35 58.1		+1.7
	0.2nm,0.3s,baz=353,slow=7.7,SNR=2.0							
KLR	**Kul'dur**	**46.22**	**4**	LR	LR	05 57 03.9		
	comp=Z,25nm,20.1s,baz=236,slow=35							
MKAR	**Makanchi Array**	**58.77**	**325**	P	P	05 40 10.9		-0.4
	0.5nm,0.7s,baz=111,slow=6.3,SNR=2.6							

RSPR ***22*** *05:31:16.9, 17°78N×68°82W, h147km±5km, MD3.7/8*
NEIC ***22*** *05:31:17.5±2.2, 18°1N±0°4×68°93W±0°08, h122km±17km, Error ellipse: s-maj=55.3km s-min=6.7km az=188.0*
OSPL ***22*** *05:31:19.7±0.5, 18°00N×68°95W, h98km±18km, ML2.5*
ISC 22 05:31:17.8±1.4, 17°8N±0°1×68°93W±0°04, h110km, n55, σ1§01/57, 10C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
PCDR	**Punta Cana, DR**	**0.86**	**37**	⇑*e*P	**Pn**	**05 31 36.3**		**-1.3**
PCDR	**Punta Cana, DR**	**0.86**	**37**	*e*S	**Sn**	**05 31 53.2**		**+0.7**
PCDR	**Punta Cana, DR**	**0.86**	**37**		**Pn**	**05 31 36.3**		**-1.3**
PCDR					**Sn**	**05 31 53.2**		**+0.7**
PCDR	**Punta Cana, DR**	**0.86**	**37**	IAML		05 31 55.3		
	comp=E,151nm,0.8s							
PCDR	**Punta Cana, DR**	**0.86**	**37**	*i* P	**Pn**	**05 31 36.4**		**-1.3**
PCDR				IAML		05 31 54.9		
	comp=Z,119nm,0.3s							
SDD	**Santo Domingo**	**1.13**	**304**	Pn	**Pn**	**05 31 41.1**		**+0.7**
SDD				IAML		05 31 58.8		
	comp=E,79nm,0.9s							
SDD				IAML		05 31 59.4		
	comp=N,96nm,0.9s							
BANI	**BANI**	**1.47**	**293**	Pn	**Pn**	**05 31 45.1**		**+0.7**
BANI					**Sn**	**05 32 04.8**		**+0.2**
IDE	**Isla Desecheo**	**1.49**	**68**	⇑*e*P	**Pn**	**05 31 45.1**		**+0.5**
IDE	**Isla Desecheo**	**1.49**	**68**	*e*S	**Sn**	**05 32 06.6**		**+1.8**
CRPR	**Cabo Rojo, PR**	**1.74**	**84**	⇑*e*P	**Pn**	**05 31 47.5**		**0.0**
CRPR	**Cabo Rojo, PR**	**1.74**	**84**	*e*S	**Sn**	**05 32 11.4**		**+1.2**
CRPR	**Cabo Rojo, PR**	**1.74**	**84**		**Pn**	**05 31 47.5**		**0.0**
CRPR					**Sn**	**05 32 11.4**		**+1.2**
CRPR	**Cabo Rojo, PR**	**1.74**	**84**	*i* P	**Pn**	**05 31 47.6**		**0.0**
CRPR				IAML		05 32 26.6		
	comp=Z,28nm,1.8s							
LSP	**Las Mesas**	**1.79**	**79**	⇑*e*P	**Pn**	**05 31 48.5**		**+0.3**
MLPR	**Magueyes Islan**	**1.80**	**85**	Pn	**Pn**	**05 31 48.4**		**+0.1**
AGPR	**Aguadilla, PR**	**1.84**	**70**	⇑*e*P	**Pn**	**05 31 48.7**		**-0.1**
AGPR	**Aguadilla, PR**	**1.84**	**70**	*e*S	**Sn**	**05 32 14.8**		**+2.4**
AGPR	**Aguadilla, PR**	**1.84**	**70**		**Pn**	**05 31 48.7**		**-0.1**
AGPR					**Sn**	**05 32 14.8**		**+2.4**
AGPR	**Aguadilla, PR**	**1.84**	**70**	IAML		05 32 16.7		
	comp=N,68nm,0.7s							
AGPR				IAML		05 32 20.2		
	comp=E,63nm,0.3s							
AGPR	**Aguadilla, PR**	**1.84**	**70**	*i* P	**Pn**	**05 31 48.6**		**-0.1**
AGPR				IAML		05 32 22.9		
	comp=Z,47nm,1.0s							
LOBA2	**Hotel Casa Bon**	**2.08**	**277**	*i* P	**Pn**	**05 31 51.6**		**-0.1**
LOBA2				IAML		05 32 19.1		
	comp=Z,31nm,0.2s							
AOPR	**Arecibo Observ**	**2.13**	**76**	⇓*e*P	**Pn**	**05 31 52.1**		**-0.5**
AOPR	**Arecibo Observ**	**2.13**	**76**	*e*S	**Sn**	**05 32 20.1**		**+1.0**
AOPR	**Arecibo Observ**	**2.13**	**76**		**Pn**	**05 31 52.1**		**-0.5**
AOPR					**Sn**	**05 32 20.1**		**+1.0**
OBIP	**Obispado Ponce**	**2.22**	**84**	⇑*e*P	**Pn**	**05 31 52.9**		**-0.8**
OBIP	**Obispado Ponce**	**2.22**	**84**	*e*S	**Sn**	**05 32 21.3**		**+0.2**
OBIP	**Obispado Ponce**	**2.22**	**84**		**Pn**	**05 31 52.9**		**-0.8**
OBIP					**Sn**	**05 32 21.3**		**+0.2**
OBIP	**Obispado Ponce**	**2.22**	**84**	IAML		05 32 27.3		
	comp=E,18nm,0.3s							
CELP	**Cerrillos**	**2.25**	**83**	⇓*e*P	**Pn**	**05 31 54.2**		**+0.2**
CELP	**Cerrillos**	**2.25**	**83**	*e*S	**Sn**	**05 32 22.5**		**+0.8**
CELP	**Cerrillos**	**2.25**	**83**		**Pn**	**05 31 54.2**		**+0.2**
CELP					**Sn**	**05 32 22.5**		**+0.8**
ICMP	**Isla Caja de M**	**2.29**	**88**	Pn	**Pn**	**05 31 55.3**		**+0.8**
ICMP				IAML		05 32 26.9		
	comp=E,31nm,1.0s							
ICMP				IAML		05 32 41.0		
	comp=N,24nm,1.9s							
EMPR	**Esperanza - Ma**	**2.37**	**74**	⇑*e*P	**Pn**	**05 31 55.6**		**+0.1**
EMPR	**Esperanza - Ma**	**2.37**	**74**	*e*S	**Sn**	**05 32 25.5**		**+1.0**
EMPR	**Esperanza - Ma**	**2.37**	**74**		**Pn**	**05 31 55.6**		**+0.1**
EMPR					**Sn**	**05 32 25.5**		**+1.0**
EMPR	**Esperanza - Ma**	**2.37**	**74**	IAML		05 32 33.4		
	comp=N,56nm,0.7s							
SDDR	**Presa de Saban**	**2.52**	**298**	Pn	**Pn**	**05 31 56.0**		**-1.5**
SDDR				IAML		05 32 30.3		
	comp=N,25nm,0.7s							
SDDR				IAML		05 32 30.5		
	comp=N,21nm,0.5s							
LONE2	**Loma La Sidra**	**2.52**	**287**	*i* P	**Pn**	**05 31 56.7**		**-1.0**
IGPR	**InterUniversit**	**2.69**	**87**	⇑*e*P	**Pn**	**05 31 59.7**		**-0.1**
IGPR	**InterUniversit**	**2.69**	**87**	*e*S	**Sn**	**05 32 32.7**		**+0.8**
GCPR	**Guaynabo City**	**2.75**	**80**	⇑*e*P	**Pn**	**05 31 59.3**		**-1.2**
GCPR	**Guaynabo City**	**2.75**	**80**		**Pn**	**05 31 59.3**		**-1.2**
GCPR	**Guaynabo City**	**2.75**	**80**	IAML		05 32 35.7		
	comp=E,15nm,2.2s							
GCPR				IAML		05 32 36.6		
	comp=N,13nm,1.0s							
PDPR	**Patillas Dam,**	**2.77**	**86**	Pn	**Pn**	**05 31 59.5**		**-1.4**
HUMP	**Col San Antoni**	**2.95**	**83**	⇑*e*P	**Pn**	**05 32 02.5**		**-0.7**
HUMP	**Col San Antoni**	**2.95**	**83**	*e*S	**Sn**	**05 32 37.7**		**-0.3**
HUMP	**Col San Antoni**	**2.95**	**83**		**Pn**	**05 32 02.5**		**-0.7**
HUMP					**Sn**	**05 32 37.7**		**-0.3**
HUMP	**Col San Antoni**	**2.95**	**83**	IAML		05 32 40.5		
	comp=E,26nm,0.2s							
HUMP				IAML		05 32 41.9		
	comp=N,20nm,0.4s							
CBYP	**Canovanas**	**2.96**	**81**	*e*S	**Sn**	**05 32 37.3**		**-1.0**
CBYP	**Canovanas**	**2.96**	**81**		**Sn**	**05 32 37.3**		**-1.0**
CBYP	**Canovanas**	**2.96**	**81**	Pn	**Pn**	**05 32 01.4**		**-1.9**
MTP	**Monte Pirata**	**3.23**	**85**	⇑*e*P	**Pn**	**05 32 06.0**		**-0.9**
MTP	**Monte Pirata**	**3.23**	**85**		**Pn**	**05 32 06.0**		**-0.9**
MTP	**Monte Pirata**	**3.23**	**85**	IAML		05 32 49.2		
	comp=E,9.3nm,1.1s							
CUPR	**Culebra, Puert**	**3.50**	**82**	Pn	**Pn**	**05 32 08.1**		**-2.4**

IDC ***22*** *05:32:50.2±1.1, 30°48S×71°74W, h0km, mb4.1/6, mb1 4.1/11, mb1mx3.9/25, mbtmp4.0/11, ML3.8/5, MS3.4/3, Ms1 3.4/3, ms1mx3.0/21, Error ellipse: s-maj=34.7km s-min=23.4km az=99.0*
NEIC ***22*** *05:32:51.3±2.3, 30°51S±0°03×72°02W±0°05, h14km±2km, mb4.4/8, ML4.0(GUC), Error ellipse: s-maj=6.3km s-min=4.1km az=117.0*
GUC ***22*** *05:32:53.0±0.9, 30°43S×71°86W, h28km±3km, ML4.1*
ISC 22 05:32:52.3±0.6, 30°44S±0°03×71°96W±0°06, h21km±3km, n63, σ1§22/72, mb4.2/6, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
CO06	**Fray Jorge**	**0.36**	**129**	⇓*i*P	**Pb**	**05 33 00.5**		**+0.6**
CO06				*e*S	**Sn**	**05 33 06.7**		**-2.0**
CO06				IAML		05 33 07.8		
	comp=E,25µm,0.3s							
CO06	**Fray Jorge**	**0.36**	**129**		**Pb**	**05 33 00.3**		**+0.4**
CO06				Sg	**Sb**	**05 33 06.3**		**+1.2**
CO05	**La Serena**	**0.81**	**50**	⇓*i*P	**Pn**	**05 33 08.0**		**-0.5**
CO05				*i* S	**Sn**	**05 33 18.7**		**-1.1**
CO05				IAML		05 33 21.5		
	comp=E,21µm,0.4s							
CO05	**La Serena**	**0.81**	**50**	Pg	**Pn**	**05 33 08.0**		**-0.5**
CO05				Sg	**Sn**	**05 33 18.

comp=Z,2.5nm,1.1s
ZALV Zalesovo Beam 151.14 29 PKPbc PKiKP 05 52 44.6 +0.8
comp=Z,7.3nm,0.7s,baz=307,slow=3.7,SNR=26
ZALV Zalesovo Beam 151.14 29 PKiKP 05 52 44.2 +0.4
MKAR Makanchi Array 154.26 43 PKPbc PKiKP 05 52 51.8 +1.2
comp=Z,0.7nm,0.8s,baz=343,slow=4.5,SNR=4.4

IDC ***22*** *05:55:30.8±1.9, 30.45S×72.54W, h0km, mb4.0/2, mb1 4.2/6, mb1mx3.9/23, mbtmp4.1/6, ML4.0/4, Error ellipse: s-maj=67.0km s-min=29.3km az=105.0*
NEIC ***22*** *05:55:30.8±3.0, 30.46S±0.04×72.66W±0.04, h10km±1km, mb4.3/7, Error ellipse: s-maj=6.4km s-min=6.1km az=211.0*
ISC 22 05:55:29.8±2.6, 30.44S±0.05×72.65W±0.07, h3km±16km, n34, σ1§45/41, mb4.1/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.90**	**105**	Pg	**Pn**	**05 55 49.0**	**-0.4**
CO06				Sg	**Sg**	**05 55 58.5**	**-0.3**
CO05	**La Serena**	**1.32**	**67**		**Pn**	**05 55 55.5**	**+0.3**
CO05				Sn	**Sg**	**05 56 11.4**	**-0.9**
GO04	**Tololo Observa**	**1.62**	**81**	Pn	**Pb**	**05 56 00.8**	**+0.4**
GO04				Sn	**Sb**	**05 56 21.0**	**-0.4**
CO03	**El Pedregal**	**1.73**	**104**	Pn	**Pn**	**05 56 01.6**	**+0.7**
CO03				Sn	**Sn**	**05 56 23.0**	**-0.6**
LCO	**Las Campanas**	**2.21**	**50**	Pn	**Pn**	**05 56 08.9**	**+1.3**
LCO				Sn	**Sn**	**05 56 35.5**	**-0.1**
AC04	**Llanos de Chal**	**2.62**	**32**	Pn	**Pn**	**05 56 12.8**	**-0.2**
AC04				Sn	**Sn**	**05 56 43.3**	**-1.9**
VA01	**Torpederas**	**2.71**	**162**	Pn	**Pn**	**05 56 13.5**	**-0.8**
VA03	**San Esteban**	**2.93**	**143**	Pn	**Pn**	**05 56 18.1**	**+0.7**
VA03				Sn	**Sn**	**05 56 49.9**	**-3.2**
VA05	**Santo Domingo**	**3.33**	**165**	Pn	**Pn**	**05 56 22.1**	**-0.7**
AC06	**Mina Casimiro**	**3.67**	**34**	Pn	**Pn**	**05 56 28.3**	**+0.9**
BO01	**Tunca**	**4.16**	**162**	Pn	**Pn**	**05 56 34.6**	**+0.4**
GO05	**Huala**	**4.60**	**173**		**Pn**	**05 56 38.8**	**-1.5**
AC02	**Maricunga**	**4.74**	**42**	Pn	**Pn**	**05 56 43.9**	**+1.3**
ML02	**Panimavida**	**5.41**	**169**		**Pn**	**05 56 52.1**	**+0.7**
PB15	**IPOC Station P**	**7.74**	**22**		**Pn**	**05 57 22.8**	**-0.8**
LC01	**Cunco**	**8.46**	**176**	Pn	**Pn**	**05 57 32.4**	**-0.9**
LVC	**Limon Verde**	**8.48**	**24**	Pn	**Pn**	**05 57 33.0**	**-1.0**
	0.5nm,0.3s,baz=176,slow=6.0,SNR=10						
LVC				Sn	**Sn**	**05 59 06.0**	**-4.4**
	0.3nm,0.3s,baz=356,slow=19,SNR=1.5						
LVC	**Limon Verde**	**8.48**	**24**		**Pn**	**05 57 32.0**	**-1.9**
PB07	**IPOC Station P**	**9.02**	**17**	Pn	**Pn**	**05 57 38.7**	**-2.5**
PB09	**IPOC Station P**	**9.13**	**20**	Pn	**Pn**	**05 57 41.3**	**-1.4**
LR03	**Panguipulli**	**9.18**	**179**		**Pn**	**05 57 42.8**	**-0.3**
PLCA	**Paso Flores**	**10.41**	**171**	Pn	**Pn**	**05 58 00.4**	**+0.3**
	0.4nm,0.3s,baz=343,slow=12,SNR=13						
PLCA	**Paso Flores**	**10.41**	**171**		**Pn**	**05 58 00.2**	**+0.1**
LPAZ	**La Paz**	**14.68**	**17**	Pn	**Pn**	**05 59 02.0**	**+3.0**
	0.4nm,0.3s,baz=185,slow=7.7,SNR=29						
LPAZ	**La Paz**	**14.68**	**17**	Pn	**Pn**	**05 58 57.3**	**-1.8**
SIV	**San Ignacio**	**17.86**	**39**	P	**Pn**	**05 59 39.9**	**+0.4**
	0.9nm,0.3s,baz=228,slow=11,SNR=45						
SAML	**Samuel**	**23.14**	**24**	P	**P**	**06 00 38.4**	**+1.1**
SAML				IAmb	IAmb	06 01 34.3	
	comp=Z,9.4nm,1.8s						
BDFB	**Brasilia**	**26.95**	**62**	P	**P**	**06 01 13.6**	**+0.8**
	comp=Z,2.2nm,0.6s,baz=228,slow=7.6,SNR=5.6						
RUSC	**La Rusia**	**36.13**	**359**	P	**P**	**06 02 35.2**	**+1.4**
RUSC				IAmb	IAmb	06 03 09.8	
	comp=Z,7.2nm,1.2s						
TORD	**Torodi Ar. Bea**	**83.50**	**71**	P	**P**	**06 08 00.9**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=255,slow=4.7,SNR=3.8						
TORD	**Torodi Ar. Bea**	**83.50**	**71**	IAmb	IAmb	06 08 01.3	
	comp=Z,3.3nm,1.3s						
KURK	**Kurchatov**	**150.52**	**38**		**PKiKP**	**06 15 24.0**	**+0.6**
KURBB	**Kurchatov Arra**	**150.52**	**39**	PKPbc	**PKiKP**	**06 15 24.0**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=282,slow=2.3,SNR=7.2						
ZALV	**Zalesovo Beam**	**151.42**	**28**	PKPbc	**PKiKP**	**06 15 25.5**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=288,slow=3.2,SNR=4.2						

IDC ***22*** *06:01:11.2±1.0, 27.59N×100.03E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.7/41, mbtmp3.8/8, MS3.1/4, Ms1 3.1/4, ms1mx2.7/64, Error ellipse: s-maj=38.2km s-min=18.1km az=60.0*
ISC 22 06:01:13.5±0.8, 27.61N±0.05×100.17E±0.07, h10km, n17, σ1§69/19, mb3.6/7, MS3.0/4, 1C-1D, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**3.38**	**136**	⇑Pg	**Pb**	**06 02 14.3**	**+0.6**
KMI				Sg	**Sg**	**06 02 58.8**	**-3.5**
KMI				smax	smax		
	comp=N,330nm,1.1s						
KMI				smax	smax		
	comp=E,300nm,0.9s						
CD2	**Chengdu**	**4.55**	**43**	⇓*i*Pg	**Pb**	**06 02 34.6**	**+1.1**
CD2				Sg	**Sb**	**06 03 30.9**	**+2.6**
CD2				smax	smax		
	comp=N,130nm,1.2s						
CD2				smax	smax		
	comp=E,150nm,1.3s						
GYA	**Guiyang**	**5.91**	**100**	Pn	**Pn**	**06 02 41.8**	**+0.6**
GYA				Pg	**Pg**	**06 03 05.8**	**-0.9**
GYA				Sn	**Sn**	**06 03 50.3**	**+1.3**
GYA				smax	smax		
	comp=N,38nm,0.8s						
GYA				smax	smax		
	comp=E,72nm,1.1s						
CMAR	**Chiang Mai Arr**	**9.18**	**187**	Pn	**Pn**	**06 03 29.5**	**+3.4**
	comp=E,0.6nm,0.3s,baz=0.8,slow=14,SNR=6.3						
CMAR				Lg	Lg	06 06 05.8	
	comp=E,0.2nm,0.3s,baz=357,slow=30,SNR=1.3						
XAN	**Xi'an**	**9.88**	**47**	P	**Pn**	**06 03 34.8**	**-0.9**
XAN				S	**Sn**	**06 05 26.6**	**-0.2**
XAN				smax	smax		
	comp=N,14nm,1.4s						
XAN				smax	smax		
	comp=E,15nm,1.4s						
XAN				LR	LR		
	comp=N,290nm,14.4s						
XAN				LR	LR		
	comp=E,230nm,15.1s						
XAN				LR	LR		
	comp=Z,360nm,15.1s						
WMQ	**Urumqi**	**19.05**	**331**	*e*P	**Pn**	**06 05 36.1**	**-0.6**
SONM	**Songino Array**	**20.77**	**12**	P	**P**	**06 05 55.5**	**+0.8**
	comp=Z,5.0nm,0.9s,baz=193,slow=11,SNR=10						
MKAR	**Makanchi Array**	**23.77**	**328**	P	**P**	**06 06 26.1**	**0.0**
	comp=Z,0.6nm,0.6s,baz=134,slow=12,SNR=4.3						
KSRS	**Korea Array**	**25.30**	**60**	P	**P**	**06 06 39.7**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=272,slow=8.5,SNR=2.1						
KSRS				LR	LR	06 18 02.1	
	comp=Z,24nm,19.5s,baz=245,slow=40						
AAK	**Ala-Archa**	**25.67**	**312**	P	**P**	**06 06 41.9**	**-1.9**
	comp=Z,0.7nm,0.5s,baz=258,slow=19,SNR=1.5						
KURBB	**Kurchatov Arra**	**28.26**	**330**	P	**P**	**06 07 04.7**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=150,slow=6.7,SNR=5.5						
ZALV	**Zalesovo Beam**	**28.64**	**341**	LR	LR	06 19 45.1	
	comp=Z,38nm,18.9s,baz=225,slow=39						
GEYT	**Alibeck**	**36.56**	**297**	LR	LR	06 26 04.8	
	comp=Z,58nm,20.6s,baz=320,slow=41						
OBN	**Obninsk**	**52.84**	**320**	LR	LR	06 35 17.5	
	comp=Z,13nm,21.3s,baz=339,slow=39						
WRA	**Warramunga Arr**	**57.69**	**141**	P	**P**	**06 11 04.2**	**-0.3**
	comp=Z,2.4nm,0.6s,baz=322,slow=6.7,SNR=34						
ASAR	**Alice Springs**	**60.48**	**144**	P	**P**	**06 11 23.7**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=325,slow=6.9,SNR=23						
ILAR	**Eielson Array**	**74.44**	**24**	P	**P**	**06 12 50.8**	**-0.8**
	comp=Z,0.5nm,0.9s,baz=277,slow=8.1,SNR=3.5						

DJA ***22*** *06:20:02.8±0.2, 3°S±3°×10°2E±°, h200km±2km, M4.8/28, mB5.3/12, mb5.0/28, MLv5.0/24, Mw(mB)4.7/12*
IDC ***22*** *06:20:03.6±1.5, 2.42S×102.47E, h211km±13km, mb4.3/43, mb1 4.3/45, mb1mx4.2/62, mbtmp4.8/45, Error ellipse: s-maj=11.6km s-min=6.9km az=50.0*
NEIC ***22*** *06:20:03.9±2.1, 2.40S±0.10×102.44E±0.09, h213km±6km, mb4.7/65, Error ellipse: s-maj=17.2km s-min=10.1km az=221.0*
ISC 22 06:20:02.2±0.3, 2.49S±0.05×102.40E±0.05, h200km, n236, σ1§34/250, mb4.7/95, 9C-6D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASI	**Maura Aman, Be**	**0.67**	**194**	P	**Pn**	**06 20 32.5**	**+2.4**
KRJI	**Kerinci**	**1.02**	**293**	P	**Pn**	**06 20 34.6**	**+2.4**
UBSI	**University, Be**	**1.27**	**186**	P	**Pn**	**06 20 35.4**	**+1.5**
JMBI	**JAMBI**	**1.51**	**56**	P	**Pn**	**06 20 37.3**	**+1.4**
LHSI	**Lahat**	**1.74**	**140**	P	**Pn**	**06 20 39.7**	**+1.6**
RGRI	**Rengat**	**2.13**	**358**	P	**Pn**	**06 20 43.5**	**+1.4**
PMBI	**Palembang**	**2.41**	**100**		**Pn**	**06 20 46.0**	**+1.0**
PMBI	**Palembang**	**2.41**	**100**	P	**Pn**	**06 20 45.6**	**+0.6**
PDSI	**Padang**	**2.49**	**309**	P	**Pn**	**06 20 46.6**	**+0.6**
MDSI	**Maura Dua**	**2.66**	**138**	P	**Pn**	**06 20 48.5**	**+0.6**
MDSI				S	**Sn**	**06 21 23.9**	**+0.3**
DSRI	**Dabo**	**2.96**	**47**	P	**Pn**	**06 20 52.4**	**+1.1**
LWLI	**Liwa**	**3.01**	**147**	P	**Pn**	**06 20 53.1**	**+1.1**
KLI	**Kotabumi**	**3.40**	**134**	P	**Pn**	**06 20 58.0**	**+1.4**
SISI	**Saibi**	**3.50**	**289**	P	**Pn**	**06 20 59.1**	**+1.2**
KASI	**Kota Agung**	**3.67**	**145**	P	**Pn**	**06 20 59.8**	**0.0**
KASI				S	**Sn**	**06 21 42.8**	**-2.3**
BLSI	**Bandar Lampung**	**4.03**	**135**	P	**Pn**	**06 21 05.5**	**+1.2**
BTDF	**Bukit Timah Da**	**4.07**	**20**	P	**Pn**	**06 21 05.8**	**+1.0**
MNSI	**Mandailing Nat**	**4.31**	**319**	P	**Pn**	**06 21 08.5**	**+0.6**
PBSI	**Pulau Batu**	**4.78**	**300**	P	**Pn**	**06 21 14.6**	**+0.8**
PBSI				S	**Sn**	**06 22 09.5**	**-0.6**
SBJI	**Serang**	**5.18**	**134**	P	**Pn**	**06 21 19.5**	**+0.6**
	2.0nm484nm,1.1s						
TRSI	**Tarutung**	**5.65**	**322**	P	**Pn**	**06 21 27.7**	**+2.6**
	3.0nm10µm773nm,1.0s						
DBJI	**Dramaga**	**5.92**	**133**	P	**Pn**	**06 21 28.5**	**0.0**
	1.4nm336nm,1.1s						
GSI	**Gunungsitoli**	**6.12**	**308**	Pn	**Pn**	**06 21 30.8**	**-0.3**
GSI	**Gunungsitoli**	**6.12**	**308**	P	**Pn**	**06 21 31.0**	**-0.1**
	9.0nm27µm2µm,0.7s						
RPSI	**Rantau Prapat**	**6.21**	**326**		**Pn**	**06 21 32.7**	**+0.4**
RPSI	**Rantau Prapat**	**6.21**	**326**		**Pn**	**06 21 32.9**	**+0.7**
PSI	**Prapat**	**6.30**	**327**	P	**Pn**	**06 21 32.9**	**-0.6**
	9.6nm,0.3s,baz=150,slow=9.7,SNR=201						
LEM	**Lembang**	**6.75**	**130**	P	**Pn**	**06 21 40.0**	**+0.7**
	18nm,0.3s,baz=228,slow=5.9,SNR=18						
TSI	**Tuntungan**	**7.08**	**327**	P	**Pn**	**06 21 44.8**	**+1.3**
	1.6nm17µm281nm,0.7s						
CISI	**Cisompet, Garu**	**7.38**	**133**	Pn	**Pn**	**06 21 45.4**	**-2.0**
CISI	**Cisompet, Garu**	**7.38**	**133**	P	**Pn**	**06 21 44.9**	**-2.5**
	0.7nm3µm105nm,0.9s						
TPTI		**7.74**	**318**	P	**Pn**	**06 21 51.3**	**-0.7**
	0.6nm2µm216nm,0.8s						
KPJI	**Karang Pucung**	**8.09**	**127**	P	**Pn**	**06 21 57.4**	**+0.8**
	89nm,0.6s						
CTJI	**Waduk Cacaban**	**8.11**	**124**	P	**Pn**	**06 21 58.4**	**+1.5**
	0.4nm101nm,1.0s						
MLSI	**Meulaboh, Aceh**	**9.00**	**318**	P	**Pn**	**06 22 07.3**	**-1.2**
	10µm774nm,0.6s						
SMRI	**Semarang**	**9.20**	**120**	Pn	**Pn**	**06 22 11.8**	**+0.7**
SMRI	**Semarang**	**9.20**	**120**	P	**Pn**	**06 22 13.8**	**+2.7**
	363nm,1.1s						
LHMI	**Lhok Sumawe**	**9.41**	**325**	Pn	**Pn**	**06 22 12.0**	**-1.8**
LHMI	**Lhok Sumawe**	**9.41**	**325**	P	**Pn**	**06 22 12.8**	**-1.0**
	5µm559nm,0.9s						
UGM	**Wanagama**	**9.72**	**124**		**Pn**	**06 22 16.9**	**-0.9**
UGM	**Wanagama**	**9.72**	**124**	P	**Pn**	**06 22 16.2**	**-1.6**
	348nm,1.6s						
SKLT	**Songkhla**	**9.76**	**350**	P	**Pn**	**06 22 17.8**	**-0.6**
	54nm,1.0s						
SKLT	**Songkhla**	**9.76**	**350**	P	**Pn**	**06 22 17.9**	**-0.5**
	54nm,1.0s						
TBJI	**Tambak Boyo**	**10.35**	**115**	P	**Pn**	**06 22 26.6**	**+0.6**
	180nm,0.8s						
PCJI	**Pacitan**	**10.41**	**123**	P	**Pn**	**06 22 28.6**	**+1.8**
	113nm,0.9s						
SJI	**Sawahan**	**10.68**	**120**	P	**Pn**	**06 22 31.0**	**+0.6**
	6µm163nm,0.8s						
PWJI	**Pagerwojo**	**10.85**	**121**	P	**Pn**	**06 22 32.2**	**-0.3**
	109nm,0.9s						
KRKI	**Karangkates**	**11.48**	**120**	P	**Pn**	**06 22 42.4**	**+1.9**
KMMI	**Kalianget**	**12.38**	**112**	P	**Pn**	**06 22 53.0**	**+1.0**
	362nm,0.9s						
ABJI	**Asem Bagus**	**12.91**	**115**	P	**Pn**	**06 23 01.0**	**+2.4**
	244nm,1.1s						
KBKI	**Kotabaru**	**13.77**	**94**	P	**Pn**	**06 23 09.8**	**+0.4**
	2µm51nm,0.7s						
SRBI	**Singaraja**	**13.91**	**114**	P	**Pn**	**06 23 13.6**	**+2.5**
	208nm,0.8s						
TWSI	**Taliwang, Sumb**	**15.69**	**114**	P	**P**	**06 23 34.1**	**+1.3**
	48nm,1.1s						
PLAI	**Plampang**	**16.54**	**113**	P	**P**	**06 23 43.4**	**+1.2**
	68nm,0.6s						
KAPI	**Kappang**	**17.49**	**99**	P	**Pn**	**06 23 55.0**	**+0.6**
	4.3nm,0.3s,baz=334,slow=4.6,SNR=13						
KAPI	**Kappang**	**17.49**	**99**		**P**	**06 23 53.9**	**+1.3**
BNSI	**Bone**	**17.77**	**97**	P	**Pn**	**06 23 58.8**	**+1.1**
	82nm,0.9s						
BKSI	**Bulukumba**	**17.90**	**100**	P	**P**	**06 23 58.4**	**+1.3**
	2µm123nm,0.7s						
UBPT	**Khong Chiam**	**17.92**	**10**	P	**P**	**06 23 58.1**	**+1.0**
UBPT	**Khong Chiam**	**17.92**	**10**	P	**P**	**06 23 58.2**	**+1.0**
	2µm191nm,0.9s						
TOLI2	**Tolitoli**	**18.72**	**79**	P	**P**	**06 24 06.1**	**+0.1**
TOLI2				IAmb	IAmb	06 24 08.8	
	comp=Z,31nm,0.9s						
MRSI	**Marisa**	**19.76**	**82**	P	**Pn**	**06 24 20.3**	**-0.9**
	comp=Z,46nm,1.1s						
GTOI	**Gorontalo**	**20.84**	**82**	P	**P**	**06 24 30.3**	**+1.6**
	comp=Z,320nmcomp=Z,33nm,1.2s						
CM31	**Chiang Mai Arr**	**21.09**	**351**	P	**P**	**06 24 32.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**21.09**	**351**	P	**P**	**06 24 31.4**	**+0.2**
	comp=Z,44nm,0.9s,baz=183,slow=8.7,SNR=85						
CMAR	**Chiang Mai Arr**	**21.09**	**351**	P	**P**	**06 24 30.7**	**-0.6**
CMMT	**Chiang Mai**	**21.44**	**351**	P	**P**	**06 24 35.8**	**+0.9**
	comp=Z,580nmcomp=Z,59nm,1.1s						
CHTO	**Chiang Mai**	**21.44**	**351**	P	**P**	**06 24 35.1**	**+0.2**
CHTO				IAmb	IAmb	06 24 37.1	
	comp=Z,46nm,0.9s						
CHTO	**Chiang Mai**	**21.44**	**351**	P	**P**	**06 24 36.1**	**+1.2**
	comp=Z,328nmcomp=Z,35nm,1.1s						
QIZ	**Qiongzhong**	**22.60**	**19**	P	**P**	**06 24 47.6**	**+1.5**
QIZ				IAmb	IAmb	06 25 04.0	
	comp=Z,24nm,1.1s						
GIRL	**Giralia**	**23.09**	**151**	P	**P**	**06 24 53.6**	**+3.2**
SLVN	**Son La**	**23.72**	**3**	P	**P**	**06 24 57.1**	**+0.8**
KMI	**Kunming**	**27.45**	**1**	⇑P	**P**	**06 25 32.0**	**+2.0**
KMI				pmax	pmax		
	comp=Z,31nm,0.8s						
FITZ	**Fitzroy Crossi**	**27.57**	**126**	P	**P**	**06 25 30.8**	**-0.1**
	comp=Z,3.1nm,0.7s,baz=307,slow=7.1,SNR=7.9						
FITZ	**Fitzroy Crossi**	**27.57**	**126**	P	**P**	**06 25 30.9**	**+0.1**
SIJI	**Sorong**	**28.90**	**87**	P	**P**	**06 25 42.6**	**-0.2**
	comp=Z,32nm,0.7s,baz=139,slow=22,SNR=4.2						
GYA	**Guiyang**	**29.07**	**8**	⇓*i*P	**P**	**06 25 45.6**	**+1.4**
GYA				pmax	pmax		
	comp=Z,32nm,1.2s						
KNRA	**Kununurra**	**29.09**	**118**	P	**P**	**06 25 43.6**	**-0.7**
KNRA				IAmb	IAmb	06 25 54.0	
	comp=Z,14nm,1.1s						
SHL	**Shillong**	**29.70**	**341**	P	**P**	**06 25 49.1**	**-0.6**
TPUB	**Ta-pu**	**31.19**	**34**	P	**P**	**06 26 01.9**	**-0.9**
QZH	**Quanzhou**	**31.48**	**29**	P	**P**	**06 26 06.3**	**+1.1**
NACB	**Ninganchiao**	**32.42**	**34**	P	**P**	**06 26 13.7**	**+0.3**
NACB				IAmb	IAmb	06 26 15.7	
	comp=Z,23nm,0.7s						
ODAN	**Odare**	**32.58**	**335**	*e*P	**P**	**06 26 15.4**	**+0.3**
	comp=Z,53nm,0.6s						
TAPN	**Taplejung**	**32.88**	**335**	*e*P	**P**	**06 26 18.2**	**+0.5**
RAMN	**Ramite**	**33.00**	**334**	*e*P	**P**	**06 26 19.6**	**+0.8**
	comp=Z,22nm,0.3s						
CD2	**Chengdu**	**33.24**	**2**	⇑*i*P	**P**	**06 26 20.9**	**+0.3**
CD2				pmax	pmax		
	comp=Z,40nm,1.0s						
CD2				LR	LR		
	comp=N,190nm,8.4s						
CD2				LR	LR		
	comp=E,210nm,11.6s						
CD2				LR	LR		
	comp=Z,270nm,8.8s						
JIRN	**Jiri**	**33.80**	**334**	*e*P	**P**	**06 26 26.0**	**+0.2**
	comp=Z,34nm,0.4s						
PKI	**Pulchoki**	**34.08**	**332**	*e*P	**P**	**06 26 28.1**	**-0.1**
	comp=Z,19nm,0.5s						
PKIN	**Phulchoki**	**34.09**	**332**	*e*P	**P**	**06 26 28.1**	**-0.1**
	comp=Z,15nm,0.3s						
GUN	**Gumba**	**34.15**	**333**	*e*P	**P**	**06 26 29.4**	**+0.6**
	comp=Z,84nm,0.5s						
KKN	**Kakani**	**34.32**	**332**	*e*P	**P**	**06 26 30.4**	**+0.3**
	comp=Z,54nm,0.5s						
WHN	**Wuhan**	**34.77**	**18**	⇓P	**P**	**06 26 35.3**	**+1.6**
WHN				pmax	pmax		
	comp=Z,80nm,1.2s						
GKN	**Gorkha**	**34.80**	**332**	*e*P	**P**	**06 26 36.0**	**+1.8**
	comp=Z,90nm,0.3s						
KOLN	**Koldanda**	**35.11**	**330**	*e*P	**P**	**06 26 37.4**	**+0.5**
	comp=Z,50nm,0.3s						
DANN	**Dangsing**	**35.51**	**331**	*e*P	**P**	**06 26 40.7**	**+0.3**
	comp=Z,184nm,0.3s						
WB0	**Warramunga Arr**	**35.66**	**121**	P	**P**	**06 26 41.1**	**-0.3**
WB0				IAmb	IAmb	06 26 42.5	
	comp=Z,5.7nm,0.5s						
WRA	**Warramunga Arr**	**35.69**	**121**	P	**P**	**06 26 40.5**	**-1.2**
	comp=Z,1.4nm,0.4s,baz=290,slow=12,SNR=36						
WRA				S	S	06 31 54.8	-8.7
	comp=Z,2.3nm,0.8s,baz=287,slow=15,SNR=7.6						
WRA				ScP	**ScP**	**06 32 29.6**	**-3.1**
	comp=Z,0.6nm,0.4s,baz=290,slow=2.7,SNR=7.5						
PYUN	**Piuthan**	**35.69**	**330**	*e*P	**P**	**06 26 42.2**	**+0.4**
	comp=Z,150nm,0.6s						
WB2	**Warramunga Arr**	**35.70**	**121**	P	**P**	**06 26 41.6**	**-0.2**
WB2				IAmb	IAmb	06 26 44.5	
	comp=Z,18nm,1.4s						
WR0	**Warramunga Arr**	**35.86**	**121**	P	**P**	**06 26 43.6**	**+0.3**
WR0				IAmb	IAmb	06 26 44.2	
	comp=Z,7.5nm,0.5s						
XAN	**Xi'an**	**36.85**	**9**	⇑P	**P**	**06 26 51.3**	**-0.1**
XAN				pP	pP	06 27 35.1	+1.8
XAN				sP	sP	06 27 57.8	+1.6
XAN				PcP	**PcP**	**06 29 08.3**	**-0.5**
XAN				S	**S**	**06 32 21.6**	**+0.7**
XAN				SS	**SS**	**06 35 12.6**	**+1.2**
XAN				pmax	pmax		
	comp=Z,23nm,1.3s						
XAN				LR	LR		
	comp=N,91nm,16.5s						
XAN				LR	LR		
	comp=E,83nm,15.1s						
XAN				LR	LR		
	comp=Z,120nm,17.9s						
ASAR	**Alice Springs**	**37.04**	**127**	P	**P**	**06 26 52.0**	**-1.1**
	comp=Z,7.8nm,0.6s,baz=302,slow=8.0,SNR=72						
ASAR				PcP	**PcP**	**06 29 09.5**	**-0.1**
	comp=Z,3.3nm,1.0s,baz=326,slow=2.0,SNR=8.0						
ASAR				S	**S**	**06 32 17.1**	**-6.9**
	comp=Z,1.3nm,0.7s,baz=295,slow=15,SNR=7.1						
ASAR				ScP	**ScP**	**06 32 35.0**	**-2.7**
	comp=Z,2.1nm,0.5s,baz=305,slow=3.6,SNR=12						
ASAR	**Alice Springs**	**37.04**	**127**	P	**P**	**06 26 52.5**	**-0.6**
AS31	**Alice Springs**	**37.04**	**127**	P	**P**	**06 26 52.8**	**-0.3**
FORT	**Forrest**	**37.15**	**142**	P	**P**	**06 26 54.7**	**+0.8**
NJ2	**Nanjing**	**37.74**	**23**	*e*P	**P**	**06 27 00.5**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,21nm,0.5s						
JOW	**Kunigami**	**38.39**	**39**	P	**P**	**06 27 04.4**	**+0.1**
JOW				IAmb	IAmb	06 27 06.4	
	comp=Z,18nm,0.6s						
LZH	**Lanzhou**	**38.40**	**2**	*e*P	**P**	**06 27 05.8**	**+1.3**
LZH				pP	pP	06 27 47.9	+1.3
LZH				sP	sP	06 28 14.8	+5.4
LZH				SS	SS	06 35 52.5	+10
LZH				pmax	pmax		
	comp=Z,34nm,1.3s						
LZH				pmax	pmax		
	comp=Z,130nm,4.9s						
TIA	**Tai'an**	**40.88**	**18**	⇓P	**P**	**06 27 25.3**	**+0.5**
TIA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GTA	**Gaotai**	**41.77**	**357**	⇑P	**P**	**06 27 32.8**	**+0.8**
GTA				pP	pP	06 28 18.0	+3.2
GTA				sP	sP	06 28 41.6	+4.2
GTA				pmax	pmax		
	comp=Z,25nm,1.1s						
GTA				pmax	pmax		
	comp=Z,58nm,4.7s						
GTA				LR	LR		
	comp=N,150nm,17.4s						
GTA				LR	LR		
	comp=E,140nm,17.8s						
GTA				LR	LR		
	comp=Z,80nm,17.4s						
BBOO	**Buckleboo**	**43.65**	**137**	P	**P**	**06 27 47.5**	**+0.3**
BBOO				IAmb	IAmb	06 28 00.0	
	comp=Z,24nm,1.3s						
HHC	**Hu-ho-hao-te**	**43.94**	**10**	*e*P	**P**	**06 27 53.3**	**+3.9**
HHC				pmax	pmax		
	comp=Z,25nm,0.7s						
HHC				pmax	pmax		
	comp=Z,90nm,6.6s						
BJT	**Baijiatuan**	**44.15**	**15**	P	**P**	**06 27 51.7**	**+0.7**
BJT				IAmb	IAmb	06 27 53.9	
	comp=Z,23nm,1.4s						
BJI	**Beijing**	**44.17**	**15**	P	**P**	**06 27 52.5**	**+1.4**
BJI				pmax	pmax		
	comp=Z,17nm,1.2s						
JNU	**Nakatsue**	**44.48**	**35**	P	**P**	**06 27 53.8**	**0.0**
JNU				IAmb	IAmb	06 27 56.3	
	comp=Z,45nm,1.1s						
NIL	**Nilore**	**45.25**	**325**	P	**P**	**06 27 59.6**	**-0.2**
NIL				IAmb	IAmb	06

comp=Z,4.9nm,0.8s,baz=173,slow=4.5,SNR=11
AAK Ala-Archa 51.51 334 P P 06 28 47.0 -0.7
EKS2 Erkin-Say 51.85 333 P P 06 28 50.5 +0.4
SNR=31
USP Ospenovka 52.01 334 P P 06 28 50.8 -0.4
SNR=5.5
ZSN Zaisan 52.06 345 *eP* **P 06 28 51.3 -0.1**
baz=345
SGDS Sogindy 52.11 335 *eP* **P 06 28 50.2 -1.7**
baz=335
MKAR Makanchi Array 52.18 343 P P 06 28 52.2 -0.1
comp=Z,10nm,0.5s,baz=156,slow=8.1,SNR=115
MKAR Makanchi Array 52.18 343 P P 06 28 51.3 -1.0
MAKZ Makanchi 52.28 342 P P 06 28 52.2 -0.9
USA0B Ussuriysk Arra 53.50 26 P P 06 29 02.2 +0.3
USA0B IAmb IAmb 06 29 03.6
comp=Z,21nm,0.9s
USRK Ussuriysk Ar. 53.50 26 P P 06 29 02.3 +0.3
comp=Z,13nm,0.7s,baz=219,slow=5.5,SNR=30
USRK Ussuriysk Ar. 53.50 26 P P 06 29 02.1 +0.1
BTLS Baital 53.64 335 *eP* **P 06 29 01.4 -1.6**
baz=335
HIA Hailar 53.70 14 P P 06 29 02.1 -1.2
HIA IAmb IAmb 06 29 04.3
comp=Z,14nm,1.2s
KK31 Karatay Array 53.71 331 P P 06 29 01.6 -2.0
KKAR Karatay Array 53.71 331 P P 06 29 02.5 -1.1
SEM Semipalatinsk 56.02 343 *eP* **P 06 29 18.8 -1.5**
baz=343
KURBB Kurchatov Arra 56.73 342 P P 06 29 24.4 -0.5
comp=Z,8.1nm,0.5s,baz=160,slow=6.8,SNR=47
KURBB PcP **PcP 06 30 18.5 0.0**
comp=Z,1.9nm,0.6s,baz=158,slow=3.2,SNR=6.1
KURK Kurchatov 56.78 342 P P 06 29 24.4 -0.9
GEYT Alibeck 57.37 319 P P 06 29 29.7 -0.1
comp=Z,2.7nm,0.5s,baz=141,slow=7.3,SNR=5.1
KLR Kul'dur 57.44 22 P P 06 29 29.9 0.0
comp=Z,3.0nm,0.4s,baz=231,slow=7.1,SNR=15
ZAA0 Zalesovo Array 58.12 348 P P 06 29 33.7 -0.9
ZALV Zalesovo Beam 58.12 348 P P 06 29 34.1 -0.5
comp=Z,16nm,0.4s,baz=168,slow=5.4,SNR=61
BRZS Berezniki 58.19 338 *eP* **P 06 29 33.6 -1.5**
baz=338
YSS Yuzh-Sakhalins 60.65 31 P P 06 29 50.6 -1.4
RDF Al-Radifah 61.09 305 *eP* **P 06 29 55.8 +0.4**
BVAR Borovoye Array 61.49 339 P P 06 29 56.8 -0.8
comp=Z,14nm,0.6s,baz=161,slow=9.4,SNR=46
BRVK Borovoye 61.55 339 P P 06 29 56.0 -2.0
BRVK IAmb IAmb 06 29 58.1
comp=Z,10nm,0.6s
MIB Mutribah 61.58 306 *eP* **P 06 29 59.1 +0.4**
RST Umm Al-Ruwaisa 61.75 305 *eP* **P 06 29 59.8 0.0**
ABKAR Akbulak array 63.23 330 P P 06 30 08.0 -1.2
ABKAR Akbulak array 63.23 330 P P 06 30 07.8 -1.5
ABKAR IAmb IAmb 06 30 09.5
comp=Z,26nm,0.8s
AKTO Aktyubinsk 64.95 330 P P 06 30 19.4 -1.0
comp=Z,3.4nm,0.4s,baz=105,slow=4.5,SNR=13
GNI Garni 67.55 316 P P 06 30 37.2 -0.1
comp=Z,6.5nm,0.6s,baz=288,slow=0.8,SNR=3.7
GNI Garni 67.55 316 IAmb IAmb 06 30 38.8
comp=Z,10nm,0.9s
YAK Yakutsk 67.63 14 P P 06 30 36.3 -0.8
comp=Z,18nm,0.4s,baz=193,slow=1.3,SNR=11
YAK Yakutsk 67.63 14 IAmb IAmb 06 30 37.4
comp=Z,84nm,0.9s
ARU Arti 68.63 336 P P 06 30 42.8 -0.6
comp=Z,2.2nm,0.5s,baz=184,slow=3.7,SNR=12
ARU Arti 68.63 336 P P 06 30 41.7 -1.8
ARU IAmb IAmb 06 30 43.4
comp=Z,11nm,0.9s
GURO Guroymak-BITLI 68.87 313 P P 06 30 45.7 +0.2
GURO IAmb IAmb 06 30 47.1
comp=Z,12nm,1.1s
MARD Mardin 69.36 311 P P 06 30 48.6 +0.1
KBZ Khabaz 70.26 318 P P 06 30 54.0 +0.4
comp=Z,9.7nm,0.9s,baz=105,slow=4.7,SNR=14
ASF Jabal al Asfar 70.83 305 P P 06 30 58.8 +1.3
comp=Z,11nm,0.9s,baz=265,slow=4.0,SNR=9.6
BELG Belogornoye 71.40 328 P P 06 30 59.3 -1.1
comp=Z,21nm,0.8s,baz=152,slow=1.7,SNR=6.9
EIL Elat 71.81 302 P P 06 31 04.5 +1.1
comp=Z,13nm,0.8s,baz=123,slow=4.1,SNR=11
PETK Petropavlovsk- 72.03 31 P P 06 31 04.7 +0.5
comp=Z,6.4nm,0.7s,baz=213,slow=7.9,SNR=7.9
MMAI Mount Meron Ar 72.27 306 P P 06 31 07.0 +0.9
comp=Z,1.3nm,0.4s,baz=94,slow=7.6,SNR=6.8
NRIK Noril'sk 72.40 355 P P 06 31 05.1 -0.9
comp=Z,8.6nm,0.4s,baz=159,slow=4.7,SNR=16
NRIK Noril'sk 72.40 355 P P 06 31 04.5 -1.6
NRIK IAmb IAmb 06 31 06.4
comp=Z,30nm,1.1s
KIRV Kirov 73.84 334 P P 06 31 14.2 -0.4
comp=Z,30nm,0.7s,baz=92,slow=1.7,SNR=8.9
CSS Mathiatis 74.42 307 P P 06 31 19.2 +0.6
CSS IAmb IAmb 06 31 20.0
comp=Z,24nm,1.1s
BR131 Keskin Array S 75.43 312 P P 06 31 23.9 -0.5
BR131 IAmb IAmb 06 31 24.5
comp=Z,12nm,0.8s
BRTR Keskin Array B 75.43 312 P P 06 31 23.7 -0.7
comp=Z,6.2nm,0.8s,baz=129,slow=8.0,SNR=21
TIXI Tiksi 75.98 8 P P 06 31 25.8 -0.8
comp=Z,14nm,0.8s,baz=157,slow=7.8,SNR=3.6
BKZ Black Stump Fm 76.11 130 P P 06 31 28.3 +0.1
BKZ IAmb IAmb 06 31 50.7
comp=Z,37nm,1.5s
BOSA Boshof 77.53 241 P P 06 31 38.6 +2.2
comp=Z,3.2nm,0.7s,baz=99,slow=6.2,SNR=6.3
BOSA Boshof 77.53 241 IAmb IAmb 06 31 44.4
comp=Z,18nm,1.5s
KLMR Klimovskoe 79.32 334 *eP* P 06 31 35.7 -10
KLMR AMP 06 31 46.1
comp=Z,21nm,1.4s
VNDA Vanda 81.22 169 P P 06 31 56.7 +1.5
comp=Z,1.1nm,0.7s,baz=298,slow=3.5,SNR=6.6
IDI Anoyia 81.26 306 P P 06 31 57.0 +0.6
comp=Z,10.0nm,0.7s,baz=79,slow=7.6,SNR=8.2
SORM Soroca 81.27 319 ⇓P P 06 31 55.7 -0.3
AKASG Malin Array Be 81.34 322 P P 06 31 55.3 -1.0
comp=Z,0.7nm,0.3s,baz=85,slow=4.8,SNR=7.8
BISRR Bisoca 81.79 317 ⇑P P 06 32 02.4 +3.5
VRI Vrincioaia 81.84 317 ⇑P P 06 31 59.2 +0.1
TESR Tescani 82.03 317 ⇑P P 06 31 53.6 -6.5
MLR Muntele Rosu 82.31 316 ⇑P P 06 32 03.0 +1.3
MLR Muntele Rosu 82.31 316 P P 06 32 01.9 +0.2
comp=Z,13nm,1.1s,baz=342,slow=6.1,SNR=4.2
MLR Muntele Rosu 82.31 316 P P 06 32 00.8 -0.9
MLR IAmb IAmb 06 32 03.2
comp=Z,16nm,1.0s
MNK Minsk 83.08 326 *i* P **P 06 32 02.9 -2.4**
comp=E,3.0nm,0.9s
MNK *i* P **P 06 32 02.9 -2.4**
comp=N,19nm,0.9s
MNK *i* P **P 06 32 02.9 -2.4**
comp=Z,21nm,0.9s,baz=104
MNK *i* pP **pP 06 32 53.5 -0.6**
MNK *i* sP **sP 06 33 19.2 +3.9**
MNK *i* PP **PP 06 35 16.8 -2.4**
MNK *i* PPP PPP 06 37 09.4
MNK *i* S **S 06 42 01.9 -5.9**
MNK *i* sS **sS 06 43 34.9 +1.9**
MNK *i* SS **SS 06 47 35.6 -0.9**
MNK *i* SSS SSS 06 51 30.5
BURAR Bucovina Array 83.21 318 ⇓P P 06 31 57.2 -9.1
BURAR Bucovina Array 83.21 318 P P 06 32 06.8 +0.5
BUR08 Bucovina Ar. S 83.23 318 P P 06 32 06.6 +0.2
CJR Cluj-Napoca 84.14 317 ⇑P P 06 32 09.4 -1.5
DRGR 84.75 317 ⇓P P 06 32 14.7 +0.7
KOLS Kolonicke sedl 85.38 319 *eP* **P 06 32 18.6 +1.6**
FINES FINESS Array B 85.66 332 P P 06 32 17.0 -1.0
comp=Z,3.3nm,0.7s,baz=107,slow=6.6,SNR=7.7
ARCES ARCESS Array B 87.75 340 P P 06 32 27.8 -0.2
comp=Z,4.9nm,0.7s,baz=98,slow=6.1,SNR=33
MODS Modra-Piesok 88.60 318 *eP* **P 06 32 32.0 -0.5**
GERES GERESS Array B 91.00 319 P P 06 32 43.6 -0.2
comp=Z,0.4nm,0.4s,baz=57,slow=4.9,SNR=7.3
GERES PP **PP 06 36 24.0 +1.0**
comp=Z,0.3nm,0.2s,baz=102,slow=9.1,SNR=3.4
HFS Hagfors 91.50 330 P P 06 32 45.9 +0.2
comp=Z,4.8nm,0.7s,baz=114,slow=3.6,SNR=8.7
SPITS Spitsbergen Ar 91.60 348 P P 06 32 44.9 -1.0
comp=Z,1.2nm,0.3s,baz=112,slow=8.2,SNR=7.8
NOA NORSAR Array B 92.74 331 P P 06 32 51.3 -0.2
comp=Z,1.3nm,0.7s,baz=91,slow=4.7,SNR=7.8
DAVOX Davos/Dischmat 93.53 317 P P 06 32 56.7 +1.1
comp=Z,2.9nm,0.7s,baz=240,slow=1.2,SNR=4.2
NVAR Mina Array Bea 128.43 41 PKP PKPdf 06 38 46.4 +0.6
comp=Z,0.3nm,0.6s,baz=342,slow=5.0,SNR=3.0
ELK Elko 128.99 37 PKP PKPdf 06 38 44.5 -2.3
comp=Z,0.4nm,0.4s,baz=68,slow=5.4,SNR=2.8
CPUP Villa Florida 145.29 213 PKPbc PKPdf 06 39 17.9 +1.1
comp=Z,2.4nm,0.8s,baz=222,slow=2.7,SNR=5.6
BDFB Brasilia 145.64 237 PKPbc PKPdf 06 39 18.9 +1.0
comp=Z,6.5nm,0.8s,baz=142,slow=4.2,SNR=11
LPAZ La Paz 159.12 206 PKP PKPdf 06 39 37.0 -1.1
comp=Z,1.7nm,1.0s,baz=34,slow=3.6,SNR=5.2

IDC ***22*** *06:20:02.4±1.2,81°.30N×16°.04W,h0km,mb3.7/8, mb1 3.9/9,mb1mx3.6/64,mbtmp3.8/9,ML4.7/1,MS3.2/4, Ms1 3.1/4,ms1mx2.6/58,Error ellipse: s-maj=40.6km s-min=21.9km az=6.0*
NEIC ***22*** *06:20:03.4±2.7,81°.4N±0°.1×16°.2W±0°.5,h10km±1km, mb4.1/8,Error ellipse: s-maj=19.5km s-min=11.5km az=12.0.*
DNK ***22*** *06:20:04.0±4.1,81°.66N×15°.73W,h12km±12km,ML2.7*
ISC 22 06:20:03.8±0.9,81°.49N±0°.07×16°.13W±0°.05,h15km±6km, n51,σ1°.93/60,mb3.9/11,Near north coast of Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**0.14**	**324**	*i* P	**Pg**	**06 20 07.4**	**-0.1**
NOR				*i* S	**Sg**	**06 20 09.6**	**-0.3**
NOR				IAML		06 20 11.1	
	comp=Z,7μm,0.3s						
NOR	**Nord**	**0.14**	**324**	*i* P	**Pg**	**06 20 07.4**	**-0.1**
NOR				*i* S	**Sg**	**06 20 09.6**	**-0.3**
NOR				IAML		06 20 11.1	
	comp=Z,7μm,0.3s						
DAG	**Danmarks Havn**	**4.77**	**187**	*i* P	**Pn**	**06 21 16.6**	**+1.6**
DAG				*i* P	**Pn**	**06 21 19.0**	**+4.0**
DAG				*i* P	Pn	06 21 20.0	+5.0
DAG				IAML		06 22 12.8	
	comp=Z,25nm,0.3s						
DAG	**Danmarks Havn**	**4.77**	**187**	*i* P	**Pn**	**06 21 16.6**	**+1.6**
DAG				*e*S	**Sn**	**06 22 10.6**	**+0.8**
DAG				IAML		06 22 12.8	
	comp=Z,25nm,0.3s						
KBS	**Kingsbay**	**5.38**	**104**	*i* P	**Pn**	**06 21 22.8**	**-0.5**
KBS	**Kingsbay**	**5.38**	**104**	*e*P	**Pn**	**06 21 22.7**	**-0.5**
KBS				*e*S	**Sn**	**06 22 21.4**	**-3.4**
KBS				IAML		06 22 28.1	
	comp=Z,6.8nm,0.6s						
KBS	**Kingsbay**	**5.38**	**104**	Pn	**Pn**	**06 21 22.8**	**-0.5**
SPA0	**Spitsbergen Ar**	**6.54**	**103**	*e*P	**Pn**	**06 21 38.9**	**-0.3**
SPA0				*e*S	**Sn**	**06 22 52.0**	**-1.4**
SPA0				IAML		06 22 53.9	
	comp=Z,4.4nm,0.8s						
SPITS	**Spitsbergen Ar**	**6.54**	**103**	Pn	**Pn**	**06 21 39.2**	**0.0**
	baz=320,slow=7.6,SNR=90						
SPITS				Sn	**Sn**	**06 22 51.9**	**-1.5**
	baz=327,slow=13,SNR=1.2						
SPB2	**Spitsbergen Ar**	**6.54**	**103**		**Pn**	**06 21 39.2**	**0.0**
DBG	**Daneborg**	**7.27**	**189**	*e*	**Pn**	**06 21 47.1**	**-2.2**
	baz=7.8,slow=11						
DBG				*i* P	**Pn**	**06 21 49.7**	**+0.4**
DBG				*i* S	**Sn**	**06 23 08.3**	**-3.1**
DBG				IAML		06 23 14.6	
	comp=Z,16nm,0.4s						
DBG	**Daneborg**	**7.27**	**189**	*e*	**Pn**	**06 21 47.1**	**-2.2**
	baz=7.8,slow=11						
DBG				*i* P	**Pn**	**06 21 49.7**	**+0.4**
DBG				*i* S	**Sn**	**06 23 08.3**	**-3.1**
DBG				IAML		06 23 14.6	
	comp=Z,16nm,0.4s						
HSPB	**Hornsund (broa**	**7.31**	**111**	*e*P	**Pn**	**06 21 50.4**	**+0.6**
NEEM	**North Greenlan**	**7.43**	**256**	*i* P	**Pn**	**06 21 51.4**	**-0.3**
NEEM				*i* S	**Sn**	**06 23 13.1**	**-2.5**
NEEM				IAML		06 23 18.1	
	comp=Z,33nm,0.4s						
HOPEN	**Hopen**	**9.05**	**101**	*e*P	**Pn**	**06 22 12.2**	**-1.4**
SUMG	**Summit**	**10.13**	**221**	*i* P	**Pn**	**06 22 28.0**	**-0.7**
SUMG				*i* P	**Pn**	**06 22 28.5**	**-0.3**
SUMG	**Summit**	**10.13**	**221**	*i* P	**Pn**	**06 22 28.0**	**-0.7**
SUMG				*i* P	**Pn**	**06 22 28.5**	**-0.3**
SUMG	**Summit**	**10.13**	**221**		**Pn**	**06 22 27.1**	**-1.7**
EUNU	**Eureka**	**10.73**	**298**		**Pn**	**06 22 35.9**	**-0.8**
TULEG	**Thule**	**10.74**	**271**	*i* P	**Pn**	**06 22 34.0**	**-2.7**
TULEG				*i* P	**Pn**	**06 22 34.0**	**-2.7**
TULEG				IAML		06 24 37.1	
	comp=Z,16nm,0.4s						
TULEG	**Thule**	**10.74**	**271**	*i* P	**Pn**	**06 22 34.0**	**-2.7**
TULEG				*i* P	**Pn**	**06 22 34.0**	**-2.7**
TULEG				IAML		06 24 37.1	
	comp=Z,16nm,0.4s						
TULEG	**Thule**	**10.74**	**271**	Pn	**Pn**	**06 22 35.7**	**-1.1**
SCO	**Scoresbysund**	**11.15**	**190**	*e*P	**Pn**	**06 22 46.3**	**+4.0**
SCO				IAML		06 24 50.8	
	comp=Z,2.0nm,0.5s						
SCO	**Scoresbysund**	**11.15**	**190**	*e*P	**Pn**	**06 22 46.3**	**+4.0**
SCO				IAML		06 24 50.8	
	comp=Z,2.0nm,0.5s						
UPNV	**Upernavik**	**12.05**	**246**	*e*P	**Pn**	**06 22 52.1**	**-2.5**
UPNV				IAML		06 25 06.5	
	comp=Z,17nm,0.5s						
UPNV	**Upernavik**	**12.05**	**246**	*e*P	**Pn**	**06 22 52.1**	**-2.5**
UPNV				IAML		06 25 06.5	
	comp=Z,17nm,0.5s						
ARCES	**ARCESS Array B**	**15.24**	**117**	Pn	**Pn**	**06 23 38.6**	**+0.5**
RES	**Resolute Bay**	**16.05**	**290**	Pn	**Pn**	**06 23 44.8**	**-3.7**
	comp=Z,0.4nm,0.3s,baz=17,slow=12,SNR=1.6						
RES				Sn	Sn	06 26 33.1	-13
	comp=Z,0.4nm,0.3s,baz=119,slow=8.3,SNR=3.7						
RES	**Resolute Bay**	**16.05**	**290**	IAmb	IAmb	06 24 00.2	
	comp=Z,16nm,1.2s						
SFJD	**Kangerlussuaq**	**16.76**	**231**	LR	LR	06 29 59.1	
	comp=Z,100nm,18.3s,baz=304,slow=36						
SFJD	**Kangerlussuaq**	**16.76**	**231**	Pn	**Pn**	**06 23 54.9**	**-2.6**
BORG	**Borgarnes**	**16.89**	**188**	LR	LR	06 29 35.5	
	comp=Z,38nm,18.5s,baz=292,slow=34						
NOA	**NORSAR Array B**	**21.84**	**143**	P	**P**	**06 24 57.4**	**+2.1**
	comp=Z,1.0nm,0.8s,baz=350,slow=9.8,SNR=3.3						
FINES	**FINESS Array B**	**23.04**	**124**	P	**P**	**06 25 07.7**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=343,slow=12,SNR=11						
FINES	**FINESS Array B**	**23.04**	**124**	P	**P**	**06 25 07.5**	**-0.4**
KIRV	**Kirov**	**29.00**	**100**	LR	LR	06 40 21.4	
	comp=Z,52nn,18.9s,baz=307,slow=42						
SCHQ	**Schefferville**	**30.56**	**242**	LR	LR	06 38 39.7	
	comp=Z,35nn,18.4s,baz=316,slow=37						
DAWY	**Dawson**	**31.55**	**315**	P	**P**	**06 26 26.0**	**+1.1**
DAWY				IAmb	IAmb	06 26 31.2	
	comp=Z,4.7nm,1.4s						
BCAR	**Beaver Creek A**	**32.77**	**317**	P	**P**	**06 26 37.0**	**+1.4**
AKASG	**Malin Array Be**	**33.93**	**126**	P	**P**	**06 26 43.7**	**-2.1**
	comp=Z,7.0nm,0.5s,baz=349,slow=9.7,SNR=4.3						
AKASG	**Malin Array Be**	**33.93**	**126**	IAmb	IAmb	06 26 51.8	
	comp=Z,0.4nm,0.8s						
HYT	**Haines Junctio**	**34.51**	**312**	P	**P**	**06 26 52.9**	**+2.1**
HYT				IAmb	IAmb	06 27 12.1	
	comp=Z,5.0nm,1.4s						
AKTO	**Aktyubinsk**	**38.16**	**95**	P	**P**	**06 27 22.9**	**+1.0**
	comp=Z,1.4nm,0.9s,baz=350,slow=12,SNR=3.6						
KURK	**Kurchatov**	**40.93**	**75**	P	**P**	**06 27 46.7**	**+1.7**
KURBB	**Kurchatov Arra**	**41.01**	**75**	P	**P**	**06 27 46.7**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=345,slow=7.6,SNR=7.8						
KBZ	**Khabaz**	**42.55**	**113**	P	**P**	**06 28 00.3**	**+2.1**
	comp=Z,2.7nm,0.7s,baz=270,slow=12,SNR=4.1						
MKAR	**Makanchi Array**	**45.29**	**73**	P	**P**	**06 28 20.5**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=3.3,slow=8.5,SNR=4.0						
TX31	**Lajitas Ar. Si**	**60.82**	**272**	P	**P**	**06 30 16.2**	**+1.2**
TXAR	**Lajitas Array**	**60.82**	**272**	P	**P**	**06 30 16.3**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=48,slow=3.5,SNR=7.5						
TORD	**Torodi Ar. Bea**	**68.80**	**161**	P	**P**	**06 31 06.4**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=0.0,slow=7.6,SNR=2.2						
TORD	**Torodi Ar. Bea**	**68.80**	**161**	IAmb	IAmb	06 31 07.4	
	comp=Z,2.0nm,1.4s						

IDC ***22*** *06:25:03.9±1.2,39°.14N×29°.27E,h0km,mb3.7/6, mb1 3.9/11,mb1mx3.6/69,mbtmp3.7/11,ML4.1/4,MS2.9/3, Ms1 3.0/3,ms1mx2.4/56,Error ellipse: s-maj=21.2km s-min=15.4km az=26.0*
ISK ***22*** *06:25:04.6,39°.15N×29°.13E,h11km,ML4.1/57*
DDA ***22*** *06:25:04.6,39°.13N×29°.12E,h9km±1km,MW4.3*
NEIC ***22*** *06:25:07.0±2.3,39°.12N±0°.05×29°.06E±0°.07,h15km±9km, Error ellipse: s-maj=7.6km s-min=7.0km az=49.0*

SOF ***22*** *06:25:06.6,39°.35N×28°.98E,h5km,MD4.4*
ISC 22 06:25:05.2±0.8,39°.15N±0°.01×29°.13E±0°.01,h12km±5km, n186,σ0s99/218,mb3.6/6,30C-10D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMAA	**Simav-Kutahya**	**0.13**	**247**	PG	**Pg**	**06 25 08.4**	**0.0**
SIMA	**Simav-Kutahya**	**0.13**	**240**	PG	**Pg**	**06 25 08.4**	**-0.1**
SIMA				SG	**Sg**	**06 25 10.8**	**-0.1**
SHAP	**Saphane-Kutahy**	**0.15**	**151**	PG	**Pg**	**06 25 08.5**	**-0.2**
GEDZ	**Gediz**	**0.24**	**116**	PG	**Pg**	**06 25 10.2**	**-0.1**
GEDZ				SG	**Sg**	**06 25 13.7**	**-0.1**
GDZ	**Gediz**	**0.28**	**103**	⇓*i* P	**Pg**	**06 25 10.7**	**-0.3**
GDZ				*i* S	**Sg**	**06 25 14.9**	**0.0**
DEMI	**Demirci**	**0.34**	**252**	⇑*i* P	**Pg**	**06 25 11.8**	**-0.3**
DEMI				*i* S	**Sg**	**06 25 16.5**	**-0.1**
TVSB	**Tavsanli**	**0.39**	**41**	PG	**Pg**	**06 25 13.0**	**0.0**
TVSB				SG	**Sg**	**06 25 18.6**	**+0.3**
USAK	**Uak-Merkez**	**0.45**	**191**	⇑*i* P	**Pg**	**06 25 13.5**	**-0.4**
USAK				*i* S	**Sg**	**06 25 19.4**	**-0.5**
DST	**Dursunbey**	**0.60**	**319**	PG	**Pg**	**06 25 16.5**	**-0.4**
DURS	**Dursunbey**	**0.68**	**312**	⇑*i* P	**Pg**	**06 25 18.2**	**-0.1**
DURS				*i* S	**Sb**	**06 25 29.3**	**+0.9**
ANDZ	**Kutahya, Merke**	**0.69**	**59**	⇑*i* P	**Pg**	**06 25 18.2**	**-0.4**
ANDZ				*i* S	**Sg**	**06 25 27.9**	**+0.1**
KULA	**Kula-Manisa**	**0.73**	**210**	P	**Pg**	**06 25 18.5**	**-0.8**
KULA	**Kula-Manisa**	**0.73**	**210**	PG	**Pg**	**06 25 18.6**	**-0.8**
MANT	**Manisa**	**0.80**	**214**	⇑*i* P	**Pg**	**06 25 19.7**	**-0.9**
MANT				*i* S	**Sg**	**06 25 29.5**	**-1.6**
PASA	**Karahalli, USA**	**0.85**	**161**	⇑*i* P	**Pg**	**06 25 21.0**	**-0.6**
PASA				*i* S	**Sg**	**06 25 31.8**	**-0.9**
KHL	**Karahalli**	**0.88**	**159**	PG	**Pb**	**06 25 21.9**	**-0.6**
ORLT	**Orhaneli**	**0.91**	**349**	PG	**Pb**	**06 25 22.8**	**-0.2**
AFYO	**Afyonkarahisar**	**0.98**	**111**	*i* P	**Pb**	**06 25 24.1**	**-0.1**
AFYO				*i* S	**Sb**	**06 25 37.1**	**0.0**
ULDT	**Uludag**	**0.99**	**0**	⇑*i* P	**Pg**	**06 25 23.7**	**-0.6**
ULDT				*i* S	**Sg**	**06 25 37.1**	**-0.1**
AUBOZ	**BOZOYUK**	**1.03**	**42**	⇑*i* P	**Pg**	**06 25 24.5**	**-0.6**
AUBOZ				*i* S	**Sn**	**06 25 42.0**	**+2.0**
AUBOZ	**BOZOYUK**	**1.03**	**42**	PG	**Pg**	**06 25 24.3**	**-0.7**
AUBOZ				SG	**Sn**	**06 25 40.1**	**+0.2**
AKHS	**Akhisar**	**1.06**	**256**	⇑*i* P	**Pb**	**06 25 25.1**	**-0.4**
AKHS				*i* S	**Sn**	**06 25 40.1**	**-0.5**
AKS	**Akhisar**	**1.06**	**256**	PG	**Pn**	**06 25 25.2**	**-0.7**
BALB	**Balikesir**	**1.08**	**297**	PN	**Pn**	**06 25 26.1**	**-0.1**
BALB	**Balikesir**	**1.08**	**297**		**Pn**	**06 25 26.3**	**+0.1**
AUKIR	**Kırka- Seyitga**	**1.09**	**83**	*e*P	**Pn**	**06 25 26.2**	**-0.2**
AUKIR				*i* S	**Sn**	**06 25 43.7**	**+2.1**
IGD	**Bursa**	**1.11**	**3**	*i* P	**Pb**	**06 25 26.1**	**-0.3**
IGD				*i* S	**Sg**	**06 25 40.9**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.12**	**282**	⇑*i* P	**Pn**	**06 25 26.3**	**-0.4**
STEP				*i* S	**Sn**	**06 25 42.3**	**+0.2**
BILE	**Bilecik/Merkez**	**1.16**	**29**	*i* P	**Pb**	**06 25 26.9**	**-0.3**
BILE				*i* S	**Sb**	**06 25 43.1**	**+0.7**
CAVI	**Cavuskoy**	**1.19**	**27**	PN	**Pb**	**06 25 27.3**	**-0.3**
KZIL	**AFYON_Kizioren**	**1.19**	**138**	⇑*i* P	**Pn**	**06 25 27.4**	**-0.4**
KZIL				*i* S	**Sn**	**06 25 44.7**	**+0.8**
MDNY	**Mudanya-Bursa**	**1.23**	**351**	PN	**Pg**	**06 25 28.5**	**-0.3**
BORA	**Eskisehir**	**1.26**	**54**	*i* P	**Pn**	**06 25 28.4**	**-0.2**
BORA				*i* S	**Sn**	**06 25 45.9**	**+0.4**
BORA	**Eskisehir**	**1.26**	**54**	PN	**Pn**	**06 25 28.3**	**-0.3**
SHUT	**Suhut-Afyon**	**1.26**	**118**	PN	**Pg**	**06 25 28.8**	**-0.6**
KCTX	**Karacabey (Bur**	**1.26**	**332**	PN	**Pb**	**06 25 28.8**	**-0.1**
GEMT	**Gemlik**	**1.28**	**2**	PN	**Pn**	**06 25 28.9**	**0.0**
BALY	**Balya**	**1.31**	**297**	⇓*i* P	**Pb**	**06 25 29.4**	**-0.4**
BALY				*i* S	**Sg**	**06 25 47.2**	**-0.2**
ADVT	**Abdulvahap**	**1.36**	**20**	PN	**Pn**	**06 25 30.1**	**+0.1**
SGAZ	**Eskisehir, Sey**	**1.38**	**74**	*i* P	**Pn**	**06 25 30.3**	**0.0**
SGAZ				*i* S	**Sb**	**06 25 47.4**	**-1.1**
YLV	**Yalova**	**1.43**	**7**	PN	**Pn**	**06 25 30.9**	**-0.1**
ARMT	**Armutlu**	**1.43**	**352**	PN	**Pn**	**06 25 30.5**	**-0.4**
GONE	**Gonen-Balikesi**	**1.43**	**309**	PN	**Pb**	**06 25 31.2**	**-0.6**
TRML	**Termal-Yalova**	**1.46**	**1**	PN	**Pn**	**06 25 31.3**	**0.0**
SRCK	**Saricakaya, Es**	**1.46**	**52**	PN	**Pn**	**06 25 31.7**	**+0.4**
CIFT	**Ciftetler, Eski**	**1.52**	**81**	PN	**Pn**	**06 25 32.1**	**-0.1**
EDC	**Edincik**	**1.54**	**321**	PN	**Pn**	**06 25 32.8**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.55**	**219**	PN	**Pn**	**06 25 32.1**	**-0.6**
GEYV	**SAKARYA_Geyve**	**1.61**	**34**	*i* P	**Pn**	**06 25 33.4**	**0.0**
GEYV				*i* S	**Sg**	**06 25 57.2**	**+0.3**
ZEDA	**zmir-Bergama**	**1.61**	**264**	*i* P	**Pn**	**06 25 33.1**	**-0.3**
ZEDA				*i* S	**Sg**	**06 25 57.1**	**+0.2**
BRDR	**BURDUR-Merkez**	**1.63**	**153**	⇑*i* P	**Pn**	**06 25 32.9**	**-0.8**
BRDR				*i* S	**Sg**	**06 25 59.6**	**+2.1**
BUHA	**Balikesir, Bur**	**1.63**	**283**	*i* P	**Pn**	**06 25 33.7**	**0.0**
BUHA				*i* S	**Sg**	**06 25 56.7**	**-0.9**
GULT	**Gulveren**	**1.67**	**39**	PN	**Pn**	**06 25 34.3**	**0.0**
KNL	**Balıkesir**	**1.67**	**313**	*i* P	**Pn**	**06 25 34.7**	**+0.5**
KNL				*i* S	**Sg**	**06 25 58.1**	**-0.7**
TAVA	**DENIZLI_Tavas**	**1.69**	**186**	*i* P	**Pb**	**06 25 35.7**	**-0.6**
TAVA				*i* S	**Sg**	**06 25 58.8**	**-0.8**
ISP	**Isparta**	**1.72**	**140**	PN	**Pn**	**06 25 34.0**	**-0.6**
ISP	**Isparta**	**1.72**	**140**	Pn	**Pn**	**06 25 34.7**	**-0.3**
HRT	**Hereke**	**1.72**	**14**	PN	**Pn**	**06 25 34.8**	**-0.2**
DKL	**Dikili**	**1.73**	**268**	PN	**Pn**	**06 25 35.1**	**0.0**
BAGO	**Egridir - ISPA**	**1.74**	**131**	*i* P	**Pn**	**06 25 34.8**	**-0.5**
AYDN	**

ANTO	**Ankara**	**2.92**	**75**	Pn	**Pb**	**06 25 56.1 -1.2**
ALN	**Alexandroupoli**	**2.94**	**307**	P	**Pn**	**06 25 52.4 +0.7**
ALN	**Alexandroupoli**	**2.94**	**307**	Pn	**Pn**	**06 25 52.4 +0.7**
KSL	**Kastellorizon**	**3.02**	**173**	P	**Pn**	**06 25 53.8 +1.1**
RDO	**Rodhopi**	**3.40**	**307**	PN	**Pn**	**06 25 58.8 +0.8**
APE	**Apeiranthos**	**3.52**	**235**	⇑P	**Pg**	**06 26 12.7 +0.2**
BR131	**Keskin Array S**	**3.54**	**79**		**Pn**	**06 26 01.2 +1.2**
BRTR	**Keskin Array B**	**3.54**	**79**	Pn	**Pn**	**06 26 00.8 +0.7**
	0.7nm,0.3s,baz=254,slow=13,SNR=27					
BRTR				Sn	**Sn**	**06 26 41.6 -0.3**
	2.1nm,0.3s,baz=273,slow=17,SNR=2.7					
BRTR				LR	LR	06 27 55.1
	comp=Z,96nm,21.8s,baz=238,slow=50					
BRTR	**Keskin Array B**	**3.54**	**79**	Pn	**Pn**	**06 26 01.0 +0.9**
KDZ	**Kurdzhali**	**3.78**	**313**	*i* P	**Pn**	**06 26 04.4 +1.2**
JMB	**Yambol**	**3.83**	**331**	P	**Pn**	**06 26 05.6 +1.6**
DIM	**Dimitrovgrad**	**3.98**	**318**	P	**Pn**	**06 26 07.0 +0.9**
RZN	**Rozhen**	**4.22**	**308**	P	**Pn**	**06 26 10.6 +1.2**
PRD	**Provadia**	**4.25**	**343**	P	**Pn**	**06 26 10.2 +0.5**
PLD	**Plovdiv**	**4.48**	**313**	P	**Pn**	**06 26 13.8 +1.0**
BZK	**Bozkurt**	**4.65**	**51**	⇑P	**Pb**	**06 26 24.7 -1.9**
SZH	**Strazhica**	**4.77**	**331**	P	**Pn**	**06 26 17.3 +0.5**
RAZG	**Razgrad**	**4.83**	**337**	⇓P	**Pn**	**06 26 18.7 +1.0**
ICOR	**Ion Corvin**	**5.06**	**349**	⇓P	**Pn**	**06 26 22.5 +1.7**
AGG	**Agios Georgios**	**5.29**	**271**	Pn	**Pn**	**06 26 22.5 -1.6**
DIKM	**Dikmen**	**5.30**	**60**	P	**Pb**	**06 26 33.7 -4.1**
TIRR	**Tirgusor**	**5.33**	**354**	⇑P	**Pn**	**06 26 25.7 +1.2**
TIRR	**Tirgusor**	**5.33**	**354**	Pn	**Pn**	**06 26 25.4 +0.9**
CSS	**Mathiatis**	**5.36**	**140**	Pn	**Pn**	**06 26 25.6 +0.6**
VTS	**Vitosha**	**5.65**	**310**	⇑P	**Pn**	**06 26 31.1 +2.0**
VTS	**Vitosha**	**5.65**	**310**	Pn	**Pn**	**06 26 30.6 +1.4**
MPEP	**Malo Peshtene**	**5.84**	**318**	P	**Pn**	**06 26 33.5 +1.9**
STIP	**Stip**	**5.88**	**298**	*i* Pn	**Pn**	**06 26 31.3 -0.8**
FNA	**Florina**	**6.18**	**288**		**Pn**	**06 26 38.0 +1.8**
MLR	**Muntele Rosu**	**6.76**	**341**	⇓P	**Pn**	**06 26 46.0 +1.6**
MLR	**Muntele Rosu**	**6.76**	**341**	Pn	**Pn**	**06 26 46.2 +1.9**
	1.8nm,0.3s,baz=318,slow=0.3,SNR=17					
MLR	**Muntele Rosu**	**6.76**	**341**	Pn	**Pn**	**06 26 46.4 +2.1**
MTUR	**Matau**	**6.78**	**335**	⇓P	**Pn**	**06 26 45.9 +1.4**
PLOR	**Plostina**	**6.94**	**346**	⇓P	**Pn**	**06 26 47.9 +1.2**
VRI	**Vrincioaia**	**6.94**	**346**	⇑P	**Pn**	**06 26 48.1 +1.5**
VOIR		**6.97**	**336**	⇓P	**Pn**	**06 26 48.3 +1.2**
COVR	**Voineasa-Covas**	**7.03**	**343**	⇑P	**Pn**	**06 26 49.4 +1.5**
ARR	**Arges**	**7.05**	**333**	⇑P	**Pn**	**06 26 49.8 +1.6**
BOVS	**Bovan**	**7.16**	**311**	⇑P	**Pn**	**06 26 51.3 +1.7**
DOPR	**Dopca**	**7.35**	**339**	⇑P	**Pn**	**06 26 53.9 +1.7**
LOT	**Lotru**	**7.44**	**329**	⇑P	**Pn**	**06 26 54.7 +1.1**
TESR	**Tescani**	**7.58**	**347**	⇑P	**Pn**	**06 26 56.9 +1.5**
HERR	**Herculane**	**7.60**	**321**	⇑P	**Pn**	**06 26 56.1 +0.4**
PUK	**Puka**	**7.60**	**295**	Pn	**Pn**	**06 26 58.5 +2.8**
GZR	**Gura Zlata**	**7.81**	**325**	⇑P	**Pn**	**06 26 59.0 +0.3**
MDVR	**Moldovita**	**7.88**	**318**	⇓P	**Pn**	**06 27 00.7 +1.0**
MMAI	**Mount Meron Ar**	**7.95**	**138**	Pn	**Pn**	**06 27 01.0 +0.3**
	3.2nm,0.3s,baz=323,slow=12,SNR=11					
BIZ	**Bicaz**	**8.09**	**345**	⇓P	**Pn**	**06 27 04.1 +1.6**
BZS	**Buzias**	**8.52**	**322**	⇑P	**Pn**	**06 27 09.7 +1.3**
BURAR	**Bucovina Array**	**8.93**	**343**	⇑P	**Pn**	**06 27 15.8 +1.8**
BURAR	**Bucovina Array**	**8.93**	**343**	Pn	**Pn**	**06 27 15.6 +1.6**
BUR08	**Bucovina Ar. S**	**8.96**	**343**		**Pn**	**06 27 15.8 +1.3**
SORM	**Soroca**	**9.00**	**357**	⇑P	**Pn**	**06 27 15.4 +0.6**
KOVH	**Kovagotottos**	**10.68**	**314**	*eP*	Pn	06 27 42.6 +4.7
AKASG	**Malin Array Be**	**11.55**	**0**	Pn	**Pn**	**06 27 48.6 -1.2**
	0.6nm,0.3s,baz=183,slow=12,SNR=4.6					
MPLH	**Magyarpolny**	**11.65**	**317**	*eP*	Pn	06 27 59.2 +8.1
GERES	**GERESS Array B**	**14.71**	**316**	Pn	**P**	**06 28 36.4 -2.9**
	0.3nm,0.3s,baz=125,slow=16,SNR=8.5					
DAVOX	**Davos/Dischmat**	**16.00**	**305**	Pn	**P**	**06 28 56.0 +2.4**
	0.1nm,0.3s,baz=126,slow=14,SNR=2.6					
CLL	**Collm**	**16.59**	**322**	*i* (sP)	sP	06 29 02.3 -3.0
FINES	**FINESS Array B**	**22.40**	**356**	P	**P**	**06 30 04.0 +0.8**
	4.8nm,0.9s,baz=160,slow=13,SNR=5.7					
FINES	**FINESS Array B**	**22.40**	**356**	P	**P**	**06 30 04.1 +0.9**
HFS	**Hagfors**	**23.14**	**340**	LR	LR	06 40 46.9
	comp=Z,73nm,18.3s,baz=227,slow=41					
AKTO	**Aktyubinsk**	**23.25**	**52**	P	**P**	**06 30 11.8 -0.4**
	0.7nm,0.3s,baz=256,slow=13,SNR=4.3					
NOA	**NORSAR Array B**	**24.58**	**339**	P	**P**	**06 30 24.9 +0.1**
	1.4nm,0.9s,baz=141,slow=9.2,SNR=4.3					
NOA				LR	LR	06 39 43.0
	comp=Z,28nm,19.2s,baz=325,slow=36					
EKA	**Eskdalemuir Ar**	**26.92**	**318**	P	**P**	**06 30 48.5 +2.5**
	2.0nm,0.5s,baz=111,slow=11,SNR=3.1					
TORD	**Torodi Ar. Bea**	**35.48**	**231**	P	**P**	**06 32 01.8 +0.1**
	0.7nm,0.8s,baz=39,slow=11,SNR=3.8					
MKAR	**Makanchi Array**	**38.99**	**61**	P	**P**	**06 32 31.2 -0.1**
	0.7nm,0.7s,baz=290,slow=5.4,SNR=2.3					

ISK ***22*** *06:25:59.2,39.15N×29.13E,h13km±2km, ML3.4/6*
DDA ***22*** *06:25:59.4,39.11N×29.10E,h7km±3km, ML3.2*
ISC 22 06:25:59.6±0.9,39.12N±0.03×29.12E±0.03,h15km±6km, n17,σ0.46/30,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMAA	**Simav-Kutahya**	**0.11**	**257**	PG	**Pb**	**06 26 03.1**	**-0.3**
SMAA				SG	**Sg**	**06 26 05.6**	**+0.3**
SIMA	**Simav-Kutahya**	**0.11**	**249**	PG	**Pb**	**06 26 03.0**	**-0.5**
SIMA				SG	**Sg**	**06 26 05.3**	**-0.1**
SHAP	**Saphane-Kutahy**	**0.13**	**141**	PG	**Pg**	**06 26 03.2**	**-0.1**
SHAP				SG	**Sg**	**06 26 05.6**	**-0.1**
GEDZ	**Gediz**	**0.24**	**109**	PG	**Pg**	**06 26 04.9**	**0.0**
GEDZ				SG	**Sg**	**06 26 08.7**	**+0.2**
GDZ	**Gediz**	**0.28**	**97**	*i* P	**Pg**	**06 26 05.4**	**-0.3**
GDZ				*i* S	**Sg**	**06 26 09.3**	**-0.6**
GDZ				IAML		06 26 10.0	
	comp=N,3μm,0.3s						
DEMI	**Demirci**	**0.32**	**256**	*i* P	**Pg**	**06 26 06.4**	**+0.1**
DEMI				*i* S	**Sg**	**06 26 10.5**	**-0.4**
DEMI				IAML		06 26 11.0	
	comp=E,2μm,0.4s						
USAK	**Uak-Merkez**	**0.42**	**191**	*i* P	**Pg**	**06 26 08.1**	**+0.1**
USAK				*i* S	**Sg**	**06 26 13.8**	**+0.2**
USAK				IAML		06 26 14.0	
	comp=E,4μm,0.2s						
TVSB	**Tavsanli**	**0.42**	**39**	PG	**Pg**	**06 26 07.7**	**-0.4**
TVSB				SG	**Sg**	**06 26 13.2**	**-0.6**
KULA	**Kula-Manisa**	**0.71**	**211**	PG	**Pg**	**06 26 13.2**	**-0.2**
ANDZ	**Kutahya, Merke**	**0.72**	**57**	*i* P	**Pb**	**06 26 14.4**	**+0.5**
ANDZ				*i* S	**Sg**	**06 26 22.2**	**-0.9**
KUTH	**Kutahya**	**0.75**	**69**	PG	**Pb**	**06 26 14.2**	**-0.2**
MANT	**Manisa**	**0.77**	**215**	*i* P	**Pg**	**06 26 14.3**	**-0.3**
MANT				*i* S	**Sg**	**06 26 23.9**	**-0.9**
MANT				IAML		06 26 25.0	
	comp=E,741nm,0.3s						
MANT				IAML		06 26 26.0	
	comp=N,1μm,0.3s						
PASA	**Karahalli, USA**	**0.83**	**159**	*i* P	**Pb**	**06 26 15.7**	**0.0**
PASA				*i* S	**Sg**	**06 26 25.5**	**-1.0**
KHL	**Karahalli**	**0.86**	**158**	PG	**Pg**	**06 26 16.1**	**-0.2**
KHL				SG	**Sb**	**06 26 27.8**	**+0.2**
ULDT	**Uludag**	**1.02**	**1**	*i* P	**Pb**	**06 26 19.4**	**+0.4**
ULDT				IAML		06 26 37.0	
	comp=E,482nm,0.5s						
AKHS	**Akhisar**	**1.04**	**257**	*i* P	**Pn**	**06 26 20.1**	**+0.4**
KZIL	**AFYON_Kizioren**	**1.18**	**137**	*i* P	**Pg**	**06 26 22.4**	**+0.1**
KZIL				*i* S	**Sn**	**06 26 38.1**	**+0.6**

ISK ***22*** *06:27:25.6,39.16N×29.16E,h11km, ML2.7/7*
DDA ***22*** *06:27:25.2,39.11N×29.12E,h7km±5km, ML2.2*
ISC 22 06:27:26.2±0.9,39.13N±0.03×29.17E±0.03,h14km±6km, n18,σ1.01/29,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHAP	**Saphane-Kutahy**	**0.11**	**158**	PG	**Pg**	**06 27 29.7**	**+0.1**
SHAP				SG	**Sg**	**06 27 31.9**	**+0.1**
SMAA	**Simav-Kutahya**	**0.15**	**260**	PG	**Pg**	**06 27 29.8**	**-0.2**
SMAA				SG	**Sg**	**06 27 32.3**	**-0.3**
SIMA	**Simav-Kutahya**	**0.15**	**254**	PG	**Pg**	**06 27 29.7**	**-0.4**
SIMA				SG	**Sg**	**06 27 32.1**	**-0.6**
GEDZ	**Gediz**	**0.20**	**114**	PG	**Pg**	**06 27 30.8**	**0.0**
GEDZ				SG	**Sg**	**06 27 34.5**	**+0.5**
GDZ	**Gediz**	**0.24**	**99**	*i* P	**Pg**	**06 27 29.8**	**-1.7**
GDZ				*i* S	**Sg**	**06 27 35.7**	**+0.5**
GDZ				IAML		06 27 36.0	
	comp=E,383nm,0.3s						
DEMI	**Demirci**	**0.36**	**257**	*i* P	**Pg**	**06 27 31.6**	**-2.0**
DEMI				*i* S	**Sg**	**06 27 37.6**	**-1.0**
TVSB	**Tavsanli**	**0.39**	**35**	PG	**Pg**	**06 27 33.3**	**-0.9**
USAK	**Uak-Merkez**	**0.43**	**196**	*i* P	**Pg**	**06 27 33.7**	**-1.1**
USAK				*i* S	**Sg**	**06 27 40.2**	**-0.3**
MANT	**Manisa**	**0.79**	**217**	*i* P	**Pg**	**06 27 40.3**	**-1.3**
MANT				*i* S	**Sg**	**06 27 50.8**	**-1.3**
MANT				IAML		06 27 51.0	
	comp=E,130nm,0.3s						
MANT				IAML		06 27 51.0	
	comp=N,155nm,0.2s						
PASA	**Karahalli, USA**	**0.82**	**162**	*i* P	**Pb**	**06 27 42.5**	**+0.4**
PASA				*i* S	**Sg**	**06 27 52.5**	**-0.2**
PASA				IAML		06 27 53.0	
	comp=E,83nm,0.7s						
ULDT	**Uludag**	**1.01**	**359**	*i* P	**Pn**	**06 27 47.1**	**+1.0**
ULDT				*i* S	**Sb**	**06 27 58.3**	**-0.6**
ULDT				IAML		06 28 02.0	
	comp=E,104nm,0.4s						
AKHS	**Akhisar**	**1.08**	**257**	*i* P	**Pn**	**06 27 47.7**	**+0.7**
BALB	**Balikesir**	**1.12**	**298**	PN	**Pn**	**06 27 47.4**	**0.0**
STEP	**BALIKESIR_Sava**	**1.15**	**283**	*i* P	**Pn**	**06 27 50.1**	**+2.2**
STEP				*i* S	**Sn**	**06 28 04.6**	**+1.1**
STEP				IAML		06 28 07.0	
	comp=N,70nm,0.3s						
CAVI	**Cavuskoy**	**1.19**	**26**	PN	**Pn**	**06 27 48.3**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.26**	**350**	PN	**Pn**	**06 27 48.9**	**-0.4**
KCTX	**Karacabey (Bur**	**1.30**	**331**	PN	**Pg**	**06 27 49.9**	**-1.3**
BALY	**Balya**	**1.35**	**298**	*i* P	**Pg**	**06 27 53.3**	**+1.2**

DDA ***22*** *06:29:53.6,39.12N×29.12E,h9km±1km,ML3.2*
ISK ***22*** *06:29:53.7,39.16N×29.13E,h9km, ML3.2/24*
ISC 22 06:29:53.9±0.8,39.12N±0.02×29.13E±0.02,h15km±5km, n46,σ0.42/63,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMAA	**Simav-Kutahya**	**0.12**	**260**	PG	**Pg**	**06 29 57.5**	**+0.1**
SIMA	**Simav-Kutahya**	**0.12**	**252**	PG	**Pg**	**06 29 57.4**	**0.0**
SIMA				SG	**Sg**	**06 29 59.7**	**0.0**
SHAP	**Saphane-Kutahy**	**0.12**	**143**	PG	**Pg**	**06 29 57.4**	**0.0**
GEDZ	**Gediz**	**0.23**	**109**	PG	**Pg**	**06 29 59.1**	**+0.1**
GDZ	**Gediz**	**0.28**	**96**	*i* P	**Pg**	**06 29 59.6**	**-0.2**
GDZ				*i* S	**Sg**	**06 30 03.4**	**-0.5**
DEMI	**Demirci**	**0.33**	**257**	*i* P	**Pb**	**06 30 00.9**	**-0.7**
DEMI				*i* S	**Sg**	**06 30 05.4**	**0.0**
USAK	**Uak-Merkez**	**0.41**	**192**	*i* P	**Pb**	**06 30 02.6**	**-0.3**
USAK				*i* S	**Sg**	**06 30 07.9**	**0.0**
USAK				IAML		06 30 08.0	
	comp=E,1μm,0.4s						
TVSB	**Tavsanli**	**0.42**	**38**	PG	**Pg**	**06 30 01.9**	**-0.4**
DST	**Dursunbey**	**0.62**	**321**	PG	**Pg**	**06 30 05.5**	**-0.6**
DURS	**Dursunbey**	**0.70**	**314**	*i* P	**Pg**	**06 30 07.2**	**-0.3**
KULA	**Kula-Manisa**	**0.71**	**211**	PG	**Pb**	**06 30 07.7**	**-0.3**
ANDZ	**Kutahya, Merke**	**0.71**	**57**	*i* P	**Pg**	**06 30 07.1**	**-0.7**
MANT	**Manisa**	**0.77**	**216**	*i* P	**Pb**	**06 30 08.8**	**-0.3**
MANT				*i* S	**Sg**	**06 30 18.6**	**-0.5**
MANT				IAML		06 30 19.0	
	comp=N,610nm,0.2s						
PASA	**Karahalli, USA**	**0.82**	**160**	*i* P	**Pg**	**06 30 09.7**	**-0.2**
PASA				*i* S	**Sg**	**06 30 19.6**	**-1.0**
AFYO	**Afyonkarahisar**	**0.97**	**110**	*i* P	**Pn**	**06 30 13.2**	**+0.1**
AFYO				*i* S	**Sb**	**06 30 25.6**	**+0.5**
ULDT	**Uludag**	**1.02**	**0**	*i* P	**Pg**	**06 30 13.0**	**-0.6**
ULDT				*i* S	**Sg**	**06 30 26.5**	**-0.5**
ULDT				IAML		06 30 29.0	
	comp=E,516nm,0.5s						
ULDT				IAML		06 30 29.0	
	comp=N,634nm,0.5s						
AKHS	**Akhisar**	**1.05**	**257**	*i* P	**Pn**	**06 30 14.3**	**+0.1**
AKHS				*i* S	**Sn**	**06 30 28.8**	**+0.2**
AUBOZ	**BOZOYUK**	**1.05**	**41**	*i* P	**Pg**	**06 30 13.6**	**-0.7**
AUBOZ				*i* S	**Sb**	**06 30 27.9**	**+0.3**
AUBOZ	**BOZOYUK**	**1.05**	**41**	PG	**Pg**	**06 30 13.8**	**-0.5**
AUBOZ				SG	**Sb**	**06 30 28.2**	**+0.6**
BALB	**Balikesir**	**1.10**	**299**	PN	**Pn**	**06 30 15.3**	**+0.6**
STEP	**BALIKESIR_Sava**	**1.12**	**284**	*i* P	**Pn**	**06 30 15.3**	**+0.2**
STEP				*i* S	**Sn**	**06 30 31.2**	**+0.8**
STEP				IAML		06 30 34.0	
	comp=N,419nm,0.7s						
STEP				IAML		06 30 35.0	
	comp=E,629nm,0.5s						
IGD	**Bursa**	**1.14**	**3**	*i* P	**Pb**	**06 30 14.9**	**-0.5**
KZIL	**AFYON_Kizioren**	**1.17**	**137**	*i* P	**Pn**	**06 30 16.3**	**+0.4**
KZIL				*i* S	**Sn**	**06 30 32.1**	**+0.4**
BILE	**Bilecik/Merkez**	**1.19**	**29**	*i* P	**Pb**	**06 30 16.0**	**-0.2**
BILE				*i* S	**Sn**	**06 30 33.0**	**+0.9**
BILE				IAML		06 30 36.0	
	comp=N,374nm,0.4s						
CAVI	**Cavuskoy**	**1.21**	**27**	PN	**Pb**	**06 30 16.7**	**+0.1**
SHUT	**Suhut-Afyon**	**1.25**	**117**	PN	**Pg**	**06 30 17.9**	**0.0**
MDNY	**Mudanya-Bursa**	**1.26**	**352**	PN	**Pn**	**06 30 17.3**	**+0.3**
BORA	**Eskisehir**	**1.28**	**53**	PN	**Pn**	**06 30 17.6**	**+0.3**
KCTX	**Karacabey (Bur**	**1.29**	**333**	PN	**Pb**	**06 30 17.8**	**-0.1**
GEMT	**Gemlik**	**1.31**	**2**	PN	**Pb**	**06 30 18.2**	**-0.1**
BALY	**Balya**	**1.32**	**298**	*i* P	**Pb**	**06 30 18.4**	**0.0**
BALY				*i* S	**Sg**	**06 30 36.1**	**-0.5**
ADVT	**Abdulvahap**	**1.39**	**20**	PN	**Pb**	**06 30 19.5**	**-0.1**
ESKT	**Eskisehir**	**1.39**	**73**	PN	**Pn**	**06 30 19.5**	**+0.5**
BASM	**Basmaki-Afyon**	**1.40**	**149**	PN	**Pn**	**06 30 18.5**	**-0.5**
GONE	**Gonen-Balikesi**	**1.45**	**310**	PN	**Pb**	**06 30 20.3**	**-0.3**
YLV	**Yalova**	**1.46**	**7**	PN	**Pn**	**06 30 19.9**	**+0.1**
ARMT	**Armutlu**	**1.46**	**352**	PN	**Pn**	**06 30 19.9**	**+0.2**
SRCK	**Saricakaya, Es**	**1.48**	**51**	PN	**Pn**	**06 30 20.6**	**+0.6**
TRML	**Termal-Yalova**	**1.49**	**1**	PN	**Pn**	**06 30 20.1**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**220**	PN	**Pb**	**06 30 21.6**	**-0.3**
EDC	**Edincik**	**1.57**	**322**	PN	**Pn**	**06 30 21.4**	**+0.2**
ZEDA	**zmir-Bergama**	**1.60**	**265**	*i* P	**Pg**	**06 30 24.3**	**-0.3**
ZEDA				*i* S	**Sg**	**06 30 45.5**	**0.0**
BUHA	**Balikesir, Bur**	**1.64**	**284**	*i* P	**Pn**	**06 30 22.1**	**0.0**
BUHA				*i* S	**Sg**	**06 30 46.3**	**-0.3**
GULT	**Gulveren**	**1.69**	**39**	PN	**Pn**	**06 30 23.6**	**+0.6**
ISP	**Isparta**	**1.70**	**139**	PN	**Pb**	**06 30 24.3**	**-0.5**
HRT	**Hereke**	**1.75**	**14**	PN	**Pn**	**06 30 23.9**	**+0.1**

IDC ***22*** *06:32:43.8±0.7,27.66N×84.95E,h0km, mb4.0/12, mb1 4.2/15,mb1mx3.9/57,mbtmp4.0/15,ML4.2/3,MS3.6/2, Ms1 3.6/2,ms1mx2.8/45,Error ellipse: s-maj=24.4km s-min=15.9km az=64.0*
NEIC ***22*** *06:32:45.7±2.1,27.69N±0.08×85.06E±0.02,h10km±1km, mb4.4/30,Error ellipse: s-maj=13.8km s-min=3.7km az=176.0*
DMN ***22*** *06:32:45.2±0.1,27.73N×85.05E,h10km,Ml4.6/3,Error ellipse: s-maj=4.0km s-min=1.2km az=15.0*
NDI ***22*** *06:32:47.6±2.2,27.65N×85.03E,h10km,ML4.1, mb4.4(NEIC)*
ISC 22 06:32:45.4±0.9,27.67N±0.04×85.02E±0.02,h11km±6km, n85,σ1.52/106,mb4.3/22,MS3.5/3,1C,Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKN	**Kakani**	**0.26**	**62**	*e*Pg	**Pg**	**06 32 50.2**	**-0.7**
KKN				*e*Sg	**Sg**	**06 32 53.5**	**-1.1**
PKIN	**Phulchoki**	**0.35**	**105**	*e*Pg	**Pg**	**06 32 52.6**	**+0.2**
PKIN				*e*Sg	**Sg**	**06 32 57.8**	**+0.7**
PKI	**Pulchoki**	**0.36**	**105**	*e*Pg	**Pg**	**06 32 52.8**	**+0.1**
GKN	**Gorkha**	**0.48**	**315**	*e*Pg	**Pg**	**06 32 54.1**	**-0.7**
GKN				*e*Sg	**Sg**	**06 33 00.2**	**-0.9**
GUN	**Gumba**	**0.80**	**72**	*e*Pg	**Pg**	**06 32 59.8**	**-1.1**
GUN				*e*Sg	**Sg**	**06 33 09.1**	**-2.3**
	22μm,0.4s						
JIRN	**Jiri**	**1.04**	**90**	*e*Pg	**Pg**	**06 33 04.8**	**-0.6**
JIRN				*e*Sg	**Sg**	**06 33 17.8**	**-1.2**
KOLN	**Koldanda**	**1.26**	**275**	*e*Pg	**Pg**	**06 33 09.9**	**+0.2**
KOLN				*e*Sg	**Sb**	**06 33 25.9**	**+0.3**
DANN	**Dangsing**	**1.30**	**302**	*e*Pg	**Pb**	**06 33 10.0**	**-0.1**
DANN				*e*Sg	**Sn**	**06 33 27.1**	**-0.2**
RAMN	**Ramite**	**1.58**	**117**	*e*Pg	**Pb**	**06 33 14.5**	**-0.2**
PYUN	**Piuthan**	**1.85**	**284**	*e*Pg	**Pb**	**06 33 19.8**	**+0.5**
PYUN				*e*Sg	**Sg**	**06 33 43.9**	**-0.9**
PYUN				*e*Sg	**Sg**	**06 33 43.9**	**-0.9**
PYUN				*e*Sg	**Sg**	**06 33 44.0**	**-0.9**
	568nm,0.3s						
ODAN	**Odare**	**2.26**	**110**	*e*Pg	**Pb**	**06 33 26.8**	**+0.5**
ODAN				*e*Sg	**Sg**	**06 33 57.1**	**-0.9**
	675nm,0.3s						
TAPN	**Taplejung**	**2.41**	**97**	*e*Pg	**Pb**	**06 33 29.2**	**+0.3**
TAPN				*e*Sg	**Sb**	**06 34 00.2**	**+1.5**
	691nm,0.4s						
GTK	**Tadong**	**3.20**	**95**	*e*P	**Pn**	**06 33 38.3**	**+2.6**
GTK				*e*S	**Sn**	**06 34 16.1**	**+2.2**
GTK				IAML		06 34 25.1	
	comp=E,530nm,0.3s						
GTK				IAML		06 34 27.9	
	comp=N,646nm,0.2s						
BOK	**Bokaro**	**3.93**	**168**	*e*P	**Pn**	**06 33 48.7**	**+3.0**
BOK				*i* x	**Pg**	**06 34 02.3**	**+1.5**
BOK				*ex*	**Sg**	**06 34 50.0**	**-1.7**
LSA	**Lhasa**	**5.75**	**68**	Pn	**Pn**	**06 34 13.6**	**+2.5**
LSA				Sn	**Sn**	**06 35 13.5**	**-3.8**
LSA				smax	smax		
	comp=N,85nm,0.7s						
LSA				smax	smax		
	comp=E,140nm,0.7s						
LSA	**Lhasa**	**5.75**	**68**	Pn	**Pn**	**06 34 11.2**	**+0.1**
JBP	**Jabalpur**	**6.39**	**227**	*eP*	**Pn**	**06 34 22.1**	**+2.7**
JBP				*eS*	**Sn**	**06 35 32.6**	**+0.4**
SHL	**Shillong**	**6.49**	**107**	Pn	**Pn**	**06 34 20.6**	**-0.4**
SHL	**Shillong**	**6.49**	**107**	*eP*	**Pn**	**06 34 21.7**	**+0.8**
SHL				*eS*	**Sn**	**06 35 31.7**	**-3.3**
NDI	**New Delhi**	**6.96**	**280**	*ex*	**Pg**	**06 35 01.0**	**+2.3**
SMLA	**Simla**	**7.67**	**299**	*eP*	**Pn**	**06 34 38.2**	**+1.2**
SMLA				*eS*	**Sn**	**06 36 00.7**	**-3.1**
SMLA				IAML		06 36 05.9	
	comp=N,116nm,0.3s						
SMLA				IAML		06 36 06.2	
	comp=E,162nm,0.4s						
BHPL	**Bhopal**	**8.15**	**239**	*eP*	**Pn**	**06 34 43.4**	**-0.3**
BHPL				*eS*	**Sn**	**06 36 12.7**	**-3.2**
DHRM	**DHARAMSHALA**	**8.83**	**303**	*eP*	**Pn**	**06 34 54.5**	**+1.3**
DHRM				*eS*	**Sn**	**06 36 29.5**	**-3.3**
DHRM				IAML		06 36 32.7	
	comp=E,126nm,0.5s						
DHRM				IAML		06 36 33.2	
	comp=N,156nm,0.3s						
SARP	**Sargodha**	**11.53**	**295**	P	**Pn**	**06 35 28.7**	**-1.2**
CHCP	**Chirah Chowk**	**11.75**	**303**	P	**Pn**	**06 35 32.4**	**-0.5**
NIL	**Nilore**	**11.75**	**303**	Pn	**Pn**	**06 35 31.8**	**-1.1**
HYB	**Hyderabad**	**11.82**	**212**	*i* P	**Pn**	**06 35 32.0**	**-1.9**
HYB				*e*		06 38 54.0	
THW	**Thamme Wali**	**12.56**	**297**	P	**Pn**	**06 35 43.1**	**-0.9**
CEP	**Cherat**	**12.83**	**302**	P	**Pn**	**06 35 45.4**	**-2.4**
KSH	**Kashi**	**14.01**	**330**	P	**Pn**	**06 35 59.6**	**-4.2**
KSH				pP	P	06 36 02.6	-9.2
KSH				sP		06 36 05.1	
KSH				pmax	pmax		
	comp=Z,6.0nm,0.6s						
TARG	**Taragay, Kyrgy**	**15.22**	**339**		**Pn**	**06 36 18.8**	**-1.8**
TARG				IAmb	IAmb	06 36 20.9	
	comp=Z,9.8nm,1.1s						
CMAR	**Chiang Mai Arr**	**15.74**	**123**	Pn	**P**	**06 36 29.6**	**-1.4**
	comp=Z,1.0nm,0.3s,baz=316,slow=12,SNR=4.3						
DRK	**Karamyk**	**16.11**	**320**	Pn	**Pn**	**06 36 31.2**	**-0.8**
WMQ	**Urumqi**	**16.26**	**7**	*eP*	**P**	**06 36 36.1**	**-0.7**
BOOM	**Boomskoye usch**	**16.54**	**336**	Pn	**Pn**	**06 36 36.2**	**-1.1**
GTA	**Gaotai**	**16.98**	**43**	⇑P	**P**	**06 36 45.3**	**+0.5**
GTA				pP	pP	06 36 49.0	+0.5
GTA				sP	sP	06 36 51.8	+1.7
GTA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BTK	**Batken**	**17.06**	**320**	Pn	**Pn**	**06 36 43.9**	**0.0**
CHGR	**Chuyangaron**	**17.19**	**314**		**P**	**06 36 46.4**	**-0.8**
CHGR				IAmb	IAmb

s-maj=13.1km s-min=10.2km az=117.0
*NEIC **22** 06:33:53.4±1.1,36°.29N×0°.02×98°.16W×0°.05,h7km±7km, Error ellipse: s-maj=5.8km s-min=2.8km az=74.0*
*TUL **22** 06:33:53±1.1,36°.29N×0°.02×98°.19W×0°.06,h5km±7km, ML3.6,mb_Lg3.7/103(NEIC),Mwr3.3/22(SLM),Error ellipse: s-maj=6.5km s-min=2.7km az=77.0*
*ANF **22** 06:33:53.2±0.4,36°.28N×98°.17W,h3km±3km,ML4.3/20, Error ellipse: s-maj=2.2km s-min=1.7km az=32.0*
*NEIC **22** 06:33:53.2,36°.28N×98°.16W,h3km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=1.09; $M_{\theta\theta}$=0.04; $M_{r\theta}$=0.38; $M_{\theta\phi}$=0.16; $M_{\phi r}$=-0.21; Fault plane solution: M_o1.20000×10^{14} NP1:$\phi_1$70.00000°, δ38.00000°,λ-110.00000°. NP2:$\phi_2$275.00000°, δ55.00000°,λ-75.00000°. Principal axes: T 1.2036, Plg9.0000°, Azm354.0000°; N -0.0014, Plg12.0000°, Azm86.0000°; P -1.2021, Plg75.0000°, Azm229.0000°;*

ISC 22 06:33:53.4±1.0,36°29N±0°.02×98°14W±0°.02,h11km±8km, n168,σ0§87/163,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CROK	**Carrier**	**0.25**	**31**			**Pg**	**06 33 58.8**	**+0.2**
OK032	**Salt Plains WL**	**0.52**	**354**			**Pg**	**06 34 03.1**	**-0.4**
GC02	**Grant County #**	**0.61**	**22**			**Pg**	**06 34 05.2**	**0.0**
KAN14	**Manchester OK**	**0.68**	**12**			**Pg**	**06 34 06.5**	**-0.2**
U32A	**Winter Ranch,**	**0.70**	**278**			**Pg**	**06 34 06.0**	**-1.0**
U32A	**Winter Ranch,**	**0.70**	**278**	P		**Pg**	**06 34 06.0**	**-1.0**
	baz=98,SNR=71							
U32A				S		**Sg**	**06 34 15.5**	**-0.7**
	baz=98							
OK029	**Liberty Lake**	**0.74**	**131**			**Pg**	**06 34 08.0**	**+0.2**
BCOK	**Bluff Creek, N**	**0.76**	**145**			**Pg**	**06 34 07.9**	**-0.3**
KAN10	**Anthony SW Sta**	**0.83**	**3**			**Pg**	**06 34 09.1**	**-0.4**
KAN05	**Bluff City Nor**	**0.85**	**15**			**Pg**	**06 34 09.2**	**-0.5**
BLOK	**Blackwell**	**0.88**	**57**			**Pg**	**06 34 10.3**	**-0.1**
KAN13	**South Haven SW**	**0.90**	**36**			**Pg**	**06 34 10.6**	**-0.1**
OK009	**Oakdale Elemen**	**0.92**	**140**			**Sg**	**06 34 23.0**	**0.0**
KAN16	**Harper SW Stat**	**0.94**	**4**	Pg		**Pg**	**06 34 10.9**	**-0.5**
KAN09	**Caldwell North**	**0.94**	**26**			**Pg**	**06 34 11.3**	**-0.3**
KAN08	**Anthony NE Sta**	**0.95**	**8**			**Pg**	**06 34 11.2**	**-0.5**
OK025	**Westminster Rd**	**0.96**	**137**			**Pg**	**06 34 11.7**	**-0.2**
OKCFA	**Oklahoma City**	**1.04**	**147**			**Pg**	**06 34 13.2**	**-0.2**
OKCFA	**Oklahoma City**	**1.04**	**147**	P		**Pg**	**06 34 13.0**	**-0.3**
	baz=327,SNR=27							
OKCFA				S		**Sb**	**06 34 27.4**	**+0.4**
	baz=327							
OKCSW	**OKLAHOMA CITY**	**1.05**	**147**			**Pg**	**06 34 13.4**	**-0.3**
KS20	**Mayfield South**	**1.05**	**26**			**Pg**	**06 34 13.2**	**-0.5**
OK031	**S. Brethren Rd**	**1.11**	**107**			**Pb**	**06 34 14.6**	**0.0**
QUOK	**Quay**	**1.17**	**95**			**Pb**	**06 34 15.8**	**+0.2**
FNO	**Franklin**	**1.19**	**149**	Pg		**Pb**	**06 34 15.8**	**-0.2**
T35A	**Sooner Cattle**	**1.45**	**64**			**Pb**	**06 34 20.7**	**+0.1**
T35A				IAmb_Lg			06 34 42.3	
	comp=Z,324nm,0.8s							
T35B	**Sooner Cattle**	**1.45**	**64**	P		**Pb**	**06 34 20.6**	**+0.1**
	baz=245,SNR=231							
T35B				S		**Sg**	**06 34 40.4**	**+0.2**
	baz=245							
WMOK	**Wichita Mounta**	**1.63**	**199**			**Pn**	**06 34 22.4**	**+0.2**
WMOK	**Wichita Mounta**	**1.63**	**199**	P		**Pn**	**06 34 22.1**	**0.0**
	baz=18							
WMOK				S		**Sb**	**06 34 43.9**	**-0.3**
	baz=18							
WMOK	**Wichita Mounta**	**1.63**	**199**	P		**Pn**	**06 34 22.2**	**0.0**
	baz=18,SNR=108							
WMOK				S		**Sb**	**06 34 44.2**	**0.0**
	baz=18							
X34A	**Smith Ranch, M**	**1.70**	**171**			**Pb**	**06 34 24.7**	**-0.1**
X34A				IAmb_Lg			06 34 50.7	
	comp=Z,486nm,0.8s							
TUL1	**Leonard**	**1.94**	**101**	Pn		**Pn**	**06 34 27.7**	**+1.4**
TUL1	**Leonard**	**1.94**	**101**	P		**Pn**	**06 34 27.4**	**+1.1**
	baz=282,SNR=141							
TUL1				S		**Sb**	**06 34 54.2**	**+1.1**
	baz=282							
TUL1	**Leonard**	**1.94**	**101**	P		**Pn**	**06 34 27.5**	**+1.1**
	baz=282,SNR=84							
TUL1				Sb		**Sg**	**06 34 55.5**	**-0.3**
	baz=282							
R32A	**Long Quarter,**	**2.18**	**348**	IAmb_Lg			06 35 07.0	
	comp=Z,418nm,0.8s							
R32A	**Long Quarter,**	**2.18**	**348**	P		**Pn**	**06 34 30.9**	**+1.2**
	baz=168,SNR=118							
R32A				S		**Sb**	**06 34 59.0**	**-0.9**
	baz=168							
LOOK	**Love County**	**2.42**	**161**			**Pn**	**06 34 34.0**	**+1.0**
LOOK				IAmb_Lg			06 35 13.9	
	comp=Z,439nm,0.9s							
CBKS	**Cedar Bluff**	**2.82**	**334**			**Pn**	**06 34 39.5**	**+0.9**
CBKS	**Cedar Bluff**	**2.82**	**334**	P		**Pn**	**06 34 39.3**	**+0.8**
	baz=153,SNR=25							
CBKS				S		**Sn**	**06 35 13.8**	**+1.2**
	baz=153							
CBKS	**Cedar Bluff**	**2.82**	**334**	P		**Pn**	**06 34 39.3**	**+0.8**
	baz=153,SNR=42							
CBKS				S		**Sn**	**06 35 13.6**	**+1.0**
	baz=153							
X37A	**Clayton**	**2.83**	**126**			**Pn**	**06 34 39.6**	**+1.0**
X37A	**Clayton**	**2.83**	**126**	P		**Pn**	**06 34 40.0**	**+1.4**
	baz=308,SNR=43							
U38A	**Gravette**	**3.04**	**86**	IAmb_Lg			06 35 35.7	
	comp=Z,160nm,0.7s							
U38A	**Gravette**	**3.04**	**86**	P		**Pn**	**06 34 43.1**	**+1.6**
	baz=268,SNR=36							
Z35A	**Perchaven, San**	**3.04**	**166**			**Pn**	**06 34 42.7**	**+1.2**
Z35A	**Perchaven, San**	**3.04**	**166**	P		**Pn**	**06 34 42.7**	**+1.2**
	baz=346,SNR=29							
KSU1	**Kansas State U**	**3.06**	**23**	Pn		**Pn**	**06 34 42.9**	**+1.1**
KSU1				IAmb_Lg			06 35 35.1	
	comp=Z,320nm,1.2s							
KSU1	**Kansas State U**	**3.06**	**23**	P		**Pn**	**06 34 42.8**	**+1.1**
	baz=204,SNR=14							
KSU1	**Kansas State U**	**3.06**	**23**	P		**Pn**	**06 34 42.7**	**+0.9**
	baz=204,SNR=34							
KSU1				S		**Sn**	**06 35 18.6**	**+0.2**
	baz=204							
AMTX	**Amarillo**	**3.21**	**245**			**Pn**	**06 34 45.2**	**+1.4**
AMTX				IAmb_Lg			06 35 38.4	
	comp=Z,175nm,0.8s							
AMTX	**Amarillo**	**3.21**	**245**	P		**Pn**	**06 34 45.4**	**+1.5**
	baz=63,SNR=11							
AMTX	**Amarillo**	**3.21**	**245**	P		**Pn**	**06 34 45.0**	**+1.2**
	baz=63							
AMTX				Sb		**Sb**	**06 35 31.6**	**+2.0**
	baz=63							
HHAR	**Hobbs**	**3.40**	**89**			**Pn**	**06 34 47.1**	**+0.8**
W39A	**Magazine**	**3.71**	**106**	Pn		**Pn**	**06 34 52.1**	**+1.5**
W39A				IAmb_Lg			06 35 54.7	
	comp=Z,194nm,0.8s							
W39A	**Magazine**	**3.71**	**106**	P		**Pn**	**06 34 51.6**	**+1.0**
	baz=288,SNR=18							
W39A	**Magazine**	**3.71**	**106**	P		**Pn**	**06 34 51.5**	**+0.9**
	baz=288,SNR=10.0							
W39A				S		**Sn**	**06 35 35.2**	**+0.8**
	baz=288							
ABTX	**Abilene, Hawle**	**3.86**	**199**	Pn		**Pn**	**06 34 52.9**	**+0.1**
ABTX	**Abilene, Hawle**	**3.86**	**199**	P		**Pn**	**06 34 53.1**	**+0.3**
	baz=18							
ABTX	**Abilene, Hawle**	**3.86**	**199**	P		**Pn**	**06 34 53.1**	**+0.3**
	baz=18,SNR=19							
S39A	**Bolivar**	**4.10**	**69**	IAmb_Lg			06 36 10.2	
	comp=Z,127nm,0.8s							
S39A	**Bolivar**	**4.10**	**69**	P		**Pn**	**06 34 56.9**	**+0.8**
	baz=252,SNR=35							
MIAR	**Mount Ida**	**4.11**	**114**			**Pn**	**06 34 57.1**	**+0.8**
MIAR				IAmb_Lg			06 36 14.6	
	comp=Z,174nm,0.8s							
MIAR	**Mount Ida**	**4.11**	**114**	P		**Pn**	**06 34 57.4**	**+1.1**
	baz=296,SNR=50							
MIAR	**Mount Ida**	**4.11**	**114**	P		**Pn**	**06 34 57.2**	**+1.0**
	baz=296,SNR=15							
MIAR				S		**Sn**	**06 35 45.8**	**+1.4**
	baz=296							
U40A	**Yellville**	**4.27**	**88**	IAmb_Lg			06 36 10.4	
	comp=Z,234nm,0.9s							
U40A	**Yellville**	**4.27**	**88**	P		**Pn**	**06 34 59.9**	**+1.5**
	baz=271,SNR=11							
U40A	**Yellville**	**4.27**	**88**	P		**Pn**	**06 34 59.4**	**+1.0**
	baz=271,SNR=7.2							
U40A				S		**Sn**	**06 35 49.2**	**+0.9**
	baz=271							
WHTX	**Lake Whitney,**	**4.32**	**172**			**Pn**	**06 34 59.8**	**+0.7**
WHTX	**Lake Whitney,**	**4.32**	**172**	P		**Pn**	**06 34 59.8**	**+0.7**
	baz=352,SNR=17							
WHTX	**Lake Whitney,**	**4.32**	**172**	P		**Pn**	**06 34 59.8**	**+0.7**
	baz=352							
WHTX				S		**Sn**	**06 35 49.2**	**-0.4**
	baz=352							
MSTX	**Muleshoe**	**4.44**	**240**			**Pn**	**06 35 01.5**	**+0.6**
MSTX	**Muleshoe**	**4.44**	**240**	P		**Pn**	**06 35 00.9**	**0.0**
	baz=57							
KSCO	**Kaye Shedlock'**	**4.48**	**309**			**Pn**	**06 35 01.9**	**+0.5**
KSCO				IAmb_Lg			06 36 25.9	
	comp=Z,195nm,0.7s							
KSCO	**Kaye Shedlock'**	**4.48**	**309**	P		**Pn**	**06 35 01.1**	**-0.3**
	baz=126							
KSCO				S		**Sn**	**06 35 52.8**	**-0.8**
	baz=126							
237A	**Washetta, Mont**	**4.69**	**155**	Pn		**Pn**	**06 35 04.0**	**-0.3**
237A				IAmb_Lg			06 36 29.6	
	comp=Z,121nm,0.7s							
X40A	**Basin Creek Fa**	**4.69**	**111**			**Pn**	**06 35 05.3**	**+1.1**
X40A				IAmb_Lg			06 36 32.6	
	comp=Z,107nm,0.9s							
X40A	**Basin Creek Fa**	**4.69**	**111**	P		**Pn**	**06 35 05.4**	**+1.1**
	baz=294							
X40A				S		**Sn**	**06 36 00.5**	**+1.8**
	baz=294							
MGMO	**Mountain Grove**	**4.80**	**78**			**Pn**	**06 35 07.0**	**+1.3**
MGMO				IAmb_Lg			06 36 27.4	
	comp=Z,106nm,0.8s							
WHAR	**Wooly Hollow**	**4.86**	**100**	Pn		**Pn**	**06 35 07.3**	**+0.8**
WHAR				IAmb_Lg			06 36 32.9	
	comp=Z,118nm,0.9s							
WLAR	**White Oak Lake**	**4.88**	**121**	Pn		**Pn**	**06 35 07.8**	**+1.0**
FCAR	**Ozark Folk Cen**	**4.89**	**93**			**Pn**	**06 35 07.5**	**+0.6**
W41B	**Gary Mavity, V**	**4.92**	**101**	P		**Pn**	**06 35 08.2**	**+0.9**
	baz=285							
W41B				S		**Sn**	**06 36 04.3**	**0.0**
	baz=285							
P38A	**Dawn**	**4.94**	**46**			**Pn**	**06 35 08.8**	**+1.3**
P38A				IAmb_Lg			06 36 40.6	
	comp=Z,240nm,0.9s							
P38A	**Dawn**	**4.94**	**46**	P		**Pn**	**06 35 08.8**	**+1.3**
	baz=229,SNR=13							
N35A	**Tabor**	**4.97**	**22**			**Pn**	**06 35 08.6**	**+0.6**
R40A	**Maddies Statio**	**5.09**	**65**	IAmb_Lg			06 36 41.1	
	comp=Z,104nm,0.8s							
R40A	**Maddies Statio**	**5.09**	**65**	P		**Pn**	**06 35 10.4**	**+0.7**
	baz=249,SNR=40							
T25A	**Trinidad**	**5.11**	**281**			**Pn**	**06 35 10.6**	**+0.4**
T25A				IAmb_Lg			06 36 39.5	
	comp=Z,132nm,0.9s							
T25A	**Trinidad**	**5.11**	**281**	P		**Pn**	**06 35 10.1**	**0.0**
	baz=98,SNR=7.0							
T25A				S		**Sn**	**06 36 08.3**	**-0.9**
	baz=98							
BGNE	**Belgrade**	**5.11**	**360**			**Pn**	**06 35 10.4**	**+0.4**
BGNE				IAmb_Lg			06 36 48.9	
	comp=Z,228nm,0.8s							
BGNE	**Belgrade**	**5.11**	**360**	P		**Pn**	**06 35 10.4**	**+0.4**
	baz=180,SNR=14							
BGNE	**Belgrade**	**5.11**	**360**	P		**Pn**	**06 35 10.3**	**+0.3**
	baz=180,SNR=5.9							
BGNE				S		**Sn**	**06 36 08.7**	**-0.3**
	baz=180							
Z41A	**Richland Creek**	**5.33**	**123**	P		**Pn**	**06 35 13.3**	**+0.3**
	baz=306							
NATX	**Nacogdoches**	**5.36**	**146**	IAmb_Lg			06 36 57.6	
	comp=Z,101nm,0.9s							
435B	**Jarrell**	**5.51**	**175**	P		**Pn**	**06 35 16.1**	**+0.6**
	baz=355							
435B				S		**Sn**	**06 36 19.1**	**+0.2**
	baz=355							
OGNE	**Ogallala**	**5.56**	**328**	Pn		**Pn**	**06 35 18.1**	**+1.9**
OGNE				IAmb_Lg			06 36 54.4	
	comp=Z,188nm,0.8s							
OGNE	**Ogallala**	**5.56**	**328**	P		**Pn**	**06 35 16.7**	**+0.5**
	baz=146							
LCAR	**Lake Charles**	**5.66**	**90**	IAmb_Lg			06 36 53.9	
	comp=Z,78nm,0.8s							
T42A	**Van Buren**	**5.71**	**80**			**Pn**	**06 35 19.7**	**+1.4**
T42A				IAmb_Lg			06 37 03.2	
	comp=Z,77nm,0.9s							
CCAR	**Cane Creek**	**5.73**	**113**	IAmb_Lg			06 37 09.7	
	comp=Z,93nm,0.8s							
CCM	**Cathedral Cave**	**5.78**	**70**	IAmb_Lg			06 36 59.4	
	comp=Z,131nm,0.9s							
CCM	**Cathedral Cave**	**5.78**	**70**	P		**Pn**	**06 35 19.7**	**+0.5**
	baz=254							
CCM				S		**Sn**	**06 36 25.4**	**-0.1**
	baz=254							
P40A	**Paris**	**5.80**	**54**	IAmb_Lg			06 37 01.2	
	comp=Z,183nm,0.8s							
N38A	**Joes South For**	**5.92**	**39**			**Pn**	**06 35 21.8**	**+0.8**
JCT	**Junction City**	**5.96**	**194**	P		**Pn**	**06 35 21.8**	**+0.1**
	baz=13							
SDCO	**Great Sand Dun**	**6.07**	**286**	Pn		**Pn**	**06 35 24.8**	**+1.5**
SDCO	**Great Sand Dun**	**6.07**	**286**	P		**Pn**	**06 35 24.4**	**+1.1**
	baz=102,SNR=15							
SDCO	**Great Sand Dun**	**6.07**	**286**	P		**Pn**	**06 35 24.1**	**+0.7**
	baz=102,SNR=38							
Q24A	**Divide**	**6.17**	**298**	P		**Pn**	**06 35 25.1**	**+0.3**
	baz=114							
FVM	**French Village**	**6.39**	**72**			**Pn**	**06 35 28.1**	**+0.6**
FVM				IAmb_Lg			06 37 19.4	
	comp=Z,143nm,1.0s							
FVM	**French Village**	**6.39**	**72**	P		**Pn**	**06 35 28.1**	**+0.6**
	baz=257,SNR=9.0							
LPAR	**Lepanto**	**6.40**	**94**	IAmb_Lg			06 37 16.4	
	comp=Z,181nm,0.9s							
143A	**Socs Landing,**	**6.61**	**121**	Pn		**Pn**	**06 35 30.7**	**+0.1**
143A				IAmb_Lg			06 37 26.8	
	comp=Z,65nm,0.8s							
SLM	**Saint Louis**	**6.71**	**67**	IAmb_Lg			06 37 25.9	
	comp=Z,128nm,0.8s							
PARMO	**Parma**	**6.77**	**84**	IAmb_Lg			06 37 30.9	
	comp=Z,164nm,0.8s							
ISCO	**Idaho Springs**	**6.86**	**303**			**Pn**	**06 35 34.3**	**+0.1**
ISCO	**Idaho Springs**	**6.86**	**303**	P		**Pn**	**06 35 34.8**	**+0.5**
	baz=119,SNR=10							
ISCO	**Idaho Springs**	**6.86**	**303**	P		**Pn**	**06 35 34.2**	**-0.1**
	baz=119,SNR=10							
PENMO	**Penman**	**6.87**	**86**	IAmb_Lg			06 37 41.4	
	comp=Z,125nm,0.8s							
ANMO	**Albuquerque**	**6.90**	**261**	Pn		Pn	06 35 39.6	+4.8
	comp=Z,0.1nm,0.3s,baz=104,slow=16,SNR=1.4							
ANMO				Pg		**Pb**	**06 35 57.6**	**+4.1**
	comp=Z,0.4nm,0.3s,baz=83,slow=18,SNR=7.1							
ANMO				Lg		Lg	06 37 26.5	
	comp=Z,2.0nm,0.3s,baz=357,slow=19,SNR=6.6							
ANMO	**Albuquerque**	**6.90**	**261**			**Pn**	**06 35 34.8**	**0.0**
LNXT	**Lenox**	**7.00**	**89**	IAmb_Lg			06 37 40.1	
	comp=Z,132nm,0.9s							
HALT	**Halls**	**7.14**	**90**	IAmb_Lg			06 37 54.5	
	comp=Z,119nm,0.9s							
N41A	**Harden Midland**	**7.22**	**50**			**Pn**	**06 35 38.9**	**0.0**
N41A				IAmb_Lg			06 37 51.3	
	comp=Z,94nm,0.7s							
S44A	**Carbondale**	**7.25**	**76**	Pn		**Pn**	**06 35 39.3**	**0.0**
S44A				IAmb_Lg			06 37 51.9	
	comp=Z,116nm,0.9s							
SIUC	**Southern Illin**	**7.28**	**76**	IAmb_Lg			06 37 49.9	
	comp=Z,105nm,0.7s							
OXF	**Oxford**	**7.35**	**101**	Pn		**Pn**	**06 35 40.8**	**+0.1**
OXF	**Oxford**	**7.35**	**101**	P		**Pn**	**06 35 40.4**	**-0.3**
	baz=286,SNR=5.1							
W45A	**Hickory Valley**	**7.37**	**96**	IAmb_Lg			06 37 52.2	
	comp=Z,139nm,1.1s							
735A	**Kenedy**	**7.42**	**178**	IAmb_Lg			06 38 07.8	
	comp=Z,92nm,0.7s							
Y22D	**IRIS PASSCAL I**	**7.52**	**255**	IAmb_Lg			06 38 02.6	
	comp=Z,102nm,0.8s							
ECSD	**EROS Data Cent**	**7.53**	**8**	Pn		**Pn**	**06 35 42.1**	**-1.1**
ECSD	**EROS Data Cent**	**7.53**	**8**	P		**Pn**	**06 35 42.1**	**-1.1**
	baz=190							
MNTX	**Cornudas Mount**	**7.56**	**235**	Pn		**Pn**	**06 35 43.7**	**+0.1**
MNTX	**Cornudas Mount**	**7.56**	**235**	P		**Pn**	**06 35 43.4**	**-0.2**
	baz=51							
N23A	**Red Feather La**	**7.65**	**309**	P		**Pn**	**06 35 45.4**	**+0.4**
	baz=125							
Q44A	**Meyer Farm, Va**	**7.70**	**67**			**Pn**	**06 35 45.1**	**-0.4**
L40A	**Anamosa**	**7.88**	**41**			**Pn**	**06 35 48.0**	**+0.1**
HDIL	**Hopedale**	**8.15**	**56**	Pn		**Pn**	**06 35 52.0**	**+0.4**
HDIL	**Hopedale**	**8.15**	**56**	P		**Pn**	**06 35 51.8**	**+0.2**
	baz=241,SNR=8.0							
SUSD	**Miller**	**8.17**	**356**	IAmb_Lg			06 38 26.7	
	comp=Z,101nm,0.8s							
146A	**Union**	**8.34**	**113**	IAmb_Lg			06 38 41.2	
	comp=Z,47nm,1.1s							
TX32	**Lajitas Array**	**8.35**	**215**			**Pn**	**06 35 53.9**	**-0.6**
TXAR	**Lajitas Array**	**8.35**	**215**	Pn		**Pn**	**06 35 54.0**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=42,slow=11,SNR=32							
TXAR				Sn		**Sn**	**06 37 28.0**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=27,slow=16,SNR=2.5							
TXAR				Lg		Lg	06 38 13.1	
	comp=Z,2.0nm,0.3s,baz=50,slow=25,SNR=7.4							
I37A	**Lemond, Waseca**	**8.53**	**24**	IAmb_Lg			06 38 33.6	
	comp=Z,118nm,1.1s							
O44A	**Mansfield**	**8.53**	**60**	IAmb_Lg			06 38 35.6	
	comp=Z,113nm,0.8s							
L42A	**Oliver, Polo**	**8.71**	**46**			**Pn**	**06 35 59.5**	**+0.1**
121A	**Cookes Peak, D**	**8.80**	**248**	IAmb_Lg			06 38 46.6	
	comp=Z,46nm,1.2s							
RWWY	**Rawlins**	**8.88**	**310**	IAmb_Lg			06 38 57.5	
	comp=Z,50nm,1.1s							
T47A	**Sharon Grove**	**8.90**	**82**	Pn		**Pn**	**06 36 02.2**	**+0.2**
JFWS	**Jewell Farm**	**8.99**	**40**	Pn		**Pn**	**06 36 03.3**	**+0.1**
JFWS				IAmb_Lg			06 38 51.1	
	comp=Z,94nm,0.9s							
JFWS	**Jewell Farm**	**8.99**	**40**	P		**Pn**	**06 36 03.4**	**+0.2**
	baz=225							
RSSD	**Black Hills**	**9.03**	**332**	Pn		**Pn**	**06 36 04.7**	**+0.8**
RSSD				IAmb_Lg			06 38 57.9	
	comp=Z,55nm,0.9s							
RSSD	**Black Hills**	**9.03**	**332**	P		**Pn**	**06 36 04.3**	**+0.5**
	baz=148							
K22A	**Casper**	**9.07**	**317**	IAmb_Lg			06 38 57.5	
	comp=Z,87nm,1.0s							
I40A	**Norwalk**	**9.53**	**35**	IAmb_Lg			06 39 02.3	
	comp=Z,43nm,0.7s							
SFIN	**Lafayette**	**9.59**	**61**	P		**Pn**	**06 36 12.3**	**+1.0**
	baz=248							
WCI	**Wyandotte Cave**	**9.64**	**75**			**Pn**	**06 36 11.3**	**-0.8**
WCI	**Wyandotte Cave**	**9.64**	**75**	P		**Pn**	**06 36 13.1**	**+1.0**
	baz=262							
BLO	**Bloomington**	**9.64**	**69**			**Pn**	**06 36 12.6**	**+0.4**
SPMN	**Marine on St.**	**9.80**	**23**	Pn		**Pn**	**06 36 13.5**	**-0.7**
SPMN				IAmb_Lg			06 39 13.2	
	comp=Z,65nm,1.2s							
SPMN	**Marine on St.**	**9.80**	**23**	P		**Pn**	**06 36 14.7**	**+0.5**
	baz=206							
P48A	**Milroy**	**10.54**	**69**			**Pn**	**06 36 23.4**	**-1.0**
BW06	**Boulder Array**	**10.93**	**310**	P		**Pn**	**06 36 29.5**	**-0.5**
	baz=123							
PD31	**Pinedale Array**	**10.93**	**310**			**Pn**	**06 36 28.4**	**-1.5**
PDAR	**Pinedale Array**	**10.93**	**310**	Pn		**Pn**	**06 36 29.4**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=125,slow=15,SNR=9.3							
PDAR				Pg			06 37 11.7	
	comp=Z,0.2nm,0.3s,baz=101,slow=14,SNR=2.0							
PDAR				Lg		Lg	06 39 31.5	
	comp=Z,0.4nm,0.3s,baz=102,slow=30,SNR=2.4							
PDAR	**Pinedale Array**	**10.93**	**310**			**Pn**	**06 36 27.8**	**-2.2**
TKL	**Tuckaleechee C**	**11.66**	**89**	Pn		**Pn**	**06 36 40.2**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=231,slow=14,SNR=2.1							
TKL				Lg		Lg	06 39 54.4	
	comp=Z,1.2nm,0.3s,baz=156,slow=18,SNR=3.3							
ULM	**Lac du Bonnet**	**14.05**	**6**	Pn		Pn	06 37 06.0	-6.4
	comp=Z,0.3nm,0.3s,baz=190,slow=11,SNR=2.2							
ULM				Sn		Sn	06 39 36.0	-12
	comp=Z,0.4nm,0.3s,baz=108,slow=20,SNR=1.9							
ULM				Lg		Lg	06 41 07.6	
	comp=Z,0.4nm,0.3s,baz=241,slow=13,SNR=2.3							

*IDC **22** 06:59:54.9±0.8,36°.66N×141°.00E,h0km,mb3.8/9, mb1 4.0/12,mb1mx3.8/59,mbtmp3.8/12,ML3.5/3,MS2.9/3, Ms1 2.9/3,ms1mx2.5/63,Error ellipse: s-maj=22.6km s-min=17.7km az=110.0*
*JMA **22** 06:59:57.0,36°.70N×141°.02E,h18km±1km,M4.1*
JMA Felt II J1.
*NIED **22** 06:59:57.0,36°.70N×141°.02E,h18km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=3.68; $M_{\theta\theta}$=2.51; $M_{\theta\phi}$=6.19; $M_{r\theta}$=2.89; $M_{\theta\phi}$=1.18; $M_{\phi r}$=1.94; Fault plane solution: M_o6.49000×10^{14} NP1: ϕ_s218.00000°,δ67.00000°,λ-51.00000°. NP2: ϕ_s335.00000°,δ44.00000°,λ-145.00000°.*

ISC 22 06:59:56.0±1.5,36°.74N±0°.04×141°.07E±0°.06,h8km±10km, n30,σ1§04/30,mb3.7/9,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHO	**Hitachi**	**0.42**	**253**	P		**Pg**	**07 00 04.4**	**+0.2**
JHO				S		**Sg**	**07 00 10.1**	**+0.4**
ONAJ	**Iwakimizuishiy**	**0.42**	**329**	P		**Pb**	**07 00 05.7**	**-0.1**
ONAJ				S		**Sb**	**07 00 12.2**	**-0.2**
JFFD	**Fukushimafurud**	**0.54**	**311**	P		**Pg**	**07 00 07.2**	**+0.8**
JFFD				S		**Sb**	**07 00 15.0**	**-0.7**
JHYU	**

0.4nm,0.4s,baz=54,slow=8.3,SNR=7.2
FITZ Fitzroy Crossi 23.81 238 P P 07 05 26.6 -0.6
2.0nm,0.5s,baz=50,slow=7.5,SNR=9.4
CMAR Chiang Mai Arr 53.11 298 P P 07 09 31.9 +0.4
1.0nm,0.3s,baz=108,slow=5.8,SNR=4.5
SEY Seymchan 69.00 3 LR LR 07 36 46.4
comp=Z,165nm,21.4s,baz=60,slow=32
QSPA South Pole Qui 83.84 180 P P 07 12 42.5 +0.3
0.5nm,0.5s,baz=109,slow=0.7,SNR=7.4
ILAR Eielson Array 85.69 23 P P 07 12 50.0 -1.2
1.0nm,0.6s,baz=252,slow=4.8,SNR=18
TORD Torodi Ar. Bea 144.91 284 PKPbc PKPbc 07 19 49.7 -0.1
2.9nm,0.6s,baz=64,slow=3.3,SNR=17
DBIC Dimbokro 151.80 273 PKPbc PKiKP 07 20 09.2 +0.5
4.0nm,0.6s,baz=115,slow=1.5,SNR=6.5

*NEIC **22** 07:03:55.2±1.6,32°.15S±0°.04×72°.35W±0°.09,h10km±1km, mb4.8/30,ML4.7(GUC),Error ellipse: s-maj=13.6km s-min=6.8km az=263.0*
*SJA **22** 07:03:58.0,32°.12S×72°.62W,h10km,ML5.0*
*GUC **22** 07:03:59.3±0.7,32°.13S×72°.24W,h31km±3km,ML4.7*
*VAO **22** 07:04:00.7±0.3,32°.09S×71°.87W,h10km,mb4.7*
*IDC **22** 07:04:02.9±0.6,32°.11S×71°.98W,h28km±3km,mb4.4/10, mb1 4.5/15,mb1mx4.2/27,mbtmp4.5/15,ML4.1/5,MS3.6/1, Ms1 3.6/1,ms1mx3.3/24,Error ellipse: s-maj=20.1km s-min=14.6km az=92.0*
ISC 22 07:03:59.6±0.5,32°.11S±0°.03×72°.33W±0°.05,h27km±3km, h27km:pP-P,n185,σ1≀95/196,mb4.9/22,14C-2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.98**	**118**	⇓*iP*	**Pn**	**07 04 16.2**	**-1.5**
VA06				*i* S	**Sb**	**07 04 28.1**	**-2.4**
VA06				IAML		07 04 31.1	
	comp=E,34μm,0.4s						
VA01	**Torpederas**	**1.08**	**148**	⇑*iP*	**Pn**	**07 04 18.5**	**-0.4**
VA01				*i* S	**Sn**	**07 04 31.2**	**-1.7**
VA01	**Torpederas**	**1.08**	**148**	Pn	**Pn**	**07 04 17.2**	**-1.7**
VA01	**Torpederas**	**1.08**	**148**	*i* P	**Pn**	**07 04 18.0**	**-0.9**
ROCH	**El Roble**	**1.41**	**128**	⇑*iP*	**Pn**	**07 04 23.3**	**-0.3**
ROCH				⇑*iS*	**Sn**	**07 04 40.6**	**-0.8**
ROCH				IAML		07 04 45.8	
	comp=E,29μm,0.5s						
CO06	**Fray Jorge**	**1.55**	**23**	*eP*	**Pn**	**07 04 25.6**	**+0.2**
CO06	**Fray Jorge**	**1.55**	**23**		**Pn**	**07 04 25.0**	**-0.4**
VA03	**San Esteban**	**1.64**	**114**	⇑*iP*	**Pn**	**07 04 26.5**	**-0.2**
VA03				*i* S	**Sn**	**07 04 46.3**	**-0.7**
VA03				IAML		07 04 52.0	
	comp=N,23μm,0.4s						
VA03	**San Esteban**	**1.64**	**114**	*i* P	**Pn**	**07 04 26.0**	**-0.8**
VA05	**Santo Domingo**	**1.66**	**159**	⇑*iP*	**Pn**	**07 04 27.0**	**+0.1**
MT05	**Renca**	**1.85**	**134**	⇑*iP*	**Pn**	**07 04 30.0**	**+0.3**
MT05				*i* S	**Sn**	**07 04 52.3**	**+0.1**
MT05				IAML		07 04 58.9	
	comp=N,14μm,0.4s						
MT05	**Renca**	**1.85**	**134**		**Pn**	**07 04 28.7**	**-1.0**
MT05	**Renca**	**1.85**	**134**	*i* P	**Pn**	**07 04 30.0**	**+0.3**
CO03	**El Pedregal**	**1.89**	**48**	⇑*iP*	**Pn**	**07 04 30.7**	**+0.5**
CO03				*i* S	**Sn**	**07 04 54.2**	**+1.0**
CO03				IAML		07 05 06.2	
	comp=E,10μm,0.7s						
CO03	**El Pedregal**	**1.89**	**48**	*i* P	**Pn**	**07 04 31.0**	**+0.8**
MT01	**Popeta**	**1.97**	**153**	⇑*iP*	**Pn**	**07 04 31.4**	**+0.1**
MT01				IAML		07 05 05.7	
	comp=E,8μm,0.6s						
MT01	**Popeta**	**1.97**	**153**	*i* P	**Pn**	**07 04 31.0**	**-0.2**
MT09	**Talagante**	**2.01**	**146**	⇑*iP*	**Pn**	**07 04 32.4**	**+0.5**
MT09				*i* S	**Sn**	**07 04 57.3**	**+1.1**
MT09				IAML		07 05 11.4	
	comp=N,8μm,0.3s						
GO04	**Tololo Observa**	**2.33**	**35**	*eP*	**Pn**	**07 04 37.0**	**+0.6**
GO04				*i* S	**Sb**	**07 05 06.7**	**-3.0**
GO04	**Tololo Observa**	**2.33**	**35**		**Pn**	**07 04 36.5**	**+0.1**
CO05	**La Serena**	**2.38**	**24**	IAML		07 05 19.3	
	comp=E,6μm,0.5s						
BO03	**Pichilemu**	**2.40**	**173**	⇑*iP*	**Pn**	**07 04 37.5**	**+0.4**
BO03				*i* S	**Sn**	**07 05 04.6**	**-1.0**
LMEL	**Las Melosas**	**2.49**	**135**	⇑*iP*	**Pn**	**07 04 39.6**	**+1.1**
LMEL				*i* S	**Sn**	**07 05 09.3**	**+1.2**
LMEL				IAML		07 05 21.6	
	comp=N,5μm,0.6s						
AUSP	**Uspallata**	**2.50**	**93**	*i* P	**Pb**	**07 04 41.0**	**-3.0**
BO01	**Tunca**	**2.50**	**156**	⇑*iP*	**Pn**	**07 04 38.9**	**+0.3**
BO01				IAML		07 05 22.7	
	comp=E,3μm,0.7s						
BO01	**Tunca**	**2.50**	**156**		**Pn**	**07 04 37.1**	**-1.5**
BO01	**Tunca**	**2.50**	**156**	*i* P	**Pn**	**07 04 39.0**	**+0.4**
RTLS	**Leoncito**	**2.60**	**84**	*i* P	**Pb**	**07 04 43.0**	**-2.6**
GO05	**Huala**	**2.91**	**174**	⇑*iP*	**Pn**	**07 04 44.3**	**+0.1**
GO05	**Huala**	**2.91**	**174**	*i* P	**Pn**	**07 04 44.0**	**-0.2**
ARCO	**CERRO ARCO**	**2.96**	**105**	*i* P	**Pb**	**07 04 50.0**	**-1.8**
BO02	**Sierra Bellavi**	**2.97**	**155**	⇑*iP*	**Pn**	**07 04 46.0**	**+0.9**
BO02				⇓*iP*	Pb	07 04 46.0	-5.9
BO02	**Sierra Bellavi**	**2.97**	**155**	*i* P	**Pn**	**07 04 46.0**	**+0.9**
ASAL	**Salagasta**	**3.00**	**100**	*i* P	**Pb**	**07 04 49.0**	**-3.3**
AAGR	**Agrelo**	**3.11**	**109**	*i* P	**Pb**	**07 04 51.0**	**-3.3**
AROD	**Rodeo**	**3.12**	**52**	*i* P	**Pb**	**07 04 51.0**	**-3.6**
ZON	**Zonda**	**3.16**	**81**		**Pn**	**07 04 45.8**	**-1.8**
ZON	**Zonda**	**3.16**	**81**	*i* P	**Pb**	**07 04 53.0**	**-2.1**
RTCV	**Cerro Valdivia**	**3.23**	**87**	*i* P	**Pn**	**07 04 51.0**	**+2.4**
LCO	**Las Campanas**	**3.39**	**25**	*i* P	**Pn**	**07 04 52.0**	**+1.0**
ML02	**Panimavida**	**3.72**	**169**	*eP*	**Pn**	**07 04 56.1**	**+0.8**
ML02	**Panimavida**	**3.72**	**169**		**Pn**	**07 04 53.6**	**-1.7**
COIS	**El Sosneado**	**3.76**	**143**	*i* P	**Pn**	**07 04 59.0**	**+3.1**
LAMA	**Las Malvinas**	**3.84**	**138**	*i* P	**Pn**	**07 05 00.0**	**+3.1**
AC04	**Llanos de Chal**	**4.04**	**16**		**Pn**	**07 04 58.0**	**-1.7**
RFA	**San Rafael**	**4.18**	**130**	*i* P	**Pn**	**07 05 04.0**	**+2.3**
AGUA	**GUANDACOL**	**4.21**	**53**	*i* P	**Pn**	**07 05 06.0**	**+3.9**
AVFE	**Valle Fertil**	**4.41**	**72**	*i* P	**Pn**	**07 05 07.0**	**+2.1**
GO03	**Copiap**	**4.85**	**23**	*i* P	**Pn**	**07 05 12.0**	**+1.1**
VCA	**Vinchina**	**4.90**	**48**	*i* P	**Pn**	**07 05 15.0**	**+3.4**
ACHE	**Chepes**	**4.92**	**80**	*i* P	Pn	07 05 17.0	+5.0
H03N1	**Juan Fernandez**	**5.70**	**255**	T	T	07 12 09.3	
	baz=83,slow=73,SNR=665						
H03N3	**Juan Fernandez**	**5.71**	**255**	T	T	07 12 08.7	
	baz=83,slow=73,SNR=849						
H03N2	**Juan Fernandez**	**5.72**	**255**	T	T	07 12 07.8	
	baz=83,slow=73,SNR=844						
H03S3	**Juan Fernandez**	**5.79**	**251**	T	T	07 12 06.7	
	baz=84,slow=74,SNR=64						
H03S1	**Juan Fernandez**	**5.79**	**251**	T	T	07 12 08.7	
	baz=84,slow=74,SNR=62						
H03S2	**Juan Fernandez**	**5.81**	**251**	T	T	07 12 07.8	
	baz=84,slow=74,SNR=97						
AC02	**Maricunga**	**5.95**	**29**	*i* P	**Pn**	**07 05 27.0**	**+0.6**
LC01	**Cunco**	**6.78**	**177**		**Pn**	**07 05 35.2**	**-2.2**
LC01	**Cunco**	**6.78**	**177**	*i* P	**Pn**	**07 05 38.0**	**+0.6**
LR03	**Panguipulli**	**7.51**	**180**		**Pn**	**07 05 44.1**	**-3.2**
FSA	**Cafayete**	**8.16**	**44**	*i* P	**Pn**	**07 05 57.0**	**+0.6**
PLCA	**Paso Flores**	**8.72**	**171**	Pn	**Pn**	**07 06 05.5**	**+1.4**
	comp=E,0.8nm,0.3s,baz=335,slow=11,SNR=32						
PLCA				LR	LR	07 09 06.4	
	comp=E,374nm,18.1s,baz=350,slow=35						
PLCA	**Paso Flores**	**8.72**	**171**		**Pn**	**07 06 01.2**	**-2.8**
PLCA	**Paso Flores**	**8.72**	**171**	*eP*	**Pn**	**07 06 06.5**	**+2.4**
PLCA	**Paso Flores**	**8.72**	**171**	*i* P	**Pn**	**07 06 06.0**	**+1.9**
LL04	**Puerto Octay**	**8.78**	**180**		**Pn**	**07 06 02.7**	**-2.1**
LVC	**Limon Verde**	**9.94**	**19**	Pn	**Pn**	**07 06 23.6**	**+2.6**
	comp=E,0.4nm,0.3s,baz=252,slow=3.2,SNR=2.5						
LVC				Sn	Sn	07 08 26.7	+15
	comp=E,2.1nm,0.3s,baz=196,slow=12,SNR=3.2						
LVC	**Limon Verde**	**9.94**	**19**		**Pn**	**07 06 18.6**	**-2.4**
LVC	**Limon Verde**	**9.94**	**19**	*eP*	**Pn**	**07 06 21.6**	**+0.6**
TRQA	**Tornquist**	**10.35**	**128**		**Pn**	**07 06 23.4**	**-2.9**
TRQA	**Tornquist**	**10.35**	**128**	*eP*	**Pn**	**07 06 26.2**	**0.0**
TRQA	**Tornquist**	**10.35**	**128**	*i* P	Pn	07 06 31.0	+4.8
COYC	**Coyhaique**	**13.45**	**179**		**Pn**	**07 07 05.4**	**-3.2**
CPUP	**Villa Florida**	**14.30**	**70**	Pn	**Pn**	**07 07 20.4**	**+0.1**
	comp=E,0.5nm,0.3s,baz=253,slow=12,SNR=14						
CPUP				Sn	**Sn**	**07 09 59.1**	**+1.0**
	comp=E,0.4nm,0.3s,baz=126,slow=19,SNR=2.6						
CPUP	**Villa Florida**	**14.30**	**70**		**Pn**	**07 07 16.3**	**-4.0**
CPUP	**Villa Florida**	**14.30**	**70**	*eP*	**Pn**	**07 07 19.1**	**-1.3**
PLTB	**Pedras Altas**	**15.90**	**94**	*eP*	**Pn**	**07 07 40.5**	**-1.1**
LPAZ	**La Paz**	**16.21**	**15**	Pn	**P**	**07 07 47.8**	**-1.3**
	comp=E,0.2nm,0.3s,baz=186,slow=8.0,SNR=22						
LPAZ	**La Paz**	**16.21**	**15**	P	**Pn**	**07 07 45.4**	**-0.7**
LPAZ	**La Paz**	**16.21**	**15**	*eP*	**Pn**	**07 07 46.9**	**+0.8**
CNLB	**Canela**	**18.67**	**87**	*eP*	**P**	**07 08 14.8**	**-0.9**
AQDB	**Aquidauana**	**18.85**	**56**	P	**P**	**07 08 15.2**	**-2.4**
AQDB	**Aquidauana**	**18.85**	**56**	*eP*	**Pn**	**07 08 18.0**	**-0.4**
SIV	**San Ignacio**	**19.03**	**35**	P	**P**	**07 08 19.7**	**0.0**
	comp=E,0.7nm,0.3s,baz=219,slow=10,SNR=49						
PTGB	**Pitanga**	**19.27**	**73**	*eP*	**Pn**	**07 08 22.6**	**-0.8**
TRCB	**Terra Rica**	**19.76**	**67**	*eP*	**P**	**07 08 27.7**	**+0.1**
TER01	**Tubaro-SC**	**20.33**	**86**	*eP*	**P**	**07 08 33.6**	**-0.2**
PTLB	**Pontes e Lacer**	**20.48**	**39**	*eP*	**P**	**07 08 36.1**	**+0.8**
PP1B	**Ponte de Pedra**	**21.39**	**52**	*eP*	**P**	**07 08 45.4**	**+0.1**
PCMB	**Pacaembu**	**21.47**	**66**	*eP*	**P**	**07 08 46.0**	**-0.1**
TIJ01	**Guaruva-PR**	**21.52**	**78**	*eP*	**P**	**07 08 45.8**	**-0.9**
FRTB	**Fartura**	**21.93**	**72**	*eP*	**P**	**07 08 50.3**	**-0.7**
VILB	**Vilhena**	**22.08**	**33**	*eP*	**P**	**07 08 53.3**	**+0.6**
SALV	**Santo Antonio**	**22.11**	**47**	*eP*	**P**	**07 08 52.7**	**-0.3**
ETMB	**Extrema**	**22.89**	**16**	*eP*	**P**	**07 09 03.5**	**+2.2**
ITRB	**Iturama**	**23.25**	**63**	*eP*	**P**	**07 09 03.9**	**-1.0**
PET01	**Itanhaem-SP**	**23.38**	**77**	*eP*	**P**	**07 09 06.3**	**+0.1**
SPB	**Sao Paulo**	**23.55**	**75**	P	**P**	**07 09 04.4**	**-3.4**
SPB				IAmb	IAmb	07 09 09.3	
	comp=Z,34nm,0.8s						
SPB	**Sao Paulo**	**23.55**	**75**	*eP*	**P**	**07 09 07.3**	**-0.6**
BB19B	**Bebedouro**	**23.91**	**68**	*eP*	**P**	**07 09 11.2**	**-0.1**
RCLB	**Rio Claro- Sao**	**24.02**	**72**	*eP*	**P**	**07 09 12.0**	**-0.4**
VAO	**Valinhos**	**24.20**	**74**	*eP*	**P**	**07 09 13.2**	**-0.9**
CZSB	**Cruzeiro do Su**	**24.26**	**359**	*eP*	**P**	**07 09 17.6**	**+3.1**
SAML	**Samuel**	**24.56**	**22**	P	**P**	**07 09 15.2**	**-2.1**
PARB	**Paraibuna**	**25.15**	**76**	*eP*	**P**	**07 09 22.0**	**-0.7**
IPMB	**Ipameri, GO**	**25.91**	**63**	*eP*	**P**	**07 09 29.9**	**+0.3**
CLDB	**Colider**	**26.07**	**40**	*eP*	**P**	**07 09 32.3**	**+1.3**
ESAR	**Angra dos Reis**	**26.27**	**77**	*eP*	**P**	**07 09 32.3**	**-0.4**
BSCB	**Bom Sucesso**	**26.94**	**73**	*eP*	**P**	**07 09 38.7**	**-0.3**
BDFB	**Brasilia**	**27.52**	**59**	P	**P**	**07 09 44.2**	**0.0**
	comp=Z,88nm,1.2s,baz=223,slow=8.3,SNR=38						
BDFB	**Brasilia**	**27.52**	**59**	P	**P**	**07 09 41.6**	**-2.7**
SNDB	**Serra Nova Dou**	**27.86**	**49**	*eP*	**P**	**07 09 47.7**	**+0.6**
TBTG	**Tabatinga, AM**	**27.87**	**5**	*eP*	**P**	**07 09 50.3**	**+3.2**
DUB01	**Friburgo-RJ**	**28.39**	**77**	*eP*	**P**	**07 09 52.4**	**+0.5**
CAM01	**Campos-RJ**	**29.10**	**77**	*eP*	**P**	**07 09 58.1**	**0.0**
DIAM	**Diamantina, MG**	**29.24**	**69**	*eP*	**P**	**07 09 59.5**	**-0.1**
NPGB	**Novo Progresso**	**29.53**	**36**	*eP*	**P**	**07 10 02.0**	**0.0**
PEXB	**Peixe**	**29.74**	**53**	*eP*	**P**	**07 10 04.0**	**+0.2**
MC01	**Montes Claros**	**29.93**	**66**	*eP*	**P**	**07 10 06.1**	**+0.5**
JANB	**Januaria**	**30.64**	**63**	*eP*	**P**	**07 10 11.8**	**-0.1**
MACA	**Manacapuru-AM**	**30.81**	**23**	*eP*	**P**	**07 10 14.8**	**+1.6**
SJMB	**Sao Joao De Ma**	**31.01**	**72**	*eP*	**P**	**07 10 15.2**	**+0.1**
BSFB	**Barra de Sao F**	**31.22**	**73**	*eP*	**P**	**07 10 16.8**	**-0.1**
RIB01	**Linhares ES**	**31.34**	**74**	*eP*	**P**	**07 10 18.5**	**+0.5**
ITTB	**Itaituba**	**31.68**	**33**	*eP*	**P**	**07 10 22.7**	**+1.8**
SDBA	**SAO DESIDERIO**	**31.92**	**58**	*eP*	**P**	**07 10 23.1**	**0.0**
NAN01	**Guarapari, ES**	**32.32**	**72**	*eP*	**P**	**07 10 26.3**	**-0.3**
SMTB	**Santa Maria do**	**32.58**	**50**	*eP*	**P**	**07 10 30.4**	**+1.5**
PMSA	**Palmer Station**	**33.09**	**174**	P	**P**	**07 10 35.0**	**+2.2**
	comp=Z,10nm,0.9s,baz=277,slow=10,SNR=4.8						
PMSA	**Palmer Station**	**33.09**	**174**	*eP*	**P**	**07 10 36.5**	**+3.8**
GUA01	**Guaratinga, BA**	**33.26**	**70**	*eP*	**P**	**07 10 35.4**	**+0.6**
PRPB	**Parauapebas**	**33.28**	**44**	*eP*	**P**	**07 10 36.5**	**+1.5**
CMC01	**Camacan, BA**	**34.17**	**69**	*eP*	**P**	**07 10 43.1**	**+0.4**
MALB	**Monte Alegre**	**34.58**	**33**	*eP*	**P**	**07 10 48.5**	**+2.3**
GDU01	**Guandu, BA**	**35.09**	**66**	*eP*	**P**	**07 10 52.0**	**+1.3**
BOAV	**Boa Vista**	**36.10**	**20**	*eP*	**P**	**07 11 00.9**	**+1.6**
ROSC	**El Rosal**	**36.79**	**357**	P	**P**	**07 11 06.9**	**+1.2**
	comp=Z,5.3nm,0.4s,baz=258,slow=19,SNR=1.6						
MCPB	**Macapa, AP**	**36.93**	**35**	*eP*	**P**	**07 11 07.8**	**+1.3**
RUSC	**La Rusia**	**37.80**	**359**	P	**P**	**07 11 10.8**	**-3.4**
RUSC				IAmb	IAmb	07 11 23.8	
	comp=Z,27nm,1.1s						
SDV	**Santo Domingo**	**40.80**	**3**	*eP*	**P**	**07 11 41.6**	**+2.7**
RCBR	**Riachuelo**	**42.89**	**60**	*eP*	**P**	**07 11 57.3**	**+1.3**
PDPR	**Patillas Dam,**	**50.21**	**8**	P	**P**	**07 12 50.8**	**-2.3**
PDPR				IAmb	IAmb	07 13 11.8	
	comp=Z,12nm,0.9s						
SJG	**San Juan**	**50.28**	**8**	P	**P**	**07 12 51.6**	**-2.1**
CBYP	**Canovanas**	**50.48**	**8**	P	**P**	**07 12 53.5**	**-1.8**
CBYP				IAmb	IAmb	07 13 09.9	
	comp=Z,14nm,1.1s						
VNA3	**Neumayer Olymp**	**51.20**	**158**	P	**P**	**07 13 02.9**	**+2.7**
VNA1	**Neumayer--Stat**	**51.51**	**157**	P	**P**	**07 13 05.6**	**+3.2**
VNA2	**Neumayer--Watz**	**51.85**	**158**	P	**P**	**07 13 07.7**	**+2.7**
	baz=286,slow=8.4						
SNAA	**Sanae**	**53.43**	**158**	P	**P**	**07 13 19.4**	**+2.7**
SNAA	**Sanae**	**53.43**	**158**	P	**P**	**07 13 14.7**	**-2.1**
SNAA				IAmb	IAmb	07 13 20.3	
	comp=Z,14nm,1.0s						
QSPA	**South Pole Qui**	**58.12**	**180**	P	**P**	**07 13 53.9**	**+3.3**
	comp=Z,6nm,0.8s,baz=148,slow=2.5,SNR=12						
QSPA	**South Pole Qui**	**58.12**	**180**	P	**P**	**07 13 47.9**	**-2.7**
QSPA				IAmb	IAmb	07 14 16.5	
	comp=Z,12nm,1.2s						
TXAR	**Lajitas Array**	**67.97**	**331**	P	**P**	**07 15 00.1**	**+3.8**
	comp=Z,0.6nm,0.8s,baz=153,slow=8.4,SNR=7.1						
TXAR				pP	**pwP**	**07 15 09.6**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=150,slow=8.3,SNR=6.3						
TXAR	**Lajitas Array**	**67.97**	**331**	P	**P**	**07 14 53.1**	**-3.2**
WVT	**Waverly**	**69.42**	**347**	P	**P**	**07 15 02.7**	**-2.4**
WVT				IAmb	IAmb	07 15 12.9	
	comp=Z,13nm,1.2s						
MNTX	**Cornudas Mount**	**70.75**	**330**	P	**P**	**07 15 12.0**	**-1.3**
HHAR	**Hobbs**	**70.98**	**342**	P	**P**	**07 15 12.1**	**-2.6**
HHAR				IAmb	IAmb	07 15 28.9	
	comp=Z,4.4nm,0.8s						
R40A	**Maddies Statio**	**72.46**	**344**	P	**P**	**07 15 21.8**	**-1.7**
R40A				IAmb	IAmb	07 15 46.7	
	comp=Z,12nm,1.2s						
P40A	**Paris**	**73.59**	**344**	P	**P**	**07 15 27.3**	**-2.8**
P40A				IAmb	IAmb	07 15 45.7	
	comp=Z,7.7nm,0.9s						
LIC	**Lamto**	**74.42**	**72**	*eP*	**P**	**07 15 36.6**	**+1.0**
	comp=Z,29nm,0.7s						
TIC	**Toumodi**	**74.67**	**72**	*eP*	**P**	**07 15 38.2**	**+1.1**
KIC	**Kosan Boka**	**74.73**	**72**	*eP*	**P**	**07 15 38.3**	**+0.9**
	comp=Z,27nm,0.6s						
DBIC	**Dimbokro**	**74.82**	**72**	P	**P**	**07 15 39.5**	**+1.6**
	comp=Z,12nm,0.8s,baz=237,slow=4.7,SNR=12						
DBIC				pP	**sP**	**07 15 48.6**	**+0.7**
	comp=Z,11nm,0.6s,baz=234,slow=4.7,SNR=9.7						
DBIC	**Dimbokro**	**74.82**	**72**	P	**P**	**07 15 35.0**	**-2.9**
MAW	**Mawson**	**75.06**	**164**	P	**P**	**07 15 41.1**	**+2.7**
	comp=Z,4.4nm,0.9s,baz=249,slow=7.7,SNR=8.8						
MAW	**Mawson**	**75.06**	**164**	P	**P**	**07 15 36.1**	**-2.3**
SCIA	**State Center**	**76.12**	**344**	P	**P**	**07 15 42.7**	**-2.0**
KOWA	**Kowa**	**80.09**	**66**	P	**P**	**07 16 02.6**	**-4.7**
KOWA				IAmb	IAmb	07 16 20.1	
	comp=Z,10nm,0.8s						
BOSA	**Boshof**	**81.17**	**118**	P	**P**	**07 16 14.9**	**+1.7**
	comp=Z,12nm,0.9s,baz=223,slow=6.5,SNR=10						
NVAR	**Mina Array Bea**	**82.19**	**325**	P	**P**	**07 16 22.5**	**+4.2**
	comp=Z,0.2nm,0.6s,baz=184,slow=6.0,SNR=4.3						
NVAR				pP	**pwP**	**07 16 32.1**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=160,slow=6.7,SNR=5.3						
TORD	**Torodi Ar. Bea**	**83.80**	**70**	P	**P**	**07 16 28.4**	**+1.5**
	comp=Z,8.4nm,0.8s,baz=259,slow=4.6,SNR=38						
TORD				pP	**sP**	**07 16 37.6**	**+0.6**
	comp=Z,12nm,1.0s,baz=276,slow=4.6,SNR=15						
TORD	**Torodi Ar. Bea**	**83.80**	**70**	P	**P**	**07 16 23.2**	**-3.7**
ASAR	**Alice Springs**	**119.13**	**208**	PKP	**PKiKP**	**07 22 48.4**	**+1.7**
	comp=Z,0.4nm,0.8s,baz=199,slow=3.4,SNR=4.7						
ASAR	**Alice Springs**	**119.13**	**208**		**PKPdf**	**07 22 43.2**	**-3.4**
WRA	**Warramunga Arr**	**122.28**	**210**	PKP	**PKiKP**	**07 22 54.8**	**+1.9**
	comp=Z,1.0nm,1.0s,baz=132,slow=1.4,SNR=4.8						
WRA				pPKP	**sPKPdf**	**07 23 05.4**	**+2.7**
	comp=Z,1.0nm,0.9s,baz=169,slow=1.9,SNR=4.1						
WRA	**Warramunga Arr**	**122.28**	**210**		**PKPdf**	**07 22 49.5**	**-3.2**
BVAR	**Borovoye Array**	**146.04**	**41**	PKPbc	**PKiKP**	**07 23 39.5**	**-0.3**
	comp=Z,6.4nm,0.8s,baz=245,slow=6.2,SNR=12						
KURBB	**Kurchatov Arra**	**151.63**	**41**	PKPbc	**PKiKP**	**07 23 53.8**	**+2.4**
	comp=Z,6.6nm,0.9s,baz=303,slow=3.0,SNR=13						
KURBB				pPKPbc	**sPKPbc**	**07 24 02.0**	**+0.6**
	comp=Z,4.5nm,0.8s,baz=296,slow=3.2,SNR=8.8						
AAK	**Ala-Archa**	**151.78**	**59**	PKPbc	**PKiKP**	**07 23 54.6**	**+2.4**
	comp=Z,5.3nm,0.8s,baz=168,slow=1.0,SNR=6.3						
AAK	**Ala-Archa**	**151.78**	**59**	PKPdf	**PKPdf**	**07 23 41.7**	**-3.8**
AAK					**PKPbc**	**07 23 48.7**	**-3.1**
AAK				PKPab	**sPKPdf**	**07 23 54.9**	**-0.9**
ZALV	**Zalesovo Beam**	**152.74**	**30**	PKPbc	**PKiKP**	**07 23 56.3**	**+2.8**
	comp=Z,17nm,0.8s,baz=297,slow=3.3,SNR=36						
ZALV	**Zalesovo Beam**	**152.74**	**30**	PKPdf	**PKPdf**	**07 23 43.3**	**-2.9**
ZALV					**PKPbc**	**07 23 49.3**	**-4.0**
MKAR	**Makanchi Array**	**155.66**	**46**	PKPbc	PKPbc	07 24 03.2	
	comp=Z,2.1nm,0.9s,baz=324,slow=4.1,SNR=4.2						
MKAR				PKPab	**PKPab**	**07 24 20.2**	**+3.2**
	comp=Z,3.1nm,0.8s,baz=305,slow=5.1,SNR=5.4						
MKAR				pPKPab	sPKPab	07 24 29.1	+1.9
	comp=Z,4.8nm,0.7s,baz=312,slow=4.4,SNR=9.7						
MKAR	**Makanchi Array**	**155.66**	**46**		**PKPdf**	**07 23 47.2**	**-3.5**
MKAR				PKPab	sPKPbc	07 24 13.1	+2.7
XAN	**Xi'an**	**177.81**	**332**	PKP	**PKPdf**	**07 24 08.6**	**+0.9**
XAN				pPKP	pPKPdf	07 24 14.0	-1.5

*ISK **22** 07:11:10.9,39°.15N×29°.13E,h12km,ML4.1/72*
*IDC **22** 07:11:10.9±0.9,39°.04N×29°.22E,h0km,mb3.9/11, mb1 3.9/18,mb1mx3.8/53,mbtmp3.9/18,ML3.7/7,MS3.0/6, Ms1 3.0/6,ms1mx2.7/59,Error ellipse: s-maj=17.3km s-min=13.1km az=39.0*
*DDA **22** 07:11:11.0,39°.13N×29°.11E,h6km±1km,MW4.3*
ISC 22 07:11:12.0±0.8,39°.14N±0°.02×29°.12E±0°.01,h9km±5km, n173,σ1≀10/192,mb3.9/13,6C-4D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMAA	**Simav-Kutahya**	**0.12**	**250**	PG	**Pg**	**07 11 14.7**	**-0.1**
SIMA	**Simav-Kutahya**	**0.12**	**242**	PG	**Pg**	**07 11 14.7**	**-0.2**
SIMA				SG	**Sg**	**07 11 17.3**	**+0.3**
SHAP	**Saphane-Kutahy**	**0.14**	**147**	PG	**Pg**	**07 11 14.7**	**-0.5**
SHAP				SG	**Sg**	**07 11 17.3**	**-0.1**
GEDZ	**Gediz**	**0.24**	**113**	PG	**Pg**	**07 11 16.5**	**-0.5**
GDZ	**Gediz**	**0.28**	**101**	*i* P	**Pg**	**07 11 16.9**	**-0.8**
GDZ				*i* S	**Sg**	**07 11 21.1**	**-0.5**
DEMI	**Demirci**	**0.33**	**253**	*i* P	**Pg**	**07 11 18.2**	**-0.4**
DEMI				*i* S	**Sg**	**07 11 22.4**	**-0.6**
TVSB	**Tavsanli**	**0.41**	**40**	PG	**Pg**	**07 11 19.1**	**-0.9**
TVSB				SG	**Sg**	**07 11 25.3**	**-0.1**
USAK	**Uak-Merkez**	**0.43**	**191**	*i* P	**Pg**	**07 11 19.8**	**-0.8**
DST	**Dursunbey**	**0.60**	**320**	PG	**Pg**	**07 11 22.9**	**-0.8**
DURS	**Dursunbey**	**0.68**	**313**	*i* P	**Pg**	**07 11 24.5**	**-0.7**
ANDZ	**Kutahya, Merke**	**0.71**	**58**	*i* P	**Pg**	**07 11 24.6**	**-1.1**
ANDZ				*i* S	**Sg**	**07 11 34.0**	**-0.9**
KULA	**K

ALN	**Alexandroupoli**	**2.94**	**308**	P	**Pn**	**07 11 58.3 -0.6**
ALN	**Alexandroupoli**	**2.94**	**308**	PN	**Pn**	**07 11 58.5 -0.4**
KKUL	**Konya-Kulu**	**2.95**	**88**	*i* P	**Pg**	**07 12 09.2 +0.6**
AKUM	**Antalya-Kumluc**	**2.98**	**161**	*i* P	**Pn**	**07 12 00.6 +1.2**
ARMN	**Kirklareli, Me**	**3.01**	**335**	*i* P	**Pn**	**07 11 59.0 -0.9**
ARG	**Arkhangelos**	**3.02**	**195**	PN	**Pn**	**07 12 00.1 0.0**
ALIN	**Konya, Âltinte**	**3.06**	**105**	*i* P	**Pb**	**07 12 05.6 -1.0**
KIRK	**Kırklareli**	**3.06**	**330**	*i* P	**Pn**	**07 11 58.2 -2.3**
AFSR	**Afar-Bala (An**	**3.08**	**83**	PN	**Pn**	**07 12 00.9 0.0**
BBAL	**Bala**	**3.13**	**81**	*i* P	**Pg**	**07 12 11.1 -0.8**
EDRB	**Edirne**	**3.25**	**327**	P	**Pn**	**07 12 02.4 -0.8**
BRTR	**Keskin Array B**	**3.55**	**79**	Pn	**Pn**	**07 12 07.2 -0.2**
	1.7nm,0.3s,baz=253,slow=13,SNR=43					
BRTR				Sn	**Sn**	**07 12 47.7 -1.8**
	5.8nm,0.3s,baz=274,slow=20,SNR=5.7					
BRTR				LR	LR	07 13 59.6
	comp=Z,377nm,19.6s,baz=239,slow=48					
IDI	**Anoyia**	**5.12**	**223**	Pn	**Pn**	**07 12 29.1 +0.1**
	0.7nm,0.3s,baz=52,slow=16,SNR=2.1					
IDI				LR	LR	07 14 22.0
	comp=Z,144nm,19.8s,baz=61,slow=38					
TIRR	**Tirgusor**	**5.34**	**355**	⇓P	**Pn**	**07 12 31.9 0.0**
TLBR	**Topalu**	**5.46**	**352**	⇑P	**Pn**	**07 12 33.7 +0.2**
VAY	**Valandovo**	**5.47**	**296**	*i* Pn	**Pg**	**07 12 54.9 -1.8**
VTS	**Vitosha**	**5.65**	**310**	⇓P	**Pb**	**07 12 49.3 -1.7**
TPGR	**Topolog**	**5.74**	**355**	⇑P	**Pn**	**07 12 36.3 -1.0**
STIP	**Stip**	**5.88**	**298**	*i* Pn	**Pn**	**07 12 37.6 -1.6**
TLCR		**6.04**	**358**	⇑P	**Pn**	**07 12 42.5 +0.9**
MLR	**Muntele Rosu**	**6.77**	**341**	Pn	**Pn**	**07 12 52.6 +1.0**
	0.8nm,0.3s,baz=149,slow=4.8,SNR=14					
MLR				Lg	Lg	07 14 48.3
	0.5nm,0.3s,baz=135,slow=20,SNR=2.2					
VRI	**Vrincioaia**	**6.95**	**346**	⇓P	**Pn**	**07 12 54.3 +0.3**
VOIR		**6.98**	**336**	⇓P	**Pn**	**07 12 54.4 0.0**
TESR	**Tescani**	**7.59**	**347**	⇑P	**Pn**	**07 13 02.8 +0.1**
MMAI	**Mount Meron Ar**	**7.95**	**138**	Pn	**Pn**	**07 13 06.6 -1.2**
	2.8nm,0.3s,baz=331,slow=12,SNR=4.7					
MMAI				Sn	**Sn**	**07 14 34.5 -3.4**
	1.4nm,0.3s,baz=300,slow=26,SNR=1.9					
SIRR	**Siria**	**8.99**	**325**	⇑P	**Pn**	**07 13 26.6 +4.6**
SORM	**Soroca**	**9.01**	**357**	⇑P	**Pn**	**07 13 21.4 -0.7**
MORH	**Mrgy, Hungar**	**10.46**	**316**	*e*P	**Pn**	**07 13 45.8 +3.8**
EIL	**Elat**	**10.60**	**151**	Pn	**Pn**	**07 13 43.1 -1.0**
	0.3nm,0.3s,baz=76,slow=12,SNR=3.1					
KOVH	**Kovagotottos**	**10.68**	**314**	*e*P	**Pn**	**07 13 48.4 +3.3**
AKASG	**Malin Array Be**	**11.56**	**0**	Pn	**Pn**	**07 13 58.7 +1.6**
	0.7nm,0.3s,baz=181,slow=12,SNR=2.7					
VRAC	**Vranov**	**13.54**	**325**	LR	LR	07 20 44.9
	comp=Z,50nm,21.6s,baz=130,slow=42					
GERES	**GERESS Array B**	**14.71**	**316**	Pn	**P**	**07 14 44.1 -2.4**
	0.1nm,0.3s,baz=128,slow=14,SNR=6.1					
GERES				LR	LR	07 20 24.9
	comp=Z,69nm,18.3s,baz=129,slow=37					
DAVOX	**Davos/Dischmat**	**16.00**	**305**	Pn	**P**	**07 15 02.6 +1.7**
	0.3nm,0.3s,baz=112,slow=11,SNR=3.1					
OBN	**Obninsk**	**16.75**	**15**	LR	LR	07 22 37.0
	comp=Z,26nm,20.3s,baz=76,slow=41					
BELG	**Belogornoye**	**18.43**	**38**	LR	LR	07 24 16.8
	comp=Z,46nm,18.7s,baz=141,slow=43					
FINES	**FINESS Array B**	**22.41**	**356**	P	**P**	**07 16 15.7 +5.1**
	1.6nm,0.6s,baz=187,slow=15,SNR=3.8					
GEYT	**Alibeck**	**22.68**	**84**	P	**P**	**07 16 15.1 +1.4**
	2.8nm,0.5s,baz=324,slow=11,SNR=4.3					
AKTO	**Aktyubinsk**	**23.26**	**51**	P	**P**	**07 16 20.3 +0.7**
	3.1nm,0.8s,baz=246,slow=7.7,SNR=8.8					
NOA	**NORSAR Array B**	**24.58**	**339**	P	**P**	**07 16 34.4 +2.2**
	0.7nm,0.8s,baz=143,slow=9.0,SNR=3.6					
ARU	**Arti**	**25.98**	**39**	P	**P**	**07 16 45.8 +1.1**
	1.5nm,0.2s,baz=217,slow=10,SNR=1.2					
EKA	**Eskdalemuir Ar**	**26.92**	**318**	P	**P**	**07 16 56.1 +2.8**
	1.0nm,0.4s,baz=114,slow=11,SNR=2.4					
AAK	**Ala-Archa**	**34.16**	**69**	P	**P**	**07 17 58.2 +0.5**
	1.1nm,0.4s,baz=177,slow=19,SNR=1.8					
TORD	**Torodi Ar. Bea**	**35.46**	**231**	P	**P**	**07 18 07.7 -1.2**
	1.6nm,0.9s,baz=53,slow=9.4,SNR=2.9					
KURBB	**Kurchatov Arra**	**36.20**	**55**	P	**P**	**07 18 15.4 +0.5**
	0.6nm,0.3s,baz=279,slow=8.7,SNR=7.6					
MKAR	**Makanchi Array**	**39.01**	**61**	P	**P**	**07 18 37.6 -1.1**
	1.6nm,0.7s,baz=292,slow=7.6,SNR=2.8					
ZALV	**Zalesovo Beam**	**39.99**	**49**	P	**P**	**07 18 46.0 -0.8**
	0.6nm,0.4s,baz=279,slow=11,SNR=4.2					
SONM	**Songino Array**	**54.55**	**54**	P	**P**	**07 20 40.9 +0.4**
	0.4nm,0.3s,baz=314,slow=13,SNR=3.6					
KSRS	**Korea Array**	**73.38**	**55**	P	**P**	**07 22 44.0 -0.4**
	1.9nm,0.7s,baz=303,slow=4.8,SNR=3.5					

IDC ***22*** *07:12:52.4±0.3,31.40S×71.03W,h0km,mb6.0/25, mb1 6.0/29,mb1mx6.0/32,mbtmp6.0/29,ML5.1/3,MS5.6/14, Ms1 5.6/14,ms1mx5.5/21,Error ellipse: s-maj=13.7km s-min=9.8km az=93.0*

VAO ***22*** *07:12:55.1±0.2,31.40S×71.02W,h10km,mb6.3*

BJI ***22*** *07:12:57.5±0.0,31.41S×71.10W,h30km,mB5.7/72, Ms5.9/81,Ms7 5.9/80*

SJA ***22*** *07:12:58.0,31.43S×71.32W,h60km,ML6.1*

MOS ***22*** *07:12:59.1±1.0,31.20S×71.17W,h51km,mb6.1/48, MS5.7/16,Error ellipse: s-maj=10.6km s-min=6.0km az=98.5*

NEIC ***22*** *07:12:59.9,31.48S×71.23W,h62km,Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr1.49; Mθθ0.09; Mϕϕ-1.58; Mrθ0.30; Mrϕ0.18; Mθϕ-0.59; Fault plane solution: M0 1.68000×1018 NP1:ϕs165.46000°, δ56.56000°,λ80.18000°. NP2:ϕs2.89000°,δ34.69000°, λ104.48000°. Principal axes: T 1.6460, Plg76.0000°, Azm45.0000°; N 0.0704, Plg8.0000°, Azm171.0000°; P -1.7165, Plg11.0000°, Azm263.0000°;*

NEIC ***22*** *07:12:59.9,31.48S×71.23W,h58km,Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr0.96; Mθθ-0.16; Mϕϕ-0.80; Mrθ0.11; Mrϕ0.14; Mθϕ-1.34; Fault plane solution: M0 1.62000×1018 NP1:ϕs173.85000°, δ73.15000°,λ92.80000°. NP2:ϕs344.27000°,δ17.08000°, λ80.83000°. Principal axes: T 1.6804, Plg62.0000°, Azm88.0000°; N -0.1367, Plg3.0000°, Azm353.0000°; P -1.5437, Plg28.0000°, Azm262.0000°;*

GUC ***22*** *07:12:59.0±0.7,31.45S×71.13W,h63km±4km,ML6.2, MW6.2*

SVSA ***22*** *07:13:00.5,31.44S×71.27W,h58km,MW6.0(NEIC)*

NEIC ***22*** *07:13:00.5±2.0,31.44S±0.04×71.27W±0.06,h58km±1km, mb6.0/210,Mwb6.1/78,Mwr6.1/58,Mww6.0, Mwc6.0(GCMT),Mwr6.2(GUC),Error ellipse: s-maj=9.2km s-min=6.8km az=266.0*

GCMT ***22*** *07:13:04.5±0.1,31.58S×71.39W,h64km,MW6.0/154, Moment Tensor Solution. s153,c372; s154,c491; Duration: 296 Moment tensor: Scale 1018Nm; Mrr1.15±.01; Mθθ0.14±.01; Mϕϕ-1.29±.01; Mrθ0.28±.01; Mrϕ0.20±.01; Mθϕ-0.83±.01; Best double couple: M0 1.51300×1018 NP1:ϕs0.00000°,δ28.00000°, λ103.00000°. NP2:ϕs165.00000°,δ63.00000°,λ83.00000°. Principal axes: T 1.4380, Plg71.0000°, Azm60.0000°; N 0.1530, Plg6.0000°, Azm168.0000°; P -1.5880, Plg17.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***22*** *07:13:04,31.63S×71.45W,h66km,Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr1.11; Mθθ0.18; Mϕϕ-1.29; Mrθ0.26; Mrϕ0.16; Mθϕ-0.84; Fault plane solution: M0 1.50000×1018 NP1:ϕs3.00000°, δ28.00000°,λ104.00000°. NP2:ϕs167.00000°,δ63.00000°, λ83.00000°. Principal axes: T 1.4052, Plg71.0000°, Azm60.0000°; N 0.1777, Plg7.0000°, Azm170.0000°; P -1.5829, Plg18.0000°, Azm262.0000°;*

NEIC ***22*** *07:13:05,31.48S×71.20W,h50km,Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr1.13; Mθθ-0.01; Mϕϕ-1.13; Mrθ0.26; Mrϕ-0.06; Mθϕ-0.91; Fault plane solution: M0 1.48000×1018 NP1:ϕs14.00000°, δ27.00000°,λ111.00000°. NP2:ϕs171.00000°,δ65.00000°, λ80.00000°. Principal axes: T 1.5029, Plg68.0000°, Azm62.0000°; N -0.0541, Plg9.0000°, Azm175.0000°; P -1.4488, Plg20.0000°, Azm269.0000°;*

ISC 22 07:12:59.3±0.3,**31.46S**±0.02×**71.18W**±0.03,**h53**km±2km, **h53**km:**pP-P**,**n1680**,**s1s58**/2063,**mb6.0**/194,**MS5.8**/50, **345C-94D**,**Fault plane solution: NP1**:ϕs127.66508°, δ57.25226°,λ56.96219°. **NP2:**ϕs357.91226°,δ45.16479°, λ130.28694°. **Principal axes:** T Plg61.7709°, Azm343.0745°; N Plg27.2929°, Azm147.0469°; P Plg6.6646°, Azm240.5034°; **Fault plane solution: NP1:**ϕs197.51285°,δ44.09767°,λ79.56575°. **NP2:** ϕs31.89500°,δ46.81345°,λ99.95352°. **Principal axes:** T Plg82.6302°, Azm14.2278°; N Plg7.2402°, Azm205.0465°; P Plg1.3686°, Azm114.8726°; **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CO03	**El Pedregal**	**0.74**	**34**	⇓*i*P		Pn	**Sn**	**07 13 15.0**	**+1.1**
CO03				*i* S			**Sn**	**07 13 26.8**	**+2.3**
CO03	**El Pedregal**	**0.74**	**34**				**Sn**	**07 13 15.2**	**+1.3**
CO03	**El Pedregal**	**0.74**	**34**	*i* P		Pn	**Pn**	**07 13 15.0**	**+1.1**
CO06	**Fray Jorge**	**0.88**	**333**	*e*P		Pn	**Pn**	**07 13 17.2**	**+1.7**
CO06				*i* S			**Sn**	**07 13 30.1**	**+2.8**
CO06	**Fray Jorge**	**0.88**	**333**				**Pn**	**07 13 17.2**	**+1.7**
VA06	**Catapilco**	**1.10**	**185**	*e*P		Pn	**Pn**	**07 13 19.6**	**+1.0**
VA06				*e*S			**Sn**	**07 13 35.1**	**+2.3**
VA06					IAML			07 13 41.0	
	comp=N,2247μm,0.4s								
GO04	**Tololo Observa**	**1.32**	**14**	⇑*i*P			**Pn**	**07 13 22.8**	**+1.1**
GO04	**Tololo Observa**	**1.32**	**14**	Pn		Pn	**Pn**	**07 13 23.1**	**+1.4**
GO04	**Tololo Observa**	**1.32**	**14**	*i* P		Pn	**Pn**	**07 13 23.0**	**+1.3**
VA03	**San Esteban**	**1.41**	**158**	⇑*i*P			**Pn**	**07 13 24.1**	**+1.3**
VA03				*i* S			**Sn**	**07 13 42.7**	**+2.5**
VA03					IAML			07 13 46.6	
	comp=N,754μm,0.3s								
VA03					IAML			07 13 48.5	
	comp=E,1029μm,0.5s								
VA03	**San Esteban**	**1.41**	**158**				**Pn**	**07 13 23.8**	**+1.1**
VA03	**San Esteban**	**1.41**	**158**	*i* P		Pn	**Pn**	**07 13 24.0**	**+1.3**
ROCH	**El Roble**	**1.52**	**175**		IAML			07 13 54.8	
	comp=N,293μm,0.5s								
ROC1	**El Roble**	**1.52**	**175**	*e*P			**Pn**	**07 13 25.1**	**+0.7**
ROC1				*e*S			**Sn**	**07 13 44.6**	**+1.4**
CO05	**La Serena**	**1.54**	**358**	*e*P			**Pn**	**07 13 25.1**	**+0.8**
CO05					IAML			07 13 57.2	
	comp=E,281μm,0.6s								
CO05	**La Serena**	**1.54**	**358**			Pn	**Pn**	**07 13 25.4**	**+1.0**
VA01	**Torpederas**	**1.61**	**194**	*e*P		Pn	**Pn**	**07 13 26.5**	**+1.1**
VA01	**Torpederas**	**1.61**	**194**				**Pn**	**07 13 26.3**	**+0.9**
VA01	**Torpederas**	**1.61**	**194**	*i* P		Pn	**Pn**	**07 13 26.0**	**+0.6**
RTLS	**Leoncito**	**1.64**	**102**	*e*P		Pn	**Pn**	**07 13 28.9**	**+2.9**
RTLS				*i* S			**Sn**	**07 13 51.6**	**+5.5**
AUSP	**Uspallata**	**1.70**	**117**	*i* P		Pn	**Pn**	**07 13 29.0**	**+2.1**
AROD	**Rodeo**	**1.95**	**49**	*i* P		Pn	**Pn**	**07 13 33.0**	**+2.7**
MT05	**Renca**	**1.96**	**169**	*e*P			**Pn**	**07 13 31.5**	**+1.1**
MT05				*i* S			**Sn**	**07 13 57.1**	**+3.3**
MT05	**Renca**	**1.96**	**169**			Pn	**Pn**	**07 13 31.4**	**+1.1**
MT05	**Renca**	**1.96**	**169**	*i* P		Pn	**Pn**	**07 13 31.0**	**+0.7**
ACCO	**Cerro Coronel**	**2.01**	**65**	*i* P		Pn	**Pn**	**07 13 34.0**	**+2.9**
ZON	**Zonda**	**2.13**	**93**	P		Pn	**Pn**	**07 13 35.6**	**+3.0**
ZON	**Zonda**	**2.13**	**93**			Pn	**Pn**	**07 13 35.6**	**+3.0**
ZON	**Zonda**	**2.13**	**93**	*i* P		Pn	**Pn**	**07 13 35.8**	**+3.2**
ZON				*i* S			**Sn**	**07 14 03.2**	**+5.2**
ACDV	**Cuesta del Vie**	**2.18**	**55**	*i* P		Pn	**Pn**	**07 13 37.0**	**+3.6**
RTCV	**Cerro Valdivia**	**2.28**	**101**	*i* P		Pn	**Pn**	**07 13 37.0**	**+2.4**
ASAL	**Salagasta**	**2.29**	**120**	*i* P		Pn	**Pn**	**07 13 38.0**	**+3.3**
RTLL	**Cerro Villicun**	**2.31**	**88**	*i* P		Pn	**Pn**	**07 13 37.3**	**+2.3**
MT09	**Talagante**	**2.32**	**176**	⇓*i*P			**Pn**	**07 13 36.4**	**+1.2**
MT09				*i* S			**Sn**	**07 14 05.7**	**+3.1**
MT09					IAML			07 14 11.4	
	comp=N,138μm,0.7s								
MT09	**Talagante**	**2.32**	**176**				**Pn**	**07 13 36.1**	**+0.9**
ARCO	**CERRO ARCO**	**2.35**	**127**	*i* P		Pn	**Pn**	**07 13 39.0**	**+3.3**
MT01	**Popeta**	**2.40**	**182**	*e*P		Pn	**Pn**	**07 13 37.6**	**+1.3**
MT01				*i* S			**Sn**	**07 14 07.2**	**+2.8**
MT01	**Popeta**	**2.40**	**182**				**Pn**	**07 13 37.5**	**+1.3**
MT01	**Popeta**	**2.40**	**182**	*i* P		Pn	**Pn**	**07 13 37.0**	**+0.8**
LCO	**Las Campanas**	**2.47**	**10**	P		Pn	**Pn**	**07 13 39.2**	**+1.7**
LCO	**Las Campanas**	**2.47**	**10**	*e*P		Pn	**Pn**	**07 13 38.5**	**+1.0**
LCO				*i* S			**Sn**	**07 14 09.6**	**+3.1**
LCO	**Las Campanas**	**2.47**	**10**			Pn	**Pn**	**07 13 39.1**	**+1.7**
LCO	**Las Campanas**	**2.47**	**10**	*i* P		Pn	**Pn**	**07 13 39.0**	**+1.6**
LMEL	**Las Melosas**	**2.52**	**161**	*e*P		Pn	**Pn**	**07 13 39.7**	**+1.7**
LMEL				*i* S			**Sn**	**07 14 10.8**	**+3.2**
LMEL					IAML			07 14 16.1	
	comp=E,91μm,0.1s								
LMEL					IAML			07 14 16.5	
	comp=E,94μm,0.2s								
LMEL					IAML			07 14 16.6	
	comp=N,124μm,0.3s								
AAGR	**Agrelo**	**2.57**	**130**	*i* P		Pn	**Pn**	**07 13 42.0**	**+3.4**
BO01	**Tunca**	**2.93**	**179**		IAML			07 14 31.7	
	comp=N,51μm,0.7s								
BO01	**Tunca**	**2.93**	**179**			Pn	**Pn**	**07 13 44.6**	**+1.2**
BO01	**Tunca**	**2.93**	**179**	*i* P		Pn	**Pn**	**07 13 44.0**	**+0.6**
AGUA	**GUANDACOL**	**3.04**	**50**	*i* P		Pn	**Pn**	**07 13 48.0**	**+3.0**
AC04	**Llanos de Chal**	**3.24**	**2**				**Pn**	**07 13 49.2**	**+1.4**
AC04	**Llanos de Chal**	**3.24**	**2**	*i* P		Pn	**Pn**	**07 13 49.0**	**+1.2**
AVFE	**Valle Fertil**	**3.29**	**77**	*i* P		Pn	**Pn**	**07 13 50.0**	**+1.5**
BO02	**Sierra Bellavi**	**3.34**	**174**			Pn	**Pn**	**07 13 50.6**	**+1.4**
BO02	**Sierra Bellavi**	**3.34**	**174**	*i* P		Pn	**Pn**	**07 13 51.0**	**+1.8**
GO05	**Huala**	**3.60**	**190**			Pn	**Pn**	**07 13 52.5**	**-0.2**
GO05	**Huala**	**3.60**	**190**	*i* P		Pn	**Pn**	**07 13 52.6**	**0.0**
GO05				*e*S			**Sn**	**07 14 27.8**	**-6.1**
VCA	**Vinchina**	**3.74**	**44**	*i* P			**Pn**	**07 13 58.0**	**+3.3**
LAMA	**Las Malvinas**	**3.84**	**155**	*i* P			**Pn**	**07 13 58.0**	**+2.1**
ACHE	**Chepes**	**3.87**	**87**	*i* P			**Pn**	**07 13 58.0**	**+1.5**
COIS	**El Sosneado**	**3.87**	**160**	*i* P			**Pn**	**07 14 00.0**	**+3.6**
GO03	**Copiap**	**3.94**	**12**			Pn	**Pn**	**07 13 58.6**	**+1.3**
GO03	**Copiap**	**3.94**	**12**	*i* P			**Pn**	**07 13 59.0**	**+1.7**
RFA	**San Rafael**	**4.01**	**146**	*i* P			**Pn**	**07 13 59.0**	**+0.7**
AC06	**Mina Casimiro**	**4.15**	**10**			Pn	**Pn**	**07 14 01.0**	**+0.8**
PUMA	**Malargue**	**4.28**	**161**	*i* P			**Pn**	**07 14 05.0**	**+3.0**
ML02	**Panimavida**	**4.30**	**183**			Pn	**Pn**	**07 14 02.6**	**+0.4**
EDS3	**Malargue**	**4.55**	**161**	*i* P			**Pn**	**07 14 10.0**	**+4.2**
TINO	**Tinogasta**	**4.61**	**44**	*i* P			**Pn**	**07 14 09.0**	**+2.4**
MRA	**San Martin**	**4.74**	**103**	*i* P			**Pn**	**07 14 11.0**	**+2.7**
AC02	**Maricunga**	**4.94**	**22**			Pn	**Pn**	**07 14 13.1**	**+1.5**
AC02	**Maricunga**	**4.94**	**22**	*i* P			**Pn**	**07 14 13.0**	**+1.5**
CYA	**Choya**	**5.55**	**59**	*i* P			**Pn**	**07 14 20.0**	**+0.6**
CANA	**Caviahue**	**6.42**	**179**	*i* P			**Pn**	**07 14 35.0**	**+3.6**
VA04	**Juan Fernndez**	**6.82**	**249**			Pn	**Pn**	**07 14 36.4**	**-0.4**
H03N1	**Juan Fernandez**	**6.83**	**251**			Pn	**Pn**	**07 14 37.5**	**+0.8**
	baz=120,slow=20,SNR=227								
H03N1						T	T	07 21 27.1	
	baz=76,slow=72,SNR=1661								
PB14	**IPOC Station P**	**6.84**	**6**				**Pn**	**07 14 37.0**	**-0.4**
PB14	**IPOC Station P**	**6.84**	**6**	*i* P			**Pn**	**07 14 38.0**	**+0.6**
H03N3	**Juan Fernandez**	**6.85**	**251**			Pn	**Pn**	**07 14 37.6**	**+0.7**
	baz=120,slow=20,SNR=322								
H03N3						T	T	07 21 24.8	
	baz=76,slow=72,SNR=1685								
H03N2	**Juan Fernandez**	**6.85**	**251**			Pn	**Pn**	**07 14 37.8**	**+0.9**
	baz=120,slow=20,SNR=242								
H03N2						T	T	07 21 25.4	
	baz=76,slow=72,SNR=1205								
H03S3	**Juan Fernandez**	**6.94**	**248**			Pn	**Pn**	**07 14 37.9**	**-0.3**
	baz=29,slow=19,SNR=918								
H03S3						T	T	07 21 29.2	
	baz=86,slow=75,SNR=271								
H03S1	**Juan Fernandez**	**6.94**	**248**			Pn	**Pn**	**07 14 37.7**	**-0.4**
	baz=29,slow=19,SNR=650								
H03S1						T	T	07 21 28.7	
	baz=86,slow=75,SNR=355								
H03S2	**Juan Fernandez**	**6.95**	**248**			Pn	**Pn**	**07 14 37.7**	**-0.6**
	baz=29,slow=19,SNR=882								
H03S2						T	T	07 21 29.2	
	baz=86,slow=75,SNR=312								
FSA	**Cafayete**	**7.01**	**42**	*i* P			**Pn**	**07 14 40.0**	**+0.4**
LC01	**Cunco**	**7.45**	**184**				**Pn**	**07 14 45.0**	**-0.4**
LC01	**Cunco**	**7.45**	**184**	*i* P			**Pn**	**07 14 45.0**	**-0.4**
PB10	**IPOC Station P**	**7.93**	**4**	Pn			**Pn**	**07 14 49.8**	**-2.5**
LR03	**Panguipulli**	**8.21**	**186**				**Pn**	**07 14 54.3**	**-1.5**
PB15	**IPOC Station P**	**8.36**	**11**				**Pn**	**07 14 56.5**	**-1.5**
SLA	**San Lorenzo**	**8.37**	**38**	*i* P			**Pn**	**07 14 59.0**	**+0.8**
PB06	**IPOC Station P**	**8.83**	**10**				**Pn**	**07 15 01.5**	**-3.0**
AF01	**San Pedro de A**	**8.88**	**18**				**Pn**	**07 15 04.8**	**-0.6**
AZAP	**Zapla**	**9.01**	**38**	*i* P			**Pn**	**07 15 07.0**	**0.0**
LVC	**Limon Verde**	**9.04**	**13**	Pn			**Pn**	**07 15 05.1**	**-2.5**
	comp=N,20nm,0.3s,baz=169,slow=8.1,SNR=86								
LVC						Sn	**Sn**	**07 16 46.9**	**-1.3**
	comp=N,115nm,0.3s,baz=82,slow=7.8,SNR=4.6								
LVC	**Limon Verde**	**9.04**	**13**				**Pn**	**07 15 06.4**	**-1.2**
LVC	**Limon Verde**	**9.04**	**13**	*e*P			**Pn**	**07 15 04.8**	**-2.8**
PB04	**IPOC Station P**	**9.13**	**6**	Pn			**Pn**	**07 15 05.6**	**-3.1**
PLCA	**Paso Flores**	**9.27**	**177**				**Pn**	**07 15 11.0**	**+0.6**
	comp=N,14nm,0.3s,baz=346,slow=11,SNR=103								
PLCA						Sn	Sn	07 17 02.7	+9.4
	baz=18,slow=13,SNR=1.7								
PLCA						LR	LR	07 18 46.5	
	comp=N,24μm,21.2s,baz=358,slow=38								
PLCA	**Paso Flores**	**9.27**	**177**	P			**Pn**	**07 15 11.1**	**+0.7**
PLCA	**Paso Flores**	**9.27**	**177**	Pn			**Pn**	**07 15 11.1**	**+0.7**
PLCA	**Paso Flores**	**9.27**	**177**	*e*P			**Pn**	**07 15 10.7**	**+0.3**
LL04	**Puerto Octay**	**9.48**	**186**	Pn			**Pn**	**07 15 11.5**	**-1.7**
ASTB	**Santa Barbara**	**9.56**	**40**	*i* P			**Pn**	**07 15 15.0**	**+0.5**
HJA	**Humahuaca**	**9.68**	**33**	*i* P			**Pn**	**07 15 18.0**	**+1.6**
LL03	**Petrohue**	**9.71**	**186**	Pn			**Pn**	**07 15 14.7**	**-1.7**
PB07	**IPOC Station P**	**9.76**	**7**	Pn			**Pn**	**07 15 13.9**	**-3.4**
PB09	**IPOC Station P**	**9.78**	**11**	Pn			**Pn**	**07 15 15.7**	**-1.8**
TRQA	**Tornquist**	**10.02**	**134**	P			**Pn**	**07 15 20.8**	**+0.2**
TRQA	**Tornquist**	**10.02**	**134**	Pn			**Pn**	**07 15 20.8**	**+0.2**
TRQA	**Tornquist**	**10.02**	**134**	*e*P			**Pn**	**07 15 17.5**	**-3.1**
LL05	**Los Muermos**	**10.10**	**190**	Pn			**Pn**	**07 15 19.2**	**-2.4**
PB01	**IPOC Station P**	**10.48**	**9**	Pn			**Pn**	**07 15 23.4**	**-3.7**
LL01	**San Ignacio de**	**10.95**	**185**	Pn			**Pn**	**07 15 33.0**	**-0.2**
TA02	**Huaiquique**	**11.18**	**5**				**Pn**	**07 15 36.2**	**-0.3**
AP01	**Chacalluta**	**13.05**	**4**				**Pn**	**07 16 01.3**	**-0.7**
CPUP	**Villa Florida**	**13.16**	**71**	Pn			**Pn**	**07 16 00.1**	**-3.4**
	comp=N,6.1nm,0.3s,baz=244,slow=12,SNR=48								
CPUP						Sn	Sn	07 18 18.7	-10
	comp=N,16nm,0.3s,baz=231,slow=17,SNR=2.0								
CPUP						LR	LR	07 21 38.2	
	comp=N,42μm,18.6s,baz=256,slow=40								
CPUP	**Villa Florida**	**13.16**	**71**	P			**Pn**	**07 16 00.9**	**-2.6**
CPUP	**Villa Florida**	**13.16**	**71**				**Pn**	**07 16 00.9**	**-2.6**
CPUP	**Villa Florida**	**13.16**	**71**	*e*P			**Pn**	**07 16 00.8**	**-2.6**
PLTB	**Pedras Altas**	**14.98**	**96**	Pn			**Pn**	**07 16 24.7**	**-3.1**
PLTB					IAmb		IAmb	07 16 59.5	
	comp=Z,786nm,0.9s								
PLTB	**Pedras Altas**	**14.98**	**96**	*e*P			**Pn**	**07 16 24.6**	**-3.2**
CPSB	**Cacapava Do Su**	**15.26**	**91**	*e*P			**Pn**	**07 16 28.8**	**-2.6**
LPAZ	**La Paz**	**15.35**	**11**	Pn			**Pn**	**07 16 30.9**	**-2.4**
	comp=Z,1.5nm,0.3s,baz=182,slow=7.5,SNR=246								
LPAZ						Sn	**Sn**	**07 19 25.2**	**+2.6**
	baz=198,slow=3.2,SNR=2.1								
LPAZ	**La Paz**	**15.35**	**11**	P			**Pn**	**07 16 34.0**	**+0.7**
LPAZ						pmax	pmax		
	comp=Z,627nm,0.9s								
LPAZ	**La Paz**	**15.35**	**11**	Pn			**Pn**	**07 16 34.0**	**+0.7**
LPAZ						IAmb	IAmb	07 16 41.5	
	comp=Z,627nm,0.8s								
LPAZ	**La Paz**	**15.35**	**11**	*e*P			**Pn**	**07 16 33.9**	**+0.6**
LPAZ	**La Paz**	**15.35**	**11**	*e*P			**Pn**	**07 16 31.8**	**-1.5**
CNLB	**Canela**	**17.66**	**88**	*e*P			**Pn**

	comp=Z,536nm,1.5s									
MALB	Monte Alegre	33.50	32	*e*P		P	07 19 33.0	-0.9		
MACC	Macarena, Meta	33.51	355	*e*P		P	07 19 34.0	+0.1		
HOPE	Hope Point	33.62	143	P		P	07 19 35.9	+1.4		
HOPE				pmax		pmax				
	comp=Z,330nm,0.8s									
HOPE	Hope Point	33.62	143	P		P	07 19 35.9	+1.4		
PMSA	Palmer Station	33.63	174	P		P	07 19 36.1	+1.7		
	comp=Z,88nm,0.8s,baz=5.3,slow=7.1,SNR=54									
PMSA				PcP		PcP	07 22 13.8	+0.4		
	comp=Z,42nm,0.8s,baz=349,slow=4.3,SNR=3.9									
PMSA				S		S	07 24 53.3	+0.2		
	comp=Z,5.8nm,0.8s,baz=324,slow=14,SNR=1.3									
PMSA	Palmer Station	33.63	174	P		P	07 19 35.0	+0.5		
PMSA				IAmb		IAmb	07 19 53.7			
	comp=Z,152nm,1.1s									
PMSA	Palmer Station	33.63	174	*e*P		P	07 19 36.4	+2.0		
GARC	Garzon, Huila	33.71	352	*e*P		P	07 19 37.5	+1.6		
BBAC	Balboa, Cauca	33.79	349	*e*P		P	07 19 38.3	+1.7		
SOTA	Rioblanco	33.80	350	*e*P		P	07 19 39.0	+2.0		
GDU01	Guandu, BA	33.93	66	*e*P		P	07 19 36.6	-1.0		
BETC	Betania	34.19	352	*e*P		P	07 19 42.7	+2.8		
POPC	Popayan, Colom	34.21	350	*e*P		P	07 19 40.9	+0.7		
MARP	Paez Belalcaza	34.41	352	*e*P		P	07 19 43.3	+1.2		
PRAC	Prado	35.15	354	*e*P		P	07 19 49.2	+1.0		
BOAV	Boa Vista	35.16	19	*e*P		P	07 19 47.9	-0.3		
ORTC	Ortega, Tolima	35.38	353	*e*P		P	07 19 52.1	+1.9		
VILC	Villavicencio,	35.45	356	*e*P		P	07 19 52.6	+1.7		
YOTC	Yotoco, Valle	35.59	351	*e*P		P	07 19 52.8	+0.8		
MCPB	Macapa, AP	35.84	34	*e*P		P	07 19 53.1	-1.0		
CHIC	Chingaza	35.97	356	*e*P		P	07 19 55.8	+0.2		
ANIL	Santa Ana	35.97	353	*e*P		P	07 19 57.2	+1.7		
TMAB	Tom-Au,PA,Br	36.21	42	*e*P		P	07 19 57.0	-0.2		
ROSC	El Rosal	36.22	355	P		P	07 19 59.4	+1.7		
	comp=Z,121nm,0.9s,baz=15,slow=5.0,SNR=24									
ROSC	El Rosal	36.22	355	P		P	07 19 59.4	+1.7		
ROSC				pmax		pmax				
	comp=Z,168nm,1.0s									
ROSC	El Rosal	36.22	355	P		P	07 19 59.4	+1.7		
ROSC				IAmb		IAmb	07 20 04.5			
	comp=Z,168nm,1.0s									
ROSC	El Rosal	36.22	355	*e*P		P	07 20 00.0	+2.3		
GUY2C	Guyana, Caldas	36.69	353	*e*P		P	07 20 02.1	+0.3		
PIZC	Pizarro, Choco	36.70	350	*e*P		P	07 20 02.9	+1.6		
NORC	Norcasia	36.98	354	*e*P		P	07 20 04.1	+0.3		
SPBC	San Pablo de B	37.00	355	*e*P		P	07 20 04.0	-0.1		
RUSC	La Rusia	37.18	357	P		P	07 20 06.9	+0.9		
RUSC	La Rusia	37.18	357	*e*P		P	07 20 07.2	+1.1		
CBOC	Ciudad Bolivar	37.40	352	*e*P		P	07 20 08.2	+0.8		
HELC	Santa Helena	37.67	353	*e*P		P	07 20 10.3	+0.4		
TAMC	Tame, Arauca	37.68	359	*e*P		P	07 20 10.0	+0.2		
TAMC	Tame, Arauca	37.68	359	*e*P		P	07 20 09.6	-0.2		
BARC	Barichara	37.88	357	*e*P		P	07 20 13.3	+1.7		
PTBC	PUERTO BERRIO,	37.91	355	*e*P		P	07 20 11.1	-0.6		
ROSB	Rosrio	38.17	47	*e*P		P	07 20 13.6	-0.3		
ELOV	Elorza	38.27	3	*e*P		P	07 20 13.8	-0.9		
BRRC	Barranca, Sant	38.42	356	*e*P		P	07 20 14.3	-1.6		
PAMC	Pamplona, Colo	38.60	358	*e*P		P	07 20 18.0	+0.1		
ZARC	Zaragoza, Cauc	38.89	354	*e*P		P	07 20 19.5	-0.3		
PTAC	Punta Ardita,	38.91	349	*e*P		P	07 20 22.3	+2.3		
OCAC	Ocana	39.52	357	*e*P		P	07 20 23.3	-2.0		
CACAO	El Cacao, Vera	39.68	345	*e*P		P	07 20 28.3	+1.9		
AZU	Azuero	39.99	346	*e*P		P	07 20 30.5	+1.5		
SDV	Santo Domingo	40.12	1	P		P	07 20 30.4	+0.1		
	comp=Z,124nm,0.8s,baz=206,slow=6.1,SNR=46									
SDV	Santo Domingo	40.12	1	P		P	07 20 29.9	-0.4		
SDV				IAmb		IAmb	07 20 34.3			
	comp=Z,152nm,0.9s									
SDV	Santo Domingo	40.12	1	*e*P		P	07 20 29.0	-1.2		
SDV	Santo Domingo	40.12	1	*e*P		P	07 20 30.0	-0.3		
SMLC	San Martn de	40.12	356	*e*P		P	07 20 28.4	-1.8		
GMAL	Guarumal, Vera	40.17	344	*e*P		P	07 20 32.3	+1.8		
BAUV	El Baul	40.28	5	*e*P		P	07 20 28.6	-2.8		
CAPC	Capurgana	40.30	351	*e*P		P	07 20 33.1	+1.6		
UPD2	Meteti	40.31	350	*e*P		P	07 20 31.8	+0.1		
CAP2	Capurgana	40.32	351	P		P	07 20 32.7	+0.9		
MDP	Montagnes des	40.43	29	P		P	07 20 31.8	-0.8		
	comp=Z,324nm,0.9s,baz=202,slow=8.7,SNR=111									
MDP				LR		LR	07 38 41.2			
	comp=Z,18μm,21.6s,baz=194,slow=38									
PNME	Penonome	40.67	346	*e*P		P	07 20 34.8	+0.1		
LL1C	La Loma 1 Cana	40.83	356	*e*P		P	07 20 35.0	-1.0		
LL2C	La Loma 2 Cana	40.84	357	*e*P		P	07 20 34.6	-1.4		
UPA	Univ. de Panam	41.00	347	*e*P		P	07 20 39.0	+1.7		
ARGC	Ariguani, Magd	41.19	355	*e*P		P	07 20 38.5	-0.3		
BCIP	Isla Barro Col	41.24	347	P		P	07 20 40.2	+1.0		
BCIP				pmax		pmax				
	comp=Z,133nm,1.0s									
BCIP	Isla Barro Col	41.24	347	P		P	07 20 40.2	+1.0		
BCIP	Isla Barro Col	41.24	347	*e*P		P	07 20 40.2	+1.0		
SJCC	San Jacinto, C	41.30	354	P		P	07 20 39.9	0.0		
SJCC				IAmb		IAmb	07 21 52.0			
	comp=Z,481nm,1.1s									
SJCC	San Jacinto, C	41.30	354	*e*P		P	07 20 39.0	-0.9		
BRU2	Volcan	41.51	343	*e*P		P	07 20 44.0	+2.2		
RIOS	Rincon, Osa	41.64	341	P		P	07 20 43.1	+0.6		
RCBR	Riachuelo	41.71	60	P		P	07 20 42.6	-0.7		
RCBR				pmax		pmax				
	comp=Z,665nm,1.6s									
RCBR	Riachuelo	41.71	60	P		P	07 20 42.6	-0.7		
RCBR				IAmb		IAmb	07 20 45.4			
	comp=Z,666nm,1.6s									
RCBR	Riachuelo	41.71	60	*e*P		P	07 20 43.9	+0.6		
SRBA	San Rafael, Bu	42.11	342	P		P	07 20 47.6	+1.1		
DABV	Dabajuro	42.14	1	*e*P		P	07 20 45.1	-1.5		
RGM0	Gandoca	42.26	343	*i*P		P	07 20 50.5	+2.9		
CRJC	Cerrejon, Guaj	42.27	358	*e*P		P	07 20 44.3	-3.5		
PEZE	Perez Zeledon,	42.34	342	⇑*i*P		P	07 20 50.6	+2.2		
PEZE	Perez Zeledon,	42.34	342	P		P	07 20 50.1	+1.7		
SMRC	Santa Marta, M	42.48	356	*e*P		P	07 20 48.6	-0.7		
CDM	Cerro de Muert	42.52	341	*i*P		P	07 20 51.9	+1.6		
MRVA	Moravia de Chi	42.70	342	⇑*i*P		P	07 20 53.4	+2.0		
RIMA	Rio Macho	42.76	341	⇑*i*P		P	07 20 53.2	+1.4		
RIMA	Rio Macho	42.76	341	P		P	07 20 53.5	+1.6		
LCR2	La Lucha 2	42.77	341	*i*P		P	07 20 53.4	+1.4		
JACO	JACO, Garabito	42.88	340	⇑*i*P		P	07 20 54.4	+1.8		
JACO	JACO, Garabito	42.88	340	P		P	07 20 54.1	+1.4		
TRN	Trinidad (W)	42.90	14	*e*P		P	07 20 48.2	-4.6		
OCM	Ochomogo	42.90	341	⇑*i*P		P	07 20 55.0	+1.9		
URIC	Uribia, Colomb	42.92	359	*e*P		P	07 20 50.2	-2.8		
CVTR	Volcan Turrial	42.97	342	⇑*i*P		P	07 20 55.9	+2.0		
CAO2	Cobano, Puntar	43.03	340	P		P	07 20 56.0	+2.0		
HDC	Heredia	43.05	341	⇑*i*P		P	07 20 56.5	+2.4		
HDC	Heredia	43.05	341	P		P	07 20 55.6	+1.4		
HDC				IAmb		IAmb	07 21 33.0			
	comp=Z,576nm,1.8s									
LAFE	Finca La Fe, P	43.09	340	*i*P		P	07 20 55.5	+1.1		
SRA1	San Ramn	43.23	341	*i*P		P	07 20 57.9	+2.2		
RIFO	Rio Frio, Sara	43.30	342	⇑*i*P		P	07 20 57.7	+1.7		
GRZA	Playa Garza	43.41	339	⇑*i*P		P	07 20 57.9	+0.9		
DUNO	Dulce Nombre,	43.52	339	P		P	07 20 58.2	+0.3		
BOT	Bacolet	43.55	15	*e*P		P	07 20 58.6	+0.6		
JTS	Las Juntas de	43.56	340	P		P	07 20 59.3	+1.2		
	comp=Z,23nm,0.8s,baz=209,slow=5.9,SNR=20									
JTS				PcP		PcP	07 22 46.6	+1.4		
	comp=Z,44nm,0.8s,baz=296,slow=4.1,SNR=4.0									
JTS	Las Juntas de	43.56	340	⇑*i*P		P	07 20 59.7	+1.5		
JTS	Las Juntas de	43.56	340	P		P	07 20 59.5	+1.4		
JTS	Las Juntas de	43.56	340	*e*P		P	07 20 56.1	-2.1		
SAJU	San Juanillo,	43.58	339	⇑*i*P		P	07 20 59.7	+1.4		
ARE1	Arenal 1	43.66	341	⇑*i*P		P	07 21 01.6	+2.6		
TOSP	Speyside	43.72	15	*e*P		P	07 20 58.3	-1.1		
TOSP	Speyside	43.72	15	P		P	07 20 59.5	+0.1		
COVE	Coope Vega, Sa	43.81	341	*i*P		P	07 21 01.7	+1.5		
COVE	Coope Vega, Sa	43.81	341	P		P	07 21 01.9	+1.7		
COVE				IAmb		IAmb	07 22 07.4			
	comp=Z,226nm,1.0s									
CUI	Cuipilapa	43.97	340	*i*P		P	07 21 03.4	+1.9		
HZTE	Horizontes, Gu	44.15	339	P		P	07 21 04.5	+1.6		
BUEV	Buena Vista	44.17	340	*i*P		P	07 21 05.0	+1.8		
GRFF	Grenada Fort F	44.20	13	*e*P		P	07 21 02.1	-1.2		
GRGR	Grenville	44.29	13	*e*P		P	07 21 02.8	-1.2		
GRGR	Grenville	44.29	13	P		P	07 21 03.3	-0.8		
GRHS	Sauteurs	44.38	13	*e*P		P	07 21 05.7	+1.0		
GRSS	Sisters	44.46	13	*e*P		P	07 21 05.3	0.0		
GCMP	Grenada, Carri	44.68	14	*e*P		P	07 21 04.2	-2.9		
ACON	Acoyapa	45.22	341	P		P	07 21 11.8	+0.5		
SVOC	Richmond Hill,	45.37	14	*e*P		P	07 21 11.4	-1.2		
SVB	Belmont	45.48	14	*e*P		P	07 21 11.8	-1.6		
SVB	Belmont	45.48	14	P		P	07 21 12.3	-1.2		
SSV	Crater Summit	45.55	14	*e*P		P	07 21 14.6	+0.5		
PRVC	Isla de Provid	45.64	346	P		P	07 21 15.4	+0.8		
BBSP	Saint Philip	45.71	16	*e*P		P	07 21 13.1	-2.2		
BBGH	Gun Hill	45.73	16	*e*P		P	07 21 15.6	+0.2		
MCLT	Moule a Chique	45.97	14	*e*P		P	07 21 12.8	-4.5		
MCLT	Moule a Chique	45.97	14	P		P	07 21 15.9	-1.5		
SLCP	Castries, St.	46.25	14	*e*P		P	07 21 21.0	+1.5		
SLBI	Saint Lucia, B	46.27	14	*e*P		P	07 21 19.0	-0.6		
MATN	Matagalpa	46.35	340	P		P	07 21 20.7	+0.3		
H05S1	Guadeloupe/Mar	46.69	14	P		P	07 21 21.8	-1.1		
	SNR=167									
MPOM	Morne Pois Mar	46.70	14	*e*P		P	07 21 12.1	-11		
MPOM	Morne Pois Mar	46.70	14	P		P	07 21 22.2	-0.8		
BIM	Bigot	46.73	13	*e*P		P	07 21 21.2	-2.1		
BIM	Bigot	46.73	13	P		P	07 21 22.4	-0.8		
FDF	Fort de France	46.92	13	P		P	07 21 23.6	-1.2		
FDF				pmax		pmax				
	comp=Z,448nm,0.7s									
FDF	Fort de France	46.92	13	*e*P		P	07 21 22.4	-2.5		
FDF	Fort de France	46.92	13	P		P	07 21 23.6	-1.2		
ILAM	Ilet Lapin Mar	47.02	14	*e*P		P	07 21 20.5	-5.0		
ILAM	Ilet Lapin Mar	47.02	14	P		P	07 21 24.5	-1.0		
SVN	Savane Anatole	47.03	13	P		P	07 21 24.3	-1.3		
DLPL	La Plaine	47.49	13	*e*P		P	07 21 24.2	-4.9		
DLPL	La Plaine	47.49	13	*e*			07 23 20.4			
DLPL	La Plaine	47.49	13	P		P	07 21 28.8	-0.4		
DLPL				IAmb		IAmb	07 22 25.9			
	comp=Z,371nm,1.2s									
DSLB	Salisbury	47.56	13	*e*P		P	07 21 26.6	-3.1		
DSLB	Salisbury	47.56	13	*e*			07 23 24.7			
TGUH	Tegucigalpa,Un	47.82	339	P		P	07 21 31.9	-0.1		
TGUH				IAmb		IAmb	07 22 06.5			
	comp=Z,185nm,1.0s									
TGUH	Tegucigalpa,Un	47.82	339	*e*P		P	07 21 31.7	-0.2		
TDBA	Terre de Bas,	47.92	12	*e*P		P	07 21 30.0	-2.5		
MAGL	Barre de l'ile	48.08	13	*e*P		P	07 21 28.2	-5.5		
H05N1	Guadeloupe/Mar	48.48	13	P		P	07 21 34.9	-2.0		
	SNR=72									
NVDO	Nevis, Disaste	48.99	11	*e*P		P	07 21 38.3	-2.4		
ANBD	Bethesda, Anti	49.07	12	*e*P		P	07 21 36.0	-5.2		
SEUS	St. Eustatius	49.30	10	*e*P		P	07 21 41.0	-1.7		
CDVI	St. Croix	49.31	8	*e*P		P	07 21 41.2	-2.0		
JAKH	Jacmel	49.43	358	P		P	07 21 44.4	+0.4		
JAKH				IAmb		IAmb	07 23 08.8			
	comp=Z,290nm,1.4s									
SJG	San Juan	49.52	6	P		P	07 21 43.1	-1.6		
SJG				pmax		pmax				
	comp=Z,445nm,0.9s									
SJG	San Juan	49.52	6	*e*P		P	07 21 36.0	-8.7		
SJG	San Juan	49.52	6	P		P	07 21 43.1	-1.6		
SJG	San Juan	49.52	6	*e*P		P	07 21 43.8	-0.9		
BANI	BANI	49.57	1	P		P	07 21 44.9	-0.4		
ANWB	Willy Bob	49.67	12	*e*P		P	07 21 42.7	-3.1		
AOPR	Arecibo Observ	49.70	6	*e*P		P	07 21 43.3	-2.9		
AOPR	Arecibo Observ	49.70	6	*e*			07 23 39.7			
MTDJ	Mount Denham	49.77	352	P		P	07 21 47.2	+0.4		
MTDJ				IAmb		IAmb	07 21 49.6			
	comp=Z,168nm,0.9s									
MTDJ	Mount Denham	49.77	352	*e*P		P	07 21 46.0	-0.9		
SMRT	St. Maarten	49.84	10	*e*P		P	07 21 39.2	-7.9		
DR12	Loma Pena Alta	49.99	2	P		P	07 21 47.4	-1.0		
SC01	Santiago de lo	50.59	1	P		P	07 21 52.1	-0.8		
GTBY	Guantanamo Bay	51.23	355	P		P	07 21 57.6	-0.1		
GTBY				IAmb		IAmb	07 22 00.0			
	comp=Z,164nm,0.8s									
GTBY	Guantanamo Bay	51.23	355	*e*P		P	07 21 54.3	-3.3		
FSCY	Frank Sound, G	51.39	348	P		P	07 21 59.0	+0.2		
VNA3	Neumayer Olymp	51.44	159	P		P	07 21 59.7	+1.0		
LCCY	Blossom Villag	51.55	349	P		P	07 22 00.4	+0.4		
CBCY	The Bluff, Cay	51.56	350	P		P	07 22 00.4	+0.2		
CBCY				IAmb		IAmb	07 22 04.1			
	comp=Z,156nm,0.9s									
VNA1	Neumayer--Stat	51.73	158	P		P	07 22 02.2	+1.3		
VNA2	Neumayer--Watz	52.08	158	P		P	07 22 04.4	+0.9		
	baz=285,slow=8.4									
GRTK	Grand Turk	52.67	0	P		P	07 22 08.6	+0.3		
SNAA	Sanae	53.67	159	P		P	07 22 16.1	+0.8		
SNAA	Sanae	53.67	159	P		P	07 22 16.1	+0.8		
	comp=Z,589nm,0.8s,baz=279,slow=6.9,SNR=2235									
SNAA				PcP		PcP	07 23 21.3	+0.4		
	comp=Z,88nm,0.7s,baz=259,slow=8.1,SNR=1.3									
SNAA	Sanae	53.67	159	P		P	07 22 15.2	-0.1		
SOR	Soroa	55.12	347	P		P	07 22 26.3	+0.1		
SOR				pmax		pmax				
	comp=Z,163nm,0.9s									
SOR	Soroa	55.12	347	P		P	07 22 26.3	+0.1		
SOR				IAmb		IAmb	07 22 28.5			
	comp=Z,163nm,0.9s									
RKT	Rikitea	56.62	262	*e*T		T	08 23 30.6			
	comp=Z,14nm,0.2s									
H10S2	ASCENSION HYDR	56.91	80	P		P	07 22 40.1	+1.1		
UNM	Universidad Na	57.20	328	P		P	07 22 43.0	+1.5		
UNM				pmax		pmax				
	comp=Z,819nm,1.5s									
UNM	Universidad Na	57.20	328	P		P	07 22 43.0	+1.5		
H10N3	ASCENSION HYDR	57.62	79	P		P	07 22 45.2	+1.3		
	baz=208,slow=9.0,SNR=6.4									
H10N1	ASCENSION HYDR	57.63	79	P		P	07 22 45.0	+0.9		
	baz=208,slow=9.0,SNR=11									
H10N2	ASCENSION HYDR	57.64	79	P		P	07 22 45.2	+1.1		
	baz=208,slow=9.0,SNR=8.2									
ASCN	Ascension	57.69	79	P		P	07 22 44.8	0.0		
QSPA	South Pole Qui	58.77	180	P		P	07 22 53.1	+1.3		
	comp=Z,418nm,0.8s,baz=151,slow=2.2,SNR=1120									
QSPA	South Pole Qui	58.77	180	P		P	07 22 51.6	-0.2		
DWPF	Disney Wildern	60.04	350	P		P	07 23 01.2	+0.5		
DWPF				IAmb		IAmb	07 23 03.1			
	comp=Z,172nm,0.9s									
DWPF	Disney Wildern	60.04	350	P		P	07 23 00.1	-0.6		
	baz=170									
DWPF				S		S	07 31 08.2	-1.4		
	baz=170									
SHEL	Horse Pasture	61.07	92	P		P	07 23 08.4	+0.2		
SHEL				pmax		pmax				
	comp=Z,534nm,0.8s									
SHEL	Horse Pasture	61.07	92	P		P	07 23 08.4	+0.2		
TIGA	Tifton	63.65	348	P		P	07 23 25.0	0.0		
	baz=168,SNR=44									
TIGA				S		S	07 31 53.7	-1.4		
	baz=168									
BBSR	BB Station	63.78	6	P		P	07 23 25.6	-0.1		
BBSR				IAmb		IAmb	07 23 28.1			
	comp=Z,150nm,0.9s									
KVTX	Kingsville	63.97	334	P		P	07 23 27.1	0.0		
BRAL	Brewton	64.08	345	P		P	07 23 27.4	-0.3		
BRAL				IAmb		IAmb	07 23 30.4			
	comp=Z,261nm,0.9s									
BRAL				pP		pP	07 23 44.1	+1.3		
BRAL	Brewton	64.08	345	P		P	07 23 27.9	+0.2		
	baz=165,SNR=20									
BRAL				S		S	07 32 00.0	-0.4		
	baz=165									
NHSC	New Hope	64.78	352	P		P	07 23 32.9	+0.7		
NHSC	New Hope	64.78	352	P		P	07 23 32.6	+0.3		
	baz=172,SNR=25									
NHSC				S		S	07 32 07.8	-1.1		
	baz=172									
SACV	Santiago Islan	64.91	52	P		P	07 23 33.5	0.0		
833A	Chaparral WMA,	65.24	333	P		P	07 23 36.3	+0.9		
	baz=154,SNR=153									
833A				S		S	07 32 16.5	+1.6		
	baz=154									
HKT	Hockley	65.41	337	P		P	07 23 37.6	+1.2		
HKT				pmax		pmax				
	comp=Z,472nm,2.0s									
HKT	Hockley	65.41	337	P		P	07 23 37.6	+1.2		
HKT				IAmb		IAmb	07 23 58.7			
	comp=Z,472nm,2.0s									
GOGA	Godfrey	65.56	349	P		P	07 23 36.9	-0.4		
GOGA				pmax		pmax				
	comp=Z,121nm,1.0s									
GOGA	Godfrey	65.56	349	P		P	07 23 36.9	-0.4		
GOGA				IAmb		IAmb	07 23 39.3			
	comp=Z,121nm,0.9s									
GOGA	Godfrey	65.56	349	P		P	07 23 36.4	-0.9		
	baz=168,SNR=37									
GOGA				S		S	07 32 15.5	-3.0		
	baz=168									
SBA	Scott Base	65.71	191	P		P	07 23 39.3	+1.5		
SBA				pmax		pmax				
	comp=Z,68nm,1.0s									
SBA	Scott Base	65.71	191	P		P	07 23 39.3	+1.5		
LRAL	Lakeview Retre	65.86	345	P		P	07 23 38.9	-0.4		
LRAL				pP		pP	07 23 55.8	+1.4		
LRAL	Lakeview Retre	65.86	345	P		P	07 23 38.7	-0.6		
	baz=165,SNR=35									
LRAL				S		S	07 32 19.1	-3.2		
	baz=165									
VBMS	Vicksburg	65.92	342	P		P	07 23 41.0	+1.3		
VBMS	Vicksburg	65.92	342	P		P	07 23 40.2	+0.5		
	baz=162,SNR=55									
VBMS				S		S	07 32 23.1	0.0		
	baz=162									
SLBS	Sierra La Lagu	66.21	321	P		P	07 23 43.4	+1.5		
SLBS				IAmb		IAmb	07 24 02.5			
	comp=Z,488nm,1.8s									
CNNC	Cliffs of the	66.64	354	P		P	07 23 44.6	+0.4		
CNNC				IAmb		IAmb	07 23 47.0			
	comp=Z,203nm,0.9s									
CNNC	Cliffs of the	66.64	354	P		P	07 23 44.5	+0.3		
	baz=174,SNR=23									
NATX	Nacogdoches	66.69	338	P		P	07 23 44.3	-0.3		
NATX				pP		pP	07 24 02.3	+2.7		
NATX	Nacogdoches	66.69	338	P		P	07 23 45.5	+0.8		
	baz=158,SNR=50									
NATX				S		S	07 32 33.9	+1.5		
	baz=158									
VNDA	Vanda	66.73	191	P		P	07 23 46.2	+1.9		
	comp=Z,24nm,0.7s,baz=128,slow=5.5,SNR=157									
VNDA				PKPPKP		P'P'df	07 52 08.2	-10		
	comp=Z,6.2nm,0.8s,baz=289,slow=6.4,SNR=7.4									
VNDA	Vanda	66.73	191	P		P	07 23 44.3	-0.1		
435B	Jarrell	66.78	335	P		P	07 23 45.9	+0.7		
	baz=156,SNR=9.2									
435B				S		S	07 32 34.2	+0.6		
	baz=156									
KMSC	Kings Mountain	66.93	351	P		P	07 23 45.7	-0.4		
	baz=171,SNR=29									
KMSC				S		S	07 32 33.7	-1.5		
	baz=171									
JCT	Junction City	67.33	333	P		P	07 23 49.0	+0.2		
JCT				*PP		pP	07 24 05.9	+2.1		
JCT	Junction City	67.33	333	P		P	07 23 49.0	+0.2		
JCT				pP		pP	07 24 05.9	+2.1		
JCT				IAmb		IAmb	07 24 09.6			
	comp=Z,311nm,1.1s									
JCT	Junction City	67.33	333	P		P	07 23 49.2	+0.5		
	baz=154,SNR=85									
JCT				S		S	07 32 42.2	+1.9		
	baz=154									
TAOE	Nuku Hiva Isla	67.52	273	*e*S		S	07 32 46.5	+3.1		
	comp=Z,3μm,28.1s									
TAOE	Nuku Hiva Isla	67.52	273	*e*LR		LR	07 44 06.1			
	comp=Z,9μm,29.5s,baz=129									
Z41A	Richland Creek	67.53	340	P		P	07 23 50.5	+0.6		
	baz=160,SNR=35									
Z41A				S		S	07 32 45.1	+2.6		
	baz=160									
TKL	Tuckaleechee C	67.80	349	P		P	07 23 51.1	-0.5		
TKL				pmax		pmax				
	comp=Z,144nm,0.9s									
TKL	Tuckaleechee C	67.80	349	P		P

baz=166
WMOK Wichita Mounta 70.79 336 P P 07 24 10.1 0.0
WMOK pmax pmax
comp=Z,53nm,0.9s
WMOK Wichita Mounta 70.79 336 P P 07 24 10.1 0.0
WMOK Wichita Mounta 70.79 336 P P 07 24 09.5 -0.7
baz=155,SNR=43
WMOK S S 07 33 20.3 -0.6
baz=155
VAH Vaihoa 70.80 264 *e*P P 07 24 13.2 +2.5
comp=Z,94nm,1.3s
TUL1 Leonard 70.89 339 P P 07 24 10.4 -0.3
baz=158,SNR=104
TUL1 S S 07 33 20.7 -1.2
baz=158
P60A Greenville 71.03 356 P P 07 24 11.8 +0.4
baz=176,SNR=17
P60A S S 07 33 24.5 +1.1
baz=176
PMOR Pomariorio Ree 71.14 264 *e*P P 07 24 15.0 +2.3
comp=Z,69nm,1.1s
TIAR Tiarei 71.17 261 *e*P P 07 24 15.7 +2.8
comp=Z,9.0nm,0.9s
TIAR Tiarei 71.17 261 *e*T T 08 41 40.3
comp=Z,14nm,0.3s
MCWV Mont Chateau 71.21 353 P P 07 24 12.8 +0.2
MCWV IAmb IAmb 07 24 15.2
comp=Z,154nm,1.1s
MCWV Mont Chateau 71.21 353 P P 07 24 12.5 -0.1
baz=172,SNR=16
MCWV S S 07 33 25.5 0.0
baz=172
PAE Paea 71.31 260 *e*P P 07 24 16.5 +2.7
comp=Z,39nm,1.2s
PAE Paea 71.31 260 *e*T T 08 41 38.7
comp=Z,1.9nm,0.2s
PPTF Pamatai, Papee 71.34 260 P P 07 24 13.2 -0.8
PPTF IAmb IAmb 07 24 57.5
comp=Z,108nm,0.9s
PPT2 Papeete2 71.35 260 *e*P P 07 24 16.9 +2.8
comp=Z,133nm,1.3s
PPT2 *e*S S 07 33 33.3 +4.9
comp=Z,6μm,34.2s
PPT2 *e*LQ LQ 07 42 55.0
comp=Z,2μm,26.0s
PPT2 *e*LR LR 07 45 55.0
comp=Z,8μm,28.0s,baz=108
PPT2 Papeete2 71.35 260 *e*T T 08 41 26.0
comp=Z,5.0nm,0.3s
PPT Papeete 71.36 260 P P 07 24 16.1 +2.1
comp=Z,70nm,0.9s,baz=252,slow=4.5,SNR=6.3
PPT LR LR 07 47 07.8
comp=Z,959nm,18.1s,baz=134,slow=29
P52A Corning 71.46 351 P P 07 24 13.2 -0.8
baz=170,SNR=43
P52A S S 07 33 25.8 -2.6
baz=170
MSTX Muleshoe 71.57 333 P P 07 24 14.9 -0.1
baz=152,SNR=220
MSTX S S 07 33 30.7 +0.5
baz=152
CCM Cathedral Cave 71.65 343 P P 07 24 15.0 -0.2
CCM pmax pmax
comp=Z,334nm,1.0s
CCM Cathedral Cave 71.65 343 P P 07 24 15.0 -0.2
CCM IAmb IAmb 07 24 17.8
comp=Z,334nm,0.9s
CCM Cathedral Cave 71.65 343 P P 07 24 15.1 -0.2
baz=162
CCM S S 07 33 30.4 -0.2
baz=162
O56A Blue Knob Stat 71.69 354 P P 07 24 15.6 +0.1
baz=173,SNR=18
O56A S S 07 33 31.6 +0.4
baz=173
P49A Miami Univ. Ec 71.74 349 P P 07 24 14.8 -1.0
baz=168,SNR=38
P49A S S 07 33 28.7 -3.0
baz=168
O53A New Philadelph 71.95 352 P P 07 24 16.4 -0.6
baz=171,SNR=15
O53A S S 07 33 31.4 -2.7
baz=171
AMTX Amarillo 71.96 334 P P 07 24 18.0 +0.7
AMTX IAmb IAmb 07 24 20.4
comp=Z,222nm,1.0s
AMTX pP pP 07 24 34.1 +1.6
AMTX Amarillo 71.96 334 P P 07 24 17.1 -0.2
baz=153
AMTX S S 07 33 33.3 -1.3
baz=153
SSPA Standing Stone 72.00 355 P P 07 24 17.8 +0.5
SSPA IAmb IAmb 07 24 20.0
comp=Z,152nm,1.1s
SSPA Standing Stone 72.00 355 P P 07 24 17.0 -0.3
baz=174
SSPA S S 07 33 34.4 -0.2
baz=174
N59A State Game Lan 72.14 356 P P 07 24 18.8 +0.7
baz=176,SNR=44
N59A S S 07 33 38.6 +2.3
baz=176
PAL Palisades 72.15 358 P P 07 24 18.3 +0.2
baz=178,SNR=7.7
PAL S S 07 33 38.4 +2.2
baz=178
ACSO Alum Creek Sta 72.16 351 P P 07 24 17.6 -0.7
baz=169,SNR=96
ACSO S S 07 33 32.4 -4.1
baz=169
121A Cookes Peak, D 72.45 328 P P 07 24 21.7 +1.3
baz=148,SNR=254
121A S S 07 33 42.9 +2.4
baz=148
N54A Moraine State 72.52 353 P P 07 24 20.2 -0.2
baz=172,SNR=38
N54A S S 07 33 39.1 -1.4
baz=172
M65A Busby, Falmout 72.66 0 P P 07 24 21.0 -0.1
baz=180
SFIN Lafayette 72.98 347 P P 07 24 21.7 -1.4
baz=166,SNR=31
SFIN S S 07 33 42.3 -3.5
baz=166
M54A Oil Creek Stat 73.03 353 P P 07 24 22.9 -0.5
baz=172,SNR=22
M54A S S 07 33 45.3 -1.1
baz=172
L64A Middleborough 73.03 0 P P 07 24 24.3 +1.0
baz=180,SNR=7.9
L64A S S 07 33 48.2 +2.0
baz=180
M53A WI Miller and 73.06 353 P P 07 24 23.5 -0.1
baz=172,SNR=23
M53A S S 07 33 45.0 -1.7
baz=172
L65A Cape Cod Natio 73.13 1 P P 07 24 24.4 +0.5
baz=181
LIC Lamto 73.28 72 *e*P P 07 24 24.5 -1.0
comp=Z,1μm,0.9s
Y22D IRIS PASSCAL I 73.38 330 P P 07 24 27.1 +1.3
baz=149,SNR=6.1
Y22D S SKiKP 07 33 55.3 +3.1
baz=149
BINY Binghamton 73.43 356 P P 07 24 25.6 -0.2
BINY IAmb IAmb 07 24 28.5
comp=Z,146nm,1.0s
BINY pP pP 07 24 42.8 +1.8
BINY Binghamton 73.43 356 P P 07 24 25.2 -0.5
baz=176,SNR=21
BINY S SKiKP 07 33 51.3 -0.6
baz=176
TIC Toumodi 73.53 71 *e*P P 07 24 26.0 -1.0
L61B Northampton 73.56 359 P P 07 24 26.3 -0.1
baz=179,SNR=27
L61B S S 07 33 52.8 +0.5
baz=179
HDIL Hopedale 73.59 346 P P 07 24 25.8 -0.9
HDIL IAmb IAmb 07 24 28.7
comp=Z,246nm,1.1s
HDIL Hopedale 73.59 346 P P 07 24 25.7 -1.0
baz=164,SNR=48
HDIL S SKiKP 07 33 49.5 -2.7
baz=164
KIC Kosan Boka 73.59 72 *e*P P 07 24 26.5 -0.9
comp=Z,854nm,0.8s
HRV Adam Dziewonsk 73.60 360 P P 07 24 27.1 +0.4
HRV pmax pmax
comp=Z,118nm,1.0s
HRV Adam Dziewonsk 73.60 360 P P 07 24 27.1 +0.4
HRV IAmb IAmb 07 24 30.0
comp=Z,118nm,0.9s
HRV Adam Dziewonsk 73.60 360 P P 07 24 27.4 +0.7
baz=180
HRV S S 07 33 54.5 +1.7
baz=180
ERPA Erie 73.66 353 P P 07 24 27.0 -0.1
ERPA IAmb IAmb 07 24 29.3
comp=Z,199nm,0.9s
ERPA Erie 73.66 353 P P 07 24 26.5 -0.6
baz=172,SNR=16
ERPA S SKiKP 07 33 51.6 -0.6
baz=172
TUC Tucson 73.67 326 P P 07 24 28.2 +0.8
TUC pmax pmax
comp=Z,194nm,1.7s
TUC Tucson 73.67 326 P P 07 24 28.2 +0.8
TUC IAmb IAmb 07 24 47.9
comp=Z,194nm,1.6s
TUC Tucson 73.67 326 P P 07 24 28.4 +1.0
baz=146
TUC S S 07 33 55.0 +0.9
baz=146
DBIC Dimbokro 73.68 71 P P 07 24 27.1 -0.7
comp=Z,506nm,0.8s,baz=231,slow=5.5,SNR=419
DBIC LR LR 07 53 36.7
comp=Z,8μm,21.5s,baz=241,slow=33
DBIC Dimbokro 73.68 71 P P 07 24 27.3 -0.5
DBIC pmax pmax
comp=Z,549nm,0.8s
DBIC Dimbokro 73.68 71 P P 07 24 27.3 -0.5
K62A Royalston 73.77 359 P P 07 24 28.3 +0.6
baz=179,SNR=9.3
K62A S S 07 33 55.9 +1.3
baz=179
K61A Williamstown 73.79 358 P P 07 24 28.9 +1.1
baz=178,SNR=9.3
K61A S S 07 33 58.7 +3.8
baz=178
ANMO Albuquerque 73.92 330 *c i* P P 07 24 30.1 +1.0
ANMO *i* *PP pP 07 24 45.4 +1.1
ANMO pmax pmax
comp=Z,155nm,2.5s
ANMO Albuquerque 73.92 330 P P 07 24 30.0 +1.0
ANMO Albuquerque 73.92 330 P P 07 24 30.0 +0.9
baz=149
ANMO S S 07 33 59.3 +2.2
baz=149
KSU1 Kansas State U 74.08 340 P P 07 24 29.0 -0.6
baz=158,SNR=27
KSU1 S S 07 33 57.0 -1.3
baz=158
AAM Ann Arbor 74.29 350 P P 07 24 30.3 -0.4
baz=169,SNR=13
AAM S S 07 33 56.7 -3.8
baz=169
214A Organ Pipe Nat 74.37 324 P P 07 24 32.8 +1.3
baz=144,SNR=27
214A S S 07 34 04.6 +2.7
baz=144
HQIL Hanson Quary C 74.50 347 P P 07 24 31.7 -0.2
MEDO Medina 74.56 354 P P 07 24 31.4 -0.8
MEDO IAmb IAmb 07 24 33.6
comp=Z,108nm,0.9s
SFX San Felipe 74.69 322 P P 07 24 32.9 -0.3
CBKS Cedar Bluff 74.80 337 P P 07 24 33.6 -0.2
CBKS IAmb IAmb 07 24 37.0
comp=Z,229nm,0.9s
CBKS pP pP 07 24 50.7 +1.6
CBKS Cedar Bluff 74.80 337 P P 07 24 34.1 +0.3
baz=155,SNR=51
CBKS S S 07 34 06.2 -0.2
baz=155
L44A Lake County Fo 74.88 347 P P 07 24 33.7 -0.4
baz=165,SNR=22
L44A S S 07 34 04.2 -2.9
baz=165
I60A Shoreham 74.96 358 P P 07 24 35.0 +0.4
baz=178,SNR=26
I60A S S 07 34 10.1 +2.2
baz=178
I62A Tamworth 74.97 360 P P 07 24 36.0 +1.4
baz=180,SNR=12
I62A S S 07 34 10.8 +2.8
baz=180
T25A Trinidad 74.99 333 P P 07 24 36.2 +1.0
baz=151,SNR=160
T25A S S 07 34 11.3 +2.3
baz=151
PECO Prince Edward 75.22 356 P P 07 24 36.3 +0.3
PECO IAmb IAmb 07 24 38.4
comp=Z,145nm,0.9s
LBNH Lisbon 75.34 359 P P 07 24 37.0 +0.2
LBNH pmax pmax
comp=Z,132nm,0.9s
LBNH Lisbon 75.34 359 P P 07 24 37.0 +0.2
LBNH IAmb IAmb 07 24 40.0
comp=Z,132nm,0.9s
LBNH Lisbon 75.34 359 P P 07 24 37.1 +0.4
baz=179,SNR=33
LBNH S S 07 34 15.3 +3.2
baz=179
MAW Mawson 75.40 163 P P 07 24 37.6 +0.7
comp=Z,152nm,0.8s,baz=216,slow=6.7,SNR=314
PKP2ab
MAW 07 51 48.1
comp=Z,2.8nm,0.9s,baz=348,slow=5.6,SNR=5.4
MAW LR LR 07 57 17.8
comp=Z,4μm,22.0s,baz=228,slow=35
MAW Mawson 75.40 163 P P 07 24 37.7 +0.7
MAW Mawson 75.40 163 P P 07 24 37.7 +0.7
SUR Sutherland 75.42 119 P P 07 24 38.9 +0.8
SUR IAmb IAmb 07 24 41.1
comp=Z,246nm,1.1s
W18A Petrified Fore 75.50 328 P P 07 24 39.2 +1.0
baz=147,SNR=46
W18A S S 07 34 18.0 +3.3
baz=147
SCIA State Center 75.78 343 P P 07 24 38.8 -0.6
SCIA IAmb IAmb 07 24 41.9
comp=Z,300nm,1.1s
SCIA State Center 75.78 343 P P 07 24 39.2 -0.2
baz=161,SNR=28
SCIA S S 07 34 16.0 -1.0
baz=161
LONY Lake Ozonia 75.78 357 P P 07 24 39.2 -0.1
LONY IAmb IAmb 07 24 42.0
comp=Z,127nm,0.9s
LONY Lake Ozonia 75.78 357 P P 07 24 39.1 -0.1
baz=177,SNR=36
LONY S S 07 34 17.1 +0.1
baz=177
DELO Deloro Mine 75.84 355 P P 07 24 39.6 0.0
DELO IAmb IAmb 07 24 42.0
comp=Z,138nm,1.2s
SDCO Great Sand Dun 75.94 333 P P 07 24 41.0 +0.3
SDCO Great Sand Dun 75.94 333 P P 07 24 41.8 +1.1
baz=150,SNR=161
SDCO S S 07 34 22.1 +2.4
baz=150
KSCO Kaye Shedlock' 75.97 335 P P 07 24 41.4 +0.7
baz=153,SNR=32
KSCO S S 07 34 21.3 +1.7
baz=153
HAL Halifax 76.05 6 P P 07 24 41.5 +0.7
HAL pmax pmax
comp=Z,204nm,0.9s
HAL Halifax 76.05 6 P P 07 24 41.5 +0.7
HAL IAmb IAmb 07 24 44.0
comp=Z,204nm,0.9s
JFWS Jewell Farm 76.05 346 P P 07 24 40.8 -0.1
JFWS pmax pmax
comp=Z,200nm,0.9s
JFWS Jewell Farm 76.05 346 P P 07 24 40.8 -0.1
JFWS IAmb IAmb 07 24 43.2
comp=Z,200nm,0.8s
JFWS Jewell Farm 76.05 346 P P 07 24 40.5 -0.4
baz=163,SNR=80
JFWS S S 07 34 18.8 -1.2
baz=163
SADO Sadowa 76.21 354 P P 07 24 41.3 -0.4
SADO IAmb IAmb 07 24 43.9
comp=Z,173nm,0.9s
GLA Glamis 76.27 323 P P 07 24 41.5 -0.9
GLA pmax pmax
comp=Z,300nm,1.7s
GLA Glamis 76.27 323 P P 07 24 41.5 -0.9
GLA IAmb IAmb 07 25 04.0
comp=Z,300nm,1.7s
GLA Glamis 76.27 323 P P 07 24 43.6 +1.2
baz=143,SNR=5.5
GLA S S 07 34 26.8 +3.9
baz=143
CCX Cicese 76.30 321 P P 07 24 43.0 +0.5
PLVO Plevna 76.32 356 P P 07 24 42.6 +0.3
PLVO IAmb IAmb 07 24 44.9
comp=Z,139nm,1.0s
PKME Peaks-Kenny Pk 76.38 1 P P 07 24 42.9 +0.3
PKME IAmb IAmb 07 24 45.8
comp=Z,124nm,1.1s
PKME Peaks-Kenny Pk 76.38 1 P P 07 24 43.3 +0.7
baz=182,SNR=17
PKME S S 07 34 25.3 +1.9
baz=182
MOQ Mont Orford 76.41 359 P P 07 24 43.3 +0.4
S22A 4UR Ranch, Cre 76.47 332 P P 07 24 44.8 +1.0
baz=149,SNR=93
S22A S S 07 34 28.2 +2.6
baz=149
WUAZ Wupatki 76.58 327 P P 07 24 45.2 +1.0
WUAZ IAmb IAmb 07 24 48.5
comp=Z,117nm,1.1s
WUAZ Wupatki 76.58 327 P P 07 24 45.6 +1.4
baz=146,SNR=76
WUAZ S S 07 34 30.6 +4.1
baz=146
IKP In-Ko-Pah, Jac 76.61 322 P P 07 24 46.0 +1.6
baz=142,SNR=14
IKP S S 07 34 30.9 +4.1
baz=142
MNTQ Montreal, Queb 76.63 358 P P 07 24 44.3 +0.3
CBX Cerro Bola 76.64 322 P P 07 24 45.2 +0.5
BGNE Belgrade 76.66 339 P P 07 24 44.7 +0.3
baz=157,SNR=27
BGNE S S 07 34 26.0 -0.9
baz=157
SWSC Sam W. Stewart 76.68 323 P P 07 24 46.0 +1.3
baz=142,SNR=12
SWSC S S 07 34 33.2 +5.8
baz=142
MVCO Mesa Verde 76.71 330 P P 07 24 44.7 -0.3
MVCO IAmb IAmb 07 25 05.5
comp=Z,158nm,1.1s
MVCO Mesa Verde 76.71 330 P P 07 24 45.7 +0.6
baz=148,SNR=82
MVCO S S 07 34 31.4 +3.4
baz=148
TKX Tecate 76.81 322 P P 07 24 45.7 +0.2
TKX IAmb IAmb 07 25 06.2
comp=Z,266nm,1.7s
Q24A Divide 76.86 333 P P 07 24 47.0 +1.1
baz=151,SNR=144
Q24A S S 07 34 32.6 +2.8
baz=151
GLMI Grayling 76.90 350 P P 07 24 44.6 -1.1
GLMI IAmb IAmb 07 24 47.5
comp=Z,192nm,0.8s
GLMI Grayling 76.90 350 P P 07 24 44.7 -0.9
baz=168,SNR=18
GLMI S S 07 34 25.8 -3.5
baz=168
PDMCI Parker Dam,Lak 76.92 325 P P 07 24 47.6 +1.7
baz=143,SNR=20
PDMCI S S 07 34 33.9 +4.0
baz=143
BAR Barrett 76.93 322 P P 07 24 46.2 0.0
BAR IAmb IAmb 07 25 06.8
comp=Z,336nm,1.9s
MONP2 Monument Peak 76.97 322 P P 07 24 48.1 +1.5
baz=142,SNR=17
MONP2 S S 07 34 34.3 +3.4
baz=142
BC3 Big Chuckawall 77.06 323 P P 07 24 48.2 +1.3
baz=142,SNR=54
BC3 S S 07 34 36.6 +4.8
baz=142
IRM Iron Mountain 77.30 324 P P 07 24 49.3 +1.2
baz=143,SNR=30
IRM S S 07 34 37.2 +3.0
baz=143
109C Camp Elliot, M 77.32 322 P P 07 24 49.1 +0.9
baz=141
109C S S 07 34 38.5 +4.1
baz=141
OGNE Ogallala 77.48 337 P P 07 24 49.1 0.0
OGNE IAmb IAmb 07 24 52.5
comp=Z,126nm,0.9s
OGNE pP pP 07 25 06.8 +2.3
OGNE Ogallala 77.48 337 P P 07 24 49.9 +0.8
baz=153,SNR=13
OGNE S S 07 34 37.8 +1.8
baz=153
PV01 Paradox Valley 77.52 331 P P 07 24 49.7 +0.1
PV01 IAmb IAmb 07 25 10.3
comp=Z,120nm,1.2s
NEE2 Needles Airpor 77.53 325 P P 07 24 50.0 +0.6
baz=143
NEE2 S S 07 34 38.7 +2.2
baz=143
TPFO Pinon Flats 77.54 323 P P 07 24 51.3 +1.6
baz=142,SNR=47
TPFO S S 07 34 40.9 +3.9
baz=142
PFO Pinyon Flats O 77.55 323 P P 07 24 50.1 +0.4
PFO pmax pmax
comp=Z,348nm,1.8s
PFO Pinyon Flats O 77.55 323 P P 07 24 50.1 +0.4
PFO IAmb IAmb 07 25 11.6
comp=Z,348nm,1.8s
PFO Pinyon Flats O 77.55 323 P P 07 24 51.1 +1.4
baz=142,SNR=45
PFO S S 07 34 40.7 +3.7
baz=142
BELC Belle Mtn. Jos 77.61 323 P P 07 24 51.1 +1.1
baz=142,SNR=38
BELC S S 07 34 40.6 +2.8
baz=142
ISCO Idaho Springs 77.77 334 P P 07 24 50.3 -0.7
ISCO pmax pmax
comp=Z,79nm,1.0s
ISCO Idaho Springs 77.77 334 P P 07 24 50.3 -0.7
ISCO Idaho Springs 77.77 334 P P 07 24 51.8 +0.8
baz=150,SNR=98
ISCO S S 07 34 42.4 +2.9
baz=150
MURC Murrieta 77.92 322 P P 07 24 53.0 +1.3
baz=141,SNR=32
MURC S S 07 34 45.4 +4.5
baz=141
SCI2 San Clemente I 78.16 321 P P 07 24 53.7 +0.7
baz=140
SCI2 S S 07 34 48.7 +5.2
baz=140
BBRC Big Bear Solar 78.29 323 P P 07 24 55.5 +1.6
baz=141,SNR=5.8
BBRC S S 07 34 50.1 +4.9
baz=141
ECSD EROS Data Cent 78.37 341 P P 07 24 53.1 -0.7
ECSD EROS Data Cent 78.37 341 P P 07 24 53.8 -0.1
baz=158,SNR=307
ECSD S S 07 34 44.4 -0.8
baz=158
CIS Catalina Islan 78.42 321 P P 07 24 55.8 +1.4
baz=140,SNR=7.8
CIS S S 07 34 48.8 +2.6
baz=140
HEC Hector,Ludlow 78.44 323 P P 07 24 56.2 +1.7
baz=142,SNR=21
HEC S S 07 34 50.2 +3.8
baz=142
BATG Bathurst New B 78.51 4 P P 07 24 54.4 -0.1
BATG IAmb IAmb 07 24 57.5
comp=Z,112nm,0.9s
FMP Fort Macarthur 78.59 321 P P 07 24 56.8 +1.5
baz=140
FMP S S 07 34 52.5 +4.5
baz=140
LMQ La Malbaie 78.65 1 P P 07 24 55.1 -0.1
LMQ IAmb IAmb 07 24 57.9
comp=Z,143nm,1.1s
BFSC Mount Baldy Ra 78.66 322 P P 07 24 56.9 +1.0
baz=141,SNR=47
BFSC S S 07 34 52.4 +3.4

baz=141
TUQ Turquoise Moun 78.70 324 P P 07 24 57.5 +1.4
baz=142,SNR=24
TUQ S **S** **07 34 52.9 +3.5**
baz=142
RRX Edison Barstow 78.81 323 P P 07 24 58.1 +1.5
baz=141,SNR=8.1
RRX S **S** **07 34 53.2 +2.9**
baz=141
SPMN Marine on St. 78.81 345 P P 07 24 55.3 -0.9
baz=161,SNR=45
SPMN S **S** **07 34 46.9 -2.9**
baz=161
N23A Red Feather La 78.84 334 P P 07 24 57.9 +1.0
baz=150,SNR=43
N23A S **S** **07 34 53.7 +2.7**
baz=150
MWC Mount Wilson 78.86 322 P P 07 24 57.5 +0.5
MWC pmax pmax
comp=Z,91nm,1.0s
MWC Mount Wilson 78.86 322 P P 07 24 57.5 +0.5
PASC Pasadena Art C 78.89 322 P P 07 24 57.4 +0.5
PASC IAmb IAmb 07 25 18.8
comp=Z,358nm,1.8s
COWI Conover 78.89 347 P P 07 24 56.8 +0.1
KOWA Kowa 78.92 65 P P 07 24 57.1 -0.3
comp=Z,467nm,0.6s,baz=232,slow=4.2,SNR=417
KOWA Kowa 78.92 65 P P 07 24 57.0 -0.5
KOWA Kowa 78.92 65 P P 07 24 57.2 -0.3
KOWA Kowa 78.92 65 P P 07 24 58.3 +0.8
KOWA Kowa 78.92 65 P P 07 24 58.3 +0.8
MACI Morro de la Ar 78.96 47 P P 07 24 57.4 -0.3
MACI IAmb IAmb 07 25 00.8
comp=Z,208nm,0.8s
DECC Green Verdugo 79.03 322 P P 07 24 59.1 +1.4
baz=140,SNR=12
DECC S **S** **07 34 55.8 +3.1**
baz=140
GSC Goldstone, Bar 79.05 323 P P 07 24 58.7 +0.8
GSC pmax pmax
comp=Z,191nm,1.6s
GSC Goldstone, Bar 79.05 323 P P 07 24 58.7 +0.8
GSC IAmb IAmb 07 25 19.7
comp=Z,191nm,1.6s
GSC Goldstone, Bar 79.05 323 P P 07 24 59.3 +1.4
baz=142,SNR=36
GSC S **S** **07 34 56.7 +3.7**
baz=142
O20A White River Ci 79.08 332 P P 07 24 58.7 +0.6
baz=148,SNR=94
O20A S **S** **07 34 56.9 +3.4**
baz=148
CCUT Cedar City 79.16 327 P P 07 24 59.5 +0.9
CCUT IAmb IAmb 07 25 19.9
comp=Z,131nm,1.1s
TSUM Tsumeb 79.21 106 P P 07 24 59.0 -0.3
TSUM IAmb IAmb 07 25 02.4
comp=Z,254nm,0.9s
SHOC Shoshone, Teco 79.25 324 P P 07 25 00.0 +1.2
baz=142,SNR=10
SHOC S **S** **07 34 58.3 +3.3**
baz=142
EDW2 Edwards Air Fo 79.33 322 P P 07 25 00.2 +0.8
baz=141,SNR=50
EDW2 S **S** **07 34 57.7 +1.8**
baz=141
OSI Osito Audit: C 79.51 322 P P 07 25 00.6 +0.2
OSI IAmb IAmb 07 25 04.3
comp=Z,141nm,0.8s
OSI Osito Audit: C 79.51 322 P P 07 25 01.7 +1.3
baz=140,SNR=9.5
OSI S **S** **07 35 01.3 +3.5**
baz=140
LRMC Laurel Mtn Rad 79.63 323 P P 07 25 02.4 +1.3
baz=141,SNR=24
LRMC S **S** **07 35 02.0 +2.7**
baz=141
H07S1 FLORES T-PHASE 79.66 30 eP P 07 25 00.3 -0.7
comp=Z,278nm,1.1s
SUSD Miller 79.68 340 P P 07 25 00.7 -0.3
baz=156,SNR=21
SUSD S **S** **07 34 58.5 -0.6**
baz=156
SBC Santa Barbara 79.91 321 P P 07 25 03.7 +1.3
baz=140,SNR=6.8
SBC S **S** **07 35 05.6 +3.7**
baz=140
ARVC Arvin 79.96 322 P P 07 25 04.1 +1.4
baz=140,SNR=11
ARVC S **S** **07 35 06.2 +3.7**
baz=140
H07N1 FLORES T-PHASE 79.96 30 eP P 07 25 02.3 -0.3
comp=Z,174nm,0.9s
MPMC Manual Prospec 79.98 323 P P 07 25 04.0 +0.9
baz=141,SNR=29
MPMC S **S** **07 35 05.9 +2.8**
baz=141
FURC Furnace Creek, 79.98 324 P P 07 25 04.2 +1.4
baz=142,SNR=43
FURC S **S** **07 35 05.4 +2.8**
baz=142
TPNV Topopah Spring 80.06 325 P P 07 25 03.8 +0.3
TPNV pmax pmax
comp=Z,182nm,1.5s
TPNV Topopah Spring 80.06 325 P P 07 25 03.8 +0.3
TPNV IAmb IAmb 07 25 25.5
comp=Z,182nm,1.5s
TPNV Topopah Spring 80.06 325 P P 07 25 04.7 +1.3
baz=142,SNR=61
TPNV S **S** **07 35 07.7 +4.0**
baz=142
CALA Caldeira 80.12 32 eP P 07 25 03.4 -0.2
comp=Z,310nm,1.8s
PCAN Candelaria 80.13 33 eP P 07 25 03.5 -0.1
comp=Z,268nm,1.5s
PCED Cedros 80.16 32 eP P 07 25 02.7 -1.0
comp=Z,193nm,1.1s
ISA Isabella, Lake 80.18 323 P P 07 25 04.2 +0.2
ISA pmax pmax
comp=Z,111nm,1.0s
ISA Isabella, Lake 80.18 323 P P 07 25 04.2 +0.2
ISA IAmb IAmb 07 25 08.3
comp=Z,111nm,0.9s
ISA Isabella, Lake 80.18 323 P P 07 25 05.4 +1.4
baz=140,SNR=118
ISA S **S** **07 35 09.3 +4.4**
baz=140
PICO Pico 80.19 33 eP P 07 25 03.6 -0.4
comp=Z,183nm,1.5s
PID Ribeirinha 80.28 33 eP P 07 25 04.3 -0.1
comp=Z,449nm,1.2s
PKM Mcpherson Peak 80.30 321 P P 07 25 06.5 +1.7
baz=140,SNR=69
PKM S **S** **07 35 10.6 +4.2**
baz=140
ROSA Rosais 80.45 33 eP P 07 25 03.9 -1.4
comp=Z,237nm,1.1s
ROSA Rosais 80.45 33 P P 07 25 05.3 0.0
ROSA IAmb IAmb 07 25 09.1
comp=Z,171nm,0.9s
PMAN Manadas 80.45 33 eP P 07 25 05.2 -0.1
comp=Z,382nm,1.2s
PSMA Santa Maria 80.58 36 eP P 07 25 05.6 -0.4
comp=Z,233nm,1.4s
CWC Cottonwood Cre 80.58 323 P P 07 25 07.6 +1.3
baz=141
CWC S **S** **07 35 13.4 +4.1**
baz=141
K22A Casper 80.58 334 P P 07 25 06.9 +0.8
baz=150,SNR=67
K22A S **S** **07 35 11.2 +2.2**
baz=150
BOSA Boshof 80.60 118 P P 07 25 06.6 -0.1
comp=Z,167nm,0.8s,baz=240,slow=4.3,SNR=165
BOSA PKKPbc **PKKPbc** **07 43 43.5 -2.1**
comp=Z,3.8nm,0.9s,baz=86,slow=3.6,SNR=4.3
BOSA Boshof 80.60 118 P P 07 25 05.5 -1.2
BOSA IAmb IAmb 07 25 08.7
comp=Z,220nm,0.9s
PSMN Pico do Norte, 80.61 36 eP P 07 25 06.1 -0.1
comp=Z,204nm,1.3s
VES Vestal, Richgr 80.64 322 P P 07 25 07.5 +1.1
baz=140,SNR=33
VES S **S** **07 35 12.5 +2.9**
baz=140
GRAC Grapevine Rang 80.65 324 P P 07 25 08.0 +1.5
baz=141,SNR=30
GRAC S **S** **07 35 13.3 +3.6**
baz=141
SMMC Simmler 80.72 321 P P 07 25 08.6 +1.8
baz=139,SNR=39
SMMC S **S** **07 35 14.8 +4.3**
baz=139
SRBC Serra Branca 80.80 33 eP P 07 25 07.3 +0.2
comp=Z,322nm,1.3s
PGRA Graciosa 80.82 33 eP P 07 25 06.4 -0.8
comp=Z,238nm,1.5s
R11A Troy Canyon, C 80.84 326 P P 07 25 08.9 +1.3
baz=143,SNR=95
R11A S **S** **07 35 15.3 +3.3**
baz=143
PDA Ponta Delgada 80.90 35 eP P 07 25 07.4 -0.3
comp=Z,230nm,1.6s
PSET Sete Cidades 80.93 35 eP P 07 25 07.4 -0.5
comp=Z,258nm,1.8s
PSCM Serra do Cume 80.96 33 eP P 07 25 07.6 -0.4
comp=Z,348nm,1.4s
PAGU Agualva, Azore 80.98 33 eP P 07 25 08.3 +0.2
comp=Z,258nm,1.3s
GRON Grota Negra 80.98 35 eP P 07 25 06.5 -1.7
comp=Z,304nm,1.1s
CMLA Cha da Macela 80.98 35 eP P 07 25 07.0 -1.2
comp=Z,112nm,1.2s
RSSD Black Hills 80.98 337 P P 07 25 09.0 +0.7
RSSD pmax pmax
comp=Z,101nm,0.9s
RSSD Black Hills 80.98 337 P P 07 25 09.0 +0.7
RSSD IAmb IAmb 07 25 11.3
comp=Z,101nm,0.8s
RSSD Black Hills 80.98 337 P P 07 25 08.4 +0.1
baz=152
RSSD S **S** **07 35 15.6 +2.3**
baz=152
DUG Dugway, Tooele 81.06 329 P P 07 25 09.5 +0.8
DUG pmax pmax
comp=Z,75nm,1.1s
DUG Dugway, Tooele 81.06 329 P P 07 25 09.5 +0.8
DUG Dugway, Tooele 81.06 329 P P 07 25 09.8 +1.1
baz=145,SNR=62
DUG S **S** **07 35 16.1 +2.0**
baz=145
EYMN Ely 81.12 346 P P 07 25 08.8 +0.1
EYMN Ely 81.12 346 P P 07 25 08.5 -0.2
baz=162,SNR=19
EYMN S **S** **07 35 11.4 -2.7**
baz=162
TIN Tinemaha, Big 81.13 324 P P 07 25 10.6 +1.5
baz=141,SNR=47
TIN S **S** **07 35 17.5 +2.6**
baz=141
VOG Valley Oaks Go 81.16 322 P P 07 25 08.7 -0.4
baz=140
VOG S **S** **07 35 17.9 +3.0**
baz=140
BART Pico Bartolome 81.17 35 eP P 07 25 09.4 +0.2
comp=Z,314nm,1.7s
HWUT Hardware Ranch 81.69 331 P P 07 25 11.4 -0.7
HWUT IAmb IAmb 07 25 15.0
comp=Z,184nm,0.9s
HWUT pP **pP** **07 25 29.2 +1.7**
PMOZ Porto Moniz, M 81.78 43 eP P 07 25 15.0 +2.4
comp=Z,177nm,0.8s
PMOZ Porto Moniz, M 81.78 43 eLR LR 07 51 46.8
comp=Z,2µm,20.0s
BW06 Boulder Array 81.84 332 P P 07 25 12.2 -0.7
BW06 pP **pP** **07 25 30.0 +1.6**
BW06 Boulder Array 81.84 332 P P 07 25 12.9 0.0
baz=148,SNR=45
BW06 S **S** **07 35 22.4 +0.2**
baz=148
PD31 Pinedale Array 81.84 332 P P 07 25 12.2 -0.7
PDAR Pinedale Array 81.84 332 P P 07 25 13.0 +0.1
comp=Z,23nm,0.8s,baz=133,slow=8.3,SNR=87
PDAR PKKPbc **PKKPbc** **07 43 43.0 -2.3**
comp=Z,4.1nm,0.7s,baz=116,slow=0.3,SNR=20
PDAR PKPPKP **P'P'df** **07 51 42.6 -2.0**
comp=Z,1.3nm,0.9s,baz=108,slow=2.9,SNR=3.6
PDAR LR LR 07 58 13.0
comp=Z,1µm,22.0s,baz=148,slow=33
PDAR Pinedale Array 81.84 332 P P 07 25 11.8 -1.1
PMAR Madeira 81.87 44 eP P 07 25 14.4 +1.2
comp=Z,261nm,1.5s
MLAC Mammoth, Mammo 81.88 324 P P 07 25 14.2 +1.0
baz=140
MLAC S **S** **07 35 25.6 +2.7**
baz=140
NVAR Mina Array Bea 82.23 324 P P 07 25 16.2 +1.2
comp=Z,78nm,0.9s,baz=154,slow=5.3,SNR=350
NVAR PKKPbc **PKKPbc** **07 43 43.7 -0.4**
comp=Z,5.6nm,0.8s,baz=275,slow=2.4,SNR=20
NVAR PKPPKP **P'P'df** **07 51 51.2 +6.7**
comp=Z,3.1nm,1.0s,baz=52,slow=0.2,SNR=6.2
NVAR Mina Array Bea 82.23 324 P P 07 25 15.1 +0.1
AGMN Agassiz Nation 82.42 344 P P 07 25 15.2 -0.2
baz=159,SNR=51
AGMN S **S** **07 35 25.6 -1.8**
baz=159
PMPST Porto Santo, M 82.47 44 eP P 07 25 17.4 +1.3
comp=Z,334nm,1.9s
CASY Casey 82.57 181 P P 07 25 16.6 +0.4
SAO San Andreas Ge 82.58 321 P P 07 25 16.7 +0.1
SAO pmax pmax
comp=Z,44nm,1.0s
SAO San Andreas Ge 82.58 321 P P 07 25 16.7 +0.1
ELK Elko 82.59 328 P P 07 25 17.2 +0.3
ELK pmax pmax
comp=Z,124nm,0.9s
ELK Elko 82.59 328 P P 07 25 17.2 +0.3
ELK IAmb IAmb 07 25 20.0
comp=Z,124nm,0.8s
TORD Torodi Ar. Bea 82.66 70 P P 07 25 16.9 -0.6
comp=Z,540nm,0.7s,baz=267,slow=4.0,SNR=1216
TORD PKKPbc **PKKPbc** **07 43 42.8 +1.4**
comp=Z,3.9nm,1.0s,baz=41,slow=2.4,SNR=8.2
TORD LR LR 07 59 42.1
comp=Z,7µm,20.4s,baz=230,slow=34
TORD Torodi Ar. Bea 82.66 70 P P 07 25 17.1 -0.4
LBTB Lobatse 82.71 115 P P 07 25 16.6 -1.2
LBTB pmax pmax
comp=Z,300nm,0.9s
LBTB Lobatse 82.71 115 P P 07 25 16.6 -1.2
ECR Eagle Creek 82.81 332 P P 07 25 18.1 +0.2
MDND Maddock 82.97 341 P P 07 25 18.5 +0.1
baz=156,SNR=38
MDND S **S** **07 35 32.7 -0.3**
baz=156
CMB Columbia Colle 82.98 323 P P 07 25 18.6 -0.1
CMB pmax pmax
comp=Z,48nm,1.1s
CMB Columbia Colle 82.98 323 P P 07 25 18.6 -0.1
H17A Grant Village 83.61 333 P P 07 25 23.2 +1.1
baz=147,SNR=18
H17A S **S** **07 35 42.1 +1.9**
baz=147
LKWY Lake 83.68 333 P P 07 25 21.8 -0.7
LKWY pmax pmax
comp=Z,40nm,1.1s
LKWY Lake 83.68 333 P P 07 25 21.8 -0.7
RLMT Red Lodge 83.72 334 P P 07 25 21.9 -0.6
RLMT Red Lodge 83.72 334 P P 07 25 23.0 +0.4
baz=148,SNR=63
RLMT S **S** **07 35 40.8 -0.4**
baz=148
YNE Yellowstone No 83.90 333 P P 07 25 24.0 +0.4
LAO LASA Array 83.98 337 P P 07 25 23.6 0.0
LAO IAmb IAmb 07 25 26.4
comp=Z,129nm,0.9s
LAO pP **pP** **07 25 40.7 +1.5**
LAO LASA Array 83.98 337 P P 07 25 23.7 0.0
baz=150,SNR=64
LAO S **S** **07 35 43.3 -0.1**
baz=150
ULM Lac du Bonnet 84.25 344 P P 07 25 24.4 -0.4
comp=Z,116nm,0.8s,baz=161,slow=4.6,SNR=73
ULM PKKP **PKKPbc** **07 43 36.9 -2.8**
comp=Z,9.9nm,0.8s,baz=17,slow=3.9,SNR=8.2
HLID Hailey 84.49 330 P P 07 25 27.2 +0.6
HLID IAmb IAmb 07 25 30.1
comp=Z,102nm,0.9s
HLID pP **pP** **07 25 44.4 +2.4**
HLID Hailey 84.49 330 P P 07 25 27.1 +0.6
baz=144,SNR=169
HLID S **S** **07 35 51.6 +2.6**
baz=144
ORV Oroville 84.70 323 P P 07 25 27.3 -0.1
ORV pmax pmax
comp=Z,107nm,1.0s
ORV Oroville 84.70 323 P P 07 25 27.3 -0.1
ORV IAmb IAmb 07 25 31.3
comp=Z,107nm,1.0s
CGR Cap Guir 84.81 49 P P 07 25 30.0 +1.9
CGR Cap Guir 84.81 49 P P 07 25 30.0 +1.9
CGR Cap Guir 84.81 49 P P 07 25 30.0 +1.9
CGR Cap Guir 84.81 49 P P 07 25 30.0 +1.9
CGR Cap Guir 84.81 49 P P 07 25 30.0 +1.9
CGR Cap Guir 84.81 49 P P 07 25 32.0 +3.9
DGMT Dagmar 84.88 339 P P 07 25 28.1 -0.1
DGMT pP **pP** **07 25 45.4 +1.7**
DGMT Dagmar 84.88 339 P P 07 25 28.6 +0.5
baz=152,SNR=110
DGMT S **S** **07 35 53.0 +0.7**
baz=152
BOZ Bozeman (W) 85.02 333 P P 07 25 29.2 +0.2
BOZ pmax pmax
comp=Z,42nm,1.2s
BOZ Bozeman (W) 85.02 333 P P 07 25 29.2 +0.2
BOZ Bozeman (W) 85.02 333 P P 07 25 29.3 +0.2
baz=146,SNR=42
BOZ S **S** **07 35 54.3 +0.2**
baz=146
ODZ Otahua Downs 85.40 219 P P 07 25 30.9 -0.1
O03E Paynes Creek 85.41 324 P P 07 25 30.9 -0.1
baz=139,SNR=24
O03E S **S** **07 35 58.9 +1.0**
baz=139
WVOR Wild Horse Val 85.49 327 P P 07 25 31.1 -0.4
WVOR pmax pmax
comp=Z,63nm,1.1s
WVOR Wild Horse Val 85.49 327 P P 07 25 31.1 -0.4
EAH EAH 85.66 49 P P 07 25 34.0 +1.6
EAH EAH 85.66 49 P P 07 25 34.0 +1.6
EAH EAH 85.66 49 P P 07 25 34.0 +1.6
EAH EAH 85.66 49 P P 07 25 34.0 +1.6
EAH EAH 85.66 49 P P 07 25 34.0 +1.6
TTIG Tnine Tigouga, 85.69 50 P P 07 25 34.0 +1.3
TTIG Tnine Tigouga, 85.69 50 P P 07 25 34.0 +1.3
TTIG Tnine Tigouga, 85.69 50 P P 07 25 34.0 +1.3
TTIG Tnine Tigouga, 85.69 50 P P 07 25 34.0 +1.3
TTIG Tnine Tigouga, 85.69 50 P P 07 25 34.0 +1.3
BKZ Black Stump Fm 85.74 226 P P 07 25 32.6 -0.4
BKZ IAmb IAmb 07 26 16.4
comp=Z,124nm,1.6s
OXZ Oxford 85.76 221 P P 07 25 33.2 +0.3
OXZ IAmb IAmb 07 25 54.5
comp=Z,154nm,1.4s
O02D Mt. Diablo Mer 85.82 323 P P 07 25 34.2 +1.1
baz=138,SNR=8.6
O02D S **S** **07 36 03.6 +1.6**
baz=138
TUWZ Tuamarina 85.87 223 P P 07 25 33.3 -0.2
URZ Urewera 85.91 227 P P 07 25 35.6 +1.9
comp=Z,18nm,0.9s,baz=349,slow=4.0,SNR=6.2
URZ Urewera 85.91 227 P P 07 25 30.5 -3.2
URZ IAmb IAmb 07 25 56.0
comp=Z,313nm,1.9s
LTZ Lake Taylor 85.98 221 P P 07 25 31.3 -2.7
LTZ IAmb IAmb 07 25 53.9
comp=Z,146nm,0.9s
WDC Whiskeytown Da 85.99 323 P P 07 25 33.3 -0.5
WDC pmax pmax
comp=Z,58nm,1.0s
WDC Whiskeytown Da 85.99 323 P P 07 25 33.3 -0.5
SCHQ Schefferville 86.02 3 P P 07 25 33.3 -0.3
comp=Z,52nm,0.9s,baz=172,slow=4.1,SNR=31
SCHQ PKKP **PKKPbc** **07 43 34.5 -1.2**
comp=Z,6.6nm,0.8s,baz=47,slow=9.8,SNR=4.0
SCHQ PKPPKP **P'P'df** **07 51 34.0 -1.6**
comp=Z,4.1nm,0.9s,baz=155,slow=3.8,SNR=3.8
SCHQ Schefferville 86.02 3 P P 07 25 32.7 -0.9
SCHQ IAmb IAmb 07 25 35.5
comp=Z,124nm,1.1s
RPZ Rata Peaks 86.05 220 P P 07 25 34.6 +0.2
RPZ IAmb IAmb 07 25 54.0
comp=Z,153nm,0.9s
LBZ Lake Benmore 86.08 219 P P 07 25 34.1 -0.4
LBZ IAmb IAmb 07 25 56.1
comp=Z,141nm,1.6s
THZ Tophouse 86.27 222 P P 07 25 36.5 +1.0
EGMT Eagleton 86.36 335 P P 07 25 34.8 -0.7
EGMT IAmb IAmb 07 25 37.8
comp=Z,103nm,1.2s
EGMT pP **pP** **07 25 52.2 +1.1**
EGMT Eagleton 86.36 335 P P 07 25 35.0 -0.5
baz=148,SNR=25
EGMT S **S** **07 36 05.7 -1.2**
baz=148
N02D Trinity Center 86.37 324 P P 07 25 36.0 +0.2
baz=138,SNR=15
N02D S **S** **07 36 08.0 +0.7**
baz=138
OUK Oukaimeden 86.49 50 P P 07 25 38.0 +1.0
OUK Oukaimeden 86.49 50 P P 07 25 38.0 +1.0
OUK Oukaimeden 86.49 50 P P 07 25 38.0 +1.0
OUK Oukaimeden 86.49 50 P P 07 25 38.0 +1.0
OUK Oukaimeden 86.49 50 P P 07 25 38.0 +1.0
M04C Macdoel 86.54 325 P P 07 25 37.4 +0.8
baz=139,SNR=46
M04C S **S** **07 36 10.3 +1.2**
baz=139
M02C Callahan 86.75 324 P P 07 25 37.9 +0.3
baz=138,SNR=15
M02C S **S** **07 36 12.3 +1.2**
baz=138
BMO Blue Mountains 86.78 329 P P 07 25 37.9 +0.2
BMO pP **pP** **07 25 54.8 +1.5**
YBH Yreka Blue Hor 86.93 324 P P 07 25 37.7 -0.8
YBH pmax pmax
comp=Z,48nm,0.9s
YBH Yreka Blue Hor 86.93 324 P P 07 25 37.6 -0.8
MSO Missoula 86.95 332 P P 07 25 38.5 0.0
MSO IAmb IAmb 07 25 58.6
comp=Z,168nm,2.0s
MSO Missoula 86.95 332 P P 07 25 39.2 +0.7
baz=144,SNR=21
MSO S **S** **07 36 13.8 +1.1**
baz=144
QRZ Quartz Range 87.08 223 P P 07 25 37.5 -1.9
QRZ IAmb IAmb 07 25 57.9
comp=Z,91nm,0.9s
L04D Klamath Falls 87.09 325 P P 07 25 39.5 +0.1
baz=138,SNR=15
L04D S **S** **07 36 15.1 +0.7**
baz=138
K04D Chiloquin, OR 87.13 325 P P 07 25 39.9 +0.4
baz=139,SNR=15
K04D S **S** **07 36 16.0 +1.3**
baz=139
J05D Fort Rock, OR 87.37 326 P P 07 25 41.3 +0.6
baz=139,SNR=50
J05D S **S** **07 36 18.6 +1.6**
baz=139
L02E Cave Junction 87.70 324 P P 07 25 42.7 +0.6
baz=137,SNR=6.3
L02E S **S** **07 36 21.8 +1.9**
baz=137
TZRR Tazzarine 87.75 52 P P 07 25 44.0 +1.3
TZRR Tazzarine 87.75 52 P P 07 25 44.0 +1.3
TZRR Tazzarine 87.75 52 P P 07 25 44.0 +1.3
TZRR Tazzarine 87.75 52 P P 07 25 44.0 +1.3
J04D Umpqua Nationa 87.76 325 P P 07 25 43.3 +0.6
baz=138,SNR=34
J04D S **S** **07 36 22.6 +1.7**
baz=138
K02D Willamette Mer 88.12 324 P P 07 25 45.4 +1.3
baz=137,SNR=16
K02D S **S** **07 36 25.5 +1.4**
baz=137
AVE Averroes 88.13 49 P P 07 25 44.0 -0.3
AVE S **S** **07 36 22.9 -1.6**
AVE Averroes 88.13 49 P P 07 25 46.2 +1.9
AVE Averroes 88.13 49 P P 07 25 46.2 +1.9
AVE Averroes 88.13 49 P P 07 25 46.2 +1.9
AVE Averroes 88.13 49 P P 07 25 46.2 +1.9
AVE Averroes 88.13 49 P P 07 25 46.2 +1.9
I05D Terrebonne, OR 88.22 327 P P 07 25 45.3 +0.7
baz=139,SNR=85
I05D S **S** **07 36 26.7 +1.9**
baz=139
I04A Tendick Farm, 88.32 326 P P 07 25 45.4 +0.3

baz=138,SNR=18
I04A S **S** **07 36 26.0 +0.1**
baz=138
J01E Myrtle Point 88.60 324 P **P** **07 25 47.0 +0.7**
baz=137
J01E S **S** **07 36 29.9 +1.6**
baz=137
I03D Drain, OR 88.70 325 P **P** **07 25 48.1 +1.4**
baz=138
I03D S **S** **07 36 30.9 +1.6**
baz=138
ZHG ZHG 88.72 49 P **P** **07 25 48.0 +0.8**
ZHG ZHG 88.72 49 P **P** **07 25 48.0 +0.8**
ZHG ZHG 88.72 49 P **P** **07 25 48.0 +0.8**
ZHG ZHG 88.72 49 P **P** **07 25 48.0 +0.8**
ZHG ZHG 88.72 49 P **P** **07 25 48.0 +0.8**
G05D Wamic, OR 88.89 327 P **P** **07 25 48.5 +0.8**
baz=139,SNR=21
G05D S **S** **07 36 34.2 +3.1**
baz=139
HAWA Hanford 88.96 329 P **P** **07 25 48.2 +0.3**
HAWA IAmb IAmb 07 25 51.2
comp=Z,92nm,0.9s
HAWA pP **pP** **07 26 05.4 +1.8**
H04D Lebanon 89.02 326 P **P** **07 25 48.5 +0.3**
baz=138,SNR=9.1
H04D S **S** **07 36 31.9 -0.4**
baz=138
I02D Swisshome 89.25 325 P **P** **07 25 50.4 +1.1**
baz=137
I02D S **S** **07 36 35.9 +1.5**
baz=137
COR Corvallis 89.34 326 P **P** **07 25 49.9 +0.2**
COR pmax pmax
comp=Z,167nm,1.3s
COR Corvallis 89.34 326 P **P** **07 25 49.9 +0.2**
COR IAmb IAmb 07 26 10.5
comp=Z,167nm,1.2s
NEW Newport 89.39 331 P **P** **07 25 49.1 -0.8**
NEW pmax pmax
comp=Z,36nm,1.0s
NEW Newport 89.39 331 P **P** **07 25 49.1 -0.8**
NEW Newport 89.39 331 P **P** **07 25 49.6 -0.4**
baz=142,SNR=33
F05D White Salmon 89.44 327 P **P** **07 25 50.8 +0.6**
baz=139,SNR=38
F05D S **S** **07 36 37.5 +1.3**
baz=139
CZD Col de Zad 89.50 50 P **P** **07 25 53.0 +1.8**
CZD Col de Zad 89.50 50 P **P** **07 25 53.0 +1.8**
CZD Col de Zad 89.50 50 P **P** **07 25 53.0 +1.8**
CZD Col de Zad 89.50 50 P **P** **07 25 53.0 +1.8**
CZD Col de Zad 89.50 50 P **P** **07 25 53.0 +1.8**
CZD Col de Zad 89.50 50 P **P** **07 25 54.0 +2.8**
MDT Midelt 89.65 51 P **P** **07 25 52.9 +1.3**
comp=Z,34nm,0.9s,baz=216,slow=3.8,SNR=69
MDT Midelt 89.65 51 P **P** **07 25 52.5 +0.9**
MDT Midelt 89.65 51 P **P** **07 25 53.3 +1.7**
MDT Midelt 89.65 51 P **P** **07 25 53.3 +1.7**
MDT Midelt 89.65 51 P **P** **07 25 53.3 +1.7**
PFVI Vila Bisbo 89.72 45 *e*P **P** **07 25 50.4 -1.3**
comp=Z,103nm,1.4s
PFVI Vila Bisbo 89.72 45 *e*PP PP 07 29 24.5 -0.4
PFVI *e*S **S** **07 36 42.8 +3.6**
IFR Ifrane 89.75 50 P **P** **07 25 52.6 +0.5**
IFR S **S** **07 36 34.2 -5.8**
G03D McMinnville, O 89.78 326 P **P** **07 25 52.2 +0.4**
baz=138
G03D S **S** **07 36 40.1 +0.7**
baz=138
FFC Flin Flon 89.84 343 P **P** **07 25 51.2 -0.6**
FFC pmax pmax
comp=Z,67nm,1.0s
FFC Flin Flon 89.84 343 P **P** **07 25 51.2 -0.6**
FFC IAmb IAmb 07 25 53.8
comp=Z,67nm,1.0s
LSZ Lusaka 89.90 108 P **P** **07 25 53.2 -0.1**
LSZ pmax pmax
comp=Z,223nm,0.9s
LSZ Lusaka 89.90 108 P **P** **07 25 53.2 -0.1**
MORF Marmelete 89.94 45 *e*P **P** **07 25 53.3 +0.5**
MORF IAMs_20 IAMs_20 08 03 27.0
comp=E,4µm,28.9s
MORF Marmelete 89.94 45 *e*P **P** **07 25 53.3 +0.5**
MORF Marmelete 89.94 45 *e*P **P** **07 25 51.8 -1.0**
comp=E,68nm,1.0s
MORF Marmelete 89.94 45 *e*S **S** **07 36 47.2 +5.8**
LCRM LCR 90.03 50 P **P** **07 25 56.0 +2.5**
LCRM LCR 90.03 50 P **P** **07 25 56.0 +2.5**
PTEO Sao Teotonio 90.06 45 *e*P **P** **07 25 53.8 +0.5**
comp=E,184nm,1.2s
RSA Sarsar 90.15 48 P **P** **07 25 55.0 +1.1**
RSA Sarsar 90.15 48 P **P** **07 25 55.0 +1.1**
RSA Sarsar 90.15 48 P **P** **07 25 55.0 +1.1**
RSA Sarsar 90.15 48 P **P** **07 25 55.0 +1.1**
RSA Sarsar 90.15 48 P **P** **07 25 55.0 +1.1**
F04D Rainier, OR 90.31 327 P **P** **07 25 55.2 +1.0**
baz=138
F04D S **S** **07 36 45.4 +1.3**
baz=138
PBDV Barranco-do-Ve 90.34 45 *e*P **P** **07 25 54.9 +0.3**
comp=E,126nm,1.3s
PBDV Barranco-do-Ve 90.34 45 *e*S **S** **07 36 49.0 +4.0**
E04D Cinebar 90.45 327 P **P** **07 25 55.7 +0.8**
baz=138,SNR=9.8
E04D S **S** **07 36 46.3 +0.9**
baz=138
PCVE Castro Verde 90.53 45 *e*P **P** **07 25 55.8 +0.3**
comp=E,68nm,1.2s
PCVE Castro Verde 90.53 45 *e*PP PP 07 29 30.3 -0.9
PCVE *e*S **S** **07 36 49.0 +2.4**
PNCL Nicolau / Gran 90.54 44 *e*P **P** **07 25 55.6 +0.1**
comp=E,96nm,1.1s
PNCL Nicolau / Gran 90.54 44 *e*PP PP 07 29 33.9 +2.6
PNCL *e*S **S** **07 36 50.6 +3.9**
MESJ Messejana 90.55 45 *e*P **P** **07 25 56.1 +0.6**
MESJ *e*PP **PP** **07 29 31.4 -0.1**
MESJ IAMs_20 IAMs_20 08 03 38.9
comp=Z,3µm,20.7s
MESJ Messejana 90.55 45 *e*P **P** **07 25 56.1 +0.6**
MESJ *e* 07 29 31.3
MESJ Messejana 90.55 45 *e*P **P** **07 25 55.6 0.0**
comp=Z,98nm,1.5s
PMST Lisbon--Monsan 90.56 44 *e*P **P** **07 25 55.4 -0.2**
comp=Z,100nm,1.1s
LIS Lisbon 90.57 44 *e*P **P** **07 25 56.1 +0.5**
LIS IAMs_20 IAMs_20 08 03 20.3
comp=Z,5µm,20.2s
LIS Lisbon 90.57 44 *e*P **P** **07 25 56.1 +0.4**
PVAQ Vaqueiros 90.57 45 *e*P **P** **07 25 56.1 +0.4**
comp=Z,105nm,1.2s
PVAQ Vaqueiros 90.57 45 *e*PP PP 07 29 30.4 -1.2
PVAQ *e*S **S** **07 36 46.9 -0.1**
PVAQ Vaqueiros 90.57 45 *e*LR LR 07 55 49.2
comp=Z,4µm,20.0s
PVAQ Vaqueiros 90.57 45 P **P** **07 25 55.2 -0.5**
PVAQ IAmb IAmb 07 27 04.2
comp=Z,137nm,1.6s
PVAQ Vaqueiros 90.57 45 P **P** **07 25 56.4 +0.8**
PVAQ Vaqueiros 90.57 45 P **P** **07 25 56.4 +0.8**
PVAQ Vaqueiros 90.57 45 P **P** **07 25 56.4 +0.8**
PVAQ Vaqueiros 90.57 45 P **P** **07 25 56.4 +0.8**
CHEFC Chefchaouen 90.60 48 P **P** **07 25 58.0 +2.0**
CHEFC Chefchaouen 90.60 48 P **P** **07 25 58.0 +2.0**
CHEFC Chefchaouen 90.60 48 P **P** **07 25 58.0 +2.0**
CHEFC Chefchaouen 90.60 48 P **P** **07 25 58.0 +2.0**
CHEFC Chefchaouen 90.60 48 P **P** **07 25 58.0 +2.0**
CHEFC Chefchaouen 90.60 48 P **P** **07 25 59.0 +3.0**
PMAFR Mafra 90.64 43 *e*P **P** **07 25 56.1 +0.1**
comp=Z,111nm,1.5s
PMAFR Mafra 90.64 43 *e*PP PP 07 29 31.0 -1.2
PMAFR *e*S **S** **07 36 52.6 +4.9**
C06D Leavenworth 90.73 329 P **P** **07 25 56.1 -0.1**
baz=139,SNR=5.1
PBEJ Beja 90.88 45 *e*P **P** **07 25 57.6 +0.5**
comp=Z,64nm,1.0s
SFS San Fernando 90.91 47 P **P** **07 25 56.2 -1.1**
SFS S **S** **07 36 54.1 +4.0**
SMIR Smir Dam 90.93 48 P **P** **07 26 00.0 +2.6**
SMIR Smir Dam 90.93 48 P **P** **07 26 00.0 +2.6**
SMIR Smir Dam 90.93 48 P **P** **07 26 00.1 +2.6**
SMIR Smir Dam 90.93 48 P **P** **07 26 00.0 +2.6**
SMIR Smir Dam 90.93 48 P **P** **07 26 00.0 +2.6**
SMIR Smir Dam 90.93 48 P **P** **07 26 01.0 +3.6**

ARNO Arenosillo 90.98 46 P **P** **07 25 57.4 -0.2**
ARNO S **S** **07 36 52.0 +1.3**
D04E Lakebay 91.01 328 P **P** **07 25 58.8 +1.4**
baz=138,SNR=8.6
CEU Ceuta 91.07 48 P **P** **07 25 58.4 +0.4**
CEU S **S** **07 36 50.7 -0.9**
EVO Evora 91.12 44 P **P** **07 25 58.0 -0.2**
EVO S **S** **07 36 56.2 +4.2**
EVO Evora 91.12 44 *e*P **P** **07 25 58.9 +0.7**
AKLM AKL 91.18 50 P **P** **07 25 60.0 +1.3**
AKLM AKL 91.18 50 P **P** **07 25 60.0 +1.3**
PSBE So Bento 91.30 43 *e*P **P** **07 25 59.0 0.0**
comp=Z,154nm,1.1s
PSBE So Bento 91.30 43 *e*S **S** **07 36 54.5 +0.9**
PMTG Montargil 91.34 44 *e*P **P** **07 25 59.6 +0.4**
comp=Z,156nm,1.2s
PMTG Montargil 91.34 44 *e*S **S** **07 36 57.3 +3.3**
FIGM Figuig 91.48 53 P **P** **07 26 01.0 +0.8**
FIGM Figuig 91.48 53 P **P** **07 26 02.0 +1.7**
FIGM Figuig 91.48 53 P **P** **07 26 02.0 +1.7**
FIGM Figuig 91.48 53 P **P** **07 26 02.0 +1.7**
FIGM Figuig 91.48 53 P **P** **07 26 01.0 +0.8**
TDRA Tendrara 91.50 52 P **P** **07 26 02.0 +1.6**
TDRA Tendrara 91.50 52 P **P** **07 26 02.0 +1.6**
TDRA Tendrara 91.50 52 P **P** **07 26 02.0 +1.6**
TDRA Tendrara 91.50 52 P **P** **07 26 02.0 +1.6**
TDRA Tendrara 91.50 52 P **P** **07 26 02.0 +1.6**
B05A Bryant 91.51 329 P **P** **07 25 59.6 -0.1**
baz=138,SNR=24
PESTR Estremoz 91.59 44 *e*P **P** **07 26 00.6 +0.2**
comp=Z,96nm,1.2s
PESTR Estremoz 91.59 44 *e*PP PP 07 29 38.5 -1.2
PESTR *e*S **S** **07 36 58.5 +2.2**
PESTR Estremoz 91.59 44 P **P** **07 25 60.0 -0.5**
PESTR IAmb IAmb 07 26 02.9
comp=Z,47nm,1.2s
PESTR Estremoz 91.59 44 P **P** **07 26 01.2 +0.8**
PESTR Estremoz 91.59 44 P **P** **07 26 01.2 +0.8**
PESTR Estremoz 91.59 44 P **P** **07 26 01.2 +0.8**
PESTR Estremoz 91.59 44 P **P** **07 26 01.2 +0.8**
PCAS Casmilo, Conde 91.82 43 *e*P **P** **07 26 01.7 +0.3**
comp=Z,87nm,2.3s
PCAS Casmilo, Conde 91.82 43 *e*S **S** **07 37 00.2 +1.9**
FCC Fort Churchill 91.89 348 P **P** **07 26 01.2 0.0**
FCC pmax pmax
comp=Z,96nm,1.1s
FCC Fort Churchill 91.89 348 P **P** **07 26 01.2 0.0**
FCC IAmb IAmb 07 26 03.8
comp=Z,96nm,1.1s
JBK JBK 91.93 50 P **P** **07 26 03.0 +0.7**
JBK JBK 91.93 50 P **P** **07 26 03.0 +0.7**
JBK JBK 91.93 50 P **P** **07 26 03.0 +0.7**
JBK JBK 91.93 50 P **P** **07 26 03.0 +0.7**
JBK JBK 91.93 50 P **P** **07 26 03.0 +0.7**
EDM Edmonton 91.96 336 P **P** **07 25 59.9 -1.9**
EDM pmax pmax
comp=Z,102nm,0.9s
EDM Edmonton 91.96 336 P **P** **07 25 59.9 -1.9**
COI Coimbra 91.97 43 P **P** **07 26 01.3 -0.8**
COI pmax pmax
comp=Z,72nm,0.9s
COI Coimbra 91.97 43 *e*P **P** **07 26 03.2 +1.1**
comp=Z,145nm,1.2s
COI Coimbra 91.97 43 *e*S **S** **07 37 04.5 +4.9**
COI Coimbra 91.97 43 P **P** **07 26 01.3 -0.8**
COI IAmb IAmb 07 26 04.9
comp=Z,72nm,0.9s
PMRV Marv??o 92.07 44 *e*P **P** **07 26 02.4 -0.2**
comp=Z,63nm,1.0s
PMRV Marv??o 92.07 44 *e*PP PP 07 29 41.3 -2.1
PMRV *e*S **S** **07 37 01.9 +1.3**
PMRV Marv??o 92.07 44 *e*LR LR 07 56 10.8
comp=Z,3µm,22.0s
A04D Lummi Island 92.12 329 P **P** **07 26 03.3 +0.7**
baz=138,SNR=20
A04D S **S** **07 37 02.8 +2.3**
baz=138
GOG Mont Gurugu 92.18 50 P **P** **07 26 07.0 +3.6**
GOG Mont Gurugu 92.18 50 P **P** **07 26 07.0 +3.6**
EMAL Malaga-Limoner 92.21 48 P **P** **07 26 03.7 +0.4**
EMAL S **S** **07 37 00.2 -1.6**
MELI Melilla 92.27 49 P **P** **07 26 02.2 -1.4**
MELI S **S** **07 37 05.0 +2.6**
PCBR Castelo Branco 92.28 44 *e*P **P** **07 26 03.8 +0.3**
comp=Z,66nm,1.4s
PCBR Castelo Branco 92.28 44 *e*PP PP 07 29 43.6 -1.5
TAF Taforalt 92.32 50 P **P** **07 26 05.0 +1.0**
TAF Taforalt 92.32 50 P **P** **07 26 05.0 +1.0**
TAF Taforalt 92.32 50 P **P** **07 26 05.0 +1.0**
TAF Taforalt 92.32 50 P **P** **07 26 05.0 +1.0**
TAF Taforalt 92.32 50 P **P** **07 26 07.0 +3.0**
PVIS Viseu 92.60 43 *e*P **P** **07 26 05.3 +0.2**
comp=Z,32nm,1.0s
MTE Manteigas 92.60 43 *e*P **P** **07 26 04.9 -0.2**
comp=Z,98nm,1.2s
MTE Manteigas 92.60 43 *e*PP PP 07 29 45.2 -2.5
MTE *e*S **S** **07 37 05.9 +0.5**
MTE Manteigas 92.60 43 *e*LR LR 07 56 58.8
comp=Z,5µm,22.0s
MTE Manteigas 92.60 43 P **P** **07 26 03.8 -1.3**
MTE IAmb IAmb 07 26 07.0
comp=Z,66nm,0.8s
PVRL Vila Real 93.06 42 *e*P **P** **07 26 07.0 -0.2**
comp=Z,84nm,1.3s
POLO Lamas de Olo 93.08 42 *e*P **P** **07 26 07.3 0.0**
comp=Z,25nm,1.4s
POLO Lamas de Olo 93.08 42 *e*S **S** **07 37 10.9 +1.2**
PCAB Cabril 93.17 42 *e*P **P** **07 26 07.8 +0.2**
comp=Z,56nm,1.0s
LLLB Lillo-Del 93.18 330 P **P** **07 26 07.2 -0.3**
PGAV Gavieira, Arco 93.19 42 *e*P **P** **07 26 09.0 +1.2**
comp=Z,69nm,2.0s
PGAV Gavieira, Arco 93.19 42 *e*PP PP 07 29 51.4 -0.9
PGAV *e*S **S** **07 37 13.8 +3.2**
PGAV Gavieira, Arco 93.19 42 *e*LR LR 07 57 33.9
comp=Z,4µm,20.0s
MVO Moncorvo 93.39 43 *e*P **P** **07 26 08.9 +0.2**
comp=Z,156nm,1.0s
MVO Moncorvo 93.39 43 *e*S **S** **07 37 06.3 -6.0**
MVO Moncorvo 93.39 43 *e*LR LR 07 57 12.8
comp=Z,4µm,20.0s
PBRG Braganca 93.97 43 *e*P **P** **07 26 11.3 0.0**
comp=Z,85nm,1.4s
PBRG Braganca 93.97 43 *e*PP **PP** **07 29 57.3 -1.0**
PAB San Pablo 93.97 45 P **P** **07 26 10.9 -0.6**
PAB pmax pmax
comp=Z,38nm,0.9s
PAB San Pablo 93.97 45 P **P** **07 26 10.9 -0.6**
PAB IAmb IAmb 07 26 13.6
comp=Z,38nm,0.9s
PAB San Pablo 93.97 45 P **P** **07 26 12.3 +0.8**
PAB San Pablo 93.97 45 P **P** **07 26 11.8 +0.3**
PAB San Pablo 93.97 45 P **P** **07 26 12.3 +0.8**
PAB San Pablo 93.97 45 P **P** **07 26 12.3 +0.8**
ESDC Sonseca Array 94.29 46 P **P** **07 26 13.3 +0.4**
comp=Z,22nm,0.8s,baz=249,slow=4.5,SNR=72
ESDC LR LR 08 05 50.2
comp=Z,3µm,22.0s,baz=255,slow=34
ESDC Sonseca Array 94.29 46 P **P** **07 26 11.7 -1.2**
ESBB Sonseca Array 94.29 46 P **P** **07 26 12.6 -0.3**
CART Cartagena 94.89 49 P **P** **07 26 13.0 -2.5**
CART S S 07 37 15.1 -10
UCM Universidad Co 95.11 45 P **P** **07 26 20.1 +3.4**
UCM S **SKSac** **07 36 57.2 +9.4**
DY2G Dye2 99.47 10 *i* P **Pdif** **07 26 35.9 0.0**
YKA Yellowknife Ar 99.89 341 P **Pdif** **07 26 36.5 -1.0**
comp=Z,2.5nm,0.5s,baz=136,slow=5.2,SNR=24
YKA PKiKP **PKiKP** **07 31 06.4 +1.0**
comp=Z,2.5nm,0.8s,baz=139,slow=2.1,SNR=6.1
ROSF Rostrenen 99.92 39 *e*P **Pdif** **07 26 38.0 0.0**
KEST Kesra 100.80 55 P **Pdif** **07 26 41.7 -0.7**
comp=Z,11nm,0.9s,baz=284,slow=5.1,SNR=8.2
RSBS Rosebush, Pemb 101.33 35 *e*P **Pdif** **07 26 43.7 -0.5**
WRAK Wrangell Islan 101.70 330 Pdiff **Pdif** **07 26 46.8 +1.1**
baz=130
HLM1 Long Mynd 102.59 36 *e*P **Pdif** **07 26 49.6 -0.2**
IOMK Kirk Michael 102.80 34 *e*P **Pdif** **07 26 52.1 +1.4**
ICESG Greenland Ices 102.90 11 *i* P **Pdif** **07 26 50.7 -0.5**
ICESG IAmb IAmb 07 26 55.1
comp=Z,17nm,0.8s
DZM Mont Dzumac 103.33 234 *e*PP **PKiKP** **07 31 13.5 +0.4**
comp=Z,250nm,28.8s
DZM *e*SKSac **SKSac** **07 37 36.0 +6.0**
comp=Z,731nm,26.1s

DZM Mont Dzumac 103.33 234 *e*PS PS 07 40 07.4 -12
comp=Z,2µm,28.4s
DZM *e*SS SS 07 45 55.5 +6.3
comp=Z,3µm,35.8s
DZM Mont Dzumac 103.33 234 *e*LQ LQ 07 56 24.4
comp=Z,3µm,34.5s
DZM *e*LR LR 08 00 50.4
comp=Z,12µm,31.4s,baz=140
TGTN Hyland Airport 103.49 336 Pdiff **Pdif** **07 26 54.4 +0.7**
baz=132
LBWR Ladybower, Pea 103.67 35 *e*P **Pdif** **07 26 54.7 +0.1**
KESW Keswick, Cumbr 103.68 34 *e*P **Pdif** **07 26 54.6 0.0**
EKA Eskdalemuir Ar 104.09 33 Pdiff **Pdif** **07 26 55.8 -0.6**
comp=Z,8.9nm,0.9s,baz=237,slow=4.6,SNR=13
WACR West Acre 104.47 37 *e*P **Pdif** **07 26 58.4 +0.3**
SKAG Skagway 104.85 332 Pdiff **Pdif** **07 27 00.8 +1.2**
baz=127
DOU Dourbes 105.19 40 *d*Pdif **Pdif** **07 27 03.1 +1.7**
comp=Z,11nm,1.0s
MMPY Sheldon Lake, 105.27 335 Pdiff **Pdif** **07 27 02.4 +0.8**
baz=130
BMRD Maredsous 105.39 40 *d*Pdif **Pdif** **07 27 03.6 +1.3**
comp=Z,17nm,0.9s
BCLA Clavier 105.74 40 *d*Pdif **Pdif** **07 27 05.3 +1.5**
FARO Faro, Yukon 105.78 335 Pdiff **Pdif** **07 27 05.1 +1.2**
baz=128
WLF Walferdange 105.84 41 *d*Pdif **Pdif** **07 27 05.5 +1.2**
comp=Z,22nm,1.0s
SUMG Summit 106.18 10 *i* P **Pdif** **07 27 07.0 +1.2**
SUMG Summit 106.18 10 IAmb IAmb 07 31 36.3
comp=Z,23nm,1.1s
SUMG Summit 106.18 10 *i* P **Pdif** **07 27 07.0 +1.2**
SUMG Summit 106.18 10 *i* P **PP** **07 31 34.9 +4.2**
BTNL Ternell 106.28 40 *d*Pdif **Pdif** **07 27 08.2 +1.9**
HYT Haines Junctio 106.53 332 Pdiff **Pdif** **07 27 08.0 +0.7**
baz=125
DAVOX Davos/Dischmat 106.61 45 Pdiff **Pdif** **07 27 08.6 +0.5**
comp=Z,10nm,0.8s,baz=31,slow=1.7,SNR=10
DAVOX PKKPbc **PKKPbc** **07 42 39.1 +0.4**
comp=Z,5.2nm,0.7s,baz=64,slow=12,SNR=5.9
DAVA Damuels 106.85 45 *e*P **Pdif** **07 27 10.2 +1.1**
comp=Z,8.6nm,0.8s
DAVA *e*P **PP** **07 31 34.3 -1.7**
comp=Z,25nm,1.1s
YUK6 Outpost Mounta 106.95 332 Pdiff **Pdif** **07 27 10.1 +0.8**
baz=125
RES Resolute Bay 107.02 354 PKKPbc PKKPbc 07 42 32.7 -5.2
comp=Z,7.4nm,0.7s,baz=30,slow=7.6,SNR=3.6
FETA Feichten 107.24 45 *e*P **Pdif** **07 27 11.5 +0.6**
comp=Z,9.2nm,1.0s
FETA *e*P **PP** **07 31 36.8 -2.1**
comp=Z,8.5nm,1.1s
PINM Pinnacle 107.25 331 PKiKP **PKiKP** **07 31 19.7 +0.7**
baz=123
YUK4 Talbot Arm 107.29 332 Pdiff **Pdif** **07 27 12.0 +1.2**
baz=124
YUK4 PKiKP **PKiKP** **07 31 19.5 +0.2**
baz=124
RETA Reutte 107.48 45 *e*P **Pdif** **07 27 12.7 +0.9**
comp=Z,12nm,1.0s
RETA *e*P **PP** **07 31 38.5 -2.0**
comp=Z,19nm,1.8s
MAYO Mayo, Yukon 107.54 335 Pdiff **Pdif** **07 27 13.2 +1.6**
baz=126
MAYO PKiKP **PKiKP** **07 31 20.4 +1.0**
baz=126
MOTA Moosalm 107.62 45 *e*P **Pdif** **07 27 13.3 +0.8**
comp=Z,14nm,1.1s
MOTA *e*P **PP** **07 31 42.0 +0.4**
comp=Z,14nm,1.0s
SQTA Sankt Quirin 107.62 45 *e*P **Pdif** **07 27 13.4 +0.9**
comp=Z,22nm,0.9s
KASTN Kahler Asten 107.85 41 *e*PKiKP **PKiKP** **07 31 21.5 +1.1**
baz=239,slow=1.8
KASTN *e*PP **PP** **07 31 41.2 -1.9**
baz=243,slow=7.1
WATA Walderalm 107.90 45 *e*P **Pdif** **07 27 14.7 +1.0**
comp=Z,8.3nm,0.8s
WTTA Wattenberg 107.90 45 *e*P **Pdif** **07 27 14.7 +0.8**
comp=Z,12nm,1.0s
WTTA *i* P **PP** **07 31 40.9 -2.9**
comp=Z,16nm,1.1s
CTG Chitna Glacier 108.17 331 Pdiff **Pdif** **07 27 15.1 +0.5**
baz=122
ABTA Abfaltersbach 108.20 46 *e*P **Pdif** **07 27 16.3 +1.2**
comp=Z,7.6nm,1.2s
ABTA *e*P **PP** **07 31 44.0 -1.8**
comp=Z,37nm,1.3s
YUK3 Moose Creek 108.25 332 Pdiff **Pdif** **07 27 15.7 +0.6**
baz=123
UBBA Unterbreizbach 108.56 41 *e*PP **PP** **07 31 46.3 -1.8**
baz=243,slow=7.1
BVCY Beaver Creek 108.75 333 Pdiff **Pdif** **07 27 17.8 +0.7**
baz=122
BVCY PKiKP **PKiKP** **07 31 21.9 +0.1**
baz=122
CRQE Cirque 108.79 330 Pdiff **Pdif** **07 27 18.2 +0.9**
baz=121
CRQE PKiKP **PKiKP** **07 31 21.9 -0.1**
baz=121
MYKA Terra Mystica 108.85 46 *e*P **Pdif** **07 27 18.7 +0.8**
comp=Z,4.4nm,1.0s
MYKA *i* P **PKiKP** **07 31 21.3 -1.2**
comp=Z,15nm,1.5s
MYKA *e*P **PP** **07 31 47.8 -2.7**
comp=Z,23nm,1.1s
KBA Koelnbreinsper 108.86 46 *e*P **Pdif** **07 27 19.0 +0.9**
comp=Z,4.9nm,1.2s
KBA *e*P **PP** **07 31 47.4 -3.4**
comp=Z,18nm,1.6s
GTTG Gottingen 108.87 41 *e*PP **PP** **07 31 48.3 -2.2**
baz=243,slow=7.1
DAWY Dawson 109.08 334 Pdiff **Pdif** **07 27 18.6 +0.1**
baz=123
DAWY PKiKP **PKiKP** **07 31 21.9 -0.5**
baz=123
MCARA McCarthy VSAT 109.09 331 Pdiff **Pdif** **07 27 19.2 +0.7**
baz=121
M27K Edge Creek, AK 109.13 332 Pdiff **Pdif** **07 27 18.7 -0.2**
baz=121
M27K PKiKP **PKiKP** **07 31 22.1 -0.5**
baz=121
NEEM North Greenlan 109.34 5 *i* P **Pdif** **07 27 20.6 +0.9**
NEEM IAmb IAmb 07 27 21.8
comp=Z,16nm,1.1s
NEEM North Greenlan 109.34 5 IAmb IAmb 07 31 26.1
comp=Z,20nm,0.9s
NEEM North Greenlan 109.34 5 *i* P **PKiKP** **07 31 23.6 +0.7**
ROTZ Rotzenmuhle 109.36 43 *e*PP **PP** **07 31 51.4 -2.7**
baz=243,slow=7.1
OBKA Obir 109.36 47 *e*P **Pdif** **07 27 21.5 +1.3**
comp=Z,6.4nm,1.1s
OBKA *e*P **PKiKP** **07 31 24.4 +0.9**
comp=Z,15nm,0.9s
OBKA *i* P **PP** **07 31 52.2 -2.1**
comp=Z,15nm,0.9s
NRDL Niedersach Rie 109.38 40 *e*PP **PP** **07 31 52.4 -1.5**
baz=243,slow=7.1
MANZ Manzenberg 109.40 43 *e*PKiKP **PKiKP** **07 31 24.0 +0.6**
baz=239,slow=1.8
MANZ *e*PP **PP** **07 31 51.4 -3.0**
baz=243,slow=7.1
MOX Moxa 109.40 42 *e*PKiKP **PKiKP** **07 31 24.2 +0.9**
baz=239,slow=1.8
MOX *e*PP **PP** **07 31 52.3 -2.1**
baz=243,slow=7.1
EPYK Eagle Plains 109.43 337 PKiKP **PKiKP** **07 31 22.1 -0.8**
baz=124
BCAR Beaver Creek A 109.46 333 Pdif **Pdif** **07 27 20.3 +0.1**
BCAR pPdif **pPdif** **07 27 35.6 -0.4**
L27K Beaver Creek, 109.47 333 Pdiff **Pdif** **07 27 20.7 +0.4**
baz=121
L27K PKiKP **PKiKP** **07 31 23.1 0.0**
baz=121
ASSE Asse, Remlinge 109.52 40 *e*PP **PP** **07 31 53.2 -1.8**
baz=243,slow=7.1
BMRM Bremner River 109.54 330 PKiKP **PKiKP** **07 31 23.0 -0.3**
baz=120
Q23K Middleton Isla 109.55 328 Pdiff **Pdif** **07 27 20.4 -0.1**
baz=119
INK Inuvik 109.55 340 PKKPbc PKKPbc 07 42 27.8 -1.9
comp=Z,6.8nm,0.8s,baz=241,slow=2.1,SNR=8.7
INK PKKPab **PKKPab** **07 42 39.0 +1.9**
comp=Z,11nm,0.9s,baz=302,slow=6.1,SNR=8.7
INK Inuvik 109.55 340 Pdiff **Pdif** **07 27 20.6 +0.3**
baz=126
INK PKiKP **PKiKP** **07 31 23.4 +0.4**
baz=126

M26K	**Nabesna, AK**	**109.60**	**332**	PKiKP	**PKiKP**	**07 31 23.6**	**+0.2**		
	baz=120								
PLN	**Plauen**	**109.64**	**42**	*e*PKiKP	**PKiKP**	**07 31 24.6**	**+0.9**		
	baz=239,slow=1.8								
PLN				*e*PP	**PP**	**07 31 54.0**	**-2.1**		
	baz=243,slow=7.1								
WERN	**Wernitzgruen**	**109.68**	**43**	*e*PKiKP	**PKiKP**	**07 31 24.9**	**+1.0**		
	baz=239,slow=1.8								
WERN				*e*PP	**PP**	**07 31 54.1**	**-2.3**		
	baz=243,slow=7.1								
GUNZ	**Gunzen**	**109.69**	**43**	*e*PKiKP	**PKiKP**	**07 31 24.9**	**+1.0**		
	baz=239,slow=1.8								
GUNZ				*e*PP	**PP**	**07 31 54.4**	**-2.1**		
	baz=243,slow=7.1								
NKC	**Novy Kostel**	**109.70**	**43**	*e*PKP	**PKiKP**	**07 31 24.9**	**+1.0**		
NKC				*e*PP	**PP**	**07 31 51.5**	**-5.0**		
NKC				AMS	AMS	08 14 40.0			
	comp=Z,3µm,20.9s								
WERD	**Werda**	**109.71**	**42**	*e*PKiKP	**PKiKP**	**07 31 24.7**	**+0.8**		
	baz=239,slow=1.8								
WERD				*e*PP	**PP**	**07 31 54.3**	**-2.3**		
	baz=243,slow=7.1								
A36M	**Sachs Harbour**	**109.73**	**344**	PKiKP	**PKiKP**	**07 31 22.2**	**-1.0**		
	baz=133								
SOKA	**Soboth**	**109.74**	**47**	*i* P	**PKiKP**	**07 31 24.0**	**-0.2**		
	comp=Z,7.8nm,0.9s								
SOKA				*e*P	**PP**	**07 31 54.1**	**-2.9**		
	comp=Z,15nm,1.2s								
NEUB	**Neuenburg**	**109.74**	**42**	*e*PKiKP	**PKiKP**	**07 31 24.8**	**+0.9**		
	baz=239,slow=1.8								
NEUB				*e*PP	**PP**	**07 31 54.5**	**-2.2**		
	baz=243,slow=7.1								
MOA	**Molln**	**109.76**	**46**	*e*P	**PP**	**07 31 53.4**	**-3.6**		
	comp=Z,16nm,1.3s								
STKA	**Stephens Creek**	**109.78**	**209**	PKiKP	**PKiKP**	**07 31 24.9**	**+0.1**		
	comp=Z,2.6nm,0.7s,baz=74,slow=2.6,SNR=5.1								
STKA				PKKPbc	**PKKPbc**	**07 42 27.1**	**-0.7**		
	comp=Z,4.3nm,0.7s,baz=341,slow=7.5,SNR=6.9								
STKA				PKKP	**PKKPab**	**07 42 38.8**	**-3.9**		
	comp=Z,11nm,1.0s,baz=341,slow=5.9,SNR=8.5								
TANN	**Tannenbergstha**	**109.79**	**43**	*e*PP	**PP**	**07 31 55.0**	**-2.2**		
	baz=243,slow=7.1								
EYAK	**Cordova Ski Ar**	**109.83**	**330**	PKiKP	**PKiKP**	**07 31 24.0**	**+0.3**		
	baz=119								
GEC2	**GERESS Array S**	**109.84**	**44**	*e*PKiKP	**PKiKP**	**07 31 24.6**	**+0.3**		
	baz=239,slow=1.8								
GERES	**GERESS Array B**	**109.84**	**44**	Pdiff	**Pdif**	**07 27 23.3**	**+1.0**		
	comp=Z,0.3nm,0.3s,baz=204,slow=2.9,SNR=5.5								
GERES				PKiKP	**PKiKP**	**07 31 24.8**	**+0.5**		
	comp=Z,9.3nm,0.8s,baz=151,slow=2.2,SNR=19								
GERES				PKKPbc	**PKKPbc**	**07 42 27.5**	**-0.9**		
	comp=Z,2.8nm,0.9s,baz=60,slow=3.2,SNR=8.4								
GERES				PKKPab	**PKKPab**	**07 42 40.6**	**+3.7**		
	comp=Z,1.1nm,0.7s,baz=57,slow=4.9,SNR=4.9								
N25K	**Chitina, Valde**	**109.85**	**331**	PKiKP	**PKiKP**	**07 31 23.6**	**-0.3**		
	baz=119								
KHC	**Kasperske Hory**	**109.89**	**44**	*e*PKP	**PKiKP**	**07 31 24.5**	**+0.2**		
KHC				*e*PP	**PP**	**07 31 51.5**	**-6.5**		
KHC				*e*SKS	**SKSac**	**07 37 59.2**	**+2.0**		
KHC				AMS	AMS	08 16 20.0			
	comp=Z,2µm,19.6s								
FLTG	**Flechtingen**	**109.92**	**40**	*e*PP	**PP**	**07 31 56.0**	**-2.0**		
	baz=243,slow=7.1								
L26K	**Log Cabin Wild**	**110.05**	**332**	Pdiff	**Pdif**	**07 27 22.9**	**+0.1**		
	baz=120								
L26K				PKiKP	**PKiKP**	**07 31 24.2**	**0.0**		
	baz=120								
K27K	**Chicken**	**110.07**	**334**	Pdiff	**Pdif**	**07 27 23.5**	**+0.7**		
	baz=121								
K27K				PKiKP	**PKiKP**	**07 31 24.9**	**+0.8**		
	baz=121								
EGAK	**Eagle**	**110.11**	**335**	Pdiff	**Pdif**	**07 27 23.2**	**+0.3**		
	baz=121								
EGAK				PKiKP	**PKiKP**	**07 31 24.5**	**+0.3**		
	baz=121								
BSEG	**Bad Segeberg**	**110.12**	**39**	*e*PP	**PP**	**07 31 57.6**	**-1.8**		
	baz=243,slow=7.1								
CKRC	**Cesky Krumlov**	**110.20**	**45**	*ex*	x	07 38 26.7			
CKRC				AMS	AMS	08 14 20.0			
	comp=Z,2µm,21.5s								
ARSA	**Arzberg**	**110.28**	**46**	*e*P	**PKiKP**	**07 31 25.0**	**-0.1**		
	comp=Z,10.0nm,1.0s								
ARSA				*e*P	**PP**	**07 31 55.1**	**-5.7**		
	comp=Z,15nm,1.4s								
KLU	**Klutina**	**110.35**	**330**	Pdiff	**Pdif**	**07 27 24.6**	**+0.4**		
	baz=118								
KLU				PKiKP	**PKiKP**	**07 31 25.5**	**+0.6**		
	baz=118								
CLL	**Collm**	**110.48**	**42**	*i* Pdif	**Pdif**	**07 27 27.2**	**+2.3**		
	comp=Z,6.0nm,0.9s								
CLL				*i* PKiKP	**PKiKP**	**07 31 25.7**	**+0.4**		
CLL				*e*PPlp		07 31 57.0			
CLL				*e*PP	**PP**	**07 31 59.0**	**-3.1**		
	comp=Z,193nm,2.8s								
CLL				*e*PKSdf	PKSdf	07 35 00.0	-1.6		
CLL				*e*SKSac	**SKSac**	**07 37 59.0**	**-0.4**		
CLL				*es*SKSac	**SKSdf**	**07 38 31.0**	**-1.6**		
CLL				*e*Sdif	SKKSac	07 39 36.0	+36		
CLL				*e*PS	**PS**	**07 41 27.0**	**-5.3**		
CLL				*es*PS		07 41 56.0			
CLL				*e*PKKPbc	**PKKPbc**	**07 42 27.0**	**+0.8**		
CLL				*e*PPS	PPS	07 42 36.0			
CLL				*i* pPKKPab		07 42 53.6			
	comp=Z,8.0nm,1.1s								
CLL				*es*PPS		07 43 06.0			
CLL				*e*		07 46 54.0			
CLL				*e*SS	**SS**	**07 47 30.0**	**+3.4**		
CLL				*es*SS		07 48 06.0			
CLL				*e*SSS	SSS	07 51 36.0			
CLL				Lmax		08 16 00.0			
CLL				LmV		08 17 00.0			
	comp=Z,4µm,20.3s								
CLL	**Collm**	**110.48**	**42**	*i* P	**Pdif**	**07 27 27.2**	**+2.3**		
CLL				*e*		07 31 59.0			
CLL				*e*		07 38 30.0			
CLL				*e*PS	**PS**	**07 41 34.0**	**+1.7**		
CLL				pmax	pmax				
	comp=Z,6.0nm,0.9s								
CLL				pmax	pmax				
	comp=Z,193nm,2.8s								
CLL				MLR	MLR				
	comp=Z,4µm,20.3s								
CLL	**Collm**	**110.48**	**42**	*e*PKiKP	**PKiKP**	**07 31 26.0**	**+0.8**		
	baz=239,slow=1.8								
CLL				*e*PP	**PP**	**07 31 59.7**	**-2.4**		
	baz=243,slow=7.1								
FBE	**Freiberg**	**110.52**	**42**	*e*PKiKP	**PKiKP**	**07 31 26.3**	**+0.9**		
	baz=239,slow=1.8								
FBE				*e*PP	**PP**	**07 31 59.8**	**-2.5**		
	baz=243,slow=7.1								
GLI	**Glacier Island**	**110.56**	**330**	PKiKP	**PKiKP**	**07 31 25.7**	**+0.5**		
	baz=118								
BER	**Bergen**	**110.59**	**31**	*e*Pdif	**Pdif**	**07 27 25.1**	**0.0**		
BER				*e*PP	**PP**	**07 31 55.0**	**-7.6**		
BER				*e*SP	SP	07 41 22.7	-3.3		
BER				IVMs_BB	IVMs_BB	08 17 48.0			
	comp=Z,996nm,3.4s								
SUE	**Sulen**	**110.65**	**30**	*e*PP	**PP**	**07 32 01.4**	**-1.6**		
SUE				*e*SP	SP	07 41 24.0	-2.6		
SUE				*e*SS	**SS**	**07 47 27.1**	**-1.3**		
SUE				IVMs_BB	IVMs_BB	08 07 46.8			
	comp=Z,1µm,3.2s								
BLS5	**Blasjo**	**110.66**	**32**	*e*Pdif	**Pdif**	**07 27 25.4**	**-0.1**		
BLS5				*e*PP	**PP**	**07 32 02.6**	**-0.5**		
BLS5				*e*SKSdf	**SKSdf**	**07 38 35.0**	**+2.4**		
BLS5				*e*SP	SP	07 41 21.5	-5.3		
BLS5				IVMs_BB	IVMs_BB	08 11 30.8			
	comp=Z,1µm,31.3s								
M24K	**Tolsona, Glenn**	**110.75**	**331**	PKiKP	**PKiKP**	**07 31 26.4**	**+0.8**		
	baz=118								
CONA	**Conrad Observa**	**110.77**	**46**	*e*P	**PKiKP**	**07 31 25.5**	**-0.6**		
	comp=Z,11nm,0.8s								
CONA				*e*P	**PP**	**07 31 57.5**	**-6.9**		
	comp=Z,6.5nm,0.7s								
SCRK	**Sand Creek**	**110.77**	**333**	Pdiff	**Pdif**	**07 27 26.4**	**+0.3**		
	baz=119								
SCRK				PKiKP	**PKiKP**	**07 31 26.2**	**+0.6**		
	baz=119								
PRA	**Prague**	**110.79**	**43**	AMS	AMS	08 15 10.0			
	comp=Z,2µm,20.0s								
PRU	**Pruhonice**	**110.82**	**44**	*e*PP	**PP**	**07 32 00.2**	**-4.4**		
PRU				AMS	AMS	08 16 20.0			
	comp=Z,2µm,20.4s								
BRG	**Berggiesshubel**	**110.84**	**42**	*e*PKiKP	**PKiKP**	**07 31 26.6**	**+0.7**		
	baz=239,slow=1.8								
BRG				*e*PP	**PP**	**07 32 02.1**	**-2.5**		
	baz=243,slow=7.1								
BRG	**Berggiesshubel**	**110.84**	**42**	*e*PKP	**PKiKP**	**07 31 26.6**	**+0.7**		
BRG				Amp		07 31 28.2			
	comp=Z,22nm,0.9s								
BRG				PP	**PP**	**07 32 01.5**	**-3.2**		
BRG				Amp		07 32 03.4			
	comp=Z,21nm,1.3s								
BRG	**Berggiesshubel**	**110.84**	**42**	PS	PS	07 41 31.0	-4.6		
BRG				PKKP	**PKKPbc**	**07 42 25.6**	**+0.6**		
BRG				Amp		07 42 27.5			
	comp=Z,4.7nm,0.8s								
BRG	**Berggiesshubel**	**110.84**	**42**	SS	SS	07 47 27.0	-4.4		
BRG				Amp		08 16 26.0			
	comp=N,0.3nm,19.4s								
BRG				Amp		08 16 28.0			
	comp=E,1.6nm,20.2s								
BRG				Amp		08 16 44.0			
	comp=Z,2.3nm,20.2s								
J26L	**Joseph Creek**	**110.87**	**334**	Pdiff	**Pdif**	**07 27 27.0**	**+0.5**		
	baz=119								
J26L				PKiKP	**PKiKP**	**07 31 26.7**	**+0.9**		
	baz=119								
PAX	**Paxson**	**110.87**	**332**	Pdiff	**Pdif**	**07 27 26.4**	**-0.1**		
	baz=118								
PAX				PKiKP	**PKiKP**	**07 31 26.4**	**+0.6**		
	baz=118								
RIDG	**Independent Ri**	**110.99**	**333**	Pdiff	**Pdif**	**07 27 27.8**	**+0.8**		
	baz=118								
RIDG				PKiKP	**PKiKP**	**07 31 26.2**	**+0.3**		
	baz=118								
FOO	**Floro**	**111.03**	**30**	*e*PP	**PP**	**07 32 03.1**	**-2.5**		
FOO				*e*SP	SP	07 41 31.7	+1.7		
FOO				*e*SS	**SS**	**07 47 32.2**	**-1.1**		
FOO				IVMs_BB	IVMs_BB	08 08 51.1			
	comp=Z,900nm,7.9s								
PVCC	**Panska Ves**	**111.06**	**43**	AMS	AMS	08 15 40.0			
	comp=Z,3µm,21.0s								
HOMB	**Homborsund**	**111.10**	**34**	*e*Pdif	**Pdif**	**07 27 23.5**	**-3.9**		
HOMB				*e*PP	**PP**	**07 32 06.6**	**+0.3**		
HOMB				*e*SP	SP	07 41 29.2	-1.6		
JMIC	**Jan Mayen**	**111.22**	**18**	*e*PP	**PP**	**07 32 06.8**	**-0.2**		
JMIC				*e*SP	SP	07 41 32.0	+0.7		
SEW	**Seward**	**111.25**	**328**	PKiKP	**PKiKP**	**07 31 27.2**	**+0.8**		
	baz=116								
KNK	**Knik Glacier**	**111.40**	**330**	PKiKP	**PKiKP**	**07 31 27.0**	**+0.2**		
	baz=116								
RUE	**Ruedersdorf**	**111.40**	**41**	*e*PP	**PP**	**07 32 06.7**	**-2.0**		
	baz=243,slow=7.1								
SML	**Sawmill**	**111.52**	**330**	Pdiff	**Pdif**	**07 27 29.2**	**-0.2**		
	baz=116								
SML				PKiKP	**PKiKP**	**07 31 27.5**	**+0.5**		
	baz=116								
KRUC	**Moravsky**	**111.55**	**45**	*e*PKiKP	**PKiKP**	**07 31 27.2**	**-0.2**		
KRUC				*e*		07 32 05.5			
J25K	**Salcha River,**	**111.61**	**334**	Pdiff	**Pdif**	**07 27 29.7**	**0.0**		
	baz=118								
J25K				PKiKP	**PKiKP**	**07 31 27.2**	**+0.1**		
	baz=118								
WAT6	**Susitna Watana**	**111.62**	**331**	PKiKP	**PKiKP**	**07 31 27.5**	**+0.2**		
	baz=117								
ZST	**Bratislava**	**111.64**	**46**	*e*PP	**PP**	**07 32 07.1**	**-3.4**		
ZST				*e*		07 41 48.0			
BRSE	**Bradley Lake S**	**111.68**	**328**	Pdiff	**Pdif**	**07 27 29.3**	**-0.8**		
	baz=115								
BRSE				PKiKP	**PKiKP**	**07 31 27.9**	**+0.6**		
	baz=115								
DHY	**Denali Highway**	**111.69**	**332**	PKiKP	**PKiKP**	**07 31 28.2**	**+0.8**		
	baz=117								
PMR	**Palmer**	**111.77**	**330**	PKiKP	**PKiKP**	**07 31 28.0**	**+0.6**		
	baz=116								
VRAC	**Vranov**	**111.77**	**45**	⇓P	**PKiKP**	**07 31 27.8**	**0.0**		
VRAC	**Vranov**	**111.77**	**45**	PKiKP	**PKiKP**	**07 31 28.0**	**+0.2**		
	comp=Z,6.9nm,0.7s,baz=46,slow=1.2,SNR=3.6								
VRAC	**Vranov**	**111.77**	**45**	*i* PKiKP	**PKiKP**	**07 31 28.0**	**+0.2**		
VRAC	**Vranov**	**111.77**	**45**	*e*PKiKP	**PKiKP**	**07 31 27.8**	**0.0**		
VRAC				*e*		07 32 08.2			
RC01	**Rabbit Creek A**	**111.81**	**329**	PKiKP	**PKiKP**	**07 31 27.8**	**+0.2**		
	baz=116								
MODS	**Modra-Piesok**	**111.82**	**46**	*e*PKiKP	**PKiKP**	**07 31 25.5**	**-2.5**		
MODS				*e*		07 32 07.6			
MODS				*e*		07 41 41.5			
MODS	**Modra-Piesok**	**111.82**	**46**	*e*PKP	**PKiKP**	**07 31 25.5**	**-2.5**		
MODS				*e*PP	**PP**	**07 32 07.6**	**-4.2**		
MODS				*e*		07 41 41.5			
IDI	**Anoyia**	**111.87**	**61**	PKiKP	**PKiKP**	**07 31 29.7**	**+1.2**		
	comp=Z,16nm,0.8s,baz=69,slow=6.9,SNR=5.5								
UPC	**Upice**	**111.89**	**43**	*e*PKiKP	**PKiKP**	**07 31 28.3**	**+0.3**		
UPC				*e*		07 32 07.7			
UPC				MLR	MLR				
	comp=Z,3µm,20.7s								
UPC	**Upice**	**111.89**	**43**	*e*PKP	**PKiKP**	**07 31 28.3**	**+0.3**		
UPC				*e*PP	**PP**	**07 32 07.7**	**-4.6**		
UPC				AMS	AMS	08 16 20.0			
	comp=Z,3µm,20.7s								
CHVC	**Chvalec**	**111.95**	**43**	*e*PKP	**PKiKP**	**07 31 28.9**	**+0.8**		
CHVC				AMS	AMS	08 16 20.0			
	comp=Z,3µm,21.6s								
DPC	**Dobruska-Polom**	**112.02**	**44**	*e*PKiKP	**PKiKP**	**07 31 29.1**	**+0.8**		
DPC				MLR	MLR				
	comp=Z,2µm,21.2s								
DPC	**Dobruska-Polom**	**112.02**	**44**	*e*P	**Pdif**	**07 27 34.4**	**+2.6**		
DPC	**Dobruska-Polom**	**112.02**	**44**	*e*PKP	**PKiKP**	**07 31 29.1**	**+0.8**		
DPC				AMS	AMS	08 16 40.0			
	comp=Z,2µm,21.2s								
OSTC	**Ostas**	**112.03**	**43**	*e*PKP	**PKiKP**	**07 31 29.2**	**+0.9**		
OSTC				AMS	AMS	08 16 20.0			
	comp=Z,3µm,20.7s								
SKAR	**Skarslia**	**112.04**	**31**	*e*Pdif	**Pdif**	**07 27 26.7**	**-5.0**		
SKAR				IVmB_BB		07 27 31.6			
	comp=Z,392nm,3.0s								
SKAR				*e*PP	**PP**	**07 32 08.2**	**-5.0**		
SKAR				*e*SP	SP	07 41 36.4	-3.1		
SKAR				*e*SS	**SS**	**07 47 47.8**	**+0.7**		
SKAR				IVMs_BB	IVMs_BB	08 20 57.0			
	comp=Z,912nm,19.8s								
LNIZ	**Loecknitz**	**112.05**	**40**	*e*PP	**PP**	**07 32 11.1**	**-2.1**		
	baz=243,slow=7.1								
WAT1	**Susitna Watana**	**112.06**	**331**	PKiKP	**PKiKP**	**07 31 28.1**	**+0.1**		
	baz=116								
PRP	**Porcupine Dome**	**112.09**	**334**	Pdiff	**Pdif**	**07 27 31.4**	**-0.5**		
	baz=117								
PRP				PKiKP	**PKiKP**	**07 31 27.8**	**-0.3**		
	baz=117								
AKN	**Aaknes**	**112.11**	**30**	*e*PP	**PP**	**07 32 13.2**	**-0.4**		
HDA	**Harding Lake**	**112.12**	**333**	Pdiff	**Pdif**	**07 27 32.3**	**+0.3**		
	baz=117								
HDA				PKiKP	**PKiKP**	**07 31 28.1**	**0.0**		
	baz=117								
HDA				PKiKP	**PKiKP**	**07 31 28.1**	**0.0**		
	baz=117								
KRLC	**Kraliky**	**112.18**	**44**	*e*P	**Pdif**	**07 27 36.2**	**+3.6**		
KRLC	**Kraliky**	**112.18**	**44**	*e*P	**Pdif**	**07 27 36.2**	**+3.6**		
KRLC	**Kraliky**	**112.18**	**44**	AMS	AMS	08 17 30.0			
	comp=Z,2µm,19.6s								
KONO	**Kongsberg**	**112.20**	**33**	*e*Pdif	**Pdif**	**07 27 30.5**	**-1.8**		
KONO				*e*PP	**PP**	**07 32 13.4**	**-0.8**		
KONO				*e*SKSac	**SKSac**	**07 38 04.9**	**-1.1**		
KONO				*e*SP	**SP**	**07 41 41.7**	**+0.9**		
KONO				*e*SS	**SS**	**07 47 49.9**	**+0.9**		
KONO				IVMs_BB	IVMs_BB	08 08 20.5			
	comp=Z,544nm,9.8s								
SRO	**Srobarova**	**112.24**	**47**	*e*PP	**PP**	**07 32 12.1**	**-2.7**		
JAVC	**Velka Javorina**	**112.25**	**46**	*e*PKiKP	**PKiKP**	**07 31 29.5**	**+0.7**		
JAVC				*e*		07 32 11.6			
ILAR	**Eielson Array**	**112.26**	**333**	Pdiff	**Pdif**	**07 27 32.2**	**-0.3**		
	comp=Z,1.8nm,0.8s,baz=154,slow=3.3,SNR=15								
ILAR				PKiKP	**PKiKP**	**07 31 28.9**	**+0.6**		
	comp=Z,11nm,0.8s,baz=170,slow=0.9,SNR=38								
ILAR				PKKPbc	**PKKPbc**	**07 42 17.0**	**-3.8**		
	comp=Z,1.9nm,0.7s,baz=294,slow=3.2,SNR=8.4								
ILAR				PKKP	**PKKPdf**	**07 42 41.2**	**+0.3**		
	comp=Z,0.9nm,0.7s,baz=323,slow=4.6,SNR=4.3								
ILAR	**Eielson Array**	**112.26**	**333**	P	**Pdif**	**07 27 30.4**	**-2.1**		
ILAR				*i*		07 31 27.2			
ILAR	**Eielson Array**	**112.26**	**333**		**Pdif**	**07 27 30.4**	**-2.1**		
ILAR					**PKiKP**	**07 31 27.2**	**-1.1**		
SUA	**Susitna One**	**112.41**	**329**	PKiKP	**PKiKP**	**07 31 29.3**	**+0.5**		
	baz=115								
MOL	**Molde**	**112.51**	**29**	*e*PP	**PP**	**07 32 16.5**	**+0.2**		
MOL				*e*SP	SP	07 41 41.3	-2.3		
MORC	**Moravsky Berou**	**112.52**	**45**	⇓P	**PKiKP**	**07 31 29.7**	**+0.4**		
MORC	**Moravsky Berou**	**112.52**	**45**	*e*PKiKP	**PKiKP**	**07 31 29.4**	**+0.1**		
MORC				*e*		07 32 12.7			
CUT	**Chulitna**	**112.60**	**330**	PKiKP	**PKiKP**	**07 31 29.4**	**+0.5**		
	baz=115								
MCK	**McKinley**	**112.61**	**332**	Pdiff	**Pdif**	**07 27 35.7**	**+1.6**		
	baz=115								
MCK				PKiKP	**PKiKP**	**07 31 29.3**	**+0.3**		
	baz=115								
COLA	**College**	**112.68**	**333**	PKiKP	**PKiKP**	**07 31 28.8**	**-0.2**		
	baz=116								
TCOL	**CIGO, UAF Yank**	**112.68**	**333**	Pdiff	**Pdif**	**07 27 35.5**	**+1.1**		
	baz=116								
TCOL				PKiKP	**PKiKP**	**07 31 29.1**	**+0.1**		
	baz=116								
DAG	**Danmarks Havn**	**112.68**	**11**	IAmb	IAmb	07 31 29.0			
	comp=Z,10nm,0.7s								
DAG	**Danmarks Havn**	**112.68**	**11**	*i* PKIKP	**PKiKP**	**07 31 28.0**	**-0.8**		
DAG				pmax	pmax				
	comp=Z,10.0nm,0.7s								
DAG	**Danmarks Havn**	**112.68**	**11**	*i* P	**PKiKP**	**07 31 28.0**	**-0.8**		
VYHS	**Vyhne**	**112.82**	**46**	*e*PKIKP	**PKiKP**	**07 31 29.9**	**0.0**		
VYHS				*e*		07 32 15.3			
VYHS	**Vyhne**	**112.82**	**46**	*e*PKP	**PKiKP**	**07 31 29.9**	**0.0**		
VYHS				*e*PP	**PP**	**07 32 15.3**	**-3.7**		
OKC	**Ostrava-Krasne**	**112.91**	**45**	AMS	AMS	08 16 50.0			
	comp=Z,2µm,21.0s								
DOMB	**Dombas**	**112.94**	**30**	*e*Pdif	**Pdif**	**07 27 35.0**	**-0.6**		
DOMB				IVmB_BB		07 27 43.1			
	comp=Z,432nm,3.9s								
DOMB				*e*PP	**PP**	**07 32 16.3**	**-3.2**		
DOMB				*e*SKSac	**SKSac**	**07 38 08.3**	**-0.7**		
DOMB				*e*PS	**PS**	**07 41 53.9**	**-0.7**		
DOMB				IVMs_BB	IVMs_BB	08 20 43.8			
	comp=Z,904nm,16.6s								
SKT	**Skwentna**	**112.96**	**330**	Pdiff	**Pdif**	**07 27 36.6**	**+0.8**		
	baz=114								
SKT				PKiKP	**PKiKP**	**07 31 29.5**	**-0.2**		
	baz=114								
NEA2	**Nenana**	**113.03**	**333**	Pdiff	**Pdif**	**07 27 36.7**	**+0.7**		
	baz=115								
NEA2				PKiKP	**PKiKP**	**07 31 29.5**	**-0.2**		
	baz=115								
TRF	**Thorofare Moun**	**113.04**	**331**	PKiKP	**PKiKP**	**07 31 29.2**	**-0.8**		
	baz=114								
APE	**Apeiranthos**	**113.05**	**60**	⇓P	**PKiKP**	**07 31 31.5**	**+0.8**		
APE	**Apeiranthos**	**113.05**	**60**	⇓PKiKP	**PKiKP**	**07 31 31.5**	**+0.8**		
H24K	**Noodor Dome**	**113.10**	**334**	Pdiff	**Pdif**	**07 27 36.5**	**+0.1**		
	baz=115								
H24K				PKiKP	**PKiKP**	**07 31 30.3**	**+0.4**		
	baz=115								
I23K	**Minto, Yukon-K**	**113.37**	**333**	PKiKP	**PKiKP**	**07 31 30.0**	**-0.3**		
	baz=114								
LANS	**Liptovska Anna**	**113.45**	**46**	*e*PKIKP	**PKiKP**	**07 31 32.4**	**+1.3**		
LANS				*e*		07 32 20.7			
LANS	**Liptovska Anna**	**113.45**	**46**	*e*PKP	**PKiKP**	**07 31 32.4**	**+1.3**		
LANS				*e*PP	**PP**	**07 32 20.7**	**-2.8**		
NB2	**NORSAR Subarra**	**113.49**	**32**	PKPdf	**PKiKP**	**07 31 31.1**	**+0.3**		
	comp=Z,15nm,1.0s,baz=248,slow=1.9								
NB2	**NORSAR Subarra**	**113.49**	**32**	*e*	**PKiKP**	**07 31 31.1**	**+0.3**		
	baz=248,slow=1.9								
NOA	**NORSAR Array B**	**113.49**	**32**	PKiKP	**PKiKP**	**07 31 30.9**	**+0.1**		
	comp=Z,5.6nm,0.8s,baz=251,slow=2.0,SNR=24								
NOA				PP	**PP**	**07 32 22.2**	**-1.2**		
	comp=Z,5.3nm,1.0s,baz=245,slow=7.0,SNR=4.2								
NOA				PKKPab	**PKKPab**	**07 42 22.0**	**+1.8**		
	comp=Z,3.4nm,0.8s,baz=68,slow=4.5,SNR=9.0								
NOA				PKKP	**PKKPdf**	**07 42 38.8**	**+0.3**		
	comp=Z,2.6nm,0.8s,baz=69,slow=4.5,SNR=5.0								
VTS	**Vitosha**	**113.51**	**53**	⇑P	**PKiKP**	**07 31 31.5**	**0.0**		
VTS	**Vitosha**	**113.51**	**53**	⇑PKiKP	**PKiKP**	**07 31 31.5**	**0.0**		
O19K	**Port Alsworth**	**113.51**	**327**	PKiKP	**PKiKP**	**07 31 30.4**	**-0.3**		
	baz=112								
NC602	**NORSAR Array S**	**113.52**	**32**	*e*Pdif	**Pdif**	**07 27 38.0**	**-0.2**		
NC602				*e*PP	PP	07 32 13.7	-10		
NC602				*e*SKSac	**SKSac**	**07 38 11.8**	**+0.6**		
NC602				*e*PS	**PS**	**07 41 59.7**	**-0.2**		
NC602				*e*SS	**SS**	**07 48 11.9**	**+5.3**		
NC602				IVMs_BB	IVMs_BB	08 16 12.9	

VOIR 115.72 51 ⇑P PKiKP 07 31 35.7 +0.1
ARCR ARCALIA 115.81 49 ⇓P PKiKP 07 31 35.7 +0.1
SGRR Singureni 115.94 52 ⇑P PKiKP 07 31 36.2 +0.3
RAZG Razgrad 116.08 53 ⇑P PKiKP 07 31 36.1 -0.2
DOPR Dopca 116.12 51 ⇑P PKiKP 07 31 36.9 +0.7
NOR Nord 116.15 8 IAmb IAmb 07 31 37.1
comp=Z,21nm,0.9s
NOR Nord 116.15 8 *i* PKIKP PKPdf 07 31 35.0 -0.3
NOR pmax pmax
comp=Z,21nm,0.9s
NOR Nord 116.15 8 *i* P PKPdf 07 31 35.0 -0.3
KONS Konsvik 116.21 26 *e*PKPdf PKiKP 07 31 36.3 +0.6
SECR 116.27 52 ⇑P PKPdf 07 31 36.0 -0.6
MLR Muntele Rosu 116.33 51 ⇑P PKiKP 07 31 36.6 -0.3
MLR Muntele Rosu 116.33 51 PKP PKPdf 07 31 36.4 -0.5
comp=Z,18nm,0.9s,baz=118,slow=0.5,SNR=17
MLR PKKPbc PKKPbc 07 42 07.0 +0.7
comp=Z,6.0nm,0.9s,baz=152,slow=1.0,SNR=4.1
MLR Muntele Rosu 116.33 51 PKPdf 07 31 35.9 -1.0
ATD Arta Tunnel 116.36 92 PKP PKiKP 07 31 39.4 +1.7
comp=Z,4.6nm,0.3s,baz=300,slow=0.5,SNR=5.7
LVV L'vov 116.48 46 *e*PKiKP PKiKP 07 31 37.5 +0.7
BUR08 Bucovina Ar. S 116.53 49 PKiKP 07 31 36.9 -0.3
BURAR Bucovina Array 116.54 49 ⇑P PKiKP 07 31 37.5 +0.3
BURAR Bucovina Array 116.54 49 ⇑PKiKP PKiKP 07 31 37.5 +0.3
BURAR Bucovina Array 116.54 49 PKPdf PKiKP 07 31 37.0 -0.1
NEHR Nehoiu 116.55 51 ⇓P PKiKP 07 31 36.9 -0.2
MOR8 Moi Rana 116.61 27 *e*Pdif Pdif 07 27 52.8 +0.9
MOR8 IVmB_BB 07 28 04.7
comp=Z,296nm,2.3s
MOR8 *e*PKPdf PKiKP 07 31 37.5 +0.9
MOR8 *e*PP PP 07 32 45.7 +0.5
MOR8 *e*SP SP 07 42 23.9 +3.0
MOR8 *e*SS SS 07 48 49.1 +2.2
MOR8 IVmS_BB IVmS_BB 08 13 55.4
comp=Z,816nm,26.1s
COVR Voineasa-Covas 116.62 51 ⇓P PKPdf 07 31 36.8 -0.5
LOF Lofoten 116.87 25 *e*Pdif Pdif 07 27 52.3 -0.7
LOF *e*PKPdf PKiKP 07 31 37.0 0.0
LOF *e*PP PP 07 32 46.4 -0.5
LOF *e*SP SP 07 42 24.3 +1.2
LOF *e*SS SS 07 48 49.9 -0.2
LOF IVmS_BB IVmS_BB 08 11 25.0
comp=Z,505nm,3.8s
BIZ Bicaz 116.90 50 ⇑P PKiKP 07 31 37.9 +0.2
PLOR Plostina 116.92 51 ⇑P PKPdf 07 31 36.8 -1.0
PLOR Plostina 116.92 51 ⇑PKiKP PKPdf 07 31 36.8 -1.0
VRI Vrincioaia 116.97 51 ⇑P PKPdf 07 31 37.2 -0.7
VRI Vrincioaia 116.97 51 ⇑PKiKP PKPdf 07 31 37.2 -0.7
PRAR RASCA 117.11 49 ⇑P PKiKP 07 31 38.4 +0.2
PBUR Paburge 117.11 39 *e*P PKiKP 07 31 38.3 +0.5
TESR Tescani 117.12 50 ⇓P PKiKP 07 31 38.1 -0.1
ODBI Odobesti 117.16 51 ⇓P PKiKP 07 31 38.8 +0.5
SUW Suwalki 117.23 41 *e*PKiKP PKiKP 07 31 38.0 -0.1
SUW *e*PS PKKPdf 07 42 42.8 +12
SUW Suwalki 117.23 41 *e*P PKiKP 07 31 38.0 -0.1
SUW Suwalki 117.23 41 PKiKP PKPdf 07 31 37.6 -0.5
SUW Suwalki 117.23 41 PKPdf 07 31 37.6 -0.5
AAL Aland 117.29 34 *e*P PKPdf 07 31 37.5 -0.5
FAUS Fauske 117.29 26 *e*Pdif Pdif 07 27 55.1 +0.3
FAUS IVmB_BB 07 28 01.2
comp=Z,387nm,3.7s
FAUS *e*PKPdf PKPdf 07 31 37.2 -0.6
FAUS *e*PP PP 07 32 49.8 -0.1
FAUS *e*SP SP 07 42 25.4 -1.6
FAUS *e*SS SS 07 48 55.5 0.0
FAUS IVmS_BB IVmS_BB 08 17 06.0
comp=Z,811nm,19.8s
HARR Harsova 117.42 53 ⇑P PKPdf 07 31 38.0 -0.7
HARR Harsova 117.42 53 ⇑PKiKP PKPdf 07 31 38.0 -0.7
CTA Charters Tower 117.42 220 PKP PKiKP 07 31 39.4 -0.3
comp=Z,6.5nm,0.8s,baz=219,slow=1.8,SNR=9.7
CTAO Charters Tower 117.42 220 PKiKP PKPdf 07 31 38.7 -1.0
CTAO Charters Tower 117.42 220 PKPdf 07 31 38.6 -1.0
STEI Steigen 117.43 25 *e*Pdif Pdif 07 27 52.4 -3.0
STEI *e*PKPdf PKiKP 07 31 38.9 +0.9
STEI *e*PP PP 07 32 50.6 -0.2
STEI *e*SP SP 07 42 28.4 +0.2
STEI *e*SS SS 07 48 58.9 +1.6
STEI IVmS_BB IVmS_BB 08 15 18.8
comp=Z,496nm,13.6s
EIL Elat 117.54 71 PKP PKiKP 07 31 39.4 -0.1
comp=Z,6.8nm,0.7s,baz=225,slow=5.8,SNR=7.3
TIRR Tirgusor 117.67 53 ⇑P PKiKP 07 31 39.0 -0.3
TIRR Tirgusor 117.67 53 ⇑PKiKP PKiKP 07 31 39.0 -0.3
CFR Carcaliu 117.70 52 ⇑P PKiKP 07 31 39.1 -0.2
CFR Carcaliu 117.70 52 ⇑PKiKP PKiKP 07 31 39.1 -0.2
SCTR Scanteiesti 117.76 51 ⇓P PKPdf 07 31 39.1 -0.3
TPGR Topolog 117.80 52 ⇓P PKPdf 07 31 39.2 -0.4
LEF Lefka 117.88 64 ⇑P PKiKP 07 31 39.9 -0.1
VASR Vaslui 117.91 50 ⇑P PKiKP 07 31 39.5 -0.2
IAS Iasi 117.93 50 ⇓P PKiKP 07 31 39.7 0.0
IAS Iasi 117.93 50 ⇓PKiKP PKiKP 07 31 39.7 0.0
A21K Barrow 118.02 339 PKiKP PKiKP 07 31 40.2 +1.1
baz=105
PABE Paberze 118.08 40 *e*P PKiKP 07 31 40.0 +0.3
PABE Paberze 118.08 40 PKPdf PKPdf 07 31 39.4 -0.3
TLCR 118.17 52 ⇑P PKPdf 07 31 39.1 -1.1
TLCR 118.17 52 ⇑PKiKP PKPdf 07 31 39.1 -1.1
CSS Mathiatis 118.17 64 PKPdf PKPdf 07 31 40.2 -0.3
RAF Rauma 118.35 34 *e*P PKiKP 07 31 40.6 +0.6
MILM Milestii Mici 118.67 50 ⇑P PKPdf 07 31 40.6 -0.5
KIS Kishinev 118.69 50 *e*PKP PKPdf 07 31 37.0 -4.1
comp=Z,70nm,3.6s
KIS Kishinev 118.69 50 *e*PP PP 07 32 56.0 -4.2
comp=Z,200nm,6.5s
KIS Kishinev 118.69 50 *e*PKiKP PKPdf 07 31 37.0 -4.1
KIS pmax pmax
comp=Z,70nm,3.6s
KIS pmax pmax
comp=Z,200nm,6.5s
KIS MLR MLR
comp=Z,800nm,21.0s
SORM Soroca 118.71 49 ⇓P PKPdf 07 31 40.8 -0.4
MTSE Matsula 118.80 36 *e*P PKiKP 07 31 41.2 +0.3
MMAI Mount Meron Ar 119.11 67 PKP PKPdf 07 31 42.1 -0.4
comp=Z,10nm,0.6s,baz=300,slow=1.8,SNR=17
MMAI PKKPab PKKPab 07 41 58.7 +1.3
comp=Z,0.7nm,0.2s,baz=70,slow=5.6,SNR=4.8
TRO Tromso 119.14 24 *e*PKPdf PKiKP 07 31 41.8 +0.4
TRO IVmBBB 07 31 43.0
comp=Z,358nm,1.3s
TRO *e*PP PP 07 33 02.3 -0.3
TRO *e*SP SP 07 42 44.7 +1.2
TRO *e*SS SS 07 49 17.9 -1.6
TRO IVmS_BB IVmS_BB 08 16 55.8
comp=Z,838nm,20.0s
ISAL Salakas 119.28 40 *e*P PKiKP 07 31 42.5 +0.5
IIGN Ignalina 119.28 40 *e*P PKiKP 07 31 42.5 +0.4
KBS Kingsbay 119.32 13 *e*Pdif Pdif 07 28 03.6 -0.1
KBS IVmB_BB 07 28 07.6
comp=Z,455nm,2.5s
KBS *e*PKPdf PKiKP 07 31 42.0 +0.5
KBS *e*PP PP 07 33 02.7 -0.9
KBS *e*PS PS 07 42 53.6 +1.4
KBS *e*SS SS 07 49 21.9 +0.5
KBS IVmS_BB IVmS_BB 08 19 54.5
comp=Z,370nm,3.0s
ANTO Ankara 119.36 59 PKiKP PKPdf 07 31 42.3 -0.5
ANTO Ankara 119.36 59 PKPdf PKPdf 07 31 42.3 -0.5
MORW Morawa 119.42 187 PKPdf PKPdf 07 31 42.1 -1.2
MEF Metsahovi 119.43 35 *e*P PKiKP 07 31 42.2 0.0
NACGM Naroch 119.49 41 *i* PKP PKPdf 07 31 42.1 -0.3
JETT Jettan, Norway 119.64 24 *e*PKPdf PKiKP 07 31 43.1 +0.7
JETT *e*PP PP 07 33 06.5 +0.4
HSPB Hornsund (broa 119.65 15 *e*Pdif Pdif 07 28 05.6 +0.4
HSPB *e*PKPdf PKiKP 07 31 43.0 +0.8
HSPB *e*PP PP 07 33 05.9 0.0
HSPB *e*SP SP 07 42 46.5 -1.3
HSPB *e*SS SS 07 49 24.9 -0.7
HSPB IVmS_BB IVmS_BB 08 16 47.6
comp=Z,526nm,25.9s
ANM Nome 119.70 330 PKiKP PKiKP 07 31 43.4 +0.8
baz=101
AKASG Malin Array Be 119.93 46 PKP PKPdf 07 31 42.2 -1.2
comp=Z,54nm,0.7s,baz=268,slow=2.6,SNR=144
AKASG PP PP 07 33 04.5 -4.1
comp=Z,9.3nm,0.9s,baz=252,slow=7.4,SNR=5.0
AKASG PKKPab PKKPbc 07 41 53.6 +0.3
comp=Z,3.0nm,0.7s,baz=63,slow=4.3,SNR=6.5
AKASG Malin Array Be 119.93 46 PKPdf PKPdf 07 31 41.9 -1.5
AKBB Malin Array Si 119.93 46*c* *i*PKIKP PKPdf 07 31 42.3 -1.1
AKBB Malin Array Si 119.93 46 PKPdf PKPdf 07 31 41.9 -1.5
BR131 Keskin Array S 119.94 59*c* *i*PKIKP PKPdf 07 31 43.6 -0.4
BR131 Keskin Array S 119.94 59 PKPdf 07 31 42.8 -1.2
BRTR Keskin Array B 119.94 59 PKP PKPdf 07 31 43.6 -0.4
comp=Z,32nm,0.8s,baz=192,slow=2.9,SNR=89
BRTR PKKPbc PKKPab 07 41 54.5 +1.1
comp=Z,2.2nm,1.0s,baz=136,slow=4.0,SNR=4.4
BRTR Keskin Array B 119.94 59 PKPdf PKPdf 07 31 43.0 -1.0
ASF Jabal al Asfar 120.00 69 PKP PKiKP 07 31 45.0 +0.7
comp=Z,18nm,0.9s,baz=136,slow=1.1,SNR=18
ASF PKKPab PKKPab 07 41 54.3 +0.7
comp=Z,3.4nm,0.9s,baz=246,slow=3.0,SNR=4.4
SPITS Spitsbergen Ar 120.04 14 PKiKP PKiKP 07 31 43.2 +0.2
SPB2 Spitsbergen Ar 120.04 14 PKiKP 07 31 42.7 -0.3
BJO1 Bjornoya 120.06 18 *e*PKPdf PKiKP 07 31 43.7 +0.6
BJO1 *e*PP PP 07 33 06.8 -1.9
BJO1 *e*SP SP 07 42 53.4 +1.9
ASAR Alice Springs 120.16 207 PKP PKPdf 07 31 43.7 -1.2
comp=Z,23nm,0.7s,baz=135,slow=1.8,SNR=126
ASAR PKKPbc PKKPbc 07 41 51.0 -1.2
comp=Z,7.8nm,0.8s,baz=337,slow=2.9,SNR=41
ASAR SKKPbc SKKPbc 07 45 26.6 -6.4
comp=Z,3.7nm,1.0s,baz=342,slow=4.4,SNR=4.7
ASAR PKPPKP 07 50 29.6
comp=Z,0.9nm,0.7s,baz=350,slow=2.1,SNR=8.7
VSU Vasula 120.24 37 *e*P PKPdf 07 31 42.5 -1.2
VSU Vasula 120.24 37*d* *i*PKIKP PKPdf 07 31 42.8 -0.9
FINES FINESS Array B 120.48 34 PKP PKPdf 07 31 43.8 -0.3
comp=Z,17nm,0.8s,baz=101,slow=1.9,SNR=32
FINES PKKPab PKKPbc 07 41 50.9 -0.7
comp=Z,3.2nm,0.7s,baz=72,slow=6.2,SNR=8.4
FIA1 FINESS Array S 120.48 34 PKPdf 07 31 43.8 -0.3
KTK1 Kautokeino 120.54 25 *e*Pdif Pdif 07 28 11.2 +1.9
KTK1 *e*PKPdf PKiKP 07 31 44.1 -0.1
KTK1 *e*PP PP 07 33 11.9 -0.3
KTK1 *e*SKSac SKSac 07 38 34.3 -2.5
KTK1 *e*SP SP 07 42 51.7 -4.3
KTK1 *e*SS SS 07 49 39.4 +1.9
KTK1 IVmS_BB IVmS_BB 08 17 51.0
comp=Z,703nm,25.4s
SPIA Saint Paul Isl 120.59 321 PKiKP PKiKP 07 31 45.0 +0.5
baz=101
BZK Bozkurt 120.85 57 ⇑P PKPdf 07 31 44.6 -0.9
BZK Bozkurt 120.85 57 PKPdf PKPdf 07 31 44.5 -0.9
HAMF Hammerfest 120.91 23 *e*Pdif Pdif 07 28 11.4 +0.5
HAMF *e*PKPdf PKiKP 07 31 45.0 +0.2
HAMF *e*PP PP 07 33 14.3 -0.4
HAMF *e*SP SP 07 42 58.9 -0.4
HAMF *e*SS SS 07 49 43.5 +1.4
HAMF IVmS_BB IVmS_BB 08 16 45.7
comp=Z,489nm,23.4s
TNA Tin City 120.93 331 PKiKP PKiKP 07 31 45.9 +0.9
baz=98
BNN Bunyan 121.32 61 PKPdf PKPdf 07 31 46.1 -0.6
ARA0 ARCESS Array S 121.41 24 *e*PKPdf PKiKP 07 31 45.9 0.0
ARA0 *e*PP PP 07 33 17.3 -0.9
ARCES ARCESS Array B 121.41 24 PKP PKPdf 07 31 45.3 -0.4
comp=Z,15nm,0.7s,baz=262,slow=2.5,SNR=44
ARCES PKKPab PKKPab 07 41 45.5 +0.2
comp=Z,5.7nm,0.6s,baz=80,slow=3.6,SNR=26
ARCES ARCESS Array B 121.41 24 PKiKP PKPdf 07 31 45.5 -0.2
ARCES ARCESS Array B 121.41 24 PKPdf 07 31 45.5 -0.2
DIKM Dikmen 121.67 58 ⇑P PKiKP 07 31 47.3 +0.1
SNOP Sinop 121.73 57 PKPdf PKPdf 07 31 46.7 -0.5
HOPEN Hopen 121.76 16 *e*P PKPdf 07 31 46.0 -0.3
HOPEN *e*PP PP 07 33 19.2 -1.2
GAZ Gaziantep 121.85 63 PKPdf PKPdf 07 31 47.1 -0.6
KEV Kevo 121.95 24 PKiKP PKiKP 07 31 46.8 -0.1
KEV Kevo 121.95 24 PKiKP PKiKP 07 31 46.8 -0.1
PUL Pulkovo 122.28 36 ⇓*i*PKIKP PKiKP 07 31 48.7 +0.9
PUL pmax pmax
comp=Z,183nm,0.6s
PUL MLR MLR
comp=Z,2μm,19.0s
GAMB Gambell 122.32 329 PKiKP PKiKP 07 31 47.9 +0.2
baz=96
WR0 Warramunga Arr 123.23 209 PKPdf PKPdf 07 31 49.2 -1.7
ADK Adak 123.31 314 PKiKP PKPdf 07 31 49.3 -0.5
ADK Adak 123.31 314 PKPdf 07 31 49.3 -0.5
WB2 Warramunga Arr 123.33 209 PKPdf PKPdf 07 31 50.0 -1.0
WRA Warramunga Arr 123.33 209 PKP PKPdf 07 31 50.6 -0.4
comp=Z,54nm,0.6s,baz=132,slow=1.4,SNR=208
WRA PKKPbc PKKPbc 07 41 40.8 +0.7
comp=Z,10.0nm,0.8s,baz=333,slow=3.2,SNR=28
WRA SKKPbc SKKPbc 07 45 08.3 -14
comp=Z,4.9nm,0.8s,baz=340,slow=2.7,SNR=7.7
WRA Warramunga Arr 123.33 209 PKPdf 07 31 50.2 -0.8
WRA pPKPdf pPKPdf 07 32 07.2 +0.1
WRAB Tennant Creek 123.33 209*c* *i*PKIKP PKPdf 07 31 50.6 -0.4
WRAB pmax pmax
comp=Z,84nm,1.0s
KIWB Kanaga Island 123.59 314 PKPdf PKPdf 07 31 49.7 -0.7
ANN Anapa 123.97 54 *i* P Pdif 07 28 26.0 +0.9
ANN *i* 07 31 51.2
ANN *e* 07 32 06.6
ANN *e* 07 38 49.1
ANN pmax pmax
comp=Z,82nm,0.9s
ANN MLR MLR
comp=N,2μm,25.0s
ANN MLR MLR
comp=Z,3μm,25.0s
APA Apatity 124.20 27 ⇓*i*PKIKP PKiKP 07 31 51.0 -0.4
APA pmax pmax
comp=Z,59nm,0.7s
LVZ Lovozero 124.67 26*c* *i*PKIKP PKiKP 07 31 52.2 -0.2
LVZ pmax pmax
comp=Z,157nm,1.0s
LVZ MLR MLR
comp=Z,2μm,20.0s
LVZ Lovozero 124.67 26 PKPdf PKPdf 07 31 51.9 -0.2
KTUT Trabzon 124.79 59 ⇑P PKiKP 07 31 53.1 -0.3
OBN Obninsk 125.08 42 ⇓P PKiKP 07 31 54.0 +0.5
OBN Obninsk 125.08 42 PKP PKPdf 07 31 52.1 -1.0
comp=Z,14nm,0.4s,baz=114,slow=4.9,SNR=23
OBN Obninsk 125.08 42*d* *i*PKIKP PKPdf 07 31 52.8 -0.3
OBN *e* 07 38 55.5
OBN *e*PS PS 07 43 42.7 -1.3
OBN *e*SS SS 07 50 33.0 -2.7
OBN pmax pmax
comp=Z,112nm,0.8s
OBN MLR MLR
comp=Z,2μm,21.0s
SOC Sochi 125.32 56 *e*PKIKP PKPdf 07 31 52.9 -1.1
SOC *e* 07 33 42.7
SOC *e*PPP PPP 07 36 24.3
SOC *e*PS PS 07 43 46.9 +0.3
SOC pmax pmax
comp=Z,75nm,0.8s
AMKA Amchitka 125.71 313 PKPdf PKiKP 07 31 54.5 -0.3
MOS Moscow 125.73 41 *i* PKIKP PKPdf 07 31 53.2 -1.2
MOS *e* 07 32 11.7
MOS *e* 07 45 25.2
MOS pmax pmax
comp=Z,139nm,0.8s
MOS pmax pmax
comp=Z,200nm,0.9s
MOS MLR MLR
comp=Z,3μm,21.0s
SOCY Socotra 126.17 98 PKPdf PKiKP 07 31 56.7 -0.3
LPSR Galich'ya Gora 126.21 45 *e*PKIKP PKPdf 07 31 55.3 -0.1
LPSR pmax pmax
comp=Z,200nm,0.8s
PSA00 Pilbara Seismi 126.22 193 PKPdf PKPdf 07 31 55.9 -0.7
PSA00 Pilbara Seismi 126.22 193 PKPdf PKPdf 07 31 55.1 -1.4
VORD Divnogorie 126.25 47 *e*PKIKP PKPdf 07 31 55.0 -0.5
VORD pmax pmax
comp=Z,50nm,0.9s
BCA Borcka 126.25 59 ⇑P PKPdf 07 31 55.8 -0.1
BATM Batumi 126.34 59 ⇑P PKiKP 07 31 56.2 -0.3
H11S2 WAKE ISLAND Hyd 126.51 271 T T 09 51 07.0
baz=117,slow=75,SNR=1189
H11S1 WAKE ISLAND Hyd 126.52 271 T T 09 51 10.4
baz=117,slow=75,SNR=625
H11S3 WAKE ISLAND Hyd 126.52 271 T T 09 51 08.1
baz=117,slow=75,SNR=487
H11N3 WAKE ISLAND Hyd 126.86 272 T T 09 51 28.1
baz=117,slow=76,SNR=130
H11N1 WAKE ISLAND Hyd 126.87 272 T T 09 51 33.6
baz=117,slow=76,SNR=52
H11N2 WAKE ISLAND Hyd 126.87 272 T T 09 51 33.8
baz=117,slow=76,SNR=658
WAKE Wake Island 126.89 271 PKiKP 07 31 58.2 +0.1
KLMR Klimovskoe 126.92 35*d* *i*PKIKP PKPdf 07 31 56.2 -0.2
KLMR 07 33 53.0
KLMR pmax pmax
comp=Z,193nm,1.2s
KLMR Klimovskoe 126.92 35 ⇓*i*PKPdf PKPdf 07 31 56.3 -0.2
KLMR *e*PKPdf PKPdf 07 31 56.3 -0.2
KLMR *e*PKPdf PKPdf 07 31 56.3 -0.2
KLMR AMP 07 31 59.1
comp=Z,193nm,1.2s
KLMR PP PP 07 33 53.0 -2.3
KLMR LR LR 08 11 07.5
KARS Kars 127.16 61 PKiKP PKiKP 07 31 58.8 +0.5
KARS Kars 127.16 61 PKPdf PKiKP 07 31 58.8 +0.5
RST Umm Al-Ruwaisa 127.31 75 *e*P PKPdf 07 31 58.2 -0.1
NEY Neytrino 127.41 57 ⇑*i*PKIKP PKiKP 07 31 58.8 0.0
NEY MLR MLR
comp=Z,1μm,21.0s
KIV Kislovodsk 127.51 56 ⇑P PKiKP 07 31 58.5 -0.4
KIV Kislovodsk 127.51 56 *i* PKPdf PKPdf 07 31 58.2 -0.1
SNR=8.4
KIV Kislovodsk 127.51 56 *i* PKIKP PKiKP 07 31 58.4 -0.4
KIV *e* 07 33 58.4
KIV *e*PPP PPP 07 36 42.9
KIV *e*PS PS 07 44 04.4 -1.6
KIV *e*SS SS 07 51 06.8 -0.2
KIV pmax pmax
comp=Z,63nm,1.1s
KVAR Kislovodsk Arr 127.51 56 PKP PKiKP 07 32 00.2 +1.3
comp=Z,16nm,0.9s,baz=270,slow=20,SNR=4.5
RDF Al-Radifah 127.58 76 *e*P PKPdf 07 31 58.5 -0.3
KBZ Khabaz 127.62 57 PKP PKiKP 07 31 58.5 -0.4
comp=Z,42nm,0.9s,baz=187,slow=2.2,SNR=23
VRH Novokhopyorsk 127.80 47 *e*PKIKP PKPdf 07 31 58.4 0.0
VRH pmax pmax
comp=Z,100nm,0.8s
QRN Al-Qurain 127.83 76 *e*P PKiKP 07 31 59.4 -0.5
UMR Umm Al-Rimmam 127.92 75 *e*P PKiKP 07 31 59.5 -0.4
GOF Gofitskoye 127.94 55 ⇑*e*PKIKP PKiKP 07 31 59.8 +0.3
GOF pmax pmax
comp=Z,172nm,0.9s
NCK Nalchik 128.08 57 ⇓*i*PKIKP PKiKP 07 32 00.1 +0.2
ZEI Tsey 128.18 58 *i* PKIKP PKPdf 07 31 59.4 -0.4
ZEI pmax pmax
comp=Z,9.0nm,0.9s
GNI Garni 128.30 61 PKP PKiKP 07 32 00.5 -0.1
comp=Z,41nm,0.8s,baz=320,slow=3.7,SNR=18
GNI Garni 128.30 61 PKiKP PKiKP 07 32 01.1 +0.4
GNI Garni 128.30 61 PKPdf PKPdf 07 31 59.9 -0.2
GROC Groznyy 129.62 58 *i* PKIKP PKiKP 07 32 02.7 -0.3
GROC *e* 07 32 21.0
GROC *e* 07 34 12.0
GROC *e* 07 39 02.5
GROC pmax pmax
comp=Z,63nm,1.0s
SHAO Shalim 130.30 92 PKiKP PKiKP 07 32 04.4 -0.7
AKT Akhty 130.77 60 *e*PKIKP PKiKP 07 32 06.2 +0.7
AKT *e* 07 32 21.0
AKT *e* 07 34 21.9
AKT pmax pmax
comp=Z,65nm,0.9s
MAK Makhachkala 130.82 58 *e*P Pdif 07 28 54.2 -1.4
MAK *i* 07 32 02.7
MAK *e* 07 32 22.3
MAK *e* 07 39 10.7
MAK *e* 07 44 32.9
MAK pmax pmax
comp=Z,147nm,1.0s
MAK MLR MLR
comp=Z,878nm,22.0s
BILL Bilibino 130.85 335*d* *i*PKIKP PKiKP 07 32 04.8 +0.1
BILL *e* 07 34 22.9
BILL *e*PS PS 07 44 35.1 +1.1
BILL *e*SS SS 07 51 50.6 +4.1
BILL pmax pmax
comp=Z,87nm,1.0s
BILL MLR MLR
comp=Z,709nm,20.0s
BILL Bilibino 130.85 335 PKiKP 07 32 04.1 -0.6
BELG Belogornoye 131.50 46 PKP PKiKP 07 32 05.8 -0.6
comp=Z,131nm,0.7s,baz=16,slow=0.5,SNR=33
KIRV Kirov 132.08 37 PKP PKiKP 07 32 07.2 -0.1
comp=Z,69nm,0.7s,baz=294,slow=1.1,SNR=25
ASUD Al Ashush, Dub 132.68 84 PKiKP PKiKP 07 32 09.2 -0.5
ALNE Al Ain 132.83 85 *i* PKiKP PKiKP 07 32 09.4 -0.6
SNR=6.9
NAZ Nazwa, Dubai 133.09 84 *i* PKPdf PKPdf 07 32 09.2 -0.1
SNR=6.9
ASHO Ashiyiah 133.32 85 *i* PKPdf PKPdf 07 32 08.7 -1.1
SNR=9.7
HATD Hatta, Dubai 133.43 84 *i* PKPdf PKPdf 07 32 08.8 -1.2
SNR=11
SOHO SOHO 133.53 85 *i* PKPdf PKPdf 07 32 09.2 -1.0
SNR=26
UOSS Minazif 133.53 84 *i* PKPdf PKPdf 07 32 09.2 -1.1
SNR=6.0
UOSS Minazif 133.53 84 PKPdf PKPdf 07 32 09.1 -1.1
MSFE Esma-Masafi 133.64 84 *i* PKPdf PKPdf 07 32 09.9 -0.5
SNR=12
MDH Madha 133.74 84 *i* PKPdf PKPdf 07 32 09.4 -1.2
SNR=6.4
SHME Shamm 133.86 83 *i* PKPdf PKPdf 07 32 10.4 -0.4
SNR=18
BANOM Banah 133.95 83 *i* PKPdf PKPdf 07 32 10.8 -0.2
SNR=6.7
WSAR Wadi Sarin 134.99 88 PKP PKPdf 07 32 13.1 +0.1
comp=Z,72nm,0.8s,baz=224,slow=2.8,SNR=48
ARU Arti 137.33 39 PKHKP PKPpre 07 32 07.1
comp=Z,2.4nm,0.2s,baz=312,slow=3.4,SNR=6.3
ARU PKP PKiKP 07 32 17.4 -0.8
comp=Z,24nm,0.5s,baz=301,slow=1.7,SNR=65
ARU Arti 137.33 39 *i* PKIKP PKPdf 07 32 16.6 +0.3
ARU 07 45 18.4
ARU 07 45 31.8
ARU MLR MLR
comp=Z,2μm,24.0s
ARU Arti 137.33 39 PKPdf 07 32 16.2 -0.1
AKTO Aktyubinsk 138.12 48 PKHKP PKPpre 07 32 06.3
comp=Z,5.1nm,0.7s,baz=302,slow=4.0,SNR=9.9
AKTO PKP PKPdf 07 32 18.4 +0.5
comp=Z,24nm,0.8s,baz=349,slow=4.8,SNR=18
AKTO PP PP 07 35 05.3 -2.2
comp=Z,6.8nm,0.7s,baz=293,slow=12,SNR=2.7
EDFI Ende, Flores 138.17 199 PKP PKPpre 07 32 08.4
SEY Seymchan 138.17 332 PKHKP PKPpre 07 32 07.1
comp=Z,9.6nm,0.7s,baz=112,slow=2.8,SNR=14
SEY PKP PKiKP 07 32 19.1 -0.5
comp=Z,164nm,0.8s,baz=118,slow=3.1,SNR=46
GEYT Alibeck 138.23 67 PKHKP PKPpre 07 32 08.1
comp=Z,5.5nm,0.7s,baz=221,slow=8.8,SNR=6.6
GEYT PKP PKiKP 07 32 19.8 -0.9
comp=Z,163nm,0.6s,baz=239,slow=8.4,SNR=15
GEYT PP PP 07 35 04.3 -4.3
comp=Z,6.0nm,0.7s,baz=247,slow=8.9,SNR=3.0
GYA0B ALIBECK ARRAY 138.23 67 PKPdf PKPdf 07 32 17.7 -0.9
PET Petropavlovsk 138.32 316 *i* PKIKP PKPdf 07 32 18.5 +0.3
PET *e* 07 35 09.6
PET *e*PS PS 07 45 38.7 +0.6
PET *e* 07 47 17.1
PET *e*SS SS 07 53 15.1 -2.0
PET *e*SSS SSS 07 58 23.8
PET pmax pmax
comp=Z,400nm,16.2s
PET Petropavlovsk 138.32 316 PKPdf 07 32 17.7 -0.5
TIXI Tiksi 138.32 351 PKHKP PKPpre 07 32 09.0
comp=Z,13nm,0.8s,baz=2.9,slow=2.4,SNR=4.5
TIXI PKP PKiKP 07 32 18.5 -1.3
comp=Z,83nm,0.9s,baz=34,slow=2.0,SNR=18
TIXI Tiksi 138.32 351 PKPdf 07 32 17.4 -0.3
SVE Sverdlovsk 138.33 38 *i* PKIKP PKPdf 07 32 18.7 +0.6
SVE pmax pmax
comp=Z,47nm,1.0s
SVE MLR MLR
comp=Z,2μm,23.0s
PEA0B Petropavlovsk- 138.87 316*ce*PKIKP PKPdf 07 32 19.2 0.0
PETK Petropavlovsk- 138.87 316 PKHKP PKPpre 07 32 10.3
comp=Z,16nm,0.9s,baz=212,slow=5.3,SNR=8.6
PETK PKP PKiKP 07 32 20.6 -0.9
comp=Z,134nm,0.9s,baz=86,slow=7.4,SNR=37
TWSI Taliwang, Sumb 139.29 192 PKP PKPpre 07 32 09.7
AB31 Akbulak array 139.51 49 *i* PKHKP PKPpre 07 32 10.1
ABKAR Akbulak array 139.51 49 PKPdf 07 32 20.2 -0.3
JAGI Jajag, Banyuwa 139.97 188 PKP PKPdf 07 32 22.9 +0.4
NRIK Noril'sk 140.19 12 PKHKP PKPpre 07 32 14.4
comp=Z,7.9nm,0.8s,baz=22,slow=2.5,SNR=13
NRIK PKP PKiKP 07 32 22.4 -1.2
comp=Z,39nm,1.0s,baz=11,slow=0.8,SNR=15

SKR	**Severo-Kuril's**	**140.30**	**313**	*i* PKHKP	PKPpre	07 32 12.4			
SKR				*e*SS	SS	07 53 42.5	+2.0		
SKR				pmax	pmax				
	comp=Z,32nm,1.0s								
SKR				pmax	pmax				
	comp=Z,800nm,3.9s								
SKR				pmax	pmax				
	comp=Z,200nm,4.6s								
SKR				MLR	MLR				
	comp=Z,400nm,21.0s								
SKR				MLR	MLR				
	comp=Z,400nm,21.0s								
MA2	**Magadan**	**140.40**	**328**	PKhKP	PKPpre	07 32 14.8			
	comp=Z,11nm,0.6s,baz=114,slow=12,SNR=3.0								
MA2				PKP	**PKiKP**	**07 32 22.9**	**-1.4**		
	comp=Z,30nm,0.8s,baz=59,slow=2.1,SNR=6.3								
MA2	**Magadan**	**140.40**	**328**	*ce*PKIKP	**PKiKP**	**07 32 23.0**	**-1.4**		
MA2	**Magadan**	**140.40**	**328**	PKPdf	**PKPdf**	**07 32 21.8**	**-0.1**		
PCJI	**Pacitan**	**140.51**	**184**	PKP	PKPpre	07 32 15.1			
PWJI	**Pagerwojo**	**140.64**	**185**	PKP	PKPpre	07 32 14.8			
KRAI	**Karang Ratu**	**140.72**	**212**	PKP	PKPpre	07 32 16.6			
CMJI	**Cimerak**	**140.98**	**179**	PKP	**PKPdf**	**07 32 23.3**	**-1.0**		
BSSI	**Bau Bau, Buton**	**140.99**	**199**	PKP	PKPpre	07 32 17.9			
KMMI	**Kalianget**	**141.40**	**188**	PKP	**PKiKP**	**07 32 28.0**	**+0.2**		
CNJI	**Cibinong**	**141.42**	**177**	PKP	**PKiKP**	**07 32 28.0**	**+0.1**		
KPJI	**Karang Pucung**	**141.43**	**180**	PKP	PKPpre	07 32 19.8			
SIJI	**Sorong**	**141.44**	**218**	PKP	**PKPdf**	**07 32 22.5**	**-2.7**		
SWI	**Sorong**	**141.45**	**218**	PKP	PKPpre	07 32 20.4			
SMRI	**Semarang**	**141.68**	**183**	PKPdf	**PKPdf**	**07 32 23.8**	**-1.8**		
SMRI	**Semarang**	**141.68**	**183**	PKP	**PKiKP**	**07 32 26.7**	**-1.7**		
GRJI	**Gresik**	**141.69**	**186**	PKP	**PKPdf**	**07 32 24.6**	**-1.0**		
CTJI	**Waduk Cacaban**	**141.75**	**181**	PKP	PKPpre	07 32 20.9			
BKSI	**Bulukumba**	**141.87**	**198**	PKP	PKPpre	07 32 19.8			
LEM	**Lembang**	**141.91**	**178**	PKhKP	PKPpre	07 32 21.6			
	comp=Z,290nm,0.7s,baz=309,slow=1.1,SNR=32								
DBJI	**Dramaga**	**142.15**	**177**	PKP	PKPpre	07 32 20.9			
KAPI	**Kappang**	**142.26**	**198**	PKhKP	PKPpre	07 32 22.4			
	comp=Z,32nm,0.8s,baz=253,slow=4.8,SNR=14								
GUMO	**Guam**	**142.48**	**250**	PKhKP	PKPpre	07 32 23.5			
	comp=Z,159nm,0.8s,baz=204,slow=10.0,SNR=3.9								
GUMO				PKP	**PKPdf**	**07 32 27.4**	**+0.6**		
	comp=Z,159nm,0.8s,baz=187,slow=9.9,SNR=6.6								
GUMO	**Guam**	**142.48**	**250**		**PKPdf**	**07 32 22.9**	**-3.9**		
BNSI	**Bone**	**142.75**	**199**	PKP	**PKPdf**	**07 32 24.9**	**-3.9**		
SANI	**Sanana**	**142.90**	**209**	PKP	**PKPdf**	**07 32 25.1**	**-2.6**		
KASI	**Kota Agung**	**143.00**	**173**	PKP	**PKPdf**	**07 32 24.9**	**-3.0**		
LWLI	**Liwa**	**143.44**	**172**	PKP	PKPbc	07 32 26.5	+0.4		
PMSI	**Majene**	**143.93**	**197**	PKP	**PKPdf**	**07 32 30.5**	**+0.9**		
MDSI	**Maura Dua**	**143.98**	**172**	PKP	PKPab	07 32 26.6	-0.3		
TTSI	**Tana Toraja**	**144.13**	**199**	PKP	**PKPdf**	**07 32 29.2**	**-0.7**		
GOA	**Goa**	**144.37**	**108**	*eP*	**PKPdf**	**07 32 29.2**	**-1.0**		
PALK	**Pallekele**	**144.39**	**127**	PKP	PKPbc	07 32 28.7	-0.1		
	comp=Z,89nm,1.0s,baz=344,slow=3.9,SNR=16								
PALK	**Pallekele**	**144.39**	**127**	PKPdf	**PKPab**	**07 32 28.0**	**-0.5**		
BHUJ	**Bhuj**	**144.41**	**93**	*eP*	**PKPdf**	**07 32 29.5**	**-0.5**		
LHSI	**Lahat**	**144.55**	**171**	PKP	PKPbc	07 32 29.5	+0.2		
MMSI	**Mamuju**	**144.71**	**198**	PKP	PKPbc	07 32 30.0	+0.2		
KBKI	**Kotabaru**	**144.74**	**193**	PKP	PKPbc	07 32 29.9	0.0		
TNTI	**Ternate**	**144.80**	**213**	PKPdf	**PKPab**	**07 32 28.4**	**-1.6**		
TNTI	**Ternate**	**144.80**	**213**	PKP	**PKPab**	**07 32 28.1**	**-1.9**		
BBKI	**Banjar Baru**	**144.81**	**190**	PKP	**PKPab**	**07 32 29.0**	**-1.0**		
BRVK	**Borovoye**	**144.83**	**41**	*c i*PKIKP	**PKPdf**	**07 32 30.0**	**+0.1**		
BRVK				MLR	MLR				
	comp=Z,2μm,22.0s								
BRVK	**Borovoye**	**144.83**	**41**	PKPdf	**PKPdf**	**07 32 29.3**	**-0.6**		
BVAR	**Borovoye Array**	**144.91**	**41**	PKP	**PKPdf**	**07 32 31.0**	**+1.0**		
	comp=Z,486nm,0.7s,baz=253,slow=4.5,SNR=1080								
BVAR	**Borovoye Array**	**144.91**	**41**	PKIKP	**PKPdf**	**07 32 31.0**	**+1.0**		
MASI	**Maura Aman, Be**	**145.03**	**168**	PKP	**PKPab**	**07 32 30.5**	**-0.4**		
LUWI	**Luwuk**	**145.07**	**205**	PKPdf	**PKPdf**	**07 32 31.1**	**-0.4**		
LUWI	**Luwuk**	**145.07**	**205**	PKP	**PKPdf**	**07 32 32.0**	**+0.5**		
GAMI	**Galela, Maluku**	**145.52**	**215**	PKP	**PKPab**	**07 32 32.7**	**0.0**		
APSI	**Ampana**	**145.59**	**203**	PKP	**PKPab**	**07 32 34.0**	**+1.1**		
PMBI	**Palembang**	**145.59**	**173**	PKP	**PKiKP**	**07 32 34.5**	**-2.0**		
KAD	**Karad**	**145.61**	**106**	*i* P	**PKPdf**	**07 32 31.8**	**-0.5**		
PBKI	**Pangkalan Bun**	**145.92**	**185**	PKP	**PKPab**	**07 32 34.6**	**+0.5**		
POO	**Poona**	**146.94**	**104**	*eP*	**PKPab**	**07 32 34.0**	**-0.1**		
KMSI	**Cibinong**	**146.10**	**208**	PKP	**PKPbc**	**07 32 33.7**	**-0.5**		
SISI	**Saibi**	**146.11**	**162**	PKP	**PKPbc**	**07 32 33.6**	**-0.6**		
PKKI	**Palangkaraya**	**146.13**	**189**	PKP	**PKPab**	**07 32 34.8**	**-0.1**		
GTOI	**Gorontalo**	**146.53**	**206**	PKP	**PKPbc**	**07 32 35.4**	**-0.1**		
YAK	**Yakutsk**	**146.56**	**342**	PKPbc	**PKPbc**	**07 32 33.2**	**-0.9**		
	comp=Z,484nm,0.7s,baz=172,slow=0.0,SNR=124								
YAK	**Yakutsk**	**146.56**	**342**	*e*PKIKP	**PKPdf**	**07 32 32.7**	**+0.2**		
YAK				*e*		07 35 58.5			
YAK				*e*		07 39 35.0			
YAK				*e*SS	SS	07 54 44.5	-6.6		
YAK				pmax	pmax				
	comp=Z,676nm,0.8s								
YAK				pmax	pmax				
	comp=N,25nm,0.9s								
YAK				pmax	pmax				
	comp=E,24nm,0.8s								
YAK				pmax	pmax				
	comp=Z,48nm,1.1s								
YAK				pmax	pmax				
	comp=N,32nm,1.1s								
YAK				pmax	pmax				
	comp=E,41nm,1.3s								
YAK	**Yakutsk**	**146.56**	**342**	PKPdf	**PKPdf**	**07 32 32.6**	**+0.1**		
KBL	**Kabul**	**146.64**	**74**	PKIKP	**PKPdf**	**07 32 33.8**	**0.0**		
KBL	**Kabul**	**146.64**	**74**	PKPdf	**PKPdf**	**07 32 33.8**	**0.0**		
JMBI	**JAMBI**	**146.72**	**171**	PKP	**PKPbc**	**07 32 35.8**	**-0.2**		
KUR	**Kuril'sk**	**146.77**	**306**	*ce*PKP2	**PKPbc**	**07 32 35.3**	**+0.1**		
MRSI	**Marisa**	**146.78**	**204**	PKP	**PKPdf**	**07 32 34.7**	**+0.3**		
PDSI	**Padang**	**146.84**	**165**	PKP	**PKPbc**	**07 32 35.6**	**-0.8**		
TAS	**Tashkent**	**146.94**	**61**	PKIKP	**PKPdf**	**07 32 34.3**	**+0.4**		
TAS	**Tashkent**	**146.94**	**61**		**PKPdf**	**07 32 34.3**	**+0.4**		
PBSI	**Pulau Batu**	**147.10**	**160**	PKP	**PKiKP**	**07 32 40.4**	**+0.8**		
MTKI	**Muara Teweh, K**	**147.27**	**191**	PKP	**PKPdf**	**07 32 35.2**	**-0.1**		
MPSI	**Mapaga**	**147.32**	**201**	PKP	**PKPdf**	**07 32 36.2**	**+0.9**		
BRZS	**Berezniki**	**147.36**	**45**	*e*PKIKP	**PKPbc**	**07 32 35.4**	**-1.4**		
KK31	**Karatay Array**	**147.64**	**58**	*i* PKIKP	**PKPdf**	**07 32 35.5**	**+0.5**		
KK31	**Karatay Array**	**147.64**	**58**	PKPdf	**PKPdf**	**07 32 34.9**	**-0.1**		
KKAR	**Karatay Array**	**147.64**	**58**	PKIKP	**PKPdf**	**07 32 34.9**	**-0.1**		
KKAR	**Karatay Array**	**147.64**	**58**	PKPdf	**PKPdf**	**07 32 34.4**	**-0.6**		
KKAR	**Karatay Array**	**147.64**	**58**		**PKPdf**	**07 32 34.9**	**-0.1**		
OTUK	**Ortayu**	**147.73**	**48**	PKIKP	**PKPdf**	**07 32 35.9**	**+0.9**		
TOLI2	**Tolitoli**	**147.77**	**203**	PKPdf	**PKPdf**	**07 32 34.5**	**-1.6**		
GAR	**Garm**	**147.84**	**66**		**PKPdf**	**07 32 35.6**	**0.0**		
MDRS	**Chennai**	**147.99**	**118**	*eP*	**PKPdf**	**07 32 37.1**	**+0.8**		
GSI	**Gunungsitoli**	**148.18**	**158**	PKP	**PKPdf**	**07 32 37.3**	**+0.5**		
BTK	**Batken**	**148.18**	**64**	PKIKP	**PKPdf**	**07 32 35.5**	**-0.6**		
BTK	**Batken**	**148.18**	**64**	PKPdf	**PKPdf**	**07 32 35.5**	**-0.6**		
SGSI	**Sangihe**	**148.21**	**213**	PKP	**PKiKP**	**07 32 40.8**	**-1.0**		
YUK	**Yuzh-Kuril'sk**	**148.40**	**304**	*e*PKHKP	PKPpre	07 32 30.5			
YUK				*e*		07 36 05.5			
YUK				*e*		07 48 43.4			
YUK				*e*SS	SS	07 55 06.1	-7.7		
NKL	**Nikolayevsk**	**148.40**	**323**	*i* PKIKP	**PKPdf**	**07 32 35.2**	**-0.6**		
NKL				MLR	MLR				
	comp=N,18μm,22.0s								
NKL				MLR	MLR				
	comp=E,30nm,16.0s								
NKL				MLR	MLR				
	comp=Z,697nm,16.0s								
STKI	**Sintang**	**148.68**	**185**	PKP	**PKiKP**	**07 32 41.8**	**-1.0**		
SBSI	**Sibolga**	**148.81**	**161**	PKP	**PKPdf**	**07 32 36.9**	**-0.9**		
HYB	**Hyderabad**	**149.22**	**110**	*eP*	**PKPdf**	**07 32 38.5**	**+0.2**		
HYB	**Hyderabad**	**149.22**	**110**	*i* PKP	**PKPdf**	**07 32 38.0**	**-0.3**		
HYB				*e*		07 32 43.0			
HYB				*e*pPKP	**pPKPbc**	**07 32 59.0**	**+0.2**		
HYB				*e*PP	**PP**	**07 36 16.0**	**+1.4**		
TRSI	**Tarutung**	**149.28**	**160**	PKP	**PKiKP**	**07 32 44.3**	**+0.1**		
UGL	**Uglegorsk**	**149.46**	**315**	*e*PKHKP	PKPpre	07 32 39.1			
UGL				*e*		07 56 10.1			
UGL				pmax	pmax				
	comp=Z,250nm,0.9s								
BTLS	**Baital**	**149.75**	**53**	*e*PKHKP	PKPpre	07 32 39.3			
YSS	**Yuzh-Sakhalins**	**149.78**	**311**	*c i*PKHKP	PKPpre	07 32 38.4			
YSS				*e*		07 39 38.6			
YSS				*e*SS	SS	07 55 34.2	+5.3		
YSS				pmax	pmax				
	comp=Z,300μm,1.1s								
YSS	**Yuzh-Sakhalins**	**149.78**	**311**	PKPdf	**PKPdf**	**07 32 37.8**	**-0.5**		
TPTI		**149.88**	**156**	PKP	**PKPdf**	**07 32 39.2**	**-0.3**		
PSI	**Prapat**	**150.00**	**160**	PKP	**PKPdf**	**07 32 39.2**	**-0.6**		
	comp=Z,77nm,0.8s,baz=225,slow=3.6,SNR=12								
PSI				PKPbc	**PKPbc**	**07 32 44.2**	**-0.6**		
	comp=Z,270nm,0.8s,baz=220,slow=5.4,SNR=78								
NIL	**Nilore**	**150.02**	**76**	PKIKP	**PKPdf**	**07 32 38.5**	**-0.7**		
NIL	**Nilore**	**150.02**	**76**	PKPdf	**PKPdf**	**07 32 38.5**	**-0.7**		
EKS2	**Erkin-Say**	**150.08**	**58**	P	**PKPdf**	**07 32 39.9**	**+0.8**		
	SNR=32								
AML	**Almayashu**	**150.11**	**59**	P	**PKPdf**	**07 32 40.1**	**+0.5**		
	SNR=39								
AML	**Almayashu**	**150.11**	**59**	*i* PKPdf	**PKPdf**	**07 32 40.0**	**+0.5**		
	SNR=116								
USP	**Ospenovka**	**150.48**	**57**	P	**PKPdf**	**07 32 40.5**	**+0.9**		
	SNR=25								
KURBB	**Kurchatov Arra**	**150.50**	**41**	PKP	**PKPdf**	**07 32 40.0**	**+0.7**		
	comp=Z,21nm,0.7s,baz=295,slow=2.4,SNR=51								
KURBB				PKPbc	**PKiKP**	**07 32 44.9**	**-0.5**		
	comp=Z,294nm,0.8s,baz=299,slow=3.0,SNR=158								
KURBB	**Kurchatov Arra**	**150.50**	**41**	PKIKP	**PKPdf**	**07 32 39.4**	**+0.1**		
KURK	**Kurchatov**	**150.50**	**41**	PKIKP	**PKPdf**	**07 32 40.0**	**+0.7**		
SGDS	**Sogindy**	**150.53**	**56**	*e*PKIKP	**PKPdf**	**07 32 40.2**	**+0.5**		
TSI	**Tuntungan**	**150.56**	**159**	PKP	**PKPbc**	**07 32 45.5**	**-0.5**		
AAK	**Ala-Archa**	**150.60**	**58**	PKP	**PKPdf**	**07 32 41.1**	**+1.1**		
	comp=Z,42nm,0.9s,baz=193,slow=2.2,SNR=70								
AAK				PKPbc	**PKiKP**	**07 32 46.2**	**+0.1**		
	comp=Z,401nm,0.8s,baz=218,slow=3.4,SNR=120								
AAK	**Ala-Archa**	**150.60**	**58**	*i* PKPdf	**PKPdf**	**07 32 40.8**	**+0.8**		
	SNR=184								
JKA	**Kamikawa-asahi**	**150.68**	**305**	PKPdf	**PKPdf**	**07 32 39.2**	**-0.6**		
JKA				PKPbc	**PKPbc**	**07 32 45.2**	**-0.1**		
ASAJ	**Asahikawa**	**150.68**	**305**	PKP	**PKPdf**	**07 32 40.5**	**+0.7**		
	comp=Z,40nm,0.8s,baz=261,slow=5.9,SNR=33								
ASAJ				PKPbc	**PKiKP**	**07 32 46.0**	**0.0**		
	comp=Z,288nm,0.9s,baz=261,slow=7.7,SNR=60								
UCH	**Uchtor**	**150.69**	**59**	P	**PKPdf**	**07 32 41.4**	**+0.9**		
	SNR=81								
ERM	**Erimo**	**150.71**	**301**	*c i*PKIKP	**PKiKP**	**07 32 47.5**	**+1.4**		
ERM				pmax	pmax				
	comp=Z,367nm,0.8s								
CHMS	**Chumysh**	**150.72**	**57**	P	**PKiKP**	**07 32 46.1**	**0.0**		
	SNR=52								
KBK	**Karagaybulak**	**150.93**	**58**	P	**PKPdf**	**07 32 41.4**	**+1.0**		
	SNR=20								
BHPL	**Bhopal**	**151.01**	**99**	*eP*	**PKPdf**	**07 32 41.2**	**+0.2**		
KZA	**Kyzart**	**151.26**	**59**	P	**PKPdf**	**07 32 42.5**	**+1.2**		
	SNR=13								
LASI	**Langsa, Aceh**	**151.27**	**157**	PKP	**PKiKP**	**07 32 48.6**	**+0.5**		
TKM2	**Tokmak 2**	**151.34**	**57**	P	**PKPdf**	**07 32 41.3**	**+0.1**		
	SNR=57								
TKM2	**Tokmak 2**	**151.34**	**57**	PKIKP	**PKPdf**	**07 32 41.1**	**-0.1**		
LHMI	**Lhok Sumawe**	**151.63**	**154**	PKP	**PKiKP**	**07 32 48.4**	**-0.5**		
BOOM	**Boomskoye usch**	**151.68**	**58**	PKIKP	**PKPdf**	**07 32 41.1**	**-0.6**		
BOOM						07 32 56.0			
BOOM	**Boomskoye usch**	**151.68**	**58**	PKPdf	**PKPdf**	**07 32 41.0**	**-0.6**		
BOOM				PKPbc	**PKPbc**	**07 32 47.5**	**-0.5**		
BOOM				PKPab	**PKPab**	**07 32 56.0**	**-0.9**		
ZALV	**Zalesovo Beam**	**151.68**	**30**	PKP	**PKPdf**	**07 32 40.7**	**-0.3**		
	comp=Z,57nm,0.8s,baz=296,slow=2.7,SNR=45								
ZALV				PKPbc	**PKiKP**	**07 32 48.4**	**+0.6**		
	comp=Z,1μm,0.7s,baz=303,slow=3.2,SNR=250								
JEW	**Eniwo**	**151.79**	**303**	PKPdf	**PKPdf**	**07 32 39.2**	**-2.3**		
JEW					**PKPbc**	**07 32 47.3**	**-0.6**		
GRNR	**Gornyy**	**151.90**	**321** ⇑	*i* PKIKP	**PKPdf**	**07 32 42.1**	**+0.6**		
GRNR				pmax	pmax				
	comp=Z,5.0nm,1.0s								
ULHL	**Ulahol**	**151.95**	**58**	P	**PKPdf**	**07 32 43.1**	**+1.1**		
	SNR=17								
CMBY	**CAMPBELL BAY**	**151.97**	**147**	*ex*	**PKPbc**	**07 32 49.5**	**+0.3**		
KSH	**Kashi**	**152.18**	**64**	PKPbc	**PKPdf**	**07 32 42.9**	**+0.5**		
KSH				pPKP	PKPab	07 32 55.3	-3.8		
KSH				sPKP		07 32 59.3			
KSH				PP	**PP**	**07 36 31.3**	**-0.4**		
KSH				SKKS		07 43 18.3			
KSH				SS	**SS**	**07 55 53.8**	**-2.8**		
KSH				LR	LR				
	comp=Z,2μm,23.2s								
KSH				LR	LR				
	comp=Z,2μm,22.7s								
KSH				LR	LR				
	comp=Z,5μm,28.9s								
MDOK	**Medeo**	**152.32**	**56**	PKIKP	**PKPdf**	**07 32 43.1**	**+0.6**		
BHK	**Bhakra**	**152.40**	**82**	*ex*	**PKPbc**	**07 32 53.8**	**+4.1**		
DHRM	**DHARAMSHALA**	**152.42**	**80**	*eP*	**PKPdf**	**07 32 44.3**	**+1.2**		
JTM	**Tenmabayashi**	**152.47**	**299**	PKPdf	**PKPdf**	**07 32 42.6**	**0.0**		
JTM				PKPbc	**PKPbc**	**07 32 49.0**	**-0.5**		
NDI	**New Delhi**	**152.55**	**88**	*eP*	**PKPdf**	**07 32 45.0**	**+1.9**		
SMLA	**Simla**	**152.99**	**82**	*eP*	**PKPdf**	**07 32 44.5**	**+0.8**		
SMLA				*i* pP	**PKPab**	**07 33 03.4**	**+0.9**		
JMM	**Marumori**	**153.03**	**293**		**PKPdf**	**07 32 42.7**	**-0.8**		
JMM				PKPbc	**PKPbc**	**07 32 49.4**	**-1.5**		
VIS	**Vishakhapatnam**	**153.17**	**115**	*eP*	**PKPdf**	**07 32 45.1**	**+0.9**		
TARG	**Taragay, Kyrgy**	**153.20**	**59**		**PKPdf**	**07 32 43.3**	**-0.9**		
TARG				PKPbc	**PKiKP**	**07 32 51.6**	**-0.2**		
KPKS	**Kokpek**	**153.39**	**55**	*e*PKIKP	**PKPdf**	**07 32 44.1**	**+0.1**		
BOD	**Bodaibo**	**153.40**	**354**	*e*PKIKP	**PKPdf**	**07 32 42.7**	**-0.7**		
BOD				pmax	pmax				
	comp=Z,187nm,0.9s								
PRZ	**Przheval'sk**	**153.45**	**57**	PKIKP	**PKPdf**	**07 32 43.7**	**-0.6**		
PRZ						07 33 05.1			
PRZ	**Przheval'sk**	**153.45**	**57**	PKPdf	**PKPdf**	**07 32 43.6**	**-0.6**		
PRZ				PKPbc	**PKiKP**	**07 32 52.6**	**+0.6**		
PRZ				PKPab	**PKPab**	**07 33 05.1**	**+0.7**		
JYT	**Yasato**	**153.58**	**289**	PKPdf	**PKPdf**	**07 32 43.5**	**-0.8**		
JYT				PKPbc	**PKiKP**	**07 32 52.1**	**-0.1**		
DDI	**Dehra Dun**	**153.61**	**84**	*ex*	**PKiKP**	**07 32 53.0**	**+0.4**		
UZB	**Uzynbulak**	**153.72**	**55**	*i* PKIKP	**PKPdf**	**07 32 45.5**	**+0.9**		
PDGK	**Podgornoye**	**153.99**	**55**	PKIKP	**PKPdf**	**07 32 44.7**	**-0.2**		
SHLS	**Shalkode**	**154.02**	**55**	*e*PKIKP	**PKPdf**	**07 32 46.0**	**+1.0**		
ZEA	**Zeya**	**154.08**	**335**	*i* PKIKP	**PKPdf**	**07 32 44.3**	**-0.2**		
ZEA				*e*		07 56 14.1			
ZEA				pmax	pmax				
	comp=E,20nm,0.8s								
ZEA				pmax	pmax				
	comp=Z,50nm,1.1s								
ZEA				pmax	pmax				
	comp=Z,500nm,8.7s								
MAKZ	**Makanchi**	**154.31**	**46**	PKIKP	**PKPdf**	**07 32 44.0**	**-1.1**		
MAKZ	**Makanchi**	**154.31**	**46**	PKPdf	**PKPdf**	**07 32 44.0**	**-1.1**		
MAKZ				PKPbc	**PKiKP**	**07 32 53.4**	**0.0**		
MAKZ				PKPab	**sPKPdf**	**07 33 08.2**	**+1.0**		
TEY	**Ternei**	**154.46**	**310** ⇓	*e*PKIKP	**PKPdf**	**07 32 44.7**	**-0.6**		
TEY				*e*		07 33 00.4			
TEY				pmax	pmax				
	comp=Z,10.0nm,1.1s								
MK31	**Makanchi Array**	**154.51**	**45**	*i* PKIKP	**PKPdf**	**07 32 44.8**	**-0.6**		
MKAR	**Makanchi Array**	**154.51**	**45**	PKP	**PKPdf**	**07 32 45.1**	**-0.3**		
	comp=Z,21nm,0.8s,baz=340,slow=1.8,SNR=68								
MKAR				PKPbc	**PKiKP**	**07 32 53.8**	**-0.1**		
	comp=Z,107nm,0.8s,baz=325,slow=2.5,SNR=55								
MKAR				PKPab	**pPKPbc**	**07 33 09.6**	**-0.5**		
	comp=Z,210nm,0.7s,baz=288,slow=3.3,SNR=35								
PKDT	**Phuket**	**154.59**	**155**	PKP	**PKPdf**	**07 32 47.9**	**+1.4**		
SKLT	**Songkhla**	**154.65**	**161**	PKP	**PKPdf**	**07 32 46.8**	**+0.3**		
TRTT	**Trang**	**155.00**	**158**	PKP	**PKPdf**	**07 32 47.9**	**+0.9**		
JSD	**Sado**	**155.00**	**293**	PKPdf	**PKPdf**	**07 32 45.5**	**-0.8**		
MJAR	**Matsushiro Arr**	**155.17**	**290**	PKP	**PKPdf**	**07 32 45.8**	**-0.8**		
	comp=Z,22nm,1.0s,baz=134,slow=1.1,SNR=4.9								
MJAR				PKPab	pPKPbc	07 33 12.7	+1.0		
	comp=Z,38nm,0.9s,baz=92,slow=1.5,SNR=11								
MJAR	**Matsushiro Arr**	**155.17**	**290**	PKPdf	**PKPdf**	**07 32 45.3**	**-1.3**		
MJAR				pPKPdf	**pPKPdf**	**07 33 04.1**	**+1.2**		
MAT	**Matsushiro**	**155.17**	**290**	PKP	**PKPdf**	**07 32 46.1**	**-0.5**		
KLR	**Kul'dur**	**155.25**	**322**	PKP	**PKPdf**	**07 32 45.7**	**-0.6**		
	comp=Z,42nm,0.9s,baz=31,slow=3.0,SNR=71								
KLR				PKPab	pPKPbc	07 33 12.1	+0.6		
	comp=Z,22nm,0.7s,baz=346,slow=1.7,SNR=8.6								
JGF	**Kuroka**	**155.90**	**288**		**PKPdf**	**07 32 46.1**	**-1.6**		
INU	**Inuyama**	**156.18**	**287**	PKPdf	**PKPdf**	**07 32 47.1**	**-0.9**		
SURA	**Surathani**	**156.23**	**157**	PKP	**PKPdf**	**07 32 49.2**	**+0.6**		
DGPR	**DIGLIPUR**	**156.66**	**138**	*eP*	**PKPdf**	**07 32 49.3**	**+0.1**		
JWT	**Wachi**	**157.50**	**287**	PKPdf	**PKPdf**	**07 32 47.1**	**-2.6**		
JWT				PKPab	**PKPab**	**07 33 20.1**	**-1.7**		
USA0B	**Ussuriysk Arra**	**157.81**	**312**	PKIKP	**PKPdf**	**07 32 48.8**	**-1.0**		
USA0B	**Ussuriysk Arra**	**157.81**	**312**		**PKPdf**	**07 32 48.8**	**-1.0**		
USRK	**Ussuriysk Ar.**	**157.81**	**312**	PKP	**PKPdf**	**07 32 50.0**	**+0.2**		
	comp=Z,5.3nm,0.7s,baz=246,slow=3.2,SNR=15								
USRK				PKPab	**PKPab**	**07 33 23.8**	**+1.1**		
	comp=Z,20nm,0.8s,baz=83,slow=3.6,SNR=13								
USRK	**Ussuriysk Ar.**	**157.81**	**312**	PKIKP	**PKPdf**	**07 32 50.0**	**+0.2**		
USRK	**Ussuriysk Ar.**	**157.81**	**312**	PKPdf	**PKPdf**	**07 32 48.3**	**-1.4**		
USRK					**PKPab**	**07 33 20.0**	**-2.7**		
BOK	**Bokaro**	**158.32**	**105**	*eP*	**PKPdf**	**07 32 51.5**	**+0.5**		
JMN	**Monobe**	**158.78**	**283**	PKPdf	**PKPdf**	**07 32 48.7**	**-2.7**		
IRK	**Irkutsk**	**158.96**	**8**	*e*PKIKP	**PKPdf**	**07 32 51.4**	**+0.5**		
IRK				*e*		07 33 23.8			
IRK				*e*		07 37 09.2			
IRK				pmax	pmax				
	comp=Z,154nm,1.8s								
MOY	**Mondy**	**159.00**	**14**	*e*PKIKP	**PKPdf**	**07 32 52.2**	**+1.1**		
MOY				pmax	pmax				
	comp=Z,186nm,2.8s								
CIT	**Chita**	**159.16**	**352**	*e*PKIKP	**PKPdf**	**07 32 51.6**	**+0.4**		
CIT				*e*		07 33 05.4			
CIT				*e*		07 33 09.6			
CIT				*e*		07 37 07.3			
CIT				pmax	pmax				
	comp=Z,226nm,2.6s								
WMQ	**Urumqi**	**159.28**	**48**	PKP	**PKPdf**	**07 32 51.9**	**+0.3**		
WMQ				PKPab	**PKPab**	**07 33 30.6**	**+1.4**		
WMQ				PP	**PP**	**07 37 10.1**	**-0.5**		
WMQ				AMB	AMB				
	comp=Z,530nm,3.9s								
WMQ				LR	LR				
	comp=Z,1μm,21.1s								
WMQ				LR	LR				
	comp=Z,1μm,20.1s								
WMQ				LR	LR				
	comp=Z,2μm,21.1s								
JHS	**Saijyo**	**159.39**	**286**		**PKPdf**	**07 32 51.1**	**-0.9**		
JHS				PKPab	**PKPab**	**07 33 26.8**	**-3.1**		
PHET	**Kaeng Krachan**	**159.69**	**153**	PKP	**PKPdf**	**07 32 53.6**	**+0.7**		
PATY	**Pattaya**	**160.15**	**157**	PKP	**PKPdf**	**07 32 58.5**	**+5.1**		
ZAK	**Zakamensk**	**160.65**	**11**	*e*

BJT	**Baijiatuau**	**169.59 327**			**PKPdf**	**07 33 00.9**	**+0.1**
HHC	**Hu-ho-hao-te**	**170.37 347**	*e*PKP		**PKPdf**	**07 33 02.3**	**+0.9**
HHC			AMB		AMB		
	comp=Z,960nm,9.5s						
HHC			LR		LR		
	comp=Z,980nm,18.8s						
HHC			LR		LR		
	comp=Z,920nm,20.0s						
HHC			LR		LR		
	comp=Z,1μm,19.5s						
NJ2	**Nanjing**	**171.44 277**	*i* PKP		**PKPdf**	**07 33 02.3**	**+0.3**
NJ2			pPKP		**pPKPdf**	**07 33 14.6**	**-3.7**
NJ2			sPKP			07 33 20.8	
NJ2			PKPab		**PKPab**	**07 34 27.3**	**+4.2**
NJ2			PP		**PP**	**07 38 14.5**	**0.0**
NJ2			SKS		**SKSdf**	**07 39 57.0**	**-4.0**
NJ2			SS		**SS**	**07 59 16.6**	**-1.0**
NJ2			AMB		AMB		
	comp=Z,610nm,6.5s						
NJ2			LR		LR		
	comp=Z,1μm,19.1s						
NJ2			LR		LR		
	comp=Z,680nm,21.6s						
NJ2			LR		LR		
	comp=Z,2μm,19.1s						
TIA	**Tai'an**	**171.63 307**	PKP		**PKPdf**	**07 33 02.0**	**0.0**
TIA			PP		**PP**	**07 38 13.4**	**-1.4**
TIA			SKKS			07 44 55.8	
TIA			SS		**SS**	**07 59 23.3**	**+5.1**
TIA			AMB		AMB		
	comp=Z,510nm,6.5s						
TIA			LR		LR		
	comp=Z,590nm,20.6s						
TIA			LR		LR		
	comp=Z,1μm,22.8s						
TIA			LR		LR		
	comp=Z,2μm,25.0s						
KMI	**Kunming**	**171.72 138**	⇑PKP		**PKPdf**	**07 33 02.3**	**-0.4**
KMI			pPKP		pPKPdf	07 33 16.3	-2.7
TIY	**Taiyuan**	**173.09 335**	⇑*e*PKP		**PKPdf**	**07 33 02.1**	**-0.6**
TIY			sPKP			07 33 18.3	
TIY			PKPab		**PKPab**	**07 34 32.6**	**+2.5**
TIY			PP		**PP**	**07 38 20.0**	**-1.2**
TIY			SKKS			07 45 11.9	
TIY			SS		**SS**	**07 59 30.8**	**-0.1**
TIY			AMB		AMB		
	comp=Z,870nm,8.0s						
TIY			LR		LR		
	comp=Z,850nm,19.0s						
TIY			LR		LR		
	comp=Z,1μm,21.8s						
TIY			LR		LR		
	comp=Z,3μm,22.6s						
LZH	**Lanzhou**	**173.79 41**	*e*PKP		**PKPdf**	**07 33 03.8**	**+0.7**
LZH			pPKP		pPKPdf	07 33 12.9	-6.5
LZH			sPKP			07 33 21.1	
LZH			AMB		AMB		
	comp=Z,1μm,7.1s						
LZH			LR		LR		
	comp=Z,1μm,18.4s						
LZH			LR		LR		
	comp=Z,1μm,18.1s						
LZH			LR		LR		
	comp=Z,1μm,19.5s						
GYA	**Guiyang**	**174.67 159**	⇑PKP		**PKPdf**	**07 33 03.6**	**-0.1**
GYA			PKPab		**PKPab**	**07 34 36.8**	**-0.6**
GYA			SKKS			07 45 16.3	
GYA			AMB		AMB		
	comp=Z,1μm,11.7s						
GYA			LR		LR		
	comp=Z,980nm,19.8s						
WHN	**Wuhan**	**175.17 261**	PKP		**PKPdf**	**07 33 04.0**	**+0.5**
WHN			sPKP			07 33 20.6	
WHN			PP		**PP**	**07 38 32.8**	**0.0**
WHN			sPP			07 38 46.0	
WHN			AMB		AMB		
	comp=Z,1μm,4.8s						
WHN			LR		LR		
	comp=Z,3μm,18.9s						
WHN			LR		LR		
	comp=Z,650nm,15.7s						
WHN			LR		LR		
	comp=Z,4μm,20.8s						
CD2	**Chengdu**	**175.62 96**	⇑*i*PKP		**PKPdf**	**07 33 03.8**	**+0.1**
CD2			pPKP		pPKPdf	07 33 19.1	-0.9
CD2			PP		**PP**	**07 38 35.8**	**+0.7**
CD2			SKS		**SKSdf**	**07 39 58.5**	**-3.9**
CD2			SKKS		**SKKSac**	**07 45 14.9**	**-1.7**
CD2			SS		**SS**	**07 59 55.3**	**-3.0**
CD2			AMB		AMB		
	comp=Z,3μm,11.2s						
CD2			LR		LR		
	comp=Z,2μm,36.3s						
CD2			LR		LR		
	comp=Z,2μm,27.5s						
CD2			LR		LR		
	comp=Z,4μm,34.8s						
XAN	**Xi'an**	**177.42 358**	PKP		**PKPdf**	**07 33 04.3**	**+0.3**
XAN			pPKP		pPKPdf	07 33 13.9	-6.4
XAN			sPKP			07 33 19.3	
XAN			PKPab		PKPab	07 34 48.1	-1.2
XAN			PKS			07 36 34.4	
XAN			SKKS			07 45 27.3	
XAN			SS		**SS**	**08 00 12.8**	**+1.1**
XAN			AMB		AMB		
	comp=Z,2μm,6.1s						
XAN			LR		LR		
	comp=Z,1μm,26.5s						
XAN			LR		LR		
	comp=Z,490nm,22.0s						
XAN			LR		LR		
	comp=Z,2μm,27.5s						
ENH	**Enshi**	**178.69 206**			**PKPdf**	**07 33 03.6**	**-0.6**

NNC 22 07:19:08.7±0.4, 50.02N×78.71E, h0km, mb3.5, mpv3.1, 18C-9D Error ellipse: s-maj=8.5km s-min=2.2km az=78.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.58**	**348**	⇑P	Pg	07 19 20.2	+0.4
KUR07				⇓S	Sb	07 19 29.0	-1.5
KUR06	**Kurchatov Arra**	**0.60**	**349**	⇑P	Pg	07 19 20.5	+0.4
KUR06				⇓S	Sg	07 19 29.5	+1.5
KUR14	**Kurchatov Arra**	**0.60**	**353**	⇑P	Pg	07 19 20.6	+0.4
KUR14				⇓S	Sg	07 19 29.4	+1.4
KUR15	**Kurchatov Arra**	**0.61**	**351**	⇑P	Pg	07 19 20.7	+0.3
KUR15				⇓S	Sb	07 19 29.9	-1.5
KURBB	**Kurchatov Arra** 23nm,0.3s	**0.62**	**350**	⇑P	Pg	07 19 20.8	+0.3
KURBB	197nm,0.7s			⇑S	Sg	07 19 29.2	+0.7
KUR16	**Kurchatov Arra**	**0.63**	**348**	⇑P	Pg	07 19 20.9	+0.3
KUR16				⇑S	Sg	07 19 30.2	+1.4
KUR17	**Kurchatov Arra**	**0.64**	**346**	⇓P	Pg	07 19 20.9	+0.1
KUR17				⇑S	Sg	07 19 30.2	+1.2
KUR05	**Kurchatov Arra**	**0.64**	**350**	⇑P	Pg	07 19 21.1	+0.2
KUR05				⇓S	Sg	07 19 30.1	+1.0
KUR04	**Kurchatov Arra**	**0.66**	**351**	⇑P	Pg	07 19 21.5	+0.3
KUR04				⇑S	Sg	07 19 30.6	+0.8
MAKZ	**Makanchi** 1.1nm,0.3s	**3.88**	**145**	⇓Pg	Pb	07 20 18.5	+0.5
MAKZ				⇑Lg	Lg	07 21 09.2	
MK31	6.5nm,0.4s **Makanchi Array** 0.3nm,0.2s,baz=103,slow=51,SNR=30	**4.01**	**142**	⇑Pn	Pn	07 20 13.2	+1.8
MK31				⇑Pg	Pb	07 20 20.7	+0.5
MK31	3.1nm,0.6s,baz=323,slow=13,SNR=18			⇑Lg	Lg	07 21 14.4	
OTUK	6.4nm,0.4s,baz=327,slow=27,SNR=13 **Ortayu** 1.5nm,0.3s	**4.54**	**249**	⇑Pn	Pn	07 20 19.8	+1.1
OTUK	9.6nm,0.5s			⇓Lg	Lg	07 21 32.3	
KAPS	**Kapalarasan** 2.1nm,0.4s	**4.75**	**174**	Pg	Pb	07 20 36.0	+3.1
KAPS	13nm,0.5s			Lg	Lg	07 21 35.9	
DJR	**Jarkent** 1.1nm,0.3s	**5.74**	**172**	Pg	Pb	07 20 52.6	+3.0
DJR	5.2nm,0.6s			Lg	Lg	07 22 04.0	
BRVK	**Borovoye**	**6.07**	**303**	⇑Sn	Sn	07 21 49.3	-0.6
	3.5nm,0.6s						
BRVK	3.0nm,0.5s			⇓Lg	Lg	07 22 22.2	

IDC 22 07:54:21.7±1.8, 31.63S×71.93W, h0km, mb3.6/2, mb1 3.8/5, mb1mx3.6/22, mbtmp3.6/5, ML3.5/3, Error ellipse: s-maj=54.8km s-min=33.1km az=90.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores** 0.2nm,0.3s,baz=333,slow=13,SNR=5.3	**9.15**	**173**	Pn	Pn	07 56 35.0	0.0
LPAZ	**La Paz** 0.0nm,0.3s,baz=168,slow=2.3,SNR=3.5	**15.66**	**14**	Pn	Pn	07 58 03.1	-1.3
SIV	**San Ignacio** 0.1nm,0.3s,baz=221,slow=1.1,SNR=9.6	**18.45**	**35**	P	P	07 58 39.5	+0.5
TXAR	**Lajitas Array** 0.3nm,0.9s,baz=139,slow=8.4,SNR=2.3	**67.72**	**330**	P	P	08 05 21.2	+0.2
TORD	**Torodi Ar. Bea** 0.5nm,0.6s,baz=247,slow=4.2,SNR=4.7	**83.32**	**70**	P	P	08 06 50.7	-0.1

IDC 22 08:00:19.3±2.1, 12.99N×51.13E, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.5/62, mbtmp4.0/4, ML4.1/1, Error ellipse: s-maj=86.8km s-min=26.0km az=165.0, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel** 2.4nm,0.3s,baz=60,slow=20,SNR=2.8	**8.22**	**261**	Pn	Pn	08 02 20.0	0.0
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=216,slow=7.1,SNR=6.1	**42.66**	**32**	P	P	08 08 17.6	-0.2
CMAR	**Chiang Mai Arr** 2.2nm,0.3s,baz=271,slow=8.0,SNR=4.1	**46.24**	**77**	P	P	08 08 46.7	-0.1
TORD	**Torodi Ar. Bea** 0.7nm,0.7s,baz=85,slow=7.8,SNR=5.0	**48.09**	**276**	P	P	08 09 01.1	-0.1

*IDC **22** 08:04:27.4±1.1, 13.21N×51.01E, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.7/62, mbtmp3.9/11, ML4.2/1, Error ellipse: s-maj=26.5km s-min=20.0km az=1.0*
ISC 22 08:04:29.8±1.0, 13.2N±0.2×51.0E±0.1, h16km, n12, σ1s04/12, mb3.8/11, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel** 3.2nm,0.3s,baz=332,slow=3.7,SNR=13	**8.14**	**259**	Pn	**Pn**	**08 06 27.6**	**+0.1**
GEYT	**Alibeck** 136nm,0.8s,baz=59,slow=5.7,SNR=4.1	**25.43**	**13**	P	**P**	**08 09 58.7**	**+1.8**
BRTR	**Keskin Array B** 0.5nm,0.7s,baz=156,slow=11,SNR=3.6	**30.53**	**333**	P	**P**	**08 10 43.7**	**+1.0**
AKTO	**Aktyubinsk** 0.8nm,0.5s,baz=201,slow=8.6,SNR=3.0	**37.56**	**7**	P	**P**	**08 11 41.6**	**-1.7**
AKASG	**Malin Array Be** 0.2nm,0.3s,baz=149,slow=7.0,SNR=3.2	**41.38**	**339**	P	**P**	**08 12 14.9**	**-0.3**
MKAR	**Makanchi Array** 0.6nm,0.5s,baz=223,slow=8.8,SNR=9.6	**42.54**	**32**	P	**P**	**08 12 25.1**	**+0.3**
CMAR	**Chiang Mai Arr** 3.9nm,0.7s,baz=281,slow=9.2,SNR=7.8	**46.31**	**77**	P	**P**	**08 12 55.4**	**0.0**
TORD	**Torodi Ar. Bea** 2.2nm,0.9s,baz=87,slow=7.1,SNR=11	**47.95**	**276**	P	**P**	**08 13 07.8**	**-0.3**
ZALV	**Zalesovo Beam** 1.1nm,0.4s,baz=224,slow=8.3,SNR=5.0	**48.59**	**26**	P	**P**	**08 13 11.8**	**-0.7**
ESDC	**Sonseca Array** 0.7nm,0.6s,baz=91,slow=7.0,SNR=2.9	**54.84**	**309**	P	**P**	**08 13 59.6**	**0.0**
WRA	**Warramunga Arr** 0.8nm,0.8s,baz=294,slow=4.1,SNR=5.8	**88.31**	**111**	P	**P**	**08 17 22.4**	**+1.0**
ASAR	**Alice Springs** 0.4nm,0.8s,baz=303,slow=5.2,SNR=3.1	**88.86**	**114**	P	**P**	**08 17 23.2**	**-0.7**

*IDC **22** 08:06:49.9±1.3, 30.84S×72.71W, h0km, mb3.8/3, mb1 4.1/6, mb1mx3.8/23, mbtmp3.9/6, ML3.9/3, Error ellipse: s-maj=39.2km s-min=30.2km az=105.0*
*GUC **22** 08:06:51.6±0.7, 30.73S×72.56W, h39km±3km, ML3.7*
ISC 22 08:06:51.0±2.1, 30.73S±0.04×72.59W±0.08, h10km±12km, n26, σ1s45/39, mb3.9/3, 7C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.83**	**86**	*e*P	**Pg**	**08 07 06.8**	**-0.2**
CO06				*e*S	**Sg**	**08 07 17.6**	**-0.1**
CO06				IAML		08 07 20.4	
	comp=E,6μm,0.9s						
CO05	**La Serena**	**1.42**	**56**	⇑*e*P	**Pn**	**08 07 15.7**	**-1.2**
CO05				*i* S	**Sn**	**08 07 34.2**	**-1.5**
CO05				IAML		08 07 35.2	
	comp=E,1μm,0.3s						
CO03	**El Pedregal**	**1.64**	**94**	⇑*e*P	**Pn**	**08 07 19.9**	**-0.1**
CO03				*e*S	**Sn**	**08 07 40.1**	**-1.2**
CO03				IAML		08 07 42.7	
	comp=E,724nm,0.3s						
GO04	**Tololo Observa**	**1.65**	**71**	*e*P	**Pn**	**08 07 19.6**	**-0.6**
GO04				*e*S	**Sn**	**08 07 40.7**	**-0.9**
VA06	**Catapilco**	**2.14**	**149**	⇑*i*P	**Pn**	**08 07 25.8**	**-0.9**
VA06				*i* S	**Sn**	**08 07 51.2**	**-2.1**
VA06				IAML		08 07 55.6	
	comp=E,546nm,0.3s						
LCO	**Las Campanas**	**2.37**	**44**	⇑*e*P	**Pn**	**08 07 29.7**	**-0.6**
LCO				*i* S	**Sn**	**08 07 59.0**	**-0.6**
ROCH	**El Roble**	**2.61**	**149**	⇑*e*P	**Pn**	**08 07 33.1**	**-0.4**
ROCH				*e*S	**Sn**	**08 08 04.7**	**-0.7**
ROCH				IAML		08 08 30.2	
	comp=N,429nm,0.3s						
VA03	**San Esteban**	**2.67**	**140**	*e*P	**Pn**	**08 07 34.4**	**+0.2**
VA03				*i* S	**Sn**	**08 08 06.3**	**-0.5**
VA03				IAML		08 08 07.5	
	comp=E,448nm,0.2s						
AC04	**Llanos de Chal**	**2.84**	**28**	⇑*e*P	**Pn**	**08 07 34.9**	**-1.6**
AC04				*e*S	**Sn**	**08 08 06.9**	**-3.9**
AC04				IAML		08 08 08.5	
	comp=N,278nm,0.3s						
VA05	**Santo Domingo**	**3.04**	**164**	*e*P	**Pn**	**08 07 39.0**	**-0.1**
VA05				*e*S	**Sn**	**08 08 12.8**	**-2.7**
VA05				IAML		08 08 13.1	
	comp=E,216nm,0.2s						
MT05	**Renca**	**3.09**	**150**	*e*P	**Pn**	**08 07 39.7**	**-0.2**
MT05				*e*S	**Sn**	**08 08 16.2**	**-0.7**
MT05				IAML		08 08 41.2	
	comp=E,404nm,0.3s						
MT01	**Popeta**	**3.33**	**160**	⇓*e*P	**Pn**	**08 07 42.2**	**-0.9**
MT01				*e*S	**Sn**	**08 08 19.9**	**-2.9**
MT01				IAML		08 08 22.1	
	comp=N,88nm,0.1s						
MT09	**Talagante**	**3.33**	**156**	⇑*e*P	**Pn**	**08 07 43.4**	**+0.1**
MT09				*i* S	**Sn**	**08 08 21.2**	**-1.8**
MT09				IAML		08 08 28.1	
	comp=N,137nm,0.3s						
LVC	**Limon Verde** comp=N,0.3nm,0.3s,baz=176,slow=13,SNR=1.1	**8.73**	**23**	Pn	**Pn**	**08 08 54.7**	**-3.0**
PLCA	**Paso Flores** comp=N,0.4nm,0.3s,baz=338,slow=11,SNR=17	**10.12**	**171**	Pn	**Pn**	**08 09 16.1**	**-0.4**
LPAZ	**La Paz** comp=N,0.1nm,0.3s,baz=196,slow=6.9,SNR=10	**14.94**	**17**	Pn	**Pn**	**08 10 25.2**	**+2.3**
SIV	**San Ignacio** comp=N,0.4nm,0.3s,baz=228,slow=12,SNR=27	**18.06**	**38**	P	**P**	**08 11 03.6**	**+1.0**
BDFB	**Brasília** comp=N,1.7nm,0.4s,baz=202,slow=13,SNR=4.7	**27.04**	**62**	P	**P**	**08 12 35.9**	**+2.1**
VNA3	**Neumayer Olymp**	**52.56**	**159**	P	**P**	**08 16 04.1**	**-0.3**
VNA1	**Neumayer--Stat**	**52.87**	**158**	P	**P**	**08 16 06.0**	**-0.5**
VNA2	**Neumayer--Watz** baz=288,slow=8.5	**53.21**	**158**	P	**P**	**08 16 09.0**	**-0.1**
SNAA	**Sanae**	**54.79**	**159**	P	**P**	**08 16 21.4**	**+0.7**
TXAR	**Lajitas Array** comp=N,0.4nm,0.8s,baz=146,slow=9.1,SNR=4.6	**66.66**	**331**	P	**P**	**08 17 43.1**	**+1.1**
TORD	**Torodi Ar. Bea** comp=N,0.5nm,0.7s,baz=256,slow=5.2,SNR=3.3	**83.56**	**71**	P	**P**	**08 19 20.5**	**+0.7**
WRA	**Warramunga Arr** comp=N,0.3nm,0.9s,baz=164,slow=1.7,SNR=1.2	**123.36**	**211**	PKP	**PKPdf**	**08 25 48.4**	**-0.7**
ZALV	**Zalesovo Beam** comp=N,0.8nm,0.4s,baz=300,slow=4.5,SNR=4.1	**151.65**	**29**	PKPbc	**PKiKP**	**08 26 46.0**	**+0.4**

IDC 22 08:17:22.3±1.8, 2.94N×127.67E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/32, mbtmp3.9/4, MS3.6/1, Ms1 3.6/1, ms1mx3.3/36, Error ellipse: s-maj=130.7km s-min=24.0km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**14.12**	**112**	LR	LR	08 25 42.8	

	comp=Z,213nm,19.2s,slow=36							
WRA	**Warramunga Arr** 3.0nm,0.6s,baz=344,slow=11,SNR=24	**23.67**	**164**	P	**P**	08 22 36.2	+0.5
ASAR	**Alice Springs** 0.5nm,0.7s,baz=353,slow=7.5,SNR=6.2	**27.14**	**167**	P	**P**	08 23 07.8	+0.3
STKA	**Stephens Creek** 2.5nm,0.8s,baz=308,slow=8.1,SNR=4.1	**37.07**	**160**	P	**P**	08 24 33.5	-0.9
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=129,slow=7.9,SNR=6.2	**58.73**	**325**	P	**P**	08 27 21.9	-0.2

IDC 22 08:33:20.1±2.1, 7.95S×125.26E, h0km, mb3.4/1, mb1 3.4/4, mb1mx3.3/31, mbtmp3.2/4, ML2.9/3, Error ellipse: s-maj=119.1km s-min=29.4km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=16,slow=16,SNR=1.0	**10.09**	**178**	Pn	Pn	08 35 45.9	-0.5
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=325,slow=14,SNR=2.4	**14.82**	**144**	Pn	Pn	08 36 49.1	-1.9
ASAR	**Alice Springs** 0.0nm,0.3s,baz=324,slow=12,SNR=5.1	**17.69**	**153**	P	P	08 37 29.8	+0.7
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=142,slow=7.3,SNR=1.4	**66.54**	**329**	P	P	08 44 11.9	0.0

*SJA **22** 08:37:31.0, 30.33S×72.14W, h10km, ML4.8*
*VAO **22** 08:37:32.3±0.5, 30.43S×71.81W, h31km, mb4.6*
*NEIC **22** 08:37:33.8±1.2, 30.41S±0.04×71.67W±0.09, h26km±4km, Error ellipse: s-maj=11.9km s-min=5.9km az=88.0*
*IDC **22** 08:37:33.5±0.6, 30.46S×71.59W, h27km±3km, mb4.4/5, mb1 4.2/10, mb1mx3.9/23, mbtmp4.3/10, ML3.9/5, Error ellipse: s-maj=23.0km s-min=17.7km az=98.0*
*NEIC **22** 08:37:33.2, 30.44S×71.83W, h33km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.65; $M_{\theta\theta}$-1.02; $M_{\phi\phi}$-2.63; $M_{r\theta}$0.08; $M_{r\phi}$2.18; $M_{\theta\phi}$-1.85; Fault plane solution: M_{o}4.34000×10^{15} NP1:ϕs159.27000°, δ57.64000°, λ106.65000°. NP2:ϕs310.07000°, δ35.98000°, λ65.66000°. Principal axes: T 4.2067, Plg72.0000°, Azm110.0000°; N 0.2493, Plg14.0000°, Azm330.0000°; P -4.4560, Plg11.0000°, Azm237.0000°;*
*GUC **22** 08:37:34.8±0.7, 30.41S×71.60W, h23km±4km, ML4.6*
ISC 22 08:37:33.2±0.6, 30.43S±0.03×71.72W±0.05, h29km±3km, h30km:pP-P, n142, σ1s46/145, mb4.7/12, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.26**	**164**	⇑*i*P	**Pb**	**08 37 40.5**	**+0.5**
CO06				*i* S	**Sb**	**08 37 45.1**	**+0.4**
CO06				IAML		08 37 45.8	
	comp=N,208μm,0.2s						
CO06	**Fray Jorge**	**0.26**	**164**		**Pb**	**08 37 40.5**	**+0.5**
CO06				Sg	**Sb**	**08 37 45.1**	**+0.4**
CO05	**La Serena**	**0.66**	**39**	⇓*i*P	**Pn**	**08 37 46.2**	**-0.3**
CO05				*i* S	**Sb**	**08 37 54.0**	**-1.0**
CO05				IAML		08 37 56.0	
	comp=N,35μm,0.7s						
GO04	**Tololo Observa**	**0.83**	**72**	⇑*i*P	**Pn**	**08 37 49.0**	**-0.2**
GO04				IAML		08 38 11.2	
	comp=N,76μm,0.6s						
GO04	**Tololo Observa**	**0.83**	**72**		**Pn**	**08 37 49.6**	**+0.4**
GO04	**Tololo Observa**	**0.83**	**72**	*i* P	**Pn**	**08 37 49.0**	**-0.2**
CO03	**El Pedregal**	**0.98**	**115**	⇑*e*P	**Pb**	**08 37 51.2**	**-0.4**
CO03				*i* S	**Sb**	**08 38 03.0**	**-1.2**
CO03				IAML		08 38 04.5	
	comp=E,40μm,0.2s						
LCO	**Las Campanas**	**1.67**	**32**	⇓*i*P	**Pn**	**08 38 01.5**	**+0.8**
LCO				*i* S	**Sb**	**08 38 23.0**	**-1.0**
LCO	**Las Campanas**	**1.67**	**32**	*i* P	**Pb**	**08 38 02.0**	**-1.4**
AROD	**Rodeo**	**1.96**	**83**	*i* P	**Pb**	**08 38 08.0**	**-0.4**
ACDV	**Cuesta del Vie**	**2.26**	**84**	*i* P	**Pb**	**08 38 13.0**	**-0.5**
AC04	**Llanos de Chal**	**2.29**	**14**	*e*P	**Pb**	**08 38 12.4**	**-1.4**
AC04				*i* S	**Sb**	**08 38 40.8**	**-0.8**
AC04				IAML		08 38 47.7	
	comp=E,3μm,0.6s						
AC04	**Llanos de Chal**	**2.29**	**14**	Pn	**Pn**	**08 38 09.3**	**+0.3**
AC04	**Llanos de Chal**	**2.29**	**14**	*i* P	**Pn**	**08 38 09.0**	**+0.1**
ACCO	**Cerro Coronel**	**2.29**	**95**	*i* P	**Pb**	**08 38 14.0**	**-0.1**
RTLS	**Leoncito**	**2.49**	**124**	*i* P	**Pb**	**08 38 17.0**	**-0.4**
VA03	**San Esteban**	**2.53**	**157**	*e*P	**Pn**	**08 38 14.7**	**+2.3**
VA03				*i* S	**Sb**	**08 38 46.0**	**-2.8**
VA03	**San Esteban**	**2.53**	**157**		**Pn**	**08 38 12.9**	**+0.4**
VA03	**San Esteban**	**2.53**	**157**	*i* P	**Pb**	**08 38 16.0**	**-2.0**
AUSP	**Uspallata**	**2.68**	**133**	*i* P	**Pb**	**08 38 19.0**	**-1.7**
ZON	**Zonda**	**2.84**	**114**	*i* P	**Pb**	**08 38 21.0**	**-2.2**
AGUA	**GUANDACOL**	**2.95**	**72**	*i* P	**Pb**	**08 38 24.0**	**-1.2**
MT05	**Renca**	**3.07**	**165**	Pn	**Pn**	**08 38 20.2**	**+0.4**
MT05	**Renca**	**3.07**	**165**	*i* P	**Pn**	**08 38 22.0**	**+2.2**
RTCV	**Cerro Valdivia**	**3.08**	**119**	*i* P	**Pb**	**08 38 24.0**	**-3.3**
GO03	**Copiap**	**3.11**	**25**	*i* P	**Pb**	**08 38 22.1**	**+1.7**
ASAL	**Salagasta**	**3.27**	**132**	*i* P	**Pb**	**08 38 27.0**	**-0.6**
AC06	**Mina Casimiro**	**3.29**	**22**	⇑*i*P	**Pn**	**08 38 23.8**	**+1.0**
AC06				*i* S	**Sn**	**08 39 04.5**	**+3.7**
AC06				IAML		08 39 27.6	
	comp=E,2μm,0.5s						
ARCO	**CERRO ARCO**	**3.38**	**136**	*i* P	**Pb**	**08 38 29.0**	**-3.5**
VCA	**Vinchina**	**3.49**	**62**	*i* P	**Pb**	**08 38 31.0**	**-3.4**
AAGR	**Agrelo**	**3.62**	**138**	*i* P	**Pb**	**08 38 32.0**	**-4.5**
AVFE	**Valle Fertil**	**3.68**	**95**	*i* P	**Pn**	**08 38 32.0**	**+3.8**
BO01	**Tunca**	**3.99**	**172**		**Pn**	**08 38 32.9**	**+0.6**
BO01	**Tunca**	**3.99**	**172**	*i* P	**Pn**	**08 38 33.0**	**+0.6**
AC02	**Maricunga**	**4.24**	**33**	*e*P	**Pn**	**08 38 38.5**	**+2.2**
AC02				*i* S	**Sn**	**08 39 27.2**	**+2.1**
AC02	**Maricunga**	**4.24**	**33**	*i* P	**Pn**	**08 38 38.0**	**+1.7**
TINO	**Tinogasta**	**4.32**	**58**	*i* P	Pn	08 38 42.0	+4.9
ACHE	**Chepes**	**4.41**	**101**	*i* P	**Pn**	**08 38 41.0**	**+2.7**
BO02	**Sierra Bellavi**	**4.42**	**170**	*i* P	**Pn**	**08 38 41.0**	**+2.6**
GO05	**Huala**	**4.57**	**182**	*i* P	**Pn**	**08 38 40.0**	**-0.4**
LAMA	**Las Malvinas**	**4.97**	**155**	*i* P	Pn	08 38 51.0	+5.2
COIS	**El Sosneado**	**5.00**	**160**	*i* P	**Pn**	**08 38 51.0**	**+4.7**
RFA	**San Rafael**	**5.13**	**148**	*i* P	**Pn**	**08 38 51.0**	**+2.9**
ML02	**Panimavida**	**5.33**	**177**		**Pn**	**08 38 51.2**	**+0.5**
CYA	**Choya**	**5.53**	**70**	*i* P	**Pn**	**08 38 56.0**	**+2.5**
PB14	**IPOC Station P**	**5.90**	**12**	Pn	**Pn**	**08 38 58.6**	**-0.3**
FSA	**Cafayete**	**6.64**	**51**	*i* P	**Pn**	**08 39 12.0**	**+3.0**
AHML	**Horco Molle**	**6.68**	**59**	*i* P	**Pn**	**08 39 12.0**	**+2.6**
H03N1	**Juan Fernandez** baz=70,slow=72,SNR=7921	**6.83**	**242**	T	T	08 46 07.3	
H03N2	**Juan Fernandez** baz=70,slow=72,SNR=7344	**6.83**	**242**	T	T	08 46 06.9	
H03N3	**Juan Fernandez** baz=70,slow=72,SNR=5619	**6.83

PTLB	Pontes e Lacer	18.86	41	*eP*		**P**	**08 41 50.0**	**-1.0**
TER01	Tubaro-SC	19.75	90	*eP*		**P**	**08 42 00.7**	**-0.1**
PP1B	Ponte de Pedra	19.96	54	*eP*		**P**	**08 42 02.4**	**-0.7**
PCMB	Pacaembu	20.35	69	*eP*		**P**	**08 42 07.0**	**-0.3**
VILB	Vilhena	20.39	34	*eP*		**P**	**08 42 07.2**	**-0.6**
SALV	Santo Antonio	20.61	49	*eP*		**P**	**08 42 10.1**	**0.0**
FRTB	Fartura	20.96	76	*eP*		**P**	**08 42 13.8**	**-0.2**
ETMB	Extrema	21.14	15	*eP*		**P**	**08 42 14.3**	**-1.5**
ITRB	Iturama	22.06	66	*eP*		**P**	**08 42 25.7**	**-0.1**
CZSB	Cruzeiro do Su	22.60	357	*eP*		**P**	**08 42 29.7**	**-1.9**
SPB	Sao Paulo	22.66	78	P		**P**	**08 42 32.2**	**+0.1**
SPB				IAmb	IAmb		08 42 49.4	
	comp=Z,12nm,0.9s							
SPB	Sao Paulo	22.66	78	*eP*		**P**	**08 42 31.4**	**-0.7**
SAML	Samuel	22.81	22	P		**P**	**08 42 34.5**	**+0.8**
VAO	Valinhos	23.28	77	*eP*		**P**	**08 42 37.5**	**-1.1**
CLDB	Colider	24.45	41	*eP*		**P**	**08 42 48.2**	**-1.4**
TBTG	Tabatinga, AM	26.16	4	*eP*		**P**	**08 43 03.6**	**-1.4**
BDFB	Brasilia	26.24	61	P		**P**	**08 43 05.6**	**-0.4**
	comp=Z,5.8nm,0.6s,baz=213,slow=7.9,SNR=10							
BDFB				pP		**pP**	**08 43 13.7**	**-0.8**
	comp=Z,8.4nm,0.8s,baz=225,slow=6.0,SNR=5.9							
BDFB	Brasilia	26.24	61	P		**P**	**08 43 05.3**	**-0.6**
BDFB				IAmb	IAmb		08 43 23.3	
	comp=Z,8.1nm,0.7s							
SNDB	Serra Nova Dou	26.37	50	*eP*		**P**	**08 43 06.2**	**-0.8**
NPGB	Novo Progresso	27.87	37	*eP*		**P**	**08 43 19.6**	**-0.9**
PEXB	Peixe	28.33	55	*eP*		**P**	**08 43 25.0**	**+0.3**
JANB	Januaria	29.44	65	*eP*		**P**	**08 43 33.7**	**-0.8**
SMTB	Santa Maria do	31.12	51	*eP*		**P**	**08 43 48.6**	**-0.8**
BOAV	Boa Vista	34.34	20	*eP*		**P**	**08 44 15.9**	**-1.6**
RUSC	La Rusia	36.14	358	P		**P**	**08 44 33.4**	**-0.1**
OBIP	Obispado Ponce	48.44	7	P		**P**	**08 46 13.4**	**+0.4**
VNA3	Neumayer Olymp	52.57	159	P		**P**	**08 46 44.5**	**+0.9**
VNA1	Neumayer--Stat	52.86	158	P		**P**	**08 46 46.1**	**+0.4**
VNA2	Neumayer--Watz	53.20	158	P		**P**	**08 46 49.3**	**+1.0**
	baz=290,slow=8.6							
SNAA	Sanae	54.80	159	P		**P**	**08 47 00.8**	**+0.8**
SNAA	Sanae	54.80	159	P		**P**	**08 47 00.2**	**+0.2**
SNAA				IAmb	IAmb		08 47 01.7	
	comp=Z,15nm,1.3s							
QSPA	South Pole Qui	59.80	180	P		**P**	**08 47 36.5**	**+1.0**
QSPA				IAmb	IAmb		08 47 39.3	
	comp=Z,6.1nm,1.1s							
H06E1	SOCORRO T-PHAS	61.78	317	T		T	09 54 56.4	
	SNR=13							
TXAR	Lajitas Array	66.78	330	P		**P**	**08 48 24.1**	**+2.1**
	comp=Z,0.3nm,0.7s,baz=134,slow=3.6,SNR=4.5							
TXAR				pP		**pP**	**08 48 31.8**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=153,slow=8.2,SNR=12							
WVT	Waverly	67.92	346	P		**P**	**08 48 29.7**	**+0.8**
WVT				IAmb	IAmb		08 48 40.1	
	comp=Z,6.5nm,1.1s							
R40A	Maddies Statio	71.01	343	P		**P**	**08 48 48.8**	**+0.8**
R40A				IAmb	IAmb		08 48 58.1	
	comp=Z,9.3nm,0.8s							
P40A	Paris	72.12	344	P		**P**	**08 48 55.8**	**+1.1**
DBIC	Dimbokro	73.80	72	P		**P**	**08 49 04.9**	**-0.3**
	comp=Z,4.1nm,0.6s,baz=244,slow=5.9,SNR=8.0							
DBIC	Dimbokro	73.80	72	P		**P**	**08 49 05.4**	**+0.1**
DBIC				IAmb	IAmb		08 49 31.1	
	comp=Z,19nm,1.4s							
MAW	Mawson	76.52	164	P		**P**	**08 49 20.8**	**+0.7**
	comp=Z,3.5nm,0.7s,baz=209,slow=5.8,SNR=11							
MAW				pP		**pP**	**08 49 29.7**	**+0.3**
	comp=Z,5.8nm,0.8s,baz=233,slow=7.2,SNR=9.7							
MAW	Mawson	76.52	164	P		**P**	**08 49 21.1**	**+1.1**
K31A	O'Neill	76.83	340	P		**P**	**08 49 23.4**	**+1.3**
ECSD	EROS Data Cent	77.25	342	P		**P**	**08 49 25.0**	**+0.7**
ECSD				IAmb	IAmb		08 49 34.6	
	comp=Z,8.4nm,0.9s							
KOWA	Kowa	78.92	66	P		**P**	**08 49 34.5**	**+0.3**
BOSA	Boshof	81.50	118	P		**P**	**08 49 48.8**	**+0.5**
	comp=Z,4.3nm,0.9s,baz=270,slow=10,SNR=3.1							
TORD	Torodi Ar. Bea	82.74	70	P		**P**	**08 49 54.8**	**+0.1**
	comp=Z,3.2nm,0.7s,baz=269,slow=4.9,SNR=17							
TORD	Torodi Ar. Bea	82.74	70	P		**P**	**08 49 55.2**	**+0.5**
TORD				IAmb	IAmb		08 49 55.9	
	comp=Z,4.2nm,0.8s							
AKASG	Malin Array Be	119.55	46	PKP		**PKPdf**	**08 56 18.7**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=256,slow=2.8,SNR=2.4							
BRTR	Keskin Array B	119.81	59	PKP		**PKPdf**	**08 56 20.1**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=222,slow=1.9,SNR=2.2							
WRA	Warramunga Arr	124.00	210	PKP		**PKPdf**	**08 56 28.6**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=162,slow=2.4,SNR=6.1							
WRA				pPKP		**pPKPdf**	**08 56 37.1**	**-1.9**
	comp=Z,0.6nm,0.6s,baz=166,slow=2.0,SNR=3.0							
WRA	Warramunga Arr	124.00	210			**PKPdf**	**08 56 29.3**	**0.0**
H11S2	WAKE ISLAND Hyl	26.02	272	T		T	11 15 15.7	
	baz=115,slow=75,SNR=508							
H11S1	WAKE ISLAND Hyl	26.03	272	T		T	11 15 15.8	
	baz=115,slow=75,SNR=416							
H11S3	WAKE ISLAND Hyl	26.04	272	T		T	11 15 17.0	
	baz=115,slow=75,SNR=336							
H11N3	WAKE ISLAND Hyl	26.34	273	T		T	11 15 39.8	
	baz=116,slow=76,SNR=30							
H11N1	WAKE ISLAND Hyl	26.36	273	T		T	11 15 41.6	
	baz=116,slow=76,SNR=12							
H11N2	WAKE ISLAND Hyl	26.36	273	T		T	11 15 41.1	
	baz=116,slow=76,SNR=52							
ZALV	Zalesovo Beam	151.02	29	PKPbc		**PKiKP**	**08 57 23.9**	**+0.6**
	comp=Z,22nm,0.8s,baz=301,slow=3.2,SNR=38							
ZALV				pPKPbc		**pPKPbc**	**08 57 32.0**	**-0.3**
	comp=Z,24nm,0.9s,baz=295,slow=3.5,SNR=13							
ZALV	Zalesovo Beam	151.02	29	PKPdf		**PKPdf**	**08 57 16.9**	**-0.1**
ZALV						**PKiKP**	**08 57 23.3**	**0.0**
ZALV				PKPab		**pPKPbc**	**08 57 31.6**	**-0.6**
KSH	Kashi	152.14	62	PKPbc		**PKPdf**	**08 57 18.0**	**-1.3**
KSH				pPKP	PKiKP		08 57 27.0	+0.7
KSH				sPKP			08 57 31.6	
MKAR	Makanchi Array	154.10	44	PKPbc		**PKPbc**	**08 57 30.1**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=345,slow=4.5,SNR=9.2							
MKAR				pPKPbc		**pPKPbc**	**08 57 38.8**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=320,slow=4.7,SNR=4.8							
MKAR	Makanchi Array	154.10	44	PKPdf		**PKPdf**	**08 57 20.7**	**-1.1**
MKAR				PKPab		**PKPab**	**08 57 43.4**	**-0.2**
KLR	Kul'dur	154.15	323	PKPbc		**PKiKP**	**08 57 30.7**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=30,slow=6.6,SNR=4.5							

*IDC **22** 08:48:34.2±1.5, 31°.54S×71°.82W, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.7/18, mbtmp3.7/4, ML4.0/2, Error ellipse: s-maj=60.9km s-min=34.1km az=78.0*
*GUC **22** 08:48:36.5±0.7, 31°.55S×71°.79W, h26km±4km, ML3.8*
ISC 22 08:48:34.9±1.5, **31°.56S**±0°.03×**71°.80W**±0°.09, **h5**km±10km, **n25**, σ0°**78**/27, **4C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**0.90**	**9**	⇓*iP*		**Pg**	**08 48 52.1**	**0.0**
CO06				*i* S		**Sg**	**08 49 04.2**	**+0.4**
CO06				IAML			08 49 09.4	
	comp=E,4μm,0.3s							
VA06	**Catapilco**	**1.08**	**157**	⇓*iP*		**Pg**	**08 48 55.7**	**-0.1**
VA06				*i* S		**Sg**	**08 49 10.0**	**+0.2**
VA06				IAML			08 49 11.6	
	comp=N,6μm,0.2s							
CO03	**El Pedregal**	**1.19**	**53**	⇑*eP*		**Pb**	**08 48 57.5**	**-0.6**
CO03				*i* S		**Sb**	**08 49 13.2**	**-0.7**
CO03				IAML			08 49 14.9	
	comp=N,6μm,0.2s							
VA01	**Torpederas**	**1.46**	**175**	*eP*		**Pn**	**08 49 01.8**	**-0.2**
VA01				*i* S		**Sn**	**08 49 21.0**	**-0.6**
VA01				IAML			08 49 26.3	
	comp=N,922nm,0.4s							
ROCH	**El Roble**	**1.56**	**155**	⇑*iP*		**Pn**	**08 49 03.5**	**-0.1**
ROCH				*i* S		**Sb**	**08 49 24.2**	**-0.3**
ROCH				IAML			08 49 31.0	
	comp=E,2μm,0.3s							
VA03	**San Esteban**	**1.60**	**139**	⇑*eP*		**Pn**	**08 49 04.3**	**+0.3**
VA03				*i* S		**Sn**	**08 49 24.6**	**-0.5**
VA03				IAML			08 49 28.5	
	comp=E,3μm,0.1s							
CO05	**La Serena**	**1.71**	**17**	⇑*eP*		**Pn**	**08 49 05.4**	**0.0**
CO05				*i* S		**Sn**	**08 49 27.7**	**+0.1**
CO05				IAML			08 49 31.6	
	comp=E,1μm,0.3s							
MT05	**Renca**	**2.03**	**154**	*eP*		**Pn**	**08 49 11.3**	**+1.3**
MT05				*i* S		**Sn**	**08 49 36.6**	**+0.8**
MT05				IAML			08 49 40.6	
	comp=E,2μm,0.3s							
VA05	**Santo Domingo**	**2.10**	**176**	*eP*		**Pn**	**08 49 10.6**	**-0.2**
VA05				*i* S		**Sn**	**08 49 37.7**	**+0.6**
VA05				IAML			08 49 47.1	
	comp=E,2μm,0.3s							
MT09	**Talagante**	**2.31**	**163**	⇓*iP*		**Pn**	**08 49 15.2**	**+1.3**
MT09				*i* S		**Sn**	**08 49 44.1**	**+1.3**
MT09				IAML			08 49 54.6	
	comp=N,744nm,0.3s							
MT01	**Popeta**	**2.34**	**169**	⇓*iP*		**Pn**	**08 49 14.6**	**+0.4**
MT01				*eS*		**Sb**	**08 49 44.9**	**-2.0**
MT01				IAML			08 49 53.5	
	comp=E,465nm,0.2s							
H03N1	**Juan Fernandez**	**6.29**	**251**	T		T	08 56 36.5	
	baz=78,slow=72,SNR=984							
H03N3	**Juan Fernandez**	**6.31**	**251**	T		T	08 56 36.1	
	baz=78,slow=72,SNR=752							
H03N2	**Juan Fernandez**	**6.31**	**251**	T		T	08 56 38.4	
	baz=78,slow=72,SNR=875							
PLCA	**Paso Flores**	**9.21**	**174**	Pn		**Pn**	**08 50 49.3**	**+0.8**
	comp=E,0.8nm,0.3s,baz=336,slow=12,SNR=28							
LPAZ	**La Paz**	**15.57**	**13**	Pn		**Pn**	**08 52 16.8**	**+1.0**
	comp=E,0.1nm,0.3s,baz=207,slow=8.5,SNR=6.2							
TXAR	**Lajitas Array**	**67.72**	**330**	P		**P**	**08 59 33.3**	**-0.2**
	comp=E,0.1nm,0.5s,baz=152,slow=8.2,SNR=4.3							
TORD	**Torodi Ar. Bea**	**83.19**	**70**	P		**P**	**09 01 02.6**	**0.0**
	comp=E,1.1nm,0.7s,baz=222,slow=3.9,SNR=6.3							
H11S2	**WAKE ISLAND Hyl**	**25.97**	**271**	T		T	11 26 16.8	
	baz=117,slow=75,SNR=89							
H11S1	**WAKE ISLAND Hyl**	**25.99**	**271**	T		T	11 26 17.7	
	baz=117,slow=75,SNR=50							
H11S3	**WAKE ISLAND Hyl**	**25.99**	**271**	T		T	11 26 17.7	
	baz=117,slow=75,SNR=58							
H11N3	**WAKE ISLAND Hyl**	**26.33**	**272**	T		T	11 26 42.9	
	baz=116,slow=76,SNR=22							
H11N1	**WAKE ISLAND Hyl**	**26.34**	**272**	T		T	11 26 44.6	
	baz=116,slow=76,SNR=7.5							
H11N2	**WAKE ISLAND Hyl**	**26.34**	**272**	T		T	11 26 44.8	
	baz=116,slow=76,SNR=35							
ZALV	**Zalesovo Beam**	**152.04**	**30**	PKPbc		**PKPbc**	**09 08 30.7**	**-0.1**
	comp=E,3.8nm,0.5s,baz=310,slow=4.1,SNR=10							

*NEIC **22** 08:54:24.3, 31°.60S×71°.93W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.21; $M_{\theta\theta}$-1.43; $M_{\phi\phi}$0.23; $M_{r\theta}$-0.04; $M_{r\phi}$1.08; $M_{\theta\phi}$-2.33; Fault plane solution: M_o2.89000×10^{15} NP1:$\varphi_1$268.79000°, δ35.97000°, λ25.38000°. NP2:$\varphi_2$157.79000°, δ75.42000°, λ123.26000°. Principal axes: T 3.2078, Plg49.0000°, Azm104.0000°; N -0.8009, Plg32.0000°, Azm328.0000°; P -2.4069, Plg23.0000°, Azm223.0000°;*
*IDC **22** 08:54:24.4±1.1, 31°.45S×71°.81W, h0km, mb4.4/6, mb1 4.4/11, mb1mx4.2/25, mbtmp4.2/11, ML4.0/5, MS3.7/3, Ms1 3.7/3, ms1mx3.3/25 Error ellipse: s-maj=28.6km s-min=25.5km az=73.0*
*NEIC **22** 08:54:24.3±2.3, 31°.53S±0°.04×72°.17W±0°.09, h10km±1km, mb4.6/18, Mwr4.2/32, ML4.4(GUC), Error ellipse: s-maj=13.1km s-min=5.5km az=287.0*
*SJA **22** 08:54:24.0, 31°.54S×72°.40W, h10km, ML5.0*
*VAO **22** 08:54:25.8±0.3, 31°.51S×71°.73W, h4km, mb4.5*
*GUC **22** 08:54:26.4±0.7, 31°.57S×71°.91W, h30km±3km, ML4.4*
ISC 22 08:54:23.8±1.5, **31°.56S**±0°.03×**72°.05W**±0°.06, **h5**km±9km, **n180**, σ1°**38**/179, **mb4.8**/13, **6C-3D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**0.95**	**22**	⇓*iP*		**Pg**	**08 54 42.8**	**+0.7**
CO06				*i* S		**Sg**	**08 54 55.4**	**+0.9**
CO06				IAML			08 54 59.7	
	comp=E,26μm,0.3s							
CO06	**Fray Jorge**	**0.95**	**22**			**Pg**	**08 54 42.4**	**+0.3**
CO06				Sg		**Sg**	**08 54 55.2**	**+0.7**
VA06	**Catapilco**	**1.18**	**148**	⇑*iP*		**Pb**	**08 54 46.0**	**-0.7**
VA06				*i* S		**Sb**	**08 55 00.6**	**-1.8**
VA06				IAML			08 55 01.4	
	comp=E,15μm,0.4s							
CO03	**El Pedregal**	**1.37**	**59**	⇑*iP*		**Pn**	**08 54 49.0**	**-0.8**
CO03				*i* S		**Sb**	**08 55 05.3**	**-2.6**
CO03				IAML			08 55 06.1	
	comp=E,25μm,0.4s							
CO03	**El Pedregal**	**1.37**	**59**			**Pn**	**08 54 49.0**	**-0.8**
CO03	**El Pedregal**	**1.37**	**59**	*i* P		**Pn**	**08 54 49.0**	**-0.8**
VA01	**Torpederas**	**1.50**	**167**	*eP*		**Pn**	**08 54 51.5**	**+0.2**
VA01	**Torpederas**	**1.50**	**167**	Pn		**Pn**	**08 54 52.0**	**+0.6**
VA01	**Torpederas**	**1.50**	**167**	*i* P		**Pn**	**08 54 52.0**	**+0.6**
ROCH	**El Roble**	**1.66**	**148**	⇑*iP*		**Pn**	**08 54 53.9**	**0.0**
ROCH				*i* S		**Sn**	**08 55 14.5**	**-1.2**
ROCH				IAML			08 55 20.4	
	comp=N,4μm,0.5s							
VA03	**San Esteban**	**1.75**	**134**	⇑*iP*		**Pn**	**08 54 54.9**	**-0.1**
VA03				*i* S		**Sn**	**08 55 16.6**	**-1.1**
VA03				IAML			08 55 21.5	
	comp=N,9μm,0.5s							
VA03	**San Esteban**	**1.75**	**134**	Pn		**Pn**	**08 54 55.2**	**+0.2**
GO04	**Tololo Observa**	**1.75**	**38**	⇑*iP*		**Pn**	**08 54 55.5**	**+0.4**
GO04				*i* S		**Sn**	**08 55 18.1**	**0.0**
GO04	**Tololo Observa**	**1.75**	**38**			**Pb**	**08 54 57.1**	**+0.5**
GO04	**Tololo Observa**	**1.75**	**38**	*i* P		**Pn**	**08 54 56.0**	**+0.8**
CO05	**La Serena**	**1.78**	**23**	*eP*		**Pn**	**08 54 56.1**	**+0.8**
CO05				*i* S		**Sn**	**08 55 18.5**	**+0.1**
CO05				IAML			08 55 26.1	
	comp=E,10μm,0.4s							
CO05	**La Serena**	**1.78**	**23**	Pn		**Pn**	**08 54 56.2**	**+0.9**
MT05	**Renca**	**2.13**	**149**	*eP*		**Pn**	**08 55 01.3**	**+1.1**
MT05				*i* S		**Sb**	**08 55 28.7**	**-1.2**
MT05				IAML			08 55 35.2	
	comp=E,4μm,0.3s							
MT05	**Renca**	**2.13**	**149**			**Pn**	**08 54 59.8**	**-0.5**
MT05	**Renca**	**2.13**	**149**	*i* P		**Pn**	**08 55 01.0**	**+0.8**
AUSP	**Uspallata**	**2.36**	**107**	*i* P		**Pb**	**08 55 06.0**	**-1.0**
RTLS	**Leoncito**	**2.36**	**96**	*i* P		**Pb**	**08 55 06.0**	**-1.0**
MT09	**Talagante**	**2.38**	**158**	⇓*iP*		**Pn**	**08 55 05.2**	**+1.5**
MT09				*i* S		**Sn**	**08 55 34.0**	**+0.6**
MT09				IAML			08 55 50.8	
	comp=N,2μm,0.2s							
MT09	**Talagante**	**2.38**	**158**	Pn		**Pn**	**08 55 05.0**	**+1.3**
MT01	**Popeta**	**2.39**	**164**	⇓*iP*		**Pn**	**08 55 04.5**	**+0.8**
MT01	**Popeta**	**2.39**	**164**	Pn		**Pn**	**08 55 04.5**	**+0.8**
MT01	**Popeta**	**2.39**	**164**	*i* P		**Pn**	**08 55 04.0**	**+0.3**
ARGO	**Rodeo**	**2.62**	**59**	*i* P		**Pb**	**08 55 11.0**	**-0.4**
ACCO	**Cerro Coronel**	**2.74**	**70**	*i* P		**Pb**	**08 55 13.0**	**-0.5**
LCO	**Las Campanas**	**2.80**	**25**	⇑*iP*		**Pn**	**08 55 10.3**	**+0.8**
LCO				*i* S		**Sn**	**08 55 44.3**	**+0.4**
LCO	**Las Campanas**	**2.80**	**25**	*i* P		**Pn**	**08 55 11.0**	**+1.5**
ACDV	**Cuesta del Vie**	**2.88**	**62**	*i* P		**Pb**	**08 55 15.0**	**-0.7**
ZON	**Zonda**	**2.88**	**91**			**Pb**	**08 55 13.7**	**-2.1**
ZON	**Zonda**	**2.88**	**91**	*i* P		**Pb**	**08 55 14.0**	**-1.7**
ASAL	**Salagasta**	**2.92**	**111**	*i* P		**Pb**	**08 55 16.0**	**-0.4**
ARCO	**CERRO ARCO**	**2.93**	**117**	*i* P		**Pb**	**08 55 16.0**	**-0.7**
BO01	**Tunca**	**2.94**	**164**	Pn		**Pn**	**08 55 12.1**	**+0.8**
BO01	**Tunca**	**2.94**	**164**	*i* P		**Pn**	**08 55 12.0**	**+0.8**
RTCV	**Cerro Valdivia**	**3.00**	**97**	*i* P		**Pb**	**08 55 16.0**	**-1.9**
AAGR	**Agrelo**	**3.12**	**120**	*i* P		**Pb**	**08 55 19.0**	**-0.9**
BO02	**Sierra Bellavi**	**3.39**	**162**	Pn		**Pn**	**08 55 18.7**	**+1.1**
BO02	**Sierra Bellavi**	**3.39**	**162**	*i* P		**Pn**	**08 55 19.0**	**+1.5**
GO05	**Huala**	**3.44**	**178**	Pn		**Pn**	**08 55 18.0**	**-0.1**
GO05	**Huala**	**3.44**	**178**	*i* P		**Pn**	**08 55 18.0**	**-0.1**
AC04	**Llanos de Chal**	**3.45**	**14**	Pn		**Pn**	**08 55 18.3**	**0.0**
AGUA	**GUANDACOL**	**3.70**	**57**	*i* P		**Pn**	**08 55 26.0**	**+4.2**
AVFE	**Valle Fertil**	**4.04**	**78**	*i* P		**Pn**	**08 55 29.0**	**+2.5**
COIS	**El Sosneado**	**4.09**	**150**	*i* P		**Pn**	**08 55 31.0**	**+3.9**
LAMA	**Las Malvinas**	**4.12**	**146**	*i* P		**Pn**	**08 55 32.0**	**+4.5**
ML02	**Panimavida**	**4.22**	**173**			**Pn**	**08 55 29.4**	**+0.5**
GO03	**Copiap**	**4.26**	**22**	Pn		**Pn**	**08 55 30.1**	**+0.7**
GO03	**Copiap**	**4.26**	**22**	*i* P		**Pn**	**08 55 31.0**	**+1.5**
VCA	**Vinchina**	**4.36**	**51**	*i* P		**Pn**	**08 55 35.0**	**+4.1**
RFA	**San Rafael**	**4.39**	**138**	*i* P		**Pn**	**08 55 34.0**	**+2.8**
AC06	**Mina Casimiro**	**4.44**	**20**	Pn		**Pn**	**08 55 32.3**	**+0.3**
ACHE	**Chepes**	**4.62**	**86**	*i* P		**Pn**	**08 55 38.0**	**+3.4**
AC02	**Maricunga**	**5.36**	**29**	Pn		**Pn**	**08 55 45.6**	**+0.6**
AC02	**Maricunga**	**5.36**	**29**	*i* P		**Pn**	**08 55 46.0**	**+1.1**
H03N1	**Juan Fernandez**	**6.09**	**250**	T		T	09 02 35.7	
	baz=78,slow=72,SNR=871							
H03N3	**Juan Fernandez**	**6.11**	**250**	T		T	09 02 30.3	
	baz=78,slow=72,SNR=878							
H03N2	**Juan Fernandez**	**6.11**	**250**	T		T	09 02 35.7	
	baz=78,slow=72,SNR=862							
H03S3	**Juan Fernandez**	**6.21**	**247**	T		T	09 02 49.6	
	baz=81,slow=74,SNR=6.8							
H03S1	**Juan Fernandez**	**6.21**	**247**	T		T	09 02 44.5	
	baz=81,slow=74,SNR=5.2							
H03S2	**Juan Fernandez**	**6.22**	**247**	T		T	09 02 47.9	
	baz=81,slow=74,SNR=14							
CYA	**Choya**	**6.25**	**62**	*i* P		**Pn**	**08 55 58.0**	**+1.2**
LC01	**Cunco**	**7.32**	**179**	Pn		**Pn**	**08 56 11.2**	**-0.3**
LC01	**Cunco**	**7.32**	**179**	*i* P		**Pn**	**08 56 11.0**	**-0.4**
AHML	**Horco Molle**	**7.56**	**53**	*i* P		**Pn**	**08 56 16.0**	**+1.2**
FSA	**Cafayete**	**7.60**	**46**	*i* P		**Pn**	**08 56 20.0**	**+4.5**
LR03	**Panguipulli**	**8.05**	**182**	Pn		**Pn**	**08 56 22.8**	**+1.3**
PB10	**IPOC Station P**	**8.13**	**10**	Pn		**Pn**	**08 56 20.2**	**-2.4**
PB15	**IPOC Station P**	**8.63**	**16**	Pn		**Pn**	**08 56 28.3**	**-1.4**
PB06	**IPOC Station P**	**9.09**	**15**	Pn		**Pn**	**08 56 33.4**	**-2.6**
PLCA	**Paso Flores**	**9.23**	**173**	Pn		**Pn**	**08 56 39.1**	**+1.4**
	comp=N,0.9nm,0.3s,baz=335,slow=11,SNR=52							
PLCA				LR		LR	09 00 39.5	
	comp=N,397nm,18.2s,baz=342,slow=40							
PLCA	**Paso Flores**	**9.23**	**173**	*eP*		**Pn**	**08 56 40.6**	**+2.9**
LL04	**Puerto Octay**	**9.33**	**182**	Pn		**Pn**	**08 56 38.6**	**-0.4**
LVC	**Limon Verde**	**9.35**	**18**	Pn		**Pn**	**08 56 37.5**	**-2.1**
	comp=N,0.4nm,0.3s,baz=171,slow=9.4,SNR=2.1							
LVC				LR		LR	09 00 13.4	
	comp=N,274nm,20.8s,baz=216,slow=38							
LVC	**Limon Verde**	**9.35**	**18**	Pn		**Pn**	**08 56 37.7**	**-1.9**
LVC	**Limon Verde**	**9.35**	**18**	*eP*		**Pn**	**08 56 39.3**	**-0.3**
PB04	**IPOC Station P**	**9.35**	**11**	Pn		**Pn**	**08 56 38.6**	**-0.8**
TRQA	**Tornquist**	**10.51**	**131**			**Pn**	**08 56 56.5**	**+1.4**
TRQA	**Tornquist**	**10.51**	**131**	*eP*		**Pn**	**08 56 55.8**	**+0.7**
TRQA	**Tornquist**	**10.51**	**131**	*i* P		**Pn**	**08 56 57.0**	**+1.8**
ITQB	**Itaqui**	**13.42**	**86**	Pn		**Pn**	**08 57 34.7**	**-0.3**
CPUP	**Villa Florida**	**13.90**	**72**	Pn		**Pn**	**08 57 39.8**	**-1.7**
	comp=N,0.1nm,0.3s,baz=233,slow=15,SNR=1.5							
CPUP				LR		LR	09 03 27.4	
	comp=N,605nm,19.0s,baz=176,slow=40							
CPUP	**Villa Florida**	**13.90**	**72**	Pn		**Pn**	**08 57 41.3**	**-0.2**
CPUP	**Villa Florida**	**13.90**	**72**	*eP*		**Pn**	**08 57 41.3**	**-0.2**
LPAZ	**La Paz**	**15.62**	**14**	Pn		**Pn**	**08 58 05.8**	**+0.4**
	comp=N,0.4nm,0.3s,baz=192,slow=7.3,SNR=33							
LPAZ	**La Paz**	**15.62**	**14**			**Pn**	**08 58 05.2**	**-0.1**
LPAZ	**La Paz**	**15.62**	**14**	*eP*		**Pn**	**08 58 07.1**	**+1.7**
PLTB	**Pedras Altas**	**15.71**	**96**	*eP*		**Pn**	**08 58 04.2**	**-1.7**
CPSB	**Cacapava Do Su**	**16.00**	**91**	*eP*		**Pn**	**08 58 08.6**	**-1.1**
AQDB	**Aquidauana**	**18.36**	**57**	P		**Pn**	**08 58 38.2**	**-1.1**
AQDB	**Aquidauana**	**18.36**	**57**	*eP*		**Pn**	**08 58 38.3**	**-1.0**
CNLB	**Canela**	**18.41**	**88**	*eP*		**Pn**	**08 58 38.9**	**-1.1**
SIV	**San Ignacio**	**18.45**	**35**	P		**Pn**	**08 58 39.0**	**-1.5**
	comp=N,0.3nm,0.3s,baz=233,slow=12,SNR=19							
PTGB	**Pitanga**	**18.88**	**74

ellipse: s-maj=22.1km s-min=15.3km az=84.0
*JMA **22** 08:56:46.5, 36°.70N×141°.02E, h19km±1km, M4.4*
JMA Felt II J1.
*NEIC **22** 08:56:47.7±1.9, 36°.78N±0°.03×141°.00E±0°.07, h15km±5km, mb4.3/11, Error ellipse: s-maj=8.5km s-min=3.0km az=73.0*

ISC 22 08:56:46.6±1.4, **36°.73N**±0°.03×**141°.01E**±0°.05, **h11**km±8km, **n66**, σ**0**.**85**/68, **mb4.1**/19, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.37**	**252**	P		**Pg**		**08 56 54.0**	**0.0**
ONAJ	**Iwakimizuishiy**	**0.41**	**336**	P		**Pg**		**08 56 55.2**	**+0.5**
ONAJ				S		**Sb**		**08 57 01.9**	**-0.3**
JFFD	**Fukushimafurud**	**0.51**	**316**	P		**Pg**		**08 56 56.9**	**+0.3**
JFFD				S		**Sb**		**08 57 04.6**	**-0.4**
JHYU	**Hitachinakayam**	**0.51**	**221**	P		**Pg**		**08 56 56.4**	**-0.2**
JHYU				S		**Sg**		**08 57 03.8**	**+0.4**
JFK	**Kawauchi**	**0.65**	**351**	P		**Pg**		**08 56 59.3**	**+0.1**
JFK				S		**Sb**		**08 57 09.0**	**0.0**
JYT	**Yasato**	**0.82**	**233**	P		**Pb**		**08 57 01.8**	**-1.1**
JYT				S		**Sb**		**08 57 13.2**	**-0.8**
JYT	**Yasato**	**0.82**	**233**			**Pb**		**08 57 01.9**	**-1.1**
JSB	**Shiboa**	**0.90**	**286**	P		**Pg**		**08 57 04.5**	**+0.5**
JFT	**Otama**	**0.95**	**326**	P		**Pb**		**08 57 05.0**	**-0.2**
JFT				S		**Sn**		**08 57 18.5**	**-1.1**
JMM	**Marumori**	**1.15**	**352**	P		**Pn**		**08 57 07.1**	**-1.6**
JMM				S		**Sb**		**08 57 22.7**	**-0.7**
JMM	**Marumori**	**1.15**	**352**			**Pn**		**08 57 07.2**	**-1.4**
MJAR	**Matsushiro Arr**	**2.26**	**266**	Pn		**Pn**		**08 57 23.4**	**-0.5**
	3.9nm,0.3s,baz=110,slow=11,SNR=89								
MJAR				Sn		**Sb**		**08 57 54.8**	**-0.5**
	5.7nm,0.3s,baz=22,slow=14,SNR=9.1								
MJAR	**Matsushiro Arr**	**2.26**	**266**	Pn		**Pn**		**08 57 24.4**	**+0.5**
MAJO	**Matsushiro**	**2.26**	**266**			**Pn**		**08 57 24.3**	**+0.4**
MAT	**Matsushiro**	**2.26**	**266**	P		**Pn**		**08 57 24.4**	**+0.4**
MAT				S		**Sb**		**08 57 55.1**	**-0.3**
JSD	**Sado**	**2.55**	**302**	Pn		**Pn**		**08 57 27.7**	**-0.2**
JGF	**Kuroka**	**3.16**	**250**	Pn		**Pn**		**08 57 37.8**	**+1.4**
INU	**Inuyama**	**3.51**	**248**	Pn		**Pn**		**08 57 42.5**	**+1.3**
JHJ	**Hachijo jima 2**	**3.74**	**196**	Pn		**Pn**		**08 57 45.0**	**+0.8**
	15nm,0.3s,baz=119,slow=21,SNR=6.3								
JHJ				Sn		**Sn**		**08 58 27.8**	**-0.5**
	15nm,0.3s,baz=252,slow=19,SNR=1.2								
JHJ2	**Mitsune**	**3.74**	**195**	Pn		**Pn**		**08 57 45.6**	**+1.4**
JTM	**Tenmabayashi**	**4.05**	**1**			**Pn**		**08 57 49.1**	**+0.5**
JWT	**Wachi**	**4.77**	**254**	Pn		**Pn**		**08 58 00.5**	**+2.1**
ERM	**Erimo**	**5.54**	**17**	Pn		**Pn**		**08 58 09.4**	**+0.5**
JHS	**Saijyo**	**6.63**	**257**	Pn		**Pn**		**08 58 26.2**	**+2.1**
ASAJ	**Asahikawa**	**7.48**	**9**	Pn		**Pn**		**08 58 34.5**	**-1.1**
	2.2nm,0.3s,baz=238,slow=9.0,SNR=14								
JKA	**Kamikawa-asahi**	**7.48**	**9**	Pn		**Pn**		**08 58 34.6**	**-1.0**
USRK	**Ussuriysk Ar.**	**10.14**	**320**	Pn		Pn		08 59 17.0	+4.9
	baz=134,slow=14,SNR=5.2								
KSRS	**Korea Array**	**10.48**	**278**	Pn		Pn		08 59 21.5	+4.8
	0.3nm,0.3s,baz=94,slow=14,SNR=5.3								
SONM	**Songino Array**	**27.69**	**305**	P		**P**		**09 02 34.4**	**-0.4**
	1.5nm,0.5s,baz=113,slow=9.7,SNR=5.3								
SONM	**Songino Array**	**27.69**	**305**	P		**P**		**09 02 33.2**	**-1.5**
H11N2	**WAKE ISLAND Hy**	**28.28**	**120**	T		T		09 32 07.9	
	baz=312,slow=75,SNR=684								
H11N1	**WAKE ISLAND Hy**	**28.28**	**120**	T		T		09 32 09.0	
	baz=312,slow=75,SNR=356								
H11N3	**WAKE ISLAND Hy**	**28.30**	**120**	T		T		09 32 09.8	
	baz=312,slow=75,SNR=546								
H11S1	**WAKE ISLAND Hy**	**28.97**	**122**	T		T		09 32 58.9	
	baz=314,slow=75,SNR=638								
H11S3	**WAKE ISLAND Hy**	**28.97**	**122**	T		T		09 32 59.6	
	baz=314,slow=75,SNR=591								
H11S2	**WAKE ISLAND Hy**	**28.99**	**122**	T		T		09 32 59.8	
	baz=314,slow=75,SNR=489								
ZAA0	**Zalesovo Array**	**41.88**	**313**	P		**P**		**09 04 35.6**	**-1.1**
ZAA0				IAmb		IAmb		09 04 37.4	
	comp=Z,3.0nm,0.8s								
ZALV	**Zalesovo Beam**	**41.88**	**313**	P		**P**		**09 04 36.8**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=92,slow=7.3,SNR=9.9								
ZALV	**Zalesovo Beam**	**41.88**	**313**	P		**P**		**09 04 35.8**	**-0.8**
MK31	**Makanchi Array**	**44.00**	**302**	P		**P**		**09 04 54.3**	**+0.2**
MK31				IAmb		IAmb		09 05 18.6	
	comp=Z,2.6nm,1.1s								
MKAR	**Makanchi Array**	**44.00**	**302**	P		**P**		**09 04 53.9**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=83,slow=10,SNR=11								
MKAR	**Makanchi Array**	**44.00**	**302**	P		**P**		**09 04 53.6**	**-0.4**
K20K	**Telida**	**46.76**	**34**	P		**P**		**09 05 16.8**	**+1.1**
K20K				IAmb		IAmb		09 05 26.7	
	comp=Z,9.7nm,1.4s								
IMAR	**Indian Mountai**	**47.08**	**30**	P		**P**		**09 05 18.0**	**-0.1**
ILAR	**Eielson Array**	**49.93**	**32**	P		**P**		**09 05 40.5**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=262,slow=6.3,SNR=8.3								
BCAR	**Beaver Creek A**	**52.33**	**34**	P		**P**		**09 05 58.6**	**+0.5**
KK31	**Karatay Array**	**52.99**	**300**	P		**P**		**09 06 03.3**	**0.0**
KK31				IAmb		IAmb		09 06 17.4	
	comp=Z,3.3nm,1.1s								
KKAR	**Karatay Array**	**52.99**	**300**	P		**P**		**09 06 02.7**	**-0.7**
EPYK	**Eagle Plains**	**53.95**	**30**	P		**P**		**09 06 10.1**	**+0.1**
WB0	**Warramunga Arr**	**56.54**	**187**	P		**P**		**09 06 29.2**	**+0.1**
WB0				IAmb		IAmb		09 06 32.1	
	comp=Z,5.4nm,0.9s								
WR0	**Warramunga Arr**	**56.71**	**187**	P		**P**		**09 06 29.6**	**-0.7**
WB2	**Warramunga Arr**	**56.71**	**187**	P		**P**		**09 06 29.8**	**-0.5**
WB2				IAmb		IAmb		09 06 33.8	
	comp=Z,6.2nm,1.0s								
WRA	**Warramunga Arr**	**56.72**	**188**	P		**P**		**09 06 29.1**	**-1.3**
	comp=Z,2.8nm,0.8s,baz=7.7,slow=7.8,SNR=19								
WRA	**Warramunga Arr**	**56.72**	**188**	P		**P**		**09 06 30.3**	**-0.1**
ABKAR	**Akbulak array**	**57.89**	**310**	P		**P**		**09 06 38.0**	**-0.4**
ASAR	**Alice Springs**	**60.44**	**187**	P		**P**		**09 06 56.8**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=13,slow=8.1,SNR=11								
ASAR	**Alice Springs**	**60.44**	**187**	P		**P**		**09 06 57.3**	**+1.0**
ARCES	**ARCESS Array B**	**64.17**	**339**	P		**P**		**09 07 21.5**	**+0.7**
	comp=Z,3.3nm,1.1s,baz=59,slow=7.3,SNR=3.8								
STKA	**Stephens Creek**	**68.25**	**179**	P		**P**		**09 07 48.7**	**+1.4**
	comp=Z,1.5nm,0.7s,baz=347,slow=10.0,SNR=3.6								
STKA	**Stephens Creek**	**68.25**	**179**	P		**P**		**09 07 47.4**	**+0.1**
STKA				IAmb		IAmb		09 08 05.6	
	comp=Z,1.3nm,1.3s								
FINES	**FINESS Array B**	**68.93**	**332**	P		**P**		**09 07 51.6**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=28,slow=8.6,SNR=3.5								
AKASG	**Malin Array Be**	**74.34**	**322**	P		**P**		**09 08 23.1**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=46,slow=6.6,SNR=2.2								
NOA	**NORSAR Array B**	**74.34**	**337**	P		**P**		**09 08 24.3**	**+0.3**
	comp=Z,1.0nm,0.9s,baz=41,slow=5.9,SNR=2.6								
NVAR	**Mina Array Bea**	**75.43**	**53**	P		**P**		**09 08 32.2**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=279,slow=6.3,SNR=3.7								
BRTR	**Keskin Array B**	**78.81**	**311**	P		**P**		**09 08 50.6**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=50,slow=12,SNR=2.6								
LPAZ	**La Paz**	**147.13**	**59**	PKPbc		**PKPab**		**09 16 32.5**	**-0.1**
	comp=Z,1.1nm,0.9s,baz=5.4,slow=2.4,SNR=2.8								

*IDC **22** 09:22:10.4±1.7, 36°.87N×98°.16W, h0km, mb1 3.7/3, mb1mx3.4/43, mbtmp3.4/3, ML3.4/3, Error ellipse: s-maj=28.8km s-min=11.7km az=102.0*
*NEIC **22** 09:22:11.4±1.2, 36°.83N±0°.02×98°.24W±0°.03, h5km±1km, mb_Lg3.3/120, Error ellipse: s-maj=4.4km s-min=2.6km az=250.0*
*ANF **22** 09:22:13.2±2.2, 36°.84N×98°.18W, h16km±16km, ML4.3/15, Error ellipse: s-maj=5.2km s-min=4.7km az=76.0*

ISC 22 09:22:11.1±0.8, **36°.82N**±0°.02×**98°.25W**±0°.02, **h10**km±5km, **n166**, σ**1**.**07**/167, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.04**	**121**	Pg		**Pg**		**09 22 12.7**	**-0.3**
OK032						**Sg**		**09 22 14.0**	**-0.4**
KAN14	**Manchester OK**	**0.27**	**59**			**Pg**		**09 22 16.5**	**0.0**
KAN14				Sg		**Sg**		**09 22 20.6**	**+0.5**
GC02	**Grant County #**	**0.31**	**84**	Pg		**Pg**		**09 22 17.6**	**+0.3**
GC02				Sg		**Sb**		**09 22 22.4**	**-1.6**
KAN10	**Anthony SW Sta**	**0.33**	**22**			**Pg**		**09 22 17.4**	**-0.2**
KAN10				Sg		**Sg**		**09 22 21.8**	**-0.2**
CROK	**Carrier**	**0.38**	**146**	Pg		**Pg**		**09 22 19.1**	**+0.5**
CROK				Sg		**Sb**		**09 22 25.0**	**-0.9**
KAN05	**Bluff City Nor**	**0.41**	**46**			**Pg**		**09 22 19.3**	**0.0**
KAN05				Sg		**Sg**		**09 22 25.3**	**+0.5**
KAN16	**Harper SW Stat**	**0.43**	**20**			**Pg**		**09 22 19.3**	**-0.2**
KAN16				Sg		**Sg**		**09 22 25.0**	**-0.2**
KAN17	**Caldwell West**	**0.45**	**60**	Pg		**Pg**		**09 22 19.8**	**-0.1**
KAN17				Sg		**Sg**		**09 22 26.1**	**+0.3**
KAN08	**Anthony NE Sta**	**0.46**	**29**			**Pg**		**09 22 20.0**	**-0.2**
KAN08				Sg		**Sg**		**09 22 26.4**	**+0.2**
KAN12	**Harper NE Stat**	**0.52**	**23**			**Pg**		**09 22 20.9**	**-0.3**
KAN12						**Sg**		**09 22 27.6**	**-0.4**
KAN06	**Argonia West S**	**0.53**	**36**			**Pg**		**09 22 21.2**	**-0.2**
KAN09	**Caldwell North**	**0.59**	**58**			**Pg**		**09 22 22.5**	**-0.1**
KAN09				Sg		**Sb**		**09 22 31.5**	**-0.6**
KAN13	**South Haven SW**	**0.65**	**73**			**Pg**		**09 22 23.6**	**-0.1**
KAN13				Sg		**Sg**		**09 22 32.3**	**+0.2**
KS20	**Mayfield South**	**0.69**	**54**			**Pg**		**09 22 24.2**	**-0.2**
KS20				Sg		**Sg**		**09 22 33.6**	**+0.2**
U32A	**Winter Ranch,**	**0.75**	**234**	Pg		**Pg**		**09 22 25.3**	**-0.3**
BLOK	**Blackwell**	**0.83**	**94**	Pg		**Pg**		**09 22 27.0**	**-0.2**
BLOK				Sg		**Sg**		**09 22 37.8**	**-0.1**
OK029	**Liberty Lake**	**1.21**	**148**	Pg		**Pb**		**09 22 33.9**	**-0.2**
BCOK	**Bluff Creek, N**	**1.27**	**156**			**Pn**		**09 22 34.9**	**-0.1**
T35A	**Sooner Cattle**	**1.40**	**86**	Pn		**Pb**		**09 22 37.0**	**-0.3**
T35B	**Sooner Cattle**	**1.40**	**86**	P		**Pb**		**09 22 37.1**	**-0.2**
	baz=267,SNR=21								
T35B				S		**Sg**		**09 22 55.5**	**-0.5**
	baz=267								
QUOK	**Quay**	**1.40**	**117**	Pn		**Pb**		**09 22 37.2**	**-0.2**
OK031	**S. Brethren Rd**	**1.43**	**127**	Pn		**Pb**		**09 22 37.6**	**-0.2**
OK025	**Westminster Rd**	**1.44**	**149**			**Pb**		**09 22 37.9**	**-0.1**
OK001	**Jones High Sch**	**1.48**	**148**	Pn		**Pb**		**09 22 38.7**	**0.0**
OKCFA	**Oklahoma City**	**1.54**	**155**			**Pb**		**09 22 39.6**	**-0.2**
OKCFA				IAmb	Lg			09 23 02.1	
	comp=Z,281nm,0.8s								
OKCFA	**Oklahoma City**	**1.54**	**155**	P		**Pb**		**09 22 39.7**	**-0.2**
	baz=337,SNR=9.4								
OKCFA				S		**Sg**		**09 23 00.9**	**+0.1**
	baz=337								
OKCSW	**OKLAHOMA CITY**	**1.56**	**155**			**Pb**		**09 22 39.8**	**-0.3**
R32A	**Long Quarter,**	**1.64**	**347**	Pn		**Pb**		**09 22 40.8**	**-0.7**
R32A	**Long Quarter,**	**1.64**	**347**	P		**Pb**		**09 22 40.8**	**-0.7**
	baz=166,SNR=27								
FNO	**Franklin**	**1.71**	**156**			**Pb**		**09 22 42.4**	**-0.2**
WMOK	**Wichita Mounta**	**2.12**	**192**	Pn		**Pn**		**09 22 47.5**	**+0.8**
WMOK	**Wichita Mounta**	**2.12**	**192**	S		**Sb**		**09 23 17.5**	**+1.4**
	baz=13								
TUL1	**Leonard**	**2.18**	**114**	Pn		**Pb**		**09 22 49.0**	**-1.7**
TUL1	**Leonard**	**2.18**	**114**	P		**Pn**		**09 22 48.3**	**+0.8**
	baz=296,SNR=15								
TUL1				Sb		**Sg**		**09 23 19.6**	**-1.6**
	baz=296								
TUL1	**Leonard**	**2.18**	**114**	P		**Pb**		**09 22 49.8**	**-0.9**
	baz=296								
TUL1				Sb		**Sg**		**09 23 19.3**	**-1.8**
	baz=296								
X34A	**Smith Ranch, M**	**2.24**	**171**	Pn		**Pn**		**09 22 48.7**	**+0.4**
CBKS	**Cedar Bluff**	**2.31**	**330**			**Pn**		**09 22 50.0**	**+0.7**
CBKS	**Cedar Bluff**	**2.31**	**330**	P		**Pn**		**09 22 50.4**	**+1.1**
	baz=148,SNR=24								
CBKS	**Cedar Bluff**	**2.31**	**330**	P		**Pb**		**09 22 51.4**	**-1.5**
	baz=148								
CBKS				S		**Sb**		**09 23 21.9**	**+0.3**
	baz=148								
KSU1	**Kansas State U**	**2.62**	**29**			**Pn**		**09 22 54.1**	**+0.6**
KSU1				IAmb	Lg			09 23 39.1	
	comp=Z,140nm,0.9s								
KSU1	**Kansas State U**	**2.62**	**29**	P		**Pn**		**09 22 54.6**	**+1.2**
	baz=209								
KSU1	**Kansas State U**	**2.62**	**29**	Sb		**Sb**		**09 23 31.1**	**+0.8**
	baz=209								
LOOK	**Love County**	**2.96**	**163**			**Pn**		**09 22 59.5**	**+1.4**
LOOK				IAmb	Lg			09 23 51.5	
	comp=Z,80nm,0.8s								
U38A	**Gravette**	**3.13**	**96**			**Pn**		**09 23 00.8**	**+0.3**
U38A				IAmb	Lg			09 23 56.0	
	comp=Z,105nm,0.8s								
X37A	**Clayton**	**3.23**	**133**			**Pn**		**09 23 03.0**	**+1.1**
X37A				IAmb	Lg			09 23 55.3	
	comp=Z,84nm,0.8s								
X37A	**Clayton**	**3.23**	**133**	P		**Pn**		**09 23 03.2**	**+1.3**
	baz=315,SNR=38								
AMTX	**Amarillo**	**3.39**	**236**			**Pn**		**09 23 05.1**	**+0.9**
AMTX				IAmb	Lg			09 24 08.1	
	comp=Z,80nm,0.8s								
AMTX	**Amarillo**	**3.39**	**236**	Sb		**Sg**		**09 23 57.8**	**-2.3**
	baz=54								
HHAR	**Hobbs**	**3.51**	**98**			**Pn**		**09 23 06.5**	**+0.7**
HHAR				IAmb	Lg			09 24 10.9	
	comp=Z,107nm,0.8s								
Z35A	**Perchaven, San**	**3.58**	**167**			**Pn**		**09 23 07.8**	**+1.2**
Z35A	**Perchaven, San**	**3.58**	**167**	P		**Pn**		**09 23 08.0**	**+1.3**
	baz=348,SNR=8.4								
W39A	**Magazine**	**3.96**	**113**			**Pn**		**09 23 13.3**	**+1.4**
W39A	**Magazine**	**3.96**	**113**	P		**Pn**		**09 23 13.4**	**+1.4**
	baz=296,SNR=21								
W39A	**Magazine**	**3.96**	**113**	P		**Pn**		**09 23 13.5**	**+1.6**
	baz=296								
S39A	**Bolivar**	**4.02**	**76**			**Pn**		**09 23 13.7**	**+0.9**
S39A	**Bolivar**	**4.02**	**76**	P		**Pn**		**09 23 13.7**	**+0.9**
	baz=259,SNR=24								
KSCO	**Kaye Shedlock'**	**4.09**	**304**			**Pn**		**09 23 14.9**	**+1.0**
KSCO				IAmb	Lg			09 24 22.5	
	comp=Z,59nm,0.7s								
KSCO	**Kaye Shedlock'**	**4.09**	**304**	Pb		**Pb**		**09 23 25.1**	**+1.7**
	baz=121								
ABTX	**Abilene, Hawle**	**4.34**	**196**	Pn		**Pn**		**09 23 19.5**	**+2.3**
ABTX	**Abilene, Hawle**	**4.34**	**196**	Sb		**Sb**		**09 24 25.2**	**+5.2**
	baz=15								
U40A	**Yellville**	**4.37**	**95**	Pn		**Pn**		**09 23 18.0**	**+0.5**
U40A	**Yellville**	**4.37**	**95**	P		**Pn**		**09 23 18.2**	**+0.8**
	baz=278,SNR=12								
U40A	**Yellville**	**4.37**	**95**	P		**Pn**		**09 23 18.3**	**+0.8**
	baz=278								
MIAR	**Mount Ida**	**4.43**	**119**			**Pn**		**09 23 19.6**	**+1.3**
MIAR				IAmb	Lg			09 24 37.5	
	comp=Z,72nm,0.8s								
MIAR	**Mount Ida**	**4.43**	**119**	P		**Pn**		**09 23 19.8**	**+1.5**
	baz=303,SNR=17								
MIAR	**Mount Ida**	**4.43**	**119**	P		**Pn**		**09 23 19.9**	**+1.6**
	baz=303								
Z38A	**Mt. Pleasant**	**4.45**	**142**			**Pn**		**09 23 19.1**	**+0.4**
Z38A				IAmb	Lg			09 24 37.0	
	comp=Z,87nm,0.8s								
Z38A	**Mt. Pleasant**	**4.45**	**142**	P		**Pn**		**09 23 19.7**	**+1.1**
	baz=324								
N35A	**Tabor**	**4.52**	**26**	Pn		**Pn**		**09 23 19.6**	**0.0**
BGNE	**Belgrade**	**4.58**	**1**			**Pn**		**09 23 21.3**	**+0.9**
BGNE	**Belgrade**	**4.58**	**1**	P		**Pn**		**09 23 21.1**	**+0.6**
	baz=180,SNR=61								
BGNE	**Belgrade**	**4.58**	**1**	P		**Pn**		**09 23 21.1**	**+0.6**
	baz=180								
P38A	**Dawn**	**4.65**	**52**	Pn		**Pn**		**09 23 22.9**	**+1.5**
P38A				IAmb	Lg			09 24 40.0	
	comp=Z,51nm,0.7s								
P38A	**Dawn**	**4.65**	**52**	P		**Pn**		**09 23 22.3**	**+1.0**
	baz=234,SNR=12								
MSTX	**Muleshoe**	**4.67**	**234**			**Pn**		**09 23 23.1**	**+1.4**
MSTX				IAmb	Lg			09 24 40.9	
	comp=Z,53nm,1.1s								
MSTX	**Muleshoe**	**4.67**	**234**	Sb		**Sg**		**09 24 36.4**	**-4.5**
	baz=51								
MGMO	**Mountain Grove**	**4.80**	**84**			**Pn**		**09 23 24.7**	**+1.2**
MGMO				IAmb	Lg			09 24 50.4	
	comp=Z,64nm,0.7s								
WHTX	**Lake Whitney,**	**4.86**	**172**			**Pn**		**09 23 25.6**	**+1.3**
WHTX	**Lake Whitney,**	**4.86**	**172**	P		**Pn**		**09 23 25.4**	**+1.0**
	baz=353,SNR=10.0								
WHTX	**Lake Whitney,**	**4.86**	**172**	P		**Pn**		**09 23 25.3**	**+1.0**
	baz=353								
T25A	**Trinidad**	**4.95**	**276**	Pn		**Pn**		**09 23 27.3**	**+1.6**
R40A	**Maddies Statio**	**4.97**	**71**			**Pn**		**09 23 26.4**	**+0.6**
R40A				IAmb	Lg			09 24 54.4	
	comp=Z,38nm,0.8s								
R40A	**Maddies Statio**	**4.97**	**71**	P		**Pn**		**09 23 26.4**	**+0.6**
	baz=254,SNR=32								
X40A	**Basin Creek Fa**	**4.99**	**116**			**Pn**		**09 23 27.9**	**+1.9**
X40A				IAmb	Lg			09 24 58.7	
	comp=Z,48nm,0.7s								
X40A	**Basin Creek Fa**	**4.99**	**116**	P		**Pn**		**09 23 27.3**	**+1.3**
	baz=300,SNR=15								
X40A	**Basin Creek Fa**	**4.99**	**116**	P		**Pn**		**09 23 27.6**	**+1.6**
	baz=300								
FCAR	**Ozark Folk Cen**	**5.03**	**99**	Pn		**Pn**		**09 23 27.8**	**+1.2**
FCAR				IAmb	Lg			09 25 01.4	
	comp=Z,50nm,0.8s								
WHAR	**Wooly Hollow**	**5.06**	**106**			**Pn**		**09 23 28.2**	**+1.1**
WHAR				IAmb	Lg			09 24 58.1	
	comp=Z,59nm,0.7s								
OGNE	**Ogallala**	**5.07**	**326**	Pn		**Pn**		**09 23 27.9**	**+0.7**
OGNE				IAmb	Lg			09 24 51.2	
	comp=Z,83nm,0.8s								
W41B	**Gary Mavity, V**	**5.13**	**107**	P		**Pn**		**09 23 28.8**	**+0.8**
	baz=291,SNR=11								
W41B	**Gary Mavity, V**	**5.13**	**107**	P		**Pn**		**09 23 28.8**	**+0.8**
	baz=291								
237A	**Washetta, Mont**	**5.21**	**157**	Pn		**Pn**		**09 23 29.4**	**+0.2**
237A				IAmb	Lg			09 25 08.8	
	comp=Z,70nm,0.9s								
WLAR	**White Oak Lake**	**5.24**	**125**			**Pn**		**09 23 30.8**	**+1.4**
WLAR				IAmb	Lg			09 24 58.9	
	comp=Z,44nm,0.7s								
L34A	**Svendsen Farm,**	**5.34**	**15**	Pn		**Pn**		**09 23 31.3**	**+0.4**
L34A				IAmb	Lg			09 25 04.7	
	comp=Z,80nm,0.8s								
N38A	**Joes South For**	**5.57**	**43**			**Pn**		**09 23 34.3**	**+0.2**
N38A				IAmb	Lg			09 25 21.4	
	comp=Z,65nm,0.8s								
N38A	**Joes South For**	**5.57**	**43**	P		**Pn**		**09 23 34.3**	**+0.2**
	baz=226,SNR=7.9								
P40A	**Paris**	**5.58**	**59**	Pn		**Pn**		**09 23 35.4**	**+1.2**
P40A				IAmb	Lg			09 25 12.2	
	comp=Z,60nm,0.8s								
CCM	**Cathedral Cave**	**5.71**	**75**	Pn		**Pn**		**09 23 36.9**	**+1.0**
CCM				IAmb	Lg			09 25 13.8	
	comp=Z,45nm,0.8s								
T42A	**Van Buren**	**5.74**	**86**			**Pn**		**09 23 37.8**	**+1.5**
T42A				IAmb	Lg			09 25 19.7	
	comp=Z,32nm,0.8s								
LCAR	**Lake Charles**	**5.77**	**95**	Pn		**Pn**		**09 23 38.1**	**+1.4**
LCAR				IAmb	Lg			09 25 16.6	
	comp=Z,45nm,0.9s								
NATX	**Nacogdoches**	**5.86**	**149**	Pn		**Pn**		**09 23 39.9**	**+1.9**
NATX	**Nacogdoches**	**5.86**	**149**	S		**Sn**		**09 24 43.8**	**-1.4**
	baz=331								
CCAR	**Cane Creek**	**6.03**	**117**	Pn		**Pn**		**09 23 41.4**	**+1.0**
CCAR				IAmb	Lg			09 25 33.0	
	comp=Z,63nm,0.9s								
CCAR	**Cane Creek**	**6.03**	**117**	P		**Pn**		**09 23 41.1**	**+0.7**
	baz=301,SNR=8.2								
PBMO	**Poplar Bluff**	**6.27**	**88**	Pn		**Pn**		**09 23 44.7**	**+1.0**
FVM	**French Village**	**6.33**	**77**	Pn		**Pn**		**09 23 45.9**	**+1.4**
FVM				IAmb	Lg			09 25 35.8	
	comp=Z,42nm,0.9s								
SCIA	**State Center**	**6.40**	**36**	Pn		**Pn**		**09 23 44.7**	**-0.7**
JCT	**Junction City**	**6.46**	**192**	Pn		**Pn**		**09 23 45.9**	**-0.4**
ISCO	**Idaho Springs**	**6.51**	**299**	Pn		**Pn**		**09 23 48.2**	**+0.9**
LPAR	**Lepanto**	**6.54**	**98**	IAmb	Lg			09 25 40.1	
	comp=Z,54nm,0.8s								
SLM	**Saint Louis**	**6.60**	**72**	IAmb	Lg			09 25 42.4	
	comp=Z,39nm,0.7s								
143A	**Socs Landing,**	**6.97**	**124**	IAmb	Lg			09 25 57.3	
	comp=Z,31nm,0.8s								
ECSD	**EROS Data Cent**	**7.02**	**10**			**Pn**		**09 23 53.3**	**-0.6**
ECSD				IAmb	Lg			09 25 58.6	
	comp=Z,24nm,0.9s								
ECSD	**EROS Data Cent**	**7.02**	**10**	P		**Pn**		**09 23 52.9**	**-1.0**
	baz=190								
K38A	**Parkersburg**	**7.18**	**34**	Pn		**Pn**		**09 23 57.3**	**+1.1**

NOU ***22*** *09:22:32.8, 15°.97S×168°.11E, h235km, mB5.8/104, Vanuatu Islands*
MOS ***22*** *09:22:32.7±0.9, 15°.96S×168°.05E, h249km, mb5.2/23, Error ellipse: s-maj=7.3km s-min=6.7km az=124.6*
GCMT ***22*** *09:22:34.4±0.1, 15°.92S±0°.01×168°.00E±0°.01, h248km±1km, MW5.7/157, Moment Tension Solution. s114,c181; s157,c305; Duration: 1s6 Moment tensor: Scale 10^17 Nm; Mrr=0.88±.05; Mθθ=2.60±.05; Mφφ=3.48±.05; Mrθ=0.54±.04; Mrφ=0.94±.05; Mθφ=2.42±.04; Best double couple: Mo3.74500×10^17 NP1:φs140.00000°, δ66.00000°, λ170.00000°. NP2:φs234.00000°, δ81.00000°, λ25.00000°. Principal axes: T 4.7160, Plg24.0000°, Azm99.0000°; N -1.9400, Plg64.0000°, Azm253.0000°; P -2.7730, Plg10.0000°, Azm5.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 09:22:32.2±0.2, 15°.99S±0°.03×168°.12E±0°.04, h237km±2km, h238km:pP-P,n880,σ1s72/956,mb5.3/232,17C-24D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.03	301	Pn	Pn	09 23 05.7	-0.3
SANVU	Saraoutou	1.03	301	P	Pn	09 23 06.5	+0.5
DVP	Devils Point	1.73	178	P	Pn	09 23 11.5	+0.4
RTV	Rentapao	1.82	171	P	Pn	09 23 12.3	+0.4
LIFNC	LIFOU	4.83	190	Pn	Pn	09 23 43.8	-1.7
LIFNC	LIFOU	4.83	190	P	Pn	09 23 44.5	-1.0
MARNC	Mare, Loyalty	5.46	181		Pn	09 23 52.4	-0.9
KOUNC	Koumac, New Ca	5.81	218	P	Pn	09 23 59.9	+2.2
YATNC	Mamie plateau,	6.15	191	P	Pn	09 24 01.2	-0.7
DZM	Mont Dzumac 7µm,1.5s	6.25	194	eP	Pn	09 24 04.1	+0.8
DZM	Mont Dzumac 63nm,0.3s,baz=43,slow=16,SNR=570	6.25	194	P	Pn	09 24 04.1	+0.8
DZM	18nm,0.3s,baz=4.6,slow=18,SNR=0.9			S	S	09 25 15.5	-0.6
DZM	Mont Dzumac	6.25	194	Pn	Pn	09 24 04.2	+0.9
DZM	Mont Dzumac	6.25	194	P	Pn	09 24 04.4	+1.1
NOUC	Port Laguerre	6.32	195	P	Pn	09 24 05.1	+1.1
ONTNC	Ouen Toro	6.48	194	Pn	Pn	09 24 07.2	+1.2
ONTNC	Ouen Toro	6.48	194	P	Pn	09 24 07.2	+1.2
OUENC	Ouen Island, N	6.51	190		Pn	09 24 07.2	+0.8
OUENC	Ouen Island, N	6.51	190	P	Pn	09 24 07.5	+1.1
PINNC	Pines Island,	6.62	185	Pn	Pn	09 24 07.7	-0.1
PINNC	Pines Island,	6.62	185	P	Pn	09 24 07.8	-0.1
MSVF	Nonsavu	9.67	102	P	Pn	09 24 49.4	+2.6
MSVF	Nonsavu	9.67	102		Pn	09 24 49.4	+2.6
MSVF	Nonsavu	9.67	102	P	Pn	09 24 49.1	+2.3
HNR	Honiara 62nm,0.3s,baz=158,slow=2.6,SNR=45	10.29	308	P	Pn	09 24 55.9	+1.2
HNR	baz=282,slow=19,SNR=1.0			S	S	09 26 44.1	-6.2
HNR	Honiara	10.29	308		Pn	09 24 55.6	+0.9
HNR	Honiara	10.29	308	P	Pn	09 24 56.4	+1.7
NFK	Norfolk Island baz=13,SNR=6.1	12.99	181	P	Pn	09 25 28.5	+0.1
NFK	Norfolk Island	12.99	181	P	Pn	09 25 29.3	+0.9
FUNA	Funafuti	13.12	57	P	Pn	09 25 30.8	+0.7
LHI	Lord Howe Isla baz=18,SNR=13	17.53	207	P	Pn	09 26 22.4	-0.3
LHI	Lord Howe Isla	17.53	207	P	Pn	09 26 22.1	-0.7
LHI	Lord Howe Isla	17.53	207	P	Pn	09 26 22.4	-0.3
TARA	Tarawa	17.88	16	P	Pn	09 26 26.2	-0.8
RAO	Raoul Island 54nm,0.3s,baz=70,slow=23,SNR=4.7	18.43	138	P	Pn	09 26 35.9	+2.6
RAO	Raoul Island comp=Z,904nm,1.0s	18.43	138	P pmax	Pn pmax	09 26 36.5	+3.1
RAO	Raoul Island	18.43	138	P	Pn	09 26 36.5	+3.1
GLKZ	Green Lake	18.43	138	P	P	09 26 29.9	-0.4
EIDS	Eidsvold baz=18,SNR=134	18.45	237	P	Pn	09 26 32.8	-1.0
EIDS	Eidsvold	18.45	237	P	Pn	09 26 32.7	-1.0
AFI	Afiamalu comp=Z,32nm,0.3s,baz=86,slow=0.3,SNR=45	19.54	87	P	P	09 26 43.4	+0.8
AFI	Afiamalu comp=Z,148nm,0.7s	19.54	87	P pmax	P pmax	09 26 43.4	+1.1
AFI	Afiamalu	19.54	87	P	P	09 26 43.4	+1.1
AFI	Afiamalu	19.54	87	P	P	09 26 43.8	+0.5
RABL	Rabaul	19.58	305	P	Pn	09 26 45.5	-1.6
RABL	Rabaul	19.58	305	P	P	09 26 43.7	+1.0
OUZ	Omahuta	19.77	167	P	Pn	09 26 47.0	-2.1
RMQ	Roma baz=21,SNR=181	20.82	237	P	P	09 26 57.2	+1.3
ARMA	Armidale baz=21,SNR=254	20.84	224	P	P	09 26 57.7	+1.6
ARMA	Armidale	20.84	224	P	P	09 26 57.7	+1.6
NIUE	Niue baz=21,SNR=3.1	21.16	102	P	P	09 26 57.4	-2.0
CTA	Charters Tower comp=Z,50nm,0.6s,baz=83,slow=11,SNR=85	21.18	256	P	P	09 27 00.6	+1.0
CTA	comp=Z,19nm,0.6s,baz=78,slow=13,SNR=2.4			pP	pP	09 27 39.4	+2.4
CTA	comp=Z,2.7nm,0.5s,baz=10,slow=11,SNR=1.6			S	S	09 30 39.9	+0.2
CTAO	Charters Tower comp=Z,119nm,1.0s	21.18	256	P pmax	P pmax	09 27 00.4	+0.8
CTAO	Charters Tower comp=Z,119nm,0.9s	21.18	256	P IAmb	P IAmb	09 27 00.3	+0.8
CTAO						09 27 47.3	
TOZ	Tahuroa Road	22.62	165	P	P	09 27 13.7	+0.9
MTSU	Mount Surprise baz=23,SNR=195	22.85	261	P	P	09 27 16.1	+1.0
MGCD	Mangrove Creek baz=23,SNR=216	23.03	219	P	P	09 27 18.2	+1.6
KARZ	Kaharoa	23.09	163	P	P	09 27 23.7	+6.6
TLZ	Tolley Road	23.19	165	P	P	09 27 19.7	+1.6
OMRZ	Omania	23.20	163	P	P	09 27 21.9	+3.7
HIZ	Hauiti	23.21	166	P	P	09 27 20.4	+2.2
HIZ	Hauiti	23.21	166	P	P	09 27 19.9	+1.8
MXZ	Matakaoa Point	23.30	159	P	P	09 27 18.8	-0.2
MXZ	Matakaoa Point	23.30	159	P	P	09 27 19.5	+0.5
HAZ	Te Kaha	23.30	160	P	P	09 27 20.3	+1.3
EDRZ	Edgecumbe	23.31	163	P	P	09 27 21.9	+2.8
HLRZ	Highlands Stat	23.33	163	P	P	09 27 21.8	+2.4
GRRZ	Galatos Road	23.36	164	P	P	09 27 21.5	+1.9
TARZ	Mount Tarawera	23.36	163	P	P	09 27 21.8	+2.1
KUTZ	Kaahu Road	23.42	165	P	P	09 27 21.8	+1.7
RIV	Riverview baz=24,SNR=14	23.43	218	P	P	09 27 21.7	+1.5
HRRZ	Handcock Road	23.45	164	P	P	09 27 22.0	+1.6
RRRZ	Republican Roa	23.46	163	P	P	09 27 22.7	+2.2
RUGZ	Raukumara Rang	23.46	161	P	P	09 27 20.8	+0.2
PKGZ	Pakihiroa	23.52	160	P	P	09 27 21.8	+0.7
WPRZ	Whakapapatarin	23.53	164	P	P	09 27 24.0	+2.9
URZ	Urewera comp=Z,54nm,0.5s,baz=302,slow=23,SNR=7.0	23.56	162	P	P	09 27 22.2	+0.9
URZ	Urewera	23.56	162	P	P	09 27 22.4	+1.0
URZ	Urewera	23.56	162	P	P	09 27 22.2	+0.9
URZ				S	S	09 31 18.1	+0.6
PRRZ	Plateau Road	23.58	164	P	P	09 27 23.7	+2.2
PRRZ				S	S	09 31 22.1	+4.2
ALRZ	Allen Road	23.62	164	P	P	09 27 24.6	+2.7
MUGZ	Murupara	23.66	163	P	P	09 27 24.3	+2.0
PUZ	Puketiti	23.75	160	P	P	09 27 23.2	+0.1
PUZ				S	S	09 31 18.1	-2.5
TWGZ	Tauwhareparae	23.75	160	P	P	09 27 24.0	+0.8
TWGZ				S	S	09 31 18.2	-2.5
MWZ	Matawai	23.75	161	P	P	09 27 23.8	+0.6
MWZ				S	S	09 31 18.8	-2.0
RATZ	Rangitukua	23.76	165	P	P	09 27 25.4	+2.2
VRZ	Vera Road	23.77	167	P	P	09 27 25.2	+1.9
KATZ	Kakaramea	23.84	165	P	P	09 27 26.2	+2.1
RTZ	Ruatahuna	23.85	163	P	P	09 27 24.9	+0.8
RTZ				S	S	09 31 21.2	-1.1
RAGZ	Rawiri	23.87	162	P	P	09 27 25.2	+1.0
RAGZ				S	S	09 31 23.6	+1.0
TWVZ	Taurewa	23.87	166	P	P	09 27 26.0	+1.7
RITZ	Rihia Road	23.89	165	P	P	09 27 25.1	+0.8
MRHZ	Matea Rd	23.90	164	P	P	09 27 26.8	+2.3
MRHZ				S	S	09 30 41.4	-42
TKGZ	Te Karaka	23.95	161	P	P	09 27 25.2	+0.4
TKGZ				S	S	09 31 22.2	-1.5
WTVZ	West Tongariro	23.95	166	P	P	09 27 27.3	+2.2
WTVZ				S	S	09 31 27.3	+3.3
ETVZ	East Tongariro	24.00	165	P	P	09 27 29.7	+4.2
NGZ	Ngauruhoe	24.01	166	P	P	09 27 27.6	+2.0
OTVZ	Oturere	24.02	165	P	P	09 27 27.9	+2.2
OTVZ				S	S	09 31 27.0	+1.9
MTHZ	Maungataniwha	24.03	163	P	P	09 27 26.8	+1.1
MTHZ				S	S	09 31 25.2	0.0
FWVZ	Far West T-bar	24.08	166	P	P	09 27 28.1	+1.8
FWVZ				S	S	09 31 30.0	+3.8
CNGZ	Carnagh Statio	24.10	160	P	P	09 27 26.7	+0.4
CNGZ				S	S	09 31 24.4	-1.8
SNGZ	Shannon Statio	24.11	162	P	P	09 27 26.9	+0.5
SNGZ				S	S	09 31 26.1	-0.3
WHVZ	Whangaehu Hut	24.11	166	P	P	09 27 29.1	+2.4
TUVZ	Tukino	24.11	166	P	P	09 27 29.7	+3.1
TRVZ	Turoa	24.12	166	P	P	09 27 29.9	+3.2
RAHZ	Arahi	24.16	163	P	P	09 27 27.8	+0.9
RAHZ				S	S	09 31 26.1	-1.0
RIGZ	Rimuhau	24.16	161	P	P	09 27 27.3	+0.4
RIGZ				S	S	09 31 25.7	-1.6
COEN	Coen	24.18	271	P	P	09 27 27.7	+0.5
COEN	comp=Z,141nm,1.3s			IAmb	IAmb	09 28 21.4	
BKZ	Black Stump Fm	24.23	164	P	P	09 27 28.3	+0.8
BKZ	Black Stump Fm	24.23	164	P	P	09 27 27.9	+0.4
BKZ				S	S	09 31 27.1	-1.2
BHHZ	Black Hill Sta	24.42	165	P	P	09 27 29.9	+0.6
KWHZ	Kaweka Forest	24.45	164	P	P	09 27 30.5	+0.9
KWHZ				S	S	09 31 33.0	+1.1
ARHZ	Aropaoanui	24.46	163	P	P	09 27 30.3	+0.8
ARHZ				S	S	09 31 32.0	+0.2
MCHZ	McNeill Hill	24.54	164	P	P	09 27 31.2	+0.9
QLP	Quilpie baz=25,SNR=163	24.58	241	P	P	09 27 31.9	+1.1
MHGZ	Mahia Peninsul	24.62	161	P	P	09 27 31.4	+0.4
PATS	Pohnpei	24.67	336	P	P	09 27 32.9	+1.3
MANU	Manus Island	24.70	302	P	P	09 27 33.5	+1.6
MANU	comp=Z,178nm,1.4s			IAmb	IAmb	09 28 21.2	
QRZ	Quartz Range	25.04	172	P	P	09 27 36.7	+1.9
YNG	Young baz=26,SNR=24	25.43	221	P	P	09 27 39.6	+1.2
CNB	Canberra baz=26,SNR=44	25.53	218	P	P	09 27 40.3	+1.0
NNZ	Nelson comp=Z,134nm,1.6s	25.55	171	P IAmb	P IAmb	09 27 42.7 09 27 59.2	+3.5
BFZ	Birch Farm	25.60	166	P	P	09 27 39.4	-0.4
CMSA	Cobar Meteorol baz=26,SNR=114	25.63	229	P	P	09 27 40.9	+0.7
CAN	Canberra comp=Z,234nm,1.8s	25.75	218	P pmax	P pmax	09 27 42.0	+0.7
CAN	Canberra	25.75	218	P	P	09 27 42.0	+0.7
TUWZ	Tuamarina	25.85	170	P	P	09 27 41.7	-0.2
SNZO	South Karori	25.87	169	P	P	09 27 42.0	-0.1
BHW	Baring Head	25.99	168	P	P	09 27 42.8	-0.5
THZ	Tophouse	26.01	172	P	P	09 27 43.7	+0.1
MSWZ	Moikau Station	26.08	168	P	P	09 27 43.4	-0.7
BSWZ	Blackbirch Sta	26.11	170	P	P	09 27 47.7	+3.3
PLWZ	Palliser	26.23	168	P	P	09 27 45.3	-0.2
KHZ	Kahutara comp=Z,43nm,0.6s	26.75	171	P IAmb	P IAmb	09 27 50.4 09 27 56.2	+0.5
MILA	Mila baz=27,SNR=13	26.88	215	P	P	09 27 51.2	-0.2
LTZ	Lake Taylor comp=Z,68nm,0.8s	26.94	173	P IAmb	P IAmb	09 27 52.4 09 27 53.9	+0.6
QIS	Mount Isa baz=28,SNR=20	27.43	256	P	P	09 27 56.7	+0.3
OXZ	Oxford comp=Z,76nm,0.7s	27.45	174	P IAmb	P IAmb	09 27 56.4 09 27 57.5	+0.2
FOZ	Fox Glacier comp=Z,87nm,0.8s	27.49	177	P IAmb	P IAmb	09 27 57.8 09 27 59.8	+1.3
RPZ	Rata Peaks comp=Z,64nm,0.9s	27.75	175	P IAmb	P IAmb	09 27 59.1 09 28 01.4	+0.2
LBZ	Lake Benmore comp=Z,55nm,0.7s	28.36	177	P IAmb	P IAmb	09 28 04.5 09 28 06.9	+0.1
WKZ	Wanaka comp=Z,150nm,1.4s	28.76	179	P IAmb	P IAmb	09 28 09.0 09 28 24.3	+1.2
STKA	Stephens Creek baz=29,SNR=292	28.83	232	P	P	09 28 09.8	+1.2
STKA	Stephens Creek comp=Z,48nm,0.4s,baz=72,slow=9.8,SNR=275	28.83	232	P PcP	P PcP	09 28 09.8 09 31 12.5	+1.2 +0.4
STKA	Stephens Creek comp=Z,27nm,0.6s,baz=40,slow=2.5,SNR=7.3	28.83	232	P	P	09 28 09.8	+1.2
ODZ	Otahua Downs comp=Z,69nm,1.1s	29.04	176	IAmb	IAmb	09 28 11.5	
MLZ	Mavora Lakes	29.29	180	P	P	09 28 13.4	+0.9
TOO	Toolangi baz=30,SNR=41	29.35	219	P	P	09 28 14.2	+1.0
TOO	Toolangi comp=Z,55nm,0.8s	29.35	219	P pmax	P pmax	09 28 14.3	+1.0
TOO	Toolangi comp=Z,56nm,0.8s	29.35	219	P IAmb	P IAmb	09 28 14.3 09 28 14.8	+1.0
WHZ	Wether Hill Ro comp=Z,45nm,0.8s	29.81	180	P IAmb	P IAmb	09 28 16.6 09 28 18.6	-0.6
PYZ	Puysegur Point comp=Z,188nm,1.7s	30.11	182	IAmb	IAmb	09 28 52.5	
ARPS	Mount Arapiles baz=31,SNR=44	31.17	223	P	P	09 28 30.1	+1.0
HTT	Hallett baz=32,SNR=127	31.54	231	P	P	09 28 33.4	+0.9
MOO	Moorlands baz=32,SNR=7.9	31.89	210	P	P	09 28 36.5	+1.1
SMPI	Sarmi comp=Z,1µmcomp=Z,107nm,0.9s	32.13	293	P	P	09 28 39.7	+1.9
WR0	Warramunga Arr comp=Z,86nm,1.4s	32.15	258	P IAmb	P IAmb	09 28 37.2 09 28 38.5	-0.7
TAU	Tasmania Unive	32.19	209	P	P	09 28 39.0	+1.1
TAU	comp=Z,293nm,1.8s			pmax	pmax	09 31 21.9	
TAU	Tasmania Unive	32.19	209	P	P	09 28 39.0	+1.1
TAU					PcP	09 31 21.9	+1.2
WB0	Warramunga Arr	32.28	258	P	P	09 28 38.6	-0.5
WB2	Warramunga Arr comp=Z,165nm,1.6s	32.33	258	P IAmb	P IAmb	09 28 38.8 09 28 40.2	-0.7
WRAB	Tennant Creek comp=Z,89nm,1.7s	32.33	258	*d* iP pmax	P pmax	09 28 38.4	-1.1
WRAB	Tennant Creek comp=Z,178nm,1.8s	32.33	258	P IAmb	P IAmb	09 28 38.4 09 28 40.1	-1.1
WRA	Warramunga Arr comp=Z,20nm,0.5s,baz=70,slow=6.5,SNR=216	32.34	258	P	P	09 28 38.8	-0.8
WRA	comp=Z,14nm,1.1s,baz=98,slow=8.5,SNR=1.6			pP PcP	pP PcP	09 29 25.4 09 31 21.7	-0.4 +0.1
WRA	comp=Z,14nm,0.6s,baz=96,slow=3.3,SNR=9.5			S	S	09 33 31.0	-4.9
WRA	comp=Z,19nm,1.1s,baz=94,slow=14,SNR=18			ScP	ScP	09 34 44.6	+1.9
WRA	comp=Z,7.2nm,1.1s,baz=109,slow=3.7,SNR=3.3			PKiKP	PKiKP	09 38 47.5	-1.3
WRA	comp=Z,1.2nm,0.9s,baz=183,slow=0.9,SNR=6.8	32.34	258	P	P	09 28 37.4	-2.2
WRA	Warramunga Arr				PcP	09 31 21.4	-0.2
AS31	Alice Springs	33.01	251	P	P	09 28 45.5	0.0
ASAR	Alice Springs comp=Z,311nm,0.5s,baz=78,slow=9.1,SNR=5650	33.01	251	P	P	09 28 45.4	-0.1
ASAR	comp=Z,59nm,0.9s,baz=80,slow=9.1,SNR=2.1			pP PcP	pP PcP	09 29 32.0 09 31 23.3	+0.2 -0.2
ASAR	comp=Z,20nm,0.6s,baz=90,slow=2.7,SNR=9.4			S	S	09 33 44.0	-2.3
ASAR	comp=Z,4.8nm,0.8s,baz=79,slow=16,SNR=6.5			ScP	ScP	09 34 45.5	+0.5
ASAR	comp=Z,12nm,0.9s,baz=86,slow=3.3,SNR=12			P3KPbc		09 59 59.9	
ASAR	comp=Z,0.6nm,0.8s,baz=252,slow=5.6,SNR=6.7	33.01	251	P	P	09 28 45.5	+0.1
ASAR					PcP	09 31 23.1	-0.3
BBOO	Buckleboo baz=34,SNR=257	33.48	234	P	P	09 28 50.1	+0.8
BBOO	Buckleboo	33.48	234	P	P	09 28 50.1	+0.8
KDU	Kakadu baz=35,SNR=42	34.66	271	P	P	09 28 59.3	-0.3
MTN	Manton Dam baz=36,SNR=49	35.92	270	P	P	09 29 10.2	-0.2
MTN	Manton Dam comp=Z,71nm,0.6s	35.92	270	P IAmb	P IAmb	09 29 10.1 09 29 20.0	-0.3
GUMO	Guam comp=Z,88nm,0.6s,baz=166,slow=16,SNR=1.9	37.31	321	P	P	09 29 23.3	+1.3
GUMO	Guam	37.31	321	P	P	09 29 23.1	+1.1
FAKI	Fak Fak comp=Z,110nm,1.4s	37.60	286	P IAmb	P IAmb	09 29 24.3 09 30 16.0	-0.2
KNRA	Kununurra baz=38,SNR=108	37.82	265	P	P	09 29 26.2	-0.1
KNRA	Kununurra	37.82	265	P	P	09 29 26.3	-0.1
WRKA	Warakurna baz=38,SNR=249	38.25	250	P	P	09 29 29.9	0.0
XMAS	Kiritimati	38.46	65	P	P	09 29 33.5	+1.9
SIJI	Sorong comp=Z,42nm,0.4s,baz=117,slow=8.0,SNR=19	39.31	289	P	P	09 29 37.9	-0.9
SIJI	comp=Z,17nm,0.7s,baz=108,slow=12,SNR=2.0			pP	pP	09 30 26.0	-0.8
SWI	Sorong comp=Z,71nm,0.5s	39.32	289	P	P	09 29 40.1	+1.3
FORT	Forrest baz=39,SNR=20	39.38	241	P	P	09 29 39.7	+0.6
FORT	Forrest	39.38	241	P	P	09 29 39.4	+0.3
PPT	Papeete comp=Z,22nm,0.7s,baz=185,slow=8.0,SNR=5.1	40.48	98	P	P	09 29 49.7	+1.4
FITZ	Fitzroy Crossi baz=41,SNR=574	40.60	261	P	P	09 29 49.7	+0.4
FITZ	Fitzroy Crossi comp=Z,347nm,0.6s,baz=110,slow=8.9	40.60	261	P	P	09 29 49.8	+0.4
FITZ	comp=Z,9.1nm,0.9s,baz=295,slow=19,SNR=7.5			S	S	09 35 37.7	-3.3
FITZ	Fitzroy Crossi	40.60	261	P	P	09 29 49.6	+0.3
KRAI	Karang Ratu comp=Z,46nm,0.6s	41.04	284	P	P	09 29 53.8	+0.9
PMOR	Pomariorio Ree comp=Z,119nm,1.4s	42.34	95	eP	P	09 30 04.8	+1.4
VAH	Vaihoa comp=Z,92nm,1.3s	42.57	95	eP	P	09 30 06.3	+1.1
SOEI	Soe comp=Z,164nm,1.3s	43.13	273	P IAmb	P IAmb	09 30 10.9 09 31 06.8	+1.0
SOEI	Soe comp=Z,58nm,0.5s	43.13	273	P	P	09 30 12.7	+2.8
BATI	Baumata comp=Z,108nm,0.5s,baz=176,slow=1.7	43.61	272	P	P	09 30 13.5	-0.2
BATI	Baumata comp=Z,1µmcomp=Z,123nm,0.7s	43.61	272	P	P	09 30 15.3	+1.7
MMRI	Maumere comp=Z,87nm,0.8s	45.34	274	P IAmb	P IAmb	09 30 26.7 09 30 27.5	-0.5
EDFI	Ende, Flores comp=Z,47nm,0.8s	45.84	273	P	P	09 30 31.2	-0.1
PSA00	Pilbara Seismi	45.90	255	P	P	09 30 31.6	0.0
PSA00	Pilbara Seismi	45.90	255	P	P	09 30 31.3	-0.2
PSA00	comp=Z,117nm,1.4s			IAmb	IAmb	09 30 34.1	
MEEK	Meekatharra baz=47,SNR=164	47.07	248	P	P	09 30 40.8	+0.3
LBFI	Labuhan Bajo, comp=Z,1µmcomp=Z,60nm,0.6s	47.63	273	P	P	09 30 45.0	0.0
BSSI	Bau Bau, Buton comp=Z,50nm,0.7s	47.65	276	P	P	09 30 48.0	+2.8
WBSI	Waikabubak, Su comp=Z,84nm,0.6s	47.84	271	P	P	09 30 49.7	+3.0
BKSI	Bulukumba comp=Z,815nmcomp=Z,61nm,0.6s	48.23	277	P	P	09 30 50.0	+0.4
BNSI	Bone comp=Z,74nm,0.7s	48.51	278	P	P	09 30 52.8	+1.0
KAPI	Kappang comp=Z,21nm,0.6s,baz=185,slow=4.2,SNR=11	48.67	277	P	P	09 30 53.3	+0.4
KAPI	Kappang	48.67	277	P	P	09 30 53.1	+0.2
NWAO	Narrogin (SRO) baz=49,SNR=236	48.82	240	P	P	09 30 53.8	0.0
NWAO	Narrogin (SRO) comp=Z,213nm,0.7s	48.82	240	P pmax	P pmax	09 30 53.8	0.0
NWAO	Narrogin (SRO)	48.82	240	P	P	09 30 53.8	0.0
BLDU	Ballidu baz=49,SNR=39	49.01	243	P	P	09 30 54.9	-0.4
TTSI	Tana Toraja comp=Z,24nm,0.6s	49.20	280	P	P	09 30 59.0	+2.0
MORW	Morawa baz=50,SNR=48	49.47	245	P	P	09 30 58.8	0.0
MORW	Morawa comp=Z,87nm,0.6s	49.47	245	P IAmb	P IAmb	09 30 59.0 09 31 00.2	+0.1
MUN	Mundaring baz=50,SNR=22	49.57	241	P	P	09 30 59.4	-0.1
PLAI	Plampang comp=Z,84nm,0.6s	49.58	272	P	P	09 31 02.1	+2.3
JCJ	Chichijima comp=Z,320nm,0.8s,baz=279,slow=20,SNR=17	49.68	329	P	P	09 31 00.3	0.0
JCJ	Chichijima	49.68	329	P	P	09 30 59.9	-0.3
TOLI2	Tolitoli	49.73	286	P	P	09 31 00.1	-0.8
KHU	Kahuku comp=Z,127nm,0.8s	49.99	47	P pmax	P pmax	09 31 03.4	+0.4
KHU	Kahuku comp=Z,127nm,0.8s	49.99	47	P IAmb	P IAmb	09 31 03.4 09 31 05.2	+0.4
OPA	Opana comp=Z,130nm,0.7s	50.05	43	P pmax	P pmax	09 31 03.6	+0.4
OPA	Opana comp=Z,130nm,0.7s	50.05	43	P IAmb	P IAmb	09 31 03.6 09 31 04.5	+0.4
AIN	Ainahou comp=Z,134nm,0.8s	50.18	47	P IAmb	P IAmb	09 31 05.2 09 31 05.7	+0.8
MPSI	Mapaga comp=Z,4µmcomp=Z,53nm,0.8s	50.27	284	P	P	09 31 04.9	-0.1
SDHHI	Sand Hill comp=Z,68nm,0.8s	50.31	47	P IAmb	P IAmb	09 31 06.2 09 31 06.3	+0.9
WRMHI	West Rim comp=Z,90nm,0.8s	50.32	47	P IAmb	P IAmb	09 31 05.6 09 31 06.3	+0.2
HMH	Humu'ula Sheep	50.32	47	P	P	09 31 06.8	+1.2
KKO	Keanakako'i comp=Z,136nm,1.0s	50.34	47	P IAmb	P IAmb	09 31 07.2 09 31 07.7	+1.7
HPAH	Hawaii Prepara	50.46	46	P	P	09 31 07.0	+0.6
TWSI	Taliwang, Sumb comp=Z,109nm,1.1s	50.46	272	P	P	09 31 06.9	+0.5
GIRL	Giralia baz=51,SNR=30	51.06	254	P	P	09 31 11.8	+1.0
GIRL	Giralia	51.06	254	P	P	09 31 12.2	+1.4
H01W1	Cape Leeuwin H baz=109,slow=7.3,SNR=10	51.61	238	P	P	09 31 15.9	+1.5
H01W3	Cape Leeuwin H baz=109,slow=7.3,SNR=8.9	51.62	238	P	P	09 31 15.9	+1.4
H01W2	Cape Leeuwin H baz=109,slow=7.3,SNR=3.8	51.63	238	P	P	09 31 16.0	+1.5
KBKI	Kotabaru comp=Z,2µmcomp=Z,56nm,0.6s	52.59	278	P	P	09 31 23.1	+0.9
JAGI	Jajag, Banyuwa comp=Z,107nm,1.2s	53.15	271	P IAmb	P IAmb	09 31 24.7 09 32 23.5	-1.5
JAGI	Jajag, Banyuwa comp=Z,76nm,1.6s	53.15	271	P	P	09 31 25.6	-0.7
BBKI	Banjar Baru comp=Z,32nm,0.6s	53.81	278	P	P	09 31 33.8	+2.8
KRKI	Karangkates	54.85	271	P	P	09 31 40.0	+1.4
PWJI	Pagerwojo comp=Z,66nm,1.9s	55.51	271	P	P	09 31 45.1	+1.9
SJI	Sawahan comp=Z,72nm,0.6s	55.61	272	P	P	09 31 44.4	+0.3
JHJ	Hachijo jima 2 comp=Z,95nm,0.6s,baz=295,slow=23,SNR=5.6	55.83	331	P	P	09 31 46.9	+1.7
PCJI	Pacitan comp=Z,276nm,0.8s	56.07	271	P	P	09 31 47.8	+0.6
UGM	Wanagama	56.77	271	P	P	09 31 52.3	+0.1
JOW	Kunigami comp=Z,80nm,0.7s,baz=161,slow=7.3,SNR=30	57.52	317	P	P	09 31 58.3	+1.2
JOW

INU	**Inuyama**	**58.97**	**330**	P	**P**	**09 32 07.3**	**+0.4**
INU				IAmb	IAmb	09 32 10.0	
comp=Z,71nm,1.3s							
JGF	**Kuroka**	**59.01**	**331**	P	**P**	**09 32 07.4**	**+0.2**
JMN	**Monobe**	**59.24**	**327**	P	**P**	**09 32 09.2**	**+0.2**
JMN				IAmb	IAmb	09 32 12.4	
comp=Z,89nm,0.9s							
MJAR	**Matsushiro Arr**	**59.39**	**332**	P	**P**	**09 32 09.6**	**-0.3**
comp=Z,23nm,0.8s,baz=167,slow=7.0,SNR=17							
MJAR				pP	**pP**	**09 33 01.5**	**-0.6**
comp=Z,4.3nm,1.0s,baz=160,slow=11,SNR=1.5							
MJAR	**Matsushiro Arr**	**59.39**	**332**	P	**P**	**09 32 10.2**	**+0.3**
MJAR				pmax	pmax		
comp=Z,24nm,1.0s							
MJAR	**Matsushiro Arr**	**59.39**	**332**	P	**P**	**09 32 10.2**	**+0.3**
MAJO	**Matsushiro**	**59.40**	**332**	*d* iP	**P**	**09 32 09.7**	**-0.2**
MAJO				pmax	pmax		
comp=Z,38nm,0.9s							
MAJO	**Matsushiro**	**59.40**	**332**	P	**P**	**09 32 09.5**	**-0.3**
MAJO				IAmb	IAmb	09 32 12.3	
comp=Z,53nm,1.0s							
MAT	**Matsushiro**	**59.40**	**332**	P	**P**	**09 32 09.7**	**-0.2**
MAT				*e*S	**S**	**09 40 05.2**	**+5.4**
JMM	**Marumori**	**59.41**	**335**	P	**P**	**09 32 09.3**	**-0.5**
JMM				IAmb	IAmb	09 32 12.6	
comp=Z,65nm,1.0s							
CISI	**Cisompet, Garu**	**59.46**	**271**	P	**P**	**09 32 09.9**	**-0.9**
CISI	**Cisompet, Garu**	**59.46**	**271**	P	**P**	**09 32 10.3**	**-0.5**
comp=Z,2µmcomp=Z,110nm,0.6s							
JSU	**Suzuyama**	**59.47**	**323**	P	**P**	**09 32 11.1**	**+0.6**
YOJ	**Yonaguni jima**	**59.61**	**312**	P	**P**	**09 32 12.2**	**+0.7**
YOJ				pmax	pmax		
comp=Z,423nm,0.6s							
YOJ	**Yonaguni jima**	**59.61**	**312**	P	**P**	**09 32 12.2**	**+0.7**
JWT	**Wachi**	**59.69**	**329**	P	**P**	**09 32 12.6**	**+0.8**
JWT				IAmb	IAmb	09 32 14.5	
comp=Z,73nm,0.9s							
LEM	**Lembang**	**59.83**	**271**	P	**P**	**09 32 14.0**	**+0.5**
comp=Z,193nm,0.5s,baz=26,slow=6.9,SNR=23							
LEM	**Lembang**	**59.83**	**271**	P	**P**	**09 32 14.0**	**+0.5**
YULB	**Yu-li**	**60.22**	**309**	P	**P**	**09 32 15.7**	**-0.1**
JNU	**Nakatsue**	**60.42**	**324**	P	**P**	**09 32 17.4**	**+0.4**
comp=Z,40nm,0.6s,baz=141,slow=1.6,SNR=29							
JNU	**Nakatsue**	**60.42**	**324**	P	**P**	**09 32 17.3**	**+0.4**
JNU				IAmb	IAmb	09 32 17.9	
comp=Z,53nm,0.8s							
NACB	**Ninganchiao**	**60.46**	**310**	P	**P**	**09 32 16.4**	**-1.0**
JSD	**Sado**	**60.62**	**333**	P	**P**	**09 32 18.6**	**+0.5**
JHS	**Saijyo**	**60.63**	**327**	P	**P**	**09 32 18.9**	**+0.7**
CBJI	**Citeko**	**60.66**	**272**	P	**P**	**09 32 18.0**	**-0.9**
comp=Z,196nm,0.5s							
TPUB	**Ta-pu**	**60.67**	**309**	P	**P**	**09 32 18.0**	**-0.8**
SSLB	**Suanglung**	**60.71**	**310**	P	**P**	**09 32 18.8**	**-0.2**
XMIS	**Christmas Isla**	**60.87**	**267**	P	**P**	**09 32 20.8**	**+0.5**
YHNB	**Yeheng**	**60.92**	**311**	P	**P**	**09 32 20.9**	**+0.4**
YHNB				IAmb	IAmb	09 34 26.1	
comp=Z,57nm,0.6s							
VNDA	**Vanda**	**61.63**	**182**	P	**P**	**09 32 24.9**	**+0.6**
comp=Z,24nm,0.7s,baz=356,slow=7.8,SNR=189							
VNDA	**Vanda**	**61.63**	**182**	P	**P**	**09 32 25.1**	**+0.7**
VNDA				pmax	pmax		
comp=Z,43nm,0.8s							
VNDA	**Vanda**	**61.63**	**182**	P	**P**	**09 32 25.1**	**+0.7**
VNDA				IAmb	IAmb	09 32 26.4	
comp=Z,42nm,0.8s							
SBA	**Scott Base**	**61.89**	**180**	P	**P**	**09 32 27.9**	**+1.8**
SBA				pmax	pmax		
comp=Z,759nm,2.0s							
SBA	**Scott Base**	**61.89**	**180**	P	**P**	**09 32 27.9**	**+1.8**
ERM	**Erimo**	**62.14**	**339**	⇓ *e*P	**P**	**09 32 29.8**	**+1.6**
ERM				pmax	pmax		
comp=Z,34nm,1.0s							
CASY	**Casey**	**62.68**	**203**	P	**P**	**09 32 32.1**	**+0.6**
QZH	**Quanzhou**	**63.13**	**309**	⇓ *i*P	**P**	**09 32 35.3**	**+0.2**
QZH				pP	**pP**	**09 33 27.9**	**-1.1**
QZH				sP	**sP**	**09 33 50.4**	**-4.3**
QZH				S	**S**	**09 40 49.6**	**+2.4**
QZH				pmax	pmax		
comp=Z,210nm,6.0s							
QZH				LR	LR		
comp=Z,300nm,17.6s							
QZH				LR	LR		
comp=Z,330nm,18.2s							
MDSI	**Maura Dua**	**63.73**	**273**	P	**P**	**09 32 37.7**	**-1.6**
comp=Z,44nm,0.7s							
JKA	**Kamikawa-asahi**	**64.20**	**340**	P	**P**	**09 32 42.5**	**+0.8**
JKA				IAmb	IAmb	09 32 44.9	
comp=Z,67nm,1.3s							
ASAJ	**Asahikawa**	**64.20**	**340**	P	**P**	**09 32 43.0**	**+1.3**
comp=Z,11nm,0.4s,baz=207,slow=6.8,SNR=24							
ASAJ				pP	**pP**	**09 33 35.3**	**+0.6**
comp=Z,19nm,1.1s,baz=246,slow=14,SNR=2.5							
TJN	**Taejon**	**64.76**	**324**	*de*P	**P**	**09 32 45.6**	**+0.1**
SSE	**Sheshan**	**64.99**	**316**	P	**P**	**09 32 47.3**	**+0.3**
SSE				S	**S**	**09 41 12.8**	**+3.0**
SSE				pmax	pmax		
comp=Z,13nm,0.8s							
SSE				pmax	pmax		
comp=Z,85nm,4.2s							
SSE				LR	LR		
comp=Z,180nm,23.8s							
SSE				LR	LR		
comp=Z,150nm,24.2s							
KSRS	**Korea Array**	**65.23**	**326**	P	**P**	**09 32 49.1**	**+0.7**
comp=Z,7.1nm,0.5s,baz=135,slow=6.8,SNR=24							
KSAR	**Wonju Array Be**	**65.25**	**326**	P	**P**	**09 32 49.2**	**+0.6**
KSAR	**Wonju Array Be**	**65.25**	**326**	P	**P**	**09 32 49.1**	**+0.6**
KS19	**Wonju Array Si**	**65.30**	**326**	P	**P**	**09 32 49.5**	**+0.6**
MASI	**Maura Aman, Be**	**65.96**	**274**	P	**P**	**09 32 53.1**	**-0.6**
INCN	**Inchon**	**65.96**	**325**	P	**P**	**09 32 53.5**	**+0.3**
INCN				pmax	pmax		
comp=Z,192nm,1.7s							
INCN	**Inchon**	**65.96**	**325**	P	**P**	**09 32 53.5**	**+0.3**
YSS	**Yuzh-Sakhalins**	**66.68**	**341**	*d* iP	**P**	**09 32 53.5**	**-3.9**
YSS				*e*		09 33 26.0	
YSS				*e**PP	**pP**	**09 33 52.2**	**+1.3**
YSS				*e**SP	**sP**	**09 34 19.4**	**+3.4**
YSS				pmax	pmax		
comp=Z,600nm,4.2s							
YSS				pmax	pmax		
comp=Z,30nm,2.3s							
YSS	**Yuzh-Sakhalins**	**66.68**	**341**	P	**P**	**09 32 58.6**	**+1.2**
YSS				IAmb	IAmb	09 33 58.0	
comp=Z,52nm,1.0s							
QIZ	**Qiongzhong**	**67.06**	**299**	P	**P**	**09 33 01.5**	**+1.0**
QIZ				pP	**pP**	**09 33 53.4**	**-1.7**
QIZ				sP	**sP**	**09 34 16.4**	**-4.2**
QIZ				S	**S**	**09 41 39.1**	**+3.9**
QIZ				ScS	**SKSac**	**09 42 33.3**	**-1.5**
QIZ				sS	**sS**	**09 43 08.3**	**-1.2**
QIZ				pmax	pmax		
comp=Z,300nm,3.3s							
NJ2	**Nanjing**	**67.14**	**316**	⇑ P	**P**	**09 33 03.8**	**+3.1**
NJ2				pmax	pmax		
comp=Z,33nm,0.5s							
TEY	**Ternei**	**67.15**	**336**	⇑ *e*P	**P**	**09 33 01.5**	**+1.1**
TEY				pmax	pmax		
comp=Z,100nm,3.6s							
TEY				pmax	pmax		
comp=N,10.0nm,1.6s							
TEY				pmax	pmax		
comp=Z,10.0nm,1.6s							
MSHR	**Mys Shultsa**	**67.47**	**331**	⇑ *e*P	**P**	**09 33 02.5**	**0.0**
MSHR				pmax	pmax		
comp=Z,25nm,0.9s							
VLA	**Vladivostok**	**67.57**	**332**	*d* iP	**P**	**09 33 04.0**	**+0.9**
VLA				pmax	pmax		
comp=Z,26nm,0.9s							
AMKA	**Amchitka**	**67.79**	**8**	P	**P**	**09 33 03.8**	**-0.5**
PDSI	**Padang**	**68.29**	**275**	P	**P**	**09 33 07.1**	**-1.2**
comp=Z,42nm,0.6s							
USA0B	**Ussuriysk Arra**	**68.37**	**333**	P	**P**	**09 33 08.9**	**+0.8**
USA0B				pmax	pmax		
comp=Z,222nm,1.9s							
USA0B	**Ussuriysk Arra**	**68.37**	**333**	P	**P**	**09 33 08.9**	**+0.8**
USRK	**Ussuriysk Ar.**	**68.37**	**333**	P	**P**	**09 33 09.2**	**+1.1**
comp=Z,11nm,0.6s,baz=128,slow=6.2,SNR=30							
USRK				pP	**pP**	**09 34 03.0**	**+1.2**
comp=Z,10nm,1.0s,baz=132,slow=5.4,SNR=2.6							
KIWB	**Kanaga Island**	**68.77**	**10**	P	**P**	**09 33 10.5**	**+0.2**
GSTR	**Great Sitkin T**	**69.18**	**10**	P	**P**	**09 33 13.3**	**+0.4**
PET	**Petropavlovsk**	**69.21**	**354**	*e*P	**P**	**09 33 13.8**	**+0.8**
PET				*e*S	**S**	**09 42 00.0**	**+0.8**
PET				MLR	MLR		
comp=Z,200nm,18.0s							
PET	**Petropavlovsk**	**69.21**	**354**	P	**P**	**09 33 14.5**	**+1.5**
PET				IAmb	IAmb	09 34 16.8	
comp=Z,104nm,1.5s							
UBPT	**Khong Chiam**	**69.22**	**294**	P	**P**	**09 33 14.9**	**+1.0**
comp=Z,699nmcomp=Z,30nm,0.9s							
UBPT	**Khong Chiam**	**69.22**	**294**	P	**P**	**09 33 14.8**	**+1.0**
UBPT	**Khong Chiam**	**69.22**	**294**	P	**P**	**09 33 14.9**	**+1.0**
comp=Z,668nmcomp=Z,29nm,0.9s							
UBPT				pP	**pP**	**09 34 09.9**	**+1.1**
comp=Z,668nmcomp=Z,29nm,0.9s							
WHN	**Wuhan**	**69.39**	**312**	⇓ P	**P**	**09 33 14.9**	**+0.3**
WHN				pP	**pP**	**09 34 09.8**	**+0.5**
WHN				pmax	pmax		
comp=Z,140nm,1.3s							
WHN				pmax	pmax		
comp=Z,570nm,3.1s							
WHN				LR	LR		
comp=Z,820nm,16.5s							
PEA0B	**Petropavlovsk-**	**69.40**	**353**	P	**P**	**09 33 15.1**	**+0.9**
PEA0B				pmax	pmax		
comp=Z,31nm,1.0s							
PEA0B	**Petropavlovsk-**	**69.40**	**353**	P	**P**	**09 33 15.1**	**+0.9**
PETK	**Petropavlovsk-**	**69.40**	**353**	P	**P**	**09 33 15.0**	**+0.8**
comp=Z,13nm,0.7s,baz=160,slow=5.4,SNR=14							
PETK				pP	**pwP**	**09 34 11.9**	**+0.8**
comp=Z,9.4nm,0.9s,baz=161,slow=11,SNR=4.2							
PETK	**Petropavlovsk-**	**69.40**	**353**	P	**P**	**09 33 14.4**	**+0.2**
MNSI	**Mandailing Nat**	**69.63**	**277**	P	**P**	**09 33 16.2**	**-0.3**
comp=Z,215nm,0.5s							
MDJ	**Mudanjiang**	**69.77**	**332**	P	**P**	**09 33 17.8**	**+1.1**
MDJ				pP	pP	09 34 12.1	+1.3
MDJ				S	**S**	**09 42 12.9**	**+6.7**
MDJ				pmax	pmax		
comp=Z,96nm,0.9s							
MDJ	**Mudanjiang**	**69.77**	**332**	P	**P**	**09 33 17.5**	**+0.8**
MDJ				IAmb	IAmb	09 33 20.2	
comp=Z,68nm,0.8s							
DL2	**Dalian**	**69.79**	**323**	P	**P**	**09 33 17.5**	**+0.6**
DL2				pmax	pmax		
comp=Z,150nm,0.6s							
DL2				pmax	pmax		
comp=Z,410nm,4.5s							
TYV	**Tymovskoe**	**70.21**	**343**	*e*P	**P**	**09 33 20.0**	**+0.8**
TYV				pmax	pmax		
comp=Z,18nm,1.4s							
TYV				pmax	pmax		
comp=Z,300nm,3.5s							
SKLT	**Songkhla**	**70.65**	**284**	P	**P**	**09 33 25.6**	**+2.9**
comp=Z,772nmcomp=Z,22nm,1.3s							
TIA	**Tai'an**	**70.82**	**318**	⇓ P	**P**	**09 33 23.3**	**+0.1**
TIA				pmax	pmax		
comp=Z,24nm,0.7s							
RPSI	**Rantau Prapat**	**70.82**	**279**	P	**P**	**09 33 23.0**	**-0.8**
PSI	**Prapat**	**70.85**	**279**	P	**P**	**09 33 22.9**	**-1.2**
comp=Z,15nm,0.8s,baz=140,slow=2.4,SNR=10							
PSI				pP	**pP**	**09 34 19.4**	**+0.4**
comp=Z,17nm,1.0s,baz=171,slow=3.7,SNR=3.2							
PSI	**Prapat**	**70.85**	**279**	P	**P**	**09 33 23.0**	**-1.1**
PSI				pmax	pmax		
comp=Z,36nm,1.1s							
CN2	**Changchun**	**71.14**	**329**	⇓ P	**P**	**09 33 25.6**	**+0.6**
CN2				*e*pP	pwP	09 34 22.4	-0.7
CN2				*e*S	**S**	**09 42 21.4**	**-0.6**
CN2				pmax	pmax		
comp=Z,70nm,0.6s							
SKNT	**Sakolnakorn**	**71.21**	**295**	P	**P**	**09 33 26.5**	**+0.6**
comp=Z,83nm,1.4s							
GSI	**Gunungsitoli**	**71.69**	**277**	P	**P**	**09 33 29.2**	**+0.2**
GSI				IAmb	IAmb	09 33 30.2	
comp=Z,51nm,0.7s							
GSI	**Gunungsitoli**	**71.69**	**277**	P	**P**	**09 33 29.8**	**+0.9**
comp=Z,4µmcomp=Z,77nm,0.8s							
TRTT	**Trang**	**71.74**	**284**	P	**P**	**09 33 30.9**	**+1.7**
comp=Z,17nm,0.7s							
GRNR	**Gornyy**	**72.05**	**339**	⇓ *i*P	**P**	**09 33 31.9**	**+1.6**
GRNR				pmax	pmax		
comp=Z,30nm,0.7s							
GRNR				MLR	MLR		
comp=N,120nm,16.0s							
GRNR				MLR	MLR		
comp=E,230nm,16.0s							
GRNR				MLR	MLR		
comp=Z,160nm,15.0s							
SURA	**Surathani**	**72.25**	**285**	P	**P**	**09 33 33.8**	**+1.6**
PATY	**Pattaya**	**72.43**	**289**	P	**P**	**09 33 35.1**	**+1.9**
comp=Z,10µmcomp=Z,41nm,0.7s							
KLR	**Kul'dur**	**72.48**	**336**	P	**P**	**09 33 33.6**	**+0.8**
comp=Z,14nm,0.8s,baz=127,slow=2.9,SNR=22							
KLR				pP	**pwP**	**09 34 29.7**	**-1.6**
comp=Z,10nm,1.1s,baz=135,slow=4.1,SNR=2.4							
ENH	**Enshi**	**72.79**	**309**	P	**P**	**09 33 35.1**	**-0.1**
ENH				IAmb	IAmb	09 33 35.9	
comp=Z,30nm,0.7s							
SLVN	**Son La**	**73.08**	**299**	P	**P**	**09 33 37.5**	**+0.5**
GYA	**Guiyang**	**73.10**	**305**	⇓ P	**P**	**09 33 37.9**	**+0.8**
GYA				pP	pP	09 34 34.5	+1.9
GYA				PP	**PP**	**09 36 23.8**	**+0.2**
GYA				S	**S**	**09 42 48.3**	**+3.1**
GYA				sS	sS	09 44 23.8	+2.5
GYA				pmax	pmax		
comp=Z,51nm,0.9s							
GYA				LR	LR		
comp=Z,170nm,15.4s							
PHET	**Kaeng Krachan**	**73.55**	**289**	P	**P**	**09 33 42.1**	**+2.3**
comp=Z,631nmcomp=Z,50nm,1.3s							
BJT	**Baijiatuau**	**73.74**	**321**	P	**P**	**09 33 41.5**	**+1.1**
BJT				pmax	pmax		
comp=Z,26nm,0.8s							
BJT	**Baijiatuau**	**73.74**	**321**	P	**P**	**09 33 41.5**	**+1.1**
BJI	**Beijing**	**73.75**	**321**	P	**P**	**09 33 41.4**	**+1.0**
BJI				PcP	**PcP**	**09 33 57.1**	**+2.3**
BJI				pP	**pwP**	**09 34 38.0**	**-0.4**
BJI				sP	**sP**	**09 34 57.8**	**-2.4**
BJI				PP	**PP**	**09 36 29.4**	**+0.7**
BJI				S	**S**	**09 42 54.3**	**+2.6**
BJI				sS	**sS**	**09 44 28.5**	**+1.6**
BJI				pmax	pmax		
comp=Z,42nm,0.8s							
BJI				pmax	pmax		
comp=Z,500nm,4.4s							
BJI				LR	LR		
comp=Z,330nm,19.6s							
BJI				LR	LR		
comp=Z,320nm,20.8s							
BJI				LR	LR		
comp=Z,360nm,25.0s							
QSPA	**South Pole Qui**	**74.05**	**180**	P	**P**	**09 33 42.3**	**+0.4**
PHIT	**Phitsanulok**	**74.43**	**293**	P	**P**	**09 33 46.3**	**+1.5**
comp=Z,144nm,1.1s							
UTTA	**Uttaradit**	**74.52**	**294**	P	**P**	**09 33 46.6**	**+1.3**
comp=Z,509nmcomp=Z,45nm,0.9s							
SRDT	**SRDT**	**74.53**	**290**	P	**P**	**09 33 48.4**	**+3.0**
comp=Z,66nm,1.8s							
SRDT	**SRDT**	**74.53**	**290**	P	**P**	**09 33 48.4**	**+3.0**
comp=Z,63nm,1.8s							
UTHA	**Uthaitani**	**74.68**	**291**	P	**P**	**09 33 47.9**	**+1.6**
comp=Z,590nmcomp=Z,52nm,1.3s							
TIY	**Taiyuan**	**74.73**	**317**	*e*P	**P**	**09 33 47.6**	**+1.3**
TIY				pP	**pP**	**09 34 44.8**	**+3.1**
TIY				S	**S**	**09 43 03.3**	**+0.4**
TIY				pmax	pmax		
comp=Z,25nm,0.5s							
TIY				pmax	pmax		
comp=Z,310nm,6.7s							
NANT	**Nan**	**74.80**	**295**	P	**P**	**09 33 48.0**	**+1.1**
comp=Z,2µmcomp=Z,196nm,0.5s							
KHLT	**Khaolaem Dam**	**75.17**	**290**	P	**P**	**09 33 51.7**	**+2.6**
comp=Z,2µmcomp=Z,55nm,1.0s							
UMPA	**Umpang Tak**	**75.44**	**292**	P	**P**	**09 33 52.1**	**+1.4**
comp=Z,4µmcomp=Z,75nm,0.6s							
LAMP	**Lampang**	**75.62**	**294**	P	**P**	**09 33 53.2**	**+1.6**
comp=Z,2µmcomp=Z,184nm,0.7s							
KMI	**Kunming**	**75.66**	**302**	⇓ P	**P**	**09 33 53.8**	**+1.8**
KMI				pP	pP	09 34 49.6	+1.7
KMI				sP	sP	09 35 14.8	+1.7
KMI				PP	**PP**	**09 36 49.9**	**+4.6**
KMI				S	**S**	**09 43 10.0**	**-3.9**
KMI				sS	sS	09 44 48.8	-1.7
KMI				pmax	pmax		
comp=Z,70nm,0.7s							
KMI				pmax	pmax		
comp=Z,470nm,4.0s							
KMI				LR	LR		
comp=Z,240nm,21.9s							
KMI				LR	LR		
comp=Z,140nm,18.1s							
KMI				LR	LR		
comp=Z,320nm,29.5s							
PAYA	**Payao**	**75.74**	**295**	P	**P**	**09 33 53.5**	**+1.2**
comp=Z,1µmcomp=Z,85nm,0.7s							
CM04	**Chiang Mai Arr**	**76.15**	**294**	P	**P**	**09 33 56.2**	**+1.6**
comp=Z,561nmcomp=Z,59nm,0.7s							
CM09	**Chiang Mai Arr**	**76.16**	**294**	P	**P**	**09 33 56.4**	**+1.7**
comp=Z,538nmcomp=Z,55nm,0.7s							
CM01	**Chiang Mai Arr**	**76.18**	**294**	P	**P**	**09 33 56.4**	**+1.6**
comp=Z,525nmcomp=Z,53nm,0.9s							
CM05	**Chiang Mai Arr**	**76.18**	**294**	P	**P**	**09 33 56.4**	**+1.6**
comp=Z,382nmcomp=Z,44nm,0.8s							
CM02	**Chiang Mai Arr**	**76.19**	**294**	P	**P**	**09 33 56.5**	**+1.6**
comp=Z,483nmcomp=Z,50nm,0.9s							
CMAR	**Chiang Mai Arr**	**76.20**	**294**	P	**P**	**09 33 56.6**	**+1.7**
comp=Z,30nm,0.8s,baz=125,slow=4.4,SNR=88							
CMAR	**Chiang Mai Arr**	**76.20**	**294**	P	**P**	**09 33 55.9**	**+1.0**
CM15	**Chiang Mai Arr**	**76.22**	**294**	P	**P**	**09 33 56.8**	**+1.8**
comp=Z,39nm,0.7s							
CM13	**Chiang Mai Arr**	**76.22**	**294**	P	**P**	**09 33 56.5**	**+1.5**
comp=Z,404nmcomp=Z,43nm,1.0s							
CMMT	**Chiang Mai**	**76.33**	**294**	P	**P**	**09 33 56.7**	**+1.0**
comp=Z,1µmcomp=Z,76nm,1.6s							
CMMT	**Chiang Mai**	**76.33**	**294**	P	**P**	**09 33 56.7**	**+1.0**
comp=Z,1µmcomp=Z,73nm,1.6s							
CHTO	**Chiang Mai**	**76.34**	**294**	P	**P**	**09 33 57.1**	**+1.4**
CHTO				pmax	pmax		
comp=Z,250nm,1.8s							
CHTO	**Chiang Mai**	**76.34**	**294**	P	**P**	**09 33 56.9**	**+1.2**
comp=Z,1µmcomp=Z,77nm,1.6s							
CHTO	**Chiang Mai**	**76.34**	**294**	P	**P**	**09 33 57.1**	**+1.4**
CHTO	**Chiang Mai**	**76.34**	**294**	P	**P**	**09 33 56.9**	**+1.2**
comp=Z,667nmcomp=Z,43nm,1.6s							
MA2	**Magadan**	**76.61**	**351**	P	**P**	**09 33 56.3**	**0.0**
comp=Z,12nm,0.8s,baz=135,slow=8.2,SNR=5.4							
MHMT	**Maesarieng**	**76.99**	**293**	P	**P**	**09 34 00.9**	**+1.6**
comp=Z,2µmcomp=Z,111nm,0.7s							
HHC	**Hu-ho-hao-te**	**77.07**	**320**	*e*P	**P**	**09 34 00.6**	**+1.2**
HHC				pmax	pmax		
comp=Z,42nm,0.8s							
HHC				pmax	pmax		
comp=Z,160nm,6.6s							
HHC				LR	LR		
comp=Z,260nm,16.1s							
HHC				LR	LR		
comp=Z,240nm,18.0s							
HHC				LR	LR		
comp=Z,300nm,17.1s							
CD2	**Chengdu**	**77.42**	**307**	⇓ *i*P	**P**	**09 34 02.5**	**+1.0**
CD2				PcP	**PcP**	**09 34 11.8**	**+0.8**
CD2				pP	pP	09 34 57.5	0.0
CD2				S	**S**	**09 43 34.5**	**+2.1**
CD2				SKS	**SKKSac**	**09 43 52.8**	**-0.2**
CD2				pmax	pmax		
comp=Z,40nm,0.8s							
CD2				pmax	pmax		
comp=Z,470nm,4.4s							
ZEA	**Zeya**	**77.77**	**337**	*e*P	**P**	**09 34 04.0**	**+1.2**
ZEA				pmax	pmax		
comp=N,10.0nm,0.8s							
ZEA				pmax	pmax		
comp=Z,20nm,1.0s							
PBA	**Port Blair**	**79.46**	**285**	*e*P	P	09 34 14.2	+1.3
PBA				IAML		09 35 05.3	
comp=N,462nm,0.5s							
PBA				IAML		09 35 07.3	
comp=E,220nm,0.5s							
SEY	**Seymchan**	**79.63**	**353**	P	**P**	**09 34 13.3**	**+0.6**
comp=E,18nm,0.9s,baz=150,slow=5.5,SNR=23							
LZH	**Lanzhou**	**79.77**	**312**	⇓ P	**P**	**09 34 16.3**	**+2.0**
LZH				pP	pP	09 35 13.4	+2.9
LZH				sP	sP	09 35 31.3	-4.1
LZH				S	**S**	**09 43 54.1**	**-3.2**
LZH				pmax	pmax		
comp=E,78nm,1.3s							
LZH				pmax	pmax		
comp=E,400nm,4.3s							
LZH				LR	LR		
comp=E,200nm,14.3s							
LZH				LR	LR		
comp=E,230nm,15.2s							
LZH				LR	LR		
comp=E,250nm,14.1s							
DGPR	**DIGLIPUR**	**79.78**	**287**	*e*P	**P**	**09 34 13.6**	**-1.0**
DGPR				IAML		09 35 00.4	
comp=N,388nm,0.4s							
DGPR				IAML		09 35 01.5	
comp=E,446nm,0.5s							
KDAK	**Kodiak Island**	**80.36**	**20**	P	**P**	**09 34 17.3**	**+0.6**
comp=E,7.7nm,0.7s,baz=268,slow=6.1,SNR=7.1							
KDAK	**Kodiak Island**	**80.36**	**20**	P	**P**	**09 34 17.4**	**+0.6**
KDAK				pmax	pmax		
comp=Z,155nm,1.9s							
KDAK	**Kodiak Island**	**80.36**	**20**	P	**P**	**09 34 17.4**	**+0.7**
KDAK				IAmb	IAmb	09 36 11.3	
comp=Z,155nm,1.9s							
MAW	**Mawson**	**81.03**	**202**	P	**P**	**09 34 20.9**	**+0.6**
baz=81,slow=31							
MAW	**Mawson**	**81.03**	**202**	P	**P**	**09 34 20.9**	**+0.6**
comp=Z,20nm,0.6s,baz=110,slow=6.0,SNR=72							
MAW	**Mawson**	**81.03**	**202**	P	**P**	**09 34 20.9**	**+0.6**
GAMB	**Gambell**	**81.04**	**9**	P	**P**	**09 34 19.0**	**-1.1**
baz=200							
P19K	**Oil Pt**	**81.63**	**19**	P	**P**	**09 34 21.9**	**-1.5**
baz=217							
N19K	**Bonanza Creek**	**82.19**	**17**	P	**P**	**09 34 25.5**	**-0.9**
baz=216							
BRLK	**Bradley Lake**	**82.46**	**20**	P	**P**	**09 34 27.8**	**+0.1**
BRLK				IAmb	IAmb	09 35 35.4	
comp=Z,86nm,1.6s							
BRSE	**Bradley Lake S**	**82.49**	**20**	P	**P**	**09 34 27.2**	**-0.7**
baz=220							
M19K	**Big River Lodg**	**83.10**	**17**	P	**P**	**09 34 31.6**	**+0.6**
M19K	**Big River Lodg**	**83.10**	**17**	P	**P**	**09 34 30.6**	**-0.4**
baz=216							
SEW	**Seward**	**83.18**	**20**	P	**P**	**09 34 30.7**	**-0.7**
baz=221							
L19K	**White Mountain**	**83.20**	**17**	P	**P**	**09 34 32.0**	**+0.5**
L19K	**White Mountain**	**83.20**	**17**	P	**P**	**09 34 31.1**	**-0.4**
baz=216							
TNA	**Tin City**	**83.30**	**10**	P	**P**	**09 34 31.5**	**-0.3**
baz=203							
O22K	**Cooper Landing**	**83.38

comp=Z,24nm,1.7s
SUA Susitna One 83.82 19 P P 09 34 34.2 -0.6
baz=220
SKT Skwentna 83.98 18 P P 09 34 34.3 -1.2
baz=219
SONM Songino Array 83.99 323 P P 09 34 36.7 +0.7
comp=Z,17nm,0.7s,baz=144,slow=6.1,SNR=48
SONM pP **pwP** 09 35 34.3 -1.3
comp=Z,20nm,1.1s,baz=135,slow=4.2,SNR=5.4
SONM Songino Array 83.99 323 P P 09 34 36.5 +0.5
BRDH Bariadhala 84.10 295 P P 09 34 37.8 +0.8
comp=Z,178nm,0.3s,baz=55,slow=8.7,SNR=4.8
PWL Port Wells 84.12 20 P P 09 34 36.6 +0.4
PWL IAmb IAmb 09 35 42.4
comp=Z,84nm,1.4s
GTA Gaotai 84.12 314 ⇓P P 09 34 38.1 +1.2
GTA pP pwP 09 35 34.9 -0.8
GTA sP sP 09 35 55.4 -2.6
GTA PP **PP** 09 37 54.9 **0.0**
GTA S **S** **09 44 39.8 -1.7**
GTA pmax pmax
comp=Z,47nm,1.1s
GTA pmax pmax
comp=Z,200nm,6.5s
GTA LR LR
comp=Z,190nm,19.3s
GTA LR LR
comp=Z,210nm,20.7s
GTA LR LR
comp=Z,310nm,19.6s
K20K Telida 84.36 16 P P 09 34 37.8 +0.4
K20K Telida 84.36 16 P P 09 34 36.5 -0.9
baz=216
PMR Palmer 84.42 19 P P 09 34 37.3 -0.3
PMR pmax pmax
comp=Z,62nm,1.4s
PMR Palmer 84.42 19 P P 09 34 37.3 -0.3
PMR IAmb IAmb 09 35 43.9
comp=Z,62nm,1.4s
PMR Palmer 84.42 19 P P 09 34 37.0 -0.5
baz=221
KNK Knik Glacier 84.49 19 P P 09 34 37.7 -0.4
KNK IAmb IAmb 09 35 44.5
comp=Z,65nm,1.5s
KNK Knik Glacier 84.49 19 P P 09 34 37.2 -0.8
baz=222
GLI Glacier Island 84.54 20 P P 09 34 36.8 -1.4
baz=223
EYAK Cordova Ski Ar 84.76 21 P P 09 34 38.5 -0.8
baz=224
SML Sawmill 84.83 19 P P 09 34 39.1 -0.7
baz=222
CAST Castle Rocks 84.95 17 P P 09 34 38.7 -1.6
baz=218
PKM Mcpherson Peak 84.98 52 P P 09 34 39.5 -1.8
baz=247
PAGB Antelope Grade 84.99 51 P P 09 34 42.4 +1.2
PAGB IAmb IAmb 09 35 44.3
comp=Z,90nm,1.6s
J20K Nowinta River 85.01 16 P P 09 34 39.1 -1.4
baz=216
O02D Mt. Diablo Mer 85.01 46 P P 09 34 39.1 -2.1
baz=244
SMMC Simmler 85.01 51 P P 09 34 39.2 -2.1
baz=246
SCM Sheep Creek Mo 85.17 20 P P 09 34 40.9 -0.6
SCM pmax pmax
comp=Z,72nm,1.6s
SCM Sheep Creek Mo 85.17 20 P P 09 34 40.9 -0.6
SCM IAmb IAmb 09 36 08.6
comp=Z,72nm,1.6s
SCI2 San Clemente I 85.21 54 P P 09 34 39.5 -2.8
baz=248
CHUM Lake Minchumin 85.26 16 P P 09 34 39.6 -2.1
baz=218
BERG Berg Lake 85.36 22 P P 09 34 42.6 +0.2
BERG IAmb IAmb 09 35 49.0
comp=Z,47nm,1.1s
KLU Klutina 85.38 20 P P 09 34 41.0 -1.6
baz=224
KTH Kantishna Hill 85.39 17 P P 09 34 40.7 -1.8
BMRM Bremner River 85.45 21 P P 09 34 41.1 -1.8
baz=225
TRF Thorofare Moun 85.49 17 P P 09 34 41.7 -1.5
TRF Thorofare Moun 85.49 17 P P 09 34 41.7 -1.5
baz=220
WAT6 Susitna Watana 85.59 19 P P 09 34 42.3 -1.4
baz=222
ORV Oroville 85.64 47 IAmb IAmb 09 35 47.5
comp=Z,43nm,1.2s
OSI Osito Audit: C 85.70 52 P P 09 34 42.1 -2.6
baz=247
WAX Waxell Ridge 85.71 22 P P 09 34 43.8 -0.3
YBH Yreka Blue Hor 85.73 45 P P 09 34 45.5 +0.7
comp=Z,3.0nm,0.7s,baz=170,slow=2.7,SNR=3.2
YBH pP **pP** 09 35 43.0 +2.1
comp=Z,30nm,1.1s,baz=179,slow=2.9,SNR=11
CMB Columbia Colle 85.81 49 P P 09 34 45.8 +0.6
CMB pmax pmax
comp=Z,30nm,1.3s
CMB Columbia Colle 85.81 49 P P 09 34 45.8 +0.6
ARVC Arvin 85.81 52 P P 09 34 43.3 -1.9
baz=247
CRQE Cirque 85.83 22 P P 09 34 44.1 -0.7
baz=226
DECC Green Verdugo 85.86 53 P P 09 34 43.5 -2.0
baz=248
VOG Valley Oaks Go 85.86 51 P P 09 34 43.7 -1.7
baz=247
VES Vestal, Richgr 85.90 51 P P 09 34 44.7 -0.9
baz=247
N25K Chitina, Valde 85.91 21 P P 09 34 44.5 -0.6
N25K Chitina, Valde 85.91 21 P P 09 34 44.5 -0.6
baz=225
PASC Pasadena Art C 85.94 53 IAmb IAmb 09 35 48.5
comp=Z,50nm,1.3s
BOD Bodaibo 85.96 334 *e*P P 09 34 43.8 -1.5
BOD pmax pmax
comp=Z,41nm,1.9s
MWC Mount Wilson 86.06 53 P P 09 34 47.1 +0.4
MWC pmax pmax
comp=Z,110nm,1.4s
MWC Mount Wilson 86.06 53 P P 09 34 47.1 +0.4
MWC IAmb IAmb 09 35 49.4
comp=Z,110nm,1.4s
DHY Denali Highway 86.07 19 P P 09 34 44.9 -1.1
baz=222
BWN Browne 86.28 17 IAmb IAmb 09 35 51.7
comp=Z,48nm,1.0s
HARP HAARP 86.28 20 P P 09 34 45.8 -1.1
baz=224
ISA Isabella, Lake 86.29 51 IAmb IAmb 09 35 51.4
comp=Z,94nm,1.5s
ISA Isabella, Lake 86.29 51 P P 09 34 45.6 -2.0
baz=247,SNR=11
109C Camp Elliot, M 86.30 54 P P 09 34 46.2 -1.5
baz=248
EDW2 Edwards Air Fo 86.36 52 P P 09 34 45.8 -2.2
baz=248,SNR=9.4
BFSC Mount Baldy Ra 86.37 53 P P 09 34 45.8 -2.3
baz=248,SNR=6.9
I21K Tanana 86.37 16 P P 09 34 46.7 -0.5
I21K Tanana 86.37 16 P P 09 34 46.2 -1.0
baz=218
RUBR Rubicon Trail 86.39 48 IAmb IAmb 09 35 51.9
comp=Z,119nm,1.5s
EMB Emerald Bay 86.39 48 P P 09 34 48.6 +0.4
MURC Murrieta 86.49 54 P P 09 34 46.8 -1.8
baz=248
BEKR Beckworth 86.57 47 IAmb IAmb 09 35 52.5
comp=Z,63nm,1.3s
MLY Manley 86.59 16 P P 09 34 47.2 -1.1
baz=219
MDPB Devils Postpil 86.60 49 P P 09 34 49.5 +0.1
MDPB IAmb IAmb 09 35 53.0
comp=Z,63nm,1.2s
CTG Chitna Glacier 86.61 22 P P 09 34 47.7 -0.9
baz=228
MLAC Mammoth, Mammo 86.78 50 P P 09 34 48.4 -1.7
baz=247
J04D Umpqua Nationa 86.78 43 P P 09 34 49.0 -1.0
baz=245
PNTR Pine Nut 86.80 48 P P 09 34 49.7 -0.4
PNTR IAmb IAmb 09 35 54.0
comp=Z,59nm,1.2s
LRMC Laurel Mtn Rad 86.82 52 P P 09 34 49.4 -0.9
baz=248,SNR=8.3

I04A Tendick Farm, 86.82 43 P P 09 34 49.5 -0.4
baz=244
MONP2 Monument Peak 86.84 55 P P 09 34 49.4 -1.1
baz=249,SNR=11
VCNR Virginia City 86.84 48 P P 09 34 51.2 +0.8
CWC Cottonwood Cre 86.88 51 P P 09 34 49.4 -1.1
baz=248
G03D McMinnville, O 86.89 41 P P 09 34 49.4 -0.8
baz=244
H04D Lebanon 86.93 42 P P 09 34 49.7 -0.7
baz=244
BBRC Big Bear Solar 86.95 53 P P 09 34 50.1 -0.9
baz=248
IKP In-Ko-Pah, Jac 87.00 55 P P 09 34 49.1 -2.0
baz=249
M26K Nabesna, AK 87.00 21 P P 09 34 49.8 -0.6
baz=226
YERR Yerington 87.01 48 P P 09 34 51.7 +0.5
YERR IAmb IAmb 09 35 54.9
comp=Z,57nm,1.4s
ZAK Zakamensk 87.05 325 *e*P P 09 34 50.8 -0.1
ZAK pmax pmax
comp=Z,21nm,1.5s
I23K Minto, Yukon-K 87.05 17 P P 09 34 49.5 -0.9
baz=221
PFO Pinyon Flats O 87.07 54 P P 09 34 51.9 +0.4
PFO pmax pmax
comp=Z,41nm,1.3s
PFO Pinyon Flats O 87.07 54 P P 09 34 51.9 +0.4
PFO Pinyon Flats O 87.07 54 P P 09 34 49.2 -2.3
baz=249
TPFO Pinon Flats 87.07 54 P P 09 34 49.2 -2.3
baz=249
RRX Edison Barstow 87.11 53 P P 09 34 49.7 -1.8
baz=248
MPMC Manual Prospec 87.18 51 P P 09 34 50.2 -1.9
baz=248,SNR=19
HDA Harding Lake 87.19 18 P P 09 34 49.8 -1.3
baz=223
PAHR Pah Rah Range 87.20 47 P P 09 34 52.2 +0.2
PAHR IAmb IAmb 09 35 55.7
comp=Z,70nm,1.3s
LHV Little Huntoon 87.26 49 P P 09 34 52.9 +0.8
LHV IAmb IAmb 09 35 56.4
comp=Z,85nm,1.3s
TCOL CIGO, UAF Yank 87.26 17 P P 09 34 50.2 -1.3
baz=222
COLA College 87.27 17 P P 09 34 49.9 -1.6
baz=222
L26K Log Cabin Wild 87.32 20 P P 09 34 50.5 -1.4
baz=226
RIDG Independent Ri 87.34 19 P P 09 34 53.0 +1.0
RIDG Independent Ri 87.34 19 P P 09 34 50.5 -1.5
baz=225
SWSC Sam W. Stewart 87.34 55 P P 09 34 50.0 -2.6
baz=249
M27K Edge Creek, AK 87.36 21 P P 09 34 52.6 +0.4
M27K Edge Creek, AK 87.36 21 P P 09 34 49.3 -2.9
baz=226
K05A Summer Lake 87.38 44 P P 09 34 53.7 +0.9
K05A IAmb IAmb 09 35 56.7
comp=Z,80nm,1.2s
J05D Fort Rock, OR 87.38 44 P P 09 34 50.1 -2.7
baz=245
RYN Ryan 87.39 49 P P 09 34 53.2 +0.3
RYN IAmb IAmb 09 35 56.0
comp=Z,56nm,1.2s
GSC Goldstone, Bar 87.42 52 P P 09 34 49.8 -3.3
baz=248,SNR=11
ILAR Eielson Array 87.47 18 P P 09 34 50.8 -1.7
comp=Z,2.4nm,0.5s,baz=238,slow=5.0,SNR=44
ILAR pP **pwP** 09 35 52.5 -0.6
comp=Z,7.0nm,0.7s,baz=236,slow=5.8,SNR=7.8
ILAR PKKP **PKKPdf** 09 52 39.5 +1.8
comp=Z,0.4nm,0.5s,baz=355,slow=2.3,SNR=4.6
NVAR Mina Array Bea 87.47 49 P P 09 34 53.9 +0.5
comp=Z,2.4nm,0.7s,baz=229,slow=7.9,SNR=26
NVAR pP **pP** 09 35 51.7 +1.8
comp=Z,21nm,1.0s,baz=230,slow=7.4,SNR=9.4
NVAR PKKP **PKKPdf** 09 52 36.0 -1.0
comp=Z,0.6nm,0.7s,baz=225,slow=0.8,SNR=5.7
NVAR PKKPbc **PKKPbc** 09 52 42.9 -0.1
comp=Z,2.1nm,0.6s,baz=82,slow=3.4,SNR=23
NVAR Mina Array Bea 87.47 49 P P 09 34 53.5 +0.1
LCH Last Change Ra 87.50 50 P P 09 34 53.9 +0.4
H23K Yukon River 87.52 16 P P 09 34 51.0 -1.7
baz=220
BELC Belle Mtn. Jos 87.57 54 P P 09 34 51.7 -2.1
baz=249,SNR=17
NV11 Mina Array Sit 87.58 49 P P 09 34 54.6 +0.7
NV11 IAmb IAmb 09 35 57.6
comp=Z,49nm,1.2s
HEC Hector,Ludlow 87.60 53 P P 09 34 50.8 -3.2
baz=249
QSM Queen of Sheba 87.61 52 IAmb IAmb 09 35 57.7
comp=Z,70nm,1.5s
GRAC Grapevine Rang 87.62 51 P P 09 34 51.9 -2.0
baz=248
SYO Syowa Base 87.73 196 ‖ *e*P P 09 34 53.8 0.0
SYO Syowa Base 87.73 196 ‖ *e*PcP PcP 09 34 55.4 -0.1
SYO Syowa Base 87.73 196 ‖ *e*pP pP 09 35 49.0 -2.0
BVCY Beaver Creek 87.75 21 P P 09 34 52.5 -1.4
baz=228
SCRK Sand Creek 87.78 19 P P 09 34 53.0 -1.2
SCRK Sand Creek 87.78 19 P P 09 34 51.7 -2.4
baz=226
PINE Pine Mountain 87.79 43 P P 09 34 54.8 +0.1
PINE IAmb IAmb 09 35 58.6
comp=Z,42nm,1.1s
FURC Furnace Creek, 87.80 51 P P 09 34 52.4 -2.3
baz=248,SNR=17
J25K Salcha River, 87.80 18 P P 09 34 52.4 -1.7
baz=224
GWY Greenwater Val 87.84 52 IAmb IAmb 09 35 58.9
comp=Z,56nm,1.4s
L27K Beaver Creek, 87.85 20 P P 09 34 53.1 -1.2
baz=228
KVN Kaiserville 87.86 48 P P 09 34 55.7 +0.5
KVN pmax pmax
comp=Z,64nm,1.4s
KVN Kaiserville 87.86 48 P P 09 34 55.7 +0.5
KVN IAmb IAmb 09 35 58.9
comp=Z,64nm,1.4s
BC3 Big Chuckawall 87.87 54 P P 09 34 52.7 -2.6
baz=249,SNR=8.4
E04D Cinebar 87.92 40 P P 09 34 54.1 -0.9
baz=244
HYT Haines Junctio 87.95 23 P P 09 34 53.2 -1.8
baz=231
SKAG Skagway 87.98 25 P P 09 34 53.5 -1.4
baz=233
SHOC Shoshone, Teco 88.04 52 P P 09 34 53.5 -2.4
baz=249,SNR=5.4
D04E Lakebay 88.07 40 P P 09 34 54.4 -1.2
baz=244
TUQ Turquoise Moun 88.14 52 P P 09 34 54.9 -1.6
baz=249
G05D Wamic, OR 88.15 42 P P 09 34 55.7 -0.5
baz=245
GLA Glamis 88.15 55 IAmb IAmb 09 36 00.3
comp=Z,93nm,1.4s
GLA Glamis 88.15 55 P P 09 34 55.3 -1.2
baz=250,SNR=6.8
IRM Iron Mountain 88.28 54 P P 09 34 56.2 -0.9
baz=249,SNR=12
K27K Chicken 88.42 20 P P 09 34 56.0 -1.0
baz=227
COLD Coldfoot 88.43 15 P P 09 34 57.4 +0.4
COLD Coldfoot 88.43 15 P P 09 34 56.5 -0.5
baz=220
TPNV Topopah Spring 88.44 51 P P 09 34 58.0 +0.1
TPNV pmax pmax
comp=Z,65nm,1.3s
TPNV Topopah Spring 88.44 51 P P 09 34 58.0 +0.1
TPNV IAmb IAmb 09 36 02.0
comp=Z,65nm,1.3s
TPNV Topopah Spring 88.44 51 P P 09 34 55.7 -2.2
baz=249,SNR=15
WVOR Wild Horse Val 88.78 45 P P 09 35 00.1 +0.7
WVOR pmax pmax
comp=Z,62nm,1.6s
WVOR Wild Horse Val 88.78 45 P P 09 35 00.1 +0.7
WVOR IAmb IAmb 09 36 03.5
comp=Z,62nm,1.6s
I07A Izee 88.85 43 IAmb IAmb 09 36 03.9
comp=Z,79nm,1.7s
113A Mohawk Valley, 88.89 56 P P 09 35 00.2 +0.3

113A IAmb IAmb 09 36 03.5
comp=Z,59nm,1.5s
B05A Bryant 88.95 39 P P 09 34 57.9 -1.9
baz=244
BMN Battle Mountai 89.01 47 IAmb IAmb 09 36 04.7
comp=Z,74nm,1.3s
PDMCI Parker Dam,Lak 89.11 54 P P 09 34 59.5 -1.4
baz=250,SNR=12
SLBS Sierra La Lagu 89.18 65 P P 09 35 02.5 +0.9
SLBS IAmb IAmb 09 35 05.0
comp=Z,40nm,0.9s
EGAK Eagle 89.22 19 P P 09 34 60.0 -0.8
baz=228
J08A Circle Bar Ran 89.25 44 P P 09 35 01.9 +0.3
J08A IAmb IAmb 09 36 05.5
comp=Z,51nm,1.3s
214A Organ Pipe Nat 89.38 57 P P 09 35 03.5 +1.3
214A IAmb IAmb 09 36 06.0
comp=Z,60nm,1.5s
214A Organ Pipe Nat 89.38 57 P P 09 35 00.3 -2.0
baz=251
R11A Troy Canyon, C 89.43 50 IAmb IAmb 09 36 06.5
comp=Z,37nm,1.3s
R11A Troy Canyon, C 89.43 50 P P 09 35 01.3 -1.3
baz=249
PRN Pahroc Range 89.49 51 P P 09 35 03.5 +0.7
PALK Pallekele 89.51 278 P P 09 35 04.5 +1.2
comp=Z,16nm,0.5s,baz=194,slow=3.7,SNR=19
PALK Pallekele 89.51 278 P P 09 35 04.6 +1.3
PALK pmax pmax
comp=Z,124nm,1.6s
PALK Pallekele 89.51 278 P P 09 35 04.6 +1.3
PALK Pallekele 89.51 278 P P 09 35 05.7 +2.4
comp=Z,38nm,1.4s
W13A Hualapai Mount 89.58 53 IAmb IAmb 09 36 06.9
comp=Z,56nm,1.4s
E07A Sunnyside 89.62 41 IAmb IAmb 09 36 06.4
comp=Z,54nm,1.1s
TOLK Toolik Lake Re 89.67 14 P P 09 35 02.4 -0.4
baz=220
G08A Pilot Rock 89.69 42 P P 09 35 04.2 +0.6
G08A IAmb IAmb 09 36 06.7
comp=Z,55nm,1.3s
HAWA Hanford 89.76 41 IAmb IAmb 09 36 07.1
comp=Z,66nm,1.2s
BMAR Burnt Mountain 90.04 16 P P 09 35 03.8 -0.7
E08A Dider Farm, El 90.10 41 P P 09 35 06.1 +0.9
MAYO Mayo, Yukon 90.25 22 P P 09 35 05.1 -0.5
baz=233
D08A Wollman Farm, 90.41 41 P P 09 35 07.2 +0.6
D08A IAmb IAmb 09 36 10.0
comp=Z,39nm,1.1s
ELK Elko 90.53 48 IAmb IAmb 09 36 11.7
comp=Z,39nm,1.2s
SPR3 Spring Creek 3 90.58 50 P P 09 35 08.0 -0.1
SPR3 IAmb IAmb 09 36 12.0
comp=Z,66nm,1.3s
BMO Blue Mountains 90.60 43 P P 09 35 08.0 +0.2
BMO Blue Mountains 90.60 43 P P 09 35 08.0 +0.2
BMO IAmb IAmb 09 36 10.8
comp=Z,39nm,1.2s
B08A Colville Reser 90.67 40 P P 09 35 07.0 -0.9
B08A IAmb IAmb 09 36 11.3
comp=Z,46nm,1.2s
E09A Wood Farm, Sta 90.69 42 IAmb IAmb 09 36 11.7
comp=Z,62nm,1.2s
LCMT Little Creek M 90.71 52 P P 09 35 08.4 -0.1
LCMT IAmb IAmb 09 36 12.8
comp=Z,54nm,1.2s
PSUT Pine Spring 90.77 50 P P 09 35 09.1 +0.3
PSUT IAmb IAmb 09 36 13.1
comp=Z,37nm,1.5s
CCUT Cedar City 90.80 51 P P 09 35 09.5 +0.5
CCUT IAmb IAmb 09 36 13.7
comp=Z,59nm,1.3s
SZCU Shurtz Canyon 91.02 51 P P 09 35 11.0 +0.9
SZCU IAmb IAmb 09 36 14.5
comp=Z,58nm,1.3s
KNB Kanab 91.03 52 P P 09 35 10.6 +0.5
KNB pmax pmax
comp=Z,76nm,1.3s
KNB Kanab 91.03 52 P P 09 35 10.6 +0.5
KNB IAmb IAmb 09 36 14.6
comp=Z,76nm,1.3s
MFID Camas Ranch 91.07 45 IAmb IAmb 09 36 13.3
comp=Z,35nm,1.1s
F10A Beach Ranch, E 91.07 42 P P 09 35 08.9 -1.0
TUC Tucson 91.12 57 P P 09 35 11.7 +1.2
TUC pmax pmax
comp=Z,49nm,1.5s
TUC Tucson 91.12 57 P P 09 35 11.7 +1.2
TUC IAmb IAmb 09 36 15.0
comp=Z,48nm,1.4s
TUC Tucson 91.12 57 P P 09 35 08.7 -1.7
baz=252
X16A Lo Mia Camp, P 91.26 55 P P 09 35 09.8 -1.4
X16A IAmb IAmb 09 36 15.7
comp=Z,43nm,1.3s
PKCU Pink Cliffs 91.56 52 IAmb IAmb 09 36 17.9
comp=Z,77nm,1.3s
WUAZ Wupatki 91.66 54 P P 09 35 12.3 -0.7
WUAZ IAmb IAmb 09 36 17.4
comp=Z,53nm,1.2s
WUAZ Wupatki 91.66 54 P P 09 35 10.6 -2.4
baz=252
MVU Marysvale 91.97 51 P P 09 35 15.3 +0.9
MSU Marysvale 92.00 51 P P 09 35 15.3 +0.7
MSU Marysvale 92.00 51 P P 09 35 15.3 +0.7
319A Douglas 92.06 58 IAmb IAmb 09 36 19.3
comp=Z,47nm,1.2s
DUG Dugway, Tooele 92.08 49 IAmb IAmb 09 36 18.9
comp=Z,32nm,1.3s
DUG Dugway, Tooele 92.08 49 P P 09 35 14.9 +0.1
baz=251
HLID Hailey 92.08 45 P P 09 35 13.3 -1.4
HLID Hailey 92.08 45 P P 09 35 13.3 -1.4
baz=250
BGU Big Grassy Mou 92.16 48 P P 09 35 14.2 -1.0
SNAA Sanae 92.34 183 P P 09 35 14.6 -0.7
SNAA Sanae 92.34 183 *d* P P 09 35 14.5 -0.8
SNAA pmax pmax
comp=Z,73nm,1.2s
SNAA Sanae 92.34 183 P P 09 35 14.2 -1.1
X18A Snowflake 92.47 55 P P 09 35 16.7 0.0
X18A IAmb IAmb 09 36 21.1
comp=Z,40nm,1.3s
HVU Hansel Valley 92.62 47 P P 09 35 17.4 +0.2
HVU pmax pmax
comp=Z,42nm,1.5s
HVU Hansel Valley 92.62 47 P P 09 35 17.4 +0.2
HVU IAmb IAmb 09 36 21.4
comp=Z,42nm,1.5s
Q16A Castle Valley 92.88 50 P P 09 35 19.9 +1.4
Q16A IAmb IAmb 09 36 23.3
comp=Z,50nm,1.6s
TMUT Trail Mountain 92.97 50 P P 09 35 18.3 -0.8
VNA3 Neumayer Olymp 92.97 181 P P 09 35 17.3 -0.9
VNA2 Neumayer--Watz 93.25 181 P P 09 35 18.8 -0.6
baz=178,slow=4.6
TCUT Toone Canyon 93.39 48 P P 09 35 20.9 0.0
VNA1 Neumayer--Stat 93.55 181 P P 09 35 20.1 -0.6
121A Cookes Peak, D 93.61 57 P P 09 35 22.7 +0.6
121A Cookes Peak, D 93.61 57 P P 09 35 20.1 -1.9
baz=253
WMQ Urumqi 94.19 314 *e*P P 09 35 25.1 +0.8
WMQ pP pwP 09 36 22.8 -1.1
WMQ pmax pmax
comp=Z,61nm,0.9s
WMQ pmax pmax
comp=Z,160nm,3.7s
WMQ LR LR
comp=Z,170nm,22.1s
WMQ LR LR
comp=Z,180nm,16.9s
WMQ LR LR
comp=Z,170nm,21.9s
PV21 Cone Mtn., Par 94.41 51 P P 09 35 25.9 +0.2
PV22 Blue Mesa, Par 94.54 51 P P 09 35 26.2 0.0
PDAR Pinedale Array 95.20 47 P P 09 35 28.4 -0.8
comp=Z,0.2nm,0.4s,baz=182,slow=4.5,SNR=4.1
PDAR pP **pP** 09 36 26.5 +0.5
comp=Z,0.7nm,0.7s,baz=222,slow=2.0,SNR=3.5
PDAR PP **PP** 09 39 17.3 -5.4
comp=Z,0.3nm,0.5s,baz=256,slow=4.4,SNR=3.6
PDAR PKKP **PKKPdf** 09 52 21.4 -2.1
comp=Z,1.4nm,0.7s,baz=87,slow=4.4,SNR=14

PDAR PKPPKP **P'P'df** **10 00 32.9 -2.0**
comp=Z,0.6nm,0.8s,baz=95,slow=5.1,SNR=5.2
ANMO Albuquerque 95.34 55 *ce*P **P** **09 35 30.1 +0.2**
ANMO pmax pmax
comp=Z,4.0nm,1.0s
ANMO Albuquerque 95.34 55 P **P** **09 35 29.4 -0.5**
ANMO Albuquerque 95.34 55 P **P** **09 35 27.0 -2.9**
baz=254
MNTX Cornudas Mount 95.34 59 P **P** **09 35 29.9 +0.1**
MNTX Cornudas Mount 95.34 59 P **P** **09 35 27.1 -2.7**
baz=254
O20A White River Ci 95.40 50 P **P** **09 35 29.7 -0.4**
O20A White River Ci 95.40 50 P **P** **09 35 28.3 -1.8**
baz=254
TX31 Lajitas Ar. Si 96.16 61 P **P** **09 35 33.8 +0.1**
TX32 Lajitas Array 96.16 61 P **P** **09 35 33.9 +0.3**
TX32 IAmb IAmb 09 35 36.3
comp=Z,22nm,1.6s
TXAR Lajitas Array 96.16 61 P **P** **09 35 34.0 +0.3**
comp=Z,1.0nm,0.5s,baz=220,slow=4.8,SNR=31
TXAR pP **pP** **09 36 32.1 +1.6**
comp=Z,2.3nm,1.0s,baz=224,slow=3.5,SNR=3.7
TXAR PP **PP** **09 39 24.9 -5.3**
comp=Z,0.5nm,0.9s,baz=221,slow=11,SNR=3.5
TXAR PKKP **PKKPbc** **09 52 19.8 -0.3**
comp=Z,0.9nm,0.6s,baz=95,slow=4.1,SNR=15
N23A Red Feather La 97.29 50 P **P** **09 35 36.7 -2.0**
baz=255
YKA Yellowknife Ar 98.29 27 P **P** **09 35 41.4 -0.9**
comp=Z,1.0nm,0.6s,baz=248,slow=3.3,SNR=4.7
YKA pP **pP** **09 36 40.6 +1.4**
comp=Z,5.9nm,1.1s,baz=254,slow=3.4,SNR=3.6
MK31 Makanchi Array 98.67 316 IAmb IAmb 09 35 46.1
comp=Z,11nm,0.9s
MKAR Makanchi Array 98.67 316 P **P** **09 35 44.8 +0.4**
comp=Z,6.8nm,0.6s,baz=91,slow=7.1,SNR=57
MKAR PP **PP** **09 39 42.0 -6.9**
comp=Z,1.2nm,0.9s,baz=353,slow=3.3,SNR=2.1
MKAR PKIKP **PKiKP** **09 40 13.8 -0.8**
comp=Z,0.6nm,0.5s,baz=308,slow=0.7,SNR=6.0
MKAR PKKPbc **PKKPbc** **09 52 09.5 -4.4**
comp=Z,1.0nm,0.6s,baz=289,slow=3.7,SNR=6.9
MKAR Makanchi Array 98.67 316 Pdif 09 35 44.4 0.0
ZALV Zalesovo Beam 98.89 324 P Pdif 09 35 44.5 -0.6
comp=Z,5.1nm,0.8s,baz=121,slow=4.9,SNR=15
ZALV PP **PP** **09 39 53.1 +2.8**
comp=Z,1.9nm,0.8s,baz=259,slow=3.8,SNR=3.6
ABTX Abilene, Hawle 100.29 59 **PP** **09 40 01.2 -0.4**
NRIK Noril'sk 101.53 339 P **Pdif** **09 35 55.2 -1.4**
comp=Z,2.8nm,0.4s,baz=108,slow=3.6,SNR=4.6
NRIK Noril'sk 101.53 339⇑ *i*P **Pdif** **09 35 56.5 -0.1**
NRIK pmax pmax
comp=Z,8.0nm,1.4s
KSH Kashi 101.61 308 P **Pdif** **09 35 59.8 +2.0**
KSH SKS 09 46 15.0
KSH SS **SS** **09 54 29.9 +3.8**
KSH pmax pmax
comp=Z,4.0nm,1.1s
PLCA Paso Flores 101.66 138 P **Pdif** **09 35 56.4 -1.6**
comp=Z,0.9nm,0.7s,baz=243,slow=4.5,SNR=3.1
KURK Kurchatov 101.88 319 P **Pdif** **09 35 56.6 -1.9**
KURK Kurchatov 101.88 319 P **Pdif** **09 35 56.6 -1.9**
KURBB Kurchatov Arra 101.92 319 P **Pdif** **09 35 56.6 -2.1**
comp=Z,1.2nm,0.5s,baz=100,slow=4.4,SNR=13
KURBB PP PP 09 40 05.1 -8.2
comp=Z,1.4nm,0.9s,baz=103,slow=6.8,SNR=4.0
AAK Ala-Archa 103.27 311 PKKPbc PKKPbc 09 51 59.1 -1.5
comp=Z,1.5nm,0.5s,baz=199,slow=4.3,SNR=4.0
BVAR Borovoye Array 107.23 321 PKiKP **PKiKP** **09 40 28.9 -1.1**
comp=Z,0.7nm,0.3s,baz=177,slow=1.6,SNR=4.3
BVAR PP **PP** **09 40 49.6 -2.7**
comp=Z,2.4nm,0.8s,baz=117,slow=5.3,SNR=4.8
JFWS Jewell Farm 109.16 50 P **PKiKP** **09 40 32.2 -1.7**
baz=266
LRAL Lakeview Retre 110.86 60 P **PKiKP** **09 40 34.8 -2.6**
baz=264
SFIN Lafayette 111.36 52 P **PKiKP** **09 40 36.0 -2.1**
baz=267
WCI Wyandotte Cave 111.86 55 P **PKiKP** **09 40 37.7 -1.5**
baz=266
P49A Miami Univ. Ec 113.15 53 P **PKiKP** **09 40 39.9 -1.7**
baz=268
ARU Arti 113.98 325 PKiKP **PKiKP** **09 40 42.3 -0.3**
comp=Z,3.0nm,0.3s,baz=129,slow=2.9,SNR=3.9
ARU PKKPbc **PKKPbc** **09 51 22.9 -4.0**
comp=Z,3.3nm,0.2s,baz=278,slow=7.1,SNR=1.6
ARU Arti 113.98 325⇑ *i*PKIKP **PKiKP** **09 40 42.4 -0.3**
ARU pmax pmax
comp=Z,11nm,1.7s
AKTO Aktyubinsk 114.95 319 PKP **PKiKP** **09 40 43.4 -1.3**
comp=Z,2.3nm,0.5s,baz=89,slow=8.5,SNR=4.9
AKTO PKKPbc **PKKPbc** **09 51 21.2 -2.1**
comp=Z,0.6nm,0.3s,baz=14,slow=4.2,SNR=1.9
P52A Corning 115.15 53 P **PKiKP** **09 40 43.7 -1.7**
baz=270
O53A New Philadelph 115.85 53 P **PKPdf** **09 40 44.5 -2.3**
baz=271
LPAZ La Paz 115.91 117 PKP **PKPdf** **09 40 48.0 -0.3**
comp=Z,0.4nm,0.5s,baz=0.0,slow=2.0,SNR=2.5
LPAZ PKKPbc **PKKPbc** **09 51 19.5 -0.4**
comp=Z,1.0nm,0.6s,baz=5.0,slow=8.7,SNR=4.9
LPAZ La Paz 115.91 117 **PKPdf** **09 40 47.7 -0.6**
SPA0 Spitsbergen Ar 116.27 354 *ce*PKPdf **PKiKP** **09 40 47.3 +0.8**
O54A Avella 116.49 53 **PKPdf** **09 40 47.1 -0.9**
NHSC New Hope 116.58 61 P **PKPdf** **09 40 46.1 -2.3**
baz=268
N54A Moraine State 116.77 52 P **PKPdf** **09 40 47.0 -1.5**
baz=272
M54A Oil Creek Stat 117.00 51 P **PKPdf** **09 40 47.7 -1.3**
baz=272
O56A Blue Knob Stat 117.88 53 P **PKPdf** **09 40 49.4 -1.4**
baz=272
SSPA Standing Stone 118.38 52 P **PKPdf** **09 40 50.5 -1.1**
baz=273
CBN Corbin Frederi 118.88 55 P **PKPdf** **09 40 51.5 -1.1**
baz=272
PRGR Permogore 119.16 333 *e*PKIKP **PKPdf** **09 40 51.0 -1.4**
PRGR pmax pmax
comp=Z,12nm,0.6s
BINY Binghamton 119.69 50 P **PKPdf** **09 40 53.2 -0.9**
baz=275
N59A State Game Lan 119.96 52 P **PKPdf** **09 40 52.6 -2.1**
baz=274
P60A Greenville 120.15 53 P **PKPdf** **09 40 53.1 -1.9**
baz=274
LONY Lake Ozonia 120.44 47 P **PKPdf** **09 40 53.7 -1.8**
baz=276
J59A Piesco 120.64 49 **PKPdf** **09 40 54.8 -1.1**
BELG Belogornoye 121.02 322 *di*PKIKP **PKPdf** **09 40 55.7 -0.6**
HAMF Hammerfest 121.26 347 *e*PKPdf **PKiKP** **09 40 57.2 +0.8**
I60A Shoreham 121.47 48 P **PKPdf** **09 40 56.2 -1.2**
baz=278
ARA0 ARCESS Array S 121.67 345 *e*PKPdf **PKPdf** **09 40 56.4 -0.7**
ARCES ARCESS Array B 121.67 345 PKP **PKPdf** **09 40 56.7 -0.4**
comp=Z,2.9nm,0.3s,baz=82,slow=2.4,SNR=57
ARCES PKKPab **PKKPab** **09 50 55.2 -2.2**
comp=Z,1.6nm,0.5s,baz=216,slow=2.3,SNR=20
SIV San Ignacio 121.98 121 PKKPab PKKPab 09 50 57.6 -1.7
comp=Z,1.1nm,0.7s,baz=30,slow=6.4,SNR=4.7
L61B Northampton 122.10 50 P **PKPdf** **09 40 57.2 -1.5**
baz=278
KLMR Klimovskoe 122.17 333 *e*PKIKP **PKPdf** **09 40 55.0 -3.2**
KLMR pmax pmax
comp=Z,29nm,1.3s
KLMR Klimovskoe 122.17 333 *e*PKPdf **PKPdf** **09 40 55.0 -3.2**
KLMR AMP 09 41 00.0
comp=Z,29nm,1.3s
LBNH Lisbon 122.38 48 P **PKPdf** **09 40 57.4 -1.9**
baz=279
KTK1 Kautokeino 122.60 346 *e*PKPdf **PKiKP** **09 40 59.5 +0.4**
JETT Jettan, Norway 122.82 347 *e*PKPdf **PKiKP** **09 41 00.5 +0.9**
I62A Tamworth 122.86 48 P **PKPdf** **09 40 58.3 -1.8**
baz=280
SCHQ Schefferville 122.88 34 PKhKP PKPpre 09 40 57.6
comp=Z,5.4nm,0.6s,baz=265,slow=3.8,SNR=6.1
SCHQ PKKPab **PKKPab** **09 50 52.7 +0.2**
comp=Z,9.6nm,0.5s,baz=100,slow=3.5,SNR=23
BOSA Boshof 122.93 219 PKP **PKiKP** **09 41 01.1 -0.1**
comp=Z,14nm,0.6s,baz=125,slow=1.4,SNR=19
TRO Tromso 123.07 348 *e*PKPdf **PKPdf** **09 40 58.9 -0.8**
E62A Clayton Lake 123.59 44 **PKPdf** **09 41 00.4 -1.1**
D62A Allapoint, All 123.80 44 PKPdf **PKPdf** **09 41 00.7 -1.1**
PKME Peaks-Kenny Pk 124.03 46 P **PKPdf** **09 41 00.8 -1.5**
baz=282
PQI Presque Isle 124.58 44 PKPdf **PKPdf** **09 41 02.4 -1.0**
VRH Novokhopyorsk 124.88 322 *e*PKIKP **PKPdf** **09 41 02.7 -1.0**
VRH pmax pmax
comp=Z,10.0nm,0.7s
STEI Steigen 125.24 348 *e*PKPdf **PKPdf** **09 41 03.3 -0.6**
G65A Princeton 125.24 46 **PKPdf** **09 41 04.0 -0.6**
MOS Moscow 125.38 328 *e*PKIKP **PKPdf** **09 41 02.5 -2.0**
LOF Lofoten 125.40 349 *e*PKPdf **PKiKP** **09 41 04.9 +0.2**
GNI Garni 125.55 308 *di*PKIKP **PKPdf** **09 41 05.7 +0.1**
GNI pmax pmax
comp=Z,28nm,1.7s
FAUS Fauske 125.69 347 *e*PKPdf **PKPdf** **09 41 03.9 -0.9**
LPSR Galich'ya Gora 125.99 324 *e*PKIKP **PKPdf** **09 41 05.3 -0.5**
LPSR pmax pmax
comp=Z,20nm,1.1s
ONI Oni 126.05 311 PKIKP **PKiKP** **09 41 07.5 +0.6**
ONI Oni 126.05 311 **PKiKP** **09 41 07.5 +0.6**
OBN Obninsk 126.20 328 *c i*PKIKP **PKPdf** **09 41 06.0 -0.1**
OBN pmax pmax
comp=Z,16nm,1.2s
KBZ Khabaz 126.20 313 PKP **PKiKP** **09 41 06.8 -0.2**
comp=Z,2.4nm,0.7s,baz=113,slow=5.5,SNR=5.9
KBZ Khabaz 126.20 313⇓ *i*PKIKP **PKiKP** **09 41 07.2 +0.3**
KIV Kislovodsk 126.30 313 *i* PKIKP **PKiKP** **09 41 07.5 +0.2**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,82nm,23.0s
VORD Divnogorie 126.39 322 *e*PKIKP **PKPdf** **09 41 06.0 -0.6**
VORD pmax pmax
comp=Z,20nm,1.3s
KONS Konsvik 126.89 348 *e*PKPdf **PKiKP** **09 41 07.8 +0.2**
MOR8 Moi Rana 126.90 347 *e*PKPdf **PKPdf** **09 41 06.3 -1.0**
FIA1 FINESS Array S 127.19 338 **PKPdf** **09 41 07.8 0.0**
FINES FINESS Array B 127.19 338 PKhKP PKPpre 09 40 57.4
comp=Z,0.8nm,0.5s,baz=113,slow=4.4,SNR=4.2
FINES PKP **PKPdf** **09 41 07.9 0.0**
comp=Z,1.7nm,0.3s,baz=100,slow=3.3,SNR=16
FINES SKPab SKPab 09 44 03.3
comp=Z,1.9nm,0.4s,baz=48,slow=4.1,SNR=6.0
FINES FINESS Array B 127.19 338 PKPdf **PKPdf** **09 41 07.5 -0.3**
KIBK Kibwezi 127.41 254 **PKPdf** **09 41 10.1 +0.2**
OBIP Obispado Ponce 127.79 79 **PKPdf** **09 41 08.2 -2.1**
SJG San Juan 128.23 79 PKIKP **PKPdf** **09 41 10.0 -1.1**
SJG San Juan 128.23 79 **PKPdf** **09 41 10.0 -1.1**
PDPR Patillas Dam, 128.34 79 PKPdf **PKPdf** **09 41 09.5 -1.8**
SOC Sochi 128.48 313 *e*PKIKP **PKPdf** **09 41 07.4 -3.5**
SOC *e* 09 43 14.2
SOC *e*PPP PPP 09 46 11.0
SOC *e*SS SS 10 00 12.8 -3.5
SOC *e*SSS SSS 10 05 04.8
SOC pmax pmax
comp=Z,5.0nm,0.4s
HUMP Col San Antoni 128.52 79 **PKPdf** **09 41 10.4 -1.2**
KMBO Kilima Mbogo 128.59 255 PKP **PKiKP** **09 41 12.8 -0.2**
comp=Z,3.9nm,0.6s,baz=41,slow=20,SNR=6.3
VSU Vasula 128.89 335⇓ *i*PKIKP **PKPdf** **09 41 09.3 -1.9**
CDVI St. Croix 129.50 80 PKPdf **PKPdf** **09 41 12.6 -0.9**
LSZ Lusaka 129.69 234 PKIKP **PKPdf** **09 41 13.7 -0.5**
LSZ Lusaka 129.69 234 PKPdf **PKPdf** **09 41 13.7 -0.5**
MNK Minsk 130.81 330 *i* PKIKP **PKiKP** **09 41 16.3 +0.4**
MNK *i* 09 42 15.3
MNK *i* 09 43 35.1
MNK *i* PPP PPP 09 46 25.9
MNK *i* 09 48 05.4
MNK *i* SSS SSS 10 05 41.2
MNK pmax pmax
comp=N,11nm,1.0s
MNK pmax pmax
comp=Z,8.0nm,1.0s
MNK pmax pmax
comp=E,1.0nm,1.0s
MNK Minsk 130.81 330 *i* PKP **PKiKP** **09 41 16.3 +0.4**
comp=E,1.0nm,1.0s
MNK *i* PKP **PKiKP** **09 41 16.3 +0.4**
comp=N,11nm,1.0s
MNK *i* PKP **PKiKP** **09 41 16.3 +0.4**
comp=Z,8.0nm,1.0s,baz=54
MNK *i* pPKP **pPKPdf** **09 42 15.3 +0.5**
MNK *i* sPKP 09 42 38.9
MNK *i* PP **PP** **09 43 35.1 +1.5**
MNK *i* SKP 09 44 29.1
MNK *i* PKS **PKSdf** **09 44 52.8 +1.6**
MNK *i* PPP PPP 09 46 25.9
MNK *i* SKS **SKSdf** **09 48 05.4 +1.9**
MNK *i* SKKS **SKKSac** **09 50 06.6 +0.6**
MNK *i* SP **SP** **09 53 06.6 -15**
MNK *i* PS **PS** **09 53 36.9 -13**
MNK *i* SS SS 10 00 58.7 +15
MNK *i* SSS SSS 10 05 41.2
DOMB Dombas 131.66 347 *e*PKPdf **PKPdf** **09 41 16.7 +0.3**
NB2 NORSAR Subarra 132.05 345 PKPdf **PKPdf** **09 41 17.4 +0.2**
comp=Z,2.1nm,0.7s,baz=31,slow=1.9
NOA NORSAR Array B 132.05 345 PKP **PKPdf** **09 41 17.2 +0.1**
comp=Z,1.1nm,0.6s,baz=32,slow=2.1,SNR=9.7
NOA SKPab **SKPab** **09 44 21.8 -0.3**
comp=Z,11nm,0.9s,baz=30,slow=3.0,SNR=22
NC602 NORSAR Array S 132.23 345 *e*PKPdf **PKPdf** **09 41 17.9 +0.4**
AKASG Malin Array Be 132.23 326 PKP **PKPdf** **09 41 18.0 +0.2**
comp=Z,1.8nm,0.5s,baz=59,slow=2.4,SNR=8.2
AKASG PP **PP** **09 43 38.9 -4.0**
comp=Z,0.5nm,0.2s,baz=52,slow=5.4,SNR=2.0
AKASG SKPab **SKPab** **09 44 22.6 -0.5**
comp=Z,13nm,0.8s,baz=46,slow=4.5,SNR=16
AKASG Malin Array Be 132.23 326 PKIKP **PKPdf** **09 41 18.0 +0.2**
AKASG Malin Array Be 132.23 326 PKPdf **PKPdf** **09 41 17.5 -0.3**
AKBB Malin Array Si 132.23 326⇑ *i*PKIKP **PKPdf** **09 41 17.2 -0.5**
BDFB Brasilia 132.46 130 PKP **PKPdf** **09 41 19.2 -0.2**
comp=Z,1.3nm,0.3s,baz=342,slow=6.4,SNR=3.3
BDFB SKPbc **SKPbc** **09 44 23.3 -0.6**
comp=Z,8.2nm,0.7s,baz=218,slow=3.2,SNR=11
SKAR Skarslia 133.05 347 *e*PKPdf **PKPdf** **09 41 19.6 +0.5**
SUW Suwalki 133.28 332 *e*PKiKP **SKPab** **09 44 27.9 +0.3**
BRTR Keskin Array B 133.94 310 PKhKP PKPpre 09 41 08.8
comp=Z,0.6nm,0.6s,baz=31,slow=0.7,SNR=3.7
BRTR PKP **PKPdf** **09 41 21.0 -0.6**
comp=Z,1.1nm,0.8s,baz=151,slow=2.8,SNR=6.6
BRTR PP **PP** **09 43 50.9 -3.7**
comp=Z,0.9nm,0.6s,baz=121,slow=5.5,SNR=4.2
BRTR SKPab **SKPab** **09 44 30.4 -0.9**
comp=Z,1.5nm,0.8s,baz=126,slow=6.1,SNR=4.3
BRTR Keskin Array B 133.94 310 PKPdf **PKPdf** **09 41 20.4 -1.1**
SORM Soroca 134.03 323⇑P **SKPbc** **09 44 29.3 +1.3**
TSUM Tsumeb 134.58 221 PKPdf **PKiKP** **09 41 24.2 -0.6**
BLS5 Blasjo 134.59 347 *e*PKPdf **PKPdf** **09 41 22.4 +0.4**
MBAR Mbarara 134.82 253⇑ *i*PKIKP **PKPdf** **09 41 24.2 +0.2**
MDUB Mudurnu 135.47 312 PKPdf **PKPdf** **09 41 24.2 -0.1**
BIZ Bicaz 135.96 323⇑P **SKPbc** **09 44 35.4 +1.2**
BURAR Bucovina Array 136.10 324⇑P **SKPbc** **09 44 37.5 +2.8**
KWP Kalwaria Pacla 136.29 328 PKIKP **PKPdf** **09 41 25.9 +0.5**
KWP Kalwaria Pacla 136.29 328 **PKPdf** **09 41 25.9 +0.5**
MLR Muntele Rosu 136.80 321 PKIKP **PKPdf** **09 41 26.3 -0.4**
MLR Muntele Rosu 136.80 321 PKPdf **PKPdf** **09 41 26.3 -0.4**
KOLS Kolonicke sedl 136.94 327 *e*PKIKP **PKiKP** **09 41 28.7 +0.2**
KOLS Kolonicke sedl 136.94 327 *e*PKP **PKiKP** **09 41 28.7 +0.2**
KOLS *e* 09 44 39.6
CRVS Cervenica-Dubn 137.38 328 *e*PKIKP **PKiKP** **09 41 30.6 +1.2**
CRVS Cervenica-Dubn 137.38 328 *e*PKP **PKiKP** **09 41 30.6 +1.2**
CRVS *e* 09 44 47.0
DRGR 137.98 324⇑P **SKPbc** **09 44 41.6 +1.3**
MORC Moravsky Berou 138.72 331 PKIKP **PKPdf** **09 41 29.6 -0.4**
MORC Moravsky Berou 138.72 331 PKPdf **PKPdf** **09 41 29.6 -0.4**
MORC Moravsky Berou 138.72 331 *e*PKP **PKPdf** **09 41 30.0 0.0**
GZR Gura Zlata 138.74 323⇑P **SKPbc** **09 44 39.3 -3.1**
PSZ Piszkesteto 138.81 327 PKIKP **PKPdf** **09 41 30.0 -0.2**
PSZ Piszkesteto 138.81 327 **PKPdf** **09 41 30.0 -0.2**
KRLC Kraliky 138.86 332 *e*PKIKP **PKiKP** **09 41 34.8 +2.3**
KRLC Kraliky 138.86 332 *e*PKP **PKiKP** **09 41 34.8 +2.3**
DPC Dobruska-Polom 138.87 333 *e*PKIKP **PKPdf** **09 41 30.3 +0.1**
DPC Dobruska-Polom 138.87 333 *e*PKP **PKPdf** **09 41 30.3 +0.1**
SIRR Siria 138.87 324⇑P **SKPbc** **09 44 43.6 +0.9**
VYHS Vyhne 138.97 329 *e*PKIKP **PKiKP** **09 41 33.7 +1.0**
VYHS Vyhne 138.97 329 *e*PKP **PKiKP** **09 41 33.6 +0.9**
JAVC Velka Javorina 139.30 330 *e*PKP **PKiKP** **09 41 32.4 -1.0**
BRG Berggiesshubel 139.49 335 *e*PKP **PKPdf** **09 41 27.1 -4.1**
BRG Amp 09 41 29.4
comp=Z,5.6nm,0.9s
BRG Berggiesshubel 139.49 335 P **PKPdf** **09 41 32.4 +1.2**
BRG Amp 09 41 35.2
comp=Z,15nm,1.3s
VRAC Vranov 139.49 331 *e*PKP **PKPdf** **09 41 31.3 0.0**
CLL Collm 139.53 336 *e*PKPdf **PKPdf** **09 41 31.0 -0.3**
comp=Z,19nm,1.7s
CLL *e*pPKPdf **pPKPdf** **09 42 31.0 -0.2**
CLL *e* 09 42 41.0
CLL LmV 14 22 00.0
comp=Z,100nm,18.8s
KRUC Moravsky 139.76 331 *e*PKP **PKPdf** **09 41 32.0 +0.2**
MORH Mrgy, Hungar 140.56 326 *e*P **PKPdf** **09 41 32.7 -0.6**
CONA Conrad Observa 140.81 330 *e*P **PKPdf** **09 41 29.1 -4.8**
comp=Z,5.9nm,0.6s
CKRC Cesky Krumlov 140.88 332 *e*PKP **PKPdf** **09 41 29.4 -4.5**
KHC Kasperske Hory 140.97 333 *e*PKIKP **PKPdf** **09 41 30.5 -3.6**
KHC Kasperske Hory 140.97 333 *e*PKP **PKPdf** **09 41 30.5 -3.6**
DIVS Divibare 141.10 323 *e*P **PKPdf** **09 41 27.3 -7.2**
GERES GERESS Array B 141.13 333 PKhKP PKPpre 09 41 27.7
comp=Z,2.6nm,0.6s,baz=67,slow=4.5,SNR=15
GERES SKPbc **SKPbc** **09 44 49.5 +0.8**
comp=Z,3.0nm,0.8s,baz=43,slow=2.5,SNR=7.5
ARSA Arzberg 141.45 330 *e*P **PKPdf** **09 41 30.9 -4.0**
comp=Z,5.3nm,1.0s
BBLS Lazići 141.58 323 *e*P **PKPdf** **09 41 32.4 -3.0**
MOA Molln 141.62 331 *e*P **PKPdf** **09 41 31.4 -3.8**
comp=Z,4.6nm,0.5s
SOKA Soboth 142.09 330 *e*P **PKPdf** **09 41 32.1 -4.1**
comp=Z,10nm,0.9s
MRAK Mrakovica 142.27 326 *e*P **PKPdf** **09 41 32.5 -4.0**
BLY Banja Luka 142.29 326 *e*P **PKPdf** **09 41 30.0 -6.5**
OBKA Obir 142.45 330 *e*P **PKPdf** **09 41 33.0 -3.9**
comp=Z,11nm,0.9s
CRES Cresnjev 142.48 328 *e*P **PKPdf** **09 41 32.4 -4.4**
PDG Podgorica 142.51 321 *e*P **PKPdf** **09 41 33.0 -3.9**
MGRS Mrkonjic Grad 142.56 325 *e*P **PKPdf** **09 41 33.6 -3.4**
KBA Koelnbreinsper 142.61 331 *e*P **PKPdf** **09 41 33.8 -3.5**
comp=Z,12nm,0.8s,SNR=7.7
BRY Bratogost 142.66 322 *e*P **PKPdf** **09 41 32.9 -4.5**
DRME Dracevica, Mon 142.70 321 *e*P **PKPdf** **09 41 33.8 -3.5**
LJU Ljubljana 142.79 329 *e*P **PKPdf** **09 41 34.2 -3.2**
LJU Ljubljana 142.79 329 *e*PKPdf **PKPdf** **09 41 34.2 -3.2**
MYKA Terra Mystica 142.80 331 *e*P **PKPdf** **09 41 33.9 -3.5**
comp=Z,17nm,1.0s,SNR=5.8
BOJS Bojanci 142.80 328 *e*P **PKPdf** **09 41 34.1 -3.3**
TREB Trebinje 142.89 322 *e*P **PKPdf** **09 41 37.9 +0.3**
CRNS Crni Vrh 142.89 329 *i* PKPdf **PKPdf** **09 41 34.2 -3.3**
HCY Herceg Novi 142.96 322 *e*P **PKPdf** **09 41 33.7 -4.1**
CADS Cadrg 143.04 330 *i* PKPdf PKPab 09 41 34.2 +0.4
CEY Cerknica 143.06 329 *e*P PKPbc 09 41 35.3 -0.1
CEY Cerknica 143.06 329 *i* PKPdf PKPbc 09 41 35.0 -0.4
VOJS Vojsko 143.11 330 *i* PKPdf PKPab 09 41 34.8 +0.7
RICI Ricice 143.12 324 *i* P PKPab 09 41 34.5 +0.4
STON Ston 143.18 323 *i* P PKPab 09 41 34.5 +0.2
KIJV Kijevo 143.19 325 *i* P PKPab 09 41 35.1 +0.7
WATA Walderalm 143.21 333 *e*P PKPbc 09 41 35.6 -0.4
comp=Z,12nm,0.7s
ABTA Abfaltersbach 143.23 332 *e*P PKPbc 09 41 35.3 -0.7
comp=Z,32nm,0.7s,SNR=14
WTTA Wattenberg 143.23 333 *i* P PKPbc 09 41 36.5 +0.4
comp=Z,21nm,0.8s,SNR=10
MAKA Makarska 143.31 324 *i* P PKPab 09 41 35.3 +0.5
SKDS Skadanscina 143.40 329 *e*P PKPab 09 41 35.1 -0.1
MOTA Moosalm 143.40 334 *e*P PKPbc 09 41 36.5 +0.1
comp=Z,11nm,0.6s,SNR=11
RETA Reutte 143.44 334 *e*P PKPbc 09 41 36.9 +0.4
comp=Z,18nm,1.0s,SNR=6.1
SQTA Sankt Quirin 143.45 333 *i* P PKPbc 09 41 36.8 +0.2
comp=Z,19nm,0.7s,SNR=7.3
HVAR Hvar 143.70 324 *i* P PKPab 09 41 36.5 +0.1
BFO Black Forest 143.72 337 PKIKP PKPbc 09 41 37.5 +0.3
BFO Black Forest 143.72 337 PKPdf PKPbc 09 41 37.5 +0.3
FETA Feichten 143.81 334 *i* P PKPbc 09 41 37.6 0.0
comp=Z,24nm,0.8s,SNR=18
ZIRJ Zirje 143.84 325 *i* P PKPab 09 41 37.1 +0.2
DUGI Dugi Otok 143.93 326 *i* P PKPbc 09 41 37.6 -0.3
DAVA Damuels 143.96 335 *e*P PKPbc 09 41 38.2 +0.1
comp=Z,29nm,1.0s,SNR=9.5
BRJN Brijuni 143.98 328 *i* P PKPbc 09 41 37.7 -0.2
CTI Castel Tesino 144.15 332 PKIKP PKPbc 09 41 38.8 +0.2
CTI Castel Tesino 144.15 332 PKPdf PKPbc 09 41 38.8 +0.1
SCTE Santa Cesarea 144.33 318 PKPdf PKPbc 09 41 39.6 +0.4
TEOL Teolo 144.66 331 **PKPdf** **09 41 40.5 -0.1**
SALO Salr 144.99 332 PKPbc 09 41 40.9 -0.2
SGRT San Giovanni R 145.01 323 **PKPdf** **09 41 41.5 0.0**
SENIN Lac Senin/Sane 145.75 336 PKPdf **PKPbc** **09 41 43.6 -0.1**
INTR Introdacqua 145.89 325 PKPdf **PKPbc** **09 41 43.6 -0.4**
TIP Timpagrande 145.93 318 **PKPbc** **09 41 44.5 +0.3**
AQU L'Aquila 145.93 326 PKP2 **PKPbc** **09 41 44.3 +0.2**
AQU L'Aquila 145.93 326 *e*P **PKPbc** **09 41 44.3 +0.2**
AQU L'Aquila 145.93 326 **PKPbc** **09 41 44.3 +0.2**
CLF Chambon-Foret 145.99 343 **PKPab** **09 41 44.8 -0.1**
MSSA Maissana 146.45 332 **PKPbc** **09 41 45.0 -0.6**
CEL Celeste 147.00 318 **PKPbc** **09 41 47.1 -0.2**
SHEL Horse Pasture 147.68 191 PKP2 **PKPbc** **09 41 50.3 +0.6**
SHEL Horse Pasture 147.68 191 **PKPbc** **09 41 50.3 +0.6**
SSB Saint Sauveur 147.69 338 PKP2 **PKPbc** **09 41 49.3 +0.4**
SSB Saint Sauveur 147.69 338 **PKPbc** **09 41 49.3 +0.4**
RCBR Riachuelo 147.83 130 PKP2 **PKPbc** **09 41 50.0 -0.2**
RCBR Riachuelo 147.83 130 **PKPbc** **09 41 50.0 -0.2**
RAFF Raffo Rosso 148.59 317 **PKiKP** **09 41 52.7 -0.1**
VSL Villasalto 150.11 326 **PKPbc** **09 41 54.8 -0.3**
KEST Kesra 152.70 320 PKPbc **PKiKP** **09 42 01.9 +0.5**
comp=Z,3.7nm,0.3s,baz=142,slow=5.6,SNR=14
KEST PKPab **PKPab** **09 42 13.9 +1.0**
comp=Z,13nm,0.7s,baz=305,slow=3.4,SNR=7.1
KEST Kesra 152.70 320 **PKPbc** **09 42 01.0 -0.2**
PBRG Braganca 153.90 351 *e*PKP **PKPab** **09 42 17.9 +0.3**
POLO Lamas de Olo 154.46 353 *e*PKP **PKPab** **09 42 20.9 +0.8**
PVRL Vila Real 154.55 353 *e*PKP **PKPab** **09 42 21.0 +0.6**
PVIS Viseu 155.12 353 *e*PKP **PKPab** **09 42 23.6 +0.7**
MTE Manteigas 155.39 352 *e*PKP **PKPab** **09 42 24.3 +0.2**
ESDC Sonseca Array 155.41 345 PKPbc PKPbc 09 42 06.2
comp=Z,0.7nm,0.7s,baz=1.8,slow=4.0,SNR=4.9
ESDC PKPab **PKPab** **09 42 24.6 +0.4**
comp=Z,2.1nm,0.4s,baz=11,slow=3.8,SNR=19
ESDC Sonseca Array 155.41 345 PKPdf **PKPdf** **09 41 57.3 -0.3**
ESDC PKPab **PKPab** **09 42 24.0 -0.2**
TORD Torodi Ar. Bea 166.56 260 PKP **PKPdf** **09 42 09.5 -0.6**
comp=Z,4.0nm,0.8s,baz=9.6,slow=0.8,SNR=23
TORD PKPab **PKPab** **09 43 13.7 0.0**
comp=Z,14nm,0.7s,baz=120,slow=5.1,SNR=32
TORD Torodi Ar. Bea 166.56 260 **PKPdf** **09 42 08.8 -1.2**
TORD PKPab **PKPab** **09 43 13.7 0.0**
KIC Kosan Boka 168.14 217 *e*PKP2 **PKPab** **09 43 20.6 +0.1**
comp=Z,23nm,0.6s
KIC Kosan Boka 168.14 217 *e*P **PKPdf** **09 42 09.4 -1.9**
comp=Z,35nm,1.3s
LIC Lamto 168.19 215 *e*PKP2 **PKPab** **09 43 20.9 +0.2**
comp=Z,294nm,1.9s
LIC Lamto 168.19 215 *e*P **PKPdf** **09 42 11.3 0.0**
comp=Z,61nm,1.3s
DBIC Dimbokro 168.46 217 PKP **PKPdf** **09 42 09.5 -1.9**
comp=Z,9.6nm,1.0s,baz=145,slow=1.2,SNR=4.9
DBIC pPKP **pPKPdf** **09 43 12.2 +0.1**
comp=Z,2.5nm,0.6s,baz=150,slow=2.8,SNR=2.0
DBIC PKPab **PKPab** **09 43 22.0 +0.1**
comp=Z,12nm,0.6s,baz=166,slow=5.2,SNR=24
DBIC Dimbokro 168.46 217 **PKPdf** **09 42 09.8 -1.7**
DBIC **PKPab** **09 43 21.5 -0.4**
TIC Toumodi 168.53 217 *e*PKP2 **PKPab** **09 43 22.3 +0.1**
TIC Toumodi 168.53 217 *e*P **PKPdf** **09 42 10.0 -1.5**
KOWA Kowa 172.26 260 **PKPdf** **09 42 12.3 -1.2**
KOWA PKPab **sPKPdf** **09 43 38.4 +0.2**

BJI ***22*** *09:26:24.3±0.0, 17°.05N×147°.60E, h8km, mB5.2/11, mb4.7/15, Ms4.4/3, Ms7 4.2/3*
NEIC ***22*** *09:26:28.3±1.9, 16°.9N±0°.1×147°.8E±0°.1, h40km±10km, mb4.7/26, Error ellipse: s-maj=21.2km s-min=15.4km az=181.0*
IDC ***22*** *09:26:32.2±3.3, 17°.05N×147°.11E, h41km±30km, mb4.1/11, mb1 4.3/13, mb1mx3.9/60, mbtmp4.4/13, ML4.1/2, Error ellipse: s-maj=29.0km s-min=17.6km az=97.0*
ISC 22 09:26:30.2±0.8, 16°.94N±0°.09×147°.5E±0°.1, h41km, n51, σ1°.59/51, mb4.6/26, Mariana Islands region

JMN	**Monobe**	**20.72**	**326**	P	**P**	**09 31 06.3**	**-1.0**
MJAR	**Matsushiro Arr**	**21.19**	**339**	P	**P**	**09 31 12.0**	**-0.3**
	comp=Z,3.7nm,0.7s,baz=288,slow=15,SNR=14						
MJAR	**Matsushiro Arr**	**21.19**	**339**	P	**P**	**09 31 12.6**	**+0.4**
MAJO	**Matsushiro**	**21.19**	**339**	P	**P**	**09 31 12.2**	**-0.1**
JMM	**Marumori**	**21.66**	**345**	P	**P**	**09 31 14.1**	**-3.2**
JMM				IAmb	IAmb	09 31 27.5	
	comp=Z,20nm,1.0s						
JSD	**Sado**	**22.53**	**341**	P	**P**	**09 31 24.4**	**-2.2**
JSD				IAmb	IAmb	09 31 34.0	
	comp=Z,36nm,1.0s						
YHNB	**Yeheng**	**25.57**	**292**	P	**P**	**09 31 54.5**	**-1.2**
YHNB				IAmb	IAmb	09 32 02.2	
	comp=Z,12nm,0.7s						
SSLB	**Suanglung**	**25.78**	**290**	P	**P**	**09 31 55.0**	**-2.5**
SSLB				IAmb	IAmb	09 32 07.8	
	comp=Z,29nm,1.5s						
KSRS	**Korea Array**	**26.74**	**324**	P	**P**	**09 32 08.2**	**+2.3**
	comp=Z,1.2nm,0.7s,baz=140,slow=7.1,SNR=6.1						
JKA	**Kamikawa-asahi**	**27.41**	**352**	P	**P**	**09 32 09.4**	**-2.5**
JKA				IAmb	IAmb	09 32 19.5	
	comp=Z,22nm,1.5s						
NJ2	**Nanjing**	**29.98**	**305**	*e*P	**P**	**09 32 36.9**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,21nm,0.5s						
KLR	**Kul'dur**	**34.66**	**342**	P	**P**	**09 33 16.1**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=130,slow=3.7,SNR=8.8						
XAN	**Xi'an**	**38.49**	**304**	P	**P**	**09 33 49.3**	**+0.6**
XAN				pmax	pmax		
	comp=Z,42nm,1.2s						
XAN				pmax	pmax		
	comp=Z,400nm,7.2s						
XAN				LR	LR		
	comp=Z,160nm,21.3s						
XAN				LR	LR		
	comp=Z,230nm,20.6s						
XAN				LR	LR		
	comp=Z,330nm,21.3s						
HHC	**Hu-ho-hao-te**	**39.05**	**315**	*e*P	**P**	**09 33 54.9**	**+1.6**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,420nm,6.6s						
CHTO	**Chiang Mai**	**46.14**	**280**	P	**P**	**09 34 51.0**	**0.0**
CM31	**Chiang Mai Arr**	**46.18**	**280**	P	**P**	**09 34 51.4**	**0.0**
CMAR	**Chiang Mai Arr**	**46.18**	**280**	P	**P**	**09 34 51.9**	**+0.5**
	comp=Z,7.1nm,0.9s,baz=80,slow=5.7,SNR=7.0						
CMAR	**Chiang Mai Arr**	**46.18**	**280**		**P**	**09 34 52.3**	**+0.9**
WMQ	**Urumqi**	**56.75**	**312**	*e*P	**P**	**09 36 12.3**	**+2.1**
ZAA0	**Zalesovo Array**	**60.45**	**323**	P	**P**	**09 36 35.3**	**-0.3**
ZAA0				IAmb	IAmb	09 36 36.8	
	comp=Z,5.3nm,0.8s						
ZALV	**Zalesovo Beam**	**60.45**	**323**	P	**P**	**09 36 34.5**	**-1.2**
	comp=Z,3.6nm,0.7s,baz=84,slow=15,SNR=6.8						
ZALV	**Zalesovo Beam**	**60.45**	**323**	P	**P**	**09 36 34.3**	**-1.3**
MKAR	**Makanchi Array**	**60.91**	**314**	P	**P**	**09 36 37.7**	**-1.3**
	comp=Z,1.1nm,0.4s,baz=120,slow=8.7,SNR=1.5						
KURK	**Kurchatov**	**63.72**	**319**	P	**P**	**09 36 57.3**	**-0.3**
KURBB	**Kurchatov Arra**	**63.77**	**318**	P	**P**	**09 36 57.3**	**-0.7**
	comp=Z,6.6nm,0.7s,baz=98,slow=6.9,SNR=22						
NRIK	**Noril'sk**	**63.84**	**340**	P	**P**	**09 36 58.8**	**+0.7**
	comp=Z,9.9nm,0.8s,baz=107,slow=10,SNR=11						
NRIK	**Noril'sk**	**63.84**	**340**	P	**P**	**09 36 57.1**	**-1.0**
NRIK				IAmb	IAmb	09 37 01.5	
	comp=Z,12nm,0.9s						
ILAR	**Eielson Array**	**64.47**	**26**	P	**P**	**09 37 05.2**	**+2.9**
	comp=Z,1.4nm,0.7s,baz=237,slow=5.9,SNR=1.5						
KSH	**Kashi**	**65.29**	**306**	P	**P**	**09 37 13.0**	**+4.7**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NIL	**Nilore**	**67.89**	**300**	P	**P**	**09 37 25.4**	**+0.5**
BRVK	**Borovoye**	**68.98**	**321**	P	**P**	**09 37 30.3**	**-1.0**
BRVK				IAmb	IAmb	09 37 35.4	
	comp=Z,3.9nm,0.8s						
KK31	**Karatay Array**	**69.21**	**310**	P	**P**	**09 37 32.2**	**-0.7**
KKAR	**Karatay Array**	**69.21**	**310**	P	**P**	**09 37 32.7**	**-0.3**
GAR	**Garm**	**69.70**	**306**	P	**P**	**09 37 36.4**	**+0.2**
GAR				IAmb	IAmb	09 37 40.0	
	comp=Z,6.6nm,1.0s						
CHGR	**Chuyangaron**	**70.64**	**306**	P	**P**	**09 37 41.2**	**-0.7**
KBL	**Kabul**	**71.25**	**301**	P	**P**	**09 37 44.9**	**-1.0**
KBL				IAmb	IAmb	09 37 48.4	
	comp=Z,7.6nm,0.7s						
NVAR	**Mina Array Bea**	**82.86**	**52**	P	**P**	**09 38 54.1**	**+3.1**
	comp=Z,0.6nm,0.5s,baz=268,slow=6.8,SNR=5.3						
KLMR	**Klimovskoe**	**83.81**	**332**	*e*	**P**	**09 38 53.7**	**-1.4**
KLMR				AMP		09 38 57.6	
	comp=Z,20nm,1.2s						
KBZ	**Khabaz**	**88.59**	**315**	P	**P**	**09 39 19.9**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=138,slow=2.6,SNR=4.1						
FINES	**FINESS Array B**	**89.19**	**336**	P	**P**	**09 39 21.1**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=60,slow=4.6,SNR=6.6						
FINES	**FINESS Array B**	**89.19**	**336**	P	**P**	**09 39 20.0**	**-1.4**
SDCO	**Great Sand Dun**	**92.59**	**49**	P	**P**	**09 39 35.1**	**-3.1**
SDCO				IAmb	IAmb	09 39 50.8	
	comp=Z,2.3nm,1.1s						
TORD	**Torodi Ar. Bea**	**134.89**	**309**	PKP	**PKiKP**	**09 45 47.7**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=69,slow=1.0,SNR=2.5						
LPAZ	**La Paz**	**145.88**	**94**	PKPbc	**PKiKP**	**09 46 09.4**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=247,slow=1.5,SNR=7.6						

*IDC **22** 09:33:42.0±1.0, 12°.16N×95°.08E, h0km, mb4.0/10, mb1 4.1/12, mb1mx3.9/61, mbtmp4.0/12, ML3.7/2, MS3.4/1, Ms1 3.4/1, ms1mx2.8/59, Error ellipse: s-maj=38.6km s-min=16.5km az=59.0*
*NEIC **22** 09:33:47.0±2.6, 12°.19N±0°.08×95°.01E±0°.08, h28km±5km, mb4.7/31, Error ellipse: s-maj=11.9km s-min=10.8km az=161.0*

ISC 22 09:33:45.1±0.6, 12°.17N±0°.08×95°.1E±0°.1, h21km, n69, σ1§28/67, mb4.5/27, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**2.36**	**258**	Pn	Pn	09 34 22.5	-0.1
KHLT	**Khaolaem Dam**	**4.28**	**52**	P	**Pn**	**09 34 48.8**	**-0.3**
SRDT	**SRDT**	**4.48**	**61**	P	**Pn**	**09 34 51.1**	**-0.7**
PHET	**Kaeng Krachan**	**4.49**	**80**	P	**Pn**	**09 34 52.0**	**+0.1**
SURT	**Suratani**	**4.84**	**131**	P	**Pn**	**09 34 56.0**	**-0.7**
PKDT	**Phuket**	**5.32**	**143**	P	**Pn**	**09 35 01.6**	**-1.7**
SURA	**Surathani**	**5.36**	**123**	P	**Pn**	**09 35 02.2**	**-1.7**
SURA	**Surathani**	**5.36**	**123**	P	**Pn**	**09 35 02.6**	**-1.4**
UTHA	**Uthaitani**	**5.40**	**51**	P	**Pn**	**09 35 04.5**	**+0.1**
UMPA	**Umpang Tak**	**5.42**	**42**	P	**Pn**	**09 35 03.5**	**-1.2**
KRAB	**Krabi**	**5.63**	**134**	P	**Pn**	**09 35 06.5**	**-1.1**
PATY	**Pattaya**	**5.68**	**82**	P	**Pn**	**09 35 06.5**	**-1.8**
SRIT	**Nakonsritamara**	**5.68**	**128**	P	**Pn**	**09 35 07.1**	**-1.2**
TRTT	**Trang**	**6.25**	**133**	P	**Pn**	**09 35 13.6**	**-2.5**
PHIT	**Phitsanulok**	**7.17**	**45**	P	**Pn**	**09 35 25.8**	**-2.9**
CMAR	**Chiang Mai Arr**	**7.27**	**30**	Pn	**Pn**	**09 35 31.2**	**+1.1**
	0.3nm,0.3s,baz=218,slow=15,SNR=11						
SKLT	**Songkhla**	**7.37**	**132**	P	**Pn**	**09 35 29.0**	**-2.5**
CHTO	**Chiang Mai**	**7.57**	**29**	Pn	**Pn**	**09 35 36.5**	**+2.2**
CHAI	**Chaiyaphum**	**7.64**	**60**	P	**Pn**	**09 35 35.0**	**-0.3**
PSI	**Prapat**	**10.05**	**158**	Pn	**Pn**	**09 36 09.9**	**+1.4**
	0.7nm,0.3s,baz=323,slow=14,SNR=3.0						
PSI				LR	LR	09 39 54.3	
	comp=Z,234nm,19.8s,baz=322,slow=37						
RPSI	**Rantau Prapat**	**10.15**	**158**		**Pn**	**09 36 09.9**	**+0.2**
LSA	**Lhasa**	**17.82**	**349**	Pn	**Pn**	**09 37 51.7**	**-0.7**
LUWI	**Luwuk**	**30.46**	**114**	P	**P**	**09 39 57.5**	**+0.9**
TARG	**Taragay, Kyrgy**	**33.10**	**336**	P	**P**	**09 40 21.4**	**+1.4**
TARG				IAmb	IAmb	09 40 22.2	
	comp=Z,5.4nm,0.8s						
DRK	**Karamyk**	**34.13**	**327**	P	**P**	**09 40 29.6**	**+0.6**
DRK				IAmb	IAmb	09 40 30.1	
	comp=Z,19nm,1.4s						
CHGR	**Chuyangaron**	**35.04**	**323**	P	**P**	**09 40 35.4**	**-1.1**
CHGR				IAmb	IAmb	09 40 44.5	
	comp=Z,13nm,1.0s						
BTK	**Batken**	**35.07**	**327**	P	**P**	**09 40 38.1**	**+1.3**
BTK				IAmb	IAmb	09 40 46.3	
	comp=Z,8.0nm,1.1s						
MK31	**Makanchi Array**	**36.16**	**345**	P	**P**	**09 40 46.6**	**+0.6**
MKAR	**Makanchi Array**	**36.16**	**345**	P	**P**	**09 40 45.6**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=171,slow=8.6,SNR=3.7						
MKAR	**Makanchi Array**	**36.16**	**345**	P	**P**	**09 40 46.4**	**+0.4**
MAKZ	**Makanchi**	**36.26**	**345**	P	**P**	**09 40 47.4**	**+0.6**
MAKZ				IAmb	IAmb	09 41 09.2	
	comp=Z,10nm,1.5s						
SONM	**Songino Array**	**36.79**	**13**	P	**P**	**09 40 51.9**	**+0.4**
	comp=Z,2.0nm,1.0s,baz=192,slow=5.6,SNR=4.4						
SONM	**Songino Array**	**36.79**	**13**	IAmb	IAmb	09 40 53.2	
	comp=Z,3.7nm,1.2s						

ULN	**Ulaanbaatar**	**36.96**	**13**	P	**P**	**09 40 53.7**	**+0.7**
KSAR	**Wonju Array Be**	**38.64**	**44**	P	**P**	**09 41 05.8**	**-1.3**
KS19	**Wonju Array Si**	**38.66**	**44**	P	**P**	**09 41 06.1**	**-1.2**
KURBB	**Kurchatov Arra**	**40.67**	**344**	P	**P**	**09 41 24.2**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=162,slow=7.8,SNR=10						
GEYT	**Alibeck**	**41.76**	**314**	P	**P**	**09 41 34.2**	**+1.2**
	comp=Z,1µm,0.8s,baz=171,slow=10,SNR=6.9						
HIA	**Hailar**	**42.23**	**24**	P	**P**	**09 41 37.5**	**+0.8**
HIA				IAmb	IAmb	09 41 37.9	
	comp=Z,12nm,1.2s						
ZALV	**Zalesovo Beam**	**42.46**	**351**	P	**P**	**09 41 38.8**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=175,slow=7.2,SNR=4.0						
BVAR	**Borovoye Array**	**45.29**	**339**	P	**P**	**09 42 01.0**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=141,slow=7.1,SNR=2.9						
AKTO	**Aktyubinsk**	**48.70**	**329**	P	**P**	**09 42 27.3**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=125,slow=7.3,SNR=2.2						
WRA	**Warramunga Arr**	**50.10**	**129**	P	**P**	**09 42 39.2**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=310,slow=8.6,SNR=7.8						
WRAB	**Tennant Creek**	**50.11**	**129**	P	**P**	**09 42 40.8**	**+1.7**
WRAB				IAmb	IAmb	09 42 48.0	
	comp=Z,4.0nm,0.8s						
WB2	**Warramunga Arr**	**50.11**	**129**	P	**P**	**09 42 39.4**	**+0.3**
WB2				IAmb	IAmb	09 42 52.8	
	comp=Z,14nm,1.4s						
WR0	**Warramunga Arr**	**50.27**	**129**	P	**P**	**09 42 39.9**	**-0.4**
WR0				IAmb	IAmb	09 42 48.9	
	comp=Z,4.2nm,0.8s						
ASAR	**Alice Springs**	**52.05**	**133**	P	**P**	**09 42 54.0**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=308,slow=7.1,SNR=11						
ASAR	**Alice Springs**	**52.05**	**133**	P	**P**	**09 42 55.6**	**+2.0**
BR131	**Keskin Array S**	**60.42**	**309**	P	**P**	**09 43 51.8**	**-1.6**
BRTR	**Keskin Array B**	**60.42**	**309**		**P**	**09 43 51.8**	**-1.6**
AKASG	**Malin Array Be**	**65.43**	**320**	P	**P**	**09 44 23.9**	**-2.4**
AKBB	**Malin Array Si**	**65.43**	**320**	P	**P**	**09 44 23.8**	**-2.5**
BURAR	**Bucovina Array**	**67.55**	**317**		**P**	**09 44 38.6**	**-1.5**
BURAR				IAmb	IAmb	09 44 39.7	
	comp=Z,5.1nm,1.0s						
BUR08	**Bucovina Ar. S**	**67.57**	**317**	P	**P**	**09 44 38.9**	**-1.3**
BUR08				IAmb	IAmb	09 44 43.2	
	comp=Z,4.5nm,0.9s						
VTS	**Vitosha**	**68.53**	**311**	P	**P**	**09 44 47.4**	**+1.0**
FNA	**Florina**	**69.85**	**309**	P	**P**	**09 44 51.9**	**-2.6**
GERES	**GERESS Array B**	**75.29**	**318**	P	**P**	**09 45 26.9**	**0.0**
	comp=Z,1.9nm,0.7s,baz=82,slow=7.0,SNR=4.6						
GERES	**GERESS Array B**	**75.29**	**318**	P	**P**	**09 45 26.4**	**-0.4**
H21K	**Melozitna Rive**	**87.81**	**23**	P	**P**	**09 46 33.5**	**+1.0**
I21K	**Tanana**	**88.33**	**23**	P	**P**	**09 46 36.1**	**+1.1**
I21K				IAmb	IAmb	09 46 37.5	
	comp=Z,6.8nm,0.9s						
BPAW	**Bear Paw Mtn.**	**89.19**	**24**	P	**P**	**09 46 39.8**	**+0.7**
MDM	**Murphy Dome**	**89.84**	**22**	P	**P**	**09 46 42.4**	**+0.2**
MDM				IAmb	IAmb	09 46 43.4	
	comp=Z,8.3nm,1.2s						
SKT	**Skwentna**	**89.91**	**26**	P	**P**	**09 46 42.5**	**0.0**
SKT				IAmb	IAmb	09 46 43.3	
	comp=Z,11nm,1.1s						
MCK	**McKinley**	**90.17**	**24**	P	**P**	**09 46 44.5**	**+0.8**
MCK				IAmb	IAmb	09 46 44.8	
	comp=Z,9.4nm,1.1s						
ILAR	**Eielson Array**	**90.43**	**22**	P	**P**	**09 46 43.9**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=286,slow=3.5,SNR=5.2						
ILAR	**Eielson Array**	**90.43**	**22**	P	**P**	**09 46 43.6**	**-1.2**
MENT	**Mentasta**	**92.59**	**23**	P	**P**	**09 46 56.7**	**+1.7**
MENT				IAmb	IAmb	09 46 57.0	
	comp=Z,3.7nm,0.8s						
MFID	**Camas Ranch**	**117.89**	**25**		**PKPdf**	**09 52 30.2**	**-0.3**
PSUT	**Pine Spring**	**122.75**	**27**		**PKiKP**	**09 52 41.3**	**+0.9**

*TAP **22** 09:33:53.0, 24°.78N×122°.59E, h1km±1km, ML2.8, D*
*JMA **22** 09:33:54.6±0.2, 24°.81N×122°.58E, h13km±4km, M2.3*

ISC 22 09:33:54.0±1.7, 24°.80N±0°.07×122°.59E±0°.04, h11km±14km, n26, σ0§39/31, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.47**	**137**	P	**Pb**	**09 34 04.1**	**-0.2**
JYNG				*e*S	**Sb**	**09 34 10.8**	**-0.4**
YOJ	**Yonaguni jima**	**0.51**	**131**	P	**Pb**	**09 34 04.6**	**-0.3**
YOJ				*e*S	**Sb**	**09 34 11.8**	**-0.4**
YOJ	**Yonaguni jima**	**0.51**	**131**	P	**Pb**	**09 34 04.5**	**-0.3**
	baz=129						
YOJ				S	**Sb**	**09 34 12.9**	**+0.7**
	baz=129						
TWB1	**Santiao Chiao**	**0.59**	**291**	P	**Pb**	**09 34 06.3**	**+0.1**
	baz=292						
NTC	**Toucheng**	**0.69**	**275**	*i* P	**Pb**	**09 34 08.1**	**0.0**
	baz=275						
TWC	**Suao**	**0.70**	**255**	*i* P	**Pg**	**09 34 07.6**	**+0.1**
	baz=255						
TIPB	**Shuangxi**	**0.72**	**284**	P	**Pb**	**09 34 08.2**	**-0.3**
	baz=285						
NWF	**Wu-fen Shan**	**0.78**	**291**	P	**Pn**	**09 34 10.5**	**-0.6**
	baz=291						
WFSB	**Wu-fen Shan**	**0.78**	**291**	P	**Pb**	**09 34 10.0**	**+0.4**
	baz=291						
NDS	**Dongshan**	**0.81**	**259**	P	**Pb**	**09 34 09.9**	**-0.2**
	baz=259						
EWUT	**Wuta**	**0.82**	**245**	*e*P	**Pb**	**09 34 10.6**	**+0.5**
	baz=245						
EWUT				*e*S	**Sn**	**09 34 23.1**	**-0.4**
	baz=245						
TWE	**Neicheng**	**0.84**	**265**	P	**Pb**	**09 34 11.0**	**+0.4**
	baz=265						
ENTT	**Nioudou**	**0.94**	**261**	P	**Pn**	**09 34 13.0**	**-0.2**
	baz=261						
NWLT	**Wulai**	**0.99**	**269**	P	**Pg**	**09 34 12.9**	**-0.1**
	baz=269						
NDT	**Datong Townshi**	**1.00**	**259**	P	**Pn**	**09 34 13.8**	**-0.2**
	baz=259						
TATO	**Taipei**	**1.02**	**280**	P	**Pb**	**09 34 13.8**	**+0.2**
	baz=280						
NACB	**Ninganchiao**	**1.10**	**236**	P	**Pg**	**09 34 14.8**	**-0.3**
	baz=236						
YHNB	**Yeheng**	**1.11**	**264**	P	**Pn**	**09 34 15.6**	**0.0**
	baz=264						
NSK	**Sanguang**	**1.13**	**264**	P	**Pb**	**09 34 15.5**	**0.0**
	baz=264						
IRIF	**Iriomote-Funau**	**1.14**	**114**	P	**Pn**	**09 34 16.4**	**+0.6**
IRIF				*e*S	**Sb**	**09 34 31.4**	**+1.1**
NNSB	**Datong**	**1.16**	**252**	P	**Pn**	**09 34 16.4**	**+0.2**
	baz=252						
NNS	**Nan Shan**	**1.16**	**253**	*i* P	**Pn**	**09 34 16.4**	**+0.2**
	baz=252						
ETLH	**Xiulin Townshi**	**1.17**	**240**	P	**Pn**	**09 34 16.6**	**+0.3**
	baz=240						
FUSS	**Fushou**	**1.34**	**246**	*i* P	**Pg**	**09 34 19.8**	**0.0**
	baz=246						
WHF	**Hehuan Shan**	**1.37**	**242**	P	**Pg**	**09 34 20.4**	**0.0**
	baz=242						
JIJ	**Ishigaki jima**	**1.48**	**107**	P	**Pn**	**09 34 20.3**	**-0.2**

*JMA **22** 09:35:57.0±0.1, 24°.24N×121°.82E, h18km±3km*
*TAP **22** 09:35:57.0, 24°.27N×121°.78E, h18km, ML2.9, B*

ISC 22 09:35:57.2±1.0, 24°.26N±0°.02×121°.80E±0°.03, h19km±2km, n23, σ0§45/45, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.07**	**312**	*i* P	**Pg**	**09 36 00.8**	**0.0**
	baz=321						
EHP				S	**Sg**	**09 36 03.9**	**+0.7**
	baz=321						
ENA	**Nanau**	**0.17**	**342**	P	**Pg**	**09 36 02.1**	**+0.1**
	baz=348						
ENA				*i* S	**Sg**	**09 36 05.6**	**+0.5**
	baz=348						
EWUT	**Wuta**	**0.18**	**354**	*e*P	**Pg**	**09 36 02.0**	**0.0**
	baz=358						
EWUT				*e*S	**Sg**	**09 36 05.5**	**+0.2**
	baz=358						
ETL	**Fush Village**	**0.19**	**238**	P	**Pg**	**09 36 02.2**	**0.0**
	baz=233						
ETL				*i* S	**Sg**	**09 36 06.1**	**+0.5**
	baz=233						
NACB	**Ninganchiao**	**0.21**	**245**	P	**Pg**	**09 36 02.3**	**-0.1**
	baz=241						
NACB				S	**Sg**	**09 36 06.4**	**+0.5**
	baz=241						
TWD	**Chiawan**	**0.26**	**226**	*i* P	**Pb**	**09 36 03.1**	**0.0**
	baz=221						
TWD				S	**Sb**	**09 36 07.7**	**+0.7**
	baz=221						
ETLH	**Xiulin Townshi**	**0.29**	**259**	P	**Pb**	**09 36 03.8**	**-0.2**
	baz=257						
ETLH				S	**Sb**	**09 36 08.6**	**+0.1**
	baz=257						
HWA	**Hwalien**	**0.33**	**212**	P	**Pb**	**09 36 05.3**	**+0.6**
	baz=208						
HWA				*e*S	**Sn**	**09 36 11.6**	**-1.8**
	baz=208						
TWC	**Suao**	**0.35**	**7**	*i* P	**Pg**	**09 36 04.6**	**-0.1**
	baz=11						
TWC				S	**Sb**	**09 36 10.2**	**0.0**
	baz=11						
NDS	**Dongshan**	**0.38**	**348**	P	**Pb**	**09 36 05.3**	**-0.1**
	baz=350						
NDS				S	**Sb**	**09 36 11.2**	**+0.2**
	baz=350						
ETM	**Tongmen**	**0.41**	**224**	P	**Pb**	**09 36 05.9**	**0.0**
	baz=221						
ETM				S	**Sb**	**09 36 12.0**	**+0.2**
	baz=221						
NNSB	**Datong**	**0.41**	**294**	P	**Pb**	**09 36 06.2**	**+0.1**
	baz=293						
NNSB				S	**Sb**	**09 36 12.4**	**+0.3**
	baz=293						
NDT	**Datong Townshi**	**0.43**	**322**	*i* P	**Pb**	**09 36 06.5**	**+0.2**
	baz=323						
NDT				*i* S	**Sb**	**09 36 12.6**	**+0.1**
	baz=323						
NNS	**Nan Shan**	**0.43**	**295**	P	**Pb**	**09 36 06.2**	**-0.1**
	baz=294						
NNS				S	**Sb**	**09 36 12.8**	**+0.3**
	baz=294						
ENTT	**Nioudou**	**0.43**	**331**	P	**Pb**	**09 36 06.5**	**+0.1**
	baz=332						
ENTT				S	**Sb**	**09 36 13.0**	**+0.4**
	baz=332						
TEYL	**Yanliau Villag**	**0.43**	**205**	P	**Pb**	**09 36 06.3**	**0.0**
	baz=204						
TEYL				*e*S	**Sb**	**09 36 13.6**	**+1.1**
	baz=204						
TWE	**Neicheng**	**0.47**	**345**	*i* P	**Pb**	**09 36 07.3**	**+0.3**
	baz=348						
TWE				S	**Sb**	**09 36 14.3**	**+0.6**
	baz=348						
WHF	**Hehuan Shan**	**0.50**	**257**	*i* P	**Pb**	**09 36 07.5**	**-0.2**
	baz=255						
WHF				S	**Sb**	**09 36 15.0**	**+0.2**
	baz=255						
FUSS	**Fushou**	**0.51**	**269**	*i* P	**Pb**	**09 36 07.8**	**+0.1**
	baz=267						
FUSS				S	**Sb**	**09 36 15.0**	**+0.2**
	baz=267						
ESL	**Shilin**	**0.56**	**217**	*i* P	**Pb**	**09 36 08.2**	**-0.1**
	baz=214						
ESL				*e*S	**Sn**	**09 36 18.4**	**-0.5**
	baz=214						
YOJ	**Yonaguni jima**	**1.12**	**80**	P	**Pn**	**09 36 17.6**	**-0.4**
YOJ				*e*S	**Sn**	**09 36 32.9**	**0.0**
YOJ	**Yonaguni jima**	**1.12**	**80**	P	**Pn**	**09 36 17.6**	**-0.4**
	baz=79						
YOJ				S	**Sg**	**09 36 33.6**	**-0.1**
	baz=79						
IRIF	**Iriomote-Funau**	**1.76**	**87**	S	**Sn**	**09 36 48.6**	**-0.1**

*IDC **22** 09:47:33.2±2.5, 31°.47S×71°.86W, h0km, mb3.7/1, mb1 3.7/2, mb1mx3.4/31, mbtmp3.6/2, ML3.5/1, Error ellipse: s-maj=125.6km s-min=45.9km az=94.0*
*GUC **22** 09:47:35.2±0.8, 31°.43S×71°.99W, h40km±5km, ML3.5*

ISC 22 09:47:33.9±3.7, 31°.44S±0°.05×72°.2W±0°.1, h13km±24km, n18, σ0§58/22, 1C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.91**	**33**	⇓*i* P	**Pb**	**09 47 51.4**	**-0.1**
CO06				*i* S	**Sb**	**09 48 03.1**	**-0.4**
VA06	**Catapilco**	**1.36**	**146**	*e*P	**Pn**	**09 47 58.2**	**-0.3**
VA06				*i* S	**Sn**	**09 48 15.3**	**-1.1**
VA06				IAML		09 48 24.3	
	comp=N,1µm,0.4s						
CO03	**El Pedregal**	**1.43**	**66**	⇓*i* P	**Pn**	**09 47 59.4**	**-0.2**
VA01	**Torpederas**	**1.65**	**163**	*e*P	**Pn**	**09 48 02.2**	**-0.3**
CO05	**La Serena**	**1.73**	**29**	*e*P	**Pn**	**09 48 03.4**	**-0.3**
CO05				*i* S	**Sn**	**09 48 25.1**	**-0.6**
CO05				IAML		09 48 30.9	
	comp=N,462nm,0.4s						
GO04	**Tololo Observa**	**1.75**	**44**	*e*P	**Pn**	**09 48 04.4**	**+0.2**
GO04				*i* S	**Sn**	**09 48 26.5**	**+0.1**
ROCH	**El Roble**	**1.83**	**147**	⇑*i* P	**Pn**	**09 48 05.6**	**+0.3**
VA03	**San Esteban**	**1.93**	**134**	⇓*i* P	**Pn**	**09 48 07.0**	**+0.5**
VA03				*i* S	**Sn**	**09 48 30.3**	**-0.3**
VA03				IAML		09 48 35.8	
	comp=E,864nm,0.6s						
VA05	**Santo Domingo**	**2.27**	**167**	IAML		09 48 53.5	
	comp=N,445nm,0.3s						
MT05	**Renca**	**2.31**	**148**	*e*P	**Pn**	**09 48 12.2**	**+0.5**
MT05				IAML		09 48 48.3	
	comp=E,703nm,0.4s						
MT09	**Talagante**	**2.54**	**157**	⇓*i* P	**Pn**	**09 48 16.0**	**+1.0**
MT09				IAML		09 49 02.2	
	comp=E,264nm,0.4s						
MT01	**

BRU2	**Volcan**	**11.59**	**117**	Pn	**Pn**	**09 57 02.5**	**+2.0**
TXAR	**Lajitas Array**	**17.89**	**329**	P	**P**	**09 58 27.1**	**+2.5**
	0.1nm,0.3s,baz=149,slow=11,SNR=17						
TX31	**Lajitas Ar. Si**	**17.90**	**329**		**Pn**	**09 58 25.1**	**+1.1**
TX32	**Lajitas Array**	**17.90**	**329**		**Pn**	**09 58 23.4**	**-0.5**
Z35A	**Perchaven, San**	**19.37**	**350**	P	**Pn**	**09 58 42.6**	**+0.9**
Z35A				IAmb	IAmb	09 58 47.7	
	comp=Z,19nm,0.7s						
MIAR	**Mount Ida**	**20.22**	**359**	P	**P**	**09 58 51.4**	**+1.4**
MIAR				IAmb	IAmb	09 59 06.1	
	comp=Z,12nm,1.1s						
MNTX	**Cornudas Mount**	**20.67**	**329**	P	**P**	**09 58 55.7**	**+0.7**
WHAR	**Wooly Hollow**	**20.97**	**2**	P	**P**	**09 58 59.9**	**+1.8**
FNO	**Franklin**	**21.27**	**350**	P	**P**	**09 59 02.6**	**+1.3**
HBAR	**Harrisburg**	**21.34**	**6**	P	**P**	**09 59 00.7**	**-1.4**
MSTX	**Muleshoe**	**21.49**	**338**	P	**P**	**09 59 05.1**	**+1.2**
MSTX				IAmb	IAmb	09 59 19.8	
	comp=Z,14nm,1.3s						
FCAR	**Ozark Folk Cen**	**21.58**	**2**	P	**P**	**09 59 05.3**	**+0.7**
OK025	**Westminster Rd**	**21.58**	**351**	P	**P**	**09 59 05.0**	**+0.3**
OK025				IAmb	IAmb	09 59 07.6	
	comp=Z,16nm,0.8s						
BCOK	**Bluff Creek, N**	**21.70**	**350**	P	**P**	**09 59 06.1**	**+0.2**
BCOK				IAmb	IAmb	09 59 08.3	
	comp=Z,15nm,0.9s						
AMTX	**Amarillo**	**21.95**	**341**	P	**P**	**09 59 09.1**	**+0.4**
AMTX				IAmb	IAmb	09 59 12.4	
	comp=Z,10nm,0.9s						
HHAR	**Hobbs**	**21.96**	**358**	P	**P**	**09 59 09.7**	**+1.0**
U40A	**Yellville**	**22.02**	**1**	P	**P**	**09 59 10.3**	**+0.9**
QUOK	**Quay**	**22.07**	**352**	P	**P**	**09 59 09.6**	**-0.3**
QUOK				IAmb	IAmb	09 59 11.8	
	comp=Z,13nm,0.9s						
121A	**Cookes Peak, D**	**22.58**	**326**		**P**	**09 59 16.4**	**+0.8**
121A				IAmb	IAmb	09 59 19.1	
	comp=Z,7.5nm,0.9s						
MGMO	**Mountain Grove**	**22.83**	**2**	P	**P**	**09 59 17.8**	**-0.2**
BNM	**Barren Site**	**23.28**	**331**	P	**P**	**09 59 22.0**	**-0.9**
KAN06	**Argonia West S**	**23.29**	**350**	P	**P**	**09 59 21.1**	**-1.7**
KAN06				IAmb	IAmb	09 59 24.4	
	comp=Z,8.8nm,0.8s						
S39A	**Bolivar**	**23.36**	**360**	P	**P**	**09 59 22.8**	**-0.6**
S39A				IAmb	IAmb	09 59 23.7	
	comp=Z,10nm,0.8s						
KAN12	**Harper NE Stat**	**23.36**	**350**	P	**P**	**09 59 23.0**	**-0.5**
CCM	**Cathedral Cave**	**23.78**	**4**	P	**P**	**09 59 26.5**	**-1.0**
CCM				IAmb	IAmb	09 59 26.7	
	comp=Z,4.1nm,0.6s						
ANMO	**Albuquerque**	**23.85**	**332**	P	**P**	**09 59 29.3**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=123,slow=11,SNR=2.3						
R40A	**Maddies Statio**	**23.97**	**2**	P	**P**	**09 59 28.7**	**-0.6**
KSU1	**Kansas State U**	**24.95**	**354**	P	**P**	**09 59 37.7**	**-0.7**
P40A	**Paris**	**25.21**	**2**	P	**P**	**09 59 39.3**	**-1.3**
P40A				IAmb	IAmb	09 59 39.9	
	comp=Z,7.6nm,0.9s						
SDCO	**Great Sand Dun**	**25.85**	**337**	P	**P**	**09 59 47.6**	**+0.7**
N38A	**Joes South For**	**26.45**	**360**	P	**P**	**09 59 50.9**	**-1.0**
STVI	**Saint Thomas**	**27.36**	**78**	P	**P**	**10 00 02.4**	**+2.1**
ECSD	**EROS Data Cent**	**29.54**	**355**	P	**P**	**10 00 18.6**	**-0.9**
ECSD				IAmb	IAmb	10 00 35.2	
	comp=Z,5.8nm,1.1s						
M54A	**Oil Creek Stat**	**29.59**	**21**	P	**P**	**10 00 19.3**	**-0.7**
NV11	**Mina Array Sit**	**32.70**	**322**	P	**P**	**10 00 48.9**	**+1.2**
NV11				IAmb	IAmb	10 00 59.7	
	comp=Z,3.4nm,1.2s						
REDW	**Red Top Meadow**	**32.76**	**336**	P	**P**	**10 00 49.7**	**+1.6**
REDW				IAmb	IAmb	10 00 55.1	
	comp=Z,3.4nm,0.9s						
NVAR	**Mina Array Bea**	**32.79**	**322**	P	**P**	**10 00 50.1**	**+1.7**
	comp=Z,1.0nm,0.7s,baz=118,slow=7.2,SNR=11						
SNOW	**Snow King Moun**	**32.80**	**336**	P	**P**	**10 00 49.9**	**+1.3**
LOHW	**Long Hollow**	**32.87**	**336**	P	**P**	**10 00 50.3**	**+1.2**
LOHW				IAmb	IAmb	10 00 50.9	
	comp=Z,4.1nm,1.1s						
B35A	**Bob, Littlefor**	**34.02**	**359**	P	**P**	**10 00 57.4**	**-1.5**
F10A	**Beach Ranch, E**	**37.57**	**332**	P	**P**	**10 01 30.9**	**+1.5**
F10A				IAmb	IAmb	10 01 40.9	
	comp=Z,3.7nm,0.9s						
EDM	**Edmonton**	**42.05**	**342**	P	**P**	**10 02 07.1**	**+0.5**
SIV	**San Ignacio**	**43.67**	**132**	P	**P**	**10 02 17.0**	**-3.2**
	comp=Z,0.9nm,0.8s,baz=270,slow=10,SNR=2.4						
YKA	**Yellowknife Ar**	**50.54**	**347**	P	**P**	**10 03 12.9**	**-0.2**
	comp=Z,3.2nm,0.7s,baz=150,slow=7.8,SNR=8.8						
BCAR	**Beaver Creek A**	**59.37**	**337**	P	**P**	**10 04 17.7**	**+0.6**
ILAR	**Eielson Array**	**62.18**	**337**	P	**P**	**10 04 36.6**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=163,slow=5.0,SNR=5.9						
ILAR	**Eielson Array**	**62.18**	**337**	P	**P**	**10 04 36.5**	**+0.3**
BMAR	**Burnt Mountain**	**62.68**	**340**	P	**P**	**10 04 40.5**	**+1.0**
MLY	**Manley**	**63.77**	**336**	P	**P**	**10 04 46.6**	**-0.1**
MLY				IAmb	IAmb	10 04 50.8	
	comp=Z,2.9nm,1.0s						
K20K	**Telida**	**64.49**	**334**	P	**P**	**10 04 51.0**	**-0.4**
K20K				IAmb	IAmb	10 04 52.5	
	comp=Z,3.2nm,1.1s						
CMAR	**Chiang Mai Arr**	**145.39**	**340**	PKPbc	**PKPbc**	**10 13 53.4**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=326,slow=3.8,SNR=7.8						
CMAR	**Chiang Mai Arr**	**145.39**	**340**		**PKPbc**	**10 13 53.0**	**-0.8**

*IDC **22** 10:01:11.8±2.0, 16°.19S×177°.68W, h0km, mb3.9/6, mb1 4.3/6, mb1mx3.9/30, mbtmp3.9/6, MS3.6/5, Ms1 3.6/5, ms1mx3.2/37, Error ellipse: s-maj=128.5km s-min=24.4km az=151.0*

ISC 22 10:01:17.4±1.9, 16°.2S±0°.8×177°.8W±0°.4, h35km±3km, n11, σ1§14/7, mb3.8/6, MS3.7/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**22.48**	**191**	LR	LR	10 12 17.1	
	comp=Z,203nm,21.7s,baz=31,slow=30						
HNR	**Honiara**	**22.72**	**284**	LR	LR	10 12 55.3	
	comp=Z,67nm,20.2s,baz=108,slow=31						
WRA	**Warramunga Arr**	**45.58**	**258**	P	**P**	**10 09 34.7**	**+0.2**
	1.1nm,1.1s,baz=91,slow=10.0,SNR=2.6						
WRA				LR	LR	10 28 47.7	
	comp=Z,112nm,18.2s,baz=170,slow=36						
ASAR	**Alice Springs**	**45.88**	**253**	P	**P**	**10 09 36.6**	**-0.2**
	4.2nm,0.7s,baz=88,slow=8.2,SNR=50						
YBH	**Yreka Blue Hor**	**76.78**	**39**	LR	LR	10 38 26.8	
	comp=Z,34nm,19.7s,baz=254,slow=29						
NVAR	**Mina Array Bea**	**77.74**	**44**	P	**P**	**10 13 09.7**	**-1.5**
	0.8nm,0.9s,baz=227,slow=11,SNR=4.5						
DLBC	**Dease Lake**	**83.98**	**23**	LR	LR	10 46 46.5	
	comp=Z,53nm,18.1s,baz=292,slow=33						
ILAR	**Eielson Array**	**84.05**	**13**	P	**P**	**10 13 44.6**	**+0.6**
	2.5nm,1.1s,baz=226,slow=6.5,SNR=10						
TXAR	**Lajitas Array**	**84.54**	**58**	P	**P**	**10 13 48.6**	**+1.2**
	0.3nm,0.9s,baz=242,slow=1.9,SNR=3.7						
PDAR	**Pinedale Array**	**85.66**	**43**	P	**P**	**10 13 52.1**	**-0.8**
	0.6nm,1.0s,baz=338,slow=0.5,SNR=2.8						
BRTR	**Keskin Array B**	**143.96**	**317**	PKP	**PKPdf**	**10 20 49.3**	**-0.4**
	0.4nm,0.4s,baz=86,slow=2.2,SNR=4.4						

*IDC **22** 10:01:44.7±1.3, 32°.03S×71°.64W, h0km, mb3.8/4, mb1 3.8/7, mb1mx3.7/31, mbtmp3.7/7, ML3.6/3, Error ellipse: s-maj=45.2km s-min=24.6km az=93.0*

*NEIC **22** 10:01:44.7, 32°.11S×72°.18W, h16km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}5.99; $M_{\theta\theta}$0.40; $M_{\phi\phi}$-6.39; $M_{r\theta}$0.51; $M_{\theta\phi}$-0.90; $M_{r\phi}$-5.44; Fault plane solution: M_o8.31000×10^{14} NP1:ϕ_s178.75000°, δ65.73000°, λ82.29000°. NP2:ϕ_s16.98000°, δ25.39000°, λ106.57000°. Principal axes: T 8.1235, Plg68.0000°, Azm74.0000°; N 0.3673, Plg7.0000°, Azm182.0000°; P -8.4908, Plg20.0000°, Azm275.0000°;*

*GUC **22** 10:01:45.6±0.7, 32°.14S×72°.19W, h38km±3km, ML3.7*

*NEIC **22** 10:01:46.2±1.8, 32°.13S±0°.03×72°.15W±0°.09, h16km±1km, mb4.1/4, Mwr3.9/24, ML3.7(GUC), Error ellipse: s-maj=12.8km s-min=4.2km az=273.0*

ISC 22 10:01:44.9±1.7, 32°.11S±0°.03×72°.13W±0°.07, h9km±10km, n51, σ1§01/57, mb3.9/4, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.83**	**123**	*eP*	**Pg**	**10 02 01.1**	**+0.2**
VA06				*i* S	**Sb**	**10 02 13.4**	**+0.5**
VA06				IAML		10 02 18.0	
	comp=N,4μm,0.6s						
VA01	**Torpederas**	**1.00**	**156**	*eP*	**Pg**	**10 02 04.2**	**+0.1**
VA01	**Torpederas**	**1.00**	**156**		**Pg**	**10 02 04.1**	**0.0**
VA01				Sg	**Sb**	**10 02 17.8**	**+0.2**
ROCH	**El Roble**	**1.28**	**133**	*eP*	**Pn**	**10 02 08.4**	**-0.7**
ROCH				*i* S	**Sg**	**10 02 26.0**	**0.0**
ROCH				IAML		10 02 31.4	
	comp=E,3μm,0.5s						
VA03	**San Esteban**	**1.48**	**117**	*i*/*iP*	**Pn**	**10 02 11.9**	**-0.1**
VA03				*i* S	**Sb**	**10 02 31.6**	**-0.1**
VA03				IAML		10 02 39.6	
	comp=N,2μm,0.6s						
VA03	**San Esteban**	**1.48**	**117**		**Pn**	**10 02 11.8**	**-0.1**
VA03				Sn	**Sb**	**10 02 32.2**	**+0.4**
CO06	**Fray Jorge**	**1.49**	**16**	*eP*	**Pn**	**10 02 11.2**	**-0.6**
CO06				IAML		10 02 41.8	
	comp=E,1μm,0.3s						
CO06	**Fray Jorge**	**1.49**	**16**		**Pn**	**10 02 11.8**	**-0.1**
CO06				Sn	**Sn**	**10 02 30.6**	**-0.9**
VA05	**Santo Domingo**	**1.60**	**165**	*eP*	**Pn**	**10 02 13.0**	**-0.5**
VA05				*i* S	**Sn**	**10 02 33.2**	**-1.1**
VA05	**Santo Domingo**	**1.60**	**165**	Pn	**Pn**	**10 02 13.3**	**-0.1**
VA05				Sn	**Sn**	**10 02 32.8**	**-1.4**
MT05	**Renca**	**1.73**	**138**	*eP*	**Pn**	**10 02 15.8**	**+0.5**
MT05				*i* S	**Sb**	**10 02 38.1**	**-0.8**
MT05				IAML		10 02 44.6	
	comp=E,1μm,0.2s						
MT05	**Renca**	**1.73**	**138**		**Pn**	**10 02 16.0**	**+0.7**
MT05				Sn	**Sb**	**10 02 38.1**	**-0.8**
CO03	**El Pedregal**	**1.76**	**45**	*eP*	**Pn**	**10 02 16.3**	**+0.5**
CO03				*i* S	**Sb**	**10 02 39.3**	**-0.5**
CO03				IAML		10 02 49.9	
	comp=N,744nm,0.5s						
CO03	**El Pedregal**	**1.76**	**45**	Pn	**Pn**	**10 02 16.5**	**+0.8**
MT01	**Popeta**	**1.90**	**157**	*eP*	**Pn**	**10 02 16.7**	**-0.8**
MT01				IAML		10 02 51.1	
	comp=E,732nm,0.5s						
MT01	**Popeta**	**1.90**	**157**		**Pn**	**10 02 17.5**	**-0.1**
MT09	**Talagante**	**1.92**	**150**	*eP*	**Pn**	**10 02 17.8**	**-0.1**
MT09				*i* S	**Sn**	**10 02 42.0**	**-0.3**
MT09				IAML		10 02 54.2	
	comp=E,896nm,0.5s						
MT09	**Talagante**	**1.92**	**150**		**Pn**	**10 02 18.5**	**+0.6**
GO04	**Tololo Observa**	**2.24**	**31**		**Pn**	**10 02 23.2**	**+0.8**
CO05	**La Serena**	**2.31**	**19**	Pn	**Pn**	**10 02 23.9**	**+0.8**
BO01	**Tunca**	**2.44**	**159**		**Pn**	**10 02 25.6**	**+0.6**
GO05	**Huala**	**2.90**	**177**		**Pn**	**10 02 30.8**	**-0.5**
BO02	**Sierra Bellavi**	**2.90**	**158**	*i*/*iP*	**Pn**	**10 02 31.4**	**0.0**
BO02				*i* S	**Sn**	**10 03 05.4**	**-1.1**
BO02				IAML		10 03 24.3	
	comp=E,470nm,0.6s						
BO02	**Sierra Bellavi**	**2.90**	**158**		**Pn**	**10 02 32.5**	**+1.1**
ZON	**Zonda**	**2.99**	**80**	Pn	**Pn**	**10 02 33.4**	**+0.8**
ML02	**Panimavida**	**3.69**	**171**	Pn	**Pn**	**10 02 42.0**	**-0.1**
AC04	**Llanos de Chal**	**4.00**	**13**	Pn	**Pn**	**10 02 45.2**	**-1.1**
GO03	**Copiap**	**4.79**	**21**	Pn	**Pn**	**10 03 00.6**	**+3.3**
AC06	**Mina Casimiro**	**4.98**	**18**	Pn	**Pn**	**10 02 60.0**	**+0.1**
AC02	**Maricunga**	**5.87**	**27**	Pn	**Pn**	**10 03 13.1**	**+0.6**
H03N1	**Juan Fernandez**	**5.87**	**255**	T	T	10 09 48.6	
	baz=84,slow=72,SNR=64						
H03N3	**Juan Fernandez**	**5.88**	**255**	T	T	10 09 44.7	
	baz=84,slow=72,SNR=64						
H03N2	**Juan Fernandez**	**5.88**	**255**	T	T	10 09 47.1	
	baz=84,slow=72,SNR=58						
H03S3	**Juan Fernandez**	**5.95**	**251**	T	T	10 09 59.3	
	baz=76						
H03S1	**Juan Fernandez**	**5.95**	**251**	T	T	10 09 51.6	
	baz=76,slow=74,SNR=2.5						
H03S2	**Juan Fernandez**	**5.97**	**251**	T	T	10 09 56.0	
	baz=76,slow=74						
LC01	**Cunco**	**6.78**	**178**	Pn	**Pn**	**10 03 24.6**	**0.0**
PLCA	**Paso Flores**	**8.70**	**172**	Pn	**Pn**	**10 03 51.5**	**+0.5**
	comp=E,0.2nm,0.3s,baz=332,slow=11,SNR=10						
PB11	**IPOC Station P**	**12.49**	**11**	Pn	**Pn**	**10 04 43.3**	**+0.2**
LPAZ	**La Paz**	**16.16**	**14**	Pn	**Pn**	**10 05 32.6**	**-0.3**
	comp=E,0.1nm,0.3s,baz=250,slow=15,SNR=2.1						
SIV	**San Ignacio**	**18.93**	**35**	P	**P**	**10 06 03.4**	**-2.8**
	comp=E,0.1nm,0.3s,baz=188,slow=11,SNR=5.6						
BDFB	**Brasilia**	**27.38**	**59**	P	**P**	**10 07 27.4**	**-3.4**
	comp=E,5.9nm,0.9s,baz=217,slow=10,SNR=2.4						
BDFB	**Brasilia**	**27.38**	**59**	P	**P**	**10 07 31.1**	**+0.3**
SNAA	**Sanae**	**53.36**	**158**	P	**P**	**10 11 04.9**	**+0.6**
	comp=E,0.9nm,0.8s,baz=301,slow=6.5,SNR=5.2						
SNAA	**Sanae**	**53.36**	**158**	P	**P**	**10 11 05.8**	**+1.5**
SNAA				IAmb	IAmb	10 11 15.3	
	comp=Z,3.4nm,1.4s						
TXAR	**Lajitas Array**	**68.05**	**330**	P	**P**	**10 12 46.7**	**+1.8**
	comp=Z,0.2nm,1.0s,baz=141,slow=4.4,SNR=2.1						
TORD	**Torodi Ar. Bea**	**83.64**	**70**	P	**P**	**10 14 14.6**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=275,slow=4.6,SNR=4.1						
TORD	**Torodi Ar. Bea**	**83.64**	**70**	IAmb	IAmb	10 14 24.4	
	comp=Z,1.1nm,0.9s						
ZALV	**Zalesovo Beam**	**152.65**	**30**	PKPbc	**PKiKP**	**10 21 42.0**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=316,slow=4.1,SNR=5.2						
ZALV	**Zalesovo Beam**	**152.65**	**30**	PKPab	**PKPab**	**10 21 53.1**	**+1.0**
ZALV	**Zalesovo Beam**	**152.65**	**30**	PKPdf	**PKPdf**	**10 21 34.6**	**+0.2**

IDC 22 10:06:38.8±2.5, 16°.96S×177°.07W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/27, mbtmp3.8/3, MS3.4/3, Ms1 3.4/3, ms1mx2.9/50, Error ellipse: s-maj=142.2km s-min=36.1km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**16.88**	**107**	LR	LR	10 15 38.3	
	comp=Z,98nm,20.5s,baz=267,slow=32						
ASAR	**Alice Springs**	**46.28**	**253**	P	P	10 15 06.5	-0.1
	1.4nm,0.9s,baz=88,slow=9.2,SNR=7.5						
MA2	**Magadan**	**80.63**	**344**	LR	LR	10 51 57.2	
	comp=Z,14nm,18.7s,baz=101,slow=34						
TXAR	**Lajitas Array**	**84.41**	**57**	P	P	10 19 13.7	0.0
	0.4nm,1.0s,baz=197,slow=2.8,SNR=3.5						
ILAR	**Eielson Array**	**84.69**	**12**	P	P	10 19 14.1	0.0
	1.3nm,1.0s,baz=228,slow=5.4,SNR=2.8						
SNAA	**Sanae**	**91.50**	**178**	LR	LR	10 55 51.7	
	comp=Z,33nm,21.9s,baz=288,slow=32						
BRTR	**Keskin Array B**	**145.00**	**317**	PKPbc	PKPab	10 26 17.1	-0.8
	0.4nm,0.7s,baz=5.7,slow=2.9,SNR=2.3						

IDC 22 10:23:16.9±347.0, 54°.08N×42°.66E, h0km, Error ellipse: s-maj=150.5km s-min=87.1km az=138.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.08**	**313**	*i*		10 48 50.0	
	baz=128,slow=326,SNR=1.8						
I31KZ	**AKTYUBINSK INF**	**10.12**	**105**	*i*		11 24 30.0	
	baz=299,slow=318,SNR=2.4						
I46RU	**ZALESOVO INFRA**	**24.51**	**73**	*i*		12 54 10.0	
	baz=286,slow=320,SNR=1.7						

*IDC **22** 10:27:44.4±0.9, 45°.76S×83°.89W, h0km, mb4.2/8, mb1 4.4/8, mb1mx4.1/34, mbtmp4.2/8, MS3.8/2, Ms1 3.8/2, ms1mx3.1/26, Error ellipse: s-maj=46.9km s-min=21.7km az=77.0*

*NEIC **22** 10:27:45.9±2.0, 45°.8S±0°.1×84°.2W±0°.2, h10km±1km, mb4.6/22, Error ellipse: s-maj=23.4km s-min=17.1km az=285.0*

ISC 22 10:27:45.2±0.7, 45°.79S±0°.09×84°.3W±0°.1, h10km, n43, σ1§17/39, mb4.6/17, Southern Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LL04	**Puerto Octay**	**9.93**	**65**	Pn	**Pn**	**10 30 07.5**	**-0.5**
MG02	**Cerro Sombrero**	**12.05**	**131**	Pn	**Pn**	**10 30 38.3**	**+1.4**
H03S1	**Juan Fernandez**	**12.63**	**21**	T	T	10 43 58.2	
	baz=194,slow=74,SNR=104						
H03S2	**Juan Fernandez**	**12.63**	**21**	T	T	10 43 56.9	
	baz=194,slow=74,SNR=144						
H03S3	**Juan Fernandez**	**12.64**	**21**	T	T	10 43 57.9	
	baz=194,slow=74,SNR=142						
TRQA	**Tornquist**	**18.27**	**73**		**P**	**10 31 58.8**	**-0.2**
AC02	**Maricunga**	**22.45**	**38**	P	**P**	**10 32 46.4**	**+1.5**
LPAZ	**La Paz**	**32.38**	**30**	P	**P**	**10 34 15.7**	**0.0**
	1.7nm,0.8s,baz=202,slow=6.8,SNR=6.9						
LPAZ				PcP	**PcP**	**10 37 02.5**	**-0.8**
	1.5nm,0.8s,baz=225,slow=5.7,SNR=5.6						
LPAZ	**La Paz**	**32.38**	**30**	P	**P**	**10 34 15.4**	**-0.3**
SAML	**Samuel**	**40.95**	**33**	P	**P**	**10 35 26.9**	**-1.2**
VNA3	**Neumayer Olymp**	**42.60**	**153**	P	**P**	**10 35 42.1**	**+1.1**
VNA1	**Neumayer--Stat**	**43.12**	**152**	P	**P**	**10 35 46.2**	**+1.0**
VNA2	**Neumayer--Watz**	**43.37**	**152**	P	**P**	**10 35 48.2**	**+1.0**
	baz=261,slow=8.2						
QSPA	**South Pole Qui**	**44.45**	**180**	P	**P**	**10 35 57.1**	**+1.0**
	2.6nm,1.1s,baz=280,slow=0.6,SNR=3.1						
QSPA	**South Pole Qui**	**44.45**	**180**	P	**P**	**10 35 54.9**	**-1.2**
QSPA				IAmb	IAmb	10 36 03.5	
	comp=Z,4.5nm,1.2s						
SNAA	**Sanae**	**44.71**	**154**	P	**P**	**10 35 58.5**	**+0.5**
SNAA	**Sanae**	**44.71**	**154**	P	**P**	**10 35 58.3**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=258,slow=7.6,SNR=11						
SNAA	**Sanae**	**44.71**	**154**	P	**P**	**10 35 58.4**	**+0.4**
SNAA				IAmb	IAmb	10 36 14.4	
	comp=Z,10nm,1.4s						
VNDA	**Vanda**	**50.52**	**195**	LR	LR	10 55 38.8	
	comp=Z,78nm,19.1s,baz=262,slow=33						
PPT	**Papeete**	**60.44**	**275**	LR	LR	10 57 27.0	
	comp=Z,92nm,22.0s,baz=271,slow=29						
MAW	**Mawson**	**64.23**	**167**	P	**P**	**10 38 18.4**	**-1.4**
CASY	**Casey**	**67.68**	**186**	P	**P**	**10 38 41.1**	**-0.8**
TX31	**Lajitas Ar. Si**	**76.82**	**343**	P	**P**	**10 39 38.1**	**+1.1**
TX32	**Lajitas Array**	**76.82**	**343**	P	**P**	**10 39 38.2**	**+1.2**
TX32				IAmb	IAmb	10 39 38.7	
	comp=Z,3.3nm,1.0s						
TXAR	**Lajitas Array**	**76.82**	**343**	P	**P**	**10 39 37.9**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=168,slow=8.9,SNR=23						
TXAR	**Lajitas Array**	**76.82**	**343**	P	**P**	**10 39 37.6**	**+0.6**
ANMO	**Albuquerque**	**82.83**	**342**	P	**P**	**10 40 11.0**	**+1.4**
	comp=Z,5.5nm,0.8s,baz=158,slow=9.3,SNR=25						
ANMO	**Albuquerque**	**82.83**	**342**	P	**P**	**10 40 10.9**	**+1.3**
ANMO				IAmb	IAmb	10 40 11.6	
	comp=Z,6.4nm,0.9s						
S39A	**Bolivar**	**83.50**	**353**	P	**P**	**10 40 11.8**	**-1.0**
X16A	**Lo Mia Camp, P**	**83.53**	**338**	P	**P**	**10 40 14.3**	**+1.1**
X16A				IAmb	IAmb	10 40 15.8	
	comp=Z,4.1nm,1.1s						
CCM	**Cathedral Cave**	**83.70**	**354**	P	**P**	**10 40 12.8**	**-1.0**
CCM				IAmb	IAmb	10 40 13.5	
	comp=Z,4.4nm,0.8s						
KNB	**Kanab**	**86.35**	**337**	P	**P**	**10 40 28.5**	**+1.1**
KNB				IAmb	IAmb	10 40 29.7	
	comp=Z,3.8nm,0.9s						
SZCU	**Shurtz Canyon**	**86.97**	**337**	P	**P**	**10 40 32.0**	**+1.6**
SZCU				IAmb	IAmb	10 40 33.0	
	comp=Z,4.8nm,1.0s						
CCUT	**Cedar City**	**87.00**	**337**	P	**P**	**10 40 32.2**	**+1.6**
CCUT				IAmb	IAmb	10 40 33.8	
	comp=Z,5.2nm,1.1s						
PRN	**Pahroc Range**	**87.33**	**336**	P	**P**	**10 40 33.2**	**+1.1**
PRN				IAmb	IAmb	10 40 39.1	
	comp=Z,6.4nm,1.3s						
DBIC	**Dimbokro**	**87.42**	**78**	P	**P**	**10 40 31.9**	**-1.1**
	comp=Z,3.2nm,0.8s,baz=191,slow=6.7,SNR=3.7						
DBIC	**Dimbokro**	**87.42**	**78**	P	**P**	**10 40 31.6**	**-1.3**
Q16A	**Castle Valley**	**87.72**	**339**	P	**P**	**10 40 35.5**	**+1.6**
Q16A				IAmb	IAmb	10 40 36.2	
	comp=Z,5.0nm,1.0s						
TMUT	**Trail Mountain**	**88.09**	**339**	P	**P**	**10 40 36.8**	**+1.0**
MPU	**Maple Canyon**	**88.87**	**339**	P	**P**	**10 40 40.1**	**+0.7**
MPU				IAmb	IAmb	10 40 41.4	
	comp=Z,4.2nm,1.0s						
NVAR	**Mina Array Bea**	**89.24**	**334**	P	**P**	**10 40 43.8**	**+2.6**
	comp=Z,0.5nm,0.6s,baz=170,slow=5.5,SNR=5.8						
NVAR	**Mina Array Bea**	**89.24**	**334**	P	**P**	**10 40 42.8**	**+1.5**
PDAR	**Pinedale Array**	**91.00**	**342**	P	**P**	**10 40 49.4**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=150,slow=5.7,SNR=6.0						

*KRNET **22** 10:30:49.3±0.1, 41°.11N×69°.83E, h7km, mb2.8*

*NNC **22** 10:30:51.1±2.5, 41°.02N×69°.88E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=20.7km s-min=13.0km az=14.0*

*SOME **22** 10:30:51.6, 41°.15N×69°.80E, h15km*

ISC 22 10:30:49.7±1.2, 41°.10N±0°.05×69°.85E±0°.04, h9km±12km, n15, σ1§99/25, 16C, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.48**	**299**	⇑*iP*	**Pg**	**10 30 58.5**	**-0.5**
TAS				⇑*iS*	**Sg**	**10 31 04.9**	**-0.5**
	baz=99						
TRKS	**Terek-Say**	**1.06**	**65**	⇑*iP*	**Pg**	**10 31 10.0**	**-0.2**
TRKS				⇑*iS*	**Sn**	**10 31 25.1**	**-0.9**
	baz=70						
BTK	**Batken**	**1.27**	**144**	⇑*iP*	**Pn**	**10 31 13.7**	**0.0**
B

AS31	**Alice Springs**	**22.27 215**	P	**P**		**10 38 25.0**	**-0.6**
AS31			IAmb	IAmb		10 38 31.1	
	comp=Z,3.0nm,0.6s						
ASAR	**Alice Springs**	**22.27 215**	P	**P**		**10 38 24.9**	**-0.7**
	comp=Z,3.8nm,0.6s,baz=57,slow=8.6,SNR=114						
ASAR	**Alice Springs**	**22.27 215**	P	**P**		**10 38 24.6**	**-1.0**
FITZ	**Fitzroy Crossi**	**24.84 238**	P	**P**		**10 38 50.7**	**-0.2**
	comp=Z,10nm,0.6s,baz=62,slow=8.5,SNR=41						
FITZ			LR	LR		10 49 03.8	
	comp=Z,120nm,21.0s,baz=110,slow=38						
STKA	**Stephens Creek**	**26.66 192**	P	**P**		**10 39 04.9**	**-2.3**
	comp=Z,2.7nm,0.7s,baz=1.3,slow=10,SNR=6.1						
STKA	**Stephens Creek**	**26.66 192**	P	**P**		**10 39 05.3**	**-2.0**
ILAR	**Eielson Array**	**84.93 23**	P	**P**		**10 46 04.7**	**+1.5**
	comp=Z,0.9nm,0.8s,baz=243,slow=5.1,SNR=6.3						
SIV	**San Ignacio**	**144.25 128**	PKP	**PKPab**		**10 53 03.7**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=278,slow=7.2,SNR=5.9						
TORD	**Torodi Ar. Bea**	**145.73 285**	PKPbc	**PKPdf**		**10 53 07.2**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=71,slow=3.6,SNR=6.0						

*GUC **22** 10:41:25.9±0.8, 30°.87S×71°.80W, h24km±8km, ML4.1*
*NEIC **22** 10:41:26.0±2.5, 30°.76S±0°.05×71°.92W±0°.07, h24km±7km, mb4.2/1, ML4.1(GUC), Error ellipse: s-maj=9.1km s-min=6.6km az=118.0*

ISC 22 10:41:25.0±1.7, 30°.90S±0°.03×71°.86W±0°.07, h13km±11km, n40, σ1°45/48, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**0.30**	**41**	⇓*i* P		**Pb**	**10 41 33.0**	**+0.8**
CO06				*e*S		**Sg**	**10 41 36.6**	**+1.3**
CO06				IAML			10 41 37.4	
	comp=E,37μm,0.2s							
CO06	**Fray Jorge**	**0.30**	**41**	Pg		**Pb**	**10 41 32.6**	**+0.4**
CO03	**El Pedregal**	**1.01**	**87**	*e*P		**Pb**	**10 41 42.8**	**-1.6**
CO03				*i* S		**Sb**	**10 41 56.0**	**-1.6**
CO03				IAML			10 41 56.9	
	comp=N,8μm,0.4s							
CO05	**La Serena**	**1.12**	**29**	⇓*i* P		**Pn**	**10 41 45.4**	**-1.0**
CO05				*i* S		**Sb**	**10 41 58.9**	**-1.7**
CO05				IAML			10 42 03.5	
	comp=E,3μm,0.3s							
CO05	**La Serena**	**1.12**	**29**	Pn		**Pn**	**10 41 45.3**	**-1.0**
GO04	**Tololo Observa**	**1.17**	**52**	*e*P		**Pn**	**10 41 45.6**	**-1.6**
GO04				*i* S		**Sb**	**10 42 00.5**	**-1.8**
GO04	**Tololo Observa**	**1.17**	**52**			**Pn**	**10 41 46.2**	**-1.0**
VA06	**Catapilco**	**1.72**	**164**	*e*P		**Pn**	**10 41 54.8**	**+0.2**
VA06				*i* S		**Sb**	**10 42 18.3**	**+0.2**
VA06				IAML			10 42 24.8	
	comp=E,5μm,0.3s							
VA01	**Torpederas**	**2.12**	**175**	*e*P		**Pb**	**10 42 03.1**	**-0.2**
VA01				IAML			10 42 36.1	
	comp=E,964nm,0.8s							
VA01	**Torpederas**	**2.12**	**175**	Pn		**Pn**	**10 42 01.0**	**+0.8**
LCO	**Las Campanas**	**2.13**	**28**	*e*P		Pn	10 41 54.6	-6.0
LCO				*i* S		**Sn**	**10 42 28.0**	**+0.9**
VA03	**San Esteban**	**2.17**	**149**	*e*P		**Pn**	**10 42 02.4**	**+1.5**
VA03				*e*S		**Sb**	**10 42 29.8**	**-1.2**
VA03				IAML			10 42 36.5	
	comp=E,3μm,0.2s							
VA03	**San Esteban**	**2.17**	**149**	Pn		**Pb**	**10 42 02.8**	**-1.4**
ROCH	**El Roble**	**2.19**	**161**	*e*P		**Pn**	**10 42 02.9**	**+1.6**
ROCH				*i* S		**Sb**	**10 42 30.4**	**-1.2**
ROCH				IAML			10 42 38.0	
	comp=E,2μm,0.5s							
MT05	**Renca**	**2.66**	**159**	*e*P		**Pb**	**10 42 11.6**	**-0.9**
MT05				*i* S		**Sb**	**10 42 42.5**	**-2.6**
MT05	**Renca**	**2.66**	**159**	Pn		**Pn**	**10 42 09.2**	**+1.6**
VA05	**Santo Domingo**	**2.76**	**176**	*e*P		**Pn**	**10 42 10.8**	**+1.9**
VA05				IAML			10 43 01.8	
	comp=N,1μm,0.2s							
VA05	**Santo Domingo**	**2.76**	**176**			**Pn**	**10 42 08.6**	**-0.3**
AC04	**Llanos de Chal**	**2.77**	**14**	Pn		**Pn**	**10 42 07.1**	**-2.0**
MT09	**Talagante**	**2.96**	**166**	*e*P		**Pn**	**10 42 13.2**	**+1.4**
MT09				*i* S		**Sn**	**10 42 48.8**	**+1.5**
MT09				IAML			10 43 00.5	
	comp=N,920nm,0.3s							
MT09	**Talagante**	**2.96**	**166**	Pn		**Pn**	**10 42 11.6**	**-0.3**
MT01	**Popeta**	**3.00**	**170**	Pn		**Pn**	**10 42 14.0**	**+1.7**
BO01	**Tunca**	**3.54**	**170**			**Pn**	**10 42 20.2**	**+0.5**
GO03	**Copiap**	**3.59**	**24**	IAML			10 43 15.6	
	comp=N,222nm,0.3s							
GO03	**Copiap**	**3.59**	**24**	Pn		**Pn**	**10 42 20.6**	**+0.2**
AC06	**Mina Casimiro**	**3.77**	**167**	Pn		**Pn**	**10 42 21.8**	**-1.0**
BO02	**Sierra Bellavi**	**3.99**	**167**	Pn		**Pn**	**10 42 28.4**	**+2.5**
GO05	**Huala**	**4.10**	**181**	Pn		**Pn**	**10 42 27.8**	**+0.4**
AC02	**Maricunga**	**4.71**	**31**				**10 42 37.1**	**+0.9**
ML02	**Panimavida**	**4.86**	**176**	Pn		**Pn**	**10 42 40.9**	**+3.0**
VA04	**Juan Fernndez**	**6.50**	**243**	Pn		**Pn**	**10 43 00.3**	**-0.1**
LC01	**Cunco**	**7.98**	**180**	Pn		**Pn**	**10 43 21.3**	**+0.7**
PB06	**IPOC Station P**	**8.41**	**15**	Pn		**Pn**	**10 43 27.3**	**+0.5**
PLCA	**Paso Flores**	**9.87**	**174**	Pn		**Pn**	**10 43 46.4**	**-0.3**
LL04	**Puerto Octay**	**10.00**	**182**	Pn		**Pn**	**10 43 48.4**	**+0.1**
PB01	**IPOC Station P**	**10.05**	**13**	Pn		**Pn**	**10 43 46.1**	**-3.0**
LL05	**Los Muermos**	**10.56**	**187**	Pn		**Pn**	**10 43 54.2**	**-1.8**
TRQA	**Tornquist**	**10.83**	**134**	Pn		**Pn**	**10 44 01.9**	**+2.1**
SNAA	**Sanae**	**54.40**	**159**	P		**P**	**10 50 52.2**	**+0.8**
SNAA				IAmb		IAmb	10 51 10.1	
	comp=Z,3.4nm,1.3s							
QSPA	**South Pole Qui**	**59.33**	**180**	P		**P**	**10 51 27.4**	**+0.9**

IDC 22 10:44:42.9±3.2, 14°.73S×179°.44W, h0km, mb3.8/3, mb1 4.2/3, mb1mx3.7/38, mbtmp3.8/3, MS3.7/2, Ms1 3.6/2, ms1mx3.0/30, Error ellipse: s-maj=191.3km s-min=32.4km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**15.25**	**239**	LR		LR	10 53 23.9	
	comp=Z,252nm,18.3s,baz=63,slow=34							
ASAR	**Alice Springs**	**44.79**	**251**	P		P	10 52 58.8	0.0
	1.2nm,0.7s,baz=84,slow=8.4,SNR=12							
NVAR	**Mina Array Bea**	**77.85**	**45**	P		P	10 56 43.1	+0.3
	0.4nm,0.8s,baz=231,slow=5.7,SNR=3.8							
ILAR	**Eielson Array**	**83.03**	**13**	P		P	10 57 09.7	-0.1
	0.9nm,1.0s,baz=228,slow=6.8,SNR=5.4							
YKA	**Yellowknife Ar**	**91.87**	**25**	LR		LR	11 33 26.7	
	comp=Z,31nm,20.8s,baz=0.0,slow=32							
BRTR	**Keskin Array B**	**141.82**	**317**	PKP		PKPdf	11 04 14.8	-2.3
	0.8nm,0.9s,baz=132,slow=2.1,SNR=4.2							

IDC 22 10:45:00.6±3.6, 2°.58S×139°.74E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/41, mbtmp3.6/4, ML3.7/1, MS3.5/2, Ms1 3.5/2, ms1mx2.8/24, Error ellipse: s-maj=118.2km s-min=28.7km az=92.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.04**	**197**	P		Pn	10 49 12.5	-0.4
	0.3nm,0.3s,baz=18,slow=12,SNR=14							
FITZ	**Fitzroy Crossi**	**20.71**	**221**	P		P	10 49 42.7	0.0
	2.2nm,1.0s,baz=58,slow=15,SNR=2.2							
ASAR	**Alice Springs**	**21.71**	**195**	P		P	10 49 53.6	+0.2
	1.3nm,0.8s,baz=21,slow=11,SNR=11							
MJAR	**Matsushiro Arr**	**38.95**	**358**	LR		LR	11 06 13.8	
	comp=Z,26nm,21.0s,baz=75,slow=33							
RAO	**Raoul Island**	**48.16**	**128**	LR		LR	11 12 01.1	
	comp=Z,159nm,19.2s,baz=247,slow=34							
MKAR	**Makanchi Array**	**70.32**	**322**	P		P	10 56 16.2	0.0
	0.6nm,0.8s,baz=126,slow=7.3,SNR=4.2							
PPT2	**Papeete2**	**70.81**	**108**	*e*LR		LR	10 56 23.3	
	comp=Z,192nm,24.5s							

*IDC **22** 10:56:17.3±1.4, 83°.28N×11°.42W, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.4/41, mbtmp3.9/4, ML3.9/1, MS3.1/2, Ms1 3.1/2, ms1mx2.5/41, Error ellipse: s-maj=37.6km s-min=30.0km az=10.0*
*DNK **22** 10:56:23.4±0.7, 81°.42N±0°.05×16°.05W±0°.05, h10km, n21, σ2°83/30, mb3.5/3, Near north coast of Kalaallit Nunaat*

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
NOR	**Nord**	**0.20**	**332**	*i* P		**Pg**	**10 56 28.5**	**+0.9**
NOR				*i* S		**Sg**	**10 56 31.7**	**+1.2**
NOR				IAML			10 56 32.5	
	comp=Z,3μm,0.3s							
NOR	**Nord**	**0.20**	**332**	*e*P		**Pg**	**10 56 28.9**	**+1.3**
NOR				*e*S		**Sg**	**10 56 31.3**	**+0.8**
DAG	**Danmarks Havn**	**4.71**	**187**	*e*		**Pn**	**10 57 36.3**	**+2.0**
	baz=13,slow=14							
DAG				*i* P		Pb	10 57 37.4	-8.5
DAG				*i*			10 57 40.6	
DAG				*i* S		**Sn**	**10 58 31.1**	**+2.3**
DAG				IAML			10 58 34.1	
	comp=Z,17nm,0.3s							
DAG	**Danmarks Havn**	**4.71**	**187**	*e*P		**Pn**	**10 57 37.3**	**+3.1**
DAG				*e*S		**Sn**	**10 58 27.6**	**-1.2**
KBS	**Kingsbay**	**5.35**	**103**	*e*P		**Pn**	**10 57 43.7**	**+0.6**
KBS				*e*S		**Sn**	**10 58 40.9**	**-3.8**
KBS				IAML			10 58 48.1	
	comp=Z,3.7nm,0.6s							
BRBA	**Barentsburg A**	**6.28**	**106**	*e*P		**Pn**	**10 57 59.6**	**+3.7**
BRBA				*e*S		**Sn**	**10 59 02.1**	**-5.4**
BRBA				IAML			10 59 05.9	
	comp=Z,6.2nm,0.9s							
SPA0	**Spitsbergen Ar**	**6.51**	**103**	*e*P		**Pn**	**10 58 00.0**	**+1.0**
SPA0				*e*S		**Sn**	**10 59 08.4**	**-4.8**
SPITS	**Spitsbergen Ar**	**6.51**	**103**	Pn		**Pn**	**10 58 00.8**	**+1.8**
	baz=321,slow=7.9,SNR=62							
SPITS				Sn		**Sn**	**10 59 14.4**	**+1.2**
	baz=312,slow=13,SNR=0.8							
DBG	**Daneborg**	**7.21**	**189**	*i* P		**Pn**	**10 58 10.6**	**+2.0**
DBG				*i* S		**Sn**	**10 59 29.6**	**-0.8**
DBG				IAML			10 59 36.3	
	comp=Z,10nm,0.4s							
DBG	**Daneborg**	**7.21**	**189**	*e*P		**Pn**	**10 58 10.3**	**+1.7**
DBG				*e*S		**Sn**	**10 59 25.8**	**-4.6**
HSPB	**Hornsund (broa**	**7.27**	**111**	*e*P		**Pn**	**10 58 11.7**	**+2.2**
NEEM	**North Greenlan**	**7.42**	**256**	*i* P		**Pn**	**10 58 13.3**	**+1.5**
NEEM				IAML			10 59 36.8	
	comp=Z,16nm,0.3s							
HOPEN	**Hopen**	**9.03**	**101**	*e*P		**Pn**	**10 58 36.0**	**+2.4**
SUMG	**Summit**	**10.09**	**221**	*i* P		**Pn**	**10 58 49.8**	**+1.4**
SUMG				*i* S		**Sn**	**11 00 38.2**	**-3.4**
TULEG	**Thule**	**10.76**	**272**	*i* P		**Pn**	**10 58 57.6**	**+0.4**
TULEG				*i* S		**Sn**	**11 00 50.9**	**-6.4**
TULEG				IAML			11 01 15.0	
	comp=Z,8.3nm,0.3s							
ARCES	**ARCESS Array B**	**15.20**	**117**	Pn		**P**	**11 00 03.9**	**+1.1**
	baz=355,slow=10.0,SNR=4.9							
ARCES				LR		LR	11 06 16.0	
	comp=Z,30nm,19.9s,baz=155,slow=38							
BORG	**Borgarnes**	**16.82**	**188**	P		P	11 00 37.9	+17
	comp=Z,0.4nm,0.3s,baz=27,slow=4.5,SNR=3.8							
FINES	**FINESS Array B**	**22.99**	**124**	P		**P**	**11 01 29.7**	**+2.0**
	comp=Z,0.6nm,0.5s,baz=4.8,slow=8.4,SNR=6.4							
SONM	**Songino Array**	**47.44**	**51**	P		P	11 04 40.6	-17
	comp=Z,1.1nm,0.6s,baz=345,slow=10,SNR=3.2							
PDAR	**Pinedale Array**	**48.54**	**281**	LR		LR	11 23 47.1	
	comp=Z,50nm,20.0s,baz=79,slow=34							
TXAR	**Lajitas Array**	**60.84**	**272**	P		**P**	**11 06 34.1**	**-1.4**
	comp=Z,0.3nm,0.8s,baz=26,slow=6.3,SNR=3.3							

JMA 22 11:03:52.8±0.3, 37°.00N×142°.14E, h17km±3km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**1.07**	**290**	P		Pb	11 04 12.5	-0.5
ONAJ	**Iwakimizuishiy**	**1.08**	**276**	P		Pb	11 04 12.6	-0.4
JMST	**Minamisoumatoc**	**1.23**	**306**	P		Pn	11 04 15.1	-0.1
JFFD	**Fukushimafurud**	**1.27**	**275**	P		Pn	11 04 15.4	-0.3
JHO	**Hitachi**	**1.32**	**253**	P		Pn	11 04 16.5	+0.1
JMM	**Marumori**	**1.38**	**309**	P		Pn	11 04 17.4	+0.2
JFT	**Otama**	**1.53**	**290**	P		Pb	11 04 20.3	-0.4
JFT				*e*S		Sb	11 04 40.8	+1.0
JIO	**Ouri**	**1.58**	**337**	P		Pn	11 04 20.5	+0.5
JOU	**Okura**	**1.80**	**320**	P		Pn	11 04 23.7	+0.7
JOU				*e*S		Sn	11 04 45.6	+0.1
JFY	**Yanaizu**	**1.99**	**283**	*e*S		Sn	11 04 51.0	+0.9
JYS	**Shirataka**	**2.05**	**307**	P		Pb	11 04 28.4	-1.2
JMK	**Ichinoseki**	**2.08**	**340**	P		Pn	11 04 28.4	+1.5
MAT	**Matsushiro**	**3.19**	**263**	P		Pn	11 04 44.6	+2.4
MAT				S		Sn	11 05 23.3	+3.4

*IDC **22** 11:04:49.9±0.7, 5°.94S×151°.44E, h0km, mb4.5/12, mb1 4.6/13, mb1mx4.3/32, mbtmp4.5/13, ML3.4/1, MS3.7/17, Ms1 3.8/17, ms1mx3.6/35, Error ellipse: s-maj=24.0km s-min=17.9km az=114.0*
*NEIC **22** 11:04:55.8±1.2, 5°.99S±0°.07×151°.38E±0°.08, h31km±2km, mb4.8/25, Error ellipse: s-maj=11.0km s-min=10.1km az=102.0*
*DJA **22** 11:04:56.1±0.4, 6°.3S×115°.1E±°, h30km±3km, M4.9/14, mB5.0/3, mb4.8/14, MLv5.0/2, Mw(mB)4.4/3*

ISC 22 11:04:55.9±0.4, 6°.06S±0°.06×151°.39E±0°.06, h35km, n76, σ1°39/65, mb4.7/27, MS3.7/16, 2C-1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**2.01**	**23**			**Pn**	**11 05 26.6**	**-0.8**
RABL	**Rabaul**	**2.01**	**23**	P		**Pn**	**11 05 27.8**	**+0.4**
MANU	**Manus Island**	**5.65**	**315**			**Pn**	**11 06 17.0**	**-0.6**
HNR	**Honiara**	**9.12**	**112**	Pn		**Pn**	**11 07 06.6**	**+1.5**
	14nm,0.3s,baz=76,slow=19,SNR=3.2							
HNR				LR		LR	11 10 11.8	
	comp=Z,378nm,21.2s,baz=282,slow=35							
HNR	**Honiara**	**9.12**	**112**			**Pn**	**11 07 06.0**	**+0.9**
COEN	**Coen**	**11.27**	**225**	Pn		**Pn**	**11 07 35.0**	**+0.3**
PATS	**Pohnpei**	**14.55**	**28**	Pn		**Pn**	**11 08 18.5**	**-0.9**
CTA	**Charters Tower**	**14.81**	**199**	Pn		**Pn**	**11 08 23.8**	**+0.8**
	0.1nm,0.3s,baz=38,slow=16,SNR=2.7							
CTAO	**Charters Tower**	**14.81**	**199**	Pn		**Pn**	**11 08 23.5**	**+0.5**
SANVU	**Saraoutou**	**18.11**	**122**	P		**Pn**	**11 09 03.5**	**-1.4**
SANVU				IAmb		IAmb	11 09 15.6	
	comp=Z,52nm,0.8s							
EIDS	**Eidsvold**	**19.21**	**181**	P		**P**	**11 09 16.9**	**-0.1**
GUMO	**Guam**	**20.56**	**342**	LR		LR	11 18 05.8	
	comp=Z,226nm,18.3s,baz=150,slow=39							
MTN	**Manton Dam**	**21.08**	**250**	P		**P**	**11 09 37.3**	**-0.1**
MTN				IAmb		IAmb	11 09 54.6	
	comp=Z,29nm,0.9s							
WB0	**Warramunga Arr**	**21.42**	**229**	P		**P**	**11 09 40.9**	**-0.1**
WR0	**Warramunga Arr**	**21.43**	**228**	P		**P**	**11 09 40.8**	**-0.3**
WR0				IAmb		IAmb	11 09 42.4	
	comp=Z,56nm,1.1s							
WRAB	**Tennant Creek**	**21.55**	**229**	P		**P**	**11 09 42.4**	**-0.1**
WRAB				IAmb		IAmb	11 09 47.1	
	comp=Z,56nm,1.2s							
WB2	**Warramunga Arr**	**21.56**	**229**	P		**P**	**11 09 42.8**	**+0.3**
WB2				IAmb		IAmb	11 09 48.6	
	comp=Z,30nm,0.8s							
WRA	**Warramunga Arr**	**21.57**	**229**	P		**P**	**11 09 42.7**	**0.0**
	comp=Z,25nm,0.9s,baz=54,slow=10,SNR=91							
WRA				PcP		**PcP**	**11 13 44.7**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=73,slow=1.5,SNR=4.9							
WRA				ScP		**ScP**	**11 17 23.2**	**+4.3**
	comp=Z,2.8nm,1.0s,baz=43,slow=2.2,SNR=7.4							
WRA				LR		LR	11 19 18.6	
	comp=Z,187nm,18.4s,baz=50,slow=40							
WRA	**Warramunga Arr**	**21.57**	**229**	P		**P**	**11 09 41.9**	**-0.7**
DZM	**Mont Dzumac**	**21.57**	**139**	*e*P		**P**	**11 09 42.0**	**-0.8**
	comp=Z,44nm,1.3s							
DZM				*e*LR		LR	11 14 52.3	
	comp=Z,655nm,22.4s							
DZM	**Mont Dzumac**	**21.57**	**139**	P		**P**	**11 09 42.7**	**-0.1**
	comp=Z,12nm,0.9s,baz=240,slow=21,SNR=8.4							
DZM				LR		LR	11 16 47.9	
	comp=Z,399nm,21.0s,baz=268,slow=33							
DZM	**Mont Dzumac**	**21.57**	**139**	P		**P**	**11 09 42.2**	**-0.5**
DZM				IAmb		IAmb	11 09 46.0	
	comp=Z,24nm,1.2s							
KNRA	**Kununurra**	**24.16**	**245**	P		**P**	**11 10 09.2**	**+0.1**
AS31	**Alice Springs**	**24.28**	**222**	P		**P**	**11 10 10.8**	**+0.6**
ASAR	**Alice Springs**	**24.28**	**222**	P		**P**	**11 10 10.4**	**+0.2**
	comp=Z,36nm,0.9s,baz=56,slow=9.4,SNR=265							
ASAR				ScP		**ScP**	**11 17 31.3**	**+5.3**
	comp=Z,2.1nm,1.1s,baz=55,slow=3.1,SNR=7.5							
ASAR	**Alice Springs**	**24.28**	**222**	P		**P**	**11 10 10.5**	**+0.3**
SOEI	**Soe**	**27.11**	**260**	P		**P**	**11 10 35.0**	**-1.0**
SOEI				IAmb		IAmb	11 10 56.7	
	comp=Z,23nm,0.8s							
STKA	**Stephens Creek**	**27.27**	**198**	P		**P**	**11 10 36.4**	**-0.7**
	comp=Z,14nm,0.9s,baz=3.2,slow=10,SNR=17							
STKA				LR		LR	11 20 55.2	
	comp=Z,217nm,20.8s,baz=25,slow=35							
STKA	**Stephens Creek**	**27.27**	**198**	P		**P**	**11 10 36.9**	**-0.3**
FUNA	**Funafuti**	**27.69**	**97**	P		**P**	**11 10 40.9**	**-0.2**
BATI	**Baumata**	**27.75**	**260**	P		**P**	**11 10 42.7**	**+1.1**
	comp=Z,33nm,0.8s,baz=127,slow=5.1,SNR=2.2							
FITZ	**Fitzroy Crossi**	**27.83**	**242**	P		**P**	**11 10 41.8**	**-0.5**
	comp=Z,14nm,0.6s,baz=65,slow=7.2,SNR=64							
FITZ				LR		LR	11 21 15.0	
	comp=Z,128nm,18.2s,baz=70,slow=35							
FITZ	**Fitzroy Crossi**	**27.83**	**242**	P		**P**	**11 10 42.2**	**-0.1**
FITZ				IAmb		IAmb	11 10 43.0	
	comp=Z,15nm,0.7s							
EDFI	**Ende, Flores**	**29.57**	**263**	P		**P**	**11 10 56.5**	**-1.4**
	comp=Z,15nm,0.9s							
FORT	**Forrest**	**32.93**	**219**	P		**P**	**11 11 26.2**	**-1.0**
PSA00	**Pilbara Seismi**	**34.19**	**240**	P		**P**	**11 11 38.1**	**-0.2**
PSA00				IAmb		IAmb	11 11 39.1	
	comp=Z,12nm,1.3s							
JAGI	**Jajag, Banyuwa**	**37.01**	**264**	P		**P**	**11 12 00.2**	**-2.4**
MORW	**Morawa**	**40.47**	**231**	P		**P**	**11 12 31.4**	**-0.1**
MORW				IAmb		IAmb	11 12 32.3	
	comp=Z,31nm,1.1s							
MLZ	**Mavora Lakes**	**41.78**	**162**	P		**P**	**11 12 41.6**	**-0.5**
MLZ				IAmb		IAmb	11 12 42.8	
	comp=Z,30nm,1.1s							
KPJI	**Karang Pucung**	**42.18**	**266**	P		P	11 12 58.4	+13
YHNB	**Yeheng**	**42.27**	**317**	P		**P**	**11 12 46.4**	**0.0**
YHNB				IAmb		IAmb	11 13 03.6	
	comp=Z,26nm,1.0s							
MJAR	**Matsushiro Arr**	**44.14**	**345**	LR		LR	11 30 08.6	
	comp=Z,94nm,19.3s,baz=185,slow=34							
KSRS	**Korea Array**	**48.51**	**335**	LR		LR	11 32 35.9	
	comp=Z,66nm,20.3s,baz=160,slow=34							
NJ2	**Nanjing**	**48.96**	**323**	*e*P		**P**	**11 13 42.4**	**+3.4**
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.5s							
XAN	**Xi'an**	**56.58**	**318**	⇑P		**P**	**11 14 38.6**	**+3.2**
XAN				pP		sP	11 14 50.9	+1.8
XAN				sP		pP	11 14 56.3	+11
XAN				pmax		pmax		
	comp=Z,6.0nm,1.1s							
CMAR	**Chiang Mai Arr**	**57.15**	**296**	LR		LR	11 39 00.0	
	comp=Z,26nm,18.4s,baz=210,slow=36							
HHC	**Hu-ho-hao-te**	**59.26**	**326**	*e*P		P	11 14 59.6	+5.4
HHC				pmax		pmax		
	comp=Z,17nm,0.8s							
HHC				pmax		pmax		
	comp=Z,120nm,6.6s							
LZH	**Lanzhou**	**61.16**	**317**	*e*P		P	11 15 12.5	+5.1
LZH				sP		sP	11 15 30.5	+9.2
LZH				pmax		pmax		
	comp=Z,22nm,0.9s							
SONM	**Songino Array**	**66.64**	**329**	LR		LR	11 44 27.8	
	comp=Z,94nm,20.1s,baz=304,slow=36							
VNDA	**Vanda**	**71.64**	**178**	P		**P**	**11 16 14.2**	**+0.7**
	comp=Z,2.6nm,0.9s,baz=318,slow=7.3,SNR=13							
VNDA				LR		LR	11 46 37.8	
	comp=Z,52nm,18.0s,baz=352,slow=35							
VNDA	**Vanda**	**71.64**	**178**	P		**P**	**11 16 14.1**	**+0.6**
WMQ	**Urumqi**	**75.72**	**318**	*e*P		**P**	**11 16 40.8**	**+2.7**
KDAK	**Kodiak Island**	**77.92**	**27**	LR		LR	11 44 12.5	
	comp=Z,38nm,20.0s,baz=251,slow=30							
MKAR	**Makanchi Array**	**80.35**	**319**	P		**P**	**11 17 04.2**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=77,slow=6.5,SNR=3.1							
ZALV	**Zalesovo Beam**	**81.42**	**327**	P		**P**	**11 17 08.2**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=97,slow=4.3,SNR=2.2							
MLY	**Manley**	**82.55**	**21**	P		**P**	**11 17 14.7**	**-0.3**
MLY				IAmb		IAmb	11 17 28.6	
	comp=Z,11nm,1.4s							
ILAR	**Eielson Array**	**83.84**	**22**	P		**P**	**11 17 20.0**	**-1.6**
	comp=Z,1.0nm,0.7s,baz=242,slow=5.6,SNR=10							
MAW	**Mawson**	**83.88**	**203**	P		**P**	**11 17 21.2**	**-0.6**
	comp=Z,2.6nm,0.8s,baz=90,slow=3.5,SNR=7.8							
MAW	**Mawson**	**83.88**	**203**	P		**P**	**11 17 21.9**	**+0.1**
QSPA	**South Pole Qui**	**83.91**	**180**	P		**P**	**11 17 22.5**	**+0.3**
INK	**Inuvik**	**90.12**	**21**	LR		LR	11 53 04.9	
	comp=Z,26nm,21.1s,baz=94,slow=32							
SYO	**Syowa Base**	**92.02**	**200**	⇓*e*P		**P**	**11 18 02.0**	**+1.1**
SYO	**Syowa Base**	**92.02**	**200**	⇑*e*pP		pP	11 18 13.0	+2.7
NVAR	**Mina Array Bea**	**93.96**	**52

FTIG	**Fresnillo de T**	**0.89**	**6**	*i* P		Pn	11 15 42.9	-1.6
FTIG				*i* S		Sn	11 15 54.3	-2.0
HLIG	**Huajuapan de L**	**0.90**	**27**	*e*P		Pn	11 15 43.0	-1.7
HLIG				*e*S		Sn	11 15 54.9	-1.9
DAIG	**Los Arroyos**	**1.36**	**270**	*e*P		Pn	11 15 48.9	-1.9
DAIG				*e*S		Sn	11 16 05.5	-2.2
VHO	**Vista Hermosa**	**1.43**	**88**	*e*P		Pn	11 15 51.8	-0.1
VHO				*e*S		Sn	11 16 09.5	-0.1
TOIG	**Toxpalan**	**1.54**	**46**	*e*P		Pn	11 15 53.1	-0.2
TOIG				*e*S		Sn	11 16 11.9	-0.3
MEIG	**Mezcala**	**1.60**	**304**	*e*P		Pn	11 15 53.8	-0.4
MEIG				*e*S		Sn	11 16 13.7	-0.1
TPIG	**Tehuac#an**	**1.62**	**31**	*e*P		Pn	11 15 53.8	-0.6
TPIG				*e*S		Sn	11 16 13.0	-1.2
PLIG	**Platanillo**	**1.83**	**318**	*e*P		Pn	11 15 56.8	-0.4
PLIG				*e*S		Sn	11 16 19.0	-0.3

IDC ***22*** *11:20:18.0±1.9, 19°.94S×66°.45W, h66km±26km, mb3.2/2, mb1 3.5/6, mb1mx3.3/23, mbtmp3.5/6, ML3.5/3, MS3.0/2, Ms1 3.1/2, ms1mx2.6/8, Error ellipse: s-maj=30.6km s-min=17.5km az=131.0*

ISC 22 11:20:16.9±1.1, 20°.00S±0°.08×66°.4W±0°.1, h35km, n7, σ2s14/7, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**3.48**	**221**	P		**Pn**		**11 21 10.0**	**+1.0**
	0.2nm,0.3s,baz=40,slow=16,SNR=2.0								
LPAZ	**La Paz**	**4.03**	**336**	P		**Pn**		**11 21 17.3**	**+0.6**
	0.4nm,0.3s,baz=138,slow=12,SNR=19								
LPAZ				LR		LR		11 23 13.6	
	comp=Z,217nm,21.5s,baz=138,slow=44								
SIV	**San Ignacio**	**6.47**	**53**	P		**Pn**		**11 21 48.9**	**-0.8**
	2.5nm,0.3s,baz=250,slow=12,SNR=71								
SIV				S		**Sn**		**11 23 05.1**	**+2.7**
	0.2nm,0.3s,baz=274,slow=19,SNR=2.7								
CPUP	**Villa Florida**	**10.47**	**129**	P		**Pn**		**11 22 45.6**	**+1.0**
	0.3nm,0.3s,baz=302,slow=15,SNR=3.2								
NNA	**Nana**	**12.79**	**307**	LR		LR		11 28 56.3	
	comp=Z,75nm,20.1s,baz=28,slow=41								
PLCA	**Paso Flores**	**20.96**	**189**	P		**P**		**11 24 57.2**	**+0.2**
	1.0nm,0.8s,baz=27,slow=14,SNR=1.6								
TORD	**Torodi Ar. Bea**	**74.66**	**70**	P		**P**		**11 31 50.5**	**-2.8**
	0.5nm,0.8s,baz=242,slow=8.0,SNR=2.2								

LVSN ***22*** *11:31:33.5±1.0, 56°.45N×20°.82E, h0km±28km, ML2.4*
HEL ***22*** *11:31:35.4±0.3, 56°.68N×20°.75E, h0km, ML2.4, Explosion*
DNK ***22*** *11:31:35.4±1.7, 56°.72N×20°.87E, h0km, ML2.8(UPP), Suspected explosion*
EST ***22*** *11:31:35.2±0.2, 56°.66N×20°.75E, h0km, ML2.4(HEL), Explosion*
UPP ***22*** *11:31:38.4±1.2, 56°.80N×20°.48E, h0km, ML2.8, Suspected explosion*

ISC 22 11:31:34.1±0.9, 56°.65N±0°.03×20°.88E±0°.03, h0km, n33, σ1s26/53, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PBUR	**Paburge**	**0.86**	**137**	*e*P		**Pb**		**11 31 52.4**	**+0.5**
SLIT	**Slitere, Latvi**	**1.24**	**38**	*e*P		**Pg**		**11 31 57.7**	**-0.2**
SLIT				*e*S		**Sn**		**11 32 16.0**	**-0.2**
SLIT	**Slitere, Latvi**	**1.24**	**38**	*e*P		**Pg**		**11 31 57.8**	**-0.2**
SLIT				AML		AML		11 31 58.3	
	comp=Z,104nm,0.4s								
SLIT				*e*S		**Sn**		**11 32 16.2**	**0.0**
SLIT				AML		AML		11 32 22.1	
	comp=E,172nm,0.5s								
SLIT				AML		AML		11 32 22.8	
	comp=N,183nm,0.3s								
GOTU	**Gotland**	**1.63**	**310**	P		**Pn**		**11 32 03.0**	**-1.0**
GOTU				S		**Sn**		**11 32 24.3**	**-1.4**
GOTU	**Gotland**	**1.63**	**310**	P		**Pn**		**11 32 03.0**	**-1.0**
GOTU				*S*		**Sn**		**11 32 24.3**	**-1.4**
GOTU	**Gotland**	**1.63**	**310**	*e*P		**Pn**		**11 32 02.8**	**-1.2**
GOTU				*e*S		**Sn**		**11 32 24.1**	**-1.6**
PABE	**Paberze**	**2.08**	**122**	*e*PG		**Pg**		**11 32 13.9**	**0.0**
PABE				*e*SG		**Sg**		**11 32 41.0**	**+0.2**
BYXU	**Byxelkrok**	**2.21**	**288**	P		**Pn**		**11 32 13.0**	**+0.9**
BYXU				S		**Sn**		**11 32 40.5**	**+0.4**
BYXU	**Byxelkrok**	**2.21**	**288**	P		**Pn**		**11 32 13.0**	**+0.9**
BYXU				S		**Sn**		**11 32 40.5**	**+0.4**
VSTU	**Vaestervik**	**2.57**	**295**	P		**Pn**		**11 32 18.5**	**+1.5**
VSTU	**Vaestervik**	**2.57**	**295**	P		**Pn**		**11 32 18.5**	**+1.5**
MTSE	**Matsula**	**2.60**	**36**	*e*P		**Pn**		**11 32 18.5**	**+1.2**
MTSE				*e*S		**Sn**		**11 32 51.4**	**+1.8**
MTSE	**Matsula**	**2.60**	**36**	*e*P		**Pn**		**11 32 18.6**	**+1.2**
MTSE				AML		AML		11 32 19.4	
	comp=Z,24nm,0.3s								
MTSE				AML		AML		11 32 53.6	
	comp=N,41nm,0.2s								
MTSE				AML		AML		11 33 06.6	
	comp=E,48nm,0.2s								
OSKU	**Oskarshamn**	**2.68**	**284**	P		**Pn**		**11 32 20.6**	**+2.2**
OSKU				S		**Sn**		**11 32 53.1**	**+1.6**
OSKU	**Oskarshamn**	**2.68**	**284**	P		**Pn**		**11 32 20.6**	**+2.2**
OSKU				S		**Sn**		**11 32 53.1**	**+1.6**
NYNU	**Nynaeshamn**	**2.81**	**328**	P		**Pn**		**11 32 21.9**	**+1.6**
NYNU	**Nynaeshamn**	**2.81**	**328**	P		**Pn**		**11 32 21.9**	**+1.6**
BLEU	**Blekinge**	**2.83**	**265**	P		**Pn**		**11 32 21.0**	**+0.4**
BLEU	**Blekinge**	**2.83**	**265**	P		**Pn**		**11 32 21.0**	**+0.4**
SUW	**Suwalki**	**2.96**	**153**	*e*P		**Pn**		**11 32 22.6**	**+0.4**
SUW				*e*PB		**Pb**		**11 32 26.6**	**-1.0**
EE02	**Kiisa, Saku**	**3.26**	**37**	*e*P		**Pn**		**11 32 28.2**	**+1.8**
EE02				*e*PG		**Pb**		**11 32 34.5**	**+1.8**
EE02				*e*SG		**Sg**		**11 33 17.3**	**-1.4**
AAL	**Aland**	**3.56**	**353**	*e*P		**Pn**		**11 32 32.2**	**+1.6**
AAL				*e*S		**Sn**		**11 33 14.2**	**+0.8**
EE03	**Tooma soojaam,**	**3.65**	**50**	*e*PB		**Pb**		**11 32 38.4**	**-1.0**
EE03				*e*SG		**Sg**		**11 33 28.3**	**-2.8**
MEF	**Metsahovi**	**4.02**	**26**	*e*P		**Pn**		**11 32 38.2**	**+1.3**
MEF				*e*S		**Sn**		**11 33 24.1**	**-0.5**
MEF				MSN				11 33 46.9	
	comp=Z,2.3nm,0.2s								
FKPU	**Falk**	**4.16**	**294**	P		**Pn**		**11 32 39.3**	**+0.6**
FKPU	**Falk**	**4.16**	**294**	P		**Pn**		**11 32 39.3**	**+0.6**
NUR	**Nurmijrvi**	**4.34**	**25**	*e*P		**Pn**		**11 32 43.0**	**+1.8**
NUR				*e*S		**Sn**		**11 33 32.1**	**-0.3**
NUR				MSN				11 33 56.1	
	comp=Z,1.5nm,0.2s								
RAF	**Rauma**	**4.41**	**6**	*e*P		**Pn**		**11 32 43.3**	**+1.1**
RAF				*e*S		**Sn**		**11 33 33.6**	**-0.5**
RAF				MSN				11 33 56.3	
	comp=Z,2.3nm,0.2s								
RAF	**Rauma**	**4.41**	**6**	*e*P		**Pn**		**11 32 43.3**	**+1.1**
RAF				AML		AML		11 33 54.8	
	comp=E,9.5nm,0.8s								
RAF				AML		AML		11 33 55.6	
	comp=N,3.8nm,0.8s								
RAF				AML		AML		11 34 00.1	
	comp=Z,6.2nm,0.5s								
PVF	**Pernaja**	**4.69**	**32**	*e*P		**Pn**		**11 32 47.2**	**+1.2**
PVF				MSN				11 34 09.4	
	comp=Z,1.4nm,0.2s								
FIA0	**FINESS Array S**	**5.50**	**27**	*e*P		**Pn**		**11 32 57.9**	**+0.7**
FIA0				*e*S		**Sn**		**11 33 59.6**	**-1.5**
KAF	**Kangasniemi**	**6.13**	**25**	*e*P		**Pn**		**11 33 06.5**	**+0.6**
JOF	**Joensuu**	**8.19**	**36**	*e*P		**Pn**		**11 33 33.1**	**-0.9**

JMA ***22*** *11:35:41.7±0.2, 24°.18N×121°.73E, h34km±2km*
TAP ***22*** *11:35:42.2, 24°.28N×121°.82E, h15km, ML2.7, B*

ISC 22 11:35:42.6±0.8, 24°.26N±0°.02×121°.82E±0°.02, h18km±5km, n73, σ0s51/146, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.09**	**307**	*e*P		**Pg**		**11 35 45.8**	**-0.2**
	baz=297								
EHP				*e*S		**Sg**		**11 35 48.9**	**+0.5**
	baz=297								
ENA	**Nanau**	**0.18**	**338**	P		**Pg**		**11 35 46.9**	**-0.3**
	baz=338								
ENA				S		**Sg**		**11 35 50.5**	**+0.1**
	baz=338								
EWUT	**Wuta**	**0.19**	**349**	P		**Pg**		**11 35 47.1**	**-0.2**
	baz=348								
EWUT				S		**Sg**		**11 35 50.6**	**0.0**
	baz=348								
ETL	**Fush Village**	**0.20**	**241**	P		**Pb**		**11 35 47.5**	**-0.2**
	baz=236								
ETL				S		**Sb**		**11 35 51.5**	**+0.2**
	baz=236								
NACB	**Ninganchiao**	**0.22**	**248**	P		**Pg**		**11 35 47.5**	**-0.2**
	baz=243								
NACB				S		**Sb**		**11 35 52.3**	**+0.5**
	baz=243								
TWD	**Chiawan**	**0.27**	**229**	P		**Pb**		**11 35 48.6**	**-0.3**
	baz=224								
TWD				S		**Sb**		**11 35 53.3**	**+0.2**
	baz=224								
ETLH	**Xiulin Townshi**	**0.31**	**261**	P		**Pg**		**11 35 49.2**	**-0.1**
	baz=257								
ETLH				S		**Sb**		**11 35 54.5**	**0.0**
	baz=257								
HWA	**Hwalien**	**0.34**	**215**	*e*P		**Pb**		**11 35 50.2**	**+0.1**
	baz=211								
HWA				*e*S		**Sb**		**11 35 56.4**	**+1.2**
	baz=211								
TWC	**Suao**	**0.35**	**5**	P		**Pg**		**11 35 49.6**	**-0.3**
	baz=7.0								
TWC				S		**Sg**		**11 35 54.7**	**-0.3**
	baz=7.0								
NDS	**Dongshan**	**0.39**	**346**	P		**Pg**		**11 35 50.5**	**-0.1**
	baz=345								
NDS				S		**Sg**		**11 35 55.9**	**-0.1**
	baz=345								
NNSB	**Datong**	**0.43**	**293**	P		**Pg**		**11 35 51.6**	**+0.1**
	baz=291								
NNSB				S		**Sb**		**11 35 57.9**	**-0.2**
	baz=291								
NDT	**Datong Townshi**	**0.44**	**321**	P		**Pg**		**11 35 51.6**	**0.0**
	baz=319								
NDT				S		**Sb**		**11 35 58.2**	**0.0**
	baz=319								
ENTT	**Nioudou**	**0.45**	**329**	P		**Pg**		**11 35 51.7**	**0.0**
	baz=328								
ENTT				S		**Sg**		**11 35 58.3**	**+0.5**
	baz=328								
NNS	**Nan Shan**	**0.45**	**294**	P		**Pg**		**11 35 51.7**	**0.0**
	baz=292								
NNS				S		**Sb**		**11 35 58.5**	**+0.1**
	baz=292								
TWE	**Neicheng**	**0.48**	**343**	P		**Pg**		**11 35 52.1**	**-0.2**
	baz=344								
TWE				S		**Sg**		**11 35 59.4**	**+0.6**
	baz=344								
WHF	**Hehuan Shan**	**0.52**	**258**	P		**Pg**		**11 35 53.0**	**-0.2**
	baz=255								
WHF				S		**Sb**		**11 36 00.8**	**+0.1**
	baz=255								
FUSS	**Fushou**	**0.52**	**269**	P		**Pb**		**11 35 53.3**	**-0.1**
	baz=266								
FUSS				S		**Sb**		**11 36 01.0**	**+0.2**
	baz=266								
ESL	**Shilin**	**0.56**	**219**	*e*P		**Pg**		**11 35 53.4**	**-0.4**
	baz=216								
ESL				*e*S		**Sb**		**11 36 02.3**	**+0.6**
	baz=216								
YHNB	**Yeheng**	**0.58**	**316**	P		**Pg**		**11 35 54.0**	**-0.1**
	baz=314								
YHNB				S		**Sg**		**11 36 01.8**	**0.0**
	baz=314								
TWT	**Tachien**	**0.59**	**270**	*e*P		**Pb**		**11 35 54.5**	**0.0**
	baz=267								
TWT				*e*S		**Sb**		**11 36 03.4**	**+0.9**
	baz=267								
NSK	**Sanguang**	**0.59**	**315**	P		**Pg**		**11 35 54.2**	**-0.2**
	baz=314								
NSK				S		**Sg**		**11 36 02.5**	**+0.2**
	baz=314								
NWLT	**Wulai**	**0.59**	**331**	P		**Pg**		**11 35 54.1**	**-0.2**
	baz=330								
NWLT				S		**Sg**		**11 36 02.2**	**-0.1**
	baz=330								
NTC	**Toucheng**	**0.59**	**1**	P		**Pg**		**11 35 54.1**	**-0.3**
	baz=1.0								
NTC				S		**Sg**		**11 36 02.5**	**+0.1**
	baz=1.0								
TDCB	**Techi**	**0.60**	**270**	P		**Pb**		**11 35 54.9**	**+0.2**
	baz=267								
TDCB				S		**Sb**		**11 36 02.9**	**-0.1**
	baz=267								
CHGB	**Renai**	**0.62**	**252**	P		**Pb**		**11 35 54.9**	**-0.1**
	baz=249								
CHGB				S		**Sb**		**11 36 04.2**	**+0.7**
	baz=249								
OWD	**Renai**	**0.66**	**243**	P		**Pb**		**11 35 55.6**	**-0.1**
	baz=241								
OWD				S		**Sb**		**11 36 05.4**	**+0.8**
	baz=241								
EGFH	**Guangfu**	**0.69**	**211**	*e*P		**Pb**		**11 35 56.4**	**+0.3**
	baz=210								
EGFH				*e*S		**Sn**		**11 36 06.6**	**-1.1**
	baz=210								
TIPB	**Shuangxi**	**0.71**	**1**	P		**Pg**		**11 35 56.6**	**0.0**
TIPB				S		**Sg**		**11 36 05.4**	**-0.7**
TWA	**Mucha**	**0.75**	**344**	*e*P		**Pg**		**11 35 56.6**	**-0.7**
	baz=343								
TWA				S		**Sg**		**11 36 07.0**	**-0.2**
	baz=343								
NHDH	**Xindian Distri**	**0.75**	**339**	*e*P		**Pg**		**11 35 56.9**	**-0.4**
	baz=338								
NHDH				*e*S		**Sg**		**11 36 07.4**	**+0.1**
	baz=338								
TWB1	**Santiao Chiao**	**0.76**	**12**	P		**Pg**		**11 35 57.1**	**-0.4**
	baz=12								
TWB1				S		**Sg**		**11 36 07.7**	**+0.1**
	baz=12								
WHP	**Taichung City**	**0.80**	**272**	P		**Pb**		**11 35 58.3**	**+0.3**
	baz=270								
WHP				S		**Sb**		**11 36 09.3**	**+0.9**
	baz=270								
NWF	**Wu-fen Shan**	**0.81**	**358**	P		**Pg**		**11 35 58.6**	**+0.2**
	baz=357								
NWF				S		**Sg**		**11 36 09.1**	**-0.1**
	baz=357								
LIOB	**Emei**	**0.83**	**298**	P		**Pn**		**11 35 59.3**	**-0.2**
	baz=296								
LIOB				S		**Sb**		**11 36 10.1**	**+0.8**
	baz=296								
NSTT	**Nanjuang**	**0.83**	**297**	P		**Pb**		**11 35 58.9**	**+0.4**
	baz=295								
NSTT				S		**Sb**		**11 36 10.1**	**+0.6**
	baz=295								
HGSD	**Ruisui**	**0.84**	**205**	P		**Pg**		**11 35 59.0**	**0.0**
	baz=204								
HGSD				*e*S		**Sn**		**11 36 11.3**	**-0.2**
	baz=204								
WCS	**Beigang Elemen**	**0.85**	**257**	*e*P		**Pg**		**11 35 59.0**	**-0.2**
	baz=255								
WCS				*e*S		**Sn**		**11 36 11.0**	**-0.8**
	baz=255								
EHY	**Hungye**	**0.88**	**211**	*e*P		**Pb**		**11 35 59.2**	**-0.1**
	baz=210								
EHY				*e*S		**Sn**		**11 36 12.4**	**+0.1**
	baz=210								
NCUH	**Zhongli**	**0.91**	**321**	*e*P		**Pb**		**11 35 59.7**	**-0.3**
	baz=320								
NCUH				*e*S		**Sg**		**11 36 12.5**	**+0.1**
	baz=320								
TWS1	**Kuangyinshan**	**0.92**	**337**	*e*P		**Pb**		**11 35 58.7**	**-1.3**
	baz=336								
TWS1				*e*S		**Sg**		**11 36 12.7**	**+0.2**
	baz=336								
SMLT	**Sun Moon Lake**	**0.92**	**246**	*e*P		**Pb**		**11 35 60.0**	**-0.1**
	baz=244								
SMLT				*e*S		**Sn**		**11 36 13.0**	**-0.6**
	baz=244								
SSLB	**Suanglung**	**0.92**	**240**	P		**Pb**		**11 35 59.7**	**-0.3**
	baz=238								
SSLB				*e*S		**Sn**		**11 36 12.6**	**-0.9**
	baz=238								
TYC	**Yuchr**	**0.95**	**248**	P		**Pb**		**11 36 00.4**	**-0.1**
	baz=246								
TYC				*e*S		**Sn**		**11 36 14.0**	**-0.1**
	baz=246								
TWQ1	**Liyutan**	**0.96**	**276**	*e*P		**Pb**		**11 36 00.7**	**0.0**
	baz=274								
TWQ1				*e*S		**Sn**		**11 36 14.2**	**-0.2**
	baz=274								
ANP	**Anpu**	**0.96**	**344**	*e*P		**Pb**		**11 36 00.3**	**-0.5**
	baz=343								
ANP				*e*S		**Sb**		**11 36 13.7**	**+0.4**
	baz=343								
YULB	**Yu-li**	**0.98**	**209**	*e*P		**Pb**		**11 36 00.6**	**-0.5**
	baz=208								
YULB				*e*S		**Sn**		**11 36 14.7**	**-0.4**
	baz=208								
EYUL	**Yuli**	**1.01**	**207**	*e*P		**Pg**		**11 36 02.1**	**-0.2**
	baz=206								
EYUL				*e*S		**Sn**		**11 36 16.5**	**+0.7**
	baz=206								
WHYT	**Xinyi Township**	**1.04**	**238**	*e*P		**Pg**		**11 36 02.3**	**-0.5**
	baz=236								
WHYT				*e*S		**Sn**		**11 36 17.4**	**+0.8**
	baz=236								
JYNG	**Yonagunijimaku**	**1.05**	**79**	P		**Pb**		**11 36 02.3**	**+0.1**
JYNG				*e*S		**Sb**		**11 36 17.3**	**+1.7**
WJS	**Zhushan**	**1.09**	**247**	*e*P		**Pn**		**11 36 03.0**	**+0.1**
	baz=245								
WJS				*e*S		**Sn**		**11 36 18.4**	**+0.8**
	baz=245								
YUS	**Yu-Shan**	**1.10**	**226**	P		**Pb**		**11 36 02.9**	**-0.5**
	baz=225								
YUS				*e*S		**Sn**		**11 36 18.9**	**+0.3**
	baz=225								
YOJ	**Yonaguni jima**	**1.11**	**79**	P		**Pn**		**11 36 02.5**	**-0.7**
YOJ				S		**Sb**		**11 36 17.9**	**+0.6**
YOJ	**Yonaguni jima**	**1.11**	**79**	*e*P		**Pn**		**11 36 02.6**	**-0.6**
	baz=79								
YOJ				*e*S		**Sb**		**11 36 18.2**	**+0.8**
	baz=79								
FULB	**Fuli**	**1.16**	**205**	*e*P		**Pb**		**11 36 03.8**	**-0.3**
	baz=203								
FULB				*e*S		**Sg**		**11 36 20.3**	**+0.2**
	baz=203								
ALS	**Alishan**	**1.19**	**232**	P		**Pn**		**11 36 05.0**	**+0.3**
	baz=230								
ALS				*e*S		**Sn**		**11 36 21.8**	**+1.3**
	baz=230								
CHKT	**Chengkung**	**1.23**	**200**	*e*P		**Pb**		**11 36 05.2**	**0.0**
	baz=199								
CHKT				*e*S		**Sg**		**11 36 21.6**	**-0.6**
	baz=199								
CHN5	**Tsauling**	**1.23**	**238**	*e*P		**Pn**		**11 36 05.2**	**+0.1**
	baz=237								
CHN5				*e*S		**Sg**		**11 36 22.1**	**-0.4**
	baz=237								
ELDTW	**Lidau**	**1.29**	**215**	*e*P		**Pn**		**11 36 05.8**	**-0.1**
	baz=213								
ELDTW				*e*S		**Sg**		**11 36 23.4**	**-1.0**
	baz=213								
EDH	**Donghe**	**1.36**	**200**	*e*P		**Pn**		**11 36 07.0**	**+0.3**
	baz=199								
EDH				*e*S		**Sb**		**11 36 25.4**	**+0.7**
	baz=199								
WRL	**Guolierlin Hig**	**1.36**	**255**	*e*P		**Pn**		**11 36 07.1**	**+0.4**
	baz=254								
WRL				*e*S		**Sb**		**11 36 24.6**	**-0.1**
	baz=254								
CHN4	**Tsaushan**	**1.44**	**231**	*e*P		**Pn**		**11 36 08.4**	**+0.5**
	baz=230								
CHN4				*e*S		**Sb**		**11 36 27.2**	**+0.3**
	baz=230								
STYH	**Taoyuan**	**1.44**	**222**	*e*P		**Pn**		**11 36 08.4**	**+0.6**
	baz=220								
STYH				*e*S		**Sb**		**11 36 27.4**	**+0.4**
	baz=220								
TPUB	**Ta-pu**	**1.45**	**229**	*e*P		**Pn**		**11 36 08.4**	**+0.5**
	baz=228								
TPUB				*e*S		**Sb**		**11 36 27.2**	**+0.1**
	baz=228								
LONT	**Longtian**	**1.48**	**205**	*e*P		**Pn**		**11 36 09.2**	**+0.8**
	baz=204								
LONT				*e*S		**Sb**		**11 36 28.8**	**+0.6**
	baz=204								
WTP	**Ta-pu**	**1.49**	**228**	*e*P		**Pb**		**11 36 09.6**	**-0.2**
	baz=226								
WTP				*e*S		**Sb**		**11 36 28.7**	**+0.1**
	baz=226								
TWK	**Hsinying**	**1.57**	**231**	*e*P		**Pn**		**11 36 10.0**	**+0.4**
	baz=230								
TWK				*e*S		**Sb**		**11 36 30.2**	**-0.5**
	baz=230								
CHN1	**Nanshi**	**1.59**	**228**	*e*P		**Pn**		**11 36 10.3**	**+0.4**
	baz=227								
CHN1				*e*S		**Sb**		**11 36 31.2**	**-0.1**
	baz=227								
LDUT	**Ludao**	**1.61**	**192**	*e*P		**Pn**		**11 36 10.0**	**-0.1**
	baz=191								
LDUT				*e*S		**Sb**		**11 36 31.6**	**-0.1**
	baz=191								
SGST	**Jiashian**	**1.63**	**224**	*e*P		**Pn**		**11 36 10.8**	**+0.4**
	baz=223								
SGST				*e*S		**Sb**		**11 36 31.7**	**-0.6**
	baz=223								
SLGT	**Liugui**	**1.65**	**221**	*e*P		**Pb**		**11 36 12.0**	**-0.6**
	baz=220								
SLGT				*e*S		**Sb**		**11 36 32.3**	**-0.8**
	baz=220								
TSMG	**Majia**	**1.88**	**215**	*e*P		**Pn**		**11 36 14.7**	**+0.7**
	baz=214								
TSMG				*e*S		**Sb**		**11 36 38.8**	**-0.9**
	baz=214								
MASBT	**Mashibuluo**	**1.97**	**214**	*e*P		**Pn**		**11 36 15.9**	**+0.9**
	baz=213								
MASBT				*e*S		**Sb**		**11 36 40.8**	**-1.3**
	baz=213								
EAST	**Anshuo**	**2.07**	**206**	*e*P		**Pn**		**11 36 17.4**	**+0.9**
	baz=205								
EAST				*e*S		**Sn**		**11 36 43.0**	**+1.2**
	baz=205								

IDC ***22*** *11:39:39.1±1.0, 13°.05N×51°.14E, h0km, mb4.1/7, mb1 4.3/8, mb1mx3.8/58, mbtmp4.1/8, ML4.1/1, MS3.4/4, Ms1 3.3/4, ms1mx2.8/51, Error ellipse: s-maj=36.1km s-min=20.0km az=7.0*
NEIC ***22*** *11:39:40.9±2.8, 12°.9N±0°.2×51°.22E±0°.07, h10km±1km, mb4.2/7, Error ellipse: s-maj=28.0km s-min=9.4km az=191.0*

ISC 22 11:39:40.9±0.8, 12°.9N±0°.2×51°.22E±0°.09, h16km, n22, σ1s15/17, mb4.2/10, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SOCY	**Socotra**	**2.79**	**104**			**Pn**		**11 40 23.8**	**-1.1**
ATD	**Arta Tunnel**	**8.29**	**262**	Pn		**Pn**		**11 41 41.0**	**+0.3**
	2.6nm,0.3s,baz=349,slow=4.2,SNR=12								
ATD				LR		LR		11 44 04.7	
	comp=Z,266nm,18.8s,baz=82,slow=32								
WSAR	**Wadi Sarin**	**12.48**	**33**	LR		LR		11 47 00.0	
	comp=Z,237nm,19.4s,baz=83,slow=36								
GYA0B	**ALIBECK ARRAY**	**25.69**	**13**	P		**P**		**11 45 12.0**	**+1.6**
GYA0B				IAmb		IAmb		11 45 12.4	
	comp=Z,5.8nm,0.7s								
GNI	**Garni**	**27.76**	**349**	LR		LR		11 58 38.0	
	comp=Z,35nm,20.1s,baz=162,slow=41								
KKAR

*MOS **22** 11:41:07.3±0.6,55.°03N×162.°35E,h44km,mb4.6/1,Error ellipse: s-maj=7.3km s-min=4.3km az=75.3*
*NEIC **22** 11:41:09.6±1.0,55.°0N±0.°2×162.°3E±0.°1,h50km±4km, mb4.0/16,Error ellipse: s-maj=23.6km s-min=10.5km az=161.0*
*IDC **22** 11:41:10.4±3.3,55.°16N×162.°01E,h59km±31km,mb3.5/11, mb1 3.8/14,mb1mx3.5/71,mbtmp3.8/14,ML3.0/3,MS3.2/9, Ms1 3.2/9,ms1mx2.9/57,Error ellipse: s-maj=29.9km s-min=14.5km az=144.0*

ISC 22 11:41:07.3±1.1,55.°03N±0.°03×162.°28E±0.°03,h30km±8km, n140,σ1§49/176,mb3.9/18,MS3.3/5,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.57**	**214**	PN	**Pb**	**11 41 18.4**	**-0.5**
MKZ				S	**Sb**	**11 41 26.3**	**-0.4**
MKZ	**Mys Kozlova**	**0.57**	**214**	*eP*	**Pb**	**11 41 18.4**	**-0.5**
MKZ				*eS*	**Sb**	**11 41 26.3**	**-0.4**
TUMD	**Tumrok D**	**1.10**	**280**	*i* P	**Pn**	**11 41 26.2**	**-0.5**
TUMD				*eS*	**Sn**	**11 41 41.2**	**+0.4**
KZV	**Kizimen**	**1.15**	**275**	PN	**Pn**	**11 41 27.1**	**-0.4**
KZV				S	**Sn**	**11 41 42.1**	**-0.1**
KZV	**Kizimen**	**1.15**	**275**	*i* P	**Pn**	**11 41 27.1**	**-0.4**
KZV				*eS*	**Sn**	**11 41 42.1**	**-0.1**
KBTR	**Krutoberegovo**	**1.22**	**14**	PN	**Pn**	**11 41 27.8**	**-0.6**
KBTR				S	**Sn**	**11 41 43.8**	**-0.1**
KBTR	**Krutoberegovo**	**1.22**	**14**	*eP*	**Pn**	**11 41 27.8**	**-0.6**
KBTR				*eS*	**Sn**	**11 41 43.8**	**-0.1**
TUMR	**Tumrok**	**1.25**	**283**	PN	**Pn**	**11 41 26.2**	**-2.7**
TUMR				S	**Sn**	**11 41 41.2**	**-3.6**
TUMR	**Tumrok**	**1.25**	**283**	*i* P	**Pn**	**11 41 29.0**	**+0.1**
KBG	**Krutoberegovo**	**1.25**	**11**	PN	**Pn**	**11 41 29.4**	**+0.6**
KBG				S	**Sb**	**11 41 46.6**	**+0.5**
KBG	**Krutoberegovo**	**1.25**	**11**	*eP*	**Pn**	**11 41 29.4**	**+0.6**
KBG				*eS*	**Sb**	**11 41 46.6**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**1.28**	**316**	PN	**Pn**	**11 41 29.5**	**+0.2**
BZGR	**Bezymyannyi-Gr**	**1.28**	**316**	*i* P	**Pn**	**11 41 29.5**	**+0.2**
ZLN	**Zelenaya**	**1.30**	**320**	PN	**Pn**	**11 41 30.1**	**+0.6**
ZLN	**Zelenaya**	**1.30**	**320**	*eP*	**Pn**	**11 41 30.1**	**+0.6**
KMNR	**Kamenistaya**	**1.38**	**303**	PN	**Pn**	**11 41 30.8**	**+0.2**
KMNR	**Kamenistaya**	**1.38**	**303**	*i* P	**Pn**	**11 41 30.8**	**+0.2**
BZWR	**Bezymyannyi-We**	**1.38**	**313**	PN	**Pn**	**11 41 30.8**	**+0.1**
BZWR	**Bezymyannyi-We**	**1.38**	**313**	*eP*	**Pn**	**11 41 30.8**	**+0.1**
CIRR	**Tsirk**	**1.40**	**322**	PN	**Pn**	**11 41 31.6**	**+0.7**
CIRR	**Tsirk**	**1.40**	**322**	*eP*	**Pn**	**11 41 31.6**	**+0.7**
KIRR	**Kirishev**	**1.44**	**311**	PN	**Pn**	**11 41 32.1**	**+0.6**
KIRR	**Kirishev**	**1.44**	**311**	*i* P	**Pn**	**11 41 32.1**	**+0.6**
KPT	**Kopyto**	**1.50**	**310**	PN	**Pn**	**11 41 32.9**	**+0.6**
KPT	**Kopyto**	**1.50**	**310**	*i* P	**Pn**	**11 41 32.9**	**+0.6**
KRSR	**Krestovskiy**	**1.54**	**321**	PN	**Pn**	**11 41 32.7**	**-0.1**
KRSR	**Krestovskiy**	**1.54**	**321**	*eP*	**Pn**	**11 41 32.7**	**-0.1**
KLY	**Klyuchi**	**1.58**	**325**	PN	**Pn**	**11 41 32.3**	**-1.0**
KLY				S	**Sn**	**11 41 51.6**	**-1.2**
KLY	**Klyuchi**	**1.58**	**325**	*i* P	**Pn**	**11 41 32.3**	**-1.0**
KLY				*eS*	**Sn**	**11 41 51.6**	**-1.2**
SMKR	**Semkarok**	**1.62**	**344**	PN	**Pn**	**11 41 34.5**	**+0.5**
SMKR				S	**Sn**	**11 41 55.9**	**+2.0**
SMKR	**Semkarok**	**1.62**	**344**	*eP*	**Pn**	**11 41 34.5**	**+0.5**
SMKR				*eS*	**Sn**	**11 41 55.9**	**+2.0**
BDR	**Baidarnaya**	**1.66**	**339**	PN	**Pn**	**11 41 35.1**	**+0.7**
BDR	**Baidarnaya**	**1.66**	**339**	*i* P	**Pn**	**11 41 35.1**	**+0.7**
KOZ	**Kozyrevsk**	**1.71**	**308**	PN	**Pn**	**11 41 35.9**	**+0.8**
KOZ	**Kozyrevsk**	**1.71**	**308**	*i* P	**Pn**	**11 41 35.9**	**+0.8**
SRKR	**Sorokina**	**1.75**	**339**	PN	**Pn**	**11 41 36.3**	**+0.7**
SRKR	**Sorokina**	**1.75**	**339**	*eP*	**Pn**	**11 41 36.3**	**+0.7**
KII	**Karymskiy**	**1.93**	**240**	PN	**Pn**	**11 41 38.6**	**+0.5**
KII				S	**Sn**	**11 42 02.8**	**+1.4**
KII	**Karymskiy**	**1.93**	**240**	*eP*	**Pn**	**11 41 38.6**	**+0.5**
KII				*eS*	**Sn**	**11 42 02.8**	**+1.4**
BKI	**Bering**	**2.13**	**84**	PN	**Pn**	**11 41 40.9**	**+0.1**
BKI				S	**Sn**	**11 42 04.9**	**-1.2**
BKI	**Bering**	**2.13**	**84**	*eP*	**Pn**	**11 41 40.9**	**+0.1**
BKI				*eS*	**Sn**	**11 42 04.9**	**-1.2**
ESO	**Esso**	**2.23**	**295**	PN	**Pn**	**11 41 44.0**	**+1.8**
ESO	**Esso**	**2.23**	**295**	*eP*	**Pn**	**11 41 44.0**	**+1.8**
SPN	**Mys Shipunski**	**2.35**	**215**	PN	**Pn**	**11 41 42.6**	**-1.2**
SPN				S	**Sn**	**11 42 09.7**	**-1.9**
SPN	**Mys Shipunski**	**2.35**	**215**	*eP*	**Pn**	**11 41 42.6**	**-1.2**
SPN				*eS*	**Sn**	**11 42 09.7**	**-1.9**
NLC	**Nalytchevo**	**2.54**	**224**	PN	**Pn**	**11 41 46.9**	**+0.5**
NLC				S	**Sn**	**11 42 16.4**	**+0.1**
NLC	**Nalytchevo**	**2.54**	**224**	*eP*	**Pn**	**11 41 46.9**	**+0.5**
NLC				*eS*	**Sn**	**11 42 16.4**	**+0.1**
SDLR	**Sedlovina**	**2.66**	**230**	PN	**Pn**	**11 41 50.0**	**+1.8**
SDLR				S	**Sn**	**11 42 21.6**	**+2.1**
SDLR	**Sedlovina**	**2.66**	**230**	*eP*	**Pn**	**11 41 50.0**	**+1.8**
SDLR				*eS*	**Sn**	**11 42 21.6**	**+2.1**
KRER	**Koryakskii**	**2.70**	**232**	PN	**Pn**	**11 41 50.6**	**+1.7**
KRER	**Koryakskii**	**2.70**	**232**	*eP*	**Pn**	**11 41 50.6**	**+1.7**
SMAR	**Somma**	**2.71**	**231**	PN	**Pn**	**11 41 50.1**	**+1.2**
SMAR	**Somma**	**2.71**	**231**	*eP*	**Pn**	**11 41 50.1**	**+1.2**
KRX	**Arik**	**2.71**	**233**	PN	**Pn**	**11 41 50.5**	**+1.5**
KRX				S	**Sn**	**11 42 22.7**	**+1.9**
KRX	**Arik**	**2.71**	**233**	*eP*	**Pn**	**11 41 50.5**	**+1.5**
KRX				*eS*	**Sn**	**11 42 22.7**	**+1.9**
AVH	**Avacha**	**2.73**	**231**	PN	**Pn**	**11 41 50.6**	**+1.4**
AVH				S	**Sn**	**11 42 22.6**	**+1.4**
AVH	**Avacha**	**2.73**	**231**	*eP*	**Pn**	**11 41 50.6**	**+1.4**
AVH				*eS*	**Sn**	**11 42 22.6**	**+1.4**
UGLR	**Uglovaya**	**2.73**	**230**	PN	**Pn**	**11 41 50.8**	**+1.6**
UGLR	**Uglovaya**	**2.73**	**230**	*eP*	**Pn**	**11 41 50.8**	**+1.6**
KOK	**Koryaka**	**2.76**	**232**	PN	**Pn**	**11 41 51.4**	**+1.8**
KOK	**Koryaka**	**2.76**	**232**	*eP*	**Pn**	**11 41 51.4**	**+1.8**
GNL	**Ganaly**	**2.87**	**244**	PN	**Pn**	**11 41 52.3**	**+1.2**
GNL	**Ganaly**	**2.87**	**244**	*eP*	**Pn**	**11 41 52.3**	**+1.2**
DALK	**Dalny**	**2.89**	**228**	PN	**Pn**	**11 41 52.0**	**+0.8**
DALK				S	**Sn**	**11 42 25.0**	**+0.1**
DALK	**Dalny**	**2.89**	**228**	*eP*	**Pn**	**11 41 52.0**	**+0.8**
DALK				*eS*	**Sn**	**11 42 25.0**	**+0.1**
PET	**Petropavlovsk**	**2.94**	**228**	PN	**Pn**	**11 41 53.0**	**+1.1**
PET				S	**Sn**	**11 42 26.5**	**+0.4**
PET	**Petropavlovsk**	**2.94**	**228**	*eP*	**Pn**	**11 41 53.0**	**+1.1**
PET				*eS*	**Sn**	**11 42 26.5**	**+0.4**
PET	**Petropavlovsk**	**2.94**	**228**		**Pn**	**11 41 53.1**	**+1.3**
KRMR	**Karymshinskiy**	**3.30**	**230**	PN	**Pn**	**11 42 00.0**	**+3.1**
KRMR				S	**Sn**	**11 42 37.7**	**+2.7**
KRMR	**Karymshinskiy**	**3.30**	**230**	*eP*	**Pn**	**11 42 00.0**	**+3.1**
KRMR				*eS*	**Sn**	**11 42 37.7**	**+2.7**
PEA0B	**Petropavlovsk-**	**3.31**	**236**	PN	**Pn**	**11 41 59.2**	**+2.1**
PEA0B	**Petropavlovsk-**	**3.31**	**236**		**Pn**	**11 41 59.2**	**+2.1**
PETK	**Petropavlovsk-**	**3.31**	**236**	P	**Pn**	**11 41 58.6**	**+1.5**
	3.9nm,0.3s,baz=64,slow=19,SNR=38						
PETK				S	**Sb**	**11 42 41.0**	**-4.2**
	7.9nm,0.3s,baz=90,slow=16,SNR=6.0						
PETK				LR	LR	11 43 26.3	
	comp=Z,186nm,19.3s,baz=62,slow=42						
PETK	**Petropavlovsk-**	**3.31**	**236**	PN	**Pn**	**11 41 59.1**	**+1.9**
PETK	**Petropavlovsk-**	**3.31**	**236**		**Pn**	**11 41 59.1**	**+1.9**
RUS	**Russkaya**	**3.43**	**222**	PN	**Pn**	**11 42 00.0**	**+1.3**
RUS				S	**Sn**	**11 42 39.6**	**+1.3**
RUS	**Russkaya**	**3.43**	**222**	*eP*	**Pn**	**11 42 00.0**	**+1.3**
RUS				*eS*	**Sn**	**11 42 39.6**	**+1.3**
GRL	**Gorelyy**	**3.52**	**227**	PN	**Pn**	**11 42 02.3**	**+2.3**
GRL				S	**Sn**	**11 42 42.8**	**+2.1**
GRL	**Gorelyy**	**3.52**	**227**	*eP*	**Pn**	**11 42 02.3**	**+2.3**
GRL				*eS*	**Sn**	**11 42 42.8**	**+2.1**
MTVR	**Mutnovka**	**3.52**	**225**	PN	**Pn**	**11 42 01.9**	**+1.8**
MTVR				S	**Sn**	**11 42 42.5**	**+1.7**
MTVR	**Mutnovka**	**3.52**	**225**	*eP*	**Pn**	**11 42 01.9**	**+1.8**
MTVR				*eS*	**Sn**	**11 42 42.5**	**+1.7**
APC	**Apacha**	**3.69**	**237**	PN	**Pn**	**11 42 04.4**	**+2.2**
APC				S	**Sn**	**11 42 47.2**	**+2.6**
APC	**Apacha**	**3.69**	**237**	*eP*	**Pn**	**11 42 04.4**	**+2.2**
APC				*eS*	**Sn**	**11 42 47.2**	**+2.6**
ASAK	**Asacha**	**3.71**	**226**	PN	**Pn**	**11 42 04.7**	**+2.0**
ASAK				S	**Sn**	**11 42 47.3**	**+1.9**
ASAK	**Asacha**	**3.71**	**226**	*eP*	**Pn**	**11 42 04.7**	**+2.0**
ASAK				*eS*	**Sn**	**11 42 47.3**	**+1.9**
KDTR	**Khodutka, Kamc**	**4.09**	**220**	PN	**Pn**	**11 42 09.3**	**+1.6**
KDTR				S	**Sn**	**11 42 55.0**	**+0.5**
KDTR	**Khodutka, Kamc**	**4.09**	**220**	*eP*	**Pn**	**11 42 09.3**	**+1.6**
KDTR				*eS*	**Sn**	**11 42 55.0**	**+0.5**
OSSR	**Ossora**	**4.25**	**5**	PN	**Pn**	**11 42 11.1**	**+1.1**
OSSR	**Ossora**	**4.25**	**5**	*eP*	**Pn**	**11 42 11.1**	**+1.1**
PALN	**Palana**	**4.26**	**344**	PN	**Pn**	**11 42 14.0**	**+3.9**
PALN	**Palana**	**4.26**	**344**	*eP*	**Pn**	**11 42 14.0**	**+3.9**
MIPR	**Malaya Ipel'ka**	**4.29**	**232**	PN	**Pn**	**11 42 13.0**	**+2.5**
MIPR	**Malaya Ipel'ka**	**4.29**	**232**	*eP*	**Pn**	**11 42 13.0**	**+2.5**
PAU	**Pauzhetka**	**4.85**	**225**	PN	**Pn**	**11 42 21.4**	**+3.2**
PAU	**Pauzhetka**	**4.85**	**225**	P	**Pn**	**11 42 21.4**	**+3.2**
SMY	**Shemya**	**7.36**	**103**	PN	**Pn**	**11 42 53.2**	**+0.6**
SMY	**Shemya**	**7.36**	**103**	Pn	**Pn**	**11 42 53.2**	**+0.6**
MA2	**Magadan**	**7.72**	**311**	LR	LR	11 46 09.1	
	comp=Z,156nm,19.4s,baz=138,slow=40						
SEY	**Seymchan**	**9.42**	**331**	LR	LR	11 47 04.8	
	comp=Z,113nm,18.0s,baz=206,slow=38						
AMKA	**Amchitka**	**10.84**	**103**	Pn	**Pn**	**11 43 41.2**	**+0.9**
ASAJ	**Asahikawa**	**16.73**	**237**	P	**Pn**	**11 45 00.3**	**+1.0**
	0.1nm,0.3s,baz=8.7,slow=3.8,SNR=1.9						
YAK	**Yakutsk**	**18.25**	**306**	LR	LR	11 52 29.1	
	comp=Z,44nm,19.4s,baz=100,slow=38						
KLR	**Kul'dur**	**19.52**	**265**	P	**P**	**11 45 32.2**	**+0.3**
	0.1nm,0.3s,baz=72,slow=12,SNR=4.2						
J20K	**Nowinta River**	**23.40**	**49**	P	**P**	**11 46 13.7**	**+0.4**
J20K				IAmb	IAmb	11 46 34.0	
	comp=Z,6.0nm,1.4s						
K20K	**Telida**	**23.42**	**52**	P	**P**	**11 46 14.4**	**+0.9**
IMAR	**Indian Mountai**	**23.71**	**45**	P	**P**	**11 46 16.2**	**0.0**
PPLA	**Purkeypile**	**24.28**	**53**	P	**P**	**11 46 23.9**	**+2.2**
SKT	**Skwentna**	**24.64**	**55**	P	**P**	**11 46 25.3**	**+0.4**
SKT				IAmb	IAmb	11 46 31.3	
	comp=Z,3.7nm,1.1s						
MJAR	**Matsushiro Arr**	**24.76**	**232**	P	**P**	**11 46 25.9**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=26,slow=8.8,SNR=5.4						
MJAR				LR	LR	11 55 50.9	
	comp=Z,36nm,21.8s,baz=350,slow=36						
MJAR	**Matsushiro Arr**	**24.76**	**232**	IAmb	IAmb	11 46 38.3	
	comp=Z,5.3nm,1.5s						
KDAK	**Kodiak Island**	**24.77**	**65**	LR	LR	11 56 07.2	
	comp=Z,57nm,19.2s,baz=250,slow=36						
CNPM	**China Poot**	**25.11**	**61**	P	**P**	**11 46 29.1**	**0.0**
COLD	**Coldfoot**	**25.25**	**42**	P	**P**	**11 46 30.9**	**+0.6**
H23K	**Yukon River**	**25.42**	**46**	P	**P**	**11 46 32.6**	**+0.7**
H23K				IAmb	IAmb	11 46 35.6	
	comp=Z,6.9nm,1.4s						
GHO	**Glory Hole Cre**	**25.89**	**55**	P	**P**	**11 46 34.5**	**-1.8**
GHO				IAmb	IAmb	11 46 38.6	
	comp=Z,8.9nm,1.1s						
WRH	**Wood River Hil**	**26.04**	**49**	P	**P**	**11 46 35.6**	**-1.9**
WRH				IAmb	IAmb	11 46 38.9	
	comp=Z,9.2nm,1.4s						
ILAR	**Eielson Array**	**26.55**	**48**	P	**P**	**11 46 41.9**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=249,slow=7.6,SNR=5.1						
BMAR	**Burnt Mountain**	**27.43**	**42**	P	**P**	**11 46 50.2**	**+0.2**
K27K	**Chicken**	**28.70**	**49**	P	**P**	**11 47 01.2**	**-0.1**
K27K				IAmb	IAmb	11 47 09.4	
	comp=Z,3.5nm,1.3s						
BCAR	**Beaver Creek A**	**28.98**	**51**	P	**P**	**11 47 05.1**	**+1.2**
EGAK	**Eagle**	**28.99**	**48**	P	**P**	**11 47 03.1**	**-0.8**
INK	**Inuvik**	**31.55**	**40**	P	**P**	**11 47 26.9**	**+0.5**
INK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
INK	**Inuvik**	**31.55**	**40**	P	**P**	**11 47 26.9**	**+0.5**
INK				IAmb	IAmb	11 47 55.2	
	comp=Z,5.9nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**35.41**	**172**	T	T	12 25 21.3	
	baz=355,slow=76,SNR=48						
H11N3	**WAKE ISLAND Hy**	**35.43**	**172**	T	T	12 25 21.3	
	baz=355,slow=76,SNR=33						
H11N1	**WAKE ISLAND Hy**	**35.43**	**172**	T	T	12 25 21.5	
	baz=355,slow=76,SNR=29						
EUNU	**Eureka**	**39.75**	**15**	P	**P**	**11 48 37.0**	**+0.3**
YKA	**Yellowknife Ar**	**40.87**	**45**	P	**P**	**11 48 46.7**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=303,slow=7.2,SNR=3.5						
ZALV	**Zalesovo Beam**	**42.83**	**302**	LR	LR	12 07 41.7	
	comp=Z,34nm,19.1s,baz=46,slow=37						
NVAR	**Mina Array Bea**	**53.90**	**73**	P	**P**	**11 50 28.4**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=291,slow=8.5,SNR=3.0						
PDAR	**Pinedale Array**	**55.48**	**63**	P	**P**	**11 50 39.7**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=336,slow=3.3,SNR=6.8						
FINES	**FINESS Array B**	**58.84**	**337**	P	**P**	**11 51 00.1**	**-2.3**
	comp=Z,0.9nm,0.6s,baz=54,slow=7.8,SNR=4.4						
FINES				LR	LR	12 23 35.3	
	comp=Z,25nm,18.6s,baz=74,slow=43						
CMAR	**Chiang Mai Arr**	**59.83**	**259**	P	**P**	**11 51 08.6**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=24,slow=7.2,SNR=4.6						
CMAR				LR	LR	12 20 03.8	
	comp=Z,38nm,18.1s,baz=235,slow=39						
TXAR	**Lajitas Array**	**68.72**	**69**	P	**P**	**11 52 08.4**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=302,slow=5.6,SNR=10.0						
TXAR	**Lajitas Array**	**68.72**	**69**	P	**P**	**11 52 07.7**	**-0.4**
WRA	**Warramunga Arr**	**78.39**	**207**	P	**P**	**11 53 04.1**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=18,slow=6.4,SNR=5.7						
WRA	**Warramunga Arr**	**78.39**	**207**	IAmb	IAmb	11 53 04.9	
	comp=Z,0.3nm,1.2s						
ASAR	**Alice Springs**	**82.06**	**206**	P	**P**	**11 53 24.5**	**0.0**
	comp=Z,0.9nm,0.6s,baz=15,slow=5.3,SNR=15						
ESDC	**Sonseca Array**	**84.94**	**349**	P	**P**	**11 53 38.3**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=8.0,slow=5.2,SNR=7.8						
ESDC	**Sonseca Array**	**84.94**	**349**	IAmb	IAmb	11 53 38.7	
	comp=Z,3.9nm,1.4s						

*IDC **22** 11:53:16.9±1.9,53.°35N×166.°39W,h0km,mb3.3/3, mb1 3.7/4,mb1mx3.3/80,mbtmp3.4/4,ML3.1/1,Error ellipse: s-maj=68.4km s-min=27.0km az=180.0*
*AEIC **22** 11:53:16±0.8,52.°98N±0.°04×166.°63W±0.°06,h27km±4km, ML3.3/48,mb3.9/9(NEIC),Error ellipse: s-maj=7.3km s-min=3.1km az=143.0*
*NEIC **22** 11:53:17.8±1.8,53.°03N±0.°06×166.°69W±0.°06, h41km±10km,Error ellipse: s-maj=9.2km s-min=4.2km az=155.0*

ISC 22 11:53:17.9±1.6,53.°05N±0.°07×166.°65W±0.°05, h29km±11km,n76,σ1§66/83,mb3.2/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MGOD	**Makushin Gods**	**0.75**	**350**		**Pn**	**11 53 32.3**	**-0.3**
MGOD					**Sn**	**11 53 43.7**	**+0.6**
MREP	**Makushin Rep't**	**0.76**	**356**		**Pn**	**11 53 32.4**	**-0.2**
MREP					**Sn**	**11 53 44.0**	**+0.8**
MAPS	**Pakushin South**	**0.78**	**347**		**Pn**	**11 53 32.5**	**-0.4**
MAPS					**Sn**	**11 53 44.4**	**+0.9**
UNV	**Unalaska Valle**	**0.80**	**6**		**Pb**	**11 53 32.2**	**-1.0**
UNV					**Sb**	**11 53 43.5**	**-0.1**
MNAT	**Makushin Natee**	**0.83**	**359**		**Pn**	**11 53 33.2**	**-0.5**
MNAT					**Sn**	**11 53 45.5**	**+0.6**
OKFG	**Magazine Ridge**	**0.84**	**296**		**Pn**	**11 53 33.0**	**-0.6**
OKFG					**Sb**	**11 53 44.4**	**-0.4**
MSW	**Makushin Switc**	**0.87**	**355**		**Pb**	**11 53 33.9**	**-0.4**
MSW					**Sn**	**11 53 46.5**	**+0.8**
OKTU	**Okmok Mt. Tuli**	**0.90**	**292**		**Pn**	**11 53 34.0**	**-0.6**
OKTU					**Sn**	**11 53 46.8**	**+0.2**
MTBL	**Makushin Table**	**0.92**	**359**		**Pb**	**11 53 34.8**	**-0.5**
OKER	**Okmok East Rim**	**0.93**	**296**		**Pn**	**11 53 34.6**	**-0.4**
OKSO	**Okmok South**	**0.96**	**289**		**Pn**	**11 53 34.5**	**-0.8**
OKNC	**Okmok New Cone**	**0.97**	**295**		**Pn**	**11 53 35.1**	**-0.4**
OKNC					**Sn**	**11 53 48.5**	**+0.1**
OKCE	**Okmok Cone E**	**0.98**	**293**		**Pn**	**11 53 35.3**	**-0.4**
OKSP	**Okmok Steeple**	**1.01**	**282**		**Pn**	**11 53 34.9**	**-1.1**
AKMO	**Akutan Morgan**	**1.11**	**20**		**Pn**	**11 53 37.0**	**-0.4**
ZRO	**Akutan Aero**	**1.11**	**21**		**Pn**	**11 53 37.2**	**-0.3**
AKBBA	**Akutan Broad B**	**1.13**	**22**		**Pn**	**11 53 37.3**	**-0.5**
AKBBA					**Sb**	**11 53 55.2**	**+2.1**
AKRB	**Akutan Reef Bi**	**1.13**	**18**		**Pn**	**11 53 37.7**	**-0.1**
LVA	**Lava Point**	**1.17**	**18**		**Pn**	**11 53 38.1**	**-0.2**
AKLV	**Akutan Long Va**	**1.19**	**20**		**Pn**	**11 53 38.0**	**-0.5**
AKLV					**Sb**	**11 53 56.6**	**+1.9**
AKUT	**Akutan**	**1.20**	**25**		**Pn**	**11 53 38.1**	**-0.5**
AKUT					**Sn**	**11 53 54.0**	**0.0**
AKGG	**Akutan Green G**	**1.21**	**19**		**Pn**	**11 53 38.8**	**0.0**
AKSA	**Akutan Strait**	**1.22**	**27**		**Pn**	**11 53 38.3**	**-0.7**
AKSA	**Akutan Strait**	**1.22**	**27**		**Pn**	**11 53 38.2**	**-0.8**
NIKH	**Nikolski High**	**1.33**	**267**		**Pn**	**11 53 39.0**	**-1.5**
WECS	**Westdahl Cape**	**1.85**	**36**		**Pn**	**11 53 47.3**	**-0.3**
WECS					**Sb**	**11 54 12.3**	**-1.4**
ISLZ	**Isanotski Laza**	**2.42**	**45**		**Pn**	**11 53 55.4**	**0.0**
SDPT	**Sand Point**	**4.29**	**55**	Pn	**Pn**	**11 54 20.6**	**-0.5**
SPIA	**Saint Paul Isl**	**4.62**	**335**		**Pn**	**11 54 27.9**	**+2.3**
ATKA	**Atka Island**	**4.67**	**263**	Pn	**Pn**	**11 54 28.3**	**+2.0**
GSIG	**Igitkin Island**	**5.76**	**263**		**Pn**	**11 54 42.6**	**+1.3**
GSCK	**Great Sitkin C**	**5.90**	**264**		**Pn**	**11 54 44.7**	**+1.5**
ADK	**Adak**	**6.24**	**263**		**Pn**	**11 54 49.7**	**+1.8**
KIWB	**Kanaga Island**	**6.53**	**264**	Pn	**Pn**	**11 54 54.1**	**+2.3**
CHIR	**Chirikof Islan**	**7.00**	**62**	Pn	**Pn**	**11 54 59.9**	**+1.5**
SII	**Sitkinak Islan**	**8.01**	**59**	Pn	**Pn**	**11 55 14.2**	**+2.1**
AMKA	**Amchitka**	**8.79**	**265**	Pn	**Pn**	**11 55 24.7**	**+1.9**
KDAK	**Kodiak Island**	**9.29**	**54**	Pn	**Pn**	**11 55 30.2**	**+0.6**
	0.2nm,0.3s,baz=200,slow=4.7,SNR=9.1						
N19K	**Bonanza Creek**	**10.21**	**36**	Pn	**Pn**	**11 55 45.6**	**+3.2**
RSO	**Redoubt South**	**10.62**	**40**	Pn	**Pn**	**11 55 43.6**	**-4.5**
M19K	**Big River Lodg**	**11.04**	**32**	Pn	**Pn**	**11 55 53.1**	**-0.4**
GAMB	**Gambell**	**11.07**	**348**	Pn	**Pn**	**11 55 53.7**	**-0.2**
ANM	**Nome**	**11.56**	**3**	Pn	**Pn**	**11 56 01.0**	**+0.2**
PWL	**Port Wells**	**12.65**	**45**	Pn	**Pn**	**11 56 15.1**	**-0.5**
J20K	**Nowinta River**	**12.88**	**25**	Pn	**Pn**	**11 56 17.5**	**-1.2**
HIN	**Hinchinbrook I**	**13.24**	**48**	Pn	**Pn**	**11 56 22.6**	**-1.0**
SCM	**Sheep Creek Mo**	**13.57**	**42**	Pn	**Pn**	**11 56 27.3**	**-0.9**
KLU	**Klutina**	**13.98**	**45**	Pn	**Pn**	**11 56 31.9**	**-1.9**
HMT	**Hamilton**	**14.24**	**50**	Pn	**Pn**	**11 56 35.2**	**-2.2**
IMAR	**Indian Mountai**	**14.48**	**21**	Pn	**Pn**	**11 56 41.0**	**+0.5**
BERG	**Berg Lake**	**14.52**	**51**	Pn	**Pn**	**11 56 40.6**	**-0.5**
N25K	**Chitina, Valde**	**14.60**	**45**	Pn	**Pn**	**11 56 41.4**	**-0.8**
GLB	**Gilahina Butte**	**14.87**	**47**	Pn	**Pn**	**11 56 42.9**	**-2.9**
CRQM	**Cirque**	**14.91**	**50**	Pn	**Pn**	**11 56 45.5**	**-1.1**
VRDI	**Verde Repeater**	**14.95**	**48**	Pn	**Pn**	**11 56 45.6**	**-1.4**
TGL	**Tana Glacier**	**15.05**	**50**	Pn	**Pn**	**11 56 45.3**	**-3.1**
CCB	**Clear Creek Bu**	**15.09**	**32**	Pn	**Pn**	**11 56 47.4**	**-1.2**
ISLE	**Juniper Island**	**15.23**	**51**	Pn	**Pn**	**11 56 49.6**	**-1.1**
ISLE				IAmb	IAmb	11 56 51.1	
	comp=Z,12nm,1.2s						
YAH	**Yahtse**	**15.44**	**52**	Pn	**Pn**	**11 56 49.9**	**-3.6**
YAH				IAmb	IAmb	11 57 16.7	
	comp=Z,6.8nm,0.7s						
GRNC	**Granite Creek**	**15.54**	**51**	Pn	**Pn**	**11 56 54.2**	**-0.7**
GRNC				IAmb	IAmb	11 57 20.4	
	comp=Z,8.8nm,0.8s						
BARN	**Barnard Glacie**	**15.70**	**49**	Pn	**Pn**	**11 56 53.0**	**-3.9**
BARN				IAmb	IAmb	11 57 19.3	
	comp=Z,6.3nm,0.9s						
CTGM	**Chitina Glacie**	**15.81**	**50**	Pn	**Pn**	**11 56 54.1**	**-4.2**
CTGM				IAmb	IAmb	11 56 58.1	
	comp=Z,4.2nm,0.9s						
SCRK	**Sand Creek**	**16.01**	**38**	Pn	**Pn**	**11 56 58.7**	**-2.1**
PETK	**Petropavlovsk-**	**21.28**	**285**	P	**P**	**11 58 05.6**	**+3.9**
	comp=

OK001	**Jones High Sch**	**0.74**	**166**	Pg	**Pg**	**12 29 36.3**	**+0.1**
KAN14	**Manchester OK**	**0.77**	**332**		**Pg**	**12 29 36.5**	**-0.3**
KAN14				Sg	**Sb**	**12 29 47.5**	**-1.1**
OK032	**Salt Plains WL**	**0.77**	**313**		**Pg**	**12 29 36.6**	**-0.3**
OK032				Sg	**Sg**	**12 29 47.1**	**+0.2**
KAN17	**Caldwell West**	**0.79**	**345**		**Pg**	**12 29 37.1**	**-0.2**
KAN17				Sg	**Sg**	**12 29 47.8**	**+0.3**
KAN09	**Caldwell North**	**0.86**	**354**		**Pg**	**12 29 38.3**	**-0.3**
KAN09				Sg	**Sg**	**12 29 48.8**	**-0.9**
OKCFA	**Oklahoma City**	**0.86**	**177**	Pg	**Pg**	**12 29 38.4**	**-0.3**
OKCFA	**Oklahoma City** baz=356	**0.86**	**177**	P	**Pg**	**12 29 38.3**	**-0.3**
OKCSW	**OKLAHOMA CITY**	**0.87**	**176**	Pg	**Pg**	**12 29 38.6**	**-0.2**
KAN05	**Bluff City Nor**	**0.88**	**341**		**Pg**	**12 29 38.7**	**-0.2**
KS20	**Mayfield South**	**0.95**	**358**		**Pg**	**12 29 40.0**	**-0.3**
KAN10	**Anthony SW Sta**	**0.96**	**331**		**Pg**	**12 29 40.3**	**-0.3**
KAN06	**Argonia West S**	**1.01**	**344**		**Pg**	**12 29 41.1**	**-0.3**
KAN08	**Anthony NE Sta**	**1.01**	**339**		**Pg**	**12 29 41.3**	**-0.3**
FNO	**Franklin**	**1.02**	**175**	Pg	**Pg**	**12 29 41.2**	**-0.5**
T35A	**Sooner Cattle**	**1.03**	**51**	Pg	**Pg**	**12 29 41.6**	**-0.2**
T35B	**Sooner Cattle** baz=232	**1.03**	**51**	P	**Pg**	**12 29 41.3**	**-0.4**
T35B				S	**Sg**	**12 29 54.7**	**-0.3**
KAN16	**Harper SW Stat**	**1.04**	**335**		**Pg**	**12 29 41.8**	**-0.3**
KAN12	**Harper NE Stat**	**1.09**	**339**		**Pg**	**12 29 42.4**	**-0.5**
U32A	**Winter Ranch,**	**1.21**	**275**	Pg	**Pg**	**12 29 44.3**	**-0.9**
U32A	**Winter Ranch,** baz=94	**1.21**	**275**	P	**Pg**	**12 29 44.3**	**-0.9**
TUL1	**Leonard**	**1.44**	**104**	Pn	**Pn**	**12 29 47.9**	**-0.8**
TUL1	**Leonard** baz=285	**1.44**	**104**	P	**Pn**	**12 29 48.0**	**-0.8**
TUL1				S	**Sb**	**12 30 07.7**	**-0.2**
TUL1	**Leonard** baz=285	**1.44**	**104**	P	**Pn**	**12 29 48.0**	**-0.8**
TUL1				S	**Sb**	**12 30 07.7**	**-0.2**
X34A	**Smith Ranch, M**	**1.69**	**189**	Pn	**Pb**	**12 29 53.2**	**-0.4**
WMOK	**Wichita Mounta**	**1.85**	**214**	Pn	**Pn**	**12 29 55.0**	**+0.6**
WMOK	**Wichita Mounta** baz=33	**1.85**	**214**	P	**Pn**	**12 29 54.7**	**+0.2**
WMOK				S	**Sb**	**12 30 19.7**	**-0.1**
WMOK	**Wichita Mounta** baz=33	**1.85**	**214**	P	**Pn**	**12 29 54.6**	**+0.2**
WMOK				S	**Sb**	**12 30 19.6**	**-0.2**
LOOK	**Love County**	**2.30**	**173**	Pn	**Pn**	**12 30 01.5**	**+1.0**
R32A	**Long Quarter,**	**2.34**	**336**	Pn	**Pn**	**12 30 01.8**	**+0.6**
R32A	**Long Quarter,** baz=156	**2.34**	**336**	S	**Sn**	**12 30 31.1**	**+0.8**
X37A	**Clayton**	**2.43**	**133**		**Pn**	**12 30 03.2**	**+1.0**
X37A	comp=Z,69nm,0.7s			IAmb_Lg		12 30 43.6	
X37A	**Clayton** baz=315	**2.43**	**133**	P	**Pn**	**12 30 03.1**	**+0.8**
U38A	**Gravette**	**2.53**	**85**	Pn	**Pn**	**12 30 05.5**	**+1.8**
HHAR	**Hobbs**	**2.89**	**89**	Pn	**Pn**	**12 30 10.5**	**+1.9**
KSU1	**Kansas State U**	**2.91**	**14**	Pn	**Pn**	**12 30 08.7**	**-0.2**
Z35A	**Perchaven, San**	**2.95**	**176**	Pn	**Pn**	**12 30 10.2**	**+0.7**
CBKS	**Cedar Bluff**	**3.09**	**326**	Pn	**Pn**	**12 30 11.9**	**+0.5**
W39A	**Magazine**	**3.22**	**109**	Pn	**Pn**	**12 30 14.8**	**+1.6**
W39A	comp=Z,52nm,0.8s			IAmb_Lg		12 31 12.1	
S39A	**Bolivar**	**3.64**	**66**		**Pn**	**12 30 18.6**	**-0.3**
S39A	comp=Z,40nm,0.8s			IAmb_Lg		12 31 19.2	
MIAR	**Mount Ida**	**3.65**	**117**	Pn	**Pn**	**12 30 19.5**	**+0.4**
MIAR	comp=Z,30nm,0.9s			IAmb_Lg		12 31 26.2	
MIAR	**Mount Ida** baz=300	**3.65**	**117**	P	**Pn**	**12 30 20.0**	**+1.0**
MIAR				Sb	**Sg**	**12 31 17.4**	**-1.9**
Z38A	**Mt. Pleasant**	**3.66**	**145**	Pn	**Pn**	**12 30 19.4**	**+0.2**
AMTX	**Amarillo**	**3.67**	**249**	Pn	**Pn**	**12 30 20.2**	**+0.7**
AMTX	comp=Z,36nm,0.9s			IAmb_Lg		12 31 21.8	
U40A	**Yellville**	**3.76**	**87**	Pn	**Pn**	**12 30 21.9**	**+1.2**
U40A	comp=Z,35nm,0.8s			IAmb_Lg		12 31 20.1	
ABTX	**Abilene, Hawle** comp=Z,30nm,0.8s	**4.05**	**206**	IAmb_Lg		12 31 30.9	
X40A	**Basin Creek Fa**	**4.22**	**114**	Pn	**Pn**	**12 30 28.0**	**+1.1**
WHTX	**Lake Whitney,**	**4.28**	**179**	Pn	**Pn**	**12 30 28.4**	**+0.6**
WHTX	**Lake Whitney,** baz=359	**4.28**	**179**	P	**Pn**	**12 30 28.3**	**+0.6**
MGMO	**Mountain Grove**	**4.30**	**77**	Pn	**Pn**	**12 30 29.3**	**+1.3**
MGMO	comp=Z,35nm,0.7s			IAmb_Lg		12 31 40.4	
WHAR	**Wooly Hollow**	**4.36**	**102**		**Pn**	**12 30 29.6**	**+0.7**
FCAR	**Ozark Folk Cen**	**4.38**	**93**	Pn	**Pn**	**12 30 31.8**	**+2.7**
WLAR	**White Oak Lake**	**4.44**	**124**	Pn	**Pn**	**12 30 27.6**	**-2.3**
WLAR	comp=Z,35nm,0.8s			IAmb_Lg		12 31 51.2	
237A	**Washetta, Mont**	**4.49**	**161**	Pn	**Pn**	**12 30 30.5**	**-0.2**
P38A	**Dawn**	**4.59**	**42**	Pn	**Pn**	**12 30 33.2**	**+1.2**
P38A	comp=Z,36nm,0.7s			IAmb_Lg		12 31 48.7	
R40A	**Maddies Statio**	**4.64**	**63**	Pn	**Pn**	**12 30 33.1**	**+0.4**
NATX	**Nacogdoches** comp=Z,27nm,0.9s	**5.09**	**151**	IAmb_Lg		12 32 13.4	
T42A	**Van Buren**	**5.22**	**80**	Pn	**Pn**	**12 30 39.5**	**-1.1**
T42A	comp=Z,26nm,1.1s			IAmb_Lg		12 32 15.2	
CCAR	**Cane Creek** comp=Z,37nm,0.8s	**5.26**	**115**	IAmb_Lg		12 32 18.5	
CCM	**Cathedral Cave** comp=Z,31nm,0.7s	**5.31**	**69**	IAmb_Lg		12 32 08.6	
P40A	**Paris**	**5.40**	**51**	Pn	**Pn**	**12 30 43.6**	**+0.4**
P40A	comp=Z,42nm,0.9s			IAmb_Lg		12 32 17.9	
T25A	**Trinidad** comp=Z,17nm,0.8s	**5.61**	**281**	IAmb_Lg		12 32 22.3	
N38A	**Joes South For** comp=Z,47nm,0.8s	**5.62**	**35**	IAmb_Lg		12 32 21.7	
PBMO	**Poplar Bluff** comp=Z,46nm,0.7s	**5.72**	**83**	IAmb_Lg		12 32 27.2	
L34A	**Svendsen Farm,** comp=Z,45nm,0.8s	**5.75**	**8**	IAmb_Lg		12 32 28.9	
OGNE	**Ogallala** comp=Z,21nm,0.8s	**5.85**	**324**	IAmb_Lg		12 32 30.9	
LPAR	**Lepanto** comp=Z,37nm,1.0s	**5.89**	**94**	IAmb_Lg		12 32 37.8	
FVM	**French Village** comp=Z,28nm,1.0s	**5.91**	**71**	IAmb_Lg		12 32 30.4	
JCT	**Junction City** comp=Z,40nm,1.1s	**6.09**	**199**	IAmb_Lg		12 32 39.8	
K31A	**O'Neill** comp=Z,39nm,0.8s	**6.41**	**352**	IAmb_Lg		12 32 46.7	
SCIA	**State Center** comp=Z,29nm,0.8s	**6.54**	**29**	IAmb_Lg		12 33 06.9	
SDCO	**Great Sand Dun**	**6.56**	**285**	Pn	**Pn**	**12 30 58.9**	**-0.4**
SIUC	**Southern Illin** comp=Z,37nm,0.8s	**6.79**	**75**	IAmb_Lg		12 32 56.7	
OXF	**Oxford** comp=Z,23nm,1.1s	**6.85**	**103**	IAmb_Lg		12 33 09.0	
UTMT	**University of** comp=Z,29nm,1.0s	**6.98**	**87**	IAmb_Lg		12 33 04.1	
ISCO	**Idaho Springs** comp=Z,11nm,0.9s	**7.29**	**301**	IAmb_Lg		12 33 18.5	
PHWY	**Pilot Hill** comp=Z,19nm,1.0s	**7.98**	**311**	IAmb_Lg		12 33 46.7	
O44A	**Mansfield** comp=Z,26nm,0.8s	**8.10**	**59**	IAmb_Lg		12 33 47.0	
L42A	**Oliver, Polo** comp=Z,22nm,0.8s	**8.35**	**44**	IAmb_Lg		12 33 58.8	
JFWS	**Jewell Farm** comp=Z,19nm,1.0s	**8.68**	**38**	IAmb_Lg		12 34 18.4	
SFIN	**Lafayette** comp=Z,16nm,0.8s	**9.15**	**60**	IAmb_Lg		12 34 18.2	
K22A	**Casper** comp=Z,17nm,1.0s	**9.43**	**315**	IAmb_Lg		12 34 40.4	

JMA 22 12:30:00.9±0.1, 36.02N×140.09E, h61km±1km, M2.2, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.22**	**22**	P	Pn	12 30 10.7	+0.1
JYT				S	Sn	12 30 18.0	+0.4
JAG	**Ashikaga**	**0.66**	**308**	P	Pn	12 30 15.0	+0.3
JAG				S	Sn	12 30 25.1	+0.4
JRY	**Ryogami san**	**0.96**	**270**	P	Pn	12 30 18.8	+0.3
JRY				S	Sn	12 30 32.2	+0.6
JRY	**Ryogami san**	**0.96**	**270**	S	Pn	12 30 18.8	+0.3
JKT	**Katashina**	**1.01**	**318**	P	Pn	12 30 19.7	+0.5
JKT				S	Sn	12 30 33.5	+0.8
JOD2	**Odawara 2**	**1.11**	**228**	P	Pn	12 30 20.2	-0.3

JMA 22 12:30:02.2, 35.50N×139.02E, h20km±1km, M1.0, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSGW	**Sagamiharawaka**	**0.18**	**56**	P	Pb	12 30 07.0	-0.2
JSGW				S	Sb	12 30 10.9	+0.4
JOD2	**Odawara 2**	**0.24**	**167**	S	Sb	12 30 11.7	-0.2
JYN	**Shimoda**	**0.39**	**270**	P	Pb	12 30 10.4	0.0
JYN				S	Sb	12 30 16.0	0.0
JRY	**Ryogami san**	**0.52**	**349**	P	Pb	12 30 12.2	-0.6

*TAP **22** 12:31:40.0, 24.91N×121.95E, h116km, ML3.7, B*
*JMA **22** 12:31:40.0±0.2, 24.82N×121.89E, h114km±2km, M2.6*
ISC 22 12:31:40.5±1.2, 24.88N±0.03×121.93E±0.02, h114km±5km, n127, σ0.73/245, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NTC	**Toucheng** baz=249	**0.09**	**256**	P	**Pn**	**12 31 55.9**	**-0.3**
NTC				S	**Sn**	**12 32 08.2**	**+0.4**
TIPB	**Shuangxi** baz=297	**0.13**	**315**	P	**Pn**	**12 31 55.9**	**-0.3**
TIPB				S	**Sn**	**12 32 06.9**	**-1.2**
TWB1	**Santiao Chiao** baz=20	**0.14**	**22**	P	**Pn**	**12 31 56.0**	**-0.2**
TWB1				S	**Sn**	**12 32 07.0**	**-1.0**
ILA	**Ilan** baz=236	**0.20**	**236**	P	**Pn**	**12 31 56.6**	**+0.2**
ILA				S	**Sn**	**12 32 08.0**	**-0.3**
NWF	**Wu-fen Shan** baz=320	**0.24**	**325**	*i* P	**Pn**	**12 31 56.2**	**-0.4**
NWF				S	**Sn**	**12 32 07.5**	**-1.2**
TWC	**Suao** baz=202	**0.28**	**195**	P	**Pn**	**12 31 56.7**	**+0.1**
TWC				S	**Sn**	**12 32 09.1**	**+0.4**
TWE	**Neicheng** baz=236	**0.28**	**237**	P	**Pn**	**12 31 56.9**	**+0.3**
TWE				S	**Sn**	**12 32 09.6**	**+0.9**
NDS	**Dongshan** baz=223	**0.31**	**219**	P	**Pn**	**12 31 57.5**	**+0.8**
NDS				S	**Sn**	**12 32 10.0**	**+1.1**
TWA	**Mucha** baz=281	**0.33**	**288**	*i* P	**Pn**	**12 31 57.2**	**+0.3**
TWA				*i* S	**Sn**	**12 32 09.0**	**-0.1**
NHDH	**Xindian Distri** baz=278	**0.38**	**283**	P	**Pn**	**12 31 57.1**	**0.0**
NHDH				S	**Sn**	**12 32 09.3**	**-0.1**
NWLT	**Wulai** baz=245	**0.40**	**256**	P	**Pn**	**12 31 57.0**	**-0.2**
NWLT				S	**Sn**	**12 32 09.8**	**+0.1**
ENTT	**Nioudou** baz=245	**0.41**	**235**	P	**Pn**	**12 31 57.5**	**+0.3**
ENTT				S	**Sn**	**12 32 10.3**	**+0.5**
TAP	**Taipei** baz=287	**0.42**	**293**	*e*P	**Pn**	**12 31 57.5**	**+0.3**
TAP				*e*S	**Sn**	**12 32 09.9**	**0.0**
EWUT	**Wuta** baz=192	**0.45**	**198**	P	**Pn**	**12 31 58.0**	**+0.5**
EWUT				S	**Sn**	**12 32 10.9**	**+0.7**
NDT	**Datong Townshi** baz=245	**0.47**	**234**	P	**Pn**	**12 31 57.7**	**+0.1**
NDT				S	**Sn**	**12 32 11.3**	**+1.0**
ENA	**Nanau** baz=195	**0.48**	**201**	P	**Pn**	**12 31 58.1**	**+0.4**
ENA				S	**Sn**	**12 32 11.3**	**+0.8**
ANP	**Anpu** baz=311	**0.48**	**310**	P	**Pn**	**12 31 57.5**	**-0.3**
ANP				S	**Sn**	**12 32 10.3**	**-0.4**
TWY	**Chenhua** baz=319	**0.50**	**323**	P	**Pn**	**12 31 57.4**	**-0.3**
TWY				S	**Sn**	**12 32 10.0**	**-0.7**
TWS1	**Kuangyinshan** baz=291	**0.52**	**296**	P	**Pn**	**12 31 56.8**	**-1.0**
TWS1				S	**Sn**	**12 32 10.4**	**-0.5**
NTST	**Danshui** baz=298	**0.52**	**303**	P	**Pn**	**12 31 58.0**	**+0.1**
NTST				S	**Sn**	**12 32 11.3**	**+0.3**
YHNB	**Yeheng** baz=240	**0.54**	**248**	*i* P	**Pn**	**12 31 57.9**	**-0.3**
YHNB				S	**Sn**	**12 32 10.4**	**-1.0**
NSK	**Sanguang** baz=240	**0.56**	**249**	P	**Pn**	**12 31 58.0**	**-0.3**
NSK				S	**Sn**	**12 32 10.4**	**-1.1**
NNS	**Nan Shan** baz=225	**0.67**	**229**	*i* P	**Pn**	**12 31 59.2**	**+0.1**
NNS				S	**Sn**	**12 32 13.0**	**-0.1**
NNSB	**Datong** baz=225	**0.67**	**228**	*i* P	**Pn**	**12 31 59.3**	**+0.2**
NNSB				S	**Sn**	**12 32 12.8**	**-0.4**
NCU	**National Centr** baz=266	**0.68**	**278**	P	**Pn**	**12 31 59.1**	**+0.1**
NCU				S	**Sn**	**12 32 13.1**	**+0.1**
NCUH	**Zhongli** baz=266	**0.68**	**278**	P	**Pn**	**12 31 59.1**	**0.0**
NCUH				S	**Sn**	**12 32 12.8**	**-0.3**
PCYT	**Pengchaiyu** baz=2.0	**0.76**	**10**	P	**Pn**	**12 31 59.6**	**-0.1**
NACB	**Ninganchiao** baz=214	**0.76**	**204**	P	**Pn**	**12 31 59.1**	**-0.7**
NACB				S	**Sn**	**12 32 14.2**	**-0.1**
ETL	**Fush Village** baz=211	**0.77**	**201**	P	**Pn**	**12 31 59.5**	**-0.4**
ETL				S	**Sn**	**12 32 15.3**	**+0.9**
ETLH	**Xiulin Townshi** baz=214	**0.78**	**212**	P	**Pn**	**12 31 60.0**	**-0.1**
ETLH				*e*S	**Sn**	**12 32 15.4**	**+0.7**
TWD	**Chiawan** baz=211	**0.85**	**201**	P	**Pn**	**12 32 00.0**	**-0.5**
TWD				*e*S	**Sn**	**12 32 15.1**	**-0.5**
LIOB	**Emei** baz=248	**0.86**	**255**	P	**Pn**	**12 32 00.8**	**+0.1**
LIOB				S	**Sn**	**12 32 15.6**	**-0.3**
SBCB	**Hsinchu** baz=262	**0.86**	**265**	P	**Pn**	**12 32 00.9**	**+0.3**
SBCB				S	**Sn**	**12 32 15.6**	**-0.3**
HSN	**Hsinchu** baz=264	**0.88**	**265**	P	**Pn**	**12 32 00.5**	**-0.3**
HSN				S	**Sn**	**12 32 15.2**	**-0.9**
NSTT	**Nanjuang** baz=247	**0.88**	**254**	P	**Pn**	**12 32 00.8**	**0.0**
NSTT				S	**Sn**	**12 32 15.3**	**-0.8**
FUSS	**Fushou** baz=227	**0.88**	**225**	P	**Pn**	**12 32 01.9**	**+0.8**
FUSS				S	**Sn**	**12 32 16.8**	**+0.1**
TWT	**Tachien** baz=224	**0.93**	**228**	P	**Pn**	**12 32 02.3**	**+0.8**
TWT				S	**Sn**	**12 32 17.8**	**+0.5**
TDCB	**Techi** baz=230	**0.94**	**229**	P	**Pn**	**12 32 02.2**	**+0.6**
TDCB				S	**Sn**	**12 32 17.4**	**0.0**
HWA	**Hwalien** baz=192	**0.94**	**198**	P	**Pn**	**12 32 01.7**	**+0.2**
HWA				S	**Sn**	**12 32 18.0**	**+0.8**
WHF	**Hehuan Shan** baz=217	**0.95**	**220**	P	**Pn**	**12 32 02.3**	**+0.3**
WHF				S	**Sn**	**12 32 18.1**	**0.0**
JYNG	**Yonagunijimaku**	**1.02**	**114**	P	**Pn**	**12 32 02.0**	**-0.2**
JYNG				*e*S	**Sn**	**12 32 18.6**	**+0.1**
CHGB	**Renai** baz=228	**1.06**	**220**	*i* P	**Pn**	**12 32 03.6**	**+0.7**
CHGB				S	**Sn**	**12 32 21.6**	**+1.8**
YOJ	**Yonaguni jima**	**1.07**	**113**	P	**Pn**	**12 32 02.8**	**+0.1**
YOJ				S	**Sn**	**12 32 19.5**	**+0.1**
YOJ	**Yonaguni jima** baz=122	**1.07**	**113**	P	**Pn**	**12 32 02.8**	**+0.1**
YOJ				S	**Sn**	**12 32 18.4**	**-1.1**
WHP	**Taichung City** baz=237	**1.08**	**237**	P	**Pn**	**12 32 03.3**	**+0.4**
WHP				S	**Sn**	**12 32 19.2**	**-0.6**
NMLH	**Miaoli** baz=251	**1.09**	**252**	P	**Pn**	**12 32 03.1**	**+0.2**
NMLH				S	**Sn**	**12 32 19.1**	**-0.8**
OWD	**Renai** baz=217	**1.15**	**217**	*i* P	**Pn**	**12 32 04.3**	**+0.6**
OWD				S	**Sn**	**12 32 21.8**	**+0.5**
ESL	**Shilin** baz=202	**1.15**	**203**	*i* P	**Pn**	**12 32 02.6**	**-1.0**
ESL				S	**Sn**	**12 32 20.5**	**-0.5**
NSY	**Sanyi** baz=246	**1.16**	**247**	P	**Pn**	**12 32 04.0**	**+0.4**
NSY				S	**Sn**	**12 32 22.3**	**+1.0**
TWQ1	**Liyutan** baz=236	**1.18**	**244**	P	**Pn**	**12 32 03.9**	**0.0**
TWQ1				S	**Sn**	**12 32 21.3**	**-0.3**
WCS	**Beigang Elemen** baz=235	**1.23**	**229**	P	**Pn**	**12 32 05.0**	**+0.5**
WCS				S	**Sn**	**12 32 22.7**	**+0.1**
WDJ	**Dajia District** baz=246	**1.29**	**246**	P	**Pn**	**12 32 05.2**	**+0.1**
WDJ				S	**Sn**	**12 32 23.7**	**0.0**
EGFH	**Guangfu** baz=206	**1.29**	**201**	P	**Pn**	**12 32 04.3**	**-0.8**
EGFH				S	**Sn**	**12 32 23.2**	**-0.6**
TCU	**Taichung** baz=238	**1.35**	**238**	P	**Pn**	**12 32 06.2**	**+0.3**
TCU				S	**Sn**	**12 32 25.2**	**+0.2**
SMLT	**Sun Moon Lake** baz=232	**1.36**	**224**	P	**Pn**	**12 32 06.7**	**+0.6**
SMLT				S	**Sn**	**12 32 26.7**	**+1.2**
TYC	**Yuchr** baz=233	**1.38**	**226**	P	**Pn**	**12 32 06.6**	**+0.5**
TYC				S	**Sn**	**12 32 25.8**	**+0.3**
SSLB	**Suanglung** baz=230	**1.40**	**220**	P	**Pn**	**12 32 07.1**	**+0.6**
SSLB				S	**Sn**	**12 32 26.8**	**+0.6**
HGSD	**Ruisui** baz=202	**1.45**	**199**	P	**Pn**	**12 32 06.8**	**-0.2**
HGSD				S	**Sn**	**12 32 27.3**	**+0.1**
EHY	**Hungye** baz=199	**1.47**	**202**	P	**Pn**	**12 32 06.2**	**-1.0**
EHY				S	**Sn**	**12 32 26.4**	**-1.2**
WCHH	**Zhanghua** baz=238	**1.48**	**238**	P	**Pn**	**12 32 07.4**	**+0.1**
WCHH				*e*S	**Sn**	**12 32 27.5**	**-0.1**
WNT	**Mingjian** baz=230	**1.51**	**229**	P	**Pn**	**12 32 08.2**	**+0.5**
WNT				*e*S	**Sn**	**12 32 29.1**	**+0.8**
WJS	**Zhushan** baz=235	**1.52**	**226**	P	**Pn**	**12 32 08.2**	**+0.4**
WJS				S	**Sn**	**12 32 29.1**	**+0.6**
WHYT	**Xinyi Township** baz=228	**1.53**	**220**	P	**Pn**	**12 32 08.8**	**+0.8**
WHYT				S	**Sn**	**12 32 29.6**	**+0.7**
YULB	**Yu-li** baz=200	**1.59**	**201**	*i* P	**Pn**	**12 32 07.5**	**-1.1**
YULB				S	**Sn**	**12 32 28.7**	**-1.2**
EYUL	**Yuli** baz=204	**1.62**	**200**	P	**Pn**	**12 32 08.4**	**-0.6**
EYUL				*e*S	**Sn**	**12 32 29.4**	**-1.3**
YUS	**Yu-Shan** baz=222	**1.65**	**213**	*i* P	**Pn**	**12 32 10.9**	**+1.1**
ALS	**Alishan** baz=220	**1.70**	**217**	*i* P	**Pn**	**12 32 11.0**	**+0.6**
ALS				S	**Sn**	**12 32 34.2**	**+1.2**
CHN5	**Tsauling** baz=224	**1.71**	**222**	*i* P	**Pn**	**12 32 10.7**	**+0.5**
CHN5				S	**Sn**	**12 32 33.4**	**+0.6**
WRL	**Guolierlin Hig** baz=236	**1.72**	**236**	P	**Pn**	**12 32 09.9**	**-0.2**
WRL				S	**Sn**	**12 32 31.6**	**-1.1**
IRIF	**Iriomote-Funau**	**1.73**	**108**	P	**Pn**	**12 32 10.2**	**0.0**
IRIF				*e*S	**Sn**	**12 32 32.1**	**-0.8**
WDLH	**Douliu** baz=235	**1.73**	**227**	P	**Pn**	**12 32 10.7**	**+0.3**
WDLH				S	**Sn**	**12 32 33.3**	**+0.2**
FULB	**Fuli** baz=210	**1.77**	**199**	P	**Pn**	**12 32 10.9**	**0.0**
FULB				S	**Sn**	**12 32 33.6**	**-0.4**
WTK	**Tuku** baz=231	**1.84**	**230**	P	**Pn**	**12 32 11.7**	**+0.1**
WTK				S	**Sn**	**12 32 35.2**	**-0.2**
CHKT	**Chengkung** baz=200	**1.84**	**196**	P	**Pn**	**12 32 11.5**	**-0.2**
CHKT				S	**Sn**	**12 32 34.8**	**-0.7**
ELDTW	**Lidau** baz=203	**1.88**	**207**	P	**Pn**	**12 32 12.5**	**+0.2**
ELDTW				S	**Sn**	**12 32 36.9**	**+0.5**
HATJ	**Hateruma jima**	**1.89**	**115**	*e*S	**Sn**	**12 32 36.8**	**+0.2**
CHY	**Chiayi** baz=232	**1.94**	**225**	P	**Pn**	**12 32 13.4**	**+0.4**
CHY				S	**Sn**	**12 32 37.8**	**+0.1**
CHN4	**Tsaushan** baz=222	**1.95**	**219**	P	**Pn**	**12 32 13.4**	**+0.4**
CHN4				S	**Sn**	**12 32 38.5**	**+0.6**
TPUB	**Ta-pu** baz=220	**1.97**	**217**	P	**Pn**	**12 32 13.6**	**+0.2**
TPUB				S	**Sn**	**12 32 38.0**	**-0.3**
EDH	**Donghe** baz=201	**1.98**	**197**	P	**Pn**	**12 32 12.9**	**-0.5**
EDH				S	**Sn**	**12 32 37.2**	**-1.4**
JKRS	**Kuro-shima**	**2.00**	**108**	P	**Pn**	**12 32 13.7**	**+0.1**

JKRS				*e*S		**Sn**	12 32 38.9	0.0	
STYH	**Taoyuan**	**2.00**	**212**	P		**Pn**	12 32 14.4	+0.7	
	baz=223								
STYH				S		**Sn**	12 32 40.1	+1.2	
	baz=223								
WTP	**Ta-pu**	**2.02**	**217**	P		**Pn**	12 32 14.3	+0.3	
	baz=219								
WTP				S		**Sn**	12 32 39.6	0.0	
	baz=219								
TWK	**Hsinying**	**2.08**	**220**	*i* P		**Pn**	12 32 15.2	+0.5	
	baz=222								
TWK				S		**Sn**	12 32 40.9	+0.1	
	baz=222								
JIJ	**Ishigaki jima**	**2.08**	**104**	P		**Pn**	12 32 14.7	+0.1	
JIJ				S		**Sn**	12 32 40.3	-0.5	
LONT	**Longtian**	**2.09**	**201**	P		**Pn**	12 32 14.2	-0.7	
	baz=197								
LONT				*e*S		**Sn**	12 32 39.9	-1.3	
	baz=197								
SNST	**Tainan City**	**2.11**	**219**	*e*P		**Pn**	12 32 16.1	+1.1	
	baz=221								
SNST				S		**Sn**	12 32 41.4	-0.1	
	baz=221								
CHN1	**Nanshi**	**2.12**	**218**	P		**Pn**	12 32 15.3	+0.2	
	baz=220								
CHN1				S		**Sn**	12 32 41.2	-0.5	
	baz=220								
ICHU	**Yijhu**	**2.13**	**225**	*e*P		**Pn**	12 32 14.8	-0.6	
	baz=220								
ICHU				*e*S		**Sn**	12 32 41.7	-0.3	
	baz=220								
SGST	**Jiashian**	**2.17**	**215**	*e*P		**Pn**	12 32 16.5	+0.6	
	baz=223								
SGST				*e*S		**Sn**	12 32 42.8	-0.1	
	baz=223								
JISG	**Ishigakijimahi**	**2.18**	**97**	P		**Pn**	12 32 16.5	+0.5	
JISG				*e*S		**Sn**	12 32 42.7	-0.5	
CHN8	**Yiju**	**2.19**	**226**	P		**Pn**	12 32 16.3	+0.2	
	baz=233								
CHN8				*e*S		**Sn**	12 32 43.6	+0.3	
	baz=233								
TWG	**Pinlang**	**2.19**	**201**	P		**Pn**	12 32 15.8	-0.4	
	baz=199								
TWG				S		**Sn**	12 32 42.4	-1.0	
	baz=199								
TWGBT	**Beinan**	**2.19**	**201**	P		**Pn**	12 32 15.7	-0.4	
	baz=199								
TWGBT				*e*S		**Sn**	12 32 41.4	-2.0	
	baz=199								
MATB	**Ma-tsu**	**2.20**	**306**	*e*P		**Pn**	12 32 15.1	-1.0	
	baz=303								
MATB				*e*S		**Sn**	12 32 43.5	0.0	
	baz=303								
SLGT	**Liugui**	**2.21**	**212**	P		**Pn**	12 32 17.2	+0.8	
	baz=222								
SLGT				*e*S		**Sn**	12 32 44.7	+0.9	
	baz=222								
TTN	**Taitung**	**2.23**	**199**	*e*P		**Pn**	12 32 16.5	-0.1	
	baz=198								
TTN				*e*S		**Sn**	12 32 43.5	-0.8	
	baz=198								
LDUT	**Ludao**	**2.23**	**191**	P		**Pn**	12 32 15.7	-1.0	
	baz=190								
LDUT				S		**Sn**	12 32 42.9	-1.4	
	baz=190								
VWUC	**VWUC**	**2.25**	**273**	*e*P		**Pn**	12 32 17.4	+0.5	
	baz=271								
VWUC				*e*S		**Sn**	12 32 44.6	-0.1	
	baz=271								
CHN3	**Shinhua**	**2.29**	**219**	*e*P		**Pn**	12 32 18.2	+0.8	
	baz=222								
CHN3				*e*S		**Sn**	12 32 46.9	+1.2	
	baz=222								
SCLT	**Jiali**	**2.32**	**223**	*e*S		**Sn**	12 32 47.4	+1.1	
	baz=225								
SCST	**Cishan**	**2.38**	**214**	*e*P		**Pn**	12 32 19.3	+0.8	
	baz=218								
SCST				*e*S		**Sn**	12 32 49.2	+1.6	
	baz=218								
SSD	**Sandimen**	**2.43**	**210**	*e*P		**Pn**	12 32 20.0	+0.7	
	baz=214								
SSD				*e*S		**Sn**	12 32 49.1	+0.3	
	baz=214								
ECL	**Taimali**	**2.44**	**202**	*e*P		**Pn**	12 32 19.4	+0.1	
	baz=201								
ECL				*e*S		**Sn**	12 32 48.2	-0.9	
	baz=201								
TSMG	**Majia**	**2.46**	**209**	*e*P		**Pn**	12 32 20.4	+0.8	
	baz=214								
TSMG				*e*S		**Sn**	12 32 48.7	-0.9	
	baz=214								
PNG	**Penghu**	**2.53**	**239**	*e*P		**Pn**	12 32 19.7	-0.8	
	baz=239								
PNG				*e*S		**Sn**	12 32 48.6	-2.5	
	baz=239								
JTJ	**Tarama**	**2.53**	**95**	P		**Pn**	12 32 21.2	+0.7	
JTJ				*e*S		**Sn**	12 32 51.2	+0.1	
PHUB	**P'eng-hu**	**2.54**	**238**	*e*P		**Pn**	12 32 19.8	-0.8	
	baz=231								
PHUB				*e*S		**Sn**	12 32 48.9	-2.6	
	baz=231								
MASBT	**Mashibuluo**	**2.55**	**208**	*e*P		**Pn**	12 32 21.1	+0.4	
	baz=213								
MASBT				*e*S		**Sn**	12 32 51.8	+0.2	
	baz=213								
PTMZ	**Houxiangcun**	**2.56**	**274**	*e*P		**Pn**	12 32 21.1	+0.3	
	baz=272								
PTMZ				*e*S		**Sn**	12 32 51.2	-0.4	
	baz=272								
LYJJ	**Jianjiangzhen**	**2.57**	**311**	*e*P		**Pn**	12 32 20.1	-0.8	
	baz=309								
LYJJ				*e*S		**Sn**	12 32 51.5	-0.6	
	baz=309								
XPSS	**Dashiqiu**	**2.58**	**323**	*e*P		**Pn**	12 32 21.2	+0.2	
	baz=321								
XPSS				*e*S		**Sn**	12 32 52.0	-0.2	
	baz=321								
WDGT	**Dungji**	**2.63**	**233**	*e*P		**Pn**	12 32 21.3	-0.4	
	baz=232								
WDGT				*e*S		**Sn**	12 32 51.8	-1.5	
	baz=232								
EAST	**Anshuo**	**2.67**	**202**	*e*P		**Pn**	12 32 23.3	+0.9	
	baz=201								
EAST				*e*S		**Sn**	12 32 55.2	+0.7	
	baz=201								
SCZT	**Fangliau**	**2.77**	**206**	*e*P		**Pn**	12 32 23.9	+0.3	
	baz=218								
SCZT				*e*S		**Sn**	12 32 56.7	0.0	
	baz=218								
VCHM	**Qimei**	**2.83**	**235**	*e*P		**Pn**	12 32 24.2	-0.2	
	baz=228								
VCHM				*e*S		**Sn**	12 32 55.9	-2.2	
	baz=228								
SLIU	**Shizi**	**2.84**	**202**	*e*P		**Pn**	12 32 25.4	+0.7	
	baz=207								
SLIU				*e*S		**Sn**	12 32 58.1	-0.4	
	baz=207								
LAY	**Lan-yu**	**2.85**	**187**	*e*P		**Pn**	12 32 24.1	-0.6	
	baz=193								
LAY				*e*S		**Sn**	12 32 56.9	-1.7	
	baz=193								
MHZQ	**Yeshan**	**2.89**	**296**	*e*P		**Pn**	12 32 26.2	+1.0	
	baz=294								
MHZQ				*e*S		**Sn**	12 32 58.8	-0.7	
	baz=294								
JIRB	**Irabujima**	**2.95**	**90**	*e*S		**Sn**	12 33 02.1	+1.2	
JIKM	**Ikemajima**	**3.01**	**88**	S		**Sn**	12 33 03.2	+0.8	
JMJ2	**Miyako jima3**	**3.09**	**92**	*e*S		**Sn**	12 33 05.0	+0.7	
TWK1	**Hengchun**	**3.10**	**200**	*e*P		**Pn**	12 32 28.3	+0.4	
	baz=205								
TWK1				*e*S		**Sn**	12 33 03.2	-1.3	
	baz=205								
TWKBT	**Hengchun**	**3.10**	**200**	*e*P		**Pn**	12 32 28.2	+0.2	
	baz=205								
TWKBT				*e*S		**Sn**	12 33 03.2	-1.3	
	baz=205								
KNMB	**Chin-men Tao**	**3.25**	**263**	*e*P		**Pn**	12 32 31.7	+1.9	
	baz=262								
KNMB				*e*S		**Sn**	12 33 09.2	+1.2	
	baz=262								
AXDP	**Jialang**	**3.60**	**271**	*e*P		**Pn**	12 32 35.3	+0.8	
	baz=272								
ZPLA	**Ao Xicun**	**3.92**	**257**	*e*P		**Pn**	12 32 40.5	+1.6	
	baz=258								

IDC 22 12:34:51.7±4.1, 5°91S×151°33E, h0km, mb3.3/2,
mb1 3.6/2, mb1mx3.3/20, mbtmp3.4/2, Error ellipse: s-maj=163.4km s-min=54.1km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.61**	**228**	P	P	12 39 44.6	+1.0
	0.6nm,0.6s,baz=54,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**24.35**	**222**	P	P	12 40 10.8	-0.8
	0.9nm,0.8s,baz=56,slow=8.7,SNR=10						
TORD	**Torodi Ar. Bea**	**149.22**	**286**	PKPbc	PKPbc	12 54 43.1	-0.3
	0.4nm,0.6s,baz=81,slow=3.2,SNR=3.2						

TAP 22 12:50:05.6, 23°97N×121°62E, h40km, ML1.9, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWD	**Chiawan**	**0.12**	**349**	P	Pn	12 50 12.6	+0.2
	baz=352						
TWD				S	Sn	12 50 17.9	+0.9
	baz=352						
ETL	**Fush Village**	**0.19**	**1**	*e*P	Pn	12 50 13.0	+0.1
ETL				*e*S	Sn	12 50 18.6	+0.6
NACB	**Ninganchiao**	**0.21**	**353**	P	Pn	12 50 13.1	+0.1
	baz=353						
NACB				*e*S	Sn	12 50 18.8	+0.6
	baz=353						
ESL	**Shilin**	**0.23**	**229**	P	Pn	12 50 12.6	-0.6
	baz=227						
ESL				S	Sn	12 50 19.3	+0.9
	baz=227						
ETLH	**Xiulin Townshi**	**0.27**	**332**	*e*P	Pn	12 50 14.0	+0.3
	baz=332						
ETLH				*e*S	Sn	12 50 19.6	+0.3
	baz=332						
EGFH	**Guangfu**	**0.34**	**211**	*e*P	Pn	12 50 14.8	+0.3
	baz=210						
EGFH				*e*S	Sn	12 50 21.6	+1.1
	baz=210						
WHF	**Hehuan Shan**	**0.37**	**299**	P	Pn	12 50 15.3	+0.2
	baz=299						
WHF				*e*S	Sn	12 50 21.9	+0.1
	baz=299						
OWD	**Renai**	**0.41**	**268**	*e*P	Pn	12 50 15.7	+0.4
	baz=268						
OWD				*e*S	Sn	12 50 22.6	+0.6
	baz=268						
CHGB	**Renai**	**0.42**	**283**	P	Pn	12 50 15.8	+0.3
	baz=282						
CHGB				*e*S	Sn	12 50 23.3	+0.8
	baz=282						
FUSS	**Fushou**	**0.44**	**309**	P	Pn	12 50 16.6	+0.7
	baz=309						
FUSS				S	Sn	12 50 23.7	+0.6
	baz=309						
TWT	**Tachien**	**0.50**	**305**	*e*P	Pn	12 50 17.0	+0.5
	baz=303						
TWT				*e*S	Sn	12 50 25.3	+1.1
	baz=303						
EWUT	**Wuta**	**0.50**	**17**	*e*P	Pn	12 50 17.0	+0.7
	baz=16						
HGSD	**Ruisui**	**0.51**	**201**	*e*P	Pn	12 50 16.0	-0.4
	baz=200						
HGSD				*e*S	Sn	12 50 25.3	+1.3
	baz=200						
NNSB	**Datong**	**0.51**	**335**	*e*P	Pn	12 50 17.1	+0.4
	baz=334						
NNSB				*e*S	Sn	12 50 25.3	+1.0
	baz=334						
TDCB	**Techi**	**0.51**	**304**	*e*P	Pn	12 50 16.5	-0.1
	baz=303						
TDCB				*e*S	Sn	12 50 25.1	+0.7
	baz=303						
NNS	**Nan Shan**	**0.52**	**334**	*e*P	Pn	12 50 17.1	+0.3
	baz=335						
NNS				*e*S	Sn	12 50 25.5	+0.8
	baz=335						
EHY	**Hungye**	**0.53**	**211**	*e*P	Pn	12 50 17.5	+0.6
	baz=210						
EHY				*e*S	Sn	12 50 25.7	+1.0
	baz=210						
SSLB	**Suanglung**	**0.64**	**254**	P	Pn	12 50 18.3	+0.1
	baz=253						
SSLB				S	Sn	12 50 28.0	+0.8
	baz=253						
YULB	**Yu-li**	**0.64**	**208**	*e*P	Pn	12 50 18.6	+0.3
	baz=207						
YULB				*e*S	Sn	12 50 28.6	+1.2
	baz=207						
WCS	**Beigang Elemen**	**0.66**	**278**	*e*P	Pn	12 50 19.3	+0.9
	baz=277						
WCS				*e*S	Sn	12 50 28.8	+1.2
	baz=277						
SMLT	**Sun Moon Lake**	**0.67**	**263**	*e*P	Pn	12 50 19.3	+0.6
	baz=262						
SMLT				*e*S	Sn	12 50 29.0	+0.9
	baz=262						
NDS	**Dongshan**	**0.67**	**7**	P	Pn	12 50 19.3	+0.7
	baz=7.0						
ENTT	**Nioudou**	**0.67**	**356**	*e*P	Pn	12 50 19.4	+0.6
	baz=356						
ENTT				*e*S	Sn	12 50 29.5	+1.4
	baz=356						
TWC	**Suao**	**0.67**	**18**	*e*P	Pn	12 50 19.3	+0.6
	baz=18						
TWC				*e*S	Sn	12 50 29.1	+1.1
	baz=18						
WHP	**Taichung City**	**0.69**	**297**	*e*P	Pn	12 50 19.7	+0.7
	baz=296						
WHP				*e*S	Sn	12 50 29.9	+1.2
	baz=296						
TYC	**Yuchr**	**0.70**	**265**	*e*P	Pn	12 50 19.7	+0.6
	baz=264						
TYC				*e*S	Sn	12 50 30.2	+1.4
	baz=264						
YHNB	**Yeheng**	**0.73**	**342**	P	Pn	12 50 20.1	+0.5
	baz=342						
YHNB				*e*S	Sn	12 50 30.7	+1.0
	baz=342						
NSK	**Sanguang**	**0.75**	**341**	*e*P	Pn	12 50 20.4	+0.6
	baz=341						
NSK				*e*S	Sn	12 50 30.7	+0.8
	baz=341						
TWE	**Neicheng**	**0.75**	**3**	*e*P	Pn	12 50 20.5	+0.7
	baz=4.0						
TWE				*e*S	Sn	12 50 31.3	+1.3
	baz=4.0						
WHYT	**Xinyi Township**	**0.75**	**249**	P	Pn	12 50 20.6	+0.8
	baz=249						
WHYT				S	Sn	12 50 31.4	+1.3
	baz=249						
YUS	**Yu-Shan**	**0.78**	**232**	*e*P	Pn	12 50 20.9	+0.4
	baz=231						
YUS				*e*S	Sn	12 50 30.7	-0.5
	baz=231						
FULB	**Fuli**	**0.82**	**202**	*e*P	Pn	12 50 21.5	+0.7
	baz=201						
FULB				*e*S	Sn	12 50 33.2	+1.5
	baz=201						
NSTT	**Nanjuang**	**0.87**	**320**	*e*P	Pn	12 50 22.1	+0.7
	baz=319						
NSTT				*e*S	Sn	12 50 34.1	+1.2
	baz=319						
LIOB	**Emei**	**0.87**	**321**	*e*P	Pn	12 50 22.0	+0.6
	baz=320						
LIOB				*e*S	Sn	12 50 34.4	+1.4
	baz=320						
ALS	**Alishan**	**0.88**	**239**	P	Pn	12 50 22.1	+0.4
	baz=238						
ALS				*e*S	Sn	12 50 33.7	+0.3
	baz=238						
TCU	**Taichung**	**0.88**	**282**	*e*P	Pn	12 50 22.1	+0.6
	baz=281						
TCU				*e*S	Sn	12 50 34.1	+0.9
	baz=281						
CHKT	**Chengkung**	**0.89**	**195**	*e*P	Pn	12 50 22.3	+0.6
	baz=194						
CHKT				*e*S	Sn	12 50 35.2	+1.7
	baz=194						
NSY	**Sanyi**	**0.90**	**300**	*e*P	Pn	12 50 22.7	+0.8
	baz=299						
NSY				*e*S	Sn	12 50 34.9	+1.1
	baz=299						
CHN5	**Tsauling**	**0.94**	**247**	P	Pn	12 50 23.2	+0.8
	baz=246						
CHN5				*e*S	Sn	12 50 35.9	+1.2
	baz=246						
ELDTW	**Lidau**	**0.95**	**216**	*e*P	Pn	12 50 23.2	+0.6
	baz=215						
ELDTW				*e*S	Sn	12 50 35.8	+0.7
	baz=215						
TIPB	**Shuangxi**	**1.02**	**11**	*e*P	Pn	12 50 24.7	+1.3
	baz=10.0						
TIPB				*e*S	Sn	12 50 37.9	+1.3
	baz=10.0						
EDH	**Donghe**	**1.03**	**196**	*e*P	Pn	12 50 24.4	+0.8
	baz=196						
EDH				*e*S	Sn	12 50 37.4	+0.6
	baz=196						

TAP 22 12:50:20.5, 24°26N×121°80E, h13km, ML1.8, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.17**	**344**	*e*P	Pb	12 50 25.3	-0.4
	baz=345						
ENA				*e*S	Sb	12 50 28.8	-0.3
	baz=345						
ETL	**Fush Village**	**0.19**	**238**	*e*P	Pb	12 50 25.4	-0.5
	baz=237						
ETL				S	Sb	12 50 29.1	-0.3
	baz=237						
EWUT	**Wuta**	**0.19**	**355**	P	Pb	12 50 25.4	-0.4
	baz=355						
EWUT				*e*S	Sb	12 50 28.9	-0.5
	baz=355						
EWUT	**Wuta**	**0.19**	**355**	*e*S	Pb	12 50 25.1	-0.7
	baz=16						
NACB	**Ninganchiao**	**0.20**	**245**	*e*P	Pg	12 50 25.5	+0.5
	baz=245						
NACB				*e*S	Sb	12 50 29.2	-0.6
	baz=245						
TWD	**Chiawan**	**0.26**	**226**	*e*P	Pg	12 50 26.3	+0.4
	baz=224						
TWD				*e*S	Sb	12 50 30.9	-0.5
	baz=224						
ETLH	**Xiulin Townshi**	**0.29**	**260**	*e*P	Pb	12 50 27.4	-0.3
	baz=259						
ETLH				*e*S	Sb	12 50 32.2	-0.3
	baz=259						
TWC	**Suao**	**0.35**	**8**	*e*P	Pb	12 50 28.3	-0.4
	baz=9.0						
TWC				*e*S	Sb	12 50 33.7	-0.5
	baz=9.0						
NDS	**Dongshan**	**0.38**	**349**	P	Pb	12 50 29.0	-0.2
	baz=349						
NDS				S	Sb	12 50 34.4	-0.6
	baz=349						
NDS	**Dongshan**	**0.38**	**349**	S	Pg	12 50 28.9	+0.8
	baz=7.0						
NNSB	**Datong**	**0.41**	**294**	P	Pb	12 50 29.6	-0.2
	baz=294						
NNSB				S	Sb	12 50 35.8	-0.2
	baz=294						
NNS	**Nan Shan**	**0.42**	**295**	*e*P	Pb	12 50 29.6	-0.5
	baz=295						
NNS				S	Sb	12 50 36.1	-0.3
	baz=295						
NDT	**Datong Townshi**	**0.43**	**323**	*e*P	Pb	12 50 30.3	+0.3
	baz=323						
NDT				*e*S	Sb	12 50 37.0	+0.6
	baz=323						
ENTT	**Nioudou**	**0.43**	**331**	P	Pb	12 50 30.1	0.0
	baz=331						
ENTT				S	Sb	12 50 36.5	0.0
	baz=331						
TWE	**Neicheng**	**0.47**	**346**	*e*P	Pb	12 50 30.5	-0.3
	baz=347						
TWE				*e*S	Sb	12 50 37.8	+0.1
	baz=347						
WHF	**Hehuan Shan**	**0.50**	**257**	*e*P	Pg	12 50 30.9	+0.5
	baz=256						
WHF				*e*S	Sb	12 50 38.5	-0.2
	baz=256						
FUSS	**Fushou**	**0.50**	**269**	*e*P	Pb	12 50 31.1	-0.3
	baz=268						
FUSS				*e*S	Sb	12 50 38.7	-0.1
	baz=268						
YHNB	**Yeheng**	**0.56**	**317**	*e*P	Pb	12 50 32.1	-0.1
	baz=316						
YHNB				S	Sb	12 50 40.5	+0.3
	baz=316						
NSK	**Sanguang**	**0.57**	**316**	*e*P	Pb	12 50 32.4	-0.1
	baz=316						
NSK				*e*S	Sb	12 50 40.8	+0.1
	baz=316						
NWLT	**Wulai**	**0.58**	**333**	*e*P	Pb	12 50 32.4	-0.2
	baz=332						
NWLT				S	Sb	12 50 41.4	+0.6
	baz=332						
CHGB	**Renai**	**0.60**	**251**	*e*P	Pb	12 50 33.0	-0.1
	baz=250						
CHGB				*e*S	Sb	12 50 41.6	0.0
	baz=250						
OWD	**Renai**	**0.64**	**242**	*e*P	Pb	12 50 33.6	-0.1
	baz=241						
OWD				*e*S	Sb	12 50 43.3	+0.6
	baz=241						
LIOB	**Emei**	**0.81**	**299**	*e*P	Pb	12 50 36.5	+0.1
	baz=298						
LIOB				*e*S	Sb	12 50 48.4	+1.0
	baz=298						
NSTT	**Nanjuang**	**0.81**	**297**	*e*P	Pg	12 50 36.4	+0.1
	baz=297						
NSTT				*e*S	Sb	12 50 48.2	+0.8
	baz=297						

*IDC **22** 12:53:53.5±5.6, 17°55S×178°49W, h594km±63km, mb2.9/6, mb1 3.3/6, mb1mx3.0/22, mbtmp3.8/6, Error ellipse: s-maj=91.9km s-min=22.8km az=152.0*
*NEIC **22** 12:53:55.4±2.6, 18°0S±0°1×178°2W±0°1, h619km±8km, mb4.2/11, Error ellipse: s-maj=21.6km s-min=17.5km az=214.0*
ISC 22 12:53:53.4±0.7, 17°9S±0°1×178°3W±0°1, h600km, n25, s0877/26, mb3.9/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.49**	**272**	P	P	12 55 20.9	+5.2
THZ	**Tophouse**	**24.98**	**196**	P	**P**	**12 58 31.9**	**+0.5**
THZ				IAmb	IAmb	12 58 43.2	
	comp=Z,19nm,1.2s						
LTZ	**Lake Taylor**	**26.10**	**196**	P	**P**	**12 58 40.2**	**-1.0**
WHZ	**Wether Hill Ro**	**30.20**	**199**	P	**P**	**12 59 17.6**	**+1.0**
MANU	**Manus Island**	**37.19**	**291**	P	**P**	**13 00 16.9**	**+1.3**
MANU				IAmb	IAmb	13 00 34.4	
	comp=Z,15nm,1.1s						
COEN	**Coen**	**37.22**	**270**	P	**P**	**13 00 15.9**	**+0.1**
COEN				IAmb	IAmb	13 00 16.4	
	comp=Z,7.8nm,1.1s						
WR0	**Warramunga Arr**	**44.56**	**259**	P	**P**	**13 01 13.9**	**+0.1**
WR0				IAmb	IAmb	13 01 38.5	
	comp=Z,10nm,1.5s						
WB0	**Warramunga Arr**	**44.72**	**260**	P	**P**	**13 01 14.8**	**-0.2**
WB0				IAmb	IAmb	13 01 14.9	
	comp=Z,8.0nm,1.4s						
WB2	**Warramunga Arr**	**44.74**	**259**	P	**P**	**13 01 14.6**	**-0.5**
WB2				IAmb	IAmb	13 01 36.1	
	comp=Z,6.9nm,1.2s						
WRA	**Warramunga Arr**	**44.75**	**259**	P	**P**	**13 01 14.6**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=97,slow=7.5,SNR=16						
WRA				PcP	**PcP**	**13 02 43.5**	**-0.7**
	comp=Z,0.3nm,1.0s,baz=100,slow=3.6,SNR=1.2						
AS31	**Alice Springs**	**44.91**	**254**	P	**P**	**13 01 16.3**	**-0.2**
ASAR	**Alice Springs**	**44.91**	**254**	P	**P**	**13 01 16.0**	**-0.5**
	comp=Z,1.9nm,0.6s,baz=86,slow=8.1,SNR=38						
ASAR				PcP	**PcP**	**13 02 43.7**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=104,slow=3.8,SNR=6.3						
ASAR	**Alice Springs**	**44.91**	**254**	P	**P**	**13 01 15.7**	**-0.8**
QSPA	**South Pole Qui**	**72.19**	**180**	P	**P**	**13 04 18.4**	**-0.2**
QSPA				IAmb	IAmb	13 04 29.9	
	comp=Z,5.3nm,1.5s						
NVAR	**Mina Array Bea**	**79.31**	**44**	P	**P**	**13 04 58.1**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=228,slow=7.8,SNR=4.5						
NVAR	**Mina Array Bea**	**79.31**	**44**	P	**P**	**13 04 58.8**	**+0.4**
ILAR	**Eielson Array**	**85.82**	**13**	P	**P**	**13 05 28.2**	**-1.8**
	comp=Z,0.3nm,0.4s,baz=219,slow=5.1,SNR=6.8						
ILAR	**Eielson Array**	**85.82**	**13**	P	**P**	**13 05 29.5**	**-0.6**
TXAR	**Lajitas Array**	**85.88**	**58**	P	**P**	**13 05 32.2**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=218,slow=6.1,SNR=8.6						
TXAR	**Lajitas Array**	**85.88**	**58**	P	**P**	**13 05 32.4**	**+1.1**
PDAR	**Pinedale Array**	**87.24**	**43**	P	**P**	**13 05 38.1**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=243,slow=3.6,SNR=3.6						

BRTR	**Keskin Array B**	**144.83**	**315**	PKP	**PKPdf**	**13 12 23.1**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=129,slow=2.0,SNR=4.1						
BRTR	**Keskin Array B**	**144.83**	**315**	PKPdf	**PKPdf**	**13 12 23.5**	**0.0**
MMAI	**Mount Meron Ar**	**146.22**	**303**	PKPbc	**PKPbc**	**13 12 28.2**	**0.0**
	comp=Z,1.0nm,0.5s,baz=98,slow=6.0,SNR=2.2						
GERES	**GERESS Array B**	**147.60**	**345**	PKPbc	**PKPbc**	**13 12 31.1**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=311,slow=2.6,SNR=5.8						

KRNET ***22*** *12:57:24.8±1.6, 41.04N×69.83E, h8km, mb2.7*

ISC 22 12:57:25.2±1.6, 41.06N±0.06×69.88E±0.06, h4km±16km, n6, σ1§49/12, 9C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAS	**Tashkent**	**0.52**	**302**	⇓*i*P	**Pg**	**12 57 34.7**	**-0.4**
TAS	baz=6.0			⇓*i*S	**Sg**	**12 57 41.8**	**0.0**
TRKS	**Terek-Say**	**1.06**	**63**	⇑*i*P	**Pg**	**12 57 45.5**	**0.0**
TRKS	baz=67			⇑*i*S	**Sn**	**12 58 01.5**	**-0.8**
BTK	**Batken**	**1.23**	**144**	⇑*i*P	**Pb**	**12 57 48.4**	**-0.6**
BTK	baz=42			⇑*i*S	**Sn**	**12 58 05.9**	**-0.3**
KK31	**Karatay Array**	**2.10**	**13**	⇓Pn	**Pg**	**12 58 04.8**	**-0.6**
KK31	0.7nm,0.3s,baz=197,slow=16,SNR=9.1			⇑Sn	**Sg**	**12 58 34.2**	**+1.6**
MNAS	**Manas**	**2.43**	**53**	⇑*i*P	**Pb**	**12 58 08.1**	**-1.4**
MNAS	3.1nm,0.4s,baz=188,slow=23,SNR=8.9 baz=53			⇑*i*S	**Sb**	**12 58 40.2**	**+0.4**
AML	**Almayashu**	**3.06**	**68**	⇑*e*P	**Pn**	**12 58 17.0**	**+2.4**
AML	baz=68			⇑*i*S	**Sb**	**12 58 55.7**	**-2.4**
	baz=68						

TAP 22 13:00:52.0, 24.43N×121.46E, h8km, ML1.7, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNSB	**Datong**	**0.07**	**269**	P	Pg	13 00 54.6	+0.6
NNSB	baz=269			S	Sg	13 00 55.5	0.0
NNS	**Nan Shan**	**0.08**	**277**	*i* P	Pg	13 00 54.7	+0.5
NNS	baz=276			S	Sg	13 00 55.8	0.0
NDT	**Datong Townshi**	**0.18**	**16**	*e*P	Pg	13 00 56.6	+0.8
NDT	baz=16			*e*S	Sg	13 01 00.3	+2.0
ETLH	**Xiulin Townshi**	**0.22**	**174**	P	Pg	13 00 58.2	+1.6
ENTT	baz=174 **Nioudou**	**0.23**	**25**	P	Pg	13 00 58.1	+1.4
YHNB	baz=27 **Yeheng**	**0.25**	**343**	P	Pg	13 00 58.4	+1.4
YHNB	baz=342			S	Sg	13 01 01.8	+1.3
ENA	baz=342 **Nanau**	**0.26**	**90**	P	Pb	13 00 58.7	-0.2
ENA	baz=90			*e*S	Sg	13 01 02.0	+1.3
NSK	baz=90 **Sanguang**	**0.26**	**340**	P	Pb	13 00 58.5	-0.5
NSK	baz=341			*e*S	Sg	13 01 02.2	+1.3
FUSS	baz=341 **Fushou**	**0.27**	**227**	P	Pb	13 00 58.3	-0.9
FUSS	baz=226			S	Sg	13 01 02.0	+1.0
NACB	baz=226 **Ninganchiao**	**0.28**	**154**	*e*P	Pb	13 00 59.0	-0.4
NACB	baz=153			*e*S	Sb	13 01 03.3	-1.0
EWUT	baz=153 **Wuta**	**0.29**	**87**	P	Pg	13 00 58.2	+0.4
EWUT	baz=86			*e*S	Sb	13 01 03.6	-0.9
ETL	baz=86 **Fush Village**	**0.31**	**151**	*e*P	Pg	13 00 58.6	+0.5
ETL	baz=150			*e*S	Sb	13 01 03.8	-1.3
TWT	baz=150 **Tachien**	**0.31**	**236**	*e*P	Pb	13 00 59.9	0.0
TWT	baz=236			*e*S	Sb	13 01 05.1	-0.2
TDCB	baz=236 **Techi**	**0.32**	**237**	*e*P	Pg	13 00 59.3	+0.8
TDCB	baz=236			*e*S	Sb	13 01 05.0	-0.6
WHF	baz=236 **Hehuan Shan**	**0.33**	**212**	P	Pg	13 00 59.6	+0.8
WHF	baz=210			S	Sb	13 01 05.1	-1.0
TWE	baz=210 **Neicheng**	**0.35**	**33**	*e*S	Sb	13 01 06.1	0.0
NWLT	baz=35 **Wulai**	**0.35**	**7**	*e*P	Pb	13 00 60.0	-0.6
NWLT	baz=6.0			*e*S	Sb	13 01 05.3	-0.9
TWD	baz=6.0 **Chiawan**	**0.37**	**160**	*e*P	Pb	13 01 00.2	-0.6
TWD	baz=158			*e*S	Sb	13 01 05.7	-1.1
TWC	baz=158 **Suao**	**0.40**	**63**	*e*S	Sb	13 01 07.8	+0.1
CHGB	baz=64 **Renai**	**0.45**	**215**	P	Pb	13 01 01.6	-0.7
CHGB	baz=215			*e*S	Sb	13 01 08.3	-1.0
LIOB	baz=215 **Emei**	**0.46**	**298**	P	Pb	13 01 02.6	+0.3
LIOB	baz=298			*e*S	Sb	13 01 09.1	-0.2
NSTT	baz=298 **Nanjuang**	**0.46**	**296**	*e*P	Pb	13 01 02.0	-0.4
NSTT	baz=296			S	Sb	13 01 09.0	-0.5
WHP	baz=296 **Taichung City**	**0.49**	**252**	*e*P	Pb	13 01 03.1	+0.1
WHP	baz=252			*e*S	Sb	13 01 09.4	-0.9
OWD	baz=252 **Renai**	**0.54**	**209**	P	Pb	13 01 04.0	+0.2
OWD	baz=208			*e*S	Sb	13 01 12.6	+0.8
WCS	baz=208 **Beigang Elemen**	**0.62**	**233**	*e*P	Pb	13 01 04.7	-0.5
WCS	baz=233			*e*S	Sb	13 01 14.7	+0.7
TWQ1	baz=233 **Liyutan**	**0.63**	**263**	*e*P	Pb	13 01 05.9	+0.6
TWQ1	baz=262			*e*S	Sb	13 01 15.5	+1.2
TIPB	baz=262 **Shuangxi**	**0.64**	**32**	*e*P	Pb	13 01 05.7	+0.3
TIPB	baz=31			*e*S	Sb	13 01 14.1	-0.4
EGFH	baz=31 **Guangfu**	**0.76**	**182**	*e*P	Pb	13 01 07.8	+0.4
EGFH	baz=182			*e*S	Sb	13 01 19.2	+1.2
SSLB	baz=182 **Suanglung**	**0.79**	**216**	*e*P	Pb	13 01 08.0	0.0
SSLB	baz=215			*e*S	Sn	13 01 20.4	-1.1
EHY	baz=215 **Hungye**	**0.93**	**188**	*e*P	Pn	13 01 11.1	-0.3
EHY	baz=187			*e*S	Sn	13 01 24.4	-0.4
YULB	baz=187 **Yu-li**	**1.04**	**188**	*e*P	Pb	13 01 12.5	+0.1
YULB	baz=188			*e*S	Sn	13 01 27.5	-0.3
CHN5	baz=188 **Tsauling**	**1.09**	**221**	*e*P	Pn	13 01 13.7	0.0
CHN5	baz=220			*e*S	Sn	13 01 29.0	-0.1
	baz=220						

TAP 22 13:00:55.6, 24.66N×121.86E, h16km, ML1.8, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.06**	**194**	P	Pg	13 00 59.2	+0.6
TWC	baz=183			S	Sg	13 01 01.4	+0.9
TWC	baz=183 **Suao**	**0.06**	**194**	*e*P	Pg	13 01 01.1	+2.5
NDS	baz=64 **Dongshan**	**0.14**	**257**	P	Pg	13 00 59.5	0.0
NDS	baz=49			*e*S	Sb	13 01 03.5	+0.8
NDS	baz=49 **Dongshan**	**0.14**	**257**	P	Pg	13 00 59.6	+0.2
NDS	baz=257			*e*S	Sb	13 01 03.2	+0.4
TWE	baz=257 **Neicheng**	**0.19**	**288**	*e*P	Pb	13 01 00.5	-0.2
TWE	baz=288			*e*S	Sb	13 01 04.1	-0.1
TWE	baz=288 **Neicheng**	**0.19**	**288**	P	Pb	13 01 00.5	-0.3
NTC	baz=35 **Toucheng**	**0.19**	**351**	*e*P	Pb	13 01 01.0	+0.1
NTC	baz=350			*e*S	Sb	13 01 04.6	+0.2
EWUT	baz=350 **Wuta**	**0.23**	**200**	*e*P	Pb	13 01 01.3	-0.2
EWUT	baz=199			*e*S	Sb	13 01 05.6	+0.2
ENTT	baz=199 **Nioudou**	**0.27**	**265**	*e*P	Pb	13 01 02.1	-0.1
ENTT	baz=264			*e*S	Sb	13 01 06.9	+0.3
ENTT	baz=264 **Nioudou**	**0.27**	**265**	S	Pb	13 01 01.6	-0.6
NDT	baz=27 **Datong Townshi**	**0.33**	**259**	*e*S	Sb	13 01 08.5	+0.4
TWB1	baz=259 **Santiao Chiao**	**0.36**	**18**	*e*P	Pb	13 01 03.8	+0.1
TWB1	baz=19			*e*S	Sb	13 01 09.8	+0.6
YHNB	baz=19 **Yeheng**	**0.44**	**271**	*e*P	Pb	13 01 05.0	-0.2
YHNB	baz=270			*e*S	Sb	13 01 12.2	+0.6
NSK	baz=270 **Sanguang**	**0.46**	**272**	*e*P	Pb	13 01 05.3	-0.1
NSK	baz=271			*e*S	Sb	13 01 12.6	+0.5
TAP	baz=271 **Taipei**	**0.49**	**319**	*e*P	Pg	13 01 05.7	+0.2
TAP	baz=319			*e*S	Sb	13 01 13.7	+0.6
NACB	baz=319 **Ninganchiao**	**0.55**	**207**	*e*P	Pb	13 01 07.4	+0.5
NACB	baz=206			*e*S	Sb	13 01 14.8	+0.3
TWD	baz=206 **Chiawan**	**0.63**	**203**	*e*P	Pb	13 01 08.4	0.0
TWD	baz=202			*e*S	Sb	13 01 17.4	+0.5
	baz=202						

NEIC ***22*** *13:06:03.0±2.0, 19.6N±0.3×68.9W±0.1, h161km±23km, ML3.0/21, Md3.8/15(RSPR), Error ellipse: s-maj=38.7km s-min=13.7km az=186.0*

RSPR ***22*** *13:06:09.4, 19.15N×68.56W, h169km±8km, MD3.8/6*

ISC 22 13:06:06.2±2.4, 19.3N±0.2×68.81W±0.09, h150km, n32, σ1§03/35, 7C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DR12	**Loma Pena Alta**	**0.75**	**226**	Pn	**Pn**	**13 06 29.1**	**-0.1**
PCDR	**Punta Cana, DR**	**0.89**	**153**	Pn	**Pn**	**13 06 30.3**	**+0.2**
PCDR	comp=E,94nm,0.8s			IAML		13 06 51.3	
PCDR	comp=N,152nm,0.7s			IAML		13 06 51.3	
IDE	**Isla Desecheo**	**1.57**	**126**	⇑*e*P	**Pn**	**13 06 37.2**	**+0.7**
IDE	**Isla Desecheo**	**1.57**	**126**	*e*S	**Sn**	**13 07 01.4**	**+1.8**
AGPR	**Aguadilla, PR**	**1.82**	**117**	Pn	**Pn**	**13 06 38.3**	**-0.9**
AGPR	comp=E,73nm,0.6s			IAML		13 07 07.6	
AGPR	comp=N,92nm,0.4s			IAML		13 07 13.4	
CRPR	**Cabo Rojo, PR**	**2.07**	**129**	⇑*e*P	**Pn**	**13 06 41.0**	**-1.1**
CRPR				*e*S	**Sn**	**13 07 09.7**	**-0.1**
CRPR	**Cabo Rojo, PR**	**2.07**	**129**	Pn	**Pn**	**13 06 41.0**	**-1.1**
CRPR	**Cabo Rojo, PR**	**2.07**	**129**		**Sn**	**13 07 09.7**	**-0.1**
AOPR	**Arecibo Observ**	**2.17**	**116**	⇑*e*P	**Pn**	**13 06 45.3**	**+1.9**
AOPR	**Arecibo Observ**	**2.17**	**116**	*e*S	**Sn**	**13 07 11.7**	**-0.3**
AOPR	**Arecibo Observ**	**2.17**	**116**		**Pn**	**13 06 45.3**	**+1.9**
AOPR					**Sn**	**13 07 11.7**	**-0.3**
EMPR	**Esperanza - Ma**	**2.31**	**111**	⇑*e*P	**Pn**	**13 06 46.5**	**+1.4**
EMPR	**Esperanza - Ma**	**2.31**	**111**	*e*S	**Sn**	**13 07 15.5**	**+0.6**
EMPR	**Esperanza - Ma**	**2.31**	**111**		**Pn**	**13 06 46.5**	**+1.4**
EMPR					**Sn**	**13 07 15.5**	**+0.6**
EMPR	**Esperanza - Ma**	**2.31**	**111**	IAML		13 07 34.1	
EMPR	comp=N,55nm,1.3s			IAML		13 08 35.2	
	comp=E,54nm,1.4s						
OBIP	**Obispado Ponce**	**2.44**	**121**	Pn	**Pn**	**13 06 46.5**	**-0.1**
CELP	**Cerrillos**	**2.45**	**120**	⇑*e*P	**Pn**	**13 06 48.2**	**+1.5**
CELP	**Cerrillos**	**2.45**	**120**	*e*S	**Sn**	**13 07 17.3**	**-0.6**
CELP	**Cerrillos**	**2.45**	**120**		**Pn**	**13 06 48.2**	**+1.5**
CELP					**Sn**	**13 07 17.3**	**-0.6**
ICMP	**Isla Caja de M**	**2.59**	**123**	Pn	**Pn**	**13 06 48.6**	**+0.2**
ICMP	comp=N,53nm,0.1s			IAML		13 08 03.0	
ICMP	comp=E,36nm,0.1s			IAML		13 08 03.2	
CBYP	**Canovanas**	**2.98**	**110**	⇑*e*P	**Pn**	**13 06 53.8**	**+0.4**
CBYP	**Canovanas**	**2.98**	**110**	*e*S	**Sn**	**13 07 29.3**	**-0.6**
CBYP	**Canovanas**	**2.98**	**110**		**Pn**	**13 06 52.9**	**-0.5**
CBYP	**Canovanas**	**2.98**	**110**		**Sn**	**13 07 29.3**	**-0.6**
HUMP	**Col San Antoni**	**3.04**	**112**	Pn	**Pn**	**13 06 53.6**	**-0.5**
HUMP	comp=N,38nm,0.3s			IAML		13 07 34.4	
MTP	**Monte Pirata**	**3.32**	**111**	⇑*e*P	**Pn**	**13 06 58.8**	**+1.2**
MTP	**Monte Pirata**	**3.32**	**111**	*e*S	**Sn**	**13 07 38.0**	**+0.5**
MTP	**Monte Pirata**	**3.32**	**111**		**Pn**	**13 06 57.5**	**-0.1**
MTP	**Monte Pirata**	**3.32**	**111**		**Sn**	**13 07 38.0**	**+0.5**
CUPR	**Culebra, Puert**	**3.49**	**106**	*e*S	**Sn**	**13 07 40.1**	**-1.3**
CUPR	**Culebra, Puert**	**3.49**	**106**		**Sn**	**13 07 40.1**	**-1.3**
STVI	**Saint Thomas**	**3.78**	**104**	Pn	**Pn**	**13 07 02.0**	**-1.6**
STVI	comp=N,23nm,0.4s			IAML		13 07 48.7	
STVI	comp=E,14nm,0.6s			IAML		13 07 54.1	

BER ***22*** *13:15:13.6±0.9, 70.22N×30.44E, h0km, ML0.8, Suspected explosion*

HEL 22 13:15:11.8±0.6, 69.45N×30.82E, h0km, ML1.1, Explosion, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEV	**Kevo**	**1.37**	**285**	*e*P	Pg	13 15 36.2	-1.8
KEV				*e*S	Sg	13 15 52.9	-2.9
KEV	**Kevo**	**1.37**	**285**	PG	Pg	13 15 36.2	-1.8
KEV	baz=108			MSG		13 15 53.3	
KEV	comp=Z,1.1nm,0.2s			SG	Sg	13 15 53.8	-2.0
VRF	**Varrio**	**1.76**	**195**	SB	Sn	13 16 04.2	-2.5
VRF	comp=Z,1.3nm,0.2s			MSG		13 16 04.4	
ARA0	**ARCESS Array S**	**1.87**	**275**	*e*P	Pn	13 15 45.1	+0.1
ARA0				*e*S	Sn	13 16 07.2	-2.2
ARA0	comp=Z,1.4nm,0.6s			IAML		13 16 11.3	
ARA0	**ARCESS Array S**	**1.87**	**275**	PG	Pn	13 15 45.2	+0.1
ARA0	baz=93			SG	Sn	13 16 09.4	0.0
KTK1	**Kautokeino**	**2.74**	**264**	*e*P	Pn	13 15 57.0	+0.1
KTK1				*e*S	Sn	13 16 30.7	+0.1
KTK1	comp=Z,1.0nm,0.9s			IAML		13 16 47.0	
OLKF	**Oulanka, Finla**	**3.19**	**190**	SG	Sg	13 16 51.6	-2.4
KIF	**Kilpisjarvi**	**3.60**	**268**	PN	Pn	13 16 08.2	-0.4

IDC ***22*** *13:17:17.9±0.6, 32.12S×71.89W, h0km, mb4.5/9, mb1 4.5/14, mb1mx4.3/30, mbtmp4.3/14, ML4.2/5, MS3.9/10, Ms1 3.9/10, ms1mx3.6/27, Error ellipse: s-maj=23.0km s-min=16.1km az=99.0*

VAO ***22*** *13:17:20.4±0.7, 32.15S×71.97W, h20km, mb4.4*

NEIC ***22*** *13:17:20.8, 32.17S×72.05W, h21km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr5.00; Mθθ-2.95; Mφφ-2.04; Mrθ0.56; Mrφ2.80; Mθφ1.05; Fault plane solution: M₀5.31000×10¹⁵ NP1:φ§323.32000°, δ47.92000°, λ108.00000°. NP2:φ§117.45000°, δ45.10000°, λ71.10000°. Principal axes: T 5.2773, Plg77.0000°, Azm305.0000°; N 0.0615, Plg13.0000°, Azm131.0000°; P -5.3389, Plg1.0000°, Azm41.0000°;*

NEIC ***22*** *13:17:20.3±1.5, 32.17S±0.04×72.05W±0.04, h16km±3km, mb4.8/40, Mwr4.4/52, ML4.5(GUC) Error ellipse: s-maj=10.3km s-min=5.4km az=84.0*

SJA ***22*** *13:17:21.3±0.8, 32.21S×71.83W, h28km±5km, ML4.6, MW4.6*

GUC ***22*** *13:17:22.4±0.7, 32.24S×71.77W, h25km±4km, ML4.5*

ISC 22 13:17:18.9±1.3, 32.15S±0.02×72.02W±0.04, h11km±7km, n189, σ1§22/202, mb4.8/25, MS4.0/7, 10C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**0.74**	**124**	⇑*i*P	**Pg**	**13 17 33.7**	**+0.5**
VA06				*i* S	**Sg**	**13 17 41.2**	**-1.7**
VA06	comp=N,34μm,0.7s			IAML		13 17 45.7	
VA01	**Torpederas**	**0.93**	**160**	*e*P	**Pb**	**13 17 37.3**	**+0.3**
VA01				*i* S	**Sg**	**13 17 49.6**	**+0.7**
VA01	**Torpederas**	**0.93**	**160**	Pg	**Pb**	**13 17 37.2**	**+0.3**
VA01				Sg	**Sb**	**13 17 49.3**	**0.0**
VA01	**Torpederas**	**0.93**	**160**	*i* P	**Pg**	**13 17 37.6**	**+0.7**
VA01				*i* S	**Sg**	**13 17 49.6**	**+0.7**
ROCH	**El Roble**	**1.19**	**134**	⇑*i*P	**Pn**	**13 17 41.3**	**-0.3**
ROCH				*i* S	**Sb**	**13 17 55.8**	**-1.2**
ROCH	comp=N,24μm,0.6s			IAML		13 17 59.9	
VA03	**San Esteban**	**1.39**	**117**	⇑*i*P	**Pn**	**13 17 44.2**	**0.0**
VA03				*i* S	**Sn**	**13 18 00.6**	**-2.0**
VA03	comp=N,39μm,0.2s			IAML		13 18 03.2	
VA03	**San Esteban**	**1.39**	**117**		**Pn**	**13 17 44.2**	**0.0**
VA03	**San Esteban**	**1.39**	**117**	*i* P	**Pn**	**13 17 44.3**	**0.0**
VA03				*i* S	**Sn**	**13 18 01.4**	**-1.2**
CO06	**Fray Jorge**	**1.50**	**13**	⇑*i*P	**Pn**	**13 17 46.6**	**+0.8**
CO06				*i* S	**Sn**	**13 18 05.3**	**0.0**
CO06	comp=E,11μm,0.8s			IAML		13 18 13.3	
CO06	**Fray Jorge**	**1.50**	**13**		**Pn**	**13 17 46.5**	**+0.7**
VA05	**Santo Domingo**	**1.54**	**167**	*e*P	**Pn**	**13 17 46.7**	**+0.3**
VA05				*i* S	**Sg**	**13 18 08.6**	**0.0**
VA05	comp=N,14μm,0.5s			IAML		13 18 15.4	
VA05	**Santo Domingo**	**1.54**	**167**		**Pn**	**13 17 46.6**	**+0.3**
MT05	**Renca**	**1.65**	**139**	⇑*i*P	**Pn**	**13 17 48.5**	**+0.7**
MT05				*i* S	**Sn**	**13 18 08.8**	**-0.2**
MT05	comp=E,15μm,0.3s			IAML		13 18 13.5	
MT05	**Renca**	**1.65**	**139**		**Pn**	**13 17 48.2**	**+0.5**
CO03	**El Pedregal**	**1.73**	**41**	⇓*i*P	**Pb**	**13 17 50.5**	**-0.2**
CO03				*i* S	**Sb**	**13 18 12.5**	**0.0**
CO03	comp=N,8μm,0.5s			IAML		13 18 18.9	
CO03	**El Pedregal**	**1.73**	**41**	Pn	**Pb**	**13 17 50.4**	**-0.3**
CO03	**El Pedregal**	**1.73**	**41**	*i* P	**Pb**	**13 17 51.0**	**+0.3**
FSR	**Penalolen**	**1.83**	**137**	*e*P	**Pb**	**13 17 51.6**	**-0.8**
FSR				*i* S	**Sn**	**13 18 13.9**	**+0.4**
MT01	**Popeta**	**1.83**	**160**	⇑*i*P	**Pn**	**13 17 50.9**	**+0.6**
MT01				*i* S	**Sn**	**13 18 11.6**	**-1.9**
MT01	comp=N,4μm,0.1s			IAML		13 18 21.9	
MT01	**Popeta**	**1.83**	**160**		**Pn**	**13 17 50.9**	**+0.6**
MT01	**Popeta**	**1.83**	**160**	*i* P	**Pn**	**13 17 51.1**	**+0.8**
MT01				*i* S	**Sb**	**13 18 16.4**	**+1.0**
MT09	**Talagante**	**1.84**	**152**	⇑*i*P	**Pn**	**13 17 51.6**	**+1.1**
MT09				*i* S	**Sn**	**13 18 14.6**	**+0.6**
MT09	comp=N,8μm,0.5s			IAML		13 18 21.6	
MT09	**Talagante**	**1.84**	**152**		**Pn**	**13 17 51.5**	**+1.0**
GO04	**Tololo Observa**	**2.23**	**28**	⇑*i*P	**Pn**	**13 17 57.1**	**+1.1**
GO04				*i* S	**Sb**	**13 18 28.0**	**+1.0**
GO04	**Tololo Observa**	**2.23**	**28**	Pn	**Pn**	**13 17 57.2**	**+1.3**
GO04	**Tololo Observa**	**2.23**	**28**	*i* P	**Pn**	**13 17 57.0**	**+1.1**
AUSP	**Uspallata**	**2.23**	**93**	*i* P	**Pb**	**13 17 59.6**	**+0.1**
AUSP				*i* S	**Sb**	**13 18 28.2**	**+1.0**
LMEL	**Las Melosas**	**2.28**	**139**	⇑*i*P	**Pn**	**13 17 58.1**	**+1.5**
LMEL				*i* S	**Sb**	**13 18 26.6**	**-1.9**
LMEL	comp=N,5μm,0.3s			IAML		13 18 33.3	
CO05	**La Serena**	**2.32**	**17**	Pn	**Pn**	**13 17 58.2**	**+1.2**
RTLS	**Leoncito**	**2.34**	**82**	*e*P	**Pb**	**13 18 00.9**	**-0.3**
RTLS				*i* S	**Sb**	**13 18 31.4**	**+1.2**
RTLS	comp=Z,2μm,1.5s			IAML		13 18 34.1	
BO01	**Tunca**	**2.37**	**161**		**Pn**	**13 17 58.3**	**+0.5**
BO01	**Tunca**	**2.37**	**161**	*e*P	**Pn**	**13 17 58.6**	**+0.9**
BO01				*e*S	**Sb**	**13 18 29.2**	**-1.7**
ARCO	**CERRO ARCO**	**2.70**	**106**	*e*P	**Pb**	**13 18 06.6**	**-0.7**
ARCO				*i* S	**Sb**	**13 18 42.1**	**+1.6**
ARCO	comp=Z,2μm,1.1s			IAML		13 18 48.6	
ASAL	**Salagasta**	**2.73**	**100**	*e*P	**Pb**	**13 18 07.2**	**-0.6**
ASAL				*i* S	**Sg**	**13 18 44.7**	**-2.0**
ASAL	comp=Z,1μm,1.9s			IAML		13 18 53.4	
BO02	**Sierra Bellavi**	**2.83**	**159**		**Pn**	**13 18 05.1**	**+0.9**
BO02	**Sierra Bellavi**	**2.83**	**159**	*e*P	**Pn**	**13 18 05.3**	**+1.1**
BO02				*i* S	**Sb**	**13 18 44.6**	**+0.3**
AAGR	**Agrelo**	**2.85**	**110**	*e*P	**Pb**	**13 18 08.6**	**-1.2**
AAGR	comp=Z,1μm,0.7s			IAML		13 18 54.2	
GO05	**Huala**	**2.86**	**179**	⇑*i*P	**Pn**	**13 18 04.4**	**0.0**
GO05	**Huala**	**2.86**	**179**	Pn	**Pn**	**13 18 04.5**	**0.0**
GO05	**Huala**	**2.86**	**179**	*i* P	**Pn**	**13 18 04.7**	**+0.2**
ZON	**Zonda**	**2.91**	**79**		**Pn**	**13 18 08.0**	**+2.9**
ZON	**Zonda**	**2.91**	**79**	*i* P	**Pb**	**13 18 08.8**	**-1.9**
ZON				*i* S	**Sb**	**13 18 44.5**	**-1.8**
ZON	comp=Z,1μm,0.8s			IAML		13 18 55.7	
ACCO	**Cerro Coronel**	**2.97**	**59**	*i* P	**Pb**	**13 18 10.1**	**-1.8**
ACCO	comp=Z,2μm,1.0s			IAML		13 18 53.4	
RTCV	**Cerro Valdivia**	**2.97**	**85**	*e*P	**Pb**	**13 18 09.5**	**-2.3**
RTCV				*i* S	**Sb**	**13 18 48.6**	**+0.5**
RTCV	comp=Z,690nm,4.1s			IAML		13 18 53.6	
LCO	**Las Campanas**	**3.33**	**20**	*i* P	**Pn**	**13 18 12.0**	**+0.9**
COIS	**El Sosneado**	**3.58**	**146**	*i* P	**Pn**	**13 18 17.8**	**+3.5**
LAMA	**Las Malvinas**	**3.64**	**141**	*i* P	**Pn**	**13 18 19.0**	**+3.8**
ML02	**Panimavida**	**3.64**	**172**		**Pn**	**13 18 15.5**	**+0.4**
RFA	**San Rafael**	**3.96**	**132**	*i* P	**Pn**	**13 18 22.4**	**+2.8**
RFA	comp=Z,419nm,1.1s			IAML		13 19 33.6	
AC04	**Llanos de Chal**	**4.01**	**12**	Pn	**Pn**	**13 18 20.2**	**0.0**
AC04	**Llanos de Chal**	**4.01**	**12**	*i* P	**Pn**	**13 18 20.7**	**+0.4**
AGUA	**GUANDACOL**	**4.03**	**50**	*i* P	**Pn**	**13 18 25.4**	**+4.8**
AGUA	comp=Z,751nm,0.9s			IAML		13 19 34.9	
AVFE	**Valle Fertil**	**4.17**	**70**	*i* P	**Pn**	**13 18 24.8**	**+2.3**
AVFE	comp=Z,623nm,0.7s			IAML		13 19 31.9	
ACHE	**Chepes**	**4.67**	**79**	*e*P	**Pn**	**13 18 32.7**	**+3.2**
VCA	**Vinchina**	**4.73**	**45**	*i* P	**Pn**	**13 18 34.5**	**+4.2**
VCA	comp=Z,2μm,1.4s			IAML		13 19 54.5	
GO03	**Copiap**	**4.79**	**19**	Pn	**Pn**	**13 18 31.6**	**+0.5**
GO03	**Copiap**	**4.79**	**19**	*e*P	**Pn**	**13 18 32.6**	**+1.5**
AC06	**Mina Casimiro**	**4.99**	**17**	Pn	**Pn**	**13 18 33.7**	**0.0**
AC02	**Maricunga**	**5.86**	**26**	Pn	**Pn**	**13 18 46.8**	**+0.7**
AC02	**Maricunga**	**5.86**	**26**	*i* P	**Pn**	**13 18 47.8**	**+1.6**
H03N1	**Juan Fernandez**	**5.95**	**256**	T	T	13 25 30.1	
	baz=86,slow=73,SNR=980						
H03N3	**Juan Fernandez**	**5.96**	**255**	T	T	13 25 29.8	
	baz=86,slow=73,SNR=812						
H03N2	**Juan Fernandez**	**5.96**	**256**	T	T	13 25 31.0	
	baz=86,slow=73,SNR=574						
H03S3	**Juan Fernandez**	**6.03**	**252**	T	T	13 25 31.0	
	baz=83,slow=75,SNR=130						

H03S1	**Juan Fernandez**	**6.03**	**252**	T	T	13 25 23.7			
	baz=83,slow=75,SNR=106								
H03S2	**Juan Fernandez**	**6.04**	**252**	T	T	13 25 21.4			
	baz=83,slow=75,SNR=29								
CYA	**Choya**	**6.52**	**57**	*i* P	**Pn**	**13 18 56.0**	**+1.2**		
CYA				IAML		13 20 19.8			
	comp=Z,297nm,1.4s								
LC01	**Cunco**	**6.74**	**179**	Pn	**Pn**	**13 18 57.3**	**-0.4**		
LC01	**Cunco**	**6.74**	**179**	*i* P	**Pn**	**13 18 57.7**	**0.0**		
PB14	**IPOC Station P**	**7.63**	**11**	Pn	**Pn**	**13 19 11.4**	**+1.2**		
PLCA	**Paso Flores**	**8.65**	**173**	Pn	**Pn**	**13 19 25.4**	**+1.4**		
	comp=Z,1.2nm,0.3s,baz=335,slow=11,SNR=33								
PLCA				LR	LR	13 23 22.1			
	comp=Z,479nm,18.3s,baz=345,slow=42								
PLCA	**Paso Flores**	**8.65**	**173**	Pn	**Pn**	**13 19 24.7**	**+0.7**		
PB10	**IPOC Station P**	**8.70**	**9**	Pn	**Pn**	**13 19 24.7**	**+0.1**		
PB10	**IPOC Station P**	**8.70**	**9**	*i* P	**Pn**	**13 19 25.0**	**+0.4**		
PB10				IAML		13 21 42.4			
	comp=Z,101nm,1.1s								
LL04	**Puerto Octay**	**8.75**	**182**	Pn	**Pn**	**13 19 25.5**	**+0.2**		
PB15	**IPOC Station P**	**9.19**	**15**	Pn	**Pn**	**13 19 32.7**	**+1.2**		
PB06	**IPOC Station P**	**9.65**	**14**	Pn	**Pn**	**13 19 38.1**	**+0.2**		
AF01	**San Pedro de A**	**9.77**	**21**	Pn	**Pn**	**13 19 40.9**	**+1.3**		
LVC	**Limon Verde**	**9.89**	**17**	Pn	**Pn**	**13 19 39.6**	**-1.8**		
	comp=Z,0.7nm,0.3s,baz=196,slow=8.7,SNR=2.7								
LVC				Sn	**Sn**	**13 21 30.8**	**-1.8**		
	comp=Z,1.6nm,0.3s,baz=162,slow=16,SNR=3.0								
LVC				LR	LR	13 23 43.4			
	comp=Z,1μm,18.2s,baz=216,slow=39								
LVC	**Limon Verde**	**9.89**	**17**	Pn	**Pn**	**13 19 40.3**	**-1.1**		
LVC	**Limon Verde**	**9.89**	**17**	*e*P	**Pn**	**13 19 42.7**	**+1.3**		
LVC				*e*S	**Sn**	**13 21 33.0**	**+0.4**		
LVC	**Limon Verde**	**9.89**	**17**	*i* P	**Pn**	**13 19 39.5**	**-1.9**		
LVC				IAML		13 22 05.8			
	comp=Z,76nm,1.2s								
PB04	**IPOC Station P**	**9.91**	**10**	Pn	**Pn**	**13 19 43.4**	**+1.9**		
TRQA	**Tornquist**	**10.12**	**128**	Pn	**Pn**	**13 19 44.7**	**+0.6**		
TRQA	**Tornquist**	**10.12**	**128**	*e*P	**Pn**	**13 19 44.6**	**+0.5**		
TRQA				*e*S	**Sn**	**13 21 37.4**	**-0.2**		
PB07	**IPOC Station P**	**10.55**	**11**	Pn	**Pn**	**13 19 51.4**	**+1.2**		
PB09	**IPOC Station P**	**10.60**	**14**	Pn	**Pn**	**13 19 49.6**	**-1.3**		
PB01	**IPOC Station P**	**11.29**	**12**	Pn	**Pn**	**13 19 57.6**	**-2.7**		
TA02	**Huaiquique**	**11.95**	**9**	Pn	**Pn**	**13 20 09.7**	**+0.5**		
PB11	**IPOC Station P**	**12.52**	**10**	Pn	**Pn**	**13 20 15.3**	**-1.8**		
PSGCX	**Pisagua**	**12.61**	**8**	Pn	**Pn**	**13 20 16.0**	**-2.4**		
CPUP	**Villa Florida**	**14.07**	**69**	Pn	**Pn**	**13 20 38.4**	**+0.2**		
	comp=Z,0.4nm,0.3s,baz=242,slow=12,SNR=5.3								
CPUP				Sn	**Sn**	**13 23 15.4**	**+1.1**		
	comp=Z,0.3nm,0.3s,baz=319,slow=7.6,SNR=3.2								
CPUP				LR	LR	13 26 25.2			
	comp=Z,535nm,19.4s,baz=248,slow=39								
CPUP	**Villa Florida**	**14.07**	**69**	Pn	**Pn**	**13 20 39.1**	**+0.9**		
PLTB	**Pedras Altas**	**15.64**	**93**	Pn	**Pn**	**13 20 56.5**	**-2.8**		
LPAZ	**La Paz**	**16.18**	**14**	Pn	**Pn**	**13 21 07.5**	**+0.7**		
	comp=Z,0.3nm,0.3s,baz=175,slow=4.4,SNR=23								
LPAZ	**La Paz**	**16.18**	**14**	Pn	**Pn**	**13 21 06.6**	**-0.3**		
LPAZ	**La Paz**	**16.18**	**14**	*e*P	**Pn**	**13 21 06.5**	**-0.3**		
AQDB	**Aquidauana**	**18.66**	**55**	*e*P	**P**	**13 21 36.8**	**0.0**		
SIV	**San Ignacio**	**18.91**	**34**	P	**Pn**	**13 21 40.4**	**+0.1**		
	comp=Z,0.3nm,0.3s,baz=234,slow=9.7,SNR=19								
PTGB	**Pitanga**	**19.03**	**72**	*e*P	**P**	**13 21 41.4**	**+0.4**		
PTLB	**Pontes e Lacer**	**20.34**	**38**	*e*P	**P**	**13 21 55.3**	**0.0**		
NNA	**Nana**	**20.55**	**346**	P	**P**	**13 21 57.4**	**-0.2**		
	comp=Z,7.8nm,0.5s,baz=232,slow=12,SNR=2.2								
NNA	**Nana**	**20.55**	**346**	P	**P**	**13 21 55.6**	**-2.0**		
PP1B	**Ponte de Pedra**	**21.20**	**51**	*e*P	**P**	**13 22 04.5**	**-0.1**		
PCMB	**Pacaembu**	**21.25**	**66**	*e*P	**P**	**13 22 05.4**	**+0.3**		
TIJ01	**Guaruva-PR**	**21.27**	**77**	*e*P	**P**	**13 22 05.2**	**-0.2**		
FRTB	**Fartura**	**21.69**	**72**	*e*P	**P**	**13 22 08.9**	**-1.0**		
SALV	**Santo Antonio**	**21.95**	**46**	*e*P	**P**	**13 22 11.8**	**-0.9**		
VILB	**Vilhena**	**21.97**	**32**	*e*P	**P**	**13 22 13.0**	**+0.2**		
EFI	**East Falkland**	**22.03**	**156**	P	**P**	**13 22 12.3**	**-0.9**		
ETMB	**Extrema**	**22.86**	**15**	*e*P	**P**	**13 22 22.3**	**0.0**		
ITRB	**Iturama**	**23.03**	**93**	*e*P	**P**	**13 22 24.1**	**-0.1**		
SPB	**Sao Paulo**	**23.31**	**75**	*e*P	**P**	**13 22 27.1**	**+0.2**		
VAO	**Valinhos**	**23.96**	**74**	*e*P	**P**	**13 22 33.0**	**-0.4**		
SAML	**Samuel**	**24.50**	**21**	*e*P	**P**	**13 22 38.1**	**-0.1**		
CLDB	**Colider**	**25.93**	**39**	*e*P	**P**	**13 22 50.9**	**-0.3**		
BDFB	**Brasilia**	**27.32**	**59**	P	**P**	**13 23 02.9**	**-1.0**		
	comp=Z,13nm,0.9s,baz=240,slow=8.1,SNR=11								
BDFB	**Brasilia**	**27.32**	**59**	P	**P**	**13 23 02.7**	**-1.2**		
BDFB				IAmb	IAmb	13 23 12.7			
	comp=Z,25nm,1.0s								
SNDB	**Serra Nova Dou**	**27.68**	**48**	*e*P	**P**	**13 23 06.9**	**-0.2**		
NPGB	**Novo Progresso**	**29.41**	**35**	*e*P	**P**	**13 23 21.6**	**-0.8**		
BOAV	**Boa Vista**	**36.04**	**20**	*e*P	**P**	**13 24 20.4**	**+0.1**		
MCPB	**Macapa, AP**	**36.81**	**35**	*e*P	**P**	**13 24 26.8**	**-0.2**		
ROSC	**El Rosal**	**36.84**	**356**	LR	LR	13 40 37.5			
	comp=Z,218nm,18.1s,baz=351,slow=38								
RUSC	**La Rusia**	**37.84**	**358**	P	**P**	**13 24 37.9**	**+1.6**		
MDP	**Montagnes des**	**41.38**	**30**	LR	LR	13 43 52.6			
	comp=Z,235nm,19.6s,baz=266,slow=39								
JTS	**Las Juntas de**	**43.97**	**342**	P	**P**	**13 25 26.8**	**+0.6**		
JTS				IAmb	IAmb	13 25 49.7			
	comp=Z,17nm,1.5s								
TOSP	**Speyside**	**44.57**	**16**	P	**P**	**13 25 31.1**	**+0.1**		
BIM	**Bigot**	**47.57**	**14**	P	**P**	**13 25 54.3**	**-0.3**		
MLPR	**Magueyes Islan**	**50.06**	**6**	P	**P**	**13 26 13.3**	**-0.4**		
CRPR	**Cabo Rojo, PR**	**50.09**	**6**	P	**P**	**13 26 13.9**	**0.0**		
PDPR	**Patillas Dam,**	**50.21**	**7**	P	**P**	**13 26 14.2**	**-0.7**		
PDPR				IAmb	IAmb	13 26 15.8			
	comp=Z,19nm,1.1s								
VNA3	**Neumayer Olymp**	**51.07**	**158**	P	**P**	**13 26 22.1**	**+1.3**		
VNA1	**Neumayer--Stat**	**51.37**	**158**	P	**P**	**13 26 24.6**	**+1.6**		
VNA2	**Neumayer--Watz**	**51.71**	**158**	P	**P**	**13 26 26.8**	**+1.1**		
	baz=281,slow=8.6								
SNAA	**Sanae**	**53.30**	**158**	P	**P**	**13 26 38.4**	**+1.0**		
SNAA	**Sanae**	**53.30**	**158**	LR	LR	13 47 45.2			
	comp=Z,85nm,20.6s,baz=293,slow=34								
SNAA	**Sanae**	**53.30**	**158**	P	**P**	**13 26 38.0**	**+0.6**		
SNAA				IAmb	IAmb	13 26 40.2			
	comp=Z,22nm,1.2s								
QSPA	**South Pole Qui**	**58.09**	**180**	P	**P**	**13 27 13.2**	**+1.2**		
QSPA				IAmb	IAmb	13 27 14.6			
	comp=Z,7.4nm,0.8s								
553A	**Crawfordville**	**63.10**	**348**	P	**P**	**13 27 46.0**	**-0.3**		
VNDA	**Vanda**	**65.92**	**191**	P	**P**	**13 28 05.7**	**+1.4**		
	comp=Z,0.6nm,0.7s,baz=115,slow=4.5,SNR=6.0								
VNDA	**Vanda**	**65.92**	**191**	P	**P**	**13 28 05.3**	**+1.1**		
JCT	**Junction City**	**67.62**	**334**	P	**P**	**13 28 16.4**	**+0.7**		
JCT				IAmb	IAmb	13 28 18.5			
	comp=Z,8.8nm,1.1s								
TX32	**Lajitas Array**	**68.13**	**330**	P	**P**	**13 28 19.8**	**+0.8**		
TXAR	**Lajitas Array**	**68.13**	**330**	P	**P**	**13 28 20.6**	**+1.6**		
	comp=Z,1.2nm,0.6s,baz=152,slow=8.1,SNR=19								
TXAR	**Lajitas Array**	**68.13**	**330**	P	**P**	**13 28 19.9**	**+0.9**		
TX31	**Lajitas Ar. Sí**	**68.13**	**330**	P	**P**	**13 28 20.1**	**+1.1**		
TX31				IAmb	IAmb	13 28 21.4			
	comp=Z,4.3nm,0.8s								
W50A	**Signal Mountai**	**68.14**	**348**	P	**P**	**13 28 19.8**	**+0.9**		
W50A				IAmb	IAmb	13 28 30.1			
	comp=Z,16nm,1.4s								
WHTX	**Lake Whitney,**	**68.17**	**337**	P	**P**	**13 28 18.8**	**-0.3**		
WHTX				IAmb	IAmb	13 28 21.6			
	comp=Z,7.1nm,0.7s								
WVT	**Waverly**	**69.52**	**346**	P	**P**	**13 28 26.1**	**-1.2**		
WVT				IAmb	IAmb	13 28 28.8			
	comp=Z,7.2nm,0.8s								
S51A	**Beattyville**	**70.26**	**350**	P	**P**	**13 28 31.8**	**-0.1**		
S51A				IAmb	IAmb	13 28 34.2			
	comp=Z,8.1nm,0.9s								
MNTX	**Cornudas Mount**	**70.91**	**330**	P	**P**	**13 28 36.4**	**+0.4**		
MSTX	**Muleshoe**	**71.86**	**333**	P	**P**	**13 28 42.6**	**+0.8**		
MSTX				IAmb	IAmb	13 28 44.1			
	comp=Z,5.4nm,0.8s								
P48A	**Milroy**	**72.32**	**349**	P	**P**	**13 28 44.4**	**0.0**		
P48A				IAmb	IAmb	13 28 45.0			
	comp=Z,8.5nm,0.8s								
R40A	**Maddies Statio**	**72.57**	**343**	P	**P**	**13 28 44.9**	**-1.0**		
R40A				IAmb	IAmb	13 28 47.8			
	comp=Z,9.6nm,1.1s								
LIC	**Lamto**	**74.18**	**72**	*e*P	**P**	**13 28 55.9**	**0.0**		
	comp=Z,34nm,1.1s								
TIC	**Toumodi**	**74.43**	**72**	*e*P	**P**	**13 28 58.4**	**+1.0**		
KIC	**Kosan Boka**	**74.49**	**72**	*e*P	**P**	**13 28 57.8**	**0.0**		
	comp=Z,18nm,0.8s								
DBIC	**Dimbokro**	**74.58**	**72**	P	**P**	**13 28 58.4**	**+0.1**		
	comp=Z,12nm,0.8s,baz=206,slow=4.5,SNR=9.2								
DBIC	**Dimbokro**	**74.58**	**72**	P	**P**	**13 28 58.1**	**-0.1**		
MAW	**Mawson**	**74.95**	**164**	P	**P**	**13 29 00.7**	**+1.2**		
	comp=Z,4.6nm,0.8s,baz=210,slow=6.9,SNR=9.2								
MAW				LR	LR	14 03 58.9			
	comp=Z,125nm,19.4s,baz=233,slow=37								
MAW	**Mawson**	**74.95**	**164**	P	**P**	**13 28 59.4**	**-0.1**		
SUR	**Sutherland**	**75.71**	**119**	LR	LR	13 58 54.1			
	comp=Z,51nm,19.0s,baz=225,slow=33								
KOWA	**Kowa**	**79.86**	**66**	P	**P**	**13 29 27.7**	**-0.1**		
KOWA				IAmb	IAmb	13 29 28.8			
	comp=Z,6.8nm,0.8s								
BOSA	**Boshof**	**80.92**	**118**	P	**P**	**13 29 33.9**	**+0.2**		
	comp=Z,9.4nm,0.9s,baz=221,slow=4.6,SNR=7.4								
BOSA				LR	LR	14 01 40.4			
	comp=Z,67nm,18.4s,baz=196,slow=33								
BOSA	**Boshof**	**80.92**	**118**	P	**P**	**13 29 33.6**	**-0.1**		
BOSA				IAmb	IAmb	13 29 35.4			
	comp=Z,16nm,1.1s								
PDAR	**Pinedale Array**	**82.12**	**333**	LR	LR	14 02 48.2			
	comp=Z,63nm,19.6s,baz=112,slow=33								
NVAR	**Mina Array Bea**	**82.38**	**325**	P	**P**	**13 29 42.3**	**+1.3**		
	comp=Z,1.0nm,0.7s,baz=134,slow=6.6,SNR=4.3								
TORD	**Torodi Ar. Bea**	**83.57**	**70**	P	**P**	**13 29 47.6**	**+0.2**		
	comp=Z,8.7nm,0.8s,baz=261,slow=4.5,SNR=44								
TORD	**Torodi Ar. Bea**	**83.57**	**70**	P	**P**	**13 29 47.3**	**-0.2**		
LSZ	**Lusaka**	**90.37**	**108**	P	**P**	**13 30 19.4**	**-1.4**		
LSZ				IAmb	IAmb	13 30 23.6			
	comp=Z,5.3nm,0.8s								
ASAR	**Alice Springs**	**119.22**	**207**	PKP	**PKPdf**	**13 36 07.8**	**-0.8**		
	comp=Z,0.6nm,0.8s,baz=145,slow=1.5,SNR=5.7								
BRTR	**Keskin Array B**	**120.91**	**60**	PKP	**PKPdf**	**13 36 11.4**	**+0.1**		
	comp=Z,0.7nm,0.7s,baz=172,slow=2.5,SNR=4.6								
WRA	**Warramunga Arr**	**122.38**	**210**	PKP	**PKPdf**	**13 36 14.8**	**+0.1**		
	comp=Z,1.0nm,0.5s,baz=132,slow=1.4,SNR=11								
H11S2	**WAKE ISLAND Hyd**	**25.79**	**270**	T	T	15 55 27.3			
	baz=118,slow=75,SNR=100								
H11S1	**WAKE ISLAND Hyd**	**25.81**	**270**	T	T	15 55 22.8			
	baz=118,slow=75,SNR=46								
H11S3	**WAKE ISLAND Hyd**	**25.81**	**270**	T	T	15 55 27.8			
	baz=118,slow=75,SNR=69								
H11N3	**WAKE ISLAND Hyd**	**26.16**	**272**	T	T	15 55 41.9			
	baz=117,slow=74,SNR=7.8								
H11N1	**WAKE ISLAND Hyd**	**26.17**	**272**	T	T	15 55 48.4			
	baz=117								
H11N2	**WAKE ISLAND Hyd**	**26.18**	**272**	T	T	15 55 46.8			
	baz=117,slow=74,SNR=25								
HYB	**Hyderabad**	**149.65**	**112**	*i* PKP	**PKPbc**	**13 37 08.0**	**-1.2**		
KURBB	**Kurchatov Arra**	**151.49**	**41**	PKPbc	**PKiKP**	**13 37 13.5**	**+0.5**		
	comp=Z,4.2nm,0.5s,baz=300,slow=3.0,SNR=32								
KURK	**Kurchatov**	**151.49**	**41**		**PKiKP**	**13 37 13.5**	**+0.5**		
AAK	**Ala-Archa**	**151.57**	**59**	PKPbc	**PKiKP**	**13 37 14.6**	**+1.0**		
	comp=Z,9.2nm,0.7s,baz=218,slow=3.3,SNR=22								
AAK	**Ala-Archa**	**151.57**	**59**		**PKiKP**	**13 37 14.2**	**+0.5**		
ZALV	**Zalesovo Beam**	**152.64**	**30**	PKPbc	**PKiKP**	**13 37 15.8**	**+0.6**		
	comp=Z,6.2nm,0.6s,baz=317,slow=2.9,SNR=19								
ZALV	**Zalesovo Beam**	**152.64**	**30**		**PKiKP**	**13 37 15.4**	**+0.2**		
KSH	**Kashi**	**153.13**	**65**	PKPbc	**PKPdf**	**13 37 06.3**	**-3.0**		
KSH				PP	**PP**	**13 41 01.4**	**-0.8**		
MKAR	**Makanchi Array**	**155.50**	**46**	PKPab	**PKPab**	**13 37 38.5**	**+0.4**		
	comp=Z,3.1nm,0.8s,baz=291,slow=3.6,SNR=10.0								
XAN	**Xi'an**	**177.95**	**338**	PKP	**PKPdf**	**13 37 26.5**	**-3.1**		
XAN				pPKP	pPKPdf	13 37 32.3	-0.1		

MEX 22 13:17:54.7±0.7, 16.78N×99.03W, h10km±11km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MGIG	**Malinaltepec**	**0.59**	**40**	*i* P	Pg	13 18 05.0	-1.2
MGIG				*i* S	Sg	13 18 12.9	-1.0
DAIG	**Los Arroyos**	**0.64**	**292**	*i* P	Pg	13 18 05.7	-1.5
DAIG				*i* S	Sg	13 18 14.5	-1.2
PNIG	**Pinotepa**	**0.94**	**114**	*i* P	Pg	13 18 10.4	-2.5
PNIG				*i* S	Sg	13 18 21.3	-4.0
FTIG	**Fresnillo de T**	**1.41**	**37**	*i* P	Pn	13 18 17.2	-3.3
FTIG				*i* S	Sn	13 18 35.4	-3.8
HLIG	**Huajuapan de L**	**1.57**	**48**	*i* P	Pn	13 18 19.1	-3.6
HLIG				*i* S	Sn	13 18 40.5	-2.7

*NEIC **22** 13:19:20.8±1.6, 22.95N×0.07W×94.45E±0.05, h83km±5km, mb4.7/74, Error ellipse: s-maj=10.9km s-min=5.0km az=209.0*

*BJI **22** 13:19:20.1±0.0, 22.90N×94.42E, h98km, mB4.4/10, mb4.4/28*

*IDC **22** 13:19:22.5±0.5, 22.89N×94.45E, h105km±4km, mb3.9/25, mb1 4.0/27, mb1mx3.8/47, mbtmp4.2/27, MS3.0/4, Ms1 3.1/4, ms1mx2.7/39, Error ellipse: s-maj=10.5km s-min=7.8km az=5.0*

*NDI **22** 13:19:24.3±3.6, 23.09N×94.36E, h116km±97km, mb4.6, ML4.0, mb4.7(NEIC)*

ISC 22 13:19:22.6±0.3, 23.00N±0.04×94.42E±0.04, h105km, n212, σ1§68/230, mb4.5/60, 6C-3D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRDH	**Bariadhala**	**2.58**	**263**	P	**Pn**	**13 20 02.3**	**-0.6**
	46nm,0.3s,baz=60,slow=23,SNR=6.4						
BRDH				S	**Sn**	**13 20 33.9**	**0.0**
	581nm,0.3s,baz=231,slow=22,SNR=49						
KOHI	**KOHIMA**	**2.72**	**354**	*e*P	**Pn**	**13 20 06.5**	**+1.6**
KOHI				*e*S	**Sn**	**13 20 37.8**	**+0.3**
MOKO	**MOKOCHONG**	**3.30**	**1**	*e*P	**Pn**	**13 20 14.9**	**+2.2**
MOKO				*e*S	**Sn**	**13 20 49.5**	**-1.9**
MOKO				IAML		13 21 02.9	
	comp=E,686nm,0.5s						
SHL	**Shillong**	**3.45**	**318**	Pn	**Pn**	**13 20 12.9**	**-1.7**
SHL	**Shillong**	**3.45**	**318**	*e*P	**Pn**	**13 20 13.6**	**-1.0**
SHL				*e*S	**Sn**	**13 20 49.9**	**-4.9**
ITAN	**ITANAGAR**	**4.17**	**351**	*e*P	**Pn**	**13 20 24.5**	**+0.3**
ITAN				*e*S	**Sn**	**13 21 08.7**	**-3.3**
ITAN				IAML		13 21 11.5	
	comp=N,625nm,0.2s						
DIBR	**DIBRUGARH**	**4.47**	**6**	*e*S	**Sn**	**13 21 14.7**	**-4.4**
DIBR				IAML		13 21 32.0	
	comp=E,775nm,0.2s						
LKP	**Lekhapani**	**4.50**	**16**	*e*S	**Sn**	**13 21 15.6**	**-4.3**
LKP				IAML		13 21 23.2	
	comp=N,254nm,0.3s						
LKP				IAML		13 21 23.3	
	comp=E,254nm,0.5s						
MHMT	**Maesarieng**	**5.82**	**145**	P	**Pn**	**13 20 47.2**	**+0.7**
	comp=E,0.5nmcomp=E,797nmcomp=E,58nm,0.8s						
MHMT	**Maesarieng**	**5.82**	**145**	P	**Pn**	**13 20 47.0**	**+0.5**
CHTO	**Chiang Mai**	**5.94**	**134**	P	**Pn**	**13 20 46.7**	**-1.4**
	comp=E,0.3nmcomp=E,20nm,0.6s						
CHTO	**Chiang Mai**	**5.94**	**134**	Pn	**Pn**	**13 20 44.9**	**-3.2**
CMMT	**Chiang Mai**	**5.94**	**134**	P	**Pn**	**13 20 46.6**	**-1.6**
	comp=E,0.2nmcomp=E,443nmcomp=E,21nm,0.6s						
CMMT	**Chiang Mai**	**5.94**	**134**	P	**Pn**	**13 20 46.0**	**-2.2**
CM15	**Chiang Mai Arr**	**6.19**	**136**	P	**Pn**	**13 20 49.8**	**-1.7**
	comp=E,0.1nmcomp=E,319nmcomp=E,22nm,0.5s						
CM15	**Chiang Mai Arr**	**6.19**	**136**	P	**Pn**	**13 20 49.1**	**-2.5**
CRAI	**Chiangrai**	**6.19**	**115**	P	**Pn**	**13 20 46.8**	**-4.7**
CM31	**Chiang Mai Arr**	**6.19**	**136**	P	**Pn**	**13 20 49.0**	**-2.7**
CM31	**Chiang Mai Arr**	**6.19**	**136**		**Pn**	**13 20 48.4**	**-3.2**
CMAR	**Chiang Mai Arr**	**6.19**	**136**	P	**Pn**	**13 20 48.8**	**-2.8**
	comp=E,2.5nm,0.3s,baz=311,slow=13,SNR=63						
CMAR				LR	LR	13 23 27.0	
	comp=E,84nm,20.9s,baz=276,slow=40						
CMAR	**Chiang Mai Arr**	**6.19**	**136**	Pn	**Pn**	**13 20 48.3**	**-3.3**
CM13	**Chiang Mai Arr**	**6.20**	**137**	P	**Pn**	**13 20 49.9**	**-1.8**
	comp=E,0.1nmcomp=E,237nmcomp=E,13nm,0.7s						
CM13	**Chiang Mai Arr**	**6.20**	**137**	P	**Pn**	**13 20 49.1**	**-2.6**
CM02	**Chiang Mai Arr**	**6.21**	**136**	P	**Pn**	**13 20 50.5**	**-1.4**
	comp=E,0.2nmcomp=E,387nmcomp=E,15nm,0.7s						
CM02	**Chiang Mai Arr**	**6.21**	**136**	P	**Pn**	**13 20 49.5**	**-2.4**
CM01	**Chiang Mai Arr**	**6.23**	**136**	P	**Pn**	**13 20 50.8**	**-1.3**
	comp=E,0.2nmcomp=E,277nmcomp=E,16nm,0.8s						
CM01	**Chiang Mai Arr**	**6.23**	**136**	P	**Pn**	**13 20 49.7**	**-2.5**
CM09	**Chiang Mai Arr**	**6.23**	**136**	P	**Pn**	**13 20 50.9**	**-1.3**
	comp=E,0.2nmcomp=E,258nmcomp=E,16nm,0.7s						
CM09	**Chiang Mai Arr**	**6.23**	**136**	P	**Pn**	**13 20 50.1**	**-2.1**
CM05	**Chiang Mai Arr**	**6.24**	**136**	P	**Pn**	**13 20 50.6**	**-1.6**
	comp=E,0.1nmcomp=E,283nmcomp=E,10.0nm,0.8s						
CM05	**Chiang Mai Arr**	**6.24**	**136**	P	**Pn**	**13 20 49.5**	**-2.7**
PAYA	**Payao**	**6.24**	**124**	P	**Pn**	**13 20 49.9**	**-2.4**
	comp=E,0.4nmcomp=E,1μmcomp=E,57nm,0.6s						
PAYA	**Payao**	**6.24**	**124**	P	**Pn**	**13 20 49.3**	**-3.0**
CM04	**Chiang Mai Arr**	**6.26**	**136**	P	**Pn**	**13 20 51.2**	**-1.3**
	comp=E,0.2nmcomp=E,347nmcomp=E,16nm,0.8s						
CM04	**Chiang Mai Arr**	**6.26**	**136**	P	**Pn**	**13 20 50.3**	**-2.2**
GTK	**Tadong**	**6.80**	**310**	*e*P	**Pn**	**13 21 01.0**	**+1.1**
GTK				*e*S	**Sn**	**13 22 11.6**	**-4.4**
PHRA	**Phrae**	**7.04**	**128**	P	**Pn**	**13 21 00.0**	**-3.1**
NANT	**Nan**	**7.21**	**124**	P	**Pn**	**13 21 02.4**	**-3.0**
	comp=E,35nm,0.8s						
LSA	**Lhasa**	**7.29**	**337**		**Pn**	**13 21 06.3**	**-0.5**
ODAN	**Odare**	**7.45**	**302**	*e*Pn	**Pn**	**13 21 07.5**	**-1.3**
ODAN				*e*Sn	**Sn**	**13 22 27.9**	**-3.9**
	comp=E,487nm,0.4s						
TAPN	**Taplejung**	**7.46**	**307**	*e*Pn	**Pn**	**13 21 09.2**	**+0.1**
TAPN				*e*Sn	**Sn**	**13 22 30.6**	**-1.7**
	comp=E,403nm,0.3s						
UTTA	**Uttaradit**	**7.78**	**131**	P	**Pn**	**13 21 12.6**	**-0.5**
	comp=E,0.1nmcomp=E,29nm,0.7s						
UTTA	**Uttaradit**	**7.78**	**131**	P	**Pn**	**13 21 10.9**	**-2.1**
BOK	**Bokaro**	**7.88**	**277**	*e*P	**Pn**	**13 21 14.0**	**-0.5**
KMI	**Kunming**	**7.89**	**73**	⇓P	**Pn**	**13 21 17.3**	**+2.5**
KMI				sP		13 21 38.0	
KMI				pmax	pmax		
	comp=E,25nm,0.9s						
UMPA	**Umpang Tak**	**7.95**	**147**	P	**Pn**	**13 21 17.8**	**+2.3**
	comp=E,0.1nmcomp=E,488nmcomp=E,23nm,0.9s						
UMPA	**Umpang Tak**	**7.95**	**147**	P	**Pn**	**13 21 16.5**	**+1.0**
PHIT	**Phitsanulok**	**8.07**	**135**	P	**Pn**	**13 21 16.3**	**-0.8**
	comp=E,0.5nmcomp=E,2μmcomp=E,111nm,0.6s						
PHIT	**Phitsanulok**	**8.07**	**135**	P	**Pn**	**13 21 15.0**	**-2.2**
RAMN	**Ramite**	**8.11**	**301**	*e*Pn	**Pn**	**13 21 16.3**	**-1.5**
JIRN	**Jiri**	**8.77**	**304**	*e*Pn	**Pn**	**13 21 25.5**	**-1.4**
JIRN				*e*Sn	**Sn**	**13 23 00.4**	**-3.8**
	comp=E,401nm,0.4s						
UTHA	**Uthaitani**	**8.79**	**146**	P	**Pn**	**13 21 26.8**	**-0.1**
	comp=E,0.1nmcomp=E,448nmcomp=E,32nm,0.9s						
UTHA	**Uthaitani**	**8.79**	**146**	P	**Pn**	**13 21 25.9**	**-1.0**
PBKT	**Sadao Pong**	**8.88**	**135**	Pn	**Pn**	**13 21 27.1**	**-1.1**
SLVN	**Son La**	**8.95**	**99**	Pn	**Pn**	**13 21 27.1**	**-2.0**
GUN	**Gumba**	**9.13**	**304**	*e*Pn	**Pn**	**13 21 30.5**	**-1.3**
PKI	**Pulchoki**	**9.34**	**301**	*e*Pn	**Pn**	**13 21 32.6**	**-2.0**
PKIN	**Phulchoki**	**9.35**	**301**	*e*Pn	**Pn**	**13 21 32.6**	**-2.1**
KKN	**Kakani**

KBD	Kabd	42.20 289	*e*P	P	13 27 06.8	+1.5		
JMM	Marumori	42.21 59	P	P	13 27 04.6	-0.7		
JMM			IAmb	IAmb	13 27 29.8			
	comp=Z,21nm,1.5s							
RDF	Al-Radifah	42.34 288	*e*P	P	13 27 07.7	+1.3		
ARU	Arti	42.44 331	P	P	13 27 07.0	+0.2		
ARU			IAmb	IAmb	13 27 07.9			
	comp=Z,6.3nm,0.5s							
RST	Umm Al-Ruwaisa	42.79 289	*e*P	P	13 27 11.2	+1.1		
JEW	Eniwo	43.51 51	P	P	13 27 15.2	-0.5		
ONI	Oni	46.33 308	P	P	13 27 39.6	+1.5		
ONI			IAmb	IAmb	13 27 44.8			
	comp=Z,5.3nm,0.7s							
KBZ	Khabaz	46.90 309	P	P	13 27 42.6	+0.1		
	comp=Z,2.3nm,0.6s,baz=149,slow=7.8,SNR=3.9							
KIV	Kislovodsk	47.09 309	P	P	13 27 45.6	+1.6		
ATD	Arta Tunnel	50.33 266	LR	LR	13 47 31.5			
	comp=Z,25nm,18.1s,baz=152,slow=34							
PSA00	Pilbara Seismi	50.76 149	P	P	13 28 11.7	-0.4		
GAZ	Gaziantep	50.77 300	P	P	13 28 12.4	+0.1		
FITZ	Fitzroy Crossi	50.99 141	P	P	13 28 13.0	-0.8		
FITZ			IAmb	IAmb	13 28 38.1			
	comp=Z,5.5nm,1.1s							
KNRA	Kununurra	51.06 136	P	P	13 28 13.4	-1.1		
BZK	Bozkurt	53.27 306	P	P	13 28 31.5	+1.0		
ILGA	Ilgaz	53.47 305	P	P	13 28 33.2	+0.8		
BR131	Keskin Array S	53.54 303	P	P	13 28 32.9	0.0		
BR131			IAmb	IAmb	13 28 34.4			
	comp=Z,2.7nm,0.7s							
BRTR	Keskin Array B	53.54 303	P	P	13 28 33.9	+1.0		
	comp=Z,1.5nm,0.6s,baz=104,slow=7.6,SNR=10							
BRTR	Keskin Array B	53.54 303	P	P	13 28 32.7	-0.1		
PETK	Petropavlovsk-	55.96 41	P	P	13 28 48.6	-1.2		
	comp=Z,1.6nm,0.8s,baz=282,slow=11,SNR=1.8							
PET	Petropavlovsk	56.52 41	P	P	13 28 54.6	+0.8		
ELL	Elmali	56.64 300	P	P	13 28 55.9	+0.8		
AKASG	Malin Array Be	56.93 316	P	P	13 28 56.4	-0.3		
	comp=Z,2.7nm,0.4s,baz=81,slow=6.6,SNR=11							
AKASG	Malin Array Be	56.93 316	IAmb	IAmb	13 28 57.4			
	comp=Z,0.7nm,0.5s							
AKBB	Malin Array Si	56.93 316	P	P	13 28 56.2	-0.5		
AKBB			IAmb	IAmb	13 28 57.5			
	comp=Z,5.0nm,0.6s							
WRA	Warramunga Arr	57.79 134	P	P	13 29 02.5	-0.6		
	comp=Z,1.8nm,0.6s,baz=312,slow=6.3,SNR=37							
WRA			pP	pP	13 29 26.4	-2.4		
	comp=Z,2.2nm,0.6s,baz=314,slow=6.5,SNR=5.7							
WRA	Warramunga Arr	57.79 134	P	P	13 29 02.7	-0.5		
WB2	Warramunga Arr	57.79 134	P	P	13 29 02.5	-0.7		
WB2			IAmb	IAmb	13 29 03.2			
	comp=Z,5.1nm,0.8s							
WR0	Warramunga Arr	57.93 134	P	P	13 29 03.1	-1.0		
WR0			IAmb	IAmb	13 29 17.5			
	comp=Z,8.6nm,1.2s							
VRI	Vrincioaia	58.51 311	⇓P	P	13 29 09.7	+1.8		
PLOR	Plostina	58.56 311	⇑P	P	13 29 10.1	+1.7		
BIZ	Bicaz	58.92 312	⇓P	P	13 29 11.7	+0.9		
KARP	Karpathos	58.98 299	P	P	13 29 11.9	+0.5		
MLR	Muntele Rosu	59.07 310	⇑P	P	13 29 13.8	+1.8		
MLR	Muntele Rosu	59.07 310	P	P	13 29 12.9	+1.0		
ALN	Alexandroupoli	59.28 305	P	P	13 29 14.0	+0.7		
BURAR	Bucovina Array	59.51 313	⇑P	P	13 29 15.7	+0.8		
BURAR	Bucovina Array	59.51 313	P	P	13 29 15.1	+0.2		
VOIR		59.70 310	⇑P	P	13 29 17.3	+1.1		
FIA1	FINESS Array S	59.72 329	P	P	13 29 15.9	0.0		
FIA1			IAmb	IAmb	13 29 43.5			
	comp=Z,8.4nm,0.9s							
FINES	FINESS Array B	59.72 329	P	P	13 29 15.8	-0.2		
	comp=Z,2.6nm,0.5s,baz=88,slow=5.8,SNR=18							
FINES	FINESS Array B	59.72 329	P	P	13 29 15.6	-0.4		
NWAO	Narrogin (SRO)	59.73 158	P	P	13 29 15.8	-0.5		
AS31	Alice Springs	60.20 138	P	P	13 29 19.2	-0.6		
ASAR	Alice Springs	60.20 138	P	P	13 29 19.5	-0.3		
	comp=Z,1.4nm,0.6s,baz=319,slow=6.9,SNR=40							
ASAR			pP	pP	13 29 44.7	-0.9		
	comp=Z,1.7nm,0.6s,baz=321,slow=7.0,SNR=5.6							
ASAR	Alice Springs	60.20 138	P	P	13 29 19.2	-0.6		
KMBO	Kilima Mbogo	60.54 255	P	P	13 29 23.6	+1.0		
	comp=Z,1.5nm,0.5s,baz=25,slow=19							
KWP	Kalwaria Pacla	61.10 315	P	P	13 29 25.7	+0.1		
VTS	Vitosha	61.22 307	P	P	13 29 26.5	-0.2		
ARCES	ARCESS Array B	61.29 338	P	P	13 29 27.0	+0.5		
	comp=Z,1.8nm,0.6s,baz=105,slow=7.9,SNR=14							
ARCES			pP	pP	13 29 52.5	0.0		
	comp=Z,1.8nm,0.6s,baz=94,slow=6.6,SNR=3.4							
ARCES	ARCESS Array B	61.29 338	P	P	13 29 26.9	+0.3		
ARCES			IAmb	IAmb	13 29 53.0			
	comp=Z,4.1nm,0.9s							
KTK1	Kautokeino	61.99 337	*e*P	P	13 29 31.5	+0.2		
HAMF	Hammerfest	62.12 339	*e*P	P	13 29 33.0	+1.0		
AGG	Agios Georgios	62.33 303	P	P	13 29 33.2	-0.9		
FNA	Florina	62.81 305	P	P	13 29 37.0	-0.3		
ITM	Ithomi	62.92 301	P	P	13 29 37.2	-0.8		
JETT	Jettan, Norway	63.07 338	*e*P	P	13 29 40.2	+1.8		
PUK	Puka	63.75 307	P	P	13 29 43.1	-0.3		
VOI	Vohitsoka	64.37 230	P	P	13 29 47.8	0.0		
VOI			IAmb	IAmb	13 30 01.3			
	comp=Z,20nm,1.3s							
FAUS	Fauske	64.82 335	*e*P	P	13 29 49.8	-0.1		
MOR8	Moi Rana	65.15 334	*e*P	P	13 29 51.4	-0.7		
CTAO	Charters Tower	66.27 126	P	P	13 29 59.7	-0.2		
CTAO			IAmb	IAmb	13 30 22.0			
	comp=Z,11nm,1.4s							
TIP	Timpagrande	66.58 304	P	P	13 30 01.7	-0.1		
TIP			IAmb	IAmb	13 30 15.9			
	comp=Z,18nm,1.5s							
NC405	NORSAR Array S	66.64 328	P	P	13 30 00.6	-1.1		
NC405			IAmb	IAmb	13 30 07.0			
	comp=Z,6.2nm,0.8s							
NC602	NORSAR Array S	66.76 328	*e*P	P	13 30 02.7	+0.3		
NC602	NORSAR Array S	66.76 328	P	P	13 30 01.7	-0.7		
NC602			IAmb	IAmb	13 30 29.5			
	comp=Z,16nm,1.1s							
NC303	NORSAR Array S	66.80 328	P	P	13 30 02.0	-0.7		
NC303			IAmb	IAmb	13 30 26.4			
	comp=Z,14nm,1.3s							
NB201	NORSAR Array S	66.85 328	P	P	13 30 02.3	-0.8		
NB201			IAmb	IAmb	13 30 26.5			
	comp=Z,15nm,1.1s							
NB2	NORSAR Subarra	66.89 328	P	P	13 30 02.6	-0.7		
	comp=Z,1.8nm,0.5s,baz=83,slow=6.2							
NB2	NORSAR Subarra	66.89 328	P	P	13 30 02.6	-0.7		
	baz=83,slow=6.2							
NOA	NORSAR Array B	66.89 328	P	P	13 30 03.1	-0.2		
	comp=Z,2.8nm,0.6s,baz=85,slow=6.3,SNR=16							
NOA			pP	pP	13 30 29.6	0.0		
	comp=Z,1.3nm,0.6s,baz=85,slow=6.2,SNR=4.3							
GERES	GERESS Array B	67.05 315	P	P	13 30 05.3	+0.6		
	comp=Z,1.7nm,0.5s,baz=75,slow=5.8,SNR=11							
GERES			pP	PcP	13 30 31.9	-0.3		
	comp=Z,1.8nm,0.6s,baz=77,slow=5.9,SNR=5.9							
GERES	GERESS Array B	67.05 315	P	P	13 30 04.8	+0.1		
NAO01	NORSAR Array S	67.07 328	P	P	13 30 03.8	-0.7		
NC204	NORSAR Array S	67.08 329	P	P	13 30 04.4	-0.2		
NBO00	NORSAR Array S	67.10 328	P	P	13 30 03.4	-1.3		
DOMB	Dombas	67.80 330	*e*P	P	13 30 09.2	+0.1		
STAL	STALIGIAL	68.16 312	P	P	13 30 10.9	-0.7		
STAL			IAmb	IAmb	13 30 11.7			
	comp=Z,7.6nm,1.2s							
BBOO	Buckleboo	68.26 143	P	P	13 30 10.6	-1.7		
BBOO			IAmb	IAmb	13 30 28.4			
	comp=Z,15nm,1.2s							
SKAR	Skarslia	68.35 328	*e*P	P	13 30 12.9	+0.4		
NRCA	Norcia	68.55 309	P	P	13 30 14.5	+0.4		
NRCA			IAmb	IAmb	13 30 42.6			
	comp=Z,15nm,1.5s							
AKN	Aaknes	68.74 330	*e*P	P	13 30 15.8	+0.9		
KEST	Kesra	73.12 302	P	P	13 30 43.1	+1.1		
	comp=Z,4.3nm,0.9s,baz=219,slow=6.5,SNR=3.1							
LSZ	Lusaka	75.13 246	P	P	13 30 53.5	-0.4		
LSZ			IAmb	IAmb	13 30 55.5			
	comp=Z,9.0nm,0.7s							
H21K	Melozitna Rive	78.12 23	P	P	13 31 11.6	+1.7		
J20K	Nowinta River	78.35 25	P	P	13 31 13.3	+2.2		
J20K			IAmb	IAmb	13 31 20.4			
	comp=Z,8.1nm,1.4s							
MLY	Manley	79.19 23	P	P	13 31 17.6	+1.8		
BPAW	Bear Paw Mtn.	79.59 24	P	P	13 31 19.4	+1.5		
PPLA	Purkeypile	79.75 25	P	P	13 31 20.7	+1.7		
PPLA			IAmb	IAmb	13 31 22.0			
	comp=Z,16nm,1.4s							
BMAR	Burnt Mountain	79.91 20	P	P	13 31 20.8	+1.2		
ILAR	Eielson Array	80.71 22	P	P	13 31 24.5	+0.6		
	comp=Z,0.2nm,0.5s,baz=303,slow=4.3,SNR=2.3							
ESDC	Sonseca Array	81.76 310	P	P	13 31 29.6	-0.3		
	comp=Z,0.7nm,0.8s,baz=37,slow=4.1,SNR=2.2							
BOSA	Boshof	84.09 236	P	P	13 31 42.6	+0.4		
	comp=Z,4.5nm,0.5s,baz=112,slow=3.0,SNR=6.5							
TORD	Torodi Ar. Bea	87.41 283	P	P	13 31 59.9	+1.1		
	comp=Z,2.1nm,0.9s,baz=63,slow=4.7,SNR=8.3							
TXAR	Lajitas Array	125.13 19	PKP	PKPdf	13 38 10.8	-0.6		
	comp=Z,0.1nm,0.5s,baz=52,slow=2.1,SNR=3.5							
SDV	Santo Domingo	145.09 334	PKPbc	PKPdf	13 38 49.2	+0.3		
	comp=Z,6.3nm,0.3s,baz=315,slow=5.7,SNR=3.2							
SIV	San Ignacio	155.89 282	PKPab	PKPab	13 39 33.2	+0.6		
	comp=Z,0.8nm,0.6s,baz=108,slow=3.2,SNR=5.0							

MEX 22 13:24:24.7±0.7, 19.23N×104.08W, h21km±6km, MD3.7, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
R15V		0.11	123	*e*P	Pb	13 24 27.4	-4.0
R15V				*i* S	Sb	13 24 30.9	-5.3
COIG	Colima	0.37	98	*i* P	Pb	13 24 30.7	-1.8
COIG				*i* S	Sb	13 24 36.4	-1.4
EZ5V		0.51	61	*i* P	Pb	13 24 34.1	-1.2
EZ5V				*i* S	Sb	13 24 40.9	-1.5
CJM	Chamela	0.95	287	*i* P	Pb	13 24 39.9	-2.5
CJM				*i* S	Sb	13 24 54.1	-0.5
MMIG	Aquila	1.17	143	*i* P	Pn	13 24 43.5	-2.3
MMIG				*i* S	Sb	13 24 59.2	-1.5
ARIG	Puente Sto Nin	3.66	104	*i* P	Pn	13 25 20.8	+0.6
ARIG				*i* S	Sb	13 26 13.0	+0.4

*NEIC **22** 13:24:50.8, 50.23N×130.25W, h9km, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr=0.02; Mθθ=0.52; Mφφ=0.22; Mrθ=-0.24; Mrφ=1.30; Mθφ=-0.25; Fault plane solution: M0=1.40000×10^16^ NP1:φs=263.00000°, δ=80.00000°, λ=12.00000°. NP2:φs=171.00000°, δ=78.00000°, λ=170.00000°. Principal axes: T 1.3857, Plg15.0000°, Azm127.0000°; N 0.0224, Plg75.0000°, Azm301.0000°; P -1.4082, Plg2.0000°, Azm37.0000°;*

*NEIC **22** 13:24:50.5±1.9, 50.33N±0.06×130.23W±0.06, h10km±2km, mb4.2/14, Mwr4.7(OTT) Error ellipse: s-maj=10.0km s-min=6.4km az=346.0*

*PGC **22** 13:24:51.5±0.0, 50.23N×130.25W, h10km, MLSn3.7/42, Mw4.7, 207km west of Pt. Hardy, Bc Vancouver Island, Canada Region*

*IDC **22** 13:24:53.8±0.9, 50.48N×129.97W, h0km, mb4.1/7, mb1 4.2/18, mb1mx4.0/54, mbtmp4.0/18, ML3.7/11, MS3.8/28, Ms1 3.8/28, ms1mx3.8/39, Error ellipse: s-maj=16.8km s-min=9.4km az=69.0*

*GCMT **22** 13:24:55.5±0.3, 50.35N±0.02×130.31W±0.03, h18km±1km, MW4.8/94, Moment Tensor Solution. s13,c16; s94,c134; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.02±.07; Mθθ=0.21±.06; Mφφ=0.23±.06; Mrθ=0.36±.15; Mθφ=1.60±.06; Mrφ=0.99±.19; Best double couple: M0=1.91800×10^16^ NP1:φs=264.00000°, δ=59.00000°, λ=-5.00000°. NP2: φs=357.00000°, δ=85.00000°, λ=-148.00000°. Principal axes: T 1.7940, Plg18.0000°, Azm126.0000°; N 0.2480, Plg58.0000°, Azm4.0000°; P -2.0420, Plg25.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 13:24:51.6±3.5, 50.39N±0.05×130.10W±0.05, h10km±23km, n342, σ1=96/327, mb4.0/9, MS4.0/22, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOLB	Holberg	1.28	78	P	Pn	13 25 15.3	-0.2
HOLB				S	Sb	13 25 31.6	-0.7
HOLB	Holberg	1.28	78		Pn	13 25 15.6	+0.1
BPBC	Brooks Peninsu	1.51	98	Pn	Pn	13 25 17.7	-1.0
BPBC				Sn	Sn	13 25 36.6	-1.8
PACB	Port Alice, BC	1.67	87	Pn	Pn	13 25 20.4	-0.4
PACB				Sn	Sn	13 25 40.7	-1.5
PHC	Port Hardy	1.73	78	Pn	Pn	13 25 21.5	-0.1
PHC				Sn	Sn	13 25 43.0	-0.8
MAYB	Maynard	1.87	88	Pn	Pn	13 25 23.4	-0.3
MAYB				Sn	Sn	13 25 45.9	-1.6
EDB	Eliza Dome	1.98	104	Pn	Pn	13 25 24.4	-0.8
EDB				Sn	Sn	13 25 48.1	-1.9
HG4B	Hotspring	2.03	341	Pn	Pn	13 25 25.1	-0.6
HG4B				Sn	Sn	13 25 49.0	-2.2
HG4B	Hotspring	2.03	341	Pn	Pn	13 25 23.9	-1.8
TLCB	Telegraph Cove	2.09	84	Pn	Pn	13 25 27.0	+0.4
TLCB				Sn	Sn	13 25 52.0	-0.7
TLCB	Telegraph Cove	2.09	84		Pn	13 25 26.9	+0.4
BBB	Bella Bella	2.19	34	Pn	Pn	13 25 28.3	+0.3
	39nm,0.3s,baz=232,slow=6.7,SNR=690						
BBB				Sn	Sn	13 25 52.9	-2.2
	88nm,0.3s,baz=266,slow=15,SNR=5.7						
BBB				LR	LR	13 26 04.5	
	comp=Z,577nm,18.7s,baz=194,slow=34						
BBB	Bella Bella	2.19	34	Pn	Pn	13 25 28.2	+0.3
BBB				Sn	Sn	13 25 53.6	-1.4
WOSB	Woss	2.28	94	Pn	Pn	13 25 29.4	+0.2
BNB	Barry Inlet	2.42	335	Pn	Pn	13 25 30.2	-1.1
ETB	Estevan Point	2.52	112	Pn	Pn	13 25 31.8	-0.6
NCRB	Newcastle Ridg	2.59	88	Pn	Pn	13 25 34.0	+0.4
GDR	Gold River	2.69	101	Pn	Pn	13 25 34.0	-0.8
BUTB	Butedale	2.87	20	Pn	Pn	13 25 38.1	+0.7
SPLB	Strathcona Par	2.90	98	Pn	Pn	13 25 38.4	+0.6
BNKB	Banks Island	2.95	2	Pn	Pn	13 25 38.1	-0.4
BNKB				Sn	Sn	13 26 11.1	-2.8
TOFB	Tofino	2.98	113	Pn	Pn	13 25 38.3	-0.5
MOBC	Moresby Island	3.00	338	Pn	Pn	13 25 38.5	-0.5
MOBC	Moresby Island	3.00	338	Pn	Pn	13 25 39.1	0.0
CBB	Campbell River	3.06	95	Pn	Pn	13 25 40.7	+0.7
CBB				Sn	Sn	13 26 16.3	-0.3
CBB	Campbell River	3.06	95	Pn	Pn	13 25 40.6	+0.6
BTB	Buttle Lake	3.10	106	Pn	Pn	13 25 40.0	-0.6
BNAB	Bonilla	3.13	354	Pn	Pn	13 25 40.5	-0.3
BNAB				Sn	Sn	13 26 16.1	-2.1
MWAB	Mount Washingt	3.16	100	Pn	Pn	13 25 42.0	+0.6
DIB	Dawson Inlet,	3.18	333	Pn	Pn	13 25 40.5	-1.1
DIB	Dawson Inlet,	3.18	333		Pn	13 25 40.2	-1.4
H02S1	DAWSON INLET T	3.18	333	Pn	Pn	13 25 40.5	-1.0
H02S1				Sn	Sn	13 26 18.5	-1.0
H02N1	VAN INLET T-PH	3.25	333	Pn	Pn	13 25 41.4	-1.1
H02N1				Sn	Sn	13 26 20.0	-1.2
VIB	Van Inlet	3.25	333	Pn	Pn	13 25 41.3	-1.2
HWKB	Hawksbury Isla	3.27	10	Pn	Pn	13 25 42.9	+0.1
OZB	Mount Ozzard	3.32	114	Pn	Pn	13 25 43.5	0.0
OZB	Mount Ozzard	3.32	114		Pn	13 25 43.3	-0.2
GRNB	Grenville Isla	3.47	1	Pn	Pn	13 25 45.5	0.0
GRNB				Sn	Sn	13 26 25.4	-1.2
GRNB	Grenville Isla	3.47	1		Pn	13 25 45.6	0.0
BFSB	Bamfield	3.58	114	Pn	Pn	13 25 48.8	+1.7
B928	Bamfield	3.58	114	Pn	Pn	13 25 49.0	+1.9
B927	Port Alberni	3.62	107	Pn	Pn	13 25 49.4	+1.8
TXB	Texada	3.72	99	Pn	Pn	13 25 49.6	+0.6
MGB	Mount Grey	3.77	109	Pn	Pn	13 25 50.4	+0.5
KITB	Kitimat	3.81	13	Pn	Pn	13 25 50.7	+0.6
RUBB	Prince Rupert	3.95	359	Pn	Pn	13 25 52.5	+0.4
RUBB	Prince Rupert	3.95	359		Pn	13 25 52.1	+0.1
SHB	Sechelt	4.09	99	Pn	Pn	13 25 55.0	+0.7
PFB	Port Renfrew	4.11	114	Pn	Pn	13 25 55.2	+0.8
NLLB	Nanaimo Lost L	4.12	104	Pn	Pn	13 25 56.6	+2.1
OCP	Olym-Cheeka Pk	4.14	118	Pn	Pn	13 25 57.2	+2.4
B926	Mesachie Lake	4.19	110	Pn	Pn	13 25 58.7	+3.3
CLRS	Cowichan Lake	4.19	110		Pn	13 25 53.8	-1.6
LIB	Langara Island	4.28	336	Pn	Pn	13 25 57.7	+1.1
C03A	Quillayute Air	4.38	122	Pn	Pn	13 25 59.1	+1.1
BIB	Bowen Island	4.50	100	Pn	Pn	13 26 01.9	+2.2
WPB	Watts Point	4.50	97	Pn	Pn	13 26 01.5	+1.8
UBRB	Upper Baezaeko	4.51	54	Pn	Pn	13 26 02.6	+2.7
GOBB	Galiano Island	4.51	106	Pn	Pn	13 26 02.0	+2.1
OBC	Olympics--Boni	4.59	118	Pn	Pn	13 26 03.8	+2.7
WSLR	Whistler	4.61	90	Pn	Pn	13 26 03.4	+2.1
B010	North Saanich	4.67	109	Pn	Pn	13 26 05.8	+3.8
PGC	Sidney	4.67	109	Pn	Pn	13 26 04.7	+2.7
PGC	Sidney	4.67	109	Pn	Pn	13 26 02.1	+0.2
B009	North Saanich	4.67	109	Pn	Pn	13 26 04.7	+2.8
B011	North Saanich	4.67	109	Pn	Pn	13 26 04.4	+2.4
SNB	Saturna Island	4.79	107	Pn	Pn	13 26 06.3	+2.7
VGZ	Gonzales	4.84	111	Pn	Pn	13 26 07.9	+3.5
OSD	Olympics--Snow	4.92	119	Pn	Pn	13 26 09.0	+3.2
HNBB	Haney	4.99	100	Pn	Pn	13 26 09.3	+2.8
A04D	Lummi Island	5.09	106	P	Pn	13 26 09.0	+1.2
	baz=291						
LLLB	Lillooet	5.25	84	Pn	Pn	13 26 11.8	+1.7
LLLB	Lillooet	5.25	84	Pn	Pn	13 26 10.9	+0.8
VDB	Vedder Mountai	5.37	102	P	Pn	13 26 14.6	+3.0
HDW	Hoodsport	5.38	118	Pn	Pn	13 26 14.5	+2.5
FSB	Fort Saint Jam	5.41	39	Pn	Pn	13 26 14.4	+2.2
CRAG	Craig	5.41	341	Pn	Pn	13 26 13.1	+1.0
CRAG	Craig	5.41	341	P	Pn	13 26 13.1	+1.0
	baz=160						
CMW	Cultus Mountai	5.57	108	Pn	Pn	13 26 17.5	+3.1
MBW	Mount Baker	5.57	104	Pn	Pn	13 26 17.3	+2.8
B05A	Bryant	5.65	109	P	Pn	13 26 17.9	+2.5
	baz=294,SNR=16						
HOPB	Hope	5.70	97	Pn	Pn	13 26 19.6	+3.4
JCW	Jim Creek	5.78	109	Pn	Pn	13 26 20.4	+3.1
B06A	Marblemount	5.92	105	Pn	Pn	13 26 22.1	+2.9
B06A	Marblemount	5.92	105		Pn	13 26 18.3	-0.9
RPW	Rockport	5.93	106	Pn	Pn	13 26 22.5	+3.1
WRAK	Wrangell Islan	6.19	348	P	Pn	13 26 23.1	+0.2
	baz=167						
GPW	Glacier Peak	6.29	108	Pn	Pn	13 26 27.6	+3.1
E04D	Cinebar	6.31	125	P	Pn	13 26 26.4	+2.0
	baz=310						
FMW	Mount Fremont	6.57	119	Pn	Pn	13 26 31.1	+2.9
LON	Longmire	6.59	120	Pn	Pn	13 26 32.0	+3.5
LON	Longmire	6.59	120		Pn	13 26 28.6	+0.1
PNT	Penticton	6.86	95	Pn	Pn	13 26 36.0	+3.8
G03D	McMinnville, O	6.93	136	P	Pn	13 26 31.6	-1.4
	baz=320						
LTY	Liberty	6.97	113	Pn	Pn	13 26 37.2	+3.5
LTY	Liberty	6.97	113		Pn	13 26 33.3	-0.3
B08A	Colville Reser	7.32	102	Pn	Pn	13 26 40.7	+2.2
B08A	Colville Reser	7.32	102	Pn	Pn	13 26 38.3	-0.1
F05D	White Salmon	7.33	125	P	Pn	13 26 40.4	+1.9
	baz=311						
BMBC	Bull Mountain	7.41	37	Pn	Pn	13 26 42.3	+2.5
SLEB	Sale Mountain	7.63	80	Pn	Pn	13 26 45.0	+2.2
H04D	Lebanon	7.70	137	P	Pn	13 26 46.2	+2.6
	baz=322						
NBC4	NorthernBC 4	7.78	43	Pn	Pn	13 26 47.2	+2.5
H04A	Detroit Lake	7.82	134	Pn	Pn	13 26 45.0	-0.3
G05D	Wamic, OR	7.84	128	P	Pn	13 26 47.0	+1.5
	baz=314						
BUCK	Buck Mountain	7.85	139	Pn	Pn	13 26 44.4	-1.4
DLBC	Dease Lake	8.07	0	Pn	Pn	13 26 51.6	+2.9
	0.7nm,0.3s,baz=196,slow=14,SNR=16						
DLBC	Dease Lake	8.07	0	Pn	Pn	13 26 52.2	+3.5
I03D	Drain, OR	8.12	143	P	Pn	13 26 48.7	-0.7
	baz=327						
C09A	Chrisman Ranch	8.18	104	Pn	Pn	13 26 53.4	+3.2
C09A	Chrisman Ranch	8.18	104		Pn	13 26 50.9	+0.6
JIS	Juneau Island	8.29	344	Pn	Pn	13 26 52.6	+1.0
NBC5	NorthernBC 5	8.38	29	Pn	Pn	13 26 54.4	+1.4
I04A	Tendick Farm,	8.42	139	P	Pn	13 26 54.6	+1.0
	baz=324,SNR=13						
I05D	Terrebonne, OR	8.48	132	P	Pn	13 26 54.9	+0.5
	baz=318						
NEW	Newport	8.74	99	Pn	Pn	13 27 00.6	+2.7
	0.8nm,0.3s,baz=256,slow=7.1,SNR=4.7						
NEW					Sn	13 28 48.3	+12
	0.1nm,0.3s,baz=160,slow=15,SNR=1.8						
NEW					LR	13 30 45.5	
	comp=Z,292nm,20.3s,baz=286,slow=41						
NEW	Newport	8.74	99		Pn	13 26 58.0	0.0
NEW	Newport	8.74	99	P	Pn	13 26 57.4	-0.5
	baz=289						
K02D	Willamette Mer	8.88	148	P	Pn	13 27 00.7	+0.9
	baz=332,SNR=9.9						
J04D	Umpqua Nationa	9.00	140	P	Pn	13 27 00.4	-1.3
	baz=325,SNR=13						
J05D	Fort Rock, OR	9.34	136	P	Pn	13 27 03.8	-2.5
	baz=322						
L02E	Cave Junction	9.38	149	P	Pn	13 27 06.0	-0.6
	baz=333,SNR=14						
FNBB	Fort Nelson	9.45	23	Pn	Pn	13 27 09.8	+2.1
SKAG	Skagway	9.57	344	Pn	Pn	13 27 09.2	-0.1
K04D	Chiloquin, OR	9.66	140	P	Pn

0.1nm,0.3s,baz=326,slow=9.2,SNR=13
NVAR **Mina Array Bea** 14.60 140 P P 13 28 22.6 -2.2
FXWY **Fox Creek** 14.64 110 P P 13 28 23.1 -2.0
NV11 **Mina Array Sit** 14.66 140 P P 13 28 22.9 -2.4
LHV **Little Huntoon** 14.68 141 P P 13 28 23.6 -1.8
M24K **Tolsona, Glenn** 14.70 329 P Pn 13 28 18.7 -0.6
baz=136
YKA **Yellowknife Ar** 14.80 29 Pn Pn 13 28 20.6 0.0
0.2nm,0.3s,baz=215,slow=12,SNR=5.4
RLMT **Red Lodge** 14.95 103 P P 13 28 27.4 -1.3
RLMT **Red Lodge** 14.95 103 P Pn 13 28 22.1 -0.9
baz=298
O22K **Cooper Landing** 14.98 320 P Pn 13 28 21.6 -1.4
baz=124
KDAK **Kodiak Island** 15.08 308 LR LR 13 32 47.1
comp=Z,1µm,20.5s,baz=85,slow=31
K27K **Chicken** 15.09 339 P Pn 13 28 22.5 -2.0
baz=150
SML **Sawmill** 15.24 326 P Pn 13 28 24.8 -1.8
baz=131
RC01 **Rabbit Creek A** 15.33 322 Pn Pn 13 28 26.2 -1.5
PMR **Palmer** 15.40 324 P Pn 13 28 27.9 -0.6
baz=128
SCRK **Sand Creek** 15.51 337 P Pn 13 28 29.2 -0.9
baz=145
RIDG **Independent Ri** 15.54 335 P Pn 13 28 28.1 -2.4
baz=143
WAT6 **Susitna Watana** 15.55 328 P Pn 13 28 27.2 -3.5
baz=134
EGAK **Eagle** 15.56 342 P Pn 13 28 29.6 -1.1
baz=153
SII **Sitkinak Islan** 15.56 303 P Pn 13 28 32.0 +1.2
DHY **Denali Highway** 15.78 330 P Pn 13 28 32.4 -1.3
baz=136
TIN **Tinemaha, Big** 15.82 143 P Pn 13 28 32.3 -2.1
baz=331,SNR=13
DUG **Dugway, Tooele** 15.83 123 P Pn 13 28 33.8 -0.7
baz=316,SNR=7.2
J26L **Joseph Creek** 15.84 338 P Pn 13 28 32.7 -1.7
baz=147,SNR=6.6
R11A **Troy Canyon, C** 15.86 134 P Pn 13 28 34.7 -0.2
baz=324,SNR=6.7
WAT1 **Susitna Watana** 15.99 328 P Pn 13 28 32.9 -3.5
baz=133
BW06 **Boulder Array** 16.02 111 P P 13 28 40.5 +0.1
BW06 IAmb IAmb 13 28 59.2
comp=Z,24nm,1.4s
BW06 **Boulder Array** 16.02 111 P Pn 13 28 35.5 -1.4
baz=305,SNR=16
PD31 **Pinedale Array** 16.02 111 P P 13 28 40.4 0.0
PD31 IAmb IAmb 13 28 59.2
comp=Z,25nm,1.4s
PDAR **Pinedale Array** 16.02 111 Pn P 13 28 42.4 +1.9
comp=Z,0.3nm,0.3s,baz=316,slow=12,SNR=21
PDAR LR LR 13 34 34.4
comp=Z,290nm,18.3s,baz=312,slow=36
PDAR **Pinedale Array** 16.02 111 P 13 28 39.9 -0.6
EPYK **Eagle Plains** 16.38 351 P Pn 13 28 40.1 -1.2
baz=165
SPCR **Spurr Chakacha** 16.39 320 P Pn 13 28 40.0 -1.5
baz=122
CWC **Cottonwood Cre** 16.42 144 P Pn 13 28 41.5 -0.6
baz=332
SKT **Skwentna** 16.55 323 P Pn 13 28 41.1 -2.3
baz=125
VES **Vestal, Richgr** 16.59 147 P Pn 13 28 43.4 -0.7
baz=334
HDA **Harding Lake** 16.64 334 P Pn 13 28 43.3 -1.3
baz=140
TPNV **Topopah Spring** 16.72 138 P Pn 13 28 45.1 -0.8
baz=328,SNR=24
MCK **McKinley** 16.75 330 P Pn 13 28 43.6 -2.3
baz=134
SMMC **Simmler** 16.76 150 P Pn 13 28 45.4 -1.0
baz=337
O19K **Port Alsworth** 16.83 315 P Pn 13 28 43.6 -3.3
baz=115
FURC **Furnace Creek,** 16.87 141 P Pn 13 28 48.6 +0.9
baz=330,SNR=20
ILAR **Eielson Array** 16.91 335 Pn P 13 28 52.5 +2.6
comp=Z,0.1nm,0.3s,baz=153,slow=8.1,SNR=4.8
ILAR LR LR 13 34 42.8
comp=Z,615nm,21.0s,baz=140,slow=35
DGMT **Dagmar** 16.93 86 P Pn 13 28 48.6 +0.2
baz=286
ISA **Isabella, Lake** 16.96 146 P P 13 28 51.0 +0.2
baz=334,SNR=23
MPMC **Manual Prospec** 16.98 143 P Pn 13 28 48.8 -0.4
baz=331,SNR=26
TRF **Thorofare Moun** 17.00 328 P Pn 13 28 47.4 -1.9
baz=131
PRP **Porcupine Dome** 17.15 338 P Pn 13 28 50.8 -0.3
baz=145
PKM **Mcpherson Peak** 17.21 150 P Pn 13 28 52.8 +0.6
baz=337
NEA2 **Nenana** 17.40 332 P Pn 13 28 54.6 +0.6
baz=136
LRMC **Laurel Mtn Rad** 17.42 144 P P 13 28 55.4 -0.5
baz=332,SNR=22
SHOC **Shoshone, Teco** 17.60 140 P P 13 28 57.5 -0.4
baz=330
BPAW **Bear Paw Mtn.** 17.66 329 P Pn 13 28 57.0 -0.4
baz=132
N18K **Kilae Creek** 17.74 315 P Pn 13 28 57.7 -0.7
baz=114
EDW2 **Edwards Air Fo** 17.84 146 P Pn 13 28 58.4 -1.4
baz=334
I23K **Minto, Yukon-K** 17.89 333 P Pn 13 28 59.4 -0.7
I23K **Minto, Yukon-K** 17.89 333 P Pn 13 28 59.4 -0.7
baz=137
GSC **Goldstone, Bar** 17.91 142 P Pn 13 28 58.9 -1.8
baz=331,SNR=9.9
K22A **Casper** 17.92 106 P Pn 13 28 59.9 -1.0
baz=304
CHUM **Lake Minchumin** 17.97 327 P Pn 13 28 59.7 -1.5
baz=129
L19K **White Mountain** 17.98 320 P Pn 13 29 00.6 -0.7
L19K **White Mountain** 17.98 320 P Pn 13 28 58.7 -2.6
baz=120
H24K **Noodor Dome** 18.00 336 P Pn 13 29 01.5 -0.1
baz=141
INK **Inuvik** 18.05 356 P P 13 29 06.0 +3.5
comp=Z,0.1nm,0.3s,baz=173,slow=8.1,SNR=2.7
INK LR LR 13 35 24.0
comp=Z,333nm,20.1s,baz=172,slow=35
INK **Inuvik** 18.05 356 Pn P 13 29 09.0 +6.4
INK **Inuvik** 18.05 356 P Pn 13 29 00.4 -1.8
baz=173
MLY **Manley** 18.21 331 P Pn 13 29 03.0 -1.2
baz=134
K20K **Telida** 18.29 324 P Pn 13 29 03.3 -1.8
baz=124,SNR=5.1
O20A **White River Ci** 18.42 115 P P 13 29 07.1 +0.1
baz=311
H23K **Yukon River** 18.44 334 P P 13 29 06.1 -0.7
baz=138,SNR=6.0
HEC **Hector,Ludlow** 18.51 142 P P 13 29 04.8 -3.1
baz=331,SNR=13
BFSC **Mount Baldy Ra** 18.53 146 P P 13 29 05.7 -2.5
baz=334,SNR=13
I21K **Tanana** 18.70 331 P P 13 29 09.2 -0.5
I21K IAmb IAmb 13 29 35.5
comp=Z,20nm,1.2s
I21K **Tanana** 18.70 331 P P 13 29 08.5 -1.2
baz=132,SNR=6.6
RSSD **Black Hills** 18.71 99 P P 13 29 09.0 -1.2
baz=299
J20K **Nowinta River** 18.79 326 P P 13 29 07.9 -2.8
baz=126
MURC **Murrieta** 19.27 146 P Pn 13 29 17.3 +0.1
baz=334,SNR=6.3
H21K **Melozitna Rive** 19.28 331 P P 13 29 15.9 -0.1
baz=132
N23A **Red Feather La** 19.30 110 P P 13 29 15.8 -0.9
baz=308
PV11 **David Mesa, Pa** 19.32 121 P P 13 29 16.0 -1.0
PV11 IAmb IAmb 13 29 27.1
comp=Z,25nm,1.0s
PV12 **Saucer Basin,** 19.35 120 P P 13 29 15.4 -1.9
PV12 IAmb IAmb 13 29 30.5
comp=Z,20nm,1.2s
BELC **Belle Mtn. Jos** 19.37 142 P P 13 29 16.8 -0.5
baz=332,SNR=23
PV03 **Paradox Valley** 19.37 121 P P 13 29 14.9 -2.5
PV03 IAmb IAmb 13 29 31.9
comp=Z,12nm,1.0s
SCI2 **San Clemente I** 19.37 150 P P 13 29 16.7 -0.6
baz=337
PV13 **Radium Mtn., P** 19.45 121 P P 13 29 17.7 -0.7
PV13 IAmb IAmb 13 29 28.4
comp=Z,27nm,1.2s
PFO **Pinyon Flats O** 19.54 144 P Pn 13 29 24.4 +3.9
comp=Z,0.1nm,0.3s,baz=323,slow=13,SNR=13
PFO LR LR 13 37 30.6
comp=Z,199nm,19.6s,baz=326,slow=39
PFO **Pinyon Flats O** 19.54 144 P P 13 29 18.9 -0.3
TPFO **Pinon Flats** 19.54 144 P P 13 29 18.5 -0.7
baz=333,SNR=7.9
IRM **Iron Mountain** 19.57 140 P P 13 29 18.0 -1.5
baz=330,SNR=8.4
COLD **Coldfoot** 19.66 337 Pn Pn 13 29 26.4 +4.8
COLD **Coldfoot** 19.66 337 P P 13 29 19.8 -0.4
baz=139
PDMCI **Parker Dam,Lak** 19.87 138 P P 13 29 23.0 +0.3
baz=329,SNR=10
BC3 **Big Chuckawall** 19.89 142 P Pn 13 29 24.3 -0.4
baz=332,SNR=9.8
109C **Camp Elliot, M** 19.95 146 P Pn 13 29 25.0 -0.2
baz=335
MDND **Maddock** 20.05 85 P P 13 29 25.0 +0.3
baz=289
WUAZ **Wupatki** 20.13 130 P P 13 29 25.6 -0.1
baz=323
ISCO **Idaho Springs** 20.18 112 P Pn 13 29 27.6 -0.6
baz=310
MONP2 **Monument Peak** 20.19 145 P P 13 29 27.4 +0.9
baz=334
MVCO **Mesa Verde** 20.32 122 P P 13 29 28.0 +0.2
baz=317,SNR=7.8
SWSC **Sam W. Stewart** 20.38 143 P P 13 29 27.0 -1.2
baz=333
IKP **In-Ko-Pah, Jac** 20.52 144 P P 13 29 28.6 -1.3
baz=334,SNR=7.2
TOLK **Toolik Lake Re** 20.62 340 P P 13 29 27.3 -3.3
baz=143
GLA **Glamis** 20.66 141 P P 13 29 32.5 +1.1
baz=331,SNR=9.7
S22A **4UR Ranch, Cre** 20.85 118 P P 13 29 34.1 +0.4
baz=315
W18A **Petrified Fore** 21.26 128 P P 13 29 37.2 -0.8
baz=322,SNR=9.8
113A **Mohawk Valley,** 21.35 139 P P 13 29 36.7 -2.0
113A IAmb IAmb 13 29 52.5
comp=Z,14nm,1.2s
SDCO **Great Sand Dun** 21.61 116 P P 13 29 40.5 -1.3
SDCO **Great Sand Dun** 21.61 116 P P 13 29 40.3 -1.6
baz=314
ULM **Lac du Bonnet** 21.75 77 P P 13 29 46.1 +3.3
comp=Z,8.9nm,0.6s,baz=290,slow=12,SNR=5.5
ULM LR LR 13 38 08.9
comp=Z,469nm,18.7s,baz=286,slow=37
ULM **Lac du Bonnet** 21.75 77 Pn P 13 29 45.9 +3.0
AGMN **Agassiz Nation** 22.29 82 P P 13 29 47.7 -1.1
baz=288
214A **Organ Pipe Nat** 22.45 139 P P 13 29 51.3 +0.7
baz=330
T25A **Trinidad** 22.66 116 P P 13 29 51.9 -1.1
baz=314
TUC **Tucson** 23.04 134 P P 13 29 55.6 -1.3
baz=327
ANMO **Albuquerque** 23.10 123 P P 13 30 01.6 +4.0
comp=Z,3.9nm,1.1s,baz=303,slow=10,SNR=8.5
ANMO **Albuquerque** 23.10 123 P P 13 29 56.4 -1.2
baz=319
EPLO **Experimental L** 23.23 78 Pn P 13 30 03.9 +5.3
LENM **Lemitar** 23.42 125 P P 13 29 59.5 -1.3
ECSD **EROS Data Cent** 23.62 93 P P 13 30 01.8 -0.7
baz=298
121A **Cookes Peak, D** 24.30 129 P P 13 30 05.8 -3.4
baz=324
AMTX **Amarillo** 25.81 116 P P 13 30 21.4 -1.4
baz=316
MNTX **Cornudas Mount** 26.18 126 P P 13 30 26.9 +0.7
baz=323,SNR=16
WMOK **Wichita Mounta** 27.61 113 P P 13 30 37.8 -1.1
baz=314
RES **Resolute Bay** 28.40 19 LR LR 13 41 21.9
comp=Z,192nm,19.8s,baz=240,slow=35
TXAR **Lajitas Array** 28.96 127 P P 13 30 55.3 +4.2
comp=Z,5.5nm,1.1s,baz=329,slow=6.3,SNR=14
TXAR LR LR 13 43 16.5
comp=Z,380nm,18.4s,baz=0.0,slow=38
U40A **Yellville** 30.14 103 P P 13 30 59.6 -1.8
baz=310
W39A **Magazine** 30.32 106 P P 13 31 01.2 -1.8
baz=311
LPIG **La Paz** 30.41 142 LR LR 13 44 16.3
comp=Z,134nm,18.6s,baz=330,slow=38
MIAR **Mount Ida** 30.87 107 P P 13 31 05.9 -2.0
baz=312
SFIN **Lafayette** 31.42 92 P P 13 31 08.5 -4.1
baz=303
OXF **Oxford** 33.48 103 P P 13 31 29.7 -1.0
baz=311
SCHQ **Schefferville** 37.51 58 LR LR 13 47 48.4
comp=Z,531nm,21.2s,baz=276,slow=37
I62A **Tamworth** 39.59 76 P P 13 32 19.2 -3.6
baz=301
K62A **Royalston** 39.65 78 P P 13 32 21.1 -2.2
baz=302
PKME **Peaks-Kenny Pk** 40.15 73 P P 13 32 25.1 -2.2
baz=300
SEY **Seymchan** 41.72 318 P P 13 32 43.7 +3.7
comp=Z,2.1nm,0.6s,baz=104,slow=9.8,SNR=5.7
PETK **Petropavlovsk-** 43.04 303 LR LR 13 47 55.1
comp=Z,103nm,21.8s,baz=72,slow=32
NRIK **Noril'sk** 57.43 345 LR LR 14 01 43.5
comp=Z,70nm,18.6s,baz=22,slow=38
H11N2 **WAKE ISLAND Hy** 57.89 262 T T 14 37 17.0
baz=42,slow=75,SNR=574
H11N3 **WAKE ISLAND Hy** 57.89 262 T T 14 37 18.7
baz=42,slow=75,SNR=449
H11N1 **WAKE ISLAND Hy** 57.91 262 T T 14 37 16.6
baz=42,slow=75,SNR=289
TAOE **Nuku Hiva Isla** 59.64 192 *e*LR LR 13 52 27.5
comp=Z,139nm,25.8s
TAOE **Nuku Hiva Isla** 59.64 192 *e*T T 14 39 18.5
comp=Z,16nm,0.2s
MJAR **Matsushiro Arr** 63.88 296 LR LR 13 59 22.7
comp=Z,19nm,20.9s,baz=255,slow=32
FINES **FINESS Array B** 66.90 12 LR LR 14 05 03.1
comp=Z,90nm,18.3s,baz=338,slow=36
PMOR **Pomariorio Ree** 66.96 199 *e*T T 14 48 28.0
comp=Z,13nm,0.2s
KSRS **Korea Array** 68.93 303 LR LR 14 06 50.0
comp=Z,27nm,18.2s,baz=37,slow=36
TIAR **Tiarei** 69.74 200 *e*T T 14 51 56.2
comp=Z,1.5nm,0.3s
PPT **Papeete** 69.80 200 LR LR 13 59 57.8
comp=Z,62nm,19.6s,baz=24,slow=30
PPT2 **Papeete2** 69.83 200 *e*LR LR 13 57 08.4
comp=Z,116nm,28.0s
PPT2 **Papeete2** 69.83 200 *e*T T 14 52 02.2
comp=Z,2.8nm,0.3s
PAE **Paea** 69.90 200 *e*T T 14 52 07.7
comp=Z,2.3nm,0.4s
SONM **Songino Array** 70.75 323 LR LR 14 07 44.3
comp=Z,140nm,19.6s,baz=36,slow=36
ZALV **Zalesovo Beam** 71.98 339 LR LR 14 09 46.4
comp=Z,92nm,21.8s,baz=7.0,slow=37
RKT **Rikitea** 73.31 185 *e*T T 14 56 22.0
comp=Z,1.7nm,0.2s
HHC **Hu-ho-hao-te** 74.33 316 *e*P P 13 36 26.8 -2.3
GERES **GERESS Array B** 76.38 24 LR LR 14 11 51.0
comp=Z,52nm,18.2s,baz=336,slow=37
KURBB **Kurchatov Arra** 76.45 342 P P 13 36 44.3 +3.3
comp=Z,0.2nm,0.3s,baz=20,slow=5.5,SNR=2.1
AKASG **Malin Array Be** 77.76 13 LR LR 14 11 51.8
comp=Z,64nm,18.6s,baz=325,slow=36
ESDC **Sonseca Array** 78.63 39 P P 13 37 02.1 +8.7
comp=Z,1.1nm,1.0s,baz=317,slow=6.3,SNR=4.2
MKAR **Makanchi Array** 79.23 338 P P 13 36 59.0 +2.4
comp=Z,0.6nm,0.6s,baz=51,slow=4.6,SNR=3.0
MKAR LR LR 14 16 22.1
comp=Z,107nm,18.3s,baz=11,slow=39
WMQ **Urumqi** 80.56 333 *e*P P 13 37 05.3 +1.4
LPAZ **La Paz** 85.71 122 P P 13 37 33.6 +2.2
comp=Z,1.9nm,1.0s,baz=8.4,slow=10,SNR=2.6
LPAZ LR LR 14 19 32.4
comp=Z,24nm,19.2s,baz=326,slow=38
KBZ **Khabaz** 86.07 5 LR LR 14 19 21.7
comp=Z,27nm,19.6s,baz=342,slow=38
KEST **Kesra** 87.08 32 LR LR 14 19 21.6
comp=Z,108nm,18.4s,baz=267,slow=38
DZM **Mont Dzumac** 91.24 236 *e*LR LR 14 06 38.9
comp=Z,92nm,25.9s
QSPA **South Pole Qui** 140.19 180 PKP PKiKP 13 44 23.8 +2.3
comp=Z,1.0nm,0.8s,baz=126,slow=1.1,SNR=5.5

*IDC **22** 13:33:00.4±8.3, 16°.21S×178°.20W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.6/27, mbtmp3.9/2, MS3.2/3, Ms1 3.2/3, ms1mx2.9/26, Error ellipse: s-maj=408.7km s-min=41.2km az=140.0*

ISC 22 13:33:49.2±1.4, 17°.9S±0°.2×177°.8W±0°.3, h500km, n8, σ3$19/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.06**	**56**	LR	LR	13 36 09.5	
	comp=Z,82nm,21.7s,baz=240,slow=29						
RIZ	**Raoul Island**	**11.26**	**180**	P	**P**	**13 36 20.0**	**+0.1**
GLKZ	**Green Lake**	**11.28**	**180**	P	**P**	**13 36 19.6**	**-0.5**
URZ	**Urewera**	**20.73**	**191**	LR	LR	13 45 00.1	
	comp=Z,100nm,18.4s,baz=211,slow=32						
ASAR	**Alice Springs**	**45.32**	**254**	P	**P**	**13 41 21.4**	**-0.7**
	1.8nm,0.8s,baz=86,slow=8.4,SNR=21						
ASAJ	**Asahikawa**	**71.57**	**331**	LR	LR	14 08 55.6	
	comp=Z,19nm,21.5s,baz=204,slow=31						
ILAR	**Eielson Array**	**85.79**	**13**	P	**P**	**13 45 33.0**	**-1.6**
	0.8nm,0.9s,baz=223,slow=6.5,SNR=4.3						
BRTR	**Keskin Array B**	**145.19**	**315**	PKP	**PKiKP**	**13 52 38.1**	**+4.1**
	0.7nm,0.8s,baz=45,slow=2.2,SNR=4.0						

*IDC **22** 13:35:46.1±16.0, 30°.67S×178°.96W, h461km±203km, mb2.7/2, mb1 3.1/3, mb1mx2.7/26, mbtmp3.8/3, Error ellipse: s-maj=232.2km s-min=37.6km az=7.0*

ISC 22 13:35:39.7±1.8, 30°.3S±0°.1×178°.0W±0°.3, h450km, n39, σ1$91/51, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**7.87**	**202**	P	**P**	**13 37 34.7**	**+1.2**
WMGZ	**Waiomatatini S**	**8.07**	**201**	P	**P**	**13 37 38.4**	**+2.8**
RUGZ	**Raukumara Rang**	**8.44**	**204**	P	**P**	**13 37 36.3**	**-3.5**
RUGZ				S	**S**	**13 39 13.4**	**-5.1**
TWGZ	**Tauwhareparae**	**8.53**	**202**	P	**P**	**13 37 43.8**	**+3.0**
TWGZ				S	**S**	**13 39 20.3**	**+0.1**
CNGZ	**Carnagh Statio**	**8.74**	**200**	P	**P**	**13 37 41.2**	**-1.7**
TKGZ	**Te Karaka**	**8.81**	**202**	P	**P**	**13 37 40.7**	**-3.0**
TKGZ				S	**S**	**13 39 25.4**	**-0.3**
MWZ	**Matawai**	**8.82**	**203**	P	**P**	**13 37 43.7**	**-0.2**
MWZ				S	**S**	**13 39 24.9**	**-1.2**
URZ	**Urewera**	**8.91**	**206**	P	**P**	**13 37 43.5**	**-1.2**
	4.5nm,0.3s,baz=271,slow=5.0,SNR=34						
URZ				S	**S**	**13 39 25.9**	**-1.7**
	0.9nm,0.3s,baz=287,slow=19,SNR=4.3						
URZ	**Urewera**	**8.91**	**206**	P	**P**	**13 37 43.7**	**-1.0**
URZ				S	**S**	**13 39 23.4**	**-4.2**
RAGZ	**Rawiri**	**9.01**	**204**	P	**P**	**13 37 47.2**	**+1.3**
RIGZ	**Rimuhau**	**9.08**	**201**	P	**P**	**13 37 49.9**	**+3.2**
MUGZ	**Murupara**	**9.23**	**206**	P	**P**	**13 37 48.1**	**-0.2**
RTZ	**Ruatahuna**	**9.27**	**205**	P	**P**	**13 37 48.7**	**0.0**
SNGZ	**Shannon Statio**	**9.29**	**203**	P	**P**	**13 37 50.0**	**+1.0**
SNGZ				S	**S**	**13 39 35.0**	**-0.3**
PRRZ	**Plateau Road**	**9.39**	**208**	P	**P**	**13 37 50.5**	**+0.5**
RAHZ	**Arahi**	**9.50**	**204**	P	**P**	**13 37 51.6**	**+0.4**
RAHZ				S	**S**	**13 39 42.0**	**+2.5**
MTHZ	**Maungataniwha**	**9.53**	**205**	P	**P**	**13 37 53.1**	**+1.5**
TLZ	**Tolley Road**	**9.62**	**212**	P	**P**	**13 37 55.6**	**+3.1**
KUTZ	**Kaahu Road**	**9.63**	**210**	P	**P**	**13 37 55.0**	**+2.4**
NMHZ	**Naumai**	**9.76**	**204**	P	**P**	**13 37 55.1**	**+1.0**
NMHZ				S	**S**	**13 39 44.7**	**0.0**
BKZ	**Black Stump Fm**	**9.93**	**206**	P	**P**	**13 37 55.0**	**-1.0**
BKZ				S	**S**	**13 39 49.9**	**+1.7**
HIZ	**Hauiti**	**10.09**	**214**	P	**P**	**13 38 01.5**	**+3.9**
MCHZ	**McNeill Hill**	**10.11**	**204**	P	**P**	**13 37 59.2**	**+1.4**
MCHZ				S	**S**	**13 39 55.1**	**+3.6**
KWHZ	**Kaweka Forest**	**10.19**	**205**	P	**P**	**13 37 59.6**	**+0.8**
KWHZ				S	**S**	**13 39 53.8**	**+0.5**
OTVZ	**Oturere**	**10.26**	**209**	P	**P**	**13 37 59.2**	**-0.4**
TWVZ	**Taurewa**	**10.28**	**210**	P	**P**	**13 38 00.8**	**+1.0**
SNVZ	**South Ngauruho**	**10.29**	**209**	P	**P**	**13 37 59.7**	**-0.2**
KAHZ	**Kahuranaki**	**10.36**	**202**	P	**P**	**13 38 01.8**	**+1.2**
BHHZ	**Black Hill Sta**	**10.38**	**206**	P	**P**	**13 38 00.9**	**0.0**
FWVZ	**Far West T-bar**	**10.38**	**209**	P	**P**	**13 38 00.8**	**-0.2**
WHVZ	**Whangaehu Hut**	**10.39**	**209**	P	**P**	**13 38 01.4**	**+0.3**
KRHZ	**Kereru**	**10.40**	**205**	P	**P**	**13 38 01.6**	**+0.6**
WNVZ	**Wahianoa**	**10.43**	**208**	P	**P**	**13 38 00.7**	**-0.7**
MTVZ	**Mangateitei**	**10.53**	**209**	P	**P**	**13 38 03.6**	**+1.1**
PNHZ	**Pukenui**	**10.70**	**205**	P	**P**	**13 38 04.8**	**+0.5**
ASAR	**Alice Springs**	**43.10**	**267**	P	**P**	**13 42 58.1**	**-0.8**
	0.3nm,0.6s,baz=105,slow=7.5,SNR=6.1						
WRA	**Warramunga Arr**	**44.08**	**272**	P	**P**	**13 43 05.5**	**-1.1**
	0.4nm,0.3s,baz=110,slow=6.1,SNR=16						
FINES	**FINESS Array B**	**145.04**	**340**	PKPbc	**PKiKP**	**13 54 29.4**	**+1.3**
	1.0nm,0.4s,baz=57,slow=4.3,SNR=9.7						
HFS	**Hagfors**	**149.14**	**349**	PKPbc	**PKPab**	**13 54 41.1**	**-0.7**
	2.0nm,0.9s,baz=80,slow=9.8,SNR=4.3						

*IDC **22** 13:40:23.5±0.8, 33°.09S×72°.10W, h0km, mb3.9/5, mb1 4.0/10, mb1mx3.9/34, mbtmp3.8/10, ML3.9/5, MS3.1/3, Ms1 3.1/3, ms1mx2.7/22, Error ellipse: s-maj=33.1km s-min=20.5km az=87.0*

*GUC **22** 13:40:31.7±0.8, 33°.32S×71°.32W, h51km±3km, ML4.2*
*NEIC **22** 13:40:32.7±1.7, 33°.27S±0°.04×71°.30W±0°.04, h49km±2km, mb4.3/12, ML4.2(GUC), Error ellipse: s-maj=5.8km s-min=4.2km az=218.0*

ISC 22 13:40:32.1±0.7, 33°.29S±0°.03×71°.37W±0°.04, h53km±6km, n77, σ1$34/77, mb4.4/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA01	**Torpederas**	**0.35**	**319**	*i* S	**Sn**	**13 40 50.5**	**+1.6**
VA01				IAML		13 40 52.3	
	comp=N,20µm,0.2s						
VA01	**Torpederas**	**0.35**	**319**	Pn	**Pn**	**13 40 43.3**	**+1.4**
VA01				Sn	**Sn**	**13 40 50.4**	**+1.5**
VA05	**Santo Domingo**	**0.42**	**209**	*e*P	**Pn**	**13 40 42.7**	**+0.1**
VA05				*i* S	**Sn**	**13 40 51.0**	**+0.8**
VA05	**Santo Domingo**	**0.42**	**209**	Pn	**Pn**	**13 40 43.4**	**+0.8**
VA05				Sn	**Sn**	**13 40 50.7**	**+0.5**
ROCH	**El Roble**	**0.44**	**44**	*e*P	**Pn**	**13 40 44.0**	**+0.9**
ROCH				*e*P		13 40 51.5	
ROCH				IAML		13 40 52.9	
	comp=N,31µm,0.2s						
MT05	**Renca**	**0.54**	**101**	*e*P	**Pn**	**13 40 44.0**	**0.0**
MT05				*i* S	**Sn**	**13 40 53.2**	**+0.5**
MT05				IAML		13 40 54.0	
	comp=N,33µm,0.2s						
MT05	**Renca**	**0.54**	**101**	Pn	**Pn**	**13 40 44.5**	**+0.4**
MT05				Sn	**Sn**	**13 40 52.2**	**-0.5**
MT09	**Talagante**	**0.58**	**147**	*e*P	**Pn**	**13 40 44.9**	**+0.2**
MT09				*i* S	**Sn**	**13 40 54.1**	**+0.3**
MT09				IAML		13 40 54.8	
	comp=N,34µm,0.2s						
MT09	**Talagante**	**0.58**	**147**	Pn	**Pn**	**13 40 45.1**	**+0.4**
MT09				Sn	**Sn**	**13 40 53.2**	**-0.5**
MT01	**Popeta**	**0.58**	**170**	*e*P	**Pn**	**13 40 44.5**	**-0.1**
MT01				*i* S	**Sn**	**13 40 53.8**	**+0.3**
MT01	**Popeta**	**0.58**	**170**	Pn	**Pn**	**13 40 44.8**	**+0.3**
VA06	**Catapilco**	**0.73**	**5**	*e*P	**Pn**	**13 40 47.0**	**+0.7**
VA06				*i* S	**Sn**	**13 40 58.1**	**+1.5**
VA06				IAML		13 41 01.6	
	comp=E,15µm,0.5s						
VA03	**San Esteban**	**0.87**	**53**	*e*P	**Pn**	**13 40 49.1**	**+0.9**
VA03				*i* S	**Sn**	**13 41 01.5**	**+1.5**
VA03	**San Esteban**	**0.87**	**53**	Pn	**Pn**	**13 40 49.2**	**+0.9**
LMEL	**Las Melosas**	**1.12**	**120**	*e*P	**Pn**	**13 40 52.2**	**+0.4**
LMEL				*i* S	**Sn**	**13 41 07.1**	**+0.9**
BO01	**Tunca**	**1.13**	**168**	*e*P	**Pn**	**13 40 51.8**	**+0.2**
BO01				*i* S	**Sn**	**13 41 07.1**	**+1.1**
BO01	**Tunca**	**1.13**	**168**	Pn	**Pn**	**13 40 52.9**	**+1.3**
BO03	**Pichilemu**	**1.30**	**202**	*e*P	**Pn**	**13 40 54.5**	**+0.6**
BO02	**Sierra Bellavi**	**1.58**	**162**	*e*P	**Pn**	**13 40 58.5**	**+0.7**
ML02	**Panimavida**	**2.47**	**181**	Pn	**Pn**	**13 41 09.3**	**-0.6**
CO03	**El Pedregal**	**2.51**	**14**	Pn	**Pn**	**13 41 10.2**	**-0.4**
CO06	**Fray Jorge**	**2.62**	**355**	Pn	**Pn**	**13 41 11.4**	**-0.6**
ZON	**Zonda**	**2.87**	**53**	Pn	**Pn**	**13 41 14.3**	**-1.1**
GO04	**Tololo Observa**	**3.15**	**9**	Pn	**Pn**	**13 41 19.1**	**-0.3**
CO05	**La Serena**	**3.36**	**2**	Pn	**Pn**	**13 41 21.3**	**-0.8**
AC04	**Llanos de Chal**	**5.08**	**3**	Pn	**Pn**	**13 41 43.9**	**-1.7**
LC01	**Cunco**	**5.61**	**184**	Pn	**Pn**	**13 41 52.0**	**-1.0**
GO03	**Copiap**	**5.76**	**10**	Pn	**Pn**	**13 41 55.3**	**+0.2**

AC06	**Mina Casimiro**	**5.98**	**9**	Pn	**Pn**	13 41 57.8	-0.3
H03N1	**Juan Fernandez**	**6.31**	**267**	T	T	13 48 46.6	
	baz=89,slow=74,SNR=25						
H03S1	**Juan Fernandez**	**6.31**	**263**	T	T	13 48 17.0	
	baz=85,slow=75,SNR=2008						
H03S3	**Juan Fernandez**	**6.32**	**263**	T	T	13 48 18.3	
	baz=85,slow=75,SNR=2628						
H03N3	**Juan Fernandez**	**6.32**	**266**	T	T	13 48 41.7	
	baz=89,slow=74,SNR=38						
H03N2	**Juan Fernandez**	**6.33**	**267**	T	T	13 48 43.0	
	baz=89,slow=74,SNR=33						
H03S2	**Juan Fernandez**	**6.33**	**263**	T	T	13 48 17.7	
	baz=85,slow=75,SNR=2320						
AC02	**Maricunga**	**6.72**	**17**	Pn	**Pn**	13 42 08.2	-0.4
PLCA	**Paso Flores**	**7.46**	**175**	Pn	**Pn**	13 42 16.2	-2.1
	comp=E,0.3nm,0.3s,baz=342,slow=14,SNR=4.0						
PLCA				LR	LR	13 45 50.1	
	comp=E,29nm,18.4s,baz=342,slow=42						
PLCA	**Paso Flores**	**7.46**	**175**	Pn	**Pn**	13 42 19.8	+1.4
LL04	**Puerto Octay**	**7.65**	**186**		**Pn**	13 42 19.6	-1.3
TRQA	**Tornquist**	**9.00**	**125**	Pn	**Pn**	13 42 39.4	0.0
LVC	**Limon Verde**	**10.86**	**12**	Pn	**Pn**	13 43 01.2	-4.0
	comp=E,0.3nm,0.3s,baz=52,slow=17,SNR=1.5						
LVC	**Limon Verde**	**10.86**	**12**	Pn	**Pn**	13 43 03.4	-1.9
PB04	**IPOC Station P**	**10.97**	**6**	Pn	**Pn**	13 43 05.6	-0.9
PB07	**IPOC Station P**	**11.59**	**7**	Pn	**Pn**	13 43 14.2	-0.9
PB09	**IPOC Station P**	**11.60**	**10**	Pn	**Pn**	13 43 14.2	-1.0
CPUP	**Villa Florida**	**14.02**	**64**	Pn	**Pn**	13 43 48.5	+0.6
	comp=E,0.5nm,0.3s,baz=268,slow=12,SNR=3.1						
CPUP				LR	LR	13 49 04.6	
	comp=E,62nm,21.1s,baz=224,slow=36						
CPUP	**Villa Florida**	**14.02**	**64**		**Pn**	13 43 47.5	-0.4
LPAZ	**La Paz**	**17.18**	**11**	Pn	**Pn**	13 44 24.3	-4.8
	comp=E,0.2nm,0.3s,baz=236,slow=8.4,SNR=3.6						
SIV	**San Ignacio**	**19.58**	**31**	P	**P**	13 44 55.6	-0.3
	comp=E,0.3nm,0.3s,baz=244,slow=11,SNR=4.9						
URIC	**Uribia, Colomb**	**44.74**	**359**	P	**P**	13 48 40.9	+0.6
VNA3	**Neumayer Olymp**	**49.81**	**158**	P	**P**	13 49 20.6	+1.4
VNA1	**Neumayer--Stat**	**50.11**	**157**	P	**P**	13 49 23.2	+1.7
VNA2	**Neumayer--Watz**	**50.45**	**157**	P	**P**	13 49 25.5	+1.4
	baz=287,slow=8.4						
SNAA	**Sanae**	**52.03**	**158**	P	**P**	13 49 37.1	+1.1
SNAA	**Sanae**	**52.03**	**158**	P	**P**	13 49 37.1	+1.1
	comp=E,3.9nm,0.8s,baz=264,slow=8.1,SNR=17						
SNAA	**Sanae**	**52.03**	**158**	P	**P**	13 49 36.0	+0.1
QSPA	**South Pole Qui**	**56.95**	**180**	P	**P**	13 50 13.2	+1.4
QSPA				IAmb	IAmb	13 50 14.8	
	comp=Z,3.1nm,0.8s						
TX31	**Lajitas Ar. Si**	**69.39**	**330**	P	**P**	13 51 35.6	+1.0
TX31				IAmb	IAmb	13 51 36.7	
	comp=Z,4.4nm,0.8s						
TX32	**Lajitas Array**	**69.39**	**330**	P	**P**	13 51 35.6	+1.1
TXAR	**Lajitas Array**	**69.39**	**330**	P	P	13 51 29.8	-4.7
	comp=Z,0.2nm,0.5s,baz=156,slow=8.3,SNR=5.8						
TXAR	**Lajitas Array**	**69.39**	**330**	P	**P**	13 51 35.8	+1.2
WVT	**Waverly**	**70.75**	**346**	P	**P**	13 51 42.8	+0.2
MNTX	**Cornudas Mount**	**72.17**	**330**	P	**P**	13 51 50.6	-0.7
R40A	**Maddies Station**	**73.82**	**343**	P	**P**	13 52 01.1	+0.3
R40A				IAmb	IAmb	13 52 02.4	
	comp=Z,3.9nm,0.7s						
DBIC	**Dimbokro**	**74.42**	**71**	LR	LR	14 24 16.0	
	comp=Z,62nm,21.3s,baz=8.0,slow=35						
TSUM	**Tsumeb**	**78.87**	**106**	P	**P**	13 52 34.1	+3.8
	comp=Z,2.6nm,0.7s,baz=220,slow=7.9,SNR=2.2						
TSUM	**Tsumeb**	**78.87**	**106**	P	**P**	13 52 30.4	+0.1
TSUM				IAmb	IAmb	13 52 52.6	
	comp=Z,4.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**83.44**	**70**	P	**P**	13 52 54.6	+0.2
	comp=Z,1.0nm,0.7s,baz=289,slow=7.3,SNR=7.2						
TORD	**Torodi Ar. Bea**	**83.44**	**70**	IAmb	IAmb	13 53 18.8	
	comp=Z,2.1nm,1.1s						
NVAR	**Mina Array Bea**	**83.62**	**325**	P	**P**	13 52 50.7	-4.3
	comp=Z,0.1nm,0.5s,baz=134,slow=5.2,SNR=1.8						
ASAR	**Alice Springs**	**118.45**	**206**	PKP	**PKPdf**	13 59 14.0	-0.3
	comp=Z,0.1nm,0.6s,baz=134,slow=1.6,SNR=1.2						
WRA	**Warramunga Arr**	**121.65**	**209**	PKP	**PKPdf**	13 59 20.5	-0.1
	comp=Z,0.4nm,0.5s,baz=154,slow=1.7,SNR=8.6						
H11S2	**WAKE ISLAND Hyl**	**26.34**	**269**	T	T	16 18 30.7	
	baz=118,slow=75,SNR=79						
H11S1	**WAKE ISLAND Hyl**	**26.35**	**269**	T	T	16 18 31.6	
	baz=118,slow=75,SNR=89						
H11S3	**WAKE ISLAND Hyl**	**26.35**	**269**	T	T	16 18 32.0	
	baz=118,slow=75,SNR=59						
ZALV	**Zalesovo Beam**	**153.33**	**32**	PKPbc	**PKPbc**	14 00 23.5	-0.3
	comp=Z,1.8nm,0.8s,baz=316,slow=4.1,SNR=6.1						
MKAR	**Makanchi Array**	**155.88**	**48**	PKPab	**PKPab**	14 00 47.7	+0.5
	comp=Z,0.4nm,0.8s,baz=316,slow=4.0,SNR=1.8						

*IDC **22** 14:04:55.1±2.1, 17.43S×178.36W, h471km±27km, mb3.2/6, mb1 3.5/8, mb1mx3.1/34, mbtmp4.1/8, Error ellipse: s-maj=111.2km s-min=14.1km az=153.0*
*NEIC **22** 14:04:55.5±1.7, 18.0S±0.1×177.9W±0.1, h495km±8km, mb4.2/26, Error ellipse: s-maj=22.5km s-min=15.9km az=144.0*

ISC 22 14:04:55.6±0.6, 17.9S±0.1×178.0W±0.1, h500km, n42, σ1$11/41, mb4.1/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.79**	**272**	P	**P**	**14 06 16.2**	**+3.7**
AFI	**Afiamalu**	**7.18**	**57**	P	**P**	**14 06 43.1**	**-0.7**
	4.2nm,0.3s,baz=204,slow=2.6,SNR=15						
AFI	**Afiamalu**	**7.18**	**57**	P	**P**	**14 06 42.7**	**-1.1**
DZM	**Mont Dzumac**	**15.21**	**252**	P	**P**	**14 08 06.5**	**-1.6**
	0.2nm,0.3s,baz=128,slow=19,SNR=1.0						
DZM	**Mont Dzumac**	**15.21**	**252**	IAmb	IAmb	14 08 23.0	
	comp=Z,23nm,1.5s						
EIDS	**Eidsvold**	**29.64**	**250**	P	**P**	**14 10 20.2**	**+0.2**
EIDS				IAmb	IAmb	14 10 41.5	
	comp=Z,11nm,1.3s						
MLZ	**Mavora Lakes**	**29.72**	**200**	P	**P**	**14 10 19.9**	**-0.4**
MLZ				IAmb	IAmb	14 10 22.8	
	comp=Z,8.8nm,1.1s						
WHZ	**Wether Hill Ro**	**30.24**	**200**	P	**P**	**14 10 24.8**	**-0.1**
ARMA	**Armidale**	**30.28**	**240**	P	**P**	**14 10 26.2**	**+0.6**
ARMA				IAmb	IAmb	14 10 48.7	
	comp=Z,17nm,1.2s						
CTAO	**Charters Tower**	**33.84**	**261**	P	**P**	**14 10 55.9**	**-0.2**
CTAO				IAmb	IAmb	14 10 58.4	
	comp=Z,7.8nm,1.2s						
TOO	**Toolangi**	**37.47**	**231**	P	**P**	**14 11 26.5**	**+0.5**
TOO				IAmb	IAmb	14 11 34.5	
	comp=Z,24nm,1.1s						
COEN	**Coen**	**37.51**	**270**	P	**P**	**14 11 27.2**	**+0.6**
COEN				IAmb	IAmb	14 11 43.6	
	comp=Z,14nm,1.1s						
STKA	**Stephens Creek**	**38.98**	**241**	P	**P**	**14 11 38.9**	**+0.6**
	comp=Z,1.8nm,0.5s,baz=90,slow=11,SNR=8.7						
BBOO	**Buckleboo**	**43.75**	**241**	P	**P**	**14 12 16.3**	**0.0**
WR0	**Warramunga Arr**	**44.84**	**259**	P	**P**	**14 12 24.3**	**-0.6**
WR0				IAmb	IAmb	14 12 41.4	
	comp=Z,8.0nm,1.5s						
WB0	**Warramunga Arr**	**45.00**	**260**	P	**P**	**14 12 25.5**	**-0.6**
WB0				IAmb	IAmb	14 12 52.7	
	comp=Z,5.7nm,1.2s						
WB2	**Warramunga Arr**	**45.02**	**259**	P	**P**	**14 12 25.6**	**-0.7**
WRA	**Warramunga Arr**	**45.03**	**259**	P	**P**	**14 12 25.8**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=97,slow=7.4,SNR=34						
WRA	**Warramunga Arr**	**45.03**	**259**	P	**P**	**14 12 25.2**	**-1.1**
AS31	**Alice Springs**	**45.18**	**254**	P	**P**	**14 12 27.0**	**-0.4**
AS31				IAmb	IAmb	14 12 28.2	
	comp=Z,2.5nm,0.7s						
ASAR	**Alice Springs**	**45.18**	**254**	P	**P**	**14 12 27.6**	**+0.2**
	comp=Z,9.5nm,0.6s,baz=90,slow=8.3,SNR=199						
ASAR	**Alice Springs**	**45.18**	**254**	P	**P**	**14 12 27.0**	**-0.4**
KNRA	**Kununurra**	**50.89**	**264**	P	**P**	**14 13 10.2**	**0.0**
KNRA				IAmb	IAmb	14 13 38.2	
	comp=Z,11nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.43**	**260**	P	**P**	**14 13 28.4**	**-0.1**
MORW	**Morawa**	**60.85**	**246**	P	**P**	**14 14 18.8**	**-0.5**
MORW				IAmb	IAmb	14 14 27.0	
	comp=Z,21nm,1.5s						
JMZ	**Minamidaito 2**	**65.80**	**310**	P	**P**	**14 14 49.5**	**-1.6**
QSPA	**South Pole Qui**	**72.13**	**180**	P	**P**	**14 15 28.7**	**-0.1**
QSPA				IAmb	IAmb	14 15 29.3	
	comp=Z,5.8nm,1.4s						
PET	**Petropavlovsk**	**73.49**	**346**	P	**P**	**14 15 35.5**	**-1.0**
CHGN	**Chignik**	**75.76**	**11**	P	**P**	**14 15 47.8**	**-1.4**
HOPS	**Hopland Field**	**76.42**	**41**	P	**P**	**14 15 53.4**	**+0.1**
YERR	**Yerington**	**78.85**	**43**	P	**P**	**14 16 08.0**	**+1.2**
NVAR	**Mina Array Bea**	**79.16**	**44**	P	**P**	**14 16 10.0**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=225,slow=9.2,SNR=6.2						
KVN	**Kaiserville**	**79.63**	**43**	P	**P**	**14 16 12.2**	**+1.3**
PV14	**Lion Creek, Pa**	**85.44**	**47**	P	**P**	**14 16 40.0**	**-0.4**
PV14				IAmb	IAmb	14 16 47.2	
	comp=Z,6.8nm,1.0s						
TXAR	**Lajitas Array**	**85.66**	**57**	P	**P**	**14 16 44.2**	**+2.8**
	comp=Z,0.7nm,0.7s,baz=202,slow=5.0,SNR=6.1						
PDAR	**Pinedale Array**	**87.08**	**43**	P	**P**	**14 16 49.4**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=298,slow=1.9,SNR=2.3						
SNAA	**Sanae**	**90.57**	**178**	P	**P**	**14 17 02.7**	**-0.9**
VNA3	**Neumayer Olymp**	**90.69**	**176**	P	**P**	**14 17 03.6**	**-0.6**
VNA2	**Neumayer--Watz**	**91.14**	**177**	P	**P**	**14 17 05.2**	**-1.0**
	baz=203,slow=4.0						
VNA1	**Neumayer--Stat**	**91.36**	**177**	P	**P**	**14 17 06.8**	**-0.4**
BRTR	**Keskin Array B**	**145.08**	**315**	PKP	**PKPab**	**14 23 37.1**	**-0.6**
	comp=Z,0.7nm,0.9s,baz=95,slow=5.2,SNR=3.6						
MDUB	**Mudurnu**	**146.30**	**318**	PKPbc	**PKPbc**	**14 23 40.3**	**+0.1**

JMA 22 14:05:07.7±0.7, 44.35N×151.42E, h30km, M3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**4.22**	**258**	P	Pn	14 06 09.4	-0.5
NEM2				*eS*	Sn	14 06 54.8	-3.4
JNK	**Nakash**	**4.90**	**263**	P	Pn	14 06 19.5	+0.3
JAK	**Akkeshi**	**5.06**	**257**	P	Pn	14 06 21.1	-0.4
JAK				*eS*	Sn	14 07 15.5	-3.4
JTKR	**Abashiri--Toko**	**5.42**	**269**	P	Pn	14 06 28.2	+1.8
JAR	**Ashorobuto**	**5.63**	**262**	P	Pn	14 06 30.0	+0.6
JAR				*eS*	Sn	14 07 30.7	-2.3
JOB	**Onbets**	**5.69**	**258**	P	Pn	14 06 29.9	-0.2
JMP	**Maruseppu**	**5.81**	**269**	P	Pn	14 06 33.9	+2.1
JCH	**Churui**	**6.11**	**256**	P	Pn	14 06 35.6	-0.3
JCH				*eS*	Sn	14 07 41.2	-3.6
JFR	**Furan**	**6.50**	**263**	P	Pn	14 06 42.9	+1.6
JFR				*eS*	Sn	14 07 53.6	-0.8
JNBK	**Urakawa-nobuka**	**6.65**	**255**	P	Pn	14 06 43.0	-0.3
JAB	**Ashibetsu**	**6.70**	**266**	P	Pn	14 06 47.0	+3.1
JBT2	**Biratori 2**	**6.76**	**260**	P	Pn	14 06 44.9	0.0
JWK2	**Keihoku**	**6.84**	**281**	P	Pn	14 06 51.9	+6.0
JRBN	**Rebuntou**	**7.43**	**282**	P	Pn	14 06 58.7	+4.7
JNB	**Noboribetsu**	**7.79**	**260**	P	Pn	14 06 59.5	+0.6
JKB	**Kayabe**	**7.99**	**256**	P	Pn	14 07 01.5	-0.1
JKB				*eS*	Sn	14 08 24.9	-6.0
JANG	**Nango**	**8.34**	**245**	P	Pn	14 07 03.5	-3.0
JANG				*eS*	Sn	14 08 29.9	-10
JYM2	**Yakumo 2**	**8.37**	**258**	P	Pn	14 07 07.5	+0.6

IDC 22 14:05:26.1±844.0, 53.35N×33.70E, h0km, Error ellipse: s-maj=340.9km s-min=86.6km az=33.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**3.94**	**30**	*i*		14 30 50.0	
	baz=213,slow=318,SNR=1.7						
I31KZ	**AKTYUBINSK INF**	**15.29**	**91**	*i*		15 35 00.0	
	baz=292,slow=317,SNR=1.6						
I46RU	**ZALESOVO INFRA**	**29.77**	**68**	*i*		17 08 40.0	
	baz=289,slow=322,SNR=1.9						

NNC 22 14:10:45.6±5.2, 36.82N×69.37E, h0km, mb3.9, mpv3.5, 5C-2D, Error ellipse: s-maj=43.5km s-min=38.0km az=103.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.34**	**8**	⇑Pn	Pn	14 12 20.6	+0.3
	1.3nm,0.4s,baz=196,slow=12,SNR=22						
KK31				⇑Sn	Sn	14 13 35.2	+1.8
	1.0nm,0.3s,baz=192,slow=23,SNR=4.6						
KK31				⇑Lg	Lg	14 14 06.8	
	3.4nm,0.5s,baz=190,slow=28,SNR=6.9						
AAK	**Ala-Archa**	**7.03**	**33**	⇓Pn	Pn	14 12 30.3	+0.5
	2.0nm,0.4s						
AAK				⇓Sn	Sn	14 13 51.9	+1.3
	5.4nm,0.6s						
TKM2	**Tokmak 2**	**7.75**	**36**	⇑Pn	Pn	14 12 39.2	-0.6
	2.5nm,0.9s						
TKM2				⇑Sn	Sn	14 14 08.4	-0.1
	3.0nm,0.8s						

SJA 22 14:12:42.0, 21.50S×68.63W, h85km, ML4.9, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.64**	**242**	*i* P	Pn	14 12 59.0	+1.3
PB01	**IPOC Station P**	**0.92**	**299**	*i* P	Pn	14 13 01.0	+0.5
PB01				*i* S	Sn	14 13 18.9	+4.5
PB03	**IPOC Station P**	**1.18**	**242**	*i* P	Pn	14 13 03.0	-0.7
PB02	**IPOC Station P**	**1.19**	**259**	*i* P	Pn	14 13 04.0	+0.2
PB02	**IPOC Station P**	**1.19**	**278**	*i* P	Pn	14 13 04.1	+0.3
AP01	**Chacalluta**	**3.50**	**332**	*i* P	Pn	14 13 34.0	-0.3
RTLS	**Leoncito**	**10.28**	**183**	*i* P	Pn	14 15 07.0	+0.2

*IDC **22** 14:14:16.4±1.6, 30.39S×71.99W, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.6/21, mbtmp3.5/4, ML3.6/2, MS2.9/1, Ms1 2.9/1, ms1mx2.6/10, Error ellipse: s-maj=62.8km s-min=36.4km az=78.0*
*GUC **22** 14:14:17.8±0.7, 30.33S×72.12W, h11km±6km, ML3.6*

ISC 22 14:14:18.2±1.8, 30.33S±0.04×72.13W±0.08, h16km±10km, n22, σ1$11/24, 3C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.54**	**129**	⇓*i* P	**Pg**	**14 14 29.0**	**0.0**
CO06				*i* S	**Sg**	**14 14 36.4**	**+0.1**
CO05	**La Serena**	**0.88**	**62**	⇓*i* P	**Pb**	**14 14 34.3**	**-0.6**
CO05				*eS*	**Sg**	**14 14 46.7**	**0.0**
CO05				IAML		14 14 51.9	
	comp=E,5μm,0.3s						
GO04	**Tololo Observa**	**1.16**	**82**	⇓*i* P	**Pn**	**14 14 39.1**	**-0.8**
GO04				*i* S	**Sn**	**14 14 55.5**	**0.0**
GO04				IAML		14 15 03.0	
	comp=N,6μm,0.5s						
CO03	**El Pedregal**	**1.34**	**112**	*e*P	**Pn**	**14 14 41.7**	**-0.5**
CO03				*i* S	**Sb**	**14 15 00.3**	**+0.5**
CO03				IAML		14 15 02.5	
	comp=N,2μm,0.4s						
LCO	**Las Campanas**	**1.81**	**44**	*e*P	**Pn**	**14 14 48.0**	**-0.9**
LCO				*e*S	**Sb**	**14 15 13.5**	**-0.1**
AC04	**Llanos de Chal**	**2.31**	**24**	⇑*i* P	**Pn**	**14 14 53.7**	**-1.9**
AC04				*e*S	**Sn**	**14 15 21.6**	**-2.0**
AC04				IAML		14 15 43.7	
	comp=N,295nm,0.5s						
VA06	**Catapilco**	**2.33**	**162**	⇑*i* P	**Pn**	**14 14 55.5**	**-0.3**
VA06				*i* S	**Sn**	**14 15 22.4**	**-1.7**
VA03	**San Esteban**	**2.77**	**151**	*e*P	**Pn**	**14 15 02.8**	**+0.8**
VA03				*i* S	**Sn**	**14 15 34.8**	**-0.3**
AC02	**Maricunga**	**4.37**	**38**	*e*P	**Pn**	**14 15 24.1**	**-0.2**
BO02	**Sierra Bellavi**	**4.59**	**166**	⇑*i* P	**Pn**	**14 15 27.1**	**+0.1**
BO02				*i* S	**Sn**	**14 16 17.2**	**-2.7**
H03N1	**Juan Fernandez**	**6.55**	**240**	T	T	14 23 01.1	
	baz=70,slow=72,SNR=257						
H03N2	**Juan Fernandez**	**6.56**	**240**	T	T	14 23 01.7	
	baz=70,slow=72,SNR=231						
H03N3	**Juan Fernandez**	**6.56**	**240**	T	T	14 23 00.5	
	baz=70,slow=72,SNR=194						
PLCA	**Paso Flores**	**10.46**	**173**	Pn	**Pn**	**14 16 46.9**	**-0.5**
	comp=N,0.1nm,0.3s,baz=302,slow=9.5,SNR=3.1						
CPUP	**Villa Florida**	**13.63**	**77**	LR	LR	14 22 30.8	
	comp=N,53nm,20.9s,baz=336,slow=37						
LPAZ	**La Paz**	**14.45**	**16**	Pn	**Pn**	**14 17 43.6**	**+0.9**
	comp=N,0.1nm,0.3s,baz=200,slow=8.3,SNR=4.4						
TXAR	**Lajitas Array**	**66.52**	**330**	P	**P**	**14 25 08.8**	**+1.6**
	comp=N,0.1nm,0.7s,baz=144,slow=7.8,SNR=2.2						
TORD	**Torodi Ar. Bea**	**83.05**	**70**	P	**P**	**14 26 43.6**	**+0.4**
	comp=N,0.4nm,0.5s,baz=232,slow=5.6,SNR=5.8						
H11S2	**WAKE ISLAND Hyl**	**25.67**	**272**	T	T	16 52 03.8	
	baz=114,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hyl**	**25.68**	**272**	T	T	16 52 03.6	
	baz=114,slow=74,SNR=9.6						
H11S3	**WAKE ISLAND Hyl**	**25.68**	**272**	T	T	16 52 03.6	
	baz=114,slow=74,SNR=7.1						
ZALV	**Zalesovo Beam**	**151.11**	**29**	PKPbc	**PKiKP**	**14 34 10.7**	**+0.1**
	comp=N,0.8nm,0.5s,baz=318,slow=4.1,SNR=6.0						

*IDC **22** 14:45:48.1±2.0, 3.92S×129.19E, h102km±18km, mb4.2/18, mb1 4.2/20, mb1mx4.1/41, mbtmp4.5/20, MS3.0/8,*
Ms1 3.1/8, ms1mx2.8/45, Error ellipse: s-maj=18.7km s-min=10.1km az=81.0
*DJA **22** 14:45:48.9±0.1, 4.1S±2.1×129.9E±1.1, h105km±2km, M4.7/40, mB5.2/18, mb4.8/40, MLv5.2/15, Mw(mB)4.5/18*
*NEIC **22** 14:45:49.6±1.8, 3.82S±0.06×129.19E±0.07, h113km±7km, mb4.9/69, Error ellipse: s-maj=10.1km s-min=8.6km az=70.0*

ISC 22 14:45:47.8±0.3, 3.88S±0.04×129.24E±0.04, h100km, n269, σ1$47/278, mb5.0/88, 1C-1D, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.61**	**330**	P	**Pn**	**14 46 06.4**	**+1.9**
MSAI				S	**Sn**	**14 46 18.5**	**+1.5**
BNDI	**Bandanaira**	**0.92**	**134**	P	**Pn**	**14 46 10.2**	**+2.8**
BNDI				S	**Sn**	**14 46 25.2**	**+3.1**
KRAI	**Karang Ratu**	**1.01**	**303**	P	**Pn**	**14 46 11.1**	**+2.7**
KRAI				S	**Sn**	**14 46 26.0**	**+2.1**
FAKI	**Fak Fak**	**3.15**	**72**		**Pn**	**14 46 37.6**	**+2.0**
FAKI	**Fak Fak**	**3.15**	**72**	P	**Pn**	**14 46 37.4**	**+1.8**
FAKI				S	**Sn**	**14 47 11.7**	**-0.8**
SIJI	**Sorong**	**3.61**	**34**	P	**Pn**	**14 46 41.5**	**-0.4**
	53nm,0.3s,baz=48,slow=13,SNR=1425						
SIJI				S	**Sn**	**14 47 21.0**	**-2.5**
	175nm,0.3s,baz=90,slow=20,SNR=7.8						
SIJI	**Sorong**	**3.61**	**34**	P	**Pn**	**14 46 41.4**	**-0.4**
SWI	**Sorong**	**3.61**	**34**	P	**Pn**	**14 46 42.3**	**+0.5**
SANI	**Sanana**	**3.72**	**299**	P	**Pn**	**14 46 43.0**	**-0.3**
SAUI	**Saumlaki**	**4.56**	**153**	Pn	**Pn**	**14 46 58.4**	**+3.8**
SAUI	**Saumlaki**	**4.56**	**153**	P	**Pn**	**14 46 57.5**	**+2.9**
TNTI	**Ternate**	**4.99**	**338**	Pn	**Pn**	**14 47 01.0**	**+0.7**
TNTI	**Ternate**	**4.99**	**338**	P	**Pn**	**14 47 01.1**	**+0.7**
GAMI	**Galela, Maluku**	**5.86**	**346**	P	**Pn**	**14 47 12.7**	**+0.4**
	0.4nm2μm125nm,1.1s						
KMSI	**Cibinong**	**6.87**	**310**	P	**Pn**	**14 47 26.9**	**+0.9**
	2.9nm225nm,0.6s						
MNI	**Manado**	**6.88**	**320**	P	**Pn**	**14 47 26.7**	**+0.6**
	1.3nm212nm,0.9s						
LUWI	**Luwuk**	**7.05**	**293**		**Pn**	**14 47 28.4**	**0.0**
LUWI	**Luwuk**	**7.05**	**293**	P	**Pn**	**14 47 28.7**	**+0.2**
	1.1nm5μm86nm,0.8s						
SRPI	**Serui, Papua**	**7.27**	**74**	P	**Pn**	**14 47 32.5**	**+1.1**
	1.3nm107nm,0.8s						
KKSI	**Kolaka, Sulawe**	**7.58**	**268**	P	**Pn**	**14 47 38.4**	**+2.8**
	0.9nm2μm254nm,0.7s						
SOEI	**Soe**	**7.64**	**220**	Pn	**Pn**	**14 47 37.7**	**+1.1**
SOEI	**Soe**	**7.64**	**220**	P	**Pn**	**14 47 38.0**	**+1.3**
	0.3nm92nm,0.8s						
APSI	**Ampana**	**8.14**	**291**	P	**Pn**	**14 47 45.7**	**+2.4**
	1μm70nm,0.6s						
BATI	**Baumata**	**8.37**	**221**	P	**Pn**	**14 47 50.6**	**+4.2**
	4.5nm,0.3s,baz=64,slow=1.3,SNR=11						
BATI	**Baumata**	**8.37**	**221**	P	**Pn**	**14 47 48.4**	**+1.9**
	690nm48nm,0.7s						
MMRI	**Maumere**	**8.41**	**236**	Pn	**Pn**	**14 47 48.7**	**+1.7**
MMRI	**Maumere**	**8.41**	**236**	P	**Pn**	**14 47 49.8**	**+2.8**
	137nm,1.1s						
MRSI	**Marisa**	**8.48**	**301**	P	**Pn**	**14 47 48.7**	**+0.8**
	1μm89nm,0.7s						
EDFI	**Ende, Flores**	**8.93**	**237**	P	**Pn**	**14 47 57.1**	**+3.0**
	551nm70nm,0.8s						
BSSI	**Bau Bau, Buton**	**9.00**	**255**	P	**Pn**	**14 47 57.5**	**+2.5**
	777nm93nm,1.0s						
MTN	**Manton Dam**	**9.10**	**168**	P	**Pn**	**14 47 56.7**	**+0.3**
	baz=9.1,SNR=7.4						
MTN	**Manton Dam**	**9.10**	**168**	Pn	**Pn**	**14 47 57.3**	**+1.0**
BNSI	**Bone**	**9.13**	**266**	P	**Pn**	**14 47 59.2**	**+2.5**
	1μm114nm,0.8s						
BKSI	**Bulukumba**	**9.20**	**261**	P	**Pn**	**14 48 00.5**	**+2.8**
	1μm78nm,1.1s						
KDU	**Kakadu**	**9.31**	**160**	P	**Pn**	**14 47 58.7**	**-0.6**
	baz=9.4,SNR=5.9						
TTSI	**Tana Toraja**	**9.44**	**275**	P	**Pn**	**14 48 03.5**	**+2.5**
	548nm45nm,0.8s						
KAPI	**Kappang**	**9.53**	**263**	P	**Pn**	**14 48 05.6**	**+3

CISI				IAmb	IAmb	14 50 29.2
	comp=Z,28nm,0.6s					
LEM	**Lembang**	**21.73 261**		LR	LR	14 59 47.7
	comp=Z,110nm,18.0s,baz=352,slow=39					
RABL	**Rabaul**	**22.87 92**		P	**P**	**14 50 43.5 +0.4**
CTA	**Charters Tower**	**23.12 136**		P	**P**	**14 50 46.6 +1.2**
	comp=Z,26nm,0.8s,baz=317,slow=11,SNR=31					
CTAO	**Charters Tower**	**23.12 136**		P	**P**	**14 50 46.1 +0.7**
CTAO				IAmb	IAmb	14 50 48.8
	comp=Z,36nm,0.8s					
GUMO	**Guam**	**23.28 42**		P	**P**	**14 50 44.7 -2.2**
GIRL	**Giralia**	**23.65 217**		P	**P**	**14 50 50.3 +0.1**
GIRL				IAmb	IAmb	14 51 10.6
	comp=Z,100nm,1.2s					
MEEK	**Meekatharra**	**24.81 203**		P	**P**	**14 50 58.9 -1.8**
	baz=25,SNR=6.6					
QLP	**Quilpie**	**26.75 149**		P	**P**	**14 51 19.0 +0.8**
	baz=27,SNR=11					
FORT	**Forrest**	**26.78 182**		P	**P**	**14 51 18.2 -0.3**
	baz=27,SNR=8.1					
FORT	**Forrest**	**26.78 182**		P	**P**	**14 51 17.9 -0.5**
FORT				IAmb	IAmb	14 51 19.1
	comp=Z,40nm,0.7s					
TPUB	**Ta-pu**	**28.29 343**		P	**P**	**14 51 31.9 -0.2**
BBOO	**Buckleboo**	**29.48 168**		P	**P**	**14 51 42.5 +0.1**
	baz=30,SNR=30					
BBOO	**Buckleboo**	**29.48 168**		P	**P**	**14 51 42.3 -0.2**
BBOO				IAmb	IAmb	14 51 43.1
	comp=Z,25nm,0.6s					
MNSI	**Mandailing Nat**	**30.00 278**		P	**P**	**14 51 46.3 -1.1**
	comp=Z,39nm,0.6s					
STKA	**Stephens Creek**	**30.17 159**		P	**P**	**14 51 49.1 +0.5**
	baz=30,SNR=24					
STKA	**Stephens Creek**	**30.17 159**		P	**P**	**14 51 49.1 +0.5**
	comp=Z,17nm,0.6s,baz=329,slow=9.6,SNR=32					
STKA				LR	LR	15 05 25.0
	comp=Z,89nm,20.1s,baz=27,slow=39					
STKA	**Stephens Creek**	**30.17 159**		P	**P**	**14 51 48.9 +0.2**
UBPT	**Khong Chiam**	**30.27 309**		P	**P**	**14 51 51.2 +1.5**
	comp=Z,13nm,1.1s					
UBPT	**Khong Chiam**	**30.27 309**		P	**P**	**14 51 51.2 +1.5**
	comp=Z,13nm,1.1s					
UBPT	**Khong Chiam**	**30.27 309**		P	**P**	**14 51 48.6 -1.1**
UBPT				IAmb	IAmb	14 51 51.3
	comp=Z,17nm,1.2s					
UBPT	**Khong Chiam**	**30.27 309**		P	**P**	**14 51 50.2 +0.5**
	comp=Z,13nm,1.1s					
HTT	**Hallett**	**30.76 164**		P	**P**	**14 51 54.1 +0.3**
	baz=31,SNR=9.7					
RPSI	**Rantau Prapat**	**31.00 282**		P	**P**	**14 51 55.3 -0.8**
RPSI				IAmb	IAmb	14 51 56.3
	comp=Z,40nm,0.8s					
RPSI	**Rantau Prapat**	**31.00 282**		P	**P**	**14 51 55.8 -0.4**
NWAO	**Narrogin (SRO)**	**31.00 200**		P	**P**	**14 51 54.8 -1.2**
	comp=Z,3.0nm,0.6s,baz=329,slow=18,SNR=1.4					
NWAO	**Narrogin (SRO)**	**31.00 200**		P	**P**	**14 51 54.6 -1.4**
NWAO				IAmb	IAmb	14 51 57.3
	comp=Z,22nm,1.4s					
PSI	**Prapat**	**31.02 282**		P	**P**	**14 51 55.8 -0.7**
	comp=Z,31nm,0.7s,baz=126,slow=5.8,SNR=27					
CMSA	**Cobar Meteorol**	**31.57 152**		P	**P**	**14 52 01.9 +1.0**
	baz=32,SNR=7.8					
TRTT	**Trang**	**31.70 292**		P	**P**	**14 52 03.0 +0.8**
	comp=Z,41nm,0.9s					
TRTT	**Trang**	**31.70 292**		P	**P**	**14 52 03.1 +0.8**
	comp=Z,41nm,0.9s					
GSI	**Gunungsitoli**	**32.06 279**		P	**P**	**14 52 04.2 -1.4**
GSI				IAmb	IAmb	14 52 04.7
	comp=Z,25nm,0.6s					
SURA	**Surathani**	**32.24 294**		P	**P**	**14 52 08.7 +1.7**
	comp=Z,25nm,1.2s					
SURA	**Surathani**	**32.24 294**		P	**P**	**14 52 08.7 +1.7**
	comp=Z,24nm,1.2s					
SURT	**Suratani**	**32.92 293**		P	**P**	**14 52 14.4 +1.5**
	comp=Z,1.3nm,1.1s					
SURT	**Suratani**	**32.92 293**		P	**P**	**14 52 14.5 +1.5**
	comp=Z,1.3nm,1.1s					
PKDT	**Phuket**	**32.98 291**		P	**P**	**14 52 14.0 +0.6**
	comp=Z,13µmcomp=Z,60nm,0.9s					
PKDT	**Phuket**	**32.98 291**		P	**P**	**14 52 14.1 +0.6**
	comp=Z,13µmcomp=Z,60nm,0.9s					
CHAI	**Chaiyaphum**	**33.37 307**		P	**P**	**14 52 17.3 +0.5**
	comp=Z,488nmcomp=Z,40nm,0.9s					
CHAI	**Chaiyaphum**	**33.37 307**		P	**P**	**14 52 17.0 +0.2**
	comp=Z,122nmcomp=Z,10.0nm,0.9s					
LHMI	**Lhok Sumawe**	**33.50 285**		P	**P**	**14 52 17.8 -0.2**
PHET	**Kaeng Krachan**	**33.81 300**		P	**P**	**14 52 22.1 +1.3**
	comp=Z,32nm,0.9s					
PHET	**Kaeng Krachan**	**33.81 300**		P	**P**	**14 52 22.0 +1.3**
	comp=Z,8.2nm,0.9s					
ARMA	**Armidale**	**33.82 144**		P	**P**	**14 52 21.8 +1.1**
ARMA				IAmb	IAmb	14 52 30.3
	comp=Z,20nm,1.1s					
ARPS	**Mount Arapiles**	**34.72 162**		P	**P**	**14 52 29.3 +1.0**
	baz=35,SNR=30					
SRDT	**SRDT**	**34.93 302**		P	**P**	**14 52 31.5 +1.2**
YNG	**Young**	**35.12 152**		P	**P**	**14 52 33.6 +1.8**
	baz=35,SNR=7.5					
UTHA	**Uthaitani**	**35.26 304**		P	**P**	**14 52 33.8 +0.7**
	comp=Z,549nmcomp=Z,58nm,0.7s					
UTHA	**Uthaitani**	**35.26 304**		P	**P**	**14 52 33.8 +0.7**
	comp=Z,136nmcomp=Z,14nm,0.7s					
PHIT	**Phitsanulok**	**35.33 307**		P	**P**	**14 52 34.9 +1.2**
	comp=Z,855nmcomp=Z,111nm,0.8s					
PHIT	**Phitsanulok**	**35.33 307**		P	**P**	**14 52 35.0 +1.2**
	comp=Z,212nmcomp=Z,28nm,0.8s					
UTTA	**Uttaradit**	**35.53 308**		P	**P**	**14 52 36.4 +0.9**
	comp=Z,468nmcomp=Z,36nm,0.7s					
UTTA	**Uttaradit**	**35.53 308**		P	**P**	**14 52 36.0 +0.5**
	comp=Z,117nmcomp=Z,9.0nm,0.7s					
UMPA	**Umpang Tak**	**36.07 304**		P	**P**	**14 52 41.0 +0.9**
	comp=Z,1µmcomp=Z,25nm,1.1s					
UMPA	**Umpang Tak**	**36.07 304**		P	**P**	**14 52 41.0 +0.9**
	comp=Z,252nmcomp=Z,6.1nm,1.1s					
CAN	**Canberra**	**36.24 152**		P	**P**	**14 52 42.7 +1.3**
CNB	**Canberra Magne**	**36.41 152**		P	**P**	**14 52 44.5 +1.6**
	baz=36,SNR=6.4					
TOO	**Toolangi**	**36.69 158**		P	**P**	**14 52 47.3 +2.1**
	baz=37,SNR=14					
TOO	**Toolangi**	**36.69 158**		P	**P**	**14 52 46.8 +1.7**
TOO				IAmb	IAmb	14 53 13.9
	comp=Z,26nm,1.4s					
LAMP	**Lampang**	**36.69 308**		P	**P**	**14 52 47.5 +2.1**
	comp=Z,29nm,0.8s					
LAMP	**Lampang**	**36.69 308**		P	**P**	**14 52 47.5 +2.1**
	comp=Z,7.3nm,0.8s					
PAYA	**Payao**	**36.99 310**		P	**P**	**14 52 48.5 +0.6**
	comp=Z,224nmcomp=Z,21nm,0.8s					
PAYA	**Payao**	**36.99 310**		P	**P**	**14 52 48.5 +0.6**
	comp=Z,56nmcomp=Z,5.3nm,0.8s					
CM36	**Chiang Mai Arr**	**37.11 308**		P	**P**	**14 52 49.0 0.0**
CM04	**Chiang Mai Arr**	**37.14 308**		P	**P**	**14 52 50.3 +1.1**
	comp=Z,190nmcomp=Z,23nm,0.8s					
CM04	**Chiang Mai Arr**	**37.14 308**		P	**P**	**14 52 50.0 +0.8**
	comp=Z,190nmcomp=Z,23nm,0.8s					
CM09	**Chiang Mai Arr**	**37.15 308**		P	**P**	**14 52 50.6 +1.3**
	comp=Z,173nmcomp=Z,21nm,0.8s					
CM09	**Chiang Mai Arr**	**37.15 308**		P	**P**	**14 52 50.6 +1.3**
	comp=Z,173nmcomp=Z,21nm,0.8s					
CM35	**Chiang Mai Arr**	**37.16 308**		P	**P**	**14 52 50.0 +0.7**
CM01	**Chiang Mai Arr**	**37.17 308**		P	**P**	**14 52 50.6 +1.2**
	comp=Z,196nmcomp=Z,23nm,0.7s					
CM01	**Chiang Mai Arr**	**37.17 308**		P	**P**	**14 52 50.6 +1.2**
	comp=Z,196nmcomp=Z,23nm,0.7s					
CM05	**Chiang Mai Arr**	**37.17 308**		P	**P**	**14 52 50.4 +1.0**
	comp=Z,194nmcomp=Z,20nm,0.7s					
CM05	**Chiang Mai Arr**	**37.17 308**		P	**P**	**14 52 50.5 +1.0**
	comp=Z,194nmcomp=Z,20nm,0.7s					
CM02	**Chiang Mai Arr**	**37.18 308**		P	**P**	**14 52 50.7 +1.1**
	comp=Z,168nmcomp=Z,20nm,0.9s					
CM02	**Chiang Mai Arr**	**37.18 308**		P	**P**	**14 52 50.0 +0.4**
	comp=Z,168nmcomp=Z,20nm,0.9s					
CM31	**Chiang Mai Arr**	**37.20 308**		P	**P**	**14 52 50.9 +1.2**
	comp=Z,5µmcomp=Z,515nm,0.7s					
CM31	**Chiang Mai Arr**	**37.20 308**		P	**P**	**14 52 50.5 +0.8**
CM31				IAmb	IAmb	14 52 51.8
	comp=Z,34nm,1.3s					
CMAR	**Chiang Mai Arr**	**37.20 308**		P	**P**	**14 52 50.8 +1.1**
	comp=Z,11nm,0.7s,baz=135,slow=7.3,SNR=96					
CMAR				PcP	**PcP**	**14 55 09.1 +1.3**
	comp=Z,1.1nm,0.7s,baz=156,slow=2.7,SNR=4.7					
CMAR				ScP	**ScP**	**14 58 44.5 -1.5**
	comp=Z,0.6nm,0.6s,baz=157,slow=4.8,SNR=5.4					
CMAR				LR	LR	15 07 58.5
	comp=Z,16nm,21.9s,baz=165,slow=36					
CMAR	**Chiang Mai Arr**	**37.20 308**		P	**P**	**14 52 50.4 +0.7**
CM13	**Chiang Mai Arr**	**37.21 308**		P	**P**	**14 52 50.8 +1.0**
	comp=Z,198nmcomp=Z,20nm,0.8s					
CM13	**Chiang Mai Arr**	**37.21 308**		P	**P**	**14 52 50.0 +0.2**
	comp=Z,198nmcomp=Z,20nm,0.8s					
CM15	**Chiang Mai Arr**	**37.21 308**		P	**P**	**14 52 50.9 +1.1**
	comp=Z,230nmcomp=Z,22nm,0.9s					
CM15	**Chiang Mai Arr**	**37.21 308**		P	**P**	**14 52 50.0 +0.2**
	comp=Z,230nmcomp=Z,22nm,0.9s					
GYA	**Guiyang**	**37.24 325**		⇑P	**P**	**14 52 51.1 +1.0**
GYA				pmax	pmax	
	comp=Z,12nm,0.5s					
CM34	**Chiang Mai Arr**	**37.26 308**		P	**P**	**14 52 51.0 +0.8**
CM32	**Chiang Mai Arr**	**37.38 308**		P	**P**	**14 52 52.0 +0.8**
CMMT	**Chiang Mai**	**37.39 308**		P	**P**	**14 52 51.9 +0.6**
	comp=Z,391nmcomp=Z,40nm,0.8s					
CMMT	**Chiang Mai**	**37.39 308**		P	**P**	**14 52 52.0 +0.6**
	comp=Z,391nmcomp=Z,40nm,0.8s					
CMMT	**Chiang Mai**	**37.39 308**		P	**P**	**14 52 52.0 +0.6**
	comp=Z,374nmcomp=Z,38nm,0.8s					
CHTO	**Chiang Mai**	**37.40 308**		P	**P**	**14 52 52.1 +0.7**
	comp=Z,370nmcomp=Z,40nm,0.8s					
CHTO	**Chiang Mai**	**37.40 308**		P	**P**	**14 52 51.9 +0.5**
CHTO				IAmb	IAmb	14 52 53.3
	comp=Z,29nm,0.8s					
CHTO	**Chiang Mai**	**37.40 308**		P	**P**	**14 52 52.0 +0.7**
	comp=Z,208nmcomp=Z,22nm,0.8s					
CM33	**Chiang Mai Arr**	**37.40 308**		P	**P**	**14 52 51.0 -0.4**
MHMT	**Maesarieng**	**37.85 306**		P	**P**	**14 52 56.5 +1.3**
	comp=Z,523nmcomp=Z,36nm,0.9s					
MHMT	**Maesarieng**	**37.85 306**		P	**P**	**14 52 56.5 +1.3**
DZM	**Mont Dzumac**	**40.34 120**		P	**P**	**14 53 15.6 -0.4**
DZM				IAmb	IAmb	14 53 18.2
	comp=Z,18nm,1.3s					
OUENC	**Ouen Island, N**	**40.80 120**		P	**P**	**14 53 21.0 +1.3**
OUENC				IAmb	IAmb	14 53 21.5
	comp=Z,12nm,0.9s					
MJAR	**Matsushiro Arr**	**41.08 11**		P	**P**	**14 53 21.4 -0.4**
	comp=Z,2.1nm,1.0s,baz=171,slow=8.6,SNR=4.1					
KSRS	**Korea Array**	**41.14 358**		P	**P**	**14 53 23.3 +1.1**
	comp=Z,0.7nm,0.7s,baz=180,slow=8.8,SNR=2.6					
KSRS				LR	LR	15 10 41.1
	comp=Z,22nm,18.6s,baz=192,slow=36					
MARNC	**Mare, Loyalty**	**41.51 118**		P	**P**	**14 53 26.8 +1.3**
CD2	**Chengdu**	**42.29 327**		P	**P**	**14 53 31.8 0.0**
CD2				pmax	pmax	
	comp=Z,10.0nm,0.7s					
XAN	**Xi'an**	**42.31 335**		P	**P**	**14 53 31.4 -0.5**
XAN				pP	pwP	14 53 58.8 +3.6
XAN				pmax	pmax	
	comp=Z,8.0nm,0.8s					
BJI	**Beijing**	**45.33 346**		P	**P**	**14 53 55.5 -0.3**
BJI				pP	**pP**	**14 54 24.5 +5.0**
BJI				sP	**sP**	**14 54 34.0 +3.2**
BJI				pmax	pmax	
	comp=Z,10.0nm,0.9s					
LZH	**Lanzhou**	**46.32 331**		eP	**P**	**14 54 04.6 +0.6**
LZH				pP	pP	14 54 32.3 +5.0
LZH				pmax	pmax	
	comp=Z,21nm,1.3s					
LZH				pmax	pmax	
	comp=Z,130nm,4.0s					
HHC	**Hu-ho-hao-te**	**47.36 342**		eP	**P**	**14 54 13.9 +2.0**
HHC				pmax	pmax	
	comp=Z,6.0nm,0.8s					
HHC				pmax	pmax	
	comp=Z,35nm,5.7s					
PALK	**Pallekele**	**49.69 283**		P	**P**	**14 54 29.1 -1.1**
PALK				IAmb	IAmb	14 54 46.0
	comp=Z,40nm,1.4s					
ODAN	**Odare**	**50.68 310**		eP	**P**	**14 54 37.4 -0.2**
	comp=Z,32nm,0.8s					
TAPN	**Taplejung**	**50.68 310**		eP	**P**	**14 54 37.5 -0.3**
	comp=Z,20nm,0.5s					
GTA	**Gaotai**	**50.90 331**		⇓P	**P**	**14 54 39.1 +0.2**
GTA				pP	pP	14 55 06.9 +4.0
GTA				sP	sP	14 55 19.8 +5.7
GTA				pmax	pmax	
	comp=Z,13nm,0.9s					
RAMN	**Ramite**	**51.33 309**		eP	**P**	**14 54 42.7 +0.1**
	comp=Z,41nm,0.5s					
OUZ	**Omahuta**	**51.49 133**		P	**P**	**14 54 45.5 +2.2**
OUZ				IAmb	IAmb	14 55 02.8
	comp=Z,43nm,1.4s					
JIRN	**Jiri**	**52.00 310**		eP	**P**	**14 54 47.3 -0.4**
	comp=Z,20nm,0.6s					
PKI	**Pulchoki**	**52.56 309**		eP	**P**	**14 54 51.0 -0.8**
	comp=Z,7.6nm,0.5s					
PKIN	**Phulchoki**	**52.57 309**		eP	**P**	**14 54 51.0 -0.8**
	comp=Z,6.9nm,0.5s					
KKN	**Kakani**	**52.76 309**		eP	**P**	**14 54 52.7 -0.5**
FOZ	**Fox Glacier**	**53.32 144**		P	**P**	**14 54 58.0 +1.3**
GKN	**Gorkha**	**53.36 309**		eP	**P**	**14 54 57.1 -0.4**
	comp=Z,40nm,0.8s					
MLZ	**Mavora Lakes**	**53.47 147**		P	**P**	**14 54 58.8 +1.0**
QRZ	**Quartz Range**	**53.49 140**		P	**P**	**14 54 59.9 +1.8**
WHZ	**Wether Hill Ro**	**53.71 147**		P	**P**	**14 54 59.2 -0.3**
WHZ				IAmb	IAmb	14 55 00.1
	comp=Z,45nm,1.5s					
LBZ	**Lake Benmore**	**54.04 145**		P	**P**	**14 55 03.0 +1.0**
LBZ				IAmb	IAmb	14 55 03.8
	comp=Z,19nm,0.6s					
KOLN	**Koldanda**	**54.06 309**		eP	**P**	**14 55 02.5 -0.1**
	comp=Z,71nm,0.9s					
RPZ	**Rata Peaks**	**54.16 143**		P	**P**	**14 55 04.0 +1.1**
DANN	**Dangsing**	**54.21 309**		eP	**P**	**14 55 03.4 -0.4**
	comp=Z,67nm,0.9s					
THZ	**Tophouse**	**54.23 140**		P	**P**	**14 55 03.8 +0.3**
THZ				IAmb	IAmb	14 55 06.0
	comp=Z,21nm,0.8s					
NNZ	**Nelson**	**54.25 140**		P	**P**	**14 55 03.7 +0.2**
NNZ				IAmb	IAmb	14 55 03.9
	comp=Z,38nm,1.3s					
OXZ	**Oxford**	**54.53 143**		P	**P**	**14 55 05.8 +0.2**
OXZ				IAmb	IAmb	14 55 09.8
	comp=Z,14nm,0.7s					
PYUN	**Piuthan**	**54.69 309**		eP	**P**	**14 55 07.0 -0.2**
	comp=Z,78nm,0.9s					
TUWZ	**Tuamarina**	**54.72 140**		P	**P**	**14 55 07.3 +0.4**
BSWZ	**Blackbirch Sta**	**54.82 140**		P	**P**	**14 55 07.7 +0.1**
KHZ	**Kahutara**	**54.97 141**		P	**P**	**14 55 09.3 +0.6**
ULN	**Ulaanbaatar**	**55.08 342**		P	**P**	**14 55 07.8 -1.8**
ULN				IAmb	IAmb	14 55 11.4
	comp=Z,10nm,1.1s					
ULN	**Ulaanbaatar**	**55.08 342**		P	**P**	**14 55 10.4 +0.8**
	comp=Z,39nm,1.0s					
MQZ	**McQueen's Vall**	**55.12 143**		P	**P**	**14 55 10.4 +0.7**
SONM	**Songino Array**	**55.26 341**		P	**P**	**14 55 11.7 +0.9**
	comp=Z,4.3nm,1.0s,baz=163,slow=7.5,SNR=19					
SONM	**Songino Array**	**55.26 341**		P	**P**	**14 55 10.9 0.0**
BHW	**Baring Head**	**55.31 139**		P	**P**	**14 55 10.8 -0.4**
BKZ	**Black Stump Fm**	**55.34 136**		P	**P**	**14 55 12.0 +0.6**
URZ	**Urewera**	**55.37 135**		P	**P**	**14 55 12.1 +0.4**
MSWZ	**Moikau Station**	**55.56 139**		P	**P**	**14 55 12.6 -0.5**
PLWZ	**Palliser**	**55.64 139**		P	**P**	**14 55 12.7 -0.9**
WMQ	**Urumqi**	**60.39 326**		eP	**P**	**14 55 47.4 +0.7**
WMQ				pP	pwP	14 56 16.4 +3.0
WMQ				sP	PcP	14 56 28.5 -2.2
WMQ				pmax	pmax	
	comp=Z,17nm,0.9s					
WMQ				pmax	pmax	
	comp=Z,150nm,4.5s					
WMQ				LR	LR	
	comp=N,840nm,19.1s					
WMQ				LR	LR	
	comp=E,720nm,19.1s					
WMQ				LR	LR	
	comp=Z,110nm,21.9s					
NIUE	**Niue**	**61.20 110**		P	P	14 55 47.4 -5.2
	baz=61,SNR=3.1					
PETK	**Petropavlovsk-**	**61.63 19**		P	**P**	**14 55 56.1 +1.3**
	comp=Z,4.1nm,1.0s,baz=336,slow=3.3,SNR=4.3					
PETK	**Petropavlovsk-**	**61.63 19**		P	**P**	**14 55 55.6 +0.8**
SHLS	**Shalkode**	**64.81 322**		eP	**P**	**14 56 13.9 -2.3**
	baz=322					
UZB	**Uzynbulak**	**65.08 322**		eP	**P**	**14 56 17.2 -0.7**
	baz=322					
MK31	**Makanchi Array**	**65.22 326**		P	**P**	**14 56 18.6 -0.1**
MK31				IAmb	IAmb	14 56 19.6
	comp=Z,6.6nm,0.8s					
MKAR	**Makanchi Array**	**65.22 326**		P	**P**	**14 56 18.8 +0.1**
	comp=Z,8.2nm,0.6s,baz=118,slow=7.7,SNR=62					
MKAR	**Makanchi Array**	**65.22 326**		P	**P**	**14 56 18.5 -0.2**
KSH	**Kashi**	**65.23 317**		P	**P**	**14 56 19.8 +0.8**
KSH				PcP	**PcP**	**14 56 51.5 +0.8**
KSH				sP	sP	14 56 59.6 +5.8
KSH				ScS	**SKSac**	**15 05 57.3 -7.8**
KSH				pmax	pmax	
	comp=Z,6.0nm,0.8s					
MAKZ	**Makanchi**	**65.40 326**		P	**P**	**14 56 19.4 -0.4**
MAKZ				IAmb	IAmb	14 56 20.2
	comp=Z,7.0nm,0.6s					
SATY	**Saty**	**65.41 321**		eP	**P**	**14 56 19.3 -0.8**
	comp=Z,10.0nm,1.2s,baz=321					
KPKS	**Kokpek**	**65.45 322**		eP	**P**	**14 56 19.5 -0.8**
	baz=322					
YAK	**Yakutsk**	**65.73 0**		P	**P**	**14 56 21.8 +0.2**
	comp=Z,7.8nm,0.5s,baz=82,slow=0.6,SNR=8.4					
YAK	**Yakutsk**	**65.73 0**		P	**P**	**14 56 20.5 -1.1**
YAK				IAmb	IAmb	14 56 23.2
	comp=Z,20nm,0.9s					
TNSS	**Tian-Shan**	**66.31 321**		eP	**P**	**14 56 26.0 -0.3**
	baz=321					
MDOK	**Medeo**	**66.32 321**		eP	**P**	**14 56 24.9 -1.0**
	baz=321					
MTBS	**Maitube**	**66.69 321**		eP	**P**	**14 56 26.8 -1.5**
	baz=321					
CHKK	**Chushkaly**	**66.71 321**		eP	**P**	**14 56 27.3 -1.0**
	baz=322					
KUU	**Kurty**	**67.13 321**		eP	**P**	**14 56 30.1 -0.9**
	comp=Z,7.8nm,0.5s,baz=321					
AAK	**Ala-Archa**	**67.69 319**		P	**P**	**14 56 33.4 -1.3**
SGDS	**Sogindy**	**67.99 320**		eP	**P**	**14 56 35.4 -1.1**
	baz=320					
KBL	**Kabul**	**68.20 310**		P	**P**	**14 56 36.8 -1.3**
ZAA0	**Zalesovo Array**	**68.47 334**		P	**P**	**14 56 38.2 -0.8**
ZAA0				IAmb	IAmb	14 56 39.5
	comp=Z,8.1nm,0.8s					
ZALV	**Zalesovo Beam**	**68.47 334**		P	**P**	**14 56 38.6 -0.5**
	comp=Z,9.3nm,0.9s,baz=108,slow=4.8,SNR=26					
ZALV	**Zalesovo Beam**	**68.47 334**		P	**P**	**14 56 38.2 -0.9**
SEY	**Seymchan**	**68.90 11**		P	**P**	**14 56 43.1 +1.5**
	comp=Z,1.3nm,0.4s,baz=188,slow=6.5,SNR=5.7					
GAR	**Garm**	**68.95 314**		P	**P**	**14 56 41.6 -1.0**
GAR				IAmb	IAmb	14 56 42.9
	comp=Z,9.0nm,0.8s					
BTLS	**Baital**	**69.12 321**		eP	**P**	**14 56 42.3 -1.1**
	baz=322					
AMKA	**Amchitka**	**69.57 31**		P	**P**	**14 56 46.2 +0.3**
CHGR	**Chuyangaron**	**69.65 314**		P	**P**	**14 56 45.9 -1.0**
CHGR				IAmb	IAmb	14 56 47.2
	comp=Z,22nm,1.4s					
KK31	**Karatay Array**	**70.52 318**		P	**P**	**14 56 50.6 -1.3**
KKAR	**Karatay Array**	**70.52 318**		P	**P**	**14 56 50.4 -1.6**
BRZS	**Berezniki**	**72.33 326**		eP	**P**	**14 57 01.6 -1.1**
	baz=326					
BRVK	**Borovoye**	**75.11 328**		P	**P**	**14 57 18.1 -0.8**
BRVK				IAmb	IAmb	14 57 19.9
	comp=Z,11nm,0.9s					
TIXI	**Tiksi**	**75.39 360**		P	**P**	**14 57 19.3 -0.7**
	comp=Z,1.8nm,0.3s,baz=223,slow=7.1,SNR=1.8					
TIXI	**Tiksi**	**75.39 360**		P	**P**	**14 57 20.0 -0.1**
VNDA	**Vanda**	**75.61 173**		P	**P**	**14 57 20.9 -0.4**
	comp=Z,1.9nm,0.6s,baz=318,slow=6.4,SNR=32					
VNDA	**Vanda**	**75.61 173**		P	**P**	**14 57 20.8 -0.6**
SOCY	**Socotra**	**76.45 283**		P	**P**	**14 57 26.1 -1.3**
SBA	**Scott Base**	**76.51 172**		P	**P**	**14 57 26.9 +0.5**
MAW	**Mawson**	**77.56 201**		P	**P**	**14 57 32.0 -0.5**
	comp=Z,1.2nm,0.5s,baz=68,slow=5.4,SNR=2.1					
MAW	**Mawson**	**77.56 201**		P	**P**	**14 57 32.7 +0.2**
ABKAR	**Akbulak array**	**79.61 321**		P	**P**	**14 57 43.7 -0.4**
ARU	**Arti**	**82.67 328**		P	**P**	**14 57 59.5 -0.7**
ILAR	**Eielson Array**	**90.86 25**		P	**P**	**14 58 38.5 -1.3**
	comp=Z,0.4nm,0.6s,baz=256,slow=4.7,SNR=6.6					
BRTR	**Keskin Array B**	**96.77 309**		P	**P**	**14 59 06.0 -1.8**
	comp=Z,0.5nm,0.7s,baz=141,slow=4.5,SNR=4.3					
TXAR	**Lajitas Array**	**123.93 57**		PKP	**PKPdf**	**15 04 34.8 -0.3**
	comp=Z,0.2nm,0.5s,baz=307,slow=1.9,SNR=2.3					
TORD	**Torodi Ar. Bea**	**127.41 284**		PKP	**PKPdf**	**15 04 41.9 -0.1**
	comp=Z,0.5nm,0.6s,baz=84,slow=1.1,SNR=3.3					

IDC ***22*** *14:45:49.0₀0.8,31°.21S×71°.74W,h0ᵏᵐ,mb4.3/6, mb1 4.2/11,mb1mx4.1/29,mbtmp4.1/11,ML4.1/5,MS3.4/6, Ms1 3.4/6,ms1mx3.2/27,Error ellipse: s-maj=29.2km s-min=19.2km az=110.0*

SJA ***22*** *14:45:50.0,31°.17S×72°.30W,h10ᵏᵐ,ML4.9*

NEIC ***22*** *14:45:52.0₀1.6,31°.21S₀0°.03×71°.97W₀0°.06,h18ᵏᵐ±4ᵏᵐ, mb4.6/26,Mwr4.0/24,ML4.5(GUC),Error ellipse: s-maj=9.1km s-min=1.7km az=120.0*

NEIC ***22*** *14:45:51.9,31°.21S×71°.98W,h29ᵏᵐ,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr0.87; Mθθ-0.26; Mϕϕ-0.61; Mrθ0.24; Mθϕ0.80; Mϕr-0.04; Fault plane solution: M₀1.14000×10¹⁵ NP1:ϕ₁337.49000°, δ42.47000°,λ113.88000°. NP2:ϕ₂126.52000°,δ51.88000°, λ69.67000°. Principal axes: T 0.9333, Plg73.0000°, Azm337.0000°; N 0.3370, Plg16.0000°, Azm139.0000°; P -1.2703, Plg5.0000°, Azm231.0000°;*

GUC ***22*** *14:45:52.3₀0.8,31°.21S×71°.77W,h40ᵏᵐ±3ᵏᵐ,ML4.5*

ISC 22 14:45:49.4±1.5,**31°.19S**₀0°.03×**71°.94W**₀0°.06,**h5**ᵏᵐ±9ᵏᵐ, **n141**,σ1°**31**/135

MT01	**Popeta**	**2.73**	**168**	*i* P		**Pn**	**14 46 34.0**	**+0.1**
ZON	**Zonda**	**2.81**	**98**			**Pn**	**14 46 36.8**	**+1.7**
ZON	**Zonda**	**2.81**	**98**	*i* P		**Pb**	**14 46 39.0**	**-1.1**
RTCV	**Cerro Valdivia**	**2.98**	**104**	*i* P		**Pb**	**14 46 41.0**	**-2.0**
ASAL	**Salagasta**	**2.98**	**119**	*i* P		**Pb**	**14 46 42.0**	**-1.1**
LMEL	**Las Melosas**	**3.03**	**152**	⇑*i* P		**Pn**	**14 46 39.8**	**+1.6**
LMEL					IAML		14 47 22.5	
	comp=N,1μm,0.3s							
ARCO	**CERRO ARCO**	**3.04**	**124**	*i* P		**Pb**	**14 46 43.0**	**-1.0**
AC04	**Llanos de Chal**	**3.07**	**14**	P	Pn	**Pn**	**14 46 39.5**	**+0.9**
AC04	**Llanos de Chal**	**3.07**	**14**	*i* P		**Pn**	**14 46 40.0**	**+1.4**
AAGR	**Agrelo**	**3.25**	**126**	*i* P		**Pb**	**14 46 45.0**	**-2.5**
BO01	**Tunca**	**3.27**	**168**	P	Pn	**Pn**	**14 46 41.7**	**+0.4**
BO01	**Tunca**	**3.27**	**168**	*i* P		**Pn**	**14 46 42.0**	**+0.7**
BO03	**Pichilemu**	**3.29**	**180**	⇓*i* P		**Pn**	**14 46 41.4**	**-0.2**
BO03					IAML		14 47 46.8	
	comp=N,462nm,0.8s							
AGUA	**GUANDACOL**	**3.43**	**61**	*i* P		**Pb**	**14 46 48.0**	**-2.7**
BO02	**Sierra Bellavi**	**3.72**	**165**			**Pn**	**14 46 48.4**	**+0.9**
BO02	**Sierra Bellavi**	**3.72**	**165**	*i* P		**Pn**	**14 46 49.0**	**+1.4**
GO05	**Huala**	**3.81**	**180**	P	Pn	**Pn**	**14 46 48.1**	**-0.7**
GO05	**Huala**	**3.81**	**180**	*i* P		**Pn**	**14 46 48.0**	**-0.7**
GO03	**Copiap**	**3.88**	**23**	P	Pn	**Pn**	**14 46 50.7**	**+0.9**
GO03	**Copiap**	**3.88**	**23**	*i* P		**Pn**	**14 46 51.0**	**+1.2**
AVFE	**Valle Fertil**	**3.89**	**83**	*i* P		**Pn**	**14 46 52.0**	**+2.1**
VCA	**Vinchina**	**4.06**	**54**	*i* P		**Pb**	**14 46 58.0**	**-3.5**
AC06	**Mina Casimiro**	**4.06**	**20**	P	Pn	**Pn**	**14 46 52.8**	**+0.5**
COIS	**El Sosneado**	**4.37**	**154**	*i* P		**Pn**	**14 47 00.0**	**+3.5**
ACHE	**Chepes**	**4.52**	**91**	*i* P		**Pn**	**14 47 01.0**	**+2.3**
ML02	**Panimavida**	**4.58**	**175**			**Pn**	**14 46 59.5**	**+0.2**
RFA	**San Rafael**	**4.61**	**142**	*i* P		**Pn**	**14 47 02.0**	**+2.2**
AC02	**Maricunga**	**4.99**	**30**	P	Pn	**Pn**	**14 47 06.6**	**+1.2**
AC02	**Maricunga**	**4.99**	**30**	*i* P		**Pn**	**14 47 07.0**	**+1.6**
CYA	**Choya**	**5.99**	**64**	*i* P		**Pn**	**14 47 21.0**	**+2.2**
H03N1	**Juan Fernandez**	**6.32**	**247**	T	T	T	14 54 07.3	
	baz=76,slow=72,SNR=1470							
VA04	**Juan Fernndez**	**6.32**	**245**	Pn	Pn	**Pn**	**14 47 23.6**	**+0.4**
H03N3	**Juan Fernandez**	**6.33**	**247**	T	T	T	14 54 04.2	
	baz=76,slow=72,SNR=1156							
H03N2	**Juan Fernandez**	**6.33**	**247**	T	T	T	14 54 07.3	
	baz=76,slow=72,SNR=1522							
H03S3	**Juan Fernandez**	**6.45**	**244**	T	T	T	14 54 24.6	
	baz=86,slow=74,SNR=6.8							
H03S1	**Juan Fernandez**	**6.45**	**244**	T	T	T	14 54 22.6	
	baz=86,slow=74,SNR=5.8							
H03S2	**Juan Fernandez**	**6.46**	**244**	T	T	T	14 54 22.1	
	baz=86,slow=74,SNR=9.4							
AHML	**Horco Molle**	**7.26**	**54**	*i* P		**Pn**	**14 47 38.0**	**+1.8**
LC01	**Cunco**	**7.69**	**180**	Pn	Pn	**Pn**	**14 47 41.3**	**-0.7**
LC01	**Cunco**	**7.69**	**180**	*i* P		**Pn**	**14 47 42.0**	**0.0**
PB10	**IPOC Station P**	**7.75**	**9**	Pn	Pn	**Pn**	**14 47 44.2**	**+1.3**
PB15	**IPOC Station P**	**8.25**	**16**			**Pn**	**14 47 50.5**	**+0.6**
PB05	**IPOC Station P**	**8.45**	**11**	*i* P		**Pn**	**14 47 51.0**	**-1.6**
PB06	**IPOC Station P**	**8.71**	**15**	Pn	Pn	**Pn**	**14 47 56.4**	**+0.2**
LVC	**Limon Verde**	**8.96**	**18**	Pn	Pn	**Pn**	**14 47 58.4**	**-1.5**
	comp=N,0.7nm,0.3s,baz=156,slow=9.9,SNR=7.7							
LVC					Sn	**Sn**	**14 49 40.2**	**-1.3**
	comp=N,1.2nm,0.3s,baz=176,slow=19,SNR=1.6							
LVC					LR	LR	14 51 27.1	
	comp=N,173nm,21.1s,baz=213,slow=38							
LVC	**Limon Verde**	**8.96**	**18**	Pn	Pn	**Pn**	**14 47 58.6**	**-1.3**
LVC	**Limon Verde**	**8.96**	**18**	*i* P		**Pn**	**14 48 00.0**	**+0.1**
PLCA	**Paso Flores**	**9.59**	**174**	Pn	Pn	**Pn**	**14 48 09.0**	**+0.9**
	comp=N,0.7nm,0.3s,baz=337,slow=13,SNR=24							
PLCA					LR	LR	14 52 19.9	
	comp=N,114nm,19.9s,baz=349,slow=41							
PLCA	**Paso Flores**	**9.59**	**174**			**Pn**	**14 48 08.6**	**+0.5**
PB07	**IPOC Station P**	**9.60**	**12**	Pn	Pn	**Pn**	**14 48 07.4**	**-1.1**
PB09	**IPOC Station P**	**9.66**	**15**	Pn	Pn	**Pn**	**14 48 08.2**	**-1.1**
PB01	**IPOC Station P**	**10.34**	**13**	Pn	Pn	**Pn**	**14 48 15.7**	**-2.9**
TRQA	**Tornquist**	**10.68**	**133**	Pn	Pn	**Pn**	**14 48 23.0**	**-0.1**
PB11	**IPOC Station P**	**11.57**	**11**	Pn	Pn	**Pn**	**14 48 36.3**	**+0.9**
PSGCX	**Pisagua**	**11.66**	**8**	Pn	Pn	**Pn**	**14 48 34.0**	**-2.7**
CPUP	**Villa Florida**	**13.70**	**73**	Pn	Pn	**Pn**	**14 49 02.4**	**-1.9**
	comp=N,0.2nm,0.3s,baz=241,slow=8.3,SNR=3.2							
CPUP	**Villa Florida**	**13.70**	**73**	Pn	Pn	**Pn**	**14 49 02.1**	**-2.2**
LPAZ	**La Paz**	**15.24**	**14**	Pn	Pn	**Pn**	**14 49 28.0**	**+2.1**
	comp=N,0.4nm,0.3s,baz=186,slow=8.1,SNR=17							
LPAZ	**La Paz**	**15.24**	**14**	P		**Pn**	**14 49 27.5**	**+1.6**
PLTB	**Pedras Altas**	**15.66**	**97**	Pn		**Pn**	**14 49 29.1**	**-1.7**
SIV	**San Ignacio**	**18.09**	**36**	P		**P**	**14 50 02.2**	**+0.1**
	comp=N,0.6nm,0.3s,baz=220,slow=8.6,SNR=12							
SIV					LR	LR	14 58 22.1	
	comp=N,90nm,18.0s,baz=108,slow=42							
NNA	**Nana**	**19.64**	**346**	LR	LR	LR	14 56 51.5	
	comp=N,40nm,18.1s,baz=161,slow=34							
SAML	**Samuel**	**25.59**	**22**	P		**P**	**14 50 58.9**	**-2.2**
BDFB	**Brasilia**	**26.77**	**60**	P		**P**	**14 51 29.3**	**-1.2**
	comp=N,5.3nm,0.9s,baz=199,slow=3.1,SNR=5.3							
BDFB	**Brasilia**	**26.77**	**60**	IAmb	IAmb	IAmb	14 51 41.9	
	comp=Z,6.1nm,0.7s							
PDPR	**Patillas Dam,**	**49.26**	**7**	P		**P**	**14 54 38.7**	**-0.3**
PDPR					IAmb	IAmb	14 54 39.7	
	comp=Z,11nm,1.0s							
CBYP	**Canovanas**	**49.52**	**8**	P		**P**	**14 54 40.9**	**-0.3**
VNA3	**Neumayer Olymp**	**51.93**	**159**	P		**P**	**14 54 59.9**	**+1.1**
VNA1	**Neumayer--Stat**	**52.23**	**158**	P		**P**	**14 55 01.6**	**+0.7**
VNA2	**Neumayer--Watz**	**52.57**	**158**	P		**P**	**14 55 04.4**	**+0.9**
	baz=287,slow=8.3							
CMIG	**Matias Romero**	**52.83**	**332**	LR	LR		15 14 16.6	
	comp=Z,296nm,18.2s,baz=136,slow=32							
SNAA	**Sanae**	**54.15**	**159**	P		**P**	**14 55 15.5**	**+0.3**
SNAA	**Sanae**	**54.15**	**159**	P		**P**	**14 55 15.3**	**+0.1**
SNAA					IAmb	IAmb	14 55 22.7	
	comp=Z,6.4nm,1.3s							
SOR	**Soroa**	**54.72**	**347**	P		**P**	**14 55 20.1**	**+0.4**
SOR					IAmb	IAmb	14 55 26.0	
	comp=Z,7.1nm,1.0s							
QSPA	**South Pole Qui**	**59.04**	**180**	P		**P**	**14 55 50.9**	**+0.7**
QSPA					IAmb	IAmb	14 56 18.7	
	comp=Z,5.4nm,1.3s							
H06E1	**SOCORRO T-PHAS**	**62.22**	**318**	T		T	16 03 44.1	
	SNR=9.2							
SLBS	**Sierra La Lagu**	**65.60**	**322**	P		**P**	**14 56 35.5**	**+1.0**
VNDA	**Vanda**	**66.86**	**191**	P		**P**	**14 56 43.7**	**+1.9**
	comp=Z,0.7nm,0.9s,baz=102,slow=4.3,SNR=2.6							
VNDA	**Vanda**	**66.86**	**191**	IAmb	IAmb	IAmb	14 57 06.0	
	comp=Z,3.8nm,1.5s							
TXAR	**Lajitas Array**	**67.34**	**330**	P		**P**	**14 56 47.3**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=154,slow=8.7,SNR=12							
TXAR					LR	LR	15 22 55.8	
	comp=Z,44nm,21.4s,baz=0.0,slow=33							
TXAR	**Lajitas Array**	**67.34**	**330**	P		**P**	**14 56 46.8**	**+1.3**
TX31	**Lajitas Ar. Si**	**67.34**	**330**	P		**P**	**14 56 47.0**	**+1.4**
TX31					IAmb	IAmb	14 57 02.5	
	comp=Z,3.7nm,1.1s							
TX32	**Lajitas Array**	**67.34**	**330**	P		**P**	**14 56 46.7**	**+1.1**
S39A	**Bolivar**	**71.38**	**342**	P		**P**	**14 57 11.5**	**+1.2**
S39A					IAmb	IAmb	14 57 12.4	
	comp=Z,2.8nm,0.6s							
R40A	**Maddies Statio**	**71.68**	**343**	P		**P**	**14 57 12.5**	**+0.4**
R40A					IAmb	IAmb	14 57 25.4	
	comp=Z,6.7nm,0.9s							
DBIC	**Dimbokro**	**74.22**	**72**	P		**P**	**14 57 27.2**	**-0.4**
	comp=Z,6.8nm,0.7s,baz=222,slow=3.5,SNR=9.4							
MAW	**Mawson**	**75.84**	**164**	P		**P**	**14 57 36.8**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=198,slow=6.4,SNR=4.5							
G62A	**West of Eustis**	**76.06**	**1**	P		**P**	**14 57 39.8**	**+2.2**
SUR	**Sutherland**	**76.12**	**119**	P		**P**	**14 57 39.8**	**+1.1**
SUR					IAmb	IAmb	14 58 04.8	
	comp=Z,8.8nm,1.1s							
LMN	**Caledonia Moun**	**76.95**	**5**	P		**P**	**14 57 43.7**	**+1.1**
LMN					IAmb	IAmb	14 57 44.7	
	comp=Z,6.6nm,0.8s							
E62A	**Clayton Lake**	**77.48**	**2**	P		**P**	**14 57 47.2**	**+1.6**
K31A	**O'Neill**	**77.48**	**340**	P		**P**	**14 57 45.7**	**0.0**
D62A	**Allapoint, All**	**77.96**	**2**	P		**P**	**14 57 49.5**	**+1.3**
D62A					IAmb	IAmb	14 58 13.3	
	comp=Z,11nm,1.3s							
KOWA	**Kowa**	**79.41**	**66**	P		**P**	**14 57 57.0**	**0.0**
KOWA					IAmb	IAmb	14 58 08.7	
	comp=Z,11nm,1.4s							
TORD	**Torodi Ar. Bea**	**83.18**	**70**	P		**P**	**14 58 16.9**	**-0.1**
	comp=Z,4.9nm,0.6s,baz=269,slow=4.7,SNR=32							
TORD	**Torodi Ar. Bea**	**83.18**	**70**	P		**P**	**14 58 16.2**	**-0.8**
TORD					IAmb	IAmb	14 58 17.5	
	comp=Z,6.1nm,0.7s							
ASAR	**Alice Springs**	**120.10**	**208**	PKP		**PKPdf**	**15 04 40.6**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=128,slow=1.7,SNR=6.9							
WRA	**Warramunga Arr**	**123.24**	**210**	PKP		**PKPdf**	**15 04 47.5**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=159,slow=2.0,SNR=19							
H11S2	**WAKE ISLAND Hyl**	**25.85**	**271**	T	T	T	17 23 40.3	
	baz=116,slow=75,SNR=59							
H11S1	**WAKE ISLAND Hyl**	**25.86**	**271**	T	T	T	17 23 39.7	
	baz=116,slow=75,SNR=49							
H11S3	**WAKE ISLAND Hyl**	**25.87**	**271**	T	T	T	17 23 40.7	
	baz=116,slow=75,SNR=54							
H11N3	**WAKE ISLAND Hyl**	**26.19**	**273**	T	T	T	17 24 03.3	
	baz=116,slow=75,SNR=18							
H11N1	**WAKE ISLAND Hyl**	**26.21**	**273**	T	T	T	17 24 04.5	
	baz=116,slow=75,SNR=8.1							
H11N2	**WAKE ISLAND Hyl**	**26.21**	**273**	T	T	T	17 24 08.2	
	baz=116,slow=75,SNR=26							
ZALV	**Zalesovo Beam**	**151.78**	**30**	PKPbc		**PKiKP**	**15 05 45.0**	**0.0**
	comp=Z,8.3nm,0.6s,baz=300,slow=3.0,SNR=24							
ZALV	**Zalesovo Beam**	**151.78**	**30**			**PKPbc**	**15 05 44.7**	**0.0**
MKAR	**Makanchi Array**	**154.78**	**45**	PKPbc		**PKPbc**	**15 05 50.9**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=298,slow=2.6,SNR=7.9							

*IDC **22** 14:50:14.3±2.9, 30.°53S×72.°28W, h0km, mb3.8/1, mb1 3.9/2, mb1mx3.5/26, mbtmp3.7/2, ML3.5/1, Error ellipse: s-maj=131.5km s-min=48.7km az=93.0*
*NEIC **22** 14:50:16.3±1.7, 30.°56S±0.°03×72.°04W±0.°04, h10km±1km, mb4.3/5, Error ellipse: s-maj=6.9km s-min=3.8km az=243.0*

ISC 22 14:50:16.8±0.9, 30.°56S±0.°06×72.°0W±0.°1, h16km, n26, σ0s92/25, mb4.3/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.36**	**109**		Pg	**Pg**	**14 50 23.1**	**-1.2**
CO05	**La Serena**	**0.93**	**47**		Pn	**Pn**	**14 50 35.2**	**-0.1**
GO04	**Tololo Observa**	**1.13**	**70**			**Pg**	**14 50 38.9**	**+0.2**
CO03	**El Pedregal**	**1.19**	**104**		Pn	**Pg**	**14 50 39.8**	**0.0**
VA01	**Torpederas**	**2.48**	**173**		Pn	**Pn**	**14 50 56.3**	**-0.3**
AC04	**Llanos de Chal**	**2.49**	**20**		Pn	**Pn**	**14 50 55.6**	**-1.0**
VA03	**San Esteban**	**2.53**	**151**		Pn	**Pn**	**14 50 55.7**	**-1.8**
MT05	**Renca**	**3.03**	**159**		Pn	**Pn**	**14 51 02.5**	**-1.7**
ZON	**Zonda**	**3.04**	**110**		Pn	**Pn**	**14 51 05.0**	**+0.7**
MT09	**Talagante**	**3.33**	**165**		Pn	**Pn**	**14 51 07.8**	**-0.6**
MT01	**Popeta**	**3.36**	**169**		Pn	**Pn**	**14 51 07.4**	**-1.4**
BO01	**Tunca**	**3.91**	**168**		Pn	**Pn**	**14 51 16.0**	**-0.2**
BO02	**Sierra Bellavi**	**4.35**	**166**		Pn	**Pn**	**14 51 22.8**	**+0.4**
AC02	**Maricunga**	**4.50**	**35**		Pn	**Pn**	**14 51 25.7**	**+0.9**
ML02	**Panimavida**	**5.22**	**175**		Pn	**Pn**	**14 51 34.5**	**+0.3**
LC01	**Cunco**	**8.32**	**179**		Pn	**Pn**	**14 52 16.2**	**-0.6**
PLCA	**Paso Flores**	**10.22**	**174**		Pn	**Pn**	**14 52 43.1**	**+0.2**
	0.1nm,0.3s,baz=348,slow=14,SNR=2.0							
COYC	**Coyhaique**	**14.99**	**180**		Pn	**Pn**	**14 53 47.0**	**-1.0**
SNAA	**Sanae**	**54.77**	**159**		P	**P**	**14 59 45.9**	**+0.5**
SNAA					IAmb	IAmb	14 59 57.1	
	comp=Z,5.3nm,1.5s							
QSPA	**South Pole Qui**	**59.67**	**180**		P	**P**	**15 00 21.1**	**+0.9**
QSPA					IAmb	IAmb	15 00 41.3	
	comp=Z,5.5nm,1.4s							
MBO	**M'Bour**	**69.29**	**58**		P	**P**	**15 01 24.3**	**+0.7**
MNTX	**Cornudas Mount**	**69.53**	**330**		P	**P**	**15 01 23.4**	**-1.4**
TORD	**Torodi Ar. Bea**	**83.04**	**70**		P	**P**	**15 02 43.1**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=251,slow=4.4,SNR=3.7							
TORD	**Torodi Ar. Bea**	**83.04**	**70**		IAmb	IAmb	15 03 01.8	
	comp=Z,1.7nm,1.2s							
ZALV	**Zalesovo Beam**	**151.26**	**29**	PKPbc		**PKiKP**	**15 10 09.2**	**-0.3**
	comp=Z,2.4nm,0.5s,baz=293,slow=1.6,SNR=7.4							
ZALV	**Zalesovo Beam**	**151.26**	**29**			**PKiKP**	**15 10 09.7**	**+0.1**

*INET **22** 15:01:08.2, 9.°06N×85.°85W, h30km, MW3.5*
*IDC **22** 15:01:10.7±1.4, 9.°98N×83.°59W, h0km, mb3.9/4, mb1 4.3/5, mb1mx3.8/42, mbtmp3.9/5, ML3.6/1, Error ellipse: s-maj=35.2km s-min=17.3km az=20.0*
*UCR **22** 15:01:15.0±1.4, 9.°21N×85.°73W, h25km±3km, MW4.2, mb4.5(NEIC)*
*NEIC **22** 15:01:17.6±1.6, 9.°31N±0.°04×85.°58W±0.°05, h28km±1km, mb4.5/12, Error ellipse: s-maj=7.8km s-min=5.5km az=52.0*

ISC 22 15:01:15.5±1.6, 9.°24N±0.°05×85.°66W±0.°04, h14km±9km, n76, σ0s98/90, mb4.3/9, 6C-12D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
INDI	**Punta indio, G**	**0.64**	**14**	⇓*i* P		**Pg**	**15 01 28.3**	**+0.2**
INDI					*e*S	Sn	15 01 39.1	-1.0
GRZA	**Playa Garza**	**0.67**	**2**	⇑*i* P		**Pg**	**15 01 28.3**	**-0.4**
GRZA					*e*S	Sb	15 01 38.5	+0.2
CAO2	**Cobano, Puntar**	**0.70**	**50**			**Pb**	**15 01 29.7**	**+0.2**
CAO2						Sg	15 01 39.5	+1.0
SAJU	**San Juanillo,**	**0.83**	**356**	⇑*i* P		**Pb**	**15 01 30.1**	**-1.5**
SAJU					*e*S	Sb	15 01 42.4	-0.2
DUNO	**Dulce Nombre,**	**0.85**	**11**			**Pb**	**15 01 31.0**	**-1.1**
DUNO					Sg	Sb	15 01 42.5	-0.8
LAFE	**Finca La Fe, P**	**0.93**	**52**	⇓*i* P		**Pb**	**15 01 32.2**	**-0.7**
GUAI	**GUAI**	**1.03**	**8**	⇑*e* P		**Pb**	**15 01 33.7**	**+1.5**
GUAI				*i* S		**Sb**	**15 01 48.6**	**-0.1**
JACO	**JACO, Garabito**	**1.07**	**67**	⇓*i* P		**Pb**	**15 01 35.0**	**-0.8**
JACO					*e*S	**Sg**	**15 01 51.0**	**+0.8**
JACO	**JACO, Garabito**	**1.07**	**67**			**Pb**	**15 01 34.7**	**-1.1**
ORTG	**Ortega, Santa**	**1.13**	**10**			**Pn**	**15 01 35.0**	**-2.0**
ORTG					Sn	**Sb**	**15 01 50.6**	**-1.0**
JTS	**Las Juntas de**	**1.25**	**33**	Pg		**Pn**	**15 01 37.6**	**-1.1**
	32nm,0.3s,baz=355,slow=22,SNR=109							
JTS					Lg	Lg	15 01 54.8	
	130nm,0.3s,baz=330,slow=6.8,SNR=30							
JTS	**Las Juntas de**	**1.25**	**33**	⇓*i* P		**Pn**	**15 01 37.5**	**-1.1**
JTS					*e*S	**Sb**	**15 01 55.1**	**+0.1**
JTS	**Las Juntas de**	**1.25**	**33**			**Pn**	**15 01 37.4**	**-1.2**
SRA1	**San Ramn**	**1.43**	**54**	*e*P		**Pn**	**15 01 40.5**	**-0.7**
HZTE	**Horizontes, Gu**	**1.47**	**2**	*e*P		**Pn**	**15 01 40.6**	**-0.9**
HZTE	**Horizontes, Gu**	**1.47**	**2**			**Pn**	**15 01 40.2**	**-1.4**
COLC	**Colonia**	**1.49**	**17**	⇑*i* P		**Pn**	**15 01 41.0**	**-0.9**
CUI	**Cuipilapa**	**1.49**	**19**	⇑*i* P		**Pn**	**15 01 41.1**	**-0.8**
CUI				*i* S		**Sn**	**15 02 01.5**	**+0.3**
CASO	**Castillo**	**1.50**	**37**	⇓*i* P		**Pn**	**15 01 41.7**	**-0.2**
GUAB	**Guayabo de Bag**	**1.52**	**16**	*i* P		**Pn**	**15 01 41.2**	**-1.1**
ARE1	**Arenal 1**	**1.53**	**37**	⇓*i* P		**Pn**	**15 01 42.5**	**+0.1**
HORNC	**Hornillas**	**1.54**	**18**	*i* P		**Pn**	**15 01 41.7**	**-0.9**
CEDE	**Laguna Cedeo**	**1.56**	**37**	*e*P		**Pn**	**15 01 42.9**	**+0.1**
FORC	**Fortuna**	**1.56**	**38**	*e*P		**Pn**	**15 01 42.8**	**-0.1**
BUEV	**Buena Vista**	**1.57**	**9**	⇑*i* P		**Pn**	**15 01 42.0**	**-1.1**
BUEV				*i* S		**Sn**	**15 02 02.6**	**-0.6**
GB1A	**Borinquen Arri**	**1.59**	**9**	*e*P		**Pn**	**15 01 42.3**	**-1.1**
BUAI	**Buenos Aires**	**1.66**	**11**	*i* P		**Pn**	**15 01 43.4**	**-0.8**
HDC	**Heredia**	**1.70**	**63**	⇓*i* P		**Pn**	**15 01 44.9**	**-1.0**
HDC					*e*S	**Sb**	**15 02 07.8**	**-0.1**
HDC	**Heredia**	**1.70**	**63**			**Pn**	**15 01 44.2**	**-0.6**
LCR2	**La Lucha 2**	**1.70**	**73**	⇓*e* P		**Pn**	**15 01 44.1**	**-0.8**
LCR2					*e*S	**Sn**	**15 02 06.8**	**+0.1**
OCM	**Ochomogo**	**1.79**	**69**	⇓*e* P		**Pn**	**15 01 45.7**	**-0.5**
OCM					*e*S	**Sn**	**15 02 09.8**	**+0.8**
RIMA	**Rio Macho**	**1.84**	**73**	⇓*e* P		**Pn**	**15 01 46.2**	**-0.7**
RIMA	**Rio Macho**	**1.84**	**73**			**Pn**	**15 01 46.0**	**-1.0**
CDM	**Cerro de Muert**	**1.89**	**80**	⇓*e* P		**Pn**	**15 01 47.1**	**-0.7**
CDM					*e*S	**Sn**	**15 02 12.0**	**+0.3**
COVE	**Coope Vega, Sa**	**1.92**	**40**	⇓*i* P		**Pn**	**15 01 47.8**	**+0.1**
COVE	**Coope Vega, Sa**	**1.92**	**40**			**Pn**	**15 01 47.2**	**-0.6**
PEZE	**Perez Zeledon,**	**1.96**	**86**	*e*P		**Pn**	**15 01 47.5**	**-0.9**
PEZE	**Perez Zeledon,**	**1.96**	**86**			**Pn**	**15 01 47.1**	**-1.3**
RIFO	**Rio Frio, Sara**	**2.02**	**58**	*e*P		**Pn**	**15 01 50.1**	**+1.0**
CVTR	**Volcan Turrial**	**2.02**	**67**	*e*P		**Pn**	**15 01 49.9**	**+0.3**
CVTR	**Volcan Turrial**	**2.02**	**67**			**Pn**	**15 01 48.5**	**-1.1**
RIOS	**Rincon, Osa**	**2.18**	**104**	*e*P		**Pn**	**15 01 50.4**	**-1.0**
RIOS	**Rincon, Osa**	**2.18**	**104**			**Pn**	**15 01 50.4**	**-1.0**
SRBA	**San Rafael, Bu**	**2.27**	**90**			**Pn**	**15 01 51.9**	**-0.7**
BATAN	**Batan**	**2.40**	**69**			**Pn**	**15 01 54.9**	**+0.5**
ACON	**Acoyapa**	**2.75**	**10**			**Pn**	**15 01 58.3**	**-1.0**
MASN	**Masaya**	**2.77**	**350**	Pn	Pn	**Pn**	**15 01 59.1**	**-0.5**
CDITO	**Canoas**	**2.83**	**103**			**Pn**	**15 01 59.7**	**-0.5**
CNGN	**Cerro Negro**	**3.40**	**343**			**Pn**	**15 02 08.6**	**+0.4**
MATN	**Matagalpa**	**3.68**	**356**			**Pn**	**15 02 11.7**	**-0.3**
CRIN	**San Cristobal**	**3.70**	**338**			**Pn**	**15 02 12.2**	**-0.2**
TGUH	**Tegucigalpa,Un**	**5.04**	**342**			**Pn**	**15 02 30.6**	**-0.3**
MTO3	**Montecristo**	**6.28**	**325**			**Pn**	**15 02 48.8**	**+0.9**
CMIG	**Matias Romero**	**11.90**	**312**	Pn		Pn	15 04 15.7	+11
	0.3nm,0.3s,baz=99,slow=11,SNR=4.1							
TXAR	**Lajitas Array**	**26.17**	**322**	P		**P**	**15 06 52.7**	**+2.9**
	1.9nm,0.8s,baz=142,slow=11,SNR=13							
TXAR	**Lajitas Array**	**26.17**	**322**	P		**P**	**15 06 51.4**	**+1.7**
TX31	**Lajitas Ar. Si**	**26.17**	**322**	P		**P**	**15 06 51.2**	**+1.4**
TX31					IAmb	IAmb	15 07 01.3	
	comp=Z,41nm,1.8s							
TX32	**Lajitas Array**	**26.17**	**322**	P		**P**	**15 06 51.5**	**+1.7**
TX32					IAmb	IAmb	15 07 01.3	
	comp=Z,13nm,1.7s							
SAML	**Samuel**	**28.76**	**128**	P		**P**	**15 07 11.7**	**-1.3**
ELK	**Elko**	**40.89**	**325**	P		**P**	**15 08 58.1**	**+0.6**
NVAR	**Mina Array Bea**	**41.27**	**320**	P		**P**	**15 09 02.6**	**+1.9**
	comp=Z,0.4nm,0.6s,baz=129,slow=7.1,SNR=4.1							
NVAR	**Mina Array Bea**	**41.27**	**320**	P		**P**	**15 09 02.6**	**+1.9**
HLID	**Hailey**	**42.38**	**329**	P		**P**	**15 09 10.6**	**+0.9**
HLID					IAmb	IAmb	15 10 17.8	
	comp=Z,13nm,1.9s							
PLCA	**Paso Flores**	**51.64**	**165**	P		**P**	**15 10 20.7**	**-1.1**
	comp=Z,1.6nm,0.9s,baz=352,slow=12,SNR=3.5							
PLCA	**Paso Flores**	**51.64**	**165**	P		**P**	**15 10 21.2**	**-0.6**
PLCA					IAmb	IAmb	15 12 16.0	
	comp=Z,14nm,1.7s							
BCAR	**Beaver Creek A**	**66.89**	**336**	P		**P**	**15 12 08.5**	**+1.5**
ILAR	**Eielson Array**	**69.65**	**336**	P		**P**	**15 12 24.4**	**+0.1**
	comp=Z,2.4nm,1.1s,baz=107,slow=4.3,SNR=11							
TRF	**Thorofare Moun**	**70.58**	**334**	P		**P**	**15 12 32.2**	**+2.0**
SKT	**Skwentna**	**70.66**	**333**	P		**P**	**15 12 30.0**	**-0.6**
SKT					IAmb	IAmb	15 12 38.6	
	comp=Z,5.8nm,1.0s							
BPAW	**Bear Paw Mtn.**	**71.08**	**335**	P		**P**	**15 12 32.6**	**-0.5**
PPLA	**Purkeypile**	**71.23**	**334**	P		**P**	**15 12 34.9**	**+0.8**
MLY	**Manley**	**71.28**	**336**	P		**P**	**15 12 34.3**	**0.0**
MLY					IAmb	IAmb	15 12 54.3	
	comp=Z,8.5nm,1.6s							
ASAR

553A Crawfordville 20.81 3 P **P** 15 10 43.3 +0.2
SJG San Juan 20.84 63 LR LR 15 18 51.7
comp=Z,117nm,18.7s,baz=261,slow=37
NNA Nana 22.89 157 LR LR 15 19 03.1
comp=Z,140nm,20.6s,baz=310,slow=34
833A Chaparral WMA, 22.92 327 P **P** 15 11 05.4 -0.5
baz=143
152A Waverly Hall 23.26 2 P **P** 15 11 09.9 +0.7
152A IAmb IAmb 15 11 27.5
comp=Z,16nm,0.8s
LRAL Lakeview Retre 23.65 357 P **P** 15 11 12.5 -0.5
LRAL IAmb IAmb 15 11 16.5
comp=Z,20nm,0.9s
LRAL Lakeview Retre 23.65 357 P **P** 15 11 13.1 0.0
baz=177,SNR=7.8
NATX Nacogdoches 23.86 341 P **P** 15 11 15.1 0.0
baz=158
GOGA Godfrey 24.07 4 P **P** 15 11 17.5 +0.5
GOGA IAmb IAmb 15 11 19.1
comp=Z,20nm,1.1s
GOGA Godfrey 24.07 4 P **P** 15 11 17.5 +0.5
baz=185
Y49A Blount Mountai 24.45 358 P **P** 15 11 20.7 +0.2
Y49A IAmb IAmb 15 11 22.3
comp=Z,15nm,0.8s
JCT Junction City 24.87 330 P **P** 15 11 23.8 -0.7
JCT IAmb IAmb 15 11 27.1
comp=Z,16nm,1.1s
JCT Junction City 24.87 330 P **P** 15 11 24.3 -0.2
baz=145
HODGE Hodges 25.00 7 P **P** 15 11 25.3 -0.2
HODGE IAmb IAmb 15 11 34.1
comp=Z,13nm,0.8s
FPAL Fort Paine 25.12 0 P **P** 15 11 26.4 -0.2
FPAL IAmb IAmb 15 11 41.1
comp=Z,17nm,1.0s
OXF Oxford 25.32 353 P **P** 15 11 28.7 +0.3
OXF Oxford 25.32 353 P **P** 15 11 28.9 +0.5
baz=171
Z38A Mt. Pleasant 25.35 341 P **P** 15 11 28.8 +0.1
Z38A IAmb IAmb 15 11 51.8
comp=Z,13nm,0.7s
SWET Sewanee 25.79 359 P **P** 15 11 32.4 -0.4
SWET IAmb IAmb 15 11 45.6
comp=Z,11nm,0.9s
BOAV Boa Vista 25.89 104 *e*P **P** 15 11 34.8 +0.9
X40A Basin Creek Fa 25.92 346 P **P** 15 11 34.4 +0.5
baz=164
KMSC Kings Mountain 26.02 8 P **P** 15 11 34.8 +0.1
baz=190
TX32 Lajitas Array 26.13 322 P **P** 15 11 36.5 +0.6
TX32 IAmb IAmb 15 11 40.4
comp=Z,17nm,1.0s
TXAR Lajitas Array 26.13 322 P **P** 15 11 37.5 +1.6
comp=Z,12nm,0.9s,baz=140,slow=7.6,SNR=62
TXAR PcP **PcP** 15 15 04.3 +1.1
comp=Z,1.0nm,0.8s,baz=129,slow=4.0,SNR=5.1
TXAR Lajitas Array 26.13 322 P **P** 15 11 36.2 +0.3
TX31 Lajitas Ar. Si 26.13 322 P **P** 15 11 36.2 +0.3
MIAR Mount Ida 26.16 345 P **P** 15 11 36.2 +0.2
MIAR IAmb IAmb 15 11 39.0
comp=Z,14nm,1.0s
MIAR Mount Ida 26.16 345 P **P** 15 11 35.9 -0.1
baz=162
TKL Tuckaleechee C 26.29 3 LR LR 15 21 42.8
comp=Z,167nm,21.6s,baz=170,slow=36
W41B Gary Mavity, V 26.45 348 P **P** 15 11 38.9 +0.3
baz=165
ABTX Abilene, Hawle 26.58 333 P **P** 15 11 41.4 +1.6
ABTX IAmb IAmb 15 11 43.4
comp=Z,16nm,0.9s
X37A Clayton 26.70 342 P **P** 15 11 40.9 0.0
X37A IAmb IAmb 15 11 56.8
comp=Z,26nm,1.5s
WVT Waverly 26.78 356 P **P** 15 11 42.6 +1.0
baz=175
W39A Magazine 26.82 345 P **P** 15 11 42.0 0.0
baz=162
ETMB Extrema 27.11 134 *e*P **P** 15 11 44.2 -0.5
U40A Yellville 27.71 347 P **P** 15 11 50.4 +0.4
baz=164
LPIG La Paz 27.76 305 LR LR 15 22 24.7
comp=Z,55nm,18.2s,baz=120,slow=35
MACA Manacapuru-AM 27.78 115 *e*P **P** 15 11 51.3 +0.4
WMOK Wichita Mounta 28.03 337 P **P** 15 11 52.8 -0.1
WMOK Wichita Mounta 28.03 337 P **P** 15 11 53.4 +0.5
baz=152
TUL1 Leonard 28.05 342 P **P** 15 11 53.6 +0.6
baz=158
SAML Samuel 28.79 128 P **P** 15 11 58.2 -1.6
SAML IAmb IAmb 15 12 00.1
comp=Z,10nm,0.8s
SAML Samuel 28.79 128 *e*P **P** 15 11 58.6 -1.2
MNTX Cornudas Mount 28.85 323 P **P** 15 12 00.6 +0.4
MNTX Cornudas Mount 28.85 323 P **P** 15 11 59.4 -0.8
baz=136
T60A Surry 28.86 15 P **P** 15 12 00.6 +0.5
S39A Bolivar 29.10 347 P **P** 15 12 02.5 +0.1
MSTX Muleshoe 29.17 330 P **P** 15 12 03.2 +0.1
baz=143
P48A Milroy 30.03 0 P **P** 15 12 10.9 +0.4
P52A Corning 30.36 5 P **P** 15 12 13.7 +0.2
baz=187
LPAZ La Paz 30.77 146 P **P** 15 12 17.9 -0.2
comp=Z,4.9nm,1.3s,baz=336,slow=5.2,SNR=4.0
LPAZ LR LR 15 24 47.6
comp=Z,241nm,20.1s,baz=311,slow=37
LPAZ La Paz 30.77 146 *e*P **P** 15 12 17.1 -0.9
121A Cookes Peak, D 30.88 322 P **P** 15 12 19.8 +1.4
121A IAmb IAmb 15 12 24.8
comp=Z,7.6nm,1.0s
121A Cookes Peak, D 30.88 322 P **P** 15 12 19.9 +1.4
baz=134
319A Douglas 31.07 318 P **P** 15 12 21.9 +2.0
319A IAmb IAmb 15 12 27.3
comp=Z,15nm,1.1s
O53A New Philadelph 31.07 7 P **P** 15 12 20.6 +0.9
baz=188
BNM Barren Site 31.35 325 P **P** 15 12 23.7 +1.1
N49A Columbus Grove 31.51 2 P **P** 15 12 23.8 +0.2
ANMO Albuquerque 31.84 326 P **P** 15 12 27.6 +0.7
ANMO Albuquerque 31.84 326 P **P** 15 12 27.5 +0.6
baz=138
ITTB Itaituba 32.75 113 *e*P **P** 15 12 35.2 +0.3
MALB Monte Alegre 33.16 108 *e*P **P** 15 12 37.0 -1.4
SDCO Great Sand Dun 33.51 331 P **P** 15 12 42.1 +0.5
SDCO Great Sand Dun 33.51 331 P **P** 15 12 42.1 +0.5
baz=143
VILB Vilhena 33.58 131 *e*P **P** 15 12 42.3 +0.2
W18A Petrified Fore 33.84 323 P **P** 15 12 46.0 +1.7
W18A Petrified Fore 33.84 323 P **P** 15 12 45.2 +0.9
baz=134
BINY Binghamton 33.85 13 P **P** 15 12 45.2 +1.1
baz=197
S22A 4UR Ranch, Cre 34.16 329 P **P** 15 12 47.9 +0.6
baz=141
NPGB Novo Progresso 34.27 117 *e*P **P** 15 12 47.7 -0.4
X16A Lo Mia Camp, P 34.41 320 P **P** 15 12 50.5 +1.2
X16A IAmb IAmb 15 12 58.7
comp=Z,4.5nm,0.8s
MVCO Mesa Verde 34.63 327 P **P** 15 12 49.5 -1.7
MVCO IAmb IAmb 15 13 04.2
comp=Z,8.2nm,1.0s
MVCO Mesa Verde 34.63 327 P **P** 15 12 52.1 +0.8
baz=138
MCPB Macapa, AP 34.79 104 *e*P **P** 15 12 52.5 -0.1
WUAZ Wupatki 35.09 322 P **P** 15 12 56.6 +1.5
WUAZ IAmb IAmb 15 13 01.4
comp=Z,8.4nm,1.1s
WUAZ Wupatki 35.09 322 P **P** 15 12 56.8 +1.6
baz=132
PV02 Paradox Valley 35.49 328 P **P** 15 12 59.6 +1.0
PV02 IAmb IAmb 15 13 04.0
comp=Z,11nm,1.3s
PV13 Radium Mtn., P 35.50 328 P **P** 15 12 59.2 +0.4
PV13 IAmb IAmb 15 13 16.8
comp=Z,5.9nm,0.9s
PV12 Saucer Basin, 35.61 328 P **P** 15 13 00.8 +1.2
PV18 Skein Mesa, Pa 35.61 328 P **P** 15 13 00.3 +0.6
PV18 IAmb IAmb 15 13 02.1
comp=Z,9.4nm,0.9s
PV07 Paradox Valley 35.62 328 P **P** 15 13 00.8 +1.1
PV07 IAmb IAmb 15 13 02.5
comp=Z,16nm,1.4s
PV17 East Wray Mesa 35.66 328 P **P** 15 13 00.8 +0.7
PV17 IAmb IAmb 15 13 02.5
comp=Z,9.5nm,0.7s
PV16 Nyswonger Mesa 35.67 328 P **P** 15 13 00.5 +0.4
PV16 IAmb IAmb 15 13 02.6
comp=Z,13nm,1.2s
PV19 Morning Glory 35.70 328 P **P** 15 13 01.2 +0.8
PV19 IAmb IAmb 15 13 06.9
comp=Z,15nm,1.3s
LVC Limon Verde 35.70 153 P **P** 15 13 01.3 +0.6
LVC Limon Verde 35.70 153 *e*P **P** 15 12 58.8 -1.9
PV04 Paradox Valley 35.72 328 P **P** 15 13 01.4 +0.9
PV04 IAmb IAmb 15 13 03.2
comp=Z,10.0nm,1.0s
PV22 Blue Mesa, Par 35.77 328 P **P** 15 13 01.4 +0.5
PV22 IAmb IAmb 15 13 03.6
comp=Z,11nm,1.3s
PV14 Lion Creek, Pa 35.77 328 P **P** 15 13 01.6 +0.6
PV14 IAmb IAmb 15 13 03.4
comp=Z,9.7nm,1.0s
CLDB Colider 35.82 123 *e*P **P** 15 13 00.9 -0.6
PTLB Pontes e Lacer 35.98 133 *e*P **P** 15 13 02.5 -0.2
O20A White River Ci 36.70 330 P **P** 15 13 09.5 +0.5
baz=141
PKCU Pink Cliffs 36.94 324 P **P** 15 13 13.1 +1.9
SRU San Rafael Swe 37.11 327 P **P** 15 13 13.1 +0.8
SRU IAmb IAmb 15 13 14.9
comp=Z,12nm,0.9s
BELC Belle Mtn. Jos 37.16 316 P **P** 15 13 13.6 +0.7
baz=124
TPFO Pinon Flats 37.26 315 P **P** 15 13 14.6 +0.9
baz=123
PFO Pinyon Flats O 37.26 315 P **P** 15 13 14.2 +0.5
baz=123
P17A Butcher Ranch, 37.48 327 P **P** 15 13 16.6 +1.0
P17A IAmb IAmb 15 13 18.2
comp=Z,13nm,0.9s
SZCU Shurtz Canyon 37.50 323 P **P** 15 13 16.8 +1.0
MSU Marysvale 37.59 325 P **P** 15 13 17.7 +1.1
TMUT Trail Mountain 37.61 327 P **P** 15 13 17.6 +0.9
TMUT IAmb IAmb 15 13 26.6
comp=Z,8.0nm,1.1s
MOQ Mont Orford 37.68 15 P **P** 15 13 16.4 -0.6
RDMU Red Mountain 37.69 330 P **P** 15 13 17.7 +0.3
K22A Casper 37.93 335 P **P** 15 13 19.2 -0.1
baz=145
MPU Maple Canyon 38.35 327 P **P** 15 13 23.7 +0.8
MPU IAmb IAmb 15 13 25.5
comp=Z,9.5nm,0.8s
PSUT Pine Spring 38.58 324 P **P** 15 13 26.7 +1.8
SALV Santo Antonio 38.81 130 *e*P **P** 15 13 27.2 +0.4
PRPB Parauapebas 38.87 112 *e*P **P** 15 13 28.0 +0.7
EDW2 Edwards Air Fo 39.02 316 P **P** 15 13 28.1 -0.4
baz=123
TPNV Topopah Spring 39.04 320 P **P** 15 13 29.8 +1.1
TPNV Topopah Spring 39.04 320 P **P** 15 13 28.6 -0.2
baz=127
DUG Dugway, Tooele 39.12 326 P **P** 15 13 30.3 +1.0
DUG Dugway, Tooele 39.12 326 P **P** 15 13 28.6 -0.7
baz=134
TMAB Tom-Au,PA,Br 39.16 105 *e*P **P** 15 13 29.5 -0.3
SPR3 Spring Creek 3 39.16 324 P **P** 15 13 31.2 +1.3
MPMC Manual Prospec 39.33 318 P **P** 15 13 30.1 -1.1
baz=125
BW06 Boulder Array 39.37 332 P **P** 15 13 31.1 -0.3
BW06 Boulder Array 39.37 332 P **P** 15 13 31.4 -0.1
baz=141
PD31 Pinedale Array 39.37 332 P **P** 15 13 31.3 -0.2
PDAR Pinedale Array 39.37 332 P **P** 15 13 31.8 +0.3
comp=Z,1.2nm,0.6s,baz=132,slow=10,SNR=12
PDAR Pinedale Array 39.37 332 P **P** 15 13 31.2 -0.2
HWUT Hardware Ranch 39.47 329 P **P** 15 13 32.2 -0.1
HWUT IAmb IAmb 15 13 34.4
comp=Z,14nm,0.9s
R11A Troy Canyon, C 39.49 322 P **P** 15 13 32.8 +0.3
baz=129
SPUT South Promonto 39.71 328 P **P** 15 13 35.3 +1.1
SPUT IAmb IAmb 15 13 39.6
comp=Z,8.8nm,1.0s
BGU Big Grassy Mou 39.75 327 P **P** 15 13 35.5 +0.9
BGU IAmb IAmb 15 13 40.1
comp=Z,9.1nm,1.1s
SNDB Serra Nova Dou 40.15 121 *e*P **P** 15 13 38.2 +0.1
HVU Hansel Valley 40.22 328 P **P** 15 13 39.3 +0.9
REDW Red Top Meadow 40.43 331 P **P** 15 13 40.7 +0.4
REDW IAmb IAmb 15 13 42.3
comp=Z,8.4nm,0.8s
ECR Eagle Creek 40.45 331 P **P** 15 13 41.2 +0.8
PP1B Ponte de Pedra 40.48 131 *e*P **P** 15 13 41.2 +0.5
LOHW Long Hollow 40.51 332 P **P** 15 13 41.2 +0.3
TPAW Teton Pass 40.58 331 P **P** 15 13 41.8 +0.2
MOOW Moose Ponds 40.68 332 P **P** 15 13 42.5 +0.2
ELK Elko 40.84 325 P **P** 15 13 43.9 +0.2
ELK IAmb IAmb 15 13 49.6
comp=Z,9.9nm,1.0s
IMW Indian Meadow 40.88 332 P **P** 15 13 44.1 +0.1
NV11 Mina Array Sit 41.14 320 P **P** 15 13 49.0 +2.9
NVAR Mina Array Bea 41.23 320 P **P** 15 13 48.9 +1.9
comp=Z,3.1nm,0.7s,baz=124,slow=7.9,SNR=12
NVAR PcP **PcP** 15 15 46.4 +0.6
comp=Z,0.7nm,0.7s,baz=132,slow=4.0,SNR=4.2
NVAR LR LR 15 31 15.2
comp=Z,69nm,18.1s,baz=136,slow=37
NVAR Mina Array Bea 41.23 320 P **P** 15 13 50.8 +3.8
LHV Little Huntoon 41.26 320 P **P** 15 13 50.5 +3.7
YNE Yellowstone No 41.32 334 P **P** 15 13 48.8 +1.2
BATG Bathurst New B 41.33 20 P **P** 15 13 46.0 -1.4
BATG IAmb IAmb 15 14 02.8
comp=Z,25nm,1.5s
KVN Kaiserville 41.48 321 P **P** 15 13 50.7 +1.8
YHH Holmes Hill 41.52 333 P **P** 15 13 49.8 +0.5
YHB Horse Butte 41.65 332 P **P** 15 13 51.5 +1.2
YHL Hebgen Lake 41.72 333 P **P** 15 13 52.0 +1.0
AQDB Aquidauana 41.75 135 P **P** 15 13 50.4 -0.7
AQDB Aquidauana 41.75 135 *e*P **P** 15 13 51.5 +0.4
BMN Battle Mountai 41.79 323 P **P** 15 13 53.4 +2.0
BMN IAmb IAmb 15 13 58.4
comp=Z,17nm,1.2s
SMTB Santa Maria do 41.97 114 *e*P **P** 15 13 53.1 +0.1
HLID Hailey 42.34 329 P **P** 15 13 56.4 +0.5
HLID Hailey 42.34 329 P **P** 15 13 54.9 -0.9
baz=135
MCMT McKenzie Canyo 42.48 331 P **P** 15 13 57.7 +0.6
BOZ Bozeman (W) 42.50 333 P **P** 15 13 57.5 +0.4
BOZ Bozeman (W) 42.50 333 P **P** 15 13 56.3 -0.9
baz=140
PEXB Peixe 42.77 119 *e*P **P** 15 13 57.9 -1.6
MFID Camas Ranch 42.97 327 P **P** 15 14 02.2 +1.2
ROSB Rosrio 43.11 104 *e*P **P** 15 14 02.3 0.0
WVOR Wild Horse Val 43.88 324 P **P** 15 14 09.2 +0.9
WVOR IAmb IAmb 15 14 14.5
comp=Z,16nm,1.2s
BMO Blue Mountains 44.73 328 P **P** 15 14 14.6 -0.4
BMO IAmb IAmb 15 14 16.1
comp=Z,5.6nm,1.0s
BDFB Brasilia 44.76 123 P **P** 15 14 15.8 +0.2
comp=Z,5.1nm,0.6s,baz=269,slow=11,SNR=7.3
BDFB Brasilia 44.76 123 P **P** 15 14 15.3 -0.3
BDFB IAmb IAmb 15 14 16.4
comp=Z,7.6nm,0.9s
CPUP Villa Florida 44.85 143 P **P** 15 14 15.0 -1.0
comp=Z,4.9nm,1.2s,baz=316,slow=9.4,SNR=3.3
CPUP LR LR 15 34 56.2
comp=Z,88nm,19.7s,baz=312,slow=39
CPUP Villa Florida 44.85 143 IAmb IAmb 15 14 15.8
comp=Z,10nm,1.3s
MT09 Talagante 45.05 163 P **P** 15 14 20.1 +2.4
ITRB Iturama 45.15 130 *e*P **P** 15 14 16.7 -1.8
I07A Izee 45.41 326 P **P** 15 14 20.9 +0.4
TRCB Terra Rica 45.41 135 *e*P **P** 15 14 20.3 -0.4
F10A Beach Ranch, E 45.45 329 P **P** 15 14 20.9 +0.1
F10A IAmb IAmb 15 14 25.8
comp=Z,7.3nm,0.9s
PCMB Pacaembu 45.63 133 *e*P **P** 15 14 22.0 -0.4
IPMB Ipameri, GO 45.84 126 *e*P **P** 15 14 23.6 -0.5
SDBA SÃO DESIDERIO 45.87 117 *e*P **P** 15 14 24.7 +0.3
PINE Pine Mountain 46.04 324 P **P** 15 14 26.4 +0.8
PINE IAmb IAmb 15 14 27.9
comp=Z,5.4nm,1.0s
E09A Wood Farm, Sta 46.29 329 P **P** 15 14 27.8 +0.6
J04D Umpqua Nationa 46.40 323 P **P** 15 14 27.6 -0.8
baz=126
I04A Tendick Farm, 46.90 324 P **P** 15 14 31.2 -1.0
baz=126
HAWA Hanford 46.92 328 P **P** 15 14 32.5 +0.4
NEW Newport 47.01 332 P **P** 15 14 31.8 -1.1
baz=135
D08A Wollman Farm, 47.05 329 P **P** 15 14 33.2 0.0
D08A IAmb IAmb 15 14 51.2
comp=Z,9.4nm,1.2s
PTGB Pitanga 47.07 137 *e*P **P** 15 14 32.6 -1.1
G05D Wamic, OR 47.15 326 P **P** 15 14 33.1 -0.9
baz=128
H04A Detroit Lake 47.30 325 P **P** 15 14 36.3 +1.1
BB19B Bebedouro 47.33 130 *e*P **P** 15 14 36.0 +0.2
I03D Drain, OR 47.40 323 P **P** 15 14 36.4 +0.5
baz=125
JANB Januaria 47.58 120 *e*P **P** 15 14 37.2 -0.6
F05D White Salmon 47.62 326 P **P** 15 14 37.0 -0.7
baz=129
G03D McMinnville, O 48.23 325 P **P** 15 14 42.1 -0.3
baz=126
F04D Rainier, OR 48.60 326 P **P** 15 14 44.6 -0.6
baz=127
C06D Leavenworth 48.62 329 P **P** 15 14 44.7 -0.7
baz=131
MC01 Montes Claros 48.67 122 *e*P **P** 15 14 46.2 0.0
RCLB Rio Claro- Sao 48.87 131 *e*P **P** 15 14 48.1 +0.4
VAO Valinhos 49.64 131 *e*P **P** 15 14 53.0 -0.6
PET01 Itanhaem-SP 50.17 132 *e*P **P** 15 14 57.6 +0.1
BSCB Bom Sucesso 50.19 127 *e*P **P** 15 14 57.9 +0.1
PARB Paraibuna 50.84 130 *e*P **P** 15 15 02.6 0.0
PLTB Pedras Altas 51.05 144 *e*P **P** 15 15 03.9 -0.2
GDU01 Guandu, BA 51.12 116 *e*P **P** 15 15 04.2 -0.6
ESAR Angra dos Reis 51.55 129 *e*P **P** 15 15 08.1 +0.1
TER01 Tubaro-SC 51.56 138 *e*P **P** 15 15 06.9 -1.0
PLCA Paso Flores 51.70 165 P **P** 15 15 07.2 -1.6
comp=Z,7.3nm,0.9s,baz=337,slow=8.4,SNR=15
PLCA LR LR 15 32 44.9
comp=Z,33nm,18.7s,baz=350,slow=31
PLCA Paso Flores 51.70 165 P **P** 15 15 06.8 -2.1
PLCA IAmb IAmb 15 15 08.8
comp=Z,8.3nm,0.9s
PLCA Paso Flores 51.70 165 *e*P **P** 15 15 08.2 -0.6
CMC01 Camacan, BA 51.85 118 *e*P **P** 15 15 09.7 -0.5
DUB01 Friburgo-RJ 52.65 127 *e*P **P** 15 15 15.8 -0.4
YKA Yellowknife Ar 57.10 344 P **P** 15 15 46.6 -1.1
comp=Z,1.4nm,0.7s,baz=136,slow=8.0,SNR=6.0
YKA PcP **PcP** 15 16 42.7 +0.3
comp=Z,1.3nm,0.7s,baz=139,slow=4.7,SNR=3.9
DLBC Dease Lake 59.49 335 P **P** 15 16 06.5 +1.9
comp=Z,4.7nm,0.8s,baz=79,slow=0.4,SNR=6.0
MMPY Sheldon Lake, 62.51 338 P **P** 15 16 24.3 -0.7
baz=127
BVCY Beaver Creek 66.16 335 P **P** 15 16 48.9 0.0
baz=118
DAWY Dawson 66.36 337 P **P** 15 16 50.8 +0.6
baz=120
CRQE Cirque 66.38 333 P **P** 15 16 49.8 -0.6
baz=115
M27K Edge Creek, AK 66.55 335 P **P** 15 16 50.8 -0.7
baz=116
EPYK Eagle Plains 66.61 340 P **P** 15 16 52.9 +1.1
baz=123
MCARA McCarthy VSAT 66.61 334 P **P** 15 16 52.3 +0.5
baz=115
INK Inuvik 66.72 343 P **P** 15 16 52.6 +0.3
comp=Z,3.1nm,0.3s,baz=6.3,slow=27,SNR=5.2
INK Inuvik 66.72 343 P **P** 15 16 52.4 +0.1
baz=127
BCAR Beaver Creek A 66.83 336 P **P** 15 16 54.0 +0.7
L27K Beaver Creek, 66.85 336 P **P** 15 16 54.1 +0.8
L27K Beaver Creek, 66.85 336 P **P** 15 16 53.4 +0.1
baz=117
GLB Gilahina Butte 66.98 334 P **P** 15 16 56.0 +1.7
GLB IAmb IAmb 15 16 59.9
comp=Z,7.1nm,1.1s
BMRM Bremner River 67.14 333 P **P** 15 16 54.8 -0.5
baz=113
EGAK Eagle 67.38 338 P **P** 15 16 55.9 -0.7
baz=118
K27K Chicken 67.39 337 P **P** 15 16 57.3 +0.7
baz=117
N25K Chitina, Valde 67.39 334 P **P** 15 16 58.9 +2.0
L26K Log Cabin Wild 67.45 335 P **P** 15 16 57.1 0.0
baz=115
EYAK Cordova Ski Ar 67.50 332 P **P** 15 16 57.1 -0.3
baz=112
KLU Klutina 67.93 333 P **P** 15 17 01.7 +1.4
KLU IAmb IAmb 15 17 09.3
comp=Z,7.6nm,1.1s
KLU Klutina 67.93 333 P **P** 15 17 00.1 -0.2
baz=112
SCRK Sand Creek 68.12 336 P **P** 15 17 03.1 +1.7
SCRK IAmb IAmb 15 17 20.9
comp=Z,8.7nm,1.4s
SCRK Sand Creek 68.12 336 P **P** 15 17 00.8 -0.7
baz=115
J26L Joseph Creek 68.18 337 P **P** 15 17 01.6 -0.2
baz=116
M24K Tolsona, Glenn 68.28 334 P **P** 15 17 02.7 +0.3
baz=112
PAX Paxson 68.31 335 P **P** 15 17 03.3 +0.7
PAX IAmb IAmb 15 17 11.7
comp=Z,5.5nm,1.2s
PAX Paxson 68.31 335 P **P** 15 17 02.1 -0.5
baz=113
RIDG Independent Ri 68.37 336 P **P** 15 17 04.0 +1.1
RIDG Independent Ri 68.37 336 P **P** 15 17 02.7 -0.3
baz=114,SNR=6.5
J25K Salcha River, 68.94 336 P **P** 15 17 06.5 +0.1
baz=114
KNK Knik Glacier 69.04 333 P **P** 15 17 07.0 -0.1
baz=110
SEW Seward 69.07 331 P **P** 15 17 09.2 +2.0
SEW Seward 69.07 331 P **P** 15 17 07.1 -0.1
baz=108
SML Sawmill 69.12 333 P **P** 15 17 07.2 -0.4
baz=110
WAT6 Susitna Watana 69.13 334 P **P** 15 17 07.3 -0.5
baz=111,SNR=8.0
DHY Denali Highway 69.16 335 P **P** 15 17 07.7 -0.3
baz=112
PRP Porcupine Dome 69.37 337 P **P** 15 17 10.2 +1.0
PRP Porcupine Dome 69.37 337 P **P** 15 17 09.1 -0.1
baz=114
HDA Harding Lake 69.48 336 P **P** 15 17 10.5 +0.7
HDA Harding Lake 69.48 336 P **P** 15 17 09.6 -0.2
baz=112,SNR=8.8
WAT1 Susitna Watana 69.57 334 P **P** 15 17 09.9 -0.5
baz=110
IL31 69.60 336 P **P** 15 17 10.9 +0.5
ILAR Eielson Array 69.60 336 P **P** 15 17 11.1 +0.6
comp=Z,4.5nm,1.0s,baz=118,slow=4.6,SNR=26
ILAR LR LR 15 50 43.8
comp=Z,62nm,20.9s,baz=118,slow=38
BMAR Burnt Mountain 69.83 339 P **P** 15 17 13.2 +1.2
RND Reindeer 69.90 335 P **P** 15 17 13.7 +1.2
POKR Poker Flat Res 69.94 337 P **P** 15 17 13.4 +0.8
POKR IAmb IAmb 15 17 21.6
comp=Z,4.7nm,0.9s
WRH Wood River Hil 69.97 336 P **P** 15 17 13.2 +0.5
WRH IAmb IAmb 15 17 14.9
comp=Z,5.1nm,1.0s
MCK McKinley 70.05 335 P **P** 15 17 14.2 +0.9
MCK McKinley 70.05 335 P **P** 15 17 12.7 -0.6
baz=110,SNR=6.0
MDM Murphy Dome 70.20 336 P **P** 15 17 14.9 +0.7
MDM IAmb IAmb 15 17 19.3
comp=Z,6.4nm,1.1s
H24K Noodor Dome 70.39 337 P **P** 15 17 16.2 +0.9
H24K IAmb IAmb 15 17 19.7
comp=Z,8.3nm,1.1s
H24K Noodor Dome 70.39 337 P **P** 15 17 15.4 0.0
baz=112
NEA2 Nenana 70.40 336 P **P** 15 17 15.9 +0.5
NEA2 IAmb IAmb 15 17 17.1
comp=Z,4.5nm,0.8s
NEA2 Nenana 70.40 336 P **P** 15 17 15.7 +0.3
baz=110
BWN Browne 70.42 335 P **P** 15 17 15.8 +0.3
TRF Thorofare Moun 70.52 334 P **P** 15 17 17.1 +0.7
TRF Thorofare Moun 70.52 334 P **P** 15 17 16.4 0.0
baz=109
SKT Skwentna 70.61 333 P **P** 15 17 17.6 +0.8
SKT Skwentna 70.61 333 P **P** 15 17 16.6 -0.2
baz=107
I23K Minto, Yukon-K 70.72 336 P **P** 15 17 18.4 +1.2
I23K Minto, Yukon-K 70.72 336 P **P** 15 17 17.1 -0.1
baz=110,SNR=6.5
Q19K Cape Douglas, 70.79 329 P **P** 15 17 17.5 -0.4
baz=104

KTH	Kantishna Hill	70.83	334	P	P	15 17 19.1	+1.0
H23K	Yukon River	71.02	337	P	P	15 17 19.5	+0.3
	baz=110						
BPAW	Bear Paw Mtn.	71.03	335	P	P	15 17 19.8	+0.5
BPAW	Bear Paw Mtn.	71.03	335	P	P	15 17 19.6	+0.3
	baz=108,SNR=8.3						
CHIR	Chirikof Islan	71.14	326	P	P	15 17 19.4	-0.6
	baz=101						
PPLA	Purkeypile	71.17	334	P	P	15 17 20.2	-0.1
PPLA	Purkeypile	71.17	334	P	P	15 17 19.5	-0.8
	baz=107						
MLY	Manley	71.22	336	P	P	15 17 20.9	+0.4
MLY	Manley	71.22	336	P	P	15 17 20.6	+0.1
	baz=109,SNR=8.0						
CAST	Castle Rocks	71.28	334	P	P	15 17 20.6	-0.2
	baz=107						
CHUM	Lake Minchumin	71.52	335	P	P	15 17 22.8	+0.6
	baz=107						
N19K	Bonanza Creek	71.66	331	P	P	15 17 24.9	+1.7
N19K				IAmb	IAmb	15 17 26.3	
	comp=Z,7.0nm,0.9s						
N19K	Bonanza Creek	71.66	331	P	P	15 17 23.1	-0.1
	baz=104						
COLD	Coldfoot	71.76	338	P	P	15 17 25.3	+1.7
COLD				IAmb	IAmb	15 17 39.5	
	comp=Z,8.9nm,1.0s						
COLD	Coldfoot	71.76	338	P	P	15 17 23.6	0.0
	baz=110						
I21K	Tanana	71.77	336	P	P	15 17 24.4	+0.8
I21K	Tanana	71.77	336	P	P	15 17 22.8	-0.8
	baz=108						
L20K	Farewell, AK	71.81	333	P	P	15 17 23.1	-0.9
	baz=105						
M19K	Big River Lodg	71.89	332	P	P	15 17 23.8	-0.7
	baz=104						
TOLK	Toolik Lake Re	72.04	340	P	P	15 17 26.7	+1.4
TOLK				IAmb	IAmb	15 17 39.1	
	comp=Z,7.9nm,1.1s						
TOLK	Toolik Lake Re	72.04	340	P	P	15 17 24.9	-0.4
	baz=111						
K20K	Telida	72.12	334	P	P	15 17 26.2	+0.3
K20K				IAmb	IAmb	15 17 29.3	
	comp=Z,7.3nm,1.1s						
K20K	Telida	72.12	334	P	P	15 17 25.5	-0.3
	baz=105						
L19K	White Mountain	72.17	333	P	P	15 17 27.1	+0.9
	baz=104						
H21K	Melozitna Rive	72.24	336	P	P	15 17 27.2	+0.7
	baz=107						
J20K	Nowinta River	72.37	335	P	P	15 17 27.5	+0.2
	baz=106						
IMAR	Indian Mountai	72.71	337	P	P	15 17 29.6	+0.3
ESDC	Sonseca Array	77.73	51	P	P	15 17 59.4	+0.6
	comp=Z,2.1nm,0.8s,baz=275,slow=4.7,SNR=12						
ESDC				LR	LR	15 48 39.0	
	comp=Z,70nm,19.3s,baz=260,slow=33						
ESDC	Sonseca Array	77.73	51	P	P	15 17 59.0	+0.1
ESDC				IAmb	IAmb	15 18 07.6	
	comp=Z,5.2nm,1.2s						
EKA	Eskdalemuir Ar	78.13	35	P	P	15 17 59.7	-0.9
	comp=Z,2.8nm,0.8s,baz=257,slow=6.5,SNR=3.6						
KOWA	Kowa	79.67	77	P	P	15 18 10.0	+0.2
KOWA				IAmb	IAmb	15 18 11.2	
	comp=Z,4.0nm,0.7s						
NOA	NORSAR Array B	85.24	29	P	P	15 18 38.5	+0.5
	comp=Z,0.6nm,0.7s,baz=280,slow=5.5,SNR=2.0						
NOA				LR	LR	15 51 43.3	
	comp=Z,20nm,21.1s,baz=270,slow=32						
TORD	Torodi Ar. Bea	85.35	77	P	P	15 18 38.5	-1.0
	comp=Z,0.5nm,0.6s,baz=294,slow=4.2,SNR=3.0						
HFS	Hagfors	86.62	30	LR	LR	15 51 23.3	
	comp=Z,65nm,20.4s,baz=285,slow=31						
DAVOX	Davos/Dischmat	87.05	43	LR	LR	15 51 18.6	
	comp=Z,80nm,21.0s,baz=263,slow=31						
CLL	Collm	88.17	38	*i* P	P	15 18 52.9	+0.4
	comp=Z,9.0nm,1.4s						
CLL				L	L	15 52 00.0	
	comp=Z,100nm,21.3s						
ARCES	ARCESS Array B	88.56	19	P	P	15 18 55.7	+1.7
	comp=Z,1.2nm,0.8s,baz=298,slow=5.1,SNR=3.7						
GERES	GERESS Array B	89.15	41	P	P	15 18 56.4	-1.0
	comp=Z,0.5nm,0.6s,baz=301,slow=7.7,SNR=5.1						
GERES				LR	LR	15 52 37.1	
	comp=Z,56nm,20.3s,baz=282,slow=31						
VRAC	Vranov	90.88	40	LR	LR	15 54 52.2	
	comp=Z,39nm,19.2s,baz=272,slow=32						
FINES	FINESS Array B	91.98	27	LR	LR	15 55 47.6	
	comp=Z,65nm,21.2s,baz=282,slow=32						
TIXI	Tiksi	96.04	350	LR	LR	16 04 38.0	
	comp=Z,41nm,21.4s,baz=1.5,slow=37						
AKASG	Malin Array Be	98.04	36	LR	LR	16 04 10.0	
	comp=Z,34nm,18.6s,baz=340,slow=36						
OBN	Obninsk	99.83	30	LR	LR	16 01 49.0	
	comp=Z,12nm,19.2s,baz=14,slow=34						
MKAR	Makanchi Array	123.12	10	PKP	PKPdf	15 24 57.5	-1.0
	comp=Z,0.6nm,0.8s,baz=315,slow=0.2,SNR=4.0						
KSRS	Korea Array	123.87	328	PKP	PKPdf	15 25 00.3	+0.3
	comp=Z,1.8nm,0.7s,baz=36,slow=0.9,SNR=8.5						
CTA	Charters Tower	128.86	252	PKP	PKPdf	15 25 10.1	0.0
	comp=Z,3.1nm,0.9s,baz=135,slow=1.4,SNR=2.7						
STKA	Stephens Creek	130.89	236	PKP	PKPdf	15 25 13.2	-0.4
	comp=Z,1.2nm,0.7s,baz=36,slow=4.7,SNR=3.3						
ASAR	Alice Springs	139.64	244	PKhKP	PKPpre	15 25 22.9	
	comp=Z,0.9nm,0.9s,baz=106,slow=3.1,SNR=8.1						
ASAR				PKP	PKPdf	15 25 29.8	-0.4
	comp=Z,1.8nm,0.7s,baz=106,slow=1.9,SNR=21						
WRA	Warramunga Arr	140.00	250	PKhKP	PKPpre	15 25 21.3	
	comp=Z,0.6nm,0.6s,baz=101,slow=3.0,SNR=5.0						
WRA				PKP	PKPdf	15 25 30.9	0.0
	comp=Z,4.2nm,0.8s,baz=123,slow=2.2,SNR=23						
CMAR	Chiang Mai Arr	152.04	351	PKP	PKPdf	15 25 52.4	+1.1
	comp=Z,0.6nm,0.3s,baz=299,slow=2.3,SNR=5.5						
CMAR				PKPbc	PKPbc	15 25 58.0	+0.2
	comp=Z,0.5nm,0.3s,baz=354,slow=3.1,SNR=8.2						
CMAR				PKPab	sPKPbc	15 26 05.3	-0.2
	comp=Z,1.4nm,0.7s,baz=344,slow=3.3,SNR=7.8						

INET ***22*** *15:09:37.3,8.°99N×85.°91W,h25km,MW3.1*

UCR 22 15:09:45.4±1.4,9.°19N×85.°74W,h20km±4km,MW3.9, 6C-6D,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INDI	Punta indio, G	0.71	19	*e*S	Sg	15 10 09.8	+0.9
GRZA	Playa Garza	0.72	8	*e*S	Sg	15 10 09.2	-0.2
SAJU	San Juanillo,	0.87	2	⇑*i*P	Pb	15 10 00.9	-0.9
LAFE	Finca La Fe, P	1.02	53	⇓*i*P	Pb	15 10 03.2	-1.3
GUAI	GUAI	1.09	12	*e*P	Pn	15 10 04.3	-1.3
GUAI				*i* S	Sb	15 10 19.0	-0.5
JACO	JACO, Garabito	1.16	66	⇓*i*P	Pn	15 10 05.7	-0.9
JACO				*e*S	Sb	15 10 21.2	-0.3
JTS	Las Juntas de	1.34	35	⇓*e*P	Pn	15 10 08.2	-0.8
COLC	Colonia	1.56	20	*i* P	Pn	15 10 11.7	-0.4
COLC				*i* S	Sb	15 10 32.7	-0.2
CUI	Cuipilapa	1.56	21	⇑*i*P	Pn	15 10 11.8	-0.3
CASO	Castillo	1.58	39	⇓*e*P	Pn	15 10 12.5	+0.1
HORNC	Hornillas	1.61	20	⇑*i*P	Pn	15 10 12.4	-0.4
ARE1	Arenal 1	1.61	39	⇓*i*P	Pn	15 10 13.2	+0.4
BUEV	Buena Vista	1.63	12	⇑*i*P	Pn	15 10 12.6	-0.5
CEDE	Laguna Cedeo	1.64	38	⇑*i*P	Pn	15 10 13.7	+0.5
GB1A	Borinquen Arri	1.65	12	⇑*i*P	Pn	15 10 13.0	-0.4
HDC	Heredia	1.79	63	*e*P	Pn	15 10 15.8	+0.4
LCR2	La Lucha 2	1.80	72	⇓*i*P	Pn	15 10 14.9	-0.6
OCM	Ochomogo	1.89	68	*e*P	Pn	15 10 16.5	-0.3
RIMA	Rio Macho	1.94	73	*e*P	Pn	15 10 17.0	-0.4
CDM	Cerro de Muert	1.98	79	*e*P	Pn	15 10 17.9	-0.3
COVE	Coope Vega, Sa	2.01	41	*e*P	Pn	15 10 18.6	+0.4
RIFO	Rio Frio, Sara	2.11	58	*e*P	Pn	15 10 20.8	+1.2
CVTR	Volcan Turrial	2.12	67	*e*P	Pn	15 10 20.7	+0.6
RIOS	Rincon, Osa	2.25	102	*e*P	Pn	15 10 21.2	-0.3

DJA ***22*** *15:51:29.8±0.2,2.°N±2.°×12.°7E±.°, h48km±3km, M4.6/27, mB5.2/10, mb4.6/27, MLv4.5/12, Mw(mB)4.6/10*

IDC ***22*** *15:51:29.9±2.3,2.°02N×126.°54E, h47km±21km, mb4.1/22, mb1 4.1/23, mb1mx4.0/57, mbtmp4.3/23, ML3.4/1, MS3.6/10, Ms1 3.6/10, ms1mx3.2/37, Error ellipse: s-maj=27.0km s-min=8.5km az=71.0*

NEIC ***22*** *15:51:30.0±1.8,2.°16N±0.°07×126.°75E±0.°07, h49km±5km, mb4.6/33, Error ellipse: s-maj=12.4km s-min=7.3km az=49.0*

ISC 22 15:51:30.0±0.3,2.°11N±0.°05×126.°72E±0.°05,h47km,n115, σ1§41/112,mb4.5/50,MS3.6/11,1C,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMI	Galela, Maluku	1.10	104	P	Pn	15 51 49.3	+0.3
GAMI				S	Sn	15 52 04.0	+0.9
TNTI	Ternate	1.48	154		Pn	15 51 54.0	-0.2
TNTI	Ternate	1.48	154	P	Pn	15 51 54.1	-0.2
TNTI				S	Sn	15 52 13.9	+1.5
SGSI	Sangihe	1.96	323	P	Pn	15 51 59.6	-1.3
SGSI				S	Sn	15 52 24.2	-0.1
MNI	Manado	2.00	251	P	Pn	15 52 00.3	-1.0
KMSI	Cibinong	3.14	241	P	Pn	15 52 17.3	+0.3
GTOI	Gorontalo	3.99	248	P	Pn	15 52 28.5	-0.2
SANI	Sanana	4.20	190	P	Pn	15 52 31.2	-0.4
LUWI	Luwuk	5.04	232	Pn	Pn	15 52 45.0	+1.8
LUWI	Luwuk	5.04	232	P	Pn	15 52 44.3	+1.2
	2.2nm3µm350nm,1.0s						
MRSI	Marisa	5.05	251	P	Pn	15 52 43.7	+0.5
	0.6nm2µm160nm,0.9s						
KCP	Kidapawan	5.13	342	⇑*e*P	Pn	15 52 47.1	+2.8
KCP				*i* S	Sn	15 53 59.2	+17
SIJI	Sorong	5.42	123	P	Pn	15 52 49.5	+1.1
	1.2nm,0.3s,baz=124,slow=23,SNR=6.1						
SIJI				LR	LR	15 55 27.2	
	comp=Z,1µm,21.8s,baz=329,slow=43						
SIJI	Sorong	5.42	123	P	Pn	15 52 48.7	+0.3
	0.1nm12nm,0.9s						
KRAI	Karang Ratu	5.65	163	P	Pn	15 53 02.4	+11
APSI	Ampana	5.89	239	P	Pn	15 52 55.6	+0.8
	0.8nm2µm271nm,1.1s						
TOLI2	Tolitoli	6.02	261	Pn	Pn	15 52 54.8	-1.8
MPSI	Mapaga	7.05	256	P	Pn	15 53 12.3	+1.6
	0.4nm5µm49nm,0.8s						
KKSI	Kolaka, Sulawe	8.04	219	P	Pn	15 53 24.7	+0.4
	1µm43nm,0.8s						
TTSI	Tana Toraja	8.60	233	P	Pn	15 53 32.2	+0.3
	547nm56nm,1.1s						
MMSI	Mamuju	9.15	239	P	Pn	15 53 39.8	+0.2
	16nm,1.1s						
BNSI	Bone	9.25	226	P	Pn	15 53 42.3	+1.4
	35nm,1.0s						
BKSI	Bulukumba	9.90	222	P	Pn	15 53 49.1	-0.7
	24nm,1.0s						
KAPI	Kappang	9.93	225	Pn	Pn	15 53 51.0	+0.8
KAPI	Kappang	9.93	225	P	Pn	15 53 50.7	+0.5
	23nm,1.2s						
BSSI	Bau Bau, Buton	10.29	217	P	Pn	15 53 54.9	-0.3
	24nm,0.9s						
EDFI	Ende, Flores	11.90	205	P	Pn	15 54 17.9	+0.7
	10nm,1.2s						
SOEI	Soe	12.04	192	P	Pn	15 54 19.3	+0.1
	50nm,0.9s						
GENI	Genyem	14.23	109	P	Pn	15 54 48.7	-0.2
	43nm,0.9s						
GENI				pP	P	15 54 56.5	+1.3
	43nm,0.9s						
TWSI	Taliwang, Sumb	14.57	222	P	Pn	15 54 54.3	+0.8
	451nm64nm,1.0s						
MTN	Manton Dam	15.49	164	Pn	Pn	15 55 04.1	-1.4
KNRA	Kununurra	17.79	174		Pn	15 55 33.9	-0.4
KNRA				IAmb	IAmb	15 55 57.5	
	comp=Z,25nm,0.9s						
FITZ	Fitzroy Crossi	20.11	183	P	P	15 55 59.5	-0.6
	comp=Z,3.4nm,0.7s,baz=11,slow=8.1,SNR=42						
FITZ				LR	LR	16 04 29.2	
	comp=Z,91nm,18.5s,baz=11,slow=39						
FITZ	Fitzroy Crossi	20.11	183	P	P	15 56 00.1	0.0
LEM	Lembang	21.04	245	LR	LR	16 05 10.8	
	comp=Z,211nm,19.3s,baz=66,slow=39						
YULB	Yu-li	21.80	346	P	P	15 56 15.8	-2.3
TPUB	Ta-pu	21.87	345	P	P	15 56 16.6	-2.4
TPUB				IAmb	IAmb	15 56 27.1	
	comp=Z,26nm,1.2s						
WRAB	Tennant Creek	23.15	161	P	P	15 56 31.6	-0.9
WRAB				IAmb	IAmb	15 56 34.3	
	comp=Z,22nm,0.8s						
WRA	Warramunga Arr	23.16	162	P	P	15 56 31.5	-1.1
	comp=Z,19nm,0.7s,baz=340,slow=11,SNR=68						
WRA				S	S	16 00 39.5	-1.3
	comp=Z,2.3nm,0.9s,baz=313,slow=17,SNR=4.7						
WRA				LR	LR	16 06 19.7	
	comp=Z,111nm,22.0s,baz=160,slow=38						
WRA	Warramunga Arr	23.16	162	P	P	15 56 31.4	-1.2
WB2	Warramunga Arr	23.16	161	P	P	15 56 31.0	-1.6
WB2				IAmb	IAmb	15 56 34.4	
	comp=Z,26nm,0.8s						
WR0	Warramunga Arr	23.24	161	P	P	15 56 31.8	-1.6
WR0				IAmb	IAmb	15 56 37.1	
	comp=Z,17nm,0.8s						
JMBI	JAMBI	23.38	261	P	P	15 56 36.0	+1.3
	comp=Z,2µmcomp=Z,37nm,0.5s						
MDSI	Maura Dua	23.46	254	P	P	15 56 33.8	-1.8
	comp=Z,10nm,1.3s						
LHSI	Lahat	23.93	256	P	P	15 56 39.0	-0.9
	comp=Z,19nm,0.8s						
AS31	Alice Springs	26.56	165	P	P	15 57 03.4	-0.4
ASAR	Alice Springs	26.56	165	P	P	15 57 03.5	-0.3
	comp=Z,6.5nm,0.9s,baz=342,slow=8.0,SNR=33						
ASAR				PcP	PcP	16 00 28.4	+0.9
	comp=Z,1.3nm,0.5s,baz=345,slow=2.1,SNR=8.3						
ASAR				S	S	16 01 35.9	+0.7
	comp=Z,1.4nm,1.0s,baz=348,slow=17,SNR=6.3						
TRSI	Tarutung	27.75	270	P	P	15 57 19.1	+4.5
PSI	Prapat	27.78	272	LR	LR	16 09 59.8	
	comp=Z,144nm,18.4s,baz=119,slow=40						
CHAI	Chaiyaphum	27.95	301	P	P	15 57 17.8	+1.5
	comp=Z,10.0nm,0.8s						
GSI	Gunungsitoli	29.14	269	P	P	15 57 27.0	0.0
GSI				IAmb	IAmb	15 57 39.6	
	comp=Z,26nm,1.0s						
CTA	Charters Tower	29.22	140	P	P	15 57 31.7	+4.1
	comp=Z,2.8nm,0.7s,baz=308,slow=10,SNR=5.2						
PHIT	Phitsanulok	29.88	302	P	P	15 57 35.4	+2.0
	comp=Z,27nm,0.9s						
NANT	Nan	30.41	305	P	P	15 57 40.7	+2.6
	comp=Z,15nm,0.4s						
NJ2	Nanjing	30.69	347	*e*P	P	15 57 41.1	+0.7
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
CMAR	Chiang Mai Arr	31.70	303	P	P	15 57 49.1	-0.5
	comp=Z,0.8nm,0.3s,baz=125,slow=6.1,SNR=7.6						
CMAR				LR	LR	16 10 37.3	
	comp=Z,75nm,21.2s,baz=177,slow=36						
CM13	Chiang Mai Arr	31.72	303	P	P	15 57 55.5	+5.8
	comp=Z,2.1nm,1.0s						
PATS	Pohnpei	31.83	80	P	P	15 57 47.0	-3.7
CMMT	Chiang Mai	31.87	303	P	P	15 57 51.1	+0.1
	comp=Z,4.2nm,1.5s						
CMMT	Chiang Mai	31.87	303	P	P	15 57 49.2	-1.8
	comp=Z,4.0nm,1.5s						
CHTO	Chiang Mai	31.87	303	P	P	15 57 51.2	+0.2
	comp=Z,4.2nm,1.5s						
CHTO	Chiang Mai	31.87	303	P	P	15 57 49.5	-1.4
CHTO	Chiang Mai	31.87	303	P	P	15 57 49.7	-1.3
	comp=Z,2.5nm,1.1s						
FORT	Forrest	32.73	178	P	P	15 57 58.0	-0.4
KSRS	Korea Array	35.19	2	P	P	15 58 21.1	+1.5
	comp=Z,1.7nm,0.8s,baz=180,slow=9.9,SNR=5.6						
BBOO	Buckleboo	35.84	167	P	P	15 58 24.7	-0.6
BBOO				IAmb	IAmb	15 58 26.5	
	comp=Z,11nm,0.9s						
XAN	Xi'an	35.85	334	P	P	15 58 24.4	-1.0
XAN				pP	pwP	15 58 39.1	-0.9
XAN				pmax	pmax		
	comp=Z,5.0nm,1.5s						
NWAO	Narrogin (SRO)	35.99	194	P	P	15 58 26.2	-0.3
NWAO				IAmb	IAmb	15 58 49.3	
	comp=Z,12nm,1.1s						
STKA	Stephens Creek	36.63	159	P	P	15 58 30.6	-1.5
	comp=Z,4.4nm,0.8s,baz=324,slow=9.4,SNR=7.2						
STKA				LR	LR	16 13 37.5	
	comp=Z,112nm,18.4s,baz=25,slow=36						
STKA	Stephens Creek	36.63	159	P	P	15 58 31.4	-0.7
BJI	Beijing	38.95	347	P	P	15 58 55.5	+4.0
BJI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC	Hu-ho-hao-te	40.92	342	*e*P	P	15 59 09.3	+1.3
HHC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,60nm,6.6s						
USRK	Ussuriysk Ar.	42.17	6	P	P	15 59 19.9	+1.9
	comp=Z,5.6nm,0.8s,baz=191,slow=4.9,SNR=8.2						
SANVU	Saraoutou	43.67	115	P	P	15 59 27.8	-2.8
ASAJ	Asahikawa	44.13	16	P	P	15 59 34.1	+0.3
	comp=Z,2.8nm,0.6s,baz=222,slow=9.5,SNR=7.4						
JKA	Kamikawa-asahi	44.13	16	P	P	15 59 34.1	+0.3
JKA	Kamikawa-asahi	44.13	16	IAmb	IAmb	15 59 48.4	
	comp=Z,11nm,1.1s						
GTA	Gaotai	44.48	330	*e*P	P	15 59 37.3	+0.4
GTA				pP	pP	15 59 49.1	+0.1
GTA				sP	sP	15 59 54.3	0.0
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,59nm,5.1s						
GTA				LR	LR		
	comp=N,140nm,17.1s						
GTA				LR	LR		
	comp=E,130nm,17.4s						
GTA				LR	LR		
	comp=Z,120nm,17.4s						
KLR	Kul'dur	47.14	4	P	P	15 59 58.8	+1.3
	comp=Z,2.2nm,0.7s,baz=237,slow=5.5,SNR=8.4						
ULN	Ulaanbaatar	48.65	342	P	P	16 00 09.3	-0.1
	comp=Z,18nm,1.0s						
SONM	Songino Array	48.82	342	P	P	16 00 10.3	-0.5
	comp=Z,0.6nm,0.5s,baz=167,slow=6.2,SNR=7.5						
SONM				LR	LR	16 22 22.6	
	comp=Z,60nm,18.4s,baz=160,slow=38						
WMQ	Urumqi	54.04	326	*e*P	P	16 00 50.8	+1.0
WMQ				LR	LR		
	comp=N,310nm,20.3s						
WMQ				LR	LR		
	comp=E,380nm,19.3s						
WMQ				LR	LR		
	comp=Z,120nm,21.5s						
MK31	Makanchi Array	58.88	326	P	P	16 01 23.4	-0.8
MK31				IAmb	IAmb	16 01 28.4	
	comp=Z,3.6nm,1.1s						
MKAR	Makanchi Array	58.88	326	P	P	16 01 23.4	-0.8
	comp=Z,1.8nm,0.4s,baz=115,slow=7.0,SNR=48						
MKAR	Makanchi Array	58.88	326	P	P	16 01 23.2	-1.0
MAKZ	Makanchi	59.06	326	P	P	16 01 24.7	-0.7
MAKZ				IAmb	IAmb	16 01 29.2	
	comp=Z,5.3nm,0.9s						
KSH	Kashi	59.18	316	P	P	16 01 27.8	+1.3
KSH				pP	pwP	16 01 41.9	0.0
KSH				sP	sP	16 01 44.8	+0.6
KSH	Kashi	59.18	316	SS	SS	16 13 26.9	+0.8
KSH				pmax	pmax		
	comp=Z,6.0nm,1.2s						
YAK	Yakutsk	59.81	2	P	P	16 01 31.1	+0.9
	comp=Z,2.1nm,0.4s,baz=351,slow=6.1,SNR=5.1						
YAK	Yakutsk	59.81	2	IAmb	IAmb	16 01 35.0	
	comp=Z,12nm,0.9s						
OXZ	Oxford	60.80	144	P	P	16 01 36.5	-0.9
BKZ	Black Stump Fm	61.40	137	P	P	16 01 40.3	-1.3
ZALV	Zalesovo Beam	62.02	333	P	P	16 01 43.6	-1.8
	comp=Z,0.6nm,0.3s,baz=111,slow=7.9,SNR=3.3						
KURBB	Kurchatov Arra	63.09	328	P	P	16 01 51.6	-1.0
	comp=Z,2.7nm,0.6s,baz=130,slow=6.4,SNR=16						
KURK	Kurchatov	63.09	328	P	P	16 01 51.6	-1.0
CHGR	Chuyangaron	63.74	313	P	P	16 01 55.6	-1.7
KKAR	Karatay Array	64.41	318	P	P	16 01 58.5	-3.0
BRVK	Borovoye	68.74	327	P	P	16 02 28.3	-0.6
BRVK				IAmb	IAmb	16 02 34.1	
	comp=Z,5.4nm,1.0s						
NRIK	Noril'sk	71.99	346	P	P	16 02 49.1	+0.7
	comp=Z,2.0nm,0.5s,baz=69,slow=6.0,SNR=4.7						
NRIK	Noril'sk	71.99	346	IAmb	IAmb	16 03 11.8	
	comp=Z,3.1nm,0.8s						
ABKAR	Akbulak array	73.39	321	P	P	16 02 55.3	-1.9
ABKAR	Akbulak array	73.39	321	P	P	16 02 55.7	-1.4
ABKAR				IAmb	IAmb	16 03 03.7	
	comp=Z,3.1nm,1.1s						
AKTO	Aktyubinsk	74.92	322	P	P	16 03 05.2	-0.8
	comp=Z,1.9nm,0.5s,baz=103,slow=8.1,SNR=9.6						
ARU	Arti	76.29	328	P	P	16 03 12.6	-1.2
	comp=Z,1.6nm,0.5s,baz=199,slow=1.7,SNR=12						
ARU	Arti	76.29	328	P	P	16 03 12.4	-1.4
ARU				IAmb	IAmb	16 03 16.8	
	comp=Z,12nm,1.0s						
BELG	Belogornoye	81.68	323	P	P	16 03 43.8	+0.5
	comp=Z,16nm,0.8s,baz=83,slow=4.1,SNR=3.4						
VNDA	Vanda	81.83	173	P	P	16 03 44.3	+0.6
	comp=Z,3.2nm,0.9s,baz=307,slow=5.9,SNR=14						
VNDA	Vanda	81.83	173	P	P	16 03 43.8	+0.2
VNDA				IAmb	IAmb	16 03 45.5	
	comp=Z,4.3nm,0.9s						
KBZ	Khabaz	84.08	314	P	P	16 03 56.0	0.0
	comp=Z,4.1nm,1.2s,baz=45,slow=2.9,SNR=3.5						
PPT	Papeete	84.63	108	LR	LR	16 38 54.1	
	comp=Z,19nm,20.6s,baz=219,slow=34						
KLMR	Klimovskoe	86.80	331	*e*P	P	16 04 11.3	+2.1
KLMR				AMP		16 04 13.5	
	comp=Z,10.0nm,0.9s						
ASF	Jabal al Asfar	88.74	302	P	P	16 04 20.1	+0.8
	comp=Z,2.2nm,0.6s,baz=176,slow=3.2,SNR=5.1						
BRTR	Keskin Array B	91.04	310	P	P	16 04 30.3	+0.4
	comp=Z,0.4nm,0.6s,baz=121,slow=5.9,SNR=3.7						
ARCES	ARCESS Array B	91.95	340	LR	LR	16 52 15.0	
	comp=Z,30nm,21.1s,baz=100,slow=40						
BURAR	Bucovina Array	96.19	318	P	P	16 04 52.1	-1.2
BURAR				IAmb	IAmb	16 04 57.0	
	comp=Z,2.1nm,0.8s						

IDC 22 15:52:46.3±3.6,25.°75S×29.°47E,h0km,mb1 3.3/4, mb1mx3.1/51,mbtmp3.3/4,ML2.5/4,Error ellipse: s-maj=33.5km s-min=29.8km az=91.0,South Africa

| Code |

JACO	**JACO, Garabito**	**1.05**	**68**	⇑*i*P		**Pn**	**16 01 34.1**	**-0.7**
JACO	**JACO, Garabito**	**1.05**	**68**			**Pn**	**16 01 33.7**	**-1.1**
ORTG	**Ortega, Santa**	**1.10**	**10**			**Pn**	**16 01 33.9**	**-1.7**
ORTG						**Sn**	**16 01 47.9**	**-2.2**
JTS	**Las Juntas de**	**1.23**	**34**	Pg		**Pn**	**16 01 36.5**	**-0.7**
	90nm,0.3s,baz=250,slow=6.8,SNR=148							
JTS				Lg	Lg		16 01 52.3	
	261nm,0.3s,baz=292,slow=19,SNR=17							
JTS				LR	LR		16 01 53.1	
	comp=Z,202nm,18.2s,baz=216,slow=33							
JTS	**Las Juntas de**	**1.23**	**34**	⇑*i*P		**Pn**	**16 01 36.5**	**-0.7**
JTS				*e*S		**Sb**	**16 01 54.5**	**+1.3**
JTS	**Las Juntas de**	**1.23**	**34**			**Pn**	**16 01 36.4**	**-0.8**
SRA1	**San Ramn**	**1.41**	**55**	*e*P		**Pn**	**16 01 39.5**	**-0.4**
SRA1				*e*S		**Sb**	**16 02 00.2**	**+1.6**
HZTE	**Horizontes, Gu**	**1.44**	**2**	⇑*i*P		**Pn**	**16 01 39.3**	**-0.7**
HZTE	**Horizontes, Gu**	**1.44**	**2**			**Pn**	**16 01 39.1**	**-0.9**
COLC	**Colonia**	**1.46**	**18**	*i* P		**Pn**	**16 01 39.7**	**-0.6**
CUI	**Cuipilapa**	**1.46**	**19**	⇑*i*P		**Pn**	**16 01 39.9**	**-0.6**
CUI				*e*S		**Sb**	**16 02 00.4**	**+0.5**
GUAB	**Guayabo de Bag**	**1.49**	**16**	⇑*i*P		**Pn**	**16 01 40.1**	**-0.7**
ARE1	**Arenal 1**	**1.50**	**38**	⇑*i*P		**Pn**	**16 01 41.5**	**+0.5**
GPS3	**Bodega del ICE**	**1.50**	**11**	*i* P		**Pn**	**16 01 40.3**	**-0.7**
GPS2	**Hotel Rincn d**	**1.50**	**11**	*i* P		**Pn**	**16 01 40.3**	**-0.7**
HORNC	**Hornillas**	**1.51**	**18**	⇑*i*P		**Pn**	**16 01 40.4**	**-0.7**
CEDE	**Laguna Cedeo**	**1.53**	**38**	*i* P		**Pn**	**16 01 41.9**	**+0.5**
BUEV	**Buena Vista**	**1.54**	**9**	*i* P		**Pn**	**16 01 40.7**	**-0.8**
GB1A	**Boringuen Arri**	**1.56**	**9**	⇑*i*P		**Pn**	**16 01 41.1**	**-0.8**
BUAI	**Buenos Aires**	**1.63**	**11**	*i* P		**Pn**	**16 01 42.1**	**-0.6**
HDC	**Heredia**	**1.68**	**64**	*e*P		**Pb**	**16 01 44.4**	**-1.2**
HDC	**Heredia**	**1.68**	**64**			**Pn**	**16 01 42.7**	**-0.9**
LCR2	**La Lucha 2**	**1.69**	**74**	*e*P		**Pn**	**16 01 43.4**	**-0.4**
LCR2				*e*S		**Sb**	**16 02 05.7**	**-1.0**
OCM	**Ochomogo**	**1.78**	**69**	*e*P		**Pn**	**16 01 44.9**	**0.0**
RIMA	**Rio Macho**	**1.83**	**74**	*e*P		**Pn**	**16 01 45.6**	**-0.1**
RIMA	**Rio Macho**	**1.83**	**74**			**Pn**	**16 01 45.3**	**-0.4**
CDM	**Cerro de Muert**	**1.89**	**81**	*e*P		**Pn**	**16 01 46.4**	**-0.3**
CDM				*e*S		**Sb**	**16 02 11.5**	**-1.0**
COVE	**Coope Vega, Sa**	**1.90**	**40**	⇑*e*P		**Pn**	**16 01 46.7**	**+0.4**
COVE	**Coope Vega, Sa**	**1.90**	**40**			**Pn**	**16 01 46.1**	**-0.3**
PEZE	**Perez Zeledon,**	**1.95**	**87**	*e*P		**Pn**	**16 01 46.7**	**-0.5**
PEZE	**Perez Zeledon,**	**1.95**	**87**			**Pn**	**16 01 45.5**	**-1.7**
RIFO	**Rio Frio, Sara**	**2.00**	**58**	*e*P		**Pn**	**16 01 48.6**	**+0.9**
CVTR	**Volcan Turrial**	**2.01**	**68**	*e*P		**Pn**	**16 01 49.1**	**+0.8**
CVTR	**Volcan Turrial**	**2.01**	**68**			**Pn**	**16 01 47.9**	**-0.4**
RIOS	**Rincon, Osa**	**2.19**	**105**	*e*P		**Pn**	**16 01 49.7**	**-0.6**
RIOS	**Rincon, Osa**	**2.19**	**105**			**Pn**	**16 01 49.5**	**-0.8**
SRBA	**San Rafael, Bu**	**2.26**	**91**			**Pn**	**16 01 51.0**	**-0.5**
BATAN	**Batan**	**2.39**	**70**			**Pn**	**16 01 53.2**	**0.0**
ACON	**Acoyapa**	**2.72**	**10**			**Pn**	**16 01 57.2**	**-0.6**
MASN	**Masaya**	**2.75**	**350**	Pn		**Pn**	**16 01 58.2**	**+0.1**
CDITO	**Canoas**	**2.83**	**104**			**Pn**	**16 01 59.5**	**+0.2**
BRU2	**Volcan**	**2.96**	**99**	Pn		**Pn**	**16 02 01.8**	**+0.6**
CNGN	**Cerro Negro**	**3.37**	**342**			**Pn**	**16 02 06.8**	**+0.1**
MATN	**Matagalpa**	**3.65**	**356**			**Pn**	**16 02 10.2**	**-0.3**
CRIN	**San Cristobal**	**3.67**	**338**			**Pn**	**16 02 10.4**	**-0.5**
TGUH	**Tegucigalpa,Un**	**5.02**	**342**			**Pn**	**16 02 29.7**	**+0.3**
BCIP	**Isla Barro Col**	**5.74**	**91**	Pn		**Pn**	**16 02 39.1**	**-0.2**
MTO3	**Montecristo**	**6.26**	**325**			**Pn**	**16 02 46.9**	**+0.4**
CMIG	**Matias Romero**	**11.88**	**312**	Pn		**Pn**	**16 04 04.5**	**+1.0**
	0.4nm,0.3s,baz=110,slow=12,SNR=4.1							
PCRV	**Puerto La Cruz**	**20.73**	**86**	LR		LR	16 15 56.5	
	comp=Z,436nm,21.5s,slow=43							
TOSP	**Speyside**	**24.79**	**83**	P		**P**	**16 06 36.7**	**+0.7**
TXAR	**Lajitas Array**	**26.15**	**322**	P		**P**	**16 06 49.5**	**+1.2**
	2.8nm,0.9s,baz=140,slow=9.1,SNR=23							
TXAR				PcP		**PcP**	**16 10 15.2**	**-0.1**
	0.4nm,0.9s,baz=134,slow=3.9,SNR=2.6							
TX31	**Lajitas Ar. Si**	**26.15**	**322**	P		**P**	**16 06 49.1**	**+0.9**
TX31				IAmb		IAmb	16 06 52.3	
	comp=Z,12nm,1.0s							
TX32	**Lajitas Array**	**26.15**	**322**	P		**P**	**16 06 50.0**	**+1.8**
TX32				IAmb		IAmb	16 06 52.3	
	comp=Z,4.1nm,1.0s							
TKL	**Tuckaleechee C**	**26.32**	**3**	LR		LR	16 18 26.2	
	comp=Z,52nm,18.2s,baz=186,slow=39							
SAML	**Samuel**	**28.78**	**128**	P		**P**	**16 07 11.1**	**-0.7**
LVC	**Limon Verde**	**35.68**	**153**	LR		LR	16 20 53.1	
	comp=Z,26nm,18.5s,baz=344,slow=33							
SADO	**Sadowa**	**35.81**	**8**	LR		LR	16 22 50.7	
	comp=Z,72nm,18.3s,baz=184,slow=36							
PDAR	**Pinedale Array**	**39.39**	**332**	P		**P**	**16 08 43.0**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=143,slow=11,SNR=3.9							
PDAR				LR		LR	16 27 10.2	
	comp=Z,32nm,19.5s,baz=102,slow=39							
HWUT	**Hardware Ranch**	**39.49**	**329**	P		**P**	**16 08 44.4**	**-0.1**
HWUT				IAmb		IAmb	16 08 46.4	
	comp=Z,3.8nm,0.9s							
NVAR	**Mina Array Bea**	**41.25**	**320**	P		**P**	**16 09 01.8**	**+2.5**
	comp=Z,0.9nm,0.7s,baz=129,slow=9.0,SNR=8.1							
SCHQ	**Schefferville**	**47.85**	**15**	LR		LR	16 31 42.5	
	comp=Z,27nm,18.9s,baz=276,slow=38							
PLCA	**Paso Flores**	**51.67**	**165**	P		**P**	**16 10 20.1**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=352,slow=7.2,SNR=4.9							
FRB	**Frobisher Bay**	**55.74**	**9**	LR		LR	16 36 26.2	
	comp=Z,26nm,18.4s,baz=23,slow=38							
YKA	**Yellowknife Ar**	**57.13**	**344**	LR		LR	16 37 37.7	
	comp=Z,28nm,18.5s,baz=0.0,slow=38							
SFJD	**Kangerlussuaq**	**62.30**	**15**	LR		LR	16 39 01.8	
	comp=Z,49nm,19.3s,baz=212,slow=36							
ILAR	**Eielson Array**	**69.62**	**336**	LR		LR	16 46 34.9	
	comp=Z,35nm,18.6s,baz=164,slow=39							
ASAR	**Alice Springs**	**139.61**	**244**	PKP		**PKPdf**	**16 20 41.5**	**-0.8**
	comp=Z,0.6nm,0.9s,baz=111,slow=1.9,SNR=6.1							
WRA	**Warramunga Arr**	**139.97**	**250**	PKP		**PKPdf**	**16 20 42.5**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=124,slow=2.0,SNR=7.3							

TAP 22 16:06:08.8,24°.26N×121°.80E,h18km,ML1.5,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.18**	**343**	*i* P	Pg	16 06 13.5	+0.1
	baz=343						
ENA				S	Sg	16 06 16.8	+0.2
	baz=343						
EWUT	**Wuta**	**0.19**	**354**	*i* P	Pb	16 06 13.7	+0.1
	baz=351						
EWUT				S	Sb	16 06 17.3	+0.5
	baz=351						
ETL	**Fush Village**	**0.19**	**238**	P	Pb	16 06 13.7	+0.1
	baz=242						
ETL				*e*S	Sg	16 06 17.7	+0.9
	baz=242						
NACB	**Ninganchiao**	**0.20**	**245**	P	Pb	16 06 13.9	0.0
	baz=249						
NACB				*e*S	Sb	16 06 18.0	+0.7
	baz=249						
TWD	**Chiawan**	**0.26**	**226**	*e*P	Pb	16 06 14.9	0.0
	baz=232						
TWD				*e*S	Sb	16 06 19.1	+0.2
	baz=232						
ETLH	**Xiulin Townshi**	**0.29**	**260**	P	Pg	16 06 15.4	+0.1
	baz=261						
ETLH				*e*S	Sb	16 06 20.6	+0.4
	baz=261						
NDS	**Dongshan**	**0.38**	**349**	P	Pg	16 06 16.9	+0.1
	baz=346						
NDS				*e*S	Sg	16 06 22.3	+0.2
	baz=346						
ETM	**Tongmen**	**0.40**	**224**	*e*P	Pb	16 06 17.4	-0.1
	baz=233						
ETM				*e*S	Sb	16 06 24.5	+1.2
	baz=233						
NNSB	**Datong**	**0.41**	**294**	*e*P	Pb	16 06 17.9	+0.1
	baz=294						
NNSB				*e*S	Sb	16 06 24.1	+0.3
	baz=294						
NNS	**Nan Shan**	**0.43**	**295**	P	Pb	16 06 18.1	+0.1
	baz=295						
NNS				*e*S	Sb	16 06 24.5	+0.3
	baz=295						
NDT	**Datong Townshi**	**0.43**	**323**	*e*P	Pb	16 06 18.1	+0.1
	baz=321						
NDT				*e*S	Sb	16 06 24.2	+0.1
	baz=321						
ENTT	**Nioudou**	**0.43**	**331**	P	Pb	16 06 18.0	0.0
	baz=330						
ENTT				*e*S	Sb	16 06 24.4	+0.2
	baz=330						
TWE	**Neicheng**	**0.47**	**345**	*e*P	Pb	16 06 18.9	+0.1
	baz=345						
TWE				*e*S	Sb	16 06 25.3	-0.1
	baz=345						
WHF	**Hehuan Shan**	**0.50**	**257**	*e*P	Pb	16 06 19.2	-0.1
	baz=259						
WHF				*e*S	Sb	16 06 26.9	+0.4
	baz=259						
FUSS	**Fushou**	**0.51**	**269**	*e*P	Pb	16 06 19.6	+0.3
	baz=270						
FUSS				*e*S	Sb	16 06 27.1	+0.6
	baz=270						
YHNB	**Yeheng**	**0.56**	**317**	*e*P	Pb	16 06 20.6	+0.3
	baz=316						
YHNB				*e*S	Sb	16 06 28.6	+0.7
	baz=316						
NWLT	**Wulai**	**0.58**	**333**	*e*P	Pn	16 06 21.9	-0.4
	baz=331						
NWLT				*e*S	Sb	16 06 29.1	+0.6
	baz=331						
CHGB	**Renai**	**0.60**	**251**	*e*P	Pg	16 06 20.7	-0.2
	baz=248						
CHGB				*e*S	Sb	16 06 29.7	+0.5
	baz=248						
TIPB	**Shuangxi**	**0.71**	**2**	*e*P	Pn	16 06 24.2	+0.1
	baz=360						
TIPB				*e*S	Sb	16 06 31.8	-0.4
	baz=360						

JMA 22 16:06:35.7±0.2,24°.84N×122°.43E,h1km±3km,M1.9,
Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.61**	**129**	P	Pg	16 06 47.8	+0.4
JYNG				*e*S	Sg	16 06 56.4	+1.2
YOJ	**Yonaguni jima**	**0.65**	**125**	P	Pg	16 06 48.5	+0.4
YOJ				*e*S	Sg	16 06 57.3	+0.7
IRIF	**Iriomote-Funau**	**1.29**	**113**	P	Pg	16 07 00.5	+0.1

*NEIC **22** 16:06:53.7±1.4,19°.41N±0°.09×65°.70W±0°.04,h21km±13km,*
Error ellipse: s-maj=12.7km s-min=5.3km az=187.0
*RSPR **22** 16:06:55.8,19°.41N×65°.70W,h52km±14km,MD3.6/12*
ISC 22 16:06:56.2±1.6,19°.36N±0°.08×65°.73W±0°.03,h35km,n57,
σ1§19/62,13C-1D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.09**	**186**	⇑*e*P	**Pn**	**16 07 13.9**	**-1.2**
CBYP	**Canovanas**	**1.09**	**186**	*e*S	**Sn**	**16 07 28.9**	**-0.1**
CBYP	**Canovanas**	**1.09**	**186**		**Pn**	**16 07 13.9**	**-1.2**
CBYP					**Sn**	**16 07 28.9**	**-0.1**
GCPR	**Guaynabo City**	**1.10**	**198**	⇓*e*P	**Pn**	**16 07 14.1**	**-1.0**
GCPR	**Guaynabo City**	**1.10**	**198**	*e*S	**Sn**	**16 07 29.4**	**+0.3**
GCPR	**Guaynabo City**	**1.10**	**198**		**Pn**	**16 07 14.1**	**-1.0**
GCPR					**Sn**	**16 07 29.4**	**+0.3**
GCPR	**Guaynabo City**	**1.10**	**198**	IAML		16 07 38.5	
	comp=E,339nm,0.6s						
GCPR				IAML		16 07 39.9	
	comp=N,348nm,0.8s						
CUPR	**Culebra, Puert**	**1.13**	**158**	⇑*e*P	**Pn**	**16 07 14.9**	**-0.7**
CUPR	**Culebra, Puert**	**1.13**	**158**	*e*S	**Sn**	**16 07 30.1**	**+0.2**
CUPR	**Culebra, Puert**	**1.13**	**158**		**Pn**	**16 07 14.9**	**-0.7**
CUPR					**Sn**	**16 07 30.1**	**+0.2**
CUPR	**Culebra, Puert**	**1.13**	**158**	IAML		16 07 31.7	
	comp=N,549nm,0.6s						
EMPR	**Esperanza - Ma**	**1.16**	**221**	⇑*e*P	**Pn**	**16 07 15.4**	**-0.5**
EMPR	**Esperanza - Ma**	**1.16**	**221**	*e*S	**Sn**	**16 07 33.6**	**+3.1**
EMPR	**Esperanza - Ma**	**1.16**	**221**		**Pn**	**16 07 15.4**	**-0.5**
EMPR					**Sn**	**16 07 33.6**	**+3.1**
EMPR	**Esperanza - Ma**	**1.16**	**221**	IAML		16 07 37.2	
	comp=N,647nm,0.7s						
EMPR				IAML		16 07 42.8	
	comp=E,721nm,0.6s						
STVI	**Saint Thomas**	**1.24**	**144**	⇓*e*P	**Pn**	**16 07 16.8**	**-0.4**
STVI	**Saint Thomas**	**1.24**	**144**	*e*S	**Sn**	**16 07 30.2**	**-2.4**
STVI	**Saint Thomas**	**1.24**	**144**		**Pn**	**16 07 16.8**	**-0.4**
STVI					**Sn**	**16 07 30.2**	**-2.4**
STVI	**Saint Thomas**	**1.24**	**144**	IAML		16 07 40.9	
	comp=N,413nm,0.4s						
STVI				IAML		16 07 47.1	
	comp=E,400nm,0.7s						
SJG	**San Juan**	**1.30**	**198**	*e*P	**Pn**	**16 07 17.3**	**-0.6**
SJG				*e*S	**Sn**	**16 07 34.5**	**+0.3**
SJG	**San Juan**	**1.30**	**198**		**Pn**	**16 07 17.2**	**-0.8**
SJG				IAML		16 07 36.9	
	comp=E,434nm,0.6s						
SJG				IAML		16 07 38.0	
	comp=E,314nm,0.6s						
PDPR	**Patillas Dam,**	**1.36**	**192**		**Pn**	**16 07 17.8**	**-0.9**
PDPR				IAML		16 07 38.7	
	comp=E,259nm,0.7s						
AOPR	**Arecibo Observ**	**1.40**	**224**	⇑*e*P	**Pn**	**16 07 18.7**	**-0.6**
AOPR	**Arecibo Observ**	**1.40**	**224**	*e*P	**Pn**	**16 07 17.5**	**-1.7**
AOPR				*e*S	**Sn**	**16 07 36.1**	**-0.4**
AOPR	**Arecibo Observ**	**1.40**	**224**		**Pn**	**16 07 18.2**	**-1.1**
AOPR	**Arecibo Observ**	**1.40**	**224**		**Sn**	**16 07 36.3**	**-0.2**
TBVI	**Tortola**	**1.41**	**131**	⇑*e*P	**Pn**	**16 07 18.9**	**-0.6**
TBVI	**Tortola**	**1.41**	**131**	*e*S	**Sn**	**16 07 38.0**	**+1.2**
IGPR	**InterUniversit**	**1.43**	**194**	⇑*e*P	**Pn**	**16 07 19.1**	**-0.6**
IGPR	**InterUniversit**	**1.43**	**194**	*e*S	**Sn**	**16 07 38.0**	**+0.7**
IGPR	**InterUniversit**	**1.43**	**194**	Pn	**Pn**	**16 07 19.5**	**-0.2**
OBIP	**Obispado Ponce**	**1.55**	**212**	⇑*e*P	**Pn**	**16 07 20.1**	**-1.2**
OBIP	**Obispado Ponce**	**1.55**	**212**	*e*S	**Sn**	**16 07 40.1**	**-0.1**
OBIP	**Obispado Ponce**	**1.55**	**212**		**Pn**	**16 07 20.1**	**-1.2**
OBIP					**Sn**	**16 07 40.1**	**-0.1**
OBIP	**Obispado Ponce**	**1.55**	**212**	IAML		16 07 50.3	
	comp=E,234nm,0.9s						
OBIP				IAML		16 07 56.6	
	comp=N,232nm,0.7s						
AGPR	**Aguadilla, PR**	**1.58**	**236**	⇑*e*P	**Pn**	**16 07 21.0**	**-0.7**
AGPR	**Aguadilla, PR**	**1.58**	**236**	*e*S	**Sn**	**16 07 41.9**	**+0.9**
AGPR	**Aguadilla, PR**	**1.58**	**236**		**Pn**	**16 07 21.0**	**-0.7**
AGPR					**Sn**	**16 07 41.9**	**+0.9**
AGPR	**Aguadilla, PR**	**1.58**	**236**	IAML		16 07 53.8	
	comp=N,250nm,0.7s						
ICMP	**Isla Caja de M**	**1.65**	**207**		**Pn**	**16 07 22.0**	**-0.7**
ICMP				IAML		16 07 56.4	
	comp=E,316nm,0.7s						
LSP	**Las Mesas**	**1.74**	**228**	⇑*e*P	**Pn**	**16 07 23.8**	**-0.2**
CDVI	**St. Croix**	**1.84**	**150**	*e*P	**Pn**	**16 07 26.9**	**+1.5**
CDVI				*e*S	**Sn**	**16 07 51.6**	**+4.2**
CDVI	**St. Croix**	**1.84**	**150**		**Pn**	**16 07 26.1**	**+0.7**
MLPR	**Magueyes Islan**	**1.86**	**222**	⇑*e*P	**Pn**	**16 07 25.4**	**-0.3**
MLPR	**Magueyes Islan**	**1.86**	**222**		**Pn**	**16 07 25.4**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.88**	**224**	⇑*e*P	**Pn**	**16 07 25.6**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.88**	**224**	*e*S	**Sn**	**16 07 49.1**	**+0.8**
CRPR	**Cabo Rojo, PR**	**1.88**	**224**		**Pn**	**16 07 25.6**	**-0.2**
CRPR					**Sn**	**16 07 49.1**	**+0.8**
IDE	**Isla Desecheo**	**1.91**	**240**	⇑*e*P	**Pn**	**16 07 25.9**	**-0.4**
IDE	**Isla Desecheo**	**1.91**	**240**	*e*S	**Sn**	**16 07 49.8**	**+0.6**
PCDR	**Punta Cana, DR**	**2.65**	**252**	Pn	**Pn**	**16 07 36.5**	**+0.1**
PCDR				IAML		16 08 42.1	
	comp=N,111nm,0.7s						
SMRT	**St. Maarten**	**2.83**	**117**	*e*P	**Pn**	**16 07 40.4**	**+1.4**
SMRT	**St. Maarten**	**2.83**	**117**		**Pn**	**16 07 38.5**	**-0.6**
SMRT				IAML		16 08 24.3	
	comp=N,108nm,0.5s						
SMRT				IAML		16 08 28.2	
	comp=E,168nm,0.3s						
DR12	**Loma Pena Alta**	**3.50**	**261**	Pn	**Pn**	**16 07 47.5**	**-0.7**
ANBD	**Bethesda, Anti**	**4.42**	**121**	*e*P	**Pn**	**16 08 00.4**	**-0.4**
ANBD	**Bethesda, Anti**	**4.42**	**121**	*e*S	**Sn**	**16 08 50.1**	**-0.9**
GRTK	**Grand Turk**	**5.50**	**294**	Pn	**Pn**	**16 08 13.4**	**-2.2**

JMA 22 16:10:00.4±0.1,24°.64N×122°.42E,h82km,M1.1,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.51**	**111**	P	Pn	16 10 14.5	+0.1
JYNG				S	Sn	16 10 24.8	0.0
YOJ	**Yonaguni jima**	**0.57**	**108**	P	Pn	16 10 15.0	+0.1
YOJ				*e*S	Sn	16 10 25.9	+0.2
IRIF	**Iriomote-Funau**	**1.23**	**104**	P	Pn	16 10 22.4	0.0
IRIF				*e*S	Sn	16 10 38.8	-0.1
JKRS	**Kuro-shima**	**1.50**	**105**	P	Pn	16 10 26.3	+0.5
JKRS				*e*S	Sn	16 10 45.4	+0.4
JIJ	**Ishigaki jima**	**1.59**	**100**	P	Pn	16 10 27.2	+0.2
JIJ				*e*S	Sn	16 10 45.8	-1.3
JISG	**Ishigakijimahi**	**1.72**	**91**	P	Pn	16 10 29.2	+0.5
JISG				*e*S	Sn	16 10 50.2	+0.1

TAP 22 16:10:19.0,23°.14N×121°.15E,h17km,ML1.1,1C,A,
Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECS	**Chishang**	**0.07**	**126**	⇑*i*P	Pg	16 10 22.6	+0.3
	baz=125						
ECS				S	Sg	16 10 25.4	+0.8
	baz=125						
ELDTW	**Lidau**	**0.14**	**292**	*i* P	Pb	16 10 23.8	+0.6
	baz=291						
ELDTW				S	Sb	16 10 25.9	-0.1
	baz=291						
FULB	**Fuli**	**0.14**	**65**	*i* P	Pb	16 10 23.7	+0.5
	baz=65						
FULB				S	Sb	16 10 26.9	+0.8
	baz=65						
CHKT	**Chengkung**	**0.20**	**101**	P	Pb	16 10 24.7	+0.5
	baz=101						
CHKT				*e*S	Sb	16 10 28.6	+0.9
	baz=101						
EDH	**Donghe**	**0.22**	**140**	P	Pb	16 10 24.8	+0.3
	baz=140						
EDH				*e*S	Sb	16 10 28.8	+0.7
	baz=140						
LONT	**Longtian**	**0.23**	**185**	*e*P	Pb	16 10 24.6	-0.2
	baz=185						
LONT				*e*S	Sb	16 10 29.6	+0.9
	baz=185						
TWF1	**Yuli**	**0.25**	**32**	*e*P	Pb	16 10 25.0	-0.1
	baz=33						
TWF1				*e*S	Sg	16 10 28.7	+0.1
	baz=33						
EYUL	**Yuli**	**0.26**	**36**	*e*P	Pb	16 10 25.6	+0.4
	baz=36						
EYUL				*e*S	Sb	16 10 30.2	+0.8
	baz=36						
YULB	**Yu-li**	**0.28**	**28**	*e*P	Pg	16 10 25.0	-0.3
	baz=27						
YULB				*e*S	Sg	16 10 29.3	-0.2
	baz=27						
TWG	**Pinlang**	**0.33**	**193**	*e*P	Pb	16 10 26.7	+0.3
	baz=191						
TWG				*e*S	Sb	16 10 31.6	+0.3
	baz=191						
TWGBT	**Beinan**	**0.33**	**192**	*e*P	Pb	16 10 26.6	+0.2
	baz=191						
TWGBT				*e*S	Sb	16 10 31.6	+0.2
	baz=191						
STYH	**Taoyuan**	**0.35**	**275**	*e*P	Pb	16 10 27.0	+0.3
	baz=275						
STYH				*e*S	Sb	16 10 33.2	+1.2
	baz=275						
TTN	**Taitung**	**0.38**	**181**	*e*P	Pb	16 10 27.4	+0.1
	baz=179						
TTN				*e*S	Sb	16 10 33.9	+1.0
	baz=179						
YUS	**Yu-Shan**	**0.40**	**332**	*e*P	Pb	16 10 28.6	+0.8
	baz=331						
YUS				*e*S	Sb	16 10 34.0	+0.2
	baz=331						
EHY	**Hungye**	**0.40**	**23**	*e*P	Pb	16 10 27.8	+0.2
	baz=24						
EHY				*e*S	Sg	16 10 33.0	+0.3
	baz=24						
HGSD	**Ruisui**	**0.43**	**35**	*e*P	Pb	16 10 28.3	+0.1
	baz=35						
HGSD				*e*S	Sn	16 10 36.6	-1.3
	baz=35						
ALS	**Alishan**	**0.49**	**319**	*e*P	Pb	16 10 30.1	+0.8
	baz=319						
ALS				*e*S	Sb	16 10 36.7	+0.4
	baz=319						
SLGT	**Liugui**	**0.49**	**253**	*e*P	Pg	16 10 29.0	+0.1
	baz=252						
SLGT				*e*S	Sb	16 10 36.9	+0.9
	baz=252						
WTP	**Ta-pu**	**0.51**	**282**	*e*P	Pg	16 10 28.1	-1.1
	baz=282						
WTP				*e*S	Sb	16 10 37.7	+1.1
	baz=282						
TPUB	**Ta-pu**	**0.51**	**289**	*e*P	Pb	16 10 30.0	+0.5
	baz=288						
TPUB				*e*S	Sb	16 10 37.6	+1.0
	baz=288						

*IDC **22** 16:11:41.4±1.2,31°.19S×72°.01W,h0km,mb3.6/3,*
mb1 3.6/6,mb1mx3.5/35,mbtmp3.5/6,ML3.5/3,MS3.3/1,
Ms1 3.3/1,ms1mx2.4/20,Error ellipse: s-maj=53.1km
s-min=25.4km az=96.0
*GUC **22** 16:11:45.0±0.6,31°.27S×71°.80W,h29km±5km,ML4.1*
ISC 22 16:11:43.7±3.0,31°.23S±0°.04×71°.88W±0°.08,h17km±20km,
n29,σ1§14/31,mb3.8/3,5C-4D,Near coast of central
Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.59**	**21**	⇓*i*P	**Pn**	**16 11 56.6**	**-0.8**
CO06				*e*S	**Sn**	**16 12 05.4**	**-1.2**
CO06				IAML		16 12 08.0	
	comp=E,10μm,0.2s						
CO03	**El Pedregal**	**1.10**	**70**	⇓*i*P	**Pb**	**16 12 03.7**	**-0.6**
CO03				*e*S	**Sb**	**16

H11S3	**WAKE ISLAND Hyl**	**25.91**	**271**	T	T	18 49 34.8	
	baz=116,slow=74,SNR=12						
H11N3	**WAKE ISLAND Hyl**	**26.24**	**273**	T	T	18 49 55.9	
	baz=116,slow=74,SNR=4.7						
H11N1	**WAKE ISLAND Hyl**	**26.25**	**273**	T	T	18 49 59.3	
	baz=116						
H11N2	**WAKE ISLAND Hyl**	**26.26**	**273**	T	T	18 50 00.1	
	baz=116,slow=74,SNR=6.9						
ZALV	**Zalesovo Beam**	**151.79**	**30**	PKPbc	**PKiKP**	**16 31 38.4**	**+1.0**
	comp=E,1.8nm,0.7s,baz=327,slow=4.2,SNR=6.9						

MEX 22 16:31:23.0±1.1, 19°40N×102°51W, h2km±14km, MD3.5, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COIG	**Colima**	**1.13**	**259**	*eP*	Pg	16 31 42.4	-2.3
COIG				*eS*	Sg	16 31 56.0	-3.5
MMIG	**Aquila**	**1.36**	**216**	*i* P	Pn	16 31 44.7	-4.3
MMIG				*i* S	Sg	16 32 02.4	-4.3
R15V		**1.41**	**261**	*eP*	Pn	16 31 45.6	-4.1
R15V				*eS*	Sg	16 32 04.2	-4.1
ARIG	**Puente Sto Nin**	**2.34**	**118**	*i* P	Pn	16 31 59.9	-2.6
ARIG				*i* S	Sn	16 32 27.1	-4.7

*NEIC **22** 16:31:32.4±2.7, 58°.45N±0°.05×156°.1W±0°.1, h202km±4km, Error ellipse: s-maj=11.5km s-min=7.6km az=99.0*
*ANF **22** 16:31:33.4±0.6, 58°.53N×155°.96W, h184km±6km, ML3.5/25, Error ellipse: s-maj=7.8km s-min=4.6km az=95.0*
*AEIC **22** 16:31:33±2.6, 58°.51N±0°.04×156°.1W±0°.1, h197km±4km, ML3.2, ML3.4/60(NEIC), Error ellipse: s-maj=11.1km s-min=5.3km az=98.0*

ISC 22 16:31:31.4±1.0, 58°.54N±0°.04×155°.99W±0°.05, h208km±7km, n199, σ1§97/224, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KELA	**Mount Kelaz**	**0.17**	**127**		**Pn**	**16 32 00.3**	**+1.6**
KVTA	**Katmai Vly 10**	**0.40**	**113**		**Pn**	**16 32 01.1**	**+2.1**
ANCK	**Angle Creek**	**0.43**	**142**		**Pn**	**16 32 01.3**	**+2.0**
ANCK					**Sn**	**16 32 20.0**	**-0.8**
KABU	**Katmai Buttres**	**0.46**	**126**		**Pn**	**16 31 59.4**	**0.0**
KABU					**Sn**	**16 32 19.8**	**-1.2**
KCE	**Katmai Mt Cerb**	**0.52**	**125**		**Pn**	**16 32 02.0**	**+2.5**
KJL	**Kejulik**	**0.54**	**155**		**Pn**	**16 32 01.3**	**+1.7**
KAKN	**Katmai Knife C**	**0.55**	**116**		**Pn**	**16 31 59.9**	**+0.2**
KAKN					**Sn**	**16 32 20.2**	**-1.3**
CAHL	**Cahill**	**0.61**	**143**		**Pn**	**16 32 02.0**	**+2.1**
KAWH	**Katmai**	**0.65**	**104**		**Pn**	**16 32 02.3**	**+2.3**
KABR	**Katmai Barrier**	**0.68**	**127**		**Pn**	**16 32 02.4**	**+2.2**
KABR					**Sn**	**16 32 21.5**	**-1.0**
PLK1	**Peulik 1**	**0.81**	**204**		**Pn**	**16 32 02.2**	**+1.4**
PLK3	**Peulik 3**	**0.87**	**190**		**Pn**	**16 32 02.9**	**+1.8**
Q19K	**Cape Douglas,**	**1.28**	**71**		**Pn**	**16 32 05.0**	**+1.0**
Q19K	comp=N,128nm,1.0s			IAML		16 32 30.4	
Q19K	comp=E,215nm,1.7s			IAML		16 32 32.5	
Q19K	**Cape Douglas,** baz=255,SNR=8.0	**1.28**	**71**	P	**Pn**	**16 32 05.0**	**+1.0**
Q19K	baz=255			S	**Sn**	**16 32 25.8**	**-3.6**
O18K	**Koktuh Hills**	**1.38**	**17**		**Pn**	**16 32 04.8**	**+0.1**
O18K	**Koktuh Hills**	**1.38**	**17**		**Sn**	**16 32 30.1**	**-0.7**
O18K	**Koktuh Hills** baz=198,SNR=5.1	**1.38**	**17**	P	**Pn**	**16 32 05.3**	**+0.6**
O18K	baz=198			S	**Sn**	**16 32 30.1**	**-0.7**
AUH	**Augustine H**	**1.56**	**57**		**Pn**	**16 32 08.3**	**+2.0**
AUL	**Augustine Lava**	**1.57**	**56**		**Pn**	**16 32 08.2**	**+1.9**
AUL					**Sn**	**16 32 33.9**	**+0.3**
P19K	**Oil Pt**	**1.81**	**51**		**Pn**	**16 32 10.6**	**+2.0**
P19K	**Oil Pt** comp=E,80nm,0.5s	**1.81**	**51**	IAML		16 32 41.6	
P19K	**Oil Pt** baz=234	**1.81**	**51**	S	**Sn**	**16 32 35.5**	**-2.1**
O19K	**Port Alsworth**	**1.87**	**27**	Pn	**Pn**	**16 32 10.0**	**+1.0**
O19K	comp=E,204nm,0.5s			IAML		16 32 39.9	
O19K	comp=N,125nm,0.5s			IAML		16 32 40.7	
O19K	**Port Alsworth** baz=209,SNR=5.7	**1.87**	**27**	P	**Pn**	**16 32 10.4**	**+1.3**
O19K	baz=209			S	**Sn**	**16 32 38.5**	**0.0**
OHAK	**Old Harbor**	**1.96**	**131**	Pn	**Pn**	**16 32 10.8**	**+0.8**
OHAK	comp=E,157nm,0.2s			IAML		16 32 40.1	
OHAK	comp=N,205nm,0.4s			IAML		16 32 40.5	
OHAK	**Old Harbor** baz=314	**1.96**	**131**	P	**Pn**	**16 32 10.9**	**+1.0**
OHAK	baz=314			S	**Sn**	**16 32 37.7**	**-2.3**
KDAK	**Kodiak Island**	**1.96**	**111**		**Pn**	**16 32 11.4**	**+1.4**
KDAK					**Sn**	**16 32 40.5**	**+0.4**
KDAK	**Kodiak Island** comp=N,188nm,0.2s	**1.96**	**111**	IAML		16 32 41.2	
KDAK	comp=N,166nm,0.3s			IAML		16 32 42.7	
KDAK	**Kodiak Island** baz=295	**1.96**	**111**	P	**Pn**	**16 32 11.2**	**+1.2**
KDAK	baz=295			S	**Sn**	**16 32 35.4**	**-4.7**
N18K	**Kilae Creek**	**2.15**	**1**		**Pn**	**16 32 12.8**	**+0.9**
SII	**Sitkinak Islan**	**2.21**	**153**		**Pn**	**16 32 13.3**	**+0.6**
SII	**Sitkinak Islan** baz=335,SNR=5.6	**2.21**	**153**	P	**Pn**	**16 32 13.3**	**+0.6**
SII	baz=335			S	**Sn**	**16 32 43.6**	**-1.2**
O20K	**Slope Mountain** baz=230	**2.32**	**47**	S	**Sn**	**16 32 46.6**	**-0.4**
N19K	**Bonanza Creek**	**2.41**	**18**		**Pn**	**16 32 16.4**	**+1.7**
N19K	**Bonanza Creek** baz=200	**2.41**	**18**	P	**Pn**	**16 32 16.5**	**+1.7**
N19K	baz=200			S	**Sn**	**16 32 48.9**	**+0.2**
RED	**Redoubt Volcan**	**2.50**	**40**		**Pn**	**16 32 17.8**	**+2.0**
HOM	**Homer** baz=246	**2.51**	**62**	S	**Sn**	**16 32 49.3**	**-1.1**
RDWB	**Redoubt West**	**2.53**	**38**		**Pn**	**16 32 18.0**	**+1.8**
RDWB					**Sn**	**16 32 52.6**	**+1.4**
RSO	**Redoubt South**	**2.54**	**39**	Pn	**Pn**	**16 32 18.0**	**+1.7**
SVW2	**Sparrevohn**	**2.57**	**4**		**Pn**	**16 32 17.6**	**+1.1**
CHGN	**Chignik**	**2.60**	**211**	Pn	**Pn**	**16 32 15.4**	**-1.4**
CHGN	comp=E,103nm,0.1s			IAML		16 33 00.4	
CHGN	comp=N,68nm,0.1s			IAML		16 34 07.1	
CNPM	**China Poot**	**2.65**	**66**		**Sn**	**16 32 53.2**	**-0.2**
CNPM	**China Poot**	**2.65**	**66**		**Pn**	**16 32 19.7**	**+2.3**
CNPM	comp=N,114nm,0.6s			IAML		16 32 54.0	
CNPM	comp=E,112nm,0.3s			IAML		16 32 56.8	
DFR	**Drift River**	**2.66**	**38**		**Pn**	**16 32 19.5**	**+2.0**
CHIR	**Chirikof Islan**	**2.73**	**176**	Pn	**Pn**	**16 32 17.8**	**-0.5**
CHIR	**Chirikof Islan** baz=356	**2.73**	**176**	P	**Pn**	**16 32 17.8**	**-0.5**
CHIR	baz=356			S	**Sn**	**16 32 52.8**	**-2.2**
BRLK	**Bradley Lake**	**2.90**	**63**		**Pn**	**16 32 21.7**	**+1.4**
BRLK	comp=E,118nm,0.5s			IAML		16 32 59.9	
BRLK	comp=N,163nm,0.1s			IAML		16 33 01.1	
BRSE	**Bradley Lake S**	**2.96**	**64**		**Pn**	**16 32 23.2**	**+2.3**
BRSE	**Bradley Lake S** baz=249	**2.96**	**64**	P	**Pn**	**16 32 23.4**	**+2.5**
BRSE	baz=249			S	**Sn**	**16 32 58.7**	**-1.0**
CKL	**Chakachamna La**	**3.24**	**33**		**Pn**	**16 32 26.6**	**+2.4**
BGL	**Barrier Glacie**	**3.28**	**32**		**Pn**	**16 32 27.5**	**+2.8**
SPCR	**Spurr Chakacha** baz=218	**3.28**	**34**	P	**Pn**	**16 32 26.7**	**+2.0**
SPCP	**Crater Peak Br**	**3.35**	**34**		**Pn**	**16 32 28.0**	**+2.4**
M19K	**Big River Lodg**	**3.47**	**13**		**Pn**	**16 32 28.4**	**+1.6**
M19K	**Big River Lodg** baz=194,SNR=6.0	**3.47**	**13**	P	**Pn**	**16 32 28.9**	**+2.0**
SLKM	**Skilak Lake**	**3.54**	**54**		**Pn**	**16 32 30.3**	**+2.5**
STLK	**Strandline Lak**	**3.63**	**33**		**Pn**	**16 32 31.4**	**+2.5**
L19K	**White Mountain**	**3.70**	**8**		**Pn**	**16 32 31.5**	**+1.9**
	baz=189,SNR=13						
L19K	baz=189			S	**Sn**	**16 33 16.9**	**+1.4**
SEW	**Seward**	**3.70**	**62**	Pn	**Pn**	**16 32 31.9**	**+2.3**
SEW	**Seward** baz=248	**3.70**	**62**	P	**Pn**	**16 32 31.9**	**+2.3**
SEW	baz=248			S	**Sn**	**16 33 13.7**	**-1.7**
O22K	**Cooper Landing**	**3.74**	**56**		**Pn**	**16 32 32.3**	**+2.2**
O22K	**Cooper Landing** baz=242	**3.74**	**56**	P	**Pn**	**16 32 32.6**	**+2.5**
O22K	baz=242			S	**Sn**	**16 33 14.4**	**-1.9**
SUA	**Susitna One**	**3.94**	**40**		**Pn**	**16 32 33.9**	**+1.1**
SUA	comp=N,51nm,1.5s			IAML		16 33 21.7	
SUA	comp=E,46nm,0.6s			IAML		16 33 22.5	
SUA	**Susitna One** baz=225	**3.94**	**40**	P	**Pn**	**16 32 34.6**	**+1.9**
SUA	baz=225			S	**Sn**	**16 33 20.4**	**-0.6**
SDPT	**Sand Point**	**4.03**	**219**	Pn	**Pn**	**16 32 32.6**	**-1.2**
SDPT	**Sand Point** baz=35	**4.03**	**219**	P	**Pn**	**16 32 32.5**	**-1.2**
RC01	**Rabbit Creek A**	**4.06**	**48**		**Pn**	**16 32 35.8**	**+1.7**
RC01	**Rabbit Creek A** baz=234	**4.06**	**48**	P	**Pn**	**16 32 35.8**	**+1.7**
RC01	baz=234			S	**Sn**	**16 33 21.6**	**-1.9**
L20K	**Farewell, AK**	**4.09**	**14**		**Pn**	**16 32 36.7**	**+2.3**
L20K	**Farewell, AK** baz=196,SNR=15	**4.09**	**14**	P	**Pn**	**16 32 36.8**	**+2.3**
SKT	**Skwentna**	**4.10**	**31**		**Pn**	**16 32 37.0**	**+2.4**
SKT	**Skwentna** comp=E,14nm,0.9s	**4.10**	**31**	IAML		16 33 28.9	
SKT	**Skwentna** baz=215,SNR=12	**4.10**	**31**	P	**Pn**	**16 32 37.0**	**+2.4**
SKT	baz=215			S	**Sn**	**16 33 24.1**	**-0.3**
CHNA	**Chernabura Isl** baz=26	**4.21**	**210**	P	**Pn**	**16 32 33.6**	**-2.4**
CNBA	**Chernabura Isl**	**4.22**	**210**	Pn	**Pn**	**16 32 33.6**	**-2.6**
CNBA	comp=E,38nm,2.4s			IAML		16 34 39.5	
CNBA	comp=N,52nm,2.9s			IAML		16 35 38.4	
TT01	**Tatalina**	**4.38**	**360**		**Pn**	**16 32 40.0**	**+2.0**
TTA	**Tatalina**	**4.41**	**360**		**Pn**	**16 32 40.2**	**+1.8**
TTA	**Tatalina** comp=N,11nm,3.6s	**4.41**	**360**	IAML		16 34 35.1	
PWL	**Port Wells**	**4.52**	**56**		**Pn**	**16 32 41.5**	**+1.6**
PMR	**Palmer**	**4.60**	**45**	Pn	**Pn**	**16 32 44.0**	**+3.2**
PMR	comp=E,24nm,0.5s			IAML		16 33 34.5	
PMR	comp=N,31nm,0.3s			IAML		16 33 35.4	
PMR	**Palmer** baz=232	**4.60**	**45**	P	**Pn**	**16 32 41.0**	**+0.3**
PMR	baz=232			S	**Sn**	**16 33 32.2**	**-3.3**
PPLA	**Purkeypile**	**4.75**	**22**		**Pn**	**16 32 46.5**	**+3.7**
PPLA	**Purkeypile** baz=205,SNR=7.4	**4.75**	**22**	P	**Pn**	**16 32 46.4**	**+3.5**
KNK	**Knik Glacier**	**4.76**	**50**		**Pn**	**16 32 44.1**	**+1.4**
KNK	comp=E,41nm,0.3s			IAML		16 33 39.1	
KNK	comp=N,42nm,0.3s			IAML		16 33 41.6	
KNK	**Knik Glacier** baz=236	**4.76**	**50**	S	**Sn**	**16 33 36.4**	**-2.8**
GHO	**Glory Hole Cre**	**4.79**	**44**	Pn	**Pn**	**16 32 43.8**	**+0.5**
GHO	comp=N,36nm,0.5s			IAML		16 33 39.5	
CUT	**Chulitna**	**4.80**	**34**	Pn	**Pn**	**16 32 44.3**	**+1.1**
DT1	**Dutton Round H**	**4.88**	**228**		**Pn**	**16 32 44.6**	**+0.3**
K20K	**Telida**	**4.92**	**10**		**Pn**	**16 32 46.7**	**+1.9**
K20K	**Telida** comp=E,8.7nm,2.7s	**4.92**	**10**	IAML		16 34 35.5	
K20K	comp=N,10nm,2.9s			IAML		16 35 00.0	
K20K	**Telida** baz=192,SNR=11	**4.92**	**10**	P	**Pn**	**16 32 46.8**	**+1.9**
SML	**Sawmill**	**5.04**	**46**	Pn	**Pn**	**16 32 46.7**	**+0.3**
SML	comp=N,23nm,0.7s			IAML		16 33 46.5	
SML	comp=E,23nm,0.6s			IAML		16 33 50.5	
SML	**Sawmill** baz=233	**5.04**	**46**	P	**Pn**	**16 32 46.7**	**+0.3**
SML	baz=233			S	**Sn**	**16 33 42.2**	**-3.4**
GLI	**Glacier Island**	**5.08**	**59**		**Pn**	**16 32 48.4**	**+1.6**
GLI	**Glacier Island** baz=247	**5.08**	**59**	P	**Pn**	**16 32 48.2**	**+1.3**
GLI	baz=247			S	**Sn**	**16 33 43.2**	**-3.2**
HIN	**Hinchinbrook I**	**5.18**	**65**	Pn	**Pn**	**16 32 50.7**	**+2.5**
CAST	**Castle Rocks**	**5.25**	**20**	Pn	**Pn**	**16 32 51.0**	**+2.1**
CAST	**Castle Rocks** baz=203,SNR=5.1	**5.25**	**20**	P	**Pn**	**16 32 51.1**	**+2.1**
FID	**Port Fidalgo**	**5.31**	**61**		**Pn**	**16 32 51.4**	**+1.6**
SCM	**Sheep Creek Mo**	**5.44**	**49**		**Pn**	**16 32 52.6**	**+1.1**
EYAK	**Cordova Ski Ar**	**5.59**	**65**	Pn	**Pn**	**16 32 55.4**	**+2.2**
EYAK	**Cordova Ski Ar** baz=254	**5.59**	**65**	P	**Pn**	**16 32 55.5**	**+2.2**
EYAK	baz=254			S	**Sn**	**16 33 56.0**	**-2.1**
KTH	**Kantishna Hill**	**5.60**	**24**		**Pn**	**16 32 54.6**	**+1.1**
WAT1	**Susitna Watana**	**5.64**	**37**		**Pn**	**16 32 55.0**	**+0.9**
WAT1	**Susitna Watana** baz=224	**5.64**	**37**	P	**Pn**	**16 32 54.6**	**+0.5**
CHUM	**Lake Minchumin** baz=200,SNR=9.0	**5.65**	**17**	P	**Pn**	**16 32 55.6**	**+1.5**
TRF	**Thorofare Moun**	**5.65**	**27**		**Pn**	**16 32 55.0**	**+0.7**
TRF	**Thorofare Moun** baz=212	**5.65**	**27**	P	**Pn**	**16 32 55.3**	**+1.0**
TRF	baz=212			S	**Sn**	**16 33 58.3**	**-1.6**
J20K	**Nowinta River**	**5.73**	**8**		**Pn**	**16 32 56.9**	**+1.9**
J20K	**Nowinta River** baz=190,SNR=23	**5.73**	**8**	P	**Pn**	**16 32 57.0**	**+2.0**
WAT6	**Susitna Watana** baz=229	**5.74**	**42**	P	**Pn**	**16 32 55.7**	**+0.3**
WAT6	baz=229			S	**Sn**	**16 33 58.6**	**-3.4**
DIV	**Divide**	**5.77**	**59**		**Pn**	**16 32 58.2**	**+2.5**
KLU	**Klutina**	**5.85**	**55**		**Pn**	**16 32 58.8**	**+2.0**
KLU	**Klutina** baz=244,SNR=27	**5.85**	**55**	P	**Pn**	**16 32 59.0**	**+2.2**
KLU	baz=244			S	**Sn**	**16 34 01.6**	**-2.8**
RND	**Reindeer**	**5.99**	**32**	Pn	**Pn**	**16 32 59.7**	**+1.2**
M24K	**Tolsona, Glenn**	**6.05**	**50**		**Pn**	**16 33 00.7**	**+1.5**
M24K	**Tolsona, Glenn** baz=238,SNR=7.9	**6.05**	**50**	P	**Pn**	**16 33 01.1**	**+1.9**
M24K	baz=238			S	**Sn**	**16 34 07.3**	**-1.6**
BPAW	**Bear Paw Mtn.**	**6.08**	**21**	Pn	**Pn**	**16 33 00.0**	**+0.5**
BPAW	**Bear Paw Mtn.** baz=206	**6.08**	**21**	P	**Pn**	**16 33 00.2**	**+0.7**
DHY	**Denali Highway**	**6.20**	**39**		**Pn**	**16 33 01.6**	**+0.3**
DHY	**Denali Highway** baz=227	**6.20**	**39**	P	**Pn**	**16 33 01.9**	**+0.6**
MCK	**McKinley**	**6.23**	**30**	Pn	**Pn**	**16 33 02.5**	**+1.0**
MCK	**McKinley** baz=217	**6.23**	**30**	P	**Pn**	**16 33 02.3**	**+0.8**
BMRM	**Bremner River**	**6.25**	**62**		**Pn**	**16 33 04.0**	**+2.1**
BMRM	**Bremner River** baz=252	**6.25**	**62**	P	**Pn**	**16 33 03.8**	**+2.0**
HMT	**Hamilton**	**6.25**	**68**	Pn	**Pn**	**16 33 04.7**	**+2.8**
SUCK	**Suckling Hills**	**6.44**	**71**	Pn	**Pn**	**16 33 07.5**	**+3.2**
BWN	**Browne**	**6.46**	**26**	Pn	**Pn**	**16 33 05.6**	**+1.1**
N25K	**Chitina, Valde**	**6.48**	**57**		**Pn**	**16 33 07.4**	**+2.6**
N25K	**Chitina, Valde** baz=247,SNR=8.6	**6.48**	**57**	P	**Pn**	**16 33 07.7**	**+2.9**
BERG	**Berg Lake**	**6.53**	**68**		**Pn**	**16 33 08.6**	**+3.1**
HARP	**HAARP**	**6.61**	**50**		**Pn**	**16 33 09.2**	**+2.8**
HARP	**HAARP** baz=239	**6.61**	**50**	P	**Pn**	**16 33 09.4**	**+3.0**
KHIT	**Khitrov Hills**	**6.76**	**68**		**Pn**	**16 33 11.8**	**+3.2**
GLB	**Gilahina Butte**	**6.77**	**59**		**Pn**	**16 33 11.5**	**+3.0**
PAX	**Paxson**	**6.80**	**45**		**Pn**	**16 33 10.2**	**+1.2**
PAX	**Paxson** baz=234	**6.80**	**45**	P	**Pn**	**16 33 10.2**	**+1.2**
VRDI	**Verde Repeater**	**6.86**	**62**		**Pn**	**16 33 12.8**	**+2.9**
CRQM	**Cirque**	**6.88**	**66**		**Pn**	**16 33 13.1**	**+2.9**
CRQE	**Cirque** baz=257,SNR=5.3	**6.90**	**66**	P	**Pn**	**16 33 13.3**	**+2.9**
NEA2	**Nenana**	**6.91**	**26**	Pn	**Pn**	**16 33 09.9**	**-0.4**
NEA2	**Nenana** baz=212	**6.91**	**26**	P	**Pn**	**16 33 10.0**	**-0.3**
I21K	**Tanana**	**6.93**	**14**		**Pn**	**16 33 12.3**	**+1.9**
I21K	**Tanana** baz=198,SNR=13	**6.93**	**14**	P	**Pn**	**16 33 12.5**	**+2.1**
WAX	**Waxell Ridge**	**6.96**	**68**		**Pn**	**16 33 14.4**	**+3.4**
MLY	**Manley**	**6.97**	**19**	Pn	**Pn**	**16 33 10.9**	**-0.2**
MLY	**Manley** baz=203	**6.97**	**19**	P	**Pn**	**16 33 11.2**	**+0.1**
TGL	**Tana Glacier**	**7.03**	**66**		**Pn**	**16 33 15.5**	**+3.5**
WRH	**Wood River Hil**	**7.04**	**29**		**Pn**	**16 33 11.9**	**-0.1**
MCARA	**McCarthy VSAT**	**7.11**	**61**	Pn	**Pn**	**16 33 16.1**	**+3.2**
MCARA	**McCarthy VSAT** baz=252	**7.11**	**61**	P	**Pn**	**16 33 16.1**	**+3.2**
ISLE	**Juniper Island**	**7.24**	**68**	Pn	**Pn**	**16 33 17.9**	**+3.2**
CCB	**Clear Creek Bu**	**7.26**	**29**	Pn	**Pn**	**16 33 14.3**	**-0.5**
H21K	**Melozitna Rive**	**7.30**	**10**		**Pn**	**16 33 17.1**	**+1.8**
H21K	**Melozitna Rive** baz=193,SNR=16	**7.30**	**10**	P	**Pn**	**16 33 17.3**	**+2.0**
HDA	**Harding Lake**	**7.30**	**32**		**Pn**	**16 33 15.1**	**-0.3**
HDA	**Harding Lake** baz=221,SNR=10	**7.30**	**32**	P	**Pn**	**16 33 15.7**	**+0.3**
I23K	**Minto, Yukon-K**	**7.33**	**22**	Pn	**Pn**	**16 33 15.4**	**-0.3**
I23K	**Minto, Yukon-K** baz=208	**7.33**	**22**	P	**Pn**	**16 33 15.5**	**-0.2**
MDM	**Murphy Dome**	**7.41**	**26**	Pn	**Pn**	**16 33 16.4**	**-0.4**
YAH	**Yahtse**	**7.49**	**70**	Pn	**Pn**	**16 33 21.7**	**+3.7**
M26K	**Nabesna, AK**	**7.49**	**53**	Pn	**Pn**	**16 33 20.8**	**+2.9**
M26K	**Nabesna, AK** baz=245	**7.49**	**53**	P	**Pn**	**16 33 20.9**	**+3.0**
RIDG	**Independent Ri**	**7.50**	**41**	Pn	**Pn**	**16 33 19.8**	**+1.8**
RIDG	**Independent Ri** baz=231	**7.50**	**41**	P	**Pn**	**16 33 19.4**	**+1.5**
UNV	**Unalaska Valle**	**7.51**	**236**	Pn	**Pn**	**16 33 16.6**	**-1.6**
GRNC	**Granite Creek**	**7.54**	**67**	Pn	**Pn**	**16 33 19.9**	**+1.2**
IMAR	**Indian Mountai**	**7.54**	**7**	Pn	**Pn**	**16 33 20.1**	**+1.6**
IL31		**7.60**	**31**	Pn	**Pn**	**16 33 19.1**	**0.0**
ILAR	**Eielson Array**	**7.60**	**31**	Pn	**Pn**	**16 33 19.1**	**-0.1**
BARN	**Barnard Glacie**	**7.66**	**65**		**Pn**	**16 33 23.8**	**+3.6**
DOT	**Dot Lake**	**7.72**	**43**	Pn	**Pn**	**16 33 22.1**	**+1.4**
POKR	**Poker Plat Res**	**7.74**	**28**	Pn	**Pn**	**16 33 21.4**	**+0.4**
CTGM	**Chitina Glacie**	**7.79**	**66**		**Pn**	**16 33 25.1**	**+3.3**
TABL	**Table Mountain**	**7.79**	**70**	Pn	**Pn**	**16 33 25.9**	**+3.9**
H23K	**Yukon River**	**7.90**	**20**	Pn	**Pn**	**16 33 22.2**	**-1.0**
H23K	**Yukon River** baz=206	**7.90**	**20**	P	**Pn**	**16 33 22.9**	**-0.3**
J25K	**Salcha River,** baz=225,SNR=16	**7.92**	**35**	P	**Pn**	**16 33 23.4**	**0.0**
LOGN	**Logan Glacier**	**7.92**	**67**	Pn	**Pn**	**16 33 27.1**	**+3.5**
SCRK	**Sand Creek**	**7.94**	**42**	Pn	**Pn**	**16 33 24.6**	**+0.9**
SCRK	**Sand Creek** baz=232	**7.94**	**42**	P	**Pn**	**16 33 24.7**	**+0.9**
M27K	**Edge Creek, AK**	**7.95**	**55**	Pn	**Pn**	**16 33 26.2**	**+2.3**
M27K	**Edge Creek, AK** baz=248	**7.95**	**55**	P	**Pn**	**16 33 27.1**	**+3.2**
PCA	**Pinnacle**	**8.20**	**72**	Pn	**Pn**	**16 33 30.8**	**+3.7**
H24K	**Noodor Dome**	**8.24**	**24**	Pn	**Pn**	**16 33 26.2**	**-1.3**
L27K	**Beaver Creek,**	**8.27**	**51**	Pn	**Pn**	**16 33 29.4**	**+1.5**
L27K	**Beaver Creek,** baz=243	**8.27**	**51**	P	**Pn**	**16 33 30.6**	**+2.6**
BCAR	**Beaver Creek A**	**8.29**	**51**	Pn	**Pn**	**16 33 30.3**	**+2.1**
YUK3	**Moose Creek** baz=254	**8.39**	**61**	P	**Pn**	**16 33 33.1**	**+3.3**
J26L	**Joseph Creek** baz=231	**8.41**	**40**	P	**Pn**	**16 33 30.9**	**+1.0**
YKU2	**Yakutat**	**8.48**	**76**	Pn	**Pn**	**16 33 32.5**	**+2.0**
PRP	**Porcupine Dome**	**8.54**	**31**	Pn	**Pn**	**16 33 29.9**	**-1.7**
K27K	**Chicken**	**8.66**	**45**	Pn	**Pn**	**16 33 34.0**	**+1.1**
COLD	**Coldfoot**	**9.11**	**14**	Pn	**Pn**	**16 33 38.7**	**0.0**
EGAK	**Eagle**	**9.41**	**42**	Pn	**Pn**	**16 33 42.2**	**-0.4**
BMAR	**Burnt Mountain**	**10.30**	**25**	Pn	**Pn**	**16 33 51.9**	**-2.2**
EPYK	**Eagle Plains**	**11.83**	**40**	Pn	**Pn**	**16 34 14.7**	**+1.0**
ATKA	**Atka Island**	**12.12**	**246**	P	**P**	**16 34 23.2**	**+1.5**

*IDC **22** 16:35:16.2±5.2, 30°.20S×177°.82W, h52km±36km, mb3.8/3, mb1 4.0/3, mb1mx3.5/25, mbtmp4.1/3, MS3.3/3, Ms1 3.3/3, ms1mx2.8/24, Error ellipse: s-maj=63.2km s-min=29.5km az=133.0*
*NEIC **22** 16:35:20.0±1.3, 29°.84S±0°.09×178°.0W±0°.3, h67km±13km, mb4.2/9, Error ellipse: s-maj=33.1km s-min=12.5km az=85.0*

ISC 22 16:35:18.5±0.8, 30°.02S±0°.08×178°.1W±0°.2, h50km, n21, σ1§43/19, mb4.2/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.79**	**14**	P	**Pn**	**16 35 33.1**	**-0.3**
RAO	132nm,0.3s,baz=134,slow=17,SNR=9.3			S	**Sn**	**16 35 46.5**	**+2.3**
RAO	**Raoul Island** 526nm,0.3s,baz=41,slow=19,SNR=8.2	**0.79**	**14**	Pn	**Pn**	**16 35 33.0**	**-0.3**
RAO				Sn	**Sn**	**16 35 43.7**	**-0.5**
BKZ	**Black Stump Fm**	**10.14**	**204**		Pn	16 37 30.6	-11
PLWZ	**Palliser**	**12.71**	**203**	Pn	**Pn**	**16 38 15.7**	**-0.8**
THZ	**Tophouse**	**13.78**	**209**	Pn	**Pn**	**16 38 30.1**	**-1.1**
DZM	**Mont Dzumac** comp=Z,90nm,19.7s,baz=41,slow=32	**15.94**	**296**	LR	LR	16 43 52.0	
RAR	**Rarotonga** comp=Z,57nm,21.3s,baz=260,slow=30	**18.72**	**66**	LR	LR	16 44 25.9	
CTAO	**Charters Tower**	**33.62**	**279**	P	**P**	**16 41 56.5**	**+2.1**
STKA	**Stephens Creek** 5.4nm,1.0s,baz=110,slow=9.6,SNR=5.9	**34.45**	**256**	P	**P**	**16 42 02.1**	**+0.7**
STKA	comp=Z,104nm,18.1s,baz=203,slow=33			LR	LR	16 54 31.6	
STKA	**Stephens Creek** comp=Z,1.7nm,1.1s	**34.45**	**256**	IAmb	IAmb	16 42 03.4	
AS31	**Alice Springs**	**43.01**	**267**	P	**P**	**16 43 12.6**	**-0.7**
ASAR	**Alice Springs** comp=Z,0.4nm,0.5s,baz=105,slow=7.3,SNR=22	**43.01**	**267**	P	**P**	**16 43 12.3**	**-1.0**
WR0	**Warramunga Arr**	**43.78**	**272**	P	**P**	**16 43 19.3**	**-0.2**
WR0	comp=Z,9.3nm,1.3s			IAmb	IAmb	16 43 45.7	
WB2	**Warramunga Arr** comp=Z,9.7nm,1.4s	**43.95**	**272**	P	**P**	**16 43 20.0**	**-0.9**
WB2				IAmb	IAmb	16 43 45.3	
WRA	**Warramunga Arr** comp=Z,1.1nm,0.2s,baz=110,slow=8.1,SNR=41	**43.96**	**272**	P	**P**	**16 43 20.2**	**-0.8**
VNDA	**Vanda**	**48.47**	**186**	P	**P**	**16 43 56.6**

PTEO	**Sao Teotonio**	**2.75**	**65**	*eP*	**Pb**	**16 43 10.7**	**-1.1**
PTEO				*eS*	**Sn**	**16 43 38.8**	**-1.2**
PTEO				A	A	16 43 41.3	
	12nm,0.4s						
PNCL	**Nicolau / Gran**	**3.15**	**57**	P	**Pn**	**16 43 16.2**	**+4.0**
PNCL				S	**Sn**	**16 43 48.5**	**-1.3**
	5.1nm,0.2s						
PNCL	**Nicolau / Gran**	**3.15**	**57**	*eP*	**Pn**	**16 43 16.2**	**+4.0**
PNCL				*eS*	**Sn**	**16 43 48.5**	**-1.3**
PNCL				A	A	16 43 53.6	
	5.1nm,0.2s						
MESJ	**Messejana**	**3.23**	**63**	P	**Pb**	**16 43 18.5**	**-1.6**
MESJ				S	**Sn**	**16 43 50.1**	**-1.8**
MESJ	**Messejana**	**3.23**	**63**	*eP*	**Pb**	**16 43 18.5**	**-1.6**
MESJ				*eS*	**Sn**	**16 43 50.1**	**-1.8**
PMAFR	**Mafra**	**3.25**	**38**	P	**Pn**	**16 43 17.2**	**+3.5**
	2.1nm,0.1s,SNR=6.4						
PMAFR				S	**Sn**	**16 43 50.1**	**-2.3**
	15nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**3.25**	**38**	*eP*	**Pn**	**16 43 17.4**	**+3.8**
PMAFR				*eS*	**Sn**	**16 43 51.3**	**-1.1**
PMAFR				A	A	16 43 53.3	
	14nm,0.2s						
PCVE	**Castro Verde**	**3.29**	**67**	P	**Pn**	**16 43 18.1**	**+4.0**
PCVE				S	**Sn**	**16 43 51.5**	**-1.7**
	5.3nm,0.8s						
PCVE	**Castro Verde**	**3.29**	**67**	*eP*	**Pn**	**16 43 18.1**	**+4.0**
PCVE				*eS*	**Sn**	**16 43 51.5**	**-1.7**
PCVE				A	A	16 43 54.1	
	5.3nm,0.8s						
PVAQ	**Vaqueiros**	**3.46**	**72**	P	**Pn**	**16 43 20.5**	**+4.0**
PVAQ				S	**Sn**	**16 43 56.3**	**-1.2**
	5.5nm,0.3s						
PVAQ	**Vaqueiros**	**3.46**	**72**	*eP*	**Pn**	**16 43 20.5**	**+4.0**
PVAQ				*eS*	**Sn**	**16 43 56.3**	**-1.2**
PVAQ				A	A	16 43 58.5	
	5.5nm,0.3s						
PVAQ	**Vaqueiros**	**3.46**	**72**	P	**Pn**	**16 43 20.1**	**+3.6**
PVAQ				S	**Sn**	**16 43 57.2**	**-0.3**
PBEJ	**Beja**	**3.57**	**62**	S	**Sn**	**16 43 58.1**	**-2.0**
PBEJ	**Beja**	**3.57**	**62**	*eS*	**Sn**	**16 43 58.1**	**-2.0**
EGRO	**El Granado**	**3.67**	**71**	P	**Pn**	**16 43 24.0**	**+4.6**
	0.7nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**16 44 00.3**	**-2.5**
	2.4nm,0.1s,SNR=7.9						
EVO	**Evora**	**3.71**	**54**	S	**Sn**	**16 44 02.4**	**-1.4**
EVO	**Evora**	**3.71**	**54**	*eS*	**Sn**	**16 44 02.4**	**-1.4**
PMTG	**Montargil**	**3.91**	**46**	P	**Pn**	**16 43 26.1**	**+3.5**
PMTG				S	**Sn**	**16 44 06.9**	**-1.7**
	3.1nm,0.4s						
PMTG	**Montargil**	**3.91**	**46**	*eP*	**Pn**	**16 43 26.1**	**+3.5**
PMTG				*eS*	**Sn**	**16 44 06.9**	**-1.7**
PMTG				A	A	16 44 11.0	
	3.1nm,0.4s						
PSBE	**So Bento**	**3.92**	**37**	*eP*	**Pn**	**16 43 26.7**	**+3.8**
PSBE				*eS*	**Sn**	**16 44 08.9**	**-0.1**
PSBE				A	A	16 44 12.7	
	12nm,0.5s						
PESTR	**Estremoz**	**4.18**	**53**	*eS*	**Sn**	**16 44 13.4**	**-1.8**
EMIN	**Mina Concepcio**	**4.36**	**70**	P	**Pn**	**16 43 33.0**	**+4.1**
	0.5nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**16 44 17.2**	**-2.5**
	1.7nm,0.1s,SNR=7.9						
PCAS	**Casmilo, Conde**	**4.49**	**35**	P	**Pn**	**16 43 34.3**	**+3.7**
PCAS				S	**Sn**	**16 44 21.3**	**-1.6**
	4.5nm,0.6s						
PCAS	**Casmilo, Conde**	**4.49**	**35**	*eP*	**Pn**	**16 43 34.3**	**+3.7**
PCAS				*eS*	**Sn**	**16 44 21.3**	**-1.6**
PCAS				A	A	16 44 41.6	
	4.5nm,0.6s						
EBAD	**Badajoz**	**4.50**	**57**	P	**Pn**	**16 43 34.7**	**+3.9**
	0.7nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**16 44 20.4**	**-2.7**
	4.5nm,0.2s,SNR=7.9						
PMRV	**Marv??o**	**4.63**	**48**	P	**Pn**	**16 43 35.8**	**+3.1**
PMRV				S	**Sn**	**16 44 23.4**	**-3.1**
	2.1nm,0.6s						
PMRV	**Marv??o**	**4.63**	**48**	*eP*	**Pn**	**16 43 35.8**	**+3.1**
PMRV				*eS*	**Sn**	**16 44 23.4**	**-3.1**
PMRV				A	A	16 44 25.2	
	2.1nm,0.6s						
PCBR	**Castelo Branco**	**4.86**	**44**	P	**Pn**	**16 43 39.7**	**+4.0**
PCBR				S	**Sn**	**16 44 29.7**	**-2.2**
PCBR	**Castelo Branco**	**4.86**	**44**	*eP*	**Pn**	**16 43 39.7**	**+4.0**
PCBR				*eS*	**Sn**	**16 44 29.7**	**-2.2**
ZHG	**ZHG**	**5.21**	**123**	P	**Pn**	**16 43 41.3**	**+0.7**
PVIS	**Viseu**	**5.29**	**35**	P	**Pn**	**16 43 45.2**	**+3.5**
PVIS	**Viseu**	**5.29**	**35**	*eP*	**Pn**	**16 43 45.2**	**+3.5**
ECAB	**El Cabril**	**5.40**	**70**	P	**Pn**	**16 43 47.0**	**+3.9**
	0.3nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**16 44 41.4**	**-3.9**
	1.0nm,0.2s,SNR=5.6						
EPLA	**Plasencia**	**5.82**	**50**	P	**Pn**	**16 43 52.8**	**+3.8**
	0.3nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**16 44 52.0**	**-3.9**
	1.7nm,0.2s,SNR=7.9						
POLO	**Lamas de Olo**	**5.87**	**31**	S	**Sn**	**16 44 53.7**	**-3.5**
	1.6nm,0.5s						
POLO	**Lamas de Olo**	**5.87**	**31**	*eS*	**Sn**	**16 44 53.7**	**-3.5**
POLO				A	A	16 44 56.0	
	1.6nm,0.5s						
MVO	**Moncorvo**	**6.05**	**37**	P	**Pn**	**16 43 55.4**	**+3.2**
	0.9nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**16 44 57.6**	**-4.0**
	1.7nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**6.05**	**37**	*eP*	**Pn**	**16 43 55.6**	**+3.4**
MVO				*eS*	**Sn**	**16 44 57.7**	**-3.9**
EADA	**Adamuz**	**6.06**	**71**	P	**Pn**	**16 43 56.6**	**+4.4**
	0.3nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**16 44 57.2**	**-4.5**
	0.8nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**6.07**	**28**	P	**Pn**	**16 43 55.8**	**+3.5**
PCAB				S	**Sn**	**16 44 58.6**	**-3.2**
PCAB	**Cabril**	**6.07**	**28**	*eP*	**Pn**	**16 43 55.8**	**+3.5**
PCAB				*eS*	**Sn**	**16 44 58.6**	**-3.2**
OUK	**Oukaimeden**	**6.17**	**146**	P	**Pn**	**16 43 57.2**	**+3.2**
ELOB	**Lobios**	**6.19**	**27**	P	**Pn**	**16 43 57.5**	**+3.4**
	5.5nm,1.1s,SNR=5.6						
ELOB				S	**Sn**	**16 45 00.8**	**-4.1**
	2.8nm,0.1s,SNR=5.6						
PGAV	**Gavieira, Arco**	**6.20**	**26**	P	**Pn**	**16 43 58.2**	**+4.0**
PGAV				S	**Sn**	**16 45 01.8**	**-3.4**
PGAV	**Gavieira, Arco**	**6.20**	**26**	*eP*	**Pn**	**16 43 58.2**	**+4.0**
PGAV				*eS*	**Sn**	**16 45 01.8**	**-3.4**
EZAM	**Zamans**	**6.22**	**22**	S	**Sn**	**16 45 00.4**	**-5.3**
	SNR=7.9						
EGOR	**Sierra Gorda,**	**6.26**	**81**	S	**Sn**	**16 45 03.2**	**-3.5**
	0.8nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**6.69**	**35**	S	**Sn**	**16 45 14.4**	**-2.7**
PBRG	**Braganca**	**6.69**	**35**	*eS*	**Sn**	**16 45 14.4**	**-2.7**
PAB	**San Pablo**	**6.70**	**60**	P	**Pn**	**16 44 05.4**	**+4.3**
	0.1nm,0.1s,SNR=4.0						
PAB				S	**Sn**	**16 45 13.1**	**-4.5**
	0.2nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**6.80**	**34**	S	**Sn**	**16 45 15.8**	**-4.1**
	1.7nm,0.2s,SNR=7.9						
MD31	**MD31**	**6.84**	**119**	P	**Pn**	**16 44 06.6**	**+3.6**
EMAZ	**Mazaricos**	**6.89**	**18**	S	Sn	16 45 15.2	-6.9
	2.7nm,0.1s,SNR=7.9						
MDT	**Midelt**	**6.97**	**119**	P	**Pn**	**16 44 06.8**	**+1.9**
TZRR	**Tazzarine**	**7.69**	**135**	P	**Pn**	**16 44 18.2**	**+3.5**
JBK	**JBK**	**7.87**	**103**	P	**Pn**	**16 44 18.0**	**+0.7**

IDC 22 16:44:01.8±838.0, 53°.15N×33°.64E, h0km, Error ellipse: s-maj=339.7km s-min=91.0km az=33.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON 4.13**		**29**	*i*		17 10 50.0	
	baz=212,slow=318,SNR=1.6						
I31KZ	**AKTYUBINSK INF 15.33**		**91**	*i*		18 14 50.0	
	baz=291,slow=321,SNR=3.7						
I46RU	**ZALESOVO INFRA29.88**		**68**	*i*		19 47 30.0	
	baz=290,slow=320,SNR=2.5						

*SJA **22** 16:45:05.0, 32°.28S×72°.80W, h10km, ML5.3*
*IDC **22** 16:45:06.8±1.5, 32°.17S×72°.14W, h0km, mb4.2/3, mb1 4.0/7, mb1mx3.9/24, mbtmp3.9/7, ML3.9/4, MS3.6/4, Ms1 3.6/4, ms1mx3.1/23, Error ellipse: s-maj=59.2km s-min=22.9km az=109.0*
*NEIC **22** 16:45:06.7±1.8, 32°.20S±0°.04×72°.36W±0°.07, h10km±1km, mb4.4/5, Mwr4.1/36, ML4.4(GUC), Error ellipse: s-maj=10.3km s-min=5.7km az=259.0*
*NEIC **22** 16:45:06.3, 32°.17S×72°.39W, h15km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.00; $M_{\theta\theta}$0.22; $M_{\phi\phi}$-1.22; $M_{r\theta}$-0.14; $M_{\theta\phi}$-0.49; $M_{\phi r}$-1.25; Fault plane solution: $M_0$1.76000×10^{15} NP1:ϕs31.44000°, δ23.01000°, λ112.22000°. NP2:ϕs187.50000°, δ68.78000°, λ80.87000°. Principal axes: T 1.5623, Plg65.0000°, Azm82.0000°; N 0.3380, Plg9.0000°, Azm191.0000°; P -1.9004, Plg23.0000°, Azm285.0000°;*
*GUC **22** 16:45:07.9±0.8, 32°.17S×72°.27W, h41km±4km, ML4.4*

ISC 22 16:45:05.6±1.7, 32°.19S±0°.04×72°.37W±0°.06, h2km±10km, n83, σ1s06/81, mb4.3/5, MS3.7/3, 5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.98**	**113**	⇓*i* P	**Pg**	**16 45 24.8**	**+0.3**
VA06				*i* S	**Sg**	**16 45 36.8**	**-0.5**
VA06				IAML		16 45 39.6	
	comp=E,32μm,0.6s						
VA01	**Torpederas**	**1.03**	**144**	⇓*i* P	**Pg**	**16 45 26.1**	**+0.6**
VA01				*i* S	**Sg**	**16 45 39.1**	**+0.2**
VA01	**Torpederas**	**1.03**	**144**		**Pg**	**16 45 26.0**	**+0.5**
VA01				Sg	**Sg**	**16 45 38.8**	**-0.1**
VA01	**Torpederas**	**1.03**	**144**	*i* P	**Pg**	**16 45 26.0**	**+0.5**
ROCH	**El Roble**	**1.39**	**125**	⇓*i* P	**Pn**	**16 45 31.5**	**-0.8**
ROCH				*i* S	**Sb**	**16 45 48.9**	**-1.9**
ROCH				IAML		16 45 51.4	
	comp=N,8μm,0.7s						
VA05	**Santo Domingo**	**1.60**	**157**	*e*P	**Pn**	**16 45 34.6**	**-0.3**
VA05				*i* S	**Sn**	**16 45 55.6**	**-0.6**
VA05				IAML		16 46 09.4	
	comp=E,4μm,0.5s						
VA05	**Santo Domingo**	**1.60**	**157**		**Pn**	**16 45 34.4**	**-0.6**
CO06	**Fray Jorge**	**1.63**	**23**	*e*P	**Pn**	**16 45 34.6**	**-0.8**
CO06	**Fray Jorge**	**1.63**	**23**	Pn	**Pn**	**16 45 34.3**	**-1.1**
VA03	**San Esteban**	**1.64**	**111**	⇓*i* P	**Pn**	**16 45 35.0**	**-0.7**
VA03				*i* S	**Sn**	**16 45 55.1**	**-2.4**
VA03				IAML		16 46 01.7	
	comp=N,14μm,0.7s						
VA03	**San Esteban**	**1.64**	**111**		**Pn**	**16 45 34.8**	**-0.9**
VA03	**San Esteban**	**1.64**	**111**	*i* P	**Pn**	**16 45 35.0**	**-0.7**
MT05	**Renca**	**1.83**	**132**	*e*P	**Pn**	**16 45 38.0**	**-0.2**
MT05				*i* S	**Sn**	**16 46 00.6**	**-1.4**
MT05				IAML		16 46 06.8	
	comp=N,6μm,0.5s						
MT05	**Renca**	**1.83**	**132**		**Pn**	**16 45 38.0**	**-0.2**
MT05	**Renca**	**1.83**	**132**	*i* P	**Pn**	**16 45 38.0**	**-0.2**
MT01	**Popeta**	**1.92**	**151**	*e*P	**Pn**	**16 45 39.0**	**-0.4**
MT01				*i* S	**Sn**	**16 46 01.9**	**-2.2**
MT01	**Popeta**	**1.92**	**151**		**Pn**	**16 45 39.0**	**-0.4**
MT01	**Popeta**	**1.92**	**151**	*i* P	**Pn**	**16 45 39.0**	**-0.4**
MT09	**Talagante**	**1.97**	**144**	*e*P	**Pn**	**16 45 40.1**	**0.0**
MT09				*i* S	**Sn**	**16 46 04.4**	**-1.1**
MT09				IAML		16 46 15.7	
	comp=N,3μm,0.5s						
MT09	**Talagante**	**1.97**	**144**		**Pn**	**16 45 40.0**	**-0.2**
CO03	**El Pedregal**	**1.97**	**47**	Pn	**Pn**	**16 45 40.0**	**-0.1**
BO03	**Pichilemu**	**2.33**	**172**	⇓*i* P	**Pn**	**16 45 45.0**	**0.0**
GO04	**Tololo Observa**	**2.42**	**34**	*e*P	**Pn**	**16 45 43.8**	**-2.7**
GO04	**Tololo Observa**	**2.42**	**34**	Pn	**Pn**	**16 45 44.0**	**-2.4**
BO01	**Tunca**	**2.45**	**154**	*e*P	**Pn**	**16 45 46.6**	**0.0**
BO01				*i* S	**Sn**	**16 46 15.7**	**-1.5**
BO01	**Tunca**	**2.45**	**154**		**Pn**	**16 45 46.4**	**-0.3**
BO01	**Tunca**	**2.45**	**154**	*i* P	**Pn**	**16 45 48.0**	**+1.3**
CO05	**La Serena**	**2.46**	**24**	Pn	**Pn**	**16 45 45.9**	**-0.8**
LMEL	**Las Melosas**	**2.46**	**133**	*e*P	**Pn**	**16 45 47.2**	**+0.2**
LMEL				*i* S	**Sn**	**16 46 17.1**	**-0.6**
LMEL				IAML		16 46 29.2	
	comp=N,3μm,0.8s						
AUSP	**Uspallata**	**2.53**	**92**	*i* P	**Pn**	**16 45 50.0**	**+2.0**
GO05	**Huala**	**2.84**	**173**	*e*P	**Pn**	**16 45 51.7**	**-0.3**
GO05	**Huala**	**2.84**	**173**		**Pn**	**16 45 51.3**	**-0.8**
BO02	**Sierra Bellavi**	**2.92**	**153**	*e*P	**Pn**	**16 45 53.2**	**0.0**
BO02	**Sierra Bellavi**	**2.92**	**153**	Pn	**Pn**	**16 45 53.2**	**0.0**
BO02	**Sierra Bellavi**	**2.92**	**153**	*i* P	**Pn**	**16 45 54.0**	**+0.8**
ARCO	**CERRO ARCO**	**2.98**	**104**	*i* P	**Pb**	**16 45 59.0**	**-0.5**
ASAL	**Salagasta**	**3.02**	**99**	*i* P	**Pb**	**16 45 59.0**	**-1.2**
AAGR	**Agrelo**	**3.12**	**108**	*i* P	**Pb**	**16 46 01.0**	**-0.9**
ZON	**Zonda**	**3.21**	**79**		**Pn**	**16 45 58.9**	**+1.8**
RTCV	**Cerro Valdivia**	**3.27**	**85**	*i* P	**Pn**	**16 46 01.0**	**+3.0**
ML02	**Panimavida**	**3.65**	**168**		**Pn**	**16 46 03.1**	**-0.2**
AC04	**Llanos de Chal**	**4.12**	**16**	Pn	**Pn**	**16 46 08.2**	**-1.5**
AC04	**Llanos de Chal**	**4.12**	**16**	*i* P	**Pn**	**16 46 10.0**	**+0.3**
GO03	**Copiap**	**4.94**	**23**		**Pn**	**16 46 20.6**	**-0.4**
VCA	**Vinchina**	**4.98**	**47**	*i* P	**Pn**	**16 46 24.0**	**+2.5**
AC06	**Mina Casimiro**	**5.12**	**21**	Pn	**Pn**	**16 46 22.2**	**-1.2**
H03N1	**Juan Fernandez**	**5.65**	**255**	T	T	16 53 27.4	
	baz=85,slow=73,SNR=160						
H03N3	**Juan Fernandez**	**5.66**	**255**	T	T	16 53 22.5	
	baz=85,slow=73,SNR=213						
H03N2	**Juan Fernandez**	**5.66**	**255**	T	T	16 53 20.7	
	baz=85,slow=73,SNR=208						
H03S3	**Juan Fernandez**	**5.73**	**252**	T	T	16 53 19.9	
	baz=83,slow=75,SNR=17						
H03S1	**Juan Fernandez**	**5.73**	**251**	T	T	16 53 18.6	
	baz=83,slow=75,SNR=22						
H03S2	**Juan Fernandez**	**5.75**	**252**	T	T	16 53 19.5	
	baz=83,slow=75,SNR=17						
AC02	**Maricunga**	**6.03**	**29**		**Pn**	**16 46 35.7**	**-0.7**
LC01	**Cunco**	**6.71**	**177**	Pn	**Pn**	**16 46 44.2**	**-0.9**
CYA	**Choya**	**6.80**	**58**	*i* P	Pn	16 46 52.0	+5.6
PLCA	**Paso Flores**	**8.65**	**171**	Pn	**Pn**	**16 47 13.1**	**+1.1**
	comp=N,0.4nm,0.3s,baz=338,slow=11,SNR=14						
PLCA	**Paso Flores**	**8.65**	**171**		**Pn**	**16 47 11.4**	**-0.5**
TRQA	**Tornquist**	**10.33**	**127**		**Pn**	**16 47 34.8**	**-0.1**
PB07	**IPOC Station P**	**10.65**	**13**	Pn	**Pn**	**16 47 39.5**	**0.0**
PB01	**IPOC Station P**	**11.39**	**14**	Pn	**Pn**	**16 47 49.8**	**+0.3**
TA01	**Diego Aracena**	**11.74**	**10**	Pn	**Pn**	**16 47 54.4**	**+0.2**
CPUP	**Villa Florida**	**14.36**	**70**	Pn	**Pn**	**16 48 30.1**	**0.0**
	comp=N,0.1nm,0.3s,baz=250,slow=14,SNR=2.8						
CPUP				LR	LR	16 54 24.8	
	comp=N,149nm,18.5s,baz=240,slow=39						
LPAZ	**La Paz**	**16.29**	**15**	Pn	**Pn**	**16 48 57.6**	**+1.4**
	comp=N,0.2nm,0.3s,baz=208,slow=8.6,SNR=7.5						
SIV	**San Ignacio**	**19.12**	**35**	P	**P**	**16 49 29.5**	**-0.5**
	comp=N,0.2nm,0.3s,baz=217,slow=13,SNR=7.0						
NNA	**Nana**	**20.52**	**347**	LR	LR	16 56 01.8	
	comp=N,73nm,19.1s,baz=164,slow=32						
BDFB	**Brasilia**	**27.59**	**59**	P	**P**	**16 50 54.5**	**0.0**
	comp=N,2.5nm,0.5s,baz=229,slow=8.3,SNR=3.4						
BDFB				LR	LR	17 03 30.2	
	comp=N,196nm,19.0s,baz=213,slow=40						
VNA3	**Neumayer Olymp**	**51.14**	**158**	P	**P**	**16 54 10.9**	**+1.3**
VNA2	**Neumayer--Watz**	**51.79**	**158**	P	**P**	**16 54 15.8**	**+1.4**
	baz=289,slow=8.1						
SNAA	**Sanae**	**53.37**	**158**	P	**P**	**16 54 27.2**	**+1.0**
SNAA	**Sanae**	**53.37**	**158**	P	**P**	**16 54 26.8**	**+0.6**
SNAA				IAmb	IAmb	16 54 38.0	
	comp=Z,7.5nm,1.4s						
QSPA	**South Pole Qui**	**58.05**	**180**	P	**P**	**16 55 01.7**	**+1.7**
	comp=Z,2.5nm,0.9s,baz=176,slow=2.8,SNR=6.8						
LCAR	**Lake Charles**	**70.14**	**344**	P	**P**	**16 56 18.9**	**-0.5**
LCAR				IAmb	IAmb	16 56 20.7	
	comp=Z,2.1nm,0.7s						
RAR	**Rarotonga**	**76.90**	**253**	LR	LR	17 22 43.3	
	comp=Z,69nm,22.0s,baz=296,slow=29						
TORD	**Torodi Ar. Bea**	**83.86**	**70**	P	**P**	**16 57 37.1**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=252,slow=3.9,SNR=7.0						
TORD	**Torodi Ar. Bea**	**83.86**	**70**	IAmb	IAmb	16 57 56.5	
	comp=Z,2.3nm,0.9s						
H11S2	**WAKE ISLAND Hyl**	**25.49**	**271**	T	T	19 23 25.5	
	baz=117						
H11S1	**WAKE ISLAND Hyl**	**25.51**	**271**	T	T	19 23 26.1	
	baz=117,slow=74,SNR=8.4						
H11S3	**WAKE ISLAND Hyl**	**25.51**	**271**	T	T	19 23 26.2	
	baz=117,slow=74,SNR=9.6						
BVAR	**Borovoye Array**	**146.12**	**41**	PKPbc	**PKPab**	**17 04 48.1**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=270,slow=5.8,SNR=3.2						
ZAA0	**Zalesovo Array**	**152.82**	**30**		**PKPbc**	**17 05 03.4**	**-0.3**
ZALV	**Zalesovo Beam**	**152.82**	**30**	PKPbc	**PKPbc**	**17 05 04.6**	**+0.8**
	comp=Z,4.3nm,0.7s,baz=302,slow=3.3,SNR=19						
ZALV	**Zalesovo Beam**	**152.82**	**30**		**PKPbc**	**17 05 03.6**	**-0.2**
MKAR	**Makanchi Array**	**155.74**	**46**	PKPab	**PKPab**	**17 05 28.0**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=320,slow=3.2,SNR=6.1						

IDC 22 17:09:40.7±3.3, 32°.94S×178°.19W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/21, mbtmp3.7/3, ML3.0/1, Error ellipse: s-maj=76.0km s-min=37.9km az=117.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.55**	**214**	Pn	Pn	17 11 18.8	+0.6
	0.3nm,0.3s,baz=69,slow=2.9,SNR=1.6						
URZ				Sn	Sn	17 12 34.0	+0.5
	3.2nm,0.3s,baz=184,slow=21,SNR=25						
ASAR	**Alice Springs**	**42.87**	**270**	P	P	17 17 41.1	+0.1
	0.6nm,0.6s,baz=109,slow=7.8,SNR=16						
WRA	**Warramunga Arr**	**44.09**	**275**	P	P	17 17 50.5	-0.4
	0.8nm,0.6s,baz=118,slow=7.5,SNR=7.6						
FINES	**FINESS Array B**	**147.45**	**338**	PKPbc	PKPbc	17 29 25.0	-0.8
	1.2nm,0.8s,baz=41,slow=4.4,SNR=3.9						

MEX 22 17:14:56.0±0.6, 14°.63N×92°.66W, h116km±35km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.20**	**333**	*i* P	Pn	17 15 22.9	+3.1
PCIG				*i* S	Sn	17 15 46.1	+8.4

MAN 22 17:31:10.7, 9°.91N×124°.04E, h10km, mb4.3, ML3.1, MS2.9, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.41**	**350**	⇓*i* P	Pg	17 31 19.2	+0.4
LLP				*i* S	Sb	17 31 25.4	-1.0
SNPH	**Sibulan**	**0.97**	**235**	*i* P	Pb	17 31 29.6	0.0
SNPH				*i* S	Sn	17 31 44.7	+0.4
DCPH	**Dipolog City**	**1.48**	**207**	⇓*e*P	Pn	17 31 36.7	-0.7
DCPH				*e*S	Sb	17 31 57.7	+0.5
RCP	**Roxas**	**2.07**	**322**	⇑*e*P	Pb	17 31 47.4	-1.0

MEX 22 17:36:24.8±0.6, 16°.51N×98°.53W, h18km±70km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.41**	**107**	*i* P	Pg	17 36 31.9	-1.3
PNIG				*i* S	Sg	17 36 37.3	-1.6
MGIG	**Malinaltepec**	**0.72**	**352**	*i* P	Pb	17 36 35.8	-3.3
MGIG				*i* S	Sb	17 36 45.1	-3.6
TXIG	**Tlaxiaco**	**1.04**	**45**	*i* P	Pb	17 36 41.2	-3.2
TXIG				*i* S	Sb	17 36 53.5	-4.4
TLIG	**Tlapa**	**1.05**	**358**	*i* P	Pb	17 36 42.5	-2.1
TLIG				*i* S	Sb	17 36 53.8	-4.2
FTIG	**Fresnillo de T**	**1.44**	**15**	*i* P	Pn	17 36 47.7	-2.4
FTIG				*i* S	Sn	17 37 04.6	-4.1
HLIG	**Huajuapan de L**	**1.48**	**28**	*i* P	Pn	17 36 48.6	-2.2
HLIG				*i* S	Sn	17 37 05.8	-4.1
MEIG	**Mezcala**	**1.75**	**324**	*i* P	Pn	17 36 41.2	-13
MEIG				*i* S	Sn	17 37 17.1	+0.8
PLIG	**Platanillo**	**2.09**	**334**	*e*P	Pg	17 37 06.5	+1.6
PLIG				*e*S	Sb	17 37 26.4	-1.5

*JMA **22** 17:41:25.9, 24°.23N×121°.74E, h23km±1km, M1.9*
*TAP **22** 17:41:26.1, 24°.27N×121°.78E, h16km, ML2.6, B*

ISC 22 17:41:26.2±0.8, 24°.25N±0°.02×121°.81E±0°.02, h18km±4km, n65, σ0s47/128, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.18**	**340**	P	**Pg**	**17 41 30.9**	**0.0**
	baz=351						
ENA				*e*S	**Sg**	**17 41 34.7**	**+0.5**
	baz=351						
EWUT	**Wuta**	**0.19**	**351**	P	**Pg**	**17 41 31.1**	**0.0**
	baz=1.0						
EWUT				*e*S	**Sg**	**17 41 34.9**	**+0.6**
	baz=1.0						
ETL	**Fush Village**	**0.20**	**241**	P	**Pg**	**17 41 31.1**	**0.0**
	baz=230						
ETL				*e*S	**Sg**	**17 41 34.7**	**+0.2**
	baz=230						
NACB	**Ninganchiao**	**0.21**	**248**	P	**Pg**	**17 41 31.1**	**-0.3**
	baz=238						
NACB				*e*S	**Sg**	**17 41 35.2**	**+0.4**
	baz=238						
TWD	**Chiawan**	**0.26**	**229**	P	**Pg**	**17 41 32.0**	**-0.1**
	baz=218						
TWD				*e*S	**Sb**	**17 41 36.9**	**+0.3**
	baz=218						
ETLH	**Xiulin Townshi**	**0.30**	**261**	P	**Pg**	**17 41 32.5**	**-0.4**
	baz=255						
ETLH

NTC	**Toucheng**	**0.60**	**2**	*e*P		**Pg**	**17 41 38.0**	**-0.1**
	baz=4.0							
NTC				*e*S		**Sg**	**17 41 46.4**	**+0.2**
	baz=4.0							
CHGB	**Renai**	**0.61**	**252**	P		**Pg**	**17 41 38.2**	**-0.3**
	baz=248							
CHGB				*e*S		**Sg**	**17 41 46.7**	**-0.1**
	baz=248							
EGFH	**Guangfu**	**0.68**	**211**	*e*P		**Pg**	**17 41 40.0**	**+0.4**
	baz=207							
EGFH				*e*S		**Sb**	**17 41 50.0**	**+1.2**
	baz=207							
TIPB	**Shuangxi**	**0.71**	**1**	*e*P		**Pb**	**17 41 39.8**	**-0.5**
	baz=3.0							
TIPB				*e*S		**Sb**	**17 41 49.8**	**0.0**
	baz=3.0							
TWA	**Mucha**	**0.75**	**344**	*e*P		**Pb**	**17 41 41.0**	**+0.1**
	baz=346							
TWA				*e*S		**Sb**	**17 41 51.1**	**+0.3**
	baz=346							
NHDH	**Xindian Distri**	**0.75**	**340**	*e*P		**Pb**	**17 41 40.7**	**-0.2**
	baz=341							
NHDH				*e*S		**Sb**	**17 41 50.7**	**-0.1**
	baz=341							
TWB1	**Santiao Chiao**	**0.77**	**12**	*e*P		**Pb**	**17 41 40.0**	**-1.1**
	baz=15							
TWB1				*e*S		**Sb**	**17 41 51.1**	**-0.2**
	baz=15							
WHP	**Taichung City**	**0.79**	**272**	*e*P		**Pb**	**17 41 41.3**	**-0.2**
	baz=270							
WHP				*e*S		**Sb**	**17 41 52.1**	**+0.2**
	baz=270							
NWF	**Wu-fen Shan**	**0.81**	**358**	*e*P		**Pb**	**17 41 42.1**	**+0.1**
NWF				*e*S		**Sb**	**17 41 53.3**	**+0.7**
WFSB	**Wu-fen Shan**	**0.81**	**358**	P		**Pb**	**17 41 42.0**	**+0.1**
LIOB	**Emei**	**0.82**	**298**	*e*P		**Pb**	**17 41 42.1**	**0.0**
	baz=298							
LIOB				*e*S		**Sb**	**17 41 53.3**	**+0.4**
	baz=298							
NSTT	**Nanjuang**	**0.83**	**297**	*e*P		**Pb**	**17 41 42.0**	**-0.2**
	baz=296							
NSTT				*e*S		**Sb**	**17 41 53.1**	**+0.1**
	baz=296							
HGSD	**Ruisui**	**0.84**	**205**	*e*P		**Pb**	**17 41 42.4**	**+0.1**
	baz=202							
HGSD				*e*S		**Sn**	**17 41 54.7**	**-0.4**
	baz=202							
WCS	**Beigang Elemen**	**0.84**	**257**	*e*P		**Pb**	**17 41 42.2**	**-0.3**
	baz=254							
WCS				*e*S		**Sb**	**17 41 54.0**	**+0.5**
	baz=254							
EHY	**Hungye**	**0.87**	**211**	*e*P		**Pb**	**17 41 43.0**	**+0.1**
	baz=207							
EHY				*e*S		**Sn**	**17 41 55.6**	**-0.3**
	baz=207							
SSLB	**Suanglung**	**0.91**	**240**	*e*P		**Pb**	**17 41 43.4**	**-0.2**
	baz=237							
SSLB				*e*S		**Sb**	**17 41 55.7**	**+0.3**
	baz=237							
SMLT	**Sun Moon Lake**	**0.91**	**246**	*e*P		**Pb**	**17 41 43.5**	**-0.2**
	baz=243							
SMLT				*e*S		**Sb**	**17 41 55.9**	**+0.4**
	baz=243							
TWS1	**Kuangyinshan**	**0.92**	**337**	*e*P		**Pb**	**17 41 43.4**	**-0.3**
	baz=338							
TWS1				*e*S		**Sb**	**17 41 56.3**	**+0.7**
	baz=338							
TYC	**Yuchr**	**0.94**	**248**	*e*P		**Pb**	**17 41 43.8**	**-0.2**
	baz=246							
TYC				*e*S		**Sb**	**17 41 56.3**	**+0.1**
	baz=246							
TWQ1	**Liyutan**	**0.95**	**276**	*e*P		**Pb**	**17 41 44.5**	**+0.2**
	baz=274							
TWQ1				*e*S		**Sg**	**17 41 57.8**	**+0.4**
	baz=274							
NTST	**Danshui**	**0.96**	**340**	*e*P		**Pb**	**17 41 44.5**	**0.0**
	baz=341							
NTST				*e*S		**Sg**	**17 41 58.1**	**+0.4**
	baz=341							
ANP	**Anpu**	**0.97**	**344**	*e*P		**Pb**	**17 41 44.5**	**0.0**
	baz=346							
ANP				*e*S		**Sb**	**17 41 57.8**	**+0.7**
	baz=346							
YULB	**Yu-li**	**0.98**	**209**	*e*P		**Pb**	**17 41 43.2**	**-1.5**
	baz=206							
YULB				*e*S		**Sb**	**17 41 57.1**	**-0.2**
	baz=206							
WHYT	**Xinyi Township**	**1.04**	**238**	*e*P		**Pb**	**17 41 45.8**	**0.0**
	baz=235							
WHYT				*e*S		**Sn**	**17 42 00.6**	**+0.5**
	baz=235							
JYNG	**Yonaguni jima**	**1.05**	**79**	P		**Pb**	**17 41 45.8**	**-0.2**
JYNG				*e*S		**Sg**	**17 42 00.7**	**+0.2**
YUS	**Yu-Shan**	**1.09**	**226**	*e*P		**Pb**	**17 41 46.5**	**-0.5**
	baz=223							
YUS				*e*S		**Sn**	**17 42 02.4**	**+0.2**
	baz=223							
YOJ	**Yonaguni jima**	**1.11**	**79**	P		**Pb**	**17 41 46.7**	**-0.3**
YOJ				*e*S		**Sg**	**17 42 02.6**	**+0.2**
YOJ	**Yonaguni jima**	**1.11**	**79**	*e*P		**Pb**	**17 41 46.7**	**-0.3**
	baz=80							
YOJ				*e*S		**Sg**	**17 42 03.1**	**+0.7**
	baz=80							
FULB	**Fuli**	**1.15**	**204**	*e*P		**Pn**	**17 41 46.7**	**-0.8**
	baz=202							
FULB				*e*S		**Sb**	**17 42 02.2**	**-0.1**
	baz=202							
ALS	**Alishan**	**1.18**	**231**	*e*P		**Pn**	**17 41 48.2**	**0.0**
	baz=229							
ALS				*e*S		**Sn**	**17 42 04.1**	**+0.1**
	baz=229							
CHKT	**Chengkung**	**1.22**	**200**	*e*P		**Pn**	**17 41 48.7**	**+0.2**
	baz=197							
CHKT				*e*S		**Sg**	**17 42 05.2**	**-0.7**
	baz=197							
CHN5	**Tsauling**	**1.23**	**238**	*e*P		**Pb**	**17 41 49.3**	**+0.3**
	baz=236							
CHN5				*e*S		**Sg**	**17 42 06.3**	**+0.2**
	baz=236							
CHN4	**Tsaushan**	**1.43**	**231**	*e*P		**Pb**	**17 41 52.4**	**0.0**
	baz=229							
CHN4				*e*S		**Sb**	**17 42 11.1**	**+0.7**
	baz=229							
TPUB	**Ta-pu**	**1.44**	**229**	*e*P		**Pn**	**17 41 52.1**	**+0.6**
	baz=227							
TPUB				*e*S		**Sb**	**17 42 11.3**	**+0.7**
	baz=227							
WTP	**Ta-pu**	**1.49**	**228**	*e*P		**Pn**	**17 41 52.6**	**+0.4**
	baz=225							
WTP				*e*S		**Sb**	**17 42 12.0**	**0.0**
	baz=225							
TWK	**Hsinying**	**1.56**	**231**	*e*P		**Pn**	**17 41 53.7**	**+0.5**
	baz=229							
TWK				*e*S		**Sb**	**17 42 15.3**	**+1.2**
	baz=229							
IRIF	**Iriomote-Funau**	**1.75**	**87**	P		**Pn**	**17 41 55.3**	**-0.5**
IRIF				*e*S		**Sn**	**17 42 18.1**	**+0.4**
JKRS	**Kuro-shima**	**2.01**	**90**	P		**Pn**	**17 42 00.0**	**+0.7**
JKRS				*e*S		**Sb**	**17 42 25.4**	**-1.5**
JJ	**Ishigaki jima**	**2.13**	**87**	P		**Pn**	**17 42 00.6**	**-0.4**
JISG	**Ishigakijimahi**	**2.30**	**81**	P		**Pn**	**17 42 03.9**	**+0.6**
JISG				S		**Sn**	**17 42 32.2**	**+1.0**

IDC ***22*** *17:43:05.5±0.5, 41°.19N×71°.91E, h0km, mb4.4/25, mb1 4.5/33, mb1mx4.3/51, mbtmp4.4/33, ML3.5/9, MS3.7/27, Ms1 3.7/27, ms1mx3.5/61, Error ellipse: s-maj=10.0km s-min=7.1km az=152.0*

ISU ***22*** *17:43:08, 41°.32N×72°.06E, h10km*

MOS ***22*** *17:43:08.9±1.0, 41°.39N×71°.89E, h27km, mb4.6/21, MS3.6/4, Error ellipse: s-maj=5.6km s-min=4.4km az=119.8*

MOS Felt (V) at Kyzyl-Dzhar, (IV) at Tash-Kumyr, Yangikurgan, Chartak, (III) at Shamaldy-Say, Uchkurgan.

KRNET ***22*** *17:43:09.3±0.1, 41°.29N×71°.90E, h26km, mb4.9*

SOME ***22*** *17:43:09.5, 41°.38N×71°.95E, h15km, MS4.0*

NEIC ***22*** *17:43:10.4±1.5, 41°.35N±0°.03×71°.99E±0°.04, h26km±5km, mb4.8/114, Mwr4.3/27, Error ellipse: s-maj=5.3km s-min=4.0km az=129.0*

NEIC ***22*** *17:43:10, 41°.31N×71°.92E, h25km, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr=2.43; Mθθ=-2.17; Mφφ=-0.26; Mrθ=-2.03; Mrφ=-0.95; Mθφ=-0.13; Fault plane solution: M0=3.22000×10^15 NP1:φs=259.46000°, δ=64.85000°, λ=100.60000°. NP2:φs=55.69000°, δ=27.16000°, λ=68.60000°. Principal axes: T 3.2129, Plg=68.0000°, Azm=190.0000°; N 0.0181, Plg=10.0000°, Azm=75.0000°; P -3.2310, Plg=19.0000°, Azm=342.0000°;*

NNC ***22*** *17:43:13.6±0.9, 41°.63N×72°.05E, h0km, mb4.9, mpv4.5 Error ellipse: s-maj=9.1km s-min=3.2km az=9.0*

ISC 22 17:43:07.4±1.0, 41°.33N±0°.02×71°.97E±0°.01, h10km±6km, n=567, σ1=43/622, mb4.7/132, MS3.8/26, 65C-48D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time h m s	Res
					Op	ISC		ISC
NAM	**Namangan**	**0.41**	**215**	*e*P		**Pb**	**17 43 17.0**	**+0.2**
NAM				*e*S		**Sb**	**17 43 24.0**	**+0.9**
TRKS	**Terek-Say**	**0.65**	**288**	⇑*i*P		**Pb**	**17 43 20.3**	**-0.7**
	baz=88							
TRKS				⇑*i*S		**Sb**	**17 43 28.4**	**-1.8**
	baz=88							
ARSB	**Arslanbob**	**0.76**	**90**			**Pn**	**17 43 24.4**	**0.0**
ARSB						**Sn**	**17 43 36.1**	**+0.1**
OHH	**Osh**	**1.02**	**142**	⇑*i*P		**Pn**	**17 43 28.0**	**+0.2**
	baz=38							
OHH				⇑*i*S		**Sb**	**17 43 42.5**	**+1.9**
	baz=38							
MNAS	**Manas**	**1.22**	**19**	⇓*i*P		**Pn**	**17 43 32.7**	**+2.0**
	baz=20							
MNAS				⇓*i*S		**Sn**	**17 43 49.6**	**+2.3**
	baz=20							
AML	**Almayashu**	**1.52**	**58**	⇓*i*P		**Pg**	**17 43 38.2**	**+1.7**
	baz=57							
AML				⇓*i*S		**Sg**	**17 43 58.8**	**+2.5**
	baz=57							
AML	**Almayashu**	**1.52**	**58**	P		**Pg**	**17 43 37.8**	**+1.2**
	SNR=1652							
BTK	**Batken**	**1.54**	**215**	⇓*i*P		**Pb**	**17 43 36.2**	**+0.1**
	baz=14							
BTK				⇓*i*S		**Sn**	**17 43 56.0**	**+0.8**
	baz=14							
BTK	**Batken**	**1.54**	**215**	PN		**Pg**	**17 43 36.7**	**-0.3**
BTK							17 43 57.1	
BTK	**Batken**	**1.54**	**215**			**Pg**	**17 43 36.7**	**-0.3**
BTK				Sn		**Sg**	**17 43 57.1**	**0.0**
BTK	**Batken**	**1.54**	**215**	*e*P		**Pg**	**17 43 37.0**	**0.0**
BTK				*e*S		**Sg**	**17 43 57.0**	**0.0**
CHRV	**Charvak**	**1.55**	**282**	*e*P		**Pg**	**17 43 38.0**	**+1.0**
CHRV				*e*S		**Sg**	**17 43 57.0**	**-0.1**
DZA	**Taraz**	**1.63**	**343**	*e*P		**Pg**	**17 43 39.9**	**+1.3**
	baz=45							
DZA				*e*S		**Sg**	**17 44 01.9**	**+2.1**
	baz=45							
DZA	**Taraz**	**1.63**	**343**	*e*P		**Pg**	**17 43 39.9**	**+1.3**
	2μm,0.2s							
DZA				*e*S		**Sg**	**17 44 01.9**	**+2.1**
	11μm,0.4s							
DZA	**Taraz**	**1.63**	**343**	*e*PN		**Pg**	**17 43 39.9**	**+1.3**
DZA				*e*S		**Sg**	**17 44 01.9**	**+2.1**
MRKS	**Merke**	**1.69**	**33**	*e*P		**Pg**	**17 43 41.4**	**+1.5**
	baz=34							
MRKS				*e*S		**Sg**	**17 44 04.5**	**+2.6**
	baz=34							
MRKS	**Merke**	**1.69**	**33**	*e*P		**Pg**	**17 43 41.4**	**+1.5**
	1μm,0.3s							
MRKS				*e*S		**Sg**	**17 44 04.4**	**+2.6**
	3μm,0.2s							
MRKS	**Merke**	**1.69**	**33**	*e*PN		**Pg**	**17 43 41.4**	**+1.5**
MRKS				*e*S		**Sg**	**17 44 04.4**	**+2.6**
SFK	**Sufi-Kurgan**	**1.76**	**138**	⇑*i*P		**Pb**	**17 43 40.7**	**+0.8**
	baz=36							
SFK				⇑*i*S		**Sb**	**17 44 03.6**	**+1.5**
	baz=36							
SFK	**Sufi-Kurgan**	**1.76**	**138**	*e*P		**Pn**	**17 43 39.0**	**+0.8**
SFK				*e*S		**Sg**	**17 44 05.0**	**+1.0**
ARLS	**Aral**	**1.84**	**73**	⇑*i*P		**Pg**	**17 43 43.1**	**+0.4**
	baz=72							
ARLS				⇑*i*S		**Sg**	**17 44 07.2**	**+0.6**
	baz=72							
DRK	**Karamyk**	**1.85**	**184**	⇑*i*P		**Pb**	**17 43 41.4**	**-0.1**
	baz=82							
DRK				⇑*i*S		**Sn**	**17 44 04.9**	**+1.7**
	baz=82							
DRK	**Karamyk**	**1.85**	**184**			**Pn**	**17 43 41.0**	**+1.5**
DRK						**Sg**	**17 44 07.4**	**+0.4**
EKS2	**Erkin-Say**	**1.89**	**45**	⇑*i*P		**Pg**	**17 43 43.4**	**-0.3**
	baz=45							
EKS2				⇑*i*S		**Sg**	**17 44 08.1**	**-0.1**
	baz=45							
EKS2	**Erkin-Say**	**1.89**	**45**	P		**Pg**	**17 43 44.3**	**+0.6**
	SNR=317							
TAS	**Tashkent**	**2.01**	**271**	⇑*i*P		**Pb**	**17 43 43.1**	**-1.0**
	baz=72							
TAS				⇑*i*S		**Sb**	**17 44 08.3**	**-0.9**
	baz=72							
TAS	**Tashkent**	**2.01**	**271**	PN		**Pb**	**17 43 42.9**	**-1.2**
TAS	**Tashkent**	**2.01**	**271**			**Pb**	**17 43 42.9**	**-1.2**
TAS	**Tashkent**	**2.01**	**271**	*e*P		**Pb**	**17 43 44.0**	**-0.1**
TAS				*e*S		**Sg**	**17 44 12.0**	**-0.1**
KK31	**Karatay Array**	**2.07**	**329**	⇑Pn		**Pg**	**17 43 45.5**	**-1.6**
	395nm,0.6s,baz=135,slow=14,SNR=2648							
KK31				⇑Sn		**Sg**	**17 44 12.8**	**-1.2**
	3μm,0.7s,baz=137,slow=26,SNR=19							
KK31	**Karatay Array**	**2.07**	**329**	PN		**Pg**	**17 43 45.5**	**-1.6**
KK31	**Karatay Array**	**2.07**	**329**			**Pg**	**17 43 45.5**	**-1.6**
KKAR	**Karatay Array**	**2.07**	**329**	PN		**Pg**	**17 43 45.0**	**-2.1**
KKAR	**Karatay Array**	**2.07**	**329**			**Pg**	**17 43 45.3**	**-1.9**
KKAR	**Karatay Array**	**2.07**	**329**			**Pg**	**17 43 45.0**	**-2.1**
UCH	**Uchtor**	**2.10**	**64**	⇑*i*P		**Pg**	**17 43 46.7**	**-1.0**
	baz=64							
UCH				⇑*i*S		**Sg**	**17 44 13.8**	**-1.2**
	baz=64							
UCH	**Uchtor**	**2.10**	**64**	P		**Pg**	**17 43 47.0**	**-0.7**
	SNR=167							
AAK	**Ala-Archa**	**2.29**	**54**	Pn		**Pg**	**17 43 49.7**	**-1.6**
	75nm,0.3s,baz=224,slow=5.3,SNR=130							
AAK				Sn		**Sg**	**17 44 22.7**	**+1.8**
	86nm,0.3s,baz=64,slow=22,SNR=13							
AAK				LR		LR	17 44 59.5	
	comp=Z,955nm,20.2s,baz=294,slow=47							
AAK	**Ala-Archa**	**2.29**	**54**	⇓*i*P		**Pb**	**17 43 48.8**	**-0.1**
	baz=54							
AAK				⇓*i*S		**Sb**	**17 44 17.8**	**+0.5**
	baz=54							
AAK	**Ala-Archa**	**2.29**	**54**	P		**Pg**	**17 43 49.6**	**-1.7**
	SNR=172							
AAK	**Ala-Archa**	**2.29**	**54**	⇑Pn		**Pg**	**17 43 49.7**	**-1.6**
	275nm,0.8s							
AAK				⇓Lg		Lg	17 44 20.5	
	827nm,0.8s							
AAK	**Ala-Archa**	**2.29**	**54**			**Pb**	**17 43 47.4**	**-1.5**
FRU1	**Bishkek**	**2.47**	**52**	⇓*e*P		**Pb**	**17 43 51.3**	**-0.6**
	baz=52							
FRU1				⇓*i*S		**Sb**	**17 44 22.2**	**-0.2**
	baz=52							
FRU1	**Bishkek**	**2.47**	**52**	PN		**Pb**	**17 43 50.9**	**-1.0**
FRU1	**Bishkek**	**2.47**	**52**			**Pb**	**17 43 50.9**	**-1.0**
KZA	**Kyzart**	**2.57**	**72**	⇑*i*P		**Pb**	**17 43 52.8**	**-1.0**
	baz=71							
KZA				⇑*i*S		**Sb**	**17 44 24.6**	**-0.9**
	baz=71							
KZA	**Kyzart**	**2.57**	**72**	P		**Pb**	**17 43 53.7**	**-0.1**
	SNR=60							
KBK	**Karagaybulak**	**2.58**	**58**	⇓*i*P		**Pb**	**17 43 53.2**	**-0.7**
	baz=58							
KBK				⇓*i*S		**Sb**	**17 44 24.8**	**-1.0**
	baz=58							
KBK	**Karagaybulak**	**2.58**	**58**	P		**Pb**	**17 43 54.4**	**+0.5**
	SNR=11							
GAR	**Garm**	**2.65**	**209**			**Pn**	**17 43 52.9**	**+2.5**
CHMS	**Chumysh**	**2.66**	**50**	⇑*i*P		**Pb**	**17 43 53.9**	**-1.1**
	baz=50							
CHMS				⇑*i*S		**Sb**	**17 44 26.2**	**-1.5**
	baz=50							
CHMS	**Chumysh**	**2.66**	**50**	P		**Pb**	**17 43 54.6**	**-0.4**
	SNR=72							
USP	**Ospenovka**	**2.69**	**43**	⇓*e*P		**Pb**	**17 43 54.4**	**-1.3**
	baz=43							
USP				⇓*i*S		**Sb**	**17 44 27.2**	**-1.7**
	baz=43							
USP	**Ospenovka**	**2.69**	**43**	P		**Pb**	**17 43 54.8**	**-0.9**
	SNR=27							
SGDS	**Sogindy**	**2.89**	**42**	Pg		**Pg**	**17 44 02.1**	**-0.7**
	118nm,0.4s							
SGDS				Lg		Lg	17 44 39.4	
	595nm,0.6s							
SGDS	**Sogindy**	**2.89**	**42**	*e*PN		**Pb**	**17 43 57.3**	**-1.8**
TKM2	**Tokmak 2**	**3.13**	**58**	⇓*e*P		**Pb**	**17 44 00.8**	**-2.4**
	baz=58							
TKM2				⇓*i*S		**Sb**	**17 44 37.8**	**-3.8**
	baz=58							
TKM2	**Tokmak 2**	**3.13**	**58**	P		**Pb**	**17 44 01.0**	**-2.2**
	SNR=23							
TKM2	**Tokmak 2**	**3.13**	**58**	⇑Pn		**Pb**	**17 44 01.0**	**-2.2**
	145nm,0.6s							
TKM2				⇑Lg		Lg	17 44 46.6	
	549nm,0.7s							
BOOM	**Boomskoye usch**	**3.18**	**67**	⇓*i*P		**Pb**	**17 44 01.4**	**-2.7**
	baz=67							
BOOM				⇓*e*S		**Sb**	**17 44 39.3**	**-3.7**
	baz=67							
BOOM	**Boomskoye usch**	**3.18**	**67**	PN		**Pb**	**17 44 01.3**	**-2.8**
BOOM	**Boomskoye usch**	**3.18**	**67**	Pn		**Pb**	**17 44 01.3**	**-2.8**
ULHL	**Ulahol**	**3.32**	**73**	⇓*i*P		**Pb**	**17 44 03.4**	**-3.1**
	baz=72							
ULHL				⇓*i*S		**Sn**	**17 44 42.6**	**+3.3**
	baz=72							
ULHL	**Ulahol**	**3.32**	**73**	P		**Pb**	**17 44 03.8**	**-2.7**
	SNR=15							
DGS	**Degeres**	**3.41**	**55**	*e*P		**Pg**	**17 44 12.6**	**0.0**
	86nm,0.4s							
DGS				*e*S		**Sg**	**17 44 58.0**	**+1.3**
	413nm,1.0s							
DGS	**Degeres**	**3.41**	**55**	Pg		**Pg**	**17 44 12.7**	**0.0**
	292nm,0.6s							
DGS				Lg		Lg	17 44 58.1	
	413nm,1.0s							
DGS	**Degeres**	**3.41**	**55**	*e*PN		**Pg**	**17 44 12.6**	**0.0**
DGS				*e*S		**Sg**	**17 44 58.1**	**+1.3**
KST	**Kastek**	**3.42**	**59**	*e*P		**Pg**	**17 44 12.9**	**-0.1**
	106nm,0.3s							
KST				*e*S		**Sg**	**17 44 58.0**	**+0.6**
	524nm,0.8s							
KST	**Kastek**	**3.42**	**59**	Pg		**Pg**	**17 44 12.9**	**-0.1**
	291nm,0.7s							
KST				Lg		Lg	17 44 58.0	
	524nm,0.8s							
KST	**Kastek**	**3.42**	**59**	*e*PN		**Pg**	**17 44 12.9**	**-0.1**
KST				*e*S		**Sg**	**17 44 58.0**	**+0.6**
KRSA	**Karasay**	**3.43**	**251**	*e*P		**Pn**	**17 44 03.0**	**+2.0**
KRSA				*e*S		**Sg**	**17 44 56.0**	**-1.6**
CHGR	**Chuyangaron**	**3.44**	**220**	Pn		**Pn**	**17 44 03.6**	**+2.5**
KSH	**Kashi**	**3.55**	**119**	Pn		**Pn**	**17 44 05.6**	**+2.9**
KSH				Sn		**Sn**	**17 44 48.0**	**+3.2**
KSH				smax		smax		
	comp=N,1μm,0.9s							
KSH				smax		smax		
	comp=E,2μm,0.8s							
MTBS	**Maitube**	**3.77**	**60**	*e*P		**Pg**	**17 44 18.8**	**-0.7**
	77nm,0.7s							
MTBS				*e*S		**Sg**	**17 45 08.1**	**-0.2**
	450nm,0.8s							
MTBS	**Maitube**	**3.77**	**60**	Pg		**Pg**	**17 44 18.8**	**-0.7**
	77nm,0.7s							
MTBS				Lg		Lg	17 45 08.1	
	450nm,0.8s							
MTBS	**Maitube**	**3.77**	**60**	*e*PN		**Pg**	**17 44 18.8**	**-0.7**
MTBS				*e*S		**Sg**	**17 45 08.1**	**-0.2**
KDJ	**Kajisay**	**3.98**	**77**	⇓*i*P		**Pb**	**17 44 13.0**	**-4.7**
	baz=76							
KDJ				⇓*i*S		**Sn**	**17 44 59.0**	**+3.5**
	baz=76							
BTLS	**Baital**	**4.01**	**22**	*e*P		**Pg**	**17 44 23.3**	**-0.8**
	58nm,0.3s							
BTLS				*e*S		**Sg**	**17 45 15.9**	**-0.1**
	277nm,0.3s							
BTLS	**Baital**	**4.01**	**22**	*e*PN		**Pg**	**17 44 23.3**	**-0.8**
TNSS	**Tian-Shan**	**4.07**	**64**	*e*P		**Pg**	**17 44 26.1**	**+0.7**
	106nm,0.6s							
TNSS				*e*S		**Sg**	**17 45 21.0**	**+2.8**
	155nm,0.8s							
TNSS	**Tian-Shan**	**4.07**	**64**	Pg		**Pg**	**17 44 26.1**	**+0.7**
	106nm,0.6s							
TNSS				Lg		Lg	17 45 21.0	
	155nm,0.8s							
TNSS	**Tian-Shan**	**4.07**	**64**	*e*PN		**Pg**	**17 44 26.1**	**+0.7**
KUU	**Kurty**	**4.12**	**50**	*e*P		**Pg**	**17 44 23.9**	**-2.3**
	122nm,0.7s							
KUU				*e*S		**Sg**	**17 45 17.2**	**-2.3**
	374nm,0.7s							
KUU	**Kurty**	**4.12**	**50**	Pg		**Pg**	**17 44 23.9**	**-2.3**
	122nm,0.7s							
KUU				Lg		Lg	17 45 17.2	
	374nm,0.7s							
KUU	**Kurty**	**4.12**	**50**	*e*PN		**Pg**	**17 44 23.9**	**-2.3**
KUU				*e*S		**Sg**	**17 45 17.2**	**-2.3**
AAA	**Alma-Ata**	**4.12**	**61**	*e*P		**Pg**	**17 44 26.2**	**-0.1**
	61nm,0.3s							
AAA				*e*S		**Sg**	**17 45 20.4**	**+0.7**
	472nm,0.7s							
AAA	**Alma-Ata**	**4.12**	**61**	*e*PN		**Pg**	**17 44 26.2**	**-0.1**
KNDC	**Almaty**	**4.16**	**61**	⇓Pn		Pb	17 44 15.8	-4.9
	39nm,0.5s							
KNDC				⇑Pg		**Pg**	**17 44 27.1**	**+0.1**
	505nm,0.8s							
KNDC				⇑Lg		Lg	17 45 19.5	
	2μm,0.9s							
MDOK	**Medeo**	**4.19**	**62**	*e*P		**Pg**	**17 44 25.8**	**-1.8**
	75nm,0.7s							
MDOK				*e*S		**Sg**	**17 45 21.3**	**-0.6**
	341nm,1.0s							
MDOK	**Medeo**	**4.19**	**62**	⇓Pn		**Pn**	**17 44 15.8**	**+4.3**
	42nm,0.6s							
MDOK				⇓Pg		**Pg**	**17 44 27.0**	**-0.7**
	127nm,0.8s							
MDOK				⇓Lg		Lg	17 45 19.9	
	556nm,0.9s							
MDOK	**Medeo**	**4.19**	**62**	Pg		**Pg**	**17 44 25.8**	**-1.8**
	75nm,0.7s							
MDOK				Lg		Lg	17 45 21.3	
	341nm,1.0s							
MDOK	**Medeo**	**4.19**	**62**	*e*PN		**Pg**	**17 44 25.8**	**-1.8**
MDOK				*e*S		**Sg**	**17 45 21.3**	**-0.6**
KTBS	**Karatobe**	**4.22**	**54**	*e*P		**Pg**	**17 44 26.7**	**-1.4**
	42nm,0.4s							
KTBS				*e*S		**Sg**	**17 45 22.2**	**-0.6**
	476nm,0.9s							
KTBS	**Karatobe**	**4.22**	**54**	Pg		**Pg**	**17 44 26.7**	**-1.4**
	42nm,0.4s							
KTBS				Lg		Lg	17 45 22.2	
	476nm,0.9s							
KTBS	**Karatobe**	**4.22**	**54**	*e*PN		**Pg**	**17 44 26.7**	**-1.4**
KTBS				*e*S		**Sg**	**17 45 22.2**	**-0.6**
**

86nm,1.0s
SHLS Lg Lg 17 46 25.1
150nm,1.0s
PDGK Podgornoye 5.92 68 Pg **Pg 17 44 58.4 -2.3**
11nm,0.6s
PDGK Lg Lg 17 46 16.7
104nm,0.8s
KAPS Kapalarasan 6.68 51 *e*P **Pg 17 45 10.9 -4.3**
12nm,0.5s
KAPS *e*S **Sg 17 46 37.6 -4.1**
155nm,0.9s
KAPS Kapalarasan 6.68 51 Pg **Pg 17 45 10.9 -4.3**
12nm,0.5s
KAPS Lg Lg 17 46 37.6
155nm,0.9s
OTUK Ortayu 6.92 2 ⇑Pn **Pn 17 44 50.6 +1.8**
28nm,0.8s
OTUK ⇓Lg Lg 17 46 42.8
553nm,1.1s
KBL Kabul 7.16 200 P **Pn 17 44 53.3 +0.9**
KBL Kabul 7.16 200 Pn **Pn 17 44 53.3 +0.9**
CEP Cherat 7.50 180 P **Pn 17 44 57.5 +0.6**
CHCP Chirah Chowk 7.73 172 P **Pn 17 45 02.2 +2.2**
NIL Nilore 7.74 172 P **Pn 17 45 02.1 +2.0**
NIL Nilore 7.74 172 Pn **Pn 17 45 02.1 +2.0**
THW Thamme Wali 8.52 181 P **Pn 17 45 11.2 +0.3**
BRZS Berezniki 8.66 3 *e*P **Pn 17 45 14.0 +1.3**
MAKZ Makanchi 9.04 49 ⇑Pn **Pn 17 45 20.7 +2.8**
6.1nm,0.6s
MAKZ ⇓Lg Lg 17 47 52.8
92nm,1.1s
MAKZ Makanchi 9.04 49 P **Pn 17 45 19.6 +1.6**
MAKZ Makanchi 9.04 49 Pn **Pn 17 45 19.6 +1.6**
MK09 Makanchi Array 9.20 50 ⇑Pn **Pn 17 45 23.2 +3.1**
20nm,0.7s
MK09 ⇑Lg Lg 17 47 58.3
43nm,0.8s
MK31 Makanchi Array 9.22 50 P **Pn 17 45 23.3 +3.0**
MK31 Makanchi Array 9.22 50 Pn **Pn 17 45 23.3 +3.0**
MKAR Makanchi Array 9.22 50 Pn **Pn 17 45 23.8 +3.4**
0.3nm,0.3s,baz=241,slow=12,SNR=63
MKAR Lg Lg 17 47 59.2
1.6nm,0.3s,baz=238,slow=27,SNR=8.8
MKAR Makanchi Array 9.22 50 Pn **Pn 17 45 22.5 +2.2**
THN Thein Dam 9.37 160 *e*P Pn 17 45 28.5 +6.0
THN *e*S **Sn 17 47 04.0 -3.9**
HRA Herat 10.35 231 **Pn 17 45 34.6 -1.4**
KURBB Kurchatov Arra 10.35 24 Pn **Pn 17 45 35.7 -0.1**
0.1nm,0.3s,baz=215,slow=12,SNR=24
KURBB Sn **Sn 17 47 34.9 +3.2**
0.2nm,0.3s,baz=225,slow=14,SNR=4.7
KURBB Lg Lg 17 48 37.8
0.4nm,0.3s,baz=203,slow=29,SNR=2.7
KURBB Kurchatov Arra 10.35 24 ⇓Pn **Pn 17 45 37.3 +1.5**
9.3nm,0.6s
KURBB ⇓Lg Lg 17 48 32.0
289nm,0.8s
KURK Kurchatov 10.46 24 P **Pn 17 45 35.7 -1.5**
KURK 17 47 34.9
KURK Kurchatov 10.46 24 **Pn 17 45 35.7 -1.5**
BHK Bhakra 10.52 159 *ex* **Sn 17 47 36.0 -0.2**
GEYT Alibeck 11.21 257 Pn **Pn 17 45 45.3 -2.4**
1.0nm,0.3s,baz=72,slow=15,SNR=8.8
GEYT Sn **Sn 17 47 50.6 -2.5**
1.8nm,0.3s,baz=88,slow=39,SNR=2.6
GEYT LR LR 17 50 50.8
comp=Z,200nm,19.8s,baz=235,slow=42
GYA0B ALIBECK ARRAY 11.21 257 Pn **Pn 17 45 46.3 -1.4**
AB31 Akbulak array 11.59 317 ⇑Pn **Pn 17 45 55.7 +3.0**
14nm,0.5s,baz=130,slow=12,SNR=261
AB31 ⇓Sn **Sn 17 48 07.9 +5.8**
17nm,0.7s,baz=125,slow=24,SNR=4.5
AB31 ⇑Lg Lg 17 49 16.7
38nm,0.8s
ABKAR Akbulak array 11.59 317 Pn **Pn 17 45 52.1 -0.6**
ABKAR Akbulak array 11.59 317 **Pn 17 45 52.3 -0.4**
BVAR Borovoye Array 11.75 355 Pn **Pn 17 45 54.3 -0.6**
0.6nm,0.3s,baz=174,slow=15,SNR=24
BVAR Sn **Sn 17 48 02.8 -3.2**
2.7nm,0.3s,baz=172,slow=24,SNR=5.0
BVAR Lg Lg 17 49 20.5
1.9nm,0.3s,baz=171,slow=28,SNR=6.8
BRVK Borovoye 11.79 355 ⇑Pn **Pn 17 45 56.9 +1.4**
14nm,0.8s
BRVK ⇓Lg Lg 17 49 20.2
220nm,1.1s
BRVK Borovoye 11.79 355 *ce*P **Pn 17 45 55.8 +0.4**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
BRVK Borovoye 11.79 355 Pn **Pn 17 45 55.8 +0.4**
WMQ Urumqi 11.86 73 *e*P Pn 17 46 01.3 +4.7
WMQ LR LR
comp=Z,300nm,11.3s
WMQ LR LR
comp=Z,370nm,15.1s
WMQ LR LR
comp=Z,270nm,18.7s
AKTO Aktyubinsk 13.30 318 Pn **Pn 17 46 15.5 -0.6**
comp=Z,1.2nm,0.3s,baz=134,slow=14,SNR=66
AKTO Sn **Sn 17 48 40.5 -3.4**
comp=Z,1.1nm,0.3s,baz=118,slow=18,SNR=1.6
AKTO Lg Lg 17 50 08.8
comp=Z,0.7nm,0.3s,baz=212,slow=13,SNR=3.9
AKTO LR LR 17 51 49.9
comp=Z,464nm,19.1s,baz=129,slow=39
AKTO Aktyubinsk 13.30 318 ⇑Pn **Pn 17 46 20.0 +4.0**
comp=Z,23nm,0.7s
AKTO ⇑Sn **Sn 17 48 48.2 +4.4**
comp=Z,10nm,0.7s
AKTO ⇓Lg Lg 17 50 10.6
comp=Z,88nm,1.2s
DGZ Jazzator, Alta 13.68 47⇑ *e*P **Pn 17 46 22.2 +0.8**
DGZ pmax pmax
comp=Z,2.0nm,0.9s
ZAA0 Zalesovo Array 15.27 30 Pn **Pn 17 46 44.2 +1.3**
ZALV Zalesovo Beam 15.27 30 Pn **Pn 17 46 43.9 +1.0**
comp=Z,0.4nm,0.3s,baz=226,slow=13,SNR=15
ZALV Sn **Sn 17 49 38.1 +6.1**
comp=Z,0.2nm,0.3s,baz=230,slow=22,SNR=2.1
ZALV Lg Lg 17 51 12.2
comp=Z,0.2nm,0.3s,baz=226,slow=25,SNR=1.8
ZALV LR LR 17 52 55.3
comp=Z,253nm,18.9s,baz=220,slow=38
ZALV Zalesovo Beam 15.27 30 Pn **Pn 17 46 44.3 +1.4**
PYUN Piuthan 15.99 142 *e*P **Pn 17 46 48.5 -4.1**
comp=Z,81nm,0.5s
DANN Dangsing 16.15 140 *e*P **Pn 17 46 50.3 -4.4**
comp=Z,34nm,0.4s
KOLN Koldanda 16.56 141 *e*P **Pn 17 46 55.5 -4.3**
comp=Z,37nm,0.6s
GKN Gorkha 16.87 138 *e*P **Pn 17 46 59.7 -4.0**
comp=Z,17nm,0.4s
SVE Sverdlovsk 17.15 339 *e*P **P 17 47 08.5 -0.1**
KKN Kakani 17.37 137 *e*P **Pn 17 47 06.4 -3.7**
comp=Z,23nm,0.6s
ARU Arti 17.44 335 P **Pn 17 47 10.4 -0.2**
comp=Z,0.0nm,0.3s,baz=156,slow=9.2,SNR=24
ARU S **S 17 50 30.0 -3.0**
comp=Z,0.0nm,0.3s,baz=49,slow=20,SNR=2.0
ARU Lg Lg 17 52 11.1
comp=Z,0.0nm,0.3s,baz=307,slow=23,SNR=1.5
ARU LR LR 17 54 19.9
comp=Z,422nm,18.9s,baz=142,slow=38
ARU Arti 17.44 335 *c i*P **Pn 17 47 10.1 -0.5**
ARU S **Sn 17 50 24.5 -0.1**
ARU pmax pmax
comp=Z,22nm,0.8s
ARU MLR MLR
comp=Z,420nm,16.0s
ARU Arti 17.44 335 **Pn 17 47 09.8 -0.7**
PKIN Phulchoki 17.60 137 *e*P **Pn 17 47 09.5 -3.5**
comp=Z,32nm,0.6s
PKI Pulchoki 17.61 137 *e*P **Pn 17 47 09.6 -3.6**
comp=Z,55nm,0.8s
JIRN Jiri 17.95 135 *e*P **Pn 17 47 14.2 -3.2**
comp=Z,26nm,0.4s
AKT Akhty 18.17 279 *e*P **Pn 17 47 17.4 -2.5**
AKT *e*S **Sn 17 50 38.6 -4.1**
AKT pmax pmax
comp=Z,9.0nm,0.6s
AKT smax smax
comp=N,8.0nm,0.6s
AKT smax smax
comp=E,5.0nm,0.3s
GNBR Gunib 18.64 282 *c i*P **Pn 17 47 26.3 +0.8**
RAMN Ramite 18.73 135 *e*P **P 17 47 24.7 -1.8**
comp=E,41nm,0.6s
TAPN Taplejung 19.02 132 *e*P **P 17 47 29.2 -0.5**
comp=E,51nm,0.7s
BTLR Botlikh 19.16 283⇑ *e*P **Pn 17 47 31.7 -0.1**
DVE Vedeno 19.21 283⇑ *e*P **Pn 17 47 33.0 +0.6**
DVE pmax pmax
comp=Z,35nm,1.0s
ODAN Odare 19.23 134 *e*P **P 17 47 30.4 -1.6**
comp=Z,74nm,1.1s
LSA Lhasa 19.41 121 P **P 17 47 31.6 -2.5**
LSA pmax pmax
comp=Z,11nm,0.7s
LSA Lhasa 19.41 121 P **P 17 47 31.6 -2.5**
GROC Groznyy 19.44 284 *e*P **Pn 17 47 34.9 -0.1**
GROC pmax pmax
comp=Z,41nm,1.0s
BELG Belogornoye 19.89 312 P **P 17 47 37.6 -1.0**
comp=Z,1.1nm,0.3s,baz=129,slow=3.0,SNR=9.1
BELG LR LR 17 56 15.6
comp=Z,251nm,19.1s,baz=124,slow=40
BELG Belogornoye 19.89 312 *ce*P **P 17 47 38.1 -0.5**
BELG pmax pmax
comp=Z,6.0nm,0.9s
GNI Garni 20.64 276 P Pn 17 47 48.2 -1.2
comp=Z,25nm,0.9s,baz=9.7,slow=2.1,SNR=17
GNI LR LR 17 57 11.6
comp=Z,84nm,21.1s,baz=70,slow=41
GNI Garni 20.64 276 *c i*P Pn 17 47 48.3 -1.2
GNI pmax pmax
comp=Z,38nm,1.0s
GNI Garni 20.64 276 **P 17 47 47.5 +0.3**
ZEI Tsey 20.86 283 *e*P **P 17 47 49.3 -0.2**
ZEI pmax pmax
comp=Z,3.0nm,0.6s
UOSS Minazif 20.95 224 P **P 17 47 49.6 -0.8**
NCK Nalchik 21.02 285⇓ *e*P **P 17 47 51.3 +0.2**
NCK pmax pmax
comp=Z,11nm,0.8s
ONI Oni 21.20 283 P **P 17 47 53.8 +0.7**
ONI pmax pmax
comp=Z,12nm,0.7s
ONI Oni 21.20 283 P **P 17 47 53.8 +0.7**
WSAR Wadi Sarin 21.23 216 P **P 17 47 53.1 -0.3**
comp=Z,3.5nm,0.6s,baz=46,slow=7.1,SNR=8.7
WSAR LR LR 17 58 18.2
comp=Z,187nm,20.2s,baz=60,slow=43
GTA Gaotai 21.27 86 ⇓P **P 17 47 56.1 +2.2**
GTA pP sP 17 48 06.8 +8.3
GTA sP pP 17 48 11.9 +15
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,26nm,4.7s
GTA LR LR
comp=Z,110nm,14.2s
GTA LR LR
comp=Z,220nm,14.9s
GTA LR LR
comp=Z,320nm,16.4s
AKH Akhalkalaki 21.34 280 ⇑P **P 17 47 55.7 +1.0**
PYA1 Pyatigorsk 21.35 287⇑ *e*P **P 17 47 54.4 -0.2**
GOF Gofitskoye 21.36 290⇑ *e*P **P 17 47 54.5 -0.2**
KBZ Khabaz 21.51 286 P **P 17 47 54.9 -1.4**
comp=Z,2.2nm,0.9s,baz=99,slow=12,SNR=4.8
KBZ LR LR 17 58 31.9
comp=Z,138nm,19.5s,baz=85,slow=43
KBZ Khabaz 21.51 286 *e*P **P 17 47 57.1 +0.8**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KVAR Kislovodsk Arr 21.64 287 LR LR 17 58 40.0
comp=Z,98nm,18.6s,baz=272,slow=43
KIV Kislovodsk 21.65 287 *e*P **P 17 47 59.8 +1.9**
KIV *e*S **S 17 51 58.6 +1.0**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,67nm,14.0s
KIV Kislovodsk 21.65 287 P **P 17 47 57.5 -0.4**
KIV IAmb IAmb 17 48 16.8
comp=Z,11nm,0.6s
NEY Neytrino 21.67 285⇓ *e*P **P 17 47 59.3 +1.0**
NEY pmax pmax
comp=Z,3.0nm,0.8s
KARS Kars 21.78 278 P **P 17 47 58.6 -0.9**
KARS pmax pmax
comp=Z,132nm,1.3s
KARS Kars 21.78 278 P **P 17 47 58.6 -0.9**
KIRV Kirov 22.37 328 P **P 17 48 05.4 0.0**
comp=Z,19nm,0.8s,baz=127,slow=16,SNR=16
KIRV LR LR 17 57 25.9
comp=Z,422nm,19.1s,baz=132,slow=38
KIRV Kirov 22.37 328 *c i*P **P 17 48 05.7 +0.3**
BCA Borcka 22.72 280 ⇓P **P 17 48 11.6 +2.3**
SHL Shillong 22.79 127 P **P 17 48 10.8 +0.4**
SHL pmax pmax
comp=Z,17nm,0.8s
SHL Shillong 22.79 127 P **P 17 48 10.8 +0.4**
SHL IAmb IAmb 17 48 38.1
comp=Z,17nm,0.8s
VRH Novokhopyorsk 22.97 306 *e*P **P 17 48 11.0 -0.8**
VRH pmax pmax
comp=Z,20nm,0.6s
GURO Guroymak-BITLI 23.07 273 P **P 17 48 12.3 -0.8**
SIRT Sirnak 23.08 270 P **P 17 48 12.8 -0.4**
ZAK Zakamensk 23.46 57 *e*P **P 17 48 18.4 +1.4**
ZAK pmax pmax
comp=Z,7.0nm,1.4s
KOPT Kop Dagi 23.84 277 **P 17 48 18.3 -2.7**
KOPT IAmb IAmb 17 48 37.8
comp=Z,15nm,0.9s
MARD Mardin 24.39 271 P **P 17 48 25.6 -0.3**
MARD IAmb IAmb 17 48 29.2
comp=Z,10nm,0.8s
VORD Divnogorie 24.42 304 *e*P **P 17 48 20.8 -5.1**
VORD pmax pmax
comp=Z,10.0nm,0.7s
HYB Hyderabad 24.50 165 *i*P **P 17 48 26.0 -0.9**
LPSR Galich'ya Gora 24.98 308 *e*P **P 17 48 30.4 -0.6**
LPSR pmax pmax
comp=Z,30nm,0.8s
SONM Songino Array 25.22 63 P **P 17 48 34.3 +1.0**
comp=Z,1.6nm,0.7s,baz=275,slow=11,SNR=10
SONM Songino Array 25.22 63 P **P 17 48 34.1 +0.8**
ANN Anapa 25.35 290 *e*P **P 17 48 33.9 -0.5**
ANN *e*S **S 17 52 58.4 -2.2**
ANN pmax pmax
comp=Z,49nm,1.0s
ANN MLR MLR
comp=N,128nm,11.0s
ANN MLR MLR
comp=Z,189nm,12.0s
ULN Ulaanbaatar 25.66 63 *d i*P **P 17 48 39.1 +1.7**
ULN pmax pmax
comp=Z,5.0nm,1.0s
ULN Ulaanbaatar 25.66 63 P **P 17 48 38.1 +0.8**
ULN Ulaanbaatar 25.66 63 P **P 17 48 38.9 +1.5**
PRGR Permogore 25.80 331 *e*P **P 17 48 38.0 -0.2**
PRGR pmax pmax
comp=Z,74nm,1.2s
MOS Moscow 26.59 315 *e*P **P 17 48 50.4 +5.0**
MOS *e* 17 49 29.2
OBN Obninsk 26.98 313 LR LR 18 00 15.4
comp=Z,61nm,19.8s,baz=350,slow=38
OBN Obninsk 26.98 313 *ce*P **P 17 48 48.8 -0.2**
OBN *e* 17 49 33.0
OBN pmax pmax
comp=Z,10.0nm,1.1s
OBN MLR MLR
comp=Z,211nm,18.0s
OBN Obninsk 26.98 313 P **P 17 48 48.7 -0.2**
GAZ Gaziantep 27.12 273 P **P 17 48 50.6 0.0**
GAZ IAmb IAmb 17 49 01.8
comp=Z,11nm,0.9s
SIM Simferopol' 27.69 290 *c i*P **P 17 48 54.2 -1.3**
SIM pmax pmax
comp=Z,33nm,0.8s
KLMR Klimovskoe 27.77 326 *e*P **P 17 48 54.5 -1.5**
KLMR pmax pmax
comp=Z,17nm,1.3s
KLMR Klimovskoe 27.77 326 *e*P **P 17 48 54.6 -1.5**
KLMR AMP 17 49 03.3
comp=Z,17nm,1.3s
ILGA Ilgaz 28.63 282 P **P 17 49 04.5 +0.3**
BR131 Keskin Array S 29.02 280 P **P 17 49 08.4 +0.8**
BR131 pmax pmax
comp=Z,16nm,0.8s
BR131 Keskin Array S 29.02 280 P **P 17 49 08.4 +0.8**
BR131 IAmb IAmb 17 49 09.3
comp=Z,16nm,0.8s
BRTR Keskin Array B 29.02 280 P **P 17 49 08.2 +0.6**
comp=Z,9.1nm,0.8s,baz=94,slow=8.6,SNR=75
BRTR LR LR 18 02 39.7
comp=Z,74nm,19.0s,baz=64,slow=40
NRIK Noril'sk 29.25 11 LR LR 18 01 55.0
comp=Z,76nm,19.0s,baz=210,slow=38
NRIK Noril'sk 29.25 11 *de*P **P 17 49 10.6 +1.5**
NRIK pmax pmax
comp=Z,5.0nm,0.9s
NRIK Noril'sk 29.25 11 P **P 17 49 10.3 +1.2**
HHC Hu-ho-hao-te 29.67 78 *e*P **P 17 49 15.3 +2.0**
HHC pmax pmax
comp=Z,9.0nm,0.7s
HHC pmax pmax
comp=Z,50nm,6.6s
XAN Xi'an 29.97 92 P **P 17 49 16.3 +0.4**
XAN pP sP 17 49 24.3 +3.8
XAN pmax pmax
comp=Z,4.0nm,1.3s
MMAI Mount Meron Ar 30.12 266 P **P 17 49 18.0 +0.7**
comp=Z,3.6nm,1.0s,baz=64,slow=6.6,SNR=4.9
MMAI LR LR 18 03 46.2
comp=Z,20nm,21.2s,baz=160,slow=41
KMI Kunming 30.19 113 ⇓P **P 17 49 19.8 +1.6**
KMI pP sP 17 49 26.6 +3.8
KMI pmax pmax
comp=Z,13nm,0.5s
KMI LR LR
comp=Z,180nm,14.9s
KMI LR LR
comp=Z,97nm,14.9s
KMI LR LR
comp=Z,190nm,15.5s
MDUB Mudurnu 30.63 282 P **P 17 49 21.4 -0.4**
AKASG Malin Array Be 30.75 302 P **P 17 49 22.2 -0.3**
comp=Z,2.6nm,0.7s,baz=82,slow=7.3,SNR=8.5
AKBB Malin Array Si 30.75 302⇓ *e*P **P 17 49 22.6 +0.1**
AKBB Malin Array Si 30.75 302 P **P 17 49 22.5 0.0**
GHAJ Ghor Haditha 30.80 263 P **P 17 49 24.6 +1.4**
SORM Soroca 31.38 297 ⇑P **P 17 49 28.3 +0.1**
TPGR Topolog 31.71 291 P **P 17 49 32.4 +1.2**
CFR Carcaliu 31.86 292 ⇑P **P 17 49 33.0 +0.6**
HARR Harsova 32.08 291 ⇑P **P 17 49 35.6 +1.3**
CMAR Chiang Mai Arr 32.42 127 *e*P P 17 49 44.0 +6.4
NACGM Naroch 32.47 310 *i*P **P 17 49 38.4 +0.8**
TESR Tescani 32.70 295 ⇑P **P 17 49 40.0 +0.2**
VRI Vrincioaia 32.73 293 ⇑P **P 17 49 41.9 +1.8**
PLOR Plostina 32.79 293 ⇑P **P 17 49 42.3 +1.7**
BIZ Bicaz 33.02 296 ⇑P **P 17 49 43.6 +1.0**
VSU Vasula 33.02 317 *e*P **P 17 49 42.9 +0.5**
VSU Vasula 33.02 317 *d i*P **P 17 49 42.9 +0.5**
VSU pmax pmax
comp=Z,46nm,0.9s
COVR Voineasa-Covas 33.10 293 ⇑P **P 17 49 44.7 +1.4**
NEHR Nehoiu 33.10 293 ⇑P **P 17 49 44.6 +1.2**
BALB Balikesir 33.31 282 P **P 17 49 45.0 -0.2**
BALB IAmb IAmb 17 50 02.4
comp=Z,22nm,1.2s
LVZ Lovozero 33.32 335 *de*P **P 17 49 45.9 +0.9**
LVZ pmax pmax
comp=Z,38nm,1.7s
LVZ Lovozero 33.32 335 P **P 17 49 45.1 +0.1**
MLR Muntele Rosu 33.34 293 ⇑P **P 17 49 47.3 +1.8**
MLR Muntele Rosu 33.34 293 P **P 17 49 46.2 +0.7**
MLR pmax pmax
comp=Z,10.0nm,0.8s
MLR Muntele Rosu 33.34 293 P **P 17 49 46.2 +0.7**
MLR IAmb IAmb 17 49 48.4
comp=Z,10nm,0.8s
BURAR Bucovina Array 33.53 297 ⇑P **P 17 49 48.4 +1.2**
BURAR Bucovina Array 33.53 297 P **P 17 49 47.1 0.0**
BUR08 Bucovina Ar. S 33.54 297 P **P 17 49 47.2 -0.1**
VOIR 33.97 293 ⇓P **P 17 49 52.0 +1.0**
FIA1 FINESS Array S 34.02 322 P **P 17 49 51.5 +0.5**
FIA1 IAmb IAmb 17 49 52.6
comp=Z,6.3nm,0.7s
FINES FINESS Array B 34.02 322 P **P 17 49 51.8 +0.7**
comp=Z,6.0nm,0.6s,baz=106,slow=10,SNR=28
FINES LR LR 18 04 29.2
comp=Z,184nm,19.1s,baz=84,slow=38
FINES FINESS Array B 34.02 322 *e*P **P 17 49 51.9 +0.8**
FINES pmax pmax
comp=Z,6.0nm,0.6s
PABE Paberze 34.13 311 P **P 17 49 52.3 +0.1**
ARCR ARCALIA 34.18 296 P **P 17 49 53.8 +1.1**
MEF Metsahovi 34.54 319 *e*P **P 17 49 56.3 +0.7**
MTSE Matsula 34.57 317 *e*P **P 17 49 56.5 +0.6**
KWP Kalwaria Pacla 34.97 301 P **P 17 50 00.2 +0.7**
KWP pmax pmax
comp=Z,139nm,1.4s
KWP Kalwaria Pacla 34.97 301 P **P 17 50 00.2 +0.7**
PBKT Sadao Pong 35.10 126 P **P 17 50 01.0 +0.1**
PBKT IAmb IAmb 17 50 18.9
comp=Z,12nm,0.9s
TRPA Tarpa 35.26 298 P **P 17 50 03.7 +1.8**
TRPA Tarpa 35.26 298 *e*P **P 17 50 03.3 +1.4**
KOLS Kolonicke sedl 35.33 300 *e*P **P 17 50 03.5 +0.9**
KOLS Kolonicke sedl 35.33 300 *e*P **P 17 50 03.5 +0.9**
GZR Gura Zlata 35.55 293 ⇓P **P 17 50 05.4 +0.8**
VTS Vitosha 35.85 289 P **P 17 50 07.3 -0.1**
VTS pmax pmax
comp=Z,7.0nm,0.8s
VTS Vitosha 35.85 289 P **P 17 50 07.3 -0.1**
VTS IAmb IAmb 17 50 19.6
comp=Z,7.0nm,0.8s
SANT Santorini 36.22 278 P **P 17 50 10.7 +0.3**
BZS Buzias 36.30 294 ⇑P **P 17 50 12.1 +1.1**
KEV Kevo 36.65 336 P **P 17 50 14.0 +0.4**
KEV pmax pmax
comp=Z,18nm,1.0s
KEV Kevo 36.65 336 P **P 17 50 14.0 +0.4**
KEV IAmb IAmb 17 50 15.3
comp=Z,18nm,1.0s
BOVS Bovan 36.68 291 P **P 17 50 14.8 +0.6**
ARA0 ARCESS Array S 37.03 335 *e*P **P 17 50 17.9 +1.0**
ARCES ARCESS Array B 37.03 335 P **P 17 50 17.8 +0.9**
comp=Z,15nm,0.6s,baz=111,slow=9.0,SNR=96
ARCES LR LR 18 06 08.1
comp=Z,141nm,20.7s,baz=120,slow=37
ARCES ARCESS Array B 37.03 335 P **P 17 50 17.5 +0.6**
ARCES IAmb IAmb 17 50 18.8
comp=Z,16nm,0.8s
PSZ Piszkesteto 37.04 298 P **P 17 50 17.4 0.0**
PSZ pmax pmax
comp=Z,5.0nm,1.0s
PSZ Piszkesteto 37.04 298 P **P 17 50 17.4 0.0**
KTK1 Kautokeino 37.56 334 *e*P **P 17 50 22.0 +0.6**
AGG Agios Georgios 37.58 283 P **P 17 50 21.6 -0.4**
AGG pmax pmax
comp=Z,38nm,1.5s
AGG Agios Georgios 37.58 283 P **P 17 50 21.6 -0.4**
VYHS Vyhne 37.65 299 *e*P **P 17 50 23.9 +1.5**
VYHS Vyhne 37.65 299 *e*P **P 17 50 23.9 +1.5**
FNA Florina 37.71 286 P **P 17 50 22.8 -0.3**
FNA pmax pmax
comp=Z,5.0nm,0.7s
FNA Florina 37.71 286 P **P 17 50 22.8 -0.3**
DIVS Divibare 37.77 292 P **P 17 50 24.0 +0.5**
DIVS IAmb IAmb 17 50 25.5
comp=Z,9.3nm,0.9s
HAMF Hammerfest 38.06 336 *e*P **P 17 50 26.9 +1.3**
MORH Mrgy, Hungar 38.21 296 P **P 17 50 28.3 +1.2**
MORH Mrgy, Hungar 38.21 296 *e*P **P 17 50 28.1 +1.0**
MORC Moravsky Berou 38.28 302 P **P 17 50 28.0 +0.2**
MORC pmax pmax
comp=Z,7.0nm,1.3s
MORC Moravsky Berou 38.28 302 P **P 17 50 28.0 +0.2**
MORC Moravsky Berou 38.28 302 *e*P **P 17 50 28.4 +0.6**
NJ2 Nanjing 38.32 89 *e*P **P 17 50 29.5 +1.3**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
JAVC Velka Javorina 38.35 300 *e*P **P 17 50 29.9 +1.5**
KOVH Kovagototos 38.60 296 *e*P **P 17 50 31.6 +1.2**
MODS Modra-Piesok 38.69 299 *e*P **P 17 50 32.2 +1.0**
MODS Modra-Piesok 38.69 299 *e*P **P 17 50 32.2 +1.0**
JETT Jettan, Norway 38.70 334 *e*P **P 17 50 33.0 +2.0**
KRLC Kraliky 38.72 302 *e*P **P 17 50 32.2 +0.7**
KRLC Kraliky 38.72 302 *e*P **P 17 50 32.2 +0.7**
PDG Podgorica 38.74 290 ⇑P **P 17 50 32.9 +1.3**
PDG Podgorica 38.74 290 P **P 17 50 31.9 +0.2**

PDG IAmb IAmb 17 50 33.1
comp=Z,14nm,0.7s

MPLH Magyarpolny 38.75 298 *e*P **P** **17 50 33.8 +2.2**
VRAC Vranov 38.97 301 *e*P **P** **17 50 34.6 +1.1**
DPC Dobruska-Polom 38.97 303 *e*P **P** **17 50 35.2 +1.6**
DPC *e* 17 50 44.5
DPC Dobruska-Polom 38.97 303 *e*P **P** **17 50 35.2 +1.6**
DPC *e*pP sP 17 50 44.5 +6.1
KRUC Moravsky 39.14 301 *e*P **P** **17 50 35.6 +0.7**
TRO Tromso 39.21 334 *e*P **P** **17 50 35.2 -0.1**
YAK Yakutsk 39.66 39*c* *i*P **P** **17 50 39.4 +0.4**
YAK pmax pmax
comp=Z,40nm,0.8s
YAK Yakutsk 39.66 39 P **P** **17 50 39.7 +0.6**
CONA Conrad Observa 39.70 299 *i*P **P** **17 50 40.9 +1.1**
comp=Z,9.1nm,1.1s,SNR=4.4
FAUS Fauske 39.94 330 *e*P **P** **17 50 42.2 +0.9**
MOR8 Moi Rana 40.05 328 *e*P **P** **17 50 41.9 -0.4**
STEI Steigen 40.07 331 *e*P **P** **17 50 43.1 +0.8**
ARSA Arzberg 40.08 298 *e*P **P** **17 50 42.9 +0.1**
comp=Z,6.0nm,1.1s
SOKA Soboth 40.53 297 *i*P **P** **17 50 47.4 +0.7**
comp=Z,9.4nm,1.1s,SNR=5.0
CKRC Cesky Krumlov 40.53 301 *e*P **P** **17 50 47.8 +1.2**
CKRC *ex* x 17 50 57.8
KONS Konsvik 40.63 328 *e*P **P** **17 50 47.7 +0.7**
LOF Lofoten 40.73 331 *e*P **P** **17 50 48.1 +0.2**
MOA Molln 40.77 299 *e*P **P** **17 50 49.1 +0.6**
comp=Z,6.6nm,1.2s
NC405 NORSAR Array S 40.84 320 P **P** **17 50 47.0 -1.8**
NC405 IAmb IAmb 17 50 59.4
comp=Z,26nm,1.1s
NSS Namsos 40.88 325 *e*P **P** **17 50 49.4 +0.2**
OBKA Obir 40.90 297 *e*P **P** **17 50 48.6 -1.1**
comp=Z,4.5nm,1.1s
CLL Collm 40.90 305 *i*P **P** **17 50 49.6 +0.1**
comp=Z,4.0nm,0.9s
CLL *i*sP sP 17 50 59.9 +5.6
comp=Z,11nm,1.4s
CLL *e*PP **PP** **17 52 23.0 -0.6**
CLL L L 18 09 00.0
comp=Z,200nm,20.2s
CLL Collm 40.90 305 *i*P **P** **17 50 49.6 +0.1**
CLL pmax pmax
comp=Z,4.0nm,0.9s
CLL Collm 40.90 305 P **P** **17 50 48.7 -0.8**
NC602 NORSAR Array S 40.92 319 *e*P **P** **17 50 49.6 0.0**
NC602 NORSAR Array S 40.92 319 P **P** **17 50 49.2 -0.3**
BJO1 Bjornoya 40.92 341 *e*P **P** **17 50 50.0 +0.6**
GEC2 GERESS Array S 40.92 301 P **P** **17 50 50.5 +0.7**
GEC2 IAmb IAmb 17 50 51.8
comp=Z,14nm,1.3s
GERES GERESS Array B 40.92 301 P **P** **17 50 50.6 +0.8**
comp=Z,3.1nm,0.7s,baz=74,slow=7.1,SNR=29
GERES LR LR 18 10 33.4
comp=Z,123nm,18.8s,baz=81,slow=40
GERES GERESS Array B 40.92 301 *e*P **P** **17 50 50.9 +1.0**
GERES pmax pmax
comp=Z,3.0nm,0.7s
GERES GERESS Array B 40.92 301 P **P** **17 50 50.3 +0.4**
KHC Kasperske Hory 40.94 301 *e*P **P** **17 50 50.7 +0.7**
KHC *e* 17 51 00.9
KHC Kasperske Hory 40.94 301 *e*P **P** **17 50 50.7 +0.7**
KHC *e*pP sP 17 51 00.9 +6.1
NC303 NORSAR Array S 41.00 320 P **P** **17 50 50.5 +0.2**
NC303 IAmb IAmb 17 51 01.3
comp=Z,13nm,0.7s
TIXI Tiksi 41.03 24 P **P** **17 50 50.8 +0.5**
comp=Z,8.8nm,0.7s,baz=276,slow=6.0,SNR=7.5
TIXI Tiksi 41.03 24 P **P** **17 50 51.1 +0.8**
TIXI pmax pmax
comp=Z,17nm,1.1s
TIXI Tiksi 41.03 24 P **P** **17 50 51.1 +0.8**
TIXI IAmb IAmb 17 50 51.8
comp=Z,18nm,1.1s
NB201 NORSAR Array S 41.04 320 P **P** **17 50 50.5 -0.1**
NB2 NORSAR Subarra 41.08 320 P **P** **17 50 50.7 -0.2**
comp=Z,6.2nm,0.7s,baz=91,slow=8.6
NB2 NORSAR Subarra 41.08 320 P **P** **17 50 50.7 -0.2**
baz=91,slow=8.6
NOA NORSAR Array B 41.08 320 P **P** **17 50 50.9 0.0**
comp=Z,3.6nm,0.7s,baz=91,slow=8.4,SNR=22
NOA LR LR 18 08 38.5
comp=Z,190nm,18.6s,baz=90,slow=37
NAO01 NORSAR Array S 41.24 319 P **P** **17 50 52.0 -0.1**
NBO00 NORSAR Array S 41.29 320 P **P** **17 50 51.7 -1.0**
NBO00 IAmb IAmb 17 51 02.3
comp=Z,17nm,0.9s
NC204 NORSAR Array S 41.30 320 P **P** **17 50 53.0 +0.3**
OSL Oslo 41.34 318 *e*P **P** **17 50 52.6 -0.3**
MYKA Terra Mystica 41.47 298 *e*P **P** **17 50 55.3 +0.9**
comp=Z,1.3nm,0.4s
KBA Koelnbreinsper 41.56 298 *e*P **P** **17 50 55.7 +0.5**
comp=Z,4.3nm,1.2s
TIP Timpagrande 41.59 286 P **P** **17 50 55.6 +0.1**
TIP IAmb IAmb 17 50 58.8
comp=Z,15nm,1.2s
TRI Trieste 41.63 296 P **P** **17 50 55.7 +0.1**
TRI pmax pmax
comp=Z,26nm,0.9s
TRI Trieste 41.63 296 P **P** **17 50 55.7 +0.1**
TRI IAmb IAmb 17 50 56.8
comp=Z,26nm,0.9s
KLR Kul'dur 41.81 58 LR LR 18 09 50.9
comp=Z,95nm,18.1s,baz=280,slow=38
KLR Kul'dur 41.81 58[1] *e*P **P** **17 50 57.5 +0.5**
KLR pmax pmax
comp=Z,9.0nm,2.5s
DOMB Dombas 42.10 321 *e*P **P** **17 50 59.5 +0.3**
ABTA Abfaltersbach 42.20 298 *e*P **P** **17 51 00.3 -0.1**
comp=Z,6.3nm,1.2s
GRA1 Grafenberg Arr 42.33 303 P **P** **17 51 02.3 +1.1**
GRF Grafenberg Arr 42.33 303 P **P** **17 51 02.3 +1.1**
GRF pmax pmax
comp=Z,8.0nm,1.0s
GRFO Grafenberg 42.33 303 P **P** **17 51 02.2 +0.9**
GRFO pmax pmax
comp=Z,8.0nm,1.0s
GRFO Grafenberg 42.33 303 P **P** **17 51 02.2 +0.9**
SKAR Skarslia 42.51 319 *e*P **P** **17 51 03.0 +0.4**
WTTA Wattenberg 42.64 299 *e*P **P** **17 51 03.2 -0.9**
comp=Z,2.3nm,0.6s
INTR Introdacqua 42.64 291 P **P** **17 51 03.8 -0.2**
INTR IAmb IAmb 17 51 05.3
comp=Z,20nm,1.2s
WATA Walderalm 42.66 299 *e*P **P** **17 51 04.6 +0.4**
comp=Z,4.1nm,0.9s
KSAR Wonju Array Be 42.76 76 P **P** **17 51 05.0 +0.1**
KSAR Wonju Array Be 42.76 76 P **P** **17 51 05.0 +0.1**
AQU L'Aquila 42.88 292 P **P** **17 51 06.3 +0.4**
AQU pmax pmax
comp=Z,19nm,1.0s
AQU L'Aquila 42.88 292 P **P** **17 51 06.3 +0.4**
AQU IAmb IAmb 17 51 18.6
comp=Z,19nm,1.0s
NRCA Norcia 42.93 292 P **P** **17 51 06.6 +0.3**
NRCA IAmb IAmb 17 51 09.2
comp=Z,16nm,0.9s
SQTA Sankt Quirin 42.93 299 *e*P **P** **17 51 06.0 -0.4**
comp=Z,4.1nm,0.7s
CTI Castel Tesino 42.96 297 P **P** **17 51 05.4 -1.2**
CTI pmax pmax
comp=Z,15nm,1.5s
CTI Castel Tesino 42.96 297 P **P** **17 51 05.4 -1.2**
CTI IAmb IAmb 17 51 09.9
comp=Z,15nm,1.5s
MOTA Moosalm 42.97 299 *e*P **P** **17 51 06.5 -0.1**
comp=Z,6.0nm,1.0s
SPB2 Spitsbergen Ar 42.98 346 P **P** **17 51 06.4 +0.2**
SPA0 Spitsbergen Ar 42.99 346 *e*P **P** **17 51 07.0 +0.8**
SPITS Spitsbergen Ar 42.99 346 P **P** **17 51 07.2 +1.0**
comp=Z,8.0nm,0.8s,baz=117,slow=8.3,SNR=5.2
SPITS Spitsbergen Ar 42.99 346 P **P** **17 51 07.5 +1.3**
SPITS pmax pmax
comp=Z,51nm,1.5s
AKN Aaknes 43.07 322 *e*P **P** **17 51 07.7 +0.6**
TEOL Teolo 43.14 296 P **P** **17 51 07.5 -0.4**
RETA Reutte 43.16 300 *e*P **P** **17 51 08.5 +0.4**
comp=Z,10nm,1.4s
MURB Monte Urbino 43.20 293 P **P** **17 51 10.2 +1.7**
MURB IAmb IAmb 17 51 11.2
comp=Z,22nm,0.9s
USA0B Ussuriysk Arra 43.30 65 P **P** **17 51 10.1 +0.9**
USA0B pmax pmax
comp=Z,4.0nm,0.8s

USA0B Ussuriysk Arra 43.30 65 P **P** **17 51 10.1 +0.9**
USRK Ussuriysk Ar. 43.30 65 P **P** **17 51 09.9 +0.7**
USRK Ussuriysk Ar. 43.30 65 P **P** **17 51 09.9 +0.7**
FETA Feichten 43.30 299 *e*P **P** **17 51 08.8 -0.6**
comp=Z,3.3nm,1.2s
DAVA Damuels 43.79 300 *i*P **P** **17 51 13.1 -0.2**
comp=Z,8.5nm,0.7s,SNR=4.3
KBS Kingsbay 44.09 346 P **P** **17 51 16.4 +1.3**
KBS pmax pmax
comp=Z,122nm,1.7s
KBS Kingsbay 44.09 346 P **P** **17 51 16.4 +1.3**
VLC Villacollemand 44.38 295 P **P** **17 51 18.4 +0.4**
VLC IAmb IAmb 17 51 20.3
comp=Z,15nm,0.8s
PSI Prapat 45.38 140 LR LR 18 11 56.2
comp=Z,189nm,18.2s,baz=289,slow=38
BNI Bardonecchia 46.59 298 P **P** **17 51 35.3 -0.2**
BNI pmax pmax
comp=Z,10.0nm,1.0s
BNI Bardonecchia 46.59 298 P **P** **17 51 35.3 -0.2**
BNI IAmb IAmb 17 51 37.3
comp=Z,10nm,1.0s
KEST Kesra 48.37 285 P **P** **17 51 49.7 +0.3**
comp=Z,5.5nm,0.9s,baz=114,slow=10.0,SNR=6.5
KEST Kesra 48.37 285 P **P** **17 51 50.1 +0.6**
KEST IAmb IAmb 17 51 51.1
comp=Z,17nm,1.2s
DAG Danmarks Havn 50.33 343 *i*P **P** **17 52 04.0 +0.3**
DAG IAmb IAmb 17 52 05.2
comp=Z,9.6nm,0.8s
DAG Danmarks Havn 50.33 343 *i*P **P** **17 52 04.0 +0.3**
DAG pmax pmax
comp=Z,10.0nm,0.8s
MJAR Matsushiro Arr 50.63 72 P **P** **17 52 06.8 +0.2**
comp=Z,2.4nm,0.9s,baz=295,slow=8.1,SNR=5.0
MJA0 Matsu Arr-Jizo 50.65 72 *e*P **P** **17 52 07.9 +1.1**
MJA0 pmax pmax
comp=Z,1.0nm,0.7s
ESBB Sonseca Array 55.97 295 **P** **17 52 45.5 -0.4**
ESBB IAmb IAmb 17 52 46.4
comp=Z,6.8nm,1.1s
ESDC Sonseca Array 55.97 295 P **P** **17 52 45.6 -0.2**
comp=Z,4.0nm,0.9s,baz=57,slow=8.4,SNR=21
ESDC LR LR 18 20 59.6
comp=Z,51nm,19.2s,baz=280,slow=41
ESDC Sonseca Array 55.97 295 P **P** **17 52 45.1 -0.8**
PETK Petropavlovsk- 56.03 46 P **P** **17 52 47.1 +1.0**
PETK Petropavlovsk- 56.03 46 P **P** **17 52 47.1 +1.0**
PAB San Pablo 56.29 295 P **P** **17 52 48.0 -0.2**
PAB pmax pmax
comp=Z,4.0nm,0.9s
PAB San Pablo 56.29 295 P **P** **17 52 48.0 -0.2**
PAB IAmb IAmb 17 52 48.8
comp=Z,4.3nm,0.9s
NEEM North Greenlan 56.48 347 *i*P **P** **17 52 49.0 -0.3**
NEEM IAmb IAmb 17 52 51.1
comp=Z,9.3nm,1.0s
SUMG Summit 56.76 340 *i*P **P** **17 52 51.4 0.0**
SUMG IAmb IAmb 17 52 53.7
comp=Z,8.2nm,0.8s
SUMG Summit 56.76 340 *i*P **P** **17 52 51.4 0.0**
SUMG pmax pmax
comp=Z,8.0nm,0.8s
SUMG Summit 56.76 340 P **P** **17 52 51.3 0.0**
DAV Davao City (W) 58.41 110 LR LR 18 21 10.4
comp=Z,92nm,19.0s,baz=162,slow=39
COI Coimbra 58.70 298 P **P** **17 53 05.5 +0.4**
COI pmax pmax
comp=Z,18nm,0.6s
COI Coimbra 58.70 298 P **P** **17 53 05.5 +0.4**
ICESG Greenland Ices 59.04 337 *i*P **P** **17 53 08.3 +0.9**
DY2G Dye2 62.64 337 *i*P **P** **17 53 31.5 -0.3**
GAMB Gambell 63.83 26 P **P** **17 53 39.4 +0.1**
baz=311
TOLK Toolik Lake Re 66.07 15 P **P** **17 53 54.3 +0.3**
TOLK Toolik Lake Re 66.07 15 P **P** **17 53 53.6 -0.3**
baz=327
TORD Torodi Ar. Bea 66.65 267 P **P** **17 53 57.0 -1.4**
comp=Z,2.2nm,0.8s,baz=48,slow=5.4,SNR=14
TORD Torodi Ar. Bea 66.65 267 **P** **17 53 56.7 -1.8**
COLD Coldfoot 67.12 16 P **P** **17 54 01.1 +0.4**
COLD IAmb IAmb 17 54 02.3
comp=Z,12nm,1.0s
COLD Coldfoot 67.12 16 P **P** **17 54 00.7 0.0**
baz=327,SNR=12
IMAR Indian Mountai 67.35 19 P **P** **17 54 01.6 -0.6**
H21K Melozitna Rive 67.84 18 P **P** **17 54 05.7 +0.4**
H21K IAmb IAmb 17 54 06.6
comp=Z,8.2nm,1.2s
H21K Melozitna Rive 67.84 18 P **P** **17 54 05.1 -0.2**
baz=325
I21K Tanana 68.43 18 P **P** **17 54 09.0 +0.1**
baz=326
H23K Yukon River 68.45 17 P **P** **17 54 09.7 +0.6**
H23K IAmb IAmb 17 54 11.2
comp=Z,11nm,1.2s
H23K Yukon River 68.45 17 P **P** **17 54 09.0 -0.1**
baz=328,SNR=5.2
J20K Nowinta River 68.73 20 P **P** **17 54 11.2 +0.4**
J20K IAmb IAmb 17 54 12.4
comp=Z,6.1nm,0.8s
J20K Nowinta River 68.73 20 P **P** **17 54 10.8 0.0**
baz=324
H24K Noodor Dome 68.80 16 P **P** **17 54 11.1 -0.3**
baz=329
MLY Manley 68.85 18 P **P** **17 54 11.9 +0.3**
MLY IAmb IAmb 17 54 13.1
comp=Z,8.8nm,1.2s
MLY Manley 68.85 18 P **P** **17 54 11.5 -0.2**
baz=327,SNR=6.4
INK Inuvik 69.02 10 P **P** **17 54 13.0 +0.5**
INK pmax pmax
comp=Z,14nm,1.1s
INK Inuvik 69.02 10 P **P** **17 54 13.0 +0.5**
INK Inuvik 69.02 10 P **P** **17 54 12.9 +0.3**
baz=340
I23K Minto, Yukon-K 69.07 17 P **P** **17 54 13.6 +0.7**
I23K IAmb IAmb 17 54 15.2
comp=Z,16nm,1.4s
I23K Minto, Yukon-K 69.07 17 P **P** **17 54 12.7 -0.2**
baz=328
K20K Telida 69.42 20 P **P** **17 54 14.8 -0.4**
baz=325
MDM Murphy Dome 69.48 17 P **P** **17 54 16.0 +0.4**
MDM IAmb IAmb 17 54 17.6
comp=Z,3.5nm,0.9s
POKR Poker Plat Res 69.52 17 P **P** **17 54 15.3 -0.5**
baz=329
PRP Porcupine Dome 69.57 16 P **P** **17 54 15.6 -0.6**
baz=331
BPAW Bear Paw Mtn. 69.57 19 P **P** **17 54 16.0 -0.1**
BPAW IAmb IAmb 17 54 17.1
comp=Z,7.7nm,1.1s
BPAW Bear Paw Mtn. 69.57 19 P **P** **17 54 16.0 -0.1**
baz=327
NEA2 Nenana 69.60 18 P **P** **17 54 16.1 -0.2**
NEA2 IAmb IAmb 17 54 17.4
comp=Z,8.8nm,1.0s
NEA2 Nenana 69.60 18 P **P** **17 54 16.0 -0.2**
baz=328
CAST Castle Rocks 69.87 19 P **P** **17 54 17.9 0.0**
baz=326
ILAR Eielson Array 69.93 17 P **P** **17 54 18.1 -0.1**
comp=Z,4.6nm,0.7s,baz=318,slow=5.0,SNR=30
ILAR Eielson Array 69.93 17 *e*P **P** **17 54 18.4 +0.1**
ILAR pmax pmax
comp=Z,5.0nm,0.8s
ILAR Eielson Array 69.93 17 P **P** **17 54 17.7 -0.6**
KTH Kantishna Hill 70.05 19 P **P** **17 54 18.9 -0.2**
KTH IAmb IAmb 17 54 20.3
comp=Z,12nm,1.0s
KOWA Kowa 70.11 272 P **P** **17 54 19.2 -0.9**
KOWA IAmb IAmb 17 54 19.7
comp=Z,5.8nm,0.8s
L19K White Mountain 70.17 21 P **P** **17 54 19.8 0.0**
baz=324
L20K Farewell, AK 70.19 21 P **P** **17 54 19.9 -0.1**
baz=325
HDA Harding Lake 70.24 17 P **P** **17 54 19.9 -0.3**
baz=330
PPLA Purkeypile 70.28 20 P **P** **17 54 19.9 -0.8**
baz=326
TRF Thorofare Moun 70.29 19 P **P** **17 54 20.5 -0.2**
baz=328
EPYK Eagle Plains 70.38 12 P **P** **17 54 20.9 -0.2**
baz=337

J25K Salcha River, 70.39 16 P **P** **17 54 20.9 -0.3**
baz=331
M19K Big River Lodg 70.52 21 P **P** **17 54 21.6 -0.4**
baz=325
J26L Joseph Creek 70.86 15 P **P** **17 54 23.3 -0.8**
baz=332,SNR=5.9
EGAK Eagle 71.08 14 P **P** **17 54 24.7 -0.6**
baz=334
SKT Skwentna 71.22 20 P **P** **17 54 25.8 -0.4**
SKT Skwentna 71.22 20 P **P** **17 54 26.0 -0.2**
baz=327
WAT1 Susitna Watana 71.23 18 P **P** **17 54 25.5 -0.8**
baz=329
SCRK Sand Creek 71.24 16 P **P** **17 54 26.6 +0.2**
SCRK IAmb IAmb 17 54 27.8
comp=Z,8.0nm,0.8s
SCRK Sand Creek 71.24 16 P **P** **17 54 25.8 -0.7**
baz=332,SNR=12
RIDG Independent Ri 71.27 16 P **P** **17 54 26.1 -0.4**
RIDG IAmb IAmb 17 54 27.2
comp=Z,8.0nm,0.8s
RIDG Independent Ri 71.27 16 P **P** **17 54 26.2 -0.4**
baz=332,SNR=5.5
DHY Denali Highway 71.30 18 P **P** **17 54 26.9 +0.1**
DHY IAmb IAmb 17 54 27.8
comp=Z,5.5nm,0.8s
DHY Denali Highway 71.30 18 P **P** **17 54 26.0 -0.8**
baz=330
N19K Bonanza Creek 71.39 22 P **P** **17 54 27.0 -0.4**
baz=325
WAT6 Susitna Watana 71.64 18 P **P** **17 54 27.9 -1.0**
baz=330
PAX Paxson 71.82 17 P **P** **17 54 29.3 -0.6**
PAX pmax pmax
comp=Z,8.0nm,0.9s
PAX Paxson 71.82 17 P **P** **17 54 29.3 -0.6**
PAX IAmb IAmb 17 54 30.7
comp=Z,7.7nm,0.9s
PAX Paxson 71.82 17 P **P** **17 54 28.9 -1.0**
baz=331,SNR=6.7
SUA Susitna One 71.86 20 P **P** **17 54 29.2 -1.0**
baz=328
DAWY Dawson 72.05 14 P **P** **17 54 30.8 -0.4**
DAWY IAmb IAmb 17 54 32.4
comp=Z,6.5nm,0.9s
DAWY Dawson 72.05 14 P **P** **17 54 30.3 -0.9**
baz=336
SML Sawmill 72.17 19 P **P** **17 54 31.6 -0.4**
baz=329
L26K Log Cabin Wild 72.22 16 P **P** **17 54 32.2 0.0**
L26K IAmb IAmb 17 54 34.0
comp=Z,8.8nm,1.4s
L26K Log Cabin Wild 72.22 16 P **P** **17 54 31.8 -0.4**
baz=333
SCM Sheep Creek Mo 72.39 18 P **P** **17 54 33.5 +0.2**
SCM pmax pmax
comp=Z,12nm,0.7s
SCM Sheep Creek Mo 72.39 18 P **P** **17 54 33.5 +0.2**
HARP HAARP 72.39 17 P **P** **17 54 32.8 -0.4**
baz=332,SNR=7.0
M24K Tolsona, Glenn 72.42 18 P **P** **17 54 34.2 +0.8**
M24K Tolsona, Glenn 72.42 18 P **P** **17 54 33.0 -0.5**
baz=331
RC01 Rabbit Creek A 72.43 20 P **P** **17 54 32.9 -0.6**
baz=328
KNK Knik Glacier 72.48 19 P **P** **17 54 34.3 +0.5**
KNK IAmb IAmb 17 54 35.6
comp=Z,13nm,0.9s
KNK Knik Glacier 72.48 19 P **P** **17 54 33.9 +0.2**
baz=329
L27K Beaver Creek, 72.50 15 P **P** **17 54 34.5 +0.5**
L27K IAmb IAmb 17 54 35.8
comp=Z,7.1nm,0.8s
L27K Beaver Creek, 72.50 15 P **P** **17 54 34.7 +0.8**
baz=334,SNR=9.0
BCAR Beaver Creek A 72.51 15 P **P** **17 54 34.5 +0.5**
M26K Nabesna, AK 72.86 16 P **P** **17 54 36.1 0.0**
baz=333
KLU Klutina 73.01 18 P **P** **17 54 37.2 +0.2**
KLU IAmb IAmb 17 54 38.6
comp=Z,7.8nm,1.0s
KLU Klutina 73.01 18 P **P** **17 54 37.4 +0.3**
baz=331
M27K Edge Creek, AK 73.13 16 P **P** **17 54 38.4 +0.6**
baz=334,SNR=5.2
N25K Chitina, Valde 73.22 17 P **P** **17 54 38.7 +0.5**
baz=332
GLI Glacier Island 73.27 19 P **P** **17 54 38.5 0.0**
baz=330
MCARA McCarthy VSAT 73.76 17 P **P** **17 54 41.9 +0.5**
baz=333
BMRM Bremner River 73.78 18 P **P** **17 54 41.6 +0.1**
baz=332
EYAK Cordova Ski Ar 73.89 18 P **P** **17 54 42.2 +0.2**
baz=331
YUK3 Moose Creek 73.94 15 P **P** **17 54 42.7 +0.1**
baz=335,SNR=6.6
CRQE Cirque 74.31 17 P **P** **17 54 44.9 +0.2**
baz=333
KDAK Kodiak Island 74.45 23 LR LR 18 33 32.7
comp=Z,52nm,19.2s,baz=50,slow=41
CTG Chitna Glacier 74.50 16 P **P** **17 54 46.1 +0.3**
baz=335
CTGM Chitina Glacie 74.50 16 P **P** **17 54 46.2 +0.4**
CHNA Chernabura Isl 74.59 28 P **P** **17 54 46.7 +0.5**
baz=322
YUK4 Talbot Arm 74.69 15 P **P** **17 54 47.0 0.0**
baz=337
LOGN Logan Glacier 74.69 16 P **P** **17 54 47.6 +0.6**
LOGN IAmb IAmb 17 54 56.6
comp=Z,8.1nm,1.0s
MMPY Sheldon Lake, 74.73 11 P **P** **17 54 47.3 +0.3**
baz=342
FARO Faro, Yukon 74.78 12 P **P** **17 54 47.4 +0.1**
baz=340
SII Sitkinak Islan 74.99 24 P **P** **17 54 49.3 +0.7**
baz=326
WRGLY Wrigley 75.06 7 P **P** **17 54 49.2 +0.4**
baz=348
YUK6 Outpost Mounta 75.11 15 P **P** **17 54 49.3 -0.2**
baz=337
CHIR Chirikof Islan 75.14 26 P **P** **17 54 49.7 +0.3**
baz=325
HYT Haines Junctio 75.39 14 P **P** **17 54 51.9 +0.9**
HYT IAmb IAmb 17 54 53.3
comp=Z,10nm,0.8s
HYT Haines Junctio 75.39 14 P **P** **17 54 51.4 +0.4**
baz=338,SNR=8.0
PINM Pinnacle 75.51 16 P **P** **17 54 52.0 +0.4**
baz=336
DBIC Dimbokro 75.73 266 P **P** **17 54 52.7 -0.8**
comp=Z,4.8nm,0.7s,baz=71,slow=5.6,SNR=5.1
DBIC Dimbokro 75.73 266 IAmb IAmb 17 54 58.5
comp=Z,22nm,1.6s
KIC Kosan Boka 75.85 266 *e*P **P** **17 54 53.0 -1.2**
comp=Z,5.5nm,0.8s
TIC Toumodi 75.87 266 *e*P **P** **17 54 52.9 -1.4**
WHY Whitehorse 76.01 13 P **P** **17 54 54.4 -0.2**
baz=340
LIC Lamto 76.15 266 *e*P **P** **17 54 54.7 -1.2**
comp=Z,34nm,1.0s
TGTN Hyland Airport 76.18 10 P **P** **17 54 55.5 +0.1**
baz=344
YKA Yellowknife Ar 76.39 3 P **P** **17 54 56.5 +0.1**
comp=Z,6.5nm,0.7s,baz=360,slow=5.7,SNR=31
YKA LR LR 18 33 19.0
comp=Z,45nm,18.3s,baz=0.0,slow=39
YKA Yellowknife Ar 76.39 3 *e*P **P** **17 54 56.8 +0.4**
YKA pmax pmax
comp=Z,7.0nm,0.7s
SKAG Skagway 77.06 14 P **P** **17 55 00.4 +0.1**
baz=339
WRAK Wrangell Islan 80.47 13 P **P** **17 55 18.3 -0.7**
baz=342
WRA Warramunga Arr 83.94 123 P **P** **17 55 36.8 -0.9**
comp=Z,1.1nm,0.7s,baz=324,slow=4.5,SNR=13
WRA Warramunga Arr 83.94 123 *e*P **P** **17 55 38.2 +0.4**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 83.94 123 IAmb IAmb 17 55 44.7
comp=Z,0.5nm,1.6s
ASAR Alice Springs 86.43 126 P **P** **17 55 49.5 -0.7**
comp=Z,1.9nm,0.8s,baz=319,slow=5.2,SNR=17
PKME Peaks-Kenny Pk 87.08 334 P **P** **17 55 52.0 -1.1**
baz=28
ULM Lac du Bonnet 88.18 352 LR LR 18 39 38.7
comp=Z,75nm,18.2s,baz=265,slow=38

ULM	**Lac du Bonnet**	**88.18**	**352**	*e*P		**P**	**17 55 55.4**	**-2.9**
ULM				pmax		pmax		
	comp=Z,3.0nm,0.9s							
B05A	**Bryant**	**89.92**	**9**	P		**P**	**17 56 06.7**	**+0.1**
	baz=350							
NEW	**Newport**	**90.42**	**6**	P		**P**	**17 56 09.5**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=346,slow=2.8,SNR=4.7							
NEW	**Newport**	**90.42**	**6**	IAmb		IAmb	17 56 10.1	
	comp=Z,3.6nm,0.9s							
LON	**Longmire**	**91.45**	**9**	P		**P**	**17 56 13.9**	**+0.1**
LON				pmax		pmax		
	comp=Z,4.0nm,0.9s							
LON	**Longmire**	**91.45**	**9**	P		**P**	**17 56 13.9**	**+0.1**
LON				IAmb		IAmb	17 56 23.8	
	comp=Z,4.2nm,0.9s							
I03D	**Drain, OR**	**94.24**	**11**	P		**P**	**17 56 26.4**	**-0.2**
	baz=348							
PDAR	**Pinedale Array**	**96.27**	**1**	P		**P**	**17 56 36.3**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=330,slow=5.3,SNR=2.5							
PDAR				LR		LR	18 42 55.2	
	comp=Z,26nm,21.9s,baz=30,slow=37							
HVU	**Hansel Valley**	**97.16**	**4**	P		Pdif	17 56 40.9	+0.7
HVU				pmax		pmax		
	comp=Z,7.0nm,1.4s							
HVU	**Hansel Valley**	**97.16**	**4**	P		Pdif	17 56 40.9	+0.7
HWUT	**Hardware Ranch**	**97.38**	**3**	P		Pdif	17 56 41.8	+0.5
HWUT				IAmb		IAmb	17 56 51.2	
	comp=Z,3.4nm,0.8s							
PLCA	**Paso Flores**	**151.86**	**259**	PKPbc		**PKPbc**	**18 03 01.5**	**-0.7**
	comp=Z,4.1nm,1.0s,baz=65,slow=4.2,SNR=7.3							
PLCA	**Paso Flores**	**151.86**	**259**	*e*PKIKP		**PKPdf**	**18 02 55.5**	**-0.3**
PLCA				pmax		pmax		
	comp=Z,2.0nm,1.0s							
PLCA	**Paso Flores**	**151.86**	**259**			**PKPbc**	**18 03 02.4**	**+0.2**

MEX ***22*** *17:46:51.9±1.6,31.86N×115.77W,h158km±57km, MD3.6*
ECX 22 17:46:52.3±0.6,31.27N×115.68W,h8km±13km, MD2.6, ML2.8, 2C-1D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVX	**San Vicente**	**0.50**	**277**	*e*P	Pg	17 47 01.3	-0.6
SVX				*i* S	Sg	17 47 08.0	-0.5
SFX	**San Felipe**	**0.74**	**108**⇑	*e*P	Pg	17 47 05.6	-1.0
SFX				*e*S	Sg	17 47 15.1	-1.2
SFX				IAML		17 47 16.8	
	comp=N,698nm,0.4s						
SFX				*e*		17 47 16.8	
SFX				IAML		17 47 17.1	
	comp=E,343nm,0.2s						
SFX				⇓*e*		17 47 17.1	
CCX	**Cicese**	**1.03**	**306**	*e*S	Sg	17 47 24.0	-1.7
CPBX	**Cerro Prieto**	**1.19**	**15**	IAML		17 47 33.7	
	comp=Z,314nm,0.2s						
CPBX				⇑*e*		17 47 33.7	
CPBX				IAML		17 47 34.1	
	comp=N,702nm,0.3s						
MBIG	**Mexicali**	**1.21**	**20**	*e*P	Pb	17 47 14.7	-0.7
MBIG				*e*S	Sg	17 47 30.9	-0.3
CBX	**Cerro Bola**	**1.34**	**321**	*e*P	Pn	17 47 15.4	-2.1
CBX				*e*S	Sb	17 47 33.0	-2.1
CBX	**Cerro Bola**	**1.34**	**321**	*e*P	Pn	17 47 15.5	-1.9
CBX				*e*S	Sb	17 47 33.8	-1.3
RMX	**La Rumorosa**	**1.38**	**346**	*e*P	Pn	17 47 15.8	-2.1
RMX				*i* S	Sb	17 47 32.6	-3.6
YUH2	**Yuha Desert**	**1.39**	**351**	*e*P	Pn	17 47 16.6	-1.5
YUH2				*e*S	Sb	17 47 34.9	-1.6
IKP	**In-Ko-Pah, Jac**	**1.43**	**345**	*e*P	Pn	17 47 17.5	-1.1
IKP				*e*S	Sb	17 47 35.6	-2.1
TJIG	**Tijuana**	**1.44**	**324**	*i* P	Pn	17 47 14.3	-4.5
TJIG				*i* S	Sn	17 47 35.2	-2.7
BAR	**Barrett**	**1.64**	**329**	*e*P	Pn	17 47 20.7	-0.8
BAR				*e*S	Sn	17 47 42.0	-0.9

BER ***22*** *17:59:48.9±2.7,79.08N×2.60E,h10km, ML2.1, ML2.8(DNK), Confirmed Earthquake*
DNK ***22*** *17:59:50.3±4.8,79.05N×2.76E,h40km±63km, ML2.8*
ISC 22 17:59:44.8±0.9,79.09N±0.07×2.21E±0.04,h10km,n14,
σ3.58/29, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.87**	**90**	*i* P	**Pb**	**18 00 18.4**	**-0.5**
KBS				IAML		18 00 39.3	
	comp=Z,84nm,0.3s						
KBS	**Kingsbay**	**1.87**	**90**	*e*P	**Pb**	**18 00 18.4**	**-0.5**
KBS				*e*S	**Sn**	**18 00 37.3**	**-3.1**
KBS				IAML		18 00 39.0	
	comp=Z,49nm,0.3s						
SPA0	**Spitsbergen Ar**	**2.94**	**101**	*e*P	**Pn**	**18 00 34.2**	**+2.7**
SPA0				*e*S	**Sn**	**18 01 05.2**	**-1.6**
SPA0				IAML		18 01 25.1	
	comp=Z,12nm,0.5s						
HSPB	**Hornsund (broa**	**3.47**	**120**	*e*P	**Pn**	**18 00 41.9**	**+3.3**
HSPB				*e*S	**Sn**	**18 01 17.1**	**-2.6**
HSPB				IAML		18 01 22.0	
	comp=Z,5.1nm,0.7s						
NOR	**Nord**	**4.04**	**317**	*i* P	**Pn**	**18 00 50.0**	**+3.5**
NOR				*i* S	**Sn**	**18 01 34.2**	**+0.5**
NOR				IAML		18 01 37.1	
	comp=Z,2.2nm,0.3s						
NOR	**Nord**	**4.04**	**317**	*i* P	**Pn**	**18 00 50.0**	**+3.5**
NOR				*i* S	**Sn**	**18 01 34.2**	**+0.5**
NOR				IAML		18 01 37.1	
	comp=Z,2.2nm,0.3s						
DAG	**Danmarks Havn**	**4.93**	**253**	*e*	**Pn**	**18 01 00.6**	**+1.9**
	baz=48,slow=16						
DAG				*i* P	**Pn**	**18 01 03.0**	**+4.2**
DAG				*i* P	**Pn**	**18 01 03.0**	**+4.2**
DAG				*i* S	**Sn**	**18 01 55.3**	**-0.4**
DAG				IAML		18 01 57.4	
	comp=Z,6.9nm,0.3s						
DAG	**Danmarks Havn**	**4.93**	**253**	*e*	**Pn**	**18 01 00.6**	**+1.9**
	baz=48,slow=16						
DAG				*i* P	**Pn**	**18 01 03.0**	**+4.2**
DAG				*i* P	**Pn**	**18 01 03.0**	**+4.2**
DAG				*i* S	**Sn**	**18 01 55.3**	**-0.4**
DAG				IAML		18 01 57.4	
	comp=Z,6.9nm,0.3s						
HOPEN	**Hopen**	**5.45**	**107**	*e*P	**Pn**	**18 01 07.4**	**+1.5**
HOPEN				*e*S	**Sn**	**18 02 05.0**	**-3.4**
HOPEN				IAML		18 02 20.0	
	comp=Z,5.6nm,1.1s						
DBG	**Daneborg**	**6.99**	**239**	*i* P	**Pn**	**18 01 30.3**	**+3.3**
DBG				*e*S	**Sn**	**18 02 40.3**	**-6.1**
DBG				IAML		18 02 50.6	
	comp=Z,4.5nm,0.4s						
DBG	**Daneborg**	**6.99**	**239**	*i* P	**Pn**	**18 01 30.3**	**+3.3**
DBG				*e*S	**Sn**	**18 02 40.3**	**-6.1**
DBG				IAML		18 02 50.6	
	comp=Z,4.5nm,0.4s						
NEEM	**North Greenlan**	**10.63**	**288**	*i* P	**Pn**	**18 02 17.3**	**+0.2**
NEEM				*i* S	**Sn**	**18 04 09.8**	**-6.3**
NEEM				IAML		18 04 15.3	
	comp=Z,2.2nm,0.4s						
SUMG	**Summit**	**11.59**	**258**	*i* P	**Pn**	**18 02 34.7**	**+4.5**
SUMG				*i* S	Sn	18 04 31.9	-7.8
SUMG				IAML		18 04 42.0	
	comp=Z,1.4nm,0.4s						
SUMG	**Summit**	**11.59**	**258**	*i* P	**Pn**	**18 02 34.7**	**+4.5**
SUMG				*i* S	Sn	18 04 31.9	-7.8
SUMG				IAML		18 04 42.0	
	comp=Z,1.4nm,0.4s						

MOS ***22*** *18:01:34.4±0.9,32.47N×105.36E,h10km,mb4.7/11, Error ellipse: s-maj=7.9km s-min=5.5km az=106.3*
IDC ***22*** *18:01:35.0±0.4,32.46N×105.32E,h0km,mb4.2/29, mb1 4.3/32,mb1mx4.3/54,mbtmp4.2/32,ML3.9/3,MS3.4/15, Ms1 3.4/15,ms1mx3.2/56,Error ellipse: s-maj=16.0km s-min=9.2km az=57.0*
BJI ***22*** *18:01:36.5±0.0,32.61N×105.38E,h10km,mB4.5/24, mb4.4/33,ML4.5/29,Ms4.1/47,Ms7 3.9/39*
NEIC ***22*** *18:01:37.3±1.3,32.52N±0.07×105.38E±0.09,h14km±4km, mb4.7/104,Error ellipse: s-maj=11.1km s-min=10.1km az=58.0*
ISC 22 18:01:36.8±0.3,32.55N±0.03×105.41E±0.03,h11km,n276,
σ1.52/292,mb4.6/89,MS3.5/14,14C-9D,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.16**	**221**	Pn	**Pn**	**18 02 13.3**	**+0.5**
CD2				Pg	**Pb**	**18 02 16.5**	**+0.5**
CD2				Sg	**Sg**	**18 02 45.8**	**-0.5**
CD2				smax	smax		
	comp=N,18μm,1.0s						
CD2				smax	smax		
	comp=E,25μm,0.7s						
XAN	**Xi'an**	**3.29**	**62**	Pn	**Pn**	**18 02 28.5**	**+0.2**
XAN				Pg	**Pg**	**18 02 38.3**	**-1.6**
XAN				Sn	**Sn**	**18 03 07.0**	**-0.5**
XAN				Sg	**Sb**	**18 03 16.3**	**+0.9**
XAN				smax	smax		
	comp=N,2μm,0.7s						
XAN				smax	smax		
	comp=E,2μm,0.8s						
XAN				LR	LR		
	comp=E,5μm,4.6s						
XAN				LR	LR		
	comp=Z,3μm,6.9s						
LZH	**Lanzhou**	**3.75**	**340**	*e*Pn	**Pn**	**18 02 36.8**	**+2.0**
LZH				Pg	**Pg**	**18 02 46.3**	**-2.5**
LZH				Sn	**Sn**	**18 03 22.1**	**+3.0**
LZH				Sg	**Sb**	**18 03 32.8**	**+4.0**
LZH				smax	smax		
	comp=N,1μm,0.9s						
LZH				smax	smax		
	comp=E,1μm,1.0s						
LZH				LR	LR		
	comp=N,2μm,5.4s						
LZH				LR	LR		
	comp=E,3μm,4.3s						
LZH				LR	LR		
	comp=Z,3μm,5.4s						
ENH	**Enshi**	**4.16**	**122**	Pn	**Pn**	**18 02 40.5**	**+0.2**
GYA	**Guiyang**	**6.17**	**169**⇓	*i*Pn	**Pn**	**18 03 08.5**	**+0.5**
GYA				Sn	**Sn**	**18 04 17.9**	**-0.8**
GYA				smax	smax		
	comp=N,380nm,0.5s						
GYA				smax	smax		
	comp=E,230nm,0.6s						
GYA				LR	LR		
	comp=N,220nm,3.8s						
GYA				LR	LR		
	comp=E,140nm,3.8s						
KMI	**Kunming**	**7.76**	**198**	⇓Pn	**Pn**	**18 03 29.9**	**-0.1**
KMI				Sn	**Sn**	**18 04 57.3**	**-0.7**
KMI				smax	smax		
	comp=N,82nm,0.9s						
KMI				smax	smax		
	comp=E,56nm,0.8s						
WHN	**Wuhan**	**7.89**	**102**	⇓P	**Pn**	**18 03 32.3**	**+0.9**
WHN				S	**Sn**	**18 04 58.0**	**-2.7**
WHN				pmax	pmax		
	comp=Z,22nm,0.4s						
WHN				LR	LR		
	comp=Z,2μm,3.9s						
GTA	**Gaotai**	**8.21**	**328**	⇑P	**Pn**	**18 03 35.8**	**-0.1**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
GTA				pmax	pmax		
	comp=Z,55nm,4.4s						
GTA				LR	LR		
	comp=N,1μm,10.9s						
GTA				LR	LR		
	comp=Z,490nm,11.3s						
BTO	**Baotou**	**8.85**	**23**	P	Pn	18 03 38.9	-5.8
BTO				S	**Sn**	**18 05 17.9**	**-6.5**
BTO				LR	LR		
	comp=N,3μm,8.2s						
BTO				LR	LR		
	comp=E,2μm,6.2s						
HHC	**Hu-ho-hao-te**	**9.64**	**29**	*e*P	**Pn**	**18 03 57.8**	**+2.3**
HHC				pmax	pmax		
	comp=E,15nm,0.7s						
HHC				pmax	pmax		
	comp=E,90nm,6.6s						
SLVN	**Son La**	**11.26**	**187**	Pn	**Pn**	**18 04 16.6**	**-1.1**
NJ2	**Nanjing**	**11.39**	**89**	*e*P	**Pn**	**18 04 20.4**	**+1.0**
NJ2				pmax	pmax		
	comp=E,7.0nm,0.5s						
NJ2				LR	LR		
	comp=E,470nm,7.2s						
NJ2				LR	LR		
	comp=E,330nm,5.1s						
BJT	**Baijiatuan**	**11.43**	**46**	P	**Pn**	**18 04 19.6**	**-0.4**
BJT	**Baijiatuan**	**11.43**	**46**	Pn	**Pn**	**18 04 19.6**	**-0.4**
BJI	**Beijing**	**11.45**	**46**	P	**Pn**	**18 04 19.8**	**-0.4**
BJI				S	**Sn**	**18 06 30.0**	**+1.9**
BJI				pmax	pmax		
	comp=E,3.0nm,0.5s						
BJI				LR	LR		
	comp=E,950nm,12.5s						
BJI				LR	LR		
	comp=E,860nm,13.1s						
BJI				LR	LR		
	comp=E,490nm,8.5s						
GZH	**Guangzhou**	**11.75**	**141**	P	Pn	18 04 18.9	-5.5
GZH				S	**Sn**	**18 06 30.0**	**-5.6**
GZH				smax	smax		
	comp=N,70nm,1.0s						
GZH				smax	smax		
	comp=E,71nm,1.1s						
LSA	**Lhasa**	**12.54**	**261**	P	**Pn**	**18 04 36.4**	**+0.7**
LSA				pP	**P**	**18 04 44.3**	**-3.1**
LSA				S	**Sn**	**18 06 58.9**	**+3.2**
LSA				LR	LR		
	comp=E,420nm,5.7s						
LSA				LR	LR		
	comp=E,340nm,5.3s						
LSA				LR	LR		
	comp=E,330nm,5.7s						
LSA	**Lhasa**	**12.54**	**261**	P	**Pn**	**18 04 35.0**	**-0.7**
LSA	**Lhasa**	**12.54**	**261**	Pn	**Pn**	**18 04 35.0**	**-0.7**
QIZ	**Qiongzhong**	**14.04**	**162**	P	**Pn**	**18 04 55.6**	**-0.2**
QIZ				S	**Sn**	**18 07 38.3**	**+6.6**
QIZ				LR	LR		
	comp=E,300nm,9.8s						
QIZ				LR	LR		
	comp=E,340nm,9.4s						
QIZ	**Qiongzhong**	**14.04**	**162**	Pn	**Pn**	**18 04 53.1**	**-2.7**
CM34	**Chiang Mai Arr**	**14.76**	**204**	P	**Pn**	**18 05 07.0**	**+1.4**
CM33	**Chiang Mai Arr**	**14.86**	**205**	P	**Pn**	**18 05 08.0**	**+1.0**
CMMT	**Chiang Mai**	**14.87**	**205**	P	**Pn**	**18 05 08.7**	**+1.7**
	comp=E,11nm,0.9s						
CMMT	**Chiang Mai**	**14.87**	**205**	P	**Pn**	**18 05 08.0**	**+1.0**
	comp=E,11nm,0.9s						
CHTO	**Chiang Mai**	**14.87**	**205**	P	**Pn**	**18 05 06.2**	**-0.8**
CHTO	**Chiang Mai**	**14.87**	**205**	P	**Pn**	**18 05 08.8**	**+1.8**
	comp=E,11nm,0.9s						
CHTO	**Chiang Mai**	**14.87**	**205**		**Pn**	**18 05 06.2**	**-0.8**
LAMP	**Lampang**	**14.91**	**202**	P	**Pn**	**18 05 09.0**	**+1.4**
	comp=E,346nmcomp=E,30nm,0.9s						
LAMP	**Lampang**	**14.91**	**202**	P	**Pn**	**18 05 09.0**	**+1.4**
	comp=E,86nmcomp=E,7.6nm,0.9s						
CM35	**Chiang Mai Arr**	**14.92**	**204**	P	**Pn**	**18 05 08.0**	**+0.3**
CM32	**Chiang Mai Arr**	**15.05**	**205**	P	**Pn**	**18 05 10.0**	**+0.5**
CM36	**Chiang Mai Arr**	**15.09**	**204**	P	**Pn**	**18 05 09.0**	**-1.0**
CM09	**Chiang Mai Arr**	**15.19**	**204**	P	**Pn**	**18 05 11.3**	**-0.1**
	comp=E,104nmcomp=E,14nm,0.7s						
CM09	**Chiang Mai Arr**	**15.19**	**204**	P	**Pn**	**18 05 11.3**	**-0.1**
	comp=E,104nmcomp=E,14nm,0.7s						
CM31	**Chiang Mai Arr**	**15.20**	**204**	P	**Pn**	**18 05 11.4**	**-0.1**
	comp=E,348nm,0.7s						
CM31	**Chiang Mai Arr**	**15.20**	**204**	Pn	**Pn**	**18 05 10.1**	**-1.3**
CMAR	**Chiang Mai Arr**	**15.20**	**204**	Pn	**Pn**	**18 05 10.7**	**-0.8**
	comp=E,0.2nm,0.3s,baz=16,slow=11,SNR=31						
CMAR				Lg	Lg	18 09 34.9	
	comp=E,0.1nm,0.3s,baz=28,slow=30,SNR=1.3						
CMAR				LR	LR	18 10 28.2	
	comp=E,57nm,20.2s,baz=343,slow=35						
CMAR	**Chiang Mai Arr**	**15.20**	**204**	*ce*P	**Pn**	**18 05 11.1**	**-0.3**
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**15.20**	**204**		**Pn**	**18 05 10.2**	**-1.2**
CM02	**Chiang Mai Arr**	**15.22**	**204**	P	**Pn**	**18 05 11.5**	**-0.2**
	comp=Z,94nmcomp=Z,12nm,0.8s						
CM02	**Chiang Mai Arr**	**15.22**	**204**	P	**Pn**	**18 05 11.5**	**-0.2**
	comp=Z,94nmcomp=Z,12nm,0.8s						
CM01	**Chiang Mai Arr**	**15.22**	**204**	P	**Pn**	**18 05 11.9**	**+0.1**
	comp=Z,85nmcomp=Z,11nm,0.8s						
CM01	**Chiang Mai Arr**	**15.22**	**204**	P	**Pn**	**18 05 11.9**	**+0.1**
	comp=Z,85nmcomp=Z,11nm,0.8s						
CM04	**Chiang Mai Arr**	**15.24**	**204**	P	**Pn**	**18 05 11.8**	**-0.2**
	comp=Z,91nmcomp=Z,12nm,0.8s						
CM04	**Chiang Mai Arr**	**15.24**	**204**	P	**Pn**	**18 05 11.8**	**-0.2**
	comp=Z,91nmcomp=Z,12nm,0.8s						
CM13	**Chiang Mai Arr**	**15.24**	**204**	P	**Pn**	**18 05 11.8**	**-0.2**
	comp=Z,51nmcomp=Z,5.4nm,1.0s						
CM13	**Chiang Mai Arr**	**15.24**	**204**	P	**Pn**	**18 05 11.0**	**-1.0**
	comp=Z,51nmcomp=Z,5.4nm,1.0s						
CM05	**Chiang Mai Arr**	**15.25**	**204**	P	**Pn**	**18 05 12.1**	**0.0**
	comp=Z,63nmcomp=Z,8.2nm,0.9s						
CM05	**Chiang Mai Arr**	**15.25**	**204**	P	**Pn**	**18 05 12.2**	**0.0**
	comp=Z,63nmcomp=Z,8.2nm,0.9s						
SONM	**Songino Array**	**15.28**	**3**	Pn	**Pn**	**18 05 13.0**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=185,slow=14,SNR=10						
SONM				Sn	**S**	**18 08 14.0**	**-4.5**
	comp=Z,0.1nm,0.3s,baz=168,slow=22,SNR=1.0						
SONM				Lg	Lg	18 09 32.7	
	comp=Z,0.1nm,0.3s,baz=199,slow=30,SNR=1.8						
SONM				LR	LR	18 11 29.8	
	comp=Z,126nm,19.1s,baz=202,slow=39						
SONM	**Songino Array**	**15.28**	**3**	P	**Pn**	**18 05 13.0**	**+0.5**
SONM	**Songino Array**	**15.28**	**3**	Pn	**Pn**	**18 05 12.5**	**-0.1**
ULN	**Ulaanbaatar**	**15.35**	**4**⇓	*e*P	**Pn**	**18 05 14.3**	**+0.9**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.3s						
ULN	**Ulaanbaatar**	**15.35**	**4**		**Pn**	**18 05 14.1**	**+0.7**
UTTA	**Uttaradit**	**15.38**	**198**	P	**P**	**18 05 19.8**	**+1.3**
	comp=Z,16nm,1.0s						
UTTA	**Uttaradit**	**15.38**	**198**	P	**P**	**18 05 19.9**	**+1.3**
	comp=Z,4.0nm,1.0s						
SKNT	**Sakolnakorn**	**15.57**	**185**	P	**P**	**18 05 20.3**	**-0.3**
	comp=Z,9.7nm,1.0s						
SKNT	**Sakolnakorn**	**15.57**	**185**	P	**P**	**18 05 20.3**	**-0.3**
	comp=Z,9.7nm,1.0s						
MHMT	**Maesarieng**	**15.82**	**207**	P	**P**	**18 05 23.1**	**-0.3**
	comp=Z,720nmcomp=Z,16nm,0.7s						
MHMT	**Maesarieng**	**15.82**	**207**	P	**P**	**18 05 23.2**	**-0.3**
	comp=Z,720nmcomp=Z,16nm,0.7s						
PHIT	**Phitsanulok**	**15.95**	**198**	P	**P**	**18 05 23.4**	**-1.4**
	comp=Z,855nmcomp=Z,104nm,1.0s						
PHIT	**Phitsanulok**	**15.95**	**198**	P	**P**	**18 05 23.5**	**-1.4**
	comp=Z,212nmcomp=Z,26nm,1.0s						
YHNB	**Yeheng**	**16.06**	**115**	P	**Pn**	**18 05 22.6**	**-0.1**
TAPN	**Taplejung**	**16.19**	**256**	*e*P	**P**	**18 05 26.9**	**-0.9**
SSLB	**Suanglung**	**16.24**	**119**	P	**Pn**	**18 05 25.8**	**+0.8**
TPUB	**Ta-pu**	**16.29**	**121**	Pn	**Pn**	**18 05 25.3**	**-0.3**
NACB	**Ninganchiao**	**16.50**	**116**	P	**Pn**	**18 05 29.0**	**+0.8**
YULB	**Yu-li**	**16.72**	**119**		**Pn**	**18 05 31.5**	**+0.4**
CHAI	**Chaiyaphum**	**16.87**	**191**	P	**P**	**18 05 34.5**	**-0.5**
	comp=Z,32nm,0.8s						
CHAI	**Chaiyaphum**	**16.87**	**191**	P	**P**	**18 05 34.5**	**-0.5**
	comp=Z,8.1nm,0.8s						
TWG	**Pinlang**	**16.91**	**121**	P	**P**	**18 05 34.5**	**-0.9**
TWG				IAmb	IAmb	18 05 43.8	
	comp=Z,21nm,0.3s						
UBPT	**Khong Chiam**	**17.20**	**180**	P	**P**	**18 05 41.8**	**+3.1**
	comp=Z,16nm,1.8s						
UBPT	**Khong Chiam**	**17.20**	**180**	P	**P**	**18 05 41.0**	**+2.3**
	comp=Z,16nm,1.8s						
UBPT	**Khong Chiam**	**17.20**	**180**	P	**Pn**	**18 05 37.1**	**0.0**
UTHA	**Uthaitani**	**17.77**	**199**	P	**P**	**18 05 45.4**	**+0.5**
	comp=Z,12nm,0.7s						
UTHA	**Uthaitani**	**17.77**	**199**	P	**P**	**18 05 45.4**	**+0.5**
	comp=Z,3.1nm,0.7s						
WMQ	**Urumqi**	**17.86**	**314**	*e*P	**P**	**18 05 48.1**	**+2.1**
WMQ				sP	sP	18 05 54.5	+3.6
WMQ				PP	**PnPn**	**18 06 02.6**	**+6.6**
WMQ				S	**S**	**18 09 07.8**	**-3.3**
WMQ				pmax	pmax		
	comp=Z,27nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,130nm,4.3s						
WMQ				LR	LR		
	comp=Z,330nm,10.9s						
PKI	**Pulchoki**	**18.01**	**259**	*e*P	**P**	**18 05 47.8**	**-0.1**
	comp=Z,16nm,0.5s						
PKIN	**Phulchoki**	**18.01**	**259**	*e*P	**P**	**18 05 47.8**	**-0.2**
	comp=Z,14nm,0.5s						
KKN	**Kakani**	**18.04**	**260**	*e*P	**P**	**18 05 48.1**	**0.0**
	comp=Z,20nm,0.6s						
GKN	**Gorkha**	**18.50**	**261**	*e*P	**P**	**18 05 52.9**	**-0.3**
	comp=Z,27nm,0.7s						
KHLT	**Khaolaem Dam**	**18.74**	**201**	P	**Pn**	**18 05 58.9**	**+2.8**
	comp=Z,354nmcomp=Z,13nm,0.8s						
KHLT	**Khaolaem Dam**	**18.74**	**201**	P	**Pn**	**18 05 58.0**	**+1.9**
	comp=Z,354nmcomp=Z,13nm,0.8s						
KS19	**Wonju Array Si**	**19.03**	**69**	P	**P**	**18 05 58.3**	**-0.5**
KSAR	**Wonju Array Be**	**19.03**	**69**	P	**P**	**18 05 58.3**	**-0.5**
KSAR	**Wonju Array Be**	**19.03**	**69**	P	**P**	**18 05 58.3**	**-0.5**
KSRS	**Korea Array**	**19.07**	**69**	P	**Pn**	**18 05 59.7**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=256,slow=11,SNR=19						
KSRS				LR	LR	18 13 50.1	
	comp=Z,145nm,18.2s,baz=266,slow=38						
DANN	**Dangsing**	**19.12**	**263**	*e*P	**P**	**18 05 59.9**	**-0.3**
CN2	**Changchun**	**19.29**	**49**	*e*P	**Pn**	**18 06 04.4**	**+1.8**
KOLN	**Koldanda**	**19.44**	**262**	*e*P	**P**	**18 06 02.7**	**-0.9**
	comp=Z,42nm,0.8s						
HIA	**Hailar**	**19.84**	**29***c*	*i*P	**Pn**	**18 06 10.1**	**+0.9**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HIA	**Hailar**	**19.84**	**29**		**P**	**18 06 06.8**	**-0.8**
PHET	**Kaeng Krachan**	**20.26**	**196**	P	Pn	18 06 13.4	-0.8
	comp=Z,407nmcomp=Z,54nm,0.7s						
PHET	**Kaeng Krachan**	**20.26**	**196**	P	**P**	**18 06 13.0**	**+0.7**
	comp=Z,105nmcomp=Z,14nm,0.7s						
JOW	**Kunigami**	**20.65**	**100**	P	**P**	**18 06 17.6**	**+1.1**
	comp=Z,5.0nm,0.3s,baz=294,slow=9.3,SNR=2.9						
JOW				LR	LR	18 14 51.9	
	comp=Z,150nm,19.1s,baz=312,slow=38						
JOW	**Kunigami**	**20.65**	**100**	IAmb	IAmb	18 06 22.4	
	comp=Z,24nm,1.1s						
DGZ	**Jazzator, Alta**	**21.74**	**327***c*	*i*P	**P**	**18 06 30.0**	**+1.7**
DGZ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MKAR	**Makanchi Array**	**22.67**	**316**	P	**P**	**18 06 38.5**	**+0.4**
	comp=Z,6.6nm,0.6s,baz=116,slow=14,SNR=25						
MKAR	**Makanchi Array**	**22.67**	**316**	P	**P**	**18 06 37.9**	**-0.2**
MAKZ	**Makanchi**	**22.86**	**315**	P	**P**	**18 06 40.0**	**-0.1**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MAKZ	**Makanchi**	**22.86**	**315**	P	**P**	**18 06 40.0**	**-0.1**
USA0B	**Ussuriysk Arra**	**23.75**	**53**	P	**P**	**18 06 47.5**	**-1.6**
USA0B				pmax	pmax		
	comp=Z,12nm,1.2s						
**USA0B

comp=Z,0.8nm,0.4s,baz=113,slow=7.7,SNR=1.2
KURBB Kurchatov Arra 26.79 320 P P 18 07 17.0 +0.3
comp=Z,1.4nm,0.6s,baz=138,slow=8.8,SNR=22
KURBB PcP **PcP 18 10 38.8 -0.5**
comp=Z,0.9nm,0.5s,baz=114,slow=2.2,SNR=6.0
KURK Kurchatov 26.80 321 P P 18 07 17.0 +0.3
KURK 18 10 38.8
KURK Kurchatov 26.80 321 P P 18 07 17.0 +0.3
KURK **PcP 18 10 38.8 -0.5**
NIL Nilore 26.91 281 P P 18 07 16.6 -1.4
NIL pmax pmax
comp=Z,10.0nm,0.8s
NIL Nilore 26.91 281 P P 18 07 16.6 -1.4
NIL IAmb IAmb 18 07 23.4
comp=Z,10nm,0.8s
MJAR Matsushiro Arr 27.23 72 LR LR 18 17 24.6
comp=Z,33nm,21.8s,baz=280,slow=35
JSD Sado 27.27 69 P P 18 07 22.0 +0.9
JSD IAmb IAmb 18 07 24.1
comp=Z,11nm,0.9s
JSG Sagara 27.31 76 P P 18 07 21.1 -0.5
DRK Karamyk 27.94 294 P P 18 07 25.6 -1.9
BTK Batken 28.73 295 P P 18 07 33.7 -0.6
BTK pmax pmax
comp=Z,7.0nm,1.5s
BTK Batken 28.73 295 P P 18 07 33.7 -0.6
GAR Garm 29.07 293 P P 18 07 37.2 -0.1
GAR IAmb IAmb 18 07 40.7
comp=Z,6.8nm,0.7s
KK31 Karatay Array 29.32 301 P P 18 07 38.4 -1.0
KK31 pmax pmax
comp=Z,8.0nm,1.4s
KK31 Karatay Array 29.32 301 P P 18 07 38.4 -1.0
KKAR Karatay Array 29.32 301 P P 18 07 38.1 -1.3
KKAR 18 07 39.0
KKAR Karatay Array 29.32 301 P P 18 07 39.0 -0.4
KKAR Karatay Array 29.32 301 P P 18 07 38.1 -1.3
CHGR Chuyangaron 29.96 292 P P 18 07 45.7 +0.4
CHGR IAmb IAmb 18 07 48.5
comp=Z,11nm,0.8s
PSI Prapat 30.22 193 P P 18 07 47.6 0.0
comp=Z,6.4nm,0.6s,baz=356,slow=4.9,SNR=7.6
GSI Gunungsitoli 31.95 195 P P 18 08 01.6 -1.2
GSI IAmb IAmb 18 08 05.6
comp=Z,24nm,1.0s
BRVK Borovoye 32.45 320⇑ *eP* **P 18 08 07.2 +0.3**
BRVK pmax pmax
comp=Z,2.0nm,0.7s
BRVK Borovoye 32.45 320 P P 18 08 06.6 -0.3
YAK Yakutsk 33.36 21 LR LR 18 22 26.3
comp=Z,63nm,18.3s,baz=269,slow=37
YAK Yakutsk 33.36 21⇑ *eP* **P 18 08 15.8 +1.1**
YAK pmax pmax
comp=Z,8.0nm,0.8s
YAK Yakutsk 33.36 21 P P 18 08 14.8 +0.1
YAK IAmb IAmb 18 08 20.6
comp=Z,12nm,1.1s
ABKAR Akbulak array 37.57 310 P P 18 08 50.2 -0.8
ABKAR Akbulak array 37.57 310 P P 18 08 49.5 -1.5
ABKAR IAmb IAmb 18 08 52.7
comp=Z,2.8nm,0.7s
NRIK Noril'sk 38.19 350 P P 18 08 56.9 +0.8
comp=Z,3.9nm,0.5s,baz=147,slow=7.8,SNR=8.4
NRIK Noril'sk 38.19 350 *ce*P **P 18 08 57.7 +1.7**
NRIK pmax pmax
comp=Z,12nm,1.2s
NRIK Noril'sk 38.19 350 P P 18 08 55.6 -0.4
NRIK IAmb IAmb 18 08 59.1
comp=Z,15nm,1.2s
GEYT Alibeck 38.67 292 P P 18 09 01.2 +0.7
comp=Z,3.7nm,0.7s,baz=57,slow=14,SNR=3.7
AKTO Aktyubinsk 38.99 312 LR LR 18 26 09.6
comp=Z,54nm,21.1s,baz=104,slow=38
LEM Lembang 39.22 177 P P 18 09 05.2 -0.1
comp=Z,12nm,0.8s,baz=6.3,slow=18,SNR=3.6
KAPI Kappang 39.77 157 P P 18 09 09.7 0.0
comp=Z,15nm,0.8s,baz=326,slow=12,SNR=4.6
KAPI Kappang 39.77 157 P P 18 09 08.8 -1.0
KAPI IAmb IAmb 18 09 10.4
comp=Z,23nm,0.9s
ARU Arti 39.99 321 *c i*P **P 18 09 11.8 +0.6**
ARU S **S 18 15 17.8 +1.4**
ARU SS **SS 18 18 03.7 -9.4**
ARU pmax pmax
comp=Z,8.0nm,0.9s
ARU Arti 39.99 321 P P 18 09 10.3 -0.9
TIXI Tiksi 41.12 11⇑ *eP* **P 18 09 22.2 +1.8**
TIXI Tiksi 41.12 11 P P 18 09 20.4 +0.1
TIXI IAmb IAmb 18 09 22.5
comp=Z,8.6nm,0.7s
JAGI Jajag, Banyuwa 41.64 167 P P 18 09 24.4 -0.8
JAGI IAmb IAmb 18 09 25.8
comp=Z,27nm,0.8s
PEA0B Petropavlovsk- 42.38 45 P P 18 09 31.2 +0.2
PEA0B pmax pmax
comp=Z,51nm,1.7s
PEA0B Petropavlovsk- 42.38 45 P P 18 09 31.2 +0.2
PEA0B IAmb IAmb 18 09 36.8
comp=Z,51nm,1.7s
PETK Petropavlovsk- 42.38 45 P P 18 09 32.9 +1.9
comp=Z,1.5nm,0.9s,baz=272,slow=5.2,SNR=1.7
PETK Petropavlovsk- 42.38 45 P P 18 09 31.4 +0.4
MMRI Maumere 43.99 156 P P 18 09 43.1 -1.2
KIRV Kirov 45.29 322 *de*P **P 18 09 54.6 +0.4**
BELG Belogornoye 45.65 314⇑ *eP* **P 18 09 57.1 0.0**
BELG pmax pmax
comp=Z,1.0nm,0.9s
SOEI Soe 45.76 154 P P 18 09 57.6 -0.9
SOEI IAmb IAmb 18 10 15.3
comp=Z,16nm,0.9s
BATI Baumata 45.95 155 P P 18 09 58.5 -1.4
comp=Z,33nm,0.5s,baz=2.4,slow=3.7,SNR=14
BATI LR LR 18 32 28.7
comp=Z,111nm,18.9s,baz=232,slow=40
PRGR Permogore 47.66 326 *eP* **P 18 10 12.0 -0.8**
PRGR pmax pmax
comp=Z,10.0nm,1.0s
KBZ Khabaz 49.35 302 P P 18 10 26.2 +0.1
comp=Z,0.8nm,0.4s,baz=117,slow=6.8,SNR=2.8
KBZ LR LR 18 34 02.2
comp=Z,69nm,18.8s,baz=40,slow=40
KIV Kislovodsk 49.47 302 *eP* **P 18 10 24.7 -2.4**
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR
comp=Z,40nm,16.0s
KLMR Klimovskoe 50.52 325 *eP* **P 18 10 33.6 -1.1**
KLMR pmax pmax
comp=Z,6.0nm,0.6s
KLMR Klimovskoe 50.52 325 *eP* **P 18 10 33.6 -1.1**
KLMR AMP 18 10 36.2
comp=Z,6.0nm,0.6s
MTN Manton Dam 51.41 147 P P 18 10 40.2 -1.7
MTN IAmb IAmb 18 11 10.1
comp=Z,22nm,1.4s
KNRA Kununurra 52.91 151 P P 18 10 52.4 -0.6
KNRA IAmb IAmb 18 10 53.3
comp=Z,12nm,0.6s
LVZ Lovozero 53.06 333 P P 18 10 53.2 -0.4
LVZ pmax pmax
comp=Z,41nm,1.4s
LVZ Lovozero 53.06 333 P P 18 10 53.2 -0.4
FITZ Fitzroy Crossi 53.96 156 P P 18 11 00.1 -0.6
comp=Z,1.8nm,0.4s,baz=352,slow=7.3,SNR=32
FITZ Fitzroy Crossi 53.96 156 P P 18 11 00.1 -0.6
FITZ IAmb IAmb 18 11 16.6
comp=Z,16nm,1.6s
PUL Pulkovo 55.12 323⇓ *eP* **P 18 11 09.8 +1.1**
PUL pmax pmax
comp=Z,157nm,0.7s
GIRL Giralia 55.53 170 P P 18 11 12.6 +0.6
PSA00 Pilbara Seismi 55.56 164 P P 18 11 11.9 -0.4
KEV Kevo 55.87 336 P P 18 11 14.2 +0.3
KEV pmax pmax
comp=Z,20nm,1.4s
KEV Kevo 55.87 336 P P 18 11 14.2 +0.3
KEV IAmb IAmb 18 11 32.0
comp=Z,20nm,1.4s
ARCES ARCESS Array B 56.40 335 P P 18 11 18.1 +0.3
comp=Z,1.7nm,0.5s,baz=78,slow=8.1,SNR=18
ARCES LR LR 18 37 23.6
comp=Z,41nm,21.7s,baz=120,slow=38
ARCES ARCESS Array B 56.40 335 P P 18 11 17.2 -0.6
ARCES IAmb IAmb 18 11 26.5
comp=Z,13nm,1.4s
FIA1 FINESS Array S 56.99 326 P P 18 11 21.8 -0.3
FIA1 IAmb IAmb 18 11 29.6
comp=Z,14nm,1.2s
FINES FINESS Array B 56.99 326 P P 18 11 22.6 +0.5
comp=Z,3.4nm,0.6s,baz=83,slow=7.0,SNR=23
FINES LR LR 18 35 19.6
comp=Z,40nm,18.1s,baz=6.0,slow=36
FINES FINESS Array B 56.99 326 *ce*P **P 18 11 23.0 +0.9**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 56.99 326 P P 18 11 21.8 -0.3
BR131 Keskin Array S 57.00 299⇓ *eP* **P 18 11 22.7 0.0**
BR131 Keskin Array S 57.00 299 P P 18 11 22.6 -0.2
BRTR Keskin Array B 57.00 299 P P 18 11 22.7 0.0
comp=Z,0.9nm,0.6s,baz=106,slow=6.3,SNR=8.8
BRTR LR LR 18 41 11.1
comp=Z,34nm,18.4s,baz=66,slow=42
BRTR Keskin Array B 57.00 299 P P 18 11 22.6 -0.2
VSU Vasula 57.13 322⇓ *eP* **P 18 11 23.0 -0.1**
VSU pmax pmax
comp=Z,34nm,1.0s
AKASG Malin Array Be 57.21 313 P P 18 11 23.4 -0.4
comp=Z,3.8nm,0.4s,baz=65,slow=7.4,SNR=23
AKASG Malin Array Be 57.21 313 P P 18 11 23.9 +0.1
AKASG pmax pmax
comp=Z,3.0nm,1.4s
AKASG Malin Array Be 57.21 313 P P 18 11 23.9 +0.1
AKBB Malin Array Si 57.21 313⇑ *eP* **P 18 11 23.3 -0.5**
AKBB Malin Array Si 57.21 313 P P 18 11 23.1 -0.8
AKBB IAmb IAmb 18 11 25.1
comp=Z,3.9nm,0.9s
NACGM Naroch 57.77 318 *i* P **P 18 11 28.0 +0.3**
COEN Coen 58.68 136 P P 18 11 33.2 -1.3
COEN IAmb IAmb 18 12 04.7
comp=Z,16nm,1.2s
CSS Mathiatis 58.74 294 P P 18 11 35.0 +0.1
WRAB Tennant Creek 59.08 148 *de*P **P 18 11 37.0 -0.2**
WRAB pmax pmax
comp=Z,13nm,0.8s
WRA Warramunga Arr 59.08 148 P P 18 11 36.8 -0.4
comp=Z,12nm,0.6s,baz=332,slow=5.4,SNR=116
WRA Warramunga Arr 59.08 148 P P 18 11 36.6 -0.6
WB2 Warramunga Arr 59.09 148 P P 18 11 36.7 -0.6
WR0 Warramunga Arr 59.19 148 P P 18 11 37.2 -0.7
PABE Paberze 59.21 319 P P 18 11 37.9 +0.2
PABE IAmb IAmb 18 11 42.5
comp=Z,7.8nm,0.8s
BURAR Bucovina Array 60.55 310 P P 18 11 46.3 -0.9
BUR08 Bucovina Ar. S 60.55 310 P P 18 11 46.2 -1.0
BUR08 IAmb IAmb 18 12 04.9
comp=Z,6.1nm,1.4s
MLR Muntele Rosu 60.71 308 P P 18 11 48.0 -0.4
MLR pmax pmax
comp=Z,8.0nm,1.5s
MLR Muntele Rosu 60.71 308 P P 18 11 48.0 -0.4
MLR IAmb IAmb 18 11 53.4
comp=Z,8.4nm,1.5s
KWP Kalwaria Pacla 61.54 313 P P 18 11 53.2 -0.6
KWP pmax pmax
comp=Z,59nm,0.7s
KWP Kalwaria Pacla 61.54 313 P P 18 11 53.2 -0.6
KOLS Kolonicke sedl 62.02 312 *eP* **P 18 11 57.6 +0.5**
KOLS Kolonicke sedl 62.02 312 *eP* **P 18 11 57.6 +0.5**
AS31 Alice Springs 62.17 150 P P 18 11 57.7 -0.6
AS31 IAmb IAmb 18 12 00.2
comp=Z,2.6nm,0.5s
ASAR Alice Springs 62.17 150 P P 18 11 58.0 -0.3
comp=Z,7.6nm,0.7s,baz=327,slow=6.5,SNR=87
ASAR Alice Springs 62.17 150 P P 18 11 57.4 -0.9
NC405 NORSAR Array S 63.79 327 P P 18 12 07.9 -0.7
NC303 NORSAR Array S 63.91 327 P P 18 12 08.8 -0.6
NC602 NORSAR Array S 64.00 327 P P 18 12 09.5 -0.4
NB201 NORSAR Array S 64.00 327 P P 18 12 09.2 -0.9
NB2 NORSAR Subarra 64.04 327 P P 18 12 09.1 -1.2
comp=Z,1.3nm,0.6s,baz=70,slow=6.9
NOA NORSAR Array B 64.04 327 P P 18 12 09.5 -0.8
comp=Z,1.5nm,0.6s,baz=71,slow=6.6,SNR=10
NC204 NORSAR Array S 64.16 328 P P 18 12 10.8 -0.3
NAO01 NORSAR Array S 64.26 327 P P 18 12 11.5 -0.2
MORC Moravsky Berou 64.65 314 P P 18 12 15.8 +1.3
MORC pmax pmax
comp=Z,8.0nm,1.6s
MORC Moravsky Berou 64.65 314 P P 18 12 15.8 +1.3
MORC IAmb IAmb 18 12 17.6
comp=Z,7.6nm,1.6s
IMAR Indian Mountai 64.94 26 P P 18 12 16.1 +0.1
CTA Charters Tower 65.31 137 P P 18 12 18.6 -0.5
comp=Z,3.1nm,0.9s,baz=298,slow=5.0,SNR=5.1
CTAO Charters Tower 65.31 137 P P 18 12 17.5 -1.5
CTAO pmax pmax
comp=Z,6.0nm,1.0s
CTAO Charters Tower 65.31 137 P P 18 12 17.5 -1.5
CTAO IAmb IAmb 18 12 20.6
comp=Z,6.1nm,1.0s
J20K Nowinta River 65.52 28 P P 18 12 20.5 +0.6
J20K IAmb IAmb 18 12 25.1
comp=Z,2.5nm,0.7s
K20K Telida 65.89 29 P P 18 12 23.0 +0.7
K20K IAmb IAmb 18 12 43.6
comp=Z,9.6nm,1.4s
I21K Tanana 65.94 27 P P 18 12 22.8 +0.3
I21K IAmb IAmb 18 12 51.0
comp=Z,8.2nm,1.6s
NWAO Narrogin (SRO) 66.08 169 P P 18 12 23.2 -0.5
NWAO pmax pmax
comp=Z,11nm,1.0s
NWAO Narrogin (SRO) 66.08 169 P P 18 12 23.2 -0.5
NWAO IAmb IAmb 18 12 24.3
comp=Z,10nm,1.0s
M19K Big River Lodg 66.36 31 P P 18 12 27.4 +2.0
M19K IAmb IAmb 18 12 44.9
comp=Z,20nm,1.6s
MLY Manley 66.48 27 P P 18 12 27.7 +1.7
MLY IAmb IAmb 18 12 28.1
comp=Z,3.0nm,1.2s
ITM Ithomi 66.50 300 P P 18 12 24.2 -2.4
FORT Forrest 66.54 159 P P 18 12 26.4 -0.3
H23K Yukon River 66.56 26 P P 18 12 27.6 +1.0
H23K IAmb IAmb 18 13 02.5
comp=Z,7.3nm,1.6s
BPAW Bear Paw Mtn. 66.80 28 P P 18 12 28.0 -0.1
BPAW IAmb IAmb 18 12 45.1
comp=Z,2.6nm,0.9s
PPLA Purkeypile 66.86 29 P P 18 12 28.1 -0.6
KTH Kantishna Hill 67.08 28 P P 18 12 32.9 +3.0
KTH IAmb IAmb 18 13 02.8
comp=Z,9.9nm,1.5s
GEC2 GERESS Array S 67.33 314 P P 18 12 32.3 +0.5
GEC2 IAmb IAmb 18 12 36.5
comp=Z,5.9nm,1.6s
GERES GERESS Array B 67.33 314 P P 18 12 31.4 -0.4
comp=Z,0.5nm,0.6s,baz=62,slow=3.6,SNR=6.3
GERES LR LR 18 42 54.2
comp=Z,37nm,20.4s,baz=17,slow=37
GERES GERESS Array B 67.33 314 P P 18 12 31.1 -0.7
MDM Murphy Dome 67.46 26 P P 18 12 33.0 +0.7
MDM IAmb IAmb 18 12 38.0
comp=Z,8.9nm,1.6s
BMAR Burnt Mountain 67.51 23 P P 18 12 32.8 +0.2
PRP Porcupine Dome 68.17 25 P P 18 12 37.6 +0.7
PRP IAmb IAmb 18 12 42.0
comp=Z,2.7nm,1.0s
SML Sawmill 68.96 29 P P 18 12 42.3 +0.5
RIDG Independent Ri 69.35 27 P P 18 12 42.8 -1.3
RIDG IAmb IAmb 18 13 11.1
comp=Z,11nm,1.7s
SCM Sheep Creek Mo 69.36 29 P P 18 12 44.7 +0.4
SCM pmax pmax
comp=Z,38nm,1.4s
SCM Sheep Creek Mo 69.36 29 P P 18 12 44.7 +0.4
SCRK Sand Creek 69.54 26 P P 18 12 45.2 -0.2
SCRK IAmb IAmb 18 13 16.8
comp=Z,13nm,1.7s
N25K Chitina, Valde 70.59 28 P P 18 12 51.9 0.0
N25K IAmb IAmb 18 13 29.4
comp=Z,3.7nm,0.6s
L27K Beaver Creek, 70.86 26 P P 18 12 54.4 +1.0
BCAR Beaver Creek A 70.87 26 P P 18 12 53.8 +0.3
GLB Gilahina Butte 70.99 28 P P 18 12 54.7 +0.5
GLB IAmb IAmb 18 13 29.8
comp=Z,12nm,1.7s
BBOO Buckleboo 71.15 153 P P 18 12 54.9 -0.6
BERG Berg Lake 71.62 29 P P 18 12 58.9 +0.9
STKA Stephens Creek 72.63 148 P P 18 13 03.8 -0.4
comp=Z,3.2nm,0.7s,baz=308,slow=8.2,SNR=5.8
STKA Stephens Creek 72.63 148 P P 18 13 03.9 -0.4
STKA pmax pmax
comp=Z,6.0nm,1.8s
STKA Stephens Creek 72.63 148 P P 18 13 03.9 -0.4
STKA IAmb IAmb 18 13 33.4
comp=Z,5.7nm,1.8s
KEST Kesra 76.19 304 P P 18 13 25.7 +0.4
comp=Z,2.2nm,0.8s,baz=56,slow=3.6,SNR=2.4
DZM Mont Dzumac 79.67 124 P P 18 13 46.0 +1.3
comp=Z,4.6nm,0.9s,baz=307,slow=20,SNR=2.7
YKA Yellowknife Ar 79.98 18 P P 18 13 46.7 +1.0
comp=Z,0.7nm,0.7s,baz=337,slow=4.6,SNR=6.0
YKA Yellowknife Ar 79.98 18 *ce*P **P 18 13 48.5 +2.8**
YKA pmax pmax
comp=Z,1.0nm,0.7s
ESDC Sonseca Array 82.86 313 P P 18 14 01.9 +0.4
comp=Z,0.4nm,0.7s,baz=31,slow=4.9,SNR=1.9
PINE Pine Mountain 93.03 32 P P 18 14 51.7 +0.9
PINE IAmb IAmb 18 14 52.8
comp=Z,4.0nm,0.8s
TORD Torodi Ar. Bea 94.25 288 P P 18 14 56.3 -0.3
comp=Z,0.3nm,0.7s,baz=75,slow=6.1,SNR=2.7

IDC ***22*** *18:03:39.0± 1.2, 1.″63S× 123.″35E, h0km, mb3.6/4, mb1 3.8/7, mb1mx3.6/50, mbtmp3.8/7, ML3.5/3, Error ellipse: s-maj=45.6km s-min=19.7km az=72.0*
DJA ***22*** *18:03:42.0± 0.6, 2.″5S× 2.″2× 12.″3E± °, h11km± 4km, M4.1/15, mb4.2/3, MLv4.0/15*
NEIC ***22*** *18:03:45.4± 2.6, 1.″75S± 0.″06× 123.″04E± 0.″08, h48km± 11km, mb4.0/7, Error ellipse: s-maj=11.4km s-min=8.3km az=82.0*
ISC 22 18:03:42.2± 1.5, 1.″87S± 0.″04× 123.″14E± 0.″06, h17km± 9km, n38, σ1°$46/40, mb3.9/7, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.90**	**336**		**Pg**	**18 03 59.4**	**-0.4**
LUWI	**Luwuk**	**0.90**	**336**	P	**Pg**	**18 03 59.8**	**0.0**
LUWI				S	**Sg**	**18 04 12.0**	**+0.3**
APSI	**Ampana**	**1.77**	**303**	P	**Pn**	**18 04 12.9**	**+0.9**
APSI				S	**Sn**	**18 04 36.7**	**+2.6**
GTOI	**Gorontalo**	**2.50**	**357**	P	**Pn**	**18 04 24.7**	**+2.7**
GTOI				S	**Sb**	**18 04 56.9**	**-0.1**
KMSI	**Cibinong**	**2.57**	**19**	P	**Pn**	**18 04 23.6**	**+0.6**
KMSI				S	**Sn**	**18 04 54.9**	**+1.0**
MRSI	**Marisa**	**2.62**	**333**	P	**Pn**	**18 04 24.8**	**+1.0**
MRSI				S	**Sn**	**18 04 57.6**	**+2.4**
KKSI	**Kolaka, Sulawe**	**2.73**	**213**	P	**Pn**	**18 04 25.5**	**+0.3**
SANI	**Sanana**	**2.85**	**94**	P	**Pn**	**18 04 26.5**	**-0.4**
TTSI	**Tana Toraja**	**3.52**	**251**	P	**Pn**	**18 04 36.3**	**+0.3**
TOLI2	**Tolitoli**	**3.79**	**321**		**Pn**	**18 04 41.3**	**+1.5**
MPSI	**Mapaga**	**3.92**	**304**	P	**Pn**	**18 04 42.9**	**+1.4**
BNSI	**Bone**	**3.94**	**230**	P	**Pn**	**18 04 42.9**	**+1.1**
MMSI	**Mamuju**	**4.30**	**259**	P	**Pn**	**18 04 47.6**	**+0.7**
BKSI	**Bulukumba**	**4.56**	**221**	P	**Pn**	**18 04 51.6**	**+1.2**
KAPI	**Kappang**	**4.60**	**227**	Pn	**Pn**	**18 04 53.0**	**+2.1**
	4.0nm,0.3s,baz=74,slow=6.4,SNR=18						
KAPI				Sn	**Sn**	**18 05 43.2**	**-0.8**
	3.0nm,0.3s,baz=23,slow=17,SNR=1.9						
KAPI	**Kappang**	**4.60**	**227**		**Pn**	**18 04 52.9**	**+1.9**
KAPI	**Kappang**	**4.60**	**227**	P	**Pn**	**18 04 52.8**	**+1.8**
MKS	**Makassar**	**4.95**	**228**	P	**Pn**	**18 04 56.9**	**+1.2**
TNTI	**Ternate**	**4.97**	**58**	Pn	**Pn**	**18 04 58.6**	**+2.5**
TNTI	**Ternate**	**4.97**	**58**	P	**Pn**	**18 04 56.5**	**+0.4**
BSSI	**Bau Bau, Buton**	**5.00**	**212**	P	**Pn**	**18 04 57.6**	**+1.2**
	0.2nm39nm,0.6s						
EDFI	**Ende, Flores**	**6.98**	**192**	P	**Pn**	**18 05 24.7**	**+0.9**
	0.0nm7.8nm,0.9s						
SOEI	**Soe**	**7.91**	**172**		Pn	18 05 43.8	+7.2
SOEI	**Soe**	**7.91**	**172**	P	Pn	18 05 47.0	+10
SWI	**Sorong**	**8.18**	**83**	P	**Pn**	**18 05 40.4**	**+0.3**
BATI	**Baumata**	**8.30**	**176**	Pn	**Pn**	**18 05 44.1**	**+2.4**
	1.0nm,0.3s,baz=342,slow=3.2,SNR=1.6						
FAKI	**Fak Fak**	**9.16**	**97**	Pn	**Pn**	**18 05 56.5**	**+2.9**
FITZ	**Fitzroy Crossi**	**16.31**	**172**	Pn	**P**	**18 07 33.3**	**-0.1**
	0.1nm,0.3s,baz=353,slow=8.1,SNR=1.3						
FITZ	**Fitzroy Crossi**	**16.31**	**172**	IAmb	IAmb	18 07 47.9	
	comp=Z,8.2nm,1.4s						
WRAB	**Tennant Creek**	**21.03**	**149**	P	**P**	**18 08 25.6**	**+0.3**
WRA	**Warramunga Arr**	**21.03**	**149**	P	**P**	**18 08 25.7**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=334,slow=11,SNR=9.3						
WB2	**Warramunga Arr**	**21.04**	**149**	P	**P**	**18 08 25.2**	**-0.1**
WB2				IAmb	IAmb	18 08 53.7	
	comp=Z,14nm,1.6s						
WR0	**Warramunga Arr**	**21.15**	**149**	P	**P**	**18 08 26.4**	**-0.2**
WR0				IAmb	IAmb	18 08 36.3	
	comp=Z,4.7nm,0.9s						
ASAR	**Alice Springs**	**24.04**	**155**	P	**P**	**18 08 57.3**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=343,slow=15,SNR=27						
YULB	**Yu-li**	**25.18**	**356**	P	**P**	**18 09 04.5**	**-2.3**
YULB				IAmb	IAmb	18 09 13.6	
	comp=Z,7.8nm,0.9s						
SONM	**Songino Array**	**51.62**	**346**	P	**P**	**18 12 46.5**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=164,slow=8.7,SNR=4.6						
SONM	**Songino Array**	**51.62**	**346**	IAmb	IAmb	18 12 48.4	
	comp=Z,1.2nm,0.7s						
MKAR	**Makanchi Array**	**60.27**	**329**	P	**P**	**18 13 48.4**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=123,slow=8.8,SNR=4.5						

IDC 22 18:24:26.8± 2.7, 4.″69S× 150.″78E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/35, mbtmp3.6/5, Error ellipse: s-maj=99.3km s-min=24.0km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.05**	**225**	P	P	18 29 23.0	-0.3
	0.7nm,0.4s,baz=50,slow=10,SNR=10						
ASAR	**Alice Springs**	**24.91**	**219**	P	P	18 29 51.9	+0.1
	0.4nm,0.5s,baz=52,slow=8.2,SNR=23						
FITZ	**Fitzroy Crossi**	**27.96**	**240**	P	P	18 30 18.9	-0.4
	1.2nm,0.7s,baz=61,slow=14,SNR=2.5						
PETK	**Petropavlovsk-**	**57.88**	**5**	P	P	18 34 19.7	-0.6
	0.7nm,0.5s,baz=182,slow=7.6,SNR=6.2						
MKAR	**Makanchi Array**	**78.92**	**319**	P	P	18 36 33.3	+1.0
	0.3nm,0.8s,baz=99,slow=9.2,SNR=2.3						

IDC ***22*** *18:42:20.5± 3.7, 30.″95N× 141.″41E, h0km, mb3.6/4, mb1 3.7/7, mb1mx3.5/50, mbtmp3.7/7, ML3.1/3, MS2.4/2, Ms1 2.6/2, ms1mx2.2/48, Error ellipse: s-maj=146.5km s-min=15.3km az=70.0*
ISC 22 18:42:26.2± 2.1, 30.°9N± 0.°2× 141.°3E± 0.°6, h37km, n9, σ1°$04/10, mb3.6/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**2.52**	**330**	Pn	**Pn**	**18 43 02.8**	**-1.8**
	6.2nm,0.3s,baz=70,slow=20,SNR=1.7						
JHJ				Sn	**Sn**	**18 43 34.8**	**+0.7**
	6.4nm,0.3s,baz=69,slow=18,SNR=1.6						
JCJ	**Chichijima**	**3.91**	**168**	Pn	**Pn**	**18 43 23.2**	**-0.4**
	7.8nm,0.3s,baz=304,slow=22,SNR=7.5						
JCJ				Sn	**Sn**	**18 44 08.2**	**-0.1**
	7.7nm,0.3s,baz=323,slow=22,SNR=1.4						
MJAR	**Matsushiro Arr**	**6.15**	**336**	Pn	**Pn**	**18 43 53.7**	**-0.8**
	0.1nm,0.3s,baz=146,slow=14,SNR=8.5						
MJAR				Sn	**Sn**	**18 45 05.0**	**+1.4**
	0.0nm,0.3s,baz=132,slow=19,SNR=1.5						
KSRS	**Korea Array**	**12.82**	**304**	LR	LR	18 50 15.6	
	comp=Z,15nm,21.0s,baz=110,slow=37						
SONM	**Songino Array**	**31.47**	**312**	P	**P**	**18 48 45.2**	**+0.8**
	0.7nm,0.9s,baz=95,slow=9.1,SNR=3.6						
CMAR	**Chiang Mai Arr**	**40.19**	**262**	LR	LR	19 05 53.0	
	comp=Z,7.8nm,20.9s,baz=170,slow=35						
MKAR	**Makanchi Array**	**47.48**	**307**	P	**P**	**18 50 57.5**	**0.0**
	0.5nm,0.7s,baz=82,slow=9.7,SNR=4.4						
WRA	**Warramunga Arr**	**51.02**	**188**	P	**P**	**18 51 24.4**	**-0.3**
	0.4nm,0.2s,baz=7.0,slow=8.6,SNR=16						
ASAR	**Alice Springs**	**54.75**	**188**	P	**P**	**18 51 51.9**	**-0.3**
	0.3nm,0.4s,baz=3.5,slow=4.9,SNR=30						

TAP ***22*** *18:48:21.8, 24.″30N× 121.″73E, h18km, ML3.0, A*
JMA ***22*** *18:48:21.5, 24.″30N× 121.″70E, h28km± 1km, M2.2*
ISC 22 18:48:22.1± 0.9, 24.″35N± 0.″01× 121.″74E± 0.″02, h19km± 2km, n120, σ1°$50/238, 4C-15D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village** baz=166	**0.04**	**173**	⇑P	**Pg**	**18 48 25.4**	**-0.1**
EHP				*i* S	**Sg**	**18 48 28.1**	**+0.2**
ENA	**Nanau** baz=16	**0.08**	**4**	⇑*i*P	**Pg**	**18 48 25.5**	**-0.2**
ENA				*i* S	**Sg**	**18 48 28.1**	**-0.2**
EWUT	**Wuta** baz=30	**0.10**	**23**	⇑*i*P	**Pg**	**18 48 25.7**	**-0.3**
EWUT				S	**Sg**	**18 48 28.4**	**-0.2**
ETL	**Fush Village** baz=204	**0.22**	**208**	⇓P	**Pg**	**18 48 27.5**	**0.0**
ETL				S	**Sg**	**18 48 31.2**	**+0.1**
NACB	**Ninganchiao** baz=212	**0.22**	**216**	⇓*i*P	**Pg**	**18 48 27.4**	**-0.1**
NACB				S	**Sg**	**18 48 31.2**	**+0.1**
ETLH	**Xiulin Townshi** baz=234	**0.27**	**238**	⇓*i*P	**Pg**	**18 48 28.4**	**0.0**
ETLH				S	**Sg**	**18 48 33.0**	**+0.3**
TWC	**Suao** baz=26	**0.28**	**22**	⇑*i*P	**Pg**	**18 48 28.1**	**-0.3**
TWC				*i* S	**Sb**	**18 48 32.2**	**-0.4**
NDS	**Dongshan** baz=356	**0.28**	**356**	*e*P	**Pg**	**18 48 28.3**	**-0.1**
NDS				S	**Sb**	**18 48 32.7**	**0.0**
TWD	**Chiawan** baz=201	**0.30**	**205**	*e*P	**Pg**	**18 48 28.5**	**-0.2**
TWD				S	**Sg**	**18 48 33.4**	**+0.2**
NDT	**Datong Townshi** baz=319	**0.32**	**321**	*e*P	**Pg**	**18 48 29.1**	**-0.1**
NDT				S	**Sb**	**18 48 34.4**	**+0.3**
ENTT	**Nioudou** baz=331	**0.33**	**332**	⇓*i*P	**Pg**	**18 48 29.0**	**-0.3**
ENTT				S	**Sg**	**18 48 34.1**	**+0.1**
NNSB	**Datong** baz=280	**0.33**	**283**	⇓*i*P	**Pg**	**18 48 29.4**	**0.0**
NNSB				S	**Sg**	**18 48 34.1**	**-0.1**
NNS	**Nan Shan** baz=281	**0.34**	**285**	⇓P	**Pg**	**18 48 29.5**	**0.0**
NNS				S	**Sg**	**18 48 34.4**	**-0.2**
TWE	**Neicheng** baz=352	**0.37**	**350**	⇓*i*P	**Pg**	**18 48 29.8**	**-0.2**
TWE				S	**Sg**	**18 48 35.4**	**0.0**
HWA	**Hwalien** baz=195	**0.39**	**198**	*e*P	**Pb**	**18 48 30.7**	**+0.2**
HWA				*e*S	**Sn**	**18 48 37.9**	**-1.7**
ILA	**Ilan** baz=3.0	**0.41**	**2**	P	**Pg**	**18 48 31.0**	**+0.3**
ILA				S	**Sg**	**18 48 36.8**	**+0.3**
YHNB	**Yeheng** baz=312	**0.46**	**314**	⇓*i*P	**Pg**	**18 48 31.4**	**-0.1**
YHNB				S	**Sg**	**18 48 37.9**	**+0.1**
FUSS	**Fushou** baz=254	**0.46**	**257**	⇓P	**Pb**	**18 48 31.8**	**0.0**
FUSS				S	**Sb**	**18 48 38.5**	**+0.1**
NSK	**Sanguang** baz=312	**0.47**	**313**	⇓*i*P	**Pg**	**18 48 31.6**	**-0.2**
NSK				S	**Sg**	**18 48 38.4**	**+0.1**
NWLT	**Wulai** baz=332	**0.47**	**333**	⇓P	**Pg**	**18 48 31.4**	**-0.4**
NWLT				*e*S	**Sg**	**18 48 38.1**	**-0.3**
WHF	**Hehuan Shan** baz=241	**0.48**	**245**	⇓*i*P	**Pb**	**18 48 32.0**	**-0.2**
WHF				S	**Sb**	**18 48 38.9**	**-0.1**
NTC	**Toucheng** baz=10.0	**0.51**	**10**	⇓P	**Pb**	**18 48 32.2**	**-0.2**
NTC				S	**Sb**	**18 48 38.8**	**-0.6**
TWT	**Tachien** baz=256	**0.52**	**259**	P	**Pg**	**18 48 33.3**	**+0.6**
TWT				S	**Sb**	**18 48 40.6**	**+0.7**
TDCB	**Techi** baz=257	**0.54**	**260**	⇓P	**Pg**	**18 48 33.2**	**+0.2**
TDCB				S	**Sg**	**18 48 40.7**	**+0.4**
CHGB	**Renai** baz=238	**0.59**	**241**	⇓P	**Pg**	**18 48 34.0**	**0.0**
CHGB				S	**Sn**	**18 48 43.6**	**-1.3**
ESL	**Shilin** baz=205	**0.60**	**207**	*e*P	**Pg**	**18 48 34.1**	**0.0**
ESL				S	**Sg**	**18 48 43.1**	**+0.9**
TIPB	**Shuangxi** baz=8.0	**0.62**	**8**	*e*P	**Pb**	**18 48 34.1**	**-0.2**
TIPB				S	**Sb**	**18 48 42.0**	**-0.6**
NHDH	**Xindian Distri** baz=342	**0.64**	**343**	*e*P	**Pb**	**18 48 34.6**	**+0.1**
NHDH				S	**Sb**	**18 48 43.3**	**+0.2**
TWA	**Mucha** baz=348	**0.64**	**348**	*e*P	**Pg**	**18 48 35.2**	**+0.3**
TWA				S	**Sb**	**18 48 43.3**	**+0.1**
OWD	**Renai** baz=230	**0.65**	**232**	P	**Pg**	**18 48 34.8**	**-0.2**
OWD				*e*S	**Sg**	**18 48 44.1**	**+0.5**
TWB1	**Santiao Chiao** baz=20	**0.69**	**19**	*e*P	**Pb**	**18 48 35.5**	**-0.1**
TWB1				*e*S	**Sb**	**18 48 45.3**	**+0.6**
LIOB	**Emei** baz=292	**0.72**	**294**	*e*P	**Pb**	**18 48 35.6**	**-0.4**
LIOB				*e*S	**Sg**	**18 48 46.2**	**+0.3**
NWF	**Wu-fen Shan** baz=3.0	**0.72**	**3**	*e*P	**Pb**	**18 48 35.8**	**-0.3**
NWF				*e*S	**Sb**	**18 48 45.9**	**+0.3**
WHP	**Taichung City** baz=262	**0.72**	**264**	*e*P	**Pg**	**18 48 36.4**	**0.0**
WHP				*e*S	**Sg**	**18 48 46.5**	**+0.4**
NSTT	**Nanjuang** baz=291	**0.72**	**293**	*e*P	**Pg**	**18 48 36.3**	**-0.1**
NSTT				*e*S	**Sg**	**18 48 46.0**	**-0.1**
EGFH	**Guangfu** baz=201	**0.74**	**203**	*e*P	**Pg**	**18 48 36.8**	**+0.2**
EGFH				*e*S	**Sn**	**18 48 47.4**	**-0.8**
NCUH	**Zhongli** baz=320	**0.79**	**321**	*e*P	**Pb**	**18 48 37.2**	**-0.1**
NCUH				*e*S	**Sg**	**18 48 48.2**	**-0.1**
NCU	**National Centr** baz=320	**0.79**	**321**	*e*P	**Pb**	**18 48 37.3**	**0.0**
NCU				*e*S	**Sg**	**18 48 48.1**	**-0.1**
TWS1	**Kuangyinshan** baz=338	**0.80**	**339**	*e*P	**Pb**	**18 48 37.2**	**-0.2**
TWS1				*e*S	**Sg**	**18 48 48.6**	**+0.1**
WCS	**Beigang Elemen** baz=247	**0.81**	**249**	*e*P	**Pg**	**18 48 37.9**	**0.0**
WCS				*e*S	**Sn**	**18 48 49.2**	**-0.7**
SBCB	**Hsinchu** baz=301	**0.81**	**303**	*e*P	**Pb**	**18 48 37.4**	**-0.2**
SBCB				*e*S	**Sg**	**18 48 48.9**	**0.0**
HSN	**Hsinchu** baz=304	**0.83**	**303**	*e*P	**Pb**	**18 48 37.3**	**-0.6**
HSN				*e*S	**Sb**	**18 48 48.9**	**+0.2**
NTST	**Danshui** baz=341	**0.85**	**342**	*e*P	**Pb**	**18 48 38.1**	**-0.2**
NTST				*e*S	**Sb**	**18 48 49.6**	**+0.3**
ANP	**Anpu** baz=347	**0.85**	**347**	*e*P	**Pb**	**18 48 37.9**	**-0.5**
ANP				*e*S	**Sb**	**18 48 49.9**	**+0.4**
TWQ1	**Liyutan** baz=268	**0.88**	**270**	*e*P	**Pb**	**18 48 38.8**	**+0.1**
TWQ1				*e*S	**Sn**	**18 48 51.2**	**-0.5**
NMLH	**Miaoli** baz=280	**0.88**	**282**	*e*P	**Pb**	**18 48 38.7**	**-0.1**
NMLH				*e*S	**Sg**	**18 48 51.2**	**+0.2**
NSY	**Sanyi** baz=272	**0.89**	**274**	*e*P	**Pb**	**18 48 38.8**	**-0.2**
NSY				*e*S	**Sg**	**18 48 51.4**	**+0.1**
SMLT	**Sun Moon Lake** baz=237	**0.90**	**239**	*e*P	**Pb**	**18 48 38.8**	**-0.2**
SMLT				*e*S	**Sn**	**18 48 51.8**	**-0.5**
HGSD	**Ruisui** baz=197	**0.90**	**198**	*e*P	**Pg**	**18 48 39.4**	**-0.3**
HGSD				*e*S	**Sn**	**18 48 52.6**	**+0.4**
SSLB	**Suanglung** baz=230	**0.91**	**232**	P	**Pb**	**18 48 39.0**	**-0.2**
SSLB				S	**Sn**	**18 48 52.8**	**+0.4**
TYC	**Yuchr** baz=239	**0.92**	**241**	*e*P	**Pb**	**18 48 39.5**	**+0.1**
TYC				S	**Sn**	**18 48 52.1**	**-0.5**
EHY	**Hungye** baz=203	**0.92**	**204**	*e*P	**Pb**	**18 48 39.4**	**-0.1**
EHY				*e*S	**Sn**	**18 48 53.3**	**+0.5**
TWY	**Chenhua** baz=352	**0.93**	**352**	*e*P	**Pb**	**18 48 39.6**	**0.0**
TWY				*e*S	**Sb**	**18 48 51.9**	**+0.4**
TCU	**Taichung** baz=256	**0.99**	**258**	*e*P	**Pb**	**18 48 40.5**	**-0.1**
TCU				*e*S	**Sn**	**18 48 54.4**	**0.0**
WDJ	**Dajia District** baz=268	**1.00**	**270**	*e*P	**Pb**	**18 48 40.8**	**0.0**
WDJ				*e*S	**Sg**	**18 48 54.8**	**0.0**
YULB	**Yu-li** baz=202	**1.04**	**203**	*e*P	**Pn**	**18 48 41.4**	**-0.2**
YULB				*e*S	**Sg**	**18 48 56.7**	**+0.8**
WHYT	**Xinyi Township** baz=230	**1.04**	**231**	*e*P	**Pn**	**18 48 41.6**	**0.0**
WHYT				*e*S	**Sg**	**18 48 56.2**	**+0.3**
WJS	**Zhushan** baz=239	**1.06**	**240**	*e*P	**Pb**	**18 48 41.7**	**-0.2**
WJS				*e*S	**Sg**	**18 48 56.6**	**-0.1**
EYUL	**Yuli** baz=200	**1.07**	**201**	*e*P	**Pn**	**18 48 42.3**	**+0.2**
EYUL				S	**Sg**	**18 48 57.6**	**+0.7**
JYNG	**Yonagunijimaku**	**1.11**	**85**	P	**Pn**	**18 48 42.2**	**-0.4**
JYNG				S	**Sb**	**18 48 56.6**	**-0.1**
WCHH	**Zhanghua** baz=254	**1.11**	**256**	*e*P	**Pn**	**18 48 42.3**	**-0.3**
WCHH				*e*S	**Sn**	**18 48 57.3**	**-0.1**
YUS	**Yu-Shan** baz=218	**1.12**	**220**	P	**Pn**	**18 48 43.1**	**-0.1**
YUS				*e*S	**Sg**	**18 48 58.5**	**-0.2**
YOJ	**Yonaguni jima**	**1.17**	**84**	P	**Pn**	**18 48 42.9**	**-0.5**
YOJ				*e*S	**Sb**	**18 48 58.5**	**+0.1**
YOJ	**Yonaguni jima** baz=85	**1.17**	**84**	*e*P	**Pn**	**18 48 43.5**	**+0.1**
YOJ				*e*S	**Sn**	**18 48 59.5**	**+0.7**
ALS	**Alishan** baz=224	**1.19**	**226**	*e*P	**Pb**	**18 48 44.0**	**-0.3**
ALS				*e*S	**Sg**	**18 49 00.2**	**-0.8**
FULB	**Fuli** baz=198	**1.22**	**200**	*e*P	**Pb**	**18 48 44.4**	**-0.2**
FULB				*e*S	**Sg**	**18 49 01.1**	**-0.6**
CHN5	**Tsauling** baz=231	**1.23**	**232**	*e*P	**Pb**	**18 48 44.5**	**-0.2**
CHN5				*e*S	**Sg**	**18 49 01.1**	**-0.9**
WDLH	**Douliu** baz=238	**1.28**	**239**	*e*P	**Pb**	**18 48 45.4**	**-0.2**
WDLH				*e*S	**Sg**	**18 49 02.3**	**-1.3**
CHKT	**Chengkung** baz=194	**1.29**	**195**	*e*P	**Pb**	**18 48 45.8**	**0.0**
CHKT				S	**Sg**	**18 49 02.8**	**-1.2**
PCYT	**Pengchaiyu** baz=14	**1.31**	**13**	*e*P	**Pn**	**18 48 45.5**	**+0.1**
PCYT				*e*S	**Sn**	**18 49 02.5**	**+0.2**
WRL	**Guolierlin Hig** baz=249	**1.32**	**250**	*e*P	**Pn**	**18 48 45.3**	**-0.2**
WRL				*e*S	**Sb**	**18 49 03.2**	**+0.4**
ELDTW	**Lidau** baz=208	**1.33**	**210**	*e*P	**Pn**	**18 48 45.7**	**-0.1**
ELDTW				*e*S	**Sb**	**18 49 03.8**	**+0.6**
WTK	**Tuku** baz=240	**1.40**	**242**	*e*P	**Pn**	**18 48 46.8**	**+0.2**
WTK				*e*S	**Sb**	**18 49 05.2**	**+0.2**
CHN2	**Minshiung** baz=233	**1.41**	**235**	*e*S	**Sb**	**18 49 05.9**	**+0.4**
EDH	**Donghe** baz=195	**1.43**	**196**	*e*P	**Pn**	**18 48 47.3**	**+0.3**
EDH				*e*S	**Sb**	**18 49 06.1**	**+0.1**
CHN4	**Tsaushan** baz=225	**1.44**	**227**	*e*P	**Pn**	**18 48 47.1**	**-0.1**
CHN4				*e*S	**Sb**	**18 49 06.2**	**-0.2**
TPUB	**Ta-pu** baz=223	**1.46**	**224**	*e*P	**Pb**	**18 48 47.9**	**-0.7**
TPUB				*e*S	**Sb**	**18 49 06.6**	**-0.2**
STYH	**Taoyuan** baz=216	**1.47**	**217**	*e*P	**Pb**	**18 48 48.3**	**-0.5**
STYH				*e*S	**Sb**	**18 49 07.4**	**+0.4**
CHY	**Chiayi** baz=233	**1.47**	**235**	*e*P	**Pb**	**18 48 48.3**	**-0.5**
CHY				*e*S	**Sn**	**18 49 06.2**	**-0.1**
WTP	**Ta-pu** baz=222	**1.50**	**223**	*e*P	**Pn**	**18 48 48.2**	**0.0**
WTP				*e*S	**Sb**	**18 49 08.1**	**-0.1**
LONT	**Longtian** baz=200	**1.54**	**201**	*e*P	**Pb**	**18 48 49.2**	**-0.9**
LONT				*e*S	**Sb**	**18 49 09.3**	**+0.1**
WSF	**Szhu** baz=241	**1.56**	**243**	*e*P	**Pn**	**18 48 48.9**	**+0.1**
WSF				*e*S	**Sn**	**18 49 08.6**	**+0.2**
TWK	**Hsinying** baz=225	**1.57**	**227**	*e*P	**Pn**	**18 48 49.2**	**+0.2**
TWK				*e*S	**Sb**	**18 49 09.5**	**-0.6**
SNST	**Tainan City** baz=224	**1.60**	**225**	*e*P	**Pb**	**18 48 50.4**	**-0.6**
SNST				*e*S	**Sb**	**18 49 10.4**	**-0.5**
CHN1	**Nanshi** baz=223	**1.60**	**224**	*e*P	**Pb**	**18 48 50.4**	**-0.7**
CHN1				*e*S	**Sb**	**18 49 10.4**	**-0.7**
TWG	**Pinlang** baz=201	**1.64**	**202**	*e*P	**Pn**	**18 48 50.6**	**+0.6**
TWG				*e*S	**Sb**	**18 49 11.9**	**-0.2**
TWGBT	**Beinan** baz=201	**1.64**	**202**	*e*P	**Pn**	**18 48 50.2**	**+0.3**
TWGBT				*e*S	**Sb**	**18 49 12.1**	**0.0**
SGST	**Jiashian** baz=219	**1.65**	**220**	P	**Pn**	**18 48 50.8**	**+0.7**
SGST				*e*S	**Sb**	**18 49 11.7**	**-0.5**
ICHU	**Yijhu** baz=232	**1.66**	**234**	*e*P	**Pb**	**18 48 51.1**	**-1.0**
ICHU				*e*S	**Sn**	**18 49 11.1**	**+0.1**
TTN	**Taitung** baz=198	**1.68**	**199**	*e*P	**Pb**	**18 48 51.4**	**-1.0**
TTN				*e*S	**Sb**	**18 49 12.6**	**-0.6**
SLGT	**Liugui** baz=215	**1.68**	**217**	*e*P	**Pn**	**18 48 51.3**	**+0.8**
SLGT				*e*S	**Sb**	**18 49 12.4**	**-0.8**
LDUT	**Ludao** baz=188	**1.69**	**188**	*e*P	**Pn**	**18 48 51.3**	**+0.7**
LDUT				*e*S	**Sn**	**18 49 11.9**	**+0.2**
IRIF	**Iriomote-Funau**	**1.82**	**90**	P	**Pn**	**18 48 51.9**	**-0.5**
IRIF				*e*S	**Sn**	**18 49 15.0**	**+0.1**
SCST	**Cishan** baz=217	**1.85**	**218**	*e*P	**Pn**	**18 48 52.8**	**0.0**
SCST				*e*S	**Sn**	**18 49 16.2**	**+0.5**
ECL	**Taimali** baz=201	**1.89**	**202**	*e*P	**Pn**	**18 48 53.8**	**+0.5**
ECL				*e*S	**Sb**	**18 49 17.8**	**-1.4**
SSD	**Sandimen** baz=211	**1.89**	**213**	*e*P	**Pn**	**18 48 53.5**	**+0.1**
SSD				*e*S	**Sn**	**18 49 17.2**	**+0.5**
TSMG	**Majia** baz=211	**1.92**	**212**	*e*P	**Pn**	**18 48 54.5**	**+0.7**
TSMG				*e*S	**Sn**	**18 49 18.1**	**+0.7**
MASBT	**Mashibuluo** baz=209	**2.01**	**211**	*e*P	**Pn**	**18 48 55.7**	**+0.8**
MASBT				*e*S	**Sn**	**18 49 20.3**	**+0.8**
JKRS	**Kuro-shima**	**2.08**	**93**	P	**Pn**	**18 48 55.9**	**0.0**
JKRS				*e*S	**Sn**	**18 49 21.9**	**+0.6**
EAST	**Anshuo** baz=202	**2.12**	**203**	*e*P	**Pn**	**18 48 57.3**	**+0.7**
EAST				*e*S	**Sn**	**18 49 23.8**	**+1.3**
PNG	**Penghu** baz=247	**2.14**	**249**	*e*P	**Pn**	**18 48 57.3**	**+0.5**
PNG				*e*S	**Sn**	**18 49 22.9**	**0.0**
PHUB	**P'eng-hu** baz=246	**2.15**	**248**	P	**Pn**	**18 48 58.0**	**+1.1**
PHUB				S	**Sn**	**18 49 23.8**	**+0.8**
VWUC	**VWUC** baz=286	**2.17**	**287**	*e*P	**Pn**	**18 48 57.0**	**-0.2**
VWUC				*e*S	**Sn**	**18 49 23.8**	**+0.1**
WDGT	**Dungji** baz=239	**2.19**	**241**	*e*P	**Pn**	**18 48 57.8**	**+0.3**
WDGT				*e*S	**Sn**	**18 49 24.8**	**+0.8**
JIJ	**Ishigaki jima**	**2.20**	**89**	P	**Pn**	**18 48 57.4**	**-0.2**
JIJ				*e*S	**Sn**	**18 49 24.0**	**-0.2**
SCZT	**Fangliau** baz=206	**2.22**	**208**	*e*P	**Pn**	**18 48 58.8**	**+0.9**
SCZT				*e*S	**Sn**	**18 49 26.0**	**+1.2**
SLIU	**Shizi** baz=201	**2.29**	**202**	*e*P	**Pn**	**18 49 00.0**	**+1.1**
SLIU				*e*S	**Sn**	**18 49 26.9**	**+0.2**
LAY	**Lan-yu** baz=183	**2.31**	**184**	*e*P	**Pn**	**18 48 59.2**	**0.0**
LAY				*e*S	**Sn**	**18 49 28.2**	**+1.2**
JISG	**Ishigakijimahi**	**2.36**	**84**	*e*S	**Sn**	**18 49 28.6**	**+0.4**
VCHM	**Qimei** baz=241	**2.40**	**242**	P	**Pn**	**18 49 01.2**	**+0.9**
VCHM				*e*S	**Sn**	**18 49 30.0**	**+0.7**
MATB	**Ma-tsu** baz=317	**2.42**	**318**	*e*P	**Pn**	**18 49 00.9**	**+0.3**
MATB				*e*S	**Sn**	**18 49 30.0**	**+0.3**
PTMZ	**Houxiangcun** baz=285	**2.48**	**287**	P	**Pn**	**18 49 01.8**	**+0.4**
PTMZ				*e*S	**Sn**	**18 49 30.8**	**-0.3**
TWKBT	**Hengchun** baz=199	**2.55**	**200**	*e*P	**Pn**	**18 49 03.8**	**+1.4**
TWKBT				*e*S	**Sn**	**18 49 33.9**	**+1.1**
JTJ	**Tarama**	**2.72**	**83**	P	**Pn**	**18 49 05.5**	**+0.8**
JTJ				*e*S	**Sn**	**18 49 37.7**	**+0.6**
LYJJ	**Jianjiangzhen** baz=320	**2.83**	**321**	*e*P	**Pn**	**18 49 07.3**	**+1.0**
LYJJ				*e*S	**Sn**	**18 49 40.0**	**+0.2**
XPSS	**Dashiqiu** baz=331	**2.92**	**332**	*e*P	**Pn**	**18 49 08.0**	**+0.4**
XPSS				*e*S	**Sn**	**18 49 41.0**	**-1.1**
MHZQ	**Yeshan** baz=305	**3.01**	**306**	*e*P	**Pn**	**18 49 09.5**	**+0.8**
MHZQ				*e*S	**Sn**	**18 49 43.6**	**-0.6**
KNMB	**Chin-men Tao** baz=271	**3.05**	**273**	*e*P	**Pn**	**18 49 08.8**	**-0.6**
KNMB				*e*S	**Sn**	**18 49 46.3**	**+0.9**
AXDP	**Jialang** baz=278	**3.47**	**280**	*e*P	**Pn**	**18 49 15.3**	**+0.3**
AXDP				*e*S	**Sn**	**18 49 55.1**	**-0.6**
ZPLA	**Ao Xicun** baz=263	**3.67**	**264**	*e*P	**Pn**	**18 49 18.3**	**+0.5**
ZPLA				*e*S	**Sn**	**18 50 00.1**	**-0.4**

WEL ***22*** *18:54:37.4±1.7,35°S±14′×18°0E±1°8,h89km±58km, M3.8/38,mB4.4/12,ML4.4/42,MLv4.2/38,Mw(mB)3.6/12, Error ellipse: s-maj=0.0km s-min=0.0km az=112.4*

IDC ***22*** *18:54:42.4±1.2,35°58S×178°05E,h0km,mb4.2/4, mb1 4.4/5,mb1mx3.9/34,mbtmp4.1/5,ML3.9/1,MS3.5/7, Ms1 3.5/7,ms1mx3.1/28,Error ellipse: s-maj=32.6km s-min=24.7km az=83.0*

NEIC ***22*** *18:54:43.9±2.6,35°56S±0°08×178°2E±0°1,h10km±1km, mb4.5/7,Error ellipse: s-maj=18.6km s-min=13.0km az=75.0*

ISC 22 18:54:43.2±0.9,35°76S±0°06×178°11E±0°0′,h10km,n100, σ2s06/87,mb4.3/7,MS3.5/6,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.81**	**175**	P	**Pn**	**18 55 14.9**	**+0.4**
HAZ	**Te Kaha**	**2.01**	**187**	P	**Pb**	**18 55 19.1**	**-0.8**
WMGZ	**Waiomatatini S**	**2.07**	**173**	P	**Pb**	**18 55 20.5**	**-0.4**
PKGZ	**Pakihiroa**	**2.13**	**181**	P	**Pg**	**18 55 24.2**	**+0.1**
MYRZ	**Mayor Island**	**2.14**	**224**	P	**Sn**	**18 55 39.4**	**-6.2**
RUGZ	**Raukumara Rang**	**2.23**	**189**	P	**Pb**	**18 55 23.5**	**-0.3**
PUZ	**Puketiti**	**2.31**	**177**	P	**Pb**	**18 55 24.6**	**-0.5**
TWGZ	**Tauwhareparae**	**2.42**	**182**	P	**Pb**	**18 55 27.6**	**+0.7**
OPRZ	**Ohinepanea**	**2.43**	**210**	P	**Pg**	**18 55 32.2**	**+2.4**
MARZ	**Manawahe**	**2.50**	**207**	P	**Pg**	**18 55 33.3**	**+2.1**
MWZ	**Matawai**	**2.61**	**190**	P	**Pb**	**18 55 29.1**	**-1.1**
URZ	**Urewera** 18nm,0.3s,baz=19,slow=9.6,SNR=107	**2.62**	**197**	Pn	**Pb**	**18 55 29.5**	**-0.8**
URZ	9.3nm,0.3s,baz=76,slow=23,SNR=7.0			Sn	**Sb**	**18 56 04.7**	**+2.1**
URZ	**Urewera**	**2.62**	**197**	P	**Pb**	**18 55 29.5**	**-0.8**
TKGZ	**Te Karaka**	**2.69**	**184**	P	**Pb**	**18 55 31.8**	**+0.5**
CNGZ	**Carnagh Statio**	**2.72**	**178**	P	**Pb**	**18 55 30.9**	**-1.1**

RAGZ	**Rawiri**	**2.79**	**191**	P	**Pb**	**18 55 32.0**	**-1.2**
UTU	**Utuhina**	**2.86**	**212**	P	**Pg**	**18 55 40.8**	**+2.7**
RRRZ	**Republican Roa**	**2.88**	**206**	P	**Pg**	**18 55 38.0**	**-0.3**
MUGZ	**Murupara**	**2.92**	**201**	P	**Pb**	**18 55 34.4**	**-1.0**
RIGZ	**Rimuhau**	**2.96**	**185**	P	**Pb**	**18 55 34.4**	**-1.6**
RIGZ				S	**Sg**	**18 56 18.2**	**-0.1**
RTZ	**Ruatahuna**	**2.99**	**197**	P	**Pb**	**18 55 34.9**	**-1.8**
SNGZ	**Shannon Statio**	**3.08**	**191**	P	**Pb**	**18 55 37.0**	**-1.2**
SNGZ				S	**Sg**	**18 56 22.9**	**+0.6**
PRGZ	**Paritu Road**	**3.17**	**183**	P	**Pb**	**18 55 36.6**	**-3.0**
MTHZ	**Maungataniwha**	**3.25**	**198**	P	**Pb**	**18 55 39.1**	**-1.9**
RAHZ	**Arahi**	**3.26**	**194**	P	**Pb**	**18 55 40.5**	**-0.6**
MRHZ	**Matea Rd**	**3.35**	**203**	P	**Pb**	**18 55 41.8**	**-1.0**
MHGZ	**Mahia Peninsul**	**3.39**	**193**	P	**Pn**	**18 55 39.6**	**+3.4**
NMHZ	**Naumai**	**3.49**	**197**	P	**Pb**	**18 55 43.2**	**-2.0**
ARHZ	**Aropaoanui**	**3.61**	**194**	P	**Pb**	**18 55 44.3**	**-2.8**
RATZ	**Rangitukua**	**3.62**	**210**	P	**Pb**	**18 55 48.2**	**+0.9**
BKZ	**Black Stump Fm**	**3.64**	**200**		**Pb**	**18 55 45.3**	**-2.4**
BKZ	**Black Stump Fm**	**3.64**	**200**	P	**Pb**	**18 55 45.9**	**-1.8**
RITZ	**Rihia Road**	**3.68**	**208**	P	**Pb**	**18 55 48.6**	**+0.2**
OUZ	**Omahuta**	**3.72**	**277**	Pn	**Pn**	**18 55 41.8**	**+1.1**
KATZ	**Kakaramea**	**3.74**	**210**	P	**Pb**	**18 55 50.0**	**+0.5**
HIZ	**Hauiti**	**3.78**	**222**	Pn	**Pb**	**18 55 47.9**	**-2.2**
MCHZ	**McNeill Hill**	**3.85**	**196**	P	**Pb**	**18 55 47.5**	**-3.7**
NTVZ	**North Tongarir**	**3.86**	**209**	P	**Pb**	**18 55 50.7**	**-0.7**
TMVZ	**Te Maari**	**3.86**	**209**	P	**Pb**	**18 55 49.5**	**-2.0**
KRVZ	**Karewarewa**	**3.87**	**210**	P	**Pb**	**18 55 51.1**	**-0.5**
ETVZ	**East Tongariro**	**3.88**	**209**	P	**Pb**	**18 55 50.7**	**-1.1**
KWHZ	**Kaweka Forest**	**3.90**	**200**	P	**Pb**	**18 55 48.4**	**-3.7**
WTVZ	**West Tongariro**	**3.91**	**210**	P	**Pb**	**18 55 52.3**	**0.0**
NNVZ	**North Ngauruho**	**3.91**	**210**	P	**Pb**	**18 55 51.7**	**-0.7**
OTVZ	**Oturere**	**3.92**	**209**	P	**Pb**	**18 55 50.2**	**-2.3**
TWVZ	**Taurewa**	**3.93**	**212**	P	**Pb**	**18 55 52.4**	**-0.3**
SNVZ	**South Ngauruho**	**3.95**	**209**	P	**Pb**	**18 55 50.7**	**-2.3**
NGZ	**Ngauruhoe**	**3.95**	**210**	P	**Pb**	**18 55 51.9**	**-1.1**
TUVZ	**Tukino**	**4.01**	**208**	P	**Pb**	**18 55 52.0**	**-2.0**
FWVZ	**Far West T-bar**	**4.04**	**209**	P	**Pb**	**18 55 52.3**	**-2.3**
WHVZ	**Whangaehu Hut**	**4.05**	**209**	P	**Pb**	**18 55 53.1**	**-1.6**
BHHZ	**Black Hill Sta**	**4.06**	**203**	P	**Pb**	**18 55 51.5**	**-3.4**
TRVZ	**Turoa**	**4.08**	**209**	P	**Pb**	**18 55 53.5**	**-1.8**
WNVZ	**Wahianoa**	**4.08**	**208**	P	**Pb**	**18 55 52.7**	**-2.6**
MOVZ	**Moawhango**	**4.09**	**206**	P	**Pb**	**18 55 51.5**	**-3.9**
KRHZ	**Kereru**	**4.12**	**199**	P	**Pn**	**18 55 50.6**	**+4.4**
KAHZ	**Kahuranaki**	**4.15**	**193**	P	**Pn**	**18 55 50.3**	**+3.6**
VRZ	**Vera Road**	**4.29**	**217**	P	**Pb**	**18 55 58.2**	**-0.6**
PNHZ	**Pukenui**	**4.42**	**199**	P	**Pn**	**18 55 54.0**	**+3.7**
NEZ	**North Egmont**	**4.74**	**221**	P	**Pb**	**18 56 05.7**	**-0.7**
BFZ	**Birch Farm**	**5.13**	**196**	Pn	**Pn**	**18 56 02.7**	**+2.6**
MSWZ	**Moikau Station**	**6.08**	**201**	Pn	**Pn**	**18 56 15.6**	**+2.5**
SNZO	**South Karori**	**6.15**	**205**	Pn	**Pn**	**18 56 16.9**	**+2.8**
TUWZ	**Tuamarina**	**6.54**	**209**	Pn	Pn	18 56 24.6	+5.2
QRZ	**Quartz Range**	**6.70**	**219**	Pn	**Pn**	**18 56 23.9**	**+2.2**
BSWZ	**Blackbirch Sta**	**6.81**	**208**	Pn	**Pn**	**18 56 26.0**	**+2.8**
THZ	**Tophouse**	**7.24**	**213**	Pn	Pn	18 56 35.5	+6.3
THZ	**Tophouse**	**7.24**	**213**	P	Pn	18 56 37.6	+8.5
KHZ	**Kahutara**	**7.54**	**207**	Pn	**Pn**	**18 56 35.2**	**+2.1**
MQZ	**McQueen's Vall**	**8.98**	**206**	Pn	**Pn**	**18 56 52.6**	**-0.3**
ODZ	**Otahua Downs**	**10.88**	**209**	Pn	**Pn**	**18 57 19.0**	**+0.1**
DZM	**Mont Dzumac**	**17.01**	**320**	LR	LR	19 03 39.8	
	comp=Z,259nm,21.8s,baz=104,slow=32						
HNR	**Honiara**	**30.99**	**323**	LR	LR	19 10 51.7	
	comp=Z,81nm,19.4s,baz=166,slow=32						
ASAR	**Alice Springs**	**39.93**	**275**	P	**P**	**19 02 18.1**	**+0.3**
	1.4nm,0.6s,baz=113,slow=7.7,SNR=13						
ASAR	**Alice Springs**	**39.93**	**275**	P	**P**	**19 02 17.9**	**+0.2**
WB2	**Warramunga Arr**	**41.41**	**280**	P	**P**	**19 02 28.8**	**-1.3**
WB2				IAmb	IAmb	19 02 38.5	
	comp=Z,3.9nm,0.6s						
WRA	**Warramunga Arr**	**41.42**	**280**	P	**P**	**19 02 29.2**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=123,slow=7.8,SNR=6.2						
VNDA	**Vanda**	**42.47**	**185**	LR	LR	19 18 02.3	
	comp=Z,33nm,18.3s,baz=1.5,slow=33						
JAY	**Jayapura**	**47.87**	**305**	LR	LR	19 22 38.0	
	comp=Z,60nm,18.7s,baz=194,slow=35						
KNRA	**Kununurra**	**48.19**	**281**	P	**P**	**19 03 24.8**	**+0.8**
FITZ	**Fitzroy Crossi**	**49.39**	**277**	LR	LR	19 24 15.8	
	comp=Z,52nm,18.1s,baz=122,slow=36						
FITZ	**Fitzroy Crossi**	**49.39**	**277**	P	**P**	**19 03 32.8**	**-0.5**
FITZ				IAmb	IAmb	19 03 42.5	
	comp=Z,4.8nm,0.9s						
QSPA	**South Pole Qui**	**54.37**	**180**	P	**P**	**19 04 10.3**	**+0.4**
	comp=Z,3.8nm,0.9s,baz=32,slow=2.9,SNR=8.7						
QSPA	**South Pole Qui**	**54.37**	**180**	P	**P**	**19 04 10.3**	**+0.4**
SNAA	**Sanae**	**72.87**	**180**	P	**P**	**19 06 07.7**	**-4.3**
SNAA	**Sanae**	**72.87**	**180**	P	**P**	**19 06 13.8**	**+1.9**
SNAA				IAmb	IAmb	19 06 19.0	
	comp=Z,6.4nm,1.3s						
VNA3	**Neumayer Olymp**	**73.16**	**177**	P	**P**	**19 06 11.5**	**-2.1**
VNA2	**Neumayer--Watz**	**73.55**	**178**	P	**P**	**19 06 12.9**	**-2.9**
	baz=168,slow=5.5						
VNA1	**Neumayer--Stat**	**73.80**	**178**	P	**P**	**19 06 15.4**	**-1.9**
H03S2	**Juan Fernandez**	**80.18**	**125**	T	T	20 34 46.4	
	baz=232,slow=74,SNR=106						
H03S1	**Juan Fernandez**	**80.19**	**125**	T	T	20 34 47.5	
	baz=232,slow=74,SNR=120						
H03S3	**Juan Fernandez**	**80.20**	**125**	T	T	20 34 46.4	
	baz=232,slow=74,SNR=50						
H03N3	**Juan Fernandez**	**80.41**	**124**	T	T	20 35 02.8	
	baz=236,slow=72,SNR=45						
H03N2	**Juan Fernandez**	**80.41**	**124**	T	T	20 34 57.6	
	baz=236,slow=72,SNR=26						
H03N1	**Juan Fernandez**	**80.43**	**124**	T	T	20 35 02.0	
	baz=236,slow=72,SNR=46						
PLCA	**Paso Flores**	**81.19**	**134**	LR	LR	19 34 20.3	
	comp=Z,24nm,21.6s,baz=198,slow=29						
NVAR	**Mina Array Bea**	**94.36**	**45**	P	**P**	**19 08 03.6**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=207,slow=7.1,SNR=7.6						
LPAZ	**La Paz**	**98.78**	**117**	LR	LR	19 46 07.6	
	comp=Z,23nm,18.2s,baz=344,slow=31						
FINES	**FINESS Array B**	**148.80**	**334**	PKPbc	**PKiKP**	**19 14 30.8**	**-0.7**
	comp=Z,2.6nm,0.9s,baz=40,slow=2.4,SNR=4.6						
TORD	**Torodi Ar. Bea**	**157.26**	**189**	PKPab	**PKPab**	**19 15 13.0**	**+2.3**
	comp=Z,0.9nm,0.8s,baz=176,slow=3.6,SNR=4.8						

*IDC **22** 19:07:13.5±3.4, 3°.43S×151°.26E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/37, mbtmp3.9/5, Error ellipse: s-maj=105.7km s-min=26.5km az=106.0*

*NEIC **22** 19:07:39.1±1.1, 3°.8S±0°.2×152°.2E±0°.2, h301km±9km, mb4.6/10, Error ellipse: s-maj=25.9km s-min=19.7km az=127.0*

ISC 22 19:07:39.4±0.8, 4°.0S±0°.1×152°.5E±0°.2, h300km, n20, σ2s03/19, mb4.4/11, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.37**	**231**		**Pn**	**19 08 17.5**	**-0.3**
PATS	**Pohnpei**	**12.21**	**29**		**Pn**	**19 10 23.2**	**-1.5**
COEN	**Coen**	**13.51**	**222**	P	P	19 10 34.3	-5.9
WR0	**Warramunga Arr**	**23.62**	**226**	P	**P**	**19 12 22.7**	**-1.6**
WR0				IAmb	IAmb	19 12 23.4	
	comp=Z,6.6nm,0.7s						
WRAB	**Tennant Creek**	**23.74**	**227**	P	**P**	**19 12 23.4**	**-2.0**
WRAB				IAmb	IAmb	19 12 32.4	
	comp=Z,14nm,0.6s						
WB2	**Warramunga Arr**	**23.75**	**227**	P	**P**	**19 12 23.9**	**-1.6**
WRA	**Warramunga Arr**	**23.75**	**227**	P	**P**	**19 12 23.6**	**-1.9**
	comp=Z,7.1nm,0.4s,baz=47,slow=9.6,SNR=142						
WRA	**Warramunga Arr**	**23.75**	**227**	P	**P**	**19 12 22.6**	**-2.9**
KNRA	**Kununurra**	**26.05**	**242**	P	**P**	**19 12 43.3**	**-2.9**
KNRA				IAmb	IAmb	19 13 11.3	
	comp=Z,28nm,1.5s						
AS31	**Alice Springs**	**26.55**	**221**	P	**P**	**19 12 49.4**	**-1.1**
ASAR	**Alice Springs**	**26.55**	**221**	P	**P**	**19 12 49.0**	**-1.6**
	comp=Z,1.2nm,0.4s,baz=50,slow=8.6,SNR=51						
ASAR	**Alice Springs**	**26.55**	**221**	P	**P**	**19 12 49.3**	**-1.3**
FITZ	**Fitzroy Crossi**	**29.77**	**240**	P	**P**	**19 13 16.3**	**-2.8**
	comp=Z,1.3nm,0.9s,baz=58,slow=7.3,SNR=26						
BBOO	**Buckleboo**	**32.55**	**206**	P	**P**	**19 13 42.8**	**-0.4**
BBOO				IAmb	IAmb	19 14 08.4	
	comp=Z,40nm,1.6s						
TOO	**Toolangi**	**34.06**	**190**	P	**P**	**19 13 59.4**	**+3.3**
TOO				IAmb	IAmb	19 14 03.8	
	comp=Z,36nm,1.6s						
FORT	**Forrest**	**35.23**	**218**	P	**P**	**19 14 04.9**	**-1.1**
FORT				IAmb	IAmb	19 14 35.1	
	comp=Z,24nm,0.9s						
NIUE	**Niue**	**39.68**	**115**	P	**P**	**19 14 42.7**	**-0.6**
SONM	**Songino Array**	**65.43**	**328**	P	**P**	**19 17 51.3**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=112,slow=6.7,SNR=1.8						
MKAR	**Makanchi Array**	**79.47**	**319**	P	**P**	**19 19 15.7**	**+2.7**
	comp=Z,0.6nm,0.9s,baz=108,slow=4.7,SNR=3.8						
TORD	**Torodi Ar. Bea**	**149.71**	**289**	PKPbc	**PKPab**	**19 27 02.1**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=69,slow=4.2,SNR=2.1						

IDC 22 19:10:19.6±2.1, 5°.98S×151°.69E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.5/37, mbtmp3.7/4, Error ellipse: s-maj=116.5km s-min=30.1km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.84**	**229**	P	P	19 15 13.5	-0.5
	0.6nm,0.6s,baz=55,slow=10,SNR=3.8						
ASAR	**Alice Springs**	**24.54**	**222**	P	P	19 15 41.9	+0.7
	1.5nm,0.8s,baz=55,slow=10.0,SNR=13						
FITZ	**Fitzroy Crossi**	**28.13**	**242**	P	P	19 16 13.1	-0.6
	1.0nm,0.6s,baz=61,slow=8.1,SNR=1.8						
ILAR	**Eielson Array**	**83.66**	**22**	P		19 22 49.9	0.0
	0.4nm,0.3s,baz=232,slow=4.4,SNR=1.4						
TORD	**Torodi Ar. Bea**	**149.60**	**286**	PKPbc	PKPbc	19 30 11.8	-0.5
	0.4nm,0.7s,baz=60,slow=3.0,SNR=6.1						

*NIED **22** 19:11:13.5, 39°.16N×142°.39E, h34km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.37; $M_{\theta\theta}$0.03; $M_{\phi\phi}$ 1.34; $M_{r\theta}$-0.46; $M_{\theta\phi}$-1.10; $M_{\phi r}$0.63; Fault plane solution: M_0 1.85000×10^{14} NP1: ϕ_s146.00000°, δ58.00000°, λ-96.00000°. NP2: ϕ_s337.00000°, δ33.00000°, λ-81.00000°.*

JMA 22 19:11:13.5±0.1, 39°.16N×142°.39E, h34km±1km, M3.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.57**	**262**	P	Pn	19 11 24.9	-0.2
OFUJ				S	Sb	19 11 32.8	-0.4
MIYJ	**Miyakonagasawa**	**0.61**	**313**	P	Pn	19 11 25.4	-0.2
MIYJ				*e*S	Sn	19 11 34.1	-0.2
JKMT	**Kesennumamotoy**	**0.80**	**244**	P	Pn	19 11 28.0	-0.3
JKMT				S	Sn	19 11 38.2	-0.7
JTH	**Tanohata**	**0.88**	**333**	P	Pn	19 11 29.4	0.0
JTH				S	Sn	19 11 41.0	0.0
JOM	**Ohasama**	**0.91**	**291**	P	Pn	19 11 30.1	+0.3
JOM				S	Sn	19 11 42.1	+0.4
JMK	**Ichinoseki**	**0.93**	**258**	P	Pn	19 11 30.3	+0.1
JMK				*e*S	Sn	19 11 42.5	+0.1
JIO	**Ouri**	**1.08**	**229**	P	Pn	19 11 31.7	-0.4
JIO				*e*S	Sn	19 11 45.6	-0.3
JKZ	**Kuzumaki**	**1.16**	**315**	P	Pn	19 11 34.1	+0.7
JKZ				S	Sn	19 11 49.0	+0.9
JRG	**Rokugo**	**1.38**	**280**	P	Pn	19 11 37.5	+1.1
JRG				*e*S	Sb	19 11 56.5	+0.3
JANG	**Nango**	**1.39**	**331**	P	Pn	19 11 37.2	+0.7

IDC 22 19:21:09.9±3.8, 6°.03S×151°.66E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/30, mbtmp3.6/3, Error ellipse: s-maj=122.0km s-min=54.5km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.79**	**229**	P	P	19 26 03.7	0.0
	0.8nm,0.8s,baz=55,slow=10,SNR=3.0						
ASAR	**Alice Springs**	**24.49**	**222**	P	P	19 26 31.6	+0.5
	1.1nm,0.8s,baz=58,slow=8.6,SNR=15						
FITZ	**Fitzroy Crossi**	**28.09**	**242**	P	P	19 27 02.7	-0.8
	1.7nm,0.7s,baz=89,slow=8.3,SNR=2.6						
TORD	**Torodi Ar. Bea**	**149.58**	**286**	PKPbc	PKPbc	19 41 02.1	-0.4
	0.4nm,0.7s,baz=70,slow=3.4,SNR=2.9						

*MEX **22** 19:24:34.2±0.7, 32°.18N×115°.19W, h5km, MD3.7*

ECX 22 19:24:33.3±0.4, 32°.26N×115°.29W, h13km±2km, MD2.6, ML2.7, 7C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.16**	**354**	*e*P	Pb	19 24 38.5	+0.4
CPBX				*e*S	Sb	19 24 42.3	+1.1
CPBX				IAML		19 24 42.8	
	comp=N,5μm,0.1s						
CPBX				*e*		19 24 42.8	
CPBX				*e*		19 24 48.4	
CPBX				IAML		19 24 48.4	
	comp=E,5μm,0.4s						
MBIG	**Mexicali**	**0.16**	**28**	*e*P	Pb	19 24 38.1	-0.1
MBIG				*i* S	Sb	19 24 42.2	+0.9
GUVIX	**Guadalupe Vict**	**0.18**	**78**	*i*P	Pb	19 24 39.1	+0.6
CTLX	**Tlaxcala, TLX**	**0.24**	**30**	*i*P	Pb	19 24 40.2	+0.7
UABX	**UABC, Campus M**	**0.39**	**340**	*e*S	Sn	19 24 50.0	-1.9
EMSC	**East Mesa**	**0.54**	**28**	*i*P	Pb	19 24 45.2	+0.7
EMSC				*e*S	Sb	19 24 53.8	+1.6
COA	**Coachella**	**0.61**	**13**	*e*P	Pb	19 24 46.2	+0.3
WESC	**Westside Schoo**	**0.62**	**323**	*i*P	Pb	19 24 46.6	+0.6
YUH2	**Yuha Desert**	**0.66**	**306**	*e*P	Pb	19 24 46.5	-0.1
COK2	**Cook Ranch 2**	**0.69**	**328**	*e*P	Pb	19 24 47.5	+0.3
RMX	**La Rumorosa**	**0.75**	**297**	*e*P	Pg	19 24 47.2	-0.7
RMX				*e*S	Sg	19 24 56.4	-1.5
IKP	**In-Ko-Pah, Jac**	**0.80**	**299**	*e*P	Pg	19 24 49.1	+0.1
IKP				*e*S	Sg	19 24 59.4	+0.2
SWSC	**Sam W. Stewart**	**0.81**	**328**	*e*P	Pg	19 24 49.0	+0.1
CRR	**Carrizo Plain**	**0.85**	**317**	*e*P	Pb	19 24 50.0	+0.2
GLA	**Glamis**	**0.88**	**26**	*e*P	Pg	19 24 49.9	-0.4
MONP2	**Monument Peak**	**1.15**	**303**	*e*P	Pg	19 24 55.4	0.0
CBX	**Cerro Bola**	**1.17**	**273**	*e*P	Pb	19 24 55.0	-0.4
CBX				*i* S	Sb	19 25 10.5	0.0
TJIG	**Tijuana**	**1.19**	**279**	*i* P	Pb	19 24 55.7	+0.1
TJIG				*i* S	Sb	19 25 10.5	-0.4

*NEIC **22** 19:27:02.6±2.1, 40°.49N±0°.02×112°.06W±0°.02, h0km±2km, ML2.4/109, Error ellipse: s-maj=3.3km s-min=3.0km az=141.0*

*IDC **22** 19:27:03.7±1.1, 40°.31N×111°.88W, h0km, mb1 3.2/3, mb1mx3.1/35, mbtmp2.8/3, ML3.7/2, Error ellipse: s-maj=16.7km s-min=7.4km az=148.0*

ISC 22 19:27:02.2±0.8, 40°.45N±0°.02×112°.12W±0°.02, h0km, n63, σ1s08/70, Utah

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTU	**Camp Tracy**	**0.37**	**50**		**Pg**	**19 27 08.8**	**-0.5**
NLU	**North Lily Min**	**0.50**	**176**	Pg	**Pg**	**19 27 11.6**	**-0.1**
NLU				Sg	**Sb**	**19 27 21.3**	**-0.5**
JLU	**Jordanelle**	**0.54**	**73**		**Pg**	**19 27 11.4**	**-1.0**
MPU	**Maple Canyon**	**0.57**	**139**		**Pb**	**19 27 14.2**	**-1.0**
DUG	**Dugway, Tooele**	**0.59**	**244**	Pg	**Pb**	**19 27 15.8**	**+0.4**
DUG				Sg	**Sb**	**19 27 23.8**	**-0.6**
DUG				IAML		19 27 31.2	
	122nm,0.8s						
BGU	**Big Grassy Mou**	**0.84**	**305**	Pg	**Pb**	**19 27 20.0**	**+0.3**
BGU				Sg	**Sb**	**19 27 32.1**	**+0.5**
TCUT	**Toone Canyon**	**0.86**	**39**		**Pg**	**19 27 18.7**	**+0.1**
TCUT				Sg	**Sg**	**19 27 30.0**	**+0.2**
TCUT				IAML		19 27 38.0	
	comp=E,166nm,0.6s						
TCUT				IAML		19 27 39.8	
	comp=N,183nm,0.5s						
SPUT	**South Promonto**	**0.89**	**344**		**Pg**	**19 27 20.0**	**+0.7**
HWUT	**Hardware Ranch**	**1.23**	**20**		**Pg**	**19 27 26.2**	**+0.5**
HWUT					**Sg**	**19 27 42.6**	**+1.0**
HWUT				IAML		19 27 49.3	
	comp=N,55nm,0.8s						
HWUT				IAML		19 27 50.0	
	comp=N,58nm,0.5s						
TMUT	**Trail Mountain**	**1.35**	**148**		**Pn**	**19 27 30.3**	**+1.7**
TMUT				IAML		19 27 56.2	
	comp=N,86nm,0.6s						
HVU	**Hansel Valley**	**1.42**	**340**	Pn	**Pn**	**19 27 29.0**	**-0.4**
HVU				IAML		19 27 56.1	
	comp=N,45nm,0.8s						
HVU				IAML		19 27 59.7	
	comp=E,47nm,0.8s						
P17A	**Butcher Ranch,**	**1.44**	**132**		**Pb**	**19 27 31.9**	**+1.8**
Q16A	**Castle Valley**	**1.70**	**154**		**Pb**	**19 27 33.8**	**-0.6**
Q16A				IAML		19 28 04.0	
	comp=E,22nm,0.8s						
SRU	**San Rafael Swe**	**1.82**	**137**		**Pg**	**19 27 37.9**	**+0.8**
SRU				IAML		19 28 09.0	
	comp=E,23nm,0.6s						
TCRU	**Three Creeks R**	**1.86**	**188**		**Pg**	**19 27 37.1**	**-0.7**
TCRU				IAML		19 27 53.4	
	comp=N,23nm,0.7s						
TCRU				IAML		19 28 19.4	
	comp=E,29nm,0.9s						
MSU	**Marysvale**	**1.94**	**181**		**Pn**	**19 27 35.7**	**-0.9**
RDMU	**Red Mountain**	**1.95**	**86**		**Pn**	**19 27 37.1**	**+0.4**
SPR3	**Spring Creek 3**	**2.24**	**230**		**Pn**	**19 27 41.2**	**+0.4**
SPR3				IAML		19 28 28.9	
	comp=N,15nm,1.4s						
SPR3				IAML		19 28 29.0	
	comp=E,12nm,0.8s						
PSUT	**Pine Spring**	**2.34**	**216**		**Pb**	**19 27 44.8**	**-0.5**
PSUT				IAML		19 28 28.5	
	comp=E,16nm,0.8s						
PSUT				IAML		19 28 32.9	
	comp=N,16nm,0.7s						
ELK	**Elko**	**2.39**	**278**	Pn	**Pb**	**19 27 46.7**	**+0.5**
	comp=N,0.7nm,0.3s,baz=92,slow=12,SNR=16						
ELK				Sn	**Sg**	**19 28 19.5**	**+0.5**
	comp=N,0.7nm,0.3s,baz=96,slow=9.5,SNR=3.9						
ELK	**Elko**	**2.39**	**278**		**Pn**	**19 27 43.2**	**+0.3**
MTPU	**Mount Pierson**	**2.41**	**181**		**Pb**	**19 27 46.5**	**-0.1**
AHID	**Auburn Hatcher**	**2.44**	**18**		**Pn**	**19 27 42.8**	**-0.6**
SZCU	**Shurtz Canyon**	**2.95**	**195**		**Pb**	**19 27 53.4**	**-2.3**
PKCU	**Pink Cliffs**	**3.01**	**183**		**Pn**	**19 27 52.5**	**+1.2**
PKCU				IAML		19 28 46.3	
	comp=N,16nm,4.2s						
PKCU				IAML		19 28 53.3	
	comp=E,15nm,3.3s						
BW06	**Boulder Array**	**3.01**	**39**		**Pn**	**19 27 52.1**	**+0.8**
BW06				IAML		19 28 43.2	
	comp=E,6.7nm,0.5s						
BW06				IAML		19 28 53.2	
	comp=E,9.0nm,4.7s						
PD31	**Pinedale Array**	**3.01**	**39**		**Pn**	**19 27 51.8**	**+0.4**
PDAR	**Pinedale Array**	**3.01**	**39**	Pn	**Pb**	**19 27 55.7**	**-1.0**
	comp=E,1.4nm,0.3s,baz=201,slow=9.6,SNR=25						
PDAR				Lg	Lg	19 28 36.9	
	comp=E,1.8nm,0.3s,baz=211,slow=25,SNR=9.4						
PDAR	**Pinedale Array**	**3.01**	**39**		**Pn**	**19 27 50.8**	**-0.5**
CCUT	**Cedar City**	**3.05**	**199**		**Pn**	**19 27 52.2**	**+0.3**
CCUT				IAML		19 28 51.1	
	comp=N,6.9nm,4.4s						
CCUT				IAML		19 28 51.9	
	comp=E,6.8nm,4.5s						
REDW	**Red Top Meadow**	**3.06**	**18**		**Pn**	**19 27 52.4**	**+0.4**
REDW				IAML		19 29 03.3	
	comp=E,14nm,1.0s						
PV21	**Cone Mtn., Par**	**3.08**	**127**		**Pn**	**19 27 52.9**	**+0.6**
PV23	**Carpenter Ridg**	**3.13**	**129**		**Pn**	**19 27 53.5**	**+0.5**
PV10	**Paradox Valley**	**3.16**	**130**	Pn	**Pn**	**19 27 53.1**	**-0.3**
PV10				IAML		19 28 47.7	
	comp=E,12nm,3.3s						
PV10				IAML		19 28 59.4	
	comp=N,15nm,0.8s						
PV14	**Lion Creek, Pa**	**3.17**	**130**		**Pn**	**19 27 53.4**	**-0.2**
PV14				IAML		19 28 58.0	
	comp=E,16nm,0.7s						
PV22	**Blue Mesa, Par**	**3.21**	**125**		**Pn**	**19 27 53.8**	**-0.3**
PV22				IAML		19 28 52.0	
	comp=N,12nm,0.9s						
PV22				IAML		19 28 57.2	
	comp=E,13nm,1.2s						
PV20	**West Nyswonger**	**3.23**	**130**		**Pn**	**19 27 53.9**	**-0.4**
PV04	**Paradox Valley**	**3.23**	**128**		**Pn**	**19 27 53.3**	**-1.0**
PV04				IAML		19 29 06.3	
	comp=N,15nm,1.4s						
PV19	**Morning Glory**	**3.24**	**130**		**Pn**	**19 27 53.2**	**-1.2**
PV19				IAML		19 28 39.6	
	comp=N,11nm,3.2s						
PV19				IAML		19 29 01.7	
	comp=E,13nm,1.0s						
PV17	**East Wray Mesa**	**3.27**	**130**		**Pn**	**19 27 53.9**	**-1.1**
PV17				IAML		19 28 59.8	
	comp=E,13nm,1.2s						
PV17				IAML		19 29 04.9	
	comp=N,15nm,4.5s						
PV16	**Nyswonger Mesa**	**3.28**	**130**		**Pn**	**19 27 54.4**	**-0.6**
PV11	**David Mesa, Pa**	**3.31**	**129**		**Pn**	**19 27 54.0**	**-1.4**
PV18	**Skein Mesa, Pa**

baz=246
TWD Chiawan 0.27 236 *e*P **Pb 19 44 08.4 -0.6**
baz=235
TWD *e*S **Sb 19 44 13.1 -0.3**
baz=235
ETLH Xiulin Townshi 0.33 266 *e*P **Pg 19 44 08.9 -0.1**
baz=263
ETLH *e*S **Sg 19 44 13.8 +0.3**
baz=263
HWA Hwalien 0.33 220 *e*P **Pb 19 44 10.7 +0.6**
baz=223
HWA *e*S **Sn 19 44 17.2 -2.2**
baz=223
TWC Suao 0.38 2 ⇓P **Pg 19 44 09.9 0.0**
baz=10.0
TWC *e*S **Sg 19 44 15.0 -0.1**
baz=10.0
NNSB Datong 0.46 296⇓*e*P **Pg 19 44 11.5 0.0**
baz=294
NNSB *e*S **Sg 19 44 17.6 -0.1**
baz=294
NNS Nan Shan 0.47 296 ⇓P **Pg 19 44 11.7 0.0**
baz=295
NNS S **Sg 19 44 18.0 -0.1**
baz=295
NDT Datong Townshi 0.47 322 ⇓P **Pg 19 44 11.8 0.0**
baz=320
NDT *e*S **Sb 19 44 18.3 -1.1**
baz=320
ENTT Nioudou 0.48 329⇓*i*P **Pg 19 44 11.8 0.0**
baz=328
ENTT *e*S **Sb 19 44 18.4 -1.1**
baz=328
TWE Neicheng 0.51 342⇓*i*P **Pg 19 44 12.4 -0.1**
baz=344
TWE S **Sg 19 44 19.3 0.0**
baz=344
WHF Hehuan Shan 0.53 261 *e*P **Pg 19 44 12.8 -0.1**
baz=260
WHF *e*S **Sg 19 44 20.0 0.0**
baz=260
FUSS Fushou 0.54 272 ⇓P **Pg 19 44 13.0 0.0**
baz=272
FUSS *e*S **Sb 19 44 20.5 -1.1**
baz=272
ESL Shilin 0.56 222 *e*P **Pb 19 44 13.8 -0.2**
baz=225
ESL *e*S **Sb 19 44 22.5 +0.7**
baz=225
TWT Tachien 0.60 272 *e*P **Pb 19 44 14.8 0.0**
baz=271
TWT *e*S **Sb 19 44 22.9 -0.5**
baz=271
YHNB Yeheng 0.61 316 *e*P **Pg 19 44 14.1 -0.2**
baz=315
YHNB *e*S **Sg 19 44 21.9 -0.4**
baz=315
TDCB Techi 0.62 272 *e*P **Pb 19 44 14.6 -0.5**
baz=271
TDCB *e*S **Sg 19 44 22.6 -0.1**
baz=271
NTC Toucheng 0.62 359 P **Pg 19 44 14.5 0.0**
NTC S **Sg 19 44 22.6 -0.2**
NSK Sanguang 0.62 316 *e*P **Pg 19 44 14.3 -0.3**
baz=315
NSK *e*S **Sg 19 44 22.5 -0.3**
baz=315
NWLT Wulai 0.62 331 P **Pg 19 44 14.4 -0.2**
baz=330
NWLT S **Sb 19 44 22.9 -0.9**
baz=330
CHGB Renai 0.63 255 *e*P **Pb 19 44 14.8 -0.5**
baz=248
CHGB *e*S **Sb 19 44 23.7 -0.4**
baz=248
OWD Renai 0.66 246 *e*P **Pb 19 44 15.5 -0.3**
baz=245
OWD *e*S **Sb 19 44 24.6 -0.5**
baz=245
EGFH Guangfu 0.67 214 *e*P **Pb 19 44 15.7 -0.3**
baz=226
EGFH *e*S **Sb 19 44 26.2 +1.1**
baz=226
TIPB Shuangxi 0.74 359 P **Pg 19 44 16.6 -0.1**
baz=360
TIPB *e*S **Sg 19 44 25.6 -0.8**
baz=360
TWA Mucha 0.78 343 *e*P **Pn 19 44 18.6 -0.5**
baz=343
TWA *e*S **Sb 19 44 28.3 0.0**
baz=343
NHDH Xindian Distri 0.78 339 *e*P **Pn 19 44 18.4 -0.7**
baz=338
NHDH *e*S **Sb 19 44 27.9 -0.5**
baz=338
TWB1 Santiao Chiao 0.79 10 *e*P **Pb 19 44 18.2 +0.3**
baz=12
TWB1 *e*S **Sb 19 44 28.4 -0.1**
baz=12
WHP Taichung City 0.81 274 *e*P **Pb 19 44 18.6 +0.2**
baz=273
WHP *e*S **Sb 19 44 29.4 0.0**
baz=273
HGSD Ruisui 0.83 207 *e*P **Pn 19 44 19.5 -0.1**
baz=196
HGSD *e*S **Sn 19 44 33.0 +1.2**
baz=196
NWF Wu-fen Shan 0.84 357 *e*P **Pb 19 44 18.9 0.0**
baz=349
NWF *e*S **Sb 19 44 29.7 -0.4**
baz=349
LIOB Emei 0.85 299 *e*P **Pb 19 44 19.2 +0.1**
baz=298
LIOB *e*S **Sb 19 44 30.7 +0.2**
baz=298
NSTT Nanjuang 0.86 298 *e*P **Pb 19 44 19.1 -0.1**
baz=297
NSTT *e*S **Sb 19 44 30.5 -0.1**
baz=297
TAP Taipei 0.86 340 *e*S **Sn 19 44 31.5 -1.1**
baz=339
EHY Hungye 0.86 213 *e*P **Pb 19 44 18.2 -0.9**
baz=213
SSLB Suanglung 0.92 242 *e*P **Pb 19 44 19.5 -0.7**
baz=251
SSLB *e*S **Sg 19 44 31.9 -0.3**
baz=251
SMLT Sun Moon Lake 0.92 248 *e*P **Pn 19 44 20.7 -0.4**
baz=249
NCU National Centr 0.94 321 *e*S **Sn 19 44 35.4 +0.7**
baz=320
NCUH Zhongli 0.94 321 *e*P **Pn 19 44 21.3 0.0**
baz=320
TWS1 Kuangyinshan 0.95 336 *e*P **Pb 19 44 20.1 -0.5**
baz=335
TWS1 *e*S **Sn 19 44 34.0 -0.8**
baz=335
TYC Yuchr 0.95 250 *e*P **Pg 19 44 20.6 -0.2**
baz=251
TYC *e*S **Sn 19 44 33.9 -1.0**
baz=251
SBCB Hsinchu 0.96 306 *e*P **Pn 19 44 21.7 +0.2**
baz=305
YULB Yu-li 0.97 211 *e*P **Pb 19 44 20.4 -0.6**
baz=222
YULB *e*S **Sn 19 44 34.5 -0.8**
baz=222
TWQ1 Liyutan 0.98 277 *e*P **Pn 19 44 22.1 +0.3**
baz=277
TWQ1 *e*S **Sn 19 44 36.7 +1.2**
baz=277
ANP Anpu 0.99 343 *e*P **Pn 19 44 21.7 -0.4**
baz=342
ANP *e*S **Sn 19 44 35.4 -0.6**
baz=342
NTST Danshui 0.99 339 *e*P **Pn 19 44 21.8 -0.2**
baz=337
NTST *e*S **Sn 19 44 36.5 +0.5**
baz=337
NMLH Miaoli 1.00 288 *e*P **Pn 19 44 22.4 +0.3**
baz=288
JYNG Yonagunijimaku 1.03 77 P **Pb 19 44 22.4 +0.3**
WHYT Xinyi Township 1.04 240 *e*P **Pb 19 44 22.1 -0.2**
baz=247
WHYT *e*S **Sn 19 44 37.7 +0.5**
baz=247
TCU Taichung 1.06 266 *e*P **Pg 19 44 24.3 +1.4**
baz=267
TCU *e*S **Sn 19 44 40.8 +3.2**
baz=267
TWY Chenhua 1.06 348 *e*P **Pg 19 44 23.8 +0.9**
baz=341
TWY *e*S **Sn 19 44 38.1 +0.5**
baz=341
WJS Zhushan 1.09 248 *e*P **Pg 19 44 24.3 +0.9**
baz=246
WJS *e*S **Sn 19 44 40.1 +1.8**
baz=246
YOJ Yonaguni jima 1.09 78 P **Pb 19 44 23.3 +0.2**
YOJ *e*S **Sb 19 44 37.7 +0.4**
YOJ Yonaguni jima 1.09 78 *e*P **Pb 19 44 23.3 +0.2**
baz=69
YOJ *e*S **Sn 19 44 40.0 +1.6**
baz=69
YUS Yu-Shan 1.09 228 *e*P **Pb 19 44 23.2 -0.2**
baz=229
YUS *e*S **Sn 19 44 38.5 -0.6**
baz=229
WDJ Dajia District 1.10 276 *e*P **Pg 19 44 24.4 +0.8**
baz=277
WNT Mingjian 1.11 252 *e*P **Pg 19 44 25.1 +1.4**
baz=250
WNT *e*S **Sn 19 44 41.5 +2.8**
baz=250
FULB Fuli 1.14 206 *e*P **Pb 19 44 23.2 -0.7**
baz=224
ALS Alishan 1.19 233 *e*P **Pg 19 44 25.0 -0.2**
baz=224
CHKT Chengkung 1.21 201 *e*S **Sg 19 44 42.2 +0.9**
baz=218
CHN5 Tsauling 1.23 240 *e*P **Pg 19 44 26.8 +0.7**
baz=243
CHN5 *e*S **Sg 19 44 44.7 +2.5**
baz=243
ELDTW Lidau 1.28 216 *e*P **Pn 19 44 25.4 -0.7**
baz=201
ELDTW *e*S **Sn 19 44 43.0 -0.1**
baz=201
WDLH Douliu 1.30 246 *e*P **Pg 19 44 27.1 -0.3**
baz=249
WDLH *e*S **Sg 19 44 47.4 +2.9**
baz=249
EDH Donghe 1.34 201 *e*P **Pn 19 44 25.1 -1.7**
baz=185
EDH *e*S **Sn 19 44 43.1 -1.4**
baz=185
WTK Tuku 1.43 248 *e*P **Pg 19 44 29.1 -0.7**
baz=251
WTK *e*S **Sg 19 44 49.5 +1.0**
baz=251
CHN4 Tsaushan 1.44 233 *e*P **Pg 19 44 29.3 -0.6**
baz=237
CHN4 *e*S **Sg 19 44 50.3 +1.7**
baz=237
TPUB Ta-pu 1.44 230 *e*P **Pb 19 44 29.3 +0.3**
baz=235
TPUB *e*S **Sg 19 44 49.8 +0.9**
baz=235
LONT Longtian 1.47 206 *e*P **Pn 19 44 27.0 -1.6**
baz=205
LONT *e*S **Sb 19 44 48.2 +0.1**
baz=205
WTP Ta-pu 1.49 229 *e*P **Pb 19 44 30.2 +0.3**
baz=233
WTP *e*S **Sg 19 44 50.5 +0.2**
baz=233
TWK Hsinying 1.56 232 *e*P **Pb 19 44 31.0 -0.1**
baz=236
TWK *e*S **Sg 19 44 53.5 +0.8**
baz=236
LDUT Ludao 1.59 192 *e*S **Sn 19 44 47.3 -3.2**
baz=180
SNST Tainan City 1.59 231 *e*S **Sg 19 44 53.9 +0.5**
baz=235
CHN1 Nanshi 1.59 229 *e*P **Pg 19 44 32.1 -0.7**
baz=234
CHN1 *e*S **Sg 19 44 54.8 +1.4**
baz=234
WSF Szhu 1.59 249 *e*S **Sg 19 44 53.8 +0.2**
baz=252
SLGT Liugui 1.65 222 *e*P **Pb 19 44 32.5 0.0**
baz=227
SLGT *e*S **Sg 19 44 54.7 -0.6**
baz=227
IRIF Iriomote-Funau 1.73 86 P **Pn 19 44 32.0 -0.1**
IRIF *e*S **Sn 19 44 55.0 +0.9**
SSD Sandimen 1.84 217 *e*P **Pb 19 44 35.3 -0.7**
baz=234
SSD *e*S **Sb 19 45 00.1 +1.1**
baz=234
TSMG Majia 1.87 216 *e*P **Pb 19 44 35.3 -1.0**
baz=217
TSMG *e*S **Sb 19 44 60.0 +0.3**
baz=217
MASBT Mashibuluo 1.95 215 *e*P **Pn 19 44 36.2 +1.0**
baz=215
MASBT *e*S **Sb 19 45 01.6 -0.4**
baz=215
JKRS Kuro-shima 1.98 89 P **Pn 19 44 36.0 +0.4**
EAST Anshuo 2.05 207 *e*P **Pn 19 44 37.0 +0.5**
baz=200
JIJ Ishigaki jima 2.11 86 P **Pn 19 44 37.2 -0.1**
JIJ S **Sn 19 45 03.8 +0.4**
PNG Penghu 2.19 253 *e*P **Pn 19 44 38.2 -0.2**
baz=255
PNG *e*S **Sn 19 45 06.5 +1.1**
baz=255
PHUB P'eng-hu 2.19 251 *e*P **Pn 19 44 37.8 -0.6**
baz=254
PHUB *e*S **Sn 19 45 06.0 +0.5**
baz=254
LAY Lan-yu 2.20 187 *e*P **Pn 19 44 37.7 -0.9**
baz=177
LAY *e*S **Sn 19 45 03.6 -2.0**
baz=177
WDGT Dungji 2.22 245 *e*P **Pn 19 44 39.6 +0.8**
baz=247
WDGT *e*S **Sb 19 45 08.3 -1.4**
baz=247
JISG Ishigakijimahi 2.28 81 P **Pn 19 44 39.6 -0.1**
JISG *e*S **Sn 19 45 08.2 +0.5**

MEX 22 19:45:58.0±0.6, 18°.16N×100°.75W, h42km±8km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.40**	**72**	*e*P	Pn	19 46 05.9	-1.7
ARIG				*i* S	Sn	19 46 12.6	-1.8
MEIG	**Mezcala**	**1.10**	**102**	*i* P	Pn	19 46 15.6	-1.4
MEIG				*i* S	Sn	19 46 28.5	-2.6
PLIG	**Platanillo**	**1.21**	**79**	*i* P	Pn	19 46 16.7	-1.8
PLIG				*i* S	Sn	19 46 31.6	-2.1
DAIG	**Los Arroyos**	**1.54**	**137**	*e*P	Pn	19 46 23.4	+0.4
DAIG				*e*S	Sn	19 46 40.9	-0.9
TLIG	**Tlapa**	**2.16**	**105**	*i* S	Sn	19 46 56.4	-0.9

*MAN **22** 19:56:28.3, 4°.79N×124°.88E, h14km, mb5.1, ML4.1, MS4.2*
*IDC **22** 19:56:37.3±29.0, 2°.97N×124°.52E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.5/37, mbtmp3.9/4, MS3.2/7, Ms1 3.2/7, ms1mx2.8/38, Error ellipse: s-maj=521.2km s-min=130.1km az=138.0*
*NEIC **22** 19:56:54.0±0.8, 3°.23N±0°.08×123°.3E±0°.3, h227km±21km, mb4.1/6, Error ellipse: s-maj=39.2km s-min=11.8km az=92.0*

ISC 22 19:56:51.6±3.9, 3°.3N±0°.4×123°.6E±0°.2, h200km, n19, σ1s23/10, mb4.0/6, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOLI2	**Tolitoli**	**3.53**	**232**		**Pn**	**19 57 47.9**	**+0.2**
LUWI	**Luwuk**	**4.39**	**190**	Pn	**Pn**	**19 57 58.9**	**+0.6**
FITZ	**Fitzroy Crossi**	**21.36**	**175**	P	**P**	**20 01 21.1**	**-2.4**
	1.5nm,0.7s,baz=7.1,slow=12,SNR=2.3						
FITZ	**Fitzroy Crossi**	**21.36**	**175**	IAmb	IAmb	20 02 00.1	
	comp=Z,8.0nm,1.3s						
WB0	**Warramunga Arr**	**25.27**	**156**	P	**P**	**20 01 58.4**	**-1.4**
WB0				IAmb	IAmb	20 02 05.5	
	comp=Z,8.4nm,1.1s						
WRA	**Warramunga Arr**	**25.41**	**156**	P	**P**	**20 02 00.7**	**-0.3**
	comp=Z,5.4nm,0.9s,baz=336,slow=9.2,SNR=15						
WRA	**Warramunga Arr**	**25.41**	**156**	IAmb	IAmb	20 02 04.5	
	comp=Z,0.3nm,0.9s						
WB2	**Warramunga Arr**	**25.41**	**156**	P	**P**	**20 02 00.7**	**-0.4**
WB2				IAmb	IAmb	20 02 03.9	
	comp=Z,4.9nm,0.7s						
WR0	**Warramunga Arr**	**25.51**	**155**	P	**P**	**20 02 01.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**28.42**	**304**	LR	LR	20 14 22.6	
	comp=Z,20nm,18.5s,baz=196,slow=36						
ASAR	**Alice Springs**	**28.64**	**160**	P	**P**	**20 02 31.0**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=349,slow=7.5,SNR=8.5						
KSRS	**Korea Array**	**34.22**	**6**	LR	LR	20 19 04.0	
	comp=Z,24nm,19.8s,baz=217,slow=39						
STKA	**Stephens Creek**	**38.96**	**155**	P	**P**	**20 03 59.2**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=340,slow=11,SNR=5.5						
STKA	**Stephens Creek**	**38.96**	**155**	P	**P**	**20 03 58.0**	**-0.5**
STKA				IAmb	IAmb	20 04 19.5	
	comp=Z,1.6nm,1.3s						
KLR	**Kul'dur**	**46.29**	**7**	LR	LR	20 26 08.4	
	comp=Z,26nm,20.2s,baz=234,slow=38						
SONM	**Songino Array**	**46.77**	**344**	LR	LR	20 27 18.6	
	comp=Z,35nm,18.5s,baz=233,slow=39						
ZALV	**Zalesovo Beam**	**59.57**	**335**	LR	LR	20 32 52.9	
	comp=Z,32nm,21.7s,baz=73,slow=36						
ARCES	**ARCESS Array B**	**89.75**	**340**	LR	LR	20 58 09.9	
	comp=Z,11nm,18.7s,baz=250,slow=41						
NOA	**NORSAR Array B**	**97.75**	**333**	LR	LR	20 56 29.6	
	comp=Z,15nm,21.1s,baz=335,slow=36						

MEX 22 20:07:40.6±0.8, 14°.88N×93°.13W, h66km±68km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.83**	**354**	*e*P	Pn	20 07 55.6	-1.2
PCIG				*e*S	Sn	20 08 06.6	-2.1

*IDC **22** 20:09:42.5±0.9, 13°.78N×120°.90E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.6/53, mbtmp3.8/9, Error ellipse: s-maj=53.9km s-min=16.6km az=67.0*
*MAN **22** 20:09:58.1, 13°.80N×120°.50E, h104km, mb4.3, ML3.1, MS2.8*

ISC 22 20:09:56.2±0.9, 13°.6N±0°.1×120°.4E±0°.1, h120km, n14, σ1s40/15, mb3.7/9, 1C-4D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.53**	**103**⇓	*e*P	**Pn**	**20 10 14.3**	**0.0**
TGY	**Tagaytay City**	**0.69**	**47**⇓	*e*P	**Pn**	**20 10 15.9**	**+0.4**
TGY				*e*S	**Sn**	**20 10 30.0**	**-0.2**
LQP	**Lukban**	**1.19**	**66**⇓	*i* P	**Pn**	**20 10 20.3**	**-0.1**
LQP				*i* S	**Sn**	**20 10 41.4**	**+2.7**
GQP	**Guinayangan**	**1.99**	**82**⇓	*e*P	**Pn**	**20 10 29.8**	**+0.3**
GQP				*e*S	**Sn**	**20 10 54.6**	**-0.3**
PPR	**Puerto Princes**	**4.17**	**204**⇑	*i* P	Pn	20 10 53.4	-4.6
SONM	**Songino Array**	**36.05**	**344**	P	**P**	**20 16 44.9**	**-1.2**
	0.7nm,0.5s,baz=162,slow=9.6,SNR=4.2						
WRA	**Warramunga Arr**	**36.06**	**157**	P	P	20 16 45.0	-1.3
	0.2nm,0.5s,baz=340,slow=8.5,SNR=4.5						
ASAR	**Alice Springs**	**39.34**	**160**	P	**P**	**20 17 13.9**	**0.0**
	0.2nm,0.3s,baz=335,slow=7.7,SNR=7.0						
MKAR	**Makanchi Array**	**45.93**	**324**	P	**P**	**20 18 09.2**	**+2.3**
	0.6nm,0.5s,baz=108,slow=8.2,SNR=8.8						
ZALV	**Zalesovo Beam**	**49.00**	**333**	P	**P**	**20 18 31.3**	**+0.8**
	0.9nm,0.3s,baz=115,slow=6.6,SNR=6.9						
PETK	**Petropavlovsk-**	**49.22**	**29**	P	**P**	**20 18 30.1**	**-2.1**
	0.3nm,0.3s,baz=185,slow=5.5,SNR=4.7						
STKA	**Stephens Creek**	**49.59**	**156**	P	**P**	**20 18 35.4**	**+0.1**
	2.6nm,1.0s,baz=319,slow=9.3,SNR=2.0						
KURBB	**Kurchatov Arra**	**50.10**	**326**	P	**P**	**20 18 40.9**	**+2.0**
	1.8nm,0.6s,baz=132,slow=7.7,SNR=9.5						
BVAR	**Borovoye Array**	**55.68**	**326**	P	**P**	**20 19 20.0**	**+0.1**
	0.6nm,0.5s,baz=131,slow=8.6,SNR=2.1						

*JMA **22** 20:14:57.3, 41°.55N×142°.01E, h47km±2km, M3.4*
*IDC **22** 20:14:59.4±3.8, 41°.60N×142°.21E, h67km±27km, mb3.6/2, mb1 3.5/4, mb1mx3.1/47, mbtmp3.7/4, ML3.7/1, MS2.2/1, Ms1 2.2/1, ms1mx1.9/35, Error ellipse: s-maj=106.1km s-min=20.1km az=106.0*

ISC 22 20:14:57.8±1.2, 41°.55N±0°.04×142°.01E±0°.05, h41km±15km, n29, σ0s85/35, 1C-10D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAHD	**Aomorihigashid**	**0.58**	**241**	⇓P	**Pn**	**20 15 09.5**	**-0.1**
JAHD				*e*S	**Sn**	**20 15 18.3**	**+0.4**
JARK	**Aomorirokkasho**	**0.72**	**222**	⇓P	**Pn**	**20 15 11.0**	**-0.5**
JARK				*e*S	**Sn**	**20 15 21.0**	**-0.4**
JOT	**Ohata**	**0.74**	**258**	⇓P	**Pn**	**20 15 11.3**	**-0.5**
JOT				*e*S	**Sn**	**20 15 21.5**	**-0.3**
JKB	**Kayabe**	**0.81**	**295**	⇓P	**Pn**	**20 15 12.1**	**-0.6**
JKB				*e*S	**Sn**	**20 15 23.1**	**-0.4**
JNBK	**Urakawa-nobuka**	**0.92**	**37**	P	**Pn**	**20 15 13.4**	**-0.8**
JEM	**Erimo**	**0.98**	**61**	P	**Pn**	**20 15 14.9**	**-0.1**
JTM	**Tenmabayashi**	**1.04**	**223**	⇓P	**Pn**	**20 15 15.9**	**0.0**
JTM				*e*S	**Sn**	**20 15 29.6**	**+0.4**
JIAM	**Iburiatsuma**	**1.08**	**357**	⇑P	**Pn**	**20 15 17.2**	**+0.8**
JNB	**Noboribetsu**	**1.17**	**322**	⇓P	**Pn**	**20 15 17.1**	**-0.6**
JNB				*e*S	**Sn**	**20 15 31.8**	**-0.6**
JSR	**Shiriuchi**	**1.20**	**270**	P	**Pn**	**20 15 18.1**	**+0.1**
JSR				*e*S	**Sn**	**20 15 33.9**	**+0.9**
JANG	**Nango**	**1.23**	**198**	⇓P	**Pn**	**20 15 18.1**	**-0.4**
JANG				*e*S	**Sn**	**20 15 33.2**	**-0.7**
JBT2	**Biratori 2**	**1.26**	**12**	⇓P	**Pn**	**20 15 19.0**	**+0.1**
JYM2	**Yakumo 2**	**1.35**	**296**	P	**Pn**	**20 15 20.5**	**+0.4**
JYM2				*e*S	**Sn**	**20 15 38.3**	**+1.5**
JEW	**Eniwo**	**1.36**	**342**	⇓P	**Pn**	**20 15 20.6**	**+0.4**
JEW				*e*S	**Sn**	**20 15 38.0**	**+1.0**
JCH	**Churui**	**1.47**	**43**	P	**Pn**	**20 15 22.2**	**+0.5**
JOMM	**Oshimamatsumae**	**1.50**	**270**	P	**Pn**	**20 15 22.1**	**-0.1**
JOMM				*e*S	**Sn**	**20 15 40.3**	**-0.3**
JFR	**Furan**	**1.67**	**15**	P	**Pn**	**20 15 24.5**	**-0.1**
JAH	**Hinai**	**1.71**	**218**	P	**Pn**	**20 15 25.8**	**+0.7**
JIW	**Iwasaki**	**1.79**	**238**	⇓P	**Pn**	**20 15 26.3**	**+0.1**
ASAJ	**Asahikawa**	**2.60**	**9**	P	**Pn**	**20 15 38.6**	**+1.3**
	10nm,0.3s,baz=196,slow=15,SNR=95						
ASAJ				S	**Sn**	**20 16 08.4**	**+0.6**
	1.9nm,0.3s,baz=320,slow=33,SNR=2.4						
ASAJ				LR	LR	20 16 55.6	
	comp=Z,44nm,18.1s,baz=174,slow=46						
MJAR	**Matsushiro Arr**	**5.81**	**212**	P	**Pn**	**20 16 24.2**	**+2.8**
	0.1nm,0.3s,baz=23,slow=15,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**30.33**	**128**	T	T	20 53 28.0	
	baz=322,slow=76						
H11N1	**WAKE ISLAND Hy**	**30.34**	**128**	T	T	20 53 31.6	
	baz=322,slow=76						
H11N3	**WAKE ISLAND Hy**	**30.34**	**128**	T	T	20 53 32.2	
	baz=322,slow=76						
H11S1	**WAKE ISLAND Hy**	**31.17**	**130**	T	T	20 54 31.0	
	baz=322,slow=76						
H11S3	**WAKE ISLAND Hy**	**31.17**	**130**	T	T	20 54 31.2	
	baz=322,slow=76						
H11S2	**WAKE ISLAND Hy**	**31.19**	**130**	T	T	20 54 32.3	
	baz=322,slow=76						
ZALV	**Zalesovo Beam**	**39.34**	**308**	P	**P**	**20 22 23.2**	**+0.5**
	0.9nm,0.6s,baz=73,slow=9.7,SNR=3.6						
FINES	**FINESS Array B**	**65.06**	**332**	P	**P**	**20 25 31.8**	**-1.7**
	1.6nm,0.8s,baz=52,slow=9.9,SNR=4.2						

*SJA **22** 20:26:21.0, 22°.30S×69°.09W, h10km, ML4.5*
*IDC **22** 20:26:39.5±0.8, 22°.38S×66°.88W, h182km±9km, mb3.6/7, mb1 3.7/12, mb1mx3.6/24, mbtmp4.1/12, Error ellipse: s-maj=14.5km s-min=13.4km az=136.0*
*NEIC **22** 20:26:39.6±3.0, 22°.43S±0°.07×66°.96W±0°.04, h184km±7km, mb4.2/9, ML4.4(GUC), Error ellipse: s-maj=10.2km s-min=4.1km az=203.0*
*GUC **22** 20:26:41.0±0.6, 22°.35S×67°.60W, h236km±7km, ML4.4*
*SCB **22** 20:26:43.7±2.3, 22°.32S×67°.07W, h169km±23km, ML4.1/6, Error ellipse: s-maj=7.8km s-min=6.5km az=1.0*

ISC 22 20:26:39.6±0.6, 22°.36S±0°.04×67°.00W±0°.05, h186km±6km, n95, σ1s78/118, mb3.9/7, 11C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YJA	**Yavi**	**1.39**	**83**	P	**Pn**	**20 27 13.1**	**+1.4**
YJA	**Yavi**	**1.39**	**83**	*i* P	**Pn**	**20 27 13.0**	**+1.4**
MOCB	**Mochara**	**1.68**	**49**	P	**Pn**	**20 27 16.1**	**+1.7**
HJA	**Humahuaca**	**1.70**	**120**	*i* P	**Pn**	**20 27 16.0**	**+1.5**
LVC	**Limon Verde**	**1.78**	**261**	P	**Pn**	**20 27 16.8**	**+1.5**
	58nm,0.3s,baz=83,slow=7.5,SNR=13						

LVC				S		**Sn**	**20 27 44.2**	**+1.4**	
	56nm,0.3s,baz=272,slow=21,SNR=30								
PB09	**IPOC Station P**	**2.15 285**	⇑	*i* P		**Pn**	**20 27 20.9**	**+1.9**	
PB09				*e*S		**Sn**	**20 27 50.9**	**+1.5**	
PB09	**IPOC Station P**	**2.15 285**		Pn		**Pn**	**20 27 20.9**	**+1.9**	
PB09	**IPOC Station P**	**2.15 285**		P		**Pn**	**20 27 20.0**	**+1.1**	
PB06	**IPOC Station P**	**2.40 261**	⇓	*e*P		**Pn**	**20 27 22.8**	**+1.0**	
PB06				*e*S		**Sn**	**20 27 54.2**	**-0.3**	
PB06				IAML			20 27 58.6		
	comp=E,680nm,0.4s								
PB06	**IPOC Station P**	**2.40 261**		Pn		**Pn**	**20 27 23.1**	**+1.3**	
PB06	**IPOC Station P**	**2.40 261**		P		**Pn**	**20 27 23.0**	**+1.3**	
PB15	**IPOC Station P**	**2.43 249**	⇑	*e*P		**Pn**	**20 27 23.4**	**+1.3**	
PB15				*i* S		**Sn**	**20 27 55.7**	**+0.6**	
PB15	**IPOC Station P**	**2.43 249**		Pn		**Pn**	**20 27 23.2**	**+1.1**	
PB03	**IPOC Station P**	**2.57 276**		P		**Pn**	**20 27 24.5**	**+0.9**	
PB03				S		**Sn**	**20 27 56.6**	**-1.2**	
PB03				IAML			20 27 58.7		
	comp=E,2μm,0.6s								
AZAP	**Zapla**	**2.58 137**		*i* P		**Pn**	**20 27 25.0**	**+1.2**	
PB01	**IPOC Station P**	**2.65 299**	⇑	*i* P		**Pn**	**20 27 25.5**	**+1.0**	
PB01				*e*S		**Sn**	**20 28 00.1**	**+0.6**	
PB01				IAML			20 28 01.8		
	comp=E,508nm,0.3s								
PB01	**IPOC Station P**	**2.65 299**		Pn		**Pn**	**20 27 25.7**	**+1.1**	
PB01	**IPOC Station P**	**2.65 299**		P		**Pn**	**20 27 26.0**	**+1.4**	
SLA	**San Lorenzo**	**2.73 150**		P		**Pn**	**20 27 26.9**	**+1.4**	
PB07	**IPOC Station P**	**2.75 283**	⇑	*i* P		**Pn**	**20 27 26.6**	**+0.9**	
PB07				*e*S		**Sn**	**20 28 00.6**	**-1.0**	
PB07				IAML			20 28 01.9		
	comp=N,2μm,0.2s								
PB07	**IPOC Station P**	**2.75 283**		Pn		**Pn**	**20 27 26.7**	**+1.0**	
PB07	**IPOC Station P**	**2.75 283**		P		**Pn**	**20 27 26.7**	**+1.0**	
PB07				S		**Sn**	**20 27 59.3**	**-2.3**	
PB07				IAML			20 28 01.8		
	comp=N,1μm,0.4s								
ASTB	**Santa Barbara**	**2.83 125**		*i* P		**Pn**	**20 27 28.0**	**+1.3**	
PB02	**IPOC Station P**	**2.88 290**	⇑	*i* P		**Pn**	**20 27 28.0**	**+0.8**	
PB02				*e*S		**Sn**	**20 28 03.2**	**-1.1**	
PB02				IAML			20 28 06.0		
	comp=E,876nm,0.2s								
PB02	**IPOC Station P**	**2.88 290**		P		**Pn**	**20 27 28.0**	**+0.8**	
PB04	**IPOC Station P**	**2.91 270**	⇑	*e*P		**Pn**	**20 27 27.9**	**+0.2**	
PB04				*i* S		**Sn**	**20 28 03.8**	**-1.3**	
PB04				IAML			20 28 05.0		
	comp=N,1μm,0.2s								
PB04	**IPOC Station P**	**2.91 270**		Pn		**Pn**	**20 27 28.2**	**+0.5**	
PB04	**IPOC Station P**	**2.91 270**		P		**Pn**	**20 27 28.3**	**+0.6**	
PB08	**IPOC Station P**	**2.98 317**	⇑	*i* P		**Pn**	**20 27 30.9**	**+2.1**	
PB08				*i* S		**Sn**	**20 28 08.6**	**+1.6**	
PB08				IAML			20 28 10.8		
	comp=N,548nm,0.5s								
PB08	**IPOC Station P**	**2.98 317**		Pn		**Pn**	**20 27 30.7**	**+2.0**	
PB08	**IPOC Station P**	**2.98 317**		P		**Pn**	**20 27 31.1**	**+2.4**	
PB08				S		**Sn**	**20 28 05.8**	**-1.2**	
PB08				IAML			20 28 10.6		
	comp=N,504nm,0.5s								
PB05	**IPOC Station P**	**3.00 260**	⇑	*i* P		**Pn**	**20 27 29.2**	**+0.5**	
PB05				*i* S		**Sn**	**20 28 05.2**	**-1.7**	
PB05				IAML			20 28 06.2		
	comp=N,833nm,0.4s								
PB05	**IPOC Station P**	**3.00 260**		P		**Pn**	**20 27 29.3**	**+0.7**	
PB05				S		**Sn**	**20 28 04.4**	**-2.5**	
PB05				IAML			20 28 06.2		
	comp=N,715nm,0.4s								
HMBC	**Humberstone**	**3.39 307**		*e*P		**Pn**	**20 27 32.3**	**-1.2**	
HMBC				*e*S		**Sn**	**20 28 14.6**	**-0.9**	
HMBC	**Humberstone**	**3.39 307**		P		**Pn**	**20 27 33.9**	**+0.4**	
TA01	**Diego Aracena**	**3.45 300**	⇑	*i* P		**Pn**	**20 27 34.1**	**0.0**	
TA01				*e*S		**Sn**	**20 28 15.1**	**-1.6**	
TA01	**Diego Aracena**	**3.45 300**		Pn		**Pn**	**20 27 34.1**	**0.0**	
PB10	**IPOC Station P**	**3.47 250**		*e*P		**Pn**	**20 27 34.5**	**+0.2**	
PB10				*e*S		**Sn**	**20 28 14.5**	**-2.6**	
PB10	**IPOC Station P**	**3.47 250**		Pn		**Pn**	**20 27 34.3**	**0.0**	
PB10	**IPOC Station P**	**3.47 250**		P		**Pn**	**20 27 34.7**	**+0.4**	
PB11	**IPOC Station P**	**3.58 316**	⇑	*i* P		**Pn**	**20 27 36.2**	**+0.4**	
PB11				*e*S		**Sn**	**20 28 19.3**	**-0.5**	
PB11	**IPOC Station P**	**3.58 316**		Pn		**Pn**	**20 27 36.2**	**+0.4**	
PB11	**IPOC Station P**	**3.58 316**		P		**Pn**	**20 27 36.6**	**+0.8**	
TA02	**Huaiquique**	**3.58 305**				**Pn**	**20 27 35.4**	**-0.2**	
PB14	**IPOC Station P**	**3.85 233**		Pn		**Pn**	**20 27 39.9**	**+0.5**	
PB14	**IPOC Station P**	**3.85 233**		P		**Pn**	**20 27 40.0**	**+0.6**	
PSGC	**Pisagua**	**4.00 313**	⇑	*i* P		**Pn**	**20 27 40.5**	**-0.7**	
PSGC				*e*S		**Sn**	**20 28 26.8**	**-2.5**	
PSGC	**Pisagua**	**4.00 313**		P		**Pn**	**20 27 41.3**	**+0.2**	
PSGC				S		**Sn**	**20 28 26.2**	**-3.1**	
PSGC				IAML			20 28 31.1		
	comp=N,168nm,0.5s								
PSGCX	**Pisagua**	**4.00 313**		Pn		**Pn**	**20 27 40.5**	**-0.7**	
AC02	**Maricunga**	**4.86 203**		Pn		**Pn**	**20 27 52.6**	**+0.2**	
AP01	**Chacalluta**	**5.05 321**				**Pn**	**20 27 54.2**	**-0.2**	
BBOE	**La Paz, Chanca**	**5.59 350**		P		**Pn**	**20 28 04.1**	**+2.1**	
AC06	**Mina Casimiro**	**5.84 211**		Pn		**Pn**	**20 28 02.1**	**-2.4**	
BBOD	**La Paz, Gloria**	**5.88 345**		P		**Pn**	**20 28 08.0**	**+2.2**	
GO03	**Copiap**	**5.98 209**		Pn		**Pn**	**20 28 04.7**	**-1.8**	
LPAZ	**La Paz**	**6.13 350**		P		**Pn**	**20 28 10.9**	**+1.9**	
	comp=N,7.0nm,0.3s,baz=183,slow=8.8,SNR=120								
LPAZ				S		**Sn**	**20 29 20.9**	**+1.5**	
	comp=N,1.8nm,0.3s,baz=290,slow=9.7,SNR=4.7								
LPAZ	**La Paz**	**6.13 350**		Pn		**Pn**	**20 28 10.6**	**+1.6**	
LPAZ	**La Paz**	**6.13 350**		P		**Pn**	**20 28 11.0**	**+1.9**	
LPAZ				S		**Sn**	**20 29 14.8**	**-4.6**	
LPAZ				IAML			20 29 22.9		
	comp=N,4.2nm,0.6s								
AC04	**Llanos de Chal**	**6.89 211**		Pn		**Pn**	**20 28 15.2**	**-3.2**	
LCO	**Las Campanas**	**7.42 206**		Pn		**Pn**	**20 28 24.2**	**-1.3**	
LCO						**Sn**	**20 29 44.2**	**-5.1**	
SIV	**San Ignacio**	**8.45 43**		P		**Pn**	**20 28 37.0**	**-2.0**	
	comp=N,17nm,0.3s,baz=236,slow=11,SNR=181								
SIV				S		**Sn**	**20 30 05.8**	**-8.0**	
	comp=N,0.8nm,0.3s,baz=180,slow=19,SNR=6.1								
GO04	**Tololo Observa**	**8.50 203**		Pn		**Pn**	**20 28 37.5**	**-2.1**	
ZON	**Zonda**	**9.28 189**		Pn		**Pn**	**20 28 48.3**	**-1.3**	
CPUP	**Villa Florida**	**9.67 116**		P		**Pn**	**20 28 52.4**	**-2.3**	
	comp=N,0.2nm,0.3s,baz=314,slow=17,SNR=1.7								
VA03	**San Esteban**	**10.83 196**				**Pn**	**20 29 09.7**	**-0.2**	
MT09	**Talagante**	**11.91 196**				**Pn**	**20 29 21.0**	**-2.8**	
MT01	**Popeta**	**12.06 197**		P		**Pn**	**20 29 24.2**	**-1.4**	
BO01	**Tunca**	**12.52 196**				**Pn**	**20 29 29.1**	**-2.3**	
BO02	**Sierra Bellavi**	**12.83 194**		P		**Pn**	**20 29 34.3**	**-1.1**	
GO05	**Huala**	**13.33 198**		Pn		**Pn**	**20 29 41.5**	**-0.1**	
SAML	**Samuel**	**13.83 16**				**Pn**	**20 29 47.0**	**-1.0**	
PLTB	**Pedras Altas**	**15.16 131**				**Pn**	**20 30 03.0**	**-1.4**	
PLTB				IAmb		IAmb	20 30 05.8		
	comp=Z,11nm,0.7s								
TRQA	**Tornquist**	**16.24 166**				**P**	**20 30 15.8**	**-1.2**	
TRQA				IAmb		IAmb	20 30 18.9		
	comp=Z,9.3nm,0.6s								
LC01	**Cunco**	**17.01 193**		P		**P**	**20 30 24.1**	**-1.3**	
PLCA	**Paso Flores**	**18.57 188**		P		**P**	**20 30 43.0**	**+0.5**	
	comp=Z,0.2nm,0.3s,baz=1.6,slow=11,SNR=13								
PLCA	**Paso Flores**	**18.57 188**		P		**P**	**20 30 42.3**	**-0.2**	
LL04	**Puerto Octay**	**19.05 193**		P		**P**	**20 30 47.2**	**-0.5**	
LL04				IAmb		IAmb	20 30 48.5		
	comp=Z,12nm,0.7s								
BDFB	**Brasilia**	**19.15 73**		P		**P**	**20 30 48.9**	**-0.2**	
	comp=Z,0.6nm,0.3s,baz=239,slow=12,SNR=4.1								
BDFB	**Brasilia**	**19.15 73**		IAmb		IAmb	20 30 49.9		
	comp=Z,4.2nm,0.7s								
VNA3	**Neumayer Olymp**	**58.70 161**		P		**P**	**20 36 20.9**	**+3.6**	
VNA1	**Neumayer--Stat**	**58.89 161**		P		**P**	**20 36 22.0**	**+3.5**	
VNA2	**Neumayer--Watz**	**59.26 161**		P		**P**	**20 36 24.3**	**+3.2**	
	baz=295,slow=8.0								
SNAA	**Sanae**	**60.90 161**		P		**P**	**20 36 35.1**	**+2.8**	
TXAR	**Lajitas Array**	**62.35 324**		P		**P**	**20 36 42.7**	**+0.2**	
	comp=Z,0.2nm,0.5s,baz=134,slow=7.7,SNR=3.3								
DBIC	**Dimbokro**	**67.30 72**		P		**P**	**20 37 15.3**	**+0.5**	
	comp=Z,7.9nm,1.2s,baz=255,slow=6.0,SNR=1.3								
PDAR	**Pinedale Array**	**75.74 329**		P		**P**	**20 38 05.5**	**+0.6**	
	comp=Z,0.4nm,0.7s,baz=134,slow=6.4,SNR=3.6								
TORD	**Torodi Ar. Bea**	**75.99 69**		P		**P**	**20 38 05.7**	**-0.9**	
	comp=Z,1.3nm,0.5s,baz=257,slow=5.4,SNR=35								
TORD	**Torodi Ar. Bea**	**75.99 69**		P		**P**	**20 38 05.9**	**-0.7**	
TORD				IAmb		IAmb	20 38 06.1		
	comp=Z,3.2nm,1.2s								
TORD				pP		**pP**	**20 38 54.2**	**+1.3**	
ULM	**Lac du Bonnet**	**76.67 341**		P		**P**	**20 38 09.2**	**-0.5**	
	comp=Z,3.6nm,0.4s,baz=155,slow=4.1,SNR=4.6								
NVAR	**Mina Array Bea**	**77.26 321**		P		**P**	**20 38 15.5**	**+2.0**	
	comp=Z,0.6nm,0.8s,baz=112,slow=4.0,SNR=4.2								
BOSA	**Boshof**	**81.48 117**		P		**P**	**20 38 36.5**	**-0.2**	
	comp=Z,1.1nm,0.4s,baz=247,slow=4.9,SNR=6.5								
BOSA	**Boshof**	**81.48 117**		IAmb		IAmb	20 38 41.2		
	comp=Z,19nm,1.6s								
ASAR	**Alice Springs**	**129.94 205**		PKP		**PKPdf**	**20 45 27.5**	**-0.3**	
	comp=Z,0.3nm,0.6s,baz=117,slow=1.2,SNR=4.2								
WRA	**Warramunga Arr**	**133.07 208**		PKP		**PKPdf**	**20 45 34.5**	**+0.8**	
	comp=Z,0.3nm,0.4s,baz=159,slow=2.1,SNR=1.6								
MKAR	**Makanchi Array**	**145.25 38**		PKPbc		**PKPab**	**20 45 55.8**	**+0.4**	
	comp=Z,0.5nm,0.6s,baz=348,slow=3.2,SNR=4.7								

MEX 22 20:43:19.6±0.8, 13°93'N×93°32'W, h10km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.77**	**3**	*e*P	Pn	20 43 46.9	-3.4
PCIG				*e*S	Sn	20 44 04.2	-8.8

*SJA **22** 20:45:55.9±0.9, 30°.86S×72°.20W, h4km, ML4.6, MW4.2*
*IDC **22** 20:45:57.4±0.6, 31°.02S×71°.80W, h0km, mb4.4/10, mb1 4.4/15, mb1mx4.3/22, mbtmp4.3/15, ML4.2/5, MS3.6/10, Ms1 3.6/10, ms1mx3.3/31, Error ellipse: s-maj=23.1km s-min=16.5km az=90.0*
*NEIC **22** 20:46:00.5±2.2, 30°.94S±0°.04×71°.97W±0°.03, h20km±4km, mb4.7/29, ML4.4(GUC), Error ellipse: s-maj=5.5km s-min=3.2km az=169.0*
*GUC **22** 20:46:01.8±0.8, 30°.99S×71°.80W, h27km±5km, ML4.5*
ISC 22 20:46:00.3±0.5, 30°.99S±0°.02×71°.92W±0°.05, h21km±3km, n148, σ1°74/161, mb4.6/20, MS3.8/7, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.40**	**38**	⇓ *i* P	**Pb**	**20 46 09.5**	**+0.9**
CO06				*i* S	**Sb**	**20 46 14.8**	**+0.6**
CO06				IAML		20 46 15.4	
	comp=N,69μm,0.2s						
CO06	**Fray Jorge**	**0.40**	**38**	Pg	**Pb**	**20 46 09.5**	**+0.9**
CO06				Sg	**Sb**	**20 46 15.0**	**+0.8**
CO03	**El Pedregal**	**1.07**	**82**	⇑ *i* P	**Pn**	**20 46 19.2**	**-0.9**
CO03				*i* S	**Sb**	**20 46 32.1**	**-1.7**
CO03				IAML		20 46 34.8	
	comp=E,16μm,0.3s						
CO03	**El Pedregal**	**1.07**	**82**	Pn	**Pn**	**20 46 19.4**	**-0.7**
CO03				Sn	**Sb**	**20 46 32.0**	**-1.7**
CO03	**El Pedregal**	**1.07**	**82**	*i* P	**Pn**	**20 46 19.5**	**-0.7**
CO03				*i* S	**Sb**	**20 46 32.5**	**-1.3**
CO03				IAML		20 46 35.3	
	comp=Z,16μm,0.5s						
CO05	**La Serena**	**1.22**	**29**	⇑ *i* P	**Pn**	**20 46 22.2**	**+0.1**
CO05				*i* S	**Sn**	**20 46 37.6**	**-0.4**
CO05				IAML		20 46 42.6	
	comp=N,10μm,0.3s						
CO05	**La Serena**	**1.22**	**29**	Pn	**Pn**	**20 46 22.2**	**+0.1**
CO05					**Sn**	**20 46 37.5**	**-0.4**
GO04	**Tololo Observa**	**1.26**	**50**	⇑ *i* P	**Pn**	**20 46 22.8**	**-0.1**
GO04				*i* S	**Sb**	**20 46 38.8**	**-0.7**
GO04	**Tololo Observa**	**1.26**	**50**		**Pn**	**20 46 22.8**	**-0.1**
GO04				Sn	**Sb**	**20 46 38.6**	**-0.9**
GO04	**Tololo Observa**	**1.26**	**50**	*i* P	**Pn**	**20 46 22.9**	**0.0**
GO04				*i* S	**Sb**	**20 46 40.5**	**+1.0**
VA06	**Catapilco**	**1.66**	**161**	⇓ *i* P	**Pn**	**20 46 29.1**	**+0.9**
VA06				*i* S	**Sb**	**20 46 50.9**	**+0.4**
VA06				IAML		20 46 59.7	
	comp=N,13μm,0.3s						
VA01	**Torpederas**	**2.04**	**174**	*e*P	**Pn**	**20 46 35.6**	**+2.2**
VA01				*i* S	**Sb**	**20 47 02.6**	**+1.0**
VA01				IAML		20 47 11.3	
	comp=E,3μm,0.8s						
VA01	**Torpederas**	**2.04**	**174**		**Pn**	**20 46 33.9**	**+0.5**
VA03	**San Esteban**	**2.12**	**147**	⇓ *i* P	**Pn**	**20 46 36.3**	**+1.7**
VA03				*i* S	**Sb**	**20 47 03.3**	**-0.7**
VA03				IAML		20 47 08.0	
	comp=E,8μm,0.4s						
VA03	**San Esteban**	**2.12**	**147**		**Pn**	**20 46 36.3**	**+1.7**
ROC1	**El Roble**	**2.12**	**159**	*i* P	**Pn**	**20 46 36.0**	**+1.1**
ROC1				*i* S	**Sb**	**20 47 06.8**	**+2.5**
LCO	**Las Campanas**	**2.24**	**29**	Pn	**Pn**	**20 46 36.8**	**+0.4**
AROD	**Rodeo**	**2.26**	**69**	*i* P	**Pb**	**20 46 40.3**	**-0.4**
AROD				*i* S	**Sb**	**20 47 08.5**	**+0.1**
RTLS	**Leoncito**	**2.38**	**110**	*i* P	**Pb**	**20 46 42.5**	**-0.3**
RTLS				*i* S	**Sb**	**20 47 13.2**	**+1.4**
RTLS				IAML		20 47 18.7	
	comp=Z,4μm,0.6s						
AUSP	**Uspallata**	**2.49**	**120**	*i* P	**Pb**	**20 46 44.1**	**-0.3**
AUSP				*i* S	**Sb**	**20 47 15.8**	**+1.0**
ACCO	**Cerro Coronel**	**2.49**	**81**	*i* P	**Pb**	**20 46 43.4**	**-1.1**
ACCO				*i* S	**Sb**	**20 47 16.7**	**+1.8**
ACCO				IAML		20 47 23.5	
	comp=Z,1μm,1.1s						
ACDV	**Cuesta del Vie**	**2.55**	**72**	*i* P	**Pb**	**20 46 44.9**	**-0.6**
ACDV				*i* S	**Sb**	**20 47 17.8**	**+1.4**
ACDV				IAML		20 47 25.6	
	comp=Z,2μm,1.0s						
MT05	**Renca**	**2.60**	**158**	*e*P	**Pn**	**20 46 42.5**	**+1.4**
MT05	**Renca**	**2.60**	**158**		**Pn**	**20 46 42.7**	**+1.6**
MT05	**Renca**	**2.60**	**158**	*i* P	**Pb**	**20 46 45.0**	**-1.2**
VA05	**Santo Domingo**	**2.67**	**175**		**Pn**	**20 46 42.5**	**+0.4**
ZON	**Zonda**	**2.83**	**102**	Pn	**Pb**	**20 46 48.2**	**-2.0**
ZON	**Zonda**	**2.83**	**102**	*i* P	**Pb**	**20 46 48.3**	**-1.9**
ZON				*i* S	**Sb**	**20 47 23.1**	**-1.3**
ZON				IAML		20 47 33.2	
	comp=Z,2μm,0.7s						
AC04	**Llanos de Chal**	**2.87**	**15**	Pn	**Pn**	**20 46 44.7**	**-0.2**
AC04	**Llanos de Chal**	**2.87**	**15**	*i* P	**Pn**	**20 46 45.0**	**+0.2**
AC04				IAML		20 47 33.1	
	comp=Z,1μm,1.2s						
MT09	**Talagante**	**2.89**	**164**	*e*P	**Pn**	**20 46 46.9**	**+1.6**
MT09				*i* S	**Sb**	**20 47 23.9**	**-2.3**
MT09				IAML		20 47 39.6	
	comp=N,2μm,0.5s						
MT09	**Talagante**	**2.89**	**164**		**Pn**	**20 46 46.6**	**+1.4**
MT01	**Popeta**	**2.92**	**169**	*e*P	**Pn**	**20 46 44.4**	**+0.8**
MT01	**Popeta**	**2.92**	**169**		**Pn**	**20 46 46.3**	**+0.8**
RTCV	**Cerro Valdivia**	**3.02**	**108**	*i* P	**Pb**	**20 46 51.2**	**-2.2**
RTCV				*i* S	Sb	20 47 38.3	+8.5
RTCV				IAML		20 47 41.6	
	comp=Z,508nm,2.2s						
ASAL	**Salagasta**	**3.07**	**122**	*i* P	**Pb**	**20 46 52.3**	**-2.1**
ASAL				*i* S	**Sb**	**20 47 36.6**	**+5.2**
ASAL				IAML		20 47 44.1	
	comp=Z,1μm,0.6s						
ARCO	**CERRO ARCO**	**3.14**	**127**	*i* P	**Pb**	**20 46 53.8**	**-1.8**
ARCO				IAML		20 47 45.8	
	comp=Z,1μm,1.2s						
AGUA	**GUANDACOL**	**3.32**	**64**	*i* P	**Pb**	**20 46 56.2**	**-2.4**
AGUA				*i* S	**Sb**	**20 47 46.2**	**+7.5**
AGUA				IAML		20 47 48.4	
	comp=Z,2μm,0.6s						
AAGR	**Agrelo**	**3.35**	**129**	*i* P	**Pb**	**20 46 56.5**	**-2.7**
AAGR				IAML		20 48 02.6	
	comp=Z,944nm,0.8s						
BO01	**Tunca**	**3.47**	**169**		**Pn**	**20 46 54.0**	**+1.0**
GO03	**Copiap**	**3.69**	**24**	Pn	**Pn**	**20 46 56.5**	**+0.3**
GO03	**Copiap**	**3.69**	**24**	*i* P	**Pn**	**20 46 56.7**	**+0.5**
GO03				*i* S	**Sb**	**20 47 47.3**	**-1.9**
AVFE	**Valle Fertil**	**3.85**	**86**	*i* P	**Pn**	**20 47 00.9**	**+2.4**
AVFE				*i* S	**Sb**	**20 47 52.9**	**-1.0**
AVFE				IAML		20 48 01.8	
	comp=Z,1μm,0.6s						
AC06	**Mina Casimiro**	**3.87**	**21**	*e*P	**Pn**	**20 46 58.7**	**+0.1**
AC06	**Mina Casimiro**	**3.87**	**21**	Pn	**Pn**	**20 46 58.7**	**+0.1**
BO02	**Sierra Bellavi**	**3.91**	**166**		**Pn**	**20 47 00.7**	**+1.5**
VCA	**Vinchina**	**3.93**	**56**	*i* P	**Pn**	**20 47 04.1**	**+4.6**
VCA				*i* S	**Sb**	**20 47 58.8**	**+2.6**
VCA				IAML		20 48 11.7	
	comp=Z,1μm,0.9s						
GO05	**Huala**	**4.01**	**180**	Pn	**Pn**	**20 47 00.2**	**-0.4**
ACHE	**Chepes**	**4.51**	**94**	*i* P	**Pn**	**20 47 09.8**	**+2.2**
LAMA	**Las Malvinas**	**4.55**	**151**	*i* P	**Pn**	**20 47 11.5**	**+3.6**
COIS	**El Sosneado**	**4.55**	**155**	*i* P	**Pn**	**20 47 12.6**	**+4.6**
ML02	**Panimavida**	**4.78**	**175**		**Pn**	**20 47 11.0**	**0.0**
AC02	**Maricunga**	**4.81**	**31**	*e*P	**Pn**	**20 47 13.2**	**+1.3**
AC02				*i* S	**Sn**	**20 48 10.6**	**+3.4**
AC02	**Maricunga**	**4.81**	**31**	Pn	**Pn**	**20 47 13.0**	**+1.0**
AC02	**Maricunga**	**4.81**	**31**	*i* P	**Pn**	**20 47 13.2**	**+1.3**
AC02				IAML		20 48 32.8	
	comp=Z,688nm,0.8s						
CYA	**Choya**	**5.89**	**66**	*i* P	**Pn**	**20 47 28.2**	**+1.8**
CYA				*i* S	**Sn**	**20 48 32.7**	**-0.7**
CYA				IAML		20 49 07.1	
	comp=Z,143nm,0.6s						
H03N1	**Juan Fernandez**	**6.41**	**246**	T	T	20 54 19.0	
	baz=74,slow=72						
VA04	**Juan Fernndez**	**6.42**	**244**		Pn	20 47 30.5	-3.1
H03N3	**Juan Fernndez**	**6.42**	**246**	T	T	20 54 18.2	
	baz=74,slow=72						
H03N2	**Juan Fernandez**	**6.43**	**246**	T	T	20 54 19.4	
	baz=74,slow=72						
PB14	**IPOC Station P**	**6.48**	**12**	Pn	**Pn**	**20 47 32.1**	**-2.6**
AHML	**Herco Molle**	**7.13**	**56**	*i* P	**Pn**	**20 47 46.0**	**+2.5**
FSA	**Cafayete**	**7.13**	**49**	*i* P	**Pn**	**20 47 46.3**	**+2.7**
PB10	**IPOC Station P**	**7.54**	**10**		**Pn**	**20 47 46.4**	**-2.7**
LC01	**Cunco**	**7.89**	**180**	Pn	**Pn**	**20 47 53.5**	**-0.3**
PB15	**IPOC Station P**	**8.05**	**16**		**Pn**	**20 47 55.7**	**-0.5**
PB06	**IPOC Station P**	**8.51**	**15**	Pn	**Pn**	**20 48 01.6**	**-0.9**
PB04	**IPOC Station P**	**8.76**	**11**	Pn	**Pn**	**20 48 04.9**	**-1.1**
LVC	**Limon Verde**	**8.77**	**19**	Pn	**Pn**	**20 48 04.1**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=294,slow=18,SNR=1.8						
LVC				Sn	**Sn**	**20 49 40.6**	**-3.9**
	comp=Z,1.8nm,0.3s,baz=263,slow=7.3,SNR=1.7						
PB07	**IPOC Station P**	**9.40**	**12**	Pn	**Pn**	**20 48 13.5**	**-1.2**
PB09	**IPOC Station P**	**9.46**	**15**	Pn	**Pn**	**20 48 14.1**	**-1.5**
PLCA	**Paso Flores**	**9.79**	**174**	Pn	**Pn**	**20 48 21.0**	**+1.1**
	comp=Z,1.0nm,0.3s,baz=337,slow=12,SNR=34						
PLCA				LR	LR	20 52 04.4	
	comp=Z,180nm,18.2s,baz=350,slow=38						
PLCA	**Paso Flores**	**9.79**	**174**		**Pn**	**20 48 20.6**	**+0.7**
PB01	**IPOC Station P**	**10.14**	**13**	Pn	**Pn**	**20 48 23.4**	**-1.4**
TA01	**Diego Aracena**	**10.50**	**9**	Pn	**Pn**	**20 48 27.3**	**-2.3**
TRQA	**Tornquist**	**10.81**	**133**		**Pn**	**20 48 33.7**	**-0.1**
PB08	**IPOC Station P**	**11.09**	**14**	Pn	Pn	20 48 33.4	-4.6
PB11	**IPOC Station P**	**11.37**	**11**	Pn	**Pn**	**20 48 38.3**	**-3.4**
PSGCX	**Pisagua**	**11.46**	**9**	Pn	**Pn**	**20 48 38.9**	**-4.0**
ITQB	**Itaqui**	**13.28**	**88**		**Pn**	**20 49 07.3**	**-0.3**
CPUP	**Villa Florida**	**13.62**	**74**	Pn	**Pn**	**20 49 12.2**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=258,slow=12,SNR=6.3						
CPUP				Sn	**Sn**	**20 51 37.6**	**-5.4**
	comp=Z,0.3nm,0.3s,baz=296,slow=8.9,SNR=1.9						
CPUP				LR	LR	20 54 49.0	
	comp=Z,205nm,21.7s,baz=254,slow=39						
CPUP	**Villa Florida**	**13.62**	**74**		**Pn**	**20 49 12.0**	**-0.3**
LPAZ	**La Paz**	**15.04**	**14**	Pn	**Pn**	**20 49 32.7**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=182,slow=6.8,SNR=24						
LPAZ				Sn	**Sn**	**20 52 21.8**	**+3.3**
	comp=Z,0.2nm,0.3s,baz=219,slow=24,SNR=1.9						
LPAZ	**La Paz**	**15.04**	**14**	P	**Pn**	**20 49 28.7**	**-3.5**
PLTB	**Pedras Altas**	**15.67**	**98**	Pn	**Pn**	**20 49 39.2**	**-0.6**
PLTB				IAmb	IAmb	20 50 11.6	
	comp=Z,110nm,1.9s						
**SIV

ZALV	**Zalesovo Beam**	**151.59**	**29**	PKPbc	**PKPbc**	**21 05 52.9**	**+0.5**	
	comp=Z,4.8nm,0.5s,baz=298,slow=2.8,SNR=22							
ZALV	**Zalesovo Beam**	**151.59**	**29**	PKPdf	**PKPdf**	**21 05 44.9**	**-1.2**	
ZALV					**PKPbc**	**21 05 52.4**	**0.0**	
MKAR	**Makanchi Array**	**154.63**	**44**	PKPbc	**PKPbc**	**21 05 59.4**	**0.0**	
	comp=Z,0.7nm,0.9s,baz=270,slow=2.6,SNR=1.5							
SONM	**Songino Array**	**163.13**	**4**	PKPab	**PKPab**	**21 06 53.1**	**+2.1**	
	comp=Z,0.3nm,0.3s,baz=6.3,slow=40,SNR=2.4							
CMAR	**Chiang Mai Arr**	**165.03 144**		PKPab	**PKPab**	**21 06 60.0**	**0.0**	
	comp=Z,0.3nm,0.4s,baz=231,slow=6.6,SNR=4.1							

*KRNET **22** 20:49:53.7±0.1, 43.41N×78.41E, h35km, mb2.5*
*NNC **22** 20:49:54.1±1.0, 43.42N×78.30E, h0km, mb2.9, mpv3.0, Error ellipse: s-maj=13.6km s-min=5.3km az=173.0*
*SOME **22** 20:49:55.0, 43.43N×78.30E, h5km*
ISC 22 20:49:53.8±1.3, 43.41N±0.04×78.33E±0.02, h7km±12km, n16, σ0.957/31, 8C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KPKS	**Kokpek**	**0.26**	**77**	*e*P	**Pb**	**20 50 01.1**	**+0.1**
	baz=74						
KPKS				*e*S	**Sb**	**20 50 05.5**	**-0.3**
	baz=74						
KPKS	**Kokpek**	**0.26**	**77**	*e*P	**Pb**	**20 50 01.1**	**+0.1**
	35nm,0.1s						
KPKS				*e*S	**Sb**	**20 50 05.5**	**-0.3**
	46nm,0.1s						
SATY	**Saty**	**0.35**	**171**	*e*P	**Pb**	**20 50 02.8**	**+0.3**
	baz=80						
SATY				*e*S	**Sb**	**20 50 08.5**	**+0.2**
	baz=80						
SATY	**Saty**	**0.35**	**171**	*e*P	**Pb**	**20 50 02.8**	**+0.3**
	12nm,0.1s						
SATY				*e*S	**Sb**	**20 50 08.5**	**+0.2**
	89nm,0.2s						
SATY	**Saty**	**0.35**	**171**	P	**Pb**	**20 50 02.8**	**+0.3**
	12nm,0.1s						
SATY				S	**Sb**	**20 50 08.5**	**+0.2**
	89nm,0.2s						
ANVS	**Anan'yevo**	**0.79**	**218**	⇓*i*P	**Pg**	**20 50 09.0**	**0.0**
	baz=21						
ANVS				⇓*i*S	**Sb**	**20 50 21.5**	**+0.5**
	baz=21						
PDGK	**Podgornoye**	**0.85**	**95**	⇓P	**Pb**	**20 50 12.4**	**+1.5**
	1.4nm,0.7s						
PDGK				⇑S	**Sg**	**20 50 21.8**	**+0.7**
	3.3nm,0.8s						
KOTS	**Kotyrbulak**	**0.91**	**259**	*e*P	**Pb**	**20 50 12.4**	**+0.5**
	baz=60						
KOTS				*e*S	**Sb**	**20 50 25.0**	**+0.7**
	baz=60						
KOTS	**Kotyrbulak**	**0.91**	**259**	*e*P	**Pb**	**20 50 12.4**	**+0.5**
	0.9nm,0.1s						
KOTS				*e*S	**Sb**	**20 50 25.0**	**+0.7**
	6.7nm,0.2s						
PRZ	**Przheval'sk**	**0.93**	**177**	⇓*i*P	**Pg**	**20 50 10.4**	**-1.1**
	baz=80						
PRZ				⇓*i*S	**Sg**	**20 50 23.6**	**+0.1**
	baz=80						
MDOK	**Medeo**	**0.97**	**256**	P	**Pb**	**20 50 13.4**	**+0.4**
	18nm,1.5s						
MDOK				⇑S	**Sg**	**20 50 25.0**	**+0.1**
	18nm,1.4s						
CHKK	**Chushkaly**	**1.07**	**295**	*e*P	**Pb**	**20 50 14.7**	**0.0**
	baz=94						
CHKK				*e*S	**Sb**	**20 50 28.8**	**-0.2**
	baz=94						
CHKK	**Chushkaly**	**1.07**	**295**	*e*P	**Pb**	**20 50 14.7**	**0.0**
	0.5nm,0.1s						
CHKK				*e*S	**Sb**	**20 50 28.7**	**-0.2**
	4.8nm,0.1s						
KDJ	**Kajisay**	**1.53**	**214**	⇑*i*P	**Pn**	**20 50 21.1**	**-0.7**
	baz=15						
KDJ				⇑*i*S	**Sn**	**20 50 41.6**	**-0.4**
	baz=15						
BOOM	**Boomskoye usch**	**1.98**	**243**	⇑*i*P	**Pn**	**20 50 27.1**	**-0.8**
	baz=44						
BOOM				⇑*i*S	**Sn**	**20 50 52.8**	**-0.3**
	baz=44						
TKM2	**Tokmak 2**	**2.06**	**257**	⇑Pg	**Pn**	**20 50 30.0**	**+1.0**
	4.1nm,1.3s						
TKM2				⇑Lg	Lg	20 50 56.4	
	4.8nm,1.1s						

*IDC **22** 20:57:16.5±1.2, 30.37S×72.65W, h0km, mb3.7/3, mb1 3.9/7, mb1mx3.8/22, mbtmp3.7/7, ML3.6/4, MS3.3/2, Ms1 3.3/2, ms1mx2.7/28, Error ellipse: s-maj=49.7km s-min=24.7km az=91.0*
ISC 22 20:57:19.2±1.0, 30.37S±0.09×72.5W±0.2, h19km, n12, σ1.927/11, mb3.9/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**8.35**	**23**	Pn	**Pn**	**20 59 18.6**	**-1.0**
	0.2nm,0.3s,baz=176,slow=16,SNR=1.6						
LVC				Sn	**Sn**	**21 00 52.1**	**-1.5**
	0.5nm,0.3s,baz=221,slow=21,SNR=5.6						
PLCA	**Paso Flores**	**10.46**	**172**	Pn	**Pn**	**20 59 46.3**	**-1.9**
	0.2nm,0.3s,baz=337,slow=14,SNR=5.3						
CPUP	**Villa Florida**	**13.91**	**77**	LR	LR	21 06 35.1	
	comp=Z,52nm,18.4s,baz=242,slow=40						
LPAZ	**La Paz**	**14.56**	**17**	Pn	**Pn**	**21 00 45.1**	**+0.3**
	0.1nm,0.3s,baz=207,slow=14,SNR=4.6						
SIV	**San Ignacio**	**17.70**	**39**	P	**Pn**	**21 01 25.7**	**+0.9**
	0.2nm,0.3s,baz=225,slow=11,SNR=7.3						
SNAA	**Sanae**	**55.08**	**159**	P	**P**	**21 06 50.4**	**+0.9**
	1.2nm,0.9s,baz=299,slow=7.5,SNR=3.0						
TXAR	**Lajitas Array**	**66.41**	**330**	P	**P**	**21 08 07.1**	**-0.1**
	0.2nm,0.3s,baz=145,slow=9.0,SNR=3.4						
TORD	**Torodi Ar. Bea**	**83.32**	**71**	P	**P**	**21 09 47.3**	**+2.1**
	0.5nm,0.6s,baz=251,slow=4.5,SNR=4.6						
NEW	**Newport**	**87.91**	**332**	LR	LR	21 47 07.0	
	comp=Z,38nm,21.6s,baz=222,slow=34						
BVAR	**Borovoye Array**	**144.78**	**39**	PKP	**PKPdf**	**21 16 54.6**	**+0.3**
	0.7nm,0.6s,baz=294,slow=1.4,SNR=7.0						
KURBB	**Kurchatov Arra**	**150.36**	**39**	PKPbc	**PKiKP**	**21 17 09.7**	**+0.1**
	0.3nm,0.4s,baz=311,slow=3.6,SNR=4.0						
ZALV	**Zalesovo Beam**	**151.27**	**28**	PKPbc	**PKiKP**	**21 17 11.0**	**-0.5**
	1.1nm,0.6s,baz=288,slow=4.3,SNR=5.4						

*TRN **22** 20:57:45.8, 11.02N×62.34W, h100km, MD3.3*
*FUNV **22** 20:57:46.4, 10.83N×62.32W, h108km, MW3.5*
ISC 22 20:57:42.4±1.7, 10.95N±0.05×62.36W±0.04, h129km±14km, n12, σ1.981/22, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRUV	**Carupano**	**0.90**	**252**	*e*P	**Pn**	**20 58 05.5**	**+1.2**
CRUV				*e*S	**Sn**	**20 58 20.0**	**-0.8**
TRN	**Trinidad (W)**	**0.99**	**108**	*e*P	**Pn**	**20 58 06.8**	**+1.7**
TRN				*e*S	**Sn**	**20 58 21.0**	**-1.2**
TRN	**Trinidad (W)**	**0.99**	**108**	*e*P	**Pn**	**20 58 06.6**	**+1.5**
TRN				*e*S	**Sn**	**20 58 21.4**	**-0.8**
GRFF	**Grenada Fort F**	**1.25**	**29**	*e*P	**Pn**	**20 58 08.0**	**+0.3**
GRFF				*e*S	**Sn**	**20 58 24.6**	**-2.4**
GRGR	**Grenville**	**1.36**	**31**	*e*P	**Pn**	**20 58 09.9**	**+1.0**
GRGR				*e*S	**Sn**	**20 58 27.3**	**-1.8**
GCMP	**Grenada, Carri**	**1.78**	**31**	*e*P	**Pn**	**20 58 14.6**	**+1.0**
GCMP				*e*S	**Sn**	**20 58 36.4**	**-1.1**
TOSP	**Speyside**	**1.83**	**79**	*e*P	**Pn**	**20 58 15.5**	**+1.4**
TOSP				*e*S	**Sn**	**20 58 37.8**	**-0.6**
TOSP	**Speyside**	**1.83**	**79**	*e*P	**Pn**	**20 58 15.9**	**+1.8**
TOSP				*e*S	**Sn**	**20 58 38.0**	**-0.4**
PCRV	**Puerto La Cruz**	**2.36**	**251**	*e*P	**Pn**	**20 58 23.2**	**+2.4**
PCRV				*e*S	**Sn**	**20 58 49.7**	**-0.6**
RIOV	**Rio Grande**	**2.91**	**169**	*e*P	**Pn**	**20 58 28.8**	**+0.9**
RIOV				*e*S	**Sn**	**20 58 59.5**	**-3.5**
CACV	**CAICARA DEL OR**	**5.32**	**231**	*e*P	Pn	20 58 56.6	-3.2
CACV				*e*S	Sn	20 59 48.4	-12
BAUV	**El Baul**	**5.94**	**251**	*e*P	**Pn**	**20 59 09.7**	**+1.6**
BAUV				*e*S	**Sn**	**21 00 11.8**	**-3.2**

*MAN **22** 21:02:25.8, 5.62N×126.60E, h14km, mb4.6, ML3.5, MS3.4*
*IDC **22** 21:02:31.3±2.2, 5.41N×126.05E, h101km±22km, mb3.5/6, mb1 3.6/6, mb1mx3.3/47, mbtmp3.8/6, Error ellipse: s-maj=109.6km s-min=16.3km az=70.0*
ISC 22 21:02:30.9±0.8, 5.4N±0.1×126.0E±0.3, h100km, n9, σ0.987/13, mb3.7/6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.68**	**346**	P	**Pn**	**21 03 00.0**	**+0.7**
	81nm,0.3s,baz=84,slow=20,SNR=2.2						
DAV				S	**Sn**	**21 03 19.4**	**-1.6**
	46nm,0.3s,baz=124,slow=21,SNR=3.9						
KCP	**Kidapawan**	**1.80**	**331**	⇓*e*P	**Pn**	**21 02 60.0**	**-1.0**
KCP				*i* S	**Sn**	**21 03 24.7**	**+0.8**
FITZ	**Fitzroy Crossi**	**23.38**	**181**	P	**P**	**21 07 30.8**	**-0.1**
	0.9nm,0.5s,baz=343,slow=11,SNR=1.9						
WRA	**Warramunga Arr**	**26.52**	**162**	P	**P**	**21 07 59.6**	**+0.3**
	1.2nm,0.7s,baz=344,slow=11,SNR=9.6						
WRA				PcP	**PcP**	**21 11 21.6**	**-0.2**
	0.2nm,0.3s,baz=346,slow=3.0,SNR=1.9						
ASAR	**Alice Springs**	**29.94**	**165**	P	**P**	**21 08 29.2**	**-0.5**
	0.3nm,0.5s,baz=351,slow=6.8,SNR=6.2						
ASAR				PcP	**PcP**	**21 11 30.9**	**+0.6**
	0.6nm,0.4s,baz=350,slow=2.3,SNR=11						
STKA	**Stephens Creek**	**39.98**	**159**	P	**P**	**21 09 55.8**	**0.0**
	1.0nm,0.6s,baz=346,slow=11,SNR=1.9						
MKAR	**Makanchi Array**	**55.74**	**325**	P	**P**	**21 11 58.6**	**+1.3**
	0.5nm,0.5s,baz=106,slow=8.0,SNR=7.2						
ARCES	**ARCESS Array B**	**88.60**	**340**	P	**P**	**21 15 12.1**	**-0.3**
	1.7nm,0.7s,baz=62,slow=8.4,SNR=5.4						
TORD	**Torodi Ar. Bea**	**121.67**	**289**	PKP	**PKPdf**	**21 21 13.6**	**-0.5**
	0.3nm,0.6s,baz=59,slow=1.6,SNR=4.8						

*NOU **22** 21:16:04.1, 37.62S×179.55W, h85km, ML4.6/8, East of North Island, N.Z.*
*IDC **22** 21:16:06.9±1.2, 37.33S×179.53E, h0km, mb4.2/4, mb1 4.3/6, mb1mx4.0/27, mbtmp4.2/6, ML4.1/2, MS3.4/2, Ms1 3.4/2, ms1mx2.7/37, Error ellipse: s-maj=29.4km s-min=23.5km az=43.0*
*NEIC **22** 21:16:08.3±2.7, 37.61S±0.08×179.63E±0.09, h10km±2km, mb4.2/12, Error ellipse: s-maj=14.7km s-min=10.9km az=23.0*
*WEL **22** 21:16:10.5±1.0, 38°S±5°×18°E±°, h49km±32km, M4.1/66, ML4.3/69, MLv4.1/66, Error ellipse: s-maj=0.0km s-min=0.0km az=78.3*
ISC 22 21:16:08.3±2.6, 37.60S±0.05×179.72E±0.07, h12km±15km, n146, σ1.914/153, mb4.2/6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**1.05**	**258**	P	**Pn**	**21 16 29.4**	**+0.5**
WMGZ				S	**Sn**	**21 16 44.6**	**+1.0**
MXZ	**Matakaoa Point**	**1.12**	**272**		**Pb**	**21 16 29.6**	**0.0**
MXZ				Sn	**Sb**	**21 16 43.4**	**-0.7**
MXZ	**Matakaoa Point**	**1.12**	**272**	P	**Pb**	**21 16 29.6**	**0.0**
MXZ				S	**Sb**	**21 16 44.4**	**+0.2**
PUZ	**Puketiti**	**1.25**	**247**	P	**Pb**	**21 16 32.2**	**+0.4**
PUZ				S	**Sg**	**21 16 49.0**	**+0.5**
PKGZ	**Pakihiroa**	**1.33**	**257**	P	**Pn**	**21 16 32.9**	**+0.1**
CNGZ	**Carnagh Statio**	**1.48**	**233**	P	**Pb**	**21 16 36.1**	**+0.3**
TWGZ	**Tauwhareparae**	**1.49**	**247**	P	**Pb**	**21 16 35.8**	**-0.1**
HAZ	**Te Kaha**	**1.54**	**264**	P	**Pn**	**21 16 36.1**	**+0.6**
RUGZ	**Raukumara Rang**	**1.66**	**257**	P	**Pn**	**21 16 37.8**	**+0.5**
TKGZ	**Te Karaka**	**1.70**	**240**	P	**Pn**	**21 16 38.7**	**+1.0**
TKGZ				S	**Sn**	**21 17 00.0**	**+0.7**
MWZ	**Matawai**	**1.88**	**246**	P	**Pn**	**21 16 40.8**	**+0.5**
MWZ				S	**Sn**	**21 17 03.4**	**-0.5**
RIGZ	**Rimuhau**	**1.89**	**234**	P	**Pn**	**21 16 41.4**	**+0.9**
RIGZ				S	**Sn**	**21 17 05.1**	**+0.8**
PRGZ	**Paritu Road**	**1.96**	**227**	P	**Pn**	**21 16 42.1**	**+0.8**
WIZ	**White Island**	**2.01**	**271**	P	**Pn**	**21 16 41.9**	**-0.1**
RAGZ	**Rawiri**	**2.02**	**243**	P	**Pn**	**21 16 43.0**	**+0.7**
MHGZ	**Mahia Peninsul**	**2.10**	**222**	P	**Pn**	**21 16 43.9**	**+0.5**
KNZ	**Kokohu**	**2.14**	**228**	P	**Pn**	**21 16 44.1**	**+0.2**
URZ	**Urewera**	**2.16**	**251**	Pn	**Pn**	**21 16 45.1**	**+0.9**
	172nm,0.3s,baz=84,slow=10,SNR=739						
URZ				Sn	**Sn**	**21 17 10.4**	**-0.4**
	61nm,0.3s,baz=53,slow=7.4,SNR=6.2						
URZ	**Urewera**	**2.16**	**251**		**Pn**	**21 16 45.0**	**+0.9**
URZ				Sn	**Sn**	**21 17 10.1**	**-0.8**
URZ	**Urewera**	**2.16**	**251**	P	**Pn**	**21 16 45.1**	**+0.9**
URZ				S	**Sn**	**21 17 10.9**	**+0.1**
WHRZ	**Whale Island**	**2.19**	**262**	P	**Pn**	**21 16 45.3**	**+0.8**
SNGZ	**Shannon Statio**	**2.21**	**237**	P	**Pn**	**21 16 45.6**	**+0.8**
RTZ	**Ruatahuna**	**2.38**	**244**	P	**Pn**	**21 16 48.6**	**+1.3**
EDRZ	**Edgecumbe**	**2.41**	**257**	P	**Pn**	**21 16 48.4**	**+0.8**
MARZ	**Manawahe**	**2.44**	**260**	P	**Pn**	**21 16 48.8**	**+0.8**
WHHZ	**Waihua**	**2.44**	**232**	P	**Pn**	**21 16 49.0**	**+0.9**
RAHZ	**Arahi**	**2.45**	**237**	P	**Pn**	**21 16 49.1**	**+0.9**
MUGZ	**Murupara**	**2.48**	**248**	P	**Pn**	**21 16 49.4**	**+0.8**
OPRZ	**Ohinepanea**	**2.52**	**263**	P	**Pn**	**21 16 49.0**	**0.0**
MTHZ	**Maungataniwha**	**2.59**	**240**	P	**Pn**	**21 16 50.8**	**+0.8**
TARZ	**Mount Tarawera**	**2.62**	**255**	P	**Pn**	**21 16 51.5**	**+1.0**
MKRZ	**Makatiti**	**2.63**	**257**	P	**Pn**	**21 16 52.5**	**+1.9**
RRRZ	**Republican Roa**	**2.63**	**253**	P	**Pn**	**21 16 51.9**	**+1.2**
OMRZ	**Omania**	**2.69**	**258**	P	**Pn**	**21 16 52.6**	**+1.1**
ARHZ	**Arapaoanui**	**2.72**	**238**	P	**Pn**	**21 16 52.6**	**+0.9**
NMHZ	**Naumai**	**2.73**	**236**	P	**Pn**	**21 16 53.2**	**+1.1**
TGRZ	**Tauranga**	**2.74**	**266**	P	**Pn**	**21 16 52.2**	**0.0**
PRRZ	**Plateau Road**	**2.77**	**250**	P	**Pn**	**21 16 53.3**	**+0.7**
KARZ	**Kaharoa**	**2.78**	**260**	P	**Pn**	**21 16 53.3**	**+0.7**
MYRZ	**Mayor Island**	**2.78**	**276**	P	**Pn**	**21 16 52.6**	**-0.1**
HRRZ	**Handcock Road**	**2.82**	**253**	P	**Pn**	**21 16 54.2**	**+0.9**
ALRZ	**Allen Road**	**2.83**	**249**	P	**Pn**	**21 16 54.2**	**+0.8**
HSRZ	**Hossack Road**	**2.83**	**254**	P	**Pn**	**21 16 54.9**	**+1.5**
MRHZ	**Matea Rd**	**2.88**	**244**	P	**Pn**	**21 16 54.8**	**+0.8**
CKHZ	**Cape Kidnapper**	**2.91**	**224**	P	**Pn**	**21 16 54.8**	**+0.3**
BKZ	**Black Stump Fm**	**2.98**	**237**		**Pn**	**21 16 55.7**	**+0.3**
BKZ	**Black Stump Fm**	**2.98**	**237**	P	**Pn**	**21 16 55.8**	**+0.5**
MCHZ	**McNeill Hill**	**3.00**	**231**	P	**Pn**	**21 16 56.2**	**+0.6**
KAHZ	**Kahuranaki**	**3.12**	**225**	P	**Pn**	**21 16 57.2**	**-0.1**
KWHZ	**Kaweka Forest**	**3.16**	**234**	P	**Pn**	**21 16 58.1**	**+0.2**
KUTZ	**Kaahu Road**	**3.20**	**253**	P	**Pn**	**21 16 59.1**	**+0.7**
PXZ	**Pawanui**	**3.29**	**222**	P	**Pn**	**21 16 59.3**	**-0.4**
KUZ	**Kuaotunu**	**3.30**	**284**	P	**Pn**	**21 16 59.1**	**-0.7**
KRHZ	**Kereru**	**3.32**	**231**	P	**Pn**	**21 16 59.8**	**-0.3**
RITZ	**Rihia Road**	**3.33**	**244**	P	**Pn**	**21 17 01.0**	**+0.8**
TOZ	**Tahuroa Road**	**3.35**	**266**	P	**Pn**	**21 17 00.4**	**0.0**
RATZ	**Rangitukua**	**3.35**	**247**	P	**Pn**	**21 17 01.0**	**+0.5**
TLZ	**Tolley Road**	**3.38**	**256**	P	**Pn**	**21 17 01.8**	**+0.9**
BHHZ	**Black Hill Sta**	**3.43**	**236**	P	**Pn**	**21 17 01.7**	**+0.1**
KATZ	**Kakaramea**	**3.45**	**245**	P	**Pn**	**21 17 02.4**	**+0.4**
TMVZ	**Te Maari**	**3.50**	**243**	P	**Pn**	**21 17 02.8**	**+0.2**
ETVZ	**East Tongariro**	**3.50**	**243**	P	**Pn**	**21 17 02.9**	**+0.2**
NTVZ	**North Tongarir**	**3.51**	**244**	P	**Pn**	**21 17 02.9**	**+0.1**
KRVZ	**Karewarewa**	**3.53**	**244**	P	**Pn**	**21 17 03.2**	**+0.1**
OTVZ	**Oturere**	**3.54**	**243**	P	**Pn**	**21 17 03.5**	**+0.1**
WPHZ	**Waipukurau**	**3.55**	**225**	P	**Pn**	**21 17 02.4**	**-0.8**
NNVZ	**North Ngauruho**	**3.57**	**243**	P	**Pn**	**21 17 03.9**	**+0.3**
SNVZ	**South Ngauruho**	**3.57**	**242**	P	**Pn**	**21 17 03.8**	**+0.1**
WTVZ	**West Tongariro**	**3.58**	**244**	P	**Pn**	**21 17 04.1**	**+0.4**
PNHZ	**Pukenui**	**3.59**	**229**	P	**Pn**	**21 17 03.2**	**-0.6**
MOVZ	**Moawhango**	**3.59**	**239**	P	**Pn**	**21 17 03.9**	**0.0**
NGZ	**Ngauruhoe**	**3.59**	**243**	P	**Pn**	**21 17 04.1**	**+0.1**
TUVZ	**Tukino**	**3.60**	**241**	P	**Pn**	**21 17 04.7**	**+0.7**
WHVZ	**Whangaehu Hut**	**3.65**	**241**	P	**Pn**	**21 17 04.8**	**0.0**
FWVZ	**Far West T-bar**	**3.66**	**242**	P	**Pn**	**21 17 05.1**	**+0.1**
MKAZ	**Moumakai**	**3.66**	**276**	P	**Pn**	**21 17 04.7**	**0.0**
WNVZ	**Wahianoa**	**3.66**	**241**	P	**Pn**	**21 17 04.9**	**0.0**
GRZ	**Great Barrier**	**3.67**	**290**	P	**Pn**	**21 17 04.7**	**-0.1**
TWVZ	**Taurewa**	**3.67**	**245**	P	**Pn**	**21 17 04.9**	**0.0**
WIAZ	**Waiheke Island**	**3.75**	**281**	P	**Pn**	**21 17 05.8**	**-0.1**
MTVZ	**Mangateitei**	**3.78**	**241**	P	**Pn**	**21 17 07.5**	**+1.1**
ANWZ	**Angora Road**	**3.81**	**220**	P	**Pn**	**21 17 06.0**	**-0.8**
PKVZ	**Pokaka**	**3.82**	**242**	P	**Pn**	**21 17 07.5**	**+0.5**
TSZ	**Takapari Road**	**3.82**	**229**	P	**Pn**	**21 17 06.1**	**-0.9**
DVHZ	**Dannevirke**	**3.86**	**225**	P	**Pn**	**21 17 06.9**	**-0.6**
ETAZ	**East Tamaki Re**	**3.87**	**278**	P	**Pn**	**21 17 08.1**	**+0.5**
MBAZ	**Motutapu North**	**3.94**	**281**	P	**Pn**	**21 17 08.9**	**+0.4**
ABAZ	**Army Bay**	**4.03**	**283**	P	**Pn**	**21 17 10.8**	**+1.0**
HBAZ	**Herne Bay Bore**	**4.05**	**279**	P	**Pn**	**21 17 11.1**	**+1.0**
AWAZ	**Awhitu Peninsu**	**4.08**	**276**	P	**Pn**	**21 17 11.1**	**+0.6**
BFZ	**Birch Farm**	**4.09**	**220**	Pn	**Pn**	**21 17 08.9**	**-1.8**
BFZ	**Birch Farm**	**4.09**	**220**	P	**Pn**	**21 17 08.7**	**-2.0**
PRWZ	**Pori Road**	**4.15**	**223**	P	**Pn**	**21 17 11.1**	**-0.3**
POWZ	**Post Office Ro**	**4.15**	**227**	P	**Pn**	**21 17 10.8**	**-0.6**
VRZ	**Vera Road**	**4.18**	**247**	P	**Pn**	**21 17 12.7**	**+0.8**
RVAZ	**Riverhead Bore**	**4.18**	**280**	P	**Pn**	**21 17 13.1**	**+1.2**
MRZ	**Mangatainoka R**	**4.44**	**225**	P	**Pn**	**21 17 14.1**	**-1.3**
TMWZ	**Te Maipa**	**4.59**	**219**	P	**Pn**	**21 17 16.7**	**-0.9**
WCZ	**Waipu Caves**	**4.62**	**289**	P	**Pn**	**21 17 18.2**	**+0.3**
HOWZ	**Holdsworth Sta**	**4.63**	**223**	P	**Pn**	**21 17 16.2**	**-1.9**
PREZ	**Palmer Road**	**4.69**	**247**	P	**Pn**	**21 17 21.4**	**+2.4**
NEZ	**North Egmont**	**4.72**	**248**	P	**Pn**	**21 17 21.5**	**+2.2**
OGWZ	**Otaki Gorge**	**4.77**	**226**	P	**Pn**	**21 17 18.2**	**-1.8**
PKE	**Pukeiti**	**4.77**	**249**	P	**Pn**	**21 17 22.0**	**+1.9**
KHEZ	**Kahui Hut**	**4.78**	**248**	P	**Pn**	**21 17 22.2**	**+1.9**
NBEZ	**Newall Road No**	**4.88**	**248**	P	**Pn**	**21 17 24.4**	**+2.8**
KIW	**Kapiti Island**	**4.95**	**227**	P	**Pn**	**21 17 20.7**	**-1.8**
CAW	**Cannon Point**	**5.02**	**224**	P	**Pn**	**21 17 21.5**	**-2.0**
BHW	**Baring Head**	**5.34**	**223**	P	**Pn**	**21 17 25.7**	**-2.1**
OUZ	**Omahuta**	**5.48**	**294**		**Pn**	**21 17 30.2**	**+0.5**
OUZ	**Omahuta**	**5.48**	**294**	P	**Pn**	**21 17 30.2**	**+0.5**
DUWZ	**D'Urville Isla**	**5.52**	**233**	P	**Pn**	**21 17 28.4**	**-1.9**
TCW	**Tory Channel**	**5.54**	**228**	P	**Pn**	**21 17 29.4**	**-1.2**
QRZ	**Quartz Range**	**6.44**	**238**	Pn	**Pn**	**21 17 40.2**	**-2.7**
CTZ	**Chatham Island**	**6.73**	**157**	P	**Pn**	**21 17 48.7**	**+1.8**
GVZ	**Greta Valley S**	**7.40**	**222**	P	**Pn**	**21 17 54.5**	**-1.6**
WACZ	**Wakanui South**	**8.71**	**221**	P	**Pn**	**21 18 13.1**	**-0.9**
GCSZ	**Gaunt Creek Bo**	**9.15**	**228**	P	**Pn**	**21 18 19.3**	**-0.8**
OUENC	**Ouen Island, N**	**18.76**	**320**	P	**P**	**21 20 26.6**	**-0.6**
OUENC				IAmb	IAmb	21 20 35.2	
	comp=Z,11nm,1.1s						
DZM	**Mont Dzumac**	**19.25**	**320**	P	**P**	**21 20 31.4**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=330,slow=21,SNR=2.5						
DZM				LR	LR	21 26 24.7	
	comp=Z,83nm,19.8s,baz=208,slow=33						
DZM	**Mont Dzumac**	**19.25**	**320**	P	**P**	**21 20 33.0**	**+0.2**
MSVF	**Nonsavu**	**19.85**	**355**	P	**Pn**	**21 20 40.9**	**+0.1**
MSVF				IAmb	IAmb	21 21 00.5	
	comp=Z,16nm,1.2s						
COEN	**Coen**	**40.08**	**296**	P	**P**	**21 23 42.7**	**-1.1**
AS31	**Alice Springs**	**41.40**	**276**	P	**P**	**21 23 52.6**	**-2.1**
ASAR	**Alice Springs**	**41.40**	**276**	P	**P**	**21 23 53.2**	**-1.5**
	comp=Z,3.2nm,0.7s,baz=122,slow=7.9,SNR=32						
ASAR	**Alice Springs**	**41.40**	**276**	P	**P**	**21 23 52.5**	**-2.2**
FORT	**Forrest**	**42.82**	**263**	P	**P**	**21 24 04.5**	**-1.7**
WR0	**Warramunga Arr**	**42.87**	**281**	P	**P**	**21 24 04.7**	**-2.0**
WR0				IAmb	IAmb	21 24 14.5	
	comp=Z,5.2nm,1.2s						
WRA	**Warramunga Arr**	**43.04**	**281**	P	**P**	**21 24 06.2**	**-1.9**
	comp=Z,1.8nm,0.4s,baz=120,slow=8.4,SNR=26						
WRA	**Warramunga Arr**	**43.04**	**281**	P	**P**	**21 24 06.2**	**-1.9**
FITZ	**Fitzroy Crossi**	**50.89**	**277**	P	**P**	**21 25 07.8**	**-1.6**
FITZ				IAmb	IAmb	21 25 08.8	
	comp=Z,3.7nm,0.8s						
QSPA	**South Pole Qui**	**52.53**	**180**	P	**P**	**21 25 24.9**	**+3.7**
	comp=Z,2.9nm,0.8s,baz=28,slow=1.2,SNR=18						
QSPA	**South Pole Qui**	**52.53**	**180**	P	**P**	**21 25 24.3**	**+3.1**
QSPA				IAmb	IAmb	21 25 26.9	
	comp=Z,7.3nm,1.3s						
MORW	**Morawa**	**52.98**	**259**	P	**P**	**21 25 24.0**	**-0.9**
SNAA	**Sanae**	**71.02**	**179**	P	**P**	**21 27 27.2**	**+1.7**
SNAA	**Sanae**	**71.02**	**179**	P	**P**	**21 27 25.8**	**+0.2**
	comp=Z,1.3nm,1.0s,baz=198,slow=6.4,SNR=4.1						
SNAA				LR	LR	21 56 35.9	

AC06	**Mina Casimiro**	**2.76**	**30**	Pn		**Pn**	**21 29 33.3**	**+0.3**
VA03	**San Esteban**	**3.19**	**159**	*e*P		**Pn**	**21 29 40.4**	**+1.4**
VA03				*i* S		**Sn**	**21 30 18.6**	**+1.0**
VA03	**San Esteban**	**3.19**	**159**			**Pn**	**21 29 40.3**	**+1.4**
VA01	**Torpederas**	**3.25**	**176**	Pn		**Pn**	**21 29 41.1**	**+1.6**
ROCH	**El Roble**	**3.28**	**167**	*e*P		**Pn**	**21 29 40.5**	**+0.3**
ROCH				*i* S		**Sn**	**21 30 22.0**	**+2.2**
ROCH				IAML			21 30 40.7	
	comp=E,232nm,0.5s							
ZON	**Zonda**	**3.29**	**123**			**Pn**	**21 29 40.8**	**+0.6**
MT05	**Renca**	**3.74**	**165**	Pn		**Pn**	**21 29 47.6**	**+1.2**
AC02	**Maricunga**	**3.81**	**40**	Pn		**Pn**	**21 29 47.3**	**-0.5**
VA05	**Santo Domingo**	**3.88**	**176**			**Pn**	**21 29 48.4**	**+0.2**
MT09	**Talagante**	**4.06**	**169**			**Pn**	**21 29 51.1**	**+0.2**
MT01	**Popeta**	**4.12**	**172**			**Pn**	**21 29 51.2**	**-0.3**
BO01	**Tunca**	**4.66**	**172**			**Pn**	**21 29 58.8**	**-0.1**
BO02	**Sierra Bellavi**	**5.09**	**170**			**Pn**	**21 30 03.3**	**-1.7**
GO05	**Huala**	**5.22**	**180**			**Pn**	**21 30 04.9**	**-1.9**
PB14	**IPOC Station P**	**5.30**	**15**	Pn		**Pn**	**21 30 05.7**	**-2.4**
ML02	**Panimavida**	**5.99**	**176**	Pn		**Pn**	**21 30 17.3**	**+0.1**
PB10	**IPOC Station P**	**6.35**	**11**	Pn		**Pn**	**21 30 20.8**	**-1.4**
PB15	**IPOC Station P**	**6.89**	**19**	Pn		**Pn**	**21 30 28.2**	**-1.6**
H03N1	**Juan Fernandez**	**7.01**	**237**	T		T	21 37 55.5	
	baz=65,slow=71							
H03N2	**Juan Fernandez**	**7.02**	**237**	T		T	21 37 54.8	
	baz=65,slow=71							
H03N3	**Juan Fernandez**	**7.03**	**237**	T		T	21 37 50.3	
	baz=65,slow=71							
PB06	**IPOC Station P**	**7.34**	**17**	Pn		**Pn**	**21 30 33.8**	**-2.2**
LVC	**Limon Verde**	**7.62**	**21**	Pn		**Pn**	**21 30 40.9**	**+0.9**
	comp=E,0.3nm,0.3s,baz=130,slow=11,SNR=1.8							
LVC				Sn		**Sn**	**21 32 04.6**	**-2.6**
	comp=E,0.2nm,0.3s,baz=256,slow=20,SNR=2.2							
LVC	**Limon Verde**	**7.62**	**21**	Pn		**Pn**	**21 30 37.5**	**-2.5**
PLCA	**Paso Flores**	**10.99**	**175**	Pn		**Pn**	**21 31 23.0**	**-2.9**
	comp=E,0.1nm,0.3s,baz=336,slow=7.5,SNR=3.0							
PLCA				LR		LR	21 36 23.7	
	comp=E,30nm,19.4s,baz=356,slow=42							
TRQA	**Tornquist**	**11.66**	**138**	Pn		**Pn**	**21 31 36.4**	**+1.4**
LPAZ	**La Paz**	**13.86**	**15**	Pn		**Pn**	**21 32 06.2**	**+0.5**
	comp=E,0.2nm,0.3s,baz=169,slow=4.0,SNR=4.9							
LPAZ	**La Paz**	**13.86**	**15**	Pn		**Pn**	**21 32 04.0**	**-1.7**
SIV	**San Ignacio**	**16.94**	**38**	Pn		**Pn**	**21 32 46.2**	**+0.3**
	comp=E,0.1nm,0.3s,baz=248,slow=8.4,SNR=4.2							
SNAA	**Sanae**	**55.46**	**159**	P		**P**	**21 38 22.8**	**-0.6**
SNAA				IAmb		IAmb	21 38 44.2	
	comp=Z,4.1nm,1.1s							
QSPA	**South Pole Qui**	**60.45**	**180**	P		**P**	**21 38 58.9**	**+0.4**
QSPA				IAmb		IAmb	21 39 19.7	
	comp=Z,5.9nm,1.5s							
TXAR	**Lajitas Array**	**66.13**	**330**	P		**P**	**21 39 37.4**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=158,slow=7.5,SNR=3.0							
PDAR	**Pinedale Array**	**80.06**	**333**	P		**P**	**21 41 00.2**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=128,slow=8.5,SNR=2.4							
TORD	**Torodi Ar. Bea**	**82.67**	**70**	P		**P**	**21 41 12.6**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=268,slow=5.3,SNR=4.3							
TORD	**Torodi Ar. Bea**	**82.67**	**70**	P		**P**	**21 41 12.4**	**-0.7**
TORD				IAmb		IAmb	21 41 18.4	
	comp=Z,2.3nm,1.4s							
ZALV	**Zalesovo Beam**	**150.53**	**28**	PKPbc		**PKPdf**	**21 48 38.7**	**+3.6**
	comp=Z,1.7nm,0.6s,baz=321,slow=3.2,SNR=6.3							

*IDC **22** 21:32:53.6±1.5, 30.°66S×70.°86W, h0km, mb3.6/2, mb1 3.8/5, mb1mx3.6/34, mbtmp3.6/5, ML3.6/3, MS2.7/1, Ms1 2.7/1, ms1mx2.3/22, Error ellipse: s-maj=53.7km s-min=34.0km az=90.0*

*GUC **22** 21:32:53.0±1.1, 30.°39S×72.°04W, h27km, 7km, ML3.8*

ISC 22 21:32:52.1±2.0, **30.°45S**±0.°04×**72.°10W**±0.°08, **h10**km±12km, **n20,** σ1§**21**/23, **3C-2D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.46**	**120**	⇓*i*P	**Pb**	**21 33 02.7**	**+0.4**
CO06				*i* S	**Sb**	**21 33 09.8**	**+0.6**
CO06				IAML		21 33 14.7	
	comp=N,6μm,0.2s						
CO05	**La Serena**	**0.91**	**55**	⇓*i*P	**Pg**	**21 33 08.6**	**-1.0**
CO05				*i* S	**Sb**	**21 33 21.6**	**-0.6**
CO05				IAML		21 33 25.4	
	comp=E,3μm,0.3s						
GO04	**Tololo Observa**	**1.16**	**77**	⇑*i*P	**Pb**	**21 33 13.3**	**-1.0**
GO04				*i* S	**Sn**	**21 33 30.4**	**-0.2**
GO04				IAML		21 33 33.2	
	comp=N,9μm,0.4s						
CO03	**El Pedregal**	**1.28**	**108**	⇑*i*P	**Pg**	**21 33 16.3**	**-0.3**
CO03				*i* S	**Sg**	**21 33 34.1**	**+1.0**
CO03				IAML		21 33 37.1	
	comp=N,2μm,0.4s						
VA06	**Catapilco**	**2.22**	**162**	*e*P	**Pb**	**21 33 31.9**	**-0.4**
VA06				*i* S	**Sb**	**21 34 00.5**	**+0.8**
VA06				IAML		21 34 14.5	
	comp=E,763nm,0.5s						
VA03	**San Esteban**	**2.66**	**151**	*e*P	**Pn**	**21 33 37.0**	**+1.9**
VA03				*i* S	**Sb**	**21 34 11.0**	**-1.7**
VA03				IAML		21 34 20.3	
	comp=N,529nm,0.3s						
VA03				IAML		21 34 20.4	
	comp=N,521nm,0.4s						
ROCH	**El Roble**	**2.68**	**160**	*e*P	**Pb**	**21 33 38.7**	**-1.6**
ROCH				*e*S	**Sb**	**21 34 13.3**	**-0.1**
ROCH				IAML		21 34 25.6	
	comp=E,434nm,0.6s						
MT09	**Talagante**	**3.45**	**164**	⇑*i*P	**Pn**	**21 33 47.5**	**+1.5**
MT09				*i* S	**Sn**	**21 34 25.7**	**-1.3**
MT09				IAML		21 34 54.1	
	comp=N,169nm,0.3s						
H03N1	**Juan Fernandez**	**6.51**	**241**	T	T	21 41 27.7	
	baz=70,slow=72						
H03N2	**Juan Fernandez**	**6.53**	**241**	T	T	21 41 28.3	
	baz=70,slow=72						
H03N3	**Juan Fernandez**	**6.53**	**241**	T	T	21 41 25.8	
	baz=70,slow=72						
PLCA	**Paso Flores**	**10.34**	**173**	Pn	**Pn**	**21 35 20.7**	**+0.1**
	comp=N,0.1nm,0.3s,baz=333,slow=13,SNR=1.3						
CPUP	**Villa Florida**	**13.63**	**76**	LR	LR	21 41 31.9	
	comp=N,36nm,20.9s,baz=231,slow=41						
LPAZ	**La Paz**	**14.55**	**15**	Pn	**Pn**	**21 36 21.1**	**+2.4**
	comp=N,0.1nm,0.3s,baz=195,slow=12,SNR=2.1						
SIV	**San Ignacio**	**17.58**	**38**	P	**Pn**	**21 36 55.3**	**-2.0**
	comp=N,0.1nm,0.3s,baz=219,slow=14,SNR=4.8						
VNA2	**Neumayer--Watz**	**53.31**	**158**	P	**P**	**21 42 10.9**	**0.0**
	baz=283,slow=7.9						
SNAA	**Sanae**	**54.90**	**159**	P	**P**	**21 42 22.8**	**+0.3**
TXAR	**Lajitas Array**	**66.63**	**330**	P	P	21 43 51.8	+8.8
	comp=N,0.2nm,0.7s,baz=160,slow=7.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**83.06**	**70**	P	**P**	**21 45 17.6**	**-0.6**
	comp=N,1.0nm,0.9s,baz=253,slow=4.0,SNR=4.8						
ZALV	**Zalesovo Beam**	**151.20**	**29**	PKPbc	**PKPbc**	**21 52 45.1**	**-0.1**
	comp=N,2.1nm,0.7s,baz=297,slow=2.9,SNR=9.0						

*IDC **22** 21:36:49.6±1.5, 33.°33S×112.°46W, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.7/36, mbtmp3.6/4, MS3.4/2, Ms1 3.4/2, ms1mx2.8/23, Error ellipse: s-maj=55.2km s-min=35.0km az=1.0*

ISC 22 21:36:47.5±1.0, **34.°0S**±0.°2×**112.°7W**±0.°2, **h10**km, **n17,** σ1§**53**/9, **mb3.7**/4, **Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**27.97**	**99**	T	T	22 11 33.6	
	baz=257,slow=75						
H03S1	**Juan Fernandez**	**27.99**	**99**	T	T	22 11 32.2	
	baz=257,slow=75						
H03S3	**Juan Fernandez**	**27.99**	**99**	T	T	22 11 31.7	
	baz=257,slow=75						
LPAZ	**La Paz**	**43.67**	**78**	P	**P**	**21 44 54.6**	**+1.2**
	1.1nm,0.7s,baz=264,slow=9.9,SNR=3.9						
SIV	**San Ignacio**	**49.60**	**82**	P	**P**	**21 45 40.1**	**+0.9**
	1.3nm,0.8s,baz=249,slow=10,SNR=5.1						
AFI	**Afiamalu**	**56.78**	**275**	LR	LR	22 04 52.7	
	comp=Z,29nm,19.5s,baz=171,slow=30						
VNA3	**Neumayer Olymp**	**62.22**	**159**	P	**P**	**21 47 08.0**	**-0.9**
VNA1	**Neumayer--Stat**	**62.88**	**159**	P	**P**	**21 47 12.6**	**-0.7**
VNA2	**Neumayer--Watz**	**63.02**	**159**	P	**P**	**21 47 13.1**	**-1.2**
	baz=243,slow=5.1						
TXAR	**Lajitas Array**	**63.58**	**9**	P	**P**	**21 47 16.5**	**-2.0**
	0.3nm,1.0s,baz=186,slow=7.2,SNR=1.9						
PFO	**Pinyon Flats O**	**67.36**	**357**	LR	LR	22 08 00.8	
	comp=Z,26nm,18.1s,baz=320,slow=28						
PDAR	**Pinedale Array**	**76.46**	**2**	P	**P**	**21 48 37.5**	**0.0**
	0.4nm,0.8s,baz=153,slow=6.6,SNR=2.8						
H01W1	**Cape Leeuwin H**	**98.61**	**217**	T	T	23 40 31.7	
	baz=140,slow=76,SNR=11						
H01W2	**Cape Leeuwin H**	**98.61**	**217**	T	T	23 40 31.9	
	baz=140,slow=76,SNR=12						
H01W3	**Cape Leeuwin H**	**98.62**	**217**	T	T	23 40 33.0	
	baz=140,slow=76,SNR=10						
SONM	**Songino Array**	**147.74**	**307**	PKPbc	**PKPab**	**21 56 36.9**	**+2.2**
	0.5nm,0.7s,baz=95,slow=4.8,SNR=4.0						
CMAR	**Chiang Mai Arr**	**147.81**	**249**	PKPbc	**PKPab**	**21 56 36.3**	**+0.7**
	0.8nm,0.4s,baz=168,slow=2.1,SNR=7.9						

IDC 22 21:42:16.1±2.0, **7.°73S×157.°71E, h0km, mb3.8**/4, **mb1 3.9**/5, **mb1mx3.6**/40, **mbtmp3.8**/5, **ML4.2**/1, **Error ellipse: s-maj=41.5km s-min=33.3km az=20.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.78**	**128**	Pn	Pn	21 43 01.6	-0.3
	37nm,0.3s,baz=216,slow=20,SNR=8.3						
HNR				Sn	Sn	21 43 26.2	-10
	49nm,0.3s,baz=1.6,slow=23,SNR=19						
WRA	**Warramunga Arr**	**25.69**	**239**	P	P	21 47 47.9	-0.2
	0.5nm,0.4s,baz=72,slow=8.4,SNR=5.1						
H11S3	**WAKE ISLAND Hy**	**27.52**	**19**	T	T	22 17 03.2	
	baz=195,slow=76,SNR=38						
H11S2	**WAKE ISLAND Hy**	**27.53**	**19**	T	T	22 17 15.7	
	baz=195,slow=76,SNR=46						
H11S1	**WAKE ISLAND Hy**	**27.54**	**19**	T	T	22 17 24.3	
	baz=195,slow=76,SNR=30						
ASAR	**Alice Springs**	**27.79**	**233**	P	P	21 48 06.0	-1.0
	0.3nm,0.4s,baz=61,slow=9.8,SNR=7.0						
STKA	**Stephens Creek**	**28.33**	**210**	P	P	21 48 13.3	+1.5
	0.7nm,0.3s,baz=57,slow=10,SNR=4.2						
H11N1	**WAKE ISLAND Hy**	**28.73**	**18**	T	T	22 18 26.5	
	baz=196,slow=76,SNR=46						
H11N3	**WAKE ISLAND Hy**	**28.74**	**18**	T	T	22 18 45.4	
	baz=196,slow=76,SNR=31						
H11N2	**WAKE ISLAND Hy**	**28.75**	**18**	T	T	22 18 46.3	
	baz=196,slow=76,SNR=16						
MKAR	**Makanchi Array**	**85.74**	**318**	P	P	21 54 57.3	0.0
	0.3nm,0.6s,baz=89,slow=8.5,SNR=4.1						

*IDC **22** 21:44:24.8±0.9, 31.°40S×71.°86W, h0km, mb4.1/5, mb1 4.1/10, mb1mx4.0/33, mbtmp3.9/10, ML3.7/5, MS3.1/3, Ms1 3.0/3, ms1mx2.8/21, Error ellipse: s-maj=33.4km s-min=21.6km az=86.0*

*SJA **22** 21:44:24.0, 31.°38S×72.°50W, h10km, ML4.9*

*NEIC **22** 21:44:27.0±1.1, 31.°45S±0.°03×71.°99W±0.°07, h12km±4km, Error ellipse: s-maj=8.4km s-min=4.7km az=99.0*

*NEIC **22** 21:44:26.9, 31.°43S×72.°06W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr=6.77; Mθθ=1.38; Mϕϕ=5.40; Mrθ=1.10; Mrϕ=-1.52; Mθϕ=4.95; Fault plane solution: M0=8.15000×10^14^ NP1:ϕs=201.05000°, δ=25.79000°, λ=95.48000°. NP2:ϕs=14.96000°, δ=64.34000°, λ=87.36000°. Principal axes: T 8.5620, Plg71.0000°, Azm279.0000°; N -0.8919, Plg2.0000°, Azm16.0000°; P -7.6701, Plg19.0000°, Azm107.0000°;*

*GUC **22** 21:44:28.1±0.8, 31.°46S×71.°92W, h29km±5km, ML4.2*

ISC 22 21:44:27.9±1.2, **31.°45S**±0.°03×**71.°91W**±0.°05, **h20**km±4km, **n101,** σ1§**02**/108, **mb4.5**/8, **3C-5D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.81**	**17**	⇑*i*P	**Pb**	**21 44 43.1**	**-0.2**
CO06				*e*S	**Sb**	**21 44 54.5**	**+0.8**
CO06	**Fray Jorge**	**0.81**	**17**	Pn	**Pb**	**21 44 43.0**	**-0.2**
CO06				Sn	**Sn**	**21 44 54.9**	**-0.7**
CO03	**El Pedregal**	**1.21**	**60**	⇓*i*P	**Pn**	**21 44 49.6**	**-0.1**
CO03				*i* S	**Sb**	**21 45 05.5**	**-0.1**
CO03				IAML		21 45 08.8	
	comp=E,4μm,0.3s						
CO03	**El Pedregal**	**1.21**	**60**		**Pn**	**21 44 49.7**	**-0.1**
CO03				Sn	**Sn**	**21 45 05.6**	**-0.1**
CO03	**El Pedregal**	**1.21**	**60**	*i* P	**Pn**	**21 44 50.0**	**+0.2**
VA06	**Catapilco**	**1.23**	**155**	⇓*i*P	**Pn**	**21 44 49.7**	**-0.2**
VA06				*i* S	**Sb**	**21 45 05.6**	**-0.1**
VA06				IAML		21 45 08.2	
	comp=E,13μm,0.6s						
VA01	**Torpederas**	**1.58**	**172**		**Pn**	**21 44 54.6**	**-0.2**
VA01	**Torpederas**	**1.58**	**172**	*i* P	**Pn**	**21 44 54.0**	**-0.8**
GO04	**Tololo Observa**	**1.59**	**37**	⇓*e*P	**Pn**	**21 44 55.6**	**+0.4**
GO04				*i* S	**Sb**	**21 45 16.9**	**+0.3**
GO04				IAML		21 45 22.6	
	comp=E,11μm,0.5s						
GO04	**Tololo Observa**	**1.59**	**37**	Pn	**Pb**	**21 44 56.2**	**-0.6**
CO05	**La Serena**	**1.63**	**21**	⇓*e*P	**Pn**	**21 44 55.9**	**+0.4**
CO05				*i* S	**Sb**	**21 45 17.7**	**+0.2**
CO05	**La Serena**	**1.63**	**21**		**Pn**	**21 44 55.6**	**+0.2**
CO05				Sn	**Sb**	**21 45 18.6**	**+1.2**
ROCH	**El Roble**	**1.70**	**153**	⇑*e*P	**Pn**	**21 44 56.8**	**+0.2**
ROCH				*i* S	**Sb**	**21 45 19.0**	**-0.6**
ROCH				IAML		21 45 25.8	
	comp=N,3μm,0.6s						
VA03	**San Esteban**	**1.75**	**139**	⇓*e*P	**Pn**	**21 44 58.1**	**+0.9**
VA03				*i* S	**Sb**	**21 45 20.9**	**0.0**
VA03				IAML		21 45 25.6	
	comp=E,6μm,0.5s						
VA03	**San Esteban**	**1.75**	**139**	Pn	**Pn**	**21 44 58.1**	**+0.9**
VA03	**San Esteban**	**1.75**	**139**	*i* P	**Pn**	**21 44 58.0**	**+0.9**
MT05	**Renca**	**2.18**	**153**	*e*P	**Pn**	**21 45 03.8**	**+0.8**
MT05				*e*S	**Sb**	**21 45 33.0**	**-0.2**
MT05				IAML		21 45 42.5	
	comp=E,2μm,0.5s						
MT05	**Renca**	**2.18**	**153**		**Pn**	**21 45 03.5**	**+0.5**
MT05	**Renca**	**2.18**	**153**	*i* P	**Pn**	**21 45 04.0**	**+1.0**
VA05	**Santo Domingo**	**2.21**	**174**	*e*P	**Pn**	**21 45 03.2**	**-0.2**
VA05				*e*S	**Sb**	**21 45 35.8**	**+1.6**
VA05				IAML		21 45 45.8	
	comp=N,2μm,0.5s						
VA05	**Santo Domingo**	**2.21**	**174**		**Pn**	**21 45 02.5**	**-0.9**
MT09	**Talagante**	**2.45**	**162**		**Pn**	**21 45 07.4**	**+0.6**
AROD	**Rodeo**	**2.46**	**59**	*i* P	**Pb**	**21 45 11.0**	**-0.6**
MT01	**Popeta**	**2.47**	**167**	⇓*e*P	**Pn**	**21 45 07.2**	**+0.1**
MT01				*e*S	**Sb**	**21 45 40.1**	**-1.5**
MT01				IAML		21 45 50.0	
	comp=E,890nm,0.7s						
MT01	**Popeta**	**2.47**	**167**		**Pn**	**21 45 07.1**	**+0.1**
MT01	**Popeta**	**2.47**	**167**	*i* P	**Pn**	**21 45 07.0**	**0.0**
ACCO	**Cerro Coronel**	**2.59**	**71**	*i* P	**Pb**	**21 45 13.0**	**-0.9**
LCO	**Las Campanas**	**2.65**	**24**	Pn	**Pn**	**21 45 09.4**	**-0.3**
ZON	**Zonda**	**2.77**	**93**		**Pb**	**21 45 14.2**	**-2.5**
ZON	**Zonda**	**2.77**	**93**	*i* P	**Pb**	**21 45 16.0**	**-0.7**
ASAL	**Salagasta**	**2.85**	**114**	*i* P	**Pb**	**21 45 17.0**	**-1.2**
ARCO	**CERRO ARCO**	**2.88**	**120**	*i* P	**Pb**	**21 45 19.0**	**+0.2**
RTCV	**Cerro Valdivia**	**2.91**	**99**	*i* P	**Pb**	**21 45 17.3**	**-1.8**
BO01	**Tunca**	**3.02**	**167**		**Pn**	**21 45 14.0**	**-0.4**
BO01	**Tunca**	**3.02**	**167**	*i* P	**Pn**	**21 45 15.0**	**+0.5**
AAGR	**Agrelo**	**3.08**	**123**	*i* P	**Pb**	**21 45 21.0**	**-1.1**
AC04	**Llanos de Chal**	**3.32**	**13**		**Pn**	**21 45 17.8**	**-0.8**
BO02	**Sierra Bellavi**	**3.47**	**164**		**Pn**	**21 45 20.9**	**+0.2**
BO02	**Sierra Bellavi**	**3.47**	**164**	*i* P	**Pn**	**21 45 22.0**	**+1.2**
AGUA	**GUANDACOL**	**3.54**	**57**	*i* P	**Pb**	**21 45 26.0**	**-4.0**
GO05	**Huala**	**3.55**	**180**	Pn	**Pn**	**21 45 20.9**	**-0.9**
GO05	**Huala**	**3.55**	**180**	*i* P	**Pn**	**21 45 21.0**	**-0.9**
AVFE	**Valle Fertil**	**3.91**	**80**	*i* P	**Pn**	**21 45 29.0**	**+2.2**
GO03	**Copiap**	**4.11**	**21**		**Pn**	**21 45 29.9**	**+0.3**
AC06	**Mina Casimiro**	**4.30**	**19**		**Pn**	**21 45 31.2**	**-1.0**
ML02	**Panimavida**	**4.32**	**175**	Pn	**Pn**	**21 45 31.1**	**-1.3**
RFA	**San Rafael**	**4.40**	**140**	*i* P	**Pn**	**21 45 36.0**	**+2.4**
ACHE	**Chepes**	**4.50**	**88**	*i* P	Pn	21 45 40.0	+4.9
AC02	**Maricunga**	**5.20**	**29**		**Pn**	**21 45 45.3**	**+0.3**
AC02	**Maricunga**	**5.20**	**29**	*i* P	**Pn**	**21 45 45.0**	**0.0**
CYA	**Choya**	**6.09**	**62**	*i* P	**Pn**	**21 45 58.0**	**+1.2**
H03N1	**Juan Fernandez**	**6.24**	**250**	T	T	21 52 43.7	
	baz=78,slow=72						
H03N3	**Juan Fernandez**	**6.25**	**250**	T	T	21 52 41.7	
	baz=78,slow=72						
H03N2	**Juan Fernandez**	**6.25**	**250**	T	T	21 52 42.7	
	baz=78,slow=72						
AHML	**Horco Molle**	**7.40**	**53**	*i* P	**Pn**	**21 46 18.0**	**+3.2**
LC01	**Cunco**	**7.43**	**180**		**Pn**	**21 46 13.4**	**-1.8**
LC01	**Cunco**	**7.43**	**180**	*i* P	**Pn**	**21 46 15.0**	**-0.1**
LVC	**Limon Verde**	**9.20**	**18**	Pn	**Pn**	**21 46 37.1**	**-2.7**
	comp=E,0.2nm,0.3s,baz=202,slow=7.2,SNR=1.4						
LVC				LR	LR	21 50 07.6	
	comp=E,154nm,19.1s,baz=214,slow=38						
PLCA	**Paso Flores**	**9.33**	**174**	Pn	**Pn**	**21 46 41.6**	**+0.3**
	comp=E,0.5nm,0.3s,baz=342,slow=11,SNR=17						
PLCA				LR	LR	21 49 40.3	
	comp=E,27nm,20.3s,baz=6.0,slow=34						
PLCA	**Paso Flores**	**9.33**	**174**	Pn	**Pn**	**21 46 41.2**	**0.0**
LL04	**Puerto Octay**	**9.45**	**182**	Pn	**Pn**	**21 46 42.8**	**0.0**
TRQA	**Tornquist**	**10.49**	**132**		**Pn**	**21 46 57.4**	**+0.2**
ITQB	**Itaqui**	**13.30**	**86**	Pn	**Pn**	**21 47 35.7**	**+0.3**
CPUP	**Villa Florida**	**13.76**	**72**	Pn	**Pn**	**21 47 41.0**	**-0.7**
	comp=E,0.1nm,0.3s,baz=350,slow=8.0,SNR=1.3						
CPUP				Sn	**Sn**	**21 50 11.1**	**-2.9**
	comp=E,0.1nm,0.3s,baz=292,slow=18,SNR=1.5						
LPAZ	**La Paz**	**15.48**	**14**	Pn	**Pn**	**21 48 06.2**	**+0.5**
	comp=E,0.2nm,0.3s,baz=186,slow=6.2,SNR=7.0						
LPAZ	**La Paz**	**15.48**	**14**		**Pn**	**21 48 05.8**	**+0.1**
PLTB	**Pedras Altas**	**15.61**	**96**	Pn	**Pn**	**21 48 06.6**	**-0.1**
SIV	**San Ignacio**	**18.29**	**35**	P	**Pn**	**21 48 39.4**	**-1.1**
	comp=E,0.2nm,0.3s,baz=238,slow=12,SNR=9.3						
SAML	**Samuel**	**23.82**	**22**	P	**P**	**21 49 39.1**	**-0.5**
RUSC	**La Rusia**	**37.15**	**358**	P	**P**	**21 51 37.7**	**-0.3**
VNA3	**Neumayer Olymp**	**51.68**	**159**	P	**P**	**21 53 33.6**	**+0.7**
VNA2	**Neumayer--Watz**	**52.32**	**158**	P	**P**	**21 53 38.5**	**+0.7**
	baz=288,slow=7.7						
SNAA	**Sanae**	**53.91**	**159**	P	**P**	**21 53 50.0**	**+0.6**
SNAA	**Sanae**	**53.91**	**159**	P	**P**	**21 53 49.9**	**+0.4**
	comp=E,2.3nm,0.9s,baz=282,slow=7.5,SNR=14						
SNAA	**Sanae**	**53.91**	**159**	P	**P**	**21 53 49.9**	**+0.4**
SNAA				IAmb	IAmb	21 54 00.5	
	comp=Z,4.9nm,1.3s						
QSPA	**South Pole Qui**	**58.78**	**180**	P	**P**	**21 54 25.1**	**+0.7**
TXAR	**Lajitas Array**	**67.57**	**330**	P	**P**	**21 55 23.6**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=156,slow=9.1,SNR=3.8						
TXAR	**Lajitas Array**	**67.57**	**330**	P	**P**	**21 55 23.4**	**+0.3**
DBIC	**Dimbokro**	**74.28**	**72**	P	**P**	**21 56 03.6**	**-0.4**
	comp=Z,3.7nm,0.7s,baz=250,slow=6.2,SNR=5.2						
DBIC	**Dimbokro**	**74.28**	**72**	P	**P**	**21 56 03.8**	**-0.2**
DBIC				IAmb	IAmb	21 56 15.8	
	comp=Z,11nm,1.2s						
SUR	**Sutherland**	**75.98**	**119**	LR	LR	22 24 54.8	
	comp=Z,27nm,21.3s,baz=142,slow=32						
G62A	**West of Eustis**	**76.32**	**1**	P	**P**	**21 56 15.9**	**+0.8**
E62A	**Clayton Lake**	**77.74**	**2**	P	**P**	**21 56 23.7**	**+0.7**
KOWA	**Kowa**	**79.50**	**66**	P	**P**	**21 56 33.2**	**-0.2**
KOWA				IAmb	IAmb	21 56 50.6	
	comp=Z,7.9nm,1.4s						
BOSA	**Boshof**	**81.17**	**118**	P	**P**	**21 56 42.7**	**+0.3**
BOSA				IAmb	IAmb	21 56 49.7	
	comp=Z,8.1nm,1.4s						
NVAR	**Mina Array Bea**	**81.86**	**325**	P	**P**	**21 56 45.4**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=126,slow=7.5,SNR=3.5						
TORD	**Torodi Ar. Bea**	**83.25**	**70**	P	**P**	**21 56 53.0**	**-0.3**
	comp=Z,4.1nm,0.7s,baz=264,slow=4.7,SNR=24						
TORD	**Torodi Ar. Bea**	**83.25**	**70**	P	**P**	**21 56 53.4**	**0.0**
TORD				IAmb	IAmb	21 56 54.0	
	comp=Z,4.7nm,0.8s						
LBTB	**Lobatse**	**83.28**	**115**	P	**P**	**21 56 53.3**	**-0.3**
LBTB				IAmb	IAmb	21 56 58.6	
	comp=Z,3.1nm,1.1s						
H11S2	**WAKE ISLAND Hy**	**25.88**	**271**	T	T	00 22 20.9	
	baz=116,slow=74,SNR=46						
H11S1	**WAKE ISLAND Hy**	**25.89**	**271**	T	T	00 22 21.1	
	baz=116,slow=74,SNR=28						
H11S3	**WAKE ISLAND Hy**	**25.89**	**271**	T	T	00 22 19.8	
	baz=116,slow=74,SNR=28						
BVAR	**Borovoye Array**	**145.31**	**40**	PKPbc	**PKPdf**	**22 04 04.4**	**+0.7**
	comp=Z,1.8nm,0.4s,baz=266,slow=3.

	baz=293									
NNS				*i* S		Sb	22 14 21.0	-0.6		
	baz=293									
ENTT	**Nioudou**	**0.39**	**333**	⇓ *i* P		Pg	22 14 15.4	-0.3		
	baz=334									
ENTT				*i* S		Sb	22 14 21.2	-0.5		
	baz=334									
ETM	**Tongmen**	**0.41**	**217**	P		Pb	22 14 16.0	-0.3		
	baz=226									
TWE	**Neicheng**	**0.44**	**349**	*eP*		Pg	22 14 16.3	-0.2		
	baz=351									
TWE				S		Sg	22 14 22.4	-0.1		
	baz=351									
TEYL	**Yanliau Villag**	**0.45**	**199**	P		Pb	22 14 17.2	+0.3		
	baz=208									
TEYL				*eS*		Sn	22 14 25.5	-1.2		
	baz=208									
ILA	**Ilan**	**0.47**	**359**	P		Pb	22 14 17.4	0.0		
	baz=354									
ILA				S		Sb	22 14 24.0	0.0		
	baz=354									
FUSS	**Fushou**	**0.47**	**265**	⇓ P		Pb	22 14 17.5	-0.1		
	baz=265									
FUSS				S		Sb	22 14 23.7	-0.6		
	baz=265									
WHF	**Hehuan Shan**	**0.48**	**252**	⇓ *i* P		Pg	22 14 17.2	-0.2		
	baz=260									
WHF				*i* S		Sb	22 14 23.9	-0.6		
	baz=260									
YHNB	**Yeheng**	**0.52**	**317**	⇑ *i* P		Pb	22 14 17.9	-0.2		
	baz=317									
YHNB				S		Sg	22 14 24.5	-0.4		
	baz=317									
NSK	**Sanguang**	**0.53**	**316**	⇑ *i* P		Pb	22 14 18.1	-0.3		
	baz=317									
NSK				*i* S		Sg	22 14 25.1	-0.3		
	baz=317									
TWT	**Tachien**	**0.54**	**266**	P		Pb	22 14 18.9	+0.4		
	baz=266									
TWT				S		Sb	22 14 26.0	+0.1		
	baz=266									
NWLT	**Wulai**	**0.54**	**334**	P		Pb	22 14 18.3	-0.2		
	baz=334									
NWLT				S		Sg	22 14 25.4	-0.2		
	baz=334									
TDCB	**Techi**	**0.55**	**266**	⇑ *i* P		Pb	22 14 18.8	0.0		
	baz=266									
TDCB				*i* S		Sg	22 14 25.5	-0.6		
	baz=266									
ESL	**Shilin**	**0.56**	**212**	⇓ P		Pg	22 14 18.5	-0.3		
	baz=217									
ESL				*eS*		Sb	22 14 26.6	0.0		
	baz=217									
NTC	**Toucheng**	**0.56**	**6**	*eP*		Pg	22 14 18.7	-0.1		
	baz=6.0									
NTC				*eS*		Sg	22 14 25.7	-0.7		
	baz=6.0									
CHGB	**Renai**	**0.58**	**247**	⇓ P		Pb	22 14 19.2	-0.1		
	baz=246									
CHGB				S		Sg	22 14 26.7	-0.5		
	baz=246									
OWD	**Renai**	**0.63**	**238**	*eP*		Pb	22 14 19.9	-0.2		
	baz=231									
OWD				*eS*		Sb	22 14 29.1	+0.4		
	baz=231									
TIPB	**Shuangxi**	**0.68**	**5**	*eP*		Pb	22 14 20.8	-0.2		
	baz=4.0									
TIPB				*eS*		Sb	22 14 29.5	-0.5		
	baz=4.0									
EGFH	**Guangfu**	**0.69**	**206**	*eP*		Pg	22 14 21.2	0.0		
	baz=220									
EGFH				*eS*		Sn	22 14 31.5	-1.3		
	baz=220									
NHDH	**Xindian Distri**	**0.70**	**342**	*eP*		Pn	22 14 22.1	-0.5		
	baz=342									
NHDH				*eS*		Sb	22 14 30.0	-0.6		
	baz=342									
TWA	**Mucha**	**0.70**	**347**	P		Pn	22 14 22.5	-0.2		
	baz=347									
TWA				*eS*		Sb	22 14 30.4	-0.3		
	baz=347									
TWB1	**Santiao Chiao**	**0.74**	**16**	P		Pg	22 14 22.0	-0.2		
	baz=16									
TWB1				*eS*		Sb	22 14 31.5	-0.3		
	baz=16									
WHP	**Taichung City**	**0.74**	**269**	P		Pn	22 14 22.6	-0.7		
	baz=269									
WHP				S		Sg	22 14 31.6	-0.5		
	baz=269									
LIOB	**Emei**	**0.77**	**298**	P		Pn	22 14 23.2	-0.3		
	baz=297									
LIOB				*eS*		Sg	22 14 33.1	+0.4		
	baz=297									
NSTT	**Nanjuang**	**0.77**	**296**	P		Pg	22 14 22.8	+0.1		
	baz=296									
NSTT				S		Sg	22 14 32.5	-0.4		
	baz=296									
NWF	**Wu-fen Shan**	**0.78**	**1**	P		Pg	22 14 22.9	+0.1		
	baz=353									
NWF				S		Sb	22 14 32.5	-0.4		
	baz=353									
TAP	**Taipei**	**0.78**	**343**	*eS*		Sg	22 14 33.5	+0.3		
	baz=343									
WCS	**Beigang Elemen**	**0.81**	**253**	*eP*		Pn	22 14 24.0	-0.1		
	baz=253									
WCS				*eS*		Sb	22 14 33.2	-0.6		
	baz=253									
NCUH	**Zhongli**	**0.85**	**322**	*eP*		Pn	22 14 24.7	0.0		
	baz=318									
NCUH				*eS*		Sn	22 14 36.4	-0.4		
	baz=318									
HGSD	**Ruisui**	**0.85**	**201**	P		Pg	22 14 24.3	+0.1		
	baz=191									
HGSD				*eS*		Sn	22 14 39.9	+3.2		
	baz=191									
SBCB	**Hsinchu**	**0.86**	**305**	*eP*		Pn	22 14 25.4	+0.6		
	baz=298									
SBCB				*eS*		Sn	22 14 37.1	0.0		
	baz=298									
TWS1	**Kuangyinshan**	**0.86**	**339**	*eP*		Pg	22 14 24.1	-0.4		
	baz=339									
TWS1				*eS*		Sg	22 14 35.6	-0.3		
	baz=339									
SMLT	**Sun Moon Lake**	**0.89**	**243**	⇓ *i* P		Pg	22 14 24.6	-0.2		
	baz=235									
SMLT				S		Sg	22 14 36.5	-0.1		
	baz=235									
SSLB	**Suanglung**	**0.89**	**236**	P		Pb	22 14 24.2	-0.4		
	baz=236									
SSLB				S		Sb	22 14 35.5	-0.6		
	baz=236									
TYC	**Yuchr**	**0.91**	**245**	P		Pb	22 14 24.5	-0.3		
	baz=244									
NTST	**Danshui**	**0.91**	**342**	*eP*		Pn	22 14 25.7	+0.2		
	baz=348									
NTST				*eS*		Sn	22 14 38.6	+0.3		
	baz=348									
ANP	**Anpu**	**0.92**	**346**	*eP*		Pn	22 14 25.5	-0.2		
	baz=347									
NMLH	**Miaoli**	**0.92**	**286**	*eP*		Pn	22 14 26.4	+0.8		
	baz=292									
NMLH				*eS*		Sn	22 14 37.8	-0.6		
	baz=292									
NSY	**Sanyi**	**0.92**	**278**	*eP*		Pn	22 14 26.4	+0.8		
	baz=278									
NSY				*eS*		Sn	22 14 39.7	+1.2		
	baz=278									
TWY	**Chenhua**	**0.99**	**352**	*eP*		Pg	22 14 27.4	+0.6		
	baz=352									
YULB	**Yu-li**	**0.99**	**205**	*eP*		Pb	22 14 24.5	-1.7		
	baz=214									
WHYT	**Xinyi Township**	**1.02**	**235**	*eP*		Pn	22 14 26.9	-0.1		
	baz=235									
WHYT				*eS*		Sn	22 14 41.5	+0.6		
	baz=235									
EYUL	**Yuli**	**1.02**	**203**	*eP*		Pg	22 14 27.2	-0.2		
	baz=213									
WDJ	**Dajia District**	**1.02**	**273**	*eP*		Pg	22 14 28.4	+1.0		
	baz=273									
WDJ				*eS*		Sn	22 14 42.8	+1.8		
	baz=273									
WJS	**Zhushan**	**1.05**	**244**	*eP*		Pg	22 14 28.3	+0.3		
	baz=241									
WJS				*eS*		Sg	22 14 44.3	+2.5		
	baz=241									
YUS	**Yu-Shan**	**1.09**	**223**	*eP*		Pb	22 14 27.9	-0.3		
	baz=211									
YUS				*eS*		Sg	22 14 42.7	-0.4		
	baz=211									
JYNG	**Yonagunijimaku**	**1.09**	**81**	P		Pn	22 14 28.1	+0.1		
WCHH	**Zhanghua**	**1.12**	**259**	*eP*		Pg	22 14 29.3	+0.1		
	baz=259									
WCHH				*eS*		Sg	22 14 45.4	+1.5		
	baz=259									
YOJ	**Yonaguni jima**	**1.15**	**81**	P		Pb	22 14 29.0	0.0		
YOJ				*eS*		Sn	22 14 44.5	+0.4		
YOJ	**Yonaguni jima**	**1.15**	**81**	*eP*		Pn	22 14 28.7	-0.1		
	baz=71									
YOJ				*eS*		Sg	22 14 45.5	+0.5		
	baz=71									
FULB	**Fuli**	**1.17**	**202**	*eP*		Pn	22 14 29.1	0.0		
	baz=213									
ALS	**Alishan**	**1.17**	**229**	*eP*		Pb	22 14 29.4	0.0		
	baz=214									
CHN5	**Tsauling**	**1.21**	**235**	P		Pg	22 14 30.5	-0.5		
	baz=235									
CHN5				*eS*		Sg	22 14 48.3	+1.5		
	baz=235									
CHKT	**Chengkung**	**1.24**	**197**	*eP*		Pn	22 14 28.9	-1.1		
	baz=182									
WDLH	**Douliu**	**1.27**	**242**	*eP*		Pg	22 14 31.7	-0.4		
	baz=230									
WDLH				*eS*		Sg	22 14 50.1	+1.4		
	baz=230									
ELDTW	**Lidau**	**1.29**	**212**	*eP*		Pn	22 14 30.6	-0.2		
	baz=204									
WRL	**Guolierlin Hig**	**1.32**	**253**	*eP*		Pb	22 14 32.1	+0.2		
	baz=253									
WRL				*eS*		Sg	22 14 50.0	-0.4		
	baz=253									
PCYT	**Pengchaiyu**	**1.36**	**12**	*eP*		Pb	22 14 32.2	-0.3		
	baz=11									
EDH	**Donghe**	**1.38**	**198**	*eP*		Pn	22 14 30.9	-1.0		
	baz=185									
WTK	**Tuku**	**1.39**	**245**	*eP*		Pb	22 14 33.5	+0.4		
	baz=255									
WTK				*eS*		Sg	22 14 52.7	+0.1		
	baz=255									
CHN4	**Tsaushan**	**1.42**	**229**	*eP*		Pg	22 14 34.1	-0.9		
	baz=217									
CHN4				*eS*		Sg	22 14 54.0	+0.5		
	baz=217									
TPUB	**Ta-pu**	**1.43**	**227**	*eP*		Pb	22 14 33.4	-0.3		
	baz=216									
TPUB				*eS*		Sg	22 14 53.7	-0.1		
	baz=216									
STYH	**Taoyuan**	**1.44**	**219**	*eP*		Pb	22 14 34.2	+0.4		
	baz=212									
STYH				*eS*		Sg	22 14 52.9	-1.1		
	baz=212									
CHY	**Chiayi**	**1.46**	**237**	*eP*		Pg	22 14 35.2	-0.5		
	baz=223									
WTP	**Ta-pu**	**1.48**	**225**	*eP*		Pb	22 14 35.1	+0.5		
	baz=225									
WTP				*eS*		Sg	22 14 56.1	+0.7		
	baz=225									
LONT	**Longtian**	**1.50**	**203**	*eP*		Pn	22 14 32.2	-1.3		
	baz=189									
TWK	**Hsinying**	**1.55**	**229**	*eP*		Pb	22 14 35.7	-0.1		
	baz=215									
TWK				*eS*		Sg	22 14 57.5	-0.2		
	baz=215									
WSF	**Szhu**	**1.55**	**246**	*eS*		Sg	22 14 57.2	-0.5		
	baz=254									
CHN1	**Nanshi**	**1.58**	**226**	*eP*		Pb	22 14 36.7	+0.5		
	baz=226									
CHN1				*eS*		Sg	22 14 58.6	0.0		
	baz=226									
TWG	**Pinlang**	**1.59**	**203**	*eP*		Pb	22 14 36.7	+0.2		
	baz=190									
TWGBT	**Beinan**	**1.59**	**203**	*eP*		Pb	22 14 36.2	-0.3		
	baz=190									
SGST	**Jiashian**	**1.62**	**222**	*eP*		Pb	22 14 36.5	-0.4		
	baz=212									
SGST				*eS*		Sg	22 14 58.4	-1.4		
	baz=212									
LDUT	**Ludao**	**1.63**	**189**	*eP*		Pn	22 14 33.8	-1.6		
	baz=191									
ICHU	**Yijhu**	**1.64**	**236**	*eP*		Pb	22 14 37.0	-0.4		
	baz=220									
ICHU				*eS*		Sg	22 14 59.7	-0.9		
	baz=220									
IRIF	**Iriomote-Funau**	**1.80**	**88**	P		Pb	22 14 39.2	-0.8		
IRIF				*eS*		Sb	22 15 02.6	+0.5		
ECL	**Taimali**	**1.84**	**204**	*eP*		Pb	22 14 40.3	-0.4		
	baz=193									
SSD	**Sandimen**	**1.85**	**214**	*eP*		Pb	22 14 40.2	-0.7		
	baz=213									
HATJ	**Hateruma jima**	**1.88**	**97**	P		Pn	22 14 39.2	+0.4		
TSMG	**Majia**	**1.88**	**213**	*eP*		Pn	22 14 39.8	+1.0		
	baz=223									
MASBT	**Mashibuluo**	**1.97**	**212**	*eP*		Pn	22 14 41.2	+1.1		
	baz=212									
JKRS	**Kuro-shima**	**2.05**	**91**	P		Pn	22 14 42.2	+1.0		
JKRS				*eS*		Sb	22 15 08.4	-1.1		
EAST	**Anshuo**	**2.08**	**204**	*eP*		Pb	22 14 44.3	-0.5		
	baz=195									
PHUB	**P'eng-hu**	**2.15**	**249**	*eP*		Pn	22 14 42.5	0.0		
	baz=248									
PHUB				*eS*		Sn	22 15 10.1	+1.4		
	baz=248									
JIJ	**Ishigaki jima**	**2.17**	**88**	P		Pn	22 14 43.2	+0.3		
JIJ				*eS*		Sn	22 15 10.4	+1.0		
JISG	**Ishigakijimahi**	**2.34**	**82**	P		Pn	22 14 45.9	+0.7		
JISG				*eS*		Sn	22 15 13.8	+0.3		
JTJ	**Tarama**	**2.70**	**82**	P		Pn	22 14 50.8	+0.7		

TAP ***22*** *22:15:16.0,24°.30N×121°.75E,h18km,ML2.9,C*
JMA ***22*** *22:15:16.3±0.3,24°.30N×121°.76E,h0km±3km*
ISC 22 22:15:16.2±0.9, 24°.30N±0°.02×121°.75E±0°.02, h19km±2km, n41, σ0°38/72, 2C-7D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
EHP	**Heping Village**	**0.01**	**314**	P		Pg	**22 15 19.3**		**-0.1**
	baz=332								
EHP				S		Sg	22 15 21.8		+0.1
	baz=332								
ENA	**Nanau**	**0.12**	**357**	⇓ *i* P		Pg	22 15 20.2		-0.1
	baz=357								
ENA				*i* S		Sg	22 15 23.0		+0.1
	baz=357								
EWUT	**Wuta**	**0.14**	**11**	⇓ *i* P		Pg	22 15 20.5		+0.1
	baz=6.0								
EWUT				*i* S		Sg	22 15 23.5		+0.2
	baz=6.0								
ETL	**Fush Village**	**0.18**	**218**	P		Pg	22 15 20.8		-0.3
	baz=223								
ETL				*eS*		Sg	22 15 24.1		-0.2
	baz=223								
NACB	**Ninganchiao**	**0.19**	**227**	P		Pg	22 15 20.7		-0.4
	baz=231								
NACB				S		Sg	22 15 24.1		-0.3
	baz=231								
ETLH	**Xiulin Townshi**	**0.26**	**248**	⇓ *i* P		Pb	22 15 22.2		-0.1
	baz=251								
ETLH				S		Sb	22 15 26.5		+0.3
	baz=251								
TWD	**Chiawan**	**0.26**	**212**	⇑ *i* P		Pg	22 15 21.9		-0.2
	baz=218								
TWD				S		Sb	22 15 26.5		+0.3
	baz=218								
TWC	**Suao**	**0.32**	**17**	⇓ *i* P		Pg	22 15 23.1		0.0
	baz=12								
TWC				*i* S		Sg	22 15 27.8		0.0
	baz=12								
NDS	**Dongshan**	**0.33**	**355**	⇓ *i* P		Pb	22 15 23.5		-0.1
	baz=353								
NDS				S		Sg	22 15 28.4		+0.2
	baz=353								
HWA	**Hwalien**	**0.35**	**202**	*eP*		Pb	22 15 24.1		+0.2
	baz=207								
NNSB	**Datong**	**0.35**	**290**	⇓ *i* P		Pb	22 15 24.1		0.0
	baz=291								
NNSB				*i* S		Sg	22 15 29.2		+0.2
	baz=291								
NDT	**Datong Townshi**	**0.37**	**324**	P		Pb	22 15 24.2		0.0
	baz=330								
NDT				S		Sb	22 15 29.7		0.0
	baz=330								
NNS	**Nan Shan**	**0.37**	**292**	⇓ *i* P		Pb	22 15 24.2		-0.1
	baz=292								
NNS				*i* S		Sb	22 15 29.6		-0.1
	baz=292								
ENTT	**Nioudou**	**0.37**	**334**	⇑ *i* P		Pb	22 15 24.3		0.0
	baz=333								
ENTT				*i* S		Sb	22 15 29.8		-0.1
	baz=333								
ETM	**Tongmen**	**0.41**	**215**	*eP*		Pg	22 15 24.4		-0.3
	baz=226								
TWE	**Neicheng**	**0.42**	**350**	P		Pb	22 15 25.0		-0.1
	baz=349								
TWE				S		Sg	22 15 30.8		0.0
	baz=349								
TEYL	**Yanliau Villag**	**0.46**	**198**	P		Pb	22 15 26.3		+0.7
	baz=208								
TEYL				*eS*		Sn	22 15 33.9		-1.5
	baz=208								
FUSS	**Fushou**	**0.46**	**263**	P		Pb	22 15 25.9		-0.1
	baz=265								
FUSS				S		Sg	22 15 32.1		-0.1
	baz=265								
WHF	**Hehuan Shan**	**0.47**	**250**	*i* P		Pg	22 15 25.9		-0.1
	baz=260								
WHF				S		Sg	22 15 32.5		0.0
	baz=260								
YHNB	**Yeheng**	**0.50**	**317**	P		Pb	22 15 26.5		+0.1
	baz=316								
YHNB				S		Sg	22 15 33.2		+0.1
	baz=316								
NSK	**Sanguang**	**0.51**	**316**	P		Pb	22 15 26.6		0.0
	baz=316								
NSK				S		Sg	22 15 33.4		-0.2
	baz=316								
NWLT	**Wulai**	**0.52**	**335**	P		Pb	22 15 27.0		+0.2
	baz=333								
NWLT				S		Sg	22 15 33.7		-0.1
	baz=333								
TWT	**Tachien**	**0.53**	**265**	*eP*		Pb	22 15 27.6		+0.8
	baz=265								
TWT				*eS*		Sb	22 15 34.6		+0.4
	baz=265								
TDCB	**Techi**	**0.54**	**265**	P		Pb	22 15 27.6		+0.4
	baz=266								
TDCB				*eS*		Sg	22 15 34.4		-0.1
	baz=266								
NTC	**Toucheng**	**0.55**	**8**	*eP*		Pg	22 15 27.6		+0.3
	baz=6.0								
NTC				*eS*		Sg	22 15 34.7		-0.1
	baz=6.0								
ESL	**Shilin**	**0.57**	**211**	P		Pb	22 15 27.1		-0.4
	baz=217								
ESL				*eS*		Sb	22 15 35.3		+0.2
	baz=217								
CHGB	**Renai**	**0.58**	**245**	*eS*		Sb	22 15 36.2		+0.6
	baz=247								
OWD	**Renai**	**0.63**	**236**	*eP*		Pg	22 15 28.5		-0.2
	baz=231								
TIPB	**Shuangxi**	**0.67**	**6**	*eP*		Pg	22 15 29.4		0.0
	baz=4.0								
TIPB				*eS*		Sb	22 15 37.9		-0.2
	baz=4.0								
EGFH	**Guangfu**	**0.70**	**205**	*eP*		Pg	22 15 30.0		0.0
	baz=221								
EGFH				*eS*		Sg	22 15 39.4		+0.1
	baz=221								
WHP	**Taichung City**	**0.73**	**268**	*eP*		Pn	22 15 31.7		+0.1
	baz=269								
WHP				*eS*		Sg	22 15 40.7		+0.3
	baz=269								
TWB1	**Santiao Chiao**	**0.73**	**17**	*eP*		Pg	22 15 30.9		+0.2
	baz=16								
TWB1				*eS*		Sb	22 15 40.0		-0.1
	baz=16								
LIOB	**Emei**	**0.75**	**297**	*eP*		Pn	22 15 31.6		-0.2
	baz=297								
NSTT	**Nanjuang**	**0.75**	**296**	*eP*		Pn	22 15 31.7		-0.2
	baz=296								
NSTT				*eS*		Sg	22 15 41.7		+0.6
	baz=296								
NWF	**Wu-fen Shan**	**0.76**	**2**	*eP*		Pg	22 15 31.3		0.0
	baz=352								
NWF				*eS*		Sg	22 15 41.4		-0.1
	baz=352								
SMLT	**Sun Moon Lake**	**0.88**	**242**	*eP*		Pn	22 15 34.3		+0.6
	baz=234								
SSLB	**Suanglung**	**0.89**	**235**	*eP*		Pn	22 15 33.6		-0.1
	baz=236								
TYC	**Yuchr**	**0.91**	**244**	*eP*		Pn	22 15 35.4		+1.4
	baz=245								
YULB	**Yu-li**	**1.00**	**205**	*eP*		Pb	22 15 34.6		-0.3
	baz=215								
YOJ	**Yonaguni jima**	**1.16**	**82**	P		Pg	22 15 38.3		-0.4
YOJ				*eS*		Sg	22 15 55.2		+1.2
JKRS	**Kuro-shima**	**2.06**	**91**	*eS*		Sb	22 16 18.2		-0.2

MEX 22 22:20:01.1±0.4, 13°.89N×93°.31W, h16km±35km, MD4.1, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
PCIG		**1.81**	**3**	*i* P		Pn	22 20 28.1		-3.5
PCIG				*eS*		Sn	22 20 48.8		-5.4
CCIG	**Comitan**	**2.63**	**25**	*eP*		Pn	22 20 41.7		-1.5
CCIG				*eS*		Sn	22 21 11.9		-3.0
TGIG		**2.88**	**4**	*eP*		Pn	22 20 44.4		-2.0
TGIG				*eS*		Sn	22 21 17.3		-3.5
CMIG	**Matias Romero**	**3.53**	**335**	*eP*		Pn	22 20 52.3		-3.0
CMIG				*eS*		Sn	22 21 32.4		-4.3

MEX 22 22:21:19.0±0.7, 16°.76N×99°.40W, h5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
DAIG	**Los Arroyos**	**0.35**	**317**	*eP*		Pg	22 21 25.4		-0.4
DAIG				*eS*		Sg	22 21 30.4		0.0
MGIG	**Malinaltepec**	**0.87**	**57**	*eP*		Pg	22 21 33.9		-1.9
MGIG				*i* S		Sg	22 21 45.8		-1.3
TLIG	**Tlapa**	**1.13**	**45**	*eP*		Pg	22 21 38.1		-2.5
TLIG				*eS*		Sg	22 21 52.1		-3.2
MEIG	**Mezcala**	**1.17**	**350**	*eP*		Pg	22 21 38.8		-2.8
MEIG				*i* S		Sg	22 21 54.2		-2.6
PNIG	**Pinotepa**	**1.28**	**107**	*eP*		Pg	22 21 39.6		-3.9
PNIG				*eS*		Sg	22 21 56.6		-3.5
PLIG	**Platanillo**	**1.62**	**357**	*eP*		Pn	22 21 44.7		-3.7
PLIG				*eS*		Sn	22 22 03.7		-6.0
TXIG	**Tlaxiaco**	**1.64**	**72**	*eP*		Pn	22 21 44.8		-4.0
TXIG				*eS*		Sn	22 22 06.1		-4.3
FTIG	**Fresnillo de T**	**1.66**	**47**	*eP*		Pn	22 21 45.5		-3.5
FTIG				*eS*		Sn	22 22 07.1		-3.6
ARIG	**Puente Sto Nin**	**1.76**	**329**	*i* P		Pn	22 21 39.1		-1.1
ARIG				*i* S		Sn	22 22 10.4		-2.5
HLIG	**Huajuapan de L**	**1.86**	**55**	*eP*		Pn	22 21 48.4		-3.3
HLIG				*eS*		Sn	22 22 11.2		-4.5

IDC ***22*** *22:26:35.1±0.5,30°.99S×71°.48W,h0km,mb4.5/12, mb1 4.6/17,mb1mx4.5/31,mbtmp4.4/17,ML4.4/5,MS3.6/6, Ms1 3.6/6,ms1mx3.2/29,Error ellipse: s-maj=18.5km s-min=14.8km az=97.0*
SJA ***22*** *22:26:36.2±1.2,30°.99S×71°.87W,h13km±6km,ML4.8, MW4.4*
VAO ***22*** *22:26:38.0±0.4,30°.97S×71°.49W,h10km,mb4.7*
GUC ***22*** *22:26:40.8±0.8,31°.02S×71°.57W,h44km±3km,ML5.0*
NEIC ***22*** *22:26:41.1±1.4,31°.02S±0°.04×71°.67W±0°.06,h34km±3km, mb4.9/54,Mwr4.3/39,ML5.0(GUC),Error ellipse: s-maj=7.1km s-min=5.2km az=85.0*
*

CO03 *i* S **Sb** **22 27 06.6 -2.5**
CO03 El Pedregal 0.94 79 Pn **Pb** **22 26 55.8 -1.1**
CO03 Sn **Sb** **22 27 06.5 -2.6**
CO03 El Pedregal 0.94 79 *i* P **Pb** **22 26 55.8 -1.1**
GO04 Tololo Observa 1.19 45 *eP* **Pn** **22 27 00.2 +0.2**
GO04 *i* S **Sb** **22 27 15.0 -1.2**
GO04 IAML 22 27 17.3
comp=N,173µm,0.3s
GO04 Tololo Observa 1.19 45 Pn **Pn** **22 27 00.3 +0.2**
GO04 Tololo Observa 1.19 45 *i* P **Pn** **22 27 00.5 +0.5**
GO04 *eS* **Sb** **22 27 16.0 -0.2**
CO05 La Serena 1.19 23 *eP* **Pb** **22 27 01.4 +0.4**
CO05 *i* S **Sb** **22 27 16.8 +0.8**
CO05 La Serena 1.19 23 P **Pb** **22 27 01.1 +0.1**
CO05 Sn **Sb** **22 27 16.3 +0.4**
VA06 Catapilco 1.59 165 *i* P **Pn** **22 27 06.9 +1.6**
VA06 *i* S **Sn** **22 27 26.7 +1.9**
VA06 IAML 22 27 34.2
comp=N,22µm,0.4s
VA01 Torpederas 2.00 177 *i* S **Sb** **22 27 38.1 -1.0**
VA01 Torpederas 2.00 177 Pn **Pn** **22 27 12.2 +1.3**
VA01 Torpederas 2.00 177 *i* P **Pn** **22 27 12.4 +1.5**
VA01 *eS* **Sb** **22 27 39.5 +0.4**
VA03 San Esteban 2.02 150 *eP* **Pn** **22 27 12.6 +1.3**
VA03 *i* S **Sn** **22 27 37.1 +1.4**
VA03 IAML 22 27 40.8
comp=E,14µm,0.1s
VA03 San Esteban 2.02 150 Pn **Pn** **22 27 12.6 +1.3**
VA03 San Esteban 2.02 150 *i* P **Pn** **22 27 13.1 +1.8**
VA03 *eS* **Sb** **22 27 40.1 +0.2**
VA03 IAML 22 27 46.5
comp=Z,5µm,0.8s
ROCH El Roble 2.05 162 *eP* **Pn** **22 27 13.6 +1.8**
ROC1 El Roble 2.05 162 *i* P **Pn** **22 27 13.7 +1.8**
ROC1 *eS* **Sb** **22 27 41.8 +0.8**
AROD Rodeo 2.15 67 *i* P **Pn** **22 27 16.0 +2.6**
LCO Las Campanas 2.21 25 *eP* **Pn** **22 27 15.4 +1.4**
LCO *i* S **Sn** **22 27 42.1 +1.6**
LCO Las Campanas 2.21 25 Pn **Pn** **22 27 15.5 +1.4**
LCO Las Campanas 2.21 25 *i* P **Pn** **22 27 15.6 +1.6**
LCO *eS* **Sn** **22 27 43.5 +3.0**
LCO IAML 22 27 51.8
comp=Z,15µm,1.2s
RTLS Leoncito 2.25 111 *i* P **Pn** **22 27 17.6 +2.9**
RTLS IAML 22 27 53.9
comp=Z,4µm,1.1s
AUSP Uspallata 2.36 121 *i* P **Pn** **22 27 19.2 +3.0**
ACCO Cerro Coronel 2.37 80 *i* P **Pn** **22 27 19.0 +2.7**
ACCO IAML 22 27 57.6
comp=Z,2µm,0.9s
ACDV Cuesta del Vie 2.44 70 *i* P **Pn** **22 27 20.3 +3.2**
ACDV IAML 22 28 02.5
comp=Z,2µm,0.3s
MT05 Renca 2.52 160 *eP* **Pn** **22 27 20.2 +2.1**
MT05 *i* S **Sn** **22 27 50.2 +2.2**
MT05 IAML 22 28 02.5
comp=N,9µm,0.4s
MT05 Renca 2.52 160 Pn **Pn** **22 27 19.9 +1.7**
MT05 Renca 2.52 160 *i* P **Pn** **22 27 20.0 +1.8**
VA05 Santo Domingo 2.63 177 Pn **Pn** **22 27 20.5 +0.9**
ZON Zonda 2.70 102 **Pn** **22 27 23.2 +2.6**
ZON Zonda 2.70 102 *i* P **Pn** **22 27 23.5 +3.0**
ZON IAML 22 28 09.6
comp=Z,3µm,0.6s
MT09 Talagante 2.83 167 Pn **Pn** **22 27 24.2 +1.8**
RTLL Cerro Villicun 2.84 97 *i* P **Pn** **22 27 24.8 +2.2**
MT01 Popeta 2.87 171 *eP* **Pn** **22 27 24.6 +1.8**
MT01 *i* S **Sn** **22 27 59.1 +2.6**
MT01 Popeta 2.87 171 Pn **Pn** **22 27 24.3 +1.4**
MT01 Popeta 2.87 171 *i* P **Pn** **22 27 24.3 +1.4**
MT01 IAML 22 28 15.4
comp=Z,2µm,0.6s
AC04 Llanos de Chal 2.87 12 Pn **Pn** **22 27 24.0 +1.1**
AC04 Llanos de Chal 2.87 12 *i* P **Pn** **22 27 24.1 +1.2**
RTCV Cerro Valdivia 2.88 108 *i* P **Pn** **22 27 26.0 +2.9**
ASAL Salagasta 2.95 123 *i* P **Pn** **22 27 27.9 +3.9**
ASAL IAML 22 28 19.1
comp=Z,2µm,1.2s
ARCO CERRO ARCO 3.02 128 *i* P **Pb** **22 27 29.5 -2.7**
ARCO IAML 22 28 17.9
comp=Z,3µm,0.3s
AGUA GUANDACOL 3.22 62 *i* P **Pn** **22 27 32.0 +4.2**
AGUA IAML 22 28 27.3
comp=Z,4µm,0.4s
AAGR Agrelo 3.23 130 *i* P **Pn** **22 27 32.4 +4.4**
BO01 Tunca 3.41 170 Pn **Pn** **22 27 31.7 +1.4**
BO01 Tunca 3.41 170 *i* P **Pn** **22 27 31.8 +1.4**
GO03 Copiap 3.67 22 Pn **Pn** **22 27 35.3 +1.3**
GO03 Copiap 3.67 22 *i* P **Pn** **22 27 35.6 +1.6**
VCA Vinchina 3.84 55 *i* P **Pn** **22 27 40.6 +4.2**
VCA IAML 22 28 44.5
comp=Z,3µm,0.7s
BO02 Sierra Bellavi 3.85 168 **Pn** **22 27 37.4 +0.9**
BO02 Sierra Bellavi 3.85 168 *i* P **Pn** **22 27 38.7 +2.2**
BO02 IAML 22 28 51.5
comp=Z,1µm,1.0s
AC06 Mina Casimiro 3.85 19 Pn **Pn** **22 27 38.5 +2.0**
GO05 Huala 3.98 182 Pn **Pn** **22 27 38.7 +0.5**
GO05 Huala 3.98 182 *i* P **Pn** **22 27 38.7 +0.5**
LAMA Las Malvinas 4.46 152 *i* P **Pn** **22 27 48.0 +3.3**
COIS El Sosneado 4.47 156 *i* P **Pn** **22 27 48.0 +3.2**
RFA San Rafael 4.66 144 *i* P **Pn** **22 27 49.9 +2.3**
RFA IAML 22 29 14.1
comp=Z,391nm,0.5s
ML02 Panimavida 4.74 177 Pn **Pn** **22 27 49.6 +1.0**
AC02 Maricunga 4.77 30 Pn **Pn** **22 27 51.0 +1.6**
PUMA Malargue 4.87 157 *i* P **Pn** **22 27 53.8 +3.4**
CYA Choya 5.79 65 *i* P **Pn** **22 28 04.0 +0.9**
CYA IAML 22 29 50.5
comp=Z,202nm,0.6s
PB14 IPOC Station P 6.48 11 **Pn** **22 28 12.8 -0.1**
H03N1 Juan Fernandez 6.51 246 Pn **Pn** **22 28 14.7 +2.0**
baz=116,slow=19,SNR=267
H03N1 Sn **Sn** **22 29 24.6 -1.4**
baz=158
H03N1 T T 22 35 01.1
baz=75,slow=72,SNR=887
VA04 Juan Fernndez 6.52 245 **Pn** **22 28 13.9 +0.8**
H03N3 Juan Fernandez 6.53 246 Pn **Pn** **22 28 14.9 +1.9**
baz=116,slow=19,SNR=155
H03N3 Sn **Sn** **22 29 24.8 -1.6**
baz=158
H03N3 T T 22 35 04.3
baz=75,slow=72,SNR=969
H03N2 Juan Fernandez 6.53 246 Pn **Pn** **22 28 15.5 +2.6**
baz=116,slow=19,SNR=152
H03N2 Sn **Sn** **22 29 25.0 -1.3**
baz=158
H03N2 T T 22 35 06.7
baz=75,slow=72,SNR=1052
H03S3 Juan Fernandez 6.65 243 Pn **Pn** **22 28 16.3 +1.7**
baz=30,slow=20,SNR=21
H03S3 Sn **Sn** **22 29 27.1 -2.3**
baz=33
H03S1 Juan Fernandez 6.66 243 Pn **Pn** **22 28 16.0 +1.3**
baz=30,slow=20,SNR=18
H03S1 Sn **Sn** **22 29 24.8 -4.7**
baz=33
H03S2 Juan Fernandez 6.67 243 Pn **Pn** **22 28 15.2 +0.3**
baz=30,slow=20,SNR=26
H03S2 Sn **Sn** **22 29 26.3 -3.5**
baz=33
AHML Horco Molle 7.04 55 *i* P **Pn** **22 28 21.0 +0.7**
FSA Cafayete 7.06 48 *i* P **Pn** **22 28 22.0 +1.3**
PB10 IPOC Station P 7.56 9 Pn **Pn** **22 28 28.5 +1.1**
PB10 IPOC Station P 7.56 9 *i* P **Pn** **22 28 28.0 +0.7**
LC01 Cunco 7.86 181 Pn **Pn** **22 28 31.6 +0.2**
LC01 Cunco 7.86 181 *i* P **Pn** **22 28 32.0 +0.6**
PB15 IPOC Station P 8.05 15 **Pn** **22 28 33.9 -0.3**
PB05 IPOC Station P 8.26 10 *i* P **Pn** **22 28 36.0 -1.0**
PB06 IPOC Station P 8.51 14 Pn **Pn** **22 28 41.3 +0.7**
LR03 Panguipulli 8.61 183 **Pn** **22 28 41.5 -0.1**
LVC Limon Verde 8.76 18 Pn **Pn** **22 28 42.9 -1.2**
comp=Z,1.5nm,0.3s,baz=164,slow=5.8,SNR=10
LVC Sn **Sn** **22 30 17.5 -4.6**
comp=Z,4.8nm,0.3s,baz=210,slow=14,SNR=3.0
LVC LR LR 22 32 16.5
comp=Z,260nm,19.4s,baz=216,slow=40
LVC Limon Verde 8.76 18 **Pn** **22 28 44.2 0.0**
LVC Limon Verde 8.76 18 *eP* **Pn** **22 28 43.2 -0.9**
LVC Limon Verde 8.76 18 *i* P **Pn** **22 28 43.5 -0.7**
PB07 IPOC Station P 9.41 11 Pn **Pn** **22 28 52.8 -0.1**
PB09 IPOC Station P 9.46 14 Pn **Pn** **22 28 53.0 -0.6**

PLCA Paso Flores 9.74 175 Pn **Pn** **22 28 58.5 +1.2**
comp=Z,1.3nm,0.3s,baz=342,slow=11,SNR=52
PLCA LR LR 22 33 16.5
comp=Z,173nm,18.5s,baz=350,slow=41
PLCA Paso Flores 9.74 175 **Pn** **22 28 58.7 +1.4**
PLCA Paso Flores 9.74 175 *eP* **Pn** **22 28 59.2 +1.9**
LL04 Puerto Octay 9.88 183 Pn **Pn** **22 28 59.0 -0.2**
PB01 IPOC Station P 10.15 12 Pn **Pn** **22 28 59.7 -3.2**
TRQA Tornquist 10.69 134 Pn **Pn** **22 29 10.3 0.0**
TRQA Tornquist 10.69 134 *eP* **Pn** **22 29 09.4 -0.9**
PSGCX Pisagua 11.47 8 Pn **Pn** **22 29 21.4 +0.3**
ITQB Itaqui 13.15 88 **Pn** **22 29 41.7 -2.2**
ITQB Itaqui 13.15 88 *eP* **Pn** **22 29 41.9 -2.0**
CPUP Villa Florida 13.51 73 Pn **Pn** **22 29 45.1 -3.7**
comp=Z,1.4nm,0.3s,baz=246,slow=8.3,SNR=12
CPUP Sn **Sn** **22 32 12.8 -5.1**
comp=Z,0.8nm,0.3s,baz=338,slow=19,SNR=1.6
CPUP LR LR 22 35 25.9
comp=Z,353nm,19.1s,baz=246,slow=40
CPUP Villa Florida 13.51 73 **Pn** **22 29 45.9 -2.9**
CPUP Villa Florida 13.51 73 *eP* **Pn** **22 29 46.7 -2.1**
LPAZ La Paz 15.04 14 Pn **Pn** **22 30 09.5 -0.7**
comp=Z,0.4nm,0.3s,baz=179,slow=7.5,SNR=22
LPAZ La Paz 15.04 14 **Pn** **22 30 10.4 +0.2**
LPAZ La Paz 15.04 14 *eP* **Pn** **22 30 08.7 -1.5**
PLTB Pedras Altas 15.53 97 **Pn** **22 30 12.1 -4.0**
PLTB Pedras Altas 15.53 97 *eP* **Pn** **22 30 14.4 -1.7**
CPSB Cacapava Do Su 15.78 92 *eP* **Pn** **22 30 17.5 -1.7**
AQDB Aquidauana 17.86 58 **P** **22 30 47.4 +1.4**
SIV San Ignacio 17.87 36 P **Pn** **22 30 44.7 -1.0**
comp=Z,0.6nm,0.3s,baz=227,slow=10,SNR=43
CNLB Canela 18.17 90 *eP* **Pn** **22 30 47.8 -1.5**
PTGB Pitanga 18.51 75 *eP* **P** **22 30 52.4 -0.8**
TRCB Terra Rica 18.91 69 *eP* **P** **22 30 56.8 -0.8**
PTLB Pontes e Lacer 19.34 40 *eP* **P** **22 31 01.9 -0.4**
TER01 Tubaro-SC 19.80 89 *eP* **P** **22 31 06.5 -0.8**
PP1B Ponte de Pedra 20.34 53 *eP* **P** **22 31 12.9 -0.3**
PCMB Paranbu 20.61 68 *eP* **P** **22 31 14.8 -1.3**
VILB Vilhena 20.91 33 *eP* **P** **22 31 19.3 0.0**
SALV Santo Antonio 21.03 48 *eP* **P** **22 31 20.0 -0.7**
FRTB Fartura 21.16 74 *eP* **P** **22 31 21.2 -0.8**
ETMB Extrema 21.72 15 *eP* **P** **22 31 29.0 +1.0**
ITRB Iturama 22.35 65 *eP* **P** **22 31 34.0 -0.8**
PET01 Itanhaem-SP 22.68 79 *eP* **P** **22 31 38.2 -0.2**
SPB Sao Paulo 22.83 77 P **P** **22 31 38.3 -1.6**
SPB IAmb IAmb 22 31 46.2
comp=Z,26nm,1.0s
SPB Sao Paulo 22.83 77 *eP* **P** **22 31 39.5 -0.4**
EFI East Falkland 22.98 158 P **P** **22 31 41.4 +0.2**
BB19B Bebedouro 23.07 70 *eP* **P** **22 31 41.6 -0.9**
RCLB Rio Claro- Sao 23.25 74 *eP* **P** **22 31 42.7 -1.5**
SAML Samuel 23.38 22 P **P** **22 31 45.3 -0.1**
SAML Samuel 23.38 22 *eP* **P** **22 31 45.5 +0.4**
VAO Valinhos 23.46 76 *eP* **P** **22 31 45.7 -0.7**
PARB Paraibuna 24.45 78 *eP* **P** **22 31 54.5 -1.1**
CLDB Colider 24.93 40 *eP* **P** **22 31 59.8 -0.1**
IPMB Ipameri, GO 24.99 64 *eP* **P** **22 31 59.0 -1.6**
ESAR Ângra dos Reis 25.57 79 *eP* **P** **22 32 04.9 -0.7**
BSCB Bom Sucesso 26.17 74 *eP* **P** **22 32 10.1 -1.2**
BDFB Brasilia 26.56 60 P **P** **22 32 11.8 -3.1**
comp=Z,18nm,0.6s,baz=229,slow=7.7,SNR=31
BDFB Brasilia 26.56 60 P **P** **22 32 13.4 -1.4**
BDFB IAmb IAmb 22 32 15.7
comp=Z,19nm,0.8s
VAS01 Vassouras-RJ 26.71 78 *eP* **P** **22 32 15.1 -1.0**
TBTG Tabatinga, AM 26.75 4 *eP* **P** **22 32 15.1 +1.7**
SNDB Serra Nova Dou 26.79 49 *eP* **P** **22 32 15.7 -1.1**
NPGB Novo Progresso 28.37 36 *eP* **P** **22 32 30.3 -0.7**
PEXB Peixe 28.71 54 *eP* **P** **22 32 33.3 -0.7**
MC01 Montes Claros 29.06 67 *eP* **P** **22 32 35.7 -1.5**
MACA Manacapuru-AM 29.62 23 *eP* **P** **22 32 42.1 +0.1**
JANB Januaria 29.73 64 *eP* **P** **22 32 41.5 -1.6**
SJMB Sao Joao De Ma 30.23 73 *eP* **P** **22 32 46.3 -1.2**
BSFB Barra de Sao F 30.45 74 *eP* **P** **22 32 47.6 -1.7**
ITTB Itaituba 30.51 33 *eP* **P** **22 32 49.6 -0.3**
RIB01 Linhares ES 30.59 75 *eP* **P** **22 32 50.7 0.0**
SDBA SAO DESIDERIO 30.94 59 *eP* **P** **22 32 51.9 -1.9**
SMTB Santa Maria do 31.52 51 *eP* **P** **22 32 58.5 -0.4**
NAN01 Guarapari, ES 31.53 73 *eP* **P** **22 32 57.7 -1.2**
OTAV Otavalo 31.73 347 *eP* **P** **22 33 01.5 +0.3**
PRPB Parauapebas 32.17 44 *eP* **P** **22 33 05.3 +0.7**
GUA01 Guaratinga, BA 32.45 71 *eP* **P** **22 33 05.7 -1.2**
CMC01 Camacan, BA 33.34 70 *eP* **P** **22 33 13.7 -1.0**
NBIT Itapeh - BA 33.64 69 *eP* **P** **22 33 16.9 -0.6**
GDU01 Guandu, BA 34.22 67 *eP* **P** **22 33 21.0 -1.4**
BOAV Boa Vista 34.91 20 *eP* **P** **22 33 28.8 +0.4**
NBPN Ponto Novo - B 35.47 62 *eP* **P** **22 33 31.9 -1.4**
MCPB Macapa, AP 35.77 35 *eP* **P** **22 33 35.8 0.0**
RUSC La Rusia 36.73 358 P **P** **22 33 45.9 +1.4**
RUSC IAmb IAmb 22 33 58.3
comp=Z,29nm,1.3s
NBLA Lagarto - SE 37.23 65 *eP* **P** **22 33 46.4 -2.0**
ROSB Rosrio 38.25 48 *eP* **P** **22 33 56.7 -0.2**
NBMA Muriti-CE 38.79 60 *eP* **P** **22 34 00.4 -1.1**
NBPS Pedro II - PI 38.93 53 *eP* **P** **22 34 01.9 -0.8**
NBAN Anadia - AL 39.22 65 *eP* **P** **22 34 03.5 -1.5**
NBPB Pedra_Branca-C 39.43 57 *eP* **P** **22 34 05.9 -0.9**
SDV Santo Domingo 39.69 2 P **P** **22 34 09.5 +0.4**
baz=234,slow=8.7,SNR=1.7
SDV Santo Domingo 39.69 2 *eP* **P** **22 34 10.3 +1.2**
NBLV Livramento - P 40.18 61 *eP* **P** **22 34 12.4 -0.7**
NBPA Parau_RN 41.09 59 *eP* **P** **22 34 19.9 -0.6**
NBCL Cascavel-CE 41.26 57 *eP* **P** **22 34 21.2 -0.7**
NBPV Pedro Velho 42.01 62 *eP* **P** **22 34 29.0 +0.9**
MLPR Magueyes Islan 48.92 6 P **P** **22 35 22.9 +0.3**
CRPR Cabo Rojo, PR 48.95 6 P **P** **22 35 23.1 +0.2**
OBIP Obispado Ponce 49.03 7 P **P** **22 35 23.5 0.0**
PDPR Patillas Dam, 49.07 7 P **P** **22 35 23.8 0.0**
PDPR IAmb IAmb 22 35 24.6
comp=Z,15nm,0.8s
CBYP Canovanas 49.34 7 P **P** **22 35 25.6 -0.2**
VNA3 Neumayer Olymp 52.03 159 P **P** **22 35 46.2 +0.6**
VNA3 S **S** **22 43 00.2 -7.0**
VNA1 Neumayer--Stat 52.33 158 P **P** **22 35 48.8 +1.1**
VNA1 S **S** **22 43 09.8 -1.3**
VNA2 Neumayer--Watz 52.67 158 P **P** **22 35 51.0 +0.6**
baz=284,slow=8.6
VNA2 S **S** **22 43 12.1 -3.8**
baz=271,slow=16
SNAA Sanae 54.26 159 P **P** **22 36 02.5 +0.4**
SNAA S **S** **22 43 31.1 -6.5**
SNAA Sanae 54.26 159 P **P** **22 36 02.5 +0.4**
comp=Z,11nm,0.5s,baz=279,slow=6.7,SNR=144
SNAA Sanae 54.26 159 P **P** **22 36 02.5 +0.4**
QSPA South Pole Qui 59.21 180 P **P** **22 36 38.6 +1.3**
QSPA IAmb IAmb 22 36 39.6
comp=Z,11nm,0.8s
553A Crawfordville 62.05 348 P **P** **22 36 57.9 +1.0**
H06E1 SOCORRO T-PHAS 62.19 317 T T 23 44 33.1
SNR=4.8
V58A Windy Hill, Pi 66.82 354 P **P** **22 37 28.7 +0.8**
VNDA Vanda 67.06 191 P **P** **22 37 31.3 +2.2**
comp=Z,0.6nm,0.8s,baz=141,slow=3.9,SNR=4.9
VNDA Vanda 67.06 191 P **P** **22 37 30.9 +1.8**
CPCT Cooper Cave 67.20 349 P **P** **22 37 31.5 +1.0**
CPCT IAmb IAmb 22 37 44.5
comp=Z,15nm,1.3s
TX32 Lajitas Array 67.27 330 P **P** **22 37 33.1 +2.0**
TXAR Lajitas Array 67.27 330 P **P** **22 37 32.9 +1.8**
comp=Z,1.1nm,0.7s,baz=151,slow=8.0,SNR=16
TXAR Lajitas Array 67.27 330 P **P** **22 37 32.9 +1.8**
TXAR pP **sP** **22 37 43.5 +0.5**
WVT Waverly 68.48 346 P **P** **22 37 39.5 +1.0**
WVT IAmb IAmb 22 37 50.8
comp=Z,16nm,1.2s
WHAR Wooly Hollow 68.73 342 P **P** **22 37 41.4 +1.4**
W39A Magazine 69.05 341 P **P** **22 37 43.6 +1.6**
W39A IAmb IAmb 22 37 55.4
comp=Z,14nm,1.0s
LCAR Lake Charles 69.18 343 P **P** **22 37 43.9 +1.1**
LCAR pP **sP** **22 37 55.0 +0.4**
LCAR IAmb IAmb 22 37 55.1
comp=Z,8.2nm,0.6s
PBMO Poplar Bluff 69.68 344 P **P** **22 37 46.4 +0.5**
PBMO IAmb IAmb 22 37 58.3
comp=Z,9.2nm,0.6s
MNTX Cornudas Mount 70.05 330 P **P** **22 37 49.6 +1.3**
HHAR Hobbs 70.11 341 P **P** **22 37 49.7 +1.2**
HHAR pP **sP** **22 38 00.4 0.0**
HHAR IAmb IAmb 22 38 01.2
comp=Z,7.9nm,0.7s
CCM Cathedral Cave 71.09 344 P **P** **22 37 55.2 +0.7**

CCM IAmb IAmb 22 38 07.2
comp=Z,11nm,0.8s
SSPA Standing Stone 71.52 355 P **P** **22 37 58.0 +1.0**
R40A Maddies Statio 71.56 343 P **P** **22 37 58.3 +1.0**
R40A pP **sP** **22 38 08.9 -0.3**
P40A Paris 72.68 344 P **P** **22 38 05.3 +1.3**
LIC Lamto 73.63 72 *eP* **P** **22 38 09.5 -0.7**
comp=Z,56nm,0.8s
TIC Toumodi 73.88 72 *eP* **P** **22 38 11.0 -0.7**
KIC Kosan Boka 73.94 72 *eP* **P** **22 38 11.6 -0.5**
comp=Z,40nm,0.7s
DBIC Dimbokro 74.02 72 P **P** **22 38 12.2 -0.3**
comp=Z,19nm,0.5s,baz=229,slow=5.6,SNR=50
DBIC LR LR 23 08 06.6
comp=Z,57nm,20.0s,baz=186,slow=34
DBIC Dimbokro 74.02 72 **P** **22 38 12.2 -0.3**
G62A West of Eustis 75.89 1 P **P** **22 38 23.9 +1.3**
G62A IAmb IAmb 22 38 36.2
comp=Z,14nm,0.9s
WUAZ Wupatki 75.94 328 P **P** **22 38 25.7 +2.4**
WUAZ IAmb IAmb 22 38 38.4
comp=Z,9.6nm,1.1s
MAW Mawson 75.97 164 P **P** **22 38 23.2 +0.3**
comp=Z,4.0nm,0.9s,baz=198,slow=8.5,SNR=7.8
MAW Mawson 75.97 164 **P** **22 38 23.4 +0.5**
SUR Sutherland 76.08 119 P **P** **22 38 24.9 +0.4**
SUR IAmb IAmb 22 38 26.1
comp=Z,23nm,1.2s
F64A Sherman 76.58 2 P **P** **22 38 27.9 +1.4**
F64A IAmb IAmb 22 38 29.0
comp=Z,9.7nm,1.1s
LMN Caledonia Moun 76.77 5 P **P** **22 38 28.9 +1.3**
LMN IAmb IAmb 22 38 40.8
comp=Z,13nm,0.9s
E62A Clayton Lake 77.31 2 P **P** **22 38 31.8 +1.3**
E62A IAmb IAmb 22 38 44.1
comp=Z,9.6nm,0.8s
ECSD EROS Data Cent 77.79 342 P **P** **22 38 33.9 +0.5**
ECSD IAmb IAmb 22 38 46.2
comp=Z,13nm,0.8s
MSU Marysvale 78.77 329 P **P** **22 38 40.9 +1.8**
D41A Chassel 79.19 348 P **P** **22 38 42.3 +1.3**
KOWA Kowa 79.21 66 P **P** **22 38 41.5 -0.3**
KOWA IAmb IAmb 22 38 57.9
comp=Z,11nm,0.7s
HWUT Hardware Ranch 81.06 331 P **P** **22 38 52.7 +1.2**
HWUT IAmb IAmb 22 39 04.8
comp=Z,8.1nm,0.8s
PDAR Pinedale Array 81.22 333 P **P** **22 38 52.9 +0.6**
comp=Z,0.5nm,0.5s,baz=131,slow=3.7,SNR=2.0
BOSA Boshof 81.26 118 P **P** **22 38 52.4 -0.5**
comp=Z,4.2nm,0.7s,baz=261,slow=3.1,SNR=10
BOSA LR LR 23 14 28.3
comp=Z,28nm,18.0s,baz=192,slow=35
BOSA Boshof 81.26 118 P **P** **22 38 52.8 -0.2**
NVAR Mina Array Bea 81.58 325 P **P** **22 38 55.3 +1.0**
comp=Z,0.6nm,0.6s,baz=181,slow=4.1,SNR=5.6
NVAR Mina Array Bea 81.58 325 P **P** **22 38 56.6 +2.3**
TORD Torodi Ar. Bea 82.98 70 P **P** **22 39 01.4 -0.5**
comp=Z,9.6nm,0.9s,baz=276,slow=5.3,SNR=37
TORD Torodi Ar. Bea 82.98 70 P **P** **22 39 01.4 -0.5**
TORD IAmb IAmb 22 39 17.9
comp=Z,8.4nm,0.7s
LBTB Lobatse 83.35 115 P **P** **22 39 03.4 -0.5**
LBTB IAmb IAmb 22 39 04.1
comp=Z,7.4nm,0.8s
ULM Lac du Bonnet 83.69 345 P **P** **22 39 05.3 +0.6**
comp=Z,2.4nm,0.7s,baz=163,slow=3.5,SNR=3.1
MCMT McKenzie Canyo 84.25 332 P **P** **22 39 09.6 +1.5**
ESDC Sonseca Array 94.35 46 LR LR 23 22 18.1
comp=Z,24nm,18.7s,baz=265,slow=36
ASAR Alice Springs 120.31 207 PKP **PKPdf** **22 45 27.8 -0.4**
comp=Z,0.7nm,0.5s,baz=132,slow=1.9,SNR=8.5
ASAR Alice Springs 120.31 207 **PKPdf** **22 45 27.9 -0.2**
WRA Warramunga Arr 123.46 210 PKP **PKPdf** **22 45 34.0 -0.3**
comp=Z,3.0nm,0.7s,baz=153,slow=2.1,SNR=14
WRA Warramunga Arr 123.46 210 **PKPdf** **22 45 34.2 0.0**
H11S2 WAKE ISLAND Hyl 25.99 271 T T 01 04 25.2
baz=116,slow=75,SNR=973
H11S1 WAKE ISLAND Hyl 26.00 271 T T 01 04 26.1
baz=116,slow=75,SNR=820
H11S3 WAKE ISLAND Hyl 26.01 271 T T 01 04 27.0
baz=116,slow=75,SNR=842
H11N3 WAKE ISLAND Hyl 26.33 273 T T 01 04 50.3
baz=116,slow=75,SNR=202
H11N1 WAKE ISLAND Hyl 26.34 273 T T 01 04 51.3
baz=116,slow=75,SNR=59
H11N2 WAKE ISLAND Hyl 26.35 273 T T 01 04 52.1
baz=116,slow=75,SNR=413
FITZ Fitzroy Crossi 128.38 201 PKP **PKPdf** **22 45 43.9 +0.3**
comp=Z,3.5nm,1.2s,baz=188,slow=5.6,SNR=5.3
FITZ Fitzroy Crossi 128.38 201 **PKPdf** **22 45 44.5 +0.9**
HYB Hyderabad 149.84 110 *i* PKP **PKPbc** **22 46 26.0 -1.1**
ZALV Zalesovo Beam 151.56 30 PKPbc **PKPbc** **22 46 30.3 +0.3**
comp=Z,5.5nm,0.5s,baz=315,slow=2.9,SNR=29
ZALV Zalesovo Beam 151.56 30 **PKPbc** **22 46 30.4 +0.4**
MJAR Matsushiro Arr 154.54 291 PKPab **PKPab** **22 46 53.8 +2.0**
comp=Z,0.5nm,0.4s,baz=64,slow=2.2,SNR=1.4
MKAR Makanchi Array 154.56 44 PKPbc **PKPbc** **22 46 36.4 -0.5**
comp=Z,0.7nm,0.7s,baz=272,slow=2.1,SNR=5.9
MKAR Makanchi Array 154.56 44 **PKPbc** **22 46 36.5 -0.3**
CMAR Chiang Mai Arr 164.92 144 PKPab **PKPab** **22 47 36.6 -0.5**
comp=Z,0.9nm,0.3s,baz=227,slow=5.5,SNR=4.2

IDC 22 22:48:19.1±4.1, 5.71S×151.14E, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.3/27, mbtmpb3.3/2, Error ellipse: s-maj=180.6km s-min=50.8km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.61**	**228**	P	P	P	22 53 11.0	+0.1
	0.4nm,0.6s,baz=54,slow=12,SNR=1.9							
ASAR	**Alice Springs**	**24.37**	**221**	P	P	P	22 53 39.2	0.0
	1.2nm,0.9s,baz=57,slow=9.2,SNR=8.3							
TORD	**Torodi Ar. Bea**	**148.99**	**286**	PKPbc	PKPbc		23 08 09.6	-0.6
	0.5nm,0.6s,baz=53,slow=3.1,SNR=6.6							

KRNET ***22*** *22:55:17.7±0.1, 40.20N×77.10E, mb3.2*
SOME ***22*** *22:55:18.2, 40.20N×77.10E, h0km*
NNC ***22*** *22:55:20.7±0.7, 40.20N×77.21E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=4.5km s-min=3.3km az=176.0*

ISC 22 22:55:16.2±2.5, 40.09N±0.10×77.20E±0.04, h2km±17km, n55, σ1.9 04/86, 20C-10D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.70**	**15**	⇑*i*P		**Pg**	**22 55 48.9**	**+0.1**
	baz=10.0							
TARG				⇑*i*S		**Sg**	**22 56 11.9**	**+1.1**
	baz=10.0							
KDJ	**Kajisay**	**2.04**	**360**	⇑*i*P		**Pg**	**22 55 55.8**	**+0.5**
	baz=56							
KDJ				⇑*i*S		**Sg**	**22 56 23.4**	**+1.7**
	baz=56							
ULHL	**Ulahol**	**2.27**	**342**	⇓*i*P		**Pg**	**22 55 59.3**	**-0.4**
	baz=38							
ULHL				⇓*i*S		**Sg**	**22 56 29.6**	**+0.4**
	baz=38							
KZA	**Kyzart**	**2.47**	**324**	⇑*e*P		**Pb**	**22 56 02.7**	**+1.1**
	baz=21							
KZA				⇑*i*S		**Sg**	**22 56 36.0**	**+0.3**
	baz=21							
PRZ	**Przheval'sk**	**2.55**	**20**	⇑*i*P		**Pb**	**22 56 02.1**	**-0.7**
	baz=17							
PRZ				⇑*i*S		**Sb**	**22 56 34.4**	**-0.4**
	baz=17							
BOOM	**Boomskoye usch**	**2.58**	**339**	⇑*i*P		**Pb**	**22 56 03.3**	**+0.1**
	baz=36							
BOOM				⇑*i*S		**Sb**	**22 56 37.2**	**+1.8**
	baz=36							
ANVS	**Anan'yevo**	**2.71**	**7**	⇑*i*P		**Pb**	**22 56 04.8**	**-0.7**
	baz=4.0							
ANVS				⇑*i*S		**Sb**	**22 56 39.1**	**-0.2**
	baz=4.0							
ARLS	**Aral**	**2.81**	**310**	⇑*i*P		**Pb**	**22 56 07.5**	**+0.4**
	baz=8.0							
ARLS				⇑*i*S		**Sb**	**22 56 43.8**	**+1.8**
	baz=8.0							
UCH	**Uchtor**	**2.95**	**317**	⇓*e*P		**Pb**	**22 56 09.7**	**0.0**
	baz=15							
UCH				⇓*i*S		**Sb**	**22 56 47.9**	**+1.6**
	baz=15							

TNSS	**Tian-Shan**	**2.95**	**356**	*e*P		**Pg**	**22 56 12.7**	**-0.1**
	13nm,0.4s								
TNSS				*e*S		**Sg**	**22 56 51.5**	**+0.5**
	7.2nm,0.6s								
TNSS	**Tian-Shan**	**2.95**	**356**	Pg		**Pg**	**22 56 12.7**	**-0.1**
	13nm,0.4s								
TNSS				Lg		Lg	22 56 51.5		
	7.2nm,0.6s								
IZV	**Izvestkoviy**	**2.98**	**352**	*e*P		**Pg**	**22 56 13.2**	**-0.1**
	14nm,0.5s								
IZV				*e*S		**Sg**	**22 56 52.5**	**+0.7**
	15nm,0.4s								
IZV	**Izvestkoviy**	**2.98**	**352**	Pg		**Pg**	**22 56 13.2**	**-0.1**
	14nm,0.5s								
IZV				Lg		Lg	22 56 52.5		
	15nm,0.4s								
MDOK	**Medeo**	**3.07**	**358**	*e*P		**Pg**	**22 56 14.8**	**-0.3**
	5.2nm,0.6s								
MDOK				*e*S		**Sg**	**22 56 55.0**	**+0.1**
	19nm,0.7s								
MDOK	**Medeo**	**3.07**	**358**	Pg		**Pg**	**22 56 15.2**	**+0.2**
	11nm,0.7s								
MDOK				Lg		Lg	22 56 55.1		
	15nm,0.6s								
MDOK	**Medeo**	**3.07**	**358**	Pg		**Pg**	**22 56 14.8**	**-0.3**
	5.2nm,0.6s								
MDOK				Lg		Lg	22 56 55.0		
	19nm,0.7s								
KBK	**Karagaybulak**	**3.07**	**327**	⇓*i*P		**Pb**	**22 56 11.1**	**-0.6**
	baz=25								
KBK				⇓*i*S		**Sb**	**22 56 49.8**	**+0.1**
	baz=25								
TKM2	**Tokmak 2**	**3.07**	**337**	⇓Pg		**Pg**	**22 56 14.3**	**-0.8**
	3.6nm,0.8s								
TKM2				⇑Lg		Lg	22 56 54.2		
	9.0nm,0.7s								
MTBS	**Maitube**	**3.09**	**349**	*e*P		**Pg**	**22 56 16.2**	**+0.8**
	6.8nm,0.3s								
MTBS				*e*S		**Sg**	**22 56 57.2**	**+1.7**
	5.7nm,0.2s								
MTBS	**Maitube**	**3.09**	**349**	Pg		**Pg**	**22 56 16.2**	**+0.8**
	6.8nm,0.3s								
MTBS				Lg		Lg	22 56 57.2		
	5.7nm,0.2s								
KST	**Kastek**	**3.09**	**343**	*e*P		**Pg**	**22 56 15.3**	**-0.2**
	2.4nm,0.4s								
KST				*e*S		**Sg**	**22 56 56.2**	**+0.7**
	3.8nm,0.6s								
KST	**Kastek**	**3.09**	**343**	Pg		**Pg**	**22 56 15.3**	**-0.2**
	2.4nm,0.4s								
KST				Lg		Lg	22 56 56.2		
	3.8nm,0.6s								
SATY	**Saty**	**3.10**	**17**	*e*P		**Pg**	**22 56 16.2**	**+0.6**
	5.2nm,0.3s								
SATY				*e*S		**Sg**	**22 56 57.2**	**+1.5**
	17nm,1.1s								
SATY	**Saty**	**3.10**	**17**	Pg		**Pg**	**22 56 16.2**	**+0.6**
	5.2nm,0.3s								
SATY				Lg		Lg	22 56 57.2		
	17nm,1.1s								
KOTS	**Kotyrbulak**	**3.14**	**359**	*e*P		**Pg**	**22 56 16.4**	**0.0**
	9.2nm,0.4s								
KOTS				*e*S		**Sg**	**22 56 57.6**	**+0.5**
	38nm,0.5s								
KOTS	**Kotyrbulak**	**3.14**	**359**	Pg		**Pg**	**22 56 16.4**	**0.0**
	9.2nm,0.4s								
KOTS				Lg		Lg	22 56 57.6		
	38nm,0.5s								
AAK	**Ala-Archa**	**3.26**	**322**	⇑*e*P		**Pb**	**22 56 13.8**	**-1.0**
	baz=20								
AAK				⇑*i*S		**Sb**	**22 56 54.7**	**-0.3**
	baz=20								
AAK	**Ala-Archa**	**3.26**	**322**	⇓Pg		**Pg**	**22 56 18.9**	**+0.2**
	2.9nm,0.5s								
AAK				⇓Lg		Lg	22 57 01.0		
	16nm,0.9s								
DGS	**Degeres**	**3.33**	**342**	*e*P		**Pg**	**22 56 19.7**	**-0.2**
	4.5nm,0.5s								
DGS				*e*S		**Sg**	**22 57 03.7**	**+0.7**
	7.7nm,0.4s								
DGS	**Degeres**	**3.33**	**342**	Pg		**Pg**	**22 56 19.7**	**-0.2**
	4.5nm,0.5s								
DGS				Lg		Lg	22 57 03.7		
	7.7nm,0.4s								
AML	**Almayashu**	**3.34**	**309**	⇑*e*P		**Pb**	**22 56 15.6**	**-0.8**
	baz=7.0								
AML				⇑*i*S		**Sb**	**22 56 57.4**	**-0.3**
	baz=7.0								
KURS	**Kuram**	**3.47**	**12**	*e*P		**Pg**	**22 56 21.9**	**-0.8**
	3.8nm,0.4s								
KURS				*e*S		**Sg**	**22 57 07.3**	**-0.4**
	8.0nm,0.7s								
KURS	**Kuram**	**3.47**	**12**	Pg		**Pg**	**22 56 21.9**	**-0.8**
	3.8nm,0.4s								
KURS				Lg		Lg	22 57 07.3		
	8.0nm,0.7s								
SHLS	**Shalkode**	**3.50**	**28**	*e*P		**Pg**	**22 56 25.4**	**+2.1**
	3.6nm,0.5s								
SHLS				*e*S		**Sg**	**22 57 13.0**	**+4.4**
	18nm,0.5s								
SHLS	**Shalkode**	**3.50**	**28**	Pg		**Pg**	**22 56 25.4**	**+2.1**
	3.6nm,0.5s								
SHLS				Lg		Lg	22 57 13.0		
	18nm,0.5s								
KPKS	**Kokpek**	**3.55**	**18**	*e*P		**Pg**	**22 56 23.4**	**-0.8**
	5.6nm,0.2s								
KPKS				*e*S		**Sg**	**22 57 09.6**	**-0.6**
	11nm,0.5s								
KTBS	**Karatobe**	**3.64**	**354**	*e*P		**Pg**	**22 56 25.2**	**-0.7**
	2.5nm,0.6s								
KTBS				*e*S		**Sg**	**22 57 12.6**	**-0.5**
	11nm,0.6s								
KTBS	**Karatobe**	**3.64**	**354**	Pg		**Pg**	**22 56 25.2**	**-0.7**
	2.5nm,0.6s								
KTBS				Lg		Lg	22 57 12.6		
	11nm,0.6s								
PDGK	**Podgornoye**	**3.66**	**27**	Pg		**Pg**	**22 56 25.5**	**-0.8**
	1.3nm,0.4s								
PDGK				Lg		Lg	22 57 13.0		
	5.6nm,0.6s								
PDGK	**Podgornoye**	**3.66**	**27**	⇑Pg		**Pg**	**22 56 24.7**	**-1.6**
	5.8nm,0.8s								
PDGK				⇓Lg		Lg	22 57 12.5		
	7.8nm,0.7s								
CHKK	**Chushkaly**	**3.76**	**358**	*e*P		**Pg**	**22 56 27.2**	**-1.1**
	1.5nm,0.1s								
CHKK				*e*S		**Sg**	**22 57 16.8**	**-0.3**
	10nm,0.2s								
CHKK	**Chushkaly**	**3.76**	**358**	Pg		**Pg**	**22 56 27.2**	**-1.1**
	1.5nm,0.1s								
CHKK				Lg		Lg	22 57 16.8		
	10nm,0.2s								
KRBS	**Karabastau**	**3.78**	**343**	*e*P		**Pg**	**22 56 27.3**	**-1.3**
	2.1nm,0.0s								
KRBS				*e*S		**Sg**	**22 57 16.5**	**-1.1**
	3.0nm,0.5s								
KRBS	**Karabastau**	**3.78**	**343**	Pg		**Pg**	**22 56 27.3**	**-1.3**
	2.1nm,0.0s								
KRBS				Lg		Lg	22 57 16.5		
	3.0nm,0.5s								
KUU	**Kurty**	**3.85**	**351**	*e*P		**Pg**	**22 56 28.7**	**-1.3**
	1.2nm,0.3s								
KUU				*e*S		**Sg**	**22 57 19.0**	**-1.0**
	8.7nm,0.5s								
KUU	**Kurty**	**3.85**	**351**	Pg		**Pg**	**22 56 28.7**	**-1.3**
	1.2nm,0.3s								
KUU				Lg		Lg	22 57 19.0		
	8.7nm,0.5s								
SGDS	**Sogindy**	**3.87**	**331**	Pg		**Pg**	**22 56 28.9**	**-1.5**
	1.2nm,0.3s								
SGDS				Lg		Lg	22 57 19.1		
	3.7nm,0.4s								
MRKS	**Merke**	**4.00**	**313**	*e*P		**Pg**	**22 56 32.3**	**-0.5**
	1.0nm,0.2s								
MRKS				*e*S		**Sg**	**22 57 25.1**	**+0.5**
	2.8nm,1.0s								
MRKS	**Merke**	**4.00**	**313**	Pg		**Pg**	**22 56 32.3**	**-0.5**
	1.0nm,0.2s								
MRKS				Lg		Lg	22 57 25.1		
	2.8nm,1.0s								
KTMS	**Ketmen**	**4.10**	**34**	*e*P		**Pg**	**22 56 34.0**	**-0.7**
	1.0nm,0.1s								
KTMS				*e*S		**Sg**	**22 57 27.7**	**-0.1**
	5.2nm,0.4s								
KTMS	**Ketmen**	**4.10**	**34**	Pg		**Pg**	**22 56 34.0**	**-0.7**
	1.0nm,0.1s								
KTMS				Lg		Lg	22 57 27.7		
	5.6nm,0.3s								

DJR	**Jarkent**	**4.65**	**24**	*e*P		**Pg**	**22 56 43.8**	**-1.5**
	0.1nm,0.2s								
DJR				*e*S		**Sg**	**22 57 45.1**	**-0.5**
	0.3nm,0.4s								
DJR	**Jarkent**	**4.65**	**24**	Pg		**Pg**	**22 56 43.8**	**-1.5**
	0.1nm,0.2s								
DJR				Lg		Lg	22 57 45.1		
	0.3nm,0.4s								
KAPS	**Kapalarasan**	**5.43**	**16**	*e*P		**Pg**	**22 56 58.7**	**-1.4**
	0.1nm,0.5s								
KAPS				*e*S		**Sg**	**22 58 10.8**	**+0.3**
	0.2nm,0.5s								
KAPS	**Kapalarasan**	**5.43**	**16**	Pg		**Pg**	**22 56 58.7**	**-1.4**
	0.1nm,0.5s								
KAPS				Lg		Lg	22 58 10.8		
	0.2nm,0.5s								

*MEX **22** 23:02:16.8±0.7, 25°.77N×110°.88W, h10km, MD4.1*
*IDC **22** 23:02:17.4±1.4, 25°.55N×110°.35W, h0km, mb3.9/1, mb1 4.0/3, mb1mx3.7/38, mbtmp3.6/3, ML3.6/2, MS3.4/1, Ms1 3.4/1, ms1mx2.4/37, Error ellipse: s-maj=23.8km s-min=12.5km az=98.0*
ISC 22 23:02:17.2±1.0, **25°.62N**±0°.06×**110°.60W**±0°.06, **h10**km, **n8**, σ1§**83**/10, **Gulf of California**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TSIG	**Topolobambo**	**1.41**	**90**	*e*P		**Pn**	**23 02 42.0**	**-0.8**
TSIG				*i* S		**Sg**	**23 03 03.1**	**+0.7**
LPIG	**La Paz**	**1.53**	**170**	Pg		**Pn**	**23 02 43.0**	**-1.5**
	46nm,0.3s,baz=326,slow=6.7,SNR=28							
LPIG				Lg		Lg	23 03 04.3	
	101nm,0.3s,baz=46,slow=24,SNR=8.5							
LPIG	**La Paz**	**1.53**	**170**	*e*P		**Pn**	**23 02 43.7**	**-0.9**
LPIG				*i* S		**Sn**	**23 03 04.8**	**+0.3**
SRIG	**Santa Rosalia**	**2.25**	**319**	*e*P		Pn	23 02 47.0	-7.4
SRIG				*e*S		**Sn**	**23 03 20.2**	**-2.0**
TXAR	**Lajitas Array**	**7.18**	**57**	Pn		**Pn**	**23 04 02.8**	**+0.4**
	0.4nm,0.3s,baz=234,slow=14,SNR=14							
TXAR				Sn		**Sn**	**23 05 21.4**	**-2.7**
	baz=234,slow=15,SNR=1.3							
TXAR				Lg		Lg	23 05 58.8	
	0.1nm,0.3s,baz=242,slow=29,SNR=2.1							
NVAR	**Mina Array Bea**	**14.34**	**335**	Pn		**P**	**23 05 47.2**	**-0.5**
	0.1nm,0.3s,baz=156,slow=11,SNR=9.0							
ILAR	**Eielson Array**	**45.54**	**339**	P		**P**	**23 10 39.5**	**+2.7**
	0.6nm,0.3s,baz=150,slow=7.3,SNR=4.3							
PPT	**Papeete**	**57.28**	**225**	LR		LR	23 32 27.9	
	comp=Z,320nm,18.6s,baz=347,slow=32							

*ATH **22** 23:14:53.0, 38°.92N×26°.55E, h44km±5km, ML2.8/4, Error ellipse: s-maj=6.0km s-min=1.9km az=278.0*
*ISK **22** 23:14:53.5, 38°.87N×26°.42E, h13km, ML2.8/28*
*DDA **22** 23:14:53.7, 38°.86N×26°.45E, h11km±3km, ML2.8*
*THE **22** 23:14:54.7, 38°.82N×26°.34E, h12km, ML2.6/4, Error ellipse: s-maj=1.5km s-min=0.5km az=54.0*
ISC 22 23:14:53.9±0.9, **38°.87N**±0°.02×**26°.44E**±0°.02, **h15**km±8km, **n69**, σ0§**54**/93, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FOCM	**Foa**	**0.28**	**125**	PG		**Pg**	**23 14 59.7**	**-0.1**
KRBN	**Karaburun**	**0.29**	**163**	PG		**Pg**	**23 15 00.2**	**+0.1**
KRBN				SG		**Sb**	**23 15 04.9**	**-0.6**
CAND	**Candarli**	**0.29**	**74**	PG		**Pb**	**23 15 00.8**	**-0.1**
CAND				SG		**Sb**	**23 15 05.2**	**-0.3**
PRK	**Paraskevi**	**0.40**	**340**	P		**Pb**	**23 15 03.3**	**+0.6**
PRK				S		**Sb**	**23 15 09.8**	**+1.2**
	1μm,0.3s							
PRK	**Paraskevi**	**0.40**	**340**	P		**Pb**	**23 15 03.3**	**+0.6**
PRK				S		**Sb**	**23 15 09.5**	**+0.9**
PRK				AML		AML	23 15 09.6	
	comp=E,3596μm,0.4s							
PRK				AML		AML	23 15 09.9	
	comp=N,4057μm,0.5s							
DKL	**Dikili**	**0.41**	**61**	PG		**Pb**	**23 15 02.6**	**-0.3**
DKL				SG		**Sb**	**23 15 08.9**	**-0.1**
AYVA	**Ayvalik**	**0.47**	**24**	*i* P		**Pb**	**23 15 03.6**	**-0.4**
AYVA				*i* S		**Sg**	**23 15 09.7**	**-0.1**
ZEDA	**zmir-Bergama**	**0.50**	**79**	*i* P		**Pb**	**23 15 04.1**	**-0.4**
ZEDA				*i* S		**Sg**	**23 15 10.8**	**+0.1**
URLA	**Izmir**	**0.53**	**167**	*i* P		**Pg**	**23 15 03.9**	**-0.4**
URLA				*i* S		**Sg**	**23 15 11.5**	**+0.2**
URLA	**Izmir**	**0.53**	**167**	PG		**Pg**	**23 15 03.9**	**-0.4**
URLA				SG		**Sb**	**23 15 12.0**	**-0.3**
SIGR	**SIGRI**	**0.57**	**307**	P		**Pb**	**23 15 05.4**	**-0.3**
SIGR				S		**Sb**	**23 15 13.1**	**-0.5**
	comp=N,532nm,0.4s							
SIGR	**SIGRI**	**0.57**	**307**	P		**Pb**	**23 15 05.3**	**-0.3**
SIGR				AML		AML	23 15 15.5	
	comp=E,1065μm,0.4s							
SIGR				AML		AML	23 15 17.4	
	comp=N,1055μm,0.3s							
SIGR	**SIGRI**	**0.57**	**307**	PG		**Pg**	**23 15 05.2**	**0.0**
SIGR				SG		**Sg**	**23 15 12.8**	**0.0**
GPNR	**Gulpinar-Canak**	**0.63**	**338**	PG		**Pb**	**23 15 06.4**	**-0.3**
ZEYE	**Izmir, Urla-Ze**	**0.63**	**176**	*i* P		**Pg**	**23 15 05.9**	**-0.4**
ZEYE				*i* S		**Sb**	**23 15 16.4**	**+1.0**
ZEYE				IAML			23 15 19.0	
	comp=E,539nm,0.3s							
ZEYE				IAML			23 15 19.0	
	comp=N,857nm,0.4s							
KOCA	**Canakkale, Ayv**	**0.67**	**339**	*i* P		**Pb**	**23 15 07.2**	**-0.1**
KOCA				*i* S		**Sb**	**23 15 16.9**	**+0.4**
KOCA				IAML			23 15 20.0	
	comp=E,598nm,0.6s							
KOCA				IAML			23 15 20.0	
	comp=N,336nm,0.4s							
PSRA	**Psara**	**0.76**	**245**	P		**Pn**	**23 15 09.8**	**-0.4**
PSRA				S		**Sn**	**23 15 21.4**	**0.0**
BUHA	**Balikesir, Bur**	**0.80**	**38**	*i* P		**Pg**	**23 15 09.1**	**-0.4**
BUHA				*i* S		**Sn**	**23 15 21.4**	**-0.9**
BUHA				IAML			23 15 23.0	
	comp=E,571nm,0.4s							
BUHA				IAML			23 15 23.0	
	comp=N,306nm,0.3s							
GMLD	**Gumuldur**	**0.88**	**155**	PG		**Pb**	**23 15 11.2**	**+0.4**
GMLD				SG		**Sn**	**23 15 23.6**	**-0.6**
DGB	**zmir**	**0.89**	**157**	*i* P		**Pg**	**23 15 10.1**	**-1.1**
EZN	**Ezine**	**0.96**	**355**	P		**Pn**	**23 15 13.2**	**+0.4**
EZN	**Ezine**	**0.96**	**355**	PG		**Pb**	**23 15 12.1**	**-0.1**
BOZC	**Bozcaada**	**1.01**	**343**	*i* P		**Pb**	**23 15 13.1**	**-0.1**
BOZC				*i* S		**Sb**	**23 15 26.3**	**-0.1**
BOZC				IAML			23 15 29.0	
	comp=E,220nm,0.2s							
BOZC				IAML			23 15 29.0	
	comp=N,184nm,0.2s							
BOZC	**Bozcaada**	**1.01**	**343**	PG		**Pg**	**23 15 13.4**	**-0.2**
AKS	**Akhisar**	**1.07**	**89**	PN		**Pn**	**23 15 14.9**	**+0.5**
AKHS	**Akhisar**	**1.07**	**89**	*i* P		**Pn**	**23 15 14.4**	**0.0**
STEP	**BALIKESIR_Sava**	**1.11**	**63**	*i* P		**Pg**	**23 15 15.2**	**-0.2**
STEP				*i* S		**Sn**	**23 15 30.9**	**+0.9**
STEP				IAML			23 15 33.0	
	comp=E,294nm,0.6s							
STEP				IAML			23 15 34.0	
	comp=N,226nm,0.4s							
GOMA	**Golmarmara-Man**	**1.16**	**98**	PN		**Pg**	**23 15 16.6**	**+0.2**
SMG	**Samos**	**1.20**	**165**	P		**Pn**	**23 15 15.7**	**-0.5**
SMG				S		**Sg**	**23 15 32.8**	**0.0**
	comp=N,595nm,0.4s							
SMG	**Samos**	**1.20**	**165**	P		**Pn**	**23 15 15.5**	**-0.7**
SMG				AML		AML	23 15 35.6	
	comp=E,1210μm,0.4s							
SMG				AML		AML	23 15 36.5	
	comp=N,1416μm,0.3s							
BALY	**Balya**	**1.26**	**46**	*i* P		**Pg**	**23 15 17.8**	**-0.4**
BALY				*i* S		**Sg**	**23 15 34.7**	**+0.2**
GCAM	**G?zelcaml?**	**1.32**	**152**	*i* P		**Pb**	**23 15 18.4**	**0.0**
GCAM				*i* S		**Sg**	**23 15 36.4**	**-0.3**
GCAM	**G?zelcaml?**	**1.32**	**152**	PN		**Pb**	**23 15 18.7**	**+0.2**
BALB	**Balikesir**	**1.35**	**55**	PN		**Pb**	**23 15 19.2**	**+0.2**
GOKA	**anakkale-Gk**	**1.38**	**343**	*i* P		**Pn**	**23 15 18.5**	**-0.2**
GOKA				*i* S		**Sn**	**23 15 36.2**	**-0.4**
GOKA				IAML			23 15 43.0	
	comp=E,116nm,0.3s							
GADA	**Gvkgeada**	**1.38**	**342**	PN		**Pb**	**23 15 19.2**	**-0.3**
LIA	**Limnos Island**	**1.42**	**317**	P		**Pn**	**23 15 19.2**	**+0.1**
LIA				S		**Sb**	**23 15 38.1**	**+0.2**
	comp=E,142nm,0.4s							
LIA	**Limnos Island**	**1.42**	**317**	P		**Pn**	**23 15 19.4**	**+0.2**
LIA				AML		AML	23 15 40.5	
	comp=E,300μm,0.5s							
LIA				AML		AML	23 15 41.0	
	comp=N,240μm,0.3s							
AYDB	**Zeytinkoy-Aydi**	**1.47**	**129**	PN		**Pn**	**23 15 20.1**	**+0.2**
GONE	**Gonen-Balikesi**	**1.52**	**39**	PN		**Pn**	**23 15 20.7**	**+0.2**
LPK	**Lapseki**	**1.52**	**9**	PN		**Pb**	**23 15 21.4**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.52**	**1**	PN		**Pn**	**23 15 20.9**	**+0.3**
DDIM	**Aydin, Didim**	**1.55**	**156**	*i* P		**Pg**	**23 15 25.0**	**+1.3**
AYDN	**Tasoluk**	**1.66**	**137**	*i* P		**Pg**	**23 15 25.5**	**-0.2**
KRBG	**Karabiga-Canak**	**1.66**	**23**	PN		**Pn**	**23 15 22.3**	**-0.1**
MANT	**Manisa**	**1.70**	**102**	*i* P		**Pb**	**23 15 24.8**	**-0.1**
MANT				*i* S		**Sb**	**23 15 47.2**	**+0.9**
DURS	**Dursunbey**	**1.74**	**65**	*i* P		**Pn**	**23 15 24.0**	**+0.3**
SMTH	**Samothraki Isl**	**1.75**	**336**	P		**Pn**	**23 15 23.8**	**+0.1**
SMTH	**Samothraki Isl**	**1.75**	**336**	P		**Pn**	**23 15 23.8**	**+0.1**
KULA	**Kula-Manisa**	**1.77**	**101**	PN		**Pn**	**23 15 24.8**	**+0.7**
DEMI	**Demirci**	**1.78**	**84**	*i* P		**Pn**	**23 15 24.7**	**+0.5**
ERIK	**Erikli-Kesan**	**1.80**	**2**	PN		**Pn**	**23 15 24.8**	**+0.4**
CAVK	**Edirne/Enez-Ca**	**1.83**	**353**	*i* P		**Pn**	**23 15 25.6**	**+0.8**
EDC	**Edincik**	**1.84**	**36**	PN		**Pn**	**23 15 25.4**	**+0.5**
ENEZ	**Enez**	**1.88**	**353**	PN		**Pn**	**23 15 26.3**	**+0.8**
MLSB	**Milas**	**1.89**	**146**	PN		**Pb**	**23 15 27.4**	**-0.8**
SART	**Tekirdag**	**1.90**	**17**	*i* P		**Pb**	**23 15 27.3**	**-1.0**
SART				IAML			23 15 57.0	
	comp=E,81nm,0.3s							
BODT	**Bodrum**	**1.93**	**159**	PN		**Pn**	**23 15 27.2**	**+0.9**
APE	**Apeiranthos**	**1.94**	**202**	PN		**Pn**	**23 15 26.9**	**+0.5**
MRMT	**Marmara Adasi**	**1.94**	**27**	PN		**Pn**	**23 15 27.2**	**+0.7**
KESN	**Edirne-Kesan**	**1.96**	**5**	*i* P		**Pn**	**23 15 27.2**	**+0.2**
USAK	**Uak-Merkez**	**2.02**	**94**	*i* P		**Pn**	**23 15 28.8**	**+1.3**
KCTX	**Karacabey (Bur**	**2.03**	**46**	PN		**Pn**	**23 15 28.3**	**+0.7**
ALN	**Alexandroupoli**	**2.04**	**352**	P		**Pn**	**23 15 28.0**	**+0.2**
ALN	**Alexandroupoli**	**2.04**	**352**	P		**Pn**	**23 15 28.0**	**+0.2**
ALN	**Alexandroupoli**	**2.04**	**352**	PN		**Pn**	**23 15 28.5**	**+0.7**
RDO	**Rodhopi**	**2.38**	**343**	PN		**Pn**	**23 15 32.9**	**+0.6**
ULDT	**Uludag**	**2.44**	**58**	*i* P		**Pg**	**23 15 39.9**	**-0.8**
IGD	**Bursa**	**2.54**	**56**	*i* P		**Pg**	**23 15 41.6**	**-1.1**

*IDC **22** 23:17:18.4±0.8, 5°.86S×151°.29E, h0km, mb4.0/10, mb1 4.2/11, mb1mx4.0/30, mbtmp4.0/11, ML3.9/1, MS3.5/16, Ms1 3.5/16, ms1mx3.3/36, Error ellipse: s-maj=34.7km s-min=18.7km az=113.0*
*NEIC **22** 23:17:22.6±1.8, 5°.98S±0°.10×151°.4E±0°.2, h19km±4km, mb4.5/20, Error ellipse: s-maj=28.8km s-min=10.3km az=112.0*
ISC 22 23:17:24.7±0.6, **5°.96S**±0°.09×**151°.3E**±0°.2, **h41**km, **n56**, σ0§**73**/44, **mb4.3**/20, **MS3.4**/14, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**1.96**	**26**	Pn		**Pn**	**23 17 55.1**	**-0.3**
HNR	**Honiara**	**9.24**	**112**	LR		LR	23 22 57.2	
	comp=Z,228nm,18.2s,baz=302,slow=36							
JAY	**Jayapura**	**11.10**	**287**	LR		LR	23 23 51.6	
	comp=Z,177nm,18.6s,slow=36							
CTA	**Charters Tower**	**14.88**	**199**	Pn		**Pn**	**23 20 50.8**	**-1.6**
	0.3nm,0.3s,baz=36,slow=17,SNR=1.3							
CTAO	**Charters Tower**	**14.88**	**199**	P		**P**	**23 20 58.4**	**+1.0**
EIDS	**Eidsvold**	**19.31**	**181**	P		**P**	**23 21 45.7**	**-0.6**
MTN	**Manton Dam**	**21.02**	**250**	P		**P**	**23 22 05.8**	**+0.7**
MTN				IAmb		IAmb	23 22 27.8	
	comp=Z,59nm,1.5s							
WR0	**Warramunga Arr**	**21.42**	**228**	P		**P**	**23 22 09.7**	**+0.4**
WR0				IAmb		IAmb	23 22 25.9	
	comp=Z,21nm,1.2s							
WB2	**Warramunga Arr**	**21.55**	**228**	P		**P**	**23 22 10.2**	**-0.6**
WB2				IAmb		IAmb	23 22 29.5	
	comp=Z,10nm,0.7s							
WRA	**Warramunga Arr**	**21.56**	**228**	P		**P**	**23 22 10.2**	**-0.6**
	comp=Z,3.4nm,0.6s,baz=55,slow=10,SNR=17							
WRA				LR		LR	23 29 53.7	
	comp=Z,110nm,21.9s,baz=60,slow=35							
WRA	**Warramunga Arr**	**21.56**	**228**	P		**P**	**23 22 10.9**	**+0.1**
AS31	**Alice Springs**	**24.29**	**222**	P		**P**	**23 22 38.3**	**-0.2**
ASAR	**Alice Springs**	**24.29**	**222**	P		**P**	**23 22 38.5**	**0.0**
	comp=Z,8.4nm,0.6s,baz=56,slow=9.5,SNR=48							
ASAR	**Alice Springs**	**24.29**	**222**	P		**P**	**23 22 38.4**	**-0.1**
STKA	**Stephens Creek**	**27.34**	**198**	P		**P**	**23 23 06.4**	**+0.5**
	comp=Z,2.3nm,0.6s,baz=20,slow=11,SNR=7.0							
STKA				LR		LR	23 33 19.1	
	comp=Z,182nm,19.0s,baz=27,slow=35							
STKA	**Stephens Creek**	**27.34**	**198**	P		**P**	**23 23 08.2**	**+2.3**
FITZ	**Fitzroy Crossi**	**27.79**	**242**	P		**P**	**23 23 10.1**	**0.0**
	comp=Z,3.6nm,0.5s,baz=49,slow=8.3,SNR=27							
FITZ				LR		LR	23 33 52.1	
	comp=Z,62nm,20.7s,baz=72,slow=36							
FITZ	**Fitzroy Crossi**	**27.79**	**242**	P		**P**	**23 23 10.4**	**+0.3**
DAV	**Davao City (W)**	**28.74**	**296**	LR		LR	23 31 37.5	
	comp=Z,59nm,21.9s,baz=142,slow=30							
MJAR	**Matsushiro Arr**	**44.02**	**345**	LR		LR	23 42 27.8	
	comp=Z,23nm,18.4s,baz=175,slow=34						

*NEIC **22** 23:25:44.6±1.4, 32.°28S×71.°86W±0.°09, h13km±6km, Error ellipse: s-maj=11.0km s-min=1.9km az=82.0*
*GUC **22** 23:25:44.9±0.7, 32.°29S×71.°88W, h16km±4km, ML3.7*

ISC 22 23:25:44.0±1.5, **32.°29S**±0.°03×**71.°92W**±0.°06, **h9**km±11km, **n37**, σ0**°74**/52, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.59**	**118**	*eP*	**Pb**	**23 25 56.3**	**-0.3**
VA06				*i* S	**Sb**	**23 26 04.1**	**-0.9**
VA06				IAML		23 26 06.3	
	comp=N,9μm,0.4s						
VA01	**Torpederas**	**0.77**	**163**	*eP*	**Pg**	**23 25 59.0**	**+0.2**
VA01				*i* S	**Sg**	**23 26 09.5**	**+0.7**
VA01	**Torpederas**	**0.77**	**163**		**Pg**	**23 25 59.1**	**+0.2**
VA01				Sg	**Sg**	**23 26 09.3**	**+0.5**
ROCH	**El Roble**	**1.02**	**132**	*eP*	**Pb**	**23 26 03.3**	**-0.8**
ROCH				*i* S	**Sg**	**23 26 17.3**	**+0.2**
VA03	**San Esteban**	**1.25**	**113**	*eP*	**Pn**	**23 26 06.7**	**-1.1**
VA03				*i* S	**Sb**	**23 26 23.1**	**-1.0**
VA03				IAML		23 26 26.3	
	comp=E,8μm,0.8s						
VA03	**San Esteban**	**1.25**	**113**		**Pn**	**23 26 07.1**	**-0.7**
VA03				Sn	**Sb**	**23 26 22.6**	**-1.4**
VA05	**Santo Domingo**	**1.39**	**170**	*eP*	**Pn**	**23 26 09.0**	**-0.6**
VA05				*i* S	**Sb**	**23 26 27.9**	**-0.1**
VA05				IAML		23 26 38.1	
	comp=E,2μm,0.3s						
VA05	**Santo Domingo**	**1.39**	**170**	Pn	**Pn**	**23 26 09.0**	**-0.6**
MT05	**Renca**	**1.48**	**138**	*eP*	**Pn**	**23 26 11.0**	**+0.1**
MT05				*i* S	**Sb**	**23 26 30.4**	**-0.4**
MT05				IAML		23 26 33.9	
	comp=E,3μm,0.3s						
MT05	**Renca**	**1.48**	**138**	Pn	**Pn**	**23 26 11.0**	**+0.1**
CO06	**Fray Jorge**	**1.63**	**9**	*eP*	**Pn**	**23 26 12.1**	**-0.8**
CO06				*i* S	**Sb**	**23 26 35.1**	**+0.3**
CO06				IAML		23 26 40.8	
	comp=N,981nm,0.4s						
CO06	**Fray Jorge**	**1.63**	**9**	Pn	**Pn**	**23 26 12.1**	**-0.8**
MT01	**Popeta**	**1.67**	**161**	*eP*	**Pn**	**23 26 13.2**	**-0.4**
MT01				*i* S	**Sb**	**23 26 35.7**	**-0.4**
MT01				IAML		23 26 40.0	
	comp=E,990nm,0.7s						
MT01	**Popeta**	**1.67**	**161**		**Pn**	**23 26 13.1**	**-0.4**
MT09	**Talagante**	**1.68**	**153**	*eP*	**Pn**	**23 26 13.9**	**+0.2**
MT09				*i* S	**Sb**	**23 26 36.0**	**-0.5**
MT09	**Talagante**	**1.68**	**153**		**Pn**	**23 26 13.9**	**+0.2**
CO03	**El Pedregal**	**1.78**	**36**	*eP*	**Pn**	**23 26 15.4**	**+0.3**
CO03				*i* S	**Sb**	**23 26 38.6**	**-0.9**
CO03	**El Pedregal**	**1.78**	**36**	Pn	**Pn**	**23 26 15.6**	**+0.5**
LMEL	**Las Melosas**	**2.12**	**138**	*eP*	**Pn**	**23 26 20.8**	**+0.9**
LMEL				*i* S	**Sb**	**23 26 48.3**	**-0.9**
BO01	**Tunca**	**2.21**	**162**	*eP*	**Pn**	**23 26 21.2**	**+0.3**
BO01				*i* S	**Sb**	**23 26 50.7**	**-1.0**
BO01	**Tunca**	**2.21**	**162**	Pn	**Pn**	**23 26 20.9**	**0.0**
GO04	**Tololo Observa**	**2.31**	**25**	Pn	**Pn**	**23 26 22.6**	**0.0**
CO05	**La Serena**	**2.43**	**14**	Pn	**Pn**	**23 26 23.8**	**-0.2**
BO02	**Sierra Bellavi**	**2.67**	**160**		**Pn**	**23 26 28.1**	**+0.8**
GO05	**Huala**	**2.71**	**180**	Pn	**Pn**	**23 26 26.7**	**-1.2**
LCO	**Las Campanas**	**3.43**	**18**	*eP*	**Pn**	**23 26 37.6**	**-0.4**
LCO				*i* S	**Sn**	**23 27 20.6**	**+1.7**
ML02	**Panimavida**	**3.49**	**173**	Pn	**Pn**	**23 26 38.7**	**+0.1**
AC04	**Llanos de Chal**	**4.13**	**10**	Pn	**Pn**	**23 26 46.4**	**-1.0**
GO03	**Copiap**	**4.90**	**18**	Pn	**Pn**	**23 26 57.5**	**-0.5**
AC06	**Mina Casimiro**	**5.10**	**16**	Pn	**Pn**	**23 26 59.2**	**-1.5**
AC02	**Maricunga**	**5.95**	**25**		**Pn**	**23 27 12.5**	**-0.3**
LC01	**Cunco**	**6.60**	**180**		**Pn**	**23 27 20.0**	**-1.2**
PLCA	**Paso Flores**	**8.50**	**173**		**Pn**	**23 27 47.9**	**+0.5**
TRQA	**Tornquist**	**9.96**	**128**		**Pn**	**23 28 08.7**	**+1.3**
LPAZ	**La Paz**	**16.30**	**13**	P	**Pn**	**23 29 33.7**	**-0.1**
LPAZ				IAmb	IAmb	23 29 36.4	
	comp=Z,2.1nm,0.8s						
SNAA	**Sanae**	**53.13**	**158**	P	**P**	**23 35 01.9**	**+0.1**
SNAA				IAmb	IAmb	23 35 04.2	
	comp=Z,3.7nm,1.3s						
QSPA	**South Pole Qui**	**57.94**	**180**	P	**P**	**23 35 37.0**	**+0.4**
QSPA				IAmb	IAmb	23 35 37.7	
	comp=Z,3.3nm,1.1s						

*GUC **22** 23:32:13.1±0.7, 31.°48S×71.°75W, h20km±6km, ML3.8*
*IDC **22** 23:32:16.4±5.0, 31.°75S×71.°77W, h68km±44km, mb3.6/1, mb1 3.4/3, mb1mx3.2/27, mbtmp3.5/3, ML3.2/2, Error ellipse: s-maj=119.7km s-min=42.5km az=94.0*

ISC 22 23:32:12.1±1.5, **31.°48S**±0.°03×**71.°8W**±0.°1, **h29**km±13km, **n22**, σ0**°57**/22, **2C-3D**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.82**	**8**	*eP*	**Pn**	**23 32 27.5**	**-0.2**
CO06				*eS*	**Sn**	**23 32 38.2**	**-0.6**
CO03	**El Pedregal**	**1.13**	**56**	⇓*iP*	**Pb**	**23 32 32.8**	**-0.3**
CO03				*i* S	**Sb**	**23 32 47.4**	**0.0**
VA06	**Catapilco**	**1.15**	**159**	⇓*iP*	**Pb**	**23 32 32.5**	**+0.2**
VA06				*eS*	**Sb**	**23 32 48.5**	**+0.6**
VA06				IAML		23 32 51.4	
	comp=E,4μm,0.5s						
VA01	**Torpederas**	**1.54**	**176**	*eP*	**Pb**	**23 32 39.3**	**-0.7**
VA01				*eS*	**Sb**	**23 32 59.6**	**+0.6**
GO04	**Tololo Observa**	**1.55**	**33**	*eP*	**Pb**	**23 32 39.8**	**-0.6**
GO04				*eS*	**Sb**	**23 33 00.3**	**+0.6**
GO04				IAML		23 33 02.4	
	comp=E,3μm,0.8s						
ROCH	**El Roble**	**1.62**	**157**	⇑*eP*	**Pb**	**23 32 41.1**	**-0.4**
ROCH				*eS*	**Sb**	**23 33 01.1**	**-0.5**
ROCH				IAML		23 33 05.9	
	comp=N,1μm,0.3s						
CO05	**La Serena**	**1.63**	**17**	*eP*	**Pb**	**23 32 41.2**	**-0.3**
CO05				*eS*	**Sb**	**23 33 02.2**	**+0.6**
VA03	**San Esteban**	**1.65**	**141**	⇓*eP*	**Pb**	**23 32 41.5**	**-0.4**
VA03				*eS*	**Sb**	**23 33 02.8**	**+0.6**
VA03				IAML		23 33 05.1	
	comp=E,3μm,0.4s						
MT05	**Renca**	**2.09**	**156**	⇑*eP*	**Pb**	**23 32 49.0**	**-0.5**
MT05				*i* S	**Sb**	**23 33 15.5**	**+0.4**
MT05				IAML		23 33 19.7	
	comp=E,881nm,0.3s						
H03N1	**Juan Fernandez** baz=78,slow=73,SNR=189	**6.34**	**250**	T	T	23 40 27.2	
H03N3	**Juan Fernandez** baz=78,slow=73,SNR=665	**6.36**	**250**	T	T	23 40 28.5	
H03N2	**Juan Fernandez** baz=78,slow=73,SNR=670	**6.36**	**250**	T	T	23 40 31.3	
PLCA	**Paso Flores** comp=E,0.1nm,0.3s,baz=349,slow=10,SNR=1.6	**9.28**	**174**	P	**Pn**	**23 34 23.9**	**-0.1**
LPAZ	**La Paz** comp=E,0.1nm,0.3s,baz=203,slow=18,SNR=2.2	**15.49**	**13**	P	**P**	**23 35 54.7**	**+1.3**
TORD	**Torodi Ar. Bea** comp=E,0.9nm,0.8s,baz=244,slow=4.7,SNR=4.9	**83.14**	**70**	P	**P**	**23 44 35.8**	**+0.1**
H11S2	**WAKE ISLAND Hyl** baz=117,slow=75,SNR=43	**26.00**	**271**	T	T	02 10 03.4	
H11S1	**WAKE ISLAND Hyl** baz=117,slow=75,SNR=29	**26.01**	**271**	T	T	02 10 04.0	
H11S3	**WAKE ISLAND Hyl** baz=117,slow=75,SNR=24	**26.01**	**271**	T	T	02 10 04.1	
H11N3	**WAKE ISLAND Hyl** baz=117,slow=74	**26.34**	**272**	T	T	02 10 31.7	
H11N1	**WAKE ISLAND Hyl** baz=117	**26.36**	**272**	T	T	02 10 31.7	
H11N2	**WAKE ISLAND Hyl** baz=117,slow=74	**26.36**	**272**	T	T	02 10 32.5	
ZALV	**Zalesovo Beam** comp=E,0.8nm,0.3s,baz=300,slow=3.8,SNR=6.5	**151.96**	**30**	PKPbc	**PKPbc**	**23 52 03.6**	**-0.3**

*IDC **22** 23:36:56.6±3.6, 5.°88S×154.°35E, h459km±42km, mb3.0/5, mb1 3.0/6, mb1mx2.9/30, mbtmp3.7/6, Error ellipse: s-maj=101.6km s-min=19.1km az=115.0*

ISC 22 23:36:55.8±2.9, **5.°9S**±0.°2×**154.°4E**±0.°6, **h450**km, **n7**, σ0**°54**/8, **mb3.5**/5, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower** 0.3nm,0.3s,baz=19,slow=11,SNR=1.9	**16.20**	**208**	P	**P**	**23 40 20.1**	**+0.3**
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=60,slow=9.5,SNR=6.9	**23.99**	**232**	P	**P**	**23 41 33.5**	**+0.1**
ASAR	**Alice Springs** 0.4nm,0.3s,baz=56,slow=9.0,SNR=6.8	**26.49**	**226**	P	**P**	**23 41 55.2**	**-0.3**
ASAR				S	**S**	**23 45 56.7**	**-0.2**
SONM	**Songino Array** 0.6nm,0.4s,baz=130,slow=5.8,SNR=2.5	**68.05**	**327**	P	**P**	**23 47 09.7**	**+0.4**
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=97,slow=4.9,SNR=3.7	**82.14**	**319**	P	**P**	**23 48 28.7**	**+0.3**
ZALV	**Zalesovo Beam** 0.5nm,0.5s,baz=115,slow=5.5,SNR=2.2	**82.89**	**326**	P	**P**	**23 48 31.1**	**-0.9**
TORD	**Torodi Ar. Bea** 0.2nm,0.4s,baz=105,slow=2.0,SNR=5.5	**152.12**	**287**	PKPbc	**PKPbc**	**23 56 00.5**	**+0.1**

IDC 22 23:38:08.1±6.2, **6.°40S**×**152.°69E**, **h0**km, **mb3.2**/2, **mb1 3.5**/2, **mb1mx3.3**/30, **mbtmp3.3**/2, **Error ellipse: s-maj=345.6km s-min=57.0km az=124.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.5nm,0.8s,baz=54,slow=7.3,SNR=1.7	**22.34**	**231**	P	P	23 43 08.0	+0.2
ASAR	**Alice Springs** 0.6nm,0.8s,baz=56,slow=8.7,SNR=4.5	**24.93**	**224**	P	P	23 43 33.0	-0.2
TORD	**Torodi Ar. Bea** 0.5nm,0.9s,baz=90,slow=1.4,SNR=2.3	**150.66**	**285**	PKPbc	PKPbc	23 58 03.0	-0.3

*IDC **23** 00:14:02.8±2.0, 20.°47S×178.°61W, h544km±24km, mb3.1/8, mb1 3.4/11, mb1mx3.3/34, mbtmp4.2/11, Error ellipse: s-maj=23.1km s-min=14.6km az=143.0*
*NEIC **23** 00:14:06.3±2.0, 20.°7S±0.°1×178.°5W±0.°1, h581km±9km, mb4.2/15, Error ellipse: s-maj=22.2km s-min=17.4km az=150.0*

ISC 23 00:14:06.8±0.6, **20.°6S**±0.°1×**178.°74W**±0.°09, **h587**km, **n44**, σ1**°25**/41, **mb3.7**/14, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.15**	**313**	P	**P**	**00 15 32.2**	**-0.3**
NIUE	**Niue**	**8.43**	**81**	P	**P**	**00 16 11.6**	**+1.7**
AFI	**Afiamalu** 4.1nm,0.3s,baz=42,slow=5.2,SNR=7.4	**9.40**	**46**	P	P	00 16 11.7	-7.8
AFI	**Afiamalu**	**9.40**	**46**	P	P	00 16 13.4	-6.1
MARNC	**Mare, Loyalty**	**12.38**	**264**	P	**P**	**00 16 50.2**	**+0.9**
PINNC	**Pines Island,**	**13.00**	**259**	P	**P**	**00 16 57.5**	**+1.8**
DZM	**Mont Dzumac** 0.4nm,0.3s,baz=76,slow=16,SNR=5.5	**13.88**	**261**	P	**P**	**00 17 04.3**	**-0.5**
DZM	**Mont Dzumac**	**13.88**	**261**	P	**P**	**00 17 05.8**	**+1.1**
OUZ	**Omahuta**	**16.06**	**203**	P	**P**	**00 17 26.3**	**+1.2**
OUZ				IAmb	IAmb	00 17 27.8	
	comp=Z,21nm,0.8s						
URZ	**Urewera** comp=Z,2.8nm,0.3s,baz=284,slow=3.3,SNR=9.6	**17.97**	**191**	P	**P**	**00 17 39.9**	**-2.6**
URZ	**Urewera**	**17.97**	**191**	P	**P**	**00 17 40.3**	**-2.2**
BKZ	**Black Stump Fm**	**18.96**	**191**	P	**P**	**00 17 48.5**	**-3.0**
BKZ				IAmb	IAmb	00 18 09.0	
	comp=Z,23nm,1.3s						
SNZO	**South Karori**	**21.39**	**194**	P	**P**	**00 18 10.9**	**-2.4**
THZ	**Tophouse**	**22.26**	**197**	P	**P**	**00 18 19.0**	**-2.2**
RPZ	**Rata Peaks**	**24.58**	**198**	P	**P**	**00 18 40.5**	**-1.3**
RPZ				IAmb	IAmb	00 19 05.4	
	comp=Z,21nm,1.3s						
STKA	**Stephens Creek** comp=Z,1.3nm,0.6s,baz=98,slow=11,SNR=3.7	**37.12**	**244**	P	**P**	**00 20 28.8**	**0.0**
STKA	**Stephens Creek**	**37.12**	**244**	P	**P**	**00 20 29.6**	**+0.7**
STKA				IAmb	IAmb	00 20 32.8	
	comp=Z,2.7nm,1.4s						
BBOO	**Buckleboo**	**41.88**	**244**	P	**P**	**00 21 07.1**	**+0.2**
BBOO				IAmb	IAmb	00 21 31.6	
	comp=Z,32nm,1.5s						
WR0	**Warramunga Arr**	**43.71**	**262**	P	**P**	**00 21 22.3**	**+0.9**
WR0				IAmb	IAmb	00 21 34.2	
	comp=Z,6.2nm,1.1s						
AS31	**Alice Springs**	**43.82**	**257**	P	**P**	**00 21 22.7**	**+0.5**
ASAR	**Alice Springs** comp=Z,3.3nm,0.7s,baz=95,slow=7.6,SNR=33	**43.82**	**257**	P	**P**	**00 21 22.6**	**+0.4**
ASAR				S	**S**	**00 27 11.5**	**0.0**
	comp=Z,1.3nm,0.7s,baz=95,slow=16,SNR=10						
ASAR	**Alice Springs**	**43.82**	**257**	P	**P**	**00 21 22.0**	**-0.2**
WB2	**Warramunga Arr**	**43.89**	**262**	P	**P**	**00 21 23.0**	**+0.3**
WB2				IAmb	IAmb	00 21 23.2	
	comp=Z,6.2nm,1.1s						
WRA	**Warramunga Arr** comp=Z,0.9nm,0.3s,baz=96,slow=7.7,SNR=14	**43.90**	**262**	P	**P**	**00 21 22.6**	**-0.2**
WRA	**Warramunga Arr**	**43.90**	**262**	P	**P**	**00 21 23.1**	**+0.3**
SBA	**Scott Base**	**57.74**	**184**	P	**P**	**00 23 04.1**	**+2.1**
VNDA	**Vanda** comp=Z,1.1nm,1.1s,baz=353,slow=6.2,SNR=7.0	**57.76**	**185**	P	**P**	**00 23 03.0**	**+0.9**
VNDA	**Vanda**	**57.76**	**185**	P	**P**	**00 23 03.3**	**+1.1**
QSPA	**South Pole Qui**	**69.48**	**180**	P	**P**	**00 24 17.0**	**0.0**
QSPA				IAmb	IAmb	00 24 29.9	
	comp=Z,2.4nm,1.1s						
PETK	**Petropavlovsk-** comp=Z,2.2nm,0.8s,baz=157,slow=7.8,SNR=2.4	**76.18**	**346**	P	**P**	**00 24 54.8**	**-0.4**
NVAR	**Mina Array Bea** comp=Z,0.6nm,0.8s,baz=225,slow=9.9,SNR=4.4	**81.57**	**44**	P	**P**	**00 25 24.2**	**-0.2**
K05A	**Summer Lake**	**82.47**	**39**	P	**P**	**00 25 29.1**	**+0.2**
K05A				IAmb	IAmb	00 25 30.8	
	comp=Z,5.5nm,1.2s						
TXAR	**Lajitas Array** comp=Z,0.9nm,0.9s,baz=232,slow=6.2,SNR=8.9	**87.69**	**58**	P	**P**	**00 25 54.3**	**+0.1**
PDAR	**Pinedale Array** comp=Z,0.4nm,0.8s,baz=225,slow=1.9,SNR=4.2	**89.50**	**44**	P	**P**	**00 26 01.9**	**-0.6**
ARCES	**ARCESS Array B** comp=Z,1.8nm,0.8s,baz=355,slow=2.9,SNR=3.7	**128.88**	**349**	PKP	**PKPdf**	**00 32 06.3**	**-1.4**
ARCES	**ARCESS Array B**	**128.88**	**349**		**PKPdf**	**00 32 06.6**	**-1.1**
FINES	**FINESS Array B** comp=Z,1.1nm,0.9s,baz=98,slow=10.0,SNR=1.3	**135.66**	**343**	PKP	**PKPdf**	**00 32 20.3**	**-0.3**
NOA	**NORSAR Array B** comp=Z,0.5nm,0.8s,baz=346,slow=5.4,SNR=1.8	**138.98**	**353**	PKhKP	PKPpre	00 32 23.0	
AKASG	**Malin Array Be** comp=Z,1.1nm,0.4s,baz=41,slow=4.8,SNR=7.7	**142.75**	**330**	PKhKP	PKPpre	00 32 29.8	
BRTR	**Keskin Array B** comp=Z,0.5nm,0.7s,baz=126,slow=7.8,SNR=4.7	**146.38**	**312**	PKPbc	**PKPdf**	**00 32 41.2**	**+0.6**
BRTR	**Keskin Array B**	**146.38**	**312**		**PKPbc**	**00 32 42.1**	**-1.0**
CLL	**Collm** comp=Z,6.0nm,1.0s	**147.99**	**346**	*i* PKPbc	**PKPbc**	**00 32 46.0**	**-0.7**
GERES	**GERESS Array B** comp=Z,0.3nm,0.4s,baz=20,slow=4.3,SNR=5.1	**150.09**	**343**	PKPbc	**PKPbc**	**00 32 50.9**	**-1.1**
GERES	**GERESS Array B**	**150.09**	**343**	PKPbc	**PKPbc**	**00 32 51.2**	**-0.8**

*IDC **23** 00:23:38.5±1.1, 31.°55S×71.°55W, h0km, mb3.9/6, mb1 3.8/10, mb1mx3.7/29, mbtmp3.7/10, ML3.5/4, MS2.9/6, Ms1 2.9/6, ms1mx2.8/28, Error ellipse: s-maj=41.1km s-min=19.3km az=99.0*
*GUC **23** 00:23:46.4±0.6, 31.°63S×71.°27W, h44km±3km, ML4.1*
*NEIC **23** 00:23:46.7±1.7, 31.°63S±0.°04×71.°4W±0.°1, h51km±8km, Error ellipse: s-maj=12.8km s-min=6.2km az=83.0*

ISC 23 00:23:46.5±0.9, **31.°60S**±0.°03×**71.°35W**±0.°06, **h56**km±9km, **n79**, σ0**°95**/79, **mb4.0**/6, **MS3.1**/3, **6C-1D**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO03	**El Pedregal**	**0.95**	**37**	⇑*iP*	**Pn**	**00 24 03.9**	**0.0**
CO03				*i* S	**Sn**	**00 24 16.5**	**-0.1**
CO03				IAML		00 24 17.6	
	comp=N,11μm,0.2s						
CO03	**El Pedregal**	**0.95**	**37**	Pn	**Pn**	**00 24 04.0**	**+0.1**
VA06	**Catapilco**	**0.96**	**177**	⇓*iP*	**Pn**	**00 24 04.3**	**+0.5**
VA06				*i* S	**Sn**	**00 24 16.6**	**0.0**
CO06	**Fray Jorge**	**0.96**	**345**	⇑*iP*	**Pn**	**00 24 04.6**	**+0.7**
CO06				*i* S	**Sn**	**00 24 18.4**	**+1.8**
CO06	**Fray Jorge**	**0.96**	**345**		**Pn**	**00 24 04.6**	**+0.7**
VA03	**San Esteban**	**1.34**	**150**	*eP*	**Pn**	**00 24 08.7**	**-0.3**
VA03				*i* S	**Sn**	**00 24 26.0**	**0.0**
VA03				IAML		00 24 29.2	
	comp=E,5μm,0.1s						
VA03	**San Esteban**	**1.34**	**150**		**Pn**	**00 24 08.9**	**-0.2**
VA03				Sn	**Sn**	**00 24 26.1**	**+0.1**
ROCH	**El Roble**	**1.40**	**168**	*eP*	**Pn**	**00 24 09.8**	**-0.1**
ROCH				*i* S	**Sn**	**00 24 28.4**	**+0.9**
VA01	**Torpederas**	**1.44**	**190**	*eP*	**Pn**	**00 24 10.8**	**+0.6**
VA01				*i* S	**Sn**	**00 24 29.4**	**+1.3**
VA01	**Torpederas**	**1.44**	**190**	Pn	**Pn**	**00 24 10.7**	**+0.4**
GO04	**Tololo Observa**	**1.50**	**19**	*eP*	**Pn**	**00 24 12.2**	**+0.9**
GO04				*i* S	**Sn**	**00 24 32.1**	**+2.0**
GO04	**Tololo Observa**	**1.50**	**19**	Pn	**Pn**	**00 24 12.3**	**+0.9**
CO05	**La Serena**	**1.68**	**3**	⇑*iP*	**Pn**	**00 24 13.9**	**+0.4**
CO05				*i* S	**Sn**	**00 24 35.7**	**+1.7**
CO05	**La Serena**	**1.68**	**3**	Pn	**Pn**	**00 24 14.0**	**+0.4**
MT05	**Renca**	**1.86**	**164**	*eP*	**Pn**	**00 24 16.3**	**+0.3**
MT05				*i* S	**Sn**	**00 24 39.6**	**+1.1**
MT05				IAML		00 24 43.7	
	comp=E,3μm,0.3s						
MT05	**Renca**	**1.86**	**164**	Pn	**Pn**	**00 24 16.4**	**+0.3**
VA05	**Santo Domingo**	**2.06**	**186**	*i* P	**Pn**	**00 24 19.2**	**+0.5**
VA05				*i* S	**Sn**	**00 24 44.0**	**+0.7**
VA05				IAML		00 24 52.9	
	comp=E,2μm,0.2s						
VA05	**Santo Domingo**	**2.06**	**186**	Pn	**Pn**	**00 24 19.2**	**+0.5**
MT09	**Talagante**	**2.19**	**172**	⇑*iP*	**Pn**	**00 24 21.2**	**+0.6**
MT09				*i* S	**Sn**	**00 24 47.8**	**+1.2**
MT09				IAML		00 24 55.6	
	comp=E,2μm,0.6s						
MT09	**Talagante**	**2.19**	**172**		**Pn**	**00 24 21.2**	**+0.6**
MT01	**Popeta**	**2.26**	**178**	⇑*iP*	**Pn**	**00 24 22.1**	**+0.7**
MT01				*i* S	**Sn**	**00 24 49.4**	**+1.3**
MT01				IAML		00 24 56.2	
	comp=E,1μm,0.2s						
MT01	**Popeta**	**2.26**	**178**	Pn	**Pn**	**00 24 22.3**	**+0.9**
ZON	**Zonda**	**2.29**	**89**	Pn	**Pn**	**00 24 23.9**	**+2.1**
LMEL	**Las Melosas**	**2.44**	**157**	*eP*	**Pn**	**00 24 24.6**	**+0.5**
LMEL				IAML		00 25 01.9	
	comp=N,2μm,0.3s						
LCO	**Las Campanas**	**2.65**	**13**	Pn	**Pn**	**00 24 27.7**	**+0.7**
BO01	**Tunca**	**2.79**	**175**	*i* P	**Pn**	**00 24 29.3**	**+0.6**
BO01				*i* S	**Sn**	**00 25 01.8**	**+0.7**
BO01	**Tunca**	**2.79**	**175**	Pn	**Pn**	**00 24 29.1**	**+0.4**
BO03	**Pichilemu**	**2.93**	**190**	*eP*	**Pn**	**00 24 30.3**	**-0.3**
BO02	**Sierra Bellavi**	**3.22**	**172**	⇑*iP*	**Pn**	**00 24 35.4**	**+0.8**
BO02				*i* S	**Sn**	**00 25 12.5**	**+0.8**
BO02	**Sierra Bellavi**	**3.22**	**172**		**Pn**	**00 24 35.4**	**+0.8**
AC04	**Llanos de Chal**	**3.40**	**4**	Pn	**Pn**	**00 24 37.4**	**+0.4**
GO05	**Huala**	**3.43**	**188**	*eP*	**Pn**	**00 24 37.2**	**-0.3**
GO05				IAML		00 25 35.9	
	comp=N,259nm,0.2s						
GO05	**Huala**	**3.43**	**188**	Pn	**Pn**	**00 24 37.1**	**-0.3**
GO03	**Copiap**	**4.11**	**14**	Pn	**Pn**	**00 24 47.6**	**+0.8**
ML02	**Panimavida**	**4.15**	**181**	Pn	**Pn**	**00 24 47.6**	**+0.3**
AC06	**Mina Casimiro**	**4.32**	**12**	Pn	**Pn**	**00 24 49.8**	**+0.1**
AC02	**Maricunga**	**5.13**	**23**	Pn	**Pn**	**00 25 01.6**	**+0.4**
H03N1	**Juan Fernandez** baz=79,slow=73,SNR=1305	**6.64**	**252**	T	T	00 32 07.2	
H03N3	**Juan Fernandez** baz=79,slow=73,SNR=1259	**6.65**	**252**	T	T	00 32 06.5	
H03N2	**Juan Fernandez** baz=79,slow=73,SNR=1190	**6.66**	**252**	T	T	00 32 07.9	
H03S3	**Juan Fernandez** baz=86,slow=75,SNR=9.7	**6.74**	**249**	T	T	00 32 13.1	
H03S1	**Juan Fernandez** baz=86,slow=75,SNR=12	**6.74**	**249**	T	T	00 32 11.5	
H03S2	**Juan Fernandez** baz=86,slow=75,SNR=14	**6.76**	**249**	T	T	00 32 11.3	
LC01	**Cunco**	**7.29**	**183**	Pn	**Pn**	**00 25 28.9**	**-1.4**
PLCA	**Paso Flores** comp=N,0.2nm,0.3s,baz=350,slow=9.6,SNR=11	**9.13**	**176**	Pn	**Pn**	**00 25 54.3**	**-1.3**
PLCA	**Paso Flores**	**9.13**	**176**	Pn	**Pn**	**00 25 55.3**	**-0.3**
LVC	**Limon Verde** comp=N,0.2nm,0.3s,baz=271,slow=16,SNR=1.3	**9.22**	**14**	Pn	**Pn**	**00 25 54.6**	**-2.6**
LVC				LR	LR	00 29 48.1	
	comp=N,29nm,19.0s,baz=194,slow=40						
LVC	**Limon Verde**	**9.22**	**14**		**Pn**	**00 25 57.0**	**-0.1**
LL04	**Puerto Octay**	**9.33**	**185**	Pn	**Pn**	**00 25 56.1**	**-2.0**
TRQA	**Tornquist**	**10.04**	**132**	Pn	**Pn**	**00 26 06.5**	**-1.5**
ITQB	**Itaqui**	**12.83**	**85**	Pn	**Pn**	**00 26 46.2**	**+0.1**
CPUP	**Villa Florida** comp=N,25nm,19.1s,baz=219,slow=37	**13.35**	**70**	LR	LR	00 31 56.9	
LPAZ	**La Paz** comp=N,0.0nm,0.3s,baz=198,slow=9.6,SNR=1.9	**15.53**	**12**	Pn	**Pn**	**00 27 20.0**	**-2.5**
LPAZ				LR	LR	00 34 00.5	
	comp=N,14nm,18.6s,baz=126,slow=40						
LPAZ	**La Paz**	**15.53**	**12**	P	**Pn**	**00 27 23.7**	**+1.2**
SIV	**San Ignacio** comp=N,0.2nm,0.3s,baz=219,slow=13,SNR=2.5	**18.15**	**33**	P	**P**	**00 27 53.5**	**-0.8**
NNA	**Nana** comp=N,26nm,18.8s,baz=180,slow=32	**20.17**	**344**	LR	LR	00 34 16.4	
BDFB	**Brasilia** comp=N,1.0nm,0.5s,baz=134,slow=14,SNR=1.8	**26.55**	**59**	P	**P**	**00 29 21.4**	**+2.0**
BDFB				LR	LR	00 41 01.6	
	comp=N,63nm,21.3s,baz=291,slow=39						
JTS	**Las Juntas de** comp=N,123nm,18.6s,baz=6.0,slow=32	**43.65**	**340**	LR	LR	00 46 52.9	
VNA3	**Neumayer Olymp**	**51.36**	**159**	P	**P**	**00 32 44.9**	**-0.1**
VNA1	**Neumayer--Stat**	**51.66**	**158**	P	**P**	**00 32 47.5**	**+0.4**
VNA2	**Neumayer--Watz** baz=283,slow=8.4	**52.00**	**158**	P	**P**	**00 32 50.2**	**+0.5**
SNAA	**Sanae**	**53.59**	**159**	P	**P**	**00

JKB				*e*S	**S**	**00 35 49.1**	**-0.3**
JOSM	**Okushiri--Mats**	**4.91**	**220**	*e*S	**S**	**00 35 58.8**	**+0.9**
JOT	**Ohata**	**4.95**	**204**	P	**Pn**	**00 34 57.3**	**+1.7**
JOT				*e*S	**S**	**00 35 57.6**	**-1.1**
JANG	**Nango**	**5.79**	**197**	P	**Pn**	**00 35 06.2**	**+0.9**
JANG				*e*S	**S**	**00 36 12.9**	**-3.4**
USRK	**Ussuriysk Ar.**	**8.46**	**262**	P	**P**	**00 35 38.6**	**-1.8**
	baz=70,slow=12,SNR=20						
MJAR	**Matsushiro Arr**	**10.26**	**206**	P	**P**	**00 36 01.3**	**+0.7**
	0.1nm,0.3s,baz=26,slow=12,SNR=4.5						
SEY	**Seymchan**	**17.72**	**13**	P	**P**	**00 37 21.5**	**-0.6**
	0.6nm,0.3s,baz=202,slow=7.7,SNR=13						
ILAR	**Eielson Array**	**41.21**	**38**	P	**P**	**00 40 50.4**	**-0.1**
	1.0nm,0.8s,baz=279,slow=7.5,SNR=8.4						
MKAR	**Makanchi Array**	**41.40**	**294**	P	**P**	**00 40 51.9**	**-0.4**
	0.3nm,0.5s,baz=79,slow=7.5,SNR=2.3						
INK	**Inuvik**	**45.77**	**31**	P	**P**	**00 41 25.1**	**-1.3**
	2.1nm,0.4s,baz=297,slow=5.0,SNR=5.8						
YKA	**Yellowknife Ar**	**55.34**	**34**	P	**P**	**00 42 36.3**	**-1.0**
	0.6nm,0.6s,baz=310,slow=5.9,SNR=6.5						
FINES	**FINESS Array B**	**61.77**	**331**	P	**P**	**00 43 19.8**	**-1.6**
	1.3nm,0.5s,baz=46,slow=8.2,SNR=12						
NOA	**NORSAR Array B**	**66.64**	**337**	P	**P**	**00 43 51.3**	**-1.4**
	0.4nm,0.7s,baz=33,slow=6.7,SNR=1.6						
NVAR	**Mina Array Bea**	**68.47**	**57**	P	**P**	**00 44 05.3**	**+0.5**
	0.3nm,0.6s,baz=316,slow=7.5,SNR=2.7						
PDAR	**Pinedale Array**	**70.33**	**48**	P	**P**	**00 44 16.7**	**+0.7**
	0.4nm,0.6s,baz=328,slow=3.2,SNR=2.2						
BRTR	**Keskin Array B**	**74.24**	**311**	P	**P**	**00 44 38.9**	**0.0**
	0.3nm,0.6s,baz=29,slow=3.3,SNR=1.9						
TXAR	**Lajitas Array**	**83.42**	**54**	P	**P**	**00 45 29.9**	**+1.3**
	0.2nm,0.5s,baz=288,slow=4.2,SNR=8.6						

*CNRM **23** 00:37:39.4, 35˚.28N×3˚.96W, h25km, ml1.9*
*MDD **23** 00:37:40.7±0.5, 35˚.26N×3˚.93W, h0km, mbLg2.2/5, Error ellipse: s-maj=6.5km s-min=3.4km az=169.0, PRXIMO*
*SFS **23** 00:37:41.0, 35˚.34N×3˚.89W, ML3.0, ALHUCEMAS (MARRUECOS)*

ISC 23 00:37:39.6±0.9, **35˚.23N**±0˚.02×**3˚.92W**±0˚.02, **h19**km±2km, **n49**, σ1s**26**/87, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.02**	**231**	P	**Pg**	**00 37 43.1**	**+0.1**
PALE				S	**Sg**	**00 37 45.3**	**-0.1**
PALE	**Palemas**	**0.02**	**231**	P	**Pg**	**00 37 42.8**	**-0.3**
PALE				S	**Sg**	**00 37 45.3**	**-0.1**
PVLZ	**Peæn de**	**0.31**	**260**	P	**Pg**	**00 37 46.2**	**-0.3**
PVLZ				S	**Sb**	**00 37 51.5**	**+0.3**
PVLZ	**Peæn de**	**0.31**	**260**	P	**Pg**	**00 37 46.2**	**-0.3**
PVLZ				S	**Sb**	**00 37 51.5**	**+0.3**
AKLM	**AKL**	**0.72**	**176**	P	**Pg**	**00 37 54.0**	**+0.2**
AKLM				S	**Sb**	**00 38 02.4**	**-0.6**
AKLM	**AKL**	**0.72**	**176**	P	**Pn**	**00 37 54.7**	**-0.1**
AKLM				S	**Sb**	**00 38 02.4**	**-0.6**
GOG	**Mont Gurugu**	**0.76**	**90**	P	**Pn**	**00 37 56.4**	**+1.1**
GOG				S	**Sn**	**00 38 05.8**	**-0.5**
GOG	**Mont Gurugu**	**0.76**	**90**	P	**Pn**	**00 37 56.4**	**+1.1**
GOG				S	**Sn**	**00 38 05.8**	**-0.5**
EMEL	**Melilla**	**0.80**	**84**	P	**Pg**	**00 37 55.2**	**0.0**
	12nm,0.2s,SNR=4.0						
EMEL				S	**Sn**	**00 38 06.9**	**-0.1**
	50nm,0.1s,SNR=4.0						
MELI	**Melilla**	**0.81**	**85**	P	**Pb**	**00 37 54.8**	**-0.2**
	30nm,0.2s,SNR=7.9						
MELI				S	**Sg**	**00 38 06.7**	**+0.3**
	12nm,0.1s,SNR=7.9						
CHEFC	**Chefchaouen**	**1.17**	**265**	P	**Pg**	**00 38 03.0**	**+0.8**
CHEFC				S	**Sb**	**00 38 13.1**	**-2.8**
CHEFC	**Chefchaouen**	**1.17**	**265**	P	**Pg**	**00 38 03.0**	**+0.8**
CHEFC				S	**Sb**	**00 38 13.1**	**-2.8**
SMIR	**Smir Dam**	**1.27**	**291**	P	**Pb**	**00 38 02.9**	**0.0**
SMIR				S	**Sn**	**00 38 15.9**	**-2.9**
SMIR	**Smir Dam**	**1.27**	**291**	P	**Pb**	**00 38 02.9**	**0.0**
SMIR				S	**Sn**	**00 38 15.9**	**-2.9**
TAF	**Taforalt**	**1.31**	**108**	P	**Pn**	**00 38 03.0**	**+0.1**
TAF				S	**Sn**	**00 38 18.0**	**-1.8**
TAF	**Taforalt**	**1.31**	**108**	P	**Pb**	**00 38 03.4**	**-0.1**
TAF				S	**Sn**	**00 38 18.0**	**-1.8**
CEU	**Ceuta**	**1.36**	**300**	P	**Pn**	**00 38 03.8**	**+0.3**
CEU				S	**Sn**	**00 38 17.7**	**-3.2**
CEU	**Ceuta**	**1.36**	**300**	P	**Pn**	**00 38 03.8**	**+0.3**
CEU				S	**Sn**	**00 38 17.7**	**-3.2**
ECEU	**Ceuta**	**1.36**	**300**	P	**Pg**	**00 38 05.4**	**-0.5**
	1.3nm,0.1s,SNR=7.9						
ECEU				S	**Sn**	**00 38 19.4**	**-1.6**
	3.3nm,0.1s,SNR=7.9						
JBK	**JBK**	**1.43**	**128**	P	**Pn**	**00 38 03.8**	**-0.9**
JBK				S	**Sn**	**00 38 22.1**	**-0.8**
JBK	**JBK**	**1.43**	**128**	P	**Pn**	**00 38 03.8**	**-0.9**
JBK				S	**Sn**	**00 38 22.1**	**-0.8**
EMIJ	**Mijas**	**1.50**	**333**	P	**Pn**	**00 38 05.4**	**-0.1**
	0.2nm,0.1s,SNR=5.7						
EMIJ				S	**Sn**	**00 38 24.5**	**-0.1**
	2.2nm,0.2s,SNR=6.4						
ELGU	**Los Guajares,**	**1.66**	**8**	P	**Pn**	**00 38 08.1**	**+0.5**
	0.3nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**00 38 28.1**	**-0.3**
	4.1nm,0.2s,SNR=7.9						
LCRM	**LCR**	**1.72**	**207**	P	**Pg**	**00 38 12.0**	**-0.8**
LCRM				S	**Sb**	**00 38 32.1**	**+0.2**
LCRM	**LCR**	**1.72**	**207**	P	**Pb**	**00 38 10.5**	**-0.2**
LCRM				S	**Sb**	**00 38 32.1**	**+0.2**
EJIF	**Jimena Fronter**	**1.75**	**315**	P	**Pb**	**00 38 11.5**	**+0.4**
	SNR=7.9						
EBER	**Berja**	**1.87**	**26**	P	**Pn**	**00 38 11.9**	**+1.2**
	0.2nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**00 38 31.8**	**-2.0**
	3.0nm,0.3s,SNR=37						
EGOR	**Sierra Gorda,**	**1.89**	**355**	P	**Pb**	**00 38 13.8**	**+0.3**
	0.1nm,0.0s,SNR=7.9						
EGOR				S	**Sb**	**00 38 35.4**	**-1.3**
	0.4nm,0.3s,SNR=7.9						
IFR	**Ifrane**	**1.98**	**211**	P	**Pb**	**00 38 16.4**	**+1.4**
IFR				S	**Sn**	**00 38 35.6**	**-0.9**
EQUE	**Quentar**	**2.01**	**11**	P	**Pb**	**00 38 15.1**	**-0.5**
	0.1nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**00 38 38.4**	**+1.1**
	0.8nm,0.2s,SNR=7.9						
MD31	**MD31**	**2.45**	**197**	P	**Pn**	**00 38 19.8**	**+1.2**
MD31				S	**Sn**	**00 38 48.7**	**+0.6**
MD31	**MD31**	**2.45**	**197**	P	**Pn**	**00 38 19.8**	**+1.2**
MD31				S	**Sn**	**00 38 48.7**	**+0.6**
MDT	**Midelt**	**2.47**	**193**	P	**Pn**	**00 38 20.0**	**+1.1**
MDT				S	**Sn**	**00 38 48.9**	**+0.3**
MDT	**Midelt**	**2.47**	**193**	P	**Pn**	**00 38 20.0**	**+1.1**
MDT				S	**Sn**	**00 38 48.9**	**+0.3**
EQES	**Quesada**	**2.66**	**15**	P	**Pb**	**00 38 24.5**	**-2.2**
	0.1nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**00 38 56.0**	**+2.7**
	7.2nm,0.5s,SNR=7.9						
TDRA	**Tendrara**	**2.69**	**144**	P	**Pn**	**00 38 22.2**	**+0.2**
TDRA				S	**Sn**	**00 38 54.8**	**+0.7**
TDRA	**Tendrara**	**2.69**	**144**	P	**Pn**	**00 38 22.2**	**+0.2**
TDRA				S	**Sn**	**00 38 54.8**	**+0.7**
EADA	**Adamuz**	**2.98**	**350**	P	**Pn**	**00 38 28.3**	**+2.4**
	0.1nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**00 39 01.7**	**+0.7**
	0.3nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**3.09**	**338**	P	**Pn**	**00 38 28.9**	**+1.6**
	0.1nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**00 39 04.4**	**+0.7**
	0.2nm,0.1s,SNR=7.9						
SESP	**Santiago Espad**	**3.09**	**21**	S	**Sn**	**00 39 02.7**	**-1.3**
	2.8nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.37**	**320**	P	**Pn**	**00 38 32.3**	**+1.2**
	0.2nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.68**	**310**	S	**Sn**	**00 39 18.9**	**+0.7**
	3.1nm,0.2s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**3.81**	**303**	S	**Sn**	**00 39 22.0**	**+0.4**
PBDV	**Barranco-do-Ve**	**3.81**	**303**	*e*Sn	**Sn**	**00 39 22.0**	**+0.4**
ETOB	**Tobarra**	**3.91**	**28**	P	**Pn**	**00 38 41.7**	**+3.1**
	0.2nm,0.1s,SNR=7.9						
MESJ	**Messejana**	**4.33**	**308**	S	**Sn**	**00 39 36.1**	**+1.8**
MESJ	**Messejana**	**4.33**	**308**	*e*Sn	**Sn**	**00 39 36.1**	**+1.8**
PTEO	**Sao Teotonio**	**4.51**	**302**	S	**Sn**	**00 39 38.8**	**+0.1**
PTEO	**Sao Teotonio**	**4.51**	**302**	*e*Sn	**Sn**	**00 39 38.8**	**+0.1**

*IDC **23** 00:40:26.4±2.9, 8˚.92S×123˚.98E, h88km±27km, mb3.6/6, mb1 3.8/7, mb1mx3.5/28, mbtmp4.0/7, MS2.5/2, Ms1 2.5/2, ms1mx2.3/24, Error ellipse: s-maj=46.2km s-min=18.3km az=54.0*
*NEIC **23** 00:40:26.4±2.4, 8˚.97S±0˚.08×124˚.2E±0˚.1, h84km±7km, mb4.2/7, Error ellipse: s-maj=19.2km s-min=5.5km az=54.0*
*DJA **23** 00:40:26.5±0.2, 9˚S±3˚×122˚4E±˚, h91km±6km, M4.3/11, mb4.4/11, mB4.9/3, ML4.3/11, Mw(mB)4.1/3*

ISC 23 00:40:26.8±0.8, **9.08S**±0˚.06×**124˚.08E**±0˚.06, **h93**km±8km, **n48**, σ1s**53**/53, **mb3.9**/9, **Timor region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.70**	**165**	Pn	**Pn**	**00 40 43.8**	**0.0**
SOEI	**Soe**	**0.70**	**165**	P	**Pn**	**00 40 43.5**	**-0.2**
SOEI				S	**Sn**	**00 40 57.1**	**+0.8**
BATI	**Baumata**	**1.19**	**200**	P	**Pn**	**00 40 49.9**	**+0.8**
	158nm,0.3s,baz=38,slow=2.6,SNR=62						
BATI				S	**Sn**	**00 41 07.4**	**+1.6**
	500nm,0.3s,baz=208,slow=3.2,SNR=16						
BATI	**Baumata**	**1.19**	**200**	P	**Pn**	**00 40 49.3**	**+0.3**
BATI				S	**Sn**	**00 41 04.7**	**-1.0**
MMRI	**Maumere**	**1.88**	**283**		**Pn**	**00 40 58.0**	**+0.5**
MMRI	**Maumere**	**1.88**	**283**	P	**Pn**	**00 40 57.6**	**+0.1**
MMRI				S	**Sn**	**00 41 21.6**	**+0.7**
EDFI	**Ende, Flores**	**2.39**	**278**	P	**Pn**	**00 41 04.8**	**+0.5**
EDFI				S	**Sn**	**00 41 33.9**	**+0.8**
BASI	**Baing, Sumba**	**3.64**	**252**	S	**Sn**	**00 42 03.5**	**+0.5**
LBFI	**Labuhan Bajo,**	**4.19**	**278**	P	**Pn**	**00 41 29.2**	**+0.7**
LBFI				S	**Sn**	**00 42 18.0**	**+1.7**
BSSI	**Bau Bau, Buton**	**4.60**	**309**	P	**Pn**	**00 41 35.0**	**+0.9**
BKSI	**Bulukumba**	**5.42**	**313**	P	**Pn**	**00 41 45.9**	**+0.7**
	0.1nm19nm,0.5s						
KAPI	**Kappang**	**5.90**	**313**	LR	LR	00 43 39.2	
	comp=Z,39nm,21.0s,baz=86,slow=34						
BNSI	**Bone**	**6.10**	**319**	P	**Pn**	**00 41 55.9**	**+1.4**
	0.2nm39nm,0.7s						
PLAI	**Plampang**	**6.24**	**272**	P	**Pn**	**00 41 56.8**	**+0.5**
	0.3nm46nm,0.6s						
TWSI	**Taliwang, Sumb**	**7.12**	**272**	P	**Pn**	**00 42 08.4**	**0.0**
	0.1nm455nm11nm,0.5s						
SANI	**Sanana**	**7.24**	**15**	P	**Pn**	**00 42 10.8**	**+0.8**
	0.1nm21nm,0.9s						
MTNI	**Mataram**	**7.83**	**273**	P	**Pn**	**00 42 17.2**	**-0.9**
	1.7nm2µm40nm,0.4s						
MTN	**Manton Dam**	**7.87**	**119**	Pn	**Pn**	**00 42 17.4**	**-1.1**
KNRA	**Kununurra**	**7.99**	**146**		**Pn**	**00 42 18.5**	**-1.8**
FITZ	**Fitzroy Crossi**	**9.09**	**171**	P	**Pn**	**00 42 32.6**	**-2.6**
	3.7nm,0.3s,baz=1.2,slow=9.7,SNR=129						
FITZ				S	Sn	00 44 06.2	-10
	8.8nm,0.3s,baz=86,slow=19,SNR=20						
FITZ				LR	LR	00 46 53.6	
	comp=Z,46nm,21.8s,baz=327,slow=42						
FITZ	**Fitzroy Crossi**	**9.09**	**171**		**Pn**	**00 42 33.1**	**-2.2**
GAMI	**Galela, Maluku**	**11.46**	**19**	P	**Pn**	**00 43 08.1**	**+0.7**
	31nm,1.0s						
PSA00	**Pilbara Seismi**	**13.07**	**198**	Pn	**Pn**	**00 43 27.8**	**-1.2**
WB0	**Warramunga Arr**	**14.57**	**138**	Pn	**Pn**	**00 43 44.6**	**-3.9**
WRA	**Warramunga Arr**	**14.66**	**139**	P	**Pn**	**00 43 45.8**	**-3.8**
	1.3nm,0.3s,baz=329,slow=14,SNR=21						
WRA				S	Sn	00 46 19.0	-12
	2.8nm,0.3s,baz=308,slow=24,SNR=14						
WRA	**Warramunga Arr**	**14.66**	**139**		**Pn**	**00 43 47.6**	**-2.0**
WB2	**Warramunga Arr**	**14.67**	**139**		**Pn**	**00 43 47.6**	**-2.1**
WR0	**Warramunga Arr**	**14.80**	**138**		**Pn**	**00 43 48.2**	**-3.3**
AS31	**Alice Springs**	**17.28**	**148**	P	**Pn**	**00 44 21.8**	**-0.6**
AS31				IAmb	IAmb	00 44 26.3	
	comp=Z,2.7nm,0.5s						
ASAR	**Alice Springs**	**17.28**	**148**	P	**P**	**00 44 22.4**	**0.0**
	comp=Z,0.6nm,0.3s,baz=317,slow=11,SNR=28						
ASAR				S	Sn	00 47 21.4	-13
	comp=Z,0.5nm,0.3s,baz=316,slow=20,SNR=7.9						
ASAR	**Alice Springs**	**17.28**	**148**	P	**P**	**00 44 22.7**	**+0.3**
COEN	**Coen**	**19.32**	**106**	P	**P**	**00 44 45.6**	**+0.8**
COEN				IAmb	IAmb	00 44 46.6	
	comp=Z,11nm,0.5s						
FORT	**Forrest**	**21.91**	**171**	P	**P**	**00 45 12.8**	**+0.4**
FORT				IAmb	IAmb	00 45 36.2	
	comp=Z,20nm,0.8s						
CTA	**Charters Tower**	**24.05**	**120**	P	**P**	**00 45 35.3**	**+1.7**
	comp=Z,3.7nm,1.0s,baz=295,slow=8.4,SNR=3.3						
BBOO	**Buckleboo**	**26.08**	**157**	P	**P**	**00 45 52.3**	**+0.5**
BBOO				IAmb	IAmb	00 45 52.9	
	comp=Z,12nm,1.0s						
STKA	**Stephens Creek**	**27.91**	**147**	P	**P**	**00 46 11.6**	**+3.4**
	comp=Z,0.8nm,0.3s,baz=302,slow=7.2,SNR=3.5						
STKA	**Stephens Creek**	**27.91**	**147**	P	**P**	**00 46 09.8**	**+1.6**
CMAR	**Chiang Mai Arr**	**36.94**	**318**	P	**P**	**00 47 26.7**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=149,slow=6.4,SNR=4.1						
MK31	**Makanchi Array**	**66.92**	**330**	P	**P**	**00 51 08.0**	**-1.3**
MK31				IAmb	IAmb	00 51 13.5	
	comp=Z,1.7nm,1.0s						
MKAR	**Makanchi Array**	**66.92**	**330**	P	**P**	**00 51 08.2**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=140,slow=6.1,SNR=10						
ZALV	**Zalesovo Beam**	**71.00**	**337**	P	**P**	**00 51 32.5**	**-1.9**
	comp=Z,0.6nm,0.5s,baz=109,slow=3.3,SNR=2.7						
VNDA	**Vanda**	**71.17**	**172**	P	**P**	**00 51 36.3**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=311,slow=9.8,SNR=1.9						
VNDA	**Vanda**	**71.17**	**172**	P	**P**	**00 51 36.5**	**+1.5**
ABKAR	**Akbulak array**	**80.57**	**323**	P	**P**	**00 52 27.9**	**-1.1**
QSPA	**South Pole Qui**	**80.91**	**180**	P	**P**	**00 52 32.0**	**+1.3**
TORD	**Torodi Ar. Bea**	**123.42**	**280**	PKP	**PKPdf**	**00 59 13.6**	**-0.6**
	comp=Z,0.5nm,0.9s,baz=65,slow=2.0,SNR=2.0						
CPUP	**Villa Florida**	**144.78**	**178**	PKP	**PKPdf**	**00 59 53.3**	**-0.4**
	comp=Z,2.6nm,0.6s,baz=157,slow=1.6,SNR=6.2						
CPUP	**Villa Florida**	**144.78**	**178**		**PKPdf**	**00 59 53.9**	**+0.2**

*JMA **23** 00:41:13.7±0.3, 43˚.45N×147˚.57E, h14km, M3.7*
*NIED **23** 00:41:13.8, 43˚.45N×147˚.57E, h14km, MW3.5, Moment Tensor Solution. s2 Moment tensor: Scale 10^14^Nm; Mrr1.06; Mθθ0.73; Mϕϕ-1.79; Mrθ1.05; Mθϕ-0.40; Mϕr-1.27; Fault plane solution: M0.2.30000×10^14^ NP1: ϕs155.00000°, δ73.00000°, λ56.00000°. NP2:ϕs42.00000°, δ38.00000°, λ152.00000°.*
*SKHL **23** 00:41:14.3±0.1, 43˚.60N×147˚.80E, h44km±4km, mb4.6/3*
*MOS **23** 00:41:14.4±0.9, 43˚.63N×147˚.64E, h26km, mb3.6/2, Error ellipse: s-maj=16.7km s-min=14.1km az=24.8*

ISC 23 00:41:15.1±3.2, **43.62N**±0˚.08×**147.62E**±0˚.08, **h25**km±21km, **n29**, σ0s**89**/41, **3C-5D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**1.34**	**289**	*i* PN	**Pn**	**00 41 38.3**	**+0.1**
YUK				*i* S	**Sn**	**00 41 54.5**	**-0.6**
YUK				pmax	pmax		
	comp=N,134µm,0.2s						
YUK				pmax	pmax		
	comp=E,194µm,0.2s						
YUK				pmax	pmax		
	comp=Z,844µm,0.2s						
YUK				smax	smax		
	comp=N,2µm,0.3s						
YUK				smax	smax		
	comp=E,696nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.34**	**289**	*i* P	**Pn**	**00 41 38.2**	**+0.1**
YUK				AMB	AMB	00 41 39.2	
	comp=E,13µm,0.4s						
YUK				*i* S	**Sb**	**00 41 55.6**	**-0.5**
YUK				A	A	00 42 01.0	
	comp=E,1µm,0.6s						
YUK				A	A	00 42 01.0	
	comp=E,1µm,0.6s						
GRPR	**Tuman**	**1.39**	**286**	⇓ *i* PN	**Pn**	**00 41 38.9**	**+0.1**
GRPR				*i* S	**Sn**	**00 41 55.7**	**-0.6**
GRPR				pmax	pmax		
	comp=Z,380nm,0.4s						
GRPR				pmax	pmax		
	comp=N,320nm,0.2s						
GRPR				pmax	pmax		
	comp=E,212nm,0.2s						
GRPR				smax	smax		
	comp=N,1232µm,0.3s						
GRPR				smax	smax		
	comp=E,358µm,0.3s						
GRPR	**Tuman**	**1.39**	**286**	*i* P	**Pn**	**00 41 38.5**	**-0.3**
GRPR				AMB	AMB	00 41 40.0	
	comp=E,380nm,0.4s						
GRPR				*i* S	**Sn**	**00 41 55.7**	**-0.6**
GRPR				A	A	00 41 57.7	
	comp=E,1µm,0.3s						
GRPR				A	A	00 41 57.7	
	comp=E,358nm,0.3s						
NEM2	**Nemuro 2**	**1.39**	**260**	P	**Pn**	**00 41 37.9**	**-0.9**
NEM2				*e*S	**Sn**	**00 41 55.6**	**-0.7**
NMR	**Nemuro--Hokkai**	**1.40**	**260**	⇓ *i* PN	**Pn**	**00 41 37.9**	**-1.0**
NMR				*i* S	**Sn**	**00 41 55.7**	**-0.9**
NMR	**Nemuro--Hokkai**	**1.40**	**260**	*i* P	**Pn**	**00 41 38.0**	**-1.0**
NMR				*i* S	**Sn**	**00 41 55.7**	**-0.9**
KUR	**Kuril'sk**	**1.62**	**6**	*e*PN	**Pn**	**00 41 42.5**	**+0.4**
KUR				*i* S	**Sn**	**00 42 02.6**	**+0.4**
KUR				pmax	pmax		
	comp=Z,86nm,0.3s						
KUR				pmax	pmax		
	comp=E,52nm,0.1s						
KUR				pmax	pmax		
	comp=N,59nm,0.2s						
KUR				smax	smax		
	comp=N,431nm,0.2s						
KUR				smax	smax		
	comp=E,222nm,0.2s						
KUR	**Kuril'sk**	**1.62**	**6**	*e*P	**Pn**	**00 41 40.9**	**-1.2**
KUR				AMB	AMB	00 41 44.0	
	comp=E,86nm,0.3s						
KUR				*i* S	**Sn**	**00 42 01.0**	**-1.2**
KUR				A	A	00 42 04.0	
	comp=E,431nm,0.2s						
KUR				A	A	00 42 04.0	
	comp=E,222nm,0.2s						
RUSJ	**Misakicho**	**1.78**	**287**	*e*PN	**Pn**	**00 41 45.0**	**+0.8**
RUSJ				*e*S	**Sb**	**00 42 08.9**	**0.0**
JRA	**Rausu**	**1.83**	**281**	P	**Pn**	**00 41 45.4**	**+0.4**
JKHN	**Kushirohamanak**	**1.87**	**254**	P	**Pn**	**00 41 45.1**	**-0.4**
JNSB	**Nemuroshibetsu**	**1.90**	**276**	P	**Pn**	**00 41 46.5**	**+0.6**
JNK	**Nakash**	**2.10**	**270**	P	**Pn**	**00 41 48.4**	**-0.3**
AKK	**Akkeshi**	**2.11**	**254**	*i* P	**Pn**	**00 41 48.7**	**-0.1**
AKK				*e*S	**Sn**	**00 42 12.9**	**-1.3**
JAK	**Akkeshi**	**2.22**	**255**	P	**Pn**	**00 41 49.7**	**-0.6**
JTKR	**Abashiri--Toko**	**2.71**	**279**	P	**Pn**	**00 41 58.2**	**+1.2**
JAR	**Ashorobuto**	**2.82**	**265**	P	**Pn**	**00 41 58.9**	**+0.4**
JOB	**Onbets**	**2.85**	**257**	P	**Pn**	**00 41 58.9**	**-0.1**
JCH	**Churui**	**3.27**	**254**	P	**Pn**	**00 42 04.5**	**-0.3**
JCH				*e*S	**Sn**	**00 42 42.4**	**-0.5**
JKK2	**Kamakawa 2**	**3.54**	**276**	P	**Pn**	**00 42 10.2**	**+1.8**
ERM	**Erimo**	**3.65**	**245**	*ce*PN	**Pn**	**00 42 11.8**	**+1.8**
JNBK	**Urakawa-nobuka**	**3.81**	**251**	P	**Pn**	**00 42 12.0**	**-0.2**
YSS	**Yuzh-Sakhalins**	**4.78**	**316**	⇓ *e*PN	**Pn**	**00 42 25.4**	**-0.1**
YSS	**Yuzh-Sakhalins**	**4.78**	**316**	*e*P	**Pn**	**00 42 26.4**	**+0.9**
MAJO	**Matsushiro**	**10.09**	**229**	⇑ *e*PN	**Pn**	**00 43 41.0**	**+2.6**
DGZ	**Jazzator, Alta**	**40.77**	**300**	*ce*P	**P**	**00 48 54.6**	**+0.4**
BRVK	**Borovoye**	**49.89**	**310**	⇓ *e*P	**P**	**00 50 06.2**	**0.0**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRVK	**Borovoye**	**49.89**	**310**	*e*P	**P**	**00 50 06.2**	**0.0**

*INET **23** 00:42:22.1, 12˚.12N×89˚.54W, h15km, ML3.9*
*SNET **23** 00:42:29.5±2.6, 12˚.35N×89˚.30W, h15km±15km, ML3.6*
*IDC **23** 00:42:30.4±1.8, 12˚.77N×89˚.08W, h0km, mb3.9/5, mb1 4.2/8, mb1mx3.8/32, mbtmp4.0/8, ML3.3/3, MS2.9/2, Ms1 2.9/2, ms1mx2.4/36, Error ellipse: s-maj=58.9km s-min=18.9km az=36.0*
*UCR **23** 00:42:33.0±2.1, 12˚.46N×89˚.36W, h15km, ML3.6, mb4.4(NEIC)*
*NEIC **23** 00:42:36.3±1.6, 12˚.61N±0˚.09×89˚.21W±0˚.08, h49km±9km, mb4.4/37, Error ellipse: s-maj=16.9km s-min=3.3km az=219.0*

ISC 23 00:42:35.9±1.4, **12˚.51N**±0˚.07×**89˚.28W**±0˚.06, **h58**km±11km, **n94**, σ1s**62**/111, **mb4.3**/23, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.97**	**358**	*e*P	**Pn**	**00 42 51.1**	**-2.4**
LALI				*e*S	**Sn**	**00 43 06.9**	**+0.4**
LALI	**Alcalda de L**	**0.97**	**358**	*e*P	**Pn**	**00 42 51.1**	**-2.4**
LALI				*e*S	**Sn**	**00 43 06.9**	**+0.4**
ALJI	**Alcalda de J**	**1.07**	**40**	*e*P	**Pn**	**00 42 53.0**	**-1.7**
ALJI				*e*S	**Sn**	**00 43 11.0**	**+2.3**
ALJI	**Alcalda de J**	**1.07**	**40**	*e*P	**Pn**	**00 42 53.0**	**-1.7**
ALJI				*e*S	**Sn**	**00 43 11.0**	**+2.3**
LFRS	**El Faro**	**1.13**	**11**	*e*P	**Pn**	**00 42 53.5**	**-2.2**
LFRS	**El Faro**	**1.13**	**11**	*e*P	**Pn**	**00 42 53.5**	**-2.2**
JAYA	**Jayaque - finc**	**1.15**	**352**	*e*P	**Pn**	**00 42 53.2**	**-2.7**
JAYA				*e*S	**Sn**	**00 43 12.6**	**+1.6**
JAYA	**Jayaque - finc**	**1.15**

SRBA	**San Rafael, Bu**	**6.66**	**119**	Pn	**Pn**	**00 44 11.7**	**+0.3**
CMIG	**Matias Romero**	**7.08**	**311**	Pn	**Pn**	**00 44 16.3**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=108,slow=12,SNR=5.8						
CMIG				Lg	Lg	00 46 05.6	
	comp=Z,0.7nm,0.3s,baz=23,slow=13,SNR=5.2						
SDV	**Santo Domingo**	**18.67**	**99**	P	**P**	**00 46 49.2**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=20,slow=4.1,SNR=2.0						
JCT	**Junction City**	**20.36**	**333**	P	**P**	**00 47 07.0**	**-0.7**
Z47A	**Carrollton**	**20.62**	**3**	P	**P**	**00 47 08.9**	**-1.5**
Z47A				IAmb	IAmb	00 47 33.1	
	comp=Z,24nm,1.4s						
WHTX	**Lake Whitney,**	**20.80**	**340**	P	**P**	**00 47 12.0**	**-0.3**
TX31	**Lajitas Ar. Si**	**21.43**	**324**	P	**P**	**00 47 20.6**	**+1.3**
TX31				IAmb	IAmb	00 47 21.4	
	comp=Z,14nm,1.0s						
TX32	**Lajitas Array**	**21.43**	**324**	P	**P**	**00 47 20.5**	**+1.2**
TXAR	**Lajitas Array**	**21.43**	**324**	P	**P**	**00 47 20.8**	**+1.5**
	comp=Z,2.1nm,0.7s,baz=138,slow=11,SNR=30						
GOGA	**Godfrey**	**21.47**	**13**	P	**P**	**00 47 19.8**	**+0.3**
GOGA				IAmb	IAmb	00 47 33.9	
	comp=Z,21nm,1.5s						
OXF	**Oxford**	**21.90**	**360**	P	**P**	**00 47 24.9**	**+0.7**
MIAR	**Mount Ida**	**22.28**	**351**	P	**P**	**00 47 27.3**	**-1.0**
MIAR				IAmb	IAmb	00 47 30.9	
	comp=Z,7.9nm,0.8s						
X37A	**Clayton**	**22.67**	**347**	P	**P**	**00 47 32.4**	**0.0**
SWET	**Sewanee**	**22.81**	**7**	P	**P**	**00 47 33.5**	**-0.4**
WHAR	**Wooly Hollow**	**22.84**	**354**	P	**P**	**00 47 34.9**	**+0.7**
W39A	**Magazine**	**22.95**	**351**	P	**P**	**00 47 36.7**	**+1.4**
W39A				IAmb	IAmb	00 47 38.4	
	comp=Z,16nm,1.4s						
X34A	**Smith Ranch, M**	**23.32**	**342**	P	**P**	**00 47 38.5**	**-0.5**
X34A				IAmb	IAmb	00 48 02.0	
	comp=Z,27nm,1.4s						
FCAR	**Ozark Folk Cen**	**23.42**	**354**	P	**P**	**00 47 40.0**	**+0.2**
FCAR				IAmb	IAmb	00 47 41.7	
	comp=Z,9.6nm,1.0s						
LCAR	**Lake Charles**	**23.52**	**356**	P	**P**	**00 47 40.9**	**+0.1**
LCAR				IAmb	IAmb	00 47 41.9	
	comp=Z,6.8nm,0.7s						
TKL	**Tuckaleechee C**	**23.58**	**11**	P	**P**	**00 47 40.8**	**-0.5**
	comp=Z,3.9nm,0.7s,baz=178,slow=12,SNR=6.1						
TKL				LR	LR	00 56 44.8	
	comp=Z,43nm,19.0s,baz=180,slow=37						
TKL	**Tuckaleechee C**	**23.58**	**11**	P	**P**	**00 47 41.2**	**-0.1**
WMOK	**Wichita Mounta**	**23.75**	**340**	P	**P**	**00 47 41.5**	**-1.4**
WMOK				IAmb	IAmb	00 47 42.9	
	comp=Z,15nm,1.5s						
FNO	**Franklin**	**23.81**	**343**	P	**P**	**00 47 43.2**	**-0.2**
U40A	**Yellville**	**23.96**	**353**	P	**P**	**00 47 45.8**	**+1.0**
U40A				IAmb	IAmb	00 47 46.7	
	comp=Z,5.9nm,0.8s						
U49A	**Red Boiling Sp**	**24.11**	**7**	P	**P**	**00 47 46.1**	**0.0**
PBMO	**Poplar Bluff**	**24.19**	**358**	P	**P**	**00 47 46.6**	**-0.2**
T42A	**Van Buren**	**24.47**	**356**	P	**P**	**00 47 50.1**	**+0.6**
T42A				IAmb	IAmb	00 47 50.8	
	comp=Z,12nm,0.7s						
MGMO	**Mountain Grove**	**24.69**	**354**	P	**P**	**00 47 52.0**	**+0.6**
MGMO				IAmb	IAmb	00 47 53.5	
	comp=Z,8.1nm,0.8s						
V58A	**Windy Hill, Pi**	**24.93**	**20**	P	**P**	**00 47 54.2**	**+0.6**
V58A				IAmb	IAmb	00 48 18.5	
	comp=Z,25nm,1.4s						
S39A	**Bolivar**	**25.34**	**352**	P	**P**	**00 47 56.7**	**-0.6**
CCM	**Cathedral Cave**	**25.50**	**356**	P	**P**	**00 47 58.9**	**+0.1**
CCM				IAmb	IAmb	00 48 00.8	
	comp=Z,11nm,0.7s						
N59A	**State Game Lan**	**30.68**	**20**	P	**P**	**00 48 44.6**	**-0.4**
N59A				IAmb	IAmb	00 49 04.0	
	comp=Z,8.9nm,1.1s						
I42A	**Draeger Farm,**	**31.27**	**1**	P	**P**	**00 48 49.5**	**-0.7**
I42A				IAmb	IAmb	00 48 50.2	
	comp=Z,7.5nm,0.7s						
SADO	**Sadowa**	**33.30**	**13**	P	**P**	**00 49 06.7**	**-1.2**
COWI	**Conover**	**33.48**	**0**	P	**P**	**00 49 08.7**	**-0.8**
EYMN	**Ely**	**35.38**	**357**	P	**P**	**00 49 24.6**	**-1.3**
EYMN				IAmb	IAmb	00 49 28.9	
	comp=Z,7.0nm,1.1s						
G62A	**West of Eustis**	**36.31**	**23**	P	**P**	**00 49 33.6**	**-0.3**
NVAR	**Mina Array Bea**	**36.50**	**320**	P	**P**	**00 49 36.7**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=126,slow=8.7,SNR=5.4						
NVAR	**Mina Array Bea**	**36.50**	**320**	P	**P**	**00 49 37.0**	**+1.2**
LMN	**Caledonia Moun**	**39.18**	**27**	P	**P**	**00 49 57.6**	**-0.5**
SCHQ	**Schefferville**	**45.75**	**18**	P	**P**	**00 50 50.0**	**-1.4**
SCHQ				IAmb	IAmb	00 51 13.1	
	comp=Z,9.5nm,1.1s						
YKA	**Yellowknife Ar**	**53.10**	**346**	P	**P**	**00 51 46.2**	**-1.0**
	comp=Z,1.2nm,0.9s,baz=137,slow=8.3,SNR=5.3						
BMAR	**Burnt Mountain**	**65.60**	**340**	P	**P**	**00 53 13.7**	**+0.2**
BPAW	**Bear Paw Mtn.**	**66.63**	**335**	P	**P**	**00 53 20.1**	**0.0**
BPAW				IAmb	IAmb	00 53 25.3	
	comp=Z,5.6nm,1.4s						
MLY	**Manley**	**66.86**	**336**	P	**P**	**00 53 22.2**	**+0.6**
DBIC	**Dimbokro**	**83.16**	**85**	P	**P**	**00 54 57.4**	**+1.0**
	comp=Z,4.9nm,1.1s,baz=292,slow=5.4,SNR=2.4						
NOA	**NORSAR Array B**	**84.18**	**29**	LR	LR	01 32 38.8	
	comp=Z,3.2nm,18.1s,baz=290,slow=36						
CMAR	**Chiang Mai Arr**	**148.18**	**345**	PKPbc	**PKiKP**	**01 02 18.0**	**0.0**
	comp=Z,1.5nm,0.3s,baz=353,slow=2.7,SNR=6.8						
CMAR	**Chiang Mai Arr**	**148.18**	**345**		**PKiKP**	**01 02 17.5**	**-0.5**

KRSC 23 01:04:34.8±1.2, 48°28N×156°22E, h16km±20km, ML4.0,
East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.41**	**358**	*eP*	Pn	01 05 15.4	+1.9
SKR				*eS*	Sn	01 05 45.1	-2.1
ALID	**Alaid**	**2.63**	**351**	*eP*	Pn	01 05 17.9	+1.1
ALID				*eS*	Sn	01 05 50.5	+2.1
PAU	**Pauzhetka**	**3.22**	**7**	*eP*	Pn	01 05 27.4	+2.8
PAU				*eS*	Sn	01 06 06.3	+3.7
KDTR	**Khodutka, Kamc**	**3.73**	**18**	*eP*	Pn	01 05 35.7	+4.0
KDTR				*eS*	Sn	01 06 19.6	+4.3
ASAK	**Asacha**	**4.25**	**14**	*eP*	Pn	01 05 44.0	+5.1
MTVR	**Mutnovka**	**4.40**	**16**	*eP*	Pn	01 05 45.5	+4.5
MTVR				*eS*	Sn	01 06 37.9	+6.0
RUS	**Russkaya**	**4.41**	**19**	*eP*	Pn	01 05 44.6	+3.5
RUS				*eS*	Sn	01 06 36.4	+4.3
GRL	**Gorelyy**	**4.44**	**15**	*eP*	Pn	01 05 46.3	+4.7
KRMR	**Karymshinskiy**	**4.72**	**14**	P	Pn	01 05 48.9	+3.6
DALK	**Dalny**	**5.03**	**18**	P	Pn	01 05 53.5	+4.0
AVH	**Avacha**	**5.25**	**17**	*eP*	Pn	01 05 57.3	+4.7
KOK	**Koryaka**	**5.25**	**16**	P	Pn	01 05 57.4	+4.7
SPN	**Mys Shipunski**	**5.40**	**25**	*eP*	Pn	01 05 59.8	+5.2
SPN				*eS*	Sn	01 07 02.0	+5.6
GNL	**Ganaly**	**5.54**	**11**	*eP*	Pn	01 06 02.1	+5.5

*IDC **23** 01:12:43.7±1.6, 31°.76S×71°.71W, h0km, mb3.7/3,*
mb1 3.7/5, mb1mx3.6/25, mbtmp3.6/5, ML3.7/2, MS2.9/2,
Ms1 2.9/2, ms1mx2.6/17, Error ellipse: s-maj=44.6km
s-min=34.8km az=99.0
*GUC **23** 01:12:46.0±0.7, 31°.73S×72°.09W, h38km±2km, ML3.9*
ISC 23 01:12:44.4±2.4, 31°.76S±0°.03×72°.15W±0°.09, h12km±14km,
n28, σ1§19/40, mb4.0/3, 6C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**1.08**	**138**	⇓*iP*	**Pb**	**01 13 05.2**	**+0.2**
VA06				*i* S	**Sg**	**01 13 19.6**	**+0.3**
CO06	**Fray Jorge**	**1.17**	**22**	⇑*iP*	**Pb**	**01 13 05.8**	**-0.8**
CO06				*i* S	**Sb**	**01 13 21.0**	**-0.7**
VA01	**Torpederas**	**1.33**	**161**	*eP*	**Pn**	**01 13 08.1**	**-0.8**
VA01				*i* S	**Sb**	**01 13 24.3**	**-2.1**
ROCH	**El Roble**	**1.55**	**142**	⇑*iP*	**Pn**	**01 13 12.4**	**+0.3**
ROCH				*i* S	**Sn**	**01 13 31.4**	**-0.8**
ROCH				IAML		01 13 34.5	
	comp=N,2μm,0.6s						
CO03	**El Pedregal**	**1.55**	**54**	*i* P	**Pn**	**01 13 11.6**	**-0.4**
CO03				*i* S	**Sn**	**01 13 31.4**	**-0.8**
VA03	**San Esteban**	**1.69**	**127**	*i* S	**Sn**	**01 13 35.7**	**+0.2**
VA03				IAML		01 13 42.3	
	comp=E,2μm,0.4s						
VA05	**Santo Domingo**	**1.95**	**167**	IAML		01 13 55.0	
	comp=N,2μm,0.3s						
GO04	**Tololo Observa**	**1.96**	**37**	*eP*	**Pn**	**01 13 18.2**	**+0.4**
GO04				*i* S	**Sn**	**01 13 42.8**	**+0.3**
CO05	**La Serena**	**2.00**	**23**	*eP*	**Pn**	**01 13 18.3**	**+0.4**
CO05				*i* S	**Sn**	**01 13 42.9**	**0.0**
CO05				IAML		01 13 55.0	
	comp=N,754nm,0.5s						
MT05	**Renca**	**2.02**	**144**	*eP*	**Pn**	**01 13 18.9**	**+0.5**
MT05				*i* S	**Sn**	**01 13 44.4**	**+0.8**
MT05				IAML		01 13 55.3	
	comp=E,3μm,0.2s						
MT01	**Popeta**	**2.23**	**160**	⇑*iP*	**Pn**	**01 13 22.1**	**+0.8**
MT01				*i* S	**Sn**	**01 13 47.3**	**-1.5**
MT01				IAML		01 14 02.7	
	comp=N,629nm,0.6s						
MT09	**Talagante**	**2.24**	**154**	⇑*iP*	**Pn**	**01 13 23.0**	**+1.5**
MT09				*i* S	**Sn**	**01 13 49.2**	**+0.1**
MT09				IAML		01 14 00.7	
	comp=E,785nm,0.6s						
LMEL	**Las Melosas**	**2.65**	**142**	⇑*iP*	**Pn**	**01 13 28.7**	**+1.5**
LMEL				*i* S	**Sn**	**01 14 00.2**	**+0.8**
LMEL				IAML		01 14 14.0	
	comp=N,577nm,0.2s						
BO03	**Pichilemu**	**2.73**	**177**	⇑*iP*	**Pn**	**01 13 28.4**	**+0.3**
BO03				*i* S	**Sn**	**01 13 58.5**	**-2.6**
BO01	**Tunca**	**2.77**	**161**	*eP*	**Pn**	**01 13 29.8**	**+1.1**
BO01				*i* S	**Sn**	**01 14 00.4**	**-1.8**
LCO	**Las Campanas**	**3.01**	**25**	*eP*	**Pn**	**01 13 32.6**	**+0.3**
BO02	**Sierra Bellavi**	**3.24**	**160**	*eP*	**Pn**	**01 13 36.5**	**+1.3**
BO02				*i* S	**Sn**	**01 14 13.0**	**-0.6**
AC04	**Llanos de Chal**	**3.66**	**15**	*i* S	**Sn**	**01 14 23.1**	**-1.0**
PLCA	**Paso Flores**	**9.05**	**172**	Pn	**Pn**	**01 14 55.6**	**+0.7**
	comp=N,0.3nm,0.3s,baz=351,slow=8.6,SNR=8.6						
PLCA				LR	LR	01 18 47.8	
	comp=N,41nm,21.5s,baz=348,slow=40						
CPUP	**Villa Florida**	**14.05**	**71**	LR	LR	01 22 00.5	
	comp=N,98nm,18.2s,baz=233,slow=41						
SIV	**San Ignacio**	**18.66**	**35**	P	**P**	**01 17 00.8**	**-1.6**
	comp=N,0.1nm,0.3s,baz=210,slow=12,SNR=2.8						
BDFB	**Brasilia**	**27.22**	**59**	P	**P**	**01 18 27.4**	**-1.0**
	comp=N,1.2nm,0.4s,baz=243,slow=2.7,SNR=4.1						
VNA1	**Neumayer--Stat**	**51.77**	**158**	P	**P**	**01 21 51.3**	**-0.2**
VNA2	**Neumayer--Watz**	**52.11**	**158**	P	**P**	**01 21 55.8**	**+1.7**
	baz=288,slow=8.4						
SNAA	**Sanae**	**53.70**	**158**	P	**P**	**01 22 07.4**	**+1.6**
TXAR	**Lajitas Array**	**67.74**	**330**	P	**P**	**01 23 44.6**	**+2.6**
	comp=N,0.1nm,0.7s,baz=142,slow=10,SNR=1.4						
TORD	**Torodi Ar. Bea**	**83.54**	**70**	P	**P**	**01 25 11.3**	**-1.4**
	comp=N,0.8nm,0.8s,baz=233,slow=5.1,SNR=4.8						
ZALV	**Zalesovo Beam**	**152.36**	**30**	PKPbc	**PKiKP**	**01 32 40.6**	**+0.5**
	comp=N,0.5nm,0.3s,baz=335,slow=2.5,SNR=3.6						

*IDC **23** 01:17:44.9±2.8, 24°.74S×179°.89E, h467km±31km, mb3.0/5,*
mb1 3.3/8, mb1mx3.1/26, mbtmp4.1/8, Error ellipse:
s-maj=22.4km s-min=20.7km az=65.0
*NEIC **23** 01:17:46.0±1.6, 24°.9S±0°.1×179°.8E±0°.1, h458km±11km,*
mb4.1/10, Error ellipse: s-maj=18.1km s-min=13.6km
az=213.0
ISC 23 01:17:43.7±0.6, 24°.82S±0°.08×179°.9E±0°.1, h450km, n35,
σ1§41/34, mb3.8/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.83**	**157**	P	**P**	**01 19 04.9**	**-1.4**
MSVF	**Nonsavu**	**7.26**	**346**	P	P	01 19 38.6	+7.2
PINNC	**Pines Island,**	**11.61**	**278**	P	**P**	**01 20 14.8**	**-3.4**
OUZ	**Omahuta**	**11.70**	**206**	P	P	01 20 24.5	+5.4
DZM	**Mont Dzumac**	**12.64**	**280**	P	**P**	**01 20 29.8**	**+0.2**
	0.1nm,0.3s,baz=149,slow=21,SNR=1.7						
AFI	**Afiamalu**	**13.40**	**37**	P	**P**	**01 20 38.7**	**+0.9**
	3.6nm,0.3s,baz=227,slow=7.8,SNR=4.3						
AFI	**Afiamalu**	**13.40**	**37**	P	**P**	**01 20 38.8**	**+1.0**
URZ	**Urewera**	**13.60**	**189**	P	**P**	**01 20 40.3**	**+0.7**
	2.0nm,0.3s,baz=52,slow=2.0,SNR=8.5						
URZ				S	**S**	**01 23 04.3**	**-0.8**
	0.3nm,0.3s,baz=303,slow=22,SNR=1.6						
URZ	**Urewera**	**13.60**	**189**	P	**P**	**01 20 42.3**	**+2.7**
BHW	**Baring Head**	**17.06**	**193**	P	**P**	**01 21 18.2**	**+1.8**
THZ	**Tophouse**	**17.86**	**197**	P	**P**	**01 21 25.8**	**+0.9**
RPZ	**Rata Peaks**	**20.19**	**199**	P	**P**	**01 21 47.5**	**+0.9**
CTAO	**Charters Tower**	**31.39**	**272**	P	**P**	**01 23 28.1**	**+1.8**
CTAO				IAmb	IAmb	01 23 28.8	
	comp=Z,5.7nm,0.7s						
AS31	**Alice Springs**	**41.79**	**262**	P	**P**	**01 24 53.4**	**+0.9**
ASAR	**Alice Springs**	**41.79**	**262**	P	**P**	**01 24 52.8**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=93,slow=7.4,SNR=13						
WR0	**Warramunga Arr**	**42.06**	**267**	P	**P**	**01 24 54.8**	**+0.1**
WR0				IAmb	IAmb	01 25 19.0	
	comp=Z,3.2nm,1.1s						
WB2	**Warramunga Arr**	**42.24**	**267**	P	**P**	**01 24 56.2**	**+0.1**
WB2				IAmb	IAmb	01 24 56.5	
	comp=Z,4.5nm,0.5s						
WRA	**Warramunga Arr**	**42.25**	**267**	P	**P**	**01 24 56.1**	**-0.1**
	comp=Z,2.9nm,0.4s,baz=105,slow=8.1,SNR=19						
WRA	**Warramunga Arr**	**42.25**	**267**	P	**P**	**01 24 56.1**	**-0.1**
FORT	**Forrest**	**45.90**	**250**	P	**P**	**01 25 24.1**	**-0.4**
FORT				IAmb	IAmb	01 25 42.5	
	comp=Z,14nm,0.9s						
FITZ	**Fitzroy Crossi**	**50.66**	**266**	P	**P**	**01 26 01.2**	**+0.8**
FITZ				IAmb	IAmb	01 26 02.0	
	comp=Z,4.2nm,0.9s						
VNDA	**Vanda**	**53.46**	**185**	P	**P**	**01 26 20.9**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=24,slow=6.7,SNR=1.4						
VNDA	**Vanda**	**53.46**	**185**	P	**P**	**01 26 21.2**	**+1.4**
QSPA	**South Pole Qui**	**65.27**	**180**	P	**P**	**01 27 39.8**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=302,slow=11,SNR=7.2						
PEA0B	**Petropavlovsk-**	**79.97**	**347**	P	**P**	**01 29 05.9**	**+1.3**
PEA0B				IAmb	IAmb	01 29 08.0	
	comp=Z,12nm,1.1s						
PETK	**Petropavlovsk-**	**79.97**	**347**	P	**P**	**01 29 05.9**	**+1.4**
SNAA	**Sanae**	**83.75**	**179**	P	**P**	**01 29 22.4**	**-1.6**
VNA3	**Neumayer Olymp**	**83.97**	**177**	P	**P**	**01 29 24.1**	**-0.8**
VNA2	**Neumayer--Watz**	**84.38**	**178**	P	**P**	**01 29 26.5**	**-0.5**
	baz=182,slow=3.8						
VNA1	**Neumayer--Stat**	**84.62**	**177**	P	**P**	**01 29 27.0**	**-1.1**
NVAR	**Mina Array Bea**	**85.48**	**44**	P	**P**	**01 29 32.6**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=233,slow=5.5,SNR=2.1						
NOA	**NORSAR Array B**	**142.97**	**351**	PKP	**PKPdf**	**01 36 20.9**	**-3.7**
	comp=Z,0.6nm,0.8s,baz=341,slow=5.8,SNR=3.2						
AKASG	**Malin Array Be**	**145.68**	**326**	PKPbc	**PKPdf**	**01 36 29.4**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=44,slow=4.3,SNR=6.9						
AKASG	**Malin Array Be**	**145.68**	**326**	PKPbc	**PKPbc**	**01 36 31.2**	**+0.3**
BRTR	**Keskin Array B**	**148.04**	**306**	PKPbc	**PKPbc**	**01 36 36.6**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=122,slow=4.0,SNR=5.1						

*JMA **23** 01:18:20.9±0.1, 24°.30N×121°.76E, h0km, M2.7*
*TAP **23** 01:18:21.0, 24°.24.31N×121°.73E, h16km, ML3.1, B*
ISC 23 01:18:22.0±0.8, 24°.30N±0°.02×121°.75E±0°.03, h15km±4km,
n35, σ0§58/62, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.01**	**319**	P	**Pg**	**01 18 24.4**	**-0.2**
EHP	baz=101			S	**Sg**	**01 18 27.0**	**+0.6**
	baz=101						
ENA	**Nanau**	**0.12**	**358**	P	**Pg**	**01 18 25.2**	**-0.4**
ENA	baz=9.0			S	**Sg**	**01 18 28.1**	**+0.2**
	baz=9.0						
EWUT	**Wuta**	**0.14**	**11**	P	**Pg**	**01 18 25.5**	**-0.3**
EWUT	baz=19			S	**Sg**	**01 18 28.5**	**+0.1**
	baz=19						
ETL	**Fush Village**	**0.18**	**218**	P	**Pg**	**01 18 25.9**	**-0.5**
	baz=211						
NACB	**Ninganchiao**	**0.19**	**227**	P	**Pg**	**01 18 25.8**	**-0.7**
NACB	baz=221			S	**Sg**	**01 18 29.3**	**-0.2**
	baz=221						
ETLH	**Xiulin Townshi**	**0.26**	**248**	P	**Pg**	**01 18 27.1**	**-0.5**
	baz=245						
ETLH				*e*S	**Sg**	**01 18 31.8**	**+0.3**
	baz=245						
TWD	**Chiawan**	**0.26**	**212**	P	**Pg**	**01 18 27.1**	**-0.5**
	baz=206						
TWD				*e*S	**Sg**	**01 18 31.6**	**+0.1**
	baz=206						
TWC	**Suao**	**0.32**	**17**	P	**Pg**	**01 18 28.1**	**-0.5**
	baz=22						
TWC				*e*S	**Sg**	**01 18 33.0**	**-0.2**
	baz=22						
NDS	**Dongshan**	**0.33**	**355**	P	**Pg**	**01 18 28.5**	**-0.4**
	baz=358						
NDS				S	**Sg**	**01 18 33.6**	**+0.1**
	baz=358						
NNSB	**Datong**	**0.35**	**291**	P	**Pg**	**01 18 29.1**	**-0.2**
	baz=290						
NNSB				S	**Sg**	**01 18 34.1**	**-0.3**
	baz=290						
NDT	**Datong Townshi**	**0.37**	**324**	*e*P	**Pg**	**01 18 29.3**	**-0.2**
	baz=325						
NNS	**Nan Shan**	**0.37**	**292**	P	**Pg**	**01 18 29.2**	**-0.3**
	baz=291						
NNS				*e*S	**Sg**	**01 18 34.5**	**-0.2**
	baz=291						
ENTT	**Nioudou**	**0.37**	**334**	P	**Pg**	**01 18 29.2**	**-0.4**
	baz=336						
ENTT				S	**Sg**	**01 18 34.8**	**0.0**
	baz=336						
TWE	**Neicheng**	**0.42**	**350**	P	**Pg**	**01 18 30.2**	**-0.3**
	baz=354						
TWE				S	**Sg**	**01 18 36.1**	**-0.1**
	baz=354						
FUSS	**Fushou**	**0.46**	**263**	*e*P	**Pg**	**01 18 31.1**	**-0.2**
	baz=261						
FUSS				*e*S	**Sg**	**01 18 37.4**	**-0.2**
	baz=261						
WHF	**Hehuan Shan**	**0.47**	**250**	*e*P	**Pg**	**01 18 30.8**	**-0.7**
	baz=248						
WHF				*e*S	**Sg**	**01 18 37.7**	**-0.2**
	baz=248						
YHNB	**Yeheng**	**0.50**	**317**	*e*P	**Pg**	**01 18 31.4**	**-0.5**
	baz=318						
YHNB				*e*S	**Sg**	**01 18 38.2**	**-0.4**
	baz=318						
NSK	**Sanguang**	**0.51**	**316**	*e*P	**Pg**	**01 18 31.7**	**-0.5**
	baz=317						
NSK				*e*S	**Sg**	**01 18 38.3**	**-0.8**
	baz=317						
NWLT	**Wulai**	**0.52**	**335**	*e*S	**Sg**	**01 18 39.1**	**-0.2**
	baz=336						
TWT	**Tachien**	**0.52**	**265**	*e*P	**Pg**	**01 18 32.5**	**+0.1**
	baz=263						
TWT				*e*S	**Sg**	**01 18 40.0**	**+0.5**
	baz=263						
TDCB	**Techi**	**0.54**	**265**	P	**Pg**	**01 18 32.3**	**-0.4**
	baz=263						
TDCB				*e*S	**Sg**	**01 18 39.5**	**-0.4**
	baz=263						
ESL	**Shilin**	**0.57**	**211**	P	**Pg**	**01 18 32.3**	**-0.8**
	baz=207						
CHGB	**Renai**	**0.58**	**245**	P	**Pg**	**01 18 32.7**	**-0.7**
	baz=243						
CHGB				*e*S	**Sg**	**01 18 40.6**	**-0.5**
	baz=243						
OWD	**Renai**	**0.63**	**236**	*e*S	**Sg**	**01 18 43.1**	**+0.5**
	baz=234						
TIPB	**Shuangxi**	**0.67**	**6**	*e*P	**Pg**	**01 18 34.6**	**-0.5**
	baz=7.0						
WHP	**Taichung City**	**0.73**	**268**	*e*P	**Pg**	**01 18 36.5**	**+0.2**
	baz=267						
WHP				*e*S	**Sg**	**01 18 45.8**	**-0.2**
	baz=267						
TWB1	**Santiao Chiao**	**0.73**	**17**	*e*P	**Pg**	**01 18 35.6**	**-0.7**
	baz=19						
TWB1				*e*S	**Sg**	**01 18 45.4**	**-0.7**
	baz=19						
LIOB	**Emei**	**0.75**	**297**	*e*P	**Pg**	**01 18 36.7**	**+0.1**
	baz=297						
NSTT	**Nanjuang**	**0.75**	**296**	*e*P	**Pg**	**01 18 36.5**	**-0.1**
	baz=295						
NSTT				*e*S	**Sg**	**01 18 46.2**	**-0.5**
	baz=295						
NWF	**Wu-fen Shan**	**0.77**	**2**	*e*P	**Pg**	**01 18 36.6**	**-0.3**
	baz=3.0						
NWF				*e*S	**Sg**	**01 18 47.2**	**+0.2**
	baz=3.0						
YOJ	**Yonaguni jima**	**1.16**	**82**	P	**Pn**	**01 18 43.3**	**-0.4**
YOJ				S	**Sn**	**01 18 59.3**	**0.0**
IRIF	**Iriomote-Funau**	**1.81**	**89**	P	**Pb**	**01 18 54.9**	**+0.1**
IRIF				S	**Sb**	**01 19 17.4**	**+0.1**
JKRS	**Kuro-shima**	**2.07**	**91**	P	**Pn**	**01 18 57.2**	**+1.1**
JKRS				*e*S	**Sn**	**01 19 22.9**	**+1.3**
JIJ	**Ishigaki jima**	**2.19**	**88**	*e*S	**Sb**	**01 19 26.4**	**-1.7**
JISG	**Ishigakijimahi**	**2.35**	**83**	P	**Pn**	**01 19 01.8**	**+1.7**
JISG				*e*S	**Sb**	**01 19 31.6**	**-1.3**

*IDC **23** 01:23:32.8±1.1, 48°.35S×107°.15E, h0km, mb4.0/6,*
mb1 4.2/6, mb1mx3.9/24, mbtmp4.0/6, MS3.8/12,
Ms1 3.8/12, ms1mx3.6/18, Error ellipse: s-maj=45.7km
s-min=19.0km az=108.0
*NEIC **23** 01:23:34.6±0.9, 48°.3S±0°.1×107°.1E±0°.3, h10km±1km,*
mb4.4/6, Error ellipse: s-maj=36.4km s-min=18.9km
az=272.0
ISC 23 01:23:34.2±1.0, 48°.3S±0°.2×107°.1E±0°.3, h10km, n31,
σ0§57/18, mb4.2/8, MS3.8/11, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**14.40**	**24**	T	T	01 41 41.2	
	baz=198,slow=74,SNR=135						
H01W1	**Cape Leeuwin H**	**14.41**	**24**	T	T	01 41 42.9	
	baz=198,slow=74,SNR=118						
H01W3	**Cape Leeuwin H**	**14.42**	**24**	T	T	01 41 42.1	
	baz=198,slow=74,SNR=124						
**NWAO

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.52**	**121** ⇓	*iP*	**Pg**	**01 44 44.6**	**+0.4**
AC04				*i* S	**Sg**	**01 44 50.6**	**-0.7**
AC06	**Mina Casimiro**	**1.23**	**63** ⇑	*iP*	**Pn**	**01 44 55.5**	**-0.9**
AC06				*i* S	**Sb**	**01 45 11.4**	**-1.0**
AC06				IAML		01 45 16.4	
	comp=N,902nm,0.5s						
GO03	**Copiap**	**1.24**	**75** ⇓	*iP*	**Pn**	**01 44 56.1**	**-0.5**
GO03				IAML		01 45 20.7	
	comp=E,2μm,0.3s						
CO05	**La Serena**	**2.00**	**171**	*eP*	**Pn**	**01 45 07.5**	**+0.5**
CO05				*i* S	**Sn**	**01 45 31.1**	**-0.6**
CO05				IAML		01 45 44.2	
	comp=E,824nm,0.4s						
GO04	**Tololo Observa**	**2.33**	**163** ⇓	*iP*	**Pn**	**01 45 12.6**	**+0.7**
GO04				*i* S	**Sn**	**01 45 40.6**	**+0.3**
AC02	**Maricunga**	**2.44**	**64** ⇑	*iP*	**Pn**	**01 45 15.0**	**+1.5**
AC02				*i* S	**Sn**	**01 45 45.2**	**+2.0**
AC02				IAML		01 45 55.3	
	comp=E,607nm,0.8s						
CO03	**El Pedregal**	**3.00**	**165**	*eP*	**Pn**	**01 45 21.6**	**+0.7**
CO03				*i* S	**Sn**	**01 45 56.5**	**-0.1**
LVC	**Limon Verde**	**5.82**	**25**	LR	LR	01 49 39.8	
	comp=E,50nm,20.6s,baz=142,slow=36						
TXAR	**Lajitas Array**	**64.69**	**329**	P	P	01 55 21.6	+10
	comp=E,0.2nm,0.7s,baz=144,slow=11,SNR=1.7						
TORD	**Torodi Ar. Bea**	**81.80**	**70**	P	**P**	**01 56 52.9**	**+0.4**
	comp=E,0.7nm,0.5s,baz=236,slow=4.7,SNR=16						
ZALV	**Zalesovo Beam**	**148.77**	**27**	PKPbc	**PKiKP**	**02 04 21.5**	**0.0**
	comp=E,1.2nm,0.5s,baz=288,slow=3.9,SNR=5.3						
MKAR	**Makanchi Array**	**152.17**	**40**	PKPbc	**PKPbc**	**02 04 26.9**	**-1.7**
	comp=E,0.5nm,0.8s,baz=323,slow=3.0,SNR=2.3						

IDC ***23*** *01:52:09.4±1.6, 31°.56S×72°.15W, h0km, mb3.7/3, mb1 3.8/6, mb1mx3.6/23, mbtmp3.6/6, ML3.5/3, MS2.9/1, Ms1 2.9/1, ms1mx2.3/21, Error ellipse: s-maj=44.6km s-min=32.5km az=95.0*

NEIC ***23*** *01:52:10.7±1.6, 31°.59S±0°.03×72°.5W±0°.1, h10km±2km, mb4.0/2, ML3.8(GUC), Error ellipse: s-maj=18.0km s-min=4.3km az=268.0*

GUC ***23*** *01:52:12.1±0.8, 31°.61S×72°.17W, h34km±2km, ML3.8*

ISC 23 01:52:10.6±3.2, 31°.61S±0°.03×72°.31W±0°.07, h11km±21km, n53, σ1°19/61, mb4.0/4, 8C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**1.09**	**32** ⇑	*iP*	**Pb**	**01 52 30.8**	**-0.8**
CO06				*i* S	**Sb**	**01 52 44.2**	**-1.6**
CO06				IAML		01 52 54.1	
	comp=E,2μm,0.3s						
CO06	**Fray Jorge**	**1.09**	**32**		**Pb**	**01 52 30.7**	**-0.8**
VA06	**Catapilco**	**1.28**	**138** ⇑	*iP*	**Pn**	**01 52 33.7**	**-0.9**
VA06				*i* S	**Sb**	**01 52 48.7**	**-2.6**
VA06				IAML		01 52 56.3	
	comp=E,4μm,0.5s						
VA01	**Torpederas**	**1.52**	**159**	*eP*	**Pn**	**01 52 38.2**	**+0.4**
VA01				*i* S	**Sn**	**01 52 56.7**	**-0.9**
VA01				IAML		01 52 58.8	
	comp=E,479nm,0.2s						
VA01	**Torpederas**	**1.52**	**159**	Pn	**Pn**	**01 52 37.6**	**-0.2**
CO03	**El Pedregal**	**1.58**	**62**	*eP*	**Pn**	**01 52 37.9**	**-0.8**
CO03				*i* S	**Sn**	**01 52 57.0**	**-2.3**
CO03				IAML		01 53 02.6	
	comp=E,2μm,0.4s						
CO03	**El Pedregal**	**1.58**	**62**	Pn	**Pn**	**01 52 38.2**	**-0.5**
ROCH	**El Roble**	**1.75**	**142** ⇑	*eP*	**Pn**	**01 52 41.2**	**0.0**
ROCH				*i* S	**Sn**	**01 53 02.8**	**-0.8**
ROCH				IAML		01 53 11.2	
	comp=N,2μm,0.4s						
VA03	**San Esteban**	**1.88**	**128** ⇑	*iP*	**Pn**	**01 52 42.8**	**-0.1**
VA03				*i* S	**Sn**	**01 53 05.7**	**-1.0**
VA03				IAML		01 53 12.9	
	comp=N,3μm,0.4s						
VA03	**San Esteban**	**1.88**	**128**		**Pn**	**01 52 43.2**	**+0.3**
CO05	**La Serena**	**1.92**	**29**	*eP*	**Pn**	**01 52 43.5**	**+0.3**
CO05				*eS*	**Sn**	**01 53 07.5**	**+0.2**
CO05	**La Serena**	**1.92**	**29**	Pn	**Pn**	**01 52 43.5**	**+0.3**
GO04	**Tololo Observa**	**1.93**	**43** ⇑	*eP*	**Pn**	**01 52 43.4**	**-0.3**
GO04				*i* S	**Sn**	**01 53 07.7**	**-0.4**
GO04				IAML		01 53 13.1	
	comp=N,4μm,0.2s						
GO04	**Tololo Observa**	**1.93**	**43**	Pn	**Pn**	**01 52 45.1**	**+1.4**
VA05	**Santo Domingo**	**2.13**	**164**	*eP*	**Pn**	**01 52 46.5**	**+0.3**
VA05				*i* S	**Sn**	**01 53 12.0**	**-0.6**
VA05				IAML		01 53 27.5	
	comp=N,1μm,0.4s						
VA05	**Santo Domingo**	**2.13**	**164**	Pn	**Pn**	**01 52 46.2**	**0.0**
MT05	**Renca**	**2.22**	**144**	*eP*	**Pn**	**01 52 48.8**	**+1.3**
MT05				*i* S	**Sn**	**01 53 14.2**	**-0.7**
MT05				IAML		01 53 25.3	
	comp=E,1μm,0.3s						
MT05	**Renca**	**2.22**	**144**	Pn	**Pn**	**01 52 48.6**	**+1.1**
MT01	**Popeta**	**2.42**	**159** ⇑	*eP*	**Pn**	**01 52 50.7**	**+0.5**
MT01				*i* S	**Sn**	**01 53 20.6**	**+0.7**
MT01				IAML		01 53 36.1	
	comp=E,434nm,0.5s						
MT01	**Popeta**	**2.42**	**159**	Pn	**Pn**	**01 52 50.7**	**+0.5**
MT09	**Talagante**	**2.43**	**153** ⇑	*eP*	**Pn**	**01 52 51.2**	**+0.7**
MT09				*i* S	**Sn**	**01 53 20.1**	**-0.2**
MT09				IAML		01 53 36.9	
	comp=E,585nm,0.7s						
MT09	**Talagante**	**2.43**	**153**	Pn	**Pn**	**01 52 51.6**	**+1.1**
LMEL	**Las Melosas**	**2.85**	**142** ⇑	*iP*	**Pn**	**01 52 57.5**	**+1.1**
LMEL				*i* S	**Sn**	**01 53 30.9**	**+0.2**
LMEL				IAML		01 53 43.1	
	comp=N,434nm,0.4s						
BO03	**Pichilemu**	**2.90**	**174** ⇓	*iP*	**Pn**	**01 52 57.0**	**+0.2**
BO03				*i* S	**Sn**	**01 53 29.8**	**-1.8**
BO03				IAML		01 53 31.6	
	comp=E,192nm,0.4s						
BO01	**Tunca**	**2.96**	**160**	Pn	**Pn**	**01 52 58.6**	**+0.9**
ZON	**Zonda**	**3.10**	**90**	Pn	**Pn**	**01 53 02.2**	**+2.7**
GO05	**Huala**	**3.41**	**175**	*eP*	**Pn**	**01 53 04.1**	**+0.2**
GO05				*i* S	**Sn**	**01 53 41.4**	**-2.9**
GO05				IAML		01 53 45.4	
	comp=N,164nm,0.3s						
GO05	**Huala**	**3.41**	**175**		**Pn**	**01 53 03.7**	**-0.1**
BO02	**Sierra Bellavi**	**3.43**	**159**	Pn	**Pn**	**01 53 05.0**	**+0.9**
AC04	**Llanos de Chal**	**3.55**	**18**	Pn	**Pn**	**01 53 05.5**	**-0.3**
ML02	**Panimavida**	**4.21**	**170**	Pn	**Pn**	**01 53 15.5**	**+0.7**
GO03	**Copiap**	**4.38**	**25**	Pn	**Pn**	**01 53 17.6**	**+0.3**
AC06	**Mina Casimiro**	**4.56**	**22**	Pn	**Pn**	**01 53 21.7**	**+2.1**
AC02	**Maricunga**	**5.50**	**31**	Pn	**Pn**	**01 53 34.1**	**+1.0**
H03N1	**Juan Fernandez**	**5.87**	**250**	T	T	02 00 28.1	
	baz=78,slow=72,SNR=193						
H03N3	**Juan Fernandez**	**5.89**	**250**	T	T	02 00 28.8	
	baz=78,slow=72,SNR=194						
H03N2	**Juan Fernandez**	**5.89**	**250**	T	T	02 00 25.0	
	baz=78,slow=72,SNR=179						
H03S3	**Juan Fernandez**	**5.99**	**247**	T	T	02 00 34.7	
	baz=86,slow=74,SNR=3.1						
H03S1	**Juan Fernandez**	**5.99**	**246**	T	T	02 00 36.1	
	baz=86						
H03S2	**Juan Fernandez**	**6.01**	**246**	T	T	02 00 32.5	
	baz=86,slow=74,SNR=3.1						
LC01	**Cunco**	**7.29**	**177**	Pn	**Pn**	**01 53 57.1**	**0.0**
PLCA	**Paso Flores**	**9.22**	**172**	Pn	**Pn**	**01 54 23.3**	**-0.4**
	comp=N,0.3nm,0.3s,baz=336,slow=12,SNR=9.5						
PLCA	**Paso Flores**	**9.22**	**172**	Pn	**Pn**	**01 54 24.4**	**+0.7**
TRQA	**Tornquist**	**10.65**	**130**	Pn	**Pn**	**01 54 45.9**	**+2.8**
ITQB	**Itaqui**	**13.64**	**86**	Pn	**Pn**	**01 55 26.1**	**+2.0**
CPUP	**Villa Florida**	**14.12**	**72**	LR	LR	02 01 19.6	
	comp=N,54nm,20.1s,baz=216,slow=39						
LPAZ	**La Paz**	**15.71**	**15**	Pn	**Pn**	**01 55 53.5**	**+0.8**
	comp=N,0.0nm,0.3s,baz=239,slow=10,SNR=2.0						
SIV	**San Ignacio**	**18.61**	**36**	P	**P**	**01 56 26.0**	**-2.2**
	comp=N,0.1nm,0.3s,baz=222,slow=9.2,SNR=5.5						
BDFB	**Brasilia**	**27.25**	**60**	P	**P**	**01 57 53.9**	**-1.2**
	comp=N,1.7nm,0.7s,baz=210,slow=8.1,SNR=2.0						
SNAA	**Sanae**	**53.89**	**158**	P	**P**	**02 01 35.2**	**+1.6**
SNAA				IAmb	IAmb	02 01 52.2	
	comp=Z,4.4nm,1.3s						
TXAR	**Lajitas Array**	**67.54**	**331**	P	**P**	**02 03 07.1**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=144,slow=6.7,SNR=2.3						
TORD	**Torodi Ar. Bea**	**83.61**	**70**	P	**P**	**02 04 39.6**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=258,slow=4.5,SNR=6.5						
ZALV	**Zalesovo Beam**	**152.29**	**30**	PKPbc	**PKiKP**	**02 12 07.8**	**+1.5**
	comp=Z,0.6nm,0.4s,baz=324,slow=2.8,SNR=2.5						

GII ***23*** *01:58:53.7±0.2, 33°.56N×34°.93E, h13km, MD1.5/1,*

Mm1.6/8

GRAL ***23*** *01:58:53.3±0.3, 33°.67N×34°.86E, h28km±3km, MD2.6*

ISC 23 01:58:52.0±2.1, 33°.67N±0°.06×34°.96E±0°.08, h16km±10km, n17, σ0°49/31, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DQRL	**Deir Qamar**	**0.51**	**86**	*eP*	**Pn**	**01 59 04.5**	**-0.2**
HNTI	**Hanita**	**0.61**	**163**	Pg	**Pg**	**01 59 04.4**	**+0.3**
HNTI				Sg	**Sg**	**01 59 11.6**	**-0.6**
QRWL	**Qaraoun**	**0.61**	**101**	*eP*	**Pn**	**01 59 06.1**	**0.0**
QRWL				*eS*	**Sn**	**01 59 15.5**	**-0.2**
BHL	**Bhannes**	**0.62**	**68**	*eP*	**Pn**	**01 59 06.0**	**-0.2**
BHL				*eS*	**Sn**	**01 59 15.6**	**-0.3**
GEM	**Giv'at Ha'Em**	**0.74**	**128**	Pg	**Pn**	**01 59 07.5**	**-0.3**
GEM				Sg	**Sb**	**01 59 17.8**	**+1.3**
RCY	**Rachaya**	**0.75**	**103**	*eP*	**Pn**	**01 59 08.2**	**+0.2**
RCY				*eS*	**Sn**	**01 59 19.2**	**+0.1**
MMA0	**Mount Meron ar**	**0.75**	**150**	Pg	**Pb**	**01 59 07.1**	**+0.4**
MMA0				Sg	**Sg**	**01 59 16.4**	**-0.2**
NATI	**Neve Ativ**	**0.77**	**122**	Pg	**Pn**	**01 59 07.9**	**-0.2**
NATI				Sg	**Sn**	**01 59 18.8**	**-0.5**
BLGI	**Bet Lehem HaGe**	**0.95**	**168**	Pg	**Pb**	**01 59 10.2**	**0.0**
BLGI				Sg	**Sb**	**01 59 21.9**	**-0.6**
HWQ	**Hawqa**	**1.02**	**53**	*eP*	**Pn**	**01 59 12.0**	**+0.3**
OFRI	**`Ofer**	**1.05**	**179**	Pg	**Pb**	**01 59 11.2**	**-0.6**
OFRI				Sg	**Sb**	**01 59 24.8**	**-0.5**
MMLI	**Mount Malkishu**	**1.29**	**162**	Pg	**Pn**	**01 59 15.6**	**+0.2**
MMLI				Sg	**Sb**	**01 59 31.8**	**-0.4**
SLTI	**Sal'it**	**1.43**	**177**	Pn	**Pn**	**01 59 16.9**	**-0.4**
SLTI				Sn	**Sn**	**01 59 35.5**	**-0.2**
HMDT	**Nahal Hemdat**	**1.49**	**161**	Pn	**Pn**	**01 59 18.5**	**+0.4**
HMDT				Sn	**Sn**	**01 59 37.0**	**-0.2**
DSI	**Dead Sea**	**2.12**	**170**	Pn	**Pn**	**01 59 26.6**	**-0.2**
AMAZ	**Amatzia**	**2.13**	**181**	Pn	**Pn**	**01 59 27.5**	**+0.5**
AMAZ				Sn	**Sn**	**01 59 53.2**	**+0.1**
YTIR	**Yattir**	**2.31**	**177**	Pn	**Pn**	**01 59 30.5**	**+1.1**
YTIR				Sn	**Sn**	**01 59 58.1**	**+0.6**

IDC ***23*** *02:01:37.4±0.8, 31°.10S×72°.65W, h0km, mb4.3/8, mb1 4.4/10, mb1mx4.2/20, mbtmp4.3/10, ML4.2/2, MS3.2/1, Ms1 3.2/1, ms1mx2.7/15, Error ellipse: s-maj=29.5km s-min=19.3km az=101.0*

NEIC ***23*** *02:01:39.6±1.9, 31°.14S±0°.07×72°.7W±0°.1, h10km±1km, mb4.6/27, Error ellipse: s-maj=16.1km s-min=11.1km az=275.0*

VAO ***23*** *02:02:18.7±0.5, 29°.06S×68°.79W, h10km, mb4.4*

ISC 23 02:01:39.1±0.5, 31°.13S±0°.07×72°.52W±0°.08, h10km, n81, σ1°76/68, mb4.5/17, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO04	**Tololo Observa**	**1.76**	**58**	Pn	**Pn**	**02 02 11.2**	**+1.4**
ZON	**Zonda**	**3.31**	**98**	Pn	**Pb**	**02 02 35.5**	**-2.4**
GO03	**Copiap**	**4.04**	**30**	Pn	**Pn**	**02 02 40.9**	**-0.3**
AC06	**Mina Casimiro**	**4.21**	**27**	Pn	**Pn**	**02 02 42.9**	**-0.3**
AC02	**Maricunga**	**5.20**	**36**	Pn	**Pn**	**02 02 58.0**	**+0.5**
H03N1	**Juan Fernandez**	**5.89**	**245**	T	T	02 09 31.7	
	baz=78,slow=72,SNR=218						
VA04	**Juan Fernndez**	**5.90**	**243**	Pn	Pn	02 03 01.1	-5.5
H03N3	**Juan Fernandez**	**5.90**	**245**	T	T	02 09 34.8	
	baz=78,slow=72,SNR=131						
H03N2	**Juan Fernandez**	**5.90**	**245**	T	T	02 09 38.1	
	baz=78,slow=72,SNR=117						
LC01	**Cunco**	**7.77**	**176**	Pn	**Pn**	**02 03 29.6**	**-2.6**
PB04	**IPOC Station P**	**9.01**	**14**	Pn	**Pn**	**02 03 45.8**	**-3.7**
PLCA	**Paso Flores**	**9.72**	**171**	Pn	**Pn**	**02 03 57.9**	**-1.0**
	0.4nm,0.3s,baz=332,slow=13,SNR=22						
TRQA	**Tornquist**	**11.09**	**131**	Pn	**Pn**	**02 04 19.1**	**+1.3**
LL07	**Hotel Espejo d**	**11.71**	**183**	Pn	**Pn**	**02 04 23.6**	**-2.5**
ITQB	**Itaqui**	**13.79**	**88**	*eP*	**Pn**	**02 04 51.0**	**-3.7**
CPUP	**Villa Florida**	**14.15**	**74**	*eP*	Pn	02 04 49.0	-11
PLTB	**Pedras Altas**	**16.16**	**97**	P	**P**	**02 05 30.1**	**+0.6**
PLTB				IAmb	IAmb	02 05 48.4	
	comp=Z,32nm,1.3s						
PLTB	**Pedras Altas**	**16.16**	**97**	*eP*	**Pn**	**02 05 27.4**	**+1.1**
CPSB	**Cacapava Do Su**	**16.41**	**92**	*eP*	**Pn**	**02 05 28.6**	**-1.0**
SIV	**San Ignacio**	**18.34**	**37**	P	**P**	**02 05 55.0**	**+1.3**
	comp=Z,1.8nm,0.3s,baz=226,slow=12,SNR=76						
SIV				LR	LR	02 12 59.3	
	comp=Z,76nm,21.3s,baz=173,slow=37						
PTGB	**Pitanga**	**19.15**	**76**	*eP*	**P**	**02 05 58.6**	**-4.2**
PTLB	**Pontes e Lacer**	**19.83**	**41**	*eP*	**P**	**02 06 08.2**	**-1.9**
PP1B	**Ponte de Pedra**	**20.92**	**54**	*eP*	**P**	**02 06 17.3**	**-4.6**
VILB	**Vilhena**	**21.36**	**35**	*eP*	**P**	**02 06 27.8**	**+1.1**
SALV	**Santo Antonio**	**21.58**	**49**	*eP*	**P**	**02 06 26.3**	**-2.7**
FRTB	**Fartura**	**21.80**	**75**	*eP*	**P**	**02 06 30.9**	**-0.5**
PET01	**Itanhaem-SP**	**23.33**	**79**	*eP*	**P**	**02 06 49.4**	**+1.9**
BB19B	**Bebedouro**	**23.71**	**71**	*eP*	**P**	**02 06 51.2**	**-0.2**
SAML	**Samuel**	**23.72**	**23**	P	**P**	**02 06 51.5**	**+0.1**
USHA	**Ushuaia**	**23.87**	**174**	P	**P**	**02 06 53.7**	**+1.2**
	comp=Z,35nm,0.6s,baz=356,slow=0.7,SNR=5.4						
VAO	**Valinhos**	**24.11**	**77**	*eP*	**P**	**02 06 55.6**	**+0.4**
PARB	**Paraibuna**	**25.10**	**79**	*eP*	**P**	**02 07 06.9**	**+2.7**
CLDB	**Colider**	**25.42**	**41**	*eP*	**P**	**02 07 09.7**	**+2.7**
IPMB	**Ipameri, GO**	**25.62**	**65**	*eP*	**P**	**02 07 10.7**	**+1.8**
BSCB	**Bom Sucesso**	**26.82**	**75**	*eP*	**P**	**02 07 25.0**	**+5.3**
BDFB	**Brasilia**	**27.17**	**61**	P	**P**	**02 07 23.4**	**+0.4**
	comp=Z,8.0nm,0.8s,baz=220,slow=8.7,SNR=11						
BDFB	**Brasilia**	**27.17**	**61**	P	P	**02 07 23.4**	**+0.4**
BDFB				IAmb	IAmb	02 07 51.1	
	comp=Z,16nm,1.1s						
NPGB	**Novo Progresso**	**28.84**	**37**	*eP*	P	02 07 46.5	+8.7
JANB	**Januaria**	**30.35**	**65**	*eP*	**P**	**02 07 55.9**	**+4.7**
SJMB	**Sao Joao De Ma**	**30.88**	**74**	*eP*	P	02 08 03.2	+7.4
MCPB	**Macapa, AP**	**36.23**	**36**	*eP*	P	02 08 51.8	+9.4
RUSC	**La Rusia**	**36.81**	**359**	P	**P**	**02 08 48.4**	**+0.5**
RUSC				IAmb	IAmb	02 08 59.0	
	comp=Z,19nm,1.4s						
NBPS	**Pedro II - PI**	**39.51**	**54**	*eP*	P	02 09 16.8	+6.5
VNA3	**Neumayer Olymp**	**52.17**	**159**	P	**P**	**02 10 49.6**	**+0.1**
VNA2	**Neumayer--Watz**	**52.81**	**158**	P	**P**	**02 10 54.4**	**+0.2**
	baz=289,slow=8.5						
SNAA	**Sanae**	**54.39**	**159**	P	**P**	**02 11 05.9**	**+0.1**
SNAA	**Sanae**	**54.39**	**159**	P	**P**	**02 11 05.9**	**+0.1**
SNAA				IAmb	IAmb	02 11 07.6	
	comp=Z,5.9nm,0.7s						
QSPA	**South Pole Qui**	**59.10**	**180**	P	**P**	**02 11 39.8**	**+0.4**
Y45A	**Yeager Farm, C**	**66.61**	**345**	P	**P**	**02 12 30.0**	**+0.5**
VNDA	**Vanda**	**66.83**	**191**	P	**P**	**02 12 31.6**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=124,slow=8.8,SNR=4.2						
VNDA	**Vanda**	**66.83**	**191**	P	**P**	**02 12 31.4**	**+0.9**
TX32	**Lajitas Array**	**67.04**	**331**	P	**P**	**02 12 32.4**	**-0.1**
TX32				IAmb	IAmb	02 12 32.7	
	comp=Z,1.6nm,0.8s						
TXAR	**Lajitas Array**	**67.04**	**331**	P	**P**	**02 12 32.2**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=153,slow=8.2,SNR=19						
TX31	**Lajitas Ar. Si**	**67.04**	**331**	P	**P**	**02 12 32.4**	**-0.1**
TX31				IAmb	IAmb	02 12 32.7	
	comp=Z,4.6nm,0.8s						
MNTX	**Cornudas Mount**	**69.82**	**330**	P	**P**	**02 12 48.6**	**-1.2**
MNTX				IAmb	IAmb	02 12 58.1	
	comp=Z,2.9nm,1.1s						
CCM	**Cathedral Cave**	**71.01**	**344**	P	**P**	**02 12 56.6**	**-0.3**
CCM				IAmb	IAmb	02 12 57.2	
	comp=Z,5.7nm,0.9s						
DBIC	**Dimbokro**	**74.67**	**72**	P	**P**	**02 13 20.8**	**+1.6**
	comp=Z,2.6nm,0.7s,baz=223,slow=4.8,SNR=3.7						
DBIC	**Dimbokro**	**74.67**	**72**	P	**P**	**02 13 20.5**	**+1.4**
SDCO	**Great Sand Dun**	**75.13**	**333**	P	**P**	**02 13 22.1**	**+0.5**
MAW	**Mawson**	**76.04**	**164**	P	**P**	**02 13 27.0**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=258,slow=10,SNR=4.1						
MAW	**Mawson**	**76.04**	**164**	P	**P**	**02 13 26.1**	**-0.1**
SUR	**Sutherland**	**76.58**	**120**	P	**P**	**02 13 31.4**	**+1.2**
SMCO	**Snowmass**	**76.94**	**333**	P	**P**	**02 13 32.6**	**+0.5**
SMCO				IAmb	IAmb	02 13 33.2	
	comp=Z,2.9nm,0.8s						
E62A	**Clayton Lake**	**77.43**	**2**	P	**P**	**02 13 35.0**	**+0.9**
E62A				IAmb	IAmb	02 13 45.1	
	comp=Z,12nm,1.2s						
ECSD	**EROS Data Cent**	**77.70**	**342**	P	**P**	**02 13 35.2**	**-0.5**
ECSD				IAmb	IAmb	02 13 36.0	
	comp=Z,8.5nm,0.9s						
BOSA	**Boshof**	**81.77**	**118**	P	**P**	**02 13 58.3**	**-0.2**
	comp=Z,2.2nm,0.9s,baz=212,slow=10,SNR=3.3						
BOSA	**Boshof**	**81.77**	**118**	P	**P**	**02 13 58.6**	**0.0**
BOSA				IAmb	IAmb	02 13 58.9	
	comp=Z,10nm,1.3s						
TORD	**Torodi Ar. Bea**	**83.62**	**71**	P	**P**	**02 14 08.1**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=276,slow=5.8,SNR=9.6						
TORD	**Torodi Ar. Bea**	**83.62**	**71**	P	**P**	**02 14 08.3**	**+0.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**83.89**	**115**	P	**P**	**02 14 09.9**	**+0.3**
ASAR	**Alice Springs**	**119.92**	**208**	PKP	**PKPdf**	**02 20 28.6**	**-1.8**
	comp=Z,0.4nm,0.6s,baz=122,slow=1.9,SNR=2.6						
ASAR	**Alice Springs**	**119.92**	**208**		**PKPdf**	**02 20 29.0**	**-1.4**
WRA	**Warramunga Arr**	**123.05**	**210**	PKP	**PKPdf**	**02 20 34.9**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=144,slow=1.8,SNR=5.3						
WRA	**Warramunga Arr**	**123.05**	**210**		**PKPdf**	**02 20 35.1**	**-1.4**
H11S2	**WAKE ISLAND Hyl**	**25.35**	**271**	T	T	04 39 16.0	
	baz=116,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hyl**	**25.37**	**271**	T	T	04 39 13.1	
	baz=116,slow=75,SNR=22						
H11S3	**WAKE ISLAND Hyl**	**25.37**	**271**	T	T	04 39 17.4	
	baz=116,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hyl**	**25.69**	**273**	T	T	04 39 35.4	
	baz=153,slow=74,SNR=6.5						
H11N2	**WAKE ISLAND Hyl**	**25.71**	**273**	T	T	04 39 36.7	
	baz=121,slow=74,SNR=8.3						
ZALV	**Zalesovo Beam**	**151.97**	**29**	PKPbc	**PKPbc**	**02 21 33.8**	**-0.1**
	comp=Z,6.5nm,0.8s,baz=305,slow=3.2,SNR=17						
ZALV				pPKPbc	**PKPab**	**02 21 42.0**	**-1.2**
	comp=Z,2.3nm,0.6s,baz=314,slow=4.3,SNR=4.1						
ZALV	**Zalesovo Beam**	**151.97**	**29**		**PKPbc**	**02 21 33.7**	**-0.2**

MEX 23 02:24:26.5±0.4, 13°.95N×93°.23W, h10km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.75**	**0**	*eP*	Pn	02 24 53.2	-3.7
PCIG				*eS*	Sn	02 25 15.4	-3.8
CCIG	**Comitan**	**2.55**	**24**	*eP*	Pn	02 25 05.3	-2.8
CCIG				*eS*	Sn	02 25 36.0	-3.3
TGIG		**2.82**	**2**	*eP*	Pn	02 25 09.0	-2.7
TGIG				*eS*	Sn	02 25 42.0	-3.8
CMIG	**Matias Romero**	**3.51**	**333**	*eP*	Pn	02 25 19.0	-2.2
CMIG				*eS*	Sn	02 25 59.4	-3.4

MEX 23 02:39:41.0±1.8, 17°.59N×94°.47W, h150km±20km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.63**	**219**	*eP*	Pn	02 40 02.2	-0.9
CMIG				*eS*	Sn	02 40 18.2	-1.8
TGIG		**1.52**	**122**	*eP*	Pn	02 40 13.4	+2.6
TGIG				*eS*	Sn	02 40 32.0	-1.7
PCIG		**2.22**	**147**	*eP*	Pn	02 40 17.4	-1.3
PCIG				*eS*	Sn	02 40 45.0	-2.8
VHO	**Vista Hermosa**	**2.22**	**257**	*eP*	Pn	02 40 17.3	-1.7
VHO				*eS*	Sn	02 40 45.8	-2.4
TOIG	**Toxpalan**	**2.52**	**282**	*eP*	Pn	02 40 21.0	-1.5
TOIG				*eS*	Sn	02 40 52.3	-2.2
PEIG	**Puerto Escondi**	**3.01**	**239**	*eP*	Pn	02 40 23.3	-5.3
PEIG				*eS*	Sn	02 40 59.4	-6.0
TXIG	**Tlaxiaco**	**3.17**	**264**	*eP*	Pn	02 40 29.0	-1.8
TXIG				*eS*	Sn	02 41 06.4	-2.9
HLIG	**Huajuapan de L**	**3.19**	**275**	*eP*	Pn	02 40 29.6	-1.4
HLIG				*eS*	Sn	02 41 05.5	-4.1
FTIG	**Fresnillo de T**	**3.51**	**276**	*eP*	Pn	02 40 33.9	-1.1
FTIG				*eS*	Sn	02 41 11.1	-5.7
PNIG	**Pinotepa**	**3.70**	**252**	*eP*	Pn	02 40 32.9	-4.5
PNIG

TAW					*e*S	Sg	02 44 45.9	+0.8
	baz=182							
ECL	**Taimali**	**0.14**	**18**	*e*P	Pg		02 44 44.6	+0.8
	baz=21							
ECL					*e*S	Sg	02 44 47.4	+1.6
	baz=21							
SLIU	**Shizi**	**0.27**	**202**	*e*P	Pb		02 44 47.7	-0.2
	baz=202							
SLIU					*e*S	Sb	02 44 52.0	-0.7
	baz=202							
SCZT	**Fangliau**	**0.28**	**250**	*e*P	Pg		02 44 47.0	+0.5
	baz=249							
SCZT					*e*S	Sb	02 44 52.3	-0.7
	baz=249							
MASBT	**Mashibuluo**	**0.29**	**299**	*e*P	Pg		02 44 47.2	+0.6
	baz=299							
MASBT					*e*S	Sb	02 44 52.6	-0.7
	baz=299							
TSMG	**Majia**	**0.34**	**314**	*e*P	Pb		02 44 48.5	-0.6
	baz=313							
TWG	**Pinlang**	**0.38**	**23**	*e*P	Pb		02 44 49.2	-0.6
	baz=24							
TWG					*e*S	Sb	02 44 56.0	+0.1
	baz=24							
TWGBT	**Beinan**	**0.38**	**24**	*e*P	Pb		02 44 49.3	-0.5
	baz=24							
LONT	**Longtian**	**0.48**	**25**	*e*P	Pb		02 44 51.0	-0.6
	baz=25							
TWP	**Hsiaoliuchiu**	**0.52**	**257**	*e*P	Pb		02 44 52.1	-0.1
	baz=256							
TWP					*e*S	Sb	02 44 59.7	-0.2
	baz=256							
TWK1	**Hengchun**	**0.53**	**190**	*e*P	Pb		02 44 52.2	-0.2
	baz=189							
TWK1					*e*S	Sb	02 45 00.5	+0.4
	baz=189							
EDH	**Donghe**	**0.62**	**36**	*e*P	Pb		02 44 53.7	-0.2
	baz=35							

*CFUSG **23** 02:53:04.2, 44°.53N×34°.59E, h35km, MD2.9/5, Black Sea district 3 Magtype MSH 2.7 from 6 stations*

ISC 23 02:53:04.7±1.1, 44°.55N±0°.04×34°.59E±0°.03, h25km±10km, n17, σ1ˢ16/22, 10C-5D, Crimea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YAL	**Yalta**	**0.32**	**258**	⇑*i*Pg	**Pb**	**02 53 11.7**	**-0.2**
YAL				Pgm		02 53 11.9	
	comp=Z,415nm,0.1s						
YAL				*i* Sg	**Sb**	**02 53 17.1**	**+0.3**
YAL				Sgm		02 53 17.8	
	comp=N,2μm,0.2s						
YAL				Sgm		02 53 17.9	
	comp=E,2μm,0.1s						
SUDU	**Sudak**	**0.45**	**41**	⇑*i*Pg	**Pb**	**02 53 13.6**	**-0.4**
SUDU				Pgm		02 53 13.7	
	comp=Z,205nm,0.2s						
SUDU				*i* Sg	**Sb**	**02 53 20.5**	**+0.1**
SUDU				Sgm		02 53 21.6	
	comp=E,402nm,0.3s						
SUDU				Sgm		02 53 22.9	
	comp=N,388nm,0.3s						
SIM	**Simferopol'**	**0.52**	**320**	⇓*i*Pg	**Pb**	**02 53 14.6**	**-0.6**
SIM				Pgm		02 53 14.7	
	comp=Z,76nm,0.1s						
SIM				*i* Sg	**Sb**	**02 53 22.4**	**+0.1**
SIM				Sgm		02 53 22.6	
	comp=N,107nm,0.1s						
SIM				Sgm		02 53 22.8	
	comp=E,136nm,0.2s						
SEV	**Sevastopol'**	**0.66**	**270**	⇑*e*Pg	**Pb**	**02 53 16.4**	**-1.1**
SEV				Pgm		02 53 17.6	
	comp=Z,15nm,0.1s						
SEV				*i* Sg	**Sb**	**02 53 25.2**	**-1.0**
SEV				Sgm		02 53 26.4	
	comp=E,83nm,0.1s						
SEV				Sgm		02 53 27.3	
	comp=N,72nm,0.2s						
FEO	**Feodosiya**	**0.74**	**51**	⇑*e*Pg	**Pb**	**02 53 17.9**	**-1.0**
FEO				Pgm		02 53 18.5	
	comp=Z,40nm,0.1s						
FEO				*ex*	**Sn**	**02 53 29.0**	**-1.0**
FEO				Sgm		02 53 30.0	
	comp=N,49nm,0.2s						
FEO				Sgm		02 53 31.3	
	comp=E,43nm,0.2s						
BZK	**Bozkurt**	**2.63**	**190**	⇓P	**Pn**	**02 53 46.0**	**+0.5**
BZK	**Bozkurt**	**2.63**	**190**	⇑S	**Sn**	**02 54 15.5**	**-1.0**
DIKM	**Dikmen**	**2.94**	**170**	⇓P	**Pn**	**02 53 51.7**	**+1.9**
DIKM	**Dikmen**	**2.94**	**170**	⇑S	**Sn**	**02 54 23.8**	**-0.6**
TPGR	**Topolog**	**4.41**	**276**	P	**Pn**	**02 54 11.0**	**+1.0**
TPGR	**Topolog**	**4.41**	**276**	⇓S	**Sn**	**02 54 59.6**	**-0.9**
TIRR	**Tirgusor**	**4.42**	**271**	P	**Pn**	**02 54 11.0**	**+1.0**
TIRR	**Tirgusor**	**4.42**	**271**	⇑S	**Sn**	**02 54 58.7**	**-2.0**
CFR	**Carcaliu**	**4.63**	**280**	⇑P	**Pn**	**02 54 14.1**	**+1.1**
CFR	**Carcaliu**	**4.63**	**280**	⇑S	**Sn**	**02 55 05.1**	**-0.8**
MLR	**Muntele Rosu**	**6.20**	**282**	⇑P	**Pn**	**02 54 36.8**	**+2.1**
MLR	**Muntele Rosu**	**6.20**	**282**	⇓S	**Sn**	**02 55 45.9**	**+1.1**

IDC 23 02:54:40.5±8.3, 30°.39S×177°.79W, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.4/29, mbtmp3.5/2, Error ellipse: s-maj=346.7km s-min=64.0km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.29**	**267**	P	P	03 02 43.7	-0.6
	0.3nm,0.6s,baz=104,slow=7.7,SNR=5.6						
WRA	**Warramunga Arr**	**44.28**	**272**	P	P	03 02 52.6	+0.4
	0.3nm,0.4s,baz=111,slow=8.1,SNR=5.0						
FINES	**FINESS Array B**	**145.20**	**340**	PKPbc	PKPbc	03 14 18.1	-0.9
	1.3nm,0.8s,baz=48,slow=6.2,SNR=1.8						

*NNC **23** 03:00:55.2±2.3, 37°.35N×71°.48E, h117km±47km, mb3.6, mpv4.2, Error ellipse: s-maj=20.8km s-min=13.9km az=31.0*

ISC 23 03:00:47.2±1.2, 36°.91N±0°.08×71°.4E±0°.1, h100km, n33, σ2ˢ16/38, 6C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.52**	**18**	P	**Pn**	**03 02 09.8**	**+2.5**
	SNR=359						
THN	**Thein Dam**	**5.73**	**140**	*e*P	**Pn**	**03 02 12.0**	**+2.2**
THN				*e*S	**Sn**	**03 03 12.5**	**-1.7**
UCH	**Uchtor**	**5.85**	**24**	P	**Pn**	**03 02 13.7**	**+1.9**
	SNR=54						
DZA	**Taraz**	**5.98**	**360**	Lg	Lg	03 03 20.6	
	211nm,0.2s						
KZA	**Kyzart**	**5.98**	**29**	P	**Pn**	**03 02 15.1**	**+1.5**
	SNR=13						
EKS2	**Erkin-Say**	**6.04**	**17**	P	**Pn**	**03 02 16.9**	**+2.8**
	SNR=21						
AAK	**Ala-Archa**	**6.21**	**22**	P	**Pn**	**03 02 19.1**	**+2.5**
	SNR=31						
AAK	**Ala-Archa**	**6.21**	**22**	⇑P	**Pn**	**03 02 19.0**	**+2.5**
	17nm,0.3s						
AAK				⇑S	**Sn**	**03 03 24.1**	**-2.0**
	39nm,1.0s						
KK31	**Karatay Array**	**6.22**	**354**	⇓P	**Pn**	**03 02 20.4**	**+3.9**
	9.5nm,0.2s,baz=6.0,slow=6.1,SNR=308						
KK31				⇑S	**Sn**	**03 03 25.4**	**-0.7**
	14nm,0.3s,baz=171,slow=23,SNR=14						
ULHL	**Ulahol**	**6.53**	**34**	P	**Pn**	**03 02 23.0**	**+2.2**
	SNR=9.2						
CHMS	**Chumysh**	**6.62**	**22**	P	**Pn**	**03 02 24.1**	**+2.3**
	SNR=15						
USP	**Ospenovka**	**6.79**	**20**	P	**Pn**	**03 02 26.1**	**+1.9**
	SNR=8.6						
TKM2	**Tokmak 2**	**6.83**	**27**	P	**Pn**	**03 02 27.0**	**+2.0**
	SNR=13						
TKM2	**Tokmak 2**	**6.83**	**27**	⇑P	**Pn**	**03 02 26.5**	**+1.6**
	11nm,0.6s						
TKM2				⇑S	**Sn**	**03 03 39.7**	**-1.6**
	8.0nm,0.8s						
KST	**Kastek**	**7.08**	**29**	P	**Pn**	**03 02 29.9**	**+1.8**
	9.2nm,0.4s						
MTBS	**Maitube**	**7.33**	**30**	P	**Pn**	**03 02 33.4**	**+1.8**
	14nm,0.4s						
KRBS	**Karabastau**	**7.54**	**25**	P	**Pn**	**03 02 35.9**	**+1.4**
	5.6nm,0.4s						
KOTS	**Kotyrbulak**	**7.71**	**33**	P	**Pn**	**03 02 38.8**	**+2.0**
	7.3nm,0.3s						
KTBS	**Karatobe**	**7.92**	**29**	P	**Pn**	**03 02 41.0**	**+1.4**
	2.3nm,0.7s						
BTLS	**Baital**	**8.38**	**13**	P	**Pn**	**03 02 47.2**	**+1.5**
	5.0nm,0.2s						
MK31	**Makanchi Array**	**12.79**	**36**	P	**Pn**	**03 03 49.4**	**+4.2**
	0.1nm,0.3s,baz=204,slow=8.0,SNR=6.4						
PYUN	**Piuthan**	**13.16**	**129**	*e*P	**Pn**	**03 03 49.1**	**-1.4**
	50nm,0.3s						
DANN	**Dangsing**	**13.48**	**126**	*e*P	**Pn**	**03 03 54.1**	**-0.6**
	18nm,0.3s						
KOLN	**Koldanda**	**13.78**	**128**	*e*P	**Pn**	**03 03 57.7**	**-0.8**
	14nm,0.3s						
GKN	**Gorkha**	**14.29**	**125**	*e*P	**Pn**	**03 04 04.6**	**-0.4**
	36nm,0.4s						
KKN	**Kakani**	**14.86**	**124**	*e*P	**Pn**	**03 04 11.2**	**-1.1**
	13nm,0.4s						
AB31	**Akbulak array**	**14.87**	**330**	P	**P**	**03 04 14.9**	**-0.4**
	1.6nm,0.3s,baz=138,slow=12,SNR=110						
AB31				S	**Sn**	**03 06 52.0**	**-4.0**
	1.1nm,0.3s,baz=151,slow=23,SNR=17						
PKIN	**Phulchoki**	**15.07**	**124**	*e*P	**Pn**	**03 04 14.2**	**-1.0**
	12nm,0.4s						
PKI	**Pulchoki**	**15.09**	**124**	*e*P	**Pn**	**03 04 14.3**	**-1.1**
	8.0nm,0.3s						
JIRN	**Jiri**	**15.55**	**122**	*e*P	**Pn**	**03 04 20.4**	**-0.9**
	30nm,0.4s						
RAMN	**Ramite**	**16.29**	**123**	*e*P	**Pn**	**03 04 29.5**	**-0.8**
	12nm,0.3s						
AKTO	**Aktyubinsk**	**16.57**	**329**	⇑P	**P**	**03 04 38.4**	**+4.2**
	5.1nm,0.8s						
AKTO				⇓S	**Sn**	**03 07 35.5**	**-1.6**
	3.6nm,0.8s						
ODAN	**Odare**	**16.88**	**122**	*e*P	**Pn**	**03 04 36.4**	**-1.2**

*KRNET **23** 03:19:52.6±0.1, 43°.25N×78°.97E, h35km, mb2.6*
*NNC **23** 03:20:07.8±0.4, 43°.17N×78°.33E, h4km±5km, mb2.7, mpv2.6, Error ellipse: s-maj=5.9km s-min=1.9km az=172.0*
*SOME **23** 03:20:08.7, 43°.15N×78°.30E, h10km*

ISC 23 03:20:08.0±0.9, 43°.04N±0°.04×78°.24E±0°.02, h9km±7km, n23, σ2ˢ56/41, 12C-1D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**0.12**	**81**	⇑*e*P	**Pg**	**03 20 11.7**	**+0.7**
	20nm,0.1s						
SATY				*e*S	**Sg**	**03 20 13.9**	**+0.9**
	217nm,0.1s						
SATY	**Saty**	**0.12**	**81**	P	**Pg**	**03 20 11.7**	**+0.7**
	20nm,0.1s						
SATY				S	**Sg**	**03 20 13.9**	**+0.9**
	217nm,0.1s						
KURS	**Kuram**	**0.45**	**354**	*e*P	**Pb**	**03 20 15.3**	**-2.9**
	1.3nm,0.1s						
KURS				*e*S	**Sg**	**03 20 19.8**	**-3.0**
	5.9nm,0.2s						
ANVS	**Anan'yevo**	**0.49**	**239**	⇑*i*P	Pg	03 20 11.9	-5.7
	baz=45						
ANVS				⇑*i*S	**Sg**	**03 20 26.5**	**+2.4**
	baz=45						
KPKS	**Kokpek**	**0.54**	**37**	*e*P	**Pb**	**03 20 16.3**	**-3.4**
	7.3nm,0.1s						
KPKS				*e*S	**Sg**	**03 20 21.8**	**-3.8**
	21nm,0.2s						
PRZ	**Przheval'sk**	**0.57**	**168**	⇑*i*P	Pg	03 20 09.4	-10
	baz=9.0						
PRZ				⇑*i*S	**Sg**	**03 20 21.4**	**-5.1**
	baz=9.0						
KOTS	**Kotyrbulak**	**0.85**	**284**	*e*P	**Pg**	**03 20 25.2**	**+0.9**
	2.1nm,0.2s						
KOTS				*e*S	**Sb**	**03 20 37.2**	**+0.7**
	13nm,0.2s						
KOTS	**Kotyrbulak**	**0.85**	**284**	P	**Pg**	**03 20 25.2**	**+0.9**
	2.1nm,0.2s						
KOTS				S	**Sb**	**03 20 37.2**	**+0.7**
	13nm,0.2s						
MDOK	**Medeo**	**0.88**	**278**	⇑P	**Pg**	**03 20 25.8**	**+0.9**
	2.7nm,0.8s						
MDOK				⇓S	**Sb**	**03 20 38.6**	**+1.2**
	2.9nm,0.7s						
SHLS	**Shalkode**	**0.91**	**82**	*e*P	**Pn**	**03 20 30.1**	**+3.1**
	4.5nm,0.1s						
SHLS				*e*S	**Sn**	**03 20 45.6**	**+5.3**
	8.2nm,0.2s						
SHLS	**Shalkode**	**0.91**	**82**	P	**Pn**	**03 20 30.2**	**+3.1**
	4.5nm,0.1s						
SHLS				S	**Sn**	**03 20 45.6**	**+5.3**
	8.2nm,0.2s						
TNSS	**Tian-Shan**	**0.95**	**270**	*e*P	**Pg**	**03 20 27.6**	**+1.4**
	1.7nm,0.1s						
TNSS				*e*S	**Sb**	**03 20 41.4**	**+1.7**
	1.4nm,0.1s						
TNSS	**Tian-Shan**	**0.95**	**270**	P	**Pg**	**03 20 27.6**	**+1.4**
	1.7nm,0.1s						
TNSS				S	**Sb**	**03 20 41.4**	**+1.7**
	1.4nm,0.1s						
PDGK	**Podgornoye**	**0.96**	**72**	P	**Pb**	**03 20 25.0**	**-1.9**
	1.1nm,0.1s						
PDGK				S	**Sb**	**03 20 36.7**	**-3.1**
	1.5nm,0.1s						
PDGK	**Podgornoye**	**0.96**	**72**	⇑P	**Pb**	**03 20 25.0**	**-1.9**
	0.7nm,0.3s						
PDGK				⇑S	**Sg**	**03 20 36.1**	**-2.9**
	2.6nm,0.8s						
KDJ	**Kajisay**	**1.20**	**221**	⇑*i*P	Pn	03 20 21.3	-10
	baz=30						
KDJ				⇑*i*S	**Sb**	**03 20 41.8**	**-4.8**
	baz=30						
KTBS	**Karatobe**	**1.32**	**301**	*e*P	**Pg**	**03 20 32.9**	**-0.4**
	0.8nm,0.2s						
KTBS				*e*S	**Sg**	**03 20 50.2**	**-0.2**
	4.5nm,0.2s						
KTBS	**Karatobe**	**1.32**	**301**	P	**Pg**	**03 20 32.9**	**-0.4**
	0.8nm,0.2s						
KTBS				S	**Sg**	**03 20 50.3**	**-0.2**
	4.5nm,0.2s						
KUU	**Kurty**	**1.62**	**302**	*e*P	**Pg**	**03 20 38.7**	**-0.5**
	0.8nm,0.2s						
KUU				*e*S	**Sg**	**03 21 00.1**	**-0.1**
	3.7nm,0.1s						
KUU	**Kurty**	**1.62**	**302**	P	**Pg**	**03 20 38.7**	**-0.5**
	0.8nm,0.2s						
KUU				S	**Sg**	**03 21 00.1**	**-0.1**
	3.7nm,0.1s						
BOOM	**Boomskoye usch**	**1.78**	**253**	⇑*i*P	Pn	03 20 30.2	-8.9
	baz=52						
BOOM				⇑*i*S	**Sn**	**03 20 56.9**	**-5.0**
	baz=52						
KRBS	**Karabastau**	**1.98**	**290**	*e*P	**Pg**	**03 20 45.6**	**-0.3**
	0.4nm,0.1s						
KRBS				*e*S	**Sg**	**03 21 12.1**	**+0.5**
	2.4nm,0.1s						
KRBS	**Karabastau**	**1.98**	**290**	Pg	**Pg**	**03 20 45.6**	**-0.3**
	0.4nm,0.1s						
KRBS				Lg	Lg	03 21 12.1	
	2.4nm,0.1s						

SJA 23 03:23:58.0, 31°.73S×73°.14W, h10km, ML4.5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VA01	**Torpederas**	**1.81**	**136**	*i* P	Pn	03 24 28.0	-1.2
CO03	**El Pedregal**	**2.28**	**68**	*i* P	Pn	03 24 34.0	-1.8
VA03	**San Esteban**	**2.42**	**116**	*i* P	Pn	03 24 36.0	-1.8
GO04	**Tololo Observa**	**2.54**	**53**	*i* P	Pn	03 24 38.0	-1.5
MT05	**Renca**	**2.62**	**130**	*i* P	Pn	03 24 40.0	-0.4
MT01	**Popeta**	**2.66**	**144**	*i* P	Pn	03 24 40.0	-0.9
BO01	**Tunca**	**3.17**	**148**	*i* P	Pn	03 24 48.0	+0.1
AUSP	**Uspallata**	**3.23**	**100**	*i* P	Pn	03 24 50.0	+1.0
GO05	**Huala**	**3.42**	**163**	*i* P	Pn	03 24 51.0	-0.5
LCO	**Las Campanas**	**3.43**	**38**	*i* P	Pn	03 24 52.0	+0.2
BO02	**Sierra Bellavi**	**3.64**	**148**	*i* P	Pn	03 24 55.0	+0.5
AC04	**Llanos de Chal**	**3.94**	**28**	*i* P	Pn	03 24 57.0	-1.6
VCA	**Vinchina**	**5.21**	**56**	*i* P	Pn	03 25 18.0	+1.9
AC02	**Maricunga**	**6.00**	**37**	*i* P	Pn	03 25 28.0	+0.6
LC01	**Cunco**	**7.23**	**172**	*i* P	Pn	03 25 46.0	+2.3

MEX 23 03:32:17.2±1.0, 16°.42N×98°.37W, h5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.24**	**95**	*e*P	Pg	03 32 22.0	+0.1
PNIG				*e*S	Sg	03 32 24.6	-0.4
MGIG	**Malinaltepec**	**0.85**	**343**	*e*P	Pg	03 32 31.4	-2.1
TXIG	**Tlaxiaco**	**1.01**	**35**	*e*P	Pg	03 32 35.0	-1.8

*SOME **23** 03:33:17.0, 38°.38N×72°.30E, h30km*
*BJI **23** 03:33:19.2±0.0, 37°.39N×71°.33E, h121km, mB4.5/4, mb4.6/12*
*MOS **23** 03:33:19.5±1.2, 37°.34N×71°.28E, h105km, mb3.9/8, Error ellipse: s-maj=9.6km s-min=5.1km az=88.1*
*NEIC **23** 03:33:20.8±1.7, 37°.34N±0°.05×71°.36E±0°.08, h98km±4km, mb4.4/8, Error ellipse: s-maj=9.3km s-min=7.6km az=102.0*
*IDC **23** 03:33:21.5±0.9, 37°.21N×71°.42E, h107km±5km, mb3.5/11, mb1 3.7/14, mb1mx3.4/57, mbtmp4.0/14, MS2.5/2, Ms1 2.5/2, ms1mx2.2/36, Error ellipse: s-maj=20.1km s-min=17.3km az=15.0*
*NNC **23** 03:33:21.1±1.1, 37°.45N×71°.12E, h134km±21km, mb4.1, mpv4.7, Error ellipse: s-maj=10.7km s-min=6.5km az=177.0*

ISC 23 03:33:19.8±0.4, 37°.28N±0°.04×71°.24E±0°.04, h107km±3km, h107km:pP-P, n139, σ2ˢ29/177, mb4.0/18, 12C-12D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**1.86**	**337**		**Pn**	**03 33 52.3**	**+1.2**
GAR				Sn	**Sn**	**03 34 15.6**	**+0.7**
CHGR	**Chuyangaron**	**2.14**	**310**	Pn	**Pn**	**03 33 55.5**	**+0.9**
CHGR				Sn	**Sn**	**03 34 21.9**	**+0.7**
DRK	**Karamyk**	**2.24**	**11**		**Pn**	**03 33 56.9**	**+0.9**
BTK	**Batken**	**2.79**	**353**	PN	**Pn**	**03 34 04.3**	**+1.3**
BTK	**Batken**	**2.79**	**353**	Pn	**Pn**	**03 34 04.3**	**+1.3**
KBL	**Kabul**	**3.27**	**214**	PN	**Pn**	**03 34 11.5**	**+2.0**
KBL	**Kabul**	**3.27**	**214**	Pn	**Pn**	**03 34 11.5**	**+2.0**
CEP	**Cherat**	**3.49**	**171**	P	**Pn**	**03 34 13.8**	**+1.3**
CEP				S	**Sn**	**03 34 53.0**	**-0.1**
CHCP	**Chirah Chowk**	**3.98**	**155**	P	**Pn**	**03 34 20.6**	**+1.8**
NIL	**Nilore**	**3.98**	**155**	PN	**Pn**	**03 34 20.3**	**+1.4**
NIL	**Nilore**	**3.98**	**155**	Pn	**Pn**	**03 34 20.3**	**+1.4**
TAS	**Tashkent**	**4.31**	**340**	PN	**Pn**	**03 34 22.6**	**-0.6**
TAS	**Tashkent**	**4.31**	**340**	Pn	**Pn**	**03 34 22.6**	**-0.6**
KSH	**Kashi**	**4.33**	**58**	P	**Pn**	**03 34 20.3**	**-3.4**
KSH				S	Sn	03 34 57.4	-16
KSH				smax	smax		
	comp=N,930nm,0.7s						
KSH				smax	smax		
	comp=E,910nm,0.6s						
THW	**Thamme Wali**	**4.50**	**175**	P	**Pn**	**03 34 26.3**	**+0.4**
AML	**Almayashu**	**5.20**	**21**	P	**Pn**	**03 34 36.5**	**+0.9**
	SNR=160						
SARP	**Sargodha**	**5.48**	**167**	P	**Pn**	**03 34 38.4**	**-0.7**
UCH	**Uchtor**	**5.54**	**26**	P	**Pn**	**03 34 40.8**	**+0.5**
	SNR=67						
DZA	**Taraz**	**5.60**	**1**	*e*P	**Pn**	**03 34 41.6**	**+0.8**
	170nm,0.1s						
DZA				*e*S	**Sn**	**03 35 41.7**	**-2.1**
	488nm,0.3s						
MRKS	**Merke**	**5.66**	**15**	*e*P	**Pn**	**03 34 42.5**	**+0.9**
	38nm,0.4s						
MRKS				*e*S	**Sn**	**03 35 43.2**	**-2.2**
	143nm,0.2s						
MRKS	**Merke**	**5.66**	**15**	Lg	Lg	03 35 43.2	
	143nm,0.2s						
KZA	**Kyzart**	**5.70**	**32**	P	**Pn**	**03 34 42.9**	**+0.5**
	SNR=18						
EKS2	**Erkin-Say**	**5.71**	**19**	P	**Pn**	**03 34 43.7**	**+1.4**
	SNR=59						
KK31	**Karatay Array**	**5.84**	**355**	P	**Pn**	**03 34 44.6**	**+0.6**
	29nm,0.5s,baz=164,slow=11,SNR=230						
KK31				⇑S	**Sn**	**03 35 47.5**	**-2.1**
	22nm,0.3s,baz=184,slow=22,SNR=6.2						
KK31	**Karatay Array**	**5.84**	**355**	*i* PN	**Pn**	**03 34 44.7**	**+0.8**
KK31	**Karatay Array**	**5.84**	**355**	Pn	**Pn**	**03 34 44.7**	**+0.8**
KKAR	**Karatay Array**	**5.84**	**355**	PN	**Pn**	**03 34 44.6**	**+0.7**
KKAR	**Karatay Array**	**5.84**	**355**	Pn	**Pn**	**03 34 44.5**	**+0.5**
KKAR	**Karatay Array**	**5.84**	**355**		**Pn**	**03 34 44.6**	**+0.7**
AAK	**Ala-Archa**	**5.90**	**24**	P	**Pn**	**03 34 45.9**	**+1.1**
	22nm,0.3s,baz=170,slow=6.5,SNR=123						
AAK				S	**Sn**	**03 35 49.9**	**-1.4**
	10nm,0.3s,baz=334,slow=15,SNR=5.9						
AAK				LR	LR	03 36 43.3	
	comp=Z,32nm,20.7s,baz=210,slow=34						
AAK	**Ala-Archa**	**5.90**	**24**	P	**Pn**	**03 34 46.1**	**+1.2**
	SNR=94						
AAK	**Ala-Archa**	**5.90**	**24**	P	**Pn**	**03 34 45.4**	**+0.5**
	24nm,0.3s						
AAK				⇑S	**Sn**	**03 35 49.8**	**-1.5**
	35nm,0.5s						
AAK	**Ala-Archa**	**5.90**	**24**	PN	**Pn**	**03 34 46.0**	**+1.1**
AAK	**Ala-Archa**	**5.90**	**24**	Pn	**Pn**	**03 34 45.8**	**+0.9**
AAK					**Sn**	**03 35 50.0**	**-1.2**
KBK	**Karagaybulak**	**6.07**	**27**	P	**Pn**	**03 34 48.5**	**+1.2**
	SNR=11						
THN	**Thein Dam**	**6.08**	**141**	*e*P	**Pn**	**03 34 43.0**	**-4.2**
THN				*e*S	**Sn**	**03 35 48.5**	**-6.8**
ULHL	**Ulahol**	**6.28**	**36**	P	**Pn**	**03 34 50.9**	**+0.8**
	SNR=48						
CHMS	**Chumysh**	**6.31**	**24**	P	**Pn**	**03 34 51.4**	**+1.1**
	SNR=24						
BOOM	**Boomskoye usch**	**6.33**	**33**	PN	**Pn**	**03 34 51.3**	**+0.6**
BOOM	**Boomskoye usch**	**6.33**	**33**	Pn	**Pn**	**03 34 51.3**	**+0.6**
USP	**Ospenovka**	**6.47**	**22**	P	**Pn**	**03 34 53.2**	**+0.6**
	SNR=31						
DHRM	**DHARAMSHALA**	**6.52**	**139**	*e*P	**Pn**	**03 34 51.9**	**-1.5**
DHRM				*e*S	**Sn**	**03 35 57.9**	**-8.6**
DHRM				IAML		03 36 05.5	
	comp=N,1μm,0.0s						
DHRM				IAML		03 36 05.6	
	comp=E,1μm,0.4s						
TKM2	**Tokmak 2**	**6.54**	**29**	P	**Pn**	**03 34 54.5**	**+0.8**
	SNR=93						
TKM2	**Tokmak 2**	**6.54**	**29**	⇓P	**Pn**	**03 34 54.2**	**+0.6**
	comp=E,65nm,0.7s						
TKM2				⇑S	**Sn**	**03 36 07.0**	**+0.1**
	comp=E,27nm,0.8s						
TKM2	**Tokmak 2**	**6.54**	**29**	PN	**Pn**	**03 34 54.2**	**+0.6**
SGDS	**Sogindy**	**6.68**	**22**	P	**Pn**	**03 34 55.8**	**+0.4**
	comp=E,61nm,0.5s						
TARG	**Taragay, Kyrgy**	**6.74**	**47**		**Pn**	**03 34 55.5**	**-1.0**
KST	**Kastek**	**6.79**	**31**	*e*P	**Pn**	**03 34 57.9**	**+1.0**
	comp=E,58nm,0.6s						
KST				*e*S	**Sn**	**03 36 10.1**	**-2.8**
	comp=E,33nm,0.5s						
KST	**Kastek**	**6.79**	**31**	P	**Pn**	**03 34 57.9**	**+1.0**
	comp=E,58nm,0.6s						
DGS	**Degeres**	**6.88**	**29**	*e*P	**Pn**	**03 34 58.9

KURS	Kuram	8.14	38	P		Pn	03 35 15.7	+0.5
	comp=E,21nm,0.5s							
SHLS	Shalkode	8.60	44	P		Pn	03 35 24.1	+2.6
	comp=E,16nm,0.5s							
PDGK	Podgornoye	8.72	44	P		Pn	03 35 22.8	-0.4
	comp=E,5.0nm,0.3s							
PDGK	Podgornoye	8.72	44	⇑P		Pn	03 35 22.3	-0.9
	comp=E,7.6nm,0.6s							
DDI	Dehra Dun	8.96	139	*e*P		Pn	03 35 24.5	-1.9
DDI				*ex*		x	03 36 51.8	
DJR	Jarkent	9.56	40	P		Pn	03 35 33.2	-1.3
	comp=E,8.1nm,0.4s							
NDI	New Delhi	9.93	148	*e*P		Pn	03 35 37.0	-2.5
NDI				*e*S		Sn	03 37 21.0	-8.1
KAPS	Kapalarasan	10.05	35	P		Pn	03 35 40.4	-0.7
	comp=E,19nm,0.7s							
GEYT	Alibeck	10.44	278	P		Pn	03 35 44.9	-1.5
	comp=E,5.5nm,0.3s,baz=128,slow=9.7,SNR=19							
GEYT				S		Sn	03 37 35.8	-5.5
	comp=E,13nm,0.3s,baz=163,slow=26,SNR=14							
GYA0B	ALIBECK ARRAY	10.44	278	⇓P		Pn	03 35 45.2	-1.1
GYA0B				⇓S		Sn	03 37 37.8	-3.5
GYA0B	ALIBECK ARRAY	10.44	278	Pn		Pn	03 35 45.3	-1.1
OTUK	Ortayu	10.98	4	⇓P		Pn	03 35 52.4	-1.3
	comp=E,3.6nm,0.8s							
OTUK	Ortayu	10.98	4	P		Pn	03 35 52.3	-1.3
OTUK				S		Sn	03 38 01.2	+6.8
MAKZ	Makanchi	12.41	37	⇓P		Pn	03 36 10.5	-2.0
	comp=E,20nm,1.3s							
MAKZ	Makanchi	12.41	37	P		Pn	03 36 11.3	-1.3
MAKZ	Makanchi	12.41	37	Pn		Pn	03 36 11.3	-1.3
MK31	Makanchi Array	12.55	37	P		Pn	03 36 13.2	-1.2
	comp=E,11nm,0.6s,baz=222,slow=14,SNR=71							
MK31	Makanchi Array	12.55	37	P		Pn	03 36 13.6	-0.8
MK31	Makanchi Array	12.55	37			Pn	03 36 13.6	-0.8
MKAR	Makanchi Array	12.55	37	P		Pn	03 36 13.1	-1.3
	comp=E,2.1nm,0.3s,baz=226,slow=15,SNR=85							
MKAR	Makanchi Array	12.55	37	P		Pn	03 36 13.6	-0.8
MKAR	Makanchi Array	12.55	37	Pn		Pn	03 36 13.6	-0.8
KURBB	Kurchatov Arra	14.32	19	P		Pn	03 36 35.1	-2.3
	comp=E,0.3nm,0.3s,baz=208,slow=12,SNR=7.0							
KURBB	Kurchatov Arra	14.32	19	⇑P		Pn	03 36 36.9	-0.5
	comp=E,8.9nm,0.7s							
KURBB	Kurchatov Arra	14.32	19	P		P	03 36 41.2	-0.1
AB31	Akbulak array	14.50	329	⇓P		Pn	03 36 38.5	-1.2
	comp=E,15nm,0.6s,baz=135,slow=14,SNR=437							
AB31				⇑S		Sn	03 39 14.0	-5.5
	comp=E,9.6nm,0.7s,baz=146,slow=23,SNR=7.3							
AB31	Akbulak array	14.50	329	P		Pn	03 36 38.5	-1.2
ABKAR	Akbulak array	14.50	329	Pn		Pn	03 36 38.7	-1.0
ABKAR	Akbulak array	14.50	329	Pn		Pn	03 36 38.1	-1.6
BHPL	Bhopal	14.97	157	*e*P		Pn	03 36 42.7	-3.2
BHPL				*i* pP		P	03 36 49.1	+0.3
BVAR	Borovoye Array	15.75	358	P		Pn	03 36 56.2	+0.7
	comp=E,0.7nm,0.3s,baz=184,slow=15,SNR=14							
BRVK	Borovoye	15.79	358	⇓P		Pn	03 36 55.7	-0.2
	comp=E,3.4nm,0.7s							
BRVK	Borovoye	15.79	358	*i* P		Pn	03 36 56.3	+0.4
BRVK	Borovoye	15.79	358			Pn	03 36 56.0	+0.2
JBP	Jabalpur	15.96	149	*e*P		Pn	03 36 49.9	-8.3
JBP				*e*S		Sn	03 39 40.1	-15
AKTO	Aktyubinsk	16.21	328	P		Pn	03 37 01.4	+0.3
	comp=E,1.9nm,0.3s,baz=135,slow=12,SNR=18							
AKTO				LR		LR	03 44 21.6	
	comp=E,24nm,18.6s,baz=121,slow=40							
AKTO	Aktyubinsk	16.21	328	⇑P		Pn	03 37 00.7	-0.4
	comp=E,15nm,0.8s							
AKTO				⇑S		Sn	03 39 56.2	-4.5
	comp=E,17nm,0.9s							
AKTO	Aktyubinsk	16.21	328	P		Pn	03 37 01.2	+0.1
DGZ	Jazzator, Alta	17.04	38	*de*P		Pn	03 37 09.3	-2.2
DGZ				pmax	pmax			
	comp=Z,13nm,0.4s							
UOSS	Minazif	17.78	230			Pn	03 37 22.2	+1.7
UOSS				IAmb	IAmb		03 37 25.8	
	comp=Z,6.6nm,0.7s							
AKT	Akhty	18.64	290	⇓*e*P		Pn	03 37 30.8	+0.1
MAK	Makhachkala	18.99	295	*e*P		P	03 37 33.0	+0.1
MAK				*e*S		S	03 41 00.6	-2.1
MAK				pmax	pmax			
	comp=E,184nm,1.5s							
MAK				MLR	MLR			
	comp=E,121nm,12.0s							
ZAA0	Zalesovo Array	19.12	25	P		P	03 37 34.6	+0.4
ZAA0				IAmb	IAmb		03 37 35.5	
	comp=E,15nm,0.5s							
ZALV	Zalesovo Beam	19.12	25	P		P	03 37 34.3	+0.1
	comp=E,4.3nm,0.3s,baz=226,slow=11,SNR=65							
ZALV	Zalesovo Beam	19.12	25	*i* P		P	03 37 34.7	+0.5
ZALV				pmax	pmax			
	comp=E,16nm,0.5s							
ZALV	Zalesovo Beam	19.12	25	P		P	03 37 34.6	+0.5
GNBR	Gunib	19.30	293	⇓*e*P		P	03 37 37.4	+1.0
GNBR				pmax	pmax			
	comp=E,11nm,1.1s							
GNI	Garni	20.85	286	⇑*e*P		Pn	03 37 55.7	-1.0
GNI				pmax	pmax			
	comp=E,8.0nm,1.0s							
ARU	Arti	20.96	340	*c* iP		Pn	03 38 02.1	+4.5
ARU							03 38 26.8	
ARU				pmax	pmax			
	comp=Z,3.0nm,0.5s							
BELG	Belogornoye	22.41	320	⇓*e*P		P	03 38 09.4	+0.1
BELG				pmax	pmax			
	comp=E,2.0nm,0.8s							
KBZ	Khabaz	22.43	296	⇑*e*P		P	03 38 08.3	-1.3
KBZ				pmax	pmax			
	comp=E,7.0nm,3.3s							
KIV	Kislovodsk	22.61	296	*e*P		P	03 38 11.7	+0.1
KIV				*e*S		S	03 42 06.8	-4.6
KIV				pmax	pmax			
	comp=E,3.0nm,0.9s							
BRTR	Keskin Array B	29.39	286	P		P	03 39 15.8	+2.7
	comp=E,0.2nm,0.7s,baz=89,slow=7.8,SNR=2.1							
BRTR				sP		sP	03 39 53.4	+3.1
	comp=E,0.7nm,0.6s,baz=101,slow=9.3,SNR=3.5							
OBN	Obninsk	29.48	318	⇓*e*P		P	03 39 11.1	-2.3
OBN				*e**PP		sP	03 39 50.4	-0.5
OBN				*e*			03 40 13.4	
OBN				*e*S		S	03 43 58.7	-1.0
OBN				pmax	pmax			
	comp=Z,3.0nm,0.8s							
CMAR	Chiang Mai Arr	30.67	120	P		P	03 39 25.7	+1.4
	comp=E,1.5nm,0.3s,baz=294,slow=9.7,SNR=5.4							
CMAR	Chiang Mai Arr	30.67	120	*i* P		P	03 39 27.3	+3.0
CMAR				pmax	pmax			
	comp=E,2.0nm,0.3s							
AKASG	Malin Array Be	32.61	308	pP		pP	03 40 07.6	+1.9
	comp=Z,0.4nm,0.4s,baz=83,slow=7.5,SNR=1.7							
AKASG				sP		sP	03 40 19.9	+1.4
	comp=Z,1.7nm,0.5s,baz=82,slow=6.5,SNR=3.5							
MNK	Minsk	34.09	314	*i* P		P	03 39 51.1	-2.7
MNK				*i* *PP		sP	03 40 26.9	-4.7
MNK				*i*			03 41 10.5	
MNK				*i*			03 42 25.6	
MNK				*i* S		S	03 45 03.3	-8.2
MNK				*i* SS		SnSn	03 47 30.9	+0.5
MNK				pmax	pmax			
	comp=E,1.0nm,0.9s							
MNK				pmax	pmax			
	comp=N,5.0nm,0.9s							
MNK				pmax	pmax			
	comp=Z,5.0nm,0.9s							
MNK				MLR	MLR			
	comp=N,21nm,21.0s							
MNK				MLR	MLR			
	comp=Z,180nm,21.0s							
MNK				MLR	MLR			
	comp=E,2.0nm,10.0s							
MNK	Minsk	34.09	314	*i* P		P	03 39 51.1	-2.7
	comp=E,1.0nm,0.9s							
MNK				*i* P		P	03 39 51.1	-2.7
	comp=N,5.0nm,0.9s							
MNK				*i* P		P	03 39 51.1	-2.7
	comp=Z,5.0nm,0.9s,baz=282							
MNK				*i* pP		sP	03 40 26.9	-4.7
MNK				*i* PP		PnPn	03 41 10.5	-0.5
MNK				*i* S		S	03 45 03.3	-8.2
MNK				*i* SS		SnSn	03 47 30.9	+0.5
MNK				*i* LRM	MLR		03 55 12.6	
	comp=E,2.0nm,10.3s							
MNK				*i* LRM	MLR		03 55 12.6	
	comp=N,21nm,20.6s							
MNK				*i* LRM	MLR		03 55 12.6	
	comp=Z,180nm,20.6s							

FINES	FINESS Array B	36.95	325	P		P	03 40 21.8	+3.7
	comp=Z,0.8nm,0.5s,baz=124,slow=12,SNR=3.7							
FINES				pP		pP	03 40 44.9	+1.7
	comp=Z,1.8nm,0.5s,baz=114,slow=10,SNR=2.7							
ARCES	ARCESS Array B	40.50	337	P		P	03 40 50.5	+2.8
	comp=Z,1.9nm,0.9s,baz=73,slow=8.1,SNR=6.2							
HFS	Hagfors	42.58	321	P		P	03 41 07.5	+2.7
	comp=Z,2.9nm,0.4s,baz=98,slow=11,SNR=19							
NB2	NORSAR Subarra	43.88	323	P		P	03 41 17.9	+2.6
	comp=Z,0.8nm,0.5s,baz=95,slow=7.9							
NOA	NORSAR Array B	43.88	323	P		P	03 41 17.8	+2.5
	comp=Z,0.6nm,0.5s,baz=96,slow=7.8,SNR=8.9							
NOA				pP		pP	03 41 41.5	+0.3
	comp=Z,0.8nm,0.5s,baz=96,slow=8.0,SNR=3.5							
NOA				sP		sP	03 41 54.9	+1.1
	comp=Z,1.7nm,0.7s,baz=96,slow=7.9,SNR=4.6							
NBO00	NORSAR Array S	44.09	322	P		P	03 41 18.4	+1.4
NC204	NORSAR Array S	44.11	323	P		P	03 41 19.2	+2.0
NC204				IAmb		IAmb	03 41 36.1	
	comp=Z,15nm,1.4s							
ESDC	Sonseca Array	57.27	297	P		P	03 42 59.7	+3.5
	comp=Z,0.5nm,0.8s,baz=56,slow=7.8,SNR=4.1							
ESDC				pP		pP	03 43 24.6	+1.6
	comp=Z,0.7nm,0.8s,baz=44,slow=7.1,SNR=3.4							
ESDC				sP		sP	03 43 37.2	+2.0
	comp=Z,0.7nm,0.7s,baz=65,slow=8.4,SNR=3.8							
TORD	Torodi Ar. Bea	65.93	268	P		P	03 43 56.6	+1.8
	comp=Z,0.4nm,0.3s,baz=48,slow=6.0,SNR=15							
TORD	Torodi Ar. Bea	65.93	268	P		P	03 43 56.5	+1.8
INK	Inuvik	73.10	9	P		P	03 44 41.3	+3.5
	comp=Z,1.1nm,0.6s,baz=351,slow=5.1,SNR=5.6							
INK	Inuvik	73.10	9	P		P	03 44 39.8	+1.9
INK				IAmb		IAmb	03 44 44.3	
	comp=Z,5.7nm,1.4s							
YKA	Yellowknife Ar	80.45	3	P		P	03 45 21.5	+2.2
	comp=Z,0.5nm,0.6s,baz=3.6,slow=5.4,SNR=5.7							
YKA				pP		pP	03 45 49.1	+1.1
	comp=Z,0.7nm,0.6s,baz=4.3,slow=5.5,SNR=4.1							
ASAR	Alice Springs	84.54	125	P		P	03 45 40.2	-0.9
	comp=Z,0.2nm,0.6s,baz=327,slow=4.9,SNR=2.3							

TAP ***23*** *03:50:26.3, 24.°91N×122.°21E, h18km, ML2.6, C*
JMA ***23*** *03:50:26.0±0.3, 24.°86N×122.°25E, h3km, M2.2*
ISC 23 03:50:26.0±1.0, 24.°88N±0.°03×122.°24E±0.°02, h13km±8km, n43, σ0.°37/81, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.26	298	P	Pg	03 50 31.7	+0.2
	baz=297						
TWB1				S	Sg	03 50 35.3	0.0
	baz=297						
NTC	Toucheng	0.38	266	*e*P	Pb	03 50 34.2	-0.4
	baz=268						
NTC				*e*S	Sb	03 50 40.0	-0.3
	baz=268						
TIPB	Shuangxi	0.39	283	P	Pg	03 50 33.8	-0.1
	baz=284						
TIPB				S	Sg	03 50 39.1	0.0
	baz=284						
TWC	Suao	0.45	233	P	Pg	03 50 35.1	+0.2
	baz=219						
TWC				S	Sg	03 50 40.7	-0.3
	baz=219						
NWF	Wu-fen Shan	0.46	294	P	Pb	03 50 35.8	-0.2
	baz=293						
NWF				S	Sg	03 50 41.6	+0.4
	baz=293						
NDS	Dongshan	0.54	243	P	Pg	03 50 36.9	+0.3
	baz=230						
NDS				S	Sg	03 50 43.8	0.0
	baz=230						
TWA	Mucha	0.61	279	*e*P	Pg	03 50 38.0	+0.2
	baz=277						
TWA				*e*S	Sg	03 50 45.7	-0.2
	baz=277						
EWUT	Wuta	0.61	224	*e*P	Pb	03 50 38.7	+0.2
	baz=212						
EWUT				*e*S	Sg	03 50 46.1	+0.2
	baz=212						
ENA	Nanau	0.64	225	P	Pb	03 50 39.1	0.0
	baz=215						
ENA				S	Sg	03 50 47.3	+0.2
	baz=215						
ENTT	Nioudou	0.66	249	P	Pb	03 50 39.7	+0.3
	baz=238						
NWLT	Wulai	0.68	261	*e*P	Pb	03 50 39.6	-0.2
	baz=258						
NWLT				*e*S	Sb	03 50 48.9	-0.2
	baz=258						
NDT	Datong Townshi	0.72	247	*e*P	Pb	03 50 40.2	-0.2
	baz=252						
NDT				*e*S	Sb	03 50 49.8	-0.4
	baz=252						
PCYT	Pengchaiyu	0.76	348	P	Pg	03 50 40.9	+0.1
	baz=355						
PCYT				*e*S	Sb	03 50 51.5	+0.2
	baz=355						
JYNG	Yonagunijimaku	0.77	124	P	Pg	03 50 40.8	-0.2
JYNG				*e*S	Sg	03 50 50.5	-0.6
YHNB	Yeheng	0.82	255	P	Pg	03 50 41.9	0.0
	baz=260						
YHNB				S	Sg	03 50 52.2	-0.4
	baz=260						
YOJ	Yonaguni jima	0.82	121	P	Pg	03 50 41.1	-0.7
YOJ				*e*S	Sg	03 50 52.1	-0.4
YOJ	Yonaguni jima	0.82	121	P	Pg	03 50 41.4	-0.4
	baz=110						
YOJ				S	Sg	03 50 52.4	-0.1
	baz=110						
NSK	Sanguang	0.83	256	P	Pg	03 50 42.1	0.0
	baz=260						
NSK				S	Sg	03 50 52.7	-0.3
	baz=260						
NNSB	Datong	0.90	240	P	Pg	03 50 42.7	-0.9
	baz=229						
NNSB				*e*S	Sg	03 50 55.4	0.0
	baz=229						
NNS	Nan Shan	0.91	241	P	Pg	03 50 43.5	-0.1
	baz=228						
NNS				S	Sb	03 50 55.8	+0.1
	baz=228						
ETL	Fush Village	0.92	218	P	Pb	03 50 44.3	+0.6
	baz=207						
ETL				S	Sb	03 50 56.7	+0.8
	baz=207						
NACB	Ninganchiao	0.92	220	P	Pb	03 50 44.0	+0.2
	baz=209						
NACB				S	Sg	03 50 55.8	-0.1
	baz=209						
NCUH	Zhongli	0.96	275	*e*P	Pg	03 50 44.3	-0.4
	baz=274						
ETLH	Xiulin Townshi	0.97	226	*i* P	Pb	03 50 45.4	0.0
	baz=231						
ETLH				*e*S	Sb	03 50 58.0	+0.7
	baz=231						
TWD	Chiawan	0.99	216	*e*P	Pb	03 50 45.6	+0.5
	baz=213						
TWD				*e*S	Sb	03 50 58.5	+0.5
	baz=213						
FUSS	Fushou	1.11	235	P	Pb	03 50 47.5	+0.3
	baz=225						
FUSS				S	Sb	03 51 01.8	+0.2
	baz=225						
LIOB	Emei	1.14	258	*e*P	Pb	03 50 47.5	-0.1
	baz=257						
LIOB				*e*S	Sb	03 51 01.8	-0.5
	baz=257						
WHF	Hehuan Shan	1.16	231	P	Pn	03 50 48.6	+0.3
	baz=228						
WHF				S	Sg	03 51 02.6	-0.8
	baz=228						
NSTT	Nanjuang	1.16	258	*e*P	Pb	03 50 47.8	0.0
	baz=256						
NSTT				*e*S	Sb	03 51 02.6	-0.2
	baz=256						
TWT	Tachien	1.16	237	*e*P	Pn	03 50 48.3	+0.3
	baz=227						
TWT				*e*S	Sg	03 51 03.4	0.0
	baz=227						
TDCB	Techi	1.17	238	*e*P	Pb	03 50 48.0	-0.2
	baz=228						
TDCB				*e*S	Sb	03 51 03.2	-0.1
	baz=228						
CHGB	Renai	1.27	230	*e*P	Pg	03 50 50.5	0.0
	baz=228						
CHGB				*e*S	Sg	03 51 06.8	-0.3
	baz=228						
ESL	Shilin	1.30	215	*e*S	Sn	03 51 07.3	+0.3
	baz=218						
WHP	Taichung City	1.33	243	*e*P	Pg	03 50 51.5	-0.1
	baz=241						
WHP				*e*S	Sn	03 51 08.1	+0.3
	baz=241						
IRIF	Iriomote-Funau	1.46	112	P	Pb	03 50 53.9	+0.9
WCS	Beigang Elemen	1.47	236	*e*P	Pb	03 50 53.1	-0.1
	baz=240						
WCS				*e*S	Sb	03 51 11.9	+0.3
	baz=240						
HGSD	Ruisui	1.57	209	*e*P	Pb	03 50 55.2	+0.2
	baz=189						
HGSD				*e*S	Sn	03 51 14.7	+0.9
	baz=189						
SMLT	Sun Moon Lake	1.58	231	*e*P	Pb	03 50 54.7	-0.4
	baz=230						
SMLT				*e*S	Sb	03 51 15.4	+0.3
	baz=230						
TYC	Yuchr	1.60	233	*e*P	Pb	03 50 55.6	+0.2
	baz=232						
TYC				*e*S	Sb	03 51 15.2	-0.2
	baz=232						
SSLB	Suanglung	1.60	227	*e*P	Pb	03 50 55.6	+0.1
	baz=226						
SSLB				*e*S	Sb	03 51 16.0	+0.3
	baz=226						
EHY	Hungye	1.61	212	*e*P	Pn	03 50 54.2	+0.1
	baz=211						
EHY				*e*S	Sn	03 51 14.6	-0.1
	baz=211						
YULB	Yu-li	1.72	210	*e*P	Pn	03 50 54.7	-0.9
	baz=210						
YULB				*e*S	Sn	03 51 16.7	-0.8
	baz=210						
JKRS	Kuro-shima	1.73	111	P	Pb	03 50 57.9	+0.2

NEIC 23 03:59:20.5±1.2, 31.°69S±0.°03×72.°2W±0.°1, h10km±1km, mb4.1/2, Error ellipse: s-maj=15.1km s-min=4.8km az=276.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	1.14	27	Pn	Pb	03 59 41.6	-0.7
CO06				Sn	Sn	03 59 58.5	+0.2
VA01	Torpederas	1.42	159	Pn	Pn	03 59 46.0	-0.4
VA01				Sn	Sn	04 00 04.9	-0.1
CO03	El Pedregal	1.58	58	Pn	Pn	03 59 48.2	-0.4
VA03	San Esteban	1.79	127		Pn	03 59 51.6	+0.1
VA03				Sn	Sn	04 00 14.6	+0.3
GO04	Tololo Observa	1.96	40	Pn	Pn	03 59 53.1	-0.9
GO04				Sn	Sn	04 00 18.5	-0.2
VA05	Santo Domingo	2.03	165	Pn	Pn	03 59 54.5	-0.2
MT05	Renca	2.12	144	Pn	Pn	03 59 55.6	-0.4
MT01	Popeta	2.32	159		Pn	03 59 58.6	-0.1
MT09	Talagante	2.33	153		Pn	03 59 59.5	+0.5
BO01	Tunca	2.86	160	Pn	Pn	04 00 06.3	+0.2
GO05	Huala	3.32	176	Pn	Pn	04 00 12.1	-0.4
BO02	Sierra Bellavi	3.32	159		Pn	04 00 12.7	+0.1
AC02	Llanos de Chal	3.62	17	Pn	Pn	04 00 17.7	+0.6
ML02	Panimavida	4.12	171	Pn	Pn	04 00 23.7	+0.3
AC06	Mina Casimiro	4.62	21	Pn	Pn	04 00 29.3	-1.2
AC02	Maricunga	5.55	30	Pn	Pn	04 00 42.8	-0.8
LC01	Cunco	7.19	178	Pn	Pn	04 01 04.2	-1.5
PLCA	Paso Flores	9.12	172	Pn	Pn	04 01 32.6	+0.3
SNAA	Sanae	53.78	158	P	P	04 08 43.1	+0.3
SNAA				IAmb	IAmb	04 08 49.2	
	comp=Z,2.4nm,1.2s						
QSPA	South Pole Qui	58.54	180	P	P	04 09 17.4	+0.4

IDC 23 04:10:27.0±2.1, 6.°84S×129.°43E, h0km, mb3.7/1, mb1 4.1/3, mb1mx3.6/38, mbtmp3.8/3, ML4.1/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/26, Error ellipse: s-maj=123.5km s-min=31.7km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.87	160	Pn	Pn	04 13 44.4	-0.6
	1.0nm,0.3s,baz=339,slow=13,SNR=22						
WRA				Sn	Sn	04 16 05.0	-15
	2.4nm,0.3s,baz=338,slow=22,SNR=15						
ASAR	Alice Springs	17.27	166	P	Pn	04 14 30.3	+0.5
	0.5nm,0.3s,baz=341,slow=8.9,SNR=19						
ASAR				Sn	Sn	04 17 27.5	-15
	0.4nm,0.3s,baz=350,slow=26,SNR=5.5						
ASAR				LR	LR	04 22 17.6	
	comp=Z,79nm,18.5s,baz=20,slow=41						
MKAR	Makanchi Array	67.78	327	P	P	04 21 26.8	0.0
	0.4nm,0.5s,baz=120,slow=6.6,SNR=5.7						

SJA ***23*** *04:21:24.1±1.7, 31.°36S×72.°18W, h10km±10km, ML5.1, MW4.7*
IDC ***23*** *04:21:25.1±0.7, 31.°34S×71.°80W, h0km, mb4.6/8, mb1 4.6/13, mb1mx4.4/24, mbtmp4.5/13, ML4.3/5, MS4.0/15, Ms1 4.0/15, ms1mx3.8/22, Error ellipse: s-maj=23.9km s-min=18.9km az=67.0*
NEIC ***23*** *04:21:26.4, 31.°32S×72.°11W, h10km, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr 3.12; Mθθ 1.22; Mϕϕ -4.34; Mrθ -0.86; Mϕϕ 0.12; Mϕr -7.86; Fault plane solution: M0 8.80000×10^15 NP1: ϕs 345.89000°, δ 13.26000°, λ 70.27000°. NP2: ϕs 186.13000°, δ 77.53000°, λ 94.55000°. Principal axes: T 8.1755, Plg 57.0000°, Azm 102.0000°; N 1.1425, Plg 4.0000°, Azm 5.0000°; P -9.3180, Plg 32.0000°, Azm 272.0000°;*
GUC ***23*** *04:21:27.0±0.8, 31.°35S×72.°01W, h28km±3km, ML5.0*
VAO ***23*** *04:21:27.7±0.4, 31.°25S×71.°77W, h10km, mb4.7*
NEIC ***23*** *04:21:27.2±1.1, 31.°33S±0.°03×71.°95W±0.°04, h11km±3km, mb4.7/83, Mwr 4.6/54, ML5.0(GUC), Error ellipse: s-maj=5.0km s-min=4.1km az=94.0*
ISC 23 04:21:26.1±1.4, 31.°34S±0.°02×71.°89W±0.°05, h7km±8km, n258, σ0.°82/262, mb4.7/47, MS4.1/15, 9C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.70	18	⇓*i* P	Pb	04 21 40.5	-0.1
CO06				*i* S	Sb	04 21 51.2	+0.9
CO06	Fray Jorge	0.70	18		Pb	04 21 40.4	-0.1
CO06				Sg	Sn	04 21 52.3	-1.0
CO03	El Pedregal	1.14	65	⇓*i* P	Pn	04 21 48.7	+0.1
CO03				*i* S	Sn	04 22 04.1	-0.4
CO03	El Pedregal	1.14	65	Pn	Pn	04 21 48.6	+0.1
CO03				Sn	Sn	04 22 04.4	-0.1
CO03	El Pedregal	1.14	65	*e*P	Pn	04 21 48.7	+0.1
VA06	Catapilco	1.32	158	⇑*i* P	Pn	04 21 50.7	-0.2
VA06				⇑*i* S	Sb	04 22 08.0	-0.3
VA06				IAML		04 22 12.1	
	comp=N,35μm,0.4s						
GO04	Tololo Observa	1.49	39	*i* P	Pb	04 21 54.1	-0.1
GO04				*i* S	Sg	04 22 14.6	+0.5
GO04	Tololo Observa	1.49	39	Pn	Pb	04 21 54.3	+0.1
GO04	Tololo Observa	1.

MT05 IAML 04 22 43.3
comp=E,21µm,0.3s
MT05 Renca 2.27 155 Pn Pn 04 22 05.2 +1.1
MT05 Renca 2.27 155 *i* P **Pn 04 22 05.0 +0.9**
AUSP Uspallata 2.31 113 *eP* **Pb 04 22 09.2 +1.0**
VA05 Santo Domingo 2.33 174 ⇑ *i*P **Pn 04 22 04.4 -0.3**
VA05 *i* S **Sn 04 22 34.8 +1.3**
VA05 IAML 04 22 41.6
comp=E,8µm,0.3s
VA05 Santo Domingo 2.33 174 Pn Pn 04 22 04.5 -0.2
AROD Rodeo 2.38 61 *eP* **Pg 04 22 10.7 -1.1**
LCO Las Campanas 2.54 24 *eP* **Pn 04 22 08.7 +0.7**
LCO *i* S **Sb 04 22 41.8 -1.7**
LCO Las Campanas 2.54 24 *eP* **Pn 04 22 08.7 +0.7**
LCO IAML 04 22 53.7
comp=E,15µm,1.1s
ACCO Cerro Coronel 2.54 74 *eP* **Pb 04 22 12.7 +0.5**
MT09 Talagante 2.55 163 ⇑ *i*P **Pn 04 22 09.0 +1.0**
MT09 *i* S **Sn 04 22 40.4 +1.1**
MT09 IAML 04 22 54.5
comp=E,4µm,0.4s
MT01 Popeta 2.58 168 ⇑ *i*P **Pn 04 22 08.4 +0.1**
MT01 *i* S **Sn 04 22 40.5 +0.7**
MT01 Popeta 2.58 168 *eP* **Pn 04 22 08.6 +0.4**
MT01 Popeta 2.58 168 *eP* **Pn 04 22 08.5 +0.3**
MT01 eS **Sn 04 22 41.7 +1.9**
ACDV Cuesta del Vie 2.65 65 *eP* **Pb 04 22 13.7 -0.3**
ACDV eS **Sg 04 22 49.1 -2.2**
ACDV IAML 04 22 59.3
comp=Z,2µm,1.5s
ZON Zonda 2.75 95 Pb 04 22 13.4 -2.3
LMEL Las Melosas 2.88 151 ⇑ *i*P **Pn 04 22 14.3 +1.8**
LMEL *i* S **Sn 04 22 49.2 +1.7**
LMEL IAML 04 23 06.0
comp=N,4µm,0.4s
RTCV Cerro Valdivia 2.90 101 *eP* **Pb 04 22 16.9 -1.3**
BO01 Tunca 3.12 168 Pn **Pn 04 22 15.7 -0.1**
BO01 Tunca 3.12 168 *eP* **Pn 04 22 14.9 -0.8**
AC04 Llanos de Chal 3.20 13 Pn **Pn 04 22 16.1 -0.7**
BO02 Sierra Bellavi 3.57 165 Pn Pn 04 22 22.6 +0.7
BO02 Sierra Bellavi 3.57 165 *eP* **Pn 04 22 22.9 +0.9**
GO05 Huala 3.66 181 Pn **Pn 04 22 22.2 -1.0**
GO03 Copiap 4.00 22 Pn **Pn 04 22 28.1 +0.3**
AC06 Mina Casimiro 4.18 19 Pn **Pn 04 22 29.7 -0.7**
ML02 Panimavida 4.43 175 Pn **Pn 04 22 33.1 -0.6**
AC02 Maricunga 5.09 29 Pn **Pn 04 22 44.0 +0.7**
VA04 Juan Fernndez 6.30 247 Pn **Pn 04 22 56.2 -3.2**
H03N1 Juan Fernandez 6.30 249 T T 04 29 41.0
baz=77,slow=72,SNR=4204
H03N3 Juan Fernandez 6.32 249 T T 04 29 38.1
baz=77,slow=72,SNR=3837
H03N2 Juan Fernandez 6.32 249 T T 04 29 41.7
baz=77,slow=72,SNR=3775
PB14 IPOC Station P 6.81 11 Pn **Pn 04 23 07.7 +0.9**
LC01 Cunco 7.54 180 Pn **Pn 04 23 14.9 -1.5**
LR03 Panguipulli 8.29 182 Pn 04 23 26.0 -0.7
PB15 IPOC Station P 8.38 15 Pn 04 23 28.9 +0.7
PLCA Paso Flores 9.44 174 Pn **Pn 04 23 42.6 +0.1**
comp=N,0.8nm,0.3s,baz=340,slow=10,SNR=40
PLCA Paso Flores 9.44 174 Pn **Pn 04 23 43.0 +0.4**
PLCA Paso Flores 9.44 174 *eP* **Pn 04 23 45.1 +2.5**
LL04 Puerto Octay 9.56 182 Pn **Pn 04 23 44.8 +0.7**
TRQA Tornquist 10.55 132 Pn Pn 04 23 59.1 +1.4
TRQA Tornquist 10.55 132 *eP* **Pn 04 23 58.9 +1.2**
LL02 Futaleuf 11.83 180 Pn **Pn 04 24 15.6 +0.4**
GO07 Milladeo Hill, 11.84 186 Pn 04 24 15.5 +0.2
ITQB Itaqui 13.27 87 Pn **Pn 04 24 33.8 -1.1**
ITQB Itaqui 13.27 87 *eP* **Pn 04 24 34.7 -0.2**
CPUP Villa Florida 13.70 72 Pn **Pn 04 24 39.8 -1.0**
comp=N,0.3nm,0.3s,baz=242,slow=13,SNR=6.5
CPUP LR LR 04 30 19.5
comp=N,778nm,21.5s,baz=248,slow=39
CPUP Villa Florida 13.70 72 *eP* **Pn 04 24 40.8 +0.1**
COYC Coyhaique 14.21 181 Pn 04 24 48.2 +0.5
LPAZ La Paz 15.37 14 Pn **Pn 04 25 04.9 +0.9**
comp=N,0.6nm,0.3s,baz=193,slow=7.9,SNR=27
LPAZ La Paz 15.37 14 Pn 04 25 04.4 +0.4
LPAZ La Paz 15.37 14 *eP* **Pn 04 25 03.8 -0.3**
PLTB Pedras Altas 15.60 96 *eP* **Pn 04 25 47.1 +0.7**
CPSB Cacapava Do Su 15.87 91 *eP* **Pn 04 25 09.3 -0.7**
AQDB Aquidauana 18.12 57 Pn 04 25 37.9 -0.4
AQDB Aquidauana 18.12 57 *eP* **Pn 04 25 38.2 -0.1**
SIV San Ignacio 18.19 35 P **Pn 04 25 38.1 -1.1**
comp=N,0.9nm,0.3s,baz=225,slow=9.9,SNR=38
SIV LR LR 04 33 53.7
comp=N,447nm,18.4s,baz=225,slow=41
CNLB Canela 18.27 89 *eP* **Pn 04 25 39.6 -0.6**
PTGB Pitanga 18.69 74 *eP* **Pn 04 25 46.0 +0.7**
TRCB Terra Rica 19.12 68 *eP* **Pn 04 25 51.6 +1.0**
PTLB Pontes e Lacer 19.64 39 *eP* **P 04 25 55.3 -0.1**
NNA Nana 19.79 346 P **Pn 04 25 58.7 0.0**
comp=N,0.8nm,0.3s,baz=177,slow=9.3,SNR=4.1
NNA LR LR 04 32 12.3
comp=N,173nm,18.2s,baz=164,slow=33
NNA Nana 19.79 346 P **P 04 25 57.4 +0.3**
TER01 Tubaro-SC 19.91 88 *eP* **P 04 25 59.0 +0.6**
PP1B Ponte de Pedra 20.62 52 *eP* **P 04 26 05.6 -0.5**
PCMB Pacaembu 20.82 67 *eP* **P 04 26 08.0 -0.3**
VILB Vilhena 21.23 33 *eP* **P 04 26 12.0 -0.7**
SALV Santo Antonio 21.32 48 *eP* **P 04 26 13.2 -0.4**
FRTB Fartura 21.34 74 *eP* **P 04 26 14.3 +0.4**
ETMB Extrema 22.05 15 *eP* **P 04 26 20.8 -0.7**
ITRB Iturama 22.57 64 *eP* **P 04 26 27.6 +0.4**
PET01 Itanhaem-SP 22.84 78 *eP* **P 04 26 30.3 +0.4**
SPB Sao Paulo 23.00 76 P **P 04 26 32.4 +0.8**
SPB Sao Paulo 23.00 76 *eP* **P 04 26 31.9 +0.4**
BB19B Bebedouro 23.28 70 *eP* **P 04 26 34.4 -0.1**
RCLB Rio Claro- Sao 23.43 74 *eP* **P 04 26 35.7 -0.4**
CZSB Cruzeiro do Su 23.50 358 *eP* **P 04 26 38.6 +2.0**
VAO Valinhos 23.64 76 *eP* **P 04 26 38.0 -0.1**
SAML Samuel 23.70 22 P **P 04 26 39.1 +0.5**
SAML IAmb IAmb 04 26 40.8
comp=Z,16nm,1.0s
SAML Samuel 23.70 22 *eP* **P 04 26 39.2 +0.5**
PARB Paraibuna 24.61 78 *eP* **P 04 26 46.4 -0.8**
IPMB Ipameri, GO 25.22 64 *eP* **P 04 26 51.8 -1.0**
CLDB Colider 25.23 40 *eP* **P 04 26 51.7 -1.1**
ESAR Angra dos Reis 25.73 78 *eP* **P 04 26 56.8 -0.4**
BSCB Bom Sucesso 26.36 74 *eP* **P 04 27 02.6 -0.4**
BDFB Brasilia 26.81 60 P **P 04 27 06.3 -0.9**
comp=Z,29nm,0.9s,baz=235,slow=7.0,SNR=36
BDFB LR LR 04 38 57.9
comp=Z,1µm,19.7s,baz=236,slow=39
BDFB Brasilia 26.81 60 P **P 04 27 06.4 -0.8**
VAS01 Vassouras-RJ 26.88 77 *eP* **P 04 27 07.8 +0.1**
SNDB Serra Nova Dou 27.07 49 *eP* **P 04 27 08.9 -0.5**
TBTG Tabatinga, AM 27.07 4 *eP* **P 04 27 10.1 +0.7**
DUB01 Friburgo-RJ 27.86 78 *eP* **P 04 27 16.7 +0.2**
CAM01 Campos-RJ 28.57 78 *eP* **P 04 27 22.2 -0.5**
DIAM Diamantina, MG 28.62 70 *eP* **P 04 27 22.6 -0.8**
NPGB Novo Progresso 28.69 36 *eP* **P 04 27 23.9 0.0**
PEXB Peixe 28.98 54 *eP* **P 04 27 26.5 0.0**
MC01 Montes Claros 29.28 67 *eP* **P 04 27 27.2 -2.0**
ALF01 Guarapari-ES 29.88 77 *eP* **P 04 27 34.7 +0.2**
MACA Manacapuru-AM 29.95 23 *eP* **P 04 27 35.1 +0.1**
JANB Januaria 29.96 64 *eP* **P 04 27 34.7 -0.6**
SJMB Sao Joao De Ma 30.42 73 *eP* **P 04 27 39.1 -0.1**
BSFB Barra de Sao F 30.64 73 *eP* **P 04 27 41.3 +0.2**
RIB01 Linhares ES 30.77 75 *eP* **P 04 27 43.0 +0.6**
ITTB Itaituba 30.83 33 *eP* **P 04 27 41.3 -1.6**
SDBA SAO DESIDERIO 31.19 59 *eP* **P 04 27 45.9 -0.2**
NAN01 Guarapari, ES 31.72 72 *eP* **P 04 27 50.6 -0.2**
SMTB Santa Maria do 31.80 51 *eP* **P 04 27 51.7 +0.2**
OTAV Otavalo 32.01 348 *eP* **P 04 27 54.3 +0.6**
PRPB Parauapebas 32.47 44 *eP* **P 04 27 56.4 -0.9**
GUA01 Guaratinga, BA 32.65 71 *eP* **P 04 27 59.9 +1.0**
CMC01 Camacan, BA 33.54 69 *eP* **P 04 28 06.7 0.0**
NBIT Itapeh - BA 33.85 69 *eP* **P 04 28 09.2 -0.2**
GDU01 Guandu, BA 34.44 67 *eP* **P 04 28 13.8 -0.7**
BOAV Boa Vista 35.25 20 *eP* **P 04 28 21.9 +0.5**
NBPN Ponto Novo - B 35.70 62 *eP* **P 04 28 24.9 -0.6**
MCPB Macapa, AP 36.09 35 *eP* **P 04 28 28.5 -0.1**
TMAB Tom-Au,PA,Br 36.53 43 *eP* **P 04 28 32.5 +0.1**
NBLA Lagarto - SE 37.46 65 *eP* **P 04 28 39.5 -0.9**
NBMA Muriti-CE 39.04 59 *eP* **P 04 28 53.3 -0.4**
NBPS Pedro II - PI 39.20 53 *eP* **P 04 28 55.0 -0.1**
NBPB Pedra_Branca-C 39.69 56 *eP* **P 04 28 59.1 0.0**
NBLV Livramento - P 40.42 61 *eP* **P 04 29 04.2 -1.0**
SJCC San Jacinto, C 41.12 355 P **P 04 29 10.3 -0.7**
SJCC IAmb IAmb 04 29 15.9
comp=Z,12nm,1.0s
NBPA Parau_RN 41.33 59 *eP* **P 04 29 12.9 +0.2**
TGUH Tegucigalpa,Un 47.49 340 P **P 04 30 00.9 -1.1**
MLPR Magueyes Islan 49.24 6 P **P 04 30 15.2 -0.1**
PDPR Patillas Dam, 49.39 7 P **P 04 30 15.2 -1.3**
VNA3 Neumayer Olymp 51.78 159 P **P 04 30 34.8 +0.8**
VNA1 Neumayer--Stat 52.08 158 P **P 04 30 37.4 +1.2**
VNA2 Neumayer--Watz 52.42 158 P **P 04 30 39.5 +0.8**
baz=285,slow=7.9
SNAA Sanae 54.00 159 P **P 04 30 51.0 +0.5**
SNAA Sanae 54.00 159 P **P 04 30 50.1 -0.4**
RKT Rikitea 56.04 262 *eT* T 05 31 13.7
comp=Z,3.2nm,0.3s
QSPA South Pole Qui 58.89 180 P **P 04 31 25.3 -0.2**
QSPA IAmb IAmb 04 31 34.7
comp=Z,6.7nm,0.9s
344A Westbrook Farm 64.95 342 P **P 04 32 07.1 +0.7**
146A Union 65.67 344 P **P 04 32 11.5 +0.5**
HPIG 66.31 327 P **P 04 32 15.4 -0.1**
HPIG IAmb IAmb 04 32 16.8
comp=Z,4.3nm,0.7s
143A Socs Landing, 66.31 342 P **P 04 32 14.7 -0.4**
TAOE Nuku Hiva Isla 66.90 274 *e*LR LR 04 52 28.5
comp=Z,107nm,26.7s
JCT Junction City 66.95 334 P **P 04 32 19.8 +0.5**
TX32 Lajitas Array 67.49 330 P **P 04 32 22.9 +0.1**
TX32 IAmb IAmb 04 32 23.8
comp=Z,2.9nm,0.8s
TXAR Lajitas Array 67.49 330 P **P 04 32 23.3 +0.4**
comp=Z,2.3nm,0.7s,baz=153,slow=8.5,SNR=36
TXAR LR LR 04 57 55.3
comp=Z,116nm,18.3s,baz=0.0,slow=32
TXAR Lajitas Array 67.49 330 P **P 04 32 23.1 +0.3**
TX31 Lajitas Ar. Si 67.49 330 P **P 04 32 23.4 +0.5**
TX31 IAmb IAmb 04 32 23.8
comp=Z,8.3nm,0.8s
WVT Waverly 68.76 346 P **P 04 32 30.9 +0.3**
W39A Magazine 69.31 341 P **P 04 32 34.8 +0.8**
LCAR Lake Charles 69.45 343 P **P 04 32 35.0 +0.2**
LCAR IAmb IAmb 04 32 43.0
comp=Z,7.7nm,0.7s
PBMO Poplar Bluff 69.95 344 P **P 04 32 37.4 -0.5**
PBMO IAmb IAmb 04 32 46.1
comp=Z,8.5nm,0.8s
U40A Yellville 70.15 342 P **P 04 32 39.5 +0.3**
U40A IAmb IAmb 04 32 47.6
comp=Z,8.9nm,0.8s
MNTX Cornudas Mount 70.27 330 P **P 04 32 39.9 -0.1**
MNTX IAmb IAmb 04 32 40.3
comp=Z,4.8nm,0.8s
HHAR Hobbs 70.37 341 P **P 04 32 41.0 +0.5**
HHAR IAmb IAmb 04 32 49.0
comp=Z,8.8nm,0.8s
TIAR Tiarei 70.58 261 *e*T T 05 49 22.8
comp=Z,1.2nm,0.3s
PPT2 Papeete2 70.76 261 *e*S **S 04 42 01.9 +3.0**
comp=Z,34nm,22.8s
PPT2 Papeete2 70.76 261 *e*LR LR 04 54 13.3
comp=Z,92nm,23.5s
MSTX Muleshoe 71.19 333 P **P 04 32 46.2 +0.5**
CCM Cathedral Cave 71.36 344 P **P 04 32 47.0 +0.5**
S39A Bolivar 71.53 342 P **P 04 32 48.5 +0.9**
S39A IAmb IAmb 04 32 56.1
comp=Z,12nm,1.2s
R40A Maddies Statio 71.83 343 P **P 04 32 49.4 +0.1**
P40A Paris 72.95 344 P **P 04 32 55.8 -0.2**
LENM Lemitar 73.07 330 P **P 04 32 57.1 +0.1**
P38A Dawn 73.41 343 P **P 04 32 58.5 -0.2**
P38A IAmb IAmb 04 33 06.3
comp=Z,19nm,1.4s
ANMO Albuquerque 73.52 331 P **P 04 32 58.5 -1.2**
LIC Lamto 73.83 72 *eP* **P 04 33 01.4 -0.3**
comp=Z,46nm,1.0s
214A Organ Pipe Nat 73.92 325 P **P 04 33 02.1 +0.2**
TIC Toumodi 74.07 72 *eP* **P 04 33 03.0 -0.2**
KIC Kosan Boka 74.14 72 *eP* **P 04 33 03.5 -0.1**
comp=Z,40nm,0.9s
DBIC Dimbokro 74.22 72 P **P 04 33 04.2 +0.1**
comp=Z,14nm,0.8s,baz=223,slow=5.0,SNR=15
DBIC LR LR 05 02 57.1
comp=Z,210nm,20.2s,baz=215,slow=34
DBIC Dimbokro 74.22 72 P **P 04 33 04.6 +0.6**
T25A Trinidad 74.61 334 P **P 04 33 06.1 +0.1**
T25A IAmb IAmb 04 33 08.2
comp=Z,9.8nm,0.8s
X18A Snowflake 74.68 328 P **P 04 33 06.3 -0.2**
X16A Lo Mia Camp, P 75.27 327 P **P 04 33 09.5 -0.4**
X16A IAmb IAmb 04 33 12.1
comp=Z,5.4nm,1.0s
SDCO Great Sand Dun 75.56 333 P **P 04 33 10.9 -0.7**
SDCO IAmb IAmb 04 33 13.4
comp=Z,3.9nm,0.7s
MAW Mawson 75.69 164 P **P 04 33 12.3 +0.6**
comp=Z,5.1nm,0.9s,baz=209,slow=5.5,SNR=17
MAW LR LR 05 06 34.4
comp=Z,97nm,18.1s,baz=236,slow=36
MAW Mawson 75.69 164 P **P 04 33 12.0 +0.3**
MVCO Mesa Verde 76.31 331 P **P 04 33 16.1 +0.3**
MVCO IAmb IAmb 04 33 17.8
comp=Z,6.2nm,0.9s
PV13 Radium Mtn., P 77.25 331 P **P 04 33 20.7 -0.4**
PV13 IAmb IAmb 04 33 22.9
comp=Z,5.5nm,0.8s
PV02 Paradox Valley 77.25 331 P **P 04 33 21.0 -0.2**
PV02 IAmb IAmb 04 33 27.2
comp=Z,4.7nm,0.9s
PV05 Paradox Valley 77.29 331 P **P 04 33 21.4 0.0**
PV05 IAmb IAmb 04 33 23.1
comp=Z,5.7nm,0.8s
PV03 Paradox Valley 77.34 331 P **P 04 33 22.0 +0.4**
PV18 Skein Mesa, Pa 77.36 331 P **P 04 33 22.2 +0.5**
PV18 IAmb IAmb 04 33 23.3
comp=Z,5.2nm,0.9s
SMCO Snowmass 77.37 333 P **P 04 33 22.4 +0.4**
SMCO IAmb IAmb 04 33 24.4
comp=Z,9.1nm,0.8s
PV12 Saucer Basin, 77.37 331 P **P 04 33 22.4 +0.5**
PV12 IAmb IAmb 04 33 31.0
comp=Z,7.3nm,1.2s
ISCO Idaho Springs 77.39 334 P **P 04 33 22.4 +0.4**
ISCO IAmb IAmb 04 33 23.9
comp=Z,3.6nm,0.8s
PV17 East Wray Mesa 77.41 331 P **P 04 33 22.4 +0.4**
PV17 IAmb IAmb 04 33 23.6
comp=Z,4.2nm,0.7s
ECSD EROS Data Cent 78.06 342 P **P 04 33 25.3 0.0**
LCMT Little Creek M 78.23 327 P **P 04 33 26.4 -0.1**
MTPU Mount Pierson 78.60 329 P **P 04 33 29.1 +0.3**
PHWY Pilot Hill 78.64 335 P **P 04 33 29.3 +0.4**
PHWY IAmb IAmb 04 33 30.5
comp=Z,5.1nm,0.8s
SRU San Rafael Swe 78.76 330 P **P 04 33 30.1 +0.6**
P17A Butcher Ranch, 79.16 330 P **P 04 33 31.4 -0.2**
P17A IAmb IAmb 04 33 40.4
comp=Z,13nm,1.4s
KOWA Kowa 79.43 66 P **P 04 33 33.3 -0.1**
KOWA IAmb IAmb 04 33 41.1
comp=Z,12nm,0.9s
RDMU Red Mountain 79.60 332 P **P 04 33 34.4 +0.3**
RDMU IAmb IAmb 04 33 35.5
comp=Z,5.6nm,0.9s
RWWY Rawlins 79.63 334 P **P 04 33 34.2 -0.1**
RWWY IAmb IAmb 04 33 36.0
comp=Z,6.8nm,0.9s
TSUM Tsumeb 79.82 106 P **P 04 33 35.5 -0.3**
TSUM IAmb IAmb 04 33 43.7
comp=Z,12nm,1.1s
MPU Maple Canyon 79.99 330 P **P 04 33 36.7 +0.5**
NLU North Lily Min 80.13 330 P **P 04 33 37.0 0.0**
K22A Casper 80.21 335 P **P 04 33 36.3 -0.9**
K22A IAmb IAmb 04 33 39.1
comp=Z,7.4nm,1.0s
SPR3 Spring Creek 3 80.35 328 P **P 04 33 36.9 -1.4**
SPR3 IAmb IAmb 04 33 46.5
comp=Z,9.1nm,1.4s
JLU Jordanelle 80.40 331 P **P 04 33 38.9 +0.5**
LCH Last Change Ra 80.52 325 P **P 04 33 38.1 -0.9**
BOSA Boshof 81.20 118 P **P 04 33 43.1 +0.1**
comp=Z,3.8nm,0.8s,baz=259,slow=5.8,SNR=8.6
BOSA LR LR 05 07 49.3
comp=Z,124nm,18.0s,baz=213,slow=34
BOSA Boshof 81.20 118 P **P 04 33 42.7 -0.3**
BOSA IAmb IAmb 04 33 45.6
comp=Z,11nm,1.1s
HWUT Hardware Ranch 81.28 331 P **P 04 33 43.0 -0.1**
HWUT IAmb IAmb 04 33 44.2
comp=Z,5.4nm,0.9s
SPUT South Promonto 81.41 330 P **P 04 33 44.0 +0.3**
PDAR Pinedale Array 81.45 333 P **P 04 33 43.7 -0.3**
comp=Z,0.5nm,0.6s,baz=136,slow=7.9,SNR=5.9
PDAR LR LR 05 06 46.9
comp=Z,43nm,18.1s,baz=128,slow=33
PDAR Pinedale Array 81.45 333 P **P 04 33 44.1 +0.1**
NVAR Mina Array Bea 81.78 325 P **P 04 33 46.6 +0.9**
comp=Z,1.6nm,0.6s,baz=161,slow=5.7,SNR=11
NVAR Mina Array Bea 81.78 325 P **P 04 33 45.7 -0.1**
HVU Hansel Valley 81.94 330 P **P 04 33 46.4 0.0**
KVN Kaiserville 82.17 325 P **P 04 33 48.4 +0.7**
ELK Elko 82.17 328 LR LR 05 07 27.4
comp=Z,46nm,18.5s,baz=132,slow=34
ELK Elko 82.17 328 P **P 04 33 48.1 +0.3**
TORD Torodi Ar. Bea 83.19 70 P **P 04 33 53.3 -0.1**
comp=Z,16nm,0.8s,baz=261,slow=4.5,SNR=87
TORD LR LR 05 08 42.2
comp=Z,211nm,19.9s,baz=235,slow=34
TORD Torodi Ar. Bea 83.19 70 P **P 04 33 53.2 -0.1**
LBTB Lobatse 83.31 115 P **P 04 33 53.8 -0.3**
BEKR Beckworth 83.90 325 P **P 04 33 57.1 +0.3**
BEKR IAmb IAmb 04 33 58.5
comp=Z,3.1nm,0.8s
HLID Hailey 84.09 330 P **P 04 33 57.9 +0.3**
HLID IAmb IAmb 04 34 08.0
comp=Z,4.6nm,1.2s
SCHQ Schefferville 85.93 3 LR LR 05 11 55.1
comp=Z,26nm,20.3s,baz=276,slow=35
YBH Yreka Blue Hor 86.48 324 LR LR 05 06 25.0
comp=Z,26nm,21.7s,baz=146,slow=31
PINE Pine Mountain 87.18 327 P **P 04 34 13.3 +0.3**
PINE IAmb IAmb 04 34 14.9
comp=Z,4.6nm,0.8s
NEW Newport 88.99 332 LR LR 05 10 14.2
comp=Z,64nm,20.0s,baz=155,slow=33
ESDC Sonseca Array 94.64 46 LR LR 05 17 20.8
comp=Z,59nm,18.1s,baz=240,slow=36
DZM Mont Dzmaz 102.91 234 *e*LR LR 05 09 05.1
comp=Z,124nm,25.6s
AKASG Malin Array Be 120.28 46 PKP **PKPdf 04 40 16.5 -1.0**
comp=Z,1.0nm,0.5s,baz=262,slow=2.6,SNR=6.1
AKASG Malin Array Be 120.28 46 PKPdf 04 40 16.0 -1.5
BRTR Keskin Array B 120.40 59 PKP **PKPdf 04 40 18.0 -0.4**
comp=Z,0.5nm,0.6s,baz=176,slow=3.2,SNR=4.9
WRA Warramunga Arr 123.14 210 PKP **PKPdf 04 40 23.0 -1.2**
comp=Z,0.5nm,0.8s,baz=178,slow=2.4,SNR=1.9
H11S2 WAKE ISLAND Hyl 25.90 271 T T 06 59 19.4
baz=117,slow=75,SNR=43
H11S1 WAKE ISLAND Hyl 25.91 271 T T 06 59 17.8
baz=117,slow=75,SNR=25
H11S3 WAKE ISLAND Hyl 25.91 271 T T 06 59 18.1
baz=117,slow=75,SNR=20
H11N3 WAKE ISLAND Hyl 26.24 272 T T 06 59 39.0
baz=116,slow=75,SNR=17
H11N1 WAKE ISLAND Hyl 26.26 272 T T 06 59 39.1
baz=116,slow=75,SNR=6.0
H11N2 WAKE ISLAND Hyl 26.26 272 T T 06 59 47.6
baz=116,slow=75,SNR=49
HYB Hyderabad 149.83 110 *i* PKP **PKPbc 04 41 17.0 -0.6**
ZALV Zalesovo Beam 151.88 30 PKPbc **PKPbc 04 41 21.2 0.0**
comp=Z,13nm,0.6s,baz=299,slow=3.3,SNR=32
ZALV Zalesovo Beam 151.88 30 PKiKP 04 41 21.5 -0.1
KSH Kashi 152.68 64 PKPbc **PKPdf 04 41 16.8 +0.2**
KSH PP **PP 04 45 07.4 -0.2**
MKAR Makanchi Array 154.85 45 PKPbc **PKPbc 04 41 27.9 -0.2**
comp=Z,2.2nm,0.8s,baz=306,slow=2.3,SNR=12
MKAR Makanchi Array 154.85 45 PKPbc 04 41 28.0 -0.1

RSNC ***23*** *04:25:56.8±1.0, 8°.22N×77°.43W, h26km±11km, ML2.3*
UPA ***23*** *04:25:56.5±0.7, 8°.23N×77°.34W, h9km±6km, MW3.9*
ISC 23 04:25:55.4±1.1, 8°.14N±0°.03×77°.34W±0°.03, h10km±10km, n24, σ0°87/39, 2D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CAPC	**Capurgana**	**0.50**	**358**	*eP*		**Pg**		**04 26 05.2**	**0.0**
CAPC				*i*				04 26 11.7	
	comp=Z,558nm,0.1s								
CAPC				eS		**Sg**		**04 26 11.8**	**+0.1**
CAP2	**Capurgana**	**0.51**	**358**	⇓ *i*P		**Pg**		**04 26 05.1**	**-0.3**
CAP2				eS		**Sg**		**04 26 11.8**	**-0.4**
UPD2	**Meteti**	**0.79**	**302**	⇓ *i*P		**Pg**		**04 26 10.9**	**+0.3**
	baz=124,slow=3.6								
UPD2				*i* S		**Sg**		**04 26 22.1**	**+1.2**
PTAC	**Punta Ardita,**	**1.09**	**205**	*i* P		**Pg**		**04 26 16.1**	**-0.3**
PTAC				eS		**Sg**		**04 26 30.7**	**+0.2**
PTAC	**Punta Ardita,**	**1.09**	**205**	*eP*		**Pg**		**04 26 16.0**	**-0.3**
PTAC				eS		**Sg**		**04 26 30.5**	**0.0**
DBBC	**Dabeiba**	**1.58**	**135**	*eP*		**Pb**		**04 26 24.9**	**+0.2**
DBBC				eS		**Sg**		**04 26 45.7**	**-0.5**
DBBC	**Dabeiba**	**1.58**	**135**	*eP*		**Pb**		**04 26 24.9**	**+0.2**
DBBC				eS		**Sg**		**04 26 45.7**	**-0.5**
UREC	**San Jos de Ur**	**1.83**	**102**	*eP*		**Pn**		**04 26 27.6**	**+0.6**
UREC				eS		**Sn**		**04 26 50.7**	**+0.5**
UREC				*i*				04 26 53.1	
	comp=Z,9.0nm,0.2s								
SOLC	**Bahia Solano**	**1.90**	**182**	*eP*		**Pn**		**04 26 27.4**	**-0.4**
CHPO	**Chepo, Panama**	**2.04**	**300**	*eP*		**Pn**		**04 26 29.8**	**0.0**
CHPO				*i* S		**Sn**		**04 26 55.0**	**-0.3**
UPA	**Univ. de Panam**	**2.33**	**291**	*eP*		**Pn**		**04 26 34.5**	**+0.7**
MIRA3	**Miramar, Colon**	**2.43**	**306**	*eP*		**Pn**		**04 26 34.9**	**-0.4**
CHOR3	**La Chorrera**	**2.52**	**288**	*eP*		**Pn**		**04 26 38.0**	**+1.6**
ZARC	**Zaragoza, Cauc**	**2.54**	**104**	*eP*		**Pn**		**04 26 37.8**	**+1.1**
ZARC				eS		**Sn**		**04 27 07.6**	**-0.1**
ZARC				*i*				04 27 07.9	
	comp=Z,8.5nm,0.2s								
ZANG	**Zanguenga, Cho**	**2.63**	**288**	*eP*		**Pn**		**04 26 38.7**	**+0.7**
HELC	**Santa Helena**	**2.64**	**137**	*eP*		**Pb**		**04 26 41.4**	**-1.6**
BCIP	**Isla Barro Col**	**2.67**	**293**	*eP*		**Pn**		**04 26 38.6**	**0.0**
MLIR	**Monte Lirio**	**2.72**	**294**	*eP*		**Pn**		**04 26 39.6**	**+0.4**
SJCC	**San Jacinto, C**	**2.76**	**50**	*eP*		**Pn**		**04 26 39.2**	**-0.6**
SJCC				eS		**Sn**		**04 27 12.3**	**-0.9**
VTON	**El Valle, Cocl**	**2.79**	**280**	*eP*		**Pn**		**04 26 40.7**	**+0.5**
PTBC	**PUERTO BERRIO,**	**3.27**	**119**	*eP*		**Pn**		**04 26 48.1**	**+1.4**
PTBC				eS		**Sn**		**04 27 25.7**	**-0.1**
PTBC				*i*				04 27 29.1	
	comp=Z,5.1nm,0.2s								
SMLC	**San Martn de**	**3.30**	**78**	*eP*		**Pn**		**04 26 47.6**	**+0.4**
SMLC				eS		**Sn**		**04 27 25.4**	**-1.0**
SMLC				*i*				04 27 36.2	
	comp=Z,4.7nm,0.1s								
BRRC	**Barranca, Sant**	**3.74**	**106**	*eP*		**Pn**		**04 26 55.6**	**+2.4**
BRRC				eS		**Sn**		**04 27 37.0**	**-0.2**
OCAC	**Ocana**	**3.98**	**88**	*eP*		**Pn**		**04 26 58.8**	**+2.1**
OCAC				eS		**Sn**		**04 27 43.1**	**-0.3**
OCAC				*i*				04 27 49.3	
	comp=Z,14nm,0.4s								

IDC ***23*** *04:51:32.1±0.7, 12°.97N×92°.45E, h30km±4km, mb3.9/15, mb1 4.0/16, mb1mx3.8/42, mbtmp4.0/16, ML4.2/1, MS3.1/5, Ms1 3.1/5, ms1mx2.8/36, Error ellipse: s-maj=22.1km s-min=13.0km az=52.0*
NEIC ***23*** *04:51:32.6±1.0, 13°.09N±0°.04×92°.5E±0°.1, h28km±6km, mb4.4/15, Error ellipse: s-maj=16.1km s-min=4.9km az=79.0*
NDI ***23*** *04:51:33.5±1.4, 13°.21N×92°.50E, h39km±347km, ML4.1, mb4.4(NEIC)*
ISC 23 04:51:32.1±0.6, 12°.99N±0°.09×92°.42E±0°.06, h31km, n56, σ0°79/54, mb4.2/22, MS3.2/4, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.53**	**69**	⇑ *i*P		**Pb**		**04 51 43.0**	**0.0**
DGPR				eS		**Sb**		**04 51 50.7**	**+0.2**
DGPR				IAML				04 51 52.2	
	comp=N,20µm,0.5s								
DGPR				IAML				04 51 53.0	
	comp=E,18µm,0.3s								
PBA	**Port Blair**	**1.36**	**167**			Pb		04 51 57.4	+0.3
PBA						Sb		04 52 17.0	+2.8
PBA	**Port Blair**	**1.36**	**167**	*eP*		Pb		04 51 58.4	+1.3
PBA				eS		Sb		04 52 17.4	+3.3
PBA				IAML				04 52 22.7	
	comp=E,3µm,0.4s								
PBA				IAML				04 52 23.6	
	comp=N,1µm,0.5s								
CMAR	**Chiang Mai Arr**	**8.30**	**48**	Pn		**Pn**		**04 53 32.6**	**+2.1**
	comp=N,0.8nm,0.3s,baz=239,slow=15,SNR=6.2								

CMAR				LR	LR	04 57 08.1	
	comp=N,70nm,18.9s,baz=272,slow=40						
CMAR	**Chiang Mai Arr**	**8.30**	**48**		**Pn**	**04 53 30.0**	**-0.4**
VIS	**Vishakhapatnam**	**9.95**	**299**	*eP*	**Pn**	**04 53 53.4**	**+0.3**
VIS				*eS*	Sn	04 55 33.1	-11
ODAN	**Odare**	**14.58**	**342**	*eP*	**Pn**	**04 54 57.3**	**+0.7**
	comp=N,4.2nm,0.2s						
RAMN	**Ramite**	**14.92**	**339**	*eP*	**Pn**	**04 55 02.0**	**+0.8**
	comp=N,10nm,0.4s						
JIRN	**Jiri**	**15.71**	**339**	*eP*	**Pn**	**04 55 11.1**	**-0.6**
PKI	**Pulchoki**	**15.92**	**337**	*eP*	**Pn**	**04 55 15.6**	**+1.3**
	comp=N,6.0nm,0.4s						
PKIN	**Phulchoki**	**15.93**	**337**	*eP*	**P**	**04 55 16.1**	**-1.6**
DMN	**Daman**	**16.07**	**336**	*eP*	**P**	**04 55 17.6**	**-1.7**
KOLN	**Koldanda**	**16.86**	**332**	*eP*	**P**	**04 55 27.0**	**-1.0**
H08S3	**Diego Garcia H**	**28.50**	**225**	T	T	05 27 10.8	
	baz=43,slow=76,SNR=121						
H08S2	**Diego Garcia H**	**28.50**	**225**	T	T	05 27 12.1	
	baz=43,slow=76,SNR=130						
H08S1	**Diego Garcia H**	**28.52**	**225**	T	T	05 27 13.1	
	baz=43,slow=76,SNR=27						
GAR	**Garrn**	**32.47**	**327**	P	**P**	**04 57 59.2**	**-0.8**
CHGR	**Chuyangaron**	**32.85**	**325**	P	**P**	**04 58 01.7**	**-1.6**
BTK	**Batken**	**32.99**	**329**	P	**P**	**04 58 03.8**	**-0.7**
BTK				IAmb	IAmb	04 58 08.4	
	comp=Z,7.0nm,0.9s						
MK31	**Makanchi Array**	**34.76**	**348**	P	**P**	**04 58 19.6**	**-0.1**
MK31				IAmb	IAmb	04 58 21.0	
	comp=Z,4.7nm,1.0s						
MKAR	**Makanchi Array**	**34.76**	**348**	P	**P**	**04 58 20.0**	**+0.4**
	comp=Z,4.7nm,0.8s,baz=160,slow=7.8,SNR=25						
MKAR				pP	**pP**	**04 58 29.6**	**+1.0**
	comp=Z,1.9nm,0.8s,baz=171,slow=8.6,SNR=5.0						
MAKZ	**Makanchi**	**34.84**	**347**	P	**P**	**04 58 20.9**	**+0.6**
MAKZ				IAmb	IAmb	04 58 21.5	
	comp=Z,3.1nm,0.8s						
SONM	**Songino Array**	**36.64**	**16**	P	**P**	**04 58 36.5**	**+0.5**
	comp=Z,1.5nm,0.5s,baz=193,slow=10,SNR=4.2						
SONM	**Songino Array**	**36.64**	**16**	P	**P**	**04 58 35.0**	**-1.0**
GEYT	**Alibeck**	**39.34**	**315**	LR	LR	05 16 01.1	
	comp=Z,28nm,18.6s,baz=130,slow=37						
KSRS	**Korea Array**	**39.93**	**46**	P	**P**	**04 59 03.1**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=240,slow=9.7,SNR=4.1						
ZAA0	**Zalesovo Array**	**41.30**	**353**	P	**P**	**04 59 14.5**	**-0.2**
ZAA0				IAmb	IAmb	04 59 15.5	
	comp=Z,3.5nm,0.8s						
ZALV	**Zalesovo Beam**	**41.30**	**353**	P	**P**	**04 59 14.6**	**-0.1**
	comp=Z,2.4nm,0.5s,baz=177,slow=7.4,SNR=8.8						
ZALV				LR	LR	05 18 31.1	
	comp=Z,20nm,19.2s,baz=38,slow=39						
ZALV	**Zalesovo Beam**	**41.30**	**353**	P	**P**	**04 59 15.4**	**+0.8**
ABKAR	**Akbulak array**	**44.97**	**330**	P	**P**	**04 59 45.0**	**+0.6**
ABKAR				IAmb	IAmb	04 59 46.2	
	comp=Z,4.2nm,1.1s						
ABKAR	**Akbulak array**	**44.97**	**330**	P	**P**	**04 59 44.7**	**+0.3**
FITZ	**Fitzroy Crossi**	**45.04**	**133**	P	**P**	**04 59 44.7**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=340,slow=6.8,SNR=6.7						
FITZ	**Fitzroy Crossi**	**45.04**	**133**	P	**P**	**04 59 45.2**	**-0.2**
FITZ				IAmb	IAmb	04 59 54.0	
	comp=Z,4.9nm,1.1s						
MJAR	**Matsushiro Arr**	**47.17**	**52**	LR	LR	05 22 20.5	
	comp=Z,24nm,18.2s,baz=165,slow=39						
WRA	**Warramunga Arr**	**52.65**	**128**	P	**P**	**05 00 43.2**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=307,slow=8.3,SNR=4.6						
WRA				pP	**pP**	**05 00 52.5**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=304,slow=8.0,SNR=6.0						
WRA	**Warramunga Arr**	**52.65**	**128**	P	**P**	**05 00 43.8**	**0.0**
WB2	**Warramunga Arr**	**52.66**	**128**	P	**P**	**05 00 43.3**	**-0.6**
WB2				IAmb	IAmb	05 00 58.1	
	comp=Z,9.6nm,1.4s						
WR0	**Warramunga Arr**	**52.82**	**128**	P	**P**	**05 00 44.6**	**-0.4**
WR0				IAmb	IAmb	05 00 56.8	
	comp=Z,9.8nm,1.4s						
ASAR	**Alice Springs**	**54.52**	**132**	P	**P**	**05 00 57.3**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=311,slow=6.9,SNR=5.8						
ASAR				pP	**pP**	**05 01 06.2**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=310,slow=6.9,SNR=4.9						
BRTR	**Keskin Array B**	**57.87**	**309**	P	**P**	**05 01 21.0**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=129,slow=7.0,SNR=11						
BRTR				pP	**pP**	**05 01 30.9**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=116,slow=5.6,SNR=3.9						
BRTR	**Keskin Array B**	**57.87**	**309**	P	**P**	**05 01 20.9**	**-0.6**
MLR	**Muntele Rosu**	**64.38**	**124**	P	**P**	**05 02 05.5**	**+0.1**
PETK	**Petropavlovsk-**	**64.91**	**37**	LR	LR	05 31 13.8	
	comp=Z,23nm,20.8s,baz=115,slow=37						
FINES	**FINESS Array B**	**67.43**	**332**	P	**P**	**05 02 24.5**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=120,slow=6.8,SNR=5.6						
FINES				pP	**pP**	**05 02 34.4**	**+0.4**
	comp=Z,3.7nm,0.9s,baz=159,slow=8.1,SNR=2.7						
ARCES	**ARCESS Array B**	**69.91**	**340**	P	**P**	**05 02 40.2**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=92,slow=7.4,SNR=4.5						
GERES	**GERESS Array B**	**72.92**	**317**	P	**P**	**05 02 58.8**	**+0.1**
	comp=Z,2.2nm,0.9s,baz=222,slow=1.8,SNR=5.1						
GERES	**GERESS Array B**	**72.92**	**317**	P	**P**	**05 02 58.3**	**-0.3**
NB2	**NORSAR Subarra**	**74.48**	**330**	P	**P**	**05 03 07.1**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=92,slow=5.6						
NOA	**NORSAR Array B**	**74.48**	**330**	P	**P**	**05 03 07.0**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=91,slow=5.7,SNR=6.0						
BOSA	**Boshof**	**76.93**	**236**	P	**P**	**05 03 24.1**	**+2.0**
	comp=Z,2.6nm,0.8s,baz=103,slow=6.7,SNR=4.8						
TORD	**Torodi Ar. Bea**	**87.80**	**283**	P	**P**	**05 04 18.7**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=89,slow=4.6,SNR=6.8						
TORD	**Torodi Ar. Bea**	**87.80**	**283**	P	**P**	**05 04 18.8**	**-0.3**
TORD				IAmb	IAmb	05 04 19.7	
	comp=Z,3.3nm,1.3s						
ILAR	**Eielson Array**	**90.65**	**22**	P	**P**	**05 04 30.8**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=294,slow=4.5,SNR=2.8						
NVAR	**Mina Array Bea**	**121.32**	**28**	PKP	**PKiKP**	**05 10 24.1**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=225,slow=1.4,SNR=4.3						
TXAR	**Lajitas Array**	**135.14**	**20**	PKP	**PKiKP**	**05 10 50.8**	**0.0**
	comp=Z,0.2nm,0.5s,baz=123,slow=1.2,SNR=4.5						
TXAR	**Lajitas Array**	**135.14**	**20**		**PKPdf**	**05 10 50.0**	**+0.6**

*IDC **23** 04:51:49.5±1.3,30°.36S×72°.53W,h0km,mb3.8/3, mb1 3.9/6,mb1mx3.7/27,mbtmp3.8/6,ML3.8/3,MS2.7/3, Ms1 2.7/3,ms1mx2.5/23,Error ellipse: s-maj=50.8km s-min=27.5km az=91.0*

*GUC **23** 04:51:55.8±0.5,30°.83S×72°.53W,h26km±3km,ML3.6*

ISC 23 04:51:50.0±2.1,30°.47S±0°.05×72°.44W±0°.08,h7km±12km, n30,σ1°96/39,mb3.9/3,13D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.72**	**106**	*eP*	**Pn**	**04 52 07.0**	**+0.3**
CO06				*i* S	**Sn**	**04 52 18.6**	**+0.5**
CO05	**La Serena**	**1.18**	**62**	*iP*	**Pn**	**04 52 12.1**	**-0.9**
CO05				*eS*	**Sn**	**04 52 26.9**	**-2.4**
CO05				IAML		04 52 28.4	
	comp=N,2μm,0.5s						
GO04	**Tololo Observa**	**1.45**	**79**	*eP*	**Pg**	**04 52 17.5**	**-0.3**
GO04				*eS*	**Sn**	**04 52 35.4**	**-0.9**
CO03	**El Pedregal**	**1.55**	**104**	*iP*	**Pg**	**04 52 19.9**	**+0.1**
CO03				*eS*	**Sg**	**04 52 40.6**	**+0.7**
CO03				IAML		04 52 42.5	
	comp=N,1μm,0.7s						
VA06	**Catapilco**	**2.30**	**155**	*iP*	**Pn**	**04 52 29.8**	**+1.4**
VA06				*eS*	**Sn**	**04 52 55.9**	**-1.0**
VA06				IAML		04 53 01.1	
	comp=N,670nm,0.6s						
ROCH	**El Roble**	**2.77**	**154**	*eP*	**Pn**	**04 52 36.7**	**+1.6**
ROCH				*iP*	**Pn**	**04 52 36.8**	**+1.6**
ROCH				*eS*	**Sn**	**04 53 08.1**	**-0.9**
ROCH				*i* S	**Sb**	**04 53 09.2**	**-5.2**
ROCH				IAML		04 53 18.7	
	comp=N,177nm,0.4s						
VA03	**San Esteban**	**2.80**	**145**	*iP*	**Pn**	**04 52 38.0**	**+2.7**
VA03				*eS*	**Sn**	**04 53 09.5**	**+0.1**
VA03				IAML		04 53 16.6	
	comp=E,418nm,0.3s						
VA05	**Santo Domingo**	**3.25**	**168**	*eP*	**Pn**	**04 52 42.3**	**+0.8**
VA05				*eS*	**Sn**	**04 53 18.1**	**-2.3**
VA05				IAML		04 53 27.4	
	comp=E,230nm,0.4s						
MT09	**Talagante**	**3.52**	**160**	*iP*	**Pn**	**04 52 47.1**	**+1.8**
MT09				*eS*	**Sn**	**04 53 24.9**	**-2.3**
MT09				IAML		04 53 44.1	
	comp=N,107nm,0.4s						
MT01	**Popeta**	**3.53**	**164**	*eP*	**Pn**	**04 52 46.6**	**+1.3**
MT01				*eS*	**Sn**	**04 53 25.4**	**-1.9**
LMEL	**Las Melosas**	**3.86**	**151**	*eP*	**Pn**	**04 52 52.8**	**+2.8**
LMEL				*eS*	**Sn**	**04 53 34.4**	**-1.4**
BO03	**Pichilemu**	**4.03**	**174**	*iP*	**Pn**	**04 52 52.8**	**+0.5**
BO03				*i* S	**Sn**	**04 53 35.8**	**-4.0**
BO01	**Tunca**	**4.07**	**164**	*eP*	**Pn**	**04 52 54.1**	**+1.3**
BO02	**Sierra Bellavi**	**4.53**	**162**	*eP*	**Pn**	**04 53 00.5**	**+1.4**
H03N1	**Juan Fernandez**	**6.25**	**240**	T	T	05 00 25.0	
	baz=76,slow=72,SNR=159						
H03N2	**Juan Fernandez**	**6.26**	**240**	T	T	05 00 23.9	
	baz=76,slow=72,SNR=119						
H03N3	**Juan Fernandez**	**6.26**	**240**	T	T	05 00 24.3	
	baz=76,slow=72,SNR=124						
LVC	**Limon Verde**	**8.44**	**23**	Pn	**Pn**	**04 53 49.4**	**-3.8**
	comp=N,0.4nm,0.3s,baz=142,slow=12,SNR=1.9						
PLCA	**Paso Flores**	**10.35**	**172**	Pn	**Pn**	**04 54 20.9**	**+1.9**
	comp=N,0.2nm,0.3s,baz=338,slow=13,SNR=7.6						
PLCA				LR	LR	04 57 43.8	
	comp=N,19nm,18.4s,baz=318,slow=34						
CPUP	**Villa Florida**	**13.92**	**76**	LR	LR	05 00 55.3	
	comp=N,60nm,20.9s,baz=230,slow=39						
LPAZ	**La Paz**	**14.66**	**17**	Pn	**Pn**	**04 55 18.5**	**0.0**
	comp=N,0.2nm,0.3s,baz=195,slow=9.3,SNR=9.8						
SIV	**San Ignacio**	**17.78**	**38**	P	**Pn**	**04 55 57.2**	**-1.0**
	comp=N,0.4nm,0.3s,baz=229,slow=12,SNR=25						
NNA	**Nana**	**18.84**	**347**	LR	LR	05 01 02.8	
	comp=N,32nm,21.7s,baz=86,slow=30						
VNA3	**Neumayer Olymp**	**52.75**	**159**	P	**P**	**05 01 07.2**	**+1.9**
VNA2	**Neumayer--Watz**	**53.40**	**158**	P	**P**	**05 01 11.9**	**+1.9**
	baz=281,slow=8.2						
SNAA	**Sanae**	**54.98**	**159**	P	**P**	**05 01 23.2**	**+1.6**
TXAR	**Lajitas Array**	**66.50**	**330**	P	**P**	**05 02 40.5**	**-0.1**
	comp=N,0.1nm,0.5s,baz=153,slow=10,SNR=2.3						
DBIC	**Dimbokro**	**74.41**	**72**	P	**P**	**05 03 30.6**	**+1.4**
	comp=N,2.1nm,0.6s,baz=260,slow=6.1,SNR=1.4						
MAW	**Mawson**	**76.65**	**164**	P	**P**	**05 03 42.5**	**+1.4**
	comp=N,0.5nm,0.4s,baz=236,slow=11,SNR=2.0						
ZALV	**Zalesovo Beam**	**151.36**	**28**	PKPbc	**PKPbc**	**05 11 44.0**	**-0.1**
	comp=N,3.3nm,0.6s,baz=288,slow=2.6,SNR=11						

*NEIC **23** 04:55:19.4±1.4,60°.11N±0°.03×139°.46W±0°.03,h1km±7km, Error ellipse: s-maj=4.4km s-min=1.8km az=164.0*

*AEIC **23** 04:55:19.1±0.7,60°.11N±0°.03×139°.42W±0°.03,h8km±4km, Error ellipse: s-maj=5.2km s-min=1.8km az=162.0*

*ANF **23** 04:55:19.1±0.3,60°.13N×139°.45W,h0km,ML3.5/27,Error ellipse: s-maj=3.2km s-min=1.6km az=165.0*

*PGC **23** 04:55:20.2,60°.08N×139°.42W,h1km,ML2.5/12,88km northeast of Yakutat, Ak Southeastern Alaska*

ISC 23 04:55:19.3±1.1,60°.12N±0°.02×139°.45W±0°.02,h3km±10km, n178,σ0°98/206,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPM	**Bancas Point**	**0.19**	**208**		**Pg**	**04 55 22.8**	**-0.2**
BCPM					**Sg**	**04 55 25.5**	**0.0**
BCPM	**Bancas Point**	**0.19**	**208**	IAML		04 55 25.8	
	comp=N,13μm,0.5s						
BCPM				IAML		04 55 26.9	
	comp=E,8μm,0.4s						
PINM	**Pinnacle**	**0.40**	**267**	P	**Pg**	**04 55 27.2**	**+0.2**
	baz=87,SNR=267						
PINM				S	**Sg**	**04 55 33.2**	**+1.0**
	baz=87						
PCA	**Pinnacle**	**0.40**	**267**	P	**Pg**	**04 55 27.1**	**+0.2**
PCA				S	**Sg**	**04 55 33.4**	**+1.1**
PCA	**Pinnacle**	**0.40**	**267**		**Pg**	**04 55 27.1**	**+0.2**
PCA					**Sg**	**04 55 33.4**	**+1.1**
PNL	**Peninsula**	**0.46**	**176**	P	**Pg**	**04 55 27.4**	**-0.6**
PNL	**Peninsula**	**0.46**	**176**		**Pg**	**04 55 27.4**	**-0.6**
YKU2	**Yakutat**	**0.62**	**190**		**Pg**	**04 55 31.4**	**+0.2**
YKU2	**Yakutat**	**0.62**	**190**	IAML		04 55 46.8	
	comp=E,1μm,0.7s						
SAMH	**Samovar Hills**	**0.66**	**271**	P	**Pb**	**04 55 32.7**	**-0.9**
SAMH	**Samovar Hills**	**0.66**	**271**		**Pb**	**04 55 32.7**	**-0.9**
YUK7	**Dusty Glacier**	**0.77**	**57**	P	**Pg**	**04 55 34.0**	**-0.1**
YUK7				S	**Sb**	**04 55 44.5**	**-2.0**
YUK7	**Dusty Glacier**	**0.77**	**57**		**Pg**	**04 55 34.0**	**-0.1**
YUK7					**Sb**	**04 55 45.0**	**-1.4**
YUK7	**Dusty Glacier**	**0.77**	**57**		**Pg**	**04 55 34.0**	**-0.1**
YUK7					**Sb**	**04 55 44.5**	**-2.0**
CHX	**Chaix Hills**	**0.83**	**267**		**Pg**	**04 55 35.7**	**+0.5**
TABL	**Table Mountain**	**0.90**	**292**	P	**Pg**	**04 55 35.6**	**-0.9**
TABL				S	**Sb**	**04 55 49.3**	**-0.8**
TABL	**Table Mountain**	**0.90**	**292**		**Pg**	**04 55 35.6**	**-0.9**
TABL					**Sb**	**04 55 49.3**	**-0.8**
TABL	**Table Mountain**	**0.90**	**292**	IAML		04 55 51.9	
	comp=E,648nm,0.6s						
TABL				IAML		04 55 53.3	
	comp=N,786nm,1.0s						
RKAV	**Rock Avalanche**	**0.96**	**282**	P	**Pg**	**04 55 37.7**	**0.0**
RKAV				S	**Sb**	**04 55 51.5**	**-0.3**
RKAV	**Rock Avalanche**	**0.96**	**282**		**Pg**	**04 55 37.7**	**0.0**
RKAV					**Sb**	**04 55 51.5**	**-0.3**
YUK6	**Outpost Mounta**	**0.98**	**33**	P	**Pb**	**04 55 38.2**	**-0.9**
YUK6				S	**Sb**	**04 55 51.7**	**-0.9**
YUK6	**Outpost Mounta**	**0.98**	**33**		**Pb**	**04 55 38.2**	**-0.9**
YUK6					**Sb**	**04 55 51.9**	**-0.7**
YUK6	**Outpost Mounta**	**0.98**	**33**		**Pb**	**04 55 38.2**	**-0.9**
YUK6					**Sb**	**04 55 51.7**	**-0.9**
YUK6	**Outpost Mounta**	**0.98**	**33**	P	**Pb**	**04 55 38.2**	**-0.9**
	baz=212,SNR=70						
YUK6				S	**Sb**	**04 55 51.8**	**-0.9**
	baz=212						
LOGN	**Logan Glacier**	**1.04**	**313**	P	**Pg**	**04 55 37.8**	**-1.5**
LOGN	**Logan Glacier**	**1.04**	**313**		**Pg**	**04 55 37.8**	**-1.5**
YAH	**Yahtse**	**1.17**	**283**		**Pg**	**04 55 41.3**	**-0.3**
YAH	**Yahtse**	**1.17**	**283**	IAML		04 56 01.8	
	comp=N,470nm,0.3s						
HYT	**Haines Junctio**	**1.20**	**53**	P	**Pg**	**04 55 41.4**	**-0.8**
HYT				S	**Sb**	**04 55 57.5**	**-1.1**
HYT	**Haines Junctio**	**1.20**	**53**		**Pg**	**04 55 41.4**	**-0.8**
HYT					**Sb**	**04 55 57.5**	**-1.1**
HYT	**Haines Junctio**	**1.20**	**53**	P	**Pg**	**04 55 41.3**	**-0.8**
	baz=234,SNR=67						
HYT				S	**Sb**	**04 55 57.7**	**-0.9**
	baz=234						
MESA	**MESA**	**1.25**	**274**	P	**Pn**	**04 55 42.5**	**-1.3**
MESA	**MESA**	**1.25**	**274**		**Pn**	**04 55 42.5**	**-1.3**
MESA	**MESA**	**1.25**	**274**	IAML		04 56 11.7	
	comp=E,874nm,1.0s						
MESA	**MESA**	**1.25**	**274**	P	**Pn**	**04 55 42.6**	**-1.3**
	baz=92,SNR=44						
MESA				S	**Sb**	**04 55 59.8**	**-0.3**
	baz=92						
CTGM	**Chitina Glacie**	**1.26**	**313**	P	**Pn**	**04 55 41.5**	**-2.4**
CTGM				S	**Sn**	**04 56 00.6**	**-0.7**
CTGM	**Chitina Glacie**	**1.26**	**313**		**Pn**	**04 55 41.5**	**-2.4**
CTGM					**Sn**	**04 56 00.6**	**-0.7**
CTGM	**Chitina Glacie**	**1.26**	**313**	IAML		04 56 01.3	
	comp=N,957nm,0.6s						
CTGM				IAML		04 56 03.4	
	comp=E,752nm,0.7s						
CTG	**Chitna Glacier**	**1.26**	**313**	P	**Pn**	**04 55 41.4**	**-2.5**
	baz=131,SNR=90						
CTG				S	**Sn**	**04 56 00.6**	**-0.8**
	baz=131						
YUK5	**Granite Creek**	**1.28**	**37**	P	**Pg**	**04 55 43.8**	**0.0**
YUK5				S	**Sn**	**04 56 01.4**	**-0.6**
YUK5	**Granite Creek**	**1.28**	**37**		**Pg**	**04 55 43.8**	**0.0**
YUK5					**Sn**	**04 56 01.4**	**-0.6**
YUK4	**Talbot Arm**	**1.29**	**18**	P	**Pg**	**04 55 45.7**	**+1.7**
YUK4				S	**Sn**	**04 56 04.4**	**+2.2**
YUK4	**Talbot Arm**	**1.29**	**18**		**Pg**	**04 55 45.7**	**+1.7**
YUK4					**Sn**	**04 56 04.4**	**+2.2**
YUK4	**Talbot Arm**	**1.29**	**18**	P	**Pg**	**04 55 45.5**	**+1.5**
	baz=198,SNR=59						
YUK4				S	**Sn**	**04 56 04.5**	**+2.2**
	baz=198						
GRNC	**Granite Creek**	**1.29**	**299**	P	**Pn**	**04 55 42.0**	**-2.4**
GRNC				S	**Sb**	**04 56 00.9**	**-0.5**
GRNC	**Granite Creek**	**1.29**	**299**		**Pn**	**04 55 42.0**	**-2.4**
GRNC					**Sb**	**04 56 00.9**	**-0.5**
GRNC	**Granite Creek**	**1.29**	**299**	IAML		04 56 03.5	
	comp=E,488nm,0.5s						
BAGL	**Bagley Icefiel**	**1.36**	**287**		**Pn**	**04 55 43.8**	**-1.4**
BARN	**Barnard Glacie**	**1.44**	**312**		**Pn**	**04 55 45.0**	**-1.4**
BARN	**Barnard Glacie**	**1.44**	**312**	IAML		04 56 10.2	
	comp=N,723nm,0.5s						
ISLE	**Juniper Island**	**1.51**	**290**		**Pn**	**04 55 46.6**	**-0.7**
ISLE					**Sg**	**04 56 08.3**	**+0.5**
ISLE	**Juniper Island**	**1.51**	**290**	IAML		04 56 09.4	
	comp=E,578nm,0.7s						
ISLE				IAML		04 56 12.0	
	comp=N,486nm,0.7s						
BARK	**Barkley Ridge**	**1.54**	**282**		**Pn**	**04 55 47.3**	**-0.4**
KULT	**Kultieth River**	**1.64**	**276**		**Pn**	**04 55 48.5**	**-0.5**
KIAG	**Kiagna River**	**1.65**	**300**	Pn	**Pn**	**04 55 48.0**	**-1.2**
KIAG				Sn	**Sb**	**04 56 11.4**	**-0.1**
KIAG	**Kiagna River**	**1.65**	**300**	Pn	**Pn**	**04 55 48.0**	**-1.2**
KIAG				Sn	**Sb**	**04 56 11.4**	**-0.1**
SNH	**Sunshine Point**	**1.69**	**273**		**Pn**	**04 55 49.6**	**-0.1**
BALM	**Baldy**	**1.70**	**304**	Pn	**Pn**	**04 55 48.7**	**-1.2**
BALM				Sn	**Sb**	**04 56 13.2**	**+0.2**
BALM	**Baldy**	**1.70**	**304**	Pn	**Pn**	**04 55 48.7**	**-1.2**
BALM				Sn	**Sb**	**04 56 13.2**	**+0.2**
WAX	**Waxell Ridge**	**1.72**	**282**		**Pn**	**04 55 50.0**	**-0.2**
WAX	**Waxell Ridge**	**1.72**	**282**	IAML		04 56 22.0	
	comp=E,578nm,0.5s						
YUK3	**Moose Creek**	**1.73**	**344**	Pn	**Pb**	**04 55 50.9**	**-0.8**
YUK3				Sn	**Sg**	**04 56 15.0**	**+0.2**
YUK3	**Moose Creek**	**1.73**	**344**		**Pb**	**04 55 51.0**	**-0.8**
YUK3	**Moose Creek**	**1.73**	**344**	Pn	**Pb**	**04 55 50.9**	**-0.8**
YUK3				Sn	**Sg**	**04 56 15.0**	**+0.2**
YUK3	**Moose Creek**	**1.73**	**344**	P	**Pb**	**04 55 50.9**	**-0.8**
	baz=163,SNR=127						
YUK3				S	**Sg**	**04 56 14.9**	**+0.1**
	baz=163						
TGL	**Tana Glacier**	**1.79**	**292**		**Pn**	**04 55 50.6**	**-0.6**
TGL	**Tana Glacier**	**1.79**	**292**	IAML		04 56 21.0	
	comp=E,352nm,0.8s						
TGL				IAML		04 56 21.3	
	comp=N,359nm,0.8s						
YUK2	**White River**	**1.80**	**339**	Pn	**Pb**	**04 55 52.1**	**-0.8**
YUK2				Sn	**Sg**	**04 56 16.8**	**-0.4**
YUK2	**White River**	**1.80**	**339**		**Pb**	**04 55 52.2**	**-0.8**
YUK2	**White River**	**1.80**	**339**	Pn	**Pb**	**04 55 52.1**	**-0.8**
YUK2				Sn	**Sg**	**04 56 16.8**	**-0.4**
PTPK	**Patty Peak**	**1.83**	**307**	Pn	**Pn**	**04 55 51.4**	**-0.3**
PTPK				Sn	**Sb**	**04 56 16.8**	**0.0**
PTPK	**Patty Peak**	**1.83**	**307**	Pn	**Pn**	**04 55 51.4**	**-0.3**
PTPK				Sn	**Sb**	**04 56 16.8**	**0.0**
CRQE	**Cirque**	**1.91**	**291**	P	**Pn**	**04 55 52.5**	**-0.4**
	baz=108,SNR=61						
CRQE				S	**Sb**	**04 56 18.7**	**-0.4**
	baz=108						
BGLC	**Bering Glacier**	**1.92**	**272**	Sb	**Sg**	**04 56 20.8**	**+0.1**
	baz=89						
KHIT	**Khitrov Hills**	**1.92**	**281**		**Pn**	**04 55 52.8**	**-0.1**
CRQM	**Cirque**	**1.93**	**291**		**Pn**	**04 55 52.6**	**-0.6**
GRIN	**Grindle Hills**	**1.94**	**276**		**Pn**	**04 55 53.0**	**-0.1**
YUK1	**Sand Pete Hill**	**2.10**	**346**	Pn	**Pb**	**04 55 57.6**	**-0.5**
YUK1				Sg	**Sg**	**04 56 26.4**	**-0.4**
YUK1	**Sand Pete Hill**	**2.10**	**346**	Pn	**Pb**	**04 55 57.6**	**-0.5**
YUK1				Sg	**Sg**	**04 56 26.4**	**-0.4**
BERG	**Berg Lake**	**2.13**	**279**		**Pn**	**04 55 56.1**	**+0.3**
MCARA	**McCarthy VSAT**	**2.16**	**307**		**Pn**	**04 55 57.1**	**+1.0**
MCARA	**McCarthy VSAT**	**2.16**	**307**	P	**Pn**	**04 55 56.8**	**+0.7**
	baz=124,SNR=98						
MCARA				Sb	**Sg**	**04 56 27.7**	**-1.0**
	baz=124						
SUCK	**Suckling Hills**	**2.17**	**271**		**Pn**	**04 55 56.0**	**-0.2**
SUCK					**Sb**	**04 56 25.1**	**-1.2**
SKAG	**Skagway**	**2.19**	**106**		**Pn**	**04 55 56.5**	**0.0**
SKAG	**Skagway**	**2.19**	**106**	S	**Sb**	**04 56 25.0**	**-1.9**
	baz=289						
NICHA	**Nichawak Mount**	**2.26**	**275**		**Pn**	**04 55 57.7**	**+0.2**
VRDI	**Verde Repeater**	**2.26**	**301**		**Pn**	**04 55 58.0**	**+0.3**
VRDI	**Verde Repeater**	**2.26**	**301**	IAML		04 56 32.4	
	comp=N,132nm,0.6s						
VRDI				IAML		04 56 36.1	
	comp=E,124nm,0.7s						
WHY	**Whitehorse**	**2.33**	**75**	Pn	**Pn**	**04 55 58.5**	**-0.1**
WHY				Sn	**Sb**	**04 56 29.6**	**-1.7**
WHY	**Whitehorse**	**2.33**	**75**	Pn	**Pn**	**04 55 58.5**	**-0.1**
WHY				Sn	**Sb**	**04 56 29.6**	**-1.7**

SCRK	**Sand Creek**	4.42	333			Pn	04 56 28.1	+0.9
SCRK	**Sand Creek**	4.42	333	P		Pn	04 56 28.3	+1.1
	baz=149,SNR=6.0							
RIDG	**Independent Ri**	4.43	327	Pn		Pn	04 56 28.6	+1.2
RIDG				IAML			04 57 44.6	
	comp=N,20nm,2.9s							
RIDG				IAML			04 57 50.7	
	comp=E,34nm,1.8s							
KNK	**Knik Glacier**	4.60	290	P		Pn	04 56 30.4	+0.8
	baz=102							
SML	**Sawmill**	4.64	295			Pn	04 56 30.6	+0.3
SML	**Sawmill**	4.64	295	IAML			04 57 45.4	
	comp=N,37nm,0.8s							
SML				IAML			04 57 57.1	
	comp=E,34nm,1.9s							
SML	**Sawmill**	4.64	295	P		Pn	04 56 30.4	+0.1
	baz=108							
WAT6	**Susitna Watana**	4.69	305			Pn	04 56 31.6	+0.6
WAT6	**Susitna Watana**	4.69	305	P		Pn	04 56 31.4	+0.4
	baz=118							
EGAK	**Eagle**	4.74	351			Pn	04 56 33.1	+1.6
EGAK				IAML			04 58 03.2	
	comp=E,36nm,0.8s							
EGAK	**Eagle**	4.74	351	P		Pn	04 56 32.3	+0.8
	baz=169							
J26L	**Joseph Creek**	4.79	338			Pn	04 56 32.5	+0.1
J26L	**Joseph Creek**	4.79	338	P		Pn	04 56 32.2	-0.2
	baz=154							
DHY	**Denali Highway**	4.80	311	Pn		Pn	04 56 34.0	+1.5
GHO	**Glory Hole Cre**	4.90	294			Pn	04 56 34.8	+1.0
GHO				IAML			04 57 52.9	
	comp=N,27nm,0.9s							
GHO				IAML			04 58 03.1	
	comp=E,28nm,1.0s							
PMR	**Palmer**	4.96	291			Pn	04 56 35.8	+1.3
PMR				IAML			04 57 53.6	
	comp=N,19nm,2.2s							
PMR				IAML			04 57 54.0	
	comp=E,22nm,0.8s							
DLBC	**Dease Lake**	5.12	105	Pg		Pb	04 56 51.7	+2.3
DLBC	**Dease Lake**	5.12	105	Pg		Pb	04 56 51.7	+2.3
DLBC	**Dease Lake**	5.12	105	IAML			04 58 35.9	
	comp=E,18nm,3.2s							
DLBC				IAML			04 58 38.6	
	comp=N,19nm,3.8s							
WAT1	**Susitna Watana**	5.14	306	P		Pn	04 56 37.8	+0.8
	baz=118							
J25K	**Salcha River,**	5.28	331			Pn	04 56 39.2	+0.2
J25K	**Salcha River,**	5.28	331	P		Pn	04 56 39.2	+0.2
	baz=146							
HDA	**Harding Lake**	5.54	324	Pn		Pn	04 56 44.2	+1.6
TRF	**Thorofare Moun**	6.13	308			Pn	04 56 50.9	+0.2
STLK	**Strandline Lak**	6.21	288			Pn	04 56 52.1	+0.3
KTH	**Kantishna Hill**	6.42	307			Pn	04 56 54.9	+0.2
CAST	**Castle Rocks**	6.84	304			Pn	04 57 00.7	+0.3
KDAK	**Kodiak Island**	7.18	257			Pn	04 57 05.2	+0.1
L20K	**Farewell, AK**	7.33	295			Pn	04 57 07.0	-0.2
K20K	**Telida**	7.65	301			Pn	04 57 11.2	-0.3
BM03	**Burnt Mountain**	7.67	345			Pn	04 57 11.9	+0.1
L19K	**White Mountain**	7.73	292			Pn	04 57 12.4	-0.1
J20K	**Nowinta River**	7.98	307			Pn	04 57 17.2	+1.2
TT01	**Tatalina**	8.39	297			Pn	04 57 20.8	-0.9

*IDC **23** 05:00:39.1±1.6, 10°.24S×124°.25E, h0km, mb3.8/1, mb1 3.8/4, mb1mx3.5/26, mbtmp3.6/4, ML3.4/3, Error ellipse: s-maj=31.4km s-min=11.5km az=8.0*
*DJA **23** 05:00:42.2±0.4, 10°S×12°4E±°, h10km, M3.8/7, mb3.6/3, MLv3.8/7*

ISC 23 05:00:40.2±0.9, 10°.47S±0°.07×124°.14E±0°.07, h10km, n12, σ1s80/16, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	0.54	299	Pg	Pg	05 00 50.2	-0.5
	444nm,0.3s,baz=142,slow=4.0,SNR=54						
BATI				Lg	Lg	05 00 58.5	
	445nm,0.3s,baz=14,slow=22,SNR=9.9						
BATI	**Baumata**	0.54	299	P	Pg	05 00 50.3	-0.4
BATI				S	Sg	05 00 56.9	-0.9
SOEI	**Soe**	0.72	10	P	Pn	05 00 56.7	0.0
SOEI				S	Sb	05 01 05.5	+0.5
MMRI	**Maumere**	2.62	314	P	Pn	05 01 22.9	+0.3
EDFI	**Ende, Flores**	2.96	305	P	Pn	05 01 28.0	+0.6
BASI	**Baing, Sumba**	3.51	274	P	Pn	05 01 35.3	+0.4
PLAI	**Plampang**	6.48	284	P	Pn	05 02 16.3	+0.5
TWSI	**Taliwang, Sumb**	7.36	283	P	Pn	05 02 28.3	+0.5
	0.1nm10nm,1.9s						
FITZ	**Fitzroy Crossi**	7.72	169	Pn	Pn	05 02 36.2	+3.4
	0.6nm,0.3s,baz=356,slow=11,SNR=45						
FITZ				Sn	Sn	05 04 00.1	-0.3
	1.1nm,0.3s,baz=87,slow=15,SNR=9.7						
WRA	**Warramunga Arr**	13.62	135	Pn	Pn	05 03 54.6	+1.1
	0.2nm,0.3s,baz=307,slow=14,SNR=5.4						
WRA				Sn	Sn	05 06 20.2	-4.9
	0.4nm,0.3s,baz=314,slow=25,SNR=5.6						
ASAR	**Alice Springs**	16.09	146	Pn	Pn	05 04 28.3	+1.5
	0.2nm,0.3s,baz=318,slow=12,SNR=9.5						
MKAR	**Makanchi Array**	68.15	330	P	P	05 11 40.1	-0.5
	0.6nm,0.5s,baz=155,slow=6.8,SNR=7.6						

*GUC **23** 05:05:53.0±0.6, 30°.79S×71°.88W, h26km±3km, ML4.1*
*NEIC **23** 05:05:54.9±1.1, 30°.74S±0°.04×71°.74W±0°.09, h28km±6km, mb3.9/3, ML4.1(GUC), Error ellipse: s-maj=11.3km s-min=6.2km az=99.0*
*IDC **23** 05:05:55.7±5.3, 30°.73S×71°.69W, h36km±43km, mb3.5/3, mb1 3.6/6, mb1mx3.5/20, mbtmp3.6/6, ML3.4/3, MS2.7/2, Ms1 2.7/2, ms1mx2.5/17, Error ellipse: s-maj=51.6km s-min=27.2km az=89.0*

ISC 23 05:05:54.3±1.0, 30°.73S±0°.03×71°.79W±0°.07, h26km±6km, n48, σ0s87/54, mb3.9/5, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	0.15	68	eP	Pb	05 05 58.6	-0.9
CO06				i S	Sb	05 06 03.3	+0.3
CO06				IAML		05 06 03.9	
	comp=N,28μm,0.1s						
CO06	**Fray Jorge**	0.15	68		Pb	05 05 59.3	-0.2
CO05	**La Serena**	0.94	31	⇓iP	Pn	05 06 11.2	-0.7
CO05				i S	Sn	05 06 25.4	+0.9
CO05	**La Serena**	0.94	31		Pn	05 06 11.6	-0.3
CO03	**El Pedregal**	0.95	97	⇓iP	Pn	05 06 11.6	-0.6
CO03				i S	Sn	05 06 24.9	-0.1
CO03				IAML		05 06 28.6	
	comp=E,5μm,0.5s						
CO03	**El Pedregal**	0.95	97		Pn	05 06 11.6	-0.6
GO04	**Tololo Observa**	1.02	57	eP	Pn	05 06 13.0	-0.2
GO04				i S	Sn	05 06 28.3	+1.5
GO04	**Tololo Observa**	1.02	57	Pn	Pn	05 06 13.2	-0.1
VA06	**Catapilco**	1.87	167	⇑iP	Pn	05 06 24.1	-0.6
VA06				i S	Sn	05 06 48.0	+0.5
VA06				IAML		05 06 54.3	
	comp=E,3μm,0.5s						
LCO	**Las Campanas**	1.96	29	⇑iP	Pn	05 06 25.9	-0.2
LCO				i S	Sb	05 06 53.8	+0.3
LCO	**Las Campanas**	1.96	29		Pn	05 06 26.4	+0.3
VA03	**San Esteban**	2.29	153	⇑iP	Pn	05 06 31.2	+0.7
VA03				i S	Sn	05 06 59.7	+1.7
VA03				IAML		05 07 09.0	
	comp=N,2μm,0.5s						
VA03	**San Esteban**	2.29	153		Pn	05 06 31.5	+0.9
VA01	**Torpederas**	2.29	177		Pn	05 06 29.2	-1.2
ROCH	**El Roble**	2.33	164	⇓iP	Pn	05 06 31.3	0.0
ROCH				eS	Sn	05 07 00.7	+1.4
ROCH				IAML		05 07 10.8	
	comp=E,1μm,0.4s						
AC04	**Llanos de Chal**	2.59	14	eP	Pn	05 06 33.3	-1.3
AC04	**Llanos de Chal**	2.59	14		Pn	05 06 33.5	-1.2
ZON	**Zonda**	2.79	108	Pg	Pb	05 06 41.3	-2.3
MT05	**Renca**	2.80	162	eP	Pn	05 06 37.9	+0.3
MT05				i S	Sn	05 07 12.1	+1.5
MT05	**Renca**	2.80	162		Pn	05 06 37.6	0.0
VA05	**Santo Domingo**	2.92	177	IAML		05 07 34.1	
	comp=E,910nm,0.6s						
VA05	**Santo Domingo**	2.92	177		Pn	05 06 39.3	+0.1
MT09	**Talagante**	3.11	168	⇑iP	Pn	05 06 41.9	0.0
MT09				i S	Sn	05 07 19.4	+1.1
MT09				IAML		05 07 38.1	
	comp=E,628nm,0.7s						
MT09	**Talagante**	3.11	168		Pn	05 06 42.2	+0.3
MT01	**Popeta**	3.16	172	eP	Pn	05 06 41.9	-0.5
MT01				IAML		05 07 34.6	
	comp=E,458nm,0.4s						
MT01	**Popeta**	3.16	172		Pn	05 06 43.5	+1.1
LMEL	**Las Melosas**	3.39	157	eP	Pn	05 06 47.0	+1.3
LMEL				i S	Sn	05 07 26.3	+1.2
LMEL				IAML		05 07 45.4	
	comp=N,540nm,0.2s						
GO03	**Copiap**	3.41	24		Pn	05 06 45.5	-0.4
AC06	**Mina Casimiro**	3.59	21	Pn	Pn	05 06 48.8	+0.4
BO01	**Tunca**	3.70	171		Pn	05 06 50.5	+0.7
BO02	**Sierra Bellavi**	4.14	168		Pn	05 06 55.9	-0.1
GO05	**Huala**	4.27	182	Pn	Pn	05 06 56.2	-1.5
AC02	**Maricunga**	4.53	32		Pn	05 07 02.6	+0.9
H03N1	**Juan Fernandez**	6.62	244	T	T	05 14 22.2	
	baz=72,slow=72,SNR=808						
H03N2	**Juan Fernandez**	6.63	244	T	T	05 14 21.4	
	baz=72,slow=72,SNR=973						
H03N3	**Juan Fernandez**	6.63	244	T	T	05 14 20.1	
	baz=72,slow=72,SNR=794						
LVC	**Limon Verde**	8.49	18	LR	LR	05 11 02.0	
	comp=N,91nm,18.0s,baz=204,slow=36						
PLCA	**Paso Flores**	10.03	175	Pn	Pn	05 08 16.8	-0.1
	comp=N,0.1nm,0.3s,baz=341,slow=10,SNR=1.6						
PLCA				LR	LR	05 12 56.1	
	comp=N,26nm,21.5s,baz=341,slow=42						
LPAZ	**La Paz**	14.76	14	Pn	Pn	05 09 23.4	+1.3
	comp=N,0.1nm,0.3s,baz=188,slow=7.6,SNR=6.9						
SIV	**San Ignacio**	17.65	36	P	Pn	05 09 57.7	-0.8
	comp=N,0.1nm,0.3s,baz=229,slow=16,SNR=6.2						
SNAA	**Sanae**	54.54	159	P	P	05 15 19.6	-0.2
SNAA				IAmb	IAmb	05 15 20.2	
	comp=Z,2.6nm,1.1s						
QSPA	**South Pole Qui**	59.50	180	P	P	05 15 55.2	+0.1
QSPA				IAmb	IAmb	05 16 05.2	
	comp=Z,0.3nm,0.8s						
TXAR	**Lajitas Array**	67.00	330	P	P	05 16 45.2	+0.1
	comp=Z,0.2nm,0.7s,baz=151,slow=11,SNR=4.1						
TXAR	**Lajitas Array**	67.00	330	P	P	05 16 45.8	+0.7
MAW	**Mawson**	76.25	164	P	P	05 17 40.2	0.0
	comp=Z,0.8nm,0.5s,baz=222,slow=3.8,SNR=2.1						
TORD	**Torodi Ar. Bea**	82.91	70	P	P	05 18 16.7	-0.5
	comp=Z,0.8nm,0.8s,baz=267,slow=3.3,SNR=4.8						
TORD	**Torodi Ar. Bea**	82.91	70	P	P	05 18 16.8	-0.4
TORD				IAmb	IAmb	05 18 32.8	
	comp=Z,1.3nm,1.1s						
ZALV	**Zalesovo Beam**	151.32	29	PKPbc	PKPbc	05 25 44.4	-0.7
	comp=Z,1.6nm,0.6s,baz=318,slow=4.2,SNR=6.3						

*IDC **23** 05:23:35.8±5.5, 39°.00N×74°.99E, h0km, mb3.8/4, mb1 3.8/6, mb1mx3.5/50, mbtmp3.8/6, ML3.4/2, MS2.9/4, Ms1 2.9/4, ms1mx2.4/60, Error ellipse: s-maj=118.3km s-min=23.4km az=107.0*
*ISU **23** 05:23:42, 39°.50N×73°.70E, h5km*
*KRNET **23** 05:23:44.8±0.1, 39°.51N×73°.54E, mb3.8*
*SOME **23** 05:23:44.0, 39°.80N×73°.38E, h0km*
*NNC **23** 05:23:49.0±1.1, 39°.88N×73°.47E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=9.1km s-min=5.2km az=170.0*

ISC 23 05:23:44.0±1.0, 39°.66N±0°.05×73°.61E±0°.03, h10km, n86, σ1s73/119, mb3.8/4, MS3.2/4, 43C-7D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	0.36	347	eP	Pn	05 23 53.0	-2.5
SFK				eS	Sb	05 24 00.0	+1.5
OHH	**Osh**	1.07	324	⇑iP	Pn	05 24 06.8	+1.7
	baz=30						
OHH				⇑iS	Sn	05 24 23.3	+3.2
	baz=30						
DRK	**Karamyk**	1.41	263	⇑iP	Pg	05 24 10.4	-0.7
	baz=69						
DRK				⇑iS	Sg	05 24 29.1	-0.4
	baz=69						
FRG	**Fergana**	1.57	297	eP	Pg	05 24 16.0	-1.8
FRG				eS	Sg	05 24 39.0	-1.6
BTK	**Batken**	2.19	281	⇓eP	Pg	05 24 23.9	-2.0
	baz=85						
BTK				⇓iS	Sg	05 24 52.3	-1.9
	baz=85						
BTK	**Batken**	2.19	281	eP	Pg	05 24 25.0	-0.9
BTK				eS	Sg	05 24 57.0	+2.8
ARLS	**Aral**	2.26	14	⇑iP	Pg	05 24 27.5	+0.1
	baz=14						
ARLS				⇑iS	Sg	05 24 58.7	+2.0
	baz=14						
AML	**Almayashu**	2.46	1	⇑iP	Pg	05 24 30.3	-1.0
	baz=2.0						
AML				⇑iS	Sg	05 25 03.8	+0.5
	baz=2.0						
AML	**Almayashu**	2.46	1	P	Pg	05 24 29.6	-1.7
	SNR=30						
TRKS	**Terek-Say**	2.65	316	⇑iP	Pb	05 24 30.7	-0.9
	baz=18						
TRKS				⇑iS	Sb	05 25 04.5	+0.2
	baz=18						
UCH	**Uchtor**	2.65	15	⇑eP	Pg	05 24 33.2	-1.6
	baz=15						
UCH				⇑iS	Sg	05 25 08.5	-0.7
	baz=15						
UCH	**Uchtor**	2.65	15	P	Pg	05 24 33.5	-1.4
	SNR=31						
KZA	**Kyzart**	2.71	27	⇑eP	Pg	05 24 33.9	-2.1
	baz=26						
KZA				⇑iS	Sg	05 25 10.2	-1.0
	baz=26						
KZA	**Kyzart**	2.71	27	P	Pg	05 24 36.4	+0.4
	SNR=13						
MNAS	**Manas**	2.94	344	⇑eP	Pb	05 24 36.2	-0.4
	baz=46						
MNAS				⇑iS	Sb	05 25 14.4	+1.7
	baz=46						
EKS2	**Erkin-Say**	3.00	2	⇑eP	Pb	05 24 37.7	+0.1
	baz=3.0						
EKS2				⇑iS	Sb	05 25 16.3	+2.0
	baz=3.0						
EKS2	**Erkin-Say**	3.00	2	P	Pb	05 24 38.2	+0.6
	SNR=8.5						
AAK	**Ala-Archa**	3.04	12	Pn	Pb	05 24 37.7	-0.7
	2.2nm,0.3s,baz=176,slow=10,SNR=12						
AAK				Sn	Sg	05 25 21.3	-0.5
	5.9nm,0.3s,baz=312,slow=22,SNR=5						
AAK				LR	LR	05 25 33.3	
	comp=Z,25nm,20.1s,baz=202,slow=32						
AAK	**Ala-Archa**	3.04	12	⇑eP	Pb	05 24 38.6	+0.2
	baz=13						
AAK				⇑iS	Sb	05 25 17.5	+1.8
	baz=13						
AAK	**Ala-Archa**	3.04	12	P	Pb	05 24 38.3	-0.1
	SNR=17						
AAK	**Ala-Archa**	3.04	12	⇑Pn	Pb	05 24 37.3	-1.1
	17nm,0.6s						
AAK				⇑Lg	Lg	05 25 21.2	
	68nm,0.5s						
MRKS	**Merke**	3.09	355	eP	Pb	05 24 39.4	+0.2
	20nm,0.7s						
MRKS				eS	Sb	05 25 19.7	+2.7
	118nm,0.5s						
MRKS	**Merke**	3.09	355	Pg	Pb	05 24 39.4	+0.2
	20nm,0.7s						
MRKS				Lg	Lg	05 25 19.3	
	118nm,0.5s						
KBK	**Karagaybulak**	3.15	18	⇑eP	Pb	05 24 40.0	-0.3
	baz=18						
KBK				⇑iS	Sb	05 25 20.3	+1.4
	baz=18						
FRU1	**Bishkek**	3.23	13	⇑iP	Pb	05 24 41.3	-0.3
	baz=13						
FRU1				⇑iS	Sb	05 25 22.6	+1.5
	baz=13						
ULHL	**Ulahol**	3.26	37	⇑eP	Pb	05 24 41.2	-0.9
	baz=36						
ULHL				⇑iS	Sb	05 25 22.5	+0.6
	baz=36						
ULHL	**Ulahol**	3.26	37	P	Sg	05 25 29.7	+1.0
	SNR=7.2						
CHMG	**Chimgan**	3.33	306	eP	Pg	05 24 46.0	-1.7
CHMG				eS	Sg	05 25 32.0	+1.2
BOOM	**Boomskoye usch**	3.33	31	⇑eP	Pb	05 24 42.4	-0.8
	baz=31						
BOOM				⇑iS	Sb	05 25 24.4	+0.6
	baz=31						
CHMS	**Chumysh**	3.44	14	⇑eP	Pb	05 24 43.8	-1.3
	baz=14						
CHMS				⇑iS	Sb	05 25 26.9	0.0
	baz=14						
TKM2	**Tokmak 2**	3.58	24	⇑eP	Pb	05 24 45.9	-1.7
	baz=24						
TKM2				⇑iS	Sb	05 25 30.5	-0.7
	baz=24						
TKM2	**Tokmak 2**	3.58	24	⇑Pn	Pb	05 24 44.8	-2.7
	9.8nm,0.6s						
TKM2				⇑Lg	Lg	05 25 39.2	
	37nm,0.7s						
DZA	**Taraz**	3.65	333	eP	Pb	05 24 47.5	-1.2
	324nm,0.1s						
DZA				eS	Sb	05 25 33.4	+0.4
	163nm,0.2s						
DZA	**Taraz**	3.65	333	Pg	Pb	05 24 47.5	-1.2
	324nm,0.1s						
DZA				Lg	Lg	05 25 33.4	
	163nm,0.2s						
USP	**Ospenovka**	3.66	10	⇑eP	Pb	05 24 46.8	-2.0
	baz=11						
USP				⇑iS	Sb	05 25 32.2	-1.1
	baz=11						
KST	**Kastek**	3.81	27	eP	Pg	05 24 54.9	-2.2
	15nm,0.4s						
KST				eS	Sg	05 25 45.8	-0.6
	52nm,0.6s						
KST	**Kastek**	3.81	27	Pg	Pg	05 24 54.9	-2.2
	15nm,0.4s						
KST				Lg	Lg	05 25 45.8	
	52nm,0.6s						
SGDS	**Sogindy**	3.86	11	Pg	Pg	05 24 54.2	-3.8
	15nm,0.7s						
SGDS				Lg	Lg	05 25 44.8	
	23nm,0.4s						
DGS	**Degeres**	3.93	24	eP	Pg	05 24 56.7	-2.5
	24nm,0.3s						
DGS				eS	Sg	05 25 49.1	-1.0
	40nm,0.3s						
DGS	**Degeres**	3.93	24	Pg	Pg	05 24 56.7	-2.5
	24nm,0.3s						
DGS				Lg	Lg	05 25 49.1	
	40nm,0.3s						
MTBS	**Maitube**	4.06	31	eP	Pg	05 24 59.7	-2.1
	10nm,0.4s						
MTBS				eS	Sg	05 25 54.2	-0.2
	34nm,0.2s						
MTBS	**Maitube**	4.06	31	Pg	Pg	05 24 59.7	-2.1
	10nm,0.4s						
MTBS				Lg	Lg	05 25 54.2	
	34nm,0.2s						
KK31	**Karatay Array**	4.15	327	Pn	Pb	05 24 51.2	-5.9
	2.0nm,0.3s,baz=128,slow=11,SNR=30						
KK31				Pg	Pg	05 25 02.4	-1.1
	3.2nm,0.3s,baz=142,slow=14,SNR=8.5						
KK31				⇑Sn	Sn	05 25 39.6	+3.5
	5.8nm,0.4s,baz=154,slow=31,SNR=4.9						
KK31				⇓Lg	Lg	05 25 57.2	
	10nm,0.4s,baz=242,slow=46,SNR=4.9						
TNSS	**Tian-Shan**	4.20	36	eP	Pg	05 25 03.0	-1.6
	9.4nm,0.4s						
TNSS				eS	Sg	05 25 59.8	+0.8
	13nm,0.5s						
TNSS	**Tian-Shan**	4.20	36	Pg	Pg	05 25 03.0	-1.6
	9.4nm,0.4s						
TNSS				Lg	Lg	05 25 59.8	
	13nm,0.5s						
KRBS	**Karabastau**	4.32	20	eP	Pg	05 25 04.7	-1.9
	7.2nm,0.4s						
KRBS				eS	Sg	05 26 03.1	+0.6
	34nm,0.6s						
KRBS	**Karabastau**	4.32	20	Pg	Pg	05 25 04.7	-1.9
	7.2nm,0.4s						
KRBS				Lg	Lg	05 26 03.1	
	34nm,0.6s						
MDOK	**Medeo**	4.35	35	eP	Pg	05 25 05.4	-1.9
	6.8nm,0.4s						
MDOK				eS	Sg	05 26 04.1	+0.5
	34nm,0.7s						
MDOK	**Medeo**	4.35	35	Pg	Pg	05 25 05.2	-2.1
	11nm,0.7s						
MDOK				⇓Lg	Lg	05 26 03.7	
	45nm,0.9s						
MDOK	**Medeo**	4.35	35	Pg	Pg	05 25 05.4	-1.9
	6.8nm,0.4s						
MDOK				Lg	Lg	05 26 04.1	
	34nm,0.7s						
KOTS	**Kotyrbulak**	4.43	35	eP	Pg	05 25 07.2	-1.8
	12nm,0.3s						
KOTS				eS	Sg	05 26 07.0	+0.7
	62nm,0.6s						
KOTS	**Kotyrbulak**	4.43	35	Pg	Pg	05 25 07.1	-1.8
	12nm,0.3s						
KOTS				Lg	Lg	05 26 07.0	
	62nm,0.6s						
KTBS	**Karatobe**	4.65	29	eP	Pg	05 25 10.9	-2.2
	7.6nm,0.7s						
KTBS				eS	Sg	05 26 13.4	+0.1
	32nm,0.6s						
KTBS	**Karatobe**	4.65	29	Pg	Pg	05 25 10.9	-2.2
	7.6nm,0.7s						
KTBS				Lg	Lg	05 26 13.4	
	32nm,0.6s						
KUU	**Kurty**	4.69	25	eP	Pg	05 25 11.2	-2.7
	5.9nm,0.4s						
KUU				eS	Sg	05 26 13.9	-0.7
	16nm,0.4s						
KUU	**Kurty**	4.69	25	Pg	Pg	05 25 11.2	-2.7
	5.9nm,0.4s						
KUU				Lg	Lg	05 26 13.9	
	16nm,0.4s						
CHKK	**Chushkaly**	4.89	30	eP	Pg	05 25 16.1	-1.5
	5.2nm,0.1s						
CHKK				eS	Sg	05 26 22.2	+1.3
	28nm,0.4s						
CHKK	**Chushkaly**	4.89	30	Pg	Pg	05 25 16.1	-1.5
	5.2nm,0.1s						
CHKK				Lg	Lg	05 26 22.2	
	28nm,0.4s						
SATY	**Saty**	4.95	45	eP	Pg	05 25 17.3	-1.6
	2.5nm,0.3s						
SATY				eS	Sg	05 26 24.2	+1.2
	19nm,0.5s						
SATY	**Saty**	4.95	45	Pg	Pg	05 25 17.3	-1.6
	2.5nm,0.3s						
SATY				Lg	Lg	05 26 24.2	
	19nm,0.5s						
KURS	**Kuram**	5.13	40	eP	Pg	05 25 20.3	-1.9
	8.2nm,0.5s						
KURS				eS	Sg	05 26 29.7	+1.1
	11nm,1.0s						
KURS	**Kuram**	5.13	40	Pg	Pg	05 25 20.3	-1.9
	8.2nm,0.5s						
KURS				Lg	Lg	05 26 29.7	
	11nm,1.0s						
KPKS	**Kokpek**	5.38	43	eP	Pg	05 25 25.8	-1.2
	7.3nm,0.4s						
KPKS				eS	Sg	05 26 39.0	+2.5
	16nm,0.6s						
BTLS	**Baital**	5.38	3	eP	Pg	05 25 24.1	-3.0
	4.1nm,0.5s						
BTLS				eS	Sg	05 26 36.3	-0.5
	15nm,0.4s						
BTLS	**Baital**	5.38	3	Pg	Pg	05 25 24.1	-3.0
	4.1nm,0.5s						
BTLS				Lg	Lg	05 26 36.3	
	15nm,0.4s						
SHLS	**Shalkode**	5.61	50	eP	Pg	05 25 35.8	+4.3
	8.2nm,0.3s						
SHLS				eS	Sg	05 26 56.0	+12

KAPS	**Kapalarasan**	**7.04**	**35**	*eP*		**Pg**	**05 25 55.9**	**-2.8**
	2.4nm,0.5s							
KAPS				*eS*		**Sg**	**05 27 30.3**	**+0.4**
	7.5nm,0.6s							
KAPS	**Kapalarasan**	**7.04**	**35**	Pg		**Pg**	**05 25 55.9**	**-2.8**
	2.4nm,0.5s							
KAPS				Lg		Lg	05 27 30.3	
	7.5nm,0.6s							
OTUK	**Ortayu**	**8.63**	**354**	⇓Pn		Pn	05 25 53.4	+4.5
	2.8nm,0.8s							
OTUK				⇑Lg		Lg	05 28 15.8	
	12nm,0.9s							
KURBB	**Kurchatov Arra**	**11.49**	**16**	⇑Lg		Lg	05 29 49.6	
	11nm,0.8s							
BVAR	**Borovoye Array**	**13.55**	**352**	Pn		**Pn**	**05 26 57.7**	**+1.6**
	0.2nm,0.3s,baz=178,slow=13,SNR=5.7							
AB31	**Akbulak array**	**13.66**	**319**	⇑Pn		**P**	**05 27 01.9**	**-4.7**
	1.0nm,0.7s,baz=131,slow=13,SNR=12							
AKTO	**Aktyubinsk**	**15.37**	**320**	⇑Pn		**P**	**05 27 25.0**	**-0.7**
	3.2nm,0.9s							
BRTR	**Keskin Array B**	**30.58**	**283**	P		P	05 30 03.0	+4.9
	0.2nm,0.4s,baz=80,slow=7.0,SNR=3.7							
FINES	**FINESS Array B**	**36.10**	**323**	P		**P**	**05 30 48.0**	**+2.3**
	1.3nm,0.7s,baz=104,slow=12,SNR=2.0							
ARCES	**ARCESS Array B**	**39.07**	**335**	P		**P**	**05 31 13.0**	**+2.3**
	3.1nm,0.9s,baz=106,slow=8.9,SNR=3.7							
JMIC	**Jan Mayen**	**50.55**	**335**	LR		LR	05 52 21.1	
	comp=Z,16nm,20.3s,baz=70,slow=33							
JHJ	**Hachijo jima 2**	**52.60**	**75**	LR		LR	05 58 18.7	
	comp=Z,15nm,19.3s,baz=272,slow=40							
BORG	**Borgarnes**	**56.92**	**329**	LR		LR	05 57 15.1	
	comp=Z,28nm,20.4s,baz=204,slow=35							
TORD	**Torodi Ar. Bea**	**67.85**	**269**	P		**P**	**05 34 42.4**	**-0.4**
	0.3nm,0.5s,baz=48,slow=5.4,SNR=5.4							
BATI	**Baumata**	**67.92**	**125**	LR		LR	06 08 12.9	
	comp=Z,179nm,18.3s,baz=124,slow=40							

*IDC **23** 05:23:53.5±1.2,30.˚48S×71.˚77W,h0km,mb3.9/4,*
mb1 4.0/8,mb1mx3.8/30,mbtmp3.9/8,ML3.8/4,MS3.3/3,
Ms1 3.3/3,ms1mx3.0/18,Error ellipse: s-maj=39.7km
s-min=24.3km az=98.0
*GUC **23** 05:23:54.9±0.7,30.˚42S×72.˚07W,h29km±8km,ML4.3*
*NEIC **23** 05:23:54.1±2.4,30.˚40S±0.˚05×72.˚11W±0.˚05,h10km±1km,*
mb4.4/8,ML4.3(GUC),Error ellipse: s-maj=7.8km
s-min=7.2km az=205.0
*VAO **23** 05:24:02.9±1.1,30.˚86S×72.˚23W,h120km±10km,mb4.1*
ISC 23 05:23:55.1±1.7,30.˚41S±0.˚04×72.˚02W±0.˚07,h15km±9km,
n92,σ1§21/87,mb4.2/5,2C-4D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.42**	**128**	⇓*iP*		**Pb**	**05 24 04.3**	**0.0**
CO06				*eS*		**Sg**	**05 24 10.3**	**+1.0**
CO06	**Fray Jorge**	**0.42**	**128**			**Pg**	**05 24 04.0**	**+0.4**
CO05	**La Serena**	**0.84**	**54**			**Pg**	**05 24 11.0**	**-0.3**
GO04	**Tololo Observa**	**1.09**	**78**	⇓*iP*		**Pg**	**05 24 15.1**	**-1.0**
GO04				*eS*		**Sg**	**05 24 30.2**	**-0.1**
GO04	**Tololo Observa**	**1.09**	**78**			**Pg**	**05 24 15.1**	**-1.0**
CO03	**El Pedregal**	**1.23**	**111**	⇓*iP*		**Pn**	**05 24 17.1**	**-0.7**
CO03				*eS*		**Sb**	**05 24 33.6**	**-0.2**
CO03				IAML			05 24 36.9	
	comp=N,5μm,0.6s							
CO03	**El Pedregal**	**1.23**	**111**	Pn		**Pn**	**05 24 17.1**	**-0.7**
LCO	**Las Campanas**	**1.81**	**40**	⇑*iP*		**Pn**	**05 24 26.0**	**0.0**
LCO				*eS*		**Sb**	**05 24 50.2**	**-0.5**
LCO	**Las Campanas**	**1.81**	**40**			**Pn**	**05 24 26.1**	**0.0**
VA06	**Catapilco**	**2.23**	**164**	⇑*iP*		**Pn**	**05 24 31.5**	**0.0**
VA06				*eS*		**Sn**	**05 24 57.7**	**-1.1**
AC04	**Llanos de Chal**	**2.35**	**21**	*eP*		**Pn**	**05 24 32.3**	**-1.0**
AC04	**Llanos de Chal**	**2.35**	**21**	Pn		**Pn**	**05 24 32.1**	**-1.1**
VA01	**Torpederas**	**2.62**	**173**	*i* P		**Pn**	**05 24 36.5**	**-0.4**
VA01	**Torpederas**	**2.62**	**173**			**Pn**	**05 24 36.2**	**-0.7**
VA03	**San Esteban**	**2.66**	**152**	*eP*		**Pn**	**05 24 38.5**	**+0.9**
VA03				IAML			05 25 22.4	
	comp=N,2μm,0.5s							
VA03	**San Esteban**	**2.66**	**152**			**Pn**	**05 24 39.0**	**+1.4**
ROCH	**El Roble**	**2.69**	**162**	*i* P		**Pn**	**05 24 38.4**	**+0.2**
ROCH				IAML			05 25 28.6	
	comp=E,1μm,0.4s							
ZON	**Zonda**	**3.09**	**112**			**Pb**	**05 24 47.8**	**-2.0**
MT05	**Renca**	**3.16**	**160**	*eP*		**Pn**	**05 24 44.8**	**+0.3**
MT05				IAML			05 25 42.2	
	comp=E,1μm,0.5s							
MT05	**Renca**	**3.16**	**160**	Pn		**Pn**	**05 24 44.8**	**+0.3**
GO03	**Copiap**	**3.22**	**30**	Pn		**Pn**	**05 24 44.6**	**-0.6**
VA05	**Santo Domingo**	**3.25**	**174**	Pn		**Pn**	**05 24 45.2**	**-0.4**
AC06	**Mina Casimiro**	**3.38**	**26**	Pn		**Pn**	**05 24 46.6**	**-0.8**
MT09	**Talagante**	**3.47**	**166**	*eP*		**Pn**	**05 24 49.4**	**+0.7**
MT09				IAML			05 25 51.8	
	comp=E,497nm,0.6s							
MT09	**Talagante**	**3.47**	**166**			**Pn**	**05 24 49.3**	**+0.7**
MT01	**Popeta**	**3.50**	**169**	⇓*eP*		**Pn**	**05 24 48.8**	**-0.3**
MT01				IAML			05 25 51.0	
	comp=E,287nm,0.7s							
MT01	**Popeta**	**3.50**	**169**			**Pn**	**05 24 48.1**	**-0.9**
LMEL	**Las Melosas**	**3.76**	**156**	*eP*		**Pn**	**05 24 54.3**	**+1.6**
LMEL				IAML			05 25 57.3	
	comp=N,370nm,0.7s							
BO01	**Tunca**	**4.04**	**169**	Pn		**Pn**	**05 24 56.3**	**-0.2**
AC02	**Maricunga**	**4.38**	**36**	Pn		**Pn**	**05 25 02.2**	**+0.6**
BO02	**Sierra Bellavi**	**4.49**	**167**			**Pn**	**05 25 03.1**	**+0.4**
GO05	**Huala**	**4.58**	**179**			**Pn**	**05 25 02.7**	**-1.3**
ML02	**Panimavida**	**5.36**	**175**	Pn		**Pn**	**05 25 14.0**	**-0.5**
H03N1	**Juan Fernandez**	**6.59**	**241**	T		T	05 32 30.6	
	baz=70,slow=72,SNR=798							
H03N2	**Juan Fernandez**	**6.60**	**241**	T		T	05 32 35.7	
	baz=70,slow=72,SNR=1047							
H03N3	**Juan Fernandez**	**6.60**	**241**	T		T	05 32 31.2	
	baz=70,slow=72,SNR=803							
VA04	**Juan Fernndez**	**6.62**	**239**	Pn		**Pn**	**05 25 29.2**	**-2.6**
LVC	**Limon Verde**	**8.26**	**20**	Pn		**Pn**	**05 25 52.7**	**-2.0**
	comp=N,0.2nm,0.3s,baz=165,slow=7.2,SNR=1.2							
LC01	**Cunco**	**8.46**	**179**	Pn		**Pn**	**05 25 55.9**	**-1.3**
PLCA	**Paso Flores**	**10.37**	**174**	Pn		**Pn**	**05 26 23.4**	**+0.1**
	comp=N,0.2nm,0.3s,baz=341,slow=11,SNR=11							
PLCA				LR		LR	05 31 04.1	
	comp=N,86nm,18.0s,baz=352,slow=42							
PLCA	**Paso Flores**	**10.37**	**174**	*eP*		**Pn**	**05 26 22.2**	**-1.1**
TRQA	**Tornquist**	**11.27**	**135**	Pn		**Pn**	**05 26 36.7**	**+1.0**
TRQA	**Tornquist**	**11.27**	**135**	*eP*		**Pn**	**05 26 38.5**	**+2.8**
ITGB	**Itaqui**	**13.36**	**91**			**Pn**	**05 27 06.0**	**+1.8**
CPUP	**Villa Florida**	**13.56**	**76**	LR		LR	05 32 40.3	
	comp=N,164nm,18.1s,baz=226,slow=39							
CPUP	**Villa Florida**	**13.56**	**76**	*eP*		**P**	**05 27 13.1**	**-2.9**
LPAZ	**La Paz**	**14.51**	**15**	Pn		**Pn**	**05 27 22.1**	**+1.5**
	comp=N,0.2nm,0.3s,baz=174,slow=6.3,SNR=9.8							
LPAZ	**La Paz**	**14.51**	**15**			**Pn**	**05 27 22.9**	**+2.4**
PLTB	**Pedras Altas**	**15.84**	**100**	*eP*		**P**	**05 27 40.8**	**-0.6**
CPSB	**Cacapava Do Su**	**16.04**	**95**	*eP*		**P**	**05 27 43.4**	**-0.2**
SIV	**San Ignacio**	**17.51**	**37**	P		**Pn**	**05 27 58.4**	**-0.5**
	comp=N,1.0nm,0.3s,baz=221,slow=11,SNR=23							
SIV				LR		LR	05 35 59.4	
	comp=N,107nm,18.4s,baz=234,slow=42							
CNLB	**Canela**	**18.40**	**92**	*eP*		**P**	**05 28 08.7**	**-1.1**
PTGB	**Pitanga**	**18.57**	**77**	*eP*		**Pn**	**05 28 14.5**	**+2.5**
TRCB	**Terra Rica**	**18.91**	**71**	*eP*		**Pn**	**05 28 18.1**	**+2.0**
TER01	**Tubaro-SC**	**20.02**	**90**	*eP*		**P**	**05 28 28.4**	**+1.0**
PP1B	**Ponte de Pedra**	**20.16**	**55**	*eP*		Pn	05 28 32.7	+1.7
VILB	**Vilhena**	**20.53**	**35**	*eP*		Pn	05 28 36.6	+1.3
PCMB	**Pacaembu**	**20.59**	**70**	*eP*		Pn	05 28 36.0	0.0
TIJ01	**Guaruva-PR**	**20.96**	**82**	*eP*		**P**	**05 28 38.9**	**+1.2**
FRTB	**Fartura**	**21.21**	**76**	*eP*		**P**	**05 28 42.2**	**+1.7**
ITRB	**Iturama**	**22.30**	**66**	*eP*		**P**	**05 28 54.4**	**+2.3**
PET01	**Itanhaem-SP**	**22.79**	**80**	*eP*		**P**	**05 28 58.0**	**+0.7**
SAML	**Samuel**	**22.90**	**23**	P		**P**	**05 28 55.1**	**-3.4**
SAML	**Samuel**	**22.90**	**23**	*eP*		**P**	**05 29 00.1**	**+1.6**
SPB	**Sao Paulo**	**22.91**	**79**	*eP*		**P**	**05 28 59.0**	**+0.4**
BB19B	**Bebedouro**	**23.08**	**72**	*eP*		**P**	**05 29 00.3**	**-0.1**
VAO	**Valinhos**	**23.54**	**78**	*eP*		**P**	**05 29 05.0**	**-0.1**
PARB	**Paraibuna**	**24.55**	**80**	*eP*		**P**	**05 29 13.9**	**-0.5**
CLDB	**Colider**	**24.61**	**41**	*eP*		**P**	**05 29 16.4**	**+1.4**
IPMB	**Ipameri, GO**	**24.94**	**66**	*eP*		**P**	**05 29 17.1**	**-1.0**
TBTG	**Tabatinga, AM**	**26.16**	**5**	*eP*		**P**	**05 29 30.8**	**+1.8**
BSCB	**Bom Sucesso**	**26.23**	**75**	*eP*		**P**	**05 29 29.5**	**-0.2**
BDFB	**Brasilia**	**26.46**	**62**	P		**P**	**05 29 31.4**	**-0.5**
	comp=N,2.4nm,0.6s,baz=243,slow=10,SNR=5.9							
BDFB	**Brasilia**	**26.46**	**62**	IAmb		IAmb	05 29 50.0	
	comp=Z,12nm,1.4s							
SNDB	**Serra Nova Dou**	**26.57**	**51**	*eP*		**P**	**05 29 33.6**	**+0.9**
DIAM	**Diamantina, MG**	**28.42**	**71**	*eP*		**P**	**05 29 49.5**	**0.0**
PEXB	**Peixe**	**28.54**	**55**	*eP*		**P**	**05 29 50.5**	**0.0**
JANB	**Januaria**	**29.67**	**65**	*eP*		**P**	**05 30 00.2**	**-0.3**
SJMB	**Sao Joao De Ma**	**30.28**	**75**	*eP*		**P**	**05 30 05.5**	**-0.3**
PMSA	**Palmer Station**	**34.74**	**174**	*eP*		P	05 30 37.0	-7.3
RUSC	**La Rusia**	**36.11**	**358**	P		**P**	**05 30 58.0**	**+0.8**
NBMA	**Muriti-CE**	**38.68**	**60**	*eP*		**P**	**05 31 18.1**	**-0.4**
NBCL	**Cascavel-CE**	**41.12**	**57**	*eP*		**P**	**05 31 37.8**	**-0.9**
VNA1	**Neumayer--Stat**	**52.97**	**158**	P		**P**	**05 33 08.8**	**-1.8**
VNA2	**Neumayer--Watz**	**53.32**	**158**	P		**P**	**05 33 13.8**	**+0.7**
	baz=288,slow=8.6							
SNAA	**Sanae**	**54.90**	**159**	P		**P**	**05 33 25.3**	**+0.5**
SNAA	**Sanae**	**54.90**	**159**	P		**P**	**05 33 25.2**	**+0.3**
SNAA				IAmb	IAmb		05 33 26.0	
	comp=Z,3.4nm,0.9s							
TXAR	**Lajitas Array**	**66.63**	**330**	P		**P**	**05 34 47.2**	**+2.1**
	comp=Z,0.2nm,0.7s,baz=141,slow=5.8,SNR=4.4							
MAW	**Mawson**	**76.61**	**164**	P		**P**	**05 35 44.0**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=247,slow=7.7,SNR=2.3							
TORD	**Torodi Ar. Bea**	**82.99**	**70**	P		**P**	**05 36 20.2**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=249,slow=4.7,SNR=9.3							
TORD	**Torodi Ar. Bea**	**82.99**	**70**	IAmb	IAmb		05 36 27.1	
	comp=Z,2.5nm,1.1s							
ZALV	**Zalesovo Beam**	**151.14**	**29**	PKPbc	**PKiKP**		**05 43 48.0**	**+0.2**
	comp=Z,3.4nm,0.5s,baz=295,slow=3.5,SNR=12							

MEX 23 05:26:12.7±0.3,26.˚28N×109.˚47W,h10km±10km,MD3.5,
Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TSIG	**Topolobambo**	**0.77**	**150**	*eP*		Pg	05 26 25.5	-2.1
TSIG				*eS*		Sg	05 26 35.5	-2.2
SSIG	**Sanalona**	**2.55**	**124**	*i* P		Pn	05 26 51.1	-3.0
SRIG	**Santa Rosalia**	**2.69**	**293**	*eP*		Pn	05 26 53.1	-2.9

*IDC **23** 05:30:42.0±1.2,10.˚93N×43.˚59W,h0km,mb3.8/5,*
mb1 4.1/5,mb1mx3.6/51,mbtmp3.8/5,ML5.6/1,MS3.4/17,
Ms1 3.4/17,ms1mx3.3/36,Error ellipse: s-maj=37.2km
s-min=24.9km az=142.0
ISC 23 05:30:44.8±1.7,10.˚7N±0.˚2×43.˚7W±0.˚1,h10km,n60,
σ0§90/37,mb4.0/5,MS3.4/16,Northern Mid-Atlantic
Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MDP	**Montagnes des**	**10.47**	**239**	Pn		**Pn**	**05 33 14.1**	**-1.1**
	46nm,0.3s,baz=49,slow=14,SNR=833							
MDP				Sn		Sn	05 35 01.5	-11
	1.4nm,0.3s,baz=53,slow=6.1,SNR=2.0							
MDP				LR		LR	05 36 48.6	
	comp=Z,306nm,21.0s,baz=61,slow=34							
ROSB	**Rosrio**	**13.50**	**182**	*eP*		**Pn**	**05 33 56.2**	**-0.3**
TMAB	**Tom-Au,PA,Br**	**13.70**	**199**	*eP*		**Pn**	**05 33 58.7**	**-0.6**
MCPB	**Macapa, AP**	**13.78**	**218**	*eP*		**Pn**	**05 33 58.0**	**-2.5**
NBMO	**Morrinhos-CE**	**14.36**	**165**	*eP*		**Pn**	**05 34 06.6**	**-1.8**
NBPS	**Pedro II - PI**	**15.14**	**171**	*eP*		**Pn**	**05 34 18.4**	**-0.7**
NBCL	**Cascavel-CE**	**15.75**	**160**	*eP*		**Pn**	**05 34 25.6**	**-1.3**
MALB	**Monte Alegre**	**16.32**	**221**	*eP*		**Pn**	**05 34 33.7**	**-0.6**
NBPB	**Pedra_Branca-C**	**16.62**	**166**	*eP*		**Pn**	**05 34 38.0**	**-0.1**
H05S1	**Guadeloupe/Mar**	**17.16**	**284**	T		T	05 52 16.7	
	SNR=29							
NBPA	**Parau_RN**	**17.58**	**158**	*eP*		**Pn**	**05 34 50.1**	**-0.1**
H05N1	**Guadeloupe/Mar**	**17.81**	**290**	T		T	05 53 08.2	
	SNR=17							
PRPB	**Paraupebas**	**17.83**	**200**	*eP*		**Pn**	**05 34 52.9**	**-0.4**
RCBR	**Riachuelo**	**18.13**	**154**	*eP*		**Pn**	**05 34 57.0**	**0.0**
NBMA	**Muriti-CE**	**18.58**	**165**	*eP*		**Pn**	**05 35 02.3**	**-0.2**
BOAV	**Boa Vista**	**18.65**	**245**	*eP*		**P**	**05 35 03.6**	**+0.6**
NBPV	**Pedro Velho**	**18.93**	**153**	*eP*		**P**	**05 35 06.3**	**+0.3**
ITTB	**Itaituba**	**19.18**	**219**	*eP*		**P**	**05 35 09.0**	**+0.2**
SMTB	**Santa Maria do**	**19.80**	**192**	*eP*		**P**	**05 35 15.0**	**-0.6**
NBRF	**Rio Formoso -**	**21.03**	**156**	*eP*		**P**	**05 35 29.0**	**0.0**
NPGB	**Novo Progresso**	**21.11**	**214**	*eP*		**P**	**05 35 30.2**	**+0.3**
NBAN	**Anadia - AL**	**21.51**	**160**	*eP*		**P**	**05 35 34.5**	**+0.3**
NBPN	**Ponto Novo - B**	**21.66**	**171**	*eP*		**P**	**05 35 35.9**	**+0.1**
MACA	**Manacapuru-AM**	**21.82**	**232**	*eP*		**P**	**05 35 38.2**	**+0.7**
SDBA	**SAO DESIDERIO**	**22.97**	**183**	*eP*		**P**	**05 35 49.1**	**-0.7**
SJG	**San Juan**	**22.98**	**291**	LR		LR	05 42 53.9	
	comp=Z,70nm,19.8s,baz=94,slow=32							
SNDB	**Serra Nova Dou**	**23.75**	**199**	*eP*		**P**	**05 35 58.1**	**+0.5**
CLDB	**Colider**	**24.58**	**210**	*eP*		**P**	**05 36 05.9**	**+0.6**
GDU01	**Guandu, BA**	**24.58**	**170**	*eP*		**P**	**05 36 05.7**	**+0.5**
MC01	**Montes Claros**	**27.22**	**181**	*eP*		**P**	**05 36 27.4**	**-1.7**
SAML	**Samuel**	**27.52**	**226**	*eP*		**P**	**05 36 32.8**	**+0.9**
IPMB	**Ipameri, GO**	**28.83**	**189**	*eP*		**P**	**05 36 43.9**	**+0.2**
ETMB	**Extrema**	**30.29**	**229**	*eP*		**P**	**05 36 57.0**	**+0.5**
ROSC	**El Rosal**	**30.91**	**262**	LR		LR	05 50 29.0	
	comp=Z,257nm,18.2s,baz=70,slow=38							
ALF01	**Guarapari-ES**	**31.24**	**175**	*eP*		**P**	**05 37 05.5**	**+0.8**
SIV	**San Ignacio**	**31.61**	**213**	P		**P**	**05 37 09.6**	**+1.4**
	1.4nm,0.7s,baz=59,slow=11,SNR=6.2							
CZSB	**Cruzeiro do Su**	**34.20**	**239**	*eP*		**P**	**05 37 30.7**	**-0.2**
H10N3	**ASCENSION HYDR**	**34.37**	**121**	T		T	06 13 48.8	
	baz=301,slow=75,SNR=89							
H10N2	**ASCENSION HYDR**	**34.38**	**121**	T		T	06 13 49.2	
	baz=301,slow=75,SNR=109							
H10N1	**ASCENSION HYDR**	**34.39**	**121**	T		T	06 13 50.3	
	baz=301,slow=75,SNR=104							
H10S3	**ASCENSION HYDR**	**34.83**	**123**	T		T	06 14 01.2	
	baz=299,slow=74,SNR=19							
H10S2	**ASCENSION HYDR**	**34.85**	**123**	T		T	06 14 23.9	
	baz=281,slow=74,SNR=7.9							
OTAV	**Otavalo**	**36.10**	**256**	*eP*		**P**	**05 37 49.0**	**+1.2**
LPAZ	**La Paz**	**36.11**	**222**	P		**P**	**05 37 48.8**	**+0.8**
	3.2nm,0.9s,baz=20,slow=9.6,SNR=8.8							
LPAZ				LR		LR	05 53 07.3	
	comp=Z,73nm,18.8s,baz=39,slow=37							
LPAZ	**La Paz**	**36.11**	**222**	*eP*		**P**	**05 37 48.3**	**+0.3**
CPUP	**Villa Florida**	**39.12**	**200**	LR		LR	05 54 26.1	
	comp=Z,24nm,19.6s,baz=32,slow=36							
TORD	**Torodi Ar. Bea**	**44.41**	**82**	P		P	05 38 53.6	-2.7
	2.6nm,1.0s,baz=280,slow=7.6,SNR=5.5							
ESDC	**Sonseca Array**	**45.52**	**44**	LR		LR	05 53 37.6	
	comp=Z,45nm,21.4s,baz=245,slow=30							
SCHQ	**Schefferville**	**47.70**	**342**	LR		LR	05 55 48.8	
	comp=Z,39nm,21.3s,baz=104,slow=32							
KEST	**Kesra**	**53.97**	**53**	LR		LR	06 02 44.1	
	comp=Z,33nm,18.3s,baz=332,slow=36							
SFJD	**Kangerlussuaq**	**56.44**	**357**	LR		LR	05 58 48.4	
	comp=Z,46nm,18.1s,baz=168,slow=30							
DAVOX	**Davos/Dischmat**	**57.65**	**41**	LR		LR	06 01 47.7	
	comp=Z,57nm,20.5s,baz=83,slow=32							
ULM	**Lac du Bonnet**	**58.14**	**323**	LR		LR	06 04 53.6	
	comp=Z,18nm,18.5s,baz=53,slow=35							
TXAR	**Lajitas Array**	**58.74**	**298**	P		**P**	**05 40 42.0**	**-1.5**
	0.3nm,0.7s,baz=126,slow=6.5,SNR=4.9							
AKASG	**Malin Array Be**	**70.97**	**40**	LR		LR	06 12 34.6	
	comp=Z,13nm,18.1s,baz=285,slow=36							
BRTR	**Keskin Array B**	**73.51**	**52**	LR		LR	06 15 25.7	
	comp=Z,17nm,18.0s,baz=250,slow=37							
BOSA	**Boshof**	**77.11**	**123**	LR		LR	06 08 44.8	
	comp=Z,44nm,20.1s,baz=171,slow=30							
KBZ	**Khabaz**	**80.24**	**47**	LR		LR	06 19 32.6	
	comp=Z,12nm,18.2s,baz=300,slow=37							
ILAR	**Eielson Array**	**85.98**	**335**	P		P	05 43 23.2	-2.0
	0.6nm,0.9s,baz=78,slow=3.2,SNR=4.5							
ILAR				LR		LR	06 21 06.6	
	comp=Z,19nm,18.1s,baz=66,slow=35							
AKTO	**Aktyubinsk**	**89.18**	**39**	LR		LR	06 24 01.1	
	comp=Z,29nm,18.1s,baz=298,slow=36							

MEX 23 05:32:14.5±0.9,20.˚63N×105.˚44W,h15km,MD4.1,Near
coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUVA	**Puert Vallarta**	**0.21**	**91**	*eP*		Pg	05 32 18.3	-0.9
PUVA				*eS*		Sg	05 32 21.9	-0.5
R15V		**2.00**	**136**	*eP*		Pn	05 32 44.1	-3.7
R15V				*eS*		Sn	05 33 06.7	-5.9
EZ5V		**2.07**	**123**	*eP*		Pn	05 32 46.6	-2.4
EZ5V				*eS*		Sn	05 33 10.6	-4.1
COIG	**Colima**	**2.19**	**131**	*eP*		Pn	05 32 47.2	-3.3
COIG				*eS*		Sn	05 33 12.5	-4.8
MMIG	**Aquila**	**3.06**	**139**	*eP*		Pn	05 33 01.2	-1.1
MMIG				*eS*		Sn	05 33 35.8	-2.8
ARIG	**Puente Sto Nin**	**5.34**	**115**	*eP*		Pn	05 33 31.1	-2.7
ARIG				*eS*		Sn	05 34 31.8	-3.4

*SOME **23** 05:36:26.1,39.˚10N×71.˚15E,h10km*
*IDC **23** 05:36:27.5±5.4,38.˚83N×71.˚20E,h19km±33km,mb3.8/8,*
mb1 3.9/15,mb1mx3.6/56,mbtmp3.9/15,ML3.1/5,MS3.1/3,
Ms1 3.1/3,ms1mx2.5/45,Error ellipse: s-maj=23.2km
s-min=13.4km az=149.0
*NNC **23** 05:36:27.4±1.2,38.˚90N×70.˚96E,h7km±6km,mb4.5,*
mpv4.3,Error ellipse: s-maj=10.0km s-min=6.4km az=25.0
*KRNET **23** 05:36:27.2±0.1,39.˚06N×71.˚20E,h15km,mb4.2*
ISC 23 05:36:26.6±0.9,38.˚93N±0.˚06×71.˚13E±0.˚04,h10km,n69,
σ2§63/95,mb3.9/8,44C-8D,Afghanistan-Tajikistan
border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**0.76**	**43**	⇑*iP*		**Pg**	**05 36 39.2**	**-2.0**
	baz=48							
DRK				⇑*iS*		**Sg**	**05 36 48.3**	**-2.9**
	baz=48							
BTK	**Batken**	**1.16**	**348**	⇑*iP*		**Pb**	**05 36 47.1**	**-1.6**
	baz=43							
BTK				⇑*iS*		**Sb**	**05 37 01.7**	**-2.1**
	baz=43							
OHH	**Osh**	**2.04**	**38**	⇑*iP*		**Pb**	**05 37 02.6**	**-1.2**
	baz=39							
OHH				⇑*iS*		**Sb**	**05 37 28.3**	**-1.0**
	baz=39							
SFK	**Sufi-Kurgan**	**2.13**	**59**	⇓*iP*		**Pb**	**05 37 04.4**	**-1.0**
	baz=61							
SFK				⇓*iS*		**Sb**	**05 37 31.7**	**-0.3**
	baz=61							
TRKS	**Terek-Say**	**2.60**	**0**	⇑*iP*		**Pn**	**05 37 09.9**	**+1.1**
	baz=59							
TRKS				⇑*iS*		**Sn**	**05 37 41.0**	**+0.4**
	baz=59							
TAS	**Tashkent**	**2.78**	**330**	⇑*iP*		**Pn**	**05 37 13.7**	**+2.5**
	baz=28							
TAS				⇑*iS*		**Sn**	**05 37 47.7**	**+2.9**
	baz=28							
MNAS	**Manas**	**3.71**	**16**	⇑*iP*		**Pn**	**05 37 26.1**	**+2.1**
	baz=16							
MNAS				⇑*iS*		**Sn**	**05 38 09.0**	**+1.2**
	baz=16							
AML	**Almayashu**	**3.75**	**31**	⇑*eP*		**Pn**	**05 37 26.6**	**+1.8**
	baz=31							
AML				⇑*iS*		**Sn**	**05 38 10.3**	**+1.1**
	baz=31							
AML	**Almayashu**	**3.75**	**31**	P		Pn	**05 37 27.7**	**+2.9**
	SNR=79							
ARLS	**Aral**	**3.81**	**39**	⇑*eP*		**Pn**	**05 37 27.4**	**+1.9**
	baz=40							
ARLS				⇑*iS*		**Sn**	**05 38 11.2**	**+0.8**
	baz=40							
DZA	**Taraz**	**3.96**	**2**	Pg		Pn	**05 37 32.0**	**+4.5**
	518nm,0.3s							
DZA				Lg		Lg	05 38 20.4	
	505nm,0.3s							
MRKS	**Merke**	**4.13**	**22**	*eP*		**Pg**	**05 37 42.7**	**-3.0**
	62nm,

7.3nm,0.5s
MDOK Lg Lg 05 39 11.7
13nm,0.5s
KOTS Kotyrbulak 6.24 44 P **Pn 05 38 00.8 +1.9**
9.0nm,0.7s
KUU Kurty 6.32 37 Pg **Pn 05 38 02.4 +2.6**
15nm,0.4s
KUU Lg Lg 05 39 14.4
13nm,0.7s
KTBS Karatobe 6.35 39 P **Pn 05 38 03.1 +2.9**
5.8nm,0.6s
PDGK Podgornoye 7.69 52 P **Pn 05 38 20.7 +2.0**
1.4nm,0.5s
PDGK Podgornoye 7.69 52 ⇑Pn **Pn 05 38 21.4 +2.7**
3.2nm,0.8s
PDGK ⇑Lg Lg 05 40 32.5
25nm,1.0s
OTUK Ortayu 9.35 5 ⇑Pn **Pn 05 38 42.7 +1.2**
4.8nm,0.8s
OTUK ⇑Lg Lg 05 41 24.7
42nm,1.1s
MAKZ Makanchi 11.19 42 ⇓Pn **Pn 05 39 09.5 +2.9**
3.0nm,1.1s
MK31 Makanchi Array 11.34 43 Pn **Pn 05 39 10.7 +2.0**
1.4nm,0.6s,baz=223,slow=12,SNR=7.7
MKAR Makanchi Array 11.34 43 Pn **Pn 05 39 11.3 +2.6**
0.1nm,0.3s,baz=241,slow=12,SNR=7.1
KURBB Kurchatov Arra 12.81 22 Pn **Pn 05 39 27.7 -1.0**
0.1nm,0.3s,baz=212,slow=13,SNR=7.2
AB31 Akbulak array 13.07 326 Pn **Pn 05 39 30.7 -1.6**
4.9nm,0.6s,baz=137,slow=12,SNR=115
AB31 ⇑Sn **Sn 05 41 57.4 -0.2**
4.1nm,0.6s,baz=135,slow=24,SNR=6.0
BVAR Borovoye Array 14.11 358 Pn **Pn 05 39 45.3 -1.1**
0.5nm,0.3s,baz=174,slow=15,SNR=6.8
AKTO Aktyubinsk 14.79 325 Pn **Pn 05 39 54.4 -1.3**
1.3nm,0.3s,baz=120,slow=12,SNR=13
AKTO LR LR 05 46 08.7
comp=Z,88nm,19.6s,baz=207,slow=39
AKTO Aktyubinsk 14.79 325 ⇑Pn **Pn 05 39 54.2 -1.5**
14nm,0.8s
AKTO ⇓Sn **Sn 05 42 41.0 +1.6**
6.7nm,0.8s
ZALV Zalesovo Beam 17.69 27 Pn **Pn 05 40 31.7 -1.2**
0.8nm,0.3s,baz=215,slow=10,SNR=9.9
ARU Arti 19.39 339 P **Pn 05 40 54.4 +0.8**
0.0nm,0.3s,baz=159,slow=8.9,SNR=4.5
FINES FINESS Array B 35.55 324 P **P 05 43 23.8 +0.2**
2.8nm,0.9s,baz=124,slow=9.1,SNR=6.6
ARCES ARCESS Array B 38.95 336 P **P 05 43 52.2 -0.2**
0.7nm,0.5s,baz=118,slow=6.7,SNR=9.5
ARCES LR LR 06 00 46.9
comp=Z,57nm,20.2s,baz=155,slow=37
HFS Hagfors 41.25 320 P **P 05 44 11.6 +0.1**
2.5nm,0.4s,baz=99,slow=9.6,SNR=13
NOA NORSAR Array B 42.53 321 P **P 05 44 21.7 -0.3**
0.3nm,0.5s,baz=92,slow=8.0,SNR=3.7
TORD Torodi Ar. Bea 65.90 268 P **P 05 47 13.0 +0.1**
1.0nm,0.6s,baz=48,slow=5.5,SNR=15
INK Inuvik 71.50 9 P **P 05 47 47.4 +0.4**
0.8nm,0.6s,baz=326,slow=3.9,SNR=4.9
ILAR Eielson Array 72.42 16 P **P 05 47 52.0 -0.6**
0.3nm,0.3s,baz=320,slow=5.3,SNR=4.2
WRA Warramunga Arr 83.19 122 P **P 05 48 52.5 -0.7**
0.6nm,0.8s,baz=324,slow=4.1,SNR=2.9

IDC 23 05:54:39.1±1.3, 5.92°S×151.42°E, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.6/35, mbtmp3.9/4, Error ellipse: s-maj=73.1km s-min=26.6km az=134.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.68**	**228**	P		P	05 59 31.7	0.0
	1.8nm,0.7s,baz=55,slow=10,SNR=8.2							
ASAR	**Alice Springs**	**24.41**	**222**	P		P	05 59 59.6	+0.1
	3.6nm,0.9s,baz=54,slow=9.7,SNR=31							
FITZ	**Fitzroy Crossi**	**27.92**	**242**	P		P	06 00 31.4	+0.1
	1.8nm,0.6s,baz=60,slow=8.0,SNR=9.4							
ILAR	**Eielson Array**	**83.71**	**22**	P		P	06 07 09.2	-0.4
	0.3nm,0.7s,baz=256,slow=3.6,SNR=4.8							
TORD	**Torodi Ar. Bea**	**140.32**	**286**	PKPbc		PKPbc	06 14 30.8	-0.3
	0.9nm,0.8s,baz=59,slow=3.4,SNR=5.6							
BDFB	**Brasilia**	**151.20**	**138**	PKPbc		PKPbc	06 14 35.6	-0.1
	0.7nm,0.3s,baz=229,slow=5.4,SNR=3.3							

MEX 23 06:15:01.3±1.0, 14.69N×93.76W, h17km±272km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCIG		**1.13**	**27**	*e*P		Pn	06 15 18.8	-3.6

MEX 23 06:16:47.1±0.9, 15.67N×93.76W, h76km±11km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCIG		**0.52**	**87**	*e*P		Pn	06 16 58.9	-1.8
PCIG				*e*S		Sn	06 17 09.2	-1.5
TGIG		**1.26**	**29**	*e*P		Pn	06 17 07.8	-1.5
TGIG				*e*S		Sn	06 17 23.9	-1.9
CMIG	**Matias Romero**	**1.77**	**323**	*e*P		Pn	06 17 14.2	-1.7
CMIG				*e*S		Sn	06 17 36.6	-1.2

NNC 23 06:30:15.4±1.1, 53.39N×90.35E, h0km, mb3.6, mpv3.3, 8C-2D, Error ellipse: s-maj=8.7km s-min=5.0km az=57.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**3.34**	**282**	⇑Pn		Pn	06 31 09.1	+0.3
	2.9nm,0.8s							
ZAA0				⇑Sn		Sn	06 31 50.1	+1.0
	0.8nm,0.3s							
ZAA0				⇑Lg		Lg	06 32 01.7	
	18nm,0.9s							
KURBB	**Kurchatov Arra**	**7.80**	**254**	⇑Pn		Pn	06 32 08.8	-1.3
	3.4nm,0.6s							
KURBB				⇑Sn		Sn	06 33 40.3	+1.2
	30nm,0.8s							
KURBB				⇑Lg		Lg	06 34 23.7	
	64nm,0.9s							
MK31	**Makanchi Array**	**8.39**	**221**	Pn		Pn	06 32 18.4	+0.2
	0.4nm,0.3s,baz=32,slow=12,SNR=15							
MK31				Sn		Sn	06 33 55.2	+1.7
	3.1nm,0.8s,baz=44,slow=22,SNR=3.5							
MK31				⇓Lg		Lg	06 34 42.4	
	10nm,1.0s,baz=53,slow=35,SNR=5.7							
MAKZ	**Makanchi**	**8.50**	**223**	⇑Pn		Pn	06 32 19.9	+0.2
	1.0nm,0.8s							
MAKZ				⇓Sn		Sn	06 33 57.7	+1.4
	3.1nm,0.9s							
MAKZ				⇑Lg		Lg	06 34 45.9	
	14nm,1.2s							

IDC 23 06:40:50.4±3.2, 30.20°S×71.59°W, h0km, mb3.7/1, mb1 3.7/3, mb1mx3.5/21, mbtmp3.6/3, ML3.6/2, MS2.8/2, Ms1 2.8/2, ms1mx2.5/19, Error ellipse: s-maj=142.7km s-min=37.9km az=95.0

GUC 23 06:40:51.1±0.7, 30.11°S×71.84°W, h32km±4km, ML3.6

ISC 23 06:40:50.2±2.6, 30.13°S±0.04°×71.78°W±0.09, h2km±17km, n19, σ1°s73/21, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO05	**La Serena**	**0.52**	**66**	*i*P		**Pb**	**06 41 02.1**	**+0.2**
CO05				*i*S		**Sb**	**06 41 09.8**	**-0.1**
CO05				IAML			06 41 10.4	
	comp=E,10μm,0.3s							
CO06	**Fray Jorge**	**0.56**	**167**	⇓*i*P		**Pb**	**06 41 02.5**	**-0.2**
CO06				*i*S		**Sb**	**06 41 10.9**	**-0.3**
CO06				IAML			06 41 11.8	
	comp=E,3μm,0.2s							
GO04	**Tololo Observa**	**0.85**	**93**	⇑*i*P		**Pb**	**06 41 08.1**	**+0.2**
GO04				*i*S		**Sb**	**06 41 20.4**	**+0.6**
CO03	**El Pedregal**	**1.18**	**127**	*e*P		**Pb**	**06 41 13.2**	**-0.2**
CO03				*i*S		**Sb**	**06 41 29.0**	**-0.2**
CO03				IAML			06 41 30.8	
	comp=E,2μm,0.2s							
LCO	**Las Campanas**	**1.46**	**41**	⇑*i*P		**Pn**	**06 41 17.1**	**-0.7**
LCO				*i*S		**Sg**	**06 41 36.2**	**-0.9**
AC04	**Llanos de Chal**	**2.02**	**18**	⇑*i*P		**Pn**	**06 41 24.2**	**-1.0**
AC04				*i*S		**Sn**	**06 41 49.4**	**-1.6**
AC04				IAML			06 42 02.0	
	comp=E,383nm,0.6s							
VA06	**Catapilco**	**2.46**	**170**	*e*P		**Pn**	**06 41 31.3**	**0.0**
VA06				IAML			06 42 18.0	
	comp=N,384nm,0.4s							
GO03	**Copiap**	**2.87**	**29**	⇓*i*P		**Pn**	**06 41 36.9**	**-0.1**
GO03				IAML			06 42 21.9	
	comp=E,230nm,0.4s							
ROCH	**El Roble**	**2.91**	**167**	IAML			06 42 26.0	
	comp=N,219nm,0.5s							
MT05	**Renca**	**3.37**	**165**	*e*P		**Pn**	**06 41 44.0**	**+0.1**
MT05				*i*S		**Sn**	**06 42 24.4**	**-0.2**
MT05				IAML			06 42 40.4	
	comp=E,282nm,0.4s							
MT01	**Popeta**	**3.75**	**173**	⇓*i*P		**Pn**	**06 41 49.0**	**-0.1**
H03N1	**Juan Fernandez**	**6.91**	**240**	T		T	06 49 57.5	
	baz=66,slow=71,SNR=1193							
H03N2	**Juan Fernandez**	**6.92**	**240**	T		T	06 49 58.1	
	baz=66,slow=71,SNR=891							
H03N3	**Juan Fernandez**	**6.92**	**240**	T		T	06 49 58.0	
	baz=66,slow=71,SNR=1220							
PLCA	**Paso Flores**	**10.63**	**175**	Pn		**Pn**	**06 43 23.4**	**-0.1**
	comp=E,0.1nm,0.3s,baz=0.0,slow=20,SNR=8.4							
PLCA				LR		LR	06 46 53.7	
	comp=E,11nm,18.9s,baz=324,slow=34							
LPAZ	**La Paz**	**14.18**	**14**	Pn		**Pn**	**06 44 14.5**	**+1.9**
	comp=E,0.1nm,0.3s,baz=197,slow=9.8,SNR=8.0							
ROSC	**El Rosal**	**34.85**	**356**	LR		LR	07 02 47.8	
	comp=E,77nm,19.7s,baz=74,slow=38							
TORD	**Torodi Ar. Bea**	**82.70**	**70**	P		**P**	**06 53 15.6**	**-0.2**
	comp=E,0.4nm,0.7s,baz=258,slow=4.1,SNR=2.1							
ZALV	**Zalesovo Beam**	**150.79**	**29**	PKPbc		**PKPbc**	**07 00 43.6**	**-0.1**
	comp=E,1.2nm,0.7s,baz=286,slow=5.8,SNR=1.9							

IDC 23 06:50:55.8±2.1, 5.75°S×146.75°E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/30, mbtmp3.3/4, ML3.3/1, Error ellipse: s-maj=135.8km s-min=30.2km az=126.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.57**	**219**	P		Pn	06 55 14.8	+0.2
	0.1nm,0.3s,baz=41,slow=11,SNR=2.1							
ASAR	**Alice Springs**	**21.69**	**213**	P		P	06 55 48.5	+0.1
	0.3nm,0.8s,baz=51,slow=10.0,SNR=5.4							
FITZ	**Fitzroy Crossi**	**23.99**	**237**	P		P	06 56 11.8	-0.5
	1.7nm,0.8s,baz=53,slow=9.2,SNR=6.5							
ILAR	**Eielson Array**	**85.35**	**23**	P		P	07 03 35.0	+0.4
	0.3nm,0.7s,baz=247,slow=4.6,SNR=2.5							
TORD	**Torodi Ar. Bea**	**144.78**	**285**	PKP		PKPbc	07 10 34.9	+0.1
	0.5nm,0.6s,baz=66,slow=3.3,SNR=3.8							

IDC 23 06:54:46.7±1.9, 22.48°S×179.69W, h545km±22km, mb3.4/9, mb1 3.7/11, mb1mx3.4/31, mbtmp4.4/11, Error ellipse: s-maj=24.2km s-min=13.9km az=157.0

ISC 23 06:54:48.5±0.7, 22.6°S±0.1°×179.6°W±0.1°, h579km, n23, σ1°s90/22, mb3.9/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**11.36**	**42**	P		**P**	**06 57 17.6**	**-3.3**
	2.2nm,0.3s,baz=93,slow=21,SNR=4.4							
MARNC	**Mare, Loyalty**	**11.54**	**273**	P		**P**	**06 57 21.9**	**-0.6**
PINNC	**Pines Island,**	**11.98**	**267**	P		**P**	06 57 39.7	+13
LIFNC	**LIFOU**	**12.38**	**276**	P		**P**	**06 57 29.3**	**-1.7**
DZM	**Mont Dzumac**	**12.94**	**270**	P		**P**	**06 57 35.1**	**-1.8**
	0.1nm,0.3s,baz=103,slow=18,SNR=2.3							
DZM	**Mont Dzumac**	**12.94**	**270**	P		**P**	**06 57 39.9**	**+3.0**
URZ	**Urewera**	**15.89**	**190**	P		**P**	**06 58 02.3**	**-3.3**
	0.9nm,0.3s,baz=288,slow=3.2,SNR=8.2							
CTA	**Charters Tower**	**31.88**	**268**	P		**P**	**07 00 27.6**	**+0.1**
	14nm,0.6s,baz=96,slow=11,SNR=21							
STKA	**Stephens Creek**	**35.59**	**246**	P		**P**	**07 00 58.6**	**+0.1**
	7.6nm,0.6s,baz=95,slow=11,SNR=16							
ASAR	**Alice Springs**	**42.65**	**259**	P		**P**	**07 01 54.8**	**-0.5**
	7.8nm,0.7s,baz=100,slow=7.4,SNR=75							
WRA	**Warramunga Arr**	**42.90**	**265**	P		**P**	**07 01 56.3**	**-0.9**
	1.6nm,0.3s,baz=104,slow=8.1,SNR=25							
WRA				ScP		**ScP**	**07 06 35.2**	**+4.0**
	1.0nm,0.9s,baz=121,slow=4.3,SNR=5.9							
FITZ	**Fitzroy Crossi**	**51.33**	**264**	P		**P**	**07 03 00.5**	**0.0**
	2.1nm,0.5s,baz=74,slow=5.2,SNR=18							
VNDA	**Vanda**	**55.73**	**185**	P		**P**	**07 03 32.1**	**+1.6**
	0.7nm,0.5s,baz=359,slow=6.7,SNR=8.7							
NVAR	**Mina Array Bea**	**83.53**	**44**	P		**P**	**07 06 18.4**	**+1.7**
	1.3nm,0.9s,baz=224,slow=7.9,SNR=7.5							
SNAA	**Sanae**	**85.98**	**179**	P		**P**	**07 06 26.7**	**-1.1**
VNA3	**Neumayer Olymp**	**86.17**	**177**	P		**P**	**07 06 28.1**	**-0.6**
VNA2	**Neumayer--Watz**	**86.60**	**177**	P		**P**	**07 06 30.2**	**-0.5**
	baz=180,slow=3.5							
TXAR	**Lajitas Array**	**89.41**	**58**	P		**P**	**07 06 46.9**	**+2.3**
	1.0nm,0.9s,baz=205,slow=5.5,SNR=11							
PDAR	**Pinedale Array**	**91.47**	**44**	P		**P**	**07 06 55.3**	**+1.3**
	0.6nm,0.9s,baz=197,slow=4.6,SNR=5.0							
AKASG	**Malin Array Be**	**144.06**	**329**	PKP		PKPbc	07 13 17.9	-0.3
	1.1nm,0.5s,baz=39,slow=4.4,SNR=5.0							
BRTR	**Keskin Array B**	**147.06**	**309**	PKPbc		**PKPbc**	**07 13 27.6**	**+0.2**
	0.8nm,0.7s,baz=126,slow=5.4,SNR=5.5							
CLL	**Collm**	**149.69**	**344**	*i* PKPbc		**PKiKP**	**07 13 34.1**	**+0.2**
	comp=Z,6.0nm,0.7s							
TORD	**Torodi Ar. Bea**	**170.55**	**188**	PKPab		**PKPab**	**07 15 12.6**	**0.0**
	comp=Z,0.6nm,0.8s,baz=181,slow=2.4,SNR=3.5							

NOU 23 07:07:25.6, 38.46°S×175.69E, h205km, ML4.0/8, North Island, New Zealand

WEL 23 07:07:32.0±0.6, 39.3°S±3.1°×176.6°E±1°, h145km±6km, M3.3/78, ML2.9/32, MLv3.3/78, Error ellipse: s-maj=0.0km s-min=0.0km az=134.9, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUTZ	**Kaahu Road**	**0.11**	**20**	P		Pn	07 07 52.6	+1.0
WATZ	**Wairara**	**0.12**	**196**	P		Pn	07 07 52.6	+1.0
WHTZ	**Whakaora**	**0.16**	**116**	P		Pn	07 07 52.7	+1.1
RATZ	**Rangitukua**	**0.27**	**180**	P		Pn	07 07 52.6	+0.7
WPRZ	**Whakapapatarin**	**0.31**	**76**	P		Pn	07 07 52.8	+0.8
TLZ	**Tolley Road**	**0.32**	**325**	P		Pn	07 07 53.0	+0.9
GRRZ	**Galatos Road**	**0.36**	**47**	P		Pn	07 07 53.1	+0.9
KATZ	**Kakaramea**	**0.38**	**189**	P		Pn	07 07 53.1	+0.7
HATZ	**Hinemaiaia**	**0.39**	**140**	P		Pn	07 07 52.9	+0.6
RITZ	**Rihia Road**	**0.39**	**170**	P		Pn	07 07 53.4	+1.1
ALRZ	**Allen Road**	**0.45**	**86**	P		Pn	07 07 53.1	+0.5
HRRZ	**Handcock Road**	**0.45**	**63**	P		Pn	07 07 53.4	+0.8
HSRZ	**Hossack Road**	**0.47**	**53**	P		Pn	07 07 53.5	+0.9
PRRZ	**Plateau Road**	**0.49**	**79**	P		Pn	07 07 53.2	+0.5
NTVZ	**North Tongarir**	**0.51**	**189**	P		Pn	07 07 54.0	+1.0
TMVZ	**Te Maari**	**0.52**	**186**	P		Pn	07 07 53.8	+0.8
UTU	**Utuhina**	**0.53**	**38**	P		Pn	07 07 54.0	+1.0
WTVZ	**West Tongariro**	**0.54**	**195**	P		Pn	07 07 53.9	+0.8
ETVZ	**East Tongariro**	**0.54**	**185**	P		Pn	07 07 54.1	+0.9
TWVZ	**Taurewa**	**0.54**	**209**	P		Pn	07 07 53.8	+0.7
NNVZ	**North Ngauruho**	**0.55**	**193**	P		Pn	07 07 54.0	+0.8
MRHZ	**Matea Rd**	**0.56**	**116**	P		Pn	07 07 53.6	+0.5
HLRZ	**Highlands Stat**	**0.57**	**53**	P		Pn	07 07 54.5	+1.3
OTVZ	**Oturere**	**0.57**	**188**	P		Pn	07 07 54.0	+0.6
NGRZ	**Ngongotaha**	**0.59**	**34**	P		Pn	07 07 54.1	+0.8
NGZ	**Ngauruhoe**	**0.59**	**193**	P		Pn	07 07 54.2	+0.7
SNVZ	**South Ngauruho**	**0.60**	**190**	P		Pn	07 07 54.3	+0.7
RRRZ	**Republican Roa**	**0.64**	**66**	P		Pn	07 07 54.1	+0.5
OMRZ	**Omania**	**0.68**	**44**	P		Pn	07 07 54.5	+0.6
TARZ	**Mount Tarawera**	**0.68**	**58**	P		Pn	07 07 54.7	+0.8
TUVZ	**Tukino**	**0.68**	**188**	P		Pn	07 07 54.8	+0.8
FWVZ	**Far West T-bar**	**0.68**	**195**	P		Pn	07 07 54.6	+0.4
KARZ	**Kaharoa**	**0.68**	**33**	P		Pn	07 07 54.5	+0.6
WHVZ	**Whangaehu Hut**	**0.70**	**192**	P		Pn	07 07 54.7	+0.5
MKRZ	**Makatiti**	**0.71**	**50**	P		Pn	07 07 55.3	+1.1
HIZ	**Hauiti**	**0.72**	**276**	P		Pn	07 07 54.8	+0.7
TRVZ	**Turoa**	**0.72**	**194**	P		Pn	07 07 55.0	+0.6
WNVZ	**Wahianoa**	**0.74**	**191**	P		Pn	07 07 55.1	+0.7
KMRZ	**Kaimai**	**0.76**	**10**	P		Pn	07 07 55.1	+0.6
PKVZ	**Pokaka**	**0.77**	**206**	P		Pn	07 07 55.1	+0.6
MUGZ	**Murupara**	**0.79**	**82**	P		Pn	07 07 54.7	+0.1
BKZ	**Black Stump Fm**	**0.80**	**136**	P		Pn	07 07 55.3	+0.6
BKZ				S		Sn	07 08 12.6	+0.5
MOVZ	**Moawhango**	**0.81**	**181**	P		Pn	07 07 55.2	+0.4
MOVZ				S		Sn	07 08 12.6	+0.2
MTVZ	**Mangateitei**	**0.82**	**197**	P		Pn	07 07 55.5	+0.6
MTHZ	**Maungataniwha**	**0.87**	**107**	P		Pn	07 07 55.9	+0.6
MTHZ				S		Sn	07 08 13.8	+0.8
TOZ	**Tahuroa Road**	**0.89**	**346**	P		Pn	07 07 56.1	+0.8
BHHZ	**Black Hill Sta**	**0.92**	**166**	P		Pn	07 07 56.0	+0.3
BHHZ				S		Sn	07 08 13.7	-0.2
MARZ	**Manawahe**	**0.93**	**50**	P		Pn	07 07 56.3	+0.5
RTZ	**Ruatahuna**	**0.94**	**92**	P		Pn	07 07 56.3	+0.3
RTZ				S		Sn	07 08 14.9	+0.8
NMHZ	**Naumai**	**0.95**	**122**	P		Pn	07 07 57.3	+1.3
VRZ	**Vera Road**	**0.95**	**236**	P		Pn	07 07 56.4	+0.5
OPRZ	**Ohinepanea**	**0.97**	**40**	P		Pn	07 07 56.3	+0.3
KWHZ	**Kaweka Forest**	**0.97**	**149**	P		Pn	07 07 56.8	+0.7
RAHZ	**Arahi**	**1.07**	**108**	P		Pn	07 07 57.9	+0.9
URZ	**Urewera**	**1.10**	**73**	P		Pn	07 07 57.0	-0.2
MCHZ	**McNeill Hill**	**1.11**	**140**	P		Pn	07 07 58.5	+1.2
KRHZ	**Kereru**	**1.15**	**156**	P		Pn	07 07 58.1	+0.5
ARHZ	**Aropaoanui**	**1.16**	**125**	P		Pn	07 07 58.8	+1.0
MHEZ	**Mangahewa**	**1.23**	**247**	P		Pn	07 07 58.8	+0.4
WHHZ	**Waihua**	**1.24**	**113**	P		Pn	07 07 59.2	+0.8
SNGZ	**Shannon Statio**	**1.24**	**99**	P		Pn	07 07 59.2	+0.7
RAGZ	**Rawiri**	**1.29**	**86**	P		Pn	07 07 59.3	+0.2
PNHZ	**Pukenui**	**1.36**	**166**	P		Pn	07 07 59.8	+0.1
DREZ	**Durham Road**	**1.36**	**244**	P		Pn	07 08 00.3	+0.6
LREZ	**Lake Rotokare**	**1.37**	**231**	P		Pn	07 08 00.5	+0.7
MWZ	**Matawai**	**1.40**	**80**	P		Pn	07 08 00.1	0.0
PREZ	**Palmer Road**	**1.46**	**239**	P		Pn	07 08 01.3	+0.5
CKHZ	**Cape Kidnapper**	**1.47**	**137**	P		Pn	07 08 01.5	+0.7
TSZ	**Takapari Road**	**1.47**	**174**	P		Pn	07 08 00.8	0.0
KAHZ	**Kahuranaki**	**1.47**	**145**	P		Pn	07 08 01.5	+0.6
NEZ	**North Egmont**	**1.47**	**242**	P		Pn	07 08 01.4	+0.5
PKE	**Pukeiti**	**1.52**	**246**	P		Pn	07 08 01.5	+0.2
KHEZ	**Kahui Hut**	**1.54**	**242**	P		Pn	07 08 01.9	+0.2
KNZ	**Kokohu**	**1.54**	**107**	P		Pn	07 08 01.9	+0.3
WPHZ	**Waipukurau**	**1.56**	**161**	P		Pn	07 08 01.8	+0.1
RIGZ	**Rimuhaa**	**1.56**	**95**	P		Pn	07 08 02.1	+0.3
MKAZ	**Moumakai**	**1.56**	**342**	P		Pn	07 08 02.1	+0.2
RUGZ	**Raukumara Rang**	**1.62**	**68**	P		Pn	07 08 01.6	-1.1
NBEZ	**Newall Road No**	**1.63**	**245**	P		Pn	07 08 02.6	0.0
TKGZ	**Te Karaka**	**1.64**	**85**	P		Pn	07 08 02.9	+0.3
OHWZ	**Ohakea**	**1.65**	**192**	P		Pn	07 08 02.9	+0.2
PXZ	**Pawanui**	**1.66**	**150**	P		Pn	07 08 03.0	0.0
PRGZ	**Paritu Road**	**1.68**	**102**	P		Pn	07 08 03.3	+0.1
NMEZ	**Namu Road**	**1.69**	**240**	P		Pn	07 08 03.2	0.0
DVHZ	**Dannevirke**	**1.73**	**170**	P		Pn	07 08 03.1	-0.6
MHGZ	**Mahia Peninsul**	**1.75**	**109**	P		Pn	07 08 04.4	+0.4
ETAZ	**East Tamaki Re**	**1.77**	**337**	P		Pn	07 08 04.2	0.0
AWAZ	**Awhitu Peninsu**	**1.77**	**329**	P		Pn	07 08 04.3	+0.1
TWGZ	**Tauwhareparae**	**1.78**	**77**	P		Pn	07 08 04.4	+0.1
HAZ	**Te Kaha**	**1.79**	**63**	P		Pn	07 08 03.4	-1.0
POWZ	**Post Office Ro**	**1.79**	**180**	P		Pn	07 08 03.7	-0.7
KUZ	**Kuaotunu**	**1.85**	**359**	P		Pn	07 08 04.9	-0.1
WIAZ	**Waiheke Island**	**1.87**	**344**	P		Pn	07 08 04.2	-1.1
CNGZ	**Carnagh Statio**	**1.91**	**87**	P		Pn	07 08 06.0	+0.2
WTAZ	**Waiatarua**	**1.91**	**330**	P		Pn	07 08 06.1	+0.3
ANWZ	**Angora Road**	**1.94**	**164**	P		Pn	07 08 05.7	-0.3
PKGZ	**Pakihiroa**	**1.95**	**69**	P		Pn	07 08 05.8	-0.4
MBAZ	**Motutapu North**	**1.95**	**339**	P		Pn	07 08 06.1	-0.1
PRWZ	**Pori Road**	**1.96**	**176**	P		Pn	07 08 05.8	-0.6
PUZ	**Puketiti**	**2.02**	**76**	P		Pn	07 08 06.3	-0.8
RVAZ	**Riverhead Bore**	**2.05**	**332**	P		Pn	07 08 07.7	+0.2
MRZ	**Mangatainoka R**	**2.07**	**184**	P		Pn	07 08 06.3	-1.2
BFZ	**Birch Farm**	**2.12**	**170**	P		Pn	07 08 07.1	-1.1
TIWZ	**Tintock**	**2.18**	**178**	P		Pn	07 08 07.9	-1.0
WMGZ	**Waiomatatini S**	**2.22**	**70**	P		Pn	07 08 08.6	-0.8
MXZ	**Matakaoa Point**	**2.25**	**63**	P		Pn	07 08 09.2	-0.5
OGWZ	**Otaki Gorge**	**2.27**	**192**	P		Pn	07 08 08.6	-1.4
HOWZ	**Holdsworth Sta**	**2.31**	**185**	P		Pn	07 08 08.8	-1.7
CPWZ	**Castlepoint**	**2.33**	**172**	P		Pn	07 08 10.0	-0.8
GRZ	**Great Barrier**	**2.35**	**354**	P		Pn	07 08 09.3	-0.3
KIW	**Kapiti Island**	**2.36**	**196**	P		Pn	07 08 09.2	-1.9
TMWZ	**Te Maipa**	**2.51**	**178**	P		Pn	07 08 11.3	-1.7
CAW	**Cannon Point**	**2.57**	**192**	P		Pn	07 08 11.7	-2.0
MTW	**Mount Morrison**	**2.57**	**185**	P		Pn	07 08 11.6	-2.1
DUWZ	**D'Urville Isla**	**2.63**	**212**	P		Pn	07 08 12.2	-2.2
WEL	**Wellington**	**2.79**	**196**	P		Pn	07 08 14.2	-2.3
PAWZ	**Paruwai Farm**	**2.80**	**185**	P		Pn	07 08 14.1	-2.5
**

FORT	**Forrest**	**31.12 213**	P	**P**	**07 21 16.9**	**-0.9**
MORW	**Morawa**	**37.84 228**	P	**P**	**07 22 14.7**	**-1.1**
MORW			IAmb	IAmb	07 22 37.6	
	comp=Z,8.5nm,1.1s					
VNDA	**Vanda**	**72.57 177**	P	**P**	**07 26 24.1**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=333,slow=7.7,SNR=12					
VNDA	**Vanda**	**72.57 177**	IAmb	IAmb	07 26 43.5	
	comp=Z,4.8nm,1.4s					
ILAR	**Eielson Array**	**84.75 23**	P	**P**	**07 27 31.0**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=254,slow=4.0,SNR=4.5					
TORD	**Torodi Ar. Bea**	**145.20 285**	PKP	**PKPbc**	**07 34 32.8**	**-2.6**
	comp=Z,0.2nm,0.4s,baz=65,slow=4.6,SNR=4.9					

TAP ***23*** *07:34:12.5,24.91N×122.45E,h15km,ML2.5,C*
JMA ***23*** *07:34:13.6±0.2,24.84N×122.49E,h32km,M2.1*
ISC 23 07:34:12.5±1.2**,24.89N**±0.04×**122.49E**±0.03**,h23**km±14km**,**
n26,σ0**58/46,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.47**	**284**	P	**Pb**	**07 34 21.8**	**-0.4**
	baz=282						
TWB1				S	**Sb**	**07 34 27.5**	**-1.2**
	baz=282						
NTC	**Toucheng**	**0.60**	**266**	*i* P	**Pb**	**07 34 24.1**	**-0.4**
	baz=276						
NTC				S	**Sb**	**07 34 33.4**	**+0.9**
	baz=276						
JYNG	**Yonagunijimaku**	**0.60**	**137**	P	**Pb**	**07 34 24.9**	**+0.4**
JYNG				S	**Sb**	**07 34 32.3**	**-0.3**
TIPB	**Shuangxi**	**0.61**	**278**	*i* P	**Pb**	**07 34 24.5**	**0.0**
	baz=276						
TIPB				*i* S	**Sb**	**07 34 32.6**	**-0.2**
	baz=276						
YOJ	**Yonaguni jima**	**0.64**	**132**	P	**Pb**	**07 34 25.4**	**+0.3**
YOJ				*e*S	**Sb**	**07 34 34.1**	**+0.5**
YOJ	**Yonaguni jima**	**0.64**	**132**	P	**Pb**	**07 34 25.5**	**+0.5**
	baz=131						
TWC	**Suao**	**0.65**	**244**	*i* P	**Pb**	**07 34 24.4**	**-0.8**
	baz=240						
TWC				*i* S	**Sb**	**07 34 33.3**	**-0.5**
	baz=240						
NWF	**Wu-fen Shan**	**0.67**	**286**	*i* P	**Pb**	**07 34 25.9**	**+0.3**
	baz=284						
NWF				*i* S	**Sb**	**07 34 34.9**	**+0.4**
	baz=284						
WFSB	**Wu-fen Shan**	**0.67**	**286**	P	**Pb**	**07 34 25.9**	**+0.3**
	baz=284						
WFSB				S	**Sb**	**07 34 34.6**	**+0.2**
	baz=284						
TNOU	**National Taiwa**	**0.70**	**292**	*e*S	**Sb**	**07 34 35.2**	**-0.1**
	baz=291						
TWE	**Neicheng**	**0.77**	**257**	*i* P	**Pb**	**07 34 27.0**	**-0.3**
	baz=246						
TWE				*i* S	**Sb**	**07 34 37.7**	**+0.5**
	baz=246						
EWUT	**Wuta**	**0.79**	**236**	P	**Pb**	**07 34 27.4**	**-0.2**
	baz=232						
EWUT				*e*S	**Sb**	**07 34 37.6**	**-0.1**
	baz=232						
ENA	**Nanau**	**0.82**	**236**	P	**Pb**	**07 34 28.1**	**-0.1**
	baz=232						
ENA				S	**Sb**	**07 34 38.6**	**-0.3**
	baz=232						
PCYT	**Pengchaiyu**	**0.82**	**333**	*i* P	**Pb**	**07 34 28.6**	**+0.4**
	baz=327						
ENTT	**Nioudou**	**0.88**	**253**	P	**Pb**	**07 34 28.2**	**-0.9**
	baz=236						
ENTT				S	**Sn**	**07 34 41.5**	**-0.1**
	baz=236						
YHNB	**Yeheng**	**1.04**	**258**	P	**Pb**	**07 34 32.2**	**+0.4**
	baz=271						
YHNB				S	**Sn**	**07 34 45.5**	**-0.1**
	baz=271						
NSK	**Sanguang**	**1.05**	**258**	P	**Pb**	**07 34 32.3**	**+0.2**
	baz=271						
NSK				S	**Sn**	**07 34 45.6**	**-0.3**
	baz=271						
NACB	**Ninganchiao**	**1.08**	**229**	P	**Pn**	**07 34 32.5**	**+0.2**
	baz=237						
NACB				S	**Sn**	**07 34 46.5**	**-0.2**
	baz=237						
NNSB	**Datong**	**1.11**	**246**	P	**Pb**	**07 34 33.2**	**+0.1**
	baz=243						
NNSB				S	**Sb**	**07 34 46.8**	**-0.4**
	baz=243						
NNS	**Nan Shan**	**1.11**	**246**	P	**Pb**	**07 34 33.2**	**0.0**
	baz=243						
NNS				S	**Sn**	**07 34 47.4**	**-0.1**
	baz=243						
FUSS	**Fushou**	**1.30**	**241**	*i* P	**Pb**	**07 34 37.1**	**+0.6**
	baz=238						
FUSS				S	**Sb**	**07 34 53.6**	**+0.7**
	baz=238						
WHF	**Hehuan Shan**	**1.34**	**237**	*i* P	**Pb**	**07 34 37.6**	**+0.3**
	baz=234						
WHF				S	**Sb**	**07 34 54.9**	**+0.7**
	baz=234						
LIOB	**Emei**	**1.36**	**260**	*e*P	**Pb**	**07 34 38.4**	**+1.0**
	baz=258						
CHGB	**Renai**	**1.46**	**236**	P	**Pb**	**07 34 39.8**	**+0.6**
	baz=233						
CHGB				S	**Sb**	**07 34 58.4**	**+1.1**
	baz=233						
JKRS	**Kuro-shima**	**1.53**	**115**	*e*S	**Sn**	**07 34 55.8**	**-1.9**
SSLB	**Suanglung**	**1.78**	**232**	P	**Pb**	**07 34 44.2**	**-0.4**
	baz=213						

NNC ***23*** *07:48:18.1±0.5,43.05N×78.56E,h1km±4km,mb2.6,*
mpv2.8,Error ellipse: s-maj=6.9km s-min=2.1km az=172.0
SOME ***23*** *07:48:19.7,43.12N×78.53E,h15km*
KRNET ***23*** *07:48:19.1±0.1,43.09N×78.55E,h16km,mb2.7*
ISC 23 07:48:19.7±0.8**,43.10N**±0.02×**78.51E**±0.02**,h9**km±5km**,**
n47,σ1**06/89,19C-12D,Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**0.09**	**244**	⇓*i* P	**Pg**	**07 48 21.9**	**-0.2**
	baz=53						
SATY				⇑*i* S	**Sg**	**07 48 23.8**	**0.0**
	baz=53						
SATY	**Saty**	**0.09**	**244**	⇓*i* P	**Pg**	**07 48 21.9**	**-0.2**
	45nm,0.1s						
SATY				⇑*i* S	**Sg**	**07 48 23.8**	**0.0**
	916nm,0.1s						
SATY	**Saty**	**0.09**	**244**	P	**Pg**	**07 48 21.9**	**-0.2**
	45nm,0.1s						
SATY				S	**Sg**	**07 48 23.8**	**0.0**
	929nm,0.2s						
KPKS	**Kokpek**	**0.39**	**19**	⇓*e*P	**Pg**	**07 48 26.7**	**-0.7**
	baz=14						
KPKS				⇓*e*S	**Sg**	**07 48 32.0**	**-0.6**
	baz=14						
KPKS	**Kokpek**	**0.39**	**19**	⇓*e*P	**Pg**	**07 48 26.7**	**-0.7**
	38nm,0.1s						
KPKS				*e*S	**Sg**	**07 48 32.0**	**-0.6**
	34nm,0.2s						
KURS	**Kuram**	**0.46**	**328**	*e*P	**Pg**	**07 48 28.9**	**+0.2**
KURS				*e*S	**Sg**	**07 48 35.3**	**+0.5**
	7.1nm,0.2s						
KURS	**Kuram**	**0.46**	**328**	P	**Pg**	**07 48 28.9**	**+0.2**
KURS				S	**Sg**	**07 48 35.3**	**+0.5**
	7.1nm,0.2s						
PRZ	**Przheval'sk**	**0.62**	**188**	⇓*i* P	**Pg**	**07 48 30.7**	**-1.0**
	baz=91						
PRZ				⇓*i* S	**Sg**	**07 48 38.7**	**-1.1**
	baz=91						
ANVS	**Anan'yevo**	**0.70**	**244**	⇑*i* P	**Pb**	**07 48 33.6**	**-0.5**
	baz=45						
ANVS				⇑*i* S	**Sg**	**07 48 42.7**	**+0.5**
	baz=45						
SHLS	**Shalkode**	**0.70**	**85**	*e*P	**Pn**	**07 48 37.4**	**+1.5**
	baz=86						
SHLS				*e*S	**Sn**	**07 48 50.2**	**+3.3**
	baz=86						
SHLS	**Shalkode**	**0.70**	**85**	*e*P	**Pn**	**07 48 37.4**	**+1.5**
	1.9nm,0.1s						
SHLS				*e*S	**Sn**	**07 48 50.1**	**+3.3**
	6.2nm,0.1s						
SHLS	**Shalkode**	**0.70**	**85**	P	**Pn**	**07 48 37.4**	**+1.5**
	1.9nm,0.1s						
SHLS				S	**Sn**	**07 48 50.1**	**+3.3**
	6.2nm,0.1s						
PDGK	**Podgornoye**	**0.75**	**72**	P	**Pg**	**07 48 33.0**	**-1.2**
	1.4nm,0.1s						
PDGK				S	**Sg**	**07 48 42.3**	**-1.7**
	2.7nm,0.2s						
PDGK	**Podgornoye**	**0.75**	**72**	⇑P	**Pg**	**07 48 32.6**	**-1.5**
	1.0nm,0.4s						
PDGK				⇑S	**Sg**	**07 48 42.2**	**-1.7**
	2.4nm,0.4s						
KOTS	**Kotyrbulak**	**1.03**	**278**	*e*P	**Pb**	**07 48 38.9**	**-1.0**
	baz=78						
KOTS				*e*S	**Sb**	**07 48 52.8**	**-0.9**
	baz=78						
KOTS	**Kotyrbulak**	**1.03**	**278**	*e*P	**Pb**	**07 48 38.9**	**-1.0**
	1.8nm,0.2s						
KOTS				*e*S	**Sb**	**07 48 52.7**	**-0.9**
	8.1nm,0.3s						
KOTS	**Kotyrbulak**	**1.03**	**278**	P	**Pb**	**07 48 38.9**	**-1.0**
	1.8nm,0.2s						
KOTS				S	**Sb**	**07 48 52.7**	**-0.9**
	8.1nm,0.3s						
MDOK	**Medeo**	**1.07**	**274**	*e*P	**Pb**	**07 48 39.7**	**-0.8**
	baz=74						
MDOK				*e*S	**Sb**	**07 48 54.2**	**-0.6**
	baz=74						
MDOK	**Medeo**	**1.07**	**274**	*e*P	**Pb**	**07 48 39.7**	**-0.8**
	2.1nm,0.3s						
MDOK				*e*S	**Sb**	**07 48 54.2**	**-0.6**
	4.1nm,0.4s						
MDOK	**Medeo**	**1.07**	**274**	⇑P	**Pb**	**07 48 37.2**	**-3.3**
	1.5nm,0.3s						
MDOK				⇓S	**Sb**	**07 48 54.3**	**-0.4**
	4.9nm,0.9s						
MDOK	**Medeo**	**1.07**	**274**	Pg	**Pb**	**07 48 39.7**	**-0.8**
	2.1nm,0.3s						
MDOK				Lg	Lg	07 48 54.2	
	4.1nm,0.4s						
TNSS	**Tian-Shan**	**1.15**	**268**	*e*P	**Pb**	**07 48 41.3**	**-0.7**
	baz=68						
TNSS				*e*S	**Sn**	**07 48 57.0**	**-1.4**
	baz=68						
TNSS	**Tian-Shan**	**1.15**	**268**	*e*P	**Pb**	**07 48 41.3**	**-0.7**
	0.9nm,0.1s						
TNSS				*e*S	**Sn**	**07 48 57.0**	**-1.4**
	3.0nm,0.1s						
TNSS	**Tian-Shan**	**1.15**	**268**	P	**Pb**	**07 48 41.3**	**-0.7**
	0.9nm,0.1s						
TNSS				S	**Sn**	**07 48 57.0**	**-1.4**
	3.0nm,0.1s						
KDJ	**Kajisay**	**1.38**	**226**	⇑*i*P	**Pb**	**07 48 45.4**	**-0.3**
	baz=27						
KDJ				⇑*i*S	**Sb**	**07 49 03.1**	**-0.4**
	baz=27						
TARG	**Taragay, Kyrgy**	**1.46**	**201**	⇑*i*P	**Pg**	**07 48 47.0**	**-0.8**
	baz=3.0						
TARG				⇑*i*S	**Sg**	**07 49 06.1**	**-0.7**
	baz=3.0						
KTBS	**Karatobe**	**1.47**	**295**	*e*P	**Pb**	**07 48 47.1**	**-0.1**
	baz=95						
KTBS				*e*S	**Sg**	**07 49 07.0**	**+0.1**
	baz=95						
KTBS	**Karatobe**	**1.47**	**295**	*e*P	**Pb**	**07 48 47.1**	**-0.1**
	1.8nm,0.1s						
KTBS				*e*S	**Sg**	**07 49 07.0**	**+0.1**
	12nm,0.3s						
KTBS	**Karatobe**	**1.47**	**295**	P	**Pb**	**07 48 47.1**	**-0.1**
	1.8nm,0.1s						
KTBS				S	**Sg**	**07 49 07.0**	**+0.1**
	12nm,0.3s						
DJR	**Jarkent**	**1.54**	**36**	*e*P	**Pb**	**07 48 47.7**	**-0.8**
	3.2nm,0.1s						
DJR				*e*S	**Sg**	**07 49 08.0**	**-1.4**
	33nm,0.2s						
DJR	**Jarkent**	**1.54**	**36**	P	**Pb**	**07 48 47.7**	**-0.8**
	3.2nm,0.1s						
DJR				S	**Sg**	**07 49 08.0**	**-1.4**
	33nm,0.2s						
KUU	**Kurty**	**1.77**	**297**	⇓*i*P	**Pb**	**07 48 52.3**	**-0.1**
	baz=97						
KUU				⇑*i*S	**Sg**	**07 49 16.1**	**-0.5**
	baz=97						
KUU	**Kurty**	**1.77**	**297**	⇓*i*P	**Pb**	**07 48 52.2**	**-0.1**
	1.2nm,0.2s						
KUU				⇑*i*S	**Sg**	**07 49 16.1**	**-0.5**
	7.1nm,0.2s						
KUU	**Kurty**	**1.77**	**297**	P	**Pb**	**07 48 52.2**	**-0.1**
	1.2nm,0.2s						
KUU				S	**Sg**	**07 49 16.1**	**-0.5**
	7.1nm,0.2s						
KST	**Kastek**	**1.87**	**269**	*e*P	**Pb**	**07 48 54.2**	**+0.1**
	baz=69						
KST				*e*S	**Sg**	**07 49 19.2**	**-0.5**
	baz=69						
KST	**Kastek**	**1.87**	**269**	*e*P	**Pb**	**07 48 54.2**	**+0.1**
	5.9nm,1.0s						
KST				*e*S	**Sg**	**07 49 19.2**	**-0.5**
	4.9nm,0.3s						
KST	**Kastek**	**1.87**	**269**	P	**Pb**	**07 48 54.2**	**+0.1**
	5.9nm,1.0s						
KST				S	**Sg**	**07 49 19.2**	**-0.5**
	4.9nm,0.3s						
ULHL	**Ulahol**	**1.88**	**244**	⇑*i*P	**Pb**	**07 48 54.3**	**0.0**
	baz=44						
ULHL				⇑*i*S	**Sb**	**07 49 18.7**	**+0.7**
	baz=44						
BOOM	**Boomskoye usch**	**1.99**	**253**	⇑*i*P	**Pb**	**07 48 55.9**	**-0.2**
	baz=54						
BOOM				⇑*i*S	**Sb**	**07 49 21.5**	**+0.4**
	baz=54						
DGS	**Degeres**	**2.01**	**275**	*e*P	**Pb**	**07 48 56.8**	**+0.3**
	2.0nm,0.2s						
DGS				*e*S	**Sg**	**07 49 23.6**	**-0.6**
	5.8nm,0.3s						
DGS	**Degeres**	**2.01**	**275**	Pg	**Pb**	**07 48 56.8**	**+0.3**
	2.0nm,0.2s						
DGS				Lg	Lg	07 49 23.6	
	5.8nm,0.3s						
TKM2	**Tokmak 2**	**2.15**	**266**	⇓*i*P	**Pb**	**07 48 58.2**	**-0.7**
	baz=66						
TKM2				⇓*i*S	**Sb**	**07 49 25.6**	**-0.1**
	baz=66						
TKM2	**Tokmak 2**	**2.15**	**266**	⇑Pg	**Pb**	**07 48 58.7**	**-0.2**
	0.9nm,0.5s						
TKM2				⇑Lg	Lg	07 49 28.9	
	3.2nm,0.5s						
KRBS	**Karabastau**	**2.15**	**287**	*e*P	**Pb**	**07 48 59.4**	**+0.5**
	1.3nm,0.2s						
KRBS				*e*S	**Sg**	**07 49 28.1**	**-0.8**
	11nm,0.2s						
KRBS	**Karabastau**	**2.15**	**287**	Pg	**Pb**	**07 48 59.4**	**+0.5**
	1.3nm,0.2s						
KRBS				Lg	Lg	07 49 28.1	
	11nm,0.2s						
KAPS	**Kapalarasan**	**2.27**	**15**	*e*P	**Pb**	**07 49 00.7**	**-0.2**
	1.2nm,0.2s						
KAPS				*e*S	**Sg**	**07 49 30.6**	**-2.1**
	6.3nm,0.1s						
KAPS	**Kapalarasan**	**2.27**	**15**	Pg	**Pb**	**07 49 00.7**	**-0.2**
	1.2nm,0.2s						
KAPS				Lg	Lg	07 49 30.6	
	6.3nm,0.1s						

JMA ***23*** *08:19:21.6±0.3,24.84N×122.45E,h1km±3km,M2.9*
TAP ***23*** *08:19:22.1,24.87N×122.49E,h3km,ML3.7,D*
IDC ***23*** *08:19:24.7±1.6,24.65N×121.45E,h0km,mb3.5/3,*
mb1 3.7/4,mb1mx3.4/57,mbtmp3.5/4,ML3.4/1,MS3.2/4,
Ms1 3.2/4,ms1mx2.6/46,Error ellipse: s-maj=71.2km
s-min=28.1km az=70.0
ISC 23 08:19:22.3±1.1**,24.84N**±0.02×**122.45E**±0.02**,h5**km±8km**,**
n97,σ0**83/137,mb3.4/3,MS3.1/3,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.45**	**292**	P	**Pg**	**08 19 30.7**	**-0.4**
	baz=286						
TWB1				S	**Sg**	**08 19 37.4**	**+0.5**
	baz=286						
NTC	**Toucheng**	**0.56**	**272**	*i* P	**Pg**	**08 19 33.5**	**+0.3**
	baz=268						
NTC				S	**Sb**	**08 19 42.3**	**-0.6**
	baz=268						
TIPB	**Shuangxi**	**0.58**	**283**	*i* P	**Pg**	**08 19 33.9**	**+0.4**
	baz=279						
TIPB				*i* S	**Sg**	**08 19 42.2**	**+1.1**
	baz=279						
JYNG	**Yonagunijimaku**	**0.59**	**131**	P	**Pg**	**08 19 33.5**	**-0.2**
JYNG				*e*S	**Sg**	**08 19 41.8**	**+0.4**
TWC	**Suao**	**0.59**	**247**	*i* P	**Pg**	**08 19 34.0**	**+0.4**
	baz=245						
TWC				S	**Sb**	**08 19 43.5**	**-0.2**
	baz=245						
YOJ	**Yonaguni jima**	**0.63**	**126**	P	**Pg**	**08 19 34.1**	**-0.3**
YOJ				*e*S	**Sg**	**08 19 42.5**	**-0.2**
YOJ	**Yonaguni jima**	**0.63**	**126**	P	**Pg**	**08 19 34.3**	**-0.2**
	baz=130						
ILA	**Ilan**	**0.64**	**264**	*e*P	**Pb**	**08 19 35.4**	**-0.6**
	baz=260						
ILA				S	**Sb**	**08 19 44.6**	**-0.6**
	baz=260						
NWF	**Wu-fen Shan**	**0.65**	**291**	*i* P	**Pg**	**08 19 35.1**	**+0.3**
	baz=287						
NWF				*i* S	**Sb**	**08 19 44.4**	**-1.2**
	baz=287						
WFSB	**Wu-fen Shan**	**0.65**	**291**	P	**Pg**	**08 19 35.0**	**+0.2**
	baz=287						
WFSB				S	**Sb**	**08 19 44.6**	**-0.9**
	baz=287						
NDS	**Dongshan**	**0.70**	**253**	P	**Pg**	**08 19 36.0**	**+0.3**
	baz=251						
NDS				S	**Sb**	**08 19 47.1**	**+0.3**
	baz=251						
TWE	**Neicheng**	**0.72**	**261**	*i* P	**Pg**	**08 19 36.1**	**0.0**
	baz=258						
TWE				S	**Sb**	**08 19 47.2**	**-0.3**
	baz=258						
EWUT	**Wuta**	**0.73**	**238**	P	**Pb**	**08 19 36.8**	**-0.5**
	baz=236						
EWUT				S	**Sb**	**08 19 47.5**	**-0.2**
	baz=236						
ENA	**Nanau**	**0.76**	**238**	P	**Pg**	**08 19 37.2**	**+0.2**
	baz=236						
ENA				S	**Sb**	**08 19 49.4**	**+0.6**
	baz=236						
TWA	**Mucha**	**0.80**	**280**	*i* P	**Pg**	**08 19 37.9**	**+0.2**
	baz=277						
TWA				*i* S	**Sb**	**08 19 49.4**	**-0.4**
	baz=277						
NWRT	**Kuosheng**	**0.80**	**297**	P	**Pg**	**08 19 37.9**	**+0.2**
	baz=293						
NWRT				S	**Sb**	**08 19 48.9**	**-1.0**
	baz=293						
NHY	**Taipei**	**0.82**	**284**	S	**Sb**	**08 19 50.4**	**-0.1**
	baz=281						
ENTT	**Nioudou**	**0.83**	**256**	P	**Pb**	**08 19 38.7**	**-0.4**
	baz=254						
ENTT				S	**Sn**	**08 19 51.3**	**-1.9**
	baz=254						
NHDH	**Xindian Distri**	**0.85**	**279**	P	**Pg**	**08 19 38.4**	**-0.2**
	baz=275						
NHDH				S	**Sb**	**08 19 50.4**	**-0.8**
	baz=275						
PCYT	**Pengchaiyu**	**0.86**	**336**	*i* P	**Pg**	**08 19 38.2**	**-0.6**
	baz=333						
NWLT	**Wulai**	**0.86**	**266**	*i* P	**Pg**	**08 19 38.7**	**-0.2**
	baz=263						
NWLT				*i* S	**Sb**	**08 19 51.1**	**-0.5**
	baz=263						
TAP	**Taipei**	**0.88**	**283**	S	**Sb**	**08 19 51.6**	**-0.5**
	baz=280						
NDT	**Datong Townshi**	**0.89**	**255**	*i* P	**Pb**	**08 19 39.7**	**-0.4**
	baz=253						
NDT				*i* S	**Sb**	**08 19 52.1**	**-0.2**
	baz=253						
TATO	**Taipei**	**0.89**	**279**	*e*P	**Pg**	**08 19 39.3**	**0.0**
	baz=276						
TATO				S	**Sb**	**08 19 51.5**	**-0.7**
	baz=276						
TWY	**Chenhua**	**0.89**	**300**	P	**Pg**	**08 19 39.2**	**-0.1**
	baz=296						
TWY				S	**Sb**	**08 19 51.9**	**-0.4**
	baz=296						
NSM	**Shimen**	**0.90**	**300**	*e*P	**Pb**	**08 19 40.3**	**0.0**
	baz=296						
NSM				S	**Sb**	**08 19 52.6**	**0.0**
	baz=296						
ANP	**Anpu**	**0.91**	**292**	P	**Pg**	**08 19 39.7**	**-0.1**
	baz=289						
ANP				S	**Sb**	**08 19 52.7**	**-0.4**
	baz=289						
NTST	**Danshui**	**0.96**	**290**	P	**Pg**	**08 19 39.0**	**-1.8**
	baz=287						
NTST				S	**Sn**	**08 19 54.9**	**-1.7**
	baz=287						
TWS1	**Kuangyinshan**	**0.97**	**286**	P	**Pg**	**08 19 41.0**	**0.0**
	baz=283						
TWS1				S	**Sg**	**08 19 53.6**	**0.0**
	baz=283						
YHNB	**Yeheng**	**0.99**	**260**	P	**Pg**	**08 19 41.2**	**-0.1**
	baz=258						
YHNB				S	**Sn**	**08 19 56.4**	**-0.9**
	baz=258						
NSK	**Sanguang**	**1.01**	**261**	P	**Pg**	**08 19 41.7**	**+0.1**
	baz=258						
NSK				S	**Sg**	**08 19 54.6**	**-0.1**
	baz=258						
ETL	**Fush Village**	**1.01**	**228**	P	**Pn**	**08 19 42.3**	**-0.9**
	baz=227						
ETL				S	**Sb**	**08 19 56.0**	**0.0**
	baz=227						
NACB	**Ninganchiao**	**1.02**	**230**	P	**Pg**	**08 19 41.5**	**-0.4**
	baz=229						
NACB				S	**Sb**	**08 19 55.9**	**-0.3**
	baz=229						
NNSB	**Datong**	**1.05**	**247**	P	**Pg**	**08 19 42.4**	**-0.1**
	baz=246						
NNSB				S	**Sn**	**08 19 57.8**	**-1.1**
	baz=246						
NNS	**Nan Shan**	**1.06**	**248**	*i* P	**Pg**	**08 19 42.5**	**-0.1**
	baz=246						
NNS				*i* S	**Sn**	**08 19 58.0**	**-1.1**
	baz=246						
ETLH	**Xiulin Townshi**	**1.08**	**235**	P	**Pg**	**08 19 43.1**	**0.0**
	baz=234						
ETLH				S	**Sn**	**08 19 59.7**	**+0.1**
	baz=234						
TWD	**Chiawan**	**1.08**	**226**	*i* P	**Pb**	**08 19 43.1**	**-0.4**
	baz=225						
TWD				S	**Sn**	**08 19 58.6**	**-0.9**
	baz=225						
NCUH	**Zhongli**	**1.16**	**277**	*e*P	**Pb**	**08 19 44.4**	**-0.3**
	baz=274						
ETM	**Tongmen**	**1.23**	**225**	*e*P	**Pg**	**08 19 46.1**	**+0.2**
	baz=225						
FUSS	**Fushou**	**1.25**	**242**	*i* P	**Pb**	**08 19 46.0**	**-0.4**
	baz=241						
FUSS				S	**Sn**	**08 20 03.8**	**-0.1**
	baz=241						
IRIF	**Iriomote-Funau**	**1.27**	**113**	P	**Pb**	**08 19 46.2**	**-0.4**
WHF	**Hehuan Shan**	**1.28**	**238**	*i* P	**Pn**	**08 19 46.7**	**-0.6**
	baz=236						
WHF				*e*S	**Sn**	**08 20 05.8**	**+0.8**
	baz=236						
TWT	**Tachien**	**1.30**	**244**	*e*P	**Pb**	**08 19 46.9**	**-0.4**
	baz=242						
TWT				S	**Sg**	**08 20 05.1**	**+1.0**
	baz=242						
TDCB	**Techi**	**1.31**	**244**	P	**Pg**	**08 19 47.5**	**0.0**
	baz=242						
TDCB				S	**Sg**	**08 20 05.9**	**+1.4**
	baz=242						
LIOB	**Emei**	**1.32**	**262**	*i* P	**Pn**	**08 19 46.3**	**-1.1**
	baz=260						
LIOB				*e*S	**Sg**	**08 20 05.5**	**+0.8**
	baz=260						
NSTT	**Nanjuang**	**1.33**	**261**	*i* P	**Pb**	**08 19 47.4**	**-0.3**
	baz=259						
NSTT				*e*S	**Sg**	**08 20 05.7**	**+0.5**
	baz=259						
ESL	**Shilin**	**1.38**	**223**	*i* P	**Pn**	**08 19 47.6**	**-0.6**
	baz=222						
CHGB	**Renai**	**1.40**	**237**	P	**Pb**	**08 19 48.7**	**-0.3**
	baz=235						
CHGB				*e*S	**Sg**	**08 20 07.9**	**+0.6**
	baz=235						
HATJ	**Hateruma jima**	**1.46**	**122**	P	**Pb**	**08 19 49.2**	**-0.7**
WHP	**Taichung City**	**1.48**	**248**	*i* P	**Pg**	**08 19 50.8**	**+0.1**
	baz=247						
EGFH	**Guangfu**	**1.49**	**219**	P	**Pg**	**08 19 50.7**	**-0.2**
	baz=218						
NMLH	**Miaoli**	**1.54**	**259**	*e*P	**Pb**	**08 19 51.3**	**+0.1**
	baz=257						
WPL	**Puli Township**	**1.59**	**239**	*e*P	**Pb**	**08 19 51.9**	**-0.3**
	baz=238						
NSY	**Sanyi**	**1.59**	**255**	*e*P	**Pb**	**08 19 52.0**	**-0.2**
	baz=253						
DPDB	**Guoxing**	**1.60**	**240**	P	**Pg**	**08 19 52.6**	**-

TWQ1	**Liyutan** baz=251	**1.60 253**	P		**Pb**	**08 19 52.0**	**-0.3**
WCS	**Beigang Elemen** baz=240	**1.60 241**	P		**Pb**	**08 19 52.4**	**0.0**
HGSD	**Ruisui** baz=215	**1.64 215**	P		**Pn**	**08 19 51.2**	**-0.5**
EHY	**Hungye** baz=217	**1.68 218**	P		**Pn**	**08 19 51.5**	**-0.8**
SMLT	**Sun Moon Lake** baz=235	**1.71 236**	*i* P		**Pb**	**08 19 53.4**	**-0.8**
SMLT			S		**Sg**	**08 20 17.6**	**+0.5**
WDJ	**Dajia District** baz=252	**1.72 254**	*e*P		**Pb**	**08 19 54.1**	**-0.2**
WDJ			*e*S		**Sg**	**08 20 16.9**	**-0.6**
SSLB	**Suanglung** baz=232	**1.72 233**	P		**Pb**	**08 19 54.3**	**-0.1**
SSLB			S		**Sb**	**08 20 16.1**	**-0.2**
TYC	**Yuchr** baz=236	**1.73 238**	P		**Pb**	**08 19 53.5**	**-1.0**
YULB	**Yu-li** baz=216	**1.78 216**	*e*P		**Pn**	**08 19 53.9**	**+0.2**
EYUL	**Yuli** baz=215	**1.81 215**	*e*P		**Pb**	**08 19 54.7**	**-1.2**
TWF1	**Yuli** baz=215	**1.82 216**	P		**Pn**	**08 19 54.1**	**-0.1**
WHYT	**Xinyi Township** baz=231	**1.85 232**	P		**Pb**	**08 19 55.6**	**-0.9**
WJS	**Zhushan** baz=236	**1.87 238**	P		**Pn**	**08 19 55.2**	**+0.3**
FULB	**Fuli** baz=213	**1.94 213**	P		**Pn**	**08 19 56.3**	**+0.4**
ALS	**Alishan** baz=228	**2.00 229**	*i* P		**Pn**	**08 19 57.5**	**+0.5**
CHN5	**Tsauling** baz=232	**2.04 233**	P		**Pb**	**08 19 58.5**	**-1.3**
WDLH	**Douliu** baz=236	**2.09 237**	P		**Pb**	**08 19 59.2**	**-1.4**
ELDTW	**Lidau** baz=218	**2.10 219**	*i* P		**Pn**	**08 19 57.5**	**-0.7**
WRL	**Guolierlin Hig** baz=243	**2.11 244**	P		**Pb**	**08 19 59.2**	**-1.8**
EDH	**Donghe** baz=209	**2.13 210**	P		**Pn**	**08 19 58.0**	**-0.6**
CHN4	**Tsaushan** baz=228	**2.25 229**	P		**Pn**	**08 20 01.2**	**+1.0**
CHN4			*e*S		**Sb**	**08 20 30.1**	**-1.5**
TPUB	**Ta-pu** baz=227	**2.26 228**	P		**Pn**	**08 20 01.3**	**+1.0**
STYT	**Tauyuan** baz=222	**2.28 223**	P		**Pn**	**08 20 01.0**	**+0.5**
WTP	**Ta-pu** baz=226	**2.31 227**	P		**Pn**	**08 20 01.7**	**+0.7**
LDUT	**Ludao** baz=203	**2.34 203**	*e*P		**Pn**	**08 20 00.9**	**-0.4**
TWK	**Hsinying** baz=228	**2.38 229**	P		**Pn**	**08 20 02.0**	**0.0**
CHN1	**Nanshi** baz=226	**2.41 227**	*e*P		**Pb**	**08 20 04.2**	**-1.9**
SLGT	**Liugui** baz=221	**2.47 222**	P		**Pn**	**08 20 04.0**	**+0.8**
MATB	**Ma-tsu** baz=298	**2.61 301**	*e*P		**Pb**	**08 20 07.5**	**-2.1**
ECL	**Taimali** baz=211	**2.62 212**	P		**Pn**	**08 20 05.4**	**+0.2**
TSMG	**Majia** baz=218	**2.69 218**	P		**Pn**	**08 20 07.8**	**+1.6**
EAST	**Anshuo** baz=211	**2.85 211**	P		**Pb**	**08 20 10.8**	**-2.9**
XPSS	**Dashiqiu** baz=314	**2.91 316**	*e*P		**Pn**	**08 20 10.4**	**+1.1**
LYJJ	**Jianjiangzhen** baz=304	**2.97 306**	*e*P		**Pn**	**08 20 11.7**	**+1.7**
SLIU	**Shizi** baz=210	**3.02 210**	*e*P		**Pn**	**08 20 12.3**	**+1.6**
KSRS	**Korea Array** 0.2nm,0.3s,baz=198,slow=12,SNR=6.1	**13.42 19**	Pn		**P**	**08 22 43.2**	**+0.4**
KSRS			LR		LR	08 27 48.9	
	comp=Z,52nm,18.2s,baz=206,slow=36						
SONM	**Songino Array** comp=Z,59nm,19.2s,baz=344,slow=39	**26.24 335**	LR		LR	08 36 23.8	
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=93,slow=9.2,SNR=2.6	**38.68 315**	P		**P**	**08 26 45.6**	**-1.3**
ZALV	**Zalesovo Beam** comp=Z,19nm,19.6s,baz=68,slow=37	**40.34 326**	LR		LR	08 44 21.5	
WRA	**Warramunga Arr** 1.0nm,0.9s,baz=351,slow=10,SNR=4.7	**45.99 164**	P		**P**	**08 27 50.0**	**+3.3**
ASAR	**Alice Springs** 0.3nm,0.6s,baz=346,slow=7.2,SNR=3.4	**49.48 166**	P		P	08 28 17.9	+4.2
FINES	**FINESS Array B** comp=Z,27nm,19.6s,baz=205,slow=38	**71.46 330**	LR		LR	09 04 45.1	

*HEL **23** 08:22:38.7±0.1,60.02N×25.02E, h0km, ML1.9, ML2.2(UPP), Explosion*
*IDC **23** 08:22:39.9±2.1,60.00N×24.97E, h0km, mb1 3.1/3, mb1mx2.9/51, mbtmp3.0/3, ML2.2/3, Error ellipse: s-maj=23.7km s-min=7.6km az=139.0*
*UPP **23** 08:22:42.3±2.7, 60.12N×24.54E, h0km, ML2.2, Suspected explosion*

ISC 23 08:22:37.4±0.8, 59.99N±0.04×25.06E±0.04, h0km, n32, σ1§28/40, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.40**	**305**	*e*P		**Pg**	**08 22 44.4**	**-0.8**
MEF				*e*S		**Sg**	**08 22 50.8**	**+0.4**
NUR	**Nurmijrvi**	**0.56**	**339**	*e*P		**Pg**	**08 22 48.2**	**0.0**
NUR				*e*S		**Sg**	**08 22 56.6**	**+1.2**
PVF	**Pernaja**	**0.68**	**35**	*e*P		**Pg**	**08 22 50.5**	**0.0**
PVF				*e*S		**Sb**	**08 23 01.7**	**-0.5**
VJF	**Virojoki**	**1.36**	**65**	*e*P		**Pg**	**08 23 03.0**	**-0.4**
VJF				*e*S		**Sb**	**08 23 21.3**	**-0.3**
MTSE	**Matsula**	**1.43**	**207**	*e*P		**Pn**	**08 23 03.8**	**-0.8**
MTSE				*e*S		**Sg**	**08 23 23.6**	**+0.2**
FINES	**FINESS Array B** 1.9nm,0.3s,baz=201,slow=16,SNR=54	**1.54**	**18**	Pg		**Pn**	**08 23 06.5**	**+0.3**
FINES				Lg		Lg	08 23 29.0	
	4.8nm,0.3s,baz=204,slow=28,SNR=25							
FIA1	**FINESS Array S** comp=Z,6.5nm,0.1s	**1.54**	**18**	MSG			08 23 33.4	
VSU	**Vasula**	**1.76**	**150**	*e*P		**Pb**	**08 23 10.5**	**0.0**
VSU				*e*S		**Sb**	**08 23 33.6**	**+0.6**
RAF	**Rauma** comp=Z,6.2nm,0.1s	**1.93**	**304**	MSG			08 23 40.2	
KEF	**Keuruu** comp=Z,8.3nm,0.2s	**2.19**	**358**	MSG			08 23 48.4	
KAF	**Kangasniemi** comp=Z,4.5nm,0.1s	**2.21**	**15**	MSG			08 23 49.8	
AAL	**Aland**	**2.55**	**276**	P		**Pn**	**08 23 20.7**	**+0.8**
AAL	**Aland**	**2.55**	**276**	*e*P		**Pn**	**08 23 20.7**	**+0.8**
AAL				*e*S		**Sn**	**08 23 54.0**	**+2.4**
NRTU	**Norrtaelje**	**3.26**	**267**	P		**Pn**	**08 23 31.2**	**+1.5**
NRTU				S		**Sn**	**08 24 08.0**	**-1.3**
NRTU	**Norrtaelje**	**3.26**	**267**	*e*P		**Pn**	**08 23 30.6**	**+0.9**
GRAU	**Graesoe**	**3.28**	**279**	P		**Pn**	**08 23 30.5**	**+0.5**
GRAU				S		**Sn**	**08 24 08.4**	**-1.2**
GRAU	**Graesoe**	**3.28**	**279**	*e*P		**Pn**	**08 23 30.5**	**+0.5**
GRAU				*e*S		**Sn**	**08 24 08.4**	**-1.2**
FLYU	**Flymyra**	**3.60**	**275**	P		**Pn**	**08 23 35.8**	**+1.4**
FLYU	**Flymyra**	**3.60**	**275**	*e*P		**Pn**	**08 23 35.8**	**+1.4**
FIBU	**Brunna**	**3.88**	**272**	P		**Pn**	**08 23 39.8**	**+1.5**
IGGU	**Iggoen**	**3.94**	**286**	P		**Pn**	**08 23 39.8**	**+0.7**
IGGU	**Iggoen**	**3.94**	**286**	*e*P		**Pn**	**08 23 39.8**	**+0.7**
OSTU	**Oestervaala**	**3.98**	**277**	P		**Pn**	**08 23 40.9**	**+1.3**
OSTU	**Oestervaala**	**3.98**	**277**	*e*P		**Pn**	**08 23 40.9**	**+1.3**
BACU	**Backbrunna**	**4.01**	**271**	P		**Pn**	**08 23 41.2**	**+1.2**
BACU	**Backbrunna**	**4.01**	**271**	*e*P		**Pn**	**08 23 41.2**	**+1.2**
GOTU	**Gotland**	**4.09**	**238**	*e*P		**Pn**	**08 23 43.1**	**+2.0**
ARNU	**Arnoeviken**	**4.13**	**298**	P		**Pn**	**08 23 42.5**	**+0.8**
ARNU	**Arnoeviken**	**4.13**	**298**	*e*P		**Pn**	**08 23 42.6**	**+0.9**
ARNU				*e*S		**Sn**	**08 24 30.1**	**-0.5**
HFS	**Hagfors** comp=Z,0.2nm,0.3s,baz=80,slow=16,SNR=5.2	**5.70**	**276**	Pn		**Pn**	**08 24 03.4**	**+0.2**
NOA	**NORSAR Array B** comp=Z,0.0nm,0.3s,baz=92,slow=9.8,SNR=4.5	**6.92**	**285**	Pn		**Pn**	**08 24 19.6**	**-0.4**
NOA				Sn		**Sn**	**08 25 34.6**	**-4.8**
	comp=Z,0.0nm,0.3s,baz=114,slow=20,SNR=1.0							
ARCES	**ARCESS Array B** baz=184,slow=12,SNR=11	**9.59**	**1**	Pn		**Pn**	**08 24 56.9**	**+0.4**

*BER **23** 08:25:23.4±2.4, 60.21N×25.96E, h0km, ML2.2(HEL), Suspected explosion*
*DNK **23** 08:25:26.4±2.4, 60.07N×25.22E, h0km, ML2.3, Suspected explosion*
*HEL **23** 08:25:27.9±0.1, 59.99N×24.99E, h0km, ML2.2, ML2.5(UPP), Explosion*
*IDC **23** 08:25:29.9±1.1, 60.03N×24.87E, h0km, mb1 3.0/4, mb1mx2.9/43, mbtmp3.0/4, ML2.5/4, Error ellipse: s-maj=13.1km s-min=7.1km az=134.0*
*UPP **23** 08:25:30.6±2.2, 60.04N×24.67E, h0km, ML2.5, Suspected explosion*

ISC 23 08:25:26.1±0.9, 60.00N±0.04×25.02E±0.04, h0km, n72, σ1§69/73, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.38**	**305**	*e*P		**Pg**	**08 25 34.6**	**+1.2**
NUR	**Nurmijrvi**	**0.54**	**340**	*e*P		**Pb**	**08 25 37.7**	**-0.7**
PVF	**Pernaja**	**0.69**	**37**	*e*P		**Pb**	**08 25 40.4**	**-0.5**
ARBE	**Arbavere**	**0.75**	**139**	*e*P		**Pb**	**08 25 41.3**	**-0.7**
VJF	**Virojoki**	**1.38**	**66**	*e*P		**Pn**	**08 25 52.5**	**0.0**
MTSE	**Matsula**	**1.43**	**206**	*e*P		**Pn**	**08 25 53.1**	**-0.2**
FINES	**FINESS Array B** 8.2nm,0.3s,baz=199,slow=16,SNR=63	**1.54**	**19**	Pg		**Pg**	**08 25 55.9**	**+0.4**
FINES				Lg		Lg	08 26 19.2	
	9.2nm,0.3s,baz=207,slow=22,SNR=19							
FIA1	**FINESS Array S**	**1.54**	**19**	*e*P		**Pg**	**08 25 55.9**	**+0.4**
FIA1	comp=Z,18nm,0.1s			MSG			08 26 21.1	
VSU	**Vasula**	**1.78**	**150**	*e*P		**Pb**	**08 25 59.9**	**+0.4**
RAF	**Rauma**	**1.91**	**304**	*e*P		**Pb**	**08 26 02.0**	**+0.3**
RAF	comp=Z,18nm,0.1s			MSG			08 26 29.4	
KEF	**Keuruu** comp=Z,12nm,0.1s	**2.17**	**358**	MSG			08 26 38.1	
KAF	**Kangasniemi** comp=Z,12nm,0.1s	**2.21**	**16**	MSG			08 26 38.6	
AAL	**Aland**	**2.52**	**276**	P		**Pn**	**08 26 10.3**	**+2.0**
AAL				S		**Sn**	**08 26 41.1**	**+1.5**
AAL	**Aland**	**2.52**	**276**	*e*P		**Pn**	**08 26 10.0**	**+1.7**
SUF	**Sumiainen** comp=Z,7.6nm,0.2s	**2.78**	**11**	MSG			08 26 58.1	
NRTU	**Norrtaelje**	**3.24**	**267**	P		**Pn**	**08 26 20.4**	**+2.3**
NRTU	**Norrtaelje**	**3.24**	**267**	P		**Pn**	**08 26 20.4**	**+2.3**
NRTU	**Norrtaelje**	**3.24**	**267**	P		**Pn**	**08 26 20.4**	**+2.3**
NRTU	**Norrtaelje**	**3.24**	**267**	*e*P		**Pn**	**08 26 20.4**	**+2.3**
IGGU	**Iggoen**	**3.91**	**286**	P		**Pn**	**08 26 28.7**	**+1.3**
IGGU	**Iggoen**	**3.91**	**286**	P		**Pn**	**08 26 28.7**	**+1.3**
IGGU	**Iggoen**	**3.91**	**286**	P		**Pn**	**08 26 28.7**	**+1.3**
IGGU	**Iggoen**	**3.91**	**286**	*e*P		**Pn**	**08 26 28.7**	**+1.3**
OSTU	**Oestervaala**	**3.95**	**277**	P		**Pn**	**08 26 29.5**	**+1.7**
OSTU	**Oestervaala**	**3.95**	**277**	P		**Pn**	**08 26 29.5**	**+1.7**
OSTU	**Oestervaala**	**3.95**	**277**	P		**Pn**	**08 26 29.5**	**+1.7**
OSTU	**Oestervaala**	**3.95**	**277**	*e*P		**Pn**	**08 26 29.5**	**+1.7**
GOTU	**Gotland**	**4.08**	**238**	P		**Pn**	**08 26 32.1**	**+2.5**
GOTU	**Gotland**	**4.08**	**238**	P		**Pn**	**08 26 32.1**	**+2.5**
GOTU	**Gotland**	**4.08**	**238**	P		**Pn**	**08 26 32.1**	**+2.5**
GOTU	**Gotland**	**4.08**	**238**	*e*P		**Pn**	**08 26 31.6**	**+2.0**
ARNU	**Arnoeviken**	**4.10**	**298**	P		**Pn**	**08 26 31.8**	**+1.9**
ARNU				S		**Sn**	**08 27 18.4**	**-0.2**
ARNU	**Arnoeviken**	**4.10**	**298**	P		**Pn**	**08 26 31.8**	**+1.9**
ARNU				S		**Sn**	**08 27 18.4**	**-0.2**
ARNU	**Arnoeviken**	**4.10**	**298**	P		**Pn**	**08 26 31.8**	**+1.9**
ARNU				S		**Sn**	**08 27 18.4**	**-0.2**
ARNU	**Arnoeviken**	**4.10**	**298**	*e*P		**Pn**	**08 26 31.8**	**+1.9**
HUDU	**Hudiksvall**	**4.23**	**298**	P		**Pn**	**08 26 33.4**	**+1.6**
HUDU	**Hudiksvall**	**4.23**	**298**	P		**Pn**	**08 26 33.4**	**+1.6**
HUDU	**Hudiksvall**	**4.23**	**298**	P		**Pn**	**08 26 33.4**	**+1.6**
HUDU	**Hudiksvall**	**4.23**	**298**	*e*P		**Pn**	**08 26 33.4**	**+1.6**
FALU	**Falun**	**4.60**	**280**	P		**Pn**	**08 26 38.5**	**+1.6**
FALU	**Falun**	**4.60**	**280**	P		**Pn**	**08 26 38.5**	**+1.6**
FALU	**Falun**	**4.60**	**280**	P		**Pn**	**08 26 38.5**	**+1.6**
FALU	**Falun**	**4.60**	**280**	*e*P		**Pn**	**08 26 38.5**	**+1.6**
HASU	**Hassela**	**4.61**	**301**	P		**Pn**	**08 26 39.1**	**+2.2**
HASU	**Hassela**	**4.61**	**301**	P		**Pn**	**08 26 39.1**	**+2.2**
HASU	**Hassela**	**4.61**	**301**	P		**Pn**	**08 26 39.1**	**+2.2**
HASU	**Hassela**	**4.61**	**301**	*e*P		**Pn**	**08 26 39.1**	**+2.2**
ASKU	**Askersund**	**5.32**	**262**	P		**Pn**	**08 26 48.3**	**+1.7**
ASKU	**Askersund**	**5.32**	**262**	P		**Pn**	**08 26 48.3**	**+1.7**
ASKU	**Askersund**	**5.32**	**262**	P		**Pn**	**08 26 48.3**	**+1.7**
ASKU	**Askersund**	**5.32**	**262**	*e*P		**Pn**	**08 26 48.3**	**+1.7**
HFS	**Hagfors** comp=Z,0.1nm,0.3s,baz=88,slow=15,SNR=5.2	**5.67**	**276**	Pn		**Pn**	**08 26 53.4**	**+1.8**
HFS				Sn		**Sn**	**08 27 54.3**	**-3.0**
HFS	comp=Z,0.4nm,0.3s,baz=80,slow=25,SNR=1.7			Lg		Lg	08 28 18.4	
	comp=Z,0.9nm,0.3s,baz=89,slow=28,SNR=4.1							
BLEU	**Blekinge**	**6.12**	**237**	*i* P		**Pn**	**08 26 59.4**	**+1.7**
BLEU				*e*S		**Sn**	**08 28 07.6**	**-0.7**
NC602	**NORSAR Array S**	**6.72**	**282**	*e*P		**Pn**	**08 27 05.5**	**-0.5**
NC303	**NORSAR Array S**	**6.83**	**286**	*e*P		**Pn**	**08 27 07.1**	**-0.3**
NB201	**NORSAR Array S**	**6.85**	**285**	*e*P		**Pn**	**08 27 07.2**	**-0.6**
DEL	**Delary** baz=75,slow=12	**6.87**	**244**	*e*		**Pn**	**08 27 07.9**	**0.0**
DEL				*i* P		**Pn**	**08 27 09.1**	**+1.2**
DEL				IAML			08 29 13.1	
	comp=Z,1.1nm,0.3s							
NOA	**NORSAR Array B** comp=Z,0.0nm,0.3s,baz=95,slow=9.5,SNR=4.6	**6.89**	**285**	Pn		**Pn**	**08 27 08.7**	**+0.4**
NOA				Sn		**Sn**	**08 28 24.4**	**-2.9**
	comp=Z,0.0nm,0.3s,baz=131,slow=18,SNR=1.4							
NOA				Lg		Lg	08 28 58.3	
	comp=Z,0.1nm,0.3s,baz=56,slow=14,SNR=4.0							
NAO01	**NORSAR Array S**	**7.04**	**283**	*e*P		**Pn**	**08 27 09.5**	**-0.9**
NBO00	**NORSAR Array S**	**7.10**	**284**	*e*P		**Pn**	**08 27 09.2**	**-2.0**
STRU	**Stroemstad**	**7.11**	**268**	*i* P		**Pn**	**08 27 11.3**	**+0.2**
STRU				*e*S		**Sn**	**08 28 29.8**	**-2.7**
STRU	**Stroemstad**	**7.11**	**268**	*e*P		**Pn**	**08 27 11.1**	**-0.1**
BJUU	**Bjuv**	**7.48**	**243**	*i* P		**Pn**	**08 27 16.8**	**+0.5**
BJUU				*e*S		**Sn**	**08 28 38.3**	**-3.5**
MOR8	**Moi Rana**	**7.82**	**327**	*e*P		Pn	08 27 15.5	-5.5
DOMB	**Dombas**	**8.01**	**292**	*e*P		**Pn**	**08 27 20.5**	**-3.1**
HEF	**Hetta**	**8.46**	**357**	*e*P		Pn	08 27 21.4	-8.3
FAUS	**Fauske**	**8.56**	**334**	*e*P		Pn	08 27 24.4	-6.6
KTK1	**Kautokeino**	**9.08**	**356**	*e*P		Pn	08 27 29.2	-9.0
ARA0	**ARCESS Array S**	**9.57**	**1**	*e*P		Pn	08 27 34.5	-10
ARCES	**ARCESS Array B** baz=190,slow=10,SNR=13	**9.57**	**1**	Pn		**Pn**	**08 27 45.4**	**+0.4**
AKASG	**Malin Array Be** comp=Z,0.4nm,0.3s,baz=345,slow=13,SNR=1.9	**9.62**	**164**	Pn		**Pn**	**08 27 45.2**	**-0.6**
TRO	**Tromso**	**10.00**	**348**	*e*P		Pn	08 27 42.2	-8.6

MEX 23 08:28:48.4±0.7, 14.75N×93.70W, h16km±235km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PCIG		**1.06**	**26**	*i* P		Pb	08 29 04.5	-3.8
PCIG				*e*S		Sb	08 29 17.4	-4.5
TGIG		**2.09**	**15**	*i* P		Pn	08 29 20.5	-2.4
CCIG	**Comitan**	**2.15**	**45**	*e*P		Pn	08 29 22.1	-1.6

*IDC **23** 08:44:40.3±2.9, 53.81N×88.37E, h0km, mb1 3.2/3, mb1mx3.1/54, mbtmp3.2/3, ML2.8/3, Error ellipse: s-maj=24.2km s-min=17.4km az=57.0*
*NNC **23** 08:44:41.3±1.3, 53.65N×88.18E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=9.8km s-min=5.0km az=58.0, Suspected Mining explosion.*

ISC 23 08:44:37.0±4.2, 53.8N±0.1×88.6E±0.2, h0km, n8, σ1§70/11, 5C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=93,slow=312,SNR=8.3	**2.22**	**275**	*i*			09 00 00.0	
ZAA0	**Zalesovo Array** 4.6nm,0.8s	**2.22**	**275**	⇓P		**Pb**	**08 45 16.4**	**-1.5**
ZAA0				⇓S		**Sn**	**08 45 43.5**	**+0.5**
	17nm,0.9s							
ZALV	**Zalesovo Beam** 4.7nm,0.3s,baz=90,slow=13,SNR=56	**2.22**	**275**	Pn		**Pb**	**08 45 16.4**	**-1.5**
ZALV				Lg		Lg	08 45 44.4	
	11nm,0.3s,baz=93,slow=27,SNR=22							
KURBB	**Kurchatov Arra** 0.3nm,0.3s,baz=63,slow=14,SNR=7.2	**6.95**	**247**	Pn		**Pn**	**08 46 22.0**	**+2.1**
KURBB				Sn		**Sn**	**08 47 42.2**	**+2.7**
	0.2nm,0.3s,baz=81,slow=30,SNR=2.6							
KURBB				Lg		Lg	08 48 21.2	
	0.1nm,0.3s,baz=63,slow=39,SNR=2.4							
KURBB	**Kurchatov Arra**	**6.95**	**247**	⇓Pn		**Pn**	**08 46 20.7**	**+0.8**
	3.1nm,0.5s							
KURBB				⇑Sn		**Sn**	**08 47 37.7**	**-1.8**
	7.4nm,0.6s							
KURBB				⇑Lg		Lg	08 48 12.2	
	12nm,0.6s							
MK31	**Makanchi Array** 0.1nm,0.3s,baz=30,slow=13,SNR=9.3	**8.10**	**212**	Pn		**Pn**	**08 46 36.7**	**+1.0**
MK31				⇑Sn		**Sn**	**08 48 06.8**	**-1.2**
	0.9nm,0.6s,baz=35,slow=29,SNR=3.9							
MK31				⇑Lg		Lg	08 48 49.4	
	1.8nm,0.7s,baz=28,slow=28,SNR=3.7							
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=31,slow=14,SNR=9.9	**8.10**	**212**	Pn		Pn	08 46 39.5	+3.7
MKAR				Sn		**Sn**	**08 48 07.7**	**-0.3**
	0.5nm,0.3s,baz=34,slow=22,SNR=8.0							
MKAR				Lg		Lg	08 48 52.3	
	0.2nm,0.3s,baz=29,slow=28,SNR=4.2							
MAKZ	**Makanchi** 1.8nm,0.6s	**8.19**	**214**	⇑Sn		**Sn**	**08 48 10.1**	**-0.1**
MAKZ				⇓Lg		Lg	08 48 51.6	
	5.4nm,1.2s							

*IDC **23** 08:45:18.1±1.2, 31.59N×49.89E, h0km, mb4.2/13, mb1 4.2/18, mb1mx4.0/51, mbtmp4.2/18, ML4.0/6, MS2.9/9, Ms1 2.9/9, ms1mx2.6/49, Error ellipse: s-maj=24.9km s-min=15.7km az=168.0*
*THR **23** 08:45:20.9±0.7, 31.61N×49.92E, h17km±8km, ML4.3*
*TEH **23** 08:45:21.3, 31.65N×49.96E, h15km, ML4.3*
*SGS **23** 08:45:24.1, 31.58N×49.72E, h7km, Ml4.7*
*OMAN **23** 08:45:27.5±0.9, 31.21N×50.41E, h12km, mb5.7/26, ms2.6/5, Error ellipse: s-maj=8.6km s-min=7.7km az=35.0*

ISC 23 08:45:22.0±0.5, 31.49N±0.04×49.87E±0.04, h26km, n163, σ1§47/164, mb4.3/19, MS2.9/5, 9C-4D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AMIS	**Naft Sefid**	**0.53**	**290**	*e*Pg		**Pb**	**08 45 32.1**	**-0.6**
AMIS				*e*Sg		**Sn**	**08 45 41.5**	**-0.5**
AMIS	comp=Z,61μm,0.2s			*e*			08 45 49.2	
AHWZ	**Ahwaz**	**1.06**	**262**	*e*Pg		**Pb**	**08 45 44.3**	**+2.6**
SHK1	**Shahrekord**	**1.20**	**46**	*e*Pg		**Pn**	**08 45 40.6**	**-2.8**
SHK1				*e*Sg		**Sn**	**08 45 56.6**	**-2.4**
IPIR	**Pirpir**	**1.47**	**36**	*e*Pg		**Pn**	**08 45 45.8**	**-1.4**
IPIR	comp=Z,32μm,0.4s			*e*			08 46 09.0	
KLNJ	**Kolanjah**	**1.55**	**108**	*e*Pn		**Pn**	**08 45 48.8**	**+0.5**
KLNJ	comp=Z,32μm,0.9s			*e*			08 46 22.8	
IGAR	**Gharneh**	**2.06**	**63**	*e*Pn		**Pn**	**08 45 56.1**	**+0.9**
IGAR	comp=Z,13μm,0.5s			*e*			08 45 59.5	
IRAM	**Ramesheh**	**2.17**	**81**	*e*Pn		**Pn**	**08 45 57.9**	**+1.3**
KHMZ	**Khomeyn**	**2.24**	**2**	*e*Pn		**Pn**	**08 45 57.7**	**0.0**
KHMZ	**Khomeyn**	**2.24**	**2**	*e*Pn		**Pn**	**08 45 57.7**	**0.0**
IKLH	**Kolahrood**	**2.33**	**38**	*e*Pn		**Pn**	**08 45 59.9**	**+1.0**
IKLH	comp=Z,13μm,0.4s			*e*			08 46 43.5	
BMDN	**Meydan**	**2.35**	**338**	*e*Pn		**Pn**	**08 45 59.4**	**+0.3**
KAZ1	**Kazerun**	**2.41**	**140**	*e*Pn		**Pb**	**08 46 03.7**	**-1.0**
DHL1	**Dehloran**	**2.50**	**299**	*e*Pn		**Pn**	**08 46 03.1**	**+2.1**
IZEF	**Zefreh**	**2.51**	**55**	*e*Pn		**Pn**	**08 46 02.3**	**+0.9**
QAMS	**Qamsar** comp=Z,20μm,0.4s	**2.58**	**30**	*e*			08 46 39.4	
QAMS				*e*Pn		**Pn**	**08 46 04.0**	**+1.6**
IKFM	**Kafar-mosalman**	**2.65**	**320**	*e*Pn		**Pn**	**08 46 04.1**	**+1.0**
UMR	**Umm Al-Rimmam**	**2.68**	**224**	*e*P		**Pb**	**08 46 07.2**	**-2.1**
IDOB	**Doab**	**2.70**	**329**	*e*Pn		**Pn**	**08 46 04.4**	**+0.4**
NASN	**Na'in**	**2.81**	**62**	*e*Pn		**Pn**	**08 46 06.2**	**+0.6**
NASN	**Na'in**	**2.81**	**62**	*e*Pn		**Pn**	**08 46 06.2**	**+0.6**
AHBU	**AHRAM**	**2.89**	**154**	*e*Pn		**Pn**	**08 46 09.8**	**+3.4**
HSAM	**Samen** comp=Z,12μm,0.3s	**2.92**	**339**	*e*			08 46 16.4	
HSAM				*e*Pn		**Pn**	**08 46 07.4**	**+0.4**
SHI	**Shiraz**	**2.93**	**128**	*e*Pn		**Pn**	**08 46 09.0**	**+1.9**
SHI	comp=Z,5μm,1.0s			*e*			08 47 11.9	
KBD	**Kabd**	**2.98**	**220**	*e*P		**Pn**	**08 46 10.9**	**+3.4**
KRSH	**Karshahi**	**3.12**	**37**	*e*Pn		**Pn**	**08 46 11.0**	**+1.2**
KRSH	comp=Z,7μm,0.6s			*e*			08 47 06.3	
RST	**Umm Al-Ruwaisa**	**3.17**	**232**	*e*P		**Pn**	**08 46 13.5**	**+3.3**
GHVR	**GHOM**	**3.21**	**22**	*e*Pn		**Pn**	**08 46 11.3**	**+0.4**
GHVR	**GHOM**	**3.21**	**22**	*e*Pn		**Pn**	**08 46 11.3**	**+0.4**
QRN	**Al-Qurain**	**3.22**	**212**	*e*P		**Pn**	**08 46 13.8**	**+3.0**
RDF	**Al-Radifah**	**3.25**	**219**	*e*P		**Pn**	**08 46 14.9**	**+3.6**
ISAD	**Sadrabad**	**3.28**	**82**	*e*Pn		**Pn**	**08 46 13.7**	**+1.7**
HAGD	**Aghdareh**	**3.38**	**350**	*e*Pn		**Pn**	**08 46 14.2**	**+0.9**
IBZA	**Bozab**	**3.42**	**331**	*e*Pn		**Pn**	**08 46 14.4**	**+0.5**
ISFB	**Sefidab**	**3.48**	**34**	*e*Pn		**Pn**	**08 46 15.1**	**+0.5**
IQOM	**Qom**	**3.49**	**16**	*e*Pn		**Pn**	**08 46 15.5**	**+0.6**
IALM	**Almabolaq**	**3.65**	**337

	SNR=12							
MDH	**Madha**	**8.37**	**136**	P		**Pn**	**08 47 22.1**	**+0.4**
MDH				P		**Pn**	**08 47 22.1**	**+0.4**
MZWR	**Madinat Zayed**	**8.48**	**154**	P		**Pn**	**08 47 24.9**	**+1.7**
UOSS	**Minazif**	**8.59**	**138**	P		**Pn**	**08 47 25.1**	**+0.5**
HATD	**Hatta, Dubai**	**8.64**	**139**	S		**Sn**	**08 48 58.8**	**-3.2**
ISFR	**Sfrayin**	**8.72**	**48**	*e*Pn		**Pn**	**08 47 26.7**	**0.0**
ALNE	**Al Ain**	**9.05**	**143**	P		**Pn**	**08 47 31.9**	**+0.9**
GEYT	**Alibeck**	**9.34**	**44**	Pn		**Pn**	**08 47 33.7**	**-1.3**
	comp=Z,0.8nm,0.3s,baz=219,slow=18,SNR=11							
GEYT				LR		LR	08 51 09.1	
	comp=Z,41nm,21.3s,baz=210,slow=38							
ARQ	**Araqi**	**10.04**	**142**	P		**Pn**	**08 47 44.8**	**+0.1**
	SNR=6.8							
BSY	**Bisya**	**10.88**	**141**	P		**Pn**	**08 47 58.0**	**+1.8**
	SNR=11							
ASF	**Jabal al Asfar**	**11.06**	**277**	Pn		**Pn**	**08 47 57.4**	**-1.1**
	comp=Z,4.3nm,0.3s,baz=286,slow=6.9,SNR=34							
WSAR	**Wadi Sarin**	**11.32**	**134**	Pn		**Pn**	**08 48 00.8**	**-1.3**
	comp=Z,1.3nm,0.3s,baz=330,slow=14,SNR=13							
MMAI	**Mount Meron Ar**	**12.34**	**281**	LR		LR	08 53 40.0	
	comp=Z,28nm,18.5s,baz=230,slow=41							
MHTO	**MHTO**	**12.73**	**143**	P		**Pn**	**08 48 22.0**	**+0.6**
	SNR=10							
EIL	**Elat**	**12.98**	**266**	Pn		**Pn**	**08 48 23.3**	**-1.5**
	comp=Z,1.1nm,0.3s,baz=90,slow=6.8,SNR=15							
DOK	**Doka**	**13.38**	**162**	P		**Pn**	**08 48 30.4**	**0.0**
	SNR=33							
KBZ	**Khabaz**	**13.40**	**338**	LR		LR	08 54 12.2	
	comp=Z,62nm,18.7s,baz=178,slow=40							
BRTR	**Keskin Array B**	**15.53**	**306**	Pn		**Pn**	**08 49 00.6**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=128,slow=13,SNR=11							
AKTO	**Aktyubinsk**	**19.88**	**15**	P		**P**	**08 49 50.2**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=210,slow=11,SNR=8.1							
AKTO				LR		LR	08 59 24.2	
	comp=Z,39nm,20.6s,baz=159,slow=43							
ATD	**Arta Tunnel**	**20.90**	**200**	LR		LR	08 58 06.1	
	comp=Z,18nm,18.7s,baz=47,slow=37							
BELG	**Belogorno ye**	**20.95**	**356**	P		**P**	**08 50 01.2**	**-1.6**
	comp=Z,15nm,0.6s,baz=222,slow=2.4,SNR=4.7							
JURR	**Jurilovca**	**21.10**	**315**	⇓P		**P**	**08 50 04.1**	**-0.3**
IDI	**Anoyia**	**21.18**	**287**	P		**P**	**08 50 06.3**	**+0.8**
	comp=Z,4.9nm,0.3s,baz=152,slow=4.6,SNR=10							
TPGR	**Topolog**	**21.42**	**315**	⇑P		**P**	**08 50 07.8**	**-0.1**
HARR	**Harsova**	**21.64**	**314**	⇑P		**P**	**08 50 11.1**	**+0.9**
CFR	**Carcaliu**	**21.76**	**315**	⇑P		**P**	**08 50 11.1**	**-0.4**
AAK	**Ala-Archa**	**22.50**	**53**	LR		LR	09 00 42.4	
	comp=Z,43nm,18.0s,baz=204,slow=41							
KSH	**Kashi**	**22.66**	**62**	P		**P**	**08 50 26.0**	**+4.6**
KSH				pmax		pmax		
	comp=Z,7.0nm,0.8s							
VRI	**Vrincioaia**	**22.96**	**315**	⇑P		**P**	**08 50 24.3**	**-0.1**
PLOR	**Plostina**	**23.00**	**315**	⇑P		**P**	**08 50 24.6**	**-0.3**
MLR	**Muntele Rosu**	**23.26**	**314**	⇓P		**P**	**08 50 27.7**	**+0.2**
MLR	**Muntele Rosu**	**23.26**	**314**	P		**P**	**08 50 27.5**	**0.0**
	comp=Z,2.3nm,0.5s,baz=68,slow=4.1,SNR=6.8							
SORM	**Soroca**	**23.32**	**322**	⇑P		**P**	**08 50 25.7**	**-2.2**
TESR	**Tescani**	**23.35**	**317**	⇑P		**P**	**08 50 25.5**	**-2.7**
VOIR		**23.79**	**313**	⇑P		**P**	**08 50 33.3**	**+0.7**
DOPR	**Dopca**	**23.83**	**314**	⇓P		**P**	**08 50 33.5**	**+0.6**
ARR	**Arges**	**24.02**	**312**	⇓P		**P**	**08 50 36.4**	**+1.7**
AKASG	**Malin Array Be**	**24.56**	**327**	P		**P**	**08 50 38.4**	**-1.1**
	comp=Z,3.2nm,0.3s,baz=131,slow=9.1,SNR=27							
BURAR	**Bucovina Array**	**24.76**	**318**	⇑P		**P**	**08 50 41.5**	**0.0**
ARU	**Arti**	**25.66**	**11**	LR		LR	09 03 34.5	
	comp=Z,30nm,18.9s,baz=190,slow=43							
BVAR	**Borovoye Array**	**26.16**	**29**	P		**P**	**08 50 52.4**	**-1.7**
	comp=Z,1.3nm,0.5s,baz=204,slow=18,SNR=5.7							
KIRV	**Kirov**	**27.10**	**359**	LR		LR	09 04 39.6	
	comp=Z,35nm,18.7s,baz=189,slow=43							
MKAR	**Makanchi Array**	**29.17**	**49**	P		**P**	**08 51 21.3**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=244,slow=10,SNR=5.9							
WTTA	**Wattenberg**	**33.11**	**309**	*e*P		**P**	**08 51 56.0**	**0.0**
	comp=Z,5.1nm,0.5s							
WATA	**Walderalm**	**33.17**	**310**	*e*P		**P**	**08 51 55.8**	**-0.7**
	comp=Z,3.7nm,0.5s							
SQTA	**Sankt Quirin**	**33.38**	**309**	*e*P		**P**	**08 51 58.0**	**-0.3**
	comp=Z,4.5nm,0.3s							
MOTA	**Moosalm**	**33.48**	**309**	*e*P		**P**	**08 51 58.6**	**-0.6**
	comp=Z,1.3nm,0.3s							
ZALV	**Zalesovo Beam**	**33.57**	**38**	P		**P**	**08 52 00.0**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=241,slow=11,SNR=5.4							
FINES	**FINESS Array B**	**33.75**	**340**	P		**P**	**08 52 00.1**	**-1.0**
	comp=Z,2.1nm,0.5s,baz=148,slow=9.5,SNR=19							
DAVOX	**Davos/Dischmat**	**34.17**	**308**	LR		LR	09 08 42.9	
	comp=Z,25nm,19.3s,baz=79,slow=41							
DAVA	**Damuels**	**34.28**	**309**	*e*P		**P**	**08 52 05.4**	**-0.7**
	comp=Z,4.3nm,0.4s							
NC602	**NORSAR Array S**	**38.55**	**331**	*e*P		**P**	**08 52 42.8**	**+0.5**
NB2	**NORSAR Subarra**	**38.85**	**331**	P		**P**	**08 52 43.0**	**-1.8**
	comp=Z,1.2nm,0.5s,baz=123,slow=8.6							
NB2	**NORSAR Subarra**	**38.85**	**331**	P		**P**	**08 52 43.0**	**-1.8**
	baz=123,slow=8.6							
NOA	**NORSAR Array B**	**38.85**	**331**	P		**P**	**08 52 43.2**	**-1.5**
	comp=Z,1.0nm,0.5s,baz=122,slow=8.3,SNR=7.6							
ODD1	**Odda**	**40.31**	**328**	*e*P		**P**	**08 52 58.3**	**+1.4**
ARA0	**ARCESS Array S**	**40.51**	**347**	*e*P		**P**	**08 52 58.3**	**-0.1**
ARCES	**ARCESS Array B**	**40.51**	**347**	P		**P**	**08 52 57.2**	**-1.3**
	comp=Z,1.1nm,0.4s,baz=153,slow=7.8,SNR=25							
NSS	**Namsos**	**40.52**	**336**	*e*P		**P**	**08 52 58.3**	**-0.3**
KTK1	**Kautokeino**	**40.53**	**346**	*e*P		**P**	**08 52 57.4**	**-1.3**
GTA	**Gaotai**	**41.01**	**65**	*e*P		P	08 53 09.8	+6.7
GTA				pP		sP	08 53 16.6	+2.0
GTA				sP		pP	08 53 19.3	+8.0
GTA				pmax		pmax		
	comp=Z,3.0nm,1.0s							
BER	**Bergen**	**41.10**	**328**	*e*P		**P**	**08 53 04.1**	**+0.8**
STOK	**Stokkvaagen**	**41.28**	**338**	*e*P		**P**	**08 53 04.0**	**-0.7**
FAUS	**Fauske**	**41.29**	**341**	*e*P		**P**	**08 53 05.3**	**+0.5**
JETT	**Jettan, Norway**	**41.58**	**345**	*e*P		**P**	**08 53 07.4**	**+0.1**
STEI	**Steigen**	**41.68**	**341**	*e*P		**P**	**08 53 07.6**	**-0.4**
HAMF	**Hammerfest**	**41.78**	**347**	*e*P		**P**	**08 53 08.4**	**-0.4**
TRO	**Tromso**	**41.98**	**344**	*e*P		**P**	**08 53 09.7**	**-0.7**
LOF	**Lofoten**	**42.29**	**341**	*e*P		**P**	**08 53 12.3**	**-0.6**
BJO1	**Bjornoya**	**45.75**	**349**	*e*P		**P**	**08 53 40.7**	**+0.1**
TORD	**Torodi Ar. Bea**	**47.74**	**259**	P		**P**	**08 53 57.7**	**+0.6**
	comp=Z,1.9nm,0.5s,baz=56,slow=8.2,SNR=18							
SPA0	**Spitsbergen Ar**	**49.04**	**351**	*e*P		**P**	**08 54 06.9**	**+0.6**
KSRS	**Korea Array**	**62.90**	**61**	P		**P**	**08 55 45.0**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=280,slow=6.8,SNR=2.5							
SCHQ	**Schefferville**	**78.35**	**328**	P		**P**	**08 57 19.0**	**-0.9**
	comp=Z,3.2nm,0.8s,baz=51,slow=6.5,SNR=1.7							

*IDC **23** 08:53:43.9±1.0,30°.33S×72°.75W, h0km, mb3.8/6, mb1 4.0/10, mb1mx3.9/25, mbtmp3.8/10, ML3.8/4, MS2.8/2, Ms1 2.8/2, ms1mx2.5/24, Error ellipse: s-maj=31.0km s-min=23.8km az=89.0*
*GUC **23** 08:53:47.9±0.4,30°.27S×72°.55W, h39km±2km, ML3.8*
*VAO **23** 08:53:49.4±0.7,30°.19S×72°.38W, h10km, mb4.2*
ISC 23 08:53:46.7±3.3,30°.27S±0°.04×72°.64W±0°.07, h15km±21km, n58,σ1♀55/66, mb3.7/6, 1C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.95**	**115**	*e*P		**Pb**	**08 54 04.1**	**-0.9**
CO06				*i* S		**Sb**	**08 54 16.5**	**-1.0**
CO06				IAML			08 54 18.6	
	comp=E,4μm,0.2s							
CO05	**La Serena**	**1.26**	**74**	*e*P		**Pn**	**08 54 08.9**	**-1.0**
CO05				*i* S		**Sb**	**08 54 24.6**	**-1.7**
CO05				IAML			08 54 26.4	
	comp=N,3μm,0.4s							
GO04	**Tololo Observa**	**1.59**	**87**	*e*P		**Pn**	**08 54 14.4**	**-0.2**
GO04				*i* S		**Sn**	**08 54 34.4**	**-0.7**
GO04				IAML			08 54 38.5	
	comp=E,2μm,0.2s							
CO03	**El Pedregal**	**1.77**	**109**	⇓P		**Pn**	**08 54 16.9**	**-0.1**
CO03				*i* S		**Sn**	**08 54 38.8**	**-0.5**
CO03				IAML			08 54 39.9	
	comp=N,3μm,0.5s							
LCO	**Las Campanas**	**2.10**	**54**	⇓*i* P		**Pn**	**08 54 21.1**	**-0.6**
LCO				*i* S		**Sn**	**08 54 45.7**	**-2.0**
AC04	**Llanos de Chal**	**2.47**	**34**	⇓*i* P		**Pn**	**08 54 24.5**	**-2.0**
AC04				*i* S		**Sn**	**08 54 53.2**	**-3.2**
AC04				IAML			08 54 54.0	
	comp=E,732nm,0.2s							
VA06	**Catapilco**	**2.55**	**154**	*e*P		**Pn**	**08 54 26.2**	**-1.4**
VA06				*i* S		**Sn**	**08 54 54.6**	**-3.8**
VA06				IAML			08 54 59.4	
	comp=E,579nm,0.4s							
VA03	**San Esteban**	**3.06**	**145**	⇓*i* P		**Pn**	**08 54 34.7**	**0.0**
GO03	**Copiap**	**3.40**	**39**	⇑*e* P		**Pn**	**08 54 38.2**	**-1.2**
GO03				*i* S		**Sn**	**08 55 17.2**	**-2.2**
GO03				IAML			08 55 19.1	
	comp=E,246nm,0.1s							
LMEL	**Las Melosas**	**4.12**	**151**	⇓*i* P		**Pn**	**08 54 49.5**	**+0.1**
LVC	**Limon Verde**	**8.33**	**25**	Pn		**Pn**	**08 55 45.3**	**-2.0**
	comp=E,0.3nm,0.3s,baz=230,slow=6.5,SNR=3.6							
LVC				Sn		**Sn**	**08 57 16.8**	**-4.5**
	comp=E,0.5nm,0.3s,baz=112,slow=23,SNR=1.6							
LVC	**Limon Verde**	**8.33**	**25**	*e*P		**Pn**	**08 55 47.0**	**-0.4**
PLCA	**Paso Flores**	**10.58**	**171**	Pn		**Pn**	**08 56 15.1**	**-2.7**
	comp=E,0.2nm,0.3s,baz=340,slow=14,SNR=7.5							
PLCA				LR		LR	09 00 08.6	
	comp=E,29nm,18.8s,baz=326,slow=36							
CPUP	**Villa Florida**	**14.04**	**78**	LR		LR	09 03 02.2	
	comp=E,68nm,19.0s,baz=244,slow=40							
LPAZ	**La Paz**	**14.52**	**18**	Pn		**Pn**	**08 57 12.3**	**-0.1**
	comp=E,0.2nm,0.3s,baz=186,slow=8.2,SNR=9.7							
LPAZ	**La Paz**	**14.52**	**18**	*e*P		**Pn**	**08 57 14.7**	**+2.3**
SIV	**San Ignacio**	**17.73**	**39**	P		**Pn**	**08 57 53.5**	**+0.2**
	comp=E,0.5nm,0.3s,baz=231,slow=11,SNR=12							
AQDB	**Aquidauana**	**18.13**	**61**	*e*P		**Pn**	**08 57 59.1**	**+1.0**
CNLB	**Canela**	**18.93**	**93**	*e*P		**P**	**08 58 07.7**	**+0.4**
PTGB	**Pitanga**	**19.06**	**78**	*e*P		**P**	**08 58 09.6**	**+0.9**
PP1B	**Ponte de Pedra**	**20.52**	**56**	*e*P		**P**	**08 58 25.5**	**+0.9**
TER01	**Tubaro-SC**	**20.55**	**91**	*e*P		**P**	**08 58 25.7**	**+0.8**
PCMB	**Pacaembu**	**21.05**	**71**	*e*P		**P**	**08 58 30.9**	**+0.7**
ETMB	**Extrema**	**21.22**	**18**	*e*P		**P**	**08 58 33.6**	**+1.6**
FRTB	**Fartura**	**21.70**	**77**	*e*P		**P**	**08 58 37.7**	**+0.4**
CZSB	**Cruzeiro do Su**	**22.43**	**360**	*e*P		**P**	**08 58 47.6**	**+2.5**
ITRB	**Iturama**	**22.73**	**68**	*e*P		**P**	**08 58 49.3**	**+0.9**
SAML	**Samuel**	**22.98**	**25**	*e*P		**P**	**08 58 52.1**	**+1.1**
PET01	**Itanhaem-SP**	**23.29**	**81**	*e*P		**P**	**08 58 55.0**	**+0.9**
SPB	**Sao Paulo**	**23.41**	**80**	*e*P		**P**	**08 58 56.3**	**+1.1**
BB19B	**Bebedouro**	**23.55**	**73**	*e*P		**P**	**08 58 58.0**	**+1.3**
RCLB	**Rio Claro- Sao**	**23.79**	**77**	*e*P		**P**	**08 59 00.1**	**+1.1**
VAO	**Valinhos**	**24.03**	**79**	*e*P		**P**	**08 59 01.7**	**+0.4**
CLDB	**Colider**	**24.86**	**43**	*e*P		**P**	**08 59 09.8**	**+0.9**
IPMB	**Ipameri, GO**	**25.36**	**67**	*e*P		**P**	**08 59 13.8**	**+0.2**
TBTG	**Tabatinga, AM**	**26.07**	**6**	*e*P		**P**	**08 59 20.9**	**+1.0**
BSCB	**Bom Sucesso**	**26.71**	**76**	*e*P		**P**	**08 59 27.0**	**+1.3**
BDFB	**Brasilia**	**26.86**	**63**	P		**P**	**08 59 28.0**	**+0.8**
	comp=E,3.0nm,0.6s,baz=219,slow=9.0,SNR=6.1							
SNDB	**Serra Nova Dou**	**26.89**	**52**	*e*P		**P**	**08 59 28.7**	**+1.4**
NPGB	**Novo Progresso**	**28.23**	**39**	*e*P		**P**	**08 59 41.8**	**+2.5**
DIAM	**Diamantina, MG**	**28.88**	**72**	*e*P		**P**	**08 59 46.3**	**+1.1**
PEXB	**Peixe**	**28.90**	**57**	*e*P		**P**	**08 59 46.9**	**+1.7**
JANB	**Januaria**	**30.09**	**66**	*e*P		**P**	**08 59 58.0**	**+2.1**
ALF01	**Guarapari-ES**	**30.29**	**79**	*e*P		**P**	**08 59 59.6**	**+2.1**
SMTB	**Santa Maria do**	**31.65**	**53**	*e*P		**P**	**09 00 11.9**	**+2.4**
NBIT	**Itapeh - BA**	**34.09**	**71**	*e*P		**P**	**09 00 33.0**	**+2.1**
GDU01	**Guandu, BA**	**34.63**	**69**	*e*P		**P**	**09 00 36.2**	**+0.6**
NBMA	**Muriti-CE**	**39.08**	**61**	*e*P		**P**	**09 01 14.7**	**+1.2**
VNA3	**Neumayer Olymp**	**53.00**	**159**	P		**P**	**09 03 03.4**	**+0.9**
VNA1	**Neumayer--Stat**	**53.30**	**158**	P		**P**	**09 03 06.0**	**+1.3**
VNA2	**Neumayer--Watz**	**53.65**	**158**	P		**P**	**09 03 07.8**	**+0.6**
	baz=281,slow=7.9							
SNAA	**Sanae**	**55.23**	**159**	P		**P**	**09 03 19.1**	**+0.3**
TXAR	**Lajitas Array**	**66.24**	**331**	P		**P**	**09 04 32.8**	**-1.5**
	comp=E,0.3nm,0.7s,baz=153,slow=7.3,SNR=5.2							
MAW	**Mawson**	**76.89**	**164**	P		**P**	**09 05 37.0**	**-0.9**
	comp=E,2.3nm,0.9s,baz=118,slow=22,SNR=4.1							
PDAR	**Pinedale Array**	**80.21**	**333**	P		**P**	**09 05 56.9**	**+0.2**
	comp=E,0.3nm,0.6s,baz=111,slow=6.5,SNR=3.6							
NVAR	**Mina Array Bea**	**80.54**	**325**	P		**P**	**09 05 58.9**	**+0.3**
	comp=E,0.4nm,0.6s,baz=156,slow=6.2,SNR=4.2							
TORD	**Torodi Ar. Bea**	**83.44**	**71**	P		**P**	**09 06 14.4**	**+0.3**
	comp=E,0.5nm,0.7s,baz=266,slow=4.9,SNR=3.4							
ZALV	**Zalesovo Beam**	**151.27**	**28**	PKPbc		**PKPbc**	**09 13 39.7**	**+0.5**
	comp=E,4.2nm,0.6s,baz=312,slow=3.1,SNR=15							

KRNET 23 09:15:42.4±0.1,43°.57N×79°.16E, mb2.6, 8C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PRZ	**Przheval'sk**	**1.22**	**207**	⇑*i* P		Pg	09 16 04.8	-1.1
	baz=8.0							
PRZ				⇑*i* S		Sg	09 16 20.8	-0.9
	baz=8.0							
ANVS	**Anan'yevo**	**1.35**	**235**	⇑*i* P		Pg	09 16 06.9	-1.4
	baz=35							
ANVS				⇑*i* S		Sg	09 16 25.0	-0.7
	baz=35							
KDJ	**Kajisay**	**2.05**	**226**	⇑*i* P		Pn	09 16 17.2	-1.1
	baz=26							
KDJ				⇑*i* S		Sn	09 16 42.9	-1.8
	baz=26							
BOOM	**Boomskoye usch**	**2.60**	**246**	⇑*i* P		Pn	09 16 24.7	-1.2
	baz=46							
BOOM				⇑*i* S		Sn	09 16 56.0	-2.2
	baz=46							

*NNC **23** 09:16:25.4±0.6, 43°.07N×78°.23E, h8km±5km, mb2.8, mpv2.4, Error ellipse: s-maj=7.0km s-min=3.3km az=2.0*
*SOME **23** 09:16:25.7, 43°.03N×78°.20E, h15km*
ISC 23 09:16:25.3±1.4,43°.08N±0°.05×78°.21E±0°.03, h15km±16km, n14,σ0♀25/27, 3C-1D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SATY	**Saty**	**0.14**	**99**	*e*P		**Pb**	**09 16 29.8**	**0.0**
	6.1nm,0.1s							
SATY				*e*S		**Sb**	**09 16 32.9**	**+0.1**
	80nm,0.1s							
SATY	**Saty**	**0.14**	**99**	P		**Pb**	**09 16 29.8**	**0.0**
	6.1nm,0.1s							
SATY				S		**Sb**	**09 16 32.9**	**+0.1**
	72nm,0.1s							
KURS	**Kuram**	**0.41**	**356**	*e*P		**Pb**	**09 16 34.2**	**-0.1**
	1.0nm,0.1s							
KURS				*e*S		**Sb**	**09 16 40.2**	**-0.2**
	7.5nm,0.1s							
KURS	**Kuram**	**0.41**	**356**	P		**Pb**	**09 16 34.2**	**-0.1**
	1.0nm,0.1s							
KURS				S		**Sb**	**09 16 40.3**	**-0.2**
	7.5nm,0.1s							
KPKS	**Kokpek**	**0.52**	**42**	*e*P		**Pb**	**09 16 36.2**	**0.0**
	17nm,0.1s							
KPKS				*e*S		**Sb**	**09 16 43.6**	**0.0**
	7.6nm,0.2s							
TNSS	**Tian-Shan**	**0.93**	**268**	*e*P		**Pb**	**09 16 43.2**	**-0.2**
	0.7nm,0.1s							
TNSS				*e*S		**Sb**	**09 16 55.8**	**+0.1**
	2.2nm,0.1s							
TNSS	**Tian-Shan**	**0.93**	**268**	P		**Pb**	**09 16 43.2**	**-0.2**
	0.7nm,0.1s							
TNSS				S		**Sb**	**09 16 55.8**	**+0.1**
	2.2nm,0.1s							
PDGK	**Podgornoye**	**0.97**	**75**	P		**Pb**	**09 16 43.7**	**-0.2**
	0.5nm,0.2s							
PDGK				S		**Sb**	**09 16 56.6**	**0.0**
	1.8nm,0.2s							
PDGK	**Podgornoye**	**0.97**	**75**	⇑P		**Pb**	**09 16 44.0**	**+0.1**
	1.3nm,0.8s							
PDGK				⇑S		**Sb**	**09 16 56.7**	**+0.2**
	2.2nm,0.5s							
KTBS	**Karatobe**	**1.28**	**300**	*e*P		**Pb**	**09 16 49.6**	**+0.3**
	1.4nm,0.2s							
KTBS				*e*S		**Sg**	**09 17 06.7**	**-0.1**
	3.9nm,0.3s							
KTBS	**Karatobe**	**1.28**	**300**	P		**Pb**	**09 16 49.6**	**+0.3**
	1.4nm,0.2s							
KTBS				S		**Sg**	**09 17 06.7**	**-0.1**
	3.9nm,0.3s							
KUU	**Kurty**	**1.59**	**301**	*e*P		**Pg**	**09 16 55.6**	**-0.2**
	0.7nm,0.2s							
KUU				*e*S		**Sg**	**09 17 17.1**	**+0.6**
	11nm,0.2s							
KUU	**Kurty**	**1.59**	**301**	P		**Pg**	**09 16 55.6**	**-0.2**
	0.7nm,0.2s							
KUU				S		**Sg**	**09 17 17.1**	**+0.6**
	11nm,0.2s							
TKM2	**Tokmak 2**	**1.93**	**266**	⇓Pg		**Pb**	**09 17 00.1**	**-0.2**
	0.8nm,0.6s							
TKM2				⇑Lg		Lg	09 17 27.0	
	1.0nm,0.5s							

MEX 23 09:19:23.5±0.8,18°.38N×106°.03W, h5km, MD4.0, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
R15V		**2.09**	**68**	*e*P		Pn	09 19 55.3	-4.0
R15V				*i* S		Sn	09 20 21.5	-4.2
COIG	**Colima**	**2.35**	**70**	*e*P		Pn	09 19 59.2	-3.7
COIG				*e*S		Sn	09 20 27.8	-4.4
EZ5V		**2.54**	**64**	*e*P		Pn	09 20 02.9	-2.7
EZ5V				*e*S		Sn	09 20 33.0	-4.1
MMIG	**Aquila**	**2.55**	**92**	*e*P		Pn	09 20 03.2	-2.3
MMIG				*e*S		Sn	09 20 33.3	-3.6

*IDC **23** 09:20:40.6±1.2,30°.62S×71°.83W, h0km, mb4.3/4, mb1 4.0/9, mb1mx3.9/28, mbtmp4.0/9, ML3.7/5, MS3.2/3, Ms1 3.2/3, ms1mx2.9/21, Error ellipse: s-maj=45.8km s-min=22.1km az=111.0*
*SJA **23** 09:20:43.0, 30°.59S×72°.09W, h10km, ML4.6*
*NEIC **23** 09:20:45.0±1.9, 30°.65S±0°.01×71°.75W±0°.07, h25km±4km, mb4.3/21, ML4.4(GUC), Error ellipse: s-maj=8.7km s-min=1.3km az=95.0*
*GUC **23** 09:20:45.1±0.7, 30°.65S×71°.72W, h36km±1km, ML4.4*
ISC 23 09:20:45.1±0.7,30°.63S±0°.03×71°.76W±0°.05, h31km±5km, n111,σ1♀28/115, mb4.3/7, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.11**	**114**	⇑*i* P		**Pb**	**09 20 50.5**	**-0.1**
CO06				*i* S		**Sb**	**09 20 54.1**	**-0.3**
CO06				IAML			09 20 54.7	
	comp=E,130μm,0.4s							
CO06	**Fray Jorge**	**0.11**	**114**			**Pb**	**09 20 50.2**	**-0.4**
CO06				Sg		**Sb**	**09 20 54.0**	**-0.4**
CO05	**La Serena**	**0.84**	**32**	⇓*i* P		**Pn**	**09 21 00.9**	**+0.2**
CO05				*e*S		**Sn**	**09 21 12.3**	**+0.3**
CO05				IAML			09 21 15.2	
	comp=N,11μm,0.4s							
CO05	**La Serena**	**0.84**	**32**	Pn		**Pb**	**09 21 01.1**	**-0.1**
CO05						**Sn**	**09 21 12.9**	**+0.8**
CO03	**El Pedregal**	**0.94**	**103**	⇓*i* P		**Pn**	**09 21 01.8**	**-0.5**
CO03				*i* S		**Sn**	**09 21 14.0**	**-0.7**
CO03				IAML			09 21 14.3	
	comp=E,11μm,0.5s							
CO03	**El Pedregal**	**0.94**	**103**	Pn		**Pn**	**09 21 01.9**	**-0.5**
CO03				Sg		**Sn**	**09 21 14.1**	**-0.7**
GO04	**Tololo Observa**	**0.94**	**61**	*e*P		**Pn**	**09 21 02.4**	**-0.1**
GO04				*i* S		**Sb**	**09 21 14.9**	**-0.4**
GO04				IAML			09 21 19.0	
	comp=E,36μm,0.6s							
GO04	**Tololo Observa**	**0.94**	**61**			**Pn**	**09 21 02.6**	**+0.1**
GO04				Sg		**Sn**	**09 21 17.3**	**+2.3**
GO04	**Tololo Observa**	**0.94**	**61**	*i* P		**Pn**	**09 21 02.0**	**-0.5**
LCO	**Las Campanas**	**1.85**	**30**	⇑*i* P		**Pn**	**09 21 16.2**	**+1.1**
LCO				*i* S		**Sb**	**09 21 40.3**	**-1.1**
LCO	**Las Campanas**	**1.85**	**30**	Pn		**Pn**	**09 21 16.6**	**+1.6**
LCO	**Las Campanas**	**1.85**	**30**	*i* P		**Pn**	**09 21 16.0**	**+1.0**
VA06	**Catapilco**	**1.97**	**169**	*e*P		**Pn**	**09 21 16.6**	**+0.3**
VA06				*i* S		**Sb**	**09 21 42.1**	**-2.2**
VA06				IAML			09 21 52.3	
	comp=N,5μm,0.4s							
AROD	**Rodeo**	**2.02**	**77**	*i* P		**Pb**	**09 21 21.0**	**-0.4**
ACCO	**Cerro Coronel**	**2.32**	**90**	*i* P		**Pb**	**09 21 26.0**	**-0.4**
ACDV	**Cuesta del Vie**	**2.32**	**79**	*i* P		**Pb**	**09 21 26.0**	**-0.4**
VA03	**San Es

FLOC				IAmb	IAmb	09 27 34.3		
	comp=Z,8.4nm,1.4s							
VA02	**Isla de Pascua**	**33.07**	**266**	P	**P**	**09 27 17.8**	**-0.3**
PAYG	**Puerto Ayora**	**34.60**	**326**	P	**P**	**09 27 29.8**	**-1.7**
CDVI	**St. Croix**	**48.57**	**9**	P	**P**	**09 29 25.8**	**+0.2**
GTBY	**Guantanamo Bay**	**50.37**	**356**	P	**P**	**09 29 39.8**	**+0.4**
VNA3	**Neumayer Olymp**	**52.39**	**159**	P	**P**	**09 29 54.9**	**+0.8**
VNA3	**Neumayer Olymp**	**52.39**	**159**	pP	pP	09 30 02.3	-1.1
VNA2	**Neumayer--Watz**	**53.03**	**158**	P	**P**	**09 29 59.2**	**+0.5**
VNA2	**Neumayer--Watz**	**53.03**	**158**	pP	pP	09 30 07.3	-0.7
	baz=283,slow=8.6							
SNAA	**Sanae**	**54.62**	**159**	P	**P**	**09 30 10.8**	**+0.4**
SNAA	**Sanae**	**54.62**	**159**	pP	pP	09 30 19.1	-0.6
SNAA	**Sanae**	**54.62**	**159**	P	**P**	**09 30 10.9**	**+0.4**
SNAA				IAmb	IAmb	09 30 19.8		
	comp=Z,2.2nm,0.7s							
545A	**Edgard**	**62.92**	**342**	P	**P**	**09 31 08.1**	**-0.3**
Z47A	**Carrollton**	**65.33**	**345**	P	**P**	**09 31 24.2**	**+0.1**
JCT	**Junction City**	**66.37**	**334**	P	**P**	**09 31 32.0**	**+1.0**
OK032	**Salt Plains WL**	**71.52**	**338**	P	**P**	**09 32 03.2**	**+0.3**
DBIC	**Dimbokro**	**73.89**	**72**	P	**P**	**09 32 17.9**	**+0.4**
	comp=Z,1.9nm,0.4s,baz=231,slow=5.8,SNR=6.8							
DBIC	**Dimbokro**	**73.89**	**72**	P	**P**	**09 32 18.1**	**+0.6**
MAW	**Mawson**	**76.34**	**164**	P	**P**	**09 32 31.5**	**+0.8**
	comp=Z,1.4nm,0.4s,baz=227,slow=7.8,SNR=10							
MAW	**Mawson**	**76.34**	**164**	P	**P**	**09 32 31.5**	**+0.8**
TORD	**Torodi Ar. Bea**	**82.84**	**70**	P	**P**	**09 33 07.0**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=281,slow=5.7,SNR=22							
TORD	**Torodi Ar. Bea**	**82.84**	**70**	P	**P**	**09 33 06.8**	**-0.1**
TORD				IAmb	IAmb	09 33 20.3		
	comp=Z,3.3nm,1.1s							
WRA	**Warramunga Arr**	**123.81**	**210**	PKP	**PKPdf**	**09 39 39.8**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=172,slow=3.7,SNR=4.9							
WRA	**Warramunga Arr**	**123.81**	**210**		**PKPdf**	**09 39 40.3**	**-0.3**
H11S2	**WAKE ISLAND Hyd**	**126.00**	**271**	T	T	11 58 29.2		
	baz=115,slow=75,SNR=58							
H11S1	**WAKE ISLAND Hyd**	**126.01**	**271**	T	T	11 58 26.3		
	baz=115,slow=75,SNR=30							
H11S3	**WAKE ISLAND Hyd**	**126.01**	**271**	T	T	11 58 30.5		
	baz=115,slow=75,SNR=34							
BVAR	**Borovoye Array**	**144.60**	**40**	PKP	**PKPdf**	**09 40 18.4**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=264,slow=6.0,SNR=3.6							
KURBB	**Kurchatov Arra**	**150.19**	**39**	PKPbc	**PKiKP**	**09 40 33.5**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=302,slow=3.2,SNR=8.2							
KURK	**Kurchatov**	**150.19**	**39**		**PKiKP**	**09 40 33.5**	**+0.1**
ZALV	**Zalesovo Beam**	**151.21**	**29**	PKPbc	**PKiKP**	**09 40 35.8**	**+0.4**
	comp=Z,3.6nm,0.8s,baz=270,slow=3.0,SNR=10.0							

NIED ***23*** *09:34:59.0,30.°10N×131.°30E,h24km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}1.23; $M_{\theta\theta}$-0.36; $M_{\phi\phi}$-0.86; $M_{r\theta}$0.28; $M_{\theta\phi}$-0.61; $M_{r\phi}$0.60; Fault plane solution: $M_0$1.42000×10¹⁵ NP1:ϕ_s30.00000°, δ59.00000°, λ85.00000°. NP2:ϕ_s218.00000°, δ31.00000°, λ98.00000°.*

JMA 23 09:34:59.0±0.1,**30.°10N×131.°29E,h24**km±1km,**M3.6, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMTN	**Minamitane**	**0.45**	**311**	P	Pb	09 35 08.1	-0.2
JMTN				S	Sb	09 35 14.7	0.0
JTN	**Tanegashima 3**	**0.61**	**334**	P	Pb	09 35 11.0	-0.1
JTN				S	Sb	09 35 19.4	0.0
JYAK	**Yakushimahirau**	**0.69**	**282**	P	Pb	09 35 12.2	-0.2
JYAK				*eS*	Sb	09 35 21.3	-0.2
JKC	**Kuchinoerabu**	**1.01**	**291**	P	Pn	09 35 17.7	0.0
JKC				*eS*	Sb	09 35 30.0	-0.8
JTSR	**Tashiro 2**	**1.11**	**343**	P	Pn	09 35 18.9	-0.2
JTSR				*eS*	Sn	09 35 33.7	+0.1
JNN	**Nakanoshima**	**1.25**	**258**	P	Pn	09 35 21.4	+0.4
JNAR	**Kushima--Naru**	**1.42**	**359**	P	Pn	09 35 23.6	+0.3
JNKG	**Nichinankitago**	**1.56**	**3**	P	Pn	09 35 25.9	+0.7
JNKG				*eS*	Sn	09 35 45.4	+0.7
JSU	**Suzuyama**	**1.57**	**333**	P	Pn	09 35 25.5	0.0
JSU				*eS*	Sn	09 35 44.6	-0.5
JTAJ	**Takarajima**	**2.05**	**243**	P	Pb	09 35 33.8	-1.7
JAM	**Amami Oshima**	**2.24**	**222**	P	Pn	09 35 35.6	+1.1
JAM				S	Sn	09 36 02.1	+0.7
JAMN	**Amaminishikomi**	**2.62**	**226**	P	Pn	09 35 40.7	+0.9
JAMN				*eS*	Sn	09 36 11.4	+0.6
JTK	**Tokunoshima**	**3.09**	**222**	P	Pn	09 35 47.0	+0.8
JTK				S	Sn	09 36 23.9	+1.5

IDC ***23*** *10:05:49.3±1.0,31.°55S×71.°62W,h0km,mb3.8/6, mb1 3.8/10,mb1mx3.7/32,mbtmp3.7/10,ML3.7/4,MS2.9/4, Ms1 2.8/4,ms1mx2.7/23,Error ellipse: s-maj=42.9km s-min=19.0km az=95.0*

NEIC ***23*** *10:05:49.8±2.2,31.°54S±0.°03×71.°97W±0.°09,h10km±1km, mb4.5/29,ML4.0(GUC),Error ellipse: s-maj=13.5km s-min=4.1km az=277.0*

SJA ***23*** *10:05:52.0,31.°57S×72.°07W,h10km,ML4.5*

GUC ***23*** *10:05:53.2±0.8,31.°57S×71.°69W,h39km±3km,ML4.0*

ISC 23 10:05:48.8±1.4,**31.°51S**±0.°02×**71.°91W**±0.°05,**h7**km±8km, **n124,**σ1ᵎ**46**/121,**mb4.3**/14,**4C-1D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.86**	**16**	⇑*iP*	**Pn**	**10 06 09.7**	**+2.4**
CO06				*i* S	**Sn**	**10 06 21.1**	**+0.9**
CO06				IAML		10 06 25.4	
	comp=E,5μm,0.4s						
CO06	**Fray Jorge**	**0.86**	**16**		**Pn**	**10 06 09.8**	**+2.4**
CO06					**Sn**	**10 06 21.8**	**+1.5**
VA06	**Catapilco**	**1.17**	**154**	⇑*iP*	**Pg**	**10 06 12.3**	**+1.0**
VA06				*i* S	**Sb**	**10 06 26.0**	**-0.8**
VA06				IAML		10 06 28.5	
	comp=N,12μm,0.3s						
CO03	**El Pedregal**	**1.24**	**58**	⇓*iP*	**Pg**	**10 06 13.5**	**+0.9**
CO03				*i* S	**Sn**	**10 06 28.1**	**-1.6**
CO03	**El Pedregal**	**1.24**	**58**	Pn	**Pg**	**10 06 13.4**	**+0.9**
CO03				Sn	**Sn**	**10 06 28.7**	**-1.0**
CO03	**El Pedregal**	**1.24**	**58**	*iP*	**Pg**	**10 06 14.0**	**+1.5**
VA01	**Torpederas**	**1.53**	**172**	*eP*	**Pb**	**10 06 17.9**	**+0.5**
VA01				IAML		10 06 45.0	
	comp=N,1μm,0.2s						
VA01	**Torpederas**	**1.53**	**172**	Pn	**Pb**	**10 06 18.1**	**+0.5**
VA01				Sn	**Sn**	**10 06 36.1**	**-0.6**
VA01	**Torpederas**	**1.53**	**172**	*iP*	**Pb**	**10 06 18.0**	**+0.5**
GO04	**Tololo Observa**	**1.64**	**36**	⇑*iP*	**Pg**	**10 06 20.8**	**+0.6**
GO04				*i* S	**Sg**	**10 06 41.8**	**+0.4**
GO04	**Tololo Observa**	**1.64**	**36**	Pn	**Pg**	**10 06 20.5**	**+0.3**
ROCH	**El Roble**	**1.65**	**153**	*eP*	**Pb**	**10 06 19.4**	**-0.2**
ROCH				*i* S	**Sn**	**10 06 38.8**	**-1.2**
ROCH				IAML		10 06 44.0	
	comp=N,3μm,0.3s						
CO05	**La Serena**	**1.68**	**20**	*eP*	**Pg**	**10 06 21.9**	**+0.8**
CO05				*i* S	**Sg**	**10 06 43.2**	**+0.3**
CO05				IAML		10 06 49.0	
	comp=N,2μm,0.2s						
CO05	**La Serena**	**1.68**	**20**	Pn	**Pg**	**10 06 21.3**	**+0.2**
VA03	**San Esteban**	**1.70**	**138**	*eP*	**Pb**	**10 06 19.9**	**-0.7**
VA03				*i* S	**Sn**	**10 06 39.6**	**-1.6**
VA03				IAML		10 06 44.8	
	comp=E,7μm,0.5s						
VA03	**San Esteban**	**1.70**	**138**		**Pg**	**10 06 20.8**	**-0.7**
VA03	**San Esteban**	**1.70**	**138**	*i* P	**Pg**	**10 06 21.0**	**-0.4**
MT05	**Renca**	**2.12**	**153**	*eP*	**Pb**	**10 06 26.7**	**-1.0**
MT05				*i* S	**Sn**	**10 06 51.0**	**-0.6**
MT05				IAML		10 06 57.5	
	comp=E,3μm,0.4s						
MT05	**Renca**	**2.12**	**153**	Pn	**Pb**	**10 06 26.7**	**-1.0**
MT05	**Renca**	**2.12**	**153**	*iP*	**Pb**	**10 06 27.0**	**-0.7**
VA05	**Santo Domingo**	**2.12**	**173**	Pn	**Pn**	**10 06 26.6**	**+1.4**
RTLS	**Leoncito**	**2.25**	**98**	*iP*	**Pb**	**10 06 30.0**	**+0.1**
AUSP	**Uspallata**	**2.26**	**109**	*iP*	**Pb**	**10 06 30.0**	**-0.1**
MT09	**Talagante**	**2.39**	**161**	*eP*	**Pb**	**10 06 30.6**	**-1.7**
MT09				IAML		10 07 10.5	
	comp=E,1μm,0.3s						
MT09	**Talagante**	**2.39**	**161**		**Pn**	**10 06 29.9**	**+1.4**
MT01	**Popeta**	**2.42**	**167**	*eP*	**Pn**	**10 06 30.4**	**+1.6**
MT01				IAML		10 07 08.0	
	comp=N,2μm,0.7s						
MT01	**Popeta**	**2.42**	**167**		**Pn**	**10 06 30.4**	**+1.6**
MT01	**Popeta**	**2.42**	**167**	*iP*	**Pb**	**10 06 31.0**	**-1.6**
AROD	**Rodeo**	**2.48**	**58**	*iP*	**Pg**	**10 06 35.0**	**-1.4**
ACCO	**Cerro Coronel**	**2.64**	**70**	*iP*	**Pb**	**10 06 36.0**	**0.0**
LCO	**Las Campanas**	**2.70**	**23**	⇑*iP*	**Pb**	**10 06 35.8**	**-1.7**
LCO	**Las Campanas**	**2.70**	**23**	Pn	**Pn**	**10 06 35.0**	**+2.1**
LCO	**Las Campanas**	**2.70**	**23**	*iP*	**Pb**	**10 06 36.0**	**-1.6**
ACDV	**Cuesta del Vie**	**2.74**	**62**	*iP*	**Pb**	**10 06 39.0**	**+0.7**
ZON	**Zonda**	**2.76**	**92**	*iP*	**Pb**	**10 06 38.0**	**-0.5**
RTCV	**Cerro Valdivia**	**2.89**	**98**	*iP*	**Pb**	**10 06 40.0**	**-0.8**
BO01	**Tunca**	**2.96**	**167**	Pn	**Pn**	**10 06 38.0**	**+1.8**
BO01	**Tunca**	**2.96**	**167**	*iP*	**Pn**	**10 06 38.0**	**+1.8**
AC04	**Llanos de Chal**	**3.37**	**13**		**Pn**	**10 06 44.2**	**+2.4**
BO02	**Sierra Bellavi**	**3.41**	**164**		**Pn**	**10 06 44.4**	**+1.8**
BO02	**Sierra Bellavi**	**3.41**	**164**	*iP*	**Pn**	**10 06 45.0**	**+2.5**
GO05	**Huala**	**3.50**	**180**	Pn	**Pn**	**10 06 44.6**	**+1.0**
GO05	**Huala**	**3.50**	**180**	*iP*	**Pn**	**10 06 45.0**	**+1.4**
AGUA	**GUANDACOL**	**3.57**	**57**	*iP*	**Pb**	**10 06 50.0**	**-2.4**
AVFE	**Valle Fertil**	**3.91**	**79**	*iP*	**Pn**	**10 06 53.0**	**+3.6**
COIS	**El Sosneado**	**4.08**	**152**	*iP*	**Pn**	**10 06 56.0**	**+4.3**
LAMA	**Las Malvinas**	**4.10**	**147**	*iP*	**Pn**	**10 06 56.0**	**+4.1**
GO03	**Copiap**	**4.16**	**21**		**Pn**	**10 06 55.4**	**+2.6**
GO03	**Copiap**	**4.16**	**21**	*iP*	**Pn**	**10 06 56.0**	**+3.2**
VCA	**Vinchina**	**4.23**	**50**	*iP*	**Pb**	**10 07 00.0**	**-3.7**
ML02	**Panimavida**	**4.26**	**175**	Pn	**Pn**	**10 06 55.8**	**+1.6**
AC06	**Mina Casimiro**	**4.35**	**19**		**Pn**	**10 06 56.9**	**+1.5**
RFA	**San Rafael**	**4.35**	**139**	*iP*	**Pn**	**10 06 58.0**	**+2.6**
ACHE	**Chepes**	**4.50**	**87**	*iP*	Pn	10 07 02.0	+4.4
AC02	**Maricunga**	**5.25**	**28**		**Pn**	**10 07 09.0**	**+0.8**
AC02	**Maricunga**	**5.25**	**28**	*iP*	Pn	10 07 13.0	+4.8
CYA	**Choya**	**6.11**	**62**	*iP*	**Pn**	**10 07 22.0**	**+2.4**
H03N1	**Juan Fernandez**	**6.22**	**250**	T	T	10 14 04.6		
	baz=80,slow=73,SNR=1309							
H03N3	**Juan Fernandez**	**6.24**	**250**	T	T	10 13 59.1		
	baz=80,slow=73,SNR=1327							
H03N2	**Juan Fernandez**	**6.24**	**250**	T	T	10 14 05.4		
	baz=80,slow=73,SNR=1238							
H03S1	**Juan Fernandez**	**6.34**	**247**	T	T	10 14 18.0		
	baz=68,slow=74,SNR=4.1							
H03S2	**Juan Fernandez**	**6.36**	**247**	T	T	10 14 09.5		
	baz=352,slow=74,SNR=6.9							
PB14	**IPOC Station P**	**6.98**	**11**	Pn	**Pn**	**10 07 30.3**	**-1.5**
LC01	**Cunco**	**7.38**	**180**		**Pn**	**10 07 37.4**	**+0.5**
LC01	**Cunco**	**7.38**	**180**	*iP*	**Pn**	**10 07 38.0**	**+1.1**
AHML	**Horco Molle**	**7.43**	**52**	*iP*	Pn	10 07 41.0	+3.3
FSA	**Cafayete**	**7.48**	**46**	*iP*	Pn	10 07 44.0	+5.5
LVC	**Limon Verde**	**9.25**	**17**	Pn	**Pn**	**10 08 02.9**	**-0.1**
LVC	comp=N,0.4nm,0.3s,baz=336,slow=12,SNR=1.7			LR	LR	10 11 45.7		
	comp=N,55nm,18.4s,baz=220,slow=39							
LVC	**Limon Verde**	**9.25**	**17**		**Pn**	**10 08 00.8**	**-2.3**
PLCA	**Paso Flores**	**9.27**	**174**	Pn	**Pn**	**10 08 04.5**	**+1.5**
PLCA	comp=N,0.3nm,0.3s,baz=335,slow=12,SNR=16			LR	LR	10 11 39.7		
	comp=N,42nm,18.9s,baz=328,slow=38							
PLCA	**Paso Flores**	**9.27**	**174**	Pn	**Pn**	**10 08 02.5**	**-0.5**
LL04	**Puerto Octay**	**9.39**	**182**	Pn	**Pn**	**10 08 04.3**	**-0.3**
TRQA	**Tornquist**	**10.45**	**131**	Pn	**Pn**	**10 08 17.3**	**-1.8**
PB08	**IPOC Station P**	**11.59**	**13**	Pn	**Pn**	**10 08 35.8**	**+0.8**
ITQB	**Itaqui**	**13.29**	**86**	Pn	**Pn**	**10 08 56.9**	**-1.1**
CPUP	**Villa Florida**	**13.77**	**72**	LR	LR	10 14 24.6		
	comp=N,40nm,20.9s,baz=248,slow=38							
CPUP	**Villa Florida**	**13.77**	**72**	Pn	**Pn**	**10 09 04.3**	**-0.2**
LPAZ	**La Paz**	**15.54**	**14**	Pn	**P**	**10 09 31.8**	**-1.7**
	comp=N,0.1nm,0.3s,baz=190,slow=6.1,SNR=2.3							
LPAZ	**La Paz**	**15.54**	**14**	Pn	**Pn**	**10 09 30.6**	**+1.7**
PLTB	**Pedras Altas**	**15.60**	**96**	Pn	**Pn**	**10 09 29.2**	**0.0**
SIV	**San Ignacio**	**18.33**	**35**	P	**P**	**10 10 04.9**	**+1.0**
	comp=N,0.2nm,0.3s,baz=231,slow=7.4,SNR=3.8							
SPB	**Sao Paulo**	**23.05**	**76**	P	**P**	**10 10 54.0**	**-0.9**
OTAV	**Otavalo**	**32.17**	**348**	P	**P**	**10 12 17.4**	**-0.5**
OTAV				IAmb	IAmb	10 12 28.5		
	comp=Z,3.6nm,1.1s							
RPN	**Rapa Nui**	**32.82**	**268**	P	**P**	**10 12 22.6**	**-0.5**
FLOC	**Florencia**	**33.10**	**353**	P	**P**	**10 12 25.4**	**-0.1**
FLOC				IAmb	IAmb	10 12 28.4		
	comp=Z,2.1nm,0.8s							
ROSC	**El Rosal**	**36.22**	**356**	LR	LR	10 27 05.4		
	comp=Z,30nm,18.7s,baz=224,slow=35							
SDV	**Santo Domingo**	**40.18**	**2**	P	**P**	**10 13 25.0**	**-1.1**
SDV				IAmb	IAmb	10 13 25.4		
	comp=Z,5.7nm,0.8s							
BCIP	**Isla Barro Col**	**41.15**	**348**	P	**P**	**10 13 33.6**	**-0.2**
SJCC	**San Jacinto, C**	**41.28**	**355**	P	**P**	**10 13 34.4**	**-0.7**
SJCC				IAmb	IAmb	10 13 45.8		
	comp=Z,18nm,1.5s							
SRBA	**San Rafael, Bu**	**41.97**	**343**	P	**P**	**10 13 40.1**	**-0.6**
SRBA				IAmb	IAmb	10 13 40.6		
	comp=Z,12nm,1.3s							
COVE	**Coope Vega, Sa**	**43.66**	**342**	P	**P**	**10 13 53.2**	**-1.1**
MASN	**Masaya**	**45.35**	**340**	P	**P**	**10 14 07.0**	**-0.8**
PRVC	**Isla de Provid**	**45.54**	**347**	P	**P**	**10 14 09.5**	**+0.2**
PRVC				IAmb	IAmb	10 14 15.2		
	comp=Z,7.5nm,0.8s							
SNET	**Serv Nac Est T**	**47.91**	**337**	P	**P**	**10 14 26.7**	**-1.3**
CDVI	**St. Croix**	**49.45**	**9**	P	**P**	**10 14 39.3**	**-0.4**
SNAA	**Sanae**	**53.85**	**159**	P	**P**	**10 15 12.7**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=282,slow=8.8,SNR=11							
SNAA	**Sanae**	**53.85**	**159**	P	**P**	**10 15 12.9**	**+0.7**
SNAA				IAmb	IAmb	10 15 26.8		
	comp=Z,2.5nm,1.1s							
TLIG	**Tlapa**	**55.09**	**329**	P	**P**	**10 15 22.2**	**+0.4**
TLIG				IAmb	IAmb	10 15 22.2		
	comp=Z,11nm,1.4s							
QSPA	**South Pole Qui**	**58.72**	**180**	P	**P**	**10 15 48.6**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=242,slow=1.6,SNR=7.1							
QSPA	**South Pole Qui**	**58.72**	**180**	P	**P**	**10 15 46.1**	**-0.9**
VBMS	**Vicksburg**	**65.78**	**343**	P	**P**	**10 16 34.1**	**-0.4**
PAULI	**Pauline**	**66.63**	**351**	P	**P**	**10 16 39.4**	**-0.5**
TXAR	**Lajitas Array**	**67.62**	**330**	P	**P**	**10 16 49.5**	**+3.1**
	comp=Z,0.1nm,0.6s,baz=158,slow=9.7,SNR=2.0							
TXAR	**Lajitas Array**	**67.62**	**330**	P	**P**	**10 16 46.3**	**-0.2**
TZTN	**Tazewell**	**68.57**	**350**	P	**P**	**10 16 52.7**	**+0.5**
MIAR	**Mount Ida**	**68.80**	**341**	P	**P**	**10 16 53.5**	**-0.1**
BLA	**Blacksburg**	**68.82**	**353**	P	**P**	**10 16 52.7**	**-1.0**
HALT	**Halls**	**69.03**	**345**	P	**P**	**10 16 55.1**	**+0.1**
WHAR	**Wooly Hollow**	**69.15**	**342**	P	**P**	**10 16 55.9**	**+0.1**
DBIC	**Dimbokro**	**74.29**	**72**	P	**P**	**10 17 27.4**	**+0.1**
	comp=Z,2.3nm,0.6s,baz=191,slow=3.6,SNR=4.2							
DBIC	**Dimbokro**	**74.29**	**72**	P	**P**	**10 17 26.9**	**-0.4**
DBIC				IAmb	IAmb	10 17 35.6		
	comp=Z,11nm,1.2s							
MAW	**Mawson**	**75.53**	**164**	P	**P**	**10 17 34.4**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=236,slow=11,SNR=2.0							
O20A	**White River Ci**	**78.83**	**332**	P	**P**	**10 17 52.3**	**-0.3**
O20A				IAmb	IAmb	10 17 53.5		
	comp=Z,7.3nm,1.2s							
TORD	**Torodi Ar. Bea**	**83.26**	**70**	P	**P**	**10 18 16.9**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=269,slow=4.4,SNR=7.9							
TORD	**Torodi Ar. Bea**	**83.26**	**70**	P	**P**	**10 18 16.6**	**+0.1**
TORD				IAmb	IAmb	10 18 18.2		
	comp=Z,5.2nm,1.5s							
I07A	**Izee**	**86.87**	**328**	P	**P**	**10 18 33.9**	**-0.2**
WRA	**Warramunga Arr**	**122.98**	**210**	PKP	**PKiKP**	**10 24 46.9**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=149,slow=1.4,SNR=1.8							
H11S2	**WAKE ISLAND Hyd**	**125.88**	**271**	T	T	12 43 40.9		
	baz=117,slow=75,SNR=34							
H11S1	**WAKE ISLAND Hyd**	**125.89**	**271**	T	T	12 43 47.6		
	baz=117,slow=75,SNR=16							
H11S3	**WAKE ISLAND Hyd**	**125.90**	**271**	T	T	12 43 44.5		
	baz=117,slow=75,SNR=15							
H11N3	**WAKE ISLAND Hyd**	**126.23**	**272**	T	T	12 44 14.7		
	baz=119,slow=74,SNR=10							
H11N2	**WAKE ISLAND Hyd**	**126.25**	**272**	T	T	12 44 06.8		
	baz=155,slow=74,SNR=27							
ZALV	**Zalesovo Beam**	**152.04**	**30**	PKPbc	**PKiKP**	**10 25 45.5**	**+0.9**
	comp=Z,7.4nm,0.4s,baz=313,slow=3.3,SNR=22							
ZALV	**Zalesovo Beam**	**152.04**	**30**	PKPbc	**PKiKP**	**10 25 45.8**	**+1.1**
ZALV				PKPab	**PKPab**	**10 25 54.7**	**+0.9**

IDC ***23*** *10:09:49.5±3.5,5.°32S×145.°70E,h84km±34km,mb3.3/6, mb1 3.5/9,mb1mx3.3/40,mbtmp3.7/9,MS3.1/1,Ms1 3.1/1, ms1mx2.3/26,Error ellipse: s-maj=31.3km s-min=19.5km az=93.0*

ISC 23 10:09:49.7±0.8,**5.°3S**±0.°1×**145.°7E**±0.°1,**h86**km,**n11,** σ0°**73**/**11**,**mb3.4/6,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**5.73**	**299**	P	**Pn**	**10 11 12.7**	**+0.3**
	0.8nm,0.3s,baz=119,slow=19,SNR=1.0						
CTA	**Charters Tower**	**14.67**	**178**	P	**Pn**	**10 13 12.4**	**-0.5**
	0.3nm,0.3s,baz=0.3,slow=5.1,SNR=3.3						
HNR	**Honiara**	**14.69**	**107**	P	**Pn**	**10 13 13.4**	**+0.2**
	24nm,0.3s,baz=270,slow=17,SNR=4.2						
WRA	**Warramunga Arr**	**18.25**	**216**	P	**P**	**10 13 56.1**	**-0.4**
	0.2nm,0.3s,baz=26,slow=10,SNR=12						
WRA				LR	LR	10 22 06.8	
	comp=Z,61nm,20.2s,baz=250,slow=40						
ASAR	**Alice Springs**	**21.48**	**211**	P	**P**	**10 14 31.2**	**-0.2**
	0.3nm,0.4s,baz=31,slow=14,SNR=3.1						
FITZ	**Fitzroy Crossi**	**23.35**	**235**	P	**P**	**10 14 50.2**	**-0.6**
	1.9nm,0.7s,baz=45,slow=11,SNR=5.6						
STKA	**Stephens Creek**	**26.68**	**188**	P	**P**	**10 15 21.2**	**+0.4**
	0.7nm,0.4s,baz=11,slow=12,SNR=3.7						
USRK	**Ussuriysk Ar.**	**50.84**	**347**	P	**P**	**10 18 41.5**	**-0.1**
	1.2nm,0.7s,baz=182,slow=10.0,SNR=4.3						
VNDA	**Vanda**	**72.64**	**176**	P	**P**	**10 21 08.4**	**+0.8**
	0.2nm,0.6s,baz=336,slow=6.5,SNR=5.5						
ILAR	**Eielson Array**	**85.39**	**23**	P	**P**	**10 22 16.2**	**-1.1**
	0.2nm,0.6s,baz=265,slow=5.1,SNR=4.6						
TORD	**Torodi Ar. Bea**	**143.69**	**285**	PKP	**PKPdf**	**10 29 17.0**	**+1.2**
	0.4nm,0.7s,baz=75,slow=4.8,SNR=2.2						

NOU ***23*** *10:29:32.0,21.°12S×169.°64E,h0km,ML4.4/12,Southeast of Loyalty Islands*

IDC ***23*** *10:29:39.6±2.5,23.°77S×168.°46E,h0km,mb4.2/4, mb1 4.4/5,mb1mx3.8/36,mbtmp4.1/5,ML3.5/1,MS3.3/6, Ms1 3.3/6,ms1mx2.9/36,Error ellipse: s-maj=49.8km s-min=40.6km az=52.0*

ISC 23 10:29:41.1±1.6,**23.°6S**±0.°2×**168.°5E**±0.°3,**h10**km,**n23,** σ1ᵎ**32**/**16**,**mb4.2/4**,**MS3.4/5**,**New Caledonia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**1.41**	**316**	P	Pg	10 30 14.0	+5.9
OUENC	**Ouen Island, N**	**1.95**	**308**	P	**Pg**	**10 30 19.6**	**+1.0**
YATNC	**Mamie plateau,**	**2.16**	**316**	P	**Pn**	**10 30 16.4**	**-0.8**
ONTNC	**Ouen Toro**	**2.31**	**304**	P	**Pb**	**10 30 23.4**	**+0.6**
DZM	**Mont Dzumac**	**2.46**	**309**	Pn	**Pn**	**10 30 22.6**	**+1.3**
	9.9nm,0.3s,baz=108,slow=12,SNR=257						
DZM				Sn	**Sb**	**10 30 55.7**	**-0.1**
	16nm,0.3s,baz=119,slow=16,SNR=7.0						
DZM	**Mont Dzumac**	**2.46**	**309**	P	**Pn**	**10 30 22.4**	**+1.1**
NOUC	**Port Laguerre**	**2.54**	**306**	P	**Pb**	**10 30 24.3**	**-2.5**
KOUNC	**Koumac, New Ca**	**4.97**	**307**	P	Pn	10 30 49.3	-6.6
URZ	**Urewera**	**16.33**	**155**	LR	LR	10 39 07.8		
	comp=Z,125nm,20.2s,baz=31,slow=35							
STKA	**Stephens Creek**	**25.15**	**245**	LR	LR	10 44 36.3		
	comp=Z,16nm,18.0s,baz=26,slow=36							
RAR	**Rarotonga**	**29.39**	**92**	LR	LR	10 47 23.0		
	comp=Z,176nm,18.0s,baz=270,slow=36							
ASAR	**Alice Springs**	**31.66**	**263**	P	**P**	**10 36 05.6**	**+0.8**
	3.0nm,0.6s,baz=85,slow=9.3,SNR=52							
WRA	**Warramunga Arr**	**31.90**	**270**	P	**P**	**10 36 04.8**	**-2.2**
	1.0nm,0.4s,baz=98,slow=8.4,SNR=25							
FITZ	**Fitzroy Crossi**	**40.33**	**270**	P	**P**	**10 37 17.6**	**-1.4**
	3.2nm,0.7

GULN				*i* S	**Sb**	**10 34 47.6**	**-0.2**
KKBE	**Karaman, Kazim**	**1.75**	**28**	*i* P	**Pb**	**10 34 35.2**	**-0.2**
KKBE				*i* S	**Sg**	**10 35 00.2**	**+0.3**
SEDI	**Konya, Seydise**	**1.77**	**356**	*i* P	**Pg**	**10 34 37.4**	**-0.1**
SEDI				*i* S	**Sg**	**10 35 01.0**	**+0.4**
KIZK	**Mersin**	**1.99**	**66**	*i* P	**Pn**	**10 34 34.8**	**-1.7**
GOLH	**Golhisar**	**2.44**	**310**	*i* P	**Pn**	**10 34 43.7**	**+0.7**
KERG	**Konya-Eregli**	**2.49**	**45**	*i* P	**Pb**	**10 34 48.0**	**0.0**
KERG				*i* S	**Sb**	**10 35 19.2**	**+0.5**
KERG	comp=E,10.0nm,0.4s			IAML		10 35 25.0	
KERG	comp=N,11nm,0.4s			IAML		10 35 29.0	
YVAC	**Isparta, Yalva**	**2.64**	**349**	*i* P	**Pb**	**10 34 49.7**	**-0.9**
YVAC				*i* S	**Sb**	**10 35 20.9**	**-2.0**
GULE	**Gulek**	**2.82**	**54**	*i* P	**Pb**	**10 34 50.7**	**-2.9**

MEX 23 10:34:19.8±0.4, 16°30'N×98°25'W, h19km±8km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.15**	**54**	*i* P	Pb	10 34 23.2	+0.5
PNIG				*i* S	Sg	10 34 26.1	-1.0
MGIG	**Malinaltepec**	**0.99**	**338**	*i* P	Pb	10 34 35.5	-3.1
MGIG				*i* S	Sb	10 34 48.0	-3.4
TXIG	**Tlaxiaco**	**1.05**	**26**	*e*P	Pb	10 34 36.3	-3.3
TXIG				*i* S	Sb	10 34 49.2	-4.0
PEIG	**Puerto Escondi**	**1.10**	**106**	*i* P	Pn	10 34 37.7	-2.7
PEIG				*i* S	Sb	10 34 51.1	-3.3
TLIG	**Tlapa**	**1.29**	**346**	*e*P	Pn	10 34 39.8	-3.2
HLIG	**Huajuapan de L**	**1.58**	**16**	*e*P	Pn	10 34 44.3	-2.7
HLIG				*e*S	Sn	10 35 03.4	-3.6
FTIG	**Fresnillo de T**	**1.60**	**4**	*i* P	Pn	10 34 45.8	-1.5
FTIG				*e*S	Sn	10 35 04.1	-3.4
VHO	**Vista Hermosa**	**1.64**	**62**	*e*P	Pn	10 34 47.3	-0.6

*IDC **23** 10:34:33.7±1.3, 1°.98N×125°.22E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.6/42, mbtmp3.9/4, ML4.3/1, Error ellipse: s-maj=112.8km s-min=20.4km az=68.0*
*DJA **23** 10:34:52.0±0.4, 2°.N±4°×12°.5E±°, h117km±5km, M4.3/13, mb4.5/6, mB5.9/2, MLv4.2/13, Mw(mB)5.5/2*
ISC 23 10:34:51.0±1.0, 1°.70N±0°.09×125°.11E±0°.08, h150km, n19, σ0s84/21, mb3.5/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.59**	**225**	P	**Pn**	**10 35 20.7**	**-0.8**
SGSI	**Sangihe**	**2.02**	**12**	P	**Pn**	**10 35 26.8**	**+0.4**
GTOI	**Gorontalo**	**2.35**	**243**	P	**Pn**	**10 35 30.9**	**+0.6**
TNTI	**Ternate**	**2.43**	**112**	P	**Pn**	**10 35 30.4**	**-0.9**
GAMI	**Galela, Maluku**	**2.68**	**87**	P	**Pn**	**10 35 33.8**	**-0.6**
MRSI	**Marisa**	**3.40**	**249**	P	**Pn**	**10 35 43.9**	**+0.4**
LUWI	**Luwuk**	**3.59**	**221**	P	**Pn**	**10 35 45.8**	**-0.2**
SANI	**Sanana**	**3.82**	**167**	P	**Pn**	**10 35 46.6**	**-2.4**
KRAI	**Karang Ratu** 1.3nm4µm107nm,0.5s	**5.97**	**147**	P	**Pn**	**10 36 17.6**	**+0.3**
MSAI	**Masohi** 0.2nm39nm,0.5s	**6.30**	**143**	P	**Pn**	**10 36 22.3**	**+0.6**
SIJI	**Sorong** 0.1nm19nm,0.9s	**6.66**	**112**	P	**Pn**	**10 36 26.2**	**-0.4**
TTSI	**Tana Toraja** 11nm48µm2µm,0.9s	**7.09**	**228**	P	**Pn**	**10 36 32.6**	**+0.3**
BNSI	**Bone** 0.1nm16nm,0.8s	**7.86**	**220**	P	**Pn**	**10 36 42.9**	**+0.3**
FAKI	**Fak Fak** 26nm,0.8s	**8.48**	**123**	P	**Pn**	**10 36 51.3**	**+0.4**
BSSI	**Bau Bau, Buton**	**9.05**	**211**	P	**Pn**	**10 36 58.9**	**+0.4**
FITZ	**Fitzroy Crossi** 0.7nm,0.3s,baz=14,slow=9.6,SNR=22	**19.68**	**179**	P	**P**	**10 39 08.9**	**+0.3**
WRA	**Warramunga Arr** 0.7nm,0.4s,baz=332,slow=11,SNR=21	**23.33**	**158**	P	**P**	**10 39 46.3**	**+0.3**
ASAR	**Alice Springs** 0.8nm,0.6s,baz=345,slow=7.7,SNR=22	**26.62**	**162**	P	**P**	**10 40 16.6**	**+0.8**
ASAR	0.2nm,0.4s,baz=348,slow=2.3,SNR=4.7			PcP	**PcP**	**10 43 37.1**	**+1.1**
MKAR	**Makanchi Array** 1.0nm,0.5s,baz=118,slow=7.6,SNR=16	**58.33**	**327**	P	**P**	**10 44 29.9**	**-0.4**
MKAR	0.4nm,0.5s,baz=123,slow=4.5,SNR=3.8			PcP	**sP**	**10 45 19.8**	**-1.0**

*IDC **23** 10:46:15.2±1.1, 9°.52S×154°.48E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.8/30, mbtmp3.9/9, ML3.3/1, MS3.0/6, Ms1 3.0/6, ms1mx2.7/32, Error ellipse: s-maj=34.9km s-min=21.3km az=117.0*
ISC 23 10:46:20.4±0.9, 9°.6S±0°.1×154°.5E±0°.2, h35km, n12, σ1s91/9, mb3.8/8, MS2.9/5, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac** 0.1nm,0.3s,baz=83,slow=8.3,SNR=3.7	**16.94**	**139**	Pn	**Pn**	**10 50 14.6**	**-0.3**
DZM	comp=Z,184nm,18.9s,baz=264,slow=34			LR	LR	10 55 43.8	
WRA	**Warramunga Arr** 1.3nm,0.7s,baz=64,slow=11,SNR=8.7	**22.01**	**240**	P	**P**	**10 51 12.3**	**+0.4**
ASAR	**Alice Springs** 1.8nm,0.8s,baz=62,slow=9.2,SNR=18	**24.14**	**232**	P	**P**	**10 51 33.5**	**+0.1**
GUMO	**Guam** comp=Z,16nm,20.4s,baz=142,slow=34	**24.89**	**337**	LR	LR	11 00 22.2	
STKA	**Stephens Creek** 2.1nm,0.7s,baz=3.8,slow=12,SNR=4.6	**25.22**	**206**	P	**P**	**10 51 42.2**	**-0.8**
STKA	comp=Z,68nm,18.8s,baz=26,slow=36			LR	LR	11 01 20.9	
FITZ	**Fitzroy Crossi** 1.1nm,0.9s,baz=104,slow=4.2,SNR=3.6	**29.22**	**250**	P	**P**	**10 52 19.9**	**+0.8**
FITZ	comp=Z,35nm,18.1s,baz=84,slow=36			LR	LR	11 04 03.2	
JOW	**Kunigami** comp=Z,15nm,20.6s,baz=119,slow=31	**44.22**	**326**	LR	LR	11 09 08.9	
KSRS	**Korea Array** comp=Z,5.1nm,18.4s,baz=130,slow=36	**52.97**	**334**	LR	LR	11 17 53.3	
PETK	**Petropavlovsk-** 1.5nm,0.7s,baz=190,slow=8.1,SNR=3.6	**62.48**	**2**	P	**P**	**10 56 41.2**	**+1.1**
SONM	**Songino Array** 0.8nm,0.8s,baz=126,slow=7.3,SNR=1.8	**71.21**	**328**	P	**P**	**10 57 34.2**	**-1.8**
QSPA	**South Pole Qui** 1.2nm,0.7s,baz=332,slow=3.0,SNR=3.7	**80.43**	**180**	P	**P**	**10 58 28.9**	**+0.5**
ILAR	**Eielson Array** 0.3nm,0.7s,baz=257,slow=5.9,SNR=5.0	**85.93**	**22**	P	**P**	**10 58 56.6**	**+0.1**

*IDC **23** 10:46:48.8±1.9, 32°.91S×178°.14W, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.8/34, mbtmp4.0/5, ML3.4/1, Error ellipse: s-maj=40.7km s-min=32.6km az=79.0*
ISC 23 10:46:53.6±1.7, 32°.9S±0°.1×178°.1W±0°.2, h34km, n6, σ0s74/7, mb4.0/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera** 0.8nm,0.3s,baz=233,slow=4.5,SNR=2.0	**6.61**	**215**	Pn	**Pn**	**10 48 27.5**	**-0.8**
URZ	2.5nm,0.3s,baz=162,slow=19,SNR=13			Sn	**Sn**	**10 49 43.0**	**+0.6**
CTA	**Charters Tower** 2.7nm,0.6s,baz=101,slow=12,SNR=4.2	**34.19**	**283**	P	**P**	**10 53 36.8**	**+0.8**
ASAR	**Alice Springs** 1.1nm,0.6s,baz=108,slow=7.6,SNR=12	**42.94**	**270**	P	**P**	**10 54 49.2**	**-0.3**
WRA	**Warramunga Arr** 1.5nm,0.5s,baz=117,slow=7.6,SNR=27	**44.16**	**275**	P	**P**	**10 54 58.7**	**-0.6**
QSPA	**South Pole Qui** 1.0nm,0.9s,baz=224,slow=6.6,SNR=2.7	**57.20**	**180**	P	**P**	**10 56 37.6**	**+0.4**
FINES	**FINESS Array B** 3.2nm,1.0s,baz=11,slow=1.9,SNR=7.5	**147.46**	**339**	PKPbc	**PKPbc**	**11 06 33.0**	**-0.2**

*JMA **23** 10:51:09.1, 24°.19N×121°.83E, h22km±1km, M1.9*
*TAP **23** 10:51:09.2, 24°.25N×121°.83E, h15km, ML3.0, D*
ISC 23 10:51:09.2±0.9, 24°.23N±0°.02×121°.84E±0°.02, h18km±2km, n47, σ0s49/89, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village** baz=306	**0.12**	**310**	*e*P	**Pg**	**10 51 12.7**	**-0.4**
ETL	**Fush Village** baz=242	**0.21**	**249**	*i* P	**Pg**	**10 51 14.6**	**+0.2**
ETL	baz=242			S	**Sg**	**10 51 19.1**	**+1.2**
ENA	**Nanau** baz=337	**0.21**	**335**	*i* P	**Pb**	**10 51 14.1**	**-0.1**
ENA	baz=337			*i* S	**Sg**	**10 51 18.0**	**+0.1**
EWUT	**Wuta** baz=346	**0.22**	**345**	P	**Pb**	**10 51 14.2**	**-0.2**
EWUT	baz=346			*i* S	**Sb**	**10 51 18.1**	**+0.3**
NACB	**Ninganchiao** baz=249	**0.23**	**255**	*i* P	**Pg**	**10 51 14.6**	**0.0**
NACB	baz=249			*i* S	**Sg**	**10 51 19.2**	**+0.9**
TWD	**Chiawan** baz=229	**0.27**	**235**	P	**Pb**	**10 51 15.5**	**+0.1**
TWD	baz=229			*i* S	**Sb**	**10 51 20.5**	**+0.9**
ETLH	**Xiulin Townshi** baz=261	**0.33**	**265**	P	**Pb**	**10 51 16.3**	**-0.3**
ETLH	baz=261			S	**Sb**	**10 51 21.8**	**+0.3**
HWA	**Hwalien** baz=215	**0.33**	**220**	*e*P	**Pn**	**10 51 18.1**	**-1.0**
HWA	baz=215			*e*S	**Sn**	**10 51 25.4**	**-0.1**
TWC	**Suao** baz=4.0	**0.37**	**1**	P	**Pg**	**10 51 16.9**	**-0.1**
TWC	baz=4.0			S	**Sg**	**10 51 22.2**	**-0.1**
NDS	**Dongshan** baz=344	**0.41**	**344**	P	**Pg**	**10 51 17.5**	**-0.2**
NDS	baz=344			S	**Sg**	**10 51 23.7**	**+0.2**
ETM	**Tongmen** baz=226	**0.41**	**230**	P	**Pb**	**10 51 18.2**	**+0.1**
ETM	baz=226			S	**Sb**	**10 51 24.8**	**+0.8**
TEYL	**Yanliau Villag** baz=210	**0.42**	**211**	P	**Pb**	**10 51 18.4**	**+0.2**
TEYL	baz=210			*e*S	**Sn**	**10 51 27.3**	**-0.5**
NNSB	**Datong** baz=293	**0.46**	**295**	*i* P	**Pb**	**10 51 18.7**	**-0.1**
NNSB	baz=293			S	**Sb**	**10 51 25.6**	**+0.2**
NDT	**Datong Townshi** baz=320	**0.47**	**321**	*i* P	**Pb**	**10 51 19.0**	**0.0**
NDT	baz=320			*e*S	**Sb**	**10 51 26.6**	**+0.9**
NNS	**Nan Shan** baz=294	**0.47**	**296**	P	**Pb**	**10 51 19.0**	**-0.1**
NNS	baz=294			S	**Sb**	**10 51 26.1**	**+0.3**
ENTT	**Nioudou** baz=328	**0.47**	**329**	P	**Pg**	**10 51 18.9**	**0.0**
ENTT	baz=328			S	**Sb**	**10 51 25.9**	**+0.1**
TWE	**Neicheng** baz=344	**0.51**	**342**	*i* P	**Pg**	**10 51 19.6**	**+0.1**
TWE	baz=344			S	**Sb**	**10 51 27.4**	**+0.7**
WHF	**Hehuan Shan** baz=257	**0.53**	**261**	P	**Pb**	**10 51 20.0**	**-0.2**
WHF	baz=257			S	**Sb**	**10 51 27.8**	**+0.1**
FUSS	**Fushou** baz=269	**0.54**	**272**	P	**Pb**	**10 51 20.5**	**+0.2**
FUSS	baz=269			S	**Sb**	**10 51 28.3**	**+0.5**
YHNB	**Yeheng** baz=315	**0.60**	**316**	P	**Pg**	**10 51 21.4**	**+0.1**
YHNB	baz=315			S	**Sg**	**10 51 30.1**	**+0.7**
NTC	**Toucheng**	**0.62**	**359**	P	**Pb**	**10 51 21.3**	**-0.1**
NTC				S	**Sg**	**10 51 30.1**	**+0.3**
NSK	**Sanguang** baz=314	**0.62**	**315**	P	**Pg**	**10 51 21.6**	**0.0**
NSK	baz=314			S	**Sg**	**10 51 30.2**	**+0.3**
TDCB	**Techi** baz=269	**0.62**	**272**	P	**Pb**	**10 51 20.9**	**-0.7**
TDCB	baz=269			S	**Sb**	**10 51 30.6**	**+0.6**
NWLT	**Wulai** baz=330	**0.62**	**331**	P	**Pb**	**10 51 21.4**	**-0.1**
NWLT	baz=330			S	**Sg**	**10 51 30.2**	**+0.3**
CHGB	**Renai** baz=252	**0.63**	**254**	*i* P	**Pg**	**10 51 22.1**	**+0.3**
CHGB	baz=252			*e*S	**Sn**	**10 51 32.3**	**-0.8**
OWD	**Renai** baz=243	**0.67**	**245**	P	**Pg**	**10 51 22.4**	**0.0**
OWD	baz=243			S	**Sn**	**10 51 32.2**	**-1.7**
TIPB	**Shuangxi** baz=359	**0.73**	**359**	*i* P	**Pb**	**10 51 23.4**	**-0.1**
TIPB	baz=359			S	**Sb**	**10 51 33.5**	**+0.3**
TWA	**Mucha** baz=343	**0.78**	**343**	*e*P	**Pn**	**10 51 25.3**	**0.0**
TWA	baz=343			*e*S	**Sn**	**10 51 35.9**	**-0.7**
TWB1	**Santiao Chiao** baz=11	**0.78**	**10**	P	**Pg**	**10 51 24.7**	**+0.2**
TWB1	baz=11			S	**Sb**	**10 51 35.0**	**+0.5**
TATO	**Taipei** baz=337	**0.80**	**337**	*e*P	**Pn**	**10 51 25.4**	**-0.3**
TATO	baz=337			S	**Sb**	**10 51 35.4**	**+0.2**
WHP	**Taichung City** baz=271	**0.82**	**273**	P	**Pn**	**10 51 25.9**	**+0.1**
WHP	baz=271			S	**Sn**	**10 51 36.8**	**-0.7**
NWF	**Wu-fen Shan** baz=357	**0.83**	**356**	P	**Pg**	**10 51 25.7**	**+0.1**
NWF	baz=357			*i* S	**Sg**	**10 51 37.0**	**+0.3**
WFSB	**Wu-fen Shan** baz=356	**0.83**	**356**	P	**Pg**	**10 51 25.7**	**+0.2**
WFSB	baz=356			*e*S	**Sn**	**10 51 37.8**	**-0.1**
WPL	**Puli Township** baz=253	**0.83**	**255**	P	**Pn**	**10 51 25.6**	**-0.5**
WPL	baz=253			S	**Sn**	**10 51 37.2**	**-0.7**
DPDB	**Guoxing** baz=255	**0.86**	**257**	P	**Pn**	**10 51 26.2**	**-0.2**
DPDB	baz=255			S	**Sn**	**10 51 37.8**	**-0.8**
WCS	**Beigang Elemen** baz=256	**0.86**	**258**	P	**Pn**	**10 51 26.6**	**+0.1**
WCS	baz=256			S	**Sn**	**10 51 38.0**	**-0.6**
SSLB	**Suanglung** baz=239	**0.92**	**241**	P	**Pb**	**10 51 26.4**	**-0.3**
SSLB	baz=239			S	**Sn**	**10 51 40.0**	**-0.1**
SMLT	**Sun Moon Lake** baz=246	**0.93**	**248**	*i* P	**Pg**	**10 51 27.0**	**-0.3**
SMLT	baz=246			*i* S	**Sg**	**10 51 39.4**	**-0.1**
TYC	**Yuchr** baz=248	**0.95**	**250**	P	**Pg**	**10 51 27.5**	**-0.3**
TYC	baz=248			S	**Sn**	**10 51 41.7**	**+0.8**
JYNG	**Yonagunijimaku**	**1.03**	**78**	P	**Pb**	**10 51 28.2**	**-0.3**
JYNG				*e*S	**Sn**	**10 51 43.0**	**+0.3**
WHYT	**Xinyi Township** baz=238	**1.05**	**239**	P	**Pg**	**10 51 29.3**	**-0.3**
WHYT	baz=238			S	**Sg**	**10 51 43.8**	**+0.5**
NHW	**Xinwu Township** baz=316	**1.05**	**317**	*e*S	**Sg**	**10 51 43.5**	**-0.1**
YOJ	**Yonaguni jima**	**1.09**	**78**	P	**Pn**	**10 51 29.0**	**-0.6**
YOJ				*e*S	**Sn**	**10 51 44.2**	**0.0**
IRIF	**Iriomote-Funau**	**1.73**	**86**	P	**Pn**	**10 51 38.8**	**+0.5**
JKRS	**Kuro-shima**	**1.98**	**89**	P	**Pn**	**10 51 42.3**	**+0.5**
JKRS				*e*S	**Sb**	**10 52 08.0**	**-1.1**
JIJ	**Ishigaki jima**	**2.11**	**86**	*e*S	**Sn**	**10 52 08.5**	**-0.8**
JISG	**Ishigakijimahi**	**2.28**	**81**	*e*S	**Sn**	**10 52 14.3**	**+0.7**

IDC 23 11:12:41.0±611.0, 46°.46N×131°.75E, h0km, Error ellipse: s-maj=229.7km s-min=48.6km az=175.0, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I45RU	**USSURIYSK INFR**	**2.27**	**176**	*i*		11 27 00.0	
	baz=356,slow=331,SNR=2.3						
I30JP	**ISUMI INFRASON** baz=333,slow=318,SNR=1.1	**12.88**	**147**	*i*		12 33 00.0	
I44RU	**PETROPAVLOVSK** baz=259,slow=326,SNR=3.2	**17.97**	**59**	*i*		13 06 20.0	

*JMA **23** 11:22:06.8±0.1, 24°.21N×121°.86E, h24km±3km, M2.0*
*TAP **23** 11:22:08.1, 24°.26N×121°.86E, h11km, ML2.9, B*
ISC 23 11:22:07.3±0.8, 24°.25N±0°.02×121°.86E±0°.02, h17km±6km, n82, σ0s42/145, 8D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village** baz=294	**0.12**	**298**	P	**Pb**	**11 22 11.1**	**-0.2**
EHP	baz=294			S	**Sb**	**11 22 13.4**	**-0.6**
ENA	**Nanau** baz=328	**0.21**	**328**	⇓*i* P	**Pg**	**11 22 12.1**	**-0.2**
ENA	baz=328			*i* S	**Sg**	**11 22 15.6**	**-0.1**
EWUT	**Wuta** baz=338	**0.21**	**338**	⇓*i* P	**Pg**	**11 22 12.3**	**0.0**
EWUT	baz=338			*i* S	**Sg**	**11 22 16.1**	**+0.4**
ETL	**Fush Village** baz=244	**0.24**	**247**	P	**Pg**	**11 22 12.9**	**+0.1**
ETL	baz=244			S	**Sb**	**11 22 17.1**	**0.0**
NACB	**Ninganchiao** baz=250	**0.26**	**253**	⇓P	**Pg**	**11 22 12.9**	**-0.2**
NACB	baz=250			S	**Sb**	**11 22 17.6**	**-0.1**
TWD	**Chiawan** baz=232	**0.30**	**235**	*i* P	**Pg**	**11 22 13.8**	**+0.1**
TWD	baz=232			*i* S	**Sb**	**11 22 19.2**	**+0.4**
ETLH	**Xiulin Townshi** baz=261	**0.35**	**263**	P	**Pg**	**11 22 14.7**	**0.0**
ETLH	baz=261			S	**Sg**	**11 22 20.1**	**+0.4**
TWC	**Suao**	**0.36**	**358**	*i* P	**Pg**	**11 22 14.7**	**-0.1**
TWC				*i* S	**Sg**	**11 22 20.1**	**+0.2**
HWA	**Hwalien** baz=218	**0.36**	**221**	P	**Pb**	**11 22 15.6**	**+0.3**
HWA	baz=218			*e*S	**Sb**	**11 22 21.1**	**+0.4**
NDS	**Dongshan** baz=340	**0.40**	**341**	⇓*i* P	**Pg**	**11 22 15.7**	**+0.1**
NDS	baz=340			*i* S	**Sg**	**11 22 21.5**	**+0.2**
ETM	**Tongmen** baz=228	**0.44**	**230**	P	**Pb**	**11 22 16.5**	**-0.2**
ETM	baz=228			S	**Sb**	**11 22 23.6**	**+0.7**
TEYL	**Yanliau Villag** baz=213	**0.45**	**212**	P	**Pb**	**11 22 16.9**	**+0.1**
TEYL	baz=213			*e*S	**Sb**	**11 22 24.1**	**+0.9**
ENTT	**Nioudou** baz=325	**0.47**	**325**	⇓*i* P	**Pg**	**11 22 17.0**	**+0.1**
ENTT	baz=325			*i* S	**Sg**	**11 22 23.6**	**+0.3**
NNSB	**Datong** baz=290	**0.47**	**292**	⇓P	**Pg**	**11 22 16.9**	**0.0**
NNSB	baz=290			S	**Sg**	**11 22 23.6**	**+0.3**
NDT	**Datong Townshi** baz=317	**0.47**	**318**	⇓*i* P	**Pg**	**11 22 16.9**	**+0.1**
NDT	baz=317			*i* S	**Sb**	**11 22 23.8**	**+0.4**
NNS	**Nan Shan** baz=291	**0.48**	**293**	⇓*i* P	**Pg**	**11 22 17.1**	**0.0**
NNS	baz=291			*i* S	**Sg**	**11 22 24.1**	**+0.3**
TWE	**Neicheng** baz=340	**0.50**	**339**	*i* P	**Pg**	**11 22 17.4**	**+0.1**
TWE	baz=340			*i* S	**Sg**	**11 22 24.8**	**+0.6**
ILA	**Ilan** baz=349	**0.52**	**349**	*e*P	**Pg**	**11 22 17.4**	**-0.4**
ILA	baz=349			*e*S	**Sg**	**11 22 25.6**	**+0.7**
WHF	**Hehuan Shan** baz=257	**0.56**	**259**	*i* P	**Pg**	**11 22 18.3**	**-0.2**
WHF	baz=257			*i* S	**Sg**	**11 22 26.2**	**+0.1**
FUSS	**Fushou** baz=268	**0.56**	**270**	*i* P	**Pg**	**11 22 18.9**	**+0.2**
FUSS	baz=268			*i* S	**Sb**	**11 22 26.6**	**-0.2**
ESL	**Shilin** baz=220	**0.59**	**222**	*i* P	**Pg**	**11 22 18.6**	**-0.3**
ESL	baz=220			*i* S	**Sn**	**11 22 28.6**	**-1.4**
NTC	**Toucheng** baz=357	**0.60**	**357**	P	**Pg**	**11 22 19.3**	**0.0**
NTC	baz=357			*e*S	**Sg**	**11 22 27.3**	**-0.1**
YHNB	**Yeheng** baz=312	**0.61**	**313**	P	**Pg**	**11 22 19.4**	**0.0**
YHNB	baz=312			S	**Sg**	**11 22 27.7**	**+0.1**
NWLT	**Wulai** baz=327	**0.62**	**328**	*i* P	**Pg**	**11 22 19.8**	**+0.2**
NWLT	baz=327			*i* S	**Sb**	**11 22 28.5**	**+0.3**
NSK	**Sanguang** baz=312	**0.62**	**313**	*i* P	**Pg**	**11 22 19.5**	**-0.2**
NSK	baz=312			*i* S	**Sg**	**11 22 28.1**	**0.0**
TWT	**Tachien** baz=268	**0.63**	**270**	*i* P	**Pb**	**11 22 20.2**	**+0.3**
TWT	baz=268			*i* S	**Sb**	**11 22 28.6**	**+0.1**
TDCB	**Techi** baz=269	**0.64**	**270**	P	**Pb**	**11 22 20.2**	**0.0**
TDCB	baz=269			S	**Sg**	**11 22 28.5**	**-0.1**
CHGB	**Renai** baz=252	**0.66**	**253**	P	**Pg**	**11 22 20.2**	**-0.1**
CHGB	baz=252			S	**Sb**	**11 22 29.5**	**+0.1**
OWD	**Renai** baz=243	**0.69**	**245**	*i* P	**Pg**	**11 22 20.9**	**-0.1**
OWD	baz=243			*i* S	**Sb**	**11 22 31.0**	**+0.6**
EGFH	**Guangfu** baz=213	**0.70**	**215**	*e*P	**Pg**	**11 22 21.5**	**+0.3**
EGFH	baz=213			*e*S	**Sn**	**11 22 32.2**	**-0.8**
TIPB	**Shuangxi** baz=357	**0.72**	**357**	*i* P	**Pb**	**11 22 21.6**	**+0.2**
TIPB	baz=357			S	**Sb**	**11 22 31.1**	**0.0**
TWB1	**Santiao Chiao** baz=9.0	**0.76**	**9**	*i* P	**Pn**	**11 22 23.2**	**-0.2**
TWB1	baz=9.0			*i* S	**Sg**	**11 22 33.3**	**+0.9**
TWA	**Mucha** baz=341	**0.77**	**341**	P	**Pb**	**11 22 21.9**	**-0.4**
TWA	baz=341			S	**Sb**	**11 22 33.0**	**+0.6**
NHDH	**Xindian Distri** baz=336	**0.77**	**337**	*e*P	**Pb**	**11 22 22.2**	**-0.2**
NHDH	baz=336			*e*S	**Sg**	**11 22 33.3**	**+0.6**
NWF	**Wu-fen Shan** baz=355	**0.82**	**355**	*i* P	**Pg**	**11 22 23.8**	**+0.4**
NWF	baz=355			*i* S	**Sb**	**11 22 34.5**	**+0.5**
WHP	**Taichung City** baz=271	**0.84**	**272**	*i* P	**Pg**	**11 22 23.8**	**+0.1**
WHP	baz=271			S	**Sg**	**11 22 35.1**	**+0.4**
TAP	**Taipei** baz=337	**0.85**	**338**	S	**Sg**	**11 22 35.6**	**+0.5**
HGSD	**Ruisui** baz=207	**0.85**	**208**	P	**Pg**	**11 22 24.1**	**+0.1**
HGSD	baz=207			S	**Sn**	**11 22 36.8**	**+0.1**
LIOB	**Emei** baz=296	**0.87**	**297**	*i* P	**Pg**	**11 22 24.4**	**+0.2**
LIOB	baz=296			S	**Sg**	**11 22 36.2**	**+0.6**
NSTT	**Nanjuang** baz=295	**0.87**	**296**	*i* P	**Pg**	**11 22 24.4**	**+0.1**

NSTT				*i* S		**Sb**	**11 22 35.7**	**+0.3**
	baz=295							
WCS	**Beigang Elemen**	**0.89**	**258**	*eP*		**Pb**	**11 22 24.4**	**+0.1**
	baz=256							
WCS				S		**Sn**	**11 22 37.1**	**-0.5**
	baz=256							
EHY	**Hungye**	**0.89**	**214**	*i* P		**Pn**	**11 22 24.9**	**-0.2**
	baz=212							
EHY				S		**Sn**	**11 22 37.4**	**-0.2**
	baz=212							
NCUH	**Zhongli**	**0.94**	**319**	*i* P		**Pb**	**11 22 24.9**	**-0.4**
	baz=318							
NCUH				*eS*		**Sb**	**11 22 37.2**	**-0.3**
	baz=318							
NCU	**National Centr**	**0.94**	**320**	P		**Pb**	**11 22 24.8**	**-0.5**
	baz=319							
NCU				*eS*		**Sb**	**11 22 37.7**	**+0.2**
	baz=319							
SSLB	**Suanglung**	**0.95**	**241**	P		**Pb**	**11 22 25.0**	**-0.4**
	baz=240							
SSLB				S		**Sg**	**11 22 38.2**	**-0.1**
	baz=240							
SMLT	**Sun Moon Lake**	**0.95**	**248**	*i* P		**Pb**	**11 22 25.4**	**-0.1**
	baz=246							
SMLT				*i* S		**Sg**	**11 22 38.4**	**0.0**
	baz=246							
SBCB	**Hsinchu**	**0.96**	**304**	P		**Pb**	**11 22 25.9**	**+0.3**
	baz=303							
SBCB				S		**Sb**	**11 22 38.0**	**0.0**
	baz=303							
HSN	**Hsinchu**	**0.98**	**304**	P		**Pb**	**11 22 24.8**	**-1.1**
	baz=306							
HSN				*eS*		**Sb**	**11 22 38.2**	**-0.4**
	baz=306							
TYC	**Yuchr**	**0.98**	**250**	*i* P		**Pb**	**11 22 25.6**	**-0.3**
	baz=248							
TYC				S		**Sg**	**11 22 39.4**	**+0.1**
	baz=248							
ANP	**Anpu**	**0.98**	**342**	P		**Pb**	**11 22 25.5**	**-0.5**
	baz=341							
ANP				S		**Sb**	**11 22 38.5**	**-0.2**
	baz=341							
NTST	**Danshui**	**0.98**	**338**	*eP*		**Pn**	**11 22 26.7**	**+0.3**
	baz=337							
NTST				S		**Sb**	**11 22 39.4**	**+0.7**
	baz=337							
TWQ1	**Liyutan**	**1.00**	**276**	*i* P		**Pg**	**11 22 27.8**	**+1.1**
	baz=274							
TWQ1				S		**Sg**	**11 22 40.1**	**+0.3**
	baz=274							
YULB	**Yu-li**	**1.00**	**211**	*eS*		**Sn**	**11 22 40.1**	**-0.2**
	baz=210							
JYNG	**Yonagunijimaku**	**1.01**	**78**	P		**Pb**	**11 22 25.6**	**-0.7**
NSY	**Sanyi**	**1.02**	**280**	*eP*		**Pb**	**11 22 26.1**	**-0.4**
	baz=278							
EYUL	**Yuli**	**1.03**	**209**	*eP*		**Pg**	**11 22 27.6**	**+0.3**
	baz=208							
EYUL				*eS*		**Sn**	**11 22 41.5**	**+0.5**
	baz=208							
TWY	**Chenhua**	**1.05**	**347**	P		**Pb**	**11 22 26.6**	**-0.5**
	baz=347							
TWY				S		**Sb**	**11 22 40.9**	**+0.4**
	baz=347							
YOJ	**Yonaguni jima**	**1.07**	**78**	P		**Pb**	**11 22 26.3**	**-1.1**
YOJ	**Yonaguni jima**	**1.07**	**78**	*eP*		**Pn**	**11 22 27.8**	**+0.3**
	baz=78							
YOJ				*eS*		**Sg**	**11 22 42.9**	**+0.9**
	baz=78							
WHYT	**Xinyi Township**	**1.08**	**239**	*eP*		**Pn**	**11 22 27.7**	**0.0**
	baz=238							
WHYT				*eS*		**Sg**	**11 22 42.8**	**+0.5**
	baz=238							
TCU	**Taichung**	**1.09**	**265**	*eP*		**Pb**	**11 22 27.1**	**-0.6**
	baz=263							
TCU				*eS*		**Sn**	**11 22 42.2**	**-0.3**
	baz=263							
WDJ	**Dajia District**	**1.12**	**275**	*eP*		**Pn**	**11 22 27.8**	**-0.4**
	baz=274							
WDJ				*eS*		**Sg**	**11 22 43.7**	**0.0**
	baz=274							
WJS	**Zhushan**	**1.12**	**248**	*eP*		**Pb**	**11 22 28.4**	**+0.1**
	baz=247							
WJS				*eS*		**Sn**	**11 22 43.3**	**0.0**
	baz=247							
WNT	**Mingjian**	**1.14**	**251**	*eP*		**Pg**	**11 22 29.1**	**-0.2**
	baz=250							
FULB	**Fuli**	**1.17**	**207**	*eP*		**Pn**	**11 22 28.3**	**-0.7**
	baz=206							
FULB				*eS*		**Sg**	**11 22 45.0**	**-0.3**
	baz=206							
ALS	**Alishan**	**1.22**	**233**	*eP*		**Pn**	**11 22 29.1**	**-0.7**
	baz=231							
ALS				*eS*		**Sn**	**11 22 45.7**	**-0.4**
	baz=231							
CHKT	**Chengkung**	**1.23**	**202**	*eP*		**Pb**	**11 22 30.0**	**-0.2**
	baz=201							
CHKT				*eS*		**Sg**	**11 22 47.5**	**+0.3**
	baz=201							
CHN5	**Tsauling**	**1.26**	**239**	*eP*		**Pb**	**11 22 31.0**	**+0.2**
	baz=238							
ELDTW	**Lidau**	**1.31**	**216**	*eP*		**Pn**	**11 22 31.1**	**+0.1**
	baz=215							
WDLH	**Douliu**	**1.33**	**245**	*eP*		**Pb**	**11 22 32.4**	**+0.5**
	baz=244							
EDH	**Donghe**	**1.37**	**202**	*eP*		**Pn**	**11 22 31.2**	**-0.5**
	baz=201							
WRL	**Guolierlin Hig**	**1.40**	**256**	*eP*		**Pb**	**11 22 33.0**	**0.0**
	baz=255							
TPUB	**Ta-pu**	**1.47**	**230**	*eP*		**Pb**	**11 22 34.0**	**-0.3**
	baz=229							
WTP	**Ta-pu**	**1.52**	**229**	*eP*		**Pb**	**11 22 35.0**	**-0.1**
	baz=228							
TWK	**Hsinying**	**1.59**	**232**	*eP*		**Pb**	**11 22 36.3**	**-0.1**
	baz=231							
CHN1	**Nanshi**	**1.62**	**229**	*eP*		**Pn**	**11 22 36.7**	**-0.1**
	baz=228							
SGST	**Jiashian**	**1.65**	**225**	*eP*		**Pn**	**11 22 36.3**	**+0.8**
	baz=224							
SLGT	**Liugui**	**1.68**	**222**	*eP*		**Pb**	**11 22 37.4**	**-0.3**
	baz=221							
IRIF	**Iriomote-Funau**	**1.71**	**87**	P		**Pb**	**11 22 37.5**	**-0.8**
JKRS	**Kuro-shima**	**1.96**	**90**	P		**Pn**	**11 22 40.6**	**+0.8**
JKRS				*eS*		**Sb**	**11 23 07.1**	**+0.4**
JIJ	**Ishigaki jima**	**2.08**	**86**	P		**Pn**	**11 22 41.8**	**+0.3**
JIJ				*eS*		**Sn**	**11 23 07.3**	**+0.2**
JISG	**Ishigakijimahi**	**2.26**	**81**	*eS*		**Sb**	**11 23 14.3**	**-1.0**

IDC ***23*** *11:32:38.6±0.5,31°.67S×71°.75W, h0km, mb4.9/16, mb1 4.9/21, mb1mx4.8/28, mbtmp4.8/21, ML4.1/5, MS4.5/9, Ms1 4.5/9, ms1mx4.2/25, Error ellipse: s-maj=19.7km s-min=12.8km az=91.0*

MOS ***23*** *11:32:39.2±1.2,31°.56S×71°.80W, h13km, mb5.2/25, Error ellipse: s-maj=14.4km s-min=7.2km az=92.5*

NEIC ***23*** *11:32:40, 31°.63S×72°.29W, h24km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr3.19; Mθθ0.23; Mφφ-3.42; Mrθ-0.11; Mθφ0.25; Mrφ-1.34; Fault plane solution: M0 3.59000×10^16 NP1:φ352.00000°, δ34.00000°, λ84.00000°. NP2:φ179.00000°, δ56.00000°, λ94.00000°. Principal axes: T 3.4635, Plg79.0000°, Azm104.0000°; N 0.2347, Plg3.0000°, Azm357.0000°; P -3.6982, Plg11.0000°, Azm267.0000°;*

NEIC ***23*** *11:32:40.2±1.2,31°.62S±0°.04×71°.95W±0°.10, h10km±1km, mb5.0/238, Mwr4.9/56, Mww5.0, ML5.1(GUC) Error ellipse: s-maj=14.0km s-min=6.0km az=277.0*

NEIC ***23*** *11:32:40.6,31°.62S×71°.94W, h24km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr2.09; Mθθ0.10; Mφφ-2.19; Mrθ0.24; Mθφ-0.30; Mrφ-1.10; Fault plane solution: M0 2.44000×10^16 NP1:φ177.96000°, δ58.81000°, λ79.89000°. NP2:φ16.95000°, δ32.63000°, λ106.17000°. Principal axes: T 2.3976, Plg74.0000°, Azm61.0000°; N 0.0778, Plg9.0000°, Azm183.0000°; P -2.4754, Plg13.0000°, Azm275.0000°;*

SJA ***23*** *11:32:41.0±1.1,31°.60S×71°.93W, h36km±13km, ML5.2, MW5.1*

VAO ***23*** *11:32:41.0±0.3,31°.57S×71°.71W, h10km, mb5.0*

GUC ***23*** *11:32:42.0±0.7,31°.64S×71°.89W, h41km±4km, ML5.1, MW5.2*

GCMT ***23*** *11:32:46.2±0.2,31°.67S±0°.02×72°.03W±0°.02, h29km, MW5.1/88, Moment Tensor Solution. s73,c88; s88,c123; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr4.91±.16; Mθθ0.06±.10; Mφφ-4.97±.12; Mrθ-0.28±.15; Mθφ0.10±.08;*

M0 r-3.73±.19; Best double couple: M0 6.19700×10^16 NP1:φ356.00000°, δ27.00000°, λ84.00000°. NP2: φ182.00000°, δ64.00000°, λ93.00000°. Principal axes: T 6.1740, Plg71.0000°, Azm99.0000°; N 0.0410, Plg3.0000°, Azm1.0000°; P -6.2200, Plg19.0000°, Azm270.0000°;
nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 23 11:32:41.3±0.3,31°.61S±0°.02×71°.94W±0°.04, h19km±3km, n561, σ1°23/516, mb5.0/136, MS4.8/10, 11C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.97**	**15**	⇓	*iP*	**Pn**	**11 32 59.9**	**-0.1**
CO06					*i* S	**Sn**	**11 33 13.6**	**+0.4**
CO06	**Fray Jorge**	**0.97**	**15**			**Pn**	**11 32 60.0**	**0.0**
VA06	**Catapilco**	**1.09**	**150**	⇓	*iP*	**Pb**	**11 33 01.0**	**-0.6**
VA06					*i* S	**Sb**	**11 33 14.7**	**-0.7**
VA06					IAML		11 33 19.1	
	comp=N,150μm,0.6s							
CO03	**El Pedregal**	**1.32**	**54**	⇓	*iP*	**Pn**	**11 33 05.0**	**+0.3**
CO03					*i* S	**Sn**	**11 33 21.9**	**0.0**
CO03					IAML		11 33 28.1	
	comp=E,32μm,0.5s							
CO03	**El Pedregal**	**1.32**	**54**		Pn	**Pb**	**11 33 05.2**	**-0.3**
CO03	**El Pedregal**	**1.32**	**54**		*i* P	**Pn**	**11 33 05.1**	**+0.3**
CO03					*i* S	**Sn**	**11 33 21.6**	**-0.2**
VA01	**Torpederas**	**1.43**	**170**		*eP*	**Pn**	**11 33 05.8**	**-0.4**
VA01	**Torpederas**	**1.43**	**170**		Pn	**Pn**	**11 33 05.7**	**-0.4**
VA01	**Torpederas**	**1.43**	**170**		*i* P	**Pn**	**11 33 05.9**	**-0.4**
VA01					*i* S	**Sb**	**11 33 25.9**	**+0.9**
ROCH	**El Roble**	**1.56**	**150**	⇑	*iP*	**Pn**	**11 33 08.4**	**+0.2**
ROCH					*i* S	**Sn**	**11 33 28.6**	**+0.5**
ROCH					IAML		11 33 35.8	
	comp=E,42μm,0.5s							
ROC1	**El Roble**	**1.56**	**150**		*eP*	**Pn**	**11 33 08.5**	**+0.2**
ROC1					*i* S	**Sb**	**11 33 28.8**	**-0.5**
VA03	**San Esteban**	**1.64**	**135**	⇓	*iP*	**Pn**	**11 33 09.5**	**+0.3**
VA03					*i* S	**Sn**	**11 33 30.3**	**+0.5**
VA03					IAML		11 33 37.0	
	comp=N,59μm,0.5s							
VA03	**San Esteban**	**1.64**	**135**			**Pn**	**11 33 09.5**	**+0.3**
VA03	**San Esteban**	**1.64**	**135**		*i* P	**Pn**	**11 33 09.7**	**+0.5**
VA03					*eS*	**Sb**	**11 33 30.7**	**-0.6**
GO04	**Tololo Observa**	**1.74**	**34**		*eP*	**Pn**	**11 33 11.3**	**+0.6**
GO04					*i* S	**Sb**	**11 33 33.7**	**-0.6**
GO04	**Tololo Observa**	**1.74**	**34**		Pn	**Pn**	**11 33 11.5**	**+0.8**
GO04	**Tololo Observa**	**1.74**	**34**		*i* P	**Pn**	**11 33 11.7**	**+1.0**
GO04					*i* S	**Sg**	**11 33 35.9**	**-1.5**
CO05	**La Serena**	**1.79**	**20**	⇑	*iP*	**Pn**	**11 33 12.0**	**+0.7**
CO05					IAML		11 33 43.2	
	comp=N,13μm,0.4s							
CO05	**La Serena**	**1.79**	**20**		Pn	**Pn**	**11 33 11.7**	**+0.5**
MT05	**Renca**	**2.04**	**151**	⇑	*iP*	**Pn**	**11 33 15.1**	**+0.4**
MT05					IAML		11 33 47.5	
	comp=E,26μm,0.5s							
MT05	**Renca**	**2.04**	**151**		Pn	**Pn**	**11 33 15.4**	**+0.7**
VA05	**Santo Domingo**	**2.06**	**173**		*eP*	**Pn**	**11 33 14.4**	**-0.5**
VA05	**Santo Domingo**	**2.06**	**173**		Pn	**Pn**	**11 33 14.6**	**-0.3**
FSR	**Penalolen**	**2.21**	**148**		*eP*	**Pb**	**11 33 19.0**	**-1.7**
FSR					*i* S	**Sb**	**11 33 46.0**	**-1.6**
AUSP	**Uspallata**	**2.25**	**106**		*i* P	**Pb**	**11 33 21.1**	**-0.4**
RTLS	**Leoncito**	**2.26**	**95**		*i* P	**Pb**	**11 33 21.3**	**-0.3**
RTLS					*i* S	**Sb**	**11 33 50.1**	**+0.8**
RTLS					IAML		11 33 56.5	
	comp=Z,17μm,0.9s							
MT09	**Talagante**	**2.30**	**160**	⇑	*iP*	**Pn**	**11 33 19.1**	**+0.7**
MT09					*i* S	**Sn**	**11 33 45.8**	**-0.4**
MT09					IAML		11 33 58.9	
	comp=E,15μm,0.3s							
MT09					IAML		11 33 59.4	
	comp=N,12μm,0.3s							
MT09	**Talagante**	**2.30**	**160**			**Pn**	**11 33 19.2**	**+0.9**
MT01	**Popeta**	**2.32**	**166**	⇑	*iP*	**Pn**	**11 33 18.5**	**+0.1**
MT01					*i* S	**Sn**	**11 33 45.8**	**-0.7**
MT01					IAML		11 34 00.7	
	comp=E,11μm,0.5s							
MT01	**Popeta**	**2.32**	**166**			**Pn**	**11 33 18.7**	**+0.2**
MT01	**Popeta**	**2.32**	**166**		*i* P	**Pn**	**11 33 18.6**	**+0.2**
AROD	**Rodeo**	**2.56**	**56**		*i* P	**Pb**	**11 33 25.9**	**-1.0**
AROD					*i* S	**Sb**	**11 33 58.9**	**+0.8**
AROD					IAML		11 34 08.3	
	comp=Z,1μm,1.3s							
LMEL	**Las Melosas**	**2.66**	**147**	⇑	*iP*	**Pn**	**11 33 24.5**	**+1.1**
LMEL					*i* S	**Sn**	**11 33 56.6**	**+1.4**
ACCO	**Cerro Coronel**	**2.67**	**68**		*i* P	**Pb**	**11 33 27.3**	**-1.3**
ZON	**Zonda**	**2.78**	**89**		*i* P	**Pb**	**11 33 29.0**	**-1.4**
ZON					*i* S	**Sb**	**11 34 04.6**	**+0.5**
ZON					IAML		11 34 19.6	
	comp=Z,11μm,1.6s							
ASAL	**Salagasta**	**2.81**	**111**		*i* P	**Pb**	**11 33 29.7**	**-1.2**
ASAL					*i* S	**Sg**	**11 34 09.8**	**-1.7**
ASAL					IAML		11 34 10.6	
	comp=Z,2μm,1.0s							
LCO	**Las Campanas**	**2.81**	**23**		*eP*	**Pn**	**11 33 25.0**	**-0.4**
LCO	**Las Campanas**	**2.81**	**23**		*i* P	**Pn**	**11 33 26.1**	**+0.7**
LCO					IAML		11 34 11.5	
	comp=Z,29μm,1.0s							
ACDV	**Cuesta del Vie**	**2.81**	**60**		*i* P	**Pb**	**11 33 29.2**	**-1.8**
ACDV					*i* S	**Sb**	**11 34 08.2**	**+2.9**
ACDV					IAML		11 34 10.8	
	comp=Z,6μm,1.2s							
ARCO	**CERRO ARCO**	**2.82**	**116**		*i* P	**Pb**	**11 33 29.8**	**-1.4**
ARCO					*i* S	**Sg**	**11 34 09.5**	**-2.7**
ARCO					IAML		11 34 11.8	
	comp=Z,9μm,0.8s							
BO01	**Tunca**	**2.86**	**166**		Pn	**Pn**	**11 33 26.1**	**+0.3**
BO01	**Tunca**	**2.86**	**166**		*i* P	**Pn**	**11 33 26.2**	**+0.3**
BO01					*i* S	**Sb**	**11 34 07.7**	**+1.4**
RTCV	**Cerro Valdivia**	**2.90**	**96**		*i* P	**Pb**	**11 33 30.2**	**-2.3**
RTCV					IAML		11 34 22.2	
	comp=Z,1μm,1.8s							
RTLL	**Cerro Villicun**	**2.97**	**85**		*eP*	**Pn**	**11 33 30.5**	**+3.0**
AAGR	**Agrelo**	**3.01**	**120**		*i* P	**Pb**	**11 33 32.4**	**-1.9**
BO02	**Sierra Bellavi**	**3.31**	**163**			**Pn**	**11 33 32.6**	**+0.4**
BO02	**Sierra Bellavi**	**3.31**	**163**		*i* P	**Pn**	**11 33 32.8**	**+0.5**
BO02					*i* S	**Sb**	**11 34 17.9**	**-1.6**
GO05	**Huala**	**3.39**	**180**			**Pn**	**11 33 32.8**	**-0.4**
GO05	**Huala**	**3.39**	**180**		*i* P	**Pn**	**11 33 32.2**	**-1.0**
AC04	**Llanos de Chal**	**3.48**	**13**		Pn	**Pn**	**11 33 34.4**	**0.0**
AC04	**Llanos de Chal**	**3.48**	**13**		*eP*	**Pn**	**11 33 34.4**	**0.0**
AGUA	**GUANDACOL**	**3.65**	**55**		*i* P	**Pb**	**11 33 41.4**	**-3.9**
AGUA					IAML		11 34 46.8	
	comp=Z,3μm,1.7s							
AVFE	**Valle Fertil**	**3.96**	**77**		*eP*	**Pn**	**11 33 43.4**	**+2.3**
AVFE					IAML		11 34 40.1	
	comp=Z,6μm,0.9s							
COIS	**El Sosneado**	**4.00**	**151**		*i* P	**Pn**	**11 33 45.0**	**+3.4**
LAMA	**Las Malvinas**	**4.02**	**146**		*i* P	**Pn**	**11 33 44.8**	**+2.9**
ML02	**Panimavida**	**4.16**	**174**		Pn	**Pn**	**11 33 43.5**	**-0.2**
GO03	**Copiap**	**4.27**	**21**		Pn	**Pn**	**11 33 45.3**	**-0.1**
GO03	**Copiap**	**4.27**	**21**		*eP*	**Pn**	**11 33 45.7**	**+0.3**
RFA	**San Rafael**	**4.29**	**138**		*i* P	**Pn**	**11 33 47.7**	**+2.1**
RFA					IAML		11 34 58.0	
	comp=Z,2μm,1.0s							
VCA	**Vinchina**	**4.32**	**49**		*i* P	**Pn**	**11 33 49.7**	**+3.5**
VCA					*eS*	**Sb**	**11 34 44.3**	**-4.2**
VCA					IAML		11 34 58.6	
	comp=Z,6μm,0.4s							
AC06	**Mina Casimiro**	**4.46**	**18**		Pn	**Pn**	**11 33 47.8**	**-0.1**
ACHE	**Chepes**	**4.53**	**86**		*i* P	**Pn**	**11 33 51.4**	**+2.4**
AC02	**Maricunga**	**5.36**	**28**		Pn	**Pn**	**11 34 01.4**	**+0.8**
AC02	**Maricunga**	**5.36**	**28**		*i* P	**Pn**	**11 34 01.8**	**+1.1**
H03N1	**Juan Fernandez**	**6.17**	**251**		T	T	11 40 51.3	
	baz=80,slow=72,SNR=4330							
H03N3	**Juan Fernandez**	**6.18**	**251**		T	T	11 40 50.6	
	baz=80,slow=72,SNR=2421							
H03N2	**Juan Fernandez**	**6.18**	**251**		T	T	11 40 56.8	
	baz=80,slow=72,SNR=2884							
CYA	**Choya**	**6.19**	**61**		*i* P	**Pn**	**11 34 12.6**	**+0.9**
CYA					IAML		11 35 33.0	
	comp=Z,2μm,1.4s							
H03S3	**Juan Fernandez**	**6.28**	**248**		T	T	11 41 06.7	
	baz=84,slow=74,SNR=37							
H03S1	**Juan Fernandez**	**6.28**	**247**		T	T	11 41 12.7	
	baz=84,slow=74,SNR=45							
H03S2	**Juan Fernandez**	**6.29**	**248**		T	T	11 41 10.8	
	baz=84,slow=74,SNR=51							
LC01	**Cunco**	**7.27**	**180**			**Pn**	**11 34 25.6**	**-0.9**
LC01	**Cunco**	**7.27**	**180**		*i* P	**Pn**	**11 34 26.0**	**-0.5**
AHML	**Horco Molle**	**7.51**	**52**		*i* P	**Pn**	**11 34 31.2**	**+1.4**
AHML					IAML		11 36 28.3	
	comp=Z,394nm,0.8s							
FSA	**Cafayete**	**7.57**	**45**		*eP*	**Pn**	**11 34 31.1**	**+0.2**
PB10	**IPOC Station P**	**8.16**	**9**		Pn	**Pn**	**11 34 39.0**	**+0.2**
PB05	**IPOC Station P**	**8.86**	**10**		*i* P	**Pn**	**11 34 47.0**	**-1.5**
PB05					IAML		11 37 09.0	
	comp=Z,447nm,1.2s							
PLCA	**Paso Flores**		**9.17**	**173**	Pn	**Pn**	**11 34 51.6**	**-1.0**
	comp=Z,2.4nm,0.3s,baz=334,slow=1.1,SNR=55							
PLCA					LR	LR	11 38 35.7	
	comp=Z,3μm,19.2s,baz=348,slow=39							
PLCA	**Paso Flores**		**9.17**	**173**	*eP*	**Pn**	**11 34 52.8**	**+0.2**
PLCA	**Paso Flores**		**9.17**	**173**	Pn	**Pn**	**11 34 52.8**	**+0.2**
PLCA	**Paso Flores**		**9.17**	**173**	*eP*	**Pn**	**11 34 53.7**	**+1.1**
LVC	**Limon Verde**		**9.36**	**17**	Pn	**Pn**	**11 34 56.1**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=161,slow=5.1,SNR=7.7							
LVC					Sn	Sn	11 36 54.2	+14
	comp=Z,5.6nm,0.3s,baz=327,slow=8.9,SNR=3.7							
LVC					LR	LR	11 38 28.1	
	comp=Z,3μm,20.4s,baz=214,slow=37							
LVC	**Limon Verde**		**9.36**	**17**	*eP*	**Pn**	**11 34 53.2**	**-2.4**
LVC	**Limon Verde**		**9.36**	**17**	Pn	**Pn**	**11 34 53.2**	**-2.4**
LVC	**Limon Verde**		**9.36**	**17**	*eP*	**Pn**	**11 34 53.3**	**-2.4**
LVC	**Limon Verde**		**9.36**	**17**	*i* P	**Pn**	**11 34 52.7**	**-2.9**
LVC					IAML		11 37 16.1	
	comp=Z,244nm,1.1s							
TRQA	**Tornquist**		**10.40**	**131**	P	**Pn**	**11 35 09.5**	**+0.1**
TRQA	**Tornquist**		**10.40**	**131**	Pn	**Pn**	**11 35 09.5**	**+0.1**
TRQA	**Tornquist**		**10.40**	**131**	*eP*	**Pn**	**11 35 09.2**	**-0.2**
LPA	**La Plata**		**12.17**	**109**	*eP*	Pn	11 35 19.3	-14
LPA					sP	P	11 35 27.4	-19
LPA					PP	**PnPn**	**11 35 37.8**	**-3.6**
LPA					PPP	PPP	11 35 51.7	
LPA					S	**Sn**	**11 37 41.1**	**-7.7**
LPA					SS	**SnSn**	**11 37 55.4**	**-5.4**
LPA					SSS	SSS	11 38 09.5	
LPA					PCP	**PcP**	**11 41 16.7**	**-0.1**
LPA					SCS	**ScS**	**11 48 24.6**	**-0.1**
LPA					PKIKP	**PKiKP**	**11 49 14.5**	**-0.1**
LPA					SKIKP		11 52 46.4	
LPA					PKIKS		11 52 52.7	
LPA					SKIKS		11 56 18.4	
ITQB	**Itaqui**	**13.33**		**86**	Pn	**Pn**	**11 35 47.6**	**-1.8**
ITQB	**Itaqui**	**13.33**		**86**	*eP*	**Pn**	**11 35 46.9**	**-2.5**
CPUP	**Villa Florida**	**13.82**		**71**	Pn	**Pn**	**11 35 54.8**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=242,slow=12,SNR=6.2							
CPUP					LR	LR	11 41 31.8	
	comp=Z,2μm,18.6s,baz=250,slow=39							
CPUP	**Villa Florida**	**13.82**		**71**	P	**Pn**	**11 35 55.7**	**-0.6**
CPUP	**Villa Florida**	**13.82**		**71**	Pn	**Pn**	**11 35 55.7**	**-0.6**
CPUP	**Villa Florida**	**13.82**		**71**	*eP*	**Pn**	**11 35 55.0**	**-1.2**
COYC	**Coyhaique**	**13.94**		**180**	Pn	**Pn**	**11 35 57.2**	**-0.6**
PLTB	**Pedras Altas**	**15.61**		**95**	Pn	**Pn**	**11 36 18.5**	**-1.8**
PLTB	**Pedras Altas**	**15.61**		**95**	*eP*	**Pn**	**11 36 18.4**	**-1.8**
LPAZ	**La Paz**	**15.65**		**14**	Pn	**Pn**	**11 36 22.1**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=184,slow=7.9,SNR=18							
LPAZ	**La Paz**	**15.65**		**14**	*eP*	**Pn**	**11 36 21.6**	**+0.2**
LPAZ	**La Paz**	**15.65**		**14**	Pn	**Pn**	**11 36 21.6**	**+0.2**
LPAZ	**La Paz**	**15.65**		**14**	*eP*	**Pn**	**11 36 21.1**	**-0.3**
CPSB	**Cacapava Do Su**	**15.91**		**90**	*eP*	**Pn**	**11 36 22.2**	**-1.9**
AQDB	**Aquidauana**	**18.30**		**57**	P	**Pn**	**11 36 53.5**	**-0.7**
AQDB	**Aquidauana**	**18.30**		**57**	*eP*	**Pn**	**11 36 52.9**	**-1.3**
SIV	**San Ignacio**	**18.44**		**35**	P	**P**	**11 36 54.6**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=235,slow=11,SNR=46							
SIV					LR	LR	11 44 34.2	
	comp=Z,998nm,19.6s,baz=216,slow=39							
PTGB	**Pitanga**	**18.80**		**74**	*eP*	**P**	**11 36 59.0**	**-0.9**
TRCB	**Terra Rica**	**19.26**		**68**	*eP*	**P**	**11 37 04.7**	**-0.1**
PTLB	**Pontes e Lacer**	**19.89**		**39**	*eP*	**P**	**11 37 11.4**	**-0.2**
TER01	**Tubaro-SC**	**19.97**		**87**	*eP*	**P**	**11 37 12.2**	**-0.3**
NNA	**Nana**	**20.05**		**346**	P	**P**	**11 37 14.2**	**+0.7**
	comp=Z,3.7nm,0.4s,baz=190,slow=16,SNR=3.6							
NNA					LR	LR	11 43 41.1	
	comp=Z,720nm,18.8s,baz=172,slow=33							
NNA	**Nana**	**20.05**		**346**	*eP*	**P**	**11 37 12.6**	**-0.9**
NNA	**Nana**	**20.05**		**346**	P	**P**	**11 37 12.6**	**-0.9**
PP1B	**Ponte de Pedra**	**20.82**		**52**	*eP*	**P**	**11 37 21.2**	**-0.6**
PCMB	**Pacaembu**	**20.97**		**67**	*eP*	**P**	**11 37 22.6**	**-0.8**
FRTB	**Fartura**	**21.46**		**73**	*eP*	**P**	**11 37 28.1**	**-0.6**
VILB	**Vilhena**	**21.48**		**33**	*eP*	**P**	**11 37 28.7**	**-0.2**
SALV	**Santo Antonio**	**21.53**		**47**	*eP*	**P**	**11 37 28.5**	**-0.9**
GO10	**Punta Arenas**	**21.54**		**179**	P	**P**	**11 37 29.4**	**+0.1**
ETMB	**Extrema**	**22.33**		**15**	*eP*	**P**	**11 37 39.1**	**+1.

NBLA	**Lagarto - SE**	**37.62**	**65**	*eP*		**P**		**11 39 53.6**	**-1.4**
HELC	**Santa Helena**	**37.75**	**354**	*eP*		**P**		**11 39 58.1**	**+1.6**
DBBC	**Dabeiba**	**38.63**	**353**	*eP*		**P**		**11 40 05.6**	**+2.0**
ROSB	**Rosrio**	**38.75**	**48**	*eP*		**P**		**11 40 03.9**	**-0.7**
ZARC	**Zaragoza, Cauc**	**38.99**	**355**	*eP*		**P**		**11 40 06.9**	**+0.3**
NBMA	**Muriti-CE**	**39.22**	**59**	*eP*		**P**		**11 40 07.7**	**-0.9**
UREC	**San Jos de Ur**	**39.29**	**354**	*eP*		**P**		**11 40 05.6**	**-3.5**
NBPS	**Pedro II - PI**	**39.40**	**53**	*eP*		**P**		**11 40 09.7**	**-0.5**
NBAN	**Anadia - AL**	**39.60**	**64**	*eP*		**P**		**11 40 10.6**	**-1.1**
NBPB	**Pedra_Branca-C**	**39.87**	**56**	*eP*		**P**		**11 40 13.5**	**-0.5**
SMLC	**San Martn de**	**40.24**	**357**	*eP*		**P**		**11 40 17.1**	**+0.2**
SDV	**Santo Domingo**	**40.29**	**2**	P		**P**		**11 40 17.9**	**+0.3**
SDV	**Santo Domingo**	**40.29**	**2**	*eP*		**P**		**11 40 18.1**	**+0.6**
NBLV	**Livramento - P**	**40.59**	**61**	*eP*		**P**		**11 40 19.7**	**-0.3**
ARGC	**Ariguani, Magd**	**41.30**	**357**	*eP*		P		11 40 12.3	-13
SJCC	**San Jacinto, C**	**41.39**	**355**	P		**P**		**11 40 24.8**	**-1.7**
SJCC	**San Jacinto, C**	**41.39**	**355**	*eP*		**P**		**11 40 26.6**	**+0.1**
CRJC	**Cerrejon, Guaj**	**42.40**	**359**	*eP*		P		11 40 27.6	-7.2
NBPV	**Pedro Velho**	**42.42**	**62**	*eP*		**P**		**11 40 34.9**	**-0.1**
COVE	**Coope Vega, Sa**	**43.76**	**342**	P		**P**		**11 40 44.6**	**-1.0**
COVE	comp=Z,29nm,1.1s			IAmb	IAmb			11 40 46.6	
TOSP	**Speyside**	**44.05**	**16**	P		**P**		**11 40 47.3**	**-0.7**
MCLT	**Moule a Chique**	**46.28**	**15**	P		**P**		**11 41 04.4**	**-1.3**
MPOM	**Morne Pois Mar**	**47.01**	**15**	P		**P**		**11 41 10.2**	**-1.3**
CRPR	**Cabo Rojo, PR**	**49.55**	**6**	P		**P**		**11 41 30.5**	**-0.5**
PDPR	**Patillas Dam,**	**49.67**	**7**	IAmb	IAmb			11 41 32.4	
SJG	comp=Z,30nm,1.1s **San Juan**	**49.75**	**7**	P		**P**		**11 41 32.1**	**-0.4**
SJG	comp=Z,25nm,1.1s			pmax	pmax				
SJG	**San Juan**	**49.75**	**7**	P		**P**		**11 41 32.1**	**-0.4**
SJG	comp=Z,25nm,1.1s			IAmb	IAmb			11 41 32.9	
AOPR	**Arecibo Observ**	**49.92**	**6**	P		**P**		**11 41 32.8**	**-1.1**
AOPR	comp=Z,40nm,1.4s			IAmb	IAmb			11 41 34.2	
CBYP	**Canovanas**	**49.94**	**8**	IAmb	IAmb			11 41 34.4	
GTBY	comp=Z,34nm,1.1s **Guantanamo Bay**	**51.34**	**356**	P		**P**		**11 41 43.7**	**-0.8**
VNA3	**Neumayer Olymp**	**51.53**	**159**	P		**P**		**11 41 46.1**	**+0.6**
VNA1	**Neumayer--Stat**	**51.83**	**158**	P		**P**		**11 41 48.7**	**+1.0**
VNA2	**Neumayer--Watz**	**52.18**	**158**	P		**P**		**11 41 50.8**	**+0.5**
SNAA	baz=286,slow=8.2 **Sanae**	**53.76**	**159**	P		**P**		**11 42 02.4**	**+0.4**
SNAA	**Sanae**	**53.76**	**159**	P		**P**		**11 42 02.4**	**+0.4**
SNAA	comp=Z,60nm,1.0s			pmax	pmax				
SNAA	**Sanae**	**53.76**	**159**	P		**P**		**11 42 02.4**	**+0.4**
SOR	**Soroa**	**55.13**	**348**	P		**P**		**11 42 12.0**	**-0.4**
SOR	comp=Z,11nm,0.9s			pmax	pmax				
SOR	**Soroa**	**55.13**	**348**	P		**P**		**11 42 12.0**	**-0.4**
SOR	comp=Z,11nm,0.9s			IAmb	IAmb			11 42 13.8	
QSPA	**South Pole Qui**	**58.62**	**180**	P		**P**		**11 42 37.3**	**+0.4**
QSPA	comp=Z,33nm,1.0s,baz=149,slow=3.9,SNR=10 **South Pole Qui**	**58.62**	**180**	P		**P**		**11 42 37.0**	**+0.2**
ZAIG	**Zacatecas**	**61.52**	**328**	P		**P**		**11 42 56.7**	**-0.7**
833A	**Chaparral WMA,**	**65.09**	**333**	P		**P**		**11 43 21.5**	**+0.9**
SBA	baz=154 **Scott Base**	**65.42**	**191**	P		**P**		**11 43 23.0**	**+0.8**
SBA	comp=Z,8.0nm,1.3s			pmax	pmax				
SBA	**Scott Base**	**65.42**	**191**	P		**P**		**11 43 23.0**	**+0.8**
LRAL	**Lakeview Retre**	**65.86**	**346**	P		**P**		**11 43 27.6**	**+2.2**
VBMS	baz=166 **Vicksburg**	**65.88**	**343**	P		**P**		**11 43 24.8**	**-0.8**
146A	**Union**	**65.92**	**344**	P		**P**		**11 43 26.6**	**+0.7**
VNDA	**Vanda**	**66.45**	**191**	P		**P**		**11 43 29.3**	**+0.4**
VNDA	comp=Z,2.5nm,1.1s,baz=135,slow=5.0,SNR=8.9 **Vanda**	**66.45**	**191**	P		**P**		**11 43 30.4**	**+1.6**
VNDA	comp=Z,10.0nm,1.4s			pmax	pmax				
VNDA	**Vanda**	**66.45**	**191**	P		**P**		**11 43 30.4**	**+1.6**
VNDA	comp=Z,10nm,1.4s			IAmb	IAmb			11 43 39.2	
HPIG		**66.52**	**327**	P		**P**		**11 43 31.0**	**+0.8**
HPIG	comp=Z,13nm,1.4s			IAmb	IAmb			11 43 33.0	
KMSC	**Kings Mountain**	**66.99**	**352**	P		**P**		**11 43 33.4**	**+0.7**
BG3	baz=171 **Lake Jocassee**	**67.06**	**350**	P		**P**		**11 43 33.2**	**+0.1**
BG3	comp=Z,22nm,1.3s			IAmb	IAmb			11 43 54.2	
JCT	**Junction City**	**67.18**	**334**	P		**P**		**11 43 34.8**	**+0.7**
JCT	comp=Z,18nm,1.2s			pmax	pmax				
JCT	**Junction City**	**67.18**	**334**	P		**P**		**11 43 34.8**	**+0.7**
JCT	comp=Z,18nm,1.1s			IAmb	IAmb			11 43 36.6	
JCT	**Junction City**	**67.18**	**334**	P		**P**		**11 43 34.6**	**+0.5**
Y45A	baz=154 **Yeager Farm, C**	**67.21**	**344**	P		**P**		**11 43 35.0**	**+0.8**
X48A	**Hartselle**	**67.24**	**346**	IAmb	IAmb			11 43 35.8	
TXAR	comp=Z,16nm,1.1s **Lajitas Array**	**67.71**	**330**	P		**P**		**11 43 39.0**	**+1.5**
TXAR	comp=Z,1.6nm,0.9s,baz=151,slow=8.6,SNR=16			LR	LR			12 09 31.9	
TXAR	comp=Z,324nm,18.2s,baz=0.0,slow=33			PKPPKP	P'P'df			12 12 02.5	+8.2
TX31	comp=Z,0.8nm,1.0s,baz=253,slow=0.9,SNR=3.9 **Lajitas Ar. Si**	**67.71**	**330**	IAmb	IAmb			11 43 55.1	
WHTX	comp=Z,19nm,1.2s **Lake Whitney,**	**67.72**	**337**	P		**P**		**11 43 38.0**	**+0.6**
CPCT	baz=157 **Cooper Cave**	**67.75**	**349**	IAmb	IAmb			11 43 39.1	
CCAR	comp=Z,16nm,1.1s **Cane Creek**	**67.81**	**342**	P		**P**		**11 43 37.9**	**0.0**
V48A	**Smith Brothers**	**68.44**	**347**	IAmb	IAmb			11 43 57.0	
CLTN	comp=Z,18nm,1.2s **Cedars of Leba**	**68.69**	**348**	P		**P**		**11 43 43.5**	**+0.2**
CLTN	comp=Z,8.8nm,0.9s			IAmb	IAmb			11 44 00.2	
WVT	**Waverly**	**69.02**	**346**	P		**P**		**11 43 45.7**	**+0.3**
WVT	comp=Z,20nm,1.0s			pmax	pmax				
WVT	**Waverly**	**69.02**	**346**	P		**P**		**11 43 45.7**	**+0.3**
WVT	**Waverly**	**69.02**	**346**	P		**P**		**11 43 45.7**	**+0.3**
ABTX	baz=166 **Abilene, Hawle**	**69.05**	**335**	P		**P**		**11 43 46.9**	**+1.1**
ABTX	comp=Z,17nm,1.1s			IAmb	IAmb			11 43 48.1	
ABTX	**Abilene, Hawle**	**69.05**	**335**	P		**P**		**11 43 46.6**	**+0.8**
W39A	baz=155 **Magazine**	**69.56**	**341**	IAmb	IAmb			11 44 04.8	
W39A	comp=Z,23nm,1.2s **Magazine**	**69.56**	**341**	P		**P**		**11 43 49.5**	**+0.7**
LCAR	baz=160 **Lake Charles**	**69.70**	**343**	P		**P**		**11 43 49.7**	**+0.1**
LCAR	comp=Z,9.5nm,0.8s			IAmb	IAmb			11 44 06.2	
S51A	**Beattyville**	**69.75**	**350**	IAmb	IAmb			11 43 52.1	
U40A	comp=Z,10nm,0.9s **Yellville**	**70.40**	**342**	IAmb	IAmb			11 44 09.2	
U40A	comp=Z,16nm,1.2s **Yellville**	**70.40**	**342**	P		**P**		**11 43 53.8**	**-0.2**
MNTX	baz=161 **Cornudas Mount**	**70.49**	**330**	P		**P**		**11 43 54.5**	**-0.1**
HHAR	baz=150 **Hobbs**	**70.62**	**341**	IAmb	IAmb			11 44 15.5	
WMOK	comp=Z,9.3nm,1.0s **Wichita Mounta**	**70.67**	**337**	P		**P**		**11 43 55.3**	**-0.3**
TUL1	baz=156 **Leonard**	**70.80**	**340**	P		**P**		**11 43 56.4**	**0.0**
P60A	baz=159 **Greenville**	**71.15**	**357**	P		**P**		**11 43 58.7**	**+0.3**
FVM	baz=177 **French Village**	**71.36**	**345**	IAmb	IAmb			11 44 01.5	
MSTX	comp=Z,20nm,1.2s **Muleshoe**	**71.42**	**333**	IAmb	IAmb			11 44 02.3	
MSTX	comp=Z,20nm,1.0s **Muleshoe**	**71.42**	**333**	P		**P**		**11 44 00.2**	**-0.1**
P52A	baz=153,SNR=15 **Corning**	**71.52**	**352**	P		**P**		**11 44 00.7**	**0.0**
CCM	baz=171 **Cathedral Cave**	**71.61**	**344**	P		**P**		**11 44 01.4**	**+0.1**
CCM	comp=Z,12nm,1.0s			pmax	pmax				
CCM	**Cathedral Cave**	**71.61**	**344**	P		**P**		**11 44 01.4**	**+0.1**
CCM	comp=Z,12nm,1.0s			IAmb	IAmb			11 44 17.1	
CCM	**Cathedral Cave**	**71.61**	**344**	P		**P**		**11 44 01.5**	**+0.2**
P49A	baz=163 **Miami Univ. Ec**	**71.78**	**350**	P		**P**		**11 44 02.7**	**+0.5**
	baz=169								
S39A	**Bolivar**	**71.78**	**342**	IAmb	IAmb			11 44 19.7	
O56A	comp=Z,24nm,1.3s **Blue Knob Stat**	**71.78**	**355**	P		**P**		**11 44 03.3**	**+1.0**
AMTX	baz=174 **Amarillo**	**71.82**	**335**	IAmb	IAmb			11 44 05.0	
AMTX	comp=Z,16nm,1.0s **Amarillo**	**71.82**	**335**	P		**P**		**11 44 03.3**	**+0.5**
319A	baz=154 **Douglas**	**71.95**	**327**	IAmb	IAmb			11 44 25.0	
T35A	comp=Z,16nm,1.5s **Sooner Cattle**	**71.95**	**339**	IAmb	IAmb			11 44 05.4	
R40A	comp=Z,18nm,1.1s **Maddies Statio**	**72.08**	**343**	IAmb	IAmb			11 44 19.8	
SSPA	comp=Z,25nm,1.1s **Standing Stone**	**72.10**	**355**	P		**P**		**11 44 04.8**	**+0.6**
ACSO	baz=175 **Alum Creek Sta**	**72.22**	**351**	IAmb	IAmb			11 44 06.2	
ACSO	comp=Z,16nm,0.8s **Alum Creek Sta**	**72.22**	**351**	P		**P**		**11 44 05.2**	**+0.4**
121A	baz=170 **Cookes Peak, D**	**72.24**	**329**	IAmb	IAmb			11 44 25.4	
121A	comp=Z,15nm,1.1s **Cookes Peak, D**	**72.24**	**329**	P		**P**		**11 44 06.8**	**+1.4**
N59A	baz=148 **State Game Lan**	**72.26**	**357**	IAmb	IAmb			11 44 07.9	
N59A	comp=Z,18nm,1.0s **State Game Lan**	**72.26**	**357**	P		**P**		**11 44 06.4**	**+1.3**
N54A	baz=177 **Moraine State**	**72.60**	**354**	P		**P**		**11 44 07.8**	**+0.7**
M55A	baz=173 **Ridgway**	**72.99**	**355**	IAmb	IAmb			11 44 11.3	
M54A	comp=Z,20nm,0.9s **Oil Creek Stat**	**73.11**	**354**	P		**P**		**11 44 10.4**	**+0.3**
M53A	baz=173 **Wl Miller and**	**73.14**	**353**	P		**P**		**11 44 10.9**	**+0.6**
L64A	baz=172 **Middleborough**	**73.19**	**1**	P		**P**		**11 44 11.5**	**+0.9**
P40A	baz=181 **Paris**	**73.21**	**344**	IAmb	IAmb			11 44 12.5	
TUC	comp=Z,17nm,0.9s **Tucson**	**73.43**	**326**	P		**P**		**11 44 12.7**	**+0.3**
TUC	comp=Z,5.0nm,1.3s			pmax	pmax				
TUC	**Tucson**	**73.43**	**326**	P		**P**		**11 44 12.7**	**+0.3**
TUC	**Tucson**	**73.43**	**326**	P		**P**		**11 44 13.1**	**+0.7**
BINY	baz=146 **Binghamton**	**73.55**	**357**	P		**P**		**11 44 14.2**	**+1.5**
L56A	baz=176 **Greenwood**	**73.57**	**356**	P		**P**		**11 44 13.4**	**+0.5**
L56A	comp=Z,22nm,0.9s			IAmb	IAmb			11 44 15.0	
P38A	**Dawn**	**73.66**	**343**	IAmb	IAmb			11 44 28.3	
L61B	comp=Z,17nm,1.1s **Northampton**	**73.70**	**359**	P		**P**		**11 44 14.7**	**+1.1**
ANMO	baz=175 **Albuquerque**	**73.74**	**331**	P		**P**		**11 44 14.7**	**+0.4**
ANMO	comp=Z,8.0nm,1.3s			pmax	pmax				
ANMO	**Albuquerque**	**73.74**	**331**	P		**P**		**11 44 14.7**	**+0.4**
ANMO	**Albuquerque**	**73.74**	**331**	P		**P**		**11 44 15.2**	**+1.0**
ERPA	baz=150 **Erie**	**73.74**	**354**	P		**P**		**11 44 13.3**	**-0.5**
ERPA	comp=Z,19nm,0.8s			IAmb	IAmb			11 44 14.8	
HRV	**Adam Dziewonsk**	**73.76**	**0**	P		**P**		**11 44 15.1**	**+1.2**
WVNY	baz=180 **West Valley, N**	**73.91**	**355**	P		**P**		**11 44 14.7**	**-0.2**
K62A	**Royalston**	**73.92**	**360**	P		**P**		**11 44 15.6**	**+0.8**
K61A	baz=180 **Williamstown**	**73.93**	**359**	P		**P**		**11 44 16.0**	**+1.1**
LIC	baz=179 **Lamto**	**73.95**	**72**	*eP*		**P**		**11 44 15.4**	**-0.3**
R32A	comp=Z,116nm,1.1s **Long Quarter,**	**74.01**	**338**	IAmb	IAmb			11 44 17.8	
214A	comp=Z,14nm,1.1s **Organ Pipe Nat**	**74.12**	**325**	P		**P**		**11 44 17.2**	**+0.8**
MMNY	baz=145 **Mt. Morris Dam**	**74.19**	**355**	IAmb	IAmb			11 44 18.3	
TIC	comp=Z,24nm,1.1s **Toumodi**	**74.20**	**72**	*eP*		**P**		**11 44 16.9**	**-0.3**
KIC	**Kosan Boka**	**74.26**	**72**	*eP*		**P**		**11 44 17.3**	**-0.3**
DBIC	comp=Z,86nm,0.8s **Dimbokro**	**74.34**	**72**	P		**P**		**11 44 17.9**	**-0.1**
DBIC	comp=Z,39nm,0.8s,baz=236,slow=5.0,SNR=36			pmax	pmax				
DBIC	**Dimbokro**	**74.34**	**72**	P		**P**		**11 44 17.6**	**-0.4**
ACCN	comp=Z,49nm,0.9s **Adirondack Com**	**74.65**	**359**	IAmb	IAmb			11 44 21.6	
N38A	comp=Z,22nm,1.1s **Joes South For**	**74.69**	**343**	IAmb	IAmb			11 44 21.0	
J59A	comp=Z,30nm,1.2s **Piesco**	**74.75**	**358**	IAmb	IAmb			11 44 21.8	
J57A	comp=Z,24nm,1.1s **Williamstown**	**74.75**	**357**	IAmb	IAmb			11 44 21.6	
T25A	comp=Z,19nm,0.9s **Trinidad**	**74.84**	**334**	IAmb	IAmb			11 44 23.8	
T25A	comp=Z,20nm,1.0s **Trinidad**	**74.84**	**334**	P		**P**		**11 44 22.4**	**+1.7**
L44A	baz=152 **Lake County Fo**	**74.89**	**348**	P		**P**		**11 44 20.8**	**+0.3**
I60A	baz=166 **Shoreham**	**75.11**	**359**	P		**P**		**11 44 22.3**	**+0.6**
NCB	baz=179 **Newcomb**	**75.25**	**358**	IAmb	IAmb			11 44 26.6	
W18A	comp=Z,12nm,1.1s **Petrified Fore**	**75.29**	**329**	P		**P**		**11 44 23.3**	**0.0**
PECO	baz=147 **Prince Edward**	**75.33**	**356**	IAmb	IAmb			11 44 24.8	
L40A	comp=Z,9.2nm,0.8s **Anamosa**	**75.44**	**345**	P		**P**		**11 44 23.7**	**0.0**
L40A	comp=Z,19nm,0.9s			IAmb	IAmb			11 44 25.0	
MAW	**Mawson**	**75.44**	**164**	P		**P**		**11 44 24.1**	**+0.7**
MAW	comp=Z,16nm,0.9s,baz=228,slow=7.2,SNR=28 **Mawson**	**75.44**	**164**	P		**P**		**11 44 24.0**	**+0.5**
MAW	comp=Z,5.0nm,1.0s			pmax	pmax				
MAW	**Mawson**	**75.44**	**164**	P		**P**		**11 44 24.0**	**+0.5**
LBNH	**Lisbon**	**75.49**	**0**	P		**P**		**11 44 24.9**	**+1.0**
SDCO	baz=180 **Great Sand Dun**	**75.79**	**333**	P		**P**		**11 44 27.2**	**+1.1**
KSCO	baz=151 **Kaye Shedlock'**	**75.84**	**336**	IAmb	IAmb			11 44 29.2	
KSCO	comp=Z,18nm,1.1s **Kaye Shedlock'**	**75.84**	**336**	P		**P**		**11 44 27.5**	**+1.2**
LONY	baz=153 **Lake Ozonia**	**75.91**	**358**	P		**P**		**11 44 26.4**	**+0.1**
LONY	comp=Z,20nm,1.0s			IAmb	IAmb			11 44 28.4	
LONY	**Lake Ozonia**	**75.91**	**358**	P		**P**		**11 44 27.1**	**+0.7**
SUR	baz=178 **Suherland**	**75.91**	**119**	P		**P**		**11 44 26.7**	**-0.5**
JFWS	**Jewell Farm**	**76.05**	**346**	P		**P**		**11 44 28.4**	**+1.2**
EMMW	baz=164 **East Machias**	**76.07**	**3**	P		**P**		**11 44 26.7**	**-0.5**
EMMW	comp=Z,18nm,0.9s			IAmb	IAmb			11 44 29.9	
FRNY	**Flat Rock**	**76.10**	**359**	P		**P**		**11 44 27.2**	**-0.2**
SADO	**Sadowa**	**76.30**	**355**	IAmb	IAmb			11 44 30.0	
S22A	comp=Z,22nm,1.0s **4UR Ranch, Cre**	**76.31**	**332**	P		**P**		**11 44 29.7**	**+0.6**
IKP	baz=150 **In-Ko-Pah, Jac**	**76.34**	**323**	P		**P**		**11 44 30.0**	**+0.8**
WUAZ	baz=142 **Wupatki**	**76.36**	**328**	IAmb	IAmb			11 44 32.7	
WUAZ	comp=Z,8.8nm,1.1s **Wupatki**	**76.36**	**328**	P		**P**		**11 44 30.4**	**+1.0**
SWSC	baz=146 **Sam W. Stewart**	**76.42**	**323**	P		**P**		**11 44 31.1**	**+1.7**
PLVO	baz=143 **Plevna**	**76.43**	**356**	IAmb	IAmb			11 44 30.7	
MVCO	comp=Z,15nm,1.1s **Mesa Verde**	**76.53**	**331**	P		**P**		**11 44 30.6**	**+0.3**
MVCO	comp=Z,11nm,1.1s			IAmb	IAmb			11 44 33.3	
MVCO	**Mesa Verde**	**76.53**	**331**	P		**P**		**11 44 31.3**	**+0.9**
PKME	baz=149 **Peaks-Kenny Pk**	**76.55**	**2**	P		**P**		**11 44 31.1**	**+1.1**
BAR	baz=182 **Barrett**	**76.66**	**322**	IAmb	IAmb			11 44 34.1	
Q24A	comp=Z,15nm,1.2s **Divide**	**76.72**	**334**	P		**P**		**11 44 32.4**	**+0.9**
BC3	baz=151,SNR=7.9 **Big Chuckawall**	**76.80**	**324**	P		**P**		**11 44 33.1**	**+1.3**
	baz=143								
F63A	**Nahmakanta, Br**	**77.00**	**2**	IAmb	IAmb			11 44 35.2	
IRM	comp=Z,22nm,1.1s **Iron Mountain**	**77.05**	**324**	P		**P**		**11 44 34.5**	**+1.4**
F64A	baz=143 **Sherman**	**77.18**	**3**	P		**P**		**11 44 34.7**	**+1.2**
TPFO	**Pinon Flats**	**77.27**	**323**	P		**P**		**11 44 35.6**	**+1.1**
PFO	baz=142,SNR=5.9 **Pinyon Flats O**	**77.28**	**323**	*ceP*		**P**		**11 44 37.5**	**+3.0**
PFO	**Pinyon Flats O**	**77.28**	**323**	P		**P**		**11 44 33.5**	**-1.0**
PFO	comp=Z,11nm,1.1s			IAmb	IAmb			11 44 38.1	
PFO	**Pinyon Flats O**	**77.28**	**323**	P		**P**		**11 44 35.4**	**+0.9**
BELC	baz=142,SNR=7.2 **Belle Mtn. Jos**	**77.35**	**324**	P		**P**		**11 44 36.1**	**+1.1**
LMN	baz=143 **Caledonia Moun**	**77.37**	**5**	P		**P**		**11 44 35.6**	**+1.0**
PV02	**Paradox Valley**	**77.47**	**331**	P		**P**		**11 44 35.9**	**+0.2**
PV15	**Paradox Valley**	**77.48**	**331**	P		**P**		**11 44 35.7**	**-0.1**
PV15	comp=Z,15nm,1.5s			IAmb	IAmb			11 44 53.5	
PV05	**Paradox Valley**	**77.52**	**331**	IAmb	IAmb			11 44 52.9	
PV12	comp=Z,13nm,1.3s **Saucer Basin,**	**77.60**	**331**	IAmb	IAmb			11 44 38.6	
SMCO	comp=Z,12nm,1.3s **Snowmass**	**77.60**	**333**	IAmb	IAmb			11 44 39.8	
ISCO	comp=Z,17nm,1.1s **Idaho Springs**	**77.62**	**334**	IAmb	IAmb			11 44 39.4	
ISCO	comp=Z,10nm,1.2s **Idaho Springs**	**77.62**	**334**	P		**P**		**11 44 37.4**	**+0.8**
PV16	baz=151,SNR=6.3 **Nyswonger Mesa**	**77.64**	**331**	IAmb	IAmb			11 44 38.5	
MURC	comp=Z,11nm,1.3s **Murrieta**	**77.65**	**323**	P		**P**		**11 44 37.8**	**+1.3**
PV04	baz=142 **Paradox Valley**	**77.70**	**331**	IAmb	IAmb			11 44 39.7	
BBRC	comp=Z,9.3nm,1.2s **Big Bear Solar**	**78.03**	**323**	P		**P**		**11 44 40.2**	**+1.3**
HEC	baz=142 **Hector Ludlow**	**78.18**	**324**	P		**P**		**11 44 40.4**	**+1.0**
KNB	baz=143,SNR=6.8 **Kanab**	**78.26**	**328**	IAmb	IAmb			11 44 43.4	
ECSD	comp=Z,14nm,1.1s **EROS Data Cent**	**78.31**	**342**	IAmb	IAmb			11 44 41.6	
ECSD	comp=Z,19nm,0.9s **EROS Data Cent**	**78.31**	**342**	P		**P**		**11 44 40.8**	**+1.0**
BFSC	baz=159 **Mount Baldy Ra**	**78.39**	**323**	P		**P**		**11 44 40.9**	**+0.2**
TUQ	baz=142,SNR=6.8 **Turquoise Moun**	**78.45**	**325**	P		**P**		**11 44 42.5**	**+1.5**
N23A	baz=143 **Red Feather La**	**78.70**	**334**	P		**P**		**11 44 43.3**	**+0.9**
BATG	baz=151 **Bathurst New B**	**78.71**	**4**	IAmb	IAmb			11 44 44.4	
GSC	comp=Z,15nm,0.9s **Goldstone, Bar**	**78.79**	**324**	P		**P**		**11 44 44.0**	**+1.2**
O20A	baz=142,SNR=6.1 **White River Ci**	**78.92**	**332**	IAmb	IAmb			11 44 46.4	
O20A	comp=Z,13nm,1.1s **White River Ci**	**78.92**	**332**	P		**P**		**11 44 44.3**	**+0.7**
SHOC	baz=149 **Shoshone, Teco**	**79.00**	**325**	P		**P**		**11 44 45.5**	**+1.7**
EDW2	baz=143 **Edwards Air Fo**	**79.06**	**323**	P		**P**		**11 44 45.2**	**+0.9**
Q16A	baz=141,SNR=5.1 **Castle Valley**	**79.10**	**330**	IAmb	IAmb			11 44 47.6	
LRMC	comp=Z,11nm,1.1s **Laurel Mtn Rad**	**79.37**	**324**	P		**P**		**11 44 47.2**	**+1.1**
P17A	baz=142 **Butcher Ranch,**	**79.38**	**330**	IAmb	IAmb			11 44 48.7	
F36A	comp=Z,15nm,1.2s **Milaca**	**79.56**	**345**	IAmb	IAmb			11 44 48.2	
KOWA	comp=Z,9.9nm,0.9s **Kowa**	**79.58**	**66**	P		**P**		**11 44 47.6**	**+0.2**
KOWA	comp=Z,25nm,0.8s,baz=235,slow=5.2,SNR=51 **Kowa**	**79.58**	**66**	P		**P**		**11 44 47.1**	**-0.4**
PRN	**Pahroc Range**	**79.61**	**326**	P		**P**		**11 44 48.4**	**+1.1**
PRN	comp=Z,16nm,1.0s			IAmb	IAmb			11 44 50.8	
MPMC	**Manual Prospec**	**79.72**	**324**	P		**P**		**11 44 49.6**	**+1.5**
D41A	baz=142 **Chassel**	**79.73**	**349**	P		**P**		**11 44 47.5**	**-0.1**
FURC	**Furnace Creek,**	**79.73**	**325**	P		**P**		**11 44 49.0**	**+1.2**
TSUM	baz=142 **Tsumeb**	**79.79**	**106**	P		**P**		**11 44 48.3**	**-0.5**
TSUM	comp=Z,22nm,1.0s			IAmb	IAmb			11 44 50.3	
TPNV	**Topopah Spring**	**79.82**	**325**	P		**P**		**11 44 48.9**	**+0.4**
TPNV	comp=Z,8.0nm,1.0s			pmax	pmax				
TPNV	**Topopah Spring**	**79.82**	**325**	P		**P**		**11 44 48.9**	**+0.4**
TPNV	**Topopah Spring**	**79.82**	**325**	P		**P**		**11 44 49.4**	**+0.9**
RDMU	baz=143,SNR=11 **Red Mountain**	**79.82**	**332**	P		**P**		**11 44 48.5**	**0.0**
RDMU	comp=Z,12nm,1.0s			IAmb	IAmb			11 44 50.9	
ISA	**Isabella, Lake**	**79.92**	**323**	IAmb	IAmb			11 44 52.3	
ISA	comp=Z,12nm,1.0s **Isabella, Lake**	**79.92**	**323**	P		**P**		**11 44 50.0**	**+1.1**
PKM	baz=141 **Mcpherson Peak**	**80.02**	**322**	P		**P**		**11 44 50.9**	**+1.2**
CWC	baz=140 **Cottonwood Cre**	**80.32**	**324**	P		**P**		**11 44 52.4**	**+1.2**
VES	baz=142 **Vestal, Richgr**	**80.37**	**323**	P		**P**		**11 44 52.5**	**+1.3**
GRAC	baz=141 **Grapevine Rang**	**80.40**	**325**	P		**P**		**11 44 52.5**	**+1.0**
SMMC	baz=142 **Simmler**	**80.44**	**322**	P		**P**		**11 44 53.1**	**+1.4**
K22A	baz=140 **Casper**	**80.44**	**335**	P		**P**		**11 44 52.9**	**+1.1**
R11A	baz=151 **Troy Canyon, C**	**80.62**	**327**	P		**P**		**11 44 54.0**	**+1.2**
DUG	baz=144,SNR=12 **Dugway, Tooele**	**80.86**	**329**	P		**P**		**11 44 55.0**	**+1.0**
RSSD	baz=146 **Black Hills**	**80.87**	**337**	P		**P**		**11 44 53.7**	**-0.4**
RSSD	comp=Z,9.0nm,1.1s			pmax	pmax				
RSSD	**Black Hills**	**80.87**	**337**	P		**P**		**11 44 53.7**	**-0.4**
RSSD	**Black Hills**	**80.87**	**337**	P		**P**		**11 44 55.3**	**+1.2**
TCUT	baz=153 **Toone Canyon**	**81.03**	**331**	IAmb	IAmb			11 45 20.9	
BOSA	comp=Z,10nm,1.1s **Boshof**	**81.11**	**118**	P		**P**		**11 44 55.6**	**-0.2**
BOSA	comp=Z,33nm,0.9s,baz=240,slow=4.9,SNR=46 **Boshof**	**81.11**	**118**	P		**P**		**11 44 55.3**	**-0.5**
BOSA	comp=Z,38nm,0.9s			pmax	pmax				
BOSA	**Boshof**	**81.11**	**118**	P		**P**		**11 44 55.3**	**-0.5**
EYMN	**Ely**	**81.12**	**347**	IAmb	IAmb			11 44 56.2	
EYMN	comp=Z,9.5nm,1.1s **Ely**	**81.12**	**347**	P		**P**		**11 44 56.0**	**+0.9**
HWUT	baz=163 **Hardware Ranch**	**81.51**	**331**	IAmb	IAmb			11 44 59.6	
SPUT	comp=Z,9.5nm,0.9s **South Promonto**	**81.63**	**330**	IAmb	IAmb

ELK	**Elko**	**82.38**	**328**	P	**P**	**11 45 02.7**	**+0.5**
ELK				lAmb	lAmb	11 45 04.5	
	comp=Z,6.7nm,0.9s						
AGMN	**Agassiz Nation**	**82.39**	**344**	P	**P**	**11 45 02.0**	**+0.3**
	baz=160						
REDW	**Red Top Meadow**	**82.69**	**332**	lAmb	lAmb	11 45 05.8	
	comp=Z,8.9nm,1.3s						
TPAW	**Teton Pass**	**82.84**	**332**	lAmb	lAmb	11 45 24.9	
	comp=Z,9.4nm,1.2s						
YERR	**Yerington**	**82.88**	**325**	lAmb	lAmb	11 45 07.8	
	comp=Z,9.1nm,0.9s						
MDND	**Maddock**	**82.91**	**342**	P	**P**	**11 45 05.5**	**+1.0**
	baz=157						
IMW	**Indian Meadow**	**83.17**	**333**	lAmb	lAmb	11 45 24.4	
	comp=Z,11nm,1.4s						
FLWY	**Flagg Ranch**	**83.24**	**333**	lAmb	lAmb	11 45 08.3	
	comp=Z,16nm,1.4s						
TORD	**Torodi Ar. Bea**	**83.32**	**70**	P	**P**	**11 45 07.2**	**-0.2**
	comp=Z,36nm,0.8s,baz=258,slow=4.7,SNR=174						
TORD	**Torodi Ar. Bea**	**83.32**	**70**	P	**P**	**11 45 06.7**	**-0.6**
PAHR	**Pah Rah Range**	**83.50**	**325**	lAmb	lAmb	11 45 10.9	
	comp=Z,10nm,0.9s						
RLMT	**Red Lodge**	**83.58**	**334**	lAmb	lAmb	11 45 13.1	
	comp=Z,7.3nm,1.1s						
RLMT	**Red Lodge**	**83.58**	**334**	P	**P**	**11 45 08.3**	**+0.1**
	baz=149						
LAO	**LASA Array**	**83.86**	**337**	P	**P**	**11 45 10.6**	**+1.2**
	baz=151						
YHH	**Holmes Hill**	**83.89**	**333**	lAmb	lAmb	11 45 12.5	
	comp=Z,12nm,1.2s						
BEKR	**Beckworth**	**84.11**	**325**	lAmb	lAmb	11 45 13.7	
	comp=Z,6.7nm,0.9s						
ULM	**Lac du Bonnet**	**84.22**	**345**	P	**P**	**11 45 11.4**	**+0.3**
	comp=Z,7.3nm,1.0s,baz=179,slow=6.8,SNR=4.9						
ULM	**Lac du Bonnet**	**84.22**	**345**	lAmb	lAmb	11 45 13.7	
	comp=Z,11nm,1.1s						
HLID	**Hailey**	**84.31**	**330**	lAmb	lAmb	11 45 14.0	
	comp=Z,6.9nm,1.1s						
HLID	**Hailey**	**84.31**	**330**	P	**P**	**11 45 13.0**	**+1.0**
	baz=145						
ORV	**Oroville**	**84.44**	**324**	lAmb	lAmb	11 45 15.5	
	comp=Z,14nm,1.2s						
DGMT	**Dagmar**	**84.79**	**339**	P	**P**	**11 45 14.7**	**+0.7**
	baz=153						
MFID	**Camas Ranch**	**84.79**	**330**	lAmb	lAmb	11 45 16.8	
	comp=Z,12nm,1.4s						
BOZ	**Bozeman (W)**	**84.87**	**333**	P	**P**	**11 45 15.1**	**+0.5**
	baz=147						
DLMT	**Dillon**	**85.05**	**333**	lAmb	lAmb	11 45 31.6	
	comp=Z,8.1nm,1.1s						
O03E	**Paynes Creek**	**85.15**	**324**	P	**P**	**11 45 16.1**	**0.0**
	baz=139						
WVOR	**Wild Horse Val**	**85.27**	**327**	lAmb	lAmb	11 45 18.7	
	comp=Z,7.9nm,1.1s						
O02D	**Mt. Diablo Mer**	**85.56**	**323**	P	**P**	**11 45 18.7**	**+0.5**
	baz=138						
MOD	**Modoc Plateau**	**85.64**	**326**	lAmb	lAmb	11 45 21.2	
	comp=Z,8.1nm,0.9s						
N02D	**Trinity Center**	**86.11**	**324**	P	**P**	**11 45 20.9**	**0.0**
	baz=139						
SCHQ	**Schefferville**	**86.21**	**3**	P	**P**	**11 45 20.1**	**-0.8**
	comp=Z,16nm,1.1s,baz=179,slow=3.2,SNR=4.6						
SCHQ				LR	LR	12 27 41.4	
	comp=Z,59nm,18.1s,baz=135,slow=38						
PLID	**Pearl Lake**	**86.21**	**330**	P	**P**	**11 45 21.8**	**+0.3**
PLID				lAmb	lAmb	11 45 37.3	
	comp=Z,18nm,1.3s						
EGMT	**Eagleton**	**86.23**	**336**	P	**P**	**11 45 21.4**	**+0.1**
	baz=148						
M02C	**Callahan**	**86.50**	**324**	P	**P**	**11 45 23.5**	**+0.7**
	baz=139						
K05A	**Summer Lake**	**86.55**	**326**	P	**P**	**11 45 23.6**	**+0.4**
BMO	**Blue Mountains**	**86.58**	**330**	P	**P**	**11 45 23.3**	**+0.2**
BMO				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BMO	**Blue Mountains**	**86.58**	**330**	P	**P**	**11 45 23.3**	**+0.2**
YBH	**Yreka Blue Hor**	**86.68**	**324**	P	**P**	**11 45 23.4**	**-0.3**
YBH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
YBH	**Yreka Blue Hor**	**86.68**	**324**	P	**P**	**11 45 23.4**	**-0.3**
L04D	**Klamath Falls**	**86.85**	**325**	P	**P**	**11 45 25.2**	**+0.6**
	baz=139						
I07A	**Izee**	**86.95**	**328**	P	**P**	**11 45 25.8**	**+0.8**
I07A				lAmb	lAmb	11 45 27.7	
	comp=Z,10nm,1.0s						
J05D	**Fort Rock, OR**	**87.14**	**326**	P	**P**	**11 45 26.7**	**+0.8**
	baz=140						
PINE	**Pine Mountain**	**87.39**	**327**	P	**P**	**11 45 28.6**	**+1.4**
L02E	**Cave Junction**	**87.44**	**324**	P	**P**	**11 45 28.2**	**+1.0**
	baz=138						
J04D	**Umpqua Nationa**	**87.52**	**326**	P	**P**	**11 45 28.4**	**+0.5**
	baz=139						
G08A	**Pilot Rock**	**87.65**	**329**	P	**P**	**11 45 28.9**	**+0.5**
G08A				lAmb	lAmb	11 45 44.2	
	comp=Z,6.5nm,1.2s						
K02D	**Willamette Mer**	**87.87**	**325**	P	**P**	**11 45 29.8**	**+0.4**
	baz=138						
I05D	**Terrebonne, OR**	**87.99**	**327**	P	**P**	**11 45 30.7**	**+0.8**
	baz=140						
I04A	**Tendick Farm,**	**88.08**	**326**	P	**P**	**11 45 31.3**	**+1.0**
	baz=139						
I03D	**Drain, OR**	**88.46**	**325**	P	**P**	**11 45 32.5**	**+0.5**
	baz=138						
WALA	**Waterton Lakes**	**88.61**	**334**	P	**P**	**11 45 33.5**	**+0.7**
WALA				lAmb	lAmb	11 45 34.6	
	comp=Z,9.0nm,1.0s						
H04A	**Detroit Lake**	**88.65**	**327**	P	**P**	**11 45 34.0**	**+1.0**
H04A				lAmb	lAmb	11 45 34.9	
	comp=Z,7.8nm,1.1s						
G05D	**Wamic, OR**	**88.67**	**328**	P	**P**	**11 45 33.9**	**+0.8**
	baz=140						
HAWA	**Hanford**	**88.76**	**329**	P	**P**	**11 45 34.7**	**+1.3**
HAWA				lAmb	lAmb	11 45 35.9	
	comp=Z,12nm,1.1s						
HOOD	**Mount Hood Mea**	**88.88**	**327**		**P**	**11 45 34.7**	**+0.5**
I02D	**Swisshome**	**89.01**	**325**	P	**P**	**11 45 35.9**	**+1.3**
	baz=138						
D08A	**Wollman Farm,**	**89.01**	**330**	P	**P**	**11 45 35.3**	**+0.7**
D08A				lAmb	lAmb	11 45 36.5	
	comp=Z,7.0nm,1.1s						
NEW	**Newport**	**89.22**	**332**	P	**P**	**11 45 36.1**	**+0.6**
	baz=143						
F05D	**White Salmon**	**89.22**	**328**	P	**P**	**11 45 36.6**	**+0.9**
	baz=140						
C09A	**Chrisman Ranch**	**89.32**	**331**	P	**P**	**11 45 36.6**	**+0.6**
C09A				lAmb	lAmb	11 45 37.9	
	comp=Z,8.1nm,0.9s						
F04A	**Amboy**	**89.70**	**327**	P	**P**	**11 45 38.7**	**+0.9**
F04A				lAmb	lAmb	11 45 47.2	
	comp=Z,8.4nm,1.1s						
HEBO	**Mount Hebo**	**89.78**	**326**	P	**P**	**11 45 37.9**	**-0.5**
MDT	**Midelt**	**90.25**	**51**	P	**P**	**11 45 41.9**	**+1.0**
	comp=Z,4.2nm,1.0s,baz=241,slow=5.1,SNR=5.7						
LSZ	**Lusaka**	**90.47**	**108**	P	**P**	**11 45 42.7**	**+0.3**
LSZ				pmax	pmax		
	comp=Z,15nm,0.9s						
LSZ	**Lusaka**	**90.47**	**108**	P	**P**	**11 45 42.7**	**+0.3**
B05A	**Bryant**	**91.31**	**329**	P	**P**	**11 45 45.9**	**+0.7**
	baz=139						
EDM	**Edmonton**	**91.84**	**337**	P	**P**	**11 45 47.1**	**-0.5**
EDM				pmax	pmax		
	comp=Z,9.0nm,1.0s						
EDM	**Edmonton**	**91.84**	**337**	P	**P**	**11 45 47.1**	**-0.5**
EDM				lAmb	lAmb	11 45 48.0	
	comp=Z,9.3nm,1.0s						
SKAG	**Skagway**	**104.68**	**332**	P	**Pdif**	**11 46 46.6**	**+1.3**
	baz=128						
SCRK	**Sand Creek**	**110.62**	**333**	P	**PKiKP**	**11 51 12.9**	**+1.0**
	baz=120						
RIDG	**Independent Ri**	**110.83**	**333**	P	**PKiKP**	**11 51 12.7**	**+0.4**
	baz=119						
CAPN	**Captain Cook N**	**112.10**	**329**	P	**PKiKP**	**11 51 15.0**	**+0.4**
	baz=115						
Q19K	**Cape Douglas,**	**112.47**	**326**	P	**PKiKP**	**11 51 16.3**	**+0.8**
	baz=114						
SMOL	**Smolenice**	**112.54**	**46**	*e*P	**Pdif**	**11 47 26.9**	**+6.3**
SMOL				pmax	pmax		
	comp=N,164nm,0.2s						
TOLK	**Toolik Lake Re**	**114.74**	**337**	P	**PKiKP**	**11 51 20.5**	**+0.9**
	baz=114						
ASAR	**Alice Springs**	**119.72**	**207**	PKKPbc	PKKPbc	12 01 41.9	+1.5
	comp=N,2.0nm,1.2s,baz=348,slow=4.7,SNR=4.6						
AKASG	**Malin Array Be**	**120.50**	**46**	PKP	**PKPdf**	**11 51 30.5**	**-0.6**
	comp=N,1.7nm,0.7s,baz=270,slow=2.9,SNR=4.7						
MNK	**Minsk**	**120.57**	**42**	*i* PKIKP	**PKPdf**	**11 51 29.1**	**-2.0**
MNK				*i*		11 52 54.6	
MNK				*i* PPP	PPP	11 55 28.7	
MNK				*i*		11 58 41.1	
MNK				*i* PS	PKKPdf	12 02 46.4	+35
MNK				*i* SS	SS	12 09 26.0	-1.7
MNK				*i* SSS	SSS	12 13 52.3	
MNK				pmax	pmax		
	comp=N,11nm,0.8s						
MNK				pmax	pmax		
	comp=E,1.0nm,0.8s						
MNK				pmax	pmax		
	comp=Z,13nm,0.8s						
MNK				MLR	MLR		
	comp=Z,275nm,19.0s						
MNK				MLR	MLR		
	comp=N,2µm,19.0s						
MNK				MLR	MLR		
	comp=E,24nm,19.0s						
MNK	**Minsk**	**120.57**	**42**	*i* PKP	**PKPdf**	**11 51 29.1**	**-2.0**
	comp=E,1.0nm,0.8s						
MNK				*i* PKP	**PKPdf**	**11 51 29.1**	**-2.0**
	comp=N,11nm,0.8s						
MNK				*i* PKP	**PKPdf**	**11 51 29.1**	**-2.0**
	comp=Z,13nm,0.8s,baz=257						
MNK				*i* PP	**PP**	**11 52 54.7**	**-4.3**
MNK				*i* SKP		11 55 04.5	
MNK				*i* PKS		11 55 05.8	
MNK				*i* PPP	PPP	11 55 28.7	
MNK				*i* SKS	**SKSdf**	**11 58 41.1**	**-0.7**
MNK				*i* PS	PKKPdf	12 02 46.4	+35
MNK				*i* SS	**SS**	**12 09 26.0**	**-1.6**
MNK				*i* SSS	SSS	12 13 52.4	
MNK				*i* LQ	LQ	12 30 10.8	
MNK				*i* LR	LR	12 37 38.0	
MNK				*i* LRM	MLR	12 42 04.8	
	comp=Z,275nm,19.1s						
MNK				*i* LRM	MLR	12 42 11.8	
	comp=N,2µm,19.1s						
MNK				*i* LRM	MLR	12 42 13.7	
	comp=E,24nm,19.1s						
BRTR	**Keskin Array B**	**120.58**	**60**	PKP	**PKPdf**	**11 51 31.3**	**-0.6**
	comp=E,1.1nm,0.9s,baz=158,slow=1.3,SNR=6.5						
BRTR				PP	**PP**	**11 53 04.2**	**+4.5**
	comp=E,0.7nm,0.8s,baz=243,slow=4.0,SNR=4.4						
WRA	**Warramunga Arr**	**122.88**	**210**	PKhKP	PKPpre	11 51 32.2	
	comp=E,4.5nm,0.9s,baz=162,slow=1.9,SNR=7.3						
WRA				PKP	**PKPdf**	**11 51 36.8**	**0.0**
	comp=E,4.3nm,0.8s,baz=180,slow=3.3,SNR=14						
WRAB	**Tennant Creek**	**122.88**	**210**	*c* iPKIKP	**PKiKP**	**11 51 37.2**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,15nm,1.7s						
OBN	**Obninsk**	**125.63**	**42**	⇓*i* PKIKP	**PKiKP**	**11 51 41.0**	**-0.2**
OBN				*e*		11 53 35.7	
OBN				*e*SS	SS	12 10 34.7	+3.0
OBN				pmax	pmax		
	comp=Z,13nm,1.1s						
OBN				MLR	MLR		
	comp=Z,186nm,20.0s						
H11S2	**WAKE ISLAND Hyl**	**125.86**	**271**	T	T	14 10 38.1	
	baz=116,slow=74,SNR=91						
H11S1	**WAKE ISLAND Hyl**	**125.87**	**271**	T	T	14 10 39.0	
	baz=116,slow=74,SNR=37						
H11S3	**WAKE ISLAND Hyl**	**125.88**	**271**	T	T	14 10 36.1	
	baz=116,slow=74,SNR=62						
H11N3	**WAKE ISLAND Hyl**	**126.21**	**272**	T	T	14 11 01.7	
	baz=117,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hyl**	**126.23**	**272**	T	T	14 10 58.3	
	baz=117,slow=75,SNR=6.1						
H11N2	**WAKE ISLAND Hyl**	**126.23**	**272**	T	T	14 10 53.5	
	baz=117,slow=75,SNR=38						
KLMR	**Klimovskoe**	**127.42**	**35**	*e*PKIKP	**PKPdf**	**11 51 42.6**	**-1.5**
KLMR				pmax	pmax		
	comp=Z,21nm,1.1s						
KLMR	**Klimovskoe**	**127.42**	**35**	*e*PKPdf	**PKPdf**	**11 51 42.7**	**-1.4**
KLMR				AMP		11 51 45.5	
	comp=Z,21nm,1.1s						
FITZ	**Fitzroy Crossi**	**127.77**	**201**	PKP	**PKPdf**	**11 51 46.0**	**-0.2**
	comp=Z,8.0nm,0.8s,baz=203,slow=6.0,SNR=8.9						
KIV	**Kislovodsk**	**128.13**	**57**	*i* PKIKP	**PKPdf**	**11 51 45.9**	**-0.2**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PRGR	**Permogore**	**130.30**	**34**	*e*PKIKP	**PKPdf**	**11 51 49.2**	**-0.3**
PRGR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ARU	**Arti**	**137.86**	**39**	*i* PKIKP	**PKPdf**	**11 52 04.3**	**+0.4**
ARU						11 54 49.5	
ARU				MLR	MLR		
	comp=Z,179nm,23.0s						
SEY	**Seymchan**	**138.00**	**331**	PKP	**PKiKP**	**11 52 05.0**	**-1.0**
	comp=Z,2.9nm,0.9s,baz=20,slow=2.4,SNR=4.2						
PETK	**Petropavlovsk-**	**138.53**	**316**	PKP	**PKiKP**	**11 52 07.1**	**-0.2**
	comp=Z,1.9nm,0.9s,baz=190,slow=6.0,SNR=3.8						
NRIK	**Noril'sk**	**140.47**	**11**	PKP	**PKiKP**	**11 52 09.9**	**-0.9**
	comp=Z,1.3nm,0.4s,baz=331,slow=3.4,SNR=4.3						
NRIK	**Noril'sk**	**140.47**	**11**	*i* PKIKP	**PKiKP**	**11 52 10.1**	**-0.7**
BRVK	**Borovoye**	**145.38**	**41**	*i* PKIKP	**PKPab**	**11 52 18.0**	**+0.5**
KAD	**Karad**	**146.19**	**107**	⇑*i*P	**PKPbc**	**11 52 20.8**	**-0.2**
YAK	**Yakutsk**	**146.51**	**342**	PKPbc	**PKPbc**	**11 52 20.9**	**+0.4**
	comp=Z,28nm,0.7s,baz=274,slow=0.7,SNR=18						
YAK	**Yakutsk**	**146.51**	**342**	*e*PKP2	**PKPbc**	**11 52 20.4**	**-0.1**
YAK				*e*		11 55 45.1	
YAK				pmax	pmax		
	comp=Z,101nm,1.1s						
YAK				pmax	pmax		
	comp=N,16nm,1.6s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,9.0nm,0.4s						
YAK				pmax	pmax		
	comp=N,60nm,3.0s						
YAK				pmax	pmax		
	comp=E,39nm,3.3s						
POO	**Poona**	**146.53**	**105**	*e*P	**PKPdf**	**11 52 19.0**	**-1.5**
HYB	**Hyderabad**	**149.77**	**111**	*i* PKP	**PKPbc**	**11 52 30.0**	**-0.6**
PSI	**Prapat**	**150.07**	**161**	PKPbc	**PKPbc**	**11 52 31.1**	**-0.5**
	comp=E,30nm,0.9s,baz=198,slow=3.7,SNR=18						
KURBB	**Kurchatov Arra**	**151.04**	**40**	PP	PP	11 56 16.0	+5.4
	comp=E,1.9nm,1.1s,baz=289,slow=6.4,SNR=6.1						
ZALV	**Zalesovo Beam**	**152.14**	**30**	PKP	**PKPdf**	**11 52 28.6**	**+0.3**
	comp=E,2.4nm,0.8s,baz=264,slow=2.8,SNR=9.9						
ZALV				PKPbc	**PKiKP**	**11 52 35.5**	**+0.2**
	comp=E,60nm,0.8s,baz=297,slow=3.3,SNR=123						
KSH	**Kashi**	**152.84**	**64**	PKPbc	**PKPdf**	**11 52 31.1**	**+1.1**
KSH				PP	**PP**	**11 56 20.1**	**-1.6**
KSH				LR	LR		
	comp=E,200nm,17.5s						
MKAR	**Makanchi Array**	**155.08**	**45**	PKP	**PKPdf**	**11 52 33.0**	**+0.2**
	comp=E,1.0nm,0.8s,baz=330,slow=1.7,SNR=7.6						
MKAR				PKPbc	**sPKPdf**	**11 52 41.9**	**+1.6**
	comp=E,4.2nm,0.8s,baz=321,slow=3.1,SNR=18						
MKAR				PKPab	**PKPab**	**11 52 57.3**	**-0.1**
	comp=E,5.4nm,0.9s,baz=298,slow=2.6,SNR=10						
MKAR	**Makanchi Array**	**155.08**	**45**	PKIKP	**PKPdf**	**11 52 32.2**	**-0.6**
MKAR	**Makanchi Array**	**155.08**	**45**	PKPdf	**PKPdf**	**11 52 32.2**	**-0.6**
MKAR				PKPbc	**sPKPdf**	**11 52 42.1**	**+1.7**
MKAR					**PKPab**	**11 52 58.5**	**+1.1**
WMQ	**Urumqi**	**159.86**	**47**	*e*PKP	**PKPdf**	**11 52 39.1**	**+0.1**
SONM	**Songino Array**	**163.75**	**4**	PKPab	**PKPab**	**11 53 35.5**	**+0.4**
	comp=E,4.0nm,1.0s,baz=340,slow=3.8,SNR=11						
SONM	**Songino Array**	**163.75**	**4**	PKIKP	**PKPdf**	**11 52 43.0**	**+0.1**
SONM						11 53 35.4	
SONM	**Songino Array**	**163.75**	**4**	PKPdf	**PKPdf**	**11 52 43.0**	**+0.1**
SONM				PKPab	**PKPab**	**11 53 35.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**164.52**	**146**	PKP	**PKPdf**	**11 52 43.1**	**-1.2**
	comp=E,0.5nm,0.5s,baz=275,slow=2.1,SNR=7.0						
CMAR				PKPab	**PKPab**	**11 53 37.8**	**-1.3**
	comp=E,2.1nm,1.0s,baz=229,slow=5.9,SNR=8.9						
GTA	**Gaotai**	**169.72**	**39**	⇑PKP	**PKPdf**	**11 52 48.6**	**+0.9**
GTA				pPKP	pPKPdf	11 52 52.9	-0.4
GTA				sPKP		11 52 56.9	
GTA				LR	LR		
	comp=E,150nm,18.2s						
GTA				LR	LR		
	comp=E,160nm,18.9s						
GTA				LR	LR		
	comp=E,160nm,19.3s						
HHC	**Hu-ho-hao-te**	**170.36**	**344**	*e*PKP	**PKPdf**	**11 52 44.0**	**-4.0**
NJ2	**Nanjing**	**170.81**	**276**	*e*PKP	**PKPdf**	**11 52 48.1**	**-0.3**
KMI	**Kunming**	**172.01**	**143**	⇑PKP	**PKPdf**	**11 52 49.5**	**0.0**
KMI				LR	LR		
	comp=E,140nm,17.2s						
KMI				LR	LR		
	comp=E,120nm,15.5s						
KMI				LR	LR		
	comp=E,160nm,22.9s						
GYA	**Guiyang**	**174.72**	**166**	PKP	**PKPdf**	**11 52 50.5**	**+0.2**
CD2	**Chengdu**	**176.25**	**100**	PKP	**PKPdf**	**11 52 52.6**	**+2.1**
CD2				PP	**PP**	**11 58 26.6**	**+2.2**
CD2				SKS	**SKSdf**	**11 59 50.1**	**-2.6**
CD2				AMB	AMB		
	comp=E,140nm,10.2s						
CD2				LR	LR		
	comp=E,210nm,17.6s						
CD2				LR	LR		
	comp=E,210nm,17.1s						
CD2				LR	LR		
	comp=E,230nm,18.6s						

NEIC ***23*** *11:32:56.3±1.1, 24°.22N±0°.01×121°.90E±0°.03, h10km±2km, ML4.0(TAP), Error ellipse: s-maj=5.3km s-min=3.0km az=275.0*

JMA ***23*** *11:32:56.4, 24°.18N×121°.84E, h19km±1km, M2.9*

TAP ***23*** *11:32:56.6, 24°.25N×121°.85E, h19km, ML3.6, C*

ISC 23 11:32:56.6±0.9, 24°.21N±0°.01×121°.87E±0°.02, h19km±2km, n111, σ0°68/202, 6C-12D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.15**	**311**	P	**Pg**	**11 33 00.8**	**-0.3**
	baz=305						
EHP				S	**Sg**	**11 33 04.2**	**+0.2**
	baz=305						
ETL	**Fush Village**	**0.23**	**257**	⇓*i*P	**Pg**	**11 33 02.3**	**+0.2**
	baz=248						
ETL				S	**Sg**	**11 33 06.6**	**+0.8**
	baz=248						
ENA	**Nanau**	**0.24**	**332**	⇓*i*P	**Pg**	**11 33 01.9**	**-0.4**
	baz=334						
ENA				*i* S	**Sg**	**11 33 05.7**	**-0.5**
	baz=334						
EWUT	**Wuta**	**0.25**	**341**	⇓*i*P	**Pg**	**11 33 02.1**	**-0.3**
	baz=343						
EWUT				*i* S	**Sg**	**11 33 06.0**	**-0.3**
	baz=343						
NACB	**Ninganchiao**	**0.25**	**262**	⇓*i*P	**Pg**	**11 33 02.4**	**0.0**
	baz=253						
NACB				*i* S	**Sg**	**11 33 06.9**	**+0.5**
	baz=253						
NACB	**Ninganchiao**	**0.25**	**262**		**Pg**	**11 33 02.4**	**0.0**
NACB				Sg	**Sg**	**11 33 07.2**	**+0.8**
TWD	**Chiawan**	**0.28**	**242**	⇓*i*P	**Pg**	**11 33 03.2**	**+0.3**
	baz=239						
TWD				*i* S	**Sg**	**11 33 08.2**	**+1.1**
	baz=239						
HWA	**Hwalien**	**0.33**	**226**	P	**Pn**	**11 33 05.5**	**-0.9**
	baz=219						
HWA				S	**Sn**	**11 33 12.2**	**-0.5**
	baz=219						
ETLH	**Xiulin Townshi**	**0.35**	**269**	⇓*i*P	**Pb**	**11 33 04.0**	**-0.3**
	baz=264						
ETLH				*i* S	**Sb**	**11 33 09.3**	**-0.2**
	baz=264						
TWC	**Suao**	**0.40**	**358**	⇓*i*P	**Pg**	**11 33 04.5**	**-0.4**
	baz=5.0						
TWC				*i* S	**Sg**	**11 33 10.0**	**-0.5**
	baz=5.0						
ETM	**Tongmen**	**0.42**	**234**	P	**Pb**	**11 33 05.7**	**+0.3**
	baz=230						
ETM				S	**Sb**	**11 33 12.3**	**+0.8**
	baz=230						
TEYL	**Yanliau Villag**	**0.42**	**216**	P	**Pb**	**11 33 06.0**	**+0.6**
	baz=214						
TEYL				S	**Sn**	**11 33 14.6**	**-0.1**
	baz=214						
NDS	**Dongshan**	**0.44**	**342**	⇑*i*P	**Pb**	**11 33 05.5**	**-0.3**
	baz=342						
NDS				*i* S	**Sb**	**11 33 11.6**	**-0.5**
	baz=342						
NNSB	**Datong**	**0.49**	**296**	⇓*i*P	**Pb**	**11 33 06.5**	**-0.1**
	baz=293						
NNSB				*i* S	**Sb**	**11 33 13.3**	**-0.3**
	baz=293						
NNS	**Nan Shan**	**0.50**	**297**	⇓*i*P	**Pb**	**11 33 06.7**	**-0.2**
	baz=294						
NNS				*i* S	**Sb**	**11 33 13.7**	**-0.2**
	baz=294						
NDT	**Datong Townshi**	**0.51**	**321**	⇑*i*P	**Pb**	**11 33 06.7**	**-0.1**
	baz=319						
NDT				S	**Sb**	**11 33 13.7**	**-0.1**
	baz=319						
ENTT	**Nioudou**	**0.51**	**327**	⇓*i*P	**Pb**	**11 33 06.7**	**-0.2**
	baz=327						
ENTT				*i* S	**Sb**	**11 33 13.6**	**-0.3**
	baz=327						
WHF	**Hehuan Shan**	**0.55**	**263**	⇓*i*P	**Pg**	**11 33 07.8**	**-0.1**
	baz=260						
WHF				*i* S	**Sb**	**11 33 15.8**	**+0.4**
	baz=260						
ESL	**Shilin**	**0.56**	**225**	⇑*i*P	**Pg**	**11 33 07.9**	**+0.1**
	baz=226						
ESL				S	**Sn**	**11 33 17.1**	**-1.1**
	baz=226						
ILA	**Ilan**	**0.56**	**349**	*e*P	**Pb**	**11 33 07.4**	**-0.3**
	baz=350						
ILA				S	**Sg**	**11 33 16.5**	**+1.0**
	baz=350						
FUSS	**Fushou**	**0.57**	**274**	P	**Pg**	**11 33 08.2**	**+0.1**
	baz=270						
FUSS				S	**Sg**	**11 33 16.1**	**+0.3**
	baz=270						
TWT	**Tachien**	**0.63**	**274**	P	**Pn**	**11 33 09.7**	**-0.9**
	baz=271						
TWT				S	**Sg**	**11 33 18.3**	**+0.6**
	baz=271						
YHNB	**Yeheng**	**0.64**	**316**	⇑*i*P	**Pg**	**11 33 08.9**	**-0.4**
	baz=314						
YHNB				*i* S	**Sg**	**11 33 17.5**	**-0.5**
	baz=314						
YHNB	**Yeheng**	**0.64**	**316**		**Pg**	**11 33 09.0**	**-0.4**
YHNB				Sg	**Sg**	**11 33 17.6**	**-0.3**
NTC	**Toucheng**	**0.64**	**357**	P	**Pb**	**11 33 08.9**	**-0.2**
	baz=358						
NTC				S	**Sg**	**11 33 17.6**	**-0.3**
	baz=358						
TDCB	**Techi**	**0.65**	**274**	P	**Pg**	**11 33 09.6**	**+0.2**
	baz=271						
TDCB				S	**Sg**	**11 33 17.9**	**-0.3**
	baz=271						
CHGB	**Renai**	**0.65**	**257**	⇑*i*P	**Pg**	**11 33 09.7**	**+0.1**
	baz

EHY	**Hungye**	**0.86**	**215**	*eP*	**Pb**	**11 33 12.1**	**-0.8**
	baz=215								
NWF	**Wu-fen Shan**	**0.86**	**355**	P	**Pg**	**11 33 13.2**	**-0.2**
	baz=348								
NWF				*eS*	**Sb**	**11 33 23.9**	**-0.2**
	baz=348								
WCS	**Beigang Elemen**	**0.89**	**260**	*eP*	**Pg**	**11 33 13.5**	**-0.4**
	baz=251								
WCS				*eS*	**Sg**	**11 33 25.4**	**-0.2**
	baz=251								
LIOB	**Emei**	**0.89**	**299**	*eP*	**Pn**	**11 33 14.0**	**-0.1**
	baz=298								
LIOB				S	**Sn**	**11 33 25.7**	**-0.7**
	baz=298								
NSTT	**Nanjuang**	**0.89**	**298**	P	**Pn**	**11 33 13.9**	**-0.2**
	baz=296								
NSTT				S	**Sg**	**11 33 25.1**	**-0.8**
	baz=296								
SSLB	**Suanglung**	**0.93**	**243**	*eP*	**Pb**	**11 33 14.0**	**-0.2**
	baz=242								
SSLB				*eS*	**Sg**	**11 33 26.7**	**-0.5**
	baz=242								
SSLB	**Suanglung**	**0.93**	**243**		**Pb**	**11 33 13.8**	**-0.4**
SSLB				Sg	**Sn**	**11 33 27.6**	**0.0**
SMLT	**Sun Moon Lake**	**0.94**	**250**	P	**Pn**	**11 33 14.6**	**-0.2**
	baz=248								
SMLT				S	**Sn**	**11 33 27.3**	**-0.6**
	baz=248								
YULB	**Yu-li**	**0.97**	**213**	P	**Pb**	**11 33 13.6**	**-1.1**
	baz=213								
YULB				*eS*	**Sb**	**11 33 27.0**	**-0.1**
	baz=213								
YULB	**Yu-li**	**0.97**	**213**		**Pb**	**11 33 13.6**	**-1.1**
YULB				Sg	**Sn**	**11 33 28.1**	**-0.3**
TYC	**Yuchr**	**0.97**	**252**	P	**Pb**	**11 33 14.6**	**-0.2**
	baz=244								
TYC				S	**Sn**	**11 33 28.6**	**+0.2**
	baz=244								
TWS1	**Kuangyinshan**	**0.97**	**335**	P	**Pb**	**11 33 14.6**	**-0.3**
	baz=334								
TWS1				S	**Sn**	**11 33 28.2**	**-0.3**
	baz=334								
NCU	**National Centr**	**0.98**	**321**	*eP*	**Pg**	**11 33 15.5**	**-0.1**
	baz=319								
NCU				S	**Sn**	**11 33 29.4**	**+0.8**
	baz=319								
NCUH	**Zhongli**	**0.98**	**321**	*eP*	**Pg**	**11 33 15.2**	**-0.4**
	baz=318								
NCUH				*eS*	**Sn**	**11 33 29.7**	**+1.2**
	baz=318								
SBCB	**Hsinchu**	**0.99**	**306**	P	**Pg**	**11 33 15.9**	**+0.1**
	baz=298								
SBCB				S	**Sn**	**11 33 30.2**	**+1.4**
	baz=298								
EYUL	**Yuli**	**0.99**	**210**	*eP*	**Pn**	**11 33 15.2**	**-0.4**
	baz=226								
HSN	**Hsinchu**	**1.01**	**306**	*eP*	**Pg**	**11 33 16.2**	**+0.1**
	baz=306								
HSN				S	**Sn**	**11 33 30.9**	**+1.6**
	baz=306								
TWQ1	**Liyutan**	**1.01**	**278**	P	**Pg**	**11 33 16.4**	**+0.2**
	baz=276								
TWQ1				S	**Sn**	**11 33 30.3**	**+1.0**
	baz=276								
JYNG	**Yonagunijimaku**	**1.01**	**76**	P	**Pn**	**11 33 15.7**	**0.0**
JYNG				*eS*	**Sn**	**11 33 29.3**	**-0.1**
ANP	**Anpu**	**1.02**	**342**	*eP*	**Pg**	**11 33 16.0**	**-0.5**
	baz=327								
ANP				*eS*	**Sb**	**11 33 28.8**	**0.0**
	baz=327								
NSY	**Sanyi**	**1.03**	**282**	*eP*	**Pg**	**11 33 17.5**	**+0.9**
	baz=280								
NSY				*eS*	**Sg**	**11 33 31.7**	**+1.5**
	baz=280								
NMLH	**Miaoli**	**1.03**	**289**	P	**Pg**	**11 33 17.2**	**+0.5**
	baz=286								
NMLH				S	**Sg**	**11 33 30.8**	**+0.5**
	baz=286								
WHYT	**Xinyi Township**	**1.06**	**241**	*eP*	**Pg**	**11 33 16.5**	**-0.7**
	baz=246								
WHYT				*eS*	**Sg**	**11 33 31.8**	**+0.7**
	baz=246								
YOJ	**Yonaguni jima**	**1.07**	**76**	P	**Pb**	**11 33 16.6**	**+0.1**
YOJ				*eS*	**Sn**	**11 33 31.4**	**+0.4**
YOJ	**Yonaguni jima**	**1.07**	**76**	P	**Pb**	**11 33 16.6**	**+0.1**
	baz=68								
YOJ				S	**Sn**	**11 33 31.4**	**+0.4**
	baz=68								
YOJ	**Yonaguni jima**	**1.07**	**76**		**Pn**	**11 33 16.8**	**+0.2**
TWY	**Chenhua**	**1.09**	**347**	P	**Pg**	**11 33 17.6**	**-0.1**
	baz=346								
TWY				S	**Sg**	**11 33 32.1**	**+0.1**
	baz=346								
YUS	**Yu-Shan**	**1.10**	**230**	P	**Pn**	**11 33 17.2**	**-0.3**
	baz=229								
YUS				S	**Sg**	**11 33 33.3**	**+0.6**
	baz=229								
WJS	**Zhushan**	**1.11**	**250**	*eP*	**Pg**	**11 33 18.0**	**-0.2**
	baz=246								
WJS				*eS*	**Sg**	**11 33 34.1**	**+1.4**
	baz=246								
WDJ	**Dajia District**	**1.13**	**277**	*eP*	**Pg**	**11 33 18.4**	**0.0**
	baz=275								
WDJ				*eS*	**Sg**	**11 33 34.1**	**+0.9**
	baz=275								
WNT	**Mingjian**	**1.13**	**253**	*eP*	**Pg**	**11 33 18.8**	**+0.3**
	baz=251								
FULB	**Fuli**	**1.14**	**208**	*eP*	**Pb**	**11 33 17.4**	**-0.3**
	baz=224								
FULB				*eS*	**Sg**	**11 33 35.9**	**+2.3**
	baz=224								
ALS	**Alishan**	**1.20**	**235**	P	**Pb**	**11 33 18.8**	**0.0**
	baz=234								
ALS				S	**Sg**	**11 33 36.1**	**+0.6**
	baz=234								
CHKT	**Chengkung**	**1.20**	**203**	*eP*	**Pn**	**11 33 17.2**	**-1.1**
	baz=189								
CHKT				*eS*	**Sg**	**11 33 34.9**	**-0.6**
	baz=189								
WCHH	**Zhanghua**	**1.20**	**264**	*eP*	**Pg**	**11 33 20.0**	**+0.1**
	baz=262								
WCHH				*eS*	**Sg**	**11 33 36.5**	**+0.9**
	baz=262								
CHN5	**Tsauling**	**1.25**	**241**	P	**Pg**	**11 33 20.1**	**-0.7**
	baz=240								
CHN5				S	**Sg**	**11 33 38.3**	**+1.2**
	baz=240								
ELDTW	**Lidau**	**1.28**	**218**	*eP*	**Pn**	**11 33 18.8**	**-0.7**
	baz=208								
WDLH	**Douliu**	**1.32**	**247**	*eP*	**Pg**	**11 33 21.4**	**-0.8**
	baz=246								
WDLH				*eS*	**Sg**	**11 33 41.3**	**+1.9**
	baz=246								
EDH	**Donghe**	**1.34**	**203**	*eP*	**Pn**	**11 33 19.1**	**-1.1**
	baz=192								
EDH				*eS*	**Sn**	**11 33 37.0**	**-0.4**
	baz=192								
WRL	**Guolierlin Hig**	**1.40**	**258**	*eP*	**Pb**	**11 33 21.9**	**-0.2**
	baz=256								
WRL				*eS*	**Sg**	**11 33 40.4**	**-1.4**
	baz=256								
PCYT	**Pengchaiyu**	**1.43**	**7**	*eP*	**Pn**	**11 33 21.7**	**+0.3**
	baz=6.0								
STYH	**Taoyuan**	**1.44**	**224**	*eP*	**Pb**	**11 33 22.1**	**-0.7**
	baz=216								
STYH				*eS*	**Sb**	**11 33 41.2**	**+0.5**
	baz=216								
CHN4	**Tsaushan**	**1.45**	**234**	P	**Pb**	**11 33 23.3**	**+0.4**
	baz=234								
CHN4				S	**Sg**	**11 33 43.6**	**+0.2**
	baz=234								
WTK	**Tuku**	**1.45**	**249**	P	**Pb**	**11 33 23.1**	**+0.2**
	baz=248								
WTK				S	**Sg**	**11 33 43.1**	**-0.3**
	baz=248								
TPUB	**Ta-pu**	**1.45**	**232**	P	**Pb**	**11 33 22.9**	**-0.1**
	baz=232								
TPUB				S	**Sg**	**11 33 42.8**	**-0.7**
	baz=232								
TPUB	**Ta-pu**	**1.45**	**232**		**Pb**	**11 33 22.9**	**-0.1**
LONT	**Longtian**	**1.46**	**208**	*eP*	**Pn**	**11 33 20.8**	**-1.1**
	baz=211								
WTP	**Ta-pu**	**1.50**	**230**	*i*P	**Pb**	**11 33 24.0**	**+0.2**
	baz=231								
WTP				S	**Sg**	**11 33 45.0**	**0.0**
	baz=231								
CHY	**Chiayi**	**1.50**	**242**	*eP*	**Pb**	**11 33 23.8**	**0.0**
	baz=242								
CHY				*eS*	**Sg**	**11 33 45.3**	**+0.3**
	baz=242								
TWGBT	**Beinan**	**1.56**	**208**	*eP*	**Pn**	**11 33 22.2**	**-1.1**
	baz=211								
TWG	**Pinlang**	**1.56**	**208**	*eP*	**Pn**	**11 33 22.3**	**-1.0**
	baz=211								
TWG	**Pinlang**	**1.56**	**208**		**Pn**	**11 33 22.1**	**-1.2**
LDUT	**Ludao**	**1.57**	**193**	*eP*	**Pn**	**11 33 21.9**	**-1.5**
	baz=186								
LDUT				*eS*	**Sn**	**11 33 41.5**	**-1.7**
	baz=186								
TWK	**Hsinying**	**1.57**	**234**	P	**Pb**	**11 33 25.1**	**0.0**
	baz=234								
TWK				S	**Sg**	**11 33 47.0**	**-0.5**
	baz=234								
CHN1	**Nanshi**	**1.60**	**230**	*eP*	**Pb**	**11 33 25.6**	**+0.2**
	baz=232								
CHN1				*eS*	**Sg**	**11 33 48.2**	**0.0**
	baz=232								
SGST	**Jiashian**	**1.63**	**227**	*eP*	**Pb**	**11 33 25.0**	**-1.0**
	baz=215								
SGST				*eS*	**Sg**	**11 33 47.5**	**-1.6**
	baz=215								
ICHU	**Yijhu**	**1.68**	**240**	*eP*	**Pb**	**11 33 26.3**	**-0.6**
	baz=226								
ICHU				*eS*	**Sb**	**11 33 48.3**	**+0.6**
	baz=226								
IRIF	**Iriomote-Funau**	**1.71**	**85**	P	**Pn**	**11 33 25.4**	**+0.1**
HATJ	**Hateruma jima**	**1.78**	**95**	P	**Pn**	**11 33 26.5**	**+0.2**
SCST	**Cishan**	**1.82**	**224**	*eP*	**Pb**	**11 33 29.8**	**+0.4**
	baz=227								
SCST				*eS*	**Sg**	**11 33 54.6**	**-0.9**
	baz=227								
TSMG	**Majia**	**1.87**	**217**	P	**Pb**	**11 33 29.6**	**-0.5**
	baz=221								
TSMG				*eS*	**Sb**	**11 33 53.6**	**+0.4**
	baz=221								
MASBT	**Mashibuluo**	**1.95**	**216**	*eP*	**Pb**	**11 33 30.3**	**-1.2**
	baz=220								
MASBT				*eS*	**Sb**	**11 33 54.7**	**-0.9**
	baz=220								
JKRS	**Kuro-shima**	**1.96**	**89**	P	**Pn**	**11 33 29.3**	**+0.6**
JKRS				S	**Sn**	**11 33 53.5**	**+0.8**
JIJ	**Ishigaki jima**	**2.08**	**85**	P	**Pn**	**11 33 30.7**	**+0.2**
JIJ				*eS*	**Sn**	**11 33 56.3**	**+0.4**
SCZT	**Fangliau**	**2.16**	**212**	*eP*	**Pb**	**11 33 34.4**	**-0.6**
	baz=205								
PHUB	**P'eng-hu**	**2.21**	**252**	P	**Pn**	**11 33 32.5**	**+0.3**
	baz=251								
PHUB				S	**Sn**	**11 33 59.2**	**+0.2**
	baz=251								
SLIU	**Shizi**	**2.21**	**207**	*eP*	**Pn**	**11 33 33.9**	**+1.6**
	baz=203								
WDGT	**Dungji**	**2.23**	**245**	*eP*	**Pn**	**11 33 33.4**	**+0.9**
	baz=244								
WDGT				*eS*	**Sb**	**11 34 03.4**	**-0.1**
	baz=244								
JISG	**Ishigakijimahi**	**2.26**	**80**	P	**Pn**	**11 33 32.8**	**-0.1**
VCHM	**Qimei**	**2.45**	**246**	*eP*	**Pn**	**11 33 36.3**	**+0.8**
	baz=233								
VCHM				*eS*	**Sn**	**11 34 06.1**	**+1.2**
	baz=233								
JTJ	**Tarama**	**2.62**	**80**	P	**Pn**	**11 33 39.5**	**+1.7**
PTMZ	**Houxiangcun**	**2.63**	**289**	*eP*	**Pn**	**11 33 37.9**	**-0.1**
	baz=282								
KNMB	**Chin-men Tao**	**3.18**	**275**	Pn	**Pn**	**11 33 44.8**	**-0.8**

NIED ***23*** *11:37:00.5, 38.86N×142.05E, h46km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr1.35; Mθθ0.06; Mϕϕ-1.40; Mrθ0.73; Mθϕ0.50; Mϕr0.92; Fault plane solution: M₀1.86000×10¹⁴ NP1:ϕs11.00000°, δ64.00000°, λ119.00000°. NP2:ϕs139.00000°, δ38.00000°, λ45.00000°.*

JMA 23 11:37:00.5±0.1, 38.86N×142.05E, h46km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.37**	**307**	P	Pn	11 37 10.1	+0.1
OFUJ				S	Sn	11 37 16.7	0.0
JKMT	**Kesennumamotoy**	**0.45**	**264**	P	Pn	11 37 10.9	0.0
JKMT				*i* S	Sn	11 37 18.0	-0.3
JMK	**Ichinoseki**	**0.65**	**278**	P	Pn	11 37 13.5	0.0
JMK				S	Sn	11 37 22.7	-0.1
JIO	**Ouri**	**0.68**	**234**	P	Pn	11 37 13.6	-0.2
JIO				S	Sn	11 37 22.4	-1.1
JOM	**Ohasama**	**0.85**	**316**	P	Pn	11 37 16.3	+0.2
JOM				S	Sn	11 37 27.6	+0.1
JOU	**Okura**	**1.19**	**246**	P	Pn	11 37 20.8	0.0
JRG	**Rokugo**	**1.23**	**296**	P	Pn	11 37 21.4	+0.2
JYK	**Kaneyama**	**1.32**	**273**	P	Pn	11 37 22.7	+0.2
JMM	**Marumori**	**1.40**	**225**	P	Pn	11 37 23.2	-0.4
JANG	**Nango**	**1.57**	**345**	P	Pn	11 37 25.9	0.0

IDC ***23*** *11:42:07.6±2.1, 65.26S×179.27E, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.9/29, mbtmp4.1/4, ML3.6/1, MS4.3/11, Ms1 4.3/11, ms1mx4.1/24, Error ellipse: s-maj=76.6km s-min=26.5km az=69.0*

GCMT ***23*** *11:42:09.6±0.2, 65.14S±0.01×179.94E±0.03, h18km±1km, MW5.1/120, Moment Tensor Solution. s48, c58; s120, c189; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.20±.16; Mθθ5.26±.15; Mϕϕ-4.06±.12; Mrθ-4.93±.50; Mθϕ-1.07±.10; Mϕr0.13±.29; Best double couple: M₀6.21300×10¹⁶ NP1:ϕs329.00000°, δ48.00000°, λ0.00000°. NP2:ϕs59.00000°, δ90.00000°, λ-138.00000°. Principal axes: T 8.0080, Plg28.0000°, Azm185.0000°; N -3.5900, Plg48.0000°, Azm59.0000°; P -4.4180, Plg28.0000°, Azm292.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***23*** *11:42:10.6±0.9, 65.5S±0.1×179.8W±0.3, h10km±2km, mb4.5/10 Error ellipse: s-maj=31.9km s-min=8.0km az=48.0*

ISC 23 11:42:10.2±1.3, 65.5S±0.1×179.8W±0.3, h10km, n51, σ19/04/19, mb4.2/7, MS4.5/12, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**13.08**	**193**		**Pn**	**11 45 15.4**	**-0.3**
VNDA	**Vanda**	**13.32**	**197**	Pn	**Pn**	**11 45 18.1**	**-0.9**
	0.3nm,0.3s,baz=41,slow=18,SNR=26						
VNDA				LR	LR	11 49 25.1	
	comp=Z,1μm,20.7s,baz=29,slow=33						
VNDA	**Vanda**	**13.32**	**197**		**Pn**	**11 45 19.6**	**+0.6**
WKZ	**Wanaka**	**21.57**	**338**	P	**P**	**11 47 00.2**	**+0.5**
LBZ	**Lake Benmore**	**21.83**	**340**	P	**P**	**11 47 02.7**	**+0.3**
LBZ				IAmb	IAmb	11 47 03.4	
	comp=Z,61nm,1.4s						
QSPA	**South Pole Qui**	**24.63**	**180**	P	**P**	**11 47 31.6**	**+1.0**
	comp=Z,9.0nm,1.0s,baz=46,slow=6.1,SNR=8.2						
QSPA				LR	LR	11 56 29.3	
	comp=Z,2μm,18.2s,baz=57,slow=35						
QSPA	**South Pole Qui**	**24.63**	**180**	P	**P**	**11 47 30.1**	**-0.4**
QSPA				IAmb	IAmb	11 47 33.7	
	comp=Z,20nm,1.3s						
URZ	**Urewera**	**27.30**	**355**	LR	LR	11 56 47.6	
	comp=Z,1μm,20.1s,baz=193,slow=32						
MAW	**Mawson**	**40.02**	**212**	LR	LR	12 06 14.2	
	comp=Z,1μm,21.2s,baz=176,slow=36						
STKA	**Stephens Creek**	**40.95**	**306**	P	P	11 49 46.7	-6.0
	comp=Z,2.9nm,1.0s,baz=147,slow=18,SNR=2.2						
STKA	**Stephens Creek**	**40.95**	**306**	P	**P**	**11 49 52.4**	**-0.3**
SNAA	**Sanae**	**43.12**	**179**	P	**P**	**11 50 10.3**	**+0.3**
SNAA				IAmb	IAmb	11 50 24.3	
	comp=Z,6.4nm,1.3s						
DZM	**Mont Dzumac**	**44.29**	**342**	LR	LR	12 06 40.9	
	comp=Z,658nm,18.5s,baz=197,slow=34						
DZM	**Mont Dzumac**	**44.29**	**342**	*e*LR	LR	12 02 17.5	
	comp=Z,1μm,22.7s						
FORT	**Forrest**	**46.89**	**292**	P	**P**	**11 50 40.5**	**+0.2**
H01W1	**Cape Leeuwin H**	**48.93**	**275**	T	T	12 43 41.8	
	baz=149,slow=76,SNR=293						
H01W2	**Cape Leeuwin H**	**48.93**	**275**	T	T	12 43 42.1	
	baz=149,slow=76,SNR=271						
H01W3	**Cape Leeuwin H**	**48.94**	**275**	T	T	12 43 43.0	
	baz=149,slow=76,SNR=295						
NWAO	**Narrogin (SRO)**	**49.35**	**279**	LR	LR	12 06 43.4	
	comp=Z,629nm,21.2s,baz=125,slow=30						
CTAO	**Charters Tower**	**50.50**	**317**	P	**P**	**11 51 08.5**	**+0.2**
ASAR	**Alice Springs**	**51.14**	**302**	P	**P**	**11 51 09.5**	**-3.6**
	comp=Z,0.5nm,0.5s,baz=155,slow=7.5,SNR=16						
ASAR				LR	LR	12 11 21.5	
	comp=Z,193nm,18.1s,baz=152,slow=35						
ASAR	**Alice Springs**	**51.14**	**302**	P	**P**	**11 51 12.9**	**-0.2**
AS31	**Alice Springs**	**51.14**	**302**	P	**P**	**11 51 13.3**	**+0.2**
AS31				IAmb	IAmb	11 51 16.0	
	comp=Z,3.4nm,1.2s						
RKT	**Rikitea**	**51.15**	**57**	*e*T	T	12 45 42.5	
	comp=Z,26nm,0.3s						
PAE	**Paea**	**51.83**	**38**	*e*T	T	12 46 25.3	
	comp=Z,4.0nm,0.3s						
PPT2	**Papeete2**	**51.90**	**38**	*e*S	S	11 58 21.8	-20
	comp=Z,218nm,25.0s						
PPT2				*e*LQ	LQ	12 03 39.4	
	comp=Z,438nm,24.0s						
PPT2				*e*LR	LR	12 05 48.0	
	comp=Z,775nm,24.2s,baz=180						
PPT2	**Papeete2**	**51.90**	**38**	*e*T	T	12 46 31.2	
	comp=Z,11nm,0.3s						
TIAR	**Tiarei**	**51.99**	**38**	*e*T	T	12 46 37.6	
	comp=Z,4.0nm,0.3s						
MEH	**Mehetia**	**52.02**	**40**	*e*T	T	12 46 40.5	
	comp=Z,16nm,0.3s						
WR0	**Warramunga Arr**	**54.33**	**304**		**P**	**11 51 37.1**	**+0.4**
WB2	**Warramunga Arr**	**54.41**	**304**	P	**P**	**11 51 37.1**	**-0.2**
WB2				IAmb	IAmb	11 51 39.9	
	comp=Z,8.9nm,1.0s						
VAH	**Vaihoa**	**54.66**	**39**	*e*T	T	12 49 57.8	
	comp=Z,81nm,0.3s						
PMOR	**Pomariorio Ree**	**54.81**	**39**	*e*T	T	12 50 09.4	
	comp=Z,25nm,0.4s						
FITZ	**Fitzroy Crossi**	**59.26**	**296**	LR	LR	12 14 59.0	
	comp=Z,128nm,18.6s,baz=163,slow=34						
FITZ	**Fitzroy Crossi**	**59.26**	**296**	P	**P**	**11 52 12.2**	**+0.5**
PLCA	**Paso Flores**	**60.94**	**125**	LR	LR	12 12 38.5	
	comp=Z,99nm,20.2s,baz=208,slow=30						
TAOE	**Nuku Hiva Isla**	**62.83**	**45**	*e*LR	LR	12 10 55.8	
	comp=Z,484nm,28.2s						
H03S2	**Juan Fernandez**	**64.04**	**115**	T	T	13 03 12.7	
	baz=206,slow=74,SNR=46						
H03S1	**Juan Fernandez**	**64.04**	**115**	T	T	13 03 14.0	
	baz=206,slow=74,SNR=41						
H03S3	**Juan Fernandez**	**64.05**	**115**	T	T	13 03 13.4	
	baz=206,slow=74,SNR=46						
LEM	**Lembang**	**76.60**	**283**	LR	LR	12 22 57.9	
	comp=Z,139nm,20.9s,baz=196,slow=32						
LPAZ	**La Paz**	**83.98**	**116**	LR	LR	12 23 12.1	
	comp=Z,72nm,21.4s,baz=252,slow=29						
H08S2	**Diego Garcia H**	**90.32**	**251**	T	T	13 35 54.7	
	baz=155,slow=76,SNR=149						
H08S1	**Diego Carcia H**	**90.33**	**251**	T	T	13 35 58.9	
	baz=155,slow=76,SNR=88						
H08S3	**Diego Garcia H**	**90.34**	**251**	T	T	13 35 56.3	
	baz=155,slow=76,SNR=222						
H06S1	**SOCORRO T**	**98.48**	**63**	T	T	13 46 54.6	
	SNR=52						
H06E1	**SOCORRO T-PHAS**	**98.53**	**63**	T	T	13 45 18.5	
	SNR=7.9						
H02S1	**DAWSON INLET T**	**123.75**	**32**	T	T	14 16 37.7	
	SNR=33						
H02N1	**VAN INLET T-PH**	**123.78**	**32**	T	T	14 16 30.0	
	SNR=12						
ILAR	**Eielson Array**	**132.12**	**18**	PKP	**PKPdf**	**12 01 21.3**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=224,slow=2.5,SNR=4.3						
BRTR	**Keskin Array B**	**147.89**	**233**	PKPbc	**PKPdf**	**12 01 51.9**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=139,slow=4.5,SNR=4.7						

TAP 23 11:47:25.1, 24.62N×122.17E, h23km, ML2.4, B, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.29**	**268**	P	Pb	11 47 31.8	0.0
	baz=267						
TWC				S	Sb	11 47 36.9	+0.5
	baz=267						
NTC	**Toucheng**	**0.39**	**307**	*e*P	Pb	11 47 33.2	-0.2
	baz=307						
EWUT	**Wuta**	**0.40**	**244**	*e*P	Pb	11 47 34.0	+0.6
	baz=244						
EWUT				*e*S	Sn	11 47 41.2	-1.0
	baz=244						
ILA	**Ilan**	**0.41**	**291**	*e*P	Pb	11 47 33.8	+0.1
	baz=290						
NDS	**Dongshan**	**0.41**	**272**	*e*P	Pn	11 47 34.8	-0.9
	baz=271						
NDS				*e*S	Sn	11 47 41.2	-1.5
	baz=271						
TWB1	**Santiao Chiao**	**0.42**	**337**	P	Pb	11 47 34.6	+0.7
	baz=337						
TWB1				S	Sb	11 47 41.1	+1.2
	baz=337						
TIPB	**Shuangxi**	**0.47**	**318**	P	Pb	11 47 35.4	+0.6
	baz=318						
TIPB				S	Sb	11 47 42.7	+1.4
	baz=318						
EHP	**Heping Village**	**0.50**	**232**	*e*P	Pn	11 47 36.3	-0.5
	baz=230						
ENTT	**Nioudou**	**0.55**	**272**	*e*P	Pb	11 47 36.6	+0.5
	baz=271						
NWF	**Wu-fen Shan**	**0.57**	**322**	P	Pb	11 47 36.8	+0.3
	baz=321						
NWF				S	Sb	11 47 45.1	+0.8
	baz=321						
NDT	**Datong Townshi**	**0.60**	**269**	*e*P	Pb	11 47 37.2	+0.3
	baz=268						
TNOU	**National Taiwa**	**0.64**	**326**	*e*P	Pn	11 47 38.3	-0.5
	baz=325						
TNOU				S	Sn	11 47 48.3	+0.1
	baz=325						
TWA	**Mucha**	**0.64**	**304**	P	Pn	11 47 38.3	-0.5
	baz=304						
TWA				*e*S	Sn	11 47 47.6	-0.8
	baz=304						
NACB	**Ninganchiao**	**0.69**	**230**	*e*P	Pb	11 47 38.5	+0.1
	baz=229						
TAP	**Taipei**	**0.73**	**305**	*e*P	Pb	11 47 39.3	+0.1
	baz=304						
TAP				*e*S	Sn	11 47 50.0	-0.5
	baz=304						
TWD	**Chiawan**	**0.75**	**224**	P	Pb	11 47 39.4	-0.1
	baz=223						
TWD				*e*S	Sn	11 47 50.2	-0.7
	baz=223						
ANP	**Anpu**	**0.82**	**314**	*e*P	Pb	11 47 40.7	+0.1
	baz=313						
ANP				*e*S	Sb	11 47 52.0	+0.6
	baz=313						
HWA	**Hwalien**	**0.82**	**219**	*e*P	Pb	11 47 40.7	+0.1
	baz=218						
HWA				*e*S	Sn	11 47 53.2	+0.5
	baz=218						
TWS1	**Kuangyinshan**	**0.83**	**305**	*e*P	Pn	11 47 41.6	+0.1
	baz=305						
TWS1				*e*S	Sn	11 47 53.3	+0.3
	baz=305						
TWY	**Chenhua**	**0.83**	**322**	*e*P	Pn	11 47 41.8	+0.4
	baz=321						
TWY				*e*S	Sn	11 47 53.2	+0.2
	baz=321						
PCYT	**Pengchaiyu**	**1.01**	**355**	S	Sn	11 47 57.3	-0.1
	baz=355						
CHGB	**Renai**	**1.06**	**239**	*e*P	Pb	11 47 45.6	+0.6
	baz=238						
CHGB				*e*S	Sn	11 47 59.3	+0.2
	baz=238						

TAP ***23*** *11:47:27.7,

TIPB			*i* S	**Sb**	**11 47 48.3**	**-0.2**
	baz=277					
TWC	**Suao**	**0.61 242**	*i* P	**Pb**	**11 47 40.4**	**-0.5**
	baz=241					
TWC			*i* S	**Sb**	**11 47 50.2**	**+0.5**
	baz=241					
NWF	**Wu-fen Shan**	**0.62 286**	*i* P	**Pb**	**11 47 41.6**	**+0.4**
	baz=286					
NWF			*i* S	**Sb**	**11 47 50.5**	**+0.2**
	baz=286					
WFSB	**Wu-fen Shan**	**0.62 286**	P	**Pb**	**11 47 41.7**	**+0.6**
	baz=286					
WFSB			S	**Sb**	**11 47 50.9**	**+0.7**
	baz=286					
JYNG	**Yonagunijimaku**	**0.64 134**	P	**Pg**	**11 47 39.7**	**-0.2**
ILA	**Ilan**	**0.64 258**	*eP*	**Pb**	**11 47 41.7**	**+0.3**
	baz=257					
ILA			*eS*	**Sb**	**11 47 51.1**	**+0.4**
	baz=257					
ILA	**Ilan**	**0.64 258**	S	**Pb**	**11 47 41.6**	**+0.2**
	baz=290					
TNOU	**National Taiwa**	**0.66 293**	*eS*	**Sb**	**11 47 51.6**	**+0.5**
	baz=292					
YOJ	**Yonaguni jima**	**0.68 130**	P	**Pg**	**11 47 40.7**	**+0.1**
YOJ			*eS*	**Sg**	**11 47 49.0**	**-0.4**
YOJ	**Yonaguni jima**	**0.68 130**	*eP*	**Pg**	**11 47 40.7**	**+0.1**
	baz=101					
NDS	**Dongshan**	**0.71 248**	P	**Pb**	**11 47 42.3**	**-0.2**
	baz=248					
NDS			S	**Sb**	**11 47 53.4**	**+0.8**
	baz=248					
TWE	**Neicheng**	**0.72 256**	*i* P	**Pb**	**11 47 42.8**	**0.0**
	baz=255					
TWE			S	**Sb**	**11 47 53.9**	**+0.8**
	baz=255					
EWUT	**Wuta**	**0.75 233**	*eP*	**Pb**	**11 47 43.0**	**-0.2**
	baz=232					
EWUT			*eS*	**Sb**	**11 47 55.0**	**+1.2**
	baz=232					
ENA	**Nanau**	**0.79 234**	P	**Pb**	**11 47 43.8**	**-0.1**
	baz=233					
ENA			S	**Sb**	**11 47 55.9**	**+0.9**
	baz=233					
PCYT	**Pengchaiyu**	**0.80 335**	*eP*	**Pb**	**11 47 44.5**	**+0.3**
	baz=336					
PCYT			S	**Sb**	**11 47 56.1**	**+0.7**
	baz=336					
PCYT	**Pengchaiyu**	**0.80 335**	*eP*	**Pb**	**11 47 44.5**	**+0.3**
	baz=355					
NHDH	**Xindian Distri**	**0.83 275**	*eP*	**Pb**	**11 47 44.4**	**-0.3**
	baz=274					
ENTT	**Nioudou**	**0.83 252**	P	**Pb**	**11 47 44.4**	**-0.3**
	baz=251					
ENTT			S	**Sn**	**11 47 57.8**	**-1.1**
	baz=251					
TWY	**Chenhua**	**0.85 297**	P	**Pn**	**11 47 45.9**	**-0.5**
	baz=296					
TWY			S	**Sb**	**11 47 57.4**	**+0.7**
	baz=296					
NWLT	**Wulai**	**0.86 262**	*eP*	**Pn**	**11 47 46.1**	**-0.4**
	baz=261					
NWLT			*eS*	**Sb**	**11 47 57.8**	**+0.8**
	baz=261					
TAP	**Taipei**	**0.86 280**	*eP*	**Pb**	**11 47 44.8**	**-0.4**
	baz=279					
TAP			*eS*	**Sb**	**11 47 57.4**	**+0.5**
	baz=279					
ANP	**Anpu**	**0.88 289**	*eP*	**Pb**	**11 47 45.2**	**-0.4**
	baz=289					
ANP			*eS*	**Sb**	**11 47 58.6**	**+0.9**
	baz=289					
NDT	**Datong Townshi**	**0.89 251**	*eP*	**Pb**	**11 47 45.7**	**0.0**
	baz=250					
NDT			*eS*	**Sb**	**11 47 58.8**	**+0.8**
	baz=250					
TWS1	**Kuangyinshan**	**0.95 283**	*eP*	**Pg**	**11 47 46.2**	**+0.3**
	baz=282					
TWS1			S	**Sn**	**11 48 00.8**	**-0.9**
	baz=282					
YHNB	**Yeheng**	**0.99 257**	P	**Pb**	**11 47 47.7**	**+0.2**
	baz=256					
YHNB			*eS*	**Sn**	**11 48 02.6**	**-0.3**
	baz=256					
NSK	**Sanguang**	**1.01 258**	P	**Pb**	**11 47 47.4**	**-0.3**
	baz=257					
NSK			*eS*	**Sb**	**11 48 02.1**	**+0.8**
	baz=257					
NACB	**Ninganchiao**	**1.05 227**	*eP*	**Pb**	**11 47 48.4**	**0.0**
	baz=226					
NNSB	**Datong**	**1.07 244**	P	**Pb**	**11 47 48.6**	**-0.1**
	baz=243					
NNSB			*eS*	**Sn**	**11 48 04.5**	**-0.3**
	baz=243					
NNS	**Nan Shan**	**1.07 245**	P	**Pn**	**11 47 49.3**	**-0.3**
	baz=244					
NNS			*eS*	**Sn**	**11 48 05.0**	**+0.1**
	baz=244					
ETLH	**Xiulin Townshi**	**1.11 232**	P	**Pb**	**11 47 49.5**	**0.0**
	baz=231					
ETLH			*eS*	**Sn**	**11 48 05.8**	**0.0**
	baz=231					
TWD	**Chiawan**	**1.12 224**	P	**Pg**	**11 47 49.1**	**0.0**
	baz=222					
TWD			*eS*	**Sb**	**11 48 04.6**	**+0.2**
	baz=222					
NCU	**National Centr**	**1.14 274**	P	**Pn**	**11 47 50.6**	**+0.2**
	baz=273					
NCU			*eS*	**Sn**	**11 48 06.0**	**-0.4**
	baz=273					
HWA	**Hwalien**	**1.19 220**	*eS*	**Sn**	**11 48 07.3**	**-0.3**
	baz=219					
FUSS	**Fushou**	**1.27 240**	*eP*	**Pg**	**11 47 52.0**	**0.0**
	baz=239					
FUSS			*eS*	**Sn**	**11 48 09.9**	**0.0**
	baz=239					
IRIF	**Iriomote-Funau**	**1.30 115**	P	**Pn**	**11 47 52.6**	**+0.1**
WHF	**Hehuan Shan**	**1.31 235**	P	**Pn**	**11 47 53.2**	**+0.1**
	baz=234					
WHF			S	**Sn**	**11 48 11.1**	**0.0**
	baz=234					
LIOB	**Emei**	**1.32 259**	*eP*	**Pn**	**11 47 52.7**	**-0.2**
	baz=259					
TDCB	**Techi**	**1.33 242**	*eP*	**Pb**	**11 47 54.0**	**+0.8**
	baz=241					
HSN	**Hsinchu**	**1.34 266**	*eP*	**Pn**	**11 47 52.6**	**-0.5**
	baz=266					
WHP	**Taichung City**	**1.49 246**	*eP*	**Pb**	**11 47 56.1**	**+0.1**
	baz=245					

MAN ***23*** *11:52:00.3,8°.39N×123°.29E,h10km, mb4.9, ML3.9, MS3.9*
NEIC ***23*** *11:53:04.0±2.0, 8°.33N±0°.09×123°.30E±0°.10, h58km±7km, mb4.5/38, Error ellipse: s-maj=14.2km s-min=12.3km az=63.0*
IDC ***23*** *11:53:04.7±3.0, 8°.31N×123°.28E, h73km±29km, mb3.8/16, mb1 4.0/18, mb1mx3.7/50, mbtmp4.2/18, MS3.4/10, Ms1 3.5/10, ms1mx3.1/55, Error ellipse: s-maj=25.4km s-min=10.7km az=74.0*
DJA ***23*** *11:53:06.3±0.7, 8°N±6°×12°3E±°, h69km±7km, M4.7/12, mB4.8/3, mb4.5/12, MLv4.9/5, Mw(mB)4.1/3*

ISC 23 11:53:02.2±0.8, 8°.42N±0°.03×123°.29E±0°.04, h41km±7km, n102, σ2§15/99, mb4.4/33, MS3.5/7, 7C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DCPH	**Dipolog City**	**0.17**	**21**	*i*	*P*	**Pn**	**11 53 08.1**	**-1.3**
DCPH				*i*	S	**Sn**	**11 53 13.8**	**-0.7**
PAGZ	**Pagadian**	**0.57**	**171**	⇑*i*	*P*	Pn	11 53 10.6	-3.4
PAGZ				*i*	S	**Sn**	**11 53 18.4**	**-4.0**
SNPH	**Sibulan**	**0.92**	**357**	⇑*i*	*P*	**Pn**	**11 53 19.0**	**+0.2**
SNPH				*i*	S	**Sn**	**11 53 33.1**	**+2.2**
CNOP	**Candoni, Negro**	**1.54**	**335**	⇑*eP*		**Pn**	**11 53 26.8**	**-0.4**
BUKP	**Musuan**	**1.83**	**107**	⇓*eP*		**Pn**	**11 53 34.1**	**+2.8**
ZCP	**Zamboanga City**	**1.91**	**219**	⇓*eP*		**Pn**	**11 53 35.9**	**+3.6**
ZCP				*eS*		**Sn**	**11 54 02.7**	**+7.7**
LLP	**Lapu-Lapu**	**2.00**	**19**	⇑*eP*		**Pn**	**11 53 34.5**	**+0.9**
LLP				*i*	S	**Sn**	**11 54 00.9**	**+3.4**
KCP	**Kidapawan**	**2.27**	**128**	⇓*i*	*P*	**Pn**	**11 53 38.3**	**+1.0**
KCP				*i*	S	**Sn**	**11 54 07.4**	**+3.3**
MSLP	**Maasin**	**2.30**	**42**	*eP*		**Pn**	**11 53 40.0**	**+2.2**
SCPH	**Surigao**	**2.56**	**58**	⇑*eP*		**Pn**	**11 53 42.3**	**+1.1**
DMPH	**Davao City--Mi**	**2.57**	**121**	⇓*i*	*P*	**Pn**	**11 53 43.8**	**+2.4**
DMPH				*i*	S	Sn	11 54 21.4	+10
DAV	**Davao City (W)**	**2.63**	**120**	*P*		**Pn**	**11 53 44.4**	**+2.2**
	98nm,0.3s,baz=124,slow=19,SNR=5.7							
DAV				S		**Sn**	**11 54 20.2**	**+7.2**
	89nm,0.3s,baz=292,slow=23,SNR=11							
DAV				LR		LR	11 54 54.5	
	comp=Z,1μm,18.5s,baz=328,slow=42							
DAV	**Davao City (W)**	**2.63**	**120**			**Pn**	**11 53 42.3**	**0.0**
DAV	**Davao City (W)**	**2.63**	**120**	*P*		**Pn**	**11 53 45.7**	**+3.4**
JAP	**San Jose, Anti**	**2.67**	**330**	⇓*eP*		**Pn**	**11 53 44.7**	**+2.0**
RCP	**Roxas**	**3.17**	**350**	⇓*eP*		**Pn**	**11 53 51.1**	**+1.5**
TOLI2	**Tolitoli**	**7.68**	**199**	*Pn*		**Pn**	**11 54 51.3**	**-0.2**
GTOI	**Gorontalo**	**7.74**	**182**	*P*		*Pn*	11 54 48.8	-3.6
	0.2nm722nm63nm,0.6s							
MRSI	**Marisa**	**8.00**	**190**	*P*		**Pn**	**11 54 59.8**	**+3.8**
	0.2nm721nm39nm,0.6s							
LUWI	**Luwuk**	**9.41**	**183**	*Pn*		**Pn**	**11 55 13.2**	**-2.1**
LUWI	**Luwuk**	**9.41**	**183**	*P*		*Pn*	11 55 24.1	+8.7
SIJI	**Sorong**	**12.18**	**139**	*LR*		*LR*	12 00 50.7	
	comp=Z,138nm,21.4s,baz=26,slow=38							
KAPI	**Kappang**	**13.80**	**195**	*LR*		*LR*	12 01 27.9	
	comp=Z,66nm,20.7s,baz=90,slow=37							
TPUB	**Ta-pu**	**15.02**	**351**			**P**	**11 56 35.9**	**-0.6**
TPUB					IAmb	IAmb	11 56 40.3	
	comp=Z,32nm,1.0s							
SSLB	**Suanglung**	**15.45**	**352**	*P*		**P**	**11 56 43.5**	**+2.2**
YHNB	**Yeheng**	**16.27**	**354**			**P**	**11 56 52.4**	**+2.0**
YHNB					IAmb	IAmb	11 57 01.1	
	comp=Z,38nm,1.4s							
EDFI	**Ende, Flores**	**17.13**	**185**	*P*		**P**	**11 57 06.2**	**+6.1**
SOEI	**Soe**	**18.08**	**177**	*P*		**P**	**11 57 08.4**	**-2.2**
SOEI					IAmb	IAmb	11 57 21.8	
	comp=Z,28nm,1.0s							
SOEI	**Soe**	**18.08**	**177**	*P*		**P**	**11 57 10.1**	**-0.5**
	comp=Z,28nm,1.2s							
UBPT	**Khong Chiam**	**18.72**	**293**	*P*		**Pn**	**11 57 19.9**	**+1.7**
UBPT					IAmb	IAmb	11 57 20.6	
	comp=Z,35nm,1.0s							
UBPT	**Khong Chiam**	**18.72**	**293**	*P*		**Pn**	**11 57 19.6**	**+1.4**
	comp=Z,36nm,1.2s							
JOW	**Kunigami**	**18.91**	**14**	*P*		**Pn**	**11 57 22.2**	**+1.7**
	comp=Z,1.4nm,0.3s,baz=174,slow=8.5,SNR=11							
JOW					LR	LR	12 04 32.4	
	comp=Z,64nm,21.1s,baz=194,slow=36							
JOW	**Kunigami**	**18.91**	**14**	*P*		**Pn**	**11 57 21.5**	**+1.0**
JOW					IAmb	IAmb	11 57 23.6	
	comp=Z,36nm,0.8s							
GENI	**Genyem**	**20.07**	**122**	*P*		*Pn*	11 57 34.7	+0.3
	comp=Z,52nm,0.6s							
GUMO	**Guam**	**21.79**	**74**	*LR*		*LR*	12 04 46.6	
	comp=Z,38nm,21.7s,baz=220,slow=32							
MTN	**Manton Dam**	**22.52**	**160**	*P*		**P**	**11 57 57.9**	**-0.7**
MTN					IAmb	IAmb	11 58 15.3	
	comp=Z,40nm,1.5s							
NJ2	**Nanjing**	**23.88**	**351**	*eP*		**P**	**11 58 15.3**	**+3.3**
NJ2					pmax	pmax		
	comp=Z,8.0nm,0.5s							
KNRA	**Kununurra**	**24.55**	**167**	*P*		**P**	**11 58 17.1**	**-1.1**
KNRA					IAmb	IAmb	11 58 31.2	
	comp=Z,17nm,1.1s							
PDSI	**Padang**	**24.57**	**249**	*P*		**P**	**11 58 17.8**	**-0.8**
	comp=Z,7.0nm,0.4s							
MNSI	**Mandailing Nat**	**24.80**	**253**	*P*		*P*	11 58 34.6	+14
ENH	**Enshi**	**25.29**	**331**	*P*		**P**	**11 58 24.4**	**-0.5**
ENH					IAmb	IAmb	11 58 25.4	
	comp=Z,12nm,0.9s							
CM31	**Chiang Mai Arr**	**25.66**	**295**	*P*		**P**	**11 58 29.9**	**+1.4**
CM31					IAmb	IAmb	11 58 31.2	
	comp=Z,10.0nm,1.1s							
CMAR	**Chiang Mai Arr**	**25.66**	**295**	*P*		**P**	**11 58 28.4**	**-0.1**
	comp=Z,4.8nm,0.9s,baz=122,slow=8.2,SNR=30							
CMAR					LR	LR	12 08 57.1	
	comp=Z,92nm,18.8s,baz=162,slow=37							
CMAR	**Chiang Mai Arr**	**25.66**	**295**	*P*		**P**	**11 58 28.8**	**+0.4**
KMI	**Kunming**	**25.68**	**313**	⇑*P*		**P**	**11 58 31.8**	**+3.0**
KMI					pP	pP	11 58 38.5	-1.5
KMI					pmax	pmax		
	comp=Z,8.0nm,0.6s							
KMI					LR	LR		
	comp=N,99nm,15.6s							
KMI					LR	LR		
	comp=E,140nm,15.2s							
KMI					LR	LR		
	comp=Z,210nm,19.1s							
CMMT	**Chiang Mai**	**25.78**	**296**	*P*		**P**	**11 58 31.0**	**+1.5**
	comp=Z,3.5nm,1.1s							
CHTO	**Chiang Mai**	**25.78**	**296**	*P*		**P**	**11 58 28.4**	**-1.1**
CHTO	**Chiang Mai**	**25.78**	**296**	*P*		**P**	**11 58 31.5**	**+2.0**
	comp=Z,3.5nm,1.2s							
FITZ	**Fitzroy Crossi**	**26.45**	**175**	*P*		**P**	**11 58 34.2**	**-1.3**
	comp=Z,5.1nm,0.6s,baz=356,slow=7.0,SNR=15							
FITZ	**Fitzroy Crossi**	**26.45**	**175**	*P*		**P**	**11 58 33.2**	**-2.3**
FITZ					IAmb	IAmb	11 58 36.7	
	comp=Z,18nm,1.2s							
KSRS	**Korea Array**	**29.21**	**8**	*LR*		*LR*	12 11 17.5	
	comp=Z,34nm,19.7s,baz=180,slow=37							
INU	**Inuyama**	**29.61**	**23**	*P*		**P**	**11 59 03.8**	**+0.3**
INU					IAmb	IAmb	11 59 10.6	
	comp=Z,7.5nm,0.6s							
COEN	**Coen**	**29.73**	**138**	*P*		**P**	**11 59 02.6**	**-2.3**
COEN					IAmb	IAmb	11 59 17.0	
	comp=Z,9.6nm,1.1s							
WRA	**Warramunga Arr**	**30.21**	**159**	*P*		**P**	**11 59 06.5**	**-2.5**
	comp=Z,1.4nm,0.6s,baz=340,slow=9.1,SNR=15							
WRA	**Warramunga Arr**	**30.21**	**159**	*P*		**P**	**11 59 06.7**	**-2.3**
WB2	**Warramunga Ar**	**30.21**	**159**	*P*		**P**	**11 59 06.8**	**-2.3**
WB2					IAmb	IAmb	11 59 33.6	
	comp=Z,8.7nm,1.2s							
WR0	**Warramunga Arr**	**30.30**	**159**	*P*		**P**	**11 59 07.4**	**-2.4**
AS31	**Alice Springs**	**33.53**	**162**	*P*		**P**	**11 59 37.0**	**-1.2**
ASAR	**Alice Springs**	**33.53**	**162**	*P*		**P**	**11 59 36.6**	**-1.6**
	comp=Z,2.2nm,0.6s,baz=339,slow=7.2,SNR=46							
ASAR					PcP	**PcP**	**12 02 16.0**	**-2.5**
	comp=Z,0.7nm,0.7s,baz=341,slow=2.7,SNR=5.2							
ASAR	**Alice Springs**	**33.53**	**162**	*P*		**P**	**11 59 36.9**	**-1.4**
HHC	**Hu-ho-hao-te**	**33.94**	**344**	*eP*		**P**	**11 59 45.8**	**+4.1**
HHC					pmax	pmax		
	comp=Z,10.0nm,0.8s							
HHC					pmax	pmax		
	comp=Z,110nm,6.6s							
CTAO	**Charters Tower**	**36.24**	**142**	*P*		**P**	**12 00 00.6**	**-1.0**
CTAO					IAmb	IAmb	12 00 21.9	
	comp=Z,8.1nm,1.4s							
USA0B	**Ussuriysk Arra**	**36.44**	**11**	*P*		**P**	**12 00 03.5**	**+0.4**
USA0B					IAmb	IAmb	12 00 15.8	
	comp=Z,4.5nm,0.9s							
USRK	**Ussuriysk Ar.**	**36.44**	**11**	*P*		**P**	**12 00 02.9**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=197,slow=6.8,SNR=4.0							
USRK	**Ussuriysk Ar.**	**36.44**	**11**	*P*		**P**	**12 00 03.6**	**+0.6**
FORT	**Forrest**	**39.24**	**174**	*P*		**P**	**12 00 25.5**	**-1.3**
ASAJ	**Asahikawa**	**39.34**	**22**	*P*		**P**	**12 00 27.6**	**+0.1**
	comp=Z,3.4nm,1.0s,baz=209,slow=5.3,SNR=4.5							
JKA	**Kamikawa-asahi**	**39.34**	**22**	*P*		**P**	**12 00 27.6**	**+0.1**
JKA					IAmb	IAmb	12 00 48.8	
	comp=Z,13nm,1.3s							
KLR	**Kul'dur**	**41.29**	**8**	*P*		**P**	**12 00 42.5**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=243,slow=3.8,SNR=3.6							
SONM	**Songino Array**	**41.82**	**343**	*P*		**P**	**12 00 47.8**	**-0.3**
	comp=Z,1.5nm,0.9s,baz=162,slow=10,SNR=7.3							
SONM					LR	LR	12 19 43.3	
	comp=Z,62nm,19.3s,baz=138,slow=38							
BBOO	**Buckleboo**	**42.77**	**164**	*P*		**P**	**12 00 55.5**	**-0.3**
EIDS	**Eidsvold**	**43.13**	**142**	*P*		**P**	**12 00 57.1**	**-1.8**
EIDS					IAmb	IAmb	12 00 57.1	
	comp=Z,6.7nm,0.8s							
STKA	**Stephens Creek**	**43.72**	**157**	*P*		**P**	**12 01 02.3**	**-1.2**
	comp=Z,6.3nm,0.7s,baz=335,slow=7.2,SNR=12							
STKA	**Stephens Creek**	**43.72**	**157**	*P*		**P**	**12 01 02.7**	**-0.8**
WMQ	**Urumqi**	**46.95**	**325**	*eP*		**P**	**12 01 31.8**	**+2.7**
ARMA	**Armidale**	**47.24**	**146**	*P*		**P**	**12 01 30.8**	**-0.8**
CAN	**Canberra**	**49.81**	**152**	*P*		**P**	**12 01 51.1**	**-0.1**
MK31	**Makanchi Array**	**51.78**	**325**	*P*		**P**	**12 02 05.6**	**-0.3**
MKAR	**Makanchi Array**	**51.78**	**325**	*P*		**P**	**12 02 05.4**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=132,slow=7.3,SNR=12							
MKAR	**Makanchi Array**	**51.78**	**325**	*P*		**P**	**12 02 05.8**	**-0.1**
MAKZ	**Makanchi**	**51.96**	**325**	*P*		**P**	**12 02 06.9**	**-0.4**
KSH	**Kashi**	**52.34**	**314**	*P*		**P**	**12 02 13.4**	**+3.1**
NIL	**Nilore**	**52.39**	**306**	*P*		**P**	**12 02 10.1**	**-0.5**
PETK	**Petropavlovsk-**	**52.55**	**25**	*P*		**P**	**12 02 11.8**	**+0.4**
	comp=Z,1.5nm,0.9s,baz=204,slow=3.3,SNR=2.1							
PETK	**Petropavlovsk-**	**52.55**	**25**	*P*		**P**	**12 02 11.9**	**+0.5**
PET	**Petropavlovsk**	**52.90**	**26**	*P*		**P**	**12 02 13.8**	**-0.2**
ZALV	**Zalesovo Beam**	**54.89**	**333**	*P*		**P**	**12 02 27.9**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=106,slow=6.1,SNR=2.4							
KURBB	**Kurchatov Arra**	**55.97**	**327**	*P*		**P**	**12 02 36.7**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=126,slow=6.9,SNR=18							
GAR	**Garm**	**56.26**	**312**	*P*		**P**	**12 02 38.5**	**-0.3**
ABKAR	**Akbulak array**	**66.38**	**320**	*P*		**P**	**12 03 46.4**	**-0.5**
BKZ	**Black Stump Fm**	**68.33**	**138**	*P*		**P**	**12 03 58.9**	**-0.6**
OBN	**Obninsk**	**81.28**	**325**	*LR*		*LR*	12 45 02.0	
	comp=Z,45nm,19.9s,baz=198,slow=38							
BR131	**Keskin Array S**	**84.42**	**309**	*P*		**P**	**12 05 29.6**	**-1.3**
BR131					IAmb	IAmb	12 05 31.8	
	comp=Z,3.7nm,0.9s							
BRTR	**Keskin Array B**	**84.42**	**309**	*P*		**P**	**12 05 30.1**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=108,slow=4.7,SNR=11							
BRTR	**Keskin Array B**	**84.42**	**309**	*P*		**P**	**12 05 29.6**	**-1.3**
BCAR	**Beaver Creek A**	**84.79**	**27**	*P*		**P**	**12 05 31.7**	**-0.4**
AKASG	**Malin Array Be**	**86.12**	**321**	*P*		**P**	**12 05 37.1**	**-1.9**
	comp=Z,0.9nm,0.5s,baz=66,slow=4.8,SNR=5.3							
AKASG	**Malin Array Be**	**86.12**	**321**	*P*		**P**	**12 05 37.5**	**-1.4**
VNDA	**Vanda**	**88.49**	**172**	*P*		**P**	**12 05 47.6**	**-2.2**
	comp=Z,0.9nm,0.8s,baz=293,slow=2.9,SNR=5.0							
VNDA	**Vanda**	**88.49**	**172**	*P*		**P**	**12 05 47.9**	**-1.9**
VNDA					IAmb	IAmb	12 06 07.7	
	comp=Z,4.0nm,1.4s							
YKA	**Yellowknife Ar**	**96.62**	**23**	*LR*		*LR*	12 52 14.4	
	comp=Z,129nm,19.8s,baz=0.0,slow=37							
PLCA	**Paso Flores**	**145.54**	**161**	*PKPbc*		**PKPdf**	**12 12 35.6**	**-0.8**
	comp=Z,2.9nm,0.8s,baz=244,slow=2.9,SNR=5.5							

MEX 23 11:54:17.5±0.3, 16°.94N×100°.25W, h37km±11km, MD3.5, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DAIG	**Los Arroyos**	**0.58**	**82**	*eP*		Pn	11 54 27.6	-1.8
DAIG				*eS*		Sn	11 54 35.5	-2.2
MEIG	**Mezcala**	**1.15**	**31**	*eP*		Pn	11 54 35.5	-1.7
MEIG				*eS*		Sn	11 54 49.6	-2.2
ARIG	**Puente Sto Nin**	**1.34**	**356**	*eP*		Pn	11 54 38.0	-1.7
ARIG				*eS*		Sn	11 54 54.2	-2.1
MGIG	**Malinaltepec**	**1.58**	**79**	*eP*		Pn	11 54 41.6	-1.5
MGIG				*eS*		Sn	11 55 00.2	-2.2
PLIG	**Platanillo**	**1.61**	**26**	*eP*		Pn	11 54 41.6	-1.9
PLIG				*eS*		Sn	11 55 01.5	-1.6
FTIG	**Fresnillo de T**	**2.24**	**64**	*eP*		Pn	11 54 50.7	-1.5
FTIG				⇓*eS*		Sn	11 55 16.6	-2.1
TXIG	**Tlaxiaco**	**2.40**	**82**	*eP*		Pn	11 54 53.3	-1.2
TXIG				*eS*		Sn	11 55 21.2	-1.5
HLIG	**Huajuapan de L**	**2.50**	**69**	*eP*		Pn	11 54 56.5	+0.6
HLIG				*eS*		Sn	11 55 23.9	-1.4

IDC ***23*** *11:56:02.9±1.5, 18°.42N×145°.39E, h411km±18km, mb2.9/7, mb1 3.0/9, mb1mx2.9/47, mbtmp3.7/9, Error ellipse: s-maj=33.8km s-min=13.9km az=89.0*
NEIC ***23*** *11:56:03.4±0.7, 18°.5N±0°.1×145°.7E±0°.1, h438km±10km, mb3.8/8, Error ellipse: s-maj=20.8km s-min=16.6km az=66.0*

ISC 23 11:56:04.5±0.8, 18°.30N±0°.08×145°.5E±0°.2, h450km, n23, σ1§46/24, mb3.3/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ANA2	**Anatahan**	**1.95**	**175**	*P*		**P**	**11 57 03.8**	**-1.1**
GUMO	**Guam**	**4.72**	**188**	*P*		**P**	**11 57 25.6**	**-0.8**
	3.2nm,0.3s,baz=18,slow=20,SNR=1.3							
GUMO				S		**S**	**11 58 29.4**	**-3.5**
	19nm,0.3s,baz=336,slow=22,SNR=7.2							
GUMO	**Guam**	**4.72**	**188**	*P*		**P**	**11 57 26.7**	**+0.4**
MJAR	**Matsushiro Arr**	**19.29**	**342**	*P*		**P**	**11 59 57.3**	**-2.0**
	0.1nm,0.3s,baz=125,slow=11,SNR=5.5							
DAV	**Davao City (W)**	**22.41**	**243**	*P*		**P**	**12 00 29.0**	**+1.0**
SSLB	**Suanglung**	**23.57**	**288**	*P*		**P**	**12 00 38.5**	**+0.1**
KSRS	**Korea Array**	**24.55**	**325**	*P*		**P**	**12 00 44.6**	**-2.2**
	0.7nm,0.7s,baz=139,slow=10,SNR=2.4							
USRK	**Ussuriysk Ar.**	**28.23**	**339**	*P*		**P**	**12 01 17.2**	**-2.0**
KLR	**Kul'dur**	**32.81**	**343**	*P*		**P**	**12 01 59.9**	**+1.0**
	1.7nm,0.4s,baz=156,slow=7.8,SNR=7.7							
WB2	**Warramunga Arr**	**39.55**	**197**	*P*		**P**	**12 02 56.4**	**+1.0**
WB2					IAmb	IAmb	12 03 12.5	
	comp=Z,13nm,1.5s							
WRA	**Warramunga Arr**	**39.56**	**197**	*P*		**P**	**12 02 57.2**	**+1.8**
	comp=Z,0.4nm,0.4s,baz=6.0,slow=8.2,SNR=7.4							
WRA	**Warramunga Arr**	**39.56**	**197**	*P*		**P**	**12 02 57.0**	**+1.5**
FITZ	**Fitzroy Crossi**	**41.12**	**209**	*P*		**P**	**12 03 09.5**	**+1.6**
FITZ					IAmb	IAmb	12 03 37.7	
	comp=Z,5.4nm,1.4s							
ASAR	**Alice Springs**	**43.23**	**196**	*P*		**P**	**12 03 25.9**	**+1.2**
	comp=Z,0.1nm,0.4s,baz=14,slow=6.8,SNR=4.0							
CMAR	**Chiang Mai Arr**	**44.12**	**278**	*P*		**P**	**12 03 32.4**	**+0.6**
	com

FORT	**Forrest**	**36.52**	**176**	P	**P**	12 09 04.9	**-0.4**
USRK	**Ussuriysk Ar.**	**38.60**	**7**	P	**P**	12 09 22.0	**-0.7**
	comp=Z,3.5nm,0.8s,baz=226,slow=7.2,SNR=5.3						
NWAO	**Narrogin (SRO)**	**39.38**	**191**	P	**P**	12 09 29.5	**+0.1**
	comp=Z,2.9nm,0.5s,baz=32,slow=8.1,SNR=7.1						
NWAO	**Narrogin (SRO)**	**39.38**	**191**	P	**P**	12 09 29.7	**+0.3**
NWAO				IAmb	IAmb	12 09 31.8	
	comp=Z,12nm,1.3s						
BBOO	**Buckleboo**	**39.75**	**166**	P	**P**	12 09 32.8	**+0.4**
EIDS	**Eidsvold**	**39.77**	**142**	P	**P**	12 09 32.6	**-0.1**
STKA	**Stephens Creek**	**40.54**	**159**	P	**P**	12 09 39.1	**+0.1**
	comp=Z,6.5nm,0.6s,baz=332,slow=6.4,SNR=15						
STKA				LR	LR	12 27 23.7	
	comp=Z,157nm,19.6s,baz=191,slow=37						
STKA	**Stephens Creek**	**40.54**	**159**	P	**P**	12 09 39.4	**+0.4**
ARMA	**Armidale**	**43.90**	**147**	P	**P**	12 10 06.8	**+0.2**
CAN	**Canberra**	**46.55**	**153**	P	**P**	12 10 28.4	**+1.0**
TOO	**Toolangi**	**47.05**	**158**	P	**P**	12 10 32.7	**+1.3**
PEA0B	**Petropavlovsk-**	**53.94**	**23**	P	**P**	12 11 22.6	**-0.4**
PETK	**Petropavlovsk-**	**53.94**	**23**	P	**P**	12 11 22.5	**-0.5**
	comp=Z,0.8nm,0.6s,baz=180,slow=3.7,SNR=7.8						
PETK	**Petropavlovsk-**	**53.94**	**23**	P	**P**	12 11 22.4	**-0.6**
MKAR	**Makanchi Array**	**55.13**	**325**	P	**P**	12 11 30.4	**-1.4**
	comp=Z,0.3nm,0.5s,baz=118,slow=7.3,SNR=4.9						
MKAR	**Makanchi Array**	**55.13**	**325**	P	**P**	12 11 31.5	**-0.3**
ZALV	**Zalesovo Beam**	**58.15**	**333**	P	**P**	12 11 52.9	**-0.2**
	comp=Z,1.8nm,0.3s,baz=157,slow=5.9,SNR=5.5						
ZALV	**Zalesovo Beam**	**58.15**	**333**	P	**P**	12 11 52.1	**-1.0**
THZ	**Tophouse**	**64.11**	**142**	P	**P**	12 12 33.2	**-0.5**
OHAK	**Old Harbor**	**80.32**	**33**	P	**P**	12 14 09.6	**-0.6**
KDAK	**Kodiak Island**	**80.74**	**33**	P	**P**	12 14 11.4	**-1.0**
	comp=Z,12nm,1.1s,baz=268,slow=5.4,SNR=5.3						
CAST	**Castle Rocks**	**81.37**	**27**	P	**P**	12 14 15.1	**-0.7**
CAST				IAmb	IAmb	12 14 16.5	
	comp=Z,4.3nm,0.8s						
BPAW	**Bear Paw Mtn.**	**81.91**	**26**	P	**P**	12 14 18.4	**-0.1**
BPAW				IAmb	IAmb	12 14 22.2	
	comp=Z,2.9nm,0.9s						
ILAR	**Eielson Array**	**83.70**	**26**	P	**P**	12 14 25.4	**-2.5**
	comp=Z,1.1nm,0.8s,baz=244,slow=5.5,SNR=7.8						
BMAR	**Burnt Mountain**	**84.58**	**23**	P	**P**	12 14 32.2	**-0.1**
VNDA	**Vanda**	**85.69**	**173**	P	**P**	12 14 36.9	**-0.6**
	comp=Z,0.9nm,1.0s,baz=304,slow=6.1,SNR=5.4						
VNDA	**Vanda**	**85.69**	**173**	P	**P**	12 14 37.0	**-0.5**
VNDA				IAmb	IAmb	12 14 37.5	
	comp=Z,3.4nm,1.4s						
TXAR	**Lajitas Array**	**121.21**	**51**	PKP	**PKPdf**	12 20 51.8	**-1.0**
	comp=Z,0.1nm,0.5s,baz=240,slow=1.8,SNR=2.6						

*JMA **23** 12:06:12.8±0.4,24.7°79N×122.7°44E,h2km±5km,M2.0*
*TAP **23** 12:06:12.1,24.8°88N×122.7°47E,h14km±1km,ML2.5,C*
ISC 23 12:06:12.6±1.0,24.8°85N±0.04°×122.7°46E±0.03°,h11km±9km, n41,σ0°40/80,4D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.45**	**290**	P	**Pg**	**12 06 21.4**	**-0.1**
	baz=285						
TWB1				S	**Sg**	**12 06 27.9**	**+0.4**
	baz=285						
NTC	**Toucheng**	**0.57**	**270**	P	**Pb**	**12 06 24.1**	**-0.5**
	baz=267						
NTC				S	**Sb**	**12 06 33.2**	**+0.5**
	baz=267						
TIPB	**Shuangxi**	**0.58**	**282**	⇓P	**Pg**	**12 06 24.4**	**+0.4**
	baz=278						
TIPB				S	**Sb**	**12 06 32.7**	**-0.6**
	baz=278						
JYNG	**Yonagunijimaku**	**0.60**	**132**	P	**Pg**	**12 06 24.2**	**0.0**
JYNG				*e*S	**Sg**	**12 06 31.5**	**-0.6**
TWC	**Suao**	**0.60**	**246**	*e*P	**Pb**	**12 06 24.7**	**-0.5**
	baz=243						
TWC				S	**Sb**	**12 06 34.6**	**+0.9**
	baz=243						
YOJ	**Yonaguni jima**	**0.64**	**127**	P	**Pg**	**12 06 24.7**	**-0.3**
YOJ				*e*S	**Sg**	**12 06 33.4**	**0.0**
YOJ	**Yonaguni jima**	**0.64**	**127**	⇓*i*P	**Pg**	**12 06 24.9**	**-0.1**
	baz=130						
YOJ				*e*S	**Sg**	**12 06 33.4**	**0.0**
	baz=130						
NWF	**Wu-fen Shan**	**0.65**	**290**	⇓*i*P	**Pg**	**12 06 25.7**	**+0.4**
	baz=286						
NWF				*i* S	**Sb**	**12 06 35.2**	**+0.1**
	baz=286						
NDS	**Dongshan**	**0.71**	**252**	P	**Pb**	**12 06 26.7**	**-0.3**
	baz=250						
NDS				S	**Sb**	**12 06 36.5**	**-0.2**
	baz=250						
TWE	**Neicheng**	**0.73**	**260**	P	**Pb**	**12 06 27.0**	**-0.4**
	baz=257						
TWE				S	**Sb**	**12 06 37.2**	**-0.1**
	baz=257						
EWUT	**Wuta**	**0.74**	**237**	P	**Pb**	**12 06 27.4**	**-0.1**
	baz=235						
EWUT				S	**Sb**	**12 06 38.4**	**+0.8**
	baz=235						
ENA	**Nanau**	**0.78**	**237**	⇓*i*P	**Pb**	**12 06 27.9**	**-0.3**
	baz=235						
ENA				S	**Sb**	**12 06 39.0**	**+0.3**
	baz=235						
TWA	**Mucha**	**0.80**	**279**	*e*P	**Pg**	**12 06 28.1**	**0.0**
	baz=276						
TWA				*e*S	**Sg**	**12 06 39.1**	**+0.5**
	baz=276						
ENTT	**Nioudou**	**0.84**	**256**	P	**Pb**	**12 06 29.4**	**+0.2**
	baz=253						
ENTT				S	**Sb**	**12 06 41.6**	**+1.1**
	baz=253						
PCYT	**Pengchaiyu**	**0.85**	**336**	P	**Pg**	**12 06 28.7**	**-0.3**
	baz=334						
PCYT				S	**Sg**	**12 06 40.0**	**-0.1**
	baz=334						
NWLT	**Wulai**	**0.87**	**265**	P	**Pg**	**12 06 29.5**	**+0.1**
	baz=263						
NWLT				S	**Sb**	**12 06 41.8**	**+0.3**
	baz=263						
TWY	**Chenhua**	**0.88**	**299**	*e*P	**Pg**	**12 06 29.5**	**-0.2**
	baz=296						
TWY				S	**Sg**	**12 06 41.5**	**+0.3**
	baz=296						
NDT	**Datong Townshi**	**0.89**	**254**	P	**Pb**	**12 06 30.2**	**+0.1**
	baz=252						
NDT				*i* S	**Sn**	**12 06 43.4**	**-0.8**
	baz=252						
ANP	**Anpu**	**0.91**	**292**	*e*P	**Pg**	**12 06 29.7**	**-0.5**
	baz=289						
ANP				*e*S	**Sg**	**12 06 42.6**	**+0.4**
	baz=289						
YHNB	**Yeheng**	**1.00**	**260**	P	**Pb**	**12 06 31.9**	**-0.1**
	baz=257						
YHNB				S	**Sb**	**12 06 46.0**	**+0.8**
	baz=257						
NSK	**Sanguang**	**1.01**	**260**	P	**Pg**	**12 06 31.5**	**-0.6**
	baz=258						
NSK				S	**Sn**	**12 06 46.6**	**-0.5**
	baz=258						
NACB	**Ninganchiao**	**1.03**	**229**	*e*P	**Pg**	**12 06 31.7**	**-0.8**
	baz=228						
NACB				*e*S	**Sb**	**12 06 46.0**	**-0.2**
	baz=228						
NNSB	**Datong**	**1.06**	**247**	*e*P	**Pg**	**12 06 32.8**	**-0.3**
	baz=245						
NNSB				S	**Sb**	**12 06 47.9**	**+0.8**
	baz=245						
NNS	**Nan Shan**	**1.07**	**248**	*e*P	**Pb**	**12 06 33.2**	**0.0**
	baz=245						
NNS				S	**Sn**	**12 06 48.4**	**-0.2**
	baz=245						
ETLH	**Xiulin Townshi**	**1.09**	**234**	*e*P	**Pg**	**12 06 33.4**	**-0.3**
	baz=233						
ETLH				S	**Sb**	**12 06 48.1**	**+0.1**
	baz=233						
FUSS	**Fushou**	**1.26**	**242**	*e*P	**Pb**	**12 06 36.0**	**-0.5**
	baz=240						
FUSS				S	**Sn**	**12 06 53.9**	**+0.5**
	baz=240						
IRIF	**Iriomote-Funau**	**1.27**	**114**	P	**Pg**	**12 06 37.2**	**+0.2**
WHF	**Hehuan Shan**	**1.29**	**237**	*e*P	**Pg**	**12 06 37.5**	**0.0**
	baz=236						
WHF				*e*S	**Sb**	**12 06 54.3**	**+0.2**
	baz=236						
LIOB	**Emei**	**1.32**	**261**	*e*P	**Pn**	**12 06 36.8**	**-0.4**
	baz=259						
LIOB				*e*S	**Sb**	**12 06 54.4**	**-0.2**
	baz=259						
NSTT	**Nanjuang**	**1.34**	**261**	*e*P	**Pn**	**12 06 37.1**	**-0.3**
	baz=259						
NSTT				*e*S	**Sb**	**12 06 54.9**	**-0.1**
	baz=259						
CHGB	**Renai**	**1.41**	**236**	*e*P	**Pn**	**12 06 38.3**	**-0.1**
	baz=235						
CHGB				*e*S	**Sb**	**12 06 56.9**	**-0.3**
	baz=235						
OWD	**Renai**	**1.47**	**233**	*e*P	**Pn**	**12 06 39.3**	**+0.1**
	baz=231						
OWD				*e*S	**Sn**	**12 06 58.5**	**-0.1**
	baz=231						
WHP	**Taichung City**	**1.49**	**248**	*e*P	**Pn**	**12 06 39.6**	**+0.1**
	baz=246						
WHP				*e*S	**Sn**	**12 06 58.7**	**-0.2**
	baz=246						
JIJ	**Ishigaki jima**	**1.61**	**107**	P	**Pb**	**12 06 42.5**	**+0.1**
WCS	**Beigang Elemen**	**1.61**	**241**	*e*P	**Pn**	**12 06 41.2**	**+0.1**
	baz=239						
WCS				*e*S	**Sn**	**12 07 01.9**	**0.0**
	baz=239						
HGSD	**Ruisui**	**1.65**	**215**	*e*P	**Pn**	**12 06 41.7**	**+0.1**
	baz=214						
HGSD				*e*S	**Sn**	**12 07 03.1**	**+0.3**
	baz=214						
SSLB	**Suanglung**	**1.73**	**233**	*e*P	**Pn**	**12 06 43.1**	**+0.3**
	baz=231						
SSLB				*e*S	**Sn**	**12 07 04.6**	**-0.2**
	baz=231						
YULB	**Yu-li**	**1.80**	**216**	*e*P	**Pn**	**12 06 43.6**	**0.0**
	baz=215						
YULB				*e*S	**Sn**	**12 07 06.7**	**+0.2**
	baz=215						
WHYT	**Xinyi Township**	**1.86**	**232**	*e*P	**Pn**	**12 06 44.9**	**+0.4**
	baz=231						
WHYT				*e*S	**Sn**	**12 07 08.0**	**0.0**
	baz=231						
ALS	**Alishan**	**2.01**	**229**	*e*P	**Pn**	**12 06 47.0**	**+0.2**
	baz=227						
ALS				*e*S	**Sn**	**12 07 12.3**	**+0.1**
	baz=227						
CHN5	**Tsauling**	**2.05**	**233**	*e*P	**Pn**	**12 06 48.0**	**+0.9**
	baz=231						
CHN5				*e*S	**Sn**	**12 07 12.6**	**-0.2**
	baz=231						

*TAP **23** 12:07:50.5,24.2°25N×121.7°84E,h14km,ML2.7,B*
*JMA **23** 12:07:50.5±0.1,24.2°19N×121.7°84E,h19km±2km,M1.8*
ISC 23 12:07:50.4±0.9,24.2°2N±0.02°×121.7°86E±0.02°,h17km±7km, n65,σ0°58/106,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.14**	**310**	*e*P	**Pb**	**12 07 54.6**	**-0.1**
	baz=303						
ETL	**Fush Village**	**0.23**	**254**	*i* P	**Pb**	**12 07 56.1**	**0.0**
	baz=244						
ETL				S	**Sb**	**12 08 00.3**	**+0.4**
	baz=244						
ENA	**Nanau**	**0.23**	**332**	*i* P	**Pg**	**12 07 55.7**	**-0.1**
	baz=334						
ENA				*i* S	**Sg**	**12 07 59.5**	**+0.1**
	baz=334						
EWUT	**Wuta**	**0.24**	**342**	*i* P	**Pg**	**12 07 55.7**	**-0.1**
	baz=343						
EWUT				*i* S	**Sg**	**12 07 59.6**	**+0.2**
	baz=343						
NACB	**Ninganchiao**	**0.25**	**259**	*i* P	**Pb**	**12 07 56.2**	**-0.3**
	baz=251						
NACB				*i* S	**Sb**	**12 08 00.7**	**+0.1**
	baz=251						
TWD	**Chiawan**	**0.28**	**240**	*i* P	**Pb**	**12 07 57.0**	**0.0**
	baz=231						
TWD				S	**Sb**	**12 08 02.0**	**+0.6**
	baz=231						
HWA	**Hwalien**	**0.34**	**224**	*e*S	**Sn**	**12 08 06.1**	**-0.9**
	baz=217						
ETLH	**Xiulin Townshi**	**0.35**	**268**	*i* P	**Pb**	**12 07 57.7**	**-0.5**
	baz=262						
ETLH				S	**Sb**	**12 08 03.2**	**-0.2**
	baz=262						
TWC	**Suao**	**0.39**	**359**	*i* P	**Pg**	**12 07 58.3**	**-0.1**
	baz=2.0						
TWC				*i* S	**Sg**	**12 08 03.8**	**0.0**
	baz=2.0						
NDS	**Dongshan**	**0.43**	**342**	P	**Pg**	**12 07 59.2**	**0.0**
	baz=343						
NDS				S	**Sg**	**12 08 05.0**	**-0.1**
	baz=343						
NNSB	**Datong**	**0.48**	**296**	*i* P	**Pb**	**12 08 00.3**	**-0.3**
	baz=292						
NNSB				*i* S	**Sb**	**12 08 07.1**	**-0.4**
	baz=292						
NDT	**Datong Townshi**	**0.49**	**320**	*i* P	**Pb**	**12 08 00.5**	**-0.2**
	baz=319						
NDT				S	**Sb**	**12 08 07.4**	**-0.3**
	baz=319						
NNS	**Nan Shan**	**0.49**	**296**	*i* P	**Pb**	**12 08 00.5**	**-0.3**
	baz=293						
NNS				*i* S	**Sb**	**12 08 07.6**	**-0.2**
	baz=293						
ENTT	**Nioudou**	**0.50**	**327**	*i* P	**Pg**	**12 08 00.4**	**0.0**
	baz=327						
ENTT				*i* S	**Sb**	**12 08 07.4**	**-0.4**
	baz=327						
TWE	**Neicheng**	**0.53**	**341**	*i* P	**Pg**	**12 08 01.1**	**+0.1**
	baz=342						
TWE				S	**Sb**	**12 08 08.3**	**-0.3**
	baz=342						
WHF	**Hehuan Shan**	**0.55**	**262**	*i* P	**Pb**	**12 08 01.6**	**-0.3**
	baz=258						
WHF				S	**Sb**	**12 08 09.6**	**0.0**
	baz=258						
ILA	**Ilan**	**0.55**	**349**	S	**Sb**	**12 08 09.5**	**+0.2**
	baz=351						
ESL	**Shilin**	**0.56**	**224**	*i* P	**Pb**	**12 08 01.9**	**0.0**
	baz=219						
ESL				*e*S	**Sb**	**12 08 10.9**	**+1.3**
	baz=219						
FUSS	**Fushou**	**0.56**	**273**	P	**Pb**	**12 08 02.4**	**+0.4**
	baz=269						
FUSS				*i* S	**Sb**	**12 08 10.1**	**+0.2**
	baz=269						
TWT	**Tachien**	**0.62**	**273**	S	**Sb**	**12 08 12.5**	**+0.9**
	baz=269						
YHNB	**Yeheng**	**0.63**	**316**	*i* P	**Pg**	**12 08 02.8**	**-0.1**
	baz=314						
YHNB				*i* S	**Sb**	**12 08 11.5**	**-0.1**
	baz=314						
NTC	**Toucheng**	**0.63**	**358**	P	**Pn**	**12 08 04.1**	**-0.5**
	baz=359						
TDCB	**Techi**	**0.64**	**273**	P	**Pb**	**12 08 03.6**	**+0.3**
	baz=270						
TDCB				S	**Sb**	**12 08 12.0**	**0.0**
	baz=270						
NWLT	**Wulai**	**0.64**	**330**	*i* P	**Pg**	**12 08 02.9**	**-0.2**
	baz=329						
NWLT				*i* S	**Sb**	**12 08 11.8**	**-0.2**
	baz=329						
NSK	**Sanguang**	**0.64**	**315**	*i* P	**Pb**	**12 08 03.2**	**-0.1**
	baz=314						
NSK				*i* S	**Sb**	**12 08 11.7**	**-0.4**
	baz=314						
CHGB	**Renai**	**0.65**	**256**	*i* P	**Pb**	**12 08 03.6**	**+0.2**
	baz=252						
CHGB				*i* S	**Sb**	**12 08 12.7**	**+0.4**
	baz=252						
EGFH	**Guangfu**	**0.68**	**216**	*e*P	**Pb**	**12 08 04.3**	**+0.6**
	baz=213						
EGFH				S	**Sn**	**12 08 14.6**	**-0.8**
	baz=213						
OWD	**Renai**	**0.68**	**247**	P	**Pb**	**12 08 04.0**	**+0.1**
	baz=244						
TIPB	**Shuangxi**	**0.75**	**358**	*i* P	**Pg**	**12 08 05.0**	**0.0**
	baz=358						
TIPB				S	**Sg**	**12 08 14.7**	**-0.3**
	baz=358						
TWB1	**Santiao Chiao**	**0.79**	**8**	*e*S	**Sb**	**12 08 16.5**	**+0.2**
	baz=10.0						
HGSD	**Ruisui**	**0.83**	**209**	*e*P	**Pn**	**12 08 07.0**	**-0.3**
	baz=206						
HGSD				*e*S	**Sn**	**12 08 19.2**	**0.0**
	baz=206						
WHP	**Taichung City**	**0.84**	**274**	P	**Pn**	**12 08 07.0**	**-0.6**
	baz=271						
WHP				S	**Sg**	**12 08 18.2**	**+0.4**
	baz=271						
NWF	**Wu-fen Shan**	**0.85**	**355**	P	**Pg**	**12 08 07.4**	**+0.4**
	baz=356						
NWF				*e*S	**Sg**	**12 08 18.2**	**-0.1**
	baz=356						
EHY	**Hungye**	**0.86**	**215**	*e*P	**Pg**	**12 08 07.1**	**-0.2**
	baz=212						
LIOB	**Emei**	**0.88**	**299**	*e*P	**Pn**	**12 08 08.0**	**-0.1**
	baz=297						
LIOB				S	**Sn**	**12 08 19.8**	**-0.7**
	baz=297						
WCS	**Beigang Elemen**	**0.88**	**260**	*e*P	**Pn**	**12 08 07.7**	**-0.4**
	baz=257						
NSTT	**Nanjuang**	**0.88**	**298**	P	**Pn**	**12 08 08.4**	**+0.2**
	baz=296						
NSTT				S	**Sn**	**12 08 19.6**	**-0.9**
	baz=296						
SSLB	**Suanglung**	**0.93**	**243**	P	**Pg**	**12 08 08.2**	**-0.4**
	baz=240						
SSLB				S	**Sn**	**12 08 21.4**	**-0.5**
	baz=240						
SMLT	**Sun Moon Lake**	**0.94**	**249**	P	**Pn**	**12 08 08.7**	**-0.3**
	baz=246						
YULB	**Yu-li**	**0.97**	**212**	P	**Pb**	**12 08 08.1**	**-0.8**
	baz=210						
YULB				S	**Sg**	**12 08 22.2**	**+0.2**
	baz=210						
EYUL	**Yuli**	**1.00**	**210**	*e*P	**Pb**	**12 08 09.3**	**-0.1**
	baz=207						
JYNG	**Yonagunijimaku**	**1.02**	**77**	P	**Pb**	**12 08 09.9**	**+0.3**
NMLH	**Miaoli**	**1.02**	**288**	P	**Pg**	**12 08 11.2**	**+0.9**
	baz=286						
NMLH				*e*S	**Sn**	**12 08 26.7**	**+2.6**
	baz=286						
WHYT	**Xinyi Township**	**1.06**	**241**	*e*P	**Pn**	**12 08 10.4**	**-0.1**
	baz=238						
WHYT				S	**Sn**	**12 08 25.6**	**+0.7**
	baz=238						
YOJ	**Yonaguni jima**	**1.08**	**77**	P	**Pb**	**12 08 10.6**	**0.0**
YOJ				S	**Sg**	**12 08 26.8**	**+1.4**
YOJ	**Yonaguni jima**	**1.08**	**77**	*i* P	**Pb**	**12 08 10.6**	**0.0**
	baz=78						
YOJ				S	**Sg**	**12 08 26.2**	**+0.8**
	baz=78						
YUS	**Yu-Shan**	**1.10**	**229**	P	**Pb**	**12 08 11.2**	**-0.2**
	baz=226						
WJS	**Zhushan**	**1.11**	**249**	P	**Pg**	**12 08 12.9**	**+1.0**
	baz=247						
FULB	**Fuli**	**1.14**	**207**	*e*P	**Pb**	**12 08 12.0**	**+0.2**
	baz=205						
ALS	**Alishan**	**1.20**	**234**	P	**Pb**	**12 08 12.9**	**+0.1**
	baz=231						
ALS				S	**Sg**	**12 08 30.1**	**+0.9**
	baz=231						
CHN5	**Tsauling**	**1.25**	**240**	P	**Pg**	**12 08 14.4**	**-0.1**
	baz=238						
CHN5				*e*S	**Sg**	**12 08 32.0**	**+1.2**
	baz=238						
ELDTW	**Lidau**	**1.28**	**217**	*e*P	**Pn**	**12 08 12.7**	**-1.0**
	baz=215						
EDH	**Donghe**	**1.34**	**202**	*e*P	**Pn**	**12 08 13.7**	**-0.8**
	baz=201						
EDH				*e*S	**Sn**	**12 08 31.0**	**-0.9**
	baz=201						
WRL	**Guolierlin Hig**	**1.39**	**257**	*e*P	**Pb**	**12 08 16.2**	**+0.2**
	baz=255						
WRL				*e*S	**Sg**	**12 08 36.3**	**+0.9**
	baz=255						
STYH	**Taoyuan**	**1.44**	**224**	*e*P	**Pb**	**12 08 16.6**	**-0.2**
	baz=222						
STYH				*e*S	**Sg**	**12 08 36.2**	**-0.8**
	baz=222						
WTK	**Tuku**	**1.45**	**249**	*e*P	**Pb**	**12 08 16.3**	**-0.6**
	baz=247						
TPUB	**Ta-pu**	**1.45**	**231**	*e*P	**Pb**	**12 08 17.4**	**+0.4**
	baz=229						
TPUB				*e*S	**Sg**	**12 08 37.9**	**+0.6**
	baz=229						
WTP	**Ta-pu**	**1.50**	**230**	*e*P	**Pb**	**12 08 17.8**	**-0.1**
	baz=228						
TWK	**Hsinying**	**1.57**	**233**	*e*P	**Pb**	**12 08 18.4**	**-0.7**
	baz=231						
CHN1	**Nanshi**	**1.60**	**230**	*e*P	**Pg**	**12 08 20.3**	**-0.8**
	baz=228						
SLGT	**Liugui**	**1.65**	**223**	*e*P	**Pb**	**12 08 20.5**	**+0.1**
	baz=221						
IRIF	**Iriomote-Funau**	**1.71**	**86**	*e*S	**Sn**	**12 08 42.2**	**+1.2**
MASBT	**Mashibuluo**	**1.96**	**215**	*e*P	**Pb**	**12 08 24.5**	**-1.2**
	baz=214						
JKRS	**Kuro-shima**	**1.96**	**89**	*e*S	**Sb**	**12 08 49.3**	**-0.6**
PHUB	**P'eng-hu**	**2.21**	**252**	*e*P	**Pn**	**12 08 26.7**	**+0.3**
	baz=250						
PHUB				*e*S	**Sn**	**12 08 53.9**	**+0.6**
	baz=250						

MEX 23 12:07:50.2±0.6,18.1°04N×96.7°61W,h84km±6km,MD3.5, Veracruz

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOIG	**Toxpalan**	**0.43**	**278**	*e*P	Pn	12 08 02.9	-1.1
TOIG				*e*S	Sn	12 08 12.4	-1.8
VHO	**Vista Hermosa**	**0.97**	**187**	*e*P	Pn	12 08 07.7	-1.7
VHO				*e*S	Sn	12 08 22.1	-1.6
HLIG	**Huajuapan de L**	**1.15**	**260**	*e*P	Pn	12 08 09.7	-1.9
HLIG				*e*S	Sn	12 08 25.9	-1.7
TXIG	**Tlaxiaco**	**1.35**	**235**	*e*P	Pn	12 08 13.1	-1.0
TXIG				*e*S	Sn	12 08 30.3	-1.7
FTIG	**Fresnillo de T**	**1.45**	**265**	*e*P	Pn	12 08 14.6	-0.6
FTIG				*e*S	Sn	12 08 32.2	-1.9
CMIG	**Matias Romero**	**1.90**	**119**	*e*P	Pn	12 08 26.9	+6.0
CMIG				*e*S	Sn	12 08 41.9	-2.4
MGIG	**Malinaltepec**	**2.09**	**248**	*e*P	Pn	12 08 22.2	-1.4
MGIG				*e*S	Sn	12 08 47.4	-1.6

NOU 23 12:07:55.8,15.3°88S×167.2°27E,h14km,ML4.1/10,Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.43**	**351**	P	Pb	12 08 05.5	+0.2
DVP	**Devils Point**	**2.03**	**155**	P	Pn	12 08 30.0	+0.3
RTV	**Rentapao**	**2.20**	**150**	P	Pn	12 08 32.4	+0.5
KOUNC	**Koumac, New Ca**	**5.44**	**211**	P	Pn	12 09 16.9	+0.4
YATNC	**Mamie plateau,**	**6.16**	**183**	P	Pn	12 09 26.2	-0.2
DZM	**Mont Dzumac**	**6.21**	**187**	P	Pn	12 09 27.1	-0.1
NOUC	**Port Laguerre**	**6.25**	**188**	P	Pn	12 09 27.2	-0.5
OUENC	**Ouen Island, N**	**6.52**	**183**	P	Pn	12 09 31.6	+0.3

KRNET 23 12:15:10.5±0.1,41.2°02N×70.3°34E,h14km,mb2.7,11C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRKS	**Terek-Say**	**0.79**	**49**	⇓*i*P	Pg	12 15 25.2	-0.8
	baz=54						
TRKS				⇓*i*S	Sb	12 15 36.8	-0.1
	baz=54						
TAS	**Tashkent**	**0.85**	**292**	⇑*i*P	Pb	12 15 27.0	0.0
	baz=92						
TAS				⇑*i*S	Sb	12 15 38.8	+0.6
	baz=92						
BTK	**Batken**	**1.02**	**159**	⇓*i*P	Pg	12 15 30.2	-0.1
	baz=59						
BTK				⇓*i*S	Sn	12 15 44.7	0.0
	baz=59						
DRK	**Karamyk**	**1.90**	**143**	⇑*i*P	Pg	12 15 46.1	-0.9
	baz=43						
DRK				⇑*i*S	Sg	12 16 12.3	+0.7
	baz=43						
OHH	**Osh**	**1.92**	**104**	⇑*i*P	Pb	12 15 46.3	+0.9
	baz=4.0						
OHH			

UCH	**Uchtor**	**3.36**	**67**	⇓*i*P	Pn	12 16 06.5	+3.5
	baz=67							
UCH				⇓*i*S	Sb	12 16 47.7	-3.2
	baz=67							

*JMA **23** 12:28:48.8±0.1,24.34N×122.02E,h62km±2km,M2.7*
*TAP **23** 12:28:49.4,24.39N×122.02E,h54km,ML3.3,B*
ISC 23 12:28:50.1±1.2,24.38N±0.03×122.06E±0.02,h49km±7km, n87,σ0.99/158,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
EWUT	**Wuta**	**0.26**	**284**	*i* P		**Pn**	**12 28 58.8**	**0.0**
	baz=284							
EWUT				S		**Sn**	**12 29 05.5**	**+0.5**
	baz=284							
ENA	**Nanau**	**0.29**	**279**	P		**Pn**	**12 28 59.1**	**0.0**
	baz=278							
ENA				*e*S		**Sn**	**12 29 06.1**	**+0.6**
	baz=278							
TWC	**Suao**	**0.29**	**320**	P		**Pn**	**12 28 59.0**	**-0.1**
	baz=326							
TWC				*e*S		**Sn**	**12 29 06.2**	**+0.7**
	baz=326							
EHP	**Heping Village**	**0.30**	**256**	P		**Pn**	**12 28 59.1**	**0.0**
	baz=251							
NDS	**Dongshan**	**0.40**	**309**	*i* P		**Pn**	**12 29 00.0**	**-0.2**
	baz=311							
NDS				*e*S		**Sn**	**12 29 07.5**	**+0.2**
	baz=311							
ETL	**Fush Village**	**0.46**	**241**	P		**Pn**	**12 29 00.4**	**-0.5**
	baz=237							
ETL				*e*S		**Sn**	**12 29 09.0**	**+0.5**
	baz=237							
NACB	**Ninganchiao**	**0.47**	**244**	*i* P		**Pn**	**12 29 00.4**	**-0.6**
	baz=241							
NACB				S		**Sn**	**12 29 08.8**	**0.0**
	baz=241							
ILA	**Ilan**	**0.47**	**323**	*e*S		**Sn**	**12 29 09.2**	**+0.4**
	baz=327							
TWE	**Neicheng**	**0.49**	**313**	*i* P		**Pn**	**12 29 01.1**	**-0.1**
	baz=316							
TWE				S		**Sn**	**12 29 09.4**	**+0.3**
	baz=316							
NTC	**Toucheng**	**0.51**	**336**	*e*P		**Pn**	**12 29 01.6**	**+0.2**
	baz=339							
NTC				*e*S		**Sn**	**12 29 10.2**	**+0.6**
	baz=339							
ENTT	**Nioudou**	**0.52**	**300**	*i* P		**Pn**	**12 29 01.4**	**-0.2**
	baz=301							
ENTT				S		**Sn**	**12 29 09.9**	**+0.2**
	baz=301							
TWD	**Chiawan**	**0.52**	**235**	*i* P		**Pn**	**12 29 01.1**	**-0.4**
	baz=230							
TWD				S		**Sn**	**12 29 10.4**	**+0.7**
	baz=230							
NDT	**Datong Townshi**	**0.54**	**294**	P		**Pn**	**12 29 01.7**	**-0.2**
	baz=294							
NDT				*e*S		**Sn**	**12 29 10.4**	**+0.2**
	baz=294							
ETLH	**Xiulin Townshi**	**0.56**	**252**	*i* P		**Pn**	**12 29 01.7**	**-0.4**
	baz=249							
ETLH				*e*S		**Sn**	**12 29 10.3**	**-0.4**
	baz=249							
HWA	**Hwalien**	**0.58**	**226**	P		**Pn**	**12 29 02.3**	**0.0**
	baz=221							
NNSB	**Datong**	**0.62**	**274**	*i* P		**Pn**	**12 29 02.3**	**-0.6**
	baz=273							
NNSB				S		**Sn**	**12 29 11.1**	**-1.0**
	baz=273							
TIPB	**Shuangxi**	**0.62**	**340**	P		**Pn**	**12 29 02.4**	**-0.5**
	baz=342							
TIPB				*e*S		**Sn**	**12 29 11.3**	**-0.8**
	baz=342							
TWB1	**Santiao Chiao**	**0.62**	**354**	P		**Pn**	**12 29 02.1**	**-0.8**
	baz=358							
TWB1				*e*S		**Sn**	**12 29 10.8**	**-1.3**
	baz=358							
NNS	**Nan Shan**	**0.63**	**275**	P		**Pn**	**12 29 02.4**	**-0.7**
	baz=274							
NNS				S		**Sn**	**12 29 11.9**	**-0.5**
	baz=274							
NWLT	**Wulai**	**0.64**	**308**	*e*P		**Pn**	**12 29 03.0**	**-0.1**
	baz=309							
NWLT				S		**Sn**	**12 29 12.4**	**-0.1**
	baz=309							
YHNB	**Yeheng**	**0.68**	**295**	*i* P		**Pn**	**12 29 03.3**	**-0.4**
	baz=295							
YHNB				S		**Sn**	**12 29 12.3**	**-1.2**
	baz=295							
NSK	**Sanguang**	**0.70**	**295**	P		**Pn**	**12 29 03.4**	**-0.6**
	baz=295							
NSK				*e*S		**Sn**	**12 29 13.3**	**-0.6**
	baz=295							
NWF	**Wu-fen Shan**	**0.73**	**340**	P		**Pn**	**12 29 03.8**	**-0.6**
	baz=342							
NWF				*e*S		**Sn**	**12 29 13.6**	**-0.9**
	baz=342							
TWA	**Mucha**	**0.73**	**324**	*e*P		**Pn**	**12 29 04.2**	**-0.1**
	baz=326							
TWA				*e*S		**Sn**	**12 29 14.9**	**+0.3**
	baz=326							
NHDH	**Xindian Distri**	**0.75**	**320**	*e*P		**Pn**	**12 29 04.2**	**-0.3**
	baz=321							
NHDH				*e*S		**Sn**	**12 29 15.0**	**0.0**
	baz=321							
FUSS	**Fushou**	**0.76**	**260**	*i* P		**Pn**	**12 29 04.4**	**-0.4**
	baz=258							
FUSS				*e*S		**Sn**	**12 29 14.6**	**-0.9**
	baz=258							
WHF	**Hehuan Shan**	**0.76**	**252**	*i* P		**Pn**	**12 29 04.5**	**-0.5**
	baz=250							
WHF				S		**Sn**	**12 29 15.2**	**-0.7**
	baz=250							
ESL	**Shilin**	**0.81**	**225**	*i* P		**Pn**	**12 29 04.3**	**-0.9**
	baz=222							
ESL				*e*S		**Sn**	**12 29 15.7**	**-0.5**
	baz=222							
JYNG	**Yonagunijimaku**	**0.81**	**85**	P		**Pn**	**12 29 05.3**	**0.0**
JYNG				*e*S		**Sn**	**12 29 16.7**	**+0.4**
TWT	**Tachien**	**0.82**	**261**	*e*P		**Pn**	**12 29 05.8**	**+0.2**
	baz=259							
TWT				*e*S		**Sn**	**12 29 16.8**	**+0.1**
	baz=259							
TDCB	**Techi**	**0.83**	**261**	P		**Pn**	**12 29 05.6**	**-0.1**
	baz=260							
TDCB				S		**Sn**	**12 29 16.5**	**-0.6**
	baz=260							
CHGB	**Renai**	**0.87**	**248**	*i* P		**Pn**	**12 29 06.2**	**-0.1**
	baz=246							
CHGB				S		**Sn**	**12 29 17.6**	**-0.5**
	baz=246							
YOJ	**Yonaguni jima**	**0.87**	**85**	P		**Pn**	**12 29 06.0**	**0.0**
YOJ				*e*S		**Sn**	**12 29 18.5**	**+0.7**
YOJ	**Yonaguni jima**	**0.87**	**85**	P		**Pn**	**12 29 06.1**	**0.0**
	baz=84							
YOJ				*e*S		**Sn**	**12 29 20.8**	**+3.0**
	baz=84							
OWD	**Renai**	**0.91**	**242**	*e*P		**Pn**	**12 29 06.5**	**-0.3**
	baz=240							
EGFH	**Guangfu**	**0.92**	**219**	P		**Pn**	**12 29 05.7**	**-1.0**
	baz=217							
TWS1	**Kuangyinshan**	**0.92**	**321**	*e*P		**Pn**	**12 29 05.3**	**-1.4**
	baz=322							
TWS1				*e*S		**Sn**	**12 29 18.2**	**-0.7**
	baz=322							
ANP	**Anpu**	**0.94**	**329**	*e*P		**Pn**	**12 29 06.3**	**-0.8**
	baz=330							
ANP				*e*S		**Sn**	**12 29 19.6**	**+0.1**
	baz=330							
TWY	**Chenhua**	**0.98**	**335**	*e*P		**Pn**	**12 29 07.3**	**-0.3**
	baz=336							
LIOB	**Emei**	**0.98**	**286**	*e*P		**Pn**	**12 29 07.5**	**-0.1**
	baz=285							
LIOB				*e*S		**Sn**	**12 29 20.1**	**-0.4**
	baz=285							
NCU	**National Centr**	**0.98**	**307**	*e*P		**Pn**	**12 29 07.2**	**-0.4**
	baz=307							
NCU				*e*S		**Sn**	**12 29 20.5**	**0.0**
	baz=307							
NSTT	**Nanjuang**	**0.99**	**285**	*e*P		**Pn**	**12 29 07.6**	**-0.2**
	baz=284							
NSTT				*e*S		**Sn**	**12 29 20.8**	**0.0**
	baz=284							
WHP	**Taichung City**	**1.02**	**264**	*e*P		**Pn**	**12 29 08.7**	**+0.5**
	baz=263							
WHP				*e*S		**Sn**	**12 29 21.6**	**+0.1**
	baz=263							
HGSD	**Ruisui**	**1.06**	**213**	*e*P		**Pn**	**12 29 08.0**	**-0.7**
	baz=211							
WCS	**Beigang Elemen**	**1.10**	**253**	*e*P		**Pn**	**12 29 09.4**	**+0.3**
	baz=251							
WCS				*e*S		**Sn**	**12 29 23.5**	**+0.3**
	baz=251							
EHY	**Hungye**	**1.10**	**218**	*e*P		**Pn**	**12 29 08.1**	**-1.2**
	baz=215							
NMLH	**Miaoli**	**1.17**	**278**	*e*P		**Pn**	**12 29 10.1**	**0.0**
	baz=277							
NMLH				*e*S		**Sn**	**12 29 25.1**	**+0.2**
	baz=277							
SMLT	**Sun Moon Lake**	**1.17**	**245**	*e*P		**Pn**	**12 29 10.0**	**-0.2**
	baz=243							
SMLT				*e*S		**Sn**	**12 29 27.3**	**+2.1**
	baz=243							
SSLB	**Suanglung**	**1.17**	**240**	*e*P		**Pn**	**12 29 10.1**	**-0.1**
	baz=238							
TWQ1	**Liyutan**	**1.17**	**269**	*e*P		**Pn**	**12 29 10.4**	**+0.2**
	baz=267							
TWQ1				*e*S		**Sn**	**12 29 25.6**	**+0.5**
	baz=267							
TYC	**Yuchr**	**1.20**	**247**	*e*P		**Pn**	**12 29 10.5**	**0.0**
	baz=245							
TYC				*e*S		**Sn**	**12 29 26.7**	**+1.1**
	baz=245							
YULB	**Yu-li**	**1.21**	**215**	*e*P		**Pn**	**12 29 09.2**	**-1.4**
	baz=213							
EYUL	**Yuli**	**1.23**	**213**	*e*P		**Pn**	**12 29 10.9**	**-0.1**
	baz=211							
WDJ	**Dajia District**	**1.29**	**269**	*e*S		**Sn**	**12 29 27.8**	**-0.2**
	baz=268							
WHYT	**Xinyi Township**	**1.30**	**238**	*e*P		**Pn**	**12 29 12.5**	**+0.6**
	baz=237							
WHYT				*e*S		**Sn**	**12 29 29.6**	**+1.4**
	baz=237							
WJS	**Zhushan**	**1.34**	**246**	*e*P		**Pn**	**12 29 13.3**	**+0.9**
	baz=244							
WJS				*e*S		**Sn**	**12 29 31.3**	**+2.2**
	baz=244							
YUS	**Yu-Shan**	**1.35**	**229**	P		**Pn**	**12 29 13.0**	**0.0**
	baz=227							
YUS				*e*S		**Sn**	**12 29 30.1**	**0.0**
	baz=227							
FULB	**Fuli**	**1.37**	**211**	*e*P		**Pn**	**12 29 12.2**	**-0.8**
	baz=209							
FULB				*e*S		**Sn**	**12 29 29.4**	**-0.5**
	baz=209							
CHKT	**Chengkung**	**1.43**	**207**	*e*P		**Pn**	**12 29 12.3**	**-1.4**
	baz=204							
CHKT				*e*S		**Sn**	**12 29 28.6**	**-2.6**
	baz=204							
ALS	**Alishan**	**1.44**	**233**	*e*P		**Pn**	**12 29 14.3**	**+0.3**
	baz=231							
ALS				S		**Sn**	**12 29 32.5**	**+0.5**
	baz=231							
CHN5	**Tsauling**	**1.49**	**238**	*e*P		**Pn**	**12 29 15.4**	**+0.8**
	baz=237							
CHN5				*e*S		**Sn**	**12 29 34.9**	**+2.0**
	baz=237							
ELDTW	**Lidau**	**1.52**	**219**	*e*P		**Pn**	**12 29 14.1**	**-0.9**
	baz=217							
ELDTW				*e*S		**Sn**	**12 29 32.9**	**-0.9**
	baz=217							
IRIF	**Iriomote-Funau**	**1.52**	**91**	P		**Pn**	**12 29 14.5**	**-0.4**
IRIF				S		**Sn**	**12 29 33.3**	**-0.3**
WDLH	**Douliu**	**1.55**	**244**	*e*P		**Pn**	**12 29 16.5**	**+1.1**
	baz=242							
WDLH				*e*S		**Sn**	**12 29 36.2**	**+1.9**
	baz=242							
EDH	**Donghe**	**1.57**	**206**	*e*P		**Pn**	**12 29 14.3**	**-1.3**
	baz=204							
EDH				*e*S		**Sn**	**12 29 32.7**	**-1.9**
	baz=204							
WRL	**Guolierlin Hig**	**1.61**	**253**	*e*P		**Pn**	**12 29 16.0**	**-0.1**
	baz=252							
WRL				*e*S		**Sn**	**12 29 35.5**	**-0.2**
	baz=252							
HATJ	**Hateruma jima**	**1.63**	**101**	P		**Pn**	**12 29 16.9**	**+0.6**
HATJ				*e*S		**Sn**	**12 29 37.2**	**+1.1**
WTK	**Tuku**	**1.68**	**246**	*e*P		**Pn**	**12 29 14.0**	**-3.0**
	baz=244							
WTK				*e*S		**Sn**	**12 29 38.2**	**+0.8**
	baz=244							
STYH	**Taoyuan**	**1.69**	**224**	P		**Pn**	**12 29 17.8**	**+0.6**
	baz=223							
STYH				S		**Sn**	**12 29 38.1**	**+0.5**
	baz=223							
CHN4	**Tsaushan**	**1.69**	**233**	P		**Pn**	**12 29 18.4**	**+1.2**
	baz=231							
CHN4				*e*S		**Sn**	**12 29 40.3**	**+2.6**
	baz=231							
TPUB	**Ta-pu**	**1.70**	**231**	*e*P		**Pn**	**12 29 18.3**	**+1.0**
	baz=229							
TPUB				*e*S		**Sn**	**12 29 39.1**	**+1.3**
	baz=229							
LONT	**Longtian**	**1.70**	**210**	*e*S		**Sn**	**12 29 38.1**	**+0.1**
	baz=208							
WTP	**Ta-pu**	**1.74**	**230**	*e*P		**Pn**	**12 29 19.3**	**+1.3**
	baz=228							
JKRS	**Kuro-shima**	**1.79**	**94**	P		**Pn**	**12 29 18.7**	**+0.2**
JKRS				S		**Sn**	**12 29 40.4**	**+0.4**
LDUT	**Ludao**	**1.79**	**198**	*e*P		**Pn**	**12 29 16.9**	**-1.6**
	baz=196							
LDUT				*e*S		**Sn**	**12 29 37.5**	**-2.5**
	baz=196							
TWGBT	**Beinan**	**1.80**	**210**	*e*P		**Pn**	**12 29 17.2**	**-1.5**
	baz=208							
TWGBT				*e*S		**Sn**	**12 29 39.0**	**-1.4**
	baz=208							
TWG	**Pinlang**	**1.80**	**210**	*e*P		**Pn**	**12 29 17.3**	**-1.4**
	baz=208							
TWG				*e*S		**Sn**	**12 29 39.1**	**-1.4**
	baz=208							
TWK	**Hsinying**	**1.82**	**233**	*e*P		**Pn**	**12 29 20.2**	**+1.1**
	baz=231							
TWK				*e*S		**Sn**	**12 29 42.6**	**+1.7**
	baz=231							
WSF	**Szhu**	**1.84**	**247**	*e*S		**Sn**	**12 29 42.1**	**+0.8**
	baz=245							
CHN1	**Nanshi**	**1.84**	**230**	*e*P		**Pn**	**12 29 20.7**	**+1.4**
	baz=228							
CHN1				*e*S		**Sn**	**12 29 43.9**	**+2.4**
	baz=228							
SGST	**Jiashian**	**1.87**	**227**	*e*P		**Pn**	**12 29 20.1**	**+0.4**
	baz=225							
SGST				*e*S		**Sn**	**12 29 44.4**	**+2.2**
	baz=225							
SLGT	**Liugui**	**1.90**	**223**	*e*P		**Pn**	**12 29 21.4**	**+1.4**
	baz=222							
SLGT				*e*S		**Sn**	**12 29 45.8**	**+3.0**
	baz=222							
JIJ	**Ishigaki jima**	**1.90**	**90**	P		**Pn**	**12 29 19.4**	**-0.7**
JIJ				S		**Sn**	**12 29 41.9**	**-1.0**
JISG	**Ishigakijimahi**	**2.06**	**84**	P		**Pn**	**12 29 21.7**	**-0.6**
JISG				*e*S		**Sn**	**12 29 46.4**	**-0.4**
JTJ	**Tarama**	**2.42**	**83**	P		**Pn**	**12 29 27.4**	**+0.2**
JTJ				*e*S		**Sn**	**12 29 55.6**	**0.0**
JIRB	**Irabujima**	**2.87**	**80**	P		**Pn**	**12 29 32.7**	**-0.7**
JIRB				*e*S		**Sn**	**12 30 07.3**	**+0.6**
JMJ2	**Miyako jima3**	**3.00**	**83**	P		**Pn**	**12 29 36.1**	**+1.0**

IDC 23 12:29:17.3±1.9,1.98N×126.85E,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.6/48,mbtmp3.9/4,MS3.1/2,Ms1 3.1/2, ms1mx2.6/37,Error ellipse: s-maj=178.0km s-min=22.0km az=67.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
WRA	**Warramunga Arr**	**22.99**	**162**	P		P	12 34 23.4	-0.5
	0.7nm,0.4s,baz=340,slow=11,SNR=17							
ASAR	**Alice Springs**	**26.40**	**165**	P		P	12 34 56.2	+0.4
	0.4nm,0.5s,baz=348,slow=13,SNR=13							
PSI	**Prapat**	**27.91**	**272**	LR		LR	12 46 16.6	
	comp=Z,51nm,21.8s,baz=160,slow=36							
MJAR	**Matsushiro Arr**	**35.96**	**16**	LR		LR	12 48 42.5	
	comp=Z,30nm,20.8s,baz=195,slow=32							
MKAR	**Makanchi Array**	**59.06**	**326**	P		P	12 39 20.2	+0.9
	0.2nm,0.4s,baz=107,slow=7.7,SNR=2.7							
KURBB	**Kurchatov Arra**	**63.27**	**328**	P		P	12 39 47.0	-0.8
	0.2nm,0.2s,baz=132,slow=6.2,SNR=4.3							

TAP 23 12:40:45.4,24.88N×122.37E,h10km,ML2.1,D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
TWB1	**Santiao Chiao**	**0.37**	**290**		P		12 40 53.3	+0.5
	baz=290							
TWB1					S		12 40 59.0	-0.9
	baz=290							
NTC	**Toucheng**	**0.49**	**267**	*e*S		Sb	12 41 03.9	+0.4
	baz=278							
TIPB	**Shuangxi**	**0.51**	**281**	*e*P		Pb	12 40 56.2	-0.2
	baz=280							
TIPB				*e*S		Sb	12 41 03.6	-0.2
	baz=280							
TWC	**Suao**	**0.55**	**241**	*e*P		Pb	12 40 56.7	-0.4
	baz=240							
TWC				*e*S		Sb	12 41 04.5	-0.5
	baz=240							
NWF	**Wu-fen Shan**	**0.57**	**290**	*e*P		Pb	12 40 57.6	0.0
	baz=289							
NWF				*e*S		Sb	12 41 06.1	+0.3
	baz=289							
WFSB	**Wu-fen Shan**	**0.57**	**290**	*e*P		Pb	12 40 57.6	+0.1
	baz=289							
WFSB				*e*S		Sb	12 41 05.9	+0.2
	baz=289							
NDS	**Dongshan**	**0.65**	**248**	*e*P		Pg	12 40 58.3	+0.4
	baz=238							
NDS				*e*S		Sb	12 41 07.2	-0.6
	baz=238							
TWE	**Neicheng**	**0.66**	**256**	*e*P		Pb	12 40 58.8	-0.3
	baz=256							
TWE				*e*S		Sb	12 41 07.9	-0.4
	baz=256							
ENA	**Nanau**	**0.73**	**232**	*e*P		Pg	12 40 59.4	-0.1
	baz=232							
ENA				*e*S		Sg	12 41 09.7	+0.6
	baz=232							
ENTT	**Nioudou**	**0.77**	**252**	*e*P		Pb	12 41 00.8	-0.2
	baz=252							
ENTT				*e*S		Sb	12 41 11.2	-0.3
	baz=252							
PCYT	**Pengchaiyu**	**0.80**	**340**	*e*P		Pg	12 41 00.8	0.0
	baz=340							
PCYT				*e*S		Sb	12 41 12.7	+0.5
	baz=340							
NWLT	**Wulai**	**0.80**	**263**	*e*P		Pb	12 41 01.4	0.0
	baz=263							
NWLT				*e*S		Sb	12 41 12.2	-0.1
	baz=263							
TWY	**Chenhua**	**0.81**	**299**	*e*S		Sb	12 41 13.1	+0.7
	baz=299							
YHNB	**Yeheng**	**0.93**	**257**	*e*P		Pb	12 41 03.7	0.0
	baz=265							
YHNB				*e*S		Sg	12 41 15.7	+0.1
	baz=265							
NSK	**Sanguang**	**0.95**	**258**	*e*P		Pg	12 41 03.2	-0.5
	baz=266							
NSK				*e*S		Sg	12 41 16.1	+0.2
	baz=266							
NACB	**Ninganchiao**	**1.00**	**225**	*e*P		Pg	12 41 04.0	-0.7
	baz=225							
NACB				*e*S		Sg	12 41 17.8	+0.1
	baz=225							
NNSB	**Datong**	**1.01**	**244**	*e*P		Pg	12 41 04.3	-0.5
	baz=232							
NNSB				*e*S		Sb	12 41 18.5	+0.1
	baz=232							
ETLH	**Xiulin Townshi**	**1.05**	**231**	*e*P		Pg	12 41 05.4	-0.3
	baz=231							
ETLH				*e*S		Sb	12 41 19.8	+0.1
	baz=231							
FUSS	**Fushou**	**1.21**	**239**	*e*P		Pb	12 41 08.3	-0.2
	baz=239							
FUSS				*e*S		Sg	12 41 24.5	+0.2
	baz=239							
WHF	**Hehuan Shan**	**1.25**	**234**	*e*P		Pn	12 41 09.0	-0.3
	baz=234							
WHF				*e*S		Sb	12 41 25.1	-0.5
	baz=234							

*JMA **23** 12:41:32.1±0.1,24.87N×122.46E,h18km±3km,M1.7*
TAP 23 12:41:31.3,24.89N×122.48E,h28km±1km,ML2.3,D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
TWB1	**Santiao Chiao**	**0.46**	**285**	*e*P		Pb	12 41 39.4	-1.6
	baz=285							
TWB1				*e*S		Sb	12 41 46.3	-1.3
	baz=285							
TIPB	**Shuangxi**	**0.60**	**278**	*e*P		Pb	12 41 43.1	-0.2
	baz=278							
TIPB				S		Sb	12 41 51.3	-0.1
	baz=278							
JYNG	**Yonagunijimaku**	**0.61**	**136**	P		Pn	12 41 43.8	-0.3
JYNG				*e*S		Sb	12 41 51.7	0.0
TWC	**Suao**	**0.64**	**244**	*e*P		Pb	12 41 43.1	-0.8
	baz=243							
TWC				*e*S		Sb	12 41 52.0	-0.5
	baz=243							
YOJ	**Yonaguni jima**	**0.65**	**131**	P		Pb	12 41 44.3	+0.2
YOJ				*e*S		Sb	12 41 53.1	+0.4
YOJ	**Yonaguni jima**	**0.65**	**131**	*e*P		Pn	12 41 44.3	-0.2
	baz=131							
YOJ				*e*S		Sn	12 41 53.4	-0.5
	baz=131							
NWF	**Wu-fen Shan**	**0.66**	**286**	*e*P		Pb	12 41 44.4	+0.1
	baz=286							
NWF				*e*S		Sb	12 41 52.8	-0.4
	baz=286							
WFSB	**Wu-fen Shan**	**0.66**	**286**	*e*P		Pn	12 41 44.7	-0.1
	baz=286							
WFSB				*e*S		Sb	12 41 53.1	0.0
	baz=286							
NDS	**Dongshan**	**0.74**	**250**	*e*P		Pb	12 41 45.6	-0.1
	baz=250							
NDS				*e*S		Sb	12 41 54.7	-0.7
	baz=250							
TWE	**Neicheng**	**0.76**	**257**	*e*P		Pb	12 41 45.7	-0.3
	baz=256							
TWE				*e*S		Sb	12 41 55.2	-0.7
	baz=256							
ENA	**Nanau**	**0.81**	**236**	*e*P		Pb	12 41 46.8	-0.1
	baz=235							
ENA				*e*S		Sb	12 41 56.5	-1.1
	baz=235							
PCYT	**Pengchaiyu**	**0.82**	**333**	*e*P		Pn	12 41 46.4	-0.6
	baz=333							
PCYT				*e*S		Sn	12 41 59.2	+1.0
	baz=333							
ENTT	**Nioudou**	**0.87**	**253**	*e*P		Pb	12 41 47.8	0.0
	baz=253							
ENTT				*e*S		Sb	12 41 58.8	-0.3
	baz=253							
TWY	**Chenhua**	**0.88**	**296**	*e*P		Pn	12 41 47.0	-0.8
	baz=295							
TWY				*e*S		Sn	12 42 00.2	+0.4
	baz=295							
NWLT	**Wulai**	**0.90**	**263**	*e*P		Pn	12 41 47.9	-0.2
	baz=263							
NWLT				*e*S		Sn	12 42 00.3	+0.2
	baz=263							
YHNB	**Yeheng**	**1.03**	**258**	*e*P		Pb	12 41 50.2	-0.3
	baz=272							
YHNB				*e*S		Sn	12 42 03.4	0.0
	baz=272							
NSK	**Sanguang**	**1.04**	**258**	*e*P		Pn	12 41 50.2	+0.1
	baz=272							
NSK				*e*S		Sn	12 42 03.6	-0.1
	baz=272							
NACB	**Ninganchiao**	**1.08**	**229**	*e*P		Pb	12 41 51.2	-0.2
	baz=236							
NACB				*e*S		Sn	12 42 04.3	-0.2
	baz=236							
NNSB	**Datong**	**1.10**	**245**	*e*P		Pn	12 41 50.5	-0.5
	baz=245							
NNSB				*e*S		Sn	12 42 05.3	0.0
	baz=245							
NNS	**Nan Shan**	**1.10**	**246**	*e*P		Pb	12 41 51.8	-0.1
	baz=246							
NNS				*e*S		Sn	12 42 05.1	-0.2
	baz=246							
ETLH	**Xiulin Townshi**	**1.14**	**233**	*e*P		Pb	12 41 52.0	-0.4
	baz=241							
ETLH				*e*S		Sn	12 42 06.2	+0.1
	baz=241							
IRIF	**Iriomote-Funau**	**1.27**	**116**	P		Pb	12 41 54.9	+0.4
FUSS	**Fushou**	**1.29**

	baz=240								
FUSS				*e*S		Sb	12 42 11.5	0.0	
	baz=240								
WHF	**Hehuan Shan**	**1.33**	**236**	*e*P		Pn	12 41 54.9	+0.5	
	baz=236								
WHF				*e*S		Sb	12 42 12.1	-0.6	
	baz=236								

*INET **23** 12:43:54.2, 10°.76N×86°.82W, h15km, ML3.5*
UCR 23 12:44:01.4±0.8, 11°.47N×85°.89W, h166km±5km, MW3.6, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUAI	**Buenos Aires**	**0.80**	**137**	*i* P	Pn	12 44 26.5	+0.1
BUAI				*i* S	Sn	12 44 45.9	+0.4
GB1A	**Borinquen Arri**	**0.81**	**143**	*i* P	Pn	12 44 26.7	+0.2
GB1A				*i* S	Sn	12 44 47.1	+1.4
BUEV	**Buena Vista**	**0.82**	**145**	*e*P	Pn	12 44 26.7	+0.1
BUEV				*i* S	Sn	12 44 46.2	+0.3
HORNC	**Hornillas**	**1.03**	**137**	*i* P	Pn	12 44 28.5	+0.4
COLC	**Colonia**	**1.04**	**140**	*i* P	Pn	12 44 28.3	+0.1
CUI	**Cuipilapa**	**1.08**	**139**	*i* P	Pn	12 44 28.8	+0.3
GUAI	**GUAI**	**1.25**	**163**	*i* P	Pn	12 44 30.4	+0.5
SAJU	**San Juanillo,**	**1.41**	**173**	*e*P	Pn	12 44 31.3	0.0
JTS	**Las Juntas de**	**1.49**	**142**	*e*P	Pn	12 44 32.4	+0.2
INDI	**Punta indio, G**	**1.64**	**167**	*e*P	Pn	12 44 33.8	+0.1
LAFE	**Finca La Fe, P**	**1.91**	**150**	*e*P	Pn	12 44 37.1	+0.5
JACO	**JACO, Garabito**	**2.17**	**146**	*e*P	Pn	12 44 40.3	+0.9

*IDC **23** 12:54:57.6±2.9, 31°.46S×72°.36W, h0km, mb3.9/2, mb1 3.7/4, mb1mx3.5/22, mbtmp3.7/4, ML3.7/2, MS3.5/2, Ms1 3.5/2, ms1mx2.8/25, Error ellipse: s-maj=124.5km s-min=29.5km az=94.0*
*SJA **23** 12:55:01.0, 31°.66S×72°.29W, h10km, ML4.5*
*NEIC **23** 12:55:03.0±1.6, 31°.62S±0°.03×72°.00W±0°.07, h27km±4km, mb4.4/18, ML4.0(GUC), Error ellipse: s-maj=8.7km s-min=4.7km az=95.0*
*GUC **23** 12:55:03.2±0.7, 31°.64S×71°.86W, h36km±3km, ML4.0*
ISC 23 12:54:59.9±2.1, 31°.62S±0°.03×72°.03W±0°.06, h10km±13km, n87, σ1°49/95, mb4.2/7, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**1.00**	**20**	*i* P	**Pn**	**12 55 20.8**	**+0.9**
CO06				*e*S	**Sb**	**12 55 34.0**	**+1.5**
CO06				IAML		12 55 36.9	
	comp=E,5μm,0.1s						
CO06	**Fray Jorge**	**1.00**	**20**		**Pn**	**12 55 20.9**	**+0.9**
VA06	**Catapilco**	**1.13**	**147**	*i* P	**Pb**	**12 55 21.7**	**+0.3**
VA06				*e*S	**Sg**	**12 55 35.5**	**-0.6**
VA06				IAML		12 55 38.4	
	comp=E,9μm,0.5s						
CO03	**El Pedregal**	**1.38**	**56**	*e*P	**Pn**	**12 55 25.8**	**+0.5**
CO03				*e*S	**Sn**	**12 55 42.3**	**-1.4**
CO03				IAML		12 55 48.0	
	comp=E,3μm,0.2s						
CO03	**El Pedregal**	**1.38**	**56**	Pn	**Pn**	**12 55 26.0**	**+0.7**
CO03				Sn	**Sn**	**12 55 41.9**	**-1.8**
VA01	**Torpederas**	**1.44**	**167**	*e*P	**Pb**	**12 55 26.8**	**0.0**
VA01	**Torpederas**	**1.44**	**167**	Pn	**Pb**	**12 55 26.7**	**0.0**
VA01				Sn	**Sn**	**12 55 43.5**	**-1.4**
VA01	**Torpederas**	**1.44**	**167**	*i* P	**Pb**	**12 55 27.0**	**+0.3**
ROCH	**El Roble**	**1.60**	**148**	*e*P	**Pn**	**12 55 29.4**	**+1.0**
ROCH				IAML		12 55 55.7	
	comp=E,3μm,0.3s						
VA03	**San Esteban**	**1.69**	**133**	*e*P	**Pn**	**12 55 30.6**	**+1.0**
VA03				*e*S	**Sn**	**12 55 50.9**	**-0.6**
VA03				IAML		12 55 55.1	
	comp=E,5μm,0.3s						
VA03	**San Esteban**	**1.69**	**133**		**Pn**	**12 55 30.9**	**+1.3**
GO04	**Tololo Observa**	**1.79**	**37**	*e*P	**Pb**	**12 55 33.2**	**+0.4**
GO04				*e*S	**Sn**	**12 55 55.0**	**+1.2**
GO04	**Tololo Observa**	**1.79**	**37**		**Pb**	**12 55 33.0**	**+0.2**
CO05	**La Serena**	**1.82**	**22**	*e*P	**Pb**	**12 55 33.4**	**+0.1**
CO05				*e*S	**Sb**	**12 55 56.9**	**+0.7**
CO05				IAML		12 56 04.6	
	comp=N,2μm,0.2s						
CO05	**La Serena**	**1.82**	**22**		**Pn**	**12 55 31.8**	**+0.5**
VA05	**Santo Domingo**	**2.06**	**170**	*e*P	**Pn**	**12 55 35.7**	**+1.2**
VA05				IAML		12 56 10.6	
	comp=E,2μm,0.4s						
VA05	**Santo Domingo**	**2.06**	**170**		**Pn**	**12 55 36.0**	**+1.4**
MT05	**Renca**	**2.08**	**149**	*e*P	**Pn**	**12 55 35.9**	**+1.1**
MT05				IAML		12 56 12.6	
	comp=E,2μm,0.3s						
MT05	**Renca**	**2.08**	**149**		**Pn**	**12 55 35.9**	**+1.1**
MT05	**Renca**	**2.08**	**149**	*i* P	**Pn**	**12 55 36.0**	**+1.1**
MT09	**Talagante**	**2.32**	**158**	*e*P	**Pn**	**12 55 39.9**	**+1.6**
MT09				IAML		12 56 19.8	
	comp=N,1μm,0.5s						
MT09	**Talagante**	**2.32**	**158**		**Pn**	**12 55 40.2**	**+1.9**
MT01	**Popeta**	**2.33**	**164**	*e*P	**Pn**	**12 55 39.3**	**+1.0**
MT01	**Popeta**	**2.33**	**164**		**Pn**	**12 55 39.5**	**+1.1**
MT01	**Popeta**	**2.33**	**164**	*i* P	**Pn**	**12 55 39.0**	**+0.7**
AROD	**Rodeo**	**2.63**	**57**	*i* P	**Pn**	**12 55 46.0**	**+3.4**
ACCO	**Cerro Coronel**	**2.74**	**69**	*i* P	**Pb**	**12 55 48.0**	**-1.1**
LCO	**Las Campanas**	**2.84**	**24**	*e*P	**Pn**	**12 55 46.9**	**+1.4**
LCO				*e*S	**Sn**	**12 56 21.2**	**+1.4**
LCO	**Las Campanas**	**2.84**	**24**	*i* P	**Pn**	**12 55 48.0**	**+2.5**
ZON	**Zonda**	**2.86**	**89**	*i* P	**Pb**	**12 55 50.0**	**-1.0**
ASAL	**Salagasta**	**2.88**	**111**	*i* P	**Pb**	**12 55 50.0**	**-1.3**
BO01	**Tunca**	**2.88**	**164**		**Pn**	**12 55 47.1**	**+1.3**
BO01	**Tunca**	**2.88**	**164**	*i* P	**Pn**	**12 55 47.0**	**+1.3**
ACDV	**Cuesta del Vie**	**2.88**	**61**	*i* P	**Pb**	**12 55 51.0**	**-0.5**
ARCO	**CERRO ARCO**	**2.89**	**116**	*i* P	**Pb**	**12 55 51.0**	**-0.6**
RTCV	**Cerro Valdivia**	**2.98**	**96**	*i* P	**Pb**	**12 55 52.0**	**-1.1**
AAGR	**Agrelo**	**3.08**	**119**	*i* P	**Pb**	**12 55 53.0**	**-1.8**
BO02	**Sierra Bellavi**	**3.33**	**162**		**Pn**	**12 55 53.5**	**+1.4**
BO02	**Sierra Bellavi**	**3.33**	**162**	*i* P	**Pn**	**12 55 54.0**	**+1.9**
GO05	**Huala**	**3.38**	**179**		**Pn**	**12 55 53.3**	**+0.5**
GO05	**Huala**	**3.38**	**179**	*i* P	**Pn**	**12 55 54.0**	**+1.2**
AC04	**Llanos de Chal**	**3.50**	**14**		**Pn**	**12 55 55.9**	**+1.5**
AGUA	**GUANDACOL**	**3.72**	**56**	*i* P	**Pn**	**12 56 02.0**	**+4.6**
AVFE	**Valle Fertil**	**4.03**	**77**	*i* P	**Pn**	**12 56 04.0**	**+2.2**
LAMA	**Las Malvinas**	**4.06**	**145**	*i* P	**Pn**	**12 56 05.0**	**+2.9**
GO03	**Copiap**	**4.30**	**22**		**Pn**	**12 56 07.0**	**+1.6**
GO03	**Copiap**	**4.30**	**22**	*i* P	**Pn**	**12 56 09.0**	**+3.6**
RFA	**San Rafael**	**4.34**	**137**	*i* P	**Pn**	**12 56 08.0**	**+2.1**
VCA	**Vinchina**	**4.38**	**50**	*i* P	Pn	12 56 12.0	+5.4
ACHE	**Chepes**	**4.61**	**86**	*i* P	**Pn**	**12 56 13.0**	**+3.3**
AC02	**Maricunga**	**5.40**	**29**		**Pn**	**12 56 22.0**	**+1.2**
AC02	**Maricunga**	**5.40**	**29**	*i* P	**Pn**	**12 56 23.0**	**+2.1**
CYA	**Choya**	**6.26**	**61**	*i* P	**Pn**	**12 56 34.0**	**+1.7**
LC01	**Cunco**	**7.26**	**179**	Pn	**Pn**	**12 56 46.5**	**+0.4**
LC01	**Cunco**	**7.26**	**179**	*i* P	**Pn**	**12 56 48.0**	**+1.9**
AHML	**Horco Molle**	**7.58**	**52**	*i* P	**Pn**	**12 56 52.0**	**+1.6**
PLCA	**Paso Flores**	**9.17**	**173**	Pn	**Pn**	**12 57 14.3**	**+2.0**
	comp=N,0.2nm,0.3s,baz=327,slow=9.7,SNR=8.1						
PLCA	**Paso Flores**	**9.17**	**173**	Pn	**Pn**	**12 57 13.7**	**+1.4**
LVC	**Limon Verde**	**9.39**	**18**	Pn	**Pn**	**12 57 14.2**	**-1.4**
	comp=N,0.3nm,0.3s,baz=204,slow=10.0,SNR=1.4						
LVC	**Limon Verde**	**9.39**	**18**		**Pn**	**12 57 12.9**	**-2.7**
TRQA	**Tornquist**	**10.46**	**131**	Pn	**Pn**	**12 57 28.6**	**-1.3**
TRQA	**Tornquist**	**10.46**	**131**	*i* P	**Pn**	**12 57 33.0**	**+3.2**
PB01	**IPOC Station P**	**10.77**	**13**	Pn	**Pn**	**12 57 34.8**	**+0.5**
ITQB	**Itaqui**	**13.40**	**86**	Pn	**Pn**	**12 58 10.7**	**+0.6**
CPUP	**Villa Florida**	**13.90**	**71**	LR	LR	13 04 02.4	
	comp=N,115nm,18.8s,baz=240,slow=39						
CPUP	**Villa Florida**	**13.90**	**71**	Pn	**Pn**	**12 58 18.4**	**+1.4**
OTAV	**Otavalo**	**32.26**	**348**	P	**P**	**13 01 29.1**	**-0.1**
OTAV				IAmb	IAmb	13 01 30.0	
	comp=Z,2.5nm,0.6s						
PTGA	**Pitinga**	**32.77**	**23**	P	**P**	**13 01 31.5**	**-1.7**
SNAA	**Sanae**	**53.79**	**158**	P	**P**	**13 04 23.3**	**+1.2**
	comp=Z,0.8nm,1.1s,baz=258,slow=5.3,SNR=4.3						
SNAA	**Sanae**	**53.79**	**158**	P	**P**	**13 04 23.4**	**+1.2**
SNAA				IAmb	IAmb	13 04 24.2	
	comp=Z,2.5nm,1.1s						
QSPA	**South Pole Qui**	**58.61**	**180**	P	**P**	**13 04 57.0**	**+0.2**
QSPA				IAmb	IAmb	13 05 00.2	
	comp=Z,2.8nm,1.2s						
HODGE	**Hodges**	**66.20**	**351**	P	**P**	**13 05 48.0**	**+0.3**
BIRD	**Birdtown, Kers**	**66.39**	**352**	P	**P**	**13 05 49.4**	**+0.6**
VNDA	**Vanda**	**66.43**	**191**	P	**P**	**13 05 49.6**	**+0.9**
KMSC	**Kings Mountain**	**66.98**	**352**	P	**P**	**13 05 52.0**	**-0.7**
KMSC				IAmb	IAmb	13 06 02.7	
	comp=Z,7.9nm,1.1s						
BG3	**Lake Jocassee**	**67.05**	**350**	P	**P**	**13 05 53.5**	**+0.4**
SDMD	**Soldier's Deli**	**70.81**	**356**	P	**P**	**13 06 15.2**	**-1.2**
SDMD				IAmb	IAmb	13 06 18.9	
	comp=Z,11nm,1.3s						
OK031	**S. Brethren Rd**	**71.13**	**339**	P	**P**	**13 06 18.6**	**+0.2**
KAN05	**Bluff City Nor**	**72.52**	**339**	P	**P**	**13 06 26.3**	**-0.5**
BRYW	**Bryant College**	**73.17**	**0**	P	**P**	**13 06 31.6**	**+1.0**
CCX	**Cicese**	**75.97**	**322**	P	**P**	**13 06 46.7**	**-0.2**
GWY	**Greenwater Val**	**79.37**	**325**	P	**P**	**13 07 04.8**	**-1.3**
REDW	**Red Top Meadow**	**82.66**	**333**	P	**P**	**13 07 22.5**	**-1.1**
REDW				IAmb	IAmb	13 07 31.1	
	comp=Z,1.8nm,1.1s						
TORD	**Torodi Ar. Bea**	**83.39**	**70**	P	**P**	**13 07 28.1**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=254,slow=4.8,SNR=6.5						
TORD				LR	LR	13 42 06.6	
	comp=Z,37nm,21.6s,baz=145,slow=34						
TORD	**Torodi Ar. Bea**	**83.39**	**70**	P	**P**	**13 07 27.9**	**+0.2**
ZALV	**Zalesovo Beam**	**152.19**	**30**	PKPbc	**PKPbc**	**13 14 54.5**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=302,slow=3.3,SNR=6.3						
ZALV	**Zalesovo Beam**	**152.19**	**30**	PKPdf	**PKPdf**	**13 14 48.5**	**0.0**
ZALV				PKPbc	**PKPbc**	**13 14 54.6**	**-0.5**

*JMA **23** 13:06:17.5, 24°.12N×121°.98E, h50km±1km, M2.6*
*TAP **23** 13:06:18.1, 24°.17N×121°.99E, h44km, ML3.1, B*
ISC 23 13:06:18.4±1.0, 24°.16N±0°.02×122°.00E±0°.02, h34km±2km, n119, σ0°62/222, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.28**	**303**	P	**Pb**	**13 06 26.4**	**+0.4**
EHP	baz=302			S	**Sb**	**13 06 33.2**	**+2.0**
	baz=302						
ETL	**Fush Village**	**0.35**	**271**	P	**Pn**	**13 06 27.1**	**0.0**
ETL	baz=268			*e*S	**Sb**	**13 06 34.4**	**+1.7**
	baz=268						
EWUT	**Wuta**	**0.35**	**325**	*i* P	**Pn**	**13 06 27.5**	**+0.3**
EWUT	baz=325			*i* S	**Sb**	**13 06 34.6**	**+1.9**
	baz=325						
ENA	**Nanau**	**0.36**	**319**	*i* P	**Pn**	**13 06 27.6**	**+0.2**
ENA	baz=319			S	**Sb**	**13 06 34.4**	**+1.5**
	baz=319						
NACB	**Ninganchiao**	**0.37**	**273**	*i* P	**Pn**	**13 06 27.5**	**0.0**
NACB	baz=271			S	**Sn**	**13 06 34.8**	**+1.5**
	baz=271						
TWD	**Chiawan**	**0.38**	**259**	P	**Pn**	**13 06 27.6**	**0.0**
TWD	baz=256			S	**Sn**	**13 06 34.8**	**+1.3**
	baz=256						
HWA	**Hwalien**	**0.41**	**244**	P	**Pn**	**13 06 28.2**	**+0.3**
HWA	baz=241			S	**Sn**	**13 06 35.7**	**+1.5**
	baz=241						
TEYL	**Yanliau Villag**	**0.47**	**232**	P	**Pn**	**13 06 28.9**	**+0.1**
TEYL	baz=233			*e*S	**Sn**	**13 06 36.2**	**+0.4**
	baz=233						
TWC	**Suao**	**0.47**	**343**	P	**Pn**	**13 06 29.1**	**+0.2**
TWC	baz=344			*e*S	**Sn**	**13 06 36.8**	**+0.7**
	baz=344						
ETLH	**Xiulin Townshi**	**0.48**	**276**	P	**Pb**	**13 06 28.8**	**0.0**
ETLH	baz=275			S	**Sn**	**13 06 36.8**	**+0.5**
	baz=275						
ETM	**Tongmen**	**0.50**	**248**	P	**Pb**	**13 06 29.0**	**-0.1**
ETM	baz=246			*e*S	**Sn**	**13 06 37.3**	**+0.6**
	baz=246						
NDS	**Dongshan**	**0.54**	**331**	P	**Pn**	**13 06 30.0**	**+0.2**
NDS	baz=331			S	**Sn**	**13 06 38.4**	**+0.7**
	baz=331						
TEGC	**Jichi Village**	**0.61**	**224**	P	**Pb**	**13 06 31.1**	**+0.3**
TEGC	baz=221			S	**Sn**	**13 06 40.9**	**+1.5**
	baz=221						
ESL	**Shilin**	**0.62**	**237**	*e*P	**Pn**	**13 06 30.4**	**-0.4**
ESL	baz=234			*e*S	**Sn**	**13 06 40.3**	**+0.6**
	baz=234						
ENTT	**Nioudou**	**0.63**	**321**	P	**Pb**	**13 06 30.9**	**-0.2**
ENTT	baz=321			S	**Sn**	**13 06 40.2**	**+0.5**
	baz=321						
NNSB	**Datong**	**0.63**	**296**	*i* P	**Pn**	**13 06 30.9**	**-0.1**
NNSB	baz=295			S	**Sn**	**13 06 40.2**	**+0.2**
	baz=295						
NDT	**Datong Townshi**	**0.63**	**315**	P	**Pb**	**13 06 31.3**	**+0.2**
NDT	baz=314			*e*S	**Sn**	**13 06 40.5**	**+0.6**
	baz=314						
NNS	**Nan Shan**	**0.64**	**296**	P	**Pn**	**13 06 31.1**	**-0.1**
NNS	baz=295			S	**Sn**	**13 06 40.8**	**+0.4**
	baz=295						
TWE	**Neicheng**	**0.64**	**332**	*i* P	**Pb**	**13 06 31.2**	**-0.1**
TWE	baz=333			S	**Sn**	**13 06 40.6**	**+0.5**
	baz=333						
ILA	**Ilan**	**0.65**	**339**	*e*P	**Pb**	**13 06 31.6**	**+0.1**
ILA	baz=340			S	**Sb**	**13 06 41.0**	**+0.6**
	baz=340						
WHF	**Hehuan Shan**	**0.68**	**269**	P	**Pn**	**13 06 31.6**	**-0.4**
WHF	baz=268			S	**Sn**	**13 06 41.5**	**-0.1**
	baz=268						
FUSS	**Fushou**	**0.70**	**278**	P	**Pn**	**13 06 32.0**	**-0.1**
FUSS	baz=276			S	**Sb**	**13 06 42.4**	**+0.4**
	baz=276						
NTC	**Toucheng**	**0.71**	**347**	P	**Pn**	**13 06 32.3**	**+0.2**
NTC	baz=347			S	**Sb**	**13 06 42.7**	**+0.6**
	baz=347						
EGFH	**Guangfu**	**0.72**	**228**	*e*P	**Pn**	**13 06 31.8**	**-0.4**
EGFH	baz=226			*e*S	**Sn**	**13 06 42.0**	**0.0**
	baz=226						
TWT	**Tachien**	**0.76**	**278**	P	**Pb**	**13 06 33.2**	**-0.2**
TWT	baz=276			S	**Sb**	**13 06 44.1**	**+0.5**
	baz=276						
CHGB	**Renai**	**0.76**	**263**	*i* P	**Pn**	**13 06 32.9**	**-0.1**
CHGB	baz=261			S	**Sb**	**13 06 43.6**	**-0.1**
	baz=261						
YHNB	**Yeheng**	**0.77**	**312**	P	**Pn**	**13 06 32.7**	**-0.2**
YHNB	baz=311			*e*S	**Sn**	**13 06 42.9**	**-0.6**
	baz=311						
NWLT	**Wulai**	**0.77**	**324**	*e*P	**Pn**	**13 06 32.9**	**-0.1**
NWLT	baz=323			S	**Sb**	**13 06 43.4**	**-0.3**
	baz=323						
TDCB	**Techi**	**0.78**	**277**	*i* P	**Pb**	**13 06 33.4**	**-0.3**
TDCB	baz=276			S	**Sb**	**13 06 43.7**	**-0.3**
	baz=276						
OWD	**Renai**	**0.78**	**255**	*e*P	**Pn**	**13 06 33.0**	**-0.2**
OWD	baz=254			*e*S	**Sn**	**13 06 43.5**	**-0.4**
	baz=254						
NSK	**Sanguang**	**0.78**	**312**	P	**Pn**	**13 06 32.9**	**-0.3**
NSK	baz=311			*e*S	**Sn**	**13 06 43.5**	**-0.3**
	baz=311						
TIPB	**Shuangxi**	**0.83**	**349**	P	**Pb**	**13 06 34.1**	**-0.3**
TIPB	baz=349			S	**Sb**	**13 06 45.4**	**0.0**
	baz=349						
HGSD	**Ruisui**	**0.85**	**219**	*e*P	**Pn**	**13 06 34.3**	**+0.4**
HGSD	baz=217			*e*S	**Sb**	**13 06 46.4**	**+0.6**
	baz=217						
TWB1	**Santiao Chiao**	**0.85**	**359**	*e*S	**Sn**	**13 06 44.8**	**-0.4**
EHY	**Hungye**	**0.90**	**224**	*e*P	**Pn**	**13 06 33.9**	**-0.8**
EHY	baz=222			*e*S	**Sn**	**13 06 45.1**	**-1.4**
	baz=222						
TWA	**Mucha**	**0.91**	**335**	*e*P	**Pn**	**13 06 35.1**	**+0.3**
TWA	baz=335			*e*S	**Sn**	**13 06 46.9**	**+0.2**
JYNG	**Yonaguni jima**	**0.91**	**71**	P	**Pn**	**13 06 34.7**	**-0.1**
JYNG				*e*S	**Sn**	**13 06 46.9**	**+0.2**
NHDH	**Xindian Distri**	**0.92**	**332**	*e*P	**Pn**	**13 06 34.9**	**0.0**
NHDH	baz=331			S	**Sb**	**13 06 47.6**	**-0.2**
	baz=331						
NWF	**Wu-fen Shan**	**0.93**	**348**	*e*P	**Pn**	**13 06 35.6**	**+0.4**
NWF	baz=348			S	**Sb**	**13 06 47.9**	**-0.5**
	baz=348						
WFSB	**Wu-fen Shan**	**0.93**	**348**	*e*P	**Pb**	**13 06 35.7**	**-0.5**
WFSB	baz=348			S	**Sn**	**13 06 47.7**	**+0.3**
	baz=348						
WPL	**Puli Township**	**0.97**	**262**	P	**Pn**	**13 06 35.8**	**+0.2**
WPL	baz=260			*e*S	**Sn**	**13 06 46.1**	**-2.1**
	baz=260						
YOJ	**Yonaguni jima**	**0.97**	**71**	P	**Pn**	**13 06 35.5**	**-0.1**
YOJ				S	**Sn**	**13 06 48.3**	**+0.1**
YOJ	**Yonaguni jima**	**0.97**	**71**	P	**Pn**	**13 06 35.5**	**-0.1**
YOJ	baz=71			S	**Sn**	**13 06 49.0**	**+0.8**
	baz=71						
WHP	**Taichung City**	**0.97**	**277**	*e*P	**Pn**	**13 06 36.1**	**+0.4**
WHP	baz=276			*e*S	**Sb**	**13 06 49.0**	**-0.5**
	baz=276						
YULB	**Yu-li**	**1.00**	**221**	*e*P	**Pn**	**13 06 35.1**	**-0.9**
YULB	baz=219			*e*S	**Sn**	**13 06 47.7**	**-1.3**
	baz=219						
WCS	**Beigang Elemen**	**1.00**	**265**	P	**Pn**	**13 06 36.5**	**+0.4**
WCS	baz=263			*e*S	**Sb**	**13 06 49.7**	**-0.5**
	baz=263						
EYUL	**Yuli**	**1.02**	**218**	*e*P	**Pn**	**13 06 36.8**	**+0.4**
EYUL	baz=217			*e*S	**Sb**	**13 06 50.4**	**-0.3**
	baz=217						
LIOB	**Emei**	**1.02**	**299**	P	**Pb**	**13 06 37.0**	**-0.7**
LIOB	baz=298			S	**Sb**	**13 06 50.2**	**-0.6**
	baz=298						
SSLB	**Suanglung**	**1.03**	**249**	P	**Pn**	**13 06 36.2**	**-0.3**
SSLB	baz=248			S	**Sn**	**13 06 50.0**	**+0.2**
	baz=248						
NSTT	**Nanjuang**	**1.03**	**298**	P	**Pn**	**13 06 36.8**	**+0.3**
NSTT	baz=297			S	**Sb**	**13 06 50.3**	**-0.7**
	baz=297						
SMLT	**Sun Moon Lake**	**1.04**	**255**	P	**Pn**	**13 06 37.0**	**+0.2**
SMLT	baz=254			*e*S	**Sn**	**13 06 50.8**	**+0.5**
	baz=254						
TYC	**Yuchr**	**1.08**	**257**	P	**Pn**	**13 06 37.5**	**+0.4**
TYC	baz=255			*e*S	**Sn**	**13 06 51.4**	**+0.5**
	baz=255						
NCU	**National Centr**	**1.10**	**318**	*e*P	**Pn**	**13 06 37.6**	**+0.1**
NCU	baz=317			*e*S	**Sn**	**13 06 51.9**	**+0.4**
	baz=317						
NCUH	**Zhongli**	**1.10**	**318**	*e*P	**Pn**	**13 06 37.4**	**0.0**
NCUH	baz=317			*e*S	**Sb**	**13 06 52.1**	**-1.0**
	baz=317						
ANP	**Anpu**	**1.12**	**337**	*e*P	**Pn**	**13 06 37.7**	**-0.1**
ANP	baz=337			*e*S	**Sn**	**13 06 52.6**	**+0.5**
	baz=337						
NTST	**Danshui**	**1.12**	**333**	*e*S	**Sn**	**13 06 52.5**	**+0.4**
SBCB	**Hsinchu**	**1.12**	**305**	*e*P	**Pn**	**13 06 38.1**	**+0.3**
SBCB	baz=304			*e*S	**Sb**	**13 06 52.9**	**-0.8**
	baz=304						
TWQ1	**Liyutan**	**1.14**	**280**	*e*P	**Pn**	**13 06 38.3**	**+0.3**
TWQ1	baz=279			*e*S	**Sb**	**13 06 53.2**	**-1.0**
	baz=279						
HSN	**Hsinchu**	**1.14**	**305**	*e*P	**Pn**	**13 06 37.7**	**-0.3**
HSN	baz=306			*e*S	**Sn**	**13 06 52.4**	**-0.1**
	baz=306						
WHYT	**Xinyi Township**	**1.15**	**247**	P	**Pn**	**13 06 38.7**	**+0.5**
WHYT	baz=245			*e*S	**Sb**	**13 06 53.5**	**-0.9**
	baz=245						
FULB	**Fuli**	**1.15**	**214**	*e*P	**Pn**	**13 06 38.4**	**+0.2**
FULB	baz=213			*e*S	**Sn**	**13 06 53.4**	**+0.5**
	baz=213						
NSY	**Sanyi**	**1.16**	**283**	P	**Pn**	**13 06 38.7**	**+0.4**
NSY	baz=282			*e*S	**Sn**	**13 06 53.3**	**+0.2**
	baz=282						
NMLH	**Miaoli**	**1.17**	**289**	P	**Pn**	**13 06 39.0**	**+0.6**
NMLH	baz=288			*e*S	**Sn**	**13 06 53.2**	**-0.1**
	baz=288						
YUS	**Yu-Shan**	**1.17**	**236**	P	**Pn**	**13 06 38.7**	**-0.1**
YUS	baz=234			*e*S	**Sn**	**13 06 53.8**	**-0.1**
	baz=234						
TWY	**Chenhua**	**1.18**	**342**	*e*P	**Pn**	**13 06 38.7**	**+0.2**
TWY	baz=342			*e*S	**Sn**	**13 06 53.9**	**+0.5**
	baz=342						
WWF	**Wufeng**	**1.20**	**265**	*e*P	**Pb**	**13 06 40.2**	**-0.4**
WWF	baz=264			*e*S	**Sn**	**13 06 51.6**	**-2.3**
	baz=264						
TCU	**Taichung**	**1.21**	**270**	*e*P	**Pn**	**13 06 39.4**	**+0.4**
TCU	baz=269			*e*S	**Sn**	**13 06 54.8**	**+0.6**
	baz=269						
WJS	**Zhushan**	**1.21**	**254**	*e*P	**Pn**	**13 06 39.8**	**+0.8**
WJS	baz=253			*e*S	**Sn**	**13 06 55.0**	**+0.7**
	baz=253						
WNT	**Mingjian**	**1.24**	**257**	*e*P	**Pn**	**13 06 39.7**	**+0.3**
WNT	baz=256			*e*S	**Sn**	**13 06 55.5**	**+0.6**
	baz=256						
WDJ	**Dajia District**	**1.26**	**279**	*e*P	**Pn**	**13 06 39.9**	**+0.3**
WDJ	baz=278			*e*S	**Sn**	**13 06 56.0**	**+0.6**
	baz=278						
ALS	**Alishan**	**1.27**	**240**	*e*P	**Pn**	**13 06 40.4**	**+0.3**
ALS	baz=238			*e*S	**Sn**	**13 06 56.3**	**+0.1**
	baz=238						
ELDTW	**Lidau**	**1.32**	**223**	*e*P	**Pn**	**13 06 40.0**	**-0.6**
ELDTW	baz=222			*e*S	**Sn**	**13 06 56.7**	**-0.4**
	baz=222						
WCHH	**Zhanghua**	**1.32**	**267**	P	**Pn**	**13 06 41.3**	**+0.8**
WCHH	baz=266			*e*S	**Sn**	**13 06 57.6**	**+0.7**
	baz=266						
CHN5	**Tsauling**	**1.33**	**246**	P	**Pn**	**13 06 41.5**	**+0.8**
CHN5	baz=244			*e*S	**Sn**	**13 06 57.9**	**+0.5**
	baz=244						
EDH	**Donghe**	**1.34**	**209**	*e*S	**Sn**	**13 06 55.9**	**-1.5**
WDLH	**Douliu**	**1.42**	**251**

WTK				*e*S		**Sn**	**13 07 02.6**	**+0.1**
	baz=252							
LDUT	**Ludao**	**1.55**	**199**	*e*P		**Pn**	**13 06 44.3**	**+0.6**
	baz=197							
WTP	**Ta-pu**	**1.56**	**235**	*e*P		**Pn**	**13 06 44.3**	**+0.5**
	baz=233							
WTP				*e*S		**Sn**	**13 07 03.3**	**+0.3**
	baz=233							
TWGBT	**Beinan**	**1.58**	**213**	*e*P		**Pn**	**13 06 43.0**	**-1.0**
	baz=211							
TWGBT				*e*S		**Sn**	**13 07 01.9**	**-1.4**
	baz=211							
TWG	**Pinlang**	**1.58**	**213**	*e*S		**Sn**	**13 07 03.0**	**-0.4**
	baz=211							
IRIF	**Iriomote-Funau**	**1.59**	**83**	P		**Pn**	**13 06 43.7**	**-0.4**
IRIF				*e*S		**Sn**	**13 07 03.4**	**-0.1**
CHY	**Chiayi**	**1.59**	**246**	*e*P		**Pn**	**13 06 44.8**	**+0.6**
	baz=244							
CHY				*e*S		**Sn**	**13 07 04.2**	**+0.7**
	baz=244							
TTN	**Taitung**	**1.60**	**210**	*e*S		**Sn**	**13 07 04.5**	**+0.6**
	baz=208							
TWK	**Hsinying**	**1.65**	**238**	*e*P		**Pn**	**13 06 45.4**	**+0.4**
	baz=236							
TWK				*e*S		**Sn**	**13 07 05.4**	**+0.3**
	baz=236							
HATJ	**Hateruma jima**	**1.65**	**93**	P		**Pn**	**13 06 45.4**	**+0.4**
HATJ				*e*S		**Sn**	**13 07 06.0**	**+1.0**
CHN1	**Nanshi**	**1.66**	**235**	*e*P		**Pn**	**13 06 45.6**	**+0.4**
	baz=233							
CHN1				*e*S		**Sn**	**13 07 05.9**	**+0.5**
	baz=233							
SNST	**Tainan City**	**1.67**	**236**	*e*S		**Sn**	**13 07 06.0**	**+0.5**
	baz=235							
SGST	**Jiashian**	**1.69**	**231**	*e*P		**Pn**	**13 06 46.0**	**+0.5**
	baz=229							
SGST				*e*S		**Sn**	**13 07 06.5**	**+0.6**
	baz=229							
SLGT	**Liugui**	**1.70**	**227**	*e*P		**Pn**	**13 06 46.4**	**+0.7**
	baz=226							
SLGT				*e*S		**Sn**	**13 07 06.9**	**+0.6**
	baz=226							
WSF	**Szhu**	**1.71**	**253**	*e*P		**Pn**	**13 06 46.1**	**+0.3**
	baz=251							
WSF				*e*S		**Sn**	**13 07 06.8**	**+0.2**
	baz=251							
ICHU	**Yijhu**	**1.77**	**244**	*e*P		**Pn**	**13 06 47.4**	**+0.8**
	baz=242							
ICHU				*e*S		**Sn**	**13 07 08.3**	**+0.4**
	baz=242							
ECL	**Taimali**	**1.83**	**212**	*e*P		**Pn**	**13 06 48.2**	**+0.7**
	baz=211							
ECL				*e*S		**Sn**	**13 07 09.9**	**+0.5**
	baz=211							
JKRS	**Kuro-shima**	**1.83**	**87**	P		**Pn**	**13 06 47.7**	**+0.2**
JKRS				*e*S		**Sn**	**13 07 09.4**	**-0.2**
SCST	**Cishan**	**1.88**	**228**	*e*P		**Pn**	**13 06 48.8**	**+0.7**
	baz=227							
SCST				*e*S		**Sn**	**13 07 10.9**	**+0.3**
	baz=227							
SSD	**Sandimen**	**1.89**	**222**	*e*P		**Pn**	**13 06 48.9**	**+0.6**
	baz=221							
SSD				*e*S		**Sn**	**13 07 11.2**	**+0.4**
	baz=221							
TSMG	**Majia**	**1.91**	**221**	*e*P		**Pn**	**13 06 49.0**	**+0.5**
	baz=220							
TSMG				*e*S		**Sn**	**13 07 11.9**	**+0.5**
	baz=220							
SCLT	**Jiali**	**1.92**	**240**	*e*S		**Sn**	**13 07 12.0**	**+0.2**
	baz=238							
JIJ	**Ishigaki jima**	**1.96**	**83**	P		**Pn**	**13 06 48.7**	**-0.6**
JIJ				S		**Sn**	**13 07 12.2**	**-0.6**
MASBT	**Mashibuluo**	**1.99**	**220**	P		**Pn**	**13 06 50.0**	**+0.3**
	baz=218							
MASBT				*e*S		**Sn**	**13 07 13.9**	**+0.5**
	baz=218							
EAST	**Anshuo**	**2.06**	**211**	*e*P		**Pn**	**13 06 51.3**	**+0.6**
	baz=210							
JISG	**Ishigakijimahi**	**2.15**	**78**	P		**Pn**	**13 06 51.0**	**-0.9**
JISG				*e*S		**Sn**	**13 07 17.8**	**+0.5**
SCZT	**Fangliau**	**2.18**	**216**	*e*P		**Pn**	**13 06 52.9**	**+0.6**
	baz=215							
SCZT				*e*S		**Sn**	**13 07 18.4**	**+0.1**
	baz=215							
SLIU	**Shizi**	**2.23**	**210**	*e*P		**Pn**	**13 06 53.4**	**+0.4**
	baz=209							
SLIU				*e*S		**Sn**	**13 07 19.2**	**-0.1**
	baz=209							
PHUB	**P'eng-hu**	**2.32**	**254**	*e*P		**Pn**	**13 06 53.9**	**-0.3**
	baz=253							
PHUB				*e*S		**Sn**	**13 07 21.1**	**-0.5**
	baz=253							
PNG	**Penghu**	**2.32**	**256**	*e*P		**Pn**	**13 06 53.4**	**-0.8**
	baz=254							
PNG				*e*S		**Sn**	**13 07 20.8**	**-0.7**
	baz=254							
WDGT	**Dungji**	**2.33**	**248**	*e*P		**Pn**	**13 06 54.5**	**+0.2**
	baz=246							
WDGT				*e*S		**Sn**	**13 07 21.1**	**-0.6**
	baz=246							
TWK1	**Hengchun**	**2.46**	**207**	*e*S		**Sn**	**13 07 24.5**	**-0.6**
	baz=206							
VWUC	**VWUC**	**2.47**	**290**	*e*P		**Pn**	**13 06 55.1**	**-1.2**
	baz=289							
JTJ	**Tarama**	**2.51**	**78**	P		**Pn**	**13 06 56.7**	**-0.1**
JTJ				*e*S		**Sn**	**13 07 26.3**	**+0.1**
VCHM	**Qimei**	**2.54**	**249**	*e*P		**Pn**	**13 06 57.3**	**0.0**
	baz=247							
VCHM				*e*S		**Sn**	**13 07 26.7**	**-0.3**
	baz=247							
MATB	**Ma-tsu**	**2.73**	**317**	*e*P		**Pn**	**13 06 58.9**	**-0.9**
	baz=316							
PTMZ	**Houxiangcun**	**2.77**	**289**	*e*P		**Pn**	**13 06 59.0**	**-1.4**
	baz=288							
JIRB	**Irabujima**	**2.96**	**76**	P		**Pn**	**13 07 03.2**	**+0.1**
JMJ2	**Miyako jima3**	**3.08**	**78**	P		**Pn**	**13 07 05.2**	**+0.4**
AXDP	**Jialang**	**3.75**	**282**	*e*P		**Pn**	**13 07 13.6**	**-0.3**
	baz=281							

TAP ***23*** *13:20:42.8,25.°02N×122.°57E,h44km,ML3.2,D*
JMA ***23*** *13:20:47.3±0.1,24.°88N×122.°52E,h34km±2km,M2.2*
ISC 23 13:20:45.5±1.7,**24.°96N**±0.°05×**122.°48E**±0.°03,**h26**km±15km,
n59,σ1**833**/111**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.45**	**276**	P	Pb	13 20 52.8	-2.1
	baz=269						
TWB1				S	**Sb**	**13 21 01.8**	**+0.5**
	baz=269						
TIPB	**Shuangxi**	**0.59**	**271**	P	**Pn**	**13 20 55.8**	**-2.5**
	baz=262						
TIPB				*e*S	**Sn**	**13 21 05.7**	**-1.5**
	baz=262						
NTC	**Toucheng**	**0.60**	**260**	*e*P	**Pn**	**13 20 55.5**	**-2.8**
	baz=260						
NTC				*e*S	**Sn**	**13 21 05.2**	**-1.9**
	baz=260						
NWF	**Wu-fen Shan**	**0.64**	**280**	*e*P	**Pn**	**13 20 57.0**	**-2.0**
	baz=283						
NWF				*e*S	**Sn**	**13 21 07.8**	**-0.6**
	baz=283						
WFSB	**Wu-fen Shan**	**0.64**	**280**	*e*P	**Pn**	**13 20 56.9**	**-2.0**
	baz=283						
WFSB				*e*S	**Sn**	**13 21 09.6**	**+1.3**
	baz=283						
JYNG	**Yonagunijimaku**	**0.66**	**140**	P	**Pn**	**13 20 58.7**	**-0.5**
JYNG				*e*S	**Sb**	**13 21 07.0**	**-0.2**
TWC	**Suao**	**0.67**	**239**	*e*P	**Pn**	**13 20 56.2**	**-3.1**
	baz=238						
TWC				*e*S	**Sn**	**13 21 06.2**	**-2.8**
	baz=238						
YOJ	**Yonaguni jima**	**0.69**	**136**	P	**Pn**	**13 20 59.3**	**-0.3**
YOJ				*e*S	**Sn**	**13 21 07.8**	**-1.7**
YOJ	**Yonaguni jima**	**0.69**	**136**	P	**Pn**	**13 20 56.6**	**-3.0**
	baz=139						
YOJ				*e*S	**Sn**	**13 21 07.7**	**-1.9**
	baz=139						
NDS	**Dongshan**	**0.77**	**245**	*e*P	**Pn**	**13 20 58.3**	**-2.4**
	baz=233						
NDS				*e*S	**Sn**	**13 21 09.7**	**-1.6**
	baz=233						
TWE	**Neicheng**	**0.78**	**252**	P	**Pn**	**13 20 58.2**	**-2.5**
	baz=240						
TWE				*e*S	**Sn**	**13 21 10.1**	**-1.4**
	baz=240						
TWA	**Mucha**	**0.81**	**272**	*e*P	**Pn**	**13 20 59.7**	**-1.6**
	baz=275						
TWA				*e*S	**Sn**	**13 21 12.2**	**-0.3**
	baz=275						
EWUT	**Wuta**	**0.82**	**231**	*e*P	**Pn**	**13 20 58.7**	**-2.7**
	baz=231						
EWUT				S	**Sn**	**13 21 11.1**	**-1.5**
	baz=231						
ENA	**Nanau**	**0.86**	**232**	*e*P	**Pn**	**13 20 59.5**	**-2.4**
	baz=232						
ENA				*e*S	**Sn**	**13 21 11.7**	**-1.9**
	baz=232						
TWY	**Chenhua**	**0.86**	**292**	*e*P	**Pn**	**13 21 01.0**	**-0.9**
	baz=286						
TWY				*e*S	**Sn**	**13 21 14.2**	**+0.7**
	baz=286						
ENTT	**Nioudou**	**0.89**	**249**	*e*P	**Pn**	**13 21 00.4**	**-1.9**
	baz=236						
ENTT				*e*S	**Sn**	**13 21 13.8**	**-0.6**
	baz=236						
ANP	**Anpu**	**0.90**	**285**	P	**Pn**	**13 21 01.6**	**-0.9**
	baz=280						
ANP				*e*S	**Sn**	**13 21 15.2**	**+0.5**
	baz=280						
NWLT	**Wulai**	**0.91**	**259**	*e*P	**Pn**	**13 21 01.4**	**-1.1**
	baz=267						
NWLT				*e*S	**Sn**	**13 21 15.0**	**+0.1**
	baz=267						
NDT	**Datong Townshi**	**0.95**	**248**	*e*P	**Pn**	**13 21 01.7**	**-1.4**
	baz=237						
NDT				*e*S	**Sn**	**13 21 15.8**	**-0.1**
	baz=237						
TWS1	**Kuangyinshan**	**0.97**	**278**	*e*P	**Pn**	**13 21 02.5**	**-1.0**
	baz=275						
YHNB	**Yeheng**	**1.04**	**254**	*e*P	**Pn**	**13 21 03.3**	**-1.2**
	baz=261						
YHNB				*e*S	**Sn**	**13 21 18.9**	**+0.6**
	baz=261						
NSK	**Sanguang**	**1.06**	**255**	P	**Pn**	**13 21 03.5**	**-1.2**
	baz=261						
NSK				*e*S	**Sn**	**13 21 18.7**	**0.0**
	baz=261						
ETL	**Fush Village**	**1.12**	**225**	*e*P	**Pn**	**13 21 04.2**	**-1.2**
	baz=225						
ETL				*e*S	**Sn**	**13 21 19.9**	**-0.2**
	baz=225						
NACB	**Ninganchiao**	**1.12**	**226**	*e*P	**Pn**	**13 21 04.0**	**-1.6**
	baz=226						
NACB				*e*S	**Sn**	**13 21 19.9**	**-0.3**
	baz=226						
NNSB	**Datong**	**1.13**	**242**	*e*P	**Pn**	**13 21 04.0**	**-1.7**
	baz=235						
NNSB				*e*S	**Sn**	**13 21 20.8**	**+0.3**
	baz=235						
NNS	**Nan Shan**	**1.13**	**243**	*e*P	**Pn**	**13 21 04.5**	**-1.2**
	baz=236						
NNS				*e*S	**Sn**	**13 21 20.9**	**+0.4**
	baz=236						
ETLH	**Xiulin Townshi**	**1.18**	**231**	*e*P	**Pn**	**13 21 05.5**	**-0.9**
	baz=237						
ETLH				*e*S	**Sn**	**13 21 22.1**	**+0.5**
	baz=237						
TWD	**Chiawan**	**1.19**	**223**	*e*P	**Pn**	**13 21 05.5**	**-0.9**
	baz=210						
TWD				*e*S	**Sn**	**13 21 22.1**	**+0.3**
	baz=210						
IRIF	**Iriomote-Funau**	**1.30**	**118**	P	**Pn**	**13 21 08.6**	**+0.7**
FUSS	**Fushou**	**1.33**	**238**	*e*P	**Pn**	**13 21 08.2**	**-0.4**
	baz=238						
FUSS				*e*S	**Sn**	**13 21 26.6**	**+1.0**
	baz=238						
LIOB	**Emei**	**1.37**	**257**	*e*P	**Pn**	**13 21 09.0**	**+0.1**
	baz=255						
LIOB				*e*S	**Sn**	**13 21 28.1**	**+1.9**
	baz=255						
WHF	**Hehuan Shan**	**1.37**	**234**	*e*P	**Pn**	**13 21 08.8**	**-0.5**
	baz=234						
WHF				*e*S	**Sn**	**13 21 27.7**	**+0.8**
	baz=234						
TWT	**Tachien**	**1.38**	**240**	*e*P	**Pn**	**13 21 09.0**	**-0.2**
	baz=239						
TWT				*e*S	**Sn**	**13 21 27.8**	**+1.1**
	baz=239						
NSTT	**Nanjuang**	**1.38**	**257**	*e*P	**Pn**	**13 21 09.6**	**+0.5**
	baz=255						
NSTT				*e*S	**Sn**	**13 21 28.8**	**+2.2**
	baz=255						
TDCB	**Techi**	**1.39**	**240**	*e*P	**Pn**	**13 21 09.2**	**-0.2**
	baz=239						
TDCB				*e*S	**Sn**	**13 21 28.5**	**+1.5**
	baz=239						
ESL	**Shilin**	**1.49**	**220**	*e*P	**Pn**	**13 21 10.0**	**-0.5**
	baz=209						
ESL				*e*S	**Sn**	**13 21 30.1**	**+1.0**
	baz=209						
CHGB	**Renai**	**1.49**	**233**	*e*P	**Pn**	**13 21 10.3**	**-0.5**
	baz=221						
CHGB				*e*S	**Sn**	**13 21 30.6**	**+1.1**
	baz=221						
HATJ	**Hateruma jima**	**1.51**	**126**	P	**Pn**	**13 21 11.9**	**+1.1**
WHP	**Taichung City**	**1.55**	**244**	*e*P	**Pn**	**13 21 11.7**	**+0.1**
	baz=254						
WHP				*e*S	**Sn**	**13 21 32.2**	**+1.3**
	baz=254						
NSY	**Sanyi**	**1.65**	**251**	*e*P	**Pn**	**13 21 11.3**	**-1.6**
	baz=260						
NSY				*e*S	**Sn**	**13 21 35.1**	**+1.8**
	baz=260						
TWQ1	**Liyutan**	**1.67**	**249**	*e*P	**Pn**	**13 21 13.4**	**+0.4**
	baz=258						
TWQ1				*e*S	**Sn**	**13 21 35.7**	**+2.0**
	baz=258						
WCS	**Beigang Elemen**	**1.69**	**238**	*e*P	**Pn**	**13 21 13.2**	**-0.1**
	baz=238						
WCS				*e*S	**Sn**	**13 21 35.4**	**+1.3**
	baz=238						
HGSD	**Ruisui**	**1.75**	**214**	*e*P	**Pn**	**13 21 13.9**	**-0.3**
	baz=205						
HGSD				*e*S	**Sn**	**13 21 36.6**	**+0.9**
	baz=205						
WDJ	**Dajia District**	**1.78**	**250**	*e*P	**Pn**	**13 21 14.1**	**-0.5**
	baz=259						
WDJ				*e*S	**Sn**	**13 21 37.8**	**+1.4**
	baz=259						
EHY	**Hungye**	**1.79**	**216**	*e*P	**Pn**	**13 21 14.4**	**-0.4**
	baz=217						
SMLT	**Sun Moon Lake**	**1.79**	**234**	*e*P	**Pn**	**13 21 14.8**	**-0.1**
	baz=223						
SMLT				*e*S	**Sn**	**13 21 38.3**	**+1.4**
	baz=223						
TYC	**Yuchr**	**1.81**	**235**	*e*P	**Pn**	**13 21 14.9**	**-0.1**
	baz=224						
TYC				*e*S	**Sn**	**13 21 38.2**	**+1.0**
	baz=224						
SSLB	**Suanglung**	**1.82**	**230**	*e*P	**Pn**	**13 21 14.7**	**-0.4**
	baz=220						
SSLB				*e*S	**Sn**	**13 21 38.5**	**+1.2**
	baz=220						
WHYT	**Xinyi Township**	**1.94**	**230**	*e*P	**Pn**	**13 21 16.3**	**-0.6**
	baz=220						
WHYT				*e*S	**Sn**	**13 21 41.8**	**+1.3**
	baz=220						
WJS	**Zhushan**	**1.96**	**235**	*e*P	**Pn**	**13 21 17.5**	**+0.4**
	baz=235						
WJS				*e*S	**Sn**	**13 21 42.5**	**+1.7**
	baz=235						
FULB	**Fuli**	**2.06**	**212**	*e*P	**Pn**	**13 21 18.2**	**-0.3**
	baz=203						
ALS	**Alishan**	**2.10**	**227**	*e*P	**Pn**	**13 21 21.5**	**+2.2**
	baz=217						
ALS				*e*S	**Sn**	**13 21 45.6**	**+0.8**
	baz=217						
CHN5	**Tsauling**	**2.13**	**231**	*e*P	**Pn**	**13 21 19.7**	**+0.2**
	baz=220						
CHN5				*e*S	**Sn**	**13 21 46.6**	**+1.4**
	baz=220						
CHN4	**Tsaushan**	**2.35**	**227**	*e*P	**Pn**	**13 21 22.9**	**+0.5**
	baz=219						
CHN4				*e*S	**Sn**	**13 21 51.3**	**+0.7**
	baz=219						
TPUB	**Ta-pu**	**2.36**	**226**	*e*P	**Pn**	**13 21 23.9**	**+1.2**
	baz=217						
TPUB				*e*S	**Sn**	**13 21 52.0**	**+1.1**
	baz=217						
TWK	**Hsinying**	**2.48**	**228**	*e*P	**Pn**	**13 21 25.1**	**+0.9**
	baz=217						
TWK				*e*S	**Sn**	**13 21 55.1**	**+1.3**
	baz=217						
CHN1	**Nanshi**	**2.51**	**226**	*e*P	**Pn**	**13 21 24.7**	**0.0**
	baz=217						
CHN1				*e*S	**Sn**	**13 21 55.4**	**+0.9**
	baz=217						
SGST	**Jiashian**	**2.55**	**223**	*e*P	**Pn**	**13 21 25.4**	**+0.2**
	baz=214						
SGST				*e*S	**Sn**	**13 21 56.0**	**+0.6**
	baz=214						
MATB	**Ma-tsu**	**2.58**	**298**	*e*S	**Sn**	**13 21 57.9**	**+1.8**
	baz=295						

JMA ***23*** *13:31:59.1±0.2,27.°97N×139.°90E,h528km±4km,M4.6*
NEIC ***23*** *13:31:59.8±1.1,27.°92N±0.°08×139.°6E±0.°1,h510km±6km, mb4.3/244, Error ellipse: s-maj=13.1km s-min=11.8km az=87.0*
NIED ***23*** *13:31:59.2,27.°97N×139.°90E,h528km,MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; M_{rr}=0.96; $M_{\theta\theta}$=1.23; $M_{\phi\phi}$=-0.28; $M_{r\theta}$=0.20; $M_{\theta\phi}$=0.40; $M_{r\phi}$=-0.57; Fault plane solution: M_0=1.33000×10¹⁶ NP1: ϕ_s=310.00000°, δ=60.00000°, λ=-57.00000°. NP2: ϕ_s=77.00000°, δ=44.00000°, λ=-133.00000°.*
IDC ***23*** *13:32:00.4±0.7,27.°93N×139.°62E,h520km±8km,mb3.7/30, mb1 3.9/39,mb1mx3.8/53,mbtmp4.6/39 Error ellipse: s-maj=10.3km s-min=6.9km az=92.0*
ISC 23 13:31:59.1±0.3,**27.°91N**±0.°04×**139.°67E**±0.°05,**h507**km,
n559,σ1**§14**/594,**mb4.3**/180**, 2C-3D, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.37**	**109**	P	**P**	**13 33 08.3**	**+1.5**
CBIJ				*e*S	**S**	**13 34 02.5**	**+0.7**
JCJ	**Chichijima**	**2.37**	**109**	P	**P**	**13 33 08.4**	**+1.7**
	462nm,0.3s,baz=4.9,slow=13,SNR=256						
JCJ				S	**S**	**13 34 03.0**	**+1.2**
	784nm,0.3s,baz=266,slow=22,SNR=20						
JCJ	**Chichijima**	**2.37**	**109**	P	**P**	**13 33 08.2**	**+1.4**
JHH2	**Haha-jima-NKT2**	**2.56**	**119**	P	**P**	**13 33 09.5**	**+1.6**
JHH2				*e*S	**S**	**13 34 04.6**	**+0.8**
JHJ2	**Mitsune**	**5.19**	**1**	P	**P**	**13 33 29.7**	**+1.7**
JHJ2				*e*S	**S**	**13 34 41.7**	**+1.0**
JHJ2	**Mitsune**	**5.19**	**1**	P	**P**	**13 33 29.4**	**+1.5**
JHJ	**Hachijo jima 2**	**5.19**	**1**	P	**P**	**13 33 29.6**	**+1.5**
	61nm,0.3s,baz=265,slow=22,SNR=30						
JHJ				S	**S**	**13 34 41.3**	**+0.4**
	108nm,0.3s,baz=244,slow=21,SNR=10						
BSO1	**Boso 1**	**6.82**	**9**	P	**P**	**13 33 44.7**	**+1.8**
BSO1				*e*S	**S**	**13 35 08.8**	**+0.7**
JTNC	**Tanabenakahech**	**6.85**	**330**	P	**P**	**13 33 47.1**	**+3.2**
JSG	**Sagara**	**6.86**	**350**	P	**P**	**13 33 46.4**	**+2.5**
JIE	**Ise**	**6.94**	**339**	P	**P**	**13 33 47.8**	**+3.0**
JIE				*e*S	**S**	**13 35 13.5**	**+2.0**
HMMJ	**Hamamatsu 2**	**7.12**	**347**	P	**P**	**13 33 48.4**	**+1.8**
HMMJ				S	**S**	**13 35 15.5**	**+0.8**
JOD2	**Odawara 2**	**7.35**	**356**	P	**P**	**13 33 49.5**	**+0.6**
JNY	**Yasuok**	**7.59**	**349**	P	**P**	**13 33 52.9**	**+1.6**
JAO	**Obara**	**7.62**	**345**	P	**P**	**13 33 53.5**	**+1.9**
JAO				*e*S	**S**	**13 35 25.0**	**+1.0**
JMN	**Monobe**	**7.65**	**321**		**P**	**13 33 55.1**	**+3.1**
JTO	**Tosashimizu**	**7.72**	**311**	P	**P**	**13 33 56.0**	**+3.4**
INU	**Inuyama**	**7.75**	**344**		**P**	**13 33 54.5**	**+1.6**
JGF	**Kuroka**	**7.92**	**346**	P	**P**	**13 33 56.2**	**+1.5**
JRY	**Ryogami san**	**8.11**	**356**	P	**P**	**13 33 57.6**	**+1.0**
JRY				*e*S	**S**	**13 35 32.0**	**-1.2**
JWT	**Wachi**	**8.20**	**335**		**P**	**13 33 59.0**	**+2.0**
JYT	**Yasato**	**8.31**	**3**		**P**	**13 33 59.0**	**+0.4**
JAG	**Ashikaga**	**8.49**	**359**	*e*S	**S**	**13 35 37.2**	**-3.2**
MJAR	**Matsushiro Arr**	**8.70**	**352**	P	**P**	**13 34 02.2**	**-0.5**
	3.0nm,0.3s,baz=67,slow=17,SNR=120						
MJAR				S	**S**	**13 35 45.3**	**+1.0**
	0.4nm,0.3s,baz=4.2,slow=23,SNR=8.2						
MAJO	**Matsushiro**	**8.70**	**352**	P	**P**	**13 34 02.8**	**+0.1**
MAT	**Matsushiro**	**8.70**	**352**	P	**P**	**13 34 02.9**	**+0.2**
MAT				S	**S**	**13 35 42.5**	**-1.8**
MJB9	**Matsu-Tunnel**	**8.70**	**352**	P	**P**	**13 34 03.2**	**+0.5**
JSU	**Suzuyama**	**8.78**	**296**	P	**P**	**13 34 06.1**	**+2.4**
JHS	**Saijyo**	**9.02**	**323**	P	**P**	**13 34 08.5**	**+2.4**
JHS				*e*S	**S**	**13 35 52.6**	**+2.2**
JHS	**Saijyo**	**9.02**	**323**	P	**P**	**13 34 08.2**	**+2.2**
JNU	**Nakatsue**	**9.19**	**307**	P	**P**	**13 34 10.2**	**+2.2**
	2.7nm,0.3s,baz=31,slow=1.9,SNR=23						
JNU	**Nakatsue**	**9.19**	**307**	P	**P**	**13 34 10.0**	**+2.0**
JAMN	**Amaminishikomi**	**9.28**	**275**	P	**P**	**13 34 11.8**	**+2.9**
JSJ	**Shimokoshiki**	**9.43**	**296**	P	**P**	**13 34 12.8**	**+2.4**
JOI	**OKI**	**9.97**	**329**	P	**P**	**13 34 18.2**	**+2.2**
JMM	**Marumori**	**9.97**	**5**	P	**P**	**13 34 17.6**	**+1.6**
JSD	**Sado**	**10.17**	**354**	P	**P**	**13 34 18.4**	**+0.3**
JOW	**Kunigami**	**10.19**	**267**	P	**P**	**13 34 20.2**	**+1.7**
	3.0nm,0.3s,baz=110,slow=24,SNR=20						
JOW	**Kunigami**	**10.19**	**267**	P	**P**	**13 34 22.1**	**+3.6**
JOW	**Kunigami**	**10.19**	**267**	P	**P**	**13 34 20.8**	**+2.3**
JTU	**Tsushima**	**10.99**	**309**	P	**P**	**13 34 28.4**	**+1.6**
JMI	**Ichinoseki**	**11.09**	**6**	P	**P**	**13 34 29.5**	**+1.7**
JKE	**Kume jima 2**	**11.59**	**265**	P	**P**	**13 34 34.7**	**+1.4**
JTM	**Tenmabayashi**	**12.90**	**5**	P	**P**	**13 34 47.7**	**+0.8**
JOT	**Ohata**	**13.49**	**4**	P	**P**	**13 34 54.2**	**+1.1**
KSRS	**Korea Array**	**13.72**	**317**	P	**P**	**13 34 56.2**	**+0.7**
	0.8nm,0.3s,baz=128,slow=10,SNR=22						
KSRS				pP		13 36 35.1	
	baz=117,slow=11,SNR=4.4						
KSRS				S	**S**	**13 37 29.6**	**+8.6**
	baz=142,slow=15,SNR=9.5						
KSAR	**Wonju Array Be**	**13.73**	**317**	P	**P**	**13 34 56.5**	**+0.7**
KS19	**Wonju Array Si**	**13.78**	**317**	P	**P**	**13 34 56.6**	**+0.3**
JOSM	**Okushiri--Mats**	**14.14**	**359**	P	**P**	**13 35 01.0**	**+1.1**
ERM	**Erimo**	**14.36**	**11**	P	**P**	**13 35 03.0**	**+0.8**
JEW	**Eniwo**	**14.97**	**5**	P	**P**	**13 35 09.0**	**+0.4**
GUMO	**Guam**	**15.05**	**160**	P	**P**	**13 35 12.4**	**+2.6**
	10nm,0.3s,baz=190,slow=3.0,SNR=11						
GUMO	**Guam**	**15.05**	**160**	P	**P**	**13 35 11.6**	**+1.8**
YOJ	**Yonaguni jima**	**15.35**	**261**	P	**P**	**13 35 12.4**	**-0.4**
ASAJ	**Asahikawa**	**16.34**	**7**	P	**P**	**13 35 24.3**	**+1.4**
	2.5nm,0.3s,baz=229,slow=10,SNR=33						
ASAJ				ScP	**ScP**	**13 42 28.8**	**-0.8**
	0.1nm,0.3s,baz=117,slow=2.3,SNR=4.3						
JKA	**Kamikawa-asahi**	**16.34**	**8**	P	**P**	**13 35 23.6**	**+0.8**
JKA	**Kamikawa-asahi**	**16.34**	**8**		**ScP**	**13 42 28.8**	**-0.8**
TATO	**Taipei**	**16.55**	**264**	P	**P**	**13 35 24.9**	**-0.3**
NACB	**Ninganchiao**	**16.67**	**261**	P	**P**	**13 35 24.2**	**-2.3**
YHNB	**Yeheng**	**16.72**	**263**	P	**P**	**13 35 25.1**	**-2.0**
YULB	**Yu-li**	**17.17**	**259**	P	**P**	**13 35 29.2**	**-2.3**
SSLB	**Suanglung**	**17.

LZH pmax pmax
comp=Z,130nm,4.3s
CD2 Chengdu 31.35 284 P **P** **13 37 37.8 +0.1**
CD2 pmax pmax
comp=Z,30nm,0.7s
FAKI Fak Fak 31.47 194 P **P** **13 37 38.5 -0.4**
ULN Ulaanbaatar 32.20 317 P **P** **13 37 43.8 -1.1**
ULN IAmb IAmb 13 37 47.1
comp=Z,7.3nm,0.8s
TOLI2 Tolitoli 32.21 217 P **P** **13 37 43.9 -1.2**
TOLI2 IAmb IAmb 13 37 51.5
comp=Z,6.0nm,0.8s
MA2 Magadan 32.56 10 P **P** **13 37 48.2 +0.6**
comp=Z,12nm,0.7s,baz=186,slow=10,SNR=4.2
MA2 Magadan 32.56 10 P **P** **13 37 46.6 -1.0**
SONM Songino Array 32.59 317 P **P** **13 37 48.4 +0.2**
comp=Z,3.0nm,0.5s,baz=121,slow=7.5,SNR=15
SONM PcP **PcP** **13 40 19.4 -0.1**
comp=Z,0.8nm,0.4s,baz=141,slow=3.8,SNR=4.1
SONM ScP **ScP** **13 43 13.6 -1.6**
comp=Z,1.2nm,0.5s,baz=141,slow=3.8,SNR=5.4
SONM Songino Array 32.59 317 P **P** **13 37 47.2 -1.0**
SLVN Son La 33.09 267 P **P** **13 37 52.5 -0.1**
SLVN IAmb IAmb 13 37 55.2
comp=Z,10nm,0.9s
SKNT Sakolnakorn 34.62 259 P **P** **13 38 07.4 +1.9**
comp=Z,26nm,0.8s
YAK Yakutsk 34.76 352 P **P** **13 38 05.3 -0.7**
GTA Gaotai 34.84 300 ⇓P **P** **13 38 07.5 +0.2**
GTA pP PP 13 39 44.0 0.0
GTA sP sP 13 40 38.0 +6.1
GTA pmax pmax
comp=Z,7.0nm,0.9s
SEY Seymchan 36.01 10 P **P** **13 38 17.4 +1.0**
comp=Z,9.8nm,0.9s,baz=186,slow=6.9,SNR=10
BKB Balikpapan 36.33 221 P **P** **13 38 17.6 -2.2**
CHAI Chaiyaphum 36.81 259 P **P** **13 38 24.4 +0.7**
comp=Z,76nm,0.9s
UTTA Uttaradit 37.31 263 P **P** **13 38 28.8 +1.0**
comp=Z,448nmcomp=Z,37nm,0.7s
SRAK Srakaew 37.60 256 P **P** **13 38 27.7 -2.5**
comp=Z,5µmcomp=Z,733nm,0.8s
PHIT Phitsanulok 37.65 262 P **P** **13 38 32.0 +1.4**
comp=Z,509nmcomp=Z,50nm,0.8s
AMKA Amchitka 37.81 41 P **P** **13 38 32.2 +0.7**
CMMT Chiang Mai 38.32 265 P **P** **13 38 36.5 +0.4**
comp=Z,22nm,0.9s
CHTO Chiang Mai 38.33 265 P **P** **13 38 36.7 +0.5**
comp=Z,23nm,0.9s
CHTO Chiang Mai 38.33 265 P **P** **13 38 35.0 -1.2**
CM09 Chiang Mai Arr 38.42 265 P **P** **13 38 38.6 +1.7**
comp=Z,118nmcomp=Z,11nm,0.8s
CM04 Chiang Mai Arr 38.45 265 P **P** **13 38 38.8 +1.7**
comp=Z,110nmcomp=Z,12nm,0.8s
CM01 Chiang Mai Arr 38.46 265 P **P** **13 38 39.7 +2.5**
comp=Z,89nmcomp=Z,11nm,0.9s
CM31 Chiang Mai Arr 38.46 265 P **P** **13 38 37.0 -0.2**
CM31 IAmb IAmb 13 38 39.4
comp=Z,8.8nm,0.8s
CMAR Chiang Mai Arr 38.46 265 P **P** **13 38 37.7 +0.5**
comp=Z,4.3nm,0.7s,baz=55,slow=7.5,SNR=27
CMAR PcP **PcP** **13 40 38.6 +1.0**
comp=Z,0.5nm,0.3s,baz=5.2,slow=2.0,SNR=4.3
CMAR Chiang Mai Arr 38.46 265 P **P** **13 38 36.9 -0.3**
CM02 Chiang Mai Arr 38.46 265 P **P** **13 38 39.0 +1.7**
comp=Z,61nmcomp=Z,7.6nm,0.9s
CM15 Chiang Mai Arr 38.48 265 P **P** **13 38 38.7 +1.3**
CM05 Chiang Mai Arr 38.48 265 P **P** **13 38 39.7 +2.3**
comp=Z,79nmcomp=Z,9.2nm,1.0s
CM13 Chiang Mai Arr 38.50 265 P **P** **13 38 39.9 +2.3**
comp=Z,104nmcomp=Z,11nm,0.9s
UTHA Uthaitani 39.16 260 P **P** **13 38 44.5 +1.5**
comp=Z,326nmcomp=Z,31nm,0.7s
UMPA Umpang Tak 39.41 262 P **P** **13 38 48.9 +3.9**
comp=Z,2µmcomp=Z,25nm,1.2s
MHMT Maesarieng 39.45 265 P **P** **13 38 47.0 +1.7**
comp=Z,33nm,0.8s
KIWB Kanaga Island 40.05 41 P **P** **13 38 49.9 +0.4**
SOEI Soe 40.30 204 P **P** **13 38 51.9 -0.3**
ADK Adak 40.33 41 P **P** **13 38 52.0 +0.2**
ADK IAmb IAmb 13 38 54.0
comp=Z,18nm,1.0s
GSTR Great Sitkin T 40.76 41 P **P** **13 38 55.8 +0.4**
BATI Baumata 40.94 204 P **P** **13 38 56.5 -0.7**
comp=Z,22nm,0.5s,baz=298,slow=1.9,SNR=4.0
TARA Tarawa 41.34 124 P **P** **13 39 00.1 -0.3**
MTN Manton Dam 41.35 193 P **P** **13 38 60.0 -0.4**
MTN IAmb IAmb 13 39 22.0
comp=Z,22nm,1.4s
COEN Coen 41.76 175 P **P** **13 39 04.3 +0.7**
COEN IAmb IAmb 13 39 06.8
comp=Z,12nm,0.9s
ATKA Atka Island 41.89 42 P **P** **13 39 04.5 +0.3**
ATKA IAmb IAmb 13 39 07.1
comp=Z,8.9nm,0.8s
SHL Shillong 42.53 278 P **P** **13 39 08.8 -1.2**
BILL Bilibino 43.19 14 P **P** **13 39 14.7 +0.5**
JAGI Jajag, Banyuwa 43.79 218 P **P** **13 39 18.9 -0.8**
TIXI Tiksi 44.19 355 P **P** **13 39 21.2 -0.7**
comp=Z,4.2nm,0.5s,baz=310,slow=6.0,SNR=3.0
TIXI Tiksi 44.19 355 P **P** **13 39 21.9 -0.1**
TIXI IAmb IAmb 13 39 23.8
comp=Z,15nm,1.2s
WMQ Urumqi 44.29 305 *e*P **P** **13 39 25.3 +2.0**
WMQ pmax pmax
comp=Z,46nm,1.3s
WMQ pmax pmax
comp=Z,160nm,4.5s
KNRA Kununurra 44.60 195 P **P** **13 39 25.8 0.0**
KNRA IAmb IAmb 13 39 27.0
comp=Z,7.8nm,0.7s
NIKH Nikolski High 45.23 42 P **P** **13 39 29.9 -0.4**
NIKH Nikolski High 45.23 42 P **P** **13 39 31.1 +0.8**
baz=257
UGM Wanagama 45.42 223 P **P** **13 39 31.9 -0.3**
SPIA Saint Paul Isl 45.59 36 P **P** **13 39 34.2 +1.3**
RPSI Rantau Prapat 46.26 244 P **P** **13 39 38.2 -0.5**
UNV Unalaska Valle 46.79 41 P **P** **13 39 41.7 -0.4**
RAMN Ramite 46.80 282 *e*P **P** **13 39 44.3 +1.3**
comp=Z,21nm,0.3s
CISI Cisompet, Garu 46.81 226 P **P** **13 39 41.5 -1.4**
CISI IAmb IAmb 13 39 49.9
comp=Z,18nm,1.2s
JIRN Jiri 46.99 283 *e*P **P** **13 39 45.7 +1.2**
comp=Z,69nm,0.3s
AKUT Akutan 47.27 41 P **P** **13 39 45.6 -0.2**
GAMB Gambell 47.39 27 P **P** **13 39 46.7 +0.2**
baz=244
ZAA0 Zalesovo Array 47.41 319 P **P** **13 39 46.2 -0.6**
ZAA0 IAmb IAmb 13 39 48.0
comp=Z,7.7nm,0.9s
ZALV Zalesovo Beam 47.41 319 P **P** **13 39 46.7 -0.1**
comp=Z,6.4nm,0.3s,baz=111,slow=7.1,SNR=27
ZALV PcP **PcP** **13 41 06.8 -0.7**
comp=Z,2.5nm,0.3s,baz=135,slow=3.6,SNR=8.0
ZALV ScP **ScP** **13 44 10.0 -2.9**
comp=Z,0.6nm,0.5s,baz=96,slow=5.1,SNR=3.9
ZALV Zalesovo Beam 47.41 319 P **P** **13 39 46.5 -0.3**
PKI Pulchoki 47.69 283 *e*P **P** **13 39 50.0 +0.3**
comp=Z,16nm,0.4s
PKIN Phulchoki 47.70 283 *e*P **P** **13 39 50.0 +0.3**
comp=Z,21nm,0.4s
FITZ Fitzroy Crossi 47.71 198 P **P** **13 39 50.2 +0.7**
comp=Z,3.2nm,0.5s,baz=20,slow=9.4,SNR=40
FITZ Fitzroy Crossi 47.71 198 P **P** **13 39 50.1 +0.6**
KKN Kakani 47.75 283 *e*P **P** **13 39 50.6 +0.6**
comp=Z,20nm,0.4s
WRAB Tennant Creek 47.84 187 P **P** **13 39 50.4 -0.1**
WRAB IAmb IAmb 13 40 07.1
comp=Z,6.5nm,0.6s
WR0 Warramunga Arr 47.84 187 P **P** **13 39 50.2 -0.3**
WR0 IAmb IAmb 13 39 51.4
comp=Z,7.2nm,0.8s
WB2 Warramunga Arr 47.85 187 P **P** **13 39 50.0 -0.6**
WB2 IAmb IAmb 13 39 51.8
comp=Z,12nm,1.1s
WRA Warramunga Arr 47.85 187 P **P** **13 39 50.4 -0.1**
comp=Z,5.2nm,0.3s,baz=2.9,slow=7.5,SNR=237
WRA pP **pwP** **13 41 35.9 +5.1**
comp=Z,1.5nm,0.7s,baz=9.6,slow=8.4,SNR=3.0
WRA ScP **ScP** **13 44 13.1 -2.1**
comp=Z,1.6nm,0.8s,baz=4.3,slow=3.8,SNR=6.8
WRA S **S** **13 46 05.7 -4.3**
comp=Z,1.0nm,0.8s,baz=0.6,slow=14,SNR=5.4
WRA Warramunga Arr 47.85 187 P **P** **13 39 49.9 -0.6**
DMN Daman 47.94 283 *e*P **P** **13 39 52.2 +0.7**
comp=Z,39nm,0.5s
CTAO Charters Tower 48.14 172 P **P** **13 39 52.7 0.0**
GSI Gunungsitoli 48.16 244 P **P** **13 39 52.7 -0.3**
MK31 Makanchi Array 48.24 309 P **P** **13 39 53.1 0.0**
MKAR Makanchi Array 48.24 309 P **P** **13 39 53.4 +0.2**
comp=Z,3.8nm,0.3s,baz=81,slow=11,SNR=103
MKAR PcP **PcP** **13 41 10.1 -0.5**
comp=Z,1.1nm,0.7s,baz=69,slow=6.8,SNR=3.5
MKAR ScP **ScP** **13 44 14.4 -2.2**
comp=Z,1.5nm,0.5s,baz=68,slow=5.2,SNR=11
MKAR Makanchi Array 48.24 309 P **P** **13 39 53.0 -0.2**
GKN Gorkha 48.25 284 *e*P **P** **13 39 54.2 +0.5**
MAKZ Makanchi 48.45 309 P **P** **13 39 54.8 0.0**
MAKZ IAmb IAmb 13 39 58.0
comp=Z,9.2nm,0.9s
DANN Dangsing 48.92 284 *e*P **P** **13 39 59.8 +0.9**
comp=Z,31nm,0.2s
KOLN Koldanda 49.20 284 *e*P **P** **13 40 01.5 +0.7**
comp=Z,20nm,0.3s
TNA Tin City 49.61 26 P **P** **13 40 03.6 +0.7**
TNA Tin City 49.61 26 P **P** **13 40 03.2 +0.3**
baz=247
PYUN Piuthan 49.64 284 *e*P **P** **13 40 05.5 +1.4**
comp=Z,160nm,0.3s
SDPT Sand Point 50.50 40 P **P** **13 40 09.9 +0.2**
SDPT Sand Point 50.50 40 P **P** **13 40 08.9 -0.8**
baz=263
CHNA Chernabura Isl 50.95 41 P **P** **13 40 13.1 +0.2**
baz=264
CNBA Chernabura Isl 50.95 41 P **P** **13 40 13.1 +0.1**
NRIK Noril'sk 51.09 339 P **P** **13 40 14.3 +0.6**
comp=Z,3.7nm,0.5s,baz=113,slow=8.7,SNR=4.8
NRIK Noril'sk 51.09 339 P **P** **13 40 13.6 -0.1**
AS31 Alice Springs 51.58 187 P **P** **13 40 17.6 -0.4**
ASAR Alice Springs 51.58 187 P **P** **13 40 18.0 0.0**
comp=Z,2.5nm,0.3s,baz=24,slow=10,SNR=146
ASAR PcP **PcP** **13 41 24.1 +0.9**
comp=Z,1.2nm,0.8s,baz=4.9,slow=4.8,SNR=6.9
ASAR S **S** **13 46 57.6 -2.9**
comp=Z,0.2nm,0.4s,baz=18,slow=13,SNR=6.3
ASAR Alice Springs 51.58 187 P **P** **13 40 17.5 -0.5**
CHGN Chignik 51.77 39 P **P** **13 40 18.8 -0.1**
CHGN Chignik 51.77 39 P **P** **13 40 19.4 +0.5**
baz=264
ULHL Ulahol 52.72 303 P **P** **13 40 27.2 +0.9**
SNR=8.2
PSA00 Pilbara Seismi 52.79 203 P **P** **13 40 26.6 -0.1**
BOOM Boomskoye usch 52.91 304 P **P** **13 40 28.1 +0.5**
TKM2 Tokmak 2 53.12 304 P **P** **13 40 30.0 +0.9**
SNR=6.8
KSH Kashi 53.25 300 P **P** **13 40 34.0 +4.0**
KSH pmax pmax
comp=Z,24nm,0.9s
KSH pmax pmax
comp=Z,94nm,5.4s
CHIR Chirikof Islan 53.29 40 P **P** **13 40 30.9 +1.1**
KZA Kyzart 53.47 303 P **P** **13 40 33.8 +1.9**
SNR=6.3
SVW2 Sparrevohn 53.81 33 P **P** **13 40 34.7 +1.2**
O18K Koktuh Hills 53.85 35 P **P** **13 40 35.5 +1.7**
O18K Koktuh Hills 53.85 35 P **P** **13 40 33.8 0.0**
baz=264
AAK Ala-Archa 53.96 304 P **P** **13 40 32.5 -2.6**
SNR=6.1
AAK Ala-Archa 53.96 304 *i* P **P** **13 40 35.7 +0.6**
SNR=7.2
AAK Ala-Archa 53.96 304 P **P** **13 40 35.3 +0.3**
UCH Uchtor 53.99 304 P **P** **13 40 37.0 +1.3**
SNR=17
SII Sitkinak Islan 54.13 39 P **P** **13 40 36.7 +0.9**
L19K White Mountain 54.30 32 P **P** **13 40 37.1 +0.1**
L19K White Mountain 54.30 32 P **P** **13 40 37.3 +0.4**
baz=263
N19K Bonanza Creek 54.31 33 P **P** **13 40 37.6 +0.5**
N19K Bonanza Creek 54.31 33 P **P** **13 40 37.4 +0.3**
baz=264
O19K Port Alsworth 54.33 34 P **P** **13 40 38.2 +1.1**
baz=264
M19K Big River Lodg 54.48 32 P **P** **13 40 39.7 +1.5**
M19K IAmb IAmb 13 40 44.8
comp=Z,15nm,1.3s
M19K Big River Lodg 54.48 32 P **P** **13 40 39.5 +1.4**
baz=263
Q19K Cape Douglas, 54.56 36 P **P** **13 40 38.9 0.0**
AML Almayashu 54.61 304 P **P** **13 40 41.2 +1.3**
SNR=11
AML Almayashu 54.61 304 *i* P **P** **13 40 41.2 +1.3**
SNR=12
OHAK Old Harbor 54.66 38 P **P** **13 40 39.5 +0.1**
OHAK IAmb IAmb 13 40 40.3
comp=Z,45nm,1.4s
OHAK Old Harbor 54.66 38 P **P** **13 40 40.1 +0.7**
baz=268
L20K Farewell, AK 54.79 31 P **P** **13 40 41.7 +1.4**
baz=263
K20K Telida 54.81 30 P **P** **13 40 42.1 +1.6**
K20K IAmb IAmb 13 40 43.8
comp=Z,14nm,0.9s
K20K Telida 54.81 30 P **P** **13 40 41.6 +1.1**
baz=262
P19K Oil Pt 54.83 35 P **P** **13 40 41.6 +0.9**
J20K Nowinta River 54.89 29 P **P** **13 40 42.4 +1.4**
J20K IAmb IAmb 13 40 44.2
comp=Z,16nm,0.7s
J20K Nowinta River 54.89 29 P **P** **13 40 41.9 +0.9**
baz=262,SNR=11
KDAK Kodiak Island 55.06 37 P **P** **13 40 42.6 +0.3**
comp=Z,21nm,1.0s,baz=272,slow=2.4,SNR=27
KDAK Kodiak Island 55.06 37 P **P** **13 40 42.5 +0.3**
KDAK IAmb IAmb 13 40 44.1
comp=Z,20nm,1.1s
KDAK Kodiak Island 55.06 37 P **P** **13 40 42.1 -0.1**
baz=268
RSO Renubt South 55.13 34 P **P** **13 40 43.8 +0.8**
IMAR Indian Mountai 55.33 27 P **P** **13 40 44.9 +0.8**
A21K Barrow 55.45 21 P **P** **13 40 45.5 +0.8**
PPLA Purkeypile 55.61 31 P **P** **13 40 47.1 +0.9**
PPLA IAmb IAmb 13 41 01.8
comp=Z,21nm,1.4s
PPLA Purkeypile 55.61 31 P **P** **13 40 45.7 -0.5**
baz=264
CHUM Lake Minchumin 55.65 30 P **P** **13 40 46.6 +0.3**
baz=264
H21K Melozitna Rive 55.67 28 P **P** **13 40 47.6 +1.2**
H21K IAmb IAmb 13 40 49.5
comp=Z,17nm,0.9s
H21K Melozitna Rive 55.67 28 P **P** **13 40 46.8 +0.4**
baz=262,SNR=17
CAST Castle Rocks 55.71 30 P **P** **13 40 47.7 +0.9**
CAST IAmb IAmb 13 40 49.6
comp=Z,14nm,0.9s
CAST Castle Rocks 55.71 30 P **P** **13 40 48.0 +1.3**
baz=264,SNR=9.9
SKT Skwentna 55.83 32 P **P** **13 40 48.0 +0.4**
SKT IAmb IAmb 13 40 49.0
comp=Z,12nm,1.1s
SKT Skwentna 55.83 32 P **P** **13 40 47.7 0.0**
baz=266
CNPM China Poot 55.84 35 P **P** **13 40 47.7 0.0**
I21K Tanana 55.95 28 P **P** **13 40 50.0 +1.6**
I21K IAmb IAmb 13 40 51.6
comp=Z,16nm,0.9s
I21K Tanana 55.95 28 P **P** **13 40 49.4 +1.1**
baz=263,SNR=14
BRVK Borovoye 56.00 317 P **P** **13 40 49.1 +0.2**
BRVK IAmb IAmb 13 40 50.7
comp=Z,12nm,0.6s
DZM Mont Dzumac 56.02 150 P **P** **13 40 50.4 +0.9**
comp=Z,7.8nm,1.0s,baz=298,slow=22,SNR=6.1
DZM Mont Dzumac 56.02 150 P **P** **13 40 50.5 +0.9**
BRLK Bradley Lake 56.02 35 P **P** **13 40 48.8 -0.2**
KTH Kantishna Hill 56.24 30 P **P** **13 40 51.6 +1.2**
BPAW Bear Paw Mtn. 56.26 30 P **P** **13 40 51.5 +0.9**
BPAW IAmb IAmb 13 40 53.3
comp=Z,14nm,1.1s
BPAW Bear Paw Mtn. 56.26 30 P **P** **13 40 51.3 +0.8**
baz=265,SNR=11
CUT Chulitna 56.45 32 P **P** **13 40 52.2 +0.3**
CUT IAmb IAmb 13 40 53.6
comp=Z,20nm,1.0s
CUT Chulitna 56.45 32 P **P** **13 40 52.1 +0.3**
baz=267
MLY Manley 56.45 29 P **P** **13 40 53.1 +1.1**
MLY IAmb IAmb 13 40 54.7
comp=Z,11nm,0.8s
MLY Manley 56.45 29 P **P** **13 40 52.8 +0.9**
baz=264,SNR=14
NIL Nilore 56.49 294 P **P** **13 40 53.1 +0.4**
TRF Thorofare Moun 56.51 30 P **P** **13 40 53.0 +0.5**
TRF IAmb IAmb 13 40 55.1
comp=Z,8.2nm,0.7s
TRF Thorofare Moun 56.51 30 P **P** **13 40 53.2 +0.7**
baz=266,SNR=5.0
RC01 Rabbit Creek A 56.64 33 P **P** **13 40 53.5 +0.3**
RC01 IAmb IAmb 13 40 58.2
comp=Z,33nm,1.3s
RC01 Rabbit Creek A 56.64 33 P **P** **13 40 53.3 +0.1**
baz=268
SEW Seward 56.75 34 P **P** **13 40 54.8 +0.8**
SEW IAmb IAmb 13 40 56.0
comp=Z,31nm,1.3s
SEW Seward 56.75 34 P **P** **13 40 55.1 +1.2**
baz=269
KK31 Karatay Array 56.80 305 P **P** **13 40 54.8 +0.1**
KK31 IAmb IAmb 13 40 56.6
comp=Z,15nm,0.7s
KKAR Karatay Array 56.80 305 P **P** **13 40 54.5 -0.1**
COLD Coldfoot 56.91 26 P **P** **13 40 55.4 +0.5**
COLD Coldfoot 56.91 26 P **P** **13 40 55.9 +1.0**
baz=264,SNR=7.1
BWN Browne 56.93 30 P **P** **13 40 56.6 +1.5**
BWN IAmb IAmb 13 40 59.6
comp=Z,26nm,0.9s
PMR Palmer 56.95 33 P **P** **13 40 55.1 -0.2**
PMR IAmb IAmb 13 40 57.3
comp=Z,16nm,1.1s
PMR Palmer 56.95 33 P **P** **13 40 55.7 +0.4**
baz=268
I23K Minto, Yukon-K 57.05 28 P **P** **13 40 56.5 +0.6**
I23K Minto, Yukon-K 57.05 28 P **P** **13 40 56.9 +1.0**
baz=266,SNR=9.2
BTK Batken 57.08 301 P **P** **13 40 56.8 +0.1**
NEA2 Nenana 57.13 29 P **P** **13 40 56.9 +0.4**
NEA2 IAmb IAmb 13 40 59.0
comp=Z,16nm,0.9s
NEA2 Nenana 57.13 29 P **P** **13 40 57.5 +1.0**
baz=266,SNR=24
MCK McKinley 57.14 30 P **P** **13 40 57.1 +0.5**
MCK IAmb IAmb 13 40 59.0
comp=Z,25nm,0.8s
MCK McKinley 57.14 30 P **P** **13 40 57.0 +0.4**
baz=267,SNR=15
RND Reindeer 57.16 31 P **P** **13 40 57.2 +0.4**
RND IAmb IAmb 13 40 58.4
comp=Z,16nm,1.0s
WAT1 Susitna Watana 57.27 31 P **P** **13 40 57.8 +0.3**
baz=268
KNK Knik Glacier 57.27 33 P **P** **13 40 57.8 +0.2**
KNK IAmb IAmb 13 40 59.4
comp=Z,13nm,0.8s
KNK Knik Glacier 57.27 33 P **P** **13 40 57.7 +0.2**
baz=269
TOLK Toolik Lake Re 57.31 24 P **P** **13 40 59.2 +1.5**
TOLK IAmb IAmb 13 41 00.6
comp=Z,17nm,1.4s
TOLK Toolik Lake Re 57.31 24 P **P** **13 40 58.0 +0.3**
baz=263
PWL Port Wells 57.32 34 P **P** **13 40 58.1 +0.2**
PWL IAmb IAmb 13 41 00.1
comp=Z,31nm,1.0s
SML Sawmill 57.34 32 P **P** **13 40 58.2 +0.1**
SML IAmb IAmb 13 40 60.0
comp=Z,19nm,0.9s
SML Sawmill 57.34 32 P **P** **13 40 58.5 +0.5**
baz=269
MDM Murphy Dome 57.51 29 P **P** **13 40 59.7 +0.5**
MDM IAmb IAmb 13 41 02.4
comp=Z,14nm,1.0s
WRH Wood River Hil 57.55 29 P **P** **13 40 59.8 +0.4**
WAT6 Susitna Watana 57.63 32 P **P** **13 41 00.3 +0.1**
baz=269,SNR=8.0
GAR Garm 57.66 300 P **P** **13 41 00.8 +0.1**
TCOL CIGO, UAF Yank 57.66 29 P **P** **13 41 01.0 +0.9**
TCOL CIGO, UAF Yank 57.66 29 P **P** **13 41 00.3 +0.2**
baz=267
COLA College 57.67 29 P **P** **13 41 00.4 +0.3**
COLA College 57.67 29 P **P** **13 40 59.8 -0.4**
baz=267
CCB Clear Creek Bu 57.68 29 P **P** **13 41 00.1 -0.2**
H24K Noodor Dome 57.71 28 P **P** **13 41 01.4 +0.9**
H24K IAmb IAmb 13 41 03.4
comp=Z,7.8nm,0.7s
H24K Noodor Dome 57.71 28 P **P** **13 41 01.1 +0.5**
baz=267,SNR=12
DHY Denali Highway 57.81 31 P **P** **13 41 02.1 +0.7**
DHY Denali Highway 57.81 31 P **P** **13 41 01.5 +0.1**
baz=269
SCM Sheep Creek Mo 57.82 32 P **P** **13 41 01.9 +0.6**
SCM IAmb IAmb 13 41 03.5
comp=Z,20nm,1.0s
POKR Poker Plat Res 57.86 29 P **P** **13 41 02.0 +0.5**
POKR IAmb IAmb 13 41 04.3
comp=Z,12nm,0.9s
POKR Poker Plat Res 57.86 29 P **P** **13 41 01.3 -0.2**
baz=267
GLI Glacier Island 57.93 34 P **P** **13 41 02.2 +0.2**
GLI IAmb IAmb 13 41 20.0
comp=Z,18nm,0.9s
GLI Glacier Island 57.93 34 P **P** **13 41 01.6 -0.4**
baz=270
HDA Harding Lake 58.04 29 P **P** **13 41 02.4 -0.3**
HDA IAmb IAmb 13 41 03.9
comp=Z,11nm,0.8s
HDA Harding Lake 58.04 29 P **P** **13 41 02.5 -0.3**
baz=268,SNR=9.4
IL31 58.08 29 P **P** **13 41 03.3 +0.4**
ILAR Eielson Array 58.08 29 P **P** **13 41 02.9 -0.1**
comp=Z,3.6nm,0.7s,baz=246,slow=5.8,SNR=48
ILAR Eielson Array 58.08 29 P **P** **13 41 02.5 -0.4**
HIN Hinchinbrook I 58.23 34 P **P** **13 41 04.7 +0.7**
FID Port Fidalgo 58.23 34 P **P** **13 41 04.5 +0.4**
FID IAmb IAmb 13 41 07.8
comp=Z,21nm,1.1s
M24K Tolsona, Glenn 58.36 32 P **P** **13 41 05.9 +0.9**
M24K IAmb IAmb 13 41 09.1
comp=Z,17nm,1.1s
M24K Tolsona, Glenn 58.36 32 P **P** **13 41 05.1 +0.1**
baz=270
KLU Klutina 58.49 33 P **P** **13 41 06.5 +0.6**
KLU IAmb IAmb 13 41 08.2
comp=Z,8.8nm,0.8s
KLU Klutina 58.49 33 P **P** **13 41 06.3 +0.4**
baz=271
DIV Divide 58.57 33 P **P** **13 41 07.0 +0.6**
DIV IAmb IAmb 13 41 08.7
comp=Z,13nm,1.0s
EYAK Cordova Ski Ar 58.59 34 P **P** **13 41 07.1 +0.6**
EYAK IAmb IAmb 13 41 09.3
comp=Z,31nm,1.4s
EYAK Cordova Ski Ar 58.59 34 P **P** **13 41 06.0 -0.5**
baz=272
CHGR Chuyangaron 58.62 300 P **P** **13 41 06.9 -0.3**
PRP Porcupine Dome 58.67 28 P **P** **13 41 07.6 +0.5**
PRP Porcupine Dome 58.67 28 P **P** **13 41 06.6 -0.6**
baz=269
PAX Paxson 58.68 31 P **P** **13 41 08.1 +0.9**
PAX IAmb IAmb 13 41 09.5
comp=Z,20nm,1.4s
PAX Paxson 58.68 31 P **P** **13 41 06.9 -0.3**
baz=271,SNR=5.9
J25K Salcha River, 58.73 29 P **P** **13 41 07.3 -0.1**
baz=270
FYU Fort Yukon 58.81 27 P **P** **13 41 08.6 +0.7**
FYU IAmb IAmb 13 41 11.7
comp=Z,18nm,1.2s
HARP HAARP 58.83 32 P **P** **13 41 08.4 +0.2**
baz=271,SNR=7.0
RIDG Independent Ri 58.95 30 P **P** **13 41 09.4 +0.4**
RIDG IAmb IAmb 13 41 11.8
comp=Z,26nm,1.4s
RIDG Independent Ri 58.95 30 P **P** **13 41 08.6 -0.3**
baz=271,SNR=9.6
BMAR Burnt Mountain 59.09 26 P **P** **13 41 11.1 +1.2**
N25K Chitina, Valde 59.12 33 P **P** **13 41 10.8 +0.7**
N25K Chitina, Valde 59.12 33 P **P** **13 41 09.9 -0.3**
baz=272
BMRM Bremner River 59.14 33 P **P** **13 41 11.2 +0.9**
BMRM Bremner River 59.14 33 P **P** **13 41 09.7 -0.6**
baz=272
PALK Pallekele 59.26 262 P **P** **13 41 12.1 +0.2**
PALK IAmb IAmb 13 41 32.7
comp=Z,23nm,1.3s

KAIM	Kayak Island	59.28	35	P		P		13 41 10.7	-0.5
	baz=273								
DOT	Dot Lake	59.31	30	P		P		13 41 11.5	+0.2
DOT				IAmb		IAmb		13 41 13.1	
	comp=Z,15nm,0.8s								
SCRK	Sand Creek	59.33	30	P		P		13 41 11.8	+0.2
SCRK				IAmb		IAmb		13 41 13.4	
	comp=Z,13nm,0.7s								
SCRK	Sand Creek	59.33	30	P		P		13 41 11.3	-0.3
	baz=271,SNR=17								
HMT	Hamilton	59.34	34	P		P		13 41 12.5	+0.9
HMT				IAmb		IAmb		13 41 22.8	
	comp=Z,18nm,1.1s								
FORT	Forrest	59.40	192	P		P		13 41 12.5	+0.2
FORT				IAmb		IAmb		13 41 13.8	
	comp=Z,21nm,0.8s								
MENT	Mentasta	59.48	31	P		P		13 41 13.4	+1.0
MENT				IAmb		IAmb		13 41 15.1	
	comp=Z,8.1nm,0.6s								
STKA	Stephens Creek	59.48	178	P		P		13 41 12.9	+0.2
	comp=Z,1.9nm,0.4s,baz=332,slow=18,SNR=6.2								
STKA	Stephens Creek	59.48	178	P		P		13 41 13.0	+0.2
GLB	Gilahina Butte	59.50	33	P		P		13 41 13.4	+0.7
GLB				IAmb		IAmb		13 41 15.0	
	comp=Z,15nm,1.1s								
J26L	Joseph Creek	59.51	29	P		P		13 41 12.7	0.0
	baz=271,SNR=23								
BERG	Berg Lake	59.62	34	P		P		13 41 14.5	+1.1
BERG				IAmb		IAmb		13 41 15.8	
	comp=Z,26nm,1.2s								
L26K	Log Cabin Wild	59.65	31	P		P		13 41 14.5	+0.9
L26K				IAmb		IAmb		13 41 16.2	
	comp=Z,9.1nm,0.7s								
L26K	Log Cabin Wild	59.65	31	P		P		13 41 14.2	+0.6
	baz=272,SNR=12								
KBL	Kabul	59.66	296	P		P		13 41 14.0	-0.4
KBL				IAmb		IAmb		13 41 16.8	
	comp=Z,11nm,0.9s								
VRDI	Verde Repeater	59.69	33	P		P		13 41 14.6	+0.5
M26K	Nabesna, AK	59.84	32	P		P		13 41 16.1	+1.2
M26K	Nabesna, AK	59.84	32	P		P		13 41 15.3	+0.4
	baz=273,SNR=5.7								
CRQM	Cirque	59.87	34	P		P		13 41 16.4	+1.1
CRQM				IAmb		IAmb		13 41 17.7	
	comp=Z,18nm,1.0s								
MCARA	McCarthy VSAT	59.88	33	P		P		13 41 15.9	+0.8
MCARA				IAmb		IAmb		13 41 18.1	
	comp=Z,19nm,1.0s								
MCARA	McCarthy VSAT	59.88	33	P		P		13 41 15.1	-0.1
	baz=274								
CRQE	Cirque	59.89	34	P		P		13 41 16.0	+0.6
	baz=274,SNR=5.8								
WAX	Waxell Ridge	60.03	34	P		P		13 41 17.0	+0.8
WAX				IAmb		IAmb		13 41 19.0	
	comp=Z,17nm,0.9s								
ISLE	Juniper Island	60.27	34	P		P		13 41 17.9	0.0
ISLE				IAmb		IAmb		13 41 20.0	
	comp=Z,17nm,1.1s								
L27K	Beaver Creek,	60.34	31	P		P		13 41 18.7	+0.5
L27K				IAmb		IAmb		13 41 20.7	
	comp=Z,8.7nm,0.9s								
L27K	Beaver Creek,	60.34	31	P		P		13 41 18.5	+0.3
	baz=274,SNR=12								
BCAR	Beaver Creek A	60.36	31	P		P		13 41 19.0	+0.7
M27K	Edge Creek, AK	60.36	32	P		P		13 41 19.1	+0.6
M27K				IAmb		IAmb		13 41 21.4	
	comp=Z,9.2nm,0.8s								
M27K	Edge Creek, AK	60.36	32	P		P		13 41 18.7	+0.2
	baz=274,SNR=7.4								
BBOO	Buckleboo	60.48	183	P		P		13 41 19.7	+0.2
BBOO				IAmb		IAmb		13 41 24.0	
	comp=Z,17nm,1.4s								
EGAK	Eagle	60.53	29	P		P		13 41 19.7	+0.3
EGAK	Eagle	60.53	29	P		P		13 41 19.8	+0.4
	baz=273								
GRNC	Granite Creek	60.55	34	P		P		13 41 19.9	+0.1
GRNC				IAmb		IAmb		13 41 21.6	
	comp=Z,11nm,1.1s								
BARN	Barnard Glacie	60.57	33	P		P		13 41 20.9	+0.9
YAH	Yahtse	60.59	34	P		P		13 41 20.0	-0.1
YAH				IAmb		IAmb		13 41 22.6	
	comp=Z,12nm,1.1s								
CTG	Chitna Glacier	60.73	33	P		P		13 41 21.4	+0.5
	baz=275								
CTGM	Chitina Glacie	60.73	33	P		P		13 41 21.3	+0.3
CTGM				IAmb		IAmb		13 41 23.4	
	comp=Z,13nm,1.4s								
BVCY	Beaver Creek	60.83	32	P		P		13 41 22.4	+0.9
	baz=275								
TABL	Table Mountain	60.88	34	P		P		13 41 22.6	+0.6
TABL				IAmb		IAmb		13 41 23.3	
	comp=Z,26nm,1.4s								
MORW	Morawa	61.01	204	P		P		13 41 22.8	-0.2
YUK3	Moose Creek	61.08	32	P		P		13 41 23.7	+0.4
	baz=276,SNR=11								
DAWY	Dawson	61.35	30	P		P		13 41 25.6	+0.8
DAWY	Dawson	61.35	30	P		P		13 41 25.1	+0.2
	baz=275								
YUK6	Outpost Mounta	62.18	33	P		P		13 41 30.5	-0.1
	baz=278								
EPYK	Eagle Plains	62.24	27	P		P		13 41 31.4	+0.8
EPYK	Eagle Plains	62.24	27	P		P		13 41 30.6	0.0
	baz=276								
ARU	Arti	62.41	322	P		P		13 41 31.2	-0.6
ARU				IAmb		IAmb		13 41 32.6	
	comp=Z,15nm,1.0s								
HYT	Haines Junctio	62.61	33	P		P		13 41 34.5	+1.3
HYT				IAmb		IAmb		13 41 36.7	
	comp=Z,11nm,1.0s								
HYT	Haines Junctio	62.61	33	P		P		13 41 33.7	+0.5
	baz=279								
ABKAR	Akbulak array	62.93	314	P		P		13 41 35.0	-0.3
INK	Inuvik	63.22	25	P		P		13 41 36.9	+0.1
	comp=Z,1.3nm,0.3s,baz=274,slow=5.8,SNR=8.3								
INK	Inuvik	63.22	25	P		P		13 41 36.9	+0.1
INK	Inuvik	63.22	25	P		P		13 41 37.0	+0.1
	baz=278								
WHY	Whitehorse	63.91	33	P		P		13 41 42.6	+1.0
WHY				IAmb		IAmb		13 41 44.3	
	comp=Z,8.2nm,0.9s								
WHY	Whitehorse	63.91	33	P		P		13 41 42.0	+0.4
	baz=281								
SKAG	Skagway	63.91	35	P		P		13 41 42.9	+1.4
SKAG				IAmb		IAmb		13 41 44.2	
	comp=Z,5.5nm,0.8s								
SKAG	Skagway	63.91	35	P		P		13 41 41.7	+0.3
	baz=281								
NWAO	Narrogin (SRO)	64.15	201	P		P		13 41 43.6	+0.3
NWAO				IAmb		IAmb		13 42 03.4	
	comp=Z,17nm,1.2s								
FARO	Faro, Yukon	64.33	31	P		P		13 41 44.7	+0.6
	baz=281								
HRA	Herat	65.10	297	P		P		13 41 49.6	-0.1
HRA				IAmb		IAmb		13 41 52.3	
	comp=Z,7.5nm,0.8s								
MMPY	Sheldon Lake,	65.19	31	P		P		13 41 49.9	+0.3
	baz=283								
DLBC	Dease Lake	66.82	35	P		P		13 42 00.9	+1.1
DLBC				IAmb		IAmb		13 42 02.9	
	comp=Z,6.2nm,1.1s								
TGTN	Hyland Airport	66.83	31	P		P		13 41 59.9	+0.1
	baz=286								
SPB2	Spitsbergen Ar	69.18	349	P		P		13 42 14.3	+0.4
SPB2				IAmb		IAmb		13 42 39.5	
	comp=Z,13nm,1.1s								
EUNU	Eureka	69.40	8	P		P		13 42 15.3	+0.1
EUNU				IAmb		IAmb		13 42 17.1	
	comp=Z,8.8nm,1.1s								
KEV	Kevo	71.47	340	P		P		13 42 27.4	0.0
KEV				IAmb		IAmb		13 42 35.0	
	comp=Z,20nm,1.5s								
JLN	Jalan Bani Buh	71.74	286	P		P		13 42 27.1	-2.9
WBK	Wadi Bani Khal	71.94	286	P		P		13 42 30.5	-0.7
ARCES	ARCESS Array B	72.03	340	P		P		13 42 30.8	0.0
	comp=Z,3.4nm,0.7s,baz=71,slow=8.1,SNR=26								
ARCES	ARCESS Array B	72.03	340	P		P		13 42 30.8	0.0
ARCES				IAmb		IAmb		13 42 37.5	
	comp=Z,16nm,1.4s								
YKA	Yellowknife Ar	72.48	28	P		P		13 42 33.9	+0.4
	comp=Z,3.7nm,0.7s,baz=299,slow=4.8,SNR=8.0								
OZB	Mount Ozzard	72.48	44	P		P		13 42 34.7	+0.9
SMDO	Samad	72.54	287	P		P		13 42 31.4	-3.3
JMDO	Jabal Madar	72.77	287	P		P		13 42 35.8	-0.2
BANOM	Banah	72.88	291	P		P		13 42 37.0	+0.5
BANOM	Banah	72.88	291	P		P		13 42 37.1	+0.6
HOQ	Hoqain	72.95	288	P		P		13 42 37.6	+0.6

SHME	Shamm	72.96	291	*i* P		P		13 42 37.8	+0.8
	SNR=7.2								
SHME	Shamm	72.96	291	P		P		13 42 37.9	+0.9
	SNR=7.3								
MDH	Madha	73.12	290	P		P		13 42 38.6	+0.6
MASF	Masafi	73.21	290	P		P		13 42 39.4	+0.9
MSFE	Esma-Masafi	73.22	290	P		P		13 42 39.1	+0.6
UOSS	Minazif	73.34	290	P		P		13 42 39.1	-0.1
UOSS	Minazif	73.34	290	P		P		13 42 38.8	-0.4
UOSS						IAmb	IAmb	13 42 43.0	
	comp=Z,5.4nm,0.8s								
UOSS	Minazif	73.34	290	P		P		13 42 39.1	-0.1
CLRS	Cowichan Lake	73.36	43	P		P		13 42 38.7	-0.2
CLRS						IAmb	IAmb	13 42 57.2	
	comp=Z,20nm,1.3s								
BSY	Bisya	73.38	287	P		P		13 42 40.0	+0.5
SOHO	SOHO	73.39	289	*i* P		P		13 42 39.7	+0.2
	SNR=7.6								
SOHO	SOHO	73.39	289	P		P		13 42 39.5	0.0
MHTO	MHTO	73.44	285	P		P		13 42 39.7	0.0
HATD	Hatta, Dubai	73.45	290	*i* P		P		13 42 40.2	+0.4
	SNR=5.8								
HATD	Hatta, Dubai	73.45	290	P		P		13 42 40.2	+0.4
	SNR=5.9								
ASHO	Ashiyiah	73.57	290	P		P		13 42 40.8	+0.2
ASHO	Ashiyiah	73.57	290	P		P		13 42 41.0	+0.5
ARQ	Araqi	73.72	288	P		P		13 42 42.0	+0.7
	SNR=9.4								
NAZ	Nazwa, Dubai	73.78	290	P		P		13 42 41.7	0.0
ALNE	Al Ain	74.08	289	P		P		13 42 43.8	+0.4
ASUD	Al Ashush, Dub	74.20	290	P		P		13 42 44.6	+0.5
ASUD	Al Ashush, Dub	74.20	290	P		P		13 42 45.1	+1.0
E04D	Cinebar	75.25	45	P		P		13 42 49.1	-0.5
	baz=295								
NNZ	Nelson	75.53	154	P		P		13 42 50.7	-0.3
J01E	Myrtle Point	75.80	49	P		P		13 42 52.9	+0.2
	baz=295								
KBZ	Khabaz	75.82	312	P		P		13 42 52.7	-0.1
	comp=Z,3.6nm,0.7s,baz=134,slow=2.5,SNR=7.0								
I03D	Drain, OR	75.96	48	P		P		13 42 54.1	+0.5
	baz=295								
BUCK	Buck Mountain	75.99	47	P		P		13 42 54.8	+0.9
K02D	Willamette Mer	76.18	49	P		P		13 42 54.6	-0.3
	baz=295								
FIA1	FINESS Array S	76.22	333	P		P		13 42 54.1	-0.5
FIA1						IAmb	IAmb	13 43 00.7	
	comp=Z,18nm,1.2s								
FINES	FINESS Array B	76.22	333	P		P		13 42 54.2	-0.4
	comp=Z,10nm,0.3s,baz=70,slow=4.9,SNR=120								
FINES	FINESS Array B	76.22	333	P		P		13 42 54.0	-0.6
F05D	White Salmon	76.24	45	P		P		13 42 55.1	0.0
	baz=296								
H04A	Detroit Lake	76.30	47	P		P		13 42 56.5	+1.1
H04A						IAmb	IAmb	13 42 58.1	
	comp=Z,11nm,1.1s								
B08A	Colville Reser	76.44	42	P		P		13 42 56.9	+0.7
B08A						IAmb	IAmb	13 42 58.6	
	comp=Z,8.8nm,0.9s								
L02E	Cave Junction	76.45	49	P		P		13 42 56.5	+0.2
	baz=295								
I04A	Tendick Farm,	76.53	48	P		P		13 42 56.9	+0.1
	baz=296								
PLWZ	Palliser	76.57	153	P		P		13 42 56.8	0.0
G05D	Wamic, OR	76.61	46	P		P		13 42 57.5	+0.3
	baz=296								
J04D	Umpqua Nationa	76.97	48	P		P		13 42 59.3	-0.1
	baz=296								
I05D	Terrebonne, OR	76.99	47	P		P		13 42 59.1	-0.2
	baz=296								
D08A	Wollman Farm,	77.28	43	P		P		13 43 01.0	+0.2
M02C	Callahan	77.28	50	P		P		13 43 00.9	-0.1
	baz=296								
L04D	Klamath Falls	77.29	49	P		P		13 43 01.0	-0.1
	baz=296								
C09A	Chrisman Ranch	77.33	43	P		P		13 43 01.5	+0.5
EDM	Edmonton	77.49	36	P		P		13 43 02.0	+0.2
EDM						IAmb	IAmb	13 43 03.9	
	comp=Z,16nm,1.1s								
PINE	Pine Mountain	77.49	47	P		P		13 43 03.4	+1.1
PINE						IAmb	IAmb	13 43 05.4	
	comp=Z,18nm,0.9s								
J05D	Fort Rock, OR	77.53	48	P		P		13 43 02.4	+0.1
	baz=297								
N02D	Trinity Center	77.57	50	P		P		13 43 02.6	+0.1
	baz=296								
M04C	Macdoel	77.80	49	P		P		13 43 04.8	+1.0
	baz=297								
NEW	Newport	77.80	42	P		P		13 43 04.4	+0.8
NEW	Newport	77.80	42	P		P		13 43 03.7	+0.1
	baz=298								
O02D	Mt. Diablo Mer	77.86	51	P		P		13 43 04.0	-0.2
	baz=296								
K05A	Summer Lake	78.00	48	P		P		13 43 06.1	+1.0
K05A						IAmb	IAmb	13 43 08.0	
	comp=Z,15nm,1.1s								
E09A	Wood Farm, Sta	78.01	44	P		P		13 43 05.3	+0.6
G08A	Pilot Rock	78.07	45	P		P		13 43 05.7	+0.4
I07A	Izee	78.28	46	P		P		13 43 07.1	+0.7
O03E	Paynes Creek	78.49	51	P		P		13 43 06.8	-0.8
	baz=297								
MOD	Modoc Plateau	78.77	49	P		P		13 43 09.5	+0.4
ORV	Oroville	79.03	51	P		P		13 43 10.5	+0.2
MNK	Minsk	79.25	327	*i* P		P		13 43 08.1	-3.1
	comp=E,1.0nm,0.7s								
MNK				*i* P		P		13 43 08.1	-3.1
	comp=N,9.0nm,0.7s								
MNK				*i* P		P		13 43 08.1	-3.1
	comp=Z,12nm,0.7s,baz=57								
MNK				*i* pP		pP		13 44 59.6	+0.4
MNK				*i* sP		sP		13 45 53.4	+2.3
MNK				*i* PP		PP		13 46 16.6	-2.6
MNK				*i* PPP		PPP		13 48 09.8	
MNK				*i* S		S		13 52 25.7	-3.6
MNK				*i* SS		SS		13 57 47.6	-1.3
MNK				*i* SSS		SSS		14 01 19.2	
MNK				*i* LRM		MLR		14 20 17.1	
	comp=Z,219nm,21.1s								
MNK				*i* LRM		MLR		14 20 17.8	
	comp=E,12nm,21.1s								
MNK				*i* LRM		MLR		14 20 18.4	
	comp=N,117nm,21.1s								
WALA	Waterton Lakes	79.27	40	P		P		13 43 12.1	+0.6
J08A	Circle Bar Ran	79.28	47	P		P		13 43 11.7	-0.1
J08A						IAmb	IAmb	13 43 14.4	
	comp=Z,10nm,0.9s								
BMO	Blue Mountains	79.31	45	P		P		13 43 12.2	+0.3
WVOR	Wild Horse Val	79.61	47	P		P		13 43 14.2	+0.7
BEKR	Beckworth	79.67	50	P		P		13 43 14.3	+0.4
BEKR						IAmb	IAmb	13 43 16.0	
	comp=Z,9.4nm,0.9s								
PAHR	Pah Rah Range	80.41	50	P		P		13 43 18.2	+0.5
AKASG	Malin Array Be	80.64	323	P		P		13 43 17.3	-1.2
	comp=Z,1.4nm,0.3s,baz=52,slow=5.6,SNR=6.0								
MFID	Camas Ranch	80.94	46	P		P		13 43 20.9	+0.5
MFID						IAmb	IAmb	13 43 23.1	
	comp=Z,7.1nm,0.9s								
BMN	Battle Mountai	81.51	49	P		P		13 43 24.3	+0.8
KVN	Kaiserville	81.59	50	P		P		13 43 24.3	+0.3
KVN						IAmb	IAmb	13 43 26.4	
	comp=Z,11nm,1.4s								
HRY	Holter Researc	81.68	41	P		P		13 43 25.1	+0.9
LHV	Little Huntoon	81.70	51	P		P		13 43 25.1	+0.8
LHV						IAmb	IAmb	13 43 27.4	
	comp=Z,10nm,1.2s								
NVAR	Mina Array Bea	81.75	51	P		P		13 43 24.7	-0.2
	comp=Z,2.1nm,0.7s,baz=274,slow=4.8,SNR=22								
HLID	Hailey	81.76	45	P		P		13 43 24.6	-0.1
HLID	Hailey	81.76	45	P		P		13 43 24.5	-0.2
	baz=301								
LRM	Limekiln Ridge	81.78	42	P		P		13 43 24.8	-0.1
NC405	NORSAR Array S	81.80	337	P		P		13 43 22.1	-2.3
NV11	Mina Array Sit	81.85	51	P		P		13 43 25.6	+0.4
DLMT	Dillon	81.94	43	P		P		13 43 26.2	+0.7
DLMT						IAmb	IAmb	13 43 28.5	
	comp=Z,9.3nm,1.2s								
NC204	NORSAR Array S	82.00	338	P		P		13 43 24.1	-1.3
NC204						IAmb	IAmb	13 43 25.8	
	comp=Z,7.5nm,0.7s								
NB2	NORSAR Subarra	82.02	337	P		P		13 43 24.2	-1.3
	comp=Z,1.4nm,0.5s,baz=46,slow=5.1								
NOA	NORSAR Array B	82.02	337	P		P		13 43 24.6	-1.0
	comp=Z,3.0nm,0.7s,baz=46,slow=5.0,SNR=15								
EGMT	Eagleton	82.16	39	P		P		13 43 26.2	-0.4
	baz=303								
BOZ	Bozeman (W)	82.39	42	P		P		13 43 28.0	+0.2

BOZ	Bozeman (W)	82.39	42	P		P		13 43 27.7	-0.2
	baz=302								
ELK	Elko	82.66	48	P		P		13 43 29.7	+0.2
TPH	Tonopah	82.67	51	P		P		13 43 29.6	+0.1
LCH	Last Change Ra	82.79	52	P		P		13 43 30.6	+0.6
CWC	Cottonwood Cre	82.88	53	P		P		13 43 30.1	-0.4
	baz=300								
ISA	Isabella, Lake	82.98	53	P		P		13 43 30.9	0.0
	baz=299								
YHL	Hebgen Lake	83.06	43	P		P		13 43 32.1	+0.6
YHL				IAmb		IAmb		13 43 34.4	
	comp=Z,9.9nm,1.1s								
GRAC	Grapevine Rang	83.10	52	P		P		13 43 31.4	-0.1
	baz=300								
YHB	Horse Butte	83.11	43	P		P		13 43 32.6	+1.1
MPMC	Manual Prospec	83.48	53	P		P		13 43 33.7	+0.1
	baz=300								
LRMC	Laurel Mtn Rad	83.63	53	P		P		13 43 33.4	-0.8
	baz=300								
R11A	Troy Canyon, C	83.65	50	P		P		13 43 34.8	+0.4
R11A	Troy Canyon, C	83.65	50	P		P		13 43 34.1	-0.3
	baz=301								
H17A	Grant Village	83.67	43	P		P		13 43 36.5	+2.0
	baz=303								
YNE	Yellowstone No	83.67	42	P		P		13 43 34.6	+0.2
EDW2	Edwards Air Fo	83.70	54	P		P		13 43 34.5	0.0
	baz=300								
FURC	Furnace Creek,	83.72	52	P		P		13 43 34.4	-0.1
	baz=300								
HVU	Hansel Valley	83.72	46	P		P		13 43 35.0	+0.4
HVU				IAmb		IAmb		13 43 36.8	
	comp=Z,6.8nm,1.0s								
IMW	Indian Meadow	83.72	43	P		P		13 43 34.7	-0.1
IMW				IAmb		IAmb		13 43 37.8	
	comp=Z,6.0nm,1.1s								
BR131	Keskin Array S	83.81	312	P		P		13 43 33.7	-1.3
BRTR	Keskin Array B	83.81	312	P		P		13 43 34.2	-0.8
	comp=Z,1.2nm,0.5s,baz=103,slow=3.6,SNR=11								
FXWY	Fox Creek	83.81	44	P		P		13 43 34.5	-0.6
TPNV	Topopah Spring	83.90	51	P		P		13 43 35.1	-0.5
TPNV				IAmb		IAmb		13 43 37.7	
	comp=Z,8.6nm,1.0s								
TPNV	Topopah Spring	83.90	51	P		P		13 43 36.0	+0.4
	baz=300								
TPAW	Teton Pass	83.94	44	P		P		13 43 35.5	-0.3
TPAW				IAmb		IAmb		13 43 37.7	
	comp=Z,6.8nm,1.1s								
QSM	Queen of Sheba	83.96	53	P		P		13 43 35.2	-0.5
QSM				IAmb		IAmb		13 43 37.4	
	comp=Z,6.7nm,1.0s								
GWY	Greenwater Val	83.99	52	P		P		13 43 35.8	-0.3
GWY				IAmb		IAmb		13 43 38.2	
	comp=Z,6.8nm,1.0s								
RLMT	Red Lodge	84.05	42	P		P		13 43 36.5	+0.3
	baz=304								
LOHW	Long Hollow	84.08	43	P		P		13 43 37.3	+0.8
CIS	Catalina Islan	84.13	55	P		P		13 43 36.4	-0.2
	baz=300								
GSC	Goldstone, Bar	84.34	53	P		P		13 43 37.8	0.0
GSC				IAmb		IAmb		13 43 39.8	
	comp=Z,7.3nm,1.1s								
GSC	Goldstone, Bar	84.34	53	P		P		13 43 37.7	-0.1
	baz=300								
SHOC	Shoshone, Teco	84.41	52	P		P		13 43 37.7	-0.3
	baz=301								
PRN	Pahroc Range	84.49	51	P		P		13 43 38.2	-0.2
PRN				IAmb		IAmb		13 43 41.5	
	comp=Z,5.9nm,1.0s								
DUG	Dugway, Tooele	84.53	47	P		P		13 43 39.4	+0.7
DUG				IAmb		IAmb		13 43 41.0	
	comp=Z,5.6nm,1.1s								
DUG	Dugway, Tooele	84.53	47	P		P		13 43 38.2	-0.4
	baz=302								
HWUT	Hardware Ranch	84.57	46	P		P		13 43 39.5	+0.6
HWUT				IAmb		IAmb		13 43 41.4	
	comp=Z,7.1nm,1.1s								
PSUT	Pine Spring	84.72	49	P		P		13 43 39.2	-0.4
TUQ	Turquoise Moun	84.89	53	P		P		13 43 39.9	-0.6
	baz=301								
HEC	Hector,Ludlow	84.91	53	P		P		13 43 40.1	-0.4
	baz=301								
DGMT	Dagmar	84.94	37	P		P		13 43 39.9	-0.4
	baz=307								
BW06	Boulder Array	85.19	44	P		P		13 43 42.0	+0.1
PD31	Pinedale Array	85.19	44	P		P		13 43 41.9	0.0
PDAR	Pinedale Array	85.19	44	P		P		13 43 42.5	+0.6
	comp=Z,1.7nm,0.8s,baz=276,slow=2.7,SNR=12								
PFO	Pinyon Flats O	85.44	54	P		P		13 43 42.7	-0.5
PFO				IAmb		IAmb		13 43 45.1	
	comp=Z,11nm,1.1s								
PFO	Pinyon Flats O	85.44	54	P		P		13 43 43.1	-0.1
	baz=301								
TPFO	Pinon Flats	85.44	54	P		P		13 43 42.9	-0.3
	baz=301								
BELC	Belle Mtn. Jos	85.57	54	P		P		13 43 43.3	-0.5
	baz=301								
MONP2	Monument Peak	85.83	55	P		P		13 43 44.4	-0.8
	baz=301								
IRM	Iron Mountain	86.10	53	P		P		13 43 45.6	-0.6
	baz=301								
BC3	Big Chuckawall	86.14	54	P		P		13 43 46.0	-0.5
	baz=301								
SWSC	Sam W. Stewart	86.25	55	P		P		13 43 46.8	-0.1
	baz=301								
GLA	Glamis	86.90	54	P		P		13 43 50.2

I35NA	**TSUMEB INFRASO**	**10.50**	**303**	*i*		15 00 20.0
	baz=126,slow=334,SNR=1.5					

KMA 23 14:00:23.9±0.1, 37°97N×128°75E, h0km±2km, Error ellipse: s-maj=2.6km s-min=0.9km az=231.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSJMJ	**Jumunjin** SNR=90	**0.08**	**179**	P	Pg	14 00 25.4	-0.1
KSJMJ	**Jumunjin** SNR=90	**0.08**	**179**	P	Pg	14 00 25.4	-0.1
KSDGY	**Daegwallycong** SNR=47	**0.28**	**193**	P	Pg	14 00 29.1	-0.2
KSDGY	**Daegwallycong** SNR=47	**0.28**	**193**	P	Pg	14 00 29.1	-0.2
KSSKC	**Sokcho** SNR=17	**0.37**	**331**	P	Pg	14 00 29.4	-1.6
KSSKC	**Sokcho** SNR=17	**0.37**	**331**	P	Pg	14 00 29.4	-1.6
SEHB	**SEOHWA** SNR=63	**0.50**	**308**	P	Pg	14 00 32.1	-1.3
SEHB	**SEOHWA** SNR=63	**0.50**	**308**	P	Pg	14 00 32.1	-1.3
KSCHC	**Chuncheon** SNR=35	**0.77**	**256**	P	Pg	14 00 38.0	-0.6
KSCHC	**Chuncheon** SNR=35	**0.77**	**256**	P	Pg	14 00 38.0	-0.6
KSCHC	**Chuncheon** SNR=35	**0.77**	**256**	P	Pg	14 00 38.0	-0.6
KSWJU	**Wonju** SNR=15	**0.79**	**225**	P	Pg	14 00 39.0	-0.1
KSWJU	**Wonju** SNR=15	**0.79**	**225**	P	Pg	14 00 39.0	-0.1
KSWJU	**Wonju** SNR=15	**0.79**	**225**	P	Pg	14 00 39.0	-0.1
KSTBA	**Taebaek** SNR=11	**0.86**	**169**	P	Pg	14 00 40.3	0.0
KSTBA	**Taebaek** SNR=11	**0.86**	**169**	P	Pg	14 00 40.3	0.0
KSTBA	**Taebaek** SNR=11	**0.86**	**169**	P	Pg	14 00 40.3	0.0
HWCB	**Hwacheon** SNR=14	**0.89**	**287**	P	Pg	14 00 41.0	0.0
HWCB	**Hwacheon** SNR=14	**0.89**	**287**	P	Pg	14 00 41.0	0.0
HWCB	**Hwacheon** SNR=14	**0.89**	**287**	P	Pg	14 00 41.0	0.0
KSCWO	**Cheorwon** SNR=14	**0.98**	**277**	P	Pg	14 00 42.7	-0.1
KSCWO	**Cheorwon** SNR=14	**0.98**	**277**	P	Pg	14 00 42.7	-0.1
KSCWO	**Cheorwon** SNR=14	**0.98**	**277**	P	Pg	14 00 42.7	-0.1
KSCHJ	**Chungju** SNR=8.1	**1.25**	**210**	P	Pg	14 00 48.0	+0.1
KSCHJ	**Chungju** SNR=8.1	**1.25**	**210**	P	Pg	14 00 48.0	+0.1
KSCHJ	**Chungju** SNR=8.1	**1.25**	**210**	P	Pg	14 00 48.0	+0.1
KSICN	**Icheon** SNR=7.5	**1.26**	**238**	P	Pg	14 00 48.0	0.0
KSICN	**Icheon** SNR=7.5	**1.26**	**238**	P	Pg	14 00 48.0	0.0
KSICN	**Icheon** SNR=7.5	**1.26**	**238**	P	Pg	14 00 48.0	0.0
KSULJ	**Uljin** SNR=16	**1.36**	**157**	P	Pg	14 00 48.0	-2.1
KSULJ	**Uljin** SNR=16	**1.36**	**157**	P	Pg	14 00 48.0	-2.1
KSMGY	**Mungyeong** SNR=10	**1.42**	**203**	P	Pn	14 00 50.2	-0.7
KSMGY	**Mungyeong** SNR=10	**1.42**	**203**	P	Pn	14 00 50.2	-0.7
KSCEA	**Cheonan** SNR=6.4	**1.65**	**227**	P	Pn	14 00 54.5	+0.4
KSCEA	**Cheonan** SNR=6.4	**1.65**	**227**	P	Pn	14 00 54.5	+0.4

*IDC **23** 14:05:51.9±0.9, 31°.45S×71°.31W, h0km, mb4.3/8, mb1 4.2/13, mb1mx4.1/28, mbtmp4.1/13, ML3.9/5, MS2.9/4, Ms1 2.9/4, ms1mx2.7/20, Error ellipse: s-maj=25.9km s-min=21.4km az=95.0*
*SJA **23** 14:05:56.0, 31°.42S×71°.69W, h10km, ML4.6*
*NEIC **23** 14:05:57.6±2.8, 31°.42S±0°.03×71°.56W±0°.06, h35km±2km, mb4.4/15, ML4.4(GUC), Error ellipse: s-maj=8.3km s-min=5.2km az=267.0*
*GUC **23** 14:05:57.6±0.7, 31°.44S×71°.44W, h50km±7km, ML4.4*

ISC 23 14:05:56.3±0.7, 31°44S±0°04×71°61W±0°05, h37km±1km, n134, σ2°00/127, mb4.4/12, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.77**	**358**	⇑*i*P	**Pn**	**14 06 12.7**	**+2.0**
CO06				*e*S	**Sn**	**14 06 23.7**	**+2.8**
CO06	**Fray Jorge**	**0.77**	**358**		**Pn**	**14 06 12.6**	**+2.0**
CO06				Sn	**Sn**	**14 06 23.1**	**+2.1**
CO03	**El Pedregal**	**0.99**	**53**	⇓*i*P	**Pn**	**14 06 14.4**	**+0.5**
CO03				*e*S	**Sn**	**14 06 26.4**	**-0.3**
CO03				IAML		14 06 27.7	
	comp=E,17μm,0.2s						
CO03	**El Pedregal**	**0.99**	**53**		**Pn**	**14 06 14.3**	**+0.5**
CO03				Sn	**Sn**	**14 06 26.1**	**-0.6**
CO03	**El Pedregal**	**0.99**	**53**	*i* P	**Pn**	**14 06 14.0**	**+0.2**
VA06	**Catapilco**	**1.15**	**167**	*e*P	**Pn**	**14 06 17.2**	**+1.4**
VA06				IAML		14 06 40.2	
	comp=E,7μm,0.3s						
GO04	**Tololo Observa**	**1.45**	**29**	*e*P	**Pn**	**14 06 21.7**	**+1.5**
GO04				*e*S	**Sn**	**14 06 38.7**	**+0.7**
GO04	**Tololo Observa**	**1.45**	**29**	Pn	**Pn**	**14 06 21.7**	**+1.5**
GO04	**Tololo Observa**	**1.45**	**29**	*i* P	**Pn**	**14 06 22.0**	**+1.8**
CO05	**La Serena**	**1.55**	**12**	*e*P	**Pn**	**14 06 23.4**	**+2.0**
CO05				⇑*e*S	**Sn**	**14 06 42.7**	**+2.4**
CO05	**La Serena**	**1.55**	**12**	Pn	**Pn**	**14 06 23.5**	**+2.1**
VA01	**Torpederas**	**1.57**	**181**	*e*P	**Pn**	**14 06 23.7**	**+2.0**
VA01				*e*		14 06 23.7	
VA01	**Torpederas**	**1.57**	**181**	Pn	**Pn**	**14 06 23.7**	**+2.0**
VA01	**Torpederas**	**1.57**	**181**	*i* P	**Pn**	**14 06 24.0**	**+2.3**
VA03	**San Esteban**	**1.59**	**146**	⇓*i*P	**Pn**	**14 06 23.1**	**+1.0**
VA03				*e*S	**Sn**	**14 06 42.4**	**+1.0**
VA03				IAML		14 06 46.1	
	comp=E,8μm,0.1s						
VA03	**San Esteban**	**1.59**	**146**		**Pn**	**14 06 23.5**	**+1.4**
VA03	**San Esteban**	**1.59**	**146**	*i* P	**Pn**	**14 06 23.0**	**+1.0**
ROCH	**El Roble**	**1.61**	**162**	*i* P	**Pn**	**14 06 24.3**	**+1.9**
ROCH				IAML		14 06 49.0	
	comp=N,6μm,0.3s						
RTLS	**Leoncito**	**2.01**	**101**	*i* P	**Pn**	**14 06 30.0**	**+2.1**
AUSP	**Uspallata**	**2.05**	**113**	*i* P	**Pn**	**14 06 31.0**	**+2.5**
MT05	**Renca**	**2.08**	**159**	*e*P	**Pn**	**14 06 31.0**	**+2.3**
MT05				IAML		14 06 59.2	
	comp=E,5μm,0.4s						
MT05	**Renca**	**2.08**	**159**	Pn	**Pn**	**14 06 30.7**	**+2.0**
MT05	**Renca**	**2.08**	**159**	*i* P	**Pn**	**14 06 31.0**	**+2.3**
VA05	**Santo Domingo**	**2.21**	**180**	*e*P	**Pn**	**14 06 32.4**	**+2.0**
VA05				IAML		14 07 10.9	
	comp=E,3μm,0.2s						
VA05	**Santo Domingo**	**2.21**	**180**	Pn	**Pn**	**14 06 32.4**	**+2.0**
AROD	**Rodeo**	**2.24**	**56**	*i* P	**Pn**	**14 06 35.0**	**+3.9**
ACCO	**Cerro Coronel**	**2.35**	**69**	*i* P	**Pn**	**14 06 36.0**	**+3.4**
MT09	**Talagante**	**2.38**	**167**	⇑*i*P	**Pn**	**14 06 35.4**	**+2.4**
MT09				IAML		14 07 14.0	
	comp=E,2μm,0.2s						
MT09	**Talagante**	**2.38**	**167**		**Pn**	**14 06 35.3**	**+2.3**
MT01	**Popeta**	**2.43**	**173**	*e*P	**Pn**	**14 06 35.6**	**+2.1**
MT01				IAML		14 07 12.7	
	comp=E,2μm,0.4s						
MT01	**Popeta**	**2.43**	**173**		**Pn**	**14 06 35.8**	**+2.3**
MT01	**Popeta**	**2.43**	**173**	*i* P	**Pn**	**14 06 36.0**	**+2.5**
ZON	**Zonda**	**2.51**	**93**		**Pn**	**14 06 37.4**	**+2.9**
ZON	**Zonda**	**2.51**	**93**	*i* P	**Pn**	**14 06 38.0**	**+3.4**
LCO	**Las Campanas**	**2.55**	**18**	*i* P	**Pn**	**14 06 37.8**	**+2.5**
LCO	**Las Campanas**	**2.55**	**18**	Pn	**Pn**	**14 06 37.5**	**+2.1**
LCO	**Las Campanas**	**2.55**	**18**	*i* P	**Pn**	**14 06 38.0**	**+2.6**
ASAL	**Salagasta**	**2.62**	**117**	*i* P	**Pn**	**14 06 40.0**	**+3.8**
RTCV	**Cerro Valdivia**	**2.65**	**100**	*i* P	**Pn**	**14 06 40.0**	**+3.4**
ARCO	**CERRO ARCO**	**2.67**	**122**	*i* P	**Pn**	**14 06 41.0**	**+4.1**
LMEL	**Las Melosas**	**2.67**	**154**	*e*P	**Pn**	**14 06 39.7**	**+2.7**
LMEL				IAML		14 07 18.0	
	comp=N,3μm,0.1s						
AAGR	**Agrelo**	**2.87**	**125**	*i* P	**Pn**	**14 06 44.0**	**+4.4**
BO01	**Tunca**	**2.97**	**172**	*e*P	**Pn**	**14 06 43.0**	**+2.1**
BO01				IAML		14 07 31.2	
	comp=N,451nm,0.4s						
BO01	**Tunca**	**2.97**	**172**	Pn	**Pn**	**14 06 42.9**	**+1.9**
BO01	**Tunca**	**2.97**	**172**	*i* P	**Pn**	**14 06 43.0**	**+2.1**
BO03	**Pichilemu**	**3.06**	**185**	*e*P	**Pn**	**14 06 43.5**	**+1.5**
AC04	**Llanos de Chal**	**3.26**	**8**	Pn	**Pn**	**14 06 46.5**	**+1.5**
AC04	**Llanos de Chal**	**3.26**	**8**	*i* P	**Pn**	**14 06 47.0**	**+2.1**
AGUA	**GUANDACOL**	**3.33**	**55**	*i* P	**Pn**	**14 06 50.0**	**+4.1**
BO02	**Sierra Bellavi**	**3.41**	**168**	*e*P	**Pn**	**14 06 49.0**	**+2.0**
BO02				IAML		14 07 42.5	
	comp=N,1μm,0.4s						
BO02	**Sierra Bellavi**	**3.41**	**168**		**Pn**	**14 06 49.2**	**+2.2**
BO02	**Sierra Bellavi**	**3.41**	**168**	*i* P	**Pn**	**14 06 50.0**	**+3.0**
GO05	**Huala**	**3.57**	**184**	*e*P	**Pn**	**14 06 50.5**	**+1.4**
GO05	**Huala**	**3.57**	**184**	Pn	**Pn**	**14 06 50.1**	**+1.0**
GO05	**Huala**	**3.57**	**184**	*i* P	**Pn**	**14 06 51.0**	**+1.9**
AVFE	**Valle Fertil**	**3.65**	**79**	*i* P	**Pn**	**14 06 52.0**	**+1.7**
VCA	**Vinchina**	**4.00**	**48**	*i* P	Pn	14 07 00.0	+4.8
GO03	**Copiap**	**4.02**	**18**		**Pn**	**14 06 57.5**	**+2.1**
LAMA	**Las Malvinas**	**4.02**	**151**	*i* P	**Pn**	**14 07 00.0**	**+4.6**
COIS	**El Sosneado**	**4.03**	**156**	*i* P	**Pn**	**14 07 00.0**	**+4.6**
AC06	**Mina Casimiro**	**4.22**	**15**	Pn	**Pn**	**14 06 59.6**	**+1.5**
RFA	**San Rafael**	**4.24**	**142**	*i* P	**Pn**	**14 07 01.0**	**+2.6**
ACHE	**Chepes**	**4.24**	**87**	*i* P	**Pn**	**14 07 01.0**	**+2.4**
ML02	**Panimavida**	**4.31**	**178**	Pn	**Pn**	**14 07 01.0**	**+1.7**
PUMA	**Malargue**	**4.43**	**156**	*i* P	Pn	14 07 06.0	+5.1
AC02	**Maricunga**	**5.08**	**26**	Pn	**Pn**	**14 07 12.1**	**+1.7**
AC02	**Maricunga**	**5.08**	**26**	*i* P	**Pn**	**14 07 13.0**	**+2.6**
CYA	**Choya**	**5.86**	**61**	*i* P	**Pn**	**14 07 22.0**	**+1.3**
H03N1	**Juan Fernandez** baz=78,slow=72,SNR=1283	**6.48**	**250**	T	T	14 14 16.2	
H03N3	**Juan Fernandez** baz=78,slow=72,SNR=1083	**6.50**	**250**	T	T	14 14 14.4	
H03N2	**Juan Fernandez** baz=78,slow=72,SNR=1714	**6.50**	**250**	T	T	14 14 18.0	
H03S3	**Juan Fernandez** baz=84,slow=75,SNR=16	**6.60**	**247**	T	T	14 14 34.0	
H03S1	**Juan Fernandez** baz=84,slow=75,SNR=12	**6.60**	**247**	T	T	14 14 31.9	
H03S2	**Juan Fernandez** baz=84,slow=75,SNR=13	**6.62**	**247**	T	T	14 14 27.7	
PB14	**IPOC Station P**	**6.88**	**9**	Pn	**Pn**	**14 07 36.3**	**+1.4**
AHML	**Horco Molle**	**7.19**	**51**	*i* P	**Pn**	**14 07 39.0**	**+0.1**
LC01	**Cunco**	**7.44**	**182**	Pn	**Pn**	**14 07 42.7**	**+0.4**
LC01	**Cunco**	**7.44**	**182**	*i* P	**Pn**	**14 07 43.0**	**+0.7**
PB10	**IPOC Station P**	**7.96**	**7**	Pn	**Pn**	**14 07 50.6**	**+1.2**
PB15	**IPOC Station P**	**8.42**	**14**	Pn	**Pn**	**14 07 54.3**	**-1.7**
PB06	**IPOC Station P**	**8.89**	**12**	Pn	**Pn**	**14 08 01.1**	**-1.3**
LVC	**Limon Verde** comp=N,0.3nm,0.3s,baz=264,slow=11,SNR=1.6	**9.12**	**16**	Pn	**Pn**	**14 08 04.9**	**-0.9**
LVC				Sn	**Sn**	**14 09 46.9**	**-0.5**
	comp=N,1.2nm,0.3s,baz=354,slow=17,SNR=1.3						
LVC				LR	LR	14 11 45.3	
	comp=N,87nm,21.2s,baz=219,slow=39						
LVC	**Limon Verde**	**9.12**	**16**	*i* P	**Pn**	**14 08 08.0**	**+2.2**
PB04	**IPOC Station P**	**9.17**	**9**	Pn	**Pn**	**14 08 07.4**	**+1.2**
PLCA	**Paso Flores** comp=N,0.2nm,0.3s,baz=346,slow=10,SNR=9.0	**9.31**	**175**	Pn	**Pn**	**14 08 09.0**	**+1.1**
PLCA				LR	LR	14 12 14.2	
	comp=N,46nm,20.1s,baz=315,slow=41						
PLCA	**Paso Flores**	**9.31**	**175**	Pn	**Pn**	**14 08 09.3**	**+1.4**
LL04	**Puerto Octay**	**9.47**	**184**	Pn	**Pn**	**14 08 10.3**	**+0.2**
PB09	**IPOC Station P**	**9.84**	**13**	Pn	Pn	14 08 10.6	-4.8
TRQA	**Tornquist**	**10.30**	**132**	Pn	**Pn**	**14 08 21.8**	**+0.2**
PB01	**IPOC Station P**	**10.53**	**11**	Pn	**Pn**	**14 08 22.3**	**-2.5**
PB08	**IPOC Station P**	**11.47**	**12**	Pn	Pn	14 08 33.2	-4.8
PSGCX	**Pisagua**	**11.87**	**7**	Pn	**Pn**	**14 08 41.3**	**-1.9**
ITQB	**Itaqui**	**13.04**	**86**	Pn	**Pn**	**14 08 57.0**	**-2.0**
CPUP	**Villa Florida** comp=N,0.5nm,0.3s,baz=238,slow=12,SNR=5.1	**13.51**	**71**	Pn	**Pn**	**14 09 03.3**	**-2.1**
CPUP				Sn	**Sn**	**14 11 32.3**	**-1.9**
	comp=N,0.5nm,0.3s,baz=302,slow=6.4,SNR=2.3						
CPUP				LR	LR	14 14 42.0	
	comp=N,84nm,20.4s,baz=222,slow=40						
CPUP	**Villa Florida**	**13.51**	**71**	Pn	**Pn**	**14 09 04.1**	**-1.3**
PLTB	**Pedras Altas**	**15.35**	**96**	Pn	**Pn**	**14 09 28.1**	**-2.1**
PLTB				IAmb	IAmb	14 09 54.7	
	comp=Z,9.6nm,1.0s						
LPAZ	**La Paz** comp=Z,0.2nm,0.3s,baz=159,slow=7.0,SNR=5.7	**15.42**	**13**	Pn	**Pn**	**14 09 31.2**	**-0.6**
LPAZ	**La Paz**	**15.42**	**13**		**Pn**	**14 09 30.3**	**-1.5**
SIV	**San Ignacio** comp=Z,0.3nm,0.3s,baz=218,slow=11,SNR=9.6	**18.14**	**34**	P	**P**	**14 10 05.2**	**-0.3**
NNA	**Nana** comp=Z,34nm,21.4s,baz=187,slow=33	**19.96**	**345**	LR	LR	14 16 46.3	
BDFB	**Brasilia** comp=Z,7.8nm,0.9s,baz=209,slow=8.1,SNR=6.8	**26.66**	**59**	P	**P**	**14 11 30.4**	**-1.6**
BDFB	**Brasilia**	**26.66**	**59**	P	**P**	**14 11 30.5**	**-1.4**
BDFB				IAmb	IAmb	14 11 32.6	
	comp=Z,7.9nm,0.9s						
CUPR	**Culebra, Puert**	**49.84**	**8**	P	**P**	**14 14 44.8**	**-1.0**
CUPR				IAmb	IAmb	14 15 11.0	
	comp=Z,7.4nm,1.0s						
EMPR	**Esperanza - Ma**	**49.87**	**6**	P	**P**	**14 14 44.4**	**-1.7**
VNA3	**Neumayer Olymp**	**51.59**	**159**	P	**P**	**14 14 59.6**	**+1.1**
VNA1	**Neumayer--Stat**	**51.89**	**158**	P	**P**	**14 15 01.7**	**+1.1**
VNA2	**Neumayer--Watz** baz=285,slow=8.7	**52.23**	**158**	P	**P**	**14 15 04.3**	**+1.0**
SNAA	**Sanae**	**53.82**	**159**	P	**P**	**14 15 15.9**	**+0.9**
SNAA	**Sanae**	**53.82**	**159**	P	**P**	**14 15 15.3**	**+0.3**
SNAA				IAmb	IAmb	14 15 16.6	
	comp=Z,4.2nm,0.9s						
TXAR	**Lajitas Array** comp=Z,0.4nm,0.6s,baz=155,slow=9.3,SNR=6.7	**67.70**	**330**	P	**P**	**14 16 52.2**	**+2.3**
TXAR	**Lajitas Array**	**67.70**	**330**	P	**P**	**14 16 48.6**	**-1.3**
MNTX	**Cornudas Mount**	**70.48**	**330**	P	**P**	**14 17 06.8**	**-0.3**
MNTX				IAmb	IAmb	14 17 08.7	
	comp=Z,1.2nm,0.7s						
R40A	**Maddies Statio**	**72.00**	**343**	P	**P**	**14 17 16.1**	**0.0**
R40A				IAmb	IAmb	14 17 17.9	
	comp=Z,5.0nm,0.7s						
N49A	**Columbus Grove**	**72.94**	**350**	P	**P**	**14 17 20.1**	**-1.5**
DBIC	**Dimbokro** comp=Z,7.9nm,0.8s,baz=227,slow=5.4,SNR=8.7	**74.03**	**72**	P	**P**	**14 17 28.5**	**-0.2**
DBIC	**Dimbokro**	**74.03**	**72**	P	**P**	**14 17 28.3**	**-0.4**
MAW	**Mawson** comp=Z,2.9nm,0.9s,baz=215,slow=6.0,SNR=7.2	**75.52**	**164**	P	**P**	**14 17 37.4**	**+1.0**
MAW	**Mawson**	**75.52**	**164**	P	**P**	**14 17 36.8**	**+0.3**
KOWA	**Kowa** comp=Z,3.2nm,0.6s,baz=239,slow=5.9,SNR=8.0	**79.26**	**66**	P	**P**	**14 17 58.3**	**+0.1**
KOWA	**Kowa**	**79.26**	**66**	P	**P**	**14 17 57.6**	**-0.5**
KOWA				IAmb	IAmb	14 18 17.3	
	comp=Z,6.5nm,0.8s						
BOSA	**Boshof** comp=Z,1.7nm,0.7s,baz=246,slow=7.0,SNR=3.2	**80.94**	**118**	P	**P**	**14 18 07.5**	**+0.2**
NVAR	**Mina Array Bea** comp=Z,0.5nm,0.9s,baz=204,slow=3.3,SNR=3.6	**82.00**	**325**	P	**P**	**14 18 15.4**	**+2.8**
TORD	**Torodi Ar. Bea** comp=Z,4.5nm,0.8s,baz=262,slow=4.9,SNR=22	**83.00**	**70**	P	**P**	**14 18 17.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**83.00**	**70**	P	**P**	**14 18 17.5**	**-0.6**
TORD				IAmb	IAmb	14 18 18.8	
	comp=Z,4.5nm,0.8s						
H11S2	**WAKE ISLAND Hyl** baz=117,slow=75,SNR=35	**26.13**	**271**	T	T	16 43 58.1	
H11S1	**WAKE ISLAND Hyl** baz=117,slow=75,SNR=25	**26.14**	**271**	T	T	16 43 59.0	
H11S3	**WAKE ISLAND Hyl** baz=117,slow=75,SNR=36	**26.15**	**271**	T	T	16 43 59.0	
H11N3	**WAKE ISLAND Hyl** baz=116,slow=75,SNR=33	**26.48**	**272**	T	T	16 44 23.8	
H11N1	**WAKE ISLAND Hyl** baz=116,slow=75,SNR=11	**26.50**	**272**	T	T	16 44 22.2	
H11N2	**WAKE ISLAND Hyl** baz=116,slow=75,SNR=36	**26.50**	**272**	T	T	16 44 25.9	
ZALV	**Zalesovo Beam** comp=Z,9.7nm,0.4s,baz=304,slow=3.1,SNR=38	**151.86**	**30**	PKPbc	**PKiKP**	**14 25 47.5**	**+0.4**
ZALV	**Zalesovo Beam**	**151.86**	**30**		**PKPbc**	**14 25 46.9**	**+0.2**
KSH	**Kashi**	**152.51**	**64**	PKPbc	**PKPdf**	**14 25 43.6**	**+1.7**
KSH				pPKP	pPKPdf	14 25 54.9	+1.2
MKAR	**Makanchi Array** comp=Z,0.7nm,0.7s,baz=328,slow=4.3,SNR=6.6	**154.76**	**45**	PKPbc	**PKiKP**	**14 25 53.5**	**+0.1**
MKAR				PKPab	**PKPab**	**14 26 07.7**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=350,slow=2.7,SNR=9.4						

*IDC **23** 14:15:36.8±0.8, 3°.20S×139°.56E, h0km, mb4.0/7, mb1 4.3/9, mb1mx3.9/26, mbtmp4.1/9, ML4.1/2, MS3.1/9, Ms1 3.2/9, ms1mx2.9/33, Error ellipse: s-maj=25.0km s-min=12.4km az=135.0*
*DJA **23** 14:15:40.3±2.3, 3°S±4°×140°E±°, h19km±24km, M4.5/8, mB5.2/2, mb4.4/8, MLv4.6/7, Mw(mB)4.5/2*

*NEIC **23** 14:15:47.5±2.0, 3°.88S±0°.09×139°.65E±0°.07, h38km±7km, mb4.2/20, Error ellipse: s-maj=12.5km s-min=10.1km az=193.0*

ISC 23 14:15:42.3±0.6, 3°42S±0°06×139°81E±0°06, h35km, n55, σ1°68/47, mb4.0/8, MS3.1/7, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.90**	**24**	P	**Pn**	**14 15 57.7**	**-0.8**
GENI				S	**Sn**	**14 16 10.5**	**+0.3**
JAY	**Jayapura** 184nm,0.3s,baz=225,slow=11,SNR=953	**1.27**	**45**	Pg	**Pn**	**14 16 02.6**	**-1.0**
JAY				Lg	Lg	14 16 19.9	
	215nm,0.3s,baz=59,slow=11,SNR=17						
JAY	**Jayapura**	**1.27**	**45**	P	**Pn**	**14 16 02.6**	**-1.0**
SMPI	**Sarmi**	**1.79**	**322**	P	**Pn**	**14 16 10.8**	**0.0**
SRPI	**Serui, Papua**	**3.88**	**293**	P	**Pn**	**14 16 39.1**	**-0.5**
MMPI	**Merauke** 2.3nm401nm,0.9s	**5.05**	**174**	P	**Pn**	**14 16 55.8**	**+0.3**
FAKI	**Fak Fak**	**7.56**	**274**	Pn	**Pn**	**14 17 33.4**	**+3.2**
FAKI	**Fak Fak** 0.1nm28nm,1.5s	**7.56**	**274**	P	**Pn**	**14 17 31.3**	**+1.1**
MANU	**Manus Island**	**7.67**	**80**	Pn	Pn	14 17 39.1	+7.4
COEN	**Coen**	**10.98**	**163**	Pn	**Pn**	**14 18 16.1**	**-1.0**
RABL	**Rabaul**	**12.35**	**94**	Pn	P	14 18 42.6	-4.9
MTN	**Manton Dam**	**12.70**	**222**	Pn	**Pn**	**14 18 39.2**	**-1.4**
KNRA	**Kununurra**	**16.33**	**221**		**Pn**	**14 19 28.9**	**-0.2**
KNRA				IAmb	IAmb	14 19 54.9	
	comp=Z,23nm,0.7s						
SOEI	**Soe**	**16.66**	**247**	Pn	**Pn**	**14 19 34.1**	**+0.7**
SOEI				IAmb	IAmb	14 20 01.4	
	comp=Z,34nm,1.0s						
SOEI	**Soe** comp=Z,32nm,0.9s	**16.66**	**247**	P	**Pn**	**14 19 33.4**	**-0.1**
WR0	**Warramunga Arr**	**17.22**	**197**	Pn	**Pn**	**14 19 38.1**	**-2.2**
WR0				IAmb	IAmb	14 19 44.9	
	comp=Z,18nm,1.1s						
WB2	**Warramunga Arr**	**17.26**	**198**	Pn	**Pn**	**14 19 38.5**	**-2.3**
WB2				IAmb	IAmb	14 20 03.6	
	comp=Z,10nm,0.7s						
WRA	**Warramunga Arr** comp=Z,1.5nm,0.3s,baz=8.4,slow=12,SNR=28	**17.27**	**198**	P	**Pn**	**14 19 41.3**	**+0.4**
WRA				S	**Sn**	**14 22 48.6**	**-3.5**
	comp=Z,0.2nm,0.3s,baz=11,slow=23,SNR=4.1						
WRA				LR	LR	14 26 05.7	
	comp=Z,100nm,20.5s,baz=175,slow=36						
WRA	**Warramunga Arr**	**17.27**	**198**	Pn	**Pn**	**14 19 38.4**	**-2.5**
DAV	**Davao City (W)** comp=Z,15nm,19.4s,baz=139,slow=39	**17.61**	**306**	LR	LR	14 26 52.8	
CTA	**Charters Tower** comp=Z,0.2nm,0.3s,baz=3.5,slow=13,SNR=2.7	**17.72**	**160**	P	**P**	**14 19 50.1**	**+3.1**
CTAO	**Charters Tower**	**17.72**	**160**	P	**P**	**14 19 48.8**	**+1.8**
MMRI	**Maumere**	**18.22**	**253**		**P**	**14 19 53.4**	**+0.8**
MMRI				IAmb	IAmb	14 19 54.6	
	comp=Z,26nm,0.9s						
TOLI2	**Tolitoli**	**19.54**	**283**	P	**Pn**	**14 20 08.6**	**0.0**
TOLI2				IAmb	IAmb	14 20 32.0	
	comp=Z,7.6nm,1.0s						
KAPI	**Kappang** comp=Z,38nm,20.6s,baz=42,slow=41	**20.06**	**265**	LR	LR	14 29 15.5	
FITZ	**Fitzroy Crossi** comp=Z,6.6nm,0.6s,baz=36,slow=12,SNR=34	**20.14**	**223**	P	**P**	**14 20 13.4**	**-0.1**
FITZ				S	**S**	**14 23 52.4**	**-5.5**
	comp=Z,2.6nm,0.7s,baz=99,slow=13,SNR=3.0						
FITZ				LR	LR	14 28 50.1	
	comp=Z,94nm,19.1s,baz=26,slow=39						
FITZ	**Fitzroy Crossi**	**20.14**	**223**		**P**	**14 20 12.9**	**-0.6**
FITZ				IAmb	IAmb	14 20 14.9	
	comp=Z,12nm,1.0s						
AS31	**Alice Springs**	**20.92**	**195**	P	**P**	**14 20 20.3**	**-1.8**
AS31				IAmb	IAmb	14 20 26.9	
	comp=Z,4.0nm,0.6s						
ASAR	**Alice Springs** comp=Z,9.5nm,0.8s,baz=26,slow=11,SNR=50	**20.92**	**195**	P	**P**	**14 20 23.0**	**+0.9**
ASAR				S	**S**	**14 24 16.0**	**+2.5**
	comp=Z,0.7nm,0.7s,baz=18,slow=26,SNR=3.2						
ASAR				LR	LR	14 29 09.2	
	comp=Z,89nm,21.5s,baz=354,slow=39						
ASAR	**Alice Springs**	**20.92**	**195**	P	**P**	**14 20 21.8**	**-0.3**
EIDS	**Eidsvold**	**24.37**	**155**	P	**P**	**14 20 59.0**	**+1.8**
EIDS				IAmb	IAmb	14 21 14.7	
	comp=Z,24nm,1.4s						
PSA00	**Pilbara Seismi**	**26.49**	**225**	P	**P**	**14 21 17.4**	**+0.8**
PSA00				IAmb	IAmb	14 21 45.3	
	comp=Z,6.1nm,1.5s						
STKA	**Stephens Creek** comp=Z,2.3nm,1.1s,baz=0.0,slow=8.1,SNR=1.6	**28.36**	**177**	P	**P**	**14 21 34.4**	**+1.1**
STKA				LR	LR	14 32 55.7	
	comp=Z,102nm,18.6s,baz=22,slow=36						
STKA	**Stephens Creek**

ILA	**Ilan**	**0.67 258**	*eP*	**Pb**	**14 27 17.9**	**+0.2**
	baz=255					
ILA			*eS*	**Sn**	**14 27 28.3**	**-1.3**
	baz=255					
YOJ	**Yonaguni jima**	**0.67 132**	P	**Pg**	**14 27 16.8**	**-0.4**
YOJ			*eS*	**Sg**	**14 27 26.3**	**+0.3**
YOJ	**Yonaguni jima**	**0.67 132**	P	**Pg**	**14 27 17.0**	**-0.2**
	baz=122					
YOJ			*eS*	**Sg**	**14 27 26.1**	**+0.1**
	baz=122					
TNOU	**National Taiwa**	**0.67 291**	*eP*	**Pg**	**14 27 15.1**	**-2.2**
	baz=289					
TNOU			*eS*	**Sg**	**14 27 23.9**	**-2.2**
	baz=289					
NDS	**Dongshan**	**0.73 248**	*eP*	**Pg**	**14 27 18.5**	**+0.1**
	baz=246					
NDS			S	**Sb**	**14 27 29.2**	**+0.5**
	baz=246					
TWE	**Neicheng**	**0.75 256**	*eP*	**Pg**	**14 27 18.8**	**+0.1**
	baz=245					
TWE			*eS*	**Sb**	**14 27 29.1**	**-0.1**
	baz=245					
EWUT	**Wuta**	**0.78 234**	*eP*	**Pg**	**14 27 19.4**	**+0.2**
	baz=231					
EWUT			*eS*	**Sb**	**14 27 30.1**	**+0.1**
	baz=231					
NWRT	**Kuosheng**	**0.79 292**	*eP*	**Pn**	**14 27 20.6**	**-0.3**
	baz=290					
NWRT			*eS*	**Sb**	**14 27 30.9**	**+0.6**
	baz=290					
PCYT	**Pengchaiyu**	**0.80 334**	*eP*	**Pg**	**14 27 19.9**	**+0.2**
	baz=333					
PCYT			*eS*	**Sn**	**14 27 32.4**	**-0.5**
	baz=333					
TWA	**Mucha**	**0.80 275**	*eP*	**Pb**	**14 27 20.2**	**+0.2**
	baz=273					
TWA			*eS*	**Sn**	**14 27 31.9**	**-1.2**
	baz=273					
ENA	**Nanau**	**0.81 234**	*eP*	**Pg**	**14 27 20.0**	**0.0**
	baz=231					
ENA			*eS*	**Sg**	**14 27 30.2**	**-0.4**
	baz=231					
NHDH	**Xindian Distri**	**0.85 274**	*eP*	**Pb**	**14 27 21.2**	**+0.4**
	baz=272					
NHDH			*eS*	**Sb**	**14 27 32.8**	**+0.5**
	baz=272					
ENTT	**Nioudou**	**0.86 252**	*eP*	**Pg**	**14 27 20.9**	**+0.1**
	baz=235					
ENTT			*eS*	**Sb**	**14 27 33.0**	**+0.5**
	baz=235					
TAP1	**Taipei**	**0.86 279**	*eS*	**Sn**	**14 27 34.1**	**-0.4**
	baz=276					
TWY	**Chenhua**	**0.86 295**	*eP*	**Pn**	**14 27 22.3**	**+0.3**
	baz=293					
TWY			*eS*	**Sn**	**14 27 34.4**	**-0.1**
	baz=293					
NSM	**Shimen**	**0.88 295**	*eS*	**Sn**	**14 27 34.9**	**+0.1**
	baz=294					
TAP	**Taipei**	**0.88 279**	*eS*	**Sn**	**14 27 34.0**	**-0.9**
	baz=276					
NWLT	**Wulai**	**0.88 262**	*eP*	**Pg**	**14 27 21.6**	**+0.3**
	baz=259					
NWLT			*eS*	**Sn**	**14 27 34.1**	**-0.9**
	baz=259					
TATO	**Taipei**	**0.89 274**	*eP*	**Pg**	**14 27 21.6**	**+0.2**
	baz=272					
TATO			*eS*	**Sg**	**14 27 33.4**	**+0.4**
	baz=272					
ANP	**Anpu**	**0.90 288**	*eP*	**Pn**	**14 27 22.5**	**-0.1**
	baz=273					
ANP			*eS*	**Sn**	**14 27 35.4**	**-0.2**
	baz=273					
NDT	**Datong Townshi**	**0.92 251**	*eP*	**Pg**	**14 27 22.3**	**+0.4**
	baz=232					
NDT			*eS*	**Sn**	**14 27 35.2**	**-0.7**
	baz=232					
TWS1	**Kuangyinshan**	**0.97 281**	*eP*	**Pn**	**14 27 23.4**	**-0.1**
	baz=280					
TWS1			*eS*	**Sn**	**14 27 37.4**	**+0.3**
	baz=280					
YHNB	**Yeheng**	**1.02 257**	*eP*	**Pb**	**14 27 23.8**	**+0.1**
	baz=268					
NSK	**Sanguang**	**1.03 257**	*eP*	**Pb**	**14 27 24.1**	**+0.1**
	baz=269					
NSK			*eS*	**Sn**	**14 27 39.0**	**+0.2**
	baz=269					
ETL	**Fush Village**	**1.07 226**	*eP*	**Pb**	**14 27 24.7**	**+0.1**
	baz=235					
ETL			*eS*	**Sn**	**14 27 39.4**	**-0.2**
	baz=235					
NACB	**Ninganchiao**	**1.08 227**	*eP*	**Pb**	**14 27 24.5**	**-0.2**
	baz=237					
NACB			*eS*	**Sg**	**14 27 39.1**	**0.0**
	baz=237					
NNSB	**Datong**	**1.09 244**	*eP*	**Pb**	**14 27 25.0**	**-0.1**
	baz=230					
NNSB			*eS*	**Sg**	**14 27 39.7**	**+0.1**
	baz=230					
NNS	**Nan Shan**	**1.10 245**	*eP*	**Pb**	**14 27 25.1**	**0.0**
	baz=243					
NNS			*eS*	**Sg**	**14 27 39.8**	**+0.1**
	baz=243					
ETLH	**Xiulin Townshi**	**1.14 232**	*eP*	**Pb**	**14 27 25.4**	**-0.3**
	baz=230					
ETLH			*eS*	**Sg**	**14 27 40.8**	**-0.1**
	baz=230					
TWD	**Chiawan**	**1.15 224**	*eP*	**Pn**	**14 27 25.8**	**0.0**
	baz=231					
TWD			*eS*	**Sb**	**14 27 40.7**	**+0.2**
	baz=231					
IRIF	**Iriomote-Funau**	**1.29 116**	P	**Pb**	**14 27 28.2**	**0.0**
IRIF			*eS*	**Sn**	**14 27 45.1**	**+0.2**
ETM	**Tongmen**	**1.29 223**	*eP*	**Pb**	**14 27 28.6**	**+0.2**
	baz=204					
ETM			*eS*	**Sg**	**14 27 46.1**	**+0.2**
	baz=204					
FUSS	**Fushou**	**1.29 240**	*eP*	**Pb**	**14 27 28.8**	**+0.3**
	baz=238					
FUSS			*eS*	**Sg**	**14 27 46.1**	**+0.2**
	baz=238					
TEYL	**Yanliau Villag**	**1.30 217**	*eP*	**Pb**	**14 27 28.5**	**0.0**
	baz=217					
WHF	**Hehuan Shan**	**1.33 235**	*eP*	**Pb**	**14 27 29.3**	**+0.1**
	baz=233					
WHF			*eS*	**Sn**	**14 27 46.7**	**0.0**
	baz=233					
LIOB	**Emei**	**1.34 259**	*eP*	**Pg**	**14 27 31.5**	**+1.5**
	baz=257					
TWT	**Tachien**	**1.34 241**	*eP*	**Pb**	**14 27 29.6**	**+0.3**
	baz=239					
TWT			*eS*	**Sg**	**14 27 48.0**	**+0.5**
	baz=239					
TDCB	**Techi**	**1.36 241**	*eP*	**Pg**	**14 27 30.0**	**-0.3**
	baz=239					
TDCB			*eS*	**Sg**	**14 27 47.5**	**-0.5**
	baz=239					
NSTT	**Nanjuang**	**1.36 258**	*eP*	**Pg**	**14 27 30.2**	**-0.1**
	baz=256					
NSTT			*eS*	**Sg**	**14 27 49.3**	**+1.3**
	baz=256					
ESL	**Shilin**	**1.44 221**	*eP*	**Pg**	**14 27 32.3**	**+0.4**
	baz=219					
ESL			*eS*	**Sg**	**14 27 52.1**	**+1.5**
	baz=219					
CHGB	**Renai**	**1.45 235**	*eP*	**Pb**	**14 27 31.4**	**+0.3**
	baz=233					
CHGB			*eS*	**Sg**	**14 27 51.0**	**+0.1**
	baz=233					
HATJ	**Hateruma jima**	**1.49 125**	P	**Pn**	**14 27 31.0**	**+0.4**
HATJ			*eS*	**Sg**	**14 27 52.0**	**-0.1**
OWD	**Renai**	**1.51 231**	*eP*	**Pb**	**14 27 32.4**	**+0.2**
	baz=242					
OWD			*eS*	**Sg**	**14 27 52.9**	**0.0**
	baz=242					
WHP	**Taichung City**	**1.52 246**	*eP*	**Pb**	**14 27 32.7**	**+0.4**
	baz=251					
WHP			*eS*	**Sg**	**14 27 52.3**	**-0.9**
	baz=251					
EGFH	**Guangfu**	**1.56 218**	*eP*	**Pg**	**14 27 33.5**	**-0.6**
	baz=199					
EGFH			*eS*	**Sg**	**14 27 53.4**	**-1.0**
	baz=199					
JKRS	**Kuro-shima**	**1.56 115**	P	**Pn**	**14 27 32.0**	**+0.4**
JKRS			S	**Sb**	**14 27 52.5**	**0.0**
JIJ	**Ishigaki jima**	**1.62 109**	P	**Pn**	**14 27 32.7**	**+0.3**
JIJ			*eS*	**Sg**	**14 27 56.2**	**-0.2**
TWQ1	**Liyutan**	**1.64 250**	*eP*	**Pg**	**14 27 35.5**	**-0.2**
	baz=264					
WPL	**Puli Township**	**1.64 237**	*eP*	**Pg**	**14 27 35.9**	**+0.2**
	baz=235					
WPL			*eS*	**Sg**	**14 27 56.4**	**-0.6**
	baz=235					
DPDB	**Guoxing**	**1.65 238**	*eP*	**Pb**	**14 27 34.5**	**0.0**
	baz=237					
WCS	**Beigang Elemen**	**1.65 239**	*eP*	**Pb**	**14 27 34.6**	**+0.1**
	baz=238					
HGSD	**Ruisui**	**1.70 214**	*eP*	**Pn**	**14 27 34.1**	**+0.6**
	baz=198					
HGSD			*eS*	**Sb**	**14 27 57.7**	**+1.0**
	baz=198					
EHY	**Hungye**	**1.75 217**	*eP*	**Pb**	**14 27 35.2**	**-0.8**
	baz=215					
SMLT	**Sun Moon Lake**	**1.76 235**	*eP*	**Pb**	**14 27 36.1**	**-0.2**
	baz=215					
SSLB	**Suanglung**	**1.77 231**	*eP*	**Pb**	**14 27 36.0**	**-0.6**
	baz=240					
SSLB			*eS*	**Sb**	**14 27 59.7**	**+1.0**
	baz=240					
TYC	**Yuchr**	**1.78 236**	*eP*	**Pb**	**14 27 36.8**	**+0.2**
	baz=234					
TYC			*eS*	**Sg**	**14 27 60.0**	**-1.3**
	baz=234					
YULB	**Yu-li**	**1.85 215**	*eP*	**Pn**	**14 27 35.6**	**0.0**
	baz=214					
EYUL	**Yuli**	**1.88 214**	*eP*	**Pb**	**14 27 37.8**	**-0.5**
	baz=200					
TWF1	**Yuli**	**1.88 215**	*eP*	**Pn**	**14 27 36.5**	**+0.4**
	baz=213					
WHYT	**Xinyi Township**	**1.90 231**	*eP*	**Pb**	**14 27 38.2**	**-0.6**
	baz=212					
WHYT			*eS*	**Sb**	**14 28 03.6**	**+1.1**
	baz=212					
YUS	**Yu-Shan**	**1.98 225**	*eP*	**Pn**	**14 27 38.5**	**+0.7**
	baz=206					
FULB	**Fuli**	**2.01 212**	*eP*	**Pb**	**14 27 39.6**	**-1.0**
	baz=196					
ALS	**Alishan**	**2.06 228**	*eP*	**Pb**	**14 27 40.9**	**-0.7**
	baz=209					
CHN5	**Tsauling**	**2.09 232**	*eP*	**Pb**	**14 27 41.3**	**-0.7**
	baz=213					
EDH	**Donghe**	**2.20 209**	*eP*	**Pn**	**14 27 40.1**	**-0.3**
	baz=195					
EDH			*eS*	**Sn**	**14 28 07.5**	**-0.1**
	baz=195					
CHN4	**Tsaushan**	**2.31 228**	*eP*	**Pb**	**14 27 44.4**	**-1.3**
	baz=211					
TPUB	**Ta-pu**	**2.32 227**	*eP*	**Pb**	**14 27 44.5**	**-1.4**
	baz=209					
TPUB			*eS*	**Sb**	**14 28 13.7**	**-0.8**
	baz=209					
STYH	**Taoyuan**	**2.32 222**	*eP*	**Pn**	**14 27 43.5**	**+1.4**
	baz=205					
SSD	**Sandimen**	**2.73 218**	*eP*	**Pb**	**14 27 50.3**	**-2.5**
	baz=203					
MASBT	**Mashibuluo**	**2.84 217**	*eP*	**Pn**	**14 27 51.2**	**+2.0**
	baz=215					

WEL 23 14:33:35.7±0.9, 46°S±6°×16°7E±°, h63km±12km, M3.6/13, ML3.9/17, MLv3.6/13, Error ellipse: s-maj=0.0km s-min=0.0km az=108.1, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.46**	**203**	P	Pn	14 33 48.4	+0.9
PYZ				S	Sn	14 33 57.7	+1.6
WHZ	**Wether Hill Ro**	**0.72**	**102**	P	Pn	14 33 51.9	+1.5
WHZ				S	Sn	14 34 03.8	+2.6
MLZ	**Mavora Lakes**	**0.91**	**66**	P	Pn	14 33 54.5	+1.7
MSZ	**Milford Sound**	**1.28**	**34**	P	Pn	14 33 58.6	+1.1
APZ	**The Paps**	**1.31**	**147**	P	Pn	14 33 58.8	+0.8
APZ				S	Sn	14 34 15.4	+0.7
SYZ	**Scrubby Hill**	**1.72**	**118**	P	Pn	14 34 04.0	+0.6
WKZ	**Wanaka**	**1.73**	**59**	P	Pn	14 34 05.3	+1.7
EAZ	**Earnscleugh**	**1.74**	**74**	P	Pn	14 34 05.1	+1.4
EAZ				S	Sn	14 34 26.5	+1.5
TUZ	**Tuapeka**	**1.89**	**97**	P	Pn	14 34 06.7	+1.0
TUZ				S	Sn	14 34 28.0	-0.5
JCZ	**Jackson Bay**	**2.12**	**39**	P	Pn	14 34 10.2	+1.2
HHSZ	**Highcliff Hill**	**2.56**	**94**	P	Pn	14 34 15.4	+0.6
LBZ	**Lake Benmore**	**2.67**	**61**	P	Pn	14 34 16.1	-0.2
LBZ				S	Sn	14 34 47.6	+0.1
ODZ	**Otahua Downs**	**2.70**	**76**	P	Pn	14 34 16.4	-0.4
ODZ				S	Sn	14 34 47.3	-1.0
FOZ	**Fox Glacier**	**3.02**	**44**	P	Pn	14 34 21.0	0.0
TMZ	**Timaru**	**3.19**	**66**	P	Pn	14 34 22.6	-0.7
GCSZ	**Gaunt Creek Bo**	**3.43**	**46**	P	Pn	14 34 26.1	-0.5
ARCZ	**Arundel**	**3.51**	**61**	P	Pn	14 34 26.6	-1.2
RPZ	**Rata Peaks**	**3.56**	**57**	P	Pn	14 34 27.4	-1.1
WVZ	**Waitaha Valley**	**3.81**	**47**	P	Pn	14 34 31.2	-0.7
WACZ	**Wakanui South**	**3.92**	**64**	P	Pn	14 34 32.5	-0.9
MHCZ	**Mount Hutt**	**3.98**	**58**	P	Pn	14 34 32.7	-1.4
OXZ	**Oxford**	**4.37**	**58**	P	Pn	14 34 37.7	-1.9
INZ	**Inchbonnie**	**4.42**	**49**	P	Pn	14 34 39.5	-0.8
MQZ	**McQueen's Vall**	**4.55**	**65**	P	Pn	14 34 40.5	-1.5
AKCZ	**Akaroa Harbour**	**4.64**	**68**	P	Pn	14 34 42.1	-1.2
OKCZ	**Okains Bay**	**4.80**	**67**	P	Pn	14 34 45.1	-0.4
LTZ	**Lake Taylor**	**4.84**	**54**	P	Pn	14 34 44.3	-1.7
GVZ	**Greta Valley S**	**5.18**	**60**	P	Pn	14 34 49.6	-1.0
DSZ	**Denniston Nort**	**5.33**	**43**	P	Pn	14 34 51.0	-1.6
THZ	**Tophouse**	**5.87**	**49**	P	Pn	14 34 58.5	-1.7
QRZ	**Quartz Range**	**6.39**	**42**	P	Pn	14 35 06.2	-0.9

MEX 23 14:36:51.9±0.4, 14°26N×92°27W, h16km±101km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.71**	**327**	*eP*	Pn	14 37 18.1	-2.9
PCIG				*eS*	Sn	14 37 37.5	-5.0

*NEIC **23** 14:44:30.5±2.2, 36°.37N±0°.05×140°.00E±0°.06, h75km±3km, mb4.5/42, Error ellipse: s-maj=7.5km s-min=6.7km az=56.0*

*NIED **23** 14:44:30.4, 36°.34N×139°.96E, h77km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; M_{rr}=0.16; $M_{\theta\theta}$=0.14; $M_{\phi\phi}$=0.02; $M_{r\theta}$=0.62; $M_{\theta\phi}$=0.00; $M_{\phi r}$=1.21; Fault plane solution: M_0=1.36000×10^15^ NP1: ϕ_s=207.00000°, δ=88.00000°, λ=-92.00000°. NP2: ϕ_s=70.00000°, δ=3.00000°, λ=-48.00000°.*

*JMA **23** 14:44:30.3±0.1, 36°.34N×139°.96E, h77km±1km, M3.7 Broadband fault plane solution: P waves. NP1: ϕ_s=283.00000°, δ=14.00000°, λ=165.00000°. NP2: ϕ_s=27.00000°, δ=86.00000°, λ=76.00000°. Principal axes: T Plg=47.0000°, Azm=283.0000°; N Plg=14.0000°, Azm=28.0000°; P Plg=40.0000°, Azm=130.0000°;*

JMA Felt II J1.

*IDC **23** 14:44:31.6±1.1, 36°.30N×139°.86E, h94km±9km, mb3.7/23, mb1 3.8/28, mb1mx3.7/52, mbtmp4.0/28, MS2.6/7, Ms1 2.6/7, ms1mx2.5/39 Error ellipse: s-maj=14.2km s-min=8.2km az=68.0*

ISC 23 14:44:29.9±0.6, 36°.32N±0°.04×140°.00E±0°.04, h78km±5km, n125, σ1§19/134, mb4.3/46, 1C-7D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.18**	**121**	⇑P	**Pn**	**14 44 42.0**	**+0.7**
JYT				S	**Sn**	**14 44 50.7**	**+1.0**
JYT	**Yasato**	**0.18**	**121**		**Pn**	**14 44 42.1**	**+0.7**
JYT					**Sn**	**14 44 49.7**	**-0.1**
JAG	**Ashikaga**	**0.45**	**283**	⇓P	**Pn**	**14 44 43.1**	**+0.1**
JAG				S	**Sn**	**14 44 52.8**	**+0.1**
JKT	**Katashina**	**0.75**	**307**	⇓P	**Pn**	**14 44 46.2**	**+0.2**
JKT				S	**Sn**	**14 44 58.6**	**+0.6**
JRY	**Ryogami san**	**0.94**	**251**	⇓P	**Pn**	**14 44 48.5**	**+0.4**
JRY				S	**Sn**	**14 45 02.2**	**+0.5**
JFY	**Yanaizu**	**1.11**	**348**	⇓P	**Pn**	**14 44 50.4**	**+0.2**
JFY				S	**Sn**	**14 45 05.3**	**-0.1**
JFT	**Otama**	**1.23**	**13**	⇓P	**Pn**	**14 44 52.3**	**+0.7**
JFK	**Kawauchi**	**1.26**	**34**	P	**Pn**	**14 44 52.5**	**+0.4**
JFK				*eS*	**Sn**	**14 45 08.7**	**0.0**
JOD2	**Odawara 2**	**1.29**	**215**	⇓P	**Pn**	**14 44 52.7**	**+0.2**
JOD2				S	**Sn**	**14 45 09.0**	**-0.4**
JYN	**Shimob**	**1.44**	**236**	P	**Pn**	**14 44 55.3**	**+0.9**
MJAR	**Matsushiro Arr**	**1.46**	**279**	P	**Pn**	**14 44 54.2**	**-0.4**
	15nm,0.3s,baz=90,slow=15,SNR=600						
MJAR				S	**Sn**	**14 45 13.8**	**+0.5**
	7.2nm,0.3s,baz=96,slow=16,SNR=3.8						
MJAR	**Matsushiro Arr**	**1.46**	**279**	Pn	**Pn**	**14 44 54.5**	**-0.2**
MAJO	**Matsushiro**	**1.46**	**279**		**Pn**	**14 44 55.0**	**+0.3**
MAT	**Matsushiro**	**1.46**	**279**	P	**Pn**	**14 44 55.1**	**+0.4**
MAT				S	**Sn**	**14 45 11.6**	**-1.7**
MAT	**Matsushiro**	**1.46**	**279**	P	**Pn**	**14 44 55.1**	**+0.4**
MJB9	**Matsu-Tunnel**	**1.46**	**279**		**Pn**	**14 44 55.1**	**+0.4**
JFNN	**Fujinakano**	**1.55**	**224**	P	**Pn**	**14 44 56.7**	**+0.9**
JFNN				*eS*	**Sn**	**14 45 16.1**	**+0.7**
JNS	**Sasagawa**	**1.59**	**340**	⇓P	**Pn**	**14 44 56.7**	**+0.4**
JMM	**Marumori**	**1.67**	**22**		**Pn**	**14 44 58.0**	**+0.7**
JSD	**Sado**	**2.20**	**321**	Pn	**Pn**	**14 45 04.0**	**-0.5**
JSG	**Sagara**	**2.21**	**223**	Pn	**Pn**	**14 45 06.3**	**+1.7**
JGF	**Kuroka**	**2.26**	**252**		**Pn**	**14 45 06.5**	**+1.2**
INU	**Inuyama**	**2.61**	**249**	Pn	**Pn**	**14 45 11.2**	**+1.2**
JHJ	**Hachijo jima 2**	**3.20**	**183**	P	**Pn**	**14 45 18.7**	**+0.8**
	80nm,0.3s,baz=77,slow=21,SNR=18						
JHJ				S	**Sn**	**14 45 57.2**	**+2.2**
	51nm,0.3s,baz=75,slow=23,SNR=6.9						
JHJ				LR	LR	14 46 59.3	
	comp=Z,60nm,18.0s,baz=1.5,slow=46						
JHJ2	**Mitsune**	**3.21**	**183**	Pn	**Pn**	**14 45 19.5**	**+1.5**
JWT	**Wachi**	**3.88**	**256**	Pn	**Pn**	**14 45 28.6**	**+1.4**
JTM	**Tenmabayashi**	**4.54**	**10**	Pn	**Pn**	**14 45 36.4**	**+0.3**
JMN	**Monobe**	**5.65**	**245**	Pn	**Pn**	**14 45 51.8**	**+0.5**
JHS	**Saijyo**	**5.76**	**259**	Pn	**Pn**	**14 45 54.5**	**+1.7**
ERM	**Erimo**	**6.19**	**22**	Pn	**Pn**	**14 45 56.8**	**-1.9**
JEW	**Eniwo**	**6.61**	**9**	Pn	**Pn**	**14 46 03.1**	**-1.2**
ASAJ	**Asahikawa**	**8.04**	**14**	P	**Pn**	**14 46 21.6**	**-2.2**
	1.6nm,0.3s,baz=218,slow=16,SNR=24						
ASAJ				S	**Sn**	**14 47 50.5**	**-2.6**
	0.6nm,0.3s,baz=15,slow=33,SNR=2.2						
ASAJ				LR	LR	14 50 40.9	
	comp=Z,18nm,20.5s,baz=204,slow=46						
JKA	**Kamikawa-asahi**	**8.04**	**14**	Pn	**Pn**	**14 46 22.9**	**-0.9**
JNU	**Nakatsue**	**8.16**	**250**	P	**Pn**	**14 46 25.0**	**-0.7**
	0.3nm,0.3s,baz=186,slow=21,SNR=1.0						
JCJ	**Chichijima**	**9.38**	**168**	P	**Pn**	**14 46 39.4**	**-3.0**
	8.3nm,0.3s,baz=218,slow=20,SNR=1.4						
JCJ				S	**Sn**	**14 48 21.5**	**-4.7**
	7.7nm,0.3s,baz=353,slow=21,SNR=1.6						
KSRS	**Korea Array**	**9.74**	**280**	P	**Pn**	**14 46 49.0**	**+1.9**
	0.2nm,0.3s,baz=97,slow=14,SNR=16						
KSRS				LR	LR	14 50 28.8	
	comp=Z,30nm,18.6s,baz=80,slow=37						
USA0B	**Ussuriysk Arra**	**9.96**	**325**		**Pn**	**14 46 52.9**	**+2.7**
USRK	**Ussuriysk Ar.**	**9.96**	**325**	P	**Pn**	**14 46 52.0**	**+1.9**
	baz=138,slow=13,SNR=16						
USRK	**Ussuriysk Ar.**	**9.96**	**325**	Pn	**Pn**	**14 46 52.5**	**+2.4**
MDJ	**Mudanjiang**	**11.46**	**320**	P	**Pn**	**14 47 09.8**	**-0.7**
MDJ				pP		14 47 30.1	
MDJ				S	**Sn**	**14 49 16.0**	**-0.6**
MDJ				ScP	**ScP**	**14 56 23.8**	**+1.3**
MDJ				PcS	**PcS**	**14 56 31.3**	**+0.8**
MDJ	**Mudanjiang**	**11.46**	**320**	ScS	ScS	14 59 58.1	+0.2
MDJ				pmax	pmax		
	comp=Z,9.0nm,2.0s						
MDJ				pmax	pmax		
	comp=Z,56nm,3.7s						
MDJ				LR	LR		
	comp=N,98nm,5.7s						
MDJ				LR	LR		
	comp=E,160nm,4.4s						
MDJ				LR	LR		
	comp=Z,120nm,5.3s						
KLR	**Kul'dur**	**14.24**	**338**	P	**Pn**	**14 47 48.1**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=349,slow=13,SNR=2.6						
KLR				LR	LR	14 52 51.2	
	comp=Z,15nm,18.3s,baz=192,slow=35						
NJ2	**Nanjing**	**18.00**	**262**	*eP*	**Pn**	**14 48 36.0**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
BJI	**Beijing**	**19.08**	**288**	P	**Pn**	**14 48 47.3**	**-0.4**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
PETK	**Petropavlovsk-**	**20.88**	**31**	P	**P**	**14 49 07.6**	**+2.0**
	comp=Z,0.7nm,0.7s,baz=270,slow=1.5,SNR=1.8						
HHC	**Hu-ho-hao-te**	**22.63**	**290**	*eP*	**P**	**14 49 25.0**	**+0.4**
HHC				pmax	pmax		
	comp=Z,19nm,0.8s						
HHC				pmax	pmax		
	comp=Z,56nm,5.7s						
GUMO	**Guam**	**23.05**	**168**	LR	LR	14 57 52.1	
	comp=Z,24nm,21.2s,baz=118,slow=35						
MA2	**Magadan**	**24.30**	**13**	P	**P**	**14 49 40.7**	**+0.9**
	comp=Z,7.4nm,0.7s,baz=187,slow=14,SNR=1.7						
SONM	**Songino Array**	**27.25**	**305**	P	**P**	**14 50 04.8**	**-2.0**
	comp=Z,1.0nm,0.5s,baz=111,slow=8.7,SNR=8.4						
SONM				LR	LR	15 01 11.8	
	comp=Z,24nm,21.4s,baz=58,slow=37						
SONM	**Songino Array**	**27.25**	**305**	P	**P**	**14 50 06.7**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**28.79**	**118**	T	T	15 20 34.0	
	baz=313,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**28.80**	**118**	T	T	15 20 37.0	
	baz=313,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**28.81**	**118**	T	T	15 20 37.6	
	baz=313,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**29.46**	**120**	T	T	15 21 23.7	
	baz=314,slow=76,SNR=33						
H11S3	**WAKE ISLAND Hy**	**29.46**	**120**	T	T	15 21 28.4	
	baz=314,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**29.48**	**120**	T	T	15 21 21.5	
	baz=314,slow=76,SNR=20						
GTA	**Gaotai**	**31.69**	**288**	*eP*	**P**	**14 50 45.3**	**-0.9**
GTA				pP	pP	14 50 57.0	-7.5
GTA				sP	sP	14 51 01.3	-12
GTA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
WMQ	**Urumqi**	**40.15**	**297**	*eP*	**P**	**14 52 00.9**	**+2.6**
ZAA0	**Zalesovo Array**	**41.56**	**313**	P	**P**	**14 52 08.5**	**-1.1**
ZAA0				IAmb	IAmb	14 52 09.8	
	comp=Z,6.5nm,1.0s						
ZALV	**Zalesovo Beam**	**41.56**	**313**	P	**P**	**14 52 09.1**	**-0.5**
	comp=Z,4.5nm,0.7s,baz=88,slow=7.3,SNR=20						
ZALV	**Zalesovo Beam**	**41.56**	**313**	P	**P**	**14 52 08.5**	**-1.2**
TNA	**Tin City**	**42.03**	**29**	P	**P**	**14 52 15.0**	**+1.6**
NRIK	**Noril'sk**	**43.44**	**336**	P	**P**	**14 52 23.7**	**-1.1**
	comp=Z,1.3nm,0.4s,baz=98,slow=1.7,SNR=1.8						
MK31	**Makanchi Array**	**43.54**	**303**	P	**P**	**14 52 24.6**	**-1.3**
MKAR	**Makanchi Array**	**43.54**	**303**	P	**P**	**14 52 25.2**	**-0.6**
	comp=Z,3.0nm,0.8s,baz=83,slow=9.9,SNR=24						
MKAR	**Makanchi Array**	**43.54**	**303**		**P**	**14 52 25.0**	**-0.9**
MAKZ	**Makanchi**	**

SCM	**Sheep Creek Mo**	**50.71**	**36**	P	**P**	**14 53 21.9**	**+0.4**
RIDG	**Independent Ri**	**51.67**	**33**	P	**P**	**14 53 28.8**	**+0.2**
RIDG				IAmb	IAmb	14 53 38.4	
	comp=Z,8.0nm,1.4s						
SCRK	**Sand Creek**	**52.02**	**33**	P	**P**	**14 53 31.6**	**+0.3**
DOT	**Dot Lake**	**52.03**	**33**	P	**P**	**14 53 31.5**	**+0.3**
DOT				IAmb	IAmb	14 53 33.1	
	comp=Z,2.1nm,0.6s						
N25K	**Chitina, Valde**	**52.03**	**36**	P	**P**	**14 53 32.1**	**+0.8**
N25K				IAmb	IAmb	14 53 48.0	
	comp=Z,6.4nm,1.2s						
KK31	**Karatay Array**	**52.50**	**300**	P	**P**	**14 53 34.0**	**-1.0**
KK31				IAmb	IAmb	14 53 38.7	
	comp=Z,5.5nm,1.1s						
KKAR	**Karatay Array**	**52.50**	**300**	P	**P**	**14 53 33.6**	**-1.3**
KNRA	**Kununurra**	**52.80**	**194**	P	**P**	**14 53 37.5**	**+0.3**
KNRA				IAmb	IAmb	14 53 38.5	
	comp=Z,12nm,1.1s						
L27K	**Beaver Creek,**	**53.10**	**34**	P	**P**	**14 53 40.5**	**+1.3**
L27K				IAmb	IAmb	14 53 42.8	
	comp=Z,4.6nm,1.4s						
BCAR	**Beaver Creek A**	**53.12**	**34**	P	**P**	**14 53 40.6**	**+1.3**
EGAK	**Eagle**	**53.14**	**32**	P	**P**	**14 53 40.0**	**+0.6**
EGAK				IAmb	IAmb	14 53 59.0	
	comp=Z,3.1nm,1.1s						
M27K	**Edge Creek, AK**	**53.19**	**35**	P	**P**	**14 53 41.4**	**+1.5**
M27K				IAmb	IAmb	14 53 56.8	
	comp=Z,4.8nm,1.3s						
LOGN	**Logan Glacier**	**53.87**	**37**	P	**P**	**14 53 45.4**	**+0.4**
LOGN				IAmb	IAmb	14 53 54.0	
	comp=Z,10nm,1.4s						
CHGR	**Chuyangaron**	**54.94**	**295**	P	**P**	**14 53 54.2**	**+1.2**
INK	**Inuvik**	**55.53**	**27**	P	**P**	**14 53 56.3**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=175,slow=32,SNR=1.2						
HYT	**Haines Junctio**	**55.55**	**36**	P	**P**	**14 53 58.6**	**+1.6**
HYT				IAmb	IAmb	14 54 23.2	
	comp=Z,12nm,1.4s						
FITZ	**Fitzroy Crossi**	**55.80**	**197**	P	**P**	**14 53 59.1**	**0.0**
	comp=Z,0.9nm,0.7s,baz=32,slow=5.7,SNR=6.8						
FITZ	**Fitzroy Crossi**	**55.80**	**197**	P	**P**	**14 54 00.2**	**+1.1**
WRAB	**Tennant Creek**	**56.20**	**186**	P	**P**	**14 54 03.7**	**+1.7**
WB2	**Warramunga Arr**	**56.21**	**186**	P	**P**	**14 54 01.6**	**-0.4**
WB2				IAmb	IAmb	14 54 24.0	
	comp=Z,7.7nm,1.4s						
WR0	**Warramunga Arr**	**56.21**	**186**	P	**P**	**14 54 01.3**	**-0.8**
WR0				IAmb	IAmb	14 54 09.8	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**56.21**	**186**	P	**P**	**14 54 01.8**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=0.8,slow=7.2,SNR=14						
WRA				PcP	**PcP**	**14 54 59.0**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=1.5,slow=4.5,SNR=2.1						
WRA	**Warramunga Arr**	**56.21**	**186**	P	**P**	**14 54 01.2**	**-0.9**
ABKAR	**Akbulak array**	**57.53**	**310**	P	**P**	**14 54 10.2**	**-0.9**
ASAR	**Alice Springs**	**59.94**	**186**	P	**P**	**14 54 27.0**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=5.3,slow=6.9,SNR=7.3						
EUNU	**Eureka**	**61.06**	**8**	P	**P**	**14 54 34.5**	**-0.6**
EUNU				IAmb	IAmb	14 54 41.1	
	comp=Z,8.8nm,1.4s						
FINES	**FINESS Array B**	**68.91**	**332**	P	**P**	**14 55 27.3**	**+1.2**
	comp=Z,5.2nm,1.1s,baz=60,slow=8.2,SNR=2.0						
KBZ	**Khabaz**	**70.50**	**310**	P	**P**	**14 55 36.4**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=106,slow=12,SNR=3.8						
AKASG	**Malin Array Be**	**74.16**	**322**	P	**P**	**14 55 56.5**	**-1.3**
	comp=Z,1.6nm,0.7s,baz=58,slow=5.5,SNR=5.2						
AKASC	**Malin Array Be**	**74.16**	**322**	IAmb	IAmb	14 55 57.6	
	comp=Z,1.8nm,1.2s						
NOA	**NORSAR Array B**	**74.40**	**337**	P	**P**	**14 55 58.2**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=41,slow=5.9,SNR=6.6						
NOA				LR	LR	15 31 45.4	
	comp=Z,7.2nm,19.1s,baz=330,slow=38						
NVAR	**Mina Array Bea**	**76.32**	**52**	P	**P**	**14 56 11.8**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=289,slow=5.0,SNR=8.6						
BRTR	**Keskin Array B**	**78.47**	**311**	P	**P**	**14 56 23.1**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=44,slow=3.1,SNR=4.6						
BRTR	**Keskin Array B**	**78.47**	**311**	P	**P**	**14 56 22.2**	**-0.5**
PDAR	**Pinedale Array**	**78.97**	**45**	P	**P**	**14 56 26.1**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=74,slow=33,SNR=2.5						
TXAR	**Lajitas Array**	**91.45**	**52**	P	**P**	**14 57 28.5**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=138,slow=30,SNR=2.6						

*IDC **23** 14:47:27.2±0.9, 31°.43S×71°.56W, h0km, mb3.9/4, mb1 3.9/9, mb1mx3.7/31, mbtmp3.7/9, ML3.7/5, MS3.1/3, Ms1 3.0/3, ms1mx2.6/26, Error ellipse: s-maj=38.0km s-min=23.3km az=98.0*

*NEIC **23** 14:47:28.8±2.0, 31°.43S±0°.04×71°.87W±0°.07, h10km±1km, mb4.3/1, ML4.0(GUC), Error ellipse: s-maj=10.5km s-min=5.7km az=112.0*

*GUC **23** 14:47:30.8±0.8, 31°.50S×71°.74W, h36km±3km, ML4.0*

ISC 23 14:47:28.5±1.5, 31°.44S±0°.03×71°.75W±0°.07, h12km±9km, n70, σ0°.85/70, mb4.1/4, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**0.77**	**7**	*eP*		**Pn**	**14 47 46.3**	**+1.0**
CO06				*i* S		**Sn**	**14 47 57.4**	**+0.7**
CO06				IAML			14 47 59.6	
	comp=N,5μm,0.7s							
CO06	**Fray Jorge**	**0.77**	**7**			**Pn**	**14 47 46.2**	**+1.0**
CO06				Sn		**Sn**	**14 47 56.6**	**-0.1**
CO03	**El Pedregal**	**1.09**	**57**	*eP*		**Pn**	**14 47 50.9**	**+1.2**
CO03				*i* S		**Sn**	**14 48 05.1**	**+0.4**
CO03	**El Pedregal**	**1.09**	**57**	Pn		**Pn**	**14 47 50.2**	**+0.5**
VA06	**Catapilco**	**1.18**	**161**	*eP*		**Pb**	**14 47 50.9**	**+0.1**
VA06				*i* S		**Sb**	**14 48 05.4**	**-0.7**
VA06				IAML			14 48 08.0	
	comp=N,11μm,0.3s							
GO04	**Tololo Observa**	**1.50**	**33**	*eP*		**Pg**	**14 47 57.4**	**-0.1**
GO04				*i* S		**Sg**	**14 48 17.8**	**+0.8**
GO04				IAML			14 48 20.2	
	comp=N,3μm,0.4s							
GO04	**Tololo Observa**	**1.50**	**33**	Pn		**Pg**	**14 47 57.4**	**-0.1**
CO05	**La Serena**	**1.58**	**16**	*eP*		**Pg**	**14 47 58.6**	**-0.2**
CO05				*i* S		**Sg**	**14 48 20.3**	**+1.0**
CO05				IAML			14 48 26.4	
	comp=E,1μm,0.7s							
CO05	**La Serena**	**1.58**	**16**			**Pb**	**14 47 58.1**	**+0.5**
VA01	**Torpederas**	**1.58**	**177**	*eP*		**Pn**	**14 47 56.4**	**+0.1**
VA01				*i* S		**Sn**	**14 48 16.6**	**0.0**
VA01				IAML			14 48 21.9	
	comp=E,1μm,0.3s							
VA01	**Torpederas**	**1.58**	**177**	Pn		**Pn**	**14 47 56.2**	**-0.1**
ROCH	**El Roble**	**1.65**	**158**	*eP*		**Pn**	**14 47 58.2**	**+0.7**
ROCH				*i* S		**Sn**	**14 48 19.3**	**+0.5**
ROCH				IAML			14 48 25.3	
	comp=N,3μm,0.4s							
VA03	**San Esteban**	**1.67**	**143**	*eP*		**Pn**	**14 47 58.7**	**+1.1**
VA03				*i* S		**Sn**	**14 48 19.6**	**+0.7**
VA03				IAML			14 48 23.1	
	comp=E,9μm,0.1s							
VA03	**San Esteban**	**1.67**	**143**			**Pb**	**14 47 59.0**	**-0.2**
MT05	**Renca**	**2.12**	**157**	*eP*		**Pn**	**14 48 05.1**	**+1.2**
MT05				*i* S		**Sn**	**14 48 31.6**	**+1.3**
MT05				IAML			14 48 42.2	
	comp=N,3μm,0.2s							
MT05	**Renca**	**2.12**	**157**	Pn		**Pn**	**14 48 05.1**	**+1.2**
VA05	**Santo Domingo**	**2.21**	**177**			**Pn**	**14 48 04.9**	**-0.1**
MT09	**Talagante**	**2.42**	**165**	⇓*i*	*P*	**Pn**	**14 48 09.3**	**+1.3**
MT09				*i* S		**Sn**	**14 48 38.1**	**+0.6**
MT09				IAML			14 48 48.6	
	comp=N,1μm,0.3s							
MT09	**Talagante**	**2.42**	**165**			**Pn**	**14 48 08.9**	**+1.0**
MT01	**Popeta**	**2.45**	**170**	⇑*i*	*P*	**Pn**	**14 48 08.9**	**+0.6**
MT01				IAML			14 48 47.9	
	comp=E,823nm,0.4s							
MT01	**Popeta**	**2.45**	**170**			**Pn**	**14 48 08.9**	**+0.6**
LCO	**Las Campanas**	**2.58**	**21**	*eP*		**Pn**	**14 48 12.3**	**+1.9**
LCO				*i* S		**Sb**	**14 48 45.3**	**-1.5**
LCO	**Las Campanas**	**2.58**	**21**	Pn		**Pn**	**14 48 12.0**	**+1.6**
ZON	**Zonda**	**2.62**	**93**	Pn		**Pb**	**14 48 14.7**	**-0.8**
BO01	**Tunca**	**3.00**	**169**	⇑*i*	*P*	**Pn**	**14 48 16.5**	**+0.7**
BO01	**Tunca**	**3.00**	**169**	Pn		**Pn**	**14 48 16.3**	**+0.5**
AC04	**Llanos de Chal**	**3.28**	**10**	Pn		**Pn**	**14 48 20.3**	**+0.7**
BO02	**Sierra Bellavi**	**3.44**	**167**			**Pn**	**14 48 22.7**	**+0.7**
GO05	**Huala**	**3.56**	**182**	Pn		**Pn**	**14 48 22.8**	**-0.9**
GO03	**Copiap**	**4.05**	**19**	Pn		**Pn**	**14 48 31.2**	**+0.7**
AC06	**Mina Casimiro**	**4.25**	**17**	Pn		**Pn**	**14 48 34.0**	**+0.9**
ML02	**Panimavida**	**4.32**	**176**			**Pn**	**14 48 34.0**	**0.0**
AC02	**Maricunga**	**5.13**	**27**			**Pn**	**14 48 46.2**	**+0.6**
H03N1	**Juan Fernandez**	**6.38**	**250**	T		T	14 55 43.3	
	baz=80,slow=72,SNR=802							
H03N3	**Juan Fernandez**	**6.39**	**250**	T		T	14 55 44.7	
	baz=80,slow=72,SNR=888							
H03N2	**Juan Fernandez**	**6.39**	**250**	T		T	14 55 47.2	
	baz=80,slow=72,SNR=816							
H03S3	**Juan Fernandez**	**6.49**	**247**	T		T	14 56 00.3	
	baz=71,slow=79,SNR=1.5							
H03S1	**Juan Fernandez**	**6.50**	**246**	T		T	14 55 59.1	
	baz=71,slow=79,SNR=3.4							
H03S2	**Juan Fernandez**	**6.51**	**247**	T		T	14 55 60.0	
	baz=71,slow=79,SNR=2.8							
LC01	**Cunco**	**7.44**	**181**	Pn		**Pn**	**14 49 15.8**	**-1.1**
PB06	**IPOC Station P**	**8.91**	**13**	Pn		**Pn**	**14 49 37.9**	**+0.6**
LVC	**Limon Verde**	**9.15**	**17**	Pn		**Pn**	**14 49 38.7**	**-2.0**
	comp=E,0.3nm,0.3s,baz=269,slow=15,SNR=1.4							
LVC				LR		LR	14 53 12.2	
	comp=E,53nm,20.6s,baz=220,slow=38							
PLCA	**Paso Flores**	**9.32**	**174**	Pn		**Pn**	**14 49 43.6**	**+0.9**
	comp=E,0.3nm,0.3s,baz=315,slow=14,SNR=10							
PLCA				LR		LR	14 53 42.3	
	comp=E,49nm,21.0s,baz=306,slow=40							
PLCA	**Paso Flores**	**9.32**	**174**	Pn		**Pn**	**14 49 43.4**	**+0.6**
PB09	**IPOC Station P**	**9.86**	**14**	Pn		**Pn**	**14 49 49.0**	**-1.3**
TRQA	**Tornquist**	**10.39**	**132**			**Pn**	**14 49 57.8**	**+0.4**
PB01	**IPOC Station P**	**10.55**	**12**	Pn		**Pn**	**14 49 59.3**	**-0.3**
CPUP	**Villa Florida**	**13.62**	**72**	Pn		**Pn**	**14 50 40.3**	**-1.2**
	comp=E,0.3nm,0.3s,baz=37,slow=19,SNR=2.0							
LPAZ	**La Paz**	**15.44**	**13**	Pn		**Pn**	**14 51 08.0**	**+1.3**
	comp=E,0.1nm,0.3s,baz=256,slow=10,SNR=2.1							
SIV	**San Ignacio**	**18.20**	**35**	P		**Pn**	**14 51 41.1**	**-0.1**
	comp=E,0.1nm,0.3s,baz=212,slow=16,SNR=1.6							
QSPA	**South Pole Qui**	**58.79**	**180**	P		**P**	**14 57 27.1**	**+0.7**
	comp=E,1.0nm,0.9s,baz=200,slow=11,SNR=2.5							
TXAR	**Lajitas Array**	**67.64**	**330**	P		**P**	**14 58 26.8**	**+1.4**
	comp=E,0.2nm,0.6s,baz=155,slow=11,SNR=4.7							
DBIC	**Dimbokro**	**74.14**	**72**	P		**P**	**14 59 04.9**	**-0.2**
	comp=E,2.5nm,0.8s,baz=254,slow=9.9,SNR=1.8							
PFO	**Pinyon Flats O**	**77.24**	**323**	LR		LR	15 28 57.6	
	comp=E,44nm,19.3s,baz=316,slow=32							
TORD	**Torodi Ar. Bea**	**83.11**	**70**	P		**P**	**14 59 54.1**	**-0.5**
	comp=E,1.8nm,0.7s,baz=263,slow=4.6,SNR=11							
TORD	**Torodi Ar. Bea**	**83.11**	**70**	P		**P**	**14 59 53.6**	**-0.9**
TORD				IAmb		IAmb	14 59 55.4	
	comp=Z,1.7nm,0.8s							
H11S2	**WAKE ISLAND Hyl**	**26.02**	**271**	T		T	17 25 26.8	
	baz=117,slow=75,SNR=14							
H11S1	**WAKE ISLAND Hyl**	**26.03**	**271**	T		T	17 25 22.3	
	baz=117,slow=75,SNR=14							
H11S3	**WAKE ISLAND Hyl**	**26.03**	**271**	T		T	17 25 22.0	
	baz=117,slow=75,SNR=15							
H11N3	**WAKE ISLAND Hyl**	**26.36**	**272**	T		T	17 25 46.6	
	baz=116,slow=75,SNR=21							
H11N1	**WAKE ISLAND Hyl**	**26.38**	**272**	T		T	17 25 55.2	
	baz=116,slow=75,SNR=3.8							
H11N2	**WAKE ISLAND Hyl**	**26.38**	**272**	T		T	17 25 59.3	
	baz=116,slow=75,SNR=20							
BVAR	**Borovoye Array**	**145.21**	**41**	PKPbc		**PKPbc**	**15 07 05.8**	**+0.6**
	comp=Z,1.8nm,0.5s,baz=251,slow=4.1,SNR=10							
KURBB	**Kurchatov Arra**	**150.80**	**40**	PKPbc		**PKPbc**	**15 07 20.4**	**0.0**
	comp=Z,1.7nm,0.6s,baz=283,slow=2.9,SNR=9.8							
KURK	**Kurchatov**	**150.81**	**40**			**PKPbc**	**15 07 20.4**	**0.0**
AAK	**Ala-Archa**	**151.01**	**58**	PKPbc		**PKPbc**	**15 07 21.7**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=204,slow=4.9,SNR=4.3							
ZALV	**Zalesovo Beam**	**151.91**	**30**	PKPbc		**PKPbc**	**15 07 22.8**	**-0.1**
	comp=Z,6.8nm,0.5s,baz=303,slow=3.3,SNR=31							
ZALV				PKPab		**PKPab**	**15 07 32.0**	**0.0**
	comp=Z,1.9nm,0.5s,baz=304,slow=2.5,SNR=6.2							
ZALV	**Zalesovo Beam**	**151.91**	**30**	PKPbc		**PKPbc**	**15 07 22.2**	**-0.6**
MKAR	**Makanchi Array**	**154.84**	**45**	PKPbc		**PKPbc**	**15 07 29.2**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=9.9,slow=2.8,SNR=3.6							
MKAR	**Makanchi Array**	**154.84**	**45**			**PKPbc**	**15 07 28.8**	**-0.8**

*SJA **23** 14:53:13.0, 30°.29S×73°.32W, h10km, ML4.9*

*NEIC **23** 14:53:38.6±1.3, 30°.87S±0°.04×71°.57W±0°.08, h37km±9km, Error ellipse: s-maj=10.5km s-min=6.5km az=96.0*

*GUC **23** 14:53:39.1±0.7, 30°.87S×71°.57W, h41km±3km, ML4.1*

ISC 23 14:53:38.4±1.3, 30°.91S±0°.05×71°.53W±0°.05, h33km±3km, n62, σ1°.42/58, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**0.25**	**338**	⇓*i*	*P*	**Pb**	**14 53 46.0**	**+0.4**
CO06				*e* S		**Sn**	**14 53 50.9**	**+1.3**
CO06				IAML			14 53 51.6	
	comp=E,43μm,0.3s							
CO06	**Fray Jorge**	**0.25**	**338**	Pn		**Pb**	**14 53 45.9**	**+0.4**
CO06				Sn		**Sn**	**14 53 50.7**	**+1.1**
CO03	**El Pedregal**	**0.72**	**85**	⇓*i*	*P*	**Pb**	**14 53 53.7**	**+1.1**
CO03				*e* S		**Sb**	**14 54 04.1**	**+1.7**
CO03				IAML			14 54 05.8	
	comp=E,10μm,0.2s							
CO03	**El Pedregal**	**0.72**	**85**	Pn		**Pn**	**14 53 53.4**	**+1.0**
GO04	**Tololo Observa**	**0.97**	**41**	*eP*		**Pn**	**14 53 56.7**	**+0.9**
GO04				*eS*		**Sn**	**14 54 10.0**	**+1.5**
GO04	**Tololo Observa**	**0.97**	**41**	Pn		**Pn**	**14 53 56.7**	**-0.1**
GO04	**Tololo Observa**	**0.97**	**41**	*i* P		Pn	14 53 46.0	-10
CO05	**La Serena**	**1.02**	**14**	*eP*		**Pn**	**14 53 57.2**	**+0.8**
CO05				*i* S		**Sn**	**14 54 10.8**	**+1.4**
CO05	**La Serena**	**1.02**	**14**	Pn		**Pn**	**14 53 56.0**	**-0.3**
VA06	**Catapilco**	**1.66**	**173**	*eP*		**Pn**	**14 54 06.5**	**+1.4**
VA06				IAML			14 54 35.9	
	comp=E,3μm,0.2s							
AROD	**Rodeo**	**1.92**	**68**	*i* P		**Pb**	**14 54 13.0**	**+0.1**
LCO	**Las Campanas**	**2.02**	**21**	*eP*		**Pn**	**14 54 11.8**	**+1.4**
LCO	**Las Campanas**	**2.02**	**21**	Pn		**Pn**	**14 54 11.6**	**+1.2**
VA03	**San Esteban**	**2.03**	**156**	*eP*		**Pn**	**14 54 13.1**	**+2.8**
VA03				IAML			14 54 44.7	
	comp=E,2μm,0.2s							
VA03	**San Esteban**	**2.03**	**156**	Pn		**Pn**	**14 54 12.5**	**+2.2**
VA03	**San Esteban**	**2.03**	**156**	*i* P		Pn	14 54 05.0	-5.3
ROCH	**El Roble**	**2.10**	**168**	*eP*		**Pn**	**14 54 13.1**	**+1.6**
ROCH				IAML			14 54 45.8	
	comp=E,2μm,0.4s							
RTLS	**Leoncito**	**2.10**	**115**	*i* P		**Pn**	**14 54 12.0**	**+0.5**
VA01	**Torpederas**	**2.11**	**183**	*eP*		**Pn**	**14 54 11.8**	**+0.5**
VA01	**Torpederas**	**2.11**	**183**	Pn		**Pn**	**14 54 11.5**	**+0.2**
VA01	**Torpederas**	**2.11**	**183**	*i* P		Pn	14 54 01.0	-10
ACCO	**Cerro Coronel**	**2.14**	**82**	*i* P		**Pn**	**14 54 10.0**	**-2.1**
AUSP	**Uspallata**	**2.25**	**126**	*i* P		**Pn**	**14 54 13.0**	**-0.5**
ZON	**Zonda**	**2.52**	**105**	Pn		**Pn**	**14 54 17.1**	**+0.1**
MT05	**Renca**	**2.56**	**165**	*eP*		**Pn**	**14 54 19.6**	**+1.9**
MT05				IAML			14 54 57.0	
	comp=E,2μm,0.5s							
MT05	**Renca**	**2.56**	**165**	Pn		**Pn**	**14 54 18.9**	**+1.2**
AC04	**Llanos de Chal**	**2.72**	**8**	Pn		**Pn**	**14 54 20.2**	**+0.4**
VA05	**Santo Domingo**	**2.74**	**182**	Pn		**Pn**	**14 54 20.3**	**+0.3**
ASAL	**Salagasta**	**2.84**	**127**	*i* P		**Pn**	**14 54 22.0**	**+0.5**
MT09	**Talagante**	**2.89**	**171**	*eP*		**Pn**	**14 54 24.2**	**+2.0**
MT09				IAML			14 55 09.6	
	comp=E,672nm,0.3s							
MT09	**Talagante**	**2.89**	**171**	Pn		**Pn**	**14 54 24.0**	**+1.7**
ARCO	**CERRO ARCO**	**2.93**	**132**	*i* P		**Pn**	**14 54 19.0**	**-3.8**
MT01	**Popeta**	**2.96**	**176**	*eP*		**Pn**	**14 54 24.3**	**+1.3**
MT01				IAML			14 55 09.6	
	comp=E,494nm,0.3s							
MT01	**Popeta**	**2.96**	**176**	Pn		**Pn**	**14 54 23.9**	**+1.0**
MT01	**Popeta**	**2.96**	**176**	*i* P		Pn	14 54 14.0	-9.0
AGUA	**GUANDACOL**	**2.99**	**62**	*i* P		Pn	14 54 19.0	-4.5
AAGR	**Agrelo**	**3.16**	**134**	*i* P		**Pn**	**14 54 26.0**	**+0.2**
BO01	**Tunca**	**3.49**	**174**	Pn		**Pn**	**14 54 30.9**	**+0.6**
BO01	**Tunca**	**3.49**	**174**	*i* P		Pn	14 54 22.0	-8.4
GO03	**Copiap**	**3.49**	**19**	Pn		**Pn**	**14 54 30.8**	**+0.4**
AVFE	**Valle Fertil**	**3.51**	**87**	*i* P		**Pn**	**14 54 28.0**	**-2.7**
VCA	**Vinchina**	**3.61**	**54**	*i* P		Pn	14 54 26.0	-6.1
AC06	**Mina Casimiro**	**3.69**	**16**	Pn		**Pn**	**14 54 32.8**	**-0.3**
BO02	**Sierra Bellavi**	**3.92**	**171**	Pn		**Pn**	**14 54 37.5**	**+1.1**
BO02	**Sierra Bellavi**	**3.92**	**171**	*i* P		Pn	14 54 28.0	-8.3
GO05	**Huala**	**4.10**	**185**	Pn		**Pn**	**14 54 38.2**	**-0.6**
ACHE	**Chepes**	**4.18**	**95**	*i* P		**Pn**	**14 54 37.0**	**-3.0**
RFA	**San Rafael**	**4.63**	**147**	*i* P		Pn	14 54 42.0	-4.1
ML02	**Panimavida**	**4.84**	**179**	Pn		**Pn**	**14 54 49.2**	**+0.4**
PB14	**IPOC Station P**	**6.34**	**9**	Pn		**Pn**	**14 55 08.8**	**-1.0**
VA04	**Juan Fernndez**	**6.76**	**244**	Pn		**Pn**	**14 55 14.0**	**-1.2**
PB15	**IPOC Station P**	**7.89**	**14**	Pn		**Pn**	**14 55 28.4**	**-2.5**
LC01	**Cunco**	**7.97**	**182**	Pn		**Pn**	**14 55 31.0**	**-0.9**
LVC	**Limon Verde**	**8.59**	**16**	Pn		**Pn**	**14 55 38.4**	**-2.3**
PLCA	**Paso Flores**	**9.83**	**176**	Pn		**Pn**	**14 55 57.6**	**+0.1**
PB01	**IPOC Station P**	**9.99**	**11**	Pn		**Pn**	**14 55 58.8**	**-1.0**
LL04	**Puerto Octay**	**10.01**	**184**	Pn		**Pn**	**14 55 58.5**	**-1.2**
TRQA	**Tornquist**	**10.62**	**135**	Pn		**Pn**	**14 56 08.8**	**+0.6**
PB11	**IPOC Station P**	**11.23**	**9**	Pn		**Pn**	**14 56 15.5**	**-1.2**
PSGCX	**Pisagua**	**11.34**	**7**	Pn		**Pn**	**14 56 16.7**	**-1.4**
ITQB	**Itaqui**	**12.94**	**88**	Pn		**Pn**	**14 56 40.1**	**+0.2**
CPUP	**Villa Florida**	**13.28**	**73**	Pn		**Pn**	**14 56 44.5**	**0.0**

*NEIC **23** 15:06:46.9, 32°.38S×72°.32W, h16km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; M_{rr}2.64; $M_{\theta\theta}$0.41; $M_{\phi\phi}$-3.05; $M_{r\theta}$0.24; $M_{r\phi}$-0.09; $M_{\theta\phi}$-1.39; Fault plane solution: M_o3.20000×10¹⁵ NP1:ϕ_s175.83000°, δ58.22000°, λ83.43000°. NP2:ϕ_s8.17000°, δ32.38000°, λ100.47000°. Principal axes: T 2.9871, Plg76.0000°, Azm67.0000°; N 0.3882, Plg6.0000°, Azm179.0000°; P -3.3752, Plg13.0000°, Azm271.0000°;*

*NEIC **23** 15:06:46.9±1.5, 32°.38S±0°.03×72°.32W±0°.07, h10km±1km, mb4.5/13, Mwr4.3/39, ML3.9(GUC) Error ellipse: s-maj=10.8km s-min=5.2km az=79.0*

*IDC **23** 15:06:46.3±0.8, 32°.42S×72°.12W, h0km, mb4.1/8, mb1 4.2/12, mb1mx4.1/27, mbtmp4.1/12, ML4.0/4, MS3.8/3, Ms1 3.8/3, ms1mx3.1/23, Error ellipse: s-maj=29.6km s-min=18.2km az=99.0*

*GUC **23** 15:06:48.2±0.7, 32°.42S×72°.23W, h10km±8km, ML4.0*

*SJA **23** 15:06:49.0, 32°.58S×72°.38W, h10km, ML5.4*

ISC 23 15:06:46.2±1.7, 32°.39S±0°.04×72°.33W±0°.06, h4km±10km, n97, σ1°.22/93, mb4.5/9, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VA01	**Torpederas**	**0.86**	**138**	*eP*		**Pg**	**15 07 03.6**	**+0.9**
VA01				*i* S		**Sg**	**15 07 14.3**	**+0.6**
VA01	**Torpederas**	**0.86**	**138**			**Pg**	**15 07 03.5**	**+0.9**
VA01	**Torpederas**	**0.86**	**138**	*i* P		**Pg**	**15 07 03.0**	**+0.4**
VA06	**Catapilco**	**0.89**	**102**	*eP*		**Pg**	**15 07 03.9**	**+0.6**
VA06				*i* S		**Sg**	**15 07 15.6**	**+0.8**
VA06				IAML			15 07 19.9	
	comp=E,13μm,0.4s							
ROCH	**El Roble**	**1.25**	**118**	*eP*		**Pn**	**15 07 09.9**	**-0.9**
ROCH				*i* S		**Sb**	**15 07 26.0**	**-1.3**
ROCH				IAML			15 07 29.4	
	comp=E,5μm,0.4s							
VA05	**Santo Domingo**	**1.40**	**155**			**Pn**	**15 07 11.9**	**-0.7**
VA03	**San Esteban**	**1.55**	**105**	*eP*		**Pn**	**15 07 14.0**	**-0.7**
VA03				*i* S		**Sn**	**15 07 34.4**	**-0.9**
VA03	**San Esteban**	**1.55**	**105**			**Pn**	**15 07 14.1**	**-0.7**
VA03	**San Esteban**	**1.55**	**105**	*i* P		**Pn**	**15 07 14.0**	**-0.7**
MT05	**Renca**	**1.67**	**127**	*eP*		**Pn**	**15 07 16.5**	**+0.1**
MT05				*i* S		**Sn**	**15 07 37.9**	**-0.5**
MT05				IAML			15 07 42.4	
	comp=E,7μm,0.4s							
MT05	**Renca**	**1.67**	**127**	Pn		**Pn**	**15 07 16.4**	**+0.1**
MT05	**Renca**

WRA	**Warramunga Arr**	**122.04**	**210**	PKP		**PKiKP**	**15 25 42.8**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=172,slow=1.9,SNR=2.3							
H11S2	**WAKE ISLAND Hyd**	**25.53**	**270**	T		T	17 44 55.9	
	baz=118,slow=74,SNR=7.6							
H11S1	**WAKE ISLAND Hyd**	**25.55**	**270**	T		T	17 45 00.8	
	baz=118,slow=74,SNR=6.0							
H11S3	**WAKE ISLAND Hyd**	**25.55**	**270**	T		T	17 44 51.4	
	baz=118,slow=74,SNR=5.5							
ZALV	**Zalesovo Beam**	**152.98**	**30**	PKPbc		**PKiKP**	**15 26 44.8**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=302,slow=3.4,SNR=9.2							
ZALV	**Zalesovo Beam**	**152.98**	**30**			**PKiKP**	**15 26 44.3**	**-0.3**
MKAR	**Makanchi Array**	**155.85**	**46**	PKPab		**PKPab**	**15 27 08.7**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=295,slow=3.7,SNR=6.3							
MKAR	**Makanchi Array**	**155.85**	**46**			**PKPab**	**15 27 08.3**	**+0.1**

IDC ***23*** *15:09:43.7±0.9, 31.°02S×71.°68W, h0km, mb3.6/4, mb1 4.0/9, mb1mx3.9/28, mbtmp3.8/9, ML3.9/5, MS3.5/3, Ms1 3.6/3, ms1mx3.0/24, Error ellipse: s-maj=35.8km s-min=22.9km az=91.0*

NEIC ***23*** *15:09:48.9±1.3, 30.°99S±0.°03×71.°58W±0.°07, h28km±4km, mb4.2/2, ML4.0(GUC), Error ellipse: s-maj=9.2km s-min=3.7km az=93.0*

GUC ***23*** *15:09:48.3±0.5, 30.°97S×71.°60W, h41km±3km, ML4.0*

ISC 23 15:09:48.4±0.9, 31.°00S±0.°04×71.°61W±0.°05, h31km±7km, n57, σ1.°05/60, mb3.7/4, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.33**	**356**	⇑*iP*	**Pb**	**15 09 56.4**	**+0.1**
CO06				*eS*	**Sb**	**15 10 01.8**	**+0.1**
CO06				IAML		15 10 03.4	
	comp=E,13μm,0.2s						
CO06	**Fray Jorge**	**0.33**	**356**		**Pb**	**15 09 56.4**	**+0.1**
CO06					**Sb**	**15 10 01.7**	**+0.1**
CO03	**El Pedregal**	**0.81**	**78**	⇑*iP*	**Pb**	**15 10 03.6**	**-0.4**
CO03				*eS*	**Sb**	**15 10 14.4**	**-0.1**
CO03				IAML		15 10 15.5	
	comp=N,7μm,0.3s						
CO03	**El Pedregal**	**0.81**	**78**	Pn	**Pb**	**15 10 03.6**	**-0.4**
CO03				Sn	**Sb**	**15 10 14.5**	**-0.1**
GO04	**Tololo Observa**	**1.08**	**40**	⇓*iP*	**Pn**	**15 10 07.4**	**-0.2**
GO04				*eS*	**Sb**	**15 10 22.0**	**-0.6**
GO04	**Tololo Observa**	**1.08**	**40**	Pn	**Pn**	**15 10 07.9**	**+0.2**
GO04				Sn	**Sb**	**15 10 22.7**	**+0.1**
CO05	**La Serena**	**1.13**	**17**	*eP*	**Pn**	**15 10 07.9**	**-0.1**
CO05	**La Serena**	**1.13**	**17**	Pn	**Pn**	**15 10 07.8**	**-0.1**
CO05				Sn	**Sn**	**15 10 22.3**	**-0.1**
VA06	**Catapilco**	**1.57**	**170**	*eP*	**Pn**	**15 10 15.7**	**+1.5**
VA06				IAML		15 10 43.8	
	comp=E,3μm,0.4s						
VA03	**San Esteban**	**1.97**	**153**	*eP*	**Pb**	**15 10 22.2**	**-1.5**
VA03				IAML		15 10 56.6	
	comp=N,2μm,0.5s						
VA03	**San Esteban**	**1.97**	**153**	Pn	**Pn**	**15 10 21.5**	**+1.8**
VA01	**Torpederas**	**2.01**	**181**	*eP*	**Pn**	**15 10 20.5**	**+0.3**
VA01	**Torpederas**	**2.01**	**181**	Pn	**Pn**	**15 10 20.7**	**+0.5**
ROCH	**El Roble**	**2.03**	**166**	*eP*	**Pn**	**15 10 22.3**	**+1.7**
LCO	**Las Campanas**	**2.14**	**22**	*eP*	**Pn**	**15 10 22.8**	**+0.6**
LCO				*eS*	**Sn**	**15 10 48.1**	**+0.3**
LCO	**Las Campanas**	**2.14**	**22**	Pn	**Pn**	**15 10 22.7**	**+0.6**
MT05	**Renca**	**2.49**	**163**	*eP*	**Pn**	**15 10 29.6**	**+2.7**
MT05				*eS*	**Sb**	**15 11 02.3**	**-0.5**
MT05				IAML		15 11 05.8	
	comp=E,2μm,0.3s						
MT05	**Renca**	**2.49**	**163**	Pn	**Pn**	**15 10 29.0**	**+2.1**
VA05	**Santo Domingo**	**2.65**	**180**	Pn	**Pn**	**15 10 29.8**	**+0.9**
MT09	**Talagante**	**2.81**	**169**	*eP*	**Pn**	**15 10 32.8**	**+1.5**
MT09				IAML		15 11 24.1	
	comp=N,809nm,0.4s						
MT09	**Talagante**	**2.81**	**169**	Pn	**Pn**	**15 10 33.1**	**+1.8**
AC04	**Llanos de Chal**	**2.83**	**10**	*eP*	**Pn**	**15 10 31.1**	**-0.4**
AC04				IAML		15 11 17.3	
	comp=E,546nm,0.7s						
AC04	**Llanos de Chal**	**2.83**	**10**	Pn	**Pn**	**15 10 31.3**	**-0.2**
MT01	**Popeta**	**2.87**	**174**	*eP*	**Pn**	**15 10 33.4**	**+1.4**
MT01				IAML		15 11 20.4	
	comp=E,586nm,0.4s						
MT01	**Popeta**	**2.87**	**174**	Pn	**Pn**	**15 10 33.2**	**+1.2**
BO01	**Tunca**	**3.41**	**173**	Pn	**Pn**	**15 10 41.0**	**+1.7**
BO02	**Sierra Bellavi**	**3.84**	**170**	Pn	**Pn**	**15 10 47.7**	**+2.3**
GO05	**Huala**	**4.00**	**184**	Pn	**Pn**	**15 10 47.2**	**-0.4**
ML02	**Panimavida**	**4.75**	**178**	Pn	**Pn**	**15 10 59.5**	**+1.7**
H03N1	**Juan Fernandez**	**6.65**	**247**	T	T	15 18 12.6	
	baz=73,slow=72,SNR=830						
H03N3	**Juan Fernandez**	**6.66**	**247**	T	T	15 18 14.6	
	baz=73,slow=72,SNR=796						
H03N2	**Juan Fernandez**	**6.67**	**247**	T	T	15 18 16.0	
	baz=73,slow=72,SNR=794						
LC01	**Cunco**	**7.88**	**182**	Pn	**Pn**	**15 11 40.0**	**-0.8**
LVC	**Limon Verde**	**8.70**	**17**	Pn	**Pn**	**15 11 51.0**	**-1.5**
	comp=E,1.5nm,0.3s,baz=339,slow=19,SNR=7.3						
LVC				Sn	**Sn**	**15 13 28.0**	**-1.7**
	comp=E,0.9nm,0.3s,baz=176,slow=17,SNR=1.9						
LVC				LR	LR	15 15 18.2	
	comp=E,234nm,18.2s,baz=204,slow=38						
PLCA	**Paso Flores**	**9.75**	**175**	Pn	**Pn**	**15 12 07.2**	**+0.8**
	comp=E,0.4nm,0.3s,baz=344,slow=10,SNR=4.9						
PLCA	**Paso Flores**	**9.75**	**175**	Pn	**Pn**	**15 12 07.0**	**+0.6**
LL04	**Puerto Octay**	**9.91**	**184**	Pn	**Pn**	**15 12 07.4**	**-1.1**
CPUP	**Villa Florida**	**13.37**	**73**	Pn	**Pn**	**15 12 56.4**	**+0.4**
	comp=E,0.3nm,0.3s,baz=211,slow=3.7,SNR=1.5						
CPUP	**Villa Florida**	**13.37**	**73**		**Pn**	**15 12 55.5**	**-0.5**
LPAZ	**La Paz**	**14.99**	**13**	Pn	**Pn**	**15 13 19.1**	**+0.4**
	comp=E,0.1nm,0.3s,baz=192,slow=5.7,SNR=3.2						
LPAZ				LR	LR	15 19 25.6	
	comp=E,188nm,18.9s,baz=220,slow=39						
LPAZ	**La Paz**	**14.99**	**13**		**Pn**	**15 13 19.6**	**+0.9**
SIV	**San Ignacio**	**17.78**	**35**	P	**Pn**	**15 13 53.2**	**-0.4**
	comp=E,0.2nm,0.3s,baz=267,slow=18,SNR=1.8						
PMSA	**Palmer Station**	**34.12**	**174**	LR	LR	15 29 36.8	
	comp=E,81nm,18.0s,baz=358,slow=35						
SNAA	**Sanae**	**54.23**	**159**	P	**P**	**15 19 11.4**	**+0.6**
	comp=E,0.5nm,0.6s,baz=41,slow=3,SNR=2.1						
TXAR	**Lajitas Array**	**67.32**	**330**	P	**P**	**15 20 41.2**	**+0.8**
	comp=E,0.4nm,0.6s,baz=145,slow=7.6,SNR=4.5						
NVAR	**Mina Array Bea**	**81.65**	**325**	P	**P**	**15 22 04.4**	**+0.8**
	comp=E,0.3nm,0.6s,baz=164,slow=6.0,SNR=4.0						
NVAR	**Mina Array Bea**	**81.65**	**325**	P	**P**	**15 22 04.6**	**+1.0**
TORD	**Torodi Ar. Bea**	**82.85**	**70**	P	**P**	**15 22 10.7**	**+0.5**
	comp=E,0.4nm,0.7s,baz=222,slow=4.4,SNR=2.0						
TORD	**Torodi Ar. Bea**	**82.85**	**70**		**P**	**15 22 10.4**	**+0.2**
TORD				IAmb	IAmb	15 22 20.4	
	comp=Z,3.8nm,1.4s						
ASAR	**Alice Springs**	**120.39**	**207**	PKP	**PKPdf**	**15 28 35.9**	**-1.3**
	comp=Z,0.5nm,1.0s,baz=148,slow=1.2,SNR=4.6						
ASAR	**Alice Springs**	**120.39**	**207**		**PKPdf**	**15 28 36.1**	**-1.1**
WRA	**Warramunga Arr**	**123.54**	**210**	PKP	**PKPdf**	**15 28 42.5**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=178,slow=2.4,SNR=2.7						
WRA	**Warramunga Arr**	**123.54**	**210**		**PKPdf**	**15 28 42.8**	**-0.6**
H11S2	**WAKE ISLAND Hyd**	**26.13**	**271**	T	T	17 47 32.6	
	baz=116,slow=75,SNR=37						
H11S1	**WAKE ISLAND Hyd**	**26.14**	**271**	T	T	17 47 33.6	
	baz=116,slow=75,SNR=44						
H11S3	**WAKE ISLAND Hyd**	**26.15**	**271**	T	T	17 47 33.3	
	baz=116,slow=75,SNR=39						
ZALV	**Zalesovo Beam**	**151.48**	**30**	PKPbc	**PKPbc**	**15 29 38.6**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=291,slow=4.0,SNR=2.3						

MEX 23 15:15:37.9±0.6, 16.°27N×97.°89W, h6km±9km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.26**	**298**	*iP*	Pg	15 15 42.8	-0.3
PNIG				*iS*	Sg	15 15 46.8	+0.2
PEIG	**Puerto Escondi**	**0.76**	**111**	*iP*	Pg	15 15 50.8	-1.7
PEIG				*iS*	Sg	15 16 01.7	-0.7
TXIG	**Tlaxiaco**	**0.99**	**7**	*eP*	Pg	15 15 54.4	-2.4
TXIG				*iS*	Sg	15 16 07.4	-2.3
MGIG	**Malinaltepec**	**1.20**	**323**	*eP*	Pg	15 15 57.4	-3.5
MGIG				*iS*	Sg	15 16 12.7	-3.8
VHO	**Vista Hermosa**	**1.36**	**54**	*eP*	Pn	15 16 00.2	-3.5
VHO				*iS*	Sb	15 16 17.4	-4.5
TLIG	**Tlapa**	**1.44**	**333**	*eP*	Pn	15 16 01.5	-3.2
TLIG				*iS*	Sb	15 16 19.4	-4.6
HLIG	**Huajuapan de L**	**1.56**	**3**	*iP*	Pn	15 16 03.2	-3.2
HLIG				*iS*	Sn	15 16 22.8	-4.2
FTIG	**Fresnillo de T**	**1.65**	**352**	*eP*	Pn	15 16 04.5	-3.1
FTIG				*iS*	Sn	15 16 24.3	-4.9
DAIG	**Los Arroyos**	**1.85**	**294**	*iP*	Pn	15 16 07.0	-3.2
DAIG				*iS*	Sn	15 16 29.6	-4.3
TOIG	**Toxpalan**	**1.98**	**23**	*eP*	Pn	15 16 09.2	-2.9
TOIG				*iS*	Sn	15 16 33.6	-3.7
MEIG	**Mezcala**	**2.34**	**315**	*iP*	Pn	15 16 13.6	-3.4
MEIG				*iS*	Sn	15 16 42.6	-3.5
PLIG	**Platanillo**	**2.62**	**324**	*eP*	Pn	15 16 18.8	-2.1
PLIG				*eS*	Sn	15 16 50.1	-2.9

IDC ***23*** *15:21:46.7±0.8, 51.°66N×174.°60W, h0km, mb3.7/10, mb1 4.1/13, mb1mx3.8/47, mbtmp3.8/13, ML4.3/2, MS2.9/5, Ms1 3.0/5, ms1mx2.5/43, Error ellipse: s-maj=31.9km s-min=14.8km az=172.0*

NEIC ***23*** *15:21:55.9±2.2, 51.°9N±0.°1×174.°62W±0.°08, h64km±7km, mb4.1/67, ML4.3(AEIC), Error ellipse: s-maj=17.1km s-min=5.9km az=165.0*

AEIC ***23*** *15:21:55±2.9, 51.°8N±0.°1×174.°63W±0.°08, h54km±6km, Error ellipse: s-maj=16.6km s-min=5.7km az=164.0*

ISC 23 15:21:56.4±0.6, 51.°9N±0.°1×174.°68W±0.°04, h67km, n226, σ1.°30/223, mb4.0/19, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.42**	**45**		**Pn**	**15 22 06.6**	**-1.6**
ATKA				Sn	**Sn**	**15 22 15.2**	**-1.6**
KOKL	**Mount Kliuchef**	**0.51**	**35**		**Pn**	**15 22 07.9**	**-1.2**
KOFP	**Korovin Flat P**	**0.52**	**44**		**Pn**	**15 22 08.1**	**-1.0**
KOWE	**Korovin West**	**0.53**	**29**		**Pn**	**15 22 08.4**	**-0.9**
KOSE	**Korovin Southe**	**0.59**	**41**		**Pn**	**15 22 08.7**	**-1.1**
KONE	**Korovin Northe**	**0.60**	**35**		**Pn**	**15 22 08.9**	**-1.0**
GSMY	**Great Sitkin M**	**0.86**	**280**		**Pn**	**15 22 12.3**	**-0.7**
GSTR	**Great Sitkin T**	**0.88**	**283**		**Pn**	**15 22 13.0**	**-0.2**
GSTD	**Great Sitkin T**	**0.92**	**280**		**Pn**	**15 22 13.4**	**-0.3**
GSTD					**Sn**	**15 22 27.0**	**+0.4**
GSCK	**Great Sitkin C**	**0.93**	**277**		**Pn**	**15 22 13.5**	**-0.2**
GSSP	**Great Sitkin S**	**0.94**	**282**		**Pn**	**15 22 13.8**	**-0.2**
ETKA	**Kagalaska Isla**	**1.07**	**268**		**Pn**	**15 22 15.4**	**-0.2**
ADAG	**Mount Adagdak**	**1.19**	**274**		**Pn**	**15 22 17.3**	**+0.1**
ADK	**Adak**	**1.24**	**270**	Pn	**Pn**	**15 22 17.8**	**0.0**
ADK				Sn	**Sn**	**15 22 34.6**	**+0.8**
KIWB	**Kanaga Island**	**1.53**	**269**	Pn	**Pn**	**15 22 21.7**	**+0.1**
KIKV	**Kanaga Island**	**1.54**	**270**		**Pn**	**15 22 22.0**	**+0.1**
KICM	**Kanaga Island**	**1.56**	**272**		**Pn**	**15 22 22.0**	**0.0**
KIMD	**Kanaga Island**	**1.59**	**266**		**Pn**	**15 22 22.5**	**+0.1**
TAPA	**Tanaga Point A**	**1.95**	**269**		**Pn**	**15 22 27.5**	**+0.2**
TAFL	**Tanaga Flats**	**2.00**	**267**		**Pn**	**15 22 28.5**	**+0.6**
TAFP	**Tanaga Falls P**	**2.05**	**271**		**Pn**	**15 22 28.3**	**-0.2**
TAFP					**Sn**	**15 22 53.5**	**+0.3**
TASE	**Tanaga Southea**	**2.08**	**269**		**Pn**	**15 22 28.9**	**-0.2**
GAEA	**Gareloi East**	**2.53**	**269**		**Pn**	**15 22 35.7**	**+0.7**
GANE	**Gareloi Northe**	**2.54**	**270**		**Pn**	**15 22 35.7**	**+0.4**
GANO	**Gareloi North**	**2.56**	**270**		**Pn**	**15 22 35.6**	**0.0**
GASW	**Gareloi Southw**	**2.59**	**269**		**Pn**	**15 22 35.6**	**-0.3**
CERAA	**Semis' Rag'd T**	**3.49**	**272**		**Pn**	**15 22 48.4**	**+0.2**
CESW	**Semis' Southwe**	**3.57**	**272**		**Pn**	**15 22 49.1**	**-0.1**
NIKH	**Nikolski High**	**3.72**	**71**		**Sn**	**15 23 35.9**	**+2.1**
NIKH	**Nikolski High**	**3.72**	**71**	Pn	**Pn**	**15 22 51.2**	**-0.1**
NIKH	**Nikolski High**	**3.72**	**71**	P	**Pn**	**15 22 51.4**	**+0.1**
	baz=255,SNR=53						
AMKA	**Amchitka**	**3.79**	**264**	Pn	**Pn**	**15 22 52.1**	**-0.1**
OKSP	**Okmok Steeple**	**4.12**	**68**		**Pn**	**15 22 58.1**	**+1.3**
LSPA	**Little Sitkin**	**4.18**	**273**		**Pn**	**15 22 58.7**	**+1.2**
LSNW	**Little Sitkin**	**4.21**	**274**		**Pn**	**15 22 58.5**	**+0.4**
LSSA	**Little Sitkin**	**4.21**	**273**		**Pn**	**15 22 59.2**	**+1.1**
OKTU	**Okmok Mt. Tuli**	**4.31**	**67**		**Pn**	**15 22 59.4**	**+0.1**
OKFG	**Magazine Ridge**	**4.39**	**67**		**Pn**	**15 23 01.3**	**+0.9**
MAPS	**Pakushin South**	**5.06**	**65**		**Pn**	**15 23 09.3**	**-0.3**
MAPS					**Sn**	**15 24 10.7**	**+4.0**
MNAT	**Makushin Natee**	**5.23**	**65**		**Pn**	**15 23 12.9**	**+1.0**
UNV	**Unalaska Valle**	**5.32**	**65**		**Sn**	**15 24 16.9**	**+3.9**
UNV	**Unalaska Valle**	**5.32**	**65**	Pn	**Pn**	**15 23 14.3**	**+1.2**
UNV	**Unalaska Valle**	**5.32**	**65**	P	**Pn**	**15 23 13.7**	**+0.6**
	baz=251,SNR=8.5						
AKMO	**Akutan Morgan**	**5.67**	**64**		**Pn**	**15 23 19.6**	**+1.6**
AKBBA	**Akutan Broad B**	**5.72**	**64**		**Pn**	**15 23 19.6**	**+1.0**
AKGG	**Akutan Green G**	**5.72**	**63**		**Pn**	**15 23 18.7**	**+0.1**
AKUT	**Akutan**	**5.82**	**64**	Pn	**Pn**	**15 23 21.6**	**+1.6**
SPIA	**Saint Paul Isl**	**5.88**	**24**	Pn	**Pn**	**15 23 19.8**	**-1.0**
SPIA	**Saint Paul Isl**	**5.88**	**24**	P	**Pn**	**15 23 20.7**	**-0.1**
	baz=207,SNR=9.1						
WECS	**Westdahl Cape**	**6.50**	**62**		**Pn**	**15 23 29.9**	**+0.5**
SMY	**Shemya**	**6.93**	**281**	Pn	**Pn**	**15 23 35.4**	**+0.2**
ISLZ	**Isanotski Laza**	**7.15**	**62**		**Pn**	**15 23 39.6**	**+1.4**
DT1	**Dutton Round H**	**8.06**	**62**		**Pn**	**15 23 51.0**	**+0.4**
SDPT	**Sand Point**	**9.12**	**62**	P	**Pn**	**15 24 05.2**	**+0.2**
	baz=253						
CNBA	**Chernabura Isl**	**9.48**	**66**	Pn	**Pn**	**15 24 08.3**	**-1.7**
CHNA	**Chernabura Isl**	**9.48**	**66**	P	**Pn**	**15 24 09.5**	**-0.5**
	baz=258						
CHIR	**Chirikof Islan**	**11.90**	**63**	P	**Pn**	**15 24 42.8**	**-0.3**
	baz=258						
GAMB	**Gambell**	**12.01**	**6**	Pn	**Pn**	**15 24 44.0**	**-0.3**
N18K	**Kilae Creek**	**13.60**	**42**	Pn	**Pn**	**15 25 07.8**	**+1.9**
N18K	**Kilae Creek**	**13.60**	**42**	P	**Pn**	**15 25 07.6**	**+1.7**
	baz=238						
Q19K	**Cape Douglas,**	**13.82**	**51**	P	**Pn**	**15 25 11.9**	**+2.9**
Q19K	**Cape Douglas,**	**13.82**	**51**	P	**Pn**	**15 25 08.8**	**-0.1**
	baz=248						
SVW2	**Sparrevohn**	**13.95**	**41**	Pn	**Pn**	**15 25 12.3**	**+1.7**
KDAK	**Kodiak Island**	**13.99**	**56**	Pn	**Pn**	**15 25 08.5**	**-2.6**
	0.9nm,0.3s,baz=225,slow=3.6,SNR=10						
KDAK				Sn	**Sn**	**15 27 46.7**	**+2.2**
	0.3nm,0.3s,baz=190,slow=7.5,SNR=2.1						
KDAK				LR	LR	15 30 50.7	
	comp=Z,53nm,18.2s,baz=252,slow=39						
KDAK	**Kodiak Island**	**13.99**	**56**	Pn	**Pn**	**15 25 09.0**	**-2.1**
KDAK	**Kodiak Island**	**13.99**	**56**	P	**Pn**	**15 25 13.0**	**+1.9**
	baz=254						
N19K	**Bonanza Creek**	**14.26**	**43**	P	**P**	**15 25 17.6**	**-2.4**
N19K	**Bonanza Creek**	**14.26**	**43**	P	**Pn**	**15 25 14.6**	**-0.2**
	baz=240						
P19K	**Oil Pt**	**14.29**	**49**	P	**P**	**15 25 19.0**	**-1.4**
L19K	**White Mountain**	**14.84**	**38**		**Pn**	**15 25 23.7**	**+1.5**
L19K	**White Mountain**	**14.84**	**38**	P	**Pn**	**15 25 22.7**	**+0.5**
	baz=235,SNR=10						
RSO	**Redoubt South**	**14.85**	**46**	P	**P**	**15 25 26.6**	**-0.2**
M19K	**Big River Lodg**	**14.87**	**40**	P	**Pn**	**15 25 24.3**	**+1.8**
M19K	**Big River Lodg**	**14.87**	**40**	P	**Pn**	**15 25 22.8**	**+0.3**
	baz=237						
CNPM	**China Poot**	**15.19**	**51**	Pn	**Pn**	**15 25 26.8**	**+0.1**
CNPM				IAmb	IAmb	15 25 34.0	
	comp=Z,22nm,1.1s						
L20K	**Farewell, AK**	**15.38**	**38**	P	**Pn**	**15 25 29.9**	**+0.7**
	baz=236,SNR=7.0						
BRLK	**Bradley Lake**	**15.44**	**50**	Pn	**Pn**	**15 25 30.1**	**+0.2**
BRSE	**Bradley Lake S**	**15.50**	**50**	P	**Pn**	**15 25 31.6**	**+1.0**
	baz=250						
K20K	**Telida**	**15.82**	**36**	Pn	**Pn**	**15 25 34.8**	**0.0**
K20K				IAmb	IAmb	15 25 40.1	
	comp=Z,8.3nm,0.7s						
K20K	**Telida**	**15.82**	**36**	P	**Pn**	**15 25 34.4**	**-0.3**
	baz=233						
SKT	**Skwentna**	**16.07**	**42**		**P**	**15 25 39.1**	**-0.9**
SKT	**Skwentna**	**16.07**	**42**	P	**Pn**	**15 25 38.1**	**+0.3**
	baz=241						
PPLA	**Purkeypile**	**16.27**	**39**	P	**P**	**15 25 43.7**	**+1.3**
PPLA				IAmb	IAmb	15 26 02.3	
	comp=Z,33nm,1.4s						
PPLA	**Purkeypile**	**16.27**	**39**	P	**Pn**	**15 25 39.6**	**-0.9**
J20K	**Nowinta River**	**16.31**	**33**	P	**P**	**15 25 42.5**	**-0.2**
J20K	**Nowinta River**	**16.31**	**33**	P	**Pn**	**15 25 40.4**	**-0.3**
	baz=230						
RC01	**Rabbit Creek A**	**16.46**	**46**	P	**P**	**15 25 44.1**	**-0.2**
RC01				IAmb	IAmb	15 26 09.7	
	comp=Z,11nm,1.1s						
CAST	**Castle Rocks**	**16.59**	**37**	P	**Pn**	**15 25 45.1**	**+0.7**
CAST	**Castle Rocks**	**16.59**	**37**	P	**Pn**	**15 25 44.4**	**+0.1**
	baz=236,SNR=9.3						
CHUM	**Lake Minchumin**	**16.77**	**36**	P	**Pn**	**15 25 46.6**	**+0.1**
	baz=235,SNR=5.4						
PEA0B	**Petropavlovsk-**	**16.82**	**285**	P	**P**	**15 25 49.8**	**+1.4**
PEA0B				IAmb	IAmb	15 25 56.1	
	comp=Z,19nm,1.4s						
PETK	**Petropavlovsk-**	**16.82**	**285**	Pn	**Pn**	**15 25 46.1**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=80,slow=15,SNR=5.5						
PETK	**Petropavlovsk-**	**16.82**	**285**	P	**P**	**15 25 49.1**	**+0.7**
KTH	**Kantishna Hill**	**17.10**	**38**	P	**Pn**	**15 25 50.9**	**+0.1**
KNK	**Knik Glacier**	**17.15**	**46**	P	**Pn**	**15 25 49.9**	**-1.4**
TRF	**Thorofare Moun**	**17.29**	**39**	P	**P**	**15 25 53.9**	**+0.2**
TRF				IAmb	IAmb	15 26 10.1	
	comp=Z,11nm,1.1s						
TRF	**Thorofare Moun**	**17.29**	**39**	P	**Pn**	**15 25 51.9**	**-1.3**
	baz=239						
SML	**Sawmill**	**17.36**	**45**	P	**Pn**	**15 25 51.6**	**-2.2**
SML	**Sawmill**	**17.36**	**45**	P	**Pn**	**15 25 53.3**	**-0.6**
	baz=247						
BPAW	**Bear Paw Mtn.**	**17.38**	**36**		**Pn**	**15 25 54.0**	**0.0**
BPAW				IAmb	IAmb	15 25 57.3	
	comp=Z,11nm,1.0s						
BPAW	**Bear Paw Mtn.**	**17.38**	**36**	P	**Pn**	**15 25 53.0**	**-1.0**
	baz=236,SNR=10						
IMAR	**Indian Mountai**	**17.63**	**29**	P	**P**	**15 25 58.3**	**+1.1**
I21K	**Tanana**	**17.66**	**32**	P	**P**	**15 25 58.7**	**+1.1**
I21K				IAmb	IAmb	15 25 59.5	
	comp=Z,17nm,1.0s						
I21K	**Tanana**	**17.66**	**32**	P	**Pn**	**15 25 56.4**	**-1.1**
	baz=232,SNR=14						
WAT1	**Susitna Watana**	**17.69**	**42**	P	**Pn**	**15 25 56.6**	**-1.3**
	baz=244						
H21K	**Melozitna Rive**	**17.70**	**31**	P	**P**	**15 25 58.4**	**+0.4**
H21K	**Melozitna Rive**	**17.70**	**31**	P	**Pn**	**15 25 56.5**	**-1.5**
	baz=229,SNR=6.0						
SCM	**Sheep Creek Mo**	**17.81**	**45**	P	**P**	**15 25 57.3**	**-2.0**
SCM				IAmb	IAmb	15 26 00.7	
	comp=Z,18nm,1.4s						
RND	**Reindeer**	**17.83**	**40**	P	**P**	**15 25 58.1**	**-1.5**
RND				IAmb	IAmb	15 25 59.2	
	comp=Z,6.3nm,0.6s						
FID	**Port Fidalgo**	**17.84**	**49**	P	**P**	**15 25 57.6**	**-2.0**
FID				IAmb	IAmb	15 26 20.6	
	comp=Z,32nm,1.5s						
WAT6	**Susitna Watana**	**17.92**	**43**	P	**P**	**15 25 59.0**	**-1.6**
	baz=246						
MLY	**Manley**	**17.99**	**34**	P	**P**	**15 26 01.2**	**-0.1**
MLY	**Manley**	**17.99**	**34**	P	**P**	**15 25 59.9**	**-1.4**
	baz=234,SNR=9.0						
DHY	**Denali Highway**	**18.28**	**42**	P	**P**	**15 26 02.8**	**-1.8**
DHY	**Denali Highway**	**18.28**	**42**	P	**P**	**15 26 03.2**	**-1.4**
	baz=245						
KLU	**Klutina**	**18.32**	**47**	P	**P**	**15 26 03.8**	**-1.2**
KLU	**Klutina**	**18.32**	**47**	P	**P**	**15 26 03.5**	**-1.5**
	baz=251						
NEA2	**Nenana**	**18.35**	**36**	P	**P**	**15 26 03.9**	**-1.3**
	baz=238						
M24K	**Tolsona, Glenn**	**18.42**	**45**	P	**P**	**15 26 03.4**	**-2.6**
M24K				IAmb	IAmb	15 26 29.0	
	comp=Z,28nm,1.3s						
M24K	**Tolsona, Glenn**	**18.42**	**45**	P	**P**	**15 26 05.4**	**-0.6**
	baz=249						
I23K	**Minto, Yukon-K**	**18.54**	**35**	P	**P**	**15 26 06.8**	**-0.4**
I23K				IAmb	IAmb	15 26 30.9	
	comp=Z,26nm,1.4s						
I23K	**Minto, Yukon-K**	**18.54**	**35**	P	**P**	**15 26 06.2**	**-1.1**
	baz=236,SNR=10						
WRH	**Wood River Hil**	**18.65**	**37**	P	**P**	**15 26 06.3**	**-2.1**
WRH				IAmb	IAmb	15 26 12.7	
	comp=Z,10nm,1.2s						
HMT	**Hamilton**	**18.79**	**51**	P	**Pn**	**15 26 11.8**	**+0.6**
HMT				IAmb	IAmb	15 26 22.5	
	comp=Z,16nm,1.2s						

H11N3	**WAKE ISLAND Hy**	**35.21**	**211**	T	T	16 05 45.6		
	baz=18							
H11N1	**WAKE ISLAND Hy**	**35.22**	**211**	T	T	16 05 39.9		
	baz=18,slow=76							
JSD	**Sado**	**35.42**	**266**	P	**P**	**15 28 47.4**	**+1.6**	
J05D	**Fort Rock, OR**	**36.32**	**82**	P	**P**	**15 28 55.1**	**+1.5**	
	baz=303							
MJAR	**Matsushiro Arr**	**36.40**	**264**	P	**P**	**15 28 52.6**	**-1.6**	
	comp=Z,0.8nm,0.6s,baz=69,slow=14,SNR=2.8							
MJAR	**Matsushiro Arr**	**36.40**	**264**	P	**P**	**15 28 53.6**	**-0.5**	
MJAR				IAmb	IAmb	15 28 57.9		
	comp=Z,4.4nm,1.4s							
MAJO	**Matsushiro**	**36.40**	**264**	P	**P**	**15 28 55.0**	**+0.8**	
MAT	**Matsushiro**	**36.40**	**264**	P	**P**	**15 28 52.8**	**-1.4**	
H11S1	**WAKE ISLAND Hy**	**36.41**	**211**	T	T	16 08 05.5		
	baz=20,slow=76,SNR=520							
H11S2	**WAKE ISLAND Hy**	**36.42**	**211**	T	T	16 08 06.4		
	baz=20,slow=76,SNR=489							
H11S3	**WAKE ISLAND Hy**	**36.42**	**211**	T	T	16 08 00.7		
	baz=20,slow=76,SNR=128							
I07A	**Izee**	**36.95**	**80**	P	**P**	**15 28 58.6**	**-0.3**	
I07A				IAmb	IAmb	15 29 16.5		
	comp=Z,2.3nm,0.8s							
WVOR	**Wild Horse Val**	**38.38**	**81**	P	**P**	**15 29 12.2**	**+1.2**	
JWT	**Wachi**	**38.95**	**265**	P	**P**	**15 29 15.7**	**0.0**	
HLID	**Hailey**	**40.32**	**77**	P	**P**	**15 29 26.6**	**-0.6**	
	baz=304							
BOZ	**Bozeman (W)**	**40.88**	**73**	P	**P**	**15 29 30.8**	**-0.9**	
	baz=302							
NVAR	**Mina Array Bea**	**40.95**	**86**	P	**P**	**15 29 31.8**	**-0.6**	
	comp=Z,0.4nm,0.6s,baz=331,slow=5.8,SNR=4.3							
ELK	**Elko**	**41.44**	**81**	P	**P**	**15 29 37.3**	**+0.9**	
ELK				IAmb	IAmb	15 29 39.0		
	comp=Z,2.1nm,0.8s							
KSRS	**Korea Array**	**42.19**	**273**	P	**P**	**15 29 42.1**	**-0.1**	
	comp=Z,0.2nm,0.4s,baz=59,slow=9.6,SNR=1.4							
KSRS				PcP	**PcP**	**15 31 34.0**	**-1.4**	
	comp=Z,0.8nm,0.8s,baz=72,slow=4.0,SNR=3.0							
R11A	**Troy Canyon, C**	**42.67**	**84**	P	**P**	**15 29 47.1**	**+0.6**	
R11A	**Troy Canyon, C**	**42.67**	**84**	P	**P**	**15 29 46.1**	**-0.4**	
	baz=308							
TPNV	**Topopah Spring**	**43.14**	**87**	P	**P**	**15 29 50.2**	**0.0**	
	baz=310							
PRN	**Pahroc Range**	**43.59**	**85**	P	**P**	**15 29 54.0**	**+0.2**	
PRN				IAmb	IAmb	15 30 20.0		
	comp=Z,3.9nm,1.1s							
PSUT	**Pine Spring**	**43.62**	**83**	P	**P**	**15 29 55.1**	**+0.9**	
PSUT				IAmb	IAmb	15 29 56.5		
	comp=Z,2.2nm,0.8s							
BW06	**Boulder Array**	**43.70**	**75**	P	**P**	**15 29 55.0**	**+0.2**	
BW06				IAmb	IAmb	15 30 11.4		
	comp=Z,2.5nm,0.6s							
BW06	**Boulder Array**	**43.70**	**75**	P	**P**	**15 29 53.7**	**-1.0**	
	baz=306							
PD31	**Pinedale Array**	**43.70**	**75**	P	**P**	**15 29 55.0**	**+0.2**	
PD31				IAmb	IAmb	15 30 11.4		
	comp=Z,2.3nm,0.6s							
PDAR	**Pinedale Array**	**43.70**	**75**	P	**P**	**15 29 53.1**	**-1.6**	
	comp=Z,1.1nm,0.6s,baz=316,slow=6.2,SNR=12							
PDAR				PcP	**PcP**	**15 31 40.6**	**-0.1**	
	comp=Z,0.3nm,0.5s,baz=29,slow=2.1,SNR=1.7							
PDAR	**Pinedale Array**	**43.70**	**75**	P	**P**	**15 29 53.9**	**-0.9**	
SRU	**San Rafael Swe**	**45.31**	**80**	P	**P**	**15 30 09.2**	**+1.7**	
SRU				IAmb	IAmb	15 30 10.1		
	comp=Z,3.3nm,0.8s							
U15A	**North Rim**	**45.92**	**84**	P	**P**	**15 30 14.4**	**+1.9**	
O20A	**White River Ci**	**46.06**	**77**	P	**P**	**15 30 12.6**	**-0.9**	
	baz=308							
PV13	**Radium Mtn., P**	**46.94**	**80**	P	**P**	**15 30 19.4**	**-1.0**	
HHC	**Hu-ho-hao-te**	**49.99**	**288**	*e*P	**P**	**15 30 46.3**	**+2.6**	
HHC				pmax	pmax			
	comp=Z,17nm,0.9s							
HHC				pmax	pmax			
	comp=Z,63nm,6.6s							
MNTX	**Cornudas Mount**	**53.33**	**84**	P	**P**	**15 31 08.2**	**-0.5**	
	baz=314							
TX31	**Lajitas Ar. Si**	**56.04**	**85**	P	**P**	**15 31 26.9**	**-1.4**	
TX32	**Lajitas Array**	**56.04**	**85**	P	**P**	**15 31 27.2**	**-1.1**	
TX32				IAmb	IAmb	15 31 46.5		
	comp=Z,3.3nm,1.1s							
TXAR	**Lajitas Array**	**56.04**	**85**	P	**P**	**15 31 26.9**	**-1.4**	
	comp=Z,1.2nm,0.5s,baz=305,slow=5.7,SNR=15							
TXAR	**Lajitas Array**	**56.04**	**85**	P	**P**	**15 31 26.8**	**-1.6**	
CCM	**Cathedral Cave**	**57.47**	**68**	P	**P**	**15 31 40.1**	**+1.9**	
	baz=313							
MKAR	**Makanchi Array**	**61.68**	**311**	P	**P**	**15 32 06.3**	**-0.8**	
	comp=Z,0.2nm,0.4s,baz=40,slow=4.8,SNR=4.4							
PPT	**Papeete**	**72.56**	**155**	LR	LR	15 59 31.0		
	comp=Z,35nm,21.1s,baz=140,slow=31							
CMAR	**Chiang Mai Arr**	**73.49**	**279**	P	**P**	**15 33 21.3**	**-0.5**	
	comp=Z,0.3nm,0.3s,baz=46,slow=5.2,SNR=2.6							
WRA	**Warramunga Arr**	**84.22**	**227**	P	**P**	**15 34 19.0**	**-1.3**	
	comp=Z,0.5nm,0.8s,baz=52,slow=4.7,SNR=1.9							
WRA	**Warramunga Arr**	**84.22**	**227**	P	**P**	**15 34 18.9**	**-1.5**	
ASAR	**Alice Springs**	**87.65**	**226**	P	**P**	**15 34 36.4**	**-0.9**	
	comp=Z,0.7nm,0.8s,baz=35,slow=7.1,SNR=6.1							
H03N2	**Juan Fernandez**	**118.84**	**108**	T	T	17 50 44.6		
	baz=317,slow=78,SNR=7.5							
H03N1	**Juan Fernandez**	**118.86**	**108**	T	T	17 50 44.1		
	baz=317,slow=78,SNR=8.0							
H03N3	**Juan Fernandez**	**118.86**	**108**	T	T	17 50 43.4		
	baz=317,slow=78,SNR=8.8							

*IDC **23** 15:25:08.4±1.5,31°.56S×71°.83W,h0km,mb4.4/2,*
mb1 3.9/7,mb1mx3.7/26,mbtmp3.8/7,ML3.7/5,MS3.1/6,
Ms1 3.1/6,ms1mx2.9/29,Error ellipse: s-maj=47.3km
s-min=28.9km az=110.0
*GUC **23** 15:25:12.4±0.7,31°.55S×71°.82W,h37km±3km,ML4.0*
*NEIC **23** 15:25:13.7±1.8,31°.54S±0°.04×71°.89W±0°.09,h34km±2km,*
mb4.0/3,ML4.0(GUC),Error ellipse: s-maj=11.4km
s-min=5.5km az=91.0

ISC 23 15:25:12.2±1.3,31°.54S±0°.04×71°.89W±0°.07,h26km±9km,
n61,σ0°87/59,mb4.1/3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**0.89**	**14**	*e*P		**Pn**	**15 25 28.8**	**-0.3**
CO06				*e*S		**Sb**	**15 25 40.4**	**0.0**
CO06				IAML			15 25 44.4	
	comp=E,5μm,0.2s							
CO06	**Fray Jorge**	**0.89**	**14**	Sn		**Sb**	**15 25 40.9**	**+0.5**
VA06	**Catapilco**	**1.14**	**154**	*i* P		**Pn**	**15 25 32.2**	**-0.2**
VA06				*e*S		**Sn**	**15 25 46.5**	**-0.7**
VA06				IAML			15 25 49.8	
	comp=N,10μm,0.5s							
CO03	**El Pedregal**	**1.24**	**56**	*e*P		**Pn**	**15 25 33.8**	**-0.2**
CO03				*e*S		**Sn**	**15 25 49.2**	**-0.8**
CO03				IAML			15 25 53.6	
	comp=E,3μm,0.5s							
CO03	**El Pedregal**	**1.24**	**56**			**Pn**	**15 25 34.2**	**+0.2**
CO03				Sn		**Sn**	**15 25 49.5**	**-0.5**
VA01	**Torpederas**	**1.50**	**172**	Pn		**Pn**	**15 25 37.5**	**+0.1**
ROCH	**El Roble**	**1.61**	**153**	*e*P		**Pn**	**15 25 39.7**	**+0.5**
ROCH				*e*S		**Sn**	**15 26 00.4**	**+1.1**
ROCH				IAML			15 26 05.5	
	comp=N,3μm,0.4s							
GO04	**Tololo Observa**	**1.65**	**35**	*e*P		**Pn**	**15 25 40.5**	**+0.8**
GO04				*e*S		**Sb**	**15 26 01.8**	**-0.8**
VA03	**San Esteban**	**1.67**	**137**	*i* P		**Pn**	**15 25 40.8**	**+0.9**
VA03				*e*S		**Sb**	**15 26 01.8**	**-1.2**
VA03				IAML			15 26 04.7	
	comp=E,5μm,0.1s							
CO05	**La Serena**	**1.71**	**19**	*e*P		**Pn**	**15 25 40.7**	**+0.4**
CO05				*e*S		**Sb**	**15 26 03.1**	**-0.9**
CO05				IAML			15 26 13.0	
	comp=E,1μm,0.5s							
CO05	**La Serena**	**1.71**	**19**	Pn		**Pn**	**15 25 41.2**	**+0.9**
MT05	**Renca**	**2.09**	**153**	*e*P		**Pn**	**15 25 46.4**	**+0.8**
MT05				IAML			15 26 16.9	
	comp=E,3μm,0.3s							
MT05	**Renca**	**2.09**	**153**	Pn		**Pn**	**15 25 46.3**	**+0.6**
VA05	**Santo Domingo**	**2.13**	**174**	Pn		**Pn**	**15 25 46.1**	**+0.1**
MT09	**Talagante**	**2.36**	**161**	*e*P		**Pn**	**15 25 50.1**	**+0.7**
MT09				IAML			15 26 31.3	
	comp=N,1μm,0.7s							
MT09	**Talagante**	**2.36**	**161**	Pn		**Pn**	**15 25 50.6**	**+1.2**
MT01	**Popeta**	**2.38**	**167**	*e*P		**Pn**	**15 25 50.1**	**+0.5**
MT01				IAML			15 26 28.1	
	comp=E,841nm,0.8s							
MT01	**Popeta**	**2.38**	**167**	Pn		**Pn**	**15 25 50.2**	**+0.6**
LCO	**Las Campanas**	**2.72**	**23**	*e*P		**Pn**	**15 25 54.6**	**+0.2**
LCO	**Las Campanas**	**2.72**	**23**	Pn		**Pn**	**15 25 55.2**	**+0.8**
BO01	**Tunca**	**2.93**	**167**	*e*P		**Pn**	**15 25 57.9**	**+0.8**
BO01				IAML			15 26 47.1	
	comp=E,273nm,0.4s							
BO01	**Tunca**	**2.93**	**167**	Pn		**Pn**	**15 25 57.2**	**+0.1**
BO03	**Pichilemu**	**2.95**	**181**	*e*P		**Pn**	**15 25 57.0**	**-0.4**
BO02	**Sierra Bellavi**	**3.38**	**164**	*e*P		**Pn**	**15 26 04.2**	**+0.9**
BO02				IAML			15 26 58.6	
	comp=E,790nm,0.3s							
BO02	**Sierra Bellavi**	**3.38**	**164**	Pn		**Pn**	**15 26 04.2**	**+0.9**
AC04	**Llanos de Chal**	**3.40**	**12**	*e*P		**Pn**	**15 26 03.3**	**-0.3**
AC04	**Llanos de Chal**	**3.40**	**12**	Pn		**Pn**	**15 26 04.0**	**+0.4**
GO05	**Huala**	**3.46**	**181**	Pn		**Pn**	**15 26 04.5**	**0.0**
GO03	**Copiap**	**4.19**	**21**	Pn		**Pn**	**15 26 16.5**	**+2.0**
AC06	**Mina Casimiro**	**4.38**	**18**	Pn		**Pn**	**15 26 18.6**	**+1.6**
AC02	**Maricunga**	**5.27**	**28**	Pn		**Pn**	**15 26 31.0**	**+1.3**
H03N1	**Juan Fernandez**	**6.23**	**250**	T		T	15 33 26.1	
	baz=78,slow=72,SNR=919							
H03N3	**Juan Fernandez**	**6.24**	**250**	T		T	15 33 26.2	
	baz=78,slow=72,SNR=410							
H03N2	**Juan Fernandez**	**6.25**	**250**	T		T	15 33 25.5	
	baz=78,slow=72,SNR=321							
PLCA	**Paso Flores**	**9.24**	**174**	Pn		**Pn**	**15 27 22.7**	**-1.1**
	comp=E,0.3nm,0.3s,baz=339,slow=12,SNR=10							
PLCA				LR		LR	15 30 59.8	
	comp=E,72nm,20.4s,baz=340,slow=38							
PLCA	**Paso Flores**	**9.24**	**174**	Pn		**Pn**	**15 27 24.5**	**+0.7**
LVC	**Limon Verde**	**9.28**	**17**	Pn		**Pn**	**15 27 23.2**	**-1.5**
	comp=E,0.5nm,0.3s,baz=180,slow=14,SNR=2.9							
LVC				LR		LR	15 31 18.0	
	comp=E,74nm,19.1s,baz=218,slow=40							
LVC	**Limon Verde**	**9.28**	**17**	Pn		**Pn**	**15 27 24.9**	**+0.2**
PB09	**IPOC Station P**	**9.99**	**14**	Pn		**Pn**	**15 27 35.5**	**+1.3**
TRQA	**Tornquist**	**10.42**	**131**	Pn		**Pn**	**15 27 41.0**	**+1.0**
CPUP	**Villa Florida**	**13.76**	**72**	Pn		**Pn**	**15 28 23.8**	**-1.9**
	comp=E,0.3nm,0.3s,baz=243,slow=2.3,SNR=1.8							
CPUP				Sn		**Sn**	**15 30 59.1**	**+1.4**
	comp=E,0.3nm,0.3s,baz=358,slow=20,SNR=2.4							
CPUP				LR		LR	15 34 06.7	
	comp=E,86nm,19.2s,baz=222,slow=39							
LPAZ	**La Paz**	**15.56**	**14**	Pn		**Pn**	**15 28 50.6**	**+0.1**
	comp=E,0.1nm,0.3s,baz=174,slow=4.5,SNR=3.8							
LPAZ	**La Paz**	**15.56**	**14**	P		**Pn**	**15 28 51.6**	**+1.1**
LPAZ				IAmb		IAmb	15 29 15.4	
	comp=Z,2.2nm,1.0s							
SIV	**San Ignacio**	**18.35**	**35**	Pn		**Pn**	**15 29 25.9**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=301,slow=18,SNR=1.8							
NNA	**Nana**	**19.99**	**346**	LR		LR	15 35 53.9	
	comp=Z,33nm,20.9s,baz=173,slow=32							
BDFB	**Brasilia**	**26.91**	**59**	P		**P**	**15 30 51.0**	**-0.5**
	comp=Z,2.8nm,0.6s,baz=239,slow=8.1,SNR=3.4							
SNAA	**Sanae**	**53.82**	**159**	P		**P**	**15 34 33.1**	**+0.7**
SNAA				IAmb		IAmb	15 34 34.2	
	comp=Z,2.1nm,1.0s							
RAR	**Rarotonga**	**77.49**	**253**	LR		LR	16 05 17.3	
	comp=Z,35nm,18.4s,baz=64,slow=31							
TSUM	**Tsumeb**	**79.77**	**106**	LR		LR	16 09 41.1	
	comp=Z,15nm,18.7s,baz=155,slow=34							
TORD	**Torodi Ar. Bea**	**83.26**	**70**	P		**P**	**15 37 37.2**	**+0.4**
	comp=Z,2.2nm,0.7s,baz=263,slow=4.6,SNR=16							
TORD	**Torodi Ar. Bea**	**83.26**	**70**	P		**P**	**15 37 36.0**	**-0.9**
TORD				IAmb		IAmb	15 37 37.9	
	comp=Z,2.7nm,0.8s							
H11S2	**WAKE ISLAND Hy**	**25.90**	**271**	T		T	18 03 03.9	
	baz=117,slow=75,SNR=63							
H11S1	**WAKE ISLAND Hy**	**25.91**	**271**	T		T	18 03 12.1	
	baz=117,slow=75,SNR=27							
H11S3	**WAKE ISLAND Hy**	**25.91**	**271**	T		T	18 03 05.2	
	baz=117,slow=75,SNR=33							
H11N3	**WAKE ISLAND Hy**	**26.25**	**272**	T		T	18 03 38.3	
	baz=116,slow=75,SNR=17							
H11N1	**WAKE ISLAND Hy**	**26.26**	**272**	T		T	18 03 33.6	
	baz=116,slow=75,SNR=9.7							
H11N2	**WAKE ISLAND Hy**	**26.26**	**272**	T		T	18 03 39.7	
	baz=116,slow=75,SNR=52							
ZALV	**Zalesovo Beam**	**152.06**	**30**	PKPbc		**PKPbc**	**15 45 05.3**	**+0.7**
	comp=Z,5.6nm,0.5s,baz=308,slow=3.3,SNR=26							
ZALV				PKPab		**pPKPbc**	**15 45 13.5**	**+1.0**
	comp=Z,1.2nm,0.5s,baz=307,slow=4.6,SNR=4.0							
ZALV	**Zalesovo Beam**	**152.06**	**30**			**PKPbc**	**15 45 05.0**	**+0.4**
MKAR	**Makanchi Array**	**155.00**	**45**	PKPbc		**PKPbc**	**15 45 11.6**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=318,slow=3.9,SNR=2.8							
MKAR	**Makanchi Array**	**155.00**	**45**			**PKPbc**	**15 45 11.1**	**-0.3**

*IDC **23** 15:51:49.6±1.7,30°.84S×71°.59W,h0km,mb3.6/2,*
mb1 3.9/7,mb1mx3.8/31,mbtmp3.7/7,ML3.8/5,MS2.9/3,
Ms1 2.9/3,ms1mx2.7/23,Error ellipse: s-maj=36.2km
s-min=29.4km az=112.0
*SJA **23** 15:51:50.0,30°.83S×72°.06W,h10km,ML4.6*
*GUC **23** 15:51:52.8±0.8,30°.93S×71°.69W,h31km±4km,ML4.2*
*NEIC **23** 15:51:53.2±2.3,30°.88S±0°.04×71°.8W±0°.1,h30km±4km,*
mb4.3/10,ML4.2(GUC),Error ellipse: s-maj=12.5km
s-min=5.4km az=227.0

ISC 23 15:51:51.3±0.6,30°.90S±0°.03×71°.81W±0°.06,h21km±2km,
n91,σ1°62/92,mb4.2/6,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**0.27**	**33**	*e*P		**Pn**	**15 51 59.8**	**-0.4**
CO06				*i* S		**Sb**	**15 52 04.0**	**+1.9**
CO06	**Fray Jorge**	**0.27**	**33**			**Pn**	**15 51 59.7**	**-0.4**
CO06				Sg		**Sb**	**15 52 04.5**	**+2.3**
CO03	**El Pedregal**	**0.96**	**87**	*e*P		**Pb**	**15 52 08.8**	**-0.6**
CO03				*i* S		**Sb**	**15 52 20.4**	**-1.4**
CO03				IAML			15 52 21.3	
	comp=E,23μm,0.2s							
CO03	**El Pedregal**	**0.96**	**87**			**Pb**	**15 52 08.7**	**-0.7**
CO03	**El Pedregal**	**0.96**	**87**	*i* P		**Pb**	**15 52 08.0**	**-1.4**
CO05	**La Serena**	**1.10**	**27**	*e*P		**Pn**	**15 52 11.7**	**+0.2**
CO05				*i* S		**Sn**	**15 52 26.2**	**+0.2**
CO05				IAML			15 52 28.6	
	comp=E,10μm,0.4s							
CO05	**La Serena**	**1.10**	**27**	Pn		**Pn**	**15 52 11.7**	**+0.2**
GO04	**Tololo Observa**	**1.14**	**50**	*e*P		**Pn**	**15 52 11.9**	**-0.3**
GO04				*i* S		**Sb**	**15 52 26.0**	**-0.8**
GO04				IAML			15 52 29.7	
	comp=N,17μm,0.1s							
GO04	**Tololo Observa**	**1.14**	**50**	Pn		**Pn**	**15 52 11.9**	**-0.3**
GO04	**Tololo Observa**	**1.14**	**50**	*i* P		**Pn**	**15 52 12.0**	**-0.3**
VA06	**Catapilco**	**1.71**	**165**	*e*P		**Pn**	**15 52 21.1**	**+1.2**
VA06				*i* S		**Sb**	**15 52 42.3**	**-0.8**
VA06				IAML			15 52 49.1	
	comp=N,4μm,0.6s							
LCO	**Las Campanas**	**2.12**	**27**	Pn		**Pn**	**15 52 26.7**	**+1.0**
VA01	**Torpederas**	**2.12**	**176**	Pn		**Pn**	**15 52 25.9**	**+0.4**
VA03	**San Esteban**	**2.14**	**150**	*e*P		**Pn**	**15 52 27.5**	**+1.6**
VA03				*i* S		**Sb**	**15 52 54.0**	**-1.7**
VA03	**San Esteban**	**2.14**	**150**			**Pn**	**15 52 27.6**	**+1.6**
VA03	**San Esteban**	**2.14**	**150**	*i* P		**Pb**	**15 52 28.0**	**-1.5**
ROCH	**El Roble**	**2.17**	**162**	*e*P		**Pn**	**15 52 27.9**	**+1.4**
ROCH				*i* S		**Sb**	**15 52 55.8**	**-0.8**
ROCH				IAML			15 53 00.8	
	comp=E,2μm,0.4s							
RTLS	**Leoncito**	**2.33**	**113**	*i* P		**Pb**	**15 52 32.0**	**-0.8**
AUSP	**Uspallata**	**2.45**	**123**	*i* P		**Pb**	**15 52 34.0**	**-0.9**
MT05	**Renca**	**2.64**	**160**	*e*P		**Pn**	**15 52 34.4**	**+1.6**
MT05				*i* S		**Sb**	**15 53 08.0**	**-2.0**
MT05	**Renca**	**2.64**	**160**	Pn		**Pn**	**15 52 34.6**	**+1.8**
MT05	**Renca**	**2.64**	**160**	*i* P		**Pn**	**15 52 35.0**	**+2.2**
VA05	**Santo Domingo**	**2.75**	**177**			**Pn**	**15 52 34.6**	**+0.4**
ZON	**Zonda**	**2.76**	**104**	Pn		**Pb**	**15 52 37.8**	**-2.2**
ZON	**Zonda**	**2.76**	**104**	*i* P		**Pb**	**15 52 38.0**	**-2.0**
AC04	**Llanos de Chal**	**2.76**	**14**			**Pn**	**15 52 34.9**	**+0.5**
AC04	**Llanos de Chal**	**2.76**	**14**	*i* P		**Pn**	**15 52 35.0**	**+0.6**
MT09	**Talagante**	**2.95**	**167**	Pn		**Pn**	**15 52 38.9**	**+1.8**
RTCV	**Cerro Valdivia**	**2.96**	**110**	*i* P		**Pb**	**15 52 41.0**	**-2.3**
MT01	**Popeta**	**2.99**	**171**			**Pn**	**15 52 38.6**	**+1.1**
MT01	**Popeta**	**2.99**	**171**	*i* P		**Pn**	**15 52 38.0**	**+0.5**
ASAL	**Salagasta**	**3.04**	**124**	*i* P		**Pb**	**15 52 42.0**	**-2.8**
ARCO	**CERRO ARCO**	**3.12**	**129**	*i* P		**Pb**	**15 52 45.0**	**-1.2**
AGUA	**GUANDACOL**	**3.20**	**65**	*i* P		**Pb**	**15 52 45.0**	**-2.5**
AAGR	**Agrelo**	**3.34**	**131**	*i* P		**Pb**	**15 52 47.0**	**-2.9**
BO01	**Tunca**	**3.53**	**170**			**Pn**	**15 52 46.0**	**+1.0**
BO01	**Tunca**	**3.53**	**170**	*i* P		**Pn**	**15 52 46.0**	**+1.0**
GO03	**Copiap**	**3.57**	**23**			**Pn**	**15 52 46.3**	**+0.7**
GO03	**Copiap**	**3.57**	**23**	*i* P		**Pn**	**15 52 46.0**	**+0.4**
AVFE	**Valle Fertil**	**3.75**	**87**	*i* P		**Pn**	**15 52 50.0**	**+1.9**
AC06	**Mina Casimiro**	**3.75**	**20**			**Pn**	**15 52 48.3**	**+0.3**
VCA	**Vinchina**	**3.80**	**56**	*i* P		**Pn**	**15 52 53.0**	**+4.2**
BO02	**Sierra Bellavi**	**3.97**	**168**			**Pn**	**15 52 52.5**	**+1.3**
BO02	**Sierra Bellavi**	**3.97**	**168**	*i* P		**Pn**	**15 52 53.0**	**+1.9**
GO05	**Huala**	**4.10**	**181**			**Pn**	**15 52 52.5**	**-0.2**
GO05	**Huala**	**4.10**	**181**	*i* P		**Pn**	**15 52 53.0**	**+0.2**
ACHE	**Chepes**	**4.42**	**95**	*i* P		**Pn**	**15 52 59.0**	**+1.6**
AC02	**Maricunga**	**4.68**	**31**	Pn		**Pn**	**15 53 03.5**	**+2.2**
RFA	**San Rafael**	**4.77**	**145**	*i* P		**Pn**	**15 53 06.0**	**+3.9**
CYA	**Choya**	**5.77**	**66**	*i* P		**Pn**	**15 53 17.0**	**+1.2**
H03N1	**Juan Fernandez**	**6.53**	**245**	T		T	16 00 17.8	
	baz=73,slow=72,SNR=2156							
H03N3	**Juan Fernandez**	**6.55**	**245**	T		T	16 00 16.9	
	baz=73,slow=72,SNR=2051							
H03N2	**Juan Fernandez**	**6.55**	**245**	T		T	16 00 14.2	
	baz=73,slow=72,SNR=1850							
AHML	**Horco Molle**	**7.00**	**56**	*i* P		**Pn**	**15 53 34.0**	**+1.3**
FSA	**Cafayete**	**7.00**	**48**	*i* P		**Pn**	**15 53 36.0**	**+3.1**
PB10	**IPOC Station P**	**7.44**	**9**	Pn		**Pn**	**15 53 38.6**	**-0.1**
LC01	**Cunco**	**7.98**	**180**	Pn		**Pn**	**15 53 45.0**	**-1.0**
PB06	**IPOC Station P**	**8.40**	**14**	Pn		**Pn**	**15 53 54.2**	**+2.2**
LVC	**Limon Verde**	**8.65**	**18**	Pn		**Pn**	**15 53 53.8**	**-1.9**
	comp=E,0.5nm,0.3s,baz=202,slow=11,SNR=2.0							
LVC				Sn		**Sn**	**15 55 28.5**	**-4.4**
	comp=E,1.6nm,0.3s,baz=235,slow=10,SNR=3.3							
LVC	**Limon Verde**	**8.65**	**18**	Pn		**Pn**	**15 53 56.8**	**+1.1**
PB07	**IPOC Station P**	**9.30**	**11**	Pn		**Pn**	**15 54 02.8**	**-1.6**
PB09	**IPOC Station P**	**9.36**	**15**	Pn		**Pn**	**15 54 04.0**	**-1.1**
PLCA	**Paso Flores**	**9.86**	**174**	Pn		**Pn**	**15 54 13.2**	**+1.3**
	comp=E,0.2nm,0.3s,baz=336,slow=10,SNR=9.9							
PLCA				LR		LR	15 58 17.0	
	comp=E,99nm,21.0s,baz=340,slow=39							
PLCA	**Paso Flores**	**9.86**	**174**	Pn		**Pn**	**15 54 12.6**	**+0.7**
PLCA	**Paso Flores**	**9.86**	**174**	*i* P		**Pn**	**15 54 13.0**	**+1.1**
PB01	**IPOC Station P**	**10.04**	**13**	Pn		**Pn**	**15 54 15.6**	**+1.2**
TA01	**Diego Aracena**	**10.40**	**8**	Pn		**Pn**	**15 54 21.1**	**+1.9**
TRQA	**Tornquist**	**10.80**	**134**	Pn		**Pn**	**15 54 27.1**	**+2.4**
PB08	**IPOC Station P**	**10.98**	**13**	Pn		**Pn**	**15 54 26.7**	**-0.9**
ITQB	**Itaqui**	**13.18**	**89**	Pn		**Pn**	**15 54 57.0**	**-0.2**
CPUP	**Villa Florida**	**13.51**	**74**	Pn		**Pn**	**15 54 59.6**	**-2.1**
	comp=E,0.2nm,0.3s,baz=284,slow=4.1,SNR=2.0							
CPUP				Sn		**Sn**	**15 57 31.5**	**+0.3**
	comp=E,0.2nm,0.3s,baz=240,slow=13,SNR=2.3							
CPUP				LR		LR	16 00 20.2	
	comp=E,60nm,20.2s,baz=228,slow=38							
LPAZ	**La Paz**	**14.93**	**14**	Pn		**Pn**	**15 55 23.0**	**+1.2**
	comp=E,0.1nm,0.3s,baz=186,slow=7.2,SNR=10.0							
LPAZ	**La Paz**	**14.93**	**14**	Pn		**Pn**	**15 55 23.2**	**+1.5**
SIV	**San Ignacio**	**17.80**	**36**	P		**Pn**	**15 55 56.8**	**-1.0**
	comp=E,0.2nm,0.3s,baz=227,slow=12,SNR=7.4							
NNA	**Nana**	**19.39**	**345**	LR		LR	16 02 20.3	
	comp=E,33nm,21.2s,baz=172,slow=32							
SAML	**Samuel**	**23.28**	**22**	P		**P**	**15 56 60.0**	**+2.3**
SAML				I

1.1nm,0.5s,baz=323,slow=10,SNR=7.8

IDC 23 16:10:09.1±3.8, 7.37S×154.81E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/38, mbtmp3.6/3, Error ellipse: s-maj=132.5km s-min=38.4km az=119.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.46**	**236**	P	P	16 15 20.0	-0.4
	2.2nm,0.6s,baz=58,slow=9.0,SNR=11						
ASAR	**Alice Springs**	**25.79**	**229**	P	P	16 15 41.8	-0.3
	0.3nm,0.4s,baz=63,slow=8.7,SNR=20						
MKAR	**Makanchi Array**	**83.56**	**319**	P	P	16 22 40.0	+0.7
	0.3nm,0.6s,baz=95,slow=6.4,SNR=3.1						
TORD	**Torodi Ar. Bea**	**152.94**	**284**	PKPbc	PKPbc	16 30 09.4	-0.1
	0.4nm,0.6s,baz=70,slow=2.5,SNR=2.5						

IDC 23 16:12:28.3±28.0, 28.55S×74.91E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/47, mbtmp3.7/3, Error ellipse: s-maj=676.8km s-min=50.7km az=64.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**20.92**	**353**	T	T	16 38 34.0	
	baz=176,slow=76,SNR=21						
H08S1	**Diego Garcia H**	**20.93**	**353**	T	T	16 38 32.8	
	baz=176,slow=76,SNR=19						
H08S3	**Diego Garcia H**	**20.94**	**353**	T	T	16 38 41.0	
	baz=176,slow=76,SNR=24						
CMAR	**Chiang Mai Arr**	**52.19**	**29**	P	P	16 21 41.1	+0.1
	0.8nm,0.9s,baz=220,slow=6.8,SNR=5.4						
ASAR	**Alice Springs**	**52.75**	**99**	P	P	16 21 45.1	-0.2
	0.8nm,0.9s,baz=250,slow=6.5,SNR=9.3						
WRA	**Warramunga Arr**	**54.40**	**95**	P	P	16 21 57.3	-0.1
	1.2nm,0.9s,baz=254,slow=6.9,SNR=5.2						

MOS ***23*** *16:18:35.3±1.1,5.77S×103.76E, h9km, mb5.6/35, MS4.4/11, Error ellipse: s-maj=9.0km s-min=4.4km az=113.3*

IDC ***23*** *16:18:35.4±0.3,5.92S×103.67E, h0km, mb4.9/38, mb1 4.9/38, mb1mx4.9/42, mbtmp4.9/38, MS4.4/24, Ms1 4.4/24, ms1mx4.3/30, Error ellipse: s-maj=11.2km s-min=9.6km az=51.0*

NEIC ***23*** *16:18:37.9±2.9,5.98S±0.06×103.57E±0.07, h11km±3km, mb5.4/126, Error ellipse: s-maj=9.5km s-min=8.7km az=64.0*

BJI ***23*** *16:18:38.0±0.0,6.00S×103.50E, h25km, mB5.0/52, mb5.1/71, Ms4.9/76, Ms7 4.7/74*

DJA ***23*** *16:18:40.6±0.3,6.5±2.2×10.3E±.1, h53km±2km, M5.1/66, mB5.6/50, mb5.3/66, MLv5.6/28, Mw(mB)5.1/50, MwMwp4.8/6, Mwp5.1/6*

GCMT ***23*** *16:18:42.9±0.2,6.12S±0.01×103.54E±0.01, h33km, MW5.2/106, Moment Tensor Solution. s86,c134; s106,c170; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-4.42±.14; Mθθ2.04±.11; Mϕϕ2.38±.12; Mrθ-1.24±.14; Mθϕ-4.31±.07; Mϕr-3.87±.16; Best double couple: M◎7.05000×10^16^ NP1:ϕ1106.00000°, δ45.00000°, λ-141.00000°. NP2:ϕ2347.00000°, δ64.00000°, λ-52.00000°. Principal axes: T 6.9000, Plg11.0000°, Azm51.0000°; N 0.3010, Plg33.0000°, Azm148.0000°; P -7.2000, Plg54.0000°, Azm305.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 16:18:41.1±0.4, 6.02S±0.03×103.65E±0.04, h45km±3km, h44km:pP-P, n703, σ1§53/745, mb5.3/168, MS4.5/53, 39C-129D, Fault plane solution: NP1:ϕ$_s$332.32974°, δ33.19715°, λ-55.86838°. **NP2:**ϕ$_s$113.32000°, δ63.05009°, λ-110.15975°. **Principal axes:** T Plg15.7376°, Azm217.9862°; N Plg17.8913°, Azm122.7668°; P Plg65.8070°, Azm346.8320°; **Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**1.08**	**22**	P	**Pn**	**16 19 02.1**	**+2.2**
LWLI				S	**Sn**	**16 19 18.7**	**+4.9**
EGSI	**Enggano, Bengk**	**1.52**	**296**	P	**Pn**	**16 19 05.6**	**-0.1**
MDSI	**Maura Dua**	**1.61**	**19**	P	**Pn**	**16 19 09.4**	**+2.3**
KLI	**Kotabumi**	**1.67**	**46**	P	**Pn**	**16 19 07.7**	**-0.1**
BLSI	**Bandar Lampung**	**1.72**	**68**	P	**Pn**	**16 19 10.4**	**+1.8**
LHSI	**Lahat**	**2.18**	**357**	P	**Pn**	**16 19 18.7**	**+3.8**
SBJI	**Serang**	**2.47**	**92**	P	**Pn**	**16 19 20.9**	**+2.0**
KSI	**Kapahiang**	**2.58**	**336**	P	**Pn**	**16 19 21.0**	**+0.6**
UBSI	**University, Be**	**2.63**	**329**	P	**Pn**	**16 19 21.5**	**+0.4**
TNG	**Tangerang**	**2.99**	**93**	P	**Pn**	**16 19 29.0**	**+3.0**
TNG				P	**Pn**	**16 19 30.1**	**+4.1**
SKJI	**Sukabumi**	**3.05**	**109**	P	**Pn**	**16 19 28.6**	**+1.7**
DBJI	**Dramaga**	**3.13**	**100**	P	**Pn**	**16 19 29.6**	**+1.6**
MASI	**Maura Aman, Be**	**3.19**	**334**	P	**Pn**	**16 19 30.2**	**+1.5**
CBJI	**Citeko**	**3.21**	**97**	P	**Pn**	**16 19 33.8**	**+4.8**
PMBI	**Palembang**	**3.27**	**20**		**Pn**	**16 19 32.0**	**+2.1**
PMBI	**Palembang**	**3.27**	**20**	P	**Pn**	**16 19 32.7**	**+2.8**
CNJI	**Cibinong**	**3.69**	**110**	P	**Pn**	**16 19 35.6**	**0.0**
LEM	**Lembang**	**4.03**	**102**	Pn	**Pn**	**16 19 43.7**	**+3.3**
	48nm,0.3s,baz=186,slow=15,SNR=33						
LEM				Sn	**Sn**	**16 20 27.7**	**+1.2**
	82nm,0.3s,baz=284,slow=8.6,SNR=7.1						
LEM				LR	LR	16 21 32.9	
	comp=Z,10μm,20.3s,baz=272,slow=44						
LEM	**Lembang**	**4.03**	**102**	P	**Pn**	**16 19 43.4**	**+3.0**
JMBI	**JAMBI**	**4.36**	**360**	P	**Pn**	**16 19 48.2**	**+3.4**
CISI	**Cisompet, Garu**	**4.41**	**110**	Pn	**Pn**	**16 19 45.8**	**+0.1**
CISI	**Cisompet, Garu**	**4.41**	**110**	P	**Pn**	**16 19 46.1**	**+0.5**
PPBI	**Pangkal Pinang**	**4.57**	**33**	P	**Pn**	**16 19 49.6**	**+1.9**
JCJI	**Jatiwangi**	**4.62**	**96**	P	**Pn**	**16 19 51.7**	**+3.3**
XMIS	**Christmas Isla**	**4.86**	**156**	Pn	Pn	16 19 45.9	-5.8
CMJI	**Cimerak**	**5.08**	**110**	P	**Pn**	**16 19 55.5**	**+0.8**
	2.7nm8μm324nm,0.8s						
KPJI	**Karang Pucung**	**5.41**	**104**	P	**Pn**	**16 20 02.6**	**+3.3**
	2.2nm6μm333nm,0.7s						
CTJI	**Waduk Cacaban**	**5.59**	**100**	P	**Pn**	**16 20 05.1**	**+3.4**
	1.3nm4μm231nm,1.5s						
SCJI	**Gunung Srandil**	**5.73**	**107**	P	**Pn**	**16 20 05.8**	**+2.2**
	2.3nm5μm292nm,1.1s						
RGRI	**Rengat**	**5.78**	**347**	P	**Pn**	**16 20 06.6**	**+2.2**
	3.1nm42μm411nm,0.5s						
PDSI	**Padang**	**5.99**	**328**	P	**Pn**	**16 20 06.5**	**-0.7**
	1.6nm2μm4μm226nm,1.0s						
SMRI	**Semarang**	**6.83**	**99**	Pn	**Pn**	**16 20 19.3**	**+0.5**
SMRI	**Semarang**	**6.83**	**99**	P	**Pn**	**16 20 21.2**	**+2.4**
	4.5nm7μm440nm,1.2s						
YOGI	**Yogyakarta**	**6.84**	**106**	P	**Pn**	**16 20 21.3**	**+2.4**
	2.7nm4μm251nm,0.7s						
UGM	**Wanagama**	**7.08**	**106**	Pn	**Pn**	**16 20 23.8**	**+1.5**
UGM	**Wanagama**	**7.08**	**106**	P	**Pn**	**16 20 24.1**	**+1.8**
	3.3nm7μm594nm,0.9s						
BTDF	**Bukit Timah Da**	**7.33**	**1**	P	**Pn**	**16 20 28.9**	**+3.2**
	0.7nm2μm2μm192nm,1.1s						
PCJI	**Pacitan**	**7.78**	**107**	P	**Pn**	**16 20 33.0**	**+1.2**
	1.7nm6μm496nm,1.0s						
MNSI	**Mandailing Nat**	**7.89**	**329**	P	**Pn**	**16 20 31.7**	**-1.7**
	0.6nm2μm96nm,0.4s						
SJI	**Sawahan**	**8.24**	**102**	P	**Pn**	**16 20 41.2**	**+3.0**
	3μm215nm,0.7s						
PWJI	**Pagerwojo**	**8.34**	**104**	P	**Pn**	**16 20 41.0**	**+1.5**
	4μm400nm,0.8s						
PBKI	**Pangkalan Bun**	**8.65**	**68**	P	**Pn**	**16 20 48.4**	**+4.6**
	3μm280nm,1.3s						
GRJI	**Gresik**	**8.82**	**96**	P	**Pn**	**16 20 50.5**	**+4.4**
	3μm282nm,0.9s						
KRKI	**Karangkates**	**8.99**	**104**	P	**Pn**	**16 20 50.0**	**+1.5**
	16μm482nm,1.2s						
COCO	**West Island**	**9.10**	**227**	P	**Pn**	**16 20 46.9**	**-3.0**
COCO	**West Island**	**9.10**	**227**	Pn	**Pn**	**16 20 46.9**	**-3.0**
GSI	**Gunungsitoli**	**9.47**	**320**	Pn	**Pn**	**16 20 52.5**	**-2.5**
GSI	**Gunungsitoli**	**9.47**	**320**	P	**Pn**	**16 20 53.3**	**-1.7**
	3μm91nm,0.4s						
RPSI	**Rantau Prapat**	**9.86**	**331**		**Pn**	**16 20 59.6**	**-0.7**
STKI	**Sintang**	**9.88**	**53**	P	Pn	16 21 05.5	+4.8
	130nm,0.8s						
PSI	**Prapat**	**9.95**	**332**	Pn	**Pn**	**16 21 00.8**	**-0.9**
	2.5nm,0.3s,baz=128,slow=8.9,SNR=6.4						
PSI				LR	LR	16 25 17.0	
	comp=Z,2μm,19.7s,baz=148,slow=41						
PSI	**Prapat**	**9.95**	**332**	P	**Pn**	**16 20 59.6**	**-2.1**
GMJI	**Gumukmas**	**9.98**	**104**	P	**Pn**	**16 21 02.9**	**+1.0**
	3μm117nm,0.6s						
KMMI	**Kalianget**	**10.31**	**96**	P	**Pn**	**16 21 08.6**	**+2.2**
	3μm218nm,1.2s						
ABJI	**Asem Bagus**	**10.66**	**100**	P	**Pn**	**16 21 15.0**	**+3.7**
	12μm1μm,0.8s						
JAGI	**Jajag, Banyuwa**	**10.70**	**104**	Pn	**Pn**	**16 21 12.4**	**+0.5**
JAGI	**Jajag, Banyuwa**	**10.70**	**104**	P	**Pn**	**16 21 11.8**	**-0.1**
	8μm820nm,1.1s						
BYJI	**Banyuwangi**	**10.85**	**102**	P	**Pn**	**16 21 15.7**	**+1.8**
	11μm335nm,1.3s						
PKKI	**Palangkaraya**	**10.96**	**70**	P	Pn	16 21 20.7	+5.3
	3μm224nm,1.2s						
BBKI	**Banjar Baru**	**11.44**	**78**	P	**Pn**	**16 21 25.6**	**+3.6**
	56nm,1.5s						
SRBI	**Singaraja**	**11.66**	**101**	P	**Pn**	**16 21 26.9**	**+1.9**
	4μm327nm,1.0s						
DNP	**Denpasar**	**11.77**	**104**	P	**Pn**	**16 21 26.8**	**+0.3**
	17μm562nm,0.6s						
MTKI	**Muara Teweh, K**	**12.31**	**66**	P	**Pn**	**16 21 36.8**	**+3.0**
	1μm46nm,1.6s						
KBKI	**Kotabaru**	**12.77**	**78**	P	**Pn**	**16 21 43.4**	**+3.3**
	570nm46nm,0.8s						
LHMI	**Lhok Sumawe**	**13.02**	**329**	Pn	**Pn**	**16 21 39.1**	**-4.5**
TWSI	**Taliwang, Sumb**	**13.40**	**102**	P	**Pn**	**16 21 45.8**	**-3.0**
	1μm97nm,0.5s						
BKB	**Balikpapan**	**14.04**	**71**	Pn	**Pn**	**16 21 59.9**	**+2.4**
PLAI	**Plampang**	**14.29**	**102**	P	**Pn**	**16 21 58.1**	**-2.7**
	3μm310nm,0.8s						
PMSI	**Majene**	**15.42**	**81**	P	**P**	**16 22 19.0**	**-0.7**
	3μm159nm,1.1s						
MMSI	**Mamuju**	**15.57**	**78**	P	**P**	**16 22 20.8**	**-0.6**
	1μm77nm,1.0s						
WBSI	**Waikabubak, Su**	**16.01**	**104**	P	**Pn**	**16 22 18.8**	**-4.5**
	2μm181nm,0.8s						
KAPI	**Kappang**	**16.06**	**87**	Pn	**Pn**	**16 22 25.1**	**+1.0**
	2.6nm,0.3s,baz=252,slow=14,SNR=1.7						
KAPI				LR	LR	16 28 51.4	
	comp=Z,2μm,21.4s,baz=281,slow=38						
KAPI	**Kappang**	**16.06**	**87**	P	**Pn**	**16 22 22.9**	**-1.1**
KAPI				P	**Pn**	**16 22 22.9**	**-1.1**
KAPI	**Kappang**	**16.06**	**87**	P	**Pn**	**16 22 25.0**	**+1.0**
	906nm46nm,1.0s						
LBFI	**Labuhan Bajo,**	**16.30**	**100**	P	**Pn**	**16 22 26.1**	**-0.9**
	1μm129nm,0.9s						
TTSI	**Tana Toraja**	**16.39**	**80**	P	**P**	**16 22 31.6**	**+1.2**
	2μm54nm,0.9s						
BKSI	**Bulukumba**	**16.41**	**88**	P	**P**	**16 22 29.7**	**-0.9**
	2μm2μm179nm,1.3s						
BNSI	**Bone**	**16.47**	**85**	P	**P**	**16 22 31.5**	**+0.2**
	3μm4μm202nm,1.3s						
BSSI	**Bau Bau, Buton**	**16.75**	**91**	P	**Pn**	**16 22 33.3**	**+0.6**
	1μm107nm,1.3s						
BASI	**Baing, Sumba**	**17.27**	**105**	P	**Pn**	**16 22 37.9**	**-1.3**
	6μm408nm,1.5s						
MPSI	**Mapaga**	**17.41**	**69**	P	**P**	**16 22 43.6**	**+1.9**
	3μm152nm,1.2s						
KKSI	**Kolaka, Sulawe**	**18.03**	**85**	P	**Pn**	**16 22 48.2**	**-0.3**
EDFI	**Ende, Flores**	**18.10**	**100**	P	**P**	**16 22 45.3**	**-4.1**
	970nm62nm,1.0s						
TOLI2	**Tolitoli**	**18.52**	**68**	P	**Pn**	**16 22 55.7**	**+1.2**
MMRI	**Maumere**	**18.62**	**99**	P	**P**	**16 22 53.0**	**-2.1**
MMRI				IAmb	IAmb	16 23 15.5	
	comp=Z,209nm,0.6s						
MMRI	**Maumere**	**18.62**	**99**	P	**P**	**16 22 53.3**	**-1.8**
	comp=Z,3μmcomp=Z,306nm,0.7s						
APSI	**Ampana**	**18.67**	**75**	P	**Pn**	**16 22 58.3**	**+2.0**
	comp=Z,2μmcomp=Z,242nm,1.1s						
MRSI	**Marisa**	**19.37**	**71**	P	**Pn**	**16 23 04.3**	**-0.4**
	comp=Z,4μmcomp=Z,365nm,0.6s						
GIRL	**Giralia**	**19.43**	**149**	P	**P**	**16 23 03.7**	**-0.1**
	baz=20,SNR=17						
GIRL	**Giralia**	**19.43**	**149**	P	**P**	**16 23 03.2**	**-0.7**
GIRL				IAmb	IAmb	16 23 06.4	
	comp=Z,179nm,1.3s						
LUWI	**Luwuk**	**19.71**	**76**	P	**P**	**16 23 06.5**	**-0.6**
LUWI	**Luwuk**	**19.71**	**76**	P	**Pn**	**16 23 08.5**	**-0.3**
	comp=Z,5μmcomp=Z,253nm,1.1s						
BATI	**Baumata**	**20.25**	**103**	P	**P**	**16 23 12.9**	**0.0**
	comp=Z,244nm,0.5s,baz=314,slow=1.9,SNR=50						
BATI				S	**S**	**16 26 52.4**	**-5.3**
	comp=Z,67nm,0.5s,baz=280,slow=6.2,SNR=4.0						
BATI	**Baumata**	**20.25**	**103**	P	**P**	**16 23 13.1**	**+0.2**
	comp=Z,1μmcomp=Z,5μmcomp=Z,445nm,1.2s						
GTOI	**Gorontalo**	**20.43**	**72**	P	**P**	**16 23 15.1**	**+0.2**
	comp=Z,916nmcomp=Z,56nm,0.9s						
PBA	**Port Blair**	**20.64**	**328**	P	P	16 23 15.8	-1.3
SRDT	**SRDT**	**20.73**	**348**	P	**P**	**16 23 17.1**	**-0.9**
	comp=Z,23nm,1.3s						
SOEI	**Soe**	**20.76**	**102**	P	**P**	**16 23 17.7**	**-0.8**
SOEI	**Soe**	**20.76**	**102**	P	**P**	**16 23 18.0**	**-0.5**
	comp=Z,6μmcomp=Z,686nm,0.9s						
KMSI	**Cibinong**	**21.33**	**73**	P	**P**	**16 23 24.3**	**-0.3**
	comp=Z,1μmcomp=Z,92nm,0.8s						
PSA00	**Pilbara Seismi**	**22.02**	**136**	P	**P**	**16 23 31.4**	**-0.5**
PSA00	**Pilbara Seismi**	**22.02**	**136**	P	**P**	**16 23 31.9**	**+0.1**
PSA00				IAmb	IAmb	16 23 48.1	
	comp=Z,69nm,1.1s						
FITZ	**Fitzroy Crossi**	**24.59**	**121**	P	**P**	**16 23 58.2**	**+0.9**
	baz=2,SNR=32						
FITZ	**Fitzroy Crossi**	**24.59**	**121**	P	**P**	**16 23 58.1**	**+0.9**
	comp=Z,27nm,0.8s,baz=282,slow=5.7,SNR=53						
FITZ				LR	LR	16 33 18.9	
	comp=Z,373nm,21.6s,baz=306,slow=36						
FITZ	**Fitzroy Crossi**	**24.59**	**121**	P	**P**	**16 23 58.1**	**+0.9**
TNTI	**Ternate**	**24.62**	**75**	P	**P**	**16 23 58.7**	**+1.1**
TNTI				IAmb	IAmb	16 24 21.2	
	comp=Z,187nm,1.4s						
TNTI	**Ternate**	**24.62**	**75**	P	**P**	**16 23 58.7**	**+1.1**
	comp=Z,1μmcomp=Z,118nm,1.0s						
CM31	**Chiang Mai Arr**	**24.76**	**349**	P	**P**	**16 23 57.8**	**-1.0**
CM31				IAmb	IAmb	16 24 00.8	
	comp=Z,65nm,0.8s						
CM31	**Chiang Mai Arr**	**24.76**	**349**	P	**P**	**16 23 58.2**	**-0.6**
	SNR=30						
CMAR	**Chiang Mai Arr**	**24.76**	**349**	P	**P**	**16 23 58.5**	**-0.3**
	comp=Z,40nm,0.6s,baz=182,slow=8.7,SNR=116						
CMAR				PcP	**PcP**	**16 27 36.3**	**+1.4**
	comp=Z,2.0nm,0.8s,baz=198,slow=2.9,SNR=4.6						
CMAR				ScP	**ScP**	**16 31 12.5**	**+2.2**
	comp=Z,1.3nm,0.9s,baz=209,slow=4.1,SNR=5.0						
CMAR				LR	LR	16 34 31.4	
	comp=Z,1μm,21.4s,baz=216,slow=39						
CMAR	**Chiang Mai Arr**	**24.76**	**349**	P	**P**	**16 23 57.8**	**-0.9**
MEEK	**Meekatharra**	**24.98**	**147**	P	**P**	**16 24 01.1**	**+0.3**
	baz=25,SNR=3.5						
CMMT	**Chiang Mai**	**25.11**	**349**	P	**P**	**16 24 00.9**	**-1.0**
	comp=Z,560nmcomp=Z,68nm,1.1s						
CHTO	**Chiang Mai**	**25.11**	**349**	P	**P**	**16 24 00.6**	**-1.3**
CHTO				pmax	pmax		
	comp=Z,142nm,1.4s						
CHTO	**Chiang Mai**	**25.11**	**349**	P	**P**	**16 24 00.6**	**-1.3**
CHTO				IAmb	IAmb	16 24 03.3	
	comp=Z,142nm,1.4s						
CHTO	**Chiang Mai**	**25.11**	**349**	P	**P**	**16 24 01.1**	**-0.8**
	comp=Z,341nmcomp=Z,40nm,1.1s						
GAMI	**Galela, Maluku**	**25.34**	**73**	P	**P**	**16 24 03.0**	**-1.1**
	comp=Z,147nm,0.7s						
DAV	**Davao City (W)**	**25.46**	**60**	P	**P**	**16 24 07.6**	**+2.4**
	comp=Z,191nm,0.4s,baz=47,slow=1.1,SNR=5.3						
DAV				LR	LR	16 34 42.2	
	comp=Z,790nm,21.3s,baz=245,slow=38						
DAV	**Davao City (W)**	**25.46**	**60**	P	**P**	**16 24 06.9**	**+1.7**
QIZ	**Qiongzhong**	**25.63**	**14**	P	**P**	**16 24 06.6**	**0.0**
QIZ				S	**S**	**16 28 32.8**	**+0.8**
QIZ				pmax	pmax		
	comp=Z,100nm,1.7s						
QIZ				LR	LR		
	comp=Z,1μm,18.4s						
QIZ				LR	LR		
	comp=Z,1μm,17.2s						
QIZ				LR	LR		
	comp=Z,2μm,19.6s						
MORW	**Morawa**	**25.75**	**154**	P	**P**	**16 24 07.8**	**+0.2**
	baz=26,SNR=6.1						
MORW	**Morawa**	**25.75**	**154**	P	**P**	**16 24 07.5**	**-0.1**
PALK	**Pallekele**	**26.43**	**300**	P	**P**	**16 24 14.9**	**+1.0**
	comp=Z,3.8nm,0.6s,baz=218,slow=12,SNR=1.7						
PALK				LR	LR	16 33 17.0	
	comp=Z,1μm,20.7s,baz=226,slow=33						
PALK	**Pallekele**	**26.43**	**300**	P	**P**	**16 24 15.8**	**+1.8**
PALK				P	**P**	**16 24 15.8**	**+1.8**
KNRA	**Kununurra**	**26.44**	**113**	P	**P**	**16 24 13.6**	**-0.4**
	baz=26,SNR=6.3						
KNRA	**Kununurra**	**26.44**	**113**	P	**P**	**16 24 13.1**	**-0.9**
KNRA				IAmb	IAmb	16 24 30.6	
	comp=Z,120nm,1.1s						
SLVN	**Son La**	**27.19**	**1**	P	**P**	**16 24 20.5**	**-0.2**
MTN	**Manton Dam**	**27.93**	**106**	P	**P**	**16 24 26.6**	**-0.8**
	baz=28,SNR=35						
MTN	**Manton Dam**	**27.93**	**106**	P	**P**	**16 24 26.9**	**-0.6**
MTN				IAmb	IAmb	16 24 56.2	
	comp=Z,46nm,0.5s						
SIJI	**Sorong**	**28.03**	**81**	P	**P**	**16 24 30.0**	**+1.6**
	comp=Z,11nm,0.7s,baz=323,slow=20,SNR=1.5						
MUN	**Mundaring**	**28.37**	**157**	P	**P**	**16 24 31.8**	**+0.6**
	baz=28,SNR=5.6						
KDU	**Kakadu**	**29.19**	**105**	P	**P**	**16 24 37.5**	**-1.1**
	baz=29,SNR=29						
NWAO	**Narrogin (SRO)**	**29.61**	**156**	LR	LR	16 37 10.5	
	comp=Z,826nm,18.2s,baz=314,slow=38						
WRKA	**Warakurna**	**30.25**	**131**	P	**P**	**16 24 48.3**	**+0.3**
	baz=30,SNR=8.0						
H01W3	**Cape Leeuwin H**	**30.31**	**163**	T	T	16 56 54.1	
	baz=338,slow=74						
H01W2	**Cape Leeuwin H**	**30.32**	**163**	T	T	16 56 55.1	
	baz=338						
H01W1	**Cape Leeuwin H**	**30.33**	**163**	T	T	16 56 58.8	
	baz=338,slow=74						
H08S2	**Diego Garcia H**	**30.97**	**265**	T	T	16 57 00.8	
	baz=89,slow=75,SNR=24						
KMI	**Kunming**	**30.97**	**358**	⇓P	**P**	**16 24 55.5**	**+1.0**
KMI				pP	pP	16 25 04.0	-1.7
KMI				sP	sP	16 25 10.8	0.0
KMI				S	**S**	**16 29 58.4**	**+2.1**
KMI				sS	sS	16 30 07.8	-7.4
KMI				SS	**SnSn**	**16 31 46.3**	**+6.5**
KMI				pmax	pmax		
	comp=Z,11nm,0.8s						
KMI				pmax	pmax		
	comp=Z,86nm,3.5s						
KMI				LR	LR		
	comp=Z,2μm,18.8s						
KMI				LR	LR		
	comp=Z,780nm,15.0s						
KMI				LR	LR		
	comp=Z,2μm,21.7s						
H08S3	**Diego Garcia H**	**30.98**	**265**	T	T	16 57 13.5	
	baz=89,slow=75,SNR=25						
H08S1	**Diego Garcia H**	**30.99**	**265**	T	T	16 57 23.6	
	baz=89,slow=75,SNR=82						
GYA	**Guiyang**	**32.42**	**5**	⇓*i*P	**P**	**16 25 08.9**	**+1.8**
GYA				sP	pP	16 25 18.1	-0.3
GYA				S	**S**	**16 30 20.0**	**+1.3**
GYA				pmax	pmax		
	comp=Z,19nm,0.8s						
GYA				pmax	pmax		
	comp=Z,88nm,6.0s						
GYA				LR	LR		
	comp=Z,380nm,17.1s						
GYA				LR	LR		
	comp=Z,810nm,17.6s						
GYA				LR	LR		
	comp=Z,890nm,17.6s						
WRA	**Warramunga Arr**	**32.87**	**118**	P	**P**	**16 25 11.1**	**0.0**
	comp=Z,5.6nm,0.5s,baz=286,slow=10.0,SNR=24						
WRA				PcP	**PcP**	**16 27 55.9**	**+0.7**
	comp=Z,3.9nm,0.5s,baz=264,slow=1.9,SNR=5.4						
WRA				S	**S**	**16 30 22.8**	**-3.0**
	comp=Z,1.5nm,1.0s,baz=291,slow=19,SNR=2.0						
WRAB	**Tennant Creek**	**32.88**	**118**	*ce*P	**P**	**16 25 10.9**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.6s						
WB2	**Warramunga Arr**	**32.88**	**118**	IAmb	IAmb	16 25 28.2	
	comp=Z,29nm,0.7s						
WR0	**Warramunga Arr**	**33.05**	**118**	P	**P**	**16 25 12.3**	**-0.3**
WR0				IAmb	IAmb	16 25 34.4	
	comp=Z,28nm,0.7s						
TWG	**Pinlang**	**33.35**	**30**	IAmb	IAmb	16 25 39.2	
	comp=Z,21nm,0.7s						
SHL	**Shillong**	**33.41**	**340**	P	**P**	**16 25 14.8**	**-1.1**
SHL				pmax	pmax		
	comp=Z,80nm,1.3s						
SHL	**Shillong**	**33.41**	**340**	P	**P**	**16 25 14.8**	**-1.1**
SHL				IAmb	IAmb	16 25 16.0	
	comp=Z,80nm,1.3s						
SHL	**Shillong**	**33.41**	**340**	P	**P**	**16 25 15.8**	**0.0**
	SNR=6.9						
TPUB	**Ta-pu**	**33.54**	**29**	P	**P**	**16 25 16.9**	**+0.1**
TPUB				IAmb	IAmb	16 25 35.9	
	comp=Z,46nm,0.9s						
YULB	**Yu-li**	**33.94**	**30**	P	**P**	**16 25 21.4**	**+1.0**
YULB				IAmb	IAmb	16 25 42.8	
	comp=Z,23nm,0.9s						
ASAR	**Alice Springs**	**33.98**	**124**	P	**P**	**16 25 21.1**	**+0.4**
	comp=Z,5.0nm,0.8s,baz=302,slow=8.1,SNR=49						
ASAR				PcP	**PcP**	**16 27 59.1**	**+0.8**
	comp=Z,4.0nm,0.7s,baz=302,slow=2.6,SNR=5.3						
ASAR				S	**S**	**16 30 42.3**	**-0.7**
	comp=Z,5.6nm,1.1s,baz=292,slow=15,SNR=8.4						
ASAR				LR	LR	16 40 02.6	
	comp=Z,319nm,20.9s,baz=300,slow=38						
ASAR	**Alice Springs**	**33.98**	**124**	P	**P**	**16 25 20.9**	**+0.1**
HYB	**Hyderabad**	**34.01**	**314**	*i*P	**P**	**16 25 22.0**	**+1.0**
SSLB	**Suanglung**	**34.10**	**29**	P	**P**	**16 25 22.1**	**+0.3**
YHNB	**Yeheng**	**35.05**	**29**	P	**P**	**16 25 30.4**	**+0.4**
YOJ	**Yonaguni jima**	**35.70**	**31**	IAmb	IAmb	16 25 58.2	
	comp=Z,29nm,0.7s						
ENH	**Enshi**	**36.52**

NJ2 sP **sP** **16 26 32.0 -0.6**
NJ2 S **S** **16 32 24.8 +2.5**
NJ2 pmax pmax
comp=Z,21nm,1.3s
NJ2 pmax pmax
comp=Z,230nm,3.5s
NJ2 LR LR
comp=Z,610nm,17.5s
NJ2 LR LR
comp=Z,530nm,18.0s
NJ2 LR LR
comp=Z,1µm,18.9s
SSE Sheshan 40.54 23 P **P** **16 26 17.6 +1.5**
SSE S **S** **16 32 23.8 +1.5**
SSE pmax pmax
comp=Z,21nm,1.2s
SSE pmax pmax
comp=Z,88nm,4.7s
MTSU Mount Surprise 41.45 111 P **P** **16 26 24.4 +0.5**
baz=42,SNR=29
LZH Lanzhou 41.88 0 *eP* **P** **16 26 27.8 +0.5**
LZH sP pwP 16 26 42.4 +0.6
LZH S **S** **16 32 40.0 -2.5**
LZH SS **SS** **16 35 45.8 -4.6**
LZH pmax pmax
comp=Z,39nm,1.2s
LZH pmax pmax
comp=Z,140nm,4.3s
LZH LR LR
comp=Z,800nm,13.6s
LZH LR LR
comp=Z,570nm,15.2s
LZH LR LR
comp=Z,950nm,15.6s
HTT Hallett 42.60 134 P **P** **16 26 33.8 +0.7**
baz=43,SNR=4.5
NDI New Delhi 42.88 325 *eP* **P** **16 26 35.0 -0.3**
CTA Charters Tower 43.65 113 P **P** **16 26 43.5 +1.8**
comp=Z,13nm,1.1s,baz=288,slow=8.4,SNR=8.5
CTAO Charters Tower 43.65 113 P **P** **16 26 41.5 -0.3**
CTAO pmax pmax
comp=Z,25nm,1.0s
CTAO Charters Tower 43.65 113 P **P** **16 26 41.5 -0.3**
QLP Quilpie 43.72 123 P **P** **16 26 43.0 +0.8**
baz=44,SNR=7.3
STKA Stephens Creek 43.78 131 P **P** **16 26 43.4 +0.7**
baz=44,SNR=25
STKA Stephens Creek 43.78 131 P **P** **16 26 43.2 +0.5**
comp=Z,16nm,0.7s,baz=305,slow=8.8,SNR=31
STKA Stephens Creek 43.78 131 *dP* **P** **16 26 43.7 +1.0**
STKA Stephens Creek 43.78 131 P **P** **16 26 43.6 +1.0**
TIA Tai'an 43.87 16 ⇑P **P** **16 26 43.0 -0.2**
TIA S **S** **16 33 09.9 -1.5**
TIA pmax pmax
comp=Z,18nm,0.6s
TIA pmax pmax
comp=Z,61nm,3.5s
TIA LR LR
comp=Z,420nm,20.0s
TIA LR LR
comp=Z,420nm,14.7s
TIA LR LR
comp=Z,450nm,22.7s
JSU Suzuyama 45.25 33 IAmb IAmb 16 26 55.2
comp=Z,107nm,1.3s
GUMO Guam 45.33 64 P **P** **16 26 51.9 -3.3**
comp=Z,54nm,0.7s,baz=204,slow=11,SNR=4.2
GTA Gaotai 45.34 356 ⇓P **P** **16 26 55.1 +0.1**
GTA pP pP 16 27 05.6 -1.1
GTA sP pwP 16 27 10.4 +0.8
GTA S **S** **16 33 34.0 +1.1**
GTA SS **ScS** **16 36 50.8 +2.6**
GTA pmax pmax
comp=Z,33nm,1.4s
GTA pmax pmax
comp=Z,140nm,4.7s
GTA LR LR
comp=Z,710nm,20.0s
GTA LR LR
comp=Z,490nm,17.8s
GTA LR LR
comp=Z,1µm,21.4s
BHK Bhakra 45.41 327 *ex* P 16 27 02.6 +7.0
JNU Nakatsue 46.73 32 P **P** **16 27 05.4 -0.6**
comp=Z,44nm,0.9s,baz=201,slow=3.6,SNR=11
JNU Nakatsue 46.73 32 P **P** **16 27 07.4 +1.4**
JNU IAmb IAmb 16 27 07.5
comp=Z,62nm,1.0s
BTO Baotou 46.77 7 *eP* **P** **16 27 06.4 +0.2**
BTO S **S** **16 33 56.5 +3.3**
BTO LR LR
comp=Z,4µm,17.6s
BTO LR LR
comp=Z,3µm,17.7s
CMSA Cobar Meteorol 46.77 128 P **P** **16 27 07.6 +1.2**
baz=47,SNR=14
HHC Hu-ho-hao-te 47.20 8 *eP* **P** **16 27 10.6 +1.0**
HHC S **S** **16 33 58.1 -1.4**
HHC pmax pmax
comp=Z,50nm,1.2s
HHC pmax pmax
comp=Z,120nm,6.6s
HHC LR LR
comp=Z,1µm,18.0s
HHC LR LR
comp=Z,570nm,15.7s
HHC LR LR
comp=Z,1µm,16.9s
BJT Baijiatuau 47.24 13 IAmb IAmb 16 27 11.8
comp=Z,35nm,0.8s
BJI Beijing 47.27 13 P **P** **16 27 09.8 -0.2**
BJI S **S** **16 34 00.9 +0.8**
BJI pmax pmax
comp=Z,56nm,1.1s
BJI LR LR
comp=Z,620nm,21.7s
BJI LR LR
comp=Z,790nm,16.8s
BJI LR LR
comp=Z,950nm,17.9s
RMQ Roma 47.53 121 P **P** **16 27 12.4 0.0**
baz=48,SNR=3.9
DL2 Dalian 47.71 19 P **P** **16 27 14.1 +0.7**
DL2 S **S** **16 34 02.8 -3.7**
DL2 pmax pmax
comp=Z,25nm,1.5s
DL2 pmax pmax
comp=Z,92nm,4.3s
DL2 LR LR
comp=Z,530nm,22.7s
DL2 LR LR
comp=Z,390nm,16.1s
DL2 LR LR
comp=Z,630nm,19.1s
INCN Inchon 48.30 25 P **P** **16 27 17.7 -0.4**
INCN pmax pmax
comp=Z,57nm,1.2s
INCN Inchon 48.30 25 P **P** **16 27 17.7 -0.4**
INCN IAmb IAmb 16 27 19.1
comp=Z,57nm,1.1s
RER Riviere de l'E 48.72 247 P P 16 27 31.8 +10
KSRS Korea Array 48.82 26 P **P** **16 27 22.4 +0.4**
comp=Z,33nm,0.7s,baz=220,slow=7.6,SNR=95
KS19 Wonju Array Si 48.84 26 IAmb IAmb 16 27 24.3
comp=Z,47nm,0.8s
NIL Nilore 48.84 326 P **P** **16 27 22.1 -0.2**
NIL pmax pmax
comp=Z,84nm,0.7s
NIL Nilore 48.84 326 P **P** **16 27 22.1 -0.2**
EIDS Eidsvold 49.23 118 P **P** **16 27 25.8 +0.3**
baz=49,SNR=5.2
JWT Wachi 50.81 34 IAmb IAmb 16 27 37.7
comp=Z,80nm,1.4s
JLN Jalan Bani Buh 51.57 304 P **P** **16 27 44.7 +1.6**
WMQ Urumqi 51.66 345 ⇑P **P** **16 27 44.6 +1.1**
WMQ pP pP 16 27 51.8 -3.6
WMQ S **S** **16 35 02.4 +0.6**
WMQ sS sS 16 35 15.4 -6.1
WMQ pmax pmax
comp=Z,120nm,1.1s
WMQ pmax pmax
comp=Z,280nm,3.9s
WMQ LR LR
comp=Z,470nm,14.9s
WMQ LR LR
comp=Z,330nm,15.9s
WMQ LR LR
comp=Z,420nm,26.1s
INU Inuyama 51.76 35 P **P** **16 27 44.8 +0.5**
KBL Kabul 51.91 323 P **P** **16 27 44.9 -0.8**
KBL pmax pmax
comp=Z,18nm,0.9s
KBL Kabul 51.91 323 P **P** **16 27 44.9 -0.8**
KSH Kashi 52.03 333 P **P** **16 27 45.6 -0.8**
KSH pP pP 16 27 51.3 -7.0
KSH sP pwP 16 27 53.8 -7.3
KSH S **S** **16 35 02.3 -4.7**
KSH pmax pmax
comp=Z,70nm,1.5s
KSH LR LR
comp=Z,260nm,21.8s
KSH LR LR
comp=Z,360nm,20.8s
KSH LR LR
comp=Z,680nm,25.1s
WBK Wadi Bani Khal 52.14 305 P **P** **16 27 49.6 +2.1**
MHTO MHTO 52.25 302 P **P** **16 27 49.3 +1.1**
WSAR Wadi Sarin 52.71 305 P **P** **16 27 53.2 +1.6**
comp=Z,2.6nm,0.5s,baz=159,slow=6.1,SNR=11
JMDO Jabal Madar 52.75 304 P **P** **16 27 53.6 +1.7**
TARG Taragay, Kyrgy 53.06 336 IAmb IAmb 16 28 19.1
comp=Z,67nm,1.1s
SMDO Samad 53.10 305 P **P** **16 27 56.8 +2.2**
BIDO Bidbid 53.25 305 P **P** **16 27 58.1 +2.5**
SNR=9.6
MAJO Matsushiro 53.29 35 P **P** **16 27 54.3 -1.4**
MAJO pmax pmax
comp=Z,41nm,1.4s
MAJO Matsushiro 53.29 35 P **P** **16 27 54.3 -1.4**
MAJO IAmb IAmb 16 28 12.4
comp=Z,41nm,1.4s
MAT Matsushiro 53.29 35 P **P** **16 27 53.5 -2.2**
MAT *eS* **S** **16 35 23.6 -0.5**
MJAR Matsushiro Arr 53.29 35 P **P** **16 27 54.6 -1.1**
comp=Z,7.0nm,0.7s,baz=210,slow=7.1,SNR=16
MJAR LR LR 16 51 38.2
comp=Z,127nm,21.4s,baz=265,slow=37
MJAR Matsushiro Arr 53.29 35 P **P** **16 27 55.8 +0.1**
MJAR pmax pmax
comp=Z,21nm,1.5s
MJAR Matsushiro Arr 53.29 35 P **P** **16 27 55.8 +0.1**
CN2 Changchun 53.36 20 *eP* **P** **16 27 54.5 -1.5**
CN2 S **S** **16 35 20.9 -3.9**
CN2 pmax pmax
comp=Z,30nm,1.4s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,600nm,18.0s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,600nm,19.0s
SHLS Shalkode 53.64 338 ⇓*iP* **P** **16 27 57.3 -1.0**
comp=Z,95nm,1.4s,baz=338
SHLS *eS* **S** **16 35 26.4 -2.6**
comp=Z,71nm,3.1s,baz=338
SHLS Shalkode 53.64 338 *dP* **P** **16 27 57.2 -1.0**
SHLS *eS* **S** **16 35 26.3 -2.6**
SHLS pmax pmax
comp=Z,95nm,1.4s
SHLS smax smax
comp=N,71nm,3.1s
BSY Bisya 53.66 304 P **P** **16 28 03.0 +4.3**
SNR=6.5
SONM Songino Array 53.68 2 P **P** **16 27 59.1 +0.7**
comp=N,60nm,0.9s,baz=184,slow=7.8,SNR=201
SONM ScP **ScP** **16 33 03.4 +4.7**
comp=N,3.2nm,0.8s,baz=188,slow=3.8,SNR=5.8
SONM LR LR 16 54 05.4
comp=N,512nm,19.1s,baz=182,slow=40
ULN Ulaanbaatar 53.74 3 *ceP* **P** **16 27 59.1 +0.2**
ULN pmax pmax
comp=Z,45nm,1.0s
ULN Ulaanbaatar 53.74 3 P **P** **16 27 58.7 -0.2**
ULN IAmb IAmb 16 28 01.2
comp=Z,44nm,0.9s
ULN Ulaanbaatar 53.74 3 P **P** **16 27 59.7 +0.8**
comp=Z,3µmcomp=Z,233nm,1.2s
PDGK Podgornoye 53.77 338 P **P** **16 27 58.8 -0.4**
HOQ Hoqain 53.95 305 P **P** **16 28 04.0 +3.3**
SNR=6.9
SATY Saty 53.95 337 ⇓*iP* **P** **16 28 00.3 -0.2**
comp=Z,97nm,2.4s,baz=337
SATY *eS* **S** **16 35 32.0 -1.1**
baz=337
SATY Saty 53.95 337 *dP* **P** **16 28 00.3 -0.2**
SATY *eS* **S** **16 35 32.0 -1.1**
SATY pmax pmax
comp=Z,97nm,2.4s
RBK Rabkut 54.13 297 P **P** **16 28 03.4 +1.2**
KPKS Kokpek 54.19 338 ⇓*iP* **P** **16 28 02.0 -0.3**
comp=Z,75nm,1.6s,baz=338
KPKS Kokpek 54.19 338 *dP* **P** **16 28 01.9 -0.3**
KPKS pmax pmax
comp=Z,75nm,1.6s
JSD Sado 54.38 33 IAmb IAmb 16 28 20.2
comp=Z,35nm,0.9s
KZA Kyzart 54.42 334 P **P** **16 28 04.8 +0.4**
SNR=21
ARQ Araqi 54.48 304 P **P** **16 28 06.4 +1.8**
TNSS Tian-Shan 54.51 336 *eP* **P** **16 28 04.3 -0.6**
baz=336
MDOK Medeo 54.57 336 *iP* **P** **16 28 04.6 -0.5**
baz=336
MDOK *eS* **S** **16 35 41.1 -0.5**
baz=336
MDOK Medeo 54.57 336 *iP* **P** **16 28 04.6 -0.5**
MDOK *eS* **S** **16 35 41.9 +0.3**
DOK Doka 54.60 298 P **P** **16 28 06.4 +0.8**
WHFO Wadi Hawf 54.66 297 P **P** **16 28 06.8 +0.8**
AAA Alma-Ata 54.66 336 *eP* **P** **16 28 04.2 -1.4**
baz=336
AAA *eS* **S** **16 35 41.9 -0.8**
baz=336
AAA Alma-Ata 54.66 336 *eP* **P** **16 28 04.2 -1.4**
AAA *eS* **S** **16 35 41.8 -0.8**
MTBS Maitube 54.79 336 ⇓*iP* **P** **16 28 05.9 -0.7**
baz=336
MTBS *eS* **S** **16 35 44.5 +0.1**
baz=336
SOHO SOHO 54.83 305 *iP* **P** **16 28 08.0 +0.9**
SNR=6.7
SOHO SOHO 54.83 305 P **P** **16 28 08.7 +1.6**
UCH Uchtor 54.87 334 P **P** **16 28 08.3 +0.6**
SNR=22
ABTO Aybut 54.88 296 P **P** **16 28 09.0 +1.3**
TKM2 Tokmak 2 54.97 335 P **P** **16 28 08.4 +0.4**
SNR=43
TKM2 Tokmak 2 54.97 335 P **P** **16 28 07.5 -0.5**
KBK Karagaybulak 55.03 334 P **P** **16 28 09.2 +0.8**
SNR=33
AML Almayashu 55.16 333 P **P** **16 28 10.1 +0.4**
SNR=18
AML Almayashu 55.16 333 *iP* **P** **16 28 09.1 -0.5**
SNR=18
CHKK Chushkaly 55.17 337 *eP* **P** **16 28 07.2 -2.1**
baz=337
AAK Ala-Archa 55.21 334 P **P** **16 28 10.0 +0.3**
comp=Z,11nm,0.5s,baz=156,slow=3.9,SNR=31
AAK Ala-Archa 55.21 334 P **P** **16 28 10.5 +0.8**
SNR=18
AAK Ala-Archa 55.21 334 *iP* **P** **16 28 08.8 -0.9**
SNR=12
AAK Ala-Archa 55.21 334 P **P** **16 28 10.0 +0.3**
AAK Ala-Archa 55.21 334 P **P** **16 28 09.8 +0.1**
AAK IAmb IAmb 16 28 12.2
comp=Z,52nm,1.5s
FRU1 Bishkek 55.29 334 IAmb IAmb 16 28 26.8
comp=Z,42nm,0.8s
UMZA Um Al Zommool 55.34 303 P **P** **16 28 12.6 +1.8**
CHMS Chumysh 55.39 334 P **P** **16 28 10.9 +0.1**
SNR=11
ALNE Al Ain 55.43 305 *iP* **P** **16 28 12.1 +0.6**
SNR=6.1
ALNE Al Ain 55.43 305 P **P** **16 28 13.0 +1.5**
SNR=9.9
ASHO Ashiyiah 55.46 305 P **P** **16 28 12.3 +0.5**
ASHO Ashiyiah 55.46 305 P **P** **16 28 13.5 +1.8**
UOSS Minazif 55.46 306 P **P** **16 28 12.0 +0.3**
UOSS Minazif 55.46 306 P **P** **16 28 13.8 +2.1**
KUU Kurty 55.47 336 ⇓*iP* **P** **16 28 10.3 -1.1**
comp=Z,137nm,1.4s,baz=336
KUU *eS* **S** **16 35 51.6 -1.7**
baz=336
KUU Kurty 55.47 336 *dP* **P** **16 28 10.2 -1.1**
KUU *eS* **S** **16 35 51.5 -1.7**
KUU pmax pmax
comp=Z,137nm,1.4s
HATD Hatta, Dubai 55.47 306 *iP* **P** **16 28 12.1 +0.4**
SNR=6.1
HATD Hatta, Dubai 55.47 306 P **P** **16 28 15.0 +3.2**
SNR=6.5
EKS2 Erkin-Say 55.54 334 P **P** **16 28 12.8 +0.8**
SNR=5.8
MDJ Mudanjiang 55.55 22 P **P** **16 28 11.5 -0.4**
MDJ sP pP 16 28 21.1 -2.7
MDJ ScP **ScP** **16 33 09.8 +3.0**
MDJ PcS **PcS** **16 33 11.8 +0.4**
MDJ S **S** **16 35 54.8 +0.6**
MDJ ScS **ScS** **16 37 55.6 -1.8**
MDJ pmax pmax
comp=Z,20nm,1.3s
MDJ pmax pmax
comp=Z,180nm,3.7s
MDJ LR LR
comp=Z,470nm,18.8s
MDJ LR LR
comp=Z,420nm,17.5s
MDJ LR LR
comp=Z,430nm,21.4s
MDJ Mudanjiang 55.55 22 IAmb IAmb 16 28 16.4
comp=Z,20nm,0.9s
MDH Madha 55.55 306 P **P** **16 28 12.1 -0.2**
MDH Madha 55.55 306 P **P** **16 28 12.9 +0.6**
TDK Taldyqorghan 55.61 338 *eP* **P** **16 28 10.7 -1.7**
comp=Z,109nm,1.5s,baz=338
TDK *eS* **S** **16 35 53.9 -1.3**
baz=338
TDK Taldyqorghan 55.61 338 *eP* **P** **16 28 10.7 -1.7**
TDK *eS* **S** **16 35 53.8 -1.3**
TDK pmax pmax
comp=Z,109nm,1.5s
JMM Marumori 55.69 35 IAmb IAmb 16 28 30.9
comp=Z,57nm,1.4s
MSFE Esma-Masafi 55.69 306 *iP* **P** **16 28 13.9 +0.6**
SNR=7.7
MASF Masafi 55.69 306 P **P** **16 28 16.6 +3.2**
SNR=5.7
USP Ospenovka 55.71 334 P **P** **16 28 13.2 +0.1**
SNR=20
ZSN Zaisan 55.77 345 ⇓*iP* **P** **16 28 13.6 +0.1**
comp=Z,56nm,1.8s,baz=345
ZSN *eS* **S** **16 35 57.2 +0.1**
baz=345
ZSN Zaisan 55.77 345 *dP* **P** **16 28 13.5 +0.1**
ZSN *eS* **S** **16 35 57.2 +0.1**
ZSN pmax pmax
comp=Z,56nm,1.8s
SGDS Sogindy 55.81 335 ⇓*iP* **P** **16 28 12.8 -1.1**
comp=Z,28nm,1.6s,baz=335
BANOM Banah 55.84 307 P **P** **16 28 15.1 +0.7**
BANOM Banah 55.84 307 P **P** **16 28 16.6 +2.2**
HNR Honiara 55.85 97 P **P** **16 28 16.4 +1.8**
comp=Z,93nm,0.4s,baz=272,slow=4.7,SNR=22
FAQ Al Faqa, Dubai 55.87 305 *iP* **P** **16 28 15.1 +0.6**
SNR=5.8
MK31 Makanchi Array 55.90 342 *iP* **P** **16 28 13.9 -0.5**
MK31 Makanchi Array 55.90 342 IAmb IAmb 16 28 30.3
comp=Z,32nm,0.8s
MKAR Makanchi Array 55.90 342 P **P** **16 28 14.2 -0.1**
comp=Z,27nm,0.6s,baz=147,slow=7.9,SNR=88
MKAR S **S** **16 35 57.9 -1.0**
comp=Z,0.8nm,0.8s,baz=147,slow=14,SNR=3.5
NAZ Nazwa, Dubai 55.92 306 *iP* **P** **16 28 15.8 +0.9**
SNR=5.3
NAZ Nazwa, Dubai 55.92 306 P **P** **16 28 16.8 +1.8**
MAKZ Makanchi 56.00 342 P **P** **16 28 15.9 +0.7**
MAKZ Makanchi 56.00 342 P **P** **16 28 14.6 -0.6**
MAKZ IAmb IAmb 16 28 32.1
comp=Z,21nm,0.8s
SHME Shamm 56.02 307 P **P** **16 28 16.0 +0.4**
SHME Shamm 56.02 307 P **P** **16 28 18.1 +2.5**
ASUD Al Ashush, Dub 56.03 305 P **P** **16 28 17.2 +1.5**
ASUD Al Ashush, Dub 56.03 305 P **P** **16 28 18.0 +2.3**
USA0B Ussuriysk Arra 56.14 24 *dP* **P** **16 28 15.5 -0.6**
USRK Ussuriysk Ar. 56.14 24 P **P** **16 28 16.0 -0.1**
comp=Z,41nm,0.9s,baz=216,slow=6.1,SNR=62
USRK Ussuriysk Ar. 56.14 24 P **P** **16 28 16.0 -0.1**
ZAK Zakamensk 56.17 360 *eP* **P** **16 28 15.3 -1.1**
ZAK pmax pmax
comp=Z,32nm,1.3s
OPO Ambohidratompo 56.34 252 P **P** **16 28 20.0 +1.7**
comp=Z,5.4nm,0.7s,baz=99,slow=4.8,SNR=8.0
HIA Hailar 56.82 13 P **P** **16 28 20.2 -0.8**
HIA pmax pmax
comp=Z,35nm,1.0s
HIA Hailar 56.82 13 P **P** **16 28 20.2 -0.8**
HIA IAmb IAmb 16 28 22.0
comp=Z,35nm,1.0s
DZA Taraz 56.84 332 *eP* **P** **16 28 19.5 -1.7**
baz=332
DZA Taraz 56.84 332 *eP* **P** **16 28 19.4 -1.7**
MZWR Madinat Zayed 56.85 303 P **P** **16 28 23.1 +1.6**
DGZ Jazzator, Alta 57.26 348 *dP* **P** **16 28 24.7 +0.5**
DGZ pmax pmax
comp=Z,76nm,0.7s
BTLS Baital 57.34 335 ⇓*iP* **P** **16 28 23.1 -1.6**
comp=Z,22nm,1.7s,baz=335
BTLS Baital 57.34 335 *dP* **P** **16 28 23.1 -1.6**
BTLS pmax pmax
comp=Z,22nm,1.7s
KK31 Karatay Array 57.38 332 *eP* **P** **16 28 24.2 -0.8**
KK31 Karatay Array 57.38 332 P **P** **16 28 23.9 -1.1**
MOY Mondy 57.51 358 *eP* **P** **16 28 26.1 +0.3**
MOY pmax pmax
comp=Z,79nm,1.9s
GHWR Ruwais 57.77 303 P **P** **16 28 29.7 +1.6**
JTM Tenmabayashi 57.86 33 IAmb IAmb 16 28 28.5
comp=Z,66nm,1.3s
JRN Qarnain Island 58.20 304 P **P** **16 28 32.6 +1.6**
CIT Chita 58.43 7 *eP* **P** **16 28 32.5 +0.3**
CIT *e* 16 29 16.4
CIT pmax pmax
comp=Z,80nm,1.8s
SEM Semipalatinsk 59.74 343 ⇓*iP* **P** **16 28 40.3 -1.2**
comp=Z,34nm,1.2s,baz=343
SEM Semipalatinsk 59.74 343 *dP* **P** **16 28 40.3 -1.2**
SEM pmax pmax
comp=Z,34nm,1.2s
KLR Kul'dur 60.24 21 P **P** **16 28 44.5 -0.2**
comp=Z,17nm,0.5s,baz=215,slow=5.4,SNR=48
OTUK Ortayu 60.63 337 P **P** **16 28 46.5 -0.9**
GEYT Alibeck 60.84 320 P **P** **16 28 49.5 +0.4**
comp=Z,332nm,0.8s,baz=204,slow=18,SNR=6.8
GYA0B ALIBECK ARRAY 60.84 320 P **P** **16 28 49.2 0.0**
GYA0B IAmb IAmb 16 29 07.4
comp=Z,23nm,0.7s
ASAJ Asahikawa 61.00 31 P **P** **16 28 49.7 -0.3**
comp=Z,26nm,0.7s,baz=234,slow=9.9,SNR=36
JKA Kamikawa-asahi 61.00 31 IAmb IAmb 16 28 51.7
comp=Z,27nm,0.8s
ZALV Zalesovo Beam 61.81 348 P **P** **16 28 55.0 -0.3**
comp=Z,57nm,0.7s,baz=145,slow=5.4,SNR=132
ZALV S **S** **16 37 11.8 -3.4**
comp=Z,1.7nm,0.8s,baz=137,slow=11,SNR=6.5
ZALV LR LR 16 58 34.5
comp=Z,634nm,19.5s,baz=150,slow=39
ZALV Zalesovo Beam 61.81 348 P **P** **16 28 55.0 -0.3**
BRZS Berezniki 61.90 338 ⇓*iP* **P** **16 28 54.8 -1.3**
comp=Z,32nm,1.7s,baz=338
BRZS Berezniki 61.90 338 *dP* **P** **16 28 54.7 -1.3**
BRZS pmax pmax
comp=Z,33nm,1.7s
DZM Mont Dzumac 62.57 112 *eP* **P** **16 29 02.5 +1.3**
comp=Z,50nm,1.4s
DZM *eS* **S** **16 37 28.3 +2.0**
comp=Z,140nm,24.9s
DZM Mont Dzumac 62.57 112 *eLR* LR 16 47 43.9
comp=Z,962nm,24.8s
ZEA Zeya 62.77 16 *eP* **P** **16 29 02.3 +0.6**
ZEA *eS* **S** **16 37 32.3 +4.9**
ZEA *eSS* **SS** **16 41 27.7 -5.4**
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax

ZEA pmax pmax
comp=E,100nnm,3.2s
ZEA pmax pmax
comp=N,100nnm,2.7s
ZEA pmax pmax
comp=Z,100nnm,4.2s
ZEA smax smax
comp=E,100nnm,14.5s
ZEA MLR MLR
comp=Z,300nnm,18.0s
YSS Yuzh-Sakhalins 63.08 29 *e*P **P 16 29 03.6 -0.3**
YSS *e*S **S 16 37 26.2 -5.3**
YSS *e*SS **SS 16 41 44.3 +6.2**
YSS *e*SSS SSS 16 44 19.7
YSS pmax pmax
comp=Z,50nnm,0.8s
YSS MLR MLR
comp=N,300nnm,19.0s
YSS MLR MLR
comp=Z,300nnm,19.0s
YSS Yuzh-Sakhalins 63.08 29 P **P 16 29 03.2 -0.7**
GRNR Gornyy 63.23 23⇑ *i*P **P 16 29 04.9 +0.1**
GRNR pmax pmax
comp=Z,20nnm,1.2s
GRNR MLR MLR
comp=E,100nnm,15.0s
GRNR MLR MLR
comp=N,100nnm,19.0s
GRNR MLR MLR
comp=Z,250nnm,16.0s
QRN Al-Qurain 63.77 306 *e*P **P 16 29 09.2 +0.3**
KBD Kabd 64.12 306 *e*P **P 16 29 10.9 -0.2**
RDF Al-Radifah 64.14 306 *e*P **P 16 29 11.8 +0.5**
BOD Bodaibo 64.18 6 *e*P **P 16 29 09.6 -1.3**
BOD pmax pmax
comp=Z,36nnm,1.7s
UMR Umm Al-Rimmam 64.26 307 *e*P **P 16 29 12.2 +0.2**
MIB Mutribah 64.66 307 *e*P **P 16 29 14.5 -0.1**
RST Umm Al-Ruwaisa 64.81 306 *e*P **P 16 29 15.8 +0.1**
BRVK Borovoye 65.27 339 P **P 16 29 17.2 -0.9**
BRVK pmax pmax
comp=Z,29nnm,1.1s
BRVK Borovoye 65.27 339 P **P 16 29 17.2 -0.9**
BRVK IAmb IAmb 16 29 34.1
comp=Z,30nnm,1.1s
KIBK Kibwezi 65.50 270 P **P 16 29 20.5 0.0**
KMBO Kilima Mbogo 66.41 271 P **P 16 29 28.0 +1.5**
comp=Z,3.3nm,0.8s,baz=51,slow=9.3,SNR=6.5
KMBO Kilima Mbogo 66.41 271 P **P 16 29 28.5 +1.9**
KMBO Kilima Mbogo 66.41 271 *i*P **P 16 29 28.5 +1.9**
KMBO pmax pmax
comp=Z,3.0nm,0.7s
KMBO Kilima Mbogo 66.41 271 P **P 16 29 26.8 +0.2**
AB31 Akbulak array 66.90 331 *i*P **P 16 29 28.0 -0.7**
ABKAR Akbulak array 66.90 331 P **P 16 29 28.6 0.0**
MAW Mawson 67.36 196 P **P 16 29 31.5 +0.2**
baz=67,SNR=5.8
MAW Mawson 67.36 196 P **P 16 29 32.9 +1.6**
comp=Z,11nm,0.9s,baz=40,slow=8.0,SNR=12
MAW LR LR 16 54 02.0
comp=Z,680nm,19.9s,baz=51,slow=32
MAW Mawson 67.36 196 P **P 16 29 31.5 +0.2**
AKTO Aktyubinsk 68.61 331 P **P 16 29 38.3 -1.2**
AKT Akhty 69.51 318 *e*P **P 16 29 44.2 -1.2**
AKT *e* 16 30 07.1
AKT pmax pmax
comp=Z,33nnm,1.2s
YAK Yakutsk 70.77 13 *e*P **P 16 29 51.2 -1.2**
YAK *e* 16 30 10.7
YAK *e* 16 32 28.2
YAK *e*PPP PPP 16 34 11.5
YAK *e*S **S 16 39 02.0 -1.6**
YAK *e**SS **sS 16 39 24.9 +0.7**
YAK *e* 16 39 46.1
YAK *e*SS **SS 16 43 33.9 -2.8**
YAK *e*SSS SSS 16 46 46.8
YAK pmax pmax
comp=Z,53nm,1.1s
YAK pmax pmax
comp=N,15nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.3s
YAK pmax pmax
comp=N,30nm,4.7s
YAK pmax pmax
comp=Z,83nm,5.6s
YAK pmax pmax
comp=E,22nm,1.9s
YAK smax smax
comp=N,110nm,4.7s
YAK smax smax
comp=E,47nm,3.8s
YAK Yakutsk 70.77 13 P **P 16 29 51.3 -1.2**
GNI Garni 70.92 316 P **P 16 29 54.4 +0.3**
GNI pmax pmax
comp=Z,40nm,1.4s
GNI Garni 70.92 316 P **P 16 29 54.4 +0.3**
GNI IAmb IAmb 16 30 20.6
comp=Z,40nm,1.4s
GROC Groznyy 71.58 319 *e*P **P 16 29 56.3 -1.5**
GROC *e**SP **PcP 16 30 16.8 -0.1**
GROC *e* 16 32 36.6
GROC *e*S **S 16 39 10.7 -3.2**
GROC pmax pmax
comp=Z,42nm,1.0s
SVE Sverdlovsk 71.77 337*ce*P **P 16 29 59.3 +0.7**
SVE *e*S **S 16 39 14.6 -0.9**
SVE pmax pmax
comp=Z,79nm,1.3s
GURO Guroymak-BITLI 72.18 314 IAmb IAmb 16 30 03.8
comp=Z,19nm,0.7s
SKR Severo-Kuril's 72.24 32*ce*P **P 16 30 01.8 +0.3**
AKH Akhalkalaki 72.32 317 ⇓P **P 16 30 02.8 +0.3**
ARU Arti 72.33 336*d i*P **P 16 30 01.7 -0.3**
ARU 16 30 17.2
ARU 16 32 39.8
ARU S **S 16 39 25.4 +3.4**
ARU SS **SS 16 44 00.9 -0.1**
ARU pmax pmax
comp=Z,67nm,1.3s
ARU Arti 72.33 336 P **P 16 30 02.1 +0.1**
ZEI Tsey 72.64 318 *e*P **P 16 30 05.1 +0.7**
ZEI pmax pmax
comp=Z,7.0nm,1.0s
ONI Oni 72.85 318 IAmb IAmb 16 30 27.6
comp=Z,18nm,1.0s
BKZ Black Stump Fm 72.93 129 P **P 16 30 06.4 +0.3**
MBAR Mbarara 72.94 271*ce*P **P 16 30 09.8 +3.1**
BCA Borcka 73.62 316 ⇓P **P 16 30 10.7 +0.7**
NEY Neytrino 73.62 318 *i*P **P 16 30 11.8 +1.6**
NEY pmax pmax
comp=Z,4.0nm,0.8s
BATM Batumi 73.63 316 ⇓P **P 16 30 10.1 +0.1**
KBZ Khabaz 73.71 319 P **P 16 30 11.2 +0.8**
comp=Z,12nm,0.9s,baz=170,slow=6.6,SNR=19
KBZ LR LR 17 07 32.3
comp=Z,108nm,19.5s,baz=116,slow=40
KIV Kislovodsk 73.94 319 ⇓P **P 16 30 12.5 +0.6**
KIV Kislovodsk 73.94 319 *i*P **P 16 30 12.0 +0.1**
SNR=6.6
KIV Kislovodsk 73.94 319 *e*P **P 16 30 12.4 +0.5**
KIV *e*S **S 16 39 43.1 +2.1**
KIV pmax pmax
comp=Z,15nm,1.0s
KIV MLR MLR
comp=Z,111nm,18.0s
KIV Kislovodsk 73.94 319 P **P 16 30 12.4 +0.5**
KIV IAmb IAmb 16 30 33.9
comp=Z,20nm,1.0s
MATP Matopo 74.02 251 P **P 16 30 14.0 +1.1**
comp=Z,6.0nm,0.7s,baz=100,slow=10,SNR=8.6
GOF Gofitskoye 74.19 320⇑ *e*P **P 16 30 13.4 +0.2**
GOF pmax pmax
comp=Z,22nm,1.3s
PEA0B Petropavlovsk- 74.40 30*ce*P **P 16 30 14.2 -0.1**
PETK Petropavlovsk- 74.40 30 P **P 16 30 13.8 -0.6**
comp=Z,6.3nm,0.9s,baz=222,slow=5.8,SNR=13
PETK LR LR 17 04 54.9
comp=Z,105nm,19.2s,baz=239,slow=37
GHAJ Ghor Haditha 74.69 305 IAmb IAmb 16 30 35.3
comp=Z,24nm,0.7s
PET Petropavlovsk 74.84 31*ce*P **P 16 30 15.5 -1.3**
PET pmax pmax
comp=Z,39nm,1.0s
PET Petropavlovsk 74.84 31 P **P 16 30 15.4 -1.4**
PET IAmb IAmb 16 30 37.4
comp=Z,30nm,0.7s
BELG Belogornoye 75.03 328*d i*P **P 16 30 17.3 -0.6**
BELG pmax pmax
comp=Z,5.0nm,1.2s
GAZ Gaziantep 75.23 311 P **P 16 30 19.6 +0.1**
GAZ IAmb IAmb 16 30 20.7
comp=Z,31nm,0.7s
SYO Syowa Base 75.29 200⇓ *e*P **P 16 30 20.2 +1.1**
SYO Syowa Base 75.29 200⇑ *e*PcP **PcP 16 30 35.2 +2.9**
SOC Sochi 75.76 318 *e*P **P 16 30 20.6 -1.7**
SOC *e* 16 33 14.2
SOC *e*PPP PPP 16 34 59.6
SOC *e*S **S 16 40 01.5 +0.5**
SOC *e*SS **SS 16 44 55.9 +2.2**
SOC pmax pmax
comp=Z,22nm,0.7s
SOC MLR MLR
comp=Z,133nm,20.0s
NRIK Noril'sk 76.01 354 P **P 16 30 23.0 -0.2**
comp=Z,25nm,1.1s,baz=157,slow=4.6,SNR=28
NRIK LR LR 17 07 04.4
comp=Z,542nm,21.1s,baz=172,slow=38
NRIK Noril'sk 76.01 354 IAmb IAmb 16 30 39.5
comp=Z,44nm,1.1s
LBTB Lobatse 76.66 246 P **P 16 30 29.0 +1.0**
comp=Z,5.6nm,0.7s,baz=102,slow=5.8,SNR=5.1
LBTB Lobatse 76.66 246 P **P 16 30 29.0 +1.0**
LBTB Lobatse 76.66 246 P **P 16 30 28.7 +0.7**
BNN Bunyan 76.80 312 IAmb IAmb 16 30 50.1
comp=Z,33nm,0.8s
BOSA Boshof 76.96 242 P **P 16 30 30.6 +0.9**
comp=Z,10nm,0.8s,baz=94,slow=6.4,SNR=10
BOSA LR LR 16 57 49.7
comp=Z,340nm,20.1s,baz=82,slow=31
BOSA Boshof 76.96 242 P **P 16 30 30.0 +0.4**
KIRV Kirov 77.54 334*d i*P **P 16 30 32.4 +0.4**
CSS Mathiatis 77.54 308 IAmb IAmb 16 30 46.1
comp=Z,59nm,1.1s
VNDA Vanda 77.54 169 P **P 16 30 32.8 +1.0**
comp=Z,3.8nm,0.8s,baz=311,slow=4.2,SNR=13
VNDA LR LR 17 01 54.0
comp=Z,254nm,18.3s,baz=312,slow=34
VNDA Vanda 77.54 169 P **P 16 30 32.1 +0.3**
VRH Novokhopyorsk 77.67 325 *e*P **P 16 30 32.7 -0.2**
VRH pmax pmax
comp=Z,90nm,1.7s
SBA Scott Base 78.63 169 P **P 16 30 39.2 +1.4**
SBA pmax pmax
comp=Z,6.0nm,1.0s
SBA Scott Base 78.63 169 P **P 16 30 39.1 +1.4**
BR131 Keskin Array S 78.70 312 IAmb IAmb 16 30 40.2
comp=Z,28nm,0.8s
BRTR Keskin Array B 78.70 312 P **P 16 30 39.3 +0.2**
comp=Z,12nm,0.6s,baz=137,slow=6.8,SNR=108
BRTR LR LR 17 06 25.7
comp=Z,315nm,20.8s,baz=125,slow=36
VORD Divnogorie 78.96 324 *e*P **P 16 30 39.3 -0.7**
VORD pmax pmax
comp=Z,40nm,1.7s
BZK Bozkurt 79.13 315 ⇓P **P 16 30 41.6 +0.4**
TIXI Tiksi 79.27 8*ce*P **P 16 30 40.3 -1.0**
ANTO Ankara 79.36 312 P **P 16 30 42.6 -0.1**
ANTO pmax pmax
comp=Z,58nm,1.5s
ANTO Ankara 79.36 312 P **P 16 30 42.5 -0.1**
ANTO IAmb IAmb 16 30 44.2
comp=Z,58nm,1.5s
LPSR Galich'ya Gora 79.83 326 *e*P **P 16 30 43.8 -1.0**
LPSR pmax pmax
comp=Z,30nm,1.3s
SIM Simferopol' 80.00 318 *i*P **P 16 30 46.3 +0.4**
SIM 16 33 51.0
SIM pmax pmax
comp=Z,31nm,0.8s
KDZE Karadeniz Ereo 80.77 313 ⇓P **P 16 30 50.0 -0.1**
PRGR Permogore 80.79 336 *e*P **P 16 30 50.3 +0.6**
PRGR *e*S **S 16 40 54.9 +0.6**
PRGR pmax pmax
comp=Z,137nm,1.5s
MOS Moscow 81.80 329 *e*P **P 16 30 54.0 -1.2**
MOS pmax pmax
comp=Z,59nm,1.4s
MOS pmax pmax
comp=Z,200nm,2.0s
OBN Obninsk 82.11 328 LR LR 17 13 25.5
comp=Z,28nm,18.2s,baz=144,slow=40
OBN Obninsk 82.11 328*d i*P **P 16 30 57.4 +0.6**
OBN *e* 16 31 02.4
OBN *e* 16 34 05.2
OBN pmax pmax
comp=Z,94nm,1.6s
OBN MLR MLR
comp=Z,187nm,22.0s
OBN Obninsk 82.11 328 P **P 16 30 57.7 +0.9**
OBN IAmb IAmb 16 31 15.9
comp=Z,27nm,0.7s
BALB Balikesir 82.96 311 IAmb IAmb 16 31 19.7
comp=Z,45nm,1.1s
KLMR Klimovskoe 83.02 334 *e*P **P 16 30 59.4 -2.0**
KLMR pmax pmax
comp=Z,64nm,1.2s
KLMR Klimovskoe 83.02 334 *e*P **P 16 30 59.4 -2.0**
KLMR AMP 16 31 20.6
comp=Z,64nm,1.2s
KLMR *e*PP **PP 16 34 05.6 -7.1**
JURR Jurilovca 83.51 316 ⇓P **P 16 31 05.2 +0.9**
TLCR 83.66 317 ⇓P **P 16 31 06.2 +1.1**
TLCR 83.66 317 ⇓P **P 16 31 06.2 +1.1**
TIRR Tirgusor 83.75 316 ⇓P **P 16 31 06.0 +0.4**
TIRR Tirgusor 83.75 316 ⇓P **P 16 31 06.0 +0.4**
TPGR Topolog 83.85 316 ⇓P **P 16 31 06.3 +0.2**
QSPA South Pole Qui 83.97 180 P **P 16 31 06.9 +0.4**
comp=Z,6.6nm,1.1s,baz=255,slow=0.9,SNR=9.1
QSPA South Pole Qui 83.97 180 P **P 16 31 06.9 +0.4**
QSPA IAmb IAmb 16 31 08.3
comp=Z,25nm,1.5s
MILM Milestii Mici 84.12 318 ⇓P **P 16 31 07.8 +0.4**
CFR Carcaliu 84.12 316 ⇓P **P 16 31 08.6 +1.2**
CFR Carcaliu 84.12 316 ⇓P **P 16 31 08.6 +1.2**
HARR Harsova 84.14 316 ⇓P **P 16 31 08.7 +1.1**
HARR Harsova 84.14 316 ⇓P **P 16 31 08.7 +1.1**
VARL Varlezi 84.50 317 ⇓P **P 16 31 07.3 -2.0**
ALN Alexandroupoli 84.61 312 IAmb IAmb 16 31 31.6
comp=Z,21nm,1.0s
NIUE Niue 84.69 109 P **P 16 31 08.5 -2.5**
baz=85,SNR=4.0
VASR Vaslui 84.72 318 ⇓P **P 16 31 12.0 +1.5**
SORM Soroca 84.73 319 ⇓P **P 16 31 11.3 +0.8**
AKASG Malin Array Be 84.87 322 P **P 16 31 11.3 +0.2**
comp=Z,6.4nm,0.6s,baz=87,slow=5.1,SNR=20
AKASG PP **PP 16 34 26.6 -1.5**
comp=Z,0.3nm,0.3s,baz=87,slow=6.3,SNR=4.6
AKBB Malin Array Si 84.87 322 IAmb IAmb 16 31 29.8
comp=Z,19nm,0.7s
RAZG Razgrad 84.87 315 ⇓P **P 16 31 12.2 +0.8**
VRI Vrincioaia 85.25 317 ⇓P **P 16 31 14.6 +1.4**
VRI Vrincioaia 85.25 317 ⇓P **P 16 31 14.6 +1.4**
PLOR Plostina 85.30 317 ⇓P **P 16 31 14.8 +1.3**
PLOR Plostina 85.30 317 ⇓P **P 16 31 14.8 +1.3**
NEHR Nehoiu 85.45 316 ⇓P **P 16 31 15.5 +1.3**
TESR Tescani 85.46 318 ⇓P **P 16 31 15.8 +1.6**
BILL Bilibino 85.67 20*de*P **P 16 31 14.2 -0.6**
BILL *e* 16 34 34.4
BILL *e*PPP PPP 16 36 31.2
BILL pmax pmax
comp=Z,16nm,1.3s
BILL MLR MLR
comp=Z,169nm,18.0s
MLR Muntele Rosu 85.70 316 ⇓P **P 16 31 17.2 +1.6**
MLR Muntele Rosu 85.70 316 LR LR 17 13 48.6
comp=Z,130nm,20.2s,baz=106,slow=39
MLR Muntele Rosu 85.70 316 P **P 16 31 16.8 +1.2**
MLR pmax pmax
comp=Z,102nm,1.4s
MLR Muntele Rosu 85.70 316 P **P 16 31 16.8 +1.2**
BIZ Bicaz 85.92 318 ⇓P **P 16 31 18.0 +1.5**
HUMR Humele 86.16 315 ⇓P **P 16 31 19.4 +1.7**
DOPR Dopca 86.19 317 ⇓P **P 16 31 18.5 +0.7**
VOIR 86.30 316 ⇓P **P 16 31 18.7 +0.2**
VOIR 86.30 316 ⇓P **P 16 31 18.7 +0.2**
ARR Arges 86.58 316 ⇓P **P 16 31 20.4 +0.6**
BURAR Bucovina Array 86.66 318 ⇓P **P 16 31 21.9 +1.7**
BURAR Bucovina Array 86.66 318 ⇓P **P 16 31 21.9 +1.7**
MNK Minsk 86.67 326 *i*P **P 16 31 17.7 -2.3**
MNK *i* 16 34 40.0
MNK *i*PPP PPP 16 36 34.5
MNK *i*S **SKSac 16 41 41.1 -1.9**
MNK *i*SS **SS 16 47 36.1 +0.3**
MNK *i*SSS SSS 16 51 09.1
MNK pmax pmax
comp=N,6.0nm,0.7s
MNK pmax pmax
comp=Z,17nm,0.7s
MNK pmax pmax
comp=E,1.0nm,0.7s
MNK MLR MLR
comp=Z,200nm,20.0s
MNK MLR MLR
comp=N,106nm,20.0s
MNK MLR MLR
comp=E,8.0nm,20.0s
MNK Minsk 86.67 326 *i*P **P 16 31 17.7 -2.3**
comp=E,1.0nm,0.7s
MNK *i*P **P 16 31 17.7 -2.3**
comp=N,6.0nm,0.7s
MNK *i*P **P 16 31 17.7 -2.3**
comp=Z,17nm,0.7s,baz=285
MNK *i*PP **PP 16 34 40.0 -2.6**
MNK *i*PPP PPP 16 36 34.6
MNK *i*S **SKSac 16 41 41.1 -1.9**
MNK *i*SS **SS 16 47 36.2 +0.3**
MNK *i*SSS SSS 16 51 09.1
MNK *i*LQ LQ 17 01 35.0
MNK *i*LR LR 17 05 10.0
MNK *i*LRM MLR 17 11 17.9
comp=Z,200nm,20.4s
MNK *i*LRM MLR 17 11 26.9
comp=E,8.0nm,20.4s
MNK *i*LRM MLR 17 11 26.9
comp=N,106nm,20.4s
VTS Vitosha 87.02 313 ⇓P **P 16 31 22.4 +0.2**
VTS Vitosha 87.02 313 ⇓P **P 16 31 22.4 +0.2**
VTS Vitosha 87.02 313 IAmb IAmb 16 31 43.9
comp=Z,15nm,0.9s
ARCR ARCALIA 87.12 318⇑ P **P 16 31 23.5 +1.2**
VAY Valandovo 87.27 312 *i*P **P 16 31 23.9 +0.7**
NACGM Naroch 87.39 326 *i*P **P 16 31 23.2 -0.2**
STIP Stip 87.62 312 *i*P **P 16 31 24.2 -0.7**
LVZ Lovozero 87.80 339*ce*P **P 16 31 26.7 +1.5**
LVZ pmax pmax
comp=Z,29nm,1.3s
BMR Baia Mare 87.81 318 ⇓P **P 16 31 27.2 +1.6**
IIGN Ignalina 87.81 326 *e*P **P 16 31 25.0 -0.5**
GZR Gura Zlata 87.86 316 ⇓P **P 16 31 26.8 +0.8**
GZR Gura Zlata 87.86 316 ⇓P **P 16 31 26.8 +0.8**
DEV Deva 87.87 316 ⇓P **P 16 31 27.7 +1.7**
DEV Deva 87.87 316 ⇓P **P 16 31 27.7 +1.7**
LVV L'vov 87.89 320 *e*P **P 16 31 21.4 -4.6**
ISAL Salakas 87.92 326 *e*P **P 16 31 25.8 -0.2**
HERR Herculane 88.02 315 ⇓P **P 16 31 26.7 0.0**
APA Apatity 88.12 339⇓ *i*P **P 16 31 27.1 +0.4**
APA MLR MLR
comp=Z,400nm,16.0s
DRGR 88.17 317 ⇓P **P 16 31 28.6 +1.1**
DRGR 88.17 317 ⇓P **P 16 31 28.6 +1.1**
SKO Skopje 88.22 312 *i*P **P 16 31 28.1 +0.4**
VSU Vasula 88.30 329 *e*P **P 16 31 27.8 +0.1**
MDVR Moldovita 88.50 315 ⇓P **P 16 31 30.6 +1.6**
TRPA Tarpa 88.53 319 ⇓P **P 16 31 30.5 +1.5**
TRPA Tarpa 88.53 319 *e*P **P 16 31 30.5 +1.5**
OHR Ohrid 88.55 311 *i*P **P 16 31 29.7 +0.3**
UZH Uzhgorod 88.78 319 *e*P **P 16 31 31.3 +1.1**
UZH *i* 16 31 34.3
SIRR Siria 88.79 317 ⇓P **P 16 31 32.0 +1.7**
KOLS Kolonicke sedl 88.85 319 *e*P **P 16 31 32.8 +2.2**
KOLS pmax pmax
comp=Z,78nm,1.1s
KOLS Kolonicke sedl 88.85 319 *e*P **P 16 31 32.8 +2.2**
KOLS *e*pP **sP 16 31 49.4 +1.4**
PABE Paberze 89.10 326 *e*P **P 16 31 31.0 -0.5**
SUW Suwalki 89.25 324 *e*P **P 16 31 33.1 +0.9**
SUW Suwalki 89.25 324 *e*P **P 16 31 32.3 +0.1**
FINES FINESS Array B 89.34 332 P **P 16 31 33.1 +0.6**
comp=Z,4.8nm,0.6s,baz=107,slow=5.8,SNR=36
FINES FINESS Array B 89.34 332 *i*P **P 16 31 33.2 +0.7**
FINES pmax pmax
comp=Z,5.0nm,0.6s
FINES FINESS Array B 89.34 332 P **P 16 31 32.4 -0.2**
CRVS Cervenica-Dubn 89.37 319 *e*P **P 16 31 34.7 +1.7**
CRVS pmax pmax
comp=Z,184nm,2.7s
CRVS Cervenica-Dubn 89.37 319 *e*P **P 16 31 34.7 +1.7**
CRVS *e*pP **sP 16 31 50.5 +0.1**
SNAA Sanae 89.45 198 P **P 16 31 34.9 +1.8**
SNAA Sanae 89.45 198*ce*P **P 16 31 35.4 +2.3**
SNAA pmax pmax
comp=Z,51nm,1.3s
SNAA Sanae 89.45 198 IAmb IAmb 16 31 36.5
comp=Z,41nm,1.1s
STHS Stebnicka Huta 89.60 320 *e*P **P 16 31 35.6 +1.5**
STHS Stebnicka Huta 89.60 320 *e*P **P 16 31 35.6 +1.5**
STHS *e*pP **sP 16 31 50.8 -0.7**
DIVS Divibare 89.60 314 P **P 16 31 35.2 +0.9**
DIVS IAmb IAmb 16 31 56.6
comp=Z,35nm,1.0s
PDG Podgorica 89.89 313 ⇓P **P 16 31 36.5 +1.0**
PDG Podgorica 89.89 313 IAmb IAmb 16 31 57.8
comp=Z,33nm,0.8s
KECS Kecovo 89.94 319 *e*P **P 16 31 37.5 +1.8**
KECS Kecovo 89.94 319 *e*P **P 16 31 37.5 +1.8**
NIE Niedzica 90.21 320 *e*P **P 16 31 39.6 +2.7**
PSZ Piszkesteto 90.25 318 *e*P **P 16 31 39.2 +2.0**
PSZ Piszkesteto 90.25 318 IAmb IAmb 16 31 59.3
comp=Z,20nm,0.9s
MORH Mrgy. Hungar 90.85 316 *e*P **P 16 31 41.4 +1.5**
VYHS Vyhne 91.03 319 *e*P P 16 31 46.9 +6.1
VYHS Vyhne 91.03 319 *e*P **P 16 31 42.1 +1.3**
VYHS *e*pP **sP 16 31 58.2 0.0**
VNA2 Neumayer--Watz 91.09 198 P P **P 16 31 42.8 +2.2**
KOVH Kovagotottos 91.21 316 *e*P **P 16 31 42.9 +1.3**
VNA1 Neumayer--Stat 91.46 198 P **P 16 31 44.9 +2.6**
ARA0 ARCESS Array S 91.47 340 *e*P **P 16 31 42.1 -0.2**
ARCES ARCESS Array B 91.47 340 P **P 16 31 42.8 +0.4**
comp=Z,3.0nm,0.8s,baz=91,slow=6.6,SNR=14
ARCES LR LR 17 18 58.9
comp=Z,192nm,18.7s,baz=120,slow=40
VNA3 Neumayer Olymp 91.65 197 P **P 16 31 45.5 +2.3**
MPLH Magyarpolny 91.72 317 *e*P **P 16 31 46.5 +2.5**
JAVC Velka Javorina 91.84 319 *e*P **P 16 31 46.6 +2.0**
MORC Moravsky Berou 92.03 320 ⇓P **P 16 31 45.4 0.0**
MORC Moravsky Berou 92.03 320 IAmb IAmb 16 32 04.0
comp=Z,14nm,1.1s
MORC Moravsky Berou 92.03 320 *e*P **P 16 31 46.9 +1.5**
MODS Modra-Piesok 92.04 318 *e*P **P 16 31 45.9 +0.4**
MODS Modra-Piesok 92.04 318 *e*P **P 16 31 45.9 +0.4**
MODS *e*pP **sP 16 32 02.7 -0.2**
ZST Bratislava 92.14 318 *e*P **P 16 31 46.9 +1.0**
KTK1 Kautokeino 92.15 339 *e*P **P 16 31 44.9 -0.6**
HAMF Hammerfest 92.32 341 *e*P **P 16 31 45.6 -0.6**
KRLC Kraliky 92.56 320 *e*P **P 16 31 49.2 +1.4**
KRLC Kraliky 92.56 320 *e*P **P 16 31 49.2 +1.4**
KRLC *ex* x 16 32 00.8
DPC Dobruska-Polom 92.88 320 *e*P **P 16 31 50.9 +1.6**
DPC MLR MLR
comp=Z,200nm,19.6s
DPC Dobruska-Polom 92.88 320 *e*P **P 16 31 50.9 +1.6**
DPC AMS AMS 17 18 20.0
comp=Z,200nm,19.6s
CHVC Chvalec 93.07 320 *e*P **P 16 31 51.7 +1.5**
ARSA Arzberg 93.10 317 P **P 16 31 50.2 -0.2**
comp=Z,5.4nm,1.2s
JETT Jettan, Norway 93.23 340 *e*P **P 16 31 50.2 -0.3**
SOKA Soboth 93.38 316 *e*P **P 16 31 53.0 +1.3**
comp=Z,11nm,1.3s
TRO Tromso 93.76 340 *e*P **P 16 31 51.5 -1.3**
PRU Pruhonice 93.99 320 AMS AMS 17 19 10.0
comp=Z,200nm,21.1s
CKRC Cesky Krumlov 94.05 319 *e*P **P 16 31 55.8 +1.1**
CKRC *ex* x 16 32 07.4
BRG Berggiesshubel 94.44 321 *e*P **P 16 31 57.7 +1.3**
BRG Amp 16 31 58.4
comp=Z,3.3nm,0.8s
BRG Berggiesshubel 94.44 321 P P 16 32 09.4 +13
BRG Amp 16 32 10.0
comp=Z,4.3nm,0.7s

GERES	GERESS Array B	94.45	319	P		P		16 31 57.5	+0.8
	comp=Z,0.9nm,0.6s,baz=90,slow=5.3,SNR=9.9								
KHC	Kasperske Hory	94.55	319	*e*P		P		16 31 58.1	+1.1
KHC				MLR		MLR			
	comp=Z,200nm,23.7s								
KHC	Kasperske Hory	94.55	319	*e*P		P		16 31 58.1	+1.1
KHC				AMS		AMS		17 15 00.0	
	comp=Z,200nm,23.7s								
FAUS	Fauske	94.88	337	*e*P		P		16 31 57.6	-0.5
STEI	Steigen	94.93	338	*e*P		P		16 31 57.8	-0.5
CLL	Collm	95.06	321	*i* P		P		16 31 59.5	+0.3
	comp=Z,12nm,1.6s								
CLL				*e*				16 32 17.0	
CLL				*e*SKSac		SKSac		16 42 34.0	+2.7
CLL				*e*S		S		16 43 10.0	-0.6
CLL				*e*PS		PS		16 44 34.0	+0.9
CLL				*e*SS		SS		16 49 36.0	-0.9
ABTA	Abfaltersbach	95.12	316	*e*P		P		16 32 01.1	+1.4
	comp=Z,10nm,1.9s								
MOR8	Moi Rana	95.14	336	*e*P		P		16 31 58.8	-0.5
SPA0	Spitsbergen Ar	95.29	348	*e*P		P		16 31 59.4	-0.4
LOF	Lofoten	95.58	338	*e*P		P		16 31 60.0	-1.2
NB2	NORSAR Subarra	96.41	331	P		P		16 32 05.0	-0.2
	comp=Z,6.9nm,1.1s,baz=95,slow=4.8								
NB2	NORSAR Subarra	96.41	331	P		P		16 32 05.0	-0.2
	baz=95,slow=4.8								
NOA	NORSAR Array B	96.41	331	P		P		16 32 05.3	+0.1
	comp=Z,0.5nm,0.7s,baz=92,slow=4.8,SNR=2.6								
NOA				LR		LR		17 19 52.1	
	comp=Z,106nm,20.6s,baz=105,slow=38								
KEST	Kesra	96.96	305	P		P		16 32 10.1	+1.7
	comp=Z,2.0nm,0.6s,baz=24,slow=6.7,SNR=4.0								
KEST				LR		LR		17 18 40.7	
	comp=Z,71nm,19.3s,baz=336,slow=37								
SKAR	Skarslia	97.83	330	*e*P		P		16 32 10.6	-1.0
BLS5	Blasjo	98.81	329	*e*Pdif		P		16 32 14.8	-1.2
TORD	Torodi Ar. Bea	102.95	282	PKiKP		PKiKP		16 36 55.3	-0.3
	comp=Z,0.5nm,0.7s,baz=86,slow=3.2,SNR=2.8								
ILAR	Eielson Array	103.66	25	PP		PKiKP		16 36 54.7	-0.9
	comp=Z,0.8nm,0.8s,baz=296,slow=7.1,SNR=6.0								
ILAR				PKKPbc		PKKPbc		16 48 30.6	-1.5
	comp=Z,0.7nm,0.3s,baz=90,slow=1.8,SNR=4.4								
PPT2	Papeete2	104.04	110	*e*LR		LR		17 06 57.4	
	comp=Z,304nm,24.2s								
J04D	Umpqua Nationa	125.33	40	P		PKiKP		16 37 39.0	+1.0
	baz=299								
L04D	Klamath Falls	125.69	41	P		PKiKP		16 37 39.1	+0.4
	baz=298								
M02C	Callahan	125.71	42	P		PKiKP		16 37 40.2	+1.5
	baz=298								
J05D	Fort Rock, OR	125.86	39	P		PKiKP		16 37 40.0	+1.0
	baz=300								
N02D	Trinity Center	126.00	43	P		PKiKP		16 37 39.7	+0.5
	baz=297								
M04C	Macdoel	126.20	41	P		PKiKP		16 37 40.2	+0.5
	baz=299								
O02D	Mt. Diablo Mer	126.31	44	P		PKiKP		16 37 41.1	+1.2
	baz=297								
O03E	Paynes Creek	126.93	43	P		PKiKP		16 37 41.8	+0.7
	baz=298								
MSO	Missoula	128.09	32	P		PKiKP		16 37 43.4	+0.1
	baz=310								
EGMT	Eagleton	129.39	29	P		PKiKP		16 37 45.6	-0.3
	baz=315								
HLID	Hailey	129.85	36	P		PKiKP		16 37 47.3	+0.3
	baz=307								
BOZ	Bozeman (W)	130.11	32	PKiKP		PKiKP		16 37 47.2	-0.2
BOZ	Bozeman (W)	130.11	32			PKiKP		16 37 47.2	-0.2
BOZ	Bozeman (W)	130.11	32	P		PKiKP		16 37 47.2	-0.2
	baz=312								
NVAR	Mina Array Bea	130.20	43	PKP		PKiKP		16 37 48.3	+0.4
	comp=Z,0.6nm,0.6s,baz=327,slow=2.8,SNR=5.8								
NVAR	Mina Array Bea	130.20	43	PKPdf		PKiKP		16 37 47.8	-0.1
PKM	Mcpherson Peak	130.75	48	P		PKiKP		16 37 49.4	+0.3
	baz=296								
ELK	Elko	130.99	39	PKIKP		PKiKP		16 37 49.7	+0.2
ELK	Elko	130.99	39	PKPdf		PKiKP		16 37 49.7	+0.2
CWC	Cottonwood Cre	131.31	46	P		PKPdf		16 37 49.6	+0.4
	baz=298								
DGMT	Dagmar	131.53	25	P		PKiKP		16 37 49.9	-0.2
	baz=322								
RLMT	Red Lodge	131.66	31	P		PKiKP		16 37 50.3	-0.4
	baz=314								
MPMC	Manual Prospec	131.91	46	P		PKiKP		16 37 51.3	-0.1
	baz=299								
R11A	Troy Canyon, C	132.08	42	PKPdf		PKPdf		16 37 50.8	+0.2
R11A	Troy Canyon, C	132.08	42	P		PKiKP		16 37 51.7	+0.1
	baz=302								
EDW2	Edwards Air Fo	132.10	47	P		PKiKP		16 37 51.9	+0.3
	baz=297								
ULM	Lac du Bonnet	132.97	17	PKP		PKiKP		16 37 52.9	0.0
	comp=Z,3.9nm,0.9s,baz=243,slow=4.5,SNR=1.7								
PDAR	Pinedale Array	133.10	34	PKP		PKiKP		16 37 53.3	-0.4
	comp=Z,0.7nm,0.5s,baz=118,slow=0.3,SNR=8.2								
PLCA	Paso Flores	133.17	186	PKP		PKiKP		16 37 54.3	+0.6
	comp=Z,0.9nm,0.5s,baz=177,slow=1.2,SNR=8.4								
PLCA	Paso Flores	133.17	186			PKiKP		16 37 53.6	-0.1
PLCA	Paso Flores	133.17	186	*e*P		PKPdf		16 37 51.9	-0.6
JLU	Jordanelle	133.40	37			PKiKP		16 37 53.8	-0.5
U15A	North Rim	135.32	42	PKPdf		PKPdf		16 37 57.3	+0.4
SJMB	Sao Joao De Ma	137.51	234	*e*P		PKPdf		16 38 00.8	-0.2
SDCO	Great Sand Dun	138.77	36	P		PKPdf		16 38 03.7	+0.4
	baz=313								
KSCO	Kaye Shedlock'	139.47	32	P		PKPdf		16 38 04.6	+0.3
	baz=318								
T25A	Trinidad	139.82	36	P		PKPdf		16 38 05.4	+0.3
	baz=314								
RCLB	Rio Claro- Sao	140.06	224	*e*P		PKPdf		16 38 06.5	+0.7
VA03	San Esteban	141.04	188	PKPdf		PKPdf		16 38 08.1	+0.8
CPUP	Villa Florida	142.92	209	PKhKP		PKPpre		16 38 08.0	
	comp=Z,4.8nm,0.9s,baz=131,slow=2.8,SNR=7.4								
PCMB	Pacaembu	143.13	221	*e*P		PKPdf		16 38 10.9	-0.3
ITRB	Iturama	143.83	224	*e*P		PKPdf		16 38 12.1	-0.4
CYA	Choya	144.26	196	P		PKPbc		16 38 11.9	+0.7
SFIN	Lafayette	144.46	14	P		PKPab		16 38 10.9	-0.3
	baz=342								
M53A	WI Miller and	144.52	6	P		PKPab		16 38 10.8	-0.6
	baz=353								
M54A	Oil Creek Stat	144.54	4	P		PKPab		16 38 10.9	-0.6
	baz=354								
VCA	Vinchina	144.56	192	*i* P		PKPdf		16 38 13.4	-0.3
BDFB	Brasilia	144.63	232	PKP		PKPdf		16 38 13.9	-0.2
	comp=Z,18nm,0.6s,baz=126,slow=2.9,SNR=26								
BDFB	Brasilia	144.63	232	PKPdf		PKPbc		16 38 13.3	+0.4
WMOK	Wichita Mounta	144.71	33	P		PKPab		16 38 11.9	-0.5
	baz=319,SNR=13								
N54A	Moraine State	145.06	5	P		PKPbc		16 38 12.2	-1.2
	baz=354,SNR=5.7								
TINO	Tinogasta	145.07	194	*i* P		PKPdf		16 38 15.6	+1.0
PAL	Palisades	145.10	357	P		PKPbc		16 38 12.5	-1.0
	baz=4.4								
N59A	State Game Lan	145.25	359	P		PKPbc		16 38 13.6	-0.4
	baz=1.2								
TUL1	Leonard	145.31	28	P		PKPbc		16 38 13.8	-0.6
	baz=325,SNR=6.0								
TX31	Lajitas Ar. Si	145.32	45	PKPbc		PKPdf		16 38 15.1	+0.2
TX32	Lajitas Array	145.32	45	PKPbc		PKPdf		16 38 15.2	+0.3
TXAR	Lajitas Array	145.33	45	PKPbc		PKPdf		16 38 15.7	+0.8
	comp=Z,17nm,0.6s,baz=272,slow=1.0,SNR=128								
TXAR	Lajitas Array	145.33	45	PKPbc		PKPdf		16 38 15.1	+0.2
CCM	Cathedral Cave	145.36	21	PKIKP		PKPbc		16 38 13.7	-0.7
CCM	Cathedral Cave	145.36	21			PKPbc		16 38 13.7	-0.7
CCM	Cathedral Cave	145.36	21	P		PKPbc		16 38 13.6	-0.8
	baz=334								
ACSO	Alum Creek Sta	145.42	9	P		PKPbc		16 38 13.9	-0.7
	baz=348,SNR=8.0								
SSPA	Standing Stone	145.51	2	PKPdf		PKPdf		16 38 13.7	-1.1
SSPA	Standing Stone	145.51	2	P		PKPdf		16 38 14.1	-0.7
	baz=358								
LUPA	Lehigh Univers	145.56	359			PKPdf		16 38 13.5	-1.4
AC04	Llanos de Chal	145.59	188			PKPab		16 38 16.4	+0.7
O53A	New Philadelph	145.64	7	P		PKPdf		16 38 14.3	-0.7
	baz=352,SNR=8.7								
AHML	Horco Molle	145.69	198	*i* P		PKPab		16 38 16.9	+0.7
ABTX	Abilene, Hawle	145.77	36	P		PKPab		16 38 16.3	-0.1
	baz=316								
P49A	Miami Univ. Ec	145.79	12	P		PKPdf		16 38 15.0	-0.2
	baz=345,SNR=7.9								
O56A	Blue Knob Stat	145.84	3	P		PKPdf		16 38 15.0	-0.4
	baz=356,SNR=6.1								
PAGS	Pennsylvania G	145.94	1	PKPdf		PKPbc		16 38 16.2	0.0
GO03	Copiap	146.06	190	*i* P		PKPab		16 38 18.6	+1.0
P52A	Corning	146.13	8	P		PKPdf		16 38 15.6	-0.3
	baz=350								
MVL	Millersville	146.17	360	PKPdf		PKPdf		16 38 15.5	-0.4
U40A	Yellville	146.23	24	P		PKPdf		16 38 16.6	+0.4
	baz=330,SNR=12								
P60A	Greenville	146.35	359	P		PKPbc		16 38 17.2	-0.2
	baz=1.4								
MCWV	Mont Chateau	146.36	5	P		PKPbc		16 38 17.2	-0.3
	baz=354								
FSA	Cafayete	146.51	197	*i* P		PKPab		16 38 20.1	+0.6
AC02	Maricunga	146.60	192	PKPbc		PKPbc		16 38 19.5	+0.3
WCI	Wyandotte Cave	146.69	14	PKIKP		PKPdf		16 38 16.4	-0.4
WCI	Wyandotte Cave	146.69	14	PKPdf		PKPdf		16 38 16.4	-0.4
WCI	Wyandotte Cave	146.69	14	P		PKPbc		16 38 17.9	-0.5
	baz=342								
W39A	Magazine	146.82	27			PKPbc		16 38 18.2	-0.7
W39A	Magazine	146.82	27	P		PKPbc		16 38 18.1	-0.8
	baz=327								
JCT	Junction City	147.17	39	P		PKPbc		16 38 20.2	+0.1
	baz=313								
Q61A	Milford	147.28	359	P		PKPbc		16 38 19.7	-0.3
	baz=2.0								
MIAR	Mount Ida	147.46	27	P		PKPbc		16 38 20.2	-0.6
	baz=327,SNR=7.6								
WHTX	Lake Whitney,	147.50	35			PKPbc		16 38 21.4	+0.5
WHTX	Lake Whitney,	147.50	35	P		PKPbc		16 38 21.2	+0.3
	baz=318								
W41B	Gary Mavity, V	147.50	25	P		PKPbc		16 38 20.4	-0.5
	baz=330								
X40A	Basin Creek Fa	147.83	26	P		PKPbc		16 38 21.6	-0.2
	baz=328								
WVT	Waverly	148.24	18	PKP2		PKPbc		16 38 22.2	-0.6
WVT	Waverly	148.24	18	PKPbc		PKPbc		16 38 22.2	-0.6
WVT	Waverly	148.24	18	P		PKPbc		16 38 22.4	-0.4
	baz=336								
435B	Jarrell	148.31	36	P		PKPbc		16 38 22.8	-0.4
	baz=317								
833A	Chaparral WMA,	148.88	42	P		PKPbc		16 38 24.6	-0.1
	baz=311								
OXF	Oxford	149.19	21	P		PKPbc		16 38 24.8	-0.5
	baz=334								
NATX	Nacogdoches	149.19	31	P		PKPbc		16 38 25.5	+0.1
	baz=323								
Y45A	Yeager Farm, C	149.71	22			PKiKP		16 38 27.3	-0.3
LVC	Limon Verde	150.63	194	PKIKP		PKiKP		16 38 31.2	+0.9
LVC	Limon Verde	150.63	194			PKiKP		16 38 31.2	+0.9
KMSC	Kings Mountain	150.66	8	P		PKPbc		16 38 28.2	-0.7
	baz=350								
LRAL	Lakeview Retre	151.35	19	P		PKPbc		16 38 30.3	-0.2
	baz=338								
GOGA	Godfrey	151.96	13	P		PKPbc		16 38 31.4	-0.5
	baz=345								
BRAL	Brewton	153.05	21	P		PKiKP		16 38 34.8	+0.2
	baz=336								
PB08	IPOC Station P	153.05	195			PKiKP		16 38 35.4	0.0
LPAZ	La Paz	156.39	200	PKP		PKPdf		16 38 34.0	+1.1
	comp=Z,1.2nm,0.7s,baz=45,slow=8.8,SNR=5.2								
LPAZ				PKPab		PKPab		16 39 02.3	+1.3
	comp=Z,5.5nm,0.7s,baz=176,slow=5.4,SNR=15								
LPAZ	La Paz	156.39	200	PKIKP		PKPdf		16 38 34.0	+1.1
MALB	Monte Alegre	156.60	251	*e*P		PKPdf		16 38 33.0	+0.5
SAML	Samuel	160.16	222	PKIKP		PKPdf		16 38 37.2	+0.5
SAML								16 39 16.9	
SAML	Samuel	160.16	222			PKPdf		16 38 37.2	+0.5
SAML						PKPab		16 39 16.9	+0.1

IDC ***23*** *16:19:32.7±0.7, 28.°59S×74.°17E, h0km, mb4.3/15, mb1 4.4/15, mb1mx4.2/50, mbtmp4.3/15, MS4.2/4, Ms1 4.1/4, ms1mx3.5/37 Error ellipse: s-maj=22.7km s-min=21.1km az=82.0*

GCMT ***23*** *16:19:35.0±0.3, 28.°36S±0.°03×74.°01E±0.°03, h13km±2km, MW5.0/73, Moment Tensor Solution. s16,c17; s73,c103; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.57±.19; $M_{\theta\theta}$0.55±.11; $M_{\phi\phi}$1.02±.13; $M_{r\theta}$0.95±.33; $M_{\theta\phi}$-1.11±.08; $M_{\phi r}$3.72±.70; Best double couple: M_o4.15600×10^{16} NP1:ϕ_s303.00000°, δ19.00000°, λ-151.00000°. NP2: ϕ_s186.00000°, δ81.00000°, λ-73.00000°. Principal axes: T 3.7080, Plg34.0000°, Azm262.0000°; N 0.8930, Plg17.0000°, Azm3.0000°; P -4.6040, Plg51.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 23 16:19:34.3±0.7, 28.°6S±0.°1×74.°2E±0.°2, h10km, n20, σ0s57/15, mb4.4/15, MS4.2/4, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H08S2	Diego Garcia H	20.91	355	T		T	16 45 49.2	
	baz=176,slow=76,SNR=126							
H08S1	Diego Garcia H	20.91	355	T		T	16 45 46.0	
	baz=176,slow=76,SNR=89							
H08S3	Diego Garcia H	20.92	355	T		T	16 45 50.6	
	baz=176,slow=76,SNR=102							
BOSA	Boshof	42.69	258	P		P	16 27 31.1	-0.5
	1.6nm,0.6s,baz=90,slow=7.1,SNR=2.4							
BOSA				LR		LR	16 42 16.2	
	comp=Z,282nm,19.1s,baz=81,slow=32							
CMAR	Chiang Mai Arr	52.56	30	P		P	16 28 48.2	+0.1
	4.1nm,0.9s,baz=217,slow=7.6,SNR=7.0							
ASAR	Alice Springs	53.39	99	P		P	16 28 54.0	-0.4
	3.6nm,0.8s,baz=247,slow=6.5,SNR=5.1							
WRA	Warramunga Arr	55.05	95	P		P	16 29 06.1	-0.4
	8.7nm,0.8s,baz=250,slow=7.4,SNR=7.5							
QSPA	South Pole Qui	61.54	180	P		P	16 29 51.6	+0.3
	1.0nm,0.8s,baz=295,slow=5.5,SNR=3.6							
VNDA	Vanda	61.80	166	P		P	16 29 53.0	+0.3
	1.7nm,1.0s,baz=275,slow=6.5,SNR=7.7							
JAY	Jayapura	68.25	81	LR		LR	16 58 59.8	
	comp=Z,79nm,21.0s,baz=206,slow=35							
AAK	Ala-Archa	70.89	0	P		P	16 30 52.5	+1.0
	4.8nm,0.9s,baz=203,slow=7.7,SNR=2.1							
MKAR	Makanchi Array	75.40	6	P		P	16 31 16.6	-1.3
	5.0nm,1.0s,baz=205,slow=6.4,SNR=3.3							
TORD	Torodi Ar. Bea	81.35	290	P		P	16 31 51.5	0.0
	1.3nm,0.9s,baz=113,slow=3.5,SNR=6.5							
SONM	Songino Array	81.42	21	P		P	16 31 51.7	+0.5
	2.7nm,0.8s,baz=189,slow=5.1,SNR=3.8							
ZALV	Zalesovo Beam	82.72	6	P		P	16 31 57.4	-0.4
	3.5nm,0.8s,baz=181,slow=6.8,SNR=3.1							
KSRS	Korea Array	82.80	40	P		P	16 31 58.6	0.0
	1.9nm,0.8s,baz=225,slow=4.2,SNR=6.3							
KSRS				LR		LR	17 06 31.0	
	comp=Z,98nm,20.1s,baz=220,slow=34							
ARU	Arti	85.73	351	LR		LR	17 08 49.2	
	comp=Z,267nm,20.2s,baz=119,slow=34							
AKASG	Malin Array Be	88.38	333	P		P	16 32 26.4	+0.3
	1.8nm,0.6s,baz=143,slow=4.2,SNR=1.7							
MJAR	Matsushiro Arr	88.42	46	P		P	16 32 26.7	0.0
	1.5nm,0.7s,baz=226,slow=4.0,SNR=3.1							
KEST	Kesra	88.42	313	P		P	16 32 27.1	+0.3
	4.8nm,0.8s,baz=239,slow=6.7,SNR=5.1							

IDC 23 16:57:17.9±2.1, 1.°95N×126.°58E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/44, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=125.2km s-min=25.5km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	Fitzroy Crossi	19.94	183	P		P	17 01 52.1	+0.5
	0.1nm,0.3s,baz=5.2,slow=11,SNR=7.0							
WRA	Warramunga Arr	23.05	161	P		P	17 02 24.9	-0.1
	0.6nm,0.4s,baz=339,slow=11,SNR=5.9							
ASAR	Alice Springs	26.44	165	P		P	17 02 56.5	-0.2
	0.2nm,0.3s,baz=344,slow=8.7,SNR=12							
MKAR	Makanchi Array	58.93	326	P		P	17 07 19.0	0.0
	0.2nm,0.4s,baz=117,slow=7.3,SNR=4.2							

IDC ***23*** *17:03:38.6±1.0, 67.°11N×20.°85E, h0km, mb1 3.0/4, mb1mx2.9/40, mbtmp3.0/4, ML2.1/4, Error ellipse: s-maj=18.1km s-min=8.1km az=116.0*

UPP ***23*** *17:03:38.6±0.1, 67.°07N×20.°92E, h1km, ML2.6, Explosion*

HEL ***23*** *17:03:39.2±0.1, 67.°07N×20.°92E, h0km, ML2.3, ML2.6(UPP), Explosion*

NAO ***23*** *17:03:39.6±1.0, 67.°04N×21.°31E, ML2.6*

BER ***23*** *17:03:41.7±4.8, 67.°04N×21.°20E, h0km, ML2.0, ML2.6(NAO), Suspected explosion*

ISC 23 17:03:38.5±0.7, 67.°08N±0.°02×20.°92E±0.°02, h0km, n59, σ1s11/96, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DUNU	Dundret	0.14	287	P		Pg	17 03 41.6	+0.3
DUNU	Dundret	0.14	287	*i* P		Pg	17 03 41.6	+0.3
MASU	Masugnsbyn	0.56	47	P		Pg	17 03 49.5	+0.2
MASU				S		Sg	17 03 57.2	+0.6
MASU	Masugnsbyn	0.56	47	*i* P		Pg	17 03 49.5	+0.2
MASU				*i* S		Sg	17 03 57.2	+0.6
PAJU	Pajala	0.86	93	P		Pg	17 03 54.4	-0.6
PAJU	Pajala	0.86	93	*e*P		Pg	17 03 54.3	-0.6
PAJU				*e*SB		Sg	17 04 06.3	+0.2
KUA	Kurravaara	0.91	346	P		Pg	17 03 55.4	-0.5
KUA				S		Sg	17 04 07.8	+0.2
KUA	Kurravaara	0.91	346	*e*P		Pg	17 03 55.4	-0.5
KUA				*e*S		Sg	17 04 07.8	+0.2
RATU	Laukkuluspa	0.91	326	P		Pg	17 03 55.5	-0.4
RATU				S		Sg	17 04 08.1	+0.5
RATU	Laukkuluspa	0.91	326	*e*P		Pg	17 03 55.5	-0.4
RATU				*e*S		Sg	17 04 08.1	+0.5
HARU	Harads	0.92	179	P		Pg	17 03 55.4	-0.7
HARU	Harads	0.92	179	*e*P		Pg	17 03 55.4	-0.7
SALU	Saltoluokta	0.99	289	P		Pg	17 03 57.0	-0.4
SALU	Saltoluokta	0.99	289	*e*P		Pg	17 03 57.0	-0.4
LANU	Lannavaara	1.06	22	P		Pg	17 03 57.8	-0.9
LANU	Lannavaara	1.06	22	*e*P		Pg	17 03 57.7	-1.0
LANU				*e*SB		Sb	17 04 14.8	+0.8
NIKU	Nikkaluokta	1.07	318	P		Pg	17 03 58.5	-0.6
NIKU	Nikkaluokta	1.07	318	*e*P		Pg	17 03 58.5	-0.6
KOVU	Salmi	1.19	346	P		Pg	17 04 00.3	-0.9
KOVU				S		Sg	17 04 17.0	+0.5
KOVU	Salmi	1.19	346	*e*P		Pg	17 04 00.3	-0.9
KOVU				*e*S		Sg	17 04 17.0	+0.5
KLF	Kolari	1.20	81	*e*P		Pg	17 04 00.5	-0.9
KLF				*e*SB		Sg	17 04 17.0	+0.1
KALU	Kalix	1.57	140	*e*P		Pn	17 04 06.8	-0.7
	baz=320							
KALU				*e*SN		Sg	17 04 29.7	+1.0
TOF	Tornio	1.69	125	*e*P		Pn	17 04 09.1	-0.1
TOF				MSG			17 04 29.4	
	comp=Z,32nm,0.2s							
TOF				*e*SG		Sn	17 04 31.5	0.0
HEF	Hetta	1.69	37	Pn		Pn	17 04 09.1	-0.2
HEF				Lg		Lg	17 04 31.6	
HEF	Hetta	1.69	37	Pn		Pn	17 04 09.1	-0.2
HEF				Sg		Sn	17 04 31.6	0.0
HEF	Hetta	1.69	37	*e*P		Pn	17 04 08.9	-0.4
HEF				MSG			17 04 29.2	
	comp=Z,25nm,0.2s							
HEF				*e*SG		Sn	17 04 31.7	0.0
KIF	Kilpisjarvi	1.94	359	Pn		Pb	17 04 14.1	-0.5
KIF				Sn		Sg	17 04 41.0	+0.4
KIF	Kilpisjarvi	1.94	359	Pn		Pb	17 04 14.1	-0.5
KIF				Sn		Sg	17 04 41.0	+0.4
KIF	Kilpisjarvi	1.94	359	*e*PB		Pb	17 04 14.0	-0.5
	baz=175							
KIF				MSG			17 04 37.5	
	comp=Z,55nm,0.2s							
KIF				*e*SG		Sg	17 04 41.0	+0.4
RNF	Rovaniemi	2.07	101	*e*P		Pn	17 04 15.1	+0.7
RNF				*e*SG		Sb	17 04 42.8	-0.3
KTK1	Kautokeino	2.13	23	Pn		Pn	17 04 16.5	+1.2
KTK1				Sn		Sb	17 04 45.1	+0.4
KTK1	Kautokeino	2.13	23	*e*P		Pn	17 04 16.4	+1.2
KTK1				*e*S		Sn	17 04 43.2	+0.9
KTK1				IAML			17 04 48.7	
	comp=Z,19nm,0.3s							
SGF	Sodankyl	2.21	78	*e*P		Pn	17 04 17.3	+1.0
SGF				*e*SG		Sb	17 04 47.2	+0.1
JETT	Jettan, Norway	2.50	356	Pn		Pb	17 04 22.5	-1.7
JETT				Sn		Sb	17 04 54.7	-0.7
OBF0	Syolatti, Pyha	2.93	151	*e*PG		Pb	17 04 32.8	+1.3
ARA0	ARCESS Array S	3.00	33	Pn		Pn	17 04 27.5	+0.3
	baz=208,slow=14							
ARA0				Sn		Sn	17 05 04.4	+0.6
	baz=221,slow=22							
ARA0	ARCESS Array S	3.00	33	Pn		Pn	17 04 27.5	+0.3
	baz=208,slow=14							
ARA0				Sn		Sn	17 05 04.4	+0.6
	baz=221,slow=22							
ARA0	ARCESS Array S	3.00	33	*e*P		Pn	17 04 27.5	+0.3
	baz=218							
ARA0				*e*			17 04 57.9	
ARCES	ARC

CO05				IAML			17 07 00.2	
	comp=E,710nm,0.5s							
CO05	**La Serena**	**1.52**	**73**		**Pn**		**17 06 38.9**	**-0.2**
CO05				Sn	**Sn**		**17 06 57.6**	**-1.8**
CO05	**La Serena**	**1.52**	**73**	*eP*	**Pn**		**17 06 38.5**	**-0.6**
CO05				*i* S	**Sn**		**17 06 57.6**	**-1.8**
CO05				IAML			17 07 00.2	
	comp=E,710nm,0.5s							
GO04	**Tololo Observa**	**1.84**	**84**	⇑*iP*	**Pn**		**17 06 44.1**	**+0.4**
GO04	**Tololo Observa**	**1.84**	**84**		**Pn**		**17 06 44.2**	**+0.4**
GO04	**Tololo Observa**	**1.84**	**84**	⇑*iP*	**Pn**		**17 06 44.1**	**+0.4**
CO03	**El Pedregal**	**1.97**	**104**	*eP*	**Pn**		**17 06 46.0**	**+0.7**
CO03				*i* S	**Sn**		**17 07 08.9**	**-1.7**
CO03				IAML			17 07 10.9	
	comp=N,428nm,0.4s							
CO03	**El Pedregal**	**1.97**	**104**		**Pn**		**17 06 45.9**	**+0.7**
CO03				Sn	**Sn**		**17 07 09.8**	**-0.8**
CO03	**El Pedregal**	**1.97**	**104**	*eP*	**Pn**		**17 06 46.0**	**+0.7**
CO03				*i* S	**Sn**		**17 07 08.9**	**-1.7**
CO03				IAML			17 07 10.9	
	comp=N,428nm,0.4s							
LCO	**Las Campanas**	**2.36**	**55**	⇑*iP*	**Pn**		**17 06 51.4**	**+0.5**
LCO				*i* S	**Sn**		**17 07 19.3**	**-1.3**
LCO	**Las Campanas**	**2.36**	**55**		**Pn**		**17 06 51.3**	**+0.5**
LCO	**Las Campanas**	**2.36**	**55**	⇑*iP*	**Pn**		**17 06 51.4**	**+0.5**
LCO				*i* S	**Sn**		**17 07 19.3**	**-1.3**
VA06	**Catapilco**	**2.57**	**148**	*eP*	**Pn**		**17 06 53.8**	**+0.3**
VA06				*i* S	**Sn**		**17 07 21.9**	**-3.4**
VA06				IAML			17 07 27.0	
	comp=E,619nm,0.3s							
VA06	**Catapilco**	**2.57**	**148**	*eP*	**Pn**		**17 06 53.8**	**+0.3**
VA06				*i* S	**Sn**		**17 07 21.9**	**-3.4**
VA06				IAML			17 07 27.0	
	comp=E,619nm,0.3s							
AC04	**Llanos de Chal**	**2.70**	**37**	⇓*iP*	**Pn**		**17 06 54.6**	**-0.8**
AC04				*i* S	**Sn**		**17 07 25.6**	**-2.9**
AC04				IAML			17 07 30.0	
	comp=N,174nm,0.3s							
AC04	**Llanos de Chal**	**2.70**	**37**	Pn	**Pn**		**17 06 54.5**	**-0.8**
AC04	**Llanos de Chal**	**2.70**	**37**	⇓*iP*	**Pn**		**17 06 54.6**	**-0.8**
AC04				*i* S	**Sn**		**17 07 25.6**	**-2.9**
AC04				IAML			17 07 30.0	
	comp=N,174nm,0.3s							
VA01	**Torpederas**	**2.84**	**158**	*eP*	**Pn**		**17 06 57.6**	**+0.4**
VA01	**Torpederas**	**2.84**	**158**		**Pn**		**17 06 56.8**	**-0.4**
VA01	**Torpederas**	**2.84**	**158**	*eP*	**Pn**		**17 06 57.6**	**+0.4**
VA03	**San Esteban**	**3.11**	**140**	⇑*iP*	**Pn**		**17 07 02.3**	**+1.3**
VA03				*i* S	**Sn**		**17 07 37.5**	**-1.4**
VA03				IAML			17 07 39.8	
	comp=E,297nm,0.4s							
VA03	**San Esteban**	**3.11**	**140**		**Pn**		**17 07 02.1**	**+1.1**
VA03	**San Esteban**	**3.11**	**140**	⇑*iP*	**Pn**		**17 07 02.3**	**+1.3**
VA03				*i* S	**Sn**		**17 07 37.5**	**-1.4**
VA03				IAML			17 07 39.8	
	comp=E,297nm,0.4s							
VA05	**Santo Domingo**	**3.44**	**162**		**Pn**		**17 07 05.2**	**-0.2**
MT05	**Renca**	**3.52**	**149**	Pn	**Pn**		**17 07 07.2**	**+0.5**
GO03	**Copiap**	**3.64**	**41**		**Pn**		**17 07 07.7**	**-0.6**
MT01	**Popeta**	**3.74**	**158**		**Pn**		**17 07 09.9**	**+0.3**
MT09	**Talagante**	**3.75**	**155**	*eP*	**Pn**		**17 07 10.9**	**+1.0**
MT09	**Talagante**	**3.75**	**155**		**Pn**		**17 07 11.1**	**+1.2**
MT09	**Talagante**	**3.75**	**155**	*eP*	**Pn**		**17 07 10.9**	**+1.0**
AC06	**Mina Casimiro**	**3.76**	**37**	*eP*	**Pn**		**17 07 11.1**	**+1.2**
AC06				*i* S	**Sn**		**17 07 53.2**	**-1.6**
AC06	**Mina Casimiro**	**3.76**	**37**		**Pn**		**17 07 08.7**	**-1.2**
AC06	**Mina Casimiro**	**3.76**	**37**	*eP*	**Pn**		**17 07 11.1**	**+1.2**
AC06				*i* S	**Sn**		**17 07 53.2**	**-1.6**
ZON	**Zonda**	**3.82**	**109**		**Pn**		**17 07 12.7**	**+1.9**
LMEL	**Las Melosas**	**4.15**	**147**	⇑*iP*	**Pn**		**17 07 16.8**	**+1.4**
LMEL				*i* S	**Sn**		**17 08 02.6**	**-1.9**
LMEL	**Las Melosas**	**4.15**	**147**	⇑*iP*	**Pn**		**17 07 16.8**	**+1.4**
LMEL				*i* S	**Sn**		**17 08 02.6**	**-1.9**
LMEL				IAML			17 08 05.2	
	comp=N,110nm,0.2s							
BO03	**Pichilemu**	**4.18**	**169**	*eP*	**Pn**		**17 07 15.2**	**-0.4**
BO03				*i* S	Sn		17 07 58.1	-6.8
BO03	**Pichilemu**	**4.18**	**169**	*eP*	**Pn**		**17 07 15.2**	**-0.4**
BO03				*i* S	Sn		17 07 58.1	-6.8
BO01	**Tunca**	**4.28**	**159**	⇓*iP*	**Pn**		**17 07 17.9**	**+0.9**
BO01				*e*			17 08 07.1	
BO01	**Tunca**	**4.28**	**159**	Pn	**Pn**		**17 07 17.2**	**+0.1**
BO01	**Tunca**	**4.28**	**159**	⇓*iP*	**Pn**		**17 07 17.9**	**+0.9**
BO01				*e*			17 08 07.1	
GO05	**Huala**	**4.69**	**170**		**Pn**		**17 07 22.2**	**-0.4**
BO02	**Sierra Bellavi**	**4.75**	**158**	*eP*	**Pn**		**17 07 24.5**	**+1.0**
BO02	**Sierra Bellavi**	**4.75**	**158**		**Pn**		**17 07 24.3**	**+0.8**
BO02	**Sierra Bellavi**	**4.75**	**158**	*eP*	**Pn**		**17 07 24.5**	**+1.0**
AC02	**Maricunga**	**4.86**	**44**		**Pn**		**17 07 24.5**	**-0.9**
AC02					**Sn**		**17 08 20.3**	**-2.1**
H03N1	**Juan Fernandez** baz=54	**5.94**	**238**	T	T		17 13 48.7	
H03N2	**Juan Fernandez** baz=54	**5.95**	**238**	T	T		17 13 46.6	
H03N3	**Juan Fernandez** baz=54	**5.96**	**238**	T	T		17 13 45.5	
VA04	**Juan Fernndez**	**5.98**	**236**	Pn	**Pn**		**17 07 37.4**	**-2.9**
PB10	**IPOC Station P**	**7.16**	**18**	Pn	**Pn**		**17 07 54.7**	**-2.0**
LVC	**Limon Verde**	**8.53**	**26**	Pn	**Pn**		**17 08 14.8**	**-1.0**
LC01	**Cunco**	**8.53**	**175**	Pn	**Pn**		**17 08 15.9**	**+0.4**
PB07	**IPOC Station P**	**9.04**	**18**	Pn	Pn		17 08 19.0	-3.6
PB09	**IPOC Station P**	**9.17**	**22**	Pn	Pn		17 08 21.6	-2.8
PB01	**IPOC Station P**	**9.80**	**19**	Pn	Pn		17 08 29.7	-3.3
TA01	**Diego Aracena**	**10.08**	**15**	Pn	Pn		17 08 32.8	-3.9
PLCA	**Paso Flores** comp=N,0.2nm,0.3s,baz=350,slow=13,SNR=7.3	**10.50**	**170**	Pn	**Pn**		**17 08 43.3**	**+0.8**
PLCA	**Paso Flores**	**10.50**	**170**	Pn	**Pn**		**17 08 42.8**	**+0.3**
TRQA	**Tornquist**	**11.84**	**133**	Pn	**Pn**		**17 09 02.6**	**+1.8**
LPAZ	**La Paz** comp=N,0.1nm,0.3s,baz=190,slow=11,SNR=4.4	**14.70**	**18**	Pn	**Pn**		**17 09 42.6**	**+2.2**
SIV	**San Ignacio** comp=N,0.1nm,0.3s,baz=223,slow=14,SNR=6.4	**17.97**	**40**	P	**P**		**17 10 23.7**	**+1.7**
SIV				LR	LR		17 16 60.0	
	comp=N,83nm,20.0s,baz=116,slow=36							
SNAA	**Sanae**	**55.21**	**159**	P	**P**		**17 15 45.4**	**+0.7**
SNAA				IAmb	IAmb		17 15 55.5	
	comp=Z,3.0nm,1.2s							
QSPA	**South Pole Qui**	**59.84**	**180**	P	**P**		**17 16 15.9**	**-1.7**
QSPA				IAmb	IAmb		17 16 19.5	
	comp=Z,3.8nm,1.4s							
MAW	**Mawson** comp=Z,1.1nm,0.9s,baz=259,slow=5.2,SNR=2.2	**76.85**	**164**	P	**P**		**17 18 05.3**	**+1.5**
MAW	**Mawson**	**76.85**	**164**	P	**P**		**17 18 02.0**	**-1.9**
NVAR	**Mina Array Bea** comp=Z,0.7nm,0.7s,baz=159,slow=5.4,SNR=5.5	**80.50**	**325**	P	**P**		**17 18 25.6**	**+1.0**
TORD	**Torodi Ar. Bea** comp=Z,0.6nm,0.7s,baz=243,slow=3.3,SNR=5.4	**83.70**	**71**	P	**P**		**17 18 43.3**	**+1.7**
TORD	**Torodi Ar. Bea** comp=Z,2.2nm,1.4s	**83.70**	**71**	IAmb	IAmb		17 18 43.6	
ZALV	**Zalesovo Beam** comp=Z,2.4nm,0.5s,baz=309,slow=3.2,SNR=14	**151.48**	**28**	PKPbc	**PKPbc**		**17 26 07.7**	**+1.8**
ZALV	**Zalesovo Beam**	**151.48**	**28**		**PKPbc**		**17 26 05.9**	**0.0**

*IDC **23** 17:26:46.6±3.4,23˚.56S×179˚.94W,h512km,30km, mb3.6/10,mb1 3.7/11,mb1mx3.4/37,mbtmp4.5/11,Error ellipse: s-maj=36.8km s-min=25.9km az=128.0*
*NEIC **23** 17:26:47.5±2.0,23˚.6S±0˚.1×179˚.9W±0˚.2,h522km±11km, mb4.5/22,Error ellipse: s-maj=27.0km s-min=18.1km az=69.0*

ISC 23 17:26:48.4±1.0,**23˚.68S**±0˚.09×**180˚.0E**±0˚.2,**h535**km,**n40, σ0§92/42,mb4.4/20,1C,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URZ	**Urewera**	**14.73**	**189**	P		**P**	**17 29 55.1**	**-0.1**
	0.5nm,0.3s,baz=275,slow=3.3,SNR=7.9							
URZ				S		**S**	**17 32 27.2**	**-2.0**
	0.8nm,0.3s,baz=201,slow=4.9,SNR=3.5							
QRZ	**Quartz Range**	**18.20**	**198**	P		**P**	**17 30 29.8**	**+1.1**
NNZ	**Nelson**	**18.34**	**196**	P		**P**	**17 30 29.5**	**-0.4**
THZ	**Tophouse**	**18.97**	**196**	P		**P**	**17 30 36.5**	**+0.8**
THZ				IAmb		IAmb	17 30 44.1	
	comp=Z,33nm,1.2s							
LTZ	**Lake Taylor**	**20.09**	**197**	P		**P**	**17 30 44.6**	**-1.3**
LTZ				IAmb		IAmb	17 31 13.3	
	comp=Z,23nm,1.2s							
FOZ	**Fox Glacier**	**21.50**	**201**	P		**P**	**17 30 59.8**	**+1.3**
EIDS	**Eidsvold**	**26.33**	**260**	P		**P**	**17 31 42.7**	**+0.9**
EIDS				IAmb		IAmb	17 32 01.6	
	comp=Z,14nm,1.2s							
CTA	**Charters Tower**	**31.46**	**270**	P		**P**	**17 32 27.2**	**+0.7**
	comp=Z,13nm,0.4s,baz=95,slow=10,SNR=33							
CTAO	**Charters Tower**	**31.46**	**270**	P		**P**	**17 32 27.0**	**+0.6**
TOO	**Toolangi**	**32.55**	**237**	P		**P**	**17 32 36.8**	**+1.2**
TOO				IAmb		IAmb	17 32 59.9	
	comp=Z,25nm,1.5s							
STKA	**Stephens Creek**	**34.79**	**248**	P		**P**	**17 32 55.1**	**+0.7**
	comp=Z,1.8nm,0.5s,baz=81,slow=9.7,SNR=7.3							
STKA	**Stephens Creek**	**34.79**	**248**	IAmb		IAmb	17 33 02.1	
	comp=Z,1.1nm,1.1s							
COEN	**Coen**	**36.07**	**279**	P		**P**	**17 33 05.0**	**-0.2**
COEN				IAmb		IAmb	17 33 13.4	
	comp=Z,20nm,1.2s							
BBOO	**Buckleboo**	**39.52**	**247**	P		**P**	**17 33 32.6**	**-0.6**
BBOO				IAmb		IAmb	17 33 53.3	
	comp=Z,31nm,1.4s							
AS31	**Alice Springs**	**42.06**	**260**	P		**P**	**17 33 53.4**	**-0.2**
ASAR	**Alice Springs**	**42.06**	**260**	P		**P**	**17 33 53.5**	**0.0**
	comp=Z,6.4nm,0.7s,baz=94,slow=8.0,SNR=49							
ASAR				ScP		**ScP**	**17 38 37.8**	**+2.1**
	comp=Z,1.5nm,0.9s,baz=112,slow=4.6,SNR=7.5							
ASAR	**Alice Springs**	**42.06**	**260**	P		**P**	**17 33 52.7**	**-0.8**
WR0	**Warramunga Arr**	**42.22**	**266**	P		**P**	**17 33 53.8**	**-1.0**
WR0				IAmb		IAmb	17 33 54.9	
	comp=Z,4.5nm,0.8s							
WB2	**Warramunga Arr**	**42.40**	**266**	P		**P**	**17 33 55.6**	**-0.6**
WB2				IAmb		IAmb	17 33 56.3	
	comp=Z,9.6nm,0.7s							
WRA	**Warramunga Arr**	**42.41**	**266**	P		**P**	**17 33 55.9**	**-0.5**
	comp=Z,7.7nm,0.5s,baz=103,slow=8.1,SNR=39							
WRA	**Warramunga Arr**	**42.41**	**266**	P		**P**	**17 33 55.0**	**-1.3**
JAY	**Jayapura**	**43.42**	**293**	P		**P**	**17 34 04.3**	**0.0**
	comp=Z,18nm,0.8s,baz=201,slow=5.0,SNR=6.4							
FORT	**Forrest**	**46.37**	**249**	P		**P**	**17 34 26.5**	**-0.2**
FORT				IAmb		IAmb	17 34 26.9	
	comp=Z,22nm,0.7s							
MTN	**Manton Dam**	**47.42**	**274**	P		**P**	**17 34 34.1**	**-0.8**
MTN				IAmb		IAmb	17 34 34.4	
	comp=Z,5.7nm,0.7s							
KNRA	**Kununurra**	**48.67**	**270**	P		**P**	**17 34 44.0**	**-0.2**
KNRA				IAmb		IAmb	17 34 44.9	
	comp=Z,11nm,0.9s							
FITZ	**Fitzroy Crossi**	**50.83**	**265**	P		**P**	**17 35 00.2**	**+0.2**
	comp=Z,5.4nm,0.8s,baz=99,slow=7.5,SNR=6.1							
SIJI	**Sorong**	**52.35**	**288**	P		**P**	**17 35 09.8**	**-1.3**
	comp=Z,16nm,0.6s,baz=132,slow=7.1,SNR=4.1							
MORW	**Morawa**	**56.94**	**250**	P		**P**	**17 35 42.6**	**-0.4**
GIRL	**Giralia**	**59.95**	**257**	P		**P**	**17 36 03.8**	**+0.4**
TOLI2	**Tolitoli**	**62.51**	**285**	P		**P**	**17 36 19.5**	**-0.8**
TOLI2				IAmb		IAmb	17 36 21.5	
	comp=Z,6.5nm,0.7s							
QSPA	**South Pole Qui**	**66.40**	**180**	P		**P**	**17 36 45.1**	**+0.9**
KSRS	**Korea Array**	**78.07**	**320**	P		**P**	**17 37 52.9**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=148,slow=7.2,SNR=3.0							
PETK	**Petropavlovsk-**	**78.89**	**347**	P		**P**	**17 37 55.2**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=124,slow=5.9,SNR=5.7							
PETK	**Petropavlovsk-**	**78.89**	**347**	P		**P**	**17 37 54.7**	**-1.3**
CMAR	**Chiang Mai Arr**	**89.44**	**290**	P		**P**	**17 38 49.9**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=127,slow=2.2,SNR=7.7							
AKASG	**Malin Array Be**	**144.78**	**327**	PKP		**PKPdf**	**17 45 23.4**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=44,slow=3.9,SNR=9.1							
AKBB	**Malin Array Si**	**144.78**	**327**			**PKPdf**	**17 45 23.3**	**-0.8**
BRTR	**Keskin Array B**	**147.44**	**307**	PKPbc		**PKPbc**	**17 45 32.1**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=104,slow=3.0,SNR=4.3							
BRTR				PKPab		**PKPab**	**17 45 36.5**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=95,slow=3.7,SNR=8.2							
BRTR	**Keskin Array B**	**147.44**	**307**			**PKPdf**	**17 45 30.2**	**+1.0**
CLL	**Collm**	**150.65**	**343**	⇑*i* PKPbc		**PKPbc**	**17 45 39.6**	**-0.2**
	comp=Z,4.0nm,0.9s							

*IDC **23** 17:30:36.5±2.8,31˚.46S×71˚.59W,h0km,mb4.0/1, mb1 3.8/2,mb1mx3.5/21,mbtmp3.7/2,ML3.9/1,Error ellipse: s-maj=127.4km s-min=45.2km az=97.0*
*NEIC **23** 17:30:37.8±1.5,31˚.47S±0˚.04×72˚.1W±0˚.2,h21km±8km, mb4.2/1,ML4.0(GUC),Error ellipse: s-maj=20.8km s-min=5.1km az=94.0*
*GUC **23** 17:30:39.5±0.6,31˚.53S×71˚.82W,h30km±5km,ML4.0*

ISC 23 17:30:35.1±1.8,**31˚.49S**±0˚.03×**71˚.99W**±0˚.09,**h3**km±12km, **n42,σ1§09/41,1D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**0.86**	**21**	⇓*iP*		**Pn**	**17 30 54.9**	**+0.6**
CO06				*eS*		**Sn**	**17 31 07.4**	**0.0**
CO06	**Fray Jorge**	**0.86**	**21**			**Pn**	**17 30 54.7**	**+0.5**
VA06	**Catapilco**	**1.23**	**151**	*eP*		**Pn**	**17 30 59.4**	**+0.2**
VA06				*eS*		**Sg**	**17 31 13.8**	**-0.7**
VA06				IAML			17 31 18.0	
	comp=N,7μm,0.4s							
CO03	**El Pedregal**	**1.29**	**60**	*eP*		**Pg**	**17 31 00.5**	**+0.6**
CO03				*eS*		**Sg**	**17 31 16.1**	**-0.5**
CO03	**El Pedregal**	**1.29**	**60**	Pn		**Pg**	**17 31 00.5**	**+0.6**
VA01	**Torpederas**	**1.56**	**169**			**Pb**	**17 31 04.7**	**0.0**
GO04	**Tololo Observa**	**1.66**	**38**	*eP*		**Pg**	**17 31 07.2**	**+0.1**
GO04				*eS*		**Sg**	**17 31 28.3**	**-0.3**
GO04	**Tololo Observa**	**1.66**	**38**	Pn		**Pg**	**17 31 07.1**	**+0.1**
CO05	**La Serena**	**1.69**	**23**	*eP*		**Pg**	**17 31 08.3**	**+0.7**
CO05	**La Serena**	**1.69**	**23**			**Pb**	**17 31 07.0**	**+0.1**
ROCH	**El Roble**	**1.70**	**151**	*eP*		**Pb**	**17 31 06.9**	**-0.3**
ROCH				*eS*		**Sn**	**17 31 27.9**	**-0.4**
ROCH				IAML			17 31 33.9	
	comp=N,2μm,0.4s							
VA03	**San Esteban**	**1.77**	**137**	*eP*		**Pb**	**17 31 07.9**	**-0.3**
VA03				IAML			17 31 33.0	
	comp=E,4μm,0.4s							
VA03	**San Esteban**	**1.77**	**137**			**Pn**	**17 31 07.4**	**+0.6**
MT05	**Renca**	**2.18**	**151**	*eP*		**Pb**	**17 31 14.1**	**-1.1**
MT05				IAML			17 31 46.2	
	comp=E,3μm,0.3s							
MT05	**Renca**	**2.18**	**151**			**Pn**	**17 31 13.8**	**+1.5**
VA05	**Santo Domingo**	**2.19**	**172**	*eP*		**Pn**	**17 31 13.1**	**+0.7**
VA05				IAML			17 31 51.9	
	comp=E,1μm,0.2s							
VA05	**Santo Domingo**	**2.19**	**172**			**Pn**	**17 31 12.4**	**0.0**
MT09	**Talagante**	**2.44**	**160**	*eP*		**Pn**	**17 31 17.9**	**+1.9**
MT09				IAML			17 31 60.0	
	comp=N,756nm,0.2s							
MT09	**Talagante**	**2.44**	**160**			**Pn**	**17 31 17.2**	**+1.2**
MT01	**Popeta**	**2.45**	**165**	*eP*		**Pn**	**17 31 17.3**	**+1.2**
MT01				IAML			17 31 58.0	
	comp=E,481nm,0.3s							
MT01	**Popeta**	**2.45**	**165**			**Pn**	**17 31 17.2**	**+1.2**
LCO	**Las Campanas**	**2.71**	**25**	*eP*		**Pn**	**17 31 21.1**	**+1.3**
LMEL	**Las Melosas**	**2.80**	**148**	*eP*		**Pn**	**17 31 23.2**	**+2.2**
LMEL				IAML			17 32 06.9	
	comp=N,761nm,0.3s							
ZON	**Zonda**	**2.83**	**92**	Pn		**Pb**	**17 31 24.8**	**-1.6**
BO01	**Tunca**	**3.00**	**165**	Pn		**Pn**	**17 31 24.6**	**+1.1**
AC04	**Llanos de Chal**	**3.37**	**14**	Pn		**Pn**	**17 31 25.6**	**-3.0**
BO02	**Sierra Bellavi**	**3.45**	**163**			**Pn**	**17 31 30.6**	**+0.7**
GO05	**Huala**	**3.52**	**179**	Pn		**Pn**	**17 31 30.4**	**-0.4**
GO03	**Copiap**	**4.17**	**22**	Pn		**Pn**	**17 31 41.3**	**+1.6**
AC06	**Mina Casimiro**	**4.36**	**20**	Pn		**Pn**	**17 31 42.5**	**+0.3**
AC02	**Maricunga**	**5.27**	**29**	Pn		**Pn**	**17 31 55.6**	**+0.4**
H03N1	**Juan Fernandez** baz=78,slow=72,SNR=856	**6.16**	**250**	T		T	17 38 47.2	
H03N3	**Juan Fernandez** baz=78,slow=72,SNR=709	**6.18**	**250**	T		T	17 38 46.6	
H03N2	**Juan Fernandez** baz=78,slow=72,SNR=734	**6.18**	**250**	T		T	17 38 47.9	
PLCA	**Paso Flores** comp=N,0.3nm,0.3s,baz=337,slow=14,SNR=8.9	**9.30**	**173**	Pn		**Pn**	**17 32 51.8**	**+1.6**
PLCA	**Paso Flores**	**9.30**	**173**	Pn		**Pn**	**17 32 50.7**	**+0.5**
SNAA	**Sanae**	**53.90**	**159**	P		**P**	**17 39 58.3**	**-1.1**
SNAA				IAmb		IAmb	17 40 25.3	
	comp=Z,3.8nm,1.4s							
TORD	**Torodi Ar. Bea** comp=Z,1.0nm,0.6s,baz=237,slow=5.0,SNR=5.3	**83.32**	**70**	P		**P**	**17 43 04.0**	**+0.2**
H11S2	**WAKE ISLAND Hyl** baz=116,slow=75,SNR=9.9	**25.81**	**271**	T		T	20 08 28.1	
H11S1	**WAKE ISLAND Hyl** baz=116,slow=75,SNR=8.0	**25.82**	**271**	T		T	20 08 25.8	
H11S3	**WAKE ISLAND Hyl** baz=116,slow=75,SNR=7.6	**25.82**	**271**	T		T	20 08 28.3	
ZALV	**Zalesovo Beam** comp=Z,1.0nm,0.4s,baz=302,slow=3.3,SNR=6.9	**152.06**	**30**	PKPbc		**PKiKP**	**17 50 32.6**	**+1.0**

GUC 23 17:32:03.1±0.5,**21˚.44S**×**66˚.93W,h251**km±11km,**ML3.3, 2D,Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LVC	**Limon Verde**	**2.18**	**237**	*eP*		Pn	17 32 47.5	-0.2
LVC	**Limon Verde**	**2.18**	**237**	Pn		Pn	17 32 47.8	+0.1
PB09	**IPOC Station P**	**2.19**	**260**	*eP*		Pn	17 32 47.5	-0.2
PB09	**IPOC Station P**	**2.19**	**260**	*eP*		Pn	17 32 47.5	-0.1
PB09				IAML			17 33 25.5	
	comp=N,25nm,0.1s							
PB09	**IPOC Station P**	**2.19**	**260**	*eP*		Pn	17 32 47.5	-0.1
PB09				IAML			17 33 25.5	
	comp=N,25nm,0.1s							
PB01	**IPOC Station P**	**2.42**	**279**	*eP*		Pn	17 32 48.7	-1.0
PB01				*eS*		S	17 33 24.4	-2.1
PB01				IAML			17 33 25.9	
	comp=N,60nm,0.2s							
PB01	**IPOC Station P**	**2.42**	**279**	*eP*		Pn	17 32 48.7	-1.0
PB01				*eS*		S	17 33 24.4	-2.1
PB01				IAML			17 33 25.9	
	comp=N,60nm,0.2s							
PB08	**IPOC Station P**	**2.45**	**301**	⇓*iP*		Pn	17 32 50.5	+0.1
PB08				IAML			17 33 28.5	
	comp=E,48nm,0.9s							
PB08	**IPOC Station P**	**2.45**	**301**	⇓*iP*		Pn	17 32 50.5	+0.1
PB08				IAML			17 33 28.5	
	comp=E,48nm,0.9s							
PB07	**IPOC Station P**	**2.77**	**264**	*eP*		Pn	17 32 53.3	-0.1
PB07				*i* S		S	17 33 30.9	-2.2
PB07				IAML			17 33 31.6	
	comp=E,71nm,0.5s							
PB07	**IPOC Station P**	**2.77**	**264**	*eP*		Pn	17 32 53.3	-0.1
PB07				*i* S		S	17 33 30.9	-2.2
PB07				IAML			17 33 31.6	
	comp=E,71nm,0.5s							
PB02	**IPOC Station P**	**2.77**	**272**	*eP*		Pn	17 32 52.9	-0.4
PB02				*i* S		S	17 33 30.6	-2.4
PB02	**IPOC Station P**	**2.77**	**272**	*eP*		Pn	17 32 52.9	-0.4
PB02				*i* S		S	17 33 30.6	-2.4
HMBC	**Humberstone**	**3.00**	**292**	*eP*		Pn	17 32 55.1	-0.8
HMBC				*i* S		S	17 33 35.1	-2.4
HMBC	**Humberstone**	**3.00**	**292**	*eP*		Pn	17 32 55.1	-0.8
HMBC				*i* S		S	17 33 35.1	-2.4
PB11	**IPOC Station P**	**3.06**	**303**	*eP*		Pn	17 32 56.0	-0.5
PB11				*i* S		S	17 33 36.2	-2.4
PB11	**IPOC Station P**	**3.06**	**303**	*eP*		Pn	17 32 56.0	-0.5
PB11				*i* S		S	17 33 36.2	-2.4
PB04	**IPOC Station P**	**3.12**	**253**	*eP*		Pn	17 32 56.7	-0.5
PB04				*i* S		S	17 33 37.5	-2.4
PB04	**IPOC Station P**	**3.12**	**253**	*eP*		Pn	17 32 56.7	-0.5
PB04				*i* S		S	17 33 37.5	-2.4
PSGC	**Pisagua**	**3.51**	**301**	*eP*		Pn	17 33 00.3	-1.1
PSGC				*i* S		S	17 33 44.5	-3.2
PSGC	**Pisagua**	**3.51**	**301**	*eP*		Pn	17 33 00.3	-1.1
PSGC				*i* S		S	17 33 44.5	-3.2

*IDC **23** 17:44:47.6±1.6,6˚.03S×103˚.56E,h0km,mb3.6/9, mb1 3.7/9,mb1mx3.6/31,mbtmp3.7/9,MS2.7/2,Ms1 2.7/2, ms1mx2.4/40,Error ellipse: s-maj=62.4km s-min=18.7km az=52.0*
*DJA **23** 17:44:49.7±0.5,6˚.5S±5˚×10˚.4E±˚,h10km,M4.1/11, MLv4.1/11*

ISC 23 17:44:53.2±0.9,**6˚.14S**±0˚.09×**103˚.55E**±0˚.07,**h38**km,**n29, σ1§32/23,mb3.6/9,Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LWLI	**Liwa**	**1.23**	**25**	P		**Pn**	**17 45 14.0**	**+0.1**
EGSI	**Enggano, Bengk**	**1.48**	**302**	P		**Pn**	**17 45 18.6**	**+1.3**
**M

ISAD	**Sadrabad**	**2.39**	**80**	*e*Pn		**Pn**	**18 01 36.5**	**+2.1**
ISAD				*e*			18 01 48.1	
	comp=Z,2µm,0.4s							
KRSH	**Karshahi**	**2.63**	**23**	*e*Pn		**Pn**	**18 01 38.4**	**+0.8**
KRSH				*e*			18 02 19.6	
	comp=Z,3µm,0.6s							
AHBU	**AHRAM**	**2.69**	**173**	*e*Pn		**Pb**	**18 01 42.0**	**-1.1**
BMDN	**Meydan**	**2.76**	**321**	*e*Pn		**Pn**	**18 01 40.6**	**+1.2**
BMDN				*e*			18 02 43.3	
	comp=Z,2µm,0.9s							
ANAR	**Anarak**	**2.89**	**55**	*e*Pn		**Pn**	**18 01 43.0**	**+1.9**
GHVR	**GHOM**	**2.95**	**6**	*e*Pn		**Pn**	**18 01 43.6**	**+1.7**
GHVR				*e*Sg		**Sb**	**18 02 25.5**	**+1.8**
GHVR	**GHOM**	**2.95**	**6**	*e*Pn		**Pn**	**18 01 43.6**	**+1.7**
ISFB	**Sefidab**	**3.01**	**21**	*e*Pn		**Pn**	**18 01 43.7**	**+0.9**
ICHK	**Chekchek**	**3.05**	**76**	*e*Pn		**Pn**	**18 01 45.0**	**+1.6**
IMEH	**Mehriz**	**3.16**	**92**	*e*		**Pg**	**18 01 57.0**	**+1.5**
	comp=Z,984nm,0.2s							
IDOB	**Doab**	**3.22**	**315**	*e*Pn		**Pn**	**18 01 45.9**	**+0.2**
YZKH	**Yazd**	**3.23**	**74**	*e*Pn		**Pn**	**18 01 48.4**	**+2.5**
YZKH	**Yazd**	**3.23**	**74**	*e*Pn		**Pn**	**18 01 48.4**	**+2.5**
IKFM	**Kafar-mosalman**	**3.26**	**308**	*e*Pn		**Pn**	**18 01 46.3**	**+0.2**
IQOM	**Qom**	**3.29**	**2**	*e*Pn		**Pn**	**18 01 47.2**	**+0.4**
HSAM	**Samen**	**3.30**	**324**	*e*Pn		**Pn**	**18 01 48.2**	**+1.3**
HAGD	**Aghdareh**	**3.59**	**336**	*e*Pn		**Pn**	**18 01 51.7**	**+0.8**
IBZA	**Bozab**	**3.89**	**319**	*e*Pn		**Pn**	**18 01 55.2**	**+0.2**
IRAZ	**Razeghan**	**3.94**	**348**	*e*Pn		**Pn**	**18 01 57.1**	**+1.5**
IDMV	**Damavand**	**4.13**	**13**	*e*Pn		**Pn**	**18 01 58.7**	**+0.4**
CHTH	**Charan**	**4.36**	**2**	*e*Pn		**Pn**	**18 02 03.7**	**+2.3**
CHTH	**Charan**	**4.36**	**2**	*e*Pn		**Pn**	**18 02 03.7**	**+2.3**
IFIR	**Firoozkooh**	**4.37**	**20**	*e*Pn		**Pn**	**18 02 03.0**	**+1.4**
QALM	**Alamut, Qazvin**	**4.88**	**357**	*e*Pn		**Pn**	**18 02 09.9**	**+1.3**
IDHR	**Dehrash**	**4.94**	**311**	*e*Pn		**Pn**	**18 02 09.1**	**-0.2**
QSDN	**Sirdan**	**5.16**	**344**	*e*Pn		**Pn**	**18 02 12.9**	**+0.5**
KRBR	**Kerman**	**5.26**	**106**	*e*Pn		**Pn**	**18 02 17.0**	**+3.1**
KRBR	**Kerman**	**5.26**	**106**	*e*Pn		**Pn**	**18 02 17.0**	**+3.1**
NGRK	**Negar Kerman**	**5.36**	**109**	*e*Pn		**Pn**	**18 02 18.6**	**+3.3**
ZNJK	**Zanjan**	**5.44**	**341**	*e*Pn		**Pn**	**18 02 19.3**	**+3.0**
ZNJK	**Zanjan**	**5.44**	**341**	*e*Pn		**Pn**	**18 02 19.3**	**+3.0**
IGLO	**Ghaloghah**	**5.51**	**25**	*e*Pn		**Pn**	**18 02 19.7**	**+2.5**
TABS	**Tabas**	**5.64**	**66**	*e*Pn		**Pn**	**18 02 21.4**	**+2.5**
TABS	**Tabas**	**5.64**	**66**	*e*Pn		**Pn**	**18 02 21.4**	**+2.5**
SHMA	**Al-Shehemyia**	**5.67**	**180**	S		**Sn**	**18 03 26.4**	**+2.1**
CHMN	**Cheshme madani**	**5.94**	**105**	*e*Pn		**Pn**	**18 02 26.0**	**+2.7**
SHRO	**Shahrood**	**6.13**	**42**	*e*Pn		**Pn**	**18 02 28.0**	**+2.3**
SHRO	**Shahrood**	**6.13**	**42**	*e*Pn		**Pn**	**18 02 28.0**	**+2.3**
BSRN	**Basiran**	**7.00**	**84**	*e*Pn		**Pn**	**18 02 40.5**	**+2.8**
BSRN	**Basiran**	**7.00**	**84**	*e*Pn		**Pn**	**18 02 40.5**	**+2.8**
SHME	**Shamm**	**7.14**	**139**	P		**Pn**	**18 02 39.5**	**+0.1**
SHME				S		**Sn**	**18 03 56.9**	**-3.7**
BANOM	**Banah**	**7.33**	**139**	*i* P		**Pn**	**18 02 42.2**	**+0.2**
	SNR=24							
BANOM				S		**Sn**	**18 04 02.1**	**-3.1**
MRVT	**Maraveh tapeh**	**7.44**	**34**	*e*Pn		**Pn**	**18 02 45.9**	**+2.3**
MRVT	**Maraveh tapeh**	**7.44**	**34**	*e*Pn		**Pn**	**18 02 45.9**	**+2.3**
MSFE	**Esma-Masafi**	**7.70**	**142**	*i* P		**Pn**	**18 02 47.4**	**+0.3**
	SNR=9.8							
MDH	**Madha**	**7.82**	**141**	*i* P		**Pn**	**18 02 48.9**	**+0.2**
	SNR=8.9							
MDH	**Madha**	**7.82**	**141**	P		**Pn**	**18 02 49.0**	**+0.2**
	SNR=8.8							
ASUD	**Al Ashush, Dub**	**7.91**	**149**	*i* P		**Pn**	**18 02 52.2**	**+2.1**
	SNR=8.2							
ASUD	**Al Ashush, Dub**	**7.91**	**149**	P		**Pn**	**18 02 52.3**	**+2.2**
	SNR=8.2							
ASUD				S		**Sn**	**18 04 17.2**	**-2.5**
FAQ	**Al Faqa, Dubai**	**7.93**	**148**	P		**Pn**	**18 02 50.9**	**+0.6**
UOSS	**Minazif**	**8.06**	**143**	P		**Pn**	**18 02 51.7**	**-0.3**
HATD	**Hatta, Dubai**	**8.12**	**144**	P		**Pn**	**18 02 53.8**	**+0.9**
ASHO	**Ashiyiah**	**8.20**	**145**	*i* P		**Pn**	**18 02 54.3**	**+0.3**
	SNR=14							
ASHO	**Ashiyiah**	**8.20**	**145**	S		**Sn**	**18 04 25.3**	**-1.5**
GEYT	**Alibeck**	**8.70**	**41**	LR		LR	18 05 52.1	
	comp=Z,23nm,20.9s,baz=275,slow=34							
SOHO	**SOHO**	**8.90**	**145**	P		**Pn**	**18 03 02.6**	**-0.9**
GNI	**Garni**	**9.94**	**331**	LR		LR	18 07 04.0	
	comp=Z,14nm,19.0s,baz=180,slow=38							
WSAR	**Wadi Sarin**	**10.74**	**139**	P		**Pn**	**18 03 28.6**	**-0.2**
	comp=Z,1.4nm,0.3s,baz=341,slow=14,SNR=20							
WSAR				Sn		**Sn**	**18 05 26.8**	**-2.3**
	comp=Z,0.6nm,0.3s,baz=152,slow=20,SNR=2.9							
ASF	**Jabal al Asfar**	**11.94**	**277**	Pn		**Pn**	**18 03 44.1**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=284,slow=11,SNR=11							
ASF				Sn		**Sn**	**18 05 59.0**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=90,slow=5.1,SNR=1.8							
MMAI	**Mount Meron Ar**	**13.21**	**280**	Pn		**Pn**	**18 04 02.5**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=91,slow=13,SNR=1.8							
BRTR	**Keskin Array B**	**16.23**	**305**	P		**P**	**18 04 45.7**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=130,slow=13,SNR=13							
BELG	**Belogornoye**	**20.97**	**354**	P		**P**	**18 05 38.2**	**+0.2**
	comp=Z,7.0nm,0.7s,baz=188,slow=10,SNR=4.0							
IDI	**Anoyia**	**22.02**	**287**	P		**P**	**18 05 48.8**	**-0.8**
	comp=Z,5.5nm,0.8s,baz=250,slow=11,SNR=6.2							
MLR	**Muntele Rosu**	**23.87**	**313**	P		**P**	**18 06 09.2**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=141,slow=14							
AKASG	**Malin Array Be**	**25.01**	**326**	P		**P**	**18 06 17.8**	**-1.0**
	comp=Z,2.2nm,0.6s,baz=130,slow=9.0,SNR=13							
BVAR	**Borovoye Array**	**25.69**	**28**	P		**P**	**18 06 25.2**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=224,slow=14,SNR=4.1							
KURBB	**Kurchatov Arra**	**27.97**	**39**	P		**P**	**18 06 46.1**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=241,slow=9.3,SNR=4.4							
MKAR	**Makanchi Array**	**28.46**	**49**	P		**P**	**18 06 51.1**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=210,slow=8.6,SNR=3.9							
ZALV	**Zalesovo Beam**	**32.99**	**37**	P		**P**	**18 07 30.2**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=210,slow=8.6,SNR=2.2							
FINES	**FINESS Array B**	**34.02**	**339**	P		**P**	**18 07 37.9**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=140,slow=9.2,SNR=6.9							
NB2	**NORSAR Subarra**	**39.24**	**331**	P		**P**	**18 08 20.6**	**-2.7**
	comp=Z,0.5nm,0.5s,baz=123,slow=8.6							
NOA	**NORSAR Array B**	**39.24**	**331**	P		**P**	**18 08 21.2**	**-2.1**
	comp=Z,0.8nm,0.6s,baz=122,slow=8.3,SNR=5.9							
ARCES	**ARCESS Array B**	**40.66**	**347**	P		**P**	**18 08 34.5**	**-0.5**
	comp=Z,2.1nm,0.9s,baz=138,slow=11,SNR=2.0							
CMAR	**Chiang Mai Arr**	**45.10**	**95**	P		**P**	**18 09 12.0**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=290,slow=8.2,SNR=6.0							
TORD	**Torodi Ar. Bea**	**48.63**	**259**	P		**P**	**18 09 38.8**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=49,slow=8.9,SNR=6.6							

INET 23 18:05:16.0,12.98N×86.58W,h17km,MW3.7,Nicaragua

*KRNET **23** 18:28:05.9±0.1,41.67N×79.50E,mb3.2*
*SOME **23** 18:28:06.1,41.50N×79.07E,h5km*
*NNC **23** 18:28:07.0±0.7,41.47N×79.04E,h0km,mb3.9,mpv3.7,*
Error ellipse: s-maj=5.0km s-min=2.8km az=162.0
ISC 23 18:28:10.0±1.6,41.56N±0.07×79.12E±0.04,h10km,n66,
σ1$89/102,27C-16D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PRZ	**Przheval'sk**	**1.06**	**330**	⇓*i*	P	**Pb**	**18 28 27.5**	**-3.2**
	baz=16							
PRZ				⇓*i*	S	**Sg**	**18 28 43.4**	**-1.0**
	baz=16							
SATY	**Saty**	**1.59**	**341**	*e*	P	**Pn**	**18 28 37.8**	**-0.5**
	11nm,0.1s							
SATY				*e*	S	**Sb**	**18 29 00.6**	**+0.9**
	164nm,0.1s							
SATY	**Saty**	**1.59**	**341**	P		**Pn**	**18 28 37.8**	**-0.5**
	11nm,0.1s							
SATY				S		**Sb**	**18 29 00.6**	**+0.9**
	164nm,0.1s							
SHLS	**Shalkode**	**1.61**	**9**	*e*	P	**Pg**	**18 28 39.9**	**-1.1**
	116nm,0.2s							
SHLS				*e*	S	**Sg**	**18 29 04.3**	**+2.3**
	259nm,0.5s							
SHLS	**Shalkode**	**1.61**	**9**	P		**Pg**	**18 28 39.9**	**-1.1**
	116nm,0.2s							
SHLS				S		**Sg**	**18 29 04.3**	**+2.3**
	259nm,0.5s							
ANVS	**Anan'yevo**	**1.63**	**319**	⇑*i*	P	**Pn**	**18 28 38.2**	**-0.7**
	baz=10.0							
ANVS				⇑*i*	S	**Sb**	**18 29 01.5**	**+0.6**
	baz=10.0							
PDGK	**Podgornoye**	**1.79**	**9**	P		**Pb**	**18 28 41.1**	**-1.8**
	10nm,0.1s							
PDGK				S		**Sg**	**18 29 06.4**	**-1.1**
	47nm,0.5s							
PDGK	**Podgornoye**	**1.79**	**9**	⇓Pg		**Pn**	**18 28 40.8**	**-0.3**
	23nm,0.5s							
PDGK				⇑Lg		Lg	18 29 06.4	
	142nm,0.8s							
KPKS	**Kokpek**	**1.93**	**351**	*e*P		**Pb**	**18 28 44.3**	**-1.0**
	47nm,0.2s							
KPKS				*e*S		**Sg**	**18 29 11.3**	**-0.7**
	410nm,0.2s							
KURS	**Kuram**	**2.05**	**340**	*e*P		**Pb**	**18 28 46.4**	**-1.0**
	11nm,0.3s							
KURS				*e*S		**Sg**	**18 29 15.0**	**-0.8**
	77nm,0.4s							
KURS	**Kuram**	**2.05**	**340**	Pg		**Pb**	**18 28 46.2**	**-1.1**
	11nm,0.3s							
KURS				Lg		Lg	18 29 15.0	
	77nm,0.4s							
KTMS	**Ketmen**	**2.09**	**25**	*e*P		**Pb**	**18 28 46.2**	**-2.0**
	12nm,0.3s							
KTMS				*e*S		**Sg**	**18 29 15.5**	**-1.8**
	66nm,0.3s							
KTMS	**Ketmen**	**2.09**	**25**	Pg		**Pb**	**18 28 47.1**	**-1.0**
	12nm,0.3s							
KTMS				Lg		Lg	18 29 15.8	
	66nm,0.3s							
TNSS	**Tian-Shan**	**2.18**	**313**	⇑*e*P		**Pn**	**18 28 47.4**	**+0.7**
	40nm,0.3s							
TNSS				*e*S		**Sb**	**18 29 17.4**	**+0.3**
	95nm,0.5s							
TNSS	**Tian-Shan**	**2.18**	**313**	Pg		**Pn**	**18 28 47.5**	**+0.8**
	40nm,0.3s							
TNSS				Lg		Lg	18 29 18.2	
	95nm,0.5s							
MDOK	**Medeo**	**2.22**	**317**	⇑*e*P		**Pn**	**18 28 47.8**	**+0.9**
	20nm,0.1s							
MDOK				*e*S		**Sb**	**18 29 18.1**	**+0.3**
	117nm,0.3s							
MDOK	**Medeo**	**2.22**	**317**	⇑Pg		**Pn**	**18 28 47.6**	**+0.6**
	12nm,0.5s							
MDOK				⇑Lg		Lg	18 29 18.6	
	72nm,0.4s							
MDOK	**Medeo**	**2.22**	**317**	Pg		**Pb**	**18 28 48.2**	**-2.1**
	20nm,0.1s							
MDOK				Lg		Lg	18 29 19.2	
	117nm,0.3s							
KOTS	**Kotyrbulak**	**2.23**	**319**	*e*P		**Pb**	**18 28 48.7**	**-1.9**
	25nm,0.2s							
KOTS				*e*S		**Sb**	**18 29 19.4**	**+1.0**
	127nm,0.5s							
KOTS	**Kotyrbulak**	**2.23**	**319**	Pg		**Pb**	**18 28 48.7**	**-1.9**
	25nm,0.2s							
KOTS				Lg		Lg	18 29 20.0	
	127nm,0.5s							
ULHL	**Ulahol**	**2.25**	**289**	⇑*i*P		**Pn**	**18 28 48.3**	**+0.8**
	baz=84							
ULHL				⇑*i*S		**Sb**	**18 29 19.6**	**+0.7**
	baz=84							
KNDC	**Almaty**	**2.30**	**317**	⇓Pg		**Pb**	**18 28 49.6**	**-1.9**
	46nm,0.7s							
KNDC				⇑Lg		Lg	18 29 21.3	
	167nm,0.6s							
AAA	**Alma-Ata**	**2.32**	**316**	*e*P		**Pb**	**18 28 50.9**	**-1.1**
	48nm,0.1s							
AAA				*e*S		**Sb**	**18 29 23.1**	**+2.5**
	14nm,0.3s							
AAA	**Alma-Ata**	**2.32**	**316**	Pg		**Pb**	**18 28 50.9**	**-1.1**
	48nm,0.1s							
AAA				Lg		Lg	18 29 23.1	
	14nm,0.3s							
IZV	**Izvestkoviy**	**2.37**	**309**	*e*P		**Pb**	**18 28 51.2**	**-1.7**
	28nm,0.2s							
IZV				*e*S		**Sb**	**18 29 23.6**	**+1.3**
	163nm,0.3s							
IZV	**Izvestkoviy**	**2.37**	**309**	Pg		**Pb**	**18 28 51.2**	**-1.7**
	28nm,0.2s							
IZV				Lg		Lg	18 29 23.6	
	163nm,0.3s							
MTBS	**Maitube**	**2.53**	**309**	*e*P		**Pb**	**18 28 53.4**	**-2.3**
	13nm,0.3s							
MTBS				*e*S		**Sb**	**18 29 27.5**	**+0.6**
	113nm,0.2s							
MTBS	**Maitube**	**2.53**	**309**	Pg		**Pb**	**18 28 53.4**	**-2.3**
	13nm,0.3s							
MTBS				Lg		Lg	18 29 28.1	
	113nm,0.2s							
BOOM	**Boomskoye usch**	**2.54**	**292**	⇑*e*P		**Pn**	**18 28 52.2**	**+0.7**
	baz=88							
BOOM				⇑*i*S		**Sb**	**18 29 25.8**	**-1.4**
	baz=88							
KST	**Kastek**	**2.77**	**303**	*e*P		**Pb**	**18 28 57.1**	**-2.5**
	8.0nm,0.3s							
KST				*e*S		**Sb**	**18 29 33.4**	**-0.3**
	70nm,0.4s							
KST	**Kastek**	**2.77**	**303**	Pg		**Pb**	**18 28 57.1**	**-2.5**
	8.0nm,0.3s							
KST				Lg		Lg	18 29 33.4	
	70nm,0.4s							
CHKK	**Chushkaly**	**2.78**	**326**	*e*P		**Pb**	**18 28 58.1**	**-1.6**
	25nm,0.3s							
CHKK				*e*S		**Sb**	**18 29 35.6**	**+1.8**
	153nm,0.3s							
CHKK	**Chushkaly**	**2.78**	**326**	Pg		**Pb**	**18 28 58.1**	**-1.6**
	25nm,0.3s							
CHKK				Lg		Lg	18 29 35.6	
	153nm,0.3s							
KTBS	**Karatobe**	**2.80**	**321**	*e*P		**Pb**	**18 28 58.5**	**-1.6**
	16nm,0.3s							
KTBS				*e*S		**Sb**	**18 29 36.3**	**+1.8**
	152nm,0.3s							
KTBS	**Karatobe**	**2.80**	**321**	Pg		**Pb**	**18 28 58.5**	**-1.6**
	16nm,0.3s							
KTBS				Lg		Lg	18 29 36.3	
	152nm,0.3s							
DJR	**Jarkent**	**2.81**	**10**	*e*P		**Pb**	**18 28 59.2**	**-1.2**
	0.4nm,0.1s							
DJR				*e*S		**Sg**	**18 29 37.6**	**-2.8**
	24nm,0.3s							
DJR	**Jarkent**	**2.81**	**10**	Pg		**Pb**	**18 28 59.0**	**-1.4**
	0.4nm,0.1s							
DJR				Lg		Lg	18 29 37.7	
	24nm,0.3s							
KZA	**Kyzart**	**2.94**	**281**	⇑*e*P		**Pn**	**18 28 57.9**	**+0.8**
	baz=79							
KZA				⇑*i*S		**Sb**	**18 29 36.6**	**-2.2**
	baz=79							
TKM2	**Tokmak 2**	**2.94**	**299**	⇓*i*P		**Pn**	**18 28 57.6**	**+0.5**
	baz=95							
TKM2				⇓*i*S		**Sn**	**18 29 36.0**	**+3.4**
	baz=95							
TKM2	**Tokmak 2**	**2.94**	**299**	⇓Pg		**Pb**	**18 28 59.7**	**-3.0**
	4.1nm,0.3s							
TKM2				⇓Lg		Lg	18 29 39.6	
	93nm,0.7s							
DGS	**Degeres**	**2.99**	**305**	*e*P		**Pb**	**18 29 00.6**	**-2.9**
	10nm,0.4s							
DGS				*e*S		**Sb**	**18 29 39.7**	**-0.4**
	70nm,0.6s							
DGS	**Degeres**	**2.99**	**305**	Pg		**Pb**	**18 29 01.1**	**-2.3**
	10nm,0.4s							
DGS				Lg		Lg	18 29 39.7	
	70nm,0.6s							
KUU	**Kurty**	**3.10**	**320**	*e*P		**Pb**	**18 29 03.9**	**-1.4**
	5.9nm,0.2s							
KUU				*e*S		**Sb**	**18 29 45.0**	**+1.9**
	55nm,0.4s							
KUU	**Kurty**	**3.10**	**320**	Pg		**Pb**	**18 29 03.9**	**-1.4**
	5.9nm,0.2s							
KUU				Lg		Lg	18 29 45.0	
	55nm,0.4s							
KBK	**Karagaybulak**	**3.29**	**291**	⇑*i*P		**Pn**	**18 29 02.5**	**+0.7**
	baz=88							
KBK				⇑*i*S		**Sn**	**18 29 44.5**	**+3.5**
	baz=88							
KRBS	**Karabastau**	**3.32**	**311**	*e*P		**Pb**	**18 29 06.9**	**-2.1**
	8.4nm,0.2s							
KRBS				*e*S		**Sb**	**18 29 50.1**	**+0.7**
	28nm,0.4s							
KRBS	**Karabastau**	**3.32**	**311**	Pg		**Pb**	**18 29 06.9**	**-2.1**
	8.4nm,0.2s							
KRBS				Lg		Lg	18 29 50.1	
	28nm,0.4s							
TDK	**Taldyqorghan**	**3.48**	**352**	*e*P		**Pb**	**18 29 10.6**	**-1.0**
	24nm,0.2s							
TDK				*e*S		**Sb**	**18 29 56.7**	**+2.7**
	88nm,0.5s							
TDK	**Taldyqorghan**	**3.48**	**352**	Pg		**Pb**	**18 29 10.9**	**-0.8**
	24nm,0.2s							
TDK				Lg		Lg	18 29 56.7	
	88nm,0.5s							
UCH	**Uchtor**	**3.50**	**282**	⇓*e*P		**Pn**	**18 29 05.8**	**+0.9**
	baz=80							
UCH				⇓*i*S		**Sn**	**18 29 50.2**	**+3.6**
	baz=80							
CHMS	**Chumysh**	**3.54**	**295**	⇑*i*P		**Pn**	**18 29 05.8**	**+0.7**
	baz=92							
CHMS				⇑*i*S		**Sn**	**18 29 50.2**	**+3.1**
	baz=92							
AAK	**Ala-Archa**	**3.60**	**289**	⇑*i*P		**Pn**	**18 29 07.0**	**+0.9**
	baz=86							
AAK				⇑*i*S		**Sn**	**18 29 52.2**	**+3.5**
	baz=86							
AAK	**Ala-Archa**	**3.60**	**289**	Pg		**Pb**	**18 29 11.8**	**-2.1**
	2.9nm,0.5s							
AAK				⇑Lg		Lg	18 30 00.7	
	34nm,0.9s							
KAPS	**Kapalarasan**	**3.73**	**3**	*e*P		**Pb**	**18 29 15.5**	**-0.5**
	0.4nm,0.2s							
KAPS				*e*S		**Sg**	**18 30 05.2**	**-4.4**
	2.2nm,0.3s							
KAPS	**Kapalarasan**	**3.73**	**3**	Pg		**Pb**	**18 29 15.5**	**-0.5**
	0.4nm,0.2s							
KAPS				Lg		Lg	18 30 05.2	
	2.2nm,0.3s							
SGDS	**Sogindy**	**3.82**	**301**	Pg		**Pb**	**18 29 15.5**	**-2.0**
	2.5nm,0.3s							
SGDS				Lg		Lg	18 30 05.3	
	13nm,0.5s							
USP	**Ospenovka**	**3.82**	**298**	⇓*e*P		**Pn**	**18 29 09.7**	**+0.8**
	baz=95							
USP				⇓*i*S		**Sn**	**18 29 56.7**	**+2.8**
	baz=95							
MRKS	**Merke**	**4.54**	**287**	*e*P		**Pb**	**18 29 30.5**	**+0.7**
	1.7nm,0.3s							
MRKS				*e*S		**Sg**	**18 30 30.8**	**-4.8**
	8.0nm,0.3s							
MRKS	**Merke**	**4.54**	**287**	Pg		**Pb**	**18 29 30.5**	**+0.7**
	1.7nm,0.3s							
MRKS				Lg		Lg	18 30 30.8	
	8.0nm,0.3s							
BTLS	**Baital**	**5.08**	**315**	*e*P		**Pb**	**18 29 40.5**	**+1.6**
	1.7nm,0.3s							
BTLS				*e*S		**Sg**	**18 30 47.8**	**-5.1**
	5.6nm,0.4s							
BTLS	**Baital**	**5.08**	**315**	Pg		**Pb**	**18 29 40.5**	**+1.6**
	1.7nm,0.3s							
BTLS				Lg		Lg	18 30 47.8	
	5.6nm,0.4s							
MAKZ	**Makanchi**	**5.63**	**20**	⇑Pn		**Pn**	**18 29 33.8**	**0.0**
	2.1nm,1.1s							
MAKZ				⇑Sn		**Sn**	**18 30 40.6**	**+2.1**
	1.2nm,0.5s							
MAKZ				⇓Lg		Lg	18 31 06.0	
	4.4nm,1.0s							
MK31	**Makanchi Array**	**5.71**	**22**	⇑Pn		**Pn**	**18 29 33.8**	**-1.0**
	0.6nm,0.5s,baz=208,slow=14,SNR=22							
MK31				⇓Sn		**Sn**	**18 30 42.1**	**+1.7**
	1.6nm,0.5s,baz=197,slow=74,SNR=4.4							
MK31				⇓Lg		Lg	18 31 07.5	
	4.4nm,0.6s,baz=205,slow=26,SNR=5.0							
KK31	**Karatay Array**	**6.56**	**286**	⇓Pg		**Pb**	**18 30 06.3**	**+2.1**
	0.2nm,0.3s,baz=75,slow=13,SNR=3.8							
KK31				⇑Lg		Lg	18 31 35.2	
	1.2nm,0.5s,baz=104,slow=27,SNR=5.3							
OTUK	**Ortayu**	**8.23**	**327**	⇑Lg		Lg	18 32 29.2	
	12nm,1.2s							
KURBB	**Kurchatov Arra**	**9.07**	**358**	⇑Lg		Lg	18 32 57.9	
	7.8nm,0.7s							

*IDC **23** 18:47:22.5±0.5,6.47N×73.41W,h140km±4km,mb3.8/15,*
mb1 4.1/18,mb1mx3.8/42,mbtmp4.3/18,Error ellipse:
s-maj=13.4km s-min=6.8km az=127.0
*NEIC **23** 18:47:23.2±1.4,6.54N±0.06×73.49W±0.04,h137km±5km,*
mb4.4/146,Error ellipse: s-maj=9.5km s-min=5.5km
az=191.0
*RSNC **23** 18:47:23.2±1.0,6.53N×73.56W,h138km±3km,ML4.2,*
Mw4.4, Fault plane solution: NP1:φs97.00000°,
δ53.00000°,λ,58.00000°.
ISC 23 18:47:22.6±0.5,6.54N±0.03×73.52W±0.03,h140km±4km,
n258,σ1$05/309,mb4.4/81,6C-15D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BARC	**Barichara**	**0.34**	**81**	⇑*i*P		**Pn**	**18 47 42.6**	**+0.2**
BARC				*e*S		**Sn**	**18 47 57.5**	**+0.2**
BARC				*i*			18 47 57.8	
	comp=Z,13µm,0.4s							
BRRC	**Barranca, Sant**	**0.59**	**341**	⇑*i*P		**Pn**	**18 47 43.6**	**+0.2**
BRRC				*e*S		**Sn**	**18 47 59.6**	**+0.4**
BRRC				*i*			18 48 02.1	
	comp=Z,5µm,0.3s							
RUSC	**La Rusia**	**0.78**	**146**	Pn		**Pn**	**18 47 44.4**	**-0.8**
RUSC	**La Rusia**	**0.78**	**146**	⇑P		**Pn**	**18 47 45.0**	**-0.2**
RUSC				*e*S		**Sn**	**18 48 01.9**	**-0.4**
RUSC				*i*			18 48 03.5	
	comp=Z,3µm,0.3s							
PTBC	**PUERTO BERRIO,**	**0.93**	**270**	⇑*i*P		**Pn**	**18

comp=Z,579nm,0.4s
SOCV Socops 3.16 57⇓eP Pn 18 48 11.2 -0.4
SOCV eS Sn 18 48 47.9 -1.7
ARGC Ariguani, Magd 3.37 348⇓eP Pn 18 48 15.2 +0.8
ARGC eS Sn 18 48 54.5 0.0
ARGC i 18 49 04.3
comp=Z,271nm,0.6s
LCBC Los crdobas, 3.64 309 eP Pn 18 48 18.3 +0.4
LCBC eS Sn 18 49 00.0 -0.8
LCBC i 18 49 04.9
comp=Z,230nm,0.3s
SDV Santo Domingo 3.69 51 P Pn 18 48 19.3 +0.5
comp=Z,211nm,0.3s,baz=358,slow=10,SNR=299
SDV S Sn 18 49 01.6 -0.5
comp=Z,414nm,0.3s,baz=68,slow=21,SNR=23
SDV Santo Domingo 3.69 51 Pn 18 48 19.1 +0.4
SDV Santo Domingo 3.69 51⇓eP Pn 18 48 19.2 +0.5
SDV eS Sn 18 49 01.7 -0.5
SDV i 18 49 03.4
comp=Z,1μm,0.5s
SJCC San Jacinto, C 3.72 334 Pn 18 48 17.8 -1.2
SJCC San Jacinto, C 3.72 334 eP Pn 18 48 17.7 -1.2
SJCC eS Sn 18 48 60.0 -2.7
SJCC i 18 49 00.5
comp=Z,323nm,0.5s
YOTC Yotoco, Valle 3.79 228⇓eP Pn 18 48 19.1 -0.9
SOLC Bahia Solano 3.88 266 eP Pn 18 48 21.2 +0.2
SOLC eS Sn 18 49 05.2 -1.1
SOLC i 18 49 10.8
comp=Z,118nm,0.5s
ELOV Elorza 4.03 83⇓eP Pn 18 48 23.0 -0.1
ELOV eS Sn 18 49 08.2 -1.8
GUVC San Jose del G 4.07 167 eP Pn 18 48 23.4 -0.2
GUVC eS Sn 18 49 08.8 -2.1
GUVC i 18 49 12.4
comp=Z,860nm,0.2s
PIZC Pizarro, Choco 4.13 248 eP Pn 18 48 25.6 +1.3
PIZC eS Sn 18 49 11.9 -0.4
PIZC i 18 49 28.8
comp=Z,142nm,0.5s
BETC Betania 4.29 207 eP Pn 18 48 25.5 -1.0
BETC eS Sn 18 49 13.9 -2.2
BETC i 18 49 20.6
comp=Z,162nm,0.6s
PTAC Punta Ardita, 4.30 278 eP Pn 18 48 27.1 +0.5
CAPC Capurgana 4.33 299 eP Pn 18 48 25.2 -1.8
CAPC eS Sn 18 49 14.8 -2.2
CAPC i 18 49 17.3
comp=Z,145nm,0.4s
CAP2 Capurgana 4.35 299 Pn Pn 18 48 26.5 -0.7
MACC Macarena, Meta 4.38 184⇓iP Pn 18 48 25.9 -1.8
MACC eS Sn 18 49 15.3 -3.0
MACC i 18 49 18.1
comp=Z,229nm,0.5s
MARP Paez Belalcaza 4.40 214 eP Pn 18 48 27.6 -0.7
MARP eS Sn 18 49 20.2 +1.0
CRJC Cerrejon, Guaj 4.49 8 eP Pn 18 48 28.1 -1.1
CRJC eS Sn 18 49 21.6 +0.5
CRJC i 18 49 26.0
comp=Z,430nm,0.4s
SMRC Santa Marta, M 4.65 351 eP Pn 18 48 31.1 -0.1
SMRC eS Sn 18 49 23.7 -0.8
SMRC i 18 49 31.6
comp=Z,150nm,0.5s
GARC Garzon, Huila 4.75 205 eP Pn 18 48 31.4 -1.5
GARC eS Sn 18 49 27.8 +0.4
GARC i 18 49 28.3
comp=Z,260nm,0.2s
POPC Popayan, Colom 5.07 219⇓eP Pn 18 48 36.4 -0.7
POPC eS Sn 18 49 32.4 -2.6
PCON Cinco Dias 5.08 215 eP Pn 18 48 38.3 +0.9
URIC Uribia, Colomb 5.34 16 Pn 18 48 38.9 -1.6
URIC Uribia, Colomb 5.34 16 eP Pn 18 48 39.7 -0.7
URIC eS Sn 18 49 39.6 -1.6
URIC i 18 50 02.2
comp=Z,71nm,0.5s
SOTA Rioblanco 5.35 215 eP Pn 18 48 42.6 +1.5
FLOC Florencia 5.37 203 Pn 18 48 39.7 -1.1
FLOC Florencia 5.37 203 eP Pn 18 48 39.4 -1.5
FLOC eS Sn 18 49 42.0 +0.2
FLOC i 18 49 45.2
comp=Z,95nm,0.5s
PTLC Puerto Leguiza 6.46 191 eP Pn 18 48 57.3 +1.9
HATO Hato, Curacao 7.19 38 Pn 18 49 03.5 -1.6
OTAV Otavalo 7.96 218 Pn 18 49 14.8 -1.3
PCRV Puerto La Cruz 9.50 67 P Pn 18 49 35.8 -0.5
comp=Z,6.0nm,0.3s,baz=209,slow=0.5,SNR=15
PCRV S Sn 18 51 18.4 -3.0
comp=Z,7.1nm,0.3s,baz=1.9,slow=23,SNR=8.8
PLCV Puerto La Cruz 9.54 67 Pn 18 49 35.8 -0.9
MTDJ Mount Denham 12.26 342 Pn Pn 18 50 13.2 +0.5
MTDJ Sn 18 52 22.3 -5.8
DR12 Loma Pena Alta 12.82 18 Pn Pn 18 50 19.1 -0.9
CRPR Cabo Rojo, PR 13.00 28 Pn Pn 18 50 22.5 +0.4
ICMP Isla Caja de M 13.18 31 Pn Pn 18 50 21.9 -2.6
PDPR Patillas Dam, 13.55 32 Pn Pn 18 50 28.3 -0.9
SJG San Juan 13.56 31 P Pn 18 50 28.0 -1.4
comp=Z,1.4nm,0.3s,baz=232,slow=8.9,SNR=7.4
SJG San Juan 13.56 31 Pn 18 50 27.3 -2.1
HUMP Col San Antoni 13.74 32 Pn 18 50 29.5 -2.2
GCPR Guaynabo City 13.76 31 Pn Pn 18 50 29.3 -2.6
CUPR Culebra, Puert 14.19 34 Pn Pn 18 50 36.9 -0.4
STVI Saint Thomas 14.40 35 Pn 18 50 38.6 -1.5
MTO3 Montecristo 17.42 298 P P 18 51 16.9 +0.3
MTO3 IAmb IAmb 18 51 19.0
comp=Z,11nm,0.7s
SAML Samuel 18.52 146 P P 18 51 26.9 -1.5
SAML IAmb IAmb 18 51 56.0
comp=Z,11nm,0.7s
LPAZ La Paz 23.30 167 P P 18 52 17.3 -1.6
comp=Z,1.0nm,0.7s,baz=160,slow=5.2,SNR=4.1
LPAZ pP pP 18 52 46.4 -0.2
comp=Z,3.0nm,0.6s,baz=312,slow=4.8,SNR=3.4
LPAZ La Paz 23.30 167 P P 18 52 18.8 -0.1
SIV San Ignacio 25.55 151 P P 18 52 42.9 +4.3
comp=Z,1.3nm,0.7s,baz=3.7,slow=9.7,SNR=4.8
PLAL Pickwick Lake 31.32 337 P P 18 53 31.0 +1.3
PLAL IAmb IAmb 18 53 32.2
comp=Z,6.1nm,0.6s
WVT Waverly 32.24 338 P P 18 53 38.4 +0.7
PBMO Poplar Bluff 33.83 335 P P 18 53 52.7 +1.2
FCAR Ozark Folk Cen 33.83 332 P P 18 53 51.9 +0.4
FCAR IAmb IAmb 18 53 52.8
comp=Z,16nm,1.3s
W39A Magazine 34.08 330 P P 18 53 54.6 +0.9
W39A IAmb IAmb 18 53 55.4
comp=Z,7.1nm,0.7s
S44A Carbondale 34.15 337 P P 18 53 55.1 +0.8
SIUC Southern Illin 34.16 338 P P 18 53 55.2 +0.8
T42A Van Buren 34.32 335 P P 18 53 56.5 +0.7
T42A IAmb IAmb 18 53 57.9
comp=Z,7.5nm,0.9s
P48A Milroy 34.49 344 P P 18 53 56.5 -0.6
U40A Yellville 34.55 332 P P 18 53 58.1 +0.3
FVM French Village 34.86 336 P P 18 54 01.1 +0.7
P46A Rosedale 35.16 341 P P 18 54 04.3 +1.3
CCM Cathedral Cave 35.26 335 P P 18 54 04.4 +0.6
R40A Maddies Statio 35.89 334 P P 18 54 09.3 +0.2
R40A IAmb IAmb 18 54 10.0
comp=Z,5.3nm,0.5s
TXAR Lajitas Array 36.35 312 P P 18 54 13.8 +0.4
comp=Z,1.2nm,0.8s,baz=128,slow=8.6,SNR=12
TXAR pP pP 18 54 45.1 +0.9
comp=Z,0.2nm,0.4s,baz=297,slow=6.9,SNR=3.5
TXAR PcP PcP 18 56 35.9 +0.8
comp=Z,0.6nm,0.6s,baz=134,slow=5.4,SNR=6.1
TX31 Lajitas Ar. Si 36.35 312 P P 18 54 13.9 +0.4
TX31 IAmb IAmb 18 54 14.9
comp=Z,5.5nm,0.9s
TX32 Lajitas Array 36.35 312 P P 18 54 13.2 -0.3
P40A Paris 36.84 336 P P 18 54 17.4 +0.2
N41A Harden Midland 37.39 338 P P 18 54 22.0 +0.2
P38A Dawn 37.54 334 P P 18 54 22.8 -0.4
L40A Anamosa 38.71 339 P P 18 54 32.5 -0.4
L40A IAmb IAmb 18 54 33.6
comp=Z,9.8nm,0.9s
MNTX Cornudas Mount 38.88 314 P P 18 54 35.4 +0.8
MNTX IAmb IAmb 18 54 36.4
comp=Z,8.9nm,1.4s
JFWS Jewell Farm 39.12 340 P P 18 54 36.6 +0.2
SCIA State Center 39.32 337 P P 18 54 38.5 +0.4
I42A Draeger Farm, 39.58 342 P P 18 54 40.5 +0.3
ANMO Albuquerque 41.45 318 P P 18 54 56.8 +0.9

ECSD EROS Data Cent 42.23 335 P P 18 55 00.9 -0.9
ECSD IAmb IAmb 18 55 02.3
comp=Z,15nm,1.4s
SDCO Great Sand Dun 42.52 322 P 18 55 05.5 +0.9
TUC Tucson 43.13 311 P P 18 55 09.5 +0.1
X18A Snowflake 43.63 315 P P 18 55 14.7 +1.2
X18A IAmb IAmb 18 55 16.0
comp=Z,5.1nm,0.8s
W18A Petrified Fore 43.78 316 P P 18 55 15.8 +1.0
W18A IAmb IAmb 18 55 17.3
comp=Z,7.2nm,0.8s
SUSD Miller 43.81 334 P P 18 55 14.1 -0.5
F33A 5 Mile Ranch, 43.83 337 P P 18 55 14.9 +0.2
F33A IAmb IAmb 18 55 15.6
comp=Z,6.7nm,0.6s
ISCO Idaho Springs 43.90 324 P 18 55 15.4 -0.3
ISCO IAmb IAmb 18 55 18.1
comp=Z,10nm,1.3s
MVCO Mesa Verde 44.10 319 P P 18 55 18.0 +0.7
X16A Lo Mia Camp, P 44.63 314 P P 18 55 21.3 -0.2
PV01 Paradox Valley 44.68 320 P P 18 55 23.1 +1.2
PV15 Paradox Valley 44.75 320 P P 18 55 24.1 +1.6
PV15 IAmb IAmb 18 55 25.0
comp=Z,16nm,1.2s
PHWY Pilot Hill 44.79 326 P P 18 55 22.8 0.0
PHWY IAmb IAmb 18 55 24.4
comp=Z,3.8nm,0.6s
PV02 Paradox Valley 44.83 320 P P 18 55 24.2 +1.1
PV02 IAmb IAmb 18 55 25.0
comp=Z,5.8nm,0.6s
PV13 Radium Mtn., P 44.86 320 P P 18 55 24.1 +0.8
PV13 IAmb IAmb 18 55 25.1
comp=Z,6.7nm,0.6s
PV03 Paradox Valley 44.93 320 P P 18 55 25.8 +1.9
PV03 IAmb IAmb 18 55 25.9
comp=Z,3.3nm,0.6s
PV12 Saucer Basin, 44.94 320 P P 18 55 24.6 +0.7
PV12 IAmb IAmb 18 55 26.2
comp=Z,6.4nm,0.7s
PV18 Skein Mesa, Pa 44.97 320 P P 18 55 25.0 +0.8
PV11 David Mesa, Pa 44.97 320 P P 18 55 25.2 +1.0
PV11 IAmb IAmb 18 55 26.2
comp=Z,4.9nm,0.6s
PV05 Paradox Valley 44.99 319 P P 18 55 24.7 +0.3
PV05 IAmb IAmb 18 55 25.9
comp=Z,5.9nm,0.6s
WUAZ Wupatki 45.14 315 P 18 55 26.5 +1.1
WUAZ IAmb IAmb 18 55 28.3
comp=Z,7.2nm,0.9s
Y14A Wickenburg 45.54 312 P P 18 55 29.5 +0.9
AGMN Agassiz Nation 45.74 339 P P 18 55 29.9 +0.1
SRU San Rafael Swe 46.50 320 P P 18 55 37.5 +1.4
SRU IAmb IAmb 18 55 38.0
comp=Z,6.0nm,0.8s
GLA Glamis 46.51 310 P P 18 55 37.2 +1.1
GLA IAmb IAmb 18 55 38.2
comp=Z,7.0nm,0.8s
RDMU Red Mountain 46.75 322 P P 18 55 38.2 +0.1
MDND Maddock 46.79 336 P P 18 55 38.0 +0.1
P17A Butcher Ranch, 46.84 320 P P 18 55 39.9 +1.2
P17A IAmb IAmb 18 55 40.8
comp=Z,7.0nm,0.8s
KNB Kanab 46.91 316 P P 18 55 40.8 +1.5
KNB IAmb IAmb 18 55 41.8
comp=Z,7.0nm,0.9s
MTPU Mount Pierson 47.00 318 P P 18 55 40.7 +0.4
TMUT Trail Mountain 47.04 320 P P 18 55 40.9 +0.5
LCMT Little Creek M 47.19 316 P P 18 55 42.7 +1.2
MSU Marysvale 47.25 318 P P 18 55 43.4 +1.4
MVU Marysvale 47.27 318 P P 18 55 43.7 +1.5
SZCU Shurtz Canyon 47.38 317 P P 18 55 43.8 +0.7
ULM Lac du Bonnet 47.41 341 P P 18 55 42.8 0.0
comp=Z,5.8nm,0.5s,baz=151,slow=6.1,SNR=7.4
ULM Lac du Bonnet 47.41 341 P P 18 55 42.2 -0.6
ULM IAmb IAmb 18 55 43.5
comp=Z,14nm,1.1s
TCRU Three Creeks R 47.48 318 P P 18 55 44.4 +0.5
TCRU IAmb IAmb 18 55 46.0
comp=Z,8.1nm,0.6s
MPU Maple Canyon 47.71 320 P P 18 55 46.7 +1.1
MPU IAmb IAmb 18 55 47.4
comp=Z,6.3nm,0.8s
NLU North Lily Min 47.96 320 P P 18 55 48.6 +1.1
BW06 Boulder Array 48.07 324 P P 18 55 48.2 -0.1
BW06 IAmb IAmb 18 55 49.7
comp=Z,5.6nm,1.1s
PD31 Pinedale Array 48.07 324 P P 18 55 48.4 +0.1
PD31 IAmb IAmb 18 55 49.6
comp=Z,9.7nm,1.4s
PDAR Pinedale Array 48.07 324 P P 18 55 48.9 +0.6
comp=Z,1.2nm,0.5s,baz=116,slow=8.4,SNR=11
PDAR PcP PcP 18 57 13.6 -0.3
comp=Z,0.5nm,0.5s,baz=132,slow=5.0,SNR=2.7
PDAR Pinedale Array 48.07 324 P P 18 55 48.2 -0.1
TCUT Toone Canyon 48.20 322 P P 18 55 49.8 +0.5
PSUT Pine Spring 48.38 317 P P 18 55 51.7 +1.0
SCHQ Schefferville 48.45 5 P P 18 55 51.3 +0.6
comp=Z,3.6nm,0.5s,baz=179,slow=7.2,SNR=4.2
DUG Dugway, Tooele 48.57 320 P P 18 55 53.0 +1.0
DUG IAmb IAmb 18 55 54.5
comp=Z,4.1nm,0.8s
HWUT Hardware Ranch 48.58 322 P P 18 55 52.7 +0.6
HWUT IAmb IAmb 18 55 54.1
comp=Z,12nm,1.5s
SPR3 Spring Creek 3 48.94 318 P P 18 55 55.8 +0.7
AHID Auburn Hatcher 48.97 323 P P 18 55 55.1 -0.1
AHID IAmb IAmb 18 55 56.4
comp=Z,4.7nm,0.9s
BGU Big Grassy Mou 49.10 320 P P 18 55 56.8 +0.6
BGU IAmb IAmb 18 55 57.7
comp=Z,7.5nm,0.7s
REDW Red Top Meadow 49.19 324 P P 18 55 57.2 +0.4
REDW IAmb IAmb 18 55 58.5
comp=Z,9.9nm,1.0s
SNOW Snow King Moun 49.19 324 P P 18 55 57.4 +0.5
LOHW Long Hollow 49.20 325 P P 18 55 57.8 +1.0
LOHW IAmb IAmb 18 55 58.5
comp=Z,3.6nm,0.7s
DGMT Dagmar 49.22 333 P P 18 55 57.6 +0.9
GWY Greenwater Val 49.24 313 P P 18 55 57.5 +0.3
TPNV Topopah Spring 49.28 314 P P 18 55 58.2 +0.7
TPAW Teton Pass 49.32 324 P P 18 55 57.1 -0.7
TPAW IAmb IAmb 18 55 58.4
comp=Z,4.7nm,1.0s
MOOW Moose Ponds 49.36 325 P P 18 55 58.4 +0.3
HVU Hansel Valley 49.42 321 P P 18 55 58.9 +0.4
FXWY Fox Creek 49.45 324 P P 18 55 59.3 +0.4
R11A Troy Canyon, C 49.47 316 P P 18 55 59.3 +0.4
IMW Indian Meadow 49.56 325 P P 18 55 59.5 -0.2
GCMT Greycliff 50.04 327 P P 18 56 03.5 +0.4
YMR Madison River 50.05 326 P P 18 56 04.2 +0.9
YMR IAmb IAmb 18 56 09.4
comp=Z,3.9nm,0.5s
YHH Holmes Hill 50.06 326 P P 18 56 04.8 +1.3
YHL Hebgen Lake 50.28 326 P P 18 56 06.8 +1.6
YHL IAmb IAmb 18 56 07.9
comp=Z,11nm,1.3s
ELK Elko 50.43 319 P P 18 56 07.0 +0.7
BOZ Bozeman (W) 50.99 326 P P 18 56 10.8 +0.5
MCMT McKenzie Canyo 51.22 325 P P 18 56 13.3 +1.2
NV11 Mina Array Sit 51.30 315 P P 18 56 13.6 +1.0
NVAR Mina Array Bea 51.40 315 P P 18 56 14.5 +1.0
comp=Z,1.3nm,0.6s,baz=121,slow=6.9,SNR=13
NVAR PcP PcP 18 57 26.8 +0.6
comp=Z,0.9nm,0.7s,baz=138,slow=4.6,SNR=6.2
NVAR Mina Array Bea 51.40 315 P P 18 56 14.0 +0.5
HLID Hailey 51.41 322 P P 18 56 14.2 +0.7
BMN Battle Mountai 51.58 318 P P 18 56 15.4 +0.6
LRM Limekiln Ridge 51.58 326 P P 18 56 15.4 +0.6
MFID Camas Ranch 52.20 322 P P 18 56 20.1 +0.8
MFID IAmb IAmb 18 56 21.7
comp=Z,4.5nm,0.8s
PNTR Pine Nut 52.60 315 P P 18 56 23.3 +0.9
PNTR IAmb IAmb 18 56 24.3
comp=Z,4.1nm,0.8s
PLID Pearl Lake 53.20 323 P P 18 56 27.1 +0.3
PLID IAmb IAmb 18 56 27.7
comp=Z,5.7nm,0.9s
FFC Flin Flon 53.21 340 P P 18 56 26.6 +0.3
WVOR Wild Horse Val 53.48 319 P P 18 56 29.3 +0.7
WVOR IAmb IAmb 18 56 31.6
comp=Z,4.5nm,0.9s
F10A Beach Ranch, E 54.41 324 P P 18 56 35.7 +0.4
I07A Izee 54.83 321 P P 18 56 38.8 +0.4

I07A IAmb IAmb 18 56 40.1
comp=Z,4.8nm,1.0s
G08A Pilot Rock 55.09 322 P P 18 56 41.1 +0.8
PINE Pine Mountain 55.61 320 P P 18 56 45.1 +1.0
KHMM Horse Mountain 56.23 315 P P 18 56 49.8 +1.3
KRMB Red Mountain 56.60 316 P P 18 56 52.0 +0.9
EDM Edmonton 56.69 333 P P 18 56 51.4 0.0
B08A Colville Reser 56.89 325 P P 18 56 52.9 0.0
B08A IAmb IAmb 18 56 53.7
comp=Z,4.2nm,0.6s
E03A Lebam 58.51 322 P P 18 57 05.5 +1.3
YKA Yellowknife Ar 63.39 340 P P 18 57 37.1 +0.3
comp=Z,8.0nm,0.6s,baz=124,slow=7.3,SNR=17
YKA Yellowknife Ar 63.39 340 P P 18 57 36.2 -0.6
DLBC Dease Lake 67.38 332 P P 18 58 03.9 +1.2
comp=Z,3.7nm,0.5s,baz=140,slow=7.9
DLBC Dease Lake 67.38 332 IAmb IAmb 18 58 04.7
comp=Z,6.0nm,0.8s
SUMG Summit 69.33 11 P P 18 58 15.4 +0.4
INK Inuvik 73.16 340 P P 18 58 38.3 +0.8
comp=Z,4.0nm,0.7s,baz=101,slow=3.7,SNR=5.4
INK Inuvik 73.16 340 IAmb IAmb 18 58 59.3
comp=Z,8.1nm,1.4s
TORD Torodi Ar. Bea 74.18 78 P P 18 58 43.6 -1.0
comp=Z,0.2nm,0.4s,baz=282,slow=7.3,SNR=4.3
M27K Edge Creek, AK 74.28 333 P P 18 58 45.6 +1.2
M27K IAmb IAmb 18 58 46.8
comp=Z,5.7nm,0.8s
BCAR Beaver Creek A 74.44 334 P P 18 58 45.7 +0.5
L27K Beaver Creek, 74.45 334 P P 18 58 45.7 +0.4
L27K IAmb IAmb 18 58 47.6
comp=Z,5.5nm,0.8s
L26K Log Cabin Wild 75.11 334 P P 18 58 50.2 +1.1
L26K IAmb IAmb 18 58 51.3
comp=Z,5.2nm,0.8s
DOT Dot Lake 75.58 334 P P 18 58 52.6 +0.9
DOT IAmb IAmb 18 58 53.8
comp=Z,7.7nm,0.7s
SCRK Sand Creek 75.64 335 P P 18 58 52.9 +0.7
SCRK IAmb IAmb 18 58 54.2
comp=Z,6.5nm,1.2s
RIDG Independent Ri 75.94 334 P P 18 58 55.0 +1.2
RIDG IAmb IAmb 18 58 55.9
comp=Z,9.6nm,1.0s
PAX Paxson 76.04 333 P P 18 58 55.4 +1.0
PAX IAmb IAmb 18 58 56.0
comp=Z,5.6nm,1.0s
PRP Porcupine Dome 76.66 336 P P 18 58 58.2 +0.3
PRP IAmb IAmb 18 58 59.2
comp=Z,6.0nm,0.8s
BMAR Burnt Mountain 76.77 338 P P 18 58 59.4 +1.0
HDA Harding Lake 77.00 335 P P 18 59 00.1 +0.5
HDA IAmb IAmb 18 59 01.4
comp=Z,12nm,1.2s
IL31 77.05 335 P P 18 58 59.9 0.0
IL31 IAmb IAmb 18 59 01.4
comp=Z,6.7nm,1.2s
ILAR Eielson Array 77.05 335 P P 18 59 00.3 +0.3
comp=Z,1.7nm,0.6s,baz=105,slow=4.0,SNR=6.9
ILAR Eielson Array 77.05 335 P P 18 59 00.0 +0.1
RND Reindeer 77.63 334 P P 18 59 04.2 +0.9
MDM Murphy Dome 77.65 335 P P 18 59 02.8 -0.5
MDM IAmb IAmb 18 59 04.9
comp=Z,12nm,1.4s
NEA2 Nenana 77.93 335 P P 18 59 05.2 +0.3
NEA2 IAmb IAmb 18 59 06.3
comp=Z,4.8nm,0.8s
TRF Thorofare Moun 78.27 333 P P 18 59 07.5 +0.5
TRF IAmb IAmb 18 59 08.5
comp=Z,4.6nm,0.7s
KTH Kantishna Hill 78.57 334 P P 18 59 09.1 +0.7
KTH IAmb IAmb 18 59 10.8
comp=Z,8.9nm,1.2s
SKT Skwentna 78.63 332 P P 18 59 09.1 +0.3
SKT IAmb IAmb 18 59 10.1
comp=Z,5.9nm,0.9s
BPAW Bear Paw Mtn. 78.68 334 P P 18 59 09.4 +0.4
BPAW IAmb IAmb 18 59 10.5
comp=Z,7.3nm,1.0s
MLY Manley 78.71 335 P P 18 59 09.6 +0.4
MLY IAmb IAmb 18 59 10.6
comp=Z,5.1nm,1.0s
COLD Coldfoot 78.85 337 P P 18 59 10.8 +0.9
OHAK Old Harbor 78.99 327 P P 18 59 10.8 +0.1
PPLA Purkeypile 79.05 333 P P 18 59 11.3 +0.1
CAST Castle Rocks 79.07 333 P P 18 59 11.4 +0.3
CAST IAmb IAmb 18 59 12.2
comp=Z,8.5nm,0.8s
I21K Tanana 79.25 335 P P 18 59 13.1 +1.1
I21K IAmb IAmb 18 59 13.2
comp=Z,5.7nm,1.1s
H21K Melozitna Rive 79.66 336 P P 18 59 14.8 +0.5
AKN Aaknes 79.82 28 eP P 18 59 16.7 +1.4
K20K Telida 79.95 333 P P 18 59 15.4 -0.5
K20K IAmb IAmb 18 59 16.9
comp=Z,6.8nm,1.0s
M19K Big River Lodg 79.96 332 P P 18 59 16.4 +0.4
J20K Nowinta River 80.06 334 P P 18 59 16.8 +0.4
J20K IAmb IAmb 18 59 17.6
comp=Z,9.3nm,0.9s
MOL Molde 80.11 28 eP P 18 59 17.5 +0.8
DOMB Dombas 80.78 28 eP P 18 59 21.6 +1.2
NB2 NORSAR Subarra 81.76 29 P P 18 59 26.3 +0.7
comp=Z,5.8nm,0.8s,baz=268,slow=5.3
NB2 NORSAR Subarra 81.76 29 P P 18 59 26.3 +0.7
baz=268,slow=5.3
NOA NORSAR Array B 81.76 29 P P 18 59 26.3 +0.7
comp=Z,2.7nm,0.6s,baz=268,slow=5.3,SNR=12
KONS Konsvik 82.70 24 eP P 18 59 31.0 +0.8
LOF Lofoten 82.88 22 eP P 18 59 32.1 +0.9
MOR8 Moi Rana 83.24 24 eP P 18 59 35.1 +2.0
GERES GERESS Array B 83.29 42 P P 18 59 33.9 0.0
comp=Z,0.4nm,0.6s,baz=271,slow=6.5,SNR=4.1
STEI Steigen 83.52 22 eP P 18 59 34.8 +0.3
FAUS Fauske 83.55 23 eP P 18 59 35.7 +1.1
TRO Tromso 84.77 21 eP P 18 59 41.3 +0.5
JETT Jettan, Norway 85.29 21 eP P 18 59 45.0 +1.6
HAMF Hammerfest 86.26 19 eP P 18 59 49.0 +0.9
KTK1 Kautokeino 86.36 21 eP P 18 59 49.6 +0.9
ARA0 ARCESS Array S 87.07 20 eP P 18 59 52.4 +0.3
ARCES ARCESS Array B 87.07 20 P P 18 59 52.5 +0.3
comp=Z,2.0nm,0.5s,baz=281,slow=4.2,SNR=24
ARCES ARCESS Array B 87.07 20 IAmb IAmb 18 59 54.4
comp=Z,11nm,1.5s
FINES FINESS Array B 88.87 28 P P 19 00 01.0 +0.2
comp=Z,4.3nm,0.9s,baz=298,slow=3.0,SNR=6.3
ZALV Zalesovo Beam 117.04 14 PKP PKPdf 19 05 50.6 -0.3
comp=Z,0.7nm,0.6s,baz=226,slow=2.1,SNR=3.7
KURK Kurchatov 118.10 20 PKPdf 19 05 52.9 -0.2
KURBB Kurchatov Arra 118.15 20 PKP PKPdf 19 05 52.9 -0.3
comp=Z,0.5nm,0.6s,baz=333,slow=2.5,SNR=4.1
MKAR Makanchi Array 122.72 20 PKP PKPdf 19 06 01.6 -0.5
comp=Z,0.6nm,0.5s,baz=307,slow=3.0,SNR=11
ASAR Alice Springs 148.63 234 PKP PKPdf 19 06 49.7 -0.6
comp=Z,3.5nm,0.6s,baz=119,slow=3.6,SNR=27
ASAR PKPbc PKPbc 19 06 53.0 -1.2
comp=Z,3.5nm,0.6s,baz=120,slow=3.9,SNR=62
ASAR pPKPbc pPKPbc 19 07 30.2 -1.2
comp=Z,1.0nm,0.5s,baz=113,slow=3.9,SNR=3.0
WRA Warramunga Arr 149.86 241 PKPbc PKPbc 19 06 56.3 -1.0
comp=Z,4.7nm,0.5s,baz=122,slow=2.8,SNR=50
WRA pPKPbc pPKPbc 19 07 33.5 -1.0
comp=Z,3.9nm,0.5s,baz=125,slow=3.0,SNR=9.6
WRA Warramunga Arr 149.86 241 PKPbc 19 06 55.9 -1.3
CMAR Chiang Mai Arr 154.07 17 PKPbc PKiKP 19 07 06.9 +0.1
comp=Z,1.2nm,0.8s,baz=323,slow=2.8,SNR=6.6
CMAR PKPab PKPab 19 07 20.4 -0.2
comp=Z,1.8nm,0.7s,baz=328,slow=5.0,SNR=12

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*WEL **23** 18:47:00, 38.°32S×176.°14E, h186km, ML5.0, Mw5.3, Moment Tensor Solution. s15 Moment tensor: Scale 10^{16}Nm; M_{rr}3.96; $M_{\theta\theta}$-4.02; $M_{\phi\phi}$0.06; $M_{r\theta}$5.91; $M_{\theta\phi}$-5.90; $M_{\phi r}$1.99; Fault plane solution: $M_0$9.00000×10^{16} NP1: ϕ_s199.00000°, δ32.00000°, λ36.00000°. NP2: ϕ_s78.00000°, δ72.00000°, λ117.00000°. Principal axes: T -10692.6200, Plg55.0000°, Azm22.0000°; N 7315.5200, Plg26.0000°, Azm249.0000°; P 3377.1000, Plg22.0000°, Azm148.0000°;*

*IDC **23** 18:47:49.9±0.3, 38.°32S×176.°44E, h183km±3km, mb4.5/19, mb1 4.6/20, mb1mx4.5/30, mbtmp5.0/20, MS3.8/9, Ms1 3.8/9, ms1mx3.4/34 Error ellipse: s-maj=13.5km s-min=10.7km az=10.0*

NOU ***23*** *18:47:50.6, 38.°49S×176.°31E, h178km, MLv5.7/82, North Island, New Zealand*

NEIC ***23*** *18:47:51.4±2.5, 38.°27S±0.°06×176.°13E±0.°09, h181km±4km, mb5.0/77, Error ellipse: s-maj=9.8km s-min=9.2km az=78.0*

WEL ***23*** *18:47:51.8±0.5, 38°S±3°×17°6E±°, h167km±4km, M5.0/96, ML4.2/8, MLv5.0/96, Error ellipse: s-maj=0.0km s-min=0.0km az=103.8*

MOS ***23*** *18:47:52.9±1.0, 38.°16S×176.°15E, h212km, mb4.9/7, Error ellipse: s-maj=12.5km s-min=9.7km az=122.4*

GCMT ***23*** *18:47:54.3±0.2, 38.°31S±0.°01×176.°18E±0.°01, h184km±1km, MW5.2/116, Moment Tensor Solution. s98,c149; s116,c192; Duration: 1.s0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.25±.01; $M_{\theta\theta}$-0.43±.02; $M_{\phi\phi}$0.18±.02; $M_{r\theta}$0.72±.01; $M_{\theta\phi}$-0.46±.02; $M_{\phi r}$0.32±.01; Best double couple: $M_0$0.91700×10^{17} NP1:ϕ_s217.00000°,δ17.00000°, λ58.00000°. NP2:ϕ_s71.00000°,δ75.00000°,λ99.00000°. Principal axes: T 0.7080, Plg59.0000°, Azm353.0000°; N 0.4170, Plg9.0000°, Azm248.0000°; P -1.1270, Plg30.0000°, Azm153.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 18:47:50.7±0.2**, 38.°42S**±0.°02×**176.°10E**±0.°03**, h184**km±1km**, n636,** σ1.s**47**/640**, mb5.0**/106**, 48C-10D, Fault plane solution: NP1:**ϕ_s153.48111°**,**δ23.00681°**,**λ9.06271°. **NP2:**ϕ_s55.12865°**,**δ86.47044°**,**λ112.74901°. **Principal axes:** T Plg43.9790°**,** Azm347.4614°**;** N Plg22.7034°**,** Azm233.6499°**;** P Plg37.3967°**,** Azm124.9968°**; North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GRRZ	Galatos Road	0.07	5	P	Pn	18 48 14.9	-0.2
WPRZ	Whakapapatarin	0.11	155	P	Pn	18 48 14.9	-0.1
HRRZ	Handcock Road	0.14	80	P	Pn	18 48 14.8	-0.3
HSRZ	Hossack Road	0.15	47	P	Pn	18 48 14.8	-0.3
KUTZ	Kaahu Road	0.23	252	P	Pn	18 48 15.1	-0.1
ALRZ	Allen Road	0.24	128	P	Pn	18 48 14.8	-0.4
PRRZ	Plateau Road	0.24	110	P	Pn	18 48 14.8	-0.4
UTU	Utuhina	0.25	17	P	Pn	18 48 15.0	-0.3
HLRZ	Highlands Stat	0.26	50	P	Pn	18 48 15.2	-0.1
WHTZ	Whakaora	0.27	204	P	Pn	18 48 15.6	+0.2
NGRZ	Ngongotaha	0.32	12	P	Pn	18 48 15.0	-0.5
RRRZ	Republican Roa	0.33	77	P	Pn	18 48 14.9	-0.6
TARZ	Mount Tarawera	0.36	61	P	Pn	18 48 15.1	-0.5
OMRZ	Omania	0.38	35	P	Pn	18 48 14.9	-0.7
MKRZ	Makatiti	0.40	46	P	Pn	18 48 15.7	-0.1
WATZ	Wairara	0.41	225	P	Pn	18 48 15.8	+0.1
KARZ	Kaharoa	0.41	16	P	Pn	18 48 15.0	-0.7
TLZ	Tolley Road	0.45	281	P	Pn	18 48 15.8	-0.1
LIRZ	Lichensteins R	0.47	28	P	Pn	18 48 15.3	-0.6
HATZ	Hinemaiaia	0.47	181	P	Pn	18 48 15.9	0.0
HATZ				S	Sn	18 48 34.1	-1.5
MRHZ	Matea Rd	0.48	149	P	Pn	18 48 15.9	-0.1
MRHZ				S	Sn	18 48 34.0	-1.6
RATZ	Rangitukua	0.52	210	P	Pn	18 48 16.2	+0.1
MUGZ	Murupara	0.53	97	P	Pn	18 48 15.5	-0.6
KMRZ	Kaimai	0.58	347	P	Pn	18 48 15.8	-0.7
EDRZ	Edgecumbe	0.59	59	P	Pn	18 48 15.6	-0.9
RITZ	Rihia Road	0.59	199	P	Pn	18 48 16.9	+0.5
MARZ	Manawahe	0.62	47	P	Pn	18 48 15.8	-0.8
KATZ	Kakaramea	0.64	210	P	Pn	18 48 17.0	+0.2
OPRZ	Ohinepanea	0.67	32	P	Pn	18 48 15.7	-1.1
TGRZ	Tauranga	0.70	10	P	Pn	18 48 16.0	-1.0
RTZ	Ruatahuna	0.72	106	P	Pn	18 48 16.8	-0.3
RTZ				S	Sn	18 48 36.3	-1.2
MTHZ	Maungataniwha	0.72	127	P	Pn	18 48 17.2	+0.1
MTHZ				P	Pn	18 48 17.3	+0.1
MTHZ				S	Sn	18 48 36.6	-1.0
NTVZ	North Tongarir	0.76	206	P	Pn	18 48 17.8	+0.4
TMVZ	Te Maari	0.76	204	P	Pn	18 48 17.8	+0.4
KRVZ	Karewarewa	0.77	208	P	Pn	18 48 17.9	+0.4
ETVZ	East Tongariro	0.78	203	P	Pn	18 48 18.1	+0.6
ETVZ				S	Sn	18 48 38.2	-0.2
WTVZ	West Tongariro	0.81	210	P	Pn	18 48 18.0	+0.3
BKZ	Black Stump Fm	0.81	158		Pn	18 48 17.9	+0.3
BKZ	Black Stump Fm	0.81	158	P	Pn	18 48 17.9	+0.3
BKZ				S	Sn	18 48 37.6	-0.9
NNVZ	North Ngauruho	0.81	208	P	Pn	18 48 18.1	+0.4
URZ	Urewera	0.81	79	P	Pn	18 48 16.3	-1.2
	6μm,0.3s,baz=254,slow=3.5						
URZ				S	Sn	18 48 35.1	-3.1
	7μm,0.3s,baz=247,slow=5.8,SNR=13						
URZ	Urewera	0.81	79	Pn	Pn	18 48 16.5	-1.0
URZ					Sn	18 48 32.5	-5.7
URZ	Urewera	0.81	79	P	Pn	18 48 16.5	-1.0
URZ				S	Sn	18 48 35.6	-2.6
OTVZ	Oturere	0.82	204	P	Pn	18 48 18.3	+0.4
OTVZ				S	Sn	18 48 39.0	+0.1
TOZ	Tahuroa Road	0.83	325	P	Pn	18 48 17.2	-0.6
TWVZ	Taurewa	0.83	218	P	Pn	18 48 18.1	+0.3
SNVZ	South Ngauruho	0.85	205	P	Pn	18 48 18.5	+0.5
NGZ	Ngauruhoe	0.85	207	P	Pn	18 48 18.5	+0.4
NMHZ	Naumai	0.88	141	P	Pn	18 48 19.2	+1.2
NMHZ				S	Sn	18 48 40.0	+0.7
WHRZ	Whale Island	0.89	51	P	Pn	18 48 17.0	-1.1
RAHZ	Arahi	0.92	123	P	Pn	18 48 18.9	+0.7
TUVZ	Tukino	0.92	202	P	Pn	18 48 19.0	+0.6
FWVZ	Far West T-bar	0.94	207	P	Pn	18 48 18.8	+0.1
WHVZ	Whangaehu Hut	0.95	205	P	Pn	18 48 19.0	+0.2
TRVZ	Turoa	0.98	206	P	Pn	18 48 19.5	+0.5
HIZ	Hauiti	0.98	264	Pn	Pn	18 48 18.8	+0.1
HIZ	Hauiti	0.98	264	P	Pn	18 48 18.9	+0.1
WNVZ	Wahianoa	0.99	203	P	Pn	18 48 19.4	+0.5
MOVZ	Moawhango	1.03	195	P	Pn	18 48 19.3	+0.2
RAGZ	Rawiri	1.03	95	P	Pn	18 48 19.0	-0.2
SNGZ	Shannon Statio	1.04	111	P	Pn	18 48 19.5	+0.4
KWHZ	Kaweka Forest	1.04	166	P	Pn	18 48 20.0	+0.8
PKVZ	Pokaka	1.05	214	P	Pn	18 48 19.7	+0.5
BHHZ	Black Hill Sta	1.07	182	P	Pn	18 48 19.8	+0.4
MTVZ	Mangateitei	1.08	207	P	Pn	18 48 20.2	+0.6
ARHZ	Aropaoanui	1.10	141	P	Pn	18 48 20.6	+1.1
WHHZ	Waihua	1.10	127	P	Pn	18 48 20.4	+0.8
MWZ	Matawai	1.12	86	P	Pn	18 48 19.3	-0.5
MCHZ	McNeill Hill	1.13	156	P	Pn	18 48 21.1	+1.4
MYRZ	Mayor Island	1.14	6	P	Pn	18 48 19.0	-1.0
WIZ	White Island	1.24	44	P	Pn	18 48 19.2	-1.5
WSRZ	White Island S	1.24	44	P	Pn	18 48 19.4	-1.3
KRHZ	Kereru	1.24	170	P	Pn	18 48 21.6	+0.8
VRZ	Vera Road	1.27	236	P	Pn	18 48 21.5	+0.6
RUGZ	Raukumara Rang	1.32	71	P	Pn	18 48 19.8	-1.7
RIGZ	Rimuhau	1.33	103	P	Pn	18 48 21.9	+0.3
KNZ	Kokohu	1.37	117	P	Pn	18 48 22.2	+0.5
TKGZ	Te Karaka	1.37	91	P	Pn	18 48 21.8	0.0
CKHZ	Cape Kidnapper	1.45	149	P	Pn	18 48 23.8	+1.3
HAZ	Te Kaha	1.48	64	P	Pn	18 48 21.1	-1.7
PRGZ	Paritu Road	1.48	110	P	Pn	18 48 23.2	+0.3
PNHZ	Pukenui	1.50	177	P	Pn	18 48 23.6	+0.6
TWGZ	Tauwhareparae	1.50	81	P	Pn	18 48 22.8	-0.3
KAHZ	Kahuranaki	1.50	157	P	Pn	18 48 24.3	+1.3
MKAZ	Moumakai	1.51	330	P	Pn	18 48 22.4	-0.7
MHEZ	Mangahewa	1.54	244	P	Pn	18 48 24.5	+1.1
MHGZ	Mahia Peninsul	1.59	118	P	Pn	18 48 24.7	+0.8
PKGZ	Pakihiroa	1.64	72	P	Pn	18 48 23.6	-0.9
TSZ	Takapari Road	1.64	184	P	Pn	18 48 25.1	+0.7
CNGZ	Carnagh Statio	1.66	93	P	Pn	18 48 24.9	+0.4
WPHZ	Waipukurau	1.67	171	P	Pn	18 48 25.4	+0.8
DREZ	Durham Road	1.67	242	P	Pn	18 48 25.7	+1.1
LREZ	Lake Rotokare	1.69	231	P	Pn	18 48 25.9	+1.1
KUZ	Kuaotunu	1.69	350	P	Pn	18 48 23.8	-1.1
PXZ	Pawanui	1.72	160	P	Pn	18 48 26.0	+0.9
ETAZ	East Tamaki Re	1.73	327	P	Pn	18 48 24.5	-0.8
PUZ	Puketiti	1.73	79	P	Pn	18 48 24.4	-0.9
PREZ	Palmer Road	1.78	238	P	Pn	18 48 26.8	+1.1
AWAZ	Awhitu Peninsu	1.78	319	P	Pn	18 48 25.1	-0.6
NEZ	North Egmont	1.78	241	P	Pn	18 48 27.0	+1.1
WIAZ	Waiheke Island	1.79	334	P	Pn	18 48 25.2	-0.8
PKE	Pukeiti	1.83	244	P	Pn	18 48 27.3	+1.1
KHEZ	Kahui Hut	1.85	241	P	Pn	18 48 27.5	+1.0
EPAZ	Eden Park BICE	1.88	325	P	Pn	18 48 26.1	-0.7
DVHZ	Dannevirke	1.88	178	P	Pn	18 48 27.2	+0.4
OHWZ	Ohakea	1.89	199	P	Pn	18 48 27.9	+1.1
MBAZ	Motutapu North	1.90	329	P	Pn	18 48 26.2	-0.8
HBAZ	Herne Bay Bore	1.91	325	P	Pn	18 48 26.4	-0.7
WTAZ	Waiatarua	1.92	320	P	Pn	18 48 26.7	-0.5
WMGZ	Waiomatatini S	1.92	73	P	Pn	18 48 26.3	-0.9
MXZ	Matakaoa Point	1.94	65		Pn	18 48 26.4	-1.0
MXZ	Matakaoa Point	1.94	65	P	Pn	18 48 26.5	-1.0
NBEZ	Newall Road No	1.94	243	P	Pn	18 48 28.2	+0.8
POWZ	Post Office Ro	1.99	187	P	Pn	18 48 28.3	+0.4
NMEZ	Namu Road	2.00	239	P	Pn	18 48 28.8	+0.8
RVAZ	Riverhead Bore	2.04	323	P	Pn	18 48 27.8	-0.7
ANWZ	Angora Road	2.06	172	P	Pn	18 48 29.5	+0.8
ABAZ	Army Bay	2.08	330	P	Pn	18 48 28.2	-0.7
PRWZ	Pori Road	2.14	183	P	Pn	18 48 30.1	+0.6
GRZ	Great Barrier	2.22	346	P	Pn	18 48 29.5	-1.1
BFZ	Birch Farm	2.27	177	Pn	Pn	18 48 31.2	+0.2
BFZ	Birch Farm	2.27	177	P	Pn	18 48 31.1	+0.2
MRZ	Mangatainoka R	2.28	190	P	Pn	18 48 31.2	+0.1
TIWZ	Tintock	2.36	184	P	Pn	18 48 32.3	+0.2
CPWZ	Castlepoint	2.49	178	P	Pn	18 48 34.2	+0.7
OGWZ	Otaki Gorge	2.50	196	P	Pn	18 48 33.7	+0.1
HOWZ	Holdsworth Sta	2.52	190	P	Pn	18 48 33.6	-0.3
KIW	Kapiti Island	2.61	200	P	Pn	18 48 34.5	-0.4
TMWZ	Te Maipa	2.69	183	P	Pn	18 48 35.5	-0.3
MTW	Mount Morrison	2.78	189	P	Pn	18 48 36.2	-0.6
CAW	Cannon Point	2.80	196	P	Pn	18 48 36.8	-0.4
WCZ	Waipu Caves	2.84	330	P	Pn	18 48 36.9	-0.8
DUWZ	D'Urville Isla	2.92	215	P	Pn	18 48 37.7	-0.8
TRWZ	Traveller	3.00	186	P	Pn	18 48 38.9	-0.6
PAWZ	Paruwai Farm	3.01	190	P	Pn	18 48 38.9	-0.7
WEL	Wellington	3.04	199	P	Pn	18 48 39.4	-0.6
MSWZ	Moikau Station	3.07	192		Pn	18 48 39.4	-0.9
MSWZ	Moikau Station	3.07	192	P	Pn	18 48 39.5	-0.9
SNZO	South Karori	3.08	200	Pn	Pn	18 48 39.6	-0.8
TCW	Tory Channel	3.12	206	P	Pn	18 48 40.2	-0.8
BHW	Baring Head	3.13	197		Pn	18 48 40.2	-0.9
BHW	Baring Head	3.13	197	P	Pn	18 48 40.3	-0.8
PLWZ	Palliser	3.22	191	Pn	Pn	18 48 41.0	-1.1
PLWZ	Palliser	3.22	191	P	Pn	18 48 41.4	-0.8
TUWZ	Tuamarina	3.44	208		Pn	18 48 43.7	-1.1
TUWZ	Tuamarina	3.44	208	P	Pn	18 48 43.9	-0.9
NNZ	Nelson	3.50	216		Pn	18 48 44.0	-1.5
NNZ	Nelson	3.50	216	P	Pn	18 48 44.2	-1.3
CMWZ	Cape Campbell	3.63	203		Pn	18 48 46.8	-0.4
CMWZ				Sn	Sn	18 49 31.2	-0.3
CMWZ	Cape Campbell	3.63	203	P	Pn	18 48 47.3	+0.1
QRZ	Quartz Range	3.66	228		Pn	18 48 45.8	-1.8
QRZ	Quartz Range	3.66	228	P	Pn	18 48 45.7	-1.9
BSWZ	Blackbirch Sta	3.71	207		Pn	18 48 47.1	-1.1
BSWZ	Blackbirch Sta	3.71	207	P	Pn	18 48 47.4	-0.9
OUZ	Omahuta	3.77	327		Pn	18 48 48.5	-0.5
OUZ	Omahuta	3.77	327	P	Pn	18 48 48.6	-0.5
THZ	Tophouse	4.14	215		Pn	18 48 52.1	-1.6
THZ	Tophouse	4.14	215	P	Pn	18 48 52.1	-1.6
KHZ	Kahutara	4.45	205		Pn	18 48 56.5	-1.0
KHZ	Kahutara	4.45	205	P	Pn	18 48 56.5	-1.0
DSZ	Denniston Nort	4.68	223	P	Pn	18 48 58.2	-2.4
GVZ	Greta Valley S	5.11	206	P	Pn	18 49 04.7	-1.4
LTZ	Lake Taylor	5.25	213		Pn	18 49 05.6	-2.4
LTZ	Lake Taylor	5.25	213	P	Pn	18 49 05.5	-2.4
AMCZ	Amberley	5.43	208	P	Pn	18 49 08.3	-2.0
INZ	Inchbonnie	5.58	218	P	Pn	18 49 09.3	-2.9
OKCZ	Okains Bay	5.78	202	P	Pn	18 49 12.9	-1.9
OXZ	Oxford	5.79	211		Pn	18 49 11.6	-3.4
OXZ	Oxford	5.79	211	P	Pn	18 49 11.6	-3.4
MQZ	McQueen's Vall	5.89	205		Pn	18 49 13.1	-3.1
MQZ	McQueen's Vall	5.89	205	P	Pn	18 49 13.6	-2.6
AKCZ	Akaroa Harbour	5.96	203	P	Pn	18 49 15.0	-2.1
RACZ	Rakaia	6.09	208	P	Pn	18 49 16.3	-2.5
MHCZ	Mount Hutt	6.15	212	P	Pn	18 49 16.3	-3.4
WVZ	Waitaha Valley	6.18	220	P	Pn	18 49 16.6	-3.5
WACZ	Wakanui South	6.39	209	P	Pn	18 49 20.1	-2.6
RPZ	Rata Peaks	6.52	214		Pn	18 49 21.0	-3.6
RPZ	Rata Peaks	6.52	214	P	Pn	18 49 21.2	-3.3
GCSZ	Gaunt Creek Bo	6.56	220	P	Pn	18 49 21.5	-3.5
ARCZ	Arundel	6.66	212	P	Pn	18 49 22.9	-3.4
FOZ	Fox Glacier	6.98	221	Pn	Pn	18 49 26.6	-3.9
TMZ	Timaru	7.08	211	P	Pn	18 49 28.7	-3.2
LBZ	Lake Benmore	7.44	215		Pn	18 49 33.5	-3.1
LBZ	Lake Benmore	7.44	215	P	Pn	18 49 33.4	-3.1
CTZ	Chatham Island	7.64	136	P	Pn	18 49 40.7	+1.5
ODZ	Otahua Downs	7.78	210	Pn	Pn	18 49 38.6	-2.3
ODZ	Otahua Downs	7.78	210	P	Pn	18 49 38.4	-2.5
JCZ	Jackson Bay	7.89	222	P	Pn	18 49 38.9	-3.6
WKZ	Wanaka	8.31	217		Pn	18 49 44.3	-3.8
WKZ	Wanaka	8.31	217	P	Pn	18 49 43.8	-4.2
EAZ	Earnscleugh	8.49	214	P	Pn	18 49 46.7	-3.6
HHSZ	Highcliff Hill	8.51	207	P	Pn	18 49 49.2	-1.3
MSZ	Milford Sound	8.75	222	P	Pn	18 49 49.8	-3.9
TUZ	Tuapeka	8.93	210	P	Pn	18 49 55.1	-0.9
MLZ	Mavora Lakes	9.14	218		Pn	18 49 55.8	-3.1
MLZ	Mavora Lakes	9.14	218	P	Pn	18 49 55.8	-3.1
SYZ	Scrubby Hill	9.60	210	P	Pn	18 50 03.3	-1.5
WHZ	Wether Hill Ro	9.61	216		Pn	18 50 01.0	-3.9
WHZ	Wether Hill Ro	9.61	216	P	Pn	18 50 01.1	-3.9
APZ	The Paps	10.31	213	P	Pn	18 50 11.8	-2.4
RAO	Raoul Island	10.40	30	S	Sn	18 51 57.4	-14
	280nm,0.3s,baz=36,slow=22,SNR=8.6						
RAO				LR	LR	18 53 43.0	
	comp=Z,252nm,18.3s,baz=214,slow=35						
PYZ	Puysegur Point	10.42	219	Pn	Pn	18 50 13.5	-2.0
PYZ	Puysegur Point	10.42	219	P	Pn	18 50 13.8	-1.7
PINNC	Pines Island,	17.41	332	P	P	18 51 39.3	-1.9
PINNC				IAmb	IAmb	18 51 45.9	
	comp=Z,106nm,1.1s						
PINNC	Pines Island,	17.41	332	P	Pn	18 51 42.1	-0.6
OUENC	Ouen Island, N	17.82	331		Pn	18 51 46.7	-0.7
OUENC	Ouen Island, N	17.82	331	P	Pn	18 51 49.1	+1.7
ONTNC	Ouen Toro	18.07	330		P	18 51 48.8	+0.5
ONTNC	Ouen Toro	18.07	330	P	Pn	18 51 50.1	-0.3
YATNC	Mamie plateau,	18.12	331	P	Pn	18 51 52.4	+1.3
MARNC	Mare, Loyalty	18.25	335	P	P	18 51 51.0	+0.6
MARNC	Mare, Loyalty	18.25	335	P	Pn	18 51 51.9	-0.7
DZM	Mont Dzumac	18.28	330	P	Pn	18 51 52.1	-0.9
	comp=Z,2.6nm,0.3s,baz=169,slow=11,SNR=52						
DZM	Mont Dzumac	18.28	330	*e*P	P	18 51 51.7	+0.9
	comp=Z,224nm,1.0s						
DZM	Mont Dzumac	18.28	330		Pn	18 51 52.0	-1.1
DZM				IAmb	IAmb	18 51 58.3	
	comp=Z,89nm,0.8s						
DZM	Mont Dzumac	18.28	330	P	Pn	18 51 52.4	-0.6
LIFNC	LIFOU	19.17	334	P	P	18 52 00.3	0.0
LIFNC	LIFOU	19.17	334	P	Pn	18 52 02.2	-1.2
KOUNC	Koumac, New Ca	20.53	327	P	P	18 52 16.5	+1.7
MSVF	Nonsavu	20.68	5	P	P	18 52 15.2	-1.3
MSVF				pmax	pmax		
	comp=Z,125nm,1.0s						
MSVF	Nonsavu	20.68	5	P	P	18 52 15.2	-1.3
MSVF	Nonsavu	20.68	5	P	P	18 52 16.9	+0.3
MILA	Mila	21.33	265	P	P	18 52 24.3	+0.9
	baz=21,SNR=4.5						
CNB	Canberra Magne	21.59	270	P	P	18 52 26.4	+0.3
	baz=22,SNR=22						
ARMA	Armidale	21.66	284	P	P	18 52 27.7	+0.8
	baz=22,SNR=4.2						
DVP	Devils Point	21.75	339	P	P	18 52 30.2	+2.5
TAU	Tasmania Unive	22.24	249	P	P	18 52 34.5	+2.2
TAU				pmax	pmax		
	comp=Z,52nm,1.0s						
TAU	Tasmania Unive	22.24	249	P	P	18 52 34.5	+2.2
TAU				IAmb	IAmb	18 52 37.0	
	comp=Z,52nm,0.9s						
MOO	Moorlands	22.32	250	P	P	18 52 35.0	+1.8
	baz=22,SNR=5.5						
TOO	Toolangi	24.09	262	P	P	18 52 50.9	+1.6
	baz=24,SNR=15						
TOO	Toolangi	24.09	262	P	P	18 52 51.3	+2.0
TOO				pmax	pmax		
	comp=Z,44nm,1.0s						
TOO	Toolangi	24.09	262	P	P	18 52 51.3	+2.0
TOO				IAmb	IAmb	18 52 53.0	
	comp=Z,44nm,0.9s						
SANVU	Saraoutou	24.19	339	P	P	18 52 50.4	+0.1
SANVU	Saraoutou	24.19	339	P	P	18 52 52.4	+2.1
EIDS	Eidsvold	24.82	294	P	P	18 52 58.0	+2.1
	baz=25,SNR=10						
EIDS	Eidsvold	24.82	294	P	P	18 52 57.5	+1.6
EIDS				IAmb	IAmb	18 52 58.7	
	comp=Z,34nm,0.9s						
CMSA	Cobar Meteorol	25.77	276	P	P	18 53 06.1	+1.6
	baz=26,SNR=19						
RMQ	Roma	25.86	289	P	P	18 53 06.2	+0.8
	baz=26,SNR=6.9						
AFI	Afiamalu	26.67	27	P	P	18 53 10.4	-2.3
	comp=Z,31nm,0.8s,baz=245,slow=20,SNR=7.2						
AFI	Afiamalu	26.67	27	P	P	18 53 10.4	-2.3
AFI				IAmb	IAmb	18 53 18.5	
	comp=Z,48nm,0.8s						
AFI	Afiamalu	26.67	27	P	P	18 53 11.9	-0.8
STKA	Stephens Creek	28.84	272	P	P	18 53 33.7	+1.8
	baz=29,SNR=21						
STKA	Stephens Creek	28.84	272	P	P	18 53 34.2	+2.4
	comp=Z,23nm,0.8s,baz=106,slow=11,SNR=39						
STKA				PcP	PcP	18 56 36.0	-0.7
	comp=Z,5.4nm,0.7s,baz=38,slow=4.1,SNR=4.7						
STKA				LR	LR	19 04 41.6	
	comp=Z,191nm,22.0s,baz=109,slow=35						
STKA	Stephens Creek	28.84	272	P	P	18 53 33.7	+1.8
QLP	Quilpie	29.21	284	P	P	18 53 37.2	+2.0
	baz=29,SNR=25						
HTT	Hallett	30.38	268	P	P	18 53 47.0	+1.5
	baz=30,SNR=6.3						
CTA	Charters Tower	31.61	297	P	P	18 53 57.9	+1.6
	comp=Z,41nm,0.8s,baz=129,slow=9.9,SNR=44						
CTAO	Charters Tower	31.61	297	P	P	18 53 57.7	+1.4
CTAO				pmax	pmax		
	comp=Z,68nm,1.0s						
CTAO	Charters Tower	31.61	297	P	P	18 53 57.7	+1.4
HNR	Honiara	32.31	329	P	P	18 54 02.5	+0.1
	comp=Z,255nm,0.8s,baz=183,slow=2.3,SNR=19						
HNR	Honiara	32.31	329	P	P	18 54 02.1	-0.3
HNR	Honiara	32.31	329	P	P	18 54 04.9	+2.5
BBOO	Buckleboo	32.84	267	P	P	18 54 08.4	+1.4
	baz=33,SNR=13						
BBOO	Buckleboo	32.84	267	P	P	18 54 07.5	+0.5
BBOO				IAmb	IAmb	18 54 08.8	
	comp=Z,24nm,0.8s						
MTSU	Mount Surprise	34.27	297	P	P	18 54 21.3	+1.9
	baz=34,SNR=75						
QIS	Mount Isa	36.12	289	P	P	18 54 36.5	+1.2
	baz=36,SNR=20						
PAE	Paea	36.37	65	*e*P	P	18 54 38.4	+1.1
	comp=Z,23nm,1.0s						
PPT2	Papeete2	36.42	65	*e*P	P	18 54 39.1	+1.3
	comp=Z,103nm,1.0s						
PPTF	Pamatai, Papee	36.43	65	P	P	18 54 38.0	+0.1
PPT	Papeete	36.44	65	P	P	18 54 39.3	+1.4
	comp=Z,83nm,0.7s,baz=110,slow=3.9,SNR=15						
PPT				LR	LR	19 05 49.7	
	comp=Z,57nm,21.5s,baz=178,slow=30						
TIAR	Tiarei	36.61	65	*e*P	P	18 54 40.6	+1.3
	comp=Z,30nm,0.8s						
MEH	Mehetia	37.32	67	*e*P	P	18 54 46.3	+1.0
	comp=Z,39nm,1.2s						
COEN	Coen	37.96	301	P	P	18 54 51.3	+0.6
AS31	Alice Springs	38.69	280	P	P	18 54 57.5	+0.8
AS31				IAmb	IAmb	18 54 58.6	
	comp=Z,29nm,0.7s						
ASAR	Alice Springs	38.69	280	P	P	18 54 57.9	+1.1
	comp=Z,73nm,0.7s,baz=122,slow=8.1,SNR=826						
ASAR				ScP	ScP	19 00 31.9	-3.5
	comp=Z,3.7nm,0.8s,baz=128,slow=4.1,SNR=8.1						
ASAR				S	S	19 00 41.0	+1.1
	comp=Z,1.6nm,0.7s,baz=131,slow=15,SNR=5.7						
ASAR				LR	LR	19 11 32.0	
	comp=Z,130nm,20.6s,baz=128,slow=36						
ASAR				P3KPbc		19 24 58.2	
	comp=Z,0.2nm,0.5s,baz=306,slow=4.5,SNR=6.3						
ASAR	Alice Springs	38.69	280	P	P	18 54 57.5	+0.7
ASAR					ScP	19 00 31.7	-3.7
PMOR	Pomariorio Ree	39.35	64	*e*P	P	18 55 03.3	+1.0
	comp=Z,58nm,1.0s						
VAH	Vaihoa	39.38	64	*e*P	P	18 55 03.5	+1.0
	comp=Z,64nm,1.0s						
VNDA	Vanda	39.68	185	P	P	18 55 08.3	+4.0
	comp=Z,19nm,0.8s,baz=2.5,slow=8.2,SNR=125						
VNDA				PcP	PcP	18 57 09.1	+2.0
	comp=Z,3.5nm,0.7s,baz=311,slow=1.3,SNR=3.3						
VNDA				ScP	ScP	19 00 36.4	-1.8
	comp=Z,2.4nm,0.7s,baz=318,slow=3.8,SNR=6.7						
VNDA	Vanda	39.68	185		P	18 55 08.0	+3.7
SBA	Scott Base	39.74	183	P	P	18 55 09.0	+4.2
SBA				pmax	pmax		
	comp=Z,66nm,1.2s						
SBA	Scott Base	39.74	183		P	18 55 09.0	+4.2
SBA				IAmb	IAmb	18 55 11.2	
	comp=Z,66nm,1.1s						
FORT	Forrest	39.91	266	P	P	18 55 08.0	+1.2
	baz=40,SNR=19						
FORT	Forrest	39.91	266	P	P	18 55 07.7	+0.9
FORT				IAmb	IAmb	18 55 08.6	
	comp=Z,40nm,0.7s						
WR0	Warramunga Arr	40.28	285	P	P	18 55 10.0	+0.1
WR0				IAmb	IAmb	18 55 11.6	
	comp=Z,26nm,0.9s						
WB2	Warramunga Arr	40.43	285	P	P	18 55 11.2	-0.1
WB2				IAmb	IAmb	18 55 12.7	
	comp=Z,29nm,0.8s						
WRAB	Tennant Creek	40.44	285*c*	*i*P	P	18 55 11.5	+0.2
WRAB				pmax	pmax		
	comp=Z,22nm,0.8s						
WRAB	Tennant Creek	40.44	285	P	P	18 55 11.3	0.0
WRAB				IAmb	IAmb	18 55 12.8	
	comp=Z,26nm,0.7s						
WRA	Warramunga Arr	40.44	285	P	P	18 55 11.7	+0.4
	comp=Z,22nm,0.7s,baz=128,slow=7.0,SNR=112						
WRA				ScP	ScP	19 00 38.2	-4.0
	comp=Z,5.5nm,0.8s,baz=139,slow=4.3,SNR=9.6						
WRA	Warramunga Arr	40.44	285	P	P	18 55 10.6	-0.7
RABL	Rabaul	40.45	321	P	P	18 55 11.8	+0.5
RABL	Rabaul	40.45	321	P	P	18 55 13.6	+2.3
WRKA	Warakurna	42.35	274	P	P	18 55 26.9	+0.1
	baz=42,SNR=41						
MANU	Manus Island	44.74	317	P	P	18 55 45.8	-0.1
KDU	Kakadu	46.38	292	P	P	18 55 59.0	+0.3
	baz=46,SNR=3.9						
KNRA	Kununurra	47.24	285	P	P	18 56 06.1	+0.7
	baz=47,SNR=33						
KNRA	Kununurra	47.24	285	P	P	18 56 06.1	+0.7
KNRA				IAmb	IAmb	18 56 07.1	
	comp=Z,29nm,0.8s						
MTN	Manton Dam	47.26	290	P	P	18 56 05.8	+0.2
	baz=47,SNR=15						
MTN	Manton Dam	47.26	290	P	P	18 56 05.5	-0.1
MTN				IAmb	IAmb	18 56 06.8	
	comp=Z,41nm,0.7s						
NWAO	Narrogin (SRO)	47.44	258	P	P	18 56 07.6	+0.7
	baz=47,SNR=7.6						
NWAO	Narrogin (SRO)	47.44	258	P	P	18 56 07.5	+0.7
	comp=Z,6.8nm,0.6s,baz=119,slow=7.3,SNR=12						
NWAO	Narrogin (SRO)	47.44	258	IAmb	IAmb	18 56 09.2	
	comp=Z,25nm,1.4s						
KWAJ	Kwajalein Atol	47.64	349	P	P	18 56 06.9	-1.5
KWAJ				pmax	pmax		
	comp=Z,165nm,0.8s						
KWAJ	Kwajalein Atol	47.64	349	P	P	18 56 06.9	-1.5
KWAJ	Kwajalein Atol	47.64	349	P	P	18 56 07.6	-0.8
	comp=Z,267nm,0.8s						
PATS	Pohnpei	47.97	336	P	P	18 56 11.9	+0.9
	baz=48,SNR=5.4						
PATS	Pohnpei	47.97	336	P	P	18 56 10.3	-0.6
FITZ	Fitzroy Crossi	48.19	280	P	P	18 56 13.5	+0.8
	baz=48,SNR=47						
FITZ	Fitzroy Crossi	48.19	280	P	P	18 56 13.5	+0.8
	comp=Z,32nm,0.7s,baz=154,slow=7.8,SNR=130						
FITZ				LR	LR	19 17 40.8	
	comp=Z,95nm,18.2s,baz=122,slow=37						
FITZ	Fitzroy Crossi	48.19	280	P	P	18 56 13.2	+0.6
FITZ				IAmb	IAmb	18 56 14.6	
	comp=Z,37nm,0.8s						
JAY	Jayapura	48.19	309	P	P	18 56 13.1	+0.4
	comp=Z,54nm,1.0s,baz=195,slow=7.9,SNR=22						
JAY	Jayapura	48.19	309	P	P	18 56 13.5	+0.8
	comp=Z,559nmcomp=Z,49nm,1.4s						
GENI	Genyem	48.45	308	P	P	18 56 15.6	+0.9
MUN	Mundaring	48.62	258	P	P	18 56 16.7	+0.9
	baz=48,SNR=8.5						
BLDU	Ballidu	48.82	260	P	P	18 56 17.8	+0.4
	baz=49,SNR=10						
MEEK	Meekatharra	49.17	266	P	P	18 56 20.1	-0.1
	baz=49,SNR=21						
SMPI	Sarmi	49.83	307	P	P	18 56 25.2	+0.1
	comp=Z,29nm,1.6s						
MORW	Morawa	50.04	262	P	P	18 56 27.1	+0.4
	baz=50,SNR=8.8						
MORW	Morawa	50.04	262	P	P	18 56 26.8	+0.1
PSA00	Pilbara Seismi	50.78	272	P	P	18 56 31.7	-0.6
PSA00				IAmb	IAmb	18 56 32.7	
	comp=Z,24nm,0.8s						
PSA00	Pilbara Seismi	50.78	272	P	P	18 56 31.4	-0.9
PSA00				IAmb	IAmb	18 56 34.0	
	comp=Z,11nm,0.8s						
SRPI	Serui, Papua	51.48	305	P	P	18 56 37.9	+0.4
	comp=Z,955nmcomp=Z,48nm,1.2s						

QSPA South Pole Qui 51.71 180 P **P** **18 56 42.8 +4.1**
comp=Z,153nm,0.7s,baz=8.3,slow=0.6,SNR=891
QSPA South Pole Qui 51.71 180 P **P** **18 56 42.4 +3.6**
FAKI Fak Fak 53.34 300 P **P** **18 56 50.9 -0.3**
comp=Z,46nm,0.8s
SOEI Soe 54.36 288 P **P** **18 57 00.5 +1.7**
SOEI IAmb IAmb 18 57 07.4
comp=Z,50nm,1.0s
SOEI Soe 54.36 288 P **P** **18 56 59.3 +0.5**
comp=Z,54nm,1.6s
BATI Baumata 54.53 287 P **P** **18 57 01.7 +1.8**
comp=Z,17nm,0.6s,baz=223,slow=4.5,SNR=5.2
BATI LR LR 19 20 50.1
comp=Z,203nm,19.6s,baz=151,slow=36
GIRL Giralia 54.62 268 P **P** **18 57 02.0 +1.6**
baz=54,SNR=13
MSAI Masohi 55.32 297 P **P** **18 57 05.6 +0.1**
comp=Z,13nm,0.8s
SIJI Sorong 55.51 301 P **P** **18 57 06.4 -0.4**
SWI Sorong 55.52 301 P **P** **18 57 07.5 +0.6**
comp=Z,1µmcomp=Z,126nm,1.1s
EDFI Ende, Flores 56.95 286 P **P** **18 57 16.5 -0.6**
comp=Z,14nm,0.8s
SANI Sanana 58.30 296 P **P** **18 57 26.9 +0.4**
LBFI Labuhan Bajo, 58.48 285 P **P** **18 57 28.0 +0.3**
comp=Z,450nmcomp=Z,37nm,1.2s
KKSI Kolaka, Sulawe 59.98 290 P **P** **18 57 38.9 +0.9**
BKSI Bulukumba 60.35 288 P **P** **18 57 41.0 +0.5**
comp=Z,469nmcomp=Z,35nm,1.3s
TWSI Taliwang, Sumb 60.61 283 P **P** **18 57 42.9 +0.6**
comp=Z,30nm,1.2s
KAPI Kappang 60.83 288 P **P** **18 57 44.7 +0.9**
comp=Z,19nm,1.1s,baz=174,slow=2.9,SNR=4.9
KAPI Kappang 60.83 288 P **P** **18 57 44.2 +0.5**
KAPI IAmb IAmb 18 57 48.2
comp=Z,26nm,1.1s
KAPI Kappang 60.83 288 P **P** **18 57 48.3 +4.5**
BNSI Bone 60.97 289 P **P** **18 57 45.1 +0.4**
comp=Z,36nm,1.2s
LUWI Luwuk 61.30 294 P **P** **18 57 47.5 +0.6**
LUWI Luwuk 61.30 294 P **P** **18 57 48.3 +1.4**
comp=Z,1µmcomp=Z,118nm,1.4s
KLNI Mataram 61.41 283 P **P** **18 57 48.0 +0.3**
comp=Z,22nm,1.3s
KMSI Cibinong 61.57 296 P **P** **18 57 49.5 +0.8**
comp=Z,1µmcomp=Z,118nm,0.7s
TTSI Tana Toraja 62.09 290 P **P** **18 57 52.7 +0.5**
comp=Z,658nmcomp=Z,36nm,1.1s
APSI Ampana 62.20 293 P **P** **18 57 54.3 +1.4**
comp=Z,607nmcomp=Z,64nm,1.3s
MRSI Marisa 62.95 294 P **P** **18 57 57.6 -0.2**
comp=Z,33nm,0.8s
MMSI Mamuju 63.00 290 P **P** **18 57 59.1 +0.9**
comp=Z,334nmcomp=Z,32nm,1.2s
MAW Mawson 63.07 203 P **P** **18 58 00.0 +2.1**
baz=63,SNR=13
MAW Mawson 63.07 203 P **P** **18 57 59.1 +1.2**
comp=Z,5.6nm,0.6s,baz=127,slow=8.6,SNR=24
MAW Mawson 63.07 203 P **P** **18 57 59.4 +1.5**
MAW pmax pmax
comp=Z,8.0nm,1.5s
MAW Mawson 63.07 203 P **P** **18 57 59.4 +1.5**
TOLI2 Tolitoli 64.22 294 P **P** **18 58 05.2 -1.0**
TOLI2 IAmb IAmb 18 58 09.4
comp=Z,24nm,0.7s
MPSI Mapaga 64.32 293 P **P** **18 58 07.3 +0.5**
comp=Z,467nmcomp=Z,42nm,1.0s
KBKI Kotabaru 64.64 287 P **P** **18 58 10.3 +1.4**
PWJI Pagerwojo 64.96 280 P **P** **18 58 11.9 +0.9**
DAV Davao City (W) 65.17 302 P **P** **18 58 12.9 +0.6**
comp=Z,187nm,0.4s,baz=49,slow=2.4,SNR=6.2
DAV Davao City (W) 65.17 302 P **P** **18 58 13.7 +1.4**
comp=Z,275nm,0.5s
SJI Sawahan 65.17 280 P **P** **18 58 14.2 +1.7**
BBKI Banjar Baru 65.53 286 P **P** **18 58 15.4 +0.7**
comp=Z,71nm,0.9s
PMSA Palmer Station 66.95 156 P **P** **18 58 25.3 +2.4**
comp=Z,37nm,0.7s,baz=228,slow=5.1,SNR=16
PMSA Palmer Station 66.95 156 *e*P **P** **18 58 24.1 +1.2**
PMSA Palmer Station 66.95 156 P **P** **18 58 25.8 +2.9**
PKKI Palangkaraya 66.98 286 P **P** **18 58 24.8 +0.9**
MTKI Muara Teweh, K 67.14 288 P **P** **18 58 25.6 +0.7**
KPJI Karang Pucung 67.62 279 P **P** **18 58 28.2 +0.3**
comp=Z,27µmcomp=Z,41nm,1.1s
SYO Syowa Base 68.17 195⇑ *e*P **P** **18 58 32.1 +1.7**
SYO Syowa Base 68.17 195⇑ *e*PcP **PcP** **18 58 53.6 -1.4**
CISI Cisompet, Garu 68.35 278 P **P** **18 58 32.6 0.0**
CISI IAmb IAmb 18 58 33.7
comp=Z,34nm,0.9s
CISI Cisompet, Garu 68.35 278 P **P** **18 58 33.0 +0.5**
comp=Z,40nm,1.1s
LEM Lembang 68.95 278 P **P** **18 58 37.3 +0.9**
comp=Z,16nm,0.7s,baz=33,slow=5.9,SNR=7.9
CNJI Cibinong 69.03 277 P **P** **18 58 37.2 +0.5**
comp=Z,67nm,0.9s
DBJI Dramaga 69.80 278 P **P** **18 58 42.4 +1.0**
comp=Z,27nm,0.9s
SNAA Sanae 70.21 180 P **P** **18 58 45.2 +2.1**
SNAA Sanae 70.21 180 pP pP 18 59 27.4 +0.2
SNAA Sanae 70.21 180 *i* P **P** **18 58 44.9 +1.8**
SNAA pmax pmax
comp=Z,35nm,1.8s
SNAA Sanae 70.21 180 P **P** **18 58 44.7 +1.6**
SNAA IAmb IAmb 18 58 45.6
comp=Z,13nm,0.6s
STKI Sintang 70.37 286 P **P** **18 58 46.0 +1.1**
comp=Z,28nm,1.2s
VNA3 Neumayer Olymp 70.57 178 P **P** **18 58 47.3 +2.1**
VNA3 Neumayer Olymp 70.57 178 pP pP 18 59 29.4 0.0
VNA2 Neumayer--Watz 70.94 179 P **P** **18 58 49.8 +2.4**
baz=173,slow=4.9
VNA2 Neumayer--Watz 70.94 179 pP pP 18 59 32.2 +0.7
baz=178,slow=5.4
VNA1 Neumayer--Stat 71.19 178 P **P** **18 58 51.4 +2.4**
VNA1 Neumayer--Stat 71.19 178 pP pP 18 59 32.4 -0.7
MDSI Maura Dua 73.08 278 P **P** **18 59 00.8 -0.2**
KSI Kapahiang 74.83 277 P P 18 59 16.1 +4.8
MASI Maura Aman, Be 75.42 278 P **P** **18 59 15.0 +0.4**
comp=Z,74nm,1.2s
EFI East Falkland 78.59 149⇑ *e*P **P** **18 59 33.0 +1.4**
EFI pmax pmax
comp=Z,48nm,1.3s
LL04 Puerto Octay 79.31 134 P **P** **18 59 37.6 +1.9**
YOJ Yonaguni jima 79.92 312 P **P** **18 59 38.9 -0.2**
YOJ pmax pmax
comp=Z,30nm,0.9s
YOJ Yonaguni jima 79.92 312 P **P** **18 59 38.9 -0.2**
YOJ IAmb IAmb 18 59 39.8
comp=Z,30nm,0.9s
H03S2 Juan Fernandez 79.98 125 T T 20 26 13.7
baz=229,slow=74,SNR=28
H03S1 Juan Fernandez 79.98 125 T T 20 26 13.5
baz=229,slow=74,SNR=17
H03S3 Juan Fernandez 79.99 125 T T 20 26 20.3
baz=229,slow=74,SNR=29
H03N3 Juan Fernandez 80.22 125 T T 20 26 35.7
baz=234,slow=72,SNR=26
H03N2 Juan Fernandez 80.22 125 T T 20 26 36.3
baz=234,slow=72,SNR=25
H03N1 Juan Fernandez 80.24 125 T T 20 26 50.1
baz=234,slow=72,SNR=20
PLCA Paso Flores 80.46 135 P **P** **18 59 44.8 +2.8**
comp=Z,15nm,0.8s,baz=233,slow=4.9,SNR=41
PLCA LR LR 19 27 46.9
comp=Z,61nm,21.7s,baz=176,slow=30
PLCA Paso Flores 80.46 135 P **P** **18 59 44.2 +2.1**
PLCA pmax pmax
comp=Z,21nm,1.0s
PLCA Paso Flores 80.46 135 P **P** **18 59 44.2 +2.1**
PLCA IAmb IAmb 18 59 45.9
comp=Z,21nm,0.9s
PLCA Paso Flores 80.46 135 *e*P **P** **18 59 44.9 +2.8**
SSLB Suanglung 80.62 310 P **P** **18 59 41.4 -1.5**
LC01 Cunco 80.96 133 P **P** **18 59 47.0 +2.3**
RPSI Rantau Prapat 81.65 280 P **P** **18 59 47.6 -1.0**
PSI Prapat 81.72 280 P **P** **18 59 47.6 -1.5**
PSI pmax pmax
comp=Z,15nm,1.0s
PSI Prapat 81.72 280 P **PcP** **18 59 48.7 -5.7**
comp=Z,18nm,1.0s,comp=Z,6.6nm,1.0s
PSI P **P** **18 59 48.2 -0.9**
comp=Z,18nm,1.0s,comp=Z,6.6nm,1.0s
GSI Gunungsitoli 81.82 278 P **P** **18 59 49.3 -0.3**
GSI Gunungsitoli 81.82 278 P **P** **18 59 49.2 -0.3**
comp=Z,76nm,0.9s
INU Inuyama 81.83 329 P **P** **18 59 49.0 0.0**
INU IAmb IAmb 18 59 50.3
comp=Z,35nm,1.1s
MJAR Matsushiro Arr 82.39 330 P **P** **18 59 51.3 -0.6**
comp=Z,6.5nm,0.9s,baz=161,slow=6.7,SNR=14
MJAR Matsushiro Arr 82.39 330 P **P** **18 59 51.7 -0.2**
MJAR pmax pmax
comp=Z,3.0nm,0.9s
MJAR Matsushiro Arr 82.39 330 P **P** **18 59 51.7 -0.2**
MAJO Matsushiro 82.39 330 *i* P **P** **18 59 51.3 -0.6**
MAJO pmax pmax
comp=Z,26nm,1.4s
MAJO Matsushiro 82.39 330 P **P** **18 59 51.1 -0.8**
MAJO IAmb IAmb 18 59 52.9
comp=Z,31nm,1.4s
MAT Matsushiro 82.39 330 P **P** **18 59 51.2 -0.7**
MAT *e*S **S** 19 09 49.0 -3.3
JWT Wachi 82.45 327 P **P** **18 59 52.4 +0.2**
JHS Saijyo 83.20 326 P **P** **18 59 56.4 +0.3**
GO05 Huala 83.56 130 P **P** **18 59 59.0 +0.7**
GO05 IAmb IAmb 19 00 01.4
comp=Z,27nm,1.1s
BO02 Sierra Bellavi 84.39 130 P **P** **19 00 04.7 +2.1**
BO02 IAmb IAmb 19 00 05.8
comp=Z,35nm,1.1s
MT01 Popeta 84.75 130 P **P** **19 00 06.4 +2.2**
MT01 IAmb IAmb 19 00 07.2
comp=Z,27nm,0.8s
MT09 Talagante 84.97 130 P **P** **19 00 07.3 +1.8**
MT09 IAmb IAmb 19 00 08.3
comp=Z,28nm,1.4s
TRQA Tornquist 87.02 138 *e*P **P** **19 00 17.6 +2.3**
CO03 El Pedregal 87.17 128 P **P** **19 00 18.4 +2.1**
CO03 IAmb IAmb 19 00 19.5
comp=Z,22nm,0.8s
JKA Kamikawa-asahi 87.56 337 P **P** **19 00 18.5 +1.1**
JKA Kamikawa-asahi 87.56 337 IAmb IAmb 19 00 19.8
comp=Z,13nm,1.0s
ASAJ Asahikawa 87.56 337 P **P** **19 00 18.5 +1.1**
comp=Z,9.7nm,0.9s,baz=239,slow=14,SNR=5.6
KSRS Korea Array 87.58 324 P **P** **19 00 19.1 +1.5**
comp=Z,22nm,0.8s,baz=144,slow=5.5,SNR=71
KSAR Wonju Array Be 87.59 324 P **P** **19 00 18.7 +1.0**
KSAR Wonju Array Be 87.59 324 P **P** **19 00 18.7 +1.0**
KS19 Wonju Array Si 87.65 324 P **P** **19 00 18.8 +0.8**
KS19 IAmb IAmb 19 00 20.3
comp=Z,25nm,0.8s
NJ2 Nanjing 88.05 314 *e*P **P** **19 00 20.4 +0.4**
NJ2 pmax pmax
comp=Z,9.0nm,0.9s
GO03 Copiap 89.70 126 P **P** **19 00 29.6 +1.4**
GO03 IAmb IAmb 19 00 32.0
comp=Z,25nm,1.2s
AC06 Mina Casimiro 89.78 125 P **P** **19 00 31.2 +2.7**
AC06 IAmb IAmb 19 00 32.4
comp=Z,31nm,1.4s
YSS Yuzh-Sakhalins 90.07 338 *e*P **P** **19 00 28.0 -1.1**
YSS pmax pmax
comp=Z,10.0nm,1.0s
YSS pmax pmax
comp=Z,200nm,5.6s
YSS Yuzh-Sakhalins 90.07 338 P **P** **19 00 28.4 -0.7**
YSS IAmb IAmb 19 00 32.1
comp=Z,9.7nm,0.7s
KIWB Kanaga Island 90.09 4 P **P** **19 00 28.0 -1.0**
ADK Adak 90.15 4 P **P** **19 00 27.8 -1.5**
ADK pmax pmax
comp=Z,31nm,1.0s
ADK Adak 90.15 4 P **P** **19 00 27.8 -1.5**
ADK IAmb IAmb 19 00 29.1
comp=Z,31nm,1.0s
ATKA Atka Island 90.64 6 P **P** **19 00 30.2 -1.4**
ATKA IAmb IAmb 19 00 31.0
comp=Z,14nm,0.7s
AC02 Maricunga 90.93 126 P **P** **19 00 36.1 +1.7**
USA0B Ussuriysk Arra 91.39 330 *i* P **P** **19 00 33.7 -1.6**
USRK Ussuriysk Ar. 91.39 330 P **P** **19 00 36.2 +0.9**
comp=Z,3.4nm,0.9s,baz=174,slow=4.9,SNR=5.1
USRK Ussuriysk Ar. 91.39 330 P **P** **19 00 35.9 +0.6**
GYA Guiyang 91.54 303 ⇓P P 19 00 27.9 -8.7
GYA pmax pmax
comp=Z,8.0nm,0.7s
CM04 Chiang Mai Arr 91.60 292 P **P** **19 00 39.7 +2.8**
comp=Z,64nmcomp=Z,6.8nm,1.3s
CM05 Chiang Mai Arr 91.63 292 P **P** **19 00 39.4 +2.4**
comp=Z,50nmcomp=Z,5.6nm,1.3s
CM01 Chiang Mai Arr 91.63 292 P **P** **19 00 40.8 +3.8**
comp=Z,67nmcomp=Z,6.7nm,0.8s
PB14 IPOC Station P 91.64 123 P **P** **19 00 39.8 +2.3**
CM02 Chiang Mai Arr 91.65 292 P **P** **19 00 39.9 +2.8**
comp=Z,58nmcomp=Z,6.2nm,1.4s
CM31 Chiang Mai Arr 91.66 292 P **P** **19 00 37.5 +0.3**
CMAR Chiang Mai Arr 91.66 292 P **P** **19 00 38.0 +0.8**
comp=Z,2.6nm,0.7s,baz=149,slow=3.6,SNR=20
CMAR PP **PP** **19 04 18.4 -0.2**
comp=Z,0.8nm,0.8s,baz=148,slow=6.1,SNR=4.2
CMAR PKKPbc **PKKPbc** **19 17 56.7 +2.2**
comp=Z,1.4nm,0.7s,baz=296,slow=4.0,SNR=10
CMAR Chiang Mai Arr 91.66 292 *i* P **P** **19 00 38.2 +1.0**
CMAR pmax pmax
comp=Z,3.0nm,0.6s
CMAR Chiang Mai Arr 91.66 292 P **P** **19 00 36.6 -0.6**
CM13 Chiang Mai Arr 91.67 292 P **P** **19 00 39.6 +2.4**
comp=Z,51nmcomp=Z,5.5nm,1.3s
CM15 Chiang Mai Arr 91.67 292 P **P** **19 00 39.8 +2.5**
comp=Z,48nmcomp=Z,5.2nm,0.8s
CMMT Chiang Mai 91.89 292 P **P** **19 00 39.8 +1.6**
CMMT Chiang Mai 91.89 292 P **P** **19 00 39.8 +1.6**
CHTO Chiang Mai 91.89 292 P **P** **19 00 38.9 +0.7**
CHTO pmax pmax
comp=Z,7.0nm,1.2s
CHTO Chiang Mai 91.89 292 P **P** **19 00 40.0 +1.8**
comp=Z,7.9nm,1.8s
CHTO Chiang Mai 91.89 292 P **P** **19 00 38.9 +0.7**
CHTO Chiang Mai 91.89 292 P **P** **19 00 40.0 +1.8**
PET Petropavlovsk 92.32 350 *ce*P **P** **19 00 36.1 -3.2**
PET pmax pmax
comp=Z,19nm,1.7s
PETK Petropavlovsk- 92.54 349 P **P** **19 00 39.4 -1.0**
comp=Z,2.1nm,0.8s,baz=189,slow=8.8,SNR=4.7
PETK LR LR 19 34 14.0
comp=Z,54nm,20.9s,baz=130,slow=30
PB15 IPOC Station P 93.23 123 P **P** **19 00 45.7 +0.9**
KMI Kunming 93.29 300 ⇓P **P** **19 00 45.3 +0.5**
KMI pP pP 19 01 32.9 +2.2
KMI pmax pmax
comp=Z,11nm,0.5s
LVC Limon Verde 94.02 123 *e*P **P** **19 00 49.3 +0.7**
GLA Glamis 95.75 52 P **P** **19 00 55.9 +0.2**
GLA pmax pmax
comp=Z,10.0nm,0.9s
GLA Glamis 95.75 52 P **P** **19 00 55.9 +0.2**
GLA IAmb IAmb 19 01 00.1
comp=Z,10nm,0.9s
PLTB Pedras Altas 96.23 139 *e*P **P** **19 00 59.1 +1.0**
ITQB Itaqui 96.27 136 *e*P **P** **19 00 59.4 +1.2**
214A Organ Pipe Nat 96.29 54 P **P** **19 00 59.0 +0.9**
214A IAmb IAmb 19 01 00.8
comp=Z,11nm,1.4s
NVAR Mina Array Bea 97.36 46 P **P** **19 01 02.6 -0.5**
comp=Z,0.4nm,0.6s,baz=222,slow=9.0,SNR=4.4
CPSB Cacapava Do Su 97.40 138 *e*P Pdif 19 01 03.5 +0.1
Y14A Wickenburg 97.48 52 P Pdif 19 01 04.5 +0.9
TPNV Topopah Spring 97.53 48 P **P** **19 01 03.4 -0.4**
TPNV pmax pmax
comp=Z,3.0nm,0.9s
TPNV Topopah Spring 97.53 48 P **P** **19 01 03.4 -0.4**
HHC Hu-ho-hao-te 98.45 316 *e*P Pdif 19 01 11.0 +3.2
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,71nm,7.6s
CPUP Villa Florida 98.45 133 LR LR 19 41 02.2
comp=Z,45nm,19.4s,baz=220,slow=32
CPUP Villa Florida 98.45 133 *e*P Pdif 19 01 09.0 +0.8
TXAR Lajitas Array 100.67 61 P **Pdif** **19 01 17.3 -0.6**
comp=Z,0.2nm,0.4s,baz=212,slow=4.4,SNR=3.6
TXAR PKKPbc **PKKPbc** **19 17 31.9 +1.2**
comp=Z,0.2nm,0.5s,baz=74,slow=4.0,SNR=3.9
TER01 Tubaro-SC 101.11 140 *e*P **Pdif** **19 01 20.0 0.0**
ETMB Extrema 104.77 116 *e*P **Pdif** **19 01 35.9 -0.5**
PCMB Pacaembu 105.58 135 *e*P **Pdif** **19 01 40.6 +0.6**
SONM Songino Array 105.89 319 PP **PP** **19 06 06.0 -0.5**
comp=Z,1.1nm,1.0s,baz=134,slow=4.3,SNR=4.0
SONM PKKPbc **PKKPbc** **19 17 16.9 +1.0**
comp=Z,0.4nm,0.4s,baz=304,slow=4.1,SNR=3.5

DIAM Diamantina, MG 112.36 139 *e*P **Pdif** **19 02 10.8 +0.4**
SNDB Serra Nova Dou 113.13 128 *e*P **Pdif** **19 02 13.9 +0.3**
BSFB Barra de Sao F 113.33 142 *e*P **Pdif** **19 02 15.6 +1.1**
MC01 Montes Claros 113.55 138 *e*P **Pdif** **19 02 16.0 +0.5**
NPGB Novo Progresso 114.23 122 *e*P **Pdif** **19 02 17.9 -0.6**
WMQ Urumqi 114.28 307 *e*P **PKiKP** **19 06 09.8 +1.8**
WMQ pmax pmax
comp=Z,91nm,3.9s
NAN01 Guarapari, ES 114.53 142 *e*P **Pdif** **19 02 20.0 +0.2**
PEXB Peixe 114.83 131 *e*P **Pdif** **19 02 21.3 +0.1**
DGZ Jazzator, Alta 117.31 313 *i* PKiKP **PKPdf** **19 06 11.4 -2.3**
MKAR Makanchi Array 119.05 308 PKP **PKPdf** **19 06 14.9 -2.1**
comp=Z,3.6nm,0.9s,baz=90,slow=1.2,SNR=17
MKAR PKKPbc **PKKPab** **19 16 32.8 +0.6**
comp=Z,0.4nm,0.5s,baz=319,slow=2.9,SNR=7.4
MKAR Makanchi Array 119.05 308 PKiKP **PKPdf** **19 06 14.5 -2.5**
MKAR Makanchi Array 119.05 308 PKPdf **PKPdf** **19 06 14.5 -2.5**
MAKZ Makanchi 119.25 308 PKiKP **PKPdf** **19 06 15.0 -2.4**
MAKZ Makanchi 119.25 308 PKPdf **PKPdf** **19 06 15.0 -2.4**
KSH Kashi 119.94 299 PKP **PKPdf** **19 06 18.6 -0.5**
KSH PP **PP** **19 07 52.0 +5.5**
ZALV Zalesovo Beam 120.63 317 PKP **PKPdf** **19 06 17.5 -2.3**
comp=Z,1.0nm,0.6s,baz=151,slow=3.4,SNR=6.9
ZALV SKP 19 09 36.0
comp=Z,1.1nm,0.7s,baz=171,slow=2.9,SNR=4.0
ZALV Zalesovo Beam 120.63 317 PKPdf **PKPdf** **19 06 17.2 -2.5**
MCPB Macapa, AP 121.34 119 *e*P **PKiKP** **19 06 23.3 +0.7**
AAK Ala-Archa 122.29 301 *i* PKiKP **PKPdf** **19 06 20.8 -2.8**
TMAB Tom-Au,PA,Br 122.50 124 *e*P **PKiKP** **19 06 25.7 +0.8**
KBL Kabul 122.65 290 PKiKP **PKPdf** **19 06 23.6 -1.0**
KBL Kabul 122.65 290 PKPdf **PKPdf** **19 06 23.6 -1.0**
KURK Kurchatov 122.87 311 PKiKP **PKPdf** **19 06 22.5 -1.6**
HUMP Col San Antoni 122.87 92 **PKPdf** **19 06 24.8 -0.4**
KURBB Kurchatov Arra 122.89 311 PKP **PKPdf** **19 06 22.5 -1.7**
comp=Z,5.2nm,0.8s,baz=117,slow=2.0,SNR=43
KURBB PP **PP** **19 08 01.1 -4.9**
comp=Z,0.2nm,0.3s,baz=100,slow=6.4,SNR=5.9
BTK Batken 123.75 297 PKiKP **PKPdf** **19 06 25.2 -1.1**
BTK Batken 123.75 297 PKPdf **PKPdf** **19 06 25.2 -1.1**
CHGR Chuyangaron 124.35 295 PKPdf **PKPdf** **19 06 26.4 -1.1**
ROSB Rosrio 124.61 128 *e*P **PKiKP** **19 06 29.1 0.0**
NRIK Noril'sk 124.85 334 *c i* PKiKP **PKPdf** **19 06 26.2 -1.2**
KK31 Karatay Array 125.17 300 PKiKP **PKPdf** **19 06 27.3 -1.6**
KK31 Karatay Array 125.17 300 PKPdf **PKPdf** **19 06 27.3 -1.6**
KKAR Karatay Array 125.17 300 PKiKP **PKPdf** **19 06 26.9 -2.0**
KKAR Karatay Array 125.17 300 PKPdf **PKPdf** **19 06 26.9 -2.0**
SADO Sadowa 125.23 57 PKPdf **PKPdf** **19 06 26.6 -2.3**
KMBO Kilima Mbogo 125.40 234 PKP **PKiKP** **19 06 30.8 -0.2**
comp=Z,2.2nm,0.8s,baz=122,slow=1.1,SNR=6.0
KMBO Kilima Mbogo 125.40 234 **PKPdf** **19 06 30.4 -0.1**
J57A Williamstown 126.85 60 PKPdf **PKPdf** **19 06 30.6 -1.4**
RCBR Riachuelo 126.89 139 *e*P **PKiKP** **19 06 33.8 +0.1**
BVAR Borovoye Array 128.44 312 PKP **PKPdf** **19 06 33.6 -1.2**
comp=Z,2.2nm,0.7s,baz=158,slow=4.8,SNR=8.3
BVAR PP **PP** **19 08 39.5 -3.3**
comp=Z,4.8nm,1.1s,baz=142,slow=7.5,SNR=6.0
BVAR SKPbc SKPbc 19 09 34.6
comp=Z,3.4nm,0.8s,baz=108,slow=4.8,SNR=6.0
BRVK Borovoye 128.51 312 *c i* PKiKP **PKPdf** **19 06 33.5 -1.4**
BRVK pmax pmax
comp=Z,10.0nm,1.7s
GEYT Alibeck 132.09 290 PKP **PKPdf** **19 06 41.9 -0.4**
comp=Z,5.4nm,0.7s,baz=209,slow=1.5,SNR=9.3
GEYT SKPbc **SKPbc** **19 09 48.2 -3.1**
comp=Z,7.6nm,0.7s,baz=186,slow=6.9,SNR=12
GYA0B ALIBECK ARRAY 132.09 290 **PKPdf** **19 06 41.1 -1.1**
GYA0B SKPbc **SKPbc** **19 09 46.9 -4.3**
ABKAR Akbulak array 133.98 305 PKPdf **PKPdf** **19 06 43.5 -1.9**
ABKAR SKPbc **SKPbc** **19 09 52.4 -4.7**
AKTO Aktyubinsk 135.42 307 PKP **PKPdf** **19 06 48.5 +0.5**
comp=Z,2.9nm,0.8s,baz=317,slow=1.2,SNR=10
AKTO SKPbc **SKPbc** **19 09 58.9 -2.8**
comp=Z,2.4nm,0.8s,baz=4.6,slow=5.8,SNR=6.2
ARU Arti 135.75 315 PKP **PKPdf** **19 06 47.0 -1.5**
comp=Z,1.1nm,0.7s,baz=215,slow=2.9,SNR=5.6
ARU SKPbc **SKPbc** **19 09 59.5 -3.0**
comp=Z,2.5nm,0.9s,baz=52,slow=2.5,SNR=6.4
ARU Arti 135.75 315 *i* PKiKP **PKPdf** **19 06 45.7 -2.7**
ARU Arti 135.75 315 PKPdf **PKPdf** **19 06 45.7 -2.7**
ARU SKPbc **SKPbc** **19 09 58.3 -4.2**
NOR Nord 136.45 3 *i* PKHKP PKPpre 19 06 35.0
SPA0 Spitsbergen Ar 139.24 354 *e*PKPdf **PKPdf** **19 06 54.8 +0.4**
SPITS Spitsbergen Ar 139.24 354 PKP **PKPdf** **19 06 54.1 -0.3**
comp=Z,3.1nm,0.6s,baz=74,slow=3.0,SNR=5.7
SPITS SKPbc **SKPbc** **19 10 09.2 -2.9**
comp=Z,9.0nm,0.7s,baz=126,slow=12,SNR=6.9
AKT Akhty 140.78 291 *e*PKiKP **PKPdf** **19 06 58.2 -0.1**
AKT *e* 19 09 58.3
AKT pmax pmax
comp=Z,15nm,1.2s
PRGR Permogore 141.92 324 *e*PKHKP PKPpre 19 06 52.5
PRGR pmax pmax
comp=Z,41nm,1.5s
BELG Belogornoye 142.05 309 PKhKP PKPpre 19 06 54.2
comp=Z,20nm,0.8s,baz=351,slow=3.7,SNR=9.3
BELG SKPbc **SKPbc** **19 10 17.3 -2.7**
comp=Z,17nm,0.9s,baz=214,slow=2.7,SNR=4.7
BELG Belogornoye 142.05 309 *i* PKHKP PKPpre 19 06 54.8
ZEI Tsey 143.83 292 *i* PKiKP PKPab 19 07 00.1 -1.3
ZEI pmax pmax
comp=Z,13nm,1.3s
ONI Oni 144.12 292 PKiKP **PKPab** **19 07 01.7 -0.6**
ONI Oni 144.12 292 PKPdf **PKPab** **19 07 01.7 -0.6**
NCK Nalchik 144.16 294 *i* PKiKP **PKPab** **19 07 01.7 -0.7**
HAMF Hammerfest 144.64 345 *e*PKPbc **PKPab** **19 07 02.4 -0.9**
KBZ Khabaz 144.70 294 PKP **PKPab** **19 07 03.7 -0.6**
comp=Z,30nm,0.9s,baz=127,slow=1.6,SNR=48
GOF Gofitskoye 144.75 296⇑ *e*PKiKP PKPbc 19 07 03.5 -1.0
GOF pmax pmax
comp=Z,97nm,0.8s
NEY Neytrino 144.76 293 *i* PKiKP PKPbc 19 07 02.7 -2.1
KIV Kislovodsk 144.88 294 *i* PKiKP PKPbc 19 07 04.1 -1.0
KIV pmax pmax
comp=Z,18nm,1.0s
KIV MLR MLR
comp=Z,31nm,25.0s
KIV Kislovodsk 144.88 294 PKPbc 19 07 03.4 -1.7
KLMR Klimovskoe 144.98 324 *c i* PKiKP PKPbc 19 07 02.9 -1.8
KLMR *e* 19 10 22.4
KLMR pmax pmax
comp=Z,123nm,1.4s
KLMR Klimovskoe 144.98 324⇑ *i* PKPdf PKPbc 19 07 02.9 -1.8
KLMR *e*PKPdf PKPbc 19 07 02.9 -1.8
KLMR *e*PKPdf PKPbc 19 07 02.9 -1.8
KLMR AMP 19 07 04.4
comp=Z,123nm,1.4s
KLMR *e*PP **PP** **19 10 22.5 -3.0**
ARA0 ARCESS Array S 145.08 342 *e*PKPbc **PKPbc** **19 07 04.3 -0.5**
ARCES ARCESS Array B 145.08 342 PKPbc **PKPbc** **19 07 04.0 -0.8**
comp=Z,24nm,1.0s,baz=65,slow=4.0,SNR=36
ARCES SKPbc **SKPbc** **19 10 24.1 -2.8**
comp=Z,3.9nm,0.7s,baz=48,slow=1.8,SNR=4.8
ARCES ARCESS Array B 145.08 342 **PKPbc** **19 07 03.2 -1.6**
VRH Novokhopyorsk 145.76 307 *e*PKiKP **PKPdf** **19 07 05.9 -0.6**
VRH pmax pmax
comp=Z,50nm,0.8s
KTK1 Kautokeino 146.01 343 *e*PKPdf **PKPdf** **19 07 05.7 -0.8**
JETT Jettan, Norway 146.19 345 *e*PKPbc **PKPbc** **19 07 08.2 -0.1**
TRO Tromso 146.42 346 *e*PKPdf **PKPdf** **19 07 07.5 +0.4**
SOC Sochi 146.97 293 *e*PKiKP **PKPdf** **19 07 03.7 -1.6**
SOC *i* 19 07 11.6
SOC *e* 19 10 35.6
SOC *e*PPP PPP 19 13 53.5
SOC *e*SS SS 19 29 24.1 +0.6
SOC *e*SSS SSS 19 34 56.6
LPSR Galich'ya Gora 147.33 310 *e*PKP2 **PKPbc** **19 07 11.0 -0.8**
LPSR pmax pmax
comp=Z,40nm,1.2s
MOS Moscow 147.45 316 *e*PKiKP **PKPdf** **19 07 09.8 +0.5**
MOS pmax pmax
comp=Z,81nm,1.1s
MOS pmax pmax
comp=Z,100nm,1.5s
GAZ Gaziantep 147.68 281 PKPdf **PKPdf** **19 07 07.0 -3.4**
GAZ PKPbc **PKPbc** **19 07 11.9 -1.5**
LIC Lamto 147.94 178 *e*PKP1 **PKPbc** **19 07 14.6 -0.1**
comp=Z,146nm,1.2s
KIC Kosan Boka 148.08 178 *e*PKP1 **PKPbc** **19 07 15.0 0.0**
comp=Z,45nm,0.6s
OBN Obninsk 148.19 315 PKPbc **PKPbc** **19 07 13.0 -1.0**
comp=Z,5.3nm,0.7s,baz=138,slow=0.6,SNR=11
OBN Obninsk 148.19 315 *ce*PKiKP **PKPdf** **19 07 09.0 -1.5**
OBN *e* 19 08 03.7
OBN *e* 19 10 47.4

OBN					pmax	pmax		
	comp=Z,66nm,1.5s							
TIC	**Toumodi**	**148.35**	**178**	*e*PKP1		**PKPbc**	19 07 15.7	-0.1
DBIC	**Dimbokro**	**148.38**	**178**	PKP		**PKPdf**	19 07 12.3	+0.2
	comp=Z,18nm,1.0s,baz=190,slow=4.1,SNR=7.1							
DBIC					PKPbc	**PKPbc**	19 07 16.2	+0.4
	comp=Z,15nm,0.6s,baz=184,slow=4.2,SNR=8.1							
DBIC	**Dimbokro**	**148.38**	**178**			**PKPdf**	19 07 10.5	-1.7
STEI	**Steigen**	**148.58**	**346**	*e*PKPdf		**PKPbc**	19 07 13.7	-1.0
ANN	**Anapa**	**148.71**	**295**	*i* PKIKP		**PKPdf**	19 07 13.4	+1.7
ANN					pmax	pmax		
	comp=Z,42nm,1.0s							
FAUS	**Fauske**	**149.05**	**346**	*e*PKPdf		**PKPbc**	19 07 14.6	-1.3
BNN	**Bunyan**	**149.12**	**283**			**PKPbc**	19 07 16.0	-1.1
CSS	**Mathiatis**	**150.08**	**275**			**PKPbc**	19 07 18.6	-0.8
KONS	**Konsvik**	**150.24**	**346**	*e*PKPdf		**PKPbc**	19 07 17.9	-0.8
MOR8	**Moi Rana**	**150.27**	**345**	*e*PKPdf		**PKPbc**	19 07 16.7	-2.2
FIA1	**FINESS Array S**	**150.42**	**331**			**PKPbc**	19 07 16.8	-2.5
FINES	**FINESS Array B**	**150.42**	**331**	PKPbc		**PKPbc**	19 07 18.2	-1.1
	comp=Z,25nm,0.9s,baz=106,slow=4.2,SNR=40							
FINES	**FINESS Array B**	**150.42**	**331**			**PKPbc**	19 07 18.0	-1.3
BR131	**Keskin Array S**	**150.96**	**285**	PKIKP		**PKPbc**	19 07 19.6	-2.0
BR131	**Keskin Array S**	**150.96**	**285**			**PKPbc**	19 07 19.6	-2.0
BRTR	**Keskin Array B**	**150.96**	**285**	PKPbc		**PKPbc**	19 07 20.4	-1.1
	comp=Z,23nm,0.8s,baz=139,slow=5.0,SNR=160							
BRTR					PKPab	**PKPab**	19 07 29.9	+0.1
	comp=Z,9.1nm,0.9s,baz=113,slow=5.9,SNR=11							
BRTR	**Keskin Array B**	**150.96**	**285**	PKPdf		**PKPdf**	19 07 11.9	-3.8
BRTR				PKPbc		**PKPbc**	19 07 19.6	-2.0
BZK	**Bozkurt**	**150.99**	**289**			**PKPbc**	19 07 20.3	-1.0
BR231	**Keskin MP Arra**	**151.64**	**285**			**PKPbc**	19 07 21.1	-1.9
MEF	**Metsahovi**	**151.82**	**330**	*e*P		**PKPbc**	19 07 21.8	-0.8
VSU	**Vasula**	**151.85**	**325**	*e*P		**PKPbc**	19 07 21.6	-1.1
NSS	**Namsos**	**152.21**	**345**	*e*PKPdf		**PKPbc**	19 07 21.8	-1.6
RAF	**Rauma**	**152.28**	**333**	*e*P		**PKPbc**	19 07 21.8	-1.8
MDUB	**Mudurnu**	**152.92**	**285**			**PKPbc**	19 07 24.0	-1.9
ISP	**Isparta**	**153.00**	**280**	PKIKP		**PKPbc**	19 07 24.1	-2.0
ISP	**Isparta**	**153.00**	**280**			**PKPbc**	19 07 24.1	-2.0
ELL	**Elmali**	**153.24**	**277**	PKIKP		**PKPbc**	19 07 25.3	-1.4
ELL	**Elmali**	**153.24**	**277**			**PKPbc**	19 07 25.3	-1.4
AKASG	**Malin Array Be**	**153.63**	**309**	PKP		**PKPdf**	19 07 16.5	-2.5
	comp=Z,0.3nm,0.4s,baz=43,slow=1.3,SNR=6.9							
AKASG					PKPbc	**PKPbc**	19 07 25.7	-1.2
	comp=Z,7.4nm,0.8s,baz=63,slow=2.4,SNR=17							
AKASG					PKPab	**PKPab**	19 07 39.2	-1.1
	comp=Z,2.3nm,0.6s,baz=59,slow=4.2,SNR=9.2							
AKASG	**Malin Array Be**	**153.63**	**309**	PKPdf		**PKPdf**	19 07 16.4	-2.6
AKASG				PKPbc		**PKPbc**	19 07 24.6	-2.3
AKASG				PKPab		**PKPab**	19 07 39.0	-1.4
AKBB	**Malin Array Si**	**153.63**	**309**	PKIKP		**PKPbc**	19 07 25.1	-1.8
AKBB	**Malin Array Si**	**153.63**	**309**			**PKPbc**	19 07 25.1	-1.8
IIGN	**Ignalina**	**153.64**	**320**	*e*P		**PKiKP**	19 07 26.8	-0.1
TORD	**Torodi Ar. Bea**	**154.35**	**193**	PKP		**PKPdf**	19 07 20.5	-0.6
	comp=Z,2.5nm,0.9s,baz=270,slow=0.1,SNR=15							
TORD					PKPbc	**PKPbc**	19 07 29.3	-0.2
	comp=Z,3.1nm,0.6s,baz=171,slow=0.5,SNR=10							
TORD					PKPab	**PKPab**	19 07 45.1	+0.9
	comp=Z,6.7nm,0.5s,baz=164,slow=4.1,SNR=15							
TORD	**Torodi Ar. Bea**	**154.35**	**193**	PKPdf		**PKPdf**	19 07 20.1	-1.0
PABE	**Paberze**	**154.69**	**322**	*e*P		**PKPab**	19 07 44.7	0.0
PABE	**Paberze**	**154.69**	**322**	PKPab		**PKPab**	19 07 43.4	-1.3
KARP	**Karpathos**	**155.08**	**273**	PKPdf		**PKPdf**	19 07 22.7	+1.1
KARP						**PKPab**	19 07 47.0	-0.2
NB2	**NORSAR Subarra**	**155.46**	**342**	PKPdf		**PKPdf**	19 07 20.1	-1.2
	comp=Z,3.7nm,1.0s,baz=30,slow=1.9							
NB2	**NORSAR Subarra**	**155.46**	**342**	PKPdf		**PKPdf**	19 07 20.1	-1.2
	baz=30,slow=1.9							
NOA	**NORSAR Array B**	**155.46**	**342**	PKPbc	PKPdf		19 07 28.9	+7.6
	comp=Z,1.2nm,0.8s,baz=30,slow=2.0,SNR=5.0							
SUW	**Suwalki**	**155.83**	**319**	*e*P		**PKPab**	19 07 49.3	-0.4
MLR	**Muntele Rosu**	**156.80**	**297**	PKIKP		**PKPdf**	19 07 22.9	-0.7
MLR	**Muntele Rosu**	**156.80**	**297**	PKPdf		**PKPdf**	19 07 22.9	-0.7
MLR						**PKPab**	19 07 54.0	-0.4
BURAR	**Bucovina Array**	**156.93**	**303**	PKPdf		**PKPdf**	19 07 22.4	-1.3
BURAR						**PKPab**	19 07 54.9	+0.1
UZH	**Uzhgorod**	**158.54**	**307**	*ce*PKP2		**PKPab**	19 08 01.3	-0.3
CRVS	**Cervenica-Dubn**	**158.97**	**308**	*e*PKP2		**PKPab**	19 08 04.4	+0.9
RUE	**Ruedersdorf**	**161.32**	**325**	*e*PKPab		**PKPab**	19 08 14.1	+0.5
	baz=45,slow=4.5							
BSEG	**Bad Segeberg**	**161.68**	**332**	*e*PKPab		**PKPab**	19 08 15.1	0.0
	baz=45,slow=4.5							
BRG	**Berggiesshubel**	**162.28**	**320**	*e*PKPab		**PKPab**	19 08 18.1	+0.3
	baz=45,slow=4.5							
BRG	**Berggiesshubel**	**162.28**	**320**	*e*PKP		**PKPdf**	19 07 28.2	-1.4
BRG				Amp			19 07 29.6	
	comp=Z,8.5nm,1.4s							
BRG					pPKP	**PKPab**	19 08 17.7	-0.1
BRG				Amp			19 08 19.1	
	comp=Z,12nm,1.2s							
CLL	**Collm**	**162.46**	**323**	*i* PKPab		**PKPab**	19 08 17.8	-0.8
	comp=Z,15nm,1.0s							
CLL				*i* pPKPab		**pPKPab**	19 09 04.5	-0.2
CLL				*e*PP		**PP**	19 12 03.0	-0.6
CLL				*e*PPPP			19 18 06.0	
CLL				*i* PSKS			19 22 30.0	
CLL				*e*PPS	PPS		19 25 36.0	
CLL				*e*SS	SS		19 32 24.0	+14
CLL				*e*PSPS			19 34 12.0	
CLL				*e*SSS	SSS		19 38 54.0	
CLL				*e*			19 44 06.0	
CLL	**Collm**	**162.46**	**323**	*i* PKP2		**PKPab**	19 08 17.8	-0.8
CLL				pmax	pmax			
	comp=Z,15nm,1.0s							
CLL	**Collm**	**162.46**	**323**	PKPab		**PKPab**	19 08 17.0	-1.6
CLL	**Collm**	**162.46**	**323**	*e*PKPab		**PKPab**	19 08 18.6	0.0
	baz=45,slow=4.5							
FBE	**Freiberg**	**162.54**	**321**	*e*PKPab		**PKPab**	19 08 19.6	+0.6
	baz=45,slow=4.5							
FLTG	**Flechtingen**	**162.54**	**328**	*e*PKPab		**PKPab**	19 08 18.6	-0.3
	baz=45,slow=4.5							
NEUB	**Neuenburg**	**163.10**	**324**	*e*PKPab		**PKPab**	19 08 21.9	+0.5
	baz=45,slow=4.5							
CLZ	**Clausthal**	**163.26**	**328**	*e*PKPab		**PKPab**	19 08 22.6	+0.4
	baz=45,slow=4.5							
TANN	**Tannenbergstha**	**163.30**	**321**	*e*PKPab		**PKPab**	19 08 22.7	+0.3
	baz=45,slow=4.5							
GUNZ	**Gunzen**	**163.40**	**321**	*e*PKPab		**PKPab**	19 08 23.2	+0.4
	baz=45,slow=4.5							
PLN	**Plauen**	**163.40**	**322**	*e*PKPab		**PKPab**	19 08 23.0	+0.3
	baz=45,slow=4.5							
WERN	**Wernitzgruen**	**163.42**	**321**	*e*PKPab		**PKPab**	19 08 23.3	+0.4
	baz=45,slow=4.5							
MOX	**Moxa**	**163.56**	**323**	*e*PKPab		**PKPab**	19 08 23.8	+0.3
	baz=45,slow=4.5							
GEC2	**GERESS Array S**	**163.58**	**315**	*e*PKPab		**PKPab**	19 08 23.9	+0.1
	baz=45,slow=4.5							
GERES	**GERESS Array B**	**163.58**	**315**	PKPab		**PKPab**	19 08 23.3	-0.4
	comp=Z,1.4nm,0.9s,baz=23,slow=7.2,SNR=8.4							
MANZ	**Manzenberg**	**163.75**	**321**	*e*PKPab		**PKPab**	19 08 24.8	+0.4
	baz=45,slow=4.5							
ROTZ	**Rotzenmuhle**	**163.83**	**320**	*e*PKPab		**PKPab**	19 08 25.1	+0.4
	baz=45,slow=4.5							
GRF	**Grafenberg Arr**	**164.38**	**321**	*e*PKPab		**PKPab**	19 08 27.7	+0.6
	baz=45,slow=4.5							
KASTN	**Kahler Asten**	**164.54**	**330**	*e*PKPab		**PKPab**	19 08 28.1	+0.3
	baz=45,slow=4.5							
MILB	**Miltenberg**	**165.20**	**325**	*e*PKPab		**PKPab**	19 08 31.1	+0.4
	baz=45,slow=4.5							
TNS	**Taunus Mts**	**165.28**	**327**	*e*PKPab		**PKPab**	19 08 31.5	+0.3
	baz=45,slow=4.5							
WLF	**Walferdange**	**166.65**	**331**	*e*PKPab		**PKPab**	19 08 37.6	+0.5
	baz=45,slow=4.5							
BFO	**Black Forest**	**166.70**	**322**	*e*PKPab		**PKPab**	19 08 37.5	+0.1
	baz=45,slow=4.5							
KEST	**Kesra**	**169.09**	**260**	PKPab		**PKPab**	19 08 49.2	+0.6
	comp=Z,8.3nm,0.9s,baz=261,slow=2.6,SNR=10							
KEST	**Kesra**	**169.09**	**260**	PKPab		**PKPab**	19 08 49.3	+0.8
ESDC	**Sonseca Array**	**178.74**	**2**	PKP		**PKPdf**	19 07 38.6	-0.2
	comp=Z,2.4nm,1.4s,baz=17,slow=5.4,SNR=4.9							
ESDC					PKPab	PKPab	19 09 29.0	
	comp=Z,2.0nm,0.8s,baz=345,slow=4.1,SNR=8.1							
ESDC	**Sonseca Array**	**178.74**	**2**			**PKPdf**	19 07 38.3	-0.6

MEX 23 18:53:10.9±1.2, 15.97N×98.42W, h16km±64km, MD3.9, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.51**	**34**	*e*P			Pg	18 53 18.7	-2.3
PNIG				*e*S			Sg	18 53 25.5	-2.3
PEIG	**Puerto Escondi**	**1.23**	**89**	*e*P			Pn	18 53 32.0	-1.4
PEIG				*e*S			Sn	18 53 49.6	-0.1
MGIG	**Malinaltepec**	**1.27**	**351**	*e*P			Pn	18 53 30.4	-3.7
MGIG				*e*S			Sb	18 53 46.2	-4.6
TXIG	**Tlaxiaco**	**1.42**	**26**	*e*P			Pn	18 53 33.1	-3.3
TXIG				*e*S			Sn	18 53 50.8	-4.1
DAIG	**Los Arroyos**	**1.57**	**312**	*e*P			Pn	18 53 32.5	-5.7
DAIG				*e*S			Sn	18 53 57.2	-1.0
TLIG	**Tlapa**	**1.59**	**355**	*e*P			Pn	18 53 35.1	-3.4
TLIG				*e*S			Sn	18 53 56.9	-1.9
HLIG	**Huajuapan de L**	**1.94**	**18**	*e*P			Pn	18 53 39.9	-3.6
HLIG				*e*S			Sn	18 54 07.7	+0.1
FTIG	**Fresnillo de T**	**1.94**	**8**	*e*P			Pn	18 53 39.9	-3.5
FTIG				*e*S			Sn	18 54 08.6	+1.0
VHO	**Vista Hermosa**	**1.96**	**56**	*e*P			Pn	18 53 36.9	-6.7
VHO				*e*S			Sn	18 54 08.7	+0.7

*IDC **23** 19:11:28.5±4.5, 5.86S×102.80E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.4/61, mbtmp3.5/6, Error ellipse: s-maj=187.9km s-min=21.6km az=54.0*
ISC 23 19:11:30.9±3.3, 6.0S±0.6×102.6E±0.8, h21km, n7, σ1s19/7, mb3.5/6, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**24.57**	**352**	P			**P**	**19 16 49.9**	**+0.3**
	0.6nm,0.8s,baz=182,slow=10.0,SNR=7.2								
WRA	**Warramunga Arr**	**33.78**	**117**	P			**P**	19 18 11.2	-0.4
	0.1nm,0.3s,baz=303,slow=11,SNR=1.5								
ASAR	**Alice Springs**	**34.83**	**124**	P			**P**	19 18 21.8	+1.2
	0.2nm,0.4s,baz=301,slow=7.9,SNR=14								
SONM	**Songino Array**	**53.71**	**3**	P			**P**	19 20 51.3	-0.1
	0.5nm,0.8s,baz=189,slow=8.3,SNR=2.9								
MKAR	**Makanchi Array**	**55.58**	**343**	P			**P**	19 21 05.7	+0.8
	0.4nm,0.6s,baz=156,slow=8.5,SNR=3.9								
ZALV	**Zalesovo Beam**	**61.58**	**348**	P			**P**	19 21 46.5	0.0
	0.5nm,0.4s,baz=150,slow=6.3,SNR=3.1								
TXAR	**Lajitas Array**	**146.02**	**44**	PKPbc			**PKPdf**	19 31 07.4	-1.9
	0.2nm,0.4s,baz=318,slow=2.6,SNR=2.7								

*TAP **23** 19:20:00.4, 24.87N×122.46E, h4km, ML3.5, C*
*JMA **23** 19:20:00.6±0.1, 24.89N×122.49E, h37km±3km, M3.1*
*IDC **23** 19:20:03.9±1.1, 24.77N×121.08E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.5/60, mbtmp3.7/8, ML3.5/1, Error ellipse: s-maj=63.7km s-min=18.3km az=65.0*
ISC 23 19:19:58.0±1.2, 24.88N±0.02×122.54E±0.02, h4km±9km, n123, σ1s09/193, mb3.8/7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.52**	**285**	*i* P			**Pb**	**19 20 09.1**	**-0.6**
	baz=287								
TWB1				*i* S			**Sg**	19 20 15.3	+0.7
	baz=287								
JYNG	**Yonaguni jimaku**	**0.56**	**139**	P			**Pn**	19 20 12.4	-0.4
JYNG				*e*S			**Sn**	19 20 21.0	-1.6
YOJ	**Yonaguni jima**	**0.60**	**134**	P			**Pn**	19 20 13.1	-0.2
YOJ				*e*S			**Sb**	19 20 21.0	+1.2
YOJ	**Yonaguni jima**	**0.60**	**134**	P			**Pn**	19 20 12.9	-0.4
	baz=129								
YOJ				*e*S			**Sn**	19 20 21.4	-2.0
	baz=129								
NTC	**Toucheng**	**0.64**	**268**	P			**Pb**	19 20 11.8	0.0
	baz=268								
NTC				*e*S			**Sg**	19 20 18.8	+0.1
	baz=268								
TIPB	**Shuangxi**	**0.65**	**279**	P			**Pb**	19 20 11.8	-0.1
	baz=279								
TIPB				*e*S			**Sb**	19 20 20.1	-1.3
	baz=279								
TWC	**Suao**	**0.68**	**247**	P			**Pb**	19 20 12.2	-0.2
	baz=244								
TWC				*e*S			**Sb**	19 20 21.3	-0.9
	baz=244								
NWF	**Wu-fen Shan**	**0.71**	**286**	P			**Pb**	19 20 12.9	-0.1
	baz=287								
NWF				*e*S			**Sb**	19 20 22.0	-1.3
	baz=287								
WFSB	**Wu-fen Shan**	**0.71**	**286**	*i* P			**Pb**	19 20 13.0	0.0
	baz=287								
ILA	**Ilan**	**0.72**	**261**	*e*P			**Pb**	19 20 12.9	-0.3
	baz=260								
ILA				*e*S			**Sb**	19 20 22.9	-0.6
	baz=260								
NDS	**Dongshan**	**0.78**	**252**	P			**Pb**	19 20 14.1	-0.1
	baz=250								
NDS				*e*S			**Sg**	19 20 24.1	+0.9
	baz=250								
TWE	**Neicheng**	**0.81**	**259**	P			**Pb**	19 20 14.2	-0.4
	baz=257								
TWE				*e*S			**Sb**	19 20 25.3	-0.5
	baz=257								
EWUT	**Wuta**	**0.81**	**238**	*e*P			**Pb**	19 20 14.8	+0.1
	baz=235								
EWUT				*e*S			**Sg**	19 20 25.0	+0.9
	baz=235								
ENA	**Nanau**	**0.85**	**238**	*e*P			**Pb**	19 20 15.3	-0.1
	baz=235								
ENA				*e*S			**Sg**	19 20 26.0	+0.7
	baz=235								
PCYT	**Pengchaiyu**	**0.86**	**331**	*e*P			**Pb**	19 20 15.3	-0.2
	baz=335								
PCYT				*e*S			**Sn**	19 20 27.8	-2.1
	baz=335								
TWA	**Mucha**	**0.87**	**277**	*e*P			**Pb**	19 20 15.2	-0.5
	baz=277								
TWA				*e*S			**Sg**	19 20 26.5	+0.5
	baz=277								
ENTT	**Nioudou**	**0.91**	**255**	*e*P			**Pb**	19 20 16.2	-0.2
	baz=253								
ENTT				*e*S			**Sb**	19 20 28.4	-0.5
	baz=253								
NHDH	**Xindian Distri**	**0.92**	**276**	*e*P			**Pb**	19 20 16.4	-0.2
	baz=275								
NHDH				*e*S			**Sb**	19 20 28.2	-1.0
	baz=275								
TWY	**Chenhua**	**0.94**	**295**	*e*P			**Pb**	19 20 16.4	-0.4
	baz=297								
TWY				*e*S			**Sb**	19 20 29.7	0.0
	baz=297								
NWLT	**Wulai**	**0.94**	**264**	*e*P			**Pg**	19 20 16.4	+0.3
	baz=263								
NWLT				*e*S			**Sg**	19 20 27.6	-0.8
	baz=263								
TAP	**Taipei**	**0.95**	**280**	*e*P			**Pn**	19 20 17.7	-0.4
	baz=280								
TAP				*e*S			**Sg**	19 20 28.6	+0.1
	baz=280								
NDT	**Datong Townshi**	**0.97**	**254**	*e*P			**Pb**	19 20 17.5	+0.1
	baz=252								
NDT				*e*S			**Sb**	19 20 29.8	-0.8
	baz=252								
ANP	**Anpu**	**0.97**	**289**	*e*P			**Pb**	19 20 17.5	0.0
	baz=289								
NTST	**Danshui**	**1.03**	**286**	*e*P			**Pg**	19 20 17.6	-0.1
	baz=287								
TWS1	**Kuangyinshan**	**1.04**	**283**	*e*P			**Pg**	19 20 18.0	0.0
	baz=283								
TWS1				*e*S			**Sb**	19 20 32.4	-0.2
	baz=283								
YHNB	**Yeheng**	**1.07**	**259**	*e*P			**Pg**	19 20 18.9	+0.3
	baz=258								
YHNB				*e*S			**Sn**	19 20 33.9	-1.5
	baz=258								
NSK	**Sanguang**	**1.09**	**260**	*e*P			**Pg**	19 20 19.2	+0.2
	baz=258								
NSK				*e*S			**Sb**	19 20 33.8	-0.3
	baz=258								
ETL	**Fush Village**	**1.10**	**230**	*e*P			**Pn**	19 20 20.5	+0.3
	baz=227								
ETL				*e*S			**Sn**	19 20 34.7	-1.1
	baz=227								
NACB	**Ninganchiao**	**1.11**	**231**	P			**Pn**	19 20 19.8	-0.5
	baz=228								
NACB				*e*S			**Sg**	19 20 33.2	-0.4
	baz=228								
NNSB	**Datong**	**1.14**	**247**	P			**Pb**	19 20 20.0	-0.4
	baz=245								
NNSB				*e*S			**Sg**	19 20 34.3	-0.4
	baz=245								
NNS	**Nan Shan**	**1.15**	**248**	P			**Pg**	19 20 20.4	+0.4
	baz=246								
NNS				*e*S			**Sb**	19 20 35.5	-0.3
	baz=246								
TWD	**Chiawan**	**1.17**	**227**	*e*P			**Pg**	19 20 21.8	+1.4
	baz=224								
TWD				*e*S			**Sn**	19 20 37.2	-0.3
	baz=224								
ETLH	**Xiulin Townshi**	**1.17**	**235**	*e*P			**Pn**	**19 20 21.1**	**-0.1**
	baz=233								
ETLH				*e*S			**Sb**	19 20 35.6	-0.8
	baz=233								
IRIF	**Iriomote-Funau**	**1.21**	**116**	P			**Pg**	19 20 21.9	+0.6
IRIF				*e*S			**Sn**	19 20 38.0	-0.6
NCU	**National Centr**	**1.23**	**275**	*e*P			**Pg**	19 20 22.2	+0.6
	baz=274								
NCU				*e*S			**Sn**	19 20 38.3	-0.8
	baz=274								
NCUH	**Zhongli**	**1.23**	**275**	*e*P			**Pg**	19 20 23.6	+2.0
	baz=274								
HWA	**Hwalien**	**1.23**	**224**	*e*P			**Pg**	19 20 22.9	+1.2
	baz=220								
HWA				*e*S			**Sn**	19 20 38.5	-0.6
	baz=220								
FUSS	**Fushou**	**1.33**	**242**	*e*P			**Pg**	19 20 24.3	+0.7
	baz=240								
FUSS				*e*S			**Sg**	19 20 41.5	+0.6
	baz=240								
WHF	**Hehuan Shan**	**1.37**	**238**	P			**Pg**	19 20 24.9	+0.7
	baz=236								
WHF				*e*S			**Sg**	19 20 43.6	+1.5
	baz=236								
TWT	**Tachien**	**1.39**	**244**	*e*P			**Pg**	19 20 25.2	+0.6
	baz=242								
TDCB	**Techi**	**1.40**	**244**	*e*P			**Pb**	19 20 24.9	+0.1
	baz=242								
TDCB				*e*S			**Sb**	19 20 42.1	-1.0
	baz=242								
LIOB	**Emei**	**1.40**	**261**	*e*P			**Pn**	19 20 23.4	-0.9
	baz=260								
SBCB	**Hsinchu**	**1.41**	**267**	*e*P			**Pn**	19 20 24.1	-0.4
	baz=266								
SBCB				*e*S			**Sg**	19 20 43.5	+0.1
	baz=266								
HATJ	**Hateruma jima**	**1.42**	**125**	P			**Pb**	19 20 25.3	+0.3
NSTT	**Nanjuang**	**1.42**	**260**	*e*P			**Pn**	19 20 24.4	-0.2
	baz=259								
ESL	**Shilin**	**1.46**	**224**	*e*P			**Pb**	19 20 25.5	-0.3
	baz=221								
ESL				*e*S			**Sg**	19 20 45.1	+0.1
	baz=221								
CHGB	**Renai**	**1.48**	**237**	*e*P			**Pb**	19 20 26.2	-0.1
	baz=235								
CHGB				*e*S			**Sg**	19 20 46.1	+0.3
	baz=235								
JKRS	**Kuro-shima**	**1.48**	**115**	P			**Pb**	19 20 26.2	+0.1
OWD	**Renai**	**1.54**	**234**	*e*P			**Pg**	19 20 27.7	+0.1
	baz=232								
JIJ	**Ishigaki jima**	**1.55**	**109**	P			**Pb**	19 20 26.7	-0.6
WHP	**Taichung City**	**1.57**	**248**	*e*P			**Pn**	19 20 26.7	0.0
	baz=246								
WHP				*e*S			**Sb**	19 20 47.5	-0.3
	baz=246								
EGFH	**Guangfu**	**1.57**	**220**	*e*P			**Pg**	19 20 28.4	+0.2
	baz=218								
EGFH				*e*S			**Sn**	19 20 47.1	-0.4
	baz=218								
NMLH	**Miaoli**	**1.62**	**258**	*e*P			**Pb**	19 20 28.6	+0.1
	baz=257								
NMLH				*e*S			**Sb**	19 20 49.1	-0.3
	baz=257								
JISG	**Ishigakijimahi**	**1.64**	**100**	P			**Pg**	19 20 29.3	-0.1
NSY	**Sanyi**	**1.68**	**255**	*e*P			**Pb**	19 20 29.4	-0.1
	baz=253								
NSY				*e*S			**Sg**	19 20 51.5	-0.5
	baz=253								
TWQ1	**Liyutan**	**1.69**	**252**	*e*P			**Pg**	19 20 30.4	0.0
	baz=251								
TWQ1				*e*S			**Sb**	19 20 51.5	+0.2
	baz=251								
WCS	**Beigang Elemen**	**1.69**	**241**	*e*P			**Pg**	19 20 30.2	-0.2
	baz=240								
HGSD	**Ruisui**	**1.71**	**217**	*e*P			**Pb**	19 20 30.0	-0.1
	baz=214								
HGSD				*e*S			**Sg**	19 20 53.4	+0.3
	baz=214								
EHY	**Hungye**	**1.76**	**219**	*e*P			**Pb**	19 20 30.1	-0.7
	baz=217								
SMLT	**Sun Moon Lake**	**1.79**	**237**	*e*P			**Pb**	19 20 31.1	-0.3
	baz=235								
WDJ	**Dajia District**	**1.81**	**253**	*e*P			**Pb**	19 20 30.6	-1.0
	baz=252								
WDJ				*e*S			**

	baz=233								
WTP	**Ta-pu**		**2.39**	**228**	*e*P		**Pb**	**19 20 40.1**	**-1.6**
	baz=226								
WTP					*e*S		**Sb**	**19 21 10.8**	**-0.7**
	baz=226								
LDUT	**Ludao**		**2.40**	**204**	*e*P		**Pn**	**19 20 39.1**	**+1.0**
	baz=202								
TWGBT	**Beinan**		**2.44**	**213**	*e*P		**Pb**	**19 20 41.7**	**-0.8**
	baz=211								
WSF	**Szhu**		**2.45**	**240**	*e*P		**Pb**	**19 20 41.0**	**-1.6**
	baz=238								
TWG	**Pinlang**		**2.45**	**214**	*e*P		**Pb**	**19 20 40.7**	**-1.9**
	baz=211								
TWK	**Hsinying**		**2.46**	**230**	*e*P		**Pb**	**19 20 41.0**	**-2.0**
	baz=228								
TWK					*e*S		**Sn**	**19 21 10.6**	**+0.9**
	baz=228								
CHN1	**Nanshi**		**2.49**	**228**	*e*P		**Pb**	**19 20 42.5**	**-0.9**
	baz=226								
CHN1					*e*S		**Sn**	**19 21 11.6**	**+1.3**
	baz=226								
SGST	**Jiashian**		**2.53**	**225**	*e*P		**Pn**	**19 20 41.6**	**+1.8**
	baz=223								
SGST					*e*S		**Sn**	**19 21 12.4**	**+1.3**
	baz=223								
SLGT	**Liugui**		**2.55**	**223**	*e*P		**Pb**	**19 20 42.8**	**-1.6**
	baz=221								
SLGT					*e*S		**Sb**	**19 21 13.4**	**-2.7**
	baz=221								
ICHU	**Yijhu**		**2.56**	**234**	*e*P		**Pb**	**19 20 42.8**	**-1.7**
	baz=232								
ICHU					*e*S		**Sn**	**19 21 12.9**	**+1.1**
	baz=232								
MATB	**Ma-tsu**		**2.66**	**299**	*e*P		**Pn**	**19 20 41.1**	**-0.6**
	baz=298								
ECL	**Taimali**		**2.69**	**213**	*e*P		**Pn**	**19 20 43.8**	**+1.7**
	baz=211								
SCST	**Cishan**		**2.73**	**224**	*e*P		**Pb**	**19 20 44.9**	**-2.4**
	baz=222								
SSD	**Sandimen**		**2.75**	**220**	*e*P		**Pb**	**19 20 46.5**	**-1.2**
	baz=218								
TSMG	**Majia**		**2.77**	**219**	*e*P		**Pb**	**19 20 46.0**	**-2.2**
	baz=217								
MASBT	**Mashibuluo**		**2.85**	**218**	*e*P		**Pn**	**19 20 45.8**	**+1.5**
	baz=216								
MASBT					*e*S		**Sn**	**19 21 20.8**	**+1.7**
	baz=216								
EAST	**Anshuo**		**2.93**	**212**	*e*P		**Pb**	**19 20 47.9**	**-2.9**
	baz=210								
XPSS	**Dashiqiu**		**2.94**	**315**	*e*P		**Pb**	**19 20 48.2**	**-2.8**
	baz=315								
XPSS					*e*S		**Sn**	**19 21 22.6**	**+1.3**
	baz=315								
LYJJ	**Jianjiangzhen**		**3.01**	**304**	*e*P		**Pn**	**19 20 45.8**	**-0.7**
	baz=304								
PNG	**Penghu**		**3.02**	**245**	*e*P		**Pn**	**19 20 48.9**	**+2.3**
	baz=243								
PHUB	**P'eng-hu**		**3.03**	**244**	*e*P		**Pb**	**19 20 50.0**	**-2.5**
	baz=242								
SCZT	**Fangliau**		**3.05**	**216**	*e*P		**Pb**	**19 20 50.3**	**-2.6**
	baz=214								
SCZT					*e*S		**Sb**	**19 21 27.2**	**-3.3**
	baz=214								
WDGT	**Dungji**		**3.08**	**239**	*e*P		**Pb**	**19 20 50.5**	**-2.9**
	baz=237								
WDGT					*e*S		**Sn**	**19 21 25.5**	**+0.7**
	baz=237								
SLIU	**Shizi**		**3.09**	**211**	*e*P		**Pn**	**19 20 49.5**	**+1.9**
	baz=210								
PTMZ	**Houxiangcun**		**3.11**	**274**	*e*P		**Pn**	**19 20 47.4**	**-0.4**
	baz=273								
TWKBT	**Hengchun**		**3.32**	**209**	*e*P		**Pn**	**19 20 52.0**	**+1.1**
	baz=207								
TWK1	**Hengchun**		**3.33**	**209**	*e*P		**Pb**	**19 20 54.2**	**-3.3**
	baz=207								
MHZQ	**Yeshan**		**3.40**	**292**	*e*P		**Pn**	**19 20 54.3**	**+2.6**
	baz=291								
AXDP	**Jialang**		**4.15**	**271**	*e*P		**Pn**	**19 21 02.5**	**+0.4**
	baz=270								
KSRS	**Korea Array**		**13.36**	**19**	Pn		P	19 23 23.2	+5.1
	0.2nm,0.3s,baz=199,slow=11,SNR=7.9								
SONM	**Songino Array**		**26.24**	**335**	P		**P**	**19 25 36.4**	**+2.2**
	0.5nm,0.7s,baz=148,slow=8.4,SNR=3.0								
MKAR	**Makanchi Array**		**38.71**	**315**	P		**P**	**19 27 23.3**	**+0.1**
	1.7nm,0.8s,baz=102,slow=10,SNR=9.7								
ZALV	**Zalesovo Beam**		**40.35**	**326**	P		**P**	**19 27 36.5**	**-0.1**
	0.4nm,0.5s,baz=119,slow=9.0,SNR=2.2								
KURBB	**Kurchatov Arra**		**42.38**	**319**	P		**P**	**19 27 53.3**	**-0.1**
	0.3nm,0.5s,baz=104,slow=7.7,SNR=4.9								
WRA	**Warramunga Arr**		**46.01**	**164**	P		P	19 28 31.2	+8.5
	1.2nm,0.7s,baz=345,slow=7.7,SNR=5.6								
BVAR	**Borovoye Array**		**47.93**	**320**	P		**P**	**19 28 37.8**	**+0.4**
	0.6nm,0.5s,baz=121,slow=7.2,SNR=5.7								
ASAR	**Alice Springs**		**49.50**	**166**	P		P	19 28 58.1	+8.3
	1.1nm,0.8s,baz=355,slow=7.0,SNR=10.0								

GUC ***23*** *19:32:15.9±0.7,30°.39S×72°.03W,h32km±5km,ML3.4*
NEIC ***23*** *19:32:16.4±1.0,30°.28S±0°.05×72°.02W±0°.09,h19km±3km, mb4.2/1,ML3.5(GUC),Error ellipse: s-maj=11.1km s-min=7.7km az=94.0*

ISC 23 19:32:16.0±1.4,30°.30S±0°.04×72°.06W±0°.08,h16km,n25, σ0s74/28,4C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.53**	**135**	⇑*e*P		**Pg**	**19 32 26.2**	**-0.2**
CO06				*e*S		**Sg**	**19 32 33.4**	**-0.1**
CO06				IAML			19 32 36.4	
	comp=E,4μm,0.3s							
CO06	**Fray Jorge**	**0.53**	**135**	Pg		**Pg**	**19 32 26.2**	**-0.2**
CO05	**La Serena**	**0.81**	**62**	⇑*e*P		**Pg**	**19 32 31.6**	**-0.1**
CO05				*e*S		**Sb**	**19 32 44.4**	**+2.1**
CO05				IAML			19 32 49.3	
	comp=N,2μm,0.3s							
CO05	**La Serena**	**0.81**	**62**			**Pg**	**19 32 31.6**	**-0.1**
GO04	**Tololo Observa**	**1.10**	**84**	⇑*e*P		**Pb**	**19 32 36.4**	**-0.5**
GO04				*e*S		**Sn**	**19 32 52.8**	**+0.9**
GO04	**Tololo Observa**	**1.10**	**84**			**Pb**	**19 32 36.3**	**-0.5**
CO03	**El Pedregal**	**1.30**	**115**	⇑*e*P		**Pn**	**19 32 39.0**	**-0.6**
CO03				*e*S		**Sb**	**19 32 56.2**	**-0.4**
CO03				IAML			19 32 59.2	
	comp=E,2μm,0.3s							
CO03	**El Pedregal**	**1.30**	**115**			**Pn**	**19 32 39.2**	**-0.4**
LCO	**Las Campanas**	**1.75**	**43**			**Pn**	**19 32 46.1**	**+0.2**
AC04	**Llanos de Chal**	**2.26**	**23**	IAML			19 33 35.7	
	comp=E,219nm,0.2s							
AC04	**Llanos de Chal**	**2.26**	**23**			**Pn**	**19 32 52.0**	**-0.7**
VA01	**Torpederas**	**2.74**	**173**			**Pn**	**19 32 59.2**	**-0.1**
VA03	**San Esteban**	**2.78**	**153**			**Pn**	**19 33 01.1**	**+1.2**
GO03	**Copiap**	**3.13**	**31**			**Pn**	**19 33 04.5**	**-0.3**
ZON	**Zonda**	**3.16**	**114**			**Pn**	**19 33 04.7**	**-0.4**
MT05	**Renca**	**3.28**	**160**	Pn		**Pn**	**19 33 05.3**	**-1.6**
AC06	**Mina Casimiro**	**3.29**	**28**			**Pn**	**19 33 06.2**	**-0.7**
VA05	**Santo Domingo**	**3.37**	**174**	Pn		**Pn**	**19 33 07.7**	**-0.2**
MT09	**Talagante**	**3.58**	**166**	Pn		**Pn**	**19 33 11.7**	**+0.7**
MT01	**Popeta**	**3.62**	**169**			**Pn**	**19 33 12.3**	**+0.9**
BO01	**Tunca**	**4.17**	**169**			**Pn**	**19 33 19.0**	**+0.1**
AC02	**Maricunga**	**4.31**	**38**			**Pn**	**19 33 20.8**	**-0.5**
BO02	**Sierra Bellavi**	**4.61**	**167**			**Pn**	**19 33 25.8**	**+0.7**
TRQA	**Tornquist**	**11.38**	**136**	Pn		**Pn**	**19 34 57.7**	**-0.1**
SNAA	**Sanae**	**55.02**	**159**	P		**P**	**19 41 46.4**	**0.0**
SNAA				IAmb		IAmb	19 42 10.2	
	comp=Z,3.0nm,1.2s							

NEIC ***23*** *19:42:16.7±1.5, 18°.91N±0°.03×67°.24W±0°.03,h31km±10km, Error ellipse: s-maj=6.0km s-min=2.1km az=218.0*
OSPL ***23*** *19:42:16.6±0.3, 18°.96N×67°.18W,h24km±5km,ML3.7*
RSPR ***23*** *19:42:17.5, 18°.88N×67°.24W, h6km±1km,MD3.5/19*
IDC ***23*** *19:42:17.6±1.2, 19°.20N×66°.45W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.6/47, mbtmp3.8/4, ML4.0/1, Error ellipse: s-maj=35.7km s-min=12.4km az=75.0*

ISC 23 19:42:16.6±0.8,18°.91N±0°.04×67°.27W±0°.03,h27km,n83, σ1s36/89,mb3.7/3,14C-7D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.47**	**161**	⇑*e*P		**Pb**	**19 42 26.2**	**-0.3**
AGPR	**Aguadilla, PR**	**0.47**	**161**	*e*S		**Sb**	**19 42 32.9**	**-0.2**
AGPR	**Aguadilla, PR**	**0.47**	**161**			**Pb**	**19 42 26.1**	**-0.3**
AGPR				IAML			19 42 33.5	
	comp=E,11μm,0.3s							
AGPR				IAML			19 42 35.4	
	comp=N,10μm,0.3s							
AGPR	**Aguadilla, PR**	**0.47**	**161**	*i* P		**Pb**	**19 42 25.9**	**-0.5**
AGPR				*e*S		**Sb**	**19 42 32.8**	**-0.3**
AGPR				IAML			19 42 36.5	
	comp=Z,4μm,0.1s							
IDE	**Isla Desecheo**	**0.56**	**200**	⇓*e*P		**Pb**	**19 42 27.8**	**-0.1**
IDE	**Isla Desecheo**	**0.56**	**200**	*e*S		**Sb**	**19 42 36.0**	**+0.4**
PRSN	**Puerto Rico Se**	**0.70**	**170**	⇑*e*P		**Pb**	**19 42 29.8**	**-0.5**
PRSN	**Puerto Rico Se**	**0.70**	**170**	*e*S		**Sb**	**19 42 39.5**	**-0.1**
PRSN	**Puerto Rico Se**	**0.70**	**170**			**Pb**	**19 42 29.8**	**-0.5**
PRSN						**Sb**	**19 42 39.5**	**-0.1**
AOPR	**Arecibo Observ**	**0.75**	**139**	⇑*e*P		**Pb**	**19 42 30.0**	**-1.1**
AOPR	**Arecibo Observ**	**0.75**	**139**	*e*S		**Sb**	**19 42 45.**	**-0.4**
AOPR	**Arecibo Observ**	**0.75**	**139**			**Pb**	**19 42 30.0**	**-1.1**
AOPR				IAML			19 42 44.6	
	comp=N,5μm,0.3s							
AOPR	**Arecibo Observ**	**0.75**	**139**			**Sb**	**19 42 40.5**	**-0.4**
LSP	**Las Mesas**	**0.75**	**167**	⇓*e*P		**Pb**	**19 42 30.7**	**-0.5**
LSP	**Las Mesas**	**0.75**	**167**	*e*S		**Sb**	**19 42 40.6**	**-0.6**
EMPR	**Esperanza - Ma**	**0.82**	**122**	⇑*e*P		**Pb**	**19 42 31.4**	**-0.9**
EMPR	**Esperanza - Ma**	**0.82**	**122**			**Pb**	**19 42 31.3**	**-1.1**
EMPR				IAML			19 42 50.3	
	comp=E,4μm,0.6s							
EMPR				IAML			19 42 51.9	
	comp=N,3μm,0.5s							
CRPR	**Cabo Rojo, PR**	**0.91**	**170**	⇑*e*P		**Pn**	**19 42 33.0**	**-0.7**
CRPR	**Cabo Rojo, PR**	**0.91**	**170**	*e*S		**Sb**	**19 42 45.1**	**-0.6**
CRPR	**Cabo Rojo, PR**	**0.91**	**170**			**Pn**	**19 42 32.9**	**-0.8**
CRPR				IAML			19 42 54.6	
	comp=N,2μm,0.6s							
CRPR	**Cabo Rojo, PR**	**0.91**	**170**			**Sb**	**19 42 45.1**	**-0.6**
CRPR	**Cabo Rojo, PR**	**0.91**	**170**	*i* P		**Pn**	**19 42 32.9**	**-0.8**
CRPR				IAML			19 42 51.5	
	comp=Z,2μm,0.1s							
MLPR	**Magueyes Islan**	**0.96**	**167**	⇑*e*P		**Pn**	**19 42 33.7**	**-0.7**
MLPR	**Magueyes Islan**	**0.96**	**167**	*e*S		**Sb**	**19 42 46.3**	**-0.7**
MLPR	**Magueyes Islan**	**0.96**	**167**			**Pn**	**19 42 33.6**	**-0.7**
MLPR	**Magueyes Islan**	**0.96**	**167**			**Sb**	**19 42 46.3**	**-0.7**
GBPR	**Guanica, Bosqu**	**1.00**	**158**	⇓*e*P		**Pn**	**19 42 34.4**	**-0.5**
CELP	**Cerrillos**	**1.06**	**142**	⇑*e*P		**Pn**	**19 42 35.0**	**-0.8**
CELP	**Cerrillos**	**1.06**	**142**	*e*S		**Sn**	**19 42 48.9**	**-0.7**
CELP	**Cerrillos**	**1.06**	**142**			**Pn**	**19 42 35.0**	**-0.8**
CELP						**Sn**	**19 42 48.9**	**-0.7**
OBIP	**Obispado Ponce**	**1.07**	**144**	⇑*e*P		**Pn**	**19 42 34.1**	**-1.8**
OBIP	**Obispado Ponce**	**1.07**	**144**	*e*S		**Sn**	**19 42 48.8**	**-1.1**
OBIP	**Obispado Ponce**	**1.07**	**144**			**Pn**	**19 42 34.0**	**-1.8**
OBIP	**Obispado Ponce**	**1.07**	**144**			**Sn**	**19 42 48.8**	**-1.1**
PCDR	**Punta Cana, DR**	**1.13**	**250**	⇑*e*P		**Pn**	**19 42 36.8**	**+0.2**
PCDR	**Punta Cana, DR**	**1.13**	**250**	*e*S		**Sb**	**19 42 52.1**	**+0.4**
PCDR	**Punta Cana, DR**	**1.13**	**250**			**Pn**	**19 42 36.8**	**+0.2**
PCDR				IAML			19 42 57.7	
	comp=E,2μm,0.5s							
PCDR				IAML			19 42 57.7	
	comp=N,3μm,0.7s							
PCDR	**Punta Cana, DR**	**1.13**	**250**			**Sb**	**19 42 52.1**	**+0.4**
PCDR	**Punta Cana, DR**	**1.13**	**250**	*i* P		**Pn**	**19 42 36.7**	**+0.1**
PCDR				*e*S		**Sn**	**19 42 51.6**	**+0.4**
PCDR				IAML			19 42 57.2	
	comp=Z,2μm,0.3s							
ICMP	**Isla Caja de M**	**1.24**	**145**	⇑*e*P		**Pn**	**19 42 38.1**	**-0.1**
ICMP	**Isla Caja de M**	**1.24**	**145**	*e*S		**Sb**	**19 42 55.0**	**0.0**
ICMP	**Isla Caja de M**	**1.24**	**145**			**Pn**	**19 42 38.0**	**-0.3**
ICMP				IAML			19 43 06.2	
	comp=E,2μm,0.5s							
ICMP				IAML			19 43 09.6	
	comp=N,1μm,0.6s							
GCPR	**Guaynabo City**	**1.27**	**118**	⇓*e*P		**Pn**	**19 42 37.8**	**-0.9**
GCPR	**Guaynabo City**	**1.27**	**118**			**Pn**	**19 42 37.6**	**-1.1**
GCPR				IAML			19 43 04.2	
	comp=N,1μm,0.4s							
SJG	**San Juan**	**1.33**	**127**	Pg		**Pn**	**19 42 38.9**	**-0.6**
	comp=N,148nm,0.3s,baz=309,slow=16,SNR=86							
SJG				Lg		Lg	19 42 54.8	
	comp=N,159nm,0.3s,baz=257,slow=23,SNR=6.5							
SJG				LR		LR	19 43 15.6	
	comp=N,292nm,18.6s,baz=79,slow=52							
SJG	**San Juan**	**1.33**	**127**			**Pn**	**19 42 38.6**	**-0.8**
SJG				IAML			19 43 04.2	
	comp=N,3μm,0.3s							
SJG				IAML			19 43 05.0	
	comp=N,2μm,0.5s							
IGPR	**InterUniversit**	**1.45**	**130**	⇑*e*P		**Pn**	**19 42 40.6**	**-0.5**
IGPR	**InterUniversit**	**1.45**	**130**	*e*S		**Sn**	**19 42 57.5**	**-1.7**
PDPR	**Patillas Dam,**	**1.48**	**127**	⇓*e*P		**Pn**	**19 42 41.0**	**-0.5**
PDPR	**Patillas Dam,**	**1.48**	**127**			**Pn**	**19 42 40.5**	**-1.0**
PDPR				IAML			19 43 09.5	
	comp=E,1μm,0.1s							
CBYP	**Canovanas**	**1.48**	**115**	⇓*e*P		**Pn**	**19 42 41.0**	**-0.6**
CBYP	**Canovanas**	**1.48**	**115**	*e*S		**Sn**	**19 42 59.7**	**-0.5**
CBYP	**Canovanas**	**1.48**	**115**			**Pn**	**19 42 40.4**	**-1.3**
CBYP	**Canovanas**	**1.48**	**115**			**Sn**	**19 42 59.7**	**-0.5**
HUMP	**Col San Antoni**	**1.55**	**119**	⇓*e*P		**Pn**	**19 42 41.9**	**-0.6**
HUMP	**Col San Antoni**	**1.55**	**119**			**Pn**	**19 42 41.2**	**-1.3**
HUMP				IAML			19 43 09.3	
	comp=N,1μm,0.2s							
HUMP				IAML			19 43 15.2	
	comp=E,2μm,0.2s							
MTP	**Monte Pirata**	**1.82**	**116**	⇑*e*P		**Pn**	**19 42 45.3**	**-0.9**
MTP	**Monte Pirata**	**1.82**	**116**	*e*S		**Sb**	**19 43 10.9**	**-0.8**
MTP	**Monte Pirata**	**1.82**	**116**			**Pn**	**19 42 45.1**	**-1.1**
MTP				IAML			19 43 19.1	
	comp=E,789nm,0.2s							
MTP	**Monte Pirata**	**1.82**	**116**			**Sb**	**19 43 10.9**	**-0.8**
CUPR	**Culebra, Puert**	**1.98**	**107**	⇑*e*P		**Pn**	**19 42 47.8**	**-0.5**
CUPR	**Culebra, Puert**	**1.98**	**107**	*e*S		**Sn**	**19 43 12.0**	**-0.3**
CUPR	**Culebra, Puert**	**1.98**	**107**			**Pn**	**19 42 47.1**	**-1.2**
CUPR	**Culebra, Puert**	**1.98**	**107**			**Sn**	**19 43 12.0**	**-0.3**
DR12	**Loma Pena Alta**	**2.00**	**267**			**Pn**	**19 42 49.5**	**+0.7**
STVI	**Saint Thomas**	**2.27**	**104**	⇑*e*P		**Pn**	**19 42 52.5**	**+0.1**
STVI	**Saint Thomas**	**2.27**	**104**	Pn		**Pn**	**19 42 51.9**	**-0.5**
STVI				IAML			19 43 31.1	
	comp=N,527nm,0.5s							
SDD	**Santo Domingo**	**2.55**	**260**	Pn		**Pb**	**19 42 59.4**	**-2.2**
SDD				IAML			19 43 44.7	
	comp=E,684nm,0.8s							
CDVI	**St. Croix**	**2.64**	**116**			**Pn**	**19 42 59.4**	**+1.9**
ABVI	**Anegada Island**	**2.79**	**93**			**Pn**	**19 43 00.3**	**+0.8**
ABVI				IAML			19 43 51.6	
	comp=E,333nm,0.6s							
BANI	**BANI**	**2.97**	**260**			**Pn**	**19 43 05.2**	**+3.0**
SC01	**Santiago de lo**	**3.31**	**279**			**Pn**	**19 43 10.2**	**+3.5**
SMRT	**St. Maarten**	**4.07**	**101**	Pn		**Pn**	**19 43 17.6**	**+0.3**
SMRT				IAML			19 44 16.9	
	comp=E,193nm,0.4s							
SMRT				IAML			19 44 18.8	
	comp=N,145nm,0.5s							
GRTK	**Grand Turk**	**4.46**	**306**	Pn		**Pn**	**19 43 21.3**	**-1.1**
H05N1	**Guadeloupe/Mar**	**6.46**	**113**	Pn		**Pn**	**19 43 54.4**	**+4.3**
	SNR=8.6							
H05N1				Sn		**Sn**	**19 44 58.0**	**-5.0**
SVN	**Savane Anatole**	**7.11**	**124**	Pn		**Pn**	**19 43 57.8**	**-1.2**
BIM	**Bigot**	**7.37**	**125**	Pn		**Pn**	**19 44 02.4**	**-0.3**
PCRV	**Puerto La Cruz**	**9.05**	**163**	Pn		**Pn**	**19 44 29.8**	**+4.1**
	comp=N,1.4nm,0.3s,baz=356,slow=13,SNR=2.0							
PCRV				Sn		**Sn**	**19 46 08.8**	**+2.0**
	comp=N,1.4nm,0.3s,baz=265,slow=12,SNR=2.3							
PLCV	**Puerto La Cruz**	**9.08**	**163**			**Pn**	**19 44 29.8**	**+3.8**
PLCV						**Sn**	**19 46 08.8**	**+1.4**
TXAR	**Lajitas Array**	**34.67**	**294**	P		P	19 49 14.5	+10
	comp=N,0.6nm,0.6s,baz=101,slow=8.7,SNR=7.4							
TXAR	**Lajitas Array**	**34.67**	**294**	P		**P**	**19 49 05.1**	**+0.8**
TORD	**Torodi Ar. Bea**	**66.18**	**84**	P		**P**	**19 53 03.1**	**+0.6**
	comp=N,0.3nm,0.6s,baz=302,slow=6.4,SNR=2.3							
ARCES	**ARCESS Array B**	**73.41**	**22**	P		**P**	**19 53 47.6**	**+1.6**
	comp=N,1.3nm,0.8s,baz=297,slow=5.9,SNR=5.3							

IDC 23 19:47:50.9±2.0,0°.07N×126°.86E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.4/44,mbtmp3.6/3,Error ellipse: s-maj=150.6km s-min=26.6km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.20**	**160**	P		P	19 52 38.9	+0.6
	1.5nm,0.4s,baz=338,slow=11,SNR=14							
ASAR	**Alice Springs**	**24.57**	**164**	P		P	19 53 12.4	-0.4
	0.6nm,0.4s,baz=355,slow=16,SNR=15							
MKAR	**Makanchi Array**	**60.63**	**326**	P		P	19 58 03.8	0.0
	0.2nm,0.3s,baz=107,slow=7.8,SNR=4.6							

IDC ***23*** *19:59:14.9±2.2,32°.71S×178°.04W,h0km,mb4.5/3, mb1 4.6/4,mb1mx3.9/24,mbtmp4.4/4,ML3.8/1,MS3.3/3,*
Ms1 3.3/3,ms1mx2.8/27,Error ellipse: s-maj=53.1km s-min=34.0km az=127.0
NEIC ***23*** *19:59:19.7±0.7,32°.3S×178°.4W±0°.2,h10km±2km, mb4.5/6,Error ellipse: s-maj=33.6km s-min=24.5km az=101.0*

ISC 23 19:59:17.6±1.4,32°.6S±0°.1×178°.1W±0°.2,h20km,n22, σ0s83/20,mb4.6/7,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**3.37**	**3**	P		**Pn**	**20 00 07.8**	**-1.3**
URZ	**Urewera**	**6.84**	**213**	P		**Pn**	**20 00 56.6**	**-0.1**
	1.7nm,0.3s,baz=34,slow=3.6,SNR=6.6							
URZ				Sn		**Sn**	**20 02 13.7**	**-0.1**
	6.2nm,0.3s,baz=270,slow=10,SNR=8.1							
OUZ	**Omahuta**	**7.36**	**247**			**Pn**	**20 01 02.3**	**-1.5**
BKZ	**Black Stump Fm**	**7.85**	**212**			**Pn**	**20 01 09.5**	**-1.2**
THZ	**Tophouse**	**11.59**	**216**	Pn		**Pn**	**20 02 00.5**	**-1.3**
DZM	**Mont Dzumac**	**17.26**	**304**	LR		LR	20 08 28.0	
	comp=Z,125nm,18.8s,baz=130,slow=32							
STKA	**Stephens Creek**	**33.94**	**260**	LR		LR	20 20 09.5	
	comp=Z,39nm,18.1s,baz=31,slow=37							
CTA	**Charters Tower**	**34.12**	**283**	P		**P**	**20 06 02.8**	**+1.6**
	3.7nm,0.4s,baz=111,slow=9.2,SNR=13							
AS31	**Alice Springs**	**42.94**	**269**	P		**P**	**20 07 16.0**	**+0.7**
AS31				IAmb		IAmb	20 07 35.8	
	comp=Z,1.3nm,0.5s							
ASAR	**Alice Springs**	**42.94**	**269**	P		**P**	**20 07 16.0**	**+0.7**
	comp=Z,3.6nm,0.7s,baz=110,slow=8.0,SNR=51							
ASAR	**Alice Springs**	**42.94**	**269**	P		**P**	**20 07 15.7**	**+0.4**
WR0	**Warramunga Arr**	**43.95**	**275**	P		**P**	**20 07 23.8**	**+0.3**
WR0				IAmb		IAmb	20 07 37.5	
	comp=Z,14nm,1.5s							
WB2	**Warramunga Arr**	**44.12**	**275**	P		**P**	**20 07 25.1**	**+0.3**
WB2				IAmb		IAmb	20 07 49.9	
	comp=Z,14nm,1.4s							
WRA	**Warramunga Arr**	**44.12**	**275**	P		**P**	**20 07 25.4**	**+0.5**
	comp=Z,2.2nm,0.3s,baz=116,slow=7.5,SNR=22							
WRA	**Warramunga Arr**	**44.12**	**275**	P		**P**	**20 07 25.0**	**+0.1**
VNDA	**Vanda**	**45.88**	**186**	LR		LR	20 23 51.6	
	comp=Z,35nm,19.5s,baz=358,slow=32							
MTN	**Manton Dam**	**50.26**	**281**	P		**P**	**20 08 13.1**	**+0.3**
MTN				IAmb		IAmb	20 08 38.2	
	comp=Z,13nm,1.1s							
KNRA	**Kununurra**	**50.81**	**276**	P		**P**	**20 08 16.9**	**0.0**
FINES	**FINESS Array B**	**147.19**	**339**	PKPbc		**PKPbc**	**20 18 59.0**	**+0.5**
	comp=Z,4.4nm,0.8s,baz=35,slow=4.1,SNR=15							
FINES	**FINESS Array B**	**147.19**	**339**			**PKPbc**	**20 18 59.0**	**+0.5**
BRTR	**Keskin Array B**	**153.50**	**295**	PKPbc		**PKPbc**	**20 19 15.1**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=152,slow=3.2,SNR=4.9							
CLL	**Collm**	**159.63**	**340**	*e*PKPab		**PKPab**	**20 19 53.0**	**+0.2**

IDC ***23*** *20:34:12.7±1.2,0°.67N×120°.67E,h0km,mb3.7/5, mb1 3.8/7,mb1mx3.5/31,mbtmp3.7/7,ML3.4/2,MS2.7/2, Ms1 2.7/2,ms1mx2.3/35,Error ellipse: s-maj=74.2km s-min=19.5km az=69.0*
DJA ***23*** *20:34:17.0±1.0, 1°.1N±7°.1×12°.0E±°,h24km±6km,M4.0/11, mb4.2/2,mB5.1/1,MLv3.9/11,Mw(mB)4.4/1*

ISC 23 20:34:18.4±0.9,0°.47N±0°.08×119°.86E±0°.07,h47km,n21, σ1s61/19,mb3.6/5,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MPSI	**Mapaga**	**0.14**	**162**	P		**Pn**	**20 34 24.5**	**-1.5**
MRSI	**Marisa**	**2.08**	**90**	P		**Pn**	**20 34 51.3**	**+0.4**
APSI	**

s-min=64.3km az=53.0

MEX 23 20:53:04.4±0.7, 14°.06N×93°.38W, h10km, MD4.1

ISC 23 20:53:00.2±1.0, 14°.10N±0°.07×93°.49W±0°.05, h22km, n36, σ1s58/36, mb4.2/6, MS3.1/7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.43**	**56**	*i* P	**Pb**	**20 53 25.6**	**-0.6**
THIG				*i* S	**Sb**	**20 53 42.1**	**-1.8**
THIG		**1.43**	**56**		**Pb**	**20 53 25.6**	**-0.6**
THIG					**Sb**	**20 53 42.1**	**-1.8**
PCIG		**1.62**	**9**	*i* P	**Pb**	**20 53 29.9**	**+0.6**
PCIG				*e*S	**Sb**	**20 53 49.6**	**+0.3**
PCIG		**1.62**	**9**		**Pb**	**20 53 29.9**	**+0.6**
PCIG					**Sb**	**20 53 49.6**	**+0.3**
CCIG	**Comitan**	**2.53**	**31**	*e*P	**Pb**	**20 53 43.4**	**-1.6**
CCIG				*i* S	**Sb**	**20 54 16.6**	**+0.8**
CCIG	**Comitan**	**2.53**	**31**		**Pb**	**20 53 43.4**	**-1.6**
CCIG					**Sb**	**20 54 16.6**	**+0.8**
TGIG		**2.69**	**7**	*e*P	**Pb**	**20 53 46.9**	**-0.7**
TGIG				*e*S	**Sb**	**20 54 18.4**	**-1.8**
TGIG		**2.69**	**7**		**Pb**	**20 53 46.9**	**-0.7**
TGIG					**Sb**	**20 54 18.4**	**-1.8**
CMIG	**Matias Romero**	**3.26**	**336**	*e*P	**Pb**	**20 53 55.2**	**-2.2**
CMIG				*e*S	**Sb**	**20 54 33.7**	**-3.0**
CMIG	**Matias Romero**	**3.26**	**336**		**Pb**	**20 53 55.2**	**-2.2**
CMIG					**Sb**	**20 54 33.7**	**-3.0**
MTO3	**Montecristo**	**4.01**	**85**		**Pn**	**20 54 01.2**	**+0.7**
TLIG	**Tlapa**	**5.98**	**306**	Pn	**Pn**	**20 54 29.1**	**+1.6**
CRIN	**San Cristobal**	**6.42**	**102**	Pn	**Pn**	**20 54 31.5**	**-2.0**
MATN	**Matagalpa**	**7.45**	**98**	Pn	**Pn**	**20 54 46.3**	**-1.3**
TX31	**Lajitas Ar. Si**	**17.85**	**330**	P	**P**	**20 57 07.9**	**0.0**
TX31				IAmb	IAmb	20 57 27.1	
	comp=Z,22nm,1.4s						
TX32	**Lajitas Array**	**17.85**	**330**		**P**	**20 57 07.6**	**-0.3**
TXAR	**Lajitas Array**	**17.85**	**330**	P	P	20 57 17.2	+9.3
	comp=Z,0.0nm,0.3s,baz=151,slow=15,SNR=11						
TXAR	**Lajitas Array**	**17.85**	**330**		**P**	**20 57 07.9**	**0.0**
PLAL	**Pickwick Lake**	**21.36**	**12**	P	**P**	**20 57 45.6**	**-0.3**
PLAL				IAmb	IAmb	20 57 55.8	
	comp=Z,13nm,1.1s						
FLOC	**Florencia**	**21.58**	**124**	P	**P**	**20 57 48.1**	**-0.5**
FLOC				IAmb	IAmb	20 58 10.2	
	comp=Z,26nm,1.4s						
RUSC	**La Rusia**	**21.67**	**110**	P	**P**	**20 57 48.9**	**-1.2**
W50A	**Signal Mountai**	**22.26**	**18**	P	**P**	**20 57 53.7**	**-2.1**
W50A				IAmb	IAmb	20 58 05.1	
	comp=Z,16nm,1.3s						
121A	**Cookes Peak, D**	**22.52**	**327**	P	**P**	**20 58 00.2**	**+1.6**
121A				IAmb	IAmb	20 58 22.0	
	comp=Z,9.2nm,1.0s						
TKL	**Tuckaleechee C**	**23.18**	**20**	LR	LR	21 09 06.9	
	comp=Z,48nm,18.1s,baz=196,slow=41						
LENM	**Lemitar**	**23.42**	**331**	P	**P**	**20 58 10.5**	**+2.6**
S39A	**Bolivar**	**23.50**	**0**	P	**P**	**20 58 09.8**	**+1.4**
ANMO	**Albuquerque**	**23.83**	**333**	P	P	20 58 21.2	+9.3
	comp=Z,0.4nm,0.3s,baz=148,slow=13,SNR=1.8						
SJG	**San Juan**	**26.55**	**78**	LR	LR	21 08 44.5	
	comp=Z,25nm,18.1s,baz=310,slow=36						
PFO	**Pinyon Flats O**	**28.49**	**317**	LR	LR	21 10 28.4	
	comp=Z,50nm,18.5s,baz=113,slow=36						
NNA	**Nana**	**30.73**	**147**	LR	LR	21 08 12.5	
	comp=Z,18nm,18.3s,baz=22,slow=30						
NVAR	**Mina Array Bea**	**32.70**	**322**	P	P	20 59 40.3	+9.0
	comp=Z,0.6nm,0.7s,baz=146,slow=7.3,SNR=5.5						
SADO	**Sadowa**	**32.91**	**19**	LR	LR	21 14 10.4	
	comp=Z,60nm,18.8s,baz=172,slow=38						
YNE	**Yellowstone No**	**33.85**	**339**	P	**P**	**20 59 43.3**	**+2.0**
SCHQ	**Schefferville**	**45.64**	**21**	LR	LR	21 22 46.9	
	comp=Z,58nm,18.5s,baz=106,slow=39						
NOA	**NORSAR Array B**	**84.74**	**28**	LR	LR	21 41 45.9	
	comp=Z,12nm,21.2s,baz=270,slow=34						
CMAR	**Chiang Mai Arr**	**145.41**	**339**	PKPbc	**PKiKP**	**21 12 42.8**	**+1.4**
	comp=Z,1.3nm,0.8s,baz=347,slow=4.9,SNR=9.1						

MEX 23 21:18:58.3±0.8, 14°.29N×93°.29W, h20km±447km, MD3.9, 1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.41**	**3**	⇓*e*P	Pn	21 19 21.0	-1.9
PCIG				*e*S	Sn	21 19 36.5	-4.5

IDC 23 21:24:39.0±1.8, 6°.41S×129°.47E, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=133.1km s-min=27.1km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.26**	**161**	Pn	Pn	21 28 01.7	-0.6
	0.2nm,0.3s,baz=340,slow=12,SNR=3.3						
WRA				Sn	Sn	21 30 27.8	-14
	0.4nm,0.3s,baz=338,slow=22,SNR=4.7						
ASAR	**Alice Springs**	**17.68**	**166**	P	Pn	21 28 47.2	+0.4
	0.2nm,0.3s,baz=347,slow=10.0,SNR=22						
ASAR				S	Sn	21 31 52.7	-12
	0.1nm,0.3s,baz=346,slow=26,SNR=2.7						
STKA	**Stephens Creek**	**27.75**	**157**	P	P	21 30 29.5	0.0
	1.4nm,0.7s,baz=346,slow=8.3,SNR=3.6						
MKAR	**Makanchi Array**	**67.45**	**327**	P	P	21 35 36.6	0.0
	0.2nm,0.5s,baz=127,slow=6.7,SNR=4.8						

IDC 23 21:30:29.7±1.5, 1°.34N×127°.28E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/25, mbtmp3.6/4, Error ellipse: s-maj=155.0km s-min=21.6km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.26**	**162**	P	P	21 35 28.2	-0.3
	0.4nm,0.3s,baz=343,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**25.68**	**166**	P	P	21 36 01.8	+0.2
	0.5nm,0.5s,baz=344,slow=11,SNR=6.4						
SONM	**Songino Array**	**49.72**	**342**	P	P	21 39 24.3	+0.5
	0.9nm,0.8s,baz=159,slow=8.9,SNR=4.7						
MKAR	**Makanchi Array**	**59.82**	**326**	P	P	21 40 36.6	-0.4
	0.8nm,0.5s,baz=118,slow=6.8,SNR=13						

IDC 23 21:40:43.9±2.8, 29°.02N×139°.03E, h475km±41km, mb2.7/5, mb1 2.8/6, mb1mx2.6/38, mbtmp3.5/6, Error ellipse: s-maj=82.3km s-min=18.4km az=75.0

ISC 23 21:40:43.7±1.6, 29°.0N±0°.2×139°.0E±0°.4, h473km, n6, σ0s54/6, mb3.0/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**7.54**	**355**	P	**P**	**21 42 34.4**	**-0.1**
	0.1nm,0.3s,baz=164,slow=11,SNR=3.3						
SONM	**Songino Array**	**31.39**	**316**	P	**P**	**21 46 25.3**	**+0.6**
	0.3nm,0.5s,baz=116,slow=8.2,SNR=2.4						
MKAR	**Makanchi Array**	**47.09**	**308**	P	**P**	**21 48 31.0**	**-0.7**
	0.3nm,0.6s,baz=78,slow=9.0,SNR=2.6						
WRA	**Warramunga Arr**	**48.88**	**196**	P	**P**	**21 48 45.2**	**-0.1**
	0.4nm,0.4s,baz=0.8,slow=7.8,SNR=8.1						
ASAR	**Alice Springs**	**52.60**	**186**	P	**P**	**21 49 12.8**	**+0.2**
	0.5nm,0.9s,baz=1.7,slow=5.7,SNR=2.2						
FINES	**FINESS Array B**	**74.98**	**333**	P	**P**	**21 51 35.4**	**0.0**
	0.7nm,0.7s,baz=72,slow=4.5,SNR=5.9						

MEX 23 21:55:34.6±0.8, 18°.26N×103°.55W, h7km±162km, MD3.6, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.20**	**82**	*i* P	Pg	21 55 38.1	-0.5
MMIG				*i* S	Sg	21 55 41.2	0.0
COIG	**Colima**	**0.92**	**352**	*e*P	Pg	21 55 49.9	-2.5
COIG				*e*S	Sg	21 56 01.8	-2.6
R15V		**0.99**	**336**	*e*P	Pg	21 55 51.2	-2.5
R15V				*e*S	Sg	21 56 04.4	-2.3
EZ5V		**1.21**	**358**	*e*P	Pg	21 55 55.3	-2.6
EZ5V				*e*S	Sg	21 56 09.5	-4.2

SOME 23 21:56:06.2, 41°.73N×81°.37E, h10km

NNC 23 21:56:07.4±0.8, 41°.74N×81°.32E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=5.8km s-min=4.4km az=154.0

ISC 23 21:56:07.3±3.3, 41°.7N±0°.1×81°.47E±0°.09, h1km±26km, n44, σ1s58/64, 12C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.92**	**335**	*e*P	**Pn**	**21 56 41.1**	**-0.2**
	0.3nm,0.1s						
KTMS				*e*S	**Sn**	**21 57 06.1**	**-0.2**
	184nm,0.5s						
KTMS	**Ketmen**	**1.92**	**335**	P	**Pn**	**21 56 41.1**	**-0.2**
	0.3nm,0.1s						
KTMS				S	**Sn**	**21 57 06.1**	**-0.2**
	184nm,0.5s						
SHLS	**Shalkode**	**2.08**	**315**	*e*P	**Pn**	**21 56 40.8**	**-2.7**
	50nm,0.1s						
SHLS				*e*S	**Sn**	**21 57 06.1**	**-3.9**
	448nm,0.4s						
SHLS	**Shalkode**	**2.08**	**315**	Pg	**Pn**	**21 56 40.7**	**-2.7**
	50nm,0.1s						
SHLS				Lg	Lg	21 57 06.1	
	448nm,0.4s						
PDGK	**Podgornoye**	**2.18**	**319**	Pg	**Pn**	**21 56 46.0**	**+1.0**
	12nm,0.4s						
PDGK				Lg	Lg	21 57 14.6	
	82nm,0.4s						
PDGK	**Podgornoye**	**2.18**	**319**	⇑Pn	**Pn**	**21 56 45.3**	**+0.3**
	15nm,0.5s						
PDGK				⇓Sn	**Sn**	**21 57 12.3**	**-0.4**
	125nm,0.6s						
SATY	**Saty**	**2.64**	**302**	*e*P	**Pb**	**21 56 53.7**	**-1.9**
	9.5nm,0.2s						
SATY				*e*S	**Sb**	**21 57 27.9**	**-0.7**
	93nm,0.5s						
SATY	**Saty**	**2.64**	**302**	Pg	**Pb**	**21 56 53.7**	**-1.9**
	9.5nm,0.2s						
SATY				Lg	Lg	21 57 27.9	
	93nm,0.5s						
KPKS	**Kokpek**	**2.71**	**311**	*e*P	**Pn**	**21 56 52.8**	**+0.7**
	30nm,0.2s						
KPKS				*e*S	**Sn**	**21 57 26.2**	**+0.7**
	139nm,0.4s						
DJR	**Jarkent**	**2.90**	**335**	*e*P	**Pb**	**21 56 58.4**	**-1.5**
	0.8nm,0.4s						
DJR				*e*S	**Sb**	**21 57 36.4**	**+0.5**
	7.6nm,0.6s						
DJR	**Jarkent**	**2.90**	**335**	Pg	**Pb**	**21 56 58.4**	**-1.5**
	0.8nm,0.4s						
DJR				Lg	Lg	21 57 36.4	
	7.6nm,0.6s						
KURS	**Kuram**	**3.02**	**307**	*e*P	**Pb**	**21 57 00.6**	**-1.3**
	4.5nm,0.3s						
KURS				*e*S	**Sb**	**21 57 39.6**	**+0.3**
	28nm,0.4s						
KURS	**Kuram**	**3.02**	**307**	Pg	**Pb**	**21 57 00.6**	**-1.3**
	4.5nm,0.3s						
KURS				Lg	Lg	21 57 39.6	
	28nm,0.4s						
KOTS	**Kotyrbulak**	**3.57**	**297**	*e*P	**Pb**	**21 57 10.8**	**-0.5**
	8.9nm,0.4s						
KOTS				*e*S	**Sb**	**21 57 57.7**	**+2.5**
	71nm,0.5s						
KOTS	**Kotyrbulak**	**3.57**	**297**	Pg	**Pb**	**21 57 10.8**	**-0.5**
	8.9nm,0.4s						
KOTS				Lg	Lg	21 57 57.7	
	71nm,0.5s						
MDOK	**Medeo**	**3.58**	**295**	*e*P	**Pb**	**21 57 10.1**	**-1.5**
	4.6nm,0.4s						
MDOK				*e*S	**Sb**	**21 57 55.8**	**+0.2**
	49nm,0.5s						
MDOK	**Medeo**	**3.58**	**295**	⇑Pn	**Pn**	**21 57 01.4**	**-2.8**
	11nm,1.1s						
MDOK				⇑Lg	Lg	21 57 57.8	
	40nm,0.6s						
MDOK	**Medeo**	**3.58**	**295**	Pg	**Pb**	**21 57 10.0**	**-1.5**
	4.6nm,0.4s						
MDOK				Lg	Lg	21 57 55.8	
	49nm,0.5s						
TNSS	**Tian-Shan**	**3.60**	**293**	*e*P	**Pb**	**21 57 11.5**	**-0.7**
	4.2nm,0.1s						
TNSS				*e*S	**Sb**	**21 57 58.6**	**+2.0**
	13nm,0.4s						
TNSS	**Tian-Shan**	**3.60**	**293**	Pg	**Pb**	**21 57 11.5**	**-0.7**
	4.2nm,0.1s						
TNSS				Lg	Lg	21 57 58.6	
	13nm,0.4s						
IZV	**Izvestkoviy**	**3.84**	**292**	*e*P	**Pb**	**21 57 15.3**	**-0.6**
	5.8nm,0.3s						
IZV				*e*S	**Sb**	**21 58 04.9**	**+1.9**
	34nm,0.3s						
IZV	**Izvestkoviy**	**3.84**	**292**	Pg	**Pb**	**21 57 15.3**	**-0.6**
	5.8nm,0.3s						
IZV				Lg	Lg	21 58 04.9	
	34nm,0.3s						
KAPS	**Kapalarasan**	**3.89**	**337**	*e*P	**Pb**	**21 57 16.5**	**-0.3**
	1.4nm,0.4s						
KAPS				*e*S	**Sb**	**21 58 07.3**	**+2.8**
	2.1nm,0.5s						
KAPS	**Kapalarasan**	**3.89**	**337**	Pg	**Pb**	**21 57 16.5**	**-0.3**
	1.4nm,0.4s						
KAPS				Lg	Lg	21 58 07.3	
	2.1nm,0.5s						
CHKK	**Chushkaly**	**3.94**	**305**	*e*P	**Pb**	**21 57 16.8**	**-0.7**
	3.9nm,0.3s						
CHKK				*e*S	**Sb**	**21 58 07.4**	**+1.8**
	26nm,0.4s						
CHKK	**Chushkaly**	**3.94**	**305**	Pg	**Pb**	**21 57 16.8**	**-0.7**
	3.9nm,0.3s						
CHKK				Lg	Lg	21 58 07.4	
	26nm,0.4s						
MTBS	**Maitube**	**3.99**	**293**	*e*P	**Pb**	**21 57 18.3**	**-0.2**
	2.3nm,0.2s						
MTBS				*e*S	**Sb**	**21 58 09.9**	**+2.5**
	17nm,0.3s						
MTBS	**Maitube**	**3.99**	**293**	Pg	**Pb**	**21 57 18.3**	**-0.2**
	2.3nm,0.2s						
MTBS				Lg	Lg	21 58 09.9	
	17nm,0.3s						
KTBS	**Karatobe**	**4.06**	**301**	*e*P	**Pb**	**21 57 18.9**	**-0.7**
	1.4nm,0.3s						
KTBS				*e*S	**Sb**	**21 58 10.6**	**+1.4**
	34nm,0.4s						
KTBS	**Karatobe**	**4.06**	**301**	Pg	**Pb**	**21 57 18.9**	**-0.7**
	1.4nm,0.3s						
KTBS				Lg	Lg	21 58 10.6	
	34nm,0.4s						
KST	**Kastek**	**4.29**	**290**	*e*P	**Pb**	**21 57 22.6**	**-1.1**
	3.7nm,0.4s						
KST				*e*S	**Sb**	**21 58 17.8**	**+1.8**
	14nm,0.7s						
KST	**Kastek**	**4.29**	**290**	Pg	**Pb**	**21 57 22.6**	**-1.1**
	3.7nm,0.4s						
KST				Lg	Lg	21 58 18.6	
	14nm,0.7s						
KUU	**Kurty**	**4.36**	**302**	*e*P	**Pb**	**21 57 23.4**	**-1.4**
	2.8nm,0.3s						
KUU				*e*S	**Sb**	**21 58 19.4**	**+1.4**
	13nm,0.5s						
KUU	**Kurty**	**4.36**	**302**	Pg	**Pb**	**21 57 23.4**	**-1.4**
	2.8nm,0.3s						
KUU				Lg	Lg	21 58 19.4	
	13nm,0.5s						
TKM2	**Tokmak 2**	**4.52**	**287**	⇑Pn	**Pn**	**21 57 16.1**	**-1.0**
	2.2nm,0.5s						
TKM2				⇑Lg	Lg	21 58 29.1	
	17nm,0.6s						
KRBS	**Karabastau**	**4.71**	**297**	*e*P	**Pb**	**21 57 30.8**	**+0.1**
	1.9nm,0.3s						
KRBS				*e*S	**Sb**	**21 58 31.8**	**+3.8**
	6.5nm,0.5s						
KRBS	**Karabastau**	**4.71**	**297**	Pg	**Pb**	**21 57 30.8**	**+0.1**
	1.9nm,0.3s						
KRBS				Lg	Lg	21 58 31.8	
	6.5nm,0.5s						
MAKZ	**Makanchi**	**5.11**	**4**	⇑Pn	**Pn**	**21 57 24.7**	**-0.4**
	1.7nm,0.6s						
MAKZ				⇓Sn	**Sn**	**21 58 25.3**	**+0.6**
	3.4nm,0.8s						
MAKZ				⇑Lg	Lg	21 58 48.5	
	9.0nm,1.1s						
MK31	**Makanchi Array**	**5.12**	**6**	Pn	**Pn**	**21 57 24.8**	**-0.4**
	0.3nm,0.2s,baz=189,slow=13,SNR=88						
MK31				⇓Pg	**Pb**	**21 57 39.6**	**+2.0**
	1.1nm,0.4s,baz=188,slow=13,SNR=5.8						
MK31				⇓Sn	**Sn**	**21 58 24.9**	**0.0**
	1.5nm,0.3s						
MK31				⇑Lg	Lg	21 58 46.5	
	2.6nm,0.5s,baz=189,slow=29,SNR=4.5						
AAK	**Ala-Archa**	**5.27**	**282**	⇑Pg	**Pb**	**21 57 42.2**	**+1.9**
	3.2nm,0.7s						
AAK				⇑Lg	Lg	21 58 52.3	
	13nm,0.6s						
SGDS	**Sogindy**	**5.34**	**291**	Pg	**Pb**	**21 57 42.0**	**+0.4**
	2.1nm,0.3s						
SGDS				Lg	Lg	21 58 50.9	
	9.2nm,0.6s						
KK31	**Karatay Array**	**8.23**	**283**	Pg	**Pb**	**21 58 34.8**	**+4.1**
	0.6nm,0.6s,baz=100,slow=16,SNR=6.1						
KK31				⇑Lg	Lg	22 00 26.1	
	1.1nm,0.6s,baz=93,slow=29,SNR=7.2						
KURBB	**Kurchatov Arra**	**9.15**	**348**	⇓Lg	Lg	22 00 55.3	
	7.4nm,0.8s						
OTUK	**Ortayu**	**9.19**	**318**	⇑Lg	Lg	22 00 55.5	
	5.7nm,1.6s						

NEIC 23 21:58:51.9±1.6, 30°.61S±0°.05×72°.67W±0°.05, h10km±1km, mb4.3/5, ML3.8(GUC), Error ellipse: s-maj=8.5km s-min=6.6km az=172.0

IDC 23 21:58:52.6±1.4, 30°.60S×72°.33W, h0km, mb4.0/3, mb1 4.1/7, mb1mx3.8/33, mbtmp3.9/7, ML3.9/4, Error ellipse: s-maj=44.2km s-min=29.3km az=92.0

GUC 23 21:58:55.2±0.8, 30°.63S×72°.49W, h38km±4km, ML3.8

ISC 23 21:58:52.2±1.9, 30°.62S±0°.04×72°.51W±0°.07, h8km±11km, n58, σ1s17/64, mb4.2/5, 1C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.76**	**94**	*e*P	**Pn**	**21 59 09.0**	**-0.2**
CO06				*e*S	**Sn**	**21 59 19.1**	**-1.9**
CO06	**Fray Jorge**	**0.76**	**94**	Pg	**Pn**	**21 59 09.7**	**+0.4**
CO06				Sg	**Sn**	**21 59 20.9**	**0.0**
CO05	**La Serena**	**1.30**	**58**	*e*P	**Pg**	**21 59 17.8**	**+0.6**
CO05				*e*S	**Sg**	**21 59 34.6**	**+0.5**
CO05				IAML		21 59 35.8	
	comp=N,2μm,0.3s						
CO05	**La Serena**	**1.30**	**58**		**Pg**	**21 59 17.9**	**+0.6**
CO05				Sn	**Sg**	**21 59 35.4**	**+1.2**
GO04	**Tololo Observa**	**1.54**	**74**	*e*P	**Pg**	**21 59 22.0**	**+0.1**
GO04				*e*S	**Sg**	**21 59 42.0**	**+0.1**
GO04				IAML		21 59 43.4	
	comp=N,4μm,0.4s						
GO04	**Tololo Observa**	**1.54**	**74**	Pn	**Pb**	**21 59 20.9**	**-0.4**
CO03	**El Pedregal**	**1.58**	**98**	*e*P	**Pg**	**21 59 22.4**	**-0.2**
CO03				*e*S	**Sg**	**21 59 42.4**	**-0.8**
CO03				IAML		21 59 43.4	
	comp=E,2μm,0.1s						
CO03	**El Pedregal**	**1.58**	**98**	Pn	**Pb**	**21 59 21.7**	**-0.2**
LCO	**Las Campanas**	**2.25**	**45**	⇑*i*P	**Pn**	**21 59 31.2**	**+1.2**
LCO				*i* S	**Sb**	**21 59 59.8**	**-1.5**
LCO	**Las Campanas**	**2.25**	**45**		**Pn**	**21 59 31.2**	**+1.2**
VA01	**Torpederas**	**2.51**	**163**	Pn	**Pn**	**21 59 32.8**	**-0.5**
VA03	**San Esteban**	**2.71**	**142**	IAML		22 00 11.4	
	comp=E,635nm,0.3s						
VA03	**San Esteban**	**2.71**	**142**	Pn	**Pn**	**21 59 36.7**	**+0.4**
AC04	**Llanos de Chal**	**2.71**	**28**	⇓*i*P	**Pn**	**21 59 36.0**	**-0.2**
AC04				*i* S	**Sn**	**22 00 07.9**	**-1.4**
AC04				IAML		22 00 08.8	
	comp=N,232nm,0.3s						
AC04	**Llanos de Chal**	**2.71**	**28**	Pn	**Pn**	**21 59 36.2**	**0.0**
VA05	**Santo Domingo**	**3.12**	**166**		**Pn**	**21 59 41.3**	**-0.5**
MT05	**Renca**	**3.15**	**152**	Pn	**Pn**	**21 59 43.0**	**+0.7**
MT09	**Talagante**	**3.40**	**158**	IAML		22 00 26.9	
	comp=N,214nm,0.4s						
MT09	**Talagante**	**3.40**	**158**	Pn	**Pn**	**21 59 46.2**	**+0.4**
MT01	**Popeta**	**3.41**	**162**	Pn	**Pn**	**21 59 45.8**	**+0.1**
ZON	**Zonda**	**3.42**	**107**	Pn	**Pn**	**21 59 47.3**	**+1.4**
GO03	**Copiap**	**3.61**	**34**	⇓*i*P	**Pn**	**21 59 49.2**	**+0.6**
GO03				*i* S	**Sn**	**22 00 31.3**	**+1.3**
GO03	**Copiap**	**3.61**	**34**	Pn	**Pn**	**21 59 49.3**	**+0.6**
AC06	**Mina Casimiro**	**3.76**	**31**	*e*P	**Pn**	**21 59 51.5**	**+0.9**
AC06	**Mina Casimiro**	**3.76**	**31**	Pn	**Pn**	**21 59 51.5**	**+0.9**
LMEL	**Las Melosas**	**3.77**	**149**	*e*P	**Pn**	**21 59 51.9**	**+1.1**
LMEL				*i* S	**Sn**	**22 00 34.1**	**-1.4**
BO01	**Tunca**	**3.95**	**163**	Pn	**Pn**	**21 59 53.1**	**-0.1**
GO05	**Huala**	**4.41**	**174**		**Pn**	**21 59 58.2**	**-1.3**
BO02	**Sierra Bellavi**	**4.41**	**161**		**Pn**	**22 00 00.3**	**+0.7**
AC02	**Maricunga**	**4.80**	**39**	Pn	**Pn**	**22 00 07.0**	**+1.7**
PB14	**IPOC Station P**	**6.26**	**18**	Pn	**Pn**	**22 00 23.0**	**-2.2**
PB15	**IPOC Station P**	**7.87**	**21**		**Pn**	**22 00 46.0**	**-1.2**
LC01	**Cunco**	**8.28**	**177**	Pn	**Pn**	**22 00 51.5**	**-1.1**
LVC	**Limon Verde**	**8.60**	**23**	Pn	**Pn**	**22 00 56.0**	**-1.4**
	comp=N,0.6nm,0.3s,baz=199,slow=12,SNR=15						
LVC				Sn	**Sn**	**22 02 31.4**	**-3.6**
	comp=N,0.4nm,0.3s,baz=326,slow=9.5,SNR=1.2						
PB07	**IPOC Station P**	**9.16**	**16**	Pn	**Pn**	**22 01 04.4**	**-0.6**
PB09	**IPOC Station P**	**9.26**	**19**	Pn	**Pn**	**22 01 05.7**	**-0.7**
PB01	**IPOC Station P**	**9.92**	**17**	Pn	**Pn**	**22 01 12.2**	**-3.0**
PLCA	**Paso Flores**	**10.22**	**172**	Pn	**Pn**	**22 01 19.4**	**+0.2**
	comp=N,0.2nm,0.3s,baz=343,slow=12,SNR=8.9						
PLCA	**Paso Flores**	**10.22**	**172**	Pn	**Pn**	**22 01 19.2**	**-0.1**
PSGCX	**Pisagua**	**11.19**	**12**	Pn	**Pn**	**22 01 29.9**	**-2.7**
TRQA	**Tornquist**	**11.43**	**133**	Pn	**Pn**	**22 01 36.3**	**+0.4**
LPAZ	**La Paz**	**14.82**	**17**	Pn	**Pn**	**22 02 23.5**	**+0.8**
	comp=N,0.2nm,0.3s,baz=181,slow=5.2,SNR=2.9						
SIV	**San Ignacio**	**17.93**	**38**	P	**P**	**22 03 02.3**	**-0.5**
	comp=N,0.9nm,0.3s,baz=226,slow=18,SNR=7.0						
PMSA	**Palmer Station**	**34.58**	**174**	P	**P**	**22 05 40.2**	**-1.0**
SNAA	**Sanae**	**54.86**	**159**		**P**	**22 08 23.3**	**+0.5**
SNAA				IAmb	IAmb	22 08 26.2	
	comp=Z,4.2nm,1.4s						
QSPA	**South Pole Qui**	**59.61**	**180**	P	**P**	**22 08 56.9**	**+0.4**
QSPA				IAmb	IAmb	22 09 15.8	
	comp=Z,2.8nm,1.2s						
TXAR	**Lajitas Array**	**66.60**	**331**	P	**P**	**22 09 45.2**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=162,slow=9.2,SNR=3.8						
DBIC	**Dimbokro**	**74.51**	**72**	P	**P**	**22 10 32.0**	**+0.2**
	comp=Z,8.2nm,1.2s,baz=217,slow=7.5,SNR=2.6						
DBIC	**Dimbokro**	**74.51**	**72**	P	**P**

BOOM	**Boomskoye usch**	**62.71**	**309**	P	**P**	**22 10 07.2**	**+0.1**
BMAR	**Burnt Mountain**	**65.67**	**23**	P	**P**	**22 10 26.2**	**+0.9**
BVAR	**Borovoye Array**	**66.50**	**321**	P	**P**	**22 10 30.7**	**0.0**
	comp=Z,1.5nm,0.6s,baz=113,slow=5.6,SNR=5.1						
KK31	**Karatay Array**	**66.68**	**310**	P	**P**	**22 10 32.3**	**+0.2**
KK31				IAmb	IAmb	22 10 33.2	
	comp=Z,1.3nm,0.8s						
KKAR	**Karatay Array**	**66.68**	**310**	P	**P**	**22 10 32.6**	**+0.5**
KKAR	**Karatay Array**	**66.68**	**310**	P	**P**	**22 10 32.4**	**+0.2**
KKAR				IAmb	IAmb	22 10 33.2	
	comp=Z,1.3nm,0.8s						
CHGR	**Chuyangaron**	**68.09**	**305**	P	**P**	**22 10 41.2**	**+0.3**
CHGR				IAmb	IAmb	22 11 08.4	
	comp=Z,4.7nm,1.2s						
KBL	**Kabul**	**68.69**	**301**	P	**P**	**22 10 45.0**	**+0.1**
ABKAR	**Akbulak array**	**73.33**	**317**	P	**P**	**22 11 11.5**	**-0.1**
ABKAR	**Akbulak array**	**73.33**	**317**	P	**P**	**22 11 11.6**	**-0.1**
ABKAR				IAmb	IAmb	22 11 11.7	
	comp=Z,1.1nm,0.5s						

IDC ***23*** *22:02:23.0±0.8, 6°.74N×73°.00W, h156km±10km, mb2.8/3, mb1 3.3/5, mb1mx3.0/45, mbtmp3.4/5, Error ellipse: s-maj=34.3km s-min=7.5km az=131.0*

RSNC ***23*** *22:02:24.6±1.1, 6°.77N×73°.13W, h143km±4km, ML3.4, Mw3.7, Fault plane solution: NP1:φs128.00000°, δ35.00000°, λ-111.00000°.*

ISC 23 22:02:22.9±0.9, 6°.81N±0°.03×73°.10W±0°.03, h156km±6km, n38, σ1§65/71, mb3.1/3, 2C-6D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.23**	**202**	⇓*iP*	**Pn**	**22 02 44.2**	**-0.2**
BARC				*eS*	**Sn**	**22 02 59.3**	**-1.4**
BARC				*i*		22 03 04.6	
	comp=Z,270nm,0.3s						
PAMC	**Pamplona, Colo**	**0.66**	**37**	⇓*iP*	**Pn**	**22 02 47.2**	**+0.7**
PAMC				*eS*	**Sn**	**22 03 04.1**	**-0.3**
PAMC				*i*		22 03 07.1	
	comp=Z,286nm,0.4s						
BRRC	**Barranca, Sant**	**0.68**	**296**	⇓*iP*	**Pn**	**22 02 46.2**	**+0.2**
BRRC				*eS*	**Sn**	**22 03 03.1**	**-0.4**
BRRC				*i*		22 03 07.8	
	comp=Z,452nm,0.1s						
RUSC	**La Rusia**	**0.91**	**179**	⇓*iP*	**Pn**	**22 02 48.0**	**-0.2**
RUSC				*eS*	**Sn**	**22 03 05.8**	**-1.6**
RUSC				*i*		22 03 07.3	
	comp=Z,317nm,0.3s						
TAMC	**Tame, Arauca**	**1.35**	**106**	⇓*iP*	**Pn**	**22 02 52.5**	**+1.0**
TAMC				*eS*	**Sn**	**22 03 11.9**	**-1.5**
TAMC				*i*		22 03 14.6	
	comp=Z,243nm,0.6s						
PTBC	**PUERTO BERRIO,**	**1.38**	**259**	*eP*	**Pn**	**22 02 50.8**	**-0.9**
PTBC				*eS*	**Sn**	**22 03 11.8**	**-1.9**
PTBC				*i*		22 03 18.5	
	comp=Z,336nm,0.4s						
OCAC	**Ocana**	**1.44**	**351**	⇓*eP*	**Pn**	**22 02 52.7**	**+0.1**
OCAC				*eS*	**Sn**	**22 03 14.4**	**-1.0**
OCAC				*i*		22 03 19.2	
	comp=Z,875nm,0.4s						
SPBC	**San Pablo de B**	**1.50**	**220**	*eP*	**Pn**	**22 02 53.1**	**0.0**
SPBC				*eS*	**Sn**	**22 03 14.7**	**-1.6**
SPBC				*i*		22 03 22.3	
	comp=Z,334nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.88**	**291**	*eP*	**Pn**	**22 02 57.1**	**+0.1**
ZARC				*eS*	**Sn**	**22 03 22.2**	**-1.0**
ZARC				*i*		22 03 28.4	
	comp=Z,408nm,0.4s						
NORC	**Norcasia**	**2.15**	**235**	*eP*	**Pn**	**22 03 00.1**	**-0.2**
NORC				*eS*	**Sn**	**22 03 27.6**	**-1.5**
NORC				*i*		22 03 34.9	
	comp=Z,264nm,0.2s						
SMLC	**San Martn de**	**2.21**	**334**	*eP*	**Pn**	**22 03 01.0**	**+0.2**
SMLC				*eS*	**Sn**	**22 03 30.5**	**+0.3**
SMLC				*i*		22 03 39.0	
	comp=Z,288nm,0.5s						
CHIC	**Chingaza**	**2.25**	**196**	*eP*	**Pn**	**22 03 02.2**	**+0.4**
CHIC				*eS*	**Sn**	**22 03 30.7**	**-1.1**
CHIC				*i*		22 03 34.4	
	comp=Z,50nm,0.4s						
ROSC	**El Rosal**	**2.30**	**212**	P	**Pn**	**22 03 03.9**	**+1.5**
	comp=Z,21nm,0.3s,baz=290,slow=17,SNR=23						
ROSC				S	**Sn**	**22 03 32.9**	**+0.1**
	comp=Z,45nm,0.3s,baz=185,slow=20,SNR=15						
ROSC	**El Rosal**	**2.30**	**212**	*eP*	**Pn**	**22 03 03.7**	**+1.3**
ROSC				*eS*	**Sn**	**22 03 32.2**	**-0.5**
ROSC				*i*		22 03 41.6	
	comp=Z,144nm,0.4s						
HELC	**Santa Helena**	**2.49**	**256**	*eP*	**Pn**	**22 03 05.4**	**+0.8**
HELC				*eS*	**Sn**	**22 03 35.9**	**-0.8**
HELC				*i*		22 03 42.9	
	comp=Z,127nm,0.6s						
UREC	**San Jos de Ur**	**2.59**	**291**	*eP*	**Pn**	**22 03 05.5**	**0.0**
UREC				*eS*	**Sn**	**22 03 36.8**	**-1.6**
UREC				*i*		22 03 46.8	
	comp=Z,230nm,0.3s						
VILC	**Villavicencio,**	**2.74**	**193**	*eP*	**Pn**	**22 03 08.1**	**+0.6**
VILC				*eS*	**Sn**	**22 03 40.7**	**-1.3**
VILC				*i*		22 03 45.3	
	comp=Z,84nm,0.3s						
GUY2C	**Guyana, Caldas**	**2.75**	**235**	*eP*	**Pn**	**22 03 08.7**	**+0.8**
GUY2C				*eS*	**Sn**	**22 03 42.9**	**+0.4**
GUY2C				*i*		22 03 51.5	
	comp=Z,165nm,0.4s						
LL2C	**La Loma 2 Cana**	**2.75**	**353**	*eP*	**Pn**	**22 03 10.7**	**+3.2**
LL2C				*eS*	**Sn**	**22 03 44.8**	**+2.8**
LL2C				*i*		22 03 47.6	
	comp=Z,177nm,0.2s						
LL1C	**La Loma 1 Cana**	**2.76**	**351**	*eP*	**Pn**	**22 03 08.9**	**+1.4**
LL1C				*eS*	**Sn**	**22 03 44.1**	**+2.0**
LL1C				*i*		22 03 51.9	
	comp=Z,409nm,0.4s						
PTGC	**Puerto Gaitan,**	**2.76**	**160**	*eP*	**Pn**	**22 03 07.0**	**-0.6**
PTGC				*eS*	**Sn**	**22 03 38.4**	**-3.8**
PTGC				*i*		22 03 45.3	
	comp=Z,73nm,0.3s						
CBOC	**Ciudad Bolivar**	**3.04**	**252**	⇑*eP*	**Pn**	**22 03 12.2**	**+0.9**
CBOC				*eS*	**Sn**	**22 03 47.5**	**-1.2**
CBOC				*i*		22 03 53.4	
	comp=Z,45nm,0.6s						
DBBC	**Dabeiba**	**3.10**	**274**	⇑*iP*	**Pn**	**22 03 12.1**	**+0.2**
DBBC				*eS*	**Sn**	**22 03 48.6**	**-1.2**
SDV	**Santo Domingo**	**3.20**	**50**	P	**Pn**	**22 03 14.1**	**+0.8**
	comp=Z,16nm,0.3s,baz=336,slow=3.7,SNR=53						
SDV				S	**Sn**	**22 03 51.6**	**-0.6**
	comp=Z,25nm,0.3s,baz=77,slow=21,SNR=26						
SDV	**Santo Domingo**	**3.20**	**50**	*eP*	**Pn**	**22 03 14.1**	**+0.8**
SDV				*eS*	**Sn**	**22 03 50.9**	**-1.4**
SDV				*i*		22 03 54.1	
	comp=Z,76nm,0.3s						
ARGC	**Ariguani, Magd**	**3.24**	**340**	*eP*	**Pn**	**22 03 15.0**	**+1.4**
ARGC				*eS*	**Sn**	**22 03 54.0**	**+1.0**
ARGC				*i*		22 04 03.8	
	comp=Z,35nm,0.2s						
ANIL	**Santa Ana**	**3.25**	**225**	*eP*	**Pn**	**22 03 14.8**	**+0.8**
ANIL				*eS*	**Sn**	**22 03 52.6**	**-0.9**
ANIL				*i*		22 04 00.7	
	comp=Z,242nm,0.4s						
ORTC	**Ortega, Tolima**	**3.58**	**217**	*eP*	**Pn**	**22 03 18.4**	**+0.4**
ORTC				*eS*	**Sn**	**22 04 00.2**	**-0.7**
ORTC				*i*		22 04 12.2	
	comp=Z,40nm,0.3s						
SJCC	**San Jacinto, C**	**3.70**	**326**	*eP*	**Pn**	**22 03 18.6**	**-0.9**
SJCC				*eS*	**Sn**	**22 04 00.4**	**-3.1**
SJCC				*i*		22 04 08.5	
	comp=Z,64nm,0.3s						
CRJC	**Cerrejon, Guaj**	**4.19**	**3**	*eP*	**Pn**	**22 03 25.1**	**-0.9**
CRJC				*eS*	**Sn**	**22 04 09.5**	**-5.6**
CRJC				*i*		22 04 28.7	
	comp=Z,44nm,0.2s						
YOTC	**Yotoco, Valle**	**4.28**	**229**	*eP*	**Pn**	**22 03 27.0**	**-0.1**
YOTC				*eS*	**Sn**	**22 04 16.1**	**-1.1**
CAPC	**Capurgana**	**4.59**	**294**	*eP*	**Pn**	**22 03 30.1**	**-1.1**
CAPC				*eS*	**Sn**	**22 04 19.6**	**-4.7**
CAPC				*i*		22 04 23.6	
	comp=Z,26nm,0.2s						
URIC	**Uribia, Colomb**	**4.99**	**13**	*eP*	**Pn**	**22 03 34.6**	**-1.7**
URIC				*eS*	**Sn**	**22 04 28.7**	**-5.0**
TXAR	**Lajitas Array**	**36.49**	**312**	P	**P**	**22 09 14.9**	**+1.5**
	comp=Z,0.1nm,0.4s,baz=138,slow=9.6,SNR=2.2						
PDAR	**Pinedale Array**	**48.10**	**324**	P	**P**	**22 10 48.5**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=110,slow=9.7,SNR=2.2						
NVAR	**Mina Array Bea**	**51.51**	**315**	P	**P**	**22 11 13.1**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=117,slow=9.4,SNR=4.2						
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc	**PKPbc**	**22 21 53.4**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=119,slow=3.8,SNR=8.7						
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc	**PKPbc**	**22 21 56.8**	**0.0**
	comp=Z,0.7nm,0.4s,baz=125,slow=2.9,SNR=7.9						

KOLA ***23*** *22:04:53.0, 68°.50N×20°.23E, h0km, ML2.6, Sweden, Lapland*

HEL ***23*** *22:04:53.5±0.0, 67°.84N×20°.20E, h1km, ML2.5, ML3.0(UPP), Confirmed Induced event*

IDC ***23*** *22:04:53.3±0.8, 67°.83N×20°.59E, h0km, mb1 3.3/5, mb1mx3.1/53, mbtmp3.3/5, ML2.7/5, Error ellipse: s-maj=14.0km s-min=6.2km az=118.0*

DNK ***23*** *22:04:53.2±0.4, 67°.83N×20°.21E, h0km, ML3.0(UPP), Suspected explosion*

NAO ***23*** *22:04:53.2±0.9, 67°.83N×20°.43E, ML3.0*

BER ***23*** *22:04:55.4±3.8, 67°.85N×20°.34E, h1km, ML2.4, ML3.0(NAO), Confirmed Induced event*

ISC 23 22:04:51.9±0.7, 67°.79N±0°.02×20°.29E±0°.02, h0km, n59, σ1§03/97, 16D, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.17**	**6**	⇓*iP*	**Pg**	**22 04 55.6**	**+0.5**
KUA				*i* S	**Sg**	**22 04 57.5**	**+0.3**
RATU	**Laukkuluspa**	**0.27**	**277**	⇓P	**Pg**	**22 04 57.5**	**+0.4**
RATU	**Laukkuluspa**	**0.27**	**277**	⇓*iP*	**Pg**	**22 04 57.5**	**+0.4**
KOVU	**Salmi**	**0.44**	**354**	⇓P	**Pg**	**22 05 00.3**	**0.0**
KOVU				S	**Sg**	**22 05 05.6**	**-0.4**
KOVU	**Salmi**	**0.44**	**354**	⇓*iP*	**Pg**	**22 05 00.3**	**0.0**
KOVU				*i* S	**Sg**	**22 05 05.6**	**-0.4**
NIKU	**Nikkaluokta**	**0.48**	**280**	⇓P	**Pg**	**22 05 01.3**	**+0.1**
NIKU				S	**Sg**	**22 05 07.4**	**0.0**
NIKU	**Nikkaluokta**	**0.48**	**280**	⇓*iP*	**Pg**	**22 05 01.3**	**+0.1**
NIKU				*i* S	**Sg**	**22 05 07.4**	**0.0**
DUNU	**Dundret**	**0.68**	**171**	⇓P	**Pb**	**22 05 06.4**	**-0.3**
DUNU				S	**Sb**	**22 05 16.2**	**-0.4**
DUNU	**Dundret**	**0.68**	**171**	⇓*iP*	**Pb**	**22 05 06.4**	**-0.3**
DUNU				*i* S	**Sb**	**22 05 16.2**	**-0.4**
LANU	**Lannavaara**	**0.69**	**67**	⇓P	**Pb**	**22 05 06.1**	**-0.7**
LANU				S	**Sb**	**22 05 15.6**	**-1.4**
LANU	**Lannavaara**	**0.69**	**67**	*eP*	**Pg**	**22 05 05.9**	**+0.7**
LANU				*eS*	**Sb**	**22 05 15.7**	**-1.4**
MASU	**Masugnsbyn**	**0.73**	**116**	⇓P	**Pb**	**22 05 07.5**	**-0.1**
MASU				S	**Sb**	**22 05 18.0**	**-0.2**
MASU	**Masugnsbyn**	**0.73**	**116**	⇓*iP*	**Pb**	**22 05 07.5**	**-0.1**
MASU				*i* S	**Sb**	**22 05 18.0**	**-0.2**
SALU	**Saltoluokta**	**0.80**	**240**	⇓P	**Pg**	**22 05 07.7**	**+0.5**
SALU				S	**Sg**	**22 05 18.3**	**+0.7**
SALU	**Saltoluokta**	**0.80**	**240**	⇓*iP*	**Pg**	**22 05 07.7**	**+0.5**
SALU				*i* S	**Sg**	**22 05 18.3**	**+0.7**
KIF	**Kilpisjarvi**	**1.23**	**9**	Pg	**Pg**	**22 05 15.8**	**+0.3**
KIF				Lg	Lg	22 05 32.1	
KIF	**Kilpisjarvi**	**1.23**	**9**	*eP*	**Pg**	**22 05 15.6**	**0.0**
KIF				*eS*	**Sg**	**22 05 31.8**	**+0.3**
KIF	**Kilpisjarvi**	**1.23**	**9**	*eP*	**Pg**	**22 05 15.8**	**+0.3**
KIF				*eS*	**Sg**	**22 05 31.8**	**+0.3**
PAJU	**Pajala**	**1.33**	**124**	⇓P	**Pn**	**22 05 18.0**	**+0.2**
PAJU				S	**Sn**	**22 05 36.4**	**+0.1**
PAJU	**Pajala**	**1.33**	**124**	*eP*	**Pn**	**22 05 17.9**	**+0.1**
PAJU				*eS*	**Sn**	**22 05 36.2**	**-0.1**
HEF	**Hetta**	**1.41**	**62**	Pg	**Pn**	**22 05 18.7**	**0.0**
HEF				Lg	Lg	22 05 36.9	
HEF	**Hetta**	**1.41**	**62**	*eP*	**Pn**	**22 05 18.8**	**0.0**
HEF				*eS*	**Sg**	**22 05 36.6**	**-0.5**
HEF	**Hetta**	**1.41**	**62**	*eP*	**Pn**	**22 05 18.8**	**0.0**
HEF				*eS*	**Sg**	**22 05 37.0**	**-0.1**
KLF	**Kolari**	**1.52**	**110**	*eP*	**Pg**	**22 05 21.1**	**+0.1**
KLF				*eS*	**Sn**	**22 05 40.8**	**0.0**
KTK1	**Kautokeino**	**1.64**	**40**	Pn	**Pn**	**22 05 22.3**	**+0.3**
KTK1				Sn	**Sn**	**22 05 43.8**	**0.0**
HARU	**Harads**	**1.66**	**170**	P	**Pb**	**22 05 23.5**	**+0.2**
HARU				S	**Sg**	**22 05 46.5**	**+1.4**
HARU	**Harads**	**1.66**	**170**	*eP*	**Pb**	**22 05 23.5**	**+0.2**
HARU				*eS*	**Sg**	**22 05 46.5**	**+1.4**
N2IH	**Innhavet**	**1.66**	**278**	*eP*	**Pn**	**22 05 22.8**	**+0.6**
N2IH				*eS*	**Sn**	**22 05 44.4**	**+0.2**
JETT	**Jettan, Norway**	**1.77**	**1**	Pn	**Pn**	**22 05 24.0**	**+0.1**
JETT				Sn	**Sn**	**22 05 46.6**	**-0.6**
TRO	**Tromso**	**1.92**	**346**	*eP*	**Pn**	**22 05 26.4**	**+0.6**
TRO				*eS*	**Sn**	**22 05 51.1**	**+0.6**
STEI	**Steigen**	**1.92**	**277**	⇓*iP*	**Pb**	**22 05 27.2**	**-0.5**
STEI				*eS*	**Sb**	**22 05 52.3**	**+0.2**
STEI				IAML		22 05 55.4	
	comp=Z,50nm,0.9s						
FAUS	**Fauske**	**1.96**	**260**	*eP*	**Pb**	**22 05 27.8**	**-0.7**
FAUS				*eS*	**Sb**	**22 05 53.8**	**+0.4**
FAUS				IAML		22 05 56.6	
	comp=Z,72nm,0.4s						
KALU	**Kalix**	**2.29**	**147**	*eP*	**Pb**	**22 05 33.6**	**-0.4**
KALU				eSG	**Sg**	**22 06 05.0**	**-0.4**
SGF	**Sodankyl**	**2.41**	**95**	MSG		22 06 09.3	
	comp=Z,22nm,0.2s						
ARA0	**ARCESS Array S**	**2.59**	**45**	Pn	**Pn**	**22 05 36.1**	**+1.1**
	baz=225,slow=14						
ARA0				Sn	**Sn**	**22 06 08.2**	**+1.0**
	baz=225,slow=28						
ARA0	**ARCESS Array S**	**2.59**	**45**	Pn	**Pn**	**22 05 36.1**	**+1.1**
	baz=225,slow=14						
ARA0				Sn	**Sn**	**22 06 08.2**	**+1.0**
	baz=225,slow=28						
ARA0				IAML		22 06 14.8	
	comp=Z,19nm,0.2s						
ARCES	**ARCESS Array B**	**2.59**	**45**	Pn	**Pn**	**22 05 36.1**	**+1.1**
	baz=229,slow=14,SNR=123						
ARCES				Lg	Lg	22 06 09.8	
	baz=228,slow=24,SNR=21						
MOR8	**Moi Rana**	**2.82**	**237**	*eP*	**Pn**	**22 05 39.4**	**+1.3**
MOR8				*eS*	**Sn**	**22 06 11.5**	**-1.2**
MOR8				IAML		22 06 17.0	
	comp=Z,44nm,0.5s						
KEV	**Kevo**	**3.14**	**48**	*eP*	**Pn**	**22 05 44.1**	**+1.5**
VRF	**Varrio**	**3.54**	**86**	MSG		22 06 41.0	
	comp=Z,12nm,0.2s						
OBF4	**Vikkela, Lumij**	**3.56**	**145**	MSG		22 06 53.6	
	comp=Z,11nm,0.3s						
OBF8	**Ulkokalla**	**3.71**	**158**	MSG		22 06 54.1	
	comp=Z,16nm,0.3s						
OBF1	**Elvisluoto, P**	**3.72**	**154**	MSG		22 06 55.9	
	comp=Z,20nm,0.4s						
OUF	**Merijarvi**	**3.88**	**150**	MSG		22 06 58.2	
	comp=Z,8.3nm,0.3s						
APA0	**Apatity Array**	**4.84**	**86**	Pn	**Pn**	**22 06 06.2**	**+0.2**
	baz=294,slow=11						
APA0				Sn	**Sn**	**22 07 02.5**	**-0.1**
	baz=276,slow=28						
APA0				Lg	Lg	22 07 19.9	
	baz=296,slow=22						
APA0	**Apatity Array**	**4.84**	**86**	Pn	**Pn**	**22 06 06.2**	**+0.2**
	baz=294,slow=11						
APA0				Sn	**Sn**	**22 07 02.5**	**-0.1**
	baz=276,slow=28						
APA0	**Apatity Array**	**4.84**	**86**	P	**Pn**	**22 06 06.2**	**+0.2**
APA0				S	**Sn**	**22 07 01.2**	**-1.4**
FIA0	**FINESS Array S**	**6.84**	**156**	Pn	**Pn**	**22 06 35.7**	**+2.4**
	baz=347,slow=16						
FIA0				Sn	**Sn**	**22 07 53.1**	**+1.4**
	baz=341,slow=22						
FIA0				Lg	Lg	22 08 27.5	
	baz=340,slow=37						
FIA0	**FINESS Array S**	**6.84**	**156**	Pn	**Pn**	**22 06 35.7**	**+2.4**
	baz=347,slow=16						
FIA0				Sn	**Sn**	**22 07 53.1**	**+1.4**
	baz=341,slow=22						
FIA0				Sg	**Sg**	**22 08 27.5**	**-3.7**
	baz=340,slow=37						
FINES	**FINESS Array B**	**6.84**	**156**	Pn	**Pn**	**22 06 35.9**	**+2.5**
	comp=Z,0.3nm,0.3s,baz=348,slow=13,SNR=15						
FINES				Sn	**Sn**	**22 07 51.9**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=344,slow=22,SNR=5.6						
FINES				Lg	Lg	22 08 26.3	
	comp=Z,0.8nm,0.3s,baz=343,slow=24,SNR=5.4						
NB2	**NORSAR Subarra**	**7.82**	**214**	Pn	**Pn**	**22 06 47.9**	**+1.0**
	baz=25,slow=12						
NB2				Sn	**Sn**	**22 08 15.5**	**-0.5**
NB2				Lg	Lg	22 08 58.0	
	baz=27,slow=37						
NB2	**NORSAR Subarra**	**7.82**	**214**	Pn	**Pn**	**22 06 47.9**	**+1.0**
	baz=25,slow=12						
NB2				Sn	**Sn**	**22 08 15.5**	**-0.5**
NB2				Sg	**Sg**	**22 08 58.0**	**-4.8**
	baz=27,slow=37						
NOA	**NORSAR Array B**	**7.82**	**214**	Pn	**Pn**	**22 06 47.4**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=20,slow=11,SNR=6.4						
NOA				Sn	**Sn**	**22 08 13.5**	**-2.6**
	comp=Z,0.0nm,0.3s,baz=73,slow=17,SNR=1.5						
NOA				Lg	Lg	22 08 56.5	
	comp=Z,0.1nm,0.3s,baz=34,slow=15,SNR=5.6						
NRA0	**NORESS Array S**	**8.03**	**212**	Pn	**Pn**	**22 06 50.5**	**+0.8**
	baz=30,slow=16						
NRA0	**NORESS Array S**	**8.03**	**212**	Pn	**Pn**	**22 06 50.5**	**+0.8**
	baz=30,slow=16						
HFS	**Hagfors**	**8.21**	**204**	Pn	**Pn**	**22 06 52.2**	**0.0**
	comp=Z,0.2nm,0.3s,baz=23,slow=14,SNR=5.0						
HFS				Sn	**Sn**	**22 08 23.8**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=31,slow=25,SNR=3.1						
HFS				Lg	Lg	22 09 09.4	
	comp=Z,0.5nm,0.3s,baz=30,slow=27,SNR=2.7						
SPA0	**Spitsbergen Ar**	**10.50**	**356**	Pn	**Pn**	**22 07 23.5**	**0.0**
	baz=152,slow=11						
SPA0	**Spitsbergen Ar**	**10.50**	**356**	Pn	**Pn**	**22 07 23.5**	**0.0**
	baz=152,slow=11						
SPITS	**Spitsbergen Ar**	**10.50**	**356**	Pn	**Pn**	**22 07 23.1**	**-0.3**
	baz=139,slow=11,SNR=4.6						

MEX 23 22:20:26.1±0.4, 15°.78N×98°.47W, h16km±795km, MD3.5, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.69**	**28**	*eP*	Pg	22 20 37.2	-2.4
PNIG				*eS*	Sg	22 20 45.7	-3.1
TXIG	**Tlaxiaco**	**1.61**	**25**	*eP*	Pn	22 20 51.0	-3.1
TXIG				*eS*	Sn	22 21 10.3	-4.4
FTIG	**Fresnillo de T**	**2.14**	**9**	*eP*	Pn	22 20 58.0	-3.3
FTIG				*eS*	Sn	22 21 23.1	-4.5

IDC ***23*** *22:33:56.9±1.7, 8°.72S×67°.69E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.5/44, mbtmp3.8/5, MS3.3/11, Ms1 3.3/11, ms1mx3.0/38, Error ellipse: s-maj=55.4km s-min=29.9km az=55.0*

ISC 23 22:33:58.7±1.6, 8°.7S±0°.3×67°.9E±0°.2, h10km, n23, σ1§05/11, mb4.0/5, MS3.3/11, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**4.68**	**78**	Pn	**Pn**	**22 35 08.4**	**-0.8**
	baz=288,slow=15,SNR=35						
H08S3	**Diego Garcia H**	**4.69**	**78**	Pn	**Pn**	**22 35 08.3**	**-1.1**
	baz=288,slow=15,SNR=344						
H08S2	**Diego Garcia H**	**4.70**	**78**	Pn	**Pn**	**22 35 08.6**	**-0.9**
	baz=288,slow=15,SNR=250						
PALK	**Pallekele**	**20.36**	**39**	LR	LR	22 44 28.1	
	comp=Z,65nm,19.6s,baz=319,slow=31						
ATD	**Arta Tunnel**	**31.95**	**308**	LR	LR	22 50 54.4	
	comp=Z,66nm,20.0s,baz=136,slow=32						
CMAR	**Chiang Mai Arr**	**40.83**	**49**	P	**P**	**22 41 42.8**	**+1.9**
	1.0nm,0.7s,baz=241,slow=9.2,SNR=5.9						
CMAR				LR	LR	22 56 09.9	
	comp=Z,16nm,19.2s,baz=288,slow=32						
BOSA	**Boshof**	**44.67**	**238**	LR	LR	22 59 53.0	
	comp=Z,35nm,20.9s,baz=56,slow=35						
H01W3	**Cape Leeuwin H**	**49.68**	**129**	T	T	23 36 38.7	
	baz=292,slow=74						
H01W2	**Cape Leeuwin H**	**49.69**	**129**	T	T	23 36 31.2	
	baz=292,slow=74						
H01W1	**Cape Leeuwin H**	**49.70**	**129**	T	T	23 36 32.3	
	baz=292						
MKAR	**Makanchi Array**	**56.69**	**12**	P	**P**	**22 43 41.5**	**-0.9**
	0.5nm,0.6s,baz=202,slow=6.1,SNR=6.2						
KBZ	**Khabaz**	**56.85**	**339**	LR	LR	23 06 32.0	
	comp=Z,20nm,20.3s,baz=145,slow=34						
BRTR	**Keskin Array B**	**57.64**	**329**	LR	LR	23 08 03.5	
	comp=Z,33nm,18.0s,baz=169,slow=36						
ZALV	**Zalesovo Beam**	**64.00**	**11**	LR	LR	23 12 47.1	
	comp=Z,16nm,18.6s,baz=112,slow=36						
ASAR	**Alice Springs**	**64.67**	**112**	P	**P**	**22 44 37.8**	**+0.4**
	1.0nm,0.8s,baz=278,slow=6.2,SNR=9.3						
WRA	**Warramunga Arr**	**65.04**	**108**	P	**P**	**22 44 40.3**	**+0.5**
	1.0nm,0.7s,baz=281,slow=6.0,SNR=5.2						
SONM	**Songino Array**	**65.76**	**27**	P	**P**	**22 44 44.7**	**+0.7**
	0.8nm,0.7s,baz=217,slow=7.0,SNR=4.0						
SONM				LR	LR	23 12 35.5	
	comp=Z,23nm,20.2s,baz=227,slow=35						
JOW	**Kunigami**	**68.34**	**57**	LR	LR	23 15 17.1	
	comp=Z,17nm,18.8s,baz=260,slow=36						
JAY	**Jayapura**	**72.67**	**90**	LR	LR	23 18 27.5	
	comp=Z,20nm,19.2s,baz=124,slow=37						
ARCES	**ARCESS Array B**	**83.28**	**346**	LR	LR	23 23 42.3	
	comp=Z,19nm,19.8s,baz=160,slow=36						
PDAR	**Pinedale Array**	**145.95**	**357**	PKPbc	**PKPdf**	**22 53 38.0**	**-0.6**
	0.3nm,0.6s,baz=19,slow=3.8,SNR=3.0						
NVAR	**Mina Array Bea**	**149.85**	**10**	PKPbc	**PKiKP**	**22 53 50.8**	**0.0**

AUSP	Uspallata	2.44	101	*i* P		Pb	22 40 04.4	-1.1
RTLS	Leoncito	2.48	91	*i* P		Pb	22 40 05.0	-1.3
LMEL	Las Melosas	2.65	141	*e*P		Pn	22 40 05.9	+1.1
LMEL				*i* S		Sn	22 40 37.8	+0.1
LMEL				IAML			22 40 49.6	
	comp=N,1μm,0.3s							
BO01	Tunca	2.75	160	Pn		Pn	22 40 06.5	+0.5
AROD	Rodeo	2.86	56	*i* P		Pn	22 40 10.0	+2.2
ARCO	CERRO ARCO	2.97	111	*i* P		Pb	22 40 13.0	-1.5
ASAL	Salagasta	2.97	106	*i* P		Pb	22 40 13.0	-1.5
ZON	Zonda	3.03	86		Pn	Pn	22 40 11.9	+2.1
ZON	Zonda	3.03	86	*i* P		Pn	22 40 14.0	-1.4
LCO	Las Campanas	3.07	26	Pn		Pn	22 40 08.8	-0.8
LCO	Las Campanas	3.07	26	*i* P		Pn	22 40 10.0	-0.6
RTCV	Cerro Valdivia	3.13	92	*i* P		Pn	22 40 14.0	+2.8
AAGR	Agrelo	3.14	115	*i* P		Pn	22 40 14.9	+3.6
GO05	Huala	3.21	176	*e*P		Pn	22 40 12.6	+0.3
GO05	Huala	3.21	176			Pn	22 40 12.1	-0.2
BO02	Sierra Bellavi	3.22	158			Pn	22 40 13.3	+0.8
AC04	Llanos de Chal	3.72	16			Pn	22 40 18.0	-1.3
AGUA	GUANDACOL	3.95	55	*i* P		Pn	22 40 26.0	+3.4
COIS	El Sosneado	3.96	147	*i* P		Pn	22 40 27.0	+4.4
ML02	Panimavida	4.01	171			Pn	22 40 23.2	-0.1
LAMA	Las Malvinas	4.01	142	*i* P		Pb	22 40 31.0	-1.2
AVFE	Valle Fertil	4.23	76	*i* P		Pn	22 40 28.0	+1.6
GO03	Copiap	4.53	23			Pn	22 40 30.7	+0.2
GO03	Copiap	4.53	23	*i* P		Pn	22 40 32.0	+1.5
VCA	Vinchina	4.62	50	*i* P		Pn	22 40 35.0	+3.2
AC06	Mina Casimiro	4.71	21			Pn	22 40 33.1	+0.1
ACHE	Chepes	4.79	84	*i* P		Pn	22 40 37.0	+2.9
AC02	Maricunga	5.63	29			Pn	22 40 45.8	-0.2
AC02	Maricunga	5.63	29	*i* P		Pn	22 40 47.0	+1.0
H03N1	Juan Fernandez	5.88	252	T		T	22 47 43.3	
	baz=80,slow=72,SNR=102							
H03N3	Juan Fernandez	5.90	252	T		T	22 47 45.8	
	baz=80,slow=72,SNR=83							
H03N2	Juan Fernandez	5.90	252	T		T	22 47 37.4	
	baz=80,slow=72,SNR=90							
H03S3	Juan Fernandez	5.99	248	T		T	22 47 47.3	
	baz=84,slow=75,SNR=14							
H03S1	Juan Fernandez	5.99	248	T		T	22 47 37.4	
	baz=84,slow=75,SNR=14							
H03S2	Juan Fernandez	6.00	248	T		T	22 47 45.9	
	baz=84,slow=75,SNR=15							
CYA	Choya	6.49	61	*i* P		Pn	22 40 59.0	+1.7
LC01	Cunco	7.09	178			Pn	22 41 06.0	+0.5
AHML	Horco Molle	7.81	52	*i* P		Pn	22 41 18.0	+2.4
PB15	IPOC Station P	8.90	17	Pn		Pn	22 41 30.7	+0.1
PLCA	Paso Flores	9.02	172	Pn		Pn	22 41 33.3	+1.2
	comp=N,0.4nm,0.3s,baz=341,slow=13,SNR=17							
PLCA				LR		LR	22 45 22.2	
	comp=N,185nm,18.8s,baz=348,slow=40							
PLCA	Paso Flores	9.02	172	Pn		Pn	22 41 32.8	+0.8
TRQA	Tornquist	10.46	129			Pn	22 41 51.5	-0.4
PB01	IPOC Station P	10.99	13	Pn		Pn	22 42 00.5	+1.4
ITQB	Itaqui	13.58	85	Pn		Pn	22 42 37.0	+2.5
CPUP	Villa Florida	14.11	71	Pn		Pn	22 42 38.4	-3.4
	comp=N,0.1nm,0.3s,baz=342,slow=9.8,SNR=1.9							
CPUP				Sn		Sn	22 45 14.8	-4.2
	comp=N,0.1nm,0.3s,baz=155,slow=12,SNR=1.8							
CPUP				LR		LR	22 48 29.9	
	comp=N,229nm,18.8s,baz=241,slow=40							
CPUP	Villa Florida	14.11	71	Pn		Pn	22 42 42.9	+1.2
PLTB	Pedras Altas	15.83	95	Pn		Pn	22 43 03.5	-1.4
PLTB				IAmb		IAmb	22 43 17.5	
	comp=Z,21nm,1.5s							
LPAZ	La Paz	15.88	14	Pn		Pn	22 43 06.2	+0.1
	comp=Z,0.1nm,0.3s,baz=190,slow=4.1,SNR=6.5							
LPAZ	La Paz	15.88	14			Pn	22 43 05.4	-0.8
SPB	Sao Paulo	23.38	76	P		P	22 44 29.6	-1.3
SPB				IAmb		IAmb	22 44 31.5	
	comp=Z,18nm,0.8s							
SAML	Samuel	24.24	22	P		P	22 44 38.4	-0.8
BDFB	Brasilia	27.28	59	P		P	22 45 04.2	-2.8
	comp=Z,6.7nm,0.8s,baz=236,slow=7.0,SNR=6.9							
BDFB				LR		LR	22 55 59.7	
	comp=Z,82nm,21.8s,baz=265,slow=37							
BDFB	Brasilia	27.28	59	P		P	22 45 05.4	-1.6
BDFB				IAmb		IAmb	22 45 06.8	
	comp=Z,15nm,1.3s							
PMSA	Palmer Station	33.39	174	LR		LR	22 58 14.6	
	comp=Z,33nm,21.4s,baz=309,slow=34							
VNA3	Neumayer Olymp	51.45	158	P		P	22 48 28.2	+1.0
VNA1	Neumayer--Stat	51.76	158	P		P	22 48 30.5	+1.2
VNA2	Neumayer--Watz	52.10	158	P		P	22 48 32.8	+0.9
	baz=286,slow=8.7							
SNAA	Sanae	53.68	158	P		P	22 48 44.7	+1.0
SNAA	Sanae	53.68	158	P		P	22 48 44.7	+1.0
	comp=Z,6.2nm,0.8s,baz=281,slow=7.1,SNR=28							
SNAA	Sanae	53.68	158	P		P	22 48 44.1	+0.5
SNAA				IAmb		IAmb	22 48 45.3	
	comp=Z,6.3nm,0.8s							
QSPA	South Pole Qui	58.43	180	P		P	22 49 18.9	+1.0
QSPA				IAmb		IAmb	22 49 21.2	
	comp=Z,7.5nm,1.2s							
TXAR	Lajitas Array	67.75	331	P		P	22 50 21.0	+0.9
	comp=Z,0.3nm,0.7s,baz=153,slow=8.4,SNR=4.1							
DBIC	Dimbokro	74.63	72	P		P	22 51 01.2	-0.8
	comp=Z,3.9nm,0.8s,baz=228,slow=8.4,SNR=5.0							
DBIC	Dimbokro	74.63	72	P		P	22 51 01.3	-0.7
MAW	Mawson	75.33	164	LR		LR	23 23 06.8	
	comp=Z,31nm,21.6s,baz=237,slow=35							
SUR	Sutherland	76.03	119	P		P	22 51 10.1	-0.1
LMN	Caledonia Moun	77.58	5	P		P	22 51 19.2	+1.1
E62A	Clayton Lake	78.09	2	P		P	22 51 22.3	+1.4
KOWA	Kowa	79.87	66	P		P	22 51 30.8	-0.7
KOWA				IAmb		IAmb	22 51 43.1	
	comp=Z,2.1nm,0.8s							
BOSA	Boshof	81.23	118	P		P	22 51 38.5	-0.3
	comp=Z,2.0nm,0.9s,baz=280,slow=8.4,SNR=3.2							
BOSA	Boshof	81.23	118	P		P	22 51 38.6	-0.2
BOSA				IAmb		IAmb	22 51 41.6	
	comp=Z,7.0nm,1.3s							
PDAR	Pinedale Array	81.74	333	P		P	22 51 41.9	+0.8
	comp=Z,0.2nm,0.5s,baz=166,slow=8.1,SNR=2.2							
NVAR	Mina Array Bea	82.00	325	P		P	22 51 44.5	+2.0
	comp=Z,0.3nm,0.6s,baz=139,slow=7.2,SNR=3.5							
TORD	Torodi Ar. Bea	83.61	70	P		P	22 51 51.0	-0.2
	comp=Z,3.7nm,0.8s,baz=265,slow=4.6,SNR=21							
TORD	Torodi Ar. Bea	83.61	70	P		P	22 51 50.9	-0.2
TORD				IAmb		IAmb	22 51 51.7	
	comp=Z,3.9nm,0.8s							
H11S2	WAKE ISLAND Hyl	25.62	271	T		T	01 17 26.0	
	baz=117,slow=74,SNR=32							
H11S1	WAKE ISLAND Hyl	25.64	271	T		T	01 17 24.6	
	baz=117,slow=74,SNR=25							
H11S3	WAKE ISLAND Hyl	25.64	271	T		T	01 17 32.0	
	baz=117,slow=74,SNR=26							
H11N3	WAKE ISLAND Hyl	25.98	272	T		T	01 17 48.9	
	baz=114,slow=74							
H11N1	WAKE ISLAND Hyl	26.00	272	T		T	01 17 55.3	
	baz=114							
H11N2	WAKE ISLAND Hyl	26.00	272	T		T	01 17 54.2	
	baz=114,slow=74							
BRVK	Borovoye	145.67	41	PKPdf		PKPab	22 59 01.4	+0.3
ZAA0	Zalesovo Array	152.42	30	PKPbc		PKiKP	22 59 18.5	+0.2
ZALV	Zalesovo Beam	152.42	30	PKPbc		PKiKP	22 59 18.4	+0.1
	comp=Z,2.2nm,0.5s,baz=311,slow=3.5,SNR=11							
MKAR	Makanchi Array	155.38	45	PKPab		PKPab	22 59 41.6	+0.5
	comp=Z,0.9nm,0.9s,baz=318,slow=4.1,SNR=4.9							
MKAR	Makanchi Array	155.38	45	PKPbc	PKPbc		22 59 24.6	

IDC ***23*** *22:48:47.7±1.0,31°.69S×71°.84W,h0km,mb4.0/5, mb1 4.0/8,mb1mx3.9/27,mbtmp3.8/8,ML3.7/3,MS3.4/6, Ms1 3.4/6,ms1mx3.1/21,Error ellipse: s-maj=30.5km s-min=23.7km az=86.0*

NEIC ***23*** *22:48:49.8±1.2,31°.75S±0°.03×72°.0W±0°.1,h16km±3km, mb4.3/12,Mwr4.0/35,ML3.9(GUC),Error ellipse: s-maj=13.2km s-min=4.1km az=91.0*

NEIC ***23*** *22:48:49.9,31°.76S×72°.09W,h24km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.22; $M_{\theta\theta}$0.16; $M_{\phi\phi}$-1.38; $M_{r\theta}$-0.02; $M_{r\phi}$0.13; $M_{\theta\phi}$-0.16; Fault plane solution: $M_0$1.32000×10^{15} NP1:ϕ_s176.85000°, δ48.38000°,λ92.31000°. NP2:ϕ_s353.38000°,δ41.67000°, λ87.41000°. Principal axes: T 1.2320, Plg86.0000°, Azm112.0000°; N 0.1663, Plg2.0000°, Azm355.0000°; P -1.3983, Plg3.0000°, Azm265.0000°;*

GUC ***23*** *22:48:50.7±0.7,31°.73S×71°.92W,h34km±2km,ML3.9*

ISC 23 22:48:49.6±2.0,31°.74S±0°.02×71°.94W±0°.06,h15km±12km, n78,σ0°.76/78,mb4.2/8,7C-5D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VA06	Catapilco	0.98	147	⇓*i*	P	Pb	22 49 08.4	+0.1
VA06					*i* S	Sb	22 49 21.4	+0.3
VA06					IAML		22 49 28.7	
	comp=E,5μm,0.5s							
CO06	Fray Jorge	1.09	14	⇑*i*	P	Pb	22 49 09.9	-0.4
CO06					*e*S	Sb	22 49 24.2	-0.1
CO06	Fray Jorge	1.09	14			Pb	22 49 09.8	-0.4
CO06					Sn	Sn	22 49 24.9	-0.3
VA01	Torpederas	1.30	169	⇓*e*	P	Pn	22 49 12.2	-1.1
VA01					*e*S	Sn	22 49 28.7	-1.8
VA01	Torpederas	1.30	169		Pn	Pn	22 49 12.8	-0.5
VA01					Sn	Sn	22 49 29.0	-1.4
CO03	El Pedregal	1.40	50	⇓*i*	P	Pb	22 49 15.1	-0.3
CO03					*e*S	Sb	22 49 32.6	-0.4
CO03					IAML		22 49 38.9	
	comp=N,2μm,0.7s							
CO03	El Pedregal	1.40	50			Pb	22 49 15.1	-0.3
ROCH	El Roble	1.46	148	⇑*i*	P	Pn	22 49 15.9	+0.3
ROCH					*i* S	Sb	22 49 35.7	+0.6
ROCH					IAML		22 49 37.9	
	comp=N,2μm,0.4s							
VA03	San Esteban	1.56	131	⇓*i*	P	Pn	22 49 17.5	+0.7
VA03					*i* S	Sb	22 49 37.8	0.0
VA03					IAML		22 49 43.8	
	comp=E,2μm,0.4s							
VA03	San Esteban	1.56	131			Pn	22 49 17.6	+0.7
GO04	Tololo Observa	1.84	32	⇑*i*	P	Pn	22 49 21.1	+0.2
GO04					*e*S	Sb	22 49 45.4	-0.7
GO04					IAML		22 49 51.0	
	comp=E,7μm,0.5s							
GO04	Tololo Observa	1.84	32			Pn	22 49 21.4	+0.4
CO05	La Serena	1.91	19	⇑*e*	P	Pn	22 49 21.6	0.0
CO05					*e*S	Sb	22 49 48.0	+0.1
CO05					IAML		22 49 56.4	
	comp=E,1μm,0.5s							
CO05	La Serena	1.91	19			Pn	22 49 21.9	+0.3
VA05	Santo Domingo	1.93	172	*e*P		Pn	22 49 21.6	-0.3
VA05					*e*S	Sg	22 49 52.2	+0.3
VA05					IAML		22 49 57.6	
	comp=E,2μm,0.4s							
VA05	Santo Domingo	1.93	172			Pn	22 49 21.7	-0.2
MT05	Renca	1.94	149	⇓*e*	P	Pn	22 49 23.0	+1.0
MT05					*i* S	Sb	22 49 48.2	-0.4
MT05					IAML		22 49 56.7	
	comp=E,2μm,0.3s							
MT05	Renca	1.94	149			Pn	22 49 22.7	+0.7
MT09	Talagante	2.18	159	⇑*i*	P	Pn	22 49 26.6	+1.0
MT09					*i* S	Sn	22 49 53.1	+0.8
MT09					IAML		22 50 05.0	
	comp=N,841nm,0.3s							
MT09	Talagante	2.18	159			Pn	22 49 26.5	+1.0
MT01	Popeta	2.20	165	⇑*i*	P	Pn	22 49 25.7	+0.1
MT01					*i* S	Sn	22 49 50.9	-1.7
MT01					IAML		22 50 03.0	
	comp=E,456nm,0.4s							
MT01	Popeta	2.20	165			Pn	22 49 25.6	+0.1
LMEL	Las Melosas	2.56	146	⇑*i*	P	Pn	22 49 32.1	+1.4
LMEL					*e*S	Sn	22 50 03.0	+1.2
LMEL					IAML		22 50 13.5	
	comp=N,671nm,0.2s							
BO01	Tunca	2.74	165	Pn		Pn	22 49 33.2	+0.1
ZON	Zonda	2.79	87			Pb	22 49 36.6	-2.5
LCO	Las Campanas	2.92	21	Pn		Pn	22 49 35.7	-0.1
BO02	Sierra Bellavi	3.20	163			Pn	22 49 39.8	+0.4
GO05	Huala	3.26	180			Pn	22 49 39.5	-0.7
AC04	Llanos de Chal	3.60	12			Pn	22 49 44.1	-0.8
ML02	Panimavida	4.04	174			Pn	22 49 50.3	-0.6
GO03	Copiap	4.39	20			Pn	22 49 56.2	+0.4
AC06	Mina Casimiro	4.58	18	Pn		Pn	22 49 58.8	+0.4
AC02	Maricunga	5.47	27			Pn	22 50 11.5	+0.5
H03N1	Juan Fernandez	6.13	252	T		T	22 57 05.1	
	baz=80,slow=72,SNR=628							
H03N3	Juan Fernandez	6.14	252	T		T	22 56 56.9	
	baz=80,slow=72,SNR=761							
H03N2	Juan Fernandez	6.14	252	T		T	22 57 05.2	
	baz=80,slow=72,SNR=872							
H03S3	Juan Fernandez	6.23	249	T		T	22 57 13.7	
	baz=76,slow=77,SNR=3.5							
H03S1	Juan Fernandez	6.23	248	T		T	22 57 05.5	
	baz=76,slow=77,SNR=5.9							
H03S2	Juan Fernandez	6.25	249	T		T	22 57 10.4	
	baz=76,slow=77,SNR=7.3							
LC01	Cunco	7.14	180	Pn		Pn	22 50 33.0	-0.5
PLCA	Paso Flores	9.04	173	Pn		Pn	22 50 59.8	+0.1
	comp=N,0.1nm,0.3s,baz=341,slow=12,SNR=12							
PLCA				LR		LR	22 54 32.1	
	comp=N,160nm,18.6s,baz=348,slow=38							
LVC	Limon Verde	9.48	17	LR		LR	22 54 40.1	
	comp=N,158nm,18.9s,baz=200,slow=38							
TRQA	Tornquist	10.32	130			Pn	22 51 18.6	+1.5
CPUP	Villa Florida	13.87	71	Pn		Pn	22 52 06.4	+0.7
	comp=N,0.1nm,0.3s,baz=68,slow=7.8,SNR=1.7							
CPUP				Sn		Sn	22 54 37.9	-1.5
	comp=N,0.0nm,0.3s,baz=258,slow=20,SNR=1.4							
CPUP				LR		LR	22 57 43.8	
	comp=N,156nm,18.3s,baz=237,slow=39							
LPAZ	La Paz	15.77	14	Pn		Pn	22 52 31.9	+0.1
	comp=N,0.1nm,0.3s,baz=224,slow=12,SNR=2.4							
LPAZ	La Paz	15.77	14			Pn	22 52 31.1	-0.7
SIV	San Ignacio	18.54	35	LR		LR	23 01 37.5	
	comp=N,80nm,19.9s,baz=106,slow=42							
SAML	Samuel	24.09	22	P		P	22 54 04.4	-0.3
BDFB	Brasilia	27.05	59	P		P	22 54 30.6	-1.1
	comp=N,4.9nm,0.9s,baz=235,slow=10,SNR=5.9							
BDFB	Brasilia	27.05	59	P		P	22 54 30.8	-0.9
VNA3	Neumayer Olymp	51.42	159	P		P	22 57 54.4	+0.8
VNA2	Neumayer--Watz	52.06	158	P		P	22 57 59.0	+0.6
	baz=281,slow=7.0							
SNAA	Sanae	53.65	158	P		P	22 58 10.7	+0.6
SNAA	Sanae	53.65	158	P		P	22 58 10.9	+0.7
	comp=N,2.8nm,0.8s,baz=285,slow=7.2,SNR=22							
SNAA	Sanae	53.65	158	P		P	22 58 10.7	+0.6
SNAA				IAmb		IAmb	22 58 11.1	
	comp=Z,6.1nm,1.2s							
QSPA	South Pole Qui	58.49	180	P		P	22 58 45.2	+0.3
QSPA				IAmb		IAmb	22 58 46.7	
	comp=Z,4.1nm,1.0s							
TXAR	Lajitas Array	67.81	330	P		P	22 59 47.4	+0.3
	comp=Z,0.2nm,0.6s,baz=148,slow=8.6,SNR=3.4							
TXAR	Lajitas Array	67.81	330	P		P	22 59 46.7	-0.5
DBIC	Dimbokro	74.38	72	P		P	23 00 27.3	+0.1
E62A	Clayton Lake	78.03	2	P		P	23 00 48.3	+1.1
D62A	Allapoint, All	78.50	2	P		P	23 00 50.4	+0.7
KOWA	Kowa	79.63	66	P		P	23 00 56.5	-0.2
KOWA				IAmb		IAmb	23 01 24.6	
	comp=Z,4.8nm,1.4s							
BOSA	Boshof	81.05	118	P		P	23 01 03.9	-0.6
BOSA				IAmb		IAmb	23 01 08.0	
	comp=Z,1.5nm,0.8s							
NVAR	Mina Array Bea	82.08	325	P		P	23 01 10.6	+1.0
	comp=Z,0.4nm,0.7s,baz=167,slow=8.2,SNR=3.5							
TORD	Torodi Ar. Bea	83.36	70	P		P	23 01 16.5	0.0
	comp=Z,2.5nm,0.8s,baz=258,slow=4.6,SNR=16							
TORD	Torodi Ar. Bea	83.36	70	P		P	23 01 16.5	0.0
TORD				IAmb		IAmb	23 01 17.3	
	comp=Z,3.1nm,0.9s							
ULM	Lac du Bonnet	84.34	345	LR		LR	23 39 15.7	
	comp=Z,31nm,18.2s,baz=112,slow=36							
YKA	Yellowknife Ar	99.95	341	LR		LR	23 46 00.7	
	comp=Z,20nm,21.7s,baz=0.0,slow=34							
H11S2	WAKE ISLAND Hyl	25.86	271	T		T	01 26 41.3	
	baz=117,slow=75,SNR=17							
H11S1	WAKE ISLAND Hyl	25.87	271	T		T	01 26 41.7	
	baz=117,slow=75,SNR=8.0							
H11S3	WAKE ISLAND Hyl	25.88	271	T		T	01 26 41.7	
	baz=117,slow=75,SNR=9.8							
H11N3	WAKE ISLAND Hyl	26.22	272	T		T	01 27 08.0	
	baz=118,slow=74							
H11N1	WAKE ISLAND Hyl	26.23	272	T		T	01 27 10.0	
	baz=118							
H11N2	WAKE ISLAND Hyl	26.23	272	T		T	01 27 09.2	
	baz=118,slow=74							
ZAA0	Zalesovo Array	152.25	30	PKPbc		PKiKP	23 08 44.6	+0.1
ZALV	Zalesovo Beam	152.25	30	PKPbc		PKPbc	23 08 44.2	0.0
	comp=Z,2.8nm,0.5s,baz=296,slow=2.9,SNR=14							
ZALV	Zalesovo Beam	152.25	30			PKPbc	23 08 43.9	-0.4
MKAR	Makanchi Array	155.17	45	PKPab		PKPab	23 09 06.9	+0.1
	comp=Z,0.7nm,0.8s,baz=338,slow=3.1,SNR=4.1							

IDC ***23*** *23:12:11.9±1.6,5°.66N×126°.17E,h0km,mb3.7/4, mb1 3.8/4,mb1mx3.4/34,mbtmp3.7/4,MS2.8/1,Ms1 2.8/1, ms1mx2.1/31,Error ellipse: s-maj=126.3km s-min=18.4km az=71.0*

MAN ***23*** *23:12:20.4,6°.06N×126°.24E,h43km,mb4.5,ML3.4,MS3.2*

ISC 23 23:12:20.6±1.2,6°.2N±0°.2×126°.0E±0°.3,h127km,n7, σ0°.98/9,mb3.6/4,1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	0.96	333	Pn		Pn	23 12 41.0	-1.9
	57nm,0.3s,baz=127,slow=4.3,SNR=1.9							
DAV				Sn		Sn	23 13 00.2	+0.4
	98nm,0.3s,baz=86,slow=23,SNR=11							
KCP	Kidapawan	1.21	311	⇑*e*P		Pn	23 12 44.8	-0.7
KCP				*i* S		Sn	23 13 04.2	-0.2
BUKP	Musuan	1.91	330	*e*P		Pn	23 12 54.5	+1.1
FITZ	Fitzroy Crossi	24.16	181	P		P	23 17 25.5	+0.4
	0.9nm,0.5s,baz=3.2,slow=12,SNR=1.6							
FITZ				LR		LR	23 26 47.0	
	comp=Z,20nm,19.3s,baz=7.5,slow=37							
WRA	Warramunga Arr	27.25	163	P		P	23 17 52.7	-0.3
	0.5nm,0.3s,baz=340,slow=11,SNR=6.9							
ASAR	Alice Springs	30.68	166	P		P	23 18 23.4	0.0
	0.3nm,0.5s,baz=344,slow=7.3,SNR=5.9							
STKA	Stephens Creek	40.69	159	P		P	23 19 49.1	+0.4
	2.2nm,0.7s,baz=338,slow=11,SNR=4.6							

IDC ***23*** *23:16:39.1±1.1,19°.87S×70°.81W,h0km,mb3.9/5, mb1 4.0/8,mb1mx3.9/28,mbtmp4.0/8,ML4.0/3,MS3.2/4, Ms1 3.2/4,ms1mx2.9/24,Error ellipse: s-maj=29.6km s-min=16.7km az=62.0*

NEIC ***23*** *23:16:40.1,19°.98S×71°.01W,h16km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.40; $M_{\theta\theta}$0.36; $M_{\phi\phi}$-1.75; $M_{r\theta}$0.52; $M_{\theta\phi}$0.04; $M_{r\phi}$-0.79; Fault plane solution: $M_0$1.86000×10^{15} NP1:ϕ_s19.12000°, δ34.93000°,λ122.68000°. NP2:ϕ_s161.08000°,δ61.19000°, λ69.34000°. Principal axes: T 1.7570, Plg67.0000°, Azm31.0000°; N 0.1934, Plg18.0000°, Azm171.0000°; P -1.9504, Plg14.0000°, Azm266.0000°;*

NEIC ***23*** *23:16:40.8±2.2,19°.98S±0°.03×70°.98W±0°.05,h12km±1km, mb4.5/17,Mwr4.1/33,ML4.1(GUC) Error ellipse: s-maj=6.3km s-min=4.8km az=91.0*

GUC ***23*** *23:16:42.1±0.7,20°.00S×71°.04W,h34km±3km,ML4.1*

ISC 23 23:16:40.4±1.6,19°.97S±0°.03×71°.00W±0°.05,h12km±9km, n80,σ0°.96/83,mb4.5/10,MS3.7/3,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TA02	Huaiquique	0.86	110	*e*P		Pb	23 16 57.3	0.0
TA02				*i* S		Sb	23 17 09.1	+0.2
TA02	Huaiquique	0.86	110			Pg	23 16 57.7	-0.1
TA02				Sg		Sb	23 17 09.0	+0.1
PSGC	Pisagua	0.90	66	*e*P		Pg	23 16 57.8	0.0
PSGC				*i* S		Sb	23 17 10.2	+0.1
PSGC				IAML			23 17 12.2	
	comp=N,5μm,0.4s							
PSGCX	Pisagua	0.90	66			Pg	23 16 57.6	-0.2
PSGCX				Sg		Sb	23 17 10.4	+0.2
TA01	Diego Aracena	0.97	128	*e*P		Pg	23 16 58.8	-0.2
TA01				*i* S		Sb	23 17 11.7	-0.2
TA01	Diego Aracena	0.97	128			Pg	23 16 58.8	-0.2
HMBC	Humberstone	1.08	106	*e*P		Pb	23 17 00.8	-0.4
HMBC				*i* S		Sg	23 17 15.9	+0.4
HMBC				IAML			23 17 17.0	
	comp=N,10μm,0.3s							
PB11	IPOC Station P	1.28	81	*e*P		Pn	23 17 04.0	-0.3
PB11				*i* S		Sn	23 17 21.4	-0.1
PB11				IAML			23 17 23.2	
	comp=E,12μm,0.7s							
PB11	IPOC Station P	1.28	81			Pn	23 17 03.9	-0.3
PB02	IPOC Station P	1.69	143	*e*P		Pn	23 17 09.4	-0.5
PB02				*i* S		Sn	23 17 30.8	-0.8
PB02				IAML			23 17 39.4	
	comp=E,6μm,0.5s							
AP01	Chacalluta	1.71	21	*e*P		Pn	23 17 10.1	+0.1
AP01				*i* S		Sb	23 17 33.0	-0.2
AP01	Chacalluta	1.71	21			Pn	23 17 09.9	-0.1
PB08	IPOC Station P	1.74	96	*e*P		Pn	23 17 10.7

	comp=Z,5.8nm,1.4s							
KOWA	**Kowa**		**74.23**	**68**	P	**P**	**23 28 16.6**	**-1.2**
KOWA					IAmb	IAmb	23 28 35.7	
	comp=Z,6.1nm,1.4s							
TORD	**Torodi Ar. Bea**		**78.70**	**72**	P	**P**	**23 28 41.9**	**-1.3**
	comp=Z,4.0nm,0.6s,baz=255,slow=5.2,SNR=33							
TORD					LR	LR	00 02 12.1	
	comp=Z,33nm,20.4s,baz=205,slow=35							
TORD	**Torodi Ar. Bea**		**78.70**	**72**	P	**P**	**23 28 42.0**	**-1.1**
TORD					IAmb	IAmb	23 28 42.9	
	comp=Z,4.7nm,0.8s							
ESDC	**Sonseca Array**		**86.14**	**45**	LR	LR	00 07 24.4	
	comp=Z,13nm,18.0s,baz=190,slow=35							
URZ	**Urewera**		**93.83**	**227**	LR	LR	00 05 38.9	
	comp=Z,440nm,18.5s,baz=211,slow=31							
H11S2	**WAKE ISLAND Hyl**		**25.73**	**279**	T	T	01 55 05.4	
	baz=102,slow=74,SNR=101							
H11S1	**WAKE ISLAND Hyl**		**25.74**	**279**	T	T	01 55 15.5	
	baz=102,slow=74,SNR=47							
H11S3	**WAKE ISLAND Hyl**		**25.75**	**279**	T	T	01 55 07.1	
	baz=102,slow=74,SNR=55							
H11N3	**WAKE ISLAND Hyl**		**25.78**	**280**	T	T	01 55 10.7	
	baz=99,slow=74							
H11N2	**WAKE ISLAND Hyl**		**25.80**	**280**	T	T	01 55 13.2	
	baz=99,slow=74							
H11N1	**WAKE ISLAND Hyl**		**25.80**	**280**	T	T	01 55 11.6	
	baz=99							
WRA	**Warramunga Arr**		**133.21**	**214**	PKP	**PKPdf**	**23 35 57.5**	**+0.4**
	comp=Z,0.9nm,1.1s,baz=178,slow=1.7,SNR=2.7							
ZALV	**Zalesovo Beam**		**141.36**	**23**	PKP	**PKPdf**	**23 36 10.1**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=308,slow=40,SNR=6.2							
MAKZ	**Makanchi**		**145.31**	**33**		**PKPab**	**23 36 18.5**	**+0.4**
MK31	**Makanchi Array**		**145.49**	**33**	PKPbc	**PKPdf**	**23 36 18.8**	**+0.3**
MKAR	**Makanchi Array**		**145.49**	**33**	PKPbc	**PKPbc**	**23 36 19.0**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=319,slow=3.6,SNR=19							
MKAR	**Makanchi Array**		**145.49**	**33**		**PKPdf**	**23 36 18.7**	**+0.2**
NIL	**Nilore**		**145.49**	**59**	PKPbc	**PKPdf**	**23 36 19.1**	**+0.1**
KSH	**Kashi**		**145.61**	**48**	PKPbc	**PKPab**	**23 36 20.3**	**+0.7**
KSH					PP	**PP**	**23 39 42.0**	**+2.2**
SONM	**Songino Array**		**152.12**	**4**	PKPbc	**PKiKP**	**23 36 36.8**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=317,slow=2.8,SNR=7.9							
SONM	**Songino Array**		**152.12**	**4**		**PKiKP**	**23 36 36.6**	**+0.3**

IDC 23 23:46:37.6±3.7, 5°93S×151°39E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/28, mbtmp3.9/3, MS3.8/2, Ms1 3.8/2, ms1mx2.8/33, Error ellipse: s-maj=119.9km s-min=52.8km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.65**	**228**	P	P	23 51 30.0	+0.2
	1.5nm,0.8s,baz=55,slow=10,SNR=8.8						
ASAR	**Alice Springs**	**24.38**	**222**	P	P	23 51 57.9	+0.2
	2.7nm,0.8s,baz=54,slow=9.6,SNR=22						
FITZ	**Fitzroy Crossi**	**27.89**	**242**	P	P	23 52 29.4	-0.1
	1.4nm,0.5s,baz=75,slow=9.3,SNR=2.3						
KSRS	**Korea Array**	**48.40**	**335**	LR	LR	00 14 20.7	
	comp=Z,88nm,20.2s,baz=126,slow=34						
PPT	**Papeete**	**58.73**	**107**	LR	LR	00 15 13.4	
	comp=Z,85nm,21.5s,baz=180,slow=29						
TORD	**Torodi Ar. Bea**	**149.29**	**286**	PKPbc	PKPbc	00 06 28.6	-0.9
	0.6nm,0.7s,baz=63,slow=0.9,SNR=2.3						

GCMT 23 23:50:31.0±0.2, 65°29S±0°01×179°93E±0°04, h15km±2km, MW4.9/88, Moment Tensor Solution. s34,c37; s88,c115; Duration: 0 Moment tensor: Scale 10^{16} Nm; M_{rr}0.02±.09; $M_{\theta\theta}$2.01±.10; $M_{\phi\phi}$-2.03±.10; $M_{r\theta}$-2.66±.48; $M_{\theta\phi}$-0.64±.08; $M_{\phi r}$0.01±.16; Best double couple: M_{o}3.11500×10^{16} NP1:ϕ_s334.00000°,δ45.00000°, λ7.00000°. NP2:ϕ_s239.00000°,δ85.00000°,λ135.00000°. Principal axes: T 3.9030, Plg34.0000°, Azm186.0000°; N -1.5740, Plg45.0000°, Azm54.0000°; P -2.3270, Plg26.0000°, Azm295.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**44.10**	**342**	*e*LR	LR	00 10 59.3	
	comp=Z,502nm,26.4s						
RKT	**Rikitea**	**51.14**	**57**	*e*T	T	00 54 02.8	
	4.1nm,0.2s						
PPT2	**Papeete2**	**51.83**	**38**	*e*S	S	00 07 04.7	+4.7
	76nm,29.2s						
PPT2				*e*LR	LR	00 14 05.4	
	comp=Z,385nm,28.5s						
VAH	**Vaihoa**	**54.59**	**39**	*e*T	T	00 58 19.7	
	16nm,0.3s						
PMOR	**Pomariorio Ree**	**54.74**	**39**	*e*T	T	00 58 30.9	
	2.4nm,0.3s						

*NEIC **23** 23:52:32.8, 31°79S×72°33W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.11; $M_{\theta\theta}$0.12; $M_{\phi\phi}$-2.23; $M_{r\theta}$-0.01; $M_{\theta\phi}$-0.06; $M_{\phi r}$-0.23; Fault plane solution: M_o2.19000×10^{15} NP1:ϕ_s181.78000°, δ48.03000°,λ90.33000°. NP2:ϕ_s1.28000°,δ41.97000°, λ89.63000°. Principal axes: T 2.1261, Plg87.0000°, Azm96.0000°; N 0.1169, Plg0.0000°, Azm2.0000°; P -2.2430, Plg3.0000°, Azm272.0000°;*

*IDC **23** 23:52:32.6±1.2, 31°74S×72°01W, h0km, mb4.1/5, mb1 4.1/10, mb1mx4.0/29, mbtmp3.9/10, ML3.9/5, MS3.2/4, Ms1 3.2/4, ms1mx2.9/23 Error ellipse: s-maj=31.4km s-min=28.3km az=91.0*

*NEIC **23** 23:52:33.1±1.9, 31°78S±0°02×72°27W±0°06, h10km±1km, mb4.5/18, Mwr4.2/40, ML4.1(GUC), Error ellipse: s-maj=11.8km s-min=3.8km az=272.0*

*SJA **23** 23:52:33.0, 31°88S×72°57W, h10km, ML4.6*

*GUC **23** 23:52:34.6±0.8, 31°89S×72°34W, h40km±4km, ML4.1*

ISC 23 23:52:33.2±0.5, 31°81S±0°03×72°23W±0°05, h10km, n110, σ1°25/110, mb4.5/10, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**1.09**	**133**	*e*P	**Pn**	**23 52 54.3**	**-0.2**
VA06				*i* S	**Sn**	**23 53 09.6**	**-0.1**
VA06				IAML		23 53 15.2	
	comp=E,13μm,0.3s						
CO02	**Combarbal**	**1.22**	**60**	Pn	**Pb**	**23 52 55.4**	**-1.0**
CO02				Sn	**Sb**	**23 53 11.7**	**-0.5**
CO06	**Fray Jorge**	**1.25**	**24**	*e*P	**Pg**	**23 52 57.7**	**+0.5**
CO06				*i* S	**Sn**	**23 53 16.3**	**+2.7**
CO06				IAML		23 53 21.5	
	comp=N,3μm,0.6s						
CO06	**Fray Jorge**	**1.25**	**24**	Pn	**Pn**	**23 52 55.1**	**-1.6**
CO06				Sn	**Sn**	**23 53 13.9**	**+0.3**
VA01	**Torpederas**	**1.30**	**158**	*e*P	**Pb**	**23 52 56.9**	**-0.8**
VA01				*i* S	**Sb**	**23 53 13.7**	**-0.8**
VA01	**Torpederas**	**1.30**	**158**	Pn	**Pg**	**23 52 57.3**	**-0.9**
VA01				Sn	**Sb**	**23 53 13.8**	**-0.8**
VA01	**Torpederas**	**1.30**	**158**	*i* P	**Pb**	**23 52 57.0**	**-0.8**
ROCH	**El Roble**	**1.55**	**138**	*e*P	**Pb**	**23 53 01.4**	**-0.8**
ROCH				*i* S	**Sb**	**23 53 22.2**	**+0.3**
ROCH				IAML		23 53 32.9	
	comp=E,4μm,0.6s						
CO03	**El Pedregal**	**1.64**	**54**	*e*P	**Pb**	**23 53 01.9**	**-1.7**
CO03				*i* S	**Sb**	**23 53 24.2**	**-0.2**
CO03	**El Pedregal**	**1.64**	**54**	Pn	**Pb**	**23 53 01.9**	**-1.7**
CO03				Sn	**Sg**	**23 53 24.8**	**-1.2**
VA03	**San Esteban**	**1.71**	**124**	*e*P	**Pb**	**23 53 03.7**	**-1.1**
VA03				*i* S	**Sb**	**23 53 26.3**	**-0.1**
VA03	**San Esteban**	**1.71**	**124**	Pn	**Pb**	**23 53 03.5**	**-1.3**
VA03	**San Esteban**	**1.71**	**124**	*i* P	**Pb**	**23 53 04.0**	**-0.8**
VA05	**Santo Domingo**	**1.91**	**164**	*e*P	**Pn**	**23 53 05.8**	**0.0**
VA05	**Santo Domingo**	**1.91**	**164**		**Pn**	**23 53 05.5**	**-0.3**
MT05	**Renca**	**2.02**	**142**	Pn	**Pb**	**23 53 07.8**	**-2.2**
MT05	**Renca**	**2.02**	**142**	*i* P	**Pb**	**23 53 09.0**	**-1.0**
GO04	**Tololo Observa**	**2.05**	**37**	*e*P	**Pn**	**23 53 07.5**	**-0.4**
GO04				*i* S	**Sg**	**23 53 37.5**	**-1.6**
GO04	**Tololo Observa**	**2.05**	**37**	Pn	**Pn**	**23 53 07.6**	**-0.4**
CO05	**La Serena**	**2.08**	**25**	*i* S	**Sb**	**23 53 36.8**	**0.0**
CO05	**La Serena**	**2.08**	**25**	Pn	**Pn**	**23 53 07.1**	**-1.0**
MT01	**Popeta**	**2.21**	**158**		**Pn**	**23 53 10.1**	**+0.2**
MT01	**Popeta**	**2.21**	**158**	*i* P	**Pn**	**23 53 10.0**	**+0.2**
MT09	**Talagante**	**2.22**	**152**	*e*P	**Pb**	**23 53 11.0**	**-2.5**
MT09				IAML		23 53 52.9	
	comp=N,2μm,0.3s						
MT09	**Talagante**	**2.22**	**152**	Pn	**Pb**	**23 53 11.2**	**-2.3**
AUSP	**Uspallata**	**2.45**	**100**	*i* P	**Pb**	**23 53 16.0**	**-1.5**
RTLS	**Leoncito**	**2.50**	**90**	*i* P	**Pb**	**23 53 17.0**	**-1.4**
LMEL	**Las Melosas**	**2.65**	**140**	*e*P	**Pn**	**23 53 16.9**	**+0.7**
LMEL				*i* S	**Sn**	**23 53 48.9**	**+0.4**
LMEL				IAML		23 54 03.4	
	comp=N,1μm,0.3s						
BO01	**Tunca**	**2.75**	**160**	Pn	**Pn**	**23 53 17.7**	**+0.4**
BO01	**Tunca**	**2.75**	**160**	*i* P	**Pn**	**23 53 18.0**	**+0.7**
ARCO	**CERRO ARCO**	**2.98**	**111**	*i* P	**Pb**	**23 53 25.0**	**-1.4**
ASAL	**Salagasta**	**2.98**	**106**	*i* P	**Pb**	**23 53 25.0**	**-1.5**
ZON	**Zonda**	**3.04**	**86**		**Pn**	**23 53 23.6**	**+2.1**
ZON	**Zonda**	**3.04**	**86**	*i* P	**Pn**	**23 53 26.0**	**-1.5**
LCO	**Las Campanas**	**3.09**	**26**	Pn	**Pn**	**23 53 21.5**	**-0.8**
RTCV	**Cerro Valdivia**	**3.14**	**92**	*i* P	**Pb**	**23 53 27.0**	**-2.2**
AAGR	**Agrelo**	**3.15**	**115**	*i* P	**Pb**	**23 53 27.0**	**-2.3**
GO05	**Huala**	**3.20**	**176**	Pn	**Pn**	**23 53 23.2**	**-0.3**
GO05	**Huala**	**3.20**	**176**	*i* P	**Pn**	**23 53 23.0**	**-0.5**
BO02	**Sierra Bellavi**	**3.21**	**158**		**Pn**	**23 53 24.7**	**+1.0**
BO02	**Sierra Bellavi**	**3.21**	**158**	*i* P	**Pn**	**23 53 25.0**	**+1.3**
AC04	**Llanos de Chal**	**3.74**	**16**	Pn	**Pn**	**23 53 29.1**	**-1.9**
COIS	**El Sosneado**	**3.96**	**147**	*i* P	**Pn**	**23 53 37.0**	**+3.0**
AGUA	**GUANDACOL**	**3.97**	**55**	*i* P	Pb	23 53 38.0	-5.4
ML02	**Panimavida**	**4.00**	**170**	Pn	**Pn**	**23 53 34.9**	**+0.4**
AVFE	**Valle Fertil**	**4.25**	**76**	*i* P	Pn	23 53 42.0	+3.9
RFA	**San Rafael**	**4.32**	**134**	*i* P	**Pn**	**23 53 42.0**	**+3.0**
GO03	**Copiap**	**4.55**	**23**		**Pn**	**23 53 41.4**	**-0.8**
VCA	**Vinchina**	**4.64**	**50**	*i* P	Pb	23 53 49.0	-5.8
AC06	**Mina Casimiro**	**4.73**	**21**		**Pn**	**23 53 44.1**	**-0.5**
ACHE	**Chepes**	**4.80**	**84**	*i* P	Pb	23 53 51.0	-6.5
AC02	**Maricunga**	**5.65**	**29**		**Pn**	**23 53 57.1**	**-0.6**
AC02	**Maricunga**	**5.65**	**29**	*i* P	**Pn**	**23 53 59.0**	**+1.3**
H03N1	**Juan Fernandez**	**5.86**	**252**	Pn	**Pn**	**23 54 00.1**	**+0.2**
	baz=116,slow=19,SNR=7.9						
H03N1				T	T	00 00 52.0	
	baz=82,slow=73,SNR=243						
H03N3	**Juan Fernandez**	**5.88**	**252**	Pn	**Pn**	**23 54 00.1**	**0.0**
	baz=116,slow=19,SNR=7.7						
H03N3				T	T	00 00 45.7	
	baz=82,slow=73,SNR=433						
H03N2	**Juan Fernandez**	**5.88**	**252**	Pn	**Pn**	**23 54 00.4**	**+0.3**
	baz=116,slow=19,SNR=6.4						
H03N2				T	T	00 00 47.0	
	baz=82,slow=73,SNR=287						
H03S3	**Juan Fernandez**	**5.97**	**249**	T	T	00 00 53.7	
	baz=74,slow=75,SNR=4.8						
H03S1	**Juan Fernandez**	**5.97**	**248**	T	T	00 00 48.3	
	baz=74,slow=75,SNR=5.2						
H03S2	**Juan Fernandez**	**5.98**	**249**	T	T	00 00 54.6	
	baz=74,slow=75,SNR=7.6						
CYA	**Choya**	**6.51**	**61**	*i* P	**Pn**	**23 54 12.0**	**+3.0**
LC01	**Cunco**	**7.07**	**178**		**Pn**	**23 54 16.4**	**-0.4**
LC01	**Cunco**	**7.07**	**178**	*i* P	**Pn**	**23 54 17.0**	**+0.2**
AHML	**Horco Molle**	**7.83**	**52**	*i* P	Pn	23 54 31.0	+3.7
PLCA	**Paso Flores**	**9.00**	**172**	Pn	**Pn**	**23 54 44.4**	**+1.1**
	comp=N,0.7nm,0.3s,baz=334,slow=12,SNR=13						
PLCA				LR	LR	23 57 59.0	
	comp=N,61nm,20.0s,baz=347,slow=36						
PLCA	**Paso Flores**	**9.00**	**172**	Pn	**Pn**	**23 54 44.1**	**+0.8**
PLCA	**Paso Flores**	**9.00**	**172**	*i* P	**Pn**	**23 54 45.0**	**+1.7**
LL04	**Puerto Octay**	**9.08**	**181**	Pn	**Pn**	**23 54 45.0**	**+0.8**
PB04	**IPOC Station P**	**9.62**	**12**	Pn	**Pn**	**23 54 51.7**	**-0.3**
LVC	**Limon Verde**	**9.63**	**19**	Pn	**Pn**	**23 54 50.4**	**-1.9**
	comp=N,0.2nm,0.3s,baz=1.0,slow=2.7,SNR=4.4						
LVC				LR	LR	23 58 26.4	
	comp=N,99nm,21.9s,baz=203,slow=37						
LVC	**Limon Verde**	**9.63**	**19**		**Pn**	**23 54 50.0**	**-2.2**
TRQA	**Tornquist**	**10.47**	**129**		**Pn**	**23 55 03.8**	**+0.5**
GO07	**Milladeo Hill,**	**11.34**	**185**	Pn	**Pn**	**23 55 13.0**	**-2.1**
CPUP	**Villa Florida**	**14.13**	**71**	Pn	**Pn**	**23 55 50.2**	**-3.2**
	comp=N,0.2nm,0.3s,baz=43,slow=19,SNR=1.9						
CPUP				LR	LR	00 01 23.9	
	comp=N,76nm,20.2s,baz=232,slow=38						
CPUP	**Villa Florida**	**14.13**	**71**	Pn	**Pn**	**23 55 54.6**	**+1.2**
PLTB	**Pedras Altas**	**15.85**	**95**	Pn	**Pn**	**23 56 15.7**	**-0.7**
LPAZ	**La Paz**	**15.90**	**15**	Pn	**Pn**	**23 56 17.6**	**-0.1**
	comp=N,0.1nm,0.3s,baz=195,slow=9.0,SNR=7.8						
LPAZ	**La Paz**	**15.90**	**15**		**Pn**	**23 56 16.7**	**-1.0**
SIV	**San Ignacio**	**18.75**	**35**	P	**Pn**	**23 56 51.5**	**-1.3**
	comp=N,0.2nm,0.3s,baz=233,slow=13,SNR=13						
SIV	**San Ignacio**	**18.75**	**35**	P	**Pn**	**23 56 51.5**	**-1.3**
SPB	**Sao Paulo**	**23.40**	**76**	P	**P**	**23 57 42.0**	**-0.3**
SPB				IAmb	IAmb	23 57 43.1	
	comp=Z,30nm,1.0s						
SAML	**Samuel**	**24.26**	**22**	P	**P**	**23 57 49.7**	**-0.8**
BDFB	**Brasilia**	**27.30**	**59**	P	**P**	**23 58 17.3**	**-1.0**
	comp=N,2.9nm,0.8s,baz=238,slow=5.6,SNR=11						
BDFB	**Brasilia**	**27.30**	**59**	P	**P**	**23 58 17.3**	**-1.0**
BDFB				IAmb	IAmb	23 58 19.3	
	comp=Z,8.8nm,0.7s						
RUSC	**La Rusia**	**37.50**	**359**	P	**P**	**23 59 47.3**	**-0.5**
VNA3	**Neumayer Olymp**	**51.44**	**158**	P	**P**	**00 01 39.8**	**+1.7**
VNA1	**Neumayer--Stat**	**51.75**	**158**	P	**P**	**00 01 42.1**	**+1.8**
VNA2	**Neumayer--Watz**	**52.09**	**158**	P	**P**	**00 01 44.5**	**+1.6**
	baz=289,slow=8.6						
SNAA	**Sanae**	**53.67**	**158**	P	**P**	**00 01 55.8**	**+1.1**
SNAA	**Sanae**	**53.67**	**158**	P	**P**	**00 01 55.6**	**+0.9**
SNAA				IAmb	IAmb	00 01 56.9	
	comp=Z,7.0nm,0.9s						
QSPA	**South Pole Qui**	**58.41**	**180**	P	**P**	**00 02 30.4**	**+1.6**
QSPA				IAmb	IAmb	00 02 42.0	
	comp=Z,8.7nm,1.1s						
TXAR	**Lajitas Array**	**67.75**	**331**	P	**P**	**00 03 32.2**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=150,slow=7.3,SNR=3.4						
TXAR	**Lajitas Array**	**67.75**	**331**	P	**P**	**00 03 31.3**	**+0.2**
DBIC	**Dimbokro**	**74.65**	**72**	P	**P**	**00 04 13.4**	**+0.2**
	comp=Z,3.7nm,0.7s,baz=242,slow=6.7,SNR=5.7						
DBIC	**Dimbokro**	**74.65**	**72**	P	**P**	**00 04 13.1**	**-0.1**
ECSD	**EROS Data Cent**	**78.42**	**342**	P	**P**	**00 04 34.2**	**+0.3**
ECSD				IAmb	IAmb	00 04 45.7	
	comp=Z,3.4nm,1.1s						
KOWA	**Kowa**	**79.89**	**66**	P	**P**	**00 04 42.5**	**0.0**
KOWA				IAmb	IAmb	00 04 52.3	
	comp=Z,3.3nm,0.8s						
BOSA	**Boshof**	**81.24**	**118**	LR	LR	00 38 13.7	
	comp=Z,99nm,19.5s,baz=190,slow=34						
BOSA	**Boshof**	**81.24**	**118**	P	**P**	**00 04 50.8**	**+0.9**
PDAR	**Pinedale Array**	**81.74**	**333**	P	**P**	**00 04 53.4**	**+1.3**
	comp=Z,0.1nm,0.4s,baz=131,slow=9.7,SNR=1.8						
CASY	**Casey**	**82.20**	**181**	P	**P**	**00 04 53.8**	**-0.2**
LBTB	**Lobatse**	**83.38**	**115**		**P**	**00 05 01.4**	**+0.3**
TORD	**Torodi Ar. Bea**	**83.63**	**70**	P	**P**	**00 05 02.4**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=274,slow=5.2,SNR=21						
TORD	**Torodi Ar. Bea**	**83.63**	**70**	P	**P**	**00 05 02.4**	**+0.2**
TORD				IAmb	IAmb	00 05 03.3	
	comp=Z,3.2nm,0.8s						
H11S2	**WAKE ISLAND Hyl**	**25.61**	**271**	T	T	02 30 39.0	
	baz=117						
H11S1	**WAKE ISLAND Hyl**	**25.62**	**271**	T	T	02 30 26.4	
	baz=117						
H11S3	**WAKE ISLAND Hyl**	**25.62**	**271**	T	T	02 30 29.0	
	baz=117						
ZAA0	**Zalesovo Array**	**152.44**	**30**	PKPbc	**PKiKP**	**00 12 29.5**	**+0.1**
ZALV	**Zalesovo Beam**	**152.44**	**30**	PKPbc	**PKiKP**	**00 12 29.6**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=311,slow=4.0,SNR=8.2						
ZALV	**Zalesovo Beam**	**152.44**	**30**		**PKiKP**	**00 12 29.3**	**-0.1**
MKAR	**Makanchi Array**	**155.40**	**45**	PKPab	**PKPab**	**00 12 52.3**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=323,slow=2.2,SNR=2.8						

MEX 23 23:56:18.3±0.3, 16°05N×98°63W, h11km, MD3.8, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.59**	**55**	*e*P	Pg	23 56 28.5	-1.3
PNIG				*e*S	Sg	23 56 36.7	-1.0
MGIG	**Malinaltepec**	**1.18**	**360**	*e*P	Pb	23 56 37.1	-3.7
MGIG				*e*S	Sb	23 56 51.9	-4.2
DAIG	**Los Arroyos**	**1.37**	**315**	*e*P	Pn	23 56 41.8	-1.7
DAIG				*e*S	Sb	23 56 58.2	-3.5
PEIG	**Puerto Escondi**	**1.43**	**92**	*e*P	Pn	23 56 43.6	-0.6
PEIG				*e*S	Sn	23 57 02.6	-0.5
TXIG	**Tlaxiaco**	**1.45**	**35**	*e*P	Pn	23 56 41.2	-3.6
TXIG				*e*S	Sn	23 56 58.6	-5.4
TLIG	**Tlapa**	**1.50**	**2**	*e*P	Pn	23 56 42.7	-2.7
TLIG				*e*S	Sn	23 57 00.8	-4.3
FTIG	**Fresnillo de T**	**1.91**	**14**	*e*P	Pn	23 56 47.9	-3.1
FTIG				*e*S	Sn	23 57 15.7	+0.7
HLIG	**Huajuapan de L**	**1.94**	**241**	*e*P	Pn	23 56 48.0	-3.5
HLIG				*e*S	Sn	23 57 14.4	-1.6

*NEIC **23** 23:58:11.8±2.2, 17°21N±0°07×147°48E±0°08, h30km±5km, mb4.5/37, Error ellipse: s-maj=12.9km s-min=9.3km az=127.0*

*IDC **23** 23:58:14.0±3.3, 17°25N×147°21E, h46km±30km, mb3.8/16, mb1 4.1/17, mb1mx3.8/46, mbtmp4.1/17, ML4.2/1, MS3.3/3, Ms1 3.3/3, ms1mx2.8/39, Error ellipse: s-maj=30.3km s-min=13.3km az=89.0*

ISC 23 23:58:12.8±0.6, 17°22N±0°06×147°4E±0°1, h41km, n78, σ1°01/77, mb4.4/29, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANA2	**Anatahan**	**1.86**	**242**	Pn	**Pn**	**23 58 42.8**	**+0.5**
ANA2				Sn	**Sn**	**23 59 08.0**	**+3.4**
GUMO	**Guam**	**4.37**	**215**	P	**Pn**	**23 59 17.5**	**+0.7**
	14nm,0.3s,baz=346,slow=20,SNR=2.6						
GUMO				S	**Sn**	**00 00 05.5**	**-1.0**
	10.0nm,0.3s,baz=204,slow=23,SNR=1.8						
GUMO				LR	LR	00 00 52.6	
	comp=Z,275nm,21.6s,baz=37,slow=37						
GUMO	**Guam**	**4.37**	**215**	Pn	**Pn**	**23 59 16.9**	**+0.1**
PATS	**Pohnpei**	**14.82**	**133**	Pn	Pn	00 01 36.8	-3.0
H11N1	**WAKE ISLAND Hy**	**18.63**	**79**	T	T	00 21 40.2	
	baz=261						
H11N2	**WAKE ISLAND Hy**	**18.64**	**79**	T	T	00 21 38.1	
	baz=261						
H11N3	**WAKE ISLAND Hy**	**18.65**	**79**	T	T	00 21 41.5	
	baz=261						
JGF	**Kuroka**	**20.38**	**336**	P	**P**	**00 02 46.4**	**+0.2**
JGF				IAmb	IAmb	00 03 04.3	
	comp=Z,9.9nm,0.7s						
JAY	**Jayapura**	**20.70**	**199**	P	**P**	**00 02 50.3**	**+0.5**
	comp=Z,14nm,0.9s,baz=317,slow=4.9,SNR=4.2						
MJAR	**Matsushiro Arr**	**20.90**	**339**	P	**P**	**00 02 52.3**	**+0.5**
	comp=Z,5.5nm,0.8s,baz=177,slow=8.7,SNR=12						
MJAR	**Matsushiro Arr**	**20.90**	**339**	P	**P**	**00 02 50.3**	**-1.5**
MAJO	**Matsushiro**	**20.90**	**339**	P	**P**	**00 02 51.4**	**-0.4**
MAJO				IAmb	IAmb	00 03 04.9	
	comp=Z,17nm,0.8s						
MAT	**Matsushiro**	**20.90**	**339**	P	**P**	**00 02 51.3**	**-0.5**
MAT				*e*S	**S**	**00 06 44.6**	**+2.0**
JSD	**Sado**	**22.24**	**341**	P	**P**	**00 03 06.4**	**+0.3**
JSD				IAmb	IAmb	00 03 21.4	
	comp=Z,20nm,0.8s						
KSRS	**Korea Array**	**26.47**	**323**	P	**P**	**00 03 45.2**	**-0.9**
	comp=Z,1.5nm,0.8s,baz=147,slow=11,SNR=2.8						
WR0	**Warramunga Arr**	**39.06**	**199**	P	**P**	**00 05 35.4**	**-0.6**
WR0				IAmb	IAmb	00 05 36.7	
	comp=Z,7.6nm,0.8s						
WRA	**Warramunga Arr**	**39.11**	**200**	P	**P**	**00 05 36.2**	**-0.2**
	comp=Z,11nm,0.7s,baz=22,slow=8.7,SNR=45						
WRA				PcP	**PcP**	**00 07 46.6**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=18,slow=3.0,SNR=2.8						
WRA	**Warramunga Arr**	**39.11**	**200**	P	**P**	**00 05 35.1**	**-1.3**
FITZ	**Fitzroy Crossi**	**41.13**	**212**	P	**P**	**00 05 52.7**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=27,slow=12,SNR=6.8						
FITZ	**Fitzroy Crossi**	**41.13**	**212**	P	**P**	**00 05 52.1**	**-1.1**
AS31	**Alice Springs**	**42.73**	**198**	P	**P**	**00 06 05.8**	**-0.4**
ASAR	**Alice Springs**	**42.73**	**198**	P	**P**	**00 06 06.2**	**0.0**
	comp=Z,1.3nm,0.7s,baz=20,slow=10,SNR=13						
ASAR				PcP	**PcP**	**00 07 58.3**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=23,slow=5.0,SNR=3.3						
ASAR	**Alice Springs**	**42.73**	**198**	P	**P**	**00 06 05.7**	**-0.6**
SONM	**Songino Array**	**45.31**	**322**	P	**P**	**00 06 24.8**	**-2.1**
	comp=Z,0.7nm,0.6s,baz=122,slow=7.1,SNR=3.5						
SONM	**Songino Array**	**45.31**	**322**	P	**P**	**00 06 26.1**	**-0.8**
CMAR	**Chiang Mai Arr**	**46.06**	**279**	P	**P**	**00 06 33.0

Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**3.12**	**149**	P	Pn	00 00 26.6	+2.3
MASF	**Masafi**	**3.56**	**155**	P	Pn	00 00 31.7	+1.4
MDH	**Madha**	**3.68**	**154**	P	Pn	00 00 34.1	+2.3
NAZ	**Nazwa, Dubai**	**3.77**	**164**	P	Pn	00 00 33.8	+0.7
UOSS	**Minazif**	**3.96**	**157**	P	Pn	00 00 36.3	+0.4
JRN	**Qarnain Island**	**3.97**	**203**	P	Pn	00 00 36.1	+0.3
FAQ	**Al Faqa, Dubai**	**3.98**	**166**	P	Pn	00 00 35.7	-0.4
HATD	**Hatta, Dubai**	**4.05**	**159**	P	Pn	00 00 38.2	+1.2
ASHO	**Ashiyiah** SNR=7.7	**4.16**	**160**	P	Pn	00 00 39.2	+0.6
ALNE	**Al Ain**	**4.69**	**166**	P	Pn	00 00 45.7	-0.1
SOHO	**SOHO**	**4.83**	**158**	P	Pn	00 00 47.8	+0.1
ARQ	**Araqi** SNR=16	**5.57**	**161**	P	Pn	00 00 57.0	-0.9
HOQ	**Hoqain**	**5.62**	**153**	P	Pn	00 01 00.0	+1.4
UMZA	**Um Al Zommool**	**5.92**	**174**	P	Pn	00 01 00.1	-2.6
BSY	**Bisya**	**6.34**	**157**	P	Pn	00 01 07.7	-0.8
SMDO	**Samad**	**6.39**	**149**	P	Pn	00 01 09.9	+0.6
WSAR	**Wadi Sarin** SNR=7.0	**6.52**	**145**	P	Pn	00 01 12.2	+1.2
JMDO	**Jabal Madar**	**7.02**	**152**	P	Pn	00 01 18.0	+0.1
MHTO	**MHTO**	**8.23**	**157**	P	Pn	00 01 33.2	-1.2

*GUC **24** 00:11:17.9±0.8, 30.96S×72.94W, h26km±6km, ML3.8*
*IDC **24** 00:11:26.4±0.7, 31.06S×72.67W, h0km, mb4.0/9, mb1 4.2/12, mb1mx4.1/36, mbtmp4.1/12, ML4.2/3, MS3.6/12, Ms1 3.6/12, ms1mx3.4/22, Error ellipse: s-maj=26.4km s-min=19.9km az=79.0*
*NEIC **24** 00:11:26.5, 30.95S×72.69W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=2.83; $M_{\theta\theta}$=0.46; $M_{\phi\phi}$=2.37; $M_{r\theta}$=0.47; $M_{\theta\phi}$=0.30; $M_{\phi r}$=0.73; Fault plane solution: M_0=2.79000×10^{15} NP1:ϕ_1=197.17000°, δ=38.65000°, λ=-75.25000°. NP2:ϕ_2=358.54000°, δ=52.85000°, λ=-101.50000°. Principal axes: T 2.5001, Plg7.0000°, Azm97.0000°; N 0.5031, Plg9.0000°, Azm6.0000°; P -3.0032, Plg78.0000°, Azm224.0000°;*
*NEIC **24** 00:11:27.2±2.8, 30.96S±0.03×72.68W±0.05, h10km±1km, mb4.5/23, Mwr4.2/29, ML3.8(GUC) Error ellipse: s-maj=7.3km s-min=4.5km az=263.0*

ISC 24 00:11:28.1±0.5, 30.97S±0.04×72.58W±0.06, h10km, n103, σ1s80/82, mb4.4/17, MS3.8/7, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.87**	**70**	*e*P	Pg	00 11 39.5	-5.3
CO06				IAML		00 12 00.5	
	comp=E,2μm,0.3s						
CO06	**Fray Jorge**	**0.87**	**70**		**Pg**	**00 11 44.8**	**0.0**
CO02	**Combarbal**	**1.38**	**100**	*e*P	Pn	00 11 47.7	-5.8
CO02	**Combarbal**	**1.38**	**100**	Pn	**Pn**	**00 11 53.0**	**-0.6**
CO02				Sn	**Sb**	**00 12 11.1**	**-0.7**
CO05	**La Serena**	**1.56**	**48**	*e*S	**Sn**	**00 12 13.8**	**-2.4**
CO05				IAML		00 12 15.8	
	comp=N,1μm,0.6s						
CO05	**La Serena**	**1.56**	**48**	Pn	**Pn**	**00 11 54.9**	**-1.0**
CO05				Sn	**Sn**	**00 12 14.4**	**-1.8**
CO03	**El Pedregal**	**1.63**	**86**	*e*P	Pn	00 11 51.2	-5.9
CO03				*e*S	**Sn**	**00 12 17.8**	**-0.3**
CO03				IAML		00 12 19.8	
	comp=E,966nm,0.6s						
CO03	**El Pedregal**	**1.63**	**86**	Pn	**Pn**	**00 11 56.7**	**-0.3**
GO04	**Tololo Observa**	**1.73**	**63**	*e*P	Pn	00 11 52.8	-5.7
GO04				*i* S	**Sn**	**00 12 20.2**	**-0.6**
GO04	**Tololo Observa**	**1.73**	**63**	Pn	**Pn**	**00 11 57.9**	**-0.6**
VA06	**Catapilco**	**1.93**	**146**	⇑*i*P	Pn	00 11 54.2	-6.8
VA06				*i* S	**Sn**	**00 12 21.8**	**-3.5**
VA06				IAML		00 12 24.8	
	comp=E,2μm,0.4s						
VA01	**Torpederas**	**2.20**	**159**	Pn	Pn	00 12 02.9	-1.8
ROCH	**El Roble**	**2.40**	**147**	*e*P	**Pn**	**00 12 06.5**	**-1.2**
ROCH				*e*S	**Sn**	**00 12 35.6**	**-1.8**
VA03	**San Esteban**	**2.49**	**137**	*e*P	Pn	00 12 03.0	-5.8
VA03				*e*S	**Sn**	**00 12 37.6**	**-1.7**
VA03	**San Esteban**	**2.49**	**137**		**Pn**	**00 12 08.6**	**-0.2**
LCO	**Las Campanas**	**2.54**	**40**	*e*P	Pn	00 12 03.6	-6.1
LCO				*e*S	**Sn**	**00 12 39.1**	**-1.8**
LCO	**Las Campanas**	**2.54**	**40**	Pn	**Pn**	**00 12 08.7**	**-1.0**
VA05	**Santo Domingo**	**2.80**	**163**	*e*P	Pn	00 12 07.7	-5.3
VA05				*e*S	**Sn**	**00 12 42.3**	**-4.6**
VA05				IAML		00 12 47.3	
	comp=E,579nm,0.3s						
VA05	**Santo Domingo**	**2.80**	**163**		Pn	00 12 11.0	-2.1
MT05	**Renca**	**2.88**	**148**	Pn	**Pn**	**00 12 13.5**	**-0.6**
AC04	**Llanos de Chal**	**3.05**	**26**	Pn	**Pn**	**00 12 15.1**	**-1.4**
MT01	**Popeta**	**3.10**	**159**	*e*P	Pn	00 12 07.8	-9.3
MT01				*e*S	**Sn**	**00 12 49.0**	**-5.2**
MT01	**Popeta**	**3.10**	**159**	Pn	Pn	00 12 15.4	-1.7
MT09	**Talagante**	**3.11**	**155**	*e*P	Pn	00 12 11.4	-5.9
MT09				*e*S	**Sn**	**00 12 51.4**	**-3.3**
MT09	**Talagante**	**3.11**	**155**	Pn	**Pn**	**00 12 16.8**	**-0.6**
ZON	**Zonda**	**3.39**	**101**		**Pn**	**00 12 23.5**	**+2.3**
BO01	**Tunca**	**3.64**	**160**	Pn	**Pn**	**00 12 23.1**	**-1.5**
GO03	**Copiap**	**3.94**	**32**		**Pn**	**00 12 27.5**	**-1.2**
GO05	**Huala**	**4.07**	**172**		Pn	00 12 28.5	-2.0
AC06	**Mina Casimiro**	**4.09**	**29**	Pn	**Pn**	**00 12 29.2**	**-1.5**
BO02	**Sierra Bellavi**	**4.10**	**159**		**Pn**	**00 12 30.4**	**-0.6**
ML02	**Panimavida**	**4.88**	**169**	Pn	**Pn**	**00 12 40.8**	**-0.7**
AC02	**Maricunga**	**5.11**	**37**		**Pn**	**00 12 44.8**	**-0.4**
H03N1	**Juan Fernandez**	**5.90**	**244**	Pn	Pn	00 12 51.8	-3.5
H03N1				T	T	00 18 55.1	
	baz=70,slow=71,SNR=9.5						
H03N2	**Juan Fernandez** SNR=16	**5.92**	**244**	Pn	Pn	00 12 51.9	-3.7
H03N2				T	T	00 18 55.1	
	baz=70,slow=71,SNR=8.5						
H03N3	**Juan Fernandez**	**5.92**	**244**	Pn	Pn	00 12 50.8	-4.8
H03N3				T	T	00 18 54.0	
	baz=70,slow=71,SNR=7.9						
VA04	**Juan Fernndez**	**5.92**	**242**		Pn	00 12 51.7	-4.2
H03S3	**Juan Fernandez**	**6.06**	**240**	Pn	Pn	00 12 53.3	-4.3
H03S1	**Juan Fernandez** baz=315,slow=74,SNR=9.0	**6.07**	**240**	Pn	Pn	00 12 52.2	-5.4
H03S2	**Juan Fernandez** baz=105,slow=74,SNR=10	**6.08**	**240**	Pn	Pn	00 12 52.7	-5.1
PB10	**IPOC Station P**	**7.64**	**14**	Pn	Pn	00 13 16.7	-2.8
LC01	**Cunco**	**7.93**	**176**		Pn	00 13 21.4	-2.1
PB15	**IPOC Station P**	**8.21**	**20**	Pn	Pn	00 13 25.7	-1.8
PB04	**IPOC Station P**	**8.87**	**15**	Pn	Pn	00 13 33.7	-2.9
LVC	**Limon Verde** comp=E,0.5nm,0.3s,baz=183,slow=9.4,SNR=2.4	**8.95**	**22**	Pn	Pn	00 13 35.7	-2.1
LVC				Sn	**Sn**	**00 15 14.8**	**-4.0**
	comp=E,0.6nm,0.3s,baz=208,slow=21,SNR=1.6						
LVC				LR	LR	00 16 53.2	
	comp=E,97nm,21.1s,baz=187,slow=36						
PB07	**IPOC Station P**	**9.52**	**15**	Pn	Pn	00 13 43.4	-2.0
PLCA	**Paso Flores** comp=E,0.4nm,0.3s,baz=334,slow=11,SNR=20	**9.88**	**171**	Pn	Pn	00 13 48.4	-1.9
PLCA				LR	LR	00 17 29.5	
	comp=E,105nm,20.1s,baz=250,slow=37						
PLCA	**Paso Flores**	**9.88**	**171**	Pn	Pn	00 13 48.6	-1.7
LL04	**Puerto Octay**	**9.92**	**179**	Pn	**Pn**	**00 13 49.3**	**-1.4**
PB01	**IPOC Station P**	**10.27**	**16**	Pn	Pn	00 13 51.8	-3.9
TRQA	**Tornquist**	**11.24**	**132**	Pn	**Pn**	**00 14 08.4**	**-0.4**
PSGCX	**Pisagua**	**11.54**	**12**	Pn	Pn	00 14 09.9	-3.1
CPUP	**Villa Florida** comp=E,366nm,18.2s,baz=248,slow=40	**14.17**	**75**	LR	LR	00 20 49.0	
LPAZ	**La Paz** comp=E,0.3nm,0.3s,baz=188,slow=8.2,SNR=11	**15.17**	**17**	Pn	**Pn**	**00 15 03.0**	**-0.1**
LPAZ	**La Paz**	**15.17**	**17**		Pn	00 14 58.9	-4.2
SIV	**San Ignacio** comp=E,1.7nm,0.3s,baz=227,slow=11,SNR=46	**18.25**	**38**	P	**Pn**	**00 15 42.4**	**+0.8**
SIV				LR	LR	00 24 04.4	
	comp=E,150nm,19.4s,baz=182,slow=41						
NNA	**Nana** comp=E,112nm,21.6s,baz=189,slow=31	**19.30**	**347**	LR	LR	00 21 21.8	
SPB	**Sao Paulo**	**23.50**	**78**	P	**P**	**00 16 36.8**	**-1.5**
SPB				IAmb	IAmb	00 16 41.3	
	comp=Z,22nm,1.0s						
SAML	**Samuel**	**23.60**	**24**	P	**P**	**00 16 38.1**	**-1.1**
BDFB	**Brasilia** comp=Z,6.5nm,0.9s,baz=213,slow=4.7,SNR=8.4	**27.15**	**61**	P	**P**	**00 17 12.5**	**+0.7**
BDFB				LR	LR	00 29 05.0	
	comp=Z,214nm,18.8s,baz=165,slow=39						
BDFB	**Brasilia**	**27.15**	**61**	P	**P**	**00 17 10.4**	**-1.4**
BDFB				IAmb	IAmb	00 17 24.1	
	comp=Z,11nm,1.0s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**52.34**	**159**	P	**P**	**00 20 40.5**	**+0.8**
VNA1	**Neumayer--Stat**	**52.64**	**158**	P	**P**	**00 20 43.3**	**+1.4**
VNA2	**Neumayer--Watz** baz=296,slow=7.3	**52.98**	**158**	P	**P**	**00 20 45.2**	**+0.7**
SNAA	**Sanae**	**54.56**	**159**	P	**P**	**00 20 56.8**	**+0.7**
SNAA	**Sanae**	**54.56**	**159**	P	**P**	**00 20 56.4**	**+0.3**
SNAA				IAmb	IAmb	00 20 57.9	
	comp=Z,4.3nm,0.8s						
QSPA	**South Pole Qui**	**59.26**	**180**	P	**P**	**00 21 29.8**	**+0.2**
QSPA				IAmb	IAmb	00 21 40.4	
	comp=Z,4.2nm,0.8s						
JCT	**Junction City**	**66.36**	**334**	P	**P**	**00 22 16.0**	**-1.2**
TX31	**Lajitas Ar. Si**	**66.87**	**331**	P	**P**	**00 22 19.4**	**-1.2**
TX31				IAmb	IAmb	00 22 21.1	
	comp=Z,5.3nm,0.9s						
TXAR	**Lajitas Array** comp=Z,1.2nm,0.8s,baz=155,slow=7.9,SNR=17	**66.87**	**331**	P	**P**	**00 22 20.9**	**+0.3**
TXAR	**Lajitas Array**	**66.87**	**331**		**P**	**00 22 19.8**	**-0.7**
VNDA	**Vanda** comp=Z,0.3nm,0.7s,baz=131,slow=4.1,SNR=2.3	**66.98**	**191**	P	**P**	**00 22 20.5**	**0.0**
VNDA	**Vanda**	**66.98**	**191**	P	**P**	**00 22 20.9**	**+0.4**
VNDA				IAmb	IAmb	00 22 31.8	
	comp=Z,2.4nm,1.2s						
MNTX	**Cornudas Mount**	**69.65**	**330**	P	**P**	**00 22 36.7**	**-1.1**
MNTX				IAmb	IAmb	00 22 37.8	
	comp=Z,4.5nm,1.1s						
121A	**Cookes Peak, D**	**71.41**	**329**	P	**P**	**00 22 47.8**	**-0.9**
121A				IAmb	IAmb	00 22 50.7	
	comp=Z,10nm,1.4s						
ANMO	**Albuquerque** comp=Z,0.5nm,0.5s,baz=131,slow=9.4,SNR=4.0	**72.91**	**331**	P	**P**	**00 22 58.1**	**+0.4**
ANMO	**Albuquerque**	**72.91**	**331**	P	**P**	**00 22 56.6**	**-1.1**
X16A	**Lo Mia Camp, P**	**74.64**	**327**	P	**P**	**00 23 07.2**	**-0.6**
X16A				IAmb	IAmb	00 23 09.8	
	comp=Z,4.5nm,1.2s						
DBIC	**Dimbokro** comp=Z,69nm,20.4s,baz=196,slow=34	**74.67**	**72**	LR	LR	00 53 40.4	
MAW	**Mawson** comp=Z,1.4nm,0.8s,baz=195,slow=6.9,SNR=3.1	**76.21**	**164**	P	**P**	**00 23 15.8**	**-0.4**
MAW				LR	LR	00 58 33.0	
	comp=Z,34nm,18.4s,baz=234,slow=37						
MAW	**Mawson**	**76.21**	**164**	P	**P**	**00 23 15.9**	**-0.3**
ECSD	**ERDS Data Cent**	**77.53**	**342**		**P**	**00 23 23.6**	**-0.2**
CCUT	**Cedar City**	**78.10**	**328**	P	**P**	**00 23 27.8**	**+0.3**
CCUT				IAmb	IAmb	00 23 30.0	
	comp=Z,3.2nm,1.1s						
MSU	**Marysvale**	**78.36**	**329**	P	**P**	**00 23 28.9**	**0.0**
KOWA	**Kowa** comp=Z,116nm,19.1s,baz=162,slow=36	**79.83**	**66**	LR	LR	00 58 49.2	
NVAR	**Mina Array Bea** comp=Z,0.5nm,0.8s,baz=152,slow=6.9,SNR=4.1	**81.14**	**325**	P	**P**	**00 23 43.7**	**-0.2**
ELK	**Elko** comp=Z,0.5nm,0.3s,baz=29,slow=23,SNR=4.3	**81.54**	**329**	P	**P**	**00 23 46.4**	**+0.3**
BOSA	**Boshof** comp=Z,3.5nm,1.0s,baz=234,slow=4.5,SNR=5.1	**81.90**	**118**	P	**P**	**00 23 48.2**	**-0.1**
BOSA				LR	LR	00 54 16.7	
	comp=Z,45nm,20.1s,baz=196,slow=31						
BOSA	**Boshof**	**81.90**	**118**	P	**P**	**00 23 48.3**	**-0.1**
ULM	**Lac du Bonnet** comp=Z,27nm,18.4s,baz=224,slow=35	**83.46**	**345**	LR	LR	01 00 11.2	
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,0.8s,baz=284,slow=6.9,SNR=7.0	**83.63**	**71**	P	**P**	**00 23 57.9**	**+0.7**
TORD				LR	LR	00 59 05.9	
	comp=Z,103nm,20.2s,baz=190,slow=34						
TORD	**Torodi Ar. Bea**	**83.63**	**71**	P	**P**	**00 23 57.6**	**+0.4**
LBTB	**Lobatse**	**84.01**	**115**	P	**P**	**00 23 59.6**	**+0.4**
WRA	**Warramunga Arr** comp=Z,0.3nm,0.5s,baz=112,slow=1.0,SNR=5.9	**123.16**	**211**	PKP	**PKPdf**	**00 30 24.0**	**-1.7**
BRVK	**Borovoye**	**145.24**	**40**	PKPdf	**PKPbc**	**00 31 04.9**	**-0.4**
YAK	**Yakutsk**	**145.72**	**342**	PKPdf	**PKPdf**	**00 31 05.8**	**-0.3**
NIL	**Nilore**	**151.08**	**76**	PKPbc	**PKPdf**	**00 31 21.2**	**+5.4**
AAK	**Ala-Archa**	**151.36**	**57**	PKPbc	**PKPbc**	**00 31 22.5**	**+0.3**
ZAA0	**Zalesovo Array**	**151.85**	**29**	PKPbc	**PKPdf**	**00 31 22.4**	**+6.1**
ZAA0				PKPab	**PKPab**	**00 31 31.6**	**-0.2**
ZALV	**Zalesovo Beam** comp=Z,2.8nm,0.5s,baz=281,slow=0.7,SNR=3.7	**151.85**	**29**	PKP	**PKPdf**	**00 31 17.6**	**+1.4**
ZALV				PKPbc	**sPKPdf**	**00 31 22.5**	**+4.3**
	comp=Z,2.8nm,0.5s,baz=312,slow=3.1,SNR=15						
ZALV	**Zalesovo Beam**	**151.85**	**29**	PKPdf	**PKPdf**	**00 31 16.1**	**-0.2**
ZALV					**sPKPdf**	**00 31 22.3**	**+4.1**
ZALV				PKPab	**PKPab**	**00 31 31.6**	**-0.2**
KSH	**Kashi**	**153.05**	**63**	PKPbc	**PKPdf**	**00 31 18.6**	**-0.1**
MKAR	**Makanchi Array**	**155.01**	**44**	PKPbc	PKPdf	00 31 30.9	+10
MKAR				PKPab	**PKPab**	**00 31 46.5**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=318,slow=1.9,SNR=2.8						
	comp=Z,0.6nm,0.9s,baz=347,slow=5.0,SNR=3.7						

IDC 24 00:15:36.1±1.7, 31.01S×72.80W, h0km, mb3.3/1, mb1 3.9/4, mb1mx3.6/38, mbtmp3.7/4, ML3.5/3, Error ellipse: s-maj=59.4km s-min=34.3km az=92.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores** 0.1nm,0.3s,baz=341,slow=15,SNR=1.7	**9.87**	**170**	Pn	Pn	00 17 59.9	+0.6
LPAZ	**La Paz** 0.1nm,0.3s,baz=199,slow=6.4,SNR=2.3	**15.26**	**17**	Pn	Pn	00 19 13.9	+0.4
SIV	**San Ignacio** 0.5nm,0.3s,baz=221,slow=10,SNR=16	**18.39**	**38**	P	Pn	00 19 52.6	-0.1
TXAR	**Lajitas Array** 0.3nm,0.7s,baz=161,slow=8.0,SNR=4.1	**66.82**	**331**	P	P	00 26 30.1	+0.3
ZALV	**Zalesovo Beam** 0.7nm,0.4s,baz=326,slow=2.8,SNR=4.8	**151.98**	**29**	PKPbc	PKPbc	00 35 32.0	-0.7

JMA 24 00:35:12.5±0.2, 38.19N×144.34E, h28km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.27**	**274**	P	Pn	00 35 49.1	+1.0
JIKH				*e*S	Sn	00 36 16.4	+1.3
OFUJ	**Ofunato**	**2.27**	**294**	P	Pn	00 35 49.5	+1.3
OFUJ				*e*S	Sn	00 36 17.0	+1.8
JIO	**Ouri**	**2.37**	**277**	S	Sn	00 36 19.2	+1.6
MIYJ	**Miyakonagasawa**	**2.41**	**306**	P	Pn	00 35 51.3	+1.3
MIYJ				*e*S	Sn	00 36 19.3	+0.8
JMK	**Ichinoseki**	**2.56**	**288**	P	Pn	00 35 53.8	+1.7
JMK				*e*S	Sn	00 36 24.4	+2.1
JOM	**Ohasama**	**2.70**	**299**	P	Pn	00 35 56.2	+2.1
JFT	**Otama**	**3.24**	**259**	P	Pn	00 36 03.5	+2.0
JFT				S	Sn	00 36 41.3	+2.2
JCH	**Churui**	**4.48**	**351**	P	Pn	00 36 18.3	-0.2
JCH				*e*S	Sn	00 37 07.1	-2.6
JRY	**Ryogami san**	**4.86**	**245**	P	Pn	00 36 24.7	+1.0
JRY				*e*S	Sn	00 37 18.3	-0.8
NEM2	**Nemuro 2**	**5.28**	**11**	P	Pn	00 36 26.6	-2.8
NEM2				*e*S	Sn	00 37 22.3	-7.0

MEX 24 00:40:56.1±0.5, 14.78N×93.55W, h39km±24km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.97**	**19**	*e*P	Pn	00 41 10.1	-3.1
PCIG				*e*S	Sn	00 41 23.6	-2.2
TGIG		**2.03**	**12**	*e*P	Pn	00 41 26.4	-1.4
TGIG				*e*S	Sn	00 41 49.7	-2.3

IDC 24 00:44:03.2±1.7, 31.05S×72.87W, h0km, mb3.1/1, mb1 3.6/3, mb1mx3.4/19, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=100.3km s-min=37.0km az=81.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N1	**Juan Fernandez** baz=60	**5.65**	**243**	T	T	00 51 34.9	
H03N3	**Juan Fernandez** baz=60,SNR=3.9	**5.66**	**243**	T	T	00 51 29.0	
H03N2	**Juan Fernandez** baz=60	**5.66**	**244**	T	T	00 51 30.6	
PLCA	**Paso Flores** 0.1nm,0.3s,baz=349,slow=15,SNR=1.8	**9.84**	**170**	Pn	Pn	00 46 26.4	+0.4
LPAZ	**La Paz** 0.1nm,0.3s,baz=207,slow=10.0,SNR=4.7	**15.32**	**17**	Pn	Pn	00 47 42.0	+0.6
TXAR	**Lajitas Array** 0.1nm,0.5s,baz=163,slow=6.6,SNR=2.4	**66.83**	**331**	P	P	00 54 57.0	+0.1
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=358,slow=0.8,SNR=4.1	**152.05**	**29**	PKPbc	PKPbc	01 03 59.5	-0.4

DJA 24 00:45:53.9±1.8, 9.3S±7.3×117.3E±1.3, h12km±13km, M3.6/11, mb3.8/1, MLv3.6/11, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**0.98**	**20**	P	Pb	00 46 13.0	+0.1
GMJI				S	Sg	00 46 25.0	-0.7
KRKI	**Karangkates**	**1.22**	**328**	P	Pb	00 46 17.1	+0.2
KRKI				S	Sg	00 46 33.7	+0.5
BYJI	**Banyuwangi**	**1.58**	**52**	P	Pb	00 46 22.6	-0.5
PWJI	**Pagerwojo**	**1.74**	**312**	P	Pn	00 46 23.2	-0.7
ABJI	**Asem Bagus**	**1.79**	**39**	P	Pn	00 46 24.9	+0.3
SJI	**Sawahan**	**1.96**	**318**	P	Pn	00 46 27.8	+0.7
PCJI	**Pacitan**	**2.15**	**298**	P	Pn	00 46 28.9	-0.7
SRBI	**Singaraja**	**2.37**	**62**	P	Pn	00 46 32.6	+0.1
UGM	**Wanagama**	**2.85**	**296**	P	Pn	00 46 39.5	+0.2
TWSI	**Taliwang, Sumb**	**3.77**	**83**	P	Pn	00 46 51.6	-0.2
PLAI	**Plampang**	**4.63**	**86**	P	Pn	00 47 03.3	-0.5
CMJI	**Cimerak**	**4.81**	**287**	P	Pn	00 47 05.6	-0.6
CISI	**Cisompet, Garu**	**5.48**	**287**	P	Pn	00 47 14.9	-0.6

*IDC **24** 00:49:00.1±5.9, 4.87S×133.66E, h0km, mb3.8/1, mb1 4.1/3, mb1mx3.6/29, mbtmp3.9/3, ML4.1/2, Error ellipse: s-maj=344.3km s-min=30.8km az=77.0*
*DJA **24** 00:49:13.6±0.4, 6.5S±6.3×131.1E±1.0, h148km±15km, M4.2/5, mb4.0/3, mB5.0/1, MLv4.2/5, Mw(mB)4.4/1*

ISC 24 00:49:11.1±1.0, 5.83S±0.07×131.4E±0.1, h35km, n7, σ2s48/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.00**	**310**	P	**Pn**	**00 49 44.4**	**+2.0**
BNDI				S	**Sn**	**00 50 05.9**	**-0.3**
FAKI	**Fak Fak**	**3.00**	**16**	P	**Pn**	**00 49 58.4**	**+2.2**
SIJI	**Sorong**	**4.93**	**358**	P	**Pn**	**00 50 21.9**	**-0.8**
SWI	**Sorong**	**4.94**	**358**	P	**Pn**	**00 50 23.0**	**+0.2**
WRA	**Warramunga Arr** 0.8nm,0.3s,baz=358,slow=13,SNR=23	**14.31**	**169**	Pn	**Pn**	**00 52 32.2**	**+0.9**
WRA				Sn	**Sn**	**00 55 08.3**	**-0.6**
	0.8nm,0.3s,baz=351,slow=24,SNR=8.3						
ASAR	**Alice Springs** 0.8nm,0.3s,baz=355,slow=11,SNR=23	**17.89**	**173**	P	**P**	**00 53 20.6**	**+2.8**
ASAR				S	**Sn**	**00 56 31.8**	**-4.2**
	0.1nm,0.3s,baz=358,slow=29,SNR=2.2						
MKAR	**Makanchi Array** 0.4nm,0.4s,baz=111,slow=7.4,SNR=7.4	**68.05**	**326**	P	**P**	**01 00 04.5**	**-2.6**

IDC 24 01:19:32.1±63.0, 15.76S×173.68W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.7/29, mbtmp4.3/3, Error ellipse: s-maj=1215.0km s-min=203.1km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 0.7nm,0.3s,baz=74,slow=7.4,SNR=2.9	**43.63**	**240**	P	P	01 27 38.7	+0.2
WRA	**Warramunga Arr** 1.2nm,0.5s,baz=89,slow=7.0,SNR=16	**49.50**	**257**	P	P	01 28 24.8	0.0
ASAR	**Alice Springs** 7.7nm,0.5s,baz=88,slow=8.3,SNR=82	**49.74**	**252**	P	P	01 28 26.3	-0.4

*IDC **24** 01:22:34.6±2.1, 32.92S×70.08W, h0km, mb3.4/2, mb1 3.7/6, mb1mx3.6/23, mbtmp3.6/6, ML3.5/4, MS3.0/3, Ms1 2.9/3, ms1mx2.6/11, Error ellipse: s-maj=46.1km s-min=45.7km az=48.0*
*NEIC **24** 01:22:35.5±1.7, 32.33S±0.01×70.56W±0.05, h15km±5km, Error ellipse: s-maj=6.5km s-min=1.7km az=92.0*
*GUC **24** 01:22:35.4±0.8, 32.33S×70.54W, h13km±3km, ML3.8*

ISC 24 01:22:35.5±1.2, 32.33S±0.02×70.55W±0.04, h8km±10km, n62, σ1s26/63, mb3.5/3, 3C-7D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA03	**San Esteban**	**0.43**	**180**	⇓*i*P	**Pg**	**01 22 44.2**	**+0.3**
VA03				*i* S	**Sg**	**01 22 50.5**	**+0.9**
VA03	**San Esteban**	**0.43**	**180**		**Pg**	**01 22 44.2**	**+0.3**
VA03				Sg	**Sg**	**01 22 50.5**	**+0.9**
VA06	**Catapilco**	**0.67**	**250**	⇓*i*P	**Pg**	**01 22 48.8**	**+0.3**
VA06				*i* S	**Sb**	**01 22 58.6**	**-0.5**
VA06				IAML		01 22 58.9	
	comp=N,15μm,0.2s						
ROCH	**El Roble**	**0.75**	**211**	⇓*i*P	**Pg**	**01 22 50.0**	**0.0**
ROCH				*i* S	**Sb**	**01 23 00.5**	**-0.9**
MT05	**Renca**	**1.07**	**189**	*e*P	**Pb**	**01 22 55.3**	**-1.0**
MT05				*i* S	**Sb**	**01 23 09.3**	**-1.3**
MT05				IAML		01 23 15.9	
	comp=E,3μm,0.5s						
MT05	**Renca**	**1.07**	**189**	Pn	**Pb**	**01 22 55.0**	**-1.3**
MT05				Sn	**Sb**	**01 23 09.2**	**-1.3**
VA01	**Torpederas**	**1.16**	**233**	⇑*i*P	**Pb**	**01 22 56.8**	**-1.0**
VA01				*i* S	**

baz=86,slow=73,SNR=671
H03N3 Juan Fernandez 7.13 259 T T 01 30 58.9
baz=86,slow=73,SNR=666
H03N2 Juan Fernandez 7.14 259 T T 01 31 00.0
baz=86,slow=73,SNR=688
H03S1 Juan Fernandez 7.17 256 T T 01 30 46.0
baz=83,slow=75,SNR=40
H03S3 Juan Fernandez 7.17 256 T T 01 30 52.8
baz=83,slow=75,SNR=26
H03S2 Juan Fernandez 7.19 256 T T 01 30 49.1
baz=83,slow=75,SNR=41
TRQA Tornquist 9.04 132 Pn **Pn** **01 24 45.3 -1.1**
LVC Limon Verde 9.79 9 Pn Pn 01 25 03.0 +6.0
comp=N,0.2nm,0.3s,baz=186,slow=9.2,SNR=2.0
ITQB Itaqui 12.24 81 Pn **Pn** **01 25 27.9 -2.2**
CPUP Villa Florida 12.98 66 Pn **Pn** **01 25 39.0 -1.4**
comp=N,0.1nm,0.3s,baz=221,slow=9.3,SNR=1.6
CPUP LR LR 01 30 59.6
comp=N,39nm,21.5s,baz=226,slow=39
LPAZ La Paz 16.12 8 Pn **P** **01 26 31.0 +4.5**
comp=N,0.1nm,0.3s,baz=213,slow=7.2,SNR=3.6
SIV San Ignacio 18.40 30 P **Pn** **01 26 54.8 +3.6**
comp=N,0.2nm,0.3s,baz=219,slow=9.7,SNR=7.7
NNA Nana 21.06 343 LR LR 01 34 50.3
comp=N,26nm,18.0s,baz=193,slow=34
BDFB Brasilia 26.37 56 LR LR 01 40 29.6
comp=N,59nm,19.3s,baz=115,slow=41
SNAA Sanae 52.66 158 P **P** **01 31 50.0 +0.1**
SNAA IAmb IAmb 01 31 57.7
comp=Z,1.8nm,1.2s
TXAR Lajitas Array 68.92 329 P P 01 33 46.4 +5.3
comp=Z,0.1nm,0.5s,baz=144,slow=6.3,SNR=2.5
TORD Torodi Ar. Bea 82.46 69 P **P** **01 34 59.2 +0.3**
comp=Z,0.3nm,0.8s,baz=242,slow=3.1,SNR=3.9
H11S2 WAKE ISLAND Hy 27.04 270 T T 04 00 54.3
baz=117,slow=75,SNR=37
H11S1 WAKE ISLAND Hy 27.05 270 T T 04 00 55.3
baz=117,slow=75,SNR=25
H11S3 WAKE ISLAND Hy 27.06 270 T T 04 00 55.5
baz=117,slow=75,SNR=24
H11N3 WAKE ISLAND Hy 27.41 271 T T 04 01 24.2
baz=118
H11N1 WAKE ISLAND Hy 27.42 271 T T 04 01 25.3
baz=118
H11N2 WAKE ISLAND Hy 27.43 271 T T 04 01 23.4
baz=118,SNR=9.3
ZALV Zalesovo Beam 152.15 32 PKPbc **PKiKP** **01 42 30.9 -0.5**
comp=Z,1.2nm,0.5s,baz=308,slow=3.3,SNR=4.2

IDC 24 01:24:50.3±3.0, 21°.17S×147°.96E, h0km, mb1 3.4/2, mb1mx3.2/19, mbtmp3.1/2, ML3.0/2, Error ellipse: s-maj=55.0km s-min=21.7km az=42.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**1.93**	**304**	Pg	Pn	01 25 25.2	+0.8
	15nm,0.3s,baz=124,slow=17,SNR=59						
CTA				Lg	Lg	01 25 52.0	
	13nm,0.3s,baz=27,slow=20,SNR=7.5						
WRA	**Warramunga Arr**	**12.82**	**273**	Pn	Pn	01 27 52.7	-1.2
	0.1nm,0.3s,baz=98,slow=12,SNR=5.3						
WRA				Lg	Lg	01 31 31.5	
	0.1nm,0.3s,baz=96,slow=24,SNR=2.1						
ASAR	**Alice Springs**	**13.24**	**257**	Pn	Pn	01 28 00.6	+0.9
	0.0nm,0.3s,baz=78,slow=14,SNR=2.0						
ASAR				Lg	Lg	01 31 43.3	
	baz=92,slow=20,SNR=4.2						
TORD	**Torodi Ar. Bea**	**146.85**	**262**	PKPbc	PKPbc	01 44 34.7	-0.7
	0.3nm,0.7s,baz=115,slow=2.8,SNR=4.3						

*TIR **24** 01:35:18.1,40°.21N×19°.59E,h12km±3km,Md2.7,Ml2.6*
*THE **24** 01:35:19.7,40°.31N×19°.56E,h5km±2km,ML2.4/4, Error ellipse: s-maj=2.9km s-min=0.6km az=270.0*
*ATH **24** 01:35:20.3,40°.30N×19°.54E,h15km±6km,ML2.5/5, Error ellipse: s-maj=8.0km s-min=1.5km az=241.0*

ISC 24 01:35:18.8±0.9, 40°.32N±0°.02×19°.47E±0°.03, h16km±6km, n35,σ1§28/57, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.15**	**9**	P	**Pg**	**01 35 22.7**	**-0.1**
VLO				S	**Sg**	**01 35 25.8**	**+0.2**
	7µm,0.2s						
SRN	**Sarande**	**0.60**	**137**	P	**Pg**	**01 35 29.8**	**-0.8**
SRN				S	**Sg**	**01 35 38.5**	**-0.1**
	242nm,0.4s						
SRN	**Sarande**	**0.60**	**137**	P	**Pg**	**01 35 29.3**	**-1.3**
	baz=135						
SRN				S	**Sb**	**01 35 38.8**	**-0.3**
	baz=135						
SRN				AMP			
	comp=N,1.0nm,0.3s,baz=135						
KEK	**Kerkira**	**0.66**	**157**	P	**Pg**	**01 35 31.5**	**-0.2**
KEK				S	**Sb**	**01 35 40.7**	**0.0**
	comp=N,472nm,0.2s						
KEK	**Kerkira**	**0.66**	**157**	P	**Pg**	**01 35 31.4**	**-0.2**
KEK				S	**Sb**	**01 35 41.5**	**+0.8**
KEK				AML	AML	01 35 44.7	
	comp=E,1288µm,0.3s						
KEK				AML	AML	01 35 46.9	
	comp=N,596µm,0.2s						
KASA	**Kassiopi**	**0.68**	**148**	P	**Pn**	**01 35 33.3**	**-0.3**
SCTE	**Santa Cesarea**	**0.80**	**252**	P	**Pb**	**01 35 35.9**	**+1.6**
	baz=262						
SCTE				S	**Sn**	**01 35 48.6**	**+1.7**
	baz=262						
LSK	**Leskovik**	**0.89**	**101**	P	**Pg**	**01 35 34.3**	**-1.7**
KBN	**Korca**	**1.05**	**73**	P	**Pb**	**01 35 37.7**	**-1.0**
KBN				S	**Sg**	**01 35 52.9**	**-0.1**
	comp=N,222nm,0.7s						
KBN	**Korca**	**1.05**	**73**	P	**Pb**	**01 35 38.2**	**-0.5**
	baz=65						
KBN				S	**Sb**	**01 35 52.3**	**+0.1**
	baz=65						
KBN				AMP			
	comp=N,0.9nm,0.6s,baz=65						
TIR	**Tirane**	**1.07**	**16**	P	**Pb**	**01 35 39.8**	**+0.9**
TIR	**Tirane**	**1.07**	**16**	P	**Pn**	**01 35 40.2**	**+1.1**
TIR				S	**Sn**	**01 35 54.9**	**+1.3**
TIR				AML	AML	01 36 00.3	
	comp=N,401µm,0.5s						
TIR				AML	AML	01 36 01.6	
	comp=E,370µm,0.3s						
TIR	**Tirane**	**1.07**	**16**	P	**Pb**	**01 35 38.9**	**0.0**
	baz=10.0						
TIR				S	**Sn**	**01 35 56.3**	**+2.6**
	baz=10.0						
TIR				AMP			
	comp=N,0.3nm,0.7s,baz=10.0						
NEST	**Nestorio**	**1.21**	**85**	P	**Pn**	**01 35 41.0**	**-0.1**
NEST	**Nestorio**	**1.21**	**85**	P	**Pn**	**01 35 41.2**	**0.0**
NEST				S	**Sb**	**01 35 56.9**	**+0.1**
NEST				AML	AML	01 36 02.1	
	comp=E,282µm,0.5s						
NEST				AML	AML	01 36 04.0	
	comp=N,247µm,0.7s						
JAN	**Janina**	**1.25**	**121**	P	**Pn**	**01 35 42.0**	**+0.4**
JAN	**Janina**	**1.25**	**121**	P	**Pn**	**01 35 42.0**	**+0.4**
JAN				S	**Sn**	**01 35 58.6**	**+0.4**
JAN				AML	AML	01 36 00.7	
	comp=N,660µm,0.4s						
JAN				AML	AML	01 36 00.7	
	comp=E,1075µm,0.3s						
OHR	**Ohrid**	**1.29**	**52**	*e*Pg	**Pn**	**01 35 38.9**	**-3.2**
OHR				*e*Sg	**Sg**	**01 36 00.4**	**0.0**
FNA	**Florina**	**1.53**	**72**	P	**Pn**	**01 35 46.1**	**+0.7**
FNA	**Florina**	**1.53**	**72**	P	**Pn**	**01 35 46.2**	**+0.8**
FNA				S	**Sb**	**01 36 06.8**	**+0.9**
FNA				AML	AML	01 36 12.0	
	comp=N,338µm,0.6s						
FNA				AML	AML	01 36 12.5	
	comp=E,319µm,0.5s						
FNA	**Florina**	**1.53**	**72**	*e*Pg	**Pn**	**01 35 46.1**	**+0.7**
FNA				*e*Sg	**Sb**	**01 36 06.9**	**+1.0**
PHP	**Peshkopia**	**1.55**	**28**	P	**Pn**	**01 35 45.9**	**+0.1**
	baz=23						
PHP				S	**Sb**	**01 36 07.7**	**+1.1**
	baz=23						
PUK	**Puka**	**1.75**	**10**	P	**Pn**	**01 35 49.3**	**+0.7**
	baz=7.0						
PUK				S	**Sn**	**01 36 12.6**	**+2.0**
	baz=7.0						
TSLK	**Tsoukalades, L**	**1.75**	**148**	P	**Pb**	**01 35 50.5**	**0.0**
KZN	**Kozani**	**1.76**	**90**	P	**Pn**	**01 35 50.1**	**+1.4**
STIP	**Stip**	**2.48**	**55**	*e*Pg	**Pn**	**01 36 01.1**	**+2.7**
STON	**Ston**	**2.87**	**333**	*e*Pn	**Pn**	**01 36 02.1**	**-1.7**
RICI	**Ricice**	**3.62**	**332**	*e*Pn	**Pn**	**01 36 12.9**	**-1.2**
HVAR	**Hvar**	**3.64**	**323**	*e*Pn	**Pn**	**01 36 14.5**	**+0.1**
KIJV	**Kijevo**	**4.33**	**329**	*e*Pn	**Pn**	**01 36 23.7**	**-0.2**
ZIRJ	**Zirje**	**4.38**	**321**	*e*Pn	**Pn**	**01 36 24.0**	**-0.6**
ZIRJ				Sn	**Sn**	**01 37 13.3**	**-2.0**
MORI	**Morici**	**4.51**	**323**	*e*Pn	**Pn**	**01 36 27.1**	**+0.8**
MORI				Sn	**Sn**	**01 37 18.0**	**-0.5**
DUGI	**Dugi Otok**	**4.92**	**320**	*e*Pn	**Pn**	**01 36 31.9**	**-0.1**
DUGI				Sn	**Sn**	**01 37 25.4**	**-3.1**
NVLJ	**Novalja**	**5.43**	**323**	*e*Pn	**Pn**	**01 36 38.6**	**-0.4**
NVLJ				Sn	**Sn**	**01 37 39.0**	**-2.2**
RABC	**Rab**	**5.62**	**324**	*e*Pn	**Pn**	**01 36 43.2**	**+1.7**
RABC				Sn	**Sn**	**01 37 43.0**	**-2.8**

*KRSC **24** 01:44:56.4±1.1,53°.75N×161°.81E,h52km±20km, ML4.3*
*MOS **24** 01:44:58.1±0.4,53°.73N×161°.88E,h41km, mb3.9/1, Error ellipse: s-maj=7.6km s-min=4.8km az=82.1*
*IDC **24** 01:45:02.1±0.7,53°.99N×161°.51E,h62km±6km, mb3.4/9, mb1 3.8/10, mb1mx3.4/63, mbtmp3.7/10, MS2.8/4, Ms1 2.9/4, ms1mx2.6/27, Error ellipse: s-maj=27.9km s-min=8.0km az=156.0*

ISC 24 01:44:59.6±0.6, 53°.76N±0°.03×161°.82E±0°.04, h43km±5km, n96,σ1§15/148, mb3.7/9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.80**	**356**	PN	**Pn**	**01 45 12.7**	**-1.7**
MKZ				S	**Sn**	**01 45 23.0**	**-2.2**
MKZ	**Mys Kozlova**	**0.80**	**356**	*e*P	**Pn**	**01 45 12.7**	**-1.7**
MKZ				*e*S	**Sn**	**01 45 23.0**	**-2.2**
SPN	**Mys Shipunski**	**1.26**	**239**	PN	**Pn**	**01 45 19.4**	**-1.4**
SPN				S	**Sn**	**01 45 34.3**	**-2.3**
SPN	**Mys Shipunski**	**1.26**	**239**	*e*P	**Pn**	**01 45 19.4**	**-1.4**
SPN				*e*S	**Sn**	**01 45 34.3**	**-2.3**
KII	**Karymskiy**	**1.43**	**282**	PN	**Pn**	**01 45 21.4**	**-1.8**
KII				S	**Sn**	**01 45 37.9**	**-2.9**
KII	**Karymskiy**	**1.43**	**282**	*e*P	**Pn**	**01 45 21.4**	**-1.8**
KII				*e*S	**Sn**	**01 45 37.9**	**-2.9**
NLC	**Nalytchevo**	**1.59**	**249**	PN	**Pn**	**01 45 24.1**	**-1.2**
NLC				S	**Sn**	**01 45 43.0**	**-1.6**
NLC	**Nalytchevo**	**1.59**	**249**	*e*P	**Pn**	**01 45 24.1**	**-1.2**
NLC				*e*S	**Sn**	**01 45 43.0**	**-1.6**
KZV	**Kizimen**	**1.62**	**327**	PN	**Pn**	**01 45 24.9**	**-1.0**
KZV				S	**Sn**	**01 45 44.6**	**-1.0**
KZV	**Kizimen**	**1.62**	**327**	*e*P	**Pn**	**01 45 24.9**	**-1.0**
KZV				*e*S	**Sn**	**01 45 44.6**	**-1.0**
TUMD	**Tumrok D**	**1.67**	**331**	*e*P	**Pn**	**01 45 24.9**	**-1.4**
TUMD				*e*S	**Sn**	**01 45 44.4**	**-2.1**
TUMR	**Tumrok**	**1.81**	**328**	PN	**Pn**	**01 45 27.6**	**-0.8**
TUMR				S	**Sn**	**01 45 49.3**	**-0.9**
TUMR	**Tumrok**	**1.81**	**328**	*e*P	**Pn**	**01 45 27.6**	**-0.8**
TUMR				*e*S	**Sn**	**01 45 49.3**	**-0.9**
SDLR	**Sedlovina**	**1.82**	**256**	PN	**Pn**	**01 45 27.8**	**-0.7**
SDLR				S	**Sn**	**01 45 49.3**	**-1.1**
SDLR	**Sedlovina**	**1.82**	**256**	*e*P	**Pn**	**01 45 27.8**	**-0.7**
SDLR				*e*S	**Sn**	**01 45 49.3**	**-1.1**
SMAR	**Somma**	**1.87**	**256**	PN	**Pn**	**01 45 28.6**	**-0.7**
SMAR	**Somma**	**1.87**	**256**	*e*P	**Pn**	**01 45 28.6**	**-0.7**
UGLR	**Uglovaya**	**1.87**	**254**	PN	**Pn**	**01 45 28.8**	**-0.5**
UGLR				S	**Sn**	**01 45 51.5**	**-0.2**
UGLR	**Uglovaya**	**1.87**	**254**	*e*P	**Pn**	**01 45 28.8**	**-0.5**
UGLR				*e*S	**Sn**	**01 45 51.5**	**-0.2**
KRER	**Koryakskii**	**1.89**	**257**	PN	**Pn**	**01 45 29.2**	**-0.4**
KRER				S	**Sn**	**01 45 52.0**	**-0.3**
KRER	**Koryakskii**	**1.89**	**257**	*e*P	**Pn**	**01 45 29.2**	**-0.4**
KRER				*e*S	**Sn**	**01 45 52.0**	**-0.3**
AVH	**Avacha**	**1.91**	**256**	PN	**Pn**	**01 45 29.3**	**-0.4**
AVH				S	**Sn**	**01 45 52.1**	**-0.4**
AVH	**Avacha**	**1.91**	**256**	*e*P	**Pn**	**01 45 29.3**	**-0.4**
AVH				*e*S	**Sn**	**01 45 52.1**	**-0.4**
KRX	**Arik**	**1.93**	**259**	PN	**Pn**	**01 45 29.4**	**-0.7**
KRX				S	**Sn**	**01 45 51.2**	**-2.1**
KRX	**Arik**	**1.93**	**259**	*e*P	**Pn**	**01 45 29.4**	**-0.7**
KRX				*e*S	**Sn**	**01 45 51.2**	**-2.1**
KOK	**Koryaka**	**1.96**	**257**	PN	**Pn**	**01 45 29.8**	**-0.6**
KOK				S	**Sn**	**01 45 52.4**	**-1.4**
KOK	**Koryaka**	**1.96**	**257**	*e*P	**Pn**	**01 45 29.8**	**-0.6**
KOK				*e*S	**Sn**	**01 45 52.4**	**-1.4**
DALK	**Dalny**	**1.98**	**250**	PN	**Pn**	**01 45 29.7**	**-0.9**
DALK				S	**Sn**	**01 45 52.9**	**-1.2**
DALK	**Dalny**	**1.98**	**250**	*e*P	**Pn**	**01 45 29.7**	**-0.9**
DALK				*e*S	**Sn**	**01 45 52.9**	**-1.2**
PET	**Petropavlovsk**	**2.04**	**250**	*e*PN	**Pn**	**01 45 30.7**	**-0.6**
PET				*e*S	**Sn**	**01 45 54.2**	**-1.3**
PET				pmax	pmax		
	comp=Z,164nm,0.7s						
PET				smax	smax		
	comp=E,548nm,0.5s						
PET				smax	smax		
	comp=N,768nm,0.6s						
PET				MLR	MLR		
	comp=Z,200nm,17.0s						
PET	**Petropavlovsk**	**2.04**	**250**	*e*P	**Pn**	**01 45 30.8**	**-0.6**
PET				*e*S	**Sn**	**01 45 54.0**	**-1.5**
KMNR	**Kamenistaya**	**2.20**	**336**	PN	**Pn**	**01 45 34.0**	**+0.3**
KMNR				S	**Sn**	**01 46 00.1**	**+0.4**
KMNR	**Kamenistaya**	**2.20**	**336**	*e*P	**Pn**	**01 45 34.0**	**+0.3**
KMNR				*e*S	**Sn**	**01 46 00.1**	**+0.4**
BZGR	**Bezymyannyi-Gr**	**2.28**	**344**	PN	**Pn**	**01 45 34.6**	**-0.2**
BZGR	**Bezymyannyi-Gr**	**2.28**	**344**	*e*P	**Pn**	**01 45 34.6**	**-0.2**
GNL	**Ganaly**	**2.31**	**270**	PN	**Pn**	**01 45 35.2**	**0.0**
GNL	**Ganaly**	**2.31**	**270**	*e*P	**Pn**	**01 45 35.2**	**0.0**
ZLN	**Zelenaya**	**2.34**	**346**	PN	**Pn**	**01 45 35.9**	**+0.3**
ZLN	**Zelenaya**	**2.34**	**346**	*e*P	**Pn**	**01 45 35.9**	**+0.3**
BZWR	**Bezymyannyi-We**	**2.34**	**341**	PN	**Pn**	**01 45 35.8**	**+0.1**
BZWR	**Bezymyannyi-We**	**2.34**	**341**	*e*P	**Pn**	**01 45 35.8**	**+0.1**
KIRR	**Kirishev**	**2.36**	**339**	PN	**Pn**	**01 45 36.3**	**+0.4**
KIRR	**Kirishev**	**2.36**	**339**	*e*P	**Pn**	**01 45 36.3**	**+0.4**
KPT	**Kopyto**	**2.40**	**338**	PN	**Pn**	**01 45 36.4**	**0.0**
KPT	**Kopyto**	**2.40**	**338**	*e*P	**Pn**	**01 45 36.4**	**0.0**
RUS	**Russkaya**	**2.40**	**238**	PN	**Pn**	**01 45 36.3**	**0.0**
RUS				S	**Sn**	**01 46 02.8**	**-1.6**
RUS	**Russkaya**	**2.40**	**238**	*e*P	**Pn**	**01 45 36.3**	**0.0**
RUS				*e*S	**Sn**	**01 46 02.8**	**-1.6**
KRMR	**Karymshinskiy**	**2.40**	**249**	PN	**Pn**	**01 45 36.0**	**-0.4**
KRMR				S	**Sn**	**01 46 03.1**	**-1.5**
KRMR	**Karymshinskiy**	**2.40**	**249**	*e*P	**Pn**	**01 45 36.0**	**-0.4**
KRMR				*e*S	**Sn**	**01 46 03.1**	**-1.5**
LGNR	**Loginova**	**2.42**	**345**	PN	**Pn**	**01 45 37.4**	**+0.5**
LGNR				S	**Sn**	**01 46 05.8**	**+0.5**
LGNR	**Loginova**	**2.42**	**345**	*e*P	**Pn**	**01 45 37.4**	**+0.5**
LGNR				*e*S	**Sn**	**01 46 05.8**	**+0.5**
CIRR	**Tsirk**	**2.44**	**346**	PN	**Pn**	**01 45 37.3**	**+0.2**
CIRR	**Tsirk**	**2.44**	**346**	*e*P	**Pn**	**01 45 37.3**	**+0.2**
KBTR	**Krutoberegovo**	**2.52**	**13**	PN	**Pn**	**01 45 37.6**	**-0.4**
KBTR	**Krutoberegovo**	**2.52**	**13**	*e*P	**Pn**	**01 45 37.6**	**-0.4**
MTVR	**Mutnovka**	**2.54**	**241**	PN	**Pn**	**01 45 38.2**	**-0.2**
MTVR				S	**Sn**	**01 46 07.2**	**-0.9**
MTVR	**Mutnovka**	**2.54**	**241**	*e*P	**Pn**	**01 45 38.2**	**-0.2**
MTVR				*e*S	**Sn**	**01 46 07.2**	**-0.9**
KBG	**Krutoberegovo**	**2.55**	**11**	PN	**Pn**	**01 45 38.4**	**0.0**
KBG	**Krutoberegovo**	**2.55**	**11**	*e*P	**Pn**	**01 45 38.4**	**0.0**
PETK	**Petropavlovsk-**	**2.55**	**257**	P	**Pn**	**01 45 38.6**	**+0.1**
	comp=Z,28nm,0.3s,baz=84,slow=16,SNR=127						
PETK				S	**Sn**	**01 46 09.3**	**+1.1**
	comp=Z,19nm,0.3s,baz=283,slow=14,SNR=14						
PETK				LR	LR	01 46 51.0	
	comp=Z,133nm,18.6s,baz=72,slow=45						
GRL	**Gorelyy**	**2.56**	**243**	PN	**Pn**	**01 45 38.7**	**0.0**
GRL				S	**Sn**	**01 46 07.7**	**-1.0**
GRL	**Gorelyy**	**2.56**	**243**	*e*P	**Pn**	**01 45 38.7**	**0.0**
GRL				*e*S	**Sn**	**01 46 07.7**	**-1.0**
KRSR	**Krestovskiy**	**2.56**	**344**	PN	**Pn**	**01 45 38.4**	**-0.4**
KRSR	**Krestovskiy**	**2.56**	**344**	*e*P	**Pn**	**01 45 38.4**	**-0.4**
ASAK	**Asacha**	**2.74**	**241**	PN	**Pn**	**01 45 41.7**	**+0.6**
ASAK				S	**Sn**	**01 46 13.2**	**+0.2**
ASAK	**Asacha**	**2.74**	**241**	*e*P	**Pn**	**01 45 41.7**	**+0.6**
ASAK				*e*S	**Sn**	**01 46 13.2**	**+0.2**
BKI	**Bering**	**2.82**	**57**	PN	**Pn**	**01 45 41.8**	**-0.3**
BKI				S	**Sn**	**01 46 11.7**	**-3.1**
BKI	**Bering**	**2.82**	**57**	*e*P	**Pn**	**01 45 41.8**	**-0.3**
BKI				*e*S	**Sn**	**01 46 11.7**	**-3.1**
ESO	**Esso**	**2.82**	**321**	PN	**Pn**	**01 45 43.2**	**+1.0**
ESO				S	**Sn**	**01 46 15.3**	**+0.4**
ESO	**Esso**	**2.82**	**321**	*e*P	**Pn**	**01 45 43.2**	**+1.0**
ESO				*e*S	**Sn**	**01 46 15.3**	**+0.4**
SMKR	**Semkarok**	**2.83**	**356**	PN	**Pn**	**01 45 42.9**	**+0.5**
SMKR	**Semkarok**	**2.83**	**356**	*e*P	**Pn**	**01 45 42.9**	**+0.5**
BDR	**Baidarnaya**	**2.83**	**353**	PN	**Pn**	**01 45 42.4**	**0.0**
BDR	**Baidarnaya**	**2.83**	**353**	*e*P	**Pn**	**01 45 42.4**	**0.0**
APC	**Apacha**	**2.92**	**255**	PN	**Pn**	**01 45 44.3**	**+0.8**
APC				S	**Sn**	**01 46 18.2**	**+1.0**
APC	**Apacha**	**2.92**	**255**	*e*P	**Pn**	**01 45 44.3**	**+0.8**
APC				*e*S	**Sn**	**01 46 18.2**	**+1.0**
SRKR	**Sorokina**	**2.92**	**353**	PN	**Pn**	**01 45 43.9**	**+0.3**
SRKR	**Sorokina**	**2.92**	**353**	*e*P	**Pn**	**01 45 43.9**	**+0.3**
KDTR	**Khodutka, Kamc**	**3.00**	**231**	PN	**Pn**	**01 45 44.0**	**-0.6**
KDTR				S	**Sn**	**01 46 17.4**	**-1.8**
KDTR	**Khodutka, Kamc**	**3.00**	**231**	*e*P	**Pn**	**01 45 44.0**	**-0.6**
KDTR				*e*S	**Sn**	**01 46 17.4**	**-1.8**
SKR	**Severo-Kuril's**	**4.67**	**231**	*e*PN	**Pn**	**01 46 09.7**	**+2.2**
MA2	**Magadan**	**8.42**	**318**	LR	LR	01 50 38.0	
	comp=Z,63nm,18.6s,baz=124,slow=41						
ILAR	**Eielson Array**	**27.61**	**46**	P	**P**	**01 50 42.3**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=264,slow=8.0,SNR=4.2						
ILAR				pP	**pwP**	**01 50 57.6**	**+0.6**
	comp=Z,0.8nm,0.9s,baz=248,slow=7.7,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**34.19**	**171**	T	T	02 28 28.7	
	baz=354,slow=76,SNR=40						
H11N3	**WAKE ISLAND Hy**	**34.21**	**171**	T	T	02 28 29.8	
	baz=354,slow=76,SNR=44						
H11N1	**WAKE ISLAND Hy**	**34.21**	**171**	T	T	02 28 38.2	
	baz=354,slow=76,SNR=45						
ZALV	**Zalesovo Beam**	**43.28**	**303**	LR	LR	02 12 23.9	
	comp=Z,9.4nm,20.7s,baz=6.5,slow=38						
MKAR	**Makanchi Array**	**48.79**	**296**	P	**P**	**01 53 37.7**	**-2.4**
	comp=Z,0.2nm,0.5s,baz=46,slow=4.2,SNR=1.9						
NVAR	**Mina Array Bea**	**54.55**	**72**	P	**P**	**01 54 26.2**	**+2.8**
	comp=Z,0.3nm,0.6s,baz=292,slow=7.8,SNR=4.2						
NVAR				pP	**sP**	**01 54 41.4**	**+2.1**
	comp=Z,0.4nm,0.7s,baz=295,slow=6.5,SNR=3.7						
NVAR				LR	LR	02 17 34.2	
	comp=Z,22nm,18.6s,baz=98,slow=36						
PDAR	**Pinedale Array**	**56.30**	**62**	P	**P**	**01 54 37.2**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=333,slow=5.0,SNR=3.8						
CMAR	**Chiang Mai Arr**	**59.33**	**259**	P	**P**	**01 54 57.2**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=25,slow=7.0,SNR=5.4						
NOA	**NORSAR Array B**	**63.18**	**344**	P	**P**	**01 55 21.0**	**-1.7**
	comp=Z,0.5nm,0.7s,baz=20,slow=6.6,SNR=2.2						
NOA				pP	**sP**	**01 55 38.0**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=20,slow=6.7,SNR=2.7						
NOA	**NORSAR Array B**	**63.18**	**344**	P	**P**	**01 55 21.0**	**-1.7**
NOA				*PP	**sP**	**01 55 38.0**	**-0.6**
TXAR	**Lajitas Array**	**69.43**	**68**	P	**P**	**01 56 04.1**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=303,slow=5.0,SNR=4.6						
TXAR				pP	**sP**	**01 56 20.6**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=304,slow=3.6,SNR=4.7						
WRA	**Warramunga Arr**	**77.13**	**206**	P	**P**	**01 56 48.5**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=22,slow=5.5,SNR=10						
ASAR	**Alice Springs**	**80.80**	**206**	P	**P**	**01 57 09.3**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=14,slow=6.5,SNR=7.4						

*IDC **24** 01:53:55.9±0.8,56°.07S×26°.53W,h0km,mb4.0/7, mb1 4.1/7,mb1mx3.9/24,mbtmp4.0/7,MS3.4/1,Ms1 3.3/1, ms1mx2.6/18,Error ellipse: s-maj=33.3km s-min=20.5km az=50.0*
*NEIC **24** 01:54:04.5±0.9,56°.2S±0°.1×26°.8W±0°.2,h63km±8km, mb4.3/13,Error ellipse: s-maj=21.5km s-min=13.3km az=210.0*

ISC 24 01:54:01.3±0.7, 56°.1S±0°.1×26°.7W±0°.1, h35km, n36, σ1§05/30, mb4.2/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.90**	**284**	Pn	**Pn**	**01 55 28.6**	**+2.5**
HOPE				Sn	**Sn**	**01 56 30.4**	**-1.9**
VNA1	**Neumayer--Stat**	**16.67**	**158**	P	**P**	**01 57 55.0**	**+1.2**
VNA3	**Neumayer Olymp**	**16.88**	**161**	P	**P**	**01 57 57.1**	**+0.9**
VNA2	**Neumayer--Watz**	**17.07**	**158**	P	**P**	**01 57 60.0**	**+1.7**
	baz=322,slow=14						
SNAA	**Sanae**	**18.61**	**156**	P	**Pn**	**01 58 17.1**	**+1.3**
SNAA	**Sanae**	**18.61**	**156**	P	**P**	**01 58 14.5**	**-0.9**
PMSA	**Palmer Station**	**20.10**	**229**	P	Pn	01 58 33.1	-0.4
TRQA	**Tornquist**	**29.59**	**293**	P	**P**	**02 00 02.8**	**0.0**
TRQA				IAmb	IAmb	02 00 12.2	
	comp=Z,9.7nm,1.4s						
PLTB	**Pedras Altas**	**30.72**	**311**	P	**P**	**02 00 13.7**	**+0.8**
LR03	**Panguipulli**	**34.04**	**279**	P	**P**	**02 00 40.2**	**-1.6**
QSPA	**South Pole Qui**	**34.18**	**180**	P	**P**	**02 00 42.1**	**-0.9**
QSPA				IAmb	IAmb	02 00 52.0	
	comp=Z,2.6nm,0.7s						
CPUP	**Villa Florida**	**37.04**	**311**	P	**P**	**02 01 07.4**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=166,slow=8.3,SNR=3.7						
CPUP	**Villa Florida**	**37.04**	**311**	P	**P**	**02 01 08.0**	**+0.3**
CPUP				IA

GEMT	**Gemlik**	**0.18**	**79**	PG		**Pg**	**02 37 26.4**	**-0.1**
GEMT				SG		**Sg**	**02 37 29.4**	**+0.2**
IGD	**Bursa**	**0.23**	**126**	*i* P		**Pg**	**02 37 27.2**	**-0.1**
IGD				*i* S		**Sg**	**02 37 30.3**	**-0.3**
TRML	**Termal-Yalova**	**0.27**	**38**	PG		**Pg**	**02 37 28.1**	**+0.1**
TRML				SG		**Sg**	**02 37 32.3**	**+0.6**
ULDT	**Uludag**	**0.29**	**152**	*i* P		**Pg**	**02 37 28.5**	**0.0**
ULDT				*i* S		**Sg**	**02 37 32.3**	**-0.3**
ORLT	**Orhaneli**	**0.36**	**187**	PG		**Pg**	**02 37 29.7**	**0.0**
ORLT				SG		**Sg**	**02 37 35.2**	**+0.8**
YLV	**Yalova**	**0.36**	**62**	PG		**Pg**	**02 37 29.5**	**-0.2**
ADVT	**Abdulvahap**	**0.60**	**87**	PG		**Pg**	**02 37 34.1**	**-0.1**
KAVV	**Kandilli-Istan**	**0.67**	**7**	PG		**Pg**	**02 37 35.4**	**-0.1**
HRT	**Hereke**	**0.69**	**52**	PG		**Pg**	**02 37 35.5**	**-0.3**
CAVI	**Cavuskoy**	**0.71**	**106**	PG		**Pg**	**02 37 35.9**	**-0.3**
BILE	**Bilecik/Merkez**	**0.74**	**108**	*i* P		**Pg**	**02 37 38.7**	**-0.3**
BILE				*i* S		**Sg**	**02 37 45.6**	**-1.0**
BGKT	**Bogazkoy**	**0.79**	**350**	PG		**Pg**	**02 37 37.7**	**-0.1**
DST	**Dursunbey**	**0.84**	**198**	PG		**Pb**	**02 37 38.8**	**-0.3**
EDC	**Edincik**	**0.84**	**267**	PG		**Pg**	**02 37 38.3**	**-0.4**
EDC				SG		**Sb**	**02 37 50.9**	**+0.6**
ELBA	**Catalca**	**0.85**	**332**	*i* P		**Pg**	**02 37 38.6**	**-0.3**
ELBA				*i* S		**Sg**	**02 37 49.7**	**-0.2**
KLYT	**Kilyos**	**0.85**	**4**	PG		**Pb**	**02 37 38.9**	**-0.5**
DURS	**Dursunbey**	**0.88**	**205**	*i* P		**Pn**	**02 37 40.7**	**-0.3**
DURS				*i* S		**Sg**	**02 37 50.2**	**-0.8**
CTKS	**Kestanelik-??a**	**0.90**	**338**	PG		**Pg**	**02 37 39.3**	**-0.6**
SILT	**Sile**	**0.92**	**35**	PG		**Pg**	**02 37 39.9**	**-0.3**
AUBOZ	**BOZOYUK**	**0.96**	**120**	*i* P		**Pn**	**02 37 41.8**	**-0.3**
AUBOZ				*i* S		**Sg**	**02 37 53.1**	**-0.4**
AUBOZ	**BOZOYUK**	**0.96**	**120**	PG		**Pb**	**02 37 41.4**	**+0.2**
GEYV	**SAKARYA_Geyve**	**1.03**	**85**	*i* P		**Pb**	**02 37 42.4**	**+0.1**
TVSB	**Tavsanli**	**1.03**	**158**	PG		**Pg**	**02 37 41.9**	**-0.4**
GONE	**Gonen-Balikesi**	**1.03**	**250**	PG		**Pb**	**02 37 42.4**	**-0.1**
MRMT	**Marmara Adasi**	**1.06**	**281**	PG		**Pg**	**02 37 42.4**	**-0.5**
SAUV	**Serdivan-Sakar**	**1.10**	**72**	PN		**Pg**	**02 37 42.7**	**-0.9**
KNL	**Balıkesir**	**1.10**	**264**	*i* P		**Pn**	**02 37 44.9**	**+1.0**
BALB	**Balikesir**	**1.12**	**228**	PN		**Pn**	**02 37 44.2**	**0.0**
ANDZ	**Kutahya, Merke**	**1.15**	**141**	*i* P		**Pn**	**02 37 45.2**	**+0.5**
ANDZ				*i* S		**Sb**	**02 37 59.3**	**-0.1**
CRLT	**Corlu**	**1.18**	**309**	PN		**Pn**	**02 37 45.6**	**+0.6**
CTYL	**Yalikoy Yolu**	**1.19**	**335**	PN		**Pg**	**02 37 44.8**	**-0.5**
GULT	**Gulveren**	**1.19**	**88**	PN		**Pn**	**02 37 45.3**	**+0.1**
KAYN	**Sakarya, Kayna**	**1.19**	**61**	*i* P		**Pb**	**02 37 45.0**	**-0.2**
BALY	**Balya**	**1.22**	**238**	*i* P		**Pg**	**02 37 45.5**	**-0.5**
BALY				*i* S		**Sg**	**02 38 00.8**	**-1.1**
BALY				IAML			02 38 03.0	
	comp=N,110nm,0.5s							
BALY				IAML			02 38 04.0	
	comp=E,82nm,0.5s							
BORA	**Eskisehir**	**1.26**	**114**	*i* P		**Pg**	**02 37 46.4**	**-0.4**
BORA	**Eskisehir**	**1.26**	**114**	PN		**Pn**	**02 37 45.9**	**-0.3**
KRBG	**Karabiga-Canak**	**1.27**	**270**	PN		**Pn**	**02 37 46.1**	**-0.1**
GZKV	**Gazikoy-Tekird**	**1.29**	**286**	PN		**Pg**	**02 37 47.4**	**+0.1**
MAR3	**Marsite Statio**	**1.31**	**286**	PN		**Pg**	**02 37 47.3**	**-0.4**
SIMA	**Simav-Kutahya**	**1.32**	**179**	PN		**Pg**	**02 37 47.3**	**-0.5**
MAR4	**Marsite Statio**	**1.32**	**288**	PN		**Pn**	**02 37 46.0**	**-1.0**
DEMI	**Demirci**	**1.37**	**188**	*i* P		**Pg**	**02 37 49.3**	**+0.5**
DEMI				*i* S		**Sn**	**02 38 07.6**	**+1.8**
GDZ	**Gediz**	**1.37**	**163**	*i* P		**Pb**	**02 37 48.3**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.39**	**283**	PN		**Pb**	**02 37 48.5**	**0.0**
STEP	**BALIKESIR_Sava**	**1.40**	**223**	*i* P		**Pn**	**02 37 47.0**	**-1.0**
STEP				*i* S		**Sb**	**02 38 06.6**	**+0.1**
SAHE	**Sakarya_HENDEK**	**1.51**	**72**	*i* P		**Pn**	**02 37 49.4**	**-0.2**

IDC ***24*** *02:39:04.8±1.2, 41°.76N×19°.53E, h0km, mb3.5/5, mb1 3.6/10, mb1mx3.4/38, mbtmp3.5/10, ML3.4/5, MS2.9/1, Ms1 2.9/1, ms1mx2.0/38, Error ellipse: s-maj=16.6km s-min=13.8km az=17.0*
THE ***24*** *02:39:04.8, 41°.89N×19°.23E, h0km±7km, ML3.0/5, Error ellipse: s-maj=12.6km s-min=2.1km az=320.0*
TIR ***24*** *02:39:05.4, 41°.88N×19°.48E, h11km±2km, Md3.5, Ml3.5*
PRU ***24*** *02:39:05.2±0.0, 41°.70N×19°.64E, h0km*
RHSSO ***24*** *02:39:05.6±0.6, 41°.79N×19°.55E, h2km±1km, ML3.5/14*
SKO ***24*** *02:39:06.1, 41°.97N×19°.48E, h0km*
LDG ***24*** *02:39:06.5±0.1, 41°.91N×19°.52E, h2km, Ml3.5/17, Error ellipse: s-maj=2.6km s-min=1.9km az=27.0*
BEO ***24*** *02:39:07.3±0.3, 41°.88N×19°.55E, h8km±2km, ML3.3/22*
PDG ***24*** *02:39:07.2±0.3, 41°.92N×19°.45E, h15km, MD3.5/11, ML3.5/12, Error ellipse: s-maj=0.4km s-min=0.9km az=0.0*

ISC 24 02:39:06.4±0.8, 41°.85N±0°.02×19°.46E±0°.02, h17km±5km, n211, σ2.34/329, mb3.6/4, 45C-21D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID		Time h m s	Res ISC
				Op	ISC			
ULC	**Ulcinj**	**0.20**	**305**	*i* Pg		**Pg**	**02 39 11.0**	**-0.2**
ULC	**Ulcinj**	**0.20**	**305**	⇓*i* Pg		**Pg**	**02 39 10.9**	**-0.2**
ULC				*i* Sg		**Sg**	**02 39 14.0**	**-0.4**
PUK	**Puka**	**0.37**	**59**	P		**Pg**	**02 39 12.9**	**-1.2**
	baz=61							
PUK				S		**Sg**	**02 39 18.4**	**-1.0**
	baz=61							
PUK				AMP				
	comp=N,26nm,0.3s,baz=61							
DRME	**Dracevica, Mon**	**0.39**	**328**	⇑*i* Pg		**Pg**	**02 39 14.1**	**-0.3**
DRME				*e*Sg		**Sb**	**02 39 21.0**	**+0.2**
DRME	**Dracevica, Mon**	**0.39**	**328**	⇑*i* Pg		**Pg**	**02 39 14.1**	**-0.3**
DRME				*i* Sg		**Sg**	**02 39 19.9**	**0.0**
TIR	**Tirane**	**0.59**	**149**	⇑S		**Sn**	**02 39 28.7**	**-0.5**
TIR	**Tirane**	**0.59**	**149**	P		**Pg**	**02 39 17.6**	**-0.4**
	baz=151							
TIR				S		**Sn**	**02 39 28.7**	**-0.5**
	baz=151							
TIR	**Tirane**	**0.59**	**149**	*e*Pg		**Pg**	**02 39 17.5**	**-0.4**
TIR	**Tirane**	**0.59**	**149**	*e*Pg		**Pg**	**02 39 17.4**	**-0.6**
TIR				*e*Sg		**Sb**	**02 39 27.1**	**+0.9**
PDG	**Podgorica**	**0.60**	**345**	⇑P		**Pg**	**02 39 17.5**	**-0.6**
PDG				⇑S		**Sg**	**02 39 25.4**	**-0.8**
PDG	**Podgorica**	**0.60**	**345**	⇓*i* Pg		**Pg**	**02 39 17.3**	**-0.9**
PDG				*e*Sg		**Sb**	**02 39 26.6**	**0.0**
PDG	**Podgorica**	**0.60**	**345**	*e*Pg		**Pg**	**02 39 17.6**	**-0.6**
PDG				*e*Sg		**Sb**	**02 39 27.4**	**+0.8**
TTG	**Podgorica**	**0.60**	**345**	⇓*i* Pg		**Pg**	**02 39 17.3**	**-0.9**
TTG				*i* Sg		**Sg**	**02 39 25.9**	**-0.3**
BUM	**Brajici-Budva**	**0.62**	**317**	⇑*i* Pg		**Pg**	**02 39 18.4**	**-0.2**
BUM				*i* Sg		**Sg**	**02 39 26.9**	**+0.1**
BCI	**Bajram Curri**	**0.68**	**41**	P		**Pg**	**02 39 18.3**	**-1.5**
	baz=41							
BCI				S		**Sb**	**02 39 28.6**	**-0.5**
	baz=41							
BCI				AMP				
	comp=N,15nm,0.3s,baz=41							
PHP	**Peshkopia**	**0.75**	**103**	P		**Pg**	**02 39 20.3**	**-0.7**
PHP	**Peshkopia**	**0.75**	**103**	P		**Pg**	**02 39 20.3**	**-0.7**
	baz=104							
PHP				S		**Sb**	**02 39 31.4**	**+0.4**
	baz=104							
PHP				AMP				
	comp=N,15nm,0.3s,baz=104							
CEME	**Cevo**	**0.80**	**330**	⇑*i* Pg		**Pg**	**02 39 21.0**	**-1.1**
CEME				*i* Sg		**Sb**	**02 39 32.9**	**+0.3**
PVY	**Plav**	**0.83**	**26**	⇑*i* Pg		**Pg**	**02 39 21.2**	**-1.3**
PVY				*i* Sg		**Sb**	**02 39 33.9**	**+0.5**
HCY	**Herceg Novi**	**0.94**	**310**	⇑*i* Pg		**Pb**	**02 39 23.7**	**-0.5**
HCY				*e*Sg		**Sn**	**02 39 38.3**	**+0.5**
HCY	**Herceg Novi**	**0.94**	**310**	⇑*i* Pg		**Pb**	**02 39 23.5**	**-0.7**
HCY				*i* Sg		**Sn**	**02 39 37.7**	**-0.1**
NKME	**Niksic**	**0.99**	**338**	⇑*i* Pg		**Pb**	**02 39 24.3**	**-0.8**
NKME				*i* Sg		**Sn**	**02 39 39.0**	**-0.3**
KOME	**Kolasin**	**1.00**	**2**	⇑*i* Pg		**Pb**	**02 39 24.3**	**-1.0**
KOME				*i* Sg		**Sn**	**02 39 39.3**	**-0.3**
IVA	**Berane**	**1.07**	**17**	⇓*i* Pg		**Pb**	**02 39 25.7**	**-0.8**
IVA				*i* Sg		**Sn**	**02 39 42.1**	**+0.8**
TREB	**Trebinje**	**1.20**	**317**	⇑*i* Pg		**Pn**	**02 39 28.5**	**+0.1**
TREB				*e*Sg		**Sg**	**02 39 46.5**	**+1.5**
TREB	**Trebinje**	**1.20**	**317**	*e*Pg		**Pn**	**02 39 28.5**	**+0.1**
TREB				*e*Sg		**Sg**	**02 39 46.6**	**+1.5**
OHR	**Ohrid**	**1.25**	**126**	*e*Pn		**Pn**	**02 39 28.9**	**-0.2**
OHR				*i* Sg		**Sg**	**02 39 48.7**	**+2.0**
OHR				*e*Lg		Lg	02 39 51.7	
	comp=N,730nm,0.8s							
OHR				*e*Lg		Lg	02 39 52.9	
	comp=E,542nm,0.7s							
BRY	**Bratogost**	**1.25**	**327**	⇑*i* Pg		**Pn**	**02 39 29.2**	**0.0**
BRY				*e*Sg		**Sg**	**02 39 48.8**	**+1.8**
BRY	**Bratogost**	**1.25**	**327**	⇑*i* Pg		**Pn**	**02 39 29.3**	**0.0**
BRY				*i* Sg		**Sg**	**02 39 48.2**	**+1.2**
UPM	**Unac-Piva**	**1.41**	**343**	⇑*i* Pg		**Pn**	**02 39 31.9**	**+0.4**
UPM				*e*Sg		**Sg**	**02 39 53.0**	**+1.0**
UPM	**Unac-Piva**	**1.41**	**343**	⇑*i* Pg		**Pn**	**02 39 31.9**	**+0.4**
UPM				*i* Sg		**Sg**	**02 39 52.7**	**+0.7**
SJES	**Sjenica**	**1.46**	**15**	*e*Pg		**Pb**	**02 39 32.7**	**-0.5**
SJES				*e*Sg		**Sg**	**02 39 53.3**	**-0.2**
PLE	**Pljevlja**	**1.48**	**358**	⇑*i* Pg		**Pb**	**02 39 33.3**	**-0.2**
PLE				*i* Sg		**Sg**	**02 39 54.3**	**+0.2**
SKO	**Skopje**	**1.48**	**85**	*e*Pn		**Pb**	**02 39 33.1**	**-0.4**
SKO				*i* Sg		**Sg**	**02 39 54.3**	**+0.1**
KBN	**Korca**	**1.58**	**140**	P		**Pg**	**02 39 36.2**	**-0.5**
	baz=141							
KBN				S		**Sg**	**02 40 00.6**	**+3.2**
	baz=141							
STON	**Ston**	**1.66**	**309**	*e*Pn		**Pb**	**02 39 36.2**	**-0.3**
STON				Sn		**Sg**	**02 39 59.7**	**0.0**
RUDO	**Rudo**	**1.77**	**358**	*e*Pn		**Pb**	**02 39 37.5**	**-0.9**
RUDO				*e*Sn		**Sb**	**02 40 01.4**	**+1.1**
FNA	**Florina**	**1.79**	**126**	P		**Pb**	**02 39 38.8**	**0.0**
FNA				S		**Sg**	**02 40 05.1**	**+1.0**
	comp=E,662nm,0.6s							
FNA	**Florina**	**1.79**	**126**	P		**Pb**	**02 39 38.8**	**0.0**
	baz=126							
FNA				S		**Sg**	**02 40 04.9**	**+0.8**
	baz=126							
FNA	**Florina**	**1.79**	**126**	*e*Pg		**Pb**	**02 39 38.9**	**+0.1**
IVAS	**Ivanjica**	**1.80**	**16**	*e*Pg		**Pb**	**02 39 38.3**	**-0.6**
IVAS				*e*Sg		**Sg**	**02 40 03.1**	**-1.2**
SELS	**Selova**	**1.83**	**41**	*e*Pg		**Pb**	**02 39 38.3**	**-1.2**
SELS				*e*Sg		**Sb**	**02 40 02.9**	**+0.7**
NEST	**Nestorio**	**1.87**	**140**	P		**Pb**	**02 39 40.2**	**+0.1**
NEST				S		**Sg**	**02 40 05.8**	**-0.8**
	comp=E,138nm,0.5s							
LSK	**Leskovik**	**1.91**	**153**	P		**Pb**	**02 39 40.3**	**-0.4**
BARS	**Barje**	**1.99**	**60**	*e*Pg		**Pn**	**02 39 39.3**	**0.0**
BARS	**Barje**	**1.99**	**60**	*e*Pn		**Pn**	**02 39 39.2**	**-0.1**
BARS	**Barje**	**1.99**	**60**	*e*Pn		Pg	02 39 52.2	+7.6
BARS				*e*Sn		**Sn**	**02 40 03.5**	**-0.4**
BARS				*e*Sn		Sg	02 40 27.8	+17
SRN	**Sarande**	**2.01**	**168**	P		**Pn**	**02 39 41.4**	**+1.8**
	baz=168							
SRN				S		**Sb**	**02 40 08.6**	**+1.3**
	baz=168							
BBLS	**Lazići**	**2.01**	**359**	*e*Pn		**Pb**	**02 39 41.8**	**-0.8**
BBLS				*e*Sn		**Sb**	**02 40 07.9**	**+0.5**
BBLS	**Lazići**	**2.01**	**359**	*e*Pn		**Pb**	**02 39 42.2**	**-0.4**
BBLS				*e*Sn		**Sn**	**02 40 05.6**	**+1.0**
STIP	**Stip**	**2.04**	**94**	*e*Pn		**Pb**	**02 39 43.9**	**+0.8**
KEK	**Kerkira**	**2.15**	**173**	P		**Pn**	**02 39 42.5**	**+1.0**
KEK				S		**Sb**	**02 40 11.0**	**-0.3**
	comp=E,160nm,0.5s							
GRUS	**Gruza**	**2.23**	**24**	*e*Pn		**Pb**	**02 39 44.5**	**-1.8**
GRUS				*e*Sn		**Sn**	**02 40 10.7**	**+0.8**
DIVS	**Divibare**	**2.28**	**10**	*e*Pn		**Pb**	**02 39 44.9**	**+1.6**
DIVS				*e*Sn		**Sb**	**02 40 14.1**	**-1.0**
DIVS	**Divibare**	**2.28**	**10**	*e*Pn		**Pn**	**02 39 45.1**	**+1.8**
DIVS				*e*Sn		**Sn**	**02 40 12.8**	**+1.7**
MAKA	**Makarska**	**2.31**	**309**	*e*Pn		**Pn**	**02 39 45.2**	**+1.6**
MAKA				Sn		**Sb**	**02 40 15.2**	**-0.5**
KZN	**Kozani**	**2.33**	**131**	P		**Pb**	**02 39 46.9**	**-1.1**
BOSS	**Bosilegrad**	**2.33**	**73**	*e*Pn		**Pn**	**02 39 45.4**	**+1.4**
BOSS				*e*Sn		**Sn**	**02 40 11.7**	**-0.6**
RICI	**Ricice**	**2.38**	**314**	*e*Pn		**Pn**	**02 39 46.8**	**+2.1**
RICI				Sn		**Sb**	**02 40 18.2**	**+0.4**
KPRO	**Kipourio**	**2.38**	**142**	P		**Pb**	**02 39 47.4**	**-1.4**
KPRO				S		**Sb**	**02 40 19.0**	**+1.1**
	comp=E,150nm,0.9s							
GRG	**Griva**	**2.38**	**111**	P		**Pb**	**02 39 47.0**	**-1.9**
GRG				S		**Sg**	**02 40 20.8**	**-2.2**
	comp=E,175nm,0.7s							
VAY	**Valandovo**	**2.39**	**102**	*e*Pn		**Pb**	**02 39 47.1**	**-1.9**
VAY				*e*Sn		**Sb**	**02 40 17.4**	**-0.7**
VAY				*e*Lg		Lg	02 40 22.9	
	comp=N,119nm,0.7s							
VAY				*e*Lg		Lg	02 40 23.0	
	comp=E,82nm,0.6s							
VAY	**Valandovo**	**2.39**	**102**	*e*Pn		**Pn**	**02 39 46.8**	**+2.0**
VAY				*e*Sn		**Sn**	**02 40 13.9**	**+0.2**
MATE	**Matera**	**2.40**	**241**	⇑P		**Pn**	**02 39 47.1**	**+2.2**
BOVS	**Bovan**	**2.43**	**42**	⇑P		**Pn**	**02 39 46.4**	**+1.0**
BOVS	**Bovan**	**2.43**	**42**	⇓S		**Sb**	**02 40 17.1**	**-2.6**
BOVS	**Bovan**	**2.43**	**42**	*e*Pn		**Pn**	**02 39 45.9**	**+0.6**
BOVS				*e*Sn		**Sn**	**02 40 15.8**	**+1.1**
TRUS	**Trudelj**	**2.47**	**16**	*e*Pn		**Pn**	**02 39 47.1**	**+1.2**
TRUS				*e*Sn		**Sb**	**02 40 18.0**	**-2.5**
HVAR	**Hvar**	**2.59**	**302**	*e*Pn		**Pn**	**02 39 49.0**	**+1.5**
HVAR				Sn		**Sb**	**02 40 22.0**	**-2.0**
KNT	**Kendrikon**	**2.67**	**104**	P		**Pn**	**02 39 50.8**	**+2.2**
TEKS	**Tekeris**	**2.70**	**1**	*e*Pn		**Pn**	**02 39 50.3**	**+1.3**
TEKS				*e*Sn		**Sb**	**02 40 24.6**	**-2.4**
TEKS	**Tekeris**	**2.70**	**1**	*e*Pn		**Pn**	**02 39 49.8**	**+0.8**
TEKS				*e*Sn		**Sn**	**02 40 23.1**	**+1.8**
ZAPS	**Zavoj**	**2.74**	**58**	*e*Pn		**Pn**	**02 39 51.3**	**+1.7**
ZAPS				*e*Sn		**Sn**	**02 40 22.8**	**+0.4**
ZAGS	**Zajecar**	**2.83**	**45**	*e*Pn		**Pn**	**02 39 52.0**	**+1.2**
ZAGS				*e*Sn		**Sn**	**02 40 25.8**	**+1.3**
VTS	**Vitosha**	**2.90**	**73**	⇑P		**Pn**	**02 39 53.8**	**+1.8**
VTS	**Vitosha**	**2.90**	**73**	⇓S		**Sb**	**02 40 30.8**	**-2.3**
VTS	**Vitosha**	**2.90**	**73**	*e*Pn		**Pn**	**02 39 53.6**	**+1.6**
VTS				*e*Sn		**Sn**	**02 40 27.2**	**+0.6**
BLKB	**Belogradchik**	**2.96**	**52**	⇑S		**Sb**	**02 40 31.5**	**-3.0**
KUBS	**Kucevo**	**3.03**	**32**	*e*Pn		**Pn**	**02 39 53.9**	**+0.3**
KUBS				*e*Sn		**Sn**	**02 40 30.2**	**+0.7**
MGRS	**Mrkonjic Grad**	**3.10**	**327**	*e*Pn		**Pn**	**02 39 56.6**	**+2.0**
MGRS				*e*Sn		**Sn**	**02 40 34.1**	**+2.8**
SOH	**Sokhos**	**3.10**	**108**	P		**Pn**	**02 39 57.5**	**+2.8**
KIJV	**Kijevo**	**3.11**	**315**	*e*Pn		**Pn**	**02 39 56.8**	**+2.1**
TSLK	**Tsoukalades, L**	**3.16**	**163**	P		**Pn**	**02 39 56.8**	**+1.5**
SRS	**Serrai**	**3.19**	**102**	P		**Pn**	**02 39 58.5**	**+2.7**
LKD2	**Lefkada island**	**3.19**	**163**	P		**Pn**	**02 39 57.0**	**+1.2**
NYDR	**Nydri-Lefkada**	**3.27**	**163**	P		**Pn**	**02 39 57.8**	**+0.9**
DRAG	**Dragano-Lefkad**	**3.28**	**165**	P		**Pn**	**02 39 57.6**	**+0.6**
FRGS	**Fruska Gora**	**3.31**	**4**	⇑P		**Pn**	**02 39 58.9**	**+1.4**
FRGS	**Fruska Gora**	**3.31**	**4**	⇑S		**Sn**	**02 40 37.9**	**+1.4**
FRGS	**Fruska Gora**	**3.31**	**4**	⇑*i* Pn		**Sn**	**02 39 58.9**	**+1.4**
FRGS				*e*Sn		**Sn**	**02 40 39.3**	**+2.7**
FRGS	**Fruska Gora**	**3.31**	**4**	*e*Pn		**Pn**	**02 39 59.1**	**+1.6**
FRGS				*e*Sn		**Sn**	**02 40 37.6**	**+1.0**
BLY	**Banja Luka**	**3.34**	**331**	*e*Pn		**Pn**	**02 40 00.2**	**+2.4**
BLY				*e*Sn		**Sn**	**02 40 40.4**	**+3.3**
ZIRJ	**Zirje**	**3.34**	**304**	*e*Pn		**Pn**	**02 39 59.6**	**+1.7**
PLG	**Polygyros**	**3.35**	**115**	P		**Pn**	**02 40 00.4**	**+2.4**
EVGI	**Lefkada island**	**3.35**	**164**	P		**Pn**	**02 39 58.7**	**+0.7**
MDVR	**Moldovita**	**3.36**	**29**	⇓P		**Pn**	**02 39 59.5**	**+1.4**
MDVR	**Moldovita**	**3.36**	**29**	⇓S		**Sn**	**02 40 40.0**	**+2.3**
TIP	**Timpagrande**	**3.37**	**219**	⇓P		**Pn**	**02 39 59.1**	**+0.7**
MORI	**Morici**	**3.42**	**307**	*e*Pn		**Pn**	**02 40 01.2**	**+2.3**
MORI				Sn		**Sn**	**02 40 43.5**	**+4.5**
EVR	**Evrytania**	**3.44**	**148**	P		**Pn**	**02 40 01.7**	**+2.4**
AGG	**Agios Georgios**	**3.57**	**141**	P		**Pn**	**02 40 03.2**	**+2.1**
DJES	**Djerdap**	**3.59**	**37**	⇑P		**Pn**	**02 40 03.3**	**+2.0**
DJES	**Djerdap**	**3.59**	**37**	⇓S		**Sn**	**02 40 46.2**	**+2.9**
MRAK	**Mrakovica**	**3.67**	**330**	*e*Pn		**Pn**	**02 40 04.6**	**+2.2**
MRAK				*e*Sn		**Sn**	**02 40 48.1**	**+2.7**
PRIJ	**Prijedor**	**3.71**	**328**	*e*Pn		**Pn**	**02 40 05.2**	**+2.3**
PRIJ				*e*Sn		**Sn**	**02 40 49.2**	**+3.0**
UDBI	**Udbina**	**3.80**	**316**	*e*Pn		**Pn**	**02 40 07.4**	**+3.1**
PSDA	**Pessada-Kefalo**	**3.83**	**167**	P		**Pn**	**02 40 05.2**	**+0.6**
DUGI	**Dugi Otok**	**3.88**	**305**	*e*Pn		**Pn**	**02 40 07.0**	**+1.8**
DUGI				Sn		**Sn**	**02 40 53.1**	**+2.7**
SRE	**Strehaia**	**3.92**	**43**	⇑P		**Pn**	**02 40 08.1**	**+2.3**
BZS	**Buzias**	**4.08**	**22**	⇑P		**Pn**	**02 40 09.7**	**+1.8**
BZS	**Buzias**	**4.08**	**22**	⇑S		**Sn**	**02 40 57.6**	**+2.4**
GZR	**Gura Zlata**	**4.28**	**33**	⇓P		**Pn**	**02 40 12.5**	**+1.7**
GZR	**Gura Zlata**	**4.28**	**33**	⇓S		**Sn**	**02 41 02.4**	**+2.0**
NVLJ	**Novalja**	**4.31**	**310**	*e*Pn		**Pn**	**02 40 12.9**	**+1.7**
KOVH	**Kovagotottos**	**4.35**	**347**	*e*P		**Pn**	**02 40 14.1**	**+2.4**
KOVH				*e*S		**Sn**	**02 41 03.0**	**+1.0**
MORH	**Mrgy, Hungar**	**4.40**	**353**	*e*P		**Pn**	**02 40 14.4**	**+2.0**
MORH				*e*S		**Sn**	**02 41 03.2**	**-0.1**
MORH	**Mrgy, Hungar**	**4.40**	**353**	⇓*i* Pn		**Pn**	**02 40 14.1**	**+1.7**
MORH				*e*Sn		**Sn**	**02 41 05.1**	**+1.8**
RABC	**Rab**	**4.48**	**312**	*e*Pn		**Pn**	**02 40 14.9**	**+1.4**
AQU	**L'Aquila**	**4.54**	**278**	*e*Pn		**Pn**	**02 40 16.1**	**+1.7**
AQU				*e*Sn		**Sn**	**02 41 08.0**	**+1.2**
AMBH	**Ambrzfalva**	**4.59**	**11**	*e*S		**Sn**	**02 41 10.7**	**+2.9**
SIRR	**Siria**	**4.69**	**19**	⇓P		**Pn**	**02 40 17.9**	**+1.5**
SIRR	**Siria**	**4.69**	**19**	⇓S		**Sn**	**02 41 11.7**	**+1.2**
DEV	**Deva**	**4.74**	**31**	⇓P		**Pn**	**02 40 19.2**	**+2.2**
DEV	**Deva**	**4.74**	**31**	⇓S		**Sn**	**02 41 13.1**	**+1.5**
BOJS	**Bojanci**	**4.76**	**322**	*e*Pn		**Pn**	**02 40 19.2**	**+1.9**
BOJS				*e*Sn		**Sn**	**02 41 14.5**	**+2.4**
BOJS	**Bojanci**	**4.76**	**322**	*i* Pn		**Pn**	**02 40 19.7**	**+2.4**
BOJS				*i* Sn		**Sn**	**02 41 13.5**	**+1.3**
LOT	**Lotru**	**4.76**	**40**	⇑P		**Pn**	**02 40 18.8**	**+1.3**
LOT	**Lotru**	**4.76**	**40**	⇑S		**Sn**	**02 41 14.8**	**+2.4**
CRES	**Cresnjev**	**4.92**	**325**	*e*Pn		**Pn**	**02 40 21.0**	**+1.5**
CRES				*e*Sn		**Sn**	**02 41 17.4**	**+1.4**
GBRS	**Gornja Briga**	**4.99**	**319**	*i* Pn		**Pn**	**02 40 23.2**	**+2.6**
GBRS				*i* Sn		**Sn**	**02 41 20.0**	**+2.1**
ARR	**Arges**	**5.14**	**45**	⇑P		**Pn**	**02 40 25.2**	**+2.6**
ARR	**Arges**	**5.14**	**45**	⇓S		**Sn**	**02 41 25.5**	**+3.8**
BRJN	**Brijuni**	**5.16**	**308**	*e*Pn		**Pn**	**02 40 24.2**	**+1.3**
BRJN				Sn		**Sn**	**02 41 22.5**	**+0.5**
TIH	**Tihany**	**5.17**	**348**	*e*P		**Pn**	**02 40 25.6**	**+2.6**
CEY	**Cerknica**	**5.33**	**319**	*e*Pn		**Pn**	**02 40 26.7**	**+1.5**
CEY				*e*Sn		**Sn**	**02 41 27.3**	**+1.1**
SKDS	**Skadanscina**	**5.41**	**315**	*e*Pn		**Pn**	**02 40 27.1**	**+0.8**
SKDS				*e*Sn		**Sn**	**02 41 29.0**	**+0.9**
VOIR		**5.41**	**47**	⇓P		**Sn**	**02 40 28.9**	**+2.5**
VOIR		**5.41**	**47**	⇓S		**Sn**	**02 41 30.3**	**+2.0**
DRGR		**5.46**	**24**	⇓P		**Sn**	**02 40 28.7**	**+1.7**
DRGR		**5.46**	**24**	⇓S		**Sn**	**02 41 30.5**	**+1.0**
MPLH	**Magyarpolny**	**5.49**	**346**	*e*P		**Pn**

SSF					*e*Sn		**Sn**	**02 44 15.2**	**-7.7**
	comp=E,0.7nm,0.3s								
AVF	**Avril sur Loir**	**12.54**	**299**		*e*Pn		**Pn**	**02 42 03.2**	**-0.8**
AVF					*e*Sn		**Sn**	**02 44 15.4**	**-7.9**
	comp=E,0.3nm,0.3s								
BGF	**Bois d'Agland**	**12.81**	**297**		*e*Pn		**Pn**	**02 42 07.2**	**-0.5**
BGF					*e*Sn		**Sn**	**02 44 22.4**	**-7.5**
	comp=E,2.9nm,0.5s								
TCF	**Toulx Ste Croi**	**13.17**	**295**		*e*Pn		**Pn**	**02 42 12.3**	**-0.3**
TCF					*e*Sn		**Sn**	**02 44 30.8**	**-7.9**
	comp=E,0.8nm,0.3s								
HFS	**Hagfors**	**18.65**	**351**		P		**P**	**02 43 23.2**	**+0.1**
	comp=E,0.2nm,0.3s,baz=172,slow=12,SNR=5.7								
NB2	**NORSAR Subarra**	**19.86**	**348**		P		**P**	**02 43 36.7**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=160,slow=11								
FINES	**FINESS Array B**	**20.02**	**9**		P		**P**	**02 43 38.1**	**0.0**
	comp=Z,1.4nm,0.7s,baz=173,slow=11,SNR=7.1								
TORD	**Torodi Ar. Bea**	**32.51**	**214**		P		**P**	**02 45 37.7**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=22,slow=9.3,SNR=2.3								
ZALV	**Zalesovo Beam**	**43.92**	**51**		P		**P**	**02 47 11.9**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=278,slow=10.0,SNR=2.9								
MKAR	**Makanchi Array**	**44.16**	**61**		P		**P**	**02 47 14.4**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=280,slow=7.8,SNR=4.0								
KMBO	**Kilima Mbogo**	**45.71**	**155**		LR		LR	03 10 12.1	
	comp=Z,14nm,19.4s,baz=146,slow=41								
SONM	**Songino Array**	**58.79**	**52**		P		**P**	**02 49 04.2**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=294,slow=11,SNR=2.6								

TIR ***24*** *02:41:52.6, 41.89N× 19.51E, h2km± 2km, Md2.7, Ml2.2*
BEO ***24*** *02:41:55.0± 0.4, 41.91N× 19.59E, h0km, ML1.5/4*
ISC 24 02:41:54.3± 1.1, 41.89N± 0.03× 19.53E± 0.04, h10km± 12km, n10, σ0 86/19, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PUK	**Puka**	**0.31**	**61**	P		**Pg**	**02 42 00.5**	**-0.1**
	baz=61							
PUK				S		**Sg**	**02 42 05.9**	**+1.1**
	baz=61							
PDG	**Podgorica**	**0.58**	**340**	*e*Pg		**Pg**	**02 42 04.7**	**-0.7**
PDG				*e*Sg		**Sg**	**02 42 11.7**	**-1.3**
TIR	**Tirane**	**0.60**	**155**	P		**Pg**	**02 42 05.4**	**-0.5**
	baz=153							
TIR				S		**Sb**	**02 42 15.2**	**-0.1**
	baz=153							
TIR	**Tirane**	**0.60**	**155**	*e*Pg		**Pg**	**02 42 04.7**	**-1.1**
TIR				*e*Sg		**Sg**	**02 42 14.9**	**+1.2**
BCI	**Bajram Curri**	**0.62**	**40**	P		**Pg**	**02 42 05.5**	**-0.8**
	baz=40							
BCI				S		**Sb**	**02 42 16.3**	**+0.2**
	baz=40							
PHP	**Peshkopia**	**0.71**	**106**	P		**Pg**	**02 42 07.7**	**-0.4**
	baz=105							
PHP				S		**Sb**	**02 42 18.8**	**0.0**
	baz=105							
PHP				AMP				
	comp=N,0.4nm,0.2s,baz=105							
TREB	**Trebinje**	**1.20**	**314**	*e*Pg		**Pg**	**02 42 17.6**	**+0.3**
TREB				*e*Sg		**Sg**	**02 42 34.7**	**+1.8**
SJES	**Sjenica**	**1.41**	**13**	*e*Pg		**Pn**	**02 42 20.0**	**-0.1**
SJES				*e*Sg		**Sg**	**02 42 40.1**	**+0.5**
STON	**Ston**	**1.67**	**307**	*e*Pn		**Pb**	**02 42 24.9**	**-0.2**
STON				Sn		**Sg**	**02 42 48.3**	**+0.4**
SELS	**Selova**	**1.78**	**41**	*e*Pg		**Pn**	**02 42 25.4**	**+0.3**

IDC ***24*** *03:02:26.0± 1.0, 40.57N× 24.17E, h0km, mb3.6/4, mb1 3.7/9, mb1mx3.5/38, mbtmp3.6/9, ML3.5/5, MS2.7/6, Ms1 2.7/6, ms1mx2.4/48, Error ellipse: s-maj=17.1km s-min=14.0km az=110.0*
ISK ***24*** *03:02:25.5, 40.66N× 24.14E, h11km, ML3.7/14*
SKO ***24*** *03:02:26.7, 40.69N× 24.23E, h3km*
ATH ***24*** *03:02:26.7, 40.62N× 24.15E, h14km± 2km, ML3.6/14, Error ellipse: s-maj=2.2km s-min=0.8km az=303.0*
THE ***24*** *03:02:26.7, 40.61N× 24.15E, h6km, ML3.5/14, Error ellipse: s-maj=0.7km s-min=0.2km az=3.0*
DDA ***24*** *03:02:29.7, 40.56N× 24.34E, h4km± 2km, MW3.9*
BEO ***24*** *03:02:30.9± 1.0, 40.90N× 24.10E, h15km± 7km, ML3.9/11*
ISC 24 03:02:26.9± 1.0, 40.63N± 0.02× 24.14E± 0.01, h7km± 7km, n218, σ1 9 30/260, mb3.6/4, MS2.5/5, 28C-19D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OUR	**Ouranopolis**	**0.32**	**203**	P		**Pg**	**03 02 33.2**	**+0.1**
OUR	**Ouranopolis**	**0.32**	**203**	P		**Pg**	**03 02 33.1**	**0.0**
OUR				S		**Sg**	**03 02 37.7**	**+0.4**
OUR				AML		AML	03 02 38.5	
	comp=E,38312µm,0.5s							
OUR				AML		AML	03 02 39.1	
	comp=N,26453µm,0.2s							
OUR	**Ouranopolis**	**0.32**	**203**	PG		**Pg**	**03 02 33.1**	**0.0**
OUR				SG		**Sg**	**03 02 38.2**	**+0.9**
KVLA	**Kavala**	**0.36**	**31**	P		**Pg**	**03 02 34.0**	**0.0**
KVLA				AML		AML	03 02 40.0	
	comp=N,43255µm,0.2s							
KVLA				AML		AML	03 02 40.2	
	comp=E,27478µm,0.3s							
THAS	**Thassos island**	**0.44**	**92**	P		**Pg**	**03 02 35.2**	**-0.2**
THAS				S		**Sg**	**03 02 41.6**	**+0.4**
	comp=E,5µm,0.3s							
THAS	**Thassos island**	**0.44**	**92**	P		**Pg**	**03 02 35.2**	**-0.2**
THAS				S		**Sg**	**03 02 41.6**	**+0.4**
THAS				AML		AML	03 02 50.0	
	comp=N,6317µm,0.3s							
THAS				AML		AML	03 02 50.0	
	comp=E,12647µm,0.3s							
KAVA	**Kavala**	**0.47**	**37**	P		**Pg**	**03 02 35.7**	**-0.2**
KAVA				S		**Sg**	**03 02 42.5**	**+0.5**
	comp=E,11µm,0.4s							
KAVA	**Kavala**	**0.47**	**37**	P		**Pg**	**03 02 36.0**	**+0.1**
KAVA				S		**Sg**	**03 02 42.1**	**+0.1**
KAVA				AML		AML	03 02 43.1	
	comp=E,23788µm,0.4s							
KAVA				AML		AML	03 02 43.2	
	comp=N,29718µm,0.4s							
PLG	**Polygyros**	**0.59**	**245**	P		**Pg**	**03 02 38.0**	**-0.3**
PLG				S		**Sg**	**03 02 46.2**	**+0.3**
	comp=N,13µm,0.2s							
PLG	**Polygyros**	**0.59**	**245**	P		**Pg**	**03 02 37.9**	**-0.3**
PLG				AML		AML	03 02 46.8	
	comp=N,29714µm,0.2s							
PLG				AML		AML	03 02 47.3	
	comp=E,22146µm,0.2s							
SOH	**Sokhos**	**0.63**	**288**	P		**Pg**	**03 02 39.1**	**+0.1**
SOH				S		**Sb**	**03 02 48.4**	**-0.9**
	comp=E,4µm,0.4s							
SOH	**Sokhos**	**0.63**	**288**	P		**Pg**	**03 02 39.0**	**+0.1**
SOH				S		**Sg**	**03 02 47.6**	**+0.4**
SOH				AML		AML	03 02 49.6	
	comp=E,7377µm,0.2s							
SOH				AML		AML	03 02 52.7	
	comp=N,10764µm,0.5s							
SOH	**Sokhos**	**0.63**	**288**	*e*Pg		**Pg**	**03 02 39.5**	**+0.5**
SOH				*i* Sg		**Sb**	**03 02 48.4**	**-0.9**
SRS	**Serrai**	**0.64**	**320**	P		**Pg**	**03 02 39.2**	**-0.1**
SRS				S		**Sb**	**03 02 49.0**	**-0.6**
	comp=N,9µm,0.5s							
SRS	**Serrai**	**0.64**	**320**	P		**Pg**	**03 02 39.0**	**-0.3**
SRS				S		**Sg**	**03 02 47.9**	**+0.2**
SRS				AML		AML	03 02 51.4	
	comp=E,21734µm,0.5s							
SRS				AML		AML	03 02 51.7	
	comp=N,10806µm,0.2s							
SRS	**Serrai**	**0.64**	**320**	*i* Pg		**Pg**	**03 02 39.1**	**-0.1**
SRS				*e*Sg		**Sb**	**03 02 49.4**	**-0.3**
NVR	**Nevrokopi**	**0.75**	**344**	P		**Pg**	**03 02 41.2**	**-0.2**
NVR	**Nevrokopi**	**0.75**	**344**	P		**Pg**	**03 02 41.2**	**-0.2**
NVR				S		**Sg**	**03 02 51.4**	**+0.2**
NVR				AML		AML	03 02 54.2	
	comp=E,22386µm,0.4s							
NVR				AML		AML	03 02 54.2	
	comp=N,17350µm,0.4s							
PAIG	**Paliouri**	**0.78**	**207**	P		**Pg**	**03 02 41.2**	**-0.7**
PAIG				S		**Sg**	**03 02 52.0**	**-0.1**
	comp=N,3µm,0.3s							
PAIG	**Paliouri**	**0.78**	**207**	P		**Pg**	**03 02 41.3**	**-0.6**
PAIG				AML		AML	03 02 55.2	
	comp=N,6221µm,0.5s							
PAIG				AML		AML	03 02 56.3	
	comp=E,5383µm,0.2s							
THE	**Thessaloniki**	**0.90**	**271**	P		**Pg**	**03 02 43.6**	**-0.4**
THE				S		**Sb**	**03 02 56.4**	**-0.4**
	comp=E,880nm,0.3s							
THE	**Thessaloniki**	**0.90**	**271**	*e*Pg		**Pg**	**03 02 43.7**	**-0.4**
THE				*i* Sg		**Sb**	**03 02 56.4**	**-0.4**
SMTH	**Samothraki Isl**	**1.07**	**98**	P		**Pg**	**03 02 46.4**	**-1.0**
SMTH				S		**Sb**	**03 03 02.0**	**+0.1**
	comp=E,1µm,0.6s							
SMTH	**Samothraki Isl**	**1.07**	**98**	P		**Pg**	**03 02 46.3**	**-1.1**
SMTH				AML		AML	03 03 10.6	
	comp=N,3004µm,0.4s							
SMTH				AML		AML	03 03 11.2	
	comp=E,2326µm,0.7s							
LIA	**Limnos Island**	**1.08**	**132**	P		**Pg**	**03 02 46.3**	**-1.3**
LIA				S		**Sb**	**03 03 01.8**	**-0.3**
	comp=E,3µm,0.4s							
LIA	**Limnos Island**	**1.08**	**132**	P		**Pg**	**03 02 46.9**	**-0.7**
LIA				AML		AML	03 03 04.4	
	comp=N,5958µm,0.4s							
LIA				AML		AML	03 03 05.0	
	comp=E,6745µm,0.4s							
KNT	**Kendrikon**	**1.08**	**300**	P		**Pg**	**03 02 47.3**	**-0.4**
KNT				S		**Sb**	**03 03 02.8**	**+0.5**
	comp=E,9µm,0.5s							
KNT	**Kendrikon**	**1.08**	**300**	P		**Pg**	**03 02 47.1**	**-0.6**
KNT				AML		AML	03 03 03.5	
	comp=E,14133µm,0.5s							
KNT				AML		AML	03 03 04.2	
	comp=N,20743µm,0.5s							
KNT	**Kendrikon**	**1.08**	**300**	PG		**Pg**	**03 02 47.1**	**-0.6**
KNT				SG		**Sg**	**03 03 01.4**	**-0.3**
KNT	**Kendrikon**	**1.08**	**300**	*e*Pg		**Pg**	**03 02 47.5**	**-0.2**
RDO	**Rodhopi**	**1.18**	**63**	P		**Pg**	**03 02 48.2**	**-1.3**
RDO				S		**Sn**	**03 03 06.1**	**0.0**
	comp=N,3µm,0.5s							
RDO	**Rodhopi**	**1.18**	**63**	P		**Pg**	**03 02 48.2**	**-1.3**
RDO				AML		AML	03 03 14.1	
	comp=E,6430µm,0.5s							
RDO				AML		AML	03 03 14.3	
	comp=N,3092µm,0.3s							
RDO	**Rodhopi**	**1.18**	**63**	PN		**Pg**	**03 02 48.2**	**-1.3**
RDO				SN		**Sb**	**03 03 04.7**	**-0.3**
GRG	**Griva**	**1.36**	**285**	P		**Pn**	**03 02 51.4**	**-0.9**
GRG				S		**Sg**	**03 03 10.7**	**0.0**
	comp=N,2µm,0.5s							
GRG	**Griva**	**1.36**	**285**	PN		**Pn**	**03 02 50.9**	**-1.4**
GRG	**Griva**	**1.36**	**285**	*e*Pg		**Pn**	**03 02 51.9**	**-0.4**
VAY	**Valandovo**	**1.38**	**301**	*e*Pg		**Pn**	**03 02 52.4**	**-0.1**
VAY				*i* Sg		**Sg**	**03 03 11.7**	**+0.5**
VAY				*e*Lg		Lg	03 03 13.6	
	comp=E,2µm,0.7s							
VAY				*e*Lg		Lg	03 03 13.7	
	comp=N,3µm,0.8s							
VAY	**Valandovo**	**1.38**	**301**	*e*Pg		**Pn**	**03 02 52.6**	**+0.1**
VAY				*e*Sg		**Sb**	**03 03 10.5**	**-0.2**
GADA	**Gvkgeada**	**1.41**	**107**	P		**Pn**	**03 02 51.5**	**-1.4**
GADA				S		**Sg**	**03 03 12.0**	**-0.2**
	comp=N,688nm,0.5s							
GADA	**Gvkgeada**	**1.41**	**107**	PN		**Pn**	**03 02 51.7**	**-1.2**
GOKA	**anakkale-Gk**	**1.42**	**107**	*i* P		**Pg**	**03 02 55.6**	**+1.6**
GOKA				*i* S		**Sg**	**03 03 12.5**	**+0.1**
GOKA				IAML			03 03 27.0	
	comp=E,2µm,0.5s							
GOKC	**Gokceada-Canak**	**1.42**	**107**	PN		**Pn**	**03 02 52.2**	**-0.9**
XOR	**Xorichti**	**1.46**	**210**	P		**Pn**	**03 02 52.4**	**-1.2**
XOR				S		**Sn**	**03 03 12.8**	**-0.1**
	comp=E,882nm,0.6s							
ALN	**Alexandroupoli**	**1.47**	**79**	P		**Pn**	**03 02 52.5**	**-1.3**
ALN	**Alexandroupoli**	**1.47**	**79**	P		**Pn**	**03 02 52.4**	**-1.3**
ALN				AML		AML	03 03 25.0	
	comp=N,2859µm,0.5s							
ALN				AML		AML	03 03 25.2	
	comp=E,4138µm,0.5s							
ALN	**Alexandroupoli**	**1.47**	**79**	PN		**Pn**	**03 02 52.6**	**-1.3**
NEO	**Neokhori**	**1.50**	**208**	P		**Pn**	**03 02 52.3**	**-1.8**
ENZZ	**Sultanice-Enez**	**1.52**	**90**	PN		**Pn**	**03 02 53.6**	**-0.9**
ENEZ	**Enez**	**1.53**	**85**	P		**Pn**	**03 02 54.2**	**-0.4**
ENEZ	**Enez**	**1.53**	**85**	PN		**Pn**	**03 02 53.9**	**-0.7**
CAVK	**Edirne/Enez-Ca**	**1.54**	**87**	*i* P		**Pg**	**03 02 56.7**	**+0.3**
CAVK				*i* S		**Sg**	**03 03 15.8**	**-0.7**
CAVK				IAML			03 03 26.0	
	comp=E,2um,0.7s							
ECEA	**Canakkale, Ece**	**1.66**	**110**	*i* P		**Pg**	**03 02 58.7**	**0.0**
ECEA				*i* S		**Sg**	**03 03 19.3**	**-0.9**
ECEA				IAML			03 03 22.0	
	comp=N,627nm,0.4s							
BOZC	**Bozcaada**	**1.66**	**118**	*i* P		**Pb**	**03 02 57.9**	**+0.1**
BOZC				*i* S		**Sg**	**03 03 19.8**	**-0.5**
BOZC				IAML			03 03 21.0	
	comp=N,664nm,0.5s							
BOZC				IAML			03 03 22.0	
	comp=E,289nm,0.4s							
BOZC	**Bozcaada**	**1.66**	**118**	PN		**Pn**	**03 02 55.4**	**-1.0**
GELI	**Tayfur-Gelibol**	**1.79**	**97**	PN		**Pn**	**03 02 57.4**	**-0.8**
ERIK	**Erikli-Kesan**	**1.81**	**88**	PN		**Pn**	**03 02 57.6**	**-0.8**
STIP	**Stip**	**1.82**	**306**	*e*Pg		**Pn**	**03 02 56.9**	**-1.7**
STIP				*i* Sg		**Sn**	**03 03 21.3**	**-0.7**
KZN	**Kozani**	**1.84**	**261**	P		**Pn**	**03 02 58.1**	**-0.8**
EZN	**Ezine**	**1.85**	**115**	P		**Pn**	**03 02 58.4**	**-0.6**
EZN	**Ezine**	**1.85**	**115**	PN		**Pn**	**03 02 58.4**	**-0.6**
KOCA	**Canakkale, Ayv**	**1.90**	**126**	*i* P		**Pg**	**03 03 03.0**	**-0.2**
KOCA				*i* S		**Sg**	**03 03 26.6**	**-1.4**
KOCA				IAML			03 03 30.0	
	comp=N,740nm,0.6s							
KOCA				IAML			03 03 30.0	
	comp=E,630nm,0.6s							
GPNR	**Gulpinar-Canak**	**1.93**	**127**	PN		**Pn**	**03 02 59.6**	**-0.4**
SIGR	**SIGRI**	**1.93**	**136**	P		**Pn**	**03 02 59.2**	**-0.9**
SIGR	**SIGRI**	**1.93**	**136**	PN		**Pn**	**03 02 59.5**	**-0.6**
KESN	**Edirne-Kesan**	**1.94**	**83**	*i* P		**Pb**	**03 03 02.2**	**-0.5**
KESN				*i* S		**Sg**	**03 03 28.9**	**-0.4**
KESN				IAML			03 03 38.0	
	comp=N,785nm,0.4s							
KESN				IAML			03 03 38.0	
	comp=E,699nm,0.5s							
THL	**Klokotos Trika**	**1.95**	**238**	P		**Pn**	**03 02 59.0**	**-1.3**
UKOP	**Uzunkopru-Edir**	**1.95**	**74**	PN		**Pn**	**03 02 59.5**	**-0.9**
KYMI	**Kymi, Euboea I**	**1.99**	**181**	P		**Pn**	**03 02 59.3**	**-1.6**
KYMI	**Kymi, Euboea I**	**1.99**	**181**	P		**Pn**	**03 02 59.4**	**-1.6**
LPK	**Lapseki**	**2.01**	**96**	PN		**Pn**	**03 03 00.4**	**-0.8**
VTS	**Vitosha**	**2.10**	**341**	⇑P		**Pn**	**03 02 08.8**	**+0.2**
VTS	**Vitosha**	**2.10**	**341**	⇓S		**Sg**	**03 03 33.8**	**-0.7**
VTS	**Vitosha**	**2.10**	**341**	*e*Pn		**Pn**	**03 02 08.8**	**+0.2**
VTS	**Vitosha**	**2.10**	**341**	*e*Pn		**Pn**	**03 02 52.6**	**0.0**
VTS				*e*Sn		**Sn**	**03 03 23.7**	**-5.4**
FNA	**Florina**	**2.11**	**275**	P		**Pn**	**03 03 01.8**	**-0.9**
FNA	**Florina**	**2.11**	**275**	PN		**Pn**	**03 03 01.7**	**-0.9**
AGG	**Agios Georgios**	**2.12**	**222**	P		**Pn**	**03 03 01.6**	**-1.2**
AGG	**Agios Georgios**	**2.12**	**222**	PN		**Pn**	**03 03 01.4**	**-1.4**
LKR	**Lokris**	**2.16**	**204**	P		**Pn**	**03 03 01.8**	**-1.5**
KPRO	**Kipourio**	**2.23**	**253**	P		**Pn**	**03 03 04.0**	**-0.3**
MAKR	**Makrakomi, Fth**	**2.23**	**224**	P		**Pn**	**03 03 04.0**	**-0.3**
BOSS	**Bosilegrad**	**2.25**	**327**	*e*Pn		**Pn**	**03 03 04.6**	**+0.1**
BOSS				*e*Sn		**Sn**	**03 03 29.6**	**-2.8**
SART	**Tekirdag**	**2.31**	**87**	*i* P		**Pg**	**03 03 13.6**	**+2.3**
SART				*i* S		**Sb**	**03 03 38.6**	**+0.9**
NEST	**Nestorio**	**2.37**	**266**	P		**Pn**	**03 03 06.0**	**-0.2**
SKO	**Skopje**	**2.44**	**304**	*e*Pn		**Pn**	**03 03 07.3**	**+0.2**
EVR	**Evrytania**	**2.48**	**227**	P		**Pn**	**03 03 06.9**	**-0.9**
KIRK	**Kırklareli**	**2.51**	**62**	*i* P		**Pb**	**03 03 13.4**	**+1.1**
KIRK				*i* S		**Sg**	**03 03 45.5**	**-2.0**
KIRK				IAML			03 03 48.0	
	comp=N,304nm,0.6s							
KIRK				IAML			03 03 55.0	
	comp=E,176nm,0.9s							
BUHA	**Balikesir, Bur**	**2.52**	**116**	*i* P		**Pb**	**03 03 11.7**	**-0.7**
BUHA				*i* S		**Sg**	**03 03 45.9**	**-1.9**
BUHA				IAML			03 03 48.0	
	comp=N,388nm,0.5s							
VILL	**Villia**	**2.54**	**195**	P		**Pn**	**03 03 07.6**	**-1.0**
DION	**Dionisos Attik**	**2.55**	**184**	P		**Pn**	**03 03 07.4**	**-1.3**
KBN	**Korca**	**2.55**	**271**	P		**Pn**	**03 03 08.7**	**0.0**
OHR	**Ohrid**	**2.58**	**282**	*e*Pn		**Pn**	**03 03 10.3**	**+1.2**
OHR				*i* Sg		**Sg**	**03 03 51.1**	**+1.4**
OHR				*e*Lg		Lg	03 03 57.1	
	comp=N,179nm,0.8s							
OHR				*e*Lg		Lg	03 03 57.2	
	comp=E,273nm,1.1s							
PTL	**Penteli**	**2.58**	**185**	P		**Pn**	**03 03 08.0**	**-1.1**
KNL	**Balıkesir**	**2.61**	**97**	*i* P		**Pb**	**03 03 12.7**	**-1.3**
KNL				*i* S		**Sg**	**03 03 51.0**	**+0.3**
KNL				IAML			03 04 02.0	
	comp=N,237nm,0.9s							
DKL	**Dikili**	**2.63**	**125**	PN		**Pn**	**03 03 09.7**	**-0.1**
ANX	**Ano Chora**	**2.66**	**221**	P		**Pn**	**03 03 09.6**	**-0.6**
JAN	**Janina**	**2.70**	**250**	P		**Pn**	**03 03 11.0**	**+0.3**
SERG	**Sergoula**	**2.74**	**217**	P		**Pn**	**03 03 10.1**	**-1.1**
LSK	**Leskovik**	**2.75**	**261**	P		**Pn**	**03 03 11.5**	**+0.1**
LTK	**Loutraki**	**2.75**	**200**	P		**Pn**	**03 03 10.3**	**-1.2**
ARMN	**Kirklareli, Me**	**2.77**	**62**	*i* P		**Pg**	**03 03 19.4**	**-0.6**
ARMN				*i* S		**Sb**	**03 03 51.2**	**+0.4**
VLY	**Voula,Athens**	**2.78**	**186**	P		**Pn**	**03 03 10.7**	**-1.1**
LOUT	**Loutraki**	**2.79**	**199**	P		**Pn**	**03 03 10.6**	**-1.3**
EFP	**Efpalio**	**2.79**	**219**	P		**Pn**	**03 03 11.0**	**-1.0**
BARS	**Barje**	**2.80**	**322**	*e*Pn		Pg	03 03 26.7	+6.2
ZEDA	**zmir-Bergama**	**2.80**	**125**	*i* P		**Pn**	**03 03 12.7**	**+0.5**
ZAPS	**Zavoj**	**2.87**	**337**	*e*Pn		**Pn**	**03 03 14.2**	**+1.1**
ZAPS				*e*Sn		**Sn**	**03 03 44.4**	**-3.6**
LAKA	**Lakka**	**2.91**	**216**	P		**Pn**	**03 03 13.1**	**-0.5**
VIZE	**Kirklareli, Vi**	**2.95**	**70**	*i* P		**Pg**	**03 03 21.8**	**-1.6**
VIZE				*i* S		**Sg**	**03 04 00.1**	**-1.6**
URLA	**Izmir**	**2.96**	**139**	PN		**Pn**	**03 03 13.7**	**-0.5**
PHP	**Peshkopia**	**2.99**	**292**	P		**Pn**	**03 03 14.6**	**-0.1**
KLV	**Kalavryta, Ach**	**3.01**	**212**	P		**Pn**	**03 03 14.2**	**-0.8**
ZIMR		**3.16**	**16**	⇓P		**Pn**	**03 03 15.7**	**-1.4**
BLKB	**Belogradchik**	**3.19**	**340**	⇑S		**Sb**	**03 04 02.4**	**-0.4**
TIR	**Tirane**	**3.32**	**284**	*e*Pn		**Pn**	**03 03 21.3**	**+2.1**
RAZG	**Razgrad**	**3.42**	**30**	⇓P		**Pn**	**03 03 20.8**	**+0.1**
SELS	**Selova**	**3.43**	**320**	*e*Pn		**Pn**	**03 03 20.1**	**-0.7**
BAIL	**Bailesti**	**3.44**	**350**	⇑P		**Pn**	**03 03 20.7**	**-0.1**
BAIL	**Bailesti**	**3.44**	**350**	⇓S		**Sb**	**03 04 09.4**	**-0.8**
ZAGS	**Zajecar**	**3.48**	**337**	*e*Pn		**Pn**	**03 03 20.6**	**-0.9**
BOVS	**Bovan**	**3.51**	**330**	⇑P		**Pn**	**03 03 21.2**	**-0.6**
BOVS	**Bovan**	**3.51**	**330**	⇑S		**Sb**	**03 04 09.4**	**-2.7**
BOVS	**Bovan**	**3.51**	**330**	*e*Pn		**Pn**	**03 03 20.9**	**-0.9**
COPA	**Copaceanca**	**3.59**	**12**	⇑P		**Pn**	**03 03 23.5**	**+0.5**
COPA	**Copaceanca**	**3.59**	**12**	⇑S		**Sb**	**03 04 12.9**	**-1.6**
PUNG	**Punghina**	**3.76**	**347**	⇑P		**Pn**	**03 03 25.4**	**+0.2**
HUMR	**Humele**	**3.95**	**9**	⇓P		**Pn**	**03 03 27.6**	**-0.3**
DRME	**Dracevica, Mon**	**4.04**	**294**	*e*Pn		**Pn**	**03 03 28.0**	**-1.1**
SJES	**Sjenica**	**4.07**	**312**	*e*Pn		**Pn**	**03 03 30.0**	**+0.3**
PDG	**Podgorica**	**4.09**	**298**	⇑P		**Pn**	**03 03 27.6**	**-2.2**
PDG	**Podgorica**	**4.09**	**298**	⇑S		**Sn**	**03 04 18.3**	**+0.5**
PDG	**Podgorica**	**4.09**	**298**	*e*Pn		**Pn**	**03 03 30.2**	**+0.5**
SRE	**Strehaia**	**4.09**	**351**	⇑P		**Pn**	**03 03 30.5**	**+0.6**
GRUS	**Gruza**	**4.13**	**323**	*e*Pn		**Pn**	**03 03 29.8**	**-0.6**
IVAS	**Ivanjica**	**4.18**	**316**	*e*Pn		**Pn**	**03 03 30.4**	**-0.7**
KUBS	**Kucevo**	**4.20**	**335**	*e*Pn		**Pn**	**03 03 30.2**	**-1.1**
DJES	**Djerdap**	**4.21**	**344**	⇑P		**Pn**	**03 03 31.7**	**+0.3**
LEHL	**Lehliu**	**4.32**	**26**	⇑S		**Sn**	**03 04 29.3**	**+5.7**
SULR		**4.34**	**20**	⇑P		**Pn**	**03 03 33.6**	**+0.5**
ICOR	**Ion Corvin**	**4.42**	**37**	⇑P		**Pn**	**03 03 32.7**	**-1.6**
HERR	**Herculane**	**4.44**	**344**	⇓P		**Pn**	**03 03 33.6**	**-0.9**
MDVR	**Moldovita**	**4.52**	**337**	⇓P		**Pn**	**03 03 35.4**	**-0.4**
TRUS	**Trudelj**	**4.53**	**324**	*e*Pn		**Pn**	**03 03 35.3**	**-0.6**
HCV	**Herceg Novi**	**4.61**	**295**	*e*Pn		**Pn**	**03 03 38.9**	**+1.9**
DIVS	**Divibare**	**4.63**	**320**	*e*Pn		**Pn**	**03 03 36.9**	**-0.5**
DIVS	**Divibare**	**4.63**	**320**	*e*Pn		**Pn**	**03 03 36.7**	**-0.7**
RUDO	**Rudo**	**4.64**	**312**	*e*Pn		**Pn**	**03 03 36.5**	**-0.9**
MTUR	**Matau**	**4.65**	**8**	⇑P		**Pn**	**03 03 38.0**	**+0.5**
UPM	**Unac-Piva**	**4.68**	**305**	*e*Pn		**Pn**	**03 03 38.1**	**0.0**
ARR	**Arges**	**4.75**	**4**	⇓P		**Pn**	**03 03 39.3**	**+0.3**
BRY	**Bratogost**	**4.77**	**300**	*e*Pn		**Pn**	**03 03 40.6**	**+1.4**
BBLS	**Lazići**	**4.78**	**314**	*e*Pn		**Pn**	**03 03 41

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.93**	**157**	P	Pn	03 30 06.3	-0.2
RTV	**Rentapao**	**2.09**	**152**	P	Pn	03 30 08.5	-0.2
KOUNC	**Koumac, New Ca**	**5.46**	**212**	P	Pn	03 30 55.0	+0.1
MARNC	**Mare, Loyalty**	**5.54**	**174**	P	Pn	03 30 57.0	+0.9
YATNC	**Mamie plateau,**	**6.11**	**184**	P	Pn	03 31 02.5	-1.3
DZM	**Mont Dzumac**	**6.17**	**188**	P	Pn	03 31 04.5	-0.2
ONTNC	**Ouen Toro**	**6.40**	**188**	P	Pn	03 31 07.2	-0.6
OUENC	**Ouen Island, N**	**6.47**	**185**	P	Pn	03 31 09.6	+0.9

*DJA **24** 03:34:28.3±1.2, 7°S±4°×10°3E±°, h16km±11km, M4.7/22, mb4.8/18, mB5.1/3, MLv4.6/22, Mw(mB)4.4/3*
*IDC **24** 03:34:28.7±1.2, 7.39S×102.99E, h0km, mb4.2/11, mb1 4.3/12, mb1mx4.0/35, mbtmp4.2/12, ML4.2/1, MS3.1/7, Ms1 3.1/7, ms1mx2.8/39, Error ellipse: s-maj=36.0km s-min=15.8km az=45.0*
*NEIC **24** 03:34:32.0±1.6, 7.7S±0.1×103.0E±0.1, h32km±6km, mb4.5/11, Error ellipse: s-maj=16.9km s-min=13.0km az=214.0*

ISC 24 03:34:29.7±1.3, 7.28S±0.07×103.00E±0.07, h8km±7km, n86, σ1°43/86, mb4.4/18, MS3.3/7, 1C, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGSI	**Enggano, Bengk**	**2.04**	**339**	P	**Pn**	**03 35 04.8**	**+0.3**
EGSI				S	**Sb**	**03 35 31.3**	**-1.5**
KASI	**Kota Agung**	**2.29**	**41**	P	**Pn**	**03 35 06.9**	**-0.9**
LWLI	**Liwa**	**2.48**	**25**	P	**Pn**	**03 35 09.9**	**-0.7**
LWLI				S	**Sn**	**03 35 40.3**	**-0.8**
BLSI	**Bandar Lampung**	**2.93**	**50**	P	**Pn**	**03 35 16.0**	**-0.6**
BLSI				S	**Sn**	**03 35 50.1**	**-2.0**
MDSI	**Maura Dua**	**3.01**	**23**	P	**Pn**	**03 35 18.0**	**+0.2**
MDSI				S	**Sn**	**03 35 52.8**	**-1.3**
KLI	**Kotabumi**	**3.03**	**38**	P	**Pn**	**03 35 18.8**	**+0.8**
KLI				S	**Sn**	**03 35 54.2**	**-0.3**
LHSI	**Lahat**	**3.47**	**9**	P	**Pn**	**03 35 24.6**	**+0.5**
LHSI				S	**Sn**	**03 36 07.7**	**+2.3**
SKJI	**Sukabumi**	**3.54**	**86**	P	**Pn**	**03 35 24.8**	**-0.2**
UBSI	**University, Be**	**3.57**	**348**	P	**Pn**	**03 35 25.2**	**-0.2**
KSI	**Kapahiang**	**3.63**	**354**	P	**Pn**	**03 35 25.7**	**-0.6**
DBJI	**Dramaga**	**3.79**	**79**	P	**Pn**	**03 35 28.2**	**-0.3**
CBJI	**Citeko**	**3.92**	**78**	P	**Pn**	**03 35 30.5**	**+0.3**
CNJI	**Cibinong**	**4.09**	**91**	P	**Pn**	**03 35 31.0**	**-1.7**
XMIS	**Christmas Isla**	**4.12**	**141**		Pn	03 35 27.3	-5.7
MASI	**Maura Aman, Be**	**4.18**	**350**	P	**Pn**	**03 35 33.8**	**-0.1**
LEM	**Lembang**	**4.60**	**85**	Pn	**Pn**	**03 35 41.3**	**+1.5**
	10nm,0.3s,baz=321,slow=8.4,SNR=13						
LEM				Sn	**Sn**	**03 36 33.5**	**-0.1**
	6.0nm,0.3s,baz=33,slow=23,SNR=4.4						
LEM				LR	LR	03 37 48.6	
	comp=Z,137nm,19.5s,baz=216,slow=43						
LEM	**Lembang**	**4.60**	**85**	P	**Pn**	**03 35 39.3**	**-0.5**
CISI	**Cisompet, Garu**	**4.78**	**94**		**Pn**	**03 35 40.4**	**-1.8**
CISI	**Cisompet, Garu**	**4.78**	**94**	P	**Pn**	**03 35 40.9**	**-1.3**
CMJI	**Cimerak**	**5.42**	**96**	P	**Pn**	**03 35 49.1**	**-1.9**
	0.6nm2µm145nm,0.6s						
JMBI	**JAMBI**	**5.64**	**7**	P	**Pn**	**03 35 54.1**	**+0.1**
	0.6nm109nm,0.8s						
KPJI	**Karang Pucung**	**5.88**	**91**	P	**Pn**	**03 35 57.0**	**-0.3**
	0.3nm70nm,0.6s						
SCJI	**Gunung Srandil**	**6.13**	**94**	P	**Pn**	**03 36 00.4**	**-0.3**
	0.4nm122nm,0.7s						
CTJI	**Waduk Cacaban**	**6.14**	**88**	P	**Pn**	**03 36 00.7**	**-0.1**
	0.1nm47nm,0.8s						
PDSI	**Padang**	**6.81**	**338**	P	**Pn**	**03 36 09.5**	**-0.6**
	0.1nm16nm,0.6s						
SISI	**Saibi**	**7.08**	**326**	P	**Pn**	**03 36 12.9**	**-0.9**
	0.1nm25nm,0.9s						
YOGI	**Yogyakarta**	**7.25**	**95**	P	**Pn**	**03 36 14.9**	**-1.2**
	0.5nm96nm,1.4s						
SMRI	**Semarang**	**7.38**	**89**		**Pn**	**03 36 18.3**	**+0.4**
SMRI	**Semarang**	**7.38**	**89**	P	**Pn**	**03 36 17.8**	**-0.2**
	0.7nm164nm,0.8s						
UGM	**Wanagama**	**7.48**	**95**		**Pn**	**03 36 18.4**	**-0.9**
UGM	**Wanagama**	**7.48**	**95**	P	**Pn**	**03 36 17.9**	**-1.4**
	0.8nm107nm,0.9s						
PCJI	**Pacitan**	**8.15**	**97**	P	**Pn**	**03 36 27.3**	**-1.2**
	75nm,0.9s						
BTDF	**Bukit Timah Da**	**8.62**	**5**	P	**Pn**	**03 36 35.0**	**+0.2**
	16nm,1.0s						
SJI	**Sawahan**	**8.70**	**94**	P	**Pn**	**03 36 35.2**	**-0.9**
	64nm,0.7s						
MNSI	**Mandailing Nat**	**8.72**	**337**	P	Pn	03 36 49.0	+13
PWJI	**Pagerwojo**	**8.76**	**95**	P	**Pn**	**03 36 35.1**	**-1.7**
	121nm,0.7s						
GRJI	**Gresik**	**9.41**	**88**	P	**Pn**	**03 36 45.5**	**-0.3**
	56nm,0.6s						
GMJI	**Gumukmas**	**10.39**	**96**	P	**Pn**	**03 36 58.7**	**-0.5**
	25nm,1.4s						
JAGI	**Jajag, Banyuwa**	**11.11**	**97**	P	**Pn**	**03 37 07.7**	**-1.4**
	45nm,1.1s						
ABJI	**Asem Bagus**	**11.15**	**93**	P	**Pn**	**03 37 09.3**	**-0.3**
	66nm,0.8s						
TPTI		**11.97**	**331**	P	**Pn**	**03 37 20.9**	**0.0**
	4.0nm,0.8s						
KAPI	**Kappang**	**16.80**	**83**	LR	LR	03 45 34.2	
	comp=Z,55nm,19.2s,baz=292,slow=40						
MPSI	**Mapaga**	**18.47**	**67**	P	**Pn**	**03 38 45.9**	**-0.4**
	811nm27nm,1.3s						
EDFI	**Ende, Flores**	**18.56**	**96**	P	Pn	03 38 54.7	+7.1
TOLI2	**Tolitoli**	**19.60**	**66**	P	**P**	**03 38 58.9**	**+0.2**
TOLI2				IAmb	IAmb	03 38 59.9	
	comp=Z,21nm,1.2s						
BATI	**Baumata**	**20.63**	**100**	P	**P**	**03 39 09.9**	**+0.1**
	comp=Z,22nm,0.5s,baz=272,slow=11,SNR=1.7						
BATI				LR	LR	03 48 51.9	
	comp=Z,120nm,18.1s,baz=24,slow=42						
SOEI	**Soe**	**21.17**	**98**	P	**P**	**03 39 18.3**	**+2.4**
SOEI	**Soe**	**21.17**	**98**	P	**P**	**03 39 15.1**	**-0.8**
CMAR	**Chiang Mai Arr**	**25.88**	**351**	P	**P**	**03 40 04.0**	**+1.7**
	comp=Z,10nm,0.7s,baz=182,slow=8.8,SNR=24						
CMAR				LR	LR	03 51 21.4	
	comp=Z,8.9nm,19.4s,baz=170,slow=39						
CMAR	**Chiang Mai Arr**	**25.88**	**351**	P	**P**	**03 40 02.9**	**+0.6**
CMMT	**Chiang Mai**	**26.23**	**351**	P	**P**	**03 40 06.9**	**+1.4**
CHTO	**Chiang Mai**	**26.23**	**351**	P	**P**	**03 40 07.0**	**+1.5**
CHTO	**Chiang Mai**	**26.23**	**351**	P	**P**	**03 40 07.1**	**+1.6**
DAV	**Davao City (W)**	**26.65**	**58**	LR	LR	03 52 23.5	
	comp=Z,30nm,19.4s,baz=166,slow=40						
SLVN	**Son La**	**28.45**	**2**	P	**P**	**03 40 27.5**	**+2.1**
SLVN				IAmb	IAmb	03 40 28.1	
	comp=Z,12nm,1.0s						
H01W3	**Cape Leeuwin H**	**29.32**	**161**	T	T	04 11 12.6	
	baz=338,slow=76,SNR=4.1						
H01W2	**Cape Leeuwin H**	**29.34**	**161**	T	T	04 11 14.2	
	baz=338,slow=76,SNR=4.8						
H01W1	**Cape Leeuwin H**	**29.34**	**161**	T	T	04 11 33.3	
	baz=338,slow=76,SNR=4.5						
H08S2	**Diego Garcia H**	**30.25**	**267**	T	T	04 14 08.1	
	baz=89,slow=75,SNR=23						
H08S3	**Diego Garcia H**	**30.26**	**267**	T	T	04 13 44.1	
	baz=89,slow=75,SNR=30						
H08S1	**Diego Garcia H**	**30.27**	**267**	T	T	04 13 39.4	
	baz=89,slow=75,SNR=3.6						
WRA	**Warramunga Arr**	**32.88**	**116**	P	**P**	**03 41 02.8**	**-1.8**
	comp=Z,1.1nm,0.7s,baz=288,slow=11,SNR=9.9						
ASAR	**Alice Springs**	**33.83**	**122**	P	**P**	**03 41 13.6**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=306,slow=7.8,SNR=5.3						
XAN	**Xi'an**	**41.47**	**7**	⇑P	**P**	**03 42 17.6**	**+0.3**
XAN				pP	pwP	03 42 39.6	+16
XAN				sP	sP	03 42 50.6	+32
XAN				PcP	**PcP**	**03 44 17.0**	**+1.9**
XAN				pmax	pmax		
	comp=Z,17nm,1.1s						
XAN				LR	LR		
	comp=N,130nm,15.1s						
XAN				LR	LR		
	comp=Z,150nm,12.4s						
XAN	**Xi'an**	**41.47**	**7**	P	**P**	**03 42 18.0**	**+0.6**
STKA	**Stephens Creek**	**43.46**	**130**	P	**P**	**03 42 33.8**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=305,slow=9.7,SNR=4.9						
GTA	**Gaotai**	**46.55**	**357**	*e*P	**P**	**03 42 59.4**	**+1.3**
GTA				pP	pwP	03 43 10.3	+5.1
GTA				sP	sP	03 43 14.3	+15
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KSRS	**Korea Array**	**50.23**	**26**	P	**P**	**03 43 27.2**	**+0.9**
	comp=Z,1.8nm,0.8s,baz=227,slow=7.2,SNR=5.7						
KSH	**Kashi**	**52.86**	**334**	P	**P**	**03 43 46.0**	**-0.2**
KSH				pP	pwP	03 43 51.8	-2.8
KSH				sP	sP	03 43 53.3	+6.2
KSH				S	**S**	**03 51 07.8**	**-7.6**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SONM	**Songino Array**	**54.96**	**3**	P	**P**	**03 44 03.1**	**+1.7**
	comp=Z,5.5nm,0.9s,baz=178,slow=8.1,SNR=20						
SONM	**Songino Array**	**54.96**	**3**	IAmb	IAmb	03 44 04.0	
	comp=Z,4.9nm,1.0s						
ULN	**Ulaanbaatar**	**55.02**	**3**	P	**P**	**03 44 04.0**	**+2.1**
MK31	**Makanchi Array**	**56.90**	**343**	P	**P**	**03 44 16.4**	**+1.1**
MKAR	**Makanchi Array**	**56.90**	**343**	P	**P**	**03 44 16.1**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=138,slow=7.4,SNR=10						
MKAR	**Makanchi Array**	**56.90**	**343**	P	**P**	**03 44 15.7**	**+0.5**
USRK	**Ussuriysk Ar.**	**57.54**	**24**	P	**P**	**03 44 19.4**	**-0.4**
	comp=Z,3.5nm,0.9s,baz=227,slow=6.3,SNR=4.6						
ZAA0	**Zalesovo Array**	**62.90**	**348**	P	**P**	**03 44 57.1**	**+0.8**
ZAA0				IAmb	IAmb	03 45 24.2	
	comp=Z,5.7nm,1.1s						
ZALV	**Zalesovo Beam**	**62.90**	**348**	P	**P**	**03 44 57.0**	**+0.7**
	comp=Z,1.3nm,0.4s,baz=151,slow=3.4,SNR=9.7						
ZALV				LR	LR	04 16 03.3	
	comp=Z,31nm,18.1s,baz=128,slow=40						
ZALV	**Zalesovo Beam**	**62.90**	**348**	P	**P**	**03 44 56.6**	**+0.3**
ABKAR	**Akbulak array**	**67.68**	**331**	P	**P**	**03 45 27.7**	**+0.3**
ABKAR	**Akbulak array**	**67.68**	**331**	IAmb	IAmb	03 45 28.7	
	comp=Z,7.0nm,1.2s						
VNDA	**Vanda**	**76.44**	**169**	LR	LR	04 18 53.5	
	comp=Z,10nm,18.2s,baz=314,slow=35						
BRTR	**Keskin Array B**	**79.07**	**313**	P	**P**	**03 46 35.0**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=143,slow=6.2,SNR=5.6						
BUR08	**Bucovina Ar. S**	**87.19**	**319**	P	**P**	**03 47 18.8**	**+2.0**
BUR08				IAmb	IAmb	03 47 29.5	
	comp=Z,2.0nm,0.9s						
MNK	**Minsk**	**87.34**	**326**	*i* P	**P**	**03 47 15.4**	**-1.8**
	comp=E,2.0nm,1.0s						
MNK				*i* P	**P**	**03 47 15.4**	**-1.8**
	comp=N,8.0nm,1.0s						
MNK				*i* P	**P**	**03 47 15.4**	**-1.8**
	comp=Z,14nm,1.0s,baz=106						
MNK				*i* PcP	**pP**	**03 47 16.7**	**-1.2**
MNK				*i* PP	**PP**	**03 50 40.1**	**-1.5**
MNK				*i* PPP	PPP	03 52 35.0	
MNK				*i* S	S	03 57 43.0	-15
MNK				*i* SS	**SS**	**04 03 44.7**	**+2.2**
MNK				*i* SSS	SSS	04 07 18.2	
MNK				*i* LQ	LQ	04 20 52.0	
MNK				*i* LR	LR	04 25 51.5	
MNK				*i* LRM	MLR	04 28 14.5	
	comp=E,5.0nm,14.2s						
MNK				*i* LRM	MLR	04 28 19.0	
	comp=N,31nm,14.2s						
MNK				*i* LRM	MLR	04 28 25.5	
	comp=Z,289nm,20.6s						
TXAR	**Lajitas Array**	**146.66**	**45**	PKPbc	**PKPab**	**03 54 13.8**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=295,slow=1.4,SNR=16						

*IDC **24** 03:36:05.3±1.4, 30.34S×71.87W, h0km, mb3.9/4, mb1 3.9/8, mb1mx3.8/23, mbtmp3.8/8, ML3.6/4, MS3.3/1, Ms1 3.3/1, ms1mx2.6/22, Error ellipse: s-maj=38.6km s-min=29.4km az=94.0*
*GUC **24** 03:36:06.7±0.7, 30.33S×72.10W, h32km±6km, ML3.7*

ISC 24 03:36:07.1±1.8, 30.31S±0.04×72.00W±0.08, h15km±11km, n25, σ0°90/25, mb4.0/4, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.48**	**139**	⇓*i*P	**Pg**	**03 36 17.1**	**+0.4**
CO06				*i* S	**Sb**	**03 36 24.1**	**-0.1**
CO06				IAML		03 36 27.0	
	comp=E,10µm,0.2s						
CO05	**La Serena**	**0.76**	**59**	⇓*i*P	**Pb**	**03 36 22.4**	**+0.3**
CO05				*i* S	**Sn**	**03 36 34.1**	**-0.4**
CO05				IAML		03 36 38.6	
	comp=E,5µm,0.4s						
GO04	**Tololo Observa**	**1.04**	**83**	⇓*i*P	**Pb**	**03 36 27.1**	**+0.1**
GO04				*i* S	**Sn**	**03 36 42.4**	**+0.4**
CO02	**Combarbal**	**1.24**	**136**	*e*P	**Pn**	**03 36 29.6**	**-0.4**
CO02				*i* S	**Sb**	**03 36 46.1**	**0.0**
CO03	**El Pedregal**	**1.24**	**115**	*e*P	**Pn**	**03 36 29.5**	**-0.6**
CO03				*i* S	**Sn**	**03 36 47.1**	**+0.4**
CO03				IAML		03 36 49.8	
	comp=E,3µm,0.5s						
LCO	**Las Campanas**	**1.72**	**41**	⇑*i*P	**Pn**	**03 36 37.0**	**+0.2**
LCO				*i* S	**Sb**	**03 37 00.2**	**+0.2**
AC04	**Llanos de Chal**	**2.25**	**21**	⇑*i*P	**Pn**	**03 36 42.7**	**-1.1**
AC04				IAML		03 37 26.9	
	comp=E,436nm,0.6s						
VA03	**San Esteban**	**2.74**	**154**	*e*P	**Pn**	**03 36 49.7**	**-1.0**
VA03				*e*S	**Sn**	**03 37 24.7**	**+1.1**
AC06	**Mina Casimiro**	**3.27**	**26**	⇑*i*P	**Pn**	**03 36 57.6**	**-0.3**
AC06				IAML		03 37 54.8	
	comp=E,187nm,0.3s						
H03N1	**Juan Fernandez**	**6.66**	**240**	T	T	03 44 50.1	
	baz=70,slow=72,SNR=117						
H03N2	**Juan Fernandez**	**6.67**	**240**	T	T	03 44 50.5	
	baz=70,slow=72,SNR=153						
H03N3	**Juan Fernandez**	**6.67**	**240**	T	T	03 44 49.2	
	baz=70,slow=72,SNR=142						
LVC	**Limon Verde**	**8.15**	**21**	Pn	**Pn**	**03 38 03.1**	**-2.1**
	comp=E,0.3nm,0.3s,baz=47,slow=6.0,SNR=1.7						
PLCA	**Paso Flores**	**10.47**	**174**	Pn	**Pn**	**03 38 35.5**	**-1.2**
	comp=E,0.1nm,0.3s,baz=335,slow=12,SNR=9.9						
CPUP	**Villa Florida**	**13.51**	**77**	LR	LR	03 44 52.4	
	comp=E,107nm,18.2s,baz=230,slow=39						
LPAZ	**La Paz**	**14.40**	**15**	Pn	**Pn**	**03 39 33.0**	**+1.9**
	comp=E,0.1nm,0.3s,baz=192,slow=5.6,SNR=9.4						
SIV	**San Ignacio**	**17.42**	**38**	P	**Pn**	**03 40 08.6**	**-1.1**
	comp=E,0.3nm,0.3s,baz=233,slow=12,SNR=16						
BDFB	**Brasilia**	**26.39**	**62**	P	**P**	**03 41 43.0**	**-0.2**
	comp=E,1.4nm,0.5s,baz=273,slow=8.9,SNR=4.1						
TXAR	**Lajitas Array**	**66.55**	**330**	P	**P**	**03 46 57.6**	**+1.0**
	comp=E,0.4nm,0.8s,baz=152,slow=8.1,SNR=4.3						
DBIC	**Dimbokro**	**73.99**	**72**	P	**P**	**03 47 42.9**	**+0.4**
	comp=E,2.2nm,0.7s,baz=242,slow=6.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**82.93**	**70**	P	**P**	**03 48 31.9**	**+0.1**
	comp=E,0.9nm,0.8s,baz=274,slow=6.3,SNR=6.2						
H11S2	**WAKE ISLAND Hyl**	**25.78**	**272**	T	T	06 13 52.6	
	baz=115,slow=74,SNR=9.7						
H11S1	**WAKE ISLAND Hyl**	**25.79**	**272**	T	T	06 13 55.7	
	baz=115,slow=74,SNR=5.7						
H11S3	**WAKE ISLAND Hyl**	**25.80**	**272**	T	T	06 13 56.9	
	baz=115,slow=74,SNR=5.7						
ZALV	**Zalesovo Beam**	**151.04**	**29**	PKPbc	**PKiKP**	**03 55 59.7**	**+0.1**
	comp=E,1.5nm,0.4s,baz=288,slow=3.7,SNR=8.0						

MEX 24 03:36:35.1±1.0, 17.35N×101.00W, h16km±45km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**1.11**	**34**	*e*P	Pb	03 36 52.2	-3.8
ARIG				*e*S	Sb	03 37 05.4	-4.9
DAIG	**Los Arroyos**	**1.33**	**104**	*e*P	Pn	03 36 55.0	-4.0
DAIG				*e*S	Sn	03 37 08.7	-7.8
MEIG	**Mezcala**	**1.44**	**66**	*e*P	Pn	03 36 56.7	-3.9
MEIG				*e*S	Sn	03 37 12.6	-6.5
TLIG	**Tlapa**	**2.33**	**84**	*e*P	Pn	03 37 13.2	+0.2
TLIG				*e*S	Sn	03 37 39.7	-1.6
FTIG	**Fresnillo de T**	**2.79**	**78**	*e*P	Pn	03 37 17.0	-2.3
FTIG				*e*S	Sn	03 37 51.2	-1.5

*IDC **24** 03:49:28.5±1.1, 30.85S×71.72W, h0km, mb4.0/5, mb1 4.0/9, mb1mx3.8/25, mbtmp3.9/9, ML3.7/4, MS3.1/7, Ms1 3.1/7, ms1mx2.9/23, Error ellipse: s-maj=37.8km s-min=22.4km az=97.0*
*NEIC **24** 03:49:30.9±1.5, 30.86S±0.03×71.89W±0.05, h26km±5km, Error ellipse: s-maj=5.7km s-min=4.5km az=102.0*
*GUC **24** 03:49:30.7±0.7, 30.86S×71.93W, h25km±3km, ML4.2*

ISC 24 03:49:30.9±1.1, 30.87S±0.03×71.87W±0.06, h24km±7km, n73, σ1°28/76, mb4.1/6, 6C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.28**	**47**	⇓*i*P	**Pb**	**03 49 37.7**	**0.0**
CO06				*i* S	**Sb**	**03 49 42.6**	**+0.4**
CO06				IAML		03 49 42.9	
	comp=N,78µm,0.2s						
CO06	**Fray Jorge**	**0.28**	**47**		**Pb**	**03 49 37.5**	**-0.1**
CO06				Sg	**Sb**	**03 49 42.6**	**+0.4**
CO02	**Combarbal**	**0.82**	**114**	⇑*i*P	**Pn**	**03 49 46.9**	**-0.2**
CO02				*i* S	**Sb**	**03 49 57.2**	**-0.1**
CO02				IAML		03 50 03.6	
	comp=N,17µm,0.5s						
CO02	**Combarbal**	**0.82**	**114**	Pn	**Pb**	**03 49 46.5**	**-0.1**
CO02				Sn	**Sn**	**03 49 58.4**	**-0.1**
CO03	**El Pedregal**	**1.02**	**89**	⇑*i*P	**Pb**	**03 49 49.9**	**-0.1**
CO03				*i* S	**Sn**	**03 50 03.8**	**+0.3**
CO03				IAML		03 50 04.7	
	comp=E,15µm,0.3s						
CO03	**El Pedregal**	**1.02**	**89**		**Pb**	**03 49 50.0**	**-0.1**
CO03				Sn	**Sn**	**03 50 03.8**	**+0.3**
CO05	**La Serena**	**1.09**	**30**	⇓*i*P	**Pn**	**03 49 50.2**	**-0.5**
CO05				*i* S	**Sb**	**03 50 04.9**	**-0.1**
CO05				IAML		03 50 10.7	
	comp=E,6µm,0.4s						
CO05	**La Serena**	**1.09**	**30**		**Pn**	**03 49 50.3**	**-0.5**
CO05				Sn	**Sb**	**03 50 04.7**	**-0.4**
GO04	**Tololo Observa**	**1.16**	**53**	⇓*i*P	**Pn**	**03 49 51.8**	**0.0**
GO04				*i* S	**Sb**	**03 50 07.4**	**+0.3**
GO04	**Tololo Observa**	**1.16**	**53**	Pn	**Pn**	**03 49 51.9**	**0.0**
VA06	**Catapilco**	**1.76**	**164**	⇓*i*P	**Pn**	**03 50 00.8**	**+0.9**
VA06				*i* S	**Sb**	**03 50 24.0**	**-0.2**
VA06				IAML		03 50 29.2	
	comp=N,5µm,0.6s						
LCO	**Las Campanas**	**2.11**	**29**	⇑*i*P	**Pn**	**03 50 05.4**	**+0.4**
LCO				*i* S	**Sb**	**03 50 33.9**	**-0.7**
LCO	**Las Campanas**	**2.11**	**29**		**Pn**	**03 50 05.4**	**+0.4**
VA01	**Torpederas**	**2.16**	**175**	*e*P	**Pn**	**03 50 05.3**	**0.0**
VA01				IAML		03 50 43.1	
	comp=E,819nm,0.4s						
VA01	**Torpederas**	**2.16**	**175**		**Pn**	**03 50 05.1**	**-0.3**
VA03	**San Esteban**	**2.20**	**150**	⇑*i*P	**Pb**	**03 50 08.3**	**-1.8**
VA03				*i* S	**Sb**	**03 50 36.8**	**-0.1**
VA03				IAML		03 50 43.0	
	comp=E,3µm,0.7s						
VA03	**San Esteban**	**2.20**	**150**		**Pn**	**03 50 07.5**	**+1.4**
ROCH	**El Roble**	**2.22**	**161**	*e*P	**Pn**	**03 50 07.8**	**+1.3**
ROCH				*i* S	**Sb**	**03 50 37.2**	**-0.5**
ROCH				IAML		03 50 48.5	
	comp=N,2µm,0.6s						
MT05	**Renca**	**2.69**	**159**	*e*P	**Pn**	**03 50 14.8**	**+2.0**
MT05				*i* S	**Sb**	**03 50 48.0**	**-3.1**
MT05	**Renca**	**2.69**	**159**	Pn	**Pn**	**03 50 13.6**	**+0.7**
AC04	**Llanos de Chal**	**2.75**	**15**	⇑*i*P	**Pn**	**03 50 12.8**	**-0.7**
AC04				*i* S	**Sb**	**03 50 50.7**	**-1.9**
AC04	**Llanos de Chal**	**2.75**	**15**	Pn	**Pn**	**03 50 12.5**	**-1.0**
VA05	**Santo Domingo**	**2.79**	**176**	*e*P	**Pn**	**03 50 13.8**	**-0.2**
VA05				*i* S	**Sn**	**03 50 50.0**	**+3.1**
VA05				IAML		03 51 03.1	
	comp=E,2µm,0.4s						
VA05	**Santo Domingo**	**2.79**	**176**		**Pn**	**03 50 13.1**	**-0.9**
ZON	**Zonda**	**2.82**	**105**	Pn	**Pn**	**03 50 14.1**	**-0.5**
MT09	**Talagante**	**2.99**	**166**	*e*P	**Pn**	**03 50 18.6**	**+1.5**
MT09				*i* S	**Sn**	**03 50 55.8**	**+3.6**
MT09				IAML		03 51 11.0	
	comp=N,784nm,0.4s						
MT09	**Talagante**	**2.99**	**166**		**Pn**	**03 50 16.3**	**-0.7**
MT01	**Popeta**	**3.03**	**170**	⇑*i*P	**Pn**	**03 50 18.1**	**+0.7**
MT01				*i* S	**Sn**	**03 50 56.0**	**+3.0**
MT01				IAML		03 51 09.2	
	comp=E,596nm,0.5s						
MT01	**Popeta**	**3.03**	**170**		**Pn**	**03 50 17.5**	**0.0**
LMEL	**Las Melosas**	**3.29**	**155**	IAML		03 51 20.9	
	comp=N,625nm,0.5s						
GO03	**Copiap**	**3.56**	**24**	*e*P	**Pn**	**03 50 25.2**	**+0.4**
GO03				*i* S	**Sn**	**03 51 09.5**	**+3.3**
GO03	**Copiap**	**3.56**	**24**		**Pn**	**03 50 23.9**	**-0.9**
BO01	**Tunca**	**3.58**	**169**		**Pn**	**03 50 24.6**	**-0.3**
AC06	**Mina Casimiro**	**3.74**	**21**		**Pn**	**03 50 26.4**	**-0.8**
BO02	**Sierra Bellavi**	**4.02**	**167**		**Pn**	**03 50 31.9**	**+0.8**
GO05	**Huala**	**4.13**	**181**		**Pn**	**03 50 31.7**	**-0.8**
AC02	**Maricunga**	**4.68**	**32**		**Pn**	**03 50 40.9**	**+0.3**
ML02	**Panimavida**	**4.90**	**176**		**Pn**	**03 50 42.7**	**-0.4**
H03N1	**Juan Fernandez**	**6.50**	**245**	T	T	03 57 57.5	
	baz=72,slow=72,SNR=3556						
H03N3	**Juan Fernandez**	**6.51**	**245**	T	T	03 57 59.6	
	baz=72,slow=72,SNR=2669						
H03N2	**Juan Fernandez**	**6.51**	**245**	T	T	03 57 56.6	
	baz=72,slow=72,SNR=2902						
H03S3	**Juan Fernandez**	**6.64**	**242**	T	T	03 58 09.0	
	baz=83,slow=75,SNR=2.7						
H03S1	**Juan Fernandez**	**6.65**	**242**	T	T	03 58 08.3	
	baz=83,slow=75,SNR=2.6						
H03S2	**Juan Fernandez**	**6.66**	**242**	T

ISC 24 04:21:35.0±0.7,7°23S±0.09×103°13E±0.07, h10km, n68, σ1°06/59, mb4.1/14, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGSI	**Enggano, Bengk**	**2.05**	**336**	P	**Pn**	**04 22 08.7**	**-0.9**
EGSI				S	**Sn**	**04 22 33.2**	**-2.0**
KASI	**Kota Agung**	**2.18**	**39**	P	**Pn**	**04 22 11.4**	**+0.1**
LWLI	**Liwa**	**2.39**	**23**	P	**Pn**	**04 22 14.4**	**+0.1**
BLSI	**Bandar Lampung**	**2.81**	**49**	P	**Pn**	**04 22 20.8**	**+0.8**
KLI	**Kotabumi**	**2.92**	**36**	P	**Pn**	**04 22 22.8**	**+1.3**
MDSI	**Maura Dua**	**2.92**	**21**	P	**Pn**	**04 22 21.6**	**0.0**
LHSI	**Lahat**	**3.41**	**7**	P	**Pn**	**04 22 28.9**	**+0.7**
UBSI	**University, Be**	**3.55**	**346**	P	**Pn**	**04 22 29.7**	**-0.6**
DBJI	**Dramaga**	**3.66**	**80**	P	**Pn**	**04 22 32.1**	**+0.3**
CBJI	**Citeko**	**3.79**	**78**	P	**Pn**	**04 22 34.6**	**+1.1**
CNJI	**Cibinong**	**3.97**	**91**	P	**Pn**	**04 22 35.0**	**-1.0**
MASI	**Maura Aman, Be**	**4.16**	**348**	P	**Pn**	**04 22 38.1**	**-0.5**
LEM	**Lembang**	**4.48**	**85**	Pn	**Pn**	**04 22 45.4**	**+2.2**
	12nm,0.3s,baz=303,slow=7.6,SNR=9.5						
LEM				Sn	**Sn**	**04 23 35.9**	**+0.4**
	11nm,0.3s,baz=155,slow=16,SNR=4.3						
LEM				LR	LR	04 25 10.1	
	comp=Z,149nm,18.2s,baz=143,slow=45						
CISI	**Cisompet, Garu**	**4.66**	**94**		**Pn**	**04 22 44.7**	**-0.9**
CISI				Sn	**Sn**	**04 23 37.0**	**-2.9**
CISI	**Cisompet, Garu**	**4.66**	**94**	P	**Pn**	**04 22 44.4**	**-1.2**
CMJI	**Cimerak**	**5.31**	**96**	P	**Pn**	**04 22 53.2**	**-1.2**
	0.5nm1µm81nm,0.6s						
KPJI	**Karang Pucung**	**5.76**	**91**	P	**Pn**	**04 23 00.4**	**-0.2**
	0.3nm38nm,0.6s						
CTJI	**Waduk Cacaban**	**6.02**	**88**	P	**Pn**	**04 23 04.1**	**-0.1**
	0.1nm24nm,0.9s						
PDSI	**Padang**	**6.82**	**337**	P	Pn	04 23 13.3	-1.9
	0.1nm3µm14nm,0.6s						
SISI	**Saibi**	**7.11**	**325**	P	**Pn**	**04 23 18.1**	**-1.1**
	0.1nm13nm,0.8s						
SMRI	**Semarang**	**7.26**	**89**		**Pn**	**04 23 22.8**	**+1.5**
UGM	**Wanagama**	**7.37**	**96**	P	**Pn**	**04 23 22.0**	**-0.7**
	0.7nm131nm,1.3s						
PCJI	**Pacitan**	**8.04**	**97**	P	Pn	04 23 30.9	-1.0
	66nm,1.0s						
SJI	**Sawahan**	**8.58**	**94**	P	**Pn**	**04 23 38.6**	**-0.9**
	30nm,0.7s						
PBSI	**Pulau Batu**	**8.61**	**326**	P	**Pn**	**04 23 39.2**	**-0.6**
	70nm,1.3s						
PWJI	**Pagerwojo**	**8.64**	**96**	P	**Pn**	**04 23 39.1**	**-1.1**
	77nm,0.7s						
GRJI	**Gresik**	**9.29**	**89**	P	**Pn**	**04 23 49.2**	**+0.1**
	47nm,0.7s						
GSI	**Gunungsitoli**	**10.13**	**327**	P	Pn	04 23 59.0	-1.6
	15nm,1.4s						
PSI	**Prapat**	**10.81**	**337**	LR	LR	04 28 23.8	
	comp=Z,90nm,20.0s,baz=300,slow=38						
JAGI	**Jajag, Banyuwa**	**10.99**	**97**	P	**Pn**	**04 24 11.7**	**-0.8**
	29nm,1.3s						
TPTI		**11.99**	**330**	P	**Pn**	**04 24 25.1**	**-1.1**
	3.3nm,1.0s						
PLAI	**Plampang**	**14.59**	**97**	P	Pn	04 24 59.5	-2.3
	22nm,0.8s						
KAPI	**Kappang**	**16.68**	**83**	LR	LR	04 32 27.4	
	comp=Z,36nm,19.8s,baz=290,slow=38						
MPSI	**Mapaga**	**18.34**	**66**	P	**Pn**	**04 25 49.6**	**-0.2**
	1µm19nm,1.1s						
UBPT	**Khong Chiam**	**22.49**	**6**	P	**P**	**04 26 33.6**	**-1.2**
	6.3nm,1.9s						
CMAR	**Chiang Mai Arr**	**25.86**	**351**	P	**P**	**04 27 07.0**	**0.0**
	8.7nm,0.8s,baz=182,slow=8.8,SNR=22						
CMAR				LR	LR	04 39 35.0	
	comp=Z,20nm,18.8s,baz=220,slow=41						
CMAR	**Chiang Mai Arr**	**25.86**	**351**	P	**P**	**04 27 06.3**	**-0.7**
CMMT	**Chiang Mai**	**26.21**	**351**	P	**P**	**04 27 09.2**	**-1.0**
	9.1nm,0.9s						
CHTO	**Chiang Mai**	**26.21**	**351**	P	**P**	**04 27 10.9**	**+0.7**
CHTO				IAmb	IAmb	04 27 12.7	
	comp=Z,7.1nm,0.8s						
CHTO	**Chiang Mai**	**26.21**	**351**	P	**P**	**04 27 09.6**	**-0.6**
	comp=Z,5.5nm,0.9s						
SLVN	**Son La**	**28.40**	**2**	P	**P**	**04 27 29.9**	**0.0**
SLVN				IAmb	IAmb	04 27 32.5	
	comp=Z,7.1nm,1.1s						
H01W3	**Cape Leeuwin H**	**29.33**	**161**	T	T	04 58 30.5	
	baz=339,slow=76,SNR=7.3						
H01W2	**Cape Leeuwin H**	**29.34**	**161**	T	T	04 58 31.1	
	baz=339,slow=76,SNR=7.1						
H01W1	**Cape Leeuwin H**	**29.34**	**161**	T	T	04 58 37.9	
	baz=339,slow=76,SNR=6.2						
H08S2	**Diego Garcia H**	**30.37**	**267**	T	T	05 00 34.7	
	baz=90,slow=75						
H08S3	**Diego Garcia H**	**30.38**	**267**	T	T	05 00 37.0	
	baz=90						
H08S1	**Diego Carcia H**	**30.39**	**267**	T	T	05 00 20.6	
	baz=90,slow=75						
WRA	**Warramunga Arr**	**32.79**	**116**	P	**P**	**04 28 07.5**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=288,slow=11,SNR=5.8						
WRA	**Warramunga Arr**	**32.79**	**116**	P	**P**	**04 28 08.4**	**-0.4**
ASAR	**Alice Springs**	**33.75**	**122**	P	P	04 28 14.5	-2.7
	comp=Z,0.4nm,0.9s,baz=303,slow=7.5,SNR=2.1						
STKA	**Stephens Creek**	**43.40**	**130**	P	**P**	**04 29 39.3**	**+1.2**
KSRS	**Korea Array**	**50.13**	**26**	P	**P**	**04 30 31.6**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=220,slow=8.8,SNR=2.0						
SONM	**Songino Array**	**54.90**	**3**	P	**P**	**04 31 06.7**	**+0.7**
	comp=Z,2.7nm,0.9s,baz=174,slow=8.5,SNR=10.0						
SONM	**Songino Array**	**54.90**	**3**	P	**P**	**04 31 06.8**	**+0.8**
SONM				IAmb	IAmb	04 31 07.8	
	comp=Z,5.3nm,1.2s						
MK31	**Makanchi Array**	**56.89**	**343**	P	**P**	**04 31 21.6**	**+1.5**
MK31				IAmb	IAmb	04 31 33.5	
	comp=Z,1.4nm,0.9s						
MKAR	**Makanchi Array**	**56.89**	**343**	P	**P**	**04 31 19.6**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=141,slow=7.8,SNR=7.6						
MKAR	**Makanchi Array**	**56.89**	**343**	P	**P**	**04 31 19.2**	**-0.9**
ERM	**Erimo**	**61.14**	**33**	P	**P**	**04 31 49.2**	**-0.4**
KURBB	**Kurchatov Arra**	**61.43**	**342**	P	**P**	**04 31 50.3**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=160,slow=6.1,SNR=4.6						
ZALV	**Zalesovo Beam**	**62.88**	**348**	P	**P**	**04 31 59.7**	**-1.4**
	comp=Z,1.0nm,0.4s,baz=160,slow=4.7,SNR=5.4						
ZALV				LR	LR	05 02 26.7	
	comp=Z,24nm,18.5s,baz=91,slow=39						
ZALV	**Zalesovo Beam**	**62.88**	**348**	P	**P**	**04 32 02.1**	**+1.0**
ABKAR	**Akbulak array**	**67.70**	**331**	P	**P**	**04 32 32.0**	**-0.5**
ABKAR				IAmb	IAmb	04 32 40.9	
	comp=Z,1.8nm,0.6s						
BR231	**Keskin MP Arra**	**79.80**	**313**	P	**P**	**04 33 46.1**	**+2.1**
SNAA	**Sanae**	**88.15**	**198**	P	**P**	**04 34 26.0**	**+0.1**
VNA2	**Neumayer--Watz**	**89.78**	**198**	P	**P**	**04 34 33.7**	**+0.2**
	baz=99,slow=4.4						
VNA1	**Neumayer--Stat**	**90.15**	**198**	P	**P**	**04 34 35.9**	**+0.7**
TXAR	**Lajitas Array**	**146.54**	**46**	PKPbc	**PKPdf**	**04 41 17.5**	**+1.4**
	comp=Z,0.9nm,0.9s,baz=262,slow=1.1,SNR=9.7						
TXAR	**Lajitas Array**	**146.54**	**46**		**PKPdf**	**04 41 17.3**	**+1.2**

IDC 24 04:36:13.8±2.0, 0°74N×126°35E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/41, mbtmp3.4/3, Error ellipse: s-maj=174.0km s-min=25.9km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.00**	**160**	P	P	04 41 09.4	-0.4
	0.4nm,0.3s,baz=338,slow=11,SNR=12						
ASAR	**Alice Springs**	**25.35**	**164**	P	P	04 41 43.1	+0.3
	0.3nm,0.4s,baz=342,slow=11,SNR=7.7						
MKAR	**Makanchi Array**	**59.80**	**326**	P	P	04 46 20.9	-0.1
	0.2nm,0.3s,baz=118,slow=8.2,SNR=5.5						

*PRU **24** 04:40:45.8±0.0, 51°52N×16°06E, h0km*
*VIE **24** 04:40:47.6±1.1, 51°36N×15°94E, h0km, mb2.3/4, ml2.5/5, Error ellipse: s-maj=7.2km s-min=6.3km az=18.0 80 km WNW of Wroclaw Suspected Mining induced.*

ISC 24 04:40:44.7±1.3, 51°55N±0.06×16°07E±0.03, h0km, n22, σ0°79/44, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**169**	*e*Pg	**Pg**	**04 40 59.0**	**+0.5**
KSP				*e*Sg	**Sg**	**04 41 08.3**	**+0.6**
CHVC	**Chvalec**	**0.96**	**181**	*e*PG	**Pb**	**04 41 03.7**	**-0.5**
CHVC				*e*SG	**Sg**	**04 41 16.3**	**+0.8**
OSTC	**Ostas**	**1.00**	**175**	*e*PG	**Pb**	**04 41 04.4**	**-0.4**
OSTC				*e*SG	**Sb**	**04 41 17.5**	**-1.0**
	comp=Z,22nm,0.3s						
UPC	**Upice**	**1.04**	**182**	*e*PG	**Pg**	**04 41 04.9**	**+0.3**
UPC				*e*SG	**Sg**	**04 41 18.7**	**+0.6**
DPC	**Dobruska-Polom**	**1.21**	**172**	*e*PG	**Pg**	**04 41 07.8**	**0.0**
DPC				*e*SG	**Sg**	**04 41 22.9**	**-0.6**
	comp=Z,14nm,0.3s						
PVCC	**Panska Ves**	**1.39**	**223**	*e*PG	**Pn**	**04 41 11.4**	**0.0**
PVCC				*e*SG	**Sn**	**04 41 30.7**	**+0.2**
	comp=Z,84nm,0.3s						
BRG	**Berggiesshubel**	**1.50**	**244**	Pg	**Pb**	**04 41 13.4**	**0.0**
BRG				Sg	**Sn**	**04 41 33.4**	**+0.3**
BRG				Amp		04 41 34.1	
	comp=Z,23nm,0.3s						
KRLC	**Kraliky**	**1.54**	**163**	*e*PG	**Pn**	**04 41 13.4**	**-0.1**
KRLC				*e*SG	**Sg**	**04 41 32.9**	**-1.3**
PRU	**Pruhonice**	**1.84**	**212**	*e*PG	**Pb**	**04 41 19.0**	**-0.2**
PRU				*e*SG	**Sb**	**04 41 42.9**	**+0.2**
	comp=Z,20nm,0.3s						
CLL	**Collm**	**1.94**	**264**	*i* Pn	**Pn**	**04 41 18.0**	**-0.8**
	comp=Z,6.0nm,0.6s						
CLL				*i* Pg	**Pb**	**04 41 20.8**	**0.0**
CLL				*e*		04 41 25.0	
CLL				*i* Sg	**Sg**	**04 41 47.6**	**+0.8**
	comp=Z,16nm,0.5s						
MORC	**Moravsky Berou**	**2.01**	**152**	*e*PN	**Pn**	**04 41 19.3**	**-0.5**
MORC				*e*SG	**Sb**	**04 41 47.9**	**+0.4**
VRAC	**Vranov**	**2.27**	**171**	*e*PN	**Pn**	**04 41 23.3**	**-0.1**
VRAC				*e*SG	**Sg**	**04 41 57.2**	**-0.3**
KRUC	**Moravsky**	**2.50**	**175**	*e*SG	**Sg**	**04 42 04.7**	**-0.2**
NKC	**Novy Kostel**	**2.65**	**242**	*e*PN	**Pn**	**04 41 29.0**	**+0.4**
NKC				*e*PG	**Pg**	**04 41 35.0**	**-0.3**
NKC				*e*SG	**Sg**	**04 42 10.0**	**+0.4**
	comp=Z,20nm,0.4s						
OJC	**Ojcow**	**2.71**	**118**	*e*Pg	**Pg**	**04 41 36.7**	**+0.1**
OJC				*e*Sg	**Sg**	**04 42 12.1**	**+0.5**
KHC	**Kasperske Hory**	**2.90**	**214**	*e*PN	**Pn**	**04 41 31.8**	**-0.3**
KHC				*e*PG	**Pb**	**04 41 38.0**	**+0.7**
KHC				*e*SN	**Sn**	**04 42 06.0**	**-1.7**
KHC				*e*SG	**Sg**	**04 42 16.4**	**-1.4**
	comp=Z,6.5nm,0.5s						
CKRC	**Cesky Krumlov**	**2.96**	**203**	*e*PN	**Pn**	**04 41 33.8**	**+0.9**
LANS	**Liptovska Anna**	**3.24**	**136**	*e*SG	**Sg**	**04 42 28.2**	**-0.5**
MODS	**Modra-Piesok**	**3.27**	**166**	*e*SG	**Sg**	**04 42 29.7**	**0.0**
CONA	**Conrad Observa**	**3.63**	**182**	*e*Pn	**Pn**	**04 41 43.3**	**+1.2**
	comp=Z,0.3nm,0.1s						
CONA				*e*Sg	**Sg**	**04 42 41.1**	**0.0**
	comp=Z,9.7nm,0.6s						
MOA	**Molln**	**3.88**	**198**	*e*Pn	**Pn**	**04 41 46.2**	**+0.5**
	comp=Z,1.0nm,0.2s						
MOA				*e*Sg	**Sg**	**04 42 47.7**	**-1.7**
	comp=Z,2.4nm,0.4s						
ARSA	**Arzberg**	**4.32**	**185**	*e*Pn	**Pn**	**04 41 53.4**	**+1.8**
	comp=Z,1.1nm,0.3s						
ARSA				*e*Sg	**Sg**	**04 43 05.2**	**+2.0**
	comp=Z,9.9nm,0.6s						

*IDC **24** 04:50:29.4±0.5, 14°75S×167°34E, h152km±4km, mb4.6/28, mb1 4.7/31, mb1mx4.7/41, mbtmp5.1/31, MS3.5/12, Ms1 3.5/12, ms1mx3.4/24, Error ellipse: s-maj=9.8km s-min=9.2km az=78.0*
*NEIC **24** 04:50:29.2±1.7, 14°84S±0.07×167°36E±0.08, h145km±5km, mb4.9/112, Error ellipse: s-maj=11.5km s-min=9.7km az=66.0*
*GCMT **24** 04:50:32.2±0.2, 14°74S±0.01×167°18E±0.02, h161km±2km, MW5.1/113, Moment Tensor Solution. s58,c71; s113,c167; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.57±.12; Mθθ1.32±.15; Mφφ-3.89±.14; Mrθ-3.19±.10; Mθφ2.58±.14; Mφr0.45±.11; Best double couple: M0 5.36400×10^16 NP1:φ1192.00000°, δ47.00000°, λ151.00000°. NP2:φ2303.00000°, δ69.00000°, λ46.00000°. Principal axes: T 5.3910, Plg47.0000°, Azm167.0000°; N -0.0550, Plg40.0000°, Azm321.0000°; P -5.3370, Plg13.0000°, Azm63.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NOU **24** 04:50:32.3, 14°86S×167°27E, h166km, mb5.2/76, Vanuatu Islands*

ISC 24 04:50:30.0±0.4, 14°81S±0.04×167°34E±0.04, h159km±3km, h160km: pP-P, n479, σ1°29/523, mb5.0/135, 53C-9D, Fault plane solution: NP1:φ1192.74567°, δ12.89122°, λ158.67085°. **NP2:**φ2303.58389°, δ85.34548°, λ77.96510°.
Principal axes: T Plg48.3022°, Azm200.7784°; N Plg11.9946°, Azm304.5750°; P Plg39.1908°, Azm44.5501°; **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**3.01**	**164**	P	**Pn**	**04 51 18.9**	**+1.1**
LIFNC	**LIFOU**	**5.93**	**181**	Pn	**Pn**	**04 51 54.4**	**-1.5**
LIFNC				Sn	**Sn**	**04 52 58.2**	**-5.1**
LIFNC	**LIFOU**	**5.93**	**181**	P	**Pn**	**04 51 55.4**	**-0.5**
KOUNC	**Koumac, New Ca**	**6.41**	**207**	P	**Pn**	**04 52 04.1**	**+1.9**
MARNC	**Mare, Loyalty**	**6.67**	**174**		**Pn**	**04 52 05.3**	**-0.3**
MARNC				Sn	**Sn**	**04 53 16.2**	**-4.5**
MARNC	**Mare, Loyalty**	**6.67**	**174**	P	**Pn**	**04 52 05.8**	**+0.2**
YATNC	**Mamie plateau,**	**7.22**	**183**	P	**Pn**	**04 52 14.0**	**+1.0**
DZM	**Mont Dzumac**	**7.27**	**187**	P	**Pn**	**04 52 15.0**	**+1.3**
	32nm,0.3s,baz=324,slow=3.8,SNR=100						
DZM				S	**Sn**	**04 53 35.3**	**-0.1**
	1.3nm,0.3s,baz=311,slow=21,SNR=11						
DZM	**Mont Dzumac**	**7.27**	**187**	*e*Pn	**Pn**	**04 52 14.8**	**+1.0**
	327nm,1.1s						
DZM				*e*Sn	**Sn**	**04 53 35.9**	**+0.5**
	502nm,1.0s						
DZM	**Mont Dzumac**	**7.27**	**187**		**Pn**	**04 52 13.6**	**-0.2**
DZM				Sn	**Sn**	**04 53 35.0**	**-0.3**
DZM	**Mont Dzumac**	**7.27**	**187**	P	**Pn**	**04 52 15.5**	**+1.7**
NOUC	**Port Laguerre**	**7.32**	**188**	P	**Pn**	**04 52 16.6**	**+2.3**
ONTNC	**Ouen Toro**	**7.50**	**186**	Pn	**Pn**	**04 52 17.9**	**+1.1**
ONTNC	**Ouen Toro**	**7.50**	**186**	P	**Pn**	**04 52 19.9**	**+3.1**
OUENC	**Ouen Island, N**	**7.58**	**183**	Pn	**Pn**	**04 52 18.3**	**+0.5**
OUENC	**Ouen Island, N**	**7.58**	**183**	P	**Pn**	**04 52 20.6**	**+2.8**
PINNC	**Pines Island,**	**7.76**	**179**		**Pn**	**04 52 21.1**	**+0.9**
HNR	**Honiara**	**8.99**	**306**	P	**Pn**	**04 52 37.6**	**+1.0**
	27nm,0.3s,baz=90,slow=4.7,SNR=3.2						
HNR	**Honiara**	**8.99**	**306**		**Pn**	**04 52 37.4**	**+0.8**
HNR					**Sn**	**04 54 17.2**	**+0.7**
HNR	**Honiara**	**8.99**	**306**	P	**Pn**	**04 52 39.8**	**+3.2**
MSVF	**Nonsavu**	**10.69**	**107**		**Pn**	**04 53 00.7**	**+1.7**
FUNA	**Funafuti**	**13.18**	**63**	Pn	**Pn**	**04 53 32.0**	**+0.7**
LHI	**Lord Howe Isla**	**18.27**	**203**	P	**Pn**	**04 54 34.7**	**+1.2**
	baz=18,SNR=3.6						
LHI	**Lord Howe Isla**	**18.27**	**203**	P	**P**	**04 54 31.8**	**+0.2**
LHI	**Lord Howe Isla**	**18.27**	**203**	P	**Pn**	**04 54 34.5**	**+1.0**
EIDS	**Eidsvold**	**18.51**	**233**	P	**Pn**	**04 54 37.3**	**+0.9**
	baz=19,SNR=34						
EIDS	**Eidsvold**	**18.51**	**233**	P	**Pn**	**04 54 36.1**	**-0.2**
EIDS				IAmb	IAmb	04 54 38.1	
	comp=Z,76nm,0.6s						
RAO	**Raoul Island**	**19.80**	**139**	P	**P**	**04 54 49.7**	**+1.6**
	comp=Z,22nm,0.3s,baz=60,slow=20,SNR=2.0						
GLKZ	**Green Lake**	**19.81**	**139**	P	**P**	**04 54 49.0**	**+0.8**
AFI	**Afiamalu**	**20.25**	**90**	P	Pn	04 54 55.5	-1.6
	comp=Z,85nm,0.6s,baz=257,slow=6.3,SNR=16						
AFI	**Afiamalu**	**20.25**	**90**	P	**P**	**04 54 54.9**	**+1.6**
AFI				IAmb	IAmb	04 54 58.2	
	comp=Z,84nm,0.7s						
CTA	**Charters Tower**	**20.78**	**252**	P	**P**	**04 54 59.4**	**+0.6**
	comp=Z,26nm,0.6s,baz=80,slow=12,SNR=33						
CTAO	**Charters Tower**	**20.78**	**252**	P	**P**	**04 54 59.3**	**+0.6**
CTAO				IAmb	IAmb	04 55 02.2	
	comp=Z,35nm,0.7s						
RMQ	**Roma**	**20.88**	**233**	P	Pn	04 55 02.1	-2.4
	baz=21,SNR=84						
OUZ	**Omahuta**	**21.09**	**166**	P	**P**	**04 55 02.7**	**+0.8**
OUZ	**Omahuta**	**21.09**	**166**	P	**P**	**04 55 03.9**	**+2.0**
ARMA	**Armidale**	**21.21**	**220**	P	**P**	**04 55 05.8**	**+2.4**
	baz=21,SNR=34						
ARMA	**Armidale**	**21.21**	**220**	P	**P**	**04 55 05.6**	**+2.2**
ARMA				IAmb	IAmb	04 55 07.4	
	comp=Z,129nm,1.1s						
WCZ	**Waipu Caves**	**21.96**	**165**	P	**P**	**04 55 13.2**	**+2.2**
NIUE	**Niue**	**22.15**	**104**	P	**P**	**04 55 13.0**	**-0.1**
	baz=22,SNR=13						
NIUE	**Niue**	**22.15**	**104**	P	**P**	**04 55 13.2**	**+0.1**
NIUE	**Niue**	**22.15**	**104**	P	**P**	**04 55 14.4**	**+1.3**
MTSU	**Mount Surprise**	**22.32**	**258**	P	**P**	**04 55 15.6**	**+0.8**
	baz=22,SNR=20						
GRZ	**Great Barrier**	**22.55**	**163**	P	**P**	**04 55 18.1**	**+1.3**
WTAZ	**Waiatarua**	**22.96**	**165**	P	**P**	**04 55 22.2**	**+1.7**
MKAZ	**Moumakai**	**23.27**	**164**	P	**P**	**04 55 24.6**	**+1.3**
PATS	**Pohnpei**	**23.30**	**337**	P	**P**	**04 55 24.7**	**+0.9**
	baz=23,SNR=3.6						
MGCD	**Mangrove Creek**	**23.51**	**216**	P	**P**	**04 55 27.7**	**+2.2**
	baz=24,SNR=63						
KNTN	**Kanton**	**23.87**	**62**	P	**P**	**04 55 29.2**	**+0.1**
KNTN				IAmb	IAmb	04 55 32.4	
	comp=Z,92nm,1.1s						
RIV	**Riverview**	**23.94**	**215**	P	**P**	**04 55 31.0**	**+1.5**
	baz=24,SNR=7.8						
TLZ	**Tolley Road**	**24.52**	**164**	P	**P**	**04 55 40.0**	**+5.2**
HIZ	**Hauiti**	**24.53**	**166**	P	**P**	**04 55 34.9**	**+0.1**
HIZ				IAmb	IAmb	04 55 43.1	
	comp=Z,48nm,0.7s						
QLP	**Quilpie**	**24.53**	**238**	P	**P**	**04 55 36.2**	**+1.2**
	baz=25,SNR=39						
HAZ	**Te Kaha**	**24.66**	**160**	P	**P**	**04 55 36.6**	**+0.6**
MXZ	**Matakaoa Point**	**24.66**	**159**	P	**P**	**04 55 35.9**	**-0.1**
GRRZ	**Galatos Road**	**24.70**	**163**	P	**P**	**04 55 40.4**	**+4.1**
HRRZ	**Handcock Road**	**24.78**	**163**	P	**P**	**04 55 39.8**	**+2.7**
RRRZ	**Republican Roa**	**24.80**	**163**	P	**P**	**04 55 41.0**	**+3.7**
RUGZ	**Raukumara Rang**	**24.82**	**160**	P	**P**	**04 55 37.6**	**0.0**
PKGZ	**Pakihiroa**	**24.88**	**159**	P	**P**	**04 55 38.5**	**+0.4**
URZ	**Urewera**	**24.91**	**161**	P	**P**	**04 55 38.5**	**+0.4**
	comp=Z,19nm,0.3s,baz=259,slow=2.2,SNR=41						
URZ	**Urewera**	**24.91**	**161**	P	**P**	**04 55 38.6**	**+0.4**
URZ				IAmb	IAmb	04 55 50.1	
	comp=Z,95nm,1.2s						
URZ	**Urewera**	**24.91**	**161**	P	**P**	**04 55 38.9**	**+0.7**
WMGZ	**Waiomatatini S**	**24.93**	**159**	P	**P**	**04 55 38.9**	**+0.4**
MUGZ	**Murupara**	**25.00**	**162**	P	**P**	**04 55 40.6**	**+1.5**
MWZ	**Matawai**	**25.10**	**161**	P	**P**	**04 55 41.0**	**+1.0**
TWGZ	**Tauwhareparae**	**25.11**	**160**	P	**P**	**04 55 40.4**	**+0.3**
KATZ	**Kakaramea**	**25.17**	**165**	P	**P**	**04 55 45.4**	**+4.6**
RTZ	**Ruatahuna**	**25.19**	**162**	P	**P**	**04 55 41.9**	**+1.0**
HATZ	**Hinemaiaia**	**25.20**	**164**	P	P	04 55 52.7	+12
TWZ	**Taurewa**	**25.20**	**165**	P	**P**	**04 55 45.5**	**+4.6**
RITZ	**Rhia Road**	**25.22**	**164**	P	**P**	**04 55 45.5**	**+4.5**
MRHZ	**Matea Rd**	**25.23**	**163**	P	**P**	**04 55 42.3**	**+1.1**
TKGZ	**Te Karaka**	**25.30**	**160**	P	**P**	**04 55 42.0**	**+0.2**
OTVZ	**Oturere**	**25.34**	**165**	P	**P**	**04 55 46.0**	**+3.7**
MTHZ	**Maungataniwha**	**25.37**	**162**	P	**P**	**04 55 43.6**	**+1.1**
FWVZ	**Far West T-bar**	**25.40**	**165**	P	**P**	**04 55 46.3**	**+3.4**
WHVZ	**Whangaehu Hut**	**25.43**	**165**	P	**P**	**04 55 46.5**	**+3.2**
TUVZ	**Tukino**	**25.44**	**165**	P	**P**	**04 55 46.1**	**+2.9**
SNGZ	**Shannon Statio**	**25.45**	**162**	P	**P**	**04 55 43.6**	**+0.4**
CNGZ	**Carnagh Statio**	**25.46**	**160**	P	**P**	**04 55 43.7**	**+0.5**
RAHZ	**Arahi**	**25.50**	**162**	P	**P**	**04 55 45.1**	**+1.5**
RIGZ	**Rimuhau**	**25.52**	**161**	P	**P**	**04 55 44.7**	**+0.9**
BKZ	**Black Stump Fm**	**25.56**	**163**	P	**P**	**04 55 44.9**	**+0.7**
BKZ	**Black Stump Fm**	**25.56**	**163**	P	**P**	**04 55 45.4**	**+1.2**
NMHZ	**Naumai**	**25.59**	**163**	P	**P**	**04 55 45.0**	**+0.6**
MOVZ	**Moawhango**	**25.59**	**165**	P	**P**	**04 55 44.4**	**-0.1**
WHHZ	**Waihua**	**25.70**	**162**	P	**P**	**04 55 45.0**	**-0.4**
BHHZ	**Black Hill Sta**	**25.75**	**164**	P	**P**	**04 55 46.2**	**+0.3**
PRGZ	**Paritu Road**	**25.75**	**161**	P	**P**	**04 55 44.4**	**-1.5**
KNZ	**Kokohu**	**25.78**	**161**	P	**P**	**04 55 45.7**	**-0.4**
KWHZ	**Kaweka Forest**	**25.79**	**164**	P	**P**	**04 55 46.4**	**+0.2**
ARHZ	**Aropaoanui**	**25.80**	**163**	P	**P**	**04 55 47.1**	**+0.8**
YNG	**Young**	**25.86**	**218**	P	**P**	**04 55 48.5**	**+1.5**
	baz=26,SNR=11						
CMSA	**Cobar Meteorol**	**25.86**	**226**	P	**P**	**04 55 48.4**	**+1.4**
	baz=26,SNR=61						
MCHZ	**McNeill Hill**	**25.88**	**163**	P	**P**	**04 55 48.8**	**+1.8**
MHGZ	**Mahia Peninsul**	**25.97**	**161**	P	**P**	**04 55 47.4**	**-0.5**
KRHZ	**Kereru**	**25.98**	**164**	P	**P**	**04 55 47.7**	**-0.2**
CNB	**Canberra Magne**	**26.03**	**215**	P	**P**	**04 55 50.4**	**+1.9**
	baz=26,SNR=42						
CKHZ	**Cape Kidnapper**	**26.19**	**163**	P	**P**	**04 55 50.2**	**+0.4**
KAHZ	**Kahuranaki**	**26.26**	**163**	P	**P**	**04 55 49.7**	**-0.7**
QIS	**Mount Isa**	**

baz=33
TAU Tasmania Unive 32.86 208 P P 04 56 49.5 +0.9
TAU IAmb IAmb 04 56 50.4
comp=Z,28nm,0.7s
BBOO Buckleboo 33.58 232 P P 04 56 56.4 +1.3
baz=34,SNR=273
BBOO Buckleboo 33.58 232 P P 04 56 55.9 +0.8
BBOO PcP 04 59 31.4 -0.5
KDU Kakadu 33.91 269 P P 04 56 57.9 -0.2
baz=34,SNR=3.9
MTN Manton Dam 35.19 269 P P 04 57 09.0 -0.1
MTN IAmb IAmb 04 57 18.3
comp=Z,37nm,1.4s
FAKI Fak Fak 36.56 285 P P 04 57 21.5 +0.7
FAKI IAmb IAmb 04 57 34.1
comp=Z,73nm,1.5s
KNRA Kununurra 37.20 264 P P 04 57 25.8 -0.3
baz=37,SNR=19
KNRA Kununurra 37.20 264 P P 04 57 25.5 -0.6
WRKA Warakurna 37.97 248 P P 04 57 32.4 -0.2
baz=38,SNR=138
FORT Forrest 39.31 239 P P 04 57 44.3 +0.7
baz=39,SNR=47
FORT Forrest 39.31 239 P P 04 57 44.1 +0.4
KRAI Karang Ratu 40.04 283 P P 04 57 50.6 +0.7
comp=Z,5µmcomp=Z,23nm,0.6s
FITZ Fitzroy Crossi 40.06 259 P P 04 57 50.0 0.0
baz=40,SNR=57
FITZ Fitzroy Crossi 40.06 259 P P 04 57 49.9 -0.2
comp=Z,48nm,0.7s,baz=101,slow=9.1
FITZ ScP ScP 05 03 27.1 +1.0
comp=Z,3.9nm,0.8s,baz=125,slow=4.0,SNR=4.0
FITZ Fitzroy Crossi 40.06 259 P P 04 57 49.1 -1.0
FITZ ScP 05 03 27.1 +1.0
PAE Paea 41.40 100 eP P 04 58 01.3 +0.3
comp=Z,6.9nm,0.8s
PPT2 Papeete2 41.40 100 eP P 04 58 01.8 +0.7
comp=Z,36nm,0.7s
PPT Papeete 41.41 100 P P 04 58 02.3 +1.2
comp=Z,59nm,0.7s,baz=22,slow=16,SNR=11
PPTF Pamatai, Papee 41.41 100 P P 04 57 59.6 -1.7
PPTF IAmb IAmb 04 58 05.3
comp=Z,56nm,0.8s
TIAR Tiarei 41.62 100 eP P 04 58 03.5 +0.6
comp=Z,5.8nm,0.8s
SOEI Soe 42.33 272 P P 04 58 09.4 +0.6
comp=Z,46nm,0.9s
SANI Sanana 42.72 283 P P 04 58 12.5 +0.7
comp=Z,48nm,0.7s
MEH Mehetia 42.83 100 eP P 04 58 13.6 +1.0
comp=Z,26nm,0.9s
BATI Baumata 42.83 271 P P 04 58 14.2 +1.5
comp=Z,150nm,0.8s,baz=94,slow=1.3
BATI LR LR 05 15 16.0
comp=Z,166nm,20.1s,baz=66,slow=35
BATI Baumata 42.83 271 P P 04 58 13.5 +0.8
comp=Z,101nm,0.9s
PMOR Pomariorio Ree 43.20 96 eP P 04 58 16.7 +1.1
comp=Z,116nm,0.8s
VAH Vaihoa 43.44 97 eP P 04 58 18.3 +0.8
comp=Z,69nm,0.8s
EDFI Ende, Flores 45.03 272 P P 04 58 30.5 +0.2
comp=Z,384nmcomp=Z,47nm,0.9s
PSA00 Pilbara Seismi 45.48 254 P P 04 58 33.1 -0.6
PSA00 IAmb IAmb 04 58 35.0
comp=Z,44nm,0.8s
PSA00 Pilbara Seismi 45.48 254 P P 04 58 33.5 -0.2
PSA00 IAmb IAmb 04 58 35.0
comp=Z,22nm,0.8s
PSA00 PcP PcP 05 00 09.6 -0.3
MEEK Meekatharra 46.81 247 P P 04 58 44.3 +0.3
baz=47,SNR=66
LBFI Labuhan Bajo, 46.83 272 P P 04 58 44.2 0.0
comp=Z,536nmcomp=Z,43nm,0.8s
WBSI Waikabubak, Su 47.07 271 P P 04 58 46.7 +0.5
comp=Z,83nm,0.9s
BKSI Bulukumba 47.35 276 P P 04 58 48.7 +0.4
comp=Z,25nm,0.7s
BNSI Bone 47.61 278 P P 04 58 51.0 +0.7
comp=Z,52nm,0.8s
KAPI Kappang 47.78 277 P P 04 58 52.0 +0.3
KAPI IAmb IAmb 04 58 53.5
comp=Z,46nm,0.9s
KAPI Kappang 47.78 277 P P 04 58 52.4 +0.8
comp=Z,52nm,1.1s
TOLI2 Tolitoli 48.70 285 P P 04 58 57.6 -1.1
TOLI2 IAmb IAmb 04 58 59.1
comp=Z,13nm,0.9s
NWAO Narrogin (SRO) 48.76 239 P P 04 58 59.0 0.0
baz=49,SNR=12
NWAO Narrogin (SRO) 48.76 239 P P 04 58 58.9 0.0
PLAI Plampang 48.80 271 P P 04 58 59.8 +0.4
comp=Z,734nmcomp=Z,85nm,0.8s
BLDU Ballidu 48.88 242 P P 04 58 59.7 -0.2
baz=49,SNR=5.9
MPSI Mapaga 49.26 284 P P 04 59 03.1 +0.2
comp=Z,705nmcomp=Z,53nm,1.3s
MORW Morawa 49.29 244 P P 04 59 03.1 +0.1
baz=49,SNR=31
MORW Morawa 49.29 244 P P 04 59 02.9 -0.2
MUN Mundaring 49.48 241 P P 04 59 04.4 +0.1
baz=50,SNR=8.3
TWSI Taliwang, Sumb 49.68 271 P P 04 59 06.7 +0.6
comp=Z,1µmcomp=Z,128nm,0.9s
GIRL Giralia 50.68 253 P P 04 59 12.7 -0.8
baz=51,SNR=8.0
JAGI Jajag, Banyuwa 52.38 271 P P 04 59 25.7 -0.6
JAGI IAmb IAmb 04 59 26.1
comp=Z,44nm,1.0s
BBKI Banjar Baru 52.91 277 P P 04 59 30.9 +0.7
comp=Z,2µmcomp=Z,31nm,1.3s
KRKI Karangkates 54.08 271 P P 04 59 39.5 +0.8
PWJI Pagerwojo 54.74 271 P P 04 59 44.2 +0.7
comp=Z,26nm,0.7s
SJI Sawahan 54.84 271 P P 04 59 44.9 +0.6
comp=Z,6µmcomp=Z,44nm,0.5s
PCJI Pacitan 55.31 270 P P 04 59 48.3 +0.7
comp=Z,132nm,0.9s
UGM Wanagama 56.00 270 P P 04 59 51.7 -0.8
STKI Sintang 57.15 280 P P 05 00 01.2 +0.6
comp=Z,9µmcomp=Z,41nm,0.6s
SBUM Sibu 57.19 283 P P 05 00 02.0 +1.1
CTJI Waduk Cacaban 57.50 271 P P 05 00 03.7 +0.6
comp=Z,58nm,1.0s
KPJI Karang Pucung 57.67 271 P P 05 00 04.9 +0.7
comp=Z,91nm,0.7s
MJAR Matsushiro Arr 58.01 332 P P 05 00 05.2 -0.9
comp=Z,2.9nm,0.6s,baz=168,slow=7.8,SNR=8.3
MJAR pP pP 05 00 42.4 -0.2
comp=Z,4.1nm,0.8s,baz=176,slow=8.1,SNR=2.6
MJAR LR LR 05 24 00.8
comp=Z,13nm,20.1s,baz=105,slow=35
MJAR Matsushiro Arr 58.01 332 P P 05 00 05.7 -0.5
MAJO Matsushiro 58.01 332 P P 05 00 05.3 -0.9
MAJO IAmb IAmb 05 00 06.7
comp=Z,20nm,1.3s
MAT Matsushiro 58.01 332 P P 05 00 05.0 -1.2
MAT eS S 05 07 40.8 -13
MJB9 Matsu-Tunnel 58.01 332 P P 05 00 06.7 +0.5
KSM Kuching 58.69 281 P P 05 00 12.0 +0.7
CISI Cisompet, Garu 58.70 270 P P 05 00 10.6 -0.9
CISI Cisompet, Garu 58.70 270 P P 05 00 11.8 +0.3
comp=Z,2µmcomp=Z,47nm,0.8s
JNU Nakatsue 59.03 324 pP pP 05 00 49.1 -0.8
comp=Z,13nm,0.9s,baz=80,slow=4.6,SNR=2.9
JSD Sado 59.23 333 P P 05 00 14.3 -0.3
JSD IAmb IAmb 05 00 15.9
comp=Z,16nm,0.8s
DBJI Dramaga 59.95 271 P P 05 00 20.7 +0.6
comp=Z,8µmcomp=Z,86nm,1.5s
VNDA Vanda 62.78 181 P P 05 00 38.9 +1.0
comp=Z,26nm,0.5s,baz=356,slow=7.9,SNR=523
VNDA PKP2bc 05 29 44.0
comp=Z,0.4nm,0.7s,baz=242,slow=5.5,SNR=4.2
VNDA Vanda 62.78 181 P P 05 00 39.0 +1.0
ASAJ Asahikawa 62.84 340 P P 05 00 39.9 +1.1
comp=Z,13nm,0.6s,baz=219,slow=11,SNR=7.2
LWLI Liwa 62.91 272 P P 05 00 40.6 +0.5
comp=Z,72nm,0.6s
MDSI Maura Dua 62.93 273 P P 05 00 38.8 -1.2
comp=Z,24nm,0.8s
SBA Scott Base 63.05 180 P P 05 00 40.2 +0.5
CASY Casey 63.48 202 P P 05 00 42.6 -0.1
LHSI Lahat 63.72 273 P P 05 00 45.3 +0.1
comp=Z,17nm,1.1s
KSRS Korea Array 63.84 326 P P 05 00 45.6 +0.1
comp=Z,2.0nm,0.6s,baz=132,slow=6.5,SNR=7.7

KSRS LR LR 05 27 49.2
comp=Z,16nm,18.5s,baz=136,slow=35
BTDF Bukit Timah Da 64.88 279 P P 05 00 53.4 +0.6
comp=Z,24nm,0.9s
MASI Maura Aman, Be 65.14 273 P P 05 00 54.7 +0.2
comp=Z,102nm,0.9s
JRMM Jerantut 66.87 281 P P 05 01 06.0 +0.5
USRK Ussuriysk Ar. 66.99 333 P P 05 01 06.1 +0.5
comp=Z,7.4nm,0.9s,baz=123,slow=4.7,SNR=8.9
USRK pP pP 05 01 42.3 -0.8
comp=Z,3.6nm,0.8s,baz=122,slow=9.3,SNR=3.0
USRK Ussuriysk Ar. 66.99 333 P P 05 01 05.8 +0.3
PDSI Padang 67.43 275 P P 05 01 07.6 -1.5
comp=Z,22nm,0.8s
PETK Petropavlovsk- 68.15 354 P P 05 01 12.3 -0.3
comp=Z,8.1nm,0.7s,baz=157,slow=8.6,SNR=18
PETK Petropavlovsk- 68.15 354 P P 05 01 12.5 -0.1
MDJ Mudanjiang 68.38 332 P P 05 01 14.7 +0.4
MDJ IAmb IAmb 05 01 16.3
comp=Z,16nm,0.9s
IPM Ipoh 68.43 281 P P 05 01 16.0 +0.7
MNSI Mandailing Nat 68.74 277 P P 05 01 16.9 -0.3
comp=Z,937nmcomp=Z,126nm,0.8s
KULM Kulim 69.03 282 P P 05 01 20.0 +1.0
CN2 Changchun 69.75 329 eP P 05 01 23.4 +0.6
CN2 pmax pmax
comp=Z,10.0nm,0.8s
RPSI Rantau Prapat 69.91 278 P P 05 01 24.0 -0.4
RPSI IAmb IAmb 05 01 24.9
comp=Z,35nm,0.8s
RPSI Rantau Prapat 69.91 278 P P 05 01 23.7 -0.7
PSI Prapat 69.94 279 P P 05 01 23.7 -1.0
comp=Z,33nm,0.9s,baz=133,slow=4.3,SNR=30
PSI Prapat 69.94 279 P P 05 01 23.8 -1.0
comp=Z,21nm,1.0s
SKNT Sakolnakorn 70.04 294 P P 05 01 25.3 +0.2
comp=Z,3µmcomp=Z,36nm,0.8s
TSI Tuntungan 70.48 279 P P 05 01 28.0 +0.1
GSI Gunungsitoli 70.81 277 P P 05 01 29.0 -0.8
GSI Gunungsitoli 70.81 277 P P 05 01 30.4 +0.5
comp=Z,128nm,0.9s
SURA Surathani 71.21 285 P P 05 01 34.5 +2.2
comp=Z,47nm,1.1s
ENH Enshi 71.47 309 P P 05 01 33.5 -0.1
ENH IAmb IAmb 05 01 34.0
comp=Z,19nm,1.0s
TPTI 71.73 279 P P 05 01 35.4 0.0
comp=Z,5.3nm,0.8s
PHIT Phitsanulok 73.27 293 P P 05 01 45.8 +1.4
comp=Z,93nm,0.8s
UTHA Uthaitani 73.55 291 P P 05 01 48.2 +2.1
comp=Z,21nm,0.9s
NANT Nan 73.62 295 P P 05 01 47.3 +0.8
comp=Z,4µmcomp=Z,46nm,0.6s
XAN Xi'an 73.79 313 P P 05 01 47.0 -0.2
XAN pP pP 05 02 25.4 -0.2
XAN sP sP 05 02 44.6 +2.2
XAN pmax pmax
comp=Z,11nm,1.0s
XAN Xi'an 73.79 313 P P 05 01 47.7 +0.5
KMI Kunming 74.41 302 ⇑P P 05 01 52.4 +1.2
KMI pmax pmax
comp=Z,23nm,0.8s
LAMP Lampang 74.46 294 P P 05 01 52.6 +1.3
comp=Z,488nmcomp=Z,63nm,0.8s
PAYA Payao 74.56 295 P P 05 01 53.1 +1.2
comp=Z,387nmcomp=Z,33nm,0.8s
CM04 Chiang Mai Arr 74.99 294 P P 05 01 56.1 +1.7
comp=Z,115nmcomp=Z,13nm,0.8s
CM09 Chiang Mai Arr 75.00 294 P P 05 01 57.4 +3.0
comp=Z,13nm,0.9s
CM01 Chiang Mai Arr 75.02 294 P P 05 01 57.0 +2.5
comp=Z,132nmcomp=Z,15nm,1.0s
CM05 Chiang Mai Arr 75.02 294 P P 05 01 56.2 +1.6
comp=Z,82nmcomp=Z,11nm,0.8s
CM02 Chiang Mai Arr 75.03 294 P P 05 01 56.8 +2.2
comp=Z,101nmcomp=Z,12nm,0.7s
CMAR Chiang Mai Arr 75.04 294 P P 05 01 55.6 +1.0
comp=Z,6.5nm,0.7s,baz=121,slow=4.0,SNR=19
CMAR Chiang Mai Arr 75.04 294 P P 05 01 55.0 +0.3
CM13 Chiang Mai Arr 75.06 294 P P 05 01 56.4 +1.6
comp=Z,96nmcomp=Z,13nm,0.9s
CMMT Chiang Mai 75.17 294 P P 05 01 56.3 +0.9
comp=Z,17nm,1.1s
CMMT Chiang Mai 75.17 294 P P 05 01 55.8 +0.4
comp=Z,16nm,1.1s
CHTO Chiang Mai 75.17 294 P P 05 01 56.5 +1.1
comp=Z,259nmcomp=Z,17nm,1.1s
CHTO Chiang Mai 75.17 294 P P 05 01 54.8 -0.7
CHTO IAmb IAmb 05 01 56.8
comp=Z,9.0nm,0.6s
CHTO Chiang Mai 75.17 294 P P 05 01 55.8 +0.4
comp=Z,146nmcomp=Z,9.5nm,1.1s
QSPA South Pole Qui 75.22 180 P P 05 01 55.3 +0.3
MA2 Magadan 75.34 351 P P 05 01 55.5 +0.1
comp=Z,4.2nm,0.4s,baz=149,slow=19,SNR=1.5
SEY Seymchan 78.37 353 P P 05 02 12.3 0.0
comp=Z,3.4nm,0.5s,baz=151,slow=5.6,SNR=7.6
LZH Lanzhou 78.42 312 eP P 05 02 15.0 +1.5
LZH pP PcP 05 02 23.8 +1.7
LZH sP pP 05 02 31.4 -21
LZH pmax pmax
comp=Z,20nm,1.3s
LZH pmax pmax
comp=Z,130nm,4.4s
MAW Mawson 81.83 202 P P 05 02 31.9 +0.9
baz=82
MAW Mawson 81.83 202 P P 05 02 31.8 +0.9
comp=Z,33nm,0.9s,baz=111,slow=5.7,SNR=116
MAW LR LR 05 33 52.8
comp=Z,46nm,21.4s,baz=64,slow=32
MAW Mawson 81.83 202 P P 05 02 31.4 +0.4
MAW IAmb IAmb 05 02 32.9
comp=Z,15nm,1.2s
YAK Yakutsk 82.13 343 P P 05 02 32.6 +0.1
comp=Z,19nm,0.5s,baz=103,slow=0.9,SNR=6.4
ULN Ulaanbaatar 82.24 324 P P 05 02 33.9 +0.3
ULN IAmb IAmb 05 02 35.0
comp=Z,23nm,1.2s
ULN Ulaanbaatar 82.24 324 P P 05 02 33.4 -0.2
comp=Z,69nm,1.0s
L19K White Mountain 82.29 17 P P 05 02 34.4 +1.0
SONM Songino Array 82.60 324 P P 05 02 35.5 +0.1
comp=Z,5.6nm,0.9s,baz=137,slow=5.3,SNR=29
SONM pP pP 05 03 13.2 -1.4
comp=Z,1.3nm,0.7s,baz=132,slow=4.3,SNR=2.0
SONM LR LR 05 36 45.5
comp=Z,18nm,21.8s,baz=43,slow=34
SONM Songino Array 82.60 324 P P 05 02 36.6 +1.1
SONM IAmb IAmb 05 02 37.4
comp=Z,15nm,1.2s
GTA Gaotai 82.77 314 ⇑P P 05 02 37.3 +0.8
GTA pP pP 05 03 15.1 -0.5
PMR Palmer 83.56 19 P P 05 02 39.9 +0.1
PMR IAmb IAmb 05 02 42.5
comp=Z,17nm,1.3s
SHL Shillong 83.66 298 P P 05 02 41.4 0.0
CAST Castle Rocks 84.05 17 P P 05 02 41.3 -1.1
CAST IAmb IAmb 05 02 42.4
comp=Z,10nm,0.7s
J20K Nowinta River 84.08 16 P P 05 02 43.6 +1.1
KHMM Horse Mountain 84.37 45 P P 05 02 45.1 +0.4
KTH Kantishna Hill 84.49 17 P P 05 02 43.9 -0.7
BERG Berg Lake 84.56 22 P P 05 02 44.8 -0.2
BERG IAmb IAmb 05 02 45.9
comp=Z,18nm,0.6s
RND Reindeer 84.99 18 P P 05 02 47.3 +0.1
RND IAmb IAmb 05 03 01.1
comp=Z,10.0nm,1.2s
BWN Browne 85.38 18 P P 05 02 49.2 +0.2
BWN IAmb IAmb 05 02 52.0
comp=Z,15nm,0.6s
YBH Yreka Blue Hor 85.43 45 P P 05 02 50.2 +0.3
I21K Tanana 85.45 16 P P 05 02 49.4 +0.1
I21K IAmb IAmb 05 02 50.7
comp=Z,7.5nm,0.7s
CMB Columbia Colle 85.60 49 P P 05 02 51.0 +0.2
HUMO Hull Mountain 85.62 44 P P 05 02 51.4 +0.6
IMAR Indian Mountai 85.63 15 P P 05 02 50.7 +0.5
WRH Wood River Hil 86.01 18 P P 05 02 51.3 -0.8
ISA Isabella, Lake 86.15 52 P P 05 02 52.7 -0.9
HDA Harding Lake 86.30 18 P P 05 02 52.7 -0.8
HDA IAmb IAmb 05 02 54.1
comp=Z,8.3nm,0.6s
BEKR Beckworth 86.32 47 P P 05 02 54.6 +0.1
MDPB Devils Postpil 86.41 50 P P 05 02 55.1 +0.1

IL31 86.58 18 P P 05 02 53.8 -1.0
IL31 IAmb IAmb 05 02 54.6
comp=Z,5.0nm,0.7s
ILAR Eielson Array 86.58 18 P P 05 02 53.3 -1.6
comp=Z,4.0nm,0.7s,baz=236,slow=5.5,SNR=35
ILAR pP pP 05 03 32.4 -2.3
comp=Z,2.8nm,0.7s,baz=240,slow=4.6,SNR=3.6
ILAR PKKPbc PKKPdf 05 20 49.0 +2.6
comp=Z,0.8nm,0.4s,baz=346,slow=2.3,SNR=11
ILAR LR LR 05 34 41.6
comp=Z,40nm,21.1s,baz=218,slow=31
ILAR Eielson Array 86.58 18 P P 05 02 53.8 -1.1
SCRK Sand Creek 86.92 19 P P 05 02 56.4 -0.3
NVAR Mina Array Bea 87.27 49 P P 05 02 58.7 -0.4
comp=Z,2.3nm,0.8s,baz=230,slow=7.3,SNR=18
NVAR pP pP 05 03 38.0 -0.2
comp=Z,1.3nm,0.7s,baz=228,slow=7.7,SNR=3.8
NVAR PKKPbc PKKPbc 05 20 51.1 +0.6
comp=Z,0.5nm,0.6s,baz=94,slow=4.3,SNR=5.8
NVAR PKPPKP P'P'df 05 28 58.1 +1.6
comp=Z,0.3nm,0.6s,baz=73,slow=2.5,SNR=4.6
NVAR LR LR 05 33 55.5
comp=Z,51nm,20.6s,baz=240,slow=30
NV11 Mina Array Sit 87.38 49 P P 05 02 59.7 +0.1
PINE Pine Mountain 87.45 43 P P 05 03 00.2 +0.4
KVN Kaiserville 87.65 49 P P 05 03 00.6 -0.2
TPH Tonopah 87.94 50 P P 05 03 01.7 -0.5
TPH IAmb IAmb 05 03 07.5
comp=Z,6.6nm,0.8s
TPNV Topopah Spring 88.28 51 P P 05 03 04.0 +0.2
EGAK Eagle 88.37 20 P P 05 03 02.6 -0.7
I07A Izee 88.52 44 P P 05 03 05.2 +0.5
RAMN Ramite 88.60 298 eP P 05 03 05.4 -0.3
comp=Z,12nm,0.4s
SYO Syowa Base 88.65 197⇑eP P 05 03 05.0 +0.3
J08A Circle Bar Ran 88.94 45 P P 05 03 06.2 -0.5
J08A IAmb IAmb 05 03 08.5
comp=Z,5.0nm,1.0s
JIRN Jiri 89.16 299 eP P 05 03 08.4 0.0
comp=Z,18nm,0.5s
G08A Pilot Rock 89.33 43 P P 05 03 08.7 +0.2
G08A IAmb IAmb 05 03 11.6
comp=Z,4.4nm,0.8s
PRN Pahroc Range 89.34 51 P P 05 03 09.0 +0.2
PRN IAmb IAmb 05 03 10.4
comp=Z,5.4nm,0.8s
GUN Gumba 89.49 299 eP P 05 03 09.6 -0.4
E08A Dider Farm, El 89.71 42 P P 05 03 10.5 +0.4
E08A IAmb IAmb 05 03 11.0
comp=Z,5.3nm,0.8s
PKI Pulchoki 89.80 298 eP P 05 03 10.9 -0.5
PKIN Phulchoki 89.81 298 eP P 05 03 10.8 -0.5
comp=Z,19nm,0.5s
KKN Kakani 89.97 299 eP P 05 03 11.7 -0.3
DMN Daman 90.06 298 eP P 05 03 12.3 -0.2
ELK Elko 90.30 48 P P 05 03 13.3 0.0
SPR3 Spring Creek 3 90.39 50 P P 05 03 13.8 0.0
SPR3 IAmb IAmb 05 03 14.5
comp=Z,4.6nm,0.8s
GKN Gorkha 90.57 299 eP P 05 03 13.9 -0.9
LCMT Little Creek M 90.58 52 P P 05 03 15.0 +0.4
PSUT Pine Spring 90.59 50 P P 05 03 14.7 0.0
CCUT Cedar City 90.66 51 P P 05 03 15.1 0.0
F10A Beach Ranch, E 90.71 42 P P 05 03 13.9 -1.0
F10A IAmb IAmb 05 03 15.6
comp=Z,5.5nm,0.8s
MFID Camas Ranch 90.77 45 P P 05 03 15.4 +0.2
TUC Tucson 91.11 57 P P 05 03 16.2 -0.9
U15A North Rim 91.13 53 P P 05 03 16.8 -0.5
U15A IAmb IAmb 05 03 21.0
comp=Z,2.6nm,0.6s
KOLN Koldanda 91.39 298 eP P 05 03 18.3 -0.3
DANN Dangsing 91.41 299 eP P 05 03 17.7 -1.1
comp=Z,22nm,0.7s
TCRU Three Creeks R 91.67 51 P P 05 03 19.3 -0.4
TCRU IAmb IAmb 05 03 26.9
comp=Z,8.7nm,0.5s
MTPU Mount Pierson 91.69 51 P P 05 03 19.4 -0.6
SNAA Sanae 93.47 183 P P 05 03 26.6 -0.6
SNAA Sanae 93.47 183 P P 05 03 27.0 -0.2
VNA3 Neumayer Olymp 94.13 181 P P 05 03 29.4 -0.8
PV23 Carpenter Ridg 94.21 51 P P 05 03 31.0 -0.4
PV23 IAmb IAmb 05 03 32.3
comp=Z,6.6nm,0.8s
PV22 Blue Mesa, Par 94.40 51 P P 05 03 32.1 -0.1
PV22 IAmb IAmb 05 03 32.7
comp=Z,2.4nm,0.7s
VNA2 Neumayer--Watz 94.40 182 P P 05 03 30.9 -0.5
baz=183,slow=4.2
VNA1 Neumayer--Stat 94.70 181 P P 05 03 32.2 -0.5
PDAR Pinedale Array 94.95 47 P P 05 03 35.6 +0.9
comp=Z,0.3nm,0.6s,baz=245,slow=1.9,SNR=2.8
PDAR PKKPbc PKKPdf 05 20 29.3 -1.8
comp=Z,1.5nm,0.8s,baz=92,slow=5.1,SNR=13
TX31 Lajitas Ar. Si 96.26 61 P P 05 03 40.8 +0.1
TX31 IAmb IAmb 05 03 58.5
comp=Z,6.3nm,1.5s
TX32 Lajitas Array 96.26 61 P P 05 03 40.8 0.0
TXAR Lajitas Array 96.26 61 P P 05 03 40.5 -0.3
comp=Z,0.8nm,0.7s,baz=223,slow=5.3,SNR=14
TXAR PKKP PKKPbc 05 20 27.2 +0.3
comp=Z,0.8nm,0.7s,baz=104,slow=4.1,SNR=12
TXAR LR LR 05 41 48.5
comp=Z,12nm,19.1s,baz=0.0,slow=32
MK31 Makanchi Array 97.31 316 P P 05 03 44.8 -0.3
MK31 IAmb IAmb 05 03 46.0
comp=Z,6.1nm,0.9s
MKAR Makanchi Array 97.31 316 P P 05 03 44.5 -0.5
comp=Z,5.1nm,0.7s,baz=82,slow=6.1,SNR=39
MKAR pP pP 05 04 23.3 -1.6
comp=Z,1.5nm,0.7s,baz=101,slow=6.4,SNR=3.3
MKAR PKiKP PKiKP 05 08 18.9 -0.5
comp=Z,0.4nm,0.5s,baz=12,slow=0.6,SNR=5.2
MKAR PKKPbc PKKPbc 05 20 22.9 -1.8
comp=Z,0.6nm,0.7s,baz=270,slow=3.6,SNR=5.0
MKAR Makanchi Array 97.31 316 P Pdif 05 03 45.3 +0.2
ZAA0 Zalesovo Array 97.50 324 IAmb IAmb 05 03 45.5
comp=Z,8.4nm,0.9s
ZAA0 P Pdif 05 03 45.7 0.0
ZALV Zalesovo Beam 97.50 324 P P 05 03 43.9 -1.7
comp=Z,7.1nm,0.8s,baz=104,slow=4.7,SNR=18
ZALV LR LR 05 48 26.7
comp=Z,10nm,18.2s,baz=111,slow=36
ZALV Zalesovo Beam 97.50 324 P P 05 03 45.2 -0.4
YKA Yellowknife Ar 97.59 27 LR LR 05 44 36.2
comp=Z,25nm,18.7s,baz=0.0,slow=33
KURK Kurchatov 100.51 320 PKiKP 05 08 24.4 -0.5
KURBB Kurchatov Arra 100.55 320 P Pdif 05 03 58.8 -0.5
comp=Z,0.3nm,0.6s,baz=91,slow=4.6,SNR=2.6
KURBB PKiKP PKiKP 05 08 24.4 -0.6
comp=Z,0.6nm,0.7s,baz=108,slow=1.6,SNR=7.2
BVAR Borovoye Array 105.85 321 PKiKP PKiKP 05 08 33.9 -0.7
comp=Z,0.8nm,0.3s,baz=182,slow=3.7,SNR=6.5
GEYT Alibeck 114.03 305 PKiKP PKPdf 05 08 49.3 -1.3
comp=Z,2.0nm,0.6s,baz=129,slow=2.0,SNR=4.0
SPA0 Spitsbergen Ar 115.02 354 ePKPdf PKiKP 05 08 50.9 -0.4
LPAZ La Paz 117.11 117 PKP PKPdf 05 08 57.4 -0.4
comp=Z,0.7nm,0.5s,baz=333,slow=2.9,SNR=5.7
LPAZ PKKPbc PKKPbc 05 19 22.0 -0.7
comp=Z,0.7nm,0.7s,baz=117,slow=3,SNR=3.6
HAMF Hammerfest 119.95 347 ePKPdf PKPdf 05 09 00.1 -0.8
ARA0 ARCESS Array S 120.35 345 ePKPdf PKPdf 05 09 01.4 -0.4
ARCES ARCESS Array B 120.35 345 PKP PKPdf 05 09 01.2 -0.5
comp=Z,7.5nm,0.3s,baz=76,slow=2.1,SNR=222
ARCES PKKPab PKKPab 05 19 07.4 -2.5
comp=Z,1.1nm,0.6s,baz=224,slow=3.1,SNR=11
ARCES ARCESS Array B 120.35 345 PKPdf PKPdf 05 09 01.3 -0.4
CPUP Villa Florida 120.35 133 PKP PKPdf 05 09 01.9 -1.1
comp=Z,0.3nm,0.3s,baz=134,slow=2.7,SNR=3.2
KLMR Klimovskoe 120.79 333 ePKPdf PKPdf 05 08 58.5 -4.3
KLMR AMP 05 09 03.0
comp=Z,18nm,1.3s
KTK1 Kautokeino 121.28 346 ePKPdf PKPdf 05 09 02.8 -0.8
JETT Jettan, Norway 121.51 347 ePKPdf PKiKP 05 09 04.2 0.0
TRO Tromso 121.76 348 ePKPdf PKPdf 05 09 03.6 -0.8
SCHQ Schefferville 122.33 34 PKP PKPdf 05 09 05.3 -0.7
comp=Z,1.9nm,0.9s,baz=288,slow=6.4,SNR=1.1
SCHQ PKKPbc PKKPab 05 19 01.6 -0.1
comp=Z,2.9nm,0.5s,baz=117,slow=6.8,SNR=2.1
SCHQ Schefferville 122.33 34 PKPdf PKPdf 05 09 05.7 -0.3
SIV Jan Ignacio 123.23 121 PKP PKPdf 05 09 07.8 -1.1
comp=Z,0.8nm,0.4s,baz=290,slow=6.5,SNR=8.1
BOSA Boshof 123.36 220 PKP PKPdf 05 09 09.1 +0.1
comp=Z,9.5nm,0.8s,baz=126,slow=1.9,SNR=15
N2IH Innhavet 123.76 347 ePKPdf PKPdf 05 09 07.8 -0.5

STEI	Steigen	123.93	348	*e*PKPdf	PKPdf	05 09 08.3	-0.4
N2NF	Nordfold	124.08	348	*e*PKPdf	PKPdf	05 09 08.6	-0.3
LOF	Lofoten	124.10	348	*e*PKPdf	PKPdf	05 09 08.7	-0.3
N2TV	Tvrnvik	124.26	347	*e*PKPdf	PKPdf	05 09 08.9	-0.3
FAUS	Fauske	124.38	347	*e*PKPdf	PKPdf	05 09 08.6	-0.9
KBZ	Khabaz	124.86	313	PKP	PKPdf	05 09 11.0	-0.1
	comp=Z,2.4nm,0.7s,baz=118,slow=5.1,SNR=5.3						
N2RO	R st	124.91	349	*e*PKPdf	PKPdf	05 09 09.9	-0.6
AKH	Akhalkalaki	124.93	310	⇑P	PKiKP	05 09 12.2	+0.3
NBB05	Inndyr	124.94	348	*e*PKPdf	PKPdf	05 09 10.3	-0.3
NBB30	Finnes	125.06	348	*e*PKPdf	PKPdf	05 09 10.8	+0.1
NBB17	Glomfjord BVr	125.14	347	*e*PKPdf	PKPdf	05 09 10.7	-0.2
NBB15	Halsa Church	125.28	348	*e*PKPdf	PKPdf	05 09 11.4	+0.1
NBB13	Alf Garage	125.44	348	*e*PKPdf	PKPdf	05 09 11.4	-0.1
MOR8	Moi Rana	125.59	347	*e*PKPdf	PKPdf	05 09 10.8	-1.1
KONS	Konsvik	125.59	348	*e*PKPdf	PKPdf	05 09 11.6	-0.2
NBB40	Tonnes	125.60	348	*e*PKPdf	PKPdf	05 09 11.7	-0.1
STOK	Stokkvaagen	125.75	348	*e*PKPdf	PKPdf	05 09 12.1	-0.1
FINES	FINESS Array B	125.82	338	PKP	PKPdf	05 09 11.9	-0.5
	comp=Z,6.4nm,0.4s,baz=72,slow=1.9,SNR=51						
MEF	Metsahovi	127.26	338	*e*P	PKPdf	05 09 14.9	-0.3
VSU	Vasula	127.52	335	*e*P	PKiKP	05 09 16.1	-0.2
NSS	Namsos	127.53	347	*e*PKPdf	PKPdf	05 09 15.2	-0.4
RAF	Rauma	127.62	340	*e*P	PKPdf	05 09 14.9	-0.9
KMBO	Kilima Mbogo	128.15	257	PKP	PKiKP	05 09 19.7	+0.4
	comp=Z,2.6nm,0.7s,baz=65,slow=4.5,SNR=6.2						
MTSE	Matsula	128.50	337	*e*P	PKPdf	05 09 17.3	-0.3
AAL	Aland	128.83	340	*e*P	PKPdf	05 09 17.3	-0.9
TBLU	Trondheim	129.02	347	*e*PKPdf	PKPdf	05 09 17.5	-1.0
MNK	Minsk	129.42	331	*i* PKP	PKPdf	05 09 17.8	-1.7
	comp=E,2.0nm,0.8s						
MNK				*i* PKP	PKPdf	05 09 17.8	-1.7
	comp=N,5.0nm,0.8s,baz=54						
MNK				*i* PKP	PKPdf	05 09 17.8	-1.7
	comp=Z,6.0nm,0.8s						
MNK				*i* pPKP	pPKPdf	05 10 04.8	+3.8
MNK				*i* PP	PP	05 11 29.6	-1.0
MNK				*i* SKP		05 12 35.7	
MNK				*i* PKS	PKSdf	05 12 54.3	-1.5
MNK				*i* sSKS		05 17 36.3	
MNK				*i* PS	PS	05 21 41.1	-1.5
MNK				*i* SKKS		05 26 20.6	
MNK				*i* SS	SS	05 28 43.7	+4.3
MNK				*i* SSS	SSS	05 33 24.2	
MNK				*i* LR	LR	06 00 15.9	
MNK				*i* LRM	MLR	06 08 00.2	
	comp=Z,190nm,13.3s						
MNK				*i* LRM	MLR	06 09 01.3	
	comp=E,83nm,20.4s						
MNK				*i* LRM	MLR	06 09 02.5	
	comp=N,620nm,19.1s						
IIGN	Ignalina	129.68	332	*e*P	PKiKP	05 09 20.8	+0.1
MOL	Molde	130.20	348	*e*PKPdf	PKPdf	05 09 20.4	-0.4
PABE	Paberze	130.58	333	*e*P	PKiKP	05 09 23.5	+1.0
AKN	Aaknes	130.67	348	*e*PKPdf	PKiKP	05 09 22.6	0.0
NB2	NORSAR Subarra	130.72	345	PKPdf	PKPdf	05 09 21.8	-0.1
	comp=Z,1.3nm,0.4s,baz=31,slow=1.9						
NOA	NORSAR Array B	130.72	345	PKP	PKPdf	05 09 22.1	+0.2
	comp=Z,4.0nm,0.8s,baz=32,slow=2.0,SNR=18						
NOA				SKPbc	SKPab	05 12 31.9	+0.6
	comp=Z,6.4nm,0.7s,baz=30,slow=3.1,SNR=37						
AKASG	Malin Array Be	130.84	326	PKP	PKPdf	05 09 22.0	-0.3
	comp=Z,1.4nm,0.3s,baz=48,slow=2.3,SNR=11						
AKASG				pPKP	pPKPdf	05 10 02.6	-1.1
	comp=Z,0.3nm,0.2s,baz=49,slow=1.9,SNR=1.2						
AKASG				SKPbc	SKPab	05 12 32.5	+0.4
	comp=Z,5.1nm,0.6s,baz=49,slow=4.4,SNR=23						
SUW	Suwalki	131.90	332	*e*P	PKiKP	05 09 25.6	+0.3
BRTR	Keskin Array B	132.61	311	PKP	PKPdf	05 09 25.4	-0.8
	comp=Z,2.1nm,0.6s,baz=134,slow=4.6,SNR=18						
BRTR				SKPbc	SKPab	05 12 39.9	-0.4
	comp=Z,1.7nm,0.7s,baz=108,slow=2.7,SNR=10						
SORM	Soroca	132.65	323	⇑P	PKPdf	05 09 25.8	0.0
ODD1	Odda	132.80	347	*e*PKPdf	PKPdf	05 09 26.4	+0.5
TLCR		133.79	320	⇑P	PKPdf	05 09 28.3	+0.2
CFR	Carcaliu	134.22	320	⇑P	PKPdf	05 09 28.7	-0.1
BIZ	Bicaz	134.57	323	⇑P	PKPdf	05 09 29.9	+0.4
BURAR	Bucovina Array	134.71	324	⇑P	PKiKP	05 09 31.7	+0.3
VRI	Vrincioaia	134.75	321	⇑P	PKiKP	05 09 31.9	+0.5
KWP	Kalwaria Pacla	134.90	328	*e*PKiKP	PKiKP	05 09 31.7	+0.2
MLR	Muntele Rosu	135.41	321	⇑P	PKPdf	05 09 31.6	+0.3
KOLS	Kolonicke sedl	135.55	327	*e*PKP	PKiKP	05 09 33.6	+0.7
CRVS	Cervenica-Dubn	135.99	328	*e*PKP	PKiKP	05 09 34.2	+0.4
KSP	Ksiaz	137.14	333	*e*PKiKP	PKiKP	05 09 36.5	+0.5
VYHS	Vyhne	137.58	329	*e*PKP	PKiKP	05 09 38.1	+1.1
BZS	Buzias	137.89	324	⇑P	PKPdf	05 09 35.3	-0.3
BRG	Berggiesshubel	138.11	335	*e*PKP	PKPdf	05 09 36.9	+0.9
BRG				Amp		05 09 39.5	
	comp=Z,5.5nm,0.8s						
CLL	Collm	138.16	336	*e*PKiKP	PKPdf	05 09 37.0	+1.0
	comp=Z,12nm,1.3s						
MDVR	Moldovita	138.32	323	⇑P	PKPdf	05 09 35.8	-0.8
MODS	Modra-Piesok	138.43	330	*e*PKP	PKiKP	05 09 38.6	-0.2
FRGS	Fruska Gora	139.19	324	⇑P	PKiKP	05 09 39.7	-0.8
CONA	Conrad Observa	139.42	330	*e*P	PKiKP	05 09 41.2	+0.2
	comp=Z,5.2nm,0.5s						
GERES	GERESS Array B	139.75	333	PKhKP	PKPpre	05 09 33.1	
	comp=Z,0.7nm,0.5s,baz=33,slow=2.3,SNR=7.0						
GERES				PKP	PKPdf	05 09 39.3	+0.1
	comp=Z,2.1nm,0.5s,baz=29,slow=2.2,SNR=8.3						
GERES				SKPbc	SKPbc	05 13 00.9	+0.8
	comp=Z,0.8nm,0.6s,baz=60,slow=3.2,SNR=4.8						
GERES	GERESS Array B	139.75	333		PKPdf	05 09 39.2	0.0
ARSA	Arzberg	140.06	330	*e*P	PKiKP	05 09 41.9	-0.2
	comp=Z,2.8nm,0.6s						
MOA	Molln	140.23	332	*e*P	PKPdf	05 09 35.9	-4.0
	comp=Z,2.3nm,0.6s						
MOA				*e*P	PKiKP	05 09 41.6	-0.9
	comp=Z,5.8nm,0.5s						
SOKA	Soboth	140.70	330	*e*P	PKPdf	05 09 38.6	-2.3
	comp=Z,10nm,1.3s						
MYKA	Terra Mystica	141.41	331	*e*P	PKPdf	05 09 38.2	-4.0
	comp=Z,5.0nm,0.8s						
WATA	Walderalm	141.82	333	*e*P	PKPdf	05 09 39.8	-3.2
	comp=Z,6.0nm,0.6s						
ABTA	Abfaltersbach	141.85	332	*e*P	PKPdf	05 09 38.9	-4.1
	comp=Z,7.3nm,0.8s						
WTTA	Wattenberg	141.85	333	*e*P	PKPdf	05 09 40.2	-2.8
	comp=Z,4.2nm,0.4s						
MOTA	Moosalm	142.02	334	*e*P	PKPdf	05 09 39.3	-4.1
	comp=Z,14nm,1.0s						
RETA	Reutte	142.05	334	*e*P	PKPdf	05 09 40.0	-3.3
	comp=Z,2.8nm,0.5s						
SQTA	Sankt Quirin	142.07	333	*e*P	PKPdf	05 09 40.1	-3.3
	comp=Z,5.7nm,0.6s						
FETA	Feichten	142.43	334	*e*P	PKPdf	05 09 41.1	-3.0
	comp=Z,13nm,0.8s						
DAVA	Damuels	142.58	335	*e*P	PKPdf	05 09 41.2	-3.2
	comp=Z,19nm,1.2s						
MATE	Matera	143.72	321	⇑P	PKPbc	05 09 44.4	+0.1
KEST	Kesra	151.32	321	PKPbc	PKiKP	05 10 05.9	+0.1
	comp=Z,24nm,0.6s,baz=177,slow=1.7,SNR=81						
PBRG	Braganca	152.62	350	*e*PKPbc	PKiKP	05 10 08.1	-0.1
PBRG	Braganca	152.62	350	*e*PKPab	PKPab	05 10 19.5	+0.5
PGAV	Gavieira, Arco	152.68	353	*e*PKPbc	PKPbc	05 10 08.2	0.0
PGAV	Gavieira, Arco	152.68	353	*e*PKPab	PKPab	05 10 17.2	-2.1
POLO	Lamas de Olo	153.20	352	*e*PKPdf	PKPdf	05 09 59.2	-2.6
POLO	Lamas de Olo	153.20	352	*e*PKPbc	PKiKP	05 10 09.5	0.0
POLO	Lamas de Olo	153.20	352	*e*PKPab	PKPab	05 10 22.3	+0.8
PVRL	Vila Real	153.28	352	*e*PKPbc	PKiKP	05 10 09.9	+0.3
PVRL	Vila Real	153.28	352	*e*PKPab	PKPab	05 10 22.2	+0.4
MVO	Moncorvo	153.29	351	*e*PKPbc	PKiKP	05 10 09.8	+0.2
MVO	Moncorvo	153.29	351	*e*PKPab	PKPab	05 10 22.9	+1.0
PVIS	Viseu	153.86	352	*e*PKPbc	PKPbc	05 10 09.6	-1.1
PVIS	Viseu	153.86	352	*e*PKPab	PKPab	05 10 24.7	+0.4
ESDC	Sonseca Array	154.08	345	PKP	PKPdf	05 10 03.1	+0.1
	comp=Z,0.5nm,0.6s,baz=336,slow=2.8,SNR=4.1						
ESDC				PKPbc	PKPbc	05 10 10.8	-0.4
	comp=Z,3.0nm,0.9s,baz=12,slow=2.2,SNR=16						
ESDC				PKPab	PKPab	05 10 25.8	+0.5
	comp=Z,2.7nm,0.7s,baz=10,slow=4.5,SNR=8.9						
MTE	Manteigas	154.12	351	*e*PKPdf	PKPdf	05 10 02.6	-0.5
MTE	Manteigas	154.12	351	*e*PKPbc	PKiKP	05 10 11.5	+0.1
MTE	Manteigas	154.12	351	*e*PKPab	PKPab	05 10 24.2	-1.2
PCBR	Castelo Branco	154.65	351	*e*PKPbc	PKiKP	05 10 12.6	+0.2
PCBR	Castelo Branco	154.65	351	*e*PKPab	PKPab	05 10 28.3	+0.7
PMRV	Marv??o	155.04	350	*e*PKPbc	PKPdf	05 10 12.6	+8.3
PBEJ	Beja	156.49	350	*e*PKPab	PKPab	05 10 36.0	+0.5
PNCL	Nicolau / Gran	156.50	352	*e*PKPdf	PKPdf	05 10 03.3	-3.0
MESJ	Messejana	156.73	351	*e*PKPab	PKPab	05 10 37.0	+0.5
PBDV	Barranco-do-Ve	157.26	350	*e*PKPdf	PKPdf	05 10 06.5	-0.8
MORF	Marmelete	157.31	352	*e*PKPdf	PKPdf	05 10 06.5	-0.9
MORF	Marmelete	157.31	352	*e*PKPab	PKPab	05 10 39.3	+0.1
TORD	Torodi Ar. Bea	165.97	265	PKP	PKPdf	05 10 16.1	-0.8
	comp=Z,2.3nm,0.6s,baz=358,slow=0.9,SNR=23						
TORD				PKPab	PKPab	05 11 17.5	-0.4
	comp=Z,16nm,0.8s,baz=94,slow=3.9,SNR=44						
KIC	Kosan Boka	168.55	224	*e*PKIKP	PKPdf	05 10 17.5	-1.3
	comp=Z,17nm,0.9s						
LIC	Lamto	168.64	222	*e*PKIKP	PKPdf	05 10 18.0	-0.9
	comp=Z,41nm,1.1s						
DBIC	Dimbokro	168.86	224	PKP	PKPdf	05 10 17.9	-1.1
	comp=Z,7.0nm,0.9s,baz=299,slow=2.5,SNR=9.3						
DBIC				PKPab	PKPab	05 11 30.3	-0.1
	comp=Z,5.4nm,0.9s,baz=176,slow=5.6,SNR=6.5						
TIC	Toumodi	168.95	224	*e*PKIKP	PKPdf	05 10 17.7	-1.4
KOWA	Kowa	171.63	269	PKPab	PKPab	05 11 42.9	-0.1
	comp=Z,6.7nm,0.8s,baz=132,slow=2.3,SNR=8.6						
KOWA	Kowa	171.63	269		PKPab	05 11 42.0	-1.0

NEIC ***24*** *04:54:30.9±1.8,21.20S±0.04×68.73W±0.06,h115km±5km*
Error ellipse: s-maj=9.0km s-min=5.1km az=74.0
GUC ***24*** *04:54:31.9±0.6,21.22S×68.72W,h114km±4km, ML4.0*
IDC ***24*** *04:54:31.7±1.0,21.23S×68.47W,h106km±10km,mb3.7/8,*
mb1 3.8/12,mb1mx3.7/27,mbtmp4.1/12,MS3.1/4,
Ms1 3.1/4,ms1mx2.7/25,Error ellipse: s-maj=19.0km
s-min=13.4km az=114.0

ISC 24 04:54:30.8±0.6, 21.18S±0.04×68.63W±0.05, h109km±5km, n69,σ1°25/86, mb4.2/8, 10C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.81	280	⇑*i*P			Pn	04 54 50.2	+0.1
PB01				*i* S			Sn	04 55 04.6	0.0
PB01				IAML				04 55 08.1	
	comp=E,4μm,0.3s								
PB01	IPOC Station P	0.81	280				Pn	04 54 49.6	-0.5
PB01					Sn		Sn	04 55 03.9	-0.8
PB09	IPOC Station P	0.83	223				Pn	04 54 50.6	+0.1
PB09					Sn		Sn	04 55 05.5	+0.3
PB08	IPOC Station P	1.15	335	⇓*i*P			Pn	04 54 55.4	+1.5
PB08				*i* S			Sn	04 55 13.2	+1.9
PB08				IAML				04 55 14.6	
	comp=N,2μm,0.3s								
PB08	IPOC Station P	1.15	335				Pn	04 54 55.4	+1.5
PB08					Sn		Sn	04 55 12.9	+1.6
PB02	IPOC Station P	1.19	263	⇑*i*P			Pn	04 54 54.1	+0.1
PB02				*i* S			Sn	04 55 11.1	-0.5
PB02				IAML				04 55 13.2	
	comp=N,11μm,0.3s								
PB07	IPOC Station P	1.29	245	⇑*i*P			Pn	04 54 55.2	0.0
PB07				*i* S			Sn	04 55 13.5	-0.3
PB07				IAML				04 55 15.1	
	comp=E,4μm,0.3s								
PB07	IPOC Station P	1.29	245				Pn	04 54 54.6	-0.6
PB07					Sn		Sn	04 55 13.1	-0.6
LVC	Limon Verde	1.44	190	P			Pn	04 54 57.9	+0.8
	comp=E,254nm,0.3s,baz=13,slow=9.0,SNR=2217								
LVC				S			Sn	04 55 17.5	+0.3
	comp=E,323nm,0.3s,baz=100,slow=22,SNR=38								
LVC	Limon Verde	1.44	190	⇑*i*P			Pn	04 54 58.1	+0.9
LVC				*i* S			Sn	04 55 18.2	+1.0
LVC	Limon Verde	1.44	190				Pn	04 54 58.0	+0.8
LVC					Sn		Sn	04 55 18.0	+0.8
HMBC	Humberstone	1.48	307	⇑*i*P			Pn	04 54 57.9	+0.4
HMBC				*i* S			Sn	04 55 17.6	0.0
HMBC				IAML				04 55 20.0	
	comp=N,4μm,0.5s								
TA01	Diego Aracena	1.58	293	⇑*i*P			Pn	04 54 58.5	+0.1
TA01				*i* S			Sn	04 55 18.9	-0.6
TA01				IAML				04 55 20.8	
	comp=N,3μm,0.5s								
TA01	Diego Aracena	1.58	293				Pn	04 54 58.5	+0.1
TA01					Sn		Sn	04 55 18.8	-0.6
TA02	Huaiquique	1.67	303	⇑*i*P			Pn	04 54 59.8	+0.2
TA02				*e*S			Sn	04 55 20.8	-0.8
TA02				IAML				04 55 26.5	
	comp=N,2μm,0.4s								
TA02	Huaiquique	1.67	303				Pn	04 54 59.8	+0.2
TA02					Sn		Sn	04 55 21.2	-0.3
PB11	IPOC Station P	1.71	326	⇓*i*P			Pn	04 54 59.9	+0.6
PB11				*i* S			Sn	04 55 23.5	+0.8
PB11				IAML				04 55 26.0	
	comp=E,1μm,0.3s								
PB11	IPOC Station P	1.71	326				Pn	04 55 00.3	0.0
PB06	IPOC Station P	1.75	210				Pn	04 55 00.8	+0.1
AF01	San Pedro de A	1.81	167				Pn	04 55 01.9	+0.3
PB04	IPOC Station P	1.82	231	⇑*i*P			Pn	04 55 01.1	-0.5
PB04				IAML				04 55 30.4	
	comp=N,3μm,0.3s								
PB04	IPOC Station P	1.82	231				Pn	04 55 00.7	-0.8
PSGC	Pisagua	2.11	318	⇑*i*P			Pn	04 55 05.2	-0.1
PSGC				*i* S			Sn	04 55 30.6	-1.0
PSGC				IAML				04 55 35.8	
	comp=N,845nm,0.6s								
PSGCX	Pisagua	2.11	318				Pn	04 55 04.9	-0.3
PB15	IPOC Station P	2.16	201				Pn	04 55 05.8	-0.2
PB05	IPOC Station P	2.21	221	⇑*i*P			Pn	04 55 05.8	-0.7
PB05				IAML				04 55 42.5	
	comp=E,812nm,0.6s								
PB10	IPOC Station P	2.92	217	IAML				04 56 04.7	
	comp=E,485nm,0.4s								
PB10	IPOC Station P	2.92	217				Pn	04 55 15.1	-0.7
PB14	IPOC Station P	3.80	205				Pn	04 55 26.4	-1.3
LPAZ	La Paz	4.89	6	P			Pn	04 55 45.6	+2.8
	comp=E,2.4nm,0.3s,baz=194,slow=6.7,SNR=71								
LPAZ				LR			LR	04 58 10.8	
	comp=E,82nm,19.8s,baz=222,slow=44								
LPAZ	La Paz	4.89	6				Pn	04 55 42.7	0.0
AC02	Maricunga	5.64	185	Pn			Pn	04 55 52.0	-0.8
AC06	Mina Casimiro	6.34	194	Pn			Pn	04 55 58.4	-3.4
AC04	Llanos de Chal	7.33	197	Pn			Pn	04 56 10.2	-5.0
SIV	San Ignacio	8.83	55	P			Pn	04 56 34.0	-1.6
	comp=E,9.2nm,0.3s,baz=250,slow=11,SNR=247								
SIV				S			Sn	04 58 07.3	-6.2
	baz=290,slow=12,SNR=3.3								
ZON	Zonda	10.32	180				Pn	04 56 54.6	-1.1
CPUP	Villa Florida	11.54	119	P			Pn	04 57 12.6	+0.3
	comp=E,0.1nm,0.3s,baz=306,slow=11,SNR=4.1								
CPUP	Villa Florida	11.54	119				Pn	04 57 12.0	-0.2
AQDB	Aquidauana	12.11	89	Pn			Pn	04 57 19.2	-0.6
SAML	Samuel	13.25	24				Pn	04 57 34.8	+0.1
TRQA	Tornquist	17.77	163	P			P	04 58 29.7	-0.8
PLCA	Paso Flores	19.56	184	P			P	04 58 51.3	+1.3
	comp=E,0.2nm,0.3s,baz=351,slow=11,SNR=8.2								
PLCA	Paso Flores	19.56	184			P	P	04 58 48.9	-1.1
PLCA				IAmb		IAmb	IAmb	04 58 56.0	
	comp=Z,5.5nm,0.9s								
BDFB	Brasilia	20.32	78	P			P	04 58 58.1	-0.4
	comp=Z,1.8nm,0.4s,baz=243,slow=11,SNR=5.2								
BDFB	Brasilia	20.32	78	P			P	04 58 58.3	-0.1
BDFB				IAmb		IAmb	IAmb	04 59 00.2	
	comp=Z,7.9nm,1.2s								
RUSC	La Rusia	27.26	350	P			P	05 00 05.2	-0.4
RUSC				IAmb		IAmb	IAmb	05 00 19.2	
	comp=Z,8.8nm,1.2s								
PMSA	Palmer Station	43.68	177	LR			LR	05 19 57.7	
	comp=Z,22nm,19.9s,baz=70,slow=35								
TXAR	Lajitas Array	60.52	325	P			P	05 04 30.9	+1.1
	comp=Z,0.2nm,0.5s,baz=150,slow=9.3,SNR=2.0								
SNAA	Sanae	62.49	161	P			P	05 04 42.9	+0.5
DBIC	Dimbokro	68.39	73	P			P	05 05 22.0	+0.8
	comp=Z,6.2nm,1.0s,baz=232,slow=3.5,SNR=5.4								
DBIC	Dimbokro	68.39	73	P			P	05 05 20.4	-0.9
PDAR	Pinedale Array	73.97	330	P			P	05 05 57.0	+2.4
	comp=Z,0.4nm,0.8s,baz=171,slow=6.4,SNR=2.5								
PDAR				LR			LR	05 40 58.5	
	comp=Z,11nm,19.6s,baz=272,slow=38								
NVAR	Mina Array Bea	75.41	322	P			P	05 06 05.1	+2.2
	comp=Z,0.5nm,0.7s,baz=164,slow=6.7,SNR=3.8								
NVAR	Mina Array Bea	75.41	322	P			P	05 06 00.9	-2.0
TORD	Torodi Ar. Bea	77.00	70	P			P	05 06 12.1	-0.1
	comp=Z,3.0nm,0.7s,baz=256,slow=5.5,SNR=19								
TORD				pP			pP	05 06 41.2	0.0
	comp=Z,0.4nm,0.4s,baz=254,slow=5.2,SNR=1.6								
TORD				LR			LR	05 41 26.1	
	comp=Z,23nm,18.1s,baz=305,slow=37								
TORD	Torodi Ar. Bea	77.00	70	P			P	05 06 10.4	-1.8
TORD				IAmb		IAmb	IAmb	05 06 13.1	
	comp=Z,3.0nm,0.8s								
BOSA	Boshof	83.36	118	P			P	05 06 46.8	+0.4
	comp=Z,2.9nm,0.9s,baz=216,slow=8.7,SNR=4.4								
BOSA	Boshof	83.36	118	P			P	05 06 45.7	-0.7
BOSA				IAmb		IAmb	IAmb	05 06 47.8	
	comp=Z,5.7nm,1.1s								
MAW	Mawson	84.56	163	P			P	05 06 52.9	+1.5
	comp=Z,3.1nm,0.6s,baz=208,slow=5.4,SNR=9.5								
MAW	Mawson	84.56	163	P			P	05 06 51.7	+0.2
ASAR	Alice Springs	130.31	207	PKP			PKPdf	05 13 29.7	+0.6
	comp=Z,0.4nm,0.5s,baz=146,slow=2.4,SNR=4.9								
ASAR	Alice Springs	130.31	207				PKPdf	05 13 26.9	-2.2
WRA	Warramunga Arr	133.36	210	PKP			PKPdf	05 13 36.0	+1.1
	comp=Z,0.7nm,0.6s,baz=164,slow=2.0,SNR=11								
WRA	Warramunga Arr	133.36	210				PKPdf	05 13 33.3	-1.7
ZALV	Zalesovo Beam	141.56	25	PKP			PKPdf	05 13 49.5	+0.6
	comp=Z,1.3nm,0.5s,baz=276,slow=3.3,SNR=4.9								
KSH	Kashi	144.70	51	PKP			PKPdf	05 13 55.4	+0.3
KSH				pPKP		pPKPdf	PKPdf	05 14 22.3	-4.0
MKAR	Makanchi Array	145.22	36	PKPbc			PKPdf	05 13 56.9	+1.3
	comp=Z,4.9nm,0.7s,baz=329,slow=3.4,SNR=43								
USRK	Ussuriysk Ar.	151.38	328	PKPbc			PKiKP	05 14 12.9	+0.6
	comp=Z,1.1nm,0.6s,baz=349,slow=1.5,SNR=4.1								
SONM	Songino Array	153.11	7	PKPbc			PKiKP	05 14 17.1	+1.2
	comp=Z,0.5nm,0.4s,baz=0.0,slow=1.4,SNR=3.7								

KRSC 24 05:11:44.1±2.1, 49.29N×156.64E, h15km±37km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.44	347	*e*P			Pn	05 12 09.1	-0.5
SKR				*e*S			Sn	05 12 27.0	-1.2
ALID	Alaid	1.73	336	*e*P			Pn	05 12 13.4	-0.5
PAU	Pauzhetka	2.19	3	*e*S			Sb	05 12 49.7	-0.5
KDTR	Khodutka, Kamc	2.69	19	*e*P			Pb	05 12 29.9	-2.0
KDTR				*e*S			Sb	05 13 03.1	-1.5
MIPR	Malaya Ipel'ka	2.99	1	*e*S			Sn	05 13 09.0	+2.3
ASAK	Asacha	3.20	14	*e*P			Pn	05 12 36.9	+2.9
MTVR	Mutnovka	3.34	16	*e*P			Pn	05 12 38.8	+2.8
RUS	Russkaya	3.37	20	*e*S			Sn	05 13 19.0	+3.2
GRL	Gorelyy	3.39	15	*e*P			Pb	05 12 40.6	-3.4
GRL				*e*S			Sb	05 13 20.9	-4.2
UGLR	Uglovaya	4.16	18	P			Pb	05 12 52.5	-4.6
AVH	Avacha	4.20	17	P			Pb	05 12 53.0	-4.6
MKZ	Mys Kozlova	6.14	29	P			Pn	05 13 16.6	+2.4

MEX 24 05:16:52.3±0.7, 18.23N×99.94W, h53km±16km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARIG	Puente Sto Nin	0.40	278	*i* P			Pn	05 17 01.0	-1.7
ARIG				*i* S			Sn	05 17 08.6	-1.5
PLIG	Platanillo	0.44	68	*i* P			Pn	05 17 00.8	-2.4
PLIG				*

	baz=327								
STYT	**Tauyuan**	**0.57**	**7**	⇓	*i*	P	**Pn**	**05 58 14.2**	**+0.3**
	baz=13								
STYT					*e*	S	**Sn**	**05 58 23.2**	**+1.1**
	baz=13								
STYH	**Taoyuan**	**0.58**	**9**	⇓	*i*	P	**Pb**	**05 58 14.4**	**+0.5**
	baz=14								
STYH						S	**Sn**	**05 58 24.0**	**+1.7**
	baz=14								
HEN	**Hengchun**	**0.59**	**175**		*e*	P	**Pb**	**05 58 14.9**	**+0.7**
	baz=164								
HEN					*e*	S	**Sn**	**05 58 24.2**	**+1.6**
	baz=164								
CHN1	**Nanshi**	**0.60**	**346**	⇓	*i*	P	**Pb**	**05 58 15.0**	**+0.6**
	baz=345								
CHN1					*e*	S	**Sn**	**05 58 25.1**	**+2.1**
	baz=345								
TAI1	**Yung-k'ang**	**0.61**	**317**		*e*	P	**Pb**	**05 58 15.4**	**+1.0**
	baz=315								
TAI1					*e*	S	**Sn**	**05 58 25.4**	**+2.4**
	baz=315								
SNST	**Tainan City**	**0.64**	**345**			P	**Pb**	**05 58 15.7**	**+0.6**
	baz=343								
SNST						S	**Sb**	**05 58 26.1**	**+2.2**
	baz=343								
WTP	**Ta-pu**	**0.65**	**355**	⇓	*i*	P	**Pb**	**05 58 15.5**	**+0.3**
	baz=339								
WTP						S	**Sb**	**05 58 26.1**	**+2.0**
	baz=339								
TWK1	**Hengchun**	**0.66**	**170**	⇓	*i*	P	**Pb**	**05 58 15.7**	**+0.3**
	baz=170								
TWK1					*e*	S	**Sb**	**05 58 25.8**	**+1.5**
	baz=170								
ELDTW	**Lidau**	**0.67**	**28**	⇓	*i*	P	**Pn**	**05 58 15.6**	**+0.3**
	baz=37								
ELDTW						S	**Sb**	**05 58 26.0**	**+1.4**
	baz=37								
TWKBT	**Hengchun**	**0.67**	**169**	⇓	*i*	P	**Pb**	**05 58 15.6**	**+0.2**
	baz=170								
TWKBT					*e*	S	**Sb**	**05 58 25.8**	**+1.3**
	baz=170								
EDH	**Donghe**	**0.69**	**57**	⇓	*i*	P	**Pn**	**05 58 15.8**	**+0.3**
	baz=72								
EDH					*e*	S	**Sb**	**05 58 26.3**	**+1.3**
	baz=72								
TWK	**Hsinying**	**0.69**	**345**	⇓	*i*	P	**Pn**	**05 58 15.9**	**+0.3**
	baz=345								
TWK					*e*	S	**Sb**	**05 58 26.1**	**+0.9**
	baz=345								
ECS	**Chishang**	**0.70**	**45**		*e*	P	**Pb**	**05 58 16.7**	**+0.7**
	baz=41								
ECS					*e*	S	**Sb**	**05 58 26.9**	**+1.5**
	baz=41								
TPUB	**Ta-pu**	**0.70**	**356**	⇓	*i*	P	**Pn**	**05 58 16.0**	**+0.3**
	baz=341								
TPUB						S	**Sb**	**05 58 26.9**	**+1.4**
	baz=341								
TPUB	**Ta-pu**	**0.70**	**356**				**Pn**	**05 58 16.0**	**+0.3**
TPUB						Sg	**Sb**	**05 58 26.6**	**+1.1**
TSEB	**Hengchuen, Pin**	**0.72**	**164**		*e*	P	**Pb**	**05 58 16.6**	**+0.2**
	baz=175								
TSEB					*e*	S	**Sb**	**05 58 27.9**	**+1.8**
	baz=175								
SCLT	**Jiali**	**0.73**	**322**			P	**Pb**	**05 58 16.7**	**+0.3**
	baz=321								
SCLT					*e*	S	**Sb**	**05 58 28.0**	**+1.8**
	baz=321								
LDUT	**Ludao**	**0.73**	**84**	⇓	*i*	P	**Pn**	**05 58 16.1**	**0.0**
	baz=85								
LDUT					*e*	S	**Sn**	**05 58 26.4**	**+0.2**
	baz=85								
CHN4	**Tsaushan**	**0.75**	**354**			P	**Pn**	**05 58 16.6**	**+0.1**
	baz=340								
CHN4					*e*	S	**Sb**	**05 58 28.6**	**+1.6**
	baz=340								
CHKT	**Chengkung**	**0.81**	**52**			P	**Pn**	**05 58 17.8**	**+0.6**
	baz=66								
CHKT					*e*	S	**Sb**	**05 58 29.7**	**+1.4**
	baz=66								
FULB	**Fuli**	**0.82**	**43**			P	**Pb**	**05 58 18.4**	**+0.3**
	baz=41								
FULB					*e*	S	**Sb**	**05 58 31.4**	**+2.5**
	baz=41								
ICHU	**Yijhu**	**0.84**	**334**	⇓	*i*	P	**Pn**	**05 58 17.9**	**+0.2**
	baz=332								
ICHU					*e*	S	**Sn**	**05 58 29.5**	**+0.6**
	baz=332								
CHN8	**Yiju**	**0.86**	**330**			P	**Pn**	**05 58 18.2**	**+0.3**
	baz=328								
CHN8					*e*	S	**Sb**	**05 58 30.7**	**+0.8**
	baz=328								
ALS	**Alishan**	**0.92**	**7**	⇓	*i*	P	**Pn**	**05 58 19.5**	**+0.5**
	baz=7.0								
ALS					*e*	S	**Sb**	**05 58 33.4**	**+1.6**
	baz=7.0								
YUS	**Yu-Shan**	**0.92**	**16**		*i*	P	**Pn**	**05 58 19.8**	**+0.6**
	baz=17								
YUS					*e*	S	**Sb**	**05 58 33.2**	**+1.0**
	baz=17								
CHY	**Chiayi**	**0.93**	**345**		*e*	P	**Pn**	**05 58 19.0**	**+0.2**
	baz=330								
CHY					*e*	S	**Sb**	**05 58 32.5**	**+0.7**
	baz=330								
TWF1	**Yuli**	**0.94**	**37**		*e*	P	**Pn**	**05 58 19.6**	**+0.5**
	baz=34								
TWF1					*e*	S	**Sb**	**05 58 32.9**	**+0.6**
	baz=34								
CHN2	**Minshiung**	**0.95**	**349**		*e*	P	**Pn**	**05 58 19.4**	**+0.3**
	baz=332								
CHN2					*e*	S	**Sb**	**05 58 33.8**	**+1.4**
	baz=332								
EYUL	**Yuli**	**0.95**	**38**		*e*	P	**Pn**	**05 58 19.9**	**+0.7**
	baz=35								
EYUL					*e*	S	**Sb**	**05 58 32.9**	**+0.4**
	baz=35								
YULB	**Yu-li**	**0.97**	**36**			P	**Pn**	**05 58 20.0**	**+0.5**
	baz=29								
YULB					*e*	S	**Sb**	**05 58 33.9**	**+0.7**
	baz=29								
YULB	**Yu-li**	**0.97**	**36**				**Pn**	**05 58 20.2**	**+0.7**
YULB						Sg	**Sb**	**05 58 33.7**	**+0.5**
LAY	**Lan-yu**	**0.98**	**124**	⇑		P	**Pn**	**05 58 19.1**	**-0.5**
	baz=125								
LAY					*e*	S	**Sb**	**05 58 33.2**	**-0.1**
	baz=125								
CHN5	**Tsauling**	**0.99**	**360**	⇓	*i*	P	**Pn**	**05 58 20.1**	**+0.2**
	baz=358								
CHN5					*e*	S	**Sb**	**05 58 35.3**	**+1.5**
	baz=358								
ECBN	**Changbin**	**1.01**	**45**		*e*	P	**Pn**	**05 58 20.9**	**+0.9**
	baz=58								
ECBN					*e*	S	**Sb**	**05 58 36.2**	**+2.2**
	baz=58								
EHY	**Hungye**	**1.08**	**33**		*e*	P	**Pb**	**05 58 22.4**	**0.0**
	baz=22								
EHY					*e*	S	**Sb**	**05 58 36.8**	**+0.6**
	baz=22								
WGK	**Gukeng**	**1.09**	**354**		*e*	P	**Pn**	**05 58 21.5**	**+0.5**
	baz=339								
WGK					*e*	S	**Sb**	**05 58 37.0**	**+0.6**
	baz=339								
WDLH	**Douliu**	**1.09**	**353**	⇓		P	**Pn**	**05 58 21.6**	**+0.5**
	baz=338								
WDLH					*e*	S	**Sb**	**05 58 36.9**	**+0.4**
	baz=338								
WHYT	**Xinyi Township**	**1.10**	**8**		*e*	P	**Pn**	**05 58 21.0**	**-0.4**
	baz=354								
WHYT					*e*	S	**Sb**	**05 58 37.2**	**+0.3**
	baz=354								
WSF	**Szhu**	**1.12**	**338**		*e*	P	**Pn**	**05 58 22.0**	**+0.6**
	baz=336								
WSF					*e*	S	**Sn**	**05 58 36.5**	**+0.8**
	baz=336								
WTK	**Tuku**	**1.12**	**346**	⇓		P	**Pn**	**05 58 21.5**	**+0.1**
	baz=344								
WTK					*e*	S	**Sb**	**05 58 37.2**	**0.0**
	baz=344								
HGSD	**Ruisui**	**1.12**	**37**			P	**Pb**	**05 58 22.8**	**-0.3**
	baz=24								
HGSD					*e*	S	**Sb**	**05 58 39.1**	**+1.7**
	baz=24								
WDGT	**Dungji**	**1.15**	**305**	⇓	*e*	P	**Pn**	**05 58 21.3**	**-0.5**
	baz=304								
WDGT					*e*	S	**Sn**	**05 58 35.5**	**-1.0**
	baz=304								
SSLB	**Suanglung**	**1.21**	**12**			P	**Pn**	**05 58 23.4**	**+0.6**
	baz=12								
SSLB					*e*	S	**Sb**	**05 58 39.7**	**-0.2**
	baz=12								
SSLB	**Suanglung**	**1.21**	**12**				**Pn**	**05 58 23.3**	**+0.6**
WJS	**Zhushan**	**1.22**	**2**			P	**Pn**	**05 58 23.4**	**+0.5**
	baz=345								
WJS					*e*	S	**Sb**	**05 58 39.9**	**-0.2**
	baz=345								
EGFH	**Guangfu**	**1.27**	**33**	⇑		P	**Pn**	**05 58 24.3**	**+0.8**
	baz=34								
EGFH					*e*	S	**Sb**	**05 58 41.5**	**-0.1**
	baz=34								
WNT	**Mingjian**	**1.27**	**0**		*e*	P	**Pn**	**05 58 24.4**	**+0.7**
	baz=358								
WNT					*e*	S	**Sb**	**05 58 41.5**	**-0.2**
	baz=358								
SMLT	**Sun Moon Lake**	**1.29**	**9**	⇓		P	**Pn**	**05 58 24.8**	**+0.8**
	baz=8.0								
SMLT					*e*	S	**Sb**	**05 58 42.6**	**+0.2**
	baz=8.0								
WNT1	**Nantou City**	**1.30**	**360**		*e*	P	**Pb**	**05 58 26.3**	**+0.2**
	baz=358								
WNT1					*e*	S	**Sb**	**05 58 42.2**	**-0.3**
	baz=358								
VCHM	**Qimei**	**1.30**	**298**	⇓		P	**Pn**	**05 58 23.4**	**-0.6**
	baz=296								
VCHM					*e*	S	**Sn**	**05 58 38.9**	**-1.4**
	baz=296								
TYC	**Yuchr**	**1.31**	**7**	⇓		P	**Pn**	**05 58 24.9**	**+0.8**
	baz=7.0								
TYC					*e*	S	**Sb**	**05 58 42.9**	**+0.2**
	baz=7.0								
WTCT	**Ta-ch'eng**	**1.31**	**344**		*e*	P	**Pn**	**05 58 24.7**	**+0.6**
	baz=341								
WTCT					*e*	S	**Sb**	**05 58 42.3**	**-0.5**
	baz=341								
WRL	**Guolierlin Hig**	**1.33**	**348**		*e*	P	**Pn**	**05 58 24.3**	**-0.1**
	baz=333								
WRL					*e*	S	**Sb**	**05 58 42.9**	**-0.3**
	baz=333								
PHUB	**P'eng-hu**	**1.37**	**312**	⇓		P	**Pn**	**05 58 24.2**	**-0.7**
	baz=310								
PHUB					*e*	S	**Sn**	**05 58 40.4**	**-1.5**
	baz=310								
ESL	**Shilin**	**1.40**	**30**			P	**Pn**	**05 58 26.4**	**+1.1**
	baz=31								
ESL					*e*	S	**Sb**	**05 58 44.9**	**-0.2**
	baz=31								
PNG	**Penghu**	**1.42**	**313**	⇓	*e*	P	**Pn**	**05 58 25.0**	**-0.6**
	baz=311								
PNG					*e*	S	**Sn**	**05 58 42.0**	**-1.0**
	baz=311								
OWD	**Renai**	**1.43**	**19**		*e*	P	**Pn**	**05 58 27.0**	**+1.2**
	baz=2.0								
WPL	**Puli Township**	**1.43**	**10**		*e*	P	**Pn**	**05 58 26.8**	**+1.0**
	baz=9.0								
WPL					*e*	S	**Sn**	**05 58 44.7**	**+1.3**
	baz=9.0								
WWF	**Wufeng**	**1.44**	**1**		*e*	P	**Pn**	**05 58 26.5**	**+0.7**
	baz=344								
WWF					*e*	S	**Sb**	**05 58 46.5**	**+0.1**
	baz=344								
DPDB	**Guoxing**	**1.45**	**9**		*e*	P	**Pn**	**05 58 26.3**	**+0.2**
	baz=8.0								
DPDB					*e*	S	**Sn**	**05 58 45.5**	**+1.6**
	baz=8.0								
WCS	**Beigang Elemen**	**1.47**	**8**			P	**Pn**	**05 58 26.9**	**+0.7**
	baz=8.0								
WCS					*e*	S	**Sn**	**05 58 45.9**	**+1.5**
	baz=8.0								
WCHH	**Zhanghua**	**1.48**	**356**		*e*	P	**Pn**	**05 58 27.3**	**+0.8**
	baz=353								
WCHH					*e*	S	**Sb**	**05 58 46.8**	**-0.7**
	baz=353								
TEYL	**Yanliau Villag**	**1.52**	**34**		*e*	P	**Pb**	**05 58 28.9**	**-0.8**
	baz=33								
CHGB	**Renai**	**1.52**	**17**		*e*	P	**Pn**	**05 58 28.2**	**+1.0**
CHGB						S	**Sn**	**05 58 48.0**	**+1.9**
TCU	**Taichung**	**1.54**	**360**		*e*	P	**Pn**	**05 58 28.2**	**+0.9**
	baz=345								
TCU					*e*	S	**Sn**	**05 58 48.3**	**+2.1**
	baz=345								
HWA	**Hwalien**	**1.61**	**32**		*e*	P	**Pn**	**05 58 30.0**	**+1.7**
	baz=32								
WHF	**Hehuan Shan**	**1.63**	**19**		*e*	P	**Pn**	**05 58 30.1**	**+1.2**
	baz=20								
WHF					*e*	S	**Sb**	**05 58 51.5**	**-0.8**
	baz=20								
WHP	**Taichung City**	**1.69**	**8**	⇑	*e*	P	**Pn**	**05 58 30.4**	**+0.9**
	baz=6.0								
WHP					*e*	S	**Sn**	**05 58 51.6**	**+1.7**
	baz=6.0								
TWD	**Chiawan**	**1.70**	**30**		*e*	P	**Pn**	**05 58 30.4**	**+1.0**
	baz=31								
TWD					*e*	S	**Sb**	**05 58 52.8**	**-0.9**
	baz=31								
TDCB	**Techi**	**1.71**	**15**		*e*	P	**Pn**	**05 58 30.7**	**+1.0**
	baz=16								
TDCB					*e*	S	**Sn**	**05 58 51.3**	**+0.9**
	baz=16								
TWT	**Tachien**	**1.71**	**15**		*e*	P	**Pn**	**05 58 31.2**	**+1.4**
	baz=16								
TWT					*e*	S	**Sn**	**05 58 52.4**	**+1.8**
	baz=16								
FUSS	**Fushou**	**1.72**	**17**		*e*	P	**Pn**	**05 58 30.8**	**+0.8**
	baz=4.0								
FUSS					*e*	S	**Sb**	**05 58 54.7**	**0.0**
	baz=4.0								
WDJ	**Dajia District**	**1.74**	**359**		*e*	P	**Pn**	**05 58 31.3**	**+1.2**
	baz=356								
WDJ					*e*	S	**Sn**	**05 58 53.5**	**+2.4**
	baz=356								
TWQ1	**Liyutan**	**1.74**	**3**		*e*	P	**Pn**	**05 58 31.4**	**+1.3**
	baz=1.0								
TWQ1					*e*	S	**Sn**	**05 58 53.4**	**+2.2**
	baz=1.0								
ETLH	**Xiulin Townshi**	**1.76**	**25**		*e*	P	**Pn**	**05 58 31.5**	**+1.1**
	baz=26								
ETLH					*e*	S	**Sn**	**05 58 54.3**	**+2.5**
	baz=26								
ETL	**Fush Village**	**1.78**	**29**		*e*	P	**Pn**	**05 58 32.7**	**+2.1**
	baz=30								
ETL					*e*	S	**Sn**	**05 58 54.7**	**+2.6**
	baz=30								
NACB	**Ninganchiao**	**1.78**	**28**		*e*	P	**Pn**	**05 58 30.5**	**-0.1**
	baz=29								
NACB					*e*	S	**Sn**	**05 58 53.9**	**+1.9**
	baz=29								
NACB	**Ninganchiao**	**1.78**	**28**				**Pn**	**05 58 30.5**	**-0.1**
NSY	**Sanyi**	**1.81**	**2**		*e*	P	**Pn**	**05 58 32.7**	**+1.6**
	baz=344								
NSY					*e*	S	**Sn**	**05 58 55.1**	**+2.3**
	baz=344								
NMLH	**Miaoli**	**1.93**	**3**		*e*	P	**Pn**	**05 58 34.3**	**+1.6**
	baz=345								
NMLH					*e*	S	**Sn**	**05 58 58.5**	**+2.6**
	baz=345								
NNSB	**Datong**	**1.93**	**19**		*e*	P	**Pn**	**05 58 34.5**	**+1.7**
	baz=20								
NNSB					*e*	S	**Sn**	**05 58 57.9**	**+1.9**
	baz=20								
NNS	**Nan Shan**	**1.94**	**19**		*e*	P	**Pn**	**05 58 34.5**	**+1.6**
	baz=20								
NNS					*e*	S	**Sn**	**05 58 58.2**	**+2.0**
	baz=20								
NSTT	**Nanjuang**	**2.04**	**8**		*e*	P	**Pn**	**05 58 35.4**	**+1.2**
	baz=348								
LIOB	**Emei**	**2.06**	**9**		*e*	P	**Pn**	**05 58 35.4**	**+0.9**
	baz=349								
ENA	**Nanau**	**2.07**	**28**		*e*	P	**Pn**	**05 58 35.3**	**+0.8**
	baz=28								
EWUT	**Wuta**	**2.10**	**28**		*e*	P	**Pn**	**05 58 36.6**	**+1.6**
	baz=30								
EWUT					*e*	S	**Sn**	**05 59 01.6**	**+1.7**
	baz=30								
NDT	**Datong Townshi**	**2.14**	**21**		*e*	P	**Pn**	**05 58 37.5**	**+2.0**
	baz=3.0								
YHNB	**Yeheng**	**2.16**	**17**		*e*	P	**Pn**	**05 58 37.2**	**+1.3**
	baz=18								
YHNB					*e*	S	**Sn**	**05 59 03.1**	**+1.6**
	baz=18								
YHNB	**Yeheng**	**2.16**	**17**				**Pn**	**05 58 37.2**	**+1.3**
NSK	**Sanguang**	**2.16**	**17**		*e*	P	**Pn**	**05 58 37.4**	**+1.6**
	baz=18								
NSK					*e*	S	**Sn**	**05 59 04.0**	**+2.4**
	baz=18								
ENTT	**Nioudou**	**2.19**	**22**		*e*	P	**Pn**	**05 58 38.2**	**+2.0**
	baz=7.0								
ENTT					*e*	S	**Sn**	**05 59 05.5**	**+3.3**
	baz=7.0								
NDS	**Dongshan**	**2.24**	**25**		*e*	P	**Pn**	**05 58 38.3**	**+1.4**
	baz=41								
NDS					*e*	S	**Sn**	**05 59 06.6**	**+3.2**
	baz=41								
TWC	**Suao**	**2.27**	**28**		*e*	P	**Pn**	**05 58 38.7**	**+1.4**
	baz=29								
TWC					*e*	S	**Sn**	**05 59 05.9**	**+1.8**
	baz=29								
NWLT	**Wulai**	**2.30**	**19**		*e*	P	**Pn**	**05 58 37.8**	**+0.1**
	baz=4.0								
NWLT					*e*	S	**Sn**	**05 59 07.4**	**+2.6**
	baz=4.0								
TWE	**Neicheng**	**2.30**	**23**		*e*	P	**Pn**	**05 58 40.5**	**+2.8**
	baz=39								
NHDH	**Xindian Distri**	**2.48**	**18**		*e*	P	**Pb**	**05 58 43.7**	**-2.3**
	baz=357								
TATO	**Taipei**	**2.48**	**17**		*e*	P	**Pb**	**05 58 44.2**	**-1.8**
	baz=356								
TATO	**Taipei**	**2.48**	**17**				**Pn**	**05 58 42.5**	**+2.3**
NTC	**Toucheng**	**2.48**	**25**		*e*	P	**Pb**	**05 58 44.0**	**-2.1**
	baz=26								
TWA	**Mucha**	**2.51**	**19**		*e*	P	**Pb**	**05 58 44.2**	**-2.4**
	baz=359								
TIPB	**Shuangxi**	**2.59**	**24**		*e*	P	**Pn**	**05 58 43.6**	**+1.9**
	baz=24								
TIPB					*e*	S	**Sn**	**05 59 15.6**	**+3.6**
	baz=24								
VWUC	**VWUC**	**2.64**	**335**		*e*	P	**Pn**	**05 58 42.3**	**0.0**
	baz=329								
VWUC					*e*	S	**Sn**	**05 59 11.6**	**-1.6**
	baz=329								
NWF	**Wu-fen Shan**	**2.66**	**22**		*e*	P	**Pn**	**05 58 44.7**	**+2.0**
	baz=37								
WFSB	**Wu-fen Shan**	**2.66**	**22**		*e*	P	**Pn**	**05 58 45.0**	**+2.3**
	baz=7.0								
WFSB					*e*	S	**Sn**	**05 59 15.9**	**+2.1**
	baz=7.0								
ANP	**Anpu**	**2.69**	**16**		*e*	P	**Pn**	**05 58 44.8**	**+1.7**
	baz=17								
KNM	**Kinmen**	**2.75**	**312**		*e*	P	**Pn**	**05 58 44.9**	**+1.0**
	baz=305								
KNM					*e*	S	**Sn**	**05 59 16.2**	**+0.4**
	baz=305								
JYNG	**Yonagunijimaku**	**2.78**	**48**			P	**Pn**	**05 58 46.5**	**+2.2**
JYNG						S	**Sn**	**05 59 18.7**	**+2.0**
KNMB	**Chin-men Tao**	**2.81**	**312**		*e*	P	**Pn**	**05 58 44.1**	**-0.6**
	baz=307								
KNMB					*e*	S	**Sn**	**05 59 14.9**	**-2.5**
	baz=307								
KNMB	**Chin-men Tao**	**2.81**	**312**			Pn	**Pn**	**05 58 44.6**	**-0.1**
PTMZ	**Houxiangcun**	**2.82**	**330**		*e*	P	**Pn**	**05 58 44.6**	**-0.3**
	baz=335								
PTMZ					*e*	S	**Sn**	**05 59 15.4**	**-2.3**
	baz=335								
YOJ	**Yonaguni jima**	**2.83**	**49**			P	**Pn**	**05 58 47.3**	**+2.3**
YOJ						S	**Sn**	**05 59 20.4**	**+2.4**
YOJ	**Yonaguni jima**	**2.83**	**49**		*e*	P	**Pn**	**05 58 46.5**	**+1.5**
	baz=61								
YOJ					*e*	S	**Sn**	**05 59 19.9**	**+2.0**
	baz=61								
YOJ	**Yonaguni jima**	**2.83**	**49**				**Pn**	**05 58 45.9**	**+0.9**
ZPLA	**Ao Xicun**	**3.00**	**297**		*e*	P	**Pn**	**05 58 47.0**	**-0.4**
	baz=292								
ZPLA					*e*	S	**Sn**	**05 59 20.2**	**-2.0**
	baz=292								
HATJ	**Hateruma jima**	**3.22**	**63**			P	**Pn**	**05 58 51.5**	**+1.2**
HATJ						S	**Sn**	**05 59 28.4**	**+0.9**
IRIF	**Iriomote-Funau**	**3.29**	**58**			P	**Pn**	**05 58 52.8**	**+1.5**
IRIF						S	**Sn**	**05 59 32.0**	**+2.7**
AXDP	**Jialang**	**3.38**	**313**		*e*	P	**Pn**	**05 58 53.2**	**+0.6**
	baz=308								
AXDP					*e*	S	**Sn**	**05 59 30.5**	**-1.0**
	baz=308								
JKRS	**Kuro-shima**	**3.47**	**61**			P	**Pn**	**05 58 55.1**	**+1.4**
JKRS						S	**Sn**	**05 59 35.0**	**+1.4**
MATB	**Ma-tsu**	**3.60**	**349**		*e*	P	**Pn**	**05 58 55.5**	**-0.1**
	baz=343								
MATB					*e*	S	**Sn**	**05 59 35.5**	**-1.5**
	baz=343								
MSUT	**Lienchiang**	**3.62**	**349**		*e*	P	**Pn**	**05 58 56.0**	**+0.1**
	baz=343								
MSUT					*e*	S	**Sn**	**05 59 36.0**	**-1.5**
	baz=343								
JIJ	**Ishigaki jima**	**3.63**	**60**			P	**Pn**	**05 58 56.8**	**+0.8**
JIJ						S	**Sn**	**05 59 38.2**	**+0.4**
MHZQ	**Yeshan**	**3.80**	**337**		*e*	P	**Pn**	**05 58 58.1**	**-0.2**
	baz=330								
MHZQ					*e*	S	**Sn**	**05 59 39.9**	**-2.0**
	baz=330								
JISG	**Ishigakijimahi**	**3.87**	**59**			P	**Pn**	**05 58 59.9**	**+0.5**
LYJJ	**Jianjiangzhen**	**4.02**	**348**		*e*	P	**Pn**	**05 59 01.2**	**-0.2**
	baz=341								
LYJJ					*e*	S	**Sn**	**05 59 45.4**	**-2.0**
	baz=341								
VDOS	**Pratas Island**	**4.13**	**244**		*e*	P	**Pn**	**05 59 04.0**	**+1.1**
	baz=244								
VDOS					*e*	S	**Sn**	**05 59 47.9**	**-2.2**
	baz=244								
JTJ	**Tarama**	**4.21**	**60**			P	**Pn**	**05 59 04.5**	**+0.5**
JTJ						S	**Sn**	**05 59 52.3**	**+0.2**
XPSS	**Dashiqiu**	**4.34**	**354**		*e*	P	**Pn**	**05 59 05.4**	**-0.3**
	baz=349								
XPSS					*e*	S	**Sn**	**05 59 53.7**	**-1.4**
	baz=349								
JIRB	**Irabujima**	**4.68**	**61**			P	**Pn**	**05 59 11.8**	**+1.4**
JIRB						S	**Sn**	**06 00 04.4**	**+0.9**
JMJ2	**Miyako jima3**	**4.76**	**62**			P	**Pn**	**05 59 13.0**	**+1.4**
JMJ2						S	**Sn**	**06 00 05.6**	**-0.1**
JMJ	**Miyako jima 2**	**4.77**	**62**		*e*	P	**Pn**	**05 59 12.7**	**+1.0**
	baz=64								
JMJ					*e*	S	**Sn**	**06 00 06.4**	**+0.6**
	baz=64								
JIKM	**Ikemajima**	**4.78**	**60**			P	**Pn**	**05 59 13.3**	**+1.5**
JIKM						S	**Sn**	**06 00 06.7**	**+0.6**
HKPS	**Hong Kong Po S**	**6.06**	**268**		*e*	P	**Pn**	**05 59 29.4**	**0.0**
	baz=262								
HKPS					*e*	S	**Sn**	**06 00 33.2**	**-4.4**
	baz=262								
JOW	**Kunigami**	**8.09**	**57**			Pn	**Pn**	**05 59 57.4**	**+0.1**
	3.0nm,0.3s,baz=153,slow=2.3,SNR=2.4								
JOW						Sn	**Sn**	**06 01 28.5**	**+0.9**
	1.4nm,0.3s,baz=234,slow=15,SNR=1.5								
JOW	**Kunigami**	**8.09**	**57**			Pn	**Pn**	**05 59 57.8**	**+0.5**
WHN	**Wuhan**	**9.73**	**326**	⇑		P	**Pn**	**06 00 23.8**	**+4.0**
WHN						S	**Sn**	**06 02 06.9**	**-1.0**
WHN						LR	LR		
	comp=Z,

MKAR Makanchi Array 39.17 318 P **P** 06 05 27.8 +0.9
comp=Z,1.8nm,0.7s,baz=106,slow=9.5,SNR=18
MKAR Makanchi Array 39.17 318 P **P** 06 05 27.6 +0.8
MAKZ Makanchi 39.37 317 P **P** 06 05 29.0 +0.5
ZAA0 Zalesovo Array 41.33 328 P **P** 06 05 44.9 +0.3
ZAA0 IAmb IAmb 06 06 00.8
comp=Z,4.4nm,0.9s
ZALV Zalesovo Beam 41.33 328 P **P** 06 05 44.9 +0.3
comp=Z,1.0nm,0.5s,baz=108,slow=9.5,SNR=5.6
PETK Petropavlovsk- 41.44 33 LR LR 06 23 14.9
comp=Z,51nm,19.6s,baz=220,slow=36
MA2 Magadan 42.62 22 LR LR 06 24 57.0
comp=Z,49nm,18.2s,baz=216,slow=38
H11N1 WAKE ISLAND Hy 43.06 85 T T 06 51 38.6
baz=282
H11N2 WAKE ISLAND Hy 43.06 85 T T 06 51 27.6
baz=282
H11N3 WAKE ISLAND Hy 43.08 85 T T 06 51 34.6
baz=282
H11S3 WAKE ISLAND Hy 43.15 87 T T 06 51 45.1
baz=284
H11S1 WAKE ISLAND Hy 43.16 87 T T 06 51 23.9
baz=284
H11S2 WAKE ISLAND Hy 43.16 87 T T 06 51 30.1
baz=284
WRA Warramunga Arr 44.34 161 P **P** 06 06 07.2 -2.1
comp=Z,1.1nm,0.7s,baz=346,slow=9.5,SNR=12
WR0 Warramunga Arr 44.41 161 P **P** 06 06 08.2 -1.7
SEY Seymchan 45.62 20 LR LR 06 25 26.9
comp=Z,26nm,19.6s,baz=164,slow=36
KK31 Karatay Array 46.08 309 P **P** 06 06 23.3 +0.3
KK31 IAmb IAmb 06 06 25.7
comp=Z,2.2nm,1.1s
KKAR Karatay Array 46.08 309 P **P** 06 06 23.3 +0.3
ASAR Alice Springs 47.75 164 P **P** 06 06 35.0 -1.2
comp=Z,0.3nm,0.3s,baz=347,slow=9.0,SNR=7.4
ASAR Alice Springs 47.75 164 P **P** 06 06 34.9 -1.2
HNR Honiara 49.93 125 LR LR 06 27 05.1
comp=Z,27nm,18.5s,baz=246,slow=35
HRA Herat 52.06 297 P **P** 06 07 08.7 -0.4
HRA IAmb IAmb 06 07 36.6
comp=Z,3.1nm,1.1s
ABKAR Akbulak array 54.23 315 P **P** 06 07 24.9 +0.3
ABKAR IAmb IAmb 06 07 26.1
comp=Z,2.2nm,0.6s
ABKAR Akbulak array 54.23 315 P **P** 06 07 25.4 +0.9
GEYT Alibeck 55.21 301 P **P** 06 07 33.1 +1.1
comp=Z,85nm,0.7s,baz=58,slow=6.2,SNR=4.8
GEYT LR LR 06 34 58.7
comp=Z,33nm,21.6s,baz=300,slow=40
FINES FINESS Array B 72.58 330 P **P** 06 09 25.9 +0.2
comp=Z,1.8nm,0.8s,baz=47,slow=6.1,SNR=5.1
BCAR Beaver Creek A 73.44 28 P **P** 06 09 30.8 -0.2
DAWY Dawson 74.15 27 P **P** 06 09 34.7 -0.4
INK Inuvik 74.86 22 P **P** 06 09 38.5 -0.5
comp=Z,1.2nm,0.7s,baz=281,slow=5.2,SNR=1.5
NOA NORSAR Array B 79.41 332 LR LR 06 49 10.5
comp=Z,26nm,18.3s,baz=270,slow=39
MCQ Macquarie Isla 83.52 159 P **P** 06 10 25.7 -0.6

*NNC **24** 06:12:30.2±7.9, 36°.91N×70°.79E, h0km, mb4.3, mpv4.2,*
Error ellipse: s-maj=78.3km s-min=48.0km az=147.0
*MOS **24** 06:12:31.3±1.2, 36°.54N×71°.32E, h238km, mb4.5/4, Error*
ellipse: s-maj=15.4km s-min=7.4km az=84.3
*IDC **24** 06:12:32.7±2.4, 36°.51N×71°.38E, h232km±24km, mb3.1/6,*
mb1 3.1/12, mb1mx2.9/64, mbtmp3.7/12, Error ellipse:
s-maj=21.4km s-min=16.6km az=139.0
*NEIC **24** 06:12:32.0±1.5, 36°.60N±0°.07×71°.3E±0°.1, h229km±6km,*
mb4.3/8, Error ellipse: s-maj=13.9km s-min=9.4km
az=117.0

ISC 24 06:12:32.6±0.5, 36°.60N±0°.05×71°.32E±0°.06, h250km, n68, σ1§85/74, mb3.6/10, 3C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
GAR	**Garm**	**2.53**	**342**			**Pn**	**06 13 18.1**	**-2.1**
CHGR	**Chuyangaron**	**2.68**	**321**			**Pn**	**06 13 19.3**	**-2.4**
KBL	**Kabul**	**2.77**	**223**	PN		**Pn**	**06 13 20.5**	**-2.4**
KBL	**Kabul**	**2.77**	**223**	Pn		**Pn**	**06 13 20.5**	**-2.4**
DRK	**Karamyk**	**2.90**	**7**			**Pn**	**06 13 23.4**	**-0.9**
NIL	**Nilore**	**3.34**	**151**	PN		**Pn**	**06 13 27.8**	**-1.1**
NIL	**Nilore**	**3.34**	**151**			**Pn**	**06 13 27.8**	**-1.1**
BTK	**Batken**	**3.48**	**354**	PN		**Pn**	**06 13 29.8**	**-0.6**
BTK	**Batken**	**3.48**	**354**	Pn		**Pn**	**06 13 29.8**	**-0.6**
AML	**Almayashu**	**5.82**	**18**	P		**Pn**	**06 13 58.1**	**-0.7**
	SNR=126							
DHRM	**DHARAMSHALA**	**5.97**	**135**	*e*P		**Pn**	**06 14 00.3**	**-0.3**
DHRM				*e*S		**S**	**06 15 06.4**	**-4.6**
DHRM				IAML			06 15 07.3	
	comp=E,282nm,0.4s							
DHRM				IAML			06 15 08.1	
	comp=N,331nm,0.7s							
UCH	**Uchtor**	**6.14**	**23**	P		**Pn**	**06 14 02.4**	**-0.5**
	SNR=72							
KZA	**Kyzart**	**6.26**	**28**	P		**Pn**	**06 14 03.2**	**-1.1**
	SNR=7.7							
EKS2	**Erkin-Say**	**6.34**	**17**	P		**Pn**	**06 14 05.1**	**+0.1**
	SNR=15							
AAK	**Ala-Archa**	**6.51**	**21**	P		**Pn**	**06 14 06.9**	**-0.2**
	comp=N,7.0nm,0.3s,baz=189,slow=6.5,SNR=59							
AAK				S		**S**	**06 15 20.5**	**-2.4**
	comp=N,1.7nm,0.3s,baz=331,slow=23,SNR=20							
AAK	**Ala-Archa**	**6.51**	**21**	P		**Pn**	**06 14 07.4**	**+0.2**
	SNR=16							
AAK	**Ala-Archa**	**6.51**	**21**	↑P		**Pn**	**06 14 07.2**	**0.0**
	comp=N,13nm,0.4s							
AAK				↓S		**S**	**06 15 20.5**	**-2.4**
	comp=N,31nm,0.8s							
AAK	**Ala-Archa**	**6.51**	**21**	PN		**Pn**	**06 14 07.1**	**0.0**
AAK	**Ala-Archa**	**6.51**	**21**	Pn		**Pn**	**06 14 07.1**	**-0.1**
KK31	**Karatay Array**	**6.53**	**355**	P		**Pn**	**06 14 06.7**	**-0.6**
	comp=N,3.3nm,0.4s,baz=197,slow=18,SNR=48							
KK31				↑S		**S**	**06 15 17.1**	**-6.0**
	comp=N,14nm,0.4s,baz=187,slow=24,SNR=9.9							
KK31	**Karatay Array**	**6.53**	**355**	PN		**Pn**	**06 14 06.5**	**-0.7**
KK31	**Karatay Array**	**6.53**	**355**	Pn		**Pn**	**06 14 06.5**	**-0.7**
KKAR	**Karatay Array**	**6.53**	**355**	PN		**Pn**	**06 14 06.6**	**-0.6**
KKAR	**Karatay Array**	**6.53**	**355**			**Pn**	**06 14 06.6**	**-0.6**
KKAR	**Karatay Array**	**6.53**	**355**			**Pn**	**06 14 06.5**	**-0.6**
KBK	**Karagaybulak**	**6.67**	**24**	P		**Pn**	**06 14 09.7**	**+0.6**
	SNR=13							
ULHL	**Ulahol**	**6.80**	**32**	P		**Pn**	**06 14 10.6**	**-0.3**
	SNR=9.8							
BOOM	**Boomskoye usch**	**6.88**	**30**	PN		**Pn**	**06 14 11.4**	**-0.4**
BOOM	**Boomskoye usch**	**6.88**	**30**			**Pn**	**06 14 11.4**	**-0.4**
CHMS	**Chumysh**	**6.92**	**21**	P		**Pn**	**06 14 12.7**	**+0.6**
	SNR=8.5							
TKM2	**Tokmak 2**	**7.12**	**26**	P		**Pn**	**06 14 15.0**	**+0.2**
	SNR=12							
TKM2	**Tokmak 2**	**7.12**	**26**	↓P		**Pn**	**06 14 14.6**	**-0.2**
	comp=N,13nm,0.5s							
TKM2				↑S		**S**	**06 15 34.7**	**-2.2**
	comp=N,8.3nm,0.9s							
TARG	**Taragay, Kyrgy**	**7.18**	**43**	Pn		**Pn**	**06 14 15.6**	**-0.3**
SMLA	**Simla**	**7.30**	**137**	*e*P		**Pn**	**06 14 16.3**	**-0.8**
SMLA				*e*S		**S**	**06 15 34.4**	**-6.7**
SMLA				IAML			06 15 37.2	
	comp=N,58nm,0.3s							
SMLA				IAML			06 15 37.5	
	comp=E,86nm,0.7s							
GEYT	**Alibeck**	**10.61**	**281**	P		**Pn**	**06 14 59.2**	**+0.3**
	baz=151,slow=13,SNR=1.6							
GEYT				S		**S**	**06 16 53.4**	**-4.5**
	comp=E,0.6nm,0.3s,baz=91,slow=19,SNR=3.2							
MAKZ	**Makanchi**	**12.93**	**35**	P		**Pn**	**06 15 27.3**	**-0.1**
MAKZ	**Makanchi**	**12.93**	**35**	Pn		**Pn**	**06 15 27.3**	**-0.1**
MK31	**Makanchi Array**	**13.06**	**35**	P		**Pn**	**06 15 29.4**	**+0.3**
MK31	**Makanchi Array**	**13.06**	**35**			**Pn**	**06 15 29.4**	**+0.3**
MKAR	**Makanchi Array**	**13.06**	**35**	P		**P**	**06 15 30.0**	**-0.8**
	comp=E,0.3nm,0.3s,baz=223,slow=14,SNR=13							
MKAR	**Makanchi Array**	**13.06**	**35**	Pn		**Pn**	**06 15 29.0**	**-0.1**
BHPL	**Bhopal**	**14.32**	**157**	*e*P		**P**	**06 15 48.8**	**+3.8**
KURBB	**Kurchatov Arra**	**14.95**	**18**	P		**Pn**	**06 15 52.8**	**+0.8**
	comp=E,0.1nm,0.3s,baz=204,slow=11,SNR=2.2							
KURK	**Kurchatov**	**15.06**	**18**	P		**Pn**	**06 15 52.8**	**-0.4**
AB31	**Akbulak array**	**15.13**	**330**	P		**Pn**	**06 15 54.6**	**+0.5**
	comp=E,2.0nm,0.6s,baz=144,slow=12,SNR=22							
ABKAR	**Akbulak array**	**15.13**	**330**	P		**P**	**06 15 52.2**	**-1.3**
ABKAR	**Akbulak array**	**15.13**	**330**			**P**	**06 15 52.4**	**-1.2**
AKTO	**Aktyubinsk**	**16.83**	**329**	P		**Pn**	**06 16 15.4**	**+1.2**
	comp=E,0.5nm,0.3s,baz=135,slow=17,SNR=7.0							
AKTO	**Aktyubinsk**	**16.83**	**329**	↓P		**Pn**	**06 16 15.6**	**+1.4**
	comp=E,1.7nm,0.5s							
WSAR	**Wadi Sarin**	**17.25**	**223**	P		**Pn**	**06 16 19.8**	**+0.4**
	comp=E,0.2nm,0.3s,baz=75,slow=10.0,SNR=4.8							
UOSS	**Minazif**	**17.40**	**232**	P		**Pn**	**06 16 20.0**	**-1.2**
ZALV	**Zalesovo Beam**	**19.72**	**24**	P		**P**	**06 16 45.1**	**+1.8**
	comp=E,0.2nm,0.3s,baz=203,slow=10,SNR=2.7							
GAZ	**Gaziantep**	**27.21**	**282**	P		**P**	**06 17 52.8**	**-0.8**
GAZ				IAmb	IAmb		06 18 21.8	
	comp=Z,3.7nm,1.2s							
BRTR	**Keskin Array B**	**29.65**	**288**	P		**P**	**06 18 18.7**	**+3.5**
	comp=Z,0.3nm,0.5s,baz=101,slow=9.5,SNR=2.8							
PALK	**Pallekele**	**30.42**	**161**	P		**P**	**06 18 22.1**	**+0.1**
PALK				pmax	pmax			
	comp=Z,14nm,1.2s							
PALK	**Pallekele**	**30.42**	**161**	P		**P**	**06 18 22.1**	**+0.1**
PALK				IAmb	IAmb		06 18 38.1	
	comp=Z,14nm,1.1s							
ELL	**Elmali**	**33.03**	**283**	P		**P**	**06 18 44.5**	**-0.2**
ELL				pmax	pmax			
	comp=Z,14nm,0.7s							
ELL	**Elmali**	**33.03**	**283**	P		**P**	**06 18 44.5**	**-0.2**
ALN	**Alexandroupoli**	**35.27**	**291**	P		**P**	**06 19 03.7**	**0.0**
ALN				pmax	pmax			
	comp=Z,10.0nm,1.2s							
ALN	**Alexandroupoli**	**35.27**	**291**	P		**P**	**06 19 03.7**	**0.0**
ALN				IAmb	IAmb		06 19 31.9	
	comp=Z,9.9nm,1.2s							
HIA	**Hailar**	**37.02**	**54**	P		**P**	**06 19 18.8**	**+0.4**
HIA				pmax	pmax			
	comp=Z,7.0nm,0.5s							
HIA	**Hailar**	**37.02**	**54**	P		**P**	**06 19 18.8**	**+0.4**
FINES	**FINESS Array B**	**37.55**	**326**	P		**P**	**06 19 25.9**	**+3.3**
	comp=Z,0.8nm,0.5s,baz=121,slow=9.6,SNR=5.6							
ARCES	**ARCESS Array B**	**41.16**	**337**	P		**P**	**06 19 55.9**	**+3.6**
	comp=Z,0.3nm,0.3s,baz=107,slow=7.8,SNR=6.2							
NOA	**NORSAR Array B**	**44.46**	**323**	P		**P**	**06 20 20.6**	**+1.8**
	comp=Z,0.8nm,0.9s,baz=97,slow=7.8,SNR=2.4							
YSS	**Yuzh-Sakhalins**	**52.55**	**55**	*e*P		P	06 21 31.2	+11
TORD	**Torodi Ar. Bea**	**65.98**	**269**	P		**P**	**06 22 53.4**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=48,slow=6.2,SNR=14							
WRA	**Warramunga Arr**	**81.82**	**122**	P		**P**	**06 24 26.1**	**+2.1**
	comp=Z,0.2nm,0.5s,baz=327,slow=4.8,SNR=5.7							

MEX 24 06:19:28.8±0.7, 15°.93N×96°.80W, h18km±5km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PEIG	**Puerto Escondi**	**0.34**	**281**	*e*P		Pg	06 19 34.9	-1.2
PEIG				*e*S		Sg	06 19 39.5	-1.5
VHO	**Vista Hermosa**	**1.14**	**3**	*e*P		Pn	06 19 46.5	-3.5
VHO				*e*S		Sb	06 19 60.0	-4.6
YOIG	**Yosondua**	**1.16**	**322**	*e*P		Pn	06 19 46.6	-3.8
YOIG				*e*S		Sb	06 20 00.6	-4.9
PNIG	**Pinotepa**	**1.35**	**290**	*e*P		Pn	06 19 49.4	-3.5
PNIG				*e*S		Sn	06 20 05.7	-4.7
TXIG	**Tlaxiaco**	**1.61**	**325**	*e*P		Pn	06 19 54.0	-2.6
TXIG				*e*S		Sn	06 20 12.6	-4.4
TOIG	**Toxpalan**	**2.17**	**353**	*e*P		Pn	06 20 03.7	-0.4
TOIG				*e*S		Sn	06 20 29.7	-0.9

*JMA **24** 06:19:43.0, 40°.03N×140°.53E, h9km±1km, M3.9*
Broadband fault plane solution: P waves. NP1:
ϕs350.00000°, δ42.00000°, λ69.00000°. NP2:
ϕs198.00000°, δ52.00000°, λ108.00000°. Principal axes:
T Plg75.0000°, Azm166.0000°; N Plg14.0000°,
Azm6.0000°; P Plg5.0000°, Azm275.0000°;
JMA Felt III J1.
*NIED **24** 06:19:43.1, 40°.03N×140°.53E, h9km, MW3.9, Moment*
Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm;
Mrr7.53; Mϑϑ-1.01; Mϕϕ-6.52; Mrϑ-0.98; Mϑϕ2.84; Mϕr1.43;
Fault plane solution: M₀7.82000×10¹⁴ NP1:
ϕs334.00000°, δ51.00000°, λ87.00000°. NP2:
ϕs160.00000°, δ39.00000°, λ94.00000°.
*NEIC **24** 06:19:47.4±2.8, 40°.14N±0°.02×140°.42E±0°.06, h38km±8km,*
mb4.5/12 Error ellipse: s-maj=7.5km s-min=2.2km
az=73.0
*IDC **24** 06:19:48.0±1.8, 40°.04N×140°.32E, h48km±19km, mb3.6/13,*
mb1 3.8/16, mb1mx3.7/52, mbtmp3.8/16, ML3.0/3, MS2.7/4,
Ms1 2.7/4, ms1mx2.4/39, Error ellipse: s-maj=20.1km
s-min=12.8km az=103.0

ISC 24 06:19:43.3±0.9, 40°.08N±0°.03×140°.51E±0°.04, h12km±6km, n63, σ1§53/73, mb4.1/19, 1C-4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JAH	**Hinai**	**0.14**	**42**	↑P		**Pg**	**06 19 46.9**	**+0.2**
JAH				S		**Sg**	**06 19 49.5**	**+0.4**
JKZ	**Kuzumaki**	**0.63**	**99**	↓P		**Pg**	**06 19 54.9**	**-0.7**
JKZ				S		**Sg**	**06 20 02.6**	**-1.4**
JIW	**Iwasaki**	**0.64**	**323**	P		**Pb**	**06 19 55.9**	**-0.5**
JIW				S		**Sn**	**06 20 04.9**	**-3.4**
JRG	**Rokugo**	**0.69**	**172**	↓P		**Pg**	**06 19 55.6**	**-1.1**
JRG				S		**Sg**	**06 20 04.5**	**-1.3**
JANG	**Nango**	**0.82**	**69**	↓P		**Pg**	**06 19 58.5**	**-0.6**
JANG				S		**Sg**	**06 20 09.3**	**-0.5**
JTM	**Tenmabayashi**	**0.82**	**31**	↓P		**Pb**	**06 19 59.1**	**-0.4**
JTM				S		**Sb**	**06 20 10.1**	**-0.4**
JTM	**Tenmabayashi**	**0.82**	**31**			**Pb**	**06 19 59.5**	**0.0**
JTM				Sn		**Sb**	**06 20 10.0**	**-0.5**
JOM	**Ohasama**	**0.85**	**135**	P		**Pg**	**06 19 58.2**	**-1.6**
JMM	**Marumori**	**2.23**	**174**			**Pn**	**06 20 20.2**	**+0.3**
JMM				Sn		**Sn**	**06 20 49.4**	**+2.0**
JSD	**Sado**	**2.69**	**221**			**Pn**	**06 20 26.4**	**-0.1**
ERM	**Erimo**	**2.78**	**45**			**Pn**	**06 20 29.7**	**+2.1**
JYT	**Yasato**	**3.86**	**184**			**Pn**	**06 20 44.6**	**+2.2**
MJB9	**Matsu-Tunnel**	**3.97**	**208**	Pn		**Pn**	**06 20 45.4**	**+1.3**
MAJO	**Matsushiro**	**3.97**	**208**			**Pn**	**06 20 45.3**	**+1.2**
MAT	**Matsushiro**	**3.97**	**208**	P		**Pn**	**06 20 43.8**	**-0.2**
MAT				*e*S		**Sn**	**06 21 28.9**	**-1.7**
MJAR	**Matsushiro Arr**	**3.97**	**208**	P		**Pn**	**06 20 45.7**	**+1.6**
	0.5nm,0.3s,baz=11,slow=14,SNR=8.8							
MJAR				S		**Sn**	**06 21 30.2**	**-0.4**
	0.2nm,0.3s,baz=28,slow=23,SNR=4.2							
MJAR				LR		LR	06 22 28.1	
	comp=Z,67nm,19.3s,baz=15,slow=41							
MJAR	**Matsushiro Arr**	**3.97**	**208**			**Pn**	**06 20 45.8**	**+1.8**
ASAJ	**Asahikawa**	**4.32**	**20**	P		**Pn**	**06 20 51.6**	**+2.9**
	1.6nm,0.3s,baz=160,slow=25,SNR=4.8							
ASAJ				S		**Sn**	**06 21 37.9**	**-1.1**
	0.6nm,0.3s,baz=195,slow=19,SNR=0.9							
JKA	**Kamikawa-asahi**	**4.32**	**20**	Pn		**Pn**	**06 20 51.8**	**+3.1**
JGF	**Kuroka**	**5.12**	**210**	Pn		**Pn**	**06 21 04.1**	**+4.2**
USA0B	**Ussuriysk Arra**	**7.55**	**306**	Pn		**Pn**	**06 21 32.8**	**-0.3**
USRK	**Ussuriysk Ar.**	**7.55**	**306**	P		**Pn**	**06 21 33.5**	**+0.4**
	baz=106,slow=14,SNR=10.0							
USRK	**Ussuriysk Ar.**	**7.55**	**306**			**Pn**	**06 21 33.2**	**0.0**
JHS	**Saijyo**	**7.76**	**231**	Pn		**Pn**	**06 21 38.8**	**+2.6**
KSRS	**Korea Array**	**10.18**	**259**	P		**Pn**	**06 22 12.3**	**+3.2**
	2.2nm,0.3s,baz=65,slow=14,SNR=34							
KSRS				S		**Sn**	**06 24 04.8**	**+1.6**
	1.9nm,0.3s,baz=74,slow=24,SNR=25							
KSRS				LR		LR	06 25 30.1	
	comp=Z,58nm,21.0s,baz=52,slow=34							
KSAR	**Wonju Array Be**	**10.21**	**259**	Pn		**Pn**	**06 22 13.6**	**+4.0**
JNU	**Nakatsue**	**10.40**	**231**	LR		LR	06 26 09.7	
	comp=Z,64nm,21.7s,baz=158,slow=37							
KLR	**Kul'dur**	**11.06**	**329**	LR		LR	06 26 20.4	
	comp=Z,24nm,20.7s,baz=327,slow=36							
ZALV	**Zalesovo Beam**	**39.38**	**310**	P		**P**	**06 27 12.3**	**-0.2**
	0.4nm,0.4s,baz=78,slow=9.0,SNR=2.1							
MKAR	**Makanchi Array**	**41.96**	**299**	P		**P**	**06 27 33.3**	**-0.6**
	0.6nm,0.7s,baz=78,slow=13,SNR=4.4							
MKAR	**Makanchi Array**	**41.96**	**299**	P		**P**	**06 27 32.2**	**-1.7**
IMAR	**Indian Mountai**	**44.42**	**32**	P		**P**	**06 27 54.4**	**+0.8**
ILAR	**Eielson Array**	**47.33**	**34**	P		**P**	**06 28 16.9**	**+0.4**
	1.0nm,0.7s,baz=266,slow=5.9,SNR=10							
FYU	**Fort Yukon**	**47.85**	**31**	P		**P**	**06 28 23.1**	**+2.6**
BMAR	**Burnt Mountain**	**48.03**	**30**	P		**P**	**06 28 23.5**	**+1.5**
BCAR	**Beaver Creek A**	**49.80**	**36**	P		**P**	**06 28 37.7**	**+2.1**
M27K	**Edge Creek, AK**	**49.90**	**37**	P		**P**	**06 28 38.0**	**+1.6**
M27K				IAmb		IAmb	06 28 39.1	
	comp=Z,3.5nm,1.0s							
TABL	**Table Mountain**	**50.67**	**39**	P		**P**	**06 28 44.6**	**+2.2**
KKAR	**Karatay Array**	**51.03**	**298**	P		**P**	**06 28 44.2**	**-1.0**
EPYK	**Eagle Plains**	**51.25**	**31**	P		**P**	**06 28 48.2**	**+1.8**
EPYK				IAmb		IAmb	06 28 49.2	
	comp=Z,6.6nm,0.8s							
INK	**Inuvik**	**52.01**	**28**	P		**P**	**06 28 53.4**	**+1.3**
	comp=Z,4.6nm,0.6s,baz=317,slow=8.5,SNR=11							
INK	**Inuvik**	**52.01**	**28**	P		**P**	**06 28 52.2**	**+0.1**
INK				IAmb		IAmb	06 28 56.8	
	comp=Z,8.1nm,1.0s							
HYT	**Haines Junctio**	**52.30**	**38**	P		**P**	**06 28 53.9**	**-0.6**
HYT				IAmb		IAmb	06 29 00.1	
	comp=Z,3.9nm,0.9s							
EUNU	**Eureka**	**57.28**	**9**	P		**P**	**06 29 30.1**	**-0.2**
EUNU				IAmb		IAmb	06 29 44.3	
	comp=Z,4.4nm,1.2s							
WR0	**Warramunga Arr**	**59.99**	**186**	P		**P**	**06 29 48.7**	**-1.0**
WRA	**Warramunga Arr**	**59.99**	**187**	P		**P**	**06 29 48.2**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=8.7,slow=7.5,SNR=4.9							
WRA	**Warramunga Arr**	**59.99**	**187**	P		**P**	**06 29 48.7**	**-1.0**
ARCES	**ARCESS Array B**	**60.90**	**339**	P		**P**	**06 29 55.0**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=55,slow=8.0,SNR=1.9							
GEYT	**Alibeck**	**61.78**	**297**	P		**P**	**06 30 01.5**	**-0.4**
	comp=Z,20nm,0.8s,baz=44,slow=4.8,SNR=2.3							
ASAR	**Alice Springs**	**63.72**	**187**	P		**P**	**06 30 13.8**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=1.5,slow=5.7,SNR=7.0							
ASAR	**Alice Springs**	**63.72**	**187**	P		**P**	**06 30 14.6**	**-0.2**
FINES	**FINESS Array B**	**65.80**	**331**	P		**P**	**06 30 27.6**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=73,slow=6.6,SNR=4.2							
FINES	**FINESS Array B**	**65.80**	**331**	P		**P**	**06 30 27.4**	**-0.5**
NOA	**NORSAR Array B**	**71.11**	**337**	P		**P**	**06 31 00.8**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=39,slow=5.7,SNR=3.4							
AKASG	**Malin Array Be**	**71.47**	**321**	P		**P**	**06 31 02.3**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=39,slow=7.1,SNR=4.5							
NVAR	**Mina Array Bea**	**73.73**	**53**	P		**P**	**06 31 18.6**	**+1.1**
	comp=Z,0.8nm,0.9s,baz=282,slow=6.5,SNR=5.5							
TPNV	**Topopah Spring**	**75.93**	**54**	P		**P**	**06 31 30.2**	**0.0**
BW06	**Boulder Array**	**76.03**	**46**	P		**P**	**06 31 31.0**	**+0.2**
PDAR	**Pinedale Array**	**76.03**	**46**	P		**P**	**06 31 31.3**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=300,slow=2.0,SNR=7.4							
TXAR	**Lajitas Array**	**88.81**	**52**	P		**P**	**06 32 38.0**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=336,slow=2.7,SNR=3.8							
TXAR	**Lajitas Array**	**88.81**	**52**	P		**P**	**06 32 38.6**	**+1.1**
CCM	**Cathedral Cave**	**88.92**	**38**	P		**P**	**06 32 38.5**	**+0.9**
CCM				IAmb		IAmb	06 32 41.4	
	comp=Z,4.0nm,1.1s							
LPAZ	**La Paz**	**145.63**	**55**	PKPbc		**PKPdf**	**06 39 22.7**	**0.0**
	comp=Z,1.1nm,0.7s,baz=358,slow=4.6,SNR=6.9							

IDC 24 06:21:23.6±21.0, 20°.29S×178°.19W, h476km±184km, mb2.8/3, mb1 3.1/3, mb1mx2.8/32, mbtmp3.6/3, Error ellipse: s-maj=246.3km s-min=54.7km az=133.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ASAR	**Alice Springs**	**44.39**	**257**	P		P	06 28 51.1	0.0
	0.5nm,0.6s,baz=94,slow=7.7,SNR=6.0							
ASAR				PcP		PcP	06 30 24.9	-0.1
	0.2nm,0.6s,baz=93,slow=4.0,SNR=5.5							
WRA	**Warramunga Arr**	**44.45**	**262**	P		P	06 28 51.2	-0.4
	0.2nm,0.3s,baz=97,slow=7.7,SNR=5.0							
ILAR	**Eielson Array**	**88.15**	**13**	P		P	06 33 22.7	+0.2
	0.5nm,0.7s,baz=218,slow=5.7,SNR=3.0							
AKASG	**Malin Array Be**	**142.74**	**331**	PKP		PKPdf	06 39 59.0	-2.9
	0.4nm,0.4s,baz=42,slow=3.7,SNR=1.5							
BRTR	**Keskin Array B**	**146.56**	**312**	PKPbc		PKPbc	06 40 11.5	0.0
	0.6nm,0.6s,baz=84,slow=4.5,SNR=4.8							

*IDC **24** 06:43:01.7±14.0, 29°.58S×66°.76W, h132km±118km,*
mb3.6/2, mb1 3.5/3, mb1mx3.2/23, mbtmp3.9/3, ML3.9/1,
Error ellipse: s-maj=107.3km s-min=52.5km az=168.0

ISC 24 06:43:02.6±1.8, 29°.65S±0°.2×67°.0W±0°.4, h150km, n6, σ0§68/7, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
LPAZ	**La Paz**	**13.26**	**355**	P		**Pn**	**06 46 06.0**	**+0.1**
	0.3nm,0.3s,baz=162,slow=7.5,SNR=9.2							
DBIC	**Dimbokro**	**69.62**	**69**	P		**P**	**06 53 55.9**	**-0.1**
	1.7nm,1.0s,baz=235,slow=5.5,SNR=0.9							
TORD	**Torodi Ar. Bea**	**78.59**	**68**	P		**P**	**06 54 48.4**	**+0.4**
	0.9nm,0.8s,baz=253,slow=6.2,SNR=6.9							
WRA	**Warramunga Arr**	**126.66**

*NEIC **24** 07:14:43.3±2.0,20°.23S±0°.04×69°.18W±0°.07,h99km±5km, mb4.6/20,ML4.8(GUC),Error ellipse: s-maj=9.5km s-min=5.6km az=78.0*
*IDC **24** 07:14:43.9±0.6,20°.14S×68°.94W,h106km±5km,mb4.3/9, mb1 4.3/12,mb1mx4.1/27,mbtmp4.6/12,MS3.1/5, Ms1 3.1/5,ms1mx2.8/24,Error ellipse: s-maj=17.3km s-min=13.3km az=101.0*
*GUC **24** 07:14:44.1±0.7,20°.21S×69°.15W,h100km±3km,ML4.8*
ISC 24 07:14:42.6±0.5,**20°.20S**±0°.04×**69°.17W**±0°.05,**h100**km±4km, **n95**,σ1°**21**/107,**mb4.4**/13,**5C-7D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB08	**IPOC Station P**	**0.06**	**14**	⇓	*i*P	**Pn**	**07 14 58.3**	**+1.2**
PB08					*i* S	**Sn**	**07 15 09.2**	**+1.4**
PB08	**IPOC Station P**	**0.06**	**14**	Pn		**Pn**	**07 14 58.1**	**+1.0**
PB11	**IPOC Station P**	**0.63**	**313**	⇓	*i*P	**Pn**	**07 15 00.8**	**+1.1**
PB11					*i* S	**Sn**	**07 15 13.9**	**+1.4**
PB11				IAML			07 15 15.6	
	comp=N,128μm,0.3s							
PB11	**IPOC Station P**	**0.63**	**313**	Pn		**Pn**	**07 15 00.8**	**+1.1**
PB11				Sn		**Sn**	**07 15 13.7**	**+1.3**
HMBC	**Humberstone**	**0.68**	**263**	⇑	*i*P	**Pn**	**07 15 00.8**	**+0.7**
HMBC					*i* S	**Sn**	**07 15 13.9**	**+0.8**
PB01	**IPOC Station P**	**0.90**	**199**	⇓	*i*P	**Pn**	**07 15 03.1**	**+0.9**
PB01					*i* S	**Sn**	**07 15 17.8**	**+1.0**
PB01				IAML			07 15 19.6	
	comp=N,26μm,0.2s							
PB01	**IPOC Station P**	**0.90**	**199**	Pn		**Pn**	**07 15 03.0**	**+0.8**
PB01				Sn		**Sn**	**07 15 17.2**	**+0.5**
TA02	**Huaiquique**	**0.91**	**265**	⇑	*i*P	**Pn**	**07 15 03.0**	**+0.9**
TA02					*i* S	**Sn**	**07 15 17.6**	**+0.8**
TA02				IAML			07 15 19.7	
	comp=N,48μm,0.1s							
TA02	**Huaiquique**	**0.91**	**265**			**Pn**	**07 15 02.9**	**+0.8**
TA02				Sn		**Sn**	**07 15 17.4**	**+0.6**
TA01	**Diego Aracena**	**1.02**	**249**	⇑	*i*P	**Pn**	**07 15 03.8**	**+0.5**
TA01					*i* S	**Sn**	**07 15 19.1**	**+0.2**
TA01	**Diego Aracena**	**1.02**	**249**			**Pn**	**07 15 03.6**	**+0.3**
TA01				Sn		**Sn**	**07 15 18.9**	**0.0**
PSGC	**Pisagua**	**1.08**	**303**	⇑	*i*P	**Pn**	**07 15 04.9**	**+0.8**
PSGC					*i* S	**Sn**	**07 15 21.4**	**+1.1**
PSGC				IAML			07 15 24.9	
	comp=N,17μm,0.3s							
PSGCX	**Pisagua**	**1.08**	**303**			**Pn**	**07 15 04.9**	**+0.9**
PSGCX				Sn		**Sn**	**07 15 21.8**	**+1.5**
PB02	**IPOC Station P**	**1.31**	**211**	⇓	*i*P	**Pn**	**07 15 07.5**	**+0.7**
PB02					eS	**Sn**	**07 15 25.6**	**+0.6**
PB02				IAML			07 15 27.9	
	comp=E,12μm,0.1s							
PB09	**IPOC Station P**	**1.59**	**182**			**Pn**	**07 15 11.5**	**+1.2**
PB07	**IPOC Station P**	**1.67**	**204**	⇓	*i*P	**Pn**	**07 15 11.3**	**+0.1**
PB07				IAML			07 15 36.6	
	comp=E,7μm,0.3s							
PB07	**IPOC Station P**	**1.67**	**204**			**Pn**	**07 15 11.5**	**+0.3**
AP01	**Chacalluta**	**2.13**	**328**	⇑	*i*P	**Pn**	**07 15 17.9**	**+1.0**
AP01					*i* S	**Sn**	**07 15 44.9**	**+1.8**
AP01				IAML			07 15 54.5	
	comp=E,22μm,0.5s							
AP01	**Chacalluta**	**2.13**	**328**			**Pn**	**07 15 17.3**	**+0.4**
PB04	**IPOC Station P**	**2.32**	**203**	⇓	*i*P	**Pn**	**07 15 18.9**	**-0.6**
PB04				IAML			07 15 58.3	
	comp=E,2μm,0.3s							
PB04	**IPOC Station P**	**2.32**	**203**			**Pn**	**07 15 19.4**	**-0.2**
LVC	**Limon Verde**	**2.42**	**174**	P		**Pn**	**07 15 22.0**	**+1.0**
	comp=E,159nm,0.3s,baz=339,slow=8.9,SNR=530							
LVC				S		**Sn**	**07 15 51.6**	**+1.2**
	comp=E,106nm,0.3s,baz=338,slow=12,SNR=6.1							
LVC	**Limon Verde**	**2.42**	**174**	⇓	*i*P	**Pn**	**07 15 22.3**	**+1.2**
LVC					*i* S	**Sn**	**07 15 52.1**	**+1.8**
LVC	**Limon Verde**	**2.42**	**174**	Pn		**Pn**	**07 15 22.2**	**+1.2**
PB06	**IPOC Station P**	**2.53**	**189**			**Pn**	**07 15 22.3**	**0.0**
AF01	**San Pedro de A**	**2.89**	**162**			**Pn**	**07 15 29.1**	**+1.8**
PB15	**IPOC Station P**	**3.01**	**185**			**Pn**	**07 15 29.2**	**+0.4**
PB10	**IPOC Station P**	**3.54**	**201**	Pn		**Pn**	**07 15 35.2**	**-0.5**
LPAZ	**La Paz**	**4.01**	**14**	P		**Pn**	**07 15 45.2**	**+2.6**
	comp=E,16nm,0.3s,baz=198,slow=5.6,SNR=611							
LPAZ				LR		LR	07 17 19.7	
	comp=E,100nm,18.9s,baz=210,slow=40							
PB14	**IPOC Station P**	**4.55**	**194**	Pn		**Pn**	**07 15 49.4**	**-0.3**
AC02	**Maricunga**	**6.61**	**180**	Pn		**Pn**	**07 16 17.1**	**-0.6**
AC06	**Mina Casimiro**	**7.21**	**188**	Pn		**Pn**	**07 16 23.3**	**-2.1**
GO03	**Copiap**	**7.43**	**187**	Pn		**Pn**	**07 16 25.8**	**-2.7**
SIV	**San Ignacio**	**8.76**	**63**	P		**Pn**	**07 16 44.6**	**-2.0**
	comp=E,3.8nm,0.3s,baz=266,slow=9.2,SNR=77							
NNA	**Nana**	**11.00**	**317**	P		**Pn**	**07 17 15.7**	**-1.3**
	comp=E,2.3nm,0.3s,baz=183,slow=7.7,SNR=5.4							
NNA				S		**Sn**	**07 19 13.0**	**-5.1**
	comp=E,3.7nm,0.3s,baz=211,slow=16,SNR=2.1							
NNA				LR		LR	07 21 44.5	
	comp=E,30nm,18.7s,baz=179,slow=38							
NNA	**Nana**	**11.00**	**317**	Pn		**Pn**	**07 17 16.7**	**-0.3**
CPUP	**Villa Florida**	**12.47**	**122**	Pn		**Pn**	**07 17 35.0**	**-1.6**
	comp=E,1.3nm,0.3s,baz=310,slow=12,SNR=33							
CPUP	**Villa Florida**	**12.47**	**122**	Pn		**Pn**	**07 17 34.9**	**-1.6**
VA03	**San Esteban**	**12.58**	**185**			**Pn**	**07 17 38.8**	**+0.7**
VA05	**Santo Domingo**	**13.58**	**189**			**Pn**	**07 17 50.2**	**-0.9**
MT09	**Talagante**	**13.62**	**186**	Pn		**Pn**	**07 17 51.3**	**-0.5**
MT01	**Popeta**	**13.74**	**187**			**Pn**	**07 17 52.3**	**-0.9**
BO01	**Tunca**	**14.24**	**186**	Pn		**Pn**	**07 17 58.9**	**-0.8**
BO02	**Sierra Bellavi**	**14.61**	**185**			**Pn**	**07 18 03.7**	**-0.8**
TRCB	**Terra Rica**	**15.60**	**103**			**Pn**	**07 18 16.3**	**-0.8**
ML02	**Panimavida**	**15.63**	**187**	Pn		**Pn**	**07 18 16.0**	**-1.3**
LC01	**Cunco**	**18.79**	**187**	P		**P**	**07 18 53.6**	**-0.4**
TRQA	**Tornquist**	**18.86**	**162**			**P**	**07 18 53.5**	**-1.4**
TRQA				IAmb		IAmb	07 18 56.1	
	comp=Z,43nm,1.6s							
LR03	**Panguipulli**	**19.56**	**187**	P		**P**	**07 19 02.8**	**+0.3**
PLCA	**Paso Flores**	**20.51**	**183**	P		**P**	**07 19 13.4**	**+0.7**
	comp=Z,29nm,0.7s,baz=7.3,slow=12,SNR=61							
PLCA	**Paso Flores**	**20.51**	**183**	P		**P**	**07 19 13.0**	**+0.2**
PLCA				IAmb		IAmb	07 19 14.8	
	comp=Z,46nm,0.9s							
BDFB	**Brasilia**	**20.63**	**81**	P		**P**	**07 19 13.3**	**-1.0**
	comp=Z,27nm,0.5s,baz=258,slow=11,SNR=44							
BDFB	**Brasilia**	**20.63**	**81**	P		**P**	**07 19 13.3**	**-1.0**
BDFB				IAmb		IAmb	07 19 17.4	
	comp=Z,27nm,1.0s							
LL04	**Puerto Octay**	**20.83**	**187**	P		**P**	**07 19 16.1**	**-0.1**
LL04				IAmb		IAmb	07 19 21.4	
	comp=Z,44nm,0.9s							
LL03	**Petrohue**	**21.06**	**187**	P		**P**	**07 19 18.5**	**-0.1**
PTGA	**Pitinga**	**21.34**	**26**	P		**P**	**07 19 19.5**	**-2.3**
	comp=Z,26nm,0.5s,baz=203,slow=1.4,SNR=16							
BBAC	**Balboa, Cauca**	**23.46**	**339**	*eP*		**P**	**07 19 47.1**	**+3.5**
COYC	**Coyhaique**	**25.42**	**185**	P		**P**	**07 20 01.1**	**+0.3**
RUSC	**La Rusia**	**26.21**	**351**	P		**P**	**07 20 08.8**	**+0.1**
RUSC				IAmb		IAmb	07 20 38.6	
	comp=Z,23nm,0.9s							
BARC	**Barichara**	**26.91**	**351**	*eP*		**P**	**07 20 12.4**	**-2.3**
MDP	**Montagnes des**	**29.33**	**35**	LR		LR	07 33 37.2	
	comp=Z,57nm,20.2s,baz=253,slow=38							
TXAR	**Lajitas Array**	**59.43**	**325**	P		**P**	**07 24 36.1**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=150,slow=7.4,SNR=5.9							
VNA3	**Neumayer Olymp**	**61.38**	**161**	P		**P**	**07 24 48.5**	**+0.8**
VNA1	**Neumayer--Stat**	**61.59**	**161**	P		**P**	**07 24 50.3**	**+1.3**
VNA2	**Neumayer--Watz**	**61.96**	**161**	P		**P**	**07 24 52.3**	**+0.7**
	baz=289,slow=7.3							
SNAA	**Sanae**	**63.59**	**161**	P		**P**	**07 25 03.0**	**+0.6**
SNAA	**Sanae**	**63.59**	**161**	P		**P**	**07 25 03.1**	**+0.6**
	comp=Z,6.1nm,0.7s,baz=282,slow=7.8,SNR=88							
SNAA	**Sanae**	**63.59**	**161**	P		**P**	**07 25 03.0**	**+0.6**
SNAA				IAmb		IAmb	07 25 04.2	
	comp=Z,7.3nm,0.7s							
DBIC	**Dimbokro**	**68.60**	**74**	P		**P**	**07 25 34.7**	**-0.6**
	comp=Z,3.9nm,0.7s,baz=249,slow=5.3,SNR=9.1							
DBIC				pP		**pP**	**07 26 01.7**	**-0.4**
	comp=Z,5.9nm,0.8s,baz=284,slow=4.6,SNR=4.6							
DBIC	**Dimbokro**	**68.60**	**74**	P		**P**	**07 25 34.7**	**-0.6**
DBIC				IAmb		IAmb	07 25 39.8	
	comp=Z,7.7nm,0.9s							
QSPA	**South Pole Qui**	**69.99**	**180**	P		**P**	**07 25 44.6**	**+1.4**
QSPA				IAmb		IAmb	07 25 45.9	
	comp=Z,7.7nm,0.9s							
KOWA	**Kowa**	**72.73**	**67**	P		**P**	**07 25 59.8**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=250,slow=8.4,SNR=5.0							
KOWA				pP		**pP**	**07 26 26.4**	**-0.9**
	comp=Z,5.4nm,0.9s,baz=223,slow=6.2,SNR=5.3							
KOWA	**Kowa**	**72.73**	**67**	IAmb		IAmb	07 26 28.4	
	comp=Z,8.9nm,1.1s							
PDAR	**Pinedale Array**	**72.86**	**330**	P		**P**	**07 26 01.1**	**+0.2**
	comp=Z,0.1nm,0.5s,baz=121,slow=6.8,SNR=1.7							
PDAR				LR		LR	08 00 27.8	
	comp=Z,19nm,18.8s,baz=68,slow=38							
ULM	**Lac du Bonnet**	**74.01**	**343**	LR		LR	08 05 05.1	
	comp=Z,20nm,18.9s,baz=128,slow=41							
NVAR	**Mina Array Bea**	**74.32**	**322**	P		**P**	**07 26 10.4**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=156,slow=6.9,SNR=1.1							
TORD	**Torodi Ar. Bea**	**77.15**	**71**	P		**P**	**07 26 25.0**	**-0.8**
	comp=Z,2.6nm,0.5s,baz=256,slow=5.3,SNR=32							
TORD				pP		**pP**	**07 26 52.6**	**-0.4**
	comp=Z,10nm,1.0s,baz=258,slow=5.5,SNR=8.7							
TORD	**Torodi Ar. Bea**	**77.15**	**71**	P		**P**	**07 26 25.0**	**-0.8**
TORD				IAmb		IAmb	07 26 54.5	
	comp=Z,12nm,1.1s							
VNDA	**Vanda**	**78.09**	**190**	P		**P**	**07 26 32.2**	**+2.2**
	comp=Z,1.3nm,0.7s,baz=120,slow=5.3,SNR=11							
VNDA	**Vanda**	**78.09**	**190**	IAmb		IAmb	07 26 33.0	
	comp=Z,1.6nm,0.8s							
ESDC	**Sonseca Array**	**85.08**	**45**	pP		pP	07 27 35.0	-0.1
	comp=Z,1.8nm,1.1s,baz=243,slow=5.6,SNR=3.8							
MAW	**Mawson**	**85.64**	**163**	P		**P**	**07 27 09.1**	**-0.6**
	comp=Z,1.7nm,0.5s,baz=240,slow=8.1,SNR=8.7							
H11S2	**WAKE ISLAND Hyd**	**27.47**	**278**	T		T	09 53 25.4	
	baz=101,slow=74,SNR=52							
H11S1	**WAKE ISLAND Hyd**	**27.47**	**278**	T		T	09 53 25.9	
	baz=101,slow=74,SNR=29							
H11S3	**WAKE ISLAND Hyd**	**27.48**	**278**	T		T	09 53 29.2	
	baz=101,slow=74,SNR=33							
H11N3	**WAKE ISLAND Hyd**	**27.51**	**280**	T		T	09 53 22.7	
	baz=101,slow=75,SNR=23							
H11N2	**WAKE ISLAND Hyd**	**27.53**	**280**	T		T	09 53 23.8	
	baz=101,slow=75,SNR=43							
H11N1	**WAKE ISLAND Hyd**	**27.53**	**280**	T		T	09 53 26.5	
	baz=101,slow=75,SNR=7.1							
ASAR	**Alice Springs**	**130.94**	**208**	PKP		**PKPdf**	**07 33 43.3**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=163,slow=1.9,SNR=9.0							
ASAR				pPKP		**pPKPdf**	**07 34 12.3**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=127,slow=1.8,SNR=1.8							
WRA	**Warramunga Arr**	**133.94**	**211**	PKP		**PKPdf**	**07 33 49.2**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=153,slow=2.1,SNR=15							
KSH	**Kashi**	**144.46**	**50**	PKP		**PKPdf**	**07 34 07.5**	**-0.1**
KSH				pPKP		pPKPdf	07 34 36.3	-0.5
KSH				sPKP			07 34 47.8	
MK31	**Makanchi Array**	**144.71**	**35**	PKPdf		**PKPdf**	**07 34 07.8**	**+0.1**
MKAR	**Makanchi Array**	**144.71**	**35**	PKP		**PKPdf**	**07 34 07.5**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=331,slow=2.8,SNR=9.3							
MKAR				pPKP		**pPKPdf**	**07 34 35.6**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=298,slow=2.6,SNR=4.9							
USRK	**Ussuriysk Ar.**	**150.28**	**328**	PKPbc		**PKiKP**	**07 34 23.3**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=64,slow=4.4,SNR=4.4							
SONM	**Songino Array**	**152.19**	**6**	PKPbc		**PKiKP**	**07 34 27.5**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=323,slow=0.6,SNR=6.8							
SONM				pPKPbc		**pPKPbc**	**07 34 56.2**	**+0.7**
	comp=Z,1.8nm,0.8s,baz=338,slow=3.0,SNR=4.5							

*IDC **24** 07:27:42.0±1.3,31°.01S×72°.75W,h0km,mb3.6/2, mb1 3.8/5,mb1mx3.6/25,mbtmp3.6/5,ML3.5/3,MS2.6/1, Ms1 2.6/1,ms1mx2.1/19,Error ellipse: s-maj=56.8km s-min=25.7km az=85.0*
*GUC **24** 07:27:45.2±0.6,31°.11S×72°.48W,h29km±3km,ML3.3*
ISC 24 07:27:44.6±2.0,**31°.04S**±0°.05×**72°.49W**±0°.08,**h12**km±11km, **n19**,σ1°**55**/30,**8C,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.82**	**64**	⇑	*i*P	**Pg**	**07 28 00.3**	**-0.2**
CO06					*i* S	**Sg**	**07 28 12.0**	**+0.8**
CO06				IAML			07 28 13.0	
	comp=E,899nm,0.3s							
CO02	**Combarbal**	**1.29**	**98**	⇑	*i*P	**Pn**	**07 28 07.8**	**-0.7**
CO02					*i* S	**Sb**	**07 28 24.1**	**-1.3**
CO02				IAML			07 28 31.9	
	comp=N,1μm,0.4s							
CO05	**La Serena**	**1.56**	**44**	⇑	*i*P	**Pn**	**07 28 10.4**	**-1.7**
CO05					*i* S	**Sn**	**07 28 29.7**	**-2.4**
CO05				IAML			07 28 34.1	
	comp=E,287nm,0.4s							
CO03	**El Pedregal**	**1.56**	**83**	⇑	*i*P	**Pn**	**07 28 12.1**	**-0.1**
CO03					*i* S	**Sn**	**07 28 32.8**	**+0.4**
CO03				IAML			07 28 38.0	
	comp=E,314nm,0.3s							
GO04	**Tololo Observa**	**1.70**	**60**	⇑	*i*P	**Pn**	**07 28 13.1**	**-1.1**
GO04					*i* S	**Sn**	**07 28 35.5**	**-0.4**
GO04				IAML			07 28 39.7	
	comp=N,560nm,0.5s							
VA06	**Catapilco**	**1.83**	**146**	⇑	*i*P	**Pn**	**07 28 15.1**	**-0.7**
VA06					*i* S	**Sn**	**07 28 37.8**	**-1.0**
VA06				IAML			07 28 39.9	
	comp=E,704nm,0.4s							
ROCH	**El Roble**	**2.30**	**147**	*eP*		**Pn**	**07 28 22.4**	**-0.2**
ROCH					*i* S	**Sn**	**07 28 50.5**	**-0.4**
ROCH				IAML			07 28 54.6	
	comp=N,226nm,0.5s							
VA03	**San Esteban**	**2.38**	**137**	⇑	*eP*	**Pn**	**07 28 23.6**	**+0.1**
VA03					*i* S	**Sn**	**07 28 52.5**	**-0.3**
VA05	**Santo Domingo**	**2.71**	**164**	*eP*		**Pn**	**07 28 27.2**	**-0.8**
VA05					*i* S	**Sn**	**07 28 56.7**	**-4.0**
VA05				IAML			07 28 59.4	
	comp=N,118nm,0.4s							
MT05	**Renca**	**2.78**	**148**	*eP*		**Pn**	**07 28 29.2**	**+0.2**
MT05					*i* S	**Sn**	**07 29 02.3**	**-0.2**
MT05				IAML			07 29 10.3	
	comp=E,146nm,0.3s							
MT09	**Talagante**	**3.01**	**155**	*eP*		**Pn**	**07 28 32.3**	**+0.1**
MT09					*i* S	**Sn**	**07 29 07.9**	**-0.4**
MT09				IAML			07 29 11.1	
	comp=N,119nm,0.4s							
LMEL	**Las Melosas**	**3.40**	**146**	⇑	*eP*	**Pn**	**07 28 37.6**	**-0.1**
LMEL					*eS*	**Sn**	**07 29 17.0**	**-1.0**
LMEL				IAML			07 29 22.3	
	comp=N,76nm,0.4s							
PLCA	**Paso Flores**	**9.80**	**171**	Pn		**Pn**	**07 30 05.0**	**-0.4**
	comp=N,0.1nm,0.3s,baz=338,slow=14,SNR=7.0							
CPUP	**Villa Florida**	**14.11**	**74**	LR		LR	07 37 28.8	
	comp=N,26nm,19.7s,baz=218,slow=41							
LPAZ	**La Paz**	**15.21**	**16**	Pn		**Pn**	**07 31 19.9**	**+0.1**
	comp=N,0.0nm,0.3s,baz=190,slow=18,SNR=5.9							
SIV	**San Ignacio**	**18.25**	**37**	P		**Pn**	**07 31 58.3**	**+0.4**
	comp=N,0.3nm,0.3s,baz=220,slow=12,SNR=20							
SNAA	**Sanae**	**54.47**	**159**	P		**P**	**07 37 11.9**	**+0.4**
	comp=N,0.9nm,0.9s,baz=288,slow=6.6,SNR=3.8							
TXAR	**Lajitas Array**	**66.97**	**331**	P		**P**	**07 38 36.0**	**-1.2**
	comp=N,0.3nm,0.7s,baz=159,slow=7.7,SNR=5.3							
ZALV	**Zalesovo Beam**	**151.88**	**29**	PKPbc		**PKPdf**	**07 47 37.6**	**+5.3**
	comp=N,0.7nm,0.4s,baz=319,slow=4.3,SNR=3.9							

*THE **24** 07:41:13.9,35°.43N×26°.71E,h1km±1km,ML2.7/3,Error ellipse: s-maj=3.1km s-min=0.9km az=143.0*
*ATH **24** 07:41:14.1,35°.49N×26°.72E,h11km±4km,ML2.8/5,Error ellipse: s-maj=5.9km s-min=1.2km az=166.0*
*ISK **24** 07:41:15.8,35°.76N×26°.77E,h5km,ML2.6/15*
*DDA **24** 07:41:16.1,35°.36N×26°.89E,h5km±1km,ML2.6*
ISC 24 07:41:13.4±1.1,**35°.50N**±0°.04×**26°.76E**±0°.02,**h8**km±10km, **n36**,σ1°**22**/53,**Crete**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZKR	**Zakros**	**0.59**	**229**	P		**Pg**	**07 41 24.0**	**-0.8**
ZKR				S		**Sg**	**07 41 32.6**	**+0.1**
	1μm,0.4s							
ZKR	**Zakros**	**0.59**	**229**	P		**Pg**	**07 41 24.1**	**-0.8**
ZKR				S		**Sg**	**07 41 32.7**	**+0.1**
ZKR				AML		AML	07 41 33.8	
	comp=E,2855μm,0.4s							
ZKR				AML		AML	07 41 34.5	
	comp=N,1243μm,0.4s							
STIA	**Sitia Lasithi**	**0.62**	**242**	P		**Pg**	**07 41 25.0**	**-0.5**
NPS	**Neapolis**	**0.97**	**256**	P		**Pg**	**07 41 31.8**	**-0.2**
NPS				S		**Sg**	**07 41 45.2**	**+0.6**
	comp=N,855nm,0.3s							
NPS	**Neapolis**	**0.97**	**256**	P		**Pg**	**07 41 31.5**	**-0.5**
NPS				S		**Sg**	**07 41 45.0**	**+0.4**
NPS				AML		AML	07 41 50.5	
	comp=N,1469μm,0.2s							
NPS				AML		AML	07 41 52.2	
	comp=E,1937μm,0.4s							
ARG	**Arkhangelos**	**1.32**	**57**	P		**Pg**	**07 41 38.7**	**0.0**
ARG	**Arkhangelos**	**1.32**	**57**	P		**Pg**	**07 41 38.9**	**+0.1**
ARG				S		**Sg**	**07 41 57.1**	**+1.3**
ARG				AML		AML	07 42 01.2	
	comp=N,552μm,0.3s							
ARG				AML		AML	07 42 01.6	
	comp=E,776μm,0.4s							
ARG	**Arkhangelos**	**1.32**	**57**	PN		**Pg**	**07 41 39.7**	**+1.0**
ARG				SN		**Sg**	**07 41 57.1**	**+1.3**
SANT	**Santorini**	**1.37**	**310**	PN		**Pg**	**07 41 39.5**	**-0.2**
SANT				SN		**Sg**	**07 41 57.9**	**+0.5**
HRKL	**Herakleio**	**1.37**	**263**	PN		**Pg**	**07 41 43.9**	**+4.2**
IDI	**Anoyia**	**1.54**	**263**	P		**Pn**	**07 41 41.0**	**-0.3**
IDI				S		**Sn**	**07 42 01.3**	**-0.2**
	comp=E,208nm,0.3s							
IDI	**Anoyia**	**1.54**	**263**	P		**Pn**	**07 41 41.0**	**-0.3**
IDI				S		**Sn**	**07 42 01.3**	**-0.2**
IDI				AML		AML	07 42 06.7	
	comp=N,499μm,0.5s							
IDI				AML		AML	07 42 07.5	
	comp=E,340μm,0.2s							
BODT	**Bodrum**	**1.62**	**16**	PN		**Pb**	**07 41 43.3**	**-0.3**
BDRM	**Kayabasi**	**1.66**	**19**	*i* P		**Pg**	**07 41 45.4**	**+0.2**
BDRM				*i* S		**Sn**	**07 42 03.0**	**-1.2**
TURN	**Turunc**	**1.75**	**43**	*i* P		**Pg**	**07 41 47.0**	**0.0**
TURN				*i* S		**Sb**	**07 42 07.7**	**-0.2**
TURN				IAML			07 42 16.0	
	comp=E,54nm,0.5s							
TURN				IAML			07 42 17.0	
	comp=N,53nm,0.6s							
TURN	**Turunc**	**1.75**	**43**	PN		**Pb**	**07 41 45.6**	**-0.1**
APE	**Apeiranthos**	**1.85**	**328**	P		**Pb**	**07 41 46.8**	**-0.8**
APE	**Apeiranthos**	**1.85**	**328**	PN		**Pb**	**07 41 47.1**	**-0.5**
APE				SN		**Sb**	**07 42 09.7**	**-1.2**
MLSB	**Milas**	**1.97**	**24**	PN		**Pb**	**07 41 48.1**	**-1.4**
DALY	**Dalyan (Mula)**	**2.02**	**49**	PN		**Pb**	**07 41 50.6**	**+0.3**
YER	**Yerkesik**	**2.04**	**37**	PN		**Pb**	**07 41 49.9**	**-0.9**
VAM	**Vamos**	**2.09**	**268**	P		**Pb**	**07 41 51.1**	**-0.6**
VAM				AML		AML	07 42 23.8	
	comp=N,394μm,0.3s							
VAM				AML		AML	07 42 29.9	
	comp=E,312μm,0.5s							
FETY	**Fethiye**	**2.20**	**58**	P		**Pb**	**07 41 51.9**	**-1.5**
FETY	**Fethiye**	**2.20**	**58**	PN		**Pb**	**07 41 52.9**	**-0.5**
IMMV	**Iera Moni Meta**	**2.27**	**270**	PN		**Pg**	**07 41 56.7**	**-0.2**
GVD	**Gavdhos**	**2.29**	**254**	PN		**Pb**	**07 41 55.9**	**+0.9**
AYDN	**Tasoluk**	**2.34**	**22**	*i* P		**Pg**	**07 41 56.7**	**-1.5**
AYDN				*i* S		**Sb**	**07 42 24.7**	**-0.1**
AYDN				IAML			07 43 15.0	
	comp=N,194nm,2.4s							
AKAS	**Kas**	**2.42**	**72**	*i* P		**Pb**	**07 41 55.8**	**-1.6**
AKAS				*i* S		**Sb**	**07 42 25.1**	**-2.3**
AKAS	**Kas**	**2.42**	**72**	PN		**Pb**	**07 41 56.6**	**-0.7**
CAME	**Cameli-Denizli**	**2.51**	**54**	PN		**Pb**	**07 41 57.1**	**-1.7**
GMLD	**Gumuldur**	**2.57**	**3**	PN		**Pn**	**07 41 56.4**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**2.60**	**20**	PN		**Pn**	**07 41 57.3**	**+1.4**
TAVA	**DENIZLI_Tavas**	**2.62**	**41**	*i* P		**Pb**	**07 42 00.3**	**-0.4**
TAVA				*i* S		**Sb**	**07 42 32.0**	**-1.0**
TAVA				IAML			07 42 43.0	
	comp=N,32nm,0.4s							
TAVA				IAML			07 42 43.0	
	comp=E,26nm,0.6s							
ELL	**Elmali**	**2.83**	**63**	PN		**Pb**	**07 42 02.2**	**-2.2**
GOLH	**Golhisar**	**2.85**	**52**	*i* P		**Pb**	**07 42 02.2**	**-2.4**
GOLH				*i* S		**Sb**	**07 42 39.0**	**-0.6**
GOLH				IAML			07 43 03.0	
	comp=N,27nm,0.5s							
GOLH				IAML			07 43 35.0

comp=E,176nm,0.6s
MT01 Popeta 3.54 161 Pn 07 57 05.5 -0.4
MT01 Popeta 3.54 161 *i* P **Pn 07 57 05.0 -0.9**
MT01 Popeta 3.54 161 ⇓*i*P **Pn 07 57 05.3 -0.6**
MT01 *eS* **Sn 07 57 44.1 -3.8**
MT01 IAML 07 57 45.9
comp=E,176nm,0.6s
GO03 Copiap 3.57 36 Pn 07 57 05.6 -0.8
GO03 Copiap 3.57 36 *i* P **Pn 07 57 05.0 -1.4**
AC06 Mina Casimiro 3.71 33 Pn 07 57 07.5 -0.8
AGUA GUANDACOL 3.72 75 *i* P **Pb 07 57 12.6 -4.7**
RTCV Cerro Valdivia 3.75 112 *i* P **Pb 07 57 13.0 -4.1**
ASAL Salagasta 3.84 124 *i* P **Pb 07 57 14.0 -4.8**
ARCO CERRO ARCO 3.91 127 *i* P Pb 07 57 15.0 -5.0
BO01 Tunca 4.09 162 Pn 07 57 13.0 -0.4
BO01 Tunca 4.09 162 *i* P **Pn 07 57 13.0 -0.4**
AAGR Agrelo 4.12 130 *i* P Pb 07 57 18.0 -5.6
VCA Vinchina 4.23 66 *i* P **Pn 07 57 19.0 +3.5**
AVFE Valle Fertil 4.45 93 *i* P **Pn 07 57 20.0 +1.5**
GO05 Huala 4.53 173 Pn **Pn 07 57 18.4 -1.1**
GO05 Huala 4.53 173 *i* P **Pn 07 57 18.0 -1.5**
BO02 Sierra Bellavi 4.55 161 Pn 07 57 20.1 +0.3
BO02 Sierra Bellavi 4.55 161 *i* P **Pn 07 57 20.0 +0.2**
AC02 Maricunga 4.77 41 Pn **Pn 07 57 23.7 +0.4**
AC02 Maricunga 4.77 41 *i* P **Pn 07 57 23.0 -0.3**
ACHE Chepes 5.16 99 *i* P **Pn 07 57 30.0 +1.7**
LAMA Las Malvinas 5.27 148 *i* P **Pn 07 57 33.0 +3.3**
ML02 Panimavida 5.34 169 Pn **Pn 07 57 30.4 -0.2**
RFA San Rafael 5.51 142 *i* P **Pn 07 57 35.0 +2.0**
VA04 Juan Fernndez 6.13 238 Pn **Pn 07 57 39.1 -2.3**
CYA Choya 6.29 73 *i* P **Pn 07 57 44.0 +0.3**
PB05 IPOC Station P 7.92 16 *i* P **Pn 07 58 03.0 -3.2**
LC01 Cunco 8.39 176 Pn **Pn 07 58 11.8 -0.7**
LC01 Cunco 8.39 176 *i* P **Pn 07 58 12.0 -0.6**
PB04 IPOC Station P 8.43 16 *i* P **Pn 07 58 11.0 -2.3**
LVC Limon Verde 8.53 24 Pn **Pn 07 58 12.1 -2.7**
comp=E,0.2nm,0.3s,baz=182,slow=10,SNR=1.5
LVC *Sn* **Sn 07 59 46.6 -4.8**
comp=E,0.4nm,0.3s,baz=190,slow=2.0,SNR=2.3
LVC LR LR 08 01 23.9
comp=E,77nm,19.2s,baz=198,slow=37
PB09 IPOC Station P 9.19 20 Pn **Pn 07 58 22.9 -0.8**
PLCA Paso Flores 10.34 171 Pn **Pn 07 58 39.6 +0.3**
comp=E,0.4nm,0.3s,baz=339,slow=13,SNR=16
PLCA LR LR 08 02 15.6
comp=E,58nm,18.7s,baz=11,slow=35
PLCA Paso Flores 10.34 171 Pn 07 58 39.7 +0.4
TRQA Tornquist 11.57 133 Pn **Pn 07 58 56.2 0.0**
CPUP Villa Florida 14.08 77 LR LR 08 05 20.1
comp=E,129nm,19.8s,baz=254,slow=39
LPAZ La Paz 14.74 17 Pn **Pn 07 59 41.4 +1.4**
comp=E,0.3nm,0.3s,baz=180,slow=6.7,SNR=22
SIV San Ignacio 17.90 39 P **P 08 00 21.1 +0.4**
comp=E,0.2nm,0.3s,baz=223,slow=9.7,SNR=21
AQDB Aquidauana 18.23 61 P **P 08 00 24.0 -0.2**
NNA Nana 18.84 347 LR LR 08 04 38.9
comp=E,17nm,20.4s,baz=158,slow=27
BDFB Brasilia 26.96 62 P **P 08 01 53.9 +1.0**
comp=E,4.7nm,0.7s,baz=226,slow=9.4,SNR=8.4
BDFB Brasilia 26.96 62 IAmb IAmb 08 02 05.2
comp=Z,4.8nm,0.7s
RUSC La Rusia 36.19 359 P **P 08 03 14.6 +0.2**
VNA3 Neumayer Olymp 52.78 159 P **P 08 05 27.7 +2.0**
VNA1 Neumayer--Stat 53.08 158 P **P 08 05 30.4 +2.5**
VNA2 Neumayer--Watz 53.42 158 P **P 08 05 32.3 +1.8**
baz=288,slow=7.8
SNAA Sanae 55.00 159 P **P 08 05 43.1 +1.1**
SNAA Sanae 55.00 159 P **P 08 05 43.2 +1.1**
SNAA IAmb IAmb 08 05 45.8
comp=Z,7.0nm,1.1s
TXAR Lajitas Array 66.46 331 P **P 08 07 02.0 +1.4**
comp=Z,1.9nm,0.8s,baz=152,slow=8.0,SNR=21
VNDA Vanda 67.43 191 P **P 08 07 07.9 +1.8**
comp=Z,0.2nm,0.5s,baz=146,slow=3.6,SNR=1.9
R40A Maddies Statio 70.86 344 P **P 08 07 28.5 +0.7**
ANMO Albuquerque 72.49 331 LR LR 08 34 51.8
comp=Z,26nm,19.0s,baz=120,slow=32
X16A Lo Mia Camp, P 74.23 327 P **P 08 07 47.0 -1.2**
X16A IAmb IAmb 08 07 51.8
comp=Z,2.9nm,0.9s
DBIC Dimbokro 74.56 73 P **P 08 07 51.2 +0.9**
comp=Z,6.9nm,0.8s,baz=231,slow=6.4,SNR=9.0
DBIC Dimbokro 74.56 73 IAmb IAmb 08 07 53.5
comp=Z,7.6nm,0.8s
SMCO Snowmass 76.35 333 P **P 08 07 59.3 -1.2**
SMCO IAmb IAmb 08 08 06.1
comp=Z,5.3nm,1.0s
MAW Mawson 76.66 164 P **P 08 08 02.5 +1.0**
comp=Z,0.8nm,0.5s,baz=184,slow=6.4,SNR=9.3
KNB Kanab 77.01 328 P **P 08 08 03.1 -0.9**
KNB IAmb IAmb 08 08 07.4
comp=Z,4.9nm,1.3s
ECSD EROS Data Cent 77.08 342 P **P 08 08 05.0 +1.0**
CCUT Cedar City 77.69 328 P **P 08 08 06.8 -1.2**
CCUT IAmb IAmb 08 08 11.4
comp=Z,4.8nm,1.2s
PRN Pahroc Range 78.36 327 P **P 08 08 10.0 -1.5**
PRN IAmb IAmb 08 08 14.9
comp=Z,5.4nm,1.2s
PDAR Pinedale Array 80.43 333 P **P 08 08 23.4 +0.6**
comp=Z,0.3nm,0.5s,baz=132,slow=6.2,SNR=3.9
NVAR Mina Array Bea 80.74 325 P **P 08 08 25.8 +1.2**
comp=Z,0.5nm,0.7s,baz=141,slow=6.1,SNR=5.0
ELK Elko 81.13 329 LR LR 08 39 31.7
comp=Z,24nm,19.5s,baz=92,slow=32
BOSA Boshof 82.14 118 LR LR 08 42 40.0
comp=Z,17nm,20.0s,baz=182,slow=34
TORD Torodi Ar. Bea 83.50 71 P **P 08 08 40.1 +0.8**
comp=Z,3.5nm,0.7s,baz=263,slow=4.6,SNR=21
TORD LR LR 08 43 36.7
comp=Z,27nm,19.9s,baz=250,slow=34
TORD Torodi Ar. Bea 83.50 71 P **P 08 08 40.2 +0.9**
J08A Circle Bar Ran 84.67 328 P **P 08 08 44.6 -0.2**
J08A IAmb IAmb 08 08 47.2
comp=Z,6.0nm,1.3s
WRA Warramunga Arr 123.54 211 PKP **PKiKP 08 15 08.3 -1.1**
comp=Z,0.3nm,0.5s,baz=162,slow=1.5,SNR=6.1
ZALV Zalesovo Beam 151.46 28 PKPbc **PKiKP 08 16 05.4 +0.4**
comp=Z,6.1nm,0.6s,baz=301,slow=3.1,SNR=17
MKAR Makanchi Array 154.69 43 PKPbc **PKiKP 08 16 11.9 -0.1**
comp=Z,0.8nm,0.8s,baz=296,slow=3.9,SNR=5.0

*TRN **24** 08:18:03.1, 10.°62N×62.°53W, h75km, MD2.9*
*FUNV **24** 08:18:04.5, 10.°63N×62.°49W, h68km, MW3.3*
ISC 24 08:18:02.5±1.3, 10.°62N±0.°05×62.°55W±0.°04, h85km±14km, n16, σ1s24/29, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.68**	**275**	*eP*		**Pn**	**Pn**	**08 18 19.2**	**+0.8**
CRUV				*eS*		**Sn**	**Sn**	**08 18 29.2**	**-0.9**
TRN	**Trinidad (W)**	**1.12**	**89**	*eP*		**Pn**	**Pn**	**08 18 24.3**	**+0.9**
TRN				*eS*		**Sn**	**Sn**	**08 18 38.0**	**-1.0**
TRN	**Trinidad (W)**	**1.12**	**89**	*eP*		**Pn**	**Pn**	**08 18 23.9**	**+0.6**
TRN				*eS*		**Sn**	**Sn**	**08 18 37.9**	**-1.1**
GRFF	**Grenada Fort F**	**1.63**	**29**	*eP*		**Pn**	**Pn**	**08 18 30.0**	**+0.3**
GRFF				*eS*		**Sn**	**Sn**	**08 18 49.8**	**-0.5**
GRGR	**Grenville**	**1.74**	**30**	*eP*		**Pn**	**Pn**	**08 18 31.6**	**+0.5**
GRGR				*eS*		**Sn**	**Sn**	**08 18 52.0**	**-0.9**
GRGR	**Grenville**	**1.74**	**30**	*eP*		**Pn**	**Pn**	**08 18 31.6**	**+0.5**
GRGR				*eS*		**Sn**	**Sn**	**08 18 51.4**	**-1.5**
GRHS	**Sauteurs**	**1.82**	**29**	*e*		**Pn**	**Pn**	**08 18 34.5**	**+2.2**
GRHS				*eS*		**Sn**	**Sn**	**08 18 55.1**	**+0.2**
TOSP	**Speyside**	**2.09**	**71**	*eP*		**Pn**	**Pn**	**08 18 36.2**	**+0.5**
TOSP				*eS*		**Sn**	**Sn**	**08 19 00.1**	**-0.9**
PCRV	**Puerto La Cruz**	**2.10**	**258**	*eP*		**Pn**	**Pn**	**08 18 37.2**	**+1.3**
PCRV				*eS*		**Sn**	**Sn**	**08 19 01.3**	**-0.2**
GCMP	**Grenada, Carri**	**2.15**	**31**	*eP*		**Pn**	**Pn**	**08 18 37.3**	**+0.7**
GCMP				*eS*		**Sn**	**Sn**	**08 19 02.3**	**-0.4**
RIOV	**Rio Grande**	**2.64**	**164**	*eP*		**Pn**	**Pn**	**08 18 44.2**	**+1.1**
RIOV				*eS*		**Sn**	**Sn**	**08 19 12.8**	**-1.4**
PRGV	**PARIAGUAN**	**2.77**	**228**	*eP*		**Pn**	**Pn**	**08 18 46.3**	**+1.4**
PRGV				*eS*		**Sn**	**Sn**	**08 19 17.5**	**-0.1**
MERV	**Las Mercedes**	**3.94**	**250**	*eS*		**Sn**	**Sn**	**08 19 46.1**	**+0.3**
CACV	**CAICARA DEL OR**	**4.98**	**233**	*eP*		Pn	Pn	08 19 10.3	-4.5
CACV				*eS*		Sn	Sn	08 20 00.2	-11
BENV	**Beln**	**5.01**	**263**	*eP*		**Pn**	**Pn**	**08 19 16.1**	**+0.6**
BENV				*eS*		**Sn**	**Sn**	**08 20 09.6**	**-2.5**
BAUV	**El Baul**	**5.67**	**253**	*eP*		**Pn**	**Pn**	**08 19 25.1**	**+0.8**
BAUV				*eS*		**Sn**	**Sn**	**08 20 25.0**	**-2.9**

*JMA **24** 08:21:45.2±0.3, 39.°75N×143.°61E, h20km±5km, M4.5*
*NIED **24** 08:21:45.2, 39.°75N×143.°61E, h20km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr3.02; Mθθ-0.35; Mϕϕ-2.67; Mrθ0.77; Mrϕ-1.24; Mθϕ1.57; Fault plane solution: M0 3.57000×10^15 NP1:ϕ=25.00000°, δ=60.00000°, λ=91.00000°. NP2:ϕ=202.00000°, δ=30.00000°, λ=87.00000°.*
*NEIC **24** 08:21:47.3±1.5, 39.°75N±0.°05×143.°4E±0.°1, h10km±1km, mb4.5/20 Error ellipse: s-maj=14.9km s-min=7.7km az=107.0*
*IDC **24** 08:21:51.7±2.0, 39.°68N×143.°29E, h46km±19km, mb3.9/18, mb1 4.0/24, mb1mx3.9/59, mbtmp4.1/24, ML3.4/6, MS3.6/18, Ms1 3.6/18, ms1mx3.3/39, Error ellipse: s-maj=17.7km s-min=14.2km az=119.0*
ISC 24 08:21:47.1±4.4, 39.°72N±0.°05×143.°50E±0.°06, h13km±27km, n85, σ1s27/87, mb4.3/28, MS3.8/15, 1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.28**	**280**	P		P	**Pn**	**08 22 09.1**	**-1.6**
MIYJ	**Miyakonagasawa**	**1.30**	**264**	P		P	**Pn**	**08 22 09.9**	**-1.2**
MIYJ				*eS*			**Sb**	**08 22 28.3**	**+0.1**
JKEN	**Kujiedanarisaw**	**1.46**	**290**	P		P	**Pn**	**08 22 11.6**	**-1.6**
JANG	**Nango**	**1.66**	**294**	P		P	**Pn**	**08 22 14.6**	**-1.3**
JANG				*eS*			**Sn**	**08 22 36.2**	**-0.9**
JOM	**Ohasama**	**1.72**	**262**	P		P	**Pn**	**08 22 16.6**	**-0.2**
JOM				*eS*			**Sn**	**08 22 40.0**	**+1.3**
JMK	**Ichinoseki**	**1.93**	**247**	P		P	**Pn**	**08 22 18.9**	**-0.7**
JMK				*eS*			**Sn**	**08 22 43.1**	**-0.6**
JIO	**Ouri**	**2.10**	**234**	P		P	**Pn**	**08 22 20.8**	**-1.2**
JTM	**Tenmabayashi**	**2.14**	**301**	P		P	**Pn**	**08 22 22.3**	**-0.3**
JTM				*eS*			**Sn**	**08 22 50.0**	**+1.0**
JTM	**Tenmabayashi**	**2.14**	**301**	Pn		Pn	**Pn**	**08 22 22.3**	**-0.3**
ERM	**Erimo**	**2.31**	**354**	Pn		Pn	**Pn**	**08 22 24.8**	**0.0**
JOT	**Ohata**	**2.50**	**312**	P		P	**Pn**	**08 22 27.0**	**-0.5**
JYK	**Kaneyama**	**2.56**	**253**	P		P	**Pn**	**08 22 28.3**	**-0.1**
JNBK	**Urakawa-nobuka**	**2.62**	**348**	P		P	**Pn**	**08 22 29.5**	**+0.4**
JNBK				*eS*			**Sn**	**08 23 00.7**	**0.0**
JMM	**Marumori**	**2.81**	**230**				**Pn**	**08 22 30.2**	**-1.6**
JKB	**Kayabe**	**2.86**	**320**	P		P	**Pn**	**08 22 32.7**	**+0.3**
JCH	**Churui**	**2.89**	**358**	P		P	**Pn**	**08 22 32.4**	**-0.5**
JCH				*eS*			**Sn**	**08 23 05.6**	**-1.9**
JFT	**Otama**	**3.31**	**229**	P		P	**Pn**	**08 22 38.3**	**-0.4**
JAK	**Akkeshi**	**3.39**	**15**	P		P	**Pn**	**08 22 38.8**	**-1.0**
JAK				*eS*			**Sn**	**08 23 19.0**	**-0.9**
JYT	**Yasato**	**4.36**	**218**				**Pn**	**08 22 50.7**	**-2.3**
JSD	**Sado**	**4.42**	**249**	Pn		Pn	**Pn**	**08 22 54.1**	**+0.2**
JKA	**Kamikawa-asahi**	**4.44**	**352**	Pn		Pn	**Pn**	**08 22 54.6**	**+0.4**
ASAJ	**Asahikawa**	**4.44**	**352**	P		Pn	**Pn**	**08 22 55.0**	**+0.8**
	1.9nm,0.3s,baz=223,slow=14,SNR=9.4								
ASAJ				S			**Sn**	**08 23 50.5**	**+4.7**
	3.0nm,0.3s,baz=302,slow=23,SNR=4.0								
MJAR	**Matsushiro Arr**	**5.24**	**234**	P		P	**Pn**	**08 23 05.2**	**-0.1**
	0.8nm,0.3s,baz=46,slow=12,SNR=34								
MJAR				LR		LR	LR	08 25 18.5	
	comp=Z,482nm,18.8s,baz=35,slow=41								
MJAR	**Matsushiro Arr**	**5.24**	**234**	Pn		Pn	**Pn**	**08 23 04.9**	**-0.3**
MAJO	**Matsushiro**	**5.24**	**234**				**Pn**	**08 23 05.1**	**-0.1**
MAT	**Matsushiro**	**5.24**	**234**	P		Pn	**Pn**	**08 23 05.9**	**+0.7**
MAT				S			**Sn**	**08 24 08.2**	**+2.7**
JGF	**Kuroka**	**6.38**	**232**				**Pn**	**08 23 20.5**	**-0.3**
INU	**Inuyama**	**6.75**	**232**	Pn		Pn	**Pn**	**08 23 26.9**	**+1.0**
JWT	**Wachi**	**7.81**	**238**				**Pn**	**08 23 42.4**	**+1.9**
USA0B	**Ussuriysk Arra**	**9.67**	**301**				**Pn**	**08 24 06.9**	**+1.0**
USRK	**Ussuriysk Ar.**	**9.67**	**301**	P		Pn	**Pn**	**08 24 08.2**	**+2.3**
	baz=99,slow=12,SNR=18								
USRK				LR		LR	LR	08 27 48.7	
	comp=Z,365nm,18.4s,baz=84,slow=37								
USRK	**Ussuriysk Ar.**	**9.67**	**301**	Pn			**Pn**	**08 24 07.3**	**+1.4**
MDJ	**Mudanjiang**	**11.42**	**300**	Pn			**Pn**	**08 24 31.0**	**+1.1**
JNU	**Nakatsue**	**12.11**	**241**	P			**Pn**	**08 24 39.0**	**-0.4**
	0.5nm,0.3s,baz=16,slow=20,SNR=2.2								
KSRS	**Korea Array**	**12.40**	**264**	P		P	**Pn**	**08 24 45.0**	**+1.7**
	0.4nm,0.3s,baz=88,slow=13,SNR=7.1								
KSRS				LR		LR	LR	08 29 01.0	
	comp=Z,263nm,19.7s,baz=75,slow=35								
KLR	**Kul'dur**	**12.66**	**322**	P		P	**Pn**	**08 24 48.9**	**+2.0**
	0.1nm,0.3s,baz=129,slow=15,SNR=4.1								
KLR				LR		LR	LR	08 29 27.4	
	comp=Z,172nm,18.7s,baz=134,slow=36								
PETK	**Petropavlovsk-**	**16.54**	**31**	LR		LR	LR	08 33 04.4	
	comp=Z,84nm,18.2s,baz=206,slow=40								
MA2	**Magadan**	**20.40**	**11**	P		Pn	**Pn**	**08 26 24.7**	**-1.0**
	9.9nm,0.6s,baz=198,slow=11,SNR=5.3								
MA2				LR		LR	LR	08 35 05.2	
	comp=Z,63nm,19.1s,baz=188,slow=39								
MA2	**Magadan**	**20.40**	**11**	IAmb		IAmb	IAmb	08 26 33.5	
	comp=Z,31nm,1.3s								
TIA	**Tai'an**	**21.06**	**269**	*eP*		P	**P**	**08 26 28.3**	**-2.6**
TIA				pmax		pmax			
	comp=Z,14nm,1.2s								
TIA				LR		LR			
	comp=N,200nm,13.2s								
TIA				LR		LR			
	comp=E,360nm,12.8s								
TIA				LR		LR			
	comp=Z,560nm,14.3s								
SEY	**Seymchan**	**23.85**	**10**	P		P	**P**	**08 27 00.0**	**+0.2**
	comp=Z,13nm,1.0s,baz=204,slow=6.5,SNR=14								
SEY				LR		LR		08 36 32.3	
	comp=Z,38nm,19.3s,baz=174,slow=37								
WHN	**Wuhan**	**25.45**	**258**	⇓P		P	**P**	**08 27 14.4**	**-0.3**
WHN				pmax		pmax			
	comp=Z,50nm,0.9s								
WHN				LR		LR			
	comp=Z,480nm,16.7s								
ULN	**Ulaanbaatar**	**27.33**	**299**	P		P	**P**	**08 27 31.1**	**-0.7**
ULN				IAmb		IAmb	IAmb	08 27 32.8	
	comp=Z,6.8nm,0.9s								
SONM	**Songino Array**	**27.77**	**299**	P		P	**P**	**08 27 35.3**	**-0.4**
	comp=Z,4.0nm,0.9s,baz=92,slow=8.2,SNR=14								
SONM				LR		LR		08 39 13.9	
	comp=Z,237nm,19.3s,baz=63,slow=38								
SONM	**Songino Array**	**27.77**	**299**	P		P	**P**	**08 27 34.8**	**-0.9**
SONM				IAmb		IAmb	IAmb	08 27 37.7	
	comp=Z,7.4nm,1.2s								
ENH	**Enshi**	**29.27**	**262**	P		P	**P**	**08 27 47.3**	**-1.8**
GTA	**Gaotai**	**33.43**	**284**	*eP*		P	**P**	**08 28 26.1**	**+0.4**
GTA				pP		pwP		08 28 35.0	+2.9
GTA				sP		sP		08 28 39.8	+10
GTA				pmax		pmax			
	comp=Z,8.0nm,0.6s								
ZALV	**Zalesovo Beam**	**41.38**	**310**	P		P	**P**	**08 29 32.1**	**-0.6**
	comp=Z,2.9nm,0.4s,baz=86,slow=9.4,SNR=6.8								
ZALV				LR		LR		08 47 27.6	
	comp=Z,56nm,20.3s,baz=24,slow=37								
MK31	**Makanchi Array**	**44.13**	**300**	P		P	**P**	**08 29 54.4**	**-0.8**
MKAR	**Makanchi Array**	**44.13**	**300**	P		P	**P**	**08 29 54.8**	**-0.5**
	comp=Z,3.2nm,0.8s,baz=76,slow=10,SNR=21								
MKAR				LR		LR		08 49 11.2	
	comp=Z,128nm,18.6s,baz=54,slow=37								
MKAR	**Makanchi Array**	**44.13**	**300**	P		P	**P**	**08 29 55.0**	**-0.3**
MAKZ	**Makanchi**	**44.34**	**300**	P		P	**P**	**08 29 55.9**	**-0.9**
MAKZ				IAmb		IAmb	IAmb	08 29 57.6	
	comp=Z,6.1nm,1.0s								
ILAR	**Eielson Array**	**46.35**	**34**	P		P	**P**	**08 30 13.4**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=266,slow=6.8,SNR=12								
SCRK	**Sand Creek**	**47.66**	**35**	P		P	**P**	**08 30 23.1**	**+0.1**
TARG	**Taragay, Kyrgy**	**48.72**	**295**	P		P	**P**	**08 30 31.0**	**-0.8**
TARG				IAmb		IAmb	IAmb	08 30 37.3	
	comp=Z,5.3nm,0.8s								
BOOM	**Boomskoye usch**	**49.75**	**296**	P		P	**P**	**08 30 38.8**	**-0.5**
BOOM				IAmb		IAmb	IAmb	08 30 40.5	
	comp=Z,6.9nm,0.8s								
BRVK	**Borovoye**	**50.06**	**311**	P		P	**P**	**08 30 40.7**	**-0.7**
BRVK				IAmb		IAmb	IAmb	08 30 42.4	
	comp=Z,3.1nm,0.8s								
AAK	**Ala-Archa**	**50.69**	**297**	P		P	**P**	**08 30 45.3**	**-1.2**
KSH	**Kashi**	**50.84**	**293**	P		P	**P**	**08 30 51.3**	**+3.7**
KSH				pmax		pmax			
	comp=Z,4.0nm,1.3s								
KK31	**Karatay Array**	**53.23**	**299**				**P**	**08 31 04.0**	**-1.2**
KKAR	**Karatay Array**	**53.23**	**299**	P		P	**P**	**08 31 04.0**	**-1.2**
KKAR	**Karatay Array**	**53.23**	**299**				**P**	**08 31 04.2**	**-1.0**
BTK	**Batken**	**54.25**	**295**	P		P	**P**	**08 31 12.8**	**0.0**
NIL	**Nilore**	**55.35**	**287**	P		P	**P**	**08 31 21.2**	**+0.3**
ABKAR	**Akbulak array**	**57.48**	**309**	P		P	**P**	**08 31 35.2**	**-0.5**
ABKAR				IAmb		IAmb	IAmb	08 31 35.9	
	comp=Z,2.9nm,0.7s								
ABKAR	**Akbulak array**	**57.48**	**309**				**P**	**08 31 34.7**	**-1.0**
BBB	**Bella Bella**	**59.01**	**46**	P		P	**P**	**08 31 47.9**	**+1.6**
	comp=Z,16nm,1.0s,baz=225,slow=5.7,SNR=3.2								
WRA	**Warramunga Arr**	**59.97**	**190**	P		P	**P**	**08 31 51.9**	**-1.4**
	comp=Z,1.1nm,0.7s,baz=8.5,slow=6.5,SNR=13								
ARCES	**ARCESS Array B**	**62.06**	**339**	LR		LR		09 01 42.8	
	comp=Z,60nm,19.9s,baz=145,slow=38								
ASAR	**Alice Springs**	**63.69**	**190**	P		P	**P**	**08 32 18.1**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=15,slow=6.2,SNR=5.9								
GEYT	**Alibeck**	**63.98**	**299**	LR		LR		09 02 11.2	
	comp=Z,50nm,18.1s,baz=220,slow=38								
FINES	**FINESS Array B**	**67.20**	**332**	P		P	**P**	**08 32 40.0**	**-0.5**
	comp=Z,2.4nm,0.7s,baz=39,slow=7.3,SNR=6.9								
FINES				LR		LR		09 05 02.3	
	comp=Z,148nm,18.2s,baz=32,slow=39								
YBH	**Yreka Blue Hor**	**67.42**	**54**	P		P	**P**	**08 32 45.2**	**+2.8**
	comp=Z,1.1nm,1.1s,baz=297,slow=2.3,SNR=2.9								
KBZ	**Khabaz**	**70.39**	**311**	P		P	**P**	**08 33 00.8**	**+0.1**
	comp=Z,4.9nm,1.0s,baz=343,slow=2.8,SNR=5.7								
KVN	**Kaiserville**	**71.84**	**54**	P		P	**P**	**08 33 10.5**	**+0.6**
KVN				IAmb		IAmb	IAmb	08 33 24.5	
	comp=Z,3.8nm,1.1s								
NVAR	**Mina Array Bea**	**72.08**	**55**	P		P	**P**	**08 33 12.8**	**+1.5**
	comp=Z,0.7nm,0.8s,baz=293,slow=5.7,SNR=8.2								
NB2	**NORSAR Subarra**	**72.33**	**338**	P		P	**P**	**08 33 11.9**	**-0.3**
	comp=Z,4.5nm,0.8s,baz=37,slow=6.2								
NOA	**NORSAR Array B**	**72.33**	**338**	P		P	**P**	**08 33 12.0**	**-0.2**
	comp=Z,2.7nm,0.8s,baz=38,slow=6.0,SNR=7.5								
NOA				LR		LR		09 10 33.3	
	comp=Z,53nm,19.1s,baz=20,slow=40								
AKASG	**Malin Array Be**	**73.17**	**323**	P		P	**P**	**08 33 16.4**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=42,slow=5.4,SNR=6.0								
AKASG	**Malin Array Be**	**73.17**	**323**	IAmb		IAmb		08 33 19.5	
	comp=Z,3.3nm,1.4s								
PDAR	**Pinedale Array**	**74.62**	**47**	P		P	**P**	**08 33 27.2**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=272,slow=4.3,SNR=5.4								
BRTR	**Keskin Array B**	**78.28**	**312**	P		P	**P**	**08 33 46.6**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=161,slow=4.8,SNR=4.3								
BRTR				LR		LR		09 13 46.5	
	comp=Z,44nm,18.6s,baz=57,slow=40								
RAR	**Rarotonga**	**80.45**	**128**	LR		LR		09 02 34.9	
	comp=Z,58nm,20.0s,baz=134,slow=30								
GERES	**GERESS Array B**	**81.27**	**329**	P		P	**P**	**08 34 02.7**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=110,slow=2.0,SNR=4.7								
GERES				LR		LR		09 13 09.1	
	comp=Z,73nm,18.2s,baz=12,slow=38								
PPT	**Papeete**	**84.41**	**118**	LR		LR		09 07 24.9	
	comp=Z,32nm,20.6s,baz=354,slow=32								

*IDC **24** 08:27:15.5±0.8, 12.°95N×146.°23E, h0km, mb4.0/12, mb1 4.1/12, mb1mx3.9/49, mbtmp4.0/12, Error ellipse: s-maj=21.8km s-min=20.7km az=54.0*
*NEIC **24** 08:27:21.7±1.8, 12.°93N±0.°03×146.°10E±0.°06, h35km±5km, mb4.6/20, Error ellipse: s-maj=9.6km s-min=1.9km az=110.0*
ISC 24 08:27:22.7±0.6, 12.°95N±0.°10×146.°04E±0.°09, h50km, n38, σ0s87/36, mb4.3/23, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.31**	**299**	Pn		**Pn**	**Pn**	**08 27 43.4**	**-1.3**
	191nm,0.3s,baz=135,slow=7.3,SNR=67								
GUMO				*eS*			**Sn**	**08 28 01.0**	**0.0**
	353nm,0.3s,baz=354,slow=19,SNR=9.2								
GUMO				T			T	08 28 47.6	
	232nm,0.3s,baz=148,slow=22,SNR=8.2								
ANA2	**Anatahan**	**3.39**	**355**				**Pn**	**08 28 12.3**	**-0.8**
PATS	**Pohnpei**	**13.52**	**116**	Pn		Pn	Pn	08 30 24.2	-7.8
KSRS	**Korea Array**	**29.29**	**330**	P		P	**P**	**08 33 20.6**	**+0.3**
	1.6nm,0.9s,baz=144,slow=9.3,SNR=5.3								
USRK	**Ussuriysk Ar.**	**33.39**	**341**	P		P	**P**	**08 33 56.6**	**+0.2**
WB2	**Warramunga Arr**	**34.65**	**200**	P		P	**P**	**08 34 07.1**	**-0.5**
WB2				IAmb		IAmb	IAmb	08 34 30.4	
	comp=Z,14nm,1.5s								
WRA	**Warramunga Arr**	**34.66**	**200**	P		P	**P**	**08 34 06.3**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=22,slow=9.3,SNR=3.7								
WRA	**Warramunga Arr**	**34.66**	**200**	IAmb		IAmb	IAmb	08 34 08.2	
	comp=Z,0.4nm,1.4s								
ASAR	**Alice Springs**	**38.28**	**198**	P		P	**P**	**08 34 38.2**	**-0.3**

2.2nm,0.9s,baz=244,slow=8.2,SNR=5.1
FINES FINESS Array B 92.19 335 P **P** **08 41 10.3 -0.5**
0.8nm,0.5s,baz=46,slow=5.5,SNR=3.3
DBIC Dimbokro 145.23 303 PKPbc **PKPdf** **08 47 39.5 -0.4**
5.8nm,0.8s,baz=64,slow=6.1,SNR=4.4
LPAZ La Paz 146.62 100 PKPbc **PKPdf** **08 47 43.2 +0.2**
0.9nm,0.7s,baz=8.0,slow=10,SNR=2.7

*ANF **24** 08:29:25.7±0.5,36°.73N×98°.33W,h4km±3km,ML3.4/10, Error ellipse: s-maj=2.3km s-min=1.6km az=65.0*
*TUL **24** 08:29:25.6±0.7,36°.74N±0°.01×98°.36W±0°.02,h8km±5km, ML3.2,mb_Lg2.9/72(NEIC), Error ellipse: s-maj=2.7km s-min=1.8km az=112.0*
*NEIC **24** 08:29:25.1±0.8,36°.701N±0°.010×98°.37W±0°.03,h5km±2km, Error ellipse: s-maj=4.6km s-min=3.0km az=277.0*
ISC 24 08:29:25.2±1.1,36.72N±0°.02×98.39W±0°.02,h1km±10km, n79,σ0s83/61,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OK032	**Salt Plains WL**	**0.17**	**59**			**Pg**	**08 29 28.9**	**+0.5**
OK032				Sg		**Sg**	**08 29 31.2**	**+0.6**
CROK	**Carrier**	**0.39**	**123**			**Pg**	**08 29 33.2**	**+0.6**
CROK				Sg		**Sg**	**08 29 37.6**	**-0.1**
KAN14	**Manchester OK**	**0.42**	**55**			**Pg**	**08 29 33.4**	**+0.2**
KAN14				Sg		**Sg**	**08 29 38.9**	**+0.2**
GC02	**Grant County #**	**0.45**	**72**			**Pg**	**08 29 33.8**	**+0.1**
GC02				Sg		**Sg**	**08 29 39.8**	**+0.3**
KAN05	**Bluff City Nor**	**0.57**	**47**			**Pg**	**08 29 36.2**	**0.0**
KAN05				Sg		**Sg**	**08 29 43.5**	**0.0**
KAN16	**Harper SW Stat**	**0.57**	**27**			**Pg**	**08 29 36.1**	**0.0**
KAN16				Sg		**Sg**	**08 29 43.7**	**+0.2**
U32A	**Winter Ranch,**	**0.60**	**236**	P		**Pg**	**08 29 37.6**	**+1.0**
	baz=55,SNR=54							
KAN17	**Caldwell West**	**0.60**	**57**			**Pg**	**08 29 36.4**	**-0.2**
KAN17				Sg		**Sg**	**08 29 44.2**	**-0.2**
KAN08	**Anthony NE Sta**	**0.61**	**33**			**Pg**	**08 29 36.8**	**0.0**
KAN06	**Argonia West S**	**0.68**	**39**			**Pg**	**08 29 38.1**	**-0.1**
KAN09	**Caldwell North**	**0.75**	**56**			**Pg**	**08 29 39.2**	**-0.3**
KAN13	**South Haven SW**	**0.79**	**68**			**Pg**	**08 29 39.7**	**-0.6**
BLOK	**Blackwell**	**0.94**	**87**			**Pg**	**08 29 42.6**	**-0.6**
OK029	**Liberty Lake**	**1.19**	**140**			**Pg**	**08 29 47.4**	**-0.6**
BCOK	**Bluff Creek, N**	**1.23**	**149**			**Pg**	**08 29 48.2**	**-0.6**
OK025	**Westminster Rd**	**1.42**	**143**			**Pn**	**08 29 51.8**	**-0.3**
QUOK	**Quay**	**1.46**	**111**			**Pn**	**08 29 52.1**	**-0.6**
OK031	**S. Brethren Rd**	**1.47**	**121**			**Pn**	**08 29 52.1**	**-0.6**
OKCFA	**Oklahoma City**	**1.50**	**149**	P		**Pn**	**08 29 52.9**	**-0.4**
	baz=331,SNR=6.9							
OKCFA				S		**Sb**	**08 30 13.5**	**0.0**
	baz=331							
OK030	**Cody Creek RV**	**1.52**	**121**			**Pn**	**08 29 53.0**	**-0.5**
OKCSW	**OKLAHOMA CITY**	**1.52**	**149**			**Pn**	**08 29 53.5**	**0.0**
T35A	**Sooner Cattle**	**1.52**	**82**			**Pn**	**08 29 52.7**	**-0.8**
T35B	**Sooner Cattle**	**1.52**	**82**	P		**Pn**	**08 29 52.9**	**-0.7**
	baz=264,SNR=51							
T35B				S		**Sn**	**08 30 13.0**	**-0.9**
	baz=264							
FNO	**Franklin**	**1.66**	**151**			**Pn**	**08 29 54.3**	**-1.1**
R32A	**Long Quarter,**	**1.72**	**352**			**Pn**	**08 29 56.6**	**+0.3**
R32A	**Long Quarter,**	**1.72**	**352**	P		**Pn**	**08 29 56.6**	**+0.3**
	baz=171							
R32A				S		**Sb**	**08 30 19.5**	**-0.3**
	baz=171							
WMOK	**Wichita Mounta**	**2.00**	**189**	P		**Pn**	**08 30 00.7**	**+0.6**
	baz=9.5,SNR=100							
WMOK				S		**Sb**	**08 30 28.2**	**+0.4**
	baz=9.5							
WMOK	**Wichita Mounta**	**2.00**	**189**	P		**Pn**	**08 30 00.8**	**+0.6**
	baz=9.5							
WMOK				S		**Sb**	**08 30 28.4**	**+0.6**
	baz=9.5							
X34A	**Smith Ranch, M**	**2.16**	**168**			**Pn**	**08 30 02.4**	**+0.1**
X34A				lAmb_Lg			08 30 39.0	
	comp=Z,60nm,0.8s							
TUL1	**Leonard**	**2.25**	**110**	P		**Pn**	**08 30 03.0**	**-0.5**
	baz=293,SNR=95							
TUL1				Sb		**Sb**	**08 30 35.4**	**+0.6**
	baz=293							
TUL1	**Leonard**	**2.25**	**110**	Pb		**Pb**	**08 30 06.3**	**-0.2**
	baz=293							
TUL1				Sb		**Sb**	**08 30 35.4**	**+0.6**
	baz=293							
CBKS	**Cedar Bluff**	**2.35**	**333**			**Pn**	**08 30 04.5**	**-0.5**
CBKS				lAmb_Lg			08 30 39.7	
	comp=Z,40nm,0.7s							
CBKS	**Cedar Bluff**	**2.35**	**333**	S		**Sn**	**08 30 35.3**	**+0.8**
	baz=152							
CBKS	**Cedar Bluff**	**2.35**	**333**	Sb		**Sb**	**08 30 37.8**	**-0.1**
	baz=152							
KSU1	**Kansas State U**	**2.77**	**30**	P		**Pn**	**08 30 10.7**	**+0.1**
	baz=211							
KSU1				S		**Sn**	**08 30 45.2**	**+0.5**
	baz=211							
KSU1	**Kansas State U**	**2.77**	**30**	P		**Pn**	**08 30 10.9**	**+0.2**
	baz=211							
U38A	**Gravette**	**3.23**	**94**	lAmb_Lg			08 31 14.6	
	comp=Z,31nm,0.8s							
AMTX	**Amarillo**	**3.24**	**237**	lAmb_Lg			08 31 14.4	
	comp=Z,54nm,0.7s							
AMTX	**Amarillo**	**3.24**	**237**	Pb		**Pb**	**08 30 25.1**	**+1.6**
	baz=54							
AMTX				Sb		**Sg**	**08 31 08.1**	**-1.2**
	baz=54							
X37A	**Clayton**	**3.25**	**130**	lAmb_Lg			08 31 12.6	
	comp=Z,38nm,0.8s							
X37A	**Clayton**	**3.25**	**130**	P		**Pn**	**08 30 17.1**	**-0.1**
	baz=312,SNR=38							
HHAR	**Hobbs**	**3.61**	**96**	P		**Pn**	**08 30 22.0**	**-0.2**
	baz=279							
W39A	**Magazine**	**4.03**	**111**	P		**Pn**	**08 30 28.4**	**+0.4**
	baz=294							
S39A	**Bolivar**	**4.16**	**75**	P		**Pn**	**08 30 29.1**	**-0.7**
	baz=258,SNR=7.2							
Z38A	**Mt. Pleasant**	**4.44**	**140**	lAmb_Lg			08 31 50.0	
	comp=Z,23nm,0.8s							
U40A	**Yellville**	**4.47**	**93**	P		**Pn**	**08 30 33.9**	**-0.2**
	baz=277							
MIAR	**Mount Ida**	**4.48**	**118**	lAmb_Lg			08 31 54.4	
	comp=Z,17nm,0.8s							
MIAR	**Mount Ida**	**4.48**	**118**	P		**Pn**	**08 30 34.1**	**0.0**
	baz=301,SNR=17							
MIAR	**Mount Ida**	**4.48**	**118**	P		**Pn**	**08 30 34.5**	**+0.3**
	baz=301							
MSTX	**Muleshoe**	**4.51**	**234**	lAmb_Lg			08 31 53.2	
	comp=Z,21nm,1.1s							
N35A	**Tabor**	**4.66**	**27**	lAmb_Lg			08 32 01.0	
	comp=Z,28nm,0.7s							
BGNE	**Belgrade**	**4.69**	**2**	lAmb_Lg			08 31 57.2	
	comp=Z,32nm,0.8s							
P38A	**Dawn**	**4.80**	**51**	lAmb_Lg			08 32 04.9	
	comp=Z,16nm,0.9s							
T25A	**Trinidad**	**4.84**	**277**	lAmb_Lg			08 32 02.2	
	comp=Z,26nm,0.9s							
T25A	**Trinidad**	**4.84**	**277**	Sb		**Sg**	**08 31 56.1**	**-4.7**
	baz=93							
MGMO	**Mountain Grove**	**4.92**	**83**	lAmb_Lg			08 32 05.0	
	comp=Z,16nm,0.8s							
X40A	**Basin Creek Fa**	**5.04**	**115**	lAmb_Lg			08 32 14.0	
	comp=Z,16nm,0.9s							
R40A	**Maddies Statio**	**5.11**	**70**	lAmb_Lg			08 32 13.3	
	comp=Z,14nm,0.7s							
FCAR	**Ozark Folk Cen**	**5.13**	**97**	lAmb_Lg			08 32 17.7	
	comp=Z,16nm,1.2s							
WHAR	**Wooly Hollow**	**5.15**	**104**	lAmb_Lg			08 32 16.4	
	comp=Z,28nm,1.2s							
237A	**Washetta, Mont**	**5.17**	**155**	lAmb_Lg			08 32 22.0	
	comp=Z,22nm,1.0s							
WLAR	**White Oak Lake**	**5.27**	**123**	lAmb_Lg			08 32 22.5	
	comp=Z,15nm,0.8s							
L34A	**Svendsen Farm,**	**5.47**	**16**	lAmb_Lg			08 32 27.3	
	comp=Z,18nm,0.8s							
P40A	**Paris**	**5.73**	**59**	lAmb_Lg			08 32 30.3	
	comp=Z,26nm,0.7s							
CCM	**Cathedral Cave**	**5.84**	**75**	lAmb_Lg			08 32 43.8	
	comp=Z,16nm,1.1s							
435B	**Jarrell**	**5.96**	**173**	lAmb_Lg			08 32 36.7	
	comp=Z,14nm,0.8s							
JCT	**Junction City**	**6.33**	**191**	lAmb_Lg			08 32 51.5	
	comp=Z,13nm,0.9s							
PBMO	**Poplar Bluff**	**6.39**	**87**	lAmb_Lg			08 32 52.0	
	comp=Z,12nm,0.7s							
FVM	**French Village**	**6.47**	**76**	lAmb_Lg			08 32 50.7	
	comp=Z,24nm,1.0s							
SCIA	**State Center**	**6.55**	**36**	lAmb_Lg			08 33 01.0	
	comp=Z,22nm,0.9s							
SLM	**Saint Louis**	**6.74**	**71**	lAmb_Lg			08 32 55.6	
	comp=Z,14nm,0.9s							
S44A	**Carbondale**	**7.36**	**80**	lAmb_Lg			08 33 25.3	
	comp=Z,21nm,0.7s							
P43A	**Skaggs, Pawnee**	**7.57**	**65**	lAmb_Lg			08 33 33.1	
	comp=Z,17nm,0.7s							
MNTX	**Cornudas Mount**	**7.65**	**231**	lAmb_Lg			08 33 39.8	
	comp=Z,9.1nm,1.2s							
L40A	**Anamosa**	**7.70**	**44**	lAmb_Lg			08 33 35.6	
	comp=Z,14nm,0.9s							
RWWY	**Rawlins**	**8.46**	**309**	lAmb_Lg			08 34 07.8	
	comp=Z,8.4nm,1.2s							
RSSD	**Black Hills**	**8.56**	**332**	lAmb_Lg			08 34 13.0	
	comp=Z,8.2nm,0.9s							
L42A	**Oliver, Polo**	**8.57**	**49**	lAmb_Lg			08 33 58.9	
	comp=Z,13nm,0.8s							
K22A	**Casper**	**8.62**	**316**	lAmb_Lg			08 34 22.9	
	comp=Z,7.9nm,0.8s							

*IDC **24** 08:32:12.0±2.1,20°.91S×178°.65W,h571km±25km,mb3.0/6, mb1 3.4/9,mb1mx3.1/32,mbtmp4.1/9,Error ellipse: s-maj=40.1km s-min=15.6km az=151.0*
*NEIC **24** 08:32:13.6±2.1,20°.88S±0°.08×178°.6W±0°.1,h588km±11km, mb4.4/12,Error ellipse: s-maj=19.1km s-min=12.2km az=94.0*
ISC 24 08:32:12.2±0.7,20°.8S±0°.1×178°.5W±0°.1,h579km,n25, σ1s84/25,mb3.9/11,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**4.46**	**312**	P		**P**	**08 33 42.0**	**+2.3**
AFI	**Afiamalu**	**9.36**	**44**	P		**P**	**08 34 24.5**	**+0.2**
	2.5nm,0.3s,baz=191,slow=1.9,SNR=5.9							
AFI				S		**S**	**08 36 08.6**	**-4.1**
	0.9nm,0.3s,baz=41,slow=19,SNR=1.5							
AFI	**Afiamalu**	**9.36**	**44**	P		**S**	**08 36 08.7**	**-4.1**
MARNC	**Mare, Loyalty**	**12.61**	**264**	P		**P**	**08 34 55.9**	**-1.1**
DZM	**Mont Dzumac**	**14.10**	**262**	P		**P**	**08 35 12.3**	**-0.1**
	0.6nm,0.3s,baz=76,slow=18,SNR=7.8							
OUZ	**Omahuta**	**15.99**	**204**	P		**P**	**08 35 30.6**	**+0.3**
OUZ				lAmb		lAmb	08 35 32.5	
	comp=Z,9.3nm,0.8s							
URZ	**Urewera**	**17.84**	**191**	P		**P**	**08 35 44.8**	**-2.2**
	comp=Z,0.9nm,0.3s,baz=326,slow=7.3,SNR=2.2							
URZ	**Urewera**	**17.84**	**191**	lAmb		lAmb	08 35 51.8	
	comp=Z,56nm,1.4s							
WHZ	**Wether Hill Ro**	**27.42**	**201**	P		**P**	**08 37 12.9**	**+0.5**
WHZ				lAmb		lAmb	08 37 15.4	
	comp=Z,21nm,1.4s							
CTAO	**Charters Tower**	**33.01**	**265**	P		**P**	**08 38 00.3**	**-0.5**
COEN	**Coen**	**37.15**	**274**	P		**P**	**08 38 35.3**	**+0.1**
COEN				lAmb		lAmb	08 38 38.8	
	comp=Z,14nm,1.1s							
STKA	**Stephens Creek**	**37.26**	**244**	P		**P**	**08 38 35.2**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=87,slow=14,SNR=3.5							
WR0	**Warramunga Arr**	**43.92**	**262**	P		**P**	**08 39 27.2**	**-1.8**
WR0				lAmb		lAmb	08 39 43.6	
	comp=Z,8.6nm,1.3s							
AS31	**Alice Springs**	**44.01**	**257**	P		**P**	**08 39 28.9**	**-0.7**
ASAR	**Alice Springs**	**44.01**	**257**	P		**P**	**08 39 28.6**	**-1.0**
	comp=Z,3.6nm,0.5s,baz=91,slow=8.2,SNR=77							
ASAR				PcP		**PcP**	**08 41 01.8**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=113,slow=2.6,SNR=6.1							
WRA	**Warramunga Arr**	**44.11**	**262**	P		**P**	**08 39 29.1**	**-1.3**
	comp=Z,1.5nm,0.5s,baz=97,slow=7.6,SNR=44							
WRA	**Warramunga Arr**	**44.11**	**262**	P		**P**	**08 39 29.1**	**-1.3**
KNRA	**Kununurra**	**50.19**	**267**	P		**P**	**08 40 15.4**	**-0.6**
KNRA				lAmb		lAmb	08 40 30.0	
	comp=Z,44nm,1.7s							
FITZ	**Fitzroy Crossi**	**52.54**	**263**	P		**P**	**08 40 32.3**	**-0.6**
FITZ				lAmb		lAmb	08 40 33.2	
	comp=Z,7.3nm,1.3s							
GIRL	**Giralia**	**62.04**	**255**	P		**P**	**08 41 37.6**	**+0.2**
NVAR	**Mina Array Bea**	**81.54**	**44**	P		**P**	**08 43 32.7**	**+2.4**
	comp=Z,0.4nm,0.6s,baz=226,slow=7.6,SNR=3.6							
TXAR	**Lajitas Array**	**87.59**	**58**	P		**P**	**08 44 02.9**	**+3.1**
	comp=Z,0.5nm,0.9s,baz=236,slow=6.8,SNR=4.4							
PDAR	**Pinedale Array**	**89.47**	**43**	P		**P**	**08 44 10.2**	**+1.7**
	comp=Z,0.5nm,0.8s,baz=223,slow=5.9,SNR=4.4							
AKASG	**Malin Array Be**	**143.03**	**331**	PKP		PKPab	08 50 38.2	0.0
	comp=Z,3.1nm,0.6s,baz=42,slow=4.5,SNR=9.3							
BRTR	**Keskin Array B**	**146.69**	**312**	PKPbc		**PKPbc**	**08 50 49.1**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=126,slow=4.4,SNR=6.0							

IDC 24 08:35:08.7±3.0,32°.48S×178°.35W,h0km,mb3.9/2, mb1 4.2/4,mb1mx3.7/24,mbtmp4.0/4,ML4.0/2,Error ellipse: s-maj=71.9km s-min=31.4km az=121.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**3.24**	**7**	Pn		Pn	08 36 00.8	0.0
	38nm,0.3s,baz=286,slow=20,SNR=1.8							
RAO				Sn		Sn	08 36 32.8	-7.4
	92nm,0.3s,baz=332,slow=23,SNR=11							
URZ	**Urewera**	**6.85**	**211**	Pn		Pn	08 36 49.0	-1.5
	1.1nm,0.3s,baz=319,slow=24,SNR=2.7							
URZ				Sn		Sn	08 38 05.0	-4.1
	2.8nm,0.3s,baz=243,slow=22,SNR=7.8							
ASAR	**Alice Springs**	**42.74**	**269**	P		P	08 43 08.2	+0.2
	0.9nm,0.7s,baz=107,slow=7.9,SNR=10							
WRA	**Warramunga Arr**	**43.92**	**274**	P		P	08 43 17.4	-0.1
	0.9nm,0.3s,baz=113,slow=8.0,SNR=21							
FINES	**FINESS Array B**	**146.98**	**339**	PKPbc		PKPbc	08 54 51.7	-0.8
	1.2nm,0.7s,baz=58,slow=3.4,SNR=6.1							

*SJA **24** 08:54:03.0,31°.795×72°.57W,h10km,ML4.7*
*GUC **24** 08:54:04.9±0.8,31°.785×72°.23W,h20km±8km,ML4.5*
*NEIC **24** 08:54:05.0±2.6,31°.855±0°.04×72°.2W±0°.1,h10km±1km, mb4.6/14,Mwr4.4/44,ML4.6(GUC),Error ellipse: s-maj=15.6km s-min=6.9km az=276.0*
*NEIC **24** 08:54:04,31°.85S×72°.18W,h20km,Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr5.01; Mθθ0.23; Mφφ-5.24; Mrθ-0.52; Mrφ0.56; Mθφ-1.00; Fault plane solution: M0 5.28000×10^15^ NP1:ϕ≈181.34000°, δ50.63000°,λ99.19000°. NP2:ϕ≈347.03000°,δ40.26000°, λ78.99000°. Principal axes: T 5.1719, Plg81.0000°, Azm139.0000°; N 0.2111, Plg7.0000°, Azm355.0000°; P -5.3830, Plg5.0000°, Azm265.0000°;*
*IDC **24** 08:54:09.1±0.6,31°.82S×71°.90W,h30km±4km,mb4.0/11, mb1 4.1/15,mb1mx4.0/34,mbtmp4.1/15,ML3.7/4,MS3.8/14, Ms1 3.7/14,ms1mx3.6/27 Error ellipse: s-maj=19.9km s-min=15.4km az=92.0*
*VAO **24** 08:54:14.7±1.4,31°.99S×71°.99W,h110km±11km,mb4.3*
ISC 24 08:54:07.0±0.5,31°.81S±0°.04×72°.22W±0°.05,h22km±4km, n163,σ1s56/155,mb4.6/13,MS3.9/10,8C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VA06	**Catapilco**	**1.08**	**134**	⇓*i*	P	**Pn**	**08 54 24.7**	**-2.1**
VA06				*i*	S	**Sb**	**08 54 39.4**	**-1.4**
VA06					lAML		08 54 46.8	
	comp=N,37μm,0.4s							
CO02	**Combarbal**	**1.21**	**60**	⇑*i*	P	**Pn**	**08 54 26.9**	**-1.7**
CO02				*i*	S	**Sb**	**08 54 43.0**	**-1.4**
CO02					lAML		08 54 44.1	
	comp=N,22μm,0.3s							
CO02	**Combarbal**	**1.21**	**60**	Pn		**Pn**	**08 54 27.1**	**-1.5**
CO02	**Combarbal**	**1.21**	**60**	*i*	P	**Pn**	**08 54 27.0**	**-1.7**
CO06	**Fray Jorge**	**1.24**	**24**	*eP*		**Pn**	**08 54 27.3**	**-1.7**
CO06	**Fray Jorge**	**1.24**	**24**			**Pn**	**08 54 27.6**	**-1.3**
VA01	**Torpederas**	**1.30**	**158**	⇑*i*	P	**Pn**	**08 54 28.2**	**-1.6**
VA01	**Torpederas**	**1.30**	**158**			**Pn**	**08 54 28.4**	**-1.4**
VA01	**Torpederas**	**1.30**	**158**	*i*	P	**Pn**	**08 54 28.0**	**-1.8**
ROCH	**El Roble**	**1.54**	**139**	⇑*i*	P	**Pn**	**08 54 31.9**	**-1.5**
ROCH				*i*	S	**Sn**	**08 54 53.1**	**+0.2**
ROCH					lAML		08 54 56.6	
	comp=N,12μm,0.4s							
CO03	**El Pedregal**	**1.63**	**54**	⇑*i*	P	**Pn**	**08 54 33.4**	**-1.1**
CO03				*i*	S	**Sn**	**08 54 54.1**	**-0.7**
CO03					lAML		08 54 57.7	
	comp=E,5μm,0.7s							
CO03	**El Pedregal**	**1.63**	**54**			**Pn**	**08 54 34.0**	**-0.5**
CO03	**El Pedregal**	**1.63**	**54**	*i*	P	**Pn**	**08 54 34.0**	**-0.5**
VA03	**San Esteban**	**1.70**	**124**	⇑*i*	P	**Pn**	**08 54 34.3**	**-1.1**
VA03				*i*	S	**Sn**	**08 54 56.6**	**-0.1**
VA03					lAML		08 55 09.0	
	comp=N,13μm,0.6s							
VA03	**San Esteban**	**1.70**	**124**			**Pn**	**08 54 34.4**	**-1.1**
VA05	**Santo Domingo**	**1.91**	**165**			**Pn**	**08 54 36.1**	**-2.1**
MT05	**Renca**	**2.01**	**142**	*i*	P	**Pn**	**08 54 38.7**	**-1.0**
MT05				*i*	S	**Sb**	**08 55 06.5**	**-1.1**
MT05	**Renca**	**2.01**	**142**			**Pn**	**08 54 38.5**	**-1.2**
MT05	**Renca**	**2.01**	**142**	*i*	P	**Pn**	**08 54 39.0**	**-0.7**
GO04	**Tololo Observa**	**2.04**	**37**	*eP*		**Pn**	**08 54 39.2**	**-1.0**
GO04				*i*	S	**Sn**	**08 55 05.3**	**+0.2**
GO04					lAML		08 55 13.4	
	comp=N,6μm,0.5s							
CO05	**La Serena**	**2.07**	**24**	*eP*		**Pn**	**08 54 39.4**	**-1.0**
CO05					lAML		08 55 16.9	
	comp=E,2μm,0.6s							
CO05	**La Serena**	**2.07**	**24**			**Pn**	**08 54 39.9**	**-0.5**
MT01	**Popeta**	**2.20**	**158**	⇑*i*	P	**Pn**	**08 54 41.0**	**-1.2**
MT01	**Popeta**	**2.20**	**158**			**Pn**	**08 54 41.1**	**-1.2**
MT01	**Popeta**	**2.20**	**158**	*i*	P	**Pn**	**08 54 41.0**	**-1.2**
MT09	**Talagante**	**2.22**	**152**	⇑*i*	P	**Pn**	**08 54 42.0**	**-0.5**
MT09	**Talagante**	**2.22**	**152**			**Pn**	**08 54 41.8**	**-0.8**
RTLS	**Leoncito**	**2.49**	**90**	*i*	P	**Pn**	**08 54 48.0**	**+1.5**
LMEL	**Las Melosas**	**2.65**	**141**	⇑*i*	P	**Pn**	**08 54 48.2**	**-0.3**
LMEL					lAML		08 55 34.0	
	comp=N,3μm,0.5s							
BO01	**Tunca**	**2.75**	**160**			**Pn**	**08 54 48.6**	**-1.1**
BO01	**Tunca**	**2.75**	**160**	*i*	P	**Pn**	**08 54 49.0**	**-0.7**
AROD	**Rodeo**	**2.87**	**56**	*i*	P	**Pn**	**08 54 52.0**	**+0.2**
ARCO	**CERRO ARCO**	**2.97**	**111**	*i*	P	**Pn**	**08 54 56.0**	**+3.1**
ASAL	**Salagasta**	**2.98**	**106**	*i*	P	**Pn**	**08 54 55.0**	**+2.1**
ZON	**Zonda**	**3.03**	**86**	Pn		**Pn**	**08 54 55.1**	**+1.4**
ZON	**Zonda**	**3.03**	**86**	*i*	P	**Pn**	**08 54 56.0**	**+2.3**
LCO	**Las Campanas**	**3.08**	**26**			**Pn**	**08 54 53.9**	**-0.7**
RTCV	**Cerro Valdivia**	**3.13**	**92**	*i*	P	**Pn**	**08 54 57.0**	**+1.9**
AAGR	**Agrelo**	**3.14**	**115**	*i*	P	**Pn**	**08 54 57.0**	**+1.8**
GO05	**Huala**	**3.20**	**176**			**Pn**	**08 54 54.7**	**-1.2**
GO05	**Huala**	**3.20**	**176**	*i*	P	**Pn**	**08 54 54.0**	**-2.0**
BO02	**Sierra Bellavi**	**3.21**	**158**			**Pn**	**08 54 55.6**	**-0.5**
BO02	**Sierra Bellavi**	**3.21**	**158**	*i*	P	**Pn**	**08 54 56.0**	**-0.1**
AC04	**Llanos de Chal**	**3.73**	**16**			**Pn**	**08 55 01.5**	**-1.7**
AC04	**Llanos de Chal**	**3.73**	**16**	*i*	P	**Pn**	**08 55 02.0**	**-1.2**
COIS	**El Sosneado**	**3.95**	**147**	*i*	P	**Pn**	**08 55 08.0**	**+1.7**
ML02	**Panimavida**	**4.00**	**171**			**Pn**	**08 55 05.8**	**-1.1**
LAMA	**Las Malvinas**	**4.01**	**142**	*i*	P	**Pn**	**08 55 09.0**	**+2.0**
AVFE	**Valle Fertil**	**4.24**	**76**	*i*	P	**Pn**	**08 55 11.0**	**+0.7**
RFA	**San Rafael**	**4.31**	**134**	*i*	P	**Pn**	**08 55 12.0**	**+0.7**
GO03	**Copiap**	**4.54**	**23**			**Pn**	**08 55 13.0**	**-1.5**
GO03	**Copiap**	**4.54**	**23**	*i*	P	**Pn**	**08 55 14.0**	**-0.5**
VCA	**Vinchina**	**4.63**	**50**	*i*	P	**Pn**	**08 55 18.0**	**+2.2**
ACHE	**Chepes**	**4.79**	**84**	*i*	P	**Pn**	**08 55 21.0**	**+3.0**
AC02	**Maricunga**	**5.64**	**29**			**Pn**	**08 55 27.8**	**-2.3**
AC02	**Maricunga**	**5.64**	**29**	*i*	P	**Pn**	**08 55 29.0**	**-1.0**
H03N1	**Juan Fernandez**	**5.87**	**252**	T		T	09 02 18.5	
	baz=85,slow=72,SNR=623							
H03N3	**Juan Fernandez**	**5.89**	**252**	T		T	09 02 15.1	
	baz=85,slow=72,SNR=476							
H03N2	**Juan Fernandez**	**5.89**	**252**	T		T	09 02 18.5	
	baz=85,slow=72,SNR=489							
H03S3	**Juan Fernandez**	**5.98**	**249**	T		T	09 02 28.8	
	baz=83,slow=75,SNR=12							
H03S1	**Juan Fernandez**	**5.98**	**248**	T		T	09 02 28.8	
	baz=83,slow=75,SNR=16							
H03S2	**Juan Fernandez**	**5.99**	**249**	T		T	09 02 21.8	
	baz=83,slow=75,SNR=19							
CYA	**Choya**	**6.50**	**61**	*i*	P	**Pn**	**08 55 41.0**	**-0.3**
LC01	**Cunco**	**7.08**	**178**			**Pn**	**08 55 47.0**	**-2.2**
LC01	**Cunco**	**7.08**	**178**	*i*	P	**Pn**	**08 55 48.0**	**-1.2**
AHML	**Horco Molle**	**7.83**	**52**	*i*	P	**Pn**	**08 56 02.0**	**+2.4**
PLCA	**Paso Flores**	**9.01**	**172**	Pn		**Pn**	**08 56 15.4**	**-0.3**
	comp=N,0.5nm,0.3s,baz=347,slow=10,SNR=32							
PLCA				LR		LR	08 59 46.9	
	comp=N,336nm,19.1s,baz=349,slow=38							
PLCA	**Paso Flores**	**9.01**	**172**			**Pn**	**08 56 12.9**	**-2.9**
PLCA	**Paso Flores**	**9.01**	**172**	*i*	P	**Pn**	**08 56 16.0**	**+0.3**
LVC	**Limon Verde**	**9.63**	**19**	Pn		**Pn**	**08 56 22.0**	**-2.6**
	comp=

	comp=Z,11nm,1.9s								
TXAR	**Lajitas Array**	**67.76**	**331**	P		**P**	**09 05 05.0**	**+2.0**
	comp=Z,0.3nm,0.6s,baz=142,slow=7.2,SNR=6.0								
TXAR				pP		**pwP**	**09 05 14.7**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=152,slow=8.8,SNR=8.9								
PPT	**Papeete**	**70.42**	**261**	LR		LR	09 28 04.1		
	comp=Z,59nm,18.8s,baz=90,slow=29								
LIC	**Lamto**	**74.24**	**72**	*eP*		**P**	**09 05 42.2**	**-0.4**
	comp=Z,64nm,1.6s								
TIC	**Toumodi**	**74.49**	**72**	*eP*		**P**	**09 05 43.6**	**-0.5**
KIC	**Kosan Boka**	**74.55**	**72**	*eP*		**P**	**09 05 44.0**	**-0.5**
	comp=Z,11nm,0.8s								
DBIC	**Dimbokro**	**74.64**	**72**	P		**P**	**09 05 44.8**	**-0.1**
	comp=Z,7.0nm,0.8s,baz=222,slow=7.2,SNR=8.6								
DBIC				LR		LR	09 35 10.6		
	comp=Z,72nm,21.4s,baz=195,slow=33								
DBIC	**Dimbokro**	**74.64**	**72**	IAmb		IAmb	09 05 45.7		
	comp=Z,11nm,0.9s								
MAW	**Mawson**	**75.32**	**164**	P		**P**	**09 05 47.5**	**-0.5**
	comp=Z,1.5nm,0.9s,baz=183,slow=4.8,SNR=4.0								
MAW				LR		LR	09 39 19.1		
	comp=Z,70nm,18.8s,baz=236,slow=36								
KOWA	**Kowa**	**79.88**	**66**	P		**P**	**09 06 14.2**	**-0.1**
	comp=Z,4.1nm,0.8s,baz=234,slow=5.0,SNR=11								
KOWA	**Kowa**	**79.88**	**66**	IAmb		IAmb	09 06 14.8		
	comp=Z,5.8nm,0.8s								
BOSA	**Boshof**	**81.23**	**118**	P		**P**	**09 06 21.7**	**+0.1**
	comp=Z,4.5nm,1.1s,baz=279,slow=5.3,SNR=5.3								
BOSA				LR		LR	09 38 45.7		
	comp=Z,68nm,18.3s,baz=206,slow=33								
BOSA	**Boshof**	**81.23**	**118**	IAmb		IAmb	09 07 37.2		
	comp=Z,8.8nm,0.9s								
PDAR	**Pinedale Array**	**81.75**	**333**	P		**P**	**09 06 25.5**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=126,slow=9.1,SNR=2.4								
NVAR	**Mina Array Bea**	**82.00**	**325**	P		**P**	**09 06 26.8**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=186,slow=6.8,SNR=4.5								
NVAR				pP		**pwP**	**09 06 37.3**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=159,slow=6.7,SNR=8.9								
TORD	**Torodi Ar. Bea**	**83.62**	**70**	P		**P**	**09 06 33.8**	**-0.3**
	comp=Z,5.8nm,0.8s,baz=262,slow=4.6,SNR=36								
TORD				pP		**sP**	**09 06 43.0**	**+0.7**
	comp=Z,3.6nm,0.8s,baz=262,slow=4.4,SNR=9.3								
TORD	**Torodi Ar. Bea**	**83.62**	**70**			**P**	**09 06 33.9**	**-0.1**
URZ	**Urewera**	**85.01**	**228**	LR		LR	09 37 44.8		
	comp=Z,116nm,18.1s,baz=124,slow=31								
AFI	**Afiamalu**	**90.68**	**253**	LR		LR	09 41 07.1		
	comp=Z,37nm,18.1s,baz=124,slow=31								
ASAR	**Alice Springs**	**119.44**	**208**	pPKP		pPKPdf	09 13 04.9	+3.2	
	comp=Z,0.5nm,0.8s,baz=156,slow=1.2,SNR=3.7								
BRTR	**Keskin Array B**	**120.89**	**60**	PKP		**PKPdf**	**09 12 57.4**	**-0.3**	
	comp=Z,0.3nm,0.7s,baz=66,slow=1.7,SNR=2.8								
BRTR				pPKP		**sPKPdf**	**09 13 07.5**	**+1.4**	
	comp=Z,0.5nm,0.8s,baz=195,slow=3.3,SNR=3.6								
WRA	**Warramunga Arr**	**122.58**	**210**	PKP		**PKPdf**	**09 13 00.9**	**-0.5**	
	comp=Z,0.4nm,0.7s,baz=167,slow=1.7,SNR=5.2								
WRA				pPKP		**sPKPdf**	**09 13 11.5**	**+1.6**	
	comp=Z,1.1nm,0.8s,baz=172,slow=1.9,SNR=5.4								
H11S2	**WAKE ISLAND Hyl**	**25.62**	**271**	T		T	11 31 59.9		
	baz=118,slow=75,SNR=19								
H11S1	**WAKE ISLAND Hyl**	**25.63**	**271**	T		T	11 31 59.5		
	baz=118,slow=75,SNR=16								
H11S3	**WAKE ISLAND Hyl**	**25.64**	**271**	T		T	11 32 01.3		
	baz=118,slow=75,SNR=12								
H11N3	**WAKE ISLAND Hyl**	**25.98**	**272**	T		T	11 32 24.5		
	baz=117								
H11N1	**WAKE ISLAND Hyl**	**25.99**	**272**	T		T	11 32 27.3		
	baz=117								
H11N2	**WAKE ISLAND Hyl**	**25.99**	**272**	T		T	11 32 25.3		
	baz=117,SNR=8.4								
KURBB	**Kurchatov Arra**	**151.35**	**40**	PKPbc		**PKiKP**	**09 13 59.0**	**0.0**	
	comp=Z,2.4nm,0.8s,baz=294,slow=2.9,SNR=19								
KURK	**Kurchatov**	**151.35**	**40**			**PKiKP**	**09 13 59.0**	**0.0**	
ZALV	**Zalesovo Beam**	**152.44**	**30**	PKPbc		**PKiKP**	**09 14 01.4**	**+0.4**	
	comp=Z,1.7nm,0.5s,baz=296,slow=3.9,SNR=8.7								
KSH	**Kashi**	**153.14**	**64**	PKPbc		**PKPdf**	**09 13 58.8**	**+3.2**	
KSH				pPKP		sPKPbc	09 14 10.8	-0.7	
KSH				PP		**PP**	**09 17 48.0**	**-0.6**	
MKAR	**Makanchi Array**	**155.39**	**45**	PKPab		**PKPab**	**09 14 23.1**	**-0.8**	
	comp=Z,1.3nm,0.8s,baz=264,slow=3.9,SNR=6.8								

*INMG **24** 08:54:35.1±1.2,35°.54N×9°.86W,h32km±14km,ML2.4,*
Error ellipse: s-maj=11.6km s-min=5.9km az=60.0
*MDD **24** 08:54:35.0±1.5,35°.75N×9°.64W,h0km,mbLg2.6/16,Error*
ellipse: s-maj=13.6km s-min=11.6km az=74.0, PRXIMO
*IGIL **24** 08:54:35.3,35°.67N×9°.83W,h14km,ML2.4*
*CNRM **24** 08:54:37.9,35°.53N×9°.24W,h79km,ml1.9*
ISC 24 08:54:31.6±1.8,35°.48N±0°.05×9°.82W±0°.09,h35km,n56,
σ1§87/96,2C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.83**	**26**	P	**Pn**	**08 55 02.4**	**+1.8**
	5.5nm,0.0s,SNR=7.9						
PFVI				S	**Sn**	**08 55 22.4**	**-0.2**
	28nm,0.1s,SNR=9.5						
PFVI	**Vila Bisbo**	**1.83**	**26**	*eP*	**Pn**	**08 55 02.4**	**+1.8**
PFVI				*eS*	**Sn**	**08 55 22.5**	**-0.2**
PFVI				A	A	08 55 27.1	
	15nm,0.2s						
MORF	**Marmelete**	**2.05**	**27**	*eP*	**Pn**	**08 55 05.4**	**+1.8**
MORF				*eS*	**Sn**	**08 55 27.5**	**-0.6**
MORF				IAML		08 55 28.5	
	comp=N,34nm,0.1s						
MORF	**Marmelete**	**2.05**	**27**	P	**Pn**	**08 55 05.4**	**+1.8**
MORF				S	**Sn**	**08 55 27.5**	**-0.6**
MORF	**Marmelete**	**2.05**	**27**	*eP*	**Pn**	**08 55 05.5**	**+1.8**
MORF				*eS*	**Sn**	**08 55 27.8**	**-0.3**
MORF				A	A	08 55 28.6	
	comp=N,28nm,0.1s						
PTEO	**Sao Teotonio**	**2.24**	**23**	P	**Pn**	**08 55 08.0**	**+1.7**
PTEO				S	**Sn**	**08 55 32.4**	**-0.3**
	comp=N,8.9nm,0.3s						
PTEO	**Sao Teotonio**	**2.24**	**23**	*eP*	**Pn**	**08 55 08.0**	**+1.7**
PTEO				*eS*	**Sn**	**08 55 32.4**	**-0.3**
PTEO				A	A	08 55 35.7	
	comp=N,18nm,0.3s						
PBDV	**Barranco-do-Ve**	**2.33**	**40**	P	**Pn**	**08 55 09.8**	**+2.3**
PBDV				S	**Sn**	**08 55 35.2**	**+0.3**
	comp=N,7.0nm,0.5s						
PBDV	**Barranco-do-Ve**	**2.33**	**40**	*eP*	**Pn**	**08 55 09.8**	**+2.3**
PBDV				*eS*	**Sn**	**08 55 35.2**	**+0.3**
PBDV				A	A	08 55 39.8	
	comp=N,7.0nm,0.5s						
PVAQ	**Vaqueiros**	**2.56**	**41**	P	**Pn**	**08 55 12.8**	**+2.1**
PVAQ				S	**Sn**	**08 55 40.9**	**+0.3**
	comp=N,11nm,0.1s						
PVAQ	**Vaqueiros**	**2.56**	**41**	*eP*	**Pn**	**08 55 12.8**	**+2.1**
PVAQ				*eS*	**Sn**	**08 55 40.9**	**+0.3**
PVAQ				A	A	08 55 43.5	
	comp=N,11nm,0.1s						
PVAQ	**Vaqueiros**	**2.56**	**41**	P	**Pn**	**08 55 12.7**	**+2.0**
PVAQ				S	**Sn**	**08 55 40.4**	**-0.2**
PCVE	**Castro Verde**	**2.58**	**33**	P	**Pn**	**08 55 13.0**	**+2.1**
PCVE				S	**Sn**	**08 55 41.3**	**+0.2**
	comp=N,9.2nm,0.2s						
PCVE	**Castro Verde**	**2.58**	**33**	*eP*	**Pn**	**08 55 13.0**	**+2.1**
PCVE				*eS*	**Sn**	**08 55 41.3**	**+0.2**
PCVE				A	A	08 55 43.3	
	comp=N,9.2nm,0.2s						
MESJ	**Messejana**	**2.68**	**28**	*eP*	**Pn**	**08 55 14.2**	**+1.9**
MESJ				*eS*	**Sn**	**08 55 42.6**	**-0.9**
MESJ				IAML		08 55 44.8	
	comp=E,18nm,0.1s						
MESJ	**Messejana**	**2.68**	**28**	P	**Pn**	**08 55 14.2**	**+1.9**
MESJ				S	**Sn**	**08 55 42.6**	**-0.9**
MESJ	**Messejana**	**2.68**	**28**	*eP*	**Pn**	**08 55 14.3**	**+1.9**
MESJ				*eS*	**Sn**	**08 55 43.5**	**-0.1**
MESJ				A	A	08 55 45.0	
	comp=E,12nm,0.2s						
EGRO	**El Granado**	**2.78**	**42**	P	**Pn**	**08 55 15.9**	**+2.2**
	comp=E,0.6nm,0.0s,SNR=19						
EGRO				S	**Sn**	**08 55 46.0**	**0.0**
	comp=E,12nm,0.1s,SNR=12						
PNCL	**Nicolau / Gran**	**2.82**	**21**	P	**Pn**	**08 55 15.6**	**+1.4**
PNCL				S	**Sn**	**08 55 46.3**	**-0.7**
	comp=E,9.8nm,0.2s						
PNCL	**Nicolau / Gran**	**2.82**	**21**	*eP*	**Pn**	**08 55 15.6**	**+1.4**
PNCL				*eS*	**Sn**	**08 55 46.3**	**-0.7**
PNCL				A	A	08 55 48.5	
	comp=E,9.8nm,0.2s						
PBEJ	**Beja**	**2.99**	**31**	P	**Pn**	**08 55 18.3**	**+1.8**
PBEJ				S	**Sn**	**08 55 50.7**	**-0.4**
	comp=E,4.2nm,0.3s						
PBEJ	**Beja**	**2.99**	**31**	*eP*	**Pn**	**08 55 18.3**	**+1.8**
PBEJ				*eS*	**Sn**	**08 55 50.7**	**-0.4**
PBEJ				A	A	08 55 51.6	
	comp=E,8.3nm,0.3s						
ZHG	**ZHG**	**3.32**	**127**	P	**Pn**	**08 55 23.1**	**+1.9**
ZHG				S	**Sn**	**08 55 59.4**	**-0.1**
EVO	**Evora**	**3.37**	**25**	P	**Pn**	**08 55 23.2**	**+1.4**
EVO				S	**Sn**	**08 55 59.4**	**-1.2**
	comp=E,16nm,0.2s						
EVO	**Evora**	**3.37**	**25**	*eP*	**Pn**	**08 55 23.2**	**+1.4**
EVO				*eS*	**Sn**	**08 55 59.4**	**-1.2**
EVO				A	A	08 56 01.3	
	comp=E,16nm,0.2s						
EMIN	**Mina Concepcio**	**3.41**	**47**	P	**Pn**	**08 55 24.2**	**+1.8**
	comp=E,1.8nm,0.1s,SNR=11						
EMIN				S	**Sn**	**08 56 00.2**	**-1.4**
	comp=E,2.6nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**3.49**	**7**	P	**Pn**	**08 55 24.8**	**+1.3**
	comp=E,2.0nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**08 56 02.6**	**-1.0**
	comp=E,26nm,0.2s,SNR=10						
PMAFR	**Mafra**	**3.49**	**7**	*eP*	**Pn**	**08 55 24.8**	**+1.3**
PMAFR				*eS*	**Sn**	**08 56 02.6**	**-1.0**
PMAFR				A	A	08 56 04.8	
	comp=E,20nm,0.2s						
ECEU	**Ceuta**	**3.64**	**82**	S	**Sn**	**08 56 08.5**	**+1.2**
	comp=E,1.6nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**3.82**	**27**	*eS*	**Sn**	**08 56 10.4**	**-1.3**
PESTR				A	A	08 56 11.8	
	comp=E,3.2nm,0.5s						
EBAD	**Badajoz**	**3.96**	**34**	P	**Pn**	**08 55 31.3**	**+1.4**
	comp=E,0.7nm,0.1s,SNR=7.3						
EBAD				S	**Sn**	**08 56 13.8**	**-1.4**
	comp=E,4.3nm,0.1s,SNR=11						
PSBE	**So Bento**	**4.11**	**11**	*eS*	**Sn**	**08 56 18.1**	**-0.7**
ECAB	**El Cabril**	**4.38**	**53**	P	**Pn**	**08 55 37.5**	**+1.8**
	comp=E,0.3nm,0.1s,SNR=11						
ECAB				S	**Sn**	**08 56 23.1**	**-2.4**
	comp=E,0.8nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**4.39**	**25**	P	**Pn**	**08 55 37.1**	**+1.3**
PMRV				S	**Sn**	**08 56 23.4**	**-2.3**
	comp=E,5.8nm,0.8s						
PMRV	**Marv??o**	**4.39**	**25**	*eP*	**Pn**	**08 55 37.1**	**+1.3**
PMRV				*eS*	**Sn**	**08 56 23.4**	**-2.3**
PMRV				A	A	08 56 26.1	
	comp=E,5.8nm,0.8s						
LCRM	**LCR**	**4.47**	**112**	P	**Pn**	**08 55 37.1**	**+0.1**
LCRM				S	**Sn**	**08 56 25.5**	**-2.4**
CZD	**Col de Zad**	**4.66**	**120**	P	**Pn**	**08 55 41.5**	**+1.8**
CZD				S	**Sn**	**08 56 29.1**	**-3.6**
PCAS	**Casmilo, Conde**	**4.68**	**13**	S	**Sn**	**08 56 31.3**	**-1.6**
PCAS	**Casmilo, Conde**	**4.68**	**13**	*eS*	**Sn**	**08 56 31.3**	**-1.6**
PCBR	**Castelo Branco**	**4.73**	**22**	S	**Sn**	**08 56 31.9**	**-2.2**
PCBR	**Castelo Branco**	**4.73**	**22**	*eS*	**Sn**	**08 56 31.9**	**-2.2**
EGOR	**Sierra Gorda,**	**4.89**	**69**	P	**Pn**	**08 55 45.2**	**+2.3**
	comp=E,0.4nm,0.2s,SNR=7.9						
MD31	**MD31**	**4.94**	**120**	P	**Pn**	**08 55 44.8**	**+1.3**
MD31				S	**Sn**	**08 56 37.6**	**-1.9**
EADA	**Adamuz**	**4.99**	**56**	P	**Pn**	**08 55 45.8**	**+1.7**
	comp=E,0.3nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**08 56 38.8**	**-1.7**
	comp=E,1.9nm,0.1s,SNR=7.9						
MDT	**Midelt**	**5.08**	**120**	P	**Pn**	**08 55 46.8**	**+1.4**
MDT				S	**Sn**	**08 56 39.8**	**-3.0**
MTE	**Manteigas**	**5.23**	**19**	S	**Sn**	**08 56 44.3**	**-2.2**
MTE	**Manteigas**	**5.23**	**19**	*eS*	**Sn**	**08 56 44.3**	**-2.2**
EPLA	**Plasencia**	**5.45**	**32**	S	**Sn**	**08 56 50.0**	**-1.9**
	comp=E,3.0nm,0.1s,SNR=7.9						
EQES	**Quesada**	**5.90**	**65**	P	**Pn**	**08 55 59.0**	**+2.4**
	comp=E,0.1nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**08 57 00.4**	**-2.7**
	comp=E,0.5nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**5.95**	**45**	P	**Pn**	**08 55 59.4**	**+2.1**
	comp=E,0.3nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**08 56 59.8**	**-4.4**
	comp=E,0.2nm,0.1s,SNR=7.9						
POLO	**Lamas de Olo**	**6.09**	**15**	S	**Sn**	**08 57 04.6**	**-3.2**
POLO	**Lamas de Olo**	**6.09**	**15**	*eS*	**Sn**	**08 57 04.6**	**-3.2**
ESDC	**Sonseca Array**	**6.26**	**46**	S	**Sn**	**08 57 10.6**	**-1.2**
	comp=E,0.6nm,0.1s,baz=237,slow=24,SNR=5.8						
SESP	**Santiago Espad**	**6.41**	**64**	S	**Sn**	**08 57 13.2**	**-2.4**
	comp=E,0.8nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.52**	**12**	S	**Sn**	**08 57 12.9**	**-5.4**
	comp=E,0.4nm,0.1s,SNR=7.9						
ETOR	**Torete**	**8.11**	**47**	P	**Pn**	**08 56 28.2**	**+1.2**
	comp=E,1.3nm,0.2s,SNR=7.9						
ETOR				S	**Sn**	**08 57 53.5**	**-4.0**
	comp=E,2.6nm,0.2s,SNR=7.9						

*IDC **24** 09:12:46.7±1.2,33°.91S×72°.10W,h0km,mb3.5/4,*
mb1 3.7/6,mb1mx3.6/27,mbtmp3.5/6,ML3.7/2,Error
ellipse: s-maj=51.9km s-min=24.3km az=90.0
*NEIC **24** 09:12:48.8±1.5,33°.91S±0°.04×72°.3W±0°.1,h23km±15km,*
Error ellipse: s-maj=14.0km s-min=2.4km az=113.0
*GUC **24** 09:12:49.8±0.7,33°.94S×72°.25W,h36km±4km,ML4.0*
ISC 24 09:12:49.1±1.3,33°.90S±0°.03×72°.24W±0°.05,h20km±5km,
n48,σ0§76/52,mb3.6/3,4C-6D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA05	**Santo Domingo**	**0.57**	**65**	*i*P	**Pn**	**09 13 01.6**	**-0.6**
VA05				*i* S	**Sn**	**09 13 09.9**	**-1.1**
VA05				IAML		09 13 10.8	
	comp=E,14µm,0.3s						
VA05	**Santo Domingo**	**0.57**	**65**		**Pn**	**09 13 01.6**	**-0.6**
BO03	**Pichilemu**	**0.64**	**159**	*i*P	**Pb**	**09 13 01.6**	**0.0**
BO03				*i* S	**Sg**	**09 13 10.2**	**-0.3**
MT01	**Popeta**	**0.82**	**88**	*i*P	**Pg**	**09 13 05.2**	**-0.1**
MT01				*i* S	**Sg**	**09 13 16.3**	**+0.1**
MT01				IAML		09 13 17.7	
	comp=N,7µm,0.4s						
MT01	**Popeta**	**0.82**	**88**		**Pg**	**09 13 05.1**	**-0.2**
VA01	**Torpederas**	**1.00**	**30**	*i*P	**Pn**	**09 13 08.5**	**+0.3**
VA01				*i* S	**Sg**	**09 13 22.2**	**+0.3**
VA01	**Torpederas**	**1.00**	**30**	Pn	**Pn**	**09 13 08.4**	**+0.3**
MT09	**Talagante**	**1.05**	**84**	*i*P	**Pb**	**09 13 08.7**	**0.0**
MT09				*i* S	**Sn**	**09 13 23.0**	**0.0**
MT09				IAML		09 13 24.2	
	comp=N,6µm,0.2s						
MT09	**Talagante**	**1.05**	**84**		**Pb**	**09 13 08.6**	**-0.1**
BO01	**Tunca**	**1.08**	**118**	*i*P	**Pb**	**09 13 08.3**	**-0.8**
BO01	**Tunca**	**1.08**	**118**		**Pb**	**09 13 08.3**	**-0.8**
GO05	**Huala**	**1.14**	**167**	*i*P	**Pn**	**09 13 09.5**	**-0.5**
GO05				*i* S	**Sb**	**09 13 24.0**	**-0.6**
GO05	**Huala**	**1.14**	**167**		**Pn**	**09 13 09.6**	**-0.5**
MT05	**Renca**	**1.35**	**68**	*eP*	**Pb**	**09 13 13.7**	**-0.2**
MT05				*i* S	**Sg**	**09 13 32.9**	**0.0**
MT05				IAML		09 13 41.7	
	comp=E,4µm,0.3s						
MT05	**Renca**	**1.35**	**68**		**Pn**	**09 13 13.4**	**+0.5**
BO02	**Sierra Bellavi**	**1.50**	**127**	*i*P	**Pn**	**09 13 15.1**	**+0.1**
BO02				*i* S	**Sb**	**09 13 36.0**	**+0.9**
BO02				IAML		09 13 41.8	
	comp=E,3µm,0.5s						
BO02	**Sierra Bellavi**	**1.50**	**127**		**Pn**	**09 13 15.2**	**+0.1**
VA06	**Catapilco**	**1.55**	**31**	IAML		09 13 47.4	
	comp=E,3µm,0.4s						
LMEL	**Las Melosas**	**1.69**	**89**	*i*P	**Pb**	**09 13 19.0**	**-0.7**
LMEL				*i* S	**Sb**	**09 13 41.9**	**+1.2**
LMEL				IAML		09 13 44.0	
	comp=N,3µm,0.2s						
VA03	**San Esteban**	**1.81**	**52**	*i*P	**Pb**	**09 13 20.7**	**-1.0**
VA03				*i* S	**Sb**	**09 13 43.3**	**-0.7**
VA03				IAML		09 13 52.2	
	comp=E,4µm,0.4s						
VA03	**San Esteban**	**1.81**	**52**		**Pn**	**09 13 19.9**	**+0.6**
ML02	**Panimavida**	**1.98**	**160**	*eP*	**Pn**	**09 13 22.2**	**+0.6**
ML02				*i* S	**Sb**	**09 13 48.4**	**-0.3**
ML02				IAML		09 13 59.4	
	comp=E,983nm,0.4s						
ML02	**Panimavida**	**1.98**	**160**	Pn	**Pn**	**09 13 21.6**	**0.0**
CO02	**Combarbal**	**2.88**	**22**		**Pn**	**09 13 34.1**	**0.0**
CO06	**Fray Jorge**	**3.26**	**9**		**Pn**	**09 13 38.6**	**-0.6**
CO03	**El Pedregal**	**3.32**	**24**	Pn	**Pn**	**09 13 40.9**	**+0.8**
GO04	**Tololo Observa**	**3.91**	**19**		**Pn**	**09 13 49.2**	**+0.8**
CO05	**La Serena**	**4.06**	**12**	Pn	**Pn**	**09 13 49.2**	**-1.0**
LC01	**Cunco**	**5.00**	**177**	Pn	**Pn**	**09 14 02.0**	**-1.0**
H03S1	**Juan Fernandez**	**5.55**	**269**	T	T	09 20 03.3	
	baz=89,slow=75,SNR=199						
H03S3	**Juan Fernandez**	**5.55**	**269**	T	T	09 20 08.4	
	baz=89,slow=75,SNR=122						
H03S2	**Juan Fernandez**	**5.56**	**269**	T	T	09 20 00.8	
	baz=89,slow=75,SNR=165						
H03N1	**Juan Fernandez**	**5.58**	**273**	T	T	09 20 15.1	
	baz=98,slow=74,SNR=9.4						
H03N3	**Juan Fernandez**	**5.59**	**273**	T	T	09 20 16.5	
	baz=98,slow=74,SNR=8.1						
H03N2	**Juan Fernandez**	**5.60**	**273**	T	T	09 20 20.6	
	baz=98,slow=74,SNR=8.8						
AC04	**Llanos de Chal**	**5.76**	**10**	Pn	**Pn**	**09 14 12.5**	**-1.1**
GO03	**Copiap**	**6.52**	**16**	Pn	**Pn**	**09 14 24.0**	**0.0**
AC06	**Mina Casimiro**	**6.72**	**14**	Pn	**Pn**	**09 14 26.0**	**-0.8**
PLCA	**Paso Flores**	**6.95**	**169**	Pn	**Pn**	**09 14 30.9**	**+0.9**
	comp=E,0.2nm,0.3s,baz=356,slow=11,SNR=9.1						
AC02	**Maricunga**	**7.54**	**22**	Pn	**Pn**	**09 14 37.6**	**-0.8**
LPAZ	**La Paz**	**17.92**	**13**	P	**P**	**09 16 59.6**	**+1.2**
	comp=E,0.2nm,0.3s,baz=188,slow=7.3,SNR=9.9						
LPAZ	**La Paz**	**17.92**	**13**	P	**Pn**	**09 16 55.8**	**-2.1**
SIV	**San Ignacio**	**20.48**	**32**	P	**P**	**09 17 25.1**	**-0.7**
	comp=E,1.0nm,0.6s,baz=205,slow=9.5,SNR=6.4						
SNAA	**Sanae**	**51.74**	**158**	P	**P**	**09 21 55.5**	**+0.7**
	comp=E,0.8nm,0.9s,baz=257,slow=9.0,SNR=2.6						
TXAR	**Lajitas Array**	**69.56**	**331**	P	**P**	**09 23 58.6**	**+1.9**
	comp=E,0.1nm,0.5s,baz=152,slow=10.0,SNR=2.0						
TORD	**Torodi Ar. Bea**	**84.33**	**70**	P	**P**	**09 25 20.3**	**+0.2**
	comp=E,0.8nm,0.8s,baz=280,slow=4.0,SNR=5.4						
WRA	**Warramunga Arr**	**120.77**	**209**	PKP	**PKPdf**	**09 31 39.7**	**-0.7**
	comp=E,0.2nm,0.9s,baz=107,slow=26,SNR=1.3						
ZALV	**Zalesovo Beam**	**154.23**	**32**	PKPbc	**PKiKP**	**09 32 47.5**	**+0.3**
	comp=E,1.0nm,0.4s,baz=224,slow=2.8,SNR=4.2						

*SJA **24** 09:16:15.0,31°.82S×72°.57W,h10km,ML4.6*
*IDC **24** 09:16:15.1±0.7,31°.81S×72°.12W,h0km,mb4.2/8,*
mb1 4.2/13,mb1mx4.1/31,mbtmp4.0/13,ML3.9/5,MS3.7/11,
Ms1 3.7/11,ms1mx3.5/23,Error ellipse: s-maj=27.0km
s-min=16.8km az=105.0
*NEIC **24** 09:16:16.4±1.6,31°.81S±0°.02×72°.2W±0°.1,h10km±1km,*
mb4.4/12,ML4.4(GUC),Error ellipse: s-maj=15.9km
s-min=2.8km az=276.0
*GUC **24** 09:16:16.7±0.9,31°.81S×72°.21W,h31km±5km,ML4.4*
*VAO **24** 09:16:20.0±0.6,31°.68S×72°.03W,h10km,mb4.3*
ISC 24 09:16:16.2±0.5,31°.83S±0°.02×72°.20W±0°.05,h10km,n129,
σ1§45/117,mb4.2/9,MS3.9/7,9C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**1.06**	**134**	*i*P	**Pg**	**09 16 35.8**	**-0.8**
VA06				*i* S	**Sb**	**09 16 50.1**	**-0.5**
VA06				IAML		09 16 57.3	
	comp=E,17µm,0.3s						
CO02	**Combarbal**	**1.20**	**59**	*i*P	**Pn**	**09 16 38.0**	**-1.1**
CO02				*i* S	**Sb**	**09 16 53.6**	**-1.1**
CO02	**Combarbal**	**1.20**	**59**		**Pg**	**09 16 38.2**	**-1.0**
CO02	**Combarbal**	**1.20**	**59**	*i* P	**Pn**	**09 16 38.0**	**-1.1**
CO06	**Fray Jorge**	**1.25**	**23**	*i*P	**Pg**	**09 16 38.7**	**-1.4**
CO06				*i* S	**Sb**	**09 16 54.2**	**-1.8**
CO06	**Fray Jorge**	**1.25**	**23**		**Pb**	**09 16 38.6**	**-1.2**
VA01	**Torpederas**	**1.28**	**159**	*eP*	**Pb**	**09 16 39.4**	**-1.0**
VA01				*i* S	**Sb**	**09 16 54.4**	**-2.5**
VA01	**Torpederas**	**1.28**	**159**		**Pg**	**09 16 39.9**	**-0.9**
VA01	**Torpederas**	**1.28**	**159**	*i* P	**Pg**	**09 16 40.0**	**-0.9**
ROCH	**El Roble**	**1.52**	**139**	*i*P	**Pn**	**09 16 43.1**	**-0.5**
ROCH				*i* S	**Sb**	**09 17 03.5**	**-0.6**
ROCH				IAML		09 17 14.7	
	comp=E,4µm,0.8s						
CO03	**El Pedregal**	**1.63**	**53**	*eP*	**Pb**	**09 16 44.7**	**-1.6**
CO03				*i* S	**Sb**	**09 17 05.9**	**-1.0**
CO03				IAML		09 17 08.1	
	comp=E,4µm,0.7s						
CO03	**El Pedregal**	**1.63**	**53**	Pn	**Pb**	**09 16 45.1**	**-1.2**

comp=N,257nm,21.5s,baz=247,slow=39

LPAZ	**La Paz**	**15.91**	**14**	Pn	**P**	**09 20 01.5**	**-3.0**
	comp=N,0.2nm,0.3s,baz=199,slow=8.8,SNR=8.2						
LPAZ	**La Paz**	**15.91**	**14**		**P**	**09 20 01.8**	**-2.7**
LPAZ	**La Paz**	**15.91**	**14**	*eP*	**P**	**09 20 02.7**	**-1.8**
CPSB	**Cacapava Do Su**	**16.14**	**90**	*eP*	**P**	**09 20 04.4**	**-1.9**
CNLB	**Canela**	**18.55**	**88**	*eP*	**Pn**	**09 20 35.7**	**+2.3**
AQDB	**Aquidauana**	**18.61**	**57**	*eP*	**Pn**	**09 20 35.9**	**+1.9**
SIV	**San Ignacio**	**18.74**	**35**	P	**Pn**	**09 20 35.3**	**-0.4**
	comp=N,0.2nm,0.3s,baz=235,slow=17,SNR=5.8						
SIV				LR	LR	09 29 17.7	
	comp=N,242nm,18.0s,baz=218,slow=42						
TRCB	**Terra Rica**	**19.55**	**67**	*eP*	**Pn**	**09 20 46.4**	**+0.9**
PTLB	**Pontes e Lacer**	**20.19**	**39**	*eP*	Pn	09 20 53.4	+0.4
NNA	**Nana**	**20.20**	**347**	LR	LR	09 27 28.9	
	comp=N,107nm,18.1s,baz=167,slow=33						
PP1B	**Ponte de Pedra**	**21.13**	**52**	*eP*	**P**	**09 21 03.6**	**+2.3**
TIJ01	**Guaruva-PR**	**21.36**	**78**	*eP*	**P**	**09 21 05.3**	**+1.5**
VILB	**Vilhena**	**21.78**	**33**	*eP*	**P**	**09 21 08.2**	**-0.1**
ETMB	**Extrema**	**22.59**	**16**	*eP*	**P**	**09 21 18.3**	**+1.3**
SPB	**Sao Paulo**	**23.38**	**76**	*eP*	**P**	**09 21 25.4**	**+0.3**
CZSB	**Cruzeiro do Su**	**23.98**	**359**	*eP*	**P**	**09 21 33.4**	**+2.5**
BDFB	**Brasilia**	**27.29**	**59**	P	**P**	**09 22 00.4**	**-0.7**
	comp=N,7.0nm,0.6s,baz=230,slow=9.4,SNR=7.9						
BDFB	**Brasilia**	**27.29**	**59**	P	**P**	**09 21 59.0**	**-2.1**
BDFB				IAmb	IAmb	09 22 01.5	
	comp=Z,9.4nm,0.8s						
TBTG	**Tabatinga, AM**	**27.58**	**5**	*eP*	**P**	**09 22 05.7**	**+2.1**
MC01	**Montes Claros**	**29.72**	**66**	*eP*	**P**	**09 22 24.4**	**+1.7**
SMTB	**Santa Maria do**	**32.32**	**50**	*eP*	**P**	**09 22 45.9**	**+0.3**
RPN	**Rapa Nui**	**32.56**	**269**	LR	LR	09 32 18.6	
	comp=Z,153nm,18.1s,baz=4.0,slow=30						
VNA3	**Neumayer Olymp**	**51.42**	**158**	P	**P**	**09 25 21.7**	**+0.7**
VNA1	**Neumayer--Stat**	**51.73**	**158**	P	**P**	**09 25 23.9**	**+0.8**
VNA2	**Neumayer--Watz**	**52.07**	**158**	P	**P**	**09 25 26.4**	**+0.6**
	baz=285,slow=8.2						
SNAA	**Sanae**	**53.65**	**158**	P	**P**	**09 25 38.0**	**+0.5**
SNAA	**Sanae**	**53.65**	**158**	P	**P**	**09 25 38.2**	**+0.7**
	comp=Z,5.3nm,0.9s,baz=282,slow=8.1,SNR=25						
SNAA	**Sanae**	**53.65**	**158**	P	**P**	**09 25 38.0**	**+0.5**
QSPA	**South Pole Qui**	**58.40**	**180**	P	**P**	**09 26 12.7**	**+1.0**
VNDA	**Vanda**	**66.20**	**191**	P	**P**	**09 27 04.4**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=105,slow=12,SNR=10						
VNDA	**Vanda**	**66.20**	**191**	IAmb	IAmb	09 27 06.5	
	comp=Z,1.8nm,1.0s						
TXAR	**Lajitas Array**	**67.78**	**331**	P	**P**	**09 27 15.6**	**+1.3**
	comp=Z,0.2nm,0.7s,baz=150,slow=8.7,SNR=4.2						
TXAR				LR	LR	09 52 01.4	
	comp=Z,45nm,18.8s,baz=0.0,slow=32						
DBIC	**Dimbokro**	**74.63**	**72**	P	**P**	**09 27 56.8**	**+0.8**
	comp=Z,4.4nm,0.7s,baz=229,slow=3.6,SNR=5.4						
DBIC				LR	LR	09 57 22.1	
	comp=Z,61nm,21.3s,baz=186,slow=33						
DBIC	**Dimbokro**	**74.63**	**72**	IAmb	IAmb	09 27 57.0	
	comp=Z,8.5nm,0.9s						
MAW	**Mawson**	**75.30**	**164**	P	**P**	**09 27 59.8**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=250,slow=6.5,SNR=3.8						
MAW				LR	LR	10 00 31.0	
	comp=Z,76nm,20.4s,baz=238,slow=35						
CCUT	**Cedar City**	**79.00**	**328**	P	**P**	**09 28 20.4**	**-0.1**
CCUT				IAmb	IAmb	09 28 34.0	
	comp=Z,2.2nm,1.0s						
BOSA	**Boshof**	**81.21**	**118**	LR	LR	10 01 15.4	
	comp=Z,59nm,18.6s,baz=187,slow=33						
NVAR	**Mina Aray Bea**	**82.03**	**325**	P	**P**	**09 28 38.4**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=144,slow=5.4,SNR=2.8						
TORD	**Torodi Ar. Bea**	**83.61**	**70**	P	**P**	**09 28 45.4**	**+0.2**
	comp=Z,3.7nm,0.7s,baz=269,slow=4.8,SNR=23						
TORD				LR	LR	10 02 37.3	
	comp=Z,52nm,21.1s,baz=195,slow=33						
TORD	**Torodi Ar. Bea**	**83.61**	**70**	P	**P**	**09 28 41.4**	**-3.7**
TORD				IAmb	IAmb	09 28 46.2	
	comp=Z,3.8nm,0.8s						
WRA	**Warramunga Arr**	**122.58**	**210**	PKP	**PKiKP**	**09 35 11.7**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=166,slow=2.6,SNR=6.5						
H11S2	**WAKE ISLAND Hyl**	**25.63**	**271**	T	T	11 54 05.5	
	baz=117,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hyl**	**25.65**	**271**	T	T	11 54 06.3	
	baz=117,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hyl**	**25.65**	**271**	T	T	11 54 05.3	
	baz=117,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hyl**	**25.99**	**272**	T	T	11 54 33.1	
	baz=115						
H11N1	**WAKE ISLAND Hyl**	**26.01**	**272**	T	T	11 54 33.2	
	baz=115						
H11N2	**WAKE ISLAND Hyl**	**26.01**	**272**	T	T	11 54 33.4	
	baz=115,SNR=4.4						
BVAR	**Borovoye Array**	**145.76**	**41**	PKPbc	**PKiKP**	**09 35 56.1**	**-2.5**
	comp=Z,1.0nm,0.4s,baz=287,slow=3.8,SNR=8.6						
KURBB	**Kurchatov Arra**	**151.35**	**40**	PKPbc	**PKiKP**	**09 36 09.3**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=293,slow=3.1,SNR=7.2						
AAK	**Ala-Archa**	**151.54**	**58**	PKPbc	**PKiKP**	**09 36 11.9**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=286,slow=4.4,SNR=3.8						
ZALV	**Zalesovo Beam**	**152.44**	**30**	PKPbc	**PKPbc**	**09 36 10.8**	**-1.3**
	comp=Z,1.3nm,0.5s,baz=273,slow=2.5,SNR=7.9						
ZALV	**Zalesovo Beam**	**152.44**	**30**		**PKiKP**	**09 36 11.2**	**-1.1**
MKAR	**Makanchi Array**	**155.39**	**45**	PKPab	**PKPab**	**09 36 35.2**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=318,slow=1.9,SNR=4.7						

IDC 24 09:37:09.3±4.0, 53.6°N×88.07°E, h0km, mb1 3.4/2, mb1mx3.1/39, mbtmp3.4/2, ML2.9/2, Error ellipse: s-maj=44.5km s-min=22.0km az=79.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.96**	**281**	*i*		09 49 30.0	
	baz=98,slow=339,SNR=1.8						
ZALV	**Zalesovo Beam**	**1.96**	**280**	Pn	Pn	09 37 42.6	-1.1
	1.6nm,0.3s,baz=98,slow=12,SNR=7.3						
ZALV				Sn	Sn	09 38 09.6	+0.7
	4.6nm,0.3s,baz=98,slow=25,SNR=12						
KURBB	**Kurchatov Arra**	**6.60**	**247**	Pn	Pn	09 38 48.6	+1.1
	0.2nm,0.3s,baz=62,slow=14,SNR=3.9						
MKAR	**Makanchi Array**	**7.79**	**211**	Pn	Pn	09 39 04.9	+1.0
	0.2nm,0.3s,baz=27,slow=15,SNR=6.6						
MKAR				Lg	Lg	09 41 16.4	
	0.1nm,0.3s,baz=26,slow=31,SNR=2.2						

IDC 24 09:37:24.6±30.0, 22.30°S×174.70°W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/23, mbtmp3.8/4, Error ellipse: s-maj=546.6km s-min=157.0km az=79.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.40**	**266**	P	P	09 44 31.5	+0.4
	1.7nm,0.4s,baz=102,slow=10,SNR=1.5						
STKA	**Stephens Creek**	**39.84**	**247**	P	P	09 44 59.0	-1.0
	0.4nm,0.4s,baz=62,slow=6.1,SNR=3.3						
ASAR	**Alice Springs**	**47.12**	**258**	P	P	09 45 59.0	+0.1
	0.2nm,0.4s,baz=91,slow=7.0,SNR=7.6						
WRA	**Warramunga Arr**	**47.41**	**263**	P	P	09 46 01.1	-0.1
	0.5nm,0.5s,baz=101,slow=8.3,SNR=16						

IDC 24 09:45:45.2±3.6, 53.57°N×90.67°E, h0km, mb1 3.0/3, mb1mx2.9/55, mbtmp3.0/3, ML2.5/3, Error ellipse: s-maj=33.5km s-min=25.4km az=33.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.49**	**279**	*i*		10 10 30.0	
	baz=90,slow=337,SNR=1.7						
ZALV	**Zalesovo Beam**	**3.49**	**279**	Pn	Pn	09 46 42.5	+1.8
	0.5nm,0.3s,baz=98,slow=16,SNR=3.8						
ZALV				Lg	Lg	09 47 35.3	
	1.0nm,0.3s,baz=97,slow=23,SNR=4.0						
KURBB	**Kurchatov Arra**	**8.04**	**253**	Pn	Pn	09 47 42.8	-0.3
	0.1nm,0.3s,baz=66,slow=15,SNR=7.4						
KURBB				Sn	Sn	09 49 13.0	-1.6
	0.0nm,0.3s,baz=68,slow=25,SNR=3.0						
KURBB				Lg	Lg	09 50 01.5	
	0.0nm,0.3s,baz=64,slow=34,SNR=4.9						
MKAR	**Makanchi Array**	**8.65**	**222**	Pn	Pn	09 47 52.2	+0.6
	0.2nm,0.3s,baz=36,slow=16,SNR=5.0						
MKAR				Lg	Lg	09 50 18.9	
	0.1nm,0.3s,baz=30,slow=29,SNR=2.6						

*HLW **24** 09:57:20.3, 36.77°N×30.62°E, h8km±11km, Md3.9, Ml3.6*
*DDA **24** 09:57:21.9, 37.07°N×30.64°E, h74km, ML2.7*
*ISK **24** 09:57:21.7, 37.04°N×30.64°E, h77km, ML2.4/19*

ISC 24 09:57:21.2±1.1, 37.07°N±0.03×30.60°E±0.03, h82km±7km, n51, σ1°59/77, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANTB	**Antalya**	**0.17**	**164**	PG	**Pn**	**09 57 33.0**	**0.0**
ANTB				SG	**Sn**	**09 57 41.5**	**-0.3**
KORT	**Korkueli**	**0.21**	**252**	*i* P	**Pn**	**09 57 33.9**	**+0.5**
KORT				*i* S	**Sn**	**09 57 42.7**	**+0.4**
KORT				IAML		09 57 45.0	
	comp=E,251nm,0.6s						
KORT	**Korkueli**	**0.21**	**252**	PG	**Pn**	**09 57 33.8**	**+0.4**
KORT				SG	**Sn**	**09 57 42.6**	**+0.2**
BCK	**Bucak**	**0.39**	**359**	PG	**Pn**	**09 57 35.2**	**+0.8**
BCK				SG	**Sn**	**09 57 44.9**	**+0.8**
ELL	**Elmali**	**0.64**	**240**	PG	**Pn**	**09 57 38.2**	**+1.7**
ISP	**Isparta**	**0.76**	**356**	PG	**Pn**	**09 57 38.9**	**+1.2**
BRDR	**BURDUR-Merkez**	**0.76**	**326**	*i* P	**Pn**	**09 57 38.8**	**+1.1**
BRDR				*i* S	**Sn**	**09 57 50.7**	**+0.7**
AKUM	**Antalya-Kumluc**	**0.77**	**195**	*i* P	**Pn**	**09 57 38.9**	**+1.2**
AKUM				*i* S	**Sn**	**09 57 51.8**	**+1.9**
AKUM				IAML		09 57 54.0	
	comp=N,202nm,0.3s						
AKUM				IAML		09 57 55.0	
	comp=E,219nm,0.3s						
BAGO	**Egridir - ISPA**	**0.94**	**9**	*i* P	**Pn**	**09 57 40.8**	**+1.1**
BAGO				*i* S	**Sn**	**09 57 54.5**	**+1.0**
BASM	**Basmaki-Afyon**	**0.96**	**333**	PG	**Pn**	**09 57 41.1**	**+1.2**
SEDI	**Konya, Seydise**	**1.00**	**67**	*i* P	**Pn**	**09 57 41.6**	**+1.2**
SEDI				*i* S	**Sn**	**09 57 55.7**	**+0.8**
CAEL	**Denizli, Camel**	**1.02**	**274**	*i* P	**Pn**	**09 57 42.5**	**+1.8**
CAEL				*i* S	**Sn**	**09 57 57.8**	**+2.5**
CAEL				IAML		09 58 03.0	
	comp=E,199nm,0.8s						
CAEL				IAML		09 58 07.0	
	comp=N,138nm,0.7s						
SEYD	**Seydisehir-KON**	**1.05**	**71**	PG	**Pn**	**09 57 42.4**	**+1.4**
AKAS	**Kas**	**1.15**	**224**	*i* P	**Pn**	**09 57 43.6**	**+1.3**
AKAS				*i* S	**Sn**	**09 57 58.8**	**+0.7**
AKAS	**Kas**	**1.15**	**224**	PN	**Pn**	**09 57 43.5**	**+1.3**
KZIL	**AFYON_Kizioren**	**1.24**	**343**	*i* P	**Pn**	**09 57 44.6**	**+1.2**
KZIL				*i* S	**Sn**	**09 58 00.9**	**+0.8**
FETY	**Fethiye**	**1.29**	**251**	PN	**Pn**	**09 57 45.5**	**+1.7**
YVAC	**Isparta, Yalva**	**1.31**	**23**	*i* P	**Pn**	**09 57 45.5**	**+1.3**
YVAC				*i* S	**Sn**	**09 58 02.5**	**+1.1**
DOGA	**KONYA_Doganhis**	**1.34**	**39**	*i* P	**Pn**	**09 57 46.3**	**+1.6**
DOGA				*i* S	**Sn**	**09 58 03.2**	**+0.8**
TAVA	**DENIZLI_Tavas**	**1.40**	**287**	*i* P	**Pn**	**09 57 47.6**	**+2.3**
TAVA				*i* S	**Sn**	**09 58 05.7**	**+2.1**
SHUT	**Suhut-Afyon**	**1.48**	**359**	PN	**Pn**	**09 57 48.0**	**+1.5**
PASA	**Karahalli, USA**	**1.55**	**326**	*i* P	**Pn**	**09 57 48.5**	**+1.1**
PASA				*i* S	**Sn**	**09 58 06.5**	**-0.5**
DALY	**Dalyan (Mula)**	**1.57**	**262**	PN	**Pn**	**09 57 49.4**	**+1.9**
GAZI	**Gazipasa**	**1.61**	**120**	*i* S	**Sn**	**09 58 09.8**	**+1.4**
GAZI	**Gazipasa**	**1.61**	**120**	PN	**Pn**	**09 57 48.9**	**+0.9**
KONT	**Konya--Tatoy**	**1.66**	**57**	PN	**Pn**	**09 57 50.1**	**+1.5**
AFYO	**Afyonkarahisar**	**1.73**	**352**	*i* P	**Pn**	**09 57 51.7**	**+2.0**
AFYO				*i* S	**Sn**	**09 58 10.2**	**-1.2**
LADK	**Ladik-KONYA**	**1.81**	**51**	PN	**Pn**	**09 57 51.7**	**+1.1**
YER	**Yerkesik**	**1.85**	**273**	PN	**Pn**	**09 57 53.5**	**+2.3**
KKBE	**Karaman, Kazim**	**1.88**	**85**	*i* P	**Pn**	**09 57 52.8**	**+1.2**
KKBE				*i* S	**Sn**	**09 58 15.2**	**+0.5**
KDHN	**Kadinhani**	**1.89**	**39**	*i* P	**Pn**	**09 57 52.7**	**+1.0**
KDHN				*i* S	**Sn**	**09 58 13.6**	**+0.4**
TURN	**Turunc**	**1.91**	**262**	*i* P	**Pn**	**09 57 52.7**	**+0.8**
TURN				*i* S	**Sn**	**09 58 15.0**	**-0.1**
TURN	**Turunc**	**1.91**	**262**	PN	**Pn**	**09 57 53.4**	**+1.6**
ERMK	**Ermenek**	**1.91**	**102**	*i* S	**Sn**	**09 58 17.4**	**+1.8**
MANT	**Manisa**	**2.15**	**312**	*i* P	**Pn**	**09 57 56.6**	**+1.3**
MANT				*i* S	**Sn**	**09 58 20.3**	**-1.1**
ARG	**Arkhangelos**	**2.16**	**248**	PN	**Pn**	**09 57 57.0**	**+1.8**
ALIN	**Konya, Altinte**	**2.19**	**55**	*i* P	**Pn**	**09 57 52.6**	**-3.1**
GDZ	**Gediz**	**2.20**	**337**	*i* P	**Pn**	**09 57 57.3**	**+1.4**
GDZ				*i* S	**Sn**	**09 58 22.1**	**-0.3**
AYDN	**Tasoluk**	**2.24**	**286**	*i* P	**Pn**	**09 57 58.1**	**+1.7**
MLSB	**Milas**	**2.26**	**277**	PN	**Pn**	**09 57 58.6**	**+2.0**
AYDB	**Zeytinkoy-Aydi**	**2.32**	**293**	PN	**Pn**	**09 57 59.5**	**+2.0**
KKUL	**Konya-Kulu**	**2.79**	**40**	*i* P	**Pn**	**09 58 05.0**	**+1.2**
KKUL				*i* S	**Sn**	**09 58 35.6**	**-0.9**
BORA	**Eskisehir**	**2.81**	**358**	*i* P	**Pn**	**09 58 05.7**	**+1.6**
BORA				*i* S	**Sn**	**09 58 34.6**	**-2.4**
KERG	**Konya-Eregli**	**2.84**	**82**	*i* P	**Pn**	**09 58 05.6**	**+1.1**
KERG				*i* S	**Sn**	**09 58 39.4**	**+1.6**
DURS	**Dursunbey**	**3.03**	**327**	*i* P	**Pn**	**09 58 08.9**	**+1.9**
DURS				*i* S	**Sn**	**09 58 41.1**	**-1.2**
DURS				IAML		09 58 43.0	
	comp=E,27nm,1.3s						
SLUM	**Salum**	**7.12**	**220**	P	**Pn**	**09 59 02.7**	**0.0**
	baz=222						
SLUM				AMP		10 00 00.0	
	baz=222						
SLUM				S	**Sn**	**10 00 16.4**	**-5.7**
	baz=222						
SUZ	**Suez**	**7.44**	**165**	P	**Pn**	**09 59 05.2**	**-1.9**
	baz=164						
HSAF	**As Saff**	**7.47**	**174**	P	**Pn**	**09 59 05.9**	**-1.5**
	baz=173						
GLL	**Jalalah**	**7.53**	**173**	P	**Pn**	**09 59 06.6**	**-1.7**
	baz=172						
SWA2		**8.91**	**210**	P	**Pn**	**09 59 25.6**	**-1.4**
	baz=212						
HFRF	**Wahat Farafira**	**10.08**	**192**	P	**Pn**	**09 59 41.1**	**-1.8**
	baz=193						

MEX 24 10:03:28.7±0.5, 15.63°N×95.40°W, h79km±44km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**1.54**	**19**	*eP*	Pn	10 03 53.3	-1.2
CMIG				*i* S	Sn	10 04 12.2	-1.8
PEIG	**Puerto Escondi**	**1.72**	**283**	*eP*	Pn	10 03 54.5	-2.5
PEIG				*i* S	Sn	10 04 17.5	-0.9
VHO	**Vista Hermosa**	**1.93**	**318**	*i* P	Pn	10 03 58.5	-1.3
VHO				*e*S	Sn	10 04 22.3	-1.2

MEX 24 10:04:42.1±0.3, 17.54°N×101.46°W, h5km, MD3.7, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**1.29**	**55**	*i* P	Pn	10 05 03.0	-3.8
ARIG				*i* S	Sg	10 05 19.4	-4.2
DAIG	**Los Arroyos**	**1.80**	**106**	*i* P	Pn	10 05 12.5	-1.3
MMIG	**Aquila**	**1.94**	**293**	*eP*	Pn	10 05 13.0	-2.8
MMIG				*i* S	Sn	10 05 35.9	-4.8
PLIG	**Platanillo**	**2.05**	**65**	*eP*	Pn	10 05 14.0	-3.3
PLIG				*i* S	Sn	10 05 39.7	-3.6
TLIG	**Tlapa**	**2.76**	**89**	*i* S	Sn	10 05 58.0	-3.0

*IDC **24** 10:04:55.4±0.6, 39.72°N×143.36°E, h0km, mb4.5/24, mb1 4.6/30, mb1mx4.5/47, mbtmp4.5/30, ML3.7/6, MS4.1/40, Ms1 4.1/40, ms1mx3.9/66, Error ellipse: s-maj=15.1km s-min=11.9km az=111.0*
*BJI **24** 10:04:55.7±0.0, 39.77°N×143.23°E, h11km, mB4.9/51, mb4.9/72, Ms4.7/68, Ms7 4.5/64*
*JMA **24** 10:04:55.8±0.2, 39.77°N×143.56°E, h24km, M4.8*
JMA Felt I J1.
*NIED **24** 10:04:55.8, 39.77°N×143.56°E, h24km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.09; $M_{\theta\theta}$-0.11; $M_{\phi\phi}$-0.98; $M_{r\theta}$0.44; $M_{\theta\phi}$-0.44; $M_{\phi r}$0.71; Fault plane solution: $M_0$1.40000×10^{16} NP1:ϕ_s28.00000°, δ63.00000°, λ.95.00000°. NP2:ϕ_s197.00000°, δ27.00000°, λ80.00000°.*
*MOS **24** 10:04:58.2±1.1, 39.80°N×143.31°E, h30km, mb5.1/49, MS4.3/12 Error ellipse: s-maj=6.3km s-min=4.0km az=106.8*
*NEIC **24** 10:04:59.5±1.4, 39.734°N±0.008°×143.3°E±0.1, h23km±5km, mb4.9/119, Error ellipse: s-maj=11.3km s-min=0.8km az=95.0*
*GCMT **24** 10:05:03.5±0.4, 39.78°N±0.03°×143.51°E±0.04, h24km±2km, MW4.8/68, Moment Tensor Solution. s19,c20; s68,c83; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.18±.15; $M_{\theta\theta}$-0.12±.08; $M_{\phi\phi}$-1.07±.09; $M_{r\theta}$0.92±.15; $M_{\theta\phi}$-0.14±.04; $M_{\phi r}$1.48±.16; Best double couple: $M_0$2.07200×10^{16} NP1:ϕ_s177.00000°, δ18.00000°, λ.61.00000°. NP2: ϕ_s27.00000°, δ74.00000°, λ.99.00000°. Principal axes: T 2.1720, Plg60.0000°, Azm310.0000°; N -0.2060, Plg9.0000°, Azm205.0000°; P -1.9720, Plg28.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **24** 10:05:05.9±0.0, 40.37°N×142.97°E, h33km, mb5.0, Ms4.4*

ISC 24 10:04:59.8±0.6, 39.78°N±0.04×143.35°E±0.04, h26km±3km, h26km:pP-P, n436, σ1°39/410, mb4.9/153, MS4.4/64, 40C-21D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.16**	**278**	P	**Pn**	**10 05 18.7**	**-1.6**
MIYJ	**Miyakonagasawa**	**1.20**	**261**	P	**Pn**	**10 05 19.7**	**-1.2**
MIYJ				*e*S	**Sb**	**10 05 37.3**	**+0.4**
JKEN	**Kujiedanarisaw**	**1.33**	**289**	P	**Pn**	**10 05 21.2**	**-1.4**
JANG	**Nango**	**1.53**	**293**	P	**Pn**	**10 05 23.9**	**-1.5**
JANG				*e*S	**Sn**	**10 05 44.3**	**-0.1**
JOM	**Ohasama**	**1.62**	**260**	P	**Pn**	**10 05 26.2**	**-0.4**
JMK	**Ichinoseki**	**1.85**	**244**	P	**Pn**	**10 05 28.7**	**-1.1**
JTM	**Tenmabayashi**	**2.02**	**301**	P	**Pn**	**10 05 31.7**	**-0.4**
JTM	**Tenmabayashi**	**2.02**	**301**	Pn	**Pn**	**10 05 32.2**	**+0.2**
JIO	**Ouri**	**2.04**	**230**	P	**Pn**	**10 05 30.6**	**-1.9**
JIO				*e*S	**Sn**	**10 05 56.1**	**-1.0**
ERM	**Erimo**	**2.24**	**356**	P	Pn	10 05 34.0	-1.1
ERM	**Erimo**	**2.24**	**356**	Pn	Pn	10 05 34.0	-1.1
JOT	**Ohata**	**2.37**	**313**	P	**Pn**	**10 05 36.6**	**-0.4**
JOT				*e*S	**Sn**	**10 06 06.8**	**+1.6**
JYK	**Kaneyama**	**2.48**	**251**	P	**Pn**	**10 05 38.1**	**-0.3**
JNBK	**Urakawa-nobuka**	**2.54**	**350**	P	**Pn**	**10 05 38.1**	**-1.1**
JNBK				*e*S	**Sn**	**10 06 10.2**	**+0.9**
JKB	**Kayabe**	**2.74**	**321**	P	**Pn**	**10 05 42.4**	**+0.3**
JMM	**Marumori**	**2.77**	**227**		**Pn**	**10 05 40.6**	**-1.8**
JCH	**Churui**	**2.83**	**0**	P	Pn	10 05 41.4	-1.9
JCH				*e*S	**Sn**	**10 06 14.4**	**-2.1**
JOMM	**Oshimamatsumae**	**3.08**	**305**	P	**Pn**	**10 05 47.7**	**+1.0**
JFT	**Otama**	**3.27**	**227**	P	**Pn**	**10 05 48.3**	**-1.0**
JAK	**Akkeshi**	**3.37**	**17**	P	Pn	10 05 48.3	-2.3
JAK				*e*S	**Sn**	**10 06 26.9**	**-2.8**
JEW	**Eniwo**	**3.38**	**336**		**Pn**	**10 05 51.3**	**+0.5**
NMR	**Nemuro--Hokkai**	**4.00**	**26**	*i* P	Pn	10 05 56.5	-2.9
NMR				*i* S	Sn	10 06 39.9	-5.5
JSD	**Sado**	**4.34**	**248**	Pn	**Pn**	**10 06 03.4**	**-0.6**
JYT	**Yasato**	**4.34**	**216**		**Pn**	**10 06 01.8**	**-2.2**
JKA	**Kamikawa-asahi**	**4.37**	**353**	Pn	**Pn**	**10 06 03.8**	**-0.6**
ASAJ	**Asahikawa**	**4.37**	**353**	Pn	**Pn**	**10 06 04.8**	**+0.4**
	10nm,0.3s,baz=252,slow=7.5,SNR=53						
ASAJ				Sn			
	18nm,0.3s,baz=226,slow=25,SNR=4.7						
RUSJ	**Misakicho**	**4.54**	**18**	*eP*	Pn	10 06 05.0	-1.8
RUSJ				*i* S	**Sn**	**10 06 56.5**	**-2.3**
GRPR	**Tuman**	**4.58**	**22**	*eP*	Pn	10 06 04.5	-2.8
GRPR				*i* S	Sn	10 06 53.7	-5.9
GRPR				pmax	pmax		
	comp=Z,357nm,0.4s						
GRPR				pmax	pmax		
	comp=E,319nm,0.5s						
GRPR				pmax	pmax		
	comp=N,420nm,0.3s						
GRPR				smax	smax		
	comp=N,3μm,0.3s						
GRPR				smax	smax		
	comp=E,4μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**4.64**	**23**	*eP*	Pn	10 06 06.0	-2.2
YUK				*i* S	Sn	10 06 55.4	-5.8
YUK				pmax	pmax		
	comp=Z,553nm,0.3s						
YUK				pmax	pmax		
	comp=N,200nm,0.4s						
YUK				pmax	pmax		
	comp=E,93nm,0.2s						
YUK				smax	smax		
	comp=E,2μm,0.3s						
YUK				smax	smax		
	comp=N,3μm,0.4s						
MJAR	**Matsushiro Arr**	**5.18**	**233**	Pn	**Pn**	**10 06 14.7**	**-0.9**
	comp=N,1.0nm,0.3s,baz=46,slow=12,SNR=83						
MJAR				LR	LR	10 08 29.5	
	comp=N,2μm,18.7s,baz=35,slow=42						
MJAR	**Matsushiro Arr**	**5.18**	**233**	P	**Pn**	**10 06 15.4**	**-0.3**
MJAR	**Matsushiro Arr**	**5.18**	**233**	Pn	**Pn**	**10 06 15.4**	**-0.3**
MAJO	**Matsushiro**	**5.18**	**233**	*c* *i*P	**Pn**	**

OKH MLR MLR
comp=Z,1μm,18.0s
OKH MLR MLR
comp=N,2μm,17.0s
OKH MLR MLR
comp=E,2μm,16.0s
CN2 Changchun 13.95 293 *e*P **Pn 10 08 15.8 +0.2**
CN2 S **Sn 10 10 51.8 +2.3**
CN2 pmax pmax
comp=E,10.0nm,1.2s
CN2 pmax pmax
comp=E,300nm,10.3s
CN2 LR LR
comp=E,900nm,16.0s
CN2 LR LR
comp=E,1μm,16.0s
CN2 LR LR
comp=E,1μm,18.0s
PEA0B Petropavlovsk- 16.55 32 P **P 10 08 51.8 -0.5**
PEA0B pmax pmax
comp=Z,28nm,1.2s
PEA0B Petropavlovsk- 16.55 32 P 10 08 51.8 -0.5
PETK Petropavlovsk- 16.55 32 Pn **Pn 10 08 51.1 +1.2**
comp=Z,0.2nm,0.3s,baz=227,slow=10.0,SNR=6.1
PETK LR LR 10 16 32.2
comp=Z,354nm,18.1s,baz=217,slow=42
PETK Petropavlovsk- 16.55 32 P **P 10 08 51.9 -0.4**
PETK Petropavlovsk- 16.55 32 P 10 08 51.9 -0.4
DL2 Dalian 16.83 274 ⇓P **P 10 08 54.6 -0.8**
DL2 S **Sn 10 12 03.3 +3.7**
DL2 pmax pmax
comp=Z,35nm,1.1s
DL2 pmax pmax
comp=Z,190nm,11.9s
DL2 LR LR
comp=Z,690nm,14.0s
DL2 LR LR
comp=Z,660nm,14.9s
DL2 LR LR
comp=Z,970nm,15.6s
PET Petropavlovsk 16.89 33 *e*P **P 10 08 57.3 +1.4**
PET *e*S **Sn 10 12 03.2 +2.4**
PET pmax pmax
comp=Z,49nm,1.3s
PET MLR MLR
comp=Z,600nm,17.0s
PET MLR MLR
comp=Z,700nm,18.0s
ZEA Zeya 17.73 327 ⇓*e*P **Pn 10 09 01.6 -3.0**
ZEA pmax pmax
comp=N,20nm,1.0s
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=Z,30nm,0.9s
ZEA MLR MLR
comp=N,1μm,14.0s
ZEA MLR MLR
comp=E,200nm,14.0s
ZEA MLR MLR
comp=Z,600nm,12.0s
SSE Sheshan 19.99 251 P **P 10 09 29.9 -0.4**
SSE S **S 10 13 12.8 -1.0**
SSE pmax pmax
comp=Z,8.0nm,0.7s
SSE pmax pmax
comp=Z,110nm,5.4s
SSE LR LR
comp=Z,210nm,13.4s
SSE LR LR
comp=Z,380nm,14.4s
MA2 Magadan 20.36 11 P **P 10 09 32.8 -1.3**
comp=Z,27nm,0.6s,baz=196,slow=9.8,SNR=19
MA2 LR LR 10 18 14.4
comp=Z,302nm,18.7s,baz=196,slow=39
MA2 Magadan 20.36 11 P **P 10 09 34.0 -0.1**
MA2 pmax pmax
comp=Z,36nm,0.7s
MA2 Magadan 20.36 11 P **P 10 09 34.0 -0.1**
MA2 IAmb IAmb 10 09 35.0
comp=Z,36nm,0.7s
BJI Beijing 20.82 279 P **P 10 09 36.5 -2.7**
BJI pP Pn 10 09 41.8 +0.1
BJI sP **pP 10 09 44.8 -1.1**
BJI PP **PnPn 10 09 58.0 +0.3**
BJI pmax pmax
comp=Z,18nm,1.0s
BJI LR LR
comp=Z,320nm,14.0s
BJI LR LR
comp=Z,1μm,14.8s
BJI LR LR
comp=Z,1μm,16.7s
TIA Tai'an 20.95 269 *e*P **P 10 09 37.5 -3.1**
TIA S **S 10 13 30.1 -2.6**
TIA pmax pmax
comp=Z,39nm,1.3s
TIA pmax pmax
comp=Z,200nm,5.4s
TIA LR LR
comp=Z,640nm,10.3s
TIA LR LR
comp=Z,1μm,12.3s
TIA LR LR
comp=Z,2μm,14.3s
NJ2 Nanjing 21.24 256 *e*P **P 10 09 43.9 +0.1**
NJ2 pP pP 10 09 47.9 -2.5
NJ2 sP **pwP 10 09 52.5 -0.4**
NJ2 pmax pmax
comp=Z,16nm,0.5s
NJ2 LR LR
comp=Z,670nm,17.0s
NJ2 LR LR
comp=Z,760nm,15.2s
NJ2 LR LR
comp=Z,880nm,17.6s
YAK Yakutsk 23.79 344 P **P 10 10 07.7 -2.3**
comp=Z,14nm,0.5s,baz=4.8,slow=0.7,SNR=6.7
YAK LR LR 10 19 49.9
comp=Z,246nm,21.5s,baz=290,slow=38
YAK Yakutsk 23.79 344 *e*P **P 10 10 07.0 -3.0**
YAK *e**PP **pP 10 10 17.7 +0.7**
YAK *e* 10 13 52.2
YAK *e*S **S 10 14 20.6 -3.1**
YAK *e**SS sS 10 14 34.7 -1.0
YAK *e* 10 21 16.4
YAK pmax pmax
comp=Z,31nm,1.0s
YAK pmax pmax
comp=N,22nm,1.2s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK smax smax
comp=E,69nm,2.5s
YAK smax smax
comp=N,47nm,2.0s
YAK MLR MLR
comp=Z,397nm,15.0s
YAK MLR MLR
comp=N,387nm,15.0s
YAK MLR MLR
comp=E,245nm,13.0s
YAK Yakutsk 23.79 344 P **P 10 10 07.6 -2.4**
SEY Seymchan 23.81 10 P **P 10 10 09.4 -0.8**
comp=E,55nm,1.1s,baz=194,slow=7.6,SNR=28
SEY LR LR 10 21 08.8
comp=E,432nm,18.1s,baz=198,slow=41
HHC Hu-ho-hao-te 24.20 283 *e*P **P 10 10 15.4 +1.2**
HHC S **S 10 14 29.4 -1.5**
HHC pmax pmax
comp=E,20nm,0.8s
HHC pmax pmax
comp=E,160nm,4.7s
HHC LR LR
comp=E,520nm,12.9s
HHC LR LR
comp=E,1μm,14.8s
HHC LR LR
comp=E,2μm,13.6s
SSLB Suanglung 24.73 237 P **P 10 10 16.6 -2.5**
SSLB IAmb IAmb 10 10 30.0
comp=Z,34nm,1.1s
YULB Yu-li 24.80 235 P **P 10 10 16.6 -3.0**
WHN Wuhan 25.35 258 ⇑P **P 10 10 24.0 -0.5**
WHN S **S 10 14 46.8 -2.5**
WHN pmax pmax
comp=Z,120nm,0.8s
WHN LR LR
comp=Z,2μm,15.4s
WHN LR LR
comp=Z,1μm,16.0s
WHN LR LR
comp=Z,2μm,17.3s
TWG Pinlang 25.35 235 P **P 10 10 22.9 -1.7**
TWG IAmb IAmb 10 10 34.4
comp=Z,42nm,1.1s
BOD Bodaibo 26.12 323 *e*P **P 10 10 30.8 -0.5**
BOD pmax pmax
comp=Z,46nm,0.9s
ULN Ulaanbaatar 27.20 299 P **P 10 10 41.4 0.0**
ULN pmax pmax
comp=Z,34nm,1.1s
ULN Ulaanbaatar 27.20 299 P **P 10 10 41.4 0.0**
ULN IAmb IAmb 10 10 42.7
comp=Z,34nm,1.1s
ULN Ulaanbaatar 27.20 299 P **P 10 10 41.2 -0.2**
comp=Z,2μmcomp=Z,119nm,1.3s
ULN pP **pP 10 10 50.1 +1.5**
comp=Z,2μmcomp=Z,119nm,1.3s
SONM Songino Array 27.65 299 P **P 10 10 45.5 +0.1**
comp=Z,16nm,1.0s,baz=94,slow=7.3,SNR=52
SONM LR LR 10 22 24.4
comp=Z,1μm,19.2s,baz=88,slow=38
SONM Songino Array 27.65 299 P **P 10 10 45.3 0.0**
SONM IAmb IAmb 10 10 47.6
comp=Z,39nm,1.3s
XAN Xi'an 28.01 269 P **P 10 10 47.8 -0.8**
XAN sP pP 10 10 56.0 +0.3
XAN pmax pmax
comp=Z,22nm,1.4s
XAN pmax pmax
comp=Z,120nm,6.1s
XAN LR LR
comp=Z,280nm,14.4s
XAN LR LR
comp=Z,1μm,15.1s
XAN LR LR
comp=Z,850nm,15.1s
XAN Xi'an 28.01 269 P **P 10 10 48.2 -0.4**
XAN Xi'an 28.01 269 P **P 10 10 48.2 -0.4**
ENH Enshi 29.16 262 P **P 10 10 57.5 -1.3**
ZAK Zakamensk 29.87 304 *e*P **P 10 11 04.5 -0.6**
ZAK pmax pmax
comp=Z,20nm,1.3s
BILL Bilibino 30.96 17 *e*P **P 10 11 13.0 -1.4**
BILL *e* 10 12 16.0
BILL *e*PPP PPP 10 12 29.7
BILL *e* 10 14 08.3
BILL pmax pmax
comp=Z,6.0nm,1.0s
LZH Lanzhou 31.20 276 *e*P **P 10 11 17.6 +0.6**
LZH sP pwP 10 11 27.0 +0.3
LZH SS SS 10 18 06.5 -29
LZH pmax pmax
comp=Z,27nm,0.9s
LZH pmax pmax
comp=Z,150nm,4.9s
LZH LR LR
comp=Z,550nm,13.6s
LZH LR LR
comp=Z,1μm,10.3s
LZH LR LR
comp=Z,870nm,13.0s
GYA Guiyang 33.24 258 ⇓*i*P **P 10 11 34.3 -0.6**
GYA pP pP 10 11 43.8 +1.6
GYA S S 10 16 58.3 +4.8
GYA pmax pmax
comp=Z,32nm,1.1s
GYA LR LR
comp=Z,290nm,15.6s
GYA LR LR
comp=Z,460nm,13.7s
GYA LR LR
comp=Z,630nm,14.3s
CD2 Chengdu 33.27 267 P **P 10 11 34.1 -0.9**
CD2 S **S 10 16 52.8 -0.9**
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 LR LR
comp=Z,1μm,13.7s
CD2 LR LR
comp=Z,870nm,13.7s
CD2 LR LR
comp=Z,2μm,14.4s
GTA Gaotai 33.30 284 ⇓P **P 10 11 36.0 +0.6**
GTA pP pwP 10 11 45.0 -0.1
GTA sP sP 10 11 49.8 +4.2
GTA pmax pmax
comp=Z,20nm,1.0s
GTA pmax pmax
comp=Z,75nm,4.4s
GTA LR LR
comp=Z,440nm,18.2s
GTA LR LR
comp=Z,1μm,17.4s
GTA LR LR
comp=Z,2μm,17.1s
QIZ Qiongzhong 35.47 244 P **P 10 11 54.5 +0.3**
QIZ S S 10 17 33.5 +5.7
QIZ LR LR
comp=Z,420nm,16.3s
QIZ LR LR
comp=Z,400nm,15.5s
QIZ LR LR
comp=Z,460nm,16.7s
DAV Davao City (W) 36.27 211 LR LR 10 27 07.5
comp=Z,102nm,19.0s,baz=4.0,slow=37
KMI Kunming 36.93 259 ⇓P **P 10 12 06.5 -0.3**
KMI pP pP 10 12 14.8 +0.7
KMI sP pwP 10 12 16.4 -0.1
KMI S **S 10 17 51.8 +1.3**
KMI pmax pmax
comp=Z,16nm,1.7s
KMI pmax pmax
comp=Z,110nm,7.3s
KMI LR LR
comp=Z,340nm,15.1s
KMI LR LR
comp=Z,480nm,18.7s
KMI LR LR
comp=Z,710nm,16.5s
SLVN Son La 38.25 253 P **P 10 12 17.0 -0.9**
DGZ Jazzator, Alta 40.09 303*c i*P **P 10 12 33.7 +0.7**
DGZ pmax pmax
comp=Z,27nm,0.8s
SKNT Sakolnakorn 40.97 248 P **P 10 12 41.3 +0.8**
comp=Z,10nm,1.3s
WMQ Urumqi 41.03 294 *e*P **P 10 12 42.0 +1.2**
WMQ sP pwP 10 12 50.9 +0.3
WMQ pmax pmax
comp=Z,57nm,0.9s
WMQ pmax pmax
comp=Z,220nm,4.3s
WMQ LR LR
comp=Z,600nm,17.1s
WMQ LR LR
comp=Z,370nm,22.3s
ZAA0 Zalesovo Array 41.25 310 P **P 10 12 41.6 -0.8**
ZAA0 IAmb IAmb 10 12 43.1
comp=Z,14nm,0.6s
ZALV Zalesovo Beam 41.25 310 P **P 10 12 42.2 -0.1**
comp=Z,13nm,0.5s,baz=92,slow=8.1,SNR=43
ZALV PcP **PcP 10 14 40.8 +0.1**
comp=Z,3.3nm,0.6s,baz=88,slow=2.6,SNR=2.8
ZALV LR LR 10 30 38.0
comp=Z,252nm,20.6s,baz=46,slow=37
ZALV Zalesovo Beam 41.25 310 P **P 10 12 41.5 -0.9**
NRIK Noril'sk 41.45 334 P **P 10 12 43.1 -0.7**
comp=Z,3.5nm,0.5s,baz=108,slow=10,SNR=5.5
NRIK LR LR 10 30 59.6
comp=Z,354nm,18.4s,baz=98,slow=38
NRIK Noril'sk 41.45 334*c i*P **P 10 12 43.4 -0.4**
NRIK pmax pmax
comp=Z,17nm,1.5s
NRIK Noril'sk 41.45 334 P **P 10 12 43.2 -0.6**
ZSN Zaisan 42.15 300 ⇑*i*P **P 10 12 49.6 -0.2**
comp=Z,11nm,1.0s,baz=300
ZSN Zaisan 42.15 300*c i*P **P 10 12 49.6 -0.2**
ZSN pmax pmax
comp=Z,11nm,1.0s
UTTA Uttaradit 42.95 252 P **P 10 12 57.3 +0.7**
comp=Z,13nm,0.9s
CHAI Chaiyaphum 43.11 249 P **P 10 12 58.7 +0.7**
comp=Z,4μmcomp=Z,21nm,1.2s
CMMT Chiang Mai 43.47 254 P **P 10 13 01.4 +0.6**
comp=Z,11nm,1.1s
CMMT Chiang Mai 43.47 254 P **P 10 13 00.5 -0.3**
comp=Z,10nm,1.1s
CHTO Chiang Mai 43.47 254 P **P 10 12 59.7 -1.1**
CHTO pmax pmax
comp=Z,9.0nm,0.9s
CHTO Chiang Mai 43.47 254 P **P 10 13 01.6 +0.8**
comp=Z,11nm,1.2s
CHTO Chiang Mai 43.47 254 P **P 10 12 59.7 -1.1**
CHTO Chiang Mai 43.47 254 P **P 10 13 00.5 -0.3**
comp=Z,6.1nm,1.2s
IMAR Indian Mountai 43.52 32 P **P 10 13 01.0 +0.4**
LSA Lhasa 43.52 273 P **P 10 13 00.7 -1.0**
LSA pmax pmax
comp=Z,10.0nm,0.7s
LSA Lhasa 43.52 273 P **P 10 13 00.7 -1.0**
CMAR Chiang Mai Arr 43.69 254 P **P 10 13 02.8 +0.2**
comp=Z,1.6nm,0.5s,baz=56,slow=6.3,SNR=6.2
CMAR LR LR 10 33 09.7
comp=Z,217nm,18.1s,baz=94,slow=39
MK31 Makanchi Array 44.01 300 P **P 10 13 04.5 -0.4**
MK31 pmax pmax
comp=Z,15nm,1.0s
MK31 Makanchi Array 44.01 300 P **P 10 13 04.5 -0.4**
MK31 IAmb IAmb 10 13 23.4
comp=Z,15nm,1.0s
MKAR Makanchi Array 44.01 300 P **P 10 13 04.1 -0.8**
comp=Z,15nm,0.9s,baz=76,slow=10,SNR=53
MKAR LR LR 10 32 21.9
comp=Z,514nm,19.3s,baz=70,slow=37
MAKZ Makanchi 44.21 300 P **P 10 13 06.1 -0.4**
MAKZ Makanchi 44.21 300 P **P 10 13 06.0 -0.6**
MAKZ IAmb IAmb 10 13 07.5
comp=Z,24nm,1.1s
SEM Semipalatinsk 44.53 306 *e*P **P 10 13 06.9 -2.4**
baz=306
SEM Semipalatinsk 44.53 306 *e*P **P 10 13 06.9 -2.4**
MLY Manley 44.72 33 P **P 10 13 10.3 -0.1**
I23K Minto, Yukon-K 45.30 33 IAmb IAmb 10 13 26.1
comp=Z,16nm,1.4s
NEA2 Nenana 45.43 34 IAmb IAmb 10 13 42.1
comp=Z,11nm,1.0s
KURK Kurchatov 45.49 306 P **P 10 13 16.7 +0.1**
KURK Kurchatov 45.49 306 P **P 10 13 16.6 +0.1**
KURBB Kurchatov Arra 45.56 306 P **P 10 13 16.6 -0.5**
comp=Z,20nm,0.8s,baz=81,slow=8.3,SNR=97
MDM Murphy Dome 45.78 34 IAmb IAmb 10 13 30.9
comp=Z,21nm,1.3s
WRH Wood River Hil 45.86 34 P **P 10 13 21.7 +2.4**
SML Sawmill 45.89 38 P **P 10 13 19.7 0.0**
H24K Noodor Dome 45.92 32 P **P 10 13 21.1 +1.3**
DHY Denali Highway 46.24 36 P **P 10 13 23.3 +0.7**
HDA Harding Lake 46.35 34 P **P 10 13 23.2 0.0**
HDA IAmb IAmb 10 13 34.9
comp=Z,20nm,1.4s
SCM Sheep Creek Mo 46.36 38 P **P 10 13 24.0 +0.6**
SCM pmax pmax
comp=Z,25nm,1.3s
SCM Sheep Creek Mo 46.36 38 P **P 10 13 24.0 +0.6**
IL31 46.37 34 P **P 10 13 23.3 0.0**
ILAR Eielson Array 46.37 34 P **P 10 13 23.1 -0.2**
comp=Z,2.9nm,0.8s,baz=261,slow=6.5,SNR=14
ILAR Eielson Array 46.37 34 P **P 10 13 24.0 +0.6**
ILAR Eielson Array 46.37 34 P **P 10 13 24.0 +0.6**
PRP Porcupine Dome 46.90 33 IAmb IAmb 10 13 49.8
comp=Z,8.4nm,0.8s
SHLS Shalkode 46.96 296⇑*e*P **P 10 13 24.9 -3.5**
comp=Z,18nm,1.6s,baz=296
SHLS Shalkode 46.96 296*ce*P **P 10 13 24.8 -3.6**
SHLS pmax pmax
comp=Z,18nm,1.6s
FYU Fort Yukon 46.97 31 P **P 10 13 29.8 +1.8**
FYU IAmb IAmb 10 13 49.9
comp=Z,15nm,1.0s
TDK Taldyqorghan 47.10 299 *e*P **P 10 13 28.8 -0.7**
baz=299
TDK Taldyqorghan 47.10 299 *e*P **P 10 13 28.7 -0.7**
BMAR Burnt Mountain 47.20 30 P **P 10 13 31.3 +1.4**
KPKS Kokpek 47.40 297⇑*e*P **P 10 13 30.5 -1.4**
comp=Z,28nm,1.5s,baz=297
KPKS Kokpek 47.40 297*ce*P **P 10 13 30.4 -1.4**
KPKS pmax pmax
comp=Z,28nm,1.5s
SCRK Sand Creek 47.68 35 IAmb IAmb 10 13 45.6
comp=Z,11nm,1.0s
SATY Saty 47.72 296⇑*i*P **P 10 13 33.3 -1.2**
comp=Z,10nm,1.3s,baz=296
SATY Saty 47.72 296*c i*P **P 10 13 33.2 -1.2**
SATY pmax pmax
comp=Z,11nm,1.3s
MENT Mentasta 47.92 36 P **P 10 13 35.4 -0.1**
L26K Log Cabin Wild 48.07 36 IAmb IAmb 10 13 47.1
comp=Z,7.8nm,0.9s
VRDI Verde Repeater 48.28 38 P **P 10 13 37.6 -0.8**
VRDI IAmb IAmb 10 13 52.9
comp=Z,14nm,1.2s
JIRN Jiri 48.32 274 *e*P **P 10 13 39.7 +0.2**
comp=Z,22nm,0.7s
CHKK Chushkaly 48.43 298 *e*P **P 10 13 37.3 -2.4**
baz=298
GUN Gumba 48.44 274 *e*P **P 10 13 40.8 +0.4**
comp=Z,59nm,0.7s
K27K Chicken 48.51 35 P **P 10 13 40.5 +0.5**
K27K IAmb IAmb 10 14 01.2
comp=Z,13nm,1.1s
MDOK Medeo 48.62 297 *e*P **P 10 13 40.4 -1.0**
baz=297
MDOK Medeo 48.62 297 *e*P **P 10 13 40.3 -1.1**
AAA Alma-Ata 48.70 297 *e*P **P 10 13 38.6 -3.3**
baz=297
AAA Alma-Ata 48.70 297 *e*P **P 10 13 38.6 -3.3**
TNSS Tian-Shan 48.73 297 *e*P **P 10 13 41.5 -1.0**
baz=297
L27K Beaver Creek, 48.76 36 P **P 10 13 42.8 +0.9**
L27K IAmb IAmb 10 13 52.5
comp=Z,10.0nm,1.1s
BCAR Beaver Creek A 48.77 36 P **P 10 13 43.2 +1.1**
KUU Kurty 48.86 298⇑*i*P **P 10 13 41.8 -1.2**
comp=Z,20nm,0.7s,baz=298
KUU Kurty 48.86 298*c i*P **P 10 13 41.8 -1.2**
KUU pmax pmax
comp=Z,20nm,0.7s
KKN Kakani 48.96 274 *e*P **P 10 13 44.6 +0.4**
comp=Z,62nm,0.7s
PKI Pulchoki 48.97 274 *e*P **P 10 13 44.0 -0.4**
PKIN Phulchoki 48.97 274 *e*P **P 10 13 44.5 +0.1**
MTBS Maitube 49.06 297 *e*P **P 10 13 42.6 -2.1**
baz=297
DMN Daman 49.18 274 *e*P **P 10 13 45.7 -0.3**
GKN Gorkha 49.34 275 *e*P **P 10 13 47.3 +0.2**
BRZS Berezniki 49.36 307⇑*e*P **P 10 13 45.5 -1.2**
comp=Z,7.8nm,0.9s,baz=307
BRZS Berezniki 49.36 307*ce*P **P 10 13 45.5 -1.2**
BRZS pmax pmax
comp=Z,8.0nm,0.9s
BOOM Boomskoye usch 49.62 296 P **P 10 13 49.1 0.0**
BOOM pmax pmax
comp=Z,23nm,0.8s
BOOM Boomskoye usch 49.62 296 P **P 10 13 49.1 0.0**
TKM2 Tokmak 2 49.70 297 P **P 10 13 50.6 +0.9**
SNR=22
TKM2 Tokmak 2 49.70 297 P **P 10 13 49.8 +0.1**
DANN Dangsing 49.85 276 *e*P **P 10 13 51.7 +0.6**
comp=Z,116nm,0.7s
BRVK Borovoye 49.94 311 P **P 10 13 51.0 -0.1**
BRVK pmax pmax
comp=Z,17nm,1.1s
BRVK Borovoye 49.94 311 P **P 10 13 51.0 -0.1**
BRVK IAmb IAmb 10 14 07.1
comp=Z,17nm,1.1s
BTLS Baital 50.02 300 *e*P **P 10 13 49.6 -2.3**
baz=300
BTLS Baital 50.02 300 *e*P **P 10 13 49.5 -2.3**
OTUK Ortayu 50.09 305 P **P 10 13 51.0 -1.3**
SGDS Sogindy 50.18 298⇑*i*P **P 10 13 52.2 -0.9**
comp=Z,8.1nm,1.3s,baz=298
KBK Karagaybulak 50.24 297 P **P 10 13 54.5 +0.7**
SNR=15
KZA Kyzart 50.25 296 P **P 10 13 55.4 +1.3**
SNR=8.8
KOLN Koldanda 50.26 275 *e*P **P 10 13 54.0 -0.1**
USP Ospenovka 50.33 298 P **P 10 13 54.4 +0.1**
SNR=5.6

AAK Ala-Archa 50.56 297 P P 10 13 55.9 -0.2
SNR=7.4
AAK Ala-Archa 50.56 297 P P 10 13 55.8 -0.4
AAK pmax pmax
comp=Z,13nm,1.0s
AAK Ala-Archa 50.56 297 P P 10 13 55.8 -0.4
AAK IAmb IAmb 10 14 06.1
comp=Z,13nm,1.0s
KSH Kashi 50.72 293 P P 10 14 01.0 +3.7
KSH pP pwP 10 14 07.1 -0.2
KSH sP sP 10 14 10.6 +3.0
KSH PcP **PcP** 10 15 18.6 +4.3
KSH PP **PP** 10 15 59.5 +6.2
KSH pmax pmax
comp=Z,13nm,1.6s
KSH pmax pmax
comp=Z,140nm,7.6s
KSH LR LR
comp=Z,670nm,17.3s
KSH LR LR
comp=Z,550nm,15.4s
KSH LR LR
comp=Z,1µm,16.6s
EKS2 Erkin-Say 51.05 297 P P 10 14 00.1 +0.3
SNR=7.5
HYT Haines Junctio 51.19 38 IAmb IAmb 10 14 11.7
comp=Z,22nm,1.1s
INK Inuvik 51.25 28 P P 10 14 01.6 +0.8
comp=Z,2.2nm,0.6s,baz=306,slow=7.7,SNR=8.1
INK Inuvik 51.25 28 IAmb IAmb 10 14 10.6
comp=Z,23nm,1.5s
DZA Taraz 52.63 298 *e*P P 10 14 09.9 -1.5
baz=298
DZA Taraz 52.63 298 *e*P P 10 14 09.9 -1.5
KK31 Karatay Array 53.10 299 *e*P P 10 14 14.2 -0.7
KK31 Karatay Array 53.10 299 IAmb IAmb 10 14 24.4
comp=Z,11nm,0.7s
KKAR Karatay Array 53.10 299 P P 10 14 14.2 -0.7
KKAR Karatay Array 53.10 299 P P 10 14 14.2 -0.7
KKAR Karatay Array 53.10 299 IAmb IAmb 10 14 24.4
comp=Z,11nm,0.7s
SVE Sverdlovsk 54.12 318 *e*P P 10 14 22.3 +0.2
SVE pmax pmax
comp=Z,26nm,0.9s
SVE MLR MLR
comp=Z,1µm,15.0s
BTK Batken 54.12 295 IAmb IAmb 10 14 23.3
comp=Z,23nm,1.5s
PSI Prapat 54.51 239 LR LR 10 38 40.6
comp=Z,92nm,19.7s,baz=60,slow=37
GAR Garm 54.92 294 P P 10 14 27.5 -0.9
NIL Nilore 55.23 287 P P 10 14 31.5 +0.9
NIL pmax pmax
comp=Z,66nm,1.4s
NIL Nilore 55.23 287 P P 10 14 31.5 +0.9
ARU Arti 55.33 318 LR LR 10 40 48.8
comp=Z,602nm,19.2s,baz=70,slow=39
ARU Arti 55.33 318*c* *i*P P 10 14 30.8 -0.1
ARU 10 15 28.8
ARU S **S** 10 22 15.8 +2.6
ARU SS **SS** 10 25 55.0 -2.2
ARU pmax pmax
comp=Z,38nm,1.4s
ARU MLR MLR
comp=Z,938nm,15.0s
ARU Arti 55.33 318 P P 10 14 30.8 -0.1
LEM Lembang 56.91 224 P P 10 14 42.5 -0.3
comp=Z,11nm,0.6s,baz=134,slow=8.6,SNR=3.9
LEM LR LR 10 41 29.6
comp=Z,40nm,18.1s,baz=136,slow=39
KSI Kapahiang 57.16 231 P P 10 15 03.3 +19
AB31 Akbulak array 57.36 309 *i*P P 10 14 45.1 -0.4
ABKAR Akbulak array 57.36 309 P P 10 14 45.1 -0.4
KBL Kabul 57.88 290 P P 10 14 49.1 -0.5
KBL pmax pmax
comp=Z,19nm,0.9s
KBL Kabul 57.88 290 P P 10 14 49.1 -0.5
AKTO Aktyubinsk 57.99 311 LR LR 10 41 03.0
comp=Z,175nm,20.2s,baz=62,slow=37
KIRV Kirov 58.99 322*c* *i*P P 10 14 56.4 -0.3
PRGR Permogore 59.30 327 *e*P P 10 14 58.0 -0.8
PRGR *e**SP **pP** 10 15 06.6 +0.1
PRGR pmax pmax
comp=Z,7.0nm,0.6s
FITZ Fitzroy Crossi 59.91 200 P P 10 15 02.5 -0.9
FITZ IAmb IAmb 10 15 18.4
comp=Z,8.1nm,1.0s
WRAB Tennant Creek 59.99 190⇓*e*P P 10 15 02.4 -1.6
WRAB pmax pmax
comp=Z,8.0nm,0.9s
WR0 Warramunga Arr 60.00 190 P P 10 15 02.0 -2.0
WR0 IAmb IAmb 10 15 12.7
comp=Z,7.9nm,0.8s
WB2 Warramunga Arr 60.00 190 P P 10 15 03.3 -0.8
WB2 IAmb IAmb 10 15 12.3
comp=Z,7.1nm,0.9s
WRA Warramunga Arr 60.01 190 P P 10 15 02.5 -1.6
comp=Z,3.9nm,0.9s,baz=8.5,slow=6.3,SNR=26
WRA Warramunga Arr 60.01 190 P P 10 15 02.8 -1.3
WRA pmax pmax
comp=Z,1.0nm,1.2s
WRA Warramunga Arr 60.01 190 P P 10 15 02.8 -1.3
ARCES ARCESS Array B 61.97 339 P P 10 15 16.8 -0.1
comp=Z,3.0nm,0.8s,baz=44,slow=8.8,SNR=7.3
ARCES LR LR 10 45 25.7
comp=Z,201nm,20.5s,baz=70,slow=39
ARCES ARCESS Array B 61.97 339 IAmb IAmb 10 15 26.9
comp=Z,17nm,1.4s
KLMR Klimovskoe 62.26 328 *e*P P 10 15 16.6 -2.3
KLMR *e* 10 17 34.6
KLMR pmax pmax
comp=Z,19nm,1.3s
KLMR MLR MLR
comp=Z,241nm,14.0s
KLMR Klimovskoe 62.26 328 *e*P P 10 15 16.6 -2.3
KLMR AMP 10 15 19.7
comp=Z,19nm,1.3s
KLMR *e*PP **PP** 10 17 34.6 -1.0
KLMR LR LR 10 38 59.9
KLMR AMP 10 44 43.3
comp=Z,241nm,14.3s
NEEM North Greenlan 62.70 4 *i*P P 10 15 21.0 -1.1
NEEM IAmb IAmb 10 15 22.1
comp=Z,4.6nm,0.7s
HRA Herat 62.82 293 P P 10 15 23.9 +0.4
HRA IAmb IAmb 10 15 24.6
comp=Z,16nm,1.5s
BELG Belogornoye 62.84 317*c* *i*P P 10 15 22.7 -0.2
BELG pmax pmax
comp=Z,7.0nm,0.9s
DAG Danmarks Havn 63.17 355 *i*P P 10 15 24.0 -0.8
DAG IAmb IAmb 10 15 25.6
comp=Z,12nm,1.1s
DAG Danmarks Havn 63.17 355 *i*P P 10 15 24.0 -0.8
DAG pmax pmax
comp=Z,13nm,1.1s
AS31 Alice Springs 63.73 190 P P 10 15 29.0 -0.2
ASAR Alice Springs 63.73 190 P P 10 15 28.3 -0.8
comp=Z,1.4nm,0.6s,baz=2.9,slow=5.2,SNR=23
ASAR LR LR 10 43 36.2
comp=Z,45nm,19.6s,baz=7.5,slow=36
ASAR Alice Springs 63.73 190 P P 10 15 28.7 -0.5
ASAR pP 10 15 34.9 -1.8
GEYT Alibeck 63.85 299 P P 10 15 29.9 0.0
comp=Z,5.0nm,0.9s,baz=207,slow=0.3,SNR=14
GEYT LR LR 10 46 13.3
comp=Z,197nm,18.0s,baz=255,slow=39
GYA0B ALIBECK ARRAY 63.85 299 IAmb IAmb 10 15 40.1
comp=Z,10nm,0.8s
PALK Pallekele 64.44 258 LR LR 10 46 25.8
comp=Z,106nm,19.7s,baz=140,slow=39
DZM Mont Dzumac 65.20 156 *e*LR LR 10 35 02.8
comp=Z,216nm,21.7s
OBN Obninsk 66.81 323 *e*P P 10 15 48.8 +0.1
OBN *e* 10 16 17.1
OBN *e* 10 18 16.1
OBN *e*PPP PPP 10 19 51.8
OBN pmax pmax
comp=Z,24nm,1.3s
OBN MLR MLR
comp=Z,488nm,16.0s
FIA1 FINESS Array S 67.09 332 P P 10 15 50.2 -0.2
FINES FINESS Array B 67.09 332 P P 10 15 50.8 +0.3
comp=Z,7.9nm,0.6s,baz=48,slow=8.5,SNR=25
FINES LR LR 10 48 12.8
comp=Z,460nm,18.9s,baz=34,slow=39
PINE Pine Mountain 67.42 51 P P 10 15 54.6 +1.4
AFI Afiamalu 67.79 132 LR LR 10 39 22.6
comp=Z,91nm,21.1s,baz=316,slow=30
SUMG Summit 67.94 1 *i*P P 10 15 56.2 +0.1
SUMG IAmb IAmb 10 15 57.8
comp=Z,12nm,0.8s
SUMG Summit 67.94 1 *i*P P 10 15 56.2 +0.1
SUMG pmax pmax
comp=Z,12nm,0.8s
MAK Makhachkala 67.97 308 *e*P P 10 15 51.8 -4.5
MAK *e*PPP PPP 10 20 01.6
MAK *e*S **S** 10 24 49.0 -4.6
MAK *e*SS **SS** 10 29 19.4 +4.3
MAK pmax pmax
comp=Z,262nm,1.0s
MAK MLR MLR
comp=Z,179nm,13.0s
K05A Summer Lake 68.04 52 P P 10 15 57.9 +0.8
I07A Izee 68.11 50 P P 10 15 57.7 +0.3
I07A IAmb IAmb 10 16 20.6
comp=Z,11nm,1.5s
AKT Akhty 68.67 307 *e*P P 10 15 59.8 -1.1
AKT *e* 10 16 24.6
AKT pmax pmax
comp=Z,18nm,0.9s
VSU Vasula 68.86 330 *e*P P 10 16 02.0 +0.4
VSU Vasula 68.86 330*ce*P P 10 16 01.2 -0.4
VSU pmax pmax
comp=Z,46nm,0.9s
RAF Rauma 68.89 334 *e*P P 10 16 01.7 -0.1
J08A Circle Bar Ran 69.14 51 P P 10 16 04.2 +0.4
J08A IAmb IAmb 10 16 14.4
comp=Z,9.4nm,1.1s
MTSE Matsula 69.79 331 *e*P P 10 16 07.8 +0.4
NCK Nalchik 70.00 310⇓*e*P P 10 16 09.5 +0.5
NCK pmax pmax
comp=Z,14nm,0.6s
BEKR Beckworth 70.00 54 P P 10 16 10.2 +0.9
BEKR IAmb IAmb 10 16 19.3
comp=Z,7.9nm,1.1s
AAL Aland 70.11 334 *e*P P 10 16 08.8 -0.5
ZEI Tsey 70.23 310 *e*P P 10 16 08.5 -2.2
ZEI pmax pmax
comp=Z,5.0nm,1.0s
KIV Kislovodsk 70.26 311 ⇑P P 10 16 11.3 +0.7
KIV Kislovodsk 70.26 311 ⇑P P 10 16 11.3 +0.7
KIV Kislovodsk 70.26 311 P P 10 16 11.5 +0.9
KBZ Khabaz 70.27 311 P P 10 16 11.3 +0.8
comp=Z,14nm,0.9s,baz=44,slow=4.3,SNR=21
KBZ LR LR 10 48 04.2
comp=Z,155nm,18.0s,baz=30,slow=37
KBZ Khabaz 70.27 311*c* *i*P P 10 16 10.8 +0.2
KBZ pmax pmax
comp=Z,22nm,0.9s
NEY Neytrino 70.66 310⇑*e*P P 10 16 14.9 +1.7
NEY pmax pmax
comp=Z,3.0nm,1.0s
HRY Holter Researc 70.92 45 P P 10 16 14.5 -0.2
NACGM Naroch 71.26 327 *i*P P 10 16 17.0 +0.5
GNI Garni 71.28 307 LR LR 10 50 31.2
comp=Z,123nm,20.6s,baz=82,slow=38
GNI Garni 71.28 307⇓*e*P P 10 16 18.1 +1.0
GNI pmax pmax
comp=Z,15nm,1.3s
STKA Stephens Creek 71.31 182 P P 10 16 15.6 -1.3
comp=Z,0.8nm,0.6s,baz=357,slow=5.1,SNR=3.2
STKA LR LR 10 52 13.2
comp=Z,46nm,18.2s,baz=25,slow=40
DLMT Dillon 71.33 46 IAmb IAmb 10 16 28.0
comp=Z,13nm,1.2s
HLID Hailey 71.40 49 P P 10 16 16.3 -1.4
ICESG Greenland Ices 71.42 1 *i*P P 10 16 17.5 -0.1
ICESG IAmb IAmb 10 16 19.1
comp=Z,24nm,1.1s
BOZ Bozeman (W) 71.72 46 IAmb IAmb 10 16 29.8
comp=Z,20nm,1.5s
KVN Kaiserville 71.90 54 IAmb IAmb 10 16 31.3
comp=Z,17nm,1.3s
PABE Paberze 72.00 329 *e*P P 10 16 20.9 +0.1
LHV Little Huntoon 72.12 55 P P 10 16 23.6 +1.7
LHV IAmb IAmb 10 16 33.0
comp=Z,16nm,1.1s
NVAR Mina Array Bea 72.14 55 P P 10 16 23.1 +0.7
comp=Z,2.9nm,0.9s,baz=280,slow=6.2,SNR=14
NVAR LR LR 10 40 53.1
comp=Z,35nm,21.8s,baz=312,slow=30
NB201 NORSAR Array S 72.20 338 P P 10 16 20.6 -1.4
NB2 NORSAR Subarra 72.23 338 P P 10 16 22.0 -0.2
comp=Z,13nm,0.9s,baz=38,slow=6.2
NOA NORSAR Array B 72.23 338 P P 10 16 21.6 -0.6
comp=Z,8.2nm,0.8s,baz=38,slow=6.0,SNR=25
NOA LR LR 10 53 52.5
comp=Z,200nm,18.2s,baz=30,slow=41
BCA Borcka 72.39 309 ⇓P P 10 16 24.0 +0.5
UOSS Minazif 72.42 288 P P 10 16 23.7 -0.2
UOSS IAmb IAmb 10 16 24.3
comp=Z,7.0nm,0.8s
ANN Anapa 72.72 314 *i*P P 10 16 22.6 -2.7
ANN *e*S **S** 10 25 49.7 +0.7
ANN pmax pmax
comp=Z,23nm,1.2s
ANN MLR MLR
comp=N,259nm,16.0s
ANN MLR MLR
comp=Z,217nm,16.0s
AKASG Malin Array Be 73.05 323 P P 10 16 26.9 -0.3
comp=Z,4.5nm,0.6s,baz=44,slow=6.7,SNR=11
AKASG LR LR 10 52 41.9
comp=Z,111nm,18.6s,baz=65,slow=39
AKBB Malin Array Si 73.05 323*c* *i*P P 10 16 26.5 -0.7
AKBB pmax pmax
comp=Z,17nm,1.5s
AKBB Malin Array Si 73.05 323 P P 10 16 26.1 -1.1
AKBB IAmb IAmb 10 16 27.6
comp=Z,7.9nm,0.8s
H17A Grant Village 73.06 46 IAmb IAmb 10 16 39.8
comp=Z,12nm,1.3s
R11A Troy Canyon, C 73.89 53 IAmb IAmb 10 16 43.1
comp=Z,13nm,1.4s
TPNV Topopah Spring 74.33 55 P P 10 16 35.2 0.0
TPNV pmax pmax
comp=Z,11nm,1.1s
TPNV Topopah Spring 74.33 55 P P 10 16 35.2 0.0
TPNV IAmb IAmb 10 16 45.6
comp=Z,11nm,1.1s
PDAR Pinedale Array 74.67 47 P P 10 16 37.3 +0.1
comp=Z,0.7nm,0.6s,baz=258,slow=0.7,SNR=9.6
PDAR LR LR 10 47 38.8
comp=Z,19nm,20.8s,baz=360,slow=34
CCUT Cedar City 75.76 53 P P 10 16 44.0 +0.5
DIKM Dikmen 75.96 313 ⇑P P 10 16 53.9 +10
LVV L'vov 76.05 324 *e*P P 10 16 44.0 -0.6
LCMT Little Creek M 76.17 53 P P 10 16 45.5 -0.3
LCMT IAmb IAmb 10 16 56.5
comp=Z,9.1nm,1.1s
KNB Kanab 76.43 53 IAmb IAmb 10 16 59.1
comp=Z,16nm,1.4s
SRU San Rafael Swe 76.47 50 IAmb IAmb 10 16 57.7
comp=Z,16nm,1.4s
BURAR Bucovina Array 77.09 322 ⇓P P 10 16 51.1 +0.4
BURAR Bucovina Array 77.09 322 ⇓P P 10 16 51.1 +0.4
BURAR Bucovina Array 77.09 322 P P 10 16 50.1 -0.6
U15A North Rim 77.13 53 IAmb IAmb 10 17 02.2
comp=Z,16nm,1.2s
TESR Tescani 77.19 321 ⇑P P 10 16 50.5 -0.6
KOLS Kolonicke sedl 77.48 325 *e*P P 10 16 53.5 +0.7
KOLS pmax pmax
comp=Z,16nm,1.3s
KOLS Kolonicke sedl 77.48 325 *e*P P 10 16 53.5 +0.7
RAO Raoul Island 77.56 146 LR LR 10 44 07.8
comp=Z,215nm,21.7s,baz=333,slow=30
OJC Ojcow 77.59 327 *e*P P 10 16 53.6 +0.2
OJC *e*L L 10 54 20.0
comp=Z,298nm,17.6s
VRI Vrincioaia 77.61 320 ⇑P P 10 16 53.0 -0.5
VRI Vrincioaia 77.61 320 ⇑P P 10 16 53.0 -0.5
GAZ Gaziantep 77.74 308 IAmb IAmb 10 17 04.6
comp=Z,8.3nm,0.9s
PV21 Cone Mtn., Par 77.75 50 P P 10 16 54.8 +0.1
PV21 IAmb IAmb 10 17 05.1
comp=Z,14nm,1.2s
PV14 Lion Creek, Pa 77.84 50 IAmb IAmb 10 17 05.5
comp=Z,13nm,1.1s
OZUR 77.90 321 ⇑P P 10 16 55.9 +0.7
TRPA Tarpa 77.95 324 ⇓P P 10 16 55.8 +0.5
PV11 David Mesa, Pa 77.98 50 P P 10 16 57.0 +1.0
PV11 IAmb IAmb 10 17 13.9
comp=Z,8.3nm,0.8s
NIE Niedzica 77.98 326 *e*P P 10 16 57.0 +1.4
NIE *e*L L 10 54 45.4
comp=Z,228nm,17.8s
PV05 Paradox Valley 77.99 50 IAmb IAmb 10 17 06.7
comp=Z,16nm,1.1s
PV13 Radium Mtn., P 78.10 50 IAmb IAmb 10 17 07.1
comp=Z,18nm,1.2s
BR131 Keskin Array S 78.16 312 IAmb IAmb 10 16 58.0
comp=Z,16nm,1.5s
BRTR Keskin Array B 78.16 312 P P 10 16 57.4 +0.5
comp=Z,24nm,1.5s,baz=97,slow=5.0,SNR=14
BRTR PP **PP** 10 19 54.1 +1.1
comp=Z,0.8nm,0.9s,baz=93,slow=4.3,SNR=4.1
BRTR LR LR 10 57 06.6
comp=Z,158nm,18.3s,baz=34,slow=40
BRTR Keskin Array B 78.16 312 P P 10 16 55.5 -1.4
ANTO Ankara 78.54 313 P P 10 16 59.6 +0.7
ANTO pmax pmax
comp=Z,12nm,1.0s
ANTO Ankara 78.54 313 P P 10 16 59.6 +0.7
ANTO IAmb IAmb 10 17 00.3
comp=Z,12nm,0.9s
LANS Liptovska Anna 78.54 326 *e*P P 10 17 00.2 +1.5
LANS pmax pmax
comp=Z,6.0nm,1.0s
LANS Liptovska Anna 78.54 326 *e*P P 10 17 00.2 +1.5
VOIR 78.74 321 ⇓P P 10 17 00.2 +0.3
VOIR 78.74 321 ⇓P P 10 17 00.2 +0.3
MORC Moravsky Berou 78.88 328 ⇓P P 10 17 00.8 +0.3
MORC Moravsky Berou 78.88 328 P P 10 17 01.3 +0.7
MORC pmax pmax
comp=Z,12nm,1.1s
MORC Moravsky Berou 78.88 328 P P 10 17 01.3 +0.7
MORC IAmb IAmb 10 17 01.9
comp=Z,12nm,1.1s
MORC Moravsky Berou 78.88 328 *e*P P 10 17 01.2 +0.7
DPC Dobruska-Polom 78.93 329 *e*P P 10 17 01.6 +0.8
DPC *e* 10 17 09.2
DPC MLR MLR
comp=Z,300nm,16.8s
DPC Dobruska-Polom 78.93 329 *e*P P 10 17 01.6 +0.8
DPC *e*pP **pP** 10 17 09.2 +0.5
DPC AMS AMS 10 54 30.0
comp=Z,300nm,16.8s
UPC Upice 78.93 329 AMS AMS 10 54 30.0
comp=Z,300nm,19.0s
KRLC Kraliky 78.95 328 *e*P P 10 17 01.0 +0.1
KRLC MLR MLR
comp=Z,300nm,17.8s
KRLC Kraliky 78.95 328 *e*P P 10 17 01.0 +0.1
KRLC AMS AMS 10 56 40.0
comp=Z,300nm,17.8s
ARR Arges 78.99 321 ⇑P P 10 17 03.0 +1.8
MDUB Mudurnu 79.03 314 P P 10 17 01.7 +0.1
PSZ Piszkesteto 79.29 325 ⇓P P 10 17 03.7 +0.8
PSZ Piszkesteto 79.29 325 ⇓P P 10 17 03.7 +0.8
PSZ Piszkesteto 79.29 325 P P 10 17 03.4 +0.5
PSZ IAmb IAmb 10 17 04.5
comp=Z,16nm,1.1s
VYHS Vyhne 79.31 326 *e*P P 10 17 02.9 0.0
VYHS pmax pmax
comp=Z,15nm,1.3s
VYHS Vyhne 79.31 326 *e*P P 10 17 02.9 0.0
BRG Berggiesshubel 79.45 330 *e*P P 10 17 03.9 +0.4
BRG Amp 10 17 04.7
comp=Z,6.1nm,0.9s
BRG Amp 10 58 06.0
comp=Z,0.2nm,15.2s
BRG Amp 10 58 10.0
comp=N,0.2nm,19.9s
BRG Amp 10 58 14.0
comp=E,0.1nm,14.0s
CLL Collm 79.46 331 *i*P P 10 17 03.0 -0.6
comp=Z,11nm,0.8s
CLL *i* 10 17 09.7
CLL LmH 10 50 00.0
comp=N,200nm,18.0s
CLL LmH 10 50 00.0
comp=E,300nm,20.9s
CLL LmV 10 55 00.0
comp=Z,200nm,19.8s
CLL Collm 79.46 331 *i*P P 10 17 03.0 -0.6
CLL pmax pmax
comp=Z,11nm,0.8s
PVCC Panska Ves 79.48 330 AMS AMS 10 54 50.0
comp=Z,200nm,17.3s
JAVC Velka Javorina 79.53 327 *e*P P 10 17 05.7 +1.6
VRAC Vranov 79.63 328 ⇑P P 10 17 04.9 +0.3
VRAC Vranov 79.63 328 ⇑P P 10 17 04.9 +0.3
VRAC Vranov 79.63 328 *e*P P 10 17 05.4 +0.8
GZR Gura Zlata 79.86 322 ⇓P P 10 17 05.7 -0.3
GZR Gura Zlata 79.86 322 ⇓P P 10 17 05.7 -0.3
SMOL Smolenice 79.90 327 *e*P P 10 17 06.3 +0.2
SMOL pmax pmax
comp=Z,10.0nm,1.4s
SMOL Smolenice 79.90 327 *e*P P 10 17 06.3 +0.2
KRUC Moravsky 79.90 328 *e*P P 10 17 06.8 +0.7
PRU Pruhonice 79.92 329 *e*P P 10 17 06.6 +0.5
PRU *e* 10 17 13.2
PRU MLR MLR
comp=Z,300nm,13.6s
PRU Pruhonice 79.92 329 *e*P P 10 17 06.6 +0.5
PRU *e*pP **PcP** 10 17 13.2 -0.4
PRU AMS AMS 10 56 40.0
comp=Z,300nm,13.6s
MODS Modra-Piesok 80.07 327 *e*P P 10 17 07.4 +0.4
MODS pmax pmax
comp=Z,14nm,1.4s
MODS Modra-Piesok 80.07 327 *e*P P 10 17 07.4 +0.4
TREC Trest 80.09 328 *e*P P 10 16 58.4 -8.7
RAR Rarotonga 80.58 128 LR LR 10 44 28.4
comp=Z,100nm,20.3s,baz=304,slow=30
CKRC Cesky Krumlov 80.94 329 AMS AMS 11 00 40.0
comp=Z,300nm,19.6s
KHC Kasperske Hory 80.98 329 *e*P P 10 17 12.2 +0.3
KHC *e* 10 17 18.6
KHC MLR MLR
comp=Z,400nm,16.6s
KHC Kasperske Hory 80.98 329 *e*P P 10 17 12.2 +0.3
KHC *e*pP **PcP** 10 17 18.6 +0.2
KHC *ex* x 10 17 41.0
KHC AMS AMS 10 57 20.0
comp=Z,400nm,16.6s
RAYN Ar Rayn 81.01 293 P P 10 17 12.2 -0.3
RAYN pmax pmax
comp=Z,10.0nm,1.3s
RAYN Ar Rayn 81.01 293 P P 10 17 12.2 -0.3
CONA Conrad Observa 81.01 327 *e*P P 10 17 12.4 +0.2
comp=Z,10nm,1.0s
GERES GERESS Array B 81.16 329 P P 10 17 13.1 +0.1
comp=Z,2.5nm,0.8s,baz=42,slow=6.1,SNR=12
GERES LR LR 10 57 45.5
comp=Z,230nm,18.9s,baz=16,slow=39
GRF Grafenberg Arr 81.44 331 *e*P P 10 17 14.9 +0.6
comp=Z,16nm,0.9s,baz=37,slow=4.5
GRF *e*L L 10 58 28.8
comp=Z,158nm,19.3s
MMAI Mount Meron Ar 81.60 306 LR LR 10 57 40.2
comp=Z,147nm,19.1s,baz=20,slow=39
ANMO Albuquerque 81.67 51 *i*P P 10 17 15.9 -0.1
VTS Vitosha 81.69 320 ⇑P P 10 17 15.8 -0.1
VTS Vitosha 81.69 320 ⇑P P 10 17 15.8 -0.1
VTS Vitosha 81.69 320 P P 10 17 14.4 -1.5
VTS IAmb IAmb 10 17 17.5
comp=Z,6.8nm,0.8s
SOKA Soboth 82.34 327 *e*P P 10 17 19.1 -0.1
comp=Z,21nm,1.2s
MYKA Terra Mystica 82.96 328 *e*P P 10 17 22.3 -0.1
comp=Z,21nm,1.7s
WATA Walderalm 83.22 329 *e*P P 10 17 24.7 +0.8
comp=Z,11nm,1.0s
WTTA Wattenberg 83.26 329 *e*P P 10 17 24.5 +0.4
comp=Z,6.4nm,0.8s
MOTA Moosalm 83.40 330 *e*P P 10 17 24.8 +0.1
comp=Z,14nm,1.0s
RETA Reutte 83.42 330 *e*P P 10 17 25.3 +0.5
comp=Z,14nm,1.2s
SQTA Sankt Quirin 83.46 329 *e*P P 10 17 24.8 -0.3
comp=Z,16nm,1.3s
URZ Urewera 83.61 154 LR LR 10 52 53.8
comp=Z,99nm,18.5s,baz=31,slow=34

FETA	**Feichten**	**83.81**	**330**	*eP*	**P**	**10 17 26.6**	**-0.3**
	comp=Z,9.7nm,1.2s							
PMOR	**Pomariorio Ree**	**83.92**	**115**	*eT*	T	11 49 16.6	
	comp=Z,2.6nm,0.2s							
DAVA	**Damuels**	**83.92**	**330**	*eP*	**P**	**10 17 24.6**	**-2.9**
	comp=Z,10nm,0.7s							
PPT	**Papeete**	**84.54**	**118**	LR	LR	10 46 58.3		
	comp=Z,103nm,20.7s,baz=322,slow=30							
PPT2	**Papeete2**	**84.55**	**118**	*eLR*	LR	10 43 59.1		
	comp=Z,200nm,22.5s,baz=328							
PPT2	**Papeete2**	**84.55**	**118**	*eT*	T	11 50 02.6		
	comp=Z,1.8nm,0.4s							
R40A	**Maddies Statio**	**87.08**	**41**	IAmb	IAmb	10 17 52.4		
	comp=Z,4.9nm,0.8s							
TXAR	**Lajitas Array**	**87.25**	**54**	P	**P**	**10 17 44.0**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=116,slow=2.9,SNR=3.4							
CCM	**Cathedral Cave**	**87.78**	**40**	P	**P**	**10 17 46.4**	**-0.1**
CCM				pmax	pmax			
	comp=Z,10.0nm,0.9s							
CCM	**Cathedral Cave**	**87.78**	**40**	P	**P**	**10 17 46.4**	**-0.1**
ESDC	**Sonseca Array**	**95.47**	**335**	LR	LR	11 07 17.0		
	comp=Z,157nm,18.9s,baz=350,slow=39							
TORD	**Torodi Ar. Bea**	**116.41**	**318**	PP	PP	10 24 45.1	-2.0	
	comp=Z,2.3nm,1.1s,baz=13,slow=6.7,SNR=7.0							
OTAV	**Otavalo**	**124.88**	**54**	*eP*	**PKiKP**	**10 24 04.3**	**+5.6**	
SNAA	**Sanae**	**143.82**	**197**	PKPdf	PKPbc	10 24 29.3	+0.2	
SNAA	**Sanae**	**143.82**	**197**	PKiKP	**PKiKP**	**10 24 37.1**	**+2.3**	
LPAZ	**La Paz**	**143.98**	**59**	PKP	**PKPdf**	**10 24 35.3**	**+1.3**	
	comp=Z,0.7nm,0.8s,baz=299,slow=3.3,SNR=2.2							
VNA2	**Neumayer--Watz**	**145.38**	**196**	PKPdf	**PKPbc**	**10 24 33.7**	**-0.3**	
VNA2	**Neumayer--Watz**	**145.38**	**196**	PKiKP	**PKiKP**	**10 24 42.9**	**+4.9**	
VNA3	**Neumayer Olymp**	**145.61**	**195**	PKPdf	**PKPdf**	**10 24 34.3**	**-0.1**	
VNA3	**Neumayer Olymp**	**145.61**	**195**	PKiKP	**PKiKP**	**10 24 40.9**	**+2.5**	
VNA1	**Neumayer--Stat**	**145.78**	**196**	PKPdf	**PKPbc**	**10 24 35.0**	**-0.2**	
VNA1	**Neumayer--Stat**	**145.78**	**196**	PKiKP	**PKiKP**	**10 24 45.1**	**+6.3**	
CLDB	**Colider**	**146.56**	**36**	*eP*	**PKiKP**	**10 24 44.9**	**+2.8**	
NBPV	**Pedro Velho**	**146.76**	**358**	*eP*	**PKiKP**	**10 24 43.8**	**+1.2**	
PTLB	**Pontes e Lacer**	**148.79**	**45**	*eP*	**PKPab**	**10 24 48.9**	**-0.1**	
PMSA	**Palmer Station**	**150.34**	**157**	*eP*	**PKiKP**	**10 24 51.0**	**+2.7**	
SALV	**Santo Antonio**	**150.98**	**40**	*eP*	**PKPbc**	**10 24 50.3**	**-0.2**	
NBLA	**Lagarto - SE**	**151.31**	**2**	*eP*	**PKPbc**	**10 24 51.4**	**0.0**	
SDBA	**SAO DESIDERIO**	**151.78**	**17**	*eP*	**PKPbc**	**10 24 52.2**	**-0.3**	
JANB	**Januaria**	**154.47**	**17**	*eP*	**PKPbc**	**10 24 57.5**	**-0.9**	
CMC01	**Camacan, BA**	**155.54**	**7**	*eP*	**PKPdf**	**10 24 57.5**	**+6.1**	
SJMB	**Sao Joao De Ma**	**158.63**	**12**	*eP*	PKPdf	10 25 03.2	+8.0	
TRQA	**Tornquist**	**160.23**	**93**	*eP*	PKPdf	10 25 05.5	+8.9	
PET01	**Itanhaem-SP**	**162.14**	**33**	*eP*	PKPdf	10 25 07.2	+8.2	
CPSB	**Cacapava Do Su**	**163.40**	**61**	*eP*	PKPdf	10 25 08.3	+8.2	

JMA 24 10:10:42.1, 39.38N×142.07E, h41km±1km, M3.8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.28**	**315**	P	Pn	10 10 50.2	0.0
MIYJ				S	Sn	10 10 55.6	-0.3
OFUJ	**Ofunato**	**0.43**	**226**	P	Pn	10 10 52.0	0.0
OFUJ				S	Sn	10 10 58.7	-0.2
JTH	**Tanohata**	**0.58**	**344**	P	Pn	10 10 53.7	-0.3
JTH				S	Sn	10 11 02.0	-0.4
JOM	**Ohasama**	**0.61**	**279**	P	Pn	10 10 54.4	+0.1
JOM				S	Sn	10 11 03.1	0.0
JKMT	**Kesennumamotoy**	**0.73**	**219**	P	Pn	10 10 55.9	-0.1
JKMT				S	Sn	10 11 05.8	-0.2
JMK	**Ichinoseki**	**0.79**	**237**	P	Pn	10 10 56.7	0.0
JMK				S	Sn	10 11 06.9	-0.4
JKZ	**Kuzumaki**	**0.83**	**317**	P	Pn	10 10 57.8	+0.4
JKZ				S	Sn	10 11 08.8	+0.3
JANG	**Nango**	**1.08**	**337**	P	Pn	10 11 00.6	-0.2
JANG				S	Sn	10 11 14.1	-0.5
JIO	**Ouri**	**1.08**	**212**	P	Pn	10 11 00.5	-0.3
JIO				S	Sn	10 11 13.9	-0.6
JRG	**Rokugo**	**1.11**	**271**	P	Pn	10 11 01.8	+0.6
JRG				S	Sn	10 11 16.2	+0.9
JAH	**Hinai**	**1.37**	**307**	P	Pn	10 11 05.5	+0.8
JAH				*eS*	Sn	10 11 23.5	+1.9
MAT	**Matsushiro**	**4.16**	**228**	P	Pn	10 11 45.4	+2.3
MAT				*eS*	Sn	10 12 28.8	-1.8

MEX 24 10:21:32.8±0.8, 15.80N×99.44W, h6km, MD3.9, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAIG	**Los Arroyos**	**1.23**	**351**	*eP*	Pg	10 21 52.7	-3.8
DAIG				*i S*	Sg	10 22 08.0	-4.5
PNIG	**Pinotepa**	**1.40**	**65**	*i P*	Pn	10 21 54.1	-4.7
PNIG				*i S*	Sb	10 22 12.4	-5.0
TLIG	**Tlapa**	**1.94**	**25**	*eP*	Pn	10 22 03.6	-3.0
TLIG				*i S*	Sn	10 22 27.4	-3.9
TXIG	**Tlaxiaco**	**2.16**	**48**	*eP*	Pn	10 22 06.7	-3.0
TXIG				*eS*	Sn	10 22 32.6	-4.4
FTIG	**Fresnillo de T**	**2.44**	**31**	*eP*	Pn	10 22 10.9	-2.5
FTIG				*i S*	Sn	10 22 40.7	-2.9
HLIG	**Huajuapan de L**	**2.56**	**38**	*eP*	Pn	10 22 12.5	-2.5
HLIG				*eS*	Sn	10 22 44.8	-1.8
PLIG	**Platanillo**	**2.58**	**359**	*eP*	Pn	10 22 13.1	-2.1
PLIG				*eS*	Sn	10 22 44.2	-2.8
ARIG	**Puente Sto Nin**	**2.62**	**341**	*eP*	Pn	10 22 13.7	-2.0
ARIG				*eS*	Sn	10 22 43.2	-4.6

*IDC **24** 10:30:15.6±1.1, 33.03N×139.67E, h209km±11km, mb2.7/1, mb1 3.1/5, mb1mx2.8/64, mbtmp3.7/5, Error ellipse: s-maj=64.8km s-min=14.6km az=75.0*
*JMA **24** 10:30:17.0±0.2, 33.00N×139.39E, h183km±4km, M3.1*
ISC 24 10:30:15.5±1.0, 32.97N±0.07×139.4E±0.1, h200km, n13, σ1s22/17, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.38**	**66**	P	**Pn**	**10 30 44.4**	**+2.2**
	6.6nm,0.3s,baz=38,slow=19,SNR=1.2						
JHJ				S	**Sn**	**10 31 04.2**	**+1.4**
	15nm,0.3s,baz=43,slow=19,SNR=1.7						
BSO3	**Boso 3**	**2.06**	**27**	P	**Pn**	**10 30 55.0**	**+0.7**
BSO1	**Boso 1**	**2.15**	**38**	P	**Pn**	**10 30 56.0**	**+1.0**
JOD2	**Odawara 2**	**2.31**	**354**	P	**Pn**	**10 30 57.9**	**+0.7**
JOD2				*eS*	**Sn**	**10 31 29.2**	**-0.7**
JYN	**Shimob**	**2.62**	**345**	P	**Pn**	**10 31 01.4**	**+0.7**
JIE	**Ise**	**2.64**	**303**	P	**Pn**	**10 31 01.6**	**+0.7**
JHU	**Hanno**	**2.88**	**359**	P	**Pn**	**10 31 03.6**	**-0.1**
JRY	**Ryogami san**	**3.07**	**353**	P	**Pn**	**10 31 06.4**	**+0.5**
JRY				*eS*	**Sn**	**10 31 44.9**	**-0.7**
MJAR	**Matsushiro Arr**	**3.69**	**345**	P	**Pn**	**10 31 12.9**	**-0.6**
	0.4nm,0.3s,baz=156,slow=11,SNR=17						
JCJ	**Chichijima**	**6.34**	**157**	P	**Pn**	**10 31 48.8**	**+1.6**
	6.7nm,0.3s,baz=1.3,slow=17,SNR=19						
JCJ				S	**Sn**	**10 32 58.0**	**-1.8**
	3.5nm,0.3s,baz=255,slow=20,SNR=1.5						
ASAJ	**Asahikawa**	**11.42**	**12**	P	**Pn**	**10 32 51.2**	**-1.6**
	0.7nm,0.3s,baz=226,slow=12,SNR=10						
USRK	**Ussuriysk Ar.**	**12.61**	**335**	P	**Pn**	**10 33 08.7**	**+0.8**
	baz=142,slow=14,SNR=4.1						
WRA	**Warramunga Arr**	**52.83**	**186**	P	**P**	**10 39 09.7**	**-0.8**
	0.4nm,0.8s,baz=0.6,slow=7.5,SNR=1.8						

*DJA **24** 10:37:38.1±0.4, 0.7S±3.1×10.3E±.1, h10km, M4.1/10, MLv4.1/10*
*IDC **24** 10:37:41.0±1.4, 0.42N±104.45E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/55, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=76.7km s-min=21.8km az=38.0*
ISC 24 10:37:38.2±0.9, 0.51S±0.05×102.94E±0.05, h10km, n14, σ1s06/18, mb3.5/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RGRI	**Rengat**	**0.62**	**285**	P	**Pg**	**10 37 50.2**	**-0.2**
RGRI				S	**Sb**	**10 37 59.3**	**-0.8**
JMBI	**JAMBI**	**1.32**	**148**	P	**Pn**	**10 38 02.0**	**-0.7**
JMBI				S	**Sg**	**10 38 21.5**	**+0.7**
BTDF	**Bukit Timah Da**	**2.04**	**24**	P	**Pn**	**10 38 12.8**	**+0.1**
KRJI	**Kerinci**	**2.15**	**223**	P	**Pn**	**10 38 14.6**	**+0.3**
PDSI	**Padang**	**2.51**	**261**	P	**Pn**	**10 38 19.4**	**+0.3**
PDSI				Pg	**Pg**	**10 38 26.3**	**0.0**
MASI	**Maura Aman, Be**	**2.70**	**195**	P	**Pn**	**10 38 21.6**	**-0.3**
KSI	**Kapahiang**	**3.14**	**186**	P	**Pn**	**10 38 28.1**	**+0.2**
LHSI	**Lahat**	**3.34**	**170**	P	**Pn**	**10 38 30.4**	**-0.2**
MNSI	**Mandailing Nat**	**3.60**	**291**	P	**Pn**	**10 38 33.7**	**-0.4**
MDSI	**Maura Dua**	**4.14**	**163**	P	**Pn**	**10 38 40.7**	**-0.9**
PSI	**Prapat**	**5.19**	**309**	Pn	**Pb**	**10 39 11.5**	**+2.3**
	0.9nm,0.3s,baz=98,slow=14,SNR=2.7						
PSI				Sn	**Sg**	**10 40 22.6**	**-2.4**
	2.2nm,0.3s,baz=286,slow=12,SNR=2.2						
WRA	**Warramunga Arr**	**36.30**	**124**	P	**P**	**10 44 41.6**	**-0.8**
	1.5nm,0.7s,baz=303,slow=9.1,SNR=10.0						
ASAR	**Alice Springs**	**37.84**	**130**	P	**P**	**10 44 54.1**	**-1.3**
	0.4nm,0.5s,baz=301,slow=7.8,SNR=9.4						
MKAR	**Makanchi Array**	**50.47**	**342**	P	**P**	**10 46 37.1**	**+0.7**
	0.4nm,0.6s,baz=156,slow=5.8,SNR=2.6						

IDC 24 10:46:19.4±2.8, 6.94S×130.44E, h78km±39km, mb3.0/1, mb1 3.2/5, mb1mx3.1/38, mbtmp3.3/5, ML3.2/4, MS3.2/1, Ms1 3.2/1, ms1mx2.4/15, Error ellipse: s-maj=71.9km s-min=23.7km az=91.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.08**	**8**	P	Pn	10 47 47.0	+0.2
	0.6nm,0.3s,baz=143,slow=20,SNR=4.3						
SIJI				S	Sn	10 48 49.8	-5.2
	0.5nm,0.3s,baz=287,slow=19,SNR=1.6						
JAY	**Jayapura**	**11.13**	**67**	LR	LR	10 54 26.9	
	comp=Z,137nm,20.2s,baz=327,slow=44						
FITZ	**Fitzroy Crossi**	**12.04**	**202**	P	Pn	10 49 07.6	-0.5
	0.2nm,0.3s,baz=24,slow=12,SNR=10						
FITZ				S	Sn	10 51 12.6	-8.0
	0.4nm,0.3s,baz=167,slow=20,SNR=6.7						
WRA	**Warramunga Arr**	**13.47**	**164**	P	Pn	10 49 27.0	-0.4
	0.1nm,0.3s,baz=348,slow=13,SNR=10						
WRA				S	Sn	10 51 49.8	-5.7
	0.2nm,0.3s,baz=336,slow=21,SNR=6.7						
ASAR	**Alice Springs**	**16.97**	**169**	P	P	10 50 13.0	+0.4
	0.1nm,0.3s,baz=351,slow=13,SNR=2.0						
MKAR	**Makanchi Array**	**68.41**	**327**	P	P	10 57 12.8	-0.1
	0.2nm,0.5s,baz=109,slow=6.8,SNR=1.9						

*IDC **24** 10:51:06.4±1.5, 1.86S×139.20E, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.8/28, mbtmp3.9/6, ML4.2/1, Error ellipse: s-maj=29.6km s-min=23.0km az=20.0*
ISC 24 10:51:10.9±1.4, 1.95±0.2×139.2E±0.1, h29km, n13, σ1s26/8, mb3.8/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.63**	**112**	Pn	**Pn**	**10 51 37.2**	**-0.5**
	18nm,0.3s,baz=247,slow=9.9,SNR=44						
JAY				Sn	**Sn**	**10 51 57.7**	**0.0**
	48nm,0.3s,baz=286,slow=13,SNR=12						
WRA	**Warramunga Arr**	**18.54**	**194**	P	**P**	**10 55 23.6**	**-1.8**
	0.7nm,0.3s,baz=20,slow=12,SNR=29						
FITZ	**Fitzroy Crossi**	**20.88**	**219**	P	**P**	**10 55 50.1**	**-0.8**
	2.4nm,0.9s,baz=42,slow=12,SNR=1.7						
ASAR	**Alice Springs**	**22.23**	**193**	P	**P**	**10 56 04.8**	**-0.7**
	4.9nm,0.8s,baz=23,slow=10,SNR=64						
STKA	**Stephens Creek**	**29.30**	**176**	P	**P**	**10 57 18.1**	**+1.8**
	1.2nm,0.7s,baz=341,slow=9.4,SNR=3.5						
H11S3	**WAKE ISLAND Hy**	**33.81**	**52**	T	T	11 33 27.4	
	baz=236,slow=75,SNR=75						
H11S2	**WAKE ISLAND Hy**	**33.82**	**52**	T	T	11 33 28.1	
	baz=236,slow=75,SNR=56						
H11S1	**WAKE ISLAND Hy**	**33.82**	**52**	T	T	11 33 29.3	
	baz=236,slow=75,SNR=49						
H11N1	**WAKE ISLAND Hy**	**34.65**	**50**	T	T	11 34 33.6	
	baz=233,slow=75,SNR=48						
H11N2	**WAKE ISLAND Hy**	**34.67**	**50**	T	T	11 34 34.7	
	baz=233,slow=75,SNR=44						
H11N3	**WAKE ISLAND Hy**	**34.67**	**50**	T	T	11 34 36.8	
	baz=233,slow=75,SNR=26						
MKAR	**Makanchi Array**	**69.45**	**322**	P	**P**	**11 02 16.6**	**-0.1**
	0.3nm,0.6s,baz=110,slow=6.5,SNR=3.1						
VNDA	**Vanda**	**76.53**	**175**	P	**P**	**11 02 58.2**	**+0.3**
	0.8nm,0.7s,baz=347,slow=8.4,SNR=4.8						

*NIED **24** 10:58:19.6, 34.85N×135.72E, h12km, MW3.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.99; $M_{\theta\theta}$0.12; $M_{\phi\phi}$ -1.12; $M_{r\theta}$0.18; $M_{\theta\phi}$ -0.20; $M_{\phi r}$-0.22; Fault plane solution: $M_0$1.11000×10^{14} NP1: ϕ_s176.00000°, δ51.00000°, λ73.00000°. NP2:ϕ_s22.00000°, δ42.00000°, λ110.00000°.*
JMA 24 10:58:19.6, 34.85N×135.72E, h12km±1km, M3.6, 2C-6D Broadband fault plane solution: P waves. NP1: ϕ_s34.00000°, δ44.00000°, λ127.00000°. **NP2:** ϕ_s167.00000°, δ57.00000°, λ60.00000°. **Principal axes:** T Plg64.0000°, Azm22.0000°; N Plg25.0000°, Azm185.0000°; P Plg7.0000°, Azm278.0000°; **Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHE	**Heguri**	**0.20**	**188**	↑P	Pg	10 58 24.0	+0.1
JHE				S	Sg	10 58 27.1	+0.2
JWT	**Wachi**	**0.50**	**329**	↓P	Pg	10 58 29.6	+0.1
JWT				S	Sg	10 58 36.0	-0.2
TSUJ	**Tsu 2**	**0.59**	**103**	↓P	Pg	10 58 30.7	-0.4
TSUJ				S	Sg	10 58 38.7	-0.3
JWY	**Kouya**	**0.64**	**189**	↑P	Pg	10 58 31.7	-0.3
JWY				S	Sg	10 58 40.2	-0.3
JKS	**Kasai**	**0.73**	**281**	↓P	Pg	10 58 33.5	-0.3
JKS				S	Sg	10 58 43.1	-0.3
JKN2	**Miekihoku**	**0.76**	**143**	↓P	Pg	10 58 33.7	-0.6
JKN2				S	Sg	10 58 43.8	-0.5
JAWN	**Awajishima-nag**	**0.77**	**242**	P	Pg	10 58 33.7	-0.7
JKY	**Yasaka**	**0.93**	**327**	↓P	Pg	10 58 37.1	-0.4
JKY				S	Sg	10 58 49.4	-0.2
JIE	**Ise**	**0.93**	**119**	↓P	Pg	10 58 36.2	-1.4
JIE				S	Sg	10 58 48.6	-1.2
JTNC	**Tanabenakahech**	**1.03**	**185**	P	Pg	10 58 39.6	+0.1
JWM	**Minabe**	**1.04**	**197**	P	Pb	10 58 38.8	-0.8
MAT	**Matsushiro**	**2.64**	**49**	P	Pn	10 59 02.6	+0.6
MAT				*eS*	Sn	10 59 34.8	+0.9

*IDC **24** 11:04:00.1±0.6, 1.72S×138.83E, h0km, mb4.1/11, mb1 4.4/15, mb1mx4.2/33, mbtmp4.3/15, ML4.8/3, MS3.3/13, Ms1 3.4/13, ms1mx3.2/30 Error ellipse: s-maj=23.7km s-min=14.3km az=75.0*
*DJA **24** 11:04:03.2±0.8, 2.2S±5.1×13.9E±.1, h21km±4km, M4.3/12, mB4.6/2, mb4.5/12, MLv4.2/6, Mw(mB)3.8/2*
*NEIC **24** 11:04:05.9±1.5, 1.80S±0.09×138.78E±0.07, h33km±4km, mb4.5/22, Error ellipse: s-maj=13.5km s-min=10.1km az=189.0*
ISC 24 11:04:04.1±0.5, 1.87S±0.06×138.87E±0.04, h29km, n69, σ1s71/61, mb4.4/20, MS3.3/8, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.20**	**232**	P	**Pb**	**11 04 10.3**	**0.0**
GENI	**Genyem**	**1.48**	**119**	P	**Pn**	**11 04 29.4**	**+0.5**
JAY	**Jayapura**	**1.94**	**109**	Pn	**Pn**	**11 04 34.3**	**-0.9**
	13nm,0.3s,baz=248,slow=7.6,SNR=36						
JAY				Sn	**Sn**	**11 04 57.6**	**-1.1**
	49nm,0.3s,baz=130,slow=16,SNR=10						
JAY				LR	LR	11 05 15.7	
	comp=Z,319nm,19.5s,baz=316,slow=37						
JAY	**Jayapura**	**1.94**	**109**	P	**Pn**	**11 04 35.1**	**-0.1**
SRPI	**Serui, Papua**	**2.63**	**270**	P	**Pn**	**11 04 45.6**	**+0.9**
SRPI				S	**Sn**	**11 05 16.7**	**+1.0**
FAKI	**Fak Fak**	**6.70**	**261**	Pn	**Pn**	**11 05 40.6**	**-0.1**
FAKI	**Fak Fak**	**6.70**	**261**	P	**Pn**	**11 05 40.3**	**-0.4**
	0.2nm17nm,0.5s						
FAKI				S	**Sn**	**11 06 56.1**	**0.0**
	0.2nm17nm,0.5s						
MMPI	**Merauke**	**6.73**	**167**	P	**Pn**	**11 05 43.0**	**+2.0**
	1.6nm336nm,1.0s						
SIJI	**Sorong**	**7.67**	**277**	LR	LR	11 08 59.5	
	comp=Z,317nm,19.2s,baz=210,slow=39						
COEN	**Coen**	**12.75**	**161**	Pn	**Pn**	**11 07 06.1**	**+2.5**
MTN	**Manton Dam**	**13.33**	**215**	Pn	**Pn**	**11 07 11.8**	**+0.3**
GUMO	**Guam**	**16.46**	**21**	LR	LR	11 13 47.7	
	comp=Z,118nm,19.8s,baz=198,slow=36						
SOEI	**Soe**	**16.50**	**241**	P	**Pn**	**11 07 53.1**	**-0.7**
SOEI	**Soe**	**16.50**	**241**	P	**Pn**	**11 07 54.9**	**+1.1**
	74nm,1.0s						
KNRA	**Kununurra**	**16.96**	**215**	Pn	**Pn**	**11 08 00.2**	**+0.7**
KNRA				IAmb	IAmb	11 08 10.5	
	comp=Z,17nm,0.6s						
BATI	**Baumata**	**17.23**	**241**	P	**P**	**11 08 03.9**	**-0.4**
	comp=Z,9.5nm,0.3s,baz=40,slow=2.0,SNR=7.4						
BATI	**Baumata**	**17.23**	**241**	P	**P**	**11 08 04.4**	**+0.1**
	comp=Z,37nm,0.6s						
WR0	**Warramunga Arr**	**18.48**	**193**	P	**P**	**11 08 18.0**	**+0.1**
WR0				IAmb	IAmb	11 08 23.3	
	comp=Z,27nm,0.7s						
WRAB	**Tennant Creek**	**18.49**	**194**	P	**Pn**	**11 08 19.1**	**+0.7**
WRAB				IAmb	IAmb	11 08 23.6	
	comp=Z,29nm,0.7s						
WB2	**Warramunga Arr**	**18.50**	**194**	P	**Pn**	**11 08 18.7**	**+0.2**
WRA	**Warramunga Arr**	**18.51**	**194**	P	**Pn**	**11 08 18.8**	**+0.2**
	comp=Z,2.8nm,0.3s,baz=16,slow=12,SNR=88						
WRA				S	**Sn**	**11 11 36.5**	**-8.1**
	comp=Z,0.2nm,0.3s,baz=12,slow=22,SNR=6.4						
WRA				LR	LR	11 15 41.5	
	comp=Z,139nm,19.3s,baz=5.0,slow=38						
WRA	**Warramunga Arr**	**18.51**	**194**	P	**Pn**	**11 08 18.6**	**+0.1**
KAPI	**Kappang**	**19.34**	**260**	LR	LR	11 16 58.5	
	comp=Z,38nm,19.4s,baz=103,slow=40						
CTA	**Charters Tower**	**19.50**	**159**	P	**Pn**	**11 08 30.8**	**+0.3**
	comp=Z,9.9nm,0.3s,baz=336,slow=11,SNR=14						
CTAO	**Charters Tower**	**19.50**	**159**	P	**Pn**	**11 08 31.3**	**+0.8**
CTAO				IAmb	IAmb	11 08 33.3	
	comp=Z,11nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.71**	**218**	P	**P**	**11 08 42.7**	**+0.4**
	comp=Z,5.4nm,0.7s,baz=46,slow=11,SNR=13						
FITZ				S	**S**	**11 12 26.4**	**-5.9**
	comp=Z,9.4nm,0.9s,baz=188,slow=13,SNR=6.1						
FITZ				LR	LR	11 17 43.4	
	comp=Z,87nm,18.6s,baz=45,slow=40						
FITZ	**Fitzroy Crossi**	**20.71**	**218**	P	**P**	**11 08 43.1**	**+0.8**
AS31	**Alice Springs**	**22.20**	**192**	P	**P**	**11 08 59.6**	**+1.3**
AS31				IAmb	IAmb	11 09 04.8	
	comp=Z,10.0nm,0.7s						
ASAR	**Alice Springs**	**22.20**	**192**	P	**P**	**11 08 59.4**	**+1.0**
	comp=Z,22nm,0.8s,baz=16,slow=10,SNR=192						
ASAR				S	**S**	**11 13 01.2**	**-0.2**
	comp=Z,1.7nm,0.9s,baz=14,slow=27,SNR=2.8						
HNR	**Honiara**	**22.27**	**111**	LR	LR	11 18 02.7	
	comp=Z,108nm,18.7s,baz=348,slow=38						
EIDS	**Eidsvold**	**26.17**	**154**	P	**P**	**11 09 40.6**	**+4.4**
EIDS				IAmb	IAmb	11 09 42.6	
	comp=Z,24nm,1.0s						
PSA00	**Pilbara Seismi**	**26.96**	**222**	P	**P**	**11 09 44.0**	**+0.5**
PSA00				IAmb	IAmb	11 09 52.9	
	comp=Z,14nm,1.1s						
PSA00	**Pilbara Seismi**	**26.96**	**222**	P	**P**	**11 09 43.6**	**+0.1**
PSA00				IAmb	IAmb	11 09 45.7	
	comp=Z,3.9nm,0.8s						
JCJ	**Chichijima**	**28.97**	**6**	LR	LR	11 18 48.6	
	comp=Z,66nm,18.9s,baz=130,slow=31						
STKA	**Stephens Creek**	**29.96**	**175**	P	**P**	**11 10 11.2**	**+1.2**
	comp=Z,4.0nm,0.5s,baz=341,slow=9.7,SNR=12						
STKA				LR	LR	11 23 39.3	
	comp=Z,141nm,19.0s,baz=14,slow=39						
STKA	**Stephens Creek**	**29.96**	**175**	P	**P**	**11 10 10.9**	**+0.9**
FORT	**Forrest**	**30.53**	**199**	P	**P**	**11 10 16.5**	**+1.5**
BBOO	**Buckleboo**	**30.90**	**185**	P	**P**	**11 10 18.6**	**+0.3**
BBOO				IAmb	IAmb	11 10 40.3	
	comp=Z,7.1nm,1.0s						
H11S3	**WAKE ISLAND Hy**	**34.03**	**52**	T	T	11 46 33.3	
	baz=236,slow=75,SNR=184						
H11S2	**WAKE ISLAND Hy**	**34.05**	**52**	T	T	11 46 34.4	
	baz=236,slow=75,SNR=199						
H11S1	**WAKE ISLAND Hy**	**34.05**	**52**	T	T	11 46 34.3	
	baz=236,slow=75,SNR=128						
MORW	**Morawa**	**34.71**	**217**	P	**P**	**11 10 52.8**	**+1.1**
H11N1	**WAKE ISLAND Hy**	**34.87**	**51**	T	T	11 47 45.2	
	baz=229,slow=76,SNR=27						
H11N2	**WAKE ISLAND Hy**	**34.89**	**51**	T	T	11 47 41.7	
	baz=229,slow=76,SNR=25						
H11N3	**WAKE ISLAND Hy**	**34.89**	**51**	T	T	11 47 43.7	
	baz=229,slow=76,SNR=21						
MJAR	**Matsushiro Arr**	**38.22**	**359**	LR	LR	11 25 00.7	
	comp=Z,39nm,19.5s,baz=170,slow=33						
RPSI	**Rantau Prapat**	**40.19**	**276**	P	**P**	**11 11 37.7**	**-0.7**
RPSI				IAmb	IAmb	11 11 42.1	
	comp=Z,6.3nm,0.8s						
PSI	**Prapat**	**40.20**	**277**	P	**P**	**11 11 37.6**	**-1.0**
	comp=Z,2.5nm,1.6s,comp=Z,9.2nm,0.9s						
PSI				P	pP	11 11 38.1	-9.2
	comp=Z,2.5nm,1.6s,comp=Z,9.2nm,0.9s						
KSRS	**Korea

MGIG					*e*S	Sn	11 09 49.3	-5.4
TLIG	**Tlapa**	**1.89**	**348**		*e*P	Pn	11 09 34.4	-4.1
TLIG					*e*S	Sn	11 09 57.2	-4.8
VHO	**Vista Hermosa**	**1.91**	**45**		*e*P	Pn	11 09 35.5	-3.4
VHO					*e*S	Sn	11 09 58.1	-4.6
HLIG	**Huajuapan de L**	**2.13**	**9**		*e*P	Pn	11 09 39.6	-2.3
HLIG					*e*S	Sn	11 10 05.1	-3.1
FTIG	**Fresnillo de T**	**2.19**	**0**		*e*P	Pn	11 09 38.2	-4.3
FTIG					*e*S	Sn	11 10 06.0	-3.4

*JMA **24** 11:12:12.1±0.3,30°.77N×139°.12E,h419^{km}±5^{km},M3.6*
*IDC **24** 11:12:13.2±1.1,30°.57N×138°.51E,h368^{km}±38^{km},mb3.1/4, mb1 3.2/8,mb1mx2.9/36,mbtmp3.9/8, Error ellipse: s-maj=87.7km s-min=10.9km az=65.0*

ISC 24 11:12:13.4±0.8,30°.84N±0°.07×139°.1E±0°.1,h400^{km},n26, σ1^{s}31/31,mb3.2/4,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.35**	**14**	P		**Pn**	**11 13 13.1**	**+1.5**
	19nm,0.3s,baz=343,slow=17,SNR=20							
JHJ				S		**S**	**11 14 00.3**	**+1.6**
	27nm,0.3s,baz=45,slow=19,SNR=1.4							
JHJ2	**Mitsune**	**2.35**	**15**	*e*S		**S**	**11 14 00.2**	**+1.5**
TK02	**Tokai 2**	**3.30**	**340**	P		**Pn**	**11 13 20.7**	**+1.9**
TTO1	**TONANKAI O.B.S**	**3.40**	**325**	P		**Pn**	**11 13 20.8**	**+1.2**
JIE	**Ise**	**4.08**	**331**	P		**Pn**	**11 13 27.3**	**+1.2**
BSO1	**Boso 1**	**4.12**	**22**	P		**Pn**	**11 13 27.5**	**+1.6**
BSO3	**Boso 3**	**4.13**	**16**	*e*S		**S**	**11 14 26.2**	**+0.6**
JKN2	**Miekihoku**	**4.15**	**326**	P		**Pn**	**11 13 27.4**	**+0.6**
BSO4	**Boso 4**	**4.27**	**14**	*e*S		**S**	**11 14 29.3**	**+0.9**
CBIJ	**Chichi jima**	**4.60**	**143**	P		**Pn**	**11 13 31.0**	**-0.5**
CBIJ				S		**S**	**11 14 32.6**	**-2.2**
JCJ	**Chichijima**	**4.60**	**143**	P		**Pn**	**11 13 30.9**	**-0.6**
	8.8nm,0.3s,baz=14,slow=14,SNR=30							
JCJ				S		**S**	**11 14 32.6**	**-2.2**
	29nm,0.3s,baz=288,slow=23,SNR=12							
JEG	**Eigenji**	**4.85**	**333**	P		**Pn**	**11 13 35.5**	**+1.7**
JHU	**Hanno**	**5.00**	**2**	P		**Pn**	**11 13 36.4**	**+1.1**
JRY	**Ryogami san**	**5.17**	**358**	P		**Pn**	**11 13 38.2**	**+1.1**
JRY				*e*S		**S**	**11 14 46.1**	**+0.9**
JYT	**Yasato**	**5.45**	**9**	P		**Pn**	**11 13 40.8**	**+0.8**
JAG	**Ashikaga**	**5.58**	**3**	P		**Pn**	**11 13 41.2**	**-0.2**
MJAR	**Matsushiro Arr**	**5.74**	**353**	P		**Pn**	**11 13 42.8**	**-0.3**
	0.5nm,0.3s,baz=174,slow=10.0,SNR=8.7							
MAT	**Matsushiro**	**5.74**	**353**	P		**Pn**	**11 13 43.7**	**+0.6**
MAT				*e*S		**S**	**11 14 53.9**	**-2.3**
JHO	**Hitachi**	**5.89**	**12**	P		**Pn**	**11 13 45.2**	**+0.5**
JFK	**Kawauchi**	**6.68**	**12**	S		**S**	**11 15 13.7**	**-1.3**
JMK	**Ichinoseki**	**8.28**	**12**	*e*S		**S**	**11 15 46.4**	**-1.8**
KSRS	**Korea Array**	**11.37**	**308**	P		**P**	**11 14 44.8**	**-1.2**
	0.2nm,0.3s,baz=124,slow=11,SNR=5.1							
SONM	**Songino Array**	**30.17**	**314**	P		**P**	**11 17 48.3**	**-0.3**
	0.5nm,0.4s,baz=121,slow=10,SNR=4.3							
MKAR	**Makanchi Array**	**46.04**	**307**	P		**P**	**11 19 58.9**	**-0.2**
	0.4nm,0.4s,baz=78,slow=10,SNR=8.2							
WRA	**Warramunga Arr**	**50.70**	**186**	P		**P**	**11 20 34.7**	**+0.4**
	1.2nm,0.4s,baz=1.0,slow=7.2,SNR=52							
ASAR	**Alice Springs**	**54.42**	**186**	P		**P**	**11 21 01.9**	**+0.7**
	0.5nm,0.4s,baz=356,slow=5.4,SNR=30							

MEX 24 11:12:23.9±0.6,14°.84N×92°.92W,h57^{km}±61^{km},MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
THIG		**0.64**	**84**	*e*P		Pn	11 12 35.3	-1.9
THIG				*e*S		Sn	11 12 44.5	-2.5

MEX 24 11:26:24.1±0.5,16°.28N×98°.09W,h15^{km}±3^{km},MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.12**	**340**	*i* P		Pg	11 26 26.7	-0.9
PNIG				*i* S		Sg	11 26 29.3	-0.7
YOIG	**Yosondua**	**0.77**	**42**	*e*P		Pg	11 26 36.7	-2.5
YOIG				*e*S		Sg	11 26 46.6	-2.8
TXIG	**Tlaxiaco**	**1.01**	**17**	*e*P		Pb	11 26 40.4	-3.1
TXIG				*e*S		Sb	11 26 52.6	-4.2

*ISK **24** 11:29:41.9,35°.92N×39°.66E,h28^{km},ML4.1/22*
*DDA **24** 11:29:42.7,35°.99N×39°.65E,h17^{km}±1^{km},MW4.1*

ISC 24 11:29:44.1±1.2,36°.08N±0°.05×39°.65E±0°.03,h20^{km}±8^{km}, n50, σ0^{s}92/70,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SURC	**SANLIURFA_SURC**	**1.15**	**314**	*i* P		**Pn**	**11 30 04.2**	**-0.9**
SURC				*i* S		**Sn**	**11 30 19.9**	**-0.4**
SANL	**SANLIURFA_Merk**	**1.21**	**334**	*i* P		**Pn**	**11 30 05.0**	**-0.9**
SANL				*i* S		**Sn**	**11 30 21.8**	**+0.1**
URFA	**Urfa**	**1.51**	**334**	PN		**Pn**	**11 30 10.4**	**+0.3**
URFA				SN		**Sn**	**11 30 30.5**	**+1.2**
MAZI	**Mazidag**	**1.52**	**25**	PN		**Pn**	**11 30 09.2**	**-1.1**
MAZI				SN		**Sn**	**11 30 29.9**	**+0.4**
MARD	**Mardin**	**1.53**	**36**	*i* P		**Pn**	**11 30 09.6**	**-0.8**
MARD				*i* S		**Sn**	**11 30 27.2**	**-2.6**
DIYA	**Diyarbakir**	**1.88**	**12**	*i* P		**Pn**	**11 30 15.8**	**+0.6**
DIYA				*i* S		**Sn**	**11 30 37.8**	**-0.6**
MIDY	**Mardin/Midyat-**	**1.93**	**46**	*i* P		**Pn**	**11 30 15.5**	**-0.4**
MIDY				*i* S		**Sn**	**11 30 40.4**	**+0.8**
GZT	**Gaziantep**	**2.10**	**308**	*i* P		**Pn**	**11 30 18.2**	**-0.1**
GZT				*i* S		**Sb**	**11 30 48.7**	**+1.3**
KUZU	**Kuzuini**	**2.19**	**289**	*i* P		**Pn**	**11 30 18.8**	**-0.6**
KUZU				*i* S		**Sb**	**11 30 48.3**	**-1.4**
BTMN	**Batman**	**2.23**	**35**	*i* P		**Pn**	**11 30 20.1**	**+0.1**
BTMN				*i* S		**Sn**	**11 30 46.6**	**-0.4**
GAZ	**Gaziantep**	**2.24**	**300**	PN		**Pn**	**11 30 18.6**	**-1.5**
GAZ				SN		**Sn**	**11 30 46.9**	**-0.3**
SVRC	**Sivrice-ELAZID**	**2.31**	**353**	PN		**Pn**	**11 30 21.3**	**+0.1**
KHMN	**Narli-Kahraman**	**2.39**	**304**	PN		**Pn**	**11 30 21.5**	**-0.6**
HCB	**Kahramanmara**	**2.54**	**301**	*i* P		**Pn**	**11 30 23.1**	**-1.1**
HCB				*i* S		**Sn**	**11 30 54.8**	**+0.3**
KAHM	**Kahramanmaras,**	**2.57**	**305**	*i* P		**Pn**	**11 30 23.7**	**-1.0**
KAHM				*i* S		**Sb**	**11 31 03.1**	**+2.3**
KMRS	**Kahramanmaras**	**2.62**	**304**	PN		**Pn**	**11 30 24.6**	**-0.7**
SIRN	**Sırnak**	**2.63**	**57**	*i* P		**Pn**	**11 30 25.4**	**-0.2**
SIRN				*i* S		**Sn**	**11 30 56.4**	**-0.5**
SRTM	**Siirt_Merkez**	**2.64**	**43**	*i* P		**Pn**	**11 30 25.5**	**-0.2**
SRTM				*i* S		**Sn**	**11 30 57.5**	**+0.4**
SIRT	**Sirnak**	**2.66**	**57**	PN		**Pn**	**11 30 25.3**	**-0.5**
TAHT	**Tahtakopru-Hat**	**2.81**	**277**	PN		**Pn**	**11 30 26.9**	**-1.0**
YAYL	**Yayladag**	**2.87**	**270**	*i* P		**Pn**	**11 30 28.3**	**-0.5**
YAYL				*i* S		**Sn**	**11 31 02.8**	**+0.1**
PERV	**Siirt/Pervari-**	**2.98**	**50**	*i* P		**Pn**	**11 30 30.3**	**+0.1**
PERV				*i* S		**Sn**	**11 31 05.5**	**+0.1**
BNGB	**Bingl**	**3.02**	**15**	PN		**Pn**	**11 30 31.6**	**+0.7**
DARE	**Darende-Malaty**	**3.03**	**326**	PN		**Pn**	**11 30 31.1**	**+0.2**
ANDN	**Andirin**	**3.04**	**300**	*i* P		**Pn**	**11 30 30.4**	**-0.8**
ANDN				*i* S		**Sb**	**11 31 12.0**	**-2.4**
GURO	**Guroymak-BITLI**	**3.12**	**37**	PN		**Pn**	**11 30 32.3**	**+0.1**
ARPR	**Arapgir-MALATY**	**3.19**	**341**	PN		**Pn**	**11 30 33.8**	**+0.6**
CUKT	**Cukurca**	**3.39**	**69**	PN		**Pn**	**11 30 35.5**	**-0.5**
VRTB	**Varto-Mus**	**3.40**	**24**	PN		**Pn**	**11 30 36.9**	**+0.8**
KARO	**Karliova-Bingo**	**3.41**	**19**	PN		**Pn**	**11 30 37.3**	**+1.0**
YEDI	**Yedisu-Bingol**	**3.43**	**12**	PN		**Pn**	**11 30 37.2**	**+0.7**
SARI	**SarD1z-Kayseri**	**3.47**	**313**	PN		**Pn**	**11 30 37.4**	**+0.3**
ILIC	**ilic-Erzincan**	**3.48**	**346**	PN		**Pn**	**11 30 37.9**	**+0.8**
AKDM	**Akdamar-Van**	**3.48**	**49**	PN		**Pn**	**11 30 37.3**	**0.0**
ERZN	**Erzincan**	**3.50**	**1**	PN		**Pn**	**11 30 38.4**	**+0.9**
HWQ	**Hawqa**	**3.52**	**240**	*e*P		**Pn**	**11 30 37.9**	**+0.1**
HAKT	**HAKKARI**	**3.58**	**64**	*i* P		**Pn**	**11 30 38.5**	**-0.1**
HAKT				*i* S		**Sn**	**11 31 19.6**	**-0.8**
MLAZ	**Malazgirt-MUS**	**3.83**	**36**	PN		**Pn**	**11 30 42.6**	**+0.6**
VANB	**Van**	**3.90**	**49**	PN		**Pn**	**11 30 42.6**	**-0.4**
BHL	**Bhannes**	**3.93**	**238**	*e*P		**Pn**	**11 30 44.3**	**+1.0**
YOVA	**Hakkari_Yksek**	**4.02**	**67**	*i* P		**Pn**	**11 30 44.4**	**-0.2**
RCY	**Rachaya**	**4.06**	**232**	*e*P		**Pn**	**11 30 45.9**	**+0.8**
GULE	**Gulek**	**4.09**	**289**	*i* P		**Pn**	**11 30 44.7**	**-0.9**
GULE				*i* S		**Sn**	**11 31 31.4**	**-1.7**
DQRL	**Deir Qamar**	**4.10**	**236**	*e*P		**Pn**	**11 30 47.1**	**+1.4**
KOPR	**Koprukoy-ERZUR**	**4.28**	**23**	PN		**Pn**	**11 30 49.4**	**+1.2**
NIDE	**Nigde/Merkez-G**	**4.34**	**298**	*i* P		**Pn**	**11 30 49.8**	**+0.8**
AGRB	**Hanur-Agry**	**4.38**	**36**	PN		**Pn**	**11 30 50.5**	**+0.8**
KERG	**Konya-Eregli**	**4.63**	**288**	*i* P		**Pn**	**11 30 53.4**	**+0.4**
MMLI	**Mount Malkishu**	**5.04**	**225**	*i* P		**Pn**	**11 30 59.2**	**+0.6**
KKBE	**Karaman, Kazim**	**5.51**	**284**	*i* P		**Pn**	**11 31 06.4**	**+1.3**

*MIRAS **24** 11:42:05.0±0.0,57°.05N×61°.51E,h0^{km},ML2.7/6*
*NNC **24** 11:42:56.7±5.1,56°.42N×62°.00E,h0^{km},mb3.4,mpv3.0, Error ellipse: s-maj=46.7km s-min=16.6km az=162.0, Suspected Mining explosion.*

ISC 24 11:42:46.0±1.2,56°.99N±0°.05×61°.68E±0°.06,h0^{km},n9, σ0^{s}84/13,7C-1D,Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KAUR	**Kamensk Uralsk**	**0.57**	**190**	*i* P		**Pb**	**11 42 58.2**	**-0.6**
	baz=182							
KAUR				*e*S		**Sb**	**11 43 06.1**	**-1.4**
	777nm,0.5s,baz=182							
SVE	**Sverdlovsk**	**0.60**	**254**	*i* P		**Pg**	**11 42 57.6**	**+0.2**
	baz=253							
SVE				*e*S		**Sg**	**11 43 04.6**	**-0.5**
	252nm,0.3s,baz=253							
ARU	**Arti**	**1.81**	**253**	*i* P		**Pb**	**11 43 19.5**	**-0.5**
	baz=253							
ARU				*e*S		**Sb**	**11 43 43.5**	**+0.3**
	228nm,0.2s,baz=253							
PR7R	**Sarany**	**2.21**	**316**	*i* P		**Pb**	**11 43 26.2**	**-0.6**
	baz=318							
PR7R				*e*S		**Sb**	**11 43 53.8**	**-1.0**
	212nm,0.3s,baz=318							
SVUR	**Severouralsk**	**3.34**	**345**	*e*S		**Sn**	**11 44 20.2**	**+0.6**
	19nm,0.7s,baz=346							
PR1R	**Pomanvo**	**3.42**	**312**	*e*S		**Sn**	**11 44 22.0**	**+0.3**
	34nm,0.3s,baz=313							
BRVK	**Borovoye**	**6.32**	**125**	⇑Pn		Pn	11 44 24.8	+4.4
	1.3nm,0.5s							
BRVK				⇑Sn		**Sn**	**11 45 32.8**	**-0.4**
	1.2nm,0.4s							
BRVK				⇑Lg		Lg	11 46 08.0	
	1.7nm,0.9s							
AKTO	**Aktyubinsk**	**6.92**	**200**	⇑Pn		Pn	11 44 34.4	+5.8
	0.6nm,0.7s							
AKTO				⇑Sn		**Sn**	**11 45 48.1**	**+0.2**
	1.4nm,0.7s							
AKTO				⇑Lg		Lg	11 46 17.7	
	1.1nm,0.5s							
AB31	**Akbulak array**	**7.82**	**188**	⇓Pn		**Pn**	**11 44 42.4**	**+1.4**
	0.4nm,0.5s,baz=5.5,slow=12,SNR=6.0							
AB31				⇑Lg		Lg	11 46 53.4	
	1.7nm,0.6s,baz=0.8,slow=27,SNR=3.1							

IDC 24 11:59:35.7±5.9,48°.58N×33°.42E,h0^{km},mb1 2.2/1, mb1mx2.2/41,mbtmp2.2/1,Error ellipse: s-maj=62.1km s-min=47.6km az=38.0,Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**3.46**	**309**		Pn	Pn	12 00 31.4	+0.6
	baz=128,slow=17,SNR=1.1							
AKASG					Lg	Lg	12 01 25.0	
	1.4nm,0.3s,baz=126,slow=29,SNR=3.3							
I43RU	**DUBNA INFRASON**	**8.47**	**14**	*i*			12 55 10.0	
	baz=194,slow=316,SNR=2.0							
I31KZ	**AKTYUBINSK INF**	**16.08**	**74**	*i*			13 34 50.0	
	baz=273,slow=313,SNR=1.7							

*IDC **24** 12:00:08.6±2.0,37°.41N×142°.24E,h0^{km},mb3.7/3, mb1 3.7/7,mb1mx3.5/41,mbtmp3.7/7,ML3.1/4,MS2.7/3, Ms1 2.7/3,ms1mx2.2/56,Error ellipse: s-maj=37.6km s-min=22.1km az=94.0*
*JMA **24** 12:00:13.3±0.2,37°.38N×141°.97E,h39^{km}±4^{km},M3.8*
*NIED **24** 12:00:13.4,37°.38N×141°.97E,h39^{km},MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M$_{rr}$0.83; M$_{\theta\theta}$-2.03; M$_{\phi\phi}$1.20; M$_{r\theta}$0.01; M$_{\theta\phi}$2.20; M$_{\phi r}$2.42; Fault plane solution: M$_0$3.70000×10^{14} NP1: ϕ_s338.00000°,δ78.00000°,λ140.00000°. NP2: ϕ_s78.00000°,δ51.00000°,λ16.00000°.*

ISC 24 12:00:10.7±1.9,37°.39N±0°.04×142°.11E±0°.06,h15^{km}±12^{km}, n25,σ1^{s}43/29,mb3.7/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.98**	**269**	P		**Pb**	**12 00 29.3**	**-0.2**
JMST	**Minamisoumatoc**	**1.03**	**290**	P		**Pb**	**12 00 30.0**	**-0.2**
JMST				*e*S		**Sb**	**12 00 41.6**	**-1.9**
JIKH	**Ishinomakibobu**	**1.05**	**331**	P		**Pg**	**12 00 31.0**	**0.0**
JIKH				S		**Sb**	**12 00 43.3**	**-1.0**
ONAJ	**Iwakimizuishiy**	**1.08**	**255**	P		**Pb**	**12 00 30.6**	**-0.6**
ONAJ				S		**Sb**	**12 00 42.8**	**-2.4**
JMM	**Marumori**	**1.15**	**295**	P		**Pb**	**12 00 31.9**	**-0.4**
JMM				S		**Sb**	**12 00 45.0**	**-2.0**
JIO	**Ouri**	**1.22**	**331**	P		**Pb**	**12 00 33.6**	**0.0**
JIO				S		**Sb**	**12 00 47.4**	**-1.8**
JFT	**Otama**	**1.42**	**276**	P		**Pn**	**12 00 36.5**	**+0.5**
JFT				S		**Sn**	**12 00 53.0**	**-1.4**
JOU	**Okura**	**1.50**	**311**	P		**Pb**	**12 00 38.1**	**-0.3**
JOU				S		**Sn**	**12 00 55.6**	**-1.0**
JYS	**Shirataka**	**1.82**	**298**	P		**Pn**	**12 00 42.9**	**+1.4**
JYS				S		**Sn**	**12 01 05.4**	**+1.0**
MJAR	**Matsushiro Arr**	**3.23**	**256**	Pn		**Pn**	**12 01 02.3**	**+1.3**
	0.5nm,0.3s,baz=78,slow=16,SNR=19							
MJAR				Sn		**Sn**	**12 01 42.5**	**+3.2**
	1.0nm,0.3s,baz=65,slow=23,SNR=4.4							
MJAR				LR		LR	12 02 30.9	
	comp=Z,116nm,18.4s,baz=115,slow=43							
MAT	**Matsushiro**	**3.23**	**256**	P		**Pn**	**12 01 02.3**	**+1.3**
MAT				*e*S		**Sn**	**12 01 40.5**	**+1.2**
JHJ	**Hachijo jima 2**	**4.66**	**205**	Pn		**Pn**	**12 01 21.6**	**+1.0**
	15nm,0.3s,baz=94,slow=20,SNR=1.5							
JHJ				Sn		**Sn**	**12 02 11.7**	**-2.8**
	14nm,0.3s,baz=97,slow=10,SNR=1.6							
ASAJ	**Asahikawa**	**6.73**	**3**	Pn		**Pn**	**12 01 49.8**	**+0.7**
	0.6nm,0.3s,baz=229,slow=13,SNR=7.5							
ASAJ				Sn		**Sn**	**12 03 04.8**	**-0.6**
	baz=94,slow=34,SNR=1.1							
USRK	**Ussuriysk Ar.**	**10.25**	**315**	Pn		**Pn**	**12 02 38.5**	**+1.3**
	baz=118,slow=16,SNR=2.6							
KSRS	**Korea Array**	**11.28**	**275**	Pn		Pn	12 02 58.5	+7.1
	0.1nm,0.3s,baz=84,slow=14,SNR=3.0							
KSRS				LR		LR	12 06 43.8	
	comp=Z,33nm,19.4s,baz=52,slow=35							
H11N2	**WAKE ISLAND Hy**	**27.86**	**122**	T		T	12 35 21.3	
	baz=314,slow=75							
H11N1	**WAKE ISLAND Hy**	**27.87**	**122**	T		T	12 35 27.3	
	baz=314,slow=75							
H11N3	**WAKE ISLAND Hy**	**27.88**	**122**	T		T	12 35 22.6	
	baz=314,slow=75							
H11S1	**WAKE ISLAND Hy**	**28.59**	**124**	T		T	12 36 34.8	
	baz=315							
H11S3	**WAKE ISLAND Hy**	**28.59**	**124**	T		T	12 36 38.2	
	baz=315							
H11S2	**WAKE ISLAND Hy**	**28.61**	**124**	T		T	12 36 12.7	
	baz=315							
DAV	**Davao City (W)**	**33.72**	**211**	LR		LR	12 22 18.7	
	comp=Z,13nm,18.1s,baz=116,slow=39							
ZALV	**Zalesovo Beam**	**42.09**	**312**	P		**P**	**12 08 02.0**	**+0.1**
	1.0nm,0.8s,baz=90,slow=8.9,SNR=3.7							
MKAR	**Makanchi Array**	**44.40**	**302**	P		**P**	**12 08 21.1**	**+0.3**
	0.8nm,0.6s,baz=78,slow=9.5,SNR=7.1							
WRA	**Warramunga Arr**	**57.49**	**189**	P		**P**	**12 09 59.7**	**+0.4**
	0.5nm,0.7s,baz=6.5,slow=6.8,SNR=2.1							

*NEIC **24** 12:01:01.4±2.0, 19°.20S±0°.10×169°.2E±0°.1,h123^{km}±8^{km}, mb4.7/28, Error ellipse: s-maj=15.1km s-min=13.3km az=120.0*
*NOU **24** 12:01:03.1, 19°.41S×169°.36E,h152^{km}, MLv4.9/21, Vanuatu Islands*
*IDC **24** 12:01:04.4±2.8, 19°.40S×169°.12E,h152^{km}±21^{km},mb3.9/9, mb1 4.1/10,mb1mx3.7/33,mbtmp4.3/10,Error ellipse: s-maj=24.9km s-min=18.9km az=27.0*

ISC 24 12:01:03.2±0.6,19°.43S±0°.05×169°.25E±0°.08,h150^{km},n78, σ1^{s}19/78,mb4.6/21,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**1.81**	**334**	P		**Pn**	**12 01 37.4**	**+1.2**
RTV	**Rentapao**	**1.81**	**334**	P		**Pn**	**12 01 36.3**	**+0.1**
DVP	**Devils Point**	**1.98**	**329**	P		**Pn**	**12 01 38.7**	**+0.6**
DVP	**Devils Point**	**1.98**	**329**	P		**Pn**	**12 01 38.4**	**+0.3**
LIFNC	**LIFOU**	**2.32**	**234**	Pn		**Pn**	**12 01 40.4**	**-1.8**
LIFNC	**LIFOU**	**2.32**	**234**	P		**Pn**	**12 01 43.4**	**+1.3**
LIFNC	**LIFOU**	**2.32**	**234**	P		**Pn**	**12 01 40.3**	**-1.8**
MARNC	**Mare, Loyalty**	**2.34**	**209**			**Pn**	**12 01 42.5**	**+0.1**
MARNC	**Mare, Loyalty**	**2.34**	**209**	P		**Pn**	**12 01 42.7**	**+0.3**
MARNC	**Mare, Loyalty**	**2.34**	**209**	P		**Pn**	**12 01 42.5**	**+0.1**
YATNC	**Mamie plateau,**	**3.42**	**220**	P		**Pn**	**12 01 55.6**	**-0.5**
YATNC	**Mamie plateau,**	**3.42**	**220**	P		**Pn**	**12 01 55.5**	**-0.5**
PINNC	**Pines Island,**	**3.59**	**208**			**Pn**	**12 01 59.0**	**+0.9**
PINNC	**Pines Island,**	**3.59**	**208**	P		**Pn**	**12 01 59.2**	**+1.1**
DZM	**Mont Dzumac**	**3.71**	**225**	P		**Pn**	**12 02 00.7**	**+0.8**
	8.9nm,0.3s,baz=29,slow=18,SNR=134							
DZM				S		**Sn**	**12 02 43.8**	**0.0**
	24nm,0.3s,baz=308,slow=20,SNR=17							
DZM	**Mont Dzumac**	**3.71**	**225**	*e*Pn		**Pn**	**12 02 00.6**	**+0.7**
	100nm,0.8s							
DZM				*e*Sn		**Sn**	**12 02 44.6**	**+0.8**
	536nm,1.1s							
DZM	**Mont Dzumac**	**3.71**	**225**			**Pn**	**12 02 00.5**	**+0.7**
DZM	**Mont Dzumac**	**3.71**	**225**	P		**Pn**	**12 02 01.1**	**+1.2**
DZM	**Mont Dzumac**	**3.71**	**225**	P		**Pn**	**12 02 00.6**	**+0.7**
OUENC	**Ouen Island, N**	**3.73**	**217**			**Pn**	**12 02 00.9**	**+0.9**
OUENC	**Ouen Island, N**	**3.73**	**217**	P		**Pn**	**12 02 01.6**	**+1.7**
OUENC	**Ouen Island, N**	**3.73**	**217**	P		**Pn**	**12 02 01.3**	**+1.4**
NOUC	**Port Laguerre**	**3.83**	**226**	P		**Pn**	**12 02 02.8**	**+1.5**
NOUC	**Port Laguerre**	**3.83**	**226**	P		**Pn**	**12 02 02.2**	**+0.9**
ONTNC	**Ouen Toro**	**3.88**	**222**	Pn		**Pn**	**12 02 02.4**	**+0.5**
ONTNC	**Ouen Toro**	**3.88**	**222**	P		**Pn**	**12 02 03.2**	**+1.3**
ONTNC	**Ouen Toro**	**3.88**	**222**	P		**Pn**	**12 02 03.0**	**+1.1**
KOUNC	**Koumac, New Ca**	**4.80**	**256**	P		**Pn**	**12 02 15.4**	**+1.4**
KOUNC	**Koumac, New Ca**	**4.80**	**256**	P		**Pn**	**12 02 15.3**	**+1.3**
HNR	**Honiara**	**13.41**	**317**	P		**P**	**12 04 12.0**	**+0.2**
	13nm,0.3s,baz=184,slow=13,SNR=3.7							
HNR	**Honiara**	**13.41**	**317**	P		**Pn**	**12 04 06.9**	**-0.8**
OUZ	**Omahuta**	**16.19**	**167**	P		**P**	**12 04 44.9**	**+2.4**
EIDS	**Eidsvold**	**17.80**	**247**	Pn		**Pn**	**12 05 02.1**	**+0.3**
ARMA	**Armidale**	**19.34**	**232**	P		**Pn**	**12 05 18.7**	**-1.2**
ARMA				IAmb		IAmb	12 05 42.7	
	comp=Z,48nm,1.4s							
HIZ	**Hauiti**	**19.63**	**167**	P		**Pn**	**12 05 22.6**	**-0.4**
URZ	**Urewera**	**19.97**	**162**	P		**Pn**	**12 05 26.4**	**-0.6**
	comp=Z,24nm,0.6s,baz=332,slow=7.3,SNR=21							
URZ	**Urewera**	**19.97**	**162**	P		**Pn**	**12 05 25.8**	**-1.2**
URZ				IAmb		IAmb	12 05 27.1	
	comp=Z,30nm,0.8s							
BKZ	**Black Stump Fm**	**20.64**	**164**	P		Pn	12 05 33.1	-1.9
BKZ				IAmb		IAmb	12 05 33.4	
	comp=Z,25nm,1.0s							
CTA	**Charters Tower**	**21.65**	**264**	P		**P**	**12 05 42.8**	**+0.8**
	comp=Z,5.8nm,0.6s,baz=87,slow=10,SNR=14							
THZ	**Tophouse**	**22.48**	**173**	P		**P**	**12 05 52.4**	**+2.3**
THZ				IAmb		IAmb	12 05 53.0	
	comp=Z,16nm,0.7s							
LTZ	**Lake Taylor**	**23.42**	**174**	P		**P**	**12 06 00.3**	**+1.6**
LTZ				IAmb		IAmb	12 06 01.6	
	comp=Z,20nm,0.8s							
PMG	**Port Moresby**	**23.58**	**292**	P		**P**	**12 06 00.9**	**+0.5**
PMG				IAmb		IAmb	12 06 01.7	
	comp=Z,20nm,0.8s							
CAN	**Canberra**	**23.88**	**224**	P		**P**	**12 06 04.7**	**+1.6**
CAN				IAmb		IAmb	12 06 20.7	
	comp=Z,45nm,1.3s							
OXZ	**Oxford**	**23.94**	**175**	P		**P**	**12 06 03.1**	**-0.3**
OXZ				IAmb		IAmb	12 06 06.9	
	comp

KAPI	**Kappang**	**11.96**	**217**	Pn	Pn	12 17 29.6	-4.8
	2.1nm,0.3s,baz=42,slow=12,SNR=3.8						
KAPI				LR	LR	12 22 21.5	
	comp=Z,34nm,18.8s,baz=91,slow=39						
GUMO	**Guam**	**19.82**	**62**	LR	LR	12 24 58.7	
	comp=Z,42nm,19.6s,baz=156,slow=31						
JOW	**Kunigami**	**22.11**	**3**	P	P	12 19 33.0	-5.8
	13nm,0.4s,baz=112,slow=5.5,SNR=9.5						
FITZ	**Fitzroy Crossi**	**22.62**	**183**	P	**P**	**12 19 42.4**	**-1.9**
	1.7nm,0.5s,baz=8.1,slow=8.0,SNR=15						
WRA	**Warramunga Arr**	**25.49**	**164**	P	**P**	**12 20 10.8**	**-0.7**
	59nm,1.0s,baz=342,slow=10,SNR=10						
ASAR	**Alice Springs**	**28.94**	**167**	P	**P**	**12 20 44.1**	**+1.6**
	0.6nm,0.5s,baz=354,slow=8.2,SNR=12						
ASAR				PcP	**PcP**	**12 23 47.6**	**-3.4**
	0.4nm,0.7s,baz=340,slow=2.2,SNR=5.0						
CMAR	**Chiang Mai Arr**	**30.59**	**299**	P	P	12 20 52.9	-4.2
	0.5nm,0.3s,baz=103,slow=8.4,SNR=2.5						
STKA	**Stephens Creek**	**38.91**	**160**	P	**P**	**12 22 09.6**	**+0.9**
	1.4nm,0.4s,baz=336,slow=8.7,SNR=5.1						
SONM	**Songino Array**	**46.51**	**341**	P	**P**	**12 23 07.3**	**-3.0**
	0.3nm,0.4s,baz=141,slow=5.5,SNR=2.0						
MKAR	**Makanchi Array**	**56.93**	**325**	P	P	12 24 23.1	-4.9
	0.9nm,0.6s,baz=114,slow=7.8,SNR=9.0						
AKTO	**Aktyubinsk**	**73.07**	**321**	LR	LR	13 02 07.3	
	comp=Z,14nm,19.1s,baz=164,slow=39						

*IDC **24** 12:15:08.6±0.9,31°.80S×72°.00W,h0km,mb4.0/7,*
mb1 3.9/12,mb1mx3.8/32,mbtmp3.8/12,ML3.5/5,MS3.1/4,
Ms1 3.1/4,ms1mx2.9/20,Error ellipse: s-maj=29.7km
s-min=21.9km az=95.0
*NEIC **24** 12:15:09.8±1.8,31°.83S±0°.04×72°.2W±0°.1,h10km±1km,*
mb4.3/6,ML3.9(GUC),Error ellipse: s-maj=15.3km
s-min=6.8km az=274.0
*GUC **24** 12:15:10.4±0.7,31°.84S×72°.17W,h38km±3km,ML3.9*

ISC 24 12:15:09.0±1.9,31°.83S±0°.04×72°.13W±0°.07,h6km±12km,
n52,σ0s80/55,mb4.2/7,6C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**1.02**	**136**	*eP*		**Pg**		**12 15 29.0**	**+0.5**
VA06				*eS*		**Sg**		**12 15 42.4**	**+0.6**
VA06				IAML				12 15 46.4	
	comp=N,6μm,0.4s								
CO02	**Combarbal**	**1.15**	**57**	⇑*iP*		**Pb**		**12 15 31.6**	**+0.2**
CO02				*eS*		**Sb**		**12 15 46.9**	**+0.3**
CO02				IAML				12 15 48.3	
	comp=E,10μm,0.5s								
CO02	**Combarbal**	**1.15**	**57**			**Pb**		**12 15 31.8**	**+0.4**
CO06	**Fray Jorge**	**1.23**	**20**	⇑*iP*		**Pn**		**12 15 32.2**	**-0.5**
CO06	**Fray Jorge**	**1.23**	**20**			**Pn**		**12 15 32.4**	**-0.3**
VA01	**Torpederas**	**1.26**	**161**	Pn		**Pn**		**12 15 32.8**	**-0.4**
ROCH	**El Roble**	**1.48**	**141**	⇑*iP*		**Pn**		**12 15 36.4**	**0.0**
ROCH				*eS*		**Sn**		**12 15 56.8**	**+0.5**
ROCH				IAML				12 16 06.9	
	comp=E,2μm,0.5s								
CO03	**El Pedregal**	**1.58**	**52**	⇑*iP*		**Pn**		**12 15 38.1**	**+0.4**
CO03				*eS*		**Sn**		**12 15 59.4**	**+0.8**
CO03				IAML				12 16 04.3	
	comp=E,2μm,0.3s								
CO03	**El Pedregal**	**1.58**	**52**			**Pn**		**12 15 38.7**	**+1.0**
VA03	**San Esteban**	**1.63**	**125**	⇑*iP*		**Pn**		**12 15 38.6**	**+0.2**
VA03				*eS*		**Sn**		**12 15 59.9**	**+0.1**
VA03				IAML				12 16 05.0	
	comp=N,3μm,0.4s								
VA03	**San Esteban**	**1.63**	**125**			**Pn**		**12 15 39.1**	**+0.7**
VA05	**Santo Domingo**	**1.87**	**167**	*eP*		**Pn**		**12 15 41.0**	**-0.6**
VA05				IAML				12 16 17.5	
	comp=E,1μm,0.4s								
VA05	**Santo Domingo**	**1.87**	**167**			**Pn**		**12 15 41.4**	**-0.2**
MT05	**Renca**	**1.95**	**143**	*eP*		**Pn**		**12 15 43.2**	**+0.4**
MT05				IAML				12 16 18.3	
	comp=E,1μm,0.6s								
MT05	**Renca**	**1.95**	**143**	Pn		**Pn**		**12 15 43.7**	**+0.9**
GO04	**Tololo Observa**	**2.01**	**35**	*eP*		**Pn**		**12 15 43.8**	**0.0**
GO04	**Tololo Observa**	**2.01**	**35**			**Pn**		**12 15 45.4**	**+1.6**
CO05	**La Serena**	**2.05**	**22**	*eP*		**Pn**		**12 15 44.3**	**+0.2**
CO05				IAML				12 16 21.9	
	comp=N,880nm,0.7s								
CO05	**La Serena**	**2.05**	**22**			**Pn**		**12 15 45.1**	**+1.0**
MT01	**Popeta**	**2.16**	**160**	*eP*		**Pn**		**12 15 45.5**	**-0.1**
MT01				IAML				12 16 24.7	
	comp=N,832nm,0.8s								
MT01	**Popeta**	**2.16**	**160**			**Pn**		**12 15 45.6**	**0.0**
MT09	**Talagante**	**2.17**	**154**	*eP*		**Pn**		**12 15 46.6**	**+0.8**
MT09				IAML				12 16 25.9	
	comp=N,722nm,0.5s								
MT09	**Talagante**	**2.17**	**154**	Pn		**Pn**		**12 15 47.4**	**+1.5**
LMEL	**Las Melosas**	**2.59**	**142**	⇑*iP*		**Pn**		**12 15 52.5**	**+0.9**
LMEL				IAML				12 16 36.3	
	comp=N,767nm,0.4s								
BO01	**Tunca**	**2.70**	**161**			**Pn**		**12 15 53.4**	**+0.4**
ZON	**Zonda**	**2.96**	**85**			**Pb**		**12 16 00.5**	**-1.6**
BO02	**Sierra Bellavi**	**3.16**	**159**			**Pn**		**12 16 00.6**	**+1.1**
GO05	**Huala**	**3.18**	**177**	*eP*		**Pn**		**12 15 59.1**	**-0.5**
GO05				IAML				12 17 04.5	
	comp=E,164nm,0.6s								
GO05	**Huala**	**3.18**	**177**			**Pn**		**12 15 59.4**	**-0.2**
AC04	**Llanos de Chal**	**3.73**	**15**	Pn		**Pn**		**12 16 07.5**	**+0.4**
AC06	**Mina Casimiro**	**4.72**	**20**			**Pn**		**12 16 21.4**	**+0.7**
AC02	**Maricunga**	**5.62**	**29**	Pn		**Pn**		**12 16 31.3**	**-2.3**
LC01	**Cunco**	**7.06**	**178**	Pn		**Pn**		**12 16 52.2**	**-0.6**
PLCA	**Paso Flores**	**8.98**	**172**	Pn		**Pn**		**12 17 19.9**	**+0.6**
	comp=E,0.2nm,0.3s,baz=328,slow=8.0,SNR=8.2								
LVC	**Limon Verde**	**9.62**	**18**	Pn		**Pn**		**12 17 28.0**	**-0.4**
	comp=E,0.1nm,0.3s,baz=241,slow=13,SNR=1.0								
LVC				LR		LR		12 21 22.3	
	comp=E,81nm,20.2s,baz=196,slow=39								
TRQA	**Tornquist**	**10.39**	**130**	Pn		**Pn**		**12 17 37.2**	**-1.4**
CPUP	**Villa Florida**	**14.05**	**71**	Pn		**Pn**		**12 18 27.5**	**-1.2**
	comp=E,0.1nm,0.3s,baz=209,slow=11,SNR=1.1								
CPUP				LR		LR		12 24 18.4	
	comp=E,164nm,18.2s,baz=246,slow=40								
LPAZ	**La Paz**	**15.89**	**14**	Pn		**Pn**		**12 18 53.6**	**-0.4**
	comp=E,0.1nm,0.3s,baz=206,slow=9.1,SNR=2.3								
SIV	**San Ignacio**	**18.71**	**35**	P		**P**		**12 19 27.8**	**-0.6**
	comp=E,0.1nm,0.3s,baz=224,slow=8.3,SNR=4.6								
SIV				LR		LR		12 26 02.1	
	comp=E,31nm,20.0s,baz=285,slow=35								
BDFB	**Brasilia**	**27.24**	**59**	P		**P**		**12 20 53.6**	**-0.6**
	comp=E,4.5nm,0.6s,baz=222,slow=7.1,SNR=4.7								
SNAA	**Sanae**	**53.62**	**158**	P		**P**		**12 24 31.7**	**+0.8**
	comp=E,1.7nm,0.8s,baz=284,slow=7.0,SNR=5.6								
SNAA	**Sanae**	**53.62**	**158**	IAmb		IAmb		12 24 32.6	
	comp=Z,2.7nm,0.8s								
TXAR	**Lajitas Array**	**67.81**	**330**	P		**P**		**12 26 09.2**	**+1.2**
	comp=Z,0.2nm,0.7s,baz=154,slow=6.9,SNR=3.9								
DBIC	**Dimbokro**	**74.57**	**72**	P		**P**		**12 26 48.9**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=225,slow=10.0,SNR=3.0								
KOWA	**Kowa**	**79.82**	**66**	P		**P**		**12 27 18.8**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=241,slow=6.0,SNR=4.7								
KOWA	**Kowa**	**79.82**	**66**	IAmb		IAmb		12 27 38.6	
	comp=Z,5.5nm,1.4s								
BOSA	**Boshof**	**81.15**	**118**	LR		LR		13 00 08.9	
	comp=Z,20nm,21.6s,baz=191,slow=33								
NVAR	**Mina Array Bea**	**82.06**	**325**	P		**P**		**12 27 31.1**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=153,slow=6.1,SNR=2.0								
TORD	**Torodi Ar. Bea**	**83.55**	**70**	P		**P**		**12 27 38.1**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=265,slow=4.6,SNR=13								
TORD	**Torodi Ar. Bea**	**83.55**	**70**	P		**P**		**12 27 37.5**	**-0.9**
TORD				IAmb		IAmb		12 27 39.0	
	comp=Z,1.8nm,0.8s								
WRA	**Warramunga Arr**	**122.61**	**210**	PKP		**PKPdf**		**12 34 05.7**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=158,slow=1.6,SNR=1.2								
ZALV	**Zalesovo Beam**	**152.41**	**30**	PKPbc		**PKPbc**		**12 35 05.7**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=304,slow=3.4,SNR=5.7								
ZALV				PKPab		**PKPab**		**12 35 15.6**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=329,slow=3.9,SNR=4.7								

*IDC **24** 12:18:27.3±0.9,10°.75S×164°.21E,h0km,mb4.0/7,*
mb1 4.3/10,mb1mx4.0/40,mbtmp4.1/10,ML4.3/3,MS3.2/9,
Ms1 3.2/9,ms1mx3.0/32,Error ellipse: s-maj=26.1km
s-min=20.0km az=144.0
*NEIC **24** 12:18:29.4±2.4,10°.74S±0°.10×164°.27E±0°.08,h10km±1km,*
mb4.6/23,Error ellipse: s-maj=17.0km s-min=13.3km
az=19.0

ISC 24 12:18:31.9±0.7,10°.83S±0°.08×164°.31E±0°.09,h29km,n55,
σ1s50/46,mb4.5/18,MS3.0/7,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.52**	**288**	Pn		**Pn**		**12 19 36.6**	**-1.8**
	19nm,0.3s,baz=169,slow=16,SNR=4.8								
HNR				Sn		**Sn**		**12 20 30.2**	**+0.2**
	17nm,0.3s,baz=200,slow=21,SNR=1.8								
HNR				LR		LR		12 21 32.6	
	comp=Z,663nm,18.3s,baz=140,slow=42								
HNR	**Honiara**	**4.52**	**288**	P		**Pn**		**12 19 40.2**	**+1.8**
DVP	**Devils Point**	**7.81**	**152**	P		**Pn**		**12 20 24.9**	**+1.2**
KOUNC	**Koumac, New Ca**	**9.66**	**180**	P		**Pn**		**12 20 51.5**	**+2.4**
LIFNC	**LIFOU**	**10.28**	**164**	Pn		**Pn**		**12 20 55.4**	**-2.2**
LIFNC	**LIFOU**	**10.28**	**164**	P		**Pn**		**12 20 59.3**	**+1.7**
MARNC	**Mare, Loyalty**	**11.17**	**162**	Pn		**Pn**		**12 21 09.1**	**-0.7**
DZM	**Mont Dzumac**	**11.36**	**170**	Pn		**Pn**		**12 21 13.1**	**+0.6**
	2.1nm,0.3s,baz=22,slow=6.2,SNR=89								
DZM				Sn		**Sn**		**12 23 15.0**	**-3.6**
	0.1nm,0.3s,baz=250,slow=14,SNR=1.6								
DZM				LR		LR		12 25 01.9	
	comp=Z,198nm,18.2s,baz=32,slow=34								
DZM	**Mont Dzumac**	**11.36**	**170**			**Pn**		**12 21 12.9**	**+0.5**
YATNC	**Mamie plateau,**	**11.44**	**168**	P		**Pn**		**12 21 13.9**	**+0.5**
ONTNC	**Ouen Toro**	**11.60**	**170**	Pn		**Pn**		**12 21 17.8**	**+2.2**
OUENC	**Ouen Island, N**	**11.77**	**168**	Pn		**Pn**		**12 21 21.2**	**+3.2**
OUENC	**Ouen Island, N**	**11.77**	**168**	P		**Pn**		**12 21 21.2**	**+3.2**
PINNC	**Pines Island,**	**12.09**	**166**	Pn		**Pn**		**12 21 23.4**	**+1.1**
PINNC	**Pines Island,**	**12.09**	**166**	P		**Pn**		**12 21 23.5**	**+1.1**
PATS	**Pohnpei**	**18.54**	**341**			**P**		**12 22 45.9**	**-0.5**
PATS				IAmb		IAmb		12 23 05.0	
	comp=Z,119nm,1.4s								
CTA	**Charters Tower**	**19.67**	**240**	P		**P**		**12 22 58.9**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=72,slow=15,SNR=6.2								
CTAO	**Charters Tower**	**19.67**	**240**			**Pn**		**12 23 00.8**	**+0.4**
COEN	**Coen**	**20.87**	**259**	P		**P**		**12 23 11.5**	**-0.4**
COEN						Pn		12 23 12.4	-2.2
COEN				IAmb		IAmb		12 23 22.5	
	comp=Z,29nm,1.4s								
AFI	**Afiamalu**	**23.55**	**100**	LR		LR		12 31 23.4	
	comp=Z,114nm,18.3s,baz=276,slow=33								
JAY	**Jayapura**	**24.84**	**288**	LR		LR		12 34 48.2	
	comp=Z,39nm,18.1s,baz=346,slow=40								
WR0	**Warramunga Arr**	**30.06**	**249**	P		**P**		**12 24 37.0**	**-1.8**
WB0	**Warramunga Arr**	**30.15**	**249**	P		**P**		**12 24 38.0**	**-1.7**
WB2	**Warramunga Arr**	**30.23**	**249**	P		**P**		**12 24 39.0**	**-1.4**
WB2				IAmb		IAmb		12 25 00.5	
	comp=Z,4.5nm,1.1s								
WRA	**Warramunga Arr**	**30.24**	**249**	P		**P**		**12 24 39.0**	**-1.5**
	comp=Z,1.0nm,0.5s,baz=76,slow=9.2,SNR=16								
WRA	**Warramunga Arr**	**30.24**	**249**	IAmb		IAmb		12 24 45.8	
	comp=Z,0.4nm,1.2s								
TOO	**Toolangi**	**31.55**	**209**	P		**P**		**12 24 53.0**	**+1.2**
TOO				IAmb		IAmb		12 25 14.8	
	comp=Z,11nm,1.2s								
ASAR	**Alice Springs**	**31.64**	**242**	P		**P**		**12 24 50.9**	**-1.9**
	comp=Z,0.7nm,0.6s,baz=63,slow=9.8,SNR=9.5								
SIJI	**Sorong**	**34.29**	**285**	LR		LR		12 41 23.9	
	comp=Z,50nm,18.0s,baz=103,slow=40								
KNRA	**Kununurra**	**34.91**	**258**	P		**P**		**12 25 19.8**	**-1.5**
KNRA				IAmb		IAmb		12 25 39.8	
	comp=Z,8.9nm,1.0s								
FITZ	**Fitzroy Crossi**	**38.08**	**255**	P		**P**		**12 25 46.8**	**-1.6**
	comp=Z,4.6nm,0.7s,baz=89,slow=8.0,SNR=18								
FITZ	**Fitzroy Crossi**	**38.08**	**255**	P		**P**		**12 25 47.1**	**-1.3**
DAV	**Davao City (W)**	**42.46**	**293**	LR		LR		12 44 55.6	
	comp=Z,13nm,19.1s,baz=352,slow=38								
KAPI	**Kappang**	**44.48**	**274**	LR		LR		12 46 35.5	
	comp=Z,19nm,18.2s,baz=96,slow=38								
PPT	**Papeete**	**45.11**	**104**	LR		LR		12 41 34.3	
	comp=Z,43nm,20.4s,baz=222,slow=31								
MJAR	**Matsushiro Arr**	**53.15**	**334**	LR		LR		12 49 11.4	
	comp=Z,11nm,20.7s,baz=160,slow=35								
VNDA	**Vanda**	**66.69**	**181**	P		**P**		**12 29 20.9**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=329,slow=6.3,SNR=5.6								
SONM	**Songino Array**	**77.67**	**324**	P		**P**		**12 30 26.4**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=132,slow=4.1,SNR=3.3								
SONM	**Songino Array**	**77.67**	**324**	IAmb		IAmb		12 30 27.4	
	comp=Z,1.0nm,0.9s								
QSPA	**South Pole Qui**	**79.17**	**180**	P		**P**		**12 30 35.1**	**+1.2**
QSPA				IAmb		IAmb		12 30 36.9	
	comp=Z,5.6nm,1.1s								
M19K	**Big River Lodg**	**79.34**	**19**	P		**P**		**12 30 36.2**	**+1.5**
M19K				IAmb		IAmb		12 30 36.9	
	comp=Z,8.6nm,1.1s								
L19K	**White Mountain**	**79.41**	**18**	P		**P**		**12 30 36.2**	**+1.1**
L19K				IAmb		IAmb		12 30 37.2	
	comp=Z,6.3nm,0.8s								
CAST	**Castle Rocks**	**81.18**	**18**	P		**P**		**12 30 44.6**	**0.0**
CAST				IAmb		IAmb		12 30 45.0	
	comp=Z,5.2nm,1.0s								
HDA	**Harding Lake**	**83.50**	**19**	P		**P**		**12 30 56.3**	**-0.4**
TCOL	**CIGO, UAF Yank**	**83.53**	**19**	P		**P**		**12 30 56.1**	**-0.6**
COLA	**College**	**83.53**	**19**	P		**P**		**12 30 56.1**	**-0.6**
IL31		**83.76**	**19**	P		**P**		**12 30 57.6**	**-0.3**
IL31				IAmb		IAmb		12 30 59.1	
	comp=Z,3.0nm,0.8s								
ILAR	**Eielson Array**	**83.76**	**19**	P		**P**		**12 30 57.7**	**-0.3**
	comp=Z,3.1nm,0.9s,baz=226,slow=5.7,SNR=21								
ILAR	**Eielson Array**	**83.76**	**19**	P		**P**		**12 30 57.0**	**-1.1**
M27K	**Edge Creek, AK**	**83.95**	**22**	IAmb		IAmb		12 31 00.8	
	comp=Z,6.7nm,1.0s								
SCRK	**Sand Creek**	**84.20**	**20**	P		**P**		**12 31 00.7**	**+0.3**
SCRK				IAmb		IAmb		12 31 01.9	
	comp=Z,4.3nm,0.8s								
K27K	**Chicken**	**84.90**	**21**	IAmb		IAmb		12 31 07.0	
	comp=Z,5.6nm,1.0s								
NVAR	**Mina Array Bea**	**86.97**	**50**	P		**P**		**12 31 14.5**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=253,slow=9.1,SNR=3.7								
ARCES	**ARCESS Array B**	**115.77**	**345**	PKP		**PKiKP**		**12 37 09.8**	**-1.3**
	comp=Z,1.5nm,1.0s,baz=46,slow=3.9,SNR=3.8								
ESDC	**Sonseca Array**	**149.44**	**342**	PKPbc		**PKPbc**		**12 38 18.8**	**+0.1**
	comp=Z,0.8nm,1.0s,baz=29,slow=3.4,SNR=4.2								

ROM 24 12:52:47.3±0.1,43°.628N±0°.004×12°.341E±0°.004,
h8km,Md1.2/3,1C,Error ellipse: s-maj=0.4km
s-min=0.1km az=155.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PARC	**Parchiule**	**0.08**	**285**	P		Pg		12 52 49.6	+0.2
PARC				S		Sg		12 52 51.1	+0.3
PARC				END					
PE3	**Peglio**	**0.13**	**59**	P		Pg		12 52 50.8	+0.6
PE3				S		Sg		12 52 53.4	+1.3
PE3				END					
BADI	**Badiali**	**0.14**	**211**	⇑P		Pg		12 52 50.9	+0.6
BADI				S		Sg		12 52 53.4	+1.1
BADI				END					
PIEI	**Pieia**	**0.17**	**123**	P		Pg		12 52 51.1	+0.3
PIEI				S		Sg		12 52 54.0	+0.8
PIEI				END					
NARO	**Abbazia di Nar**	**0.17**	**96**	P		Pg		12 52 51.0	+0.2
NARO				S		Sg		12 52 54.3	+1.0
NARO				END					
ATPI	**Pietralunga -**	**0.18**	**166**	P		Pg		12 52 51.6	+0.6
ATPI				S		Sg		12 52 55.1	+1.5
ATPI				END					
ATMC	**Monte Cedrone**	**0.21**	**211**	P		Pg		12 52 52.0	+0.5
ATMC				S		Sg		12 52 55.9	+1.5
ATBU	**Serra di Buran**	**0.21**	**135**	P		Pg		12 52 52.6	+1.0
ATBU				S		Sg		12 52 56.3	+1.7
TB03	**Pietralunga**	**0.23**	**168**	P		Pg		12 52 52.6	+0.6
TB03				S		Sg		12 52 56.5	+1.4
ATVO	**AVT- Monte Val**	**0.25**	**169**	P		Pg		12 52 52.9	+0.6
ATVO				S		Sb		12 52 57.4	-1.2
ATVO				END					
CAFI	**Castiglion Fio**	**0.41**	**223**	P		Pg		12 52 55.7	+0.6
CAFI				S		Sb		12 53 02.7	-0.3

*BGR **24** 12:53:40.0±1.2,44°.32N×6°.06E,h10km,ML3.3/1,Error*
ellipse: s-maj=24.5km s-min=13.3km az=119.0
*ROM **24** 12:53:41.8±0.3,44°.483N±0°.009×6°.75E±0°.02,h10km,*
ML2.7/18,Error ellipse: s-maj=2.0km s-min=0.8km
az=252.0
*GEN **24** 12:53:41.4,44°.46N×6°.68E,h5km±3km,Ml2.7*
*LDG **24** 12:53:41.5±0.0,44°.48N×6°.70E,h4km,Md3.0/2,Ml3.1/46,*
Error ellipse: s-maj=0.8km s-min=0.6km az=60.0

STR 24 12:53:41.6±0.2,44°N±1°×±°,h10km±2km,MLv2.9/18,
10C-2D,smi:scs/0.6/LOCSAT earthModelID
smi:scs/0.6/alpes_taup-2.11 preliminary,France

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OGAG	**Argentiere**	**0.14**	**259**	Pg		Pg		12 53 48.0	+1.7
OGAG				Sg		Sg		12 53 52.6	+5.5

MBDF	**Montbardon**	**0.25**	**7**	*e*Pg		Pg		12 53 46.7	0.0
MBDF				*e*Sg		Sg		12 53 50.1	0.0
	359nm,0.2s								
PZZ	**Stroppo**	**0.28**	**85**	P		Pg		12 53 47.4	+0.2
PZZ	**Stroppo**	**0.28**	**85**	P		Pg		12 53 47.4	+0.2
PZZ	**Stroppo**	**0.28**	**85**	⇑P		Pg		12 53 47.5	+0.2
PZZ				S		Sg		12 53 52.0	+0.9
PZZ				AML		AML			
	comp=N,4005μm,0.8s								
PZZ				AML		AML			
	comp=E,4320μm,0.7s								
ISO	**Isola**	**0.38**	**142**	Pg		Pg		12 53 48.6	-0.4
ISO				Sg		Sg		12 53 53.5	-0.5
RRL	**Rocca Remolon**	**0.44**	**6**	P		Pg		12 53 50.4	+0.1
RRL				S		Sb		12 53 57.3	-1.1
RRL	**Rocca Remolon**	**0.44**	**6**	⇑P		Pg		12 53 50.3	0.0
RRL	**Rocca Remolon**	**0.44**	**6**	P		Pg		12 53 50.2	-0.1
RRL				S		Sb		12 53 57.3	-1.1
RRL				AML		AML			
	comp=E,931μm,0.4s								
RRL				AML		AML			
	comp=N,1012μm,0.2s								
OGDI	**Digne**	**0.48**	**220**	Pg		Pb		12 53 51.8	-0.3
OGDI				Sg		Sb		12 53 59.1	-0.2
BHB	**Bricherasio**	**0.52**	**46**	P		Pg		12 53 51.8	0.0
BHB				S		Sg		12 53 59.3	+0.6
BHB				AML		AML			
	comp=E,1016μm,0.6s								
BHB				AML		AML			
	comp=N,1095μm,0.4s								
ENR	**Entracque**	**0.56**	**117**	P		Pg		12 53 52.2	-0.2
ENR				S		Sg		12 53 59.8	0.0
ENR	**Entracque**	**0.56**	**117**	⇑P		Pg		12 53 52.2	-0.2
ENR				AML		AML			
	comp=E,1073μm,0.4s								
ENR				AML		AML			
	comp=N,1109μm,0.7s								
ENR	**Entracque**	**0.56**	**117**	⇑P		Pg		12 53 52.2	-0.2
ENR				AML		AML			
	comp=N,1109μm,0.7s								
ENR				AML		AML			
	comp=E,1073μm,0.4s								
TURF	**col de Turini**	**0.70**	**137**	Pg		Pg		12 53 54.8	-0.3
TURF				Sg		Sg		12 54 04.1	-0.1
BLAF	**les Blancs**	**0.72**	**223**	Pg		Pg		12 53 55.4	-0.1
OGMO	**Fort Saint-Gob**	**0.73**	**358**	Pg		Pg		12 53 55.7	+0.1
OGMO				Sg		Sg		12 54 05.5	+0.3
CALF	**Calern**	**0.74**	**169**	Pg		Pg		12 53 55.8	-0.1
ORIF	**Oris-en-Rattie**	**0.75**	**306**	*e*Pg		Pg		12 53 55.1	-0.9
ORIF				*e*Sg		Sg		12 54 04.8	-0.9
	comp=E,223nm,0.2s								
ORIF				*e*Sn		Sb		12 54 08.0	+1.0
	comp=E,220nm,0.3s								
ORIF	**Oris-en-Rattie**	**0.75**	**306**	Pg		Pg		12 53 55.2	-0.8
ORIF	**Oris-en-Rattie**	**0.75**	**306**	P		Pg		12 53 55.2	-0.8
RSP	**Reno Superiore**	**0.77**	**30**	P		Pg		12 53 56.4	0.0
RSP				S		Sb		12 54 07.3	-0.3
RSP	**Reno Superiore**	**0.77**	**30**	⇑P		Pg		12 53 56.5	+0.1
RSP				AML		AML			
	comp=E,704μm,0.4s								
RSP				AML		AML			
	comp=N,694μm,1.4s								
RSP	**Reno Superiore**	**0.77**	**30**	P		Pg		12 53 56.4	0.0
RSP				S		Sb		12 54 07.3	-0.3
RSP				AML		AML			
	comp=E,650μm,0.4s								
RSP				AML		AML			
	comp=N,636μm,1.4s								
RSP				AML		AML			
	comp=E,704μm,0.4s								
RSP				AML		AML			
	comp=N

MONC						AML	AML				
	comp=E,502μm,0.3s										
RUSF	**Rustrel**	**1.05**	**239**		Pg	Pb	12 54 02.0	+0.2			
ARTF	**Artigues**	**1.12**	**217**		Pg	Pb	12 54 02.5	-0.5			
ARTF					Sg	Sb	12 54 17.8	+0.3			
LMR	**La Mourre**	**1.16**	**188**		*e*Pg	Pb	12 54 03.1	-0.6			
LMR	**La Mourre**	**1.16**	**188**		*e*P	Pn	12 54 04.6	+0.8			
LMR					*e*Sg	Sb	12 54 18.1	-0.6			
	comp=E,142nm,0.2s										
LMR					*e*S	Sn	12 54 21.2	+1.5			
	comp=E,149nm,0.2s										
QLNO	**Quiliano**	**1.17**	**97**		P	Pb	12 54 03.4	-0.5			
QLNO					AML	AML					
	comp=E,267μm,0.3s										
QLNO					AML	AML					
	comp=N,271μm,0.4s										
ROTM	**Rocchetta Tana**	**1.22**	**72**		P	Pg	12 54 05.1	+0.2			
ROTM					AML	AML					
	comp=E,782μm,1.3s										
ROTM					AML	AML					
	comp=N,1065μm,0.4s										
TRAV	**Traversella**	**1.26**	**35**		P	Pn	12 54 04.1	-1.2			
CIRO	**Champorcher**	**1.27**	**28**		P	Pn	12 54 04.7	-0.9			
CIRO					AML	AML					
	comp=E,194μm,0.5s										
CIRO					AML	AML					
	comp=N,142μm,0.4s										
CIRO					AML	AML					
	comp=N,142μm,0.4s										
CIRO					AML	AML					
	comp=E,194μm,0.5s										
PCP	**Piancastagn**	**1.30**	**87**	⇑	P	Pn	12 54 05.6	-0.2			
PCP					AML	AML					
	comp=E,243μm,1.5s										
PCP					AML	AML					
	comp=N,238μm,1.4s										
MRGE	**Morge**	**1.31**	**10**		P	Pb	12 54 06.4	0.0			
MRGE					AML	AML					
	comp=E,128μm,1.3s										
MRGE					AML	AML					
	comp=E,128μm,1.3s										
MRGE					AML	AML					
	comp=N,180μm,0.8s										
OGSM	**Saint Maurice**	**1.34**	**327**		Pg	Pg	12 54 07.1	-0.2			
OGSM					Sg	Sg	12 54 25.8	+1.0			
REMY	**Saint-Rhmy-en**	**1.39**	**12**		P	Pg	12 54 09.1	+0.8			
REMY					AML	AML					
	comp=E,191μm,1.0s										
REMY					AML	AML					
	comp=N,203μm,1.6s										
REMY					AML	AML					
	comp=E,191μm,1.0s										
REMY					AML	AML					
	comp=N,219μm,1.5s										
VIVF	**Saint-Julien-l**	**1.51**	**285**		*e*Pg	Pn	12 54 08.8	0.0			
VIVF					*e*Sn	Sn	12 54 26.0	-2.5			
	comp=N,14nm,0.2s										
VIVF					*e*Sg	Sb	12 54 28.7	-0.3			
	comp=N,92nm,0.3s										
DIX	**Grande Dixence**	**1.67**	**16**		P	Pb	12 54 13.0	+0.5			
DIX					AML	AML					
	comp=E,69μm,0.9s										
DIX					AML	AML					
	comp=N,67μm,0.8s										
ASEAF	**Site Antares,**	**1.74**	**194**		Pn	Pn	12 54 12.3	+0.9			
ASEAF					Pg	Pb	12 54 13.8	+0.5			
GORR	**Gorreto**	**1.84**	**85**		P	Pn	12 54 14.1	+0.9			
LASF	**Ste Croix**	**2.10**	**260**		*e*P	Pn	12 54 16.6	-0.2			
LASF					*e*Sn	Sn	12 54 39.6	-3.4			
	comp=N,22nm,0.3s										
CABF	**La Chapelle**	**2.18**	**348**		*e*P	Pn	12 54 19.5	+1.6			
CABF					*e*Sn	Sn	12 54 42.3	-2.7			
	comp=N,8.3nm,0.3s										
CABF					*e*Sg	Sg	12 54 49.9	-1.6			
	comp=N,22nm,0.4s										
MUGIO	**Muggio**	**2.18**	**48**		P	Pn	12 54 18.4	+0.4			
MUGIO					AML	AML					
	comp=E,56μm,0.4s										
MUGIO					AML	AML					
	comp=N,51μm,1.5s										
PLMA	**Palmaria, Port**	**2.28**	**100**		P	Pn	12 54 19.5	+0.2			
GRAM	**Graiana**	**2.39**	**89**		P	Pn	12 54 21.5	+0.7			
GRAM					AML	AML					
	comp=E,124μm,1.5s										
GRAM					AML	AML					
	comp=N,122μm,0.9s										
FUSIO	**Fusio**	**2.40**	**34**		P	Pn	12 54 21.5	+0.5			
FUSIO					AML	AML					
	comp=N,36μm,1.6s										
FUSIO					AML	AML					
	comp=E,39μm,0.4s										
BRANT	**Les Verrieres**	**2.46**	**356**		Pn	Pn	12 54 23.2	+1.3			
EQUI	**Equi**	**2.48**	**96**		P	Pn	12 54 22.1	+0.1			
PGF	**Pioggiola**	**2.54**	**139**		*e*Pn	Pn	12 54 22.9	0.0			
PGF					*e*Sn	Sn	12 54 52.0	-2.0			
	comp=E,20nm,0.2s										
PGF	**Pioggiola**	**2.54**	**139**		Pn	Pn	12 54 22.8	-0.2			
LBL	**Lubilhac**	**2.59**	**288**		Sn	Sn	12 54 55.7	+0.6			
LBL	**Lubilhac**	**2.59**	**288**		Pn	Pn	12 54 23.7	+0.2			
SARO	**Sassorosso**	**2.65**	**95**		P	Pn	12 54 25.0	+0.6			
BNALP	**Bannalp**	**2.67**	**26**		P	Pb	12 54 27.7	-1.8			
BNALP					AML	AML					
	comp=E,54μm,1.4s										
BNALP					AML	AML					
	comp=N,38μm,1.3s										
MAIM	**Mastiano**	**2.77**	**101**		P	Pn	12 54 25.5	-0.4			
BDI	**Bagni Di Lucca**	**2.81**	**97**		S	Sb	12 55 08.0	+1.7			
SMF	**Signal de Mont**	**2.97**	**318**		*e*P	Pn	12 54 29.8	+1.1			
SMF					*e*Sn	Sn	12 55 00.9	-3.4			
	comp=N,3.6nm,0.1s										
SMF					*e*Sg	Sg	12 55 14.3	-2.5			
	comp=N,19nm,0.4s										
PLONS	**Plons/SG**	**3.17**	**35**		*e*Sn	Sb	12 55 14.4	-2.3			
SULZ	**Cheisacher**	**3.19**	**17**		Pn	Pn	12 54 33.3	+1.5			
SULZ	**Cheisacher**	**3.19**	**17**		Sn	Sn	12 55 11.0	+1.0			
SULZ	**Cheisacher**	**3.19**	**17**		*e*Pn	Pn	12 54 34.0	+2.2			
SULZ					*e*Sn	Sn	12 55 11.9	+1.9			
ROVR	**Rover Verones**	**3.29**	**68**		P	Pn	12 54 32.9	-0.3			
AVF	**Avril sur Loir**	**3.31**	**315**		*e*P	Pn	12 54 34.7	+1.3			
AVF					*e*Sg	Sg	12 55 25.0	-2.7			
	comp=N,11nm,0.3s										
HINF	**Hinteralfeld**	**3.34**	**1**		*e*P	Pn	12 54 35.1	+1.3			
HINF					*e*Sn	Sn	12 55 10.4	-3.1			
	comp=N,5.0nm,0.2s										
HINF					*e*Sg	Sg	12 55 26.4	-2.3			
	comp=N,4.6nm,0.2s										
CAF	**Calviac**	**3.35**	**279**		*e*P	Pn	12 54 34.4	+0.3			
CAF					*e*Sn	Sn	12 55 09.8	-4.2			
	comp=N,10.0nm,0.3s										
CAF					*e*Sg	Sg	12 55 25.7	-3.6			
	comp=N,7.1nm,0.4s										
METMA	**Mettma DE**	**3.40**	**18**		*e*Sn	Sn	12 55 15.8	+0.8			
SSF	**Saint Saulge**	**3.43**	**320**		*e*P	Pn	12 54 36.4	+1.4			
SSF	**Saint Saulge**	**3.43**	**320**		*e*Pg	Pg	12 54 45.5	-1.7			
SSF					*e*Sn	Sn	12 55 11.7	-4.0			
	comp=N,6.6nm,0.3s										
SSF					*e*Sg	Sg	12 55 28.8	-2.8			
	comp=N,14nm,0.3s										
BGF	**Bois d'Agland**	**3.43**	**309**		*e*P	Pn	12 54 36.4	+1.4			
BGF	**Bois d'Agland**	**3.43**	**309**		*e*Pg	Pg	12 54 44.8	-2.4			
BGF					*e*Sn	Sn	12 55 11.4	-4.3			
	comp=N,12nm,0.2s										
BGF					*e*Sg	Sg	12 55 28.6	-3.0			
	comp=N,50nm,0.4s										
LOR	**Lormes**	**3.43**	**325**		*e*P	Pn	12 54 36.4	+1.3			
	baz=145										
LOR	**Lormes**	**3.43**	**325**		*e*Pg	Pg	12 54 45.2	-2.1			
	baz=145										
LOR					*e*Sn	Sn	12 55 12.3	-3.5			
	comp=N,12nm,0.3s,baz=146										
LOR					*e*Sg	Sg	12 55 29.0	-2.8			
	comp=N,18nm,0.4s,baz=145										
LOR	**Lormes**	**3.43**	**325**		Pn	Pn	12 54 36.1	+1.0			
LOR	**Lormes**	**3.43**	**325**		Sn	Sn	12 55 16.5	+0.7			
SJAF	**Saint Jean de**	**3.44**	**236**		Pn	Pn	12 54 35.0	-0.2			
MTLF	**Montolieu**	**3.45**	**252**		*e*P	Pn	12 54 35.4	0.0			
MTLF					*e*Sn	Sn	12 55 12.3	-4.0			
	comp=N,17nm,0.3s										
MTLF					*e*Sg	Sg	12 55 28.9	-3.5			
	comp=N,9.9nm,0.3s										
MTLF	**Montolieu**	**3.45**	**252**		Sn	Sn	12 55 15.0	-1.4			
MTLF	**Montolieu**	**3.45**	**252**		Pn	Pn	12 54 35.3	0.0			
SLE	**Schleitheim**	**3.50**	**20**		Pn	Pn	12 54 36.9	+0.8			
SLE	**Schleitheim**	**3.50**	**20**		*e*Pn	Pn	12 54 36.9	+0.8			
SLE					*e*Sn	Sn	12 55 18.5	+0.8			
FELD	**Feldberg im Sc**	**3.51**	**14**		Sn	Sn	12 55 19.1	+1.2			
FELD	**Feldberg im Sc**	**3.51**	**14**		Pn	Pn	12 54 36.7	+0.4			
HAU	**Haudompre**	**3.53**	**356**		*e*P	Pn	12 54 37.9	+1.4			
HAU					*e*Sn	Sn	12 55 15.2	-3.2			
	comp=N,22nm,0.2s										
KIZ	**Kirchzarten**	**3.57**	**13**		Pn	Pn	12 54 37.6	+0.6			
KIZ	**Kirchzarten**	**3.57**	**13**		Sn	Sn	12 55 19.6	+0.3			
TCF	**Toulx Ste Croi**	**3.66**	**301**		*e*P	Pn	12 54 39.6	+1.4			
TCF					*e*Sn	Sn	12 55 17.4	-4.1			
	comp=N,6.4nm,0.2s										
TCF					*e*Sg	Sg	12 55 35.7	-3.4			
	comp=N,5.9nm,0.4s										
ASQU	**Asqua**	**3.71**	**99**	⇓	P	Pn	12 54 40.1	+1.2			
EMING	**Emmingen-Lipti**	**3.71**	**23**		*e*Pn	Pn	12 54 40.6	+1.7			
EMING					*e*Sn	Sn	12 55 24.9	+2.1			
ECH	**Echery**	**3.75**	**4**		Pn	Pn	12 54 40.0	+0.6			
ECH	**Echery**	**3.75**	**4**		*e*Pn	Pn	12 54 40.1	+0.7			
ECH					*e*Sn	Sn	12 55 23.0	-0.6			
FETA	**Feichten**	**3.78**	**46**		*e*Pn	Pb	12 54 48.1	-0.4			
	comp=N,1.6nm,0.2s										
RJF	**Les Rejaudoux**	**3.79**	**284**		*e*Pn	Pn	12 54 38.6	-1.5			
RJF	**Les Rejaudoux**	**3.79**	**284**		*e*Pg	Pb	12 54 51.2	+2.6			
RJF					*e*Sn	Sn	12 55 20.5	-4.3			
	comp=N,5.1nm,0.3s										
RJF					*e*Sg	Sg	12 55 39.6	-3.8			
	comp=N,5.9nm,0.3s										
SFTF	**Sexfontaines**	**3.90**	**343**		*e*P	Pn	12 54 43.5	+1.9			
	baz=166										
SFTF					*e*Sn	Sn	12 55 23.4	-4.0			
	comp=N,5.6nm,0.3s										
CDF	**Champ du Feu**	**3.95**	**5**		*e*Pn	Pn	12 54 42.0	-0.3			
CDF					*e*Sn	Sn	12 55 25.4	-3.3			
	comp=N,5.4nm,0.3s										
WLS	**Welschbruch**	**3.96**	**6**		Pn	Pn	12 54 43.0	+0.7			
HYF	**Humbligny**	**3.99**	**316**		*e*Pn	Pn	12 54 41.1	-1.7			
HYF					*e*Sn	Sn	12 55 24.8	-4.8			
HYF					*e*Sg	Sg	12 55 47.5	-2.1			
BFO	**Black Forest**	**4.00**	**15**		*e*Pn	Pn	12 54 43.4	+0.4			
BFO					*e*Sn	Sn	12 55 30.7	+0.7			
SACS	**San Casciano d**	**4.10**	**112**		P	Pg	12 55 01.1	+1.1			
RETA	**Reutte**	**4.12**	**42**		*e*Pn	Pn	12 54 46.4	+1.8			
	comp=N,1.3nm,0.2s										
PAGF	**Fort de Pagny**	**4.13**	**351**		*e*P	Pn	12 54 46.6	+1.9			
	baz=171										
PAGF					*e*Sn	Sn	12 55 29.3	-3.8			
	comp=N,6.1nm,0.2s										
MEZF	**Maizieres J'vi**	**4.18**	**345**		*e*Sn	Sn	12 55 30.4	-3.9			
	comp=N,7.6nm,0.2s,baz=159										
MOTA	**Moosalm**	**4.18**	**45**		*e*Pn	Pn	12 54 47.2	+1.6			
	comp=N,0.2nm,0.1s										
SAVF	**Savonnieres en**	**4.28**	**346**		*e*P	Pn	12 54 48.8	+2.1			
	baz=165										
SAVF					*e*Sn	Sn	12 55 32.3	-4.4			
	comp=N,4.7nm,0.2s,baz=174										
WTTA	**Wattenberg**	**4.41**	**49**		*e*Pn	Pn	12 54 51.1	+2.4			
WATA	**Walderalm**	**4.43**	**48**		*e*Pn	Pn	12 54 52.5	+3.6			
	comp=N,0.7nm,0.1s										
TOLF	**Tolfa**	**4.54**	**120**		S	Sn	12 55 41.0	-2.3			
EPF	**Esparros**	**4.85**	**255**		*e*Sg	Sg	12 56 13.2	-4.0			
	comp=N,3.9nm,0.3s										
MFF	**Saint Martin d**	**5.27**	**296**		*e*P	Pn	12 55 02.6	+2.2			
MFF					*e*Sn	Sn	12 55 55.8	-5.4			
	comp=N,0.9nm,0.2s										
ETSF	**Etsaut**	**5.52**	**256**		*e*P	Pn	12 55 06.1	+2.3			
ETSF					*e*Sn	Sn	12 56 01.4	-5.9			
	comp=N,6.3nm,0.5s										
BAIF	**Baives**	**5.84**	**344**		*e*P	Pn	12 55 11.0	+2.9			
SJPF	**Ste Jean**	**5.92**	**259**		*e*Pn	Pn	12 55 08.2	-1.0			
SJPF					*e*Sn	Sn	12 56 11.4	-5.7			
	comp=N,0.6nm,0.2s										
LDF	**La Druitiere**	**6.26**	**313**		*e*P	Pn	12 55 16.7	+2.7			
GRR	**Gorron**	**6.54**	**309**		*e*P	Pn	12 55 18.9	+1.2			
GRR					*e*Sn	Sn	12 56 26.9	-5.4			
	comp=N,0.4nm,0.2s										
FLN	**La Foliniere**	**6.55**	**313**		*e*P	Pn	12 55 21.0	+3.0			
	baz=133										

MEX 24 13:12:54.8±0.7, 18°.89N×102°.27W, h47km±56km, MD3.7, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**1.18**	**240**	*e*P	Pn	13 13 13.1	-1.8
MMIG				*e*S	Sn	13 13 28.6	-1.3
COIG	**Colima**	**1.37**	**282**	*e*P	Pn	13 13 15.9	-1.8
COIG				*i* S	Sn	13 13 33.0	-1.8
EZ5V		**1.39**	**295**	*e*P	Pn	13 13 16.4	-1.6
EZ5V				*i* S	Sn	13 13 32.3	-3.0
R15V		**1.64**	**280**	*e*P	Pn	13 13 19.7	-1.6
R15V				*i* S	Sn	13 13 38.5	-2.8
CJM	**Chamela**	**2.69**	**284**	*e*P	Pn	13 13 33.8	-1.8
CJM				*e*S	Sn	13 14 07.2	+0.3

*DJA **24** 13:19:34.5±0.6,6°.1×12°.6E±°, h122km±7km, M4.5/7, mb4.5/5, mB5.0/5, MLv4.5/7, Mw(mB)4.3/5, MwMwp8.4/1, Mwp7.9/1*
*IDC **24** 13:19:35.3±0.9, 5°.86N×126°.09E, h127km±8km, mb3.6/9, mb1 3.7/10, mb1mx3.5/36, mbtmp4.0/10, MS2.7/1, Ms1 2.7/1, ms1mx2.2/33, Error ellipse: s-maj=39.4km s-min=11.6km az=76.0*
*MAN **24** 13:19:45.3, 6°.44N×125°.78E, h1km, mb4.7, ML3.6, MS3.5*
ISC 24 13:19:35.0±0.7, 5°.88N±0°.06×126°.2E±0°.1, h127km, n23, σ1§17/24, mb3.7/9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.36**	**331**	P	**Pn**	**13 19 59.8**	**-1.5**
	82nm,0.3s,baz=257,slow=2.9,SNR=6.7						
DAV				S	**Sn**	**13 20 20.8**	**-0.6**
	261nm,0.3s,baz=101,slow=13,SNR=15						
DAV	**Davao City (W)**	**1.36**	**331**	P	**Pn**	**13 20 00.3**	**-1.0**
KCP	**Kidapawan**	**1.61**	**315**	⇑*i*P	**Pn**	**13 20 03.2**	**-1.0**
KCP				*i* S	**Sn**	**13 20 25.8**	**-0.6**
SGSI	**Sangihe**	**2.29**	**198**	P	**Pn**	**13 20 12.5**	**0.0**
SGSI				S	**Sn**	**13 20 41.8**	**+0.6**
GAMI	**Galela, Maluku**	**4.30**	**159**	P	**Pn**	**13 20 37.8**	**-0.9**
TNTI	**Ternate**	**5.19**	**168**	P	**Pn**	**13 20 50.4**	**-0.3**
	0.8nm3μm171nm,1.0s						
GTOI	**Gorontalo**	**6.12**	**212**	P	**Pn**	**13 21 02.4**	**-0.8**
	0.1nm467nm22nm,0.5s						
MRSI	**Marisa**	**6.87**	**219**	P	**Pn**	**13 21 14.6**	**+1.3**
	0.3nm767nm38nm,0.7s						
SANI	**Sanana**	**7.88**	**182**	P	**Pn**	**13 21 23.3**	**-3.6**
APSI	**Ampana**	**8.16**	**214**	P	Pn	13 21 35.0	+4.4
SIJI	**Sorong**	**8.37**	**143**	P	**Pn**	**13 21 33.1**	**-0.5**
	1.6nm,0.3s,baz=328,slow=22,SNR=2.4						
BATI	**Baumata**	**16.18**	**189**	LR	LR	13 29 07.3	
	comp=Z,30nm,21.1s,baz=74,slow=35						
DBJI	**Dramaga**	**23.04**	**238**	P	**P**	**13 24 30.1**	**+0.6**
FITZ	**Fitzroy Crossi**	**23.83**	**181**	P	**P**	**13 24 37.0**	**+0.5**
	2.8nm,0.5s,baz=3.0,slow=8.9,SNR=17						
WRA	**Warramunga Arr**	**26.86**	**163**	P	**P**	**13 25 04.8**	**+0.7**
	0.6nm,0.6s,baz=342,slow=12,SNR=12						
ASAR	**Alice Springs**	**30.30**	**166**	P	**P**	**13 25 35.1**	**+0.6**
	0.6nm,0.5s,baz=344,slow=7.5,SNR=15						
KSRS	**Korea Array**	**31.47**	**3**	P	**P**	**13 25 45.9**	**+1.3**
	0.6nm,0.5s,baz=187,slow=9.5,SNR=4.1						
NWAO	**Narrogin (SRO)**	**39.53**	**192**	P	**P**	**13 26 53.4**	**-0.1**
	3.9nm,0.5s,baz=31,slow=6.7,SNR=8.8						
MKAR	**Makanchi Array**	**55.53**	**325**	P	**P**	**13 28 55.8**	**-1.3**
	0.4nm,0.4s,baz=120,slow=6.7,SNR=10						
ILAR	**Eielson Array**	**83.39**	**26**	P	**P**	**13 31 48.2**	**+0.4**
	0.4nm,0.6s,baz=248,slow=4.6,SNR=4.6						
ARCES	**ARCESS Array B**	**88.28**	**340**	P	**P**	**13 32 13.0**	**+1.2**
	2.6nm,1.0s,baz=72,slow=6.7,SNR=1.1						
FINES	**FINESS Array B**	**89.72**	**332**	P	**P**	**13 32 18.0**	**-0.6**
	1.2nm,0.9s,baz=54,slow=9.3,SNR=3.7						
TORD	**Torodi Ar. Bea**	**121.78**	**289**	PKP	**PKPdf**	**13 38 14.8**	**-0.3**
	0.6nm,0.7s,baz=26,slow=2.4,SNR=4.6						

*NNC **24** 13:19:12.3±0.8, 41°.22N×76°.84E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=9.6km s-min=5.3km az=85.0*
KRNET 24 13:19:39.2±0.1, 41°.67N×77°.27E, h14km, mb2.0, 6C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**0.47**	**352**	⇑*i*P	Pg	13 19 48.3	-0.2
	baz=54						
KDJ				⇑*i*S	Sg	13 19 54.7	-0.1
	baz=54						

ANVS	**Anan'yevo**	**1.15**	**15**	⇑*i*P		Pn	13 20 01.1	0.0			
	baz=15										
ANVS				⇑*i*S		Sg	13 20 16.6	0.0			
	baz=15										
PRZ	**Przheval'sk**	**1.17**	**46**	⇑*i*P		Pb	13 20 01.1	-0.3			
	baz=45										
PRZ				⇑*i*S		Sn	13 20 17.4	+0.1			
	baz=45										
BOOM	**Boomskoye usch**	**1.28**	**310**	⇓*i*P		Pn	13 20 03.0	+0.1			
	baz=10.0										
BOOM				⇓*i*S		Sg	13 20 20.4	-0.3			
	baz=10.0										
TNSS	**Tian-Shan**	**1.39**	**350**	P		Pn	13 19 45.1	-19			
	1.5nm,0.1s										
TNSS				S		Sn	13 20 10.1	-13			
	2.4nm,0.3s										
IZV	**Izvestkoviy**	**1.45**	**341**	P		Pn	13 19 45.0	-20			
	0.5nm,0.1s										
IZV				S		Sn	13 20 09.6	-15			
	3.9nm,0.1s										
DGS	**Degeres**	**1.92**	**325**	Pg		Pn	13 19 52.1	-20			
	1.5nm,0.5s										
DGS				Lg		Lg	13 20 21.8				
	1.4nm,0.2s										

MEX 24 13:21:53.7±0.8, 16°.86N×94°.21W, h103km±23km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.69**	**290**	*i* P	Pn	13 22 10.2	-1.1
CMIG				*e*S	Sn	13 22 22.7	-1.8
PCIG		**1.49**	**140**	*i* P	Pn	13 22 18.7	-1.3
PCIG				*e*S	Sn	13 22 38.2	-1.7
TOIG	**Toxpalan**	**2.99**	**295**	*i* P	Pn	13 22 38.0	-1.5
TOIG				*i* S	Sn	13 23 12.5	-2.4
HLIG	**Huajuapan de L**	**3.57**	**286**	*e*P	Pn	13 22 46.8	-0.6
HLIG				*e*S	Sn	13 23 26.5	-2.3
FTIG	**Fresnillo de T**	**3.89**	**286**	*i* P	Pn	13 22 50.6	-1.0
FTIG				*i* S	Sn	13 23 34.9	-1.5

*KRNET **24** 13:32:17.8±0.1, 41°.68N×79°.76E, mb3.0*
*SOME **24** 13:32:19.9, 41°.48N×79°.02E, h10km*
*NNC **24** 13:32:21.1±0.8, 41°.50N×79°.01E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=5.1km s-min=2.9km az=161.0*
ISC 24 13:32:23.5±2.2, 41°.61N±0°.08×78°.94E±0°.05, h4km±12km, n55, σ1§24/84, 15C-13D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.96**	**335**	⇓*i*P	**Pg**	**13 32 41.3**	**-0.6**
	baz=9.0						
PRZ				⇓*i*S	**Sn**	**13 32 58.4**	**+0.3**
	baz=9.0						
SATY	**Saty**	**1.50**	**345**	*e*P	**Pn**	**13 32 50.4**	**-0.9**
	4.5nm,0.1s						
SATY				*e*S	**Sg**	**13 33 13.1**	**+1.5**
	52nm,0.1s						
SATY	**Saty**	**1.50**	**345**	P	**Pn**	**13 32 50.4**	**-0.9**
	4.5nm,0.1s						
SATY				S	**Sg**	**13 33 13.1**	**+1.5**
	52nm,0.1s						
SHLS	**Shalkode**	**1.59**	**14**	*e*P	**Pb**	**13 32 53.5**	**0.0**
	52nm,0.3s						
SHLS				*e*S	**Sg**	**13 33 17.8**	**+3.1**
	121nm,0.4s						
SHLS	**Shalkode**	**1.59**	**14**	P	**Pb**	**13 32 53.6**	**0.0**
	52nm,0.3s						
SHLS				S	**Sg**	**13 33 17.8**	**+3.1**
	121nm,0.4s						
PDGK	**Podgornoye**	**1.76**	**13**	P	**Pn**	**13 32 54.6**	**-0.3**
	4.4nm,0.3s						
PDGK				S	**Sg**	**13 33 19.7**	**-0.4**
	23nm,0.5s						
PDGK	**Podgornoye**	**1.76**	**13**	⇓Pg	**Pb**	**13 32 55.2**	**-1.3**
	9.0nm,0.5s						
PDGK				⇓Lg	Lg	13 33 19.6	
	31nm,0.6s						
KPKS	**Kokpek**	**1.86**	**354**	*e*P	**Pb**	**13 32 57.7**	**-0.4**
	24nm,0.2s						
KPKS				*e*S	**Sg**	**13 33 25.0**	**+1.7**
	150nm,0.2s						
KURS	**Kuram**	**1.96**	**343**	*e*P	**Pb**	**13 32 59.3**	**-0.4**
	4.5nm,0.2s						
KURS				*e*S	**Sg**	**13 33 27.9**	**+1.5**
	17nm,0.3s						
KURS	**Kuram**	**1.96**	**343**	Pg	**Pb**	**13 32 59.3**	**-0.4**
	4.5nm,0.2s						
KURS				Lg	Lg	13 33 27.9	
	17nm,0.3s

CHKK					*e*S	**Sg**	**13 33 49.3**	**+0.3**
	238nm,0.4s								
CHKK	**Chushkaly**	**2.66**	**328**		Pg	**Pb**	**13 33 11.6**	**0.0**
	10nm,0.2s								
CHKK					Lg	Lg	13 33 49.3		
	238nm,0.4s								
KTBS	**Karatobe**	**2.68**	**322**		*e*P	**Pb**	**13 33 11.7**	**-0.3**
	6.2nm,0.2s								
KTBS					*e*S	**Sg**	**13 33 49.2**	**-0.3**
	61nm,0.4s								
KTBS	**Karatobe**	**2.68**	**322**		Pg	**Pb**	**13 33 11.7**	**-0.3**
	6.2nm,0.2s								
KTBS					Lg	Lg	13 33 49.2		
	61nm,0.4s								
DJR	**Jarkent**	**2.79**	**13**		*e*P	**Pb**	**13 33 12.4**	**-1.5**
	0.3nm,0.2s								
DJR					*e*S	**Sb**	**13 33 50.4**	**+1.9**
	9.9nm,0.4s								
DJR	**Jarkent**	**2.79**	**13**		Pg	**Pb**	**13 33 12.4**	**-1.5**
	0.3nm,0.2s								
DJR					Lg	Lg	13 33 50.4		
	9.9nm,0.4s								
KZA	**Kyzart**	**2.79**	**281**	⇑	*i*P	**Pn**	**13 33 10.4**	**+1.1**
	baz=78								
KZA				⇑	*i*S	**Sb**	**13 33 49.5**	**+0.6**
	baz=78								
TKM2	**Tokmak 2**	**2.80**	**299**	⇑	*i*P	**Pn**	**13 33 09.3**	**0.0**
	baz=93								
TKM2				⇑	*i*S	**Sb**	**13 33 47.3**	**-1.7**
	baz=93								
TKM2	**Tokmak 2**	**2.80**	**299**	⇑	Pg	**Pb**	**13 33 13.0**	**-1.2**
	1.5nm,0.3s								
TKM2				⇓	Lg	Lg	13 33 52.3		
	29nm,0.6s								
DGS	**Degeres**	**2.85**	**306**		*e*P	**Pb**	**13 33 15.3**	**+0.3**
	4.6nm,0.3s								
DGS					*e*S	**Sg**	**13 33 55.4**	**+0.3**
	24nm,0.4s								
DGS	**Degeres**	**2.85**	**306**		Pg	**Pb**	**13 33 15.3**	**+0.3**
	4.6nm,0.3s								
DGS					Lg	Lg	13 33 55.4		
	24nm,0.4s								
KUU	**Kurty**	**2.98**	**321**		*e*P	**Pb**	**13 33 17.2**	**+0.1**
	3.4nm,0.3s								
KUU					*e*S	**Sg**	**13 33 58.4**	**-0.7**
	42nm,0.4s								
KUU	**Kurty**	**2.98**	**321**		Pg	**Pb**	**13 33 17.2**	**+0.1**
	3.4nm,0.3s								
KUU					Lg	Lg	13 33 58.4		
	42nm,0.4s								
KRBS	**Karabastau**	**3.18**	**312**		*e*P	**Pb**	**13 33 20.9**	**+0.3**
	3.5nm,0.2s								
KRBS					*e*S	**Sg**	**13 34 05.3**	**-0.4**
	15nm,0.5s								
KRBS	**Karabastau**	**3.18**	**312**		Pg	**Pb**	**13 33 20.9**	**+0.3**
	3.5nm,0.2s								
KRBS					Lg	Lg	13 34 05.3		
	15nm,0.5s								
UCH	**Uchtor**	**3.36**	**282**	⇑	*e*P	**Pn**	**13 33 18.6**	**+1.5**
	baz=80								
UCH				⇑	*i*S	**Sb**	**13 34 03.1**	**-2.1**
	baz=80								
AAK	**Ala-Archa**	**3.46**	**289**	⇑	*i*P	**Pn**	**13 33 19.2**	**+0.9**
	baz=85								
AAK				⇑	*i*S	**Sb**	**13 34 04.5**	**-3.3**
	baz=85								
AAK	**Ala-Archa**	**3.46**	**289**		Pg	**Pg**	**13 33 28.2**	**-1.6**
	0.5nm,0.3s								
AAK					Lg	Lg	13 34 12.6		
	5.5nm,0.6s								
ARLS	**Aral**	**3.46**	**276**	⇓	*e*P	**Pn**	**13 33 19.7**	**+1.4**
	baz=74								
ARLS				⇓	*i*S	**Sb**	**13 34 04.8**	**-3.1**
	baz=74								
SGDS	**Sogindy**	**3.68**	**301**		Pg	**Pb**	**13 33 29.2**	**+0.2**
	0.8nm,0.3s								
SGDS					Lg	Lg	13 34 18.9		
	9.2nm,0.4s								
KAPS	**Kapalarasan**	**3.68**	**5**		*e*P	**Pb**	**13 33 30.0**	**+0.8**
	0.1nm,0.4s								
KAPS					*e*S	**Sg**	**13 34 20.4**	**-1.4**
	0.8nm,0.4s								
KAPS	**Kapalarasan**	**3.68**	**5**		Pg	**Pb**	**13 33 30.0**	**+0.8**
	0.1nm,0.4s								
KAPS					Lg	Lg	13 34 20.4		
	0.8nm,0.4s								
MRKS	**Merke**	**4.39**	**287**		*e*P	**Pb**	**13 33 43.7**	**+2.5**
	1.0nm,0.2s								
MRKS					*e*S	**Sg**	**13 34 43.9**	**-0.6**
	5.3nm,0.3s								
MRKS	**Merke**	**4.39**	**287**		Pg	**Pb**	**13 33 43.7**	**+2.5**
	1.0nm,0.2s								
MRKS					Lg	Lg	13 34 43.9		
	5.3nm,0.3s								
MK31	**Makanchi Array**	**5.71**	**24**	⇓	Pn	**Pn**	**13 33 47.9**	**-1.2**
	0.2nm,0.3s,baz=197,slow=13,SNR=4.1								
MK31				⇑	Sn	**Sn**	**13 34 56.2**	**+1.2**
	0.4nm,0.4s								
MK31				⇓	Lg	Lg	13 35 18.1		
	1.7nm,0.6s,baz=205,slow=27,SNR=4.0								
KK31	**Karatay Array**	**6.42**	**286**	⇑	Lg	Lg	13 35 48.2		
	0.8nm,0.6s,baz=94,slow=27,SNR=5.2								
OTUK	**Ortayu**	**8.12**	**327**	⇑	Lg	Lg	13 36 38.7		
	2.5nm,0.8s								

IDC ***24*** *13:35:49.1±0.6,31°.75S×71°.45W,h0km,mb4.3/11, mb1 4.4/16,mb1mx4.3/28,mbtmp4.2/16,ML4.1/5,MS3.7/4, Ms1 3.6/4,ms1mx3.4/26,Error ellipse: s-maj=22.3km s-min=17.2km az=97.0*

VAO ***24*** *13:35:52.5±0.4,31°.60S×71°.34W,h10km,mb4.7*

SJA ***24*** *13:35:53.6±1.1,31°.74S×71°.52W,h22km±5km,ML4.5, MW4.6*

GUC ***24*** *13:35:54.8±0.9,31°.69S×71°.55W,h25km±16km,ML4.8*

NEIC ***24*** *13:35:54.9±2.8,31°.63S±0°.03×71°.64W±0°.07,h35km±2km, mb4.7/14,ML4.8(GUC),Error ellipse: s-maj=10.6km s-min=4.5km az=284.0*

ISC 24 13:35:54.3±0.6,31°.65S±0°.03×71°.59W±0°.05,h37km±1km, n181,σ1°68/186,mb4.6/17,1C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO02	**Combarbal**	**0.67**	**49**	⇓ *i*P	**Pn**	**13 36 08.1**	**+0.5**
CO02				*e*S	**Sn**	**13 36 17.0**	**+0.2**
CO02				IAML		13 36 18.4	
	comp=E,228μm,0.3s						
CO02	**Combarbal**	**0.67**	**49**		**Pn**	**13 36 08.2**	**+0.7**
CO02				Sn	**Sn**	**13 36 17.0**	**+0.2**
CO02	**Combarbal**	**0.67**	**49**	*i* P	**Pn**	**13 36 08.2**	**+0.7**
CO02				*e*S	**Sn**	**13 36 17.4**	**+0.6**
VA06	**Catapilco**	**0.94**	**165**	*e*P	**Pn**	**13 36 11.4**	**+0.4**
VA06				*e*S	**Sn**	**13 36 22.7**	**-0.6**
VA06				IAML		13 36 26.8	
	comp=E,44μm,0.4s						
CO06	**Fray Jorge**	**0.97**	**358**	*e*P	**Pn**	**13 36 12.8**	**+1.4**
CO06				*e*S	**Sn**	**13 36 26.3**	**+2.3**
CO06	**Fray Jorge**	**0.97**	**358**		**Pn**	**13 36 12.9**	**+1.4**
CO03	**El Pedregal**	**1.12**	**44**	*e*P	**Pn**	**13 36 14.9**	**+1.4**
CO03				*e*S	**Sn**	**13 36 28.2**	**+0.5**
CO03	**El Pedregal**	**1.12**	**44**	Pn	**Pn**	**13 36 15.1**	**+1.6**
CO03				Sn	**Sn**	**13 36 28.5**	**+0.8**
VA01	**Torpederas**	**1.37**	**182**	*e*P	**Pn**	**13 36 18.0**	**+1.1**
VA01				*e*S	**Sn**	**13 36 34.6**	**+0.8**
VA01				*e*		13 36 34.6	
VA01	**Torpederas**	**1.37**	**182**	Pn	**Pn**	**13 36 18.0**	**+1.1**
VA01	**Torpederas**	**1.37**	**182**	*i* P	**Pn**	**13 36 18.0**	**+1.1**
VA01				*i* S	**Sn**	**13 36 35.1**	**+1.3**
ROCH	**El Roble**	**1.41**	**160**	*e*P	**Pn**	**13 36 18.6**	**+1.0**
ROCH				*e*S	**Sn**	**13 36 35.6**	**+0.6**
ROCH				IAML		13 36 39.4	
	comp=E,21μm,0.3s						
ROC1	**El Roble**	**1.41**	**160**	*e*P	**Pn**	**13 36 18.9**	**+1.2**
ROC1				*i* S	**Sn**	**13 36 37.0**	**+1.9**
VA03	**San Esteban**	**1.42**	**142**	*e*P	**Pn**	**13 36 18.9**	**+1.2**
VA03				*e*S	**Sn**	**13 36 35.9**	**+0.8**
VA03				IAML		13 36 38.5	
	comp=E,44μm,0.3s						
VA03	**San Esteban**	**1.42**	**142**		**Pn**	**13 36 18.9**	**+1.2**
VA03				Sn	**Sn**	**13 36 36.3**	**+1.1**
VA03	**San Esteban**	**1.42**	**142**	*i* P	**Pn**	**13 36 19.1**	**+1.4**
VA03				*i* S	**Sn**	**13 36 36.5**	**+1.3**
GO04	**Tololo Observa**	**1.62**	**25**	*e*P	**Pn**	**13 36 22.9**	**+2.3**
GO04				*e*S	**Sn**	**13 36 43.5**	**+3.2**
GO04	**Tololo Observa**	**1.62**	**25**	*i* P	**Pn**	**13 36 22.9**	**+2.3**
CO05	**La Serena**	**1.75**	**10**	*e*P	**Pn**	**13 36 24.7**	**+2.5**
CO05				IAML		13 36 50.2	
	comp=E,9μm,0.2s						
MT05	**Renca**	**1.88**	**158**	*e*P	**Pn**	**13 36 25.8**	**+1.8**
MT05				IAML		13 36 52.5	
	comp=E,17μm,0.3s						
MT05	**Renca**	**1.88**	**158**		**Pn**	**13 36 25.9**	**+2.0**
AUSP	**Uspallata**	**1.96**	**108**	*i* P	**Pn**	**13 36 25.4**	**+0.1**
RTLS	**Leoncito**	**1.96**	**95**	*e*P	**Pn**	**13 36 28.4**	**+3.1**
RTLS				*e*S	**Sn**	**13 36 51.8**	**+3.0**
RTLS				IAML		13 36 56.4	
	comp=Z,3μm,0.7s						
VA05	**Santo Domingo**	**2.00**	**180**	*e*P	**Pn**	**13 36 26.4**	**+0.8**
VA05				IAML		13 36 57.8	
	comp=E,11μm,0.2s						
VA05	**Santo Domingo**	**2.00**	**180**		**Pn**	**13 36 26.5**	**+1.0**
MT09	**Talagante**	**2.18**	**167**	IAML		13 37 06.2	
	comp=N,7μm,0.3s						
MT09	**Talagante**	**2.18**	**167**	Pn	**Pn**	**13 36 30.4**	**+2.2**
MT01	**Popeta**	**2.23**	**173**	IAML		13 37 04.6	
	comp=N,5μm,0.5s						
MT01	**Popeta**	**2.23**	**173**		**Pn**	**13 36 30.5**	**+1.8**
MT01	**Popeta**	**2.23**	**173**	*i* P	**Pn**	**13 36 30.3**	**+1.6**
AROD	**Rodeo**	**2.35**	**52**	*i* P	**Pn**	**13 36 34.1**	**+3.5**
AROD				*i* S	**Sn**	**13 37 04.5**	**+6.2**
ACCO	**Cerro Coronel**	**2.41**	**65**	*e*P	Pn	13 36 35.9	+4.4
LMEL	**Las Melosas**	**2.49**	**152**	*e*P	**Pn**	**13 36 35.1**	**+2.7**
LMEL				IAML		13 37 09.0	
	comp=N,8μm,0.1s						
ZON	**Zonda**	**2.49**	**88**	Pn	Pn	13 36 36.4	+4.0
ZON	**Zonda**	**2.49**	**88**	*i* P	Pn	13 36 36.4	+4.0
ZON				*i* S	**Sn**	**13 37 07.2**	**+5.7**
ZON				IAML		13 37 09.1	
	comp=Z,2μm,0.8s						
ASAL	**Salagasta**	**2.52**	**113**	*e*P	Pn	13 36 36.6	+3.8
ASAL				IAML		13 37 19.0	
	comp=Z,1μm,0.6s						
ARCO	**CERRO ARCO**	**2.55**	**119**	*i* P	Pn	13 36 36.9	+3.7
ARCO				IAML		13 37 20.3	
	comp=Z,3μm,0.4s						
ACDV	**Cuesta del Vie**	**2.59**	**56**	*i* P	Pn	13 36 38.2	+4.5
ACDV				IAML		13 37 22.8	
	comp=Z,1μm,0.6s						
RTCV	**Cerro Valdivia**	**2.61**	**95**	*i* P	**Pn**	**13 36 37.7**	**+3.7**
RTLL	**Cerro Villicun**	**2.68**	**84**	*e*P	**Pn**	**13 36 38.2**	**+3.2**
LCO	**Las Campanas**	**2.74**	**17**	*e*P	**Pn**	**13 36 38.3**	**+2.3**
LCO	**Las Campanas**	**2.74**	**17**	Pn	**Pn**	**13 36 37.0**	**+1.0**
LCO	**Las Campanas**	**2.74**	**17**	*i* P	**Pn**	**13 36 38.9**	**+3.0**
LCO				*i* S	**Sn**	**13 37 11.4**	**+3.4**
AAGR	**Agrelo**	**2.74**	**122**	*e*P	Pn	13 36 40.0	+4.1
AAGR				IAML		13 37 22.7	
	comp=Z,1μm,0.7s						
BO01	**Tunca**	**2.77**	**171**	*e*P	**Pn**	**13 36 37.8**	**+1.6**
BO01				IAML		13 37 25.9	
	comp=N,2μm,0.5s						
BO01	**Tunca**	**2.77**	**171**	Pn	**Pn**	**13 36 34.3**	**-1.8**
BO01	**Tunca**	**2.77**	**171**	*i* P	**Pn**	**13 36 37.8**	**+1.6**
AVIZ	**Vizcacheras**	**3.17**	**126**	*e*P	Pn	13 36 45.9	+4.1
BO02	**Sierra Bellavi**	**3.21**	**168**	*i* P	Pn	13 36 34.6	-7.6
GO05	**Huala**	**3.36**	**185**	*e*P	**Pn**	**13 36 44.5**	**+0.2**
GO05				IAML		13 37 49.0	
	comp=E,1μm,0.4s						
GO05	**Huala**	**3.36**	**185**		**Pn**	**13 36 44.5**	**+0.2**
GO05	**Huala**	**3.36**	**185**	*i* P	**Pn**	**13 36 44.6**	**+0.2**
AC04	**Llanos de Chal**	**3.46**	**8**	*e*P	**Pn**	**13 36 47.2**	**+1.5**
AC04				IAML		13 37 44.6	
	comp=E,2μm,0.7s						
AC04	**Llanos de Chal**	**3.46**	**8**	Pn	**Pn**	**13 36 46.9**	**+1.3**
AVFE	**Valle Fertil**	**3.68**	**76**	*i* P	**Pn**	**13 36 51.6**	**+2.9**
AVFE				IAML		13 37 43.0	
	comp=Z,2μm,0.6s						
ML02	**Panimavida**	**4.11**	**178**	*e*P	**Pn**	**13 36 55.1**	**+0.6**
VCA	**Vinchina**	**4.13**	**46**	*i* P	**Pn**	**13 36 59.4**	**+4.4**
VCA				IAML		13 38 11.6	
	comp=Z,2μm,1.6s						
GO03	**Copiap**	**4.21**	**17**	*e*P	**Pn**	**13 36 57.9**	**+1.8**
GO03	**Copiap**	**4.21**	**17**	Pn	**Pn**	**13 36 58.3**	**+2.3**
GO03	**Copiap**	**4.21**	**17**	*i* P	**Pn**	**13 36 57.8**	**+1.8**
GO03				*i* S	**Sn**	**13 37 50.3**	**+6.3**
ACHE	**Chepes**	**4.24**	**85**	*i* P	**Pn**	**13 36 58.8**	**+2.3**
AC02	**Maricunga**	**5.26**	**25**	Pn	**Pn**	**13 37 12.8**	**+2.0**
H03N1	**Juan Fernandez**	**6.43**	**252**	T	T	13 44 06.6	
	baz=73,slow=72						
H03N3	**Juan Fernandez**	**6.45**	**252**	T	T	13 44 08.2	
	baz=73,slow=72						
H03N2	**Juan Fernandez**	**6.45**	**252**	T	T	13 44 09.5	
	baz=73,slow=72						
LC01	**Cunco**	**7.24**	**182**	Pn	**Pn**	**13 37 37.1**	**-0.4**
PB15	**IPOC Station P**	**8.62**	**13**	*i* P	**Pn**	**13 37 55.2**	**-1.4**
PB06	**IPOC Station P**	**9.09**	**12**	Pn	**Pn**	**13 38 02.8**	**-0.3**
PLCA	**Paso Flores**	**9.11**	**175**	Pn	**Pn**	**13 37 59.1**	**-4.0**
	comp=Z,0.2nm,0.3s,baz=332,slow=12,SNR=6.2						
PLCA				LR	LR	13 41 51.0	
	comp=Z,143nm,18.5s,baz=344,slow=40						
PLCA	**Paso Flores**	**9.11**	**175**	*e*P	**Pn**	**13 38 04.8**	**+1.6**
LL04	**Puerto Octay**	**9.27**	**184**	Pn	**Pn**	**13 38 04.6**	**-0.7**
LVC	**Limon Verde**	**9.31**	**16**	Pn	**Pn**	**13 38 04.6**	**-1.8**
	comp=Z,1.1nm,0.3s,baz=166,slow=10,SNR=7.9						
LVC				Sn	**Sn**	**13 39 46.5**	**-3.5**
	comp=Z,2.0nm,0.3s,baz=119,slow=18,SNR=1.8						
LVC				LR	LR	13 41 57.1	
	comp=Z,218nm,21.8s,baz=215,slow=39						
LVC	**Limon Verde**	**9.31**	**16**	Pn	**Pn**	**13 38 05.8**	**-0.6**
LVC	**Limon Verde**	**9.31**	**16**	*e*P	**Pn**	**13 38 06.2**	**-0.2**
TRQA	**Tornquist**	**10.16**	**132**		**Pn**	**13 38 18.8**	**+1.2**
TRQA	**Tornquist**	**10.16**	**132**	*e*P	**Pn**	**13 38 17.7**	**+0.1**
ITQB	**Itaqui**	**13.04**	**85**	Pn	**Pn**	**13 38 56.5**	**-0.4**
ITQB	**Itaqui**	**13.04**	**85**	*e*P	**Pn**	**13 38 55.9**	**-1.1**
CPUP	**Villa Florida**	**13.56**	**71**	Pn	**Pn**	**13 39 02.1**	**-2.0**
	comp=Z,1.1nm,0.3s,baz=245,slow=13,SNR=19						
CPUP				Sn	**Sn**	**13 41 28.9**	**-4.5**
	comp=Z,0.6nm,0.3s,baz=254,slow=9.8,SNR=2.0						
CPUP				LR	LR	13 44 46.4	
	comp=Z,501nm,18.1s,baz=250,slow=40						
CPUP	**Villa Florida**	**13.56**	**71**		**Pn**	**13 39 02.3**	**-1.8**
CPUP	**Villa Florida**	**13.56**	**71**	*e*P	**Pn**	**13 39 01.7**	**-2.4**
PLTB	**Pedras Altas**	**15.32**	**95**		**Pn**	**13 39 24.8**	**-2.9**
PLTB				IAmb	IAmb	13 39 39.4	
	comp=Z,25nm,0.7s						
PLTB	**Pedras Altas**	**15.32**	**95**	*e*P	**Pn**	**13 39 25.5**	**-2.2**
LPAZ	**La Paz**	**15.61**	**12**	Pn	**Pn**	**13 39 33.3**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=194,slow=8.1,SNR=15						
LPAZ	**La Paz**	**15.61**	**12**		**Pn**	**13 39 29.2**	**-3.0**
LPAZ	**La Paz**	**15.61**	**12**	*e*P	**Pn**	**13 39 33.0**	**+0.7**
CPSB	**Cacapava Do Su**	**15.62**	**90**	*e*P	**Pn**	**13 39 30.4**	**-1.2**
CNLB	**Canela**	**18.03**	**88**	*e*P	**Pn**	**13 40 01.3**	**-0.7**
AQDB	**Aquidauana**	**18.08**	**56**	*e*P	**Pn**	**13 40 01.7**	**-0.8**
SIV	**San Ignacio**	**18.30**	**34**	P	**Pn**	**13 40 05.4**	**0.0**
	comp=Z,1.0nm,0.3s,baz=218,slow=10,SNR=34						
PTGB	**Pitanga**	**18.54**	**73**	*e*P	**Pn**	**13 40 07.7**	**-0.6**
TER01	**Tubaro-SC**	**19.68**	**87**	*e*P	**P**	**13 40 20.3**	**0.0**
PTLB	**Pontes e Lacer**	**19.73**	**38**	*e*P	**P**	**13 40 21.2**	**+0.4**
PP1B	**Ponte de Pedra**	**20.61**	**51**	*e*P	**P**	**13 40 30.5**	**0.0**
PCMB	**Pacembu**	**20.71**	**66**	*e*P	**P**	**13 40 31.2**	**-0.3**
TIJ01	**Guaruva-PR**	**20.81**	**78**	*e*P	**P**	**13 40 30.6**	**-2.1**
SALV	**Santo Antonio**	**21.34**	**46**	*e*P	**P**	**13 40 37.9**	**-0.4**
VILB	**Vilhena**	**21.36**	**32**	*e*P	**P**	**13 40 38.5**	**+0.1**
ETMB	**Extrema**	**22.29**	**14**	*e*P	**P**	**13 40 49.8**	**+1.3**
ITRB	**Iturama**	**22.49**	**63**	*e*P	**P**	**13 40 49.9**	**-0.7**
PET01	**Itanhaem-SP**	**22.66**	**77**	*e*P	**P**	**13 40 51.1**	**-1.3**
SPB	**Sao Paulo**	**22.83**	**75**	P	**P**	**13 40 53.9**	**-0.3**
SPB				IAmb	IAmb	13 40 58.0	
	comp=Z,20nm,0.7s						
SPB	**Sao Paulo**	**22.83**	**75**	*e*P	**P**	**13 40 54.2**	**+0.1**
BB19B	**Bebedouro**	**23.15**	**69**	*e*P	**P**	**13 40 57.0**	**-0.5**
RCLB	**Rio Claro- Sao**	**23.28**	**73**	*e*P	**P**	**13 40 58.5**	**-0.3**
VAO	**Valinhos**	**23.47**	**75**	*e*P	**P**	**13 41 00.7**	**0.0**
CZSB	**Cruzeiro do Su**	**23.82**	**357**	*e*P	**P**	**13 41 06.0**	**+2.1**
PARB	**Paraibuna**	**24.44**	**77**	*e*P	**P**	**13 41 08.6**	**-1.1**
IPMB	**Ipameri, GO**	**25.14**	**63**	*e*P	**P**	**13 41 15.2**	**-0.9**
CLDB	**Colider**	**25.32**	**39**	*e*P	**P**	**13 41 17.6**	**0.0**
ESAR	**Angra dos Reis**	**25.55**	**77**	*e*P	**P**	**13 41 20.4**	**+0.7**
BSCB	**Bom Sucesso**	**26.21**	**73**	*e*P	**P**	**13 41 25.0**	**-0.8**
VAS01	**Vassouras-RJ**	**26.71**	**76**	*e*P	**P**	**13 41 29.2**	**-1.0**
BDFB	**Brasilia**	**26.75**	**59**	P	**P**	**13 41 30.4**	**-0.3**
	comp=Z,25nm,1.0s,baz=230,slow=8.5,SNR=16						
BDFB				LR	LR	13 53 37.0	
	comp=Z,445nm,20.5s,baz=260,slow=40						
BDFB	**Brasilia**	**26.75**	**59**	P	**P**	**13 41 29.3**	**-1.4**
BDFB				IAmb	IAmb	13 41 31.6	
	comp=Z,40nm,1.1s						
SNDB	**Serra Nova Dou**	**27.08**	**48**	*e*P	**P**	**13 41 33.2**	**-0.4**
TBTG	**Tabatinga, AM**	**27.36**	**4**	*e*P	**P**	**13 41 38.1**	**+2.1**
DUB01	**Friburgo-RJ**	**27.68**	**77**	*e*P	**P**	**13 41 39.1**	**+0.2**
DIAM	**Diamantina, MG**	**28.49**	**69**	*e*P	**P**	**13 41 46.0**	**-0.4**
NPGB	**Novo Progresso**	**28.79**	**35**	*e*P	**P**	**13 41 47.9**	**-1.0**
PEXB	**Peixe**	**28.96**	**53**	*e*P	**P**	**13 41 49.8**	**-0.5**
MC01	**Montes Claros**	**29.18**	**66**	*e*P	**P**	**13 41 51.6**	**-0.7**
JANB	**Januaria**	**29.88**	**63**	*e*P	**P**	**13 41 58.3**	**-0.2**
SJMB	**Sao Joao De Ma**	**30.28**	**72**	*e*P	**P**	**13 42 01.5**	**-0.5**
BSFB	**Barra de Sao F**	**30.49**	**73**	*e*P	**P**	**13 42 03.3**	**-0.5**
ITTB	**Itaituba**	**30.96**	**32**	*e*P	**P**	**13 42 06.9**	**-1.1**
SDBA	**SAO DESIDERIO**	**31.14**	**58**	*e*P	**P**	**13 42 08.8**	**-0.9**
SMTB	**Santa Maria do**	**31.81**	**50**	*e*P	**P**	**13 42 15.7**	**+0.1**
PRPB	**Parauapebas**	**32.52**	**43**	*e*P	**P**	**13 42 21.1**	**-0.6**
CMC01	**Camacan, BA**	**33.42**	**68**	*e*P	**P**	**13 42 29.1**	**-0.5**
NBIT	**Itapeh - BA**	**33.73**	**68**	*e*P	**P**	**13 42 33.1**	**+0.7**
GDU01	**Guandu, BA**	**34.33**	**66**	*e*P	**P**	**13 42 36.5**	**-1.0**
BOAV	**Boa Vista**	**35.45**	**19**	*e*P	**P**	**13 42 47.5**	**+0.4**
NBPN	**Ponto Novo - B**	**35.63**	**61**	*e*P	**P**	**13 42 48.0**	**-0.8**
MCPB	**Macapa, AP**	**36.20**	**34**	*e*P	**P**	**13 42 53.5**	**-0.1**
NBLA	**Lagarto - SE**	**37.37**	**64**	*e*P	**P**	**13 43 02.5**	**-1.1**
NBMA	**Muriti-CE**	**38.99**	**59**	*e*P	**P**	**13 43 16.9**	**-0.4**
NBPS	**Pedro II - PI**	**39.19**	**52**	*e*P	**P**	**13 43 18.8**	**-0.2**
NBAN	**Anadia - AL**	**39.35**	**64**	*e*P	**P**	**13 43 19.5**	**-0.8**
NBPB	**Pedra_Branca-C**	**39.65**	**56**	*e*P	**P**	**13 43 23.4**	**+0.6**
NBCL	**Cascavel-CE**	**41.49**	**56**	*e*P	**P**	**13 43 38.8**	**+0.9**
TOSP	**Speyside**	**44.00**	**16**	P	**P**	**13 43 59.4**	**+1.2**
PDPR	**Patillas Dam,**	**49.67**	**7**	P	**P**	**13 44 40.4**	**-2.0**
PDPR				IAmb	IAmb	13 44 53.4	
	comp=Z,5.9nm,0.8s						
VNDA	**Vanda**	**66.47**	**191**	P	**P**	**13 46 40.4**	**+0.9**
	comp=Z,0.9nm,1.1s,baz=92,slow=8.8,SNR=2.5						
TXAR	**Lajitas Array**	**67.88**	**330**	P	**P**	**13 46 50.6**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=147,slow=9.0,SNR=6.2						
SYO	**Syowa Base**	**67.91**	**159** ⇑	*e*P	**P**	**13 46 46.4**	**-2.2**
LIC	**Lamto**	**73.68**	**72**	*e*P	**P**	**13 47 24.5**	**-0.1**
	comp=Z,25nm,0.6s						
TIC	**Toumodi**	**73.93**	**72**	*e*P	**P**	**13 47 25.8**	**-0.2**
KIC	**Kosan Boka**	**73.99**	**72**	*e*P	**P**	**13 47 26.4**	**0.0**
	comp=Z,23nm,0.7s						
DBIC	**Dimbokro**	**74.08**	**72**	P	**P**	**13 47 27.0**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=226,slow=5.7,SNR=29						
DBIC	**Dimbokro**	**74.08**	**72**	P	**P**	**13 47 27.0**	**+0.1**
MAW	**Mawson**	**75.32**	**164**	P	**P**	**13 47 34.2**	**+1.0**
	comp=Z,2.8nm,0.9s,baz=213,slow=8.2,SNR=9.9						
MAW	**Mawson**	**75.32**	**164**	P	**P**	**13 47 34.2**	**+1.0**
KOWA	**Kowa**	**79.33**	**66**	P	**P**	**13 47 56.0**	**-0.4**
KOWA				IAmb	IAmb	13 47 57.7	
	comp=Z,8.3nm,0.7s						
BOSA	**Boshof**	**80.83**	**118**	P	**P**	**13 48 04.4**	**-0.3**
	comp=Z,3.3nm,0.8s,baz=248,slow=3.5,SNR=5.6						
BOSA	**Boshof**	**80.83**	**118**	P	**P**	**13 48 04.8**	**+0.1**
PDAR	**Pinedale Array**	**81.84**	**333**	P	**P**	**13 48 10.2**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=167,slow=4.4,SNR=1.8						
NVAR	**Mina Array Bea**	**82.18**	**325**	P	**P**	**13 48 13.9**	**+2.4**
	comp=Z,0.7nm,0.7s,baz=159,slow=7.1,SNR=7.9						
ELK	**Elko**	**82.56**	**328**	P	**P**	**13 48 14.4**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=118,slow=0.8,SNR=3.3						
LBTB	**Lobatse**	**82.95**	**115**	P	**P**	**13 48 15.4**	**-0.4**
LBTB				IAmb	IAmb	13 48

δ82.00000°,λ-11.00000°. *Principal axes:* T 5.5894, Plg2.0000°, Azm287.0000°; N -0.4431, Plg77.0000°, Azm25.0000°; P -5.1463, Plg13.0000°, Azm196.0000°;
GCMT ***24*** 13:49:00.5±0.1,50.56N±0.01×130.42W±0.01,h12km, MW5.8/151,Moment Tensor Solution. s142,c274; s151,c328; Duration: 1s8 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.19±.04; $M_{\theta\theta}$-4.13±.04; $M_{\phi\phi}$4.32±.04; $M_{r\theta}$-0.43±.11; $M_{r\phi}$2.99±.04; $M_{\theta r}$-0.92±.10; Best double couple: $M_0$5.26800×10^{17} NP1:φs152.00000°,δ82.00000°, λ174.00000°. NP2:φs243.00000°,δ84.00000°,λ8.00000°. *Principal axes:* T 5.4520, Plg10.0000°, Azm108.0000°; N -0.3700, Plg80.0000°, Azm279.0000°; P -5.0840, Plg2.0000°, Azm17.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
NEIC ***24*** 13:49:04,50.73N×130.24W,h12km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-1.13; $M_{\theta\theta}$-3.52; $M_{\phi\phi}$4.65; $M_{r\theta}$-0.84; $M_{\phi\phi}$2.76; $M_{\theta r}$1.01; Fault plane solution: $M_0$5.19000×10^{17} NP1:φs61.00000°, δ73.00000°,λ-8.00000°. NP2:φs153.00000°,δ82.00000°, λ-163.00000°. *Principal axes:* T 5.5738, Plg6.0000°, Azm286.0000°; N -0.8709, Plg72.0000°, Azm177.0000°; P -4.7029, Plg17.0000°, Azm18.0000°;
ISC 24 13:48:58.8±0.6,50.66N±0.03×130.35W±0.03,h9km±2km, h9km:pP-P,n1268,σ2s28/1264,mb5.3/195,MS5.5/225, 311C-95D,Fault plane solution: NP1:φs256.10700°, δ69.12625°,λ37.07665°. **NP2:**φs151.03766°,δ55.71468°, λ154.45364°. **Principal axes:** T Plg40.5621°, Azm118.1540°; N Plg48.1992°, Azm281.3521°; P Plg8.4169°, Azm20.8777°; **Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
HOLB	**Holberg**	**1.42**	**90**	Pn	**Pn**	**13**	**49**	**21.0**	**-3.7**
HOLB				Sn	**Sb**	**13**	**49**	**38.7**	**-4.8**
HOLB	**Holberg**	**1.42**	**90**		**Pn**	**13**	**49**	**21.1**	**-3.7**
HG4B	**Hotspring**	**1.72**	**342**	Pn	**Pn**	**13**	**49**	**24.7**	**-4.1**
HG4B				Sn	**Sn**	**13**	**49**	**46.4**	**-4.6**
HG4B	**Hotspring**	**1.72**	**342**	Pn	**Pn**	**13**	**49**	**24.8**	**-4.1**
HG4B				Sn	**Sn**	**13**	**49**	**47.1**	**-3.9**
HG4B	**Hotspring**	**1.72**	**342**	Pn	**Pn**	**13**	**49**	**24.7**	**-4.1**
HG4B				Sn	**Sn**	**13**	**49**	**46.8**	**-4.1**
BPBC	**Brooks Peninsu**	**1.73**	**106**	Pn	**Pn**	**13**	**49**	**24.6**	**-4.4**
PACB	**Port Alice, BC**	**1.84**	**96**	Pn	**Pn**	**13**	**49**	**26.7**	**-3.9**
PACB				Sn	**Sn**	**13**	**49**	**48.0**	**-5.9**
PACB	**Port Alice, BC**	**1.84**	**96**	Pn	**Pn**	**13**	**49**	**26.7**	**-3.9**
PACB				Sn	**Sn**	**13**	**49**	**48.0**	**-5.9**
PHC	**Port Hardy**	**1.86**	**87**	Pn	**Pn**	**13**	**49**	**27.4**	**-3.4**
PHC				Sn	**Sn**	**13**	**49**	**49.5**	**-4.9**
MAYB	**Maynard**	**2.05**	**96**	Pn	**Pn**	**13**	**49**	**29.9**	**-3.7**
MAYB	**Maynard**	**2.05**	**96**	Pn	**Pn**	**13**	**49**	**29.9**	**-3.7**
BBB	**Bella Bella**	**2.07**	**42**	Pn	**Pn**	**13**	**49**	**31.3**	**-2.4**
	366nm,0.3s,baz=229,slow=8.4,SNR=1563								
BBB					**Sn**	**13**	**49**	**54.2**	**-5.4**
	552nm,0.3s,baz=218,slow=18,SNR=6.8								
BBB				LR	LR	13	50	14.8	
	comp=Z,20μm,20.7s,baz=230,slow=38								
BBB	**Bella Bella**	**2.07**	**42**	Pn	**Pn**	**13**	**49**	**30.7**	**-3.0**
BBB				Sn	**Sn**	**13**	**49**	**55.5**	**-4.1**
BBB	**Bella Bella**	**2.07**	**42**		**Pn**	**13**	**49**	**30.7**	**-3.0**
BNB	**Barry Inlet**	**2.11**	**336**	Pn	**Pn**	**13**	**49**	**30.2**	**-4.1**
EDB	**Eliza Dome**	**2.22**	**110**	Pn	**Pn**	**13**	**49**	**31.4**	**-4.4**
TLCB	**Telegraph Cove**	**2.25**	**92**	Pn	**Pn**	**13**	**49**	**33.0**	**-3.1**
TLCB				Sn	**Sn**	**13**	**49**	**59.6**	**-4.3**
TLCB	**Telegraph Cove**	**2.25**	**92**		**Pn**	**13**	**49**	**33.0**	**-3.1**
TLCB	**Telegraph Cove**	**2.25**	**92**	Pn	**Pn**	**13**	**49**	**33.0**	**-3.1**
TLCB				Sn	**Sn**	**13**	**49**	**59.6**	**-4.3**
WOSB	**Woss**	**2.47**	**100**	Pn	**Pn**	**13**	**49**	**36.0**	**-3.3**
WOSB	**Woss**	**2.47**	**100**	Pn	**Pn**	**13**	**49**	**36.0**	**-3.3**
HG1B	**Mitchell Dam**	**2.53**	**335**	Pn	Pn	13	49	35.0	-5.0
HG1B	**Mitchell Dam**	**2.53**	**335**	Pn	Pn	13	49	35.0	-5.0
BUTB	**Butedale**	**2.68**	**25**	Pn	**Pn**	**13**	**49**	**39.5**	**-2.7**
BUTB				Sn	**Sn**	**13**	**50**	**11.5**	**-3.2**
BUTB	**Butedale**	**2.68**	**25**		**Pn**	**13**	**49**	**39.5**	**-2.7**
MOBC	**Moresby Island**	**2.68**	**339**	Pn	**Pn**	**13**	**49**	**38.5**	**-3.6**
MOBC	**Moresby Island**	**2.68**	**339**	Pn	**Pn**	**13**	**49**	**38.5**	**-3.6**
MOBC	**Moresby Island**	**2.68**	**339**			**13**	**49**	**38.3**	**-3.9**
BNKB	**Banks Island**	**2.69**	**6**	Pn	**Pn**	**13**	**49**	**39.1**	**-3.2**
BNKB				Sn	**Sn**	**13**	**50**	**10.3**	**-4.7**
BNKB	**Banks Island**	**2.69**	**6**	Pn	**Pn**	**13**	**49**	**39.1**	**-3.2**
NCRB	**Newcastle Ridg**	**2.75**	**94**	Pn	**Pn**	**13**	**49**	**40.0**	**-3.2**
NCRB	**Newcastle Ridg**	**2.75**	**94**	Pn	**Pn**	**13**	**49**	**40.0**	**-3.2**
ETB	**Estevan Point**	**2.78**	**116**	Pn	**Pn**	**13**	**49**	**33.7**	**-3.7**
BNAB	**Bonilla**	**2.84**	**357**	Pn	**Pn**	**13**	**49**	**41.1**	**-3.2**
BNAB	**Bonilla**	**2.84**	**357**	Pn	**Pn**	**13**	**49**	**41.1**	**-3.2**
DIB	**Dawson Inlet,**	**2.86**	**334**	Pn	**Pn**	**13**	**49**	**40.8**	**-3.8**
DIB	**Dawson Inlet,**	**2.86**	**334**	Pn	**Pn**	**13**	**49**	**40.8**	**-3.8**
GDR	**Gold River**	**2.91**	**106**	Pn	**Pn**	**13**	**49**	**41.7**	**-3.6**
VIB	**Van Inlet**	**2.93**	**333**	Pn	**Pn**	**13**	**49**	**41.7**	**-3.9**
VIB				Sn	**Sn**	**13**	**50**	**16.0**	**-4.8**
NC89	**ODP889**	**3.03**	**130**	Pn	**Pn**	**13**	**49**	**43.5**	**-3.1**
HWKB	**Hawksbury Isla**	**3.03**	**14**	Pn	**Pn**	**13**	**49**	**44.2**	**-2.8**
HWKB				Sn	**Sn**	**13**	**50**	**19.7**	**-3.8**
HWKB	**Hawksbury Isla**	**3.03**	**14**	Pn	**Pn**	**13**	**49**	**44.2**	**-2.8**
SPLB	**Strathcona Par**	**3.11**	**103**	Pn	**Pn**	**13**	**49**	**45.2**	**-2.8**
SPLB	**Strathcona Par**	**3.11**	**103**	Pn	**Pn**	**13**	**49**	**45.2**	**-2.8**
GRNB	**Grenville Isla**	**3.20**	**4**	Pn	**Pn**	**13**	**49**	**46.4**	**-2.8**
GRNB				Sn	**Sn**	**13**	**50**	**23.7**	**-3.8**
GRNB	**Grenville Isla**	**3.20**	**4**	Pn	**Pn**	**13**	**49**	**46.4**	**-2.8**
GRNB	**Grenville Isla**	**3.20**	**4**	Pn	**Pn**	**13**	**49**	**47.5**	**-1.7**
TOFB	**Tofino**	**3.25**	**116**	Pn	**Pn**	**13**	**49**	**45.9**	**-4.0**
TOFB	**Tofino**	**3.25**	**116**	Pn	**Pn**	**13**	**49**	**45.9**	**-4.0**
CBB	**Campbell River**	**3.26**	**99**	Pn	**Pn**	**13**	**49**	**47.2**	**-2.8**
CBB	**Campbell River**	**3.26**	**99**	Pn	**Pn**	**13**	**49**	**47.3**	**-2.8**
BTB	**Buttle Lake**	**3.33**	**109**	Pn	**Pn**	**13**	**49**	**48.0**	**-3.3**
MWAB	**Mount Washingt**	**3.37**	**104**	Pn	**Pn**	**13**	**49**	**48.8**	**-2.9**
B012	**Ucluelet**	**3.57**	**117**	Pn	**Pn**	**13**	**49**	**50.4**	**-3.9**
B012	**Ucluelet**	**3.57**	**117**	Pn	**Pn**	**13**	**49**	**50.4**	**-3.9**
OZB	**Mount Ozzard**	**3.58**	**117**	Pn	**Pn**	**13**	**49**	**50.5**	**-4.0**
KITB	**Kitimat**	**3.58**	**16**	Pn	**Pn**	**13**	**49**	**52.3**	**-2.1**
KITB				Sn	**Sn**	**13**	**50**	**34.1**	**-2.7**
KITB	**Kitimat**	**3.58**	**16**	Pn	**Pn**	**13**	**49**	**52.3**	**-2.1**
NDB	**Naden**	**3.66**	**335**	Pn	**Pn**	**13**	**49**	**53.1**	**-2.5**
RUBB	**Prince Rupert**	**3.67**	**1**	Pn	**Pn**	**13**	**49**	**53.4**	**-2.3**
RUBB	**Prince Rupert**	**3.67**	**1**		**Pn**	**13**	**49**	**53.2**	**-2.5**
RUBB	**Prince Rupert**	**3.67**	**1**	Pn	**Pn**	**13**	**49**	**53.4**	**-2.3**
B928	**Bamfield**	**3.85**	**116**	Pn	**Pn**	**13**	**49**	**55.4**	**-2.7**
B928	**Bamfield**	**3.85**	**116**	Pn	**Pn**	**13**	**49**	**55.0**	**-2.7**
BFSB	**Bamfield**	**3.85**	**116**	Pn	**Pn**	**13**	**49**	**54.5**	**-3.6**
BFSB	**Bamfield**	**3.85**	**116**	Pn	**Pn**	**13**	**49**	**54.5**	**-3.6**
B927	**Port Alberni**	**3.86**	**110**	Pn	**Pn**	**13**	**49**	**55.2**	**-3.0**
B927	**Port Alberni**	**3.86**	**110**	Pn	**Pn**	**13**	**49**	**55.2**	**-3.0**
TXB	**Texada**	**3.92**	**102**	Pn	**Pn**	**13**	**49**	**56.6**	**-2.7**
LIB	**Langara Island**	**3.96**	**336**	Pn	**Pn**	**13**	**49**	**56.3**	**-3.4**
MGB	**Mount Grey**	**4.03**	**112**	Pn	**Pn**	**13**	**49**	**57.0**	**-3.7**
GHNB	**Nanoose**	**4.17**	**107**	Pn	**Pn**	**13**	**49**	**59.6**	**-3.0**
GHNB	**Nanoose**	**4.17**	**107**	Pn	**Pn**	**13**	**49**	**59.6**	**-3.0**
SHB	**Sechelt**	**4.30**	**102**	Pn	**Pn**	**13**	**50**	**01.8**	**-2.7**
NLLB	**Nanaimo Lost L**	**4.36**	**107**	Pn	**Pn**	**13**	**50**	**02.1**	**-3.0**
NLLB	**Nanaimo Lost L**	**4.36**	**107**	Pn	**Pn**	**13**	**50**	**02.1**	**-3.0**
PFB	**Port Renfrew**	**4.38**	**116**	Pn	**Pn**	**13**	**50**	**02.5**	**-3.0**
OCP	**Olym-Cheeka Pk**	**4.42**	**120**	Pn	**Pn**	**13**	**50**	**03.4**	**-2.6**
B926	**Mesachie Lake**	**4.44**	**112**	Pn	**Pn**	**13**	**50**	**03.2**	**-3.0**
B926	**Mesachie Lake**	**4.44**	**112**	Pn	**Pn**	**13**	**50**	**03.2**	**-3.0**
CLRS	**Cowichan Lake**	**4.44**	**112**	Pn	Pn	**13**	**50**	**03.0**	**-3.2**
CLRS	**Cowichan Lake**	**4.44**	**112**		**Pn**	**13**	**50**	**03.4**	**-2.8**
UBRB	**Upper Baezaeko**	**4.49**	**58**	Pn	**Pn**	**13**	**50**	**06.4**	**-0.7**
UBRB				Sn	**Sn**	**13**	**50**	**57.0**	**-2.4**
UBRB	**Upper Baezaeko**	**4.49**	**58**	Pn	**Pn**	**13**	**50**	**06.4**	**-0.7**
C03A	**Quillayute Air**	**4.66**	**123**		**Pn**	**13**	**50**	**08.0**	**-1.2**
WPB	**Watts Point**	**4.70**	**100**	Pn	**Pn**	**13**	**50**	**07.8**	**-2.1**
BIB	**Bowen Island**	**4.71**	**103**	Pn	**Pn**	**13**	**50**	**07.3**	**-2.7**
GOBB	**Galiano Island**	**4.75**	**108**	Pn	**Pn**	**13**	**50**	**08.2**	**-2.3**
GOBB	**Galiano Island**	**4.75**	**108**	Pn	**Pn**	**13**	**50**	**08.2**	**-2.3**
WSLR	**Whistler**	**4.79**	**94**	Pn	**Pn**	**13**	**50**	**09.1**	**-2.0**
WSLR	**Whistler**	**4.79**	**94**	Pn	**Pn**	**13**	**50**	**09.1**	**-2.0**
OBC	**Olympics--Boni**	**4.87**	**120**	Pn	**Pn**	**13**	**50**	**11.1**	**-1.2**
B010	**North Saanich**	**4.92**	**112**	Pn	**Pn**	**13**	**50**	**09.8**	**-3.0**
B010	**North Saanich**	**4.92**	**112**	Pn	**Pn**	**13**	**50**	**09.8**	**-3.0**
PGC	**Sidney**	**4.92**	**112**	Pn	**Pn**	**13**	**50**	**09.7**	**-3.1**
PGC	**Sidney**	**4.92**	**112**	Pn	**Pn**	**13**	**50**	**10.0**	**-2.8**
B009	**North Saanich**	**4.92**	**112**	Pn	**Pn**	**13**	**50**	**10.3**	**-2.5**
B009	**North Saanich**	**4.92**	**112**	Pn	**Pn**	**13**	**50**	**10.3**	**-2.5**
PA01	**PA01 North**	**4.92**	**111**	Pn	**Pn**	**13**	**50**	**10.1**	**-2.7**
PA01	**PA01 North**	**4.92**	**111**	Pn	**Pn**	**13**	**50**	**10.1**	**-2.7**
B011	**North Saanich**	**4.92**	**112**	Pn	**Pn**	**13**	**50**	**09.9**	**-2.9**
B011	**North Saanich**	**4.92**	**112**	Pn	**Pn**	**13**	**50**	**09.9**	**-2.9**
PA12	**PA12 Sannich**	**4.92**	**112**	Pn	**Pn**	**13**	**50**	**09.9**	**-2.9**
PA12	**PA12 Sannich**	**4.92**	**112**	Pn	**Pn**	**13**	**50**	**09.9**	**-2.9**
SNB	**Saturna Island**	**5.03**	**109**	Pn	**Pn**	**13**	**50**	**12.1**	**-2.3**
STW	**Striped Peak**	**5.04**	**117**	Pn	**Pn**	**13**	**50**	**12.4**	**-2.1**
CRAG	**Craig**	**5.10**	**342**	Pn	**Pn**	**13**	**50**	**13.1**	**-2.2**
CRAG	**Craig**	**5.10**	**342**	P	**Pn**	**13**	**50**	**12.4**	**-2.9**
	baz=159,SNR=32								
VGZ	**Gonzales**	**5.10**	**113**	Pn	**Pn**	**13**	**50**	**13.8**	**-1.6**
OSD	**Olympics--Snow**	**5.20**	**121**	Pn	**Pn**	**13**	**50**	**14.4**	**-2.6**
HNBB	**Haney**	**5.21**	**102**	Pn	**Pn**	**13**	**50**	**14.5**	**-2.4**
HNBB	**Haney**	**5.21**	**102**	Pn	**Pn**	**13**	**50**	**14.5**	**-2.4**
MCS	**Mount Constitu**	**5.27**	**109**	Pn	**Pn**	**13**	**50**	**15.9**	**-1.8**
FSB	**Fort Saint Jam**	**5.30**	**42**	Pn	**Pn**	**13**	**50**	**17.2**	**-1.0**
A04D	**Lummi Island**	**5.33**	**108**	P	**Pn**	**13**	**50**	**16.2**	**-2.3**
	baz=295,SNR=174								
NLWA	**Neilton Lookou**	**5.38**	**125**		**Pn**	**13**	**50**	**17.3**	**-1.9**
LLLB	**Lillooet**	**5.39**	**87**	Pn	**Pn**	**13**	**50**	**17.6**	**-1.8**
LLLB	**Lillooet**	**5.39**	**87**	Pn	**Pn**	**13**	**50**	**15.8**	**-3.6**
LLLB	**Lillooet**	**5.39**	**87**	Pn	**Pn**	**13**	**50**	**17.6**	**-1.8**
VDB	**Vedder Mountai**	**5.58**	**104**	Pn	**Pn**	**13**	**50**	**20.6**	**-1.4**
WISH	**Wishkah**	**5.61**	**127**	Pn	**Pn**	**13**	**50**	**21.3**	**-1.0**
WISH	**Wishkah**	**5.61**	**127**		**Pn**	**13**	**50**	**21.3**	**-1.0**
HDW	**Hoodsport**	**5.66**	**119**	Pn	**Pn**	**13**	**50**	**22.1**	**-1.0**
MBW	**Mount Baker**	**5.80**	**106**	Pn	**Pn**	**13**	**50**	**23.9**	**-1.1**
CMW	**Cultus Mountai**	**5.81**	**109**	Pn	**Pn**	**13**	**50**	**23.9**	**-1.3**
GNW	**Green Mountain**	**5.83**	**119**	Pn	**Pn**	**13**	**50**	**24.0**	**-1.4**
WRAK	**Wrangell Islan**	**5.89**	**349**		**Pn**	**13**	**50**	**24.6**	**-1.5**
WRAK	**Wrangell Islan**	**5.89**	**349**	P	**Pn**	**13**	**50**	**24.2**	**-1.9**
	baz=167,SNR=52								
B05A	**Bryant**	**5.89**	**111**	P	**Pn**	**13**	**50**	**23.9**	**-2.4**
	baz=298,SNR=187								
HOPB	**Hope**	**5.90**	**99**	Pn	**Pn**	**13**	**50**	**24.2**	**-2.1**
HOPB	**Hope**	**5.90**	**99**	Pn	**Pn**	**13**	**50**	**24.2**	**-2.1**
JCW	**Jim Creek**	**6.03**	**111**	Pn	**Pn**	**13**	**50**	**26.7**	**-1.4**
RADR	**Rader Ridge**	**6.08**	**132**		**Pn**	**13**	**50**	**26.6**	**-2.2**
D04E	**Lakebay**	**6.09**	**122**	P	**Pn**	**13**	**50**	**26.8**	**-2.2**
	baz=309,SNR=31								
E03A	**Lebam**	**6.10**	**130**	Pn	**Pn**	**13**	**50**	**27.4**	**-1.7**
E03A	**Lebam**	**6.10**	**130**	Pn	**Pn**	**13**	**50**	**27.3**	**-1.7**
B06A	**Marblemount**	**6.15**	**107**	Pn	**Pn**	**13**	**50**	**28.6**	**-1.2**
B06A	**Marblemount**	**6.15**	**107**		**Pn**	**13**	**50**	**26.7**	**-3.1**
RPW	**Rockport**	**6.16**	**108**	Pn	**Pn**	**13**	**50**	**28.6**	**-1.4**
C05A	**Tolt Reservoir**	**6.41**	**114**	Pn	**Pn**	**13**	**50**	**32.3**	**-1.0**
C05A	**Tolt Reservoir**	**6.41**	**114**	Pn	**Pn**	**13**	**50**	**32.3**	**-1.0**
D05A	**Enumclaw**	**6.51**	**119**	Pn	**Pn**	**13**	**50**	**34.5**	**-0.3**
D05A	**Enumclaw**	**6.51**	**119**		**Pn**	**13**	**50**	**33.9**	**-0.9**
GPW	**Glacier Peak**	**6.53**	**109**	Pn	**Pn**	**13**	**50**	**34.5**	**-0.7**
E04D	**Cinebar**	**6.60**	**126**	P	**Pn**	**13**	**50**	**33.8**	**-2.1**
	baz=312,SNR=100								
F04D	**Rainier, OR**	**6.70**	**130**	P	**Pn**	**13**	**50**	**35.5**	**-1.9**
	baz=317,SNR=24								
C06D	**Leavenworth**	**6.77**	**110**	P	**Pn**	**13**	**50**	**36.5**	**-1.8**
	baz=298,SNR=53								
FMW	**Mount Fremont**	**6.84**	**120**	Pn	**Pn**	**13**	**50**	**39.0**	**-0.5**
LON	**Longmire**	**6.88**	**121**	Pn	**Pn**	**13**	**50**	**39.0**	**-0.8**
LON	**Longmire**	**6.88**	**121**	P	**Pn**	**13**	**50**	**39.3**	**-0.5**
LON	**Longmire**	**6.88**	**121**		**Pn**	**13**	**50**	**39.3**	**-0.5**
SIT	**Sitka**	**7.05**	**337**	P	**Pn**	**13**	**50**	**40.4**	**-1.6**
SIT	**Sitka**	**7.05**	**337**	Pn	**Pn**	**13**	**50**	**40.4**	**-1.6**
SIT	**Sitka**	**7.05**	**337**	P	**Pn**	**13**	**50**	**39.5**	**-2.5**
	baz=152								
PNT	**Penticton**	**7.05**	**97**	Pn	**Pn**	**13**	**50**	**40.3**	**-1.9**
F04A	**Amboy**	**7.10**	**129**		**Pn**	**13**	**50**	**42.8**	**+0.1**
LTY	**Liberty**	**7.23**	**114**	Pn	**Pn**	**13**	**50**	**43.7**	**-0.9**
LTY	**Liberty**	**7.23**	**114**		**Pn**	**13**	**50**	**42.6**	**-2.0**
G03D	**McMinnville, O**	**7.24**	**136**	P	**Pn**	**13**	**50**	**43.9**	**-0.8**
	baz=322,SNR=20								
BMBC	**Bull Mountain**	**7.30**	**39**	Pn	**Pn**	**13**	**50**	**45.0**	**-0.5**
BMBC	**Bull Mountain**	**7.30**	**39**	Pn	**Pn**	**13**	**50**	**45.0**	**-0.5**
B08A	**Colville Reser**	**7.54**	**104**	Pn	**Pn**	**13**	**50**	**47.3**	**-1.5**
B08A	**Colville Reser**	**7.54**	**104**	Pn	**Pn**	**13**	**50**	**47.4**	**-1.5**
F05D	**White Salmon**	**7.62**	**125**	P	**Pn**	**13**	**50**	**49.1**	**-0.8**
	baz=313,SNR=82								
MNB	**Mounoet Dainar**	**7.64**	**74**	Pn	**Pn**	**13**	**50**	**49.8**	**-0.6**
NBC4	**NorthernBC 4**	**7.70**	**45**	Pn	**Pn**	**13**	**50**	**50.5**	**-0.5**
NBC4	**NorthernBC 4**	**7.70**	**45**	Pn	**Pn**	**13**	**50**	**50.5**	**-0.5**
COR	**Corvallis**	**7.72**	**139**	P	**Pn**	**13**	**50**	**52.9**	**+1.6**
COR	**Corvallis**	**7.72**	**139**		**Pn**	**13**	**50**	**52.9**	**+1.6**
SLEB	**Sale Mountain**	**7.74**	**82**	Pn	**Pn**	**13**	**50**	**51.4**	**-0.5**
SLEB	**Sale Mountain**	**7.74**	**82**	Pn	**Pn**	**13**	**50**	**51.4**	**-0.5**
DLBC	**Dease Lake**	**7.79**	**1**	Pn	**Pn**	**13**	**50**	**52.3**	**-0.1**
	7.8nm,0.3s,baz=196,slow=15,SNR=54								
DLBC					**Sn**				
	baz=52,slow=8.9,SNR=1.4								
DLBC				LR	LR	13	53	45.0	
	comp=Z,52μm,21.6s,baz=187,slow=37								
DLBC	**Dease Lake**	**7.79**	**1**	Pn	**Pn**	**13**	**50**	**52.7**	**+0.3**
DLBC	**Dease Lake**	**7.79**	**1**		**Pn**	**13**	**50**	**52.6**	**+0.3**
I02D	**Swisshome**	**7.90**	**144**	P	**Pn**	**13**	**50**	**54.4**	**+0.6**
	baz=329								
JIS	**Juneau Island**	**7.98**	**344**		**Pn**	**13**	**50**	**53.5**	**-1.3**
H04D	**Lebanon**	**8.01**	**137**	P	**Pn**	**13**	**50**	**55.2**	**-0.1**
	baz=324,SNR=15								
E07A	**Sunnyside**	**8.08**	**116**		**Pn**	**13**	**50**	**54.9**	**-1.3**
H04A	**Detroit Lake**	**8.13**	**134**	Pn	**Pn**	**13**	**50**	**57.5**	**+0.6**
G05D	**Wamic, OR**	**8.13**	**128**	P	**Pn**	**13**	**50**	**57.1**	**+0.1**
	baz=316,SNR=38								
BUCK	**Buck Mountain**	**8.17**	**140**		**Pn**	**13**	**50**	**59.3**	**+1.8**
NBC5	**NorthernBC 5**	**8.22**	**30**	Pn	**Pn**	**13**	**50**	**57.8**	**-0.4**
NBC5	**NorthernBC 5**	**8.22**	**30**	Pn	**Pn**	**13**	**50**	**57.8**	**-0.4**
BESE	**Bessie Mountai**	**8.35**	**344**	Pn	**Pn**	**13**	**50**	**59.0**	**-0.9**
BESE	**Bessie Mountai**	**8.35**	**344**	Pn	**Pn**	**13**	**50**	**58.7**	**-1.3**
HAWA	**Hanford**	**8.36**	**117**	Pn	**Pn**	**13**	**50**	**58.7**	**-1.3**
D08A	**Wollman Farm,**	**8.36**	**111**	Pn	**Pn**	**13**	**50**	**58.0**	**-2.1**
C09A	**Chrisman Ranch**	**8.41**	**105**	Pn	**Pn**	**13**	**50**	**59.1**	**-1.6**
C09A	**Chrisman Ranch**	**8.41**	**105**	Pn	**Pn**	**13**	**50**	**59.3**	**-1.5**
F07A	**Phinny Hill Vi**	**8.43**	**120**		**Pn**	**13**	**51**	**00.4**	**-0.6**
I03D	**Drain, OR**	**8.44**	**143**	P	**Pn**	**13**	**51**	**02.0**	**+0.8**
	baz=329,SNR=46								
E08A	**Dider Farm, El**	**8.57**	**115**		**Pn**	**13**	**51**	**01.4**	**-1.6**
J01E	**Myrtle Point**	**8.69**	**147**	P	**Pn**	**13**	**51**	**05.4**	**+0.8**
	baz=333,SNR=23								
I04A	**Tendick Farm,**	**8.74**	**139**	P	**Pn**	**13**	**51**	**05.8**	**+0.5**
	baz=325,SNR=34								
I05D	**Terrebonne, OR**	**8.79**	**133**	P	**Pn**	**13**	**51**	**05.7**	**-0.3**
	baz=320,SNR=22								
NEW	**Newport**	**8.95**	**100**	Pn	**Pn**	**13**	**51**	**06.5**	**-1.7**
	7.2nm,0.3s,baz=290,slow=13,SNR=79								
NEW					LR	LR	13	54	30.1
	comp=Z,85μm,18.1s,baz=291,slow=37								
NEW	**Newport**	**8.95**	**100**	P	**Pn**	**13**	**51**	**06.7**	**-1.5**
NEW	**Newport**	**8.95**	**100**	Pn	**Pn**	**13**	**51**	**06.7**	**-1.5**
NEW	**Newport**	**8.95**	**100**	P	**Pn**	**13**	**51**	**05.9**	**-2.3**
	baz=291,SNR=56								
DBO	**Dodson Butte**	**8.97**	**144**	Pn	**Pn**	**13**	**51**	**10.4**	**+1.8**
E09A	**Wood Farm, Sta**	**9.09**	**112**		**Pn**	**13**	**51**	**07.9**	**-2.2**
K02D	**Willamette Mer**	**9.20**	**147**	P	**Pn**	**13**	**51**	**12.9**	**+1.3**
	baz=333,SNR=63								
SKAG	**Skagway**	**9.27**	**344**		**Pn**	**13**	**51**	**11.5**	**-0.9**
SKAG	**Skagway**	**9.27**	**344**	P	**Pn**	**13**	**51**	**11.2**	**-1.2**
	baz=159,SNR=18								
FNBB	**Fort Nelson**	**9.27**	**24**	Pn	**Pn**	**13**	**51**	**12.1**	**-0.4**
FNBB	**Fort Nelson**	**9.27**	**24**	Pn	**Pn**	**13**	**51**	**12.1**	**-0.4**
J04D	**Umpqua Nationa**	**9.32**	**140**	P	**Pn**	**13**	**51**	**15.0**	**+1.6**
	baz=326,SNR=21								
G08A	**Pilot Rock**	**9.34**	**121**	Pn	**Pn**	**13**	**51**	**12.8**	**-0.8**
PINE	**Pine Mountain**	**9.39**	**133**	Pn	**Pn**	**13**	**51**	**15.4**	**+1.0**
NBC6	**NorthernBC 6**	**9.50**	**30**	Pn	**Pn**	**13**	**51**	**14.6**	**-1.1**
NBC6	**NorthernBC 6**	**9.50**	**30**	Pn	**Pn**	**13**	**51**	**14.6**	**-1.1**
HUMO	**Hull Mountain**	**9.52**	**145**	Pn	**Pn**	**13**	**51**	**16.3**	**+0.2**
J05D	**Fort Rock, OR**	**9.65**	**136**	P	**Pn**	**13**	**51**	**18.5**	**+0.5**
	baz=324,SNR=81								
L02E	**Cave Junction**	**9.70**	**149**	P	**Pn**	**13**	**51**	**20.8**	**+2.4**
	baz=334,SNR=141								
I07A	**Izee**	**9.87**	**128**	Pn	**Pn**	**13**	**51**	**19.6**	**-1.2**
F10A	**Beach Ranch, E**	**9.92**	**113**		**Pn**	**13**	**51**	**19.7**	**-1.9**
K04D	**Chiloquin, OR**	**9.97**	**140**	P	**Pn**	**13**	**51**	**23.6**	**+1.2**
	baz=327,SNR=16								
L04D	**Klamath Falls**	**10.10**	**144**	P	**Pn**	**13**	**51**	**25.8**	**+1.7**
	baz=330,SNR=45								
KRMB	**Red Mountain**	**10.17**	**151**		**Pn**	**13**	**51**	**26.9**	**+1.9**
NBC2	**NorthernBC 2**	**10.17**	**23**	Pn	**Pn**	**13**	**51**	**25.8**	**+0.9**
NBC2	**NorthernBC 2**	**10.17**	**23**	Pn	**Pn**	**13**	**51**	**25.8**	**+0.9**
PRDA	**Priddis**	**10.18**	**83**	Pn	**Pn**	**13**	**51**	**25.8**	**+0.7**
PRDA	**Priddis**	**10.18**	**83**	Pn	**Pn**	**13**	**51**	**25.8**	**+0.7**
K05A	**Summer Lake**	**10.25**	**137**	Pn	**Pn**	**13**	**51**	**27.3**	**+1.1**
YBH	**Yreka Blue Hor**	**10.38**	**146**	Pn	**Pn**	**13**	**51**	**29.9**	**+2.0**
	0.9nm,0.3s,baz=337,slow=12,SNR=99								
YBH					**S

QLMT **Earthquake Lak** 13.99 107 Pn **Pn** 13 52 14.7 -2.6
L26K **Log Cabin Wild** 14.24 335 P **Pn** 13 52 20.1 -0.4
baz=144,SNR=32
HARP **HAARP** 14.27 331 P **Pn** 13 52 20.6 -0.2
baz=138,SNR=12
DAWY **Dawson** 14.27 344 Pn **Pn** 13 52 20.5 -0.4
DAWY **Dawson** 14.27 344 P **Pn** 13 52 19.4 -1.5
baz=156,SNR=24
SEW **Seward** 14.34 319 P **Pn** 13 52 21.1 -0.6
baz=122,SNR=7.1
M24K **Tolsona, Glenn** 14.38 329 P **Pn** 13 52 22.0 -0.4
baz=135,SNR=13
ELK **Elko** 14.46 127 Pn **Pn** 13 52 22.8 -0.9
0.1nm,0.3s,baz=324,slow=14,SNR=30
ELK LR LR 13 57 47.0
comp=Z,13µm,20.1s,baz=326,slow=37
YKA **Yellowknife Ar** 14.64 30 Pn **Pn** 13 52 23.1 -2.7
2.6nm,0.3s,baz=195,slow=22,SNR=35
YKA Sn Sn 13 54 56.1 -12
0.9nm,0.3s,baz=224,slow=22,SNR=3.1
YKA LR LR 13 58 17.6
comp=Z,24µm,19.0s,baz=0.0,slow=38
YKA **Yellowknife Ar** 14.64 30 Pn **Pn** 13 52 22.0 -3.8
O22K **Cooper Landing** 14.66 320 P **Pn** 13 52 24.6 -1.6
baz=123
BRSE **Bradley Lake S** 14.71 316 P **Pn** 13 52 26.0 -0.9
baz=119
BRSE S **S** 13 55 22.2 -6.6
baz=119
KNK **Knik Glacier** 14.71 324 P **Pn** 13 52 26.6 -0.4
baz=128,SNR=15
KNK S **S** 13 55 24.1 -4.8
baz=128
H17A **Grant Village** 14.74 108 P **Pn** 13 52 28.8 +1.2
H17A **Grant Village** 14.74 108 P **Pn** 13 52 25.9 -1.6
baz=303,SNR=72
KDAK **Kodiak Island** 14.78 307 Pn **Pn** 13 52 25.6 -2.2
0.3nm,0.3s,baz=97,slow=5.1,SNR=10
KDAK LR LR 13 56 45.1
comp=Z,30µm,20.3s,baz=153,slow=32
KDAK **Kodiak Island** 14.78 307 *ce* P **Pn** 13 52 26.8 -1.0
KDAK pmax pmax
comp=Z,274nm,1.7s
KDAK **Kodiak Island** 14.78 307 Pn **Pn** 13 52 26.8 -1.0
KDAK **Kodiak Island** 14.78 307 P **Pn** 13 52 25.5 -2.2
baz=109
KDAK S **Sn** 13 55 20.2 +8.7
baz=109
PAX **Paxson** 14.80 332 P **Pn** 13 52 27.1 -1.0
baz=139,SNR=16
NVAR **Mina Array Bea** 14.92 140 Pn **Pn** 13 52 31.6 +1.5
comp=Z,0.4nm,0.3s,baz=321,slow=12,SNR=49
NVAR LR LR 13 57 39.0
comp=Z,9µm,20.6s,baz=328,slow=35
SML **Sawmill** 14.92 325 P **Pn** 13 52 28.2 -1.6
baz=130,SNR=20
SML S **S** 13 55 25.2 -7.9
baz=130
DOT **Dot Lake** 14.94 336 Pn **Pn** 13 52 30.4 +0.4
OHAK **Old Harbor** 14.97 305 Pn **Pn** 13 52 29.0 -1.3
OHAK **Old Harbor** 14.97 305 P **Pn** 13 52 28.6 -1.7
baz=106,SNR=8.3
OHAK S **S** 13 55 28.5 -5.6
baz=106
MOOW **Moose Ponds** 14.99 110 Pn **Pn** 13 52 32.2 +1.3
RC01 **Rabbit Creek A** 15.01 321 P **Pn** 13 52 29.0 -1.9
baz=125
RC01 S **S** 13 55 30.5 -4.4
baz=125
TPAW **Teton Pass** 15.01 111 Pn **Pn** 13 52 31.6 +0.3
HOM **Homer** 15.07 315 P **Pn** 13 52 30.3 -1.4
baz=117
PMR **Palmer** 15.08 324 P **Pn** 13 52 30.6 -1.2
baz=128
PMR S **S** 13 55 31.2 -5.0
baz=128
RLMT **Red Lodge** 15.17 103 Pn **Pn** 13 52 32.0 -1.3
RLMT **Red Lodge** 15.17 103 P **Pn** 13 52 31.4 -1.9
baz=299,SNR=59
SCRK **Sand Creek** 15.19 337 Pn **Pn** 13 52 34.2 +0.8
SCRK lAmb lAmb 13 52 50.5
comp=Z,282nm,1.2s
SCRK **Sand Creek** 15.19 337 P **Pn** 13 52 32.9 -0.5
baz=145,SNR=65
RIDG **Independent Ri** 15.22 335 P **Pn** 13 52 33.2 -0.5
baz=142,SNR=31
WAT6 **Susitna Watana** 15.23 328 P **Pn** 13 52 33.2 -0.8
baz=133,SNR=32
WAT6 S **S** 13 55 37.0 -2.7
baz=133
EGAK **Eagle** 15.25 342 lAmb lAmb 13 52 47.9
comp=Z,161nm,1.1s
EGAK **Eagle** 15.25 342 P **Pn** 13 52 33.3 -0.7
baz=153,SNR=22
SII **Sitkinak Islan** 15.28 302 P **Pn** 13 52 32.1 -2.4
baz=102
MLAC **Mammoth, Mammo** 15.40 143 P **Pn** 13 52 37.4 +1.0
baz=332,SNR=11
CAPN **Captain Cook N** 15.41 319 P **Pn** 13 52 35.8 -0.3
baz=121
DHY **Denali Highway** 15.46 330 P **Pn** 13 52 36.4 -0.6
baz=135,SNR=36
DHY S **S** 13 55 43.1 -1.3
baz=135
J26L **Joseph Creek** 15.53 338 P **Pn** 13 52 37.6 -0.1
baz=147,SNR=64
J26L S **S** 13 55 48.3 +2.7
baz=147
SPUT **South Promonto** 15.53 120 lAmb lAmb 13 52 46.9
comp=Z,265nm,1.2s
SUA **Susitna One** 15.63 322 P **Pn** 13 52 37.7 -1.4
baz=124,SNR=38
SUA S **S** 13 55 45.7 -1.9
baz=124
WAT1 **Susitna Watana** 15.68 328 P **Pn** 13 52 38.6 -1.1
baz=132
WAT1 S **S** 13 55 45.5 -3.1
baz=132
Q19K **Cape Douglas,** 15.71 311 P **Pn** 13 52 37.3 -2.8
baz=111
Q19K S **S** 13 55 45.0 -4.1
baz=111
O20K **Slope Mountain** 15.71 315 P **Pn** 13 52 37.5 -2.7
baz=117,SNR=5.2
O20K S **S** 13 55 47.1 -2.2
baz=117
P19K **Oil Pt** 15.80 314 P **Pn** 13 52 39.7 -1.6
baz=114,SNR=14
P19K S **S** 13 55 45.7 -5.3
baz=114
CHIR **Chirikof Islan** 15.94 299 P **Pn** 13 52 38.9 -4.1
baz=98
CUT **Chulitna** 16.00 325 P **Pn** 13 52 42.8 -1.1
baz=128,SNR=12
CUT S **S** 13 55 56.0 +0.8
baz=128
J25K **Salcha River,** 16.06 336 P **Pn** 13 52 45.1 +0.4
baz=143,SNR=40
J25K S **S** 13 56 00.7 +4.3
baz=143
SPCR **Spurr Chakacha** 16.07 319 P **Pn** 13 52 42.5 -2.4
baz=121,SNR=13
SPCR S **S** 13 55 55.3 -1.5
baz=121
DUG **Dugway, Tooele** 16.12 124 P **Pn** 13 52 44.5 -1.2
baz=317,SNR=59
DUG S **S** 13 55 52.7 -5.3
baz=317
TIN **Tinemaha, Big** 16.14 143 P **Pn** 13 52 47.0 +1.1
baz=332,SNR=24
R11A **Troy Canyon, C** 16.16 134 P **Pn** 13 52 45.7 -0.6
baz=325,SNR=71
RND **Reindeer** 16.17 329 lAmb lAmb 13 53 08.4
comp=Z,398nm,1.4s
SKT **Skwentna** 16.23 322 P **Pn** 13 52 45.7 -1.1
baz=124,SNR=26
SKT S **Sn** 13 55 53.1 +6.4
baz=124
SPR3 **Spring Creek 3** 16.24 130 lAmb lAmb 13 52 54.3
comp=Z,582nm,2.0s
BW06 **Boulder Array** 16.26 111 lAmb lAmb 13 52 54.9
comp=Z,985nm,1.6s
BW06 **Boulder Array** 16.26 111 P **Pn** 13 52 47.9 +0.4
baz=307,SNR=240
PD31 **Pinedale Array** 16.26 111 lAmb lAmb 13 52 54.9
comp=Z,888nm,1.6s
PDAR **Pinedale Array** 16.26 111 Pn **Pn** 13 52 48.9 +1.3
comp=Z,2.1nm,0.3s,baz=312,slow=11,SNR=453
PDAR LR LR 13 58 57.9
comp=Z,15µm,21.8s,baz=321,slow=37
HDA **Harding Lake** 16.33 334 lAmb lAmb 13 52 59.7
comp=Z,723nm,1.8s
HDA **Harding Lake** 16.33 334 P **Pn** 13 52 47.8 -0.2
baz=139,SNR=20
HDA S **S** 13 56 05.6 +3.8
baz=139
HDA S **S** 13 56 05.6 +3.8
baz=139
VOG **Valley Oaks Go** 16.37 147 P **Pn** 13 52 48.4 -0.3
baz=335
LAO **LASA Array** 16.40 95 lAmb lAmb 13 52 50.6
comp=Z,552nm,1.3s
LAO **LASA Array** 16.40 95 P **Pn** 13 52 47.4 -1.7
baz=293,SNR=147
MCK **McKinley** 16.43 330 P **P** 13 52 51.7 -0.4
baz=134,SNR=74
MCK S **S** 13 56 06.4 +2.6
baz=134
O19K **Port Alsworth** 16.52 314 P **Pn** 13 52 49.3 -1.2
baz=114,SNR=33
O19K S **S** 13 56 01.8 -3.9
baz=114
GRAC **Grapevine Rang** 16.53 141 P **Pn** 13 52 51.6 +0.8
baz=330,SNR=10.0
ILAR **Eielson Array** 16.59 335 Pn **Pn** 13 52 52.2 +0.9
comp=Z,0.1nm,0.3s,baz=146,slow=12,SNR=39
ILAR LR LR 13 58 36.8
comp=Z,6µm,19.8s,baz=146,slow=35
TRF **Thorofare Moun** 16.68 328 P **Pn** 13 52 51.9 -0.8
baz=131,SNR=66
TRF S **S** 13 56 11.6 +2.4
baz=131
CWC **Cottonwood Cre** 16.74 143 P **Pn** 13 52 54.0 +0.4
baz=332
CWC S **S** 13 56 07.7 -2.9
baz=332
O18K **Koktuh Hills** 16.80 313 P **Pn** 13 52 51.8 -2.2
baz=112,SNR=30
O18K S **S** 13 56 09.6 -1.7
baz=112
PRP **Porcupine Dome** 16.84 338 P **Pn** 13 52 51.3 -3.3
baz=145,SNR=92
PRP S **S** 13 56 14.8 +2.5
baz=145
N19K **Bonanza Creek** 16.86 316 lAmb lAmb 13 53 13.2
comp=Z,479nm,1.6s
N19K **Bonanza Creek** 16.86 316 P **Pn** 13 52 53.8 -1.1
baz=116,SNR=26
N19K S **S** 13 56 10.7 -2.1
baz=116
VES **Vestal, Richgr** 16.91 147 P **Pn** 13 52 54.8 -0.7
baz=335,SNR=8.2
COLA **College** 16.93 334 P **Pn** 13 52 53.5 -2.1
baz=139
COLA S **S** 13 56 18.2 +4.2
baz=139
TCOL **CIGO, UAF Yank** 16.94 334 P **Pn** 13 52 55.5 -0.2
baz=139,SNR=9.5
TCOL S **S** 13 56 18.7 +4.6
baz=139
KTH **Kantishna Hill** 16.96 327 lAmb lAmb 13 53 07.7
comp=Z,466nm,1.1s
POKR **Poker Plat Res** 17.00 335 P **Pn** 13 52 55.5 -1.1
baz=140,SNR=19
POKR S **S** 13 56 19.7 +4.2
baz=140
PPLA **Purkeypile** 17.01 324 P **P** 13 52 58.1 -0.6
baz=126,SNR=70
PPLA S **S** 13 56 14.4 -1.6
baz=126
TPNV **Topopah Spring** 17.03 138 P **Pn** 13 52 57.4 +0.1
baz=328,SNR=237
TPNV S **S** 13 56 13.8 -2.9
baz=328
NEA2 **Nenana** 17.08 332 P **P** 13 52 59.1 -0.2
baz=136,SNR=64
NEA2 S **S** 13 56 21.5 +4.4
baz=136
SMMC **Simmler** 17.08 150 P **Pn** 13 52 58.4 +0.7
baz=338,SNR=23
SMMC S **S** 13 56 25.0 +7.5
baz=338
DGMT **Dagmar** 17.08 87 lAmb lAmb 13 53 00.1
comp=Z,570nm,1.1s
DGMT **Dagmar** 17.08 87 P **Pn** 13 52 55.8 -1.9
baz=288,SNR=93
FURC **Furnace Creek,** 17.19 140 P **P** 13 53 00.2 -0.4
baz=330,SNR=48
FURC S **S** 13 56 25.0 +5.5
baz=330
ISA **Isabella, Lake** 17.28 146 P **Pn** 13 53 00.6 +0.3
baz=334,SNR=74
ISA S **S** 13 56 19.6 -2.0
baz=334
CAST **Castle Rocks** 17.29 326 P **Pn** 13 52 59.2 -0.9
baz=127,SNR=43
CAST S **S** 13 56 19.6 -1.8
baz=127
MPMC **Manual Prospec** 17.30 143 P **P** 13 53 02.0 -0.1
baz=332,SNR=78
MPMC S **S** 13 56 21.8 -0.4
baz=332
M19K **Big River Lodg** 17.33 320 P **Pn** 13 52 59.4 -1.3
baz=119,SNR=28
M19K S **S** 13 56 21.5 -0.8
baz=119
BPAW **Bear Paw Mtn.** 17.34 329 P **Pn** 13 53 00.4 -0.5
baz=131,SNR=52
BPAW S **S** 13 56 24.7 +2.2
baz=131
L20K **Farewell, AK** 17.42 322 P **Pn** 13 53 00.7 -1.1
baz=122,SNR=29
L20K S **S** 13 56 23.7 -0.4
baz=122
N18K **Kilae Creek** 17.43 315 S **S** 13 56 23.5 -0.8
baz=113
GWY **Greenwater Val** 17.51 140 lAmb lAmb 13 53 24.8
comp=Z,688nm,2.0s
PKM **Mcpherson Peak** 17.53 150 P **P** 13 53 04.3 -0.4
baz=338,SNR=20
PKM S **S** 13 56 25.8 -1.1
baz=338
CHGN **Chignik** 17.55 300 lAmb lAmb 13 53 06.0
comp=Z,386nm,1.2s
CHGN **Chignik** 17.55 300 P **Pn** 13 53 02.4 -1.1
baz=97,SNR=25
I23K **Minto, Yukon-K** 17.57 333 P **Pn** 13 53 02.1 -1.5
baz=136,SNR=27
I23K S **S** 13 56 30.1 +3.2
baz=136
FFC **Flin Flon** 17.61 66 P **Pn** 13 53 02.2 -2.0
FFC pmax pmax
comp=Z,347nm,1.4s
FFC **Flin Flon** 17.61 66 **Pn** 13 53 02.2 -2.0
FFC lAmb lAmb 13 53 21.2
comp=Z,347nm,1.4s
ARVC **Arvin** 17.64 147 P **Pn** 13 53 04.8 +0.1
baz=336,SNR=14
CHUM **Lake Minchumin** 17.65 327 P **Pn** 13 53 03.6 -1.0
baz=128,SNR=34
CHUM S **S** 13 56 29.5 +0.8
baz=128
L19K **White Mountain** 17.66 320 **P** 13 53 06.5 +0.7
L19K **White Mountain** 17.66 320 P **Pn** 13 53 04.5 -0.3
baz=119,SNR=92
L19K S **S** 13 56 29.9 +0.9
baz=119
H24K **Noodor Dome** 17.68 336 P **Pn** 13 53 04.4 -0.6
baz=141,SNR=83
H24K S **S** 13 56 33.3 +3.9
baz=141
LRMC **Laurel Mtn Rad** 17.73 144 P **P** 13 53 06.6 -0.2
baz=333,SNR=32
LRMC S **S** 13 56 32.0 +1.0
baz=333
INK **Inuvik** 17.77 356 P **Pn** 13 53 05.7 -0.4
comp=Z,0.2nm,0.3s,baz=171,slow=12,SNR=31
INK LR LR 13 59 36.6
comp=Z,15µm,18.2s,baz=172,slow=36
INK **Inuvik** 17.77 356 Pn **Pn** 13 53 06.4 +0.4
INK **Inuvik** 17.77 356 P **Pn** 13 53 04.7 -1.3
baz=173,SNR=37
INK S **S** 13 56 37.2 +6.2
baz=173
MLY **Manley** 17.90 331 lAmb lAmb 13 53 15.8
comp=Z,441nm,1.4s
MLY **Manley** 17.90 331 P **P** 13 53 08.5 +0.1
baz=134,SNR=114
MLY S **S** 13 56 37.3 +3.5
baz=134
SHOC **Shoshone, Teco** 17.92 140 P **P** 13 53 09.0 +0.2
baz=330,SNR=34
SBC **Santa Barbara** 17.97 150 P **P** 13 53 09.4 +0.1
baz=338
SBC S **S** 13 56 40.3 +4.7
baz=338
K20K **Telida** 17.98 324 P **Pn** 13 53 09.0 +0.4
baz=124,SNR=46
K20K S **S** 13 56 34.8 -0.5
baz=124
CNBA **Chernabura Isl** 18.11 295 P **P** 13 53 11.7 +1.0
CHNA **Chernabura Isl** 18.11 295 P **Pn** 13 53 08.3 -2.0
baz=91
OSI **Osito Audit: C** 18.14 148 P **P** 13 53 11.6 +0.4
baz=336
OSI S **S** 13 56 39.2 +0.1
baz=336
EDW2 **Edwards Air Fo** 18.15 146 P **P** 13 53 11.6 +0.2
baz=334,SNR=33
EDW2 S **S** 13 56 41.2 +1.8
baz=334
K22A **Casper** 18.16 107 lAmb lAmb 13 53 13.9
comp=Z,452nm,1.4s
K22A **Casper** 18.16 107 P **Pn** 13 53 09.5 -1.8
baz=305,SNR=77
GSC **Goldstone, Bar** 18.23 142 P **P** 13 53 13.1 +0.9
baz=332,SNR=78
GSC S **S** 13 56 43.4 +2.5
baz=332
I21K **Tanana** 18.38 330 P **Pn** 13 53 13.1 -0.5
baz=132,SNR=138
I21K S **S** 13 56 45.3 +1.8
baz=132
TUQ **Turquoise Moun** 18.46 140 P **Pn** 13 53 16.1 +1.2
baz=330,SNR=73
TUQ S **S** 13 56 47.3 +1.5
baz=330
J20K **Nowinta River** 18.48 326 lAmb lAmb 13 53 23.6
comp=Z,723nm,1.6s
J20K **Nowinta River** 18.48 326 P **P** 13 53 14.3 -0.3
baz=126,SNR=54
J20K S **S** 13 56 47.3 +1.9
baz=126
TTA **Tatalina** 18.50 321 S **S** 13 56 48.5 +2.4
baz=119
RRX **Edison Barstow** 18.53 143 P **Pn** 13 53 16.6 +0.9
baz=333
DECC **Green Verdugo** 18.60 147 P **Pn** 13 53 16.7 +0.2
baz=336
DECC S **S** 13 56 52.2 +3.9
baz=336
SDPT **Sand Point** 18.64 296 P **P** 13 53 16.1 -0.4
baz=92,SNR=14
O20A **White River Ci** 18.69 116 lAmb lAmb 13 53 23.9
comp=Z,744nm,1.6s
O20A **White River Ci** 18.69 116 P **Pn** 13 53 17.8 0.0
baz=312,SNR=119
KUKN **Kugluktuk,NWT** 18.80 18 Pn **P** 13 53 18.3 +0.2
KUKN **Kugluktuk,NWT** 18.80 18 **P** 13 53 18.3 +0.2
HEC **Hector,Ludlow** 18.82 142 P **Pn** 13 53 20.4 +1.1
baz=332,SNR=54
HEC S **S** 13 56 56.8 +3.8
baz=332
BFSC **Mount Baldy Ra** 18.85 146 P **Pn** 13 53 20.6 +0.9
baz=335,SNR=28
BFSC S **S** 13 56 57.0 +3.4
baz=335
RSSD **Black Hills** 18.92 100 P **P** 13 53 19.3 -0.7
RSSD pmax pmax
comp=Z,94nm,0.8s
RSSD **Black Hills** 18.92 100 P **P** 13 53 19.3 -0.7
RSSD **Black Hills** 18.92 100 P **P** 13 53 18.2 -1.8
baz=300
RSSD S **S** 13 56 55.0 0.0
baz=300
H21K **Melozitna Rive** 18.96 331 P **Pn** 13 53 21.9 +1.2
baz=131,SNR=93
H21K S **S** 13 56 59.1 +3.9
baz=131
BBRC **Big Bear Solar** 19.10 144 P **Pn** 13 53 23.3 +0.5
baz=334,SNR=11
BBRC S **S** 13 57 03.1 +4.3
baz=334
FMP **Fort Macarthur** 19.11 148 P **Pn** 13 53 22.8 +0.2
baz=336
CIS **Catalina Islan** 19.35 149 P **P** 13 53 25.0 +0.5
baz=337
CIS S **S** 13 57 07.1 +3.6
baz=337
COLD **Coldfoot** 19.35 336 Pn **Pn** 13 53 28.1 +2.8
COLD **Coldfoot** 19.35 336 P **Pn** 13 53 26.5 +1.2
baz=139,SNR=72
COLD S **S** 13 57 10.2 +7.2
baz=139
PV21 **Cone Mtn., Par** 19.36 120 lAmb lAmb 13 53 42.7
comp=Z,702nm,1.9s
PV23 **Carpenter Ridg** 19.42 121 lAmb lAmb 13 53 49.9
comp=Z,240nm,1.0s
PV10 **Paradox Valley** 19.46 121 lAmb lAmb 13 53 35.9
comp=Z,327nm,1.1s
PV04 **Paradox Valley** 19.52 121 lAmb lAmb 13 53 34.4
comp=Z,800nm,1.8s
N23A **Red Feather La** 19.55 111 P **P** 13 53 26.7 -0.1
baz=309,SNR=49
PV17 **East Wray Mesa** 19.57 121 lAmb lAmb 13 53 37.3
comp=Z,275nm,0.9s
NEE2 **Needles Airpor** 19.58 138 P **Pn** 13 53 27.9 -0.4
baz=329
NEE2 S **S** 13 57 12.3 +4.3
baz=329
PHWY **Pilot Hill** 19.59 109 lAmb lAmb 13 53 33.7
comp=Z,297nm,1.1s
MURC **Murrieta** 19.59 145 P **P** 13 53 27.4 +0.3
baz=335,SNR=24
MURC S **Sn** 13 57 13.8 +5.4
baz=335
PV11 **David Mesa, Pa** 19.60 121 lAmb lAmb 13 53 33.0
comp=Z,538nm,1.4s
PV07 **Paradox Valley** 19.63 120 lAmb lAmb 13 53 51.2
comp=Z,229nm,1.3s
PV12 **Saucer Basin,** 19.63 121 lAmb lAmb 13 53 38.1
comp=Z,605nm,1.6s
PV05 **Paradox Valley** 19.64 122 lAmb lAmb 13 53 36.7
comp=Z,338nm,1.3s
BELC **Belle Mtn. Jos** 19.68 142 P **Pn** 13 53 29.1 -0.6
baz=332,SNR=103
BELC S **Sn** 13 57 16.6 +5.8
baz=332
SCI2 **San Clemente I** 19.69 149 P **Pn** 13 53 29.4 -0.2
baz=338,SNR=12
SCI2 S **Sn** 13 57 17.6 +6.8
baz=338
PV13 **Radium Mtn., P** 19.73 121 lAmb lAmb 13 53 39.1
comp=Z,296nm,1.0s
PV02 **Paradox Valley** 19.74 121 lAmb lAmb 13 54 04.2
comp=Z,759nm,2.0s
PFO **Pinyon Flats O** 19.85 144 P **P** 13 53 29.8 -0.3
comp=Z,0.4nm,0.3s,baz=333,slow=12,SNR=27
PFO LR LR 14 00 42.4
comp=Z,4µm,21.0s,baz=320,slow=36
PFO **Pinyon Flats O** 19.85 144 P **P** 13 53 30.0 -0.1
PFO pmax pmax
comp=Z,183nm,1.3s
PFO **Pinyon Flats O** 19.85 144 P **P** 13 53 30.0 -0.1
PFO **Pinyon Flats O** 19.85 144 P **P** 13 53 30.7 +0.6
baz=334,SNR=31
PFO S **Sn** 13 57 19.5 +4.7
baz=334
TPFO **Pinon Flats** 19.86 144 P **Pn** 13 53 31.1 -0.7
baz=334,SNR=38
TPFO S **Sn** 13 57 19.4 +4.4
baz=334
IRM **Iron Mountain** 19.89 140 P **Pn** 13 53 31.5 -0.5
baz=331,SNR=77
IRM S **Sn** 13 57 21.3 +5.8
baz=331
PV01 **Paradox Valley** 19.89 121 lAmb lAmb 13 53 39.3
comp=Z,169nm,1.0s
SMCO **Snowmass** 20.05 116 P Pn 13 53 33.5 -0.8
SMCO lAMs_20 lAMs_20 14 01 22.5
comp=Z,28µm,19.0s
PDMCI **Parker Dam,Lak** 20.18 138 P Pn 13 53 34.9 -0.5
baz=329,SNR=75
PDMCI S Sn 13 57 26.1 +3.6

	baz=329									
MDND	**Maddock**	**20.20**	**86**	Pn	**P**	**13 53 33.6**	**-0.1**			
MDND	**Maddock**	**20.20**	**86**	P	**P**	**13 53 33.4**	**-0.2**			
	baz=290,SNR=110									
MDND				S	**S**	**13 57 20.9**	**+0.7**			
	baz=290									
BC3	**Big Chuckawall**	**20.20**	**142**	P	**P**	**13 53 34.7**	**+0.8**			
	baz=332,SNR=58									
BC3				S	Sn	13 57 27.4	+4.2			
	baz=332									
109C	**Camp Elliot, M**	**20.27**	**146**	P	**P**	**13 53 35.3**	**+0.9**			
	baz=336,SNR=11									
109C				S	Sn	13 57 26.0	+1.4			
	baz=336									
TOLK	**Toolik Lake Re**	**20.30**	**340**	IAMs_20	IAMs_20	14 01 28.2				
	comp=Z,19µm,19.0s									
TOLK	**Toolik Lake Re**	**20.30**	**340**	P	Pn	13 53 36.4	-0.3			
	baz=143,SNR=35									
TOLK				S	Sn	13 57 32.1	+6.9			
	baz=143									
ISCO	**Idaho Springs**	**20.43**	**113**	P	**P**	**13 53 36.8**	**+0.2**			
ISCO				pmax	pmax					
	comp=Z,510nm,1.9s									
ISCO				MLR	MLR					
	comp=Z,34µm,18.0s									
ISCO	**Idaho Springs**	**20.43**	**113**	P	**P**	**13 53 36.8**	**+0.2**			
ISCO				IAmb	IAmb	13 53 46.0				
	comp=Z,510nm,1.9s									
ISCO	**Idaho Springs**	**20.43**	**113**	P	**P**	**13 53 37.0**	**+0.4**			
	baz=311,SNR=80									
WUAZ	**Wupatki**	**20.43**	**131**	P	Pn	13 53 37.9	-0.7			
WUAZ	**Wupatki**	**20.43**	**131**	P	**P**	**13 53 37.4**	**+0.9**			
	baz=324,SNR=65									
MONP2	**Monument Peak**	**20.51**	**145**	P	Pn	13 53 38.7	-0.8			
	baz=334,SNR=80									
MONP2				S	Sn	13 57 35.2	+4.4			
	baz=334									
MVCO	**Mesa Verde**	**20.60**	**122**	P	**P**	**13 53 38.9**	**+0.5**			
MVCO	**Mesa Verde**	**20.60**	**122**	P	**P**	**13 53 38.4**	**0.0**			
	baz=318,SNR=114									
BAR	**Barrett**	**20.61**	**145**	P	Pn	13 53 39.6	-0.8			
SWSC	**Sam W. Stewart**	**20.70**	**143**	P	**P**	**13 53 40.1**	**+1.0**			
	baz=334,SNR=35									
SWSC				S	Sn	13 57 39.4	+4.5			
	baz=334									
IKP	**In-Ko-Pah, Jac**	**20.84**	**144**	P	**P**	**13 53 42.0**	**+1.2**			
	baz=334,SNR=69									
IKP				S	Sn	13 57 41.3	+2.8			
	baz=334									
RMX	**La Rumorosa**	**20.90**	**144**	IAmb	IAmb	13 53 50.2				
	comp=Z,288nm,1.1s									
GLA	**Glamis**	**20.98**	**141**	P	**P**	**13 53 43.4**	**+1.1**			
	baz=332,SNR=59									
GLA				S	Sn	13 57 44.8	+3.0			
	baz=332									
S22A	**4UR Ranch, Cre**	**21.13**	**119**	S	Sn	13 57 51.8	+6.1			
	baz=316									
Q24A	**Divide**	**21.25**	**114**	P	**P**	**13 53 45.4**	**-0.1**			
	baz=312,SNR=27									
A36M	**Sachs Harbour**	**21.52**	**4**	IAMs_20	IAMs_20	14 02 14.2				
	comp=Z,17µm,22.0s									
A36M	**Sachs Harbour**	**21.52**	**4**	P	**P**	**13 53 48.0**	**+0.3**			
	baz=189									
A36M				S	Sn	13 57 56.5	+2.3			
	baz=189									
W18A	**Petrified Fore**	**21.56**	**128**	P	**P**	**13 53 49.2**	**+0.6**			
	baz=323,SNR=179									
ULM	**Lac du Bonnet**	**21.84**	**78**	P	**P**	**13 53 49.4**	**-2.0**			
	comp=Z,80nm,0.8s,baz=287,slow=10,SNR=36									
ULM				LR	LR	14 01 15.3				
	comp=Z,10µm,21.1s,baz=284,slow=34									
ULM	**Lac du Bonnet**	**21.84**	**78**	Pn	**P**	**13 53 49.3**	**-2.0**			
ULM	**Lac du Bonnet**	**21.84**	**78**	P	**P**	**13 53 49.4**	**-2.0**			
ULM				IAmb	IAmb	13 54 03.5				
	comp=Z,181nm,1.0s									
SDCO	**Great Sand Dun**	**21.88**	**117**	P	**P**	**13 53 52.2**	**0.0**			
SDCO				IAmb	IAmb	13 54 04.4				
	comp=Z,263nm,1.6s									
SDCO	**Great Sand Dun**	**21.88**	**117**	P	**P**	**13 53 51.9**	**-0.2**			
	baz=314,SNR=84									
SDCO				S	Sn	13 58 01.4	-2.3			
	baz=314									
OGNE	**Ogallala**	**21.88**	**105**	P	**P**	**13 53 50.9**	**-1.1**			
OGNE				IAMs_20	IAMs_20	14 02 41.1				
	comp=Z,18µm,20.0s									
OGNE	**Ogallala**	**21.88**	**105**	P	**P**	**13 53 52.4**	**+0.4**			
	baz=306,SNR=37									
SUSD	**Miller**	**21.98**	**94**	P	**P**	**13 53 51.8**	**-1.1**			
	baz=298,SNR=36									
SUSD				S	**S**	**13 57 58.7**	**+3.4**			
	baz=298									
UNV	**Unalaska Valle**	**22.20**	**292**	P	**P**	**13 53 56.1**	**+1.0**			
UNV				IAmb	IAmb	13 54 16.1				
	comp=Z,172nm,1.2s									
UNV	**Unalaska Valle**	**22.20**	**292**	P	**P**	**13 53 55.1**	**-0.1**			
	baz=83									
FCC	**Fort Churchill**	**22.22**	**55**	Pn	**P**	**13 53 55.1**	**-0.3**			
FCC	**Fort Churchill**	**22.22**	**55**	P	**P**	**13 53 54.6**	**-0.7**			
FCC				pmax	pmax					
	comp=Z,558nm,1.7s									
FCC	**Fort Churchill**	**22.22**	**55**	P	**P**	**13 53 54.6**	**-0.7**			
FCC				IAmb	IAmb	13 54 10.2				
	comp=Z,558nm,1.7s									
AGMN	**Agassiz Nation**	**22.42**	**83**	IAMs_20	IAMs_20	14 02 38.8				
	comp=Z,28µm,19.0s									
AGMN	**Agassiz Nation**	**22.42**	**83**	P	**P**	**13 53 55.2**	**-2.4**			
	baz=289,SNR=92									
AGMN				S	**S**	**13 58 00.1**	**-3.5**			
	baz=289									
KSCO	**Kaye Shedlock'**	**22.71**	**110**	P	**P**	**13 54 00.8**	**0.0**			
	baz=310,SNR=34									
214A	**Organ Pipe Nat**	**22.76**	**139**	P	**P**	**13 54 01.9**	**+0.6**			
	baz=331,SNR=84									
214A				S	Sn	13 58 19.1	-5.5			
	baz=331									
T25A	**Trinidad**	**22.92**	**116**	IAMs_20	IAMs_20	14 03 10.4				
	comp=Z,27µm,19.0s									
T25A	**Trinidad**	**22.92**	**116**	P	**P**	**13 54 03.0**	**-0.2**			
	baz=315,SNR=39									
T25A				S	Sn	13 58 22.0	-6.6			
	baz=315									
ANM	**Nome**	**22.96**	**321**	P	**P**	**13 54 04.4**	**+1.3**			
	baz=110									
ANM				S	**S**	**13 58 21.2**	**+8.1**			
	baz=110									
EPLO	**Experimental L**	**23.34**	**78**	Pn	**P**	**13 54 04.9**	**-2.3**			
EPLO	**Experimental L**	**23.34**	**78**		**P**	**13 54 04.9**	**-2.3**			
TUC	**Tucson**	**23.35**	**134**	P	**P**	**13 54 08.4**	**+0.9**			
TUC				pmax	pmax					
	comp=Z,262nm,1.1s									
TUC				MLR	MLR					
	comp=Z,7µm,19.0s									
TUC	**Tucson**	**23.35**	**134**	P	**P**	**13 54 08.4**	**+0.9**			
TUC				IAmb	IAmb	13 54 15.7				
	comp=Z,262nm,1.1s									
TUC	**Tucson**	**23.35**	**134**	P	**P**	**13 54 07.8**	**+0.4**			
	baz=328									
TUC				S	**S**	**13 58 29.6**	**+9.2**			
	baz=328									
ANMO	**Albuquerque**	**23.39**	**123**	P	**P**	**13 54 07.6**	**-0.3**			
	comp=Z,83nm,1.2s,baz=318,slow=10,SNR=109									
ANMO				LR	LR	14 02 55.1				
	comp=Z,10µm,21.9s,baz=314,slow=36									
ANMO	**Albuquerque**	**23.39**	**123**	P	**P**	**13 54 07.6**	**-0.3**			
ANMO				IAmb	IAmb	13 54 15.2				
	comp=Z,125nm,1.1s									
ANMO	**Albuquerque**	**23.39**	**123**	P	**P**	**13 54 07.8**	**-0.1**			
	baz=320									
ANMO				S	**S**	**13 58 27.5**	**+6.3**			
	baz=320									
NIKH	**Nikolski High**	**23.72**	**291**	P	**P**	**13 54 10.2**	**-0.7**			
	baz=80									
B35A	**Bob, Littlefor**	**23.74**	**81**	IAmb	IAmb	13 54 16.3				
	comp=Z,177nm,1.1s									
ECSD	**EROS Data Cent**	**23.80**	**94**	IAmb	IAmb	13 54 14.9				
	comp=Z,287nm,1.2s									
ECSD	**EROS Data Cent**	**23.80**	**94**	P	**P**	**13 54 10.4**	**-1.4**			
	baz=299,SNR=120									
ECSD				S	**S**	**13 58 30.8**	**+3.6**			
	baz=299									
Y22D	**IRIS PASSCAL I**	**23.81**	**125**	IAMs_20	IAMs_20	14 04 08.7				
	comp=Z,11µm,18.0s									
Y22D	**IRIS PASSCAL I**	**23.81**	**125**	P	**P**	**13 54 13.1**	**+1.0**			
	baz=322									
A21K	**Barrow**	**23.93**	**339**	IAMs_20	IAMs_20	14 04 12.9				
	comp=Z,11µm,18.0s									
BGNE	**Belgrade**	**24.03**	**100**	P	**P**	**13 54 12.6**	**-1.3**			
	baz=304,SNR=13									
BGNE				S	**S**	**13 58 39.1**	**+8.0**			
	baz=304									
SPIA	**Saint Paul Isl**	**24.10**	**301**	P	**P**	**13 54 15.0**	**+0.6**			
	baz=88									
SOLO	**Sioux Lookout**	**24.26**	**77**	Pn	**P**	**13 54 14.5**	**-1.5**			
SOLO	**Sioux Lookout**	**24.26**	**77**		**P**	**13 54 14.5**	**-1.5**			
TNA	**Tin City**	**24.32**	**322**	P	**P**	**13 54 19.0**	**+2.6**			
	baz=109									
TNA				S	S	13 58 50.9	+16			
	baz=109									
CBKS	**Cedar Bluff**	**24.58**	**107**	IAMs_20	IAMs_20	14 04 08.6				
	comp=Z,16µm,18.0s									
CBKS	**Cedar Bluff**	**24.58**	**107**	P	**P**	**13 54 18.6**	**-0.4**			
	baz=309,SNR=18									
CBKS				S	**S**	**13 58 47.3**	**+7.3**			
	baz=309									
121A	**Cookes Peak, D**	**24.60**	**129**	IAmb	IAmb	13 54 28.0				
	comp=Z,224nm,1.3s									
121A	**Cookes Peak, D**	**24.60**	**129**	P	**P**	**13 54 19.5**	**+0.1**			
	baz=324,SNR=59									
ATKO	**Atikokan Iron**	**24.92**	**79**	Pn	**P**	**13 54 21.3**	**-0.7**			
ATKO	**Atikokan Iron**	**24.92**	**79**		**P**	**13 54 21.3**	**-0.7**			
PKLO	**Pickle Lake**	**24.93**	**72**	Pn	**P**	**13 54 21.0**	**-1.1**			
PKLO	**Pickle Lake**	**24.93**	**72**		**P**	**13 54 21.0**	**-1.1**			
EYMN	**Ely**	**25.29**	**81**	P	**P**	**13 54 24.8**	**-0.5**			
EYMN				IAmb	IAmb	13 54 28.7				
	comp=Z,148nm,0.8s									
EYMN	**Ely**	**25.29**	**81**	IAMs_20	IAMs_20	14 04 14.6				
	comp=Z,19µm,21.0s									
EYMN	**Ely**	**25.29**	**81**	P	**P**	**13 54 24.4**	**-0.9**			
	baz=291,SNR=26									
EYMN				S	**S**	**13 58 57.4**	**+6.3**			
	baz=291									
GAMB	**Gambell**	**25.41**	**317**	P	**P**	**13 54 27.3**	**+1.2**			
	baz=101									
SPMN	**Marine on St.**	**25.54**	**88**	P	**P**	**13 54 27.3**	**-0.3**			
	baz=296,SNR=12									
EPT	**El Paso**	**25.85**	**128**	IAMs_20	IAMs_20	14 04 58.1				
	comp=Z,10µm,19.0s									
AMTX	**Amarillo**	**26.08**	**116**	P	**P**	**13 54 32.6**	**-0.1**			
	baz=316									
MSTX	**Muleshoe**	**26.13**	**119**	IAmb	IAmb	13 54 40.9				
	comp=Z,208nm,1.4s									
MSTX	**Muleshoe**	**26.13**	**119**	P	**P**	**13 54 32.8**	**-0.4**			
	baz=318,SNR=29									
KSU1	**Kansas State U**	**26.33**	**103**	P	**P**	**13 54 34.1**	**-0.7**			
	baz=307,SNR=12									
KSU1				S	**S**	**13 59 10.7**	**+3.1**			
	baz=307									
TBO	**Thunder Bay**	**26.35**	**78**	Pn	**P**	**13 54 34.9**	**0.0**			
MNTX	**Cornudas Mount**	**26.48**	**126**	IAmb	IAmb	13 54 40.6				
	comp=Z,286nm,1.6s									
MNTX				IAMs_20	IAMs_20	14 05 45.3				
	comp=Z,9µm,18.0s									
MNTX	**Cornudas Mount**	**26.48**	**126**	P	**P**	**13 54 36.5**	**+0.2**			
	baz=323,SNR=120									
OK032	**Salt Plains WL**	**26.80**	**109**	IAMs_20	IAMs_20	14 05 21.4				
	comp=Z,12µm,18.0s									
SCIA	**State Center**	**26.88**	**94**	P	**P**	**13 54 38.7**	**-1.1**			
	baz=302									
KS20	**Mayfield South**	**26.92**	**107**	IAMs_20	IAMs_20	14 05 32.5				
	comp=Z,9µm,18.0s									
GTO	**Geraldton**	**27.50**	**75**	Pn	**P**	**13 54 44.9**	**-0.3**			
WMOK	**Wichita Mounta**	**27.86**	**113**	IAmb	IAmb	13 54 56.4				
	comp=Z,98nm,0.8s									
WMOK	**Wichita Mounta**	**27.86**	**113**	P	**P**	**13 54 48.7**	**+0.1**			
	baz=315,SNR=48									
OK029	**Liberty Lake**	**27.92**	**109**	IAMs_20	IAMs_20	14 06 07.3				
	comp=Z,10µm,20.0s									
P38A	**Dawn**	**27.94**	**99**	IAmb	IAmb	13 54 56.7				
	comp=Z,126nm,0.8s									
OK025	**Westminster Rd**	**28.14**	**110**	IAMs_20	IAMs_20	14 06 14.0				
	comp=Z,9µm,20.0s									
OK031	**S. Brethren Rd**	**28.19**	**108**	P	**P**	**13 54 49.4**	**-2.2**			
OK031				IAmb	IAmb	13 54 58.6				
	comp=Z,121nm,0.8s									
RES	**Resolute Bay**	**28.19**	**19**	LR	LR	14 06 21.4				
	comp=Z,18µm,19.4s,baz=238,slow=37									
OK030	**Cody Creek RV**	**28.24**	**108**	IAMs_20	IAMs_20	14 06 17.6				
	comp=Z,10µm,19.0s									
JFWS	**Jewell Farm**	**28.25**	**90**	P	**P**	**13 54 51.1**	**-0.9**			
	baz=300									
JFWS				S	**S**	**13 59 44.9**	**+7.1**			
	baz=300									
PNPO	**Pukaskwa Natio**	**28.31**	**77**	Pn	**P**	**13 54 51.8**	**-0.6**			
PNPO	**Pukaskwa Natio**	**28.31**	**77**		**P**	**13 54 51.8**	**-0.6**			
TUL1	**Leonard**	**28.85**	**107**	IAMs_20	IAMs_20	14 07 07.7				
	comp=Z,14µm,20.0s									
TUL1	**Leonard**	**28.85**	**107**	P	**P**	**13 54 57.1**	**-0.3**			
	baz=312,SNR=11									
TUL1				S	**S**	**13 59 55.1**	**+7.7**			
	baz=312									
ABTX	**Abilene, Hawle**	**28.88**	**117**	P	**P**	**13 54 57.2**	**-0.6**			
	baz=318,SNR=9.3									
TXAR	**Lajitas Array**	**29.25**	**127**	P	**P**	**13 55 01.4**	**+0.3**			
	comp=Z,20nm,0.9s,baz=325,slow=7.7,SNR=139									
TXAR				PcP	**PcP**	**13 58 07.2**	**-0.8**			
	comp=Z,1.8nm,0.9s,baz=299,slow=1.4,SNR=3.8									
TXAR				LR	LR	14 07 28.2				
	comp=Z,10µm,18.7s,baz=0.0,slow=38									
X37A	**Clayton**	**29.99**	**109**	IAMs_20	IAMs_20	14 07 31.1				
	comp=Z,13µm,18.0s									
HDIL	**Hopedale**	**30.09**	**94**	P	**P**	**13 55 07.8**	**-0.6**			
	baz=304									
L44A	**Lake County Fo**	**30.11**	**90**	IAMs_20	IAMs_20	14 06 53.8				
	comp=Z,13µm,21.0s									
L44A	**Lake County Fo**	**30.11**	**90**	P	**P**	**13 55 07.8**	**-0.7**			
	baz=301									
G45A	**Suttons Bay**	**30.15**	**83**	IAmb	IAmb	13 55 25.3				
	comp=Z,59nm,0.8s									
SAKN	**Sanikiluaq**	**30.29**	**59**		**P**	**13 55 10.1**	**+0.1**			
CCM	**Cathedral Cave**	**30.31**	**99**	P	**P**	**13 55 08.6**	**-1.7**			
	baz=308									
KAPO	**Kapuskasing**	**30.33**	**73**	Pn	**P**	**13 55 10.4**	**0.0**			
KAPO	**Kapuskasing**	**30.33**	**73**		**P**	**13 55 10.4**	**0.0**			
U40A	**Yellville**	**30.36**	**104**	P	**P**	**13 55 10.4**	**-0.5**			
	baz=310,SNR=27									
U40A				S	**S**	**14 00 13.7**	**+2.5**			
	baz=310									
JCT	**Junction City**	**30.41**	**120**	P	**P**	**13 55 09.6**	**-1.7**			
JCT				pmax	pmax					
	comp=Z,74nm,0.8s									
JCT				MLR	MLR					
	comp=Z,13µm,22.0s									
JCT	**Junction City**	**30.41**	**120**	P	**P**	**13 55 09.6**	**-1.7**			
JCT				IAmb	IAmb	13 55 17.8				
	comp=Z,74nm,0.8s									
JCT				IAMs_20	IAMs_20	14 07 47.9				
	comp=Z,13µm,22.0s									
JCT	**Junction City**	**30.41**	**120**	P	**P**	**13 55 10.6**	**-0.7**			
	baz=321,SNR=16									
W39A	**Magazine**	**30.55**	**106**	IAmb	IAmb	13 55 24.0				
	comp=Z,249nm,1.9s									
W39A	**Magazine**	**30.55**	**106**	P	**P**	**13 55 11.8**	**-0.6**			
	baz=312,SNR=12									
W39A				S	**S**	**14 00 18.9**	**+4.9**			
	baz=312									
WHTX	**Lake Whitney,**	**30.60**	**115**	P	**P**	**13 55 12.3**	**-0.6**			
	baz=318,SNR=11									
GLMI	**Grayling**	**30.91**	**83**	P	**P**	**13 55 14.4**	**-1.1**			
	baz=298									
MIAR	**Mount Ida**	**31.11**	**107**	P	**P**	**13 55 16.8**	**-0.6**			
	baz=313,SNR=25									
MIAR				S	**S**	**14 00 27.8**	**+4.9**			
	baz=313									
SLBS	**Sierra La Lagu**	**31.25**	**142**	P	**P**	**13 55 17.3**	**-1.5**			
SLBS				IAmb	IAmb	13 55 26.5				
	comp=Z,108nm,1.3s									
435B	**Jarrell**	**31.42**	**117**	P	**P**	**13 55 19.8**	**-0.4**			
	baz=319									
W41B	**Gary Mavity, V**	**31.50**	**105**	P	**P**	**13 55 20.2**	**-0.7**			
	baz=312,SNR=11									
W41B				S	**S**	**14 00 32.0**	**+2.9**			
	baz=312									
SFIN	**Lafayette**	**31.59**	**92**	P	**P**	**13 55 20.6**	**-1.0**			
	baz=304,SNR=7.5									
SFIN				S	**S**	**14 00 34.7**	**+4.4**			
	baz=304									
LCAR	**Lake Charles**	**31.60**	**102**	IAmb	IAmb	13 55 28.0				
	comp=Z,43nm,0.9s									
X40A	**Basin Creek Fa**	**31.60**	**106**	P	**P**	**13 55 21.1**	**-0.6**			
	baz=313,SNR=5.3									
X40A				S	**S**	**14 00 35.3**	**+4.7**			
	baz=313									
833A	**Chaparral WMA,**	**32.31**	**122**	P	**P**	**13 55 27.9**	**-0.1**			
	baz=323,SNR=12									
KILO	**Kirkland Lake**	**32.38**	**74**	Pn	**P**	**13 55 28.4**	**-0.1**			
KILO	**Kirkland Lake**	**32.38**	**74**		**P**	**13 55 28.4**	**-0.1**			
NATX	**Nacogdoches**	**32.40**	**112**	IAMs_20	IAMs_20	14 09 17.0				
	comp=Z,11µm,19.0s									
NATX	**Nacogdoches**	**32.40**	**112**	P	**P**	**13 55 28.4**	**-0.3**			
	baz=316									
Z41A	**Richland Creek**	**32.46**	**108**	P	**P**	**13 55 29.1**	**-0.2**			
	baz=314									
AAM	**Ann Arbor**	**32.75**	**86**	P	**P**	**13 55 30.7**	**-1.1**			
	baz=301									
EUNU	**Eureka**	**32.94**	**13**	Pn	**P**	**13 55 33.8**	**+0.7**			
EUNU	**Eureka**	**32.94**	**13**		**P**	**13 55 33.8**	**+0.7**			
EUNU	**Eureka**	**32.94**	**13**	IAmb	IAmb	13 55 36.2				
	comp=Z,294nm,1.9s									
HKT	**Hockley**	**33.04**	**116**	*i* P	**P**	**13 55 34.7**	**+0.4**			
HKT				pmax	pmax					
	comp=Z,140nm,1.7s									
N49A	**Columbus Grove**	**33.15**	**89**	IAmb	IAmb	13 56 29.9				
	comp=Z,58nm,1.4s									
WCI	**Wyandotte Cave**	**33.33**	**95**	P	**P**	**13 55 35.0**	**-1.9**			
	baz=307									
WCI				S	**S**	**14 00 57.9**	**+0.4**			
	baz=307									
O49A	**Covington**	**33.45**	**90**	IAmb	IAmb	13 55 49.0				
	comp=Z,41nm,1.0s									
EEO	**Eldee**	**33.56**	**77**	Pn	**P**	**13 55 38.7**	**-0.1**			
P49A	**Miami Univ. Ec**	**33.58**	**91**	P	**P**	**13 55 37.0**	**-2.0**			
	baz=305									
WVT	**Waverly**	**33.64**	**99**	P	**P**	**13 55 38.1**	**-1.5**			
	baz=309									
OXF	**Oxford**	**33.70**	**103**	P	**P**	**13 55 39.0**	**-1.0**			
	baz=312,SNR=30									
KVTX	**Kingsville**	**33.73**	**121**	IAMs_20	IAMs_20	14 10 11.0				
	comp=Z,11µm,18.0s									
LG4Q	**La Grande 4**	**33.89**	**63**	Pn	**P**	**13 55 41.6**	**+0.1**			
LG4Q	**La Grande 4**	**33.89**	**63**		**P**	**13 55 41.6**	**+0.1**			
Y45A	**Yeager Farm, C**	**34.04**	**104**	IAmb	IAmb	13 55 49.9				
	comp=Z,59nm,0.9s									
PLAL	**Pickwick Lake**	**34.22**	**101**	IAmb	IAmb	13 55 51.2				
	comp=Z,40nm,0.8s									
PLAL				IAMs_20	IAMs_20	14 09 20.3				
	comp=Z,9µm,21.0s									
ACSO	**Alum Creek Sta**	**34.29**	**89**	P	**P**	**13 55 43.9**	**-1.3**			
	baz=304									
SADO	**Sadowa**	**34.38**	**80**	P	**P**	**13 55 44.6**	**-1.3**			
	comp=Z,17nm,0.7s,baz=312,slow=9.0,SNR=12									
SADO	**Sadowa**	**34.38**	**80**	Pn	**P**	**13 55 44.1**	**-1.7**			
SADO	**Sadowa**	**34.38**	**80**		**P**	**13 55 44.1**	**-1.7**			
SADO	**Sadowa**	**34.38**	**80**	IAmb	IAmb	13 55 54.6				
	comp=Z,101nm,1.6s									
FRB	**Frobisher Bay**	**34.46**	**44**	P	**P**	**13 55 46.0**	**-0.3**			
	comp=Z,28nm,1.0s,baz=244,slow=6.7,SNR=4.1									
VBMS	**Vicksburg**	**34.56**	**107**	IAMs_20	IAMs_20	14 11 22.9				
	comp=Z,8µm,19.0s									
VBMS	**Vicksburg**	**34.56**	**107**	P	**P**	**13 55 47.9**	**+0.3**			
	baz=314									
BILL	**Bilibino**	**34.72**	**324**	*ce* P	**P**	**13 55 46.7**	**-1.9**			
BILL				*e*		13 57 01.9				
BILL				*e*		13 58 19.9				
BILL				*e*S	**S**	**14 01 17.4**	**-0.9**			
BILL				*e*SS	**SnSn**	**14 03 29.7**	**-1.0**			
BILL				pmax	pmax					
	comp=Z,105nm,1.7s									
BILL				MLR	MLR					
	comp=Z,2µm,15.0s									
TULEG	**Thule**	**34.82**	**21**	IAMs_20	IAMs_20	14 09 58.0				
	comp=Z,9µm,22.0s									
344A	**Westbrook Farm**	**34.97**	**108**	IAmb	IAmb	13 55 59.2				
	comp=Z,78nm,0.9s									
M53A	**WI Miller and**	**35.10**	**86**	P	**P**	**13 55 50.5**	**-1.7**			
	baz=303									
P52A	**Corning**	**35.16**	**89**	P	**P**	**13 55 50.4**	**-2.4**			
	baz=305									
ERPA	**Erie**	**35.17**	**84**	P	**P**	**13 55 51.4**	**-1.5**			
	baz=302									
X48A	**Hartselle**	**35.21**	**101**	IAmb	IAmb	13 56 00.3				
	comp=Z,150nm,1.9s									
ZAIG	**Zacatecas**	**35.26**	**132**	IAmb	IAmb	13 56 02.1				
	comp=Z,120nm,1.1s									
O53A	**New Philadelph**	**35.41**	**88**	P	**P**	**13 55 52.7**	**-2.2**			
	baz=304									
DELO	**Deloro Mine**	**35.45**	**79**	IAmb	IAmb	13 56 05.2				
	comp=Z,144nm,1.9s									
PLVO	**Plevna**	**35.54**	**78**	IAmb	IAmb	13 55 58.0				
	comp=Z,100nm,1.8s									
GRQ	**Grand Remous**	**35.56**	**75**	Pn	**P**	**13 55 55.9**	**-0.2**			
M54A	**Oil Creek Stat**	**35.70**	**85**	IAMs_20	IAMs_20	14 11 10.4				

comp=Z,9µm,18.0s
UNM Universidad Na 39.83 130 IAMs_20 IAMs_20 14 14 57.4
comp=Z,11µm,19.0s
WSPT Westport, CT 39.88 81 IAMs_20 IAMs_20 14 12 12.1
comp=Z,11µm,20.0s
QUA2 Belchertown 39.89 79 IAMs_20 IAMs_20 14 12 15.1
comp=Z,6µm,20.0s
YLE Yale 40.05 81 IAMs_20 IAMs_20 14 15 22.5
comp=Z,10µm,19.0s
PKME Peaks-Kenny Pk 40.22 73 P **P** **13 56 34.0 -1.4**
baz=301
HRV Adam Dziewonsk 40.26 78 IAMs_20 IAMs_20 14 12 28.9
comp=Z,7µm,19.0s
WVL Waterville 40.35 74 IAMs_20 IAMs_20 14 10 37.1
comp=Z,6µm,19.0s
WES Weston 40.48 78 IAMs_20 IAMs_20 14 12 35.6
comp=Z,6µm,19.0s
BRYW Bryant College 40.59 79 IAMs_20 IAMs_20 14 12 53.8
comp=Z,9µm,20.0s
BCX Boston College 40.60 78 IAMs_20 IAMs_20 14 12 41.8
comp=Z,6µm,19.0s
L64A Middleborough 41.02 78 IAMs_20 IAMs_20 14 12 15.0
comp=Z,7µm,21.0s
SFJD Kangerlussuaq 41.08 36 IAMs_20 IAMs_20 14 13 56.2
comp=Z,10µm,18.0s
M65A Busby, Falmout 41.35 79 IAMs_20 IAMs_20 14 13 05.7
comp=Z,7µm,19.0s
SEY Seymchan 41.40 318 P **P** **13 56 45.8 +0.8**
comp=Z,18nm,0.9s,baz=92,slow=6.6,SNR=13
PET Petropavlovsk 42.28 302 *e*P **P** **13 56 51.4 -0.8**
PET *e* 13 58 33.2
PET *e*S **S** **14 03 09.3 -3.3**
PET *e*SS **SS** **14 06 13.6 -6.9**
PET 14 06 48.7
PET pmax pmax
comp=Z,69nm,1.3s
PET pmax pmax
comp=Z,800nm,16.0s
PET pmax pmax
comp=Z,1µm,15.7s
PET pmax pmax
comp=Z,500nm,14.6s
PET pmax pmax
comp=Z,1µm,14.0s
LMN Caledonia Mun 42.63 70 P **P** **13 56 54.6 -0.6**
PEA0B Petropavlovsk- 42.75 302 P **P** **13 56 56.8 +0.7**
PEA0B pmax pmax
comp=Z,80nm,1.4s
PEA0B Petropavlovsk- 42.75 302 P **P** **13 56 56.8 +0.7**
PETK Petropavlovsk- 42.75 302 P **P** **13 56 56.8 +0.6**
comp=Z,10nm,0.9s,baz=62,slow=14,SNR=11
PETK LR LR 14 12 36.9
comp=Z,3µm,21.0s,baz=56,slow=33
DY2G Dye2 42.88 36 *i* P **P** **13 56 57.6 +0.3**
DY2G IAmb IAmb 13 56 59.6
comp=Z,259nm,1.8s
DWPF Disney Wildern 43.03 103 IAMs_20 IAMs_20 14 14 57.2
comp=Z,7µm,20.0s
DWPF Disney Wildern 43.03 103 P **P** **13 56 56.5 -2.2**
baz=316
SUMG Summit 43.19 26⇓ *i*P **P** **13 57 00.0 +0.1**
SUMG IAmb IAmb 13 57 01.1
comp=Z,48nm,1.3s
SUMG Summit 43.19 26⇓ *i*P **P** **13 57 00.0 +0.1**
SUMG pmax pmax
comp=Z,48nm,1.3s
SUMG Summit 43.19 26 IAmb IAmb 13 57 01.6
comp=Z,198nm,2.0s
SUMG IAMs_20 IAMs_20 14 15 21.0
comp=Z,6µm,20.0s
MA2 Magadan 43.41 313 P **P** **13 57 01.3 -0.1**
comp=Z,27nm,1.2s,baz=189,slow=20,SNR=2.5
MA2 Magadan 43.41 313⇑ *e*P **P** **13 57 02.0 +0.6**
MA2 pmax pmax
comp=Z,89nm,1.6s
MA2 Magadan 43.41 313 IAMs_20 IAMs_20 14 15 51.6
comp=Z,5µm,18.0s
NOR Nord 43.50 11⇓ *i*P **P** **13 57 02.2 +0.3**
NOR IAmb IAmb 13 57 03.7
comp=Z,149nm,1.9s
NOR Nord 43.50 11⇓ *i*P **P** **13 57 02.1 +0.3**
NOR pmax pmax
comp=Z,150nm,1.9s
ICESG Greenland Ices 44.19 31 *i* P **P** **13 57 08.3 +0.4**
NRS Narsarsuaq 45.43 43 IAMs_20 IAMs_20 14 13 29.3
comp=Z,5µm,21.0s
DAG Danmarks Havn 45.86 17⇓ *i*P **P** **13 57 20.2 -0.5**
DAG IAmb IAmb 13 57 20.7
comp=Z,31nm,1.2s
DAG Danmarks Havn 45.86 17⇓ *i*P **P** **13 57 20.1 -0.5**
DAG pmax pmax
comp=Z,31nm,1.2s
SOR Soroa 45.97 109 IAmb IAmb 13 57 22.4
comp=Z,50nm,1.3s
TIXI Tiksi 46.06 334 P **P** **13 57 20.8 -1.5**
comp=Z,6.4nm,0.8s,baz=135,slow=2.9,SNR=1.4
ANGG Ammassalik, Gr 46.44 35 IAMs_20 IAMs_20 14 16 17.8
comp=Z,7µm,21.0s
KBS Kingsbay 48.74 9*d* *i*P **P** **13 57 44.3 +1.2**
KBS pmax pmax
comp=Z,100nm,1.7s
SNET Serv Nac Est T 49.66 123 IAMs_20 IAMs_20 14 21 41.1
comp=Z,5µm,18.0s
TGUH Tegucigalpa,Un 50.41 121 IAmb IAmb 13 58 07.2
comp=Z,74nm,0.8s
TGUH IAMs_20 IAMs_20 14 20 53.9
comp=Z,3µm,18.0s
YAK Yakutsk 51.08 323 P **P** **13 58 01.1 +0.1**
comp=Z,6.2nm,0.4s,baz=88,slow=3.2,SNR=2.5
YAK Yakutsk 51.08 323 *e*P **P** **13 58 03.1 +2.1**
YAK *e**PP **pwP** **13 58 10.3 +4.7**
YAK *e* 13 59 17.0
YAK *e* 14 00 02.3
YAK *e*S **S** **14 05 22.5 +4.3**
YAK *e**SS sS 14 05 35.9 +14
YAK pmax pmax
comp=Z,50nm,0.9s
YAK pmax pmax
comp=E,33nm,1.2s
YAK pmax pmax
comp=N,30nm,1.6s
YAK pmax pmax
comp=Z,131nm,3.0s
YAK pmax pmax
comp=N,126nm,2.6s
YAK pmax pmax
comp=E,114nm,2.2s
YAK smax smax
comp=E,486nm,4.8s
YAK smax smax
comp=N,253nm,5.5s
YAK MLR MLR
comp=Z,4µm,16.0s
YAK MLR MLR
comp=E,3µm,17.0s
YAK MLR MLR
comp=N,1µm,14.0s
YAK Yakutsk 51.08 323 IAMs_20 IAMs_20 14 20 08.9
comp=Z,5µm,19.0s
NKL Nikolayevsk 51.49 310 *e*P **P** **13 58 02.2 -2.0**
NKL *e*S **S** **14 05 29.2 +5.1**
NKL pmax pmax
comp=E,5.0nm,1.1s
NKL pmax pmax
comp=N,186nm,0.8s
NKL pmax pmax
comp=Z,48nm,1.3s
NKL smax smax
comp=E,6.0nm,4.8s
NKL smax smax
comp=N,836nm,5.6s
NKL MLR MLR
comp=E,21nm,12.0s
NKL MLR MLR
comp=N,10µm,14.0s
NKL MLR MLR
comp=Z,1µm,13.0s
KUR Kuril'sk 52.40 298 P **P** **13 58 14.0 +2.9**
KUR *i* S **S** **14 05 44.5 +7.6**
KUR pmax pmax
comp=Z,146nm,1.4s
KUR pmax pmax
comp=Z,533nm,2.4s
KUR MLR MLR
comp=Z,1µm,16.0s
KUR MLR MLR
comp=N,957nm,14.0s
KUR MLR MLR
comp=E,678nm,11.0s
BORG Borgarnes 52.57 31 IAMs_20 IAMs_20 14 20 50.1
comp=Z,5µm,18.0s
XMAS Kiritimati 53.59 214 IAMs_20 IAMs_20 14 14 15.9
comp=Z,4µm,18.0s
YSS Yuzh-Sakhalins 54.16 302⇑ *e*P **P** **13 58 23.5 -0.5**
YSS *e* 13 59 31.2
YSS *e* 14 00 31.9
YSS *e*S **S** **14 05 57.2 -3.5**
YSS *e* 14 08 11.5
YSS pmax pmax
comp=Z,30nm,1.3s
YSS pmax pmax
comp=Z,400nm,6.4s
YSS smax smax
comp=N,400nm,16.3s
YSS smax smax
comp=E,1µm,15.7s
YSS MLR MLR
comp=Z,2µm,17.0s
YSS MLR MLR
comp=N,1µm,16.0s
YSS MLR MLR
comp=E,1µm,17.0s
YSS Yuzh-Sakhalins 54.16 302 P **P** **13 58 23.1 -0.9**
YSS IAmb IAmb 13 58 37.9
comp=Z,38nm,1.0s
YUK Yuzh-Kuril'sk 54.27 298 *e*P P 13 58 17.3 -7.6
YUK *e* 13 59 28.3
YUK *e*S **S** **14 05 54.9 -7.4**
YUK *e*SS **SS** **14 09 41.7 -1.9**
YUK pmax pmax
comp=Z,321nm,1.1s
YUK pmax pmax
comp=N,344nm,1.0s
YUK pmax pmax
comp=E,142nm,1.1s
YUK MLR MLR
comp=N,604nm,16.0s
YUK MLR MLR
comp=E,2µm,16.0s
YUK MLR MLR
comp=Z,999nm,16.0s
JTS Las Juntas de 54.78 121⇓ *e*P **P** **13 58 29.1 +0.1**
JTS pmax pmax
comp=Z,14nm,0.8s
JTS Las Juntas de 54.78 121 P **P** **13 58 27.1 -1.9**
GRNR Gornyy 55.03 309⇓ *i*P **P** **13 58 28.7 -1.7**
GRNR *e*S **S** **14 06 12.6 +0.1**
GRNR pmax pmax
comp=Z,20nm,1.3s
GRNR smax smax
comp=N,1.0nm,0.6s
SDDR Presa de Saban 56.02 102 IAMs_20 IAMs_20 14 24 15.7
comp=Z,4µm,18.0s
ERM Erimo 57.09 298⇓ *e*P **P** **13 58 46.0 +0.9**
ERM pmax pmax
comp=Z,64nm,1.3s
ERM Erimo 57.09 298 IAMs_20 IAMs_20 14 19 43.9
comp=Z,3µm,22.0s
NRIK Noril'sk 57.12 345 P **P** **13 58 45.0 0.0**
comp=Z,27nm,1.0s,baz=24,slow=5.3,SNR=15
NRIK LR LR 14 25 47.8
comp=Z,997nm,18.4s,baz=44,slow=39
NRIK Noril'sk 57.12 345 P **P** **13 58 45.0 0.0**
BRU2 Volcan 57.26 120 *e*P **P** **13 58 46.1 -0.7**
DR12 Loma Pena Alta 57.35 100 P **P** **13 58 46.0 -1.4**
ZEA Zeya 57.36 316 *e*P **P** **13 58 46.6 -0.3**
ZEA *e*S **S** **14 06 44.9 +1.6**
ZEA *e*SS **SS** **14 10 36.2 +4.3**
ZEA pmax pmax
comp=Z,200nm,5.7s
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA smax smax
comp=E,500nm,10.3s
ZEA smax smax
comp=N,500nm,14.5s
HAMF Hammerfest 57.56 10 *e*P **P** **13 58 47.4 -0.6**
H11N2 WAKE ISLAND Hy 57.77 262 T T 15 01 19.3
baz=42,slow=76
H11N3 WAKE ISLAND Hy 57.77 262 T T 15 01 19.4
baz=42,slow=76
H11N1 WAKE ISLAND Hy 57.78 262 T T 15 01 20.6
baz=42,slow=76
TRO Tromso 57.93 12 *e*P **P** **13 58 51.4 +0.7**
JETT Jettan, Norway 58.20 12 *e*P **P** **13 58 54.2 +1.5**
WAKE Wake Island 58.25 262 IAMs_20 IAMs_20 14 16 33.1
comp=Z,4µm,20.0s
KLR Kul'dur 58.32 310⇓ *i*P **P** **13 58 53.6 -0.1**
KLR pmax pmax
comp=Z,20nm,1.4s
LOF Lofoten 58.50 15 *e*P **P** **13 58 54.5 -0.2**
BCIP Isla Barro Col 58.56 117 *e*P **P** **13 58 53.2 -2.6**
TEY Ternei 58.67 304⇑ *e*P **P** **13 58 54.5 -1.7**
TEY *e* 14 07 05.1
TEY pmax pmax
comp=Z,10.0nm,1.2s
KEV Kevo 58.76 9 IAMs_20 IAMs_20 14 26 46.1
comp=Z,4µm,18.0s
H11S1 WAKE ISLAND Hy 58.80 261 T T 15 02 41.2
baz=40,slow=76
H11S2 WAKE ISLAND Hy 58.81 261 T T 15 02 29.2
baz=40,slow=76
H11S3 WAKE ISLAND Hy 58.81 261 T T 15 02 35.6
baz=40,slow=76
ARCES ARCESS Array B 58.82 10 P **P** **13 58 57.0 +0.1**
comp=Z,6.0nm,0.9s,baz=25,slow=6.7,SNR=7.4
ARCES LR LR 14 24 52.0
comp=Z,3µm,21.9s,baz=345,slow=37
ARCES ARCESS Array B 58.82 10 P **P** **13 58 56.0 -0.9**
ARCES IAmb IAmb 13 58 57.7
comp=Z,94nm,1.9s
UPA Univ. de Panam 58.88 117 *e*P P 13 58 52.1 -5.9
STEI Steigen 58.96 14 *e*P **P** **13 58 59.3 +1.5**
KTK1 Kautokeino 59.06 11 *e*P **P** **13 58 58.0 -0.5**
AOPR Arecibo Observ 59.33 98 IAmb IAmb 13 59 07.1
comp=Z,37nm,0.9s
AZU Azuero 59.43 118 *e*P P 13 58 55.7 -6.1
FAUS Fauske 59.47 15 *e*P **P** **13 59 01.3 -0.1**
CACAO El Cacao, Vera 59.47 119 *e*P **P** **13 59 00.7 -1.4**
BOD Bodaibo 59.72 326 *e*P **P** **13 59 02.0 -1.3**
BOD pmax pmax
comp=Z,46nm,0.9s
TAOE Nuku Hiva Isla 59.88 191 *e*S **S** **14 07 14.2 -2.6**
comp=Z,4µm,27.1s
TAOE *e*LR LR 14 16 40.8
comp=Z,8µm,26.0s
TAOE Nuku Hiva Isla 59.88 191 *e*T T 15 03 27.5
comp=Z,182nm,0.2s
SJG San Juan 59.88 98 P **P** **13 59 03.8 -1.2**
comp=Z,7.8nm,0.5s,baz=328,slow=11
SJG San Juan 59.88 98 IAMs_20 IAMs_20 14 27 11.2
comp=Z,3µm,19.0s
SJG San Juan 59.88 98 *e*P **P** **13 59 02.8 -2.1**
PDPR Patillas Dam, 60.03 98 P **P** **13 59 04.3 -1.7**
PDPR IAmb IAmb 13 59 19.8
comp=Z,31nm,0.9s
MTP Monte Pirata 60.27 98 IAmb IAmb 13 59 14.1
comp=Z,39nm,0.9s
CAPC Capurgana 60.41 115 *e*P **P** **13 59 04.4 -4.2**
MOR8 Moi Rana 60.43 16 *e*P **P** **13 59 06.9 -1.2**
SJCC San Jacinto, C 60.67 112 IAmb IAmb 13 59 13.6
comp=Z,48nm,1.2s
SJCC San Jacinto, C 60.67 112 *e*P **P** **13 59 08.6 -1.9**
CRJC Cerrejon, Guaj 61.15 109 *e*P **P** **13 59 11.5 -2.3**
URIC Uribia, Colomb 61.16 108 *e*P **P** **13 59 10.3 -3.3**
LVZ Lovozero 61.23 6*d* *i*P **P** **13 59 12.8 -0.7**
LVZ pmax pmax
comp=Z,81nm,1.1s
LVZ Lovozero 61.23 6 P **P** **13 59 11.8 -1.7**
LVZ IAmb IAmb 13 59 17.1
comp=Z,68nm,1.1s
LVZ IAMs_20 IAMs_20 14 28 11.0
comp=Z,3µm,18.0s
MOTC Monteria, Cord 61.28 113 *e*P **P** **13 59 13.9 -0.6**
PAYG Puerto Ayora 61.44 133 IAMs_20 IAMs_20 14 25 20.3
comp=Z,2µm,19.0s
APA Apatity 61.46 7⇓ *i*P **P** **13 59 10.7 -4.3**
APA pmax pmax
comp=Z,8.0nm,1.0s
USA0B Ussuriysk Arra 61.65 306 P **P** **13 59 15.8 -0.9**
USA0B pmax pmax
comp=Z,42nm,1.2s
USA0B Ussuriysk Arra 61.65 306 P **P** **13 59 15.8 -0.9**
USA0B IAmb IAmb 13 59 28.1
comp=Z,42nm,1.2s
USRK Ussuriysk Ar. 61.65 306 P **P** **13 59 16.8 +0.1**
comp=Z,28nm,1.0s,baz=44,slow=5.8,SNR=18
USRK LR LR 14 26 17.9
comp=Z,2µm,19.6s,baz=40,slow=36
USRK Ussuriysk Ar. 61.65 306 P **P** **13 59 16.0 -0.6**
UREC San Jos de Ur 62.18 114 *e*P P 13 59 14.5 -6.1
SMLC San Martn de 62.20 112 *e*P **P** **13 59 19.4 -1.2**
DBBC Dabeiba 62.38 115 *e*P **P** **13 59 20.6 -1.4**
VLA Vladivostok 62.46 305⇓ *e*P **P** **13 59 24.4 +2.3**
VLA pmax pmax
comp=Z,43nm,1.3s
FOO Floro 62.56 22 *e*P **P** **13 59 22.0 -0.5**
MDJ Mudanjiang 62.58 308 P **P** **13 59 22.3 -0.6**
MDJ pP sP 13 59 25.4 -0.6
MDJ sP pwP 13 59 27.0 -0.5
MDJ PcP **PcP** **14 00 00.8 -1.1**
MDJ S **S** **14 07 49.1 -1.5**
MDJ pmax pmax
comp=Z,500nm,11.1s
MDJ LR LR
comp=Z,2µm,21.7s
MDJ LR LR
comp=Z,3µm,20.3s
MDJ LR LR
comp=Z,6µm,22.2s
MDJ Mudanjiang 62.58 308 IAMs_20 IAMs_20 14 23 53.1
comp=Z,5µm,22.0s
ZARC Zaragoza, Cauc 62.78 113 *e*P **P** **13 59 21.5 -3.1**
ANWB Willy Bob 62.97 95 IAMs_20 IAMs_20 14 27 38.6
comp=Z,4µm,20.0s
OCAC Ocana 63.09 111 *e*P **P** **13 59 22.2 -4.6**
DOMB Dombas 63.10 20 *e*P **P** **13 59 25.8 -0.3**
HYA Hoyanger 63.21 22 *e*P **P** **13 59 26.8 0.0**
CBOC Ciudad Bolivar 63.42 115 *e*P **P** **13 59 26.0 -3.0**
HELC Santa Helena 63.44 115 *e*P **P** **13 59 27.8 -1.6**
MAJO Matsushiro 63.62 296*ce*P **P** **13 59 32.6 +2.7**
MAJO pmax pmax
comp=Z,33nm,1.1s
MAT Matsushiro 63.62 296 P **P** **13 59 27.9 -2.0**
MAT S **S** **14 08 06.0 +2.1**
MJAR Matsushiro Arr 63.62 296 P **P** **13 59 30.2 +0.2**
comp=Z,5.3nm,1.0s,baz=39,slow=4.8,SNR=7.7
MJAR LR LR 14 23 01.9
comp=Z,1µm,21.4s,baz=30,slow=32
BRRC Barranca, Sant 63.76 112 *e*P **P** **13 59 27.4 -3.7**
PTBC PUERTO BERRIO, 63.78 113 *e*P **P** **13 59 28.5 -2.7**
HIA Hailar 63.84 317 IAMs_20 IAMs_20 14 27 48.5
comp=Z,4µm,20.0s
SDV Santo Domingo 64.19 109 P **P** **13 59 33.2 -0.9**
comp=Z,5.9nm,0.3s,baz=327,slow=5.4,SNR=11
SDV Santo Domingo 64.19 109 IAMs_20 IAMs_20 14 29 53.8
comp=Z,2µm,20.0s
SDV Santo Domingo 64.19 109⇑ *e*P **P** **13 59 30.9 -3.2**
SDV Santo Domingo 64.19 109 *e*P **P** **13 59 33.3 -0.9**
GUY2C Guyana, Caldas 64.32 115 *e*P **P** **13 59 33.3 -2.0**
NB2 NORSAR Subarra 64.46 20 P **P** **13 59 34.7 -0.4**
baz=333,slow=6.9
NB2 NORSAR Subarra 64.46 20 P **P** **13 59 34.7 -0.4**
baz=333,slow=6.9
NOA NORSAR Array B 64.46 20 P **P** **13 59 33.7 -1.4**
comp=Z,0.8nm,1.0s,baz=277,slow=15,SNR=10.0
NOA LR LR 14 27 51.5
comp=Z,4µm,20.3s,baz=330,slow=36
BARC Barichara 64.48 112 *e*P **P** **13 59 34.0 -2.2**
SPBC San Pablo de B 64.72 114 *e*P **P** **13 59 36.1 -1.4**
YOTC Yotoco, Valle 64.76 117 *e*P P 13 59 32.7 -5.1
RUSC La Rusia 65.10 113 *e*P **P** **13 59 38.6 -1.8**
TUMC Tumaco 65.21 120 *e*P **P** **13 59 39.2 -1.3**
CN2 Changchun 65.23 309 *e*P **P** **13 59 38.3 -2.1**
CN2 PP **PP** **14 02 04.1 +0.8**
CN2 S **S** **14 08 24.5 +1.0**
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,2µm,18.0s
CN2 LR LR
comp=Z,2µm,18.0s
CN2 LR LR
comp=Z,2µm,19.0s
ROSC El Rosal 65.23 114 P **P** **13 59 41.4 +0.2**
comp=Z,37nm,0.8s,baz=133,slow=3.8,SNR=17
ROSC LR LR 14 32 11.6
comp=Z,872nm,18.6s,baz=310,slow=40
KONO Kongsberg 65.35 21 IAMs_20 IAMs_20 14 32 16.8
comp=Z,2µm,20.0s
TAMC Tame, Arauca 65.43 111 *e*P **P** **13 59 41.2 -0.9**
ESK Eskdalemuir 65.60 30 IAMs_20 IAMs_20 14 27 36.3
comp=Z,3µm,21.0s
EKA Eskdalemuir Ar 65.60 30 P **P** **13 59 43.1 +0.6**
comp=Z,2.1nm,0.7s,baz=311,slow=3.8,SNR=4.7
EKA LR LR 14 27 28.0
comp=Z,3µm,18.8s,baz=305,slow=35
KWAJ Kwajalein Atol 65.65 253 IAMs_20 IAMs_20 14 20 54.8
comp=Z,3µm,21.0s
POPC Popayan, Colom 65.76 118 *e*P **P** **13 59 42.9 -1.5**
HFS Hagfors 65.80 19 P **P** **13 59 45.0 +1.2**
comp=Z,5.4nm,0.8s,baz=18,slow=1.9,SNR=6.8
HFS Hagfors 65.80 19 P **P** **13 59 45.0 +1.2**
MARP Paez Belalcaza 65.92 117 *e*P **P** **13 59 43.5 -2.0**
PCON Cinco Dias 66.09 118 *e*P **P** **13 59 46.8 -0.2**
SOTA Rioblanco 66.13 118 *e*P **P** **13 59 45.6 -1.5**
BETC Betania 66.34 117 *e*P **P** **13 59 44.3 -3.6**
ELOV Elorza 66.36 109 *e*P **P** **13 59 45.0 -3.0**
GCUF Volcan Galeras 66.47 119 *e*P **P** **13 59 47.1 -2.2**
FIA1 FINESS Array S 66.66 12 IAmb IAmb 13 59 51.2
comp=Z,107nm,1.9s
FINES FINESS Array B 66.66 12 P **P** **13 59 48.1 -1.1**
comp=Z,4.9nm,0.6s,baz=348,slow=4.1,SNR=16
FINES LR LR 14 28 52.8
comp=Z,3µm,21.6s,baz=344,slow=36
OTAV Otavalo 66.68 121 *e*P **P** **13 59 50.6 0.0**
OTAV Otavalo 66.68 121 *e*P **P** **13 59 51.2 +0.7**
PTGC Puerto Gaitan, 67.02 113 *e*P **P** **13 59 48.1 -4.2**
FLOC Florencia 67.12 118 *e*P **P** **13 59 51.8 -1.0**
PMOR Pomariorio Ree 67.17 198 *e*T T 15 12 32.8
comp=Z,186nm,0.2s
GRGR Grenville 67.22 99 IAMs_20 IAMs_20 14 29 34.6
comp=Z,2µm,20.0s
VAH Vaihoa 67.34 198 *e*T T 15 12 46.7
comp=Z,46nm,0.4s
PRGR Permogore 68.01 2 *e*P **P** **13 59 58.5 +0.7**
PRGR pmax pmax
comp=Z,94nm,1.2s
KLMR Klimovskoe 68.54 5 *e*P **P** **13 59 58.8 -2.3**
KLMR S **S** **14 09 03.5 +0.6**
KLMR pmax pmax
comp=Z,127nm,1.4s
KLMR MLR MLR
comp=Z,2µm,15.0s
KLMR Klimovskoe 68.54 5 *e*P **P** **13 59 58.8 -2.3**
KLMR *e*P **P** **13 59 58.8 -2.3**
KLMR *e*P **P** **13 59 58.8 -2.3**
KLMR AMP 14 00 04.8
comp=Z,127nm,1.4s
KLMR S **S** **14 09 03.6 +0.6**
KLMR S **S** **14 09 03.6 +0.6**
KLMR LQ LQ 14 21 25.9
KLMR LR LR 14 22 06.0
KLMR AMP 14 33 52.1
comp=Z,2µm,15.3s
KSRS Korea Array 68.64 303 P **P** **14 00 01.8 -0.4**
comp=Z,6.1nm,1.0s,baz=58,slow=4.8,SNR=9.4
KSRS LR LR 14 26 47.6
comp=Z,787nm,21.9s,baz=30,slow=33
MOY Mondy 69.15 329 *e*P **P** **14 00 06.9 +1.6**
MOY pmax pmax
comp=Z,88nm,1.8s
ZAK Zakamensk 69.45 327 *e*P **P** **14 00 05.2 -2.0**
ZAK pmax pmax
comp=Z,15nm,1.7s
ZAK pmax pmax
comp=Z,13nm,1.6s
VSU Vasula 69.63 13 *e*P **P** **14 00 08.5 +0.6**
VSU Vasula 69.63 13*d* *i*P **P** **14 00 07.5 -0.4**
VSU pmax pmax
comp=Z,79nm,1.2s
TJN Taejon 69.74 303⇑ *e*P **P** **14 00 11.3 +2.3**
TIAR Tiarei 69.95 199 *e*T T 15 16 00.9
comp=Z,10nm,0.2s
MEH Mehetia 70.00 198 *e*T T 15 16 05.4
comp=Z,25nm,0.2s
PPT Papeete 70.01 200 LR LR 14 24 21.3
comp=Z,2µm,19.7s,baz=12,slow=30

PPT2	**Papeete2**	**70.03**	**200**	*e*T	T	15 16 07.4			
	comp=Z,49nm,0.2s								
PAE	**Paea**	**70.10**	**200**	*e*T	T	15 16 12.6			
	comp=Z,14nm,0.3s								
ULN	**Ulaanbaatar**	**70.16**	**323**	*ce*P	**P**	**14 00 13.5**	**+1.9**		
ULN				pmax	pmax				
	comp=Z,29nm,2.5s								
SONM	**Songino Array**	**70.44**	**323**	P	**P**	**14 00 13.6**	**+0.3**		
	comp=Z,4.5nm,1.1s,baz=58,slow=3.7,SNR=13								
SONM				LR	LR	14 31 31.1			
	comp=Z,4µm,20.0s,baz=28,slow=36								
SONM	**Songino Array**	**70.44**	**323**	IAmb	IAmb	14 00 17.4			
	comp=Z,44nm,1.6s								
BSEG	**Bad Segeberg**	**70.67**	**23**	*e*P	**P**	**14 00 16.2**	**+1.8**		
	comp=Z,38nm,1.5s,baz=336,slow=5.9								
DL2	**Dalian**	**70.80**	**308**	P	**P**	**14 00 15.3**	**-0.1**		
DL2				S	**S**	**14 09 28.8**	**-1.4**		
DL2				SS	**SS**	**14 14 01.0**	**-0.5**		
DL2				pmax	pmax				
	comp=Z,20nm,1.7s								
DL2				pmax	pmax				
	comp=Z,260nm,5.9s								
DL2				LR	LR				
	comp=Z,2µm,18.9s								
DL2				LR	LR				
	comp=Z,3µm,18.9s								
DL2				LR	LR				
	comp=Z,3µm,19.8s								
RGN	**Rugen**	**70.84**	**21**	IAMs_20	IAMs_20	14 31 37.0			
	comp=Z,3µm,20.0s								
KIRV	**Kirov**	**71.11**	**0**	P	**P**	**14 00 16.5**	**-0.4**		
	comp=Z,20nm,0.8s,baz=344,slow=5.7,SNR=13								
IBBN	**Ibbenburen**	**71.46**	**26**	*e*P	**P**	**14 00 20.7**	**+1.5**		
	comp=Z,243nm,2.4s,baz=336,slow=5.9								
ZALV	**Zalesovo Beam**	**71.66**	**339**	P	**P**	**14 00 20.0**	**-0.4**		
	comp=Z,8.2nm,0.7s,baz=21,slow=4.7,SNR=19								
ZALV				LR	LR	14 37 18.2			
	comp=Z,1µm,18.1s,baz=16,slow=40								
NRDL	**Niedersach Rie**	**71.92**	**24**	*e*P	**P**	**14 00 23.1**	**+1.2**		
	comp=Z,59nm,2.1s,baz=336,slow=5.9								
LNIZ	**Loecknitz**	**72.02**	**21**	*e*P	**P**	**14 00 23.7**	**+1.2**		
	comp=Z,126nm,1.7s,baz=336,slow=5.9								
PABE	**Paberze**	**72.06**	**15**	*e*P	**P**	**14 00 23.3**	**+0.6**		
BUG	**Bochum--Univer**	**72.10**	**26**	*e*P	**P**	**14 00 24.2**	**+1.1**		
	comp=Z,39nm,1.8s,baz=336,slow=5.9								
ISAL	**Salakas**	**72.34**	**14**	*e*P	**P**	**14 00 24.8**	**+0.4**		
FLTG	**Flechtingen**	**72.36**	**24**	*e*P	**P**	**14 00 25.5**	**+0.9**		
	comp=Z,29nm,1.5s,baz=336,slow=5.9								
BMRD	**Maredsous**	**72.38**	**28**	*d*P	**P**	**14 00 23.9**	**-0.9**		
ASSE	**Asse, Remlinge**	**72.40**	**24**	*e*P	**P**	**14 00 26.2**	**+1.4**		
	comp=Z,51nm,2.0s,baz=336,slow=5.9								
BGES	**Gesves**	**72.41**	**28**	*d*P	**P**	**14 00 25.1**	**+0.1**		
SVE	**Sverdlovsk**	**72.49**	**354**	*e*P	**P**	**14 00 24.6**	**-0.7**		
SVE				*e*S	**S**	**14 09 50.8**	**+1.6**		
SVE				pmax	pmax				
	comp=Z,65nm,1.6s								
IIGN	**Ignalina**	**72.57**	**14**	*e*P	**P**	**14 00 26.4**	**+0.6**		
BJT	**Baijiatuan**	**72.58**	**312**	IAMs_20	IAMs_20	14 33 11.4			
	comp=Z,2µm,20.0s								
CLZ	**Clausthal**	**72.59**	**24**	*e*P	**P**	**14 00 27.8**	**+1.8**		
	comp=Z,107nm,2.3s,baz=336,slow=5.9								
KASTN	**Kahler Asten**	**72.64**	**26**	*e*P	**P**	**14 00 27.8**	**+1.5**		
	comp=Z,24nm,1.7s,baz=336,slow=5.9								
AHRW	**Bad Neuenahr-A**	**72.85**	**27**	*e*P	**P**	**14 00 28.9**	**+1.3**		
	comp=Z,69nm,2.0s,baz=336,slow=5.9								
GKP	**Gorka Klasztor**	**72.91**	**20**	*e*P	**P**	**14 00 28.2**	**+0.4**		
PATS	**Pohnpei**	**72.93**	**260**	IAMs_20	IAMs_20	14 36 26.3			
	comp=Z,3µm,18.0s								
ARU	**Arti**	**73.02**	**355**	P	**P**	**14 00 28.0**	**-0.4**		
	comp=Z,7.9nm,0.8s,baz=359,slow=5.3,SNR=22								
ARU	**Arti**	**73.02**	**355**	*c i*P	**P**	**14 00 27.4**	**-1.1**		
ARU						14 00 43.1			
ARU				PPP	PPP	14 04 50.2			
ARU				S	**S**	**14 09 54.3**	**-0.9**		
ARU						14 10 36.9			
ARU				SSS	SSS	14 17 46.7			
ARU				pmax	pmax				
	comp=Z,58nm,1.1s								
ARU				MLR	MLR				
	comp=Z,2µm,22.0s								
ARU	**Arti**	**73.02**	**355**	P	**P**	**14 00 27.2**	**-1.2**		
ARU				IAmb	IAmb	14 00 34.5			
	comp=Z,51nm,1.0s								
ARU				IAMs_20	IAMs_20	14 37 44.6			
	comp=Z,2µm,18.0s								
NACGM	**Naroch**	**73.08**	**14**	*i* P	**P**	**14 00 28.6**	**-0.3**		
SUW	**Suwalki**	**73.36**	**16**	*e*P	**P**	**14 00 29.8**	**-0.7**		
SUW				*e*S	**SKiKP**	**14 10 00.8**	**-0.6**		
SUW				*e*L	L	14 34 16.0			
	comp=Z,3µm,18.4s								
SUW	**Suwalki**	**73.36**	**16**	*e*P	**P**	**14 00 30.3**	**-0.2**		
SUW	**Suwalki**	**73.36**	**16**	IAMs_20	IAMs_20	14 34 14.0			
	comp=Z,3µm,18.0s								
WLF	**Walferdange**	**73.36**	**28**	IAMs_20	IAMs_20	14 32 05.8			
	comp=Z,4µm,20.0s								
UBBA	**Unterbreizbach**	**73.42**	**25**	*e*P	**P**	**14 00 32.3**	**+1.5**		
	comp=Z,33nm,1.9s,baz=336,slow=5.9								
UBBA				*ep*P	**pwP**	**14 00 40.4**	**+4.7**		
	baz=333,slow=5.8								
MOS	**Moscow**	**73.50**	**7**	*e*P	**P**	**14 00 29.6**	**-1.7**		
MOS				*e*S	**SKiKP**	**14 10 02.6**	**+1.1**		
MOS				pmax	pmax				
	comp=Z,79nm,1.5s								
MOS				MLR	MLR				
	comp=N,3µm,19.0s								
MOS				MLR	MLR				
	comp=Z,3µm,19.0s								
TNS	**Taunus Mts**	**73.53**	**26**	*e*P	**P**	**14 00 32.9**	**+1.2**		
	comp=Z,100nm,2.5s,baz=336,slow=5.9								
TNS				*ep*P	**pwP**	**14 00 39.5**	**+2.9**		
	baz=333,slow=5.8								
RKT	**Rikitea**	**73.57**	**184**	*e*T	T	15 20 34.3			
	comp=Z,18nm,0.3s								
MNK	**Minsk**	**73.63**	**13**	*i* P	**P**	**14 00 31.9**	**-0.2**		
MNK				*i*		14 03 14.7			
MNK				*i* PPP	PPP	14 04 58.5			
MNK				*i* S	**S**	**14 10 03.1**	**+0.9**		
MNK				*i* SS	**SS**	**14 14 45.0**	**+1.1**		
MNK				pmax	pmax				
	comp=N,25nm,1.3s								
MNK				pmax	pmax				
	comp=E,2.0nm,0.8s								
MNK				pmax	pmax				
	comp=Z,18nm,1.0s								
MNK				MLR	MLR				
	comp=E,216nm,17.0s								
MNK				MLR	MLR				
	comp=Z,4µm,19.0s								
MNK				MLR	MLR				
	comp=N,2µm,16.0s								
MNK	**Minsk**	**73.63**	**13**	*i* P	**P**	**14 00 32.0**	**-0.2**		
	comp=E,2.0nm,0.8s								
MNK				*i* P	**P**	**14 00 32.0**	**-0.2**		
	comp=N,25nm,1.3s								
MNK				*i* P	**P**	**14 00 32.0**	**-0.2**		
	comp=Z,18nm,1.0s,baz=346								
MNK				*i* PP	**PP**	**14 03 14.7**	**-0.8**		
MNK				*i* PPP	PPP	14 04 58.5			
MNK				*i* S	**S**	**14 10 03.2**	**+0.9**		
MNK				*i* SS	**SS**	**14 14 45.0**	**+1.1**		
MNK				*i* SSS	SSS	14 18 05.6			
MNK				*i* LQ	LQ	14 27 53.0			
MNK				*i* LR	LR	14 31 36.5			
MNK				*i* LRM	MLR	14 33 47.5			
	comp=E,216nm,16.6s								
MNK				*i* LRM	MLR	14 33 49.4			
	comp=Z,4µm,18.5s								
MNK				*i* LRM	MLR	14 33 55.1			
	comp=N,2µm,16.0s								
CLL	**Collm**	**73.75**	**23**	*e*P	**P**	**14 00 33.0**	**+0.2**		
	comp=Z,26nm,1.6s								
CLL				*e*PP	**PP**	**14 03 16.0**	**-0.5**		
CLL				*e*S	**S**	**14 10 09.0**	**+5.4**		
CLL				*e*SKSac	**SKSac**	**14 10 36.0**	**-3.6**		
CLL				*e*SS	**SS**	**14 14 54.0**	**+8.2**		
CLL				*e*SSS	SSS	14 18 30.0			
CLL				LmV		14 32 00.0			
	comp=Z,3µm,20.5s								
CLL	**Collm**	**73.75**	**23**	*e*P	**P**	**14 00 33.0**	**+0.2**		
CLL				*e*S	**S**	**14 10 09.0**	**+5.4**		
CLL				pmax	pmax				
	comp=Z,26nm,1.6s								
CLL				MLR	MLR				
	comp=Z,3µm,20.5s								
CLL	**Collm**	**73.75**	**23**	IAMs_20	IAMs_20	14 32 48.8			
	comp=Z,3µm,20.0s								
CLL	**Collm**	**73.75**	**23**	*e*P	**P**	**14 00 33.7**	**+0.8**		
	comp=Z,23nm,2.0s,baz=336,slow=5.9								
CLL				*ep*P	**pwP**	**14 00 41.9**	**+4.2**		
	baz=333,slow=5.8								
MOX	**Moxa**	**74.00**	**24**	*e*P	**P**	**14 00 35.1**	**+0.7**		
	comp=Z,7.1nm,1.0s,baz=336,slow=5.9								
MOX				*e*L	L	14 34 45.1			
	comp=Z,3µm,18.7s								
HHC	**Hu-ho-hao-te**	**74.02**	**316**	*e*P	**P**	**14 00 35.3**	**+0.5**		
HHC				S	**S**	**14 10 07.9**	**+0.6**		
HHC				SS	**SS**	**14 14 48.3**	**-2.6**		
HHC				pmax	pmax				
	comp=Z,12nm,1.1s								
HHC				pmax	pmax				
	comp=Z,360nm,6.3s								
HHC				LR	LR				
	comp=Z,3µm,16.1s								
HHC				LR	LR				
	comp=Z,4µm,17.4s								
HHC				LR	LR				
	comp=Z,3µm,16.6s								
OBN	**Obninsk**	**74.03**	**8**	*d i*P	**P**	**14 00 34.0**	**-0.4**		
OBN				*i*		14 00 48.1			
OBN				*e*		14 03 18.4			
OBN				*e*PPP	PPP	14 05 03.0			
OBN				*e*S	**S**	**14 10 05.7**	**-0.9**		
OBN				pmax	pmax				
	comp=Z,97nm,1.7s								
OBN				MLR	MLR				
	comp=Z,2µm,17.0s								
OBN	**Obninsk**	**74.03**	**8**	IAMs_20	IAMs_20	14 35 56.4			
	comp=Z,2µm,18.0s								
MILB	**Miltenberg**	**74.12**	**26**	*e*P	**P**	**14 00 36.7**	**+1.6**		
	comp=Z,82nm,2.2s,baz=336,slow=5.9								
MILB				*ep*P	**pwP**	**14 00 43.3**	**+3.4**		
	baz=333,slow=5.8								
FBE	**Freiberg**	**74.19**	**23**	*e*P	**P**	**14 00 36.9**	**+1.5**		
	comp=Z,76nm,2.1s,baz=336,slow=5.9								
WERD	**Werda**	**74.36**	**24**	*ep*P	pP	14 00 45.5	+6.7		
	baz=333,slow=5.8								
BRG	**Berggiesshubel**	**74.38**	**23**	*e*P	**P**	**14 00 37.8**	**+1.3**		
	comp=Z,43nm,1.9s,baz=336,slow=5.9								
BRG				*ep*P	**pwP**	**14 00 45.8**	**+4.4**		
	baz=333,slow=5.8								
BRG	**Berggiesshubel**	**74.38**	**23**	*e*P	**P**	**14 00 37.0**	**+0.5**		
BRG				Amp		14 00 38.9			
	comp=Z,23nm,1.3s								
BRG	**Berggiesshubel**	**74.38**	**23**	S	**S**	**14 10 16.0**	**+5.3**		
BRG	**Berggiesshubel**	**74.38**	**23**	SS	SS	14 15 01.0	+5.5		
BRG				Amp		14 33 32.0			
	comp=E,0.9nm,16.8s								
BRG				Amp		14 33 35.0			
	comp=Z,2.6nm,17.1s								
BRG				Amp		14 33 49.0			
	comp=N,2.8nm,18.7s								
TANN	**Tannenbergstha**	**74.43**	**24**	*e*P	**P**	**14 00 38.0**	**+1.1**		
	comp=N,20nm,2.1s,baz=336,slow=5.9								
NKC	**Novy Kostel**	**74.59**	**24**	*e*S	**S**	**14 10 20.9**	**+7.7**		
NKC				AMS	AMS	14 33 50.0			
	comp=N,2µm,17.4s								
GRA1	**Grafenberg Arr**	**74.77**	**25**	IAMs_20	IAMs_20	14 34 20.9			
	comp=Z,3µm,18.0s								
GRF	**Grafenberg Arr**	**74.77**	**25**	*e*P	**P**	**14 00 40.5**	**+1.6**		
	comp=Z,72nm,2.0s,baz=336,slow=5.9								
GRF				*ep*P	**pwP**	**14 00 47.2**	**+3.4**		
	baz=333,slow=5.8								
GRF				*e*L	L	14 32 19.6			
	comp=Z,2µm,21.5s								
GRFO	**Grafenberg**	**74.77**	**25**	IAMs_20	IAMs_20	14 34 20.9			
	comp=Z,3µm,18.0s								
PGAV	**Gavieira, Arco**	**74.83**	**41**	*e*S	S	14 10 25.4	+9.1		
PGAV	**Gavieira, Arco**	**74.83**	**41**	*e*LR	LR	14 24 51.0			
	comp=Z,2µm,18.0s								
PVCC	**Panska Ves**	**74.85**	**22**	AMS	AMS	14 34 00.0			
	comp=Z,3µm,17.6s								
BTO	**Baotou**	**74.90**	**317**	*e*P	**P**	**14 00 39.4**	**-0.5**		
BTO				S	**S**	**14 10 21.6**	**+4.5**		
BTO				LR	LR				
	comp=Z,5µm,14.3s								
BTO				LR	LR				
	comp=Z,8µm,19.2s								
DGZ	**Jazzator, Alta**	**74.93**	**336**	*d i*P	**P**	**14 00 39.9**	**-0.1**		
DGZ				pmax	pmax				
	comp=Z,54nm,1.1s								
ECH	**Echery**	**74.96**	**28**	IAMs_20	IAMs_20	14 32 57.4			
	comp=Z,3µm,21.0s								
ROTZ	**Rotzenmuhle**	**74.96**	**24**	*e*P	**P**	**14 00 41.1**	**+1.1**		
	comp=Z,24nm,1.9s,baz=336,slow=5.9								
KSP	**Ksiaz**	**74.96**	**21**	*e*P	**P**	**14 00 40.1**	**+0.1**		
KSP				*e*S	**S**	**14 10 18.9**	**+1.6**		
KSP				*e*L	L	14 35 01.6			
	comp=Z,3µm,19.6s								
STU	**Stuttgart**	**75.05**	**26**	IAMs_20	IAMs_20	14 35 26.3			
	comp=Z,3µm,20.0s								
TBTG	**Tabatinga, AM**	**75.10**	**116**	*e*P	**P**	**14 00 41.0**	**-0.1**		
TIA	**Tai'an**	**75.14**	**309**	P	**P**	**14 00 40.5**	**-0.7**		
TIA				S	**S**	**14 10 22.1**	**+2.4**		
TIA				pmax	pmax				
	comp=Z,210nm,6.1s								
TIA				LR	LR				
	comp=Z,1µm,19.0s								
TIA				LR	LR				
	comp=Z,2µm,15.3s								
TIA				LR	LR				
	comp=Z,3µm,22.6s								
CHVC	**Chvalec**	**75.15**	**21**	*e*P	**P**	**14 00 41.2**	**+0.2**		
CHVC				*e*S	**S**	**14 10 25.6**	**+6.2**		
CHVC				AMS	AMS	14 35 40.0			
	comp=Z,2µm,18.8s								
BRVK	**Borovoye**	**75.20**	**347**	P	**P**	**14 00 40.6**	**-0.7**		
BRVK				pmax	pmax				
	comp=Z,151nm,2.0s								
BRVK	**Borovoye**	**75.20**	**347**	P	**P**	**14 00 40.6**	**-0.7**		
BRVK				IAmb	IAmb	14 00 47.7			
	comp=Z,151nm,1.9s								
BRVK	**Borovoye**	**75.20**	**347**	IAMs_20	IAMs_20	14 39 31.9			
	comp=Z,2µm,19.0s								
BFO	**Black Forest**	**75.20**	**27**	*e*P	**P**	**14 00 42.5**	**+1.1**		
	comp=Z,73nm,2.4s,baz=336,slow=5.9								
BFO				*ep*P	**pwP**	**14 00 49.4**	**+3.1**		
	baz=333,slow=5.8								
UPC	**Upice**	**75.21**	**21**	*e*S	**S**	**14 10 24.8**	**+4.7**		
UPC				AMS	AMS	14 35 40.0			
	comp=Z,2µm,17.5s								
OSTC	**Ostas**	**75.21**	**21**	*e*S	**S**	**14 10 25.7**	**+5.6**		
OSTC				AMS	AMS	14 35 40.0			
	comp=Z,3µm,17.6s								
PRA	**Prague**	**75.24**	**23**	*e*S	**S**	**14 10 27.1**	**+6.7**		
PRA				AMS	AMS	14 37 50.0			
	comp=Z,4µm,16.3s								
PRU	**Pruhonice**	**75.34**	**23**	*e*S	**S**	**14 10 27.6**	**+6.1**		
PRU				AMS	AMS	14 38 10.0			
	comp=Z,4µm,16.4s								
DPC	**Dobruska-Polom**	**75.43**	**21**	*e*P	**P**	**14 00 43.1**	**+0.4**		
DPC				*e*S	**S**	**14 10 29.0**	**+6.4**		
DPC				MLR	MLR				
	comp=Z,3µm,18.1s								
DPC	**Dobruska-Polom**	**75.43**	**21**	*e*P	**P**	**14 00 43.1**	**+0.4**		
DPC				*e*S	**S**	**14 10 29.0**	**+6.4**		
DPC				AMS	AMS	14 35 40.0			
	comp=Z,3µm,18.1s								
BOAV	**Boa Vista**	**75.45**	**104**	*e*P	**P**	**14 00 42.2**	**-1.0**		
POLO	**Lamas de Olo**	**75.52**	**41**	*e*P	**P**	**14 00 43.9**	**+0.5**		
	comp=Z,28nm,1.6s								
POLO				*e*S	**S**	**14 10 31.6**	**+7.6**		
PBRG	**Braganca**	**75.59**	**40**	*e*P	P	14 00 49.6	+5.8		
	comp=Z,51nm,1.8s								
WET	**Wettzell**	**75.70**	**24**	*e*P	**P**	**14 00 45.7**	**+1.4**		
	comp=Z,43nm,2.5s,baz=336,slow=5.9								
KRLC	**Kraliky**	**75.79**	**21**	*e*P	**P**	**14 00 45.1**	**+0.3**		
KRLC				*e*		14 00 50.5			
KRLC				MLR	MLR				
	comp=Z,4µm,17.0s								
KRLC	**Kraliky**	**75.79**	**21**	*e*P	**P**	**14 00 45.1**	**+0.3**		
KRLC				*ex*	x	14 00 50.5			
KRLC				AMS	AMS	14 36 00.0			
	comp=Z,4µm,17.0s								
KHC	**Kasperske Hory**	**75.90**	**23**	*e*P	**P**	**14 00 45.6**	**+0.2**		
KHC				*e*		14 00 52.8			
KHC				MLR	MLR				
	comp=Z,2µm,17.3s								
KHC	**Kasperske Hory**	**75.90**	**23**	*e*P	**P**	**14 00 45.6**	**+0.2**		
KHC				*ex*	x	14 00 52.8			
KHC				*e*S	**S**	**14 10 35.7**	**+7.9**		
KHC				AMS	AMS	14 35 20.0			
	comp=Z,2µm,17.3s								
SEM	**Semipalatinsk**	**75.98**	**340**	*e*P	**P**	**14 00 44.0**	**-2.1**		
	baz=340								
SEM				*e*S	**S**	**14 10 26.4**	**-2.7**		
	comp=Z,115nm,11.0s,baz=340								
SEM				*e*LR	LR	14 39 01.4			
	comp=Z,456nm,15.2s,baz=340								
SEM	**Semipalatinsk**	**75.98**	**340**	*e*P	**P**	**14 00 43.9**	**-2.1**		
SEM				*e*S	**S**	**14 10 26.3**	**-2.7**		
SEM				smax	smax				
	comp=N,115nm,11.0s								
MVO	**Moncorvo**	**76.01**	**41**	*e*S	**S**	**14 10 33.3**	**+3.9**		
MVO	**Moncorvo**	**76.01**	**41**	*e*LR	LR	14 25 29.1			
	comp=N,2µm,16.0s								
KURBB	**Kurchatov Arra**	**76.14**	**342**	P	**P**	**14 00 45.1**	**-1.5**		
GEC2	**GERESS Array S**	**76.19**	**24**	*e*P	**P**	**14 00 48.3**	**+1.1**		
	comp=N,18nm,1.7s,baz=336,slow=5.9								
GEC2				*ep*P	**PcP**	**14 00 56.3**	**-3.0**		
	baz=333,slow=5.8								
GERES	**GERESS Array B**	**76.19**	**24**	P	**P**	**14 00 46.4**	**-0.8**		
	comp=N,1.3nm,0.8s,baz=332,slow=5.3,SNR=7.3								
GERES				LR	LR	14 35 58.8			
	comp=N,2µm,19.6s,baz=336,slow=37								
TREC	**Trest**	**76.22**	**22**	AMS	AMS	14 38 40.0			
	comp=N,3µm,14.8s								
COI	**Coimbra**	**76.22**	**42**	IAMs_20	IAMs_20	14 40 55.9			
	comp=Z,3µm,18.0s								
MORC	**Moravsky Berou**	**76.25**	**21**	⇓P	**P**	**14 00 47.4**	**0.0**		
MORC	**Moravsky Berou**	**76.25**	**21**	⇓P	**P**	**14 00 47.4**	**0.0**		
MORC	**Moravsky Berou**	**76.25**	**21**	*e*P	**P**	**14 00 47.2**	**-0.2**		
UBR	**Ueberruh**	**76.30**	**26**	*e*P	**P**	**14 00 49.0**	**+1.3**		
	comp=Z,171nm,3.0s,baz=336,slow=5.9								
PCAS	**Casmilo, Conde**	**76.32**	**42**	*e*P	**P**	**14 00 48.6**	**+0.7**		
	comp=Z,60nm,1.7s								
OJC	**Ojcow**	**76.32**	**19**	*e*P	**P**	**14 00 47.3**	**-0.4**		
OJC				*e*S	**S**	**14 10 39.2**	**+6.9**		
OJC				*e*L	L	14 35 32.2			
	comp=Z,5µm,20.5s								
OKC	**Ostrava-Krasne**	**76.32**	**20**	*e*S	**S**	**14 10 34.4**	**+2.0**		
OKC				AMS	AMS	14 36 20.0			
	comp=Z,3µm,16.9s								
CKRC	**Cesky Krumlov**	**76.37**	**23**	*e*S	**S**	**14 10 36.9**	**+3.9**		
CKRC				AMS	AMS	14 36 00.0			
	comp=Z,3µm,14.8s								
MTE	**Manteigas**	**76.43**	**41**	*e*S	**S**	**14 10 36.2**	**+2.2**		
MTE				*e*LQ	LQ	14 20 21.3			
MTE				*e*LR	LR	14 24 23.8			
	comp=Z,2µm,18.0s								
MTE	**Manteigas**	**76.43**	**41**	IAMs_20	IAMs_20	14 32 09.4			
	comp=Z,2µm,20.0s								
CZSB	**Cruzeiro do Su**	**76.44**	**121**	*e*P	**P**	**14 00 48.6**	**-0.3**		
VRAC	**Vranov**	**76.47**	**22**	⇑P	**P**	**14 00 49.2**	**+0.6**		
VRAC	**Vranov**	**76.47**	**22**	⇑P	**P**	**14 00 49.2**	**+0.6**		
VRAC	**Vranov**	**76.47**	**22**	*e*P	**P**	**14 00 48.4**	**-0.2**		
KRUC	**Moravsky**	**76.65**	**22**	*e*P	**P**	**14 00 49.4**	**-0.2**		
RETA	**Reutte**	**76.66**	**26**	*e*P	**P**	**14 00 50.0**	**+0.2**		
	comp=Z,7.7nm,1.5s								
SENIN	**Lac Senin/Sane**	**76.66**	**29**	IAMs_20	IAMs_20	14 32 34.0			
	comp=Z,3µm,18.0s								
LPSR	**Galich'ya Gora**	**76.71**	**7**	*e*P	**P**	**14 00 48.4**	**-1.5**		
LPSR				pmax	pmax				
	comp=Z,60nm,1.7s								
LPSR				MLR	MLR				
	comp=Z,3µm,18.0s								
MOTA	**Moosalm**	**76.88**	**26**	*e*P	**P**	**14 00 51.8**	**+0.7**		
	comp=Z,18nm,2.0s								
PCBR	**Castelo Branco**	**76.93**	**42**	*e*P	**P**	**14 00 53.2**	**+1.9**		
	comp=Z,34nm,1.9s								
WATA	**Walderalm**	**77.02**	**25**	*e*P	**P**	**14 00 52.4**	**+0.5**		
	comp=Z,4.3nm,0.5s								
DAVOX	**Davos/Dischmat**	**77.05**	**27**	LR	LR	14 35 34.9			
	comp=Z,3µm,20.1s,baz=324,slow=36								
WTTA	**Wattenberg**	**77.10**	**25**	*e*P	**P**	**14 00 51.0**	**-1.5**		
	comp=Z,13nm,1.4s								
JAVC	**Velka Javorina**	**77.14**	**21**	*e*P	**P**	**14 00 51.7**	**-0.7**		
LIS	**Lisbon**	**77.14**	**43**	*e*S	**S**	**14 10 41.5**	**-0.1**		
LIS				IAMs_20	IAMs_20	14 32 13.7			
	comp=Z,3µm,18.0s								
NIE	**Niedzica**	**77.18**	**19**	*e*P	**P**	**14 00 54.2**	**+1.6**		
NIE				*e*S	**S**	**14 10 47.2**	**+5.3**		
NIE				*e*L	L	14 36 01.8			
	comp=Z,3µm,20.3s								
PMTG	**Montargil**	**77.25**	**43**	*e*P	**P**	**14 00 54.5**	**+1.3**		
	comp=Z,40nm,1.6s								
BELG	**Belogormoye**	**77.31**	**1**	P	**P**	**14 00 52.3**	**-0.9**		
	comp=Z,58nm,1.0s,baz=176,slow=4.9,SNR=7.9								
PMRV	**Marv??o**	**77.31**	**42**	*e*S	**S**	**14 10 46.4**	**+2.9**		
PMRV	**Marv??o**	**77.31**	**42**	*e*LQ	LQ	14 21 16.4			
PMRV				*e*LR	LR	14 25 41.1			
	comp=Z,2µm,18.0s								
MODS	**Modra-Piesok**	**77.50**	**21**	*e*P	**P**	**14 00 52.6**	**-1.8**		
MODS				MLR	MLR				
	comp=Z,6µm,18.7s								
MODS	**Modra-Piesok**	**77.50**	**21**	*e*P	**P**	**14 00 52.6**	**-1.8**		
MODS				*e*L	L	14 36 38.7			
AKASG	**Malin Array Be**	**77.53**	**13**	P	**P**	**14 00 53.5**	**-1.0**		
	comp=Z,7.4nm,0.9s,baz=352,slow=5.3,SNR=26								
AKASG				LR	LR	14 35 49.4			
	comp=Z,3µm,19.6s,baz=335,slow=36								
AKBB	**Malin Array Si**	**77.53**	**13**	*d i*P	**P**	**14 00 53.3**	**-1.2**		
AKBB				pmax	pmax				
	comp=Z,36nm,1.8s								
LVV	**L'vov**	**77.53**	**17**	*e*P	**P**	**14 00 53.7**	**-0.

VRH	**Novokhopyorsk**	**78.29**	**5**	*e*P	**P**		**14 00 57.9**	**-0.8**
VRH				pmax	pmax			
	comp=Z,20nm,0.5s							
VRH				MLR	MLR			
	comp=Z,1μm,20.0s							
UZH	**Uzhgorod**	**78.34**	**18**	*e*P	**P**		**14 00 57.2**	**-1.8**
UZH				*e*			14 01 07.6	
UZH				*e*			14 03 57.2	
UZH				*e*PPP	PPP		14 05 45.4	
UZH				*e*S	**S**		**14 10 49.2**	**-5.0**
UZH				*e*PS	**PnS**		**14 11 36.4**	**+2.0**
UZH				MLR	MLR			
	comp=N,800nm,20.0s							
UZH				MLR	MLR			
	comp=E,500nm,20.0s							
UZH				MLR	MLR			
	comp=Z,340nm,20.0s							
PAB	**San Pablo**	**78.47**	**40**	IAMs_20	IAMs_20		14 40 31.3	
	comp=Z,2μm,19.0s							
ESDC	**Sonseca Array**	**78.52**	**39**	P	**P**		**14 00 59.4**	**-0.9**
	comp=Z,2.3nm,0.8s,baz=323,slow=5.4,SNR=11							
ESDC	**Sonseca Array**	**78.52**	**39**	P	**P**		**14 00 58.4**	**-1.9**
PSZ	**Piszkesteto**	**78.52**	**20**	⇑P	**P**		**14 01 01.1**	**+0.9**
PSZ	**Piszkesteto**	**78.52**	**20**	*e*P	P		14 01 05.3	+5.2
PSZ	**Piszkesteto**	**78.52**	**20**	⇑P	**P**		**14 01 01.1**	**+0.9**
PSZ	**Piszkesteto**	**78.52**	**20**	IAMs_20	IAMs_20		14 38 54.0	
	comp=Z,2μm,20.0s							
MORF	**Marmelete**	**78.53**	**44**	*e*P	**P**		**14 00 60.0**	**-0.5**
MORF				*e*S	**S**		**14 10 56.6**	**-0.3**
MORF				IAMs_20	IAMs_20		14 31 22.6	
	comp=N,3μm,17.4s							
MORF	**Marmelete**	**78.53**	**44**	*e*P	**P**		**14 00 59.9**	**-0.5**
MORF				*e*S	**S**		**14 10 56.5**	**-0.3**
MORF	**Marmelete**	**78.53**	**44**	*e*P	P		14 01 05.6	+5.2
	comp=N,70nm,1.6s							
SOKA	**Soboth**	**78.54**	**24**	*e*P	**P**		**14 00 59.3**	**-1.1**
	comp=N,15nm,1.7s							
OBKA	**Obir**	**78.57**	**24**	*e*P	**P**		**14 01 00.2**	**-0.3**
	comp=N,19nm,1.4s							
PVAQ	**Vaqueiros**	**78.86**	**43**	*e*P	**P**		**14 01 01.1**	**-1.0**
	comp=N,66nm,1.7s							
PVAQ	**Vaqueiros**	**78.86**	**43**	*e*S	**S**		**14 11 02.1**	**+1.9**
PVAQ				*e*LQ	LQ		14 20 16.6	
PVAQ				*e*LR	LR		14 26 34.2	
	comp=N,2μm,18.0s							
MK31	**Makanchi Array**	**78.92**	**338**	P	**P**		**14 01 01.7**	**-0.7**
MK31				pmax	pmax			
	comp=Z,49nm,1.6s							
MK31	**Makanchi Array**	**78.92**	**338**	P	**P**		**14 01 01.7**	**-0.7**
MK31				IAmb	IAmb		14 01 08.6	
	comp=Z,49nm,1.6s							
MKAR	**Makanchi Array**	**78.92**	**338**	P	**P**		**14 01 01.6**	**-0.8**
	comp=Z,3.9nm,0.7s,baz=12,slow=6.2,SNR=26							
MKAR				LR	LR		14 40 30.4	
	comp=Z,2μm,18.5s,baz=13,slow=39							
MKAR	**Makanchi Array**	**78.92**	**338**	P	**P**		**14 01 01.3**	**-1.1**
MAKZ	**Makanchi**	**78.98**	**338**	P	**P**		**14 01 02.1**	**-0.5**
MAKZ				pmax	pmax			
	comp=Z,79nm,1.3s							
MAKZ				MLR	MLR			
	comp=Z,2μm,21.0s							
MAKZ	**Makanchi**	**78.98**	**338**	P	**P**		**14 01 02.1**	**-0.5**
MAKZ				IAmb	IAmb		14 01 08.9	
	comp=Z,79nm,1.3s							
MAKZ				IAMs_20	IAMs_20		14 39 45.0	
	comp=Z,2μm,21.0s							
AKTO	**Aktyubinsk**	**79.03**	**355**	P	**P**		**14 01 02.1**	**-0.7**
	comp=Z,15nm,1.1s,baz=20,slow=6.2,SNR=18							
MACA	**Manacapuru-AM**	**79.72**	**108**	*e*P	**P**		**14 01 06.3**	**-0.7**
BURAR	**Bucovina Array**	**79.87**	**17**	⇓P	**P**		**14 01 08.2**	**+0.6**
BURAR	**Bucovina Array**	**79.87**	**17**	⇓P	**P**		**14 01 08.2**	**+0.6**
SORM	**Soroca**	**79.89**	**14**	⇑P	**P**		**14 01 06.9**	**-0.7**
SORM	**Soroca**	**79.89**	**14**	⇑P	**P**		**14 01 06.9**	**-0.7**
AB31	**Akbulak array**	**80.07**	**353**	P	**P**		**14 01 07.1**	**-1.4**
GTA	**Gaotai**	**80.10**	**323**	*e*P	**P**		**14 01 08.9**	**-0.1**
GTA				pP	pwP		14 01 12.9	-0.9
GTA				sP	PcP		14 01 16.5	+0.1
GTA				S	**S**		**14 11 13.3**	**-0.3**
GTA				sS	SKSac		14 11 22.0	-4.7
GTA				SS	**SS**		**14 16 20.5**	**-2.1**
GTA				pmax	pmax			
	comp=Z,160nm,5.8s							
GTA				LR	LR			
	comp=Z,2μm,19.6s							
GTA				LR	LR			
	comp=Z,2μm,21.8s							
GTA				LR	LR			
	comp=Z,4μm,20.7s							
ARCR	**ARCALIA**	**80.22**	**17**	⇑P	**P**		**14 01 10.0**	**+0.6**
WMQ	**Urumqi**	**80.25**	**333**	*e*P	**P**		**14 01 11.1**	**+1.4**
WMQ				PP	**PP**		**14 04 16.3**	**+5.0**
WMQ				S	**S**		**14 11 18.8**	**+3.9**
WMQ				SS	**SS**		**14 16 25.9**	**+1.6**
WMQ				pmax	pmax			
	comp=Z,28nm,1.7s							
WMQ				pmax	pmax			
	comp=Z,350nm,5.5s							
WMQ				LR	LR			
	comp=Z,2μm,17.1s							
WMQ				LR	LR			
	comp=Z,2μm,19.9s							
WMQ				LR	LR			
	comp=Z,2μm,18.1s							
BIZ	**Bicaz**	**80.68**	**16**	⇑P	**P**		**14 01 12.8**	**+1.0**
XAN	**Xi'an**	**80.81**	**314**	P	**P**		**14 01 11.5**	**-1.3**
XAN				pP	pwP		14 01 17.0	-0.5
XAN				sP	PcP		14 01 19.4	-0.1
XAN				PP	**PP**		**14 04 13.4**	**-2.9**
XAN				S	**S**		**14 11 16.5**	**-4.5**
XAN				SS	**SS**		**14 16 31.6**	**-1.7**
XAN				pmax	pmax			
	comp=Z,15nm,2.0s							
XAN				pmax	pmax			
	comp=Z,270nm,5.3s							
XAN				LR	LR			
	comp=Z,1μm,19.2s							
XAN				LR	LR			
	comp=Z,2μm,17.9s							
XAN				LR	LR			
	comp=Z,2μm,18.5s							
WHN	**Wuhan**	**81.06**	**308**	⇓P	**P**		**14 01 15.9**	**+1.8**
WHN				S	**S**		**14 11 25.8**	**+2.2**
WHN				LR	LR			
	comp=Z,2μm,13.1s							
WHN				LR	LR			
	comp=Z,5μm,27.4s							
WHN				LR	LR			
	comp=Z,6μm,28.4s							
LZH	**Lanzhou**	**81.33**	**318**	*e*P	**P**		**14 01 17.3**	**+1.6**
LZH				pP	PcP		14 01 22.8	+0.9
LZH				sP	pwP		14 01 25.8	+5.3
LZH				PP	**PP**		**14 04 22.8**	**+2.1**
LZH				S	**S**		**14 11 23.0**	**-3.6**
LZH				sS	SKSac		14 11 35.0	-0.3
LZH				SS	**SS**		**14 16 41.1**	**0.0**
LZH				pmax	pmax			
	comp=Z,26nm,1.3s							
LZH				pmax	pmax			
	comp=Z,140nm,4.3s							
LZH				LR	LR			
	comp=Z,2μm,14.8s							
LZH				LR	LR			
	comp=Z,2μm,15.2s							
LZH				LR	LR			
	comp=Z,2μm,17.3s							
CART	**Cartagena**	**81.50**	**38**	IAMs_20	IAMs_20		14 36 21.3	
	comp=Z,2μm,19.0s							
TDK	**Taldyqorghan**	**81.50**	**340**	*e*P	**P**		**14 01 14.8**	**-1.5**
	baz=340							
TDK				*e*S	**S**		**14 11 27.0**	**-0.8**
	comp=Z,192nm,8.9s,baz=340							
TDK				*e*LR	LR		14 39 55.0	
	comp=Z,2μm,18.1s,baz=340							
TDK	**Taldyqorghan**	**81.50**	**340**	*e*P	**P**		**14 01 14.8**	**-1.5**
TDK				*e*S	**S**		**14 11 27.0**	**-0.8**
TDK				smax	smax			
	comp=E,192nm,8.9s							
TDK				MLR	MLR			
	comp=Z,2μm,18.0s							
GZR	**Gura Zlata**	**81.53**	**19**	⇑P	**P**		**14 01 18.9**	**+2.4**
GZR	**Gura Zlata**	**81.53**	**19**	⇑P	**P**		**14 01 18.9**	**+2.4**
COVR	**Voineasa-Covas**	**81.75**	**16**	⇑P	**P**		**14 01 17.2**	**-0.4**
ETMB	**Extrema**	**81.78**	**116**	*e*P	**P**		**14 01 16.1**	**-1.9**
VRI	**Vrincioaia**	**81.83**	**16**	⇑P	**P**		**14 01 18.2**	**+0.2**
VRI	**Vrincioaia**	**81.83**	**16**	⇑P	**P**		**14 01 18.2**	**+0.2**
PLOR	**Plostina**	**81.83**	**16**	⇑P	**P**		**14 01 18.2**	**+0.2**
PLOR	**Plostina**	**81.83**	**16**	⇑P	**P**		**14 01 18.2**	**+0.2**
ARR	**Arges**	**81.92**	**18**	⇓P	**P**		**14 01 21.0**	**+2.4**
VOIR		**81.94**	**17**	⇑P	**P**		**14 01 21.1**	**+2.4**
VOIR		**81.94**	**17**	⇑P	**P**		**14 01 21.1**	**+2.4**
MLR	**Muntele Rosu**	**82.05**	**17**	⇑P	**P**		**14 01 20.4**	**+1.1**
MLR	**Muntele Rosu**	**82.05**	**17**	⇑P	**P**		**14 01 20.4**	**+1.1**
AQU	**L'Aquila**	**82.11**	**26**	IAMs_20	IAMs_20		14 39 37.2	
	comp=Z,3μm,20.0s							
DIVS	**Divibare**	**82.16**	**21**	IAMs_20	IAMs_20		14 40 17.4	
	comp=Z,2μm,19.0s							
BTLS	**Baital**	**82.36**	**343**	*e*P	**P**		**14 01 18.8**	**-2.0**
	comp=Z,25nm,2.8s,baz=343							
BTLS				*i* S	**S**		**14 11 38.9**	**+2.3**
	comp=Z,40nm,4.4s,baz=343							
BTLS	**Baital**	**82.36**	**343**	*e*P	**P**		**14 01 18.7**	**-2.0**
BTLS				*i* S	**S**		**14 11 38.8**	**+2.3**
BTLS				pmax	pmax			
	comp=Z,25nm,2.8s							
BTLS				smax	smax			
	comp=E,40nm,4.4s							
CFR	**Carcaliu**	**82.73**	**15**	⇑P	**P**		**14 01 23.0**	**+0.3**
CFR	**Carcaliu**	**82.73**	**15**	⇑P	**P**		**14 01 23.0**	**+0.3**
SAML	**Samuel**	**82.83**	**113**	IAMs_20	IAMs_20		14 41 54.4	
	comp=Z,2μm,19.0s							
KPKS	**Kokpek**	**82.90**	**339**	*e*P	**P**		**14 01 22.9**	**-0.8**
	comp=Z,28nm,1.3s,baz=339							
KPKS	**Kokpek**	**82.90**	**339**	*e*P	**P**		**14 01 22.9**	**-0.8**
KPKS				pmax	pmax			
	comp=Z,28nm,1.3s							
CHKK	**Chushkaly**	**82.90**	**340**	*e*P	**P**		**14 01 21.5**	**-2.1**
	baz=340							
KUU	**Kurty**	**83.00**	**341**	*e*P	**P**		**14 01 23.5**	**-0.8**
	comp=Z,144nm,4.8s,baz=341							
KUU				*e*S	**S**		**14 11 46.1**	**+2.8**
	baz=341							
KUU	**Kurty**	**83.00**	**341**	*e*P	**P**		**14 01 23.4**	**-0.8**
KUU				*e*S	**S**		**14 11 46.0**	**+2.8**
SHLS	**Shalkode**	**83.02**	**338**	*e*P	**P**		**14 01 22.9**	**-1.5**
	comp=Z,34nm,1.8s,baz=338							
SHLS	**Shalkode**	**83.02**	**338**	*e*P	**P**		**14 01 22.8**	**-1.5**
SHLS				pmax	pmax			
	comp=Z,33nm,1.8s							
QZH	**Quanzhou**	**83.34**	**301**	*e*P	**P**		**14 01 25.0**	**-1.2**
QZH				S	**S**		**14 11 49.8**	**+2.6**
QZH				LR	LR			
	comp=Z,610nm,18.0s							
QZH				LR	LR			
	comp=Z,940nm,21.3s							
QZH				LR	LR			
	comp=Z,940nm,17.1s							
SATY	**Saty**	**83.35**	**339**	*e*P	**P**		**14 01 25.1**	**-1.0**
	baz=339							
SATY				*e*S	**S**		**14 11 46.2**	**-0.9**
	baz=339							
SATY	**Saty**	**83.35**	**339**	*e*P	**P**		**14 01 25.1**	**-1.0**
SATY				*e*S	**S**		**14 11 46.1**	**-0.9**
AAA	**Alma-Ata**	**83.54**	**340**	*e*P	**P**		**14 01 25.6**	**-1.4**
	baz=340							
AAA				*e*S	**S**		**14 11 51.0**	**+2.1**
	baz=340							
AAA	**Alma-Ata**	**83.54**	**340**	*e*P	**P**		**14 01 25.6**	**-1.4**
AAA				*e*S	**S**		**14 11 50.9**	**+2.1**
MDOK	**Medeo**	**83.55**	**340**	*e*P	**P**		**14 01 25.9**	**-1.3**
	baz=340							
MDOK				*e*S	**S**		**14 11 47.0**	**-2.2**
	baz=340							
MDOK				*e*LR	LR		14 40 46.3	
	comp=Z,798nm,17.6s,baz=340							
MDOK	**Medeo**	**83.55**	**340**	*e*P	**P**		**14 01 25.8**	**-1.3**
MDOK				*e*S	**S**		**14 11 46.9**	**-2.2**
MDOK				MLR	MLR			
	comp=Z,798nm,18.0s							
ENH	**Enshi**	**83.67**	**311**	IAMs_20	IAMs_20		14 38 30.9	
	comp=Z,2μm,21.0s							
TNSS	**Tian-Shan**	**83.69**	**340**	*e*P	**P**		**14 01 26.6**	**-1.6**
	baz=340							
MTBS	**Maitube**	**83.72**	**341**	*e*P	**P**		**14 01 26.9**	**-1.0**
	baz=341							
MTBS				*e*S	**S**		**14 11 54.1**	**+3.5**
	baz=341							
SGDS	**Sogindy**	**83.77**	**342**	*e*P	**P**		**14 01 27.2**	**-1.0**
	comp=Z,24nm,1.9s,baz=342							
SGDS				*e*S	**S**		**14 11 56.1**	**+4.9**
	baz=342							
USP	**Ospenovka**	**83.98**	**342**	P	**P**		**14 01 31.1**	**+1.9**
	SNR=6.9							
TKM2	**Tokmak 2**	**84.09**	**341**	P	**P**		**14 01 29.1**	**-0.9**
	SNR=13							
MDT	**Midelt**	**84.09**	**43**	P	**P**		**14 01 29.6**	**-0.5**
	comp=Z,11nm,1.1s,baz=356,slow=5.4,SNR=7.9							
MDT				LR	LR		14 35 42.0	
	comp=Z,852nm,19.1s,baz=336,slow=33							
ANN	**Anapa**	**84.33**	**9**	*e*P	**P**		**14 01 29.2**	**-1.7**
ANN				*e*			14 04 43.7	
ANN				*e*S	**S**		**14 11 55.0**	**-1.5**
ANN				pmax	pmax			
	comp=Z,25nm,1.0s							
GOF	**Gofitskoye**	**84.49**	**5**	*e*P	**P**		**14 01 34.1**	**+2.4**
GOF				pmax	pmax			
	comp=Z,36nm,0.9s							
AAK	**Ala-Archa**	**84.58**	**342**	*de*P	**P**		**14 01 32.0**	**-0.5**
AAK				pmax	pmax			
	comp=Z,37nm,1.0s							
AAK	**Ala-Archa**	**84.58**	**342**	IAMs_20	IAMs_20		14 44 42.8	
	comp=Z,1μm,18.0s							
EKS2	**Erkin-Say**	**84.70**	**342**	P	**P**		**14 01 31.9**	**-1.1**
	SNR=9.0							
TIR	**Tirane**	**84.74**	**22**	IAMs_20	IAMs_20		14 42 59.6	
	comp=Z,3μm,20.0s							
KK31	**Karatay Array**	**84.86**	**345**	*i* P	**P**		**14 01 32.5**	**-1.2**
DZA	**Taraz**	**84.93**	**344**	*e*P	**P**		**14 01 32.9**	**-1.1**
	baz=344							
DZA				*e*S	**S**		**14 12 00.7**	**-1.9**
	baz=344							
DZA	**Taraz**	**84.93**	**344**	*e*P	**P**		**14 01 32.9**	**-1.1**
DZA				*e*S	**S**		**14 12 00.7**	**-1.9**
KZA	**Kyzart**	**84.97**	**341**	P	P		14 01 30.0	-4.7
	SNR=6.2							
AML	**Almayashu**	**85.23**	**342**	P	**P**		**14 01 35.9**	**-0.1**
	SNR=9.4							
KIV	**Kislovodsk**	**85.57**	**5**	*e*P	**P**		**14 01 36.8**	**-0.5**
KIV				*e*			14 12 00.9	
KIV				*e*SS	SS		14 17 44.3	+1.3
KIV				pmax	pmax			
	comp=Z,14nm,1.0s							
KIV				MLR	MLR			
	comp=Z,1μm,20.0s							
KIV	**Kislovodsk**	**85.57**	**5**	IAMs_20	IAMs_20		14 42 07.7	
	comp=Z,1μm,18.0s							
SOC	**Sochi**	**85.74**	**7**	*d* iP	**P**		**14 01 37.2**	**-0.8**
SOC				*e*			14 04 52.6	
SOC				*e*PPP	PPP		14 06 48.8	
SOC				*e*S	**S**		**14 12 02.2**	**-8.3**
SOC				*e*SS	**SS**		**14 17 49.0**	**+3.7**
SOC				*e*SSS	SSS		14 21 15.7	
SOC				pmax	pmax			
	comp=Z,28nm,1.1s							
SOC				MLR	MLR			
	comp=Z,2μm,20.0s							
CHM	**Chimkent**	**85.77**	**345**	*e*S	**S**		**14 12 07.5**	**-3.6**
	baz=345							
CD2	**Chengdu**	**85.78**	**316**	P	**P**		**14 01 40.0**	**+1.5**
CD2				PP	**PP**		**14 04 54.3**	**-2.7**
CD2				SKS	**SKSac**		**14 12 00.5**	**-3.8**
CD2				S	**SKKSac**		**14 12 08.1**	**-3.3**
CD2				pmax	pmax			
	comp=Z,160nm,7.1s							
CD2				LR	LR			
	comp=Z,2μm,20.1s							
CD2				LR	LR			
	comp=Z,3μm,20.1s							
CD2				LR	LR			
	comp=Z,3μm,17.3s							
KBZ	**Khabaz**	**85.81**	**5**	P	**P**		**14 01 38.1**	**-0.2**
	comp=Z,11nm,1.0s,baz=9.4,slow=3.8,SNR=11							
KBZ				LR	LR		14 41 27.0	
	comp=Z,2μm,21.4s,baz=348,slow=37							
TIP	**Timpagrande**	**85.99**	**25**	IAMs_20	IAMs_20		14 46 02.8	
	comp=Z,2μm,19.0s							
LPAZ	**La Paz**	**86.00**	**122**	P	**P**		**14 01 38.6**	**-1.6**
	comp=Z,15nm,0.9s,baz=355,slow=5.5,SNR=24							
LPAZ				LR	LR		14 45 07.6	
	comp=Z,786nm,18.1s,baz=334,slow=39							
LPAZ	**La Paz**	**86.00**	**122**	P	**P**		**14 01 38.3**	**-2.0**
LPAZ				IAmb	IAmb		14 01 45.8	
	comp=Z,58nm,1.3s							
LPAZ	**La Paz**	**86.00**	**122**	*e*P	**P**		**14 01 39.2**	**-1.1**
NCK	**Nalchik**	**86.08**	**4**	⇑*e*P	**P**		**14 01 41.1**	**+1.4**
NCK				pmax	pmax			
	comp=Z,17nm,0.6s							
NEY	**Neytrino**	**86.28**	**5**	⇑*e*P	**P**		**14 01 41.4**	**+0.5**
NEY				pmax	pmax			
	comp=Z,11nm,1.6s							
GROC	**Groznyy**	**86.46**	**3**	*e*P	**P**		**14 01 38.4**	**-3.2**
GROC				*e*			14 04 57.6	
GROC				*e*S	**SKSac**		**14 12 04.7**	**-3.3**
GROC				pmax	pmax			
	comp=Z,41nm,1.4s							
CEL	**Celeste**	**86.61**	**26**	IAMs_20	IAMs_20		14 40 40.3	
	comp=Z,1μm,18.0s							
MAK	**Makhachkala**	**86.74**	**2**	*e*P	P		14 01 38.1	-4.8
MAK				*e*			14 05 00.2	
MAK				*e*			14 12 00.2	
MAK				*e*SSS	SSS		14 21 24.7	
MAK				pmax	pmax			
	comp=Z,312nm,1.2s							
ZEI	**Tsey**	**86.80**	**4**	*e*P	P		14 01 49.2	+5.7
ZEI				pmax	pmax			
	comp=Z,5.0nm,1.5s							
KEST	**Kesra**	**86.93**	**32**	P	**P**		**14 01 44.0**	**-0.2**
	comp=Z,4.3nm,0.9s,baz=311,slow=5.8,SNR=2.5							
KEST				LR	LR		14 41 47.4	
	comp=Z,3μm,18.1s,baz=298,slow=36							
KSH	**Kashi**	**87.27**	**340**	P	**P**		**14 01 48.0**	**+2.2**
KSH				pP	pwP		14 01 52.8	+2.2
KSH				sP	sP		14 01 56.3	+7.4
KSH				PP	**PP**		**14 05 12.6**	**+3.8**
KSH				SKS	**SKSac**		**14 12 15.1**	**+1.6**
KSH				S	**S**		**14 12 27.6**	**+1.7**
KSH				sS	ScS		14 12 35.0	+1.8
KSH				SS	**SS**		**14 18 17.3**	**+9.0**
KSH				pmax	pmax			
	comp=Z,21nm,1.3s							
KSH				pmax	pmax			
	comp=Z,320nm,5.6s							
KSH				LR	LR			
	comp=Z,1μm,17.3s							
KSH				LR	LR			
	comp=Z,2μm,18.0s							
KSH				LR	LR			
	comp=Z,2μm,18.9s							
GYA	**Guiyang**	**88.21**	**311**	⇑P	**P**		**14 01 50.4**	**-0.1**
GYA				pP	sP		14 01 53.3	-0.3
GYA				PP	**PP**		**14 05 18.8**	**+1.9**
GYA				SKS	**SKSac**		**14 12 16.8**	**-2.7**
GYA				S	**S**		**14 12 34.3**	**-1.0**
GYA				sS	ScS		14 12 42.1	+0.7
GYA				pmax	pmax			
	comp=Z,11nm,2.0s							
GYA				pmax	pmax			
	comp=Z,250nm,3.5s							
GYA				LR	LR			
	comp=Z,1μm,23.9s							
GYA				LR	LR			
	comp=Z,1μm,23.9s							
GYA				LR	LR			
	comp=Z,2μm,24.7s							
AKT	**Akhty**	**88.22**	**1**	*e*P	**P**		**14 01 51.4**	**+1.1**
AKT				*e*			14 05 19.4	
AKT				pmax	pmax			
	comp=Z,28nm,1.5s							
KTUT	**Trabzon**	**88.32**	**7**	⇑P	**P**		**14 01 52.5**	**+1.9**
ANTO	**Ankara**	**88.64**	**13**	IAMs_20	IAMs_20		14 44 42.9	
	comp=Z,1μm,20.0s							
CLDB	**Colider**	**88.75**	**109**	*e*P	**P**		**14 01 52.6**	**-0.2**
PRPB	**Parauapebas**	**88.76**	**101**	*e*P	**P**		**14 01 52.6**	**-0.4**
SACV	**Santiago Islan**	**88.81**	**68**	IAMs_20	IAMs_20		14 38 13.8	
	comp=Z,2μm,20.0s							
BRTR	**Keskin Array B**	**88.90**	**12**	P	**P**		**14 01 53.3**	**-0.3**
	comp=Z,2.2nm,0.9s,baz=347,slow=2.8,SNR=10							
BRTR				LR	LR		14 44 31.1	
	comp=Z,2μm,20.2s,baz=342,slow=38							
GNI	**Garni**	**89.47**	**4**	⇓*e*P	**P**		**14 01 58.5**	**+2.3**
GNI				pmax	pmax			
	comp=Z,37nm,1.3s							
SIV	**San Ignacio**	**89.69**	**116**	P	**P**		**14 01 56.0**	**-1.3**
	comp=Z,12nm,0.9s,baz=318,slow=3.1,SNR=22							
ROSB	**Rosrio**	**89.82**	**95**	*e*P	**P**		**14 01 57.5**	**-0.5**
ISP	**Isparta**	**90.30**	**15**	IAmb	IAmb		14 02 11.6	
	comp=Z,30nm,1.4s							
ISP	**Isparta**	**90.30**	**15**	IAMs_20	IAMs_20		14 43 41.1	
	comp=Z,2μm,21.0s							
PTLB	**Pontes e Lacer**	**90.38**	**114**	*e*P	**P**		**14 02 00.2**	**-0.2**
SANT	**Santorini**	**90.75**	**19**	IAMs_20	IAMs_20		14 46 29.8	
	comp=Z,2μm,18.0s							
LVC	**Limon Verde**	**90.79**	**126**	P	**P**		**14 02 01.2**	**-1.5**
	comp=Z,2.6nm,0.8s,baz=296,slow=7.3,SNR=2.0							
LVC				LR	LR		14 45 03.2	
	comp=Z,435nm,19.2s,baz=332,slow=37							
KMI	**Kunming**	**91.19**	**314**	⇓P	**P**		**14 02 05.8**	**+1.2**
KMI				pP	sP		14 02 07.6	-0.1
KMI				sP	pwP		14 02 08.8	-0.5
KMI				SKS	**SKSac**		**14 12 35.0**	**-2.2**
KMI				S	**S**		**14 12 58.4**	**-4.8**
KMI				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KMI				pmax	pmax			
	comp=Z,130nm,5.7s							
KMI				LR	LR			
	comp=Z,1μm,20.2s							
KMI				LR	LR			
	comp=Z,2μm,18.1s							
KMI				LR	LR			
	comp=Z,2μm,20.2s							
DZM	**Mont Dzumac**	**91.26**	**236**	*e*LR	LR		14 31 11.4	
	comp=Z,942nm,22.1s							
GEYT	**Alibeck**	**91.47**	**353**	P	**P**		**14 02 05.1**	**-0.3**
	comp=Z,64nm,0.8s,baz=24,slow=16,SNR=7.1							
GEYT				LR	LR		14 49 49.5	
	comp=Z,543nm,18.1s,baz=350,slow=40							
KARP	**Karpathos**	**91.90**	**18**	IAMs_20	IAMs_20		14 45 14.1	
	comp=Z,3μm,22.0s							
LSA	**Lhasa**	**91.98**	**325**	IAMs_20	IAMs_20		14 45 04.0	
	comp=Z,2μm,22.0s							
SMTB	**Santa Maria do**	**92.23**	**101**	*e*P	**P**		**14 02 08.9**	**-0.2**
SNDB	**Serra Nova Dou**	**92.34**	**106**	*e*P	**P**		**14 02 09.2**	**-0.4**
PMG	**Port Moresby**	**92.47**	**258**	IAMs_20	IAMs_20		14 35 35.4	
	comp=Z,1μm,22.0s							
NBPS	**Pedro II - PI**	**92.67**	**94**	*e*P	**P**		**14 02 10.8**	**-0.5**
SALV	**Santo Antonio**	**92.75**	**112**	*e*P	**P**		**14 02 10.4**	**-1.1**
QIZ	**Qiongzhong**	**92.82**	**305**	P	**P**		**14 02 13.0**	**+1.1**
QIZ				PP	**PP**		**14 05 53.4**	**-0.1**
Q

BDFB	**Brasilia**	**97.18**	**106**	LR	LR	14 49 19.4		
	comp=Z,2µm,21.2s,baz=322,slow=37							
TNTI	**Ternate**	**97.18**	**280**	IAMs_20	IAMs_20	14 37 33.1		
	comp=Z,1µm,22.0s							
GHAJ	**Ghor Haditha**	**97.45**	**12**	IAMs_20	IAMs_20	14 49 47.1		
	comp=Z,1µm,20.0s							
BRDH	**Bariadhala**	**98.12**	**321**	LR	LR	14 50 55.0		
	comp=Z,2µm,20.0s,baz=34,slow=38							
CHTO	**Chiang Mai**	**98.39**	**313**	IAMs_20	IAMs_20	14 53 58.7		
	comp=Z,1µm,18.0s							
NBPN	**Ponto Novo - B**	**98.39**	**97**	*e*P	**P**	**14 02 35.9**	**-1.4**	
CMAR	**Chiang Mai Arr**	**98.70**	**313**	P	Pdif	14 02 39.0	+0.3	
	comp=Z,1.0nm,0.8s,baz=273,slow=36,SNR=3.6							
CMAR				LR	LR	14 50 13.1		
	comp=Z,937nm,18.4s,baz=71,slow=37							
CMAR	**Chiang Mai Arr**	**98.70**	**313**	P	Pdif	14 02 39.0	+0.3	
EIL	**Elat**	**98.97**	**13**	LR	LR	14 49 39.4		
	comp=Z,727nm,21.8s,baz=360,slow=37							
URZ	**Urewera**	**99.84**	**219**	LR	LR	14 42 25.8		
	comp=Z,918nm,19.2s,baz=30,slow=32							
CPUP	**Villa Florida**	**99.99**	**119**	P	**Pdif**	**14 02 43.8**	**-0.3**	
	comp=Z,4.3nm,1.0s,baz=276,slow=19,SNR=2.6							
CPUP				LR	LR	14 53 00.2		
	comp=Z,663nm,19.1s,baz=350,slow=38							
CTAO	**Charters Tower**	**101.22**	**252**	IAMs_20	IAMs_20	14 40 53.5		
	comp=Z,2µm,21.0s							
TRQA	**Tornquist**	**106.76**	**130**	IAMs_20	IAMs_20	14 46 08.6		
	comp=Z,2µm,19.0s							
SOEI	**Soe**	**107.23**	**276**	IAMs_20	IAMs_20	14 43 53.0		
	comp=Z,2µm,22.0s							
MMRI	**Maumere**	**107.66**	**278**	IAMs_20	IAMs_20	14 44 24.0		
	comp=Z,1µm,22.0s							
WRA	**Warramunga Arr**	**108.47**	**261**	PKiKP	**PKiKP**	**14 07 27.9**	**+0.1**	
	comp=Z,0.7nm,0.8s,baz=43,slow=1.5,SNR=5.0							
ASAR	**Alice Springs**	**111.48**	**259**	PKiKP	**PKiKP**	**14 07 33.2**	**-0.1**	
	comp=Z,0.5nm,0.8s,baz=72,slow=4.1,SNR=4.6							
ASAR				PKKPbc	**PKKPbc**	**14 18 27.6**	**+1.4**	
	comp=Z,0.4nm,0.8s,baz=225,slow=2.1,SNR=4.1							
ASCN	**Ascension**	**112.46**	**74**	IAMs_20	IAMs_20	14 49 32.3		
	comp=Z,2µm,20.0s							
PALK	**Pallekele**	**116.35**	**325**	IAMs_20	IAMs_20	15 00 20.6		
	comp=Z,1µm,22.0s							
SOCY	**Socotra**	**117.31**	**355**	IAMs_20	IAMs_20	15 05 40.2		
	comp=Z,820nm,20.0s							
FURI	**Furi**	**119.93**	**13**	IAMs_20	IAMs_20	15 05 59.6		
	comp=Z,1µm,19.0s							
FORT	**Forrest**	**120.18**	**257**	PKPdf	**PKPdf**	**14 07 47.1**	**-2.7**	
LODK	**Lodwar**	**124.75**	**17**	IAMs_20	IAMs_20	15 08 28.4		
	comp=Z,881nm,19.0s							
MBAR	**Mbarara**	**127.60**	**24**	IAMs_20	IAMs_20	15 06 04.1		
	comp=Z,766nm,21.0s							
NWAO	**Narrogin (SRO)**	**128.41**	**263**	IAMs_20	IAMs_20	14 58 03.1		
	comp=Z,1µm,20.0s							
KMBO	**Kilima Mbogo**	**129.54**	**16**	IAMs_20	IAMs_20	15 12 15.3		
	comp=Z,873nm,19.0s							
KIBK	**Kibwezi**	**130.86**	**15**	IAMs_20	IAMs_20	15 16 19.9		
	comp=Z,746nm,20.0s							
VNDA	**Vanda**	**134.47**	**196**	PKP	**PKiKP**	**14 08 16.6**	**-0.4**	
	comp=Z,0.9nm,0.8s,baz=164,slow=2.7,SNR=5.9							
TSUM	**Tsumeb**	**139.63**	**51**	IAMs_20	IAMs_20	15 06 25.5		
	comp=Z,1µm,20.0s							
QSPA	**South Pole Qui**	**140.47**	**180**	PKPdf	**PKPdf**	**14 08 25.1**	**-2.0**	
VNA3	**Neumayer Olymp**	**146.61**	**150**	PKPdf	**PKPbc**	**14 08 38.9**	**-0.3**	
VNA1	**Neumayer--Stat**	**147.13**	**149**	PKPdf	**PKPbc**	**14 08 39.8**	**-0.8**	
VNA2	**Neumayer--Watz**	**147.38**	**149**	PKPdf	**PKPbc**	**14 08 41.0**	**-0.4**	
LBTB	**Lobatse**	**148.39**	**45**	PKiKP	**PKPdf**	**14 08 41.2**	**-1.0**	
LBTB	**Lobatse**	**148.39**	**45**	PKPdf	**PKPdf**	**14 08 41.2**	**-1.0**	
SNAA	**Sanae**	**148.69**	**151**	PKPdf	**PKPbc**	**14 08 43.5**	**-1.4**	
SNAA	**Sanae**	**148.69**	**151**	PKPbc	**PKPbc**	**14 08 43.9**	**-1.0**	
	comp=Z,12nm,1.2s,baz=243,slow=1.9,SNR=17							
SNAA	**Sanae**	**148.69**	**151**	PKP2	**PKPbc**	**14 08 44.1**	**-0.8**	
SNAA	**Sanae**	**148.69**	**151**		**PKPbc**	**14 08 44.1**	**-0.8**	
VOI	**Vohitsoka**	**151.21**	**6**	IAMs_20	IAMs_20	15 19 05.3		
	comp=Z,1µm,21.0s							
BOSA	**Boshof**	**151.30**	**49**	PKPbc	**PKPbc**	**14 08 52.5**	**-0.2**	
	comp=Z,17nm,1.0s,baz=345,slow=3.5,SNR=14							
BOSA	**Boshof**	**151.30**	**49**	PKiKP	**PKPdf**	**14 08 48.6**	**+2.0**	
BOSA	**Boshof**	**151.30**	**49**		**PKPdf**	**14 08 48.6**	**+2.0**	
MAW	**Mawson**	**161.78**	**196**	PKiKP	**PKPdf**	**14 09 00.3**	**+1.6**	
MAW	**Mawson**	**161.78**	**196**	PKPdf	**PKPdf**	**14 09 00.3**	**+1.6**	

IDC 24 13:49:18.4±8.3, 14°47S×66°53E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.3/47, mbtmp3.5/2 Error ellipse: s-maj=620.1km s-min=58.0km az=34.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W3	**Cape Leeuwin H**	**47.29**	**124**	T	T	14 46 58.8	
	baz=282,slow=75,SNR=7.0						
H01W2	**Cape Leeuwin H**	**47.29**	**124**	T	T	14 47 07.1	
	baz=282,slow=75,SNR=5.7						
H01W1	**Cape Leeuwin H**	**47.30**	**124**	T	T	14 47 00.3	
	baz=282,slow=75,SNR=6.4						
ASAR	**Alice Springs**	**63.84**	**109**	P	P	13 59 52.8	-0.4
	0.3nm,0.8s,baz=273,slow=6.1,SNR=2.2						
WRA	**Warramunga Arr**	**64.63**	**105**	P	P	13 59 58.7	+0.3
	0.8nm,0.8s,baz=268,slow=6.0,SNR=5.4						
PDAR	**Pinedale Array**	**151.60**	**354**	PKPbc	PKPbc	14 09 15.0	-0.2
	0.1nm,0.4s,baz=57,slow=3.3,SNR=1.7						

MEX 24 13:53:30.9±0.6, 16°41N×98°44W, h17km±58km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.30**	**93**	*i* P	Pg	13 53 36.4	-0.9
PNIG				*e*S	Sg	13 53 40.7	-1.1
MGIG	**Malinaltepec**	**0.84**	**347**	*i* P	Pb	13 53 44.4	-2.9
MGIG				*i* S	Sb	13 53 55.3	-3.0
YOIG	**Yosondua**	**0.96**	**62**	*e*P	Pb	13 53 46.4	-3.0
YOIG				*e*S	Sb	13 53 58.4	-3.5
TXIG	**Tlaxiaco**	**1.06**	**37**	*e*P	Pb	13 53 47.4	-3.6
TXIG				*e*S	Sb	13 54 00.3	-4.3
PEIG	**Puerto Escondi**	**1.30**	**108**	*e*P	Pn	13 53 51.1	-3.2
PEIG				*e*S	Sn	13 54 06.3	-5.1
DAIG	**Los Arroyos**	**1.31**	**298**	*e*P	Pb	13 53 55.4	+0.3
DAIG				*e*S	Sn	13 54 10.2	-1.4
FTIG	**Fresnillo de T**	**1.52**	**11**	*i* P	Pn	13 53 54.7	-2.7
FTIG				*i* S	Sn	13 54 11.8	-5.1
HLIG	**Huajuapan de L**	**1.54**	**23**	*e*P	Pn	13 53 56.0	-1.8
HLIG				*i* S	Sn	13 54 12.4	-5.1

*DJA **24** 14:37:01.8±0.5, 6°S±5°×15°0E±°, h46km±11km, M4.9/5, mB5.0/2, mb4.8/5, MLv5.0/3, Mw(mB)4.3/2*
*NEIC **24** 14:37:01.6±1.3, 6°12S±0°09×149°98E±0°08, h56km±6km, mb4.6/20, Error ellipse: s-maj=14.7km s-min=8.0km az=144.0*
*IDC **24** 14:37:01.9±3.4, 6°10S×149°96E, h64km±29km, mb4.0/18, mb1 4.2/20, mb1mx4.0/42, mbtmp4.3/20, ML3.9/2, MS4.0/2, Ms1 4.0/2, ms1mx3.4/41, Error ellipse: s-maj=21.4km s-min=12.7km az=79.0*
ISC 24 14:37:00.5±0.5, 6°12S±0°07×150°00E±0°08, h52km, n61, σ0s84/61, mb4.2/21, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.88**	**49**	Pn	**Pn**	**14 37 44.6**	**+0.6**
RABL	**Rabaul**	**2.88**	**49**	P	**Pn**	**14 37 45.7**	**+1.7**
PMG	**Port Moresby**	**4.31**	**221**		**Pn**	**14 38 03.5**	**0.0**
PMG	**Port Moresby**	**4.31**	**221**	P	**Pn**	**14 38 03.2**	**-0.3**
PMG				S	**Sn**	**14 38 52.9**	**+0.3**
PMG	**Port Moresby**	**4.31**	**221**	P	**Pn**	**14 38 03.7**	**+0.2**
PMG	**Port Moresby**	**4.31**	**221**	P	**Pn**	**14 38 03.7**	**+0.2**
JAY	**Jayapura**	**9.98**	**281**	P	**Pn**	**14 39 23.2**	**+2.6**
	1.6nm,0.3s,baz=130,slow=1.6,SNR=6.8						
COEN	**Coen**	**10.28**	**220**	Pn	**Pn**	**14 39 24.8**	**-0.7**
CTA	**Charters Tower**	**14.36**	**194**	P	**Pn**	**14 40 21.4**	**+0.5**
	0.2nm,0.3s,baz=28,slow=14,SNR=2.3						
EIDS	**Eidsvold**	**19.17**	**177**	P	**P**	**14 41 19.8**	**0.0**
EIDS				IAmb	IAmb	14 41 22.1	
	comp=Z,31nm,1.1s						
MTN	**Manton Dam**	**19.76**	**249**	P	**P**	**14 41 26.1**	**-0.2**
MTN				IAmb	IAmb	14 41 27.1	
	comp=Z,34nm,1.1s						
WB0	**Warramunga Arr**	**20.35**	**227**	P	**P**	**14 41 32.9**	**+0.1**
WB0				IAmb	IAmb	14 41 34.5	
	comp=Z,21nm,0.6s						
WR0	**Warramunga Arr**	**20.37**	**226**		**P**	**14 41 33.1**	**+0.2**
WR0				IAmb	IAmb	14 41 41.5	
	comp=Z,21nm,0.9s						
WRAB	**Tennant Creek**	**20.49**	**226**	P	**P**	**14 41 33.5**	**-0.7**
WRAB				IAmb	IAmb	14 41 35.6	
	comp=Z,24nm,0.6s						
WB2	**Warramunga Arr**	**20.49**	**226**		**P**	**14 41 33.7**	**-0.6**
WB2				IAmb	IAmb	14 41 35.7	
	comp=Z,22nm,0.6s						
WRA	**Warramunga Arr**	**20.50**	**226**	P	**P**	**14 41 34.5**	**+0.1**
	comp=Z,16nm,0.5s,baz=53,slow=11,SNR=165						
WRA				PcP	**PcP**	**14 45 44.2**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=52,slow=2.0,SNR=4.5						
WRA	**Warramunga Arr**	**20.50**	**226**	P	**P**	**14 41 33.3**	**-1.1**
WRA					**PcP**	**14 45 45.7**	**+1.0**
DZM	**Mont Dzumac**	**22.45**	**137**	P	**P**	**14 41 55.4**	**0.0**
	comp=Z,4.3nm,0.5s,baz=284,slow=12,SNR=8.4						
KNRA	**Kununurra**	**22.89**	**244**	P	**P**	**14 41 58.8**	**-1.2**
AS31	**Alice Springs**	**23.32**	**220**	P	**P**	**14 42 04.5**	**+0.2**
ASAR	**Alice Springs**	**23.33**	**220**	P	**P**	**14 42 04.2**	**0.0**
	comp=Z,3.4nm,0.4s,baz=55,slow=9.2,SNR=122						
ASAR				PcP	**PcP**	**14 45 51.0**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=58,slow=3.4,SNR=5.3						
ASAR	**Alice Springs**	**23.33**	**220**	P	**P**	**14 42 04.5**	**+0.2**
ASAR					**PcP**	**14 45 50.9**	**+0.6**
ARMA	**Armidale**	**24.22**	**177**	P	**P**	**14 42 12.3**	**-0.3**
ARMA				IAmb	IAmb	14 42 24.6	
	comp=Z,21nm,0.9s						
BATI	**Baumata**	**26.37**	**259**	P	**P**	**14 42 32.5**	**+0.3**
	comp=Z,28nm,0.6s,baz=109,slow=7.9,SNR=9.3						
FITZ	**Fitzroy Crossi**	**26.58**	**241**	P	**P**	**14 42 33.7**	**-0.3**
	comp=Z,10nm,0.4s,baz=50,slow=8.1,SNR=170						
STKA	**Stephens Creek**	**26.80**	**196**	P	**P**	**14 42 36.4**	**+0.6**
	comp=Z,6.6nm,1.0s,baz=28,slow=12,SNR=9.6						
STKA	**Stephens Creek**	**26.80**	**196**	P	**P**	**14 42 36.2**	**+0.4**
DAV	**Davao City (W)**	**27.66**	**298**	LR	LR	14 52 11.3	
	comp=Z,268nm,21.9s,baz=102,slow=33						
BBOO	**Buckleboo**	**29.56**	**204**	P	**P**	**14 43 00.5**	**0.0**
BBOO				IAmb	IAmb	14 43 10.3	
	comp=Z,29nm,1.5s						
MSVF	**Nonsavu**	**29.72**	**115**	LR	LR	14 54 47.0	
	comp=Z,278nm,18.3s,baz=338,slow=36						
PSA00	**Pilbara Seismi**	**32.96**	**239**	P	**P**	**14 43 29.9**	**-0.6**
GIRL	**Giralia**	**38.19**	**241**	P	**P**	**14 44 16.0**	**+0.6**
JWT	**Wachi**	**43.41**	**343**	P	**P**	**14 44 56.9**	**-1.2**
MJAR	**Matsushiro Arr**	**43.85**	**346**	P	**P**	**14 45 01.1**	**-0.6**
	comp=Z,2.8nm,0.7s,baz=175,slow=7.2,SNR=6.2						
MAJO	**Matsushiro**	**43.85**	**346**	P	**P**	**14 45 01.2**	**-0.5**
MAJO				IAmb	IAmb	14 45 14.0	
	comp=Z,5.9nm,0.8s						
MAT	**Matsushiro**	**43.85**	**346**	P	**P**	**14 45 00.8**	**-0.9**
JSD	**Sado**	**45.27**	**347**	P	**P**	**14 45 12.4**	**-0.5**
KSRS	**Korea Array**	**47.99**	**336**	P	**P**	**14 45 34.8**	**+0.5**
	comp=Z,2.3nm,0.6s,baz=152,slow=7.9,SNR=10						
SONM	**Songino Array**	**65.99**	**329**	P	**P**	**14 47 41.9**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=150,slow=4.8,SNR=8.4						
VNDA	**Vanda**	**71.64**	**177**	P	**P**	**14 48 16.9**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=339,slow=5.9,SNR=17						
VNDA	**Vanda**	**71.64**	**177**	P	**P**	**14 48 17.0**	**+0.9**
MKAR	**Makanchi Array**	**79.50**	**320**	P	**P**	**14 49 01.3**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=90,slow=8.0,SNR=6.6						
MKAR	**Makanchi Array**	**79.50**	**320**	P	**P**	**14 49 00.6**	**-1.1**
ZALV	**Zalesovo Beam**	**80.72**	**327**	P	**P**	**14 49 06.3**	**-1.7**
	comp=Z,1.1nm,0.5s,baz=142,slow=5.1,SNR=4.4						
NIL	**Nilore**	**82.43**	**305**	P	**P**	**14 49 17.6**	**0.0**
NIL				IAmb	IAmb	14 49 17.8	
	comp=Z,4.5nm,0.6s						
KURK	**Kurchatov**	**83.10**	**323**	P	**P**	**14 49 19.8**	**-0.8**
KURBB	**Kurchatov Arra**	**83.12**	**323**	P	**P**	**14 49 19.8**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=114,slow=4.4,SNR=6.0						
AAK	**Ala-Archa**	**83.56**	**314**	P	**P**	**14 49 23.5**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=141,slow=5.5,SNR=6.3						
QSPA	**South Pole Qui**	**83.85**	**180**	P	**P**	**14 49 24.8**	**+0.4**
	comp=Z,3.6nm,0.7s,baz=333,slow=1.1,SNR=26						
QSPA	**South Pole Qui**	**83.85**	**180**	P	**P**	**14 49 24.9**	**+0.5**
ILAR	**Eielson Array**	**84.43**	**23**	P	**P**	**14 49 24.4**	**-2.8**
	comp=Z,0.8nm,0.6s,baz=255,slow=5.1,SNR=5.8						
BVAR	**Borovoye Array**	**88.63**	**324**	P	**P**	**14 49 46.9**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=108,slow=3.6,SNR=2.1						
NVAR	**Mina Array Bea**	**95.09**	**52**	P	**P**	**14 50 19.5**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=236,slow=7.9,SNR=3.8						
GERES	**GERESS Array B**	**123.67**	**327**	PKP	**PKPdf**	**14 55 51.8**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=48,slow=2.0,SNR=9.8						
LPAZ	**La Paz**	**136.19**	**121**	PKP	**PKiKP**	**14 56 19.4**	**-0.2**
	comp=Z,1.2nm,0.4s,baz=27,slow=4.1,SNR=6.0						
SIV	**San Ignacio**	**142.20**	**126**	PKiKP	PKPpre	14 56 23.5	
	comp=Z,1.3nm,0.6s,baz=217,slow=2.3,SNR=5.1						
TORD	**Torodi Ar. Bea**	**148.00**	**285**	PKPbc	**PKPbc**	**14 56 40.9**	**-0.4**
	comp=Z,7.0nm,0.4s,baz=36,slow=2.9,SNR=50						
BDFB	**Brasilia**	**151.97**	**141**	PKPbc	**PKPbc**	**14 56 50.3**	**-0.7**
	comp=Z,4.1nm,0.5s,baz=145,slow=0.6,SNR=4.7						
KIC	**Kosan Boka**	**154.89**	**272**	*e*PKiKP	**PKPbc**	**14 56 56.7**	**-0.7**
	comp=Z,7.9nm,0.7s						
TIC	**Toumodi**	**155.17**	**273**	*e*PKiKP	PKPdf	14 56 57.2	+8.2
LIC	**Lamto**	**155.17**	**272**	*e*PKiKP	PKPdf	14 56 57.2	+8.2
	comp=Z,18nm,1.0s						

*IDC **24** 14:39:42.0±0.6, 32°23S×71°88W, h0km, mb4.5/9, mb1 4.5/14, mb1mx4.3/32, mbtmp4.3/14, ML4.2/5, Error ellipse: s-maj=24.6km s-min=17.6km az=98.0*
*VAO **24** 14:39:43.5±0.4, 32°19S×71°94W, h10km, mb4.6*
*NEIC **24** 14:39:43.4±1.3, 32°28S±0°03×72°04W±0°07, h10km±1km, mb4.7/13, ML4.5(GUC), Error ellipse: s-maj=9.9km s-min=4.9km az=254.0*
*SJA **24** 14:39:44.0, 32°27S×72°20W, h10km, ML5.4*
*GUC **24** 14:39:44.9±0.7, 32°30S×71°83W, h35km±4km, ML4.5*
ISC 24 14:39:42.6±1.3, 32°23S±0°02×71°97W±0°05, h6km±8km, n161, σ1s103/165, mb4.7/14, 3C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.66**	**120**	*i* P	**Pb**	**14 39 56.5**	**0.0**
VA06				*e*S	**Sb**	**14 40 04.6**	**-1.3**
VA06				IAML		14 40 06.6	
	comp=E,37µm,0.4s						
VA01	**Torpederas**	**0.84**	**161**	*e*P	**Pb**	**14 39 59.4**	**-0.2**
VA01	**Torpederas**	**0.84**	**161**	Pg	**Pb**	**14 39 59.3**	**-0.2**
VA01					**Sg**	**14 40 09.8**	**+0.3**
VA01	**Torpederas**	**0.84**	**161**	*i* P	**Pg**	**14 39 59.0**	**+0.4**
ROCH	**El Roble**	**1.10**	**133**	*i* P	**Pg**	**14 40 03.6**	**-0.1**
ROCH				*e*S	**Sb**	**14 40 18.2**	**-0.6**
ROCH				IAML		14 40 21.2	
	comp=N,39µm,0.4s						
VA03	**San Esteban**	**1.31**	**114**	*i* P	**Pn**	**14 40 07.0**	**-0.5**
VA03				*e*S	**Sb**	**14 40 23.2**	**-1.7**
VA03				IAML		14 40 28.3	
	comp=N,45µm,0.8s						
VA03	**San Esteban**	**1.31**	**114**	Pn	**Pn**	**14 40 07.1**	**-0.5**
VA03				Sn	**Sn**	**14 40 25.5**	**0.0**
VA03	**San Esteban**	**1.31**	**114**	*i* P	**Pn**	**14 40 07.0**	**-0.5**
CO02	**Combarbal**	**1.31**	**39**	*i* P	**Pg**	**14 40 08.5**	**+0.7**
CO02				*e*S	**Sn**	**14 40 25.2**	**+0.3**
CO02	**Combarbal**	**1.31**	**39**	Pn	**Pg**	**14 40 08.6**	**+0.7**
CO02	**Combarbal**	**1.31**	**39**	*i* P	**Pg**	**14 40 08.0**	**+0.2**
VA05	**Santo Domingo**	**1.46**	**168**	*e*P	**Pn**	**14 40 09.0**	**-0.4**
VA05				IAML		14 40 35.8	
	comp=E,14µm,0.5s						
VA05	**Santo Domingo**	**1.46**	**168**		**Pn**	**14 40 09.2**	**-0.2**
MT05	**Renca**	**1.56**	**138**	*i* P	**Pn**	**14 40 10.7**	**-0.1**
MT05				*e*S	**Sb**	**14 40 31.3**	**-0.5**
MT05				IAML		14 40 34.8	
	comp=E,27µm,0.3s						
MT05	**Renca**	**1.56**	**138**	Pn	**Pn**	**14 40 11.0**	**+0.2**
MT05				Sn	**Sg**	**14 40 32.0**	**-0.6**
MT05	**Renca**	**1.56**	**138**	P	**Pn**	**14 40 11.0**	**+0.2**
CO06	**Fray Jorge**	**1.58**	**11**	*i* P	**Pn**	**14 40 11.8**	**+0.7**
CO06	**Fray Jorge**	**1.58**	**11**		**Pb**	**14 40 11.9**	**-0.2**
MT01	**Popeta**	**1.74**	**160**	*i* P	**Pn**	**14 40 13.2**	**-0.1**
MT01				IAML		14 40 40.9	
	comp=E,6µm,0.3s						
MT01	**Popeta**	**1.74**	**160**		**Pn**	**14 40 13.4**	**+0.1**
MT01	**Popeta**	**1.74**	**160**	*i* P	**Pn**	**14 40 13.0**	**-0.3**
MT09	**Talagante**	**1.75**	**152**	*e*P	**Pn**	**14 40 14.1**	**+0.6**
MT09				IAML		14 40 45.3	
	comp=N,10µm,0.4s						
MT09	**Talagante**	**1.75**	**152**	Pn	**Pn**	**14 40 14.2**	**+0.6**
CO03	**El Pedregal**	**1.77**	**39**	*i* P	**Pb**	**14 40 15.3**	**-0.1**
CO03				IAML		14 40 46.4	
	comp=E,6µm,0.4s						
CO03	**El Pedregal**	**1.77**	**39**	Pn	**Pb**	**14 40 15.4**	**0.0**
CO03	**El Pedregal**	**1.77**	**39**	*i* P	**Pg**	**14 40 16.0**	**-0.4**
LMEL	**Las Melosas**	**2.19**	**138**	*e*P	**Pn**	**14 40 20.6**	**+0.9**
LMEL				IAML		14 40 58.2	
	comp=N,5µm,0.4s						
BO01	**Tunca**	**2.28**	**161**	Pn	**Pn**	**14 40 20.9**	**+0.1**
BO01	**Tunca**	**2.28**	**161**	*i* P	**Pn**	**14 40 21.0**	**+0.2**
GO04	**Tololo Observa**	**2.28**	**26**	*e*P	**Pn**	**14 40 22.5**	**+1.5**
GO04				*e*S	**Sg**	**14 40 55.0**	**-0.9**
GO04	**Tololo Observa**	**2.28**	**26**		**Pn**	**14 40 22.7**	**+1.6**
CO05	**La Serena**	**2.39**	**15**	*e*P	**Pn**	**14 40 23.6**	**+1.4**
CO05				IAML		14 41 08.7	
	comp=E,4µm,0.5s						
CO05	**La Serena**	**2.39**	**15**	Pn	**Pn**	**14 40 23.7**	**+1.4**
BO02	**Sierra Bellavi**	**2.74**	**159**		**Pn**	**14 40 28.1**	**+1.0**
BO02	**Sierra Bellavi**	**2.74**	**159**	*i* P	**Pn**	**14 40 28.0**	**+0.8**
GO05	**Huala**	**2.77**	**179**	Pn	**Pn**	**14 40 26.9**	**-0.7**
GO05	**Huala**	**2.77**	**179**	*i* P	**Pn**	**14 40 27.0**	**-0.6**
ZON	**Zonda**	**2.88**	**77**	Pn	**Pb**	**14 40 32.6**	**-1.8**
ZON	**Zonda**	**2.88**	**77**	*i* P	**Pb**	**14 40 34.0**	**-0.4**
LCO	**Las Campanas**	**3.39**	**19**		**Pn**	**14 40 37.3**	**+1.1**
LCO	**Las Campanas**	**3.39**	**19**	*i* P	**Pn**	**14 40 38.0**	**+1.7**
COIS	**El Sosneado**	**3.49**	**146**	*i* P	**Pn**	**14 40 40.0**	**+2.6**
LAMA	**Las Malvinas**	**3.55**	**140**	*i* P	**Pb**	**14 40 47.0**	**+1.3**
ML02	**Panimavida**	**3.55**	**173**	Pn	**Pn**	**14 40 38.4**	**+0.1**
AC04	**Llanos de Chal**	**4.09**	**11**		**Pn**	**14 40 46.0**	**+0.4**
AVFE	**Valle Fertil**	**4.16**	**69**	*i* P	**Pn**	**14 40 51.0**	**+4.3**
ACHE	**Chepes**	**4.65**	**78**	*i* P	**Pn**	**14 40 56.0**	**+2.6**
VCA	**Vinchina**	**4.76**	**44**	*i* P	Pn	14 41 00.0	+5.0
GO03	**Copiap**	**4.86**	**19**	Pn	**Pn**	**14 40 57.1**	**+0.8**
GO03	**Copiap**	**4.86**	**19**	*i* P	**Pn**	**14 40 58.0**	**+1.7**
AC06	**Mina Casimiro**	**5.05**	**17**	Pn	**Pn**	**14 40 59.5**	**+0.5**
AC02	**Maricunga**	**5.92**	**25**	Pn	**Pn**	**14 41 12.6**	**+1.4**
AC02	**Maricunga**	**5.92**	**25**	*i* P	**Pn**	**14 41 13.0**	**+1.8**
H03N1	**Juan Fernandez**	**5.97**	**256**	T	T	14 47 46.5	
	baz=86,slow=73						
H03N3	**Juan Fernandez**	**5.98**	**256**	T	T	14 47 44.9	
	baz=86,slow=73						
H03N2	**Juan Fernandez**	**5.98**	**256**	T	T	14 47 42.8	
	baz=86,slow=73						
H03S3	**Juan Fernandez**	**6.04**	**253**	T	T	14 47 44.7	
	baz=82,slow=75						
H03S1	**Juan Fernandez**	**6.04**	**253**	T	T	14 47 49.4	
	baz=82,slow=75						
H03S2	**Juan Fernandez**	**6.06**	**253**	T	T	14 47 49.3	
	baz=82,slow=75						
CYA	**Choya**	**6.53**	**56**	*i* P	**Pn**	**14 41 21.0**	**+1.7**
LC01	**Cunco**	**6.65**	**179**	Pn	**Pn**	**14 41 20.0**	**-0.9**
PLCA	**Paso Flores**	**8.56**	**173**	Pn	**Pn**	**14 41 48.0**	**+0.9**
	comp=E,2.6nm,0.3s,baz=335,slow=12,SNR=98						
PLCA	**Paso Flores**	**8.56**	**173**	Pn	**Pn**	**14 41 47.9**	**+0.7**
PLCA	**Paso Flores**	**8.56**	**173**	*e*P	**Pn**	**14 41 48.3**	**+1.1**
LL04	**Puerto Octay**	**8.67**	**182**	Pn	**Pn**	**14 41 48.2**	**-0.3**
LVC	**Limon Verde**	**9.96**	**17**	Pn	**Pn**	**14 42 04.4**	**-2.1**
	comp=E,0.5nm,0.3s,baz=194,slow=8.3,SNR=1.1						
LVC	**Limon Verde**	**9.96**	**17**	*e*P	**Pn**	**14 42 06.9**	**+0.3**
TRQA	**Tornquist**	**10.03**	**128**	Pn	**P

BRTR	**Keskin Array B**	**120.91**	**60**	PKP	**PKPdf**	**14 58 35.5**	**-0.5**
	comp=Z,0.7nm,0.9s,baz=211,slow=4.3,SNR=4.5						
WRA	**Warramunga Arr**	**122.33**	**210**	PKP	**PKPdf**	**14 58 38.8**	**-0.5**
	comp=Z,1.4nm,0.9s,baz=132,slow=1.4,SNR=13						
BVAR	**Borovoye Array**	**145.93**	**41**	PKPbc	**PKPab**	**14 59 23.8**	**+0.7**
	comp=Z,4.4nm,0.5s,baz=281,slow=4.4,SNR=16						
PSI	**Prapat**	**149.50**	**162**	PKPbc	**PKPbc**	**14 59 32.2**	**-1.4**
	comp=Z,4.7nm,0.7s,baz=230,slow=10,SNR=8.3						
HYB	**Hyderabad**	**149.58**	**112**	*i* PKP	**PKPbc**	**14 59 33.0**	**-0.6**
KURBB	**Kurchatov Arra**	**151.52**	**41**	PKPbc	**PKiKP**	**14 59 37.8**	**+0.2**
	comp=Z,4.8nm,0.5s,baz=302,slow=2.9,SNR=24						
AAK	**Ala-Archa**	**151.58**	**59**	PKPbc	**PKiKP**	**14 59 38.6**	**+0.4**
	comp=Z,9.2nm,0.7s,baz=264,slow=2.4,SNR=13						
ZALV	**Zalesovo Beam**	**152.69**	**31**	PKPbc	**PKiKP**	**14 59 40.1**	**+0.2**
	comp=Z,5.1nm,0.5s,baz=301,slow=3.3,SNR=19						
KSH	**Kashi**	**153.12**	**65**	PKPbc	**PKPdf**	**14 59 35.8**	**+1.9**
KSH				PP	**PP**	**15 03 25.9**	**-0.9**
MKAR	**Makanchi Array**	**155.53**	**46**	PKPab	**PKPab**	**15 00 03.0**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=289,slow=3.7,SNR=12						

*INET **24** 14:41:18.3, 13°.49N×88°.95W, h47km, MW3.3*
*UCR **24** 14:41:24.9±0.6, 13°.03N×89°.03W, h35km±429km, ML3.8*
*SNET **24** 14:41:24.8±0.8, 13°.03N×89°.03W, h35km±270km, ML3.7*

ISC 24 14:41:24.6±3.0, 13°.0N±0°.1×89°.03W±0°.05, h34km±4km, n25, σ0s26/42, 4C-13D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SJTE	**Alcalda de S**	**0.62**	**2**	*e*P		**Pn**	**14 41 36.7**	**-0.3**
SJTE				*e*S		**Sn**	**14 41 46.2**	**+0.2**
SJTE	**Alcalda de S**	**0.62**	**2**	*e*P		**Pn**	**14 41 36.7**	**-0.3**
SJTE				*e*S		**Sn**	**14 41 46.2**	**+0.2**
LFRS	**El Faro**	**0.63**	**358**	↓*e*P		**Pn**	**14 41 37.0**	**-0.2**
LFRS	**El Faro**	**0.63**	**358**	↓*e*P		**Pn**	**14 41 37.0**	**-0.2**
COEG	**Centro de Oper**	**0.64**	**13**	↓*e*P		**Pn**	**14 41 37.1**	**-0.3**
COEG				*e*S		**Sn**	**14 41 46.6**	**+0.2**
COEG				IAML			14 41 51.1	
	comp=Z,4μm,0.3s							
COEG	**Centro de Oper**	**0.64**	**13**	↓*e*P		**Pn**	**14 41 37.1**	**-0.3**
COEG				*e*S		**Sn**	**14 41 46.6**	**+0.2**
COEG				IAML			14 41 51.1	
	comp=Z,4μm,0.3s							
COEB	**Comit de Eme**	**0.70**	**44**	*e*P		**Pn**	**14 41 38.0**	**-0.2**
COEB				*e*S		**Sb**	**14 41 48.5**	**+0.3**
COEB				*e*S			14 41 48.5	
COEB				IAML			14 41 51.0	
	comp=Z,4μm,0.4s							
COEB	**Comit de Eme**	**0.70**	**44**	*e*P		**Pn**	**14 41 38.0**	**-0.2**
COEB				*e*S		**Sb**	**14 41 48.5**	**+0.3**
COEB				*e*S			14 41 48.5	
COEB				IAML			14 41 51.0	
	comp=Z,4μm,0.4s							
TECA	**Tecapa**	**0.72**	**46**	↓*e*P		**Pn**	**14 41 38.4**	**-0.1**
TECA	**Tecapa**	**0.72**	**46**	↓*e*P		**Pn**	**14 41 38.4**	**-0.1**
LBRS	**Las Brisas**	**0.74**	**359**	↓*e*P		**Pn**	**14 41 38.8**	**0.0**
LBRS	**Las Brisas**	**0.74**	**359**	↓*e*P		**Pn**	**14 41 38.8**	**0.0**
LFU	**La Fuente**	**0.76**	**354**	↓*e*P		**Pn**	**14 41 38.9**	**-0.1**
LFU	**La Fuente**	**0.76**	**354**	↓*e*P		**Pn**	**14 41 38.9**	**-0.1**
JAYA	**Jayaque - finc**	**0.78**	**329**	↑*e*P		**Pn**	**14 41 39.1**	**-0.2**
JAYA				*e*S		**Sn**	**14 41 49.8**	**0.0**
JAYA				IAML			14 41 52.0	
	comp=Z,5μm,0.2s							
JAYA	**Jayaque - finc**	**0.78**	**329**	↑*e*P		**Pn**	**14 41 39.1**	**-0.2**
JAYA				*e*S		**Sn**	**14 41 49.8**	**0.0**
JAYA				IAML			14 41 52.0	
	comp=Z,5μm,0.2s							
BOQS	**Boqueron**	**0.78**	**342**	↓*e*P		**Pn**	**14 41 39.3**	**-0.1**
BOQS				*e*S		**Sn**	**14 41 50.3**	**+0.3**
BOQS	**Boqueron**	**0.78**	**342**	↓*e*P		**Pn**	**14 41 39.3**	**-0.1**
BOQS				*e*S		**Sn**	**14 41 50.3**	**+0.3**
PQSS	**Presa 15 de Se**	**0.78**	**36**	↓*e*P		**Pn**	**14 41 39.2**	**0.0**
PQSS				*e*S		**Sb**	**14 41 50.3**	**+0.1**
CEVE	**Cerro Verde**	**1.01**	**325**	*e*P		**Pn**	**14 41 43.2**	**+0.5**
CEVE				*e*S		**Sb**	**14 41 56.8**	**-0.1**
CEVE				IAML			14 41 58.5	
	comp=Z,2μm,0.3s							
CEVE	**Cerro Verde**	**1.01**	**325**	*e*P		**Pn**	**14 41 43.2**	**+0.5**
CEVE				*e*S		**Sb**	**14 41 56.8**	**-0.1**
CEVE				IAML			14 41 58.5	
	comp=Z,2μm,0.3s							
TACO	**Tacachico**	**1.02**	**342**	↓*e*P		**Pn**	**14 41 42.1**	**-0.5**
TACO				*e*S		**Sn**	**14 41 55.9**	**0.0**
TACO	**Tacachico**	**1.02**	**342**	↓*e*P		**Pn**	**14 41 42.1**	**-0.5**
TACO				*e*S		**Sn**	**14 41 55.9**	**0.0**
LCND	**La Caada**	**1.16**	**74**	*e*P		**Pn**	**14 41 44.1**	**-0.3**
LCND				*e*S		**Sn**	**14 41 59.3**	**+0.2**
LCND				IAML			14 42 03.2	
	comp=Z,1μm,0.3s							
LCND	**La Caada**	**1.16**	**74**	*e*P		**Pn**	**14 41 44.1**	**-0.3**
LCND				*e*S		**Sn**	**14 41 59.3**	**+0.2**
LCND				IAML			14 42 03.2	
	comp=Z,1μm,0.3s							

*IDC **24** 14:43:41.5±0.8, 59°.58S×26°.47W, h0km, mb4.2/7, mb1 4.2/8, mb1mx4.0/32, mbtmp4.2/8, ML4.4/1, Error ellipse: s-maj=31.8km s-min=21.3km az=57.0*

ISC 24 14:43:49.4±0.8, 59°.7S±0°.1×26°.4W±0°.2, h61km, n17, σ1s39/16, mb4.2/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VNA1	**Neumayer--Stat**	**13.29**	**153**	P		**Pn**	**14 46 53.2**	**-1.5**
VNA3	**Neumayer Olymp**	**13.43**	**156**	P		**Pn**	**14 46 54.8**	**-1.9**
VNA2	**Neumayer--Watz**	**13.68**	**153**	P		**Pn**	**14 46 58.5**	**-1.6**
	baz=303,slow=16							
SNAA	**Sanae**	**15.27**	**151**	P		**Pn**	**14 47 19.4**	**-1.5**
SNAA	**Sanae**	**15.27**	**151**	Pn		**Pn**	**14 47 19.7**	**-1.3**
	1.5nm,0.3s,baz=315,slow=14,SNR=87							
SNAA				Sn		Sn	14 49 54.5	-14
	0.3nm,0.3s,baz=169,slow=8.0,SNR=1.6							
MAW	**Mawson**	**37.01**	**140**	P		**P**	**14 50 54.3**	**+1.9**
	1.0nm,0.3s,baz=130,slow=3.9,SNR=2.0							
SUR	**Sutherland**	**41.35**	**70**	P		**P**	**14 51 29.8**	**+0.6**
	3.5nm,0.9s,baz=168,slow=9.3,SNR=1.4							
VNDA	**Vanda**	**42.93**	**183**	P		**P**	**14 51 43.3**	**+1.9**
	1.0nm,0.9s,baz=165,slow=5.6,SNR=2.4							
SIV	**San Ignacio**	**50.42**	**315**	P		**P**	**14 52 39.9**	**-0.7**
	1.5nm,0.5s,baz=186,slow=8.0,SNR=6.5							
LPAZ	**La Paz**	**52.86**	**307**	P		**P**	**14 52 59.9**	**+0.4**
	0.9nm,0.3s,baz=113,slow=3.7,SNR=6.8							
TORD	**Torodi Ar. Bea**	**76.07**	**28**	P		**P**	**14 55 30.5**	**+0.4**
	2.8nm,0.5s,baz=199,slow=6.4,SNR=23							
ASAR	**Alice Springs**	**95.37**	**162**	P		**P**	**14 57 07.0**	**+0.1**
	0.5nm,0.7s,baz=174,slow=4.5,SNR=6.9							
FINES	**FINESS Array B**	**127.42**	**29**	PKP		**PKPdf**	**15 02 44.0**	**-1.5**
	2.3nm,1.1s,baz=186,slow=3.8,SNR=1.8							
ARCES	**ARCESS Array B**	**134.18**	**23**	PKP		**PKiKP**	**15 02 58.4**	**-1.1**
	1.2nm,0.9s,baz=182,slow=3.6,SNR=3.9							
ZALV	**Zalesovo Beam**	**143.50**	**68**	PKhKP		PKPpre	15 03 12.2	
	1.0nm,0.4s,baz=228,slow=3.3,SNR=7.4							
SONM	**Songino Array**	**150.36**	**92**	PKPbc		**PKPbc**	**15 03 32.3**	**-0.5**
	3.2nm,0.8s,baz=218,slow=3.1,SNR=12							
ILAR	**Eielson Array**	**152.74**	**306**	PKPbc		**PKPbc**	**15 03 37.0**	**-0.5**
	0.2nm,0.3s,baz=202,slow=1.0,SNR=4.7							

IDC 24 14:50:23.7±3.6, 6°.12S×150°.18E, h0km, mb3.2/3, mb1 3.6/3, mb1mx3.3/38, mbtmp3.3/3, Error ellipse: s-maj=112.0km s-min=48.4km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**20.63**	**227**	P		P	14 55 05.6	+0.6
	0.6nm,0.3s,baz=54,slow=10,SNR=18							
ASAR	**Alice Springs**	**23.44**	**220**	P		P	14 55 35.2	+0.3
	0.2nm,0.6s,baz=45,slow=11,SNR=5.0							
FITZ	**Fitzroy Crossi**	**26.74**	**241**	P		P	14 56 04.5	-0.8
	0.4nm,0.4s,baz=50,slow=9.5,SNR=7.3							
TORD	**Torodi Ar. Bea**	**148.18**	**285**	PKPbc		PKPbc	15 10 12.2	-0.6
	0.3nm,0.3s,baz=68,slow=2.2,SNR=6.2							

*IDC **24** 14:50:51.4±3.4, 36°.26N×71°.10E, h127km±31km, mb3.4/12, mb1 3.6/17, mb1mx3.4/60, mbtmp4.0/17, Error ellipse: s-maj=23.3km s-min=15.0km az=17.0*
*NEIC **24** 14:50:53.5±2.0, 36°.41N±0°.07×71°.10E±0°.05, h163km±9km, mb4.3/7, Error ellipse: s-maj=11.0km s-min=4.6km az=154.0*
*MOS **24** 14:50:53.0±1.0, 36°.43N×71°.15E, h150km, mb4.5/6, Error ellipse: s-maj=12.7km s-min=5.2km az=81.6*

*NNC **24** 14:50:56.2±4.8, 36°.70N×70°.93E, h137km±73km, mb3.9, mpv4.7, Error ellipse: s-maj=40.9km s-min=29.8km az=16.0*

ISC 24 14:50:53.7±0.5, 36°.47N±0°.05×71°.06E±0°.05, h150km, n114, σ1s64/123, mb3.8/17, 14C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KBL	**Kabul**	**2.54**	**221**	PN		**Pn**	**14 51 36.4**	**+0.9**
KBL	**Kabul**	**2.54**	**221**			**Pn**	**14 51 36.4**	**+0.9**
GAR	**Garm**	**2.59**	**347**			**Pn**	**14 51 37.0**	**+1.0**
CHGR	**Chuyangaron**	**2.65**	**326**			**Pn**	**14 51 36.8**	**0.0**
CEP	**Cherat**	**2.73**	**165**	P		**Pn**	**14 51 39.0**	**+1.1**
CEP				S		**Sn**	**14 52 12.0**	**+0.1**
DRK	**Karamyk**	**3.06**	**11**			**Pn**	**14 51 43.8**	**+1.8**
CHCP	**Chirah Chowk**	**3.34**	**147**	P		**Pn**	**14 51 46.9**	**+1.5**
NIL	**Nilore**	**3.34**	**147**	PN		**Pn**	**14 51 45.1**	**-0.4**
NIL	**Nilore**	**3.34**	**147**	Pn		**Pn**	**14 51 45.1**	**-0.4**
BTK	**Batken**	**3.58**	**357**	PN		**Pn**	**14 51 50.1**	**+1.6**
BTK	**Batken**	**3.58**	**357**	Pn		**Pn**	**14 51 50.1**	**+1.6**
THW	**Thamme Wali**	**3.71**	**171**	P		**Pn**	**14 51 51.0**	**+0.7**
SARP	**Sargodha**	**4.73**	**163**	P		**Pn**	**14 52 03.6**	**0.0**
AML	**Almayashu**	**6.01**	**19**	P		**Pn**	**14 52 21.1**	**+0.4**
	SNR=275							
DHRM	**DHARAMSHALA**	**6.04**	**133**	*e*P		**Pn**	**14 52 19.5**	**-1.7**
DHRM				*e*S		**Sn**	**14 53 26.5**	**-3.1**
DHRM				IAML			14 53 29.3	
	comp=E,220nm,0.2s							
UCH	**Uchtor**	**6.34**	**24**	P		**Pn**	**14 52 25.4**	**+0.2**
	SNR=86							
KZA	**Kyzart**	**6.47**	**29**	P		**Pn**	**14 52 26.9**	**0.0**
	SNR=30							
EKS2	**Erkin-Say**	**6.53**	**18**	P		**Pn**	**14 52 28.4**	**+1.0**
	SNR=28							
KK31	**Karatay Array**	**6.63**	**357**	↑P		**Pn**	**14 52 29.3**	**+0.6**
	comp=E,18nm,0.4s,baz=187,slow=13,SNR=354							
KK31				↓S		**Sn**	**14 53 40.6**	**-2.7**
	comp=E,11nm,0.3s,baz=182,slow=24,SNR=17							
KK31	**Karatay Array**	**6.63**	**357**	PN		**Pn**	**14 52 29.6**	**+0.8**
KK31	**Karatay Array**	**6.63**	**357**			**Pn**	**14 52 29.6**	**+0.8**
KKAR	**Karatay Array**	**6.63**	**357**	PN		**Pn**	**14 52 29.6**	**+0.8**
KKAR	**Karatay Array**	**6.63**	**357**			**Pn**	**14 52 29.6**	**+0.8**
KKAR	**Karatay Array**	**6.63**	**357**			**Pn**	**14 52 29.6**	**+0.8**
AAK	**Ala-Archa**	**6.70**	**22**	P		**Pn**	**14 52 30.4**	**+0.7**
	comp=E,13nm,0.3s,baz=206,slow=8.3,SNR=80							
AAK				S		**Sn**	**14 53 44.3**	**-0.8**
	comp=E,6.0nm,0.3s,baz=122,slow=23,SNR=9.6							
AAK	**Ala-Archa**	**6.70**	**22**	P		**Pn**	**14 52 30.5**	**+0.7**
	SNR=60							
AAK	**Ala-Archa**	**6.70**	**22**	↑P		**Pn**	**14 52 30.3**	**+0.4**
	comp=E,23nm,0.4s							
AAK				↑S		**Sn**	**14 53 44.5**	**-0.6**
	comp=E,55nm,0.8s							
AAK	**Ala-Archa**	**6.70**	**22**	PN		**Pn**	**14 52 30.2**	**+0.4**
AAK	**Ala-Archa**	**6.70**	**22**			**Pn**	**14 52 30.7**	**+0.9**
KBK	**Karagaybulak**	**6.86**	**25**	P		**Pn**	**14 52 35.2**	**+3.3**
	SNR=49							
FRU1	**Bishkek**	**6.90**	**22**	PN		**Pn**	**14 52 31.9**	**-0.4**
FRU1	**Bishkek**	**6.90**	**22**			**Pn**	**14 52 31.9**	**-0.4**
ULHL	**Ulahol**	**7.02**	**33**	P		**Pn**	**14 52 34.8**	**+0.6**
	SNR=16							
BOOM	**Boomskoye usch**	**7.09**	**31**	PN		**Pn**	**14 52 35.3**	**+0.3**
BOOM	**Boomskoye usch**	**7.09**	**31**			**Pn**	**14 52 35.3**	**+0.3**
CHMS	**Chumysh**	**7.11**	**22**	P		**Pn**	**14 52 35.6**	**+0.5**
	SNR=38							
USP	**Ospenovka**	**7.28**	**20**	P		**Pn**	**14 52 37.4**	**0.0**
	SNR=11							
TKM2	**Tokmak 2**	**7.33**	**27**	P		**Pn**	**14 52 38.4**	**+0.2**
	SNR=154							
TKM2	**Tokmak 2**	**7.33**	**27**	↑P		**Pn**	**14 52 39.1**	**+0.9**
	comp=E,66nm,0.5s							
TKM2				↑S		**Sn**	**14 53 58.4**	**-1.8**
	comp=E,22nm,0.8s							
TKM2	**Tokmak 2**	**7.33**	**27**	PN		**Pn**	**14 52 38.4**	**+0.2**
SMLA	**Simla**	**7.37**	**135**	*e*P		**Pn**	**14 52 37.2**	**-1.3**
SMLA				*e*S		**Sn**	**14 53 56.0**	**-4.9**
SMLA				IAML			14 54 01.3	
	comp=N,86nm,0.5s							
TARG	**Taragay, Kyrgy**	**7.42**	**43**			**Pn**	**14 52 39.5**	**-0.1**
MDOK	**Medeo**	**8.11**	**33**	↑P		**Pn**	**14 52 49.6**	**+0.9**
	comp=N,23nm,0.8s							
MDOK				S		Sn	14 54 09.8	-9.2
	comp=N,11nm,0.8s							
MDOK	**Medeo**	**8.11**	**33**	PN		**Pn**	**14 52 48.9**	**+0.3**
PRZ	**Przheval'sk**	**8.26**	**41**	PN		**Pn**	**14 52 52.0**	**+1.4**
PRZ	**Przheval'sk**	**8.26**	**41**	Pn		**Pn**	**14 52 52.0**	**+1.4**
DDI	**Dehra Dun**	**8.47**	**134**	*e*P		**Pn**	**14 52 52.2**	**-1.3**
PDGK	**Podgornoye**	**9.42**	**41**	↑P		**Pn**	**14 53 05.5**	**-0.5**
	comp=N,16nm,0.7s							
PDGK	**Podgornoye**	**9.42**	**41**	P		**Pn**	**14 53 05.5**	**-0.5**
GEYT	**Alibeck**	**10.43**	**282**	P		**Pn**	**14 53 18.3**	**-1.0**
	comp=N,1.9nm,0.3s,baz=113,slow=11,SNR=22							
GEYT				S		**Sn**	**14 55 11.1**	**-3.5**
	comp=N,2.3nm,0.3s,baz=103,slow=24,SNR=4.5							
GYA0B	**ALIBECK ARRAY**	**10.43**	**282**	Pn		**Pn**	**14 53 18.0**	**-1.3**
OTUK	**Ortayu**	**11.80**	**4**	↓P		**Pn**	**14 53 36.3**	**-0.9**
	comp=N,1.8nm,0.6s							
PYUN	**Piuthan**	**13.09**	**126**	*e*P		**Pn**	**14 53 51.7**	**-2.5**
	comp=N,62nm,0.3s							
MAKZ	**Makanchi**	**13.15**	**35**	P		**Pn**	**14 53 54.6**	**0.0**
MAKZ	**Makanchi**	**13.15**	**35**	Pn		**Pn**	**14 53 54.5**	**0.0**
MK31	**Makanchi Array**	**13.28**	**36**	P		**Pn**	**14 53 57.6**	**+1.3**
	comp=N,3.8nm,0.6s,baz=189,slow=5.3,SNR=47							
MK31	**Makanchi Array**	**13.28**	**36**	*i* P		**Pn**	**14 53 57.6**	**+1.3**
MK31	**Makanchi Array**	**13.28**	**36**	P		**Pn**	**14 53 56.1**	**-0.2**
MKAR	**Makanchi Array**	**13.28**	**36**	P		**Pn**	**14 53 57.1**	**+0.7**
	comp=N,0.5nm,0.3s,baz=202,slow=9.2,SNR=12							
MKAR	**Makanchi Array**	**13.28**	**36**	*ce*P		**Pn**	**14 53 57.9**	**+1.5**
MKAR				pmax		pmax		
	comp=Z,3.0nm,0.4s							
MKAR	**Makanchi Array**	**13.28**	**36**	Pn		**Pn**	**14 53 57.2**	**+0.8**
DANN	**Dangsing**	**13.43**	**123**	*e*P		**Pn**	**14 53 56.5**	**-2.2**
	comp=Z,44nm,0.4s							
KOLN	**Koldanda**	**13.71**	**126**	*e*P		**Pn**	**14 54 00.1**	**-2.0**
	comp=Z,24nm,0.4s							
GKN	**Gorkha**	**14.25**	**123**	*e*P		**Pn**	**14 54 07.7**	**-1.2**
	comp=Z,47nm,0.4s							
BHPL	**Bhopal**	**14.29**	**156**	*e*P		**P**	**14 54 14.1**	**+2.1**
DMN	**Daman**	**14.82**	**123**	*e*P		**Pn**	**14 54 15.3**	**-0.8**
	comp=Z,30nm,0.4s							
KKN	**Kakani**	**14.82**	**122**	*e*P		**Pn**	**14 54 15.2**	**-0.9**
	comp=Z,24nm,0.4s							
PKIN	**Phulchoki**	**15.04**	**122**	*e*P		**Pn**	**14 54 18.0**	**-0.8**
PKI	**Pulchoki**	**15.05**	**122**	*e*P		**Pn**	**14 54 18.2**	**-0.8**
	comp=Z,39nm,0.5s							
AB31	**Akbulak array**	**15.13**	**331**	↓P		**Pn**	**14 54 20.0**	**+0.5**
	comp=Z,2.6nm,0.4s							
AB31	**Akbulak array**	**15.13**	**331**	P		**Pn**	**14 54 20.0**	**+0.5**
ABKAR	**Akbulak array**	**15.13**	**331**	P		**Pn**	**14 54 20.3**	**+0.8**
ABKAR				IAmb		IAmb	14 54 24.1	
	comp=Z,6.2nm,0.5s							
ABKAR	**Akbulak array**	**15.13**	**331**			**Pn**	**14 54 19.3**	**-0.2**
KURBB	**Kurchatov Arra**	**15.13**	**18**	P		**Pn**	**14 54 19.2**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=209,slow=11,SNR=14							
KURK	**Kurchatov**	**15.24**	**19**	P		**Pn**	**14 54 19.2**	**-1.6**
KURK	**Kurchatov**	**15.24**	**19**	P		**Pn**	**14 54 19.2**	**-1.6**
JIRN	**Jiri**	**15.53**	**120**	*e*P		**Pn**	**14 54 24.7**	**-0.4**
	comp=Z,71nm,0.4s							
RAMN	**Ramite**	**16.26**	**121**	*e*P		**P**	**14 54 33.9**	**-0.2**
	comp=Z,15nm,0.2s							
BVAR	**Borovoye Array**	**16.56**	**359**	P		**Pn**	**14 54 38.8**	**+1.9**
	comp=Z,1.1nm,0.3s,baz=167,slow=15,SNR=26							
BVAR				S		**S**	**14 57 36.5**	**-4.2**
	comp=Z,0.3nm,0.3s,baz=166,slow=24,SNR=4.3							
BRVK	**Borovoye**	**16.59**	**358**	*d* iP		**Pn**	**14 54 39.3**	**+1.9**
BRVK				pmax		pmax		
	comp=Z,7.0nm,0.6s							
BRVK	**Borovoye**	**16.59**	**358**			**P**	**14 54 37.3**	**+0.1**
BRVK				IAmb		IAmb	14 54 42.2	
	comp=Z,9.3nm,0.6s							
TAPN	**Taplejung**	**16.79**	**118**	*e*P		**Pn**	**14 54 41.6**	**+1.3**
	comp=Z,39nm,0.5s							
AKTO	**Aktyubinsk**	**16.83**	**330**	P		**Pn**	**14 54 42.4**	**+2.2**
	comp=Z,1.0nm,0.3s,baz=133,slow=10,SNR=13							
AKTO				S		**S**	**14 57 42.7**	**-4.4**
	comp=Z,0.2nm,0.3s,baz=21,slow=24,SNR=5.5							
AKTO	**Aktyubinsk**	**16.83**	**330**	↑P		**Pn**	**14 54 42.0**	**+1.7**
	comp=Z,4.6nm,0.6s							
ODAN	**Odare**	**16.86**	**120**	*e*P		**Pn**	**14 54 41.9**	**+0.7**
DGZ	**Jazzator, Alta**	**17.77**	**37**	*ce*P		**Pn**	**14 54 51.8**	**+0.1**
DGZ				pmax		pmax		
	comp=Z,10.0nm,0.6s							
ZAA0	**Zalesovo Array**	**19.92**	**24**	P		**P**	**14 55 14.3**	**+0.8**
ZALV	**Zalesovo Beam**	**19.92**	**24**	P		**P**	**14 55 14.6**	**+1.1**
	comp=Z,16nm,0.5s,baz=223,slow=11,SNR=76							
ARU	**Arti**	**21.67**	**341**	P		**P**	**14 55 33.6**	**+1.4**
	comp=Z,0.9nm,0.4s,baz=139,slow=11,SNR=4.4							
ARU	**Arti**	**21.67**	**341**	*c* iP		**P**	**14 55 32.9**	**+0.7**
ARU							14 56 12.3	
ARU				S		**S**	**14 59 17.8**	**-4.4**
ARU				pmax		pmax		
	comp=Z,6.0nm,1.1s							
GTA	**Gaotai**	**22.82**	**74**	*e*P		**P**	**14 55 46.3**	**+2.4**
GTA				pmax		pmax		
	comp=Z,3.0nm,0.5s							
SONM	**Songino Array**	**28.31**	**55**	P		**P**	**14 56 32.0**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=250,slow=7.5,SNR=2.4							
SONM	**Songino Array**	**28.31**	**55**	P		**P**	**14 56 32.0**	**-1.2**
BRTR	**Keskin Array B**	**29.49**	**288**	P		**P**	**14 56 45.2**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=86,slow=8.1,SNR=2.8							
OBN	**Obninsk**	**29.99**	**319**	*e*P		**P**	**14 56 52.4**	**+4.7**
OBN				*e*			14 57 54.7	
OBN				pmax		pmax		
	comp=Z,6.0nm,0.4s							
AKASG	**Malin Array Be**	**33.00**	**309**	P		**P**	**14 57 14.2**	**0.0**
	comp=Z,0.5nm,0.4s,baz=102,slow=8.8,SNR=2.2							
NRIK	**Noril'sk**	**34.14**	**10**	↑*e*P		**P**	**14 57 26.1**	**+2.3**
NRIK				pmax		pmax		
	comp=Z,4.0nm,0.8s							
FINES	**FINESS Array B**	**37.53**	**326**	P		**P**	**14 57 54.8**	**+2.0**
	comp=Z,3.3nm,1.1s,baz=116,slow=8.7,SNR=3.8							
FINES	**FINESS Array B**	**37.53**	**326**	*ce*P		P	14 57 58.0	+5.2
FINES				pmax		pmax		
	comp=Z,1.0nm,0.3s							
MCO	**Taipa Grande**	**39.41**	**99**	P		**P**	**14 58 10.0**	**+1.1**
HKC	**Hong Kong Obse**	**39.80**	**99**	↑P		P	14 58 00.0	-12
ARCES	**ARCESS Array B**	**41.19**	**338**	P		**P**	**14 58 25.2**	**+2.2**
	comp=Z,1.3nm,0.6s,baz=111,slow=8.8,SNR=12							
ARCES	**ARCESS Array B**	**41.19**	**338**	P		**P**	**14 58 21.1**	**-1.9**
QZH	**Quanzhou**	**42.08**	**92**	smax		smax		
	comp=N,620nm,0.6s							
QZH				smax		smax		
	comp=E,370nm,0.6s							
NOA	**NORSAR Array B**	**44.43**	**323**	P		**P**	**14 58 50.7**	**+1.5**
	comp=E,0.5nm,0.6s,baz=97,slow=7.7,SNR=2.1							
USA0B	**Ussuriysk Arra**	**46.14**	**61**	P		**P**	**14 58 59.6**	**-3.3**
USA0B				pmax		pmax		
	comp=Z,4.0nm,0.8s							
USA0B	**Ussuriysk Arra**	**46.14**	**61**	P		**P**	**14 58 59.5**	**-3.3**
USA0B				IAmb		IAmb	14 59 00.6	
	comp=Z,4.5nm,0.8s							
BFO	**Black Forest**	**46.59**	**305**	P		**P**	**14 59 04.9**	**-1.5**
BFO				pmax		pmax		
	comp=Z,21nm,1.0s							
BFO	**Black Forest**	**46.59**	**305**	P		**P**	**14 59 04.9**	**-1.5**
BFO				IAmb		IAmb	14 59 11.6	
	comp=Z,21nm,1.0s							
BILL	**Bilibino**	**58.61**	**26**	*e*P		**P**	**15 00 37.7**	**+3.3**
BILL				*e**PP		**pP**	**15 01 13.1**	**+2.5**
BILL				*e*			15 01 28.5	
BILL				*e*			15 02 46.4	
BILL				pmax		pmax		
	comp=Z,22nm,1.9s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAIG	**Los Arroyos**	**0.30**	**75**	*eP*	Pg	15 45 44.7	-0.6
DAIG				*eS*	Sg	15 45 49.5	+0.1
MEIG	**Mezcala**	**1.03**	**18**	*i* P	Pb	15 45 55.6	-3.3
MEIG				*i* S	Sg	15 46 08.3	-4.2
MGIG	**Malinaltepec**	**1.29**	**77**	*i* P	Pn	15 45 59.9	-3.3
MGIG				*i* S	Sb	15 46 15.5	-4.7
ARIG	**Puente Sto Nin**	**1.38**	**344**	*i* P	Pn	15 46 01.0	-3.4
ARIG				*i* S	Sn	15 46 17.4	-5.2
TLIG	**Tlapa**	**1.46**	**65**	*eP*	Pn	15 46 02.1	-3.3
TLIG				*eS*	Sn	15 46 22.1	-2.5
PLIG	**Platanillo**	**1.50**	**16**	*eP*	Pn	15 46 02.1	-4.0
PLIG				*i* S	Sn	15 46 23.2	-2.4

*ISK **24** 15:47:19.4, 39.60N×26.05E, h11km, ML2.7/23*
*ATH **24** 15:47:20.2, 39.56N×25.99E, h32km±8km, ML2.3/4, Error ellipse: s-maj=9.0km s-min=1.1km az=170.0*
*DDA **24** 15:47:20.1, 39.61N×26.06E, h7km±2km, ML2.6*
*THE **24** 15:47:20.4, 39.61N×26.03E, h2km±3km, ML2.3/4, Error ellipse: s-maj=3.8km s-min=0.4km az=155.0*

ISC 24 15:47:19.9±0.8, 39.60N±0.02×26.07E±0.02, h14km±5km, n57, σ0s73/88, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.11**	**150**	*i* P	**Pg**	**15 47 23.1**	**-0.1**
KOCA				*i* S	**Sg**	**15 47 25.0**	**-0.4**
KOCA				IAML		15 47 25.0	
	comp=N,2μm,0.3s						
GPNR	**Gulpinar-Canak**	**0.15**	**160**	PG	**Pg**	**15 47 23.6**	**-0.1**
GPNR				SG	**Sg**	**15 47 26.1**	**-0.1**
BOZC	**Bozcaada**	**0.25**	**357**	*i* P	**Pg**	**15 47 25.2**	**-0.1**
BOZC				*i* S	**Sg**	**15 47 28.4**	**-0.5**
BOZC	**Bozcaada**	**0.25**	**357**	PG	**Pg**	**15 47 25.1**	**-0.1**
BOZC				SG	**Sg**	**15 47 28.7**	**-0.2**
EZN	**Ezine**	**0.30**	**41**	P	**Pg**	**15 47 26.4**	**+0.1**
EZN				S	**Sg**	**15 47 31.0**	**+0.5**
	comp=N,540nm,0.3s						
EZN	**Ezine**	**0.30**	**41**	PG	**Pg**	**15 47 26.4**	**+0.1**
EZN				SG	**Sg**	**15 47 31.0**	**+0.5**
PRK	**Paraskevi**	**0.38**	**156**	P	**Pb**	**15 47 28.9**	**+0.4**
PRK				S	**Sb**	**15 47 34.6**	**+0.4**
PRK	**Paraskevi**	**0.38**	**156**	P	**Pb**	**15 47 29.1**	**+0.7**
PRK				S	**Sb**	**15 47 35.1**	**+0.9**
PRK				AML	AML	15 47 35.2	
	comp=N,2690μm,0.4s						
PRK				AML	AML	15 47 36.6	
	comp=E,2734μm,0.6s						
SIGR	**SIGRI**	**0.42**	**203**	P	**Pg**	**15 47 28.3**	**0.0**
SIGR				S	**Sg**	**15 47 34.5**	**+0.6**
	comp=E,640nm,0.2s						
SIGR	**SIGRI**	**0.42**	**203**	P	**Pg**	**15 47 28.3**	**0.0**
SIGR				S	**Sg**	**15 47 34.2**	**+0.3**
SIGR				AML	AML	15 47 34.8	
	comp=E,1305μm,0.2s						
SIGR				AML	AML	15 47 35.0	
	comp=N,1272μm,0.3s						
SIGR	**SIGRI**	**0.42**	**203**	PG	**Pg**	**15 47 28.3**	**0.0**
SIGR				SG	**Sg**	**15 47 34.2**	**+0.3**
AYVA	**Ayvalik**	**0.56**	**121**	*i* P	**Pb**	**15 47 32.1**	**+0.6**
AYVA				*i* S	**Sb**	**15 47 41.1**	**+1.8**
GOKA	**anakkale-Gk**	**0.61**	**348**	*i* P	**Pg**	**15 47 32.0**	**+0.2**
GOKA				*i* S	**Sg**	**15 47 39.9**	**0.0**
GADA	**Gvkgeada**	**0.61**	**348**	P	**Pg**	**15 47 31.6**	**-0.3**
GADA				S	**Sg**	**15 47 40.2**	**+0.2**
GADA	**Gvkgeada**	**0.61**	**348**	PG	**Pg**	**15 47 31.4**	**-0.5**
LIA	**Limnos Island**	**0.75**	**294**	P	**Pg**	**15 47 34.4**	**0.0**
LIA				S	**Sb**	**15 47 45.1**	**+0.3**
LIA	**Limnos Island**	**0.75**	**294**	P	**Pg**	**15 47 34.5**	**0.0**
BUHA	**Balikesir, Bur**	**0.79**	**97**	*i* P	**Pg**	**15 47 35.4**	**+0.2**
BUHA				*i* S	**Sg**	**15 47 46.5**	**+1.0**
DKL	**Dikili**	**0.83**	**129**	PG	**Pg**	**15 47 36.2**	**+0.1**
CAND	**Candarli**	**0.86**	**138**	PG	**Pg**	**15 47 36.7**	**+0.2**
GELI	**Tayfur-Gelibol**	**0.86**	**21**	PG	**Pg**	**15 47 36.6**	**0.0**
LPK	**Lapseki**	**0.94**	**34**	PG	**Pg**	**15 47 37.9**	**-0.2**
SMTH	**Samothraki Isl**	**0.97**	**335**	P	**Pg**	**15 47 38.3**	**-0.4**
SMTH				S	**Sb**	**15 47 51.5**	**+0.3**
SMTH	**Samothraki Isl**	**0.97**	**335**	P	**Pg**	**15 47 38.3**	**-0.4**
SMTH				S	**Sb**	**15 47 51.6**	**+0.5**
SMTH				AML	AML	15 47 54.0	
	comp=E,121μm,0.2s						
SMTH				AML	AML	15 47 54.1	
	comp=N,182μm,0.2s						
ZEDA	**zmir-Bergama**	**1.00**	**128**	*i* P	**Pb**	**15 47 39.9**	**+0.9**
ZEDA				*i* S	**Sg**	**15 47 51.4**	**-1.0**
KRBN	**Karaburun**	**1.07**	**159**	PG	**Pb**	**15 47 40.6**	**+0.4**
CAVK	**Edirne/Enez-Ca**	**1.10**	**4**	*i* P	**Pb**	**15 47 40.9**	**+0.2**
CAVK				*i* S	**Sb**	**15 47 53.7**	**-1.2**
CAVK				IAML		15 48 02.0	
	comp=E,118nm,0.9s						
ERIK	**Erikli-Kesan**	**1.13**	**17**	PN	**Pb**	**15 47 40.3**	**-0.9**
ENEZ	**Enez**	**1.14**	**3**	P	**Pb**	**15 47 41.5**	**+0.1**
ENEZ				S	**Sn**	**15 47 58.2**	**+1.3**
	comp=E,240nm,0.3s						
ENEZ	**Enez**	**1.14**	**3**	PN	**Pb**	**15 47 41.5**	**+0.1**
KRBG	**Karabiga-Canak**	**1.24**	**49**	PN	**Pn**	**15 47 42.7**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.29**	**99**	*i* P	**Pn**	**15 47 44.2**	**+0.5**
STEP				*i* S	**Sb**	**15 48 00.3**	**-0.3**
URLA	**Izmir**	**1.30**	**161**	*i* P	**Pn**	**15 47 43.5**	**-0.1**
URLA				*i* S	**Sb**	**15 47 57.8**	**-2.9**
URLA	**Izmir**	**1.30**	**161**	PN	**Pn**	**15 47 43.6**	**-0.1**
ALN	**Alexandroupoli**	**1.30**	**359**	P	**Pn**	**15 47 43.9**	**+0.2**
ALN				S	**Sg**	**15 48 02.7**	**+0.8**
	comp=E,78nm,0.4s						
ALN	**Alexandroupoli**	**1.30**	**359**	P	**Pn**	**15 47 44.0**	**+0.3**
ALN				S	**Sn**	**15 48 01.5**	**+0.7**
ALN				AML	AML	15 48 02.8	
	comp=E,184μm,0.6s						
ALN				AML	AML	15 48 09.3	
	comp=N,108μm,0.6s						
ALN	**Alexandroupoli**	**1.30**	**359**	PN	**Pn**	**15 47 43.8**	**+0.1**
KNL	**Balıkesir**	**1.31**	**58**	*i* P	**Pb**	**15 47 44.8**	**+0.5**
KNL				*i* S	**Sb**	**15 48 00.2**	**-0.7**
KNL				IAML		15 48 04.0	
	comp=N,132nm,0.8s						
KNL				IAML		15 48 04.0	
	comp=E,199nm,0.8s						
KESN	**Edirne-Kesan**	**1.32**	**21**	*i* P	**Pn**	**15 47 43.7**	**-0.5**
KESN				*i* S	**Sb**	**15 48 00.3**	**-1.2**
KESN				IAML		15 48 10.0	
	comp=N,107nm,0.5s						
KESN				IAML		15 48 10.0	
	comp=E,119nm,0.5s						
GONE	**Gonen-Balikesi**	**1.32**	**70**	PN	**Pn**	**15 47 44.7**	**+0.7**
RKY	**Sarkoy-Tekirda**	**1.38**	**38**	PN	**Pn**	**15 47 45.3**	**+0.4**
SART	**Tekirdag**	**1.39**	**38**	*i* P	**Pn**	**15 47 45.7**	**+0.8**
SART				*i* S	**Sn**	**15 48 02.7**	**-0.4**
ZEYE	**Izmir, Urla-Ze**	**1.40**	**166**	*i* P	**Pn**	**15 47 45.5**	**+0.5**
ZEYE				*i* S	**Sn**	**15 48 01.1**	**-2.1**
ZEYE				IAML		15 48 07.0	
	comp=N,94nm,0.3s						
ZEYE				IAML		15 48 07.0	
	comp=E,90nm,0.3s						
BALB	**Balikesir**	**1.40**	**88**	PN	**Pn**	**15 47 44.8**	**-0.2**
MAR3	**Marsite Statio**	**1.48**	**39**	PN	**Pn**	**15 47 46.6**	**+0.4**
GZKV	**Gazikoy-Tekird**	**1.50**	**40**	PN	**Pn**	**15 47 47.0**	**+0.6**
AKHS	**Akhisar**	**1.53**	**117**	*i* P	**Pn**	**15 47 47.4**	**+0.5**
AKHS				*i* S	**Sn**	**15 48 05.3**	**-1.3**
MRMT	**Marmara Adasi**	**1.54**	**49**	PN	**Pn**	**15 47 47.6**	**+0.5**
EDC	**Edincik**	**1.57**	**61**	PN	**Pn**	**15 47 47.8**	**+0.4**
UKOP	**Uzunkopru-Edir**	**1.59**	**16**	PN	**Pn**	**15 47 48.1**	**+0.4**
RDO	**Rodhopi**	**1.60**	**345**	P	**Pn**	**15 47 48.6**	**+0.8**
RDO	**Rodhopi**	**1.60**	**345**	P	**Pn**	**15 47 48.7**	**+0.9**
RDO	**Rodhopi**	**1.60**	**345**	PN	**Pn**	**15 47 48.0**	**+0.2**
DURS	**Dursunbey**	**1.86**	**89**	*i* P	**Pn**	**15 47 52.2**	**+0.8**
DURS				*i* S	**Sn**	**15 48 12.4**	**-2.3**
KCTX	**Karacabey (Bur**	**1.88**	**68**	PN	**Pn**	**15 47 52.4**	**+0.7**
CRLT	**Corlu**	**1.99**	**39**	PN	**Pn**	**15 47 53.8**	**+0.6**
SLVT	**Silivri**	**2.31**	**44**	PN	**Pn**	**15 47 58.4**	**+0.8**

*IDC **24** 15:53:25.3±0.3, 0.56N×131.09E, h0km, mb5.9/42, mb1 5.8/46, mb1mx5.8/50, mbtmp5.8/46, ML5.3/5, MS6.2/35, Ms1 6.2/35, ms1mx6.0/53, Error ellipse: s-maj=12.5km s-min=8.0km az=78.0*
*NEIC **24** 15:53:27.7±2.3, 0.62S±0.06×131.26E±0.06, h18km±1km, mb6.5/296, Ms_20 6.4/355, Mwb6.4/62, Mwc6.6/125, Mww6.6, Mwc6.6(GCMT), Error ellipse: s-maj=10.8km s-min=8.7km az=47.0*
*SVSA **24** 15:53:27.7, 0.62S×131.26E, h18km, MW6.6(NEIC)*
*MOS **24** 15:53:27.2±0.9, 0.60S×131.18E, h28km, mb6.6/83, MS6.2/34, Error ellipse: s-maj=7.0km s-min=4.0km az=112.6*
*BJI **24** 15:53:28.8±0.0, 0.55S×131.25E, h30km, mB6.6/72, mb5.9/81, Ms6.5/93, Ms7 6.2/88*
*NEIC **24** 15:53:28.5, 0.62S×131.26E, h20km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr4.55; Mθθ-3.04; Mφφ-1.51; Mrθ0.14; Mrφ0.89; Mθφ1.26; Fault plane solution: Mo4.30000×10¹⁸ NP1:φs104.49000°, δ43.08000°, λ73.24000°. NP2:φs306.90000°, δ49.16000°, λ105.09000°. Principal axes: T 4.8161, Plg78.0000°, Azm281.0000°; N -1.3446, Plg11.0000°, Azm117.0000°; P -3.4715, Plg3.0000°, Azm26.0000°;*
*DJA **24** 15:53:28.7±0.3, 1°S×13°1E±°, h13km±2km, M6.6/126, mb6.3/126, mB6.9/123, MLv6.5/13, Mw(mB)6.8/123, MwMwp6.5/121, Mwp6.4/121*
*GCMT **24** 15:53:33.7±0.0, 0.62S×131.23E, h19km, MW6.6/169, Moment Tensor Solution. s169,c439; s167,c792; Duration: 4s8 Moment tensor: Scale 10¹⁹Nm; Mrr0.98±.00; Mθθ-0.70±.00; Mφφ-0.27±.00; Mrθ0.04±.01; Mrφ0.35±.00; Mθφ0.00±.01; Best double couple: Mo0.94000×10¹⁹ NP1:φs301.00000°, δ44.00000°, λ92.00000°. NP2:φs118.00000°, δ46.00000°, λ88.00000°. Principal axes: T 0.9770, Plg88.0000°, Azm337.0000°; N -0.0750, Plg1.0000°, Azm119.0000°; P -0.9020, Plg1.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **24** 15:53:33, 0.63S×131.35E, h26km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr9.63; Mθθ-6.95; Mφφ-2.68; Mrθ1.23; Mrφ3.69; Mθφ-0.92; Fault plane solution: Mo9.49000×10¹⁸ NP1:φs299.00000°, δ40.00000°, λ88.00000°. NP2:φs121.00000°, δ50.00000°, λ91.00000°. Principal axes: T 9.7589, Plg85.0000°, Azm42.0000°; N -0.5542, Plg1.0000°, Azm300.0000°; P -9.2047, Plg5.0000°, Azm210.0000°;*
*NEIC **24** 15:53:33, 0.61S×131.27E, h17km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr9.18; Mθθ-6.63; Mφφ-2.55; Mrθ1.38; Mrφ3.68; Mθφ1.22; Fault plane solution: Mo9.18000×10¹⁸ NP1:φs310.00000°, δ44.00000°, λ104.00000°. NP2:φs111.00000°, δ48.00000°, λ76.00000°. Principal axes: T 9.5080, Plg80.0000°, Azm310.0000°; N -0.6919, Plg10.0000°, Azm120.0000°; P -8.8160, Plg2.0000°, Azm210.0000°;*
*NEIC **24** 15:53:43.5, 0.62S×130.87E, h10km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr8.06; Mθθ-6.19; Mφφ-1.86; Mrθ4.13; Mrφ3.84; Mθφ-0.16; Fault plane solution: Mo9.23000×10¹⁸ NP1:φs312.41000°, δ34.30000°, λ110.44000°. NP2:φs108.13000°, δ58.12000°, λ76.60000°. Principal axes: T 9.2327, Plg73.0000°, Azm344.0000°; N -0.0114, Plg11.0000°, Azm115.0000°; P -9.2213, Plg12.0000°, Azm208.0000°;*

ISC 24 15:53:29.0±0.3, 0.70S±0.02×131.23E±0.03, h28km±1km, h28km:pP-P, n1888, σ2s13/2000, mb6.4/344, MS6.2/112, 146C-29D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**0.16**	**169**	P	**Pn**	**15 53 35.7**	**0.0**
SWI				S	**Sb**	**15 53 39.2**	**+0.8**
SIJI	**Sorong**	**0.17**	**168**	P	**Pb**	**15 53 33.6**	**-1.1**
FAKI	**Fak Fak**	**2.43**	**155**	Pn	**Pn**	**15 54 08.4**	**+1.6**
FAKI	**Fak Fak**	**2.43**	**155**	P	**Pb**	**15 54 09.6**	**-2.4**
FAKI				S	**Sb**	**15 54 41.4**	**-0.2**
MSAI	**Masohi**	**3.49**	**221**	P	**Pn**	**15 54 25.6**	**+4.1**
KRAI	**Karang Ratu**	**3.84**	**227**	P	**Pn**	**15 54 30.5**	**+4.1**
BNDI	**Bandanaira**	**4.02**	**199**	P	**Pn**	**15 54 32.6**	**+3.8**
TNTI	**Ternate**	**4.13**	**291**	Pn	**Pn**	**15 54 30.9**	**+0.6**
TNTI	**Ternate**	**4.13**	**291**	P	**Pn**	**15 54 31.2**	**+0.9**
GAMI	**Galela, Maluku**	**4.27**	**306**	P	**Pn**	**15 54 33.6**	**+1.4**
SRPI	**Serui, Papua**	**5.14**	**103**	P	**Pn**	**15 54 47.0**	**+2.8**
	50nm440μm95μm7μm,0.9s						
SANI	**Sanana**	**5.41**	**256**	P	**Pn**	**15 54 48.2**	**+0.3**
	17nm955μm68μm2μm,0.6s						
MNI	**Manado**	**6.74**	**288**	P	**Pn**	**15 55 07.3**	**+1.2**
	5μm,1.0s						
SGSI	**Sangihe**	**7.17**	**307**	P	**Pn**	**15 55 13.0**	**+0.8**
	24nm3μm50μm5μm,0.6s						
SAUI	**Saumlaki**	**7.23**	**179**	Pn	**Pn**	**15 55 14.5**	**+1.6**
SAUI	**Saumlaki**	**7.23**	**179**	P	**Pn**	**15 55 15.0**	**+2.0**
	103nm895μm298μm36μm,0.7s						
KMSI	**Cibinong**	**7.36**	**280**	P	**Pn**	**15 55 16.3**	**+1.6**
	24nm3μm61μm7μm,0.8s						
SMPI	**Sarmi**	**7.59**	**100**	P	**Pn**	**15 55 20.5**	**+2.7**
	7.4nm330μm32μm719nm,1.5s						
LUWI	**Luwuk**	**8.46**	**268**	Pn	**Pn**	**15 55 30.2**	**+0.3**
LUWI	**Luwuk**	**8.46**	**268**	P	**Pn**	**15 55 31.2**	**+1.3**
	445μm84μm6μm,0.8s						
GENI	**Genyem**	**9.13**	**102**	P	**Pn**	**15 55 41.7**	**+2.7**
	425μm50μm2μm,0.6s						
MRSI	**Marisa**	**9.36**	**277**	P	**Pn**	**15 55 42.1**	**-0.1**
	307μm26μm2μm,0.8s						
DAV	**Davao City (W)**	**9.56**	**324**	Pn	**Pn**	**15 55 45.6**	**+0.7**
	51nm,0.3s,baz=51,slow=6.5,SNR=6.6						
DAV				Sn	**Sn**	**15 57 33.1**	**+1.6**
	51nm,0.3s,baz=156,slow=20,SNR=1.0						
DAV	**Davao City (W)**	**9.56**	**324**	Pn	**Pn**	**15 55 44.2**	**-0.7**
DAV	**Davao City (W)**	**9.56**	**324**	P	**Pn**	**15 55 44.9**	**0.0**
	489μm54μm3μm,0.6s						
APSI	**Ampana**	**9.58**	**269**	P	**Pn**	**15 55 47.0**	**+1.8**
	199μm56μm6μm,0.9s						
JAY	**Jayapura**	**9.64**	**101**	Pn	**Pn**	**15 55 49.2**	**+3.1**
	8.0nm,0.3s,baz=243,slow=10,SNR=19						
JAY				LR	LR	15 59 38.4	
	comp=Z,212μm,19.2s,baz=290,slow=38						
JAY	**Jayapura**	**9.64**	**101**	P	**Pn**	**15 55 49.9**	**+3.8**
	170μm10μm337nm,0.9s						
KCP	**Kidapawan**	**9.81**	**321**	*i* P	**Pn**	**15 55 48.6**	**+0.2**
KKSI	**Kolaka, Sulawe**	**10.17**	**250**	P	**Pn**	**15 55 57.8**	**+4.5**
	346μm46μm1μm,2.2s						
TOLI2	**Tolitoli**	**10.60**	**280**	Pn	**Pn**	**15 55 59.1**	**-0.1**
SOEI	**Soe**	**11.35**	**217**	Pn	**Pn**	**15 56 12.7**	**+3.1**
SOEI	**Soe**	**11.35**	**217**	P	**Pn**	**15 56 13.7**	**+4.1**
	603μm84μm3μm,2.3s						
MPSI	**Mapaga**	**11.38**	**275**	P	**Pn**	**15 56 12.1**	**+2.3**
	334μm36μm2μm,1.2s						
TTSI	**Tana Toraja**	**11.64**	**258**	P	**Pn**	**15 56 17.0**	**+3.6**
	269μm40μm2μm,1.6s						
BNSI	**Bone**	**11.70**	**252**	P	**Pn**	15 56 19.2	+4.9
	341μm58μm2μm,1.3s						
ZCP	**Zamboanga City**	**11.87**	**310**	*i* eP	**Pn**	**15 56 16.5**	**-0.1**
SCPH	**Surigao**	**11.88**	**331**	*i* P	**Pn**	**15 56 18.1**	**+1.5**
MMRI	**Maumere**	**11.93**	**228**	Pn	**Pn**	**15 56 20.0**	**+2.6**
MMRI	**Maumere**	**11.93**	**228**	P	**Pn**	**15 56 20.0**	**+2.6**
	422μm42μm2μm,1.3s						
MMPI	**Merauke**	**11.94**	**130**	P	**Pn**	**15 56 18.2**	**+0.6**
	178μm43μm3μm,0.9s						
KDU	**Kakadu**	**11.97**	**174**	S	**Sn**	**15 58 26.7**	**-3.9**
	baz=12						
BKSI	**Bulukumba**	**12.00**	**247**	P	**Pn**	**15 56 20.9**	**+2.5**
	294μm93μm3μm,0.7s						
BSSI	**Bau Bau, Buton**	**12.00**	**243**	P	**Pn**	**15 56 20.5**	**+2.1**
	178μm30μm564nm,1.0s						
MTN	**Manton Dam**	**12.06**	**180**	S	**Sn**	**15 58 28.6**	**-4.3**
	baz=12						
MTN	**Manton Dam**	**12.06**	**180**	Pn	**Pn**	**15 56 17.7**	**-1.5**
BATI	**Baumata**	**12.07**	**218**	Pn	**Pn**	**15 56 21.1**	**+1.8**
	30nm,0.3s,baz=115,slow=2.6,SNR=22						
BATI				Sn	**Sn**	**15 58 38.4**	**+5.2**
	baz=307,slow=20,SNR=1.4						
BATI				LR	LR	16 01 38.9	
	comp=Z,535μm,22.0s,baz=54,slow=41						
BATI	**Baumata**	**12.07**	**218**	P	**Pn**	**15 56 22.8**	**+3.4**
	285μm33μm3μm,0.9s						
DCPH	**Dipolog City**	**12.11**	**320**	*i* eP	**Pn**	**15 56 24.4**	**+4.5**
KAPI	**Kappang**	**12.23**	**249**	Pn	**Pn**	**15 56 24.9**	**+3.3**
	6.6nm,0.3s,baz=94,slow=3.9,SNR=88						
KAPI				Sn	**Sn**	**15 58 40.8**	**+3.7**
	baz=274,slow=19,SNR=1.4						
KAPI				LR	LR	16 02 11.6	
	comp=Z,78μm,18.5s,baz=84,slow=43						
KAPI	**Kappang**	**12.23**	**249**	Pn	**Pn**	**15 56 24.6**	**+3.1**
KAPI	**Kappang**	**12.23**	**249**	P	**Pn**	**15 56 26.1**	**+4.6**
KAPI				P	**Pn**	**15 56 26.1**	**+4.6**
KAPI	**Kappang**	**12.23**	**249**	P	**Pn**	**15 56 23.8**	**+2.2**
	266μm79μm3μm,0.8s						
EDFI	**Ende, Flores**	**12.42**	**230**	P	**Pn**	**15 56 27.9**	**+3.8**
	258μm22μm610nm,1.1s						
MMSI	**Mamuju**	**12.47**	**261**	P	**Pn**	**15 56 26.8**	**+2.0**
	111μm15μm486nm,0.9s						
MKS	**Makassar**	**12.57**	**249**	P	**Pn**	**15 56 28.3**	**+2.2**
	235μm54μm2μm,1.6s						
PMSI	**Majene**	**12.62**	**257**	P	**Pn**	**15 56 31.3**	**+4.5**
	137μm26μm1μm,1.8s						
SNPH	**Sibulan**	**12.77**	**322**	*e*P	**Pn**	**15 56 26.9**	**-1.9**
SGKI	**Sangatta, Kali**	**13.62**	**271**	P	**Pn**	**15 56 42.6**	**+2.0**
	214μm31μm2μm,1.1s						
LBFI	**Labuhan Bajo,**	**13.69**	**235**	P	**Pn**	**15 56 43.4**	**+2.0**
	173μm21μm934nm,0.8s						
BASI	**Baing, Sumba**	**14.20**	**228**	P	**Pn**	**15 56 49.4**	**+1.0**
	224μm34μm2μm,1.4s						
BKB	**Balikpapan**	**14.34**	**268**		**Pn**	**15 56 49.0**	**-1.4**
BKB	**Balikpapan**	**14.34**	**268**	P	**Pn**	**15 56 52.5**	**+2.1**
	205μm80μm2μm,0.9s						
WBSI	**Waikabubak, Su**	**14.75**	**233**	P	**Pn**	**15 56 57.6**	**+1.6**
	307μm39μm3μm,0.8s						
RCP	**Roxas**	**14.81**	**326**	*i* eP	**Pn**	**15 56 58.9**	**+2.1**
KNRA	**Kununurra**	**15.08**	**189**	Pn	**Pn**	**15 56 56.1**	**-4.1**
KBKI	**Kotabaru**	**15.27**	**260**	P	**P**	**15 57 06.3**	**-1.2**
	7μm19μm1μm,2.0s						
PLAI	**Plampang**	**15.64**	**239**	P	**P**	**15 57 10.9**	**-0.7**
	279μm80μm2μm,1.9s						
SPMM	**Sapulut**	**15.70**	**290**	P	**Pn**	**15 57 10.0**	**+1.5**
MANU	**Manus Island**	**16.19**	**95**		**Pn**	**15 57 14.2**	**-0.5**
MTKI	**Muara Teweh, K**	**16.33**	**269**	P	**P**	**15 57 18.1**	**-1.2**
	88μm34μm1μm,2.2s						
TWSI	**Taliwang, Sumb**	**16.37**	**240**	P	**P**	**15 57 20.7**	**+1.1**
	155μm44μm1μm,1.9s						
BBKI	**Banjar Baru**	**16.60**	**260**	P	**P**	**15 57 22.4**	**+0.1**
	117μm83μm1μm,2.5s						
GQP	**Guinayangan**	**16.92**	**329**	*i* eP	**P**	**15 57 25.3**	**-0.5**
PKKI	**Palangkaraya**	**17.32**	**265**	P	**P**	**15 57 32.2**	**+2.0**
	153μm66μm2μm,2.0s						
PGP	**Puerto Galera**	**17.40**	**325**	*i* eP	**Pn**	**15 57 30.1**	**0.0**
SRBI	**Singaraja**	**17.56**	**245**	P	**P**	**15 57 35.2**	**+2.3**
	285μm187μm3μm,1.9s						
LQP	**Lukban**	**17.57**	**327**	*i* eP	**Pn**	**15 57 32.7**	**+0.4**
COEN	**Coen**	**17.70**	**139**	P	**Pn**	**15 57 32.0**	**-1.6**
DNP	**Denpasar**	**17.81**	**243**	P	**P**	**15 57 38.7**	**+3.1**
	298μm196μm3μm,1.2s						
TGY	**Tagaytay City**	**17.89**	**326**	*i* eP	**P**	**15 57 41.2**	**+4.7**
PMG	**Port Moresby**	**18.06**	**119**	P	**Pn**	**15 57 35.5**	**-2.6**
PMG				pmax	pmax		
	comp=Z,1μm,1.0s						
PMG	**Port Moresby**	**18.06**	**119**	P	**Pn**	**15 57 35.5**	**-2.6**
PMG	**Port Moresby**	**18.06**	**119**	P	**P**	**15 57 41.7**	**+3.3**
	comp=Z,157μmcomp=Z,55μmcomp=Z,1μm,1.1s						
PMG	**Port Moresby**	**18.06**	**119**	P	**P**	**15 57 42.0**	**+3.6**
PMG	**Port Moresby**	**18.06**	**119**	P	**P**	**15 57 42.0**	**+3.6**
FITZ	**Fitzroy Crossi**	**18.14**	**197**	P	**P**	**15 57 39.1**	**-0.1**
	comp=Z,4.4nm,0.3s,baz=32,slow=12,SNR=74						
FITZ				S	**Sn**	**16 00 53.3**	**-7.5**
	comp=Z,16nm,0.3s,baz=180,slow=15,SNR=2.7						
FITZ				LR	LR	16 06 17.3	
	comp=Z,93μm,19.4s,baz=22,slow=42						
FITZ	**Fitzroy Crossi**	**18.14**	**197**	P	**Pn**	**15 57 35.8**	**-3.3**
KMMI	**Kalianget**	**18.33**	**249**	P	**Pn**	**15 57 46.4**	**+4.9**
	comp=Z,259μmcomp=Z,119μmcomp=Z,2μm,1.1s						
ABJI	**Asem Bagus**	**18.34**	**247**	P	**Pn**	**15 57 44.2**	**+2.6**
	comp=Z,398μmcomp=Z,252μmcomp=Z,5μm,2.4s						
BYJI	**Banyuwangi**	**18.39**	**246**	P	**Pn**	**15 57 46.1**	**+3.9**
	comp=Z,240μmcomp=Z,157μmcomp=Z,4μm,2.6s						
JAGI	**Jajag, Banyuwa**	**18.68**	**245**	P	**P**	**15 57 41.7**	**-3.5**
JAGI	**Jajag, Banyuwa**	**18.68**	**245**	P	**Pn**	**15 57 46.7**	**+1.0**
	comp=Z,212μmcomp=Z,128μmcomp=Z,3μm,2.1s						
BWJI	**Bawean**	**19.23**	**254**	P	Pn	15 58 09.6	+17
GMJI	**Gumukmas**	**19.25**	**246**	P	**Pn**	**15 57 55.4**	**+2.8**
	comp=Z,182μmcomp=Z,106μmcomp=Z,3μm,2.4s						
SBUM	**Sibu**	**19.26**	**279**	P	**Pn**	**15 57 54.0**	**+1.3**
WRAB	**Tennant Creek**	**19.36**	**171**	*d* iP	**P**	**15 57 51.1**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,444nm,1.3s						
WRAB				MLR	MLR		
	comp=Z,181μm,13.0s						
WRAB	**Tennant Creek**	**19.36**	**171**	P	**P**	**15 57 50.9**	**-1.7**
WRA	**Warramunga Arr**	**19.36**	**171**	P	**Pn**	**15 57 53.9**	**0.0**
	comp=Z,19nm,0.3s,baz=350,slow=13,SNR=337						
WRA				S	**S**	**16 01 20.5**	**-10**
	comp=Z,54nm,0.3s,baz=0.1,slow=22,SNR=14						
WRA	

CTAO	**Charters Tower**	**24.24**	**144**	P	**P**	**15 58 43.2**	**-0.6**
CTAO				IAmb	IAmb	15 58 55.2		
	comp=Z,1μm,1.0s							
CISI	**Cisompet, Garu**	**24.31**	**253**	P	**P**	**15 58 43.3**	**-1.4**
CISI				IAmb	IAmb	15 59 00.8		
	comp=Z,1μm,1.1s							
CISI	**Cisompet, Garu**	**24.31**	**253**	P	**P**	**15 58 44.1**	**-0.5**
	comp=Z,49μmcomp=Z,25μmcomp=Z,1μm,1.0s							
LEM	**Lembang**	**24.32**	**255**	P	**P**	**15 58 45.4**	**+0.5**
	comp=Z,218nm,0.9s,baz=40,slow=8.4,SNR=36							
LEM	**Lembang**	**24.32**	**255**	P	**P**	**15 58 45.8**	**+1.0**
	comp=Z,63μmcomp=Z,26μmcomp=Z,363nm,0.8s							
WRKA	**Warakurna**	**24.36**	**186**	P	**P**	**15 58 46.2**	**+1.3**
	baz=24,SNR=1000							
CNJI	**Cibinong**	**24.91**	**254**	P	**P**	**15 58 49.5**	**-0.4**
	comp=Z,86μmcomp=Z,35μmcomp=Z,3μm,1.0s							
CBJI	**Citeko**	**24.98**	**256**	P	**P**	**15 58 52.4**	**+1.8**
	comp=Z,96μmcomp=Z,38μmcomp=Z,1μm,0.9s							
DBJI	**Dramaga**	**25.10**	**256**	P	**P**	**15 58 54.2**	**+2.5**
	comp=Z,39μmcomp=Z,675nm,1.4s							
TNG	**Tangerang**	**25.12**	**257**	P	**pP**	**15 58 56.3**	**-3.5**
TNG				P	**P**	**15 58 55.3**	**+3.4**
	comp=Z,95μmcomp=Z,62μmcomp=Z,3μm,1.9s							
PPBI	**Pangkal Pinang**	**25.13**	**266**	P	**P**	**15 58 52.5**	**+0.6**
	comp=Z,91μmcomp=Z,29μmcomp=Z,584nm,2.3s							
TWG	**Pinlang**	**25.39**	**338**	P	**P**	**15 58 50.4**	**-3.7**
SKJI	**Sukabumi**	**25.39**	**255**	P	P	15 59 01.9	+7.6	
SBJI	**Serang**	**25.62**	**257**	P	**P**	**15 58 57.8**	**+1.4**
	comp=Z,96μmcomp=Z,33μmcomp=Z,1μm,2.1s							
YULB	**Yu-li**	**25.82**	**339**	P	**P**	**15 58 53.9**	**-4.2**
RBSI	**Rajabasa**	**25.95**	**258**	P	**P**	**15 59 05.5**	**+6.1**
TPUB	**Ta-pu**	**25.99**	**337**	P	**P**	**15 58 56.1**	**-3.6**
YOJ	**Yonaguni jima**	**26.25**	**343**	P	**P**	**15 59 00.2**	**-1.8**
YOJ				pmax	pmax			
	comp=Z,5μm,2.2s							
YOJ	**Yonaguni jima**	**26.25**	**343**	P	**P**	**15 59 00.2**	**-1.8**
SSLB	**Suanglung**	**26.31**	**338**	P	**P**	**15 58 59.2**	**-3.3**
BLSI	**Bandar Lampung**	**26.35**	**259**	P	**P**	**15 59 05.8**	**+2.7**
	comp=Z,73μmcomp=Z,28μmcomp=Z,1μm,1.2s							
JMZ	**Minamidaito 2**	**26.36**	**360**	P	**P**	**15 59 00.3**	**-2.7**
NACB	**Ninganchiao**	**26.44**	**340**	P	**P**	**15 59 00.4**	**-3.3**
PMBI	**Palembang**	**26.54**	**265**	P	**P**	**15 59 05.5**	**+0.8**
PMBI				IAmb	IAmb	15 59 34.9		
	comp=Z,2μm,1.2s							
PMBI	**Palembang**	**26.54**	**265**	P	**P**	**15 59 10.2**	**+5.5**
	comp=Z,82μmcomp=Z,41μmcomp=Z,2μm,1.2s							
KLI	**Kotabumi**	**26.66**	**261**	P	**P**	**15 59 08.9**	**+3.1**
	comp=Z,85μmcomp=Z,32μmcomp=Z,2μm,1.1s							
YHNB	**Yeheng**	**26.97**	**340**	P	**P**	**15 59 05.6**	**-3.0**
YHNB				IAmb	IAmb	16 00 01.1		
	comp=Z,2μm,1.6s							
KASI	**Kota Agung**	**27.11**	**259**	P	**P**	**15 59 15.2**	**+5.3**
	comp=Z,65μmcomp=Z,15μmcomp=Z,1μm,1.1s							
XMI	**Christmas Isla**	**27.17**	**248**	P	**P**	**15 59 15.0**	**+4.5**
	comp=Z,733nm,0.9s							
TATO	**Taipei**	**27.21**	**340**	P	**P**	**15 59 08.3**	**-2.3**
TATO	**Taipei**	**27.21**	**340**	P	**P**	**15 59 09.4**	**-1.3**
TATO				P	**P**	**15 59 09.4**	**-1.3**
XMIS	**Christmas Isla**	**27.22**	**248**	P	**P**	**15 59 09.1**	**-1.7**
XMIS	**Christmas Isla**	**27.22**	**248**	P	**P**	**15 59 15.1**	**+4.2**
	comp=Z,560nm,1.3s							
MDSI	**Maura Dua**	**27.28**	**262**	P	**P**	**15 59 11.7**	**+0.3**
	comp=Z,46μmcomp=Z,11μmcomp=Z,454nm,1.2s							
GIRL	**Giralia**	**27.37**	**216**	P	**P**	**15 59 13.5**	**+1.4**
	baz=27,SNR=48							
GIRL	**Giralia**	**27.37**	**216**	P	**P**	**15 59 09.2**	**-2.9**
GIRL				IAmb	IAmb	15 59 30.1		
	comp=Z,2μm,1.3s							
LWLI	**Liwa**	**27.47**	**261**	P	**P**	**15 59 19.0**	**+5.8**
	comp=Z,2μm,1.1s							
JOW	**Kunigami**	**27.52**	**354**	P	**P**	**15 59 12.7**	**-0.8**
	comp=Z,115nm,0.9s,baz=180,slow=9.4,SNR=23							
JOW				LR	LR	16 09 34.8		
	comp=Z,93μm,19.9s,baz=164,slow=35							
JOW	**Kunigami**	**27.52**	**354**	P	**P**	**15 59 10.6**	**-2.8**
BTDF	**Bukit Timah Da**	**27.53**	**274**	P	**P**	**15 59 14.7**	**+1.0**
	comp=Z,44μmcomp=Z,10μmcomp=Z,361nm,1.2s							
JMBI	**JAMBI**	**27.60**	**268**	P	**P**	**15 59 18.6**	**+4.3**
	comp=Z,14μmcomp=Z,592nm,0.9s							
LHSI	**Lahat**	**27.85**	**263**	P	**P**	**15 59 17.8**	**+1.2**
	comp=Z,72μmcomp=Z,30μmcomp=Z,1μm,2.4s							
KNMB	**Chin-men Tao**	**27.94**	**334**	P	**P**	**15 59 15.3**	**-1.9**
KNMB				IAmb	IAmb	15 59 41.3		
	comp=Z,2μm,1.7s							
PATS	**Pohnpei**	**28.04**	**74**	P	**P**	**15 59 19.5**	**+1.3**
	baz=28,SNR=9.2							
PATS	**Pohnpei**	**28.04**	**74**	P	**P**	**15 59 18.0**	**-0.3**
PATS				IAmb	IAmb	15 59 29.3		
	comp=Z,867nm,1.0s							
HKC	**Hong Kong Obse**	**28.27**	**325**	⇑P	**P**	**15 59 20.0**	**-0.1**
QZH	**Quanzhou**	**28.28**	**335**	*i*P	**P**	**15 59 19.5**	**-0.7**
QZH				S	**S**	**16 04 03.6**	**-1.2**
QZH				sS	**sS**	**16 04 17.3**	**-0.6**
QZH				pmax	pmax			
	comp=Z,170nm,1.9s							
QZH				pmax	pmax			
	comp=Z,22μm,11.6s							
QZH				LR	LR			
	comp=Z,40μm,12.8s							
QZH				LR	LR			
	comp=Z,21μm,13.3s							
QZH				LR	LR			
	comp=Z,33μm,12.8s							
MCO	**Taipa Grande**	**28.49**	**324**	P	**P**	**15 59 23.0**	**+0.9**
MEEK	**Meekatharra**	**28.50**	**204**	P	**P**	**15 59 23.1**	**+0.9**
	baz=29,SNR=61							
QLP	**Quilpie**	**28.61**	**155**	P	**P**	**15 59 23.2**	**+0.1**
	baz=29,SNR=66							
QIZ	**Qiongzhong**	**28.73**	**314**	P	**P**	**15 59 23.9**	**-0.4**
QIZ				S	**S**	**16 04 05.9**	**-6.2**
QIZ				pmax	pmax			
	comp=Z,63nm,1.1s							
QIZ				pmax	pmax			
	comp=Z,7μm,6.5s							
QIZ				LR	LR			
	comp=Z,41μm,17.1s							
QIZ				LR	LR			
	comp=Z,63μm,17.5s							
QIZ				LR	LR			
	comp=Z,39μm,13.5s							
QIZ	**Qiongzhong**	**28.73**	**314**	P	**P**	**15 59 23.9**	**-0.4**
KSI	**Kapahiang**	**28.76**	**264**	P	**P**	**15 59 24.8**	**+0.1**
	comp=Z,18μmcomp=Z,1μm,0.9s							
MASI	**Maura Aman, Be**	**29.07**	**265**	P	**P**	**15 59 28.3**	**+0.8**
	comp=Z,56μmcomp=Z,40μmcomp=Z,3μm,1.0s							
UBSI	**University, Be**	**29.09**	**264**	P	**P**	**15 59 25.5**	**-2.1**
	comp=Z,1μmcomp=Z,6μmcomp=Z,658nm,1.1s							
JRMM	**Jerantut**	**29.09**	**279**	P	**P**	**15 59 28.0**	**+0.4**
EGSI	**Enggano, Bengk**	**29.27**	**260**	P	P	15 59 40.9	+12	
GZH	**Guangzhou**	**29.36**	**325**	⇑*i*P	**P**	**15 59 32.8**	**+3.0**
GZH				S	**S**	**16 04 27.9**	**+6.0**
GZH				pmax	pmax			
	comp=Z,16μm,11.0s							
GZH				LR	LR			
	comp=Z,32μm,17.1s							
GZH				LR	LR			
	comp=Z,29μm,15.7s							
JCJ	**Chichijima**	**29.58**	**20**	P	**P**	**15 59 31.2**	**-0.5**
	comp=Z,75nm,0.8s,baz=125,slow=8.1,SNR=1.7							
JCJ				LR	LR	16 10 19.1		
	comp=Z,25μm,19.0s,baz=203,slow=34							
JCJ	**Chichijima**	**29.58**	**20**	P	**P**	**15 59 30.5**	**-1.2**
JCJ				IAmb	IAmb	15 59 48.3		
	comp=Z,665nm,1.1s							
HNR	**Honiara**	**29.86**	**108**	LR	LR	16 13 21.1		
	comp=Z,59μm,19.9s,baz=262,slow=40							
UBPT	**Khong Chiam**	**30.01**	**303**	P	**P**	**15 59 36.1**	**+0.4**
	comp=Z,58μmcomp=Z,13μmcomp=Z,164nm,1.0s							
UBPT	**Khong Chiam**	**30.01**	**303**	P	**P**	**15 59 36.1**	**+0.4**
	comp=Z,58μmcomp=Z,13μmcomp=Z,164nm,1.0s							
UBPT	**Khong Chiam**	**30.01**	**303**	P	**P**	**15 59 35.5**	**-0.2**
UBPT				IAmb	IAmb	15 59 52.5		
	comp=Z,4μm,3.2s							
UBPT	**Khong Chiam**	**30.01**	**303**	P	**P**	**15 59 36.1**	**+0.4**
	comp=Z,57μmcomp=Z,13μmcomp=Z,156nm,1.0s							
FORT	**Forrest**	**30.06**	**185**	P	**P**	**15 59 38.6**	**+2.6**
	baz=30,SNR=39							
FORT	**Forrest**	**30.06**	**185**	P	**P**	**15 59 35.8**	**-0.2**
IPM	**Ipoh**	**30.61**	**280**	P	**P**	**15 59 42.0**	**+0.9**
RMQ	**Roma**	**30.69**	**148**	P	**P**	**15 59 43.8**	**+2.2**
	baz=31,SNR=31							
PDSI	**Padang**	**30.77**	**269**	P	**P**	**15 59 41.9**	**-0.6**
	comp=Z,27μmcomp=Z,5μmcomp=Z,233nm,1.1s							
KULM	**Kulim**	**31.11**	**281**	P	**P**	**15 59 46.0**	**+0.5**
EIDS	**Eidsvold**	**31.13**	**144**	P	**P**	**15 59 46.5**	**+1.1**
	baz=31,SNR=34							
EIDS	**Eidsvold**	**31.13**	**144**	P	**P**	**15 59 44.9**	**-0.5**
EIDS				IAmb	IAmb	16 01 02.3		
	comp=Z,693nm,1.0s							
SKLT	**Songkhla**	**31.52**	**285**	P	P	15 59 55.8	+6.7	
SKLT	**Songkhla**	**31.52**	**285**	P	P	15 59 55.9	+6.8	
	comp=Z,9μmcomp=Z,218nm,1.2s							
MNSI	**Mandailing Nat**	**31.68**	**273**	P	**P**	**15 59 49.7**	**-0.8**
	comp=Z,37μmcomp=Z,8μmcomp=Z,375nm,0.9s							
MORW	**Morawa**	**31.72**	**206**	P	**P**	**15 59 51.8**	**+1.2**
	baz=32,SNR=79							
MORW	**Morawa**	**31.72**	**206**	P	**P**	**15 59 50.1**	**-0.5**
JSU	**Suzuyama**	**32.04**	**359**	P	**P**	**15 59 52.1**	**-1.3**
JSU				IAmb	IAmb	16 00 07.8		
	comp=Z,644nm,1.3s							
BBOO	**Buckleboo**	**32.26**	**172**	P	**P**	**15 59 56.1**	**+0.8**
	baz=32,SNR=31							
BBOO	**Buckleboo**	**32.26**	**172**	P	**P**	**15 59 55.7**	**+0.4**
BBOO				IAmb	IAmb	16 01 01.6		
	comp=Z,741nm,0.9s							
TRSI	**Tarutung**	**32.38**	**275**	P	P	16 00 14.2	+17	
RPSI	**Rantau Prapat**	**32.47**	**276**	P	**P**	**15 59 56.9**	**-0.5**
RPSI				IAmb	IAmb	16 00 11.9		
	comp=Z,381nm,0.8s							
PSI	**Prapat**	**32.48**	**276**	P	**P**	**15 59 57.3**	**-0.4**
	comp=Z,88nm,0.7s,baz=107,slow=5.2,SNR=102							
PSI	**Prapat**	**32.48**	**276**	P	**P**	**15 59 57.2**	**-0.5**
	comp=Z,18μmcomp=Z,4μmcomp=Z,220nm,0.8s,comp=Z,50μm,0.8s,							
	comp=Z,11μm,0.8s,comp=Z,574nm,0.8s							
PSI				P		**15 59 57.2**	**-0.5**	
	comp=Z,18μmcomp=Z,4μmcomp=Z,220nm,0.8s,comp=Z,50μm,0.8s,							
	comp=Z,11μm,0.8s,comp=Z,574nm,0.8s							
STKA	**Stephens Creek**	**32.52**	**163**	P	**P**	**15 59 58.6**	**+1.0**
	baz=33,SNR=221							
STKA	**Stephens Creek**	**32.52**	**163**	P	**P**	**15 59 58.5**	**+0.8**
	comp=Z,284nm,0.9s,baz=336,slow=8.3,SNR=111							
STKA				LR	LR	16 16 45.1		
	comp=Z,95μm,19.1s,baz=337,slow=43							
STKA	**Stephens Creek**	**32.52**	**163**	P	**P**	**15 59 58.0**	**+0.4**
TRTT	**Trang**	**32.57**	**286**	P	**P**	**15 59 59.3**	**+1.0**
	comp=Z,12μmcomp=Z,218nm,1.1s							
TRTT	**Trang**	**32.57**	**286**	P	**P**	**15 59 59.3**	**+1.0**
	comp=Z,12μmcomp=Z,218nm,1.1s							
BLDU	**Ballidu**	**32.79**	**204**	P	**P**	**16 00 01.1**	**+1.1**
	baz=33,SNR=34							
SRIT	**Nakonsritamara**	**32.84**	**287**	P	**P**	**16 00 00.5**	**-0.2**
TSI	**Tuntungan**	**32.91**	**277**	P	**P**	**16 00 02.0**	**+0.7**
	comp=Z,51μmcomp=Z,18μmcomp=Z,964nm,1.5s							
SURA	**Surathani**	**32.96**	**288**	P	**P**	**16 00 04.8**	**+3.1**
	comp=Z,170nmcomp=Z,171nm,1.1s							
SURA	**Surathani**	**32.96**	**288**	P	**P**	**16 00 04.8**	**+3.1**
	comp=Z,10μmcomp=Z,168nm,1.1s							
SSE	**Sheshan**	**33.03**	**344**	P	**P**	**16 00 02.0**	**-0.1**
SSE				PP	**PnPn**	**16 01 12.3**	**+0.3**
SSE				S	**S**	**16 05 21.0**	**+1.9**
SSE				pmax	pmax			
	comp=Z,6μm,11.8s							
KRAB	**Krabi**	**33.14**	**286**	P	**P**	**16 00 05.8**	**+2.6**
	comp=Z,43μmcomp=Z,4μm,1.1s							
KRAB	**Krabi**	**33.14**	**286**	P	**P**	**16 00 05.9**	**+2.6**
	comp=Z,11μmcomp=Z,907nm,1.1s							
CHAI	**Chaiyaphum**	**33.26**	**301**	P	**P**	**16 00 04.4**	**+0.2**
	comp=Z,7μmcomp=Z,782nm,0.7s							
CHAI	**Chaiyaphum**	**33.26**	**301**	P	**P**	**16 00 04.5**	**+0.2**
	comp=Z,2μmcomp=Z,195nm,0.7s							
NONG	**Nongkai**	**33.33**	**305**	P	**P**	**16 00 05.7**	**+0.8**
	comp=Z,5μmcomp=Z,95nm,0.9s							
NONG	**Nongkai**	**33.33**	**305**	P	**P**	**16 00 05.7**	**+0.8**
	comp=Z,5μmcomp=Z,96nm,0.9s							
HTT	**Hallett**	**33.35**	**168**	P	**P**	**16 00 07.0**	**+2.1**
	baz=34,SNR=22							
CMSA	**Cobar Meteorol**	**33.59**	**157**	P	**P**	**16 00 08.7**	**+1.8**
	baz=34,SNR=41							
LASI	**Langsa, Aceh**	**33.62**	**279**	P	**P**	**16 00 09.9**	**+2.4**
	comp=Z,25μmcomp=Z,14μmcomp=Z,1μm,1.1s							
JNU	**Nakatsue**	**33.64**	**359**	LR	LR	16 12 09.4		
	comp=Z,32μm,21.3s,baz=182,slow=34							
JNU	**Nakatsue**	**33.64**	**359**	P	**P**	**16 00 05.6**	**-1.9**
JNU				IAmb	IAmb	16 00 21.7		
	comp=Z,585nm,1.2s							
SURT	**Suratani**	**33.70**	**287**	P	P	16 00 16.4	+8.2	
SURT	**Suratani**	**33.70**	**287**	P	P	16 00 16.5	+8.3	
	comp=Z,93nmcomp=Z,12nm,1.1s							
GSI	**Gunungsitoli**	**33.71**	**273**	P	**P**	**16 00 06.4**	**-1.9**
GSI				IAmb	IAmb	16 00 36.1		
	comp=Z,738nm,1.2s							
GSI	**Gunungsitoli**	**33.71**	**273**	P	**P**	**16 00 05.7**	**-2.6**
	comp=Z,41μmcomp=Z,10μmcomp=Z,526nm,0.9s							
PKDT	**Phuket**	**33.89**	**285**	P	**P**	**16 00 13.6**	**+3.8**
	comp=Z,40μmcomp=Z,9μmcomp=Z,281nm,1.0s							
PKDT	**Phuket**	**33.89**	**285**	P	**P**	**16 00 13.7**	**+3.9**
	comp=Z,40μmcomp=Z,9μmcomp=Z,281nm,1.0s							
PHET	**Kaeng Krachan**	**34.13**	**294**	P	**P**	**16 00 12.9**	**+1.0**
	comp=Z,2μmcomp=Z,248nm,0.8s							
PHET	**Kaeng Krachan**	**34.13**	**294**	P	**P**	**16 00 13.0**	**+1.0**
	comp=Z,534nmcomp=Z,64nm,0.8s							
MUN	**Mundaring**	**34.19**	**203**	P	**P**	**16 00 13.6**	**+1.4**
	baz=34,SNR=25							
TPTI		**34.26**	**277**	P	**P**	**16 00 12.0**	**-1.1**
	comp=Z,11μmcomp=Z,3μmcomp=Z,107nm,1.0s							
JMN	**Monobe**	**34.34**	**4**	P	**P**	**16 00 11.6**	**-1.8**
JMN				IAmb	IAmb	16 00 24.3		
	comp=Z,1μm,1.6s							
PBKT	**Sadao Pong**	**34.43**	**301**	P	**P**	**16 00 16.5**	**+2.1**
	comp=Z,143nm,0.7s							
PBKT	**Sadao Pong**	**34.43**	**301**	P	**P**	**16 00 16.0**	**+1.6**
	comp=Z,143nm,0.7s							
PBKT	**Sadao Pong**	**34.43**	**301**	P	**P**	**16 00 12.7**	**-1.7**
PBKT	**Sadao Pong**	**34.43**	**301**	P	**P**	**16 00 16.5**	**+2.1**
	comp=Z,136nm,0.7s							
SLVN	**Son La**	**34.53**	**311**	P	**P**	**16 00 14.5**	**-0.8**
JHJ	**Hachijo jima 2**	**34.59**	**13**	LR	LR	16 12 02.2		
	comp=Z,49μm,18.9s,baz=178,slow=32							
NJ2	**Nanjing**	**34.62**	**341**	⇑P	**P**	**16 00 15.8**	**-0.1**
NJ2				pP	**pP**	**16 00 20.4**	**-3.2**
NJ2				sP	**sP**	**16 00 24.8**	**-2.2**
NJ2				S	**S**	**16 05 46.3**	**+2.6**
NJ2				sS	**sS**	**16 06 01.4**	**+4.9**
NJ2				SS	**SnSn**	**16 07 54.8**	**-2.4**
NJ2				pmax	pmax			
	comp=Z,47nm,1.1s							
NJ2				pmax	pmax			
	comp=Z,15μm,8.8s							
NJ2				LR	LR			
	comp=Z,32μm,18.6s							
NJ2				LR	LR			
	comp=Z,22μm,16.7s							
NJ2				LR	LR			
	comp=Z,30μm,21.6s							
NWAO	**Narrogin (SRO)**	**34.66**	**201**	P	**P**	**16 00 18.3**	**+2.1**
	baz=35,SNR=22							
NWAO	**Narrogin (SRO)**	**34.66**	**201**	P	**P**	**16 00 18.0**	**+1.8**
	comp=Z,90nm,0.8s,baz=30,slow=8.7,SNR=22							
NWAO	**Narrogin (SRO)**	**34.66**	**201**	P	**P**	**16 00 16.1**	**-0.1**
LHMI	**Lhok Sumawe**	**34.74**	**280**	P	**P**	**16 00 15.8**	**-1.4**
LHMI				IAmb	IAmb	16 00 38.8		
	comp=Z,501nm,0.8s							
LHMI	**Lhok Sumawe**	**34.74**	**280**	P	**P**	**16 00 16.9**	**-0.3**
	comp=Z,52μmcomp=Z,18μmcomp=Z,735nm,0.9s							
WHN	**Wuhan**	**34.98**	**334**	⇑P	**P**	**16 00 19.3**	**+0.3**
WHN				S	**S**	**16 05 53.5**	**+4.2**
WHN				pmax	pmax			
	comp=Z,1μm,1.5s							
WHN				LR	LR			
	comp=Z,50μm,12.7s							
WHN				LR	LR			
	comp=Z,35μm,11.4s							
WHN				LR	LR			
	comp=Z,95μm,25.3s							
JTU	**Tsushima**	**35.08**	**357**	P	**P**	**16 00 18.3**	**-1.5**
SRDT	**SRDT**	**35.12**	**296**	P	**P**	**16 00 21.8**	**+1.3**
	comp=Z,13μmcomp=Z,460nm,1.7s							
SRDT	**SRDT**	**35.12**	**296**	P	**P**	**16 00 21.0**	**+0.5**
	comp=Z,13μmcomp=Z,460nm,1.7s							
PHIT	**Phitsanulok**	**35.18**	**302**	P	**P**	**16 00 21.8**	**+0.9**
	comp=Z,19μmcomp=Z,2μm,1.0s							
PHIT	**Phitsanulok**	**35.18**	**302**	P	**P**	**16 00 21.9**	**+1.0**
	comp=Z,5μmcomp=Z,620nm,1.0s							
UTHA	**Uthaitani**	**35.31**	**299**	P	**P**	**16 00 22.6**	**+0.5**
	comp=Z,4μmcomp=Z,620nm,0.8s							
UTHA	**Uthaitani**	**35.31**	**299**	P	**P**	**16 00 22.7**	**+0.5**
	comp=Z,1μmcomp=Z,154nm,0.8s							
UTTA	**Uttaradit**	**35.32**	**303**	P	**P**	**16 00 22.7**	**+0.6**
	comp=Z,4μmcomp=Z,483nm,0.9s							
UTTA	**Uttaradit**	**35.32**	**303**	P	**P**	**16 00 22.0**	**-0.1**
	comp=Z,990nmcomp=Z,121nm,0.9s							
ARMA	**Armidale**	**35.34**	**149**	P	**P**	**16 00 23.1**	**+0.8**
	baz=36,SNR=60							
ARMA	**Armidale**	**35.34**	**149**	P	**P**	**16 00 23.1**	**+0.8**
ARMA				IAmb	IAmb	16 00 34.3		
	comp=Z,663nm,0.9s							
JHS	**Saijyo**	**35.56**	**3**	P	**P**	**16 00 23.0**	**-1.0**
JHS				IAmb	IAmb	16 00 34.7		
	comp=Z,1μm,1.4s							
NANT	**Nan**	**35.71**	**304**	P	**P**	**16 00 26.4**	**+0.9**
	comp=Z,5μmcomp=Z,505nm,0.8s							
NANT	**Nan**	**35.71**	**304**	P	**P**	**16 00 26.0**	**+0.5**
	comp=Z,1μmcomp=Z,126nm,0.8s							
KHLT	**Khaolaem Dam**	**35.77**	**297**	P	**P**	**16 00 27.4**	**+1.4**
	comp=Z,2μmcomp=Z,314nm,1.1s							
KHLT	**Khaolaem Dam**	**35.77**	**297**	P	**P**	**16 00 27.5**	**+1.4**
	comp=Z,2μmcomp=Z,314nm,1.1s							
JSG	**Sagara**	**35.79**	**10**	P	**P**	**16 00 24.7**	**-1.2**
JSG				IAmb	IAmb	16 00 46.3		
	comp=Z,1μm,1.6s							
GYA	**Guiyang**	**35.92**	**321**	⇑*i*P	**P**	**16 00 27.4**	**+0.1**
GYA				PcP	**PcP**	**16 02 55.3**	**+1.2**
GYA				S	**S**	**16 06 05.8**	**+1.7**
GYA				sS	sS	16 06 23.6	+6.3	
GYA				SS	**SnSn**	**16 08 26.3**	**-2.7**
GYA				pmax	pmax			
	comp=Z,77nm,1.1s							
GYA				pmax	pmax			
	comp=Z,7μm,10.0s							
GYA				LR	LR			
	comp=Z,32μm,17.2s							
GYA				LR	LR			
	comp=Z,14μm,14.3s							
GYA				LR	LR			
	comp=Z,37μm,21.2s							
COCO	**West Island**	**35.97**	**250**	P	**P**	**16 00 26.7**	**-1.1**
COCO				pmax	pmax			
	comp=Z,711nm,1.2s							
COCO	**West Island**	**35.97**	**250**	P	**P**	**16 00 26.6**	**-1.1**
COCO				IAmb	IAmb	16 00 42.6		
	comp=Z,711nm,1.1s							
JWT	**Wachi**	**36.01**	**6**	P	**P**	**16 00 26.3**	**-1.5**
JWT				IAmb	IAmb	16 00 38.4		
	comp=Z,1μm,1.4s							
UMPA	**Umpang Tak**	**36.09**	**299**	P	**P**	**16 00 29.2**	**+0.4**
	comp=Z,5μmcomp=Z,611nm,0.9s							
UMPA	**Umpang Tak**	**36.09**	**299**	P	**P**	**16 00 29.3**	**+0.4**
	comp=Z,1μmcomp=Z,152nm,0.9s							
INU	**Inuyama**	**36.27**	**8**	P	**P**	**16 00 27.9**	**-2.1**
INU				IAmb	IAmb	16 00 44.4		
	comp=Z,638nm,1.2s							
LAMP	**Lampang**	**36.46**	**303**	P	**P**	**16 00 33.0**	**+1.1**
	comp=Z,4μmcomp=Z,631nm,0.9s							
LAMP	**Lampang**	**36.46**	**303**	P	**P**	**16 00 33.0**	**+1.1**
	comp=Z,1μmcomp=Z,158nm,0.9s							
JGF	**Kuroka**	**36.57**	**8**	P	**P**	**16 00 30.3**	**-2.4**
PAYA	**Payao**	**36.66**	**305**	P	**P**	**16 00 34.2**	**+0.5**
	comp=Z,5μmcomp=Z,568nm,1.0s							
PAYA	**Payao**	**36.66**	**305**	P	**P**	**16 00 34.2**	**+0.5**
	comp=Z,1μmcomp=Z,142nm,1.0s							
CM36	**Chiang Mai Arr**	**36.91**	**303**	P	**P**	**16 00 36.0**	**+0.3**
CM35	**Chiang Mai Arr**	**36.93**	**303**	P	**P**	**16 00 36.0**	**0.0**
CM04	**Chiang Mai Arr**	**36.95**	**303**	P	**P**	**16 00 37.0**	**+0.9**
	comp=Z,3μmcomp=Z,299nm,0.9s							
CM04	**Chiang Mai Arr**	**36.95**	**303**	P	**P**	**16 00 37.1**	**+0.9**
	comp=Z,3μmcomp=Z,299nm,0.9s							
CM09	**Chiang Mai Arr**	**36.96**	**303**	P	**P**	**16 00 37.1**	**+0.9**
	comp=Z,3μmcomp=Z,454nm,0.9s							
CM09	**Chiang Mai Arr**	**36.96**	**303**	P	**P**	**16 00 37.2**	**+1.0**
	comp=Z,3μmcomp=Z,454nm,0.9s							
CM01	**Chiang Mai Arr**	**36.98**	**303**	P	**P**	**16 00 37.3**	**+1.0**
	comp=Z,436nmcomp=Z,3μmcomp=Z,409nm,1.0s							
CM01	**Chiang Mai Arr**	**36.98**	**303**	P	**P**	**16 00 37.4**	**+1.0**
	comp=Z,436nmcomp=Z,3μmcomp=Z,409nm,1.0s							
CM05	**Chiang Mai Arr**	**36.98**	**303**	P	**P**	**16 00 37.2**	**+0.9**
	comp=Z,345nmcomp=Z,2μmcomp=Z,254nm,1.0s							
CM05	**Chiang Mai Arr**	**36.98**	**303**	P	**P**	**16 00 37.2**	**+0.9**
	comp=Z,345n

JYT Yasato 37.68 12 P P 16 00 38.4 -3.6
MHMT Maesarieng 37.74 301 P P 16 00 43.6 +0.8
comp=Z,44μmcomp=Z,14μmcomp=Z,479nm,0.9s
MHMT Maesarieng 37.74 301 P P 16 00 43.6 +0.8
comp=Z,44μmcomp=Z,14μmcomp=Z,479nm,0.9s
KSAR Wonju Array Be 38.08 356 P P 16 00 43.3 -2.1
KSAR Wonju Array Be 38.08 356 P P 16 00 43.3 -2.1
KSRS Korea Array 38.09 356 P P 16 00 44.8 -0.7
comp=Z,25nm,0.6s,baz=172,slow=9.6,SNR=71
KSRS PcP PcP 16 03 00.9 +0.7
comp=Z,58nm,0.9s,baz=188,slow=3.3,SNR=9.2
KSRS LR LR 16 15 54.4
comp=Z,37μm,19.9s,baz=180,slow=36
KS19 Wonju Array Si 38.14 356 P P 16 00 44.0 -1.8
CAN Canberra 38.22 156 P P 16 00 46.4 -0.3
CAN pmax pmax
comp=Z,1μm,1.9s
CAN MLR MLR
comp=Z,82μm,22.0s
CAN Canberra 38.22 156 P P 16 00 46.4 -0.3
CAN IAmb IAmb 16 00 55.0
comp=Z,1μm,1.9s
INCN Inchon 38.23 354 P P 16 00 44.8 -1.9
INCN pmax pmax
comp=Z,1μm,2.5s
INCN MLR MLR
comp=Z,27μm,22.0s
INCN Inchon 38.23 354 P P 16 00 44.8 -1.9
TOO Toolangi 38.98 162 P P 16 00 55.5 +2.5
baz=39,SNR=25
TOO Toolangi 38.98 162 P P 16 00 52.0 -1.0
TOO pmax pmax
comp=Z,196nm,1.0s
TOO Toolangi 38.98 162 P P 16 00 52.0 -1.0
TIA Tai'an 39.00 342 ⇑P P 16 00 52.1 -1.1
TIA PP PnPn 16 02 31.1 +5.7
TIA S S 16 06 57.6 +7.1
TIA pmax pmax
comp=Z,150nm,1.0s
TIA pmax pmax
comp=Z,12μm,13.2s
TIA LR LR
comp=Z,16μm,23.5s
TIA LR LR
comp=Z,22μm,22.1s
TIA LR LR
comp=Z,26μm,16.5s
JSD Sado 39.09 9 P P 16 00 52.0 -1.8
JMM Marumori 39.38 12 P P 16 00 55.1 -1.1
JMM IAmb IAmb 16 01 08.1
comp=Z,772nm,0.9s
MILA Mila 39.79 157 P P 16 01 02.9 +3.1
baz=40,SNR=9.3
WAKE Wake Island 40.03 58 P P 16 01 01.7 -0.3
WAKE IAmb IAmb 16 01 20.9
comp=Z,705nm,1.0s
PBA Port Blair 40.15 289 P P 16 01 02.1 -1.0
PBA Port Blair 40.15 289 eP P 16 01 02.1 -1.0
PBA Port Blair 40.15 289 P P 16 01 02.1 -1.0
NOUC Port Laguerre 40.23 124 P P 16 01 07.3 +3.7
DZM Mont Dzumac 40.33 124 P P 16 01 06.9 +2.4
comp=Z,86nm,1.0s,baz=11,slow=10,SNR=1.9
DZM LR LR 16 18 36.8
comp=Z,62μm,18.4s,baz=308,slow=37
DZM Mont Dzumac 40.33 124 eP P 16 01 08.6 +4.0
comp=Z,1μm,1.4s
DZM Mont Dzumac 40.33 124 eLR LR 16 12 22.6
comp=Z,87μm,22.9s
DZM Mont Dzumac 40.33 124 P P 16 01 08.3 +3.7
DL2 Dalian 40.39 348 ⇑iP P 16 01 04.5 -0.1
DL2 PP PnPn 16 02 41.0 -0.9
DL2 PcP PcP 16 03 08.9 +1.4
DL2 S S 16 07 16.6 +5.4
DL2 pmax pmax
comp=Z,210nm,1.3s
DL2 pmax pmax
comp=Z,17μm,10.1s
DL2 LR LR
comp=Z,28μm,18.4s
DL2 LR LR
comp=Z,14μm,18.8s
DL2 LR LR
comp=Z,37μm,21.7s
DGPR DIGLIPUR 40.40 291 eP P 16 01 02.2 -2.9
XAN Xi'an 40.41 331 ⇑P P 16 01 04.0 -1.0
XAN pP pP 16 01 13.8 +0.9
XAN sP sP 16 01 17.9 +1.8
XAN PP PP 16 02 38.8 +0.4
XAN ScP ScP 16 06 58.8 +3.4
XAN PcS PcS 16 07 02.0 +3.6
XAN S S 16 07 10.0 -1.8
XAN sS sS 16 07 27.8 +2.7
XAN ScS ScS 16 11 07.9 -1.6
XAN pmax pmax
comp=Z,350nm,1.6s
XAN pmax pmax
comp=Z,13μm,9.8s
XAN LR LR
comp=Z,26μm,15.1s
XAN LR LR
comp=Z,23μm,17.1s
XAN LR LR
comp=Z,30μm,19.1s
LIFNC LIFOU 40.43 122 P P 16 01 08.7 +3.4
ONTNC Ouen Toro 40.45 125 P P 16 01 08.7 +3.3
YATNC Mamie plateau, 40.70 124 P P 16 01 10.9 +3.4
CD2 Chengdu 40.86 323 P P 16 01 08.3 -0.5
CD2 PP PP 16 02 45.3 +2.0
CD2 S S 16 07 16.9 -1.7
CD2 pmax pmax
comp=Z,250nm,1.1s
CD2 pmax pmax
comp=Z,20μm,12.8s
CD2 LR LR
comp=Z,48μm,14.4s
CD2 LR LR
comp=Z,35μm,14.4s
CD2 LR LR
comp=Z,46μm,14.7s
MARNC Mare, Loyalty 41.40 122 P P 16 01 19.3 +6.1
PINNC Pines Island, 41.40 124 P P 16 01 16.7 +3.4
TIY Taiyuan 41.98 338 ⇑iP P 16 01 17.4 -0.5
TIY PcS PcS 16 07 06.5 +1.9
TIY S S 16 07 41.3 +6.2
TIY pmax pmax
comp=Z,110nm,0.9s
TIY pmax pmax
comp=Z,12μm,8.1s
TIY LR LR
comp=Z,14μm,13.0s
TIY LR LR
comp=Z,11μm,13.8s
TIY LR LR
comp=Z,14μm,25.9s
JTM Tenmabayashi 42.25 11 P P 16 01 18.8 -1.1
JTM IAmb IAmb 16 01 30.9
comp=Z,2μm,1.2s
BJT Baijiatuau 42.80 343 P P 16 01 23.5 -0.9
BJT pmax pmax
comp=Z,539nm,1.3s
BJT Baijiatuau 42.80 343 P P 16 01 23.5 -0.9
BJI Beijing 42.82 343 P P 16 01 23.8 -0.7
BJI pP pP 16 01 31.0 -1.6
BJI sP sP 16 01 34.0 -1.7
BJI PP PP 16 03 06.0 +1.8
BJI S S 16 07 46.1 -1.0
BJI SS SS 16 10 53.8 -5.1
BJI pmax pmax
comp=Z,18μm,10.4s
BJI LR LR
comp=Z,12μm,15.5s
BJI LR LR
comp=Z,12μm,17.5s
BJI LR LR
comp=Z,21μm,14.5s
VLA Vladivostok 43.63 1c iP P 16 01 31.3 +0.3
VLA pmax pmax
comp=Z,734nm,1.8s
VLA MLR MLR
comp=Z,22μm,17.0s
ERM Erimo 43.87 13c iP P 16 01 33.3 +0.4
ERM pmax pmax
comp=Z,493nm,1.7s
ERM Erimo 43.87 13 P P 16 01 31.6 -1.3
MOO Moorlands 43.96 163 P P 16 01 34.9 +1.1
baz=44,SNR=19
LKP Lekhapani 43.97 312 ⇑iP P 16 01 33.0 -1.0
JEW Eniwo 44.31 11 P P 16 01 36.0 -0.5
TAU Tasmania Unive 44.43 163 P P 16 01 36.6 -0.9
TAU pmax pmax
comp=Z,133nm,0.8s
TAU MLR MLR
comp=Z,88μm,20.0s
TAU Tasmania Unive 44.43 163 P P 16 01 36.5 -0.9
MOKO MOKOCHONG 44.43 310 eP P 16 01 37.2 -0.8
LZH Lanzhou 44.60 328 ⇑P P 16 01 39.5 +0.3
LZH pP pP 16 01 45.5 -1.9
LZH PP PP 16 03 25.4 +1.8
LZH S S 16 08 20.3 +6.7
LZH pmax pmax
comp=Z,240nm,1.1s
LZH pmax pmax
comp=Z,6μm,6.0s
LZH LR LR
comp=Z,18μm,14.1s
LZH LR LR
comp=Z,16μm,13.3s
LZH LR LR
comp=Z,17μm,16.3s
CN2 Changchun 44.61 354 eP P 16 01 36.8 -2.1
CN2 SS SS 16 11 24.3 -10
CN2 pmax pmax
comp=Z,15μm,14.0s
CN2 LR LR
comp=Z,11μm,16.0s
CN2 LR LR
comp=Z,10μm,16.0s
CN2 LR LR
comp=Z,11μm,16.0s
USA0B Ussuriysk Arra 44.71 1c iP P 16 01 39.6 -0.1
USA0B Ussuriysk Arra 44.71 1 P P 16 01 39.1 -0.5
USA0B IAmb IAmb 16 01 54.6
comp=Z,576nm,1.2s
USRK Ussuriysk Ar. 44.71 1 P P 16 01 39.5 -0.1
comp=Z,119nm,0.9s,baz=182,slow=6.4,SNR=174
USRK LR LR 16 19 16.2
comp=Z,25μm,20.1s,baz=151,slow=35
USRK PKP2bc 16 33 37.0
comp=Z,1.2nm,0.7s,baz=29,slow=2.7,SNR=4.1
USRK Ussuriysk Ar. 44.71 1 P P 16 01 38.9 -0.8
HHC Hu-ho-hao-te 45.06 339 i P P 16 01 42.6 -0.1
HHC S S 16 08 23.0 +2.9
HHC SS ScS 16 11 35.9 -2.3
HHC LR LR
comp=Z,14μm,13.8s
HHC LR LR
comp=Z,17μm,17.4s
HHC LR LR
comp=Z,19μm,15.7s
MDJ Mudanjiang 45.14 358 P P 16 01 42.9 -0.2
MDJ pP pP 16 01 50.0 -1.2
MDJ sP sP 16 01 53.0 -1.4
MDJ S S 16 08 26.8 +5.9
MDJ sS sS 16 08 41.1 +7.0
MDJ pmax pmax
comp=Z,150nm,1.1s
MDJ pmax pmax
comp=Z,23μm,11.8s
MDJ LR LR
comp=Z,25μm,17.7s
MDJ LR LR
comp=Z,12μm,16.7s
MDJ LR LR
comp=Z,30μm,18.2s
MDJ Mudanjiang 45.14 358 P P 16 01 42.0 -1.1
MDJ IAmb IAmb 16 01 54.1
comp=Z,430nm,1.2s
BTO Baotou 45.42 337 eP P 16 01 45.4 -0.2
BTO S S 16 08 30.3 +5.0
BTO LR LR
comp=Z,52μm,16.3s
BTO LR LR
comp=Z,71μm,16.1s
ASAJ Asahikawa 45.76 11 P P 16 01 48.1 +0.1
comp=Z,133nm,1.1s,baz=237,slow=16,SNR=37
ASAJ LR LR 16 21 21.5
comp=Z,23μm,19.0s,baz=202,slow=37
JKA Kamikawa-asahi 45.76 11 P P 16 01 47.8 -0.2
JKA IAmb IAmb 16 01 59.1
comp=Z,718nm,1.2s
TEY Ternei 45.79 5⇑eP P 16 01 47.9 -0.3
TEY pmax pmax
comp=N,30nm,1.1s
TEY pmax pmax
comp=Z,50nm,1.1s
TEY pmax pmax
comp=N,500nm,11.7s
TEY pmax pmax
comp=Z,900nm,11.7s
AGT Agartala 45.85 305 ⇑iP P 16 01 50.1 +1.0
SHL Shillong 46.12 307 P P 16 01 50.2 -1.2
SHL pmax pmax
comp=Z,387nm,0.8s
SHL Shillong 46.12 307 P P 16 01 50.2 -1.2
SHL IAmb IAmb 16 02 03.5
comp=Z,387nm,0.8s
SHL Shillong 46.12 307 eP P 16 01 50.0 -1.4
YUK Yuzh-Kuril'sk 46.42 15d iP P 16 01 52.0 -1.2
YUK i 16 03 39.6
YUK i S S 16 08 38.1 -1.1
YUK i SS SS 16 12 01.6 -3.8
YUK i SSS SSS 16 12 58.9
YUK pmax pmax
comp=Z,1μm,1.2s
YUK pmax pmax
comp=N,346nm,0.9s
YUK pmax pmax
comp=E,285nm,0.9s
YUK pmax pmax
comp=Z,3μm,5.4s
KUR Kuril'sk 48.06 16 eP P 16 02 06.4 +0.5
KUR eS S 16 09 07.9 +5.3
KUR pmax pmax
comp=Z,1μm,1.2s
KUR pmax pmax
comp=Z,19μm,11.4s
KUR pmax pmax
comp=N,10μm,11.7s
KUR pmax pmax
comp=E,8μm,11.0s
KUR MLR MLR
comp=Z,12μm,15.0s
KUR MLR MLR
comp=E,3μm,12.0s
YSS Yuzh-Sakhalins 48.52 11c iP P 16 02 09.3 -0.2
YSS e*SP sP 16 02 20.6 -0.3
YSS e 16 04 02.3
YSS eS S 16 09 07.8 -1.3
YSS e 16 09 24.2
YSS pmax pmax
comp=Z,4μm,5.4s
YSS pmax pmax
comp=Z,410nm,1.3s
YSS MLR MLR
comp=Z,16μm,17.0s
YSS Yuzh-Sakhalins 48.52 11 P P 16 02 08.6 -0.9
LSA Lhasa 48.72 312 P P 16 02 12.5 +0.5
LSA pP pP 16 02 18.5 -1.7
LSA S S 16 09 15.3 +1.8
LSA LR LR
comp=Z,33μm,21.4s
LSA LR LR
comp=Z,16μm,19.9s
LSA LR LR
comp=Z,40μm,25.6s
LSA Lhasa 48.72 312 i P P 16 02 12.6 +0.6
SNR=28
LSA Lhasa 48.72 312 P P 16 02 11.8 -0.2
LSA pmax pmax
comp=Z,1μm,1.8s
LSA Lhasa 48.72 312 P P 16 02 11.8 -0.2
LSA IAmb IAmb 16 02 28.5
comp=Z,1μm,1.8s
MSVF Nonsavu 49.02 113 P P 16 02 18.9 +5.0
GTA Gaotai 49.20 328 ⇑P P 16 02 14.8 -0.3
GTA pP pP 16 02 21.3 -1.8
GTA sP sP 16 02 24.8 -1.5
GTA PcP PcP 16 03 40.5 +2.5
GTA PP PP 16 04 09.8 +0.7
GTA PcS PcS 16 07 38.1 +3.5
GTA S S 16 09 16.8 -2.4
GTA sS sS 16 09 32.1 -0.7
GTA pmax pmax
comp=Z,52nm,1.3s
GTA pmax pmax
comp=Z,6μm,8.0s
GTA LR LR
comp=Z,14μm,18.2s
GTA LR LR
comp=Z,16μm,19.3s
GTA LR LR
comp=Z,27μm,20.7s
GTK Tadong 49.53 308 eP P 16 02 17.4 -0.4
KLR Kul'dur 49.74 0 P P 16 02 18.5 -0.4
comp=Z,29nm,0.8s,baz=204,slow=4.3,SNR=65
KLR Kul'dur 49.74 0c iP P 16 02 18.4 -0.4
KLR pmax pmax
comp=Z,626nm,1.6s
KLR MLR MLR
comp=Z,26μm,16.0s
TAPN Taplejung 50.25 307 eP P 16 02 23.3 -0.2
comp=Z,1μm,1.2s
BOK Bokaro 50.29 302 i P P 16 02 23.6 +0.1
BOK IAmb IAmb 16 02 38.6
comp=Z,156nm,0.8s
ODAN Odare 50.30 306 eP P 16 02 23.5 -0.2
comp=Z,732nm,0.9s
UGL Uglegorsk 50.46 9 eP P 16 02 24.1 -0.1
UGL eS S 16 09 35.9 -0.3
UGL pmax pmax
comp=Z,800nm,1.3s
UGL pmax pmax
comp=N,9μm,8.0s
UGL pmax pmax
comp=E,7μm,8.0s
UGL pmax pmax
comp=Z,20μm,8.0s
HIA Hailar 50.75 350 P P 16 02 26.1 -0.4
HIA pmax pmax
comp=Z,433nm,1.8s
HIA MLR MLR
comp=Z,32μm,20.0s
HIA Hailar 50.75 350 P P 16 02 26.1 -0.4
RAMN Ramite 50.97 306 eP P 16 02 28.9 +0.1
comp=Z,267nm,0.5s
PALK Pallekele 51.02 280c iP P 16 02 28.5 -0.7
PALK pmax pmax
comp=Z,349nm,1.3s
PALK MLR MLR
comp=Z,31μm,20.0s
PALK Pallekele 51.02 280 P P 16 02 27.1 -2.0
PALK Pallekele 51.02 280 P P 16 02 28.9 -0.2
PALK P P 16 02 28.9 -0.2
PALK Pallekele 51.02 280 P P 16 02 32.8 +3.6
comp=Z,28μmcomp=Z,8μmcomp=Z,220nm,2.1s
GRNR Gornyy 51.47 4⇑iP P 16 02 32.5 +0.7
GRNR eS S 16 09 53.2 +3.1
GRNR pmax pmax
comp=Z,60nm,1.2s
GRNR smax smax
comp=N,8.0nm,1.1s
JIRN Jiri 51.60 307 eP P 16 02 33.4 -0.3
comp=N,2μm,1.3s
PKI Pulchoki 52.19 306 eP P 16 02 37.4 -0.7
PKIN Phulchoki 52.20 306 eP P 16 02 37.2 -0.9
TYV Tymovskoe 52.29 9 eP P 16 02 40.3 +2.4
TYV eS S 16 10 06.6 +5.3
TYV pmax pmax
comp=Z,262nm,1.6s
TYV pmax pmax
comp=Z,14μm,7.9s
TYV smax smax
comp=N,14μm,9.5s
TYV smax smax
comp=E,26μm,9.5s
MDRS Chennai 52.36 287⇑iP P 16 02 38.6 -0.5
MDRS IAmb IAmb 16 02 45.0
comp=Z,125nm,0.8s
KKN Kakani 52.39 307 eP P 16 02 38.9 -0.5
comp=Z,750nm,1.1s
DMN Daman 52.45 306 eP P 16 02 39.6 -0.3
comp=Z,650nm,1.0s
ULN Ulaanbaatar 52.75 340c iP P 16 02 41.9 +0.2
ULN pmax pmax
comp=Z,634nm,1.4s
ULN Ulaanbaatar 52.75 340 P P 16 02 41.1 -0.6
ULN IAmb IAmb 16 02 52.8
comp=Z,712nm,1.4s
ULN Ulaanbaatar 52.75 340 P P 16 02 41.6 -0.1
ULN Ulaanbaatar 52.75 340 P P 16 02 41.6 -0.1
comp=Z,232μmcomp=Z,51μmcomp=Z,2μm,1.7s
SONM Songino Array 52.96 339 P P 16 02 43.1 0.0
comp=Z,53nm,1.1s,baz=150,slow=7.9,SNR=116
SONM PcP PcP 16 03 53.1 +1.4
comp=Z,35nm,0.9s,baz=159,slow=4.8,SNR=1.2
SONM LR LR 16 25 22.6
comp=Z,15μm,21.6s,baz=156,slow=36
SONM P4KPbc 16 40 11.7
comp=Z,1.4nm,0.9s,baz=172,slow=3.0,SNR=4.3
SONM Songino Array 52.96 339 P P 16 02 42.6 -0.5
SONM IAmb IAmb 16 02 54.2
comp=Z,515nm,1.4s
GKN Gorkha 52.99 306 eP P 16 02 43.3 -0.5
comp=Z,645nm,1.0s
KOLN Koldanda 53.74 306 eP P 16 02 49.4 +0.1
comp=Z,2μm,1.0s
DANN Dangsing 53.84 306 eP P 16 02 49.9 -0.3
comp=Z,2μm,1.0s
NKL Nikolayevsk 54.24 7 eP P 16 02 52.1 -0.1
NKL eS S 16 10 16.6 -11
NKL pmax pmax
comp=N,564nm,0.8s
NKL pmax pmax
comp=E,8.0nm,1.0s
NKL pmax pmax
comp=Z,590nm,1.0s
NKL smax smax
comp=E,5.0nm,3.5s
NKL smax smax
comp=N,1μm,4.1s
NKL MLR MLR
comp=N,9μm,19.0s
NKL MLR MLR
comp=Z,11μm,16.0s
ZEA Zeya 54.35 357ceP P 16 02 53.2 +0.1
ZEA e 16 05 01.9
ZEA eS S 16 10 37.5 +8.2
ZEA pmax pmax
comp=N,70nm,1.5s
ZEA pmax pmax
comp=Z,160nm,1.1s
ZEA pmax pmax
comp=E,900nm,9.0s
ZEA pmax pmax
comp=N,3μm,11.2s
ZEA pmax pmax
comp=Z,8μm,11.0s
ZEA pmax pmax
comp=E,800nm,10.0s
ZEA pmax pmax
comp=N,3μm,7.8s
ZEA pmax pmax
comp=Z,4μm,8.2s
ZEA MLR MLR
comp=E,4μm,15.0s
PYUN Piuthan 54.36 306 eP P 16 02 53.9 0.0
comp=E,3μm,1.1s
CIT Chita 54.61 347 eP P 16 02 55.8 +0.8
CIT pmax pmax
comp=Z,2μm,2.2s
QRZ Quartz Range 54.69 142 P P 16 02 55.3 -0.5
QRZ IAmb IAmb 16 03 12.0
comp=Z,450nm,1.2s
TRD Trivandrum 54.84 281 eP P 16 02 53.2 -4.2
HYB Hyderabad 54.89 292 eP P 16 02 56.4 -1.3
HYB IAmb IAmb 16 03 11.3
comp=Z,393nm,0.8s
HYB Hyderabad 54.89 292 i P P 16 02 56.0 -1.6
comp=Z,640nm,1.0s
HYB ePP PP 16 05 12.0 +11
HYB ePPP PPP 16 06 28.0
HYB eS S 16 10 40.0 +2.2
WHZ Wether Hill Ro 55.35 149 P P 16 02 59.9 -0.6
WHZ IAmb IAmb 16 03 09.0
comp=Z,497nm,1.7s
SKR Severo-Kuril's 55.41 19 eP P 16 03 00.4 -0.4

SKR				*e*			16 05 06.2	
SKR				*e*	PPP	PPP	16 06 17.1	
SKR				*e*	S	**S**	**16 10 43.7**	**+0.1**
SKR					pmax	pmax		
	comp=Z,6μm,5.1s							
SKR					pmax	pmax		
	comp=Z,272nm,1.3s							
SKR					MLR	MLR		
	comp=Z,6μm,17.0s							
THZ	**Tophouse**	**55.47**	**143**	P		**P**	**16 03 01.8**	**+0.3**
THZ					IAmb	IAmb	16 03 16.0	
	comp=Z,886nm,1.9s							
LBZ	**Lake Benmore**	**55.53**	**147**	P		**P**	**16 03 01.6**	**-0.2**
LBZ					IAmb	IAmb	16 03 13.7	
	comp=Z,533nm,1.1s							
RPZ	**Rata Peaks**	**55.58**	**146**	P		**P**	**16 03 02.0**	**-0.2**
LTZ	**Lake Taylor**	**55.70**	**144**	P		**P**	**16 03 02.4**	**-0.8**
OXZ	**Oxford**	**55.90**	**145**	P		**P**	**16 03 04.3**	**-0.2**
TUWZ	**Tuamarina**	**55.91**	**142**	P		**P**	**16 03 03.8**	**-0.7**
BSWZ	**Blackbirch Sta**	**56.03**	**142**	P		**P**	**16 03 04.7**	**-0.8**
ODZ	**Otahua Downs**	**56.20**	**147**	P		**P**	**16 03 05.9**	**-0.7**
ZAK	**Zakamensk**	**56.21**	**339**	*e*P		**P**	**16 03 06.6**	**-0.1**
ZAK					pmax	pmax		
	comp=Z,263nm,1.9s							
KHZ	**Kahutara**	**56.24**	**143**	P		**P**	**16 03 06.7**	**-0.2**
KHZ					IAmb	IAmb	16 03 18.6	
	comp=Z,729nm,1.7s							
URZ	**Urewera**	**56.26**	**137**	P		**P**	**16 03 06.3**	**-0.8**
URZ					IAmb	IAmb	16 03 18.5	
	comp=Z,391nm,1.1s							
SNZO	**South Karori**	**56.31**	**141**	P		**P**	**16 03 06.7**	**-0.7**
SNZO					IAmb	IAmb	16 03 19.3	
	comp=Z,466nm,1.2s							
BHW	**Baring Head**	**56.47**	**141**	P		**P**	**16 03 08.1**	**-0.5**
MQZ	**McQueen's Vall**	**56.49**	**145**	P		**P**	**16 03 08.1**	**-0.5**
MQZ					IAmb	IAmb	16 04 16.4	
	comp=Z,604nm,1.7s							
PLWZ	**Palliser**	**56.80**	**141**	P		**P**	**16 03 11.1**	**+0.1**
BHPL	**Bhopal**	**57.43**	**298**⇑	*i*P		**P**	**16 03 14.6**	**-1.1**
BHPL					IAmb	IAmb	16 03 17.4	
	comp=Z,210nm,1.0s							
BHPL					IAmb	IAmb	16 03 21.5	
	comp=Z,864nm,1.5s							
AFI	**Afiamalu**	**57.87**	**106**	P		**P**	**16 03 21.0**	**+2.0**
	comp=Z,186nm,1.1s,baz=175,slow=11,SNR=7.1							
AFI					LR	LR	16 28 23.8	
	comp=Z,13μm,18.6s,baz=274,slow=36							
AFI	**Afiamalu**	**57.87**	**106**	P		**P**	**16 03 18.0**	**-1.0**
AFI	**Afiamalu**	**57.87**	**106**	P		**P**	**16 03 22.1**	**+3.1**
PEA0B	**Petropavlovsk-**	**58.00**	**18***c*	*i*P		**P**	**16 03 19.5**	**+0.4**
PETK	**Petropavlovsk-**	**58.00**	**18**	P		**P**	**16 03 19.9**	**+0.8**
	comp=Z,81nm,0.8s,baz=190,slow=4.4,SNR=77							
PETK					PcP	**PcP**	**16 04 11.8**	**+0.9**
	comp=Z,66nm,0.8s,baz=228,slow=3.8,SNR=4.2							
PETK					LR	LR	16 24 27.9	
	comp=Z,11μm,21.9s,baz=213,slow=32							
PETK	**Petropavlovsk-**	**58.00**	**18**	P		**P**	**16 03 18.8**	**-0.4**
MOY	**Mondy**	**58.09**	**338**	*e*P		**P**	**16 03 20.2**	**+0.2**
MOY					pmax	pmax		
	comp=Z,1μm,2.8s							
PET	**Petropavlovsk**	**58.23**	**19**	*e*P		**P**	**16 03 20.8**	**+0.1**
PET				*e*S		**S**	**16 11 19.3**	**-1.5**
PET				*e*			16 13 01.1	
PET				*e*SS		**SS**	**16 15 10.2**	**-2.8**
PET					pmax	pmax		
	comp=Z,1μm,1.3s							
PET					pmax	pmax		
	comp=Z,19μm,11.3s							
PET					pmax	pmax		
	comp=Z,18μm,8.7s							
PET					smax	smax		
	comp=N,39μm,24.5s							
PET	**Petropavlovsk**	**58.23**	**19**	P		**P**	**16 03 20.4**	**-0.3**
WMQ	**Urumqi**	**58.91**	**324**	P		**P**	**16 03 26.0**	**+0.2**
WMQ				pP		pP	16 03 34.4	+0.4
WMQ				sP		sP	16 03 40.9	+3.8
WMQ				PcS		**PcS**	**16 08 12.4**	**-4.3**
WMQ				S		**S**	**16 11 31.3**	**+1.1**
WMQ				ScS		**ScS**	**16 13 13.3**	**-0.8**
WMQ					pmax	pmax		
	comp=N,320nm,1.3s							
WMQ					pmax	pmax		
	comp=N,20μm,8.5s							
WMQ					LR	LR		
	comp=N,32μm,15.1s							
WMQ					LR	LR		
	comp=N,15μm,15.1s							
WMQ					LR	LR		
	comp=N,13μm,18.7s							
GOA	**Goa**	**58.93**	**288**⇑	*i*P		**P**	**16 03 24.8**	**-1.5**
GOA					IAmb	IAmb	16 03 32.1	
	comp=Z,752nm,1.9s							
KAD	**Karad**	**58.94**	**291**⇑	*i*P		**P**	**16 03 24.4**	**-2.0**
POO	**Poona**	**59.50**	**292**⇑	*i*P		**P**	**16 03 26.0**	**-4.3**
	comp=Z,380nm,0.4s							
POO				*e*P		pP	16 03 28.6	-10
POO					IAmb	IAmb	16 03 35.1	
	comp=Z,398nm,1.5s							
POO				*e*S		**S**	**16 11 32.0**	**-6.5**
BOD	**Bodaibo**	**59.94**	**349**	*e*P		**P**	**16 03 32.1**	**-0.4**
BOD					pmax	pmax		
	comp=Z,616nm,1.6s							
SMLA	**Simla**	**60.20**	**307**⇑	*i*P		**P**	**16 03 34.6**	**-0.2**
SMLA					IAmb	IAmb	16 03 41.4	
	comp=Z,3μm,1.5s							
NIUE	**Niue**	**60.45**	**112**	P		**P**	**16 03 38.4**	**+1.7**
	baz=61,SNR=5.3							
NIUE	**Niue**	**60.45**	**112**	P		**P**	**16 03 35.6**	**-1.1**
NIUE	**Niue**	**60.45**	**112**	P		**P**	**16 03 40.1**	**+3.4**
BHK	**Bhakra**	**60.90**	**307**	*e*P		**P**	**16 03 42.6**	**+3.0**
DHRM	**DHARAMSHALA**	**61.29**	**308**⇑	*i*P		**P**	**16 03 41.8**	**-0.7**
MA2	**Magadan**	**62.02**	**11**	P		**P**	**16 03 47.6**	**+1.0**
	comp=Z,261nm,1.0s,baz=188,slow=5.5,SNR=26							
MA2					LR	LR	16 28 37.8	
	comp=Z,18μm,21.4s,baz=188,slow=34							
MA2	**Magadan**	**62.02**	**11**	P		**P**	**16 03 44.4**	**-2.2**
MA2					IAmb	IAmb	16 03 53.7	
	comp=Z,530nm,1.1s							
YAK	**Yakutsk**	**62.58**	**359**	P		**P**	**16 03 50.0**	**-0.3**
	comp=Z,131nm,0.8s,baz=166,slow=1.7,SNR=114							
YAK					LR	LR	16 31 00.2	
	comp=Z,13μm,19.2s,baz=169,slow=36							
YAK	**Yakutsk**	**62.58**	**359***c*	*i*P		**P**	**16 03 49.8**	**-0.5**
YAK				*e**PP		**pP**	**16 03 59.5**	**+0.9**
YAK				*e*			16 04 28.9	
YAK				*e*S		**S**	**16 12 13.0**	**-3.2**
YAK				*e**SS		**sS**	**16 12 33.5**	**+3.7**
YAK					pmax	pmax		
	comp=Z,748nm,1.1s							
YAK					pmax	pmax		
	comp=E,64nm,1.0s							
YAK					pmax	pmax		
	comp=N,357nm,1.2s							
YAK					smax	smax		
	comp=E,3μm,6.8s							
YAK					smax	smax		
	comp=N,2μm,5.3s							
YAK					MLR	MLR		
	comp=Z,20μm,18.0s							
YAK					MLR	MLR		
	comp=N,15μm,19.0s							
YAK					MLR	MLR		
	comp=E,6μm,15.0s							
YAK	**Yakutsk**	**62.58**	**359**	P		**P**	**16 03 48.8**	**-1.5**
ZSN	**Zaisan**	**62.65**	**326**⇑	*i*P		**P**	**16 03 50.1**	**-1.0**
	comp=E,577nm,3.6s,baz=326							
ZSN				*e*PP		**PP**	**16 06 09.2**	**-0.1**
	baz=326							
ZSN				*e*S		**S**	**16 12 19.1**	**+1.4**
	comp=E,2μm,10.5s,baz=326							
ZSN	**Zaisan**	**62.65**	**326***c*	*i*P		**P**	**16 03 50.1**	**-1.0**
ZSN				*e*			16 06 09.1	
ZSN				*e*S		**S**	**16 12 19.1**	**+1.4**
ZSN					pmax	pmax		
	comp=Z,577nm,3.6s							
ZSN					smax	smax		
	comp=N,2μm,10.5s							
DGZ	**Jazzator, Alta**	**62.65**	**330***c*	*i*P		**P**	**16 03 51.3**	**0.0**
DGZ					pmax	pmax		
	comp=Z,425nm,1.3s							
DGZ					MLR	MLR		
	comp=Z,16μm,16.0s							
SHLS	**Shalkode**	**63.61**	**320**⇑	*i*P		**P**	**16 03 55.5**	**-2.3**
	comp=Z,440nm,1.7s,baz=320							
SHLS				*e*S		**S**	**16 12 25.8**	**-4.3**
	baz=320							
SHLS	**Shalkode**	**63.61**	**320***c*	*i*P		**P**	**16 03 55.4**	**-2.3**
SHLS				*e*S		**S**	**16 12 25.8**	**-4.3**
SHLS					pmax	pmax		
	comp=Z,440nm,1.7s							
PDGK	**Podgornoye**	**63.67**	**320**	P		**P**	**16 03 57.7**	**-0.4**
MK31	**Makanchi Array**	**63.74**	**325**	P		**P**	**16 03 58.1**	**-0.3**
MK31					pmax	pmax		
	comp=Z,369nm,1.0s							
MK31	**Makanchi Array**	**63.74**	**325**	P		**P**	**16 03 58.1**	**-0.3**
MK31					IAmb	IAmb	16 04 13.5	
	comp=Z,369nm,0.9s							
MKAR	**Makanchi Array**	**63.74**	**325**	P		**P**	**16 03 58.3**	**0.0**
	comp=Z,216nm,0.9s,baz=110,slow=7.1,SNR=19							
MKAR					PKPPKP		16 32 46.5	
	comp=Z,3.2nm,0.9s,baz=264,slow=4.9,SNR=5.5							
MKAR					LR	LR	16 32 59.8	
	comp=Z,9μm,20.9s,baz=107,slow=37							
MKAR					P4KPbc		16 40 53.5	
	comp=Z,2.6nm,0.9s,baz=111,slow=6.6,SNR=7.4							
MAKZ	**Makanchi**	**63.93**	**325**	P		**P**	**16 03 59.4**	**-0.2**
MAKZ	**Makanchi**	**63.93**	**325**	P		**P**	**16 03 59.1**	**-0.5**
MAKZ					IAmb	IAmb	16 04 14.6	
	comp=Z,554nm,0.9s							
PRZ	**Przheval'sk**	**63.98**	**319**	P		**P**	**16 03 59.7**	**-0.5**
PRZ					pmax	pmax		
	comp=Z,2μm,1.5s							
PRZ	**Przheval'sk**	**63.98**	**319**	P		**P**	**16 03 59.7**	**-0.5**
TARG	**Taragay, Kyrgy**	**64.03**	**318**	P		**P**	**16 04 00.6**	**-0.3**
TARG					IAmb	IAmb	16 04 25.8	
	comp=Z,380nm,1.1s							
NIL	**Nilore**	**64.18**	**308**	P		**P**	**16 04 00.6**	**-0.9**
NIL					pmax	pmax		
	comp=Z,858nm,1.6s							
NIL	**Nilore**	**64.18**	**308**	P		**P**	**16 04 00.6**	**-0.9**
NIL					IAmb	IAmb	16 04 07.5	
	comp=Z,858nm,1.6s							
NIL	**Nilore**	**64.18**	**308**	P		**P**	**16 04 01.2**	**-0.3**
SATY	**Saty**	**64.24**	**320**⇑	*i*P		**P**	**16 04 01.4**	**-0.5**
	comp=Z,361nm,1.3s,baz=320							
SATY				*e*PP		**PP**	**16 06 25.1**	**+1.7**
	baz=320							
SATY				*e*S		**S**	**16 12 37.8**	**-0.2**
	baz=320							
SATY	**Saty**	**64.24**	**320***c*	*i*P		**P**	**16 04 01.3**	**-0.5**
SATY				*e*			16 06 25.1	
SATY				*e*S		**S**	**16 12 37.7**	**-0.2**
SATY					pmax	pmax		
	comp=Z,361nm,1.3s							
KPKS	**Kokpek**	**64.25**	**320**⇑	*i*P		**P**	**16 04 01.3**	**-0.7**
	comp=Z,1μm,2.4s,baz=320							
KPKS	**Kokpek**	**64.25**	**320***c*	*i*P		**P**	**16 04 01.2**	**-0.7**
KPKS					pmax	pmax		
	comp=Z,1μm,2.4s							
KSH	**Kashi**	**64.33**	**315**	P		**P**	**16 04 03.8**	**+1.2**
KSH				pP		pP	16 04 11.8	+0.7
KSH				sP		sP	16 04 15.5	+1.6
KSH				PcP		**PcP**	**16 04 38.8**	**+1.8**
KSH				PP		**PP**	**16 06 24.4**	**+0.1**
KSH				S		**S**	**16 12 41.0**	**+1.8**
KSH				SS		**SS**	**16 16 50.3**	**+0.8**
KSH					pmax	pmax		
	comp=Z,320nm,2.0s							
KSH					pmax	pmax		
	comp=Z,12μm,7.8s							
KSH					LR	LR		
	comp=Z,13μm,17.5s							
KSH					LR	LR		
	comp=Z,15μm,15.9s							
KSH					LR	LR		
	comp=Z,10μm,18.0s							
BHUJ	**Bhuj**	**64.34**	**296**	*e*P		**P**	**16 04 01.9**	**-0.8**
BHUJ					IAmb	IAmb	16 04 09.0	
	comp=Z,1μm,1.9s							
TDK	**Taldyqorghan**	**65.16**	**321**	*i*P		**P**	**16 04 07.0**	**-0.7**
	baz=322							
TDK				*e*PP		**PP**	**16 06 29.8**	**-1.5**
	baz=322							
TDK				*e*S		**S**	**16 12 48.2**	**-0.8**
	comp=Z,4μm,10.7s,baz=322							
TDK	**Taldyqorghan**	**65.16**	**321**	*i*P		**P**	**16 04 07.0**	**-0.7**
TDK				*e*			16 06 29.8	
TDK				*e*S		**S**	**16 12 48.2**	**-0.8**
TDK					smax	smax		
	comp=N,4μm,10.7s							
MDOK	**Medeo**	**65.17**	**319**	*e*P		**P**	**16 04 07.6**	**-0.4**
	baz=319							
MDOK				*e*S		**S**	**16 12 50.2**	**+0.6**
	baz=319							
MDOK	**Medeo**	**65.17**	**319**	*e*P		**P**	**16 04 07.6**	**-0.4**
MDOK				*e*S		**S**	**16 12 50.1**	**+0.6**
TNSS	**Tian-Shan**	**65.18**	**319**	*i*P		**P**	**16 04 08.3**	**-0.1**
	baz=319							
AAA	**Alma-Ata**	**65.28**	**319**⇑	*i*P		**P**	**16 04 07.8**	**-0.8**
	comp=N,662nm,1.2s,baz=319							
AAA				*e*PP		**PP**	**16 06 32.5**	**0.0**
	baz=319							
AAA				*e*S		**S**	**16 12 53.2**	**+2.6**
	baz=319							
AAA	**Alma-Ata**	**65.28**	**319***c*	*i*P		**P**	**16 04 07.7**	**-0.8**
AAA				*e*			16 06 32.4	
AAA				*e*S		**S**	**16 12 53.2**	**+2.6**
AAA					pmax	pmax		
	comp=Z,662nm,1.2s							
ULHL	**Ulahol**	**65.30**	**318**	P		**P**	**16 04 10.9**	**+2.0**
	SNR=9.8							
SEY	**Seymchan**	**65.43**	**10**	P		**P**	**16 04 10.0**	**+1.0**
	comp=Z,311nm,0.9s,baz=207,slow=5.1,SNR=195							
SEY					LR	LR	16 30 35.7	
	comp=Z,16μm,21.7s,baz=176,slow=34							
CHKK	**Chushkaly**	**65.52**	**320**⇑	*i*P		**P**	**16 04 09.4**	**-0.6**
	baz=320							
MTBS	**Maitube**	**65.56**	**319**⇑	*i*P		**P**	**16 04 09.9**	**-0.5**
	baz=319							
MTBS				*e*S		**S**	**16 12 56.5**	**+2.3**
	baz=319							
BOOM	**Boomskoye usch**	**65.61**	**318**	P		**P**	**16 04 10.5**	**-0.4**
BOOM					pmax	pmax		
	comp=Z,527nm,1.2s							
BOOM	**Boomskoye usch**	**65.61**	**318**	P		**P**	**16 04 10.4**	**-0.4**
BOOM					IAmb	IAmb	16 04 26.1	
	comp=Z,527nm,1.2s							
KZA	**Kyzart**	**65.90**	**317**	P		**P**	**16 04 14.2**	**+1.2**
	SNR=20							
KUU	**Kurty**	**65.96**	**320**⇑	*i*P		**P**	**16 04 12.2**	**-0.8**
	comp=Z,2μm,2.1s,baz=320							
KUU				*i* S		**S**	**16 12 57.7**	**-1.1**
	baz=320							
KUU	**Kurty**	**65.96**	**320***c*	*i*P		**P**	**16 04 12.1**	**-0.8**
KUU				*i* S		**S**	**16 12 57.7**	**-1.1**
KUU					pmax	pmax		
	comp=Z,2μm,2.1s							
TKM2	**Tokmak 2**	**66.02**	**318**	P		**P**	**16 04 14.1**	**+0.6**
	SNR=10							
KBK	**Karagaybulak**	**66.34**	**318**	P		**P**	**16 04 15.9**	**+0.3**
	SNR=53							
UCH	**Uchtor**	**66.46**	**317**	P		**P**	**16 04 17.2**	**+0.6**
	SNR=192							
ZAA0	**Zalesovo Array**	**66.56**	**332**	P		**P**	**16 04 15.4**	**-1.1**
ZAA0					IAmb	IAmb	16 04 26.3	
	comp=Z,544nm,1.1s							
ZALV	**Zalesovo Beam**	**66.56**	**332**	P		**P**	**16 04 15.6**	**-0.9**
	comp=Z,117nm,0.9s,baz=107,slow=5.2,SNR=140							
ZALV					PKPPKP		16 32 44.9	
	comp=Z,5.2nm,1.0s,baz=300,slow=3.3,SNR=6.3							
ZALV					LR	LR	16 36 02.8	
	comp=Z,6μm,19.8s,baz=133,slow=38							
ZALV					P4KPbc		16 41 02.2	
	comp=Z,0.6nm,0.4s,baz=114,slow=3.5,SNR=2.5							
CHMS	**Chumysh**	**66.62**	**318**	P		**P**	**16 04 17.0**	**-0.2**
	SNR=68							
AAK	**Ala-Archa**	**66.64**	**318**	P		**P**	**16 04 17.4**	**-0.1**
	SNR=60							
AAK	**Ala-Archa**	**66.64**	**318**	*i*P		**P**	**16 04 17.5**	**0.0**
	SNR=66							
AAK	**Ala-Archa**	**66.64**	**318***c*	*i*P		**P**	**16 04 17.8**	**+0.4**
AAK					pmax	pmax		
	comp=Z,468nm,1.7s							
AAK					MLR	MLR		
	comp=Z,29μm,15.0s							
AAK	**Ala-Archa**	**66.64**	**318**	P		**P**	**16 04 17.2**	**-0.2**
AAK					IAmb	IAmb	16 04 33.1	
	comp=Z,748nm,1.3s							
AAK	**Ala-Archa**	**66.64**	**318**	P		**P**	**16 04 17.9**	**+0.5**
AAK				P		**P**	**16 04 17.9**	**+0.5**
SEM	**Semipalatinsk**	**66.83**	**327**⇑	*i*P		**P**	**16 04 16.9**	**-1.7**
	comp=Z,460nm,2.3s,baz=327							
SEM				*e*PP		**PP**	**16 06 52.4**	**+6.4**
	baz=327							
SEM				*e*S		**S**	**16 13 11.4**	**+1.9**
	baz=327							
SEM	**Semipalatinsk**	**66.83**	**327***c*	*i*P		**P**	**16 04 16.9**	**-1.7**
SEM				*e*			16 06 52.3	
SEM				*e*S		**S**	**16 13 11.4**	**+1.9**
SEM					pmax	pmax		
	comp=Z,460nm,2.3s							
SGDS	**Sogindy**	**66.89**	**319**⇑	*i*P		**P**	**16 04 17.8**	**-1.2**
	baz=319							
SGDS				*e*PP		**PP**	**16 06 42.3**	**-4.2**
	baz=319							
SGDS				*e*S		**S**	**16 13 09.9**	**-0.3**
	baz=319							
USP	**Ospenovka**	**66.90**	**318**	P		**P**	**16 04 19.1**	**+0.1**
	SNR=229							
AML	**Almayashu**	**66.97**	**317**	P		**P**	**16 04 20.4**	**+0.6**
	SNR=410							
AML	**Almayashu**	**66.97**	**317**	*i*P		**P**	**16 04 20.2**	**+0.3**
	SNR=413							
AML	**Almayashu**	**66.97**	**317**	P		**P**	**16 04 20.1**	**+0.3**
CASY	**Casey**	**67.07**	**189**	P		**P**	**16 04 19.7**	**+0.2**
CASY					IAmb	IAmb	16 04 28.9	
	comp=Z,450nm,1.2s							
EKS2	**Erkin-Say**	**67.13**	**318**	P		**P**	**16 04 21.1**	**+0.5**
	SNR=138							
KBL	**Kabul**	**67.77**	**308**	P		**P**	**16 04 23.6**	**-1.3**
KBL					pmax	pmax		
	comp=Z,248nm,1.0s							
KBL	**Kabul**	**67.77**	**308**	P		**P**	**16 04 23.6**	**-1.3**
KBL					IAmb	IAmb	16 04 39.2	
	comp=Z,248nm,0.9s							
KBL	**Kabul**	**67.77**	**308**	P		**P**	**16 04 24.2**	**-0.7**
	SNR=160							
KBL				P		**P**	**16 04 24.2**	**-0.7**
	SNR=160							
KURK	**Kurchatov**	**67.88**	**327**	P		**P**	**16 04 24.7**	**-0.2**
KURBB	**Kurchatov Arra**	**67.88**	**327**	P		**P**	**16 04 24.6**	**-0.2**
	comp=Z,308nm,0.8s,baz=123,slow=5.9,SNR=621							
BTLS	**Baital**	**67.94**	**320**⇑	*i*P		**P**	**16 04 24.5**	**-1.0**
	comp=Z,436nm,2.2s,baz=320							
BTLS				*e*PP		**PP**	**16 06 53.4**	**-2.1**
	baz=320							
BTLS				*e*S		**S**	**16 13 22.0**	**-0.6**
	baz=320							
BTLS	**Baital**	**67.94**	**320***c*	*i*P		**P**	**16 04 24.4**	**-1.0**
BTLS				*e*			16 06 53.4	
BTLS				*e*S		**S**	**16 13 22.0**	**-0.6**
BTLS					pmax	pmax		
	comp=Z,436nm,2.2s							
ADK	**Adak**	**68.20**	**32**	P		**P**	**16 04 26.9**	**0.0**
ADK					pmax	pmax		
	comp=Z,1μm,1.2s							
ADK	**Adak**	**68.20**	**32**	P		**P**	**16 04 26.9**	**0.0**
BTK	**Batken**	**68.21**	**314**	P		**P**	**16 04 26.8**	**-0.6**
BTK					pmax	pmax		
	comp=Z,3μm,2.1s							
BTK	**Batken**	**68.21**	**314**	P		**P**	**16 04 26.8**	**-0.6**
GSTR	**Great Sitkin T**	**68.64**	**32**	P		**P**	**16 04 29.7**	**0.0**
DZA	**Taraz**	**68.88**	**317**	*e*P		**P**	**16 04 30.5**	**-0.9**
	baz=317							
DZA				*e*S		**S**	**16 13 32.1**	**-1.9**
	baz=317							
DZA	**Taraz**	**68.88**	**317**	*e*P		**P**	**16 04 30.5**	**-0.9**
DZA				*e*S		**S**	**16 13 32.1**	**-1.9**
CHGR	**Chuyangaron**	**68.95**	**312**	P		**P**	**16 04 31.3**	**-0.8**
KK31	**Karatay Array**	**69.52**	**317**	*i*P		**P**	**16 04 34.8**	**-0.5**
KKAR	**Karatay Array**	**69.52**	**317**	P		**P**	**16 04 34.6**	**-0.7**
KKAR					pmax	pmax		
	comp=Z,797nm,1.2s							
KKAR	**Karatay Array**	**69.52**	**317**	P		**P**	**16 04 34.6**	**-0.7**
TAS	**Tashkent**	**69.74**	**315**	P		**P**	**16 04 36.3**	**-0.4**
TAS					pmax	pmax		
	comp=Z,1μm,1.2s							
TAS	**Tashkent**	**69.74**	**315**	P		**P**	**16 04 36.3**	**-0.4**
CHM	**Chimkent**	**69.86**	**316**	*e*S		**S**	**16 13 46.5**	**+0.9**
	baz=316							
OTUK	**Ortayu**	**70.35**	**323**	P		**P**	**16 04 40.4**	**+0.1**
XMAS	**Kiritimati**	**71.36**	**88**	P		**P**	**16 04 45.3**	**-1.9**
XMAS					IAmb	IAmb	16 04 59.5	
	comp=Z,341nm,1.1s							
TIXI	**Tiksi**	**72.25**	**359**	P		**P**	**16 04 50.6**	**-0.7**
	comp=Z,127nm,0.8s,baz=161,slow=4.5,SNR=29							
TIXI	**Tiksi**	**72.25**	**359**	P		**P**	**16 04 49.7**	**-1.6**
TIXI					IAmb	IAmb	16 05 01.3	
	comp=Z,258nm,1.0s							
HON	**Honolulu**	**72.38**	**67**	P		**P**	**16 04 52.1**	**-1.0**
HON					pmax	pmax		
	comp=Z,948nm,1.1s							
HON	**Honolulu**	**72.38**	**67**	P		**P**	**16 04 52.1**	**-1.0**
KIP	**Kipapa**	**72.38**	**67**	P		**P**	**16 04 51.3**	**-1.8**
KIP					pmax	pmax		
	comp=Z,508nm,1.1s							
KIP	**Kipapa**	**72.38**	**67**	P		**P**	**16 04 51.2**	**-1.8**
KIP					IAmb	IAmb	16 05 10.8	
	comp=Z,508nm,1.1s							
OPA	**Opana**	**72.42**	**67**	P		**P**	**16 04 52.2**	**-1.2**
OPA					pmax	pmax		
	comp=Z,1μm,1.5s							
OPA	**Opana**	**72.42**	**67**	P		**P**	**16 04 52.2**	**-1.2**
BILL	**Bilibino**	**72.74**	**13***d*	*i*P		**P**	**16 04 53.8**	**-0.6**
BILL				*e*			16 05 02.0	
BILL				*e*			16 05 10.9	
BILL				*e*			16 07 35.6	
BILL				*e*PPP		PPP	16 09 21.5	
BILL				*e*S		**S**	**16 14 19.2**	**+1.3**
BILL				*e*SS		**SS**	**16 18 56.3**	**-1.6**
BILL					pmax	pmax		
	comp=Z,153nm,1.3s							
BILL					MLR	MLR		
	comp=Z,7μm,17.0s							
BILL	**Bilibino**	**72.74**	**13**	P		**P**	**16 04 53.7**	**-0.6**
BILL					IAmb	IAmb	16 05 06.3	
	comp=Z,336nm,1.3s							
NIKH	**Nikolski High**	**72.94**	**33**	P		**P**	**16 04 54.6**	**-1.2**
NIKH					IAmb	IAmb	16 05 01.9	
	comp=Z,655nm,1.0s							
NIKH	**Nikolski High**	**72.94**	**33**	P		**P**	**16 04 54.9**	**-0.8**
	baz=245,SNR=21							
NIKH				S		**S**	**16 14 22.1**	**+1.6**
	baz=245							
HRA	**Herat**	**73.16**	**306**	P		**P**	**16 04 56.4**	**-1.4**
HRA					IAmb	IAmb	16 05 13.2	
	comp=Z,683nm,1.6s							
BVAR	**Borovoye Array**	**73.47**	**327**	P		**P**	**16 04 58.8**	**-0.1**
	comp=Z,172nm,0.8s,baz=147,slow=6.5,SNR=338							
BRVK	**Borovoye**	**73.54

UNV				S	**S**	**16 14 38.7**	**-0.3**	ARU			16 08 43.6
	baz=247							ARU		PPP	PPP 16 10 38.6
MLH	**Mauna Loa**	**74.59**	**70**	P	**P**	**16 05 08.3**	**+1.8**	ARU		S	**S 16 15 48.6** **-0.4**
MLH				IAmb	IAmb	16 05 24.1		ARU		pmax	pmax
	comp=Z,687nm,1.0s								comp=Z,491nm,1.0s		
HLP	**Hilina Pali**	**74.64**	**70**	P	**P**	**16 05 06.5**	**0.0**	ARU		MLR	MLR
HLP				IAmb	IAmb	16 06 19.3			comp=Z,8µm,18.0s		
	comp=Z,722nm,1.5s							**ARU**	**Arti**	**81.06 328**	P **P** **16 05 40.1** **-1.3**
MHTO	**MHTO**	**74.65**	**292**	P	**P**	**16 05 06.0**	**-0.4**	ARU		IAmb	IAmb 16 05 52.7
	SNR=81								comp=Z,910nm,1.1s		
JMDO	**Jabal Madar**	**74.69**	**293**	P	**P**	**16 05 06.1**	**-0.6**	**MAW**	**Mawson**	**81.23 201**	P **P** **16 05 43.9** **+1.9**
	SNR=38								baz=81,SNR=28		
BIDO	**Bidbid**	**74.81**	**294**	P	**P**	**16 05 07.2**	**-0.2**	**MAW**	**Mawson**	**81.23 201**	P **P** **16 05 43.9** **+1.9**
	SNR=82								comp=Z,78nm,0.8s,baz=60,slow=5.7,SNR=52		
SMDO	**Samad**	**74.83**	**294**	P	**P**	**16 05 06.7**	**-0.9**	MAW		PKKPbc	**PKKPbc 16 24 18.2** **-2.5**
	SNR=57								comp=Z,6.6nm,0.8s,baz=290,slow=4.5,SNR=15		
BSY	**Bisya**	**75.56**	**294**	P	**P**	**16 05 11.3**	**-0.5**	**MAW**	**Mawson**	**81.23 201**	P **P** **16 05 43.5** **+1.5**
	SNR=58							**VAH**	**Vaihoa**	**81.27 105**	*e*P **P** **16 05 46.4** **+3.1**
HOQ	**Hogain**	**75.56**	**294**	P	**P**	**16 05 11.5**	**-0.3**		comp=Z,276nm,1.3s		
	SNR=69							**SBV**	**Sambava**	**81.38 257**	P **P** **16 05 47.2** **+3.2**
MSEY	**Mahe Island**	**75.74**	**265**	P	**P**	**16 05 12.8**	**-0.2**		SNR=9.2		
MSEY	**Mahe Island**	**75.74**	**265**	P	**P**	**16 05 13.2**	**+0.2**	**SBV**	**Sambava**	**81.38 257**	P P 16 05 50.2 +6.2
MSEY				pmax	pmax			**SII**	**Sitkinak Islan**	**82.12 33**	P **P** **16 05 47.8** **+0.7**
	comp=Z,668nm,1.5s								baz=257,SNR=15		
MSEY				MLR	MLR			**O18K**	**Koktuh Hills**	**82.40 29**	IAmb IAmb 16 06 03.7
	comp=Z,12µm,22.0s								comp=Z,260nm,1.1s		
MSEY	**Mahe Island**	**75.74**	**265**	P	**P**	**16 05 13.2**	**+0.2**	**O18K**	**Koktuh Hills**	**82.40 29**	P **P** **16 05 48.6** **+0.2**
MSEY				IAmb	IAmb	16 05 20.1			baz=255,SNR=23		
	comp=Z,668nm,1.5s							**SVW2**	**Sparrevohn**	**82.54 28**	IAmb IAmb 16 06 05.1
NRIK	**Noril'sk**	**75.80**	**345**	P	**P**	**16 05 11.8**	**-0.3**		comp=Z,337nm,1.0s		
	comp=Z,64nm,0.6s,baz=130,slow=6.1,SNR=86							**OHAK**	**Old Harbor**	**82.75 32**	P **P** **16 05 49.8** **-0.5**
NRIK				PKPPKP	**P'P'df**	**16 32 32.8**	**+1.6**		baz=257,SNR=42		
	comp=Z,0.8nm,0.3s,baz=90,slow=2.1,SNR=3.9							**TTA**	**Tatalina**	**82.83 26**	IAmb IAmb 16 06 06.3
NRIK				LR	LR	16 40 25.0			comp=Z,468nm,1.1s		
	comp=Z,34µm,19.0s,baz=140,slow=37							**TTA**	**Tatalina**	**82.83 26**	P **P** **16 05 50.9** **+0.2**
NRIK	**Noril'sk**	**75.80**	**345**	IAmb	IAmb	16 05 22.6			baz=254,SNR=8.9		
	comp=Z,1µm,1.6s							**O19K**	**Port Alsworth**	**82.91 29**	P P **16 05 50.7** **-0.3**
ARQ	**Araqi**	**76.25**	**294**	P	**P**	**16 05 15.4**	**-0.3**	O19K		IAmb	IAmb 16 06 06.0
	SNR=63								comp=Z,324nm,1.3s		
SOHO	**SOHO**	**76.34**	**295**	*i* P	**P**	**16 05 14.9**	**-1.2**	**O19K**	**Port Alsworth**	**82.91 29**	P **P** **16 05 50.9** **-0.1**
	SNR=50								baz=256		
SHAO	**Shalim**	**76.54**	**289**	*i* P	**P**	**16 05 17.2**	**-0.1**	**Q19K**	**Cape Douglas,**	**82.95 30**	P **P** **16 05 50.6** **-0.8**
	SNR=15								baz=257,SNR=29		
SHAO	**Shalim**	**76.54**	**289**	P	**P**	**16 05 17.2**	**-0.1**	**N19K**	**Bonanza Creek**	**82.98 28**	IAmb IAmb 16 06 04.9
	SNR=7.0								comp=Z,379nm,0.9s		
GAMB	**Gambell**	**76.67**	**23**	P	**P**	**16 05 17.7**	**+0.6**	**N19K**	**Bonanza Creek**	**82.98 28**	P **P** **16 05 52.3** **+0.8**
GAMB				IAmb	IAmb	16 05 28.6			baz=256,SNR=167		
	comp=Z,796nm,1.3s							**L19K**	**White Mountain**	**83.15 27**	IAmb IAmb 16 06 08.1
GAMB	**Gambell**	**76.67**	**23**	P	**P**	**16 05 17.3**	**+0.2**		comp=Z,350nm,1.1s		
	baz=240							**L19K**	**White Mountain**	**83.15 27**	P **P** **16 05 53.1** **+0.8**
MDH	**Madha**	**76.69**	**296**	*i* P	**P**	**16 05 16.4**	**-1.7**		baz=255,SNR=81		
	SNR=11							**KDAK**	**Kodiak Island**	**83.25 32**	*c i*P **P** **16 05 53.1** **+0.3**
MDH	**Madha**	**76.69**	**296**	P	**P**	**16 05 16.8**	**-1.3**	KDAK		pmax	pmax
	SNR=21								comp=Z,1µm,1.1s		
UOSS	**Minazif**	**76.73**	**296**	*i* P	**P**	**16 05 16.9**	**-1.4**	KDAK		MLR	MLR
	SNR=48								comp=Z,12µm,18.0s		
UOSS	**Minazif**	**76.73**	**296**	P	**P**	**16 05 16.7**	**-1.7**	**KDAK**	**Kodiak Island**	**83.25 32**	P **P** **16 05 52.2** **-0.6**
UOSS				IAmb	IAmb	16 05 32.6		**KDAK**	**Kodiak Island**	**83.25 32**	P P **16 05 53.2** **+0.4**
	comp=Z,660nm,1.7s								baz=258		
BANOM	**Banah**	**76.77**	**297**	*i* P	**P**	**16 05 18.3**	**-0.3**	**M19K**	**Big River Lodg**	**83.30 27**	IAmb IAmb 16 06 04.9
	SNR=23								comp=Z,238nm,1.0s		
HATD	**Hatta, Dubai**	**76.79**	**296**	*i* P	**P**	**16 05 18.0**	**-0.6**	**M19K**	**Big River Lodg**	**83.30 27**	P **P** **16 05 53.8** **+0.8**
	SNR=59								baz=256,SNR=56		
MSFE	**Esma-Masafi**	**76.83**	**296**	*i* P	**P**	**16 05 18.7**	**-0.3**	**P19K**	**Oil Pt**	**83.32 30**	IAmb IAmb 16 06 07.9
	SNR=106								comp=Z,210nm,1.0s		
ASHO	**Ashiyiah**	**76.83**	**295**	*i* P	**P**	**16 05 18.3**	**-0.7**	**P19K**	**Oil Pt**	**83.32 30**	P **P** **16 05 52.7** **-0.5**
	SNR=38								baz=257		
SHME	**Shamm**	**76.93**	**297**	*i* P	**P**	**16 05 18.8**	**-0.6**	**L20K**	**Farewell, AK**	**83.67 27**	P **P** **16 05 55.8** **+0.9**
	SNR=41								baz=256,SNR=140		
ALNE	**Al Ain**	**77.04**	**295**	*i* P	**P**	**16 05 20.1**	**0.0**	**O20K**	**Slope Mountain**	**83.71 29**	P **P** **16 05 54.8** **-0.5**
	SNR=86								baz=258		
DMTO	**DMTO**	**77.15**	**288**	P	**P**	**16 05 20.2**	**-0.6**	**RSO**	**Redoubt South**	**83.73 29**	P **P** **16 05 55.6** **0.0**
	SNR=6.8							**K20K**	**Telida**	**83.79 26**	P **P** **16 05 56.5** **+0.9**
GEYT	**Alibeck**	**77.16**	**309**	P	**P**	**16 05 21.0**	**+0.5**		baz=256,SNR=126		
	comp=Z,468nm,0.8s,baz=181,slow=5.9,SNR=116							**J20K**	**Nowinta River**	**83.96 25**	P **P** **16 05 57.3** **+0.9**
GEYT				LR	LR	16 41 55.3			baz=256,SNR=152		
	comp=Z,8µm,19.9s,baz=75,slow=38							**HOM**	**Homer**	**84.11 30**	P **P** **16 05 56.7** **-0.5**
GYA0B	**ALIBECK ARRAY**	**77.16**	**309**	IAmb	IAmb	16 05 37.7		**HOM**	**Homer**	**84.11 30**	P P **16 05 56.4** **-0.9**
	comp=Z,603nm,1.1s								baz=258		
NAZ	**Nazwa, Dubai**	**77.23**	**296**	*i* P	**P**	**16 05 21.0**	**-0.2**	**SPCR**	**Spurr Chakacha**	**84.15 28**	P **P** **16 05 56.9** **-0.6**
	SNR=34								baz=258,SNR=27		
FAQ	**Al Faqa, Dubai**	**77.26**	**295**	*i* P	**P**	**16 05 21.0**	**-0.3**	**QRN**	**Al-Qurain**	**84.47 299**	*e*P **P** **16 05 58.9** **-0.8**
	SNR=65							**PPLA**	**Purkeypile**	**84.52 27**	P **P** **16 05 59.6** **+0.1**
FAQ	**Al Faqa, Dubai**	**77.26**	**295**	P	**P**	**16 05 21.1**	**-0.3**		baz=258,SNR=95		
	SNR=58							**CAPN**	**Captain Cook N**	**84.57 29**	P **P** **16 05 59.9** **+0.4**
UMQ	**Umm Al-Quwin**	**77.29**	**296**	*i* P	**P**	**16 05 21.5**	**0.0**		baz=259		
	SNR=9.8							**VOI**	**Vohitsoka**	**84.58 248**	IAmb IAmb 16 06 17.0
UMQ	**Umm Al-Quwin**	**77.29**	**296**	P	**P**	**16 05 22.0**	**+0.5**		comp=Z,584nm,1.3s		
	SNR=20							**VOI**	**Vohitsoka**	**84.58 248**	P **P** **16 06 01.4** **+0.8**
ASUD	**Al Ashush, Dub**	**77.49**	**295**	*i* P	**P**	**16 05 22.2**	**-0.3**		SNR=51		
	SNR=9.6							**VOI**	**Vohitsoka**	**84.58 248**	P **P** **16 06 01.4** **+0.8**
ASUD	**Al Ashush, Dub**	**77.49**	**295**	P	**P**	**16 05 22.6**	**+0.1**	**SKT**	**Skwentna**	**84.63 28**	P **P** **16 05 58.9** **-0.9**
	SNR=44							SKT		IAmb	IAmb 16 06 14.0
SOCY	**Socotra**	**77.68**	**283**	P	**P**	**16 05 22.7**	**-1.3**		comp=Z,480nm,1.1s		
SOCY				IAmb	IAmb	16 05 36.9		**SKT**	**Skwentna**	**84.63 28**	P **P** **16 05 58.8** **-1.1**
	comp=Z,392nm,0.8s								baz=258,SNR=102		
SOCY	**Socotra**	**77.68**	**283**	P	**P**	**16 05 23.2**	**-0.7**	**CHUM**	**Lake Minchumin**	**84.68 26**	P **P** **16 06 00.6** **+0.6**
	SNR=16								baz=258,SNR=116		
RBK	**Rabkut**	**77.84**	**288**	P	**P**	**16 05 23.9**	**-0.8**	**KBD**	**Kabd**	**84.69 299**	*e*P **P** **16 05 59.7** **-1.1**
	SNR=22							**UMR**	**Umm Al-Rimmam**	**84.69 300**	*e*P **P** **16 05 59.7** **-1.1**
DOK	**Doka**	**78.00**	**289**	P	**P**	**16 05 24.6**	**-0.9**	**RDF**	**Al-Radifah**	**84.80 299**	*e*P **P** **16 05 59.7** **-1.7**
	SNR=27							**H21K**	**Melozitna Rive**	**84.87 24**	P **P** **16 06 00.7** **-0.3**
SDPT	**Sand Point**	**78.39**	**33**	P	**P**	**16 05 26.8**	**-0.1**	H21K		IAmb	IAmb 16 06 16.7
	baz=252,SNR=28								comp=Z,292nm,1.1s		
SDPT				S	**S**	**16 15 21.0**	**+0.2**	**H21K**	**Melozitna Rive**	**84.87 24**	P **P** **16 06 01.6** **+0.6**
	baz=252								baz=257,SNR=84		
AB31	**Akbulak array**	**78.40**	**321**	*i* P	**P**	**16 05 26.5**	**-0.7**	**SUA**	**Susitna One**	**84.90 28**	IAmb IAmb 16 06 15.7
ABKAR	**Akbulak array**	**78.40**	**321**	P	**P**	**16 05 26.5**	**-0.6**		comp=Z,488nm,1.1s		
ABKAR				IAmb	IAmb	16 05 37.1		**SUA**	**Susitna One**	**84.90 28**	P **P** **16 06 00.4** **-0.9**
	comp=Z,436nm,0.9s								baz=259,SNR=76		
VNDA	**Vanda**	**78.52**	**174**	P	**P**	**16 05 28.5**	**+1.3**	**A21K**	**Barrow**	**85.00 18**	P **P** **16 06 02.6** **+1.1**
	comp=Z,88nm,0.8s,baz=317,slow=6.0,SNR=110								baz=253		
VNDA				PKPPKP	**P'P'df**	**16 32 21.3**	**-5.2**	**MIB**	**Mutribah**	**85.04 300**	*e*P **P** **16 06 01.5** **-1.1**
	comp=Z,1.2nm,0.8s,baz=175,slow=2.1,SNR=4.0							**I21K**	**Tanana**	**85.10 24**	IAmb IAmb 16 06 17.9
VNDA				LR	LR	16 41 54.2			comp=Z,299nm,1.1s		
	comp=Z,29µm,18.4s,baz=348,slow=37							**I21K**	**Tanana**	**85.10 24**	P **P** **16 06 02.6** **+0.5**
VNDA	**Vanda**	**78.52**	**174**	P	**P**	**16 05 27.9**	**+0.7**		baz=258,SNR=43		
VNDA				IAmb	IAmb	16 05 42.7		**O22K**	**Cooper Landing**	**85.21 29**	P **P** **16 06 02.6** **-0.2**
	comp=Z,1µm,2.0s								baz=260,SNR=23		
TNA	**Tin City**	**78.95**	**22**	P	**P**	**16 05 30.4**	**+0.6**	**KTH**	**Kantishna Hill**	**85.22 26**	P **P** **16 06 02.7** **-0.2**
	baz=243							KTH		IAmb	IAmb 16 06 17.5
SBA	**Scott Base**	**79.38**	**173**	P	**P**	**16 05 33.7**	**+1.7**		comp=Z,558nm,1.1s		
SBA				pmax	pmax			**SEW**	**Seward**	**85.28 30**	IAmb IAmb 16 06 09.5
	comp=Z,2µm,2.0s								comp=Z,674nm,1.3s		
SBA				MLR	MLR			**SEW**	**Seward**	**85.28 30**	P **P** **16 06 02.7** **-0.4**
	comp=Z,19µm,20.0s								baz=260,SNR=60		
SBA	**Scott Base**	**79.38**	**173**	P	**P**	**16 05 33.7**	**+1.7**	**CUT**	**Chulitna**	**85.29 27**	P **P** **16 06 02.5** **-0.6**
PPT	**Papeete**	**79.49**	**108**	P	**P**	**16 05 35.7**	**+2.0**		baz=260		
	comp=Z,94nm,1.1s,baz=1.3,slow=8.4,SNR=5.5							**RC01**	**Rabbit Creek A**	**85.31 29**	P **P** **16 06 02.8** **-0.4**
PPT				LR	LR	16 37 47.3			baz=260,SNR=60		
	comp=Z,7µm,20.3s,baz=271,slow=33							**RST**	**Umm Al-Ruwaisa**	**85.32 300**	*e*P **P** **16 06 02.1** **-1.9**
PAE	**Paea**	**79.49**	**108**	*e*P	**P**	**16 05 36.6**	**+2.9**	**TRF**	**Thorofare Moun**	**85.48 26**	P **P** **16 06 03.5** **-0.8**
	comp=Z,36nm,1.2s							TRF		IAmb	IAmb 16 06 18.8
PPT2	**Papeete2**	**79.49**	**108**	*e*P	**P**	**16 05 37.0**	**+3.2**		comp=Z,445nm,1.1s		
	comp=Z,215nm,1.1s							**TRF**	**Thorofare Moun**	**85.48 26**	P **P** **16 06 03.4** **-0.8**
PPT2	**Papeete2**	**79.49**	**108**	*e*LQ	LQ	16 27 04.8			baz=259,SNR=96		
	comp=Z,22µm,31.0s							**AKT**	**Akhty**	**85.58 312**	*e*P **P** **16 06 05.2** **0.0**
PPT2				*e*LR	LR	16 30 30.8		AKT		*e*S	**S 16 16 28.2** **-7.5**
	comp=Z,12µm,22.2s							AKT		pmax	pmax
TIAR	**Tiarei**	**79.70**	**108**	*e*P	**P**	**16 05 38.0**	**+3.0**		comp=Z,295nm,1.0s		
	comp=Z,31nm,1.2s							**MLY**	**Manley**	**85.58 25**	IAmb IAmb 16 06 19.9
JRN	**Qarnain Island**	**79.76**	**295**	P	**P**	**16 05 34.5**	**-0.6**		comp=Z,284nm,0.9s		
	SNR=35							**MLY**	**Manley**	**85.58 25**	P **P** **16 06 04.4** **-0.2**
CHGN	**Chignik**	**79.79**	**32**	IAmb	IAmb	16 05 49.8			baz=259,SNR=116		
	comp=Z,1µm,1.9s							**PMR**	**Palmer**	**85.68 28**	IAmb IAmb 16 06 19.6
CHGN	**Chignik**	**79.79**	**32**	P	**P**	**16 05 33.7**	**-0.9**		comp=Z,452nm,1.0s		
	baz=253,SNR=18							**PMR**	**Palmer**	**85.68 28**	P **P** **16 06 04.7** **-0.4**
AKTO	**Aktyubinsk**	**79.90**	**322**	P	**P**	**16 05 35.0**	**-0.3**		baz=261,SNR=45		
	comp=Z,210nm,0.9s,baz=98,slow=7.0,SNR=120							**MAK**	**Makhachkala**	**85.87 313**	*e*P **P** **16 06 05.7** **-0.7**
AKTO				PKKPbc	**PKKPbc**	**16 24 22.9**	**-0.2**	MAK		*e*	16 09 22.1
	comp=Z,4.1nm,0.9s,baz=277,slow=2.8,SNR=4.0							MAK		*e*PPP	PPP 16 11 18.4
SVE	**Sverdlovsk**	**80.07**	**328**	*d i*P	**P**	**16 05 36.1**	**0.0**	MAK		*e*	16 16 28.6
SVE				*e*		16 08 38.9		MAK		*e*SS	SS 16 22 12.3 -3.5
SVE				*e*S	**S**	**16 15 36.4**	**-2.2**	MAK		pmax	pmax
SVE				pmax	pmax				comp=Z,1µm,1.6s		
	comp=Z,9µm,13.8s							**KNK**	**Knik Glacier**	**85.97 28**	P **P** **16 06 06.7** **+0.1**
SVE				pmax	pmax				baz=261,SNR=148		
	comp=Z,1µm,1.5s							**SML**	**Sawmill**	**86.09 28**	P **P** **16 06 06.9** **-0.3**
SVE				MLR	MLR				baz=261,SNR=132		
	comp=Z,11µm,19.0s							**RND**	**Reindeer**	**86.11 26**	P **P** **16 06 06.3** **-1.0**
MEH	**Mehetia**	**80.94**	**108**	*e*P	**P**	**16 05 44.3**	**+2.7**	RND		pmax	pmax
	comp=Z,109nm,1.3s								comp=Z,571nm,0.9s		
PMOR	**Pomariorio Ree**	**81.00**	**105**	*e*P	**P**	**16 05 45.0**	**+3.1**	RND		MLR	MLR
	comp=Z,842nm,1.4s								comp=Z,17µm,22.0s		
ARU	**Arti**	**81.06**	**328**	PKKPbc	PKKPbc	16 24 19.8	-1.0	**RND**	**Reindeer**	**86.11 26**	P **P** **16 06 06.3** **-1.0**
	comp=Z,1.7nm,0.7s,baz=137,slow=7.9,SNR=4.8							**MCK**	**McKinley**	**86.12 26**	P **P** **16 06 06.4** **-0.9**
ARU	**Arti**	**81.06**	**328**	*c i*P	**P**	**16 05 40.7**	**-0.7**		baz=261,SNR=88		
WAT1	**Susitna Watana**	**86.15**	**27**	P	**P**	**16 06 06.9**	**-0.6**				
	baz=261										
I23K	**Minto, Yukon-K**	**86.18**	**25**	IAmb	IAmb	16 06 22.9					
	comp=Z,456nm,1.1s										
I23K	**Minto, Yukon-K**	**86.18**	**25**	P	**P**	**16 06 07.1**	**-0.3**				
	baz=260,SNR=154										
NEA2	**Nenana**	**86.21**	**25**	P	**P**	**16 06 07.0**	**-0.6**				
	baz=260,SNR=25										
COLD	**Coldfoot**	**86.22**	**22**	P	**P**	**16 06 07.3**	**-0.3**				
	baz=259,SNR=33										
KIRV	**Kirov**	**86.32**	**329**	P	**P**	**16 06 07.0**	**-1.2**				
	comp=Z,197nm,0.9s,baz=119,slow=1.6,SNR=42										
WAT6	**Susitna Watana**	**86.48**	**27**	P	**P**	**16 06 08.8**	**-0.4**				
	baz=262,SNR=129										
GLI	**Glacier Island**	**86.55**	**29**	P	**P**	**16 06 10.0**	**+0.6**				
WRH	**Wood River Hil**	**86.61**	**25**	IAmb	IAmb	16 06 24.6					
	comp=Z,584nm,1.1s										
BELG	**Belogornoye**	**86.64**	**322**	P	**P**	**16 06 08.9**	**-1.1**				
	comp=Z,850nm,0.8s,baz=68,slow=0.5,SNR=132										
TOLK	**Toolik Lake Re**	**86.71**	**21**	P	**P**	**16 06 09.3**	**-0.8**				
	baz=260										
Q23K	**Middleton Isla**	**86.73**	**30**	P	**P**	**16 06 10.9**	**+0.6**				
	baz=263										
TCOL	**CIGO, UAF Yank**	**86.76**	**25**	P	**P**	**16 06 09.0**	**-1.4**				
	baz=262										
COLA	**College**	**86.77**	**25**	P	**P**	**16 06 10.6**	**+0.3**				
COLA				pmax	pmax						
	comp=Z,86nm,0.8s										
COLA				MLR	MLR						
	comp=Z,9µm,20.0s										
COLA	**College**	**86.77**	**25**	P	**P**	**16 06 10.6**	**+0.3**				
COLA	**College**	**86.77**	**25**	P	**P**	**16 06 09.1**	**-1.3**				
	baz=262										
HIN	**Hinchinbrook I**	**86.78**	**30**	P	**P**	**16 06 10.7**	**+0.1**				
H24K	**Noodor Dome**	**86.90**	**24**	IAmb	IAmb	16 06 26.8					
	comp=Z,250nm,1.1s										
H24K	**Noodor Dome**	**86.90**	**24**	P	**P**	**16 06 10.8**	**-0.3**				
	baz=261,SNR=70										
POKR	**Poker Plat Res**	**86.98**	**25**	P	**P**	**16 06 10.3**	**-1.1**				
	baz=262										
HDA	**Harding Lake**	**87.09**	**25**	IAmb	IAmb	16 06 25.9					
	comp=Z,236nm,1.0s										
GROC	**Groznyy**	**87.14**	**313**	*e*P	**P**	**16 06 11.5**	**-1.2**				
GROC				*e*		16 09 33.4					
GROC				*e*S	**SKSac**	**16 16 35.4**	**-2.9**				
GROC				pmax	pmax						
	comp=Z,708nm,1.3s										
M24K	**Tolsona, Glenn**	**87.14**	**28**	P	**P**	**16 06 12.8**	**+0.4**				
M24K	**Tolsona, Glenn**	**87.14**	**28**	P	**P**	**16 06 12.9**	**+0.6**				
	baz=263,SNR=60										
ILAR	**Eielson Array**	**87.16**	**25**	P	**P**	**16 06 11.2**	**-1.2**				
	comp=Z,32nm,1.0s,baz=264,slow=4.0,SNR=81										
ILAR				PKKP	**PKKPdf**	**16 23 58.4**	**-1.9**				
	comp=Z,0.6nm,0.3s,baz=167,slow=1.7,SNR=4.7										
ILAR				PKKPbc	**PKKPbc**	**16 24 05.2**	**-1.5**				
	comp=Z,5.1nm,1.0s,baz=2.2,slow=2.3,SNR=6.4										
ILAR				LR	LR	16 41 15.0					
	comp=Z,5µm,21.1s,baz=264,slow=33										
KLU	**Klutina**	**87.19**	**28**	IAmb	IAmb	16 06 31.9					
	comp=Z,422nm,1.4s										
PAX	**Paxson**	**87.56**	**27**	P	**P**	**16 06 14.0**	**-0.4**				
PAX				pmax	pmax						
	comp=Z,1µm,2.0s										
PAX	**Paxson**	**87.56**	**27**	P	**P**	**16 06 14.0**	**-0.4**				
PAX	**Paxson**	**87.56**	**27**	P	**P**	**16 06 14.1**	**-0.4**				
	baz=264,SNR=60										
PAX				S	**S**	**16 16 53.3**	**-0.8**				
	baz=264										
HARP	**HAARP**	**87.65**	**28**	P	**P**	**16 06 14.6**	**-0.2**				
	baz=264,SNR=13										
GNI	**Garni**	**87.76**	**310**	P	**P**	**16 06 16.7**	**+0.7**				
GNI	**Garni**	**87.76**	**310**	*c i*P	**P**	**16 06 16.3**	**+0.3**				
GNI				pmax	pmax						
	comp=Z,849nm,1.9s										
GNI	**Garni**	**87.76**	**310**	P	**P**	**16 06 16.2**	**+0.2**				
J25K	**Salcha River,**	**87.79**	**25**	P	**P**	**16 06 13.8**	**-1.7**				
	baz=264,SNR=27										
PRP	**Porcupine Dome**	**87.83**	**24**	P	**P**	**16 06 13.9**	**-1.7**				
	baz=264,SNR=9.3										
N25K	**Chitina, Valde**	**87.83**	**28**	IAmb	IAmb	16 06 31.3					
	comp=Z,378nm,1.4s										
N25K	**Chitina, Valde**	**87.83**	**28**	P	**P**	**16 06 16.0**	**+0.3**				
	baz=265,SNR=33										
N25K				S	**S**	**16 16 56.9**	**+0.3**				
	baz=265										
HMT	**Hamilton**	**87.88**	**30**	P	**P**	**16 06 15.8**	**-0.1**				
HMT				IAmb	IAmb	16 06 31.4					
	comp=Z,527nm,1.2s										
RIDG	**Independent Ri**	**87.93**	**26**	P	**P**	**16 06 15.5**	**-0.5**				
	baz=264,SNR=30										
RIDG				S	**S**	**16 16 57.0**	**-0.4**				
	baz=264										
HARA	**HARA**	**88.09**	**279**	*e*P	P	16 06 24.8	+6.6				
HARA				*e*S	**S**	**16 17 01.2**	**0.0**				
SUCK	**Suckling Hills**	**88.10**	**30**	IAmb	IAmb	16 06 32.8					
	comp=Z,485nm,1.3s										
GLB	**Gilahina Butte**	**88.19**	**29**	IAmb	IAmb	16 06 32.7					
	comp=Z,294nm,1.2s										
SCRK	**Sand Creek**	**88.33**	**26**	IAmb	IAmb	16 06 28.9					
	comp=Z,366nm,2.0s										
SCRK	**Sand Creek**	**88.33**	**26**	P	**P**	**16 06 17.8**	**-0.3**				
	baz=265,SNR=18										
SCRK				S	**S**	**16 17 00.2**	**-1.1**				
	baz=265										
VRDI	**Verde Repeater**	**88.35**	**29**	IAmb	IAmb	16 06 33.5					
	comp=Z,167nm,1.1s										
MENT	**Mentasta**	**88.36**	**27**	P	**P**	**16 06 16.2**	**-1.9**				
ZEI	**Tsey**	**88.50**	**313**	*e*P	**P**	**16 06 18.4**	**-1.1**				
ZEI				pmax	pmax						
	comp=Z,181nm,1.5s										
PRGR	**Permogore**	**88.51**	**332**	*e*P	**P**	**16 06 17.1**	**-1.7**				
PRGR				*e*		16 09 51.1					
PRGR				pmax	pmax						
	comp=Z,315nm,1.1s										
L26K	**Log Cabin Wild**	**88.53**	**27**	P	**P**	**16 06 18.9**	**-0.1**				
	baz=266,SNR=18										
L26K				S	**S**	**16 17 04.3**	**+1.2**				
	baz=266										
ATD	**Arta Tunnel**	**88.55**	**281**	P	**P**	**16 06 21.3**	**+1.2**				
	SNR=33										
J26L	**Joseph Creek**	**88.56**	**26**	P	**P**	**16 06 18.6**	**-0.5**				
	baz=265,SNR=53										
MCARA	**McCarthy VSAT**	**88.56**	**29**	P	**P**	**16 06 19.1**	**0.0**				
	baz=266,SNR=14										
MCARA				S	**S**	**16 17 05.1**	**+1.7**				
	baz=266										
WAX	**Waxell Ridge**	**88.58**	**30**	P	**P**	**16 06 19.1**	**-0.2**				
M26K	**Nabesna, AK**	**88.65**	**28**	P	**P**	**16 06 19.6**	**+0.1**				
	baz=266,SNR=19										
M26K				S	**S**	**16 17 05.1**	**+0.8**				
	baz=266										
NCK	**Nalchik**	**88.76**	**313**	*ce*P	**P**	**16 06 19.7**	**-0.7**				
NCK				pmax	pmax						
	comp=Z,302nm,

baz=267
QSPA South Pole Qui 89.23 180 P P 16 06 23.3 +1.0
comp=Z,81nm,0.8s,baz=318,slow=1.7,SNR=135
QSPA South Pole Qui 89.23 180 P P 16 06 22.9 +0.6
KBZ Khabaz 89.27 314 P P 16 06 21.6 -1.2
comp=Z,19nm,0.8s,baz=84,slow=2.7,SNR=30
KBZ Khabaz 89.27 314 c iP P 16 06 21.7 -1.1
KBZ pmax pmax
comp=Z,215nm,1.5s
KBZ MLR MLR
comp=Z,6µm,18.0s
NEY Neytrino 89.39 313 deP P 16 06 24.2 +0.6
NEY pmax pmax
comp=Z,81nm,1.2s
KIV Kislovodsk 89.43 314 ⇑P P 16 06 24.3 +0.6
KIV Kislovodsk 89.43 314 iP P 16 06 22.1 -1.6
SNR=48
KIV Kislovodsk 89.43 314 eP P 16 06 22.4 -1.3
KIV e 16 09 53.6
KIV ePPP PPP 16 11 50.6
KIV e 16 16 48.7
KIV eSS SS 16 23 05.2 -2.7
KIV eSSS SSS 16 26 46.2
KIV pmax pmax
comp=Z,501nm,4.0s
KIV pmax pmax
comp=Z,95nm,1.1s
KIV MLR MLR
comp=Z,4µm,20.0s
KIV Kislovodsk 89.43 314 P P 16 06 22.6 -1.1
KIV IAmb IAmb 16 06 41.6
comp=Z,287nm,1.5s
TABL Table Mountain 89.43 30 IAmb IAmb 16 06 39.1
comp=Z,148nm,0.8s
EGAK Eagle 89.61 25 P P 16 06 22.8 -1.1
EGAK Eagle 89.61 25 P P 16 06 24.0 +0.1
baz=268,SNR=19
BVCY Beaver Creek 89.64 28 P P 16 06 24.6 +0.4
baz=268,SNR=20
GURO Guroymak-BITLI 89.80 308 IAmb IAmb 16 06 32.7
comp=Z,372nm,1.3s
YUK3 Moose Creek 89.81 28 P P 16 06 25.5 +0.3
baz=268,SNR=20
CHVG Ch'k'valeri 89.84 313 ⇑P P 16 06 25.7 +0.2
CHVG Ch'k'valeri 89.84 313 ⇑P P 16 06 25.7 +0.2
PINM Pinnacle 89.86 30 P P 16 06 25.0 -0.2
baz=268,SNR=7.8
SYO Syowa Base 89.94 201 ⇑iP P 16 06 26.4 +1.1
SYO Syowa Base 89.94 201 ⇑iPcP PcP 16 06 28.8 +2.2
SYO Syowa Base 89.94 201 ⇓iPP PP 16 06 32.0 -2.3
SYO Syowa Base 89.94 201 ⇑iSP SP 16 06 35.2 -2.0
BATM Batumi 90.11 311 ⇑P P 16 06 26.5 -0.3
BATM Batumi 90.11 311 ⇑P P 16 06 26.5 -0.3
BCA Borcka 90.16 311 ⇑P P 16 06 26.4 -0.7
VRH Novokhopyorsk 90.23 321 eP P 16 06 25.2 -1.9
VRH e 16 09 56.5
VRH eS S 16 17 15.1 -4.2
VRH pmax pmax
comp=Z,220nm,1.1s
VRH smax smax
comp=N,6µm,12.9s
DAWY Dawson 90.35 26 P P 16 06 27.7 +0.2
baz=269,SNR=35
TEND Ethiopian Broa 90.36 282 eP P 16 06 30.2 +1.6
TEND iS S 16 17 13.9 -8.1
YUK4 Talbot Arm 90.67 29 P P 16 06 29.6 +0.4
baz=270,SNR=21
YUK6 Outpost Mounta 90.81 29 P P 16 06 30.1 +0.2
baz=270
HYT Haines Junctio 91.23 29 P P 16 06 31.9 +0.2
baz=271,SNR=31
KLMR Klimovskoe 91.44 331 c iP P 16 06 30.5 -2.0
KLMR 16 10 07.6
KLMR S SKSac 16 16 59.9 -3.0
KLMR pmax pmax
comp=Z,817nm,1.3s
KLMR Klimovskoe 91.44 331 ⇑iP P 16 06 30.5 -2.0
KLMR eP P 16 06 30.5 -2.0
KLMR eP P 16 06 30.5 -2.0
KLMR AMP 16 06 47.9
comp=Z,817nm,1.3s
KLMR PP PP 16 10 07.6 -2.7
KLMR S SKSac 16 17 00.0 -3.0
KLMR S SKSac 16 17 00.0 -3.0
KLMR LR LR 16 39 11.0
KLMR AMP 16 55 52.7
comp=Z,7µm,15.5s
KTUT Trabzon 91.56 311 ⇑P P 16 06 30.9 -2.6
SOC Sochi 91.58 313 c iP P 16 06 31.0 -2.5
SOC e 16 10 08.3
SOC eS SKSac 16 17 00.4 -4.1
SOC eSS SS 16 23 40.7 +1.9
SOC eSSS SSS 16 27 19.2
SOC pmax pmax
comp=Z,50nm,0.8s
ANKE Ethiopia-Afar 91.59 280 eP P 16 06 36.7 +2.0
ANKE eS SKSac 16 17 13.9 +7.4
DESE Dese 91.70 281 eP P 16 06 36.5 +1.3
DESE eS SKSac 16 17 18.9 +12
VORD Divnogorie 91.76 321 eP P 16 06 31.8 -2.4
VORD eS S 16 17 29.4 -3.9
VORD pmax pmax
comp=Z,180nm,1.3s
VORD smax smax
comp=N,1µm,8.2s
VORR Voronezh 91.80 321 eP P 16 06 33.0 -1.4
VORR pmax pmax
comp=Z,350nm,1.2s
MAYO Mayo, Yukon 91.91 27 P P 16 06 35.3 +0.6
baz=272
LPSR Galich'ya Gora 91.95 322 eP P 16 06 33.4 -1.7
LPSR eS S 16 17 27.5 -7.5
LPSR pmax pmax
comp=Z,360nm,1.1s
LPSR smax smax
comp=N,5µm,11.3s
SKAG Skagway 92.36 31 P P 16 06 36.8 0.0
baz=273,SNR=11
SIT Sitka 92.47 33 P P 16 06 33.3 -4.0
SIT pmax pmax
comp=Z,88nm,1.2s
SIT Sitka 92.47 33 P P 16 06 33.2 -4.0
SIT Sitka 92.47 33 P P 16 06 37.6 +0.3
baz=272
AAE Adis Abeba 92.54 279 eP P 16 06 40.3 +1.3
AAE eS SKSac 16 17 22.3 +11
INK Inuvik 92.59 22 PKKPbc PKKPbc 16 23 51.5 -1.6
comp=Z,12nm,0.9s,baz=94,slow=4.6,SNR=8.2
INK Inuvik 92.59 22 IAmb IAmb 16 06 51.5
comp=Z,156nm,1.2s
INK Inuvik 92.59 22 P P 16 06 36.3 -1.4
baz=275,SNR=32
MOS Moscow 92.61 326 eP P 16 06 35.2 -2.8
MOS e 16 10 16.0
MOS e 16 17 07.6
MOS eS S 16 17 39.5 -1.2
MOS ePS PS 16 18 50.0 -5.4
MOS eSS SS 16 23 48.6 -4.3
MOS pmax pmax
comp=Z,800nm,1.8s
MOS pmax pmax
comp=Z,368nm,1.6s
FURI Furi 92.63 279 eP P 16 06 41.5 +2.1
FURI eS SKSac 16 17 17.3 +5.1
DILA Dilla 93.00 276 eP P 16 06 42.8 +1.8
DILA eS SKSac 16 17 23.2 +9.2
LVZ Lovozero 93.13 338 deP P 16 06 39.3 -0.9
LVZ pmax pmax
comp=Z,351nm,1.4s
LVZ Lovozero 93.13 338 P P 16 06 38.0 -2.3
LVZ IAmb IAmb 16 06 49.5
comp=Z,491nm,1.5s
KIBK Kibwezi 93.15 268 IAmb IAmb 16 06 58.4
comp=Z,153nm,1.2s
KIBK Kibwezi 93.15 268 P P 16 06 42.8 +1.2
SNR=29
FARO Faro, Yukon 93.15 28 P P 16 06 40.3 -0.2
baz=274
ANN Anapa 93.19 315 eP P 16 06 39.0 -1.9
ANN e*PP pP 16 06 50.2 +0.7
ANN e 16 10 22.2
ANN eSP SP 16 19 06.0 +7.6
ANN pmax pmax
comp=Z,456nm,2.0s
ANN pmax pmax
comp=Z,202nm,1.5s
OBN Obninsk 93.25 325 ⇑P P 16 06 39.4 -1.6
OBN Obninsk 93.25 325 c iP P 16 06 38.3 -2.6
OBN e 16 06 52.9
OBN e 16 10 22.3
OBN ePPP PPP 16 12 23.4
OBN eS SKSac 16 17 11.9 -1.3
OBN eSS SS 16 23 56.1 -5.9
OBN eSSS SSS 16 27 43.4
OBN pmax pmax
comp=Z,174nm,1.7s
OBN Obninsk 93.25 325 P P 16 06 38.4 -2.6
OBN IAmb IAmb 16 06 54.0
comp=Z,245nm,1.0s
GAZ Gaziantep 93.63 307 IAmb IAmb 16 06 57.0
comp=Z,241nm,1.2s
APA Apatity 93.64 338 ⇓iP P 16 06 41.1 -1.4
APA pmax pmax
comp=Z,103nm,1.1s
CRAG Craig 93.79 35 P P 16 06 44.0 +0.6
baz=274
KMBO Kilima Mbogo 93.96 269 P P 16 06 46.1 +0.6
comp=Z,11nm,1.0s,baz=79,slow=4.8,SNR=17
KMBO LR LR 16 45 34.6
comp=Z,9µm,21.5s,baz=98,slow=33
KMBO Kilima Mbogo 93.96 269 iP P 16 06 45.4 -0.1
SNR=27
KMBO Kilima Mbogo 93.96 269 P P 16 06 45.2 -0.3
KMBO IAmb IAmb 16 07 02.5
comp=Z,281nm,1.6s
KMBO Kilima Mbogo 93.96 269 iP P 16 06 47.9 +2.4
MMPY Sheldon Lake, 94.08 27 P P 16 06 44.6 -0.2
baz=276
WRAK Wrangell Islan 94.14 34 P P 16 06 43.2 -1.9
WRAK Wrangell Islan 94.14 34 P P 16 06 43.8 -1.2
baz=275
HOPEN Hopen 94.44 347 eP P 16 06 40.2 -5.8
HOPEN IVmB_BB 16 06 59.3
comp=Z,2µm,1.7s
HOPEN ePP PP 16 10 33.4 0.0
HOPEN eSKSac SKSac 16 17 20.2 +1.2
HOPEN eSP SP 16 19 12.9 +2.2
HOPEN eSS SS 16 24 19.3 +1.3
HOPEN IVMs_BB IVMs_BB 16 50 42.5
comp=Z,5µm,21.7s
BNN Bunyan 94.64 309 IAmb IAmb 16 06 53.6
comp=Z,441nm,1.3s
A36M Sachs Harbour 94.84 18 P P 16 06 46.9 -1.0
baz=283
DIKM Dikmen 94.93 312 ⇑P P 16 06 49.7 +0.6
SNOP Sinop 94.95 312 P P 16 06 48.8 -0.3
SNOP IAmb IAmb 16 07 02.7
comp=Z,184nm,1.2s
BHL Bhannes 95.02 304 eP P 16 06 49.5 -0.3
GHAJ Ghor Haditha 95.21 301 IAmb IAmb 16 07 04.2
comp=Z,344nm,1.4s
NGEA Songea 95.33 259 iP P 16 06 50.5 -1.1
BANG Mbangamawe 95.37 260 iP P 16 06 54.0 +2.3
DODT Dodoma, Tanzan 95.37 264 iP P 16 06 55.1 +3.2
KEV Kevo 95.56 340 P P 16 06 49.0 -2.3
KEV pmax pmax
comp=Z,143nm,1.2s
KEV MLR MLR
comp=Z,14µm,20.0s
KEV Kevo 95.56 340 P P 16 06 49.0 -2.3
KEV IAmb IAmb 16 07 00.1
comp=Z,143nm,1.2s
TGTN Hyland Airport 95.62 28 P P 16 06 51.8 -0.1
baz=279
SPB2 Spitsbergen Ar 95.66 349 IAmb IAmb 16 07 08.1
comp=Z,207nm,1.2s
SPA0 Spitsbergen Ar 95.66 349 eP P 16 06 50.4 -1.3
SPA0 ePP PP 16 10 41.5 -1.4
SPA0 eSP SP 16 19 24.7 +0.6
SPA0 eSS SS 16 24 38.6 +3.2
SPITS Spitsbergen Ar 95.66 349 P P 16 06 49.8 -1.9
comp=Z,51nm,1.1s,baz=102,slow=11,SNR=8.5
SPITS PKKPbc PKKPbc 16 23 41.5 -3.8
comp=Z,4.2nm,0.8s,baz=216,slow=7.1,SNR=2.1
ZINI Mgazini 95.67 259 iP P 16 06 56.1 +2.9
WINO Wino 95.73 260 iP P 16 06 55.5 +2.0
MFRI Mfriga 95.73 261 iP P 16 06 57.4 +3.8
LIGA Liganga 95.74 259 iP P 16 06 56.1 +2.7
BZK Bozkurt 95.85 312 ⇑P P 16 06 52.3 -0.9
LODK Lodwar 95.90 273 P P 16 06 55.0 +0.8
SNR=19
KIDE Kidegembe 96.02 261 iP P 16 06 55.7 +0.8
MUDIN Mudindi 96.08 260 iP P 16 06 57.8 +2.7
PUL Pulkovo 96.10 330 ⇓eP P 16 06 53.7 -0.2
PUL pmax pmax
comp=Z,107nm,0.9s
PUL MLR MLR
comp=Z,7µm,18.0s
TIRI Matiri 96.11 259 iP P 16 06 56.7 +1.6
KBS Kingsbay 96.11 350 eP P 16 06 53.8 +0.1
KBS IAmb IAmb 16 06 58.3
comp=Z,353nm,1.7s
KBS i 16 10 53.2
KBS Kingsbay 96.11 350 P P 16 06 51.7 -2.0
KBS pmax pmax
comp=Z,96nm,1.4s
KBS MLR MLR
comp=Z,18µm,20.0s
KBS Kingsbay 96.11 350 eP P 16 06 52.1 -1.5
KBS ePP PP 16 10 44.6 -1.8
KBS eSKSac SKSac 16 17 28.2 +0.3
KBS eSS SS 16 24 48.5 +6.7
KBS Kingsbay 96.11 350 P P 16 06 51.7 -2.0
ARA0 ARCESS Array S 96.12 340 eP P 16 06 52.4 -1.5
ARCES ARCESS Array B 96.12 340 P P 16 06 52.4 -1.5
comp=Z,87nm,0.8s,baz=71,slow=5.3,SNR=98
ARCES PKKPbc PKKPbc 16 23 43.0 -0.8
comp=Z,2.9nm,0.7s,baz=260,slow=2.2,SNR=7.1
ARCES LR LR 16 57 52.4
comp=Z,8µm,18.4s,baz=85,slow=40
ARCES ARCESS Array B 96.12 340 IAmb IAmb 16 07 02.9
comp=Z,269nm,1.1s
MBAM Mbamba Bay 96.18 259 iP P 16 06 56.0 +0.6
UWEM Njombe 96.24 260 iP P 16 06 53.7 -2.3
BAKO Makambako 96.24 261 iP P 16 06 57.4 +1.6
BR131 Keskin Array S 96.29 310 P P 16 06 54.5 -1.0
SNR=36
BRTR Keskin Array B 96.29 310 P P 16 06 53.7 -1.8
comp=Z,17nm,0.9s,baz=114,slow=3.6,SNR=79
MKIL Mkili 96.30 259 iP P 16 06 59.6 +3.7
HSPB Hornsund (broa 96.31 348 eP P 16 06 54.1 -0.5
HSPB eSKSac SKSac 16 17 29.6 +0.6
HSPB eSS SS 16 24 46.4 +1.8
HSPB IVMs_BB IVMs_BB 16 53 11.2
comp=Z,8µm,19.7s
MANDA Manda 96.39 259 iP P 16 06 56.6 +0.2
NIND Nindi 96.42 260 iP P 16 07 00.3 +3.7
HAMF Hammerfest 96.43 341 eP P 16 06 53.8 -1.4
HAMF IVmB_BB 16 07 07.7
comp=Z,2µm,1.4s
HAMF ePP PP 16 10 46.5 -2.4
HAMF eSP SP 16 19 34.1 +1.4
HAMF eSS SS 16 24 47.9 +1.4
HAMF IVMs_BB IVMs_BB 16 56 44.3
comp=Z,6µm,14.1s
TOLA Matola 96.44 260 iP P 16 06 57.5 +0.6
BJO1 Bjornoya 96.51 345 eP P 16 06 54.3 -1.2
BJO1 IVmBBB 16 07 09.9
comp=Z,2µm,2.3s
BJO1 ePP PP 16 10 47.7 -1.8
BJO1 eSKSac SKSac 16 17 32.6 +2.6
BJO1 eSP SP 16 19 34.8 +1.3
BJO1 eSS SS 16 24 48.3 +0.8
BJO1 IVMs_BB IVMs_BB 16 55 11.3
comp=Z,7µm,18.2s
UNDA Madunda 96.54 260 iP P 16 06 58.1 +0.9
KIPE Kipengere 96.59 261 iP P 16 07 00.8 +3.2
GAWA Igawa 96.66 261 iP P 16 06 59.8 +2.1
UKWA Ukwama 96.80 260 iP P 16 07 00.4 +1.9
CSS Mathiatis 96.88 305 IAmb IAmb 16 07 12.1
comp=Z,108nm,1.1s
MAKE Makete 96.93 261 iP P 16 07 00.4 +1.3
ANTO Ankara 96.93 310 P P 16 06 56.6 -1.7
ANTO pmax pmax
comp=Z,125nm,1.4s
ANTO Ankara 96.93 310 P P 16 06 56.6 -1.7
ANTO IAmb IAmb 16 07 04.2
comp=Z,124nm,1.4s
CHML Chimala 97.01 261 iP Pdif 16 07 00.8 +1.5
KTK1 Kautokeino 97.04 340 eP P 16 06 56.2 -1.8
KTK1 IVmBBB 16 07 10.4
comp=Z,2µm,1.9s
KTK1 ePP PP 16 10 53.3 -0.4
KTK1 eSKSac SKSac 16 17 30.9 -2.1
KTK1 eSS SS 16 24 53.7 -1.5
KTK1 IVMs_BB IVMs_BB 16 57 49.9
comp=Z,4µm,16.8s
MATAM Matamba 97.06 261 iP Pdif 16 07 02.5 +2.8
LEF Lefka 97.23 305 ⇑P Pdif 16 07 05.2 +5.5
JILO Lwanjilo 97.47 261 iP Pdif 16 07 03.9 +2.3
ILIND Ilindi 97.69 261 iP Pdif 16 07 05.4 +2.9
PDHT Panda Hill 97.78 261 iP Pdif 16 07 05.5 +2.6
FINES FINESS Array B 97.83 332 P P 16 07 00.2 -1.5
comp=Z,24nm,0.8s,baz=90,slow=5.7,SNR=50
FINES PKiKP PKiKP 16 11 35.6 +0.3
comp=Z,7.9nm,0.9s,baz=127,slow=3.7,SNR=1.4
FINES PKKP PKKPdf 16 23 44.9 +3.8
comp=Z,5.7nm,0.9s,baz=116,slow=4.4,SNR=8.6
FINES LR LR 16 53 55.8
comp=Z,7µm,20.6s,baz=75,slow=37
JETT Jettan, Norway 97.83 341 eP P 16 07 01.4 -0.2
NOR Nord 97.85 355 iP P 16 07 01.0 -0.5
NOR i 16 10 59.8
NOR Nord 97.85 355 iP P 16 07 01.0 -0.5
NOR i 16 10 59.8
GETA Geita 97.94 267 iP Pdif 16 07 08.7 +5.2
AKASG Malin Array Be 98.14 321 P P 16 07 01.3 -2.1
comp=Z,18nm,0.9s,baz=68,slow=4.3,SNR=34
AKASG LR LR 16 53 12.1
comp=Z,7µm,21.0s,baz=70,slow=37
AKASG Malin Array Be 98.14 321 P P 16 07 00.5 -2.9
AKASG IAmb IAmb 16 07 16.9
comp=Z,207nm,2.1s
AKBB Malin Array Si 98.14 321 c iP P 16 07 01.2 -2.2
AKBB pmax pmax
comp=Z,118nm,1.4s
AKBB MLR MLR
comp=Z,8µm,17.0s
AKBB Malin Array Si 98.14 321 P P 16 07 00.1 -3.3
AKBB IAmb IAmb 16 07 16.2
comp=Z,127nm,1.3s
VSU Vasula 98.16 329 eP P 16 07 02.1 -1.1
VSU Vasula 98.16 329 c iP P 16 07 01.0 -2.2
VSU pmax pmax
comp=Z,441nm,1.1s
TRO Tromso 98.29 341 eP P 16 07 02.1 -1.5
TRO IVmB_BB 16 07 15.6
comp=Z,2µm,4.4s
TRO ePP PP 16 11 04.1 +0.9
TRO eSP SP 16 19 49.2 -3.7
TRO eSS SS 16 25 11.7 -1.0
TRO IVMs_BB IVMs_BB 16 57 11.6
comp=Z,6µm,18.1s
MNK Minsk 98.31 325 iP P 16 07 01.4 -2.6
MNK i 16 11 01.0
MNK iPPP PPP 16 13 06.3
MNK iS SKSac 16 17 36.4 -3.6
MNK iSS SS 16 25 15.9 +2.1
MNK iSSS SSS 16 28 58.7
MNK pmax pmax
comp=E,7.0nm,1.3s
MNK pmax pmax
comp=Z,55nm,0.9s
MNK pmax pmax
comp=N,13nm,0.9s
MNK MLR MLR
comp=N,7µm,26.0s
MNK MLR MLR
comp=E,844nm,21.0s
MNK MLR MLR
comp=Z,7µm,21.0s
MNK Minsk 98.31 325 iP P 16 07 01.5 -2.6
comp=E,7.0nm,1.3s
MNK iP P 16 07 01.5 -2.6
comp=N,13nm,0.9s
MNK iP P 16 07 01.5 -2.6
comp=Z,55nm,0.9s,baz=79
MNK iPP PP 16 11 01.1 -2.8
MNK iPPP PPP 16 13 06.4
MNK iS SKSac 16 17 36.5 -3.6
MNK iSS SS 16 25 15.9 +2.2
MNK iSSS SSS 16 28 58.8
MNK iLQ LQ 16 45 27.6
MNK iLR LR 16 49 52.6
MNK iLRM MLR 16 52 01.1
comp=N,7µm,25.6s
MNK iLRM MLR 16 52 32.4
comp=E,844nm,21.1s
MNK iLRM MLR 16 52 32.4
comp=Z,7µm,21.1s
PURM Purcari 98.32 317 ⇑P P 16 06 58.2 -6.1
EUNU Eureka 98.61 6 P P 16 07 04.2 -0.8
EUNU IAmb IAmb 16 07 14.6
comp=Z,173nm,1.8s
NACGM Naroch 98.86 326 iP P 16 07 06.0 -0.5
ISP Isparta 98.89 308 P P 16 07 05.2 -2.0
ISP pmax pmax
comp=Z,226nm,1.7s
ISP Isparta 98.89 308 P P 16 07 05.2 -2.0
ISP IAmb IAmb 16 07 13.3
comp=Z,226nm,1.7s
MEF Metsahovi 98.92 331 eP Pdif 16 07 06.9 +0.3
KIS Kishinev 98.97 317 ⇑iP P 16 07 03.0 -4.2
comp=Z,760nm,12.8s
KIS Kishinev 98.97 317 ePP PP 16 11 11.0 +1.8
comp=Z,2µm,12.3s
KIS Kishinev 98.97 317 ePPP PPP 16 13 19.0
KIS eLR LR 16 55 10.0
comp=Z,2µm,20.5s
KIS Kishinev 98.97 317 iP P 16 07 03.0 -4.2
KIS e 16 11 11.0
KIS ePPP PPP 16 13 19.0
KIS e 16 18 36.0
KIS e 16 20 47.0
KIS pmax pmax
comp=Z,760nm,12.8s
KIS pmax pmax
comp=Z,2µm,12.3s
IIGN Ignalina 99.08 326 eP Pdif 16 07 07.5 0.0
ISAL Salakas 99.09 326 eP Pdif 16 07 07.5 0.0
SORM Soroca 99.11 319 ⇑P Pdif 16 07 05.7 -2.1
SORM Soroca 99.11 319 ⇑P Pdif 16 07 05.7 -2.1
TLCR 99.24 316 ⇑P Pdif 16 07 07.4 -1.0
TLCR 99.24 316 ⇑P Pdif 16 07 07.4 -1.0
ELL Elmali 99.49 307 IAmb IAmb 16 07 24.7
comp=Z,221nm,1.2s
TPGR Topolog 99.57 315 ⇑P Pdif 16 07 08.1 -1.9
MTSE Matsula 99.59 330 eP Pdif 16 07 09.3 -0.3
TIRR Tirgusor 99.63 315 ⇓P Pdif 16 07 08.8 -1.4
TIRR Tirgusor 99.63 315 ⇓P Pdif 16 07 08.8 -1.4
TIRR Tirgusor 99.63 315 P Pdif 16 07 08.2 -2.0
TIRR IAmb IAmb 16 07 23.7
comp=Z,121nm,1.0s
VLDR Vladesti 99.65 316 ⇑P Pdif 16 07 09.5 -0.8
CFR Carcaliu 99.72 316 ⇑P Pdif 16 07 09.0 -1.6
CFR Carcaliu 99.72 316 ⇑P Pdif 16 07 09.0 -1.6
VASR Vaslui 99.72 317 ⇑P Pdif 16 07 08.9 -1.7
SCTR Scanteiesti 99.74 316 ⇑P Pdif 16 07 10.3 -0.4
KSL Kastellorizon 99.82 306 P Pdif 16 07 16.7 +5.5
TLBR Topalu 99.88 315 ⇑P Pdif 16 07 09.9 -1.4
SCHL Schela 99.88 316 ⇑P Pdif 16 07 16.3 +5.0
SLCR Slobozia Conac 99.91 316 ⇑P Pdif 16 07 10.2 -1.2
HARR Harsova 99.94 315 ⇑P Pdif 16 07 11.0 -0.5
HARR Harsova 99.94 315 ⇑P Pdif 16 07 11.0 -0.5
RAF Rauma 99.95 332 eP Pdif 16 07 10.8 -0.4
ICOR Ion Corvin 100.12 315 ⇑P Pdif 16 07 12.4 +0.1
FETY Fethiye 100.16 307 P Pdif 16 07 11.6 -1.2
STEI Steigen 100.19 340 ePdif Pdif 16 07 11.7 -0.4
STEI IVmBBB 16 07 24.5
comp=Z,2µm,2.4s
STEI ePP PP 16 11 16.2 -1.5
STEI eSKSac SKSac 16 17 46.1 -2.7
STEI eSP SP 16 20 12.6 -0.7
STEI eSS SS 16 25 40.8 +1.6
STEI IVMs_BB IVMs_BB 16 58 59.5
comp=Z,6µm,17.3s
PABE Paberze 100.30 326 eP Pdif 16 07 12.9 0.0
ODBI Odobesti 100.37 316 ⇑P Pdif 16 07 11.0 -2.4
FAUS Fauske 100.39 339 ePdif Pdif 16 07 12.5 -0.5
FAUS IVmBBB 16 07 25.6
comp=Z,2µm,1.2s
FAUS ePP PP 16 11 17.6 -1.7

FAUS eSKSac **SKSac** 16 17 46.9 -2.9
FAUS eSP **SP** 16 20 15.3 -0.3
FAUS eSS **SS** 16 25 44.0 +1.8
FAUS IVMs_BB IVMs_BB 16 58 02.9
comp=Z,7µm,18.9s
GRER 100.50 316 ⇑P **Pdif** 16 07 14.6 +0.6
TESR Tescani 100.52 317 ⇑P **Pdif** 16 07 13.0 -1.1
VRI Vrincioaia 100.58 317 ⇓P **Pdif** 16 07 13.9 -0.5
VRI Vrincioaia 100.58 317 ⇓P **Pdif** 16 07 13.9 -0.5
PLOR Plostina 100.64 317 ⇑P **Pdif** 16 07 14.5 -0.2
PLOR Plostina 100.64 317 ⇑P **Pdif** 16 07 14.5 -0.2
BISRR Bisoca 100.65 316 ⇓P **Pdif** 16 07 14.6 -0.3
PRAR RASCA 100.65 318 ⇑P **Pdif** 16 07 13.8 -1.0
LOF Lofoten 100.68 340 ePdif **Pdif** 16 07 11.1 -3.2
LOF IVmB_BB 16 07 17.8
comp=Z,707nm,1.9s
LOF ePP **PP** 16 11 21.6 +0.2
LOF eSKSac **SKSac** 16 17 50.3 -0.9
LOF ePS PS 16 20 23.2 +0.3
LOF eSS **SS** 16 25 47.4 +1.3
LOF IVMs_BB IVMs_BB 17 00 52.2
comp=Z,3µm,16.2s
YER Yerkesik 100.74 308 ⇑P **Pdif** 16 07 14.3 -1.1
BIZ Bicaz 100.81 318 ⇑P **Pdif** 16 07 14.3 -1.2
COVR Voineasa-Covas 100.95 317 ⇑P **Pdif** 16 07 15.1 -1.0
NEHR Nehoiu 100.96 316 ⇑P **Pdif** 16 07 15.6 -0.6
ARG Arkhangelos 100.98 307 P **Pdif** 16 07 23.8 +7.4
AAL Aland 101.04 332 eP **Pdif** 16 07 15.8 -0.2
A04D Lummi Island 101.09 40 Pdiff **Pdif** 16 07 16.3 -0.3
baz=282
SUW Suwalki 101.11 325 eP **Pdif** 16 07 16.4 -0.1
SULR 101.12 315 ⇑P **Pdif** 16 07 16.2 -0.5
RAZG Razgrad 101.13 314 ⇑P **Pdif** 16 07 14.2 -2.7
I02D Swisshome 101.18 45 Pdiff **Pdif** 16 07 16.5 -0.6
baz=280
OZUR 101.19 317 ⇑P **Pdif** 16 07 17.4 +0.2
SECR 101.19 316 ⇑P **Pdif** 16 07 21.2 +4.0
MLR Muntele Rosu 101.19 316 ⇑P **Pdif** 16 07 16.5 -0.8
MOR8 Moi Rana 101.20 338 ePdif **Pdif** 16 07 14.3 -2.4
MOR8 IVmB_BB 16 07 27.9
comp=Z,2µm,2.8s
MOR8 ePP **PP** 16 11 18.5 -6.9
MOR8 eSKSac **SKSac** 16 17 52.4 -1.5
MOR8 eSP SP 16 20 23.4 -0.9
MOR8 eSS **SS** 16 25 52.3 -1.1
MOR8 IVMs_BB IVMs_BB 16 58 53.3
comp=Z,5µm,17.3s
BURAR Bucovina Array 101.28 318 ⇑P **Pdif** 16 07 16.8 -0.8
PBUR Paburge 101.28 327 eP **Pdif** 16 07 18.8 +1.6
J01E Myrtle Point 101.28 46 Pdiff **Pdif** 16 07 17.6 0.0
baz=280
D04E Lakebay 101.36 42 Pdiff **Pdif** 16 07 16.5 -1.2
baz=281
G03D McMinnville, O 101.39 44 Pdiff **Pdif** 16 07 17.9 -0.2
baz=281
F04D Rainier, OR 101.41 43 Pdiff **Pdif** 16 07 18.1 +0.1
baz=281
DOPR Dopca 101.48 317 ⇑P **Pdif** 16 07 15.8 -2.6
BODT Bodrum 101.52 308 P **Pdif** 16 07 17.5 -1.3
KONS Konsvik 101.54 339 ePdif **Pdif** 16 07 18.2 0.0
K02D Willamette Mer 101.56 47 Pdiff **Pdif** 16 07 17.9 -1.0
baz=280
B05A Bryant 101.58 41 Pdiff **Pdif** 16 07 18.4 -0.3
baz=282
YKA Yellowknife Ar 101.58 26 P **Pdif** 16 07 16.7 -1.7
comp=Z,2.6nm,0.8s,baz=296,slow=3.5,SNR=3.3
YKA PKKPbc **PKKPbc** 16 23 26.2 -2.1
comp=Z,5.0nm,0.9s,baz=95,slow=3.5,SNR=6.5
I03D Drain, OR 101.61 46 Pdiff **Pdif** 16 07 18.8 -0.2
baz=280
E04D Cinebar 101.62 43 Pdiff **Pdif** 16 07 19.3 +0.3
baz=282
L02E Cave Junction 101.69 47 Pdiff **Pdif** 16 07 20.3 +0.9
baz=280
NISR Nisiros 101.73 307 P **Pdif** 16 07 18.9 -0.8
SMG Samos 101.80 308 P **Pdif** 16 07 18.4 -1.6
VOIR 101.82 316 ⇑P **Pdif** 16 07 18.9 -1.1
KOSK Kos Island 101.83 307 P **Pdif** 16 07 12.5 -7.6
KARP Karpathos 101.84 306 P **Pdif** 16 07 19.7 -0.6
ENEZ Enez 101.86 311 P **Pdif** 16 07 20.5 +0.3
H04D Lebanon 101.89 45 Pdiff **Pdif** 16 07 19.1 -1.1
baz=281
ALN Alexandroupoli 101.92 312 P **Pdif** 16 07 22.8 +2.4
COPA Copaceanca 101.95 315 ⇑P **Pdif** 16 07 20.3 -0.2
ARCR ARCALIA 101.96 318 ⇑P **Pdif** 16 07 20.8 +0.2
PRK Paraskevi 102.01 310 P **Pdif** 16 07 10.8 -10
HUMR Humele 102.04 315 ⇑P **Pdif** 16 07 19.7 -1.2
ARR Arges 102.12 316 ⇑P **Pdif** 16 07 20.4 -0.9
GADA Gvkgeada 102.14 311 P **Pdif** 16 07 19.7 -1.8
DAG Danmarks Havn 102.18 353 *i* P **Pdif** 16 07 20.0 -0.9
DAG IAmb IAmb 16 07 25.5
comp=Z,85nm,1.5s
DAG *i* 16 11 34.1
I04A Tendick Farm, 102.26 45 Pdiff **Pdif** 16 07 21.7 -0.3
baz=281
UPP Uppsala 102.27 332 eP **Pdif** 16 07 21.5 0.0
SIGR SIGRI 102.33 310 P **Pdif** 16 07 21.2 -1.1
SMTH Samothraki Isl 102.37 311 P **Pdif** 16 07 21.9 -0.6
M02C Callahan 102.38 48 Pdiff **Pdif** 16 07 21.5 -1.1
baz=280
BMR Baia Mare 102.40 319 ⇑P **Pdif** 16 07 21.7 -0.8
KWP Kalwaria Pacla 102.46 321 ePdif **Pdif** 16 07 22.1 -0.6
KWP eSP SP 16 20 41.7 +3.1
KWP eL L 17 02 26.2
comp=Z,10µm,21.3s
F05D White Salmon 102.50 43 Pdiff **Pdif** 16 07 22.1 -0.9
baz=282
CJR Cluj-Napoca 102.55 318 ⇑P **Pdif** 16 07 23.6 +0.4
N02D Trinity Center 102.56 48 Pdiff **Pdif** 16 07 22.6 -0.8
baz=280
CBBR Cluj-Babes-Bol 102.57 318 ⇑P **Pdif** 16 07 23.0 -0.2
J04D Umpqua Nationa 102.58 46 Pdiff **Pdif** 16 07 22.7 -1.0
baz=281
L04D Klamath Falls 102.63 47 Pdiff **Pdif** 16 07 23.8 0.0
baz=281
O02D Mt. Diablo Mer 102.64 49 Pdiff **Pdif** 16 07 23.4 -0.4
baz=280
ZKR Zakros 102.67 306 P **Pdif** 16 07 22.6 -1.3
LIA Limnos Island 102.73 311 P **Pdif** 16 07 20.4 -3.7
G05D Wamic, OR 102.74 44 Pdiff **Pdif** 16 07 24.0 0.0
baz=282
NSS Namsos 102.84 337 eP **Pdif** 16 07 23.6 -0.5
NSS ePP **PP** 16 11 34.9 -2.9
NSS eSP SP 16 20 42.1 +0.4
NSS IVMs_BB IVMs_BB 16 56 14.9
comp=Z,4µm,16.7s
KOLS Kolonicke sedl 102.91 320 ePDIFF **Pdif** 16 07 25.6 +0.9
I05D Terrebonne, OR 102.91 45 Pdiff **Pdif** 16 07 25.2 +0.4
baz=282
TRPA Tarpa 102.93 319 ⇑P **Pdif** 16 07 23.8 -1.0
TRPA Tarpa 102.93 319 eP **Pdif** 16 07 24.6 -0.2
APE Apeiranthos 102.93 308 P **Pdif** 16 07 21.3 -3.8
K04D Chiloquin, OR 102.95 46 Pdiff **Pdif** 16 07 24.6 -0.7
baz=281
THAS Thassos island 102.96 311 P **Pdif** 16 07 18.2 -6.9
KAVA Kavala 103.04 312 P **Pdif** 16 07 22.6 -2.8
M04C Macdoel 103.05 47 Pdiff **Pdif** 16 07 23.9 -1.8
baz=281
BEL Belsk 103.07 323 ePdif **Pdif** 16 07 29.9 +4.5
BEL eSP SP 16 20 50.8 +5.9
BEL eL L 16 59 10.3
comp=Z,8µm,22.2s
SANT Santorini 103.09 307 ⇑P **Pdif** 16 07 27.4 +1.6
SANT Santorini 103.09 307 P **Pdif** 16 07 32.2 +6.4
DRGR 103.12 318 ⇑P **Pdif** 16 07 24.6 -1.2
NPS Neapolis 103.14 306 P **Pdif** 16 07 17.5 -8.5
DEV Deva 103.20 317 ⇑P **Pdif** 16 07 26.3 +0.2
J05D Fort Rock, OR 103.20 46 Pdiff **Pdif** 16 07 26.1 -0.2
baz=282
NEEM North Greenlan 103.32 1 *i* P **Pdif** 16 07 30.0 +3.7
NEEM IAmb IAmb 16 07 41.0
comp=Z,53nm,1.3s
O03E Paynes Creek 103.36 49 Pdiff **Pdif** 16 07 27.3 +0.3
baz=281
SKY Skiros Island 103.39 310 P **Pdif** 16 07 33.7 +6.6
GZR Gura Zlata 103.39 317 ⇓P **Pdif** 16 07 25.2 -1.8
TULEG Thule 103.41 5 eP **Pdif** 16 07 29.1 +2.7
CRVS Cervenica-Dubn 103.43 320 ePDIFF **Pdif** 16 07 28.1 +1.1
OUR Ouranopolis 103.56 311 P **Pdif** 16 07 25.6 -2.2
BOSA Boshof 103.66 240 Pdiff **Pdif** 16 07 26.8 -1.9
comp=Z,19nm,0.9s,baz=103,slow=4.7,SNR=27
BOSA PKiKP **PKiKP** 16 11 46.5 -0.6
comp=Z,14nm,1.1s,baz=109,slow=8.5,SNR=4.2
BOSA PKKP **PKKPdf** 16 23 30.4 +0.5
comp=Z,6.9nm,1.0s,baz=281,slow=3.5,SNR=5.7
BOSA Boshof 103.66 240 Pdif **Pdif** 16 07 28.9 +0.2
VTS Vitosha 103.66 314 ⇑P **Pdif** 16 07 26.9 -1.5
IDI Anoyia 103.72 306 P **Pdif** 16 07 21.2 -7.5
HERR Herculane 103.76 316 ⇑P **Pdif** 16 07 26.7 -1.8
KYMI Kymi, Euboea I 103.78 310 P **Pdif** 16 07 29.3 +0.5
LBTB Lobatse 103.85 244 PKKP 16 23 25.2
comp=Z,5.3nm,0.9s,baz=267,slow=4.2,SNR=4.9
LBTB Lobatse 103.85 244 Pdif **Pdif** 16 07 29.7 +0.2
LBTB Lobatse 103.85 244 *i* P **Pdif** 16 07 35.0 +5.5
TMBK Timbaki Herakl 103.85 306 P **Pdif** 16 07 43.3 +14
SOH Sokhos 103.94 312 P **Pdif** 16 07 26.3 -3.2
SIRR Siria 103.95 318 ⇓P **Pdif** 16 07 28.3 -1.1
PLG Polygyros 103.95 311 P **Pdif** 16 07 33.0 +3.4
HFS Hagfors 104.00 333 PKKPbc PKKPbc 16 23 24.7 +3.6
comp=Z,3.2nm,0.7s,baz=204,slow=3.3,SNR=7.7
DION Dionisos Attik 104.01 309 P **Pdif** 16 07 30.2 +0.3
NIE Niedzica 104.03 321 ePdif **Pdif** 16 07 30.1 +0.4
NIE eSP SP 16 21 05.2 +10
NIE eL L 17 05 36.8
comp=Z,4µm,21.9s
PTL Penteli 104.07 309 P **Pdif** 16 07 27.8 -2.3
TBLU Trondheim 104.10 336 ePdif **Pdif** 16 07 28.8 -0.9
TBLU ePP **PKiKP** 16 11 45.2 -1.4
TBLU eSKSac **SKSac** 16 18 06.5 -1.1
TBLU ePS PS 16 20 59.1 -0.2
TBLU eSS **SS** 16 26 32.4 -1.2
TBLU IVMs_BB IVMs_BB 16 59 31.2
comp=Z,5µm,22.1s
OJC Ojcow 104.12 322 ePdif **Pdif** 16 07 28.3 -1.7
OJC eSP SP 16 20 59.8 +3.8
OJC eL L 17 04 42.8
comp=Z,12µm,18.9s
BZS Buzias 104.14 317 ⇑P **Pdif** 16 07 29.3 -0.9
ATHU Athens Univers 104.14 309 P **Pdif** 16 07 28.7 -1.8
KECS Kecovo 104.17 320 ePDIFF **Pdif** 16 07 31.0 +0.7
ATH Athens Observa 104.20 309 P **Pdif** 16 07 27.2 -3.4
KNT Kendrikon 104.21 312 P **Pdif** 16 07 23.8 -6.9
VAM Vamos 104.25 306 P **Pdif** 16 07 30.8 -0.2
MDVR Moldovita 104.27 316 ⇑P **Pdif** 16 07 29.6 -1.3
NEO Neokhori 104.33 310 P **Pdif** 16 07 32.2 +0.9
XOR Xorichti 104.34 310 P **Pdif** 16 07 35.2 +3.9
IMMV Iera Moni Meta 104.42 306 P **Pdif** 16 07 26.4 -5.3
ITZ Itezhi-Tezhi 104.44 254 eP **Pdif** 16 07 32.4 +0.1
ITZ *i* 16 19 30.0
ITZ Itezhi-Tezhi 104.44 254 eP **Pdif** 16 07 32.4 +0.1
ITZ *i* 16 19 30.0
VILL Villia 104.47 309 P **Pdif** 16 07 35.9 +3.9
BOVS Bovan 104.54 315 ⇑P **Pdif** 16 07 31.2 -0.9
STIP Stip 104.62 313 *i* P **Pdif** 16 07 31.2 -1.3
LKR Lokris 104.62 310 P **Pdif** 16 07 35.9 +3.3
LANS Liptovska Anna 104.63 321 ePDIFF **Pdif** 16 07 33.9 +1.5
PSZ Piszkesteto 104.70 320 ⇑P **Pdif** 16 07 27.1 -5.6
PSZ Piszkesteto 104.70 320 eP **Pdif** 16 07 31.3 -1.5
NC602 NORSAR Array S 104.71 334 ePdif **Pdif** 16 07 29.7 -2.7
NC602 IVmB_BB 16 07 37.2
comp=Z,894nm,2.1s
NC602 ePP **PP** 16 11 51.2 -0.6
NC602 eSKSac **SKSac** 16 18 11.1 +0.6
NC602 eSP SP 16 21 02.4 +0.9
NC602 eSS **SS** 16 26 42.7 +0.7
NC602 IVMs_BB IVMs_BB 17 00 30.0
comp=Z,4µm,19.0s
NB2 NORSAR Subarra 104.72 334 P **Pdif** 16 07 30.7 -1.8
comp=Z,232nm,2.0s,baz=70,slow=4.6
NB2 NORSAR Subarra 104.72 334 P **Pdif** 16 07 30.7 -1.8
baz=70,slow=4.6
NOA NORSAR Array B 104.72 334 Pdiff **Pdif** 16 07 30.9 -1.6
comp=Z,11nm,0.9s,baz=68,slow=4.6,SNR=24
NOA PKKPbc **PKKPbc** 16 23 18.0 -1.0
comp=Z,5.6nm,0.9s,baz=73,slow=3.2,SNR=7.6
KRND KRANIDI 104.75 308 P **Pdif** 16 07 34.4 +1.3
LTK Loutraki 104.77 309 P **Pdif** 16 07 24.1 -9.1
NEW Newport 104.81 40 Pdiff **Pdif** 16 07 32.0 -1.2
baz=286
ANKY Antikythira Is 104.90 307 P **Pdif** 16 07 31.2 -2.6
VLI Veliai 105.03 308 P **Pdif** 16 07 29.3 -5.1
AGG Agios Georgios 105.06 310 P **Pdif** 16 07 30.7 -3.9
JMIC Jan Mayen 105.16 347 ePdif **Pdif** 16 07 34.2 0.0
JMIC ePP **PP** 16 11 51.8 -3.1
JMIC eSP SP 16 21 07.8 +2.1
JMIC IVMs_BB IVMs_BB 16 56 05.2
comp=Z,9µm,3.6s
DOMB Dombas 105.17 336 ePdif **Pdif** 16 07 31.8 -2.6
DOMB ePP **PP** 16 11 52.4 -2.8
DOMB ePS PS 16 21 10.4 -0.1
DOMB IVMs_BB IVMs_BB 16 56 16.6
comp=Z,4µm,17.4s
VYHS Vyhne 105.22 320 ePDIFF **Pdif** 16 07 39.3 +4.3
MAKR Makrakomi, Fth 105.22 310 P **Pdif** 16 07 35.9 +0.7
OKC Ostrava-Krasne 105.25 322 ePDIFF **Pdif** 16 07 34.5 -0.6
OKC AMS AMS 17 06 30.0
comp=Z,6µm,16.4s
TRIZ Trizonia 105.39 310 P **Pdif** 16 07 34.4 -1.6
KLV Kalavryta, Ach 105.40 309 P **Pdif** 16 07 34.2 -1.9
OSL Oslo 105.43 333 ePP **PP** 16 11 55.4 -1.7
OSL eSP SP 16 21 09.8 +0.8
ANX Ano Chora 105.47 310 P **Pdif** 16 07 36.2 -0.2
FRGS Fruska Gora 105.48 317 ⇑P **Pdif** 16 07 36.8 +0.5
EVR Evrytania 105.48 310 P **Pdif** 16 07 39.5 +3.0
LAKA Lakka 105.49 310 P **Pdif** 16 07 35.2 -1.3
EFP Efpalio 105.51 310 P **Pdif** 16 07 34.5 -2.0
MOL Molde 105.52 336 ePdif **Pdif** 16 07 35.7 -0.3
MOL IVmBBB 16 07 49.3
comp=Z,850nm,2.1s
MOL ePP **PP** 16 11 57.3 -0.4
MOL eSP SP 16 21 12.3 +2.6
MOL ePS PS 16 21 14.3 +0.2
MOL IVMs_BB IVMs_BB 17 02 02.7
comp=Z,4µm,19.5s
MORC Moravsky Berou 105.64 322 ⇓P **Pdif** 16 07 33.5 -3.4
MORC Moravsky Berou 105.64 322 ePDIFF **Pdif** 16 07 36.2 -0.7
MORC ePP **PP** 16 12 00.6 +1.4
MORC ePS PS 16 21 17.6 +1.5
MORC ePKPPKP 16 31 23.5
SMMC Simmler 105.68 54 Pdiff **Pdif** 16 07 36.9 -0.4
baz=281
ITM Ithomi 105.74 308 P **Pdif** 16 07 29.3 -8.3
DRO Drossia 105.76 309 P **Pdif** 16 07 36.8 -0.8
PVO Paravola 105.76 310 P **Pdif** 16 07 40.3 +2.7
JAVC Velka Javorina 105.85 321 ePDIFF **Pdif** 16 07 38.4 +0.6
JAVC ePP **PP** 16 12 03.7 +3.0
JAVC ePS PS 16 21 21.8 +3.5
JAVC ePKPPKP 16 31 22.2
KBN Korca 105.89 312 P **Pdif** 16 07 27.1 -11
PKM Mcpherson Peak 105.90 54 Pdiff **Pdif** 16 07 38.2 -0.4
baz=281
RLS Riolos of Patr 105.92 309 P **Pdif** 16 07 39.6 +1.3
AKN Aaknes 105.94 336 ePdif **Pdif** 16 07 37.3 -0.6
AKN ePP **PP** 16 11 58.2 -2.7
AKN eSKSac **SKSac** 16 18 13.1 -2.9
AKN eSP SP 16 21 16.9 +2.7
AKN IVMs_BB IVMs_BB 17 02 24.0
comp=Z,4µm,16.6s
VOG Valley Oaks Go 105.98 52 Pdiff **Pdif** 16 07 39.1 +0.5
baz=281
MORH Mrgy, Hungar 105.99 318 eP **Pdif** 16 07 37.9 -0.6
KRLC Kraliky 106.02 322 ePDIFF **Pdif** 16 07 38.4 -0.2
KRLC eSP SP 16 21 16.0 +0.2
KRLC AMS AMS 17 08 30.0
comp=Z,10µm,18.1s
KSP Ksiaz 106.06 323 ePdif **Pdif** 16 07 38.5 -0.2
KSP eSP SP 16 21 17.8 +1.7
KSP eL L 17 05 33.2
comp=Z,8µm,20.9s
SBC Santa Barbara 106.06 54 Pdiff **Pdif** 16 07 37.7 -1.4
baz=280
KONO Kongsberg 106.07 333 ePdif **Pdif** 16 07 39.2 +0.7
KONO IVmB_BB 16 07 51.2
comp=Z,1µm,2.5s
KONO ePP **PP** 16 12 00.6 -1.3
KONO eSP SP 16 21 17.7 +2.1
MLAC Mammoth, Mammt 106.14 51 Pdiff **Pdif** 16 07 39.4 -0.2
baz=282
SKAR Skarslia 106.15 335 ePdif **Pdif** 16 07 38.8 -0.1
SKAR IVmB_BB 16 07 52.1
comp=Z,1µm,5.1s
SKAR ePP **PP** 16 12 00.2 -2.3
SKAR eSKSac **SKSac** 16 18 16.0 -1.1
SKAR eSP SP 16 21 13.6 -2.9
SKAR eSS **SS** 16 27 02.2 +0.5
SKAR IVMs_BB IVMs_BB 16 57 39.7
comp=Z,5µm,18.7s
OSTC Ostas 106.20 323 ePDIFF **Pdif** 16 07 40.7 +1.4
OSTC AMS AMS 17 04 50.0
comp=Z,8µm,18.5s
DPC Dobruska-Polom 106.21 323 ePDIFF **Pdif** 16 07 39.4 0.0
DPC eSP SP 16 21 16.7 -1.0
DPC AMS AMS 17 07 50.0
comp=Z,10µm,17.4s
MODS Modra-Piesok 106.24 321 ePDIFF **Pdif** 16 07 41.6 +2.0
CHVC Chvalec 106.29 323 ePDIFF **Pdif** 16 07 40.2 +0.5
CHVC ePP **PP** 16 12 04.7 +0.8
CHVC AMS AMS 16 59 00.0
comp=Z,9µm,18.2s
VES Vestal, Richgr 106.31 53 Pdiff **Pdif** 16 07 38.5 -1.6
baz=281
LNIZ Loecknitz 106.33 326 ePdiff **Pdif** 16 07 41.7 +1.9
UPC Upice 106.34 323 ePDIFF **Pdif** 16 07 41.4 +1.5
UPC AMS AMS 17 05 30.0
comp=Z,10µm,18.1s
VRAC Vranov 106.38 322 ⇑P **Pdif** 16 07 40.8 +0.6
VRAC Vranov 106.38 322 ePDIFF **Pdif** 16 07 39.8 -0.3
VRAC ePP **PP** 16 12 05.7 +1.1
VRAC ePS **PS** 16 21 24.2 +0.6
VRAC ePKPPKP P'P'df 16 31 18.9 -17
KOVH Kovagototos 106.39 318 eP **Pdif** 16 07 39.9 -0.3
NVAR Mina Array Bea 106.39 50 Pdiff **Pdif** 16 07 41.1 +0.4
comp=Z,1.9nm,0.6s,baz=266,slow=5.7,SNR=19
NVAR PKiKP **PKiKP** 16 11 53.5 +1.6
comp=Z,2.6nm,0.8s,baz=276,slow=3.5,SNR=1.3
NVAR PKKPbc **PKKPbc** 16 23 11.9 -1.5
comp=Z,2.7nm,0.9s,baz=147,slow=3.7,SNR=5.8
NVAR PKKP **PKKPdf** 16 23 25.4 +0.1
comp=Z,4.4nm,1.0s,baz=133,slow=2.4,SNR=4.0
NVAR Mina Array Bea 106.39 50 **Pdif** 16 07 41.5 +0.7
LKD2 Lefkada island 106.39 310 P **Pdif** 16 07 44.0 +3.6
COP Copenhagen 106.43 329 eP **Pdif** 16 07 40.7 +0.6
MPLH Magyarpolny 106.44 319 eP **Pdif** 16 07 39.4 -1.0
FSK Fiskardo 106.53 310 P **Pdif** 16 07 40.4 -0.6
PDG Podgorica 106.57 314 ⇓P **Pdif** 16 07 42.1 +1.0
KRUC Moravsky 106.58 321 ePDIFF **Pdif** 16 07 40.7 -0.3
KRUC ePP **PP** 16 12 06.3 +0.3
KRUC ePS PS 16 21 26.7 +1.0
KRUC ePKPPKP 16 31 20.1
ARVC Arvin 106.65 54 Pdiff **Pdif** 16 07 40.4 -1.3
baz=281
TIN Tinemaha, Big 106.74 51 Pdiff **Pdif** 16 07 39.7 -2.4
baz=282
HYA Hoyanger 106.80 336 ePdif **Pdif** 16 07 40.4 -1.3
HYA ePP **PP** 16 12 08.0 +0.9
HYA eSKSac **SKSac** 16 18 20.3 +0.6
ISA Isabella, Lake 106.83 53 Pdiff **Pdif** 16 07 39.9 -2.7
baz=282
KEK Kerkira 106.83 311 P **Pdif** 16 07 49.9 +7.5
OSI Osito Audit: C 106.83 54 Pdiff **Pdif** 16 07 43.2 +0.6
baz=281
VLO Vlora 106.88 312 P **Pdif** 16 07 38.9 -3.6
RUE Ruedersdorf 106.95 325 eP **Pdif** 16 07 44.4 +1.9
RUE Ruedersdorf 106.95 325 ePdif **Pdif** 16 07 44.4 +1.9
CWC Cottonwood Cre 106.98 52 Pdiff **Pdif** 16 07 42.6 -0.7
baz=282
FOO Floro 107.03 336 IVmB_BB 16 07 40.8
comp=Z,890nm,3.5s
FOO ePdif **Pdif** 16 07 41.3 -1.4
FOO ePP **PP** 16 12 08.7 -0.1
FOO eSP SP 16 21 27.0 +1.6
FOO eSS **SS** 16 27 10.8 -2.7
FOO IVMs_BB IVMs_BB 16 58 42.6
comp=Z,5µm,16.4s
TREC Trest 107.07 322 ePDIFF **Pdif** 16 07 42.0 -1.2
TREC ePP **PP** 16 12 10.2 +0.6
TREC AMS AMS 17 07 50.0
comp=Z,10µm,17.5s
PVCC Panska Ves 107.20 323 ePDIFF **Pdif** 16 07 43.5 -0.2
PVCC ePP **PP** 16 12 12.2 +1.7
PVCC AMS AMS 17 11 10.0
comp=Z,7µm,17.9s
HOMB Homborsund 107.22 332 ePdif **Pdif** 16 07 42.0 -1.6
HOMB ePP **PP** 16 12 10.6 +0.4
HOMB eSKSac **SKSac** 16 18 18.0 -3.7
HOMB eSP SP 16 21 28.8 +1.3
DECC Green Verdugo 107.22 54 Pdiff **Pdif** 16 07 40.6 -3.6
baz=281
ODD1 Odda 107.25 334 ePdif **Pdif** 16 07 42.0 -1.8
ODD1 ePP **PP** 16 12 10.0 -0.6
ODD1 eSP SP 16 21 28.9 +1.0
CONA Conrad Observa 107.28 320 eP **Pdif** 16 07 43.3 -1.0
comp=Z,20nm,1.7s
SCI2 San Clemente I 107.28 56 Pdiff **Pdif** 16 07 44.0 -0.5
baz=281
MSO Missoula 107.29 41 Pdiff **Pdif** 16 07 42.3 -2.1
baz=288
CIS Catalina Islan 107.31 55 Pdiff **Pdif** 16 07 41.6 -3.1
baz=281
FMP Fort Macarthur 107.36 55 Pdiff **Pdif** 16 07 43.3 -1.5
baz=281
EDW2 Edwards Air Fo 107.37 54 Pdiff **Pdif** 16 07 44.2 -0.8
baz=282
PRU Pruhonice 107.41 323 ePDIFF **Pdif** 16 07 45.2 +0.5
PRU eSP SP 16 21 30.4 +0.4
PRU AMS AMS 17 05 30.0
comp=Z,9µm,19.1s
GRAC Grapevine Rang 107.42 51 Pdiff **Pdif** 16 07 45.1 -0.1
baz=283
SUE Sulen 107.44 336 ePdif **Pdif** 16 07 43.7 -0.8
SUE ePP **PP** 16 12 08.6 -3.2
SUE eSP SP 16 21 27.5 -2.1
SUE IVMs_BB IVMs_BB 17 02 40.5
comp=Z,5µm,20.6s
PRA Prague 107.44 323 ePDIFF **Pdif** 16 07 44.1 -0.7
PRA AMS AMS 17 05 20.0
comp=Z,8µm,18.6s
BRG Berggiesshubel 107.45 324 ePdiff **Pdif** 16 07 46.5 +1.7
BRG Berggiesshubel 107.45 324 ePif 16 07 45.5
BRG Amp 16 07 46.8
comp=Z,18nm,1.1s
BRG Berggiesshubel 107.45 324 P **Pdif** 16 07 50.5 +5.7
BRG Amp 16 07 51.6
comp=Z,54nm,1.4s
BRG Berggiesshubel 107.45 324 PS PS 16 21 34.0 -0.5
GOET G??ttrup 107.45 331 eP **Pdif** 16 07 46.7 +2.1
LRMC Laurel Mtn Rad 107.50 53 Pdiff **Pdif** 16 07 46.0 +0.4
baz=282
MPMC Manual Prospec 107.53 52 Pdiff **Pdif** 16 07 45.3 -0.6
baz=282
BER Bergen 107.56 335 ePdif **Pdif** 16 07 42.6 -2.5
BER ePP **PP** 16 12 13.0 +0.3
BER eSKSac **SKSac** 16 18 19.1 -4.0
BER eSP SP 16 21 32.5 +1.6
BER eSS **SS** 16 27 23.4 +2.7
BER IVMs_BB IVMs_BB 17 01 44.1
comp=Z,5µm,17.3s
ASK Askoy 107.57 335 ePdif **Pdif** 16 07 42.9 -2.2
ASK ePP **PP** 16 12 10.6 -2.1
ASK eSKSac **SKSac** 16 18 22.0 -1.1
BLS5 Blasjo 107.58 334 ePdif **Pdif** 16 07 44.7 -0.6
BLS5 IVmB_BB 16 07 50.0
comp=Z,1µm,2.0s
BLS5 ePP **PP** 16 12 12.9 -0.1
BLS5 eSP SP 16 21 30.7 -0.4
BLS5 eSS **SS** 16 27 24.3 +3.2
BLS5 IVMs_BB IVMs_BB 17 02 17.5
comp=Z,5µm,18.0s
ARSA Arzberg 107.72 320 eP **Pdif** 16 07 47.2 +1.0
comp=Z,10nm,1.2s
MUD Monsted U'grnd 107.74 330 *i* P **Pdif** 16 07 46.8 +0.9
MUD IAmb IAmb 16 07 51.8
comp=Z,64nm,1.2s
BFSC Mount Baldy Ra 107.77 54 Pdiff **Pdif** 16 07 47.7 +0.9
baz=282
FBE Freiberg 107.78 324 ePdiff **Pdif** 16 07 48.4 +2.1
SNART Snartemo 107.78 333 ePdif **Pdif** 16 07 48.4 +2.3
SNART ePP **PP** 16 12 16.7 +2.3
SNART eSP SP 16 21 34.1 +0.8
CLL Collm 107.84 324 *i* Pdif **Pdif** 16 07 47.0 +0.5
comp=Z,57nm,1.3s
CLL *i* pPdif **pPdif** 16 07 51.3 -3.8
CLL ePP **PP** 16 12 17.0 +1.9
comp=N,1µm,14.1s
CLL ePP **PP** 16 12 17.0 +1.9
comp=E,2µm,10.0s
CLL ePP **PP** 16 12 17.0 +1.9
CLL ePPP PPP 16 14 33.0
CLL eSKSac SKSac 16 18 42.0 +17

CLL				*e*PS	PS			16 21 33.0	-5.5
CLL				*e*PPS	PPS			16 22 34.0	
CLL				*e*SS	SS			16 27 36.0	+11
CLL				*e*SSS	SSS			16 31 30.0	
CLL				L	L			17 04 00.0	
	comp=Z,8µm,18.6s								
CLL	**Collm**	**107.84**	**324**	*e*Pdiff	**Pdif**			**16 07 48.0**	**+1.5**
FURC	**Furnace Creek,**	**107.94**	**52**	Pdiff	**Pdif**			**16 07 47.4**	**+0.1**
	baz=283								
SUMG	**Summit**	**107.94**	**357**	*e*P	**Pdif**			**16 07 45.8**	**-1.2**
HLID	**Hailey**	**107.95**	**44**	Pdiff	**Pdif**			**16 07 48.7**	**+1.2**
	baz=287								
CKRC	**Cesky Krumlov**	**107.96**	**322**	*e*PDIFF	**Pdif**			**16 07 47.8**	**+0.6**
CKRC				*e*PP	**PP**			**16 12 17.1**	**+0.9**
CKRC				AMS	AMS			17 05 50.0	
	comp=Z,10µm,19.5s								
RRX	**Edison Barstow**	**108.17**	**53**	Pdiff	**Pdif**			**16 07 48.8**	**+0.3**
	baz=282								
KMY	**Karmoy**	**108.22**	**334**	*e*Pdif	**Pdif**			**16 07 48.7**	**+0.7**
KMY				*e*PP	**PP**			**16 12 14.2**	**-3.4**
KMY				*e*SP	SP			16 21 37.9	+0.2
GSC	**Goldstone, Bar**	**108.23**	**53**	Pdiff	**Pdif**			**16 07 49.6**	**+0.7**
	baz=283								
BSEG	**Bad Segeberg**	**108.27**	**328**	*e*Pdiff	**Pdif**			**16 07 50.2**	**+1.8**
MURC	**Murrieta**	**108.28**	**55**	Pdiff	**Pdif**			**16 07 49.6**	**+0.7**
	baz=282								
KHC	**Kasperske Hory**	**108.30**	**322**	*e*PDIFF	**Pdif**			**16 07 49.4**	**+0.7**
KHC				*ex*	x			16 08 02.0	
KHC				*ex*	x			16 11 09.1	
KHC				*e*PKP	**PKiKP**			**16 11 56.6**	**+1.7**
KHC				*e*PP	**PP**			**16 12 20.5**	**+1.9**
KHC				*e*SP	SP			16 21 34.9	-4.3
KHC				AMS	AMS			17 06 50.0	
	comp=Z,9µm,16.9s								
TPNV	**Topopah Spring**	**108.31**	**51**	Pdiff	**Pdif**			**16 07 49.0**	**-0.2**
	baz=284								
MOA	**Molln**	**108.32**	**321**	*e*P	**Pdif**			**16 07 50.1**	**+1.2**
	comp=Z,44nm,1.2s								
GEC2	**GERESS Array S**	**108.33**	**322**	*e*Pdiff	**Pdif**			**16 07 50.6**	**+1.7**
GERES	**GERESS Array B**	**108.33**	**322**	Pdiff	**Pdif**			**16 07 47.5**	**-1.4**
	comp=Z,6.6nm,1.1s,baz=64,slow=6.1,SNR=20								
GERES				PKiKP	**PKiKP**			**16 11 55.2**	**+0.2**
	comp=Z,4.6nm,0.6s,baz=79,slow=2.1,SNR=10								
GERES				PKKPab	**PKKPab**			**16 23 14.8**	**-5.0**
	comp=Z,1.5nm,0.7s,baz=208,slow=2.6,SNR=6.0								
BBRC	**Big Bear Solar**	**108.36**	**54**	Pdiff	**Pdif**			**16 07 50.4**	**+0.9**
	baz=282								
FLTG	**Flechtingen**	**108.44**	**326**	*e*Pdiff	**Pdif**			**16 07 50.5**	**+1.3**
BOJS	**Bojanci**	**108.46**	**318**	*e*Pdiff	**Pdif**			**16 07 50.7**	**+1.2**
BOJS				*e*PP	**PP**			**16 12 25.6**	**+5.7**
BOJS				*e*				16 21 35.9	
R11A	**Troy Canyon, C**	**108.48**	**50**	Pdiff	**Pdif**			**16 07 49.7**	**-0.3**
	baz=284								
109C	**Camp Elliot, M**	**108.49**	**56**	Pdiff	**Pdif**			**16 07 51.3**	**+1.5**
	baz=282								
TANN	**Tannenbergstha**	**108.50**	**324**	*e*Pdiff	**Pdif**			**16 07 51.3**	**+1.7**
SHOC	**Shoshone, Teco**	**108.53**	**52**	Pdiff	**Pdif**			**16 07 50.4**	**+0.4**
	baz=283								
NKC	**Novy Kostel**	**108.57**	**324**	*e*PDIFF	**Pdif**			**16 07 50.4**	**+0.5**
NKC				AMS	AMS			17 09 40.0	
	comp=Z,10µm,17.9s								
WERD	**Werda**	**108.57**	**324**	*e*Pdiff	**Pdif**			**16 07 51.6**	**+1.7**
NEUB	**Neuenburg**	**108.59**	**325**	*e*Pdiff	**Pdif**			**16 07 51.6**	**+1.7**
GUNZ	**Gunzen**	**108.59**	**324**	*e*Pdiff	**Pdif**			**16 07 51.9**	**+1.9**
WERN	**Wernitzgruen**	**108.59**	**324**	*e*Pdiff	**Pdif**			**16 07 51.7**	**+1.7**
VISS	**Visnje**	**108.64**	**319**	*e*Pdiff	**Pdif**			**16 07 50.9**	**+0.6**
PLN	**Plauen**	**108.65**	**324**	*e*Pdiff	**Pdif**			**16 07 52.0**	**+1.8**
HEC	**Hector,Ludlow**	**108.71**	**53**	Pdiff	**Pdif**			**16 07 50.1**	**-0.8**
	baz=283								
WET	**Wettzell**	**108.72**	**322**	*e*Pdiff	**Pdif**			**16 07 52.5**	**+1.9**
LJU	**Ljubljana**	**108.77**	**319**	*e*Pdiff	**Pdif**			**16 07 50.0**	**-0.8**
ASSE	**Asse, Remlinge**	**108.84**	**326**	*e*Pdiff	**Pdif**			**16 07 52.9**	**+2.0**
MANZ	**Manzenberg**	**108.87**	**323**	*e*Pdiff	**Pdif**			**16 07 53.1**	**+1.9**
PFO	**Pinyon Flats O**	**108.87**	**55**	PKKPab	PKKPab			16 23 15.1	-2.4
	comp=Z,5.7nm,0.9s,baz=165,slow=4.0,SNR=4.4								
PFO	**Pinyon Flats O**	**108.87**	**55**	Pdiff	**Pdif**			**16 07 53.0**	**+1.3**
	baz=282								
TPFO	**Pinon Flats**	**108.88**	**55**	Pdiff	**Pdif**			**16 07 53.0**	**+1.3**
	baz=282								
ROTZ	**Rotzenmuhle**	**108.89**	**323**	*e*Pdiff	**Pdif**			**16 07 53.2**	**+1.9**
MOX	**Moxa**	**108.90**	**324**	*e*Pdiff	**Pdif**			**16 07 53.1**	**+1.7**
MOX				*e*L	L			17 08 14.8	
	comp=Z,9µm,18.4s								
TUQ	**Turquoise Moun**	**108.91**	**53**	Pdiff	**Pdif**			**16 07 53.1**	**+1.2**
	baz=283								
NRDL	**Niedersach Rie**	**109.00**	**326**	*e*Pdiff	**Pdif**			**16 07 53.9**	**+2.3**
MONP2	**Monument Peak**	**109.05**	**55**	Pdiff	**Pdif**			**16 07 52.4**	**-0.3**
	baz=282								
CLZ	**Clausthal**	**109.13**	**326**	*e*Pdiff	**Pdif**			**16 07 54.4**	**+2.0**
BELC	**Belle Mtn. Jos**	**109.17**	**54**	Pdiff	**Pdif**			**16 07 52.6**	**-0.5**
	baz=283								
BOZ	**Bozeman (W)**	**109.20**	**41**	Pdiff	**Pdif**			**16 07 52.0**	**-1.0**
	baz=290								
IKP	**In-Ko-Pah, Jac**	**109.36**	**56**	Pdiff	**Pdif**			**16 07 53.9**	**+0.1**
	baz=282								
GTTG	**Gottingen**	**109.48**	**326**	*e*Pdiff	**Pdif**			**16 07 56.0**	**+2.1**
GRF	**Grafenberg Arr**	**109.51**	**323**	*e*L	L			17 05 34.6	
	comp=Z,8µm,19.7s								
EGMT	**Eagleton**	**109.55**	**39**	Pdiff	**Pdif**			**16 07 53.2**	**-1.1**
	baz=292								
SWSC	**Sam W. Stewart**	**109.56**	**55**	Pdiff	**Pdif**			**16 07 54.0**	**-0.6**
	baz=282								
BC3	**Big Chuckawall**	**109.68**	**54**	Pdiff	**Pdif**			**16 07 54.9**	**-0.5**
	baz=283								
IRM	**Iron Mountain**	**109.82**	**54**	Pdiff	**Pdif**			**16 07 55.1**	**-0.7**
	baz=283								
DUG	**Dugway, Tooele**	**110.06**	**47**	Pdiff	**Pdif**			**16 07 57.2**	**+0.2**
	baz=287								
NEE2	**Needles Airpor**	**110.10**	**53**	Pdiff	**Pdif**			**16 07 56.9**	**-0.1**
	baz=284								
WTTA	**Wattenberg**	**110.19**	**321**	*e*P	**Pdif**			**16 07 58.0**	**+0.6**
	comp=Z,36nm,1.6s								
WATA	**Walderalm**	**110.21**	**321**	*e*P	**Pdif**			**16 07 57.7**	**+0.4**
	comp=Z,29nm,1.7s								
H17A	**Grant Village**	**110.31**	**42**	Pdiff	**Pdif**			**16 07 58.9**	**+0.8**
	baz=290								
GLA	**Glamis**	**110.33**	**55**	Pdiff	**Pdif**			**16 07 59.7**	**+1.5**
	baz=283								
SQTA	**Sankt Quirin**	**110.48**	**321**	*e*P	**Pdif**			**16 07 59.2**	**+0.7**
	comp=Z,36nm,1.7s,SNR=6.5								
MOTA	**Moosalm**	**110.50**	**321**	*e*P	**Pdif**			**16 07 58.6**	**-0.1**
	comp=Z,20nm,1.5s								
KASTN	**Kahler Asten**	**110.51**	**326**	*e*Pdiff	**Pdif**			**16 08 00.5**	**+2.0**
PDMCI	**Parker Dam,Lak**	**110.60**	**54**	Pdiff	**Pdif**			**16 07 59.5**	**+0.3**
	baz=284								
RETA	**Reutte**	**110.66**	**321**	P	**Pdif**			**16 08 00.1**	**+0.8**
FETA	**Feichten**	**110.86**	**321**	*e*P	**Pdif**			**16 08 00.5**	**+0.2**
	comp=Z,18nm,1.3s								
TNS	**Taunus Mts**	**110.92**	**325**	*e*Pdiff	**Pdif**			**16 08 02.2**	**+1.8**
RLMT	**Red Lodge**	**110.93**	**41**	Pdiff	**Pdif**			**16 08 00.7**	**0.0**
	baz=291								
BUG	**Bochum--Univer**	**111.04**	**326**	*e*Pdiff	**Pdif**			**16 08 02.7**	**+1.9**
DAVA	**Damuels**	**111.29**	**321**	P	**Pdif**			**16 08 02.9**	**+0.7**
	comp=Z,15nm,1.1s								
DAVOX	**Davos/Dischmat**	**111.49**	**321**	PKKPab	PKKPab			16 23 05.9	0.0
	comp=Z,12nm,1.0s,baz=314,slow=14,SNR=6.5								
BW06	**Boulder Array**	**111.57**	**44**	Pdiff	**Pdif**			**16 08 02.9**	**-0.8**
	baz=290								
PDAR	**Pinedale Array**	**111.57**	**44**	Pdiff	**Pdif**			**16 08 09.8**	**+6.1**
	comp=Z,1.1nm,0.9s,baz=270,slow=2.7,SNR=6.2								
PDAR				PKiKP	**PKiKP**			**16 12 03.1**	**+1.6**
	comp=Z,1.3nm,0.7s,baz=34,slow=0.3,SNR=1.4								
PDAR				PP	**PP**			**16 12 43.1**	**+0.4**
	comp=Z,5.7nm,0.9s,baz=277,slow=2.7,SNR=4.5								
PDAR				PKKPbc	**PKKPbc**			**16 22 56.4**	**-0.7**
	comp=Z,4.1nm,0.9s,baz=116,slow=6.1,SNR=10								
MEM	**Membach**	**112.14**	**326**	*d*PKiKP	**PKiKP**			**16 12 02.5**	**+0.5**
214A	**Organ Pipe Nat**	**112.24**	**56**	Pdiff	**Pdif**			**16 08 07.5**	**+0.9**
	baz=284								
LAO	**LASA Array**	**112.28**	**39**	Pdiff	**Pdif**			**16 08 05.2**	**-1.3**
	baz=294								
WUAZ	**Wupatki**	**112.48**	**52**	Pdiff	**Pdif**			**16 08 06.6**	**-1.2**
	baz=286								
BCLA	**Clavier**	**112.62**	**326**	*d*PKiKP	**PKiKP**			**16 12 03.4**	**+0.5**
BCLA				*d*PP	**PP**			**16 12 49.2**	**-0.4**
BGES	**Gesves**	**112.76**	**326**	*d*PKiKP	**PKiKP**			**16 12 03.2**	**-0.1**
BGES				*d*PP	**PP**			**16 12 53.5**	**+2.9**
BMRD	**Maredsous**	**112.98**	**326**	*d*PKiKP	**PKiKP**			**16 12 04.1**	**+0.4**
SNF	**Seneffe**	**113.15**	**326**	*d*PKiKP	**PKiKP**			**16 12 04.1**	**+0.2**
O20A	**White River Ci**	**113.41**	**46**	Pdiff	**Pdif**			**16 08 08.7**	**-3.1**
	baz=290								
K22A	**Casper**	**113.69**	**43**	Pdiff	**Pdif**			**16 08 11.1**	**-1.9**
	baz=293								
PMSA	**Palmer Station**	**113.73**	**173**	PKKPbc	PKKPbc			16 22 47.7	-2.4
	comp=Z,7.1nm,0.8s,baz=41,slow=3.9,SNR=2.7								
TUC	**Tucson**	**113.82**	**55**	Pdiff	**Pdif**			**16 08 11.0**	**-2.7**
	baz=285								
W18A	**Petrified Fore**	**113.88**	**52**	Pdiff	**Pdif**			**16 08 14.8**	**+0.8**
	baz=287								
EKA	**Eskdalemuir Ar**	**114.18**	**333**	PKKPbc	PKKPbc			16 22 47.3	-1.0
	comp=Z,4.0nm,0.8s,baz=249,slow=4.1,SNR=6.0								
MVCO	**Mesa Verde**	**114.19**	**49**	Pdiff	**Pdif**			**16 08 15.4**	**0.0**
	baz=289								
DY2G	**Dye2**	**114.34**	**359**	*e*P	**Pdif**			**16 08 19.6**	**+4.1**
RSSD	**Black Hills**	**114.76**	**41**	Pdiff	**Pdif**			**16 08 17.9**	**+0.1**
	baz=295								
N23A	**Red Feather La**	**114.76**	**45**	Pdiff	**Pdif**			**16 08 18.4**	**+0.4**
	baz=292								
S22A	**4UR Ranch, Cre**	**115.26**	**48**	Pdiff	**Pdif**			**16 08 19.4**	**-0.9**
	baz=290								
ISCO	**Idaho Springs**	**115.41**	**46**	Pdiff	**Pdif**			**16 08 16.4**	**-4.5**
	baz=292								
SSB	**Saint Sauveur**	**115.49**	**321**	PKiKP	**PKiKP**			**16 12 05.4**	**-3.3**
SSB				MLR	MLR				
	comp=Z,8µm,21.0s								
SSB	**Saint Sauveur**	**115.49**	**321**		**PKiKP**			**16 12 05.4**	**-3.3**
MDND	**Maddock**	**115.75**	**35**	Pdiff	**Pdif**			**16 08 20.2**	**-1.6**
	baz=301								
KEST	**Kesra**	**115.90**	**310**	PKP	**PKPdf**			**16 12 09.1**	**-0.8**
	comp=Z,31nm,1.0s,baz=331,slow=4.5,SNR=16								
KEST	**Kesra**	**115.90**	**310**		**PKPdf**			**16 12 07.1**	**-2.7**
Q24A	**Divide**	**116.06**	**46**	Pdiff	**Pdif**			**16 08 22.3**	**-1.5**
	baz=292								
121A	**Cookes Peak, D**	**116.19**	**54**	Pdiff	**Pdif**			**16 08 22.0**	**-2.4**
	baz=287								
SDCO	**Great Sand Dun**	**116.25**	**48**	Pdiff	**Pdif**			**16 08 24.5**	**-0.1**
	baz=291								
Y22D	**IRIS PASSCAL I**	**116.41**	**52**	Pdiff	**Pdif**			**16 08 25.3**	**+0.1**
	baz=289								
ANMO	**Albuquerque**	**116.49**	**51**	PKKPbc	PKKPbc			16 22 40.7	+0.7
	comp=Z,7.0nm,1.0s,baz=105,slow=6.5,SNR=4.9								
ANMO	**Albuquerque**	**116.49**	**51**	PKiKP	**PKPdf**			**16 12 08.5**	**-2.6**
ANMO	**Albuquerque**	**116.49**	**51**	PKPdf	**PKPdf**			**16 12 08.5**	**-2.6**
ANMO	**Albuquerque**	**116.49**	**51**	Pdiff	**Pdif**			**16 08 26.4**	**+0.7**
	baz=289								
ULM	**Lac du Bonnet**	**116.50**	**32**	PKP	**PKPdf**			**16 12 10.2**	**-0.2**
	comp=Z,12nm,0.9s,baz=319,slow=2.0,SNR=6.0								
ULM				PKKPbc	**PKKPab**			**16 22 42.2**	**-1.1**
	comp=Z,20nm,0.7s,baz=102,slow=1.5,SNR=9.8								
CMAH	**Djebel Manchou**	**117.05**	**311**	P	**PKiKP**			**16 12 15.2**	**+3.2**
ABSA	**Djebel Ababsia**	**117.14**	**311**	P	**PKiKP**			**16 12 15.0**	**+2.8**
T25A	**Trinidad**	**117.28**	**48**	Pdiff	**Pdif**			**16 08 27.9**	**-1.2**
	baz=292								
OGNE	**Ogallala**	**117.45**	**43**	Pdiff	**Pdif**			**16 08 27.5**	**-2.2**
	baz=296								
D32A	**Dogwood Acres,**	**117.61**	**35**		**PKPdf**			**16 12 10.6**	**-2.0**
AGMN	**Agassiz Nation**	**117.62**	**34**	Pdiff	**Pdif**			**16 08 27.1**	**-3.1**
	baz=304								
CKFL	**Kef-Lekhel**	**117.66**	**311**	P	**PKiKP**			**16 12 15.4**	**+2.1**
KSCO	**Kaye Shedlock'**	**117.85**	**45**	Pdiff	**Pdif**			**16 08 30.9**	**-0.7**
	baz=294								
SUSD	**Miller**	**117.85**	**38**	Pdiff	**Pdif**			**16 08 28.9**	**-2.3**
	baz=300								
CTEI	**Djebel Teioual**	**118.02**	**311**	P	**PKiKP**			**16 12 16.3**	**+2.3**
DFRA	**Djebel Bou Aff**	**118.24**	**312**	P	**PKiKP**			**16 12 18.0**	**+3.6**
MNTX	**Cornudas Mount**	**118.39**	**54**	PKPdf	**PKPdf**			**16 12 11.4**	**-3.3**
MNTX	**Cornudas Mount**	**118.39**	**54**	Pdiff	**Pdif**			**16 08 30.5**	**-3.4**
	baz=288								
SET	**Setif**	**118.72**	**312**	P	**PKiKP**			**16 12 18.0**	**+2.7**
K31A	**O'Neill**	**118.87**	**40**	PKPdf	**PKPdf**			**16 12 14.4**	**-0.8**
ECSD	**EROS Data Cent**	**119.66**	**38**	Pdiff	**Pdif**			**16 08 37.1**	**-2.2**
	baz=302								
MSTX	**Muleshoe**	**119.68**	**51**	PKPdf	**PKPdf**			**16 12 14.2**	**-3.0**
MSTX	**Muleshoe**	**119.68**	**51**	Pdiff	**Pdif**			**16 08 39.1**	**-0.7**
	baz=292								
BGNE	**Belgrade**	**119.85**	**41**	Pdiff	**Pdif**			**16 08 38.4**	**-1.8**
	baz=299								
CBKS	**Cedar Bluff**	**119.97**	**44**	Pdiff	**Pdif**			**16 08 39.6**	**-1.2**
	baz=296								
AMTX	**Amarillo**	**120.18**	**49**	PKPdf	**PKPdf**			**16 12 16.2**	**-1.9**
AMTX	**Amarillo**	**120.18**	**49**	Pdiff	**Pdif**			**16 08 40.6**	**-1.4**
	baz=293								
EYMN	**Ely**	**120.19**	**32**	Pdiff	**Pdif**			**16 08 38.9**	**-2.7**
	baz=308								
TXAR	**Lajitas Array**	**120.53**	**56**	PKP	**PKiKP**			**16 12 19.0**	**0.0**
	comp=Z,3.4nm,0.6s,baz=244,slow=1.7,SNR=12								
TXAR				PKKPbc	**PKKPab**			**16 22 26.4**	**+0.3**
	comp=Z,5.9nm,0.8s,baz=128,slow=7.0,SNR=16								
L34A	**Svendsen Farm,**	**120.72**	**40**		**PKPdf**			**16 12 16.9**	**-1.9**
SPMN	**Marine on St.**	**121.11**	**35**	Pdiff	**Pdif**			**16 08 44.6**	**-1.2**
	baz=306								
EBNR	**Beni Rached**	**121.55**	**313**	P	**PKPdf**			**16 12 18.0**	**-2.6**
ECHA	**Ech Chlef**	**121.73**	**313**	P	**PKPdf**			**16 12 19.8**	**-1.1**
KAN16	**Harper SW Stat**	**121.86**	**45**		**PKPdf**			**16 12 19.7**	**-1.5**
KSU1	**Kansas State U**	**122.00**	**43**	Pdiff	**Pdif**			**16 08 46.2**	**-3.6**
	baz=299								
KAN06	**Arvnia West S**	**122.00**	**45**		**PKPdf**			**16 12 20.7**	**-0.7**
EANR	**'Ain N'Sour**	**122.01**	**313**	P	**PKiKP**			**16 12 23.0**	**+1.3**
ETRT	**Tiaret**	**122.10**	**312**	P	**PKiKP**			**16 12 27.2**	**+5.2**
KS20	**Mayfield South**	**122.22**	**45**		**PKPdf**			**16 12 19.4**	**-2.5**
OKGL	**Djebel Kef Gue**	**122.30**	**313**	P	**PKiKP**			**16 12 24.0**	**+1.7**
WMOK	**Wichita Mounta**	**122.42**	**48**	Pdiff	**Pdif**			**16 08 48.3**	**-3.5**
	baz=295								
OJGS	**Djebel Guires**	**122.46**	**313**	P	**PKiKP**			**16 12 27.0**	**+4.4**
G40A	**Rib Lake**	**122.55**	**34**	PKPpre	PKPpre			16 12 05.9	
G40A					**PKPdf**			**16 12 21.5**	**-0.8**
ABTX	**Abilene, Hawle**	**122.62**	**51**	Pdiff	**Pdif**			**16 08 50.4**	**-2.4**
	baz=293								
SCIA	**State Center**	**122.75**	**38**	Pdiff	**Pdif**			**16 08 51.1**	**-2.0**
	baz=304								
CART	**Cartagena**	**122.77**	**316**	PKP	PKiKP			16 12 33.1	+10
CART	**Cartagena**	**122.77**	**316**	PP	PP			16 14 02.5	+2.0
CART	**Cartagena**	**122.77**	**316**	PKPpre	PKPpre			16 12 06.7	
CART				PKPdf	**PKPdf**			**16 12 21.5**	**-1.3**
UCM	**Universidad Co**	**122.92**	**319**	PKP	**PKPdf**			**16 12 21.6**	**-1.5**
UCM	**Universidad Co**	**122.92**	**319**	PP	PP			16 14 03.0	+1.5
T35A	**Sooner Cattle**	**123.11**	**45**	PKPpre	PKPpre			16 12 07.0	
T35A				PKPdf	**PKPdf**			**16 12 23.1**	**-0.4**
ODJA	**Bouhanifia**	**123.19**	**313**	P	**PKiKP**			**16 12 28.0**	**+3.9**
JCT	**Junction City**	**123.30**	**53**	Pdiff	**Pdif**			**16 08 54.7**	**-1.1**
	baz=292								
OTSS	**Djebel Tessala**	**123.69**	**313**	P	**PKiKP**			**16 12 29.0**	**+3.9**
ESDC	**Sonseca Array**	**123.73**	**319**	PKP	**PKPdf**			**16 12 23.1**	**-1.6**
	comp=Z,5.4nm,0.7s,baz=17,slow=3.0,SNR=19								
ESDC				PP	**PP**			**16 14 06.2**	**-0.8**
	comp=Z,9.1nm,1.1s,baz=50,slow=8.0,SNR=2.5								
ESDC				PKKPbc	**PKKPbc**			**16 22 15.2**	**+2.1**
	comp=Z,2.0nm,0.9s,baz=242,slow=5.4,SNR=4.5								
P38A	**Dawn**	**123.78**	**41**	PKPpre	PKPpre			16 12 09.3	
P38A				PKPdf	**PKPdf**			**16 12 23.9**	**-0.9**
JFWS	**Jewell Farm**	**123.96**	**36**	Pdiff	**Pdif**			**16 08 56.5**	**-2.0**
	baz=307								
PAB	**San Pablo**	**124.05**	**319**	PKiKP	**PKPdf**			**16 12 25.5**	**+0.1**
PAB	**San Pablo**	**124.05**	**319**	PKPdf	**PKPdf**			**16 12 25.5**	**+0.1**
PAB	**San Pablo**	**124.05**	**319**	P	**PKiKP**			**16 12 27.2**	**+1.6**
SCHQ	**Schefferville**	**124.05**	**13**	PKP	**PKPdf**			**16 12 23.3**	**-1.5**
	comp=Z,26nm,0.9s,baz=281,slow=1.4,SNR=11								
TUL1	**Leonard**	**124.09**	**46**	PKiKP	**PKPdf**			**16 12 21.4**	**-4.0**
	baz=298								
I42A	**Draeger Farm,**	**124.13**	**34**	PKPpre	PKPpre			16 12 08.2	
I42A				PKPdf	**PKPdf**			**16 12 23.7**	**-1.6**
PBRG	**Braganca**	**124.29**	**323**	*e*PKPdf	**PKiKP**			**16 12 25.9**	**-0.1**
PBRG	**Braganca**	**124.29**	**323**	*e*PP	PP			16 14 12.4	+1.8
833A	**Chaparral WMA,**	**124.40**	**56**	PKiKP	**PKPdf**			**16 12 22.1**	**-4.2**
	baz=291								
WHTX	**Lake Whitney,**	**124.57**	**51**	PKiKP	**PKPdf**			**16 12 24.5**	**-2.0**
	baz=294								
MVO	**Moncorvo**	**124.84**	**322**	*e*PKPdf	**PKiKP**			**16 12 29.3**	**+2.1**
MVO	**Moncorvo**	**124.84**	**322**	*e*PP	PP			16 14 16.6	+2.3
N41A	**Harden Midland**	**124.89**	**38**		**PKPdf**			**16 12 26.0**	**-0.8**
435B	**Jarrell**	**124.95**	**52**	PKiKP	**PKPdf**			**16 12 25.6**	**-1.7**
	baz=294								
TAF	**Taforalt**	**125.08**	**313**	P	**PKiKP**			**16 12 34.0**	**+6.1**
PGAV	**Gavieira, Arco**	**125.11**	**324**	*e*PKPdf	**PKiKP**			**16 12 29.2**	**+1.5**
PGAV	**Gavieira, Arco**	**125.11**	**324**	*e*PP	PP			16 14 17.5	+1.4
PCAB	**Cabril**	**125.12**	**323**	*e*PKPdf	**PKiKP**			**16 12 28.0**	**+0.3**
POLO	**Lamas de Olo**	**125.18**	**323**	*e*PKPdf	**PKiKP**			**16 12 28.3**	**+0.4**
POLO	**Lamas de Olo**	**125.18**	**323**	*e*PP	PP			16 14 18.6	+2.0
PVRL	**Vila Real**	**125.19**	**323**	*e*PKPdf	**PKiKP**			**16 12 28.1**	**+0.3**
K43A	**Burlington**	**125.20**	**35**	PKPpre	PKPpre			16 12 12.1	
K43A					**PKPdf**			**16 12 26.0**	**-1.3**
MELI	**Melilla**	**125.23**	**314**	PKP	**PKPdf**			**16 12 27.7**	**0.0**
MELI	**Melilla**	**125.23**	**314**	PP	PP			16 14 28.9	+12
FIGM	**Figuig**	**125.41**	**310**	P	**PKiKP**			**16 12 31.0**	**+2.4**
JBK	**JBK**	**125.42**	**313**	P	**PKiKP**			**16 12 31.0**	**+2.3**
EMAL	**Malaga-Limoner**	**125.56**	**316**	PKP	**PKPdf**			**16 12 28.3**	**+0.1**
EMAL	**Malaga-Limoner**	**125.56**	**316**	PP	PP			16 14 21.8	+2.5
TDRA	**Tendrara**	**125.60**	**311**	P	**PKiKP**			**16 12 32.0**	**+2.9**
MTE	**Manteigas**	**125.60**	**322**	*e*PKPdf	**PKiKP**			**16 12 29.8**	**+1.1**
MTE	**Manteigas**	**125.60**	**322**	*e*PP	PP			16 14 21.7	+2.3
PVIS	**Viseu**	**125.63**	**322**	*e*PKPdf	**PKiKP**			**16 12 28.7**	**0.0**
L44A	**Lake County Fo**	**125.77**	**35**	PKiKP	**PKPdf**			**16 12 27.4**	**-1.1**
	baz=309								
GLMI	**Grayling**	**125.83**	**31**	PKiKP	**PKPdf**			**16 12 25.7**	**-2.8**
	baz=314								
W39A	**Magazine**	**125.87**	**46**	PKPpre	PKPpre			16 12 12.7	
W39A				PKPdf	**PKPdf**			**16 12 26.5**	**-2.3**
W39A	**Magazine**	**125.87**	**46**	PKiKP	**PKPdf**			**16 12 26.6**	**-2.3**
	baz=299								
PCBR	**Castelo Branco**	**125.89**	**321**	*e*PKPdf	**PKiKP**			**16 12 29.6**	**+0.4**
HDIL	**Hopedale**	**125.94**	**38**	PKiKP	**PKPdf**			**16 12 27.7**	**-1.1**
	baz=307								
U40A	**Yellville**	**125.94**	**44**	PKiKP	**PKPdf**			**16 12 26.7**	**-2.3**
	baz=301								
PALE	**Palemas**	**125.99**	**314**	P	**PKiKP**			**16 12 31.0**	**+1.4**
PMRV	**Marv??o**	**126.07**	**321**	*e*PKPdf	**PKPdf**			**16 12 29.3**	**+0.1**
PMRV	**Marv??o**	**126.07**	**321**	*e*PP	PP			16 14 25.4	+2.9
CCM	**Cathedral Cave**	**126.14**	**41**	PKiKP	**PKPdf**			**16

LRAL	Lakeview Retre	131.79	44	PKiKP	PKPdf	16 12 39.2	-1.0
	baz=304						
CMIG	Matias Romero	131.80	68	PKP	PKPdf	16 12 40.3	-0.4
	comp=Z,8.8nm,0.8s,baz=307,slow=4.6						
I60A	Shoreham	131.81	24	PKiKP	PKPdf	16 12 39.1	-0.8
	baz=326						
TZTN	Tazewell	131.96	38	PKPdf	PKPpre	16 12 35.5	
TZTN	Tazewell	131.96	38	PKiKP	PKPdf	16 12 40.2	-0.3
	baz=310						
MCWV	Mont Chateau	131.98	32	PKiKP	PKPdf	16 12 39.4	-1.0
	baz=316						
BINY	Binghamton	131.98	27	PKiKP	PKPdf	16 12 40.8	+0.5
	baz=322						
LBNH	Lisbon	132.01	22	PKiKP	PKPdf	16 12 38.0	-2.3
	baz=328						
ACCN	Adirondack Com	132.03	24		PKPpre	16 12 35.5	
PKME	Peaks-Kenny Pk	132.06	19	PKiKP	PKPdf	16 12 39.5	-0.8
	baz=332						
O56A	Blue Knob Stat	132.21	31		PKPpre	16 12 36.9	
O56A	Blue Knob Stat	132.21	31	PKiKP	PKPdf	16 12 38.1	-2.8
	baz=318						
SSPA	Standing Stone	132.28	30	PKPdf	PKPpre	16 12 36.3	
SSPA	Standing Stone	132.28	30	PKiKP	PKPdf	16 12 39.6	-1.3
	baz=319						
V52A	Sevierville	132.38	39		PKPpre	16 12 37.1	
S54A	Dingess, Beckl	132.47	35		PKPpre	16 12 36.0	
G65A	Princeton	132.68	18		PKPpre	16 12 38.3	
BRAL	Brewton	132.77	46	PKiKP	PKPdf	16 12 40.0	-2.2
	baz=303						
K61A	Williamstown	132.79	25	PKiKP	PKPdf	16 12 39.8	-2.0
	baz=326						
Z51A	Franklin	132.88	43		PKPpre	16 12 37.8	
N59A	State Game Lan	133.09	28	PKiKP	PKPpre	16 12 39.0	
	baz=322						
EMMW	East Machias	133.15	18	PKPdf	PKPpre	16 12 39.2	
BLA	Blacksburg	133.38	35	PKiKP	PKPdf	16 12 41.7	-1.5
	baz=314						
ODNJ	Ogdensburg	133.50	27		PKPpre	16 12 38.6	
HRV	Adam Dziewonsk	133.62	23	PKiKP	PKPpre	16 12 39.7	
HRV				MLR	MLR		
	comp=Z,7μm,20.0s						
HRV	Adam Dziewonsk	133.62	23	PKPdf	PKPpre	16 12 39.7	
HRV	Adam Dziewonsk	133.62	23	PKiKP	PKPdf	16 12 42.5	-0.9
	baz=328						
KOWA	Kowa	133.69	289		PKPpre	16 12 36.7	
KOWA				PKPdf	PKPdf	16 12 43.1	-1.1
KOWA	Kowa	133.69	289	P	PKiKP	16 12 47.7	+2.2
PAL	Palisades	133.87	26	PKiKP	PKPdf	16 12 42.9	-0.9
	baz=324						
BCX	Boston College	133.92	23		PKPdf	16 12 41.5	-2.4
WUPA	West Chester U	133.94	29	PKPdf	PKPpre	16 12 40.9	
GOGA	Godfrey	133.97	41	PKiKP	PKPdf	16 12 42.2	-2.1
GOGA				MLR	MLR		
	comp=Z,10μm,20.0s						
GOGA	Godfrey	133.97	41		PKPdf	16 12 42.2	-2.1
GOGA	Godfrey	133.97	41	PKiKP	PKPdf	16 12 43.9	-0.4
	baz=308						
P60A	Greenville	134.01	29	PKiKP	PKPdf	16 12 42.9	-1.3
	baz=321						
GBN	Guysborough	134.08	12		PKPpre	16 12 31.4	
GBN				PKPdf	PKPdf	16 12 44.3	+0.2
BRYW	Bryant College	134.12	24	PKPpre	PKPpre	16 12 27.5	
BRYW					PKPdf	16 12 43.8	-0.6
KMSC	Kings Mountain	134.24	38	PKiKP	PKPdf	16 12 43.7	-1.1
	baz=312						
PLCA	Paso Flores	134.24	157	PKhKP	PKPpre	16 12 34.0	
	comp=Z,2.9nm,0.9s,baz=188,slow=2.4,SNR=4.5						
PLCA				PKP	PKPdf	16 12 45.1	+0.3
	comp=Z,14nm,0.9s,baz=203,slow=5.5,SNR=16						
PLCA	Paso Flores	134.24	157	PKHKP	PKPpre	16 12 33.3	
PLCA						16 12 42.8	
PLCA	Paso Flores	134.24	157		PKPpre	16 12 33.3	
PLCA				PKPdf	PKPdf	16 12 42.8	-1.9
R58B	Mineral	134.26	32		PKPpre	16 12 41.6	
CBN	Corbin Frederi	134.36	32	PKiKP	PKPdf	16 12 43.2	-1.7
	baz=318						
L64A	Middleborough	134.39	23	PKiKP	PKPdf	16 12 43.2	-1.6
	baz=328						
M65A	Busby, Falmout	134.78	23	PKiKP	PKPdf	16 12 44.6	-0.9
	baz=328						
Q61A	Milford	134.89	30	PKiKP	PKPdf	16 12 43.8	-2.1
	baz=321						
TIGA	Tifton	135.07	44	PKiKP	PKPdf	16 12 45.3	-1.1
	baz=306						
PMPST	Porto Santo, M	135.66	320	*e*PKPdf	PKiKP	16 12 49.3	+0.2
PMPST	Porto Santo, M	135.66	320	*e*PP	PP	16 15 26.5	+1.9
PMPS	Porto Santo	135.67	320	*e*PKPdf	PKPdf	16 12 45.5	-2.0
KIC	Kosan Boka	135.72	278	*e*P	PKPpre	16 12 34.8	
	comp=Z,55nm,0.9s						
DBIC	Dimbokro	135.80	279	PKhKP	PKPpre	16 12 36.5	
	comp=Z,5.1nm,0.9s,baz=46,slow=1.0,SNR=8.1						
DBIC				PKP	PKPdf	16 12 48.6	+0.3
	comp=Z,21nm,0.7s,baz=104,slow=2.7,SNR=13						
DBIC	Dimbokro	135.80	279	PKHKP	PKPpre	16 12 34.3	
DBIC						16 12 44.4	
DBIC	Dimbokro	135.80	279		PKPpre	16 12 34.3	
DBIC				PKPdf	PKPpre	16 12 44.4	
TIC	Toumodi	135.97	279	*e*P	PKPpre	16 12 36.4	
LIC	Lamto	136.01	278	*e*P	PKPpre	16 12 37.4	
	comp=Z,105nm,1.0s						
PMAR	Madeira	136.26	320	*e*PKPdf	PKiKP	16 12 50.1	-0.4
PMAR	Madeira	136.26	320	*e*PP	PP	16 15 31.0	+2.4
NHSC	New Hope	136.29	39	PKiKP	PKPdf	16 12 46.4	-2.2
	baz=311						
PMOZ	Porto Moniz, M	136.37	320	*e*PKPdf	PKiKP	16 12 54.2	+3.5
PMOZ	Porto Moniz, M	136.37	320	*e*PP	PP	16 15 30.7	+1.5
CANA	Caviahue	136.44	154	*i* P	PKiKP	16 12 55.6	+4.9
BART	Pico Bartolome	137.18	332	*e*PKP	PKiKP	16 12 53.7	+1.6
BART	Pico Bartolome	137.18	332	*e*PP	PP	16 15 34.0	+0.3
PAGU	Agualva, Azore	137.26	335	*e*PP	PP	16 15 31.4	-2.6
PSCM	Serra do Cume	137.29	335	*e*PKP	PKiKP	16 12 52.6	+0.4
PSCM	Serra do Cume	137.29	335	*e*PP	PP	16 15 36.6	+2.4
PCALD	Caldeiras da R	137.31	332	*e*PKP	PKPpre	16 12 46.0	
PCALD	Caldeiras da R	137.31	332	*e*PP	PP	16 15 34.4	0.0
CMLA	Cha da Macela	137.35	333	*e*PKP	PKPdf	16 12 50.6	+0.1
CMLA	Cha da Macela	137.35	333	*e*PP	PP	16 15 33.6	-1.1
GRON	Grota Negra	137.35	333	*e*PKP	PKiKP	16 12 53.4	+1.0
GRON	Grota Negra	137.35	333	*e*PP	PP	16 15 34.5	-0.3
PGRA	Graciosa	137.37	336	*e*PKP	PKiKP	16 12 53.3	+0.9
PGRA	Graciosa	137.37	336	*e*PP	PP	16 15 35.4	+0.7
ADH	Angra Heroismo	137.38	335	*e*PKP	PKiKP	16 12 55.4	+3.0
SRBC	Serra Branca	137.39	336	*e*PKP	PKPdf	16 12 50.6	+0.1
PSET	Sete Cidades	137.40	333	*e*PKP	PKiKP	16 12 52.0	-0.5
PSET	Sete Cidades	137.40	333	*e*PP	PP	16 15 35.7	+0.7
PDA	Ponta Delgada	137.43	333	*e*PKP	PKPdf	16 12 51.5	+0.9
PDA	Ponta Delgada	137.43	333	*e*PP	PP	16 15 36.7	+1.5
PSMN	Pico do Norte,	137.75	331	*e*PKP	PKiKP	16 12 53.5	+0.3
PSMN	Pico do Norte,	137.75	331	*e*PP	PP	16 15 37.0	-0.2
PMAN	Manadas	137.75	336	*e*PKP	PKPdf	16 12 52.0	+0.8
PMAN	Manadas	137.75	336	*e*PP	PP	16 15 39.6	+2.5
PSMA	Santa Maria	137.79	331	*e*PKP	PKiKP	16 12 53.5	+0.2
PID	Ribeirinha	137.93	336	*e*PKP	PKiKP	16 12 53.7	+0.1
PID	Ribeirinha	137.93	336	*e*PP	PP	16 15 38.3	+0.1
PICO	Pico	138.00	336	*e*PKP	PKiKP	16 12 55.4	+1.6
PICO	Pico	138.00	336	*e*PP	PP	16 15 37.6	-1.1
PCED	Cedros	138.00	336	*e*PKP	PKPdf	16 12 50.9	-0.8
PCED	Cedros	138.00	336	*e*PP	PP	16 15 37.8	-0.8
CALA	Caldeira	138.04	336	*e*PKP	PKPdf	16 12 51.5	-0.4
CALA	Caldeira	138.04	336	*e*PP	PP	16 15 37.9	-1.1
PCAN	Candelaria	138.06	336	*e*PP	PP	16 15 36.9	-2.1
HOR	Horta	138.06	336	*e*PP	PP	16 15 34.6	-4.4
H07S1	FLORES T-PHASE	138.29	339	*e*PKP	PKPdf	16 12 50.3	-1.9
H07S1	FLORES T-PHASE	138.29	339	*e*PP	PP	16 15 41.8	+1.4
GO05	Huala	138.39	151	*i* P	PKiKP	16 12 56.0	+1.4
DWPF	Disney Wildern	138.53	46	PKiKP	PKPdf	16 12 51.3	-1.6
	baz=306						
MACI	Morro de la Ar	138.74	314	PKPdf	PKPpre	16 12 48.8	
BO02	Sierra Bellavi	139.12	152	*i* P	PKPdf	16 12 48.6	-5.3
TRQA	Tornquist	139.55	164	PKHKP	PKPpre	16 12 46.4	
TRQA				MLR	MLR		
	comp=Z,26μm,21.0s						
TRQA	Tornquist	139.55	164		PKPpre	16 12 46.4	
VA01	Torpederas	140.12	149		PKPpre	16 12 47.5	
RFA	San Rafael	140.18	154	*i* P	PKPdf	16 12 51.9	-4.0
AVIZ	Vizcacheras	141.26	153	*i* P	PKPdf	16 12 54.4	-3.5
ASAL	Salagasta	141.85	152	*i* P	PKPdf	16 12 55.1	-3.8
AUSP	Uspallata	141.89	151	*i* P	PKPdf	16 12 55.5	-3.8
ACON	Acoyapa	142.19	71		PKPdf	16 12 58.7	-1.2
ZON	Zonda	142.78	151	*i* P	PKPdf	16 12 59.9	-0.7
JTS	Las Juntas de	142.79	74	PKP	PKPdf	16 12 59.4	-1.6
	comp=Z,8.2nm,0.6s,baz=319,slow=5.7						
JTS	Las Juntas de	142.79	74	*e*P	PKPdf	16 13 01.6	+0.6
JTS	Las Juntas de	142.79	74	PKPdf	PKPdf	16 12 58.4	-2.6
JTS	Las Juntas de	142.79	74	*e*P	PKPdf	16 13 00.7	-0.3
LPA	La Plata	143.55	167	PDIFF	Pdif	16 10 25.1	-0.7
LPA				PKIKP	PKPab	16 12 53.2	-4.9
LPA				PP	PP	16 16 10.6	-1.6
LPA				SKIKP		16 16 29.4	
LPA				PKIKS		16 16 34.2	
LPA				PPP	PPP	16 19 22.6	
LPA				SKS	SKSdf	16 20 14.3	+4.5
LPA				PSP	PSP	16 28 43.4	
LPA				SS	SS	16 34 58.4	+7.0
LPA				SSS	SSS	16 40 25.0	
HDC	Heredia	143.66	74	*e*P	PKiKP	16 13 05.5	-0.6
ACDV	Cuesta del Vie	143.69	149	*i* P	PKPdf	16 13 02.8	+0.4
AVFE	Valle Fertil	144.10	152	*i* P	PKPdf	16 13 02.1	-0.9
BATAN	Batan	144.35	74	*e*P	PKiKP	16 13 06.1	-1.2
AGUA	GUANDACOL	144.56	150	*i* P	PKPdf	16 13 04.3	+0.5
ASCN	Ascension	144.64	255	PKPdf	PKPbc	16 13 03.5	+0.5
PTJ1	Puerto Jimnez	144.74	76	*e*P	PKPab	16 13 01.6	-1.6
TCA	Tanti	144.77	156	*i* P	PKPdf	16 13 04.5	+0.3
BBSR	BB Station	145.10	24		PKPbc	16 13 03.8	-0.1
GO03	Copiap	145.12	145	*i* P	PKPdf	16 13 06.0	+1.1
CDITO	Canoas	145.15	76	*e*P	PKPdf	16 13 06.4	+1.2
MLIR3	Monte Lirio, C	145.15	76	*e*P	PKiKP	16 13 07.5	-1.6
LIMO3	Limones	145.25	77	*e*P	PKiKP	16 13 09.2	0.0
BRU2	Volcan	145.28	76	*i* P	PKPdf	16 13 06.5	+0.9
BRU2	Volcan	145.28	76	*e*P	PKPbc	16 13 05.1	-0.2
VCA	Vinchina	145.31	149	*i* P	PKPdf	16 13 06.9	+1.6
PRVC	Isla de Provid	145.35	67		PKPbc	16 13 01.5	-3.7
PRVC	Isla de Provid	145.35	67	*e*P	PKPab	16 13 06.5	+1.0
BC3P	Paso Ancho	145.36	76	*e*P	PKiKP	16 13 08.5	-1.2
CNI2	El Empalme, Bo	145.37	74	*e*P	PKPab	16 13 06.5	+1.0
BCO2	Palmira	145.46	76	*i* P	PKPab	16 13 07.0	+0.9
BAGA3	Bagala, Chiriq	145.51	76	*e*P	PKPab	16 13 07.3	+1.3
DVD	David	145.59	76	*i* P	PKPab	16 13 06.5	+0.2
CHIR3	Chiriqui UPA,	145.71	76	*e*P	PKiKP	16 13 08.9	-1.2
GUAL3	Gualaca, Chiri	145.72	76	*e*P	PKPab	16 13 07.9	+1.1
MBO	M'Bour	145.73	295		PKPdf	16 13 06.0	0.0
REME3	Remedios, Chir	146.23	76	*e*P	PKPab	16 13 08.5	-0.3
CYA	Choya	146.74	152	*i* P	PKPbc	16 13 09.7	+0.5
MTDJ	Mount Denham	146.81	57	PKPdf	PKPdf	16 13 05.6	-2.4
MTDJ	Mount Denham	146.81	57	*e*P	PKPbc	16 13 09.9	+0.2
GMAL	Guarumal, Vera	146.90	77	*i* P	PKiKP	16 13 12.2	-0.4
RSUS3	Rio de Jesus,	146.93	76	*e*P	PKPab	16 13 11.1	-0.4
PB14	IPOC Station P	147.24	142	*i* P	PKPab	16 13 12.6	-0.2
CACAO	El Cacao, Vera	147.33	78	*i* P	PKPab	16 13 12.2	+0.2
CACAO	El Cacao, Vera	147.33	78	*e*P	PKPab	16 13 12.2	-0.8
PNME	Penonome	147.63	75	*e*P	PKPbc	16 13 11.7	-0.4
VTON	El Valle, Cocl	147.81	75	*e*P	PKPdf	16 13 10.0	+0.3
AZU	Azuero	147.82	76	*i* P	PKPbc	16 13 11.9	-0.6
AZU	Azuero	147.82	76	*e*P	PKiKP	16 13 13.6	-0.7
GTBY	Guantanamo Bay	147.91	52	*e*P	PKiKP	16 13 14.6	+0.1
MLIR	Monte Lirio	147.92	74	*e*P	PKPbc	16 13 13.3	+0.5
PB10	IPOC Station P	147.94	140	*i* P	PKiKP	16 13 14.7	+0.2
BCIP	Isla Barro Col	147.96	74	*i* P	PKPbc	16 13 12.7	-0.2
BCIP	Isla Barro Col	147.96	74	*e*P	PKPdf	16 13 11.0	+1.2
ZANG	Zanguenga, Cho	147.97	74	*e*P	PKPdf	16 13 10.9	+1.1
PCRI3	Pocri, Los San	148.00	77	*e*P	PKPdf	16 13 11.4	+1.5
FRIJ	El Hiral	148.05	74	*i* P	PKPdf	16 13 11.1	+1.1
CHOR3	La Chorrera	148.09	74	*e*P	PKPdf	16 13 09.5	-0.6
ARRA3	Arraijan, Pana	148.18	74	*e*P	PKPbc	16 13 11.9	-1.6
UPA	Univ. de Panam	148.29	74	*e*P	PKPdf	16 13 10.1	-0.3
UPA	Univ. de Panam	148.29	74	*e*P	PKPbc	16 13 14.0	+0.3
AHML	Horco Molle	148.35	151	*i* P	PKPbc	16 13 14.4	+0.7
FSA	Cafayete	148.59	149	*i* P	PKPbc	16 13 13.3	-1.2
CHPO	Chepo, Panama	148.65	73	*e*P	PKPdf	16 13 12.4	+1.4
PTGL	Punta Galera	148.74	90	*e*P	PKPbc	16 13 15.5	+0.4
CPSB	Cacapava Do Su	148.75	172	*e*P	PKPbc	16 13 13.6	-0.9
PB15	IPOC Station P	148.85	141	*i* P	PKPbc	16 13 15.6	+0.3
PB04	IPOC Station P	149.04	139		PKPbc	16 13 15.6	-0.1
PB04	IPOC Station P	149.04	139	*i* P	PKPdf	16 13 06.7	-5.0
PB06	IPOC Station P	149.15	140	*i* P	PKPdf	16 13 13.3	+1.5
NNA	Nana	149.41	115	PKP	PKPdf	16 13 12.1	-0.1
	comp=Z,116nm,1.0s,baz=298,slow=4.3,SNR=6.3						
NNA				PKPbc	PKiKP	16 13 18.0	+0.2
	comp=Z,184nm,1.0s,baz=260,slow=4.0,SNR=14						
PB07	IPOC Station P	149.64	138	*i* P	PKPdf	16 13 14.0	+1.3
LVC	Limon Verde	149.64	141	PKP	PKPdf	16 13 14.3	+1.5
	comp=Z,7.4nm,0.8s,baz=171,slow=3.6,SNR=6.0						
LVC				PKPbc	PKiKP	16 13 19.3	+0.8
	comp=Z,176nm,0.8s,baz=240,slow=2.2,SNR=43						
LVC	Limon Verde	149.64	141	*e*P	PKPdf	16 13 14.3	+1.5
LVC	Limon Verde	149.64	141	*i* P	PKPbc	16 13 15.8	-1.6
UPD2	Meteti	149.85	74	*e*P	PKPbc	16 13 15.8	-2.0
PB02	IPOC Station P	149.91	138	*i* P	PKPdf	16 13 15.0	+2.1
GRTK	Grand Turk	149.94	45		PKPbc	16 13 17.2	-0.5
SLA	San Lorenzo	149.97	148	*i* P	PKPdf	16 13 14.5	+1.4
PAC1	Pacto, Paraso	149.98	91	*e*P	PKPdf	16 13 15.2	+1.8
PB09	IPOC Station P	150.01	139	*i* P	PKPbc	16 13 17.9	-0.2
TUMC	Tumaco	150.03	88		PKPbc	16 13 17.4	-0.8
TUMC	Tumaco	150.03	88	*e*P	PKiKP	16 13 18.7	-0.4
CNLB	Canela	150.09	176	*e*P	PKPbc	16 13 15.8	-2.1
OTAV	Otavalo	150.32	91	PKIKP	PKPdf	16 13 15.2	+0.9
OTAV				MLR	MLR		
	comp=Z,7μm,18.0s						
OTAV	Otavalo	150.32	91		PKPdf	16 13 15.2	+0.9
OTAV	Otavalo	150.32	91	*e*P	PKPbc	16 13 16.9	-2.6
OTAV	Otavalo	150.32	91	*e*P	PKPdf	16 13 15.8	+1.6
PTAC	Punta Ardita,	150.35	77	*e*P	PKPdf	16 13 13.9	+0.2
PTAC	Punta Ardita,	150.35	77	*e*P	PKPdf	16 13 15.8	+2.1
PB01	IPOC Station P	150.38	138	*i* P	PKPdf	16 13 16.1	+2.4
CAP2	Capurgana	150.46	74	*e*P	PKPbc	16 13 16.8	-2.4
CAPC	Capurgana	150.47	74	*e*P	PKPdf	16 13 11.2	-2.7
GR1C	Gorgona, Isla	150.53	85	*e*P	PKPdf	16 13 14.3	-0.6
LGNH	Logne	150.66	52		PKPbc	16 13 19.7	+0.2
PSGCX	Pisagua	150.92	135	*i* P	PKPdf	16 13 16.6	+2.0
TER01	Tubaro-SC	150.93	179	*e*P	PKPdf	16 13 17.1	+2.8
PB11	IPOC Station P	151.14	136		PKPdf	16 13 15.0	0.0
PB11				PKPbc	pPKPdf	16 13 23.0	-1.1
PB11	IPOC Station P	151.14	136	*i* P	PKPdf	16 13 16.4	+1.4
PIZC	Pizarro, Choco	151.14	81	*e*P	PKPdf	16 13 15.2	+0.2
PB08	IPOC Station P	151.23	137	*i* P	PKPdf	16 13 14.2	-1.2
LCBC	Los crdobas,	151.35	73	*e*P	PKPdf	16 13 17.3	+2.0
SACV	Santiago Islan	151.38	301	PKPdf	PKPdf	16 13 13.3	-1.9
SACV					PKPdf	16 13 21.6	-0.2
ALOL	LOMAS DE OLMED	151.50	150	*i* P	PKPbc	16 13 20.1	-1.4
BBAC	Balboa, Cauca	151.50	87	*e*P	PKPdf	16 13 15.9	+0.1
CPUP	Villa Florida	151.88	164	PKP	PKPdf	16 13 17.0	+1.2
	comp=Z,17nm,1.1s,baz=66,slow=1.9,SNR=10						
CPUP				PKPbc	PKiKP	16 13 23.3	+0.8
	comp=Z,120nm,0.9s,baz=224,slow=1.9,SNR=33						
CPUP	Villa Florida	151.88	164	PKPdf	PKPbc	16 13 15.7	-0.1
DBBC	Dabeiba	151.93	76	*e*P	PKPbc	16 13 21.2	-1.6
POPC	Popayan, Colom	152.05	86	*e*P	PKPbc	16 13 12.2	-4.4
SOTA	Rioblanco	152.14	87	*e*P	PKPdf	16 13 18.0	+0.9
SJCC	San Jacinto, C	152.19	70	*e*P	PKPdf	16 13 18.3	+1.4
SJCC	San Jacinto, C	152.19	70	*e*P	PKPdf	16 13 18.3	+1.7
YOTC	Yotoco, Valle	152.26	83	*e*P	PKPdf	16 13 16.9	+0.1
CBOC	Ciudad Bolivar	152.33	79	*e*P	PKPdf	16 13 18.4	+1.5
PCON	Cinco Dias	152.34	86	*e*P	PKPdf	16 13 17.5	0.0
URCC	San Jos de Ur	152.42	75	*e*P	PKPdf	16 13 16.9	0.0
SMRC	Santa Marta, M	152.67	67	*e*P	PKPdf	16 13 16.5	-0.7
MARP	Paez Belalcaza	152.75	85	*e*P	PKPdf	16 13 16.9	-0.9
HELC	Santa Helena	152.75	78	*i* P	PKPdf	16 13 16.8	-1.0
HELC	Santa Helena	152.75	78	*e*P	PKPdf	16 13 18.6	+0.8
GUY2C	Guyana, Caldas	153.07	80	*e*P	PKPdf	16 13 19.8	+1.3
ARGC	Ariguani, Magd	153.08	69	*e*P	PKPdf	16 13 19.0	+1.2
FLOC	Florencia	153.11	88	*e*P	PKPdf	16 13 17.5	-0.5
ZARC	Zaragoza, Cauc	153.13	75	*e*P	PKPdf	16 13 16.9	-1.0
ANIL	Santa Ana	153.13	81	*e*P	PKPdf	16 13 18.1	-0.3
ORTC	Ortega, Tolima	153.36	83	*e*P	PKPdf	16 13 18.0	-0.3
NORC	Norcasia	153.50	79	*e*P	PKPdf	16 13 18.0	-0.5
SMC	San Martn de	153.55	72	*e*P	PKPdf	16 13 18.3	-0.2
PTBC	PUERTO BERRIO	153.73	77	*e*P	PKPdf	16 13 15.1	-3.7
LL2C	La Loma 2 Cana	153.93	69	*e*P	PKPdf	16 13 20.4	+1.3
CRJC	Cerrejon, Guaj	153.95	66	*e*P	PKPdf	16 13 18.4	-0.7
PTLC	Puerto Leguiza	153.97	91	*e*P	PKPdf	16 13 17.2	-1.9
TIJ01	Guaruva-PR	154.13	180	*e*P	PKPdf	16 13 21.6	+2.4
ROSC	El Rosal	154.16	80	PKP	PKPdf	16 13 19.3	-0.5
	comp=Z,12nm,0.3s,baz=292,slow=19,SNR=2.0						
ROSC				PKPbc	pPKPdf	16 13 29.0	0.0
	comp=Z,77nm,0.8s,baz=55,slow=4.9,SNR=4.3						
ROSC	El Rosal	154.16	80	*e*P	PKPdf	16 13 19.4	-0.5
SPBC	San Pablo de B	154.27	78	*e*P	PKPdf	16 13 18.0	-1.7
OCAC	Ocana	154.42	72	*e*P	PKPdf	16 13 20.4	+0.4
URIC	Uribia, Colomb	154.49	64	*e*P	PKPdf	16 13 19.0	-0.8
LPAZ	La Paz	154.50	132	PKP	PKPdf	16 13 21.4	-0.8
	comp=Z,6.5nm,1.0s,baz=24,slow=1.5,SNR=15						
LPAZ				PKPbc	pPKPdf	16 13 30.8	+1.2
	comp=Z,30nm,0.9s,baz=312,slow=2.5,SNR=15						
LPAZ	La Paz	154.50	132	*e*P	PKPdf	16 13 20.4	-0.2
LPAZ	La Paz	154.50	132	*e*P	PKPdf	16 13 22.0	+1.5
LPAZ	La Paz	154.50	132	*i* P	PKPdf	16 13 22.9	+2.3
PTGB	Pitanga	154.53	173	*e*P	PKPdf	16 13 20.8	+1.1
CZSB	Cruzeiro do Su	154.71	110	*e*P	PKPdf	16 13 21.8	+1.7
CHIC	Chingaza	154.77	81	*e*P	PKPdf	16 13 18.4	-2.3
MACC	Macarena, Meta	154.89	86	*e*P	PKPdf	16 13 19.2	-1.3
AOPR	Arecibo Observ	155.11	44	*e*P	PKPdf	16 13 18.0	-2.6
PET01	Itanhaem-SP	155.12	183	*e*P	PKPdf	16 13 22.8	+2.4
RUSC	La Rusia	155.19	77	*e*P	PKPdf	16 13 20.5	-1.0
SPB	Sao Paulo	155.82	183	*e*P	PKPdf	16 13 22.6	+1.3
PARB	Paraibuna	155.91	187	*e*P	PKPdf	16 13 23.6	+2.0
TAMC	Tame, Arauca	156.34	76	*e*P	PKPdf	16 13 21.9	-0.5
TRCB	Terra Rica	156.34	171	*e*P	PKPdf	16 13 25.3	+3.1
VAO	Valinhos	156.37	184	*e*P	PKPdf	16 13 24.5	+2.3
PTGC	Puerto Gaitan,	156.41	81	*e*P	PKPdf	16 13 19.0	-3.4
DUB01	Friburgo-RJ	156.51	195	*e*P	PKPdf	16 13 24.0	+1.6
CAM01	Campos-RJ	156.56	197	*e*P	PKPdf	16 13 24.4	+2.0
VAS01	Vassouras-RJ	156.57	192	*e*P	PKPdf	16 13 24.6	+2.1
SDV	Santo Domingo	156.76	69	PKPdf	PKPdf	16 13 21.9	-1.2
SDV	Santo Domingo	156.76	69	*e*P	PKPdf	16 13 19.0	-4.1
SDV	Santo Domingo	156.76	69	*e*P	PKPdf	16 13 23.7	+0.6
ALF01	Guarapari-ES	157.40	200	*e*P	PKPdf	16 13 25.6	+2.1
PCMB	Pacaembu	157.69	174	*e*P	PKPdf	16 13 24.6	+0.7
SMRT	St. Maarten	157.75	38	*e*P	PKPdf	16 13 23.5	-0.5
AQDB	Aquidauana	157.89	163	*e*P	PKPdf	16 13 25.3	+1.2
BSCB	Bom Sucesso	158.08	190	*e*P	PKPdf	16 13 26.0	+1.6
SEUS	St. Eustatius	158.

comp=Z,31µm,18.8s,baz=312,slow=36
DZM Mont Dzumac 13.00 155 *e*Pn **Pn 16 00 01.4 +3.2**
931nm,1.4s
DZM *e*LR LR 16 02 58.2
comp=Z,30µm,24.1s
DZM Mont Dzumac 13.00 155 Pn 16 00 00.5 +2.3
DZM Mont Dzumac 13.00 155 P **Pn 16 00 01.9 +3.7**
YATNC Mamie plateau, 13.19 153 P **Pn 16 00 05.1 +4.5**
ONTNC Ouen Toro 13.22 155 Pn 16 00 02.1 +1.1
ONTNC Ouen Toro 13.22 155 P **Pn 16 00 05.5 +4.5**
MARNC Mare, Loyalty 13.25 148 Pn 16 00 02.5 +1.0
MARNC Mare, Loyalty 13.25 148 P **Pn 16 00 06.0 +4.5**
OUENC Ouen Island, N 13.48 154 Pn 16 00 06.7 +2.1
OUENC Ouen Island, N 13.48 154 P **Pn 16 00 08.3 +3.7**
PINNC Pines Island, 13.92 152 Pn 16 00 12.1 +1.5
PINNC Pines Island, 13.92 152 P **P 16 00 15.0 -3.5**
MANU Manus Island 15.40 301 Pn **Pn 16 00 29.2 -1.5**
CTA Charters Tower 16.79 233 Pn **P 16 00 51.0 +0.5**
10nm,0.3s,baz=48,slow=11,SNR=8.6
CTA Sn **Sn 16 03 52.4 -2.0**
1.6nm,0.3s,baz=53,slow=20,SNR=1.8
CTA Charters Tower 16.79 233 P **P 16 00 51.0 +0.5**
CTAO Charters Tower 16.79 233 P **P 16 00 51.1 +0.6**
CTAO pmax pmax
comp=Z,1µm,1.1s
CTAO Charters Tower 16.79 233 P 16 00 51.1 +0.6
CTAO IAmb IAmb 16 00 56.8
comp=Z,1µm,1.1s
TARA Tarawa 16.98 48 Pn 16 00 50.2 -0.6
TARA Tarawa 16.98 48 P **Pn 16 00 51.5 +0.6**
PATS Pohnpei 17.19 353 P **P 16 00 54.9 0.0**
baz=17,SNR=4.0
PATS Pohnpei 17.19 353 Pn 16 00 52.8 -0.6
COEN Coen 17.29 256 Pn **Pn 16 00 48.8 -6.0**
COEN IAmb IAmb 16 01 36.5
comp=Z,2µm,1.5s
EIDS Eidsvold 17.41 210 P **P 16 01 00.3 +3.0**
FUNA Funafuti 18.56 86 P **P 16 01 10.1 0.0**
FUNA IAmb IAmb 16 02 16.1
comp=Z,2µm,2.1s
MSVF Nonsavu 18.56 115*c i*P **Pn 16 01 12.8 +2.3**
MSVF pmax pmax
comp=Z,717nm,1.5s
MSVF MLR MLR
comp=Z,12µm,12.0s
MSVF Nonsavu 18.56 115 P **Pn 16 01 12.3 +1.8**
MSVF Nonsavu 18.56 115 P **Pn 16 01 13.2 +2.7**
KWAJ Kwajalein Atol 20.29 21 P **P 16 01 28.9 -0.1**
KWAJ pmax pmax
comp=Z,2µm,1.4s
KWAJ MLR MLR
comp=Z,20µm,18.0s
KWAJ Kwajalein Atol 20.29 21 P 16 01 28.9 -0.1
JAY Jayapura 21.11 290 P **P 16 01 38.9 +0.9**
comp=Z,95nm,1.0s,baz=107,slow=3.0,SNR=5.2
LHI Lord Howe Isla 21.12 183 P P 16 01 45.6 +7.7
ARMA Armidale 21.62 201 P **P 16 01 43.0 -0.4**
ARMA IAmb IAmb 16 01 51.4
comp=Z,773nm,1.4s
CNB Canberra Magne 26.85 200 P **P 16 02 37.6 +4.0**
baz=27,SNR=4.7
WRA Warramunga Arr 26.94 246 P **P 16 02 35.8 +1.2**
WRA pmax pmax
comp=Z,157nm,0.9s
WRA Warramunga Arr 26.94 246 P **P 16 02 35.8 +1.2**
CAN Canberra 26.98 201 P **P 16 02 35.7 +0.9**
CAN pmax pmax
comp=Z,636nm,1.4s
CAN MLR MLR
comp=Z,42µm,19.0s
CAN Canberra 26.98 201 P **P 16 02 35.7 +0.9**
CAN IAmb IAmb 16 02 50.0
comp=Z,636nm,1.4s
AFI Afiamalu 27.36 100 P **P 16 02 36.5 -1.9**
comp=Z,24nm,1.0s,baz=78,slow=15,SNR=2.8
AFI Afiamalu 27.36 100 P **P 16 02 37.5 -0.9**
AFI pmax pmax
comp=Z,391nm,1.1s
AFI MLR MLR
comp=Z,14µm,21.0s
AFI Afiamalu 27.36 100 P **P 16 02 37.5 -0.9**
AFI Afiamalu 27.36 100 P **P 16 02 42.0 +3.6**
OUZ Omahuta 27.51 156 P **P 16 02 42.4 +2.9**
GUMO Guam 28.36 327 P **P 16 02 43.8 -3.4**
GUMO pmax pmax
comp=Z,1µm,1.8s
GUMO Guam 28.36 327 P **P 16 02 43.8 -3.4**
AS31 Alice Springs 28.59 239 P **P 16 02 46.3 -3.0**
AS31 IAmb IAmb 16 02 55.5
comp=Z,287nm,0.9s
ASAR Alice Springs 28.59 239 P **P 16 02 46.5 -2.8**
ASAR Alice Springs 28.59 239 P **P 16 02 46.5 -2.8**
MTN Manton Dam 28.84 262 P **P 16 02 49.8 -1.7**
MTN IAmb IAmb 16 02 50.4
comp=Z,345nm,0.6s
ANA2 Anatahan 30.26 331 P **P 16 03 03.0 -1.1**
MXZ Matakaoa Point 31.51 152 P **P 16 03 14.5 -0.5**
TAU Tasmania Unive 34.43 197 P **P 16 03 42.6 +2.3**
TAU pmax pmax
comp=Z,613nm,1.6s
TAU Tasmania Unive 34.43 197 P **P 16 03 42.6 +2.3**
BATI Baumata 36.21 267 P **P 16 03 57.5 +1.4**
comp=Z,132nm,0.6s,baz=134,slow=1.6,SNR=11
MMRI Maumere 37.73 269 P **P 16 04 08.4 -0.6**
MMRI IAmb IAmb 16 04 23.5
comp=Z,281nm,0.9s
LUWI Luwuk 38.59 281 P **P 16 04 16.2 0.0**
RAR Rarotonga 39.65 111 P **P 16 04 25.7 +0.7**
RAR pmax pmax
comp=Z,425nm,1.6s
RAR Rarotonga 39.65 111 P **P 16 04 25.7 +0.7**
RAR IAmb IAmb 16 04 59.2
comp=Z,425nm,1.6s
JOHN Johnston Islan 40.04 48 P **P 16 04 28.2 -0.1**
JOHN IAmb IAmb 16 04 36.0
comp=Z,704nm,1.5s
KAPI Kappang 40.67 274 P **P 16 04 34.7 +1.1**
comp=Z,42nm,0.9s,baz=2.1,slow=1.4,SNR=8.3
KAPI Kappang 40.67 274 P **P 16 04 33.9 +0.3**
KAPI IAmb IAmb 16 04 49.1
comp=Z,503nm,1.3s
TOLI2 Tolitoli 41.09 284 P **P 16 04 36.8 -0.3**
JCJ Chichijima 41.22 335 P **P 16 04 37.0 -0.9**
comp=Z,199nm,0.9s,baz=147,slow=1.1,SNR=7.6
JCJ Chichijima 41.22 335 P **P 16 04 35.4 -2.5**
MIDW Midway 43.91 29 P **P 16 04 55.7 -4.0**
JAGI Jajag, Banyuwa 45.71 268 P **P 16 05 12.3 -2.1**
JAGI IAmb IAmb 16 05 29.4
comp=Z,342nm,1.0s
GIRL Giralia 45.82 249 P **P 16 05 17.3 +2.2**
JMZ Minamidaito 2 45.84 322 P **P 16 05 11.7 -3.5**
JMZ IAmb IAmb 16 05 18.8
comp=Z,499nm,1.5s
JHJ2 Mitsune 47.48 336 P **P 16 05 27.9 0.0**
JHJ Hachijo jima 2 47.50 336 P **P 16 05 27.2 -0.8**
comp=Z,181nm,0.6s,baz=68,slow=22,SNR=4.8
JOW Kunigami 48.39 320 P **P 16 05 36.0 +0.9**
comp=Z,53nm,0.9s,baz=189,slow=5.0,SNR=9.4
JOW Kunigami 48.39 320 P **P 16 05 35.8 +0.7**
JOW IAmb IAmb 16 05 38.0
comp=Z,447nm,1.6s
PPTF Pamatai, Papee 48.91 104 P **P 16 05 38.4 -1.0**
PPTF IAmb IAmb 16 05 52.8
comp=Z,203nm,0.9s
UGM Wanagama 49.34 268 P **P 16 05 43.0 +0.3**
JYT Yasato 50.10 339 P **P 16 05 47.2 -0.8**
YOJ Yonaguni jima 50.33 314 P **P 16 05 50.4 +0.5**
YOJ pmax pmax
comp=Z,380nm,1.3s
YOJ Yonaguni jima 50.33 314 P **P 16 05 50.4 +0.5**
YOJ IAmb IAmb 16 05 53.2
comp=Z,380nm,1.3s
INU Inuyama 50.56 335 P **P 16 05 51.2 -0.3**
INU IAmb IAmb 16 05 54.1
comp=Z,303nm,1.2s
INU PcP **PcP 16 07 08.3 -0.8**
JSU Suzuyama 50.57 326 P **P 16 05 51.8 +0.1**
JSU IAmb IAmb 16 05 53.8
comp=Z,503nm,1.6s
JSU PcP **PcP 16 07 09.7 +0.4**
JMN Monobe 50.59 331 P **P 16 05 52.1 +0.3**
JGF Kuroka 50.63 336 P **P 16 05 51.8 -0.3**
TWG Pinlang 50.74 311 P **P 16 05 53.0 -0.1**
YULB Yu-li 50.91 312 P **P 16 05 54.0 -0.3**

MJAR Matsushiro Arr 51.12 337 P **P 16 05 54.0 -1.7**
comp=Z,52nm,0.8s,baz=168,slow=7.6,SNR=33
MJAR Matsushiro Arr 51.12 337 P **P 16 05 54.6 -1.1**
MJAR pmax pmax
comp=Z,115nm,1.2s
MJAR Matsushiro Arr 51.12 337 P **P 16 05 54.6 -1.1**
MAJO Matsushiro 51.12 337*d i*P **P 16 05 56.0 +0.3**
MAJO pmax pmax
comp=Z,193nm,1.1s
MAJO MLR MLR
comp=Z,8µm,15.0s
MAJO Matsushiro 51.12 337 P **P 16 05 54.6 -1.1**
MAJO IAmb IAmb 16 05 56.7
comp=Z,150nm,1.0s
MAT Matsushiro 51.12 337 P **P 16 05 54.7 -1.0**
MJB9 Matsu-Tunnel 51.12 337 P **P 16 05 54.6 -1.1**
NACB Ninganchiao 51.16 313 P **P 16 05 56.2 0.0**
NACB IAmb IAmb 16 05 58.5
comp=Z,382nm,1.3s
JWT Wachi 51.19 334 P **P 16 05 56.0 -0.2**
JWT IAmb IAmb 16 05 58.3
comp=Z,333nm,1.3s
TPUB Ta-pu 51.35 311 P **P 16 05 57.3 -0.3**
TPUB IAmb IAmb 16 05 59.7
comp=Z,272nm,1.1s
JMM Marumori 51.36 340 P **P 16 05 57.0 -0.5**
JMM IAmb IAmb 16 05 59.4
comp=Z,226nm,1.0s
SSLB Suanglung 51.40 312 P **P 16 05 57.7 -0.4**
KIP Kipapa 51.55 52 P **P 16 05 57.6 -1.6**
KIP pmax pmax
comp=Z,504nm,1.6s
KIP MLR MLR
comp=Z,9µm,19.0s
KIP Kipapa 51.55 52 P **P 16 05 57.6 -1.6**
KIP IAmb IAmb 16 06 10.2
comp=Z,504nm,1.6s
JNU Nakatsue 51.60 328 P **P 16 05 58.6 -0.8**
comp=Z,93nm,0.8s,baz=154,slow=4.2,SNR=13
JNU Nakatsue 51.60 328 P **P 16 05 59.2 -0.2**
JNU IAmb IAmb 16 06 01.4
comp=Z,191nm,1.0s
YHNB Yeheng 51.62 313 P **P 16 05 59.6 -0.1**
YHNB IAmb IAmb 16 06 02.2
comp=Z,284nm,1.1s
OPA Opana 51.70 52 P **P 16 06 00.2 -0.1**
OPA pmax pmax
comp=Z,1µm,1.5s
OPA Opana 51.70 52 P **P 16 06 00.2 -0.1**
TATO Taipei 51.73 313 P **P 16 06 00.6 +0.2**
TATO IAmb IAmb 16 06 02.5
comp=Z,221nm,1.1s
JHS Saijyo 51.99 331 P **P 16 06 00.6 -1.7**
JHS IAmb IAmb 16 06 10.6
comp=Z,410nm,1.8s
CISI Cisompet, Garu 52.05 268 P **P 16 06 02.3 -0.8**
KHLU Kahalu`u 52.26 55 P **P 16 06 05.1 +0.5**
KHLU IAmb IAmb 16 06 12.8
comp=Z,442nm,1.4s
KHU Kahuku 52.31 56 P **P 16 06 04.3 -0.9**
KHU pmax pmax
comp=Z,1µm,1.5s
KHU Kahuku 52.31 56 P **P 16 06 04.2 -0.9**
LEM Lembang 52.33 269 P **P 16 06 06.5 +1.1**
comp=Z,71nm,0.8s,baz=61,slow=6.7,SNR=7.7
HUH Hualalai 52.36 55 P **P 16 06 04.8 -0.7**
JSD Sado 52.41 338 P **P 16 06 04.0 -1.3**
JSD IAmb IAmb 16 06 07.1
comp=Z,220nm,0.7s
MLOA Mauna Loa Obse 52.49 56 P **P 16 06 04.6 -2.1**
AIN Ainahou 52.50 56 P **P 16 06 05.7 -0.8**
KHLH Kahului Airpor 52.51 54 P **P 16 06 04.9 -1.4**
HLP Hilina Pali 52.59 56 P **P 16 06 06.3 -0.7**
HMH Humu'ula Sheep 52.60 56 P **P 16 06 05.6 -1.8**
POHA Pohakuloa 52.64 55 P **P 16 06 04.9 -2.7**
HPAH Hawaii Prepara 52.64 55 P **P 16 06 05.9 -1.6**
HPAH IAmb IAmb 16 06 34.1
comp=Z,245nm,1.1s
SDHHI Sand Hill 52.65 56 P **P 16 06 05.6 -1.9**
WRMHI West Rim 52.65 56 P **P 16 06 05.7 -1.9**
RIM Rim 52.67 56 P **P 16 06 05.7 -2.0**
JTU Tsushima 53.46 328 P **P 16 06 11.6 -1.5**
QZH Quanzhou 53.82 311⇓*i*P **P 16 06 17.5 +1.6**
QZH pmax pmax
comp=Z,100nm,1.4s
XMIS Christmas Isla 53.86 265 P **P 16 06 14.7 -1.8**
JTM Tenmabayashi 53.93 342 P **P 16 06 16.1 -0.3**
ERM Erimo 54.46 344⇓*i*P **P 16 06 22.1 +1.9**
ERM pmax pmax
comp=Z,335nm,1.7s
ERM MLR MLR
comp=Z,24µm,16.0s
ERM Erimo 54.46 344 P **P 16 06 20.5 +0.2**
ERM IAmb IAmb 16 06 31.6
comp=Z,442nm,1.8s
JEW Eniwo 55.70 343 P **P 16 06 28.6 -0.6**
PMBI Palembang 55.75 273 P **P 16 06 30.6 +0.5**
TJN Taejon 55.95 328*c i*P **P 16 06 31.5 +0.4**
KUR Kuril'sk 56.47 349*ce*P **P 16 06 34.8 +0.2**
KSRS Korea Array 56.48 329 P **P 16 06 35.4 +0.5**
comp=Z,54nm,0.7s,baz=141,slow=6.6,SNR=58
KSAR Wonju Array Be 56.49 329 P **P 16 06 35.0 0.0**
KSAR Wonju Array Be 56.49 329 P **P 16 06 35.0 0.0**
KS19 Wonju Array Si 56.55 329 P **P 16 06 34.8 -0.6**
KS19 IAmb IAmb 16 06 37.2
comp=Z,176nm,1.1s
JKA Kamikawa-asahi 56.57 345 P **P 16 06 35.9 +0.6**
ASAJ Asahikawa 56.57 345 P **P 16 06 36.0 +0.6**
comp=Z,136nm,0.6s,baz=211,slow=8.0,SNR=86
INCN Inchon 57.17 328 P **P 16 06 40.0 +0.2**
INCN pmax pmax
comp=Z,555nm,1.2s
INCN Inchon 57.17 328 P **P 16 06 40.0 +0.2**
QIZ Qiongzhong 57.81 300 P **P 16 06 46.1 +1.5**
QIZ S **S 16 14 45.5 +2.5**
QIZ pmax pmax
comp=Z,86nm,1.4s
QIZ Qiongzhong 57.81 300 P **P 16 06 45.7 +1.0**
NJ2 Nanjing 57.96 318 *e*P **P 16 06 47.6 +2.2**
YSS Yuzh-Sakhalins 59.18 346⇑*e*P **P 16 06 54.3 +0.6**
YSS pmax pmax
comp=Z,200nm,0.6s
YSS Yuzh-Sakhalins 59.18 346 P **P 16 06 54.0 +0.4**
VLA Vladivostok 59.25 336*c i*P **P 16 06 54.6 +0.4**
VLA pmax pmax
comp=Z,353nm,1.4s
USA0B Ussuriysk Arra 60.11 337*c i*P **P 16 07 00.7 +0.6**
USA0B Ussuriysk Arra 60.11 337 P **P 16 07 00.2 +0.1**
USRK Ussuriysk Ar. 60.11 337 P **P 16 07 00.7 +0.6**
comp=Z,155nm,0.8s,baz=134,slow=5.5,SNR=48
USRK Ussuriysk Ar. 60.11 337 P **P 16 07 00.2 +0.1**
UBPT Khong Chiam 60.13 294 P **P 16 07 01.6 +0.8**
SKR Severo-Kuril's 60.88 357 *e*P **P 16 07 01.7 -3.5**
SKR pmax pmax
comp=Z,123nm,1.1s
DL2 Dalian 60.89 326 P **P 16 07 05.8 +0.3**
DL2 pmax pmax
comp=Z,190nm,1.4s
DL2 LR LR
comp=Z,5µm,17.8s
DL2 LR LR
comp=Z,9µm,16.6s
DL2 LR LR
comp=Z,8µm,15.5s
UGL Uglegorsk 61.34 346 *e*P **P 16 07 08.9 +0.6**
UGL *e*S **S 16 15 29.6 +2.2**
UGL pmax pmax
comp=Z,300nm,1.4s
UGL MLR MLR
comp=E,11µm,17.0s
UGL MLR MLR
comp=N,9µm,15.0s
UGL MLR MLR
comp=Z,10µm,16.0s
MDJ Mudanjiang 61.42 335 P **P 16 07 09.0 0.0**
MDJ pP pP 16 07 15.5 +0.2
MDJ sP pwP 16 07 19.9 -0.9
MDJ S **S 16 15 31.5 +2.8**
MDJ pmax pmax
comp=Z,300nm,1.3s
MDJ pmax pmax
comp=Z,4µm,11.1s
MDJ LR LR
comp=Z,11µm,13.5s

MDJ LR LR
comp=Z,32µm,18.0s
MDJ Mudanjiang 61.42 335 P **P 16 07 08.8 -0.2**
SKLT Songkhla 62.08 284 P **P 16 07 16.0 +1.9**
comp=Z,92nm,1.2s
CN2 Changchun 62.58 332 *e*P **P 16 07 16.8 0.0**
CN2 pmax pmax
comp=Z,100nm,1.3s
RPSI Rantau Prapat 62.62 278 P **P 16 07 17.5 -0.2**
RPSI IAmb IAmb 16 07 31.3
comp=Z,369nm,1.8s
PSI Prapat 62.64 279 P **P 16 07 17.9 -0.1**
comp=Z,16nm,0.8s,baz=41,slow=2.2,SNR=4.6
TYV Tymovskoe 62.88 347 *e*P **P 16 07 19.7 +1.0**
TYV *e*S **S 16 15 47.8 +1.0**
TYV pmax pmax
comp=Z,204nm,1.6s
TYV pmax pmax
comp=Z,2µm,6.2s
TYV smax smax
comp=N,4µm,10.9s
TYV smax smax
comp=E,6µm,10.9s
PET Petropavlovsk 63.12 359*c i*P **P 16 07 20.0 -0.2**
PET pmax pmax
comp=Z,298nm,1.3s
PET MLR MLR
comp=Z,5µm,16.0s
PET Petropavlovsk 63.12 359 P **P 16 07 20.1 -0.1**
TRTT Trang 63.14 284 P P 16 07 28.0 +6.8
comp=Z,78nm,1.3s
PEA0B Petropavlovsk- 63.23 358 P **P 16 07 21.4 +0.4**
PEA0B pmax pmax
comp=Z,353nm,1.1s
PEA0B Petropavlovsk- 63.23 358 P **P 16 07 21.4 +0.4**
PETK Petropavlovsk- 63.23 358 P **P 16 07 20.7 -0.3**
comp=Z,116nm,0.8s,baz=167,slow=6.7,SNR=30
PETK Petropavlovsk- 63.23 358 P **P 16 07 20.6 -0.4**
ENH Enshi 63.48 311 P **P 16 07 23.2 0.0**
ENH IAmb IAmb 16 07 24.8
comp=Z,252nm,1.1s
SURA Surathani 63.56 286 P **P 16 07 26.0 +2.0**
comp=Z,68nm,1.0s
AMKA Amchitka 63.59 13 P **P 16 07 23.8 +0.4**
GSI Gunungsitoli 63.63 277 P **P 16 07 24.0 -0.5**
KRAB Krabi 63.72 285 P P 16 07 35.1 +10
comp=Z,11µmcomp=Z,109nm,0.5s
GYA Guiyang 63.77 306⇓P **P 16 07 27.0 +1.7**
GYA pP pwP 16 07 35.9 -1.6
GYA pmax pmax
comp=Z,140nm,1.1s
SLVN Son La 63.83 300 P **P 16 07 24.3 -1.4**
SLVN IAmb IAmb 16 07 29.4
comp=Z,132nm,1.1s
SMY Shemya 63.89 9 P **P 16 07 24.4 -0.9**
SMY pmax pmax
comp=Z,1µm,1.6s
SMY Shemya 63.89 9 P **P 16 07 24.4 -0.9**
GRNR Gornyy 64.35 343⇑*i*P **P 16 07 29.2 +0.8**
GRNR *e*S **S 16 16 07.7 +2.5**
GRNR pmax pmax
comp=E,30nm,0.7s
GRNR pmax pmax
comp=N,50nm,0.9s
GRNR pmax pmax
comp=Z,140nm,0.7s
GRNR smax smax
comp=N,7.0nm,0.9s
KLR Kul'dur 64.46 340 P **P 16 07 29.5 +0.4**
comp=N,104nm,0.9s,baz=146,slow=4.0,SNR=25
KLR Kul'dur 64.46 340*c i*P **P 16 07 29.6 +0.4**
KLR pmax pmax
comp=Z,317nm,1.3s
KLR MLR MLR
comp=Z,7µm,16.0s
PHET Kaeng Krachan 64.67 290 P **P 16 07 34.9 +3.7**
comp=Z,278nmcomp=Z,25nm,0.9s
BJT Baijiatuao 64.74 324 P **P 16 07 30.3 -0.9**
BJT pmax pmax
comp=Z,167nm,1.4s
BJT Baijiatuao 64.74 324 P **P 16 07 30.3 -0.9**
BJT IAmb IAmb 16 07 33.1
comp=Z,168nm,1.4s
BJI Beijing 64.75 324 P **P 16 07 31.9 +0.6**
BJI sP **pwP 16 07 43.0 +0.1**
BJI PcP **PcP 16 08 04.6 -0.1**
BJI pmax pmax
comp=Z,120nm,1.3s
BJI LR LR
comp=Z,11µm,14.5s
BJI LR LR
comp=Z,10µm,16.4s
BJI LR LR
comp=Z,16µm,16.0s
KIWB Kanaga Island 64.88 15 P **P 16 07 32.3 +0.4**
ADK Adak 65.02 15 P **P 16 07 32.7 -0.1**
ADK pmax pmax
comp=Z,938nm,1.4s
ADK Adak 65.02 15 P **P 16 07 32.7 -0.1**
CASY Casey 65.22 200 P **P 16 07 34.2 +0.3**
CASY IAmb IAmb 16 07 37.2
comp=Z,224nm,1.3s
PHIT Phitsanulok 65.34 294 P **P 16 07 39.0 +3.4**
comp=Z,439nmcomp=Z,54nm,1.1s
GSTR Great Sitkin T 65.38 16 P **P 16 07 36.1 +1.0**
UTTA Uttaradit 65.41 295 P **P 16 07 39.2 +3.2**
comp=Z,234nmcomp=Z,21nm,1.3s
SRDT SRDT 65.58 291 P **P 16 07 39.9 +2.7**
comp=Z,186nm,1.7s
TIY Taiyuan 65.59 320 *e*P **P 16 07 38.8 +1.9**
NANT Nan 65.66 296 P **P 16 07 40.4 +2.8**
comp=Z,535nmcomp=Z,58nm,1.1s
UTHA Uthaitani 65.67 292 P **P 16 07 40.0 +2.3**
comp=Z,324nmcomp=Z,30nm,1.4s
XAN Xi'an 65.87 315⇓P **P 16 07 39.6 +0.9**
XAN sP pwP 16 07 53.4 +3.2
XAN PcP **PcP 16 08 08.4 -1.2**
XAN S **S 16 16 22.4 -2.2**
XAN SS **SS 16 20 38.8 -1.2**
XAN pmax pmax
comp=Z,240nm,1.3s
XAN LR LR
comp=Z,7µm,18.6s
XAN LR LR
comp=Z,10µm,16.5s
XAN LR LR
comp=Z,15µm,15.1s
KHLT Khaolaem Dam 66.21 291 P **P 16 07 45.4 +4.2**
comp=Z,597nmcomp=Z,51nm,1.3s
KMI Kunming 66.36 303⇑P **P 16 07 43.3 +1.0**
KMI pP pwP 16 07 54.3 -0.2
KMI sP sP 16 07 56.3 +5.1
KMI pmax pmax
comp=Z,250nm,1.6s
KMI LR LR
comp=Z,8µm,14.9s
KMI LR LR
comp=Z,7µm,14.0s
KMI LR LR
comp=Z,12µm,14.9s
LAMP Lampang 66.50 295 P **P 16 07 46.4 +3.3**
comp=Z,401nmcomp=Z,55nm,0.8s
CM31 Chiang Mai Arr 67.10 295 P **P 16 07 47.9 +1.1**
CM31 IAmb IAmb 16 07 50.0
comp=Z,334nm,1.6s
CMAR Chiang Mai Arr 67.10 295 P **P 16 07 48.7 +1.9**
comp=Z,48nm,0.7s,baz=126,slow=5.3,SNR=48
CMAR PKPPKP **P'P'df 16 36 10.2 -4.3**
comp=Z,3.7nm,1.1s,baz=296,slow=3.4,SNR=4.4
CMAR Chiang Mai Arr 67.10 295 P **P 16 07 47.0 +0.1**
PTCN Pitcairn Islan 67.13 113 P **P 16 07 48.2 +1.2**
VNDA Vanda 67.18 180 PKPPKP 16 36 11.2
comp=Z,1.3nm,1.2s,baz=123,slow=1.7,SNR=3.2
VNDA Vanda 67.18 180 P **P 16 07 49.2 +2.9**
VNDA pmax pmax
comp=Z,96nm,1.4s
VNDA Vanda 67.18 180 P **P 16 07 49.2 +2.9**
CMMT Chiang Mai 67.21 295 P **P 16 07 50.0 +2.4**
CHTO Chiang Mai 67.22 295 P **P 16 07 48.4 +0.8**
CHTO pmax pmax
comp=Z,292nm,1.5s
CHTO Chiang Mai 67.22 295 P **P 16 07 48.4 +0.8**
CHTO IAmb IAmb 16 07 50.4
comp=Z,292nm,1.5s
HHC Hu-ho-hao-te 68.00 322 *i*P **P 16 07 53.1 +0.8**
HHC S **S 16 16 48.8 -1.5**

HHC pmax pmax
comp=Z,110nm,1.3s
HHC LR LR
comp=Z,12µm,16.4s
HHC LR LR
comp=Z,7µm,17.9s
HHC LR LR
comp=Z,11µm,18.8s
CD2 Chengdu 68.09 309 P **P** **16 07 55.0 +2.0**
CD2 pmax pmax
comp=Z,510nm,0.8s
NIKH Nikolski High 68.29 19 P **P** **16 07 52.1 -1.5**
NIKH Nikolski High 68.29 19 P **P** **16 07 53.8 +0.2**
baz=213,SNR=13
BTO Baotou 68.81 321 *e*P **P** **16 07 58.5 +1.2**
BTO S **S** **16 17 05.8 +6.0**
HIA Hailar 69.28 333 P **P** **16 08 00.7 +0.8**
HIA pmax pmax
comp=Z,214nm,1.2s
HIA Hailar 69.28 333 P **P** **16 08 00.7 +0.8**
HIA IAmb IAmb 16 08 02.2
comp=Z,214nm,1.2s
ZEA Zeya 69.78 340 *e*P **P** **16 08 04.3 +1.5**
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=N,100nm,1.1s
ZEA pmax pmax
comp=Z,170nm,1.6s
UNV Unalaska Valle 69.80 20 P **P** **16 08 02.7 -0.2**
UNV IAmb IAmb 16 08 04.6
comp=Z,190nm,1.0s
UNV Unalaska Valle 69.80 20 P **P** **16 08 04.0 +1.1**
baz=215
MA2 Magadan 70.11 355 P **P** **16 08 04.0 -0.8**
comp=Z,166nm,0.7s,baz=146,slow=6.9,SNR=40
MA2 Magadan 70.11 355 P **P** **16 08 04.0 -0.8**
MA2 Magadan 70.11 355 P **P** **16 08 03.8 -1.0**
AKUT Akutan 70.28 20 P **P** **16 08 04.9 -1.0**
AKUT IAmb IAmb 16 08 07.1
comp=Z,190nm,1.0s
LZH Lanzhou 70.49 314 *e*P **P** **16 08 10.0 +2.1**
LZH pP pP 16 08 15.0 +0.7
LZH pmax pmax
comp=Z,250nm,1.1s
LZH pmax pmax
comp=Z,1µm,4.9s
LZH LR LR
comp=Z,14µm,14.6s
LZH LR LR
comp=Z,13µm,17.3s
PBA Port Blair 70.76 286 P P 16 08 09.6 0.0
PBA IAmb IAmb 16 08 49.8
comp=Z,205nm,1.3s
SPIA Saint Paul Isl 71.46 16 P **P** **16 08 12.6 -0.4**
SPIA Saint Paul Isl 71.46 16 P **P** **16 08 13.3 +0.4**
baz=210
LKP Lekhapani 72.92 303 *e*P **P** **16 08 23.8 +1.4**
SDPT Sand Point 73.13 22 P **P** **16 08 22.3 -0.7**
SDPT Sand Point 73.13 22 P **P** **16 08 22.0 -1.0**
baz=220
SEY Seymchan 73.31 356 P **P** **16 08 22.6 -1.3**
comp=Z,95nm,0.9s,baz=173,slow=5.1,SNR=9.0
MOKO MOKOCHONG 73.67 301 *e*P **P** **16 08 28.6 +1.6**
DIBR DIBRUGARH 73.74 303 *e*P **P** **16 08 28.0 +0.8**
CIT Chita 74.03 332 *e*P **P** **16 08 29.3 +0.8**
CIT *e* 16 08 36.5
CIT *e* 16 08 43.5
CIT pmax pmax
comp=Z,738nm,2.0s
CHGN Chignik 74.62 22 P **P** **16 08 31.6 -0.1**
CHGN IAmb IAmb 16 08 32.6
comp=Z,145nm,1.0s
CHGN Chignik 74.62 22 P **P** **16 08 31.1 -0.5**
baz=222
ULN Ulaanbaatar 74.74 326*c i*P **P** **16 08 33.7 +0.8**
ULN pmax pmax
comp=Z,411nm,1.4s
ULN MLR MLR
comp=Z,5µm,14.0s
ULN Ulaanbaatar 74.74 326 P **P** **16 08 33.2 +0.3**
GTA Gaotai 74.88 316 ⇑P **P** **16 08 34.4 +0.6**
GTA pP sP 16 08 42.8 +0.1
GTA sP PcP 16 08 47.0 -0.7
GTA pmax pmax
comp=Z,220nm,1.7s
SONM Songino Array 75.09 326 P **P** **16 08 35.8 +0.9**
comp=Z,113nm,0.9s,baz=140,slow=5.3,SNR=39
SONM Songino Array 75.09 326 P **P** **16 08 35.3 +0.4**
SONM IAmb IAmb 16 08 37.5
comp=Z,224nm,1.1s
SHL Shillong 75.64 300 P **P** **16 08 38.4 -0.2**
SHL pmax pmax
comp=Z,417nm,1.1s
SHL Shillong 75.64 300 P **P** **16 08 38.4 -0.2**
SHL Shillong 75.64 300 *e*P **P** **16 08 40.4 +1.8**
SHL IAmb IAmb 16 08 41.2
comp=Z,184nm,0.7s
YAK Yakutsk 76.03 346 P **P** **16 08 39.6 -0.1**
comp=Z,107nm,0.6s,baz=200,slow=0.4,SNR=17
YAK Yakutsk 76.03 346 *e*P **P** **16 08 39.3 -0.4**
YAK *e* 16 08 50.6
YAK *e*S **S** **16 18 20.9 -0.4**
YAK pmax pmax
comp=Z,247nm,0.9s
YAK pmax pmax
comp=N,39nm,1.1s
YAK pmax pmax
comp=E,63nm,1.5s
YAK smax smax
comp=E,401nm,4.9s
YAK smax smax
comp=N,396nm,4.3s
YAK Yakutsk 76.03 346 P **P** **16 08 39.2 -0.5**
SII Sitkinak Islan 76.44 24 P **P** **16 08 42.3 +0.1**
SII Sitkinak Islan 76.44 24 P **P** **16 08 42.3 +0.1**
baz=226
GAMB Gambell 76.88 12 P **P** **16 08 45.1 +0.6**
GAMB IAmb IAmb 16 08 46.5
comp=Z,190nm,1.1s
GAMB Gambell 76.88 12 P **P** **16 08 44.7 +0.2**
baz=208
OHAK Old Harbor 77.25 24 P **P** **16 08 47.2 +0.5**
OHAK IAmb IAmb 16 08 48.7
comp=Z,232nm,1.0s
OHAK Old Harbor 77.25 24 P **P** **16 08 47.0 +0.3**
baz=227
LSA Lhasa 77.61 304 P **P** **16 08 50.3 +0.3**
LSA pmax pmax
comp=Z,111nm,0.9s
LSA Lhasa 77.61 304 P **P** **16 08 50.3 +0.3**
LSA IAmb IAmb 16 08 53.1
comp=Z,111nm,0.9s
BOD Bodaibo 77.75 337 *e*P **P** **16 08 47.6 -1.9**
BOD pmax pmax
comp=Z,144nm,1.6s
KDAK Kodiak Island 77.91 24*c i*P **P** **16 08 50.6 +0.2**
KDAK pmax pmax
comp=Z,277nm,0.9s
KDAK Kodiak Island 77.91 24 P **P** **16 08 49.9 -0.5**
KDAK IAmb IAmb 16 08 52.8
comp=Z,180nm,0.9s
KDAK Kodiak Island 77.91 24 P **P** **16 08 50.8 +0.4**
baz=227
ZAK Zakamensk 78.20 327 *e*P **P** **16 08 52.5 +0.1**
ZAK pmax pmax
comp=Z,196nm,1.5s
BILL Bilibino 78.28 2*d i*P **P** **16 08 52.4 +0.1**
BILL *e* 16 09 00.3
BILL *e* 16 11 48.2
BILL *e*PPP PPP 16 13 35.5
BILL *e*S **S** **16 18 46.0 +0.3**
BILL *e*SS **SS** **16 23 49.1 +0.5**
BILL pmax pmax
comp=Z,606nm,1.1s
BILL MLR MLR
comp=Z,5µm,16.0s
BILL Bilibino 78.28 2 P **P** **16 08 52.0 -0.3**
Q19K Cape Douglas, 78.29 22 P **P** **16 08 51.9 -0.7**
Q19K Cape Douglas, 78.29 22 P **P** **16 08 52.4 -0.2**
baz=226
O18K Koktuh Hills 78.38 21 P **P** **16 08 51.5 -1.4**
O18K IAmb IAmb 16 09 01.8
comp=Z,200nm,1.3s
O18K Koktuh Hills 78.38 21 P **P** **16 08 52.8 -0.2**
baz=224
O19K Port Alsworth 78.93 21 P **P** **16 08 54.6 -1.4**
O19K IAmb IAmb 16 08 57.3
comp=Z,308nm,1.6s
O19K Port Alsworth 78.93 21 P **P** **16 08 55.6 -0.3**
baz=225
P19K Oil Pt 78.95 22 P **P** **16 08 55.5 -0.6**
P19K Oil Pt 78.95 22 P **P** **16 08 55.8 -0.3**
baz=226
GTK Tadong 78.98 301 *e*P **P** **16 08 59.6 +2.4**
GTK IAmb IAmb 16 09 00.6
comp=Z,218nm,0.7s
SVW2 Sparrevohn 79.14 20 P **P** **16 08 57.1 -0.1**
TNA Tin City 79.24 13 P **P** **16 08 57.7 +0.1**
TNA IAmb IAmb 16 09 00.0
comp=Z,220nm,0.9s
TNA Tin City 79.24 13 P **P** **16 08 57.8 +0.2**
baz=212
N19K Bonanza Creek 79.31 21 P **P** **16 08 57.7 -0.6**
N19K Bonanza Creek 79.31 21 P **P** **16 08 58.0 -0.2**
baz=225
O20K Slope Mountain 79.47 22 P **P** **16 08 59.0 0.0**
baz=227
HOM Homer 79.54 23 P **P** **16 08 59.3 0.0**
HOM Homer 79.54 23 P **P** **16 08 59.7 +0.4**
baz=228
QSPA South Pole Qui 79.67 180 P **P** **16 09 00.3 +0.1**
comp=Z,44nm,0.9s,baz=343,slow=3.6,SNR=2.1
QSPA South Pole Qui 79.67 180 P **P** **16 09 00.8 +0.6**
RSO Reoubt South 79.68 22 P **P** **16 08 59.8 -0.6**
TAPN Taplejung 79.75 300 *e*P **P** **16 09 02.2 +0.6**
comp=Z,382nm,1.2s
ODAN Odare 79.88 300 *e*P **P** **16 09 02.9 +0.7**
comp=Z,2µm,1.4s
MOY Mondy 80.11 327 *e*P **P** **16 09 03.6 +0.8**
MOY pmax pmax
comp=Z,242nm,2.1s
M19K Big River Lodg 80.11 20 P **P** **16 09 03.5 +1.1**
M19K Big River Lodg 80.11 20 P **P** **16 09 03.4 +1.0**
baz=225
L19K White Mountain 80.16 20 P **P** **16 09 03.8 +1.1**
L19K IAmb IAmb 16 09 05.2
comp=Z,159nm,0.8s
L19K White Mountain 80.16 20 P **P** **16 09 03.3 +0.6**
baz=225
BOK Bokaro 80.32 296 *e*P **P** **16 09 06.8 +2.3**
TTA Tatalina 80.33 19 P **P** **16 09 03.9 +0.3**
TTA pmax pmax
comp=Z,143nm,1.0s
TTA Tatalina 80.33 19 P **P** **16 09 03.9 +0.3**
TTA IAmb IAmb 16 09 05.8
comp=Z,142nm,1.0s
SPCR Spurr Chakacha 80.38 21 P **P** **16 09 05.0 +1.1**
baz=227
CAPN Captain Cook N 80.47 22 P **P** **16 09 05.2 +0.9**
baz=228
RAMN Ramite 80.58 300 *e*P **P** **16 09 06.4 +0.4**
comp=Z,43nm,0.6s
SEW Seward 80.67 23 P **P** **16 09 04.3 -1.1**
SEW IAmb IAmb 16 09 07.8
comp=Z,125nm,0.9s
SEW Seward 80.67 23 P **P** **16 09 05.2 -0.2**
baz=230
L20K Farewell, AK 80.69 20 P **P** **16 09 06.2 +0.6**
baz=225
O22K Cooper Landing 80.81 23 P **P** **16 09 06.0 -0.2**
baz=230
SUA Susitna One 81.08 21 P **P** **16 09 07.1 -0.7**
baz=228
JIRN Jiri 81.13 300 *e*P **P** **16 09 09.3 +0.2**
comp=Z,779nm,1.4s
SKT Skwentna 81.15 21 P **P** **16 09 07.0 -1.0**
baz=228
RC01 Rabbit Creek A 81.20 22 P **P** **16 09 08.3 0.0**
baz=230
K20K Telida 81.25 19 P **P** **16 09 09.3 +0.8**
baz=225
PALK Pallekele 81.32 279 P **P** **16 09 09.9 -0.1**
PALK pmax pmax
comp=Z,297nm,1.6s
PALK Pallekele 81.32 279 P **P** **16 09 09.9 -0.1**
PALK IAmb IAmb 16 09 19.8
comp=Z,297nm,1.6s
PPLA Purkeypile 81.55 20 P **P** **16 09 09.8 -0.5**
baz=227
PWL Port Wells 81.58 23 P **P** **16 09 09.8 -0.5**
PWL IAmb IAmb 16 09 12.7
comp=Z,210nm,0.9s
PMR Palmer 81.75 22 IAmb IAmb 16 09 12.8
comp=Z,255nm,1.2s
PMR Palmer 81.75 22 P **P** **16 09 11.3 +0.2**
baz=230
PKI Pulchoki 81.77 300 *e*P **P** **16 09 12.5 0.0**
comp=Z,1µm,1.5s
PKIN Phulchoki 81.78 300 *e*P **P** **16 09 12.6 +0.1**
comp=Z,1µm,1.6s
J20K Nowinta River 81.81 18 P **P** **16 09 11.9 +0.5**
baz=225
CUT Chulitna 81.87 21 P **P** **16 09 11.1 -0.6**
baz=229
KNK Knik Glacier 81.88 22 P **P** **16 09 11.9 0.0**
baz=231
KKN Kakani 81.94 300 *e*P **P** **16 09 13.8 +0.6**
comp=Z,438nm,1.2s
HIN Hinchinbrook I 82.00 24 IAmb IAmb 16 09 14.8
comp=Z,164nm,1.2s
DMN Daman 82.04 300 *e*P **P** **16 09 14.3 +0.5**
comp=Z,1µm,1.4s
CHUM Lake Minchumin 82.18 19 P **P** **16 09 13.4 +0.1**
baz=227
SML Sawmill 82.18 22 IAmb IAmb 16 09 16.2
comp=Z,423nm,1.5s
SML Sawmill 82.18 22 P **P** **16 09 13.5 0.0**
baz=231
GKN Gorkha 82.55 300 *e*P **P** **16 09 16.5 +0.2**
comp=Z,2µm,1.6s
KAIM Kayak Island 82.56 25 P **P** **16 09 14.9 -0.5**
KAIM IAmb IAmb 16 09 19.6
comp=Z,260nm,1.0s
TRF Thorofare Moun 82.56 20 P **P** **16 09 14.9 -0.7**
baz=229
WAT1 Susitna Watana 82.75 21 P **P** **16 09 16.7 +0.3**
baz=230
HMT Hamilton 82.86 24 IAmb IAmb 16 09 20.8
comp=Z,134nm,1.0s
WAT6 Susitna Watana 82.89 22 P **P** **16 09 17.4 +0.1**
baz=231
MDRS Chennai 82.95 285 *e*P **P** **16 09 19.6 +1.2**
M24K Tolsona, Glenn 83.17 22 P **P** **16 09 19.5 +0.9**
baz=233
I21K Tanana 83.18 18 P **P** **16 09 19.0 +0.5**
baz=227
MCK McKinley 83.20 20 P **P** **16 09 18.3 -0.4**
baz=230
H21K Melozitna Rive 83.25 18 P **P** **16 09 19.8 +0.8**
baz=226
KOLN Koldanda 83.37 300 *e*P **P** **16 09 20.3 -0.4**
comp=Z,666nm,0.8s
DANN Dangsing 83.39 300 *e*P **P** **16 09 20.3 -0.5**
comp=Z,1µm,1.3s
MAW Mawson 83.41 202 P **P** **16 09 19.6 -0.2**
comp=Z,30nm,1.1s,baz=60,slow=10,SNR=2.9
MLY Manley 83.46 19 P **P** **16 09 20.0 -0.1**
baz=228
N25K Chitina, Valde 83.47 23 P **P** **16 09 20.9 +0.6**
baz=234
WAX Waxell Ridge 83.50 25 IAmb IAmb 16 09 23.2
comp=Z,180nm,0.9s
GLB Gilahina Butte 83.68 24 IAmb IAmb 16 09 23.7
comp=Z,149nm,1.0s
TGL Tana Glacier 83.68 24 P **P** **16 09 22.4 +1.0**
TGL IAmb IAmb 16 09 24.8
comp=Z,146nm,1.1s
VRDI Verde Repeater 83.70 24 IAmb IAmb 16 09 24.3
comp=Z,95nm,1.0s
NEA2 Nenana 83.71 20 P **P** **16 09 20.7 -0.6**
baz=230
MESA MESA 83.72 25 IAmb IAmb 16 09 24.1
comp=Z,141nm,0.8s
MESA MESA 83.72 25 P **P** **16 09 22.6 +0.9**
baz=237
HARP HAARP 83.72 22 P **P** **16 09 22.2 +0.7**
baz=234
ISLE Juniper Island 83.80 25 P **P** **16 09 23.2 +1.2**
ISLE IAmb IAmb 16 09 24.8
comp=Z,121nm,0.8s
YAH Yahtse 83.91 25 IAmb IAmb 16 09 25.1
comp=Z,86nm,0.8s
PAX Paxson 83.95 22 P **P** **16 09 22.6 -0.1**
baz=233
MCARA McCarthy VSAT 83.96 24 IAmb IAmb 16 09 36.5
comp=Z,138nm,0.9s
MCARA McCarthy VSAT 83.96 24 P **P** **16 09 22.8 +0.1**
baz=236
PYUN Piuthan 83.98 300 *e*P **P** **16 09 23.5 -0.3**
comp=Z,887nm,0.9s
I23K Minto, Yukon-K 83.98 19 P **P** **16 09 22.8 +0.2**
baz=229
TABL Table Mountain 84.20 25 P **P** **16 09 24.6 +0.5**
TCOL CIGO, UAF Yank 84.29 20 P **P** **16 09 23.2 -1.0**
baz=231
COLA College 84.30 20 P **P** **16 09 24.4 +0.2**
COLA pmax pmax
COLA comp=Z,176nm,0.8s MLR MLR
comp=Z,9µm,20.0s
COLA College 84.30 20 P **P** **16 09 24.4 +0.2**
COLA College 84.30 20 P **P** **16 09 23.3 -0.9**
baz=231
PINM Pinnacle 84.39 26 P **P** **16 09 25.4 +0.5**
baz=238
TIXI Tiksi 84.47 350 P **P** **16 09 23.7 -1.3**
comp=Z,55nm,1.1s,baz=123,slow=6.1,SNR=8.0
TIXI Tiksi 84.47 350*d i*P **P** **16 09 25.2 +0.2**
LOGN Logan Glacier 84.47 25 IAmb IAmb 16 09 27.7
comp=Z,127nm,0.9s
M26K Nabesna, AK 84.55 23 P **P** **16 09 25.9 +0.2**
baz=236
IL31 84.55 20 IAmb IAmb 16 09 26.5
comp=Z,300nm,1.6s
ILAR Eielson Array 84.55 20 P **P** **16 09 24.5 -1.1**
comp=Z,34nm,0.7s,baz=255,slow=4.5,SNR=17
MENT Mentasta 84.58 22 P **P** **16 09 25.8 0.0**
MENT IAmb IAmb 16 09 48.3
comp=Z,95nm,1.2s
POKR Poker Plat Res 84.59 20 P **P** **16 09 24.7 -1.1**
baz=231
RIDG Independent Ri 84.64 21 P **P** **16 09 26.0 -0.1**
baz=234
L26K Log Cabin Wild 84.77 22 P **P** **16 09 26.7 0.0**
baz=235
H24K Noodor Dome 84.90 19 P **P** **16 09 28.2 +0.8**
baz=231
DIB Dawson Inlet, 84.92 34 IAmb IAmb 16 09 41.1
comp=Z,130nm,1.3s
M27K Edge Creek, AK 84.95 23 P **P** **16 09 29.0 +1.2**
baz=236
WMQ Urumqi 84.95 316 ⇓P **P** **16 09 29.3 +1.1**
WMQ pP pP 16 09 35.5 +0.7
WMQ sP pwP 16 09 40.1 +0.3
WMQ pmax pmax
comp=Z,120nm,1.9s
WMQ pmax pmax
comp=Z,2µm,4.5s
WMQ LR LR
comp=Z,7µm,14.9s
WMQ LR LR
comp=Z,9µm,16.3s
WMQ LR LR
comp=Z,6µm,16.7s
J25K Salcha River, 84.97 21 P **P** **16 09 27.9 +0.1**
baz=233
SCRK Sand Creek 85.08 21 P **P** **16 09 28.7 +0.2**
baz=234
COLD Coldfoot 85.09 17 P **P** **16 09 28.6 +0.3**
baz=228
SIT Sitka 85.14 30 P **P** **16 09 29.3 +0.6**
baz=243
TRD Trivandrum 85.19 280 *e*P **P** **16 09 32.2 +2.3**
TRD IAmb IAmb 16 09 34.2
comp=Z,99nm,1.5s
YUK3 Moose Creek 85.20 24 P **P** **16 09 29.8 +0.6**
baz=238
L27K Beaver Creek, 85.36 23 P **P** **16 09 30.7 +1.0**
baz=236
BVCY Beaver Creek 85.38 24 P **P** **16 09 30.7 +0.9**
baz=238
HYB Hyderabad 85.47 289 *e*P **P** **16 09 32.2 +1.0**
HYB IAmb IAmb 16 09 33.4
comp=Z,184nm,1.1s
CRAG Craig 85.54 32 P **P** **16 09 30.9 +0.2**
baz=245
J26L Joseph Creek 85.54 21 P **P** **16 09 31.4 +0.7**
baz=235
YUK6 Outpost Mounta 85.63 25 P **P** **16 09 32.2 +0.8**
baz=240
YUK4 Talbot Arm 85.72 25 P **P** **16 09 33.1 +1.4**
baz=240
KCPM Cahto Peak 85.92 49 IAmb IAmb 16 09 46.4
comp=Z,151nm,1.3s
JCC Jacoby Creek, 85.93 47 IAmb IAmb 16 09 47.3
comp=Z,231nm,1.5s
HYT Haines Junctio 85.94 26 P **P** **16 09 33.3 +0.6**
baz=241
KHMM Horse Mountain 86.16 47 IAmb IAmb 16 09 47.9
comp=Z,151nm,1.3s
TOLK Toolik Lake Re 86.21 16 P **P** **16 09 34.3 +0.5**
baz=229
KRMB Red Mountain 86.23 47 IAmb IAmb 16 09 48.8
comp=Z,235nm,1.6s
SKAG Skagway 86.24 27 P **P** **16 09 35.1 +1.1**
SKAG Skagway 86.24 27 P **P** **16 09 34.6 +0.5**
baz=243
A21K Barrow 86.36 13 P **P** **16 09 35.1 +0.7**
baz=222
EGAK Eagle 86.55 21 P **P** **16 09 36.5 +0.9**
baz=237
L02E Cave Junction 86.63 46 P **P** **16 09 37.6 +1.2**
baz=253
O02D Mt. Diablo Mer 86.65 48 P **P** **16 09 37.7 +1.0**
baz=254
J01E Myrtle Point 86.69 45 P **P** **16 09 37.5 +0.8**
baz=253
SAO San Andreas Ge 86.73 52 P **P** **16 09 37.6 +0.5**
SAO pmax pmax
comp=Z,76nm,1.3s
SAO MLR MLR
comp=Z,13µm,18.0s
SAO San Andreas Ge 86.73 52 P **P** **16 09 37.6 +0.5**
K02D Willamette Mer 86.74 46 P **P** **16 09 37.7 +0.6**
baz=253
DAWY Dawson 86.82 22 P **P** **16 09 37.9 +0.9**
baz=239
N02D Trinity Center 86.94 48 P **P** **16 09 39.0 +0.9**
baz=254
M02C Callahan 86.95 47 P **P** **16 09 39.2 +1.0**
baz=254
I02D Swisshome 87.03 44 P **P** **16 09 39.1 +0.8**
baz=253
DGZ Jazzator, Alta 87.08 322*ce*P **P** **16 09 38.5 -0.2**
DGZ pmax pmax
comp=Z,97nm,1.3s
DGZ MLR MLR
comp=Z,7µm,16.0s
YBH Yreka Blue Hor 87.15 47 IAmb IAmb 16 09 53.1
comp=Z,183nm,1.6s
DBO Dodson Butte 87.17 45 IAmb IAmb 16 09 53.0
comp=Z,127nm,1.5s
HUMO Hull Mountain 87.22 46 P **P** **16 09 39.5 +0.1**
I03D Drain, OR 87.26 45 P **P** **16 09 39.9 +0.4**
baz=253
PAGB Antelope Grade 87.40 53 IAmb IAmb 16 10 10.4
comp=Z,231nm,1.7s
O03E Paynes Creek 87.41 48 P **P** **16 09 40.5 +0.1**
baz=254
ORV Oroville 87.43 49 IAmb IAmb 16 09 53.9
comp=Z,114nm,1.6s
SMMC Simmler 87.50 54 P **P** **16 09 41.8 +0.9**
baz=256
SBC Santa Barbara 87.51 55 P **P** **16 09 41.6 +0.8**
baz=256
PKM Mcpherson Peak 87.54 54 P **P** **16 09 41.9 +0.6**
baz=256
L04D Klamath Falls 87.57 46 P **P** **16 09 41.6 +0.4**
baz=254
BHPL Bhopal 87.73 294 *e*P **P** **16 09 43.1 +0.8**
G03D McMinnville, O 87.76 43 P **P** **16 09 42.4 +0.6**
baz=253
M04C Macdoel 87.79 47 P **P** **16 09 42.4 +0.2**
baz=254
H04D Lebanon 87.92 44 P **P** **16 09 43.2 +0.6**
baz=254
I04A Tendick Farm, 87.94 45 P **P** **16 09 43.3 +0.5**
baz=254
MAYO Mayo, Yukon 87.94 24 P **P** **16 09 43.0 +0.7**

baz=242
E03A Lebam 87.95 42 lAmb lAmb 16 09 57.5
comp=Z,82nm,1.1s
ZSN Zaisan 87.98 319 *e*P **P** **16 09 42.3 -0.7**
baz=319
ZSN Zaisan 87.98 319 *e*P **P** **16 09 42.2 -0.7**
J04D Umpqua Nationa 87.99 46 P **P** **16 09 43.6 +0.3**
baz=254
K04D Chiloquin, OR 88.08 46 P **P** **16 09 44.0 +0.4**
baz=254
SCI2 San Clemente I 88.10 56 P **P** **16 09 43.8 0.0**
baz=256
F04D Rainier, OR 88.18 43 P **P** **16 09 44.3 +0.4**
baz=253
VOG Valley Oaks Go 88.23 53 P **P** **16 09 44.4 +0.1**
baz=256
DLBC Dease Lake 88.30 30 P **P** **16 09 43.6 -0.6**
DLBC lAmb lAmb 16 10 47.1
comp=Z,86nm,1.4s
CIS Catalina Islan 88.31 56 P **P** **16 09 44.8 0.0**
baz=257
H04A Detroit Lake 88.34 44 lAmb lAmb 16 09 55.7
comp=Z,245nm,2.1s
OSI Osito Audit: C 88.34 55 lAmb lAmb 16 09 57.6
comp=Z,206nm,1.6s
OSI Osito Audit: C 88.34 55 P **P** **16 09 45.4 +0.4**
baz=256
VES Vestal, Richgr 88.35 53 P **P** **16 09 44.8 0.0**
baz=256
FARO Faro, Yukon 88.36 25 P **P** **16 09 44.4 +0.1**
baz=244
BEKR Beckworth 88.36 49 lAmb lAmb 16 09 58.0
comp=Z,145nm,1.6s
ARVC Arvin 88.38 54 P **P** **16 09 45.5 +0.5**
baz=256
FMP Fort Macarthur 88.48 55 P **P** **16 09 45.6 +0.1**
baz=257
DECC Green Verdugo 88.57 55 P **P** **16 09 46.0 0.0**
baz=257
E04D Cinebar 88.61 42 P **P** **16 09 46.6 +0.8**
baz=254
J05D Fort Rock, OR 88.62 46 P **P** **16 09 46.8 +0.6**
baz=255
PGC Sidney 88.64 40 P **P** **16 09 45.3 -0.6**
D04E Lakebay 88.65 42 P **P** **16 09 47.2 +1.2**
baz=253
PASC Pasadena Art C 88.67 55 lAmb lAmb 16 09 59.3
comp=Z,164nm,1.6s
K05A Summer Lake 88.72 46 lAmb lAmb 16 10 16.8
comp=Z,177nm,1.4s
PNTR Pine Nut 88.74 50 lAmb lAmb 16 09 58.6
comp=Z,143nm,1.6s
VCNR Virginia City 88.75 50 P **P** **16 09 47.3 +0.3**
MDPB Devils Postpil 88.78 52 lAmb lAmb 16 10 00.1
comp=Z,147nm,1.5s
ISA Isabella, Lake 88.79 54 lAmb lAmb 16 10 00.0
comp=Z,105nm,1.5s
ISA Isabella, Lake 88.79 54 P **P** **16 09 47.5 +0.4**
baz=256
I05D Terrebonne, OR 88.83 45 P **P** **16 09 47.6 +0.6**
baz=254
MOD Modoc Plateau 88.92 47 lAmb lAmb 16 09 60.0
comp=Z,139nm,1.6s
MLAC Mammoth, Mammo 88.97 52 P **P** **16 09 48.5 +0.5**
baz=256
YERR Yerington 88.98 50 P **P** **16 09 48.4 +0.3**
YERR lAmb lAmb 16 09 50.3
comp=Z,117nm,1.6s
EDW2 Edwards Air Fo 88.99 54 P **P** **16 09 48.4 +0.4**
baz=257
PAHR Pah Rah Range 89.05 49 lAmb lAmb 16 09 50.6
comp=Z,103nm,1.3s
G05D Wamic, OR 89.09 44 P **P** **16 09 49.0 +0.8**
baz=254
BFSC Mount Baldy Ra 89.11 55 P **P** **16 09 48.8 +0.1**
baz=257
A04D Lummi Island 89.14 40 P **P** **16 09 48.7 +0.5**
baz=253
F05D White Salmon 89.16 43 P **P** **16 09 49.0 +0.5**
baz=254
D05A Enumclaw 89.17 42 lAmb lAmb 16 10 22.6
comp=Z,134nm,1.3s
109C Camp Elliot, M 89.26 57 lAmb lAmb 16 10 02.3
comp=Z,182nm,1.6s
109C Camp Elliot, M 89.26 57 P **P** **16 09 49.0 -0.2**
baz=257
CWC Cottonwood Cre 89.28 53 P **P** **16 09 49.9 +0.4**
baz=257
TIN Tinemaha, Big 89.30 52 P **P** **16 09 50.2 +0.7**
baz=257
MURC Murrieta 89.34 56 P **P** **16 09 49.7 +0.1**
baz=257
LHV Little Huntoon 89.37 51 lAmb lAmb 16 10 02.3
comp=Z,221nm,1.7s
LRMC Laurel Mtn Rad 89.37 54 P **P** **16 09 50.2 +0.3**
baz=257
B05A Bryant 89.40 41 P **P** **16 09 49.5 0.0**
baz=254
MMPY Sheldon Lake, 89.40 25 P **P** **16 09 49.5 +0.2**
baz=246
RYN Ryan 89.44 51 lAmb lAmb 16 10 02.5
comp=Z,164nm,1.6s
MKAR Makanchi Array 89.48 318 P **P** **16 09 50.3 +0.3**
comp=Z,39nm,0.8s,baz=92,slow=6.1,SNR=5.8
MKAR PKKPbc **PKKPbc** **16 27 24.9 -1.8**
comp=Z,5.4nm,1.2s,baz=273,slow=5.2,SNR=6.6
MKAR Makanchi Array 89.48 318 P **P** **16 09 49.9 -0.1**
NVAR Mina Array Bea 89.56 51 P **P** **16 09 50.4 -0.4**
comp=Z,37nm,1.0s,baz=239,slow=5.7,SNR=14
NVAR PKPPKP **P'P'df** **16 35 32.3 -1.2**
comp=Z,0.8nm,0.9s,baz=90,slow=5.4,SNR=3.7
BAR Barrett 89.57 57 lAmb lAmb 16 10 20.2
comp=Z,172nm,1.8s
SMLA Simla 89.61 302 *e*P **P** **16 09 51.2 +0.3**
MPMC Manual Prospec 89.66 53 P **P** **16 09 51.5 +0.2**
baz=257
NV11 Mina Array Sit 89.68 51 P **P** **16 09 51.7 +0.4**
NV11 lAmb lAmb 16 10 04.3
comp=Z,167nm,1.4s
BBRC Big Bear Solar 89.71 55 P **P** **16 09 51.7 +0.1**
baz=257
RRX Edison Barstow 89.79 55 P **P** **16 09 52.0 +0.3**
baz=257
MONP2 Monument Peak 89.82 57 P **P** **16 09 53.0 +0.9**
baz=258
PFO Pinyon Flats O 89.95 56 P **P** **16 09 52.4 -0.2**
PFO pmax pmax
comp=Z,91nm,1.6s
PFO MLR MLR
comp=Z,10µm,20.0s
PFO Pinyon Flats O 89.95 56 P **P** **16 09 52.4 -0.2**
PFO Pinyon Flats O 89.95 56 P **P** **16 09 52.9 +0.3**
baz=258
TPFO Pinon Flats 89.95 56 P **P** **16 09 52.9 +0.3**
baz=258
GRAC Grapevine Rang 89.96 52 P **P** **16 09 52.8 +0.3**
baz=257
ZALV Zalesovo Beam 89.98 325 P **P** **16 09 51.1 -1.0**
comp=Z,18nm,0.9s,baz=93,slow=3.0,SNR=4.3
ZALV PKKPbc **PKKPdf** **16 27 23.5 +1.7**
comp=Z,1.3nm,0.4s,baz=301,slow=2.7,SNR=7.8
ZALV P3KPbc 16 30 27.4
comp=Z,0.8nm,0.6s,baz=259,slow=3.0,SNR=3.5
ZALV Zalesovo Beam 89.98 325 *i* P **P** **16 09 52.0 -0.1**
ZALV pmax pmax
comp=Z,17nm,0.9s
IKP In-Ko-Pah, Jac 90.03 57 P **P** **16 09 53.4 +0.4**
baz=258
GSC Goldstone, Bar 90.03 54 P **P** **16 09 53.4 +0.5**
baz=258
RMX La Rumorosa 90.05 57 P **P** **16 09 53.6 +0.5**
RMX lAmb lAmb 16 10 06.5
comp=Z,122nm,1.5s
C06D Leavenworth 90.08 41 P **P** **16 09 52.8 +0.1**
baz=255
FURC Furnace Creek, 90.24 53 P **P** **16 09 54.1 +0.4**
baz=257
WVOR Wild Horse Val 90.26 47 P **P** **16 09 54.3 +0.5**
WVOR pmax pmax
comp=Z,241nm,1.4s
WVOR MLR MLR
comp=Z,9µm,20.0s
WVOR Wild Horse Val 90.26 47 P **P** **16 09 54.3 +0.5**
WVOR lAmb lAmb 16 10 07.3
comp=Z,241nm,1.4s
TGTN Hyland Airport 90.28 27 P **P** **16 09 54.8 +1.4**
baz=249
HEC Hector,Ludlow 90.31 55 P **P** **16 09 54.4 +0.2**
baz=258
SWSC Sam W. Stewart 90.35 57 P **P** **16 09 54.9 +0.6**
baz=258
BELC Belle Mtn. Jos 90.41 56 P **P** **16 09 55.1 +0.4**
baz=258
E07A Sunnyside 90.42 43 P **P** **16 09 53.7 -0.7**
SHLS Shalkode 90.51 314 *e*P **P** **16 09 52.9 -2.2**
baz=314
SHLS Shalkode 90.51 314 *e*P **P** **16 09 52.8 -2.2**
DHRM DHARAMSHALA 90.57 303 *ex* **P** **16 09 55.5 -0.1**
SHOC Shoshone, Teco 90.58 54 P **P** **16 09 55.7 +0.3**
baz=258
J08A Circle Bar Ran 90.59 46 lAmb lAmb 16 09 57.7
comp=Z,96nm,1.2s
TUQ Turquoise Moun 90.76 54 P **P** **16 09 56.8 +0.4**
baz=258
BC3 Big Chuckawall 90.78 56 P **P** **16 09 57.1 +0.6**
baz=258
TPNV Topopah Spring 90.82 53 P **P** **16 09 56.9 +0.3**
baz=258
BMN Battle Mountai 90.83 49 lAmb lAmb 16 10 09.9
comp=Z,124nm,1.3s
SYO Syowa Base 90.90 198‖ *e*P **P** **16 09 57.2 +1.0**
E08A Dider Farm, El 90.93 43 P **P** **16 09 56.9 +0.2**
E08A lAmb lAmb 16 09 59.0
comp=Z,96nm,1.2s
INK Inuvik 90.95 20 P **P** **16 09 56.6 +0.3**
baz=244
PRZ Przheval'sk 91.12 313 P **P** **16 09 57.0 -0.9**
PRZ pmax pmax
comp=Z,746nm,1.8s
PRZ Przheval'sk 91.12 313 P **P** **16 09 57.0 -0.9**
IRM Iron Mountain 91.13 56 P **P** **16 09 58.4 +0.4**
baz=258
KPKS Kokpek 91.14 314 *e*P **P** **16 09 56.5 -1.4**
baz=314
KPKS Kokpek 91.14 314 *e*P **P** **16 09 56.5 -1.4**
D08A Wollman Farm, 91.16 42 lAmb lAmb 16 09 59.8
comp=Z,70nm,1.2s
GLA Glamis 91.17 57 P **P** **16 09 58.8 +0.6**
GLA pmax pmax
comp=Z,87nm,1.3s
GLA Glamis 91.17 57 P **P** **16 09 58.8 +0.6**
GLA lAmb lAmb 16 10 11.8
comp=Z,87nm,1.3s
GLA Glamis 91.17 57 P **P** **16 09 58.8 +0.6**
baz=259
B08A Colville Reser 91.20 41 P **P** **16 09 57.4 -0.6**
SATY Saty 91.24 313 *e*P **P** **16 09 56.6 -1.8**
baz=313
SATY Saty 91.24 313 *e*P **P** **16 09 56.6 -1.8**
E09A Wood Farm, Sta 91.55 43 lAmb lAmb 16 10 02.3
comp=Z,87nm,1.1s
R11A Troy Canyon, C 91.63 51 P **P** **16 10 00.4 0.0**
baz=258
NEE2 Needles Airpor 91.68 55 P **P** **16 10 00.9 +0.4**
baz=259
SEM Semipalatinsk 91.72 321 *e*P **P** **16 09 58.7 -1.8**
baz=321
SEM Semipalatinsk 91.72 321 *e*P **P** **16 09 58.7 -1.8**
BMO Blue Mountains 91.75 45 P **P** **16 10 00.4 -0.3**
BMO pmax pmax
comp=Z,91nm,1.4s
BMO MLR MLR
comp=Z,8µm,22.0s
BMO Blue Mountains 91.75 45 P **P** **16 10 00.4 -0.3**
BMO lAmb lAmb 16 10 02.7
comp=Z,91nm,1.4s
PDMCI Parker Dam,Lak 91.97 56 P **P** **16 10 02.1 +0.3**
baz=259
113A Mohawk Valley, 91.99 57 lAmb lAmb 16 10 30.7
comp=Z,141nm,2.5s
F10A Beach Ranch, E 92.05 44 lAmb lAmb 16 10 03.9
comp=Z,102nm,1.1s
TNSS Tian-Shan 92.28 313 *e*P **P** **16 10 03.7 +0.1**
baz=313
KSH Kashi 92.29 310 P **P** **16 10 06.3 +3.0**
KSH pP sP 16 10 13.6 +1.2
KSH sP pwP 16 10 17.4 +2.5
KSH PP **PP** **16 13 51.1 +6.9**
KSH SS SS 16 27 18.9 +2.6
KSH pmax pmax
comp=Z,95nm,1.1s
KSH LR LR
comp=Z,4µm,17.1s
KSH LR LR
comp=Z,7µm,16.1s
KSH LR LR
comp=Z,10µm,18.2s
W13A Hualapai Mount 92.33 55 P **P** **16 10 04.0 +0.3**
W13A lAmb lAmb 16 10 17.0
comp=Z,100nm,1.7s
AAA Alma-Ata 92.34 313 *e*P **P** **16 10 02.6 -0.8**
baz=313
AAA Alma-Ata 92.34 313 *e*P **P** **16 10 02.6 -0.8**
ELK Elko 92.38 49 lAmb lAmb 16 10 17.1
comp=Z,82nm,1.4s
MFID Camas Ranch 92.48 46 lAmb lAmb 16 10 06.5
comp=Z,69nm,1.2s
NEW Newport 92.62 42 P **P** **16 10 04.5 0.0**
214A Organ Pipe Nat 92.63 58 lAmb lAmb 16 10 23.8
comp=Z,150nm,2.1s
214A Organ Pipe Nat 92.63 58 P **P** **16 10 05.6 +0.7**
baz=260
MTBS Maitube 92.67 313 *e*P **P** **16 10 04.1 -0.9**
baz=313
PLID Pearl Lake 92.70 45 P **P** **16 10 05.4 +0.1**
PLID lAmb lAmb 16 10 17.7
comp=Z,63nm,1.1s
KURK Kurchatov 92.80 321 P **P** **16 10 04.8 -0.5**
KURK Kurchatov 92.80 321 P **P** **16 10 04.8 -0.5**
KURBB Kurchatov Arra 92.84 321 P **P** **16 10 04.8 -0.7**
comp=Z,29nm,1.0s,baz=110,slow=3.3,SNR=6.6
KURBB PKiKP **PKiKP** **16 14 52.8 -0.5**
comp=Z,2.0nm,0.7s,baz=116,slow=1.3,SNR=8.0
KUU Kurty 92.89 314 *e*P **P** **16 10 04.0 -1.9**
baz=314
KUU Kurty 92.89 314 *e*P **P** **16 10 03.9 -1.9**
PSUT Pine Spring 93.00 52 lAmb lAmb 16 10 20.8
comp=Z,114nm,1.7s
LCMT Little Creek M 93.20 53 lAmb lAmb 16 10 21.0
comp=Z,74nm,1.5s
NIL Nilore 93.35 303 P **P** **16 10 08.5 +0.2**
NIL pmax pmax
comp=Z,83nm,1.0s
NIL Nilore 93.35 303 P **P** **16 10 08.5 +0.2**
NIL lAmb lAmb 16 10 10.0
comp=Z,83nm,1.0s
SZCU Shurtz Canyon 93.42 53 lAmb lAmb 16 10 22.3
comp=Z,88nm,1.5s
HLID Hailey 93.52 47 P **P** **16 10 09.7 +0.7**
baz=259
KNB Kanab 93.53 53 lAmb lAmb 16 10 22.9
comp=Z,130nm,1.5s
HSIG 93.70 61 P **P** **16 10 10.2 +0.3**
HSIG lAmb lAmb 16 10 23.7
comp=Z,122nm,1.9s
SLBS Sierra La Lagu 93.70 67 P **P** **16 10 10.6 +0.5**
SLBS lAmb lAmb 16 10 23.3
comp=Z,94nm,1.6s
U15A North Rim 93.85 54 lAmb lAmb 16 10 24.4
comp=Z,94nm,1.7s
PKCU Pink Cliffs 94.00 53 lAmb lAmb 16 10 26.0
comp=Z,101nm,1.4s
DUG Dugway, Tooele 94.09 50 P **P** **16 10 12.0 +0.3**
baz=260
TUC Tucson 94.39 58 P **P** **16 10 13.0 -0.1**
TUC pmax pmax
comp=Z,34nm,1.8s
TUC MLR MLR
comp=Z,11µm,20.0s
TUC Tucson 94.39 58 P **P** **16 10 13.0 -0.1**
TUC Tucson 94.39 58 P **P** **16 10 13.7 +0.6**
baz=261
HVU Hansel Valley 94.39 48 lAmb lAmb 16 10 28.1
comp=Z,136nm,1.5s
WUAZ Wupatki 94.43 55 P **P** **16 10 13.8 +0.5**
baz=261
MSO Missoula 94.45 43 P **P** **16 10 12.2 -0.9**
MSO Missoula 94.45 43 P **P** **16 10 12.8 -0.3**
baz=260
BTLS Baital 94.71 315 *e*P **P** **16 10 12.9 -1.4**
baz=315
BTLS Baital 94.71 315 *e*P **P** **16 10 12.8 -1.4**
BHUJ Bhuj 94.75 293 *e*P **P** **16 10 16.6 +1.7**
A36M Sachs Harbour 94.96 17 P **P** **16 10 14.8 +0.1**
baz=252
DLMT Dillon 95.12 45 P **P** **16 10 15.9 -0.3**
DLMT lAmb lAmb 16 10 29.4
comp=Z,106nm,1.6s
W18A Petrified Fore 95.69 55 P **P** **16 10 19.5 +0.3**
baz=262
BOZ Bozeman (W) 95.83 45 P **P** **16 10 19.8 +0.3**
baz=261
EDM Edmonton 95.91 37 P **P** **16 10 18.1 -1.4**
EDM pmax pmax
comp=Z,99nm,1.5s
EDM Edmonton 95.91 37 P **P** **16 10 18.1 -1.4**
EDM lAmb lAmb 16 10 20.4
comp=Z,99nm,1.5s
IMW Indian Meadow 96.06 47 P **P** **16 10 21.1 +0.3**
MOOW Moose Ponds 96.18 47 P **P** **16 10 21.3 +0.1**
YNR Norris Junctio 96.36 46 P **P** **16 10 23.0 +0.9**
H17A Grant Village 96.39 46 P **P** **16 10 23.3 +1.0**
baz=262
YKA Yellowknife Ar 96.74 28 P **P** **16 10 22.1 -0.9**
comp=Z,14nm,0.9s,baz=254,slow=3.6,SNR=11
PV21 Cone Mtn., Par 96.78 52 P **P** **16 10 24.4 +0.3**
BW06 Boulder Array 96.90 48 P **P** **16 10 24.1 -0.5**
baz=262
PDAR Pinedale Array 96.90 48 P **P** **16 10 23.6 -0.9**
comp=Z,9.8nm,1.0s,baz=252,slow=2.7,SNR=4.6
PDAR PKPPKP 16 35 20.7
comp=Z,0.8nm,0.9s,baz=110,slow=5.2,SNR=5.9
121A Cookes Peak, D 96.93 58 P **P** **16 10 25.1 +0.2**
baz=262
MVCO Mesa Verde 96.97 54 P **P** **16 10 25.1 +0.1**
baz=262
RLMT Red Lodge 97.41 46 P Pdif 16 10 27.1 +0.3
baz=263
SNAA Sanae 97.42 185 Pdiff Pdif 16 10 28.2 +2.0
SNAA Sanae 97.42 185 P Pdif 16 10 27.1 +0.9
comp=Z,5.2nm,0.8s,baz=153,slow=3.1,SNR=4.0
EGMT Eagleton 97.44 43 P Pdif 16 10 26.8 +0.1
baz=263
BNM Barren Site 98.10 57 P **P** **16 10 29.3 -0.9**
BVAR Borovoye Array 98.21 322 P **P** **16 10 29.2 -0.7**
comp=Z,10nm,0.8s,baz=99,slow=8.9,SNR=2.9
BVAR PKKPbc **PKKPbc** **16 27 02.5 -1.4**
comp=Z,0.4nm,0.4s,baz=294,slow=1.4,SNR=4.2
ANMO Albuquerque 98.33 56‖ *e*P Pdif 16 10 31.1 -0.1
ANMO pmax pmax
comp=Z,8.0nm,1.1s
ANMO Albuquerque 98.33 56 P **P** **16 10 31.1 -0.1**
baz=263
VNA3 Neumayer Olymp 98.34 183 Pdiff **P** **16 10 29.8 -0.4**
S22A 4UR Ranch, Cre 98.36 53 P Pdif 16 10 31.3 -0.1
baz=264
VNA2 Neumayer--Watz 98.51 184 Pdiff **P** **16 10 29.5 -1.5**
VNA1 Neumayer--Stat 98.84 184 Pdiff **P** **16 10 29.5 -2.9**
MNTX Cornudas Mount 98.85 59 P **P** **16 10 33.0 -0.2**
baz=263
K22A Casper 99.11 48 P **Pdif** **16 10 34.1 -0.3**
baz=264
N23A Red Feather La 99.37 50 P **Pdif** **16 10 36.1 +0.3**
baz=265
SDCO Great Sand Dun 99.40 53 P **Pdif** **16 10 35.8 -0.2**
baz=264
ISCO Idaho Springs 99.52 51 P **Pdif** **16 10 36.7 +0.3**
baz=265
LAO LASA Array 99.69 44 lAmb lAmb 16 10 50.7
comp=Z,101nm,1.4s
LAO LASA Array 99.69 44 P **Pdif** **16 10 37.6 +0.8**
baz=265
Q24A Divide 99.80 52 P **Pdif** **16 10 38.1 +0.4**
baz=265
TXAR Lajitas Array 100.06 62 PKKPbc PKKPbc 16 26 59.8 +1.9
comp=Z,2.6nm,1.0s,baz=134,slow=5.2,SNR=3.6
RSSD Black Hills 101.04 47 P **Pdif** **16 10 43.2 +0.2**
baz=266
DGMT Dagmar 101.18 42 P **Pdif** **16 10 43.2 0.0**
baz=267
MSTX Muleshoe 101.26 57 P **Pdif** **16 10 44.2 +0.1**
baz=265
KSCO Kaye Shedlock' 101.76 52 P **Pdif** **16 10 46.4 +0.2**
baz=266
OGNE Ogallala 102.33 50 P **Pdif** **16 10 48.5 -0.2**
baz=267
SUSD Miller 104.69 47 P **Pdif** **16 10 58.8 -0.2**
baz=270
BELG Belogornoye 112.02 322 ⇑ *i* PKIKP **PKiKP** **16 15 28.8 +0.9**
APA Apatity 113.09 341 ⇓ *i* PKIKP **PKiKP** **16 15 28.4 -1.2**
APA pmax pmax
comp=Z,8.0nm,1.0s
APA MLR MLR
comp=Z,9µm,21.0s
MAK Makhachkala 113.76 312 *e*P **Pdif** **16 11 35.3 -4.0**
MAK *i* 16 15 29.9
MAK *e* 16 16 22.7
MAK pmax pmax
comp=Z,251nm,1.0s
ARA0 ARCESS Array S 114.29 344 *e*PKPdf PKPdf 16 15 31.3 -0.6
ARCES ARCESS Array B 114.29 344 PKP PKPdf 16 15 31.1 -0.8
comp=Z,8.3nm,0.6s,baz=86,slow=2.0,SNR=19
ARCES ARCESS Array B 114.29 344 *i* PKIKP PKPdf 16 15 31.4 -0.5
ARCES ARCESS Array B 114.29 344 PKPdf 16 15 31.4 -0.5
JETT Jettan, Norway 115.59 346 *e*PKPdf **PKiKP** **16 15 33.7 -0.7**
ONI Oni 116.76 313 PKIKP **PKiKP** **16 15 38.0 +0.5**
ONI Oni 116.76 313 **PKiKP** **16 15 38.0 +0.5**
TKL Tuckaleechee C 116.85 55 PKP **PKPdf** **16 15 36.8 -1.0**
comp=Z,12nm,0.7s,baz=164,slow=6.9,SNR=5.6
KBZ Khabaz 116.93 314 PKP **PKPdf** **16 15 37.1 -0.5**
comp=Z,4.6nm,0.8s,baz=136,slow=4.3,SNR=4.2
KBZ Khabaz 116.93 314 ⇑ *i* PKIKP **PKiKP** **16 15 38.2 +0.6**
KBZ MLR MLR
comp=Z,3µm,19.0s
AKH Akhalkalaki 116.95 311 ⇑P **PKiKP** **16 15 39.8 +1.7**
KIV Kislovodsk 117.03 314 *e*PKIKP **PKiKP** **16 15 38.4 +0.4**
KIV pmax pmax
comp=Z,15nm,1.0s
NEY Neytrino 117.16 313 ⇑ *i* PKIKP **PKiKP** **16 15 40.0 +1.6**
NEY MLR MLR
comp=Z,2µm,18.0s
OBN Obninsk 117.46 327 *de*PKIKP **PKPdf** **16 15 38.0 -0.3**
OBN *e* 16 16 57.3
OBN pmax pmax
comp=Z,9.0nm,1.2s
OBN MLR MLR
comp=Z,3µm,18.0s
STEI Steigen 118.06 346 *e*PKPdf **PKPdf** **16 15 38.5 -0.6**
LOF Lofoten 118.30 347 *e*PKPdf **PKPdf** **16 15 39.5 -0.1**
LOF IVMs_BB IVMs_BB 16 59 16.1
comp=Z,3µm,18.8s
BCA Borcka 118.32 312 ⇑P **PKPdf** **16 15 40.5 0.0**
FAUS Fauske 118.48 345 *e*PKPdf **PKPdf** **16 15 39.1 -0.9**
SADO Sadowa 118.66 44 PKP **PKPdf** **16 15 39.6 -1.4**
comp=Z,19nm,0.8s,baz=316,slow=3.0,SNR=6.7
FINES FINESS Array B 119.15 337 PKP **PKPdf** **16 15 40.2 -1.2**
comp=Z,10nm,0.7s,baz=112,slow=3.3,SNR=19
NBB15 Halsa Church 119.40 346 *e*PKPdf **PKiKP** **16 15 42.0 +0.3**
KONS Konsvik 119.70 346 *e*PKPdf **PKiKP** **16 15 42.1 -0.2**
ANN Anapa 120.47 316 *i* PKIKP **PKPdf** **16 15 43.4 -1.0**
ANN pmax pmax
comp=Z,21nm,0.7s
MEF Metsahovi 120.55 336 *e*P **PKiKP** **16 15 44.3 +0.1**
VSU Vasula 120.61 334 *e*P **PKiKP** **16 15 45.1 +0.7**
VSU Vasula 120.61 334 *d* *i* PKIKP **PKPdf** **16 15 44.2 -0.1**
VSU MLR MLR
comp=Z,14µm,19.0s
RAF Rauma 121.04 338 *e*P **PKiKP** **16 15 45.1 -0.1**
NSS Namsos 121.56 345 *e*PKPdf **PKPdf** **16 15 45.7 -0.2**
MTSE Matsula 121.70 335 *e*P **PKiKP** **16 15 46.7 +0.2**
BOSA Boshof 121.95 227 PKP **PKPdf** **16 15 48.0 0.0**
comp=Z,16nm,0.7s,baz=117,slow=1.6,SNR=25
BOSA Boshof 121.95 227 PKIKP **PKPdf** **16 15 48.0 0.0**
BOSA Boshof 121.95 227 PKPdf **PKPdf** **16 15 46.8 -1.2**
SCHQ Schefferville 122.10 30 PKP **PKPdf** **16 15 46.3 -1.0**
comp=Z,8.7nm,0.9s,baz=36,slow=8.7,SNR=3.6
MNK Minsk 122.22 329 *i* PKIKP **PKPdf** **16 15 46.0 -1.5**
MNK *i* 16 17 21.2
MNK *i* 16 22 54.4
MNK *i* PS PKKPdf 16 27 15.5 +54
MNK *i* SS SS 16 33 57.5 -2.8
MNK *i* SSS SSS 16 38 27.5
MNK pmax pmax
comp=E,6.0nm,1.1s
MNK pmax pmax
comp=N,65nm,1.4s
MNK pmax pmax
comp=Z,22nm,0.8s

MNK					MLR	MLR		
	comp=E,433nm,17.0s							
MNK					MLR	MLR		
	comp=N,3µm,14.0s							
MNK					MLR	MLR		
	comp=Z,7µm,18.0s							
MNK	**Minsk**	**122.22**	**329**	*i* PKP	**PKPdf**	**16 15 46.0**	**-1.5**	
	comp=E,6.0nm,1.1s							
MNK				*i* PKP	**PKPdf**	**16 15 46.0**	**-1.5**	
	comp=N,65nm,1.4s							
MNK				*i* PKP	**PKPdf**	**16 15 46.0**	**-1.5**	
	comp=Z,22nm,0.8s,baz=59							
MNK				*i* PP	**PP**	**16 17 21.2**	**-1.4**	
MNK				*i* SKP		16 19 18.7		
MNK				*i* PKS	**PKSdf**	**16 19 21.4**	**-2.5**	
MNK				*i* PPP	PPP	16 19 53.2		
MNK				*i* SKS	**SKSdf**	**16 22 54.5**	**-3.5**	
MNK				*i* PS	**PS**	**16 27 15.6**	**-1.9**	
MNK				*i* SKKS	**SKKSdf**	**16 33 30.8**	**-2.4**	
MNK				*i* SS	**SS**	**16 33 57.5**	**-2.8**	
MNK				*i* SSS	SSS	16 38 27.5		
MNK				*i* LQ	LQ	17 01 49.0		
MNK				*i* LR	LR	17 04 56.0		
MNK				*i* LRM	MLR	17 07 47.8		
	comp=E,433nm,17.2s							
MNK				*i* LRM	MLR	17 07 51.6		
	comp=N,3µm,14.0s							
MNK				*i* LRM	MLR	17 07 59.2		
	comp=Z,7µm,18.4s							
AAL	**Aland**	**122.26**	**338**	*e*P	**PKPdf**	**16 15 47.4**	**+0.1**	
KMBO	**Kilima Mbogo**	**122.38**	**262**	PKP	**PKiKP**	**16 15 50.1**	**+0.5**	
	comp=Z,3.9nm,0.8s,baz=67,slow=3.1,SNR=5.8							
KMBO	**Kilima Mbogo**	**122.38**	**262**		**PKPdf**	**16 15 48.3**	**-1.1**	
ISAL	**Salakas**	**122.50**	**331**	*e*P	**PKiKP**	**16 15 49.4**	**+1.2**	
NACGM	**Naroch**	**122.55**	**330**	*i* PKP	**PKiKP**	**16 15 48.6**	**+0.3**	
IIGN	**Ignalina**	**122.58**	**331**	*e*P	**PKiKP**	**16 15 49.4**	**+1.0**	
SUR	**Sutherland**	**122.66**	**221**	PKP	**PKPdf**	**16 15 48.9**	**-0.5**	
	comp=Z,8.4nm,0.7s,baz=108,slow=17,SNR=3.0							
DIKM	**Dikmen**	**122.90**	**313**	⇑P	**PKiKP**	**16 15 49.4**	**0.0**	
TRY	**Troy**	**123.04**	**45**		**PKiKP**	**16 15 49.8**	**+0.1**	
UPP	**Uppsala**	**123.34**	**339**	*e*P	**PKPdf**	**16 15 48.9**	**-0.5**	
AKASG	**Malin Array Be**	**123.37**	**325**	PKP	**PKPdf**	**16 15 49.1**	**-0.7**	
	comp=Z,24nm,0.6s,baz=53,slow=2.1,SNR=38							
AKASG				PP	**PP**	**16 17 31.6**	**+1.1**	
	comp=Z,10.0nm,1.2s,baz=53,slow=6.6,SNR=5.6							
AKBB	**Malin Array Si**	**123.37**	**325**	*d* PKiKP	**PKPdf**	**16 15 49.7**	**-0.1**	
PABE	**Paberze**	**123.55**	**332**	*e*P	**PKiKP**	**16 15 51.0**	**+0.8**	
PABE	**Paberze**	**123.55**	**332**		**PKPdf**	**16 15 49.6**	**-0.4**	
BZK	**Bozkurt**	**123.70**	**314**	⇑P	**PKiKP**	**16 15 52.0**	**+1.0**	
LBTB	**Lobatse**	**123.71**	**231**	PKP	**PKiKP**	**16 15 52.3**	**+0.6**	
	comp=Z,14nm,0.7s,baz=112,slow=2.4							
LBTB	**Lobatse**	**123.71**	**231**	PKPdf	**PKPdf**	**16 15 51.5**	**+0.1**	
PBUR	**Paburge**	**124.16**	**333**	*e*P	**PKiKP**	**16 15 51.8**	**+0.3**	
UCCT	**U. Connecticut**	**124.35**	**46**		**PKPdf**	**16 15 51.5**	**-0.5**	
NC204	**NORSAR Array S**	**124.50**	**343**	*e*PKPdf	**PKiKP**	**16 15 52.1**	**0.0**	
NB201	**NORSAR Array S**	**124.53**	**342**	*e*PKPdf	**PKPdf**	**16 15 51.9**	**+0.1**	
NB2	**NORSAR Subarra**	**124.56**	**342**	PKPdf	**PKPdf**	**16 15 51.7**	**-0.2**	
	comp=Z,24nm,0.8s,baz=37,slow=1.9							
NB2	**NORSAR Subarra**	**124.56**	**342**	PKPdf	**PKPdf**	**16 15 51.7**	**-0.2**	
	baz=37,slow=1.9							
NOA	**NORSAR Array B**	**124.56**	**342**	PKP	**PKPdf**	**16 15 50.6**	**-1.3**	
	comp=Z,14nm,0.7s,baz=38,slow=1.8,SNR=44							
BR131	**Keskin Array S**	**124.64**	**311**	*d* iPKiKP	**PKPdf**	**16 15 52.8**	**0.0**	
BRTR	**Keskin Array B**	**124.64**	**311**	PKP	**PKPdf**	**16 15 51.6**	**-1.2**	
	comp=Z,5.3nm,0.6s,baz=124,slow=2.7,SNR=18							
BRTR				SKKS		16 33 25.6		
	comp=Z,1.5nm,1.0s,baz=230,slow=5.1,SNR=4.1							
NBO00	**NORSAR Array S**	**124.70**	**343**	*e*PKPdf	**PKPdf**	**16 15 51.2**	**-0.9**	
NC602	**NORSAR Array S**	**124.70**	**342**	*e*SKSac	**SKSac**	**16 22 54.6**	**+0.7**	
SUW	**Suwalki**	**124.79**	**331**	*e*P	**PKiKP**	**16 15 53.9**	**+1.1**	
NAO01	**NORSAR Array S**	**124.81**	**342**	*e*PKPdf	**PKiKP**	**16 15 52.6**	**-0.1**	
NAO01	**NORSAR Array S**	**124.81**	**342**		**PKPdf**	**16 15 51.6**	**-0.7**	
SORM	**Soroca**	**125.06**	**323**	⇑P	**PKPdf**	**16 15 53.0**	**-0.2**	
SORM	**Soroca**	**125.06**	**323**	⇑PKiKP	**PKPdf**	**16 15 53.0**	**-0.2**	
LPAZ	**La Paz**	**125.12**	**118**	PKP	**PKPdf**	**16 15 54.4**	**-0.6**	
	comp=Z,33nm,1.0s,baz=23,slow=2.2,SNR=2.6							
ANTO	**Ankara**	**125.22**	**312**	PKiKP	**PKPdf**	**16 15 53.7**	**-0.1**	
ANTO	**Ankara**	**125.22**	**312**		**PKPdf**	**16 15 53.7**	**-0.1**	
MILM	**Milestii Mici**	**125.32**	**321**	⇑P	**PKPdf**	**16 15 53.7**	**0.0**	
SKAR	**Skarslia**	**125.69**	**344**	*e*PKPdf	**PKiKP**	**16 15 54.8**	**+0.4**	
NRS	**Narsarsuaq**	**125.81**	**15**	PKiKP	**PKPdf**	**16 15 53.5**	**-0.7**	
NRS	**Narsarsuaq**	**125.81**	**15**		**PKPdf**	**16 15 53.5**	**-0.7**	
TLCR		**126.05**	**319**	⇑P	**PKiKP**	**16 15 56.1**	**+0.6**	
TLCR		**126.05**	**319**	⇑PKiKP	**PKiKP**	**16 15 56.1**	**+0.6**	
VLDR	**Vladesti**	**126.24**	**320**	⇑P	**PKiKP**	**16 15 56.1**	**+0.2**	
LSZ	**Lusaka**	**126.32**	**242**	PKiKP	**PKiKP**	**16 15 57.8**	**+0.7**	
LSZ	**Lusaka**	**126.32**	**242**	PKPdf	**PKiKP**	**16 15 57.8**	**+0.7**	
SCTR	**Scanteiesti**	**126.37**	**320**	⇑P	**PKiKP**	**16 15 57.5**	**+1.3**	
TPGR	**Topolog**	**126.44**	**319**	⇑P	**PKPdf**	**16 15 56.0**	**+0.1**	
CFR	**Carcaliu**	**126.49**	**319**	⇑P	**PKiKP**	**16 15 57.3**	**+0.9**	
CFR	**Carcaliu**	**126.49**	**319**	⇑PKiKP	**PKiKP**	**16 15 57.3**	**+0.9**	
SLCR	**Slobozia Conac**	**126.55**	**320**	⇑P	**PKiKP**	**16 15 57.3**	**+0.7**	
TIRR	**Tirgusor**	**126.61**	**319**	⇑P	**PKiKP**	**16 15 57.4**	**+0.7**	
LVV	**L'vov**	**126.70**	**326**	*e*PKiKP	**PKiKP**	**16 15 56.8**	**+0.1**	
TLBR	**Topalu**	**126.81**	**319**	⇑P	**PKiKP**	**16 15 58.1**	**+1.0**	
HARR	**Harsova**	**126.83**	**319**	⇑P	**PKiKP**	**16 15 58.1**	**+1.0**	
HARR	**Harsova**	**126.83**	**319**	⇑PKiKP	**PKiKP**	**16 15 58.1**	**+1.0**	
TESR	**Tescani**	**126.83**	**322**	⇓P	**PKiKP**	**16 15 56.9**	**-0.2**	
BIZ	**Bicaz**	**126.96**	**322**	⇑P	**PKiKP**	**16 15 58.1**	**+0.7**	
VRI	**Vrincioaia**	**127.08**	**321**	⇑P	**PKiKP**	**16 15 57.4**	**-0.2**	
VRI	**Vrincioaia**	**127.08**	**321**	⇑PKiKP	**PKiKP**	**16 15 57.4**	**-0.2**	
ICOR	**Ion Corvin**	**127.16**	**318**	⇑P	**PKiKP**	**16 15 59.0**	**+1.2**	
BURAR	**Bucovina Array**	**127.16**	**323**	⇑P	**PKiKP**	**16 15 59.9**	**+2.0**	
BURAR	**Bucovina Array**	**127.16**	**323**	⇑PKiKP	**PKiKP**	**16 15 59.9**	**+2.0**	
KWP	**Kalwaria Pacla**	**127.52**	**327**	*e*PKP	**PKPdf**	**16 15 56.6**	**-1.3**	
MLR	**Muntele Rosu**	**127.74**	**321**	⇑P	**PKiKP**	**16 15 59.7**	**+0.6**	
MLR	**Muntele Rosu**	**127.74**	**321**	⇑PKiKP	**PKiKP**	**16 15 59.7**	**+0.6**	
MLR	**Muntele Rosu**	**127.74**	**321**	PKPdf	**PKPdf**	**16 15 58.0**	**-0.6**	
DOPR	**Dopca**	**127.86**	**321**	⇑P	**PKiKP**	**16 16 00.5**	**+1.3**	
SECR		**127.87**	**320**	⇑P	**PKiKP**	**16 15 59.3**	**+0.1**	
KOLS	**Kolonicke sedl**	**128.15**	**326**	*e*PKiKP	**PKiKP**	**16 16 00.8**	**+1.1**	
KOLS	**Kolonicke sedl**	**128.15**	**326**	*e*PKP	**PKiKP**	**16 16 00.8**	**+1.1**	
UZH	**Uzhgorod**	**128.30**	**326**	*e*PKiKP	**PKiKP**	**16 16 01.2**	**+1.3**	
VOIR		**128.32**	**321**	⇑P	**PKiKP**	**16 16 00.8**	**+0.6**	
VOIR		**128.32**	**321**	⇑PKiKP	**PKiKP**	**16 16 00.8**	**+0.6**	
TRPA	**Tarpa**	**128.44**	**325**	⇑P	**PKiKP**	**16 16 00.6**	**+0.3**	
CRVS	**Cervenica-Dubn**	**128.61**	**326**	*e*PKiKP	**PKiKP**	**16 16 01.5**	**+0.9**	
CRVS	**Cervenica-Dubn**	**128.61**	**326**	*e*PKP	**PKiKP**	**16 16 01.5**	**+0.9**	
ARR	**Arges**	**128.61**	**321**	⇑P	PKPpre	16 15 48.8		
OJC	**Ojcow**	**128.72**	**329**	*e*PKP	**PKPdf**	**16 16 00.0**	**-0.1**	
OJC				*e*PP	**PP**	**16 18 07.1**	**+1.2**	
HUMR	**Humele**	**128.79**	**320**	⇑P	**PKiKP**	**16 16 01.1**	**+0.1**	
MBAR	**Mbarara**	**128.84**	**261**	PKiKP	**PKiKP**	**16 16 03.0**	**+0.7**	
MBAR	**Mbarara**	**128.84**	**261**		**PKiKP**	**16 16 03.0**	**+0.7**	
NIE	**Niedzica**	**128.94**	**327**	*e*PKP	**PKiKP**	**16 16 01.9**	**+0.7**	
HAL	**Halifax**	**129.02**	**40**	PKiKP	**PKiKP**	**16 16 01.2**	**-0.3**	
HAL	**Halifax**	**129.02**	**40**		**PKiKP**	**16 16 01.2**	**-0.3**	
LOT	**Lotru**	**129.10**	**322**	⇓P	**PKPdf**	**16 16 01.4**	**+0.3**	
LNIZ	**Loecknitz**	**129.18**	**335**	*e*PKPdf	**PKiKP**	**16 16 02.5**	**+0.9**	
	baz=42,slow=1.9							
LNIZ				*ep*PKPdf	**sPKPdf**	**16 16 10.0**	**0.0**	
	baz=42,slow=2.0							
LANS	**Liptovska Anna**	**129.53**	**328**	*e*PKiKP	**PKiKP**	**16 16 03.3**	**+0.8**	
LANS	**Liptovska Anna**	**129.53**	**328**	*e*PKP	**PKiKP**	**16 16 03.3**	**+0.8**	
SDV	**Santo Domingo**	**129.63**	**87**	PKP	**PKPdf**	**16 16 02.1**	**-1.0**	
	comp=Z,77nm,0.9s,baz=272,slow=4.6							
GZR	**Gura Zlata**	**129.73**	**322**	⇑P	**PKiKP**	**16 16 02.7**	**-0.3**	
GZR	**Gura Zlata**	**129.73**	**322**	⇑PKiKP	**PKiKP**	**16 16 02.7**	**-0.3**	
SIRR	**Siria**	**129.94**	**323**	⇓P	**PKiKP**	**16 16 03.1**	**-0.3**	
PSZ	**Piszkesteto**	**130.03**	**326**	⇑P	**PKiKP**	**16 16 03.8**	**+0.2**	
PSZ	**Piszkesteto**	**130.03**	**326**	⇑PKiKP	**PKiKP**	**16 16 03.8**	**+0.2**	
KSP	**Ksiaz**	**130.06**	**331**	*e*PKP	**PKPdf**	**16 16 02.5**	**-0.2**	
RUE	**Ruedersdorf**	**130.09**	**334**	*e*PKPdf	**PKiKP**	**16 16 03.8**	**+0.4**	
	baz=42,slow=1.9							
RUE				*ep*PKPdf	**sPKPdf**	**16 16 11.5**	**-0.2**	
	baz=42,slow=2.0							
MORC	**Moravsky Berou**	**130.14**	**329**	⇑P	PKPpre	16 15 57.8		
MORC	**Moravsky Berou**	**130.14**	**329**	PKiKP	**PKPdf**	**16 16 02.2**	**-0.7**	
MORC	**Moravsky Berou**	**130.14**	**329**	PKPdf	**PKPdf**	**16 16 02.2**	**-0.7**	
MORC	**Moravsky Berou**	**130.14**	**329**	*e*PKP	**PKiKP**	**16 16 03.9**	**+0.2**	
MORC				*e*		16 16 10.5		
MORC				*e*PP	**PP**	**16 18 14.7**	**-0.6**	
HERR	**Herculane**	**130.21**	**322**	⇓P	**PKPdf**	**16 16 03.1**	**0.0**	
VYHS	**Vyhne**	**130.26**	**327**	*e*PKiKP	**PKiKP**	**16 16 03.7**	**-0.2**	
VYHS	**Vyhne**	**130.26**	**327**	*e*PKP	**PKiKP**	**16 16 03.7**	**-0.2**	
OSTC	**Ostas**	**130.29**	**331**	*e*PKPDF	**PKiKP**	**16 16 04.2**	**+0.3**	
BZS	**Buzias**	**130.31**	**323**	⇑P	**PKiKP**	**16 16 04.3**	**+0.2**	
BZS	**Buzias**	**130.31**	**323**	⇑PKiKP	**PKiKP**	**16 16 04.3**	**+0.2**	
KRLC	**Kraliky**	**130.33**	**330**	*e*PKiKP	**PKiKP**	**16 16 04.1**	**0.0**	
KRLC				*e*		16 16 10.4		
KRLC	**Kraliky**	**130.33**	**330**	*e*PKPDF	**PKiKP**	**16 16 04.1**	**0.0**	
KRLC				*ep*PKP	**pPKPdf**	**16 16 10.4**	**+0.4**	
CHVC	**Chvalec**	**130.35**	**331**	*e*PKPDF	**PKiKP**	**16 16 04.4**	**+0.3**	
DPC	**Dobruska-Polom**	**130.37**	**330**	*e*PKiKP	**PKiKP**	**16 16 04.3**	**+0.1**	
DPC	**Dobruska-Polom**	**130.37**	**330**	*e*PKPDF	**PKiKP**	**16 16 04.3**	**+0.1**	
BSEG	**Bad Segeberg**	**130.42**	**337**	*e*PKPdf	**PKiKP**	**16 16 04.6**	**+0.6**	
	baz=42,slow=1.9							
BSEG				*ep*PKPdf	**sPKPdf**	**16 16 12.2**	**-0.1**	
	baz=42,slow=2.0							
UPC	**Upice**	**130.42**	**331**	*e*PKiKP	**PKiKP**	**16 16 04.2**	**0.0**	
UPC	**Upice**	**130.42**	**331**	*e*PKPDF	**PKiKP**	**16 16 04.2**	**0.0**	
JAVC	**Velka Javorina**	**130.65**	**328**	*e*PKP	**PKiKP**	**16 16 06.0**	**+1.2**	
JAVC				*e*		16 16 12.4		
MDVR	**Moldovita**	**130.69**	**322**	⇑P	**PKiKP**	**16 16 05.1**	**+0.1**	
VTS	**Vitosha**	**130.80**	**319**	⇑P	**PKiKP**	**16 16 05.6**	**+0.2**	
VTS	**Vitosha**	**130.80**	**319**	⇑PKiKP	**PKiKP**	**16 16 05.6**	**+0.2**	
VTS	**Vitosha**	**130.80**	**319**		**PKPdf**	**16 16 03.5**	**-1.0**	
VRAC	**Vranov**	**130.91**	**329**	*e*PKP	**PKiKP**	**16 16 05.2**	**0.0**	
VRAC				*e*		16 16 11.7		
VRAC				*e*PP	**PP**	**16 18 20.9**	**+0.6**	
PVCC	**Panska Ves**	**131.09**	**332**	*e*PKiKP	**PKiKP**	**16 16 06.1**	**+0.6**	
PVCC	**Panska Ves**	**131.09**	**332**	*e*PKPDF	**PKiKP**	**16 16 06.1**	**+0.6**	
BRG	**Berggiesshubel**	**131.14**	**332**	*e*PKPdf	**PKiKP**	**16 16 06.1**	**+0.5**	
	baz=42,slow=1.9							
BRG				*ep*PKPdf	**sPKPdf**	**16 16 13.6**	**-0.2**	
	baz=42,slow=2.0							
BRG	**Berggiesshubel**	**131.14**	**332**	*i* PKP	**PKiKP**	**16 16 06.0**	**+0.5**	
BRG				Amp		16 16 07.3		
	comp=Z,29nm,1.1s							
BRG	**Berggiesshubel**	**131.14**	**332**	P	**PKiKP**	**16 16 11.9**	**+6.3**	
BRG				Amp		16 16 14.8		
	comp=Z,82nm,1.6s							
MODS	**Modra-Piesok**	**131.16**	**328**	*e*PKiKP	**PKiKP**	**16 16 05.5**	**-0.3**	
MODS	**Modra-Piesok**	**131.16**	**328**	*e*PKP	**PKiKP**	**16 16 05.5**	**-0.3**	
KRUC	**Moravsky**	**131.17**	**329**	*e*PKP	**PKiKP**	**16 16 05.7**	**0.0**	
KRUC				*e*		16 16 12.1		
KRUC				*e*PP	**PP**	**16 18 21.7**	**-0.2**	
CLL	**Collm**	**131.26**	**333**	*e*Pdif	**Pdif**	**16 12 56.0**	**-0.9**	
	comp=Z,56nm,1.4s							
CLL				*e*PKPdf	**PKiKP**	**16 16 04.0**	**-0.9**	
CLL				*i* pPKPdf	**pPKPdf**	**16 16 12.1**	**+0.4**	
CLL				*e*PP	**PP**	**16 18 21.0**	**-1.3**	
	comp=Z,106nm,2.1s							
CLL	**Collm**	**131.26**	**333**	*e*P	**Pdif**	**16 12 56.0**	**-0.9**	
CLL				*e*		16 16 04.0		
CLL				*e*		16 18 21.0		
CLL				pmax	pmax			
	comp=Z,56nm,1.4s							
CLL				pmax	pmax			
	comp=Z,106nm,2.1s							
CLL	**Collm**	**131.26**	**333**	*e*PKPdf	**PKiKP**	**16 16 06.4**	**+0.5**	
	baz=42,slow=1.9							
CLL				*ep*PKPdf	**sPKPdf**	**16 16 13.5**	**-0.5**	
	baz=42,slow=2.0							
SIV	**San Ignacio**	**131.26**	**122**	PKP	**PKPdf**	**16 16 05.6**	**-0.4**	
	comp=Z,16nm,0.7s,baz=241,slow=7.5,SNR=7.1							
FLTG	**Flechtingen**	**131.27**	**335**	*e*PKPdf	**PKiKP**	**16 16 06.1**	**+0.3**	
	baz=42,slow=1.9							
FLTG				*ep*PKPdf	**sPKPdf**	**16 16 13.6**	**-0.4**	
	baz=42,slow=2.0							
BOVS	**Bovan**	**131.28**	**320**	⇓P	**PKPdf**	**16 16 05.4**	**+0.2**	
ZST	**Bratislava**	**131.36**	**328**	*e*PKiKP	**PKiKP**	**16 16 06.2**	**+0.1**	
ZST	**Bratislava**	**131.36**	**328**	*e*PKP	**PKiKP**	**16 16 06.2**	**+0.1**	
FBE	**Freiberg**	**131.38**	**333**	*e*PKPdf	**PKiKP**	**16 16 06.5**	**+0.4**	
	baz=42,slow=1.9							
FBE				*ep*PKPdf	**sPKPdf**	**16 16 14.3**	**+0.1**	
	baz=42,slow=2.0							
PRU	**Pruhonice**	**131.47**	**331**	*e*PKiKP	**PKiKP**	**16 16 05.9**	**-0.4**	
PRU	**Pruhonice**	**131.47**	**331**	*e*PKPDF	**PKiKP**	**16 16 05.9**	**-0.4**	
NRDL	**Niedersach Rie**	**131.60**	**336**	*e*PKPdf	**PKiKP**	**16 16 07.0**	**+0.6**	
	baz=42,slow=1.9							
NRDL				*ep*PKPdf	**sPKPdf**	**16 16 14.7**	**+0.2**	
	baz=42,slow=2.0							
FRGS	**Fruska Gora**	**131.63**	**323**	⇑P	**PKPdf**	**16 16 06.3**	**+0.4**	
ASSE	**Asse, Remlinge**	**131.65**	**335**	*ep*PKPdf	pPKPdf	16 16 14.5	+2.2	
	baz=42,slow=2.0							
MORH	**Mrgy, Hungar**	**131.71**	**325**	⇑P	**PKiKP**	**16 16 06.4**	**-0.5**	
NEUB	**Neuenburg**	**131.87**	**334**	*e*PKPdf	**PKiKP**	**16 16 07.4**	**+0.3**	
	baz=42,slow=1.9							
NEUB				*ep*PKPdf	**sPKPdf**	**16 16 14.9**	**-0.2**	
	baz=42,slow=2.0							
PBCC	**Pribram**	**131.94**	**331**	*e*PKPDF	**PKPdf**	**16 16 06.7**	**+0.5**	
CLZ	**Clausthal**	**131.99**	**335**	*e*PKPdf	**PKiKP**	**16 16 07.9**	**+0.5**	
	baz=42,slow=1.9							
CLZ				*ep*PKPdf	**sPKPdf**	**16 16 15.3**	**-0.1**	
	baz=42,slow=2.0							
TANN	**Tannenbergstha**	**132.13**	**333**	*e*PKPdf	**PKiKP**	**16 16 07.9**	**+0.2**	
	baz=42,slow=1.9							
TANN				*ep*PKPdf	**sPKPdf**	**16 16 15.6**	**-0.2**	
	baz=42,slow=2.0							
WERD	**Werda**	**132.18**	**333**	*e*PKPdf	**PKiKP**	**16 16 07.8**	**+0.1**	
	baz=42,slow=1.9							
WERD				*ep*PKPdf	**sPKPdf**	**16 16 15.8**	**-0.1**	
	baz=42,slow=2.0							
PLN	**Plauen**	**132.22**	**333**	*e*PKPdf	**PKiKP**	**16 16 07.9**	**+0.1**	
	baz=42,slow=1.9							
PLN				*ep*PKPdf	**sPKPdf**	**16 16 15.8**	**-0.1**	
	baz=42,slow=2.0							
GUNZ	**Gunzen**	**132.23**	**333**	*e*PKPdf	**PKiKP**	**16 16 08.4**	**+0.6**	
	baz=42,slow=1.9							
GUNZ				*ep*PKPdf	**sPKPdf**	**16 16 16.0**	**0.0**	
	baz=42,slow=2.0							
WERN	**Wernitzgruen**	**132.26**	**333**	*e*PKPdf	**PKiKP**	**16 16 08.3**	**+0.4**	
	baz=42,slow=1.9							
WERN				*ep*PKPdf	**sPKPdf**	**16 16 16.0**	**0.0**	
	baz=42,slow=2.0							
NKC	**Novy Kostel**	**132.27**	**333**	*e*PKiKP	**PKiKP**	**16 16 08.5**	**+0.5**	
NKC	**Novy Kostel**	**132.27**	**333**	*e*PKPDF	**PKiKP**	**16 16 08.5**	**+0.5**	
MOX	**Moxa**	**132.34**	**334**	*e*PKPdf	**PKiKP**	**16 16 08.3**	**+0.3**	
	baz=42,slow=1.9							
MOX				*ep*PKPdf	**sPKPdf**	**16 16 16.1**	**0.0**	
	baz=42,slow=2.0							
CKRC	**Cesky Krumlov**	**132.37**	**330**	*e*PKPDF	**PKiKP**	**16 16 07.8**	**-0.4**	
GTTG	**Gottingen**	**132.38**	**335**	*e*PKPdf	**PKiKP**	**16 16 08.4**	**+0.4**	
	baz=42,slow=1.9							
GTTG				*ep*PKPdf	**sPKPdf**	**16 16 16.1**	**0.0**	
	baz=42,slow=2.0							
KHC	**Kasperske Hory**	**132.51**	**331**	*e*PKiKP	**PKPdf**	**16 16 07.9**	**+0.5**	
KHC				*e*		16 16 15.0		
KHC	**Kasperske Hory**	**132.51**	**331**	*e*PKPDF	**PKPdf**	**16 16 07.9**	**+0.5**	
KHC				*ep*PKP	**pPKPdf**	**16 16 15.0**	**+0.8**	
MANZ	**Manzenberg**	**132.60**	**333**	*e*PKPdf	**PKiKP**	**16 16 08.8**	**+0.2**	
	baz=42,slow=1.9							
MANZ				*ep*PKPdf	**sPKPdf**	**16 16 16.7**	**0.0**	
	baz=42,slow=2.0							
GEC2	**GERESS Array S**	**132.65**	**331**	*e*PKPdf	**PKiKP**	**16 16 08.8**	**-0.1**	
	baz=42,slow=1.9							
GEC2				*ep*PKPdf	**sPKPdf**	**16 16 16.5**	**-0.4**	
	baz=42,slow=2.0							
GERES	**GERESS Array B**	**132.65**	**331**	PKP	**PKPdf**	**16 16 07.8**	**+0.1**	
	comp=Z,10nm,0.6s,baz=72,slow=2.0,SNR=22							
IBBN	**Ibbenburen**	**132.66**	**337**	*e*PKPdf	**PKiKP**	**16 16 08.6**	**0.0**	
	baz=42,slow=1.9							
IBBN				*ep*PKPdf	**sPKPdf**	**16 16 16.5**	**-0.1**	
	baz=42,slow=2.0							
ROTZ	**Rotzenmuhle**	**132.71**	**332**	*e*PKPdf	**PKiKP**	**16 16 08.8**	**0.0**	
	baz=42,slow=1.9							
ROTZ				*ep*PKPdf	**sPKPdf**	**16 16 16.8**	**0.0**	
	baz=42,slow=2.0							
ARSA	**Arzberg**	**132.78**	**328**	*e*P	**PKiKP**	**16 16 08.7**	**-0.4**	
	comp=Z,16nm,1.0s							
WET	**Wettzell**	**132.84**	**331**	*e*PKPdf	**PKiKP**	**16 16 09.4**	**+0.3**	
	baz=42,slow=1.9							
WET				*ep*PKPdf	**sPKPdf**	**16 16 17.2**	**+0.1**	
	baz=42,slow=2.0							
UBBA	**Unterbreizbach**	**132.91**	**335**	*e*PKPdf	**PKiKP**	**16 16 09.3**	**+0.2**	
	baz=42,slow=1.9							
UBBA				*ep*PKPdf	**sPKPdf**	**16 16 17.1**	**+0.1**	
	baz=42,slow=2.0							
MOA	**Molln**	**133.04**	**329**	*e*P	**PKPdf**	**16 16 08.5**	**+0.1**	
	comp=Z,14nm,0.8s							
TSUM	**Tsumeb**	**133.10**	**231**	PKP	**PKPdf**	**16 16 08.7**	**-0.8**	
	comp=Z,17nm,1.1s,baz=169,slow=0.8,SNR=5.2							
TSUM	**Tsumeb**	**133.10**	**231**	PKPdf	**PKPdf**	**16 16 08.9**	**-0.7**	
GRF	**Grafenberg Arr**	**133.21**	**333**	*e*PKPdf	**PKiKP**	**16 16 09.9**	**+0.1**	
	baz=42,slow=1.9							
GRF				*ep*PKPdf	**sPKPdf**	**16 16 17.9**	**+0.1**	
	baz=42,slow=2.0							
KASTN	**Kahler Asten**	**133.26**	**336**	*e*PKPdf	**PKiKP**	**16 16 10.2**	**+0.3**	
	baz=42,slow=1.9							
KASTN				*ep*PKPdf	**sPKPdf**	**16 16 17.7**	**-0.1**	
	baz=42,slow=2.0							
SOKA	**Soboth**	**133.41**	**327**	*e*P	**PKiKP**	**16 16 09.9**	**-0.6**	
	comp=Z,20nm,1.0s							
SJG	**San Juan**	**134.25**	**75**	PKP	**PKPdf**	**16 16 11.5**	**0.0**	
	comp=Z,14nm,0.2s,baz=348,slow=3.4,SNR=2.2							
SJG	**San Juan**	**134.25**	**75**	*e*P	**Pdif**	**16 13 16.9**	**+6.0**	
HUMP	**Col San Antoni**	**134.53**	**75**		**PKPdf**	**16 16 11.0**	**-1.0**	
BTNL	**Ternell**	**134.64**	**337**	*d*PKiKP	**PKiKP**	**16 16 12.3**	**-0.4**	
ABTA	**Abfaltersbach**	**134.66**	**329**	*e*P	**PKPdf**	**16 16 12.1**	**+0.5**	
	comp=Z,21nm,0.8s							
MEM	**Membach**	**134.67**	**337**	*d*PKiKP	**PKiKP**	**16 16 13.1**	**+0.3**	
WATA	**Walderalm**	**134.72**	**330**	*e*P	**PKiKP**	**16 16 13.2**	**0.0**	
	comp=L,11nm,0.6s							
WTTA	**Wattenberg**	**134.74**	**330**	*e*P	**PKiKP**	**16 16 13.5**	**+0.3**	
	comp=Z,23nm,0.7s							
BSTI	**Sart Tilman**	**134.86**	**338**	*d*PKiKP	**PKiKP**	**16 16 13.9**	**+0.8**	
BHOU	**Houvegnez**	**134.88**	**337**	*d*PKPdf	**PKiKP**	**16 16 11.5**	**-0.3**	
BHOU				*d*PKiKP	**PKiKP**

baz=254,slow=75
VA04 **Juan Fernndez** 18.20 89 Pn 16 01 31.1 -1.6
VA04 IAmb IAmb 16 01 43.4
comp=Z,169nm,1.1s
LL05 **Los Muermos** 21.93 112 P P 16 02 11.7 -1.7
LL05 IAmb IAmb 16 02 28.7
comp=Z,151nm,1.2s
GO07 **Millade Hill,** 22.01 117 P P 16 02 13.5 -0.7
GO07 IAmb IAmb 16 02 23.9
comp=Z,87nm,0.7s
LL07 **Hotel Espejo d** 22.10 116 P P 16 02 14.3 -1.0
LL04 **Puerto Octay** 22.70 111 P P 16 02 21.3 -0.4
LR03 **Panguipulli** 22.71 108 P P 16 02 21.9 +0.1
LR03 IAmb IAmb 16 02 28.7
comp=Z,172nm,1.1s
LL03 **Petrohue** 22.72 112 P P 16 02 21.2 -0.7
LL03 IAmb IAmb 16 02 43.6
comp=Z,131nm,1.2s
LC01 **Cunco** 23.09 106 P P 16 02 27.1 +1.3
LL02 **Futaleuf** 23.33 117 P P 16 02 27.9 -0.3
GO05 **Huala** 23.49 96 P P 16 02 30.5 +0.6
GO05 IAmb IAmb 16 02 35.2
comp=Z,220nm,2.0s
COYC **Coyhaique** 23.61 123 P P 16 02 31.8 +0.8
COYC IAmb IAmb 16 02 35.1
comp=Z,109nm,1.3s
ML02 **Panimavida** 23.77 98 P P 16 02 33.5 +1.0
ML02 IAmb IAmb 16 02 38.4
comp=Z,60nm,0.9s
VA05 **Santo Domingo** 24.04 93 P P 16 02 35.9 +0.9
VA05 IAmb IAmb 16 02 40.0
comp=Z,71nm,1.0s
PLCA **Paso Flores** 24.10 110 P P 16 02 38.0 +2.3
comp=Z,24nm,0.9s,baz=267,slow=12,SNR=38
PLCA **Paso Flores** 24.10 110 P P 16 02 37.0 +1.3
PLCA **Paso Flores** 24.10 110 *e*P P 16 02 38.1 +2.4
VA01 **Torpederas** 24.17 91 P P 16 02 35.3 -1.0
VA01 IAmb IAmb 16 02 47.2
comp=Z,48nm,1.1s
MT01 **Popeta** 24.28 93 P P 16 02 38.3 +0.9
BO01 **Tunca** 24.30 95 P P 16 02 38.0 +0.5
BO01 IAmb IAmb 16 02 50.6
comp=Z,51nm,1.2s
BO02 **Sierra Bellavi** 24.46 96 P P 16 02 39.7 +0.7
BO02 IAmb IAmb 16 02 51.9
comp=Z,46nm,0.9s
MT09 **Talagante** 24.52 93 P P 16 02 40.2 +0.6
MT09 IAmb IAmb 16 02 50.8
comp=Z,38nm,0.8s
ROC1 **El Roble** 24.70 92 *i* P P 16 02 43.1 +1.6
MT05 **Renca** 24.81 93 P P 16 02 42.5 +0.2
CO06 **Fray Jorge** 24.90 86 P P 16 02 43.2 +0.2
VA03 **San Esteban** 25.13 91 P P 16 02 45.8 +0.7
VA03 IAmb IAmb 16 02 55.1
comp=Z,162nm,1.5s
CO02 **Combarbal** 25.23 88 P P 16 02 46.3 +0.1
CO02 IAmb IAmb 16 03 22.9
comp=Z,58nm,1.1s
COIS **El Sosneado** 25.35 97 *i* P P 16 02 49.6 +2.6
EDS3 **Malargue** 25.39 99 *i* P P 16 02 52.0 +4.4
CO05 **La Serena** 25.49 85 P P 16 02 48.7 +0.4
CO03 **El Pedregal** 25.61 87 P P 16 02 50.7 +1.2
CO03 IAmb IAmb 16 03 01.3
comp=Z,42nm,1.2s
GO04 **Tololo Observa** 25.75 85 P P 16 02 50.1 -0.9
GO04 IAmb IAmb 16 03 18.4
comp=Z,38nm,0.8s
AUSP **Uspallata** 26.23 91 *i* P P 16 02 58.1 +2.7
LCO **Las Campanas** 26.27 83 P P 16 02 56.0 +0.3
LCO IAmb IAmb 16 03 09.5
comp=Z,84nm,1.2s
AC04 **Llanos de Chal** 26.30 81 P P 16 02 55.8 +0.1
AC04 IAmb IAmb 16 03 38.9
comp=Z,41nm,0.9s
RFA **San Rafael** 26.33 97 *i* P P 16 02 57.0 +1.0
AAGR **Agrelo** 26.44 93 *i* P P 16 02 59.4 +2.3
ASAL **Salagasta** 26.57 92 *i* P P 16 03 00.7 +2.5
GO10 **Punta Arenas** 26.93 139 P P 16 03 00.5 -0.7
GO10 IAmb IAmb 16 03 11.4
comp=Z,169nm,1.6s
ZON **Zonda** 27.01 90 P P 16 03 02.0 -0.1
ZON IAmb IAmb 16 03 11.1
comp=Z,102nm,1.7s
ACCO **Cerro Coronel** 27.01 88 *i* P P 16 03 04.5 +2.1
RTCV **Cerro Valdivia** 27.02 90 *i* P P 16 03 03.4 +1.1
GO03 **Copiap** 27.23 81 P P 16 03 04.4 +0.2
AC06 **Mina Casimiro** 27.24 80 P P 16 03 03.9 -0.3
PTCN **Pitcairn Islan** 27.40 285 P P 16 03 03.4 -2.2
MG02 **Cerro Sombrero** 27.76 137 P P 16 03 07.6 -1.0
AGUA **GUANDACOL** 27.87 86 *i* P P 16 03 11.8 +1.9
AVFE **Valle Fertil** 28.29 89 *i* P P 16 03 14.9 +1.3
VCA **Vinchina** 28.39 84 *i* P P 16 03 16.0 +1.4
AC02 **Maricunga** 28.45 80 P P 16 03 14.7 -0.8
PB14 **IPOC Station P** 28.50 75 P P 16 03 15.5 -0.3
PB14 IAmb IAmb 16 03 27.6
comp=Z,45nm,1.3s
MRA **San Martin** 29.14 93 *i* P P 16 03 22.4 +1.1
PB15 **IPOC Station P** 29.96 73 P P 16 03 27.8 -0.9
PB15 IAmb IAmb 16 03 35.3
comp=Z,90nm,1.7s
PB06 **IPOC Station P** 30.16 72 P P 16 03 30.5 +0.1
TCA **Tanti** 30.38 92 *i* P P 16 03 32.9 +0.7
PB07 **IPOC Station P** 30.46 70 P P 16 03 32.1 -1.0
PB07 IAmb IAmb 16 03 39.1
comp=Z,56nm,1.6s
LVC **Limon Verde** 30.72 73 P P 16 03 36.1 +0.5
LVC **Limon Verde** 30.72 73 *e*P P 16 03 38.0 +2.5
TRQA **Tornquist** 30.90 105 P P 16 03 37.2 +0.6
TRQA **Tornquist** 30.90 105 *e*P P 16 03 38.6 +1.9
TA01 **Diego Aracena** 30.91 68 P P 16 03 38.0 +1.1
TA01 IAmb IAmb 16 03 42.8
comp=Z,37nm,1.1s
PB09 **IPOC Station P** 30.91 71 P P 16 03 38.0 +1.0
PB09 IAmb IAmb 16 03 43.9
comp=Z,32nm,1.1s
TA02 **Huaiquique** 31.12 68 P P 16 03 39.0 +0.3
TA02 IAmb IAmb 16 03 44.7
comp=Z,104nm,1.5s
PB01 **IPOC Station P** 31.16 70 P P 16 03 40.2 +1.1
PB01 IAmb IAmb 16 03 45.5
comp=Z,57nm,1.6s
PSGCX **Pisagua** 31.54 67 P P 16 03 44.1 +1.6
PSGCX IAmb IAmb 16 03 48.5
comp=Z,82nm,1.4s
PB11 **IPOC Station P** 31.79 68 P P 16 03 46.0 +1.3
PB11 IAmb IAmb 16 03 51.3
comp=Z,59nm,1.2s
PB08 **IPOC Station P** 31.94 69 P P 16 03 46.2 -0.1
PB08 IAmb IAmb 16 03 58.4
comp=Z,24nm,1.0s
NNA **Nana** 32.29 48 LR LR 16 13 42.2
comp=Z,5µm,19.8s,baz=158,slow=30
EFI **East Falkland** 33.99 131 P P 16 04 03.7 +0.2
LPAZ **La Paz** 35.08 64 P P 16 04 16.6 +2.5
comp=Z,12nm,0.8s,baz=226,slow=7.2,SNR=26
LPAZ **La Paz** 35.08 64 P P 16 04 14.7 +0.7
LPAZ IAmb IAmb 16 04 26.7
comp=Z,33nm,1.2s
LPAZ **La Paz** 35.08 64 *e*P P 16 04 16.9 +2.9
PMSA **Palmer Station** 36.12 154 P P 16 04 21.4 -0.3
PMSA **Palmer Station** 36.12 154 *e*P P 16 04 21.7 0.0
ITQB **Itaqui** 37.41 93 P P 16 04 33.8 +0.7
ITQB IAmb IAmb 16 04 43.8
comp=Z,64nm,1.1s
CZSB **Cruzeiro do Su** 38.13 49 *e*P P 16 04 39.4 0.0
CPUP **Villa Florida** 38.17 88 P P 16 04 42.4 +2.9
comp=Z,3.0nm,0.7s,baz=312,slow=4.4,SNR=3.4
CPUP **Villa Florida** 38.17 88 P P 16 04 39.4 -0.1
CPUP **Villa Florida** 38.17 88 *e*P P 16 04 39.5 -0.1
PLTB **Pedras Altas** 39.11 98 P P 16 04 47.9 +0.4
PLTB IAmb IAmb 16 04 52.3
comp=Z,33nm,0.8s
PLTB **Pedras Altas** 39.11 98 *e*P P 16 04 47.1 -0.4
CPSB **Cacapava Do Su** 39.71 96 *e*P P 16 04 52.1 -0.3
ETMB **Extrema** 40.84 59 *e*P P 16 05 02.0 +0.1
OTAV **Otavalo** 41.68 35 P P 16 05 08.9 -0.4
OTAV **Otavalo** 41.68 35 *e*P P 16 05 09.2 -0.2
CNLB **Canela** 42.20 96 *e*P P 16 05 11.9 -1.1
AQDB **Aquidauana** 42.27 81 P P 16 05 13.9 +0.3
AQDB IAmb IAmb 16 05 18.3
comp=Z,30nm,0.7s
AQDB **Aquidauana** 42.27 81 *e*P P 16 05 13.9 +0.3
PTLB **Pontes e Lacer** 42.37 72 *e*P P 16 05 14.9 +0.4
TBTG **Tabatinga, AM** 42.62 49 *e*P P 16 05 16.3 -0.1

VILB **Vilhena** 43.10 68 *e*P P 16 05 20.7 +0.3
PTGB **Pitanga** 43.15 89 *e*P P 16 05 20.9 +0.1
TRCB **Terra Rica** 43.58 86 P P 16 05 23.9 -0.4
TRCB IAmb IAmb 16 05 30.3
comp=Z,38nm,0.8s
TRCB **Terra Rica** 43.58 86 *e*P P 16 05 24.6 +0.3
TER01 **Tubaro-SC** 43.90 95 *e*P P 16 05 26.7 -0.1
FLOC **Florencia** 44.19 38 P P 16 05 29.7 +0.5
FLOC IAmb IAmb 16 05 34.9
comp=Z,68nm,1.9s
PP1B **Ponte de Pedra** 44.47 78 *e*P P 16 05 31.6 +0.1
SALV **Santo Antonio** 44.79 75 *e*P P 16 05 33.7 -0.3
PCMB **Pacaembu** 45.27 85 *e*P P 16 05 37.5 -0.3
TIJ01 **Guaruva-PR** 45.35 91 *e*P P 16 05 38.2 -0.3
FRTB **Fartura** 45.80 89 *e*P P 16 05 42.1 0.0
ITRB **Iturama** 46.96 84 *e*P P 16 05 52.5 +1.4
HOPE **Hope Point** 47.10 134 P P 16 05 50.1 -1.6
PET01 **Itanhaem-SP** 47.22 91 *e*P P 16 05 52.5 -0.6
SPB **Sao Paulo** 47.41 90 P P 16 05 54.5 -0.2
SPB IAmb IAmb 16 06 05.7
comp=Z,21nm,1.0s
SPB **Sao Paulo** 47.41 90 *e*P P 16 05 54.3 -0.3
CDITO **Canoas** 47.51 24 P P 16 05 55.4 +0.1
CDITO IAmb IAmb 16 07 20.0
comp=Z,38nm,1.2s
ROSC **El Rosal** 47.67 37 P P 16 05 58.3 +1.3
comp=Z,6.9nm,0.3s,baz=232,slow=6.0,SNR=4.6
ROSC **El Rosal** 47.67 37 P P 16 05 56.5 -0.5
CLDB **Colider** 47.74 70 *e*P P 16 05 57.1 -0.2
BB19B **Bebedouro** 47.75 86 *e*P P 16 05 56.9 -0.4
BRU2 **Volcan** 47.77 25 P P 16 05 57.5 -0.1
SRBA **San Rafael, Bu** 47.96 23 P P 16 05 59.5 +0.5
SRBA IAmb IAmb 16 06 17.4
comp=Z,16nm,1.1s
RIMA **Rio Macho** 48.31 23 P P 16 06 02.4 +0.6
RIMA IAmb IAmb 16 06 15.5
comp=Z,23nm,1.5s
ORTG **Ortega, Santa** 48.40 20 P P 16 06 01.4 -0.9
ORTG IAmb IAmb 16 06 21.3
comp=Z,43nm,1.7s
JTS **Las Juntas de** 48.48 21 P P 16 06 03.0 +0.2
JTS IAmb IAmb 16 06 46.7
comp=Z,34nm,1.7s
CVTR **Volcan Turrial** 48.58 23 P P 16 06 05.1 +1.1
CVTR IAmb IAmb 16 07 47.9
comp=Z,22nm,1.1s
BCIP **Isla Barro Col** 49.14 28 P P 16 06 08.4 +0.5
BCIP IAmb IAmb 16 06 18.2
comp=Z,56nm,1.7s
RUSC **La Rusia** 49.18 38 P P 16 06 09.4 +0.6
RUSC IAmb IAmb 16 06 26.4
comp=Z,21nm,1.1s
MACA **Manacapuru-AM** 49.41 58 *e*P P 16 06 11.1 +1.0
IPMB **Ipameri, GO** 49.59 83 *e*P P 16 06 11.5 0.0
CAP2 **Capurgana** 49.66 31 P P 16 06 11.7 -0.2
ACON **Acoyapa** 50.01 20 P P 16 06 14.5 0.0
SNDB **Serra Nova Dou** 50.54 75 *e*P P 16 06 18.9 +0.2
NPGB **Novo Progresso** 50.54 66 *e*P P 16 06 19.0 +0.3
MATN **Matagalpa** 50.72 19 P P 16 06 20.8 +0.8
BSCB **Bom Sucesso** 50.82 89 *e*P P 16 06 20.2 -0.6
BDFB **Brasilia** 51.02 81 P P 16 06 23.5 +1.0
comp=Z,5.9nm,0.7s,baz=218,slow=8.5,SNR=4.7
BDFB **Brasília** 51.02 81 P P 16 06 22.2 -0.2
BDFB IAmb IAmb 16 06 26.5
comp=Z,64nm,1.8s
VAS01 **Vassouras-RJ** 51.27 91 *e*P P 16 06 23.9 -0.2
MTO3 **Montecristo** 51.35 14 P P 16 06 25.8 +1.0
TGUH **Tegucigalpa,Un** 51.47 17 P P 16 06 25.6 -0.1
TGUH IAmb IAmb 16 06 53.0
comp=Z,19nm,0.9s
SJCC **San Jacinto, C** 51.71 33 P P 16 06 28.1 +0.7
SJCC IAmb IAmb 16 06 33.7
comp=Z,25nm,0.9s
ITTB **Itaituba** 52.06 64 *e*P P 16 06 30.1 0.0
DUB01 **Friburgo-RJ** 52.23 91 *e*P P 16 06 30.9 -0.4
CCIG **Comitan** 52.71 10 P P 16 06 34.0 -0.9
CCIG IAmb IAmb 16 06 53.7
comp=Z,94nm,1.9s
PEXB **Peixe** 52.81 77 *e*P P 16 06 35.8 +0.1
SDV **Santo Domingo** 52.98 38 P P 16 06 36.0 -1.0
SDV **Santo Domingo** 52.98 38 *e*P P 16 06 36.9 -0.1
BOAV **Boa Vista** 53.62 53 *e*P P 16 06 41.6 +0.1
ALF01 **Guarapari-ES** 54.29 91 *e*P P 16 06 45.8 -0.6
JANB **Januaria** 54.31 83 *e*P P 16 06 46.5 -0.3
URIC **Uribia, Colomb** 54.75 35 P P 16 06 49.6 -0.1
URIC IAmb IAmb 16 07 06.5
comp=Z,33nm,1.2s
MALB **Monte Alegre** 54.84 63 *e*P P 16 06 50.5 0.0
BSFB **Barra de Sao F** 55.10 89 *e*P P 16 06 51.9 -0.4
RIB01 **Linhares ES** 55.22 90 *e*P P 16 06 52.8 -0.4
PRPB **Parauapebas** 55.27 70 *e*P P 16 06 54.3 +0.7
SMTB **Santa Maria do** 55.31 74 *e*P P 16 06 55.2 +1.3
SDBA **SAO DESIDERIO** 55.33 80 *e*P P 16 06 55.5 +1.4
NAN01 **Guarapari, ES** 56.19 88 *e*P P 16 07 00.9 +0.7
VNA3 **Neumayer Olymp** 56.67 157 P P 16 07 03.8 +0.9
GUA01 **Guaratinga, BA** 57.12 87 *e*P P 16 07 07.7 +0.8
VNA1 **Neumayer--Stat** 57.27 157 P P 16 07 08.4 +1.3
MCPB **Macapa, AP** 57.46 63 *e*P P 16 07 10.5 +1.2
VNA2 **Neumayer--Watz** 57.47 157 P P 16 07 07.7 -0.8
CMC01 **Camacan, BA** 58.01 86 *e*P P 16 07 13.8 +0.7
NBIT **Itapeh - BA** 58.31 86 *e*P P 16 07 16.4 +1.2
ZAIG **Zacatecas** 58.54 358 P P 16 07 16.6 -0.2
SNAA **Sanae** 58.63 158 P P 16 07 16.9 +0.2
SNAA **Sanae** 58.63 158 P P 16 07 17.1 +0.4
comp=Z,5.6nm,0.9s,baz=259,slow=5.1,SNR=14
SNAA **Sanae** 58.63 158 P P 16 07 15.7 -1.1
SNAA **Sanae** 58.63 158 P P 16 07 15.7 -1.1
SNAA **Sanae** 58.63 158 pmax pmax
comp=Z,106nm,1.7s
GDU01 **Guandu, BA** 58.86 84 *e*P P 16 07 19.7 +0.7
CBCY **The Bluff, Cay** 58.97 23 P P 16 07 20.1 +0.5
NBPN **Ponto Novo - B** 59.99 81 *e*P P 16 07 28.5 +1.6
SLBS **Sierra La Lagu** 60.06 350 P P 16 07 26.1 -1.0
SLBS IAmb IAmb 16 07 33.2
comp=Z,39nm,1.6s
JAKH **Jacmel** 60.28 31 P P 16 07 27.4 -1.3
TOSP **Speyside** 60.51 47 P P 16 07 31.3 +1.0
SOR **Soroa** 60.91 19 P P 16 07 32.8 0.0
SOR IAmb IAmb 16 07 44.6
comp=Z,23nm,0.9s
BANI **BANI** 61.36 33 P P 16 07 34.9 -1.2
SDDR **Presa de Saban** 61.47 32 P P 16 07 36.3 -0.5
SDDR IAmb IAmb 16 07 43.4
comp=Z,18nm,0.9s
ROSB **Rosrio** 61.71 71 *e*P P 16 07 39.4 +0.8
NBLA **Lagarto - SE** 61.84 83 *e*P P 16 07 40.1 +0.6
CRPR **Cabo Rojo, PR** 62.53 37 P P 16 07 42.6 -1.2
CRPR IAmb IAmb 16 07 48.5
comp=Z,32nm,0.9s
MLPR **Magueyes Islan** 62.53 37 P P 16 07 43.2 -0.6
OBIP **Obispado Ponce** 62.80 37 P P 16 07 44.0 -1.6
OBIP IAmb IAmb 16 07 48.8
comp=Z,24nm,1.0s
NBPS **Pedro II - PI** 62.85 75 *e*P P 16 07 45.5 -0.8
FDF **Fort de France** 62.91 44 P P 16 07 45.1 -1.4
FDF IAmb IAmb 16 08 22.3
comp=Z,29nm,1.1s
PDPR **Patillas Dam,** 63.07 38 P P 16 07 46.5 -0.9
PDPR IAmb IAmb 16 07 51.6
comp=Z,23nm,0.9s
SJG **San Juan** 63.08 37 P P 16 07 46.9 -0.6
NBMA **Muriti-CE** 63.17 79 *e*P P 16 07 49.0 +0.6
NBPB **Pedra_Branca-C** 63.61 77 *e*P P 16 07 52.0 +0.7
NBMO **Morrinhos-CE** 64.62 75 *e*P P 16 07 59.0 +1.1
TXAR **Lajitas Array** 65.11 357 P P 16 08 03.1 +2.4
comp=Z,1.2nm,0.8s,baz=187,slow=6.9,SNR=9.5
TXAR **Lajitas Array** 65.11 357 P P 16 08 00.6 -0.2
TX31 **Lajitas Ar. Sí** 65.11 357 P P 16 08 01.1 +0.4
TX31 IAmb IAmb 16 08 18.3
comp=Z,34nm,1.3s
TX32 **Lajitas Array** 65.11 357 P P 16 08 00.7 0.0
NBRF **Rio Formoso -** 65.31 83 *e*P P 16 08 02.7 +0.3
NBCL **Cascavel-CE** 65.43 77 *e*P P 16 08 04.2 +1.1
RCBR **Riachuelo** 66.36 80 *e*P P 16 08 09.3 +0.1
MNTX **Cornudas Mount** 67.55 356 P P 16 08 16.1 -0.2
TUC **Tucson** 68.66 351 P P 16 08 19.1 -4.2
TUC IAmb IAmb 16 10 25.6
comp=Z,34nm,1.8s
LENM **Lemitar** 70.11 355 P P 16 08 32.2 -0.1
WMOK **Wichita Mounta** 70.47 2 P P 16 08 34.2 -0.1
AMTX **Amarillo** 70.59 359 P P 16 08 34.1 -1.0
AMTX IAmb IAmb 16 08 47.8
comp=Z,19nm,0.9s

ANMO **Albuquerque** 70.85 355 P P 16 08 34.7 -2.2
SYO **Syowa Base** 71.22 166‖ *e*P P 16 08 33.2 -5.4
SYO **Syowa Base** 71.22 166‖ *e*P P 16 08 39.0 +0.4
MVCO **Mesa Verde** 73.26 354 P P 16 08 49.9 -1.4
T42A **Van Buren** 73.29 8 P P 16 08 51.7 +0.6
SDCO **Great Sand Dun** 73.57 356 P P 16 08 53.8 +0.6
CCM **Cathedral Cave** 74.28 8 P P 16 08 57.0 0.0
NVAR **Mina Array Bea** 75.88 346 P P 16 09 09.9 +3.5
comp=Z,8.3nm,0.9s,baz=181,slow=7.2,SNR=7.2
HOPS **Hopland Field** 77.47 342 P P 16 09 15.9 +0.8
KMRM **Mail Ridge** 78.79 342 P P 16 09 24.3 +1.7
WDC **Whiskeytown Da** 78.85 343 P P 16 09 23.9 +1.1
PDAR **Pinedale Array** 78.87 353 P P 16 09 26.5 +3.4
comp=Z,5.7nm,1.0s,baz=187,slow=4.5,SNR=4.1
MOD **Modoc Plateau** 79.62 345 P P 16 09 27.4 +0.2
HLID **Hailey** 80.22 350 P P 16 09 29.5 -0.9
HLID IAmb IAmb 16 10 22.4
comp=Z,74nm,1.4s
L56A **Greenwood** 80.69 17 P P 16 09 32.0 -0.8
WVNY **West Valley, N** 80.69 16 P P 16 09 31.5 -1.3
WVNY IAmb IAmb 16 09 43.9
comp=Z,24nm,0.8s
G40A **Rib Lake** 81.53 8 P P 16 09 36.7 -0.5
G40A IAmb IAmb 16 12 31.4
comp=Z,43nm,0.9s
I07A **Izee** 81.56 346 P 16 09 36.1 -1.4
BUCK **Buck Mountain** 82.39 344 P P 16 09 42.2 +0.4
J58A **Remsen** 82.40 18 P P 16 09 40.7 -1.1
G08A **Pilot Rock** 82.63 347 P 16 09 42.3 -0.8
COR **Corvallis** 82.83 344 P P 16 09 43.0 -1.0
COR **Corvallis** 82.83 344 P P 16 09 43.0 -1.0
COR **Corvallis** 82.83 344 pmax pmax
comp=Z,182nm,1.4s
LONY **Lake Ozonia** 83.76 19 P P 16 09 47.5 -1.3
RADR **Rader Ridge** 84.68 344 P P 16 09 53.6 +0.1
NEW **Newport** 85.21 349 P P 16 09 55.7 -0.4
NEW **Newport** 85.21 349 P P 16 09 55.7 -0.4
NEW **Newport** 85.21 349 pmax pmax
comp=Z,51nm,1.1s
BOSA **Boshof** 98.05 134 LR LR 16 51 42.1
comp=Z,8µm,19.2s,baz=100,slow=33
H01W1 **Cape Leeuwin H** 102.24 209 T T 18 06 13.1
baz=151,slow=76
H01W2 **Cape Leeuwin H** 102.24 209 T T 18 06 13.7
baz=151,slow=76
H01W3 **Cape Leeuwin H** 102.25 209 T T 18 06 15.4
baz=151,slow=76
CLF **Chambon-Foret** 123.88 52 PKPdf **PKiKP** 16 16 18.3 +0.4
WLF **Walferdange** 126.81 51 PKIKP PKPdf 16 16 13.9 -9.3
WLF **Walferdange** 126.81 51 PKPpre 16 16 13.9
CLL **Collm** 131.42 50 *e*PKPdf **PKPdf** 16 16 32.0 +0.1
BRTR **Keskin Array B** 144.16 70 PKP **PKPdf** 16 16 57.2 +1.4
comp=Z,4.8nm,0.9s,baz=254,slow=2.4,SNR=6.1
KLMR **Klimovskoe** 144.73 33 *e*PKPdf PKPbc 16 16 54.9 0.0
KLMR AMP 16 17 00.8
comp=Z,57nm,1.4s
NRIK **Noril'sk** 146.36 355 PKPbc **PKPab** 16 17 01.4 +0.7
comp=Z,5.9nm,0.7s,baz=44,slow=4.0,SNR=5.4
KBZ **habaz** 151.30 63 PKPbc **PKiKP** 16 17 14.7 +0.9
comp=Z,20nm,1.0s,baz=174,slow=2.4,SNR=8.6
HHC **Hu-ho-hao-te** 154.29 291 *e*P **PKPdf** 16 17 06.4 -5.5
HHC LR LR
comp=N,2µm,22.7s
HHC LR LR
comp=E,2µm,21.1s
HHC LR LR
comp=Z,1µm,22.3s
CMAR **Chiang Mai Arr** 155.26 230 PKPab **PKPab** 16 17 42.5 +3.7
comp=Z,1.4nm,0.8s,baz=160,slow=2.5,SNR=5.6
BTO **Baotou** 155.47 290 *e*P **PKPdf** 16 17 19.3 +5.7
CD2 **Chengdu** 158.90 263 PKP **PKPdf** 16 17 16.1 -2.0
GTA **Gaotai** 163.35 288 *e*PKP PKPdf 16 17 35.5 +13
WMQ **Urumqi** 169.88 322 *e*P **PKPdf** 16 17 27.4 -0.1
WMQ pmax pmax
comp=Z,2µm,7.7s
WMQ LR LR
comp=N,700nm,16.1s
WMQ LR LR
comp=E,720nm,15.3s
WMQ LR LR
comp=Z,490nm,17.9s

TAP 24 15:58:43.6, 24°27N × 121°78E, h21km, ML1.7, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.18**	**360**	*i* P		Pb	15 58 48.5	-0.9
	baz=360							
EWUT				*e*S		Sb	15 58 52.2	-1.1
	baz=233							
ETL	**Fush Village**	**0.18**	**233**	*e*P		Pb	15 58 48.8	-0.6
	baz=233							
ETL				*e*S		Sb	15 58 53.2	-0.3
	baz=233							
NACB	**Ninganchiao**	**0.19**	**241**	*e*P		Pb	15 58 49.1	-0.3
	baz=241							
NACB				*e*S		Sb	15 58 53.0	-0.4
	baz=241							
TWD	**Chiawan**	**0.25**	**222**	*e*P		Pb	15 58 50.3	+0.7
	baz=221							
TWD				*e*S		Sb	15 58 55.0	+1.1
	baz=221							
ETLH	**Xiulin Townshi**	**0.28**	**257**	*i* P		Pb	15 58 50.5	+0.4
	baz=257							
ETLH				S		Sb	15 58 55.1	+0.6
	baz=257							
NDS	**Dongshan**	**0.37**	**351**	*i* P		Pb	15 58 51.9	+0.5
	baz=351							
NDS				S		Sb	15 58 58.3	+1.7
	baz=351							
NNSB	**Datong**	**0.40**	**294**	*e*S		Sb	15 58 59.2	+1.7
	baz=294							
NNS	**Nan Shan**	**0.41**	**295**	*e*S		Sb	15 58 59.5	+1.7
	baz=295							
NDT	**Datong Townshi**	**0.41**	**324**	*e*P		Pn	15 58 53.3	-1.0
	baz=324							
NDT				*e*S		Sn	15 59 00.2	-1.2
	baz=324							
ENTT	**Nioudou**	**0.42**	**332**	*i* P		Pb	15 58 53.0	+0.8
	baz=333							
ENTT				S		Sn	15 58 60.0	-1.6
	baz=333							
TWE	**Neicheng**	**0.46**	**347**	*e*P		Pb	15 58 53.7	+0.7
	baz=349							
TWE				*e*S		Sb	15 59 00.9	+1.5
	baz=349							
FUSS	**Fushou**	**0.49**	**268**	*e*S		Sb	15 59 01.9	+1.5
	baz=268							
YHNB	**Yeheng**	**0.54**	**318**	*e*S		Sn	15 59 03.8	-1.0
	baz=317							

TAP 24 15:58:49.4, 24°41N × 121°40E, h4km, ML1.0, 1C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NNSB	**Datong**	**0.03**	**322**	*i* P		Pg	15 58 50.6	+0.2
	baz=322							
NNSB				*i* S		Sg	15 58 51.5	+0.3
	baz=322							
NNS	**Nan Shan**	**0.04**	**322**	*i* P		Pg	15 58 50.7	0.0
	baz=329							
NNS				*i* S		Sg	15 58 51.7	+0.2
	baz=329							
FUSS	**Fushou**	**0.21**	**223**	P		Pg	15 58 54.5	+0.8
	baz=223							
FUSS				*e*S		Sg	15 58 57.6	+1.1
	baz=223							
FUSS	**Fushou**	**0.21**	**223**	P		Pg	15 58 54.6	+0.9
	baz=268							
YHNB	**Yeheng**	**0.27**	**355**	*e*P		Pg	15 58 55.5	+0.9
	baz=355							
YHNB				*e*S		Sb	15 59 00.6	-1.2
	baz=355							
YHNB	**Yeheng**	**0.27**	**355**	P		Pg	15 58 55.5	+0.9
	baz=317							
WHF	**Hehuan Shan**	**0.29**	**206**	*e*P		Pg	15 58 56.0	+0.9
	baz=205							
WHF				*e*S		Sg	15 59 00.2	+1.2
	baz=205							
NWLT	**Wulai**	**0.38**	**14**	*e*S		Sb	15 59 04.0	-1.2
	baz=14							

*SSNC **24** 16:04:13.1±1.3, 19.°66N×75.°59W, h4km±9km, MD3.2, ML2.9, MW3.2*

*JSN **24** 16:04:53.1±39.0, 18.°42N×77.°21W, h2km±462km, MD2.8*

ISC 24 16:04:10.6±1.1, **19.°61N**±0.°07×**75.°60W**±0.°06, **h10km, n7, σ1§30/11, Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTMO	**Guantanamo**	**0.63**	**43**	*eP*	**Pg**	**16 04 24.9**	**+2.0**
GTMO				*eS*	**Sb**	**16 04 33.5**	**+0.9**
MOAC	**Moa**	**1.20**	**30**	*eP*	**Pb**	**16 04 32.7**	**-0.8**
MOAC				*eS*	**Sb**	**16 04 47.8**	**-1.2**
MOAC				IAML		16 04 49.7	
	comp=N,147nm,0.3s						
MASC	**Masc**	**1.40**	**66**	*eP*	**Pn**	**16 04 35.8**	**-0.4**
MASC				*eS*	**Sb**	**16 04 53.3**	**-1.5**
MASC				IAML		16 04 57.9	
	comp=N,92nm,0.2s						
MASC				IAML		16 04 58.2	
	comp=E,91nm,0.2s						
LMGC	**Las Mercedes**	**1.40**	**289**	*eP*	**Pn**	**16 04 36.5**	**+0.3**
LMGC				*eS*	**Sn**	**16 04 53.3**	**-1.5**
LMGC				IAML		16 04 54.6	
	comp=N,360nm,0.1s						
LMGC				IAML		16 04 54.7	
	comp=E,263nm,0.1s						
STH	**Stony Hill**	**1.91**	**217**	*i P*	**Sn**	**16 05 06.7**	**-0.9**
HOJ	**Hope**	**1.94**	**215**	*i P*	**Sn**	**16 05 07.5**	**-0.6**
MCJ	**Malvern**	**2.60**	**230**	*i P*	**Sn**	**16 05 25.4**	**+0.8**

*IDC **24** 16:05:15.8±1.3, 0.°58S×131.°04E, h0km, mb4.1/3, mb1 4.4/4, mb1mx3.9/42, mbtmp4.2/4, ML3.9/1, Error ellipse: s-maj=65.7km s-min=8.9km az=51.0*

*NEIC **24** 16:05:17.2±2.3, 0.°57S±0.°06×131.°2E±0.°1, h7km±5km, mb4.7/7, Error ellipse: s-maj=18.1km s-min=4.8km az=65.0*

ISC 24 16:05:18.1±1.2, **0.°7S**±0.°1×**131.°2E**±0.°2, **h10km, n22, σ1§24/16, mb4.4/7, 1D, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**0.20**	**153**	Pg	**Pg**	**16 05 23.4**	**+1.1**
	1μm,0.3s,baz=139,slow=22,SNR=9.8						
SIJI				Lg	Lg	16 05 27.6	
	1μm,0.3s,baz=253,slow=19,SNR=8.3						
FAKI	**Fak Fak**	**2.46**	**154**		**Pn**	**16 05 59.5**	**+1.1**
TNTI	**Ternate**	**4.07**	**291**		**Pn**	**16 06 20.6**	**0.0**
SAUI	**Saumlaki**	**7.25**	**179**	Pn	**Pn**	**16 07 04.5**	**+0.3**
LUWI	**Luwuk**	**8.41**	**268**	Pn	**Pn**	**16 07 20.7**	**+0.6**
TOLI2	**Tolitoli**	**10.54**	**280**	Pn	**Pn**	**16 07 51.1**	**+1.7**
MTN	**Manton Dam**	**12.08**	**180**	Pn	**Pn**	**16 08 08.8**	**-1.7**
KAPI	**Kappang**	**12.19**	**249**	Pn	**Pn**	**16 08 12.3**	**+0.4**
WRAB	**Tennant Creek**	**19.38**	**171**	P	**P**	**16 09 43.6**	**-0.6**
WRAB				IAmb	IAmb	16 10 07.7	
	comp=Z,81nm,1.0s						
WRA	**Warramunga Arr**	**19.39**	**171**	P	**P**	**16 09 43.9**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=349,slow=12,SNR=1.2						
ASAR	**Alice Springs**	**23.00**	**174**	P	**P**	**16 10 24.6**	**+1.4**
	comp=Z,4.0nm,0.4s,baz=352,slow=11,SNR=5.0						
MK31	**Makanchi Array**	**63.70**	**325**	P	P	16 15 47.9	-2.0
MK31				IAmb	IAmb	16 15 53.0	
	comp=Z,5.8nm,1.1s						
MKAR	**Makanchi Array**	**63.70**	**325**	P	P	16 15 48.1	-1.8
	comp=Z,1.5nm,0.7s,baz=105,slow=6.3,SNR=2.2						
MAKZ	**Makanchi**	**63.89**	**325**	P	P	16 15 49.3	-1.8
MAKZ				IAmb	IAmb	16 16 19.4	
	comp=Z,7.8nm,1.1s						
TARG	**Taragay, Kyrgy**	**63.98**	**318**	P	P	16 15 50.6	-1.8
KURK	**Kurchatov**	**67.83**	**327**	P	P	16 16 14.2	-2.2
KURBB	**Kurchatov Arra**	**67.83**	**327**	P	P	16 16 14.2	-2.2
	comp=Z,1.6nm,0.8s,baz=128,slow=5.9,SNR=3.5						
KKAR	**Karatay Array**	**69.47**	**317**	P	**P**	**16 16 25.4**	**-1.5**
KKAR	**Karatay Array**	**69.47**	**317**	P	**P**	**16 16 25.3**	**-1.5**
KKAR				IAmb	IAmb	16 17 04.2	
	comp=Z,5.8nm,1.1s						
ABKAR	**Akbulak array**	**78.36**	**321**	P	**P**	**16 17 20.6**	**+1.8**
VNDA	**Vanda**	**78.54**	**173**	P	**P**	**16 17 18.6**	**-0.6**
VNDA				IAmb	IAmb	16 17 21.2	
	comp=Z,5.0nm,1.3s						
SYO	**Syowa Base**	**89.93**	**201**	*eP*	**P**	**16 18 16.4**	**-0.8**

*IDC **24** 16:06:15.8±4.7, 0.°42S×131.°78E, h0km, mb4.3/3, mb1 4.4/4, mb1mx3.9/44, mbtmp4.3/4, ML4.2/1, MS5.5/2, Ms1 5.5/2, ms1mx4.7/50, Error ellipse: s-maj=327.6km s-min=26.5km az=73.0*

*NEIC **24** 16:06:18.5±2.5, 0.°5S±0.°1×131.°7E±0.°2, h10km±2km, mb4.8/7, Error ellipse: s-maj=31.4km s-min=12.3km az=54.0*

ISC 24 16:06:18.4±1.2, **0.°5S**±0.°1×**131.°7E**±0.°2, **h10km, n21, σ1§06/17, mb4.5/7, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.46**	**166**	Pn	**Pn**	**16 06 59.9**	**+1.3**
TNTI	**Ternate**	**4.48**	**287**	Pn	**Pn**	**16 07 27.6**	**+1.3**
SAUI	**Saumlaki**	**7.42**	**183**	Pn	**Pn**	**16 08 06.7**	**-0.1**
MTN	**Manton Dam**	**12.26**	**182**	Pn	**Pn**	**16 09 11.5**	**-1.7**
KAPI	**Kappang**	**12.70**	**249**	Pn	**Pn**	**16 09 19.2**	**0.0**
WRAB	**Tennant Creek**	**19.48**	**172**	P	**P**	**16 10 46.5**	**+0.8**
WRA	**Warramunga Arr**	**19.48**	**172**	P	**P**	**16 10 44.6**	**-1.1**
	0.8nm,0.3s,baz=354,slow=11,SNR=1.3						
WRA				S	Sn	16 14 10.1	-16
	1.1nm,0.3s,baz=354,slow=24,SNR=5.7						
WB2	**Warramunga Arr**	**19.48**	**172**	P	**P**	**16 10 46.5**	**+0.8**
WB2				IAmb	IAmb	16 10 47.0	
	comp=Z,73nm,1.1s						
AS31	**Alice Springs**	**23.11**	**175**	P	**P**	**16 11 25.7**	**+0.9**
ASAR	**Alice Springs**	**23.11**	**175**	P	**P**	**16 11 25.1**	**+0.3**
	comp=Z,7.4nm,0.6s,baz=353,slow=10,SNR=2.0						
LEM	**Lembang**	**24.78**	**255**	LR	LR	16 22 56.2	
	comp=Z,15μm,18.7s,baz=116,slow=40						
MK31	**Makanchi Array**	**63.84**	**324**	P	**P**	**16 16 50.2**	**-0.9**
MK31				IAmb	IAmb	16 16 51.9	
	comp=Z,8.9nm,1.4s						
MKAR	**Makanchi Array**	**63.84**	**324**	P	P	16 16 49.9	-1.2
	comp=Z,2.2nm,0.8s,baz=111,slow=8.3,SNR=2.7						
MAKZ	**Makanchi**	**64.03**	**324**	P	**P**	**16 16 52.4**	**0.0**
MAKZ				IAmb	IAmb	16 16 53.4	
	comp=Z,16nm,1.4s						
KURK	**Kurchatov**	**67.96**	**327**	P	**P**	**16 17 16.8**	**-0.7**
KURBB	**Kurchatov Arra**	**67.96**	**327**	P	**P**	**16 17 16.8**	**-0.7**
	comp=Z,2.7nm,1.0s,baz=127,slow=6.2,SNR=2.0						
KK31	**Karatay Array**	**69.68**	**317**	P	P	16 17 26.9	-1.5
KK31				IAmb	IAmb	16 17 28.8	
	comp=Z,4.8nm,1.1s						
KKAR	**Karatay Array**	**69.68**	**317**	P	**P**	**16 17 27.2**	**-1.2**
RAR	**Rarotonga**	**69.87**	**112**	LR	LR	16 48 44.2	
	comp=Z,2μm,18.2s,baz=258,slow=36						
ABKAR	**Akbulak array**	**78.53**	**321**	P	**P**	**16 18 19.6**	**-0.4**
ABKAR	**Akbulak array**	**78.53**	**321**	P	**P**	**16 18 21.6**	**+1.5**
ABKAR				IAmb	IAmb	16 18 22.9	
	comp=Z,13nm,1.5s						

*IDC **24** 16:13:00.2±8.1, 32.°16S×179.°99E, h273km±88km, mb3.4/4, mb1 3.6/5, mb1mx3.3/49, mbtmp4.1/5, Error ellipse: s-maj=90.1km s-min=42.7km az=179.0*

*NEIC **24** 16:13:00.8±1.6, 32.°27S±0.°09×179.°85E±0.°09, h261km±9km, mb4.4/16, Error ellipse: s-maj=14.5km s-min=8.2km az=215.0*

*NOU **24** 16:13:05.0, 32.°84S×179.°45W, h301km, MLv4.9/9, South of Kermadec Islands*

*WEL **24** 16:13:09.4±0.4, 33.°5S±5.°×18.°0W±1.°1, h33km, M4.3/12, mB4.9/9, ML4.8/24, MLv4.6/12, Mw(mB)4.2/9, Error ellipse: s-maj=0.0km s-min=0.0km az=111.6*

ISC 24 16:13:02.8±0.6, **32.°31S**±0.°06×**179.°96E**±0.°1, **h300km, n88, σ1§51/94, mb4.0/10, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.54**	**32**	P	**Pn**	**16 14 04.0**	**-0.1**
GLKZ				S	**S**	**16 14 48.8**	**-4.5**
RIZ	**Raoul Island**	**3.56**	**31**	S	**S**	**16 14 53.0**	**-0.5**
MXZ	**Matakaoa Point**	**5.41**	**194**	P	**Pn**	**16 14 27.2**	**+2.2**
MXZ				S	**S**	**16 15 30.0**	**-1.2**
GRZ	**Great Barrier**	**5.42**	**222**	P	Pn	16 14 29.3	+4.2
KUZ	**Kuaotunu**	**5.64**	**217**	P	Pn	16 14 32.0	+4.3
WMGZ	**Waiomatatini S**	**5.64**	**193**	P	**Pn**	**16 14 29.0**	**+1.3**
WMGZ				S	**S**	**16 15 36.5**	**+0.5**
HAZ	**Te Kaha**	**5.72**	**198**	P	**Pn**	**16 14 28.6**	**0.0**
HAZ				S	**S**	**16 15 38.4**	**+0.7**
PKGZ	**Pakihiroa**	**5.77**	**195**	P	**Pn**	**16 14 29.4**	**+0.1**
PKGZ				S	**S**	**16 15 37.5**	**-1.6**
WCZ	**Waipu Caves**	**5.90**	**231**	P	Pn	16 14 35.7	+4.9
PUZ	**Puketiti**	**5.91**	**193**	P	**Pn**	**16 14 30.5**	**-0.4**
PUZ				S	**S**	**16 15 40.1**	**-2.0**
RUGZ	**Raukumara Rang**	**5.94**	**198**	P	**Pn**	**16 14 31.8**	**+0.4**
WIAZ	**Waiheke Island**	**5.99**	**220**	P	Pn	16 14 36.9	+5.1
TWGZ	**Tauwhareparae**	**6.07**	**195**	P	**Pn**	**16 14 33.0**	**+0.1**
TWGZ				S	**S**	**16 15 45.4**	**-0.2**
MKAZ	**Moumakai**	**6.20**	**218**	P	Pn	16 14 39.7	+5.3
CNGZ	**Carnagh Statio**	**6.32**	**193**	P	**Pn**	**16 14 35.9**	**0.0**
CNGZ				S	**S**	**16 15 50.7**	**-0.2**
MWZ	**Matawai**	**6.33**	**198**	P	**Pn**	**16 14 35.8**	**-0.2**
MWZ				S	**S**	**16 15 49.5**	**-1.6**
TKGZ	**Te Karaka**	**6.35**	**195**	P	**Pn**	**16 14 35.4**	**-0.8**
TKGZ				S	**S**	**16 15 50.4**	**-1.2**
URZ	**Urewera**	**6.38**	**201**	P	**Pn**	**16 14 35.8**	**-0.7**
	10nm,0.3s,baz=279,slow=4.3,SNR=30						
URZ				S	**S**	**16 15 51.3**	**-0.8**
	2.7nm,0.3s,baz=66,slow=23,SNR=9.3						
URZ	**Urewera**	**6.38**	**201**	P	**Pn**	**16 14 35.7**	**-0.7**
URZ				S	**S**	**16 15 52.1**	**+0.1**
TOZ	**Tahuroa Road**	**6.53**	**213**	P	Pn	16 14 43.3	+5.0
RIGZ	**Rimuhau**	**6.63**	**195**	P	**Pn**	**16 14 38.5**	**-1.1**
RIGZ				S	**S**	**16 15 55.8**	**-2.0**
RRRZ	**Republican Roa**	**6.64**	**204**	P	**Pn**	**16 14 42.3**	**+2.5**
MUGZ	**Murupara**	**6.68**	**202**	P	**Pn**	**16 14 41.6**	**+1.5**
MUGZ				S	**S**	**16 15 59.7**	**+0.8**
RTZ	**Ruatahuna**	**6.74**	**200**	P	**Pn**	**16 14 43.0**	**+2.0**
SNGZ	**Shannon Statio**	**6.80**	**198**	P	**Pn**	**16 14 41.0**	**-0.6**
ALRZ	**Allen Road**	**6.90**	**204**	P	**Pn**	**16 14 44.3**	**+1.5**
RAHZ	**Arahi**	**6.99**	**199**	P	**Pn**	**16 14 42.6**	**-1.4**
MTHZ	**Maungataniwha**	**7.00**	**200**	P	**Pn**	**16 14 45.9**	**+1.8**
TLZ	**Tolley Road**	**7.01**	**210**	P	Pn	16 14 49.8	+5.6
MHGZ	**Mahia Peninsul**	**7.03**	**193**	P	**Pn**	**16 14 45.3**	**+1.0**
NMHZ	**Naumai**	**7.24**	**200**	P	**Pn**	**16 14 48.0**	**+1.0**
ARHZ	**Aropaoanui**	**7.34**	**198**	P	**Pn**	**16 14 49.9**	**+1.7**
BKZ	**Black Stump Fm**	**7.40**	**201**	Pn	**Pn**	**16 14 47.2**	**-1.7**
BKZ	**Black Stump Fm**	**7.40**	**201**	P	**Pn**	**16 14 47.7**	**-1.2**
HIZ	**Hauiti**	**7.46**	**213**	Pn	**Pn**	**16 14 51.9**	**+2.3**
HIZ	**Hauiti**	**7.46**	**213**	P	**Pn**	**16 14 52.1**	**+2.5**
MCHZ	**McNeill Hill**	**7.59**	**199**	P	**Pn**	**16 14 51.5**	**+0.2**
KWHZ	**Kaweka Forest**	**7.66**	**201**	P	**Pn**	**16 14 53.4**	**+1.3**
WTVZ	**West Tongariro**	**7.66**	**206**	P	**Pn**	**16 14 54.8**	**+2.5**
OTVZ	**Oturere**	**7.68**	**206**	P	**Pn**	**16 14 54.4**	**+2.0**
SNVZ	**South Ngauruho**	**7.71**	**206**	P	**Pn**	**16 14 54.8**	**+1.9**
TUVZ	**Tukino**	**7.77**	**206**	P	**Pn**	**16 14 55.0**	**+1.3**
FWVZ	**Far West T-bar**	**7.80**	**206**	P	**Pn**	**16 14 55.7**	**+1.7**
WHVZ	**Whangaehu Hut**	**7.81**	**206**	P	**Pn**	**16 14 55.5**	**+1.3**
BHHZ	**Black Hill Sta**	**7.83**	**203**	P	**Pn**	**16 14 55.0**	**+0.8**
WNVZ	**Wahianoa**	**7.84**	**206**	P	**Pn**	**16 14 55.7**	**+1.2**
MOVZ	**Moawhango**	**7.86**	**205**	P	**Pn**	**16 14 55.1**	**+0.5**
KAHZ	**Kahuranaki**	**7.87**	**198**	P	**Pn**	**16 14 54.9**	**+0.2**
KRHZ	**Kereru**	**7.87**	**201**	P	**Pn**	**16 14 55.1**	**+0.3**
PXZ	**Pawanui**	**8.10**	**197**	P	**Pn**	**16 14 56.5**	**-0.9**
PNHZ	**Pukenui**	**8.17**	**201**	P	**Pn**	**16 14 57.5**	**-0.9**
WPHZ	**Waipukurau**	**8.24**	**199**	P	**Pn**	**16 15 00.2**	**+1.0**
TSZ	**Takapari Road**	**8.38**	**202**	P	**Pn**	**16 15 00.5**	**-0.4**
BFZ	**Birch Farm**	**8.87**	**199**	Pn	**Pn**	**16 15 04.3**	**-2.6**
MSWZ	**Moikau Station**	**9.84**	**201**	Pn	**Pn**	**16 15 14.7**	**-4.1**
SNZO	**South Karori**	**9.92**	**204**	Pn	**Pn**	**16 15 17.9**	**-1.9**
PLWZ	**Palliser**	**9.98**	**201**	Pn	**Pn**	**16 15 18.5**	**-2.0**
TUWZ	**Tuamarina**	**10.29**	**206**	Pn	**Pn**	**16 15 21.7**	**-2.7**
NNZ	**Nelson**	**10.33**	**209**	Pn	**Pn**	**16 15 23.9**	**-1.0**
QRZ	**Quartz Range**	**10.38**	**213**	Pn	**Pn**	**16 15 24.8**	**-0.7**
CMWZ	**Cape Campbell**	**10.48**	**204**	Pn	**P**	**16 15 27.5**	**-2.2**
BSWZ	**Blackbirch Sta**	**10.57**	**206**	Pn	**Pn**	**16 15 26.8**	**-0.9**
LTZ	**Lake Taylor**	**12.10**	**208**	Pn	**Pn**	**16 15 43.8**	**-2.5**
MQZ	**McQueen's Vall**	**12.74**	**205**	Pn	**Pn**	**16 15 52.0**	**-2.1**
RPZ	**Rata Peaks**	**13.37**	**209**	Pn	**Pn**	**16 15 59.0**	**-2.6**
MSVF	**Nonsavu**	**14.62**	**353**	P	**Pn**	**16 16 15.9**	**-1.0**
ODZ	**Otahua Downs**	**14.63**	**207**	P	**Pn**	**16 16 16.0**	**-0.7**
WKZ	**Wanaka**	**15.13**	**211**	P	**Pn**	**16 16 21.9**	**-0.6**
AFI	**Afiamalu**	**19.81**	**24**	P	**P**	**16 17 11.5**	**-0.4**
AFI				IAmb	IAmb	16 17 23.5	
	comp=Z,35nm,1.1s						
STKA	**Stephens Creek**	**32.39**	**260**	P	**P**	**16 19 05.5**	**+0.4**
	comp=Z,1.9nm,0.9s,baz=95,slow=11,SNR=1.3						
CTAO	**Charters Tower**	**32.47**	**284**	P	**P**	**16 19 04.9**	**-1.0**
CTAO				IAmb	IAmb	16 19 13.4	
	comp=Z,40nm,1.6s						
BBOO	**Buckleboo**	**36.81**	**257**	P	**P**	**16 19 43.1**	**+0.4**
BBOO				IAmb	IAmb	16 20 00.2	
	comp=Z,11nm,1.1s						
AS31	**Alice Springs**	**41.31**	**270**	P	**P**	**16 20 19.9**	**0.0**
ASAR	**Alice Springs**	**41.31**	**270**	P	**P**	**16 20 19.8**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=106,slow=7.7,SNR=6.0						
WR0	**Warramunga Arr**	**42.30**	**275**	P	**P**	**16 20 27.4**	**-0.5**
WR0				IAmb	IAmb	16 20 54.9	
	comp=Z,9.8nm,1.2s						
WB2	**Warramunga Arr**	**42.47**	**275**	P	**P**	**16 20 29.1**	**-0.1**
WRA	**Warramunga Arr**	**42.48**	**275**	P	**P**	**16 20 29.1**	**-0.2**
	comp=Z,1.7nm,0.3s,baz=115,slow=8.0,SNR=16						
WRA	**Warramunga Arr**	**42.48**	**275**	IAmb	IAmb	16 20 33.4	
	comp=Z,1.8nm,0.8s						
WB0	**Warramunga Arr**	**42.51**	**276**	P	**P**	**16 20 29.4**	**-0.2**
WB0				IAmb	IAmb	16 20 54.2	
	comp=Z,24nm,1.6s						
TAOE	**Nuku Hiva Isla**	**43.66**	**67**	P	**P**	**16 20 40.3**	**+1.4**
VNDA	**Vanda**	**46.03**	**185**	P	**P**	**16 20 58.3**	**+1.8**
KNRA	**Kununurra**	**49.16**	**277**	P	**P**	**16 21 22.8**	**+1.6**
KNRA				IAmb	IAmb	16 21 45.3	
	comp=Z,19nm,1.3s						
FITZ	**Fitzroy Crossi**	**50.66**	**272**	P	**P**	**16 21 32.4**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=124,slow=3.6,SNR=1.7						
FITZ	**Fitzroy Crossi**	**50.66**	**272**	P	**P**	**16 21 32.5**	**+0.1**
FITZ				IAmb	IAmb	16 21 51.4	
	comp=Z,18nm,1.6s						
FAKI	**Fak Fak**	**53.42**	**293**	P	**P**	**16 21 53.5**	**+0.9**
QSPA	**South Pole Qui**	**57.80**	**180**	P	**P**	**16 22 25.6**	**+2.6**
QSPA				IAmb	IAmb	16 22 27.0	
	comp=Z,23nm,1.4s						
PASC	**Pasadena Art C**	**88.06**	**47**	P	**P**	**16 25 21.6**	**+2.1**
FINES	**FINESS Array B**	**146.29**	**338**	PKPbc	**PKPab**	**16 32 06.8**	**-2.2**
	comp=Z,3.8nm,1.0s,baz=46,slow=6.0,SNR=5.1						

*IDC **24** 16:13:19.3±0.3, 30.°73S×71.°36W, h0km, mb5.3/33, mb1 5.3/39, mb1mx5.2/48, mbtmp5.2/39, ML4.6/6, MS5.2/2, Ms1 5.3/2, ms1mx4.6/26, Error ellipse: s-maj=14.5km s-min=8.9km az=77.0*

*MOS **24** 16:13:22.9±0.9, 30.°66S×71.°33W, h31km, mb5.5/15, Error ellipse: s-maj=14.9km s-min=6.7km az=95.8*

*BJI **24** 16:13:23.0±0.0, 30.°70S×71.°40W, h34km, Ms5.7/7, Ms7 5.6/7*

*SJA **24** 16:13:23±2.4, 30.°67S±0.°04×71.°76W±0.°07, h30km±1km, Error ellipse: s-maj=8.4km s-min=5.7km az=104.0*

*GUC **24** 16:13:25.8±0.9, 30.°71S×71.°40W, h50km±2km, ML5.4, MW5.3*

*VAO **24** 16:13:25.7±0.2, 30.°70S×71.°20W, h32km, mb5.4*

*NEIC **24** 16:13:25.7±1.7, 30.°73S±0.°05×71.°38W±0.°07, h41km±4km, mb5.5/408, Mww5.2, Md5.7(SJA), ML5.4(GUC), Error ellipse: s-maj=9.4km s-min=6.0km az=114.0*

*NEIC **24** 16:13:33, 30.°85S×71.°16W, h50km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; M_{rr}7.24; $M_{\theta\theta}$-0.04; $M_{\phi\phi}$-7.20; $M_{r\theta}$0.03; $M_{r\phi}$1.29; $M_{\theta\phi}$-1.97; Fault plane solution: $M_0$7.59000×10¹⁶ NP1:ϕ_s348.00000°, δ38.00000°, λ86.00000°. NP2:ϕ_s172.00000°, δ52.00000°, λ93.00000°. Principal axes: T 7.5042, Plg82.0000°, Azm98.0000°; N 0.1745, Plg2.0000°, Azm351.0000°; P -7.6787, Plg7.0000°, Azm260.0000°;*

ISC 24 16:13:25.3±0.5, **30.°74S**±0.°03×**71.°52W**±0.°04, **h45**km±4km, **n732, σ1§44/629, mb5.5**/233, **87C-64D, Fault plane solution: NP1**:ϕ_s317.54822°, δ45.28346°, λ89.40632°. **NP2:**ϕ_s138.39197°, δ44.71965°, λ90.59955°. **Principal axes:** T Plg89.4926°, Azm171.7198°; N Plg0.4219°, Azm317.9659°; P Plg0.2819°, Azm47.9680°; **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.12**	**305**	*iP*	**Pn**	**16 13 33.8**	**+1.2**
CO06				*eS*	**Sn**	**16 13 39.7**	**+2.1**
CO06	**Fray Jorge**	**0.12**	**305**		**Pn**	**16 13 33.8**	**+1.2**
CO06				Sn	**Sn**	**16 13 39.4**	**+1.8**
CO02	**Combarbal**	**0.65**	**136**	*i P*	**Pn**	**16 13 38.6**	**+0.3**
CO02				*eS*	**Sn**	**16 13 47.6**	**0.0**
CO02	**Combarbal**	**0.65**	**136**		**Pn**	**16 13 37.1**	**-1.1**
CO03	**El Pedregal**	**0.73**	**98**	*eP*	**Pn**	**16 13 39.0**	**-0.3**
CO03				*eS*	**Sn**	**16 13 48.3**	**-1.1**
CO03	**El Pedregal**	**0.73**	**98**		**Pn**	**16 13 38.9**	**-0.4**
GO04	**Tololo Observa**	**0.84**	**48**	*eP*	**Pn**	**16 13 40.7**	**-0.3**
GO04				*eS*	**Sn**	**16 13 51.5**	**-1.0**
GO04	**Tololo Observa**	**0.84**	**48**		**Pn**	**16 13 40.8**	**-0.2**
CO05	**La Serena**	**0.86**	**17**	*eP*	**Pn**	**16 13 41.3**	**+0.3**
CO05				*eS*	**Sn**	**16 13 51.8**	**-0.6**
CO05				IAML		16 13 57.6	
	comp=E,212μm,0.5s						
CO05	**La Serena**	**0.86**	**17**		**Pn**	**16 13 41.2**	**+0.3**
CO05				Sn	**Sn**	**16 13 52.6**	**+0.3**
VA06	**Catapilco**	**1.82**	**174**	*eP*	**Pn**	**16 13 55.8**	**+1.6**
VA06				IAML		16 14 32.6	
	comp=E,38μm,0.3s						
ACDV	**Cuesta del Vie**	**2.15**	**75**	*eP*	**Pn**	**16 14 02.0**	**+3.1**
VA03	**San Esteban**	**2.18**	**158**	*eP*	**Pn**	**16 14 00.8**	**+1.6**
VA03				IAML		16 14 33.1	
	comp=N,27μm,0.2s						
ROCH	**El Roble**	**2.27**	**169**	*eP*	**Pn**	**16 14 02.2**	**+1.7**
ROCH				IAML		16 14 47.5	
	comp=E,21μm,0.6s						
ROC1	**El Roble**	**2.27**	**169**	*eP*	**Pn**	**16 14 01.9**	**+1.3**
ROC1				*eS*	**Sn**	**16 14 30.5**	**+3.1**
VA01	**Torpederas**	**2.28**	**183**	*eP*	**Pn**	**16 14 01.2**	**+0.8**
VA01	**Torpederas**	**2.28**	**183**		**Pn**	**16 14 00.4**	**0.0**
VA01	**Torpederas**	**2.28**	**183**	*i P*	**Pn**	**16 14 01.0**	**+0.6**
VA01				*eS*	**Sn**	**16 14 29.6**	**+2.4**
AC04	**Llanos de Chal**	**2.56**	**9**	*eP*	**Pn**	**16 14 05.0**	**+0.7**
AC04				IAML		16 14 45.2	
	comp=N,20μm,0.5s						
AC04	**Llanos de Chal**	**2.56**	**9**	*eP*	**Pn**	**16 14 05.3**	**+1.1**
AC04				*eS*	**Sn**	**16 14 36.9**	**+2.7**
ZON	**Zonda**	**2.57**	**109**	*eP*	**Pn**	**16 14 07.5**	**+3.0**
MT05	**Renca**	**2.73**	**166**	*eP*	**Pn**	**16 14 06.3**	**-0.4**
MT05				IAML		16 14 54.6	
	comp=N,24μm,0.3s						
MT05	**Renca**	**2.73**	**166**		**Pn**	**16 14 07.7**	**+1.0**
RTCV	**Cerro Valdivia**	**2.79**	**114**	*eP*	**Pn**	**16 14 10.4**	**+2.9**
VA05	**Santo Domingo**	**2.91**	**181**	*eP*	**Pn**	**16 14 09.6**	**+0.5**
VA05				IAML		16 14 57.3	
	comp=E,13μm,0.5s						
VA05	**Santo Domingo**	**2.91**	**181**		**Pn**	**16 14 09.4**	**+0.3**
AGUA	**GUANDACOL**	**2.91**	**65**	*eP*	**Pn**	**16 14 12.9**	**+3.7**
AGUA				*eS*	**Sn**	**16 14 49.4**	**+6.4**
ARCO	**CERRO ARCO**	**3.04**	**134**	*eP*	**Pn**	**16 14 14.1**	**+3.0**
ARCO				*eS*	**Sn**	**16 14 52.8**	**+6.5**
MT09	**Talagante**	**3.06**	**172**	*eP*	**Pn**	**16 14 12.7**	**+1.4**
MT09				IAML		16 15 04.7	
	comp=N,10μm,0.5s						
MT09	**Talagante**	**3.06**	**172**		**Pn**	**16 14 12.8**	**+1.4**
MT01	**Popeta**	**3.12**	**176**	*eP*	**Pn**	**16 14 13.2**	**+1.2**
MT01				IAML		16 15 00.4	
	comp=E,6μm,0.3s						
LMEL	**Las Melosas**	**3.29**	**160**	*eP*	**Pn**	**16 14 17.3**	**+2.8**
LMEL				IAML		16 15 06.2	
	comp=N,9μm,0.2s						
GO03	**Copiap**	**3.33**	**20**	*eP*	**Pn**	**16 14 16.1**	**+1.1**
GO03				IAML		16 15 14.6	
	comp=N,12μm,0.5s						
GO03	**Copiap**	**3.33**	**20**	*eP*	**Pn**	**16 14 16.8**	**+1.8**
GO03				*eS*	**Sn**	**16 14 57.8**	**+4.4**
VCA	**Vinchina**	**3.51**	**56**	*eP*	**Pn**	**16 14 20.9**	**+3.4**
VCA				*eS*	**Sn**	**16 15 04.7**	**+6.2**
AC06	**Mina Casimiro**	**3.52**	**17**	*eP*	**Pn**	**16 14 15.3**	**-2.3**
BO01	**Tunca**	**3.66**	**174**	*eP*	**Pn**	**16 14 20.3**	**+0.9**
BO01				IAML		16 15 16.8	
	comp=E,2μm,0.3s						
BO01	**Tunca**	**3.66**	**174**	*i P*	**Pn**	**16 14 21

BDFB Brasilia 26.24 60 P **P** 16 18 55.7 -0.8
BDFB IAmb IAmb 16 18 56.7
comp=Z,115nm,0.8s
SNDB Serra Nova Dou 26.44 49 *e*P **P** 16 18 58.0 -0.2
VAS01 Vassouras-RJ 26.45 78 *e*P **P** 16 18 57.8 -0.4
TBTG Tabatinga, AM 26.46 4 *e*P **P** 16 18 59.2 +1.0
DUB01 Friburgo-RJ 27.43 79 *e*P **P** 16 19 06.5 -0.6
DIAM Diamantina, MG 28.12 70 *e*P **P** 16 19 12.8 -0.6
CAM01 Campos-RJ 28.14 79 *e*P **P** 16 19 13.0 -0.4
PEXB Peixe 28.38 54 *e*P **P** 16 19 15.1 -0.4
MC01 Montes Claros 28.76 67 *e*P **P** 16 19 18.0 -0.9
MACA Manacapuru-AM 29.22 23 *e*P **P** 16 19 24.1 +0.6
JANB Januaria 29.42 64 *e*P **P** 16 19 26.6 -0.5
ALF01 Guarapari-ES 29.45 77 *e*P **P** 16 19 24.4 +0.5
SJMB Sao Joao De Ma 29.95 74 *e*P **P** 16 19 28.8 -0.6
ITTB Itaituba 30.16 33 *e*P **P** 16 19 30.4 -0.9
BSFB Barra de Sao F 30.17 74 *e*P **P** 16 19 30.4 -1.0
RIB01 Linhares ES 30.32 75 *e*P **P** 16 19 31.9 -0.8
SDBA SAO DESIDERIO 30.62 59 *e*P **P** 16 19 33.5 -1.9
SMTB Santa Maria do 31.18 51 *e*P **P** 16 19 39.8 -0.6
NAN01 Guarapari, ES 31.25 73 *e*P **P** 16 19 39.8 -1.2
OTAV Otavalo 31.50 347 *e*P **P** 16 19 45.7 +2.1
PTGA Pitinga 31.80 22 P **P** 16 19 45.1 -0.6
comp=Z,63nm,1.0s,baz=196,slow=8.6,SNR=10
PRPB Parauapebas 31.82 44 *e*P **P** 16 19 45.1 -0.9
GUA01 Guaratinga, BA 32.16 71 *e*P **P** 16 19 48.3 -0.6
CMC01 Camacan, BA 33.04 70 *e*P **P** 16 19 56.2 -0.5
MALB Monte Alegre 33.06 33 *e*P **P** 16 19 55.6 -1.1
NBIT Itapeh - BA 33.35 69 *e*P **P** 16 19 58.8 -0.5
GDU01 Guandu, BA 33.92 67 *e*P **P** 16 20 03.0 -1.3
PMSA Palmer Station 34.37 174 P **P** 16 20 08.1 +0.5
comp=Z,23nm,1.0s,baz=5.6,slow=7.6,SNR=11
PMSA Palmer Station 34.37 174 P **P** 16 20 08.7 +1.0
PMSA Palmer Station 34.37 174 *e*P **P** 16 20 09.8 +2.1
BOAV Boa Vista 34.58 20 *e*P **P** 16 20 09.9 0.0
NBPN Ponto Novo - B 35.15 63 *e*P **P** 16 20 14.4 -0.6
MCPB Macapa, AP 35.42 35 *e*P **P** 16 20 16.6 -0.6
ROSC El Rosal 35.48 355 P **P** 16 20 18.8 +0.7
ROSC pmax pmax
comp=Z,67nm,1.1s
ROSC El Rosal 35.48 355 P **P** 16 20 18.8 +0.7
ROSC IAmb IAmb 16 20 23.9
comp=Z,66nm,1.1s
TMAB Tom-Au,PA,Br 35.88 43 *e*P **P** 16 20 21.2 0.0
RUSC La Rusia 36.45 357 P **P** 16 20 26.8 +0.2
NBLA Lagarto - SE 36.93 65 *e*P **P** 16 20 28.1 -2.0
ROSB Rosrio 37.91 48 *e*P **P** 16 20 34.6 -3.8
NBMA Muriti-CE 38.47 60 *e*P **P** 16 20 42.5 -0.8
NBPS Pedro II - PI 38.59 53 *e*P **P** 16 20 43.2 -1.1
NBAN Anadia - AL 38.91 65 *e*P **P** 16 20 45.4 -1.5
NBPB Pedra_Branca-C 39.10 57 *e*P **P** 16 20 48.0 -0.5
SDV Santo Domingo 39.41 1 P **P** 16 20 50.8 -0.3
comp=Z,40nm,0.9s,baz=192,slow=4.4,SNR=7.5
SDV Santo Domingo 39.41 1 P **P** 16 20 50.5 -0.6
SDV Santo Domingo 39.41 1 *e*P **P** 16 20 51.9 +0.8
NBLV Livramento - P 39.86 63 *e*P **P** 16 20 53.7 -1.2
MDP Montagnes des 39.95 30 P **P** 16 20 54.5 -1.0
comp=Z,58nm,0.9s,baz=201,slow=8.8,SNR=13
NBRF Rio Formoso - 40.41 65 *e*P **P** 16 20 59.0 -0.3
BCIP Isla Barro Col 40.47 347 P **P** 16 21 00.1 +0.4
BCIP pmax pmax
comp=Z,50nm,1.2s
BCIP Isla Barro Col 40.47 347 P **P** 16 21 00.1 +0.4
SJCC San Jacinto, C 40.56 354 P **P** 16 21 00.5 -0.1
SJCC IAmb IAmb 16 21 04.9
comp=Z,80nm,1.1s
NBCL Cascavel-CE 40.93 57 *e*P **P** 16 21 03.5 -0.2
PCRV Puerto La Cruz 41.22 10 P **P** 16 21 04.5 -1.4
comp=Z,31nm,0.9s,baz=246,slow=2.3,SNR=5.5
SRBA San Rafael, Bu 41.34 342 **P** 16 21 08.3 +1.3
SRBA **PcP** 16 23 05.8 +0.9
RCBR Riachuelo 41.62 61 *e*P **P** 16 21 08.9 -0.4
NBPV Pedro Velho 41.70 62 *e*P **P** 16 21 09.7 -0.3
RIMA Rio Macho 41.98 342 P **P** 16 21 11.5 -0.9
URIC Uribia, Colomb 42.20 359 P **P** 16 21 11.7 -2.2
JTS Las Juntas de 42.79 340 P **P** 16 21 19.7 +1.0
comp=Z,4.2nm,0.6s,baz=265,slow=8.8,SNR=4.2
JTS Las Juntas de 42.79 340 **P** 16 21 18.1 -0.7
ORTG Ortega, Santa 43.00 340 P **P** 16 21 20.1 -0.5
COVE Coope Vega, Sa 43.04 341 P **P** 16 21 21.2 +0.4
COVE IAmb IAmb 16 21 36.3
comp=Z,71nm,1.0s
TOSP Speyside 43.11 16 P **P** 16 21 20.5 -0.8
TOSP IAmb IAmb 16 21 22.9
comp=Z,82nm,1.1s
GRGR Grenville 43.67 14 P **P** 16 21 25.3 -0.6
SVB Belmont 44.86 14 P **P** 16 21 34.0 -1.4
SVB IAmb IAmb 16 21 36.1
comp=Z,89nm,0.9s
MCLT Moule a Chique 45.35 15 P **P** 16 21 37.5 -1.8
MPOM Morne Pois Mar 46.08 14 P **P** 16 21 43.6 -1.3
BIM Bigot 46.11 14 P **P** 16 21 44.2 -1.0
FDF Fort de France 46.30 14 P **P** 16 21 45.0 -1.8
FDF pmax pmax
comp=Z,78nm,0.7s
FDF Fort de France 46.30 14 P **P** 16 21 45.0 -1.8
ILAM Ilet Lapin Mar 46.40 14 P **P** 16 21 45.8 -1.6
TGUH Tegucigalpa,Un 47.05 339 **P** 16 21 52.5 -0.2
TGUH IAmb IAmb 16 22 08.8
comp=Z,45nm,0.9s
MTO3 Montecristo 48.05 336 P **P** 16 22 01.4 +0.8
ICMP Isla Caja de M 48.58 6 P **P** 16 22 04.0 -0.4
MLPR Magueyes Islan 48.62 6 P **P** 16 22 04.3 -0.4
CDVI St. Croix 48.65 9 P **P** 16 22 03.3 -1.6
CDVI IAmb IAmb 16 22 08.3
comp=Z,47nm,0.8s
CRPR Cabo Rojo, PR 48.65 6 P **P** 16 22 04.3 -0.6
OBIP Obispado Ponce 48.73 6 P **P** 16 22 04.2 -1.4
PDPR Patillas Dam, 48.77 7 P **P** 16 22 04.8 -0.9
SJG San Juan 48.84 7 P **P** 16 22 05.6 -0.8
comp=Z,165nm,1.0s,baz=184,slow=3.2,SNR=40
SJG San Juan 48.84 7 P **P** 16 22 05.4 -1.0
BANI BANI 48.86 1 P **P** 16 22 07.1 +0.4
MTP Monte Pirata 48.89 8 P **P** 16 22 05.8 -1.0
MTP IAmb IAmb 16 22 07.5
comp=Z,67nm,1.0s
HUMP Col San Antoni 48.91 7 P **P** 16 22 05.8 -1.1
HUMP IAmb IAmb 16 22 07.3
comp=Z,60nm,1.1s
SDD Santo Domingo 48.94 2 P **P** 16 22 06.8 -0.3
AOPR Arecibo Observ 49.02 6 P **P** 16 22 06.5 -1.3
ANWB Willy Bob 49.03 12 P **P** 16 22 05.9 -2.0
GCPR Guaynabo City 49.05 7 P **P** 16 22 06.6 -1.4
CUPR Culebra, Puert 49.13 8 P **P** 16 22 06.6 -2.0
CUPR IAmb IAmb 16 22 08.9
comp=Z,29nm,0.8s
CUPR PcP **PcP** 16 23 31.6 0.0
SMRT St. Maarten 49.19 11 P **P** 16 22 06.5 -2.5
STVI Saint Thomas 49.22 8 P **P** 16 22 07.7 -1.5
DR12 Loma Pena Alta 49.28 3 P **P** 16 22 08.6 -1.2
ABVI Anegada Island 49.67 9 P **P** 16 22 10.4 -2.3
SC01 Santiago de lo 49.88 1 P **P** 16 22 14.0 -0.3
VNA3 Neumayer Olymp 52.22 159 P **P** 16 22 32.1 +0.8
VNA3 Neumayer Olymp 52.22 159 sP sP 16 22 45.1 -4.1
VNA1 Neumayer--Stat 52.51 158 P **P** 16 22 34.5 +1.1
VNA1 Neumayer--Stat 52.51 158 sP sP 16 22 46.7 -4.7
CMIG Matias Romero 52.60 331 P **P** 16 22 35.7 +0.9
comp=Z,13nm,0.9s,baz=155,slow=4.3,SNR=11
VNA2 Neumayer--Watz 52.85 158 P **P** 16 22 36.7 +0.7
baz=287,slow=8.4
SOR Soroa 54.36 347 P **P** 16 22 47.4 -0.1
SOR pmax pmax
comp=Z,29nm,1.0s
SOR Soroa 54.36 347 P **P** 16 22 47.4 -0.1
SNAA Sanae 54.44 159 P **P** 16 22 48.2 +0.5
SNAA Sanae 54.44 159 P **P** 16 22 48.0 +0.3
comp=Z,49nm,0.9s,baz=279,slow=6.7,SNR=117
SNAA Sanae 54.44 159*c i*P **P** 16 22 48.1 +0.3
SNAA pmax pmax
comp=Z,78nm,1.3s
SNAA Sanae 54.44 159 P **P** 16 22 47.2 -0.5
SNAA IAmb IAmb 16 22 49.4
comp=Z,57nm,1.0s
DWPF Disney Wildern 59.28 350 P **P** 16 23 23.2 +0.8
baz=170
QSPA South Pole Qui 59.49 180 P **P** 16 23 24.6 +1.0
comp=Z,40nm,0.9s,baz=154,slow=2.9,SNR=31
QSPA South Pole Qui 59.49 180 P **P** 16 23 23.7 +0.1
QSPA IAmb IAmb 16 23 26.2
comp=Z,56nm,1.0s
TIGA Tifton 62.89 348 P **P** 16 23 47.3 +0.6
baz=168
BBSR BB Station 63.10 6 P **P** 16 23 48.5 +0.3
BBSR IAmb IAmb 16 23 49.9
comp=Z,44nm,0.8s
352A Blakely 63.17 347 P **P** 16 23 48.9 +0.3
KVTX Kingsville 63.19 334 P **P** 16 23 48.9 0.0
BRAL Brewton 63.31 345 P **P** 16 23 49.9 +0.4
baz=165
NHSC New Hope 64.03 352 P **P** 16 23 56.2 +2.0
baz=172
152A Waverly Hall 64.29 348 P **P** 16 23 55.7 -0.3
152A IAmb IAmb 16 23 57.3
comp=Z,30nm,0.9s
735A Kenedy 64.34 334 P **P** 16 23 58.1 +1.7
833A Chaparral WMA, 64.47 333 P **P** 16 23 59.3 +2.1
baz=154,SNR=21
HKT Hockley 64.64 337 *i*P **P** 16 24 00.6 +2.4
HKT pmax pmax
comp=Z,23nm,1.0s
HKT Hockley 64.64 337 P **P** 16 23 59.2 +1.0
SACV Santiago Islan 64.71 52 P **P** 16 23 58.3 -0.8
SACV IAmb IAmb 16 24 00.9
comp=Z,62nm,1.1s
GOGA Godfrey 64.80 349 P **P** 16 23 59.2 -0.1
GOGA pmax pmax
comp=Z,34nm,1.1s
GOGA Godfrey 64.80 349 P **P** 16 23 59.2 -0.1
GOGA Godfrey 64.80 349 P **P** 16 23 59.4 +0.2
baz=169
342A Flagon Creek P 64.85 340 P **P** 16 24 00.8 +1.1
Y57A Sumter 64.95 352 IAmb IAmb 16 24 02.0
comp=Z,57nm,0.9s
LRAL Lakeview Retre 65.10 346 P **P** 16 24 01.3 0.0
LRAL Lakeview Retre 65.10 346 P **P** 16 24 01.5 +0.3
baz=165
VBMS Vicksburg 65.15 342 P **P** 16 24 03.2 +1.7
baz=162
Y52A Lilburn 65.34 349 IAmb IAmb 16 24 04.4
comp=Z,43nm,0.9s
SLBS Sierra La Lagu 65.47 321 P **P** 16 24 06.5 +2.5
CNNC Cliffs of the 65.90 354 P **P** 16 24 07.7 +1.3
baz=174
NATX Nacogdoches 65.92 338 P **P** 16 24 08.1 +1.6
NATX Nacogdoches 65.92 338 P **P** 16 24 08.5 +2.0
baz=156
PAULI Pauline 65.93 351 IAmb IAmb 16 24 08.4
comp=Z,46nm,1.0s
HPIG 65.98 327 IAmb IAmb 16 24 10.5
comp=Z,56nm,1.2s
435B Jarrell 66.01 336 IAmb IAmb 16 24 10.0
comp=Z,42nm,0.8s
435B Jarrell 66.01 336 P **P** 16 24 08.9 +1.7
baz=156
W57A Gilead 66.03 352 IAmb IAmb 16 24 08.9
comp=Z,42nm,0.8s
X51A Calhoun 66.16 348 P **P** 16 24 08.4 +0.3
KMSC Kings Mountain 66.18 351 IAmb IAmb 16 24 10.3
comp=Z,45nm,1.1s
KMSC Kings Mountain 66.18 351 P **P** 16 24 09.7 +1.5
baz=171,SNR=8.4
BG3 Lake Jocassee 66.26 350 P **P** 16 24 09.7 +1.0
BG3 IAmb IAmb 16 24 10.7
comp=Z,47nm,1.0s
SBA Scott Base 66.35 191 P **P** 16 24 10.7 +1.9
SBA pmax pmax
comp=Z,13nm,1.0s
SBA Scott Base 66.35 191 P **P** 16 24 10.7 +1.9
Y45A Yeager Farm, C 66.47 344 P **P** 16 24 11.4 +1.3
W52A Murphy 66.52 349 P **P** 16 24 10.9 +0.5
W52A IAmb IAmb 16 24 12.4
comp=Z,48nm,0.9s
JCT Junction City 66.55 334 IAmb IAmb 16 24 13.6
comp=Z,82nm,1.1s
JCT Junction City 66.55 334 P **P** 16 24 12.6 +1.8
baz=154,SNR=11
Z41A Richland Creek 66.76 341 P **P** 16 24 13.8 +1.9
baz=160
V53A Saluda 66.91 350 P **P** 16 24 13.1 +0.2
V53A IAmb IAmb 16 24 14.5
comp=Z,53nm,0.9s
CPCT Cooper Cave 66.97 348 IAmb IAmb 16 24 15.0
comp=Z,60nm,0.9s
U59A Littleton 67.00 355 IAmb IAmb 16 24 15.8
comp=Z,66nm,1.0s
TKL Tuckaleechee C 67.05 349 P **P** 16 24 13.8 +0.1
comp=Z,50nm,0.9s,baz=167,slow=8.2,SNR=28
TKL Tuckaleechee C 67.05 349 P **P** 16 24 14.0 +0.3
TKL pmax pmax
comp=Z,59nm,0.9s
TKL Tuckaleechee C 67.05 349 P **P** 16 24 14.0 +0.3
TKL IAmb IAmb 16 24 15.2
comp=Z,59nm,0.9s
OXF Oxford 67.06 344 P **P** 16 24 14.3 +0.6
baz=163,SNR=15
WHTX Lake Whitney, 67.06 336 P **P** 16 24 15.1 +1.3
baz=156,SNR=11
CCAR Cane Creek 67.09 342 IAmb IAmb 16 24 18.1
comp=Z,78nm,1.3s
TX32 Lajitas Array 67.13 330 P **P** 16 24 16.2 +1.7
TX32 IAmb IAmb 16 24 30.1
comp=Z,97nm,1.9s
TXAR Lajitas Array 67.13 330 P **P** 16 24 16.3 +1.8
comp=Z,12nm,0.7s,baz=157,slow=8.9,SNR=26
TXAR PKP2bc 16 52 42.8
comp=Z,0.4nm,0.8s,baz=276,slow=2.4,SNR=5.4
PLAL Pickwick Lake 67.21 345 IAmb IAmb 16 24 16.3
comp=Z,47nm,1.1s
U56A King 67.25 352 P **P** 16 24 15.8 +0.8
U56A IAmb IAmb 16 24 17.1
comp=Z,52nm,0.9s
VNDA Vanda 67.38 191 P **P** 16 24 16.9 +1.5
comp=Z,6.9nm,0.9s,baz=135,slow=4.7,SNR=20
VNDA Vanda 67.38 191 P **P** 16 24 17.4 +2.0
VNDA pmax pmax
comp=Z,11nm,1.0s
VNDA Vanda 67.38 191 P **P** 16 24 17.4 +2.0
Z38A Mt. Pleasant 67.41 339 IAmb IAmb 16 24 18.9
comp=Z,80nm,1.1s
T59A Double "B" Far 67.59 355 P **P** 16 24 18.0 +0.9
V48A Smith Brothers 67.67 347 P **P** 16 24 18.6 +0.9
T57A Hurt 67.77 353 IAmb IAmb 16 24 19.7
comp=Z,30nm,0.9s
TZTN Tazewell 67.88 350 IAmb IAmb 16 24 20.5
comp=Z,104nm,1.7s
TZTN Tazewell 67.88 350 P **P** 16 24 19.5 +0.5
baz=169
CLTN Cedars of Leba 67.92 347 IAmb IAmb 16 24 21.0
comp=Z,56nm,0.8s
X40A Basin Creek Fa 67.92 341 P **P** 16 24 20.2 +1.0
baz=160
BLA Blacksburg 68.11 352 P **P** 16 24 21.4 +0.9
baz=172
MIAR Mount Ida 68.19 340 P **P** 16 24 21.8 +0.9
MIAR pmax pmax
comp=Z,49nm,1.2s
MIAR Mount Ida 68.19 340 P **P** 16 24 21.8 +0.9
MIAR IAmb IAmb 16 24 23.2
comp=Z,49nm,1.2s
MIAR Mount Ida 68.19 340 P **P** 16 24 21.8 +0.9
baz=160,SNR=10
U49A Red Boiling Sp 68.22 348 IAmb IAmb 16 24 22.7
comp=Z,43nm,1.1s
WVT Waverly 68.26 346 P **P** 16 24 21.4 +0.1
WVT pmax pmax
comp=Z,100nm,1.1s
WVT Waverly 68.26 346 P **P** 16 24 21.4 +0.1
WVT Waverly 68.26 346 P **P** 16 24 22.1 +0.8
baz=165
W41B Gary Mavity, V 68.41 342 P **P** 16 24 23.2 +0.9
baz=161,SNR=7.7
ABTX Abilene, Hawle 68.41 335 P **P** 16 24 23.3 +0.9
ABTX IAmb IAmb 16 24 25.1
comp=Z,59nm,0.9s
ABTX Abilene, Hawle 68.41 335 P **P** 16 24 23.9 +1.4
baz=154,SNR=9.3
WHAR Wooly Hollow 68.53 342 IAmb IAmb 16 24 38.9
comp=Z,151nm,1.9s
LNXT Lenox 68.60 344 P **P** 16 24 24.1 +0.7
SYO Syowa Base 68.73 159⇑*e*P **P** 16 24 23.8 -0.2
SYO Syowa Base 68.73 159⇑*ep*P pP 16 24 34.0 -3.1
X37A Clayton 68.76 339 P **P** 16 24 25.4 +0.9
LOOK Love County 68.79 337 IAmb IAmb 16 24 27.2
comp=Z,73nm,1.1s
S54A Dingess, Becki 68.80 352 IAmb IAmb 16 24 26.1
comp=Z,48nm,1.0s
CBN Corbin Frederi 68.81 355 P **P** 16 24 26.0 +1.4
baz=174
W39A Magazine 68.85 341 P **P** 16 24 26.5 +1.5
W39A Magazine 68.85 341 P **P** 16 24 26.9 +1.8
baz=160,SNR=28
T47A Sharon Grove 68.94 347 IAmb IAmb 16 24 27.9
comp=Z,80nm,0.9s
S51A Beattyville 68.95 350 IAmb IAmb 16 24 27.1
comp=Z,42nm,0.8s
LCAR Lake Charles 68.97 343 P **P** 16 24 26.1 +0.4
LCAR IAmb IAmb 16 24 27.6
comp=Z,61nm,0.8s
R55A Marlinton 69.13 353 P **P** 16 24 27.9 +1.1
R55A IAmb IAmb 16 24 29.2
comp=Z,59nm,0.9s
PBMO Poplar Bluff 69.47 344 IAmb IAmb 16 24 30.7
comp=Z,60nm,0.9s
U40A Yellville 69.68 342 P **P** 16 24 30.8 +0.6
U40A IAmb IAmb 16 24 32.2
comp=Z,59nm,0.9s
U40A Yellville 69.68 342 P **P** 16 24 31.2 +1.0
baz=160,SNR=17
Q56A Snyder Ridge, 69.79 354 IAmb IAmb 16 24 33.4
comp=Z,41nm,1.0s
T42A Van Buren 69.86 343 P **P** 16 24 31.4 +0.1
MNTX Cornudas Mount 69.91 330 P **P** 16 24 32.3 +0.6
baz=149,SNR=18
WCI Wyandotte Cave 69.99 348 P **P** 16 24 31.8 -0.2
WCI pmax pmax
comp=Z,47nm,0.9s
WCI Wyandotte Cave 69.99 348 P **P** 16 24 31.8 -0.2
WCI IAmb IAmb 16 24 33.2
comp=Z,47nm,0.8s
WCI Wyandotte Cave 69.99 348 P **P** 16 24 32.2 +0.2
baz=166
WMOK Wichita Mounta 70.01 336 P **P** 16 24 33.0 +0.7
baz=155,SNR=7.3
FNO Franklin 70.02 338 IAmb IAmb 16 24 35.9
comp=Z,30nm,0.8s
Q52A Bidwell 70.06 351 IAmb IAmb 16 24 34.0
comp=Z,79nm,1.1s
S44A Carbondale 70.07 345 P **P** 16 24 32.8 +0.3
SIUC Southern Illin 70.08 345 P **P** 16 24 33.0 +0.4
TUL1 Leonard 70.11 339 P **P** 16 24 33.5 +0.7
TUL1 Leonard 70.11 339 P **P** 16 24 33.6 +0.8
baz=158,SNR=13
P57A Homestead Farm 70.13 355 IAmb IAmb 16 24 35.7
comp=Z,68nm,0.9s
Q51A Peebles 70.28 350 P **P** 16 24 34.1 +0.4
Q51A IAmb IAmb 16 24 35.3
comp=Z,73nm,1.0s
MGMO Mountain Grove 70.28 343 IAmb IAmb 16 24 35.9
comp=Z,44nm,0.9s
P60A Greenville 70.30 357 P **P** 16 24 35.2 +1.4
baz=176
WUPA West Chester U 70.42 357 P **P** 16 24 35.9 +1.3
WUPA IAmb IAmb 16 24 37.3
comp=Z,38nm,1.0s
BCOK Bluff Creek, N 70.45 338 IAmb IAmb 16 24 36.8
comp=Z,47nm,0.8s
MCWV Mont Chateau 70.47 353 P **P** 16 24 35.8 +0.9
MCWV IAmb IAmb 16 24 36.9
comp=Z,57nm,1.0s
MCWV Mont Chateau 70.47 353 P **P** 16 24 35.9 +1.0
baz=172
P53A Whipple 70.47 352 IAmb IAmb 16 24 36.7
comp=Z,57nm,1.1s
MVL Millersville 70.52 356 P **P** 16 24 36.1 +0.9
MVL IAmb IAmb 16 24 38.0
comp=Z,45nm,1.1s
OK029 Liberty Lake 70.53 338 P **P** 16 24 36.3 +0.9
P51A Williamsport 70.68 351 P **P** 16 24 36.3 +0.1
P51A IAmb IAmb 16 24 37.5
comp=Z,89nm,1.1s
P52A Corning 70.71 351 IAmb IAmb 16 24 37.8
comp=Z,74nm,1.0s
P52A Corning 70.71 351 P **P** 16 24 36.7 +0.4
baz=170,SNR=9.9
PAGS Pennsylvania G 70.77 356 IAmb IAmb 16 24 39.1
comp=Z,54nm,1.1s
MSTX Muleshoe 70.80 333 IAmb IAmb 16 24 39.5
comp=Z,66nm,0.9s
MSTX Muleshoe 70.80 333 P **P** 16 24 38.6 +1.3
baz=152
OLIL Olney 70.82 346 IAmb IAmb 16 24 38.4
comp=Z,74nm,1.1s
CCM Cathedral Cave 70.88 344 P **P** 16 24 38.4 +1.0
CCM pmax pmax
comp=Z,89nm,0.9s
CCM Cathedral Cave 70.88 344 P **P** 16 24 38.4 +1.0
CCM Cathedral Cave 70.88 344 P **P** 16 24 38.6 +1.2
baz=162
BLO Bloomington 70.94 348 IAmb IAmb 16 24 38.9
comp=Z,42nm,0.7s
O56A Blue Knob Stat 70.95 354 IAmb IAmb 16 24 40.3
comp=Z,52nm,1.2s
O56A Blue Knob Stat 70.95 354 P **P** 16 24 39.1 +1.2
baz=174,SNR=7.4
P49A Miami Univ. Ec 70.98 349 P **P** 16 24 37.6 -0.4
P49A IAmb IAmb 16 24 39.1
comp=Z,49nm,1.0s
P49A Miami Univ. Ec 70.98 349 P **P** 16 24 38.2 +0.1
baz=168,SNR=6.1
P48A Milroy 71.03 349 IAmb IAmb 16 24 39.3
comp=Z,55nm,0.8s
S39A Bolivar 71.06 342 IAmb IAmb 16 24 40.7
comp=Z,78nm,1.0s
LUPA Lehigh Univers 71.07 357 IAmb IAmb 16 24 41.2
comp=Z,43nm,1.0s
O52A Adamsville 71.14 352 P **P** 16 24 39.1 +0.1
O52A IAmb IAmb 16 24 40.5
comp=Z,46nm,0.8s
AMTX Amarillo 71.19 334 IAmb IAmb 16 24 42.1
comp=Z,58nm,1.1s
AMTX Amarillo 71.19 334 P **P** 16 24 40.9 +1.4
baz=153
O53A New Philadelph 71.20 352 P **P** 16 24 39.9 +0.6
baz=171
T35A Sooner Cattle 71.26 339 IAmb IAmb 16 24 42.7
comp=Z,64nm,0.9s
SSPA Standing Stone 71.26 355 P **P** 16 24 40.6 +0.9
SSPA IAmb IAmb 16 24 42.1
comp=Z,55nm,1.1s
SSPA Standing Stone 71.26 355 P **P** 16 24 40.9 +1.1
baz=174
BLOK Blackwell 71.34 338 IAmb IAmb 16 24 42.6
comp=Z,58nm,0.9s
CROK Carrier 71.35 338 P **P** 16 24 40.5 +0.1
CROK IAmb IAmb 16 24 43.0
comp=Z,61nm,0.9s
N58A Sunbury 71.38 356 IAmb IAmb 16 24 42.9
comp=Z,44nm,1.0s
N59A State Game Lan 71.41 357 IAmb IAmb 16 24 43.5
comp=Z,70nm,1.1s
N59A State Game Lan 71.41 357 P **P** 16 24 42.5 +1.9
baz=176,SNR=13
ACSO Alum Creek Sta 71.41 351 P **P** 16 24 41.1 +0.5
baz=170,SNR=19
P46A Rosedale 71.50 347 P **P** 16 24 41.3 +0.1
ODNJ Ogdensburg 71.52 358 IAmb IAmb 16 24 43.8
comp=Z,56nm,1.0s
Q49A Covington 71.56 350 IAmb IAmb 16 24 42.9
comp=Z,72nm,0.9s
WSPT Westport, CT 71.57 359 IAmb IAmb 16 24 44.1
comp=Z,35nm,0.9s
U32A Winter Ranch, 71.57 337 P **P** 16 24 42.7 +0.9
U32A IAmb IAmb 16 24 44.2
comp=Z,44nm,0.8s
121A Cookes Peak, D 71.69 328 P **P** 16 24 44.2 +1.5
121A IAmb IAmb 16 24 46.4
comp=Z,57nm,0.9s
121A Cookes Peak, D 71.69 328 P **P** 16 24 45.1 +2.4
baz=148,SNR=18
OK032 Salt Plains WL 71.70 338 IAmb IAmb 16 24 44.8
comp=Z,59nm,1.0s
N53A Lisbon 71.71 353 IAmb IAmb 16 24 44.2
comp=Z,52nm,1.2s
KAN17 Caldwell West 71.77 338 IAmb IAmb 16 24 45.2
comp=Z,51nm,0.9s
N54A Moraine State 71.77 353 IAmb IAmb 16 24 44.8
comp=Z,39nm,0.8s
N54A Moraine State 71.77 353 P **P** 16 24 43.1 +0.3
baz=172,SNR=7.6
KAN09 Caldwell North 71.81 338 IAmb IAmb 16 24 45.5
comp=Z,91nm,1.0s
KAN05 Bluff City Nor 71.86 338 P **P** 16 24 43.9 +0.4
KAN05 IAmb IAmb 16 24 46.0
comp=Z,92nm,1.1s
KAN06 Argonia West S 71.99 338 IAmb IAmb 16 24 46.7
comp=Z,90nm,1.0s

P43A **Skaggs, Pawnee** 72.00 345 IAmb IAmb 16 24 45.7
comp=Z,80nm,0.9s
N51A **Ashland** 72.00 351 IAmb IAmb 16 24 45.5
comp=Z,52nm,0.9s
KAN08 **Anthony NE Sta** 72.00 338 P P **16 24 44.4 +0.1**
KSCT **Kent School, K** 72.13 358 P P **16 24 45.8 +0.9**
M55A **Ridgway** 72.16 354 IAmb IAmb 16 24 47.2
comp=Z,79nm,1.0s
SFIN **Lafayette** 72.22 348 P P **16 24 45.2 -0.3**
baz=166
N49A **Columbus Grove** 72.26 350 P P **16 24 45.8 +0.1**
M54A **Oil Creek Stat** 72.28 354 IAmb IAmb 16 24 47.5
comp=Z,51nm,1.1s
M54A **Oil Creek Stat** 72.28 354 P P **16 24 46.3 +0.4**
baz=173,SNR=8.5
BRYW **Bryant College** 72.30 360 IAmb IAmb 16 26 53.4
comp=Z,50nm,0.9s
M53A **WI Miller and** 72.32 353 IAmb IAmb 16 24 47.7
comp=Z,42nm,0.8s
M53A **WI Miller and** 72.32 353 P P **16 24 46.7 +0.7**
baz=172,SNR=6.8
L64A **Middleborough** 72.32 1 P P **16 24 47.1 +1.1**
baz=180
P40A **Paris** 72.47 343 P P **16 24 47.7 +0.7**
M52A **Chesterland** 72.49 352 IAmb IAmb 16 24 48.7
comp=Z,64nm,0.8s
BNM **Barren Site** 72.55 330 P P **16 24 49.5 +1.6**
M50A **Fremont** 72.57 351 IAmb IAmb 16 24 49.0
comp=Z,67nm,0.8s
L59A **Walton** 72.64 357 P P **16 24 49.0 +1.0**
L59A IAmb IAmb 16 24 50.6
comp=Z,60nm,0.9s
BINY **Binghamton** 72.70 357 P P **16 24 49.6 +1.3**
baz=176
L56A **Greenwood** 72.73 355 P P **16 24 49.1 +0.6**
L56A IAmb IAmb 16 24 50.8
comp=Z,88nm,1.0s
HDIL **Hopedale** 72.82 346 IAmb IAmb 16 24 50.6
comp=Z,48nm,0.9s
HDIL **Hopedale** 72.82 346 P P **16 24 49.6 +0.5**
baz=164
L61B **Northampton** 72.84 359 P P **16 24 50.1 +1.0**
baz=179,SNR=12
HRV **Adam Dziewonsk** 72.89 360 P P **16 24 50.9 +1.6**
baz=180
TUC **Tucson** 72.91 326 P P **16 24 50.7 +0.8**
TUC pmax pmax
comp=Z,16nm,1.2s
TUC **Tucson** 72.91 326 P P **16 24 50.7 +0.8**
TUC **Tucson** 72.91 326 P P **16 24 52.1 +2.3**
baz=145
ERPA **Erie** 72.92 353 IAmb IAmb 16 24 51.2
comp=Z,52nm,0.9s
ERPA **Erie** 72.92 353 P P **16 24 50.4 +0.8**
baz=172
P38A **Dawn** 72.94 342 IAmb IAmb 16 24 51.5
comp=Z,75nm,0.9s
K61A **Williamstown** 73.07 359 P P **16 24 52.4 +1.9**
baz=178
WVNY **West Valley, N** 73.08 355 P P **16 24 51.6 +1.1**
TRY **Troy** 73.14 358 IAmb IAmb 16 24 53.7
comp=Z,84nm,1.0s
ANMO **Albuquerque** 73.15 331 P P **16 24 53.2 +1.8**
comp=Z,12nm,1.0s,baz=157,slow=8.1,SNR=7.9
ANMO **Albuquerque** 73.15 331 P P **16 24 52.7 +1.3**
ANMO **Albuquerque** 73.15 331 P P **16 24 53.4 +2.0**
baz=149
L48A **N Adams** 73.30 350 IAmb IAmb 16 24 53.0
comp=Z,71nm,0.8s
KSU1 **Kansas State U** 73.31 340 P P **16 24 52.9 +0.9**
KSU1 **Kansas State U** 73.31 340 P P **16 24 52.9 +0.9**
baz=158
LIC **Lamto** 73.35 72 *e*P P **16 24 52.6 -0.2**
comp=Z,266nm,1.0s
M44A **Midewin, Midew** 73.38 347 IAmb IAmb 16 24 53.6
comp=Z,85nm,1.0s
TIC **Toumodi** 73.59 72 *e*P P **16 24 53.9 -0.4**
214A **Organ Pipe Nat** 73.62 324 IAmb IAmb 16 24 57.7
comp=Z,45nm,1.0s
214A **Organ Pipe Nat** 73.62 324 P P **16 24 56.4 +2.4**
baz=144,SNR=14
KIC **Kosan Boka** 73.66 72 *e*P P **16 24 54.5 -0.1**
comp=Z,179nm,0.8s
L46A **Eue Claire** 73.66 349 IAmb IAmb 16 24 54.8
comp=Z,66nm,0.9s
HQIL **Hanson Quary C** 73.74 347 P P **16 24 54.6 +0.2**
DBIC **Dimbokro** 73.74 72 P P **16 24 55.1 0.0**
comp=Z,117nm,0.8s,baz=232,slow=5.5,SNR=122
DBIC **Dimbokro** 73.74 72 P P **16 24 54.9 -0.2**
J56A **Wolcott** 73.82 356 IAmb IAmb 16 24 56.6
comp=Z,45nm,0.9s
MEDO **Medina** 73.82 355 IAmb IAmb 16 24 55.8
comp=Z,36nm,0.9s
FFD **Franklin Falls** 73.85 360 P P **16 24 56.7 +1.6**
FFD IAmb IAmb 16 24 58.1
comp=Z,48nm,0.8s
K50A **Casco** 73.86 352 P P **16 24 55.6 +0.5**
J57A **Williamstown** 73.90 357 IAmb IAmb 16 24 57.4
comp=Z,52nm,0.9s
SFX **San Felipe** 73.94 322 P P **16 24 57.3 +1.5**
CBKS **Cedar Bluff** 74.02 337 P P **16 24 57.6 +1.3**
CBKS pmax pmax
comp=Z,90nm,0.9s
CBKS **Cedar Bluff** 74.02 337 P P **16 24 57.6 +1.3**
CBKS **Cedar Bluff** 74.02 337 P P **16 24 57.9 +1.6**
baz=155,SNR=14
L44A **Lake County Fo** 74.11 347 IAmb IAmb 16 24 58.5
comp=Z,79nm,1.0s
L44A **Lake County Fo** 74.11 347 P P **16 24 57.0 +0.4**
baz=165
T25A **Trinidad** 74.22 333 P P **16 24 59.1 +1.5**
T25A IAmb IAmb 16 25 01.1
comp=Z,64nm,0.9s
T25A **Trinidad** 74.22 333 P P **16 24 59.8 +2.1**
baz=151,SNR=18
I60A **Shoreham** 74.24 359 P P **16 24 58.6 +1.3**
baz=178,SNR=7.5
L42A **Oliver, Polo** 74.29 346 P P **16 24 57.6 -0.1**
L42A IAmb IAmb 16 24 59.3
comp=Z,58nm,1.1s
I63A **Otisfield** 74.44 1 P P **16 24 59.1 +0.7**
I63A IAmb IAmb 16 25 01.7
comp=Z,54nm,1.0s
LBNH **Lisbon** 74.62 360 P P **16 25 01.1 +1.6**
baz=180,SNR=8.8
J47A **Sunmer** 74.62 350 IAmb IAmb 16 25 00.7
comp=Z,46nm,0.8s
L40A **Anamosa** 74.68 345 P P **16 25 00.4 +0.5**
K43A **Burlington** 74.70 347 IAmb IAmb 16 25 01.6
comp=Z,54nm,1.1s
W18A **Petrified Fore** 74.73 328 IAmb IAmb 16 25 04.2
comp=Z,55nm,1.1s
W18A **Petrified Fore** 74.73 328 P P **16 25 02.6 +2.0**
baz=146,SNR=6.1
X16A **Lo Mia Camp, P** 74.94 327 IAmb IAmb 16 25 06.0
comp=Z,37nm,0.9s
SCIA **State Center** 75.00 343 P P **16 25 02.1 +0.3**
SCIA IAmb IAmb 16 25 04.5
comp=Z,84nm,1.1s
SCIA **State Center** 75.00 343 P P **16 25 03.2 +1.4**
baz=161
LONY **Lake Ozonia** 75.05 358 P P **16 25 03.0 +1.0**
baz=177,SNR=9.1
SDCO **Great Sand Dun** 75.17 333 P P **16 25 05.3 +2.0**
baz=150,SNR=7.7
EMMW **East Machias** 75.18 3 P P **16 25 03.8 +1.1**
KSCO **Kaye Shedlock'** 75.20 335 P P **16 25 04.3 +1.1**
KSCO IAmb IAmb 16 25 06.4
comp=Z,60nm,1.1s
KSCO **Kaye Shedlock'** 75.20 335 P P **16 25 04.6 +1.5**
baz=153
FRNY **Flat Rock** 75.24 358 IAmb IAmb 16 25 05.3
comp=Z,47nm,0.9s
JFWS **Jewell Farm** 75.29 346 IAmb IAmb 16 25 05.3
comp=Z,82nm,1.1s
JFWS **Jewell Farm** 75.29 346 P P **16 25 04.4 +1.0**
baz=163,SNR=9.3
HAL **Halifax** 75.36 6 P P **16 25 04.7 +0.9**
HAL pmax pmax
comp=Z,46nm,1.0s
HAL **Halifax** 75.36 6 P P **16 25 04.7 +0.9**
HAL IAmb IAmb 16 25 06.5
comp=Z,46nm,1.0s
SADO **Sadowa** 75.47 354 P P **16 25 05.1 +0.7**
comp=Z,39nm,0.9s,baz=194,slow=5.0,SNR=20
SADO **Sadowa** 75.47 354 IAmb IAmb 16 25 06.0
comp=Z,58nm,1.1s

GLA **Glamis** 75.51 323 P P **16 25 06.2 +1.2**
GLA pmax pmax
comp=Z,24nm,1.1s
GLA **Glamis** 75.51 323 P P **16 25 06.2 +1.2**
GLA **Glamis** 75.51 323 P P **16 25 07.1 +2.1**
baz=142
K38A **Parkersburg** 75.60 344 P P **16 25 05.4 +0.2**
K38A IAmb IAmb 16 25 06.8
comp=Z,57nm,0.8s
G62A **West of Eustis** 75.60 1 P P **16 25 06.5 +1.3**
G62A IAmb IAmb 16 25 08.0
comp=Z,50nm,0.9s
PKME **Peaks-Kenny Pk** 75.67 2 P P **16 25 07.1 +1.6**
baz=182
S22A **4UR Ranch, Cre** 75.70 332 P P **16 25 08.3 +2.0**
baz=149,SNR=6.0
WUAZ **Wupatki** 75.81 327 P P **16 25 08.1 +1.3**
WUAZ IAmb IAmb 16 25 10.5
comp=Z,50nm,1.1s
WUAZ **Wupatki** 75.81 327 P P **16 25 09.0 +2.2**
baz=145,SNR=11
IKP **In-Ko-Pah, Jac** 75.86 322 P P **16 25 09.4 +2.3**
baz=142
BGNE **Belgrade** 75.89 340 P P **16 25 08.4 +1.4**
baz=156,SNR=9.8
L34A **Svendsen Farm,** 75.89 341 P P **16 25 07.1 +0.2**
SWSC **Sam W. Stewart** 75.93 323 P P **16 25 09.9 +2.6**
baz=142
MVCO **Mesa Verde** 75.94 330 P P **16 25 09.6 +2.0**
baz=148,SNR=5.2
I42A **Draeger Farm,** 75.96 347 IAmb IAmb 16 25 09.0
comp=Z,51nm,1.1s
SUR **Sutherland** 76.03 119 P P **16 25 08.9 +0.5**
comp=Z,20nm,0.8s,baz=223,slow=5.7,SNR=22
SUR **Sutherland** 76.03 119 P P **16 25 08.6 +0.2**
SUR IAmb IAmb 16 26 55.6
comp=Z,135nm,1.9s
Q24A **Divide** 76.09 334 P P **16 25 10.5 +2.0**
baz=151,SNR=21
F63A **Nahmakanta, Br** 76.11 2 P P **16 25 08.8 +0.7**
PDMCI **Parker Dam,Lak** 76.16 325 P P **16 25 10.9 +2.3**
baz=143
MAW **Mawson** 76.17 164 P P **16 25 08.5 +0.2**
comp=Z,25nm,0.8s,baz=211,slow=6.8,SNR=42
MAW **Mawson** 76.17 164 P P **16 25 09.0 +0.7**
MAW **Mawson** 76.17 164 P P **16 25 09.0 +0.7**
MONP2 **Monument Peak** 76.22 322 P P **16 25 11.2 +1.9**
baz=141
I40A **Norwalk** 76.30 346 P P **16 25 09.4 +0.2**
I40A IAmb IAmb 16 25 10.9
comp=Z,58nm,1.0s
H43A **Windswept, Lux** 76.31 348 IAmb IAmb 16 25 10.9
comp=Z,90nm,1.2s
BC3 **Big Chuckawall** 76.31 323 P P **16 25 12.0 +2.4**
baz=142
LMN **Caledonia Moun** 76.47 5 P P **16 25 11.0 +0.9**
LMN IAmb IAmb 16 25 12.5
comp=Z,82nm,1.0s
IRM **Iron Mountain** 76.55 324 P P **16 25 13.3 +2.4**
baz=142
OGNE **Ogallala** 76.71 337 IAmb IAmb 16 25 14.5
comp=Z,40nm,1.1s
OGNE **Ogallala** 76.71 337 P P **16 25 13.5 +1.8**
baz=153
TPFO **Pinon Flats** 76.79 323 P P **16 25 14.7 +2.4**
baz=141,SNR=12
PFO **Pinyon Flats O** 76.80 323 P P **16 25 13.7 +1.3**
comp=Z,22nm,0.9s,baz=126,slow=3.6,SNR=15
PFO **Pinyon Flats O** 76.80 323 P P **16 25 14.1 +1.7**
PFO pmax pmax
comp=Z,36nm,1.1s
PFO **Pinyon Flats O** 76.80 323 P P **16 25 14.1 +1.7**
PFO **Pinyon Flats O** 76.80 323 P P **16 25 14.8 +2.4**
baz=141
BELC **Belle Mtn. Jos** 76.86 323 P P **16 25 15.3 +2.5**
baz=142
SMCO **Snowmass** 76.99 332 IAmb IAmb 16 25 17.4
comp=Z,76nm,1.1s
ISCO **Idaho Springs** 76.99 334 P P **16 25 15.0 +1.4**
ISCO pmax pmax
comp=Z,29nm,1.1s
ISCO **Idaho Springs** 76.99 334 P P **16 25 15.0 +1.4**
ISCO **Idaho Springs** 76.99 334 P P **16 25 15.6 +2.0**
baz=150,SNR=11
E62A **Clayton Lake** 77.02 1 IAmb IAmb 16 25 16.0
comp=Z,72nm,1.0s
PQI **Presque Isle** 77.12 2 IAmb IAmb 16 25 16.2
comp=Z,45nm,1.0s
MURC **Murrieta** 77.17 322 P P **16 25 16.8 +2.4**
baz=141
SCI2 **San Clemente I** 77.42 321 P P **16 25 18.0 +2.3**
baz=140
D62A **Allapoint, All** 77.49 2 P P **16 25 16.5 +0.7**
D62A IAmb IAmb 16 25 18.3
comp=Z,74nm,0.9s
G40A **Rib Lake** 77.53 347 P P **16 25 16.9 +0.8**
G40A IAmb IAmb 16 25 17.9
comp=Z,37nm,1.1s
BBRC **Big Bear Solar** 77.54 323 P P **16 25 19.2 +2.5**
baz=141
ECSD **EROS Data Cent** 77.59 342 P P **16 25 17.4 +0.9**
baz=158,SNR=33
E46A **Sault Ste Mari** 77.61 351 P P **16 25 16.7 +0.2**
E46A IAmb IAmb 16 25 18.1
comp=Z,81nm,1.1s
CIS **Catalina Islan** 77.67 321 P P **16 25 19.4 +2.2**
baz=140
HEC **Hector,Ludlow** 77.68 324 P P **16 25 19.8 +2.6**
baz=142
KNB **Kanab** 77.71 327 IAmb IAmb 16 25 21.3
comp=Z,41nm,1.0s
BATG **Bathurst New B** 77.81 4 P P **16 25 17.7 +0.2**
BFSC **Mount Baldy Ra** 77.91 322 P P **16 25 20.6 +2.0**
baz=141
TUQ **Turquoise Moun** 77.95 324 P P **16 25 21.2 +2.4**
baz=142
E43A **Lone Tree Farm** 78.02 349 IAmb IAmb 16 25 20.6
comp=Z,59nm,0.9s
SPMN **Manne on St.** 78.05 345 P P **16 25 19.2 +0.3**
baz=161,SNR=5.2
N23A **Red Feather La** 78.07 334 P P **16 25 21.6 +2.1**
baz=150,SNR=6.6
MWC **Mount Wilson** 78.11 322 P P **16 25 22.0 +2.2**
MWC pmax pmax
comp=Z,27nm,1.0s
MWC **Mount Wilson** 78.11 322 P P **16 25 22.0 +2.2**
COWI **Conover** 78.13 348 P P **16 25 19.6 +0.2**
COWI IAmb IAmb 16 25 21.2
comp=Z,33nm,0.9s
DECC **Green Verdugo** 78.28 322 P P **16 25 22.7 +2.1**
baz=140
GSC **Goldstone, Bar** 78.29 324 P P **16 25 23.0 +2.3**
baz=141
SZCU **Shurtz Canyon** 78.30 327 P P **16 25 23.5 +2.6**
SZCU IAmb IAmb 16 25 37.3
comp=Z,97nm,1.8s
O20A **White River Ci** 78.31 332 IAmb IAmb 16 25 37.7
comp=Z,100nm,1.5s
O20A **White River Ci** 78.31 332 P P **16 25 22.8 +2.0**
baz=148,SNR=6.6
Q16A **Castle Valley** 78.52 329 P P **16 25 23.9 +1.9**
Q16A IAmb IAmb 16 25 25.4
comp=Z,41nm,1.0s
EDW2 **Edwards Air Fo** 78.58 323 P P **16 25 24.0 +1.8**
baz=140
OSI **Osito Audit: C** 78.76 322 IAmb IAmb 16 25 26.6
comp=Z,47nm,1.0s
OSI **Osito Audit: C** 78.76 322 P P **16 25 25.3 +2.1**
baz=140
F36A **Milaca** 78.81 345 IAmb IAmb 16 25 24.6
comp=Z,52nm,0.8s
LRMC **Laurel Mtn Rad** 78.88 323 P P **16 25 26.1 +2.1**
baz=141
KOWA **Kowa** 78.90 66 P P **16 25 24.6 +0.2**
comp=Z,38nm,0.7s,baz=238,slow=5.2,SNR=47
KOWA **Kowa** 78.90 66 P P **16 25 24.2 -0.1**
KOWA IAmb IAmb 16 25 25.5
comp=Z,55nm,0.8s
SUSD **Miller** 78.90 340 IAmb IAmb 16 25 25.5
comp=Z,67nm,0.8s
SUSD **Miller** 78.90 340 P P **16 25 24.5 +0.8**
baz=156,SNR=9.0
GWY **Greenwater Val** 78.91 324 P P **16 25 25.5 +1.3**
PRN **Pahroc Range** 79.08 326 IAmb IAmb 16 25 28.8
comp=Z,44nm,1.0s
RDMU **Red Mountain** 79.22 331 P P **16 25 26.8 +1.0**
RDMU IAmb IAmb 16 25 28.6
comp=Z,43nm,0.9s
MPMC **Manual Prospec** 79.23 324 P P **16 25 28.1 +2.2**
baz=141
TPNV **Topopah Spring** 79.30 325 P P **16 25 28.6 +2.4**
baz=142,SNR=10.0
ISA **Isabella, Lake** 79.43 323 P P **16 25 29.1 +2.2**
baz=140
F33A **5 Mile Ranch,** 79.47 343 P P **16 25 27.3 +0.6**
PKM **Mcpherson Peak** 79.55 321 P P **16 25 30.0 +2.3**
baz=139
TSUM **Tsumeb** 79.69 106 P P **16 25 29.2 +0.3**
comp=Z,49nm,0.9s,baz=241,slow=3.5,SNR=37
TSUM **Tsumeb** 79.69 106 P P **16 25 29.0 +0.2**
TSUM IAmb IAmb 16 25 30.6
comp=Z,64nm,1.0s
NLU **North Lily Min** 79.77 329 IAmb IAmb 16 25 44.9
comp=Z,72nm,1.8s
K22A **Casper** 79.81 335 P P **16 25 29.2 +0.3**
K22A IAmb IAmb 16 25 45.7
comp=Z,95nm,1.4s
K22A **Casper** 79.81 335 P P **16 25 30.3 +1.4**
baz=150,SNR=6.8
CWC **Cottonwood Cre** 79.83 324 P P **16 25 31.2 +2.1**
baz=141
VES **Vestal, Richgr** 79.89 322 P P **16 25 31.4 +2.2**
baz=140
GRAC **Grapevine Rang** 79.89 324 P P **16 25 31.7 +2.4**
baz=141
SMMC **Simmler** 79.97 322 P P **16 25 30.7 +1.0**
baz=139
JLU **Jordanelle** 80.04 330 P P **16 25 31.1 +0.9**
R11A **Troy Canyon, C** 80.08 326 P P **16 25 32.5 +2.0**
baz=143,SNR=8.7
RSSD **Black Hills** 80.21 337 P P **16 25 32.6 +1.5**
baz=152
DUG **Dugway, Tooele** 80.30 329 IAmb IAmb 16 25 47.6
comp=Z,61nm,1.5s
DUG **Dugway, Tooele** 80.30 329 P P **16 25 33.6 +2.0**
baz=145,SNR=5.6
EYMN **Ely** 80.36 347 IAmb IAmb 16 25 33.1
comp=Z,44nm,0.9s
EYMN **Ely** 80.36 347 P P **16 25 32.2 +0.7**
baz=163,SNR=6.7
TIN **Tinemaha, Big** 80.38 324 P P **16 25 34.8 +2.7**
baz=141
PAGB **Antelope Grade** 80.42 322 P P **16 25 33.3 +1.1**
TCUT **Toone Canyon** 80.45 331 IAmb IAmb 16 25 48.2
comp=Z,113nm,1.8s
HWUT **Hardware Ranch** 80.92 331 IAmb IAmb 16 25 37.3
comp=Z,34nm,0.8s
BGU **Big Grassy Mou** 80.99 329 P P **16 25 35.8 +0.6**
SPUT **South Promonto** 81.05 330 IAmb IAmb 16 25 51.1
comp=Z,133nm,1.7s
BW06 **Boulder Array** 81.07 333 P P **16 25 37.5 +1.7**
baz=148
PDAR **Pinedale Array** 81.07 333 P P **16 25 36.9 +1.2**
comp=Z,2.8nm,0.6s,baz=134,slow=9.2,SNR=7.0
BOSA **Boshof** 81.20 118 P P **16 25 37.0 +0.2**
comp=Z,35nm,0.8s,baz=241,slow=4.9,SNR=27
BOSA **Boshof** 81.20 118 IAmb IAmb 16 25 37.9
comp=Z,41nm,0.8s
B35A **Bob, Littlefor** 81.22 345 P P **16 25 36.4 +0.3**
B35A IAmb IAmb 16 25 37.6
comp=Z,58nm,0.8s
NVAR **Mina Array Bea** 81.47 325 P P **16 25 39.4 +1.4**
comp=Z,9.0nm,0.8s,baz=158,slow=6.3,SNR=13
NVAR **Mina Array Bea** 81.47 325 P P **16 25 38.2 +0.2**
AGMN **Agassiz Nation** 81.65 344 P P **16 25 39.0 +0.6**
AGMN IAmb IAmb 16 25 40.1
comp=Z,47nm,0.9s
AGMN **Agassiz Nation** 81.65 344 P P **16 25 39.0 +0.6**
baz=159,SNR=11
MDND **Maddock** 82.20 341 P P **16 25 42.1 +0.9**
MDND **Maddock** 82.20 341 P P **16 25 42.5 +1.2**
baz=156,SNR=16
YERR **Yerington** 82.37 324 IAmb IAmb 16 25 59.6
comp=Z,41nm,1.2s
PNTR **Pine Nut** 82.63 324 IAmb IAmb 16 26 01.1
comp=Z,38nm,0.9s
TORD **Torodi Ar. Bea** 82.69 70 P P **16 25 44.6 0.0**
comp=Z,42nm,0.8s,baz=278,slow=6.0,SNR=132
TORD **Torodi Ar. Bea** 82.69 70 P P **16 25 44.2 -0.4**
TORD IAmb IAmb 16 25 45.7
comp=Z,84nm,1.2s
TORD pP **pP** **16 25 57.3 -0.7**
H17A **Grant Village** 82.83 333 P P **16 25 46.5 +1.5**
baz=147
RLMT **Red Lodge** 82.94 334 P P **16 25 46.6 +1.1**
baz=148
PAHR **Pah Rah Range** 82.99 325 IAmb IAmb 16 26 02.8
comp=Z,48nm,1.2s
LAO **LASA Array** 83.20 337 P P **16 25 47.6 +1.1**
LAO IAmb IAmb 16 25 48.8
comp=Z,36nm,1.0s
LAO **LASA Array** 83.20 337 P P **16 25 47.7 +1.1**
baz=150,SNR=5.8
YHH **Holmes Hill** 83.27 333 IAmb IAmb 16 26 03.2
comp=Z,69nm,1.7s
LBTB **Lobatse** 83.28 115 P P **16 25 47.5 -0.3**
comp=Z,74nm,0.8s,baz=244,slow=5.5,SNR=38
ULM **Lac du Bonnet** 83.48 345 P P **16 25 48.1 +0.3**
comp=Z,52nm,0.9s,baz=162,slow=3.9,SNR=24
HLID **Hailey** 83.72 330 P P **16 25 50.1 +0.6**
HLID pP **pP** **16 26 03.8 +0.9**
HLID **Hailey** 83.72 330 P P **16 25 51.2 +1.7**
baz=144,SNR=7.0
ORV **Oroville** 83.94 323 pP **pP** **16 26 04.4 +0.5**
ORV IAmb IAmb 16 26 07.5
comp=Z,60nm,1.4s
DGMT **Dagmar** 84.11 339 P P **16 25 52.6 +1.5**
baz=152,SNR=20
BOZ **Bozeman (W)** 84.25 333 P P **16 25 53.3 +1.2**
baz=146
O03E **Paynes Creek** 84.65 324 P P **16 25 55.3 +1.1**
baz=138
LRM **Limekiln Ridge** 84.76 333 P P **16 25 55.1 +0.3**
O02D **Mt. Diablo Mer** 85.07 323 P P **16 25 57.6 +1.3**
baz=138
MOD **Modoc Plateau** 85.12 326 IAmb IAmb 16 26 13.2
comp=Z,48nm,1.6s
WDC **Whiskeytown Da** 85.24 324 P P **16 25 57.3 +0.3**
WDC pmax pmax
comp=Z,51nm,1.8s
WDC **Whiskeytown Da** 85.24 324 P P **16 25 57.3 +0.3**
WDC IAmb IAmb 16 26 11.8
comp=Z,51nm,1.8s
SCHQ **Schefferville** 85.32 3 P P **16 25 56.9 -0.2**
comp=Z,27nm,1.0s,baz=147,slow=4.3,SNR=7.3
SCHQ LR LR 17 05 41.3
comp=Z,7µm,19.6s,baz=336,slow=37
SCHQ **Schefferville** 85.32 3 IAmb IAmb 16 25 58.5
comp=Z,66nm,1.2s
J08A **Circle Bar Ran** 85.37 328 IAmb IAmb 16 26 00.7
comp=Z,39nm,1.0s
EGMT **Eagleton** 85.58 335 P **16 25 59.0 +0.3**
EGMT IAmb IAmb 16 26 13.4
comp=Z,39nm,1.2s
EGMT **Eagleton** 85.58 335 P P **16 25 59.5 +0.9**
baz=148
KMRM **Mail Ridge** 85.58 323 P P **16 26 00.1 +1.3**
KMRM IAmb IAmb 16 28 05.0
comp=Z,27nm,0.7s
N02D **Trinity Center** 85.62 324 P P **16 25 59.7 +0.8**
baz=138
PLID **Pearl Lake** 85.63 330 IAmb IAmb 16 26 01.1
comp=Z,24nm,0.8s
M04C **Macdoel** 85.78 325 P P **16 26 01.4 +1.5**
baz=138,SNR=5.1
M02C **Callahan** 86.00 324 P P **16 26 02.0 +1.1**
baz=138
KHMM **Horse Mountain** 86.07 323 IAmb IAmb 16 26 17.8
comp=Z,71nm,1.6s
MSO **Missoula** 86.18 332 P P **16 26 03.6 +1.9**
baz=144
YBH **Yreka Blue Hor** 86.18 324 P P **16 26 02.3 +0.5**
comp=Z,5.4nm,0.8s,baz=128,slow=5.1,SNR=12
LTZ **Lake Taylor** 86.31 221 P P **16 26 03.4 +0.8**
LTZ IAmb IAmb 16 26 06.7
comp=Z,53nm,1.1s
L04D **Klamath Falls** 86.34 325 P P **16 26 03.5 +0.9**
baz=138
I07A **Izee** 86.40 328 IAmb IAmb 16 26 18.8
comp=Z,80nm,1.8s
J05D **Fort Rock, OR** 86.61 326 P P **16 26 05.8 +1.8**
baz=139,SNR=6.7
KRMB **Red Mountain** 86.63 323 IAmb IAmb 16 26 21.0
comp=Z,41nm,1.3s

L02E	**Cave Junction**	**86.94**	**324**	P		**P**	**16 26 07.5**	**+2.1**
	baz=137,SNR=5.3								
G08A	**Pilot Rock**	**87.08**	**329**	P		**P**	**16 26 07.4**	**+1.3**
K02D	**Willamette Mer**	**87.37**	**324**	P		**P**	**16 26 09.7**	**+2.2**
	baz=137,SNR=7.3								
I05D	**Terrebonne, OR**	**87.45**	**327**	P		**P**	**16 26 09.6**	**+1.7**
	baz=139								
I04A	**Tendick Farm,**	**87.56**	**326**	P		**P**	**16 26 09.7**	**+1.4**
	baz=138								
J01E	**Myrtle Point**	**87.84**	**325**	P		**P**	**16 26 11.3**	**+1.7**
	baz=137								
I03D	**Drain, OR**	**87.95**	**325**	P		**P**	**16 26 11.7**	**+1.6**
	baz=137								
WALA	**Waterton Lakes**	**87.98**	**334**			**P**	**16 26 10.0**	**-0.3**
WALA				IAmb		IAmb	16 26 26.4		
	comp=Z,39nm,1.2s								
H04A	**Detroit Lake**	**88.11**	**326**	IAmb		IAmb	16 26 13.1		
	comp=Z,25nm,0.8s								
G05D	**Wamic, OR**	**88.12**	**327**	P		**P**	**16 26 13.0**	**+2.0**
	baz=139								
BUCK	**Buck Mountain**	**88.14**	**326**	IAmb		IAmb	16 26 27.6		
	comp=Z,38nm,1.2s								
HAWA	**Hanford**	**88.19**	**329**	P		**P**	**16 26 11.6**	**+0.3**
D08A	**Wollman Farm,**	**88.43**	**330**	IAmb		IAmb	16 26 14.7		
	comp=Z,63nm,1.8s								
I02D	**Swisshome**	**88.49**	**325**	P		**P**	**16 26 14.7**	**+2.0**
	baz=137								
NEW	**Newport**	**88.62**	**331**	P		**P**	**16 26 14.1**	**+0.8**
	baz=142								
F05D	**White Salmon**	**88.67**	**328**	P		**P**	**16 26 15.3**	**+1.8**
	baz=139								
C09A	**Chrisman Ranch**	**88.73**	**331**	pP		**pP**	**16 26 28.6**	**+1.3**
C09A				IAmb		IAmb	16 26 29.8		
	comp=Z,55nm,1.4s								
FFC	**Flin Flon**	**89.07**	**343**	P		**P**	**16 26 15.1**	**-0.1**
FFC				pmax		pmax			
	comp=Z,17nm,1.0s								
FFC	**Flin Flon**	**89.07**	**343**	P		**P**	**16 26 15.1**	**-0.1**
FFC				IAmb		IAmb	16 26 16.6		
	comp=Z,17nm,0.9s								
F04A	**Amboy**	**89.16**	**327**			pP	16 26 30.8	+1.5	
LON	**Longmire**	**89.48**	**328**	P		**P**	**16 26 17.7**	**+0.3**	
LON				pmax		pmax			
	comp=Z,14nm,1.0s								
LON	**Longmire**	**89.48**	**328**	P		**P**	**16 26 17.7**	**+0.3**	
B08A	**Colville Reser**	**89.62**	**330**	pP		pP	16 26 33.1	+1.7	
E04D	**Cinebar**	**89.69**	**328**	P		**P**	**16 26 19.8**	**+1.6**	
	baz=138								
LSZ	**Lusaka**	**90.40**	**108**	P		**P**	**16 26 22.6**	**0.0**	
LSZ				pmax		pmax			
	comp=Z,47nm,1.1s								
LSZ	**Lusaka**	**90.40**	**108**	P		**P**	**16 26 22.6**	**0.0**	
B05A	**Bryant**	**90.75**	**329**	P		**P**	**16 26 24.1**	**+0.9**	
	baz=138								
A04D	**Lummi Island**	**91.36**	**329**	P		**P**	**16 26 26.8**	**+0.8**	
	baz=138								
ESDC	**Sonseca Array**	**94.00**	**46**	P		**P**	**16 26 38.6**	**+0.1**	
	comp=Z,3.2nm,1.0s,baz=247,slow=5.0,SNR=2.6								
YKA	**Yellowknife Ar**	**99.12**	**341**	P		**Pdif**	**16 27 00.9**	**-0.2**	
	comp=Z,3.3nm,0.9s,baz=153,slow=4.2,SNR=3.5								
BUR08	**Bucovina Ar. S**	**116.29**	**49**			**PKPdf**	**16 32 03.0**	**-0.7**	
NACGM	**Naroch**	**119.15**	**41**	*i* PKP		**PKPdf**	**16 32 08.0**	**-0.7**	
AKASG	**Malin Array Be**	**119.65**	**46**	PKP		**PKPdf**	**16 32 08.7**	**-1.2**	
	comp=Z,4.6nm,0.8s,baz=269,slow=2.5,SNR=17								
AKBB	**Malin Array Si**	**119.65**	**46**	‖ *i* PKIKP		**PKPdf**	**16 32 08.8**	**-1.0**	
BR131	**Keskin Array S**	**119.83**	**59**	‖ *i* PKIKP		**PKPdf**	**16 32 10.7**	**-0.1**	
BR131	**Keskin Array S**	**119.83**	**59**			**PKPdf**	**16 32 10.4**	**-0.4**	
BRTR	**Keskin Array B**	**119.83**	**59**	PKP		**PKPdf**	**16 32 09.6**	**-1.2**	
	comp=Z,1.6nm,0.9s,baz=177,slow=4.5,SNR=8.0								
ASAR	**Alice Springs**	**120.66**	**207**	PKP		**PKPdf**	**16 32 11.9**	**-0.9**	
	comp=Z,2.2nm,1.1s,baz=159,slow=3.8,SNR=5.2								
ASAR	**Alice Springs**	**120.66**	**207**	PKIKP		**PKPdf**	**16 32 12.0**	**-0.9**	
ARCES	**ARCESS Array B**	**120.88**	**24**	PKKPbc		PKKPbc	16 42 16.3	-1.0	
	comp=Z,2.4nm,0.8s,baz=46,slow=3.9,SNR=7.3								
APA	**Apatity**	**123.70**	**26**	‖ *i* PKIKP		**PKPdf**	**16 32 16.3**	**-0.8**	
APA				pmax		pmax			
	comp=Z,6.0nm,0.9s								
APA				MLR		MLR			
	comp=Z,2‖m,18.0s								
WR0	**Warramunga Arr**	**123.71**	**210**			**PKPdf**	**16 32 18.0**	**-0.7**	
WB2	**Warramunga Arr**	**123.80**	**210**	PKPdf		**PKPdf**	**16 32 18.5**	**-0.5**	
WRA	**Warramunga Arr**	**123.81**	**210**	PKP		**PKPdf**	**16 32 17.8**	**-1.1**	
	comp=Z,4.9nm,0.9s,baz=154,slow=1.6,SNR=12								
WRAB	**Tennant Creek**	**123.81**	**210**	‖ *i* PKIKP		**PKPdf**	**16 32 18.6**	**-0.4**	
LVZ	**Lovozero**	**124.16**	**26**	‖ *i* PKIKP		**PKPdf**	**16 32 15.9**	**-2.2**	
LVZ				pmax		pmax			
	comp=Z,13nm,1.3s								
OBN	**Obninsk**	**124.74**	**42**	*i* PKIKP		**PKPdf**	**16 32 19.2**	**-0.3**	
OBN				*e*			16 34 10.0		
OBN				pmax		pmax			
	comp=Z,7.0nm,0.4s								
H11S2	**WAKE ISLAND Hyl**	**126.20**	**271**	T		T	18 51 12.4		
	baz=116,slow=74								
H11S1	**WAKE ISLAND Hyl**	**126.21**	**271**	T		T	18 51 13.3		
	baz=116,slow=74								
H11S3	**WAKE ISLAND Hyl**	**126.21**	**271**	T		T	18 51 11.4		
	baz=116,slow=74								
KLMR	**Klimovskoe**	**126.50**	**35**	*e*PKHKP		PKPpre	16 32 07.8		
KLMR				pmax		pmax			
	comp=Z,27nm,1.0s								
KLMR	**Klimovskoe**	**126.50**	**35**	AMP			16 32 23.6		
	comp=Z,27nm,1.0s								
KLMR	**Klimovskoe**	**126.50**	**35**	*e*PKPdf		PKPdf	16 32 07.8	-15	
PSA00	**Pilbara Seismi**	**126.85**	**193**			PKPpre	16 32 14.2		
PSA00						**PKPdf**	**16 32 23.1**	**-1.7**	
NEY	**Neytrino**	**127.27**	**57**	‖ *i* PKIKP		**PKiKP**	**16 32 26.4**	**+0.9**	
KIV	**Kislovodsk**	**127.36**	**56**	*e*PKIKP		**PKPdf**	**16 32 24.5**	**-0.5**	
KIV				pmax		pmax			
	comp=Z,6.0nm,1.0s								
KBZ	**Khabaz**	**127.47**	**56**	↑ *i* PKIKP		**PKiKP**	**16 32 26.3**	**+0.7**	
PRGR	**Permogore**	**129.38**	**33**	*e*PKIKP		**PKPdf**	**16 32 24.2**	**-3.9**	
PRGR				pmax		pmax			
	comp=Z,34nm,1.2s								
BILL	**Bilibino**	**130.08**	**335**	*e*PKIKP		**PKiKP**	**16 32 29.9**	**-0.3**	
BILL				*e*			16 34 41.7		
BILL				pmax		pmax			
	comp=Z,10.0nm,1.0s								
BELG	**Belogornoye**	**131.22**	**45**	‖ *e*PKIKP		**PKPdf**	**16 32 32.3**	**+0.4**	
KIRV	**Kirov**	**131.69**	**37**	‖ *i* PKIKP		**PKiKP**	**16 32 34.2**	**+0.6**	
ARU	**Arti**	**136.96**	**39**	PKP		**PKPdf**	**16 32 42.9**	**+0.3**	
	comp=Z,2.7nm,0.7s,baz=103,slow=1.6,SNR=8.3								
SEY	**Seymchan**	**137.40**	**332**	PKP		**PKPdf**	**16 32 43.7**	**+0.5**	
	comp=Z,12nm,0.9s,baz=147,slow=2.1,SNR=11								
TIXI	**Tiksi**	**137.57**	**351**	‖ *e*PKIKP		**PKPdf**	**16 32 44.0**	**+0.7**	
AKTO	**Aktyubinsk**	**137.86**	**47**	PKP		**PKPdf**	**16 32 44.5**	**+0.1**	
	comp=Z,5.2nm,0.9s,baz=306,slow=1.0,SNR=9.0								
GEYT	**Ailbeck**	**138.22**	**66**	PKP		**PKPdf**	**16 32 44.3**	**-1.3**	
	comp=Z,2.7nm,0.8s,baz=219,slow=11,SNR=5.2								
NRIK	**Noril'sk**	**139.55**	**11**	‖ *e*PKIKP		**PKPdf**	**16 32 46.6**	**-0.4**	
KAPI	**Kappang**	**142.85**	**199**	PKhKP		PKPpre	16 32 51.8		
	comp=Z,9.6nm,0.9s,baz=261,slow=9.4,SNR=6.2								
BRVK	**Borovoye**	**144.48**	**40**	*c i* PKIKP		**PKPab**	**16 32 54.6**	**-0.1**	
BVAR	**Borovoye Array**	**144.56**	**40**	PKP		**PKPdf**	**16 32 56.0**	**-0.4**	
	comp=Z,24nm,0.6s,baz=260,slow=4.4,SNR=82								
PALK	**Pallekele**	**145.06**	**126**	PKP		**PKPbc**	**16 32 56.9**	**-1.1**	
	comp=Z,22nm,1.1s,baz=278,slow=4.0,SNR=4.0								
PALK	**Pallekele**	**145.06**	**126**	PKIKP		**PKPbc**	**16 32 57.0**	**-1.0**	
YAK	**Yakutsk**	**145.79**	**342**	PKPbc		**PKPab**	**16 32 59.4**	**+0.2**	
	comp=Z,102nm,0.8s,baz=244,slow=0.2,SNR=84								
YAK	**Yakutsk**	**145.79**	**342**	*e*PKP2		**PKPab**	**16 32 59.0**	**-0.2**	
YAK				pmax		pmax			
	comp=Z,148nm,0.8s								
YAK				pmax		pmax			
	comp=N,8.0nm,0.8s								
YAK				pmax		pmax			
	comp=E,6.0nm,0.8s								
POO	**Poona**	**146.40**	**103**	*ex*		**PKPdf**	**16 32 55.0**	**-5.7**	
TOLI2	**Tolitoli**	**148.31**	**204**	PKPdf		**PKPdf**	**16 33 00.9**	**-3.1**	
TOLI2						**PKPbc**	**16 33 06.4**	**-1.0**	
GSI	**Gunungsitoli**	**148.95**	**158**			**PKPbc**	**16 33 08.8**	**-0.2**	
YSS	**Yuzh-Sakhalins**	**149.08**	**311**	*e*PKP2		**PKPbc**	**16 33 08.6**	**+0.3**	
YSS				pmax		pmax			
	comp=Z,40nm,0.8s								
YSS	**Yuzh-Sakhalins**	**149.08**	**311**			**PKPbc**	**16 33 08.3**	**0.0**	
HYB	**Hyderabad**	**149.74**	**109**	*i* PKP		**PKPbc**	**16 33 10.0**	**-0.9**	
KURBB	**Kurchatov Arra**	**150.15**	**40**	PKPbc		**PKPbc**	**16 33 11.1**	**+0.3**	
	comp=Z,30nm,0.8s,baz=303,slow=3.1,SNR=43								
KURK	**Kurchatov**	**150.15**	**39**	PKP2		**PKPbc**	**16 33 11.1**	**+0.3**	
KURK	**Kurchatov**	**150.15**	**39**			**PKPbc**	**16 33 11.1**	**+0.3**	
AAK	**Ala-Archa**	**150.47**	**57**	PKPbc		**PKiKP**	**16 33 12.8**	**0.0**	
	comp=Z,28nm,0.9s,baz=183,slow=2.9,SNR=15								
RPSI	**Rantau Prapat**	**150.68**	**160**			**PKPbc**	**16 33 12.2**	**-1.0**	
PSI	**Prapat**	**150.78**	**160**	PKPbc		**PKPbc**	**16 33 13.1**	**-0.6**	
	comp=Z,12nm,0.9s,baz=259,slow=2.7,SNR=10								
PSI				PKPab		**PKPab**	**16 33 20.6**	**-0.1**	
	comp=Z,50nm,0.8s,baz=181,slow=4.2,SNR=31								
ZALV	**Zalesovo Beam**	**151.21**	**30**	PKPbc		**PKiKP**	**16 33 13.7**	**0.0**	
	comp=Z,133nm,0.8s,baz=308,slow=3.3,SNR=84								
KSH	**Kashi**	**152.13**	**63**	PKPbc		**PKPdf**	**16 33 09.9**	**+0.5**	
KSH				sPKP			16 33 22.3		
KSH				LR		LR			
	comp=Z,710nm,17.8s								
KSH				LR		LR			
	comp=Z,980nm,17.5s								
JYT	**Yasato**	**153.06**	**290**	PKPbc		**PKPbc**	**16 33 18.0**	**0.0**	
JYT						**pPKPbc**	**16 33 31.1**	**-0.7**	
ZEA	**Zeya**	**153.31**	**335**	*e*PKIKP		**PKiKP**	**16 33 20.3**	**+2.2**	
ZEA				pmax		pmax			
	comp=Z,10.0nm,1.1s								
MKAR	**Makanchi Array**	**154.21**	**44**	PKP		**PKPdf**	**16 33 10.4**	**-1.6**	
	comp=Z,8.4nm,1.0s,baz=302,slow=2.7,SNR=7.5								
MKAR				PKPbc		**PKPbc**	**16 33 20.0**	**-0.2**	
	comp=Z,10nm,0.8s,baz=318,slow=3.3,SNR=8.2								
MKAR				PKPab		**pPKPbc**	**16 33 34.0**	**-0.1**	
	comp=Z,15nm,1.0s,baz=324,slow=2.7,SNR=8.6								
KLR	**Kul'dur**	**154.50**	**323**	PKP		**PKPdf**	**16 33 12.1**	**-0.1**	
	comp=Z,2.6nm,0.8s,baz=19,slow=3.6,SNR=4.3								
KLR				PKPab		**PKPab**	**16 33 35.7**	**+0.4**	
	comp=Z,3.6nm,0.8s,baz=332,slow=6.8,SNR=5.0								
MJAR	**Matsushiro Arr**	**154.64**	**291**	PKP		**PKPdf**	**16 33 12.9**	**0.0**	
	comp=Z,0.9nm,0.7s,baz=168,slow=1.9,SNR=4.9								
MJAR				PKPab		**PKPab**	**16 33 37.3**	**+1.0**	
	comp=Z,16nm,0.9s,baz=112,slow=1.6,SNR=22								
MJAR	**Matsushiro Arr**	**154.64**	**291**	PKPdf		**PKPdf**	**16 33 10.4**	**-2.5**	
MJAR						**PKPab**	**16 33 37.8**	**+1.5**	
MAT	**Matsushiro**	**154.64**	**291**	*e*PKP		**PKPbc**	**16 33 21.2**	**-0.2**	
USRK	**Ussuriysk Ar.**	**157.10**	**312**	PKPab		**PKPab**	**16 33 47.6**	**+1.0**	
	comp=Z,4.1nm,0.8s,baz=132,slow=2.1,SNR=6.5								
WMQ	**Urumqi**	**159.00**	**46**	*e*PKP		**PKPdf**	**16 33 19.3**	**+1.0**	
WMQ				LR		LR			
	comp=Z,910nm,17.7s								
WMQ				LR		LR			
	comp=Z,810nm,20.5s								
ZAK	**Zakamensk**	**160.00**	**10**	*e*PKIKP		**PKPdf**	**16 33 17.9**	**-1.4**	
ZAK				*e*			16 33 25.4		
ZAK				pmax		pmax			
	comp=Z,41nm,1.7s								
ZAK				pmax		pmax			
	comp=Z,39nm,1.4s								
CN2	**Changchun**	**161.28**	**319**	*e*PKP		**PKPdf**	**16 33 22.8**	**+2.0**	
KSRS	**Korea Array**	**162.57**	**298**	PKPab		**PKPab**	**16 34 12.2**	**+1.6**	
	comp=Z,3.4nm,1.0s,baz=69,slow=4.8,SNR=5.1								
SONM	**Songino Array**	**162.85**	**5**	PKP		**PKPdf**	**16 33 21.5**	**-0.9**	
	comp=Z,5.9nm,1.1s,baz=298,slow=3.1,SNR=8.2								
SONM				PKPab		**PKPab**	**16 34 12.2**	**+0.6**	
	comp=Z,2.5nm,0.9s,baz=321,slow=2.6,SNR=4.2								
CM31	**Chiang Mai Arr**	**165.02**	**143**	PKPdf		**PKPdf**	**16 33 22.7**	**-2.5**	
CM31						**PKPab**	**16 34 20.5**	**-1.2**	
CMAR	**Chiang Mai Arr**	**165.02**	**143**	PKPab		**PKPab**	**16 34 21.4**	**-0.3**	
	comp=Z,11nm,0.9s,baz=231,slow=5.8,SNR=25								
CMAR	**Chiang Mai Arr**	**165.02**	**143**			**PKPab**	**16 34 20.8**	**-0.9**	
CHTO	**Chiang Mai**	**165.32**	**142**	PKP2		**PKPab**	**16 34 22.4**	**-0.6**	
CHTO	**Chiang Mai**	**165.32**	**142**			**PKPab**	**16 34 22.4**	**-0.6**	
HHC	**Hu-ho-hao-te**	**169.61**	**347**	*e*PKP		**PKPdf**	**16 33 28.3**	**+0.4**	
HHC				LR		LR			
	comp=Z,740nm,21.1s								
HHC				LR		LR			
	comp=Z,860nm,18.8s								
HHC				LR		LR			
	comp=Z,850nm,20.0s								
NJ2	**Nanjing**	**171.03**	**281**	*e*PKP		**PKPdf**	**16 33 30.3**	**+1.5**	
CD2	**Chengdu**	**175.94**	**86**	PKP		**PKPdf**	**16 33 30.3**	**-0.5**	
XAN	**Xi'an**	**176.69**	**354**	PKP		**PKPdf**	**16 33 30.6**	**-0.3**	
XAN				pPKP		pPKPdf	16 33 41.3	-3.5	
XAN				PKPab		**PKPab**	**16 35 13.3**	**+0.3**	

***IDC 24** 16:19:13.3±1.4, **0.76S×131.18E, h20**km±17km, **mb3.4/2, mb1 3.5/4, mb1mx3.2/48, mbtmp3.5/4, ML3.4/2 Error ellipse: s-maj=94.9km s-min=19.7km az=68.0, Irian Jaya region*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**0.14**	**143**	Pg	Pb	16 19 18.0	-0.4
	120nm,0.3s,baz=284,slow=19,SNR=8.0						
SIJI				Lg	Lg	16 19 22.2	
	259nm,0.3s,baz=251,slow=22,SNR=14						
FITZ	**Fitzroy Crossi**	**18.07**	**197**	P	Pn	16 23 22.7	-0.6
	0.1nm,0.3s,baz=22,slow=11,SNR=2.1						
WRA	**Warramunga Arr**	**19.32**	**171**	P	P	16 23 36.6	-0.7
	0.1nm,0.3s,baz=353,slow=13,SNR=3.0						
ASAR	**Alice Springs**	**22.93**	**174**	P	P	16 24 17.0	+0.8
	0.8nm,0.6s,baz=352,slow=11,SNR=8.0						
MKAR	**Makanchi Array**	**63.76**	**325**	P	P	16 29 43.6	-0.2
	0.4nm,0.6s,baz=129,slow=8.9,SNR=2.3						

***IDC 24** 16:21:11.0±1.2, **0.82S×130.94E, h0**km, **mb3.5/3, mb1 3.6/5, mb1mx3.4/46, mbtmp3.5/5, ML3.2/2, Error ellipse: s-maj=9.5km s-min=7.8km az=10.0, Irian Jaya region*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**0.33**	**98**	Pg	Pg	16 21 17.5	+0.2
	262nm,0.3s,baz=279,slow=23,SNR=14						
SIJI				Lg	Lg	16 21 21.8	
	781nm,0.3s,baz=294,slow=23,SNR=26						
FITZ	**Fitzroy Crossi**	**17.94**	**197**	P	Pn	16 25 22.1	0.0
	0.1nm,0.3s,baz=7.1,slow=16,SNR=1.6						
WRA	**Warramunga Arr**	**19.29**	**170**	P	P	16 25 37.4	-0.3
	0.1nm,0.3s,baz=354,slow=12,SNR=2.2						
ASAR	**Alice Springs**	**22.89**	**173**	P	P	16 26 15.7	-0.8
	0.7nm,1.1s,baz=353,slow=9.2,SNR=2.0						
MKAR	**Makanchi Array**	**63.67**	**325**	P	P	16 31 46.0	+1.8
	0.7nm,0.8s,baz=114,slow=6.0,SNR=2.6						
KURBB	**Kurchatov Arra**	**67.82**	**327**	P	P	16 32 09.7	-1.2
	0.6nm,0.8s,baz=129,slow=5.7,SNR=5.4						

***IDC 24** 16:23:49.9±4.3, **26.38S×27.51E, h0**km, **mb1 2.5/2, mb1mx2.5/42, mbtmp2.4/2, ML2.2/2, Error ellipse: s-maj=38.7km s-min=15.9km az=81.0, South Africa*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBTB	**Lobatse**	**2.20**	**308**	Pn	Pn	16 24 28.3	+0.5
	0.9nm,0.3s,baz=124,slow=15,SNR=35						
LBTB				Pg	Pb	16 24 29.7	-0.9
	0.9nm,0.3s,baz=122,slow=18,SNR=1.6						
LBTB				Sn	Sn	16 24 57.1	+1.3
	2.2nm,0.3s,baz=128,slow=2.7,SNR=7.8						
LBTB				Lg	Lg	16 24 59.2	
	2.2nm,0.3s,baz=42,slow=8.4,SNR=19						
BOSA	**Boshof**	**2.99**	**221**	Pn	Pn	16 24 38.9	+0.1
	0.2nm,0.3s,baz=37,slow=14,SNR=1.0						
BOSA				Pg	Pb	16 24 45.4	+1.2
	0.2nm,0.3s,baz=42,slow=17,SNR=3.6						
BOSA				Lg	Lg	16 25 24.0	
	0.4nm,0.3s,baz=313,slow=21,SNR=7.3						
I47ZA	**BOSHOF INFRASO**	**3.01**	**222**	*i*		16 40 10.0	
	baz=49,slow=298,SNR=1.3						
I35NA	**TSUMEB INFRASO**	**11.62**	**306**	*i*		17 31 10.0	
	baz=126,slow=345,SNR=1.2						

*IDC **24** 16:25:20.8±2.5, 30°.72S×70°.99W, h0km, mb4.3/2, mb1 4.1/5, mb1mx3.9/23, mbtmp4.1/5, ML3.6/3, Error ellipse: s-maj=87.3km s-min=35.3km az=101.0*
*NEIC **24** 16:25:24.8±2.5, 30°.71S±0°.03×71°.56W±0°.04, h40km±8km, mb4.5/6, ML4.0(GUC), Error ellipse: s-maj=5.6km s-min=4.9km az=80.0*
*GUC **24** 16:25:26.3±0.6, 30°.70S×71°.40W, h42km±2km, ML4.0*
ISC 24 16:25:25.3±0.9, 30°.70S±0°.03×71°.39W±0°.04, h34km±3km, **n64,σ1s67/68, mb4.4/4, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.21**	**276**	*e*P	**Pb**	**16 25 33.3**	**+1.1**
CO06				*i* S	**Sb**	**16 25 38.3**	**+1.5**
CO06				IAML		16 25 39.6	
	comp=E,28‖m,0.2s						
CO06	**Fray Jorge**	**0.21**	**276**		**Pb**	**16 25 33.3**	**+1.1**
CO06				Sn	**Sb**	**16 25 37.3**	**+0.4**
CO02	**Combarbal**	**0.61**	**146**	*e*P	**Pn**	**16 25 38.2**	**+0.6**
CO02				*i* S	**Sn**	**16 25 47.6**	**+1.4**
CO02				IAML		16 25 48.2	
	comp=N,20‖m,0.2s						
CO02	**Combarbal**	**0.61**	**146**		**Pn**	**16 25 38.1**	**+0.6**
CO02				Sn	**Sn**	**16 25 47.4**	**+1.1**
CO03	**El Pedregal**	**0.62**	**103**	*e*P	**Pb**	**16 25 38.7**	**+0.7**
CO03				*i* S	**Sb**	**16 25 48.6**	**+1.9**
CO03				IAML		16 25 49.5	
	comp=N,15‖m,0.1s						
CO03	**El Pedregal**	**0.62**	**103**		**Pn**	**16 25 38.6**	**+0.8**
CO03				Sn	**Sn**	**16 25 47.8**	**+1.2**
GO04	**Tololo Observa**	**0.73**	**45**	*e*P	**Pb**	**16 25 40.5**	**+0.5**
GO04				*i* S	**Sb**	**16 25 51.3**	**+1.4**
GO04				IAML		16 25 53.6	
	comp=N,18‖m,0.4s						
GO04	**Tololo Observa**	**0.73**	**45**		**Pb**	**16 25 40.4**	**+0.5**
GO04				Sn	**Sb**	**16 25 51.2**	**+1.4**
CO05	**La Serena**	**0.79**	**10**	*e*P	**Pb**	**16 25 40.8**	**+0.1**
CO05				*i* S	**Sb**	**16 25 52.2**	**+1.1**
CO05				IAML		16 25 57.6	
	comp=E,9‖m,0.4s						
CO05	**La Serena**	**0.79**	**10**		**Pb**	**16 25 40.9**	**+0.1**
CO05				Sn	**Sb**	**16 25 50.9**	**-0.2**
LCO	**Las Campanas**	**1.79**	**20**	Pn	**Pn**	**16 25 55.3**	**+1.4**
LCO				Sn	**Sn**	**16 25 15.9**	**+0.3**
VA06	**Catapilco**	**1.86**	**177**	*e*P	**Pb**	**16 25 57.5**	**-1.1**
VA06				*i* S	**Sb**	**16 26 20.4**	**-1.1**
VA06				IAML		16 26 38.9	
	comp=E,2‖m,0.5s						
VA03	**San Esteban**	**2.18**	**161**	*e*P	**Pn**	**16 26 01.4**	**+2.1**
VA03				*i* S	**Sn**	**16 26 28.9**	**+3.7**
VA03				IAML		16 26 31.9	
	comp=E,1‖m,0.7s						
VA03	**San Esteban**	**2.18**	**161**		**Pn**	**16 26 00.8**	**+1.6**
VA01	**Torpederas**	**2.33**	**185**	*i* S	**Sn**	**16 26 32.3**	**+3.7**
VA01	**Torpederas**	**2.33**	**185**		**Pn**	**16 26 00.9**	**-0.3**
ZON	**Zonda**	**2.48**	**111**		**Pb**	**16 26 07.1**	**-2.1**
AC04	**Llanos de Chal**	**2.50**	**6**		**Pn**	**16 26 05.2**	**+1.6**
MT05	**Renca**	**2.74**	**168**		**Pn**	**16 26 09.4**	**+2.5**
VA05	**Santo Domingo**	**2.96**	**184**	Pn	**Pn**	**16 26 09.6**	**-0.2**
MT09	**Talagante**	**3.09**	**174**		**Pn**	**16 26 12.7**	**+0.9**
MT01	**Popeta**	**3.16**	**178**	*i* S	**Sn**	**16 26 51.8**	**+2.6**
MT01	**Popeta**	**3.16**	**178**		**Pn**	**16 26 13.1**	**+0.5**
GO03	**Copiap**	**3.25**	**18**	Pn	**Pn**	**16 26 16.3**	**+2.3**
LMEL	**Las Melosas**	**3.30**	**163**	*e*P	**Pn**	**16 26 17.4**	**+2.7**
LMEL				*i* S	**Sn**	**16 26 56.1**	**+3.3**
BO01	**Tunca**	**3.69**	**176**		**Pn**	**16 26 20.1**	**+0.2**
BO02	**Sierra Bellavi**	**4.12**	**173**		**Pn**	**16 26 26.5**	**+0.7**
GO05	**Huala**	**4.32**	**186**		**Pn**	**16 26 27.6**	**-1.0**
AC02	**Maricunga**	**4.33**	**28**		**Pn**	**16 26 33.4**	**+4.2**
ML02	**Panimavida**	**5.05**	**180**	Pn	**Pn**	**16 26 37.6**	**-1.0**
PB14	**IPOC Station P**	**6.11**	**8**	Pn	**Pn**	**16 26 50.3**	**-3.2**
H03N1	**Juan Fernandez**	**6.94**	**245**	T	T	16 33 59.8	
	baz=72,slow=72,SNR=108						
VA04	**Juan Fernndez**	**6.95**	**243**	Pn	Pn	16 27 01.0	-3.7
H03N3	**Juan Fernandez**	**6.96**	**245**	T	T	16 33 58.6	
	baz=72,slow=72,SNR=112						
H03N2	**Juan Fernandez**	**6.96**	**245**	T	T	16 33 58.6	
	baz=72,slow=72,SNR=136						
PB15	**IPOC Station P**	**7.65**	**13**		**Pn**	**16 27 11.4**	**-3.2**
PB06	**IPO

CO03	El Pedregal	0.71	102	*i* P		Pn	16 34 19.0	0.0
GO04	Tololo Observa	0.80	49	*e*P		Pn	16 34 21.1	+0.8
GO04				*e*S		Sn	16 34 32.4	+1.3
GO04				IAML			16 34 35.4	
	comp=N,34μm,0.5s							
GO04	Tololo Observa	0.80	49			Pn	16 34 21.1	+0.8
GO04	Tololo Observa	0.80	49	*i* P		Pn	16 34 21.0	+0.8
CO05	La Serena	0.81	16	*e*P		Pn	16 34 21.4	+1.2
CO05				*e*S		Sn	16 34 32.7	+1.7
CO05	La Serena	0.81	16			Pn	16 34 21.4	+1.2
CO05				Sn		Sn	16 34 32.5	+1.5
LCO	Las Campanas	1.82	22	*e*P		Pn	16 34 35.9	+1.5
LCO				*e*S		Sn	16 34 58.8	+2.6
LCO	Las Campanas	1.82	22			Pn	16 34 35.8	+1.5
LCO	Las Campanas	1.82	22	*i* P		Pn	16 34 36.0	+1.7
AROD	Rodeo	1.82	74	*i* P		Pn	16 34 38.0	+3.5
VA06	Catapilco	1.87	175	ǁ*e*P		Pn	16 34 36.0	+1.2
VA06				*e*S		Sn	16 34 59.7	+2.6
VA06				IAML			16 35 06.7	
	comp=E,6μm,0.4s							
ACCO	Cerro Coronel	2.10	88	*i* P		Pn	16 34 42.0	+3.8
ACDV	Cuesta del Vie	2.12	76	*i* P		Pn	16 34 42.0	+3.6
RTLS	Leoncito	2.18	121	*i* P		Pn	16 34 43.0	+3.7
VA03	San Esteban	2.21	159	*e*P		Pn	16 34 41.6	+1.9
VA03	San Esteban	2.21	159			Pn	16 34 40.6	+1.0
VA03	San Esteban	2.21	159	*i* P		Pn	16 34 42.0	+2.4
VA01	Torpederas	2.32	183			Pn	16 34 41.3	+0.2
VA01	Torpederas	2.32	183	*i* P		Pn	16 34 42.0	+1.0
AUSP	Uspallata	2.36	131	*i* P		Pn	16 34 45.0	+3.2
AC04	Llanos de Chal	2.51	8	Pn		Pn	16 34 45.4	+1.7
AC04	Llanos de Chal	2.51	8	*i* P		Pn	16 34 45.0	+1.4
PEL	Peldehue	2.53	164	*e*P		Pn	16 34 46.0	+2.0
PEL				*i* S		Sn	16 35 15.5	+1.8
PEL				IAML			16 35 29.6	
	comp=E,1μm,0.4s							
ZON	Zonda	2.56	110	Pn		Pn	16 34 47.5	+3.2
ZON	Zonda	2.56	110	*i* P		Pn	16 34 48.0	+3.7
MT05	Renca	2.76	167	*e*P		Pn	16 34 48.6	+1.4
MT05				*i* S		Sn	16 35 20.6	+1.3
MT05				IAML			16 35 36.5	
	comp=E,4μm,0.4s							
MT05	Renca	2.76	167	Pn		Pn	16 34 47.8	+0.6
MT05	Renca	2.76	167	*i* P		Pn	16 34 50.0	+2.8
RTCV	Cerro Valdivia	2.78	115	*i* P		Pn	16 34 51.0	+3.6
AGUA	GUANDACOL	2.87	66	*i* P		Pn	16 34 54.0	+5.4
ASAL	Salagasta	2.95	130	*i* P		Pn	16 34 54.0	+4.2
VA05	Santo Domingo	2.95	182			Pn	16 34 49.8	+0.1
ARCO	CERRO ARCO	3.05	135	*i* P		Pn	16 34 56.0	+4.7
MT09	Talagante	3.10	172	ǁ*i*P		Pn	16 34 53.4	+1.5
MT09				IAML			16 35 41.9	
	comp=N,1μm,0.4s							
MT09	Talagante	3.10	172	Pn		Pn	16 34 53.2	+1.3
MT01	Popeta	3.17	176	*e*P		Pn	16 34 53.6	+1.0
MT01	Popeta	3.17	176			Pn	16 34 53.4	+0.7
MT01	Popeta	3.17	176	*i* P		Pn	16 34 54.0	+1.4
GO03	Copiap	3.28	20	Pn		Pn	16 34 56.0	+1.7
GO03	Copiap	3.28	20	*i* P		Pn	16 34 56.0	+1.7
AAGR	Agrelo	3.29	137	*i* P		Pn	16 34 58.0	+3.6
VCA	Vinchina	3.46	56	*i* P		Pn	16 35 02.0	+5.1
AC06	Mina Casimiro	3.47	17	Pn		Pn	16 34 58.0	+1.1
AVFE	Valle Fertil	3.48	90	*i* P		Pn	16 34 59.0	+2.0
BO01	Tunca	3.70	175	Pn		Pn	16 35 00.6	+0.6
BO01	Tunca	3.70	175	*i* P		Pn	16 35 02.0	+2.0
BO02	Sierra Bellavi	4.13	172			Pn	16 35 06.9	+1.0
BO02	Sierra Bellavi	4.13	172	*i* P		Pn	16 35 08.0	+2.1
ACHE	Chepes	4.18	98	*i* P		Pn	16 35 09.0	+2.3
GO05	Huala	4.32	185	Pn		Pn	16 35 07.9	-0.5
AC02	Maricunga	4.37	29	Pn		Pn	16 35 12.0	+2.3
AC02	Maricunga	4.37	29	*i* P		Pn	16 35 12.0	+2.3
RFA	San Rafael	4.80	149	*i* P		Pn	16 35 18.0	+2.9
ML02	Panimavida	5.05	179			Pn	16 35 18.1	-0.5
CYA	Choya	5.44	67	*i* P		Pn	16 35 26.0	+2.0
PB14	IPOC Station P	6.12	9			Pn	16 35 31.4	-2.2
PB14	IPOC Station P	6.12	9	*i* P		Pn	16 35 32.0	-1.6
AHML	Horco Molle	6.67	56	*i* P		Pn	16 35 42.0	+1.2
FSA	Cafayete	6.67	48	*i* P		Pn	16 35 44.0	+3.1
H03N1	Juan Fernandez	6.87	245	T		T	16 42 33.8	
	baz=72,slow=72							
VA04	Juan Fernndez	6.88	243			Pn	16 35 43.1	-0.4
H03N3	Juan Fernandez	6.88	245	T		T	16 42 33.8	
	baz=72,slow=72							
H03N2	Juan Fernandez	6.88	245	T		T	16 42 34.5	
	baz=72,slow=72							
H03S3	Juan Fernandez	7.01	242	T		T	16 42 45.6	
	baz=66,slow=70							
H03S1	Juan Fernandez	7.02	242	T		T	16 42 40.7	
	baz=66,slow=70							
H03S2	Juan Fernandez	7.03	242	T		T	16 42 46.5	
	baz=66,slow=70							
PB10	IPOC Station P	7.20	7	Pn		Pn	16 35 47.2	-1.0
PB15	IPOC Station P	7.67	14	Pn		Pn	16 35 56.0	+1.2
PB15	IPOC Station P	7.67	14	*i* P		Pn	16 35 56.0	+1.2
PB06	IPOC Station P	8.14	13			Pn	16 36 01.2	+0.1
LC01	Cunco	8.19	182	Pn		Pn	16 35 59.6	-2.0
LVC	Limon Verde	8.38	17	Pn		Pn	16 36 03.8	-0.8
	comp=N,0.4nm,0.3s,baz=180,slow=10,SNR=7.7							
LVC				Sn		Sn	16 37 36.5	-1.6
	comp=N,1.3nm,0.3s,baz=156,slow=20,SNR=1.0							
LVC	Limon Verde	8.38	17	Pn		Pn	16 36 04.1	-0.5
PB04	IPOC Station P	8.42	9	Pn		Pn	16 36 04.6	-0.3
PB07	IPOC Station P	9.05	10	Pn		Pn	16 36 12.9	-0.7
PB09	IPOC Station P	9.09	13	Pn		Pn	16 36 14.2	0.0
PB01	IPOC Station P	9.78	11	Pn		Pn	16 36 20.8	-2.7
PLCA	Paso Flores	10.04	176	Pn		Pn	16 36 24.4	-2.7
	comp=N,0.1nm,0.3s,baz=342,slow=15,SNR=1.4							
PLCA	Paso Flores	10.04	176			Pn	16 36 27.4	+0.4
TA01	Diego Aracena	10.16	7	Pn		Pn	16 36 28.8	+0.2
LL04	Puerto Octay	10.22	184			Pn	16 36 27.9	-1.5
PB08	IPOC Station P	10.72	12	Pn		Pn	16 36 34.7	-2.0
TRQA	Tornquist	10.75	136	Pn		Pn	16 36 34.4	-2.3
PB11	IPOC Station P	11.02	9	Pn		Pn	16 36 37.6	-2.9
PSGCX	Pisagua	11.12	7	Pn		Pn	16 36 40.3	-1.6
CPUP	Villa Florida	13.19	74	Pn		Pn	16 37 07.4	-2.6
	comp=N,0.1nm,0.3s,baz=252,slow=16,SNR=1.7							
CPUP	Villa Florida	13.19	74	Pn		Pn	16 37 06.5	-3.6
LPAZ	La Paz	14.67	13	Pn		Pn	16 37 30.8	+0.1
	comp=N,0.2nm,0.3s,baz=198,slow=6.4,SNR=11							
LPAZ	La Paz	14.67	13			Pn	16 37 32.5	+1.8
SIV	San Ignacio	17.47	35	P		Pn	16 38 05.9	-0.1
	comp=N,0.7nm,0.3s,baz=215,slow=6.9,SNR=14							
NNA	Nana	19.27	344	P		P	16 38 24.9	-1.7
NNA				IAmb		IAmb	16 38 53.8	
	comp=Z,56nm,1.4s							
SAML	Samuel	22.99	21	P		P	16 39 03.7	-2.8
BDFB	Brasilia	26.20	60	P		P	16 39 36.0	-0.4
	comp=Z,3.5nm,0.4s,baz=227,slow=6.5,SNR=5.0							
BDFB	Brasilia	26.20	60	P		P	16 39 34.9	-1.5
BDFB				IAmb		IAmb	16 39 36.9	
	comp=Z,4.9nm,0.7s							
RUSC	La Rusia	36.41	357	P		P	16 41 08.4	+1.8
RUSC				IAmb		IAmb	16 41 09.9	
	comp=Z,7.2nm,0.7s							
SNAA	Sanae	54.48	159	P		P	16 43 28.6	+0.3
TXAR	Lajitas Array	67.10	330	P		P	16 44 56.6	+1.9
	comp=Z,1.3nm,0.7s,baz=154,slow=7.8,SNR=13							
DBIC	Dimbokro	73.70	72	P		P	16 45 35.8	+0.5
	comp=Z,6.2nm,0.7s,baz=222,slow=4.6,SNR=13							
DBIC	Dimbokro	73.70	72	IAmb		IAmb	16 45 35.9	
	comp=Z,12nm,1.0s							
NVAR	Mina Array Bea	81.45	325	P		P	16 46 20.1	+1.8
	comp=Z,0.5nm,0.7s,baz=142,slow=7.4,SNR=3.6							
TORD	Torodi Ar. Bea	82.65	70	P		P	16 46 25.4	+0.6
	comp=Z,1.3nm,0.4s,baz=277,slow=6.2,SNR=19							
TORD	Torodi Ar. Bea	82.65	70	P		P	16 46 25.2	+0.4
TORD				IAmb		IAmb	16 46 41.3	
	comp=Z,4.9nm,1.4s							
H11S2	WAKE ISLAND Hyl	26.22	271	T		T	19 11 52.2	
	baz=115,slow=74							
H11S1	WAKE ISLAND Hyl	26.23	271	T		T	19 11 51.5	
	baz=115,slow=74							
H11S3	WAKE ISLAND Hyl	26.24	271	T		T	19 11 53.5	
	baz=115,slow=74							
H11N3	WAKE ISLAND Hyl	26.55	273	T		T	19 12 20.8	
	baz=116,slow=75,SNR=26							
H11N1	WAKE ISLAND Hyl	26.56	273	T		T	19 12 21.3	
	baz=116,slow=75,SNR=9.3							
H11N2	WAKE ISLAND Hyl	26.57	273	T		T	19 12 22.0	
	baz=116,slow=75,SNR=70							
BVAR	Borovoye Array	144.51	40	PKP		PKPbc	16 53 36.4	+1.0
	comp=Z,1.8nm,0.5s,baz=256,slow=5.5,SNR=10.0							
ZALV	Zalesovo Beam	151.16	29	PKPbc		PKPbc	16 53 54.1	+0.6
	comp=Z,6.1nm,0.6s,baz=304,slow=3.3,SNR=25							
ZALV	Zalesovo Beam	151.16	29			PKPbc	16 53 53.5	0.0

2015 SEP

*IDC **24** 16:36:56.8±0.8,0.°62S×131.°47E,h0km,mb4.1/8, mb1 4.2/12,mb1mx4.0/35,mbtmp4.1/12,ML3.9/4,MS5.2/1, Ms1 5.2/1,ms1mx4.1/50,Error ellipse: s-maj=20.4km s-min=5.9km az=119.0*
*DJA **24** 16:36:58.1±0.5,1.°S×3.°×13.°1E±.°,h10km,M4.4/9,mb4.6/6, mB5.0/1,MLv4.4/9,Mw(mB)4.3/1*
*NEIC **24** 16:36:59.4±2.4,0.°73S±0.°09×131.°2E±0.°1,h10km±1km, mb4.3/24,Error ellipse: s-maj=21.7km s-min=9.9km az=50.0*

ISC 24 16:36:58.8±0.5,**0.°67S**±0.°04×**131.°33E**±0.°06,**h10km**,**n61,** σ1**9**65/63,**mb4.3**/16,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**0.21**	**200**	P	**Pg**	**16 37 04.4**	**+1.3**
SWI				S	**Sg**	**16 37 08.0**	**+1.9**
SIJI	**Sorong**	**0.21**	**198**	Pg	**Pg**	**16 37 03.5**	**+0.3**
	3μm,0.3s,baz=6.4,slow=11,SNR=154						
SIJI				Lg	Lg	16 37 07.2	
	14μm,0.3s,baz=90,slow=23,SNR=174						
SIJI				LR	LR	16 37 26.3	
	comp=Z,82μm,20.0s,baz=272,slow=91						
SIJI	**Sorong**	**0.21**	**198**	P	**Pg**	**16 37 03.5**	**+0.3**
FAKI	**Fak Fak**	**2.42**	**158**		**Pn**	**16 37 39.3**	**+0.9**
FAKI	**Fak Fak**	**2.42**	**158**	P	**Pn**	**16 37 40.2**	**+1.8**
FAKI				S	**Sn**	**16 38 09.3**	**+1.2**
MSAI	**Masohi**	**3.58**	**222**	P	**Pn**	**16 37 56.8**	**+2.3**
MSAI				S	**Sn**	**16 38 40.2**	**+3.3**
KRAI	**Karang Ratu**	**3.94**	**228**	P	**Pn**	**16 38 00.5**	**+1.1**
BNDI	**Bandanaira**	**4.09**	**200**	P	**Pn**	**16 38 00.0**	**-1.4**
TNTI	**Ternate**	**4.21**	**290**		**Pn**	**16 38 03.1**	**0.0**
TNTI	**Ternate**	**4.21**	**290**	P	**Pn**	**16 38 03.5**	**+0.4**
GAMI	**Galela, Maluku**	**4.33**	**305**	P	**Pn**	**16 38 04.2**	**-0.5**
SRPI	**Serui, Papua**	**5.05**	**104**	P	**Pg**	**16 38 37.4**	**+1.8**
SANI	**Sanana**	**5.51**	**256**	P	**Pn**	**16 38 20.7**	**-0.3**
	0.1nm19nm,1.2s						
SAUI	**Saumlaki**	**7.27**	**180**	Pn	**Pn**	**16 38 45.7**	**+0.5**
KMSI	**Cibinong**	**7.45**	**280**	P	**Pn**	**16 38 49.0**	**+1.3**
	0.3nm848nm63nm,0.6s						
GTOI	**Gorontalo**	**8.42**	**279**	P	**Pn**	**16 39 01.3**	**+0.4**
	20nm,0.6s						
LUWI	**Luwuk**	**8.56**	**267**	Pn	**Pn**	**16 39 05.1**	**+2.2**
APSI	**Ampana**	**9.68**	**269**	P	**Pn**	**16 39 18.9**	**+0.6**
	31nm,0.5s						
TOLI2	**Tolitoli**	**10.70**	**279**	Pn	**Pn**	**16 39 32.5**	**+0.3**
MTN	**Manton Dam**	**12.10**	**181**		**Pn**	**16 39 49.0**	**-2.5**
BATI	**Baumata**	**12.16**	**219**	Pn	**Pn**	**16 39 53.1**	**+0.8**
	0.9nm,0.3s,baz=41,slow=19,SNR=2.1						
KAPI	**Kappang**	**12.34**	**249**	Pn	**Pn**	**16 39 56.0**	**+1.3**
	0.3nm,0.3s,baz=349,slow=10,SNR=1.2						
KAPI	**Kappang**	**12.34**	**249**	Pn	**Pn**	**16 39 53.8**	**-1.0**
KNRA	**Kununurra**	**15.13**	**190**		**Pn**	**16 40 29.9**	**-2.8**
KNRA				IAmb	IAmb	16 40 40.2	
	comp=Z,20nm,0.8s						
COEN	**Coen**	**17.66**	**139**		**Pn**	**16 41 05.5**	**+0.4**
COEN				IAmb	IAmb	16 41 29.4	
	comp=Z,45nm,1.6s						
FITZ	**Fitzroy Crossi**	**18.20**	**198**	P	**Pn**	**16 41 10.7**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=69,slow=12,SNR=9.9						
FITZ				S	Sn	16 44 22.1	-13
	comp=Z,0.1nm,0.3s,baz=225,slow=16,SNR=2.2						
FITZ	**Fitzroy Crossi**	**18.20**	**198**	P	**Pn**	**16 41 08.3**	**-3.4**
WB0	**Warramunga Arr**	**19.22**	**171**	P	**P**	**16 41 21.6**	**-1.6**
WRA	**Warramunga Arr**	**19.38**	**171**	P	**P**	**16 41 24.0**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=353,slow=12,SNR=19						
WRA				S	Sn	16 44 46.9	-17
	comp=Z,0.2nm,0.3s,baz=353,slow=22,SNR=3.4						
WB2	**Warramunga Arr**	**19.38**	**171**	P	**P**	**16 41 25.2**	**+0.2**
WB2				IAmb	IAmb	16 41 40.0	
	comp=Z,15nm,1.6s						
WR0	**Warramunga Arr**	**19.43**	**171**	P	**P**	**16 41 24.9**	**-0.6**
AS31	**Alice Springs**	**23.00**	**174**	P	**P**	**16 42 04.2**	**+0.2**
AS31				IAmb	IAmb	16 42 22.4	
	comp=Z,3.1nm,0.6s						
ASAR	**Alice Springs**	**23.00**	**174**	P	**P**	**16 42 04.4**	**+0.4**
	comp=Z,3.2nm,0.5s,baz=353,slow=11,SNR=22						
ASAR				S	**S**	**16 46 06.2**	**-8.5**
	comp=Z,0.7nm,1.1s,baz=2.2,slow=26,SNR=1.9						
YOJ	**Yonaguni jima**	**26.25**	**343**	P	**P**	**16 42 36.3**	**+2.0**
STKA	**Stephens Creek**	**32.52**	**164**	P	**P**	**16 43 28.9**	**-1.1**
	comp=Z,2.5nm,0.7s,baz=341,slow=8.5,SNR=4.8						
STKA	**Stephens Creek**	**32.52**	**164**	P	**P**	**16 43 30.5**	**+0.5**
JWT	**Wachi**	**35.97**	**6**	P	**P**	**16 44 00.7**	**+0.9**
CMAR	**Chiang Mai Arr**	**37.07**	**303**	P	**P**	**16 44 09.0**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=122,slow=7.5,SNR=15						
CHTO	**Chiang Mai**	**37.24**	**303**	P	**P**	**16 44 10.9**	**0.0**
CHTO				IAmb	IAmb	16 44 11.8	
	comp=Z,4.0nm,0.8s						
USA0B	**Ussuriysk Arra**	**44.67**	**1**	P	**P**	**16 45 12.6**	**+0.8**
USA0B				IAmb	IAmb	16 45 45.1	
	comp=Z,9.5nm,1.5s						
USRK	**Ussuriysk Ar.**	**44.67**	**1**	P	**P**	**16 45 11.9**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=183,slow=8.0,SNR=6.8						
USRK	**Ussuriysk Ar.**	**44.67**	**1**	P	**P**	**16 45 12.2**	**+0.4**
SONM	**Songino Array**	**52.96**	**339**	P	**P**	**16 46 15.7**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=141,slow=7.1,SNR=2.6						
SONM				PcP	**PcP**	**16 47 23.8**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=166,slow=1.2,SNR=2.4						
SONM	**Songino Array**	**52.96**	**339**	IAmb	IAmb	16 46 40.1	
	comp=Z,3.0nm,1.6s						
MK31	**Makanchi Array**	**63.77**	**325**	P	**P**	**16 47 31.0**	**-0.1**
MK31				IAmb	IAmb	16 47 32.1	
	comp=Z,1.9nm,0.7s						
MKAR	**Makanchi Array**	**63.77**	**325**	P	**P**	**16 47 31.0**	**-0.1**
	comp=Z,3.9nm,0.7s,baz=111,slow=8.0,SNR=31						
MKAR	**Makanchi Array**	**63.77**	**325**	P	**P**	**16 47 30.8**	**-0.3**
MAKZ	**Makanchi**	**63.96**	**325**	P	**P**	**16 47 32.0**	**-0.3**
NIL	**Nilore**	**64.24**	**308**	P	**P**	**16 47 34.1**	**-0.3**
NIL				IAmb	IAmb	16 47 34.2	
	comp=Z,2.9nm,0.7s						
ZALV	**Zalesovo Beam**	**66.58**	**332**	P	**P**	**16 47 47.8**	**-1.3**
	comp=Z,1.6nm,0.6s,baz=120,slow=6.8,SNR=7.0						
KURBB	**Kurchatov Arra**	**67.90**	**327**	P	**P**	**16 47 57.4**	**-0.1**
	baz=126,slow=5.9						
KK31	**Karatay Array**	**69.56**	**317**	P	**P**	**16 48 07.3**	**-0.8**
KKAR	**Karatay Array**	**69.56**	**317**	P	**P**	**16 48 07.7**	**-0.4**
KKAR	**Karatay Array**	**69.56**	**317**	P	**P**	**16 48 07.8**	**-0.3**
KKAR				IAmb	IAmb	16 48 08.4	
	comp=Z,3.6nm,0.6s						
BRVK	**Borovoye**	**73.56**	**327**	P	**P**	**16 48 31.1**	**-1.0**
ABKAR	**Akbulak array**	**78.44**	**321**	P	**P**	**16 48 58.9**	**-1.0**
ABKAR	**Akbulak array**	**78.44**	**321**	P	**P**	**16 48 59.1**	**-0.9**
ABKAR				IAmb	IAmb	16 49 04.0	
	comp=Z,2.9nm,0.8s						
VNDA	**Vanda**	**78.54**	**174**	P	P	16 48 55.5	-4.4
VNDA				IAmb	IAmb	16 49 08.2	
	comp=Z,1.1nm,0.8s						
ARU	**Arti**	**81.09**	**328**	P	**P**	**16 49 13.7**	**-0.4**
ARU				IAmb	IAmb	16 49 14.2	
	comp=Z,4.8nm,0.7s						
ATD	**Arta Tunnel**	**88.64**	**281**	LR	LR	17 29 04.1	
	comp=Z,1μm,20.0s,baz=54,slow=35						
BRTR	**Keskin Array B**	**96.35**	**310**	P	**P**	**16 50 29.8**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=55,slow=6.0,SNR=2.0						

*IDC **24** 16:43:49.1±0.9,0.°76S×131.°37E,h0km,mb4.2/8, mb1 4.3/12,mb1mx4.0/59,mbtmp4.2/12,ML4.1/4,Error ellipse: s-maj=30.8km s-min=16.0km az=77.0*
*DJA **24** 16:43:51.5±0.7,1.°S±5.°×13.°1E±.°,h10km,M4.4/6,mb4.6/4, MLv4.3/6*
*NEIC **24** 16:43:52.8±2.5,0.°95S±0.°08×131.°10E±0.°09,h10km±1km, mb4.0/11,Error ellipse: s-maj=19.7km s-min=6.5km az=46.0*

ISC 24 16:43:52.1±1.0,**0.°98S**±0.°04×**131.°14E**±0.°05,**h17**km±7km,
n42,σ2**8**46/48,**mb4.0**/10,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**0.17**	**45**	P	**Pg**	**16 43 56.4**	**-0.1**
SWI				S	**Sb**	**16 44 00.3**	**+0.3**
SIJI	**Sorong**	**0.17**	**48**	P	**Pg**	**16 43 55.8**	**-0.8**
FAKI	**Fak Fak**	**2.22**	**150**		**Pb**	**16 44 31.3**	**-0.6**
FAKI				Sn	**Sb**	**16 44 60.0**	**+0.9**
FAKI	**Fak Fak**	**2.22**	**150**	P	**Pb**	**16 44 31.2**	**-0.6**
MSAI	**Masohi**	**3.22**	**223**	P	**Pb**	**16 44 47.6**	**-1.3**
MSAI				S	**Sg**	**16 45 35.2**	**-0.6**
KRAI	**Karang Ratu**	**3.59**	**230**	P	**Pb**	**16 44 55.0**	**-0.2**
BNDI	**Bandanaira**	**3.73**	**199**	P	**Pb**	**16 44 54.2**	**-3.3**
TNTI	**Ternate**	**4.16**	**295**	Pn	**Pn**	**16 44 56.0**	**+1.1**
SANI	**Sanana**	**5.26**	**258**	P	**Pn**	**16 45 13.2**	**+3.2**
	0.1nm17nm,0.8s						
SAUI	**Saumlaki**	**6.95**	**179**	Pn	**Pn**	**16 45 36.9**	**+3.6**
SAUI				Sn	**Sn**	**16 46 56.0**	**+3.9**
GTOI	**Gorontalo**	**8.29**	**281**	P	Pn	16 45 56.8	+5.2
	12nm,0.7s						
LUWI	**Luwuk**	**8.37**	**270**	Pn	**Pn**	**16 45 51.4**	**-1.3**
APSI	**Ampana**	**9.49**	**270**	P	**Pn**	**16 46 10.2**	**+2.1**
	25nm,0.5s						
TOLI2	**Tolitoli**	**10.56**	**281**	Pn	**Pn**	**16 46 22.4**	**-0.4**
MTN	**Manton Dam**	**11.78**	**180**		**Pn**	**16 46 41.2**	**+1.7**
MTN				Sn	**Sn**	**16 48 47.1**	**-3.7**
BATI	**Baumata**	**11.80**	**219**	Pn	**Pn**	**16 46 44.2**	**+4.5**
	0.6nm,0.3s,baz=251,slow=23,SNR=1.4						
KAPI	**Kappang**	**12.05**	**250**	Pn	**Pn**	**16 46 45.9**	**+2.6**
	0.9nm,0.3s,baz=87,slow=19,SNR=2.0						
KAPI	**Kappang**	**12.05**	**250**	Pn	**Pn**	**16 46 41.3**	**-1.9**
KNRA	**Kununurra**	**14.79**	**189**		**Pn**	**16 47 20.0**	**-0.6**
COEN	**Coen**	**17.55**	**138**	Pn	**Pn**	**16 47 56.1**	**0.0**
COEN				IAmb	IAmb	16 48 14.7	
	comp=Z,24nm,1.4s						
FITZ	**Fitzroy Crossi**	**17.84**	**197**	P	**P**	**16 48 01.3**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=18,slow=9.9,SNR=15						
FITZ				S	**Sn**	**16 51 12.3**	**-6.1**
	comp=Z,0.2nm,0.3s,baz=127,slow=20,SNR=4.1						
FITZ	**Fitzroy Crossi**	**17.84**	**197**	P	**P**	**16 48 01.2**	**+0.9**
WRAB	**Tennant Creek**	**19.09**	**171**		**P**	**16 48 15.1**	**+0.9**
WRAB				IAmb	IAmb	16 48 25.5	
	comp=Z,10nm,1.1s						
WRA	**Warramunga Arr**	**19.10**	**171**	P	**Pn**	**16 48 15.6**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=352,slow=13,SNR=10						
WRA				S	**Sn**	**16 51 39.5**	**-9.4**
	comp=Z,0.5nm,0.3s,baz=358,slow=22,SNR=6.7						
WRA	**Warramunga Arr**	**19.10**	**171**	P	**Pn**	**16 48 16.0**	**+0.9**
WB2	**Warramunga Arr**	**19.10**	**171**	P	**Pn**	**16 48 15.7**	**+0.5**
WB2				IAmb	IAmb	16 48 43.6	
	comp=Z,12nm,1.2s						
WR0	**Warramunga Arr**	**19.15**	**170**	P	**P**	**16 48 15.3**	**+0.5**
WR0				IAmb	IAmb	16 48 26.8	
	comp=Z,6.6nm,0.9s						
AS31	**Alice Springs**	**22.70**	**173**	P	**P**	**16 48 52.7**	**-0.5**
AS31				IAmb	IAmb	16 49 10.1	
	comp=Z,3.8nm,0.6s						
ASAR	**Alice Springs**	**22.71**	**173**	P	**P**	**16 48 54.2**	**+1.0**
	comp=Z,1.4nm,0.6s,baz=352,slow=11,SNR=26						
ASAR	**Alice Springs**	**22.71**	**173**	P	**P**	**16 48 54.8**	**+1.5**
PSA00	**Pilbara Seismi**	**23.24**	**208**	P	**P**	**16 48 60.0**	**+1.2**
PSA00				IAmb	IAmb	16 49 05.1	
	comp=Z,5.6nm,1.4s						
PSA00	**Pilbara Seismi**	**23.24**	**208**	P	**P**	**16 49 00.2**	**+1.5**
PSA00				IAmb	IAmb	16 49 28.5	
	comp=Z,19nm,1.5s						
STKA	**Stephens Creek**	**32.28**	**163**	P	**P**	**16 50 21.8**	**+1.7**
	comp=Z,1.6nm,0.4s,baz=342,slow=9.0,SNR=6.2						
STKA	**Stephens Creek**	**32.28**	**163**		**P**	**16 50 22.0**	**+1.9**
STKA				IAmb	IAmb	16 50 59.5	
	comp=Z,2.6nm,1.6s						
RPSI	**Rantau Prapat**	**32.41**	**277**	P	**P**	**16 50 22.7**	**+1.2**
PSI	**Prapat**	**32.42**	**277**	P	**P**	**16 50 22.7**	**+0.9**
	comp=Z,1.5nm,0.4s,baz=142,slow=11,SNR=1.7						
CMAR	**Chiang Mai Arr**	**37.09**	**303**	P	**P**	**

ECAB	**El Cabril**	**5.91**	**69**	P		**Pn**	**16 48 22.0**	**+2.6**
	comp=N,0.8nm,0.1s,SNR=12							
ECAB				S		**Sn**	**16 49 23.4**	**-3.8**
	comp=N,3.8nm,0.7s,SNR=7.9							
OUK	**Oukaimeden**	**6.22**	**141**	P		**Pn**	**16 48 26.8**	**+2.9**
EPLA	**Plasencia**	**6.34**	**50**	S		**Sn**	**16 49 34.0**	**-3.7**
	comp=N,5.9nm,0.6s,SNR=7.9							
MVO	**Moncorvo**	**6.54**	**38**	S		**Sn**	**16 49 37.7**	**-5.0**
	comp=N,1.9nm,0.4s,SNR=7.9							
EADA	**Adamuz**	**6.58**	**70**	P		**Pn**	**16 48 31.4**	**+2.9**
	comp=N,0.5nm,0.1s,SNR=7.9							
EADA				S		**Sn**	**16 49 40.5**	**-3.0**
	comp=N,0.8nm,0.4s,SNR=7.9							
ELOB	**Lobios**	**6.64**	**29**	S		**Sn**	**16 49 39.4**	**-5.7**
	comp=N,3.7nm,0.4s,SNR=7.9							
MD31	**MD31**	**7.12**	**115**	P		**Pn**	**16 48 37.5**	**+1.5**
MDT	**Midelt**	**7.26**	**115**	P		**Pn**	**16 48 39.3**	**+1.4**
ECAL	**Calabor**	**7.27**	**36**	S		**Sn**	**16 49 55.9**	**-4.9**
	comp=N,3.2nm,1.5s,SNR=7.9							

*NOU **24** 16:48:44.0, 14°.22S×172°.64W, h87km, MLv3.7/5, Samoa Islands*

IDC 24 16:48:23.0±5.0, 15°.37S×173°.67W, h0km, mb4.2/2, mb1 4.4/3, mb1mx3.8/40, mbtmp4.3/3, ML4.7/1, Error ellipse: s-maj=320.3km s-min=26.6km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.34**	**52**	Pn	Pn	16 49 02.5	-0.3
	173nm,0.3s,baz=203,slow=3.2,SNR=241						
AFI				Sn	Sn	16 49 23.7	-8.7
	266nm,0.3s,baz=276,slow=23,SNR=18						
AFI	**Afiamalu**	**2.34**	**52**	P	Pn	16 49 02.5	-0.3
AFI	**Afiamalu**	**2.34**	**52**	P	Pn	16 49 02.4	-0.4
WRA	**Warramunga Arr**	**49.60**	**257**	P	P	16 57 16.1	-0.4
	0.5nm,0.3s,baz=90,slow=6.6,SNR=2.6						
ASAR	**Alice Springs**	**49.87**	**252**	P	P	16 57 18.4	-0.2
	3.6nm,0.6s,baz=86,slow=8.2,SNR=12						
GERES	**GERESS Array B**	**146.08**	**351**	PKPbc	PKPbc	17 08 04.8	-0.4
	0.2nm,0.3s,baz=28,slow=6.0,SNR=3.7						

*IDC **24** 16:49:55.1±2.0, 14°.41S×170°.59E, h619km±21km, mb3.6/10, mb1 3.7/11, mb1mx3.3/42, mbtmp4.5/11, Error ellipse: s-maj=36.8km s-min=18.2km az=146.0*
*NEIC **24** 16:49:56.0±1.9, 14°.5S±0°.1×170°.7E±0°.1, h630km±7km, mb4.4/56, Error ellipse: s-maj=16.6km s-min=15.0km az=139.0*

ISC 24 16:49:54.0±0.5, 14°.36S±0°.08×170°.67E±0°.07, h600km, n83, σ1935/84, mb4.4/35, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**7.17**	**207**	P	**P**	**16 51 45.4**	**-0.2**
MARNC	**Mare, Loyalty**	**7.51**	**199**	P	**P**	**16 51 49.3**	**+0.6**
MSVF	**Nonsavu**	**7.84**	**116**	P	**P**	**16 51 54.9**	**+3.0**
DZM	**Mont Dzumac**	**8.65**	**207**	P	**P**	**16 52 01.4**	**+1.7**
	1.7nm,0.3s,baz=189,slow=22,SNR=16						
DZM	**Mont Dzumac**	**8.65**	**207**	P	**P**	**16 52 01.7**	**+2.0**
PINNC	**Pines Island,**	**8.76**	**200**	P	**P**	**16 52 02.4**	**+1.9**
OUENC	**Ouen Island, N**	**8.80**	**204**	P	**P**	**16 52 03.1**	**+2.2**
ONTNC	**Ouen Toro**	**8.86**	**206**	P	**P**	**16 52 04.0**	**+2.5**
HNR	**Honiara**	**11.58**	**294**	P	**P**	**16 52 32.4**	**+3.7**
EIDS	**Eidsvold**	**21.40**	**236**	P	**P**	**16 53 59.8**	**-0.6**
EIDS				IAmb	IAmb	16 54 19.1	
	comp=Z,21nm,1.4s						
PMG	**Port Moresby**	**23.52**	**279**	P	**P**	**16 54 19.1**	**-0.3**
PMG				IAmb	IAmb	16 54 31.4	
	comp=Z,15nm,0.9s						
ARMA	**Armidale**	**23.72**	**224**	P	**P**	**16 54 20.9**	**-0.2**
ARMA				IAmb	IAmb	16 54 25.4	
	comp=Z,23nm,1.2s						
CTA	**Charters Tower**	**24.00**	**253**	P	**P**	**16 54 23.2**	**-0.3**
	comp=Z,1.5nm,0.3s,baz=80,slow=11,SNR=9.8						
CTAO	**Charters Tower**	**24.00**	**253**	P	**P**	**16 54 23.6**	**+0.1**
CTAO				IAmb	IAmb	16 54 23.9	
	comp=Z,5.5nm,0.6s						
BKZ	**Black Stump Fm**	**25.23**	**169**	P	**P**	**16 54 32.4**	**-1.8**
COEN	**Coen**	**26.66**	**267**	P	**P**	**16 54 47.3**	**+0.3**
TUWZ	**Tuamarina**	**27.12**	**175**	P	**P**	**16 54 49.1**	**-1.5**
LTZ	**Lake Taylor**	**28.35**	**178**	P	**P**	**16 55 00.2**	**-1.2**
CAN	**Canberra**	**28.55**	**219**	P	**P**	**16 55 02.6**	**-0.8**
OXF	**Oxford**	**28.89**	**178**	P	**P**	**16 55 05.5**	**-0.5**
WKZ	**Wanaka**	**30.40**	**182**	P	**P**	**16 55 21.8**	**+2.8**
STKA	**Stephens Creek**	**31.77**	**232**	P	**P**	**16 55 30.8**	**-0.1**
	comp=Z,13nm,0.3s,baz=63,slow=8.8,SNR=94						
STKA	**Stephens Creek**	**31.77**	**232**	P	**P**	**16 55 30.6**	**-0.3**
STKA				IAmb	IAmb	16 55 31.2	
	comp=Z,3.6nm,0.4s						
TOO	**Toolangi**	**32.16**	**219**	P	**P**	**16 55 33.9**	**-0.2**
TOO				IAmb	IAmb	16 55 34.6	
	comp=Z,7.7nm,0.7s						
WR0	**Warramunga Arr**	**34.92**	**256**	P	**P**	**16 55 56.0**	**-1.4**
WR0				IAmb	IAmb	16 55 56.9	
	comp=Z,7.0nm,0.9s						
WB0	**Warramunga Arr**	**35.05**	**256**	P	**P**	**16 55 57.4**	**-1.1**
WB0				IAmb	IAmb	16 55 57.9	
	comp=Z,12nm,0.6s						
WB2	**Warramunga Arr**	**35.10**	**256**	P	**P**	**16 55 57.5**	**-1.4**
WB2				IAmb	IAmb	16 55 58.4	
	comp=Z,7.5nm,0.7s						
WRAB	**Tennant Creek**	**35.10**	**256**	P	**P**	**16 55 57.6**	**-1.4**
WRAB				IAmb	IAmb	16 55 58.4	
	comp=Z,6.4nm,0.7s						
WRA	**Warramunga Arr**	**35.11**	**256**	P	**P**	**16 55 57.4**	**-1.7**
	comp=Z,2.6nm,0.3s,baz=80,slow=6.1,SNR=19						
WRA				ScP	**ScP**	**17 01 00.8**	**-1.9**
	comp=Z,0.9nm,1.0s,baz=105,slow=4.9,SNR=3.0						
WRA	**Warramunga Arr**	**35.11**	**256**	IAmb	IAmb	16 55 58.4	
	comp=Z,0.5nm,0.8s						
XMAS	**Kiritimati**	**35.54**	**65**	P	**P**	**16 56 02.7**	**0.0**
AS31	**Alice Springs**	**35.88**	**249**	P	**P**	**16 56 04.6**	**-0.9**
ASAR	**Alice Springs**	**35.88**	**249**	P	**P**	**16 56 04.3**	**-1.1**
	comp=Z,11nm,0.3s,baz=76,slow=9.9,SNR=99						
ASAR				ScP	**S**	**17 01 03.5**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=98,slow=3.4,SNR=5.1						
ASAR	**Alice Springs**	**35.88**	**249**	P	**P**	**16 56 03.8**	**-1.6**
BBOO	**Buckleboo**	**36.43**	**234**	P	**P**	**16 56 09.2**	**-0.4**
MTN	**Manton Dam**	**38.43**	**267**	P	**P**	**16 56 26.6**	**+0.4**
MTN				IAmb	IAmb	16 56 34.6	
	comp=Z,10nm,1.0s						
MTN				PcP	**PP**	**16 58 19.0**	**+5.2**
FAKI	**Fak Fak**	**39.58**	**283**	P	**P**	**16 56 35.4**	**0.0**
KNRA	**Kununurra**	**40.45**	**263**	P	**P**	**16 56 41.7**	**-0.7**
KNRA				IAmb	IAmb	16 56 41.9	
	comp=Z,13nm,0.5s						
FORT	**Forrest**	**42.32**	**240**	P	**P**	**16 56 55.9**	**-0.9**
FORT				IAmb	IAmb	16 57 09.8	
	comp=Z,26nm,1.0s						
FITZ	**Fitzroy Crossi**	**43.32**	**259**	P	**P**	**16 57 04.5**	**-0.3**
	comp=Z,4.6nm,0.5s,baz=96,slow=9.6,SNR=8.5						
FITZ	**Fitzroy Crossi**	**43.32**	**259**	P	**P**	**16 57 04.5**	**-0.3**
BATI	**Baumata**	**46.06**	**270**	P	**P**	**16 57 25.9**	**0.0**
	comp=Z,20nm,0.5s,baz=156,slow=2.3,SNR=4.8						
PSA00	**Pilbara Seismi**	**48.71**	**254**	P	**P**	**16 57 44.3**	**-1.2**
PSA00	**Pilbara Seismi**	**48.71**	**254**	P	**P**	**16 57 44.7**	**-0.8**
PSA00				IAmb	IAmb	16 57 45.1	
	comp=Z,9.6nm,0.5s						
LUWI	**Luwuk**	**49.15**	**281**	P	**P**	**16 57 47.5**	**-1.3**
LUWI				IAmb	IAmb	16 57 54.1	
	comp=Z,26nm,0.9s						
TOLI2	**Tolitoli**	**51.72**	**283**	P	**P**	**16 58 06.9**	**-0.6**
NWAO	**Narrogin (SRO)**	**51.77**	**239**	P	**P**	**16 58 05.8**	**-1.8**
	comp=Z,15nm,0.7s,baz=99,slow=4.9,SNR=13						
NWAO	**Narrogin (SRO)**	**51.77**	**239**	IAmb	IAmb	16 58 06.7	
	comp=Z,18nm,0.9s						
MORW	**Morawa**	**52.40**	**244**	P	**P**	**16 58 11.3**	**-0.8**
GIRL	**Giralia**	**53.89**	**252**	P	**P**	**16 58 23.3**	**+0.5**
UGM	**Wanagama**	**59.23**	**269**	P	**P**	**16 58 58.7**	**-0.8**
JWT	**Wachi**	**59.63**	**327**	P	**P**	**16 59 02.0**	**+0.4**
JWT				IAmb	IAmb	16 59 09.5	
	comp=Z,47nm,1.5s						
JSD	**Sado**	**60.35**	**331**	P	**P**	**16 59 06.8**	**+0.5**
CISI	**Cisompet, Garu**	**61.93**	**269**	P	**P**	**16 59 15.5**	**-1.8**
CASY	**Casey**	**65.12**	**203**	P	**P**	**16 59 37.6**	**+1.1**
ATKA	**Atka Island**	**67.58**	**10**	P	**P**	**16 59 51.5**	**-0.2**
ATKA				IAmb	IAmb	17 00 00.8	
	comp=Z,15nm,1.1s						
PETK	**Petropavlovsk-**	**68.12**	**352**	P	**P**	**16 59 55.4**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=116,slow=6.7,SNR=2.7						
AKUT	**Akutan**	**71.13**	**14**	P	**P**	**17 00 14.3**	**+1.4**
CHGN	**Chignik**	**75.00**	**17**	P	**P**	**17 00 36.5**	**+1.6**
QSPA	**South Pole Qui**	**75.66**	**180**	P	**P**	**17 00 37.1**	**-1.6**
OHAK	**Old Harbor**	**77.33**	**19**	P	**P**	**17 00 47.8**	**+0.2**
OHAK				IAmb	IAmb	17 00 54.5	
	comp=Z,23nm,1.3s						
CM31	**Chiang Mai Arr**	**77.83**	**293**	P	**P**	**17 00 50.8**	**-0.4**
Q19K	**Cape Douglas,**	**78.61**	**18**	P	**P**	**17 00 54.6**	**+0.1**
O18K	**Koktuh Hills**	**78.92**	**17**	P	**P**	**17 00 55.5**	**-0.6**
O18K				IAmb	IAmb	17 01 10.5	
	comp=Z,8.4nm,1.0s						
P19K	**Oil Pt**	**79.32**	**18**	P	**P**	**17 00 58.2**	**-0.1**
BRLK	**Bradley Lake**	**80.12**	**19**	P	**P**	**17 01 01.9**	**-0.5**
BRLK				IAmb	IAmb	17 01 02.1	
	comp=Z,38nm,1.6s						
RSO	**Redoubt South**	**80.12**	**17**	P	**P**	**17 01 02.2**	**-0.4**
M19K	**Big River Lodg**	**80.85**	**16**	P	**P**	**17 01 06.5**	**+0.4**
M19K				IAmb	IAmb	17 01 15.1	
	comp=Z,11nm,1.2s						
L19K	**White Mountain**	**80.96**	**16**	P	**P**	**17 01 07.3**	**+0.6**
HOPS	**Hopland Field**	**81.39**	**46**	P	**P**	**17 01 09.2**	**-0.2**
HOPS				IAmb	IAmb	17 01 23.9	
	comp=Z,22nm,1.5s						
SUA	**Susitna One**	**81.51**	**18**	P	**P**	**17 01 09.5**	**-0.1**
SUA				IAmb	IAmb	17 01 27.3	
	comp=Z,15nm,1.4s						
KHMM	**Horse Mountain**	**81.78**	**44**	P	**P**	**17 01 11.9**	**+0.3**
KHMM				IAmb	IAmb	17 01 16.6	
	comp=Z,12nm,1.5s						
PPLA	**Purkeypile**	**82.26**	**16**	P	**P**	**17 01 13.0**	**-0.4**
PPLA				IAmb	IAmb	17 01 25.1	
	comp=Z,20nm,1.5s						
CAST	**Castle Rocks**	**82.71**	**16**	P	**P**	**17 01 14.4**	**-1.2**
J20K	**Nowinta River**	**82.80**	**15**	P	**P**	**17 01 15.2**	**-0.7**
KTH	**Kantishna Hill**	**83.13**	**16**	P	**P**	**17 01 16.9**	**-0.8**
KTH				IAmb	IAmb	17 01 32.1	
	comp=Z,14nm,1.5s						
TRF	**Thorofare Moun**	**83.22**	**17**	P	**P**	**17 01 16.9**	**-1.4**
TRF				IAmb	IAmb	17 01 24.8	
	comp=Z,14nm,1.6s						
RND	**Reindeer**	**83.59**	**17**	P	**P**	**17 01 18.8**	**-1.2**
NVAR	**Mina Array Bea**	**84.55**	**48**	P	**P**	**17 01 25.6**	**0.0**
	comp=Z,0.4nm,0.7s,baz=233,slow=8.9,SNR=3.6						
TXAR	**Lajitas Array**	**93.22**	**61**	P	**P**	**17 02 05.9**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=251,slow=5.6,SNR=1.9						
ARCES	**ARCESS Array B**	**120.70**	**346**	PKP	**PKPdf**	**17 07 36.4**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=76,slow=1.9,SNR=11						
FINES	**FINESS Array B**	**126.57**	**340**	PKP	**PKPdf**	**17 07 48.4**	**-1.2**
	comp=Z,1.0nm,0.9s,baz=45,slow=4.1,SNR=3.9						
BRTR	**Keskin Array B**	**134.74**	**312**	PKP	**PKPdf**	**17 08 04.1**	**-1.8**
	comp=Z,0.5nm,0.7s,baz=102,slow=3.4,SNR=4.9						

IDC 24 16:49:59.6±1.6, 0.78°S×130.93°E, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.6/49, mbtmp3.7/4, ML3.5/2, Error ellipse: s-maj=30.0km s-min=9.3km az=10.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**0.35**	**105**	Pg	Pg	16 50 06.7	+0.3
	194nm,0.3s,baz=270,slow=20,SNR=27						
SIJI				Lg	Lg	16 50 10.8	
	383nm,0.3s,baz=252,slow=19,SNR=20						
FITZ	**Fitzroy Crossi**	**17.98**	**197**	P	P	16 54 11.7	-0.2
	0.2nm,0.3s,baz=52,slow=13,SNR=2.3						
WRA	**Warramunga Arr**	**19.34**	**170**	P	P	16 54 26.3	-0.5
	0.1nm,0.3s,baz=349,slow=11,SNR=2.6						
ASAR	**Alice Springs**	**22.94**	**173**	P	P	16 55 05.5	-0.2
	1.7nm,0.6s,baz=351,slow=10,SNR=5.9						
MKAR	**Makanchi Array**	**63.63**	**325**	P	P	17 00 32.2	-0.3
	0.4nm,0.5s,baz=114,slow=8.4,SNR=1.4						

*IDC **24** 16:50:35.3±0.5, 37°.41N×78°.17E, h0km, mb4.3/31, mb1 4.3/38, mb1mx4.2/71, mbtmp4.3/38, ML3.6/6, MS4.6/1, Ms1 4.6/1, ms1mx4.0/60, Error ellipse: s-maj=13.6km s-min=10.5km az=27.0*
*BJI **24** 16:50:37.8±0.0, 37°.52N×78°.14E, h10km, mB4.5/1, mb4.3/34, ML4.5/8, Ms4.3/3, Ms7 4.4/2*
*MOS **24** 16:50:39.5±1.1, 37°.52N×78°.15E, h37km, mb5.0/15, Error ellipse: s-maj=6.6km s-min=4.1km az=113.4*
*NNC **24** 16:50:40.1±4.1, 37°.69N×78°.00E, h0km, mb4.8, mpv4.5, Error ellipse: s-maj=35.0km s-min=27.9km az=160.0*
*NEIC **24** 16:50:42.2±1.4, 37°.57N±0°.06×78°.12E±0°.06, h43km±7km, mb4.7/67, ML4.7(BJI), Error ellipse: s-maj=11.3km s-min=1.4km az=143.0*

ISC 24 16:50:38.9±0.3, 37°.60N±0°.04×78°.02E±0°.04, h17km, n258, σ2502/268, mb4.6/86, 37C-18D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.50**	**321**	Pn	**Pb**	**16 51 21.5**	**-1.9**
KSH				Sn	**Sb**	**16 51 54.8**	**+0.9**
KSH				smax	smax		
	comp=N,7μm,0.6s						
KSH				smax	smax		
	comp=E,8μm,0.9s						
TARG	**Taragay, Kyrgy**	**4.13**	**358**		**Pn**	**16 51 46.0**	**+4.4**
ULHL	**Ulahol**	**4.84**	**344**	P	**Pb**	**16 52 00.8**	**-2.5**
	SNR=7.5						
PRZ	**Przheval'sk**	**4.89**	**3**	P	**Pn**	**16 51 55.9**	**+4.1**
PRZ	**Przheval'sk**	**4.89**	**3**		**Pn**	**16 51 55.9**	**+4.1**
KZA	**Kyzart**	**4.96**	**335**	P	**Pn**	**16 51 56.9**	**+4.0**
	SNR=11						
BOOM	**Boomskoye usch**	**5.14**	**343**	P	**Pn**	**16 51 58.7**	**+3.5**
BOOM	**Boomskoye usch**	**5.14**	**343**		**Pn**	**16 51 58.7**	**+3.5**
DRK	**Karamyk**	**5.23**	**293**		**Pn**	**16 51 59.5**	**+2.9**
UCH	**Uchtor**	**5.35**	**331**	P	**Pn**	**16 52 02.5**	**+4.1**
	SNR=30						
ARSB	**Arslanbob**	**5.39**	**315**	P	**Pn**	**16 51 59.6**	**+1.0**
ARSB	**Arslanbob**	**5.39**	**315**	Pn	**Pn**	**16 51 59.6**	**+1.0**
CHCP	**Chirah Chowk**	**5.52**	**226**	P	**Pn**	**16 52 04.6**	**+4.3**
DHRM	**DHARAMSHALA**	**5.52**	**195**	*e*P	**Pn**	**16 52 04.1**	**+3.6**
DHRM				*e*S	**Sn**	**16 53 09.3**	**+5.6**
DHRM				IAML		16 53 17.5	
	comp=E,223nm,0.5s						
NIL	**Nilore**	**5.53**	**226**	P	**Pn**	**16 52 03.3**	**+2.8**
NIL	**Nilore**	**5.53**	**226**		**Pn**	**16 52 03.3**	**+2.8**
MDOK	**Medeo**	**5.61**	**353**	⇑Pg	**Pb**	**16 52 21.0**	**+4.7**
	comp=E,88nm,0.7s						
MDOK				⇑Lg	Lg	16 53 35.1	
	comp=E,428nm,0.9s						
AML	**Almayashu**	**5.62**	**325**	P	**Pn**	**16 52 05.8**	**+3.8**
	SNR=25						
TKM2	**Tokmak 2**	**5.63**	**342**	P	**Pn**	**16 52 06.6**	**+4.6**
	SNR=8.2						
TKM2	**Tokmak 2**	**5.63**	**342**	⇑Pn	**Pn**	**16 52 06.4**	**+4.4**
	comp=E,11nm,0.9s						
TKM2				⇑Pg	**Pb**	**16 52 21.0**	**+4.3**
	comp=E,65nm,1.0s						
TKM2				⇓Lg	Lg	16 53 43.5	
	comp=E,220nm,0.8s						
TKM2	**Tokmak 2**	**5.63**	**342**	P	**Pn**	**16 52 06.3**	**+4.4**
SHLS	**Shalkode**	**5.66**	**11**	*e*P	**Pn**	**16 52 06.3**	**+4.0**
KNDC	**Almaty**	**5.67**	**352**	⇓Pg	Pb	16 52 22.2	+4.8
	comp=E,204nm,1.0s						
KNDC				⇓Lg	Lg	16 53 38.2	
	comp=E,976nm,0.9s						
AAK	**Ala-Archa**	**5.71**	**333**	Pn	**Pn**	**16 52 07.1**	**+4.0**
	comp=E,4.6nm,0.3s,baz=152,slow=8.4,SNR=46						
AAK				Lg	Lg	16 53 40.5	
	comp=E,10nm,0.3s,baz=307,slow=21,SNR=6.2						
AAK	**Ala-Archa**	**5.71**	**333**	P	**Pn**	**16 52 07.6**	**+4.5**
	SNR=15						
AAK	**Ala-Archa**	**5.71**	**333**	⇑Pn	**Pn**	**16 52 07.3**	**+4.2**
	comp=E,10nm,0.5s						
AAK				⇓Pg	**Pg**	**16 52 24.5**	**-3.7**
	comp=E,89nm,0.7s						
AAK				⇓Lg	Lg	16 53 41.9	
	comp=E,610nm,1.0s						
AAK	**Ala-Archa**	**5.71**	**333**	P	**Pn**	**16 52 07.2**	**+4.2**
AAK	**Ala-Archa**	**5.71**	**333**	Pn	**Pn**	**16 52 07.3**	**+4.2**
FRU1	**Bishkek**	**5.82**	**335**	P	**Pn**	**16 52 07.0**	**+2.6**
FRU1	**Bishkek**	**5.82**	**335**		**Pn**	**16 52 07.0**	**+2.6**
PDGK	**Podgornoye**	**5.83**	**11**	⇑Pn	**Pn**	**16 52 07.4**	**+2.6**
	comp=E,46nm,1.1s						
PDGK				⇓Pg	**Pb**	**16 52 21.1**	**+0.9**
	comp=E,48nm,0.6s						
PDGK				⇑Lg	Lg	16 53 42.8	
	comp=E,372nm,0.9s						
PDGK	**Podgornoye**	**5.83**	**11**	P	**Pn**	**16 52 07.3**	**+2.6**
KPKS	**Kokpek**	**5.88**	**5**	*e*P	**Pn**	**16 52 07.5**	**+2.1**
CHMS	**Chumysh**	**5.94**	**336**	P	**Pn**	**16 52 10.4**	**+4.2**
	SNR=5.8						
EKS2	**Erkin-Say**	**6.01**	**329**	P	Pn	16 52 12.0	+4.8
	SNR=12						
BTK	**Batken**	**6.14**	**296**	P	**Pn**	**16 52 11.8**	**+2.9**
BTK	**Batken**	**6.14**	**296**		**Pn**	**16 52 11.8**	**+2.9**
GAR	**Garm**	**6.22**	**285**		**Pn**	**16 52 12.6**	**+2.6**
CEP	**Cherat**	**6.24**	**235**	P	**Pn**	**16 52 12.4**	**+2.1**
BHK	**Bhakra**	**6.31**	**193**	*ex*	Pn	16 52 17.0	+5.8
BHK				*e*S	**Sn**	**16 53 30.0**	**+7.2**
SMLA	**Simla**	**6.49**	**186**	*e*P	**Pn**	**16 52 15.8**	**+2.2**
SMLA				*e*S	**Sn**	**16 53 27.3**	**0.0**
SMLA				IAML		16 53 35.8	
	comp=E,378nm,0.7s						
THW	**Thamme Wali**	**7.03**	**229**	P	**Pn**	**16 52 23.0**	**+2.0**
CHGR	**Chuyangaron**	**7.07**	**281**		**Pn**	**16 52 23.2**	**+1.6**
SARP	**Sargodha**	**7.17**	**219**	P	**Pn**	**16 52 24.4**	**+1.4**
DDI	**Dehra Dun**	**7.26**	**180**	*e*P	**Pn**	**16 52 27.1**	**+2.8**
DDI				*e*S	**Sn**	**16 53 45.8**	**-0.5**
DDI				IAML		16 53 50.7	
	comp=E,858nm,0.4s						
DDI				IAML		16 53 54.5	
	comp=N,684nm,0.3s						
KBL	**Kabul**	**7.88**	**250**	P	**Pn**	**16 52 34.7**	**+1.8**
KBL	**Kabul**	**7.88**	**250**	Pn	**Pn**	**16 52 34.7**	**+1.8**
KK31	**Karatay Array**	**7.94**	**316**	⇑Pn	**Pn**	**16 52 35.0**	**+1.5**
	comp=N,7.5nm,0.7s						
KK31				⇑Pg	Pb	16 53 05.6	+10
	comp=N,9.1nm,0.6s						
KK31				⇑Sn	**Sn**	**16 54 00.4**	**-2.5**
	comp=N,25nm,0.7s						
KK31				⇑Lg	Lg	16 54 58.6	
	comp=N,32nm,0.6s						
KK31	**Karatay Array**	**7.94**	**316**	P	**Pn**	**16 52 35.0**	**+1.5**
KK31						16 54 00.4	
KK31	**Karatay Array**	**7.94**	**316**	Pn	**Pn**	**16 52 35.5**	**+1.9**
KKAR	**Karatay Array**	**7.94**	**316**	P	**Pn**	**16 52 35.4**	**+1.9**
KKAR	**Karatay Array**	**7.94**	**316**	Pn	**Pn**	**16 52 35.4**	**+1.9**
KKAR	**Karatay Array**	**7.94**	**316**		**Pn**	**16 52 35.5**	**+1.9**
WMQ	**Urumqi**	**9.62**	**47**	*e*P	Pn	16 53 01.4	+4.8
WMQ				S	**Sn**	**16 54 42.8**	**-1.4**
WMQ				smax	smax		
	comp=N,120nm,1.1s						
WMQ				smax	smax		
	comp=N,150nm,0.9s						
MAKZ	**Makanchi**	**9.66**	**16**	P	**Pn**	**16 52 58.5**	**+1.5**
MAKZ	**Makanchi**	**9.66**	**16**	Pn	**Pn**	**16 52 58.5**	**+1.5**
MK31	**Makanchi Array**	**9.72**	**18**	Pn	**Pn**	**16 52 59.0**	**+1.1**
	comp=N,13nm,0.6s,baz=198,slow=12,SNR=197						
MK31				⇑Sn	**Sn**	**16 54 46.1**	**-0.5**
	comp=N,40nm,0.7s,baz=157,slow=39,SNR=11						
MK31	**Makanchi Array**	**9.72**	**18**	*e*P	**Pn**	**16 52 58.9**	**+1.1**
MK31						16 54 46.0	
MK31	**Makanchi Array**	**9.72**	**18**		**Pn**	**16 52 58.7**	**+0.9**
MKAR	**Makanchi Array**	**9.72**	**18**	Pn	**Pn**	**16 52 58.9**	**+1.1**
	comp=N,2.7nm,0.3s,baz=198,slow=11,SNR=129						
MKAR				Sn	**Sn**	**16 54 44.1**	**-2.4**
	comp=N,5.0nm,0.3s,baz=194,slow=20,SNR=11						
MKAR	**Makanchi Array**	**9.72**	**18**	Pn	**Pn**	**16 52 58.4**	**+0.5**
KURBB	**Kurchatov Arra**	**13.03**	**1**	Pn	**Pn**	**16 53 43.1**	**+0.1**
	comp=N,0.0nm,0.3s,baz=186,slow=12,SNR=6.7						
KURBB				Lg	Lg	16 57 29.6	
	comp=N,0.1nm,0.3s,baz=189,slow=28,SNR=4.7						
KURK	**Kurchatov**	**13.12**	**2**	P	**Pn**	**16 53 43.1**	**-1.2**
KURK	**Kurchatov**	**13.12**	**2**		**Pn**	**16 53 43.1**	**-1.2**
HRA	**Herat**	**13.17**	**261**		**Pn**	**16 53 46.3**	**+0.9**
LSA	**Lhasa**	**13.47**	**122**	P	**Pn**	**16 53 51.5**	**+1.9**
DGZ	**Jazzator, Alta**	**13.87**	**26**	‖*e*P	**Pn**	**16 53 54.5**	**-0.2**
BHPL	**Bhopal**	**14.32**	**182**	*e*P	**Pn**	**16 53 59.0**	**-2.0**
BHPL				*ex*	x	16 56 24.0	
BOK	**Bokaro**	**15.32**	**152**	*e*P	**Pn**	**16 54 08.7**	**-5.8**
GEYT	**Alibeck**	**15.75**	**277**	Pn	**Pn**	**16 54 18.4**	**-1.5**
	comp=N,0.3nm,0.3s,baz=120,slow=10,SNR=2.0						
GEYT				Sn	**Sn**	**16 57 06.3**	**-7.8**
	comp=N,0.5nm,0.3s,baz=134,slow=54,SNR=2.2						
GYA0B	**ALIBECK ARRAY**	**15.75**	**277**	P	**P**	**16 54 24.9**	**+1.1**
GYA0B				IAmb	IAmb	16 54 26.1	
	comp=Z,35nm,0.7s						
BVAR	**Borovoye Array**	**16.32**	**343

comp=Z,4.0nm,0.6s
CHTO Chiang Mai 26.17 130 P P 16 56 11.7 -0.8
CM31 Chiang Mai Arr 26.44 130 P P 16 56 13.9 -1.0
CMAR Chiang Mai Arr 26.44 130 P P 16 56 11.2 -3.7
comp=Z,0.8nm,0.7s,baz=306,slow=11,SNR=27
CMAR PcP **PcP 16 59 39.7 -0.3**
comp=Z,0.7nm,0.8s,baz=297,slow=2.9,SNR=3.5
CMAR Chiang Mai Arr 26.44 130 P P **16 56 13.9 -1.0**
GYA Guiyang 26.60 106 ⇑P P **16 56 16.1 -0.4**
GYA sP sP 16 56 31.3 +6.9
GYA pmax pmax
comp=Z,5.0nm,0.7s
NCK Nalchik 26.68 294⇓*e*P P **16 56 20.3 +3.3**
NCK pmax pmax
comp=Z,8.0nm,0.5s
ONI Oni 26.79 292 P P **16 56 18.9 +0.9**
ONI pmax pmax
comp=Z,20nm,1.4s
ONI Oni 26.79 292 P P **16 56 18.9 +0.9**
ONI IAmb IAmb 16 56 26.4
comp=Z,20nm,1.4s
KARS Kars 27.17 287 P P **16 56 22.6 +1.0**
KARS pmax pmax
comp=Z,30nm,0.9s
KARS Kars 27.17 287 P P **16 56 22.6 +1.0**
KARS IAmb IAmb 16 56 37.3
comp=Z,30nm,0.9s
KBZ Khabaz 27.20 294 P P **16 56 23.0 +1.4**
comp=Z,1.5nm,0.8s,baz=132,slow=12,SNR=2.9
KBZ Khabaz 27.20 294⇓*e*P P **16 56 25.0 +3.5**
KBZ pmax pmax
comp=Z,3.0nm,1.1s
KIV Kislovodsk 27.35 295 *e*P P **16 56 24.4 +1.3**
KIV pmax pmax
comp=Z,5.0nm,1.0s
SIRT Sirnak 28.11 281 P P **16 56 30.5 +0.5**
GURO Guroymak-BITLI 28.24 283 P P **16 56 30.8 -0.3**
VRH Novokhopyorsk 28.96 310 *e*P P **16 56 37.8 +0.6**
VRH pmax pmax
comp=Z,10.0nm,0.6s
MARD Mardin 29.44 281 P P **16 56 42.3 +0.5**
LPSR Galich'ya Gora 30.97 312 *e*P P **16 56 55.1 +0.1**
LPSR pmax pmax
comp=Z,20nm,0.7s
NRIK Noril'sk 32.22 6 P P **16 57 06.5 +0.7**
comp=Z,1.6nm,0.5s,baz=203,slow=11,SNR=2.7
NRIK Noril'sk 32.22 6⇑*e*P P **16 57 07.4 +1.6**
NRIK pmax pmax
comp=Z,14nm,1.1s
NRIK Noril'sk 32.22 6 P P **16 57 05.2 -0.6**
NRIK IAmb IAmb 16 57 12.6
comp=Z,12nm,1.1s
GAZ Gaziantep 32.25 282 P P **16 57 07.5 +1.0**
GAZ IAmb IAmb 16 57 08.7
comp=Z,9.5nm,0.8s
MOS Moscow 32.52 317 *e*P P **16 57 08.6 0.0**
MOS *e* 16 57 14.6
MOS pmax pmax
comp=Z,35nm,0.7s
OBN Obninsk 32.93 316 P P **16 57 12.8 +0.7**
comp=Z,3.3nm,0.5s,baz=260,slow=22,SNR=3.5
OBN Obninsk 32.93 316 *e*P P **16 57 14.9 +2.7**
OBN pmax pmax
comp=Z,10.0nm,0.6s
KLMR Klimovskoe 33.48 326 *e*P P **16 57 16.8 -0.1**
KLMR pmax pmax
comp=Z,14nm,1.2s
KLMR Klimovskoe 33.48 326 *e*P P **16 57 16.8 -0.1**
KLMR AMP 16 57 24.1
comp=Z,14nm,1.2s
NJ2 Nanjing 33.78 87 *e*P P **16 57 18.8 -1.0**
NJ2 pmax pmax
comp=Z,12nm,0.5s
ASF Jabal al Asfar 33.97 273 P P **16 57 22.4 +0.8**
comp=Z,2.5nm,0.8s,baz=252,slow=6.8,SNR=3.4
BR131 Keskin Array S 34.46 288*d i*P P **16 57 27.7 +1.9**
BR131 Keskin Array S 34.46 288 P P **16 57 25.9 +0.1**
BR131 IAmb IAmb 16 57 28.7
comp=Z,14nm,1.0s
BR131 Keskin Array S 34.46 288 P P **16 57 28.6 +2.7**
SNR=5.7
BRTR Keskin Array B 34.46 288 P P **16 57 27.1 +1.3**
comp=Z,7.9nm,0.9s,baz=99,slow=8.3,SNR=46
BRTR Keskin Array B 34.46 288 *i* P P **16 57 27.3 +1.5**
BRTR pmax pmax
comp=Z,7.0nm,0.8s
BRTR Keskin Array B 34.46 288 P P **16 57 25.8 0.0**
MMAI Mount Meron Ar 34.86 276 P P **16 57 30.8 +1.5**
comp=Z,0.5nm,0.4s,baz=78,slow=8.1,SNR=2.3
ANTO Ankara 35.07 288 P P **16 57 31.5 +0.4**
ANTO pmax pmax
comp=Z,12nm,1.1s
ANTO Ankara 35.07 288 P P **16 57 31.4 +0.4**
ANTO IAmb IAmb 16 57 34.5
comp=Z,12nm,1.1s
BR231 Keskin MP Arra 35.09 288 P P **16 57 30.6 -0.6**
BR231 IAmb IAmb 16 57 34.1
comp=Z,7.7nm,0.9s
CSS Mathiatis 35.87 280 P P **16 57 38.8 +0.9**
CSS IAmb IAmb 16 57 44.1
comp=Z,19nm,1.1s
MDUB Mudurnu 36.16 289 P P **16 57 40.4 0.0**
AKASG Malin Array Be 36.72 307 P P **16 57 45.7 +0.8**
comp=Z,1.2nm,0.3s,baz=75,slow=7.6,SNR=30
AKASG Malin Array Be 36.72 307 P P **16 57 45.5 +0.7**
AKBB Malin Array Si 36.72 307*ce*P P **16 57 45.6 +0.7**
AKBB pmax pmax
comp=Z,13nm,1.0s
AKBB Malin Array Si 36.72 307 P P **16 57 45.1 +0.2**
AKBB IAmb IAmb 16 57 46.5
comp=Z,12nm,1.0s
SORM Soroca 37.30 303 ⇑P P **16 57 50.5 +0.6**
SORM Soroca 37.30 303 ⇑P P **16 57 50.5 +0.6**
CFR Carcaliu 37.68 298 ⇓P P **16 57 54.2 +1.1**
CFR Carcaliu 37.68 298 ⇓P P **16 57 54.2 +1.1**
ELL Elmali 38.01 284 P P **16 57 57.8 +1.6**
ELL pmax pmax
comp=Z,40nm,1.2s
ELL Elmali 38.01 284 P P **16 57 57.8 +1.6**
NACGM Naroch 38.45 314 *i* P P **16 58 01.1 +1.6**
VRI Vrincioaia 38.59 299 ⇑P P **16 58 03.9 +3.1**
VRI Vrincioaia 38.59 299 ⇑P P **16 58 03.9 +3.1**
PLOR Plostina 38.64 299 ⇑P P **16 58 03.7 +2.4**
PLOR Plostina 38.64 299 ⇑P P **16 58 03.7 +2.4**
LVZ Lovozero 38.66 335⇑*e*P P **16 58 02.3 +1.1**
LVZ pmax pmax
comp=Z,30nm,1.3s
VSU Vasula 38.92 319 *e*P P **16 58 04.8 +1.4**
VSU Vasula 38.92 319⇓*i*P P **16 58 05.0 +1.6**
VSU pmax pmax
comp=Z,50nm,0.9s
MDJ Mudanjiang 38.94 63 P P **16 58 04.3 +0.6**
MDJ sP sP 16 58 19.1 +7.3
MDJ pmax pmax
comp=Z,7.0nm,1.3s
COVR Voineasa-Covas 38.95 299 ⇑P P **16 58 05.4 +1.5**
MLR Muntele Rosu 39.17 299 ⇑P P **16 58 08.0 +2.1**
MLR Muntele Rosu 39.17 299 P P **16 58 07.7 +1.8**
comp=Z,8.3nm,0.8s,baz=140,slow=7.9,SNR=11
MLR Muntele Rosu 39.17 299 ⇑P P **16 58 08.0 +2.1**
MLR Muntele Rosu 39.17 299 P P **16 58 06.6 +0.7**
MLR IAmb IAmb 16 58 11.6
comp=Z,8.1nm,0.7s
KSRS Korea Array 39.19 74 P P **16 58 04.8 -1.1**
comp=Z,1.1nm,0.8s,baz=284,slow=8.4,SNR=4.6
BURAR Bucovina Array 39.44 302 ⇑P P **16 58 10.0 +1.9**
BURAR Bucovina Array 39.44 302 ⇑P P **16 58 10.0 +1.9**
BURAR Bucovina Array 39.44 302 P P **16 58 08.1 +0.1**
BUR08 Bucovina Ar. S 39.45 302 P P **16 58 09.0 +0.9**
DOPR Dopca 39.50 299 ⇓P P **16 58 10.9 +2.4**
VOIR 39.81 299 ⇑P P **16 58 12.5 +1.4**
VOIR 39.81 299 ⇑P P **16 58 12.5 +1.4**
FIA1 FINESS Array S 39.82 324 P P **16 58 12.5 +1.6**
FIA1 IAmb IAmb 16 58 13.5
comp=Z,10nm,0.7s
YAK Yakutsk 39.82 35⇓*e*P P **16 58 11.1 +0.3**
YAK pmax pmax
comp=Z,9.0nm,0.7s
YAK Yakutsk 39.82 35 P P **16 58 10.3 -0.5**
YAK IAmb IAmb 16 58 16.6
comp=Z,9.2nm,0.8s
FINES FINESS Array B 39.82 324 P P **16 58 12.6 +1.7**
comp=Z,8.3nm,0.6s,baz=108,slow=9.3,SNR=48
KLR Kul'dur 39.93 55⇓*e*P P **16 58 12.6 +0.6**
KLR pmax pmax
comp=Z,10.0nm,0.9s
PABE Paberze 40.10 314 *e*P P **16 58 15.1 +1.8**
PABE Paberze 40.10 314 P P **16 58 14.2 +1.0**
GSI Gunungsitoli 40.36 149 P P **16 58 14.7 -1.2**
GSI IAmb IAmb 16 58 30.8
comp=Z,14nm,1.0s
SUW Suwalki 40.50 312 P P **16 58 16.4 -0.2**
SUW pmax pmax
comp=Z,18nm,0.4s
SUW Suwalki 40.50 312 P P **16 58 16.4 -0.2**
USA0B Ussuriysk Arra 40.70 63 P P **16 58 17.0 -1.4**
USA0B pmax pmax
comp=Z,7.0nm,1.4s
USA0B Ussuriysk Arra 40.70 63 P P **16 58 17.0 -1.4**
USRK Ussuriysk Ar. 40.70 63 P P **16 58 18.0 -0.4**
comp=Z,0.9nm,0.5s,baz=195,slow=31,SNR=3.4
USRK Ussuriysk Ar. 40.70 63 P P **16 58 18.0 -0.4**
USRK Ussuriysk Ar. 40.70 63 P P **16 58 17.2 -1.2**
KWP Kalwaria Pacla 40.93 305 P P **16 58 20.3 0.0**
KWP pmax pmax
comp=Z,62nm,0.6s
KWP Kalwaria Pacla 40.93 305 P P **16 58 20.3 0.0**
TRPA Tarpa 41.18 303 ⇑P P **16 58 23.7 +1.4**
GZR Gura Zlata 41.40 299 ⇑P P **16 58 25.2 +1.0**
VTS Vitosha 41.59 295 P P **16 58 26.3 +0.4**
VTS pmax pmax
comp=Z,4.0nm,0.8s
VTS Vitosha 41.59 295 P P **16 58 26.3 +0.4**
HERR Herculane 41.73 298 ⇑P P **16 58 28.1 +1.2**
IDI Anoyia 42.33 284 P P **16 58 31.7 -0.3**
comp=Z,2.2nm,0.3s,baz=80,slow=12,SNR=2.5
ARCES ARCESS Array B 42.38 336 P P **16 58 32.2 +0.4**
comp=Z,16nm,0.8s,baz=100,slow=8.3,SNR=15
ARCES ARCESS Array B 42.38 336 P P **16 58 31.0 -0.8**
ARCES IAmb IAmb 16 58 39.2
comp=Z,11nm,1.1s
AGG Agios Georgios 43.14 290 P P **16 58 38.5 0.0**
AGG pmax pmax
comp=Z,27nm,1.7s
AGG Agios Georgios 43.14 290 P P **16 58 38.5 0.0**
AGG IAmb IAmb 16 59 21.7
comp=Z,27nm,1.7s
FNA Florina 43.37 293 P P **16 58 40.8 +0.4**
FNA pmax pmax
comp=Z,43nm,1.8s
FNA Florina 43.37 293 P P **16 58 40.8 +0.4**
FNA IAmb IAmb 16 58 56.1
comp=Z,43nm,1.8s
DIVS Divibare 43.59 298 P P **16 58 43.7 +1.7**
DIVS IAmb IAmb 16 58 48.5
comp=Z,30nm,1.7s
ITM Ithomi 43.99 287 P P **16 58 44.3 -1.1**
ITM IAmb IAmb 16 59 02.4
comp=Z,15nm,1.1s
SCTE Santa Cesarea 45.70 292 P P **16 58 59.0 +0.2**
HFS Hagfors 45.72 321 P P **16 58 59.8 +1.1**
comp=Z,5.6nm,0.6s,baz=98,slow=11,SNR=15
RUE Ruedersdorf 46.23 310 *e*P P **16 59 03.2 +0.4**
NC405 NORSAR Array S 46.68 322 P P **16 59 06.6 +0.3**
NC602 NORSAR Array S 46.77 322 P P **16 59 07.5 +0.4**
NC303 NORSAR Array S 46.84 322 P P **16 59 08.4 +0.9**
NC303 IAmb IAmb 16 59 14.8
comp=Z,13nm,0.8s
CLL Collm 46.88 309 *i* P P **16 59 09.5 +1.5**
comp=Z,11nm,0.9s
NB2 NORSAR Subarra 46.92 322 P P **16 59 08.9 +0.6**
comp=Z,4.8nm,0.6s,baz=88,slow=7.9
NOA NORSAR Array B 46.92 322 P P **16 59 09.2 +0.9**
comp=Z,4.5nm,0.5s,baz=90,slow=7.7,SNR=28
NAO01 NORSAR Array S 47.09 322 P P **16 59 10.4 +0.8**
NC204 NORSAR Array S 47.13 323 P P **16 59 11.0 +1.1**
NBO00 NORSAR Array S 47.13 322 P P **16 59 09.6 -0.3**
TIP Timpagrande 47.23 292 P P **16 59 11.5 +0.5**
TIP IAmb IAmb 16 59 43.6
comp=Z,18nm,1.1s
GRA1 Grafenberg Arr 48.30 307 P P **16 59 17.9 -1.2**
GRF Grafenberg Arr 48.30 307 P P **16 59 17.9 -1.2**
GRF pmax pmax
comp=Z,38nm,1.2s
GRFO Grafenberg 48.30 307 P P **16 59 17.9 -1.2**
GRFO pmax pmax
comp=Z,36nm,1.2s
GRFO Grafenberg 48.30 307 P P **16 59 17.9 -1.2**
DAVOX Davos/Dischmat 49.87 303 P P **16 59 31.8 +0.4**
comp=Z,8.0nm,0.6s,baz=64,slow=4.3,SNR=13
SENIN Lac Senin/Sane 51.69 304 P P **16 59 44.5 -0.6**
SENIN IAmb IAmb 16 59 51.9
comp=Z,7.7nm,1.1s
SSB Saint Sauveur 53.86 303 P P **17 00 01.6 +0.6**
SSB pmax pmax
comp=Z,22nm,1.7s
SSB Saint Sauveur 53.86 303 P P **17 00 01.6 +0.6**
SSB IAmb IAmb 17 00 49.2
comp=Z,22nm,1.7s
BILL Bilibino 55.11 27 *e*P P **17 00 10.1 +0.5**
BILL *e* 17 01 07.3
BILL pmax pmax
comp=Z,10.0nm,1.0s
EKA Eskdalemuir Ar 55.38 317 P P **17 00 11.5 -0.2**
comp=Z,5.3nm,0.7s,baz=89,slow=6.7,SNR=13
KAPI Kappang 57.47 128 LR LR 17 27 28.3
comp=Z,560nm,19.3s,baz=189,slow=39
ESDC Sonseca Array 61.85 300 P P **17 00 57.1 -0.1**
comp=Z,1.1nm,0.5s,baz=61,slow=6.3,SNR=9.9
ESDC Sonseca Array 61.85 300 P P **17 00 57.2 +0.1**
J20K Nowinta River 70.56 22 P P **17 01 53.4 +0.9**
J20K IAmb IAmb 17 01 59.6
comp=Z,10nm,0.9s
MLY Manley 70.86 20 P P **17 01 53.2 -1.2**
MLY IAmb IAmb 17 02 01.5
comp=Z,13nm,1.3s
TORD Torodi Ar. Bea 71.32 272 P P **17 01 57.6 -0.4**
comp=Z,4.6nm,0.6s,baz=46,slow=5.5,SNR=55
TORD Torodi Ar. Bea 71.32 272 P P **17 01 57.0 -1.0**
NEA2 Nenana 71.65 19 P P **17 01 58.6 -0.6**
NEA2 IAmb IAmb 17 02 05.4
comp=Z,10nm,0.9s
ILAR Eielson Array 72.07 19 P P **17 02 00.5 -1.2**
comp=Z,2.2nm,0.7s,baz=314,slow=5.0,SNR=9.6
ILAR Eielson Array 72.07 19 P P **17 02 01.1 -0.6**
ILAR Eielson Array 72.07 19 P P **17 02 01.1 -0.6**
SCRK Sand Creek 73.45 18 P P **17 02 09.0 -1.0**
SCRK IAmb IAmb 17 02 16.1
comp=Z,5.9nm,1.0s
O18K Koktuh Hills 73.47 25 P P **17 02 09.4 -0.7**
PAX Paxson 73.91 19 P P **17 02 11.7 -1.0**
PAX pmax pmax
comp=Z,11nm,1.0s
PAX Paxson 73.91 19 P P **17 02 11.7 -1.0**
PAX IAmb IAmb 17 02 19.4
comp=Z,11nm,1.0s
DAWY Dawson 74.44 16 P P **17 02 15.1 -0.6**
DAWY IAmb IAmb 17 02 22.2
comp=Z,6.6nm,1.1s
L27K Beaver Creek, 74.74 18 P P **17 02 17.4 -0.1**
KOWA Kowa 75.07 277 P P **17 02 19.6 -0.5**
KOWA IAmb IAmb 17 02 26.0
comp=Z,6.2nm,0.7s
WRA Warramunga Arr 77.97 127 P P **17 02 34.5 -1.9**
comp=Z,1.2nm,0.6s,baz=302,slow=3.9,SNR=7.9
YKA Yellowknife Ar 79.73 6 P P **17 02 45.3 -0.1**
comp=Z,1.8nm,0.7s,baz=341,slow=5.5,SNR=3.4
DBIC Dimbokro 80.33 271 P P **17 02 48.7 -0.7**
comp=Z,3.2nm,0.9s,baz=50,slow=7.8,SNR=3.1
ASAR Alice Springs 80.45 130 P P **17 02 48.0 -1.8**
comp=Z,1.3nm,0.7s,baz=318,slow=5.5,SNR=14
BOSA Boshof 82.35 225 P P **17 02 57.9 -2.0**
comp=Z,1.8nm,0.4s,baz=28,slow=3.2,SNR=10
CTA Charters Tower 86.02 119 P P **17 03 17.7 -0.9**
comp=Z,4.2nm,0.6s,baz=292,slow=8.3,SNR=4.6

*VIE **24** 16:57:25.4,51.45N×16.27E,h0km,ML2.4/1 65 km NW of Wroclaw Suspected Mining induced.*
*PRU **24** 16:57:26.9±0.0,51.42N×16.09E,h0km*
*IDC **24** 16:57:27.7±1.4,51.34N×16.03E,h0km,mb1 3.2/4, mb1mx3.0/39,mbtmp3.0/4,ML2.7/4,Error ellipse: s-maj=16.7km s-min=11.9km az=134.0*

ISC 24 16:57:24.9±0.9,51.49N±0.04×16.14E±0.03,h0km,n32, σ0=92/56,1D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.66**	**172**	*e*Pg	**Pg**	**16 57 38.0**	**+0.6**
KSP				*e*Sg	**Sg**	**16 57 46.5**	**+0.6**
CHVC	**Chvalec**	**0.91**	**184**	*e*PG	**Pg**	**16 57 42.8**	**+0.6**
CHVC				*e*SG	**Sg**	**16 57 54.7**	**+0.7**
OSTC	**Ostas**	**0.94**	**177**	*e*PG	**Pg**	**16 57 43.4**	**+0.6**
OSTC				*e*SG	**Sg**	**16 57 55.6**	**+0.6**
UPC	**Upice**	**0.99**	**185**	*e*PG	**Pg**	**16 57 44.1**	**+0.3**
UPC				*e*SG	**Sg**	**16 57 56.8**	**+0.2**
comp=Z,66nm,0.4s							
DPC	**Dobruska-Polom**	**1.15**	**174**	*e*PG	**Pg**	**16 57 46.8**	**-0.1**
DPC				*e*SG	**Sg**	**16 58 01.4**	**-0.3**
comp=Z,16nm,0.5s							
PVCC	**Panska Ves**	**1.39**	**226**	*e*PG	**Pg**	**16 57 51.2**	**-0.2**
PVCC				*e*SG	**Sb**	**16 58 10.1**	**+0.2**
comp=Z,83nm,0.4s							
KRLC	**Kraliky**	**1.48**	**164**	*e*PG	**Pn**	**16 57 52.6**	**-0.1**
KRLC				*e*SG	**Sg**	**16 58 11.0**	**-1.2**
comp=Z,31nm,0.2s							
BRG	**Berggiesshubel**	**1.52**	**247**	Pg	**Pg**	**16 57 53.9**	**0.0**
BRG				Sg	**Sn**	**16 58 13.9**	**+0.2**
BRG				Amp		16 58 14.4	
comp=Z,31nm,0.4s							
BRG				Amp		17 04 14.0	
comp=Z,7.7nm,19.5s							
BRG				Amp		17 04 18.0	
comp=E,6.1nm,20.1s							
BRG				Amp		17 04 29.0	
comp=N,4.1nm,20.1s							
PRU	**Pruhonice**	**1.82**	**215**	*e*PG	**Pb**	**16 57 58.3**	**-0.7**
PRU				*e*SG	**Sb**	**16 58 22.2**	**-0.1**
comp=N,18nm,0.6s							
MORC	**Moravsky Berou**	**1.94**	**152**	⇓P	**Pn**	**16 57 58.8**	**-0.2**
MORC	**Moravsky Berou**	**1.94**	**152**	*e*PN	**Pn**	**16 57 58.5**	**-0.5**
MORC				*e*SG	**Sb**	**16 58 25.5**	**+0.1**
CLL	**Collm**	**1.98**	**266**	*e*Pn	**Pn**	**16 57 59.0**	**-0.5**
CLL				*i* Pg	**Pb**	**16 58 01.3**	**-0.4**
CLL				*e*		16 58 06.0	
CLL				*e*Sg	**Sg**	**16 58 29.0**	**+0.7**
comp=Z,15nm,0.7s							
VRAC	**Vranov**	**2.21**	**172**	Pn	**Pn**	**16 58 02.5**	**-0.2**
comp=Z,1.4nm,0.3s,baz=331,slow=12,SNR=6.0							
VRAC				Lg	Lg	16 58 34.3	
comp=Z,2.2nm,0.3s,baz=247,slow=23,SNR=7.6							
VRAC	**Vranov**	**2.21**	**172**	*e*PN	**Pn**	**16 58 03.5**	**+0.8**
VRAC				*e*SG	**Sg**	**16 58 35.5**	**-0.2**
PBCC	**Pribram**	**2.27**	**218**	*e*SG	**Sb**	**16 58 36.4**	**+1.1**
comp=Z,6.9nm,0.4s							
KRUC	**Moravsky**	**2.44**	**176**	*e*PN	**Pn**	**16 58 06.0**	**+0.1**
KRUC				*e*SG	**Sg**	**16 58 42.6**	**-0.6**
OJC	**Ojcow**	**2.64**	**117**	*e*Pg	**Pg**	**16 58 15.8**	**+0.3**
OJC				*e*Sg	**Sg**	**16 58 51.6**	**+1.8**
NKC	**Novy Kostel**	**2.66**	**243**	*e*PN	**Pn**	**16 58 08.9**	**-0.1**
NKC				*e*PG	**Pg**	**16 58 15.4**	**-0.4**
NKC				*e*SG	**Sg**	**16 58 50.9**	**+0.7**
comp=Z,19nm,0.3s							
JAVC	**Velka Javorina**	**2.81**	**159**	*e*PN	**Pb**	**16 58 14.1**	**-1.9**
KHC	**Kasperske Hory**	**2.88**	**216**	*e*PN	**Pn**	**16 58 12.3**	**+0.3**
KHC				*e*PG	**Pb**	**16 58 17.9**	**+0.8**
KHC				*e*SN	**Sn**	**16 58 46.5**	**-0.9**
KHC				*e*SG	**Sg**	**16 58 56.4**	**-0.9**
comp=Z,10nm,0.7s							
CKRC	**Cesky Krumlov**	**2.92**	**204**	*e*SG	**Sb**	**16 58 56.1**	**+2.0**
GERES	**GERESS Array B**	**3.08**	**212**	Pn	**Pn**	**16 58 14.6**	**-0.2**
comp=Z,0.6nm,0.3s,baz=29,slow=13,SNR=15							
GERES				Pg	**Pb**	**16 58 21.4**	**+0.9**
comp=Z,1.9nm,0.3s,baz=30,slow=17,SNR=32							
GERES				Lg	Lg	16 59 00.3	
comp=Z,2.2nm,0.3s,baz=35,slow=31,SNR=9.2							
LANS	**Liptovska Anna**	**3.17**	**136**	*e*PG	**Pg**	**16 58 26.1**	**+0.6**
LANS				*e*SG	**Sg**	**16 59 08.0**	**+1.4**
MODS	**Modra-Piesok**	**3.21**	**166**	*e*PG	**Pg**	**16 58 24.7**	**-1.6**
MODS				*e*SG	**Sg**	**16 59 05.5**	**-2.3**
VYHS	**Vyhne**	**3.47**	**149**	*e*SG	**Sg**	**16 59 15.9**	**-0.3**
CONA	**Conrad Observa**	**3.57**	**183**	*i* Pn	**Pn**	**16 58 22.6**	**+1.0**
comp=Z,1.3nm,0.4s							
CONA				*i* Sg	**Sg**	**16 59 17.4**	**-2.2**
comp=Z,9.1nm,0.4s							
MOA	**Molln**	**3.85**	**199**	*e*Sg	**Sg**	**16 59 30.1**	**+1.8**
comp=Z,13nm,0.7s							
ARSA	**Arzberg**	**4.27**	**186**	Sg	**Sg**	**16 59 42.9**	**+1.0**
comp=Z,4.2nm,0.5s							
BLEU	**Blekinge**	**4.83**	**358**	*i* P	**Pn**	**16 58 38.7**	**+0.1**
DEL	**Delary**	**5.16**	**346**	*i* P	**Pn**	**16 58 43.0**	**-0.3**
AKASG	**Malin Array Be**	**8.28**	**90**	Pn	**Pn**	**16 59 27.2**	**+1.2**
comp=Z,0.2nm,0.3s,baz=279,slow=12,SNR=1.7							
ARCES	**ARCESS Array B**	**18.64**	**10**	Pn	**P**	**17 01 43.3**	**-0.4**
baz=198,slow=11,SNR=1.9							

IDC 24 16:52:16.2±9.8,6.71S×129.84E,h152km±101km,mb3.4/1, mb1 3.6/5,mb1mx3.1/46,mbtmp4.0/5,Error ellipse: s-maj=85.2km s-min=28.4km az=39.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**7.03**	**240**	P	Pn	16 53 58.6	+1.9
4.0nm,0.3s,baz=114,slow=3.2,SNR=4.0							
BATI				S	Sn	16 55 15.1	-0.5
3.2nm,0.3s,baz=209,slow=21,SNR=6.3							
FITZ	**Fitzroy Crossi**	**12.04**	**199**	P	Pn	16 55 01.6	-1.4
0.4nm,0.3s,baz=17,slow=9.8,SNR=9.8							
FITZ				S	Sn	16 57 10.5	-5.8
0.8nm,0.3s,baz=204,slow=19,SNR=5.8							
WRA	**Warramunga Arr**	**13.87**	**162**	P	Pn	16 55 26.0	-0.5
0.3nm,0.3s,baz=352,slow=14,SNR=1.8							
WRA				S	Sn	16 57 50.6	-10
0.5nm,0.3s,baz=342,slow=24,SNR=5.1							
ASAR	**Alice Springs**	**17.31**	**167**	P	Pn	16 56 09.3	+0.4
0.6nm,0.3s,baz=343,slow=9.7,SNR=5.7							
ASAR				S	S	16 59 14.2	-6.5
0.1nm,0.3s,baz=359,slow=28,SNR=1.7							
MKAR	**Makanchi Array**	**67.89**	**327**	P	P	17 02 58.2	-0.1
0.5nm,0.5s,baz=115,slow=7.8,SNR=5.4							

IDC 24 16:58:56.4±1.6,0.44S×131.34E,h0km,mb3.2/2, mb1 3.3/3,mb1mx3.1/30,mbtmp3.1/3,ML2.9/2,Error ellipse: s-maj=18.8km s-min=10.9km az=92.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**0.44**	**190**	Pg	Pg	16 59 05.6	+0.8
238nm,0.3s,baz=8.8,slow=18,SNR=37							
SIJI				Lg	Lg	16 59 10.4	
394nm,0.3s,baz=189,slow=23,SNR=18							
FITZ	**Fitzroy Crossi**	**18.43**	**197**	P	Pn	17 03 11.4	-2.1
0.1nm,0.3s,baz=254,slow=23,SNR=6.4							
WRA	**Warramunga Arr**	**19.61**	**172**	P	P	17 03 25.1	-1.5
0.0nm,0.3s,baz=351,slow=13,SNR=1.1							
WRA				S	Sn	17 06 51.1	-18
0.1nm,0.3s,baz=348,slow=24,SNR=2.6							
ASAR	**Alice Springs**	**23.23**	**174**	P	P	17 04 04.8	-0.6
0.3nm,0.5s,baz=350,slow=9.7,SNR=1.6							
MKAR	**Makanchi Array**	**63.59**	**325**	P	P	17 09 29.3	+0.2
0.3nm,0.5s,baz=106,slow=6.2,SNR=4.2							

KRSC 24 17:12:24.8±2.0,48.03N×157.28E,h16km±34km,ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.76**	**344**	*e*S	Sn	17 13 41.8	+0.6
PAU	**Pauzhetka**	**3.45**	**355**	*e*P	Pn	17 13 20.4	+2.6
PAU				S	Sn	17 14 02.3	+4.0
KDTR	**Khodutka, Kamc**	**3.82**	**7**	*e*P	Pn	17 13 26.3	+3.5
KDTR				*e*S	Sb	17 14 12.5	-5.1
ASAK	**Asacha**	**4.38**	**5**	*e*P	Pn	17 13 34.0	+3.5
ASAK				*e*S	Sn	17 14 26.8	+5.6
RUS	**Russkaya**	**4.48**	**10**	*e*S	Sn	17 14 29.2	+5.7
MTVR	**Mutnovka**	**4.50**	**7**	*e*P	Pn	17 13 35.9	+3.7
MTVR				*e*S	Sn	17 14 29.5	+5.3
GRL	**Gorelyy**	**4.55**	**6**	*e*P	Pn	17 13 37.0	+3.9
GRL				*e*S	Sn	17 14 32.0	+6.4
KRMR	**Karymshinskiy**	**4.84**	**6**	*e*P	Pb	17 13 42.9	-6.1
DALK	**Dalny**	**5.09**	**10**	*e*P	Pn	17 13 43.9	+3.6
DALK				*e*S	Sn	17 14 44.5	+5.8
UGLR	**Uglovaya**	**5.28**	**10**	P	Pn	17 13 47.8	+4.9
AVH	**Avacha**	**5.32**	**9**	P	Pn	17 13 48.8	+5.3
SPN	**Mys Shipunski**	**5.37**	**18**	S	Sn	17 14 52.4	+7.0
MKZ	**Mys Kozlova**	**7.10**	**21**	P	Pn	17 14 11.9	+4.0
KZV	**Kizimen**	**7.34**	**14**	P	Pn	17 14 15.8	+4.6

IDC ***24*** *17:15:22.7±0.5,32.˙97S×178.˙43W,h0km,mb4.6/19, mb1 4.7/21,mb1mx4.6/40,mbtmp4.6/21,ML4.8/2,MS4.8/2, Ms1 4.8/2,ms1mx4.0/35, Error ellipse: s-maj=16.4km s-min=15.4km az=112.0*

MOS ***24*** *17:15:24.6±1.2,33.˙13S×178.˙74W,h10km,mb4.8/7, Error ellipse: s-maj=17.4km s-min=12.0km az=119.1*

NEIC ***24*** *17:15:26.6±1.6,33.˙03S±0.˙08×178.˙5W±0.˙1, h21km±4km, mb4.8/45, Error ellipse: s-maj=16.9km s-min=10.0km az=111.0*

NOU ***24*** *17:15:29.1,33.˙61S×178.˙17W,h58km,mb5.0/35,South of Kermadec Islands*

WEL ***24*** *17:15:32.0±1.2,35˚S±27.˙×17.˙8W±3.˙3,h33km,mB4.6/2, Mw(mB)3.9/2, Error ellipse: s-maj=0.1km s-min=0.0km az=129.5*

ISC 24 17:15:27.7±0.3,33.˙20S±0.˙05×178.˙53W±0.˙06,h32km, n229,σ1$71/21,mb4.8/44,MS4.8/3,11C-7D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.97**	**8**	Pn	Pn	17 16 21.3	-5.1
	52nm,0.3s,baz=12,slow=20,SNR=2.1						
RAO				Sn	**Sn**	**17 17 05.8**	**-6.1**
	197nm,0.3s,baz=73,slow=22,SNR=5.1						
RAO	**Raoul Island**	**3.97**	**8**	P	**Sb**	**17 17 22.9**	**-1.8**
	1µm,0.9s						
MXZ	**Matakaoa Point**	**5.06**	**210**		**Pn**	**17 16 40.1**	**-1.2**
URZ	**Urewera**	**6.17**	**214**	Pn	**Pn**	**17 16 56.5**	**0.0**
	33nm,0.3s,baz=282,slow=2.8,SNR=83						
URZ				Sn	**Sn**	**17 18 06.6**	**+0.7**
	31nm,0.3s,baz=295,slow=1.2,SNR=11						
URZ	**Urewera**	**6.17**	**214**	Pn	**Pn**	**17 16 55.4**	**-1.1**
OUZ	**Omahuta**	**6.83**	**251**	Pn	**Pn**	**17 17 04.0**	**-1.6**
BKZ	**Black Stump Fm**	**7.18**	**213**	Pn	**Pn**	**17 17 08.3**	**-2.2**
HIZ	**Hauiti**	**7.54**	**224**		**Pn**	**17 17 16.6**	**+1.1**
BHW	**Baring Head**	**9.73**	**211**	Pn	**Pn**	**17 17 42.4**	**-3.0**
TUWZ	**Tuamarina**	**10.16**	**214**	Pn	**Pn**	**17 17 47.5**	**-3.8**
BSWZ	**Blackbirch Sta**	**10.42**	**213**	Pn	**Pn**	**17 17 50.8**	**-4.0**
THZ	**Tophouse**	**10.92**	**216**	P	**Pn**	**17 17 57.0**	**-4.7**
THZ				S	**Sn**	**17 19 56.3**	**-6.4**
KHZ	**Kahutara**	**11.13**	**212**	P	**Pn**	**17 18 00.9**	**-3.6**
KHZ				S	Sn	17 19 58.4	-9.4
GVZ	**Greta Valley S**	**11.79**	**212**	P	Pn	17 18 08.7	-5.0
GVZ				S	Sn	17 20 13.7	-10
LTZ	**Lake Taylor**	**12.00**	**215**	P	Pn	17 18 11.6	-4.9
LTZ				S	Sn	17 20 18.6	-10
INZ	**Inchbonnie**	**12.36**	**217**	P	**Pn**	**17 18 18.6**	**-2.7**
INZ				S	Sn	17 20 26.4	-11
OXZ	**Oxford**	**12.52**	**213**	P	Pn	17 18 16.8	-6.8
OXZ				S	Sn	17 20 29.7	-12
MQZ	**McQueen's Vall**	**12.55**	**211**	P	Pn	17 18 18.4	-5.5
MQZ				S	Sn	17 20 31.0	-12
MHCZ	**Mount Hutt**	**12.90**	**214**	P	**Pn**	**17 18 27.2**	**-1.6**
MHCZ				S	Sn	17 20 38.8	-12
WVZ	**Waitaha Valley**	**12.97**	**217**	P	**Pn**	**17 18 29.2**	**-0.5**
RPZ	**Rata Peaks**	**13.28**	**215**	P	Pn	17 18 27.5	-6.5
GCSZ	**Gaunt Creek Bo**	**13.35**	**218**	P	**Pn**	**17 18 33.0**	**-1.9**
ARCZ	**Arundel**	**13.40**	**214**	P	Pn	17 18 29.1	-6.5
FOZ	**Fox Glacier**	**13.77**	**218**	P	**Pn**	**17 18 38.2**	**-2.4**
TMZ	**Timaru**	**13.81**	**213**	P	Pn	17 18 34.6	-6.7
LBZ	**Lake Benmore**	**14.20**	**215**	Pn	Pn	17 18 41.4	-5.1
LBZ	**Lake Benmore**	**14.20**	**215**	P	**Pn**	**17 18 43.9**	**-2.6**
ODZ	**Otahua Downs**	**14.49**	**212**	Pn	Pn	17 18 42.4	-8.0
ODZ	**Otahua Downs**	**14.49**	**212**	P	Pn	17 18 43.5	-6.9
WKZ	**Wanaka**	**15.09**	**216**	Pn	**Pn**	**17 18 53.7**	**-4.9**
WKZ	**Wanaka**	**15.09**	**216**	P	**Pn**	**17 18 54.9**	**-3.7**
EAZ	**Earnscleugh**	**15.25**	**214**	P	**Pn**	**17 18 59.0**	**-1.6**
MSZ	**Milford Sound**	**15.54**	**219**	P	**Pn**	**17 19 00.9**	**-3.4**
MSVF	**Nonsavu**	**15.71**	**348**	*eP*	**Pn**	**17 19 06.7**	**-0.1**
MSVF	**Nonsavu**	**15.71**	**348**	P	**P**	**17 19 10.5**	**0.0**
	49nm,2.0s						
MLZ	**Mavora Lakes**	**15.92**	**216**	P	**Pn**	**17 19 06.9**	**-2.5**
MLZ	**Mavora Lakes**	**15.92**	**216**	P	**Pn**	**17 19 07.8**	**-1.5**
WHZ	**Wether Hill Ro**	**16.38**	**215**		**Pn**	**17 19 11.2**	**-3.9**
WHZ	**Wether Hill Ro**	**16.38**	**215**	P	**Pn**	**17 19 12.0**	**-3.1**
OUENC	**Ouen Island, N**	**16.80**	**306**	P	**P**	**17 19 21.7**	**-0.8**
OUENC				IAmb	IAmb	17 19 27.9	
	comp=Z,110nm,1.2s						
OUENC	**Ouen Island, N**	**16.80**	**306**	P	**P**	**17 19 27.5**	**+5.0**
YATNC	**Mamie plateau,**	**17.02**	**307**	P	**P**	**17 19 28.4**	**+3.5**
APZ	**The Paps**	**17.05**	**213**	P	**Pn**	**17 19 23.0**	**-0.6**
DZM	**Mont Dzumac**	**17.31**	**306**	Pn	**P**	**17 19 30.4**	**+2.2**
	comp=Z,0.4nm,0.3s,baz=143,slow=14,SNR=9.0						
DZM	**Mont Dzumac**	**17.31**	**306**	*e*Pn	**P**	**17 19 30.4**	**+2.2**
	comp=Z,154nm,1.4s						
DZM	**Mont Dzumac**	**17.31**	**306**	P	**P**	**17 19 30.5**	**+2.3**
DZM				IAmb	IAmb	17 19 34.9	
	comp=Z,94nm,1.3s						
DZM	**Mont Dzumac**	**17.31**	**306**	P	**P**	**17 19 32.2**	**+4.0**
NOUC	**Port Laguerre**	**17.38**	**306**	P	**P**	**17 19 33.3**	**+4.4**
NOUC	**Port Laguerre**	**17.38**	**306**	P	**P**	**17 19 33.3**	**+4.4**
LIFNC	**LIFOU**	**17.70**	**311**		**Pn**	**17 19 30.3**	**-1.5**
LIFNC				IAmb	IAmb	17 19 42.3	
	comp=Z,97nm,1.0s						
RAR	**Rarotonga**	**20.48**	**59**	P	**P**	**17 20 00.6**	**-2.2**
	comp=Z,111nm,0.7s,baz=236,slow=11,SNR=2.0						
RAR	**Rarotonga**	**20.48**	**59**	P	**P**	**17 20 01.5**	**-1.4**
RAR				IAmb	IAmb	17 20 14.9	
	comp=Z,113nm,1.4s						
RAR	**Rarotonga**	**20.48**	**59**	P	**P**	**17 20 02.4**	**-0.5**
EIDS	**Eidsvold**	**27.56**	**278**	P	**P**	**17 21 14.3**	**+2.4**
	baz=28,SNR=7.2						
EIDS	**Eidsvold**	**27.56**	**278**	P	**P**	**17 21 13.3**	**+1.5**
EIDS				IAmb	IAmb	17 21 15.4	
	comp=Z,16nm,0.8s						
RMQ	**Roma**	**29.07**	**275**	P	**P**	**17 21 26.4**	**+1.0**
	baz=29,SNR=13						
TOO	**Toolangi**	**29.54**	**251**	P	**P**	**17 21 30.6**	**+1.2**
CMSA	**Cobar Meteorol**	**30.18**	**263**	P	**P**	**17 21 35.6**	**+0.5**
	baz=30,SNR=7.4						
ARPS	**Mount Arapiles**	**32.51**	**252**	P	**P**	**17 21 55.6**	**+0.1**
	baz=32,SNR=5.6						
QLP	**Quilpie**	**32.83**	**272**	P	**P**	**17 21 59.2**	**+0.8**
	baz=33,SNR=5.1						
STKA	**Stephens Creek**	**33.51**	**261**	P	**P**	**17 22 05.2**	**+0.9**
	baz=33,SNR=6.3						
STKA	**Stephens Creek**	**33.51**	**261**	P	**P**	**17 22 05.1**	**+0.9**
	comp=Z,1.6nm,0.5s,baz=88,slow=11,SNR=7.2						
STKA				PcP	**PcP**	**17 24 44.6**	**-0.1**
	comp=Z,4.3nm,0.8s,baz=74,slow=6.8,SNR=4.1						
STKA				LR	LR	17 35 22.4	
	comp=Z,2µm,18.0s,baz=118,slow=36						
STKA	**Stephens Creek**	**33.51**	**261**	P	**P**	**17 22 05.2**	**+0.9**
CTA	**Charters Tower**	**33.91**	**284**	P	**P**	**17 22 09.4**	**+1.5**
	comp=Z,9.5nm,0.5s,baz=116,slow=9.7,SNR=28						
CTAO	**Charters Tower**	**33.91**	**284**	P	**P**	**17 22 09.2**	**+1.3**
HTT	**Hallett**	**35.38**	**258**	P	**P**	**17 22 21.0**	**+0.5**
	baz=35,SNR=10						
MTSU	**Mount Surprise**	**36.48**	**285**	P	**P**	**17 22 32.0**	**+1.9**
	baz=36,SNR=11						
BBOO	**Buckleboo**	**37.86**	**258**	P	**P**	**17 22 41.8**	**+0.2**
	baz=38,SNR=9.3						
BBOO	**Buckleboo**	**37.86**	**258**	P	**P**	**17 22 41.8**	**+0.2**
BBOO				IAmb	IAmb	17 22 57.0	
	comp=Z,16nm,1.0s						
QIS	**Mount Isa**	**39.16**	**278**	P	**P**	**17 22 53.8**	**+1.0**
	baz=39,SNR=5.5						
COEN	**Coen**	**39.70**	**290**	P	**P**	**17 22 58.7**	**+1.5**
COEN				IAmb	IAmb	17 23 27.8	
	comp=Z,24nm,1.1s						
XMAS	**Kiritimati**	**40.32**	**34**	P	**P**	**17 23 03.7**	**+1.4**
	comp=Z,78nm,1.0s						
AS31	**Alice Springs**	**42.59**	**270**	P	**P**	**17 23 21.1**	**+0.1**
ASAR	**Alice Springs**	**42.59**	**270**	P	**P**	**17 23 21.1**	**+0.2**
	comp=Z,23nm,0.7s,baz=110,slow=7.4,SNR=280						
ASAR				PcP	**PcP**	**17 25 13.1**	**+0.1**
	comp=Z,3.8nm,0.9s,baz=128,slow=3.8,SNR=5.0						
ASAR				S	**S**	**17 29 40.5**	**-1.4**
	comp=Z,2.3nm,1.0s,baz=113,slow=15,SNR=7.9						
WR0	**Warramunga Arr**	**43.66**	**275**	P	**P**	**17 23 29.4**	**-0.2**
WR0				IAmb	IAmb	17 23 30.7	
	comp=Z,16nm,0.8s						
WB2	**Warramunga Arr**	**43.82**	**275**	P	**P**	**17 23 30.8**	**-0.2**
WRAB	**Tennant Creek**	**43.83**	**275**	*c iP*	**P**	**17 23 30.9**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,21nm,0.8s						
WRAB	**Tennant Creek**	**43.83**	**275**	P	**P**	**17 23 30.6**	**-0.4**
WRAB				IAmb	IAmb	17 23 32.0	
	comp=Z,21nm,0.8s						
WRA	**Warramunga Arr**	**43.83**	**275**	P	**P**	**17 23 30.8**	**-0.2**
	comp=Z,18nm,0.8s,baz=125,slow=8.1,SNR=123						
WRA				S	**S**	**17 29 56.8**	**-3.3**
	comp=Z,1.2nm,1.1s,baz=122,slow=16,SNR=4.0						
WRA	**Warramunga Arr**	**43.83**	**275**	P	**P**	**17 23 30.6**	**-0.5**
FORT	**Forrest**	**44.96**	**258**	P	**P**	**17 23 39.6**	**-0.3**
	baz=45,SNR=11						
FORT	**Forrest**	**44.96**	**258**	P	**P**	**17 23 39.6**	**-0.3**
SBA	**Scott Base**	**45.22**	**184**	P	**P**	**17 23 41.9**	**+0.6**
VNDA	**Vanda**	**45.27**	**186**	P	**P**	**17 23 43.4**	**+1.6**
	comp=Z,0.9nm,0.8s,baz=30,slow=4.0,SNR=3.5						
VNDA	**Vanda**	**45.27**	**186**	P	**P**	**17 23 42.0**	**+0.3**
WRKA	**Warakurna**	**46.75**	**266**	P	**P**	**17 23 53.6**	**-0.5**
	baz=47,SNR=44						
JAY	**Jayapura**	**48.84**	**300**	P	**P**	**17 24 10.6**	**+0.2**
	comp=Z,16nm,0.9s,baz=212,slow=11,SNR=6.8						
KDU	**Kakadu**	**49.03**	**283**	P	**P**	**17 24 11.6**	**-0.2**
	baz=49,SNR=6.6						
MTN	**Manton Dam**	**50.04**	**282**	P	**P**	**17 24 18.8**	**-0.7**
KNRA	**Kununurra**	**50.53**	**277**	P	**P**	**17 24 23.6**	**+0.3**
	baz=50,SNR=14						
KNRA	**Kununurra**	**50.53**	**277**	P	**P**	**17 24 23.1**	**-0.2**
KNRA				IAmb	IAmb	17 24 24.2	
	comp=Z,16nm,0.8s						
FITZ	**Fitzroy Crossi**	**51.97**	**272**	P	**P**	**17 24 33.9**	**-0.1**
	baz=52,SNR=20						
FITZ	**Fitzroy Crossi**	**51.97**	**272**	P	**P**	**17 24 33.4**	**-0.6**
	comp=Z,13nm,0.9s,baz=142,slow=5.8,SNR=28						
FITZ				LR	LR	17 46 25.4	
	comp=Z,754nm,18.6s,baz=222,slow=36						
FITZ	**Fitzroy Crossi**	**51.97**	**272**	P	**P**	**17 24 34.2**	**+0.2**
FITZ				IAmb	IAmb	17 24 34.9	
	comp=Z,14nm,0.9s						
CASY	**Casey**	**52.47**	**209**	P	**P**	**17 24 36.3**	**-0.8**
MEEK	**Meekatharra**	**54.17**	**259**	P	**P**	**17 24 49.0**	**-1.2**
	baz=54,SNR=9.1						
PSA00	**Pilbara Seismi**	**55.24**	**265**	P	**P**	**17 24 56.3**	**-1.7**
PSA00	**Pilbara Seismi**	**55.24**	**265**	P	**P**	**17 24 57.0**	**-1.1**
PSA00				IAmb	IAmb	17 24 58.5	
	comp=Z,8.0nm,0.8s						
MORW	**Morawa**	**55.35**	**255**	P	**P**	**17 24 58.1**	**-0.6**
	baz=55,SNR=3.9						
MORW	**Morawa**	**55.35**	**255**	P	**P**	**17 24 57.4**	**-1.3**
MORW				IAmb	IAmb	17 25 13.1	
	comp=Z,17nm,1.1s						
QSPA	**South Pole Qui**	**56.91**	**180**	P	**P**	**17 25 11.8**	**+2.3**
	comp=Z,23nm,0.9s,baz=32,slow=1.9,SNR=73						
QSPA	**South Pole Qui**	**56.91**	**180**	P	**P**	**17 25 11.7**	**+2.2**
SOEI	**Soe**	**57.36**	**280**	P	**P**	**17 25 14.1**	**+0.8**
BATI	**Baumata**	**57.61**	**279**	P	**P**	**17 25 15.8**	**+0.8**
	comp=Z,18nm,0.7s,baz=204,slow=6.3,SNR=6.2						
LBFI	**Labuhan Bajo,**	**61.67**	**279**	P	**P**	**17 25 43.9**	**+1.0**
	comp=Z,23nm,1.3s						
MAW	**Mawson**	**69.53**	**201**	P	**P**	**17 26 31.9**	**-0.9**
	baz=69,SNR=142						
MAW	**Mawson**	**69.53**	**201**	P	**P**	**17 26 34.7**	**+1.9**
	comp=Z,2.8nm,0.7s,baz=133,slow=6.6,SNR=1.7						
SYO	**Syowa Base**	**74.29**	**193**	*eP*	**P**	**17 27 02.8**	**+1.5**
SYO	**Syowa Base**	**74.29**	**193**	*ePP*	pP	17 27 09.1	-0.5
SNAA	**Sanae**	**75.37**	**179**	P	**P**	**17 27 08.4**	**+0.7**
SNAA	**Sanae**	**75.37**	**179**	PcP	**PcP**	**17 27 18.5**	**-2.3**
SNAA	**Sanae**	**75.37**	**179**	*iP*	**P**	**17 27 08.8**	**+1.1**
SNAA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SNAA	**Sanae**	**75.37**	**179**	P	**P**	**17 27 08.4**	**+0.7**
SNAA				IAmb	IAmb	17 27 19.5	
	comp=Z,16nm,1.1s						
VNA3	**Neumayer Olymp**	**75.54**	**176**	P	**P**	**17 27 08.8**	**+0.2**
VNA3	**Neumayer Olymp**	**75.54**	**176**	PcP	**PcP**	**17 27 20.0**	**-1.5**
VNA2	**Neumayer--Watz**	**75.97**	**177**	P	**P**	**17 27 11.3**	**+0.2**
VNA2	**Neumayer--Watz**	**75.97**	**177**	PcP	**PcP**	**17 27 22.0**	**-1.3**
VNA1	**Neumayer--Stat**	**76.20**	**177**	P	**P**	**17 27 13.2**	**+0.9**
VNA1	**Neumayer--Stat**	**76.20**	**177**	PcP	**PcP**	**17 27 24.1**	**-0.1**
MJA0	**Matsu Arr-Jizo**	**80.28**	**326**	*eP*	**P**	**17 27 35.2**	**-0.1**
MJA0				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MJAR	**Matsushiro Arr**	**80.30**	**326**	P	**P**	**17 27 34.5**	**-0.9**
	comp=Z,2.8nm,1.0s,baz=166,slow=5.1,SNR=4.5						
MJAR	**Matsushiro Arr**	**80.30**	**326**	IAmb	IAmb	17 27 35.2	
	comp=Z,4.5nm,1.2s						
PLCA	**Paso Flores**	**80.93**	**133**	P	**P**	**17 27 39.1**	**+0.1**
	comp=Z,3.5nm,1.0s,baz=172,slow=3.1,SNR=4.8						
PLCA	**Paso Flores**	**80.93**	**133**	*eP*	**P**	**17 27 40.8**	**+1.7**
PLCA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
LC01	**Cunco**	**81.18**	**131**	P	**P**	**17 27 40.4**	**0.0**
LC01				IAmb	IAmb	17 27 41.2	
	comp=Z,7.8nm,0.9s						
ASAJ	**Asahikawa**	**84.72**	**333**	P	**P**	**17 27 57.8**	**-0.4**
	comp=Z,5.5nm,1.1s,baz=94,slow=8.9,SNR=2.0						
GSI	**Gunungsitoli**	**85.60**	**274**	P	**P**	**17 28 03.1**	**-0.3**
GSI	**Gunungsitoli**	**85.60**	**274**	P	**P**	**17 28 04.0**	**+0.6**
KSRS	**Korea Array**	**86.20**	**320**	P	**P**	**17 28 05.2**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=138,slow=5.5,SNR=8.1						
KSRS	**Korea Array**	**86.20**	**320**	*eP*	**P**	**17 28 06.4**	**+0.7**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YSS	**Yuzh-Sakhalins**	**87.07**	**335**	*deP*	**P**	**17 28 11.0**	**+1.2**
YSS				pmax	pmax		
	comp=Z,22nm,0.9s						
YSS	**Yuzh-Sakhalins**	**87.07**	**335**	P	**P**	**17 28 09.8**	**+0.1**
NJ2	**Nanjing**	**87.73**	**311**	*eP*	**P**	**17 28 17.3**	**+4.0**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
PEA0B	**Petropavlovsk-**	**88.41**	**346**	*eP*	**P**	**17 28 18.8**	**+2.8**
PETK	**Petropavlovsk-**	**88.41**	**346**	P	**P**	**17 28 15.9**	**-0.2**
	comp=Z,5.1nm,0.8s,baz=140,slow=7.0,SNR=7.2						
PETK	**Petropavlovsk-**	**88.41**	**346**	P	**P**	**17 28 16.1**	**0.0**
PFO	**Pinyon Flats O**	**88.43**	**48**	*deP*	**P**	**17 28 18.9**	**+2.1**
ISA	**Isabella, Lake**	**88.60**	**45**	P	**P**	**17 28 18.2**	**+0.7**
USRK	**Ussuriysk Ar.**	**89.25**	**327**	P	**P**	**17 28 19.7**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=150,slow=4.9,SNR=5.1						
GSC	**Goldstone, Bar**	**89.35**	**46**	P	**P**	**17 28 20.7**	**-0.4**
GSC				IAmb	IAmb	17 28 22.9	
	comp=Z,5.0nm,0.9s						
QSM	**Queen of Sheba**	**89.76**	**46**	P	**P**	**17 28 23.3**	**+0.4**
QSM				IAmb	IAmb	17 28 29.6	
	comp=Z,9.3nm,1.5s						
WDC	**Whiskeytown Da**	**89.77**	**39**	P	**P**	**17 28 22.5**	**-0.2**
WDC				IAmb	IAmb	17 28 25.6	
	comp=Z,9.3nm,1.4s						
LHV	**Little Huntoon**	**90.36**	**43**	P	**P**	**17 28 26.5**	**+1.0**
LHV				IAmb	IAmb	17 28 28.5	
	comp=Z,9.5nm,1.3s						
NVAR	**Mina Array Bea**	**90.59**	**43**	P	**P**	**17 28 26.1**	**-0.8**
	comp=Z,2.5nm,1.1s,baz=219,slow=7.1,SNR=9.3						
NVAR	**Mina Array Bea**	**90.59**	**43**	P	**P**	**17 28 26.4**	**-0.6**
W13A	**Hualapai Mount**	**91.01**	**48**	P	**P**	**17 28 29.4**	**+0.5**
W13A				IAmb	IAmb	17 28 36.1	
	comp=Z,6.2nm,1.3s						
KVN	**Kaiserville**	**91.14**	**43**	P	**P**	**17 28 28.5**	**-0.9**
KVN				IAmb	IAmb	17 28 46.9	
	comp=Z,5.9nm,1.4s						
TUC	**Tucson**	**91.20**	**52**	P	**P**	**17 28 29.8**	**+0.1**
TUC				IAmb	IAmb	17 28 32.2	
	comp=Z,4.5nm,1.1s						
PRN	**Pahroc Range**	**91.81**	**45**	P	**P**	**17 28 31.5**	**-1.0**
PRN				IAmb	IAmb	17 28 34.7	
	comp=Z,4.7nm,1.2s						
CN2	**Changchun**	**92.10**	**323**	*eP*	**P**	**17 28 34.4**	**+0.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PB15	**IPOC Station P**	**92.19**	**120**	P	**P**	**17 28 32.4**	**-2.5**
KLR	**Kul'dur**	**93.23**	**330**	*eP*	**P**	**17 28 38.0**	**-0.5**
KLR				pmax	pmax		
	comp=Z,3.0nm,1.2s						
CMAR	**Chiang Mai Arr**	**93.90**	**289**	*i* P	**P**	**17 28 42.7**	**+0.3**
TXAR	**Lajitas Array**	**94.27**	**58**	P	**P**	**17 28 44.5**	**+0.5**
	comp=Z,0.6nm,1.0s,baz=221,slow=6.6,SNR=4.8						
XAN	**Xi'an**	**95.45**	**307**	P	**P**	**17 28 52.3**	**+3.1**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**97.85**	**314**	*eP*	Pdif	17 29 01.1	+1.0
HHC				pmax	pmax		
	comp=Z,20nm,1.3s						
HHC				pmax	pmax		
	comp=Z,590nm,7.6s						
HHC				LR	LR		
	comp=N,410nm,17.7s						
HHC				LR	LR		
	comp=E,540nm,17.7s						
HHC				LR	LR		
	comp=Z,770nm,17.7s						
BILL	**Bilibino**	**101.58**	**354**	*eP*	**Pdif**	**17 29 17.6**	**+1.8**
BILL				*e*		17 33 28.4	
BILL				*ePPP*	PPP	17 35 35.4	
BILL				pmax	pmax		
	comp=Z,8.0nm,1.1s						
WMQ	**Urumqi**	**114.59**	**307**	*eP*	**PKiKP**	**17 34 05.1**	**+0.7**
WMQ				pmax	pmax		
	comp=Z,140nm,5.7s						
DGZ	**Jazzator, Alta**	**116.93**	**313**	*i* PKIKP	**PKiKP**	**17 34 09.5**	**+0.6**
MKAR	**Makanchi Array**	**119.21**	**309**	PKP	**PKPdf**	**17 34 12.4**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=347,slow=1.6,SNR=4.6						
ZALV	**Zalesovo Beam**	**119.81**	**317**	PKP	**PKPdf**	**17 34 13.9**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=303,slow=17,SNR=5.7						
BRVK	**Borovoye**	**128.13**	**314**	*i* PKIKP	**PKiKP**	**17 34 33.3**	**+2.6**
ARU	**Arti**	**134.93**	**319**	PKP	**PKPdf**	**17 34 42.3**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=180,slow=1.0,SNR=2.0						
ARU	**Arti**	**134.93**	**319**	*i* PKIKP	**PKiKP**	**17 34 47.9**	**+3.6**
ARU						17 37 27.6	
ARU				SS	SS	17 55 32.2	+23
HOPEN	**Hopen**	**135.26**	**352**	*e*PKPdf	**PKPdf**	**17 34 44.2**	**-0.2**
AKTO	**Aktyubinsk**	**135.61**	**310**	PKhKP	PKPpre	17 34 41.4	
	comp=Z,1.2nm,0.6s,baz=125,slow=7.0,SNR=4.1						
HAMF	**Hammerfest**	**140.59**	**349**	*e*PKPdf	**PKPdf**	**17 34 53.5**	**+0.7**
ARCES	**ARCESS Array B**	**141.22**	**347**	PKhKP	PKPpre	17 34 50.4	
	comp=Z,1.2nm,0.6s,baz=52,slow=2.0,SNR=11						
ARCES	**ARCESS Array B**	**141.22**	**347**	*e*PKIKP	**PKPdf**	**17 34 50.6**	**-3.4**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BELG	**Belogornoye**	**141.87**	**314**	*i* PKIKP	**PKiKP**	**17 34 58.1**	**-0.4**
TRO	**Tromso**	**142.24**	**350**	*e*PKPdf	**PKPdf**	**17 34 56.6**	**+0.8**
KLMR	**Klimovskoe**	**142.99**	**330**	*e*PKHKP	PKPpre	17 34 52.2	
KLMR				pmax	pmax		
	comp=Z,20nm,1.5s						
KLMR	**Klimovskoe**	**142.99**	**330**	*e*PKPdf	**PKPdf**	**17 34 52.3**	**-5.1**
KLMR				AMP		17 34 55.4	
	comp=Z,20nm,1.5s						
STEI	**Steigen**	**144.33**	**351**	*e*PKPbc	PKPbc	17 34 58.1	+0.2
LOF	**Lofoten**	**144.34**	**352**	*e*PKPbc	PKPbc	17 34 57.9	-0.1
FAUS	**Fauske**	**144.84**	**351**	*e*PKPbc	**PKPab**	**17 34 59.4**	**-0.1**
ZEI	**Tsey**	**145.53**	**299**	*i* PKIKP	**PKPab**	**17 35 04.7**	**+1.6**
ZEI				pmax	pmax		
	comp=Z,5.0nm,1.3s						
VRH	**Novokhopyorsk**	**145.72**	**314**	*e*PKP2	**PKPdf**	**17 35 01.9**	**-0.5**
VRH				pmax	pmax		
	comp=Z,30nm,0.8s						
NCK	**Nalchik**	**145.73**	**300**	*i* PKIKP	**PKPbc**	**17 35 03.0**	**-0.2**
KONS	**Konsvik**	**145.96**	**352**	*e*PKPdf	**PKPbc**	**17 35 02.9**	**-0.2**
GOF	**Gofitskoye**	**146.00**	**303**	*e*PKP2	**PKPbc**	**17 35 03.9**	**-0.1**
GOF				pmax	pmax		
	comp=Z,47nm,0.8s						
MOR8	**Moi Rana**	**146.10**	**351**	*e*PKPdf	**PKPdf**	**17 35 02.8**	**+0.2**
KBZ	**Khabaz**	**146.22**	**300**	PKPbc	**PKPdf**	**17 35 02.3**	**-1.2**
	comp=Z,10.0nm,1.0s,baz=106,slow=2.0,SNR=12						
KBZ	**Khabaz**	**146.22**	**300**	*e*PKP2	**PKPbc**	**17 35 04.1**	**-0.5**
KBZ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MOS	**Moscow**	**146.34**	**323**	*i* PKIKP	**PKPdf**	**17 35 03.5**	**+0.2**
MOS				pmax	pmax		
	comp=Z,89nm,1.1s						
KIV	**Kislovodsk**	**146.36**	**301**	*e*PKP2	**PKPbc**	**17 35 05.2**	**0.0**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
NEY	**Neytrino**	**146.38**	**300**	*i* PKP2	**PKPab**	**17 35 07.3**	**+1.0**
JAWL	**J.Aulia**	**146.71**	**245**	*i* P	**PKPbc**	**17 35 06.8**	**-0.1**
JAWL				*i*		17 35 10.0	
	baz=292,slow=9.3						
LPSR	**Galich'ya Gora**	**146.92**	**317**	*e*PKP2	**PKPbc**

VA03	**San Esteban**	**1.60**	**132**			**Pb**	17 21 57.0	**+0.3**
GO04	**Tololo Observa**	**1.83**	**34**	*eP*		**Pn**	17 21 59.4	**+0.5**
GO04				IAML			17 22 31.0	
	comp=N,2μm,0.5s							
GO04	**Tololo Observa**	**1.83**	**34**	Pn		**Pn**	17 21 59.4	**+0.5**
CO05	**La Serena**	**1.89**	**20**	Pn		**Pn**	17 22 00.2	**+0.8**
VA05	**Santo Domingo**	**1.97**	**171**			**Pn**	17 22 01.0	**+0.5**
MT05	**Renca**	**1.98**	**149**	*eP*		**Pn**	17 22 01.6	**+0.9**
MT05	**Renca**	**1.98**	**149**			**Pb**	17 22 02.2	**-0.9**
MT09	**Talagante**	**2.22**	**158**	*eP*		**Pn**	17 22 05.5	**+1.3**
MT09				*i* S		**Sn**	17 22 32.3	**+0.4**
MT09				IAML			17 22 43.8	
	comp=N,874nm,0.4s							
MT09	**Talagante**	**2.22**	**158**			**Pn**	17 22 05.5	**+1.3**
MT01	**Popeta**	**2.23**	**164**	*eP*		**Pn**	17 22 04.9	**+0.7**
MT01				*i* S		**Sn**	17 22 32.3	**+0.3**
MT01				IAML			17 22 43.4	
	comp=E,1μm,0.9s							
MT01	**Popeta**	**2.23**	**164**			**Pn**	17 22 04.8	**+0.7**
BO01	**Tunca**	**2.78**	**165**	Pn		**Pn**	17 22 12.5	**+0.8**
ZON	**Zonda**	**2.81**	**88**			**Pb**	17 22 16.4	**-0.9**
LCO	**Las Campanas**	**2.90**	**23**			**Pn**	17 22 14.0	**+0.4**
BO02	**Sierra Bellavi**	**3.23**	**162**			**Pn**	17 22 19.1	**+1.1**
GO05	**Huala**	**3.29**	**179**	Pn		**Pn**	17 22 18.4	**-0.3**
ML02	**Panimavida**	**4.07**	**174**			**Pn**	17 22 31.5	**+2.1**
GO03	**Copiap**	**4.37**	**21**	Pn		**Pn**	17 22 34.3	**+0.7**
AC06	**Mina Casimiro**	**4.56**	**18**	Pn		**Pn**	17 22 36.9	**+0.7**
AC02	**Maricunga**	**5.45**	**28**	Pn		**Pn**	17 22 49.5	**+0.7**
H03N1	**Juan Fernandez**	**6.11**	**252**	T		T	17 29 40.4	
	baz=80,slow=72,SNR=404							
H03N3	**Juan Fernandez**	**6.12**	**252**	T		T	17 29 31.3	
	baz=80,slow=72,SNR=431							
H03N2	**Juan Fernandez**	**6.13**	**252**	T		T	17 29 32.7	
	baz=80,slow=72,SNR=500							
H03S3	**Juan Fernandez**	**6.21**	**248**	T		T	17 29 50.5	
	baz=74							
H03S1	**Juan Fernandez**	**6.22**	**248**	T		T	17 29 48.9	
	baz=74,slow=74							
H03S2	**Juan Fernandez**	**6.23**	**248**	T		T	17 29 50.2	
	baz=74,slow=74							
LC01	**Cunco**	**7.17**	**179**	Pn		**Pn**	17 23 12.2	**+0.1**
PB14	**IPOC Station P**	**7.19**	**11**	Pn		**Pn**	17 23 10.5	**-2.1**
PLCA	**Paso Flores**	**9.08**	**173**	Pn		**Pn**	17 23 37.8	**-0.5**
	comp=E,0.1nm,0.3s,baz=48,slow=21,SNR=1.9							
PLCA	**Paso Flores**	**9.08**	**173**	Pn		**Pn**	17 23 38.8	**+0.5**
TRQA	**Tornquist**	**10.36**	**130**	Pn		**Pn**	17 23 56.6	**+0.8**
LPAZ	**La Paz**	**15.74**	**14**	Pn		**Pn**	17 25 10.6	**+1.0**
	comp=E,0.1nm,0.3s,baz=188,slow=7.1,SNR=2.4							
LPAZ	**La Paz**	**15.74**	**14**	IAmb		IAmb	17 25 17.3	
	comp=Z,1.9nm,0.8s							
URIC	**Uribia, Colomb**	**43.16**	**360**	P		**P**	17 29 27.6	**-0.6**
URIC				IAmb		IAmb	17 29 56.2	
	comp=Z,16nm,1.2s							
ACON	**Acoyapa**	**45.23**	**342**	P		**P**	17 29 44.4	**-0.4**
VNA2	**Neumayer--Watz**	**52.10**	**158**	P		**P**	17 30 37.6	**+0.6**
SNAA	**Sanae**	**53.69**	**158**	P		**P**	17 30 49.4	**+0.6**
SNAA	**Sanae**	**53.69**	**158**	P		**P**	17 30 48.8	**0.0**
SNAA				IAmb		IAmb	17 30 56.6	
	comp=Z,2.4nm,1.0s							
QSPA	**South Pole Qui**	**58.52**	**180**	P		**P**	17 31 23.4	**-0.2**
QSPA				IAmb		IAmb	17 31 44.1	
	comp=Z,3.2nm,1.4s							
G65A	**Princeton**	**76.65**	**3**	P		**P**	17 33 17.6	**-0.2**
G65A				IAmb		IAmb	17 33 33.3	
	comp=Z,12nm,1.2s							
BATG	**Bathurst New B**	**78.80**	**4**	P		**P**	17 33 29.8	**-0.1**
BATG				IAmb		IAmb	17 33 45.4	
	comp=Z,9.1nm,1.1s							
NVAR	**Mina Array Bea**	**82.04**	**325**	P		**P**	17 33 48.2	**+0.4**
	comp=Z,0.5nm,0.7s,baz=170,slow=6.4,SNR=2.4							
TORD	**Torodi Ar. Bea**	**83.38**	**70**	P		**P**	17 33 54.4	**-0.6**
	comp=Z,1.2nm,0.7s,baz=251,slow=3.6,SNR=9.6							
H11S2	**WAKE ISLAND Hy**	**125.83**	**271**	T		T	19 59 21.9	
	baz=117							
H11S1	**WAKE ISLAND Hy**	**125.84**	**271**	T		T	19 59 22.2	
	baz=117							
H11S3	**WAKE ISLAND Hy**	**125.85**	**271**	T		T	19 59 24.4	
	baz=117							
ZALV	**Zalesovo Beam**	**152.24**	**30**	PKPbc		**PKPbc**	**17 41 22.8**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=310,slow=3.2,SNR=8.9							

*IDC **24** 17:22:29.8±1.1,0.˚57S×131.˚73E,h0km,mb3.9/5,*
mb1 3.9/7,mb1mx3.6/43,mbtmp3.7/7,ML3.0/2,Error
ellipse: s-maj=23.0km s-min=15.2km az=121.0
ISC 24 17:22:31.2±1.2,0.77S±0.10×131.7E±0.1,h10km,n17,
σ2s88/12,mb4.0/5,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**0.45**	**257**	LR		LR	17 22 31.0	
	comp=Z,1μm,21.4s,baz=268,slow=2.2							
SIJI				Pg		**Pg**	**17 22 40.4**	**+0.3**
	799nm,0.3s,baz=79,slow=18,SNR=96							
SIJI				Lg		Lg	17 22 45.4	
	1μm,0.3s,baz=169,slow=23,SNR=18							
GENI	**Genyem**	**8.65**	**102**	P		Pn	17 24 27.4	-9.2
SOEI	**Soe**	**11.60**	**219**	P		**Pn**	**17 25 17.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**18.23**	**199**	P		**Pn**	**17 26 46.3**	**+1.9**
	0.1nm,0.3s,baz=35,slow=8.1,SNR=1.4							
FITZ				S		Sn	17 29 57.1	-11
	0.0nm,0.3s,baz=286,slow=19,SNR=1.7							
WRA	**Warramunga Arr**	**19.23**	**172**	P		**Pn**	**17 26 58.2**	**+1.5**
	0.0nm,0.3s,baz=352,slow=12,SNR=1.7							
WRA				S		**Sn**	**17 30 25.6**	**-7.0**
	0.1nm,0.3s,baz=2.2,slow=23,SNR=2.2							
ASAR	**Alice Springs**	**22.87**	**175**	P		**P**	**17 27 38.2**	**+3.2**
	0.9nm,0.8s,baz=351,slow=9.5,SNR=4.6							
ASAR				S		**S**	**17 31 47.7**	**+2.9**
	0.4nm,0.9s,baz=353,slow=15,SNR=1.8							
CMAR	**Chiang Mai Arr**	**37.44**	**302**	P		**P**	**17 29 44.1**	**-0.9**
	1.3nm,0.8s,baz=123,slow=6.7,SNR=10							
H11S3	**WAKE ISLAND Hy**	**39.35**	**59**	T		T	18 12 08.5	
	baz=247							
H11S2	**WAKE ISLAND Hy**	**39.37**	**59**	T		T	18 12 18.3	
	baz=247							
H11S1	**WAKE ISLAND Hy**	**39.37**	**59**	T		T	18 12 12.7	
	baz=247							
H11N1	**WAKE ISLAND Hy**	**40.05**	**58**	T		T	18 13 10.3	
	baz=245,slow=75,SNR=8.9							
H11N2	**WAKE ISLAND Hy**	**40.07**	**58**	T		T	18 13 03.2	
	baz=245,slow=75,SNR=5.9							
H11N3	**WAKE ISLAND Hy**	**40.07**	**58**	T		T	18 13 08.8	
	baz=245,slow=75,SNR=8.1							
MKAR	**Makanchi Array**	**64.07**	**325**	P		**P**	**17 33 05.1**	**-0.3**
	1.2nm,0.6s,baz=106,slow=5.9,SNR=12							
ZALV	**Zalesovo Beam**	**66.84**	**332**	P		**P**	**17 33 22.4**	**-0.7**
	0.9nm,0.8s,baz=108,slow=4.7,SNR=4.2							
MAW	**Mawson**	**81.34**	**201**	P		**P**	**17 34 47.5**	**-0.1**
	1.7nm,0.7s,baz=215,slow=12,SNR=7.2							
TORD	**Torodi Ar. Bea**	**128.99**	**286**	PKP		**PKiKP**	**17 41 40.5**	**-0.6**
	0.4nm,0.7s,baz=116,slow=3.4,SNR=2.3							

PGC 24 17:30:53.4±0.6,50.˚51N×130.˚34W,h10km,MLSn3.2/19,
Mw3.8/19,207km west of Pt. Hardy, Bc Vancouver
Island, Canada Region,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HOLB	**Holberg**	**1.41**	**84**	Pn		Pn	17 31 16.8	-2.3
HOLB				Sn		Sn	17 31 33.4	-4.5
BPBC	**Brooks Peninsu**	**1.68**	**101**	Pn		Pn	17 31 20.6	-2.4
PACB	**Port Alice, BC**	**1.82**	**91**	Pn		Pn	17 31 22.5	-2.2
PACB				Sn		Sn	17 31 42.8	-5.0
PHC	**Port Hardy**	**1.86**	**83**	Pn		Pn	17 31 23.5	-1.8
PHC				Sn		Sn	17 31 44.8	-4.0
HG4B	**Hotspring**	**1.86**	**343**	Pn		Pn	17 31 22.9	-2.4
HG4B				Sn		Sn	17 31 45.2	-3.7
MAYB	**Maynard**	**2.03**	**92**	Pn		Pn	17 31 25.6	-2.1
EDB	**Eliza Dome**	**2.16**	**106**	Pn		Pn	17 31 27.8	-1.6
BBB	**Bella Bella**	**2.18**	**39**	Pn		Pn	17 31 27.9	-1.7
BBB				Sn		Sn	17 31 53.4	-3.3
TLCB	**Telegraph Cove**	**2.23**	**88**	Pn		Pn	17 31 29.1	-1.4
TLCB				Sn		Sn	17 31 54.6	-3.4
BNB	**Barry Inlet**	**2.25**	**337**	Pn		Pn	17 31 28.8	-1.8
BNB				Sn		Sn	17 31 54.2	-4.2
WOSB	**Woss**	**2.44**	**97**	Pn		Pn	17 31 32.0	-1.3
NCRB	**Newcastle Ridg**	**2.74**	**91**	Pn		Pn	17 31 36.1	-1.4
BUTB	**Butedale**	**2.81**	**24**	Pn		Pn	17 31 37.1	-1.2
BUTB				Sn		Sn	17 32 09.6	-2.7
MOBC	**Moresby Island**	**2.82**	**340**	Pn		Pn	17 31 37.2	-1.4
MOBC				Sn		Sn	17 32 09.2	-3.4
BNKB	**Banks Island**	**2.83**	**5**	Pn		Pn	17 31 36.9	-1.8
BNKB				Sn		Sn	17 32 08.8	-4.1
BNAB	**Bonilla**	**2.99**	**357**	Pn		Pn	17 31 38.9	-1.9
BNAB				Sn		Sn	17 32 12.7	-3.9
DIB	**Dawson Inlet,**	**3.00**	**335**	Pn		Pn	17 31 39.3	-1.7
DIB				Sn		Sn	17 32 13.3	-3.6
VIB	**Van Inlet**	**3.06**	**334**	Pn		Pn	17 31 40.3	-1.6
VIB				Sn		Sn	17 32 15.0	-3.6
HWKB	**Hawksbury Isla**	**3.17**	**13**	Pn		Pn	17 31 41.7	-1.7
HWKB				Sn		Sn	17 32 18.0	-3.4
CBB	**Campbell River**	**3.23**	**97**	Pn		Pn	17 31 43.2	-0.8
CBB				Sn		Sn	17 32 19.7	-2.8
GRNB	**Grenville Isla**	**3.35**	**4**	Pn		Pn	17 31 44.3	-1.5
GRNB				Sn		Sn	17 32 22.4	-3.1
B012	**Ucluelet**	**3.49**	**115**	Sn		Sn	17 32 25.3	-3.8
KITB	**Kitimat**	**3.72**	**16**	Pn		Pn	17 31 49.5	-1.3
KITB				Sn		Sn	17 32 32.0	-2.6
RUBB	**Prince Rupert**	**3.82**	**1**	Pn		Pn	17 31 50.5	-1.7
RUBB				Sn		Sn	17 32 34.0	-3.0
MGB	**Mount Grey**	**3.96**	**110**	Pn		Pn	17 31 53.0	-1.2
SHB	**Sechelt**	**4.26**	**100**	Pn		Pn	17 31 57.3	-1.1
PFB	**Port Renfrew**	**4.30**	**115**	Pn		Pn	17 31 58.0	-0.9
UBRB	**Upper Baezaeko**	**4.56**	**56**	Pn		Pn	17 32 02.7	+0.2
UBRB				Sn		Sn	17 32 54.3	-1.3
LLLB	**Lillooet**	**5.39**	**86**	Pn		Pn	17 32 12.8	-1.0
FSB	**Fort Saint Jam**	**5.41**	**40**	Pn		Pn	17 32 14.0	-0.1
B06A	**Marblemount**	**6.10**	**106**	Pn		Pn	17 32 22.2	-1.3
FMW	**Mount Fremont**	**6.76**	**119**	Pn		Pn	17 32 32.9	+0.1

*IDC **24** 17:34:45.7±1.1,0.˚80S×130.˚87E,h0km,mb3.5/3,*
mb1 3.6/5,mb1mx3.4/36,mbtmp3.5/5,ML3.3/2,Error
ellipse: s-maj=24.6km s-min=8.0km az=10.0
ISC 24 17:34:48.9±1.0,0.99S±0.09×131.˚1E±0.2,h35km,n9,
σ3s54/8,mb3.6/3,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**0.21**	**57**	Pg		**Pn**	**17 34 54.1**	**-1.8**
	875nm,0.3s,baz=352,slow=17,SNR=142							
SIJI				Lg		Lg	17 34 58.6	
	14μm,0.3s,baz=360,slow=23,SNR=262							
FITZ	**Fitzroy Crossi**	**17.83**	**197**	P		**P**	**17 38 57.8**	**+2.9**
	0.1nm,0.3s,baz=30,slow=11,SNR=6.3							
FITZ				S		**Sn**	**17 42 06.8**	**-5.4**
	0.1nm,0.3s,baz=13,slow=22,SNR=1.5							
WRA	**Warramunga Arr**	**19.11**	**171**	P		**Pn**	**17 39 11.5**	**+1.5**
	0.0nm,0.3s,baz=351,slow=12,SNR=1.8							
WRA				S		**S**	**17 42 41.5**	**-2.3**
	0.2nm,0.3s,baz=351,slow=24,SNR=4.8							
ASAR	**Alice Springs**	**22.71**	**173**	P		**P**	**17 39 51.6**	**+3.7**
	1.1nm,0.5s,baz=351,slow=12,SNR=16							
CMAR	**Chiang Mai Arr**	**37.04**	**303**	P		**P**	**17 41 55.5**	**-0.4**
	0.5nm,0.8s,baz=133,slow=7.7,SNR=5.5							
H11N1	**WAKE ISLAND Hy**	**40.69**	**58**	T		T	18 25 23.7	
	baz=245,slow=74							
H11N2	**WAKE ISLAND Hy**	**40.70**	**58**	T		T	18 25 25.3	
	baz=245							
H11N3	**WAKE ISLAND Hy**	**40.71**	**58**	T		T	18 25 23.1	
	baz=245,slow=74							
MKAR	**Makanchi Array**	**63.89**	**325**	P		**P**	**17 45 18.0**	**-0.3**
	0.7nm,0.6s,baz=113,slow=8.1,SNR=7.6							

*TAP **24** 17:39:54.8,24.˚85N×122.˚34E,h4km,ML2.6,D*
*JMA **24** 17:39:54.1±0.2,24.˚88N×122.˚42E,h5km±5km,M2.3*
ISC 24 17:39:53.9±1.2,24.˚89N±0.˚04×122.˚41E±0.˚03,h5km±10km,
n44,σ0s53/88,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.40**	**288**	*i* P		**Pb**	**17 40 02.9**	**-0.5**
	baz=296							
TWB1				*i* S		**Sb**	**17 40 08.7**	**-1.1**
	baz=296							
NTC	**Toucheng**	**0.52**	**267**	*i* P		**Pb**	**17 40 04.9**	**-0.6**
	baz=270							
NTC				S		**Sb**	**17 40 12.9**	**-0.5**
	baz=270							
TIPB	**Shuangxi**	**0.53**	**280**	*i* P		**Pb**	**17 40 05.7**	**0.0**
	baz=284							
TIPB				*i* S		**Sb**	**17 40 13.6**	**-0.1**
	baz=284							
TWC	**Suao**	**0.57**	**242**	*i* P		**Pb**	**17 40 06.0**	**-0.4**
	baz=240							
TWC				S		**Sb**	**17 40 13.7**	**-1.2**
	baz=240							
NWF	**Wu-fen Shan**	**0.60**	**288**	*i* P		**Pb**	**17 40 06.8**	**-0.1**
	baz=293							
NWF				*i* S		**Sb**	**17 40 15.1**	**-0.5**
	baz=293							
JYNG	**Yonagunijimaku**	**0.65**	**131**	P		**Pg**	**17 40 06.7**	**+0.2**
JYNG				*e*S		**Sg**	**17 40 15.9**	**+0.9**
NDS	**Dongshan**	**0.67**	**248**	*i* P		**Pb**	**17 40 08.2**	**+0.1**
	baz=248							
NDS				S		**Sb**	**17 40 17.0**	**-0.8**
	baz=248							
TWE	**Neicheng**	**0.69**	**257**	*i* P		**Pb**	**17 40 08.0**	**-0.4**
	baz=257							
TWE				S		**Sb**	**17 40 19.0**	**+0.8**
	baz=257							
YOJ	**Yonaguni jima**	**0.69**	**127**	P		**Pg**	**17 40 07.3**	**+0.1**
YOJ				S		**Sg**	**17 40 16.1**	**-0.1**
EWUT	**Wuta**	**0.72**	**233**	P		**Pb**	**17 40 08.5**	**-0.3**
	baz=231							
EWUT				*e*S		**Sb**	**17 40 18.6**	**-0.4**
	baz=231							
TWA	**Mucha**	**0.75**	**277**	P		**Pg**	**17 40 09.0**	**+0.7**
	baz=280							
TWA				*e*S		**Sb**	**17 40 20.1**	**+0.1**
	baz=280							
ENA	**Nanau**	**0.76**	**233**	*i* P		**Pb**	**17 40 09.2**	**-0.3**
	baz=231							
ENA				S		**Sb**	**17 40 19.6**	**-0.5**
	baz=231							
ENTT	**Nioudou**	**0.80**	**252**	*i* P		**Pb**	**17 40 10.2**	**-0.1**
	baz=252							
ENTT				*e*S		**Sn**	**17 40 23.2**	**-0.9**
	baz=252							
NHDH	**Xindian Distri**	**0.80**	**276**	P		**Pb**	**17 40 10.2**	**-0.1**
	baz=278							
NHDH				*e*S		**Sb**	**17 40 21.6**	**+0.1**
	baz=278							
NWLT	**Wulai**	**0.83**	**263**	*i* P		**Pb**	**17 40 10.7**	**-0.1**
	baz=264							
NWLT				*e*S		**Sn**	**17 40 23.6**	**-1.2**
	baz=264							
TWY	**Chenhua**	**0.83**	**298**	P		**Pg**	**17 40 09.5**	**-0.2**
	baz=302							
TWY				*e*S		**Sb**	**17 40 23.2**	**+1.1**
	baz=302							
ANP	**Anpu**	**0.86**	**291**	P		**Pb**	**17 40 11.4**	**+0.1**
	baz=294							
ANP				*e*S		**Sb**	**17 40 22.9**	**-0.2**
	baz=294							
NDT	**Datong Townshi**	**0.86**	**251**	P		**Pb**	**17 40 11.4**	**+0.2**
	baz=251							
NDT				*e*S		**Sb**	**17 40 23.9**	**+0.8**
	baz=251							
YHNB	**Yeheng**	**0.96**	**257**	*i* P		**Pg**	**17 40 12.7**	**+0.4**
	baz=258							
YHNB				*e*S		**Sb**	**17 40 25.9**	**-0.2**
	baz=258							
NSK	**Sanguang**	**0.97**	**258**	*i* P		**Pb**	**17 40 13.2**	**-0.1**
	baz=258							
NSK				S		**Sb**	**17 40 27.2**	**+0.7**
	baz=258							
NACB	**Ninganchiao**	**1.02**	**226**	*i* P		**Pb**	**17 40 14.0**	**-0.1**
	baz=225							
NACB				*i* S		**Sb**	**17 40 27.7**	**-0.1**
	baz=225							
NNSB	**Datong**	**1.03**	**244**	*i* P		**Pb**	**17 40 14.6**	**+0.3**
	baz=244							
NNSB				*i* S		**Sb**	**17 40 28.2**	**0.0**
	baz=244							
NNS	**Nan Shan**	**1.04**	**245**	*i* P		**Pb**	**17 40 14.4**	**0.0**
	baz=244							
NNS				S		**Sb**	**17 40 28.2**	**-0.1**
	baz=244							
ETLH	**Xiulin Townshi**	**1.08**	**231**	*i* P		**Pb**	**17 40 15.2**	**+0.1**
	baz=230							
ETLH				S		**Sb**	**17 40 29.9**	**+0.4**
	baz=230							
TWD	**Chiawan**	**1.09**	**223**	P		**Pb**	**17 40 15.4**	**+0.2**
	baz=220							
TWD				*e*S		**Sb**	**17 40 29.9**	**+0.2**
	baz=220							
FUSS	**Fushou**	**1.23**	**239**	P		**Pb**	**17 40 17.9**	**+0.1**
	baz=238							
FUSS				*e*S		**Sn**	**17 40 35.0**	**-0.1**
	baz=238							
WHF	**Hehuan Shan**	**1.27**	**235**	P		**Pb**	**17 40 18.6**	**0.0**
	baz=233							
WHF				*e*S		**Sb**	**17 40 35.5**	**0.0**
	baz=233							
NSTT	**Nanjuang**	**1.30**	**259**	P		**Pg**	**17 40 18.2**	**-0.7**
	baz=259							
NSTT				*e*S		**Sn**	**17 40 36.9**	**+0.4**
	baz=259							
IRIF	**Iriomote-Funau**	**1.32**	**114**	P		**Pn**	**17 40 18.9**	**-0.1**
IRIF				*e*S		**Sg**	**17 40 35.9**	**-0.6**
ESL	**Shilin**	**1.39**	**220**	P		**Pn**	**17 40 19.8**	**-0.1**
	baz=218							
ESL				*e*S		**Sn**	**17 40 39.0**	**+0.4**
	baz=218							
CHGB	**Renai**	**1.39**	**234**	P		**Pn**	**17 40 20.2**	**+0.1**
	baz=233							
CHGB				*e*S		**Sn**	**17 40 40.1**	**+1.1**
	baz=233							
OWD	**Renai**	**1.45**	**231**	*e*P		**Pn**	**17 40 21.3**	**+0.3**
	baz=229							
OWD				*e*S		**Sn**	**17 40 41.1**	**+0.7**
	baz=229							
WHP	**Taichung City**	**1.46**	**246**	P		**Pg**	**17 40 22.0**	**+0.1**
	baz=245							
WHP				*e*S		**Sg**	**17 40 41.3**	**+0.5**
	baz=245							
WCS	**Beigang Elemen**	**1.59**	**239**	*e*P		**Pb**	**17 40 23.9**	**+0.1**
	baz=238							
WCS				*e*S		**Sb**	**17 40 44.2**	**0.0**
	baz=238							
HGSD	**Ruisui**	**1.65**	**213**	*e*P		**Pn**	**17 40 22.5**	**-1.0**
	baz=211							
HGSD				*e*S		**Sb**	**17 40 45.6**	**-0.3**
	baz=211							
SMLT	**Sun Moon Lake**	**1.70**	**234**	*e*P		**Pn**	**17 40 25.0**	**+0.8**
	baz=233							
SMLT				*e*S		**Sn**	**17 40 46.7**	**+0.3**
	baz=233							
SSLB	**Suanglung**	**1.72**	**231**	P		**Pn**	**17 40 25.1**	**+0.6**
	baz=229							
SSLB				*e*S		**Sg**	**17 40 48.1**	**-0.9**
	baz=229							
TYC	**Yuchr**	**1.72**	**236**	*e*P		**Pn**	**17 40 24.0**	**-0.4**
	baz=234							
TYC				*e*S		**Sb**	**17 40 47.2**	**-0.5**
	baz=234							
YULB	**Yu-li**	**1.80**	**214**	*e*P		**Pn**	**17 40 25.7**	**+0.2**
	baz=213							
YULB				*e*S		**Sb**	**17 40 49.6**	**-0.5**
	baz=213							
WHYT	**Xinyi Township**	**1.84**	**230**	*e*P		**Pb**	**17 40 27.4**	**-0.7**
	baz=229							
WHYT				*e*S		**Sn**	**17 40 50.5**	**+0.5**
	baz=229							
FULB	**Fuli**	**1.96**	**211**	*e*P		**Pn**	**17 40 28.3**	**+0.5**
	baz=210							
FULB				*e*S		**Sn**	**17 40 52.5**	**-0.3**
	baz=210							
ALS	**Alishan**	**2.00**	**227**	*e*P		**Pb**	**17 40 30.0**	**-0.9**
	baz=226							
ALS				*e*S		**Sn**	**17 40 54.5**	**+0.3**
	baz=226							
CHN5	**Tsauling**	**2.03**	**231**	*e*P		**Pb**	**17 40 30.6**	**-0.7**
	baz=230							
CHN5				*e*S		**Sn**	**17 40 55.1**	**+0.5**
	baz=230							
TPUB	**Ta-pu**	**2.26**	**226**	*e*P		**Pn**	**17 40 33.0**	**+1.0**
	baz=225							
TPUB				*e*S		**Sn**	**17 41 00.8**	**+0.5**
	baz=225							

*NEIC **24** 17:42:33.3±1.9,32.˚64S±0.˚09×179.˚9E±0.˚2,h254km±6km,*
mb4.0/16,Error ellipse: s-maj=21.7km s-min=12.8km
az=102.0
*IDC **24** 17:42:33.4±1.2,32.˚58S×179.˚91E,h270km±14km,mb3.4/5,*
mb1 3.7/6,mb1mx3.4/35,mbtmp4.2/6,Error ellipse:
s-maj=20.1km s-min=16.1km az=105.0
*WEL **24** 17:42:36.2±1.3,34.˚3S±12.˚17W±1.˚7,h390km±12km,*
M4.3/37,mB4.9/26,ML4.9/31,MLv4.9/37,Mw(mB)4.2/26,
Error ellipse: s-maj=0.0km s-min=0.0km az=87.8
*NOU **24** 17:42:52.4,34.˚28S×178.˚99E,h282km,MLv4.7/9,South*
of Kermadec Islands
ISC 24 17:42:32.2±0.6,32.˚72S±0.˚06×179.˚96E±0.˚10,h250km,
n128,σ2s21/124,mb3.8/11,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**3.91**	**28**	P		**Pn**	**17 43 35.8**	**+0.8**
	140nm,0.3s,baz=52,slow=16,SNR=10							
RAO				S		**S**	**17 44 26.4**	**+1.6**
	72nm,0.3s,baz=6.1,slow=5.5,SNR=3.5							
MXZ	**Matakaoa Point**	**5.02**	**195**	Pn		**Pn**	**17 43 50.2**	**+2.2**
MXZ	**Matakaoa Point**	**5.02**	**195**	P		**Pn**	**17 43 50.3**	**+2.2**
MXZ				S		**S**	**17 44 50.0**	**+1.4**
WMGZ	**Waiomatatini S**	**5.24**	**193**	P		**Pn**	**17 43 53.7**	**+2.9**
WMGZ				S		**S**	**17 44 55.1**	**+1.5**
KUZ	**Kuaotunu**	**5.32**	**220**	P		Pn	17 43 57.8	+6.0
HAZ	**Te Kaha**	**5

DUWZ	**D'Urville Isla**	**9.40 209**	P		**Pn**	**17 44 41.7**	**-1.4**
MSWZ	**Moikau Station**	**9.46 202**			**Pn**	**17 44 40.0**	**-3.8**
MSWZ	**Moikau Station**	**9.46 202**	P		**Pn**	**17 44 40.9**	**-2.9**
SNZO	**South Karori**	**9.54 205**	Pn		**Pn**	**17 44 41.4**	**-3.5**
BHW	**Baring Head**	**9.57 204**			Pn	17 44 40.0	-5.2
PLWZ	**Palliser**	**9.59 202**	Pn		Pn	17 44 41.4	-4.2
PLWZ	**Palliser**	**9.59 202**	P		**Pn**	**17 44 42.6**	**-3.0**
TUWZ	**Tuamarina**	**9.93 207**			**Pn**	**17 44 46.5**	**-3.2**
NNZ	**Nelson**	**9.97 210**	Pn		**Pn**	**17 44 47.3**	**-3.0**
QRZ	**Quartz Range**	**10.04 214**	Pn		**Pn**	**17 44 49.2**	**-1.9**
QRZ	**Quartz Range**	**10.04 214**	P		**Pn**	**17 44 49.1**	**-2.1**
CMWZ	**Cape Campbell**	**10.10 205**	Pn		**Pn**	**17 44 52.3**	**+0.4**
BSWZ	**Blackbirch Sta**	**10.20 207**	Pn		**Pn**	**17 44 50.1**	**-3.1**
THZ	**Tophouse**	**10.63 210**			**Pn**	**17 44 55.2**	**-3.4**
KHZ	**Kahutara**	**10.93 206**	P		Pn	17 44 57.9	-4.4
LTZ	**Lake Taylor**	**11.73 209**	P		**Pn**	**17 45 08.4**	**-3.9**
OXZ	**Oxford**	**12.28 208**	P		**Pn**	**17 45 15.0**	**-4.2**
MQZ	**McQueen's Vall**	**12.37 205**	Pn		**Pn**	**17 45 16.4**	**-3.8**
WVZ	**Waitaha Valley**	**12.63 212**	P		**Pn**	**17 45 20.8**	**-2.6**
RPZ	**Rata Peaks**	**13.01 210**	Pn		**Pn**	**17 45 24.2**	**-3.9**
RPZ	**Rata Peaks**	**13.01 210**	P		**Pn**	**17 45 25.4**	**-2.7**
GCSZ	**Gaunt Creek Bo**	**13.01 213**	P		**Pn**	**17 45 25.5**	**-2.6**
ARCZ	**Arundel**	**13.15 209**	P		**Pn**	**17 45 27.1**	**-2.7**
FOZ	**Fox Glacier**	**13.41 214**	Pn		**Pn**	**17 45 29.1**	**-3.9**
TMZ	**Timaru**	**13.58 208**	P		**Pn**	**17 45 32.0**	**-3.0**
LBZ	**Lake Benmore**	**13.92 210**	Pn		**Pn**	**17 45 35.4**	**-3.8**
LBZ	**Lake Benmore**	**13.92 210**	P		**Pn**	**17 45 37.0**	**-2.2**
ODZ	**Otahua Downs**	**14.27 208**	Pn		**Pn**	**17 45 40.3**	**-3.1**
ODZ	**Otahua Downs**	**14.27 208**	P		**Pn**	**17 45 41.8**	**-1.6**
JCZ	**Jackson Bay**	**14.31 214**	P		**Pn**	**17 45 40.9**	**-3.1**
WKZ	**Wanaka**	**14.78 212**			**P**	**17 45 46.1**	**-3.3**
WKZ	**Wanaka**	**14.78 212**	P		**P**	**17 45 47.0**	**-2.4**
EAZ	**Earnscleugh**	**14.97 210**	P		**P**	**17 45 49.2**	**-2.3**
MSVF	**Nonsavu**	**15.02 353**	P		**Pn**	**17 45 52.7**	**-0.1**
MSZ	**Milford Sound**	**15.16 215**	P		**P**	**17 45 52.5**	**-1.1**
MLZ	**Mavora Lakes**	**15.60 213**	P		**P**	**17 45 57.6**	**-0.8**
MLZ	**Mavora Lakes**	**15.60 213**	P		**P**	**17 45 57.8**	**-0.7**
WHZ	**Wether Hill Ro**	**16.08 212**	P		**P**	**17 46 02.3**	**-1.4**
WHZ			IAmb	IAmb		17 46 03.6	
	comp=Z,9.0nm,0.9s						
WHZ	**Wether Hill Ro**	**16.08 212**	P		**P**	**17 46 02.9**	**-0.8**
SYZ	**Scrubby Hill**	**16.10 208**	P		**Pn**	**17 46 06.3**	**+1.1**
CTA	**Charters Tower**	**32.56 284**	P		**P**	**17 48 40.3**	**0.0**
	comp=Z,2.3nm,0.4s,baz=126,slow=9.0,SNR=8.1						
CTAO	**Charters Tower**	**32.56 284**	P		**P**	**17 48 40.5**	**+0.2**
COEN	**Coen**	**38.33 290**	P		**P**	**17 49 29.5**	**+0.1**
COEN			IAmb	IAmb		17 49 55.5	
	comp=Z,18nm,1.5s						
AS31	**Alice Springs**	**41.31 271**	P		**P**	**17 49 52.9**	**-0.9**
ASAR	**Alice Springs**	**41.31 271**	P		**P**	**17 49 52.9**	**-0.9**
	comp=Z,2.7nm,0.8s,baz=109,slow=8.1,SNR=24						
WR0	**Warramunga Arr**	**42.34 276**	P		**P**	**17 50 00.7**	**-1.3**
WR0			IAmb	IAmb		17 50 06.2	
	comp=Z,5.9nm,1.3s						
WB2	**Warramunga Arr**	**42.50 276**	P		**P**	**17 50 02.1**	**-1.3**
WB2			IAmb	IAmb		17 50 02.8	
	comp=Z,3.6nm,0.8s						
WRA	**Warramunga Arr**	**42.52 276**	P		**P**	**17 50 02.1**	**-1.4**
	comp=Z,1.8nm,0.4s,baz=113,slow=7.9,SNR=25						
WRA	**Warramunga Arr**	**42.52 276**	P		**P**	**17 50 01.2**	**-2.3**
WB0	**Warramunga Arr**	**42.55 276**	P		**P**	**17 50 02.4**	**-1.4**
WB0			IAmb	IAmb		17 50 03.1	
	comp=Z,4.2nm,0.8s						
FORT	**Forrest**	**43.81 258**	P		**P**	**17 50 12.7**	**-1.0**
SBA	**Scott Base**	**45.60 184**	P		**P**	**17 50 30.0**	**+2.9**
SBA			IAmb	IAmb		17 50 31.1	
	comp=Z,3.4nm,0.8s						
VNDA	**Vanda**	**45.62 185**	P		**P**	**17 50 28.2**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=0.0,slow=6.9,SNR=10						
FITZ	**Fitzroy Crossi**	**50.67 273**	P		**P**	**17 51 04.7**	**-1.8**
	comp=Z,1.0nm,0.6s,baz=116,slow=5.4,SNR=1.3						
FITZ	**Fitzroy Crossi**	**50.67 273**	IAmb		IAmb	17 51 14.4	
	comp=Z,4.5nm,1.2s						
QSPA	**South Pole Qui**	**57.40 180**	P		**P**	**17 51 56.7**	**+2.2**
GIRL	**Giralia**	**58.26 262**	P		**P**	**17 52 00.8**	**-0.1**
MAW	**Mawson**	**69.52 201**	P		**P**	**17 53 13.3**	**0.0**
SNAA	**Sanae**	**75.88 179**	P		**P**	**17 53 51.0**	**+0.2**
SNAA	**Sanae**	**75.88 179**	P		**P**	**17 53 51.1**	**+0.3**
SNAA			IAmb		IAmb	17 53 51.9	
	comp=Z,5.1nm,0.9s						
VNA3	**Neumayer Olymp**	**76.10 177**	P		**P**	**17 53 52.4**	**+0.5**
VNA2	**Neumayer--Watz**	**76.51 178**	P		**P**	**17 53 55.0**	**+0.8**
VNA1	**Neumayer--Stat**	**76.75 177**	P		**P**	**17 53 56.3**	**+0.8**
FINES	**FINESS Array B**	**146.66 337**	PKPbc		**PKPdf**	**18 01 41.5**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=39,slow=4.6,SNR=17						
BRTR	**Keskin Array B**	**152.06 294**	PKPbc		**PKPbc**	**18 01 55.2**	**-2.7**
	comp=Z,0.3nm,0.7s,baz=114,slow=1.4,SNR=2.7						
CLL	**Collm**	**159.11 337**	*e*PKPab		**PKPab**	**18 02 40.0**	**+2.0**
TORD	**Torodi Ar. Bea**	**160.45 185**	PKPab		**PKPab**	**18 02 43.8**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=175,slow=3.5,SNR=9.8						
TORD	**Torodi Ar. Bea**	**160.45 185**			**PKPab**	**18 02 43.6**	**-1.1**

NEIC ***24*** *17:50:43.4±2.3,0.°18N±0.°07×122.°48E±0.°08,h179$^{km}_{\pm 8}$km, mb4.2/24, Error ellipse: s-maj=12.3km s-min=9.4km az=45.0*

IDC ***24*** *17:50:45.7±2.6,0.°22N×122.°51E,h208$^{km}_{\pm 26}$km,mb3.5/7, mb1 3.7/9,mb1mx3.4/36,mbtmp4.1/9,MS3.7/1,Ms1 3.7/1, ms1mx3.3/34, Error ellipse: s-maj=31.5km s-min=11.3km az=60.0*

DJA ***24*** *17:50:45.4±0.5,0.°N±3.°×12.°2E±.°,h155$^{km}_{\pm 4}$km,M3.9/10, MLv3.9/10*

ISC 24 17:50:42.7±0.6, 0.°18N±0.°04×122.°41E±0.°04, h181$^{km}_{\pm 5}$km, n60,σ1°$\frac{45}{73}$, mb4.2/29, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.55**	**302**	P	**Pn**	**17 51 07.7**	**-0.1**
MRSI				S	**Sn**	**17 51 25.4**	**-1.8**
GTOI	**Gorontalo**	**0.75**	**53**	P	**Pn**	**17 51 09.6**	**+0.7**
GTOI				S	**Sn**	**17 51 29.2**	**+0.1**
LUWI	**Luwuk**	**1.27**	**163**		**Pn**	**17 51 13.7**	**+1.1**
LUWI				Sn	**Sn**	**17 51 34.5**	**-1.4**
LUWI	**Luwuk**	**1.27**	**163**	P	**Pn**	**17 51 13.6**	**+0.9**
LUWI				S	**Sn**	**17 51 35.6**	**-0.4**
APSI	**Ampana**	**1.33**	**215**	P	**Pn**	**17 51 14.4**	**+1.2**
APSI				S	**Sn**	**17 51 36.8**	**0.0**
KMSI	**Cibinong**	**1.62**	**76**	P	**Pn**	**17 51 17.9**	**+2.0**
KMSI				S	**Sn**	**17 51 42.6**	**+1.0**
TOLI2	**Tolitoli**	**1.87**	**300**		**Pn**	**17 51 18.4**	**-0.1**
TOLI2				Sn	**Sn**	**17 51 43.4**	**-2.9**
MPSI	**Mapaga**	**2.52**	**274**	P	**Pn**	**17 51 25.7**	**+0.1**
MNI	**Manado**	**2.73**	**63**	P	**Pn**	**17 51 30.1**	**+1.9**
MNI				S	**Sn**	**17 52 04.8**	**+1.1**
TTSI	**Tana Toraja**	**4.12**	**219**	P	**Pn**	**17 51 48.0**	**+2.6**
SANI	**Sanana**	**4.21**	**122**	P	**Pn**	**17 51 46.1**	**-0.4**
KKSI	**Kolaka, Sulawe**	**4.39**	**190**	P	**Pn**	**17 51 51.1**	**+2.3**
MMSI	**Mamuju**	**4.51**	**231**	P	**Pn**	**17 51 51.8**	**+1.4**
TNTI	**Ternate**	**4.99**	**83**		**Pn**	**17 51 54.8**	**-1.8**
TNTI				Sn	**Sn**	**17 52 50.1**	**-4.5**
BKB	**Balikpapan**	**5.70**	**255**	Pn	**Pn**	**17 52 05.5**	**-0.3**
KAPI	**Kappang**	**5.80**	**207**	LR	LR	17 54 36.9	
	comp=Z,606nm,18.6s,baz=174,slow=39						
MTN	**Manton Dam**	**15.57**	**147**	P	**P**	**17 54 14.5**	**+1.4**
KNRA	**Kununurra**	**16.96**	**159**		**Pn**	**17 54 29.6**	**+0.1**
KNRA				IAmb	IAmb	17 54 33.6	
	comp=Z,11nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.44**	**170**	P	**Pn**	**17 54 46.2**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=11,slow=7.5,SNR=20						
FITZ				S	**S**	**17 58 03.0**	**-2.8**
	comp=Z,0.0nm,0.3s,baz=170,slow=21,SNR=2.9						
FITZ	**Fitzroy Crossi**	**18.44**	**170**	P	**P**	**17 54 45.6**	**+0.9**
FITZ				IAmb	IAmb	17 54 46.8	
	comp=Z,6.6nm,0.6s						
JAY	**Jayapura**	**18.48**	**98**	P	**Pn**	**17 54 46.5**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=262,slow=23,SNR=6.0						
PSA00	**Pilbara Seismi**	**21.77**	**186**	P	**P**	**17 55 19.1**	**-1.1**
PSA00				IAmb	IAmb	17 55 20.2	
	comp=Z,5.6nm,0.8s						
PSA00	**Pilbara Seismi**	**21.77**	**186**	P	**P**	**17 55 17.8**	**-2.4**
PSA00				IAmb	IAmb	17 55 33.3	
	comp=Z,2.1nm,0.9s						
WB0	**Warramunga Arr**	**23.04**	**150**	P	**P**	**17 55 32.6**	**+0.4**
WB0				IAmb	IAmb	17 55 34.0	
	comp=Z,2.9nm,0.6s						
WRA	**Warramunga Arr**	**23.16**	**150**	P	**P**	**17 55 33.5**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=330,slow=11,SNR=34						
WRA				ScP	**ScP**	**18 02 35.8**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=312,slow=2.2,SNR=1.1						
WB2	**Warramunga Arr**	**23.17**	**150**	P	**P**	**17 55 34.3**	**+1.0**
WB2				IAmb	IAmb	17 55 39.5	
	comp=Z,4.2nm,0.9s						
WR0	**Warramunga Arr**	**23.28**	**150**	P	**P**	**17 55 34.8**	**+0.5**
WR0				IAmb	IAmb	17 55 36.7	
	comp=Z,5.4nm,1.0s						
RPSI	**Rantau Prapat**	**23.61**	**276**	P	**P**	**17 55 37.4**	**0.0**
RPSI				IAmb	IAmb	17 55 39.6	
	comp=Z,8.9nm,0.9s						
AS31	**Alice Springs**	**26.20**	**156**	P	**P**	**17 56 00.3**	**-0.4**
ASAR	**Alice Springs**	**26.20**	**156**	P	**P**	**17 55 57.3**	**-3.5**
	comp=Z,0.3nm,0.5s,baz=346,slow=13,SNR=4.3						
ASAR				PcP	**PcP**	**17 59 22.8**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=322,slow=2.6,SNR=5.1						
ASAR				ScP	**ScP**	**18 02 43.5**	**-2.3**
	comp=Z,0.3nm,0.5s,baz=351,slow=2.8,SNR=5.1						
CM31	**Chiang Mai Arr**	**29.35**	**310**	P	**P**	**17 56 29.3**	**+0.5**
CM31				IAmb	IAmb	17 56 32.2	
	comp=Z,4.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**29.35**	**310**	P	**P**	**17 56 30.8**	**+2.1**
	comp=Z,3.4nm,0.7s,baz=133,slow=6.9,SNR=30						
CMAR	**Chiang Mai Arr**	**29.35**	**310**	P	**P**	**17 56 30.6**	**+1.8**
CHTO	**Chiang Mai**	**29.55**	**310**	P	**P**	**17 56 32.5**	**+1.9**
MORW	**Morawa**	**29.72**	**191**	P	**P**	**17 56 31.5**	**-0.4**
MORW				IAmb	IAmb	17 56 50.9	
	comp=Z,9.4nm,1.5s						
ENH	**Enshi**	**32.35**	**339**	P	**P**	**17 56 57.0**	**+2.0**
STKA	**Stephens Creek**	**36.69**	**152**	P	**P**	**17 57 32.8**	**+0.5**
	comp=Z,2.1nm,0.5s,baz=315,slow=5.7,SNR=5.5						
SHL	**Shillong**	**38.80**	**313**	P	**P**	**17 57 50.7**	**+0.5**
ODAN	**Odare**	**42.86**	**311**	*e*P	**P**	**17 58 24.9**	**+1.4**
	comp=Z,22nm,0.7s						
TAPN	**Taplejung**	**42.89**	**312**	*e*P	**P**	**17 58 25.3**	**+1.5**
	comp=Z,9.3nm,0.5s						
RAMN	**Ramite**	**43.51**	**311**	*e*P	**P**	**17 58 30.6**	**+1.9**
	comp=Z,13nm,0.5s						
JIRN	**Jiri**	**44.19**	**311**	*e*P	**P**	**17 58 35.7**	**+1.4**
	comp=Z,16nm,0.5s						
PKI	**Pulchoki**	**44.73**	**311**	*e*P	**P**	**17 58 39.4**	**+0.8**
	comp=Z,8.0nm,0.6s						
PKIN	**Phulchoki**	**44.75**	**311**	*e*P	**P**	**17 58 39.5**	**+0.9**
	comp=Z,7.4nm,0.6s						
KKN	**Kakani**	**44.95**	**311**	*e*P	**P**	**17 58 41.1**	**+1.0**
	comp=Z,16nm,0.9s						
DMN	**Daman**	**44.98**	**310**	*e*P	**P**	**17 58 41.6**	**+1.2**
	comp=Z,30nm,1.0s						
GKN	**Gorkha**	**45.54**	**311**	*e*P	**P**	**17 58 45.7**	**+1.0**
	comp=Z,23nm,0.6s						
KOLN	**Koldanda**	**46.22**	**310**	*e*P	**P**	**17 58 51.1**	**+1.0**
	comp=Z,41nm,0.7s						
DANN	**Dangsing**	**46.38**	**311**	*e*P	**P**	**17 58 52.5**	**+1.0**
	comp=Z,55nm,0.6s						
PYUN	**Piuthan**	**46.85**	**310**	*e*P	**P**	**17 58 56.3**	**+1.3**
	comp=Z,49nm,0.5s						
SONM	**Songino Array**	**49.47**	**346**	P	**P**	**17 59 14.4**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=154,slow=6.2,SNR=4.5						
SONM				PcP	**PcP**	**18 00 33.0**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=126,slow=2.0,SNR=3.5						
SONM	**Songino Array**	**49.47**	**346**	IAmb	IAmb	17 59 16.9	
	comp=Z,0.8nm,0.7s						
MK31	**Makanchi Array**	**58.15**	**329**	P	**P**	**18 00 17.7**	**+0.3**
MK31				IAmb	IAmb	18 00 20.0	
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**58.15**	**329**	P	**P**	**18 00 18.2**	**+0.7**
	comp=Z,2.2nm,0.5s,baz=122,slow=8.5,SNR=27						
MKAR				PcP	**PcP**	**18 01 06.5**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=133,slow=7.1,SNR=5.5						
MKAR	**Makanchi Array**	**58.15**	**329**	P	**P**	**18 00 17.5**	**0.0**
MAKZ	**Makanchi**	**58.32**	**328**	P	**P**	**18 00 19.4**	**+0.8**
MAKZ				IAmb	IAmb	18 00 21.0	
	comp=Z,2.4nm,0.7s						
KBL	**Kabul**	**60.37**	**310**	P	**P**	**18 00 33.0**	**-0.2**
ZALV	**Zalesovo Beam**	**61.91**	**336**	P	**P**	**18 00 42.0**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=122,slow=5.2,SNR=2.3						
VNDA	**Vanda**	**80.51**	**172**	P	**P**	**18 02 34.5**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=318,slow=7.1,SNR=10						
TORD	**Torodi Ar. Bea**	**119.79**	**285**	PKP	**PKPdf**	**18 09 10.8**	**-1.6**
	comp=Z,0.6nm,0.8s,baz=77,slow=2.3,SNR=2.7						

IDC 24 17:57:18.0±3.4, 32.°92S×178.°63W, h0^{km}, mb3.3/2, mb1 3.6/3, mb1mx3.5/22, mbtmp3.4/3, ML3.7/1, Error ellipse: s-maj=78.0km s-min=48.2km az=116.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.36**	**212**	Pn	Pn	17 58 51.8	-1.2
	1.5nm,0.3s,baz=306,slow=3.9,SNR=7.1						
URZ				Sn	Sn	18 00 01.7	-4.6
	1.1nm,0.3s,baz=305,slow=24,SNR=6.9						
ASAR	**Alice Springs**	**42.50**	**270**	P	P	18 05 16.2	+0.9
	0.3nm,0.6s,baz=109,slow=7.5,SNR=6.8						
WRA	**Warramunga Arr**	**43.72**	**275**	P	P	18 05 23.9	-1.3
	0.2nm,0.4s,baz=114,slow=8.0,SNR=1.7						
FINES	**FINESS Array B**	**147.30**	**338**	PKPbc	PKPbc	18 17 02.1	-0.6
	3.9nm,1.1s,baz=64,slow=3.2,SNR=2.9						

IDC ***24*** *18:13:09.9±1.5,9.°50S×118.°82E,h0^{km},mb3.7/6, mb1 3.7/7,mb1mx3.5/39,mbtmp3.7/7,ML3.0/1,Error ellipse: s-maj=74.6km s-min=23.9km az=52.0*

DJA ***24*** *18:13:16.8±0.4,9.°S±3.°×11.°9E±.°,h13$^{km}_{\pm 3}$km,M4.2/12, mb4.4/3,mB5.0/1,MLv4.1/12,Mw(mB)4.3/1*

ISC 24 18:13:17.0±1.0, 9.°53S±0.°06×119.°03E±0.°04, h47$^{km}_{\pm 10}$km, n27,σ2°$\frac{01}{29}$, mb4.0/6, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.37**	**107**	P	**Pn**	**18 13 25.8**	**-0.8**
WBSI				S	**Sn**	**18 13 32.5**	**-1.0**
LBFI	**Labuhan Bajo,**	**1.35**	**39**	P	**Pn**	**18 13 39.7**	**+0.3**
LBFI				S	**Sn**	**18 13 55.8**	**-0.4**
PLAI	**Plampang**	**1.42**	**299**	P	**Pn**	**18 13 41.4**	**+1.0**
PLAI				S	**Sn**	**18 13 58.1**	**+0.1**
BASI	**Baing, Sumba**	**1.67**	**114**	P	**Pn**	**18 13 46.0**	**+2.2**
BASI				S	**Sn**	**18 14 08.0**	**+3.9**
TWSI	**Taliwang, Sumb**	**2.26**	**290**	P	**Pn**	**18 13 53.7**	**+1.8**
TWSI				S	**Sn**	**18 14 20.0**	**+1.4**
EDFI	**Ende, Flores**	**2.74**	**74**	P	**Pn**	**18 13 59.3**	**+0.7**
MMRI	**Maumere**	**3.29**	**75**	P	**Pn**	**18 14 08.9**	**+2.8**
BSSI	**Bau Bau, Buton**	**3.67**	**23**	P	**Pn**	**18 14 12.8**	**+1.6**
MKS	**Makassar**	**4.31**	**6**	P	**Pn**	**18 14 21.9**	**+1.8**
BKSI	**Bulukumba**	**4.32**	**15**	P	**Pn**	**18 14 21.9**	**+1.7**
KAPI	**Kappang**	**4.55**	**9**	P	**Pn**	**18 14 25.2**	**+1.9**
BATI	**Baumata**	**4.62**	**99**	P	**Pn**	**18 14 27.0**	**+2.7**
JAGI	**Jajag, Banyuwa**	**4.93**	**282**	P	**Pn**	**18 14 30.1**	**+1.5**
BNSI	**Bone**	**5.21**	**12**	P	**Pn**	**18 14 35.6**	**+3.2**
	0.2nm42nm,0.6s						
GMJI	**Gumukmas**	**5.66**	**282**	P	**Pn**	**18 14 41.9**	**+3.3**
	0.1nm21nm,1.0s						
TTSI	**Tana Toraja**	**6.49**	**7**	P	**Pn**	**18 14 53.4**	**+3.3**
WRA	**Warramunga Arr**	**18.05**	**127**	P	**P**	**18 17 23.7**	**-0.8**
	0.1nm,0.3s,baz=297,slow=12,SNR=2.2						
WRA				S	Sn	18 20 29.9	-15
	0.1nm,0.3s,baz=291,slow=23,SNR=1.6						
ASAR	**Alice Springs**	**19.99**	**136**	P	**P**	**18 17 46.7**	**+0.9**
	0.5nm,0.6s,baz=313,slow=11,SNR=12						
H08S2	**Diego Garcia H**	**46.03**	**269**	T	T	19 10 53.1	
	baz=95,slow=75,SNR=15						
H08S3	**Diego Garcia H**	**46.04**	**269**	T	T	19 10 55.4	
	baz=95,slow=75,SNR=11						
H08S1	**Diego Garcia H**	**46.05**	**269**	T	T	19 10 58.1	
	baz=95,slow=75,SNR=12						
USRK	**Ussuriysk Ar.**	**54.76**	**11**	P	**P**	**18 22 40.5**	**-1.4**
	0.8nm,0.4s,baz=190,slow=6.3,SNR=5.0						
SONM	**Songino Array**	**58.20**	**350**	P	**P**	**18 23 06.1**	**-0.3**
	1.1nm,0.5s,baz=167,slow=8.0,SNR=12						
MKAR	**Makanchi Array**	**64.94**	**333**	P	**P**	**18 23 50.9**	**-0.9**
	14nm,0.3s,baz=149,slow=6.4,SNR=1.6						
KURBB	**Kurchatov Arra**	**69.46**	**334**	P	**P**	**18 24 19.2**	**-1.0**
	0.4nm,0.5s,baz=147,slow=5.6,SNR=5.6						
BVAR	**Borovoye Array**	**74.78**	**332**	P	**P**	**18 24 51.2**	**-0.9**
	0.6nm,0.7s,baz=165,slow=12,SNR=5.0						
AKTO	**Aktyubinsk**	**79.68**	**325**	P	**P**	**18 25 17.6**	**-2.0**
	0.7nm,0.5s,baz=111,slow=8.6,SNR=4.0						

IDC ***24*** *18:20:23.4±0.9,30.°84S×71.°54W,h0^{km},mb4.3/5, mb1 4.1/9,mb1mx3.8/35,mbtmp4.0/9,ML3.6/4,Error ellipse: s-maj=32.6km s-min=21.3km az=124.0*

NEIC ***24*** *18:20:30.1±2.1,30.°90S±0.°03×71.°61W±0.°09,h39$^{km}_{\pm 7}$km, mb4.5/8,ML4.0(GUC),Error ellipse: s-maj=10.8km s-min=4.8km az=84.0*

GUC ***24*** *18:20:30.7±0.7,30.°88S×71.°45W,h51$^{km}_{\pm 2}$km,ML4.0*

ISC 24 18:20:30.2±0.7, 30.°87S±0.°03×71.°51W±0.°05, h44$^{km}_{\pm 7}$km, n76,σ1°$\frac{32}{79}$, mb4.3/6, 3C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.23**	**331**	↑*i* P	**Pn**	**18 20 39.3**	**+1.2**
CO06				*i* S	**Sn**	**18 20 45.4**	**+1.7**
CO06				IAML		18 20 46.1	
	comp=E,41μm,0.3s						
CO06	**Fray Jorge**	**0.23**	**331**		**Pn**	**18 20 39.4**	**+1.2**
CO02	**Combarbal**	**0.55**	**127**	↓*i* P	**Pn**	**18 20 42.1**	**+0.2**
CO02				*i* S	**Sn**	**18 20 50.2**	**0.0**
CO02				IAML		18 20 50.6	
	comp=E,57μm,0.2s						
CO02	**Combarbal**	**0.55**	**127**	Pn	**Pn**	**18 20 42.1**	**+0.2**
CO02				Sn	**Sn**	**18 20 50.1**	**0.0**
CO03	**El Pedregal**	**0.70**	**88**	↓*i* P	**Pn**	**18 20 44.1**	**+0.3**
CO03				*i* S	**Sn**	**18 20 54.0**	**+0.2**
CO03				IAML		18 20 55.6	
	comp=N,4μm,0.1s						
CO03	**El Pedregal**	**0.70**	**88**	Pn	**Pn**	**18 20 44.2**	**+0.3**
GO04	**Tololo Observa**	**0.93**	**41**	↓*i* P	**Pn**	**18 20 47.8**	**+0.8**
GO04				*e*S	**Sn**	**18 21 00.3**	**+1.0**
GO04				IAML		18 21 02.3	
	comp=N,15μm,0.2s						
GO04	**Tololo Observa**	**0.93**	**41**	Pn	**Pn**	**18 20 47.8**	**+0.8**
GO04				Sn	**Sn**	**18 21 00.8**	**+1.5**
CO05	**La Serena**	**0.98**	**14**	↓*i* P	**Pn**	**18 20 48.4**	**+1.0**
CO05				*i* S	**Sn**	**18 21 01.2**	**+1.0**
CO05				IAML		18 21 02.7	
	comp=E,3μm,0.3s						
CO05	**La Serena**	**0.98**	**14**		**Pn**	**18 20 48.7**	**+1.2**
VA06	**Catapilco**	**1.69**	**174**	‖*e*P	**Pn**	**18 20 58.2**	**+1.0**
VA06				IAML		18 21 24.5	
	comp=E,2μm,0.4s						
LCO	**Las Campanas**	**1.98**	**21**	↓*i* P	**Pn**	**18 21 03.0**	**+1.5**
LCO				*e*S	**Sn**	**18 21 27.5**	**+2.3**
LCO	**Las Campanas**	**1.98**	**21**	Pn	**Pn**	**18 21 02.9**	**+1.4**
VA03	**San Esteban**	**2.05**	**157**	‖*e*P	**Pn**	**18 21 03.8**	**+1.5**
VA03				*e*S	**Sn**	**18 21 28.9**	**+2.1**
VA03				IAML		18 21 34.3	
	comp=E,1μm,0.3s						
VA03	**San Esteban**	**2.05**	**157**		**Pn**	**18 21 03.8**	**+1.5**
ROCH	**El Roble**	**2.14**	**169**	*e*P	**Pn**	**18 21 05.1**	**+1.5**
ROCH				*e*S	**Sn**	**18 21 31.2**	**+2.2**
ROCH				IAML		18 21 51.3	
	comp=N,822nm,0.4s						
VA01	**Torpederas**	**2.15**	**183**	↑*e*P	**Pn**	**18 21 03.7**	**+0.2**
VA01	**Torpederas**	**2.15**	**183**	Pn	**Pn**	**18 21 03.4**	**-0.1**
ZON	**Zonda**	**2.52**	**106**	Pn	**Pn**	**18 21 12.1**	**+3.5**
MT05	**Renca**	**2.60**	**166**	*e*P	**Pn**	**18 21 10.9**	**+1.2**
MT05				*e*S	**Sn**	**18 21 42.2**	**+2.2**
MT05				IAML		18 21 51.4	
	comp=E,1μm,0.4s						
MT05	**Renca**	**2.60**	**166**		**Pn**	**18 21 11.3**	**+1.6**
AC04	**Ll

*IDC **24** 18:25:10.6±0.5,0°.53S×130°.95E,h0km,mb4.0/14, mb1 4.0/17,mb1mx3.9/51,mbtmp3.9/17,ML3.7/3,Error ellipse: s-maj=24.1km s-min=6.5km az=51.0*
*NEIC **24** 18:25:12.1±1.3,0°.47S±0°.04×131°.23E±0°.05,h10km±1km, mb4.2/13,Error ellipse: s-maj=8.6km s-min=6.2km az=242.0*
*DJA **24** 18:25:14.0±0.5,1°.S±3°×13°.1E±°,h10km,M4.1/8,mb4.1/2, mB5.0/1,MLv4.1/8,Mw(mB)4.3/1*

ISC 24 18:25:11.7±0.6,0°.52S±0°.05×131°.24E±0°.09,h10km,n51, σ1§62/49,mb4.0/17,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**0.34**	**177**	P	**Pb**	**18 25 21.1**	**+1.2**
SWI				S	**Sb**	**18 25 26.0**	**+0.7**
SIJI	**Sorong**	**0.34**	**176**	Pg	**Pg**	**18 25 20.4**	**+1.8**
	617nm,0.3s,baz=4.4,slow=10.0,SNR=107						
SIJI				Lg	Lg	18 25 25.2	
	baz=117,slow=14						
SIJI	**Sorong**	**0.34**	**176**	P	**Pg**	**18 25 20.2**	**+1.6**
SIJI				S	**Sb**	**18 25 25.1**	**-0.4**
FAKI	**Fak Fak**	**2.58**	**157**		**Pn**	**18 25 54.5**	**+0.8**
FAKI	**Fak Fak**	**2.58**	**157**	P	**Pn**	**18 25 55.0**	**+1.4**
FAKI				S	**Sn**	**18 26 27.5**	**+2.4**
MSAI	**Masohi**	**3.64**	**219**	P	**Pn**	**18 26 10.8**	**+2.7**
TNTI	**Ternate**	**4.08**	**288**	Pn	**Pn**	**18 26 14.1**	**-0.2**
TNTI	**Ternate**	**4.08**	**288**	P	**Pn**	**18 26 16.9**	**+2.6**
GAMI	**Galela, Maluku**	**4.17**	**304**	P	**Pn**	**18 26 18.6**	**+3.1**
BNDI	**Bandanaira**	**4.19**	**199**	P	**Pn**	**18 26 18.2**	**+2.4**
SRPI	**Serui, Papua**	**5.17**	**105**	P	**Pn**	**18 26 30.8**	**+1.6**
	0.2nm1um27nm,0.6s						
SANI	**Sanana**	**5.47**	**254**	P	**Pn**	**18 26 35.1**	**+1.8**
SAUI	**Saumlaki**	**7.41**	**180**	Pn	**Pn**	**18 26 58.8**	**-1.2**
LUWI	**Luwuk**	**8.49**	**266**	Pn	**Pn**	**18 27 14.7**	**-0.1**
TOLI2	**Tolitoli**	**10.59**	**279**	Pn	**Pn**	**18 27 43.5**	**-0.1**
KAPI	**Kappang**	**12.31**	**249**	Pn	Pn	18 28 05.1	-2.2
	0.2nm,0.3s,baz=135,slow=14,SNR=1.2						
KNRA	**Kununurra**	**15.26**	**189**	Pn	**Pn**	**18 28 43.3**	**-4.1**
COEN	**Coen**	**17.82**	**139**	Pn	**Pn**	**18 29 17.9**	**-2.1**
COEN				IAmb	IAmb	18 29 33.0	
	comp=Z,37nm,1.4s						
FITZ	**Fitzroy Crossi**	**18.31**	**197**	P	**Pn**	**18 29 24.6**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=25,slow=14,SNR=2.8						
FITZ				S	Sn	18 32 36.4	-14
	comp=Z,0.1nm,0.3s,baz=104,slow=12,SNR=2.4						
WB0	**Warramunga Arr**	**19.37**	**171**		**P**	**18 29 37.9**	**+0.1**
WB0				IAmb	IAmb	18 29 59.9	
	comp=Z,5.0nm,0.9s						
WRA	**Warramunga Arr**	**19.54**	**171**	P	**P**	**18 29 39.3**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=355,slow=12,SNR=12						
WRA				S	Sn	18 33 04.7	-16
	baz=347,slow=22,SNR=2.1						
WB2	**Warramunga Arr**	**19.54**	**171**	P	**P**	**18 29 37.7**	**-1.9**
WB2				IAmb	IAmb	18 29 58.4	
	comp=Z,4.9nm,0.9s						
WR0	**Warramunga Arr**	**19.59**	**171**	P	**P**	**18 29 38.6**	**-1.6**
AS31	**Alice Springs**	**23.15**	**174**	P	**P**	**18 30 18.3**	**-0.2**
AS31				IAmb	IAmb	18 30 33.7	
	comp=Z,2.4nm,0.5s						
ASAR	**Alice Springs**	**23.15**	**174**	P	**P**	**18 30 18.9**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=352,slow=10,SNR=28						
ASAR				S	**S**	**18 34 24.3**	**-5.9**
	comp=Z,0.4nm,0.8s,baz=358,slow=23,SNR=2.4						
ASAR	**Alice Springs**	**23.15**	**174**	P	**P**	**18 30 18.3**	**-0.2**
CMAR	**Chiang Mai Arr**	**36.92**	**302**	P	P	18 32 19.8	-1.3
	comp=Z,1.3nm,0.9s,baz=124,slow=6.4,SNR=11						
KSRS	**Korea Array**	**37.91**	**356**	P	**P**	**18 32 28.8**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=173,slow=9.6,SNR=2.7						
H11N1	**WAKE ISLAND Hy**	**40.31**	**58**	T	T	19 15 41.4	
	baz=245,slow=75,SNR=9.1						
H11N2	**WAKE ISLAND Hy**	**40.33**	**58**	T	T	19 15 42.6	
	baz=245,slow=75,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**40.33**	**58**	T	T	19 15 42.7	
	baz=245,slow=75,SNR=9.6						
SONM	**Songino Array**	**52.80**	**339**	P	**P**	**18 34 27.6**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=145,slow=5.3,SNR=1.4						
MKAR	**Makanchi Array**	**63.60**	**325**	P	**P**	**18 35 43.3**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=104,slow=7.6,SNR=6.3						
MAKZ	**Makanchi**	**63.79**	**325**	P	**P**	**18 35 43.8**	**-0.4**
SEY	**Seymchan**	**65.25**	**10**	P	**P**	**18 35 54.1**	**+0.8**
	comp=Z,4.7nm,1.0s,baz=227,slow=9.5,SNR=4.9						
ZALV	**Zalesovo Beam**	**66.41**	**332**	P	P	18 35 59.3	-1.7
	comp=Z,0.7nm,0.6s,baz=114,slow=6.6,SNR=5.1						
KURK	**Kurchatov**	**67.73**	**327**	P	**P**	**18 36 09.0**	**-0.4**
KURBB	**Kurchatov Arra**	**67.73**	**327**	P	**P**	**18 36 09.0**	**-0.4**
	comp=Z,3.0nm,0.7s,baz=127,slow=6.0,SNR=25						
KKAR	**Karatay Array**	**69.40**	**317**	P	**P**	**18 36 20.4**	**+0.3**
BVAR	**Borovoye Array**	**73.32**	**327**	P	**P**	**18 36 42.7**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=155,slow=7.2,SNR=11						
BRVK	**Borovoye**	**73.40**	**327**		**P**	**18 36 44.2**	**+0.2**
BRVK				IAmb	IAmb	18 36 45.2	
	comp=Z,2.1nm,0.6s						
ABKAR	**Akbulak array**	**78.28**	**321**	P	**P**	**18 37 11.7**	**-0.3**
ABKAR				IAmb	IAmb	18 37 17.0	
	comp=Z,1.8nm,0.6s						
ABKAR	**Akbulak array**	**78.28**	**321**		**P**	**18 37 11.7**	**-0.3**
VNDA	**Vanda**	**78.69**	**174**	P	**P**	**18 37 13.8**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=310,slow=6.6,SNR=3.6						
AKTO	**Aktyubinsk**	**79.77**	**322**	P	**P**	**18 37 20.7**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=82,slow=9.4,SNR=3.7						
ARU	**Arti**	**80.92**	**328**	P	**P**	**18 37 26.1**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=144,slow=9.7,SNR=6.1						
ARU	**Arti**	**80.92**	**328**	P	**P**	**18 37 26.0**	**-0.2**
ARU				IAmb	IAmb	18 37 27.1	
	comp=Z,3.5nm,0.8s						
MAW	**Mawson**	**81.40**	**201**	P	**P**	**18 37 28.5**	**0.0**
	comp=Z,1.3nm,0.9s,baz=50,slow=5.6,SNR=4.1						
ARCES	**ARCESS Array B**	**95.96**	**340**	P	**P**	**18 38 38.7**	**0.0**
	comp=Z,1.1nm,0.8s,baz=84,slow=3.7,SNR=4.9						
ARCES	**ARCESS Array B**	**95.96**	**340**	P	**P**	**18 38 38.1**	**-0.5**
TORD	**Torodi Ar. Bea**	**128.48**	**286**	PKP	**PKPdf**	**18 44 19.6**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=59,slow=2.5,SNR=2.2						

*IDC **24** 18:25:36.8±4.6,37°.15N×72°.22E,h155km±32km,mb3.3/2, mb1 3.1/8,mb1mx2.9/51,mbtmp3.7/8,Error ellipse: s-maj=56.8km s-min=19.7km az=150.0*
*BJI **24** 18:25:39.2±0.0,37°.40N×72°.22E,h190km,mB4.9/4, mb4.6/6*
*NEIC **24** 18:25:41.4±0.8,37°.49N±0°.07×72°.12E±0°.06,h189km±8km, mb4.3/11,Error ellipse: s-maj=10.3km s-min=6.7km az=169.0*
*NNC **24** 18:25:48.5±3.5,38°.01N×71°.87E,h186km±50km,mb2.6, mpv3.4,Error ellipse: s-maj=39.8km s-min=28.1km az=4.0*

ISC 24 18:25:41.1±0.6,37°.44N±0°.06×72°.13E±0°.06,h200km,n55, σ1§81/58,mb4.3/10,3C-3D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**2.05**	**353**		**Pn**	**18 26 19.6**	**-0.9**
GAR	**Garm**	**2.11**	**318**		**Pn**	**18 26 19.9**	**-1.0**
CHGR	**Chuyangaron**	**2.64**	**298**		**Pn**	**18 26 25.9**	**-0.7**
BTK	**Batken**	**2.81**	**339**		**Pn**	**18 26 28.4**	**0.0**
KSH	**Kashi**	**3.66**	**54**	P	Pn	18 26 32.4	-6.3
KSH				S	Sn	18 27 10.8	-13
KSH				smax	smax		
	comp=N,88nm,0.6s						
KSH				smax	smax		
	comp=E,66nm,0.7s						
KBL	**Kabul**	**3.83**	**222**	Pn	**Pn**	**18 26 41.6**	**+0.6**
NIL	**Nilore**	**3.89**	**166**		**Pn**	**18 26 42.0**	**+0.4**
AAK	**Ala-Archa**	**5.50**	**19**	P	**Pn**	**18 27 01.1**	**-0.8**
	1.2nm,0.3s,baz=176,slow=5.3,SNR=6.7						
AAK				S	**Sn**	**18 28 01.7**	**-4.1**
	0.7nm,0.3s,baz=337,slow=22,SNR=12						
AAK	**Ala-Archa**	**5.50**	**19**	⇓P	**Pn**	**18 27 03.5**	**+1.6**
	1.0nm,0.4s						
AAK				⇓S	**Sn**	**18 28 02.2**	**-3.7**
	4.6nm,0.6s						
KK31	**Karatay Array**	**5.79**	**348**	⇓P	**Pn**	**18 27 04.7**	**-0.8**
	4.1nm,0.4s,baz=152,slow=11,SNR=104						
KK31				⇑S	**Sn**	**18 28 06.6**	**-5.8**
	13nm,0.3s,baz=174,slow=25,SNR=4.6						
KK31	**Karatay Array**	**5.79**	**348**	Pn	**Pn**	**18 27 04.6**	**-1.0**
KKAR	**Karatay Array**	**5.79**	**348**	Pn	**Pn**	**18 27 04.5**	**-0.9**
KKAR	**Karatay Array**	**5.79**	**348**		**Pn**	**18 27 04.6**	**-0.9**
BOOM	**Boomskoye usch**	**5.83**	**29**	Pn	**Pn**	**18 27 05.7**	**-0.5**
DHRM	**DHARAMŚHALA**	**6.21**	**145**	*eP*	**Pn**	**18 27 10.3**	**-1.0**
DHRM				*eS*	**Sn**	**18 28 16.8**	**-6.0**
DHRM				IAML		18 28 19.2	
	comp=N,108nm,0.4s						
DHRM				IAML		18 28 20.7	
	comp=E,114nm,0.7s						
SMLA	**Simla**	**7.55**	**145**	*eP*	**Pn**	**18 27 27.1**	**-1.4**
SMLA				*eS*	Sn	18 28 46.2	-7.7
SMLA				IAML		18 28 50.0	
	comp=E,51nm,0.7s						
SMLA				IAML		18 28 51.0	
	comp=N,34nm,0.3s						
KUDL	**Kundal**	**9.97**	**157**	*eS*	Sn	18 29 40.1	-11
GEYT	**Alibeck**	**11.12**	**277**	P	**Pn**	**18 28 13.2**	**-1.5**
	comp=N,0.6nm,0.3s,baz=105,slow=11,SNR=10						
GEYT				S	**Sn**	**18 30 16.4**	**-2.3**
	comp=N,0.7nm,0.3s,baz=93,slow=25,SNR=3.4						
GYA0B	**ALIBECK ARRAY**	**11.12**	**277**	Pn	**Pn**	**18 28 14.3**	**-0.4**
MKAR	**Makanchi Array**	**12.00**	**36**	P	**Pn**	**18 28 26.1**	**+0.3**
	comp=N,0.1nm,0.3s,baz=214,slow=11,SNR=2.6						
PYUN	**Piuthan**	**13.04**	**132**	*eP*	**Pn**	**18 28 37.5**	**-1.8**
	comp=N,21nm,0.2s						
DANN	**Dangsing**	**13.32**	**130**	*eP*	**Pn**	**18 28 40.5**	**-2.4**
	comp=N,24nm,0.5s						
WMQ	**Urumqi**	**13.42**	**57**	*eP*	**Pn**	**18 28 44.8**	**+1.0**
WMQ				pmax	pmax		
	comp=N,15nm,0.7s						
WMQ				pmax	pmax		
	comp=N,250nm,4.7s						
KOLN	**Koldanda**	**13.65**	**132**	*eP*	**Pn**	**18 28 45.9**	**-1.0**
	comp=N,6.6nm,0.3s						
KURBB	**Kurchatov Arra**	**13.95**	**17**	P	**P**	**18 28 51.2**	**-0.8**
	comp=N,0.1nm,0.3s,baz=203,slow=11,SNR=8.6						
GKN	**Gorkha**	**14.11**	**128**	*eP*	**Pn**	**18 28 51.4**	**-1.2**
	comp=N,15nm,0.3s						
KKN	**Kakani**	**14.66**	**127**	*eP*	**Pn**	**18 28 58.2**	**-1.2**
	comp=N,13nm,0.5s						
DMN	**Daman**	**14.68**	**128**	*eP*	**Pn**	**18 28 58.6**	**-1.1**
	comp=N,14nm,0.4s						
AB31	**Akbulak array**	**14.74**	**327**	⇑P	**Pn**	**18 29 00.2**	**+0.3**
	comp=N,1.6nm,0.5s,baz=170,slow=11,SNR=8.2						
ABKAR	**Akbulak array**	**14.74**	**327**	P	**P**	**18 29 00.3**	**-0.5**
ABKAR	**Akbulak array**	**14.74**	**327**		**P**	**18 29 00.7**	**-0.2**
PKIN	**Phulchoki**	**14.89**	**128**	*eP*	**Pn**	**18 29 01.8**	**-0.4**
	comp=N,11nm,0.4s						
PKI	**Pulchoki**	**14.90**	**128**	*eP*	**Pn**	**18 29 02.1**	**-0.3**
	comp=N,5.7nm,0.3s						
JIRN	**Jiri**	**15.34**	**125**	*eP*	**Pn**	**18 29 07.3**	**-0.5**
	comp=N,37nm,0.4s						
BVAR	**Borovoye Array**	**15.63**	**356**	P	**P**	**18 29 10.6**	**0.0**
	comp=N,0.1nm,0.3s,baz=166,slow=14,SNR=4.0						
RAMN	**Ramite**	**16.09**	**126**	*eP*	**P**	**18 29 17.0**	**+0.7**
	comp=N,15nm,0.4s						
AKTO	**Aktyubinsk**	**16.45**	**327**	P	**Pn**	**18 29 20.2**	**-0.4**
	comp=N,0.4nm,0.3s,baz=118,slow=9.7,SNR=8.4						
AKTO	**Aktyubinsk**	**16.45**	**327**	⇑P	**Pn**	**18 29 21.9**	**+1.2**
	comp=N,0.7nm,0.4s						
TAPN	**Taplejung**	**16.55**	**123**	*eP*	**Pn**	**18 29 22.9**	**+0.6**
ZAA0	**Zalesovo Array**	**18.68**	**24**	P	**P**	**18 29 44.7**	**+0.7**
ZALV	**Zalesovo Beam**	**18.68**	**24**	P	**P**	**18 29 44.7**	**+0.6**
	comp=N,0.7nm,0.3s,baz=219,slow=10,SNR=15						
HHC	**Hu-ho-hao-te**	**30.59**	**71**	*eP*	**P**	**18 31 38.6**	**+2.3**
HHC				pmax	pmax		
	comp=N,13nm,0.8s						
HHC				pmax	pmax		
	comp=N,110nm,4.4s						
HHC				LR	LR		
	comp=N,660nm,12.6s						
HHC				LR	LR		
	comp=N,470nm,13.4s						
HHC				LR	LR		
	comp=N,730nm,13.8s						
ARCES	**ARCESS Array B**	**40.63**	**337**	P	**P**	**18 33 03.3**	**+2.3**
	comp=N,0.9nm,0.8s,baz=109,slow=7.1,SNR=4.7						
JEW	**Eniwo**	**51.91**	**61**	P	**P**	**18 34 30.0**	**+0.8**
BORG	**Borgarnes**	**58.24**	**330**	P	**P**	**18 35 14.9**	**+0.8**
TORD	**Torodi Ar. Bea**	**66.64**	**269**	P	**P**	**18 36 11.7**	**+1.3**
	comp=N,0.4nm,0.4s,baz=47,slow=5.7,SNR=7.5						
K20K	**Telida**	**73.02**	**20**	P	**P**	**18 36 50.2**	**+1.7**
K20K				IAmb	IAmb	18 37 13.6	
	comp=Z,5.4nm,1.2s						
CAST	**Castle Rocks**	**73.50**	**19**	P	**P**	**18 36 53.3**	**+1.9**
CAST				IAmb	IAmb	18 37 04.8	
	comp=Z,7.1nm,1.4s						
KTH	**Kantishna Hill**	**73.69**	**19**	P	**P**	**18 36 54.0**	**+1.4**
KTH				IAmb	IAmb	18 37 05.9	
	comp=Z,9.4nm,1.4s						
PPLA	**Purkeypile**	**73.90**	**19**	P	**P**	**18 36 55.3**	**+1.4**
PPLA				IAmb	IAmb	18 37 01.6	
	comp=Z,12nm,1.4s						
SKT	**Skwentna**	**74.83**	**20**	P	**P**	**18 37 00.3**	**+1.2**
SKT				IAmb	IAmb	18 37 22.2	
	comp=Z,8.0nm,1.4s						
DHY	**Denali Highway**	**74.96**	**17**	P	**P**	**18 37 01.3**	**+1.3**
DHY				IAmb	IAmb	18 37 16.7	
	comp=Z,8.9nm,1.4s						
RSO	**Redoubt South**	**75.73**	**21**	P	**P**	**18 37 07.4**	**+2.9**
SML	**Sawmill**	**75.81**	**19**	P	**P**	**18 37 06.5**	**+1.8**
SCM	**Sheep Creek Mo**	**76.04**	**18**	P	**P**	**18 37 07.2**	**+1.2**
SCM				IAmb	IAmb	18 37 19.3	
	comp=Z,16nm,1.3s						

*IDC **24** 18:42:00.3±2.1,41°.91N×127°.25W,h0km,mb3.3/4, mb1 3.5/7,mb1mx3.4/50,mbtmp3.2/7,ML3.3/3,Error ellipse: s-maj=46.1km s-min=17.4km az=33.0*
*NEIC **24** 18:42:05.8±1.9,41°.73N±0°.03×126°.7W±0°.2,h10km±2km, ML2.7/28,Error ellipse: s-maj=21.4km s-min=3.0km az=256.0*
*ANF **24** 18:42:18.2±2.8,42°.16N×125°.33W,h0km,ML2.2/4,Error ellipse: s-maj=26.7km s-min=15.2km az=53.0*

ISC 24 18:42:01.1±1.3,41°.66N±0°.07×127°.2W±0°.1,h10km,n41, σ1§79/35,mb3.4/4,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRMB	**Red Mountain**	**2.46**	**92**		**Pn**	**18 42 40.7**	**-0.7**
JCC	**Jacoby Creek,**	**2.52**	**109**	Pn	**Pn**	**18 42 41.6**	**-0.5**
JCC				IAML		18 43 35.3	
	comp=E,29nm,1.6s						
JCC				IAML		18 43 37.7	
	comp=N,25nm,2.0s						
L02E	**Cave Junction**	**2.72**	**78**	P	**Pn**	**18 42 44.1**	**-0.7**
	baz=271,SNR=12						
KHMM	**Horse Mountain**	**2.72**	**106**		**Pn**	**18 42 44.4**	**-0.6**
KHMM				IAML		18 43 37.8	
	comp=E,34nm,2.2s						
KHMM				IAML		18 43 45.3	
	comp=N,30nm,2.1s						
K02D	**Willamette Mer**	**2.81**	**67**	P	**Pn**	**18 42 45.2**	**-0.9**
	baz=247,SNR=22						
K02D				S	Sn	18 42 59.9	-20
	baz=247						
J01E	**Myrtle Point**	**2.83**	**57**	P	**Pn**	**18 42 45.5**	**-0.9**
	baz=226,SNR=15						
KMRM	**Mail Ridge**	**3.00**	**118**		**Pn**	**18 42 48.9**	**+0.2**
KMRM				IAML		18 43 49.5	
	comp=E,30nm,1.8s						
KMRM				IAML		18 43 51.9	
	comp=N,29nm,2.2s						
DBO	**Dodson Butte**	**3.26**	**62**		**Pn**	**18 42 51.6**	**-0.7**
DBO				IAML		18 43 32.1	
	comp=E,28nm,2.2s						
DBO				IAML		18 44 11.7	
	comp=N,18nm,4.6s						
M02C	**Callahan**	**3.26**	**93**	P	**Pn**	**18 42 52.8**	**+0.4**
	baz=293,SNR=17						
M02C				S	Sn	18 43 17.0	-14
	baz=293						
HUMO	**Hull Mountain**	**3.28**	**72**		**Pn**	**18 42 51.5**	**-1.1**
YBH	**Yreka Blue Hor**	**3.35**	**87**	Pn	**Pn**	**18 42 54.7**	**+1.1**
	comp=N,1.1nm,0.3s,baz=262,slow=12,SNR=36						
YBH				Sn	**Sn**	**18 43 34.5**	**+1.1**
	comp=N,0.4nm,0.3s,baz=340,slow=15,SNR=3.1						
YBH	**Yreka Blue Hor**	**3.35**	**87**		**Pn**	**18 42 53.5**	**-0.1**
YBH				IAML		18 43 37.7	
	comp=N,12nm,4.0s						
KCPM	**Cahto Peak**	**3.38**	**125**		**Pn**	**18 42 54.6**	**+0.7**
KCPM				IAML		18 43 39.5	
	comp=E,28nm,2.0s						
KCPM				IAML		18 44 22.9	
	comp=N,23nm,4.5s						
I02D	**Swisshome**	**3.46**	**44**	P	**Pn**	**18 42 55.5**	**+0.5**
	baz=210						
I03D	**Drain, OR**	**3.48**	**53**	P	**Pn**	**18 42 54.5**	**-0.8**
	baz=224						
O02D	**Mt. Diablo Mer**	**3.65**	**113**	S	**Sn**	**18 43 35.2**	**-5.6**
	baz=317						
WDC	**Whiskeytown Da**	**3.67**	**106**		**Pn**	**18 42 58.9**	**+1.0**
BUCK	**Buck Mountain**	**3.99**	**49**	Pn	**Pn**	**18 43 03.2**	**+0.8**
J05D	**Fort Rock, OR**	**4.69**	**68**	S	Sn	18 43 41.0	-26
	baz=251						
H04A	**Detroit Lake**	**4.74**	**49**	Pn	**Pn**	**18 43 13.2**	**+0.6**
H04A				IAML		18 44 16.0	
	comp=N,13nm,2.2s						
F04A	**Amboy**	**5.49**	**37**		**Pn**	**18 43 23.6**	**+0.8**
I07A	**Izee**	**6.14**	**64**		**Pn**	**18 43 32.5**	**+0.6**
PAHR	**Pah Rah Range**	**6.24**	**106**		**Pn**	**18 43 34.1**	**+0.7**
PNTR	**Pine Nut**	**6.33**	**111**	Pn	**Pn**	**18 43 35.6**	**+0.9**
CMB	**Columbia Colle**	**6.36**	**123**	Pn	**Pn**	**18 43 35.5**	**+0.5**
LON	**Longmire**	**6.38**	**35**		**Pn**	**18 43 36.4**	**+1.2**
D05A	**Enumclaw**	**6.66**	**32**	Pn	**Pn**	**18 43 40.9**	**+2.0**
G08A	**Pilot Rock**	**6.99**	**56**		**Pn**	**18 43 41.7**	**-1.9**
NVAR	**Mina Array Bea**	**7.54**	**112**	Pn	**Pn**	**18 43 55.6**	**+4.4**
	comp=N,0.1nm,0.3s,baz=287,slow=14,SNR=6.1						
BMO	**Blue Mountains**	**7.88**	**63**	Pn	**Pn**	**18 43 56.5**	**+0.7**
PDAR	**Pinedale Array**	**13.12**	**79**	Pn	**Pn**	**18 45 11.9**	**+4.3**
	comp=N,0.1nm,0.3s,baz=280,slow=11,SNR=1.7						
YKA	**Yellowknife Ar**	**22.17**	**16**	P	**P**	**18 46 56.9**	**0.0**
	comp=N,1.3nm,0.9s,baz=202,slow=11,SNR=1.7						
TXAR	**Lajitas Array**	**22.68**	**115**	P	**P**	**18 47 05.4**	**+2.7**
	comp=N,0.5nm,0.9s,baz=284,slow=11,SNR=2.7						
ILAR	**Eielson Array**	**25.75**	**341**	P	**P**	**18 47 30.8**	**-0.8**
	comp=N,0.3nm,0.3s,baz=156,slow=6.9,SNR=0.9						
H11N3	**WAKE ISLAND Hy**	**59.32**	**270**	T	T	19 56 24.3	
	baz=52,slow=75,SNR=29						
H11N2	**WAKE ISLAND Hy**	**59.32**	**270**	T	T	19 56 21.4	
	baz=52,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy**	**59.34**	**270**	T	T	19 56 25.5	
	baz=52,slow=75,SNR=32						
H11S1	**WAKE ISLAND Hy**	**60.21**	**269**	T	T	19 57 29.1	
	baz=52,slow=75,SNR=107						
H11S2	**WAKE ISLAND Hy**	**60.22**	**269**	T	T	19 57 28.2	
	baz=52,slow=75,SNR=98						
H11S3	**WAKE ISLAND Hy**	**60.23**	**269**	T	T	19 57 33.8	
	baz=52,slow=75,SNR=77						
SONM	**Songino Array**	**79.07**	**326**	P	**P**	**18 54 03.9**	**-1.7**
	comp=N,0.2nm,0.4s,baz=46,slow=4.2,SNR=1.5						

MEX 24 18:49:14.8±0.9,18°.94N×103°.13W,h28km±51km,MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COIG	**Colima**	**0.58**	**294**	*eP*	Pb	18 49 24.1	-2.5
COIG				*i* S	Sb	18 49 32.4	-2.2
MMIG	**Aquila**	**0.68**	**198**	*i* P	Pb	18 49 25.6	-2.5
MMIG				*i* S	Sb	18 49 35.5	-1.7
EZ5V		**0.70**	**320**	*eP*	Pb	18 49 26.8	-1.9
EZ5V				*eS*	Sn	18 49 39.3	+0.1
R15V		**0.84**	**286**	*i* P	Pb	18 49 28.6	-2.3
R15V				*i* S	Sb	18 49 38.4	-3.5

*IDC **24** 18:50:16.6±0.6,0°.55S×130°.77E,h0km,mb4.0/8, mb1 4.1/11,mb1mx3.9/34,mbtmp4.0/11,ML3.8/3,MS4.1/1, Ms1 4.1/1,ms1mx3.2/40,Error ellipse: s-maj=21.4km s-min=7.4km az=37.0*
*NEIC **24** 18:50:18.1±1.5,0°.44S±0°.09×131°.0E±0°.1,h10km±1km, mb4.4/25,Error ellipse: s-maj=23.7km s-min=6.6km az=52.0*
*DJA **24** 18:50:18.7±0.5,0°.S±4°×13°.1E±°,h13km±6km,M4.5/11, mb4.8/8,mB5.0/4,MLv4.5/11,Mw(mB)4.3/4*

ISC 24 18:50:17.8±0.5,0°.48S±0°.05×130°.91E±0°.07,h10km,n73, σ1§08/71,mb4.4/22,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**0.52**	**138**	P	**Pg**	**18 50 29.9**	**+2.1**
SWI				S	**Sb**	**18 50 36.9**	**+0.4**
SIJI	**Sorong**	**0.52**	**138**	Pg	**Pg**	**18 50 28.7**	**+0.7**
	491nm,0.3s,baz=310,slow=16,SNR=301						
SIJI				Lg	Lg	18 50 36.2	
	1µm,0.3s,baz=211,slow=23,SNR=19						
FAKI	**Fak Fak**	**2.77**	**151**	Pn	**Pn**	**18 51 02.3**	**+0.1**
FAKI	**Fak Fak**	**2.77**	**151**	P	**Pn**	**18 51 02.5**	**+0.3**
MSAI	**Masohi**	**3.47**	**215**	P	**Pn**	**18 51 12.7**	**+0.8**
MSAI				S	**Sn**	**18 51 54.9**	**+1.8**
TNTI	**Ternate**	**3.76**	**289**		**Pn**	**18 51 16.9**	**+1.0**
TNTI	**Ternate**	**3.76**	**289**	P	**Pn**	**18 51 16.4**	**+0.5**
KRAI	**Karang Ratu**	**3.78**	**222**	P	**Pn**	**18 51 17.1**	**+0.9**
GAMI	**Galela, Maluku**	**3.88**	**306**	P	**Pn**	**18 51 18.8**	**+1.2**
BNDI	**Bandanaira**	**4.14**	**194**	P	**Pn**	**18 51 22.0**	**+0.9**
SANI	**Sanana**	**5.17**	**252**	P	**Pn**	**18 51 34.8**	**-0.4**
	0.1nm890nm33nm,0.7s						
MNI	**Manado**	**6.37**

HHC				pmax	pmax		
	comp=Z,16nm,1.0s						
HHC				pmax	pmax		
	comp=Z,620nm,4.9s						
SHL	**Shillong**	**45.73**	**307**	P	P	18 58 38.4	-1.4
LSA	**Lhasa**	**48.34**	**312**	P	**P**	**18 59 00.4**	**-0.1**
LSA				IAmb	IAmb	18 59 02.7	
	comp=Z,3.1nm,0.8s						
GTA	**Gaotai**	**48.85**	**328**	*e*P	**P**	**18 59 04.1**	**+0.3**
GTA				pP	sP	18 59 11.8	+3.7
GTA				sP	pP	18 59 15.4	+8.5
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SONM	**Songino Array**	**52.64**	**339**	P	**P**	**18 59 32.9**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=163,slow=5.6,SNR=5.0						
SONM				PcP	**PcP**	**19 00 42.1**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=157,slow=2.4,SNR=6.6						
SONM	**Songino Array**	**52.64**	**339**	P	**P**	**18 59 32.1**	**-0.1**
WMQ	**Urumqi**	**58.55**	**324**	*e*P	**P**	**19 00 17.9**	**+3.1**
MK31	**Makanchi Array**	**63.38**	**325**	P	**P**	**19 00 48.0**	**+0.5**
MK31				IAmb	IAmb	19 00 48.8	
	comp=Z,2.2nm,0.8s						
MKAR	**Makanchi Array**	**63.38**	**325**	P	**P**	**19 00 47.6**	**+0.1**
	comp=Z,3.2nm,0.7s,baz=111,slow=7.7,SNR=24						
MKAR	**Makanchi Array**	**63.38**	**325**	P	**P**	**19 00 47.9**	**+0.4**
MAKZ	**Makanchi**	**63.57**	**325**	P	**P**	**19 00 49.2**	**+0.5**
MAKZ				IAmb	IAmb	19 00 50.0	
	comp=Z,3.5nm,0.8s						
KSH	**Kashi**	**63.96**	**315**	P	**P**	**19 00 53.1**	**+1.5**
KSH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ZAA0	**Zalesovo Array**	**66.22**	**332**	P	**P**	**19 01 04.9**	**-0.9**
ZAA0				IAmb	IAmb	19 01 06.4	
	comp=Z,2.2nm,0.9s						
ZALV	**Zalesovo Beam**	**66.22**	**332**	P	**P**	**19 01 05.5**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=108,slow=4.8,SNR=5.2						
ZALV	**Zalesovo Beam**	**66.22**	**332**	P	**P**	**19 01 05.0**	**-0.8**
DRK	**Karamyk**	**66.92**	**314**	P	**P**	**19 01 10.9**	**-0.1**
DRK				IAmb	IAmb	19 01 14.3	
	comp=Z,5.0nm,0.8s						
KBL	**Kabul**	**67.39**	**308**	P	**P**	**19 01 13.0**	**-1.0**
KBL				IAmb	IAmb	19 01 29.5	
	comp=Z,2.2nm,1.1s						
GAR	**Garm**	**67.83**	**313**	P	**P**	**19 01 16.6**	**0.0**
KK31	**Karatay Array**	**69.14**	**317**	P	**P**	**19 01 24.2**	**-0.4**
KKAR	**Karatay Array**	**69.14**	**317**	P	**P**	**19 01 24.1**	**-0.5**
KKAR	**Karatay Array**	**69.14**	**317**	P	**P**	**19 01 24.3**	**-0.2**
KKAR				IAmb	IAmb	19 01 25.3	
	comp=Z,6.0nm,0.8s						
ABKAR	**Akbulak array**	**78.03**	**321**	P	**P**	**19 02 16.1**	**-0.6**
ABKAR				IAmb	IAmb	19 02 17.1	
	comp=Z,2.2nm,0.7s						
VNDA	**Vanda**	**78.77**	**173**	P	**P**	**19 02 20.5**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=349,slow=8.7,SNR=2.6						
TORD	**Torodi Ar. Bea**	**128.16**	**286**	PKP	**PKPdf**	**19 09 25.1**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=94,slow=1.8,SNR=4.1						

*IDC **24** 18:55:38.2±1.1,0°.75S×130°.91E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.6/30, mbtmp3.7/5, ML3.6/2, Error ellipse: s-maj=14.0km s-min=7.5km az=21.0*

ISC 24 18:55:39.1±1.0,1°.03S±0°.08×130.9E±0.1, h10km, n9, σ3.57/9, mb3.6/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**0.37**	**64**		Pg	**Pg**	**18 55 46.1**	**-0.4**
	1μm,0.3s,baz=352,slow=14,SNR=515							
SIJI					Lg	Lg	18 55 50.2	
	9μm,0.3s,baz=290,slow=24,SNR=193							
FITZ	**Fitzroy Crossi**	**17.74**	**197**	P	P	**Pn**	**18 59 50.7**	**+4.2**
	0.2nm,0.3s,baz=22,slow=13,SNR=1.3							
FITZ					S	**Sn**	**19 03 00.2**	**-4.1**
	0.1nm,0.3s,baz=262,slow=19,SNR=2.0							
WRA	**Warramunga Arr**	**19.09**	**170**	P	P	**P**	**19 00 04.7**	**+2.6**
	0.2nm,0.3s,baz=350,slow=10,SNR=2.0							
WRA					S	**Sn**	**19 03 32.1**	**-4.8**
	0.4nm,0.3s,baz=351,slow=23,SNR=7.9							
ASAR	**Alice Springs**	**22.68**	**173**	P	P	**P**	**19 00 44.0**	**+3.0**
	1.1nm,0.7s,baz=348,slow=10,SNR=3.1							
ASAR					S	**S**	**19 04 48.7**	**-0.9**
	0.4nm,0.7s,baz=359,slow=27,SNR=1.3							
CMAR	**Chiang Mai Arr**	**36.94**	**303**	P	P	**P**	**19 02 48.0**	**-0.8**
	0.9nm,0.8s,baz=124,slow=7.2,SNR=6.9							
H11N1	**WAKE ISLAND Hy**	**40.84**	**58**	T	T	T	19 46 19.6	
	baz=245,slow=75,SNR=11							
H11N2	**WAKE ISLAND Hy**	**40.86**	**58**	T	T	T	19 46 10.5	
	baz=245,slow=75,SNR=7.9							
H11N3	**WAKE ISLAND Hy**	**40.86**	**58**	T	T	T	19 46 07.7	
	baz=245,slow=75,SNR=11							
MKAR	**Makanchi Array**	**63.84**	**325**	P	P	**P**	**19 06 10.6**	**-1.3**
	0.8nm,0.5s,baz=108,slow=8.0,SNR=13							

PGC 24 19:09:13.7±0.5, 50°.53N×130°.37W, h10km, MLSn3.0/19, Mw3.7/19, 209km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.43**	**85**		Pn	Pn	19 09 37.5	-2.3
HOLB					Sn	Sn	19 09 53.9	-4.8
BPBC	**Brooks Peninsu**	**1.71**	**101**		Pn	Pn	19 09 41.0	-2.6
PACB	**Port Alice, BC**	**1.84**	**92**		Pn	Pn	19 09 43.0	-2.3
PACB					Sn	Sn	19 10 03.3	-5.4
HG4B	**Hotspring**	**1.84**	**344**		Pn	Pn	19 09 43.1	-2.3
HG4B					Sn	Sn	19 10 05.6	-3.2
PHC	**Port Hardy**	**1.88**	**83**		Pn	Pn	19 09 44.0	-1.9
PHC					Sn	Sn	19 10 05.1	-4.6
MAYB	**Maynard**	**2.05**	**92**		Pn	Pn	19 09 46.3	-2.1
BBB	**Bella Bella**	**2.18**	**40**		Pn	Pn	19 09 48.3	-1.7
BBB					Sn	Sn	19 10 13.6	-3.5
EDB	**Eliza Dome**	**2.19**	**106**		Pn	Pn	19 09 48.1	-2.0
EDB					Sn	Sn	19 10 14.1	-3.2
BNB	**Barry Inlet**	**2.23**	**338**		Pn	Pn	19 09 48.8	-2.0
TLCB	**Telegraph Cove**	**2.26**	**88**		Pn	Pn	19 09 49.6	-1.4
TLCB					Sn	Sn	19 10 15.0	-3.9
WOSB	**Woss**	**2.46**	**97**		Pn	Pn	19 09 52.6	-1.4
WOSB					Sn	Sn	19 10 20.5	-3.6
NCRB	**Newcastle Ridg**	**2.76**	**91**		Pn	Pn	19 09 56.4	-1.7
BUTB	**Butedale**	**2.80**	**24**		Pn	Pn	19 09 58.0	-0.7
BUTB					Sn	Sn	19 10 30.1	-2.5
MOBC	**Moresby Island**	**2.80**	**340**		Sn	Sn	19 10 29.2	-3.3
BNKB	**Banks Island**	**2.83**	**6**		Pn	Pn	19 09 57.1	-1.8
BNKB					Sn	Sn	19 10 29.3	-3.7
BNAB	**Bonilla**	**2.98**	**357**		Pn	Pn	19 09 58.9	-2.0
BNAB					Sn	Sn	19 10 32.9	-3.8
DIB	**Dawson Inlet,**	**2.98**	**335**		Pn	Pn	19 09 59.4	-1.6
VIB	**Van Inlet**	**3.04**	**335**		Pn	Pn	19 10 00.3	-1.6
HWKB	**Hawksbury Isla**	**3.17**	**13**		Pn	Pn	19 10 02.5	-1.1
HWKB					Sn	Sn	19 10 38.1	-3.4
CBB	**Campbell River**	**3.25**	**97**		Pn	Pn	19 10 03.8	-1.0
CBB					Sn	Sn	19 10 39.4	-4.0
GRNB	**Grenville Isla**	**3.34**	**4**		Pn	Pn	19 10 04.7	-1.2
GRNB					Sn	Sn	19 10 42.8	-2.9
KITB	**Kitimat**	**3.71**	**16**		Pn	Pn	19 10 09.2	-1.9
KITB					Sn	Sn	19 10 52.6	-2.2
RUBB	**Prince Rupert**	**3.81**	**1**		Pn	Pn	19 10 12.1	-0.3
RUBB					Sn	Sn	19 10 54.1	-3.1
TXB	**Texada**	**3.91**	**100**		Pn	Pn	19 10 13.2	-0.6
MGB	**Mount Grey**	**3.99**	**110**		Pn	Pn	19 10 14.5	-0.5
SHB	**Sechelt**	**4.29**	**100**		Pn	Pn	19 10 17.3	-1.8
PFB	**Port Renfrew**	**4.33**	**115**		Pn	Pn	19 10 19.4	-0.2
UBRB	**Upper Baezaeko**	**4.57**	**56**		Pn	Pn	19 10 23.2	+0.2
UBRB					Sn	Sn	19 11 13.9	-2.3
FSB	**Fort Saint Jam**	**5.41**	**41**		Pn	Pn	19 10 34.5	+0.1
LLLB	**Lillooet**	**5.41**	**86**		Pn	Pn	19 10 34.1	-0.3
VDB	**Vedder Mountai**	**5.56**	**102**		Pn	Pn	19 10 37.2	+0.7
MBW	**Mount Baker**	**5.77**	**104**		Pn	Pn	19 10 40.3	+0.7
FMW	**Mount Fremont**	**6.79**	**119**		Pn	Pn	19 10 54.5	+1.1

MEX 24 19:25:26.2±0.4, 17°.76N×97°.10W, h70km±4km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TOIG	**Toxpalan**	**0.34**	**6**	*i* P		Pn	19 25 36.3	-1.5
TOIG				*e*S		Sn	19 25 44.4	-1.9
HLIG	**Huajuapan de L**	**0.67**	**276**	*i* P		Pn	19 25 39.6	-1.4
HLIG				*i* S		Sn	19 25 50.2	-1.7
TXIG	**Tlaxiaco**	**0.81**	**232**	*i* P		Pn	19 25 41.2	-1.4
TXIG				*i* S		Sn	19 25 53.0	-1.8
YOIG	**Yosondua**	**0.99**	**205**	*i* P		Pn	19 25 43.4	-1.5
YOIG				*i* S		Sn	19 25 57.2	-1.4
FTIG	**Fresnillo de T**	**0.99**	**279**	*i* P		Pn	19 25 43.6	-1.1
FTIG				*e*S		Sn	19 25 56.9	-1.6
MGIG	**Malinaltepec**	**1.55**	**251**	*e*P		Pn	19 25 50.3	-1.7
MGIG				*e*S		Sn	19 26 09.4	-2.1
PNIG	**Pinotepa**	**1.67**	**216**	*e*P		Pn	19 25 51.5	-2.1
PNIG				*i* S		Sn	19 26 11.9	-2.2

IDC 24 19:29:13.0±1.6, 0°.75S×130°.97E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.3/41, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=31.8km s-min=9.3km az=16.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**0.32**	**111**		Pg	Pg	19 29 19.6	+0.4
	406nm,0.3s,baz=306,slow=19,SNR=100							
SIJI					Lg	Lg	19 29 23.2	
	277nm,0.3s,baz=139,slow=23,SNR=13							
FITZ	**Fitzroy Crossi**	**18.01**	**197**	P	P	P	19 33 25.6	0.0
	0.1nm,0.3s,baz=23,slow=13,SNR=1.5							
WRA	**Warramunga Arr**	**19.36**	**170**	P	P	P	19 33 39.6	-0.7
	0.1nm,0.3s,baz=348,slow=12,SNR=3.7							
WRA					S	Sn	19 37 03.7	-16
	0.0nm,0.3s,baz=1.0,slow=23,SNR=1.5							
ASAR	**Alice Springs**	**22.96**	**173**	P	P	P	19 34 19.8	+0.6
	0.7nm,0.6s,baz=352,slow=11,SNR=1.3							
MKAR	**Makanchi Array**	**63.63**	**325**	P	P	P	19 39 45.3	-0.7
	0.3nm,0.7s,baz=109,slow=8.0,SNR=1.6							

*NOU **24** 19:33:10.4, 38°.29S×176°.00E, h198km, MLv3.9/9, North Island, New Zealand*

WEL 24 19:33:14.3±0.7, 38°.5S±5°×177°.6E±°, h160km±6km, M3.0/55, ML2.3/8, MLv3.0/55, Error ellipse: s-maj=0.0km s-min=0.0km az=148.8, North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GRRZ	**Galatos Road**	**0.12**	**143**		P	Pn	19 33 36.6	+0.9
HRRZ	**Handcock Road**	**0.24**	**123**		P	Pn	19 33 36.7	+0.8
KUTZ	**Kaahu Road**	**0.28**	**214**		P	Pn	19 33 36.9	+0.9
KARZ	**Kaharoa**	**0.30**	**37**		P	Pn	19 33 36.8	+0.7
OMRZ	**Omania**	**0.32**	**61**		P	Pn	19 33 36.9	+0.7
PRRZ	**Plateau Road**	**0.38**	**130**		P	Pn	19 33 37.0	+0.8
TARZ	**Mount Tarawera**	**0.38**	**87**		P	Pn	19 33 37.3	+0.9
TLZ	**Tolley Road**	**0.39**	**259**		P	Pn	19 33 36.8	+0.4
ALRZ	**Allen Road**	**0.40**	**140**		P	Pn	19 33 37.0	+0.7
RRRZ	**Republican Roa**	**0.40**	**102**		P	Pn	19 33 37.0	+0.6
OPRZ	**Ohinepanea**	**0.59**	**46**		P	Pn	19 33 37.4	+0.2
MUGZ	**Murupara**	**0.63**	**111**		P	Pn	19 33 37.7	+0.3
HATZ	**Hinemaiaia**	**0.63**	**175**		P	Pn	19 33 37.9	+0.4
RATZ	**Rangitukua**	**0.64**	**198**		P	Pn	19 33 38.1	+0.5
MRHZ	**Matea Rd**	**0.65**	**152**		P	Pn	19 33 38.0	+0.4
MRHZ					S	Sn	19 33 55.8	+0.2
TOZ	**Tahuroa Road**	**0.67**	**322**		P	Pn	19 33 38.5	+0.8
RITZ	**Rihia Road**	**0.73**	**190**		P	Pn	19 33 39.0	+0.9
KATZ	**Kakaramea**	**0.76**	**200**		P	Pn	19 33 39.0	+0.6
RTZ	**Ruatahuna**	**0.83**	**116**		P	Pn	19 33 39.2	+0.3
RTZ					S	Sn	19 33 58.1	+0.4
URZ	**Urewera**	**0.86**	**90**		P	Pn	19 33 38.9	0.0
MTHZ	**Maungataniwha**	**0.87**	**133**		P	Pn	19 33 39.6	+0.5
MTHZ					S	Sn	19 33 58.4	+0.5
NTVZ	**North Tongarir**	**0.88**	**198**		P	Pn	19 33 39.7	+0.5
KRVZ	**Karewarewa**	**0.89**	**200**		P	Pn	19 33 39.6	+0.3
TMVZ	**Te Maari**	**0.89**	**196**		P	Pn	19 33 39.8	+0.5
ETVZ	**East Tongariro**	**0.91**	**195**		P	Pn	19 33 40.0	+0.5
WTVZ	**West Tongariro**	**0.92**	**201**		P	Pn	19 33 39.8	+0.3
NNVZ	**North Ngauruho**	**0.93**	**200**		P	Pn	19 33 40.3	+0.6
TWVZ	**Taurewa**	**0.93**	**209**		P	Pn	19 33 40.0	+0.4
OTVZ	**Oturere**	**0.94**	**197**		P	Pn	19 33 40.2	+0.4
HIZ	**Hauiti**	**0.95**	**254**		P	Pn	19 33 40.2	+0.6
NGZ	**Ngauruhoe**	**0.97**	**200**		P	Pn	19 33 40.5	+0.5
SNVZ	**South Ngauruho**	**0.97**	**198**		P	Pn	19 33 40.3	+0.3
BKZ	**Black Stump Fm**	**0.98**	**158**		P	Pn	19 33 40.1	+0.2
BKZ					S	Sn	19 33 59.2	-0.4
NMHZ	**Naumai**	**1.04**	**144**		P	Pn	19 33 41.6	+1.2
NMHZ					S	Sn	19 34 02.2	+1.7
TUVZ	**Tukino**	**1.05**	**196**		P	Pn	19 33 40.9	+0.3
FWVZ	**Far West T-bar**	**1.06**	**200**		P	Pn	19 33 40.7	-0.1
RAHZ	**Arahi**	**1.06**	**129**		P	Pn	19 33 41.3	+0.8
WHVZ	**Whangaehu Hut**	**1.08**	**198**		P	Pn	19 33 41.1	+0.2
TRVZ	**Turoa**	**1.10**	**199**		P	Pn	19 33 41.4	+0.3
WNVZ	**Wahianoa**	**1.12**	**197**		P	Pn	19 33 41.3	+0.1
RAGZ	**Rawiri**	**1.12**	**103**		P	Pn	19 33 41.8	+0.7
PKVZ	**Pokaka**	**1.16**	**207**		P	Pn	19 33 41.6	+0.2
SNGZ	**Shannon Statio**	**1.16**	**117**		P	Pn	19 33 42.0	+0.6
MOVZ	**Moawhango**	**1.17**	**190**		P	Pn	19 33 41.3	-0.2
MWZ	**Matawai**	**1.19**	**94**		P	Pn	19 33 41.9	+0.2
MTVZ	**Mangateitei**	**1.20**	**201**		P	Pn	19 33 42.0	+0.1
KWHZ	**Kaweka Forest**	**1.21**	**165**		P	Pn	19 33 42.1	+0.3
BHHZ	**Black Hill Sta**	**1.23**	**179**		P	Pn	19 33 41.9	-0.2
WHHZ	**Waihua**	**1.25**	**131**		P	Pn	19 33 42.8	+0.6
ARHZ	**Arapaoanui**	**1.26**	**143**		P	Pn	19 33 43.0	+0.7
MCHZ	**McNeill Hill**	**1.30**	**156**		P	Pn	19 33 43.4	+0.8
VRZ	**Vera Road**	**1.31**	**228**		P	Pn	19 33 43.1	+0.4
RUMZ	**Raukumara Rang**	**1.34**	**78**		P	Pn	19 33 42.3	-0.9
KRHZ	**Kereru**	**1.41**	**169**		P	Pn	19 33 43.8	+0.1
RIGZ	**Rimuhau**	**1.44**	**109**		P	Pn	19 33 44.4	+0.4
TKGZ	**Te Karaka**	**1.45**	**98**		P	Pn	19 33 44.5	+0.5
HAZ	**Te Kaha**	**1.48**	**71**		P	Pn	19 33 43.7	-0.7
KNZ	**Kokohu**	**1.50**	**121**		P	Pn	19 33 44.8	+0.2
TWGZ	**Tauwhareparae**	**1.54**	**88**		P	Pn	19 33 45.7	+0.5
PRGZ	**Paritu Road**	**1.60**	**115**		P	Pn	19 33 46.1	+0.4
CKHZ	**Cape Kidnapper**	**1.62**	**150**		P	Pn	19 33 46.2	+0.4
WIAZ	**Waiheke Island**	**1.62**	**334**		P	Pn	19 33 46.3	+0.4
PNHZ	**Pukenui**	**1.66**	**175**		P	Pn	19 33 45.8	-0.5
PKGZ	**Pakihiroa**	**1.66**	**78**		P	Pn	19 33 46.3	-0.1
KAHZ	**Kahuranaki**	**1.67**	**157**		P	Pn	19 33 46.6	+0.2
WAZ	**Wanganui**	**1.70**	**208**		P	Pn	19 33 46.3	-0.4
MHGZ	**Mahia Peninsul**	**1.72**	**122**		P	Pn	19 33 47.3	+0.4
CNGZ	**Carnagh Statio**	**1.73**	**98**		P	Pn	19 33 47.6	+0.6
PUZ	**Puketiti**	**1.77**	**85**		P	Pn	19 33 47.3	-0.2
TSZ	**Takapari Road**	**1.80**	**181**		P	Pn	19 33 47.2	-0.6
NEZ	**North Egmont**	**1.81**	**306**		P	Pn	19 33 48.6	+0.5
PREZ	**Palmer Road**	**1.81**	**233**		P	Pn	19 33 48.3	+0.3
WPHZ	**Waipukurau**	**1.83**	**170**		P	Pn	19 33 47.7	-0.5
PKE	**Pukeiti**	**1.84**	**239**		P	Pn	19 33 48.5	+0.2
KHEZ	**Kahui Hut**	**1.88**	**236**		P	Pn	19 33 48.7	0.0
PXZ	**Pawanui**	**1.89**	**160**		P	Pn	19 33 48.4	-0.3
MXZ	**Matakaoa Point**	**1.94**	**70**		P	Pn	19 33 49.3	0.0
WMGZ	**Waiomatatini S**	**1.94**	**78**		P	Pn	19 33 49.1	-0.2
OHWZ	**Ohakea**	**2.02**	**196**		P	Pn	19 33 49.8	-0.5
DVHZ	**Dannevirke**	**2.04**	**177**		P	Pn	19 33 49.4	-1.1
POWZ	**Post Office Ro**	**2.14**	**185**		P	Pn	19 33 50.4	-1.2
ANWZ	**Angora Road**	**2.23**	**171**		P	Pn	19 33 51.8	-0.8
PRWZ	**Pori Road**	**2.29**	**181**		P	Pn	19 33 52.3	-1.2
MRZ	**Mangatainoka R**	**2.42**	**188**		P	Pn	19 33 53.2	-1.8
BFZ	**Birch Farm**	**2.43**	**176**		P	Pn	19 33 53.4	-1.6
TIWZ	**Tintock**	**2.52**	**182**		P	Pn	19 33 54.4	-1.7
OGWZ	**Otaki Gorge**	**2.64**	**194**		P	Pn	19 33 55.6	-1.9
CPWZ	**Castlepoint**	**2.65**	**177**		P	Pn	19 33 56.4	-1.3
HOWZ	**Holdsworth Sta**	**2.66**	**188**		P	Pn	19 33 55.7	-2.2
KIW	**Kapiti Island**	**2.74**	**198**		P	Pn	19 33 56.4	-2.4
TMWZ	**Te Maipa**	**2.85**	**182**		P	Pn	19 33 57.8	-2.3
MTW	**Mount Morrison**	**2.92**	**188**		P	Pn	19 33 58.4	-2.7
CAW	**Cannon Point**	**2.94**	**194**		P	Pn	19 33 58.8	-2.5
DUWZ	**D'Urville Isla**	**3.02**	**212**		P	Pn	19 33 59.4	-2.9
TRWZ	**Traveller**	**3.15**	**185**		P	Pn	19 34 01.1	-2.8
PAWZ	**Paruwai Farm**	**3.15**	**188**		P	Pn	19 34 01.1	-2.8
WEL	**Wellington**	**3.17**	**197**		P	Pn	19 34 01.3	-2.9
MSWZ	**Moikau Station**	**3.21**	**190**		P	Pn	19 34 01.5	-3.1
TCW	**Tory Channel**	**3.24**	**204**		P	Pn	19 34 02.2	-2.9
BHW	**Baring Head**	**3.27**	**195**		P	Pn	19 34 02.2	-3.2
PLWZ	**Palliser**	**3.36**	**190**		P	Pn	19 34 03.3	-3.3
TUWZ	**Tuamarina**	**3.55**	**206**		P	Pn	19 34 05.7	-3.2
NNZ	**Nelson**	**3.59**	**214**		P	Pn	19 34 06.1	-3.3
QRZ	**Quartz Range**	**3.72**	**225**		P	Pn	19 34 07.3	-3.9
BSWZ	**Blackbirch Sta**	**3.83**	**205**		P	Pn	19 34 09.3	-3.2
THZ	**Tophouse**	**4.24**	**213**		P	Pn	19 34 13.3	-4.6
KHZ	**Kahutara**	**4.56**	**204**		P	Pn	19 34 18.4	-3.7
DSZ	**Denniston Nort**	**4.75**	**222**		P	Pn	19 34 20.4	-4.3
GVZ	**Greta Valley S**	**5.22**	**205**		P	Pn	19 34 26.4	-4.4
LTZ	**Lake Taylor**	**5.35**	**211**		P	Pn	19 34 28.0	-4.4
INZ	**Inchbonnie**	**5.66**	**217**		P	Pn	19 34 31.3	-5.3
OXZ	**Oxford**	**5.89**	**210**		P	Pn	19 34 34.2	-5.4
OKCZ	**Okains Bay**	**5.90**	**201**		P	Pn	19 34 35.0	-4.8
MQZ	**McQueen's Vall**	**6.01**	**204**		P	Pn	19 34 35.3	-5.9
AKCZ	**Akaroa Harbour**	**6.08**	**202**		P	Pn	19 34 36.9	-5.2
RACZ	**Rakaia**	**6.20**	**207**		P	Pn	19 34 37.9	-5.7
MHCZ	**Mount Hutt**	**6.25**	**211**		P	Pn	19 34 39.3	-5.2
RPZ	**Rata Peaks**	**6.62**	**213**		P	Pn	19 34 44.5	-4.8
ARCZ	**Arundel**	**6.76**	**211**		P	Pn	19 34 45.6	-5.5
TMZ	**Timaru**	**7.19**	**210**		P	Pn	19 34 51.3	-5.5
ODZ	**Otahua Downs**	**7.88**	**209**		P	Pn	19 35 00.7	-5.4
JCZ	**Jackson Bay**	**7.97**	**221**		P	Pn	19 35 01.9	-5.4

IDC 24 19:41:06.4±1.7, 2°.06N×125°.70E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/42, mbtmp3.6/5, Error ellipse: s-maj=133.1km s-min=21.0km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.04**	**180**	P	P	P	19 45 42.0	+0.8
	2.9nm,1.1s,baz=10.0,slow=9.5,SNR=2.8							
WRA	**Warramunga Arr**	**23.45**	**159**	P	P	P	19 46 17.3	-0.5
	0.6nm,0.4s,baz=335,slow=11,SNR=5.5							
ASAR	**Alice Springs**	**26.79**	**163**	P	P	P	19 46 48.6	+0.2
	0.2nm,0.5s,baz=350,slow=7.8,SNR=4.8							
MKAR	**Makanchi Array**	**58.35**	**326**	P	P	P	19 51 03.6	+0.1
	0.4nm,0.5s,baz=113,slow=8.2,SNR=8.0							
KURBB	**Kurchatov Arra**	**62.59**	**328**	P	P	P	19 51 31.8	-0.5
	0.7nm,0.2s,baz=132,slow=6.2,SNR=2.9							

*IDC **24** 19:44:46.6±0.9, 0°.85S×130°.96E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.6/37, mbtmp3.8/8, ML3.4/2, Error ellipse: s-maj=21.7km s-min=6.0km az=10.0*

ISC 24 19:44:47.9±0.7, 1°.05S±0°.05×130°.99E±0°.05, h10km, n22, σ2.904/20, mb4.1/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**0.33**	**55**		S	**Sg**	**19 44 57.5**	**-1.3**
SWI	**Sorong**	**0.33**	**55**		P	**Pg**	**19 44 53.9**	**-0.5**
SIJI	**Sorong**	**0.33**	**57**		Pg	**Pg**	**19 44 53.0**	**-1.5**
	3μm,0.3s,baz=1.1,slow=17,SNR=1018							
SIJI					Lg	Lg	19 44 56.3	
	2μm,0.3s,baz=232,slow=23,SNR=15							
FAKI	**Fak Fak**	**2.24**	**146**		S	**Sg**	**19 45 59.5**	**-0.6**
FAKI	**Fak Fak**	**2.24**	**146**		P	**Pb**	**19 45 29.6**	**+1.0**
MSAI	**Masohi**	**3.08**	**222**		S	**Sg**	**19 46 25.9**	**-0.9**
MSAI	**Masohi**	**3.08**	**222**		P	**Pg**	**19 45 44.8**	**-2.1**
BNDI	**Bandanaira**	**3.62**	**197**		S	**Sb**	**19 46 39.2**	**+3.2**
BNDI	**Bandanaira**	**3.62**	**197**		P	**Pb**	**19 45 52.3**	**+0.3**
GAMI	**Galela, Maluku**	**4.30**	**312**		P	**Pn**	**19 45 56.2**	**+2.7**
SANI	**Sanana**	**5.10**	**259**		P	Pb	19 46 11.2	-6.1
	0.1nm13nm,0.9s							
FITZ	**Fitzroy Crossi**	**17.74**	**197**	P

WHF	**Hehuan Shan** baz=242	0.50	246	⇓*i*P	Pg	19 51 10.8	-0.4
WHF	baz=242			S	Sg	19 51 17.7	-0.3
TEYL	**Yanliau Villag** baz=194	0.50	198	*e*P	Pg	19 51 11.1	0.0
NTC	**Toucheng** baz=10.0	0.51	7	*i*P	Pg	19 51 11.0	-0.1
NTC	baz=10.0			*e*S	Sg	19 51 17.5	-0.4
TWT	**Tachien** baz=257	0.55	260	*e*P	Pg	19 51 12.1	+0.1
TWT	baz=257			*e*S	Sg	19 51 19.5	+0.2
TDCB	**Techi** baz=257	0.56	260	*e*P	Pg	19 51 12.0	-0.2
TDCB	baz=257			*e*S	Sg	19 51 19.2	-0.6
CHGB	**Renai** baz=239	0.61	242	*e*P	Pb	19 51 12.6	-0.7
CHGB	baz=239			*e*S	Sg	19 51 20.9	-0.5
ESL	**Shilin** baz=205	0.61	210	P	Pb	19 51 12.5	-0.7
ESL	baz=205			*e*S	Sb	19 51 21.7	+0.2
TIPB	**Shuangxi** baz=8.0	0.62	5	⇓*i*P	Pb	19 51 12.8	-0.6
TIPB	baz=8.0			*e*S	Sb	19 51 21.0	-0.9
NHDH	**Xindian Distri** baz=342	0.65	340	*e*P	Pb	19 51 13.5	-0.3
TWA	**Mucha** baz=348	0.65	345	*e*P	Pb	19 51 13.6	-0.3
TWA	baz=348			*e*S	Sb	19 51 22.4	-0.2
OWD	**Renai** baz=231	0.67	234	P	Pb	19 51 13.8	-0.5
OWD	baz=231			*e*S	Sb	19 51 22.6	-0.6
TATO	**Taipei** baz=340	0.67	338	*e*P	Pb	19 51 13.8	-0.4
TWB1	**Santiao Chiao** baz=20	0.69	17	*e*P	Pb	19 51 14.4	-0.1
TWB1	baz=20			*e*S	Sb	19 51 22.9	-0.7
NWF	**Wu-fen Shan** baz=3.0	0.72	1	*e*P	Pb	19 51 14.8	-0.3
NWF	baz=3.0			*e*S	Sb	19 51 24.0	-0.7
WFSB	**Wu-fen Shan** baz=3.0	0.72	1	*e*P	Pb	19 51 14.8	-0.2
EGFH	**Guangfu** baz=201	0.74	205	*e*P	Pb	19 51 14.0	-1.4
LIOB	**Emei** baz=293	0.74	293	*e*P	Pb	19 51 15.4	-0.1
LIOB	baz=293			*e*S	Sb	19 51 23.4	-1.9
NSTT	**Nanjuang** baz=291	0.75	292	P	Pb	19 51 15.3	-0.2
NSTT	baz=291			*e*S	Sb	19 51 25.5	-0.1
WHP	**Taichung City** baz=263	0.75	265	*e*P	Pb	19 51 15.4	-0.3
NCU	**National Centr** baz=320	0.81	320	*e*P	Pg	19 51 17.2	+0.4
NCUH	**Zhongli** baz=320	0.81	319	*e*P	Pg	19 51 17.2	+0.4
WPL	**Puli Township** baz=243	0.81	246	*e*P	Pb	19 51 16.7	+0.1
TWS1	**Kuangyinshan** baz=339	0.81	337	*e*P	Pb	19 51 15.9	-0.7
TWS1	baz=339			*e*S	Sg	19 51 27.8	+0.2
DPDB	**Guoxing** baz=245	0.83	248	*e*P	Pb	19 51 16.9	0.0
DPDB	baz=245			*e*S	Sb	19 51 28.1	+0.3
WCS	**Beigang Elemen** baz=247	0.83	250	*e*P	Pb	19 51 16.8	-0.2
WCS	baz=247			*e*S	Sg	19 51 28.4	+0.1
HSN	**Hsinchu** baz=305	0.85	302	*e*P	Pn	19 51 18.9	+0.7
HSN	baz=305			*e*S	Sn	19 51 30.4	+0.1
NTST	**Danshui** baz=342	0.86	340	*e*P	Pg	19 51 17.9	+0.2
ANP	**Anpu** baz=347	0.86	345	P	Pb	19 51 17.5	-0.1
TWQ1	**Liyutan** baz=268	0.91	270	*e*P	Pn	19 51 19.7	+0.8
TWQ1	baz=268			*e*S	Sn	19 51 33.3	+1.7
HGSD	**Ruisui** baz=197	0.91	200	*e*P	Pb	19 51 17.8	-0.5
NMLH	**Miaoli** baz=281	0.91	282	*e*P	Pn	19 51 19.2	+0.3
SMLT	**Sun Moon Lake** baz=237	0.92	240	P	Pb	19 51 18.4	0.0
NSY	**Sanyi** baz=273	0.92	274	*e*P	Pn	19 51 20.3	+1.2
NSY	baz=273			*e*S	Sg	19 51 30.9	-0.1
NHW	**Xinwu Township** baz=315	0.93	315	*e*P	Pb	19 51 18.8	+0.3
SSLB	**Suanglung** baz=230	0.93	233	*e*P	Pb	19 51 18.2	-0.4
SSLB	baz=230			*e*S	Sb	19 51 30.2	-0.5
EHY	**Hungye** baz=203	0.93	206	*e*P	Pb	19 51 18.1	-0.6
TYC	**Yuchr** baz=239	0.94	242	*e*P	Pb	19 51 18.4	-0.4
TYC	baz=239			*e*S	Sb	19 51 31.6	+0.6
YULB	**Yu-li** baz=202	1.04	204	*e*P	Pb	19 51 18.3	-2.3
WHYT	**Xinyi Township** baz=230	1.06	232	*e*P	Pb	19 51 20.9	0.0
WHYT	baz=230			*e*S	Sg	19 51 36.8	+1.5
EYUL	**Yuli** baz=200	1.08	202	*e*P	Pn	19 51 21.6	+0.3
JYNG	**Yonagunijimaku**	1.08	84	P	Pb	19 51 21.2	0.0
JYNG				*e*S	Sn	19 51 36.0	+0.2
WJS	**Zhushan** baz=239	1.08	241	*e*P	Pn	19 51 22.0	+0.6
WNT	**Mingjian** baz=242	1.09	245	*e*P	Pg	19 51 22.8	+0.7
WCHH	**Zhanghua** baz=255	1.14	257	*e*P	Pg	19 51 23.2	+0.2
YUS	**Yu-Shan** baz=218	1.14	221	*e*P	Pb	19 51 21.8	-0.7
YUS	baz=218			*e*S	Sb	19 51 36.3	-0.7
YOJ	**Yonaguni jima**	1.14	84	P	Pn	19 51 22.4	+0.3
YOJ				*e*S	Sg	19 51 38.3	+0.4
YOJ	**Yonaguni jima** baz=84	1.14	84	*e*P	Pn	19 51 22.4	+0.3
ALS	**Alishan** baz=224	1.21	227	*e*P	Pn	19 51 23.4	0.0
FULB	**Fuli** baz=199	1.23	201	*e*P	Pn	19 51 21.9	-1.4
CHN5	**Tsauling** baz=231	1.25	233	*e*P	Pb	19 51 24.4	+0.4
CHN5	baz=231			*e*S	Sg	19 51 42.5	+1.1
CHKT	**Chengkung** baz=194	1.30	197	*e*P	Pn	19 51 23.7	-0.6
WDLH	**Douliu** baz=238	1.30	240	*e*P	Pb	19 51 25.6	+0.6
ELDTW	**Lidau** baz=208	1.34	211	*e*P	Pn	19 51 23.0	-2.0
WRL	**Guolierlin Hig** baz=249	1.35	251	*e*P	Pn	19 51 25.5	+0.6
WTK	**Tuku** baz=241	1.42	243	*e*P	Pb	19 51 27.0	0.0
CHN4	**Tsaushan** baz=225	1.46	227	*e*P	Pb	19 51 27.8	0.0
CHN4	baz=225			*e*S	Sg	19 51 48.7	+0.4
TPUB	**Ta-pu** baz=223	1.48	225	*e*P	Pb	19 51 28.0	0.0
TPUB	baz=223			*e*S	Sg	19 51 48.0	-0.6
STYH	**Taoyuan** baz=216	1.48	218	*e*P	Pb	19 51 28.1	+0.1
CHY	**Chiayi** baz=233	1.49	236	*e*P	Pb	19 51 28.6	+0.4
WTP	**Ta-pu** baz=222	1.52	224	*e*P	Pn	19 51 26.9	-0.5
WSF	**Szhu** baz=242	1.58	244	*e*P	Pb	19 51 29.7	0.0
WSF	baz=242			*e*S	Sg	19 51 51.5	-0.4
TWK	**Hsinying** baz=225	1.59	228	*e*P	Pb	19 51 30.0	+0.1
CHN1	**Nanshi** baz=223	1.62	225	*e*P	Pb	19 51 30.5	+0.1
CHN1	baz=223			*e*S	Sb	19 51 51.7	+1.1
ICHU	**Yijhu** baz=233	1.68	234	*e*P	Pb	19 51 31.3	-0.1
SLGT	**Liugui** baz=216	1.70	217	*e*P	Pn	19 51 31.0	+1.2
IRIF	**Iriomote-Funau**	1.79	90	P	Pn	19 51 31.8	+0.7
IRIF				*e*S	Sb	19 51 55.1	-0.4
SCST	**Cishan** baz=217	1.87	219	*e*P	Pb	19 51 34.1	-0.5
MASBT	**Mashibuluo** baz=210	2.02	211	*e*P	Pn	19 51 35.6	+1.4
JKRS	**Kuro-shima**	2.05	93	P	Pn	19 51 35.1	+0.5
JKRS				*e*S	Sn	19 52 00.9	+1.1
JIJ	**Ishigaki jima**	2.17	89	P	Pn	19 51 36.2	0.0
JIJ				*e*S	Sn	19 52 02.0	-0.7
PHUB	**P'eng-hu** baz=246	2.17	248	*e*P	Pn	19 51 36.4	+0.1
JISG	**Ishigakijimahi**	2.33	84	P	Pn	19 51 39.2	+0.7
PTMZ	**Houxiangcun** baz=285	2.50	286	*e*P	Pn	19 51 40.5	-0.4

*IDC **24** 19:52:04.9±2.5, 0.°59S×131.°15E, h0km, mb3.4/3, mb1 3.5/5, mb1mx3.3/43, mbtmp3.4/5, ML3.4/2, Error ellipse: s-maj=137.4km s-min=23.6km az=76.0*
*DJA **24** 19:52:06.8±0.3, 1.°5S×4.°3×13.°1E±.°, h14km±3km, M4.0/10, mb4.4/4, mB5.1/1, MLv3.9/10, Mw(mB)4.5/1*

ISC 24 19:52:07.1±0.9, **0.°88S**±0.°09×**130.°97E**±0.°06, **h10**km, **n14,** σ1ᵎ**95**/16, **mb3.5**/3, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**0.29**	**87**	P	**Pg**	**19 52 13.3**	**+0.4**
SWI				S	**Sg**	**19 52 17.7**	**+0.9**
SIJI	**Sorong**	**0.29**	**89**	P	**Pg**	**19 52 12.4**	**-0.7**
SIJI				S	**Sg**	**19 52 16.2**	**-0.8**
FAKI	**Fak Fak**	**2.40**	**148**	P	**Pn**	**19 52 47.4**	**+0.9**
FAKI				S	**Sn**	**19 53 15.9**	**0.0**
MSAI	**Masohi**	**3.19**	**220**	P	Pn	19 53 03.4	+6.0
BNDI	**Bandanaira**	**3.78**	**196**	P	**Pn**	**19 53 05.3**	**-0.1**
TNTI	**Ternate**	**3.96**	**294**	P	**Pn**	**19 53 08.6**	**+0.6**
GAMI	**Galela, Maluku**	**4.17**	**310**	P	**Pn**	**19 53 10.8**	**-0.1**
SANI	**Sanana** 0.1nm8.6nm,1.3s	**5.12**	**257**	P	Pn	19 53 22.6	-1.3
SRPI	**Serui, Papua** 0.2nm2µm37nm,0.8s	**5.36**	**101**	P	**Pn**	**19 53 25.6**	**-1.6**
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=24,slow=12,SNR=3.6	**17.90**	**197**	P	**Pn**	**19 56 19.4**	**+3.1**
FITZ	0.1nm,0.3s,baz=139,slow=22,SNR=2.2			S	**Sn**	**19 59 31.5**	**-4.6**
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=351,slow=12,SNR=5.5	**19.23**	**170**	P	**P**	**19 56 33.5**	**+1.8**
WRA	0.2nm,0.3s,baz=356,slow=23,SNR=6.1			S	Sn	19 59 58.1	-10
ASAR	**Alice Springs** 0.3nm,0.4s,baz=352,slow=10,SNR=2.7	**22.83**	**173**	P	**P**	**19 57 12.8**	**+2.2**
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=115,slow=8.0,SNR=4.6	**63.73**	**325**	P	**P**	**20 02 37.6**	**-1.6**
KURBB	**Kurchatov Arra** 0.2nm,0.5s,baz=128,slow=7.5,SNR=2.0	**67.88**	**327**	P	**P**	**20 03 04.4**	**-1.4**

*JMA **24** 20:05:57.1±0.1, 38.°64N×141.°81E, h50km±1km, M4.1*
JMA Felt III J1.
*NIED **24** 20:05:57.1, 38.°64N×141.°81E, h50km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}0.11; $M_{\theta\theta}$-0.20; $M_{\phi\phi}$0.09; $M_{r\theta}$0.34; $M_{\theta\phi}$1.50; $M_{\phi r}$0.51; Fault plane solution: $M_0$1.63000×10¹⁵ NP1: ϕ_s355.00000°, δ78.00000°, λ162.00000°. NP2: ϕ_s89.00000°, δ73.00000°, λ13.00000°.*
*IDC **24** 20:05:58.7±2.0, 38.°65N×141.°81E, h65km±16km, mb3.7/21, mb1 3.8/27, mb1mx3.7/61, mbtmp4.0/27, MS3.0/2, Ms1 3.0/2, ms1mx2.5/54 Error ellipse: s-maj=18.8km s-min=11.6km az=104.0*
*BJI **24** 20:06:08.5±0.0, 38.°41N×140.°57E, h118km, mB4.8/12, mb4.3/21*
*NEIC **24** 20:06:09.8±2.2, 38.°34N±0.°10×140.°4E±0.°1, h124km±8km, mb4.3/18, Error ellipse: s-maj=17.0km s-min=13.8km az=103.0*

ISC 24 20:05:56.7±0.9, **38.°62N**±0.°05×**141.°86E**±0.°07, **h51**km±6km, **n78,** σ1ᵎ**45**/85, **mb4.3**/29, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKMT	**Kesennumamotoy**	**0.35**	**302**	P	**Pn**	**20 06 06.4**	**0.0**
JKMT				S	**Sn**	**20 06 12.7**	**-0.7**
JIO	**Ouri**	**0.43**	**247**	P	**Pn**	**20 06 07.2**	**-0.1**
JIO				S	**Sn**	**20 06 14.0**	**-0.8**
JIKH	**Ishinomakikobu**	**0.44**	**225**	P	**Pn**	**20 06 07.4**	**+0.1**
JIKH				S	**Sn**	**20 06 14.4**	**-0.5**
OFUJ	**Ofunato**	**0.48**	**342**	P	**Pn**	**20 06 07.8**	**0.0**
OFUJ				S	**Sn**	**20 06 15.1**	**-0.7**
JMK	**Ichinoseki**	**0.60**	**304**	P	**Pn**	**20 06 09.2**	**0.0**
JMK				S	**Sn**	**20 06 17.6**	**-0.6**
JOM	**Ohasama**	**0.95**	**333**	P	**Pn**	**20 06 13.9**	**0.0**
JOM				S	**Sn**	**20 06 25.9**	**-0.6**
JOU	**Okura**	**0.97**	**255**	P	**Pn**	**20 06 14.0**	**-0.1**
JOU				S	**Sn**	**20 06 26.5**	**-0.4**
JMM	**Marumori**	**1.13**	**228**	P	**Pn**	**20 06 15.8**	**-0.4**
JMM				S	**Sn**	**20 06 30.1**	**-0.5**
JYK	**Kaneyama**	**1.21**	**285**	P	**Pn**	**20 06 17.2**	**-0.1**
JYK				S	**Sn**	**20 06 32.6**	**+0.1**
JRG	**Rokugo**	**1.23**	**309**	P	**Pn**	**20 06 17.4**	**-0.1**
JRG				*e*S	**Sn**	**20 06 32.7**	**-0.3**
JYS	**Shirataka**	**1.46**	**255**	P	**Pn**	**20 06 21.0**	**+0.3**
JYS				S	**Sn**	**20 06 38.9**	**+0.1**
MJAR	**Matsushiro Arr** 2.6nm,0.3s,baz=30,slow=10,SNR=106	**3.56**	**235**	P	**Pn**	**20 06 50.5**	**+1.0**
MJAR	0.6nm,0.3s,baz=89,slow=19,SNR=4.1			S	**Sn**	**20 07 33.9**	**+3.5**
MJAR	**Matsushiro Arr**	**3.56**	**235**	Pn	**Pn**	**20 06 50.4**	**+0.8**
MAJO	**Matsushiro**	**3.57**	**235**		**Pn**	**20 06 51.1**	**+1.6**
MAT	**Matsushiro**	**3.57**	**235**	P	**Pn**	**20 06 51.2**	**+1.6**
MAT				*e*S	**Sn**	**20 07 30.0**	**-0.4**
ASAJ	**Asahikawa** 4.0nm,0.3s,baz=209,slow=8.8,SNR=34	**5.52**	**6**	P	**Pn**	**20 07 16.6**	**+0.4**
ASAJ	6.6nm,0.3s,baz=158,slow=33,SNR=5.6			S	**Sn**	**20 08 16.7**	**-1.7**
JHJ	**Hachijo jima 2** 24nm,0.3s,baz=72,slow=20,SNR=1.5	**5.74**	**198**	P	**Pn**	**20 07 19.8**	**+0.4**
JHJ	23nm,0.3s,baz=137,slow=23,SNR=5.9			S	**Sn**	**20 08 22.5**	**-1.5**
USA0B	**Ussuriysk Arra**	**9.27**	**310**		**Pn**	**20 08 10.8**	**+3.2**
USRK	**Ussuriysk Ar.** baz=112,slow=14,SNR=22	**9.27**	**310**	P	**Pn**	**20 08 08.4**	**+0.8**
USRK	baz=133,slow=27,SNR=2.3			S	**Sn**	**20 09 49.7**	**-0.8**
USRK	comp=Z,106nm,19.0s,baz=121,slow=37			LR	LR	20 11 39.1	
USRK	**Ussuriysk Ar.**	**9.27**	**310**	Pn	**Pn**	**20 08 11.2**	**+3.5**
MDJ	**Mudanjiang**	**10.96**	**307**	Pn	**Pn**	**20 08 35.1**	**+4.4**
KSRS	**Korea Array** 0.3nm,0.3s,baz=83,slow=14,SNR=6.8	**11.05**	**268**	P	**Pn**	**20 08 34.6**	**+2.6**
KSRS	comp=Z,59nm,21.5s,baz=270,slow=34			LR	LR	20 12 17.3	
INCN	**Inchon**	**12.06**	**269**	Pn	**Pn**	**20 08 43.1**	**-2.7**
KLR	**Kul'dur** 0.1nm,0.3s,baz=158,slow=11,SNR=3.0	**12.85**	**329**	P	**Pn**	**20 08 58.4**	**+1.9**
HIA	**Hailar**	**19.08**	**311**	P	**P**	**20 10 15.4**	**+0.4**
HIA	comp=Z,6.5nm,0.5s			IAmb	IAmb	20 10 25.1	
MA2	**Magadan** comp=Z,15nm,1.1s,baz=169,slow=16,SNR=2.1	**21.73**	**12**	P	**P**	**20 10 44.8**	**+1.4**
HHC	**Hu-ho-hao-te**	**23.35**	**285**	*e*P	**P**	**20 10 56.0**	**-4.6**
HHC	comp=Z,15nm,0.9s			pmax	pmax		
HHC	comp=Z,40nm,4.1s			pmax	pmax		
YAK	**Yakutsk** comp=Z,3.8nm,0.3s,baz=153,slow=5.1,SNR=7.5	**24.61**	**346**	P	**P**	**20 11 12.0**	**+0.2**
YAK	**Yakutsk**	**24.61**	**346**	P	**P**	**20 11 09.5**	**-2.3**
YAK	comp=Z,11nm,0.7s			IAmb	IAmb	20 11 15.9	
SEY	**Seymchan** comp=Z,2.4nm,0.7s,baz=180,slow=14,SNR=5.4	**25.17**	**11**	P	**P**	**20 11 18.8**	**+1.9**
SMY	**Shemya**	**26.31**	**47**	P	P	20 11 44.4	+17
ULN	**Ulaanbaatar**	**26.79**	**301**	P	**P**	**20 11 29.7**	**-2.3**
SONM	**Songino Array** comp=Z,0.7nm,0.5s,baz=107,slow=9.7,SNR=7.3	**27.22**	**301**	P	**P**	**20 11 35.9**	**+0.1**
SONM	**Songino Array**	**27.22**	**301**	P	**P**	**20 11 35.9**	**+0.1**
ENH	**Enshi**	**27.85**	**262**	P	**P**	**20 11 39.1**	**-2.4**
ENH	comp=Z,8.5nm,0.8s			IAmb	IAmb	20 11 45.9	
H11N2	**WAKE ISLAND Hy** baz=317,slow=76,SNR=1012	**28.70**	**124**	T	T	20 42 13.9	
H11N1	**WAKE ISLAND Hy** baz=317,slow=76,SNR=297	**28.71**	**124**	T	T	20 42 07.7	
H11N3	**WAKE ISLAND Hy** baz=317,slow=76,SNR=1021	**28.72**	**124**	T	T	20 42 15.3	
H11S1	**WAKE ISLAND Hy** baz=318,slow=76,SNR=84	**29.47**	**126**	T	T	20 43 18.8	
H11S3	**WAKE ISLAND Hy** baz=318,slow=76,SNR=121	**29.47**	**126**	T	T	20 43 02.5	
H11S2	**WAKE ISLAND Hy** baz=318,slow=76,SNR=98	**29.48**	**126**	T	T	20 43 03.9	
GTA	**Gaotai** comp=Z,2.0nm,0.6s	**32.46**	**285**	*e*P	**P**	**20 12 23.1**	**+0.8**
GTA				pmax	pmax		
WMQ	**Urumqi**	**40.46**	**295**	*e*P	**P**	**20 13 29.5**	**-0.8**
ZAA0	**Zalesovo Array**	**41.12**	**311**	P	**P**	**20 13 35.5**	**0.0**
ZAA0	comp=Z,7.6nm,0.8s			IAmb	IAmb	20 13 36.7	
ZALV	**Zalesovo Beam** comp=Z,7.6nm,0.7s,baz=87,slow=7.8,SNR=39	**41.12**	**311**	P	**P**	**20 13 35.7**	**+0.2**
ZALV				PcP	**PcP**		
	comp=Z,0.5nm,0.4s,baz=64,slow=3.4,SNR=2.4					**20 15 33.7**	**-0.3**
ZALV	**Zalesovo Beam**	**41.12**	**311**	P	**P**	**20 13 35.2**	**-0.3**
CMAR	**Chiang Mai Arr** comp=Z,0.3nm,0.7s,baz=40,slow=7.2,SNR=2.3	**42.26**	**254**	P	**P**	**20 13 44.6**	**-0.6**
MK31	**Makanchi Array**	**43.59**	**301**	P	**P**	**20 13 53.2**	**-2.5**
MK31	comp=Z,8.3nm,1.0s			IAmb	IAmb	20 13 57.3	
MKAR	**Makanchi Array** comp=Z,3.9nm,0.6s,baz=76,slow=10,SNR=29	**43.59**	**301**	P	**P**	**20 13 55.8**	**0.0**
MKAR	**Makanchi Array**	**43.59**	**301**	P	**P**	**20 13 54.2**	**-1.6**
MAKZ	**Makanchi**	**43.80**	**301**	P	**P**	**20 13 57.6**	**+0.2**
MAKZ	comp=Z,15nm,1.3s			IAmb	IAmb	20 13 59.8	
IMAR	**Indian Mountai**	**45.11**	**31**	P	P	20 14 20.7	+13
KURBB	**Kurchatov Arra** comp=Z,13nm,0.6s,baz=81,slow=8.0,SNR=91	**45.32**	**307**	P	**P**	**20 14 09.3**	**-0.1**
PPLA	**Purkeypile**	**45.67**	**36**		pP	20 14 53.5	+28
BVAR	**Borovoye Array** comp=Z,2.3nm,0.6s,baz=83,slow=6.1,SNR=22	**49.77**	**311**	P	**P**	**20 14 44.0**	**+0.1**
KK31	**Karatay Array**	**52.64**	**299**	P	**P**	**20 15 04.2**	**-1.4**
KK31	comp=Z,3.1nm,1.1s			IAmb	IAmb	20 15 07.0	
KKAR	**Karatay Array**	**52.64**	**299**	P	**P**	**20 15 04.6**	**-1.0**
ARU	**Arti** comp=Z,1.8nm,0.6s,baz=57,slow=2.3,SNR=9.5	**55.41**	**318**	P	**P**	**20 15 25.8**	**+0.3**
KBL	**Kabul**	**57.19**	**290**	P	**P**	**20 15 36.5**	**-2.2**
ABKAR	**Akbulak array**	**57.19**	**309**	P	**P**	**20 15 37.8**	**-0.6**
AKTO	**Aktyubinsk** comp=Z,2.6nm,0.8s,baz=76,slow=12,SNR=8.1	**57.88**	**311**	P	**P**	**20 15 43.1**	**0.0**
WR0	**Warramunga Arr**	**58.67**	**188**	P	**P**	**20 15 50.0**	**+1.1**
WB2	**Warramunga Arr**	**58.68**	**188**	P	**P**	**20 15 50.5**	**+1.5**
WB2	comp=Z,4.6nm,0.9s			IAmb	IAmb	20 16 14.0	
WRA	**Warramunga Arr** comp=Z,0.6nm,0.6s,baz=5.8,slow=6.5,SNR=8.5	**58.68**	**188**	P	**P**	**20 15 49.0**	**0.0**
WRA	**Warramunga Arr**	**58.68**	**188**	P	**P**	**20 15 48.7**	**-0.3**
ASAR	**Alice Springs** comp=Z,0.3nm,0.7s,baz=0.3,slow=4.6,SNR=2.6	**62.41**	**188**	P	**P**	**20 16 15.1**	**+0.7**
ASAR	**Alice Springs**	**62.41**	**188**	P	**P**	**20 16 17.5**	**+3.2**
ARCES	**ARCESS Array B** comp=Z,0.7nm,0.7s,baz=58,slow=8.6,SNR=4.2	**62.64**	**339**	P	**P**	**20 16 15.7**	**+0.4**
FINES	**FINESS Array B** comp=Z,1.1nm,0.7s,baz=46,slow=6.0,SNR=5.6	**67.57**	**332**	P	**P**	**20 16 47.5**	**+0.1**
FINES	**FINESS Array B**	**67.57**	**332**	P	**P**	**20 16 49.0**	**+1.5**
HFS	**Hagfors** comp=Z,3.0nm,0.7s,baz=54,slow=7.4,SNR=7.9	**72.79**	**336**	P	**P**	**20 17 19.7**	**+0.3**
NOA	**NORSAR Array B** comp=Z,0.5nm,0.7s,baz=34,slow=5.9,SNR=2.0	**72.86**	**337**	P	**P**	**20 17 20.3**	**+0.4**
AKASG	**Malin Array Be** comp=Z,0.5nm,0.3s,baz=45,slow=5.9,SNR=3.9	**73.26**	**322**	P	**P**	**20 17 22.4**	**+0.1**
DUG	**Dugway, Tooele**	**76.06**	**50**		P	20 17 50.1	+11
PDAR	**Pinedale Array** comp=Z,0.2nm,0.5s,baz=316,slow=7.5,SNR=1.6	**76.31**	**46**	P	**P**	**20 17 41.5**	**+1.1**
BRTR	**Keskin Array B** comp=Z,0.5nm,0.7s,baz=65,slow=2.3,SNR=5.1	**78.06**	**312**	P	**P**	**20 17 50.2**	**0.0**
BRTR	**Keskin Array B**	**78.06**	**312**	P	**P**	**20 17 49.6**	**-0.6**
GERES	**GERESS Array B** comp=Z,0.3nm,0.5s,baz=37,slow=8.6,SNR=2.0	**81.55**	**328**	P	**P**	**20 18 09.3**	**+0.5**

MEX 24 20:07:21.5±0.6, **14.°83N**×**93.°16W**, **h56**km±61km, **MD3.8, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.87**	**85**	*e*S	Sn	20 07 49.6	+0.1
PCIG		**0.87**	**356**	*e*P	Pn	20 07 36.4	-1.3
PCIG				*e*S	Sn	20 07 47.4	-2.3

*IDC **24** 20:07:22.6±1.7, 43.°63N×105.°42W, h0km, mb3.9/1, mb1 3.7/4, mb1mx3.4/59, mbtmp3.6/4, ML3.4/3, MS3.5/1, Ms1 3.5/1, ms1mx2.6/53, Error ellipse: s-maj=43.7km s-min=7.2km az=150.0*
*NEIC **24** 20:07:23.6±2.3, 43.°66N±0.°05×105.°26W±0.°04, h0km±2km, ML3.1/49, Error ellipse: s-maj=9.7km s-min=3.0km az=150.0*

ISC 24 20:07:21.1±0.9, **43.°63N**±0.°05×**105.°07W**±0.°05, **h0**km, **n50,** σ1ᵎ**38**/51, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.90**	**56**		**Pn**	**20 07 42.7**	**+1.6**
K22A	**Casper**	**1.45**	**228**		**Pn**	**20 07 48.5**	**-0.1**
PHWY	**Pilot Hill**	**2.34**	**187**		**Pg**	**20 08 04.6**	**-1.3**
RWWY	**Rawlins**	**2.50**	**220**		**Pb**	**20 08 06.3**	**-0.6**
RWWY	88nm,0.9s			IAML		20 08 40.6	
RWWY	157nm,0.8s			IAML		20 08 41.1	
LAO	**LASA Array**	**3.17**	**345**		**Pn**	**20 08 14.5**	**+2.2**
LAO	83nm,0.4s			IAML		20 09 00.2	
RLMT	**Red Lodge**	**3.36**	**298**		**Pn**	**20 08 15.9**	**+0.8**
RLMT	40nm,0.3s			IAML		20 09 12.8	
RLMT	41nm,0.3s			IAML		20 09 14.8	
BW06	**Boulder Array**	**3.39**	**257**		**Pn**	**20 08 16.7**	**+1.2**
BW06	56nm,0.3s			IAML		20 09 04.1	
BW06	46nm,0.3s			IAML		20 09 07.1	
PD31	**Pinedale Array**	**3.39**	**257**		**Pn**	**20 08 16.5**	**+1.0**
PDAR	**Pinedale Array** 5.2nm,0.3s,baz=75,slow=21,SNR=36	**3.39**	**257**	Pn	**Pn**	**20 08 16.6**	**+1.0**
PDAR	9.1nm,0.3s,baz=77,slow=20,SNR=20			Pg	**Pb**	**20 08 22.1**	**-0.1**
PDAR	22nm,0.3s,baz=75,slow=32,SNR=12			Lg	Lg	20 09 01.2	
PDAR	**Pinedale Array**	**3.39**	**257**		**Pn**	**20 08 16.2**	**+0.7**
OGNE	**Ogallala**	**3.50**	**139**		**Pb**	**20 08 21.5**	**-2.4**
OGNE	52nm,0.7s			IAML		20 09 30.0	
YNE	**Yellowstone No**	**3.81**	**293**		**Pn**	**20 08 21.4**	**+0.2**
YNE	comp=N,41nm,0.3s			IAML		20 09 22.1	
YMP	**Mirror Lake Pl**	**3.83**	**289**		**Pn**	**20 08 22.8**	**+1.4**
YMP	comp=E,51nm,0.6s			IAML		20 09 30.9	
**ISCO

FLWY				IAML			20 09 37.1	
	comp=E,34nm,1.0s							
MOOW	**Moose Ponds**	**4.12**	**274**			**Pn**	**20 08 26.5**	**+1.1**
REDW	**Red Top Meadow**	**4.22**	**268**			**Pn**	**20 08 28.5**	**+1.7**
REDW				IAML			20 09 37.9	
	comp=E,31nm,0.9s							
IMW	**Indian Meadow**	**4.26**	**276**			**Pn**	**20 08 28.7**	**+1.2**
IMW				IAML			20 09 34.7	
	comp=E,16nm,0.7s							
IMW				IAML			20 09 44.7	
	comp=E,16nm,0.8s							
TPAW	**Teton Pass**	**4.28**	**270**			**Pn**	**20 08 28.1**	**+0.4**
TPAW				IAML			20 09 47.0	
	comp=E,25nm,1.2s							
YHH	**Holmes Hill**	**4.32**	**288**			**Pn**	**20 08 28.1**	**-0.1**
FXWY	**Fox Creek**	**4.33**	**272**			**Pn**	**20 08 28.9**	**+0.6**
AHID	**Auburn Hatcher**	**4.49**	**261**			**Pn**	**20 08 31.6**	**+1.0**
RDMU	**Red Mountain**	**4.53**	**229**			**Pn**	**20 08 33.8**	**+2.6**
RDMU				IAML			20 09 47.1	
	comp=E,19nm,0.8s							
RDMU				IAML			20 09 48.0	
	comp=N,18nm,0.9s							
YHL	**Hebgen Lake**	**4.56**	**288**			**Pn**	**20 08 31.2**	**-0.3**
YHL				IAML			20 09 48.4	
	comp=E,19nm,1.0s							
YHL				IAML			20 09 58.3	
	comp=N,16nm,1.1s							
DGMT	**Dagmar**	**4.88**	**7**			**Pn**	**20 08 36.6**	**+0.9**
BOZ	**Bozeman (W)**	**5.08**	**295**			**Pn**	**20 08 35.6**	**-3.0**
BOZ				IAML			20 09 58.6	
	comp=N,9.5nm,1.8s							
BOZ				IAML			20 10 34.2	
	comp=N,8.5nm,4.1s							
HWUT	**Hardware Ranch**	**5.20**	**249**			**Pn**	**20 08 38.9**	**-1.4**
HWUT				IAML			20 10 15.6	
	comp=N,15nm,1.2s							
HWUT				IAML			20 10 26.0	
	comp=N,16nm,1.1s							
TCUT	**Toone Canyon**	**5.32**	**244**			**Pn**	**20 08 42.1**	**+0.1**
PV22	**Blue Mesa, Par**	**5.81**	**210**			**Pn**	**20 08 48.6**	**-0.1**
PV07	**Paradox Valley**	**5.85**	**209**			**Pn**	**20 08 50.8**	**+1.6**
PV21	**Cone Mtn., Par**	**5.86**	**212**			**Pn**	**20 08 49.2**	**-0.2**
SPUT	**South Promonto**	**5.93**	**250**			**Pn**	**20 08 51.0**	**+0.7**
P17A	**Butcher Ranch,**	**5.94**	**228**			**Pn**	**20 08 50.7**	**+0.3**
HVU	**Hansel Valley**	**5.97**	**255**			**Pn**	**20 08 48.8**	**-2.0**
PV14	**Lion Creek, Pa**	**6.04**	**211**			**Pn**	**20 08 53.4**	**+1.5**
PV11	**David Mesa, Pa**	**6.05**	**210**			**Pn**	**20 08 51.6**	**-0.3**
PV16	**Nyswonger Mesa**	**6.06**	**210**			**Pn**	**20 08 52.0**	**-0.1**
PV03	**Paradox Valley**	**6.08**	**209**			**Pn**	**20 08 54.3**	**+1.9**
PV02	**Paradox Valley**	**6.08**	**208**			**Pn**	**20 08 54.6**	**+2.1**
SRU	**San Rafael Swe**	**6.10**	**224**			**Pn**	**20 08 53.1**	**+0.5**
PV13	**Radium Mtn., P**	**6.16**	**209**			**Pn**	**20 08 55.2**	**+1.7**
TMUT	**Trail Mountain**	**6.32**	**229**			**Pn**	**20 08 54.7**	**-1.1**
Q16A	**Castle Valley**	**6.58**	**226**			**Pn**	**20 08 58.7**	**-0.5**
ELK	**Elko**	**8.08**	**253**	Pn		**Pn**	**20 09 21.8**	**+2.0**
	comp=N,0.2nm,0.3s,baz=67,slow=15,SNR=2.1							
ELK				Lg		Lg	20 11 30.3	
	comp=N,0.1nm,0.3s,baz=18,slow=20,SNR=1.4							
ULM	**Lac du Bonnet**	**9.13**	**40**	Pn		**Pn**	**20 09 35.8**	**+1.8**
	comp=N,1.3nm,0.3s,baz=231,slow=13,SNR=7.2							
ULM				Sn		**Sn**	**20 11 17.4**	**+0.1**
	comp=N,0.1nm,0.3s,baz=272,slow=6.2,SNR=2.9							
ULM				Lg		Lg	20 12 11.4	
	comp=N,0.4nm,0.3s,baz=299,slow=10,SNR=2.0							
ULM	**Lac du Bonnet**	**9.13**	**40**			**Pn**	**20 09 34.7**	**+0.8**
KDAK	**Kodiak Island**	**32.51**	**313**	LR		LR	20 25 49.9	
	comp=N,74nm,18.1s,baz=275,slow=34							
ARCES	**ARCESS Array B**	**61.48**	**18**	P		**P**	**20 17 39.2**	**+0.2**
	comp=N,1.4nm,1.0s,baz=339,slow=6.5,SNR=3.9							

*IDC **24** 20:19:54.9±1.9,53˚.76N×164˚.80W, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.5/68, mbtmp3.8/8, ML3.3/1, Error ellipse: s-maj=44.5km s-min=25.1km az=25.0*
*NEIC **24** 20:19:58.6±1.1,53˚.70N±0˚.05×164˚.60W±0˚.06, h24km±1km, Error ellipse: s-maj=8.4km s-min=4.0km az=156.0*
*AEIC **24** 20:19:59±1.8,53˚.75N±0˚.05×164˚.64W±0˚.07, h51km±6km, ML3.6/36, ML3.9/5(NEIC), Error ellipse: s-maj=8.3km s-min=4.5km az=148.0*

ISC 24 20:19:58.2±1.4, 53˚.73N±0˚.07×164˚.61W±0˚.04, h19km±4km, n52, σ0s72/55, mb3.9/7, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKSA	**Akutan Strait**	**0.76**	**303**		**Pn**	**20 20 14.0**	**+0.1**
AKSA					**Sn**	**20 20 25.2**	**+0.3**
WESP	**Westdahl Peak**	**0.77**	**355**		**Pn**	**20 20 14.3**	**+0.3**
WESP					**Sn**	**20 20 25.6**	**+0.5**
AKUT	**Akutan**	**0.80**	**301**		**Pn**	**20 20 14.7**	**+0.3**
AKUT					**Sn**	**20 20 26.3**	**+0.5**
AKUT	**Akutan**	**0.80**	**301**	IAML		20 20 26.8	
	comp=N,5µm,0.4s						
WECS	**Westdahl Cape**	**0.81**	**353**		**Pn**	**20 20 15.0**	**+0.4**
WECS					**Sn**	**20 20 27.0**	**+0.9**
WEBT	**Westdahl Beart**	**0.87**	**354**		**Pn**	**20 20 15.9**	**+0.5**
AKBBA	**Akutan Broad B**	**0.87**	**296**		**Pn**	**20 20 15.5**	**+0.1**
AKBBA					**Sn**	**20 20 27.8**	**+0.3**
AKMO	**Akutan Morgan**	**0.91**	**294**		**Pn**	**20 20 15.9**	**0.0**
AKMO					**Sn**	**20 20 29.0**	**+0.5**
AKLV	**Akutan Long Va**	**0.91**	**299**		**Pn**	**20 20 16.0**	**+0.1**
AKGG	**Akutan Green G**	**0.94**	**300**		**Pg**	**20 20 16.8**	**+0.2**
AKRB	**Akutan Reef Bi**	**0.95**	**295**		**Pg**	**20 20 16.8**	**0.0**
AKRB					**Sn**	**20 20 30.4**	**+0.8**
SSLS	**Shishaldin Sou**	**1.04**	**20**		**Pn**	**20 20 16.0**	**+0.2**
SSLS					**Sg**	**20 20 32.4**	**+0.1**
ISLZ	**Isanotski Laza**	**1.13**	**27**		**Pn**	**20 20 18.8**	**-0.2**
UNV	**Unalaska Valle**	**1.13**	**277**		**Pn**	**20 20 18.4**	**-0.6**
UNV					**Sb**	**20 20 33.1**	**-0.3**
ISNN	**Isanotski Nort**	**1.21**	**23**		**Pb**	**20 20 20.6**	**+0.2**
MNAT	**Makushin Natee**	**1.24**	**278**		**Pn**	**20 20 20.2**	**-0.3**
MTBL	**Makushin Table**	**1.25**	**282**		**Pn**	**20 20 20.8**	**+0.1**
MSW	**Makushin Switc**	**1.30**	**279**		**Pn**	**20 20 21.2**	**-0.1**
MAPS	**Pakushin South**	**1.39**	**274**		**Pn**	**20 20 22.4**	**-0.1**
MAPS					**Sn**	**20 20 40.0**	**-0.3**
DT1	**Dutton Round H**	**1.94**	**44**		**Pn**	**20 20 30.4**	**+0.3**
OKFG	**Magazine Ridge**	**2.00**	**262**		**Pn**	**20 20 31.8**	**+0.9**
OKTU	**Okmok Mt. Tuli**	**2.08**	**262**		**Pn**	**20 20 33.1**	**+1.1**
OKCE	**Okmok Cone E**	**2.14**	**263**		**Pn**	**20 20 33.8**	**+0.8**
NIKH	**Nikolski High**	**2.66**	**255**		**Pn**	**20 20 40.0**	**+0.1**
SDPT	**Sand Point**	**2.90**	**54**		**Pn**	**20 20 43.9**	**+0.6**
SDPT	**Sand Point**	**2.90**	**54**	IAML		20 21 38.6	
	comp=E,302nm,1.3s						
CNBA	**Chernabura Isl**	**3.14**	**68**		**Pn**	**20 20 46.1**	**-0.4**
CHGN	**Chignik**	**4.40**	**52**	Pn	**Pn**	**20 21 04.9**	**+1.1**
CHGN				IAML		20 22 11.9	
	comp=N,102nm,0.7s						
SPIA	**Saint Paul Isl**	**4.71**	**319**	Pn	**Pn**	**20 21 07.8**	**-0.4**
ATKA	**Atka Island**	**5.99**	**259**	Pn	**Pn**	**20 21 25.5**	**-0.3**
OHAK	**Old Harbor**	**7.32**	**57**	Pn	**Pn**	**20 21 41.6**	**-2.3**
ADK	**Adak**	**7.55**	**261**	Pn	**Pn**	**20 21 46.5**	**-0.6**
KIWB	**Kanaga Island**	**7.84**	**261**	Pn	**Pn**	**20 21 49.7**	**-1.4**
KDAK	**Kodiak Island**	**7.90**	**54**	Pn	**Pn**	**20 21 53.7**	**+1.8**
	comp=N,0.4nm,0.3s,baz=254,slow=4.4,SNR=9.9						
KDAK				Sn	**Sn**	**20 23 20.6**	**0.0**
	comp=N,0.3nm,0.3s,baz=180,slow=20,SNR=1.5						
SVW2	**Sparrevohn**	**8.84**	**30**	Pn	**Pn**	**20 22 04.4**	**-0.4**
RSO	**Redoubt South**	**9.32**	**39**	Pn	**Pn**	**20 22 11.3**	**-0.3**
RAGM	**Ragged Mountai**	**12.70**	**50**	Pn	**Pn**	**20 22 57.5**	**0.0**
BCAR	**Beaver Creek A**	**15.09**	**43**		**Pn**	**20 23 29.1**	**-1.1**
BMAR	**Burnt Mountain**	**16.76**	**27**		**Pn**	**20 23 51.1**	**-0.5**
NVAR	**Mina Array Bea**	**34.89**	**97**	P	**P**	**20 26 49.6**	**+1.2**
	comp=N,0.2nm,0.4s,baz=295,slow=8.6,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**40.38**	**224**	T	T	21 10 28.6	
	baz=26,slow=76,SNR=28						
H11N3	**WAKE ISLAND Hy**	**40.38**	**224**	T	T	21 10 30.9	
	baz=26,slow=76,SNR=33						
H11N1	**WAKE ISLAND Hy**	**40.39**	**224**	T	T	21 10 32.5	
	baz=26,slow=76,SNR=19						
H11S1	**WAKE ISLAND Hy**	**41.55**	**223**	T	T	21 11 56.8	
	baz=25,slow=76,SNR=34						
H11S2	**WAKE ISLAND Hy**	**41.57**	**223**	T	T	21 12 09.5	
	baz=25,slow=76,SNR=35						
H11S3	**WAKE ISLAND Hy**	**41.57**	**223**	T	T	21 11 59.0	
	baz=25,slow=76,SNR=30						
TXAR	**Lajitas Array**	**49.91**	**94**	P	**P**	**20 28 50.2**	**-0.3**
	comp=N,1.4nm,0.6s,baz=286,slow=5.3,SNR=9.5						
ARCES	**ARCESS Array B**	**56.82**	**356**	P	**P**	**20 29 39.4**	**-1.2**
	comp=N,1.0nm,0.9s,baz=21,slow=7.8,SNR=4.1						
FINES	**FINESS Array B**	**64.86**	**354**	P	**P**	**20 30 34.8**	**-0.5**
	comp=N,1.4nm,0.9s,baz=33,slow=7.3,SNR=7.3						
NOA	**NORSAR Array B**	**65.53**	**2**	P	**P**	**20 30 39.6**	**-0.2**
	comp=N,0.6nm,0.8s,baz=357,slow=6.4,SNR=1.7						
HFS	**Hagfors**	**66.48**	**1**	P	**P**	**20 30 45.0**	**-0.8**
	comp=N,1.8nm,0.4s,baz=29,slow=3.3,SNR=17						
BRTR	**Keskin Array B**	**85.59**	**346**	P	**P**	**20 32 36.3**	**+1.1**
	comp=N,0.3nm,0.9s,baz=7.2,slow=4.3,SNR=1.5						

MEX 24 20:46:32.8±0.4, 14˚.05N×93˚.25W, h57km±216km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.64**	**1**	*i* P	Pn	20 46 57.9	-1.4
PCIG				*i* S	Sn	20 47 17.2	-2.2
CCIG	**Comitan**	**2.46**	**26**	*e*P	Pn	20 47 09.7	-1.1
CCIG				*e*S	Sn	20 47 38.8	-1.0
TGIG		**2.71**	**3**	*e*P	Pn	20 47 12.2	-1.8
TGIG				*e*S	Sn	20 47 41.3	-4.4
CMIG	**Matias Romero**	**3.40**	**333**	*e*P	Pn	20 47 21.3	-2.2
CMIG				*e*S	Sn	20 48 01.3	-1.3

*IDC **24** 20:47:48.8±0.9, 4˚.99N×146˚.51E, h0km, mb4.0/12, mb1 4.2/12, mb1mx4.0/42, mbtmp4.0/12, MS3.2/4, Ms1 3.2/4, ms1mx2.7/44, Error ellipse: s-maj=34.8km s-min=17.2km az=83.0*

ISC 24 20:47:54.2±0.8, 5˚.0N±0˚.1×146˚.5E±0˚.2, h35km, n16, σ0s77/14, mb4.0/12, MS3.2/4, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**9.42**	**218**	Sn	Sn	20 51 40.0	-12
	0.7nm,0.3s,baz=0.0,slow=20,SNR=1.5						
CTA	**Charters Tower**	**24.91**	**181**	P	**P**	**20 53 14.9**	**+0.9**
	3.0nm,0.8s,baz=0.0,slow=10,SNR=1.7						
WRA	**Warramunga Arr**	**27.49**	**205**	P	**P**	**20 53 36.7**	**-0.8**
	4.1nm,0.5s,baz=30,slow=11,SNR=18						
ASAR	**Alice Springs**	**31.00**	**203**	P	**P**	**20 54 08.0**	**-0.6**
	1.1nm,0.7s,baz=25,slow=8.0,SNR=0.7						
ASAR				PcP	**PcP**	**20 57 05.7**	**+1.4**
	1.2nm,0.8s,baz=42,slow=2.4,SNR=6.1						
STKA	**Stephens Creek**	**36.94**	**187**	LR	LR	21 10 45.5	
	comp=Z,58nm,19.0s,baz=19,slow=37						
CMAR	**Chiang Mai Arr**	**48.29**	**290**	P	**P**	**20 56 32.1**	**-0.3**
	2.4nm,0.6s,baz=107,slow=5.4,SNR=12						
CMAR				LR	LR	21 17 34.4	
	comp=Z,14nm,19.4s,baz=193,slow=37						
PETK	**Petropavlovsk-**	**48.86**	**9**	LR	LR	21 18 11.1	
	comp=Z,16nm,18.6s,baz=34,slow=37						
SONM	**Songino Array**	**54.76**	**328**	P	**P**	**20 57 21.0**	**+0.5**
	0.9nm,0.8s,baz=142,slow=7.3,SNR=7.0						
SONM				PcP	**PcP**	**20 58 23.9**	**+1.1**
	2.5nm,1.3s,baz=157,slow=4.9,SNR=2.2						
RAR	**Rarotonga**	**58.74**	**118**	LR	LR	21 20 51.0	
	comp=Z,26nm,19.0s,baz=159,slow=34						
MKAR	**Makanchi Array**	**68.87**	**318**	P	**P**	**20 58 55.6**	**+0.2**
	0.8nm,0.5s,baz=100,slow=7.5,SNR=13						
ZALV	**Zalesovo Beam**	**69.58**	**326**	P	**P**	**20 58 58.8**	**-0.9**
	0.6nm,0.5s,baz=86,slow=5.2,SNR=4.8						
KURBB	**Kurchatov Arra**	**72.27**	**322**	P	**P**	**20 59 15.8**	**-0.2**
	1.9nm,0.6s,baz=111,slow=5.4,SNR=14						
ILAR	**Eielson Array**	**75.69**	**24**	P	**P**	**20 59 35.4**	**-0.3**
	1.0nm,0.6s,baz=253,slow=5.4,SNR=2.4						
BVAR	**Borovoye Array**	**77.69**	**323**	P	**P**	**20 59 47.3**	**0.0**
	2.6nm,0.8s,baz=104,slow=6.1,SNR=17						
VNDA	**Vanda**	**82.82**	**177**	P	**P**	**21 00 14.0**	**-0.4**
	0.9nm,0.7s,baz=327,slow=7.1,SNR=5.8						
NVAR	**Mina Array Bea**	**91.01**	**51**	P	**P**	**21 00 55.1**	**-0.4**
	0.2nm,0.5s,baz=233,slow=5.5,SNR=2.0						

DJA 24 20:48:15.8±0.5, 2˚.S±6˚×133˚.3E±˚, h119km±9km, M4.4/7, mb4.5/5, mB5.1/1, MLv4.4/7, Mw(mB)4.5/1, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.56**	**228**	P	Pn	20 48 42.9	-1.0
FAKI				S	Sn	20 49 05.8	+0.6
SWI	**Sorong**	**2.36**	**295**	P	Pn	20 48 54.5	+0.8
BNDI	**Bandanaira**	**4.38**	**233**	P	Pn	20 49 22.0	+1.6
BNDI				S	Sn	20 50 11.0	+0.4
MSAI	**Masohi**	**4.70**	**252**	P	Pn	20 49 25.2	+0.4
KRAI	**Karang Ratu**	**5.21**	**254**	P	Pn	20 49 31.6	+0.1
	0.3nm2um54nm,0.6s						
JAY	**Jayapura**	**7.33**	**95**	P	Pn	20 50 00.3	0.0
	0.1nm34nm,0.8s						
SANI	**Sanana**	**7.41**	**268**	P	Pn	20 49 59.2	-2.1
	0.1nm14nm,0.6s						
APSI	**Ampana**	**11.79**	**274**	P	Pn	20 51 00.7	+0.4

*IDC **24** 20:58:11.8±1.2, 21˚.27S×66˚.68W, h215km±12km, mb3.0/3, mb1 3.2/7, mb1mx3.1/35, mbtmp3.6/7, Error ellipse: s-maj=20.3km s-min=13.8km az=112.0*
*SCB **24** 20:58:13.9±2.3, 21˚.39S×66˚.90W, h202km±11km, ML3.7/8, Error ellipse: s-maj=6.7km s-min=5.0km az=0.0*

ISC 24 20:58:10.9±0.8, 21˚.38S±0˚.05×66˚.84W±0˚.05, h215km±7km, n29, σ1s47/43, mb3.1/3, 1D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.12**	**84**	P	**Pn**	**20 58 44.8**	**+1.3**
MOCB				S	**S**	**20 59 09.1**	**+0.3**
MOCB				IAML		20 59 09.8	
	820nm,0.8s						
YJA	**Yavi**	**1.46**	**123**	P	**Pn**	**20 58 47.4**	**+1.3**
YJA				S	**S**	**20 59 12.4**	**-0.9**
PB09	**IPOC Station P**	**2.28**	**259**	P	**Pn**	**20 58 55.0**	**+1.5**
PB09				S	**S**	**20 59 25.8**	**-0.7**
LVC	**Limon Verde**	**2.28**	**237**	P	**Pn**	**20 58 54.6**	**+0.8**
	1.9nm,0.3s,baz=346,slow=5.3,SNR=19						
LVC				S	**S**	**20 59 26.6**	**-0.3**
	6.6nm,0.3s,baz=290,slow=19,SNR=22						
LVC	**Limon Verde**	**2.28**	**237**	P	**Pn**	**20 58 54.8**	**+1.0**
PB08	**IPOC Station P**	**2.50**	**299**	P	**Pn**	**20 58 57.4**	**+1.3**
PB08				S	**S**	**20 59 29.6**	**-1.4**
PB08				IAML		20 59 34.6	
	72nm,0.3s						
PB01	**IPOC Station P**	**2.50**	**277**	P	**Pn**	**20 58 57.3**	**+1.5**
PB01				S	**S**	**20 59 29.5**	**-1.0**
PB01				IAML		20 59 31.2	
	110nm,0.4s						
PB02	**IPOC Station P**	**2.85**	**271**	P	**Pn**	**20 59 00.3**	**+0.5**
PB02				S	**S**	**20 59 35.5**	**-2.1**
PB02				IAML		20 59 36.9	
	804nm,0.5s						
PB06	**IPOC Station P**	**2.86**	**242**	P	**Pn**	**20 59 01.2**	**+1.3**
PB07	**IPOC Station P**	**2.86**	**263**	P	**Pn**	**20 59 00.6**	**+0.7**
PB07				S	**S**	**20 59 35.9**	**-2.0**
PB07				IAML		20 59 36.8	
	181nm,0.4s						
PB15	**IPOC Station P**	**3.04**	**233**	P	**Pn**	**20 59 02.5**	**+0.5**
HMBC	**Humberstone**	**3.06**	**290**	P	**Pn**	**20 59 02.4**	**+0.3**
HMBC				S	**S**	**20 59 39.9**	**-2.0**
HMBC				IAML		20 59 42.2	
	214nm,0.3s						
PB11	**IPOC Station P**	**3.10**	**301**	P	**Pn**	**20 59 03.3**	**+0.7**
PB11				S	**S**	**20 59 41.0**	**-1.8**
PB11				IAML		20 59 44.0	
	203nm,0.3s						
PB05	**IPOC Station P**	**3.45**	**244**	P	**Pn**	**20 59 07.2**	**+0.5**
SLA	**San Lorenzo**	**3.54**	**160**	P	**Pn**	**20 59 07.3**	**-0.5**
PSGC	**Pisagua**	**3.56**	**299**	P	**Pn**	**20 59 08.3**	**+0.3**
PSGC				S	**S**	**20 59 49.8**	**-2.7**
PSGC				IAML		20 59 53.1	
	92nm,0.9s						
PB14	**IPOC Station P**	**4.61**	**225**	P	**Pn**	**20 59 20.6**	**-0.4**
BBOE	**La Paz, Chanca**	**4.67**	**346**	P	**Pn**	**20 59 24.7**	**+2.6**
BBOD	**La Paz, Gloria**	**5.00**	**340**	P	**Pn**	**20 59 28.5**	**+2.2**
LPAZ	**La Paz**	**5.21**	**346**	P	**Pn**	**20 59 30.6**	**+1.6**
	5.3nm,0.3s,baz=141,slow=6.9,SNR=94						
LPAZ				S	**S**	**21 00 31.1**	**+0.6**
	baz=206,slow=8.7,SNR=0.7						
LPAZ	**La Paz**	**5.21**	**346**	P	**Pn**	**20 59 30.9**	**+1.9**
LPAZ				⇓S	**S**	**21 00 28.1**	**-2.4**
AHML	**Horco Molle**	**5.55**	**166**	P	**Pn**	**20 59 33.2**	**+0.5**
SIV	**San Ignacio**	**7.65**	**46**	P	**Pn**	**20 59 59.0**	**-0.7**
	2.3nm,0.3s,baz=239,slow=12,SNR=30						
SIV				S	**S**	**21 01 23.0**	**-3.6**
	0.4nm,0.3s,baz=315,slow=22,SNR=5.8						
PLCA	**Paso Flores**	**19.55**	**188**	P	**Pn**	**21 02 26.2**	**-0.2**
	0.1nm,0.3s,baz=345,slow=11,SNR=4.6						
TXAR	**Lajitas Array**	**61.66**	**324**	P	**P**	**21 08 08.1**	**+1.8**
	0.1nm,0.6s,baz=17,slow=9.7,SNR=2.0						
PDAR	**Pinedale Array**	**74.99**	**329**	P	**P**	**21 09 28.2**	**-0.6**
	0.2nm,0.5s,baz=118,slow=5.2,SNR=1.7						
TORD	**Torodi Ar. Bea**	**75.50**	**69**	P	**P**	**21 09 31.6**	**-0.4**
	1.0nm,0.5s,baz=254,slow=4.8,SNR=16						
WRA	**Warramunga Arr**	**134.00**	**208**	PKP	**PKiKP**	**21 17 05.1**	**+0.4**
	0.1nm,0.3s,baz=147,slow=1.6,SNR=1.6						
MKAR	**Makanchi Array**	**144.39**	**37**	PKP	**PKPdf**	**21 17 21.4**	**+0.1**
	1.2nm,0.7s,baz=352,slow=3.7,SNR=8.6						

*IDC **24** 21:03:41.1±3.4, 33˚.11S×179˚.00W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/31, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=74.0km s-min=36.9km az=109.0*
*WEL **24** 21:03:42.6±0.8, 33˚.S±15˚×18˚.0W±3˚.7, h33km, M4.3/6, mB4.8/4, ML4.6/11, MLv4.4/6, Mw(mB)4.1/4, Error ellipse: s-maj=0.1km s-min=0.0km az=111.7*

ISC 24 21:03:47.7±2.2, 33˚.0S±0˚.1×179˚.3W±0˚.3, h35km, n18, σ1s76/29, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.93**	**17**	P	Pn	21 04 36.6	-9.0
MXZ	**Matakaoa Point**	**4.93**	**203**	S	**Sn**	**21 05 55.9**	**+0.8**
WMGZ	**Waiomatatini S**	**5.13**	**201**	P	**Pn**	**21 05 00.8**	**-1.2**
WMGZ				S	**Sn**	**21 06 03.1**	**+3.1**
HAZ	**Te Kaha**	**5.29**	**206**	P	**Pn**	**21 05 03.1**	**-1.1**
HAZ				S	**Sn**	**21 06 08.0**	**+4.1**
PKGZ	**Pakihiroa**	**5.30**	**203**	P	**Pn**	**21 05 02.3**	**-2.1**
PKGZ				S	**Sn**	**21 06 05.0**	**+0.7**
PUZ	**Puketiti**	**5.42**	**201**	P	**Pn**	**21 05 04.4**	**-1.6**
PUZ				S	**Sn**	**21 06 07.8**	**+0.7**
RUGZ	**Raukumara Rang**	**5.51**	**206**	P	**Pn**	**21 05 06.0**	**-1.4**
RUGZ				S	**Sn**	**21 06 12.0**	**+2.4**
TWGZ	**Tauwhareparae**	**5.60**	**203**	P	**Pn**	**21 05 06.8**	**-1.7**
TWGZ				S	**Sn**	**21 06 13.7**	**+2.1**
CNGZ	**Carnagh Statio**	**5.81**	**200**	P	**Pn**	**21 05 09.7**	**-1.7**
MWZ	**Matawai**	**5.89**	**205**	P	**Pn**	**21 05 10.7**	**-1.8**
MWZ				S	**Sn**	**21 06 18.4**	**-0.4**
URZ	**Urewera**	**5.99**	**208**	Pn	**Pn**	**21 05 11.4**	**-2.3**
	2.1nm,0.3s,baz=22,slow=11,SNR=12						
URZ				Sn	**Sn**	**21 06 21.6**	**+0.6**
	5.4nm,0.3s,baz=142,slow=22,SNR=10						
URZ	**Urewera**	**5.99**	**208**	P	**Pn**	**21 05 11.7**	**-2.1**
URZ				S	**Sn**	**21 06 20.5**	**-0.6**
SNGZ	**Shannon Statio**	**6.36**	**205**	P	**Pn**	**21 05 16.9**	**-2.0**
SNGZ				S	**Sn**	**21 06 30.1**	**-0.2**
MTHZ	**Maungataniwha**	**6.61**	**207**	P	**Pn**	**21 05 21.6**	**-0.7**
MTHZ				S	**Sn**	**21 06 37.4**	**+1.0**
BKZ	**Black Stump Fm**	**7.01**	**208**	P	**Pn**	**21 05 26.2**	**-1.7**
BKZ				S	**Sn**	**21 06 45.0**	**-1.4**
ASAR	**Alice Springs**	**41.96**	**270**	P	**P**	**21 11 36.1**	**+0.7**
	0.7nm,0.8s,baz=111,slow=7.8,SNR=6.1						
WRA	**Warramunga Arr**	**43.19**	**276**	P	**P**	**21 11 45.6**	**+0.2**
	0.3nm,0.4s,baz=115,slow=7.8,SNR=6.3						
FINES	**FINESS Array B**	**147.20**	**338**	PKPbc	**PKPdf**	**21 23 25.1**	**+1.0**
	1.5nm,0.9s,baz=76,slow=5.9,SNR=1.9						

*JMA **24** 21:07:26.1±0.1, 40˚.90N×142˚.12E, h52km±2km, M3.7*
JMA Felt I J1.
*IDC **24** 21:07:27.9±2.2, 40˚.90N×142˚.27E, h76km±20km, mb3.4/6, mb1 3.5/9, mb1mx3.3/55, mbtmp3.6/9, Error ellipse: s-maj=31.7km s-min=15.6km az=95.0*

ISC 24 21:07:26.8±1.0, 40˚.88N±0˚.03×142˚.03E±0˚.05, h55km±9km, n32, σ1s07/41, mb3.6/6, 1C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JARK	**Aomorirokkasho**	**0.52**	**285**	⇓P	**Pn**	**21 07 38.4**	**-0.1**
JARK				S	**Sn**	**21 07 47.1**	**+0.1**
JANG	**Nango**	**0.64**	**218**	⇓P	**Pn**	**21 07 40.0**	**0.0**
JANG				*e*S	**Sn**	**21 07 49.2**	**+0.2**
JAHD	**Aomorihigashid

0.2nm,0.4s,baz=150,slow=8.9,SNR=5.7
TORD Torodi Ar. Bea 78.69 75 P **P** **22 06 15.9 +1.8**
1.2nm,0.6s,baz=267,slow=5.5,SNR=13
ESDC Sonseca Array 80.97 47 P **P** **22 06 28.2 +2.3**
0.6nm,1.0s,baz=255,slow=4.9,SNR=3.4

PRU ***24*** *22:14:58.6±0.0,50°.18N×19°.09E,h0km*
IPEC ***24*** *22:14:58.3±0.2,50°.16N×19°.15E,h0km±1km,ML2.7/3, Error ellipse: s-maj=2.5km s-min=1.1km az=166.0*
ISC 24 22:14:58.5±0.8,50°.09N±0°.03×19°.12E±0°.02,h0km,n33, σ0⁹98/55,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.46**	**74**	*e*Pg	**Pg**	**22 15 06.5**	**-0.7**
OJC				*e*Sg	**Sg**	**22 15 12.6**	**-0.5**
OKC	**Ostrava-Krasne**	**0.68**	**248**	*e*PG	**Pb**	**22 15 12.3**	**-0.8**
OKC				*e*SG	**Sg**	**22 15 20.7**	**+0.5**
LANS	**Liptovska Anna**	**0.97**	**166**	*e*PG	**Pb**	**22 15 18.2**	**0.0**
LANS				*e*SG	**Sb**	**22 15 32.1**	**+0.6**
LANS				*e*LG	Lg	22 15 34.3	
NIE	**Niedzica**	**1.02**	**131**	*e*Pg	**Pb**	**22 15 18.9**	**-0.1**
NIE				*e*Sg	**Sn**	**22 15 34.7**	**-0.5**
MORC	**Moravsky Berou**	**1.06**	**253**	*e*Pg	**Pb**	**22 15 19.6**	**-0.2**
MORC	baz=69			*e*Sg	**Sg**	**22 15 32.9**	**+0.3**
MORC	**Moravsky Berou**	**1.06**	**253**	*e*PG	**Pb**	**22 15 19.7**	**-0.1**
MORC	86nm,0.6s,baz=69			*e*SG	**Sg**	**22 15 33.0**	**+0.3**
KRLC	**Kraliky**	**1.50**	**270**	*e*PG	**Pn**	**22 15 25.8**	**-0.9**
KRLC	comp=Z,48nm,0.5s			*e*SG	**Sg**	**22 15 46.4**	**-0.4**
JAVC	**Velka Javorina** baz=36	**1.55**	**218**	*e*Pn	**Pg**	**22 15 28.1**	**-0.1**
JAVC	**Velka Javorina**	**1.55**	**218**	*e*PN	**Pg**	**22 15 28.2**	**0.0**
VYHS	**Vyhne**	**1.61**	**187**	*e*PN	**Pn**	**22 15 28.1**	**-0.1**
VYHS				*e*SN	**Sg**	**22 15 49.7**	**-0.5**
VYHS				*e*LG	Lg	22 15 52.2	
DPC	**Dobruska-Polom**	**1.81**	**279**	*e*PG	**Pn**	**22 15 30.8**	**-0.2**
DPC	comp=Z,57nm,0.6s			*e*SG	**Sb**	**22 15 55.9**	**+0.1**
VRAC	**Vranov** baz=62	**1.82**	**245**	*e*Pn	**Pn**	**22 15 31.5**	**+0.6**
VRAC	50nm,0.8s,baz=62			*e*Sg	**Sg**	**22 15 56.7**	**-0.1**
VRAC	**Vranov**	**1.82**	**245**	*e*PN	**Pn**	**22 15 31.6**	**+0.6**
VRAC				*e*SG	**Sg**	**22 15 56.7**	**-0.1**
KECS	**Kecovo**	**1.84**	**150**	*e*SN	**Sn**	**22 15 54.1**	**-1.3**
OSTC	**Ostas**	**1.92**	**285**	*e*PG	**Pb**	**22 15 33.6**	**-0.7**
OSTC	comp=Z,49nm,0.8s			*e*SG	**Sn**	**22 15 57.7**	**+0.5**
CRVS	**Cervenica-Dubn**	**1.94**	**127**	*e*PN	**Pb**	**22 15 34.8**	**+0.1**
KSP	**Ksiaz**	**1.95**	**294**	*e*Pb	**Pn**	**22 15 33.0**	**+0.1**
KSP				*e*Pg	**Pg**	**22 15 35.7**	**-0.2**
KSP				*e*Sg	**Sg**	**22 16 02.7**	**+1.5**
CHVC	**Chvalec**	**2.02**	**285**	*e*PG	**Pn**	**22 15 33.9**	**0.0**
UPC	**Upice**	**2.03**	**283**	*e*SG	**Sg**	**22 16 03.7**	**-0.1**
KRUC	**Moravsky** baz=58	**2.05**	**241**	*e*Pn	**Pn**	**22 15 34.8**	**+0.6**
KRUC	42nm,1.2s,baz=58			*e*Sg	**Sg**	**22 16 04.1**	**-0.2**
KRUC	**Moravsky**	**2.05**	**241**	*e*PN	**Pn**	**22 15 34.8**	**+0.6**
KRUC				*e*SG	**Sg**	**22 16 04.1**	**-0.2**
MODS	**Modra-Piesok**	**2.10**	**216**	*e*SN	**Sn**	**22 16 01.6**	**-0.1**
PSZ	**Piszkesteto**	**2.24**	**166**	*e*PG	**Pg**	**22 15 43.7**	**+2.4**
KOLS	**Kolonicke sedl**	**2.36**	**118**	*e*PG	**Pg**	**22 15 45.4**	**+1.7**
TREC	**Trest**	**2.49**	**253**	*e*SG	**Sg**	**22 16 19.4**	**+1.0**
PVCC	**Panska Ves** comp=Z,44nm,0.8s	**2.95**	**280**	*e*SG	**Sg**	**22 16 32.9**	**-0.2**
PRU	**Pruhonice**	**2.95**	**270**	*e*PG	**Pb**	**22 15 52.2**	**+0.3**
PRU	comp=Z,11nm,0.6s			*e*SG	**Sg**	**22 16 31.6**	**-1.6**
CONA	**Conrad Observa** 0.9nm,0.3s	**3.05**	**226**	*e*Pn	**Pb**	**22 15 53.1**	**-0.5**
CONA	5.1nm,0.7s			*i* Sn	**Sb**	**22 16 28.7**	**-2.7**
BRG	**Berggiesshubel**	**3.40**	**285**	Pg	**Pg**	**22 16 07.0**	**+3.5**
BRG				Sg	**Sg**	**22 16 47.6**	**+0.1**
BRG	comp=Z,15nm,0.6s			Amp		22 16 57.7	
KHC	**Kasperske Hory**	**3.73**	**257**	*e*PN	**Pn**	**22 15 57.3**	**0.0**
KHC				*e*PG	**Pb**	**22 16 05.5**	**+0.3**
KHC	comp=Z,16nm,0.6s			*e*SG	**Sg**	**22 16 57.6**	**-0.6**
MOA	**Molln** comp=Z,7.9nm,0.7s	**3.91**	**237**	*e*SG	**Sg**	**22 17 02.4**	**-1.4**
CLL	**Collm**	**4.07**	**290**	*e*Pg	**Pg**	**22 16 17.0**	**+0.5**
CLL	comp=Z,10.0nm,0.7s			*e*Sg	**Sg**	**22 17 08.0**	**-1.2**
WTTA	**Wattenberg** comp=Z,5.6nm,0.6s	**5.71**	**243**	Sg	**Sg**	**22 17 59.8**	**-1.9**

IDC ***24*** *22:24:26.3±3.0,25°.49N×141°.73E,h60km±29km,mb3.5/7, mb1 3.7/8,mb1mx3.3/52,mbtmp3.8/8,ML3.8/1, Error ellipse: s-maj=36.7km s-min=20.8km az=87.0*
ISC 24 22:24:24.6±2.3,25°.4N±0°.2×141°.8E±0°.2,h50km,n15, σ1⁹00/8,mb3.9/7,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima** 50nm,0.3s,baz=289,slow=23,SNR=20	**1.74**	**10**	P	**Pn**	**22 24 51.6**	**-0.8**
JCJ	13nm,0.3s,baz=230,slow=23,SNR=7.5			S	**Sn**	**22 25 13.7**	**+0.2**
KSRS	**Korea Array** 0.3nm,0.3s,baz=133,slow=11,SNR=12	**16.89**	**319**	P	**Pn**	**22 28 19.0**	**+1.6**
H11N1	**WAKE ISLAND Hy** baz=288,slow=74,SNR=14	**23.79**	**99**	T	T	22 54 49.1	
H11N2	**WAKE ISLAND Hy** baz=288,slow=74,SNR=11	**23.79**	**99**	T	T	22 54 49.7	
H11N3	**WAKE ISLAND Hy** baz=288,slow=74,SNR=13	**23.81**	**99**	T	T	22 54 50.0	
H11S3	**WAKE ISLAND Hy** baz=291,slow=75,SNR=102	**24.02**	**102**	T	T	22 55 05.7	
H11S1	**WAKE ISLAND Hy** baz=291,slow=75,SNR=128	**24.02**	**102**	T	T	22 55 06.2	
H11S2	**WAKE ISLAND Hy** baz=291,slow=75,SNR=126	**24.04**	**102**	T	T	22 55 07.1	
SONM	**Songino Array** 0.3nm,0.3s,baz=113,slow=5.8,SNR=2.0	**35.76**	**318**	P	**P**	**22 31 18.2**	**-0.6**
WRA	**Warramunga Ar** 2.8nm,0.7s,baz=8.7,slow=9.1,SNR=16	**45.63**	**190**	P	P	22 32 41.9	+1.7
MKAR	**Makanchi Array** 0.6nm,0.7s,baz=95,slow=9.3,SNR=4.1	**51.34**	**311**	P	**P**	**22 33 23.6**	**-0.4**
KURBB	**Kurchatov Arra** 0.5nm,0.7s,baz=94,slow=8.1,SNR=5.1	**54.03**	**315**	P	**P**	**22 33 43.2**	**-0.5**
BVAR	**Borovoye Array** 0.7nm,0.7s,baz=132,slow=8.2,SNR=5.5	**59.11**	**318**	P	**P**	**22 34 19.5**	**-0.3**
ILAR	**Eielson Array** 0.4nm,0.4s,baz=268,slow=6.3,SNR=1.8	**59.37**	**28**	P	**P**	**22 34 22.3**	**+1.0**
FINES	**FINESS Array B** 2.4nm,1.0s,baz=106,slow=3.0,SNR=3.8	**79.35**	**334**	P	P	22 36 23.4	-1.4

UPA ***24*** *22:25:10.2±0.9,8°.70N×83°.20W,h6km±3km,MW3.5*
UCR ***24*** *22:25:10.0±1.3,8°.69N×83°.29W,h20km±5km,MW3.6*
ISC 24 22:25:10.3±0.9,8°.70N±0°.03×83°.25W±0°.03,h16km±7km, n32,σ0⁹69/55,5C-4D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTJ1	**Puerto Jimnez**	**0.17**	**199**	⇑*i*P	**Pg**	**22 25 14.5**	**-0.2**
PTJ1				*e*S	**Sb**	**22 25 19.0**	**+0.7**
PTJ1	**Puerto Jimnez**	**0.17**	**199**	*e*P	**Pg**	**22 25 14.5**	**-0.2**
PTJ1				*e*S	**Sb**	**22 25 18.9**	**+0.6**
EDSV	**San Vito**	**0.30**	**66**	*e*P	**Pb**	**22 25 17.6**	**+0.3**
EDSV				*e*S	**Sb**	**22 25 24.1**	**+2.0**
EDPN	**Palmar Norte**	**0.33**	**321**	*e*P	**Pg**	**22 25 17.0**	**-0.3**
POTG	**Potrero Grande**	**0.37**	**20**	*e*P	**Pb**	**22 25 18.4**	**-0.2**
POTG				*e*S	**Sb**	**22 25 25.2**	**+1.1**
CDITO	**Canoas**	**0.39**	**109**	⇑*i*P	**Pg**	**22 25 18.0**	**-0.3**
CDITO				*e*S	**Sg**	**22 25 23.5**	**-0.2**
CDITO	**Canoas**	**0.39**	**109**	*e*P	**Pg**	**22 25 18.0**	**-0.3**
CDITO				*e*S	**Sb**	**22 25 24.5**	**-0.1**
CCOL	**Caracol de Cor**	**0.40**	**137**	*e*P	**Pg**	**22 25 18.2**	**-0.2**
CCOL				*e*S	**Sb**	**22 25 25.4**	**+0.6**
MLIR3	**Monte Lirio, C**	**0.43**	**77**	*e*P	**Pb**	**22 25 19.7**	**+0.1**
MLIR3				*e*S	**Sb**	**22 25 26.0**	**+0.3**
EDBA	**Buenos Aires**	**0.46**	**356**	*e*P	**Pg**	**22 25 19.7**	**+0.1**
SRBA	**San Rafael, Bu**	**0.54**	**348**	*e*P	**Pg**	**22 25 20.7**	**-0.4**
SRBA				*e*S	**Sg**	**22 25 28.7**	**+0.3**
BRU2	**Volcan**	**0.56**	**80**	⇓*i*P	**Pg**	**22 25 21.4**	**-0.1**
BRU2				*e*S	**Sb**	**22 25 30.1**	**+0.6**
BRU2	**Volcan**	**0.56**	**80**	*e*P	**Pg**	**22 25 21.3**	**-0.1**
BRU2				*e*S	**Sb**	**22 25 30.8**	**+1.2**
BC3P	**Paso Ancho**	**0.64**	**80**	⇓*e*P	**Pg**	**22 25 22.5**	**-0.4**
BC3P				*e*S	**Sb**	**22 25 32.3**	**+0.4**
BCO2	**Palmira**	**0.71**	**88**	⇓*i*P	**Pg**	**22 25 23.7**	**-0.5**
BCO2				*e*S	**Sb**	**22 25 34.5**	**+0.6**
PTAR3	**Potrerillos Ar**	**0.74**	**90**	⇑*i*P	**Pg**	**22 25 24.3**	**-0.6**
PTAR3				*e*S	**Sb**	**22 25 34.8**	**0.0**
BAGA3	**Bagala, Chiriq**	**0.75**	**108**	*e*P	**Pg**	**22 25 24.6**	**-0.3**
BAGA3				*e*S	**Sb**	**22 25 35.4**	**+0.5**
LNBQ3	**Los Naranjos,**	**0.80**	**83**	*e*P	**Pg**	**22 25 24.7**	**-1.3**
DVD	**David**	**0.83**	**108**	*e*P	**Pb**	**22 25 26.4**	**+0.1**
DVD				*e*S	**Sb**	**22 25 38.1**	**+0.9**
LOCO3	**Loma Colorada,**	**0.87**	**109**	⇑*i*P	**Pg**	**22 25 26.2**	**-1.0**
LOCO3				*e*S	**Sb**	**22 25 38.8**	**+0.4**
GUAL3	**Gualaca, Chiri**	**0.95**	**100**	*e*P	**Pb**	**22 25 27.8**	**-0.6**
CHIR3	**Chiriqui UPA,**	**0.95**	**108**	⇓*e*P	**Pb**	**22 25 27.7**	**-0.8**
CHIR3				*e*S	**Sb**	**22 25 41.3**	**+0.4**
CDM	**Cerro de Muert**	**0.99**	**329**	*e*P	**Pg**	**22 25 27.7**	**-1.9**
CNI2	**El Empalme, Bo**	**1.05**	**47**	⇑*e*P	**Pb**	**22 25 29.0**	**-1.1**
CNI2				*e*S	**Sb**	**22 25 43.2**	**-0.4**
RGM0	**Gandoca**	**1.09**	**35**	*e*P	**Pg**	**22 25 31.4**	**+0.1**
RGM0				*e*S	**Sn**	**22 25 45.8**	**+0.2**
LCR2	**La Lucha 2**	**1.28**	**324**	*e*P	**Pn**	**22 25 32.6**	**-1.1**
BATAN	**Batan**	**1.40**	**355**	*e*P	**Pn**	**22 25 35.1**	**0.0**
BATAN				*e*S	**Sb**	**22 25 54.1**	**+0.6**
BATAN	**Batan**	**1.40**	**355**	*e*P	**Pn**	**22 25 35.0**	**-0.1**
CVTR	**Volcan Turrial**	**1.41**	**339**	*e*P	**Pn**	**22 25 35.3**	**-0.4**
HDC	**Heredia**	**1.55**	**327**	*e*P	**Pn**	**22 25 38.1**	**+0.7**
HDC				*e*S	**Sb**	**22 25 59.1**	**+0.9**
JTS	**Las Juntas de**	**2.31**	**313**	*e*P	**Pn**	**22 25 48.8**	**+1.0**
JTS				*e*S	**Sn**	**22 26 16.2**	**+0.4**
GUAI	**GUAI**	**2.73**	**305**	*e*P	**Pn**	**22 25 53.6**	**+0.2**

BJI ***24*** *22:30:32.5±0.0,33°.10S×177°.90W,h5km,mB5.6/3, mb5.4/9,Ms5.0/5,Ms7 4.6/5*
IDC ***24*** *22:30:36.6±0.4,32°.88S×178°.24W,h0km,mb4.8/20, mb1 5.0/22,mb1mx4.8/43,mbtmp4.8/22,ML4.9/2,MS4.3/28, Ms1 4.3/28,ms1mx4.2/45,Error ellipse: s-maj=15.0km s-min=14.5km az=99.0*
WEL ***24*** *22:30:37.9±0.7,33°.5S±6°.×17°.8W±1°.4,h33km,M5.1/13, mB5.3/13,ML6.1/13,MLv5.8/13,Mw(mB)4.7/13, Error ellipse: s-maj=0.0km s-min=0.0km az=111.2*
NEIC ***24*** *22:30:38.7±2.1,32°.92S±0°.06×178°.2W±0°.1,h10km±1km, mb4.9/73,Error ellipse: s-maj=15.9km s-min=8.8km az=106.0*
NOU ***24*** *22:30:41.6,33°.29S×177°.69W,h49km,mb5.2/36,South of Kermadec Islands*
GCMT ***24*** *22:30:44.7±0.4,33°.03S±0°.04×177°.82W±0°.04,h27km±1km, MW5.0/66,Moment Tensor Solution. s20,c21; s66,c84; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.59±.31; Mθθ-0.83±.19; Mϕϕ-2.76±.19; Mrθ0.03±.32; Mrϕ-0.90±.12; Mθϕ2.52±.26; Best double couple: M₀4.18200×1016 NP1:ϕs209.00000°,δ28.00000°,λ107.00000°. NP2: ϕs10.00000°,δ63.00000°,λ81.00000°. Principal axes: T 4.4820, Plg70.0000°, Azm261.0000°; N -0.6030, Plg8.0000°, Azm14.0000°; P -3.8810, Plg18.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 24 22:30:41.7±0.3,32°.99S±0°.04×178°.19W±0°.06,h34km, n368,σ1⁹95/399,mb5.0/57,MS4.4/32,18C-5D,Fault plane solution: NP1:ϕs358.56244°,δ53.41084°,λ84.28327°. **NP2:**ϕs188.09609°,δ36.97129°,λ97.64221°. **Principal axes:** T Plg80.5471°, Azm243.1670°; N Plg4.5874°, Azm1.9773°; P Plg8.2473°, Azm92.6437°; **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.72**	**4**	P	Pn	22 31 31.5	-5.2
GLKZ				S	**Sn**	**22 32 14.3**	**-5.0**
RAO	**Raoul Island** 119nm,0.3s,baz=210,slow=22,SNR=7.3	**3.73**	**4**	Pn	**Pn**	**22 31 32.4**	**-4.5**
RAO	310nm,0.3s,baz=180,slow=20,SNR=6.1			Sn	**Sn**	**22 32 16.1**	**-3.5**
RAO	**Raoul Island**	**3.73**	**4**		**Pn**	**22 31 32.9**	**-3.9**
RAO				Sn	**Sn**	**22 32 18.8**	**-0.8**
RAO	**Raoul Island**	**3.73**	**4**		**Pn**	**22 31 32.7**	**-4.2**
RAO					**Sn**	**22 32 19.8**	**+0.2**
RIZ	**Raoul Island**	**3.74**	**3**	P	Pn	22 31 31.8	-5.1
RIZ				S	**Sn**	**22 32 15.9**	**-3.8**
MXZ	**Matakaoa Point**	**5.39**	**211**		**Pn**	**22 31 57.5**	**-2.2**
MXZ				Sn	**Sn**	**22 33 03.2**	**+2.7**
MXZ	**Matakaoa Point**	**5.39**	**211**	P	**Pn**	**22 31 55.9**	**-3.7**
MXZ				S	**Sn**	**22 32 59.8**	**-0.7**
WMGZ	**Waiomatatini S**	**5.56**	**209**	P	**Pn**	**22 31 59.6**	**-2.4**
WMGZ				S	**Sn**	**22 33 05.0**	**+0.3**
PKGZ	**Pakihiroa**	**5.76**	**211**	P	**Pn**	**22 32 01.7**	**-3.1**
PKGZ				S	**Sn**	**22 33 08.7**	**-1.0**
HAZ	**Te Kaha**	**5.79**	**214**	P	**Pn**	**22 32 03.4**	**-1.7**
HAZ				S	**Sn**	**22 33 11.5**	**+1.3**
PUZ	**Puketiti**	**5.84**	**209**	P	**Pn**	**22 32 01.9**	**-3.9**
PUZ				S	**Sn**	**22 33 12.0**	**+0.3**
TWGZ	**Tauwhareparae**	**6.05**	**210**	P	**Pn**	**22 32 06.2**	**-2.5**
TWGZ				S	**Sn**	**22 33 17.3**	**+0.6**
URZ	**Urewera** 17nm,0.3s,baz=33,slow=8.6,SNR=40	**6.50**	**215**	Pn	**Pn**	**22 32 12.9**	**-2.1**
URZ	81nm,0.3s,baz=73,slow=19,SNR=22			Sn	**Sn**	**22 33 25.9**	**-2.0**
URZ	**Urewera**	**6.50**	**215**	Pn	**Pn**	**22 32 13.2**	**-1.8**
URZ				Sn	**Sn**	**22 33 26.2**	**-1.7**
OUZ	**Omahuta**	**7.17**	**250**	Pn	**Pn**	**22 32 25.2**	**+1.2**
NMHZ	**Naumai**	**7.32**	**212**	P	**Pn**	**22 32 24.7**	**-1.5**
NMHZ				S	**Sn**	**22 33 47.1**	**-1.0**
ARHZ	**Aropaoanui**	**7.38**	**211**	P	**Pn**	**22 32 25.5**	**-1.4**
ARHZ				S	**Sn**	**22 33 48.6**	**-0.7**
BKZ	**Black Stump Fm**	**7.52**	**213**	Pn	**Pn**	**22 32 26.8**	**-2.2**
BKZ	**Black Stump Fm**	**7.52**	**213**	P	**Pn**	**22 32 26.7**	**-2.2**
BKZ				S	**Sn**	**22 33 49.8**	**-3.2**
MCHZ	**McNeill Hill**	**7.65**	**211**	P	**Pn**	**22 32 29.4**	**-1.3**
MCHZ				S	**Sn**	**22 33 54.1**	**-2.1**
CKHZ	**Cape Kidnapper**	**7.67**	**208**	P	**Pn**	**22 32 27.6**	**-3.4**
CKHZ				S	**Sn**	**22 33 53.1**	**-3.6**
KWHZ	**Kaweka Forest**	**7.76**	**213**	P	**Pn**	**22 32 31.1**	**-1.1**
KWHZ				S	**Sn**	**22 33 56.1**	**-2.8**
KATZ	**Kakaramea**	**7.76**	**218**	P	**Pn**	**22 32 30.7**	**-1.6**
KATZ				P	**Sn**	**22 34 01.1**	**+2.0**
TMVZ	**Te Maari**	**7.86**	**217**	P	**Sn**	**22 34 00.8**	**-0.7**
KAHZ	**Kahuranaki**	**7.87**	**209**	P	**Pn**	**22 32 29.8**	**-3.9**
KAHZ				S	**Sn**	**22 33 58.4**	**-3.2**
ETVZ	**East Tongariro**	**7.88**	**217**	P	**Sn**	**22 34 00.4**	**-1.5**
KRVZ	**Karewarewa**	**7.88**	**218**	P	**Sn**	**22 34 00.6**	**-1.3**
HIZ	**Hauiti**	**7.90**	**224**	Pn	**Pn**	**22 32 34.6**	**+0.4**
KRHZ	**Kereru**	**7.96**	**212**	P	**Pn**	**22 32 30.7**	**-4.3**
KRHZ				S	**Sn**	**22 34 00.6**	**-3.2**
TUVZ	**Tukino**	**8.00**	**217**	P	**Pn**	**22 32 33.5**	**-2.2**
TUVZ				P	**Sn**	**22 34 01.9**	**-3.2**
FWVZ	**Far West T-bar**	**8.05**	**217**	P	**Pn**	**22 32 34.3**	**-2.0**
FWVZ				P	**Sn**	**22 34 02.1**	**-4.1**
MOVZ	**Moawhango**	**8.06**	**216**	P	**Pn**	**22 32 34.3**	**-2.1**
MOVZ				P	**Sn**	**22 34 02.3**	**-4.1**
WNVZ	**Wahianoa**	**8.08**	**217**	P	**Pn**	**22 32 36.0**	**-0.6**
WNVZ				P	**Sn**	**22 34 02.9**	**-3.9**
PXZ	**Pawanui**	**8.08**	**208**	P	**Pn**	**22 32 33.2**	**-3.4**
PXZ				P	**Sn**	**22 34 00.0**	**-6.6**
PNHZ	**Pukenui**	**8.26**	**212**	P	**Pn**	**22 32 35.6**	**-3.5**
PNHZ				P	**Sn**	**22 34 06.9**	**-4.2**
WPHZ	**Waipukurau**	**8.28**	**210**	P	**Sn**	**22 34 09.5**	**-2.2**
TSZ	**Takapari Road**	**8.48**	**212**	P	**Pn**	**22 32 37.6**	**-4.5**
TSZ				P	**Sn**	**22 34 11.8**	**-5.5**
DVHZ	**Dannevirke**	**8.59**	**210**	P	**Sn**	**22 32 39.0**	**-4.5**
DVHZ				P	**Sn**	**22 34 13.9**	**-5.3**
POWZ	**Post Office Ro**	**8.84**	**212**	P	**Sn**	**22 34 19.6**	**-5.7**
BFZ	**Birch Farm**	**8.88**	**209**	Pn	**Pn**	**22 32 46.1**	**-1.4**
PRWZ	**Pori Road**	**8.89**	**210**	S	**Sn**	**22 34 20.4**	**-6.1**
MRZ	**Mangatainoka R**	**9.14**	**211**	P	Pn	22 32 45.5	-5.6
MRZ				S	**Sn**	**22 34 25.6**	**-7.1**
MSWZ	**Moikau Station**	**9.90**	**210**	Pn	**Pn**	**22 32 59.0**	**-2.6**
PLWZ	**Palliser**	**10.03**	**209**	Pn	**Pn**	**22 32 59.4**	**-3.9**
QRZ	**Quartz Range**	**10.78**	**221**	Pn	**Pn**	**22 33 13.1**	**-0.5**
KHZ	**Kahutara**	**11.46**	**212**	Pn	**Pn**	**22 33 19.2**	**-3.6**
LTZ	**Lake Taylor**	**12.34**	**215**	Pn	**Pn**	**22 33 30.8**	**-4.1**
OXZ	**Oxford**	**12.86**	**214**		**Pn**	**22 33 37.3**	**-4.7**
MQZ	**McQueen's Vall**	**12.88**	**211**	Pn	**Pn**	**22 33 37.8**	**-4.5**
RPZ	**Rata Peaks**	**13.62**	**215**	Pn	**Pn**	**22 33 48.2**	**-4.2**
FOZ	**Fox Glacier**	**14.11**	**218**	Pn	**Pn**	**22 33 54.9**	**-4.1**
LBZ	**Lake Benmore**	**14.54**	**215**	Pn	**Pn**	**22 34 01.5**	**-3.5**
ODZ	**Otahua Downs**	**14.82**	**212**	Pn	Pn	22 34 03.9	-4.8
WKZ	**Wanaka**	**15.44**	**216**	Pn	**Pn**	**22 34 13.3**	**-3.5**
MSVF	**Nonsavu**	**15.56**	**347**		**Pn**	**22 34 16.8**	**-1.9**
MLZ	**Mavora Lakes**	**16.27**	**217**		**Pn**	**22 34 26.8**	**-0.7**
PINNC	**Pines Island,**	**16.36**	**306**	P	**P**	**22 34 30.5**	**-0.8**
PINNC	comp=Z,95nm,1.1s			IAmb	IAmb	22 34 36.4	
PINNC	**Pines Island,**	**16.36**	**306**	P	**P**	**22 34 35.7**	**+4.3**
WHZ	**Wether Hill Ro**	**16.72**	**216**		**Pn**	**22 34 28.7**	**-4.6**
MARNC	**Mare, Loyalty**	**16.76**	**310**	P	**Pn**	**22 34 33.2**	**-0.6**
MARNC	**Mare, Loyalty**	**16.76**	**310**	P	**P**	**22 34 39.7**	**+4.0**
OUENC	**Ouen Island, N**	**16.91**	**305**		**P**	**22 34 37.5**	**+0.1**
OUENC				IAmb	IAmb	22 34 47.0	
OUENC	**Ouen Island, N**	**16.91**	**305**	P	**P**	**22 34 41.5**	**+4.1**
YATNC	**Mamie plateau,**	**17.11**	**306**	P	**P**	**22 34 43.4**	**+3.7**
ONTNC	**Ouen Toro**	**17.25**	**304**		**P**	**22 34 40.9**	**-0.3**
ONTNC	comp=Z,77nm,0.9s			IAmb	IAmb	22 34 57.0	
ONTNC	**Ouen Toro**	**17.25**	**304**	P	**P**	**22 34 44.9**	**+3.7**
DZM	**Mont Dzumac** comp=Z,0.8nm,0.3s,baz=116,slow=16,SNR=24	**17.41**	**305**	P	**P**	**22 34 44.8**	**+1.7**
DZM	comp=Z,3µm,18.8s,baz=117,slow=34			LR	LR	22 40 23.0	
DZM	**Mont Dzumac** comp=Z,245nm,1.1s	**17.41**	**305**	*e*P	**P**	**22 34 46.1**	**+3.0**
DZM	comp=Z,3µm,22.6s			*e*LR	LR	22 39 00.5	
DZM	**Mont Dzumac**	**17.41**	**305**	P	**P**	**22 34 46.7**	**+3.6**
NOUC	**Port Laguerre**	**17.49**	**304**	P	**P**	**22 34 47.8**	**+3.9**
PYZ	**Puysegur Point**	**17.55**	**217**	Pn	**Pn**	**22 34 38.6**	**-4.8**
PYZ	comp=Z,75nm,1.1s			IAmb	IAmb	22 34 45.2	
LIFNC	**LIFOU**	**17.77**	**310**	P	**Pn**	**22 34 43.6**	**-2.9**
LIFNC	comp=Z,143nm,0.9s			IAmb	IAmb	22 34 58.9	
AFI	**Afiamalu** comp=Z,3.3nm,0.3s,baz=108,slow=6.4,SNR=1.1	**19.87**	**19**	P	**P**	**22 35 05.9**	**-4.1**
AFI	comp=Z,8.6nm,0.3s,baz=175,slow=19,SNR=1.6			S	S	22 38 33.5	-19
AFI	**Afiamalu**	**19.87**	**19**	P	**P**	**22 35 08.5**	**-1.6**
AFI	comp=Z,63nm,0.8s			IAmb	IAmb	22 35 27.6	
AFI	**Afiamalu**	**19.87**	**19**	P	**P**	**22 35 10.6**	**+0.5**
KOUNC	**Koumac, New Ca**	**19.92**	**304**	P	**Pn**	**22 35 14.1**	**+1.7**
RAR	**Rarotonga** comp=Z,16nm,0.9s,baz=214,slow=11,SNR=2.6	**20.12**	**59**	P	**P**	**22 35 09.3**	**-3.4**
RAR	comp=Z,3.6nm,0.5s,baz=336,slow=20,SNR=1.0			S	S	22 38 37.5	-19
RAR	comp=Z,482nm,19.5s,baz=248,slow=35			LR	LR	22 42 18.3	
EIDS	**Eidsvold** baz=28,SNR=5.2	**27.81**	**278**	P	**P**	**22 36 28.1**	**+0.3**
EIDS	**Eidsvold**	**27.81**	**278**	P	**P**	**22 36 28.0**	**+0.3**
EIDS	comp=Z,20nm,0.8s			IAmb	IAmb	22 36 38.7	
RMQ	**Roma** baz=29,SNR=19	**29.34**	**274**	P	**P**	**22 36 42.0**	**+0.5**
PAE	**Paea** comp=Z,1.9nm,0.3s	**29.90**	**66**	*e*T	T	23 06 52.6	
PPT2	**Papeete2** comp=Z,706nm,24.0s	**29.94**	**66**	*e*LR	LR	22 44 03.9	
PPT	**Papeete** comp=Z,31nm,0.8s,baz=125,slow=12,SNR=2.2	**29.96**	**66**	P	**P**	**22 36 45.0**	**-1.9**
PPT	comp=Z,487nm,18.6s,baz=184,slow=36			LR	LR	22 48 46.7	
CMSA	**Cobar Meteorol** baz=30,SNR=9.8	**30.49**	**263**	P	**P**	**22 36 52.0**	**+0.5**
HNR	**Honiara** comp=Z,265nm,20.9s,baz=157,slow=31	**30.93**	**314**	LR	LR	22 46 40.6	
ARPS	**Mount Arapiles** baz=33,SNR=5.6	**32.84**	**252**	P	**P**	**22 37 12.6**	**+0.4**
VAH	**Vaihoa** comp=Z,6.6nm,0.3s	**32.85**	**65**	*e*T	T	23 10 34.0	
QLP	**Quilpie** baz=33,SNR=8.0	**33.11**	**271**	P	**P**	**22 37 14.7**	**+0.1**
STKA	**Stephens Creek** baz=34,SNR=4.9	**33.82**	**261**	P	**P**	**22 37 21.3**	**+0.5**
STKA	**Stephens Cre

MORW Morawa 55.68 255 P P 22 40 14.8 0.0
MORW IAmb IAmb 22 40 17.4
comp=Z,17nm,0.9s
QSPA South Pole Qui 57.13 180 P P 22 40 26.2 +1.5
comp=Z,12nm,0.8s,baz=46,slow=2.2,SNR=37
QSPA South Pole Qui 57.13 180 P P 22 40 26.2 +1.5
SOEI Soe 57.60 280 P P 22 40 29.1 +0.4
SOEI Soe 57.60 280 P P 22 40 30.6 +1.9
comp=Z,67nm,1.1s
BATI Baumata 57.86 279 P P 22 40 30.2 -0.2
comp=Z,22nm,0.6s,baz=166,slow=5.3,SNR=6.0
BATI Baumata 57.86 279 P P 22 40 32.8 +2.4
comp=Z,25nm,0.9s
GUMO Guam 58.22 317 LR LR 23 03 04.6
comp=Z,82nm,18.3s,baz=139,slow=34
MMRI Maumere 59.89 280 P P 22 40 43.9 -0.6
EDFI Ende, Flores 60.28 279 P P 22 40 59.4 +12
SANI Sanana 60.59 288 P P 22 40 49.1 -0.1
comp=Z,34nm,1.0s
LBFI Labuhan Bajo, 61.92 278 P P 22 40 58.0 -0.3
comp=Z,378nmcomp=Z,34nm,0.8s
LUWI Luwuk 63.76 287 P P 22 41 09.4 -1.1
LUWI Luwuk 63.76 287 P P 22 41 17.8 +7.3
TWSI Taliwang, Sumb 64.29 276 P P 22 41 14.9 +0.9
comp=Z,18nm,0.9s
MPSI Mapaga 66.89 286 P P 22 41 32.4 +1.6
comp=Z,14nm,1.0s
MAW Mawson 69.84 201 P P 22 41 48.9 +0.6
comp=Z,15nm,0.9s,baz=114,slow=6.4,SNR=27
MAW Mawson 69.84 201 P P 22 41 49.7 +1.4
JCJ Chichijima 70.64 323 LR LR 23 08 12.9
comp=Z,246nm,19.4s,baz=124,slow=32
SYO Syowa Base 74.57 193 *eP* P 22 42 17.2 +0.6
SYO Syowa Base 74.57 193 *epP* P 22 42 20.5 +3.9
SNAA Sanae 75.58 178 P P 22 42 23.0 +0.5
SNAA Sanae 75.58 178 PcP PcP 22 42 34.6 -0.7
SNAA Sanae 75.58 178 P P 22 42 22.6 0.0
SNAA IAmb IAmb 22 42 35.6
comp=Z,22nm,1.1s
VNA3 Neumayer Olymp 75.74 176 P P 22 42 23.7 +0.3
VNA3 Neumayer Olymp 75.74 176 PcP PcP 22 42 36.8 +0.8
VNA2 Neumayer--Watz 76.17 177 P P 22 42 26.7 +0.8
baz=185,slow=6.2
VNA2 Neumayer--Watz 76.17 177 PcP PcP 22 42 38.6 +0.8
VNA1 Neumayer--Stat 76.41 177 P P 22 42 28.0 +0.9
VNA1 Neumayer--Stat 76.41 177 PcP PcP 22 42 39.8 +1.0
LL02 Futaleuf 78.66 134 P P 22 42 41.0 +0.7
LL02 IAmb IAmb 22 42 42.2
comp=Z,15nm,0.8s
MJAR Matsushiro Arr 80.28 326 P P 22 42 49.0 +0.1
comp=Z,0.7nm,0.4s,baz=147,slow=3.7,SNR=2.4
MJAR LR LR 23 12 48.2
comp=Z,115nm,21.8s,baz=165,slow=32
MJAR Matsushiro Arr 80.28 326 IAmb IAmb 22 42 54.1
comp=Z,3.0nm,0.9s
PLCA Paso Flores 80.87 133 P P 22 42 53.2 +0.8
comp=Z,25nm,1.1s,baz=273,slow=5.6,SNR=5.8
PLCA LR LR 23 14 33.5
comp=Z,119nm,18.3s,baz=230,slow=33
PLCA Paso Flores 80.87 133 IAmb IAmb 22 42 54.6
comp=Z,30nm,1.1s
MT01 Popeta 84.44 127 P P 22 43 11.4 +0.4
ASAJ Asahikawa 84.66 333 LR LR 23 15 27.5
comp=Z,242nm,20.6s,baz=168,slow=32
GSI Gunungsitoli 85.86 274 P P 22 43 18.4 0.0
QIZ Qiongzhong 85.96 296 P P 22 43 16.3 -2.3
QIZ S S 22 53 46.3 -3.9
QIZ LR LR
comp=Z,160nm,18.4s
QIZ LR LR
comp=Z,150nm,19.6s
QIZ LR LR
comp=Z,180nm,22.0s
KSRS Korea Array 86.21 320 P P 22 43 20.4 +1.0
comp=Z,3.3nm,0.8s,baz=134,slow=5.2,SNR=8.9
KSRS LR LR 23 20 33.5
comp=Z,76nm,18.7s,baz=140,slow=35
PKM Mcpherson Peak 86.92 45 P P 22 43 24.4 +1.2
baz=226
MURC Murrieta 87.61 47 P P 22 43 27.1 +0.7
baz=227
MONP2 Monument Peak 87.61 48 P P 22 43 27.5 +0.8
baz=228
IKP In-Ko-Pah, Jac 87.65 48 P P 22 43 27.4 +0.7
baz=228
BFSC Mount Baldy Ra 87.76 46 P P 22 43 27.6 +0.3
baz=227
NJ2 Nanjing 87.81 311 *eP* P 22 43 24.8 -2.5
NJ2 pmax pmax
comp=Z,14nm,0.5s
EDW2 Edwards Air Fo 88.00 46 P P 22 43 28.6 +0.4
baz=227,SNR=9.7
VES Vestal, Richgr 88.01 44 P P 22 43 29.2 +1.0
baz=226
GDXM Geysers 88.01 40 P P 22 43 28.7 +0.4
GDXM IAmb IAmb 22 43 35.7
comp=Z,10nm,1.1s
SWSC Sam W. Stewart 88.04 48 P P 22 43 29.2 +0.8
baz=228
TPFO Pinon Flats 88.07 47 P P 22 43 28.9 +0.1
baz=228
PFO Pinyon Flats O 88.07 47 P P 22 43 29.7 +0.9
PFO IAmb IAmb 22 43 33.6
comp=Z,8.6nm,1.1s
PFO Pinyon Flats O 88.07 47 P P 22 43 29.0 +0.2
baz=228
ISA Isabella, Lake 88.25 45 P P 22 43 29.9 +0.5
ISA Isabella, Lake 88.25 45 P P 22 43 30.0 +0.5
baz=226,SNR=12
PETK Petropavlovsk- 88.27 346 P P 22 43 29.3 +0.2
comp=Z,16nm,1.0s,baz=122,slow=5.6,SNR=6.8
PETK Petropavlovsk- 88.27 346 P P 22 43 30.1 +1.0
LRMC Laurel Mtn Rad 88.59 45 P P 22 43 32.2 +1.0
baz=227
BELC Belle Mtn. Jos 88.62 47 P P 22 43 32.2 +0.9
baz=228,SNR=7.3
GLA Glamis 88.72 49 P P 22 43 31.9 +0.2
GLA IAmb IAmb 22 43 34.2
comp=Z,7.4nm,1.1s
GLA Glamis 88.72 49 P P 22 43 32.8 +1.1
baz=229
BC3 Big Chuckawall 88.72 48 P P 22 43 33.3 +1.5
baz=228,SNR=7.4
CMB Columbia Colle 88.79 42 P P 22 43 32.4 +0.4
CMB IAmb IAmb 22 43 34.1
comp=Z,9.6nm,1.1s
HEC Hector,Ludlow 88.96 47 P P 22 43 34.4 +1.5
baz=228
GSC Goldstone, Bar 89.00 46 P P 22 43 33.9 +0.9
GSC IAmb IAmb 22 43 35.7
comp=Z,15nm,1.1s
GSC Goldstone, Bar 89.00 46 P P 22 43 34.1 +1.1
baz=228,SNR=5.5
O02D Mt. Diablo Mer 89.00 39 P P 22 43 34.6 +1.7
baz=224,SNR=13
CWC Cottonwood Cre 89.01 44 P P 22 43 34.2 +1.1
baz=227
MPMC Manual Prospec 89.10 45 P P 22 43 34.7 +1.1
baz=227,SNR=9.8
USA0B Ussuriysk Arra 89.22 327 P P 22 43 33.9 +0.2
USA0B IAmb IAmb 22 43 36.6
comp=Z,9.8nm,0.9s
USRK Ussuriysk Ar. 89.22 327 P P 22 43 34.5 +0.7
comp=Z,6.1nm,0.7s,baz=132,slow=3.8,SNR=14
USRK LR LR 23 19 40.4
comp=Z,104nm,20.0s,baz=127,slow=33
USRK Ussuriysk Ar. 89.22 327 P P 22 43 34.2 +0.5
IRM Iron Mountain 89.25 48 P P 22 43 36.0 +1.8
baz=228,SNR=12
SKNT Sakolnakorn 89.29 291 P P 22 43 40.5 +5.8
214A Organ Pipe Nat 89.30 51 P P 22 43 35.5 +1.1
baz=230
WDC Whiskeytown Da 89.42 39 P P 22 43 34.9 +0.1
WDC IAmb IAmb 22 43 37.9
comp=Z,6.5nm,0.9s
O03E Paynes Creek 89.61 40 P P 22 43 36.5 +0.8
baz=224
N02D Trinity Center 89.62 39 P P 22 43 37.6 +1.8
baz=224,SNR=7.9
TUQ Turquoise Moun 89.62 46 P P 22 43 37.3 +1.3
baz=228
GWY Greenwater Val 89.67 45 P P 22 43 36.7 +0.4
GWY IAmb IAmb 22 43 38.7
comp=Z,9.2nm,1.1s
SHOC Shoshone, Teco 89.72 46 P P 22 43 37.4 +1.1
baz=228,SNR=6.7

LCH Last Change Ra 89.81 44 P P 22 43 37.5 +0.7
GRAC Grapevine Rang 89.81 44 P P 22 43 38.0 +1.2
baz=227
M02C Callahan 89.84 38 P P 22 43 38.6 +1.8
baz=224,SNR=9.0
PNTR Pine Nut 89.97 42 P P 22 43 38.0 +0.4
PNTR IAmb IAmb 22 43 40.5
comp=Z,10.0nm,0.9s
PDMCI Parker Dam,Lak 89.97 48 P P 22 43 38.4 +0.9
baz=229
LHV Little Huntoon 90.00 43 P P 22 43 37.6 +0.1
LHV IAmb IAmb 22 43 40.2
comp=Z,8.3nm,1.0s
BEKR Beckworth 90.09 41 P P 22 43 37.1 -1.1
YERR Yerington 90.09 42 P P 22 43 38.5 +0.3
YERR IAmb IAmb 22 43 40.3
comp=Z,7.4nm,1.0s
YBH Yreka Blue Hor 90.16 38 LR LR 23 21 53.5
comp=Z,100nm,18.2s,baz=94,slow=34
YBH Yreka Blue Hor 90.16 38 P P 22 43 38.2 -0.1
NVAR Mina Array Bea 90.24 43 P P 22 43 39.2 +0.3
comp=Z,4.5nm,0.9s,baz=218,slow=8.1,SNR=26
NVAR LR LR 23 20 38.3
comp=Z,164nm,18.1s,baz=254,slow=33
NVAR Mina Array Bea 90.24 43 P P 22 43 39.4 +0.5
RYN Ryan 90.25 43 P P 22 43 39.2 +0.3
RYN IAmb IAmb 22 43 43.3
comp=Z,6.8nm,1.1s
NV11 Mina Array Sit 90.33 43 P P 22 43 39.8 +0.6
K02D Willamette Mer 90.37 37 P P 22 43 41.0 +1.7
baz=223
TPNV Topopah Spring 90.44 45 P P 22 43 40.0 +0.1
TPNV IAmb IAmb 22 43 42.5
comp=Z,8.1nm,1.1s
TPNV Topopah Spring 90.44 45 P P 22 43 41.1 +1.2
baz=228,SNR=6.4
PAHR Pah Rah Range 90.51 41 P P 22 43 40.7 +0.6
TPH Tonopah 90.62 44 P P 22 43 41.2 +0.5
HUMO Hull Mountain 90.67 37 P P 22 43 42.2 +1.6
L04D Klamath Falls 90.72 38 P P 22 43 42.4 +1.4
baz=224
KVN Kaiserville 90.78 42 P P 22 43 42.2 +0.8
KVN IAmb IAmb 22 43 43.4
comp=Z,5.8nm,1.1s
TUC Tucson 90.85 51 P P 22 43 43.1 +1.4
TUC IAmb IAmb 22 43 44.3
comp=Z,5.1nm,1.1s
TUC Tucson 90.85 51 P P 22 43 42.6 +0.8
baz=231
I03D Drain, OR 91.26 36 P P 22 43 45.5 +2.3
baz=223
PRN Pahroc Range 91.45 45 P P 22 43 45.8 +1.3
PRN IAmb IAmb 22 43 47.6
comp=Z,10nm,1.1s
MOD Modoc Plateau 91.55 39 P P 22 43 44.7 -0.2
MOD IAmb IAmb 22 43 46.9
comp=Z,4.2nm,0.8s
J04D Umpqua Nationa 91.56 37 P P 22 43 45.7 +0.8
baz=224
I04A Tendick Farm, 91.80 37 P P 22 43 46.3 +0.5
baz=224
J05D Fort Rock, OR 92.03 38 P P 22 43 47.8 +0.7
baz=225
CN2 Changchun 92.10 323 *eP* P 22 43 47.4 +0.3
CN2 S S 22 54 49.8 +3.0
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,200nm,15.0s
BMN Battle Mountai 92.22 42 P P 22 43 48.9 +0.9
BMN IAmb IAmb 22 43 50.7
comp=Z,4.8nm,1.0s
LCMT Little Creek M 92.29 47 P P 22 43 48.7 +0.3
WUAZ Wupatki 92.49 49 P P 22 43 49.0 -0.4
baz=231
KNB Kanab 92.55 47 P P 22 43 50.8 +1.2
KNB IAmb IAmb 22 43 52.6
comp=Z,7.1nm,1.0s
KDAK Kodiak Island 92.95 13 LR LR 23 19 16.2
comp=Z,224nm,20.2s,baz=246,slow=31
PKCU Pink Cliffs 93.13 47 P P 22 43 53.5 +1.0
PKCU IAmb IAmb 22 43 55.9
comp=Z,7.2nm,1.1s
KLR Kul'dur 93.18 330 P P 22 43 52.6 +0.6
comp=Z,1.5nm,0.9s,baz=132,slow=14,SNR=2.3
KLR LR LR 23 21 41.0
comp=Z,182nm,20.1s,baz=140,slow=33
G05D Wamic, OR 93.38 36 P P 22 43 54.2 +1.2
baz=225
ELK Elko 93.55 43 LR LR 23 18 43.8
comp=Z,168nm,21.7s,baz=294,slow=31
TXAR Lajitas Array 93.91 58 P P 22 43 55.6 -0.4
comp=Z,2.2nm,1.1s,baz=224,slow=5.2,SNR=7.9
CMAR Chiang Mai Arr 94.10 289 P P 22 43 59.9 +2.9
comp=Z,1.0nm,0.3s,baz=130,slow=3.6,SNR=1.3
CMAR PP PP 22 47 43.4 -0.5
comp=Z,1.0nm,0.3s,baz=137,slow=6.5,SNR=6.6
CMAR LR LR 23 31 17.2
comp=Z,76nm,18.0s,baz=146,slow=39
MNTX Cornudas Mount 94.10 55 P P 22 43 55.6 -1.1
baz=234
DUG Dugway, Tooele 94.59 44 P P 22 43 58.9 -0.1
baz=230
MFID Camas Ranch 94.99 40 P P 22 44 00.7 0.0
MFID IAmb IAmb 22 44 02.5
comp=Z,4.8nm,1.1s
MA2 Magadan 95.74 345 LR LR 23 26 03.6
comp=Z,163nm,18.6s,baz=137,slow=35
HLID Hailey 95.86 41 P P 22 44 04.0 -0.7
HLID IAmb IAmb 22 44 06.9
comp=Z,4.2nm,1.1s
HLID Hailey 95.86 41 P P 22 44 04.9 +0.2
baz=229
LPAZ La Paz 97.23 115 LR LR 23 19 50.0
comp=Z,29nm,20.9s,baz=261,slow=30
NEW Newport 97.55 36 LR LR 23 21 32.4
comp=Z,383nm,20.1s,baz=216,slow=31
HHC Hu-ho-hao-te 97.91 314 *eP* P 22 44 10.8 -3.1
HHC pmax pmax
comp=Z,88nm,7.0s
HHC LR LR
comp=Z,210nm,18.8s
HHC LR LR
comp=Z,230nm,17.8s
HHC LR LR
comp=Z,190nm,18.2s
PDAR Pinedale Array 98.11 44 P Pdif 22 44 15.8 +0.8
comp=Z,0.2nm,0.7s,baz=285,slow=3.5,SNR=3.4
PDAR LR LR 23 25 41.3
comp=Z,121nm,18.2s,baz=258,slow=34
SEY Seymchan 98.45 347 LR LR 23 26 58.9
comp=Z,181nm,18.3s,baz=172,slow=34
CPUP Villa Florida 98.50 129 LR LR 23 24 57.8
comp=Z,133nm,18.0s,baz=228,slow=33
WMQ Urumqi 114.68 307 *e*PKP PKPpre 22 49 13.4
MKAR Makanchi Array 119.29 309 PKP **PKPdf** 22 49 27.0 0.0
comp=Z,4.8nm,0.8s,baz=90,slow=1.4,SNR=17
ZALV Zalesovo Beam 119.84 317 PKP **PKPdf** 22 49 26.9 -0.9
comp=Z,3.3nm,0.7s,baz=160,slow=2.1,SNR=12
KSH Kashi 121.39 299 PKP **PKiKP** 22 49 32.5 +1.0
NRIK Noril'sk 121.92 335 PKP **PKPdf** 22 49 30.6 -0.7
comp=Z,5.4nm,0.9s,baz=90,slow=2.3,SNR=8.0
KURK Kurchatov 122.70 313 **PKPdf** 22 49 33.2 -0.1
KURBB **Kurchatov Arra** 122.73 313 PKP **PKPdf** 22 49 33.2 -0.2
comp=Z,11nm,0.8s,baz=106,slow=2.0,SNR=64
KMBO Kilima Mbogo 132.38 232 SKPbc **SKPab** 22 53 22.6 +3.8
comp=Z,11nm,1.1s,baz=63,slow=3.6,SNR=13
SPA0 Spitsbergen Ar 134.26 356 *e*PKPdf **PKPdf** 22 49 54.5 -0.2
GEYT Alibeck 134.46 293 PKP **PKiKP** 22 49 57.6 -0.1
comp=Z,3.0nm,0.9s,baz=103,slow=6.5,SNR=3.2
GEYT SKPbc **SKPab** 22 53 28.9 +2.1
comp=Z,1.7nm,1.0s,baz=148,slow=8.7,SNR=3.9
HAMF Hammerfest 140.44 349 *e*PKPdf **PKPdf** 22 50 05.4 -0.7
ARA0 ARCESS Array S 141.07 347 *e* **PKPdf** 22 50 03.7 -3.7
ARA0 *ep*PKPdf **PKiKP** 22 50 10.7 +0.6
ARCES ARCESS Array B 141.07 347 PKhKP PKPpre 22 50 01.5
comp=Z,3.5nm,0.8s,baz=12,slow=1.7,SNR=11
ARCES ARCESS Array B 141.07 347 PKPdf **PKPdf** 22 50 08.3 +0.9
JETT Jettan, Norway 141.93 350 *ep*PKPdf **PKiKP** 22 50 11.6 -0.3
KTK1 Kautokeino 141.94 348 *e*PKPdf **PKPdf** 22 50 08.3 -0.6

TRO Tromso 142.07 350 *e*PKPdf **PKPdf** 22 50 08.6 -0.6
KLMR Klimovskoe 142.94 330 *e*PKPdf PKPpre 22 50 04.8
KLMR AMP 22 50 09.0
comp=Z,28nm,1.2s
STEI Steigen 144.16 351 *e*PKPdf **PKPdf** 22 50 12.1 -0.8
LOF Lofoten 144.16 353 *e*PKPdf **PKPdf** 22 50 12.1 -0.7
FAUS Fauske 144.67 351 *e*PKPdf **PKPdf** 22 50 13.9 +0.1
NBB30 Finnes 145.25 352 *e*PKPab **PKPbc** 22 50 14.3 -0.2
NBB15 Halsa Church 145.49 352 *e*PKPab **PKPbc** 22 50 15.5 +0.2
NBB13 Alf Garage 145.63 352 *e*PKPab **PKPbc** 22 50 15.7 0.0
NBB40 Tonnes 145.78 352 *e*PKPab **PKPbc** 22 50 16.4 +0.2
KONS Konsvik 145.78 352 *e*PKPdf **PKPdf** 22 50 15.0 -0.7
KONS *e*PKPab **PKPab** 22 50 16.7 +0.1
MOR8 Moi Rana 145.93 351 *e*PKPdf **PKPdf** 22 50 15.2 -0.8
KBZ Khabaz 146.35 301 PKPbc **PKPbc** 22 50 18.8 +0.2
comp=Z,12nm,1.0s,baz=85,slow=2.4,SNR=12
JAWL J.Aulia 147.06 245 *i* P **PKPab** 22 50 23.1 0.0
JAWL ⇓ *i* 22 50 32.9
baz=285,slow=12
FINES FINESS Array B 147.50 338 PKPbc **PKPbc** 22 50 21.6 +0.3
comp=Z,78nm,0.8s,baz=64,slow=4.4,SNR=91
NSS Namsos 147.81 352 *e*PKPdf **PKPdf** 22 50 18.8 -0.4
MEF Metsahovi 148.97 338 *eP* **PKiKP** 22 50 26.6 0.0
RAF Rauma 149.09 341 *eP* **PKiKP** 22 50 26.1 +0.6
TBLU Trondheim 149.25 353 *e*PKPdf **PKPdf** 22 50 20.5 -1.1
MRWI Hamdab 149.37 250 *i* P **PKiKP** 22 50 29.1 +0.4
MRWI *i* 22 50 32.9
baz=308,slow=11
VSU Vasula 149.50 334 *eP* **PKiKP** 22 50 27.8 +0.2
MOL Molde 150.17 355 *e*PKPdf **PKPdf** 22 50 22.1 -0.9
AAL Aland 150.28 342 *eP* **PKiKP** 22 50 29.2 0.0
MTSE Matsula 150.33 337 *eP* **PKiKP** 22 50 29.9 +0.5
DOMB Dombas 150.56 353 *e*PKPbc **PKPbc** 22 50 29.5 +0.4
AKN Aaknes 150.60 355 *e*PKPab **PKPab** 22 50 35.8 -0.3
UPP Uppsala 151.15 343 *eP* **PKiKP** 22 50 31.1 +0.1
NB2 NORSAR Subarra 151.27 350 PKP **PKiKP** 22 50 31.5 +0.1
comp=Z,39nm,1.4s,baz=17,slow=2.6
NOA NORSAR Array B 151.27 350 PKPbc **PKPbc** 22 50 31.0 +0.1
comp=Z,8.0nm,0.9s,baz=14,slow=4.1,SNR=15
NOA PKPab **sPKPdf** 22 50 37.5 +0.3
comp=Z,7.9nm,0.8s,baz=19,slow=3.0,SNR=16
NC602 NORSAR Array S 151.52 350 *e*PKPdf **PKPdf** 22 50 24.4 -0.8
MNK Minsk 151.70 327 *i* PKP **PKPdf** 22 50 27.4 +1.8
comp=E,3.0nm,1.3s
MNK *i* PKP **PKPdf** 22 50 27.4 +1.8
comp=N,20nm,0.9s
MNK *i* PKP **PKPdf** 22 50 27.4 +1.8
comp=Z,74nm,0.8s,baz=51
MNK *j* SKP 22 54 00.9
MNK *i* PKS **PKSdf** 22 54 02.7 +2.8
MNK *i* PP **PP** 22 54 12.6 +0.3
MNK *i* SKS **SKSdf** 22 57 34.4 +4.2
MNK *i* PPP PPP 22 57 37.1
MNK *i* SKKS **SKKSdf** 23 06 23.7 +4.8
MNK *i* SS **SS** 23 13 39.5 +4.1
MNK *i* SSS SSS 23 19 22.9
MNK *i* LQ LQ 23 50 50.5
MNK *i* LR LR 23 56 44.6
ISAL Salakas 151.76 330 *eP* **PKiKP** 22 50 33.5 +1.1
IIGN Ignalina 151.87 330 *eP* **PKiKP** 22 50 33.8 +1.1
SKAR Skarslia 151.97 353 *e*PKPdf **PKPdf** 22 50 25.0 -1.0
OSL Oslo 152.40 350 *e*PKPbc **PKPbc** 22 50 33.3 0.0
LIC Lamto 152.62 165 *e*PKP1 **PKiKP** 22 50 35.9 +0.3
comp=Z,46nm,1.1s
PABE Paberze 152.68 332 *eP* **PKiKP** 22 50 35.7 +1.4
KIC Kosan Boka 152.81 166 *e*PKP1 **PKiKP** 22 50 36.3 +0.3
comp=Z,8.9nm,0.6s
KONO Kongsberg 152.83 351 *e*PKPdf **PKPdf** 22 50 25.9 -1.2
TIC Toumodi 153.03 165 *e*PKP1 **PKiKP** 22 50 36.8 +0.4
PBUR Paburge 153.06 335 *eP* **PKiKP** 22 50 36.4 +1.2
DBIC Dimbokro 153.09 165 PKP **PKPdf** 22 50 30.3 +1.3
comp=Z,3.9nm,0.9s,baz=190,slow=6.1,SNR=3.2
DBIC PKPbc **PKiKP** 22 50 37.0 +0.5
comp=Z,4.6nm,0.9s,baz=164,slow=1.0,SNR=4.8
DBIC PKPab **PKPab** 22 50 47.9 +0.2
comp=Z,4.0nm,0.6s,baz=201,slow=5.2,SNR=5.3
AKASG **Malin Array Be** 153.21 319 PKP **PKPdf** 22 50 28.1 +0.1
comp=Z,1.6nm,0.5s,baz=52,slow=1.3,SNR=5.3
AKASG PKPbc **PKPbc** 22 50 35.4 -0.1
comp=Z,12nm,0.8s,baz=63,slow=2.3,SNR=29
AKASG PKPab **PKPab** 22 50 47.5 +0.2
comp=Z,5.8nm,0.7s,baz=53,slow=3.2,SNR=8.4
AKASG **Malin Array Be** 153.21 319 PKPbc **PKiKP** 22 50 36.1 +0.5
AKASG PKPab **sPKPbc** 22 50 48.5 +0.9
BRTR Keskin Array B 153.59 294 PKP **PKPdf** 22 50 28.1 -1.1
comp=Z,1.1nm,1.1s,baz=127,slow=4.3,SNR=4.4
BRTR PKPbc **PKiKP** 22 50 37.3 +0.3
comp=Z,4.0nm,0.8s,baz=143,slow=4.1,SNR=22
BRTR PKPab **sPKPbc** 22 50 48.1 -0.9
comp=Z,4.8nm,0.8s,baz=146,slow=3.8,SNR=11
BRTR Keskin Array B 153.59 294 **PKPdf** 22 50 28.1 -1.1
BRTR PKPbc **PKiKP** 22 50 37.7 +0.7
SUW Suwalki 154.07 331 *eP* **PKiKP** 22 50 38.4 +1.1
KOLS Kolonicke sedl 157.91 322 *e*PKP **PKPab** 22 51 08.7 +1.1
BSEG Bad Segeberg 158.20 346 *e*PKPab **PKPab** 22 51 09.7 +1.2
baz=24,slow=4.3
CRVS Cervenica-Dubn 158.35 323 *e*PKP **PKPab** 22 51 10.3 +0.9
FLTG Flechtingen 159.50 343 *e*PKPab **PKPab** 22 51 14.8 +0.6
baz=24,slow=4.3
MORC Moravsky Berou 159.56 330 *e*PKP **PKPab** 22 51 14.9 +0.2
DPC Dobruska-Polom 159.61 333 *e*PKPAB **PKPab** 22 51 15.9 +1.0
KRLC Kraliky 159.64 331 *e*PKPAB **PKPab** 22 51 15.4 +0.4
VYHS Vyhne 159.91 325 *e*PKP **PKPab** 22 51 17.5 +1.3
CLL Collm 159.94 339 *i* PKPab **PKPab** 22 51 16.5 +0.3
comp=Z,17nm,1.0s
CLL *i* 22 51 24.2
CLL Collm 159.94 339 *e*PKPab **PKPab** 22 51 17.0 +0.8
baz=24,slow=4.3
BRG Berggiesshubel 160.03 337 *e*PKPab **PKPab** 22 51 17.8 +1.2
baz=24,slow=4.3
BRG Berggiesshubel 160.03 337 *e*PKP **PKPab** 22 51 17.6 +1.0
BRG Amp 22 51 19.2
comp=Z,8.7nm,1.2s
CLZ Clausthal 160.15 344 *e*PKPab **PKPab** 22 51 18.3 +1.1
baz=24,slow=4.3
FBE Freiberg 160.17 338 *e*PKPab **PKPab** 22 51 18.5 +1.2
baz=24,slow=4.3
JAVC Velka Javorina 160.19 328 *e*PKP **PKPab** 22 51 18.7 +1.2
IBBN Ibbenburen 160.22 349 *e*PKPab **PKPab** 22 51 18.2 +0.9
baz=24,slow=4.3
TORD Torodi Ar. Bea 160.25 180 PKP **PKPdf** 22 50 37.9 -0.3
comp=Z,2.6nm,1.0s,baz=264,slow=1.5,SNR=5.2
TORD PKPab **PKPab** 22 51 18.9 +0.5
comp=Z,5.1nm,0.9s,baz=184,slow=2.3,SNR=6.5
TORD Torodi Ar. Bea 160.25 180 PKPab **PKPab** 22 51 19.2 +0.8
VRAC Vranov 160.32 330 *e*PKP **PKPab** 22 51 17.3 -0.7
NEUB Neuenburg 160.38 341 *e*PKPab **PKPab** 22 51 19.1 +1.0
baz=24,slow=4.3
KRUC Moravsky 160.59 330 *e*PKP **PKPab** 22 51 19.2 +0.1
MODS Modra-Piesok 160.72 327 *e*PKP **PKPab** 22 51 20.3 +0.5
TANN Tannenbergstha 160.89 339 *e*PKPab **PKPab** 22 51 21.5 +1.1
baz=24,slow=4.3
WERD Werda 160.91 339 *e*PKPab **PKPab** 22 51 21.5 +1.1
baz=24,slow=4.3
PLN Plauen 160.92 339 *e*PKPab **PKPab** 22 51 21.7 +1.2
baz=24,slow=4.3
MOX Moxa 160.93 341 *e*PKPab **PKPab** 22 51 21.5 +1.0
baz=24,slow=4.3
GUNZ Gunzen 160.98 339 *e*PKPab **PKPab** 22 51 22.1 +1.3
baz=24,slow=4.3
WERN Wernitzgruen 161.03 339 *e*PKPab **PKPab** 22 51 22.4 +1.3
baz=24,slow=4.3
NKC Novy Kostel 161.06 339 *e*PKPAB **PKPab** 22 51 22.4 +1.3
KASTN Kahler Asten 161.16 347 *e*PKPab **PKPab** 22 51 22.3 +0.8
baz=24,slow=4.3
MANZ Manzenberg 161.38 339 *e*PKPab **PKPab** 22 51 23.7 +1.1
baz=24,slow=4.3
ROTZ Rotzenmuhle 161.54 338 *e*PKPab **PKPab** 22 51 24.8 +1.6
baz=24,slow=4.3
CKRC Cesky Krumlov 161.62 333 *e*PKPDF **PKPdf** 22 50 40.1 +1.5
KHC Kasperske Hory 161.63 335 *e*PKPAB **PKPab** 22 51 24.1 +0.4
GERES GERESS Array B 161.82 334 PKP **PKPdf** 22 50 38.8 -0.2
comp=Z,1.3nm,1.0s,baz=19,slow=6.2,SNR=4.9
GERES PKPab **PKPab** 22 51 23.7 -1.0
comp=Z,1.7nm,0.8s,baz=27,slow=4.5,SNR=7.1
WET Wettzell 161.86 336 *e*PKPab **PKPab** 22 51 25.9 +1.2
baz=24,slow=4.3
GRF Grafenberg Arr 161.90 340 *e*PKPab **PKPab** 22 51 26.4 +1.5
baz=24,slow=4.3
TNS Taunus Mts 162.09 346 *e*PKPab **PKPab** 22 51 26.4 +0.8
baz=24,slow=4.3
MILB Miltenberg 162.28 344 *e*PKPab **PKPab** 22 51 27.3 +0.9
baz=24,slow=4.3
RJOB Jochberg 163.08 334 *e*PKPab **PKPab** 22 51 31.0 +0.8
baz=24,slow=4.3

FUR	**Furstenfeldbru**	**163.24 338**	*e*PKPab	**PKPab**	**22 51 32.0**	**+1.3**
	baz=24,slow=4.3					
BFO	**Black Forest**	**163.91 344**	*e*PKPab	**PKPab**	**22 51 34.3**	**+0.6**
	baz=24,slow=4.3					
RETA	**Reutte**	**164.00 337**	*e*P	**PKPab**	**22 51 35.2**	**+1.0**
	comp=Z,13nm,1.2s					
MOTA	**Moosalm**	**164.01 337**	*e*P	**PKPab**	**22 51 35.4**	**+1.0**
	comp=Z,11nm,1.0s					
SQTA	**Sankt Quirin**	**164.09 336**	*e*P	**PKPab**	**22 51 35.9**	**+1.2**
	comp=Z,7.3nm,1.0s					
FETA	**Feichten**	**164.42 337**	*e*P	**PKPab**	**22 51 36.5**	**+0.3**
	comp=Z,9.0nm,1.1s					
DAVA	**Damuels**	**164.46 339**	*e*P	**PKPab**	**22 51 37.4**	**+1.1**
	comp=Z,13nm,1.0s					
ESDC	**Sonseca Array**	**171.86 33**	PKP	**PKPdf**	**22 50 47.0**	**+0.3**
	comp=Z,1.3nm,1.0s,baz=12,slow=4.1,SNR=7.2					
ESDC			PKPab	**PKPab**	**22 52 09.4**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=305,slow=4.5,SNR=2.1					

JMA ***24*** *22:31:32.5±0.2,24.86N×122.42E,h0km±2km,M2.5*
TAP ***24*** *22:31:32.3,24.99N×122.46E,h35km±1km,ML2.8,C*
ISC 24 22:31:31.5±1.2,24.98N±0.04×122.46E±0.03,h18km±5km, n28,σ0.55/49,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TWB1	**Santiao Chiao**	**0.43 274**		P		**Pb**	**22 31 41.2**	**+0.6**
	baz=273							
TWB1				*e*S		**Sb**	**22 31 48.2**	**+1.5**
	baz=273							
TIPB	**Shuangxi**	**0.57 270**		P		**Pn**	**22 31 44.3**	**-0.5**
	baz=264							
TIPB				*e*S		**Sn**	**22 31 53.2**	**-0.6**
	baz=264							
NWF	**Wu-fen Shan**	**0.62 279**		P		**Pn**	**22 31 45.2**	**-0.3**
	baz=278							
NWF				*e*S		**Sn**	**22 31 54.2**	**-0.8**
	baz=278							
TWC	**Suao**	**0.66 237**		P		**Pb**	**22 31 44.7**	**+0.2**
	baz=236							
TWC				*e*S		**Sg**	**22 31 52.5**	**-0.9**
	baz=236							
JYNG	**Yonagunijimaku**	**0.69 140**		P		**Pg**	**22 31 45.0**	**0.0**
JYNG				*e*S		**Sg**	**22 31 54.0**	**-0.2**
YOJ	**Yonaguni jima**	**0.72 135**		P		**Pg**	**22 31 45.9**	**+0.2**
YOJ				*e*S		**Sb**	**22 31 54.8**	**-0.2**
YOJ	**Yonaguni jima**	**0.72 135**		*i* P		**Pg**	**22 31 46.0**	**+0.4**
	baz=137							
PCYT	**Pengchaiyu**	**0.74 332**		*e*P		**Pb**	**22 31 45.0**	**-0.9**
	baz=320							
NDS	**Dongshan**	**0.76 243**		P		**Pg**	**22 31 46.6**	**+0.2**
	baz=231							
NDS				*e*S		**Sb**	**22 31 55.7**	**-0.4**
	baz=231							
TWE	**Neicheng**	**0.76 251**		*e*P		**Pg**	**22 31 46.5**	**+0.1**
	baz=250							
TWE				*e*S		**Sg**	**22 31 57.3**	**+0.8**
	baz=250							
EWUT	**Wuta**	**0.81 230**		*e*P		**Pb**	**22 31 46.6**	**-0.5**
	baz=230							
EWUT				*e*S		**Sg**	**22 31 58.2**	**0.0**
	baz=230							
TWY	**Chenhua**	**0.83 291**		*e*P		**Pb**	**22 31 46.9**	**-0.6**
	baz=290							
TWY				*e*S		**Sg**	**22 31 59.6**	**+0.8**
	baz=290							
ENA	**Nanau**	**0.85 230**		*e*P		**Pb**	**22 31 47.8**	**0.0**
	baz=230							
ENA				*e*S		**Sb**	**22 31 58.2**	**-0.6**
	baz=230							
ANP	**Anpu**	**0.88 284**		*e*P		**Pb**	**22 31 48.5**	**+0.2**
	baz=283							
ENTT	**Nioudou**	**0.88 248**		*e*P		**Pg**	**22 31 48.6**	**0.0**
	baz=235							
ENTT				*e*S		**Sn**	**22 32 02.1**	**+0.8**
	baz=235							
NWLT	**Wulai**	**0.89 257**		P		**Pg**	**22 31 49.2**	**+0.3**
	baz=270							
NWLT				*e*S		**Sb**	**22 32 00.3**	**+0.3**
	baz=270							
YHNB	**Yeheng**	**1.03 253**		*e*P		**Pn**	**22 31 51.2**	**+0.1**
	baz=263							
YHNB				*e*S		**Sb**	**22 32 04.4**	**+0.3**
	baz=263							
NSK	**Sanguang**	**1.04 254**		*e*P		**Pn**	**22 31 51.5**	**+0.2**
	baz=264							
NSK				*e*S		**Sb**	**22 32 03.9**	**-0.6**
	baz=264							
NNSB	**Datong**	**1.12 241**		P		**Pb**	**22 31 52.5**	**+0.1**
	baz=233							
NNSB				*e*S		**Sb**	**22 32 06.2**	**-0.5**
	baz=233							
NACB	**Ninganchiao**	**1.12 225**		P		**Pb**	**22 31 52.0**	**-0.4**
	baz=230							
NACB				*e*S		**Sb**	**22 32 06.5**	**-0.1**
	baz=230							
ETLH	**Xiulin Townshi**	**1.17 229**		P		**Pn**	**22 31 52.9**	**-0.2**
	baz=237							
ETLH				*e*S		**Sb**	**22 32 07.8**	**-0.5**
	baz=237							
FUSS	**Fushou**	**1.32 237**		P		**Pg**	**22 31 56.9**	**-0.2**
	baz=237							
FUSS				*e*S		**Sn**	**22 32 13.4**	**+0.8**
	baz=237							
IRIF	**Iriomote-Funau**	**1.32 119**		P		**Pg**	**22 31 57.7**	**+0.6**
WHF	**Hehuan Shan**	**1.36 233**		P		**Pn**	**22 31 56.5**	**+0.4**
	baz=239							
WHF				*e*S		**Sn**	**22 32 13.8**	**-0.1**
	baz=239							
NSTT	**Nanjuang**	**1.37 256**		*e*P		**Pn**	**22 31 56.3**	**+0.6**
	baz=255							
CHGB	**Renai**	**1.48 232**		P		**Pb**	**22 31 58.9**	**+0.2**
	baz=233							
CHGB				*e*S		**Sg**	**22 32 18.5**	**-1.0**
	baz=233							
WHP	**Taichung City**	**1.54 244**		*e*P		**Pn**	**22 31 58.7**	**+0.5**
	baz=254							
JISG	**Ishigakijimahi**	**1.73 103**		*e*S		**Sg**	**22 32 27.4**	**+0.1**

JMA ***24*** *22:35:40.7±0.6,45.28N×151.08E,h30km,M4.9*
BJI ***24*** *22:35:40.6±0.0,45.21N×150.99E,h40km,mB4.8/39, mb4.9/68,Ms4.4/46,Ms7 4.2/46*
NIED ***24*** *22:35:40.7,45.28N×151.08E,h30km,MW4.7,Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr0.96; Mθθ-0.64; Mφφ-0.33; Mrθ0.14; Mθφ-0.73; Mφr0.64; Fault plane solution: M0 1.29000×10^16 NP1:φs30.00000°, δ61.00000°,λ66.00000°. NP2:φs253.00000°,δ37.00000°, λ127.00000°.*
SKHL ***24*** *22:35:41.9±0.5,45.10N×151.10E,h51km±6km,mb5.2/12, mbv5.4/3,ms4.3/7,msh5.3/2*
MOS ***24*** *22:35:42.4±0.9,45.28N×150.84E,h49km,mb5.2/25, MS3.6/8,Error ellipse: s-maj=6.0km s-min=4.7km az=116.7*
IDC ***24*** *22:35:43.6±0.4,45.40N×150.80E,h45km±3km,mb4.2/23, mb1 4.3/30,mb1mx4.2/52,mbtmp4.4/30,MS4.0/19, Ms1 4.0/19,ms1mx3.7/50,Error ellipse: s-maj=11.1km s-min=10.2km az=123.0*
NEIC ***24*** *22:35:44.6±1.6,45.35N±0.09×150.7E±0.1,h46km±6km, mb4.8/116,Error ellipse: s-maj=14.9km s-min=9.9km az=137.0*
BGR ***24*** *22:35:50.1±0.0,46.77N×150.51E,h33km,mb5.2*
ISC 24 22:35:43.7±0.5,45.24N±0.04×150.79E±0.04,h49km±3km, h49km:pP-P,n593,σ1.950/621,mb4.9/195,MS4.2/32, 66C-35D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KUR	**Kuril'sk**	**2.07 271**		*c i* P	N	**Pn**	**22 36 17.0**	**+1.1**
KUR				*i* S		**Sn**	**22 36 42.9**	**+2.5**
KUR				pmax		pmax		
	comp=Z,904nm,0.4s							
KUR				smax		smax		
	comp=N,8μm,0.4s							
KUR				smax		smax		
	comp=E,1μm,0.3s							
KUR	**Kuril'sk**	**2.07 271**		*i* P		**Pn**	**22 36 17.0**	**+1.1**
KUR				AMB		AMB	22 36 18.0	
	comp=E,904nm,0.4s							
KUR				*i* S		**Sn**	**22 36 43.0**	**+2.5**
KUR				A		A	22 36 47.0	
	comp=E,8μm,0.4s							
KUR				A		A	22 36 47.0	
	comp=E,1μm,0.4s							
KUR				AMS		AMS	22 37 27.8	
	comp=E,6μm,13.0s							
KUR				AMS		AMS	22 37 27.8	
	comp=E,8μm,13.0s							
KUR				AMS		AMS	22 37 27.8	
	comp=E,7μm,13.0s							
YUK	**Yuzh-Kuril'sk**	**3.72 253**		*e*PN		**Pn**	**22 36 40.3**	**+1.7**
YUK				*i* S		**Sn**	**22 37 24.0**	**+2.9**
YUK				pmax		pmax		
	comp=N,72nm,0.2s							
YUK				pmax		pmax		
	comp=Z,1μm,0.2s							
YUK				smax		smax		
	comp=N,869nm,0.3s							
YUK				smax		smax		
	comp=E,3μm,0.6s							
YUK	**Yuzh-Kuril'sk**	**3.72 253**		*e*P		**Pn**	**22 36 40.1**	**+1.5**
YUK				AMB		AMB	22 36 44.0	
	comp=E,1μm,0.4s							
YUK				*i* S		**Sn**	**22 37 23.7**	**+2.6**
YUK				A		A	22 37 30.0	
	comp=E,870nm,0.6s							
YUK				A		A	22 37 30.0	
	comp=E,3μm,0.6s							
GRPR	**Tuman**	**3.80 253**	⇓	*i* PN		**Pn**	**22 36 40.5**	**+0.9**
GRPR				*i* S		**Sn**	**22 37 27.3**	**+4.3**
GRPR				pmax		pmax		
	comp=N,340nm,0.3s							
GRPR				pmax		pmax		
	comp=E,288nm,0.3s							
GRPR				pmax		pmax		
	comp=Z,460nm,0.3s							
GRPR				smax		smax		
	comp=E,1μm,0.5s							
GRPR				smax		smax		
	comp=N,1μm,0.3s							
GRPR	**Tuman**	**3.80 253**		*i* P		**Pn**	**22 36 41.0**	**+1.4**
GRPR				AMB		AMB	22 36 44.0	
	comp=N,460nm,0.3s							
GRPR				*i* S		**Sn**	**22 37 25.5**	**+2.5**
GRPR				A		A	22 37 32.0	
	comp=N,1μm,0.5s							
GRPR				A		A	22 37 32.0	
	comp=N,1μm,0.5s							
NEM2	**Nemuro 2**	**4.08 244**		P		**Pn**	**22 36 43.2**	**-0.3**
NEM2				*e*S		**Sn**	**22 37 29.0**	**-1.0**
NMR	**Nemuro--Hokkai**	**4.09 245**	⇓	*i* PN		**Pn**	**22 36 43.1**	**-0.5**
NMR				*i* S		**Sn**	**22 37 30.0**	**-0.2**
NMR	**Nemuro--Hokkai**	**4.09 245**		*i* P		**Pn**	**22 36 43.5**	**-0.1**
NMR				*i* S		**Sn**	**22 37 30.0**	**-0.2**
RUSJ	**Misakicho**	**4.12 256**		*e*PN		**Pn**	**22 36 46.6**	**+2.6**
RUSJ				*e*S		**Sn**	**22 37 35.4**	**+4.6**
JRA	**Rausu**	**4.25 254**		P		**Pn**	**22 36 47.6**	**+1.7**
JNK	**Nakash**	**4.66 251**		P		**Pn**	**22 36 52.4**	**+1.0**
JNK				*e*S		**Sn**	**22 37 44.9**	**+0.8**
AKK	**Akkeshi**	**4.83 245**		*e*P		**Pn**	**22 36 53.3**	**-0.5**
AKK				*e*S		**Sn**	**22 37 47.4**	**-0.9**
JAK	**Akkeshi**	**4.93 245**		P		**Pn**	**22 36 54.6**	**-0.6**
JAK				*e*S		**Sn**	**22 37 49.6**	**-1.3**
JTKR	**Abashiri--Toko**	**5.08 258**		P		**Pn**	**22 36 59.0**	**+1.8**
JAR	**Ashorobuto**	**5.41 251**		P		**Pn**	**22 37 03.1**	**+1.4**
JAR				*e*S		**Sn**	**22 38 03.4**	**+0.8**
JMP	**Maruseppu**	**5.45 260**		P		**Pn**	**22 37 04.5**	**+2.2**
JOB	**Onbets**	**5.53 247**		P		**Pn**	**22 37 03.9**	**+0.5**
JOB				*e*S		**Sn**	**22 38 05.6**	**-0.1**
JSE	**Soyaes**	**5.82 270**		P		**Pn**	**22 37 10.7**	**+3.4**
YSS	**Yuzh-Sakhalins**	**5.84 290**		*e*PN		**Pn**	**22 37 09.1**	**+1.4**
YSS				*e*S		**Sn**	**22 38 17.2**	**+3.9**
YSS				pmax		pmax		
	comp=Z,80nm,0.7s							
YSS				MLR		MLR		
	comp=Z,1μm,13.0s							
YSS				MLR		MLR		
	comp=N,500nm,14.0s							
YSS				MLR		MLR		
	comp=E,600nm,15.0s							
YSS	**Yuzh-Sakhalins**	**5.84 290**		Pn		**Pn**	**22 37 08.8**	**+1.1**
YSS	**Yuzh-Sakhalins**	**5.84 290**		*e*P		**Pn**	**22 37 10.2**	**+2.5**
YSS				AMB		AMB	22 37 14.7	
	comp=E,80nm,0.7s							
YSS				*e*S		**Sn**	**22 38 17.2**	**+3.9**
YSS				AMS		AMS	22 39 36.0	
	comp=E,500nm,13.0s							
YSS				AMS		AMS	22 39 36.0	
	comp=E,600nm,13.0s							
YSS				AMS		AMS	22 39 36.0	
	comp=E,1μm,13.0s							
JKK2	**Kamakawa 2**	**5.91 259**		P		**Pn**	**22 37 11.1**	**+2.5**
JKA	**Kamikawa-asahi**	**5.95 262**		Pn		**Pn**	**22 37 10.5**	**+1.4**
JKA	**Kamikawa-asahi**	**5.95 262**		*e*P		**Pn**	**22 37 10.5**	**+1.4**
ASAJ	**Asahikawa**	**5.95 262**		P		**Pn**	**22 37 11.8**	**+2.7**
	comp=E,10nm,0.3s,baz=99,slow=14,SNR=33							
ASAJ				S		**Sn**	**22 38 15.5**	**-0.5**
	comp=E,1.5nm,0.3s,baz=82,slow=18,SNR=1.5							
ASAJ				LR		LR	22 39 37.3	
	comp=E,1μm,20.9s,baz=90,slow=39							
ASAJ	**Asahikawa**	**5.95 262**		P		**Pn**	**22 37 12.0**	**+2.8**
ASAJ	**Asahikawa**	**5.95 262**		PN		**Pn**	**22 37 10.5**	**+1.3**
JCH	**Churui**	**5.97 247**		P		**Pn**	**22 37 09.3**	**-0.2**
JFR	**Furan**	**6.25 253**		P		**Pn**	**22 37 14.4**	**+1.1**
JWK2	**Keihoku**	**6.28 274**		P		**Pn**	**22 37 18.3**	**+4.7**
JAB	**Ashibetsu**	**6.38 257**		P		**Pn**	**22 37 18.0**	**+2.9**
ERM	**Erimo**	**6.41 242**		PN		**Pn**	**22 37 17.3**	**+1.8**
ERM	**Erimo**	**6.41 242**		Pn		**Pn**	**22 37 17.3**	**+1.8**
JEM	**Erimo**	**6.41 242**		P		**Pn**	**22 37 16.5**	**+1.0**
SKR	**Severo-Kuril's**	**6.51 31**		*e*PN		**Pn**	**22 37 16.5**	**-0.3**
SKR				pmax		pmax		
	comp=Z,100nm,3.3s							
SKR				pmax		pmax		
	comp=Z,138nm,0.7s							
SKR				MLR		MLR		
	comp=Z,600nm,13.0s							
SKR	**Severo-Kuril's**	**6.51 31**		*e*P		**Pn**	**22 37 16.0**	**-0.8**
SKR				AMB		AMB	22 37 18.0	
	comp=Z,100nm,4.0s							
SKR				AMB		AMB	22 37 19.0	
	comp=Z,140nm,0.7s							
SKR				*e*S		**Sn**	**22 38 25.5**	**-4.1**
SKR				A		A	22 38 36.0	
	comp=Z,195nm,0.7s							
SKR				A		A	22 38 36.0	
	comp=Z,204nm,0.7s							
SKR				AMS		AMS	22 39 55.7	
	comp=Z,900nm,14.0s							
SKR				AMS		AMS	22 39 55.7	
	comp=Z,1μm,14.0s							
SKR				AMS		AMS	22 39 55.7	
	comp=Z,750nm,14.0s							
JNBK	**Urakawa-nobuka**	**6.53 246**		P		**Pn**	**22 37 16.6**	**-0.5**
JBT2	**Biratori 2**	**6.56 251**		P		**Pn**	**22 37 17.9**	**+0.4**
JHR	**Hokuryu**	**6.66 260**		P		**Pn**	**22 37 22.0**	**+3.2**
JRBN	**Rebuntou**	**6.86 275**		P		**Pn**	**22 37 25.6**	**+4.0**
UGL	**Uglegorsk**	**7.08 306**		*e*PN		**Pn**	**22 37 28.4**	**+3.8**
UGL				*e*S		**Sn**	**22 38 48.5**	**+4.9**
UGL				pmax		pmax		
	comp=Z,110nm,1.0s							
UGL				smax		smax		
	comp=N,160nm,0.7s							
UGL	**Uglegorsk**	**7.08 306**		*e*P		**Pn**	**22 37 28.0**	**+3.4**
UGL				AMB		AMB	22 37 37.0	
	comp=N,107nm,1.0s							
UGL				AMB		AMB	22 37 37.9	
	comp=N,1μm,3.0s							
UGL				*e*S		**Sn**	**22 38 46.8**	**+3.2**
UGL				A		A	22 38 50.6	
	comp=N,1μm,3.0s							
UGL				A		A	22 38 50.6	
	comp=N,1μm,3.0s							
UGL				A		A	22 38 59.0	
	comp=N,160nm,0.7s							
UGL				AMS		AMS	22 40 08.7	
	comp=N,2μm,16.0s							
UGL				AMS		AMS	22 40 08.7	
	comp=N,1μm,16.0s							
UGL				AMS		AMS	22 40 08.7	
	comp=N,2μm,16.0s							
JEW	**Eniwo**	**7.15 254**				**Pn**	**22 37 26.8**	**+1.2**
PAU	**Pauzhetka**	**7.40 31**		*e*P		**Pn**	**22 37 27.7**	**-1.3**
PAU				AMB		AMB	22 37 29.3	
	comp=N,500nm,3.0s							
PAU				AMB		AMB	22 37 29.5	
	comp=N,70nm,0.9s							
PAU				*e*S		**Sn**	**22 38 47.5**	**-4.1**
PAU				A		A	22 38 53.7	
	comp=N,217nm,0.3s							
PAU				A		A	22 38 53.7	
	comp=N,272nm,0.3s							
PAU				A		A	22 38 57.0	
	comp=N,620nm,4.0s							
PAU				A		A	22 38 57.0	
	comp=N,470nm,4.0s							
PAU				AMS		AMS	22 40 10.0	
	comp=N,1μm,15.0s							
PAU				AMS		AMS	22 40 10.0	
	comp=N,1μm,15.0s							
JNB	**Noboribetsu**	**7.58 252**		P		**Pn**	**22 37 31.9**	**+0.5**
JNB				*e*S		**Sn**	**22 38 54.7**	**-1.2**
TYV	**Tymovskoe**	**7.83 319**		*e*PN		Pn	22 37 41.0	+6.1
TYV				*e*S		**Sn**	**22 39 08.8**	**+6.8**
TYV				pmax		pmax		
	comp=Z,300nm,3.4s							
TYV				pmax		pmax		
	comp=Z,25nm,0.6s							
TYV				smax		smax		
	comp=N,17nm,1.0s							
TYV				smax		smax		
	comp=E,44nm,0.7s							
TYV				MLR		MLR		
	comp=E,1μm,16.0s							
TYV				MLR		MLR		
	comp=Z,2μm,16.0s							
TYV	**Tymovskoe**	**7.83 319**		*e*P		**Pn**	**22 37 37.8**	**+2.9**
TYV				AMB		AMB	22 37 41.1	
	comp=Z,68nm,1.2s							
TYV				*e*S		**Sn**	**22 39 04.1**	**+2.1**
TYV				A		A	22 39 14.5	
	comp=Z,51nm,1.0s							
TYV				A		A	22 39 14.5	
	comp=Z,42nm,1.0s							
TYV				AMS		AMS	22 40 31.0	
	comp=Z,770nm,14.0s							
TYV				AMS		AMS	22 40 31.0	
	comp=Z,890nm,14.0s							
TYV				AMS		AMS	22 40 31.0	
	comp=Z,1μm,14.0s							
JKB	**Kayabe**	**7.84 248**		P		**Pn**	**22 37 34.8**	**-0.3**
JKB				*e*S		**Sn**	**22 38 58.1**	**-4.3**
JYM2	**Yakumo 2**	**8.17 251**		P		**Pn**	**22 37 39.9**	**+0.3**
JANG	**Nango**	**8.38 238**		P		**Pn**	**22 37 39.9**	**-2.5**
JANG				*e*S		**Sn**	**22 39 07.6**	**-8.0**
JTM	**Tenmabayashi**	**8.40 241**		P		**Pn**	**22 37 41.7**	**-1.0**
JTM				*e*S		**Sn**	**22 39 10.0**	**-6.1**
JTM	**Tenmabayashi**	**8.40 241**		Pn		**Pn**	**22 37 42.5**	**-0.3**
JTH	**Tanohata**	**8.45 234**		P		**Pn**	**22 37 41.0**	**-2.5**
JTH				*e*S		Sn	22 39 08.0	-9.4
JOSM	**Okushiri--Mats**	**8.79 253**		P		**Pn**	**22 37 49.0**	**+0.9**
PEA0B	**Petropavlovsk-**	**9.07 27**	⇑	*i* PN		**Pn**	**22 37 53.8**	**+1.9**
PEA0B	**Petropavlovsk-**	**9.07 27**		Pn		**Pn**	**22 37 52.1**	**+0.2**
PETK	**Petropavlovsk-**	**9.07 27**		P		**Pn**	**22 37 50.5**	**-1.4**
	comp=Z,0.8nm,0.3s,baz=184,slow=11,SNR=9.9							
PETK				LR		LR	22 41 22.5	
	comp=Z,526nm,19.6s,baz=220,slow=38							
PETK	**Petropavlovsk-**	**9.07 27**		PN		**Pn**	**22 37 52.3**	**+0.4**
PETK	**Petropavlovsk-**	**9.07 27**		Pn		**Pn**	**22 37 52.3**	**+0.4**
OFUJ	**Ofunato**	**9.15 231**		P		**Pn**	**22 37 51.1**	**-1.9**
OFUJ				*e*S		Sn	22 39 26.4	-8.2
JRG	**Rokugo**	**9.52 236**		P		**Pn**	**22 37 56.3**	**-1.8**
OKH	**Okha**	**9.76 331**		*e*P		**Pn**	**22 38 05.7**	**+4.5**
OKH				AMB		AMB	22 38 08.6	
	comp=Z,160nm,0.6s							
OKH				AMS		AMS	22 43 30.1	
	comp=Z,400nm,14.0s							
OKH				AMS		AMS	22 43 30.1	
	comp=Z,600nm,14.0s							
OKH				AMS		AMS	22 43 30.1	
	comp=Z,600nm,14.0s							
JIO	**Ouri**	**9.78 229**		P		**Pn**	**22 37 59.4**	**-2.2**
JIO				*e*S		Sn	22 39 40.3	-10
TEY	**Ternei**	**10.03 274**	⇑	*e*PN		Pn	22 38 12.6	+7.6
TEY				pmax		pmax		
	comp=N,100nm,1.2s							
TEY				pmax		pmax		
	comp=Z,100nm,1.2s							
TEY				pmax		pmax		
	comp=E,40nm,1.1s							
TEY				pmax		pmax		
	comp=N,10.0nm,1.0s							
TEY				pmax		pmax		
	comp=Z,30nm,1.1s							
TEY	**Ternei**	**10.03 274**		*e*P		**Pn**	**22 38 09.0**	**+4.0**
TEY				AMB		AMB	22 38 13.4	
	comp=Z,30nm,0.6s							
NKL	**Nikolayevsk**	**10.31 324**		*e*P		**Pn**	**22 38 11.2**	**+2.5**
NKL				AMB		AMB	22 38 12.9	
	comp=Z,50nm,0.9s							
JYA	**Atsumi**	**10.59 235**		P		**Pn**	**22 38 10.9**	**-1.8**
JSD	**Sado**	**11.81 237**		Pn		**Pn**	**22 38 27.5**	**-1.9**
MJAR	**Matsushiro Arr**	**12.88 232**		P		**Pn**	**22 38 42.6**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=38,slow=11,SNR=11							
MJAR				LR		LR	22 44 13.4	
	comp=Z,311nm,21.1s,baz=45,slow=39							
MJAR	**Matsushiro Arr**	**12.88 232**		PN		**Pn**	**22 38 44.4**	**+0.4**
MJAR	**Matsushiro Arr**	**12.88 232**		Pn		**Pn**	**22 38 44.4**	**+0.4**
MAJO	**Matsushiro**	**12.88 232**	⇑	*e*PN		**Pn**	**22 38 42.3**	**-1.7**
MAJO				pmax		pmax		
	comp=Z,13nm,0.7s							
MAJO	**Matsushiro**	**12.88 232**				**Pn**	**22 38 42.2**	**-1.7**
MAT	**Matsushiro**	**12.88 232**		P		**Pn**	**22 38 41.9**	**-2.1**
MAT				*e*S		**Sn**	**22 41 08.8**	**+3.0**
USA0B	**Ussuriysk Arra**	**13.41 272**		*ce*PN		**Pn**	**22 38 52.5**	**+1.3**
USA0B	**Ussuriysk Arra**	**13.41 272**				**Pn**	**22 38 52.1**	**+0.8**
USRK	**Ussuriysk Ar.**	**13.41 272**		P		**Pn**	**22 38 51.5**	**+0.2**
	baz=83,slow=13,SNR=43							
USRK				LR		LR	22 44 06.7	
	comp=Z,496nm,18.8s,baz=71,slow=38							
USRK	**Ussuriysk Ar.**	**13.41 272**		PN		**Pn**	**22 38 52.9**	**+1.6**
USRK	**Ussuriysk Ar.**	**13.41 272**		Pn		**Pn**	**22 38 52.9**	**+1.6**
KLR	**Kul'dur**	**13.53 294**		P		**Pn**	**22 38 52.9**	**0.0**
	comp=Z,0.1nm,0.3s,baz=100,slow=18,SNR=2.3							
KLR				LR		LR	22 44 25.8	
	comp=Z,659nm,18.8s,baz=98,slow=39							
KLR	**Kul'dur**	**13.53 294**	⇓	*e*P		**Pn**	**22 38 53.6**	**+0.8**
KLR				pmax		pmax		
	comp=Z,23nm,1.1s							
KLR				MLR		MLR		
	comp=Z,632nm,15.0s							
KLR	**Kul'dur**	**13.53 294**		*e*P		**Pn**	**22 38 53.6**	**+0.8**
EKMR	**Ekimchan**	**14.03 310**		*e*P		**Pn**	**22 39 00.0**	**+0.4**
EKMR				AMB		AMB	22 39 14.0	
	comp=Z,8.0nm,0.8s							
MA2	**Magadan**	**14.36 360**		P		**Pn**	**22 39 02.2**	**-1.6**
	comp=Z,1.8nm,0.3s,baz=204,slow=8.9,SNR=4.5							
MA2	**Magadan**	**14.36 360**		P		**Pn**	**22 39 00.3**	**-3.5**
MSHR	**Mys Shultsa**	**14.40 266**	⇓	*e*P		**Pn**	**22 39 04.2**	**-0.3**
MSHR				pmax		pmax		
	comp=Z,24nm,1.0s							
JHJ	**Hachijo jima 2**	**14.79 219**		LR		LR	22 47 15.9	
	comp=Z,52nm,18.9s,baz=51,slow=46							
MDJ	**Mudanjiang

CN2 pmax pmax
comp=Z,100nm,6.2s
CN2 LR LR
comp=Z,500nm,16.0s
CN2 LR LR
comp=Z,500nm,16.0s
CN2 LR LR
comp=Z,600nm,18.0s
KSRS Korea Array 18.81 254 P **P** **22 39 58.8 -0.2**
comp=Z,1.2nm,0.3s,baz=59,slow=11,SNR=28
KS19 Wonju Array Si 18.82 254 P **Pn** **22 40 00.5 +0.3**
KSAR Wonju Array Be 18.84 254 P **P** **22 40 00.4 +1.0**
KSAR Wonju Array Be 18.84 254 P **P** **22 40 00.4 +1.0**
JNU Nakatsue 19.56 239 P **Pn** **22 40 09.4 +0.5**
comp=Z,0.5nm,0.3s,baz=28,slow=10,SNR=3.9
JNU Nakatsue 19.56 239 **Pn** **22 40 09.3 +0.3**
JNU IAmb IAmb 22 40 16.9
comp=Z,91nm,1.3s
INCN Inchon 19.67 255 P **Pn** **22 40 10.2 -0.1**
INCN pmax pmax
comp=Z,22nm,0.6s
INCN Inchon 19.67 255 P **Pn** **22 40 10.2 -0.1**
INCN IAmb IAmb 22 40 17.1
comp=Z,22nm,0.6s
YAK Yakutsk 20.79 331 P **P** **22 40 20.0 -0.4**
comp=Z,25nm,0.6s,baz=126,slow=1.3,SNR=11
YAK S **S** **22 44 08.1 -1.4**
comp=Z,3.9nm,0.3s,baz=180,slow=20,SNR=2.1
YAK LR LR 22 48 20.5
comp=Z,309nm,21.1s,baz=90,slow=37
YAK Yakutsk 20.79 331 *e*P **P** **22 40 20.7 +0.3**
YAK *e* 22 40 40.2
YAK *e* 22 44 28.5
YAK *e*SS Sn 22 44 41.1 +24
YAK pmax pmax
comp=Z,156nm,1.3s
YAK pmax pmax
comp=N,38nm,1.1s
YAK pmax pmax
comp=E,36nm,1.3s
YAK pmax pmax
comp=Z,31nm,0.8s
YAK MLR MLR
comp=Z,422nm,23.0s
YAK MLR MLR
comp=N,255nm,18.0s
YAK MLR MLR
comp=E,103nm,14.0s
YAK Yakutsk 20.79 331 P **P** **22 40 20.8 +0.3**
YAK Yakutsk 20.79 331 *e*P **P** **22 40 20.7 +0.3**
JSU Suzuyama 20.95 236 P **P** **22 40 24.1 +1.6**
JSU IAmb IAmb 22 40 29.3
comp=Z,39nm,1.1s
DL2 Dalian 22.48 264 P **P** **22 40 38.6 -0.1**
DL2 pmax pmax
comp=Z,34nm,1.2s
DL2 pmax pmax
comp=Z,140nm,3.8s
BILL Bilibino 24.24 14 *e*P **P** **22 40 59.1 +3.6**
BILL *e**PP **pP** **22 41 09.8 +1.9**
BILL *e* 22 41 32.7
BILL *e* 22 44 36.9
BILL pmax pmax
comp=Z,7.0nm,0.9s
BILL MLR MLR
comp=Z,266nm,15.0s
BJI Beijing 25.86 271 P **P** **22 41 11.4 +0.9**
BJI pmax pmax
comp=Z,20nm,0.8s
BJI LR LR
comp=Z,170nm,15.3s
BJI LR LR
comp=Z,470nm,15.5s
BJI LR LR
comp=Z,490nm,16.4s
BJT Baijiatuau 25.87 271 P **P** **22 41 10.7 0.0**
BJT pmax pmax
comp=Z,12nm,0.7s
BJT Baijiatuau 25.87 271 P **P** **22 41 10.7 0.0**
NJ2 Nanjing 28.01 253 *e*P **P** **22 41 30.8 +0.9**
NJ2 pmax pmax
comp=Z,14nm,0.5s
H11N2 WAKE ISLAND Hy 28.73 147 T T 23 13 04.4
baz=337,slow=74
H11N1 WAKE ISLAND Hy 28.74 147 T T 23 13 05.5
baz=337,slow=74
H11N3 WAKE ISLAND Hy 28.75 147 T T 23 13 13.3
baz=337
HHC Hu-ho-hao-te 28.80 275 *e*P **P** **22 41 38.3 +1.3**
HHC pmax pmax
comp=Z,41nm,1.0s
HHC pmax pmax
comp=Z,140nm,4.0s
HHC LR LR
comp=Z,420nm,14.0s
HHC LR LR
comp=Z,290nm,14.9s
HHC LR LR
comp=Z,630nm,12.7s
TIY Taiyuan 29.49 269 *e*P **P** **22 41 40.6 -2.5**
TIY S **S** **22 46 31.3 -2.8**
TIY SS **SnSn** **22 48 05.4 +0.5**
TIY pmax pmax
comp=Z,140nm,4.8s
TIY LR LR
comp=Z,190nm,5.7s
TIY LR LR
comp=Z,240nm,6.4s
TIY LR LR
comp=Z,130nm,15.2s
H11S1 WAKE ISLAND Hy 29.77 148 T T 23 13 38.1
baz=337,slow=76,SNR=17
H11S3 WAKE ISLAND Hy 29.78 148 T T 23 13 55.2
baz=337,slow=76,SNR=942
H11S2 WAKE ISLAND Hy 29.79 148 T T 23 13 45.1
baz=337,slow=76,SNR=844
ULN Ulaanbaatar 29.89 291 P **P** **22 41 47.6 +0.9**
ULN pmax pmax
comp=Z,7.0nm,0.9s
ULN Ulaanbaatar 29.89 291 P **P** **22 41 47.6 +0.9**
ULN Ulaanbaatar 29.89 291 P **P** **22 41 48.3 +1.6**
comp=Z,41nm,1.1s
SONM Songino Array 30.34 291 P **P** **22 41 50.4 -0.1**
comp=Z,2.7nm,0.6s,baz=85,slow=7.9,SNR=12
SONM LR LR 22 55 09.5
comp=Z,338nm,18.4s,baz=84,slow=38
SONM Songino Array 30.34 291 P **P** **22 41 50.6 0.0**
SONM pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 30.34 291 P **P** **22 41 50.6 0.0**
ZAK Zakamensk 31.88 297 *e*P **P** **22 42 05.5 +1.4**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
ZAK Zakamensk 31.88 297 *e*P **P** **22 42 05.5 +1.4**
WHN Wuhan 31.98 255 ⇑P **P** **22 42 05.8 +0.8**
WHN S **S** **22 47 05.1 -8.0**
WHN pmax pmax
comp=Z,34nm,0.7s
WHN LR LR
comp=Z,480nm,4.7s
WHN LR LR
comp=Z,320nm,11.8s
WHN LR LR
comp=Z,670nm,18.9s
TPUB Ta-pu 32.87 238 P **P** **22 42 14.3 +1.4**
TPUB IAmb IAmb 22 42 16.3
comp=Z,37nm,1.2s
XAN Xi'an 33.78 265 P **P** **22 42 21.3 +0.5**
XAN pP pP 22 42 33.3 +0.1
XAN pmax pmax
comp=Z,9.0nm,1.2s
XAN LR LR
comp=Z,220nm,15.8s
XAN LR LR
comp=Z,200nm,13.1s
XAN LR LR
comp=Z,200nm,17.9s
SVW2 Sparrevohn 34.70 43 P **P** **22 42 28.0 -0.4**
SVW2 IAmb IAmb 22 42 29.3
comp=Z,20nm,1.5s
ENH Enshi 35.50 260 P **P** **22 42 35.2 -0.5**
ENH IAmb IAmb 22 42 36.8
comp=Z,12nm,0.8s
J20K Nowinta River 35.56 38 P **P** **22 42 36.4 +0.6**
IMAR Indian Mountai 35.93 35 P **P** **22 42 38.9 0.0**
H21K Melozitna Rive 36.28 36 P **P** **22 42 41.4 -0.6**
H21K IAmb IAmb 22 42 43.0
comp=Z,9.3nm,1.1s
KDAK Kodiak Island 36.31 49 P **P** **22 42 41.2 -1.0**
comp=Z,8.2nm,0.9s,baz=326,slow=15,SNR=4.0
KDAK Kodiak Island 36.31 49 P **P** **22 42 41.2 -1.0**
KDAK pmax pmax
comp=Z,16nm,1.0s
KDAK Kodiak Island 36.31 49 IAmb IAmb 22 42 42.3
comp=Z,16nm,1.0s
LZH Lanzhou 36.32 272 *e*P **P** **22 42 44.3 +1.5**
LZH pP pP 22 42 51.1 -4.5
LZH sP sP 22 42 55.3 -6.0
LZH SS SS 22 50 46.0 -14
LZH pmax pmax
comp=Z,51nm,1.1s
LZH pmax pmax
comp=Z,110nm,4.9s
LZH LR LR
comp=Z,220nm,14.1s
LZH LR LR
comp=Z,320nm,14.1s
LZH LR LR
comp=Z,320nm,15.0s
I21K Tanana 36.58 37 P **P** **22 42 44.8 +0.4**
KTH Kantishna Hill 36.95 39 P **P** **22 42 48.3 +0.5**
KTH IAmb IAmb 22 42 49.3
comp=Z,11nm,0.9s
MLY Manley 37.09 37 P **P** **22 42 49.6 +0.7**
BWN Browne 37.61 38 P **P** **22 42 53.8 +0.6**
BWN IAmb IAmb 22 42 55.5
comp=Z,19nm,0.9s
GTA Gaotai 37.62 280 ⇑P **P** **22 42 54.8 +1.1**
GTA pP pP 22 43 05.8 -0.6
GTA sP sP 22 43 09.9 -2.2
GTA PcP **PcP** **22 45 12.5 +2.0**
GTA pmax pmax
comp=Z,22nm,1.1s
GTA pmax pmax
comp=Z,37nm,5.8s
GTA LR LR
comp=Z,180nm,17.8s
GTA LR LR
comp=Z,180nm,16.4s
GTA LR LR
comp=Z,250nm,14.9s
NEA2 Nenana 37.79 38 P **P** **22 42 54.2 -0.6**
NEA2 IAmb IAmb 22 42 58.3
comp=Z,13nm,1.4s
PMR Palmer 37.80 43 P **P** **22 42 55.0 +0.2**
PMR pmax pmax
comp=Z,9.0nm,1.2s
PMR Palmer 37.80 43 P **P** **22 42 55.0 +0.2**
RND Reindeer 37.88 40 P **P** **22 42 55.8 +0.2**
RND pmax pmax
comp=Z,11nm,1.2s
RND Reindeer 37.88 40 P **P** **22 42 55.8 +0.2**
RND IAmb IAmb 22 42 56.1
comp=Z,11nm,1.2s
KNK Knik Glacier 38.14 43 P **P** **22 42 57.6 -0.1**
KNK IAmb IAmb 22 43 01.5
comp=Z,32nm,1.4s
MDM Murphy Dome 38.16 37 P **P** **22 42 58.2 +0.3**
SML Sawmill 38.17 42 P **P** **22 42 58.3 +0.2**
SML IAmb IAmb 22 42 59.0
comp=Z,12nm,0.8s
CCB Clear Creek Bu 38.34 38 P **P** **22 42 59.5 +0.2**
POKR Poker Plat Res 38.50 37 P **P** **22 43 01.0 +0.4**
POKR IAmb IAmb 22 43 02.3
comp=Z,13nm,0.8s
ILAR Eielson Array 38.73 37 P **P** **22 43 02.2 -0.4**
comp=Z,1.9nm,0.7s,baz=276,slow=8.7,SNR=6.7
ILAR PcP **PcP** **22 45 12.6 -0.7**
comp=Z,0.4nm,0.3s,baz=235,slow=3.2,SNR=1.4
NRIK Noril'sk 39.23 330 LR LR 23 00 01.8
comp=Z,142nm,19.2s,baz=108,slow=37
NRIK Noril'sk 39.23 330⇑ *e*P **P** **22 43 06.0 -0.7**
NRIK pmax pmax
comp=Z,8.0nm,1.3s
NRIK Noril'sk 39.23 330 P **P** **22 43 04.9 -1.9**
BMAR Burnt Mountain 39.67 33 P **P** **22 43 10.0 -0.5**
GYA Guiyang 39.81 257 ⇓P **P** **22 43 13.0 +0.8**
GYA pmax pmax
comp=Z,14nm,0.7s
VRDI Verde Repeater 40.56 43 P **P** **22 43 17.9 -0.2**
VRDI IAmb IAmb 22 43 22.5
comp=Z,19nm,1.3s
M26K Nabesna, AK 40.62 41 P **P** **22 43 19.5 +1.0**
M26K IAmb IAmb 22 43 20.6
comp=Z,11nm,0.9s
CRQM Cirque 40.78 43 P **P** **22 43 20.7 +0.8**
CRQM IAmb IAmb 22 43 25.4
comp=Z,22nm,1.0s
K27K Chicken 40.86 38 P **P** **22 43 20.6 +0.3**
L27K Beaver Creek, 41.08 40 P **P** **22 43 22.9 +0.8**
BCAR Beaver Creek A 41.10 40 P **P** **22 43 23.0 +0.7**
M27K Edge Creek, AK 41.15 41 P **P** **22 43 23.7 +0.8**
ISLE Juniper Island 41.19 44 P **P** **22 43 23.7 +0.4**
ISLE IAmb IAmb 22 43 42.4
comp=Z,28nm,1.3s
BARN Barnard Glacie 41.44 43 P **P** **22 43 26.0 +0.6**
BARN IAmb IAmb 22 43 27.2
comp=Z,12nm,0.9s
GRNC Granite Creek 41.45 43 P **P** **22 43 25.7 +0.3**
GRNC IAmb IAmb 22 43 27.2
comp=Z,12nm,0.8s
CTGM Chitina Glacie 41.62 43 P **P** **22 43 27.0 +0.2**
CTGM IAmb IAmb 22 43 28.5
comp=Z,11nm,0.8s
DGZ Jazzator, Alta 41.93 300⇓ *i*P **P** **22 43 31.8 +2.3**
DGZ pmax pmax
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 42.19 307 P **P** **22 43 29.9 -1.4**
comp=Z,0.8nm,0.4s,baz=62,slow=6.4,SNR=5.0
ZALV pP **pP** **22 43 42.9 -1.3**
comp=Z,1.2nm,0.6s,baz=85,slow=6.4,SNR=2.6
ZALV PcP **PcP** **22 45 24.9 +0.3**
comp=Z,3.7nm,0.7s,baz=62,slow=3.5,SNR=12
ZALV pPcP 22 45 37.2
comp=Z,3.0nm,0.7s,baz=70,slow=2.5,SNR=7.8
ZALV LR LR 23 02 15.5
comp=Z,259nm,18.2s,baz=68,slow=38
KMI Kunming 43.37 259 ⇑P **P** **22 43 42.4 +0.9**
KMI pP pwP 22 43 57.5 +3.3
KMI sP sP 22 44 03.3 +3.5
KMI pmax pmax
comp=Z,14nm,1.1s
KMI LR LR
comp=Z,130nm,14.3s
KMI LR LR
comp=Z,97nm,16.5s
KMI LR LR
comp=Z,170nm,17.7s
HYT Haines Junctio 43.48 43 P **P** **22 43 43.1 +1.3**
HYT IAmb IAmb 22 43 57.0
comp=Z,14nm,1.1s
INK Inuvik 43.78 31 P **P** **22 43 43.9 -0.1**
comp=Z,5.1nm,0.9s,baz=275,slow=6.9,SNR=5.7
INK Inuvik 43.78 31 P **P** **22 43 44.7 +0.8**
INK pmax pmax
comp=Z,15nm,1.3s
INK Inuvik 43.78 31 P **P** **22 43 44.7 +0.8**
WMQ Urumqi 43.97 292 *e*P **P** **22 43 47.3 +1.4**
WMQ pmax pmax
comp=Z,16nm,0.7s
WMQ pmax pmax
comp=Z,120nm,4.1s
WMQ LR LR
comp=Z,320nm,15.1s
WMQ LR LR
comp=Z,180nm,18.7s
WMQ LR LR
comp=Z,190nm,21.3s
SLVN Son La 45.08 254 P **P** **22 43 55.1 +0.2**
BESE Bessie Mountai 45.36 45 P **P** **22 43 56.7 0.0**
MK31 Makanchi Array 46.20 298 P **P** **22 44 04.0 +0.5**
MK31 pmax pmax
comp=Z,9.0nm,0.8s
MK31 Makanchi Array 46.20 298 P **P** **22 44 04.0 +0.5**
MK31 IAmb IAmb 22 44 06.4
comp=Z,9.3nm,0.8s
MKAR Makanchi Array 46.20 298 P **P** **22 44 03.6 +0.1**
comp=Z,5.9nm,0.5s,baz=72,slow=6.8,SNR=58
MKAR PcP **PcP** **22 45 38.4 -0.2**
comp=Z,2.6nm,0.7s,baz=48,slow=5.4,SNR=4.3
MKAR pPcP 22 45 51.5
comp=Z,1.8nm,0.7s,baz=77,slow=5.5,SNR=2.9
MKAR LR LR 23 04 33.2
comp=Z,327nm,19.3s,baz=64,slow=38
MKAR Makanchi Array 46.20 298 *i*P **P** **22 44 04.3 +0.8**
MKAR pmax pmax
comp=Z,6.0nm,0.5s
MKAR Makanchi Array 46.20 298 *e*P **P** **22 44 04.3 +0.8**
MAKZ Makanchi 46.39 298 P **P** **22 44 05.7 +0.7**
MAKZ pmax pmax
comp=Z,10.0nm,0.7s
MAKZ Makanchi 46.39 298 P **P** **22 44 05.7 +0.7**
MAKZ IAmb IAmb 22 44 07.5
comp=Z,9.9nm,0.7s
KURK Kurchatov 46.86 304 P **P** **22 44 08.0 -0.5**
KURK Kurchatov 46.86 304 P **P** **22 44 08.0 -0.5**
KURK Kurchatov 46.86 304 *e*P **P** **22 44 08.0 -0.5**
KURBB Kurchatov Arra 46.95 304 P **P** **22 44 08.0 -1.3**
comp=Z,4.0nm,0.5s,baz=76,slow=8.2,SNR=32
KURBB PcP **PcP** **22 45 41.2 +0.2**
comp=Z,1.9nm,0.8s,baz=71,slow=3.3,SNR=5.3
KURBB pPcP 22 45 53.1
comp=Z,1.4nm,0.7s,baz=72,slow=3.3,SNR=5.2
LSA Lhasa 48.74 273 P **P** **22 44 26.3 +2.4**
LSA pmax pmax
comp=Z,72nm,1.0s
LSA Lhasa 48.74 273 P **P** **22 44 26.1 +2.2**
LSA Lhasa 48.74 273 P **P** **22 44 24.9 +1.0**
LSA pmax pmax
comp=Z,14nm,0.8s
LSA Lhasa 48.74 273 P **P** **22 44 24.9 +1.0**
LSA IAmb IAmb 22 44 27.1
comp=Z,14nm,0.8s
SHLS Shalkode 49.62 294 *e*P **P** **22 44 28.0 -2.2**
baz=294
SHLS Shalkode 49.62 294 *e*P **P** **22 44 27.9 -2.2**
KPKS Kokpek 49.97 295 *e*P **P** **22 44 33.5 +0.7**
comp=Z,9.9nm,0.6s,baz=295
KPKS Kokpek 49.97 295 *e*P **P** **22 44 33.4 +0.7**
KPKS pmax pmax
comp=Z,10.0nm,0.6s
CHAI Chaiyaphum 50.18 251 P **P** **22 44 36.7 +2.2**
comp=Z,17nm,0.8s
CMMT Chiang Mai 50.19 256 P **P** **22 44 36.0 +1.4**
comp=Z,12nm,0.8s
CMMT Chiang Mai 50.19 256 P **P** **22 44 36.0 +1.4**
comp=Z,11nm,0.8s
CHTO Chiang Mai 50.19 256 P **P** **22 44 35.7 +1.2**
CHTO pmax pmax
comp=Z,9.0nm,0.8s
CHTO Chiang Mai 50.19 256 P **P** **22 44 36.2 +1.6**
comp=Z,12nm,0.8s
CHTO Chiang Mai 50.19 256 P **P** **22 44 35.7 +1.2**
CHTO IAmb IAmb 22 44 36.9
comp=Z,8.9nm,0.8s
CHTO Chiang Mai 50.19 256 P **P** **22 44 36.2 +1.6**
comp=Z,6.7nm,0.8s
SATY Saty 50.34 295 *e*P **P** **22 44 34.3 -1.3**
comp=Z,22nm,1.7s,baz=295
SATY Saty 50.34 295 *e*P **P** **22 44 34.3 -1.3**
SATY pmax pmax
comp=Z,22nm,1.7s
CMAR Chiang Mai Arr 50.44 256 P **P** **22 44 37.6 +1.2**
comp=Z,2.5nm,0.7s,baz=44,slow=7.4,SNR=12
CMAR PcP **PcP** **22 45 55.2 +1.1**
comp=Z,1.0nm,0.3s,baz=23,slow=2.6,SNR=5.5
CMAR LR LR 23 08 05.9
comp=Z,94nm,18.4s,baz=96,slow=38
CMAR Chiang Mai Arr 50.44 256 P **P** **22 44 37.3 +0.9**
BRVK Borovoye 50.61 310 P **P** **22 44 36.9 -0.4**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BRVK Borovoye 50.61 310 P **P** **22 44 36.9 -0.4**
BRVK Borovoye 50.61 310 *e*P **P** **22 44 36.9 -0.4**
CHKK Chushkaly 50.86 296 *e*P **P** **22 44 39.2 -0.2**
baz=296
EUNU Eureka 50.92 11 P **P** **22 44 38.6 -0.7**
EUNU IAmb IAmb 22 44 40.4
comp=Z,16nm,1.0s
MDOK Medeo 51.16 296 *e*P **P** **22 44 41.7 -0.1**
baz=296
MDOK Medeo 51.16 296 *e*P **P** **22 44 41.7 -0.1**
AAA Alma-Ata 51.23 296 *e*P **P** **22 44 42.3 +0.1**
baz=296
AAA Alma-Ata 51.23 296 *e*P **P** **22 44 42.2 +0.1**
AAA Alma-Ata 51.23 296 *e*P **P** **22 44 42.2 +0.1**
KUU Kurty 51.25 297⇑ *i*P **P** **22 44 42.2 -0.2**
comp=Z,7.2nm,0.5s,baz=297
KUU Kurty 51.25 297 *c i*P **P** **22 44 42.1 -0.2**
KUU pmax pmax
comp=Z,7.0nm,0.5s
TNSS Tian-Shan 51.29 296 *e*P **P** **22 44 44.1 +1.0**
baz=296
SRAK Srakaew 51.51 249 P **P** **22 44 44.2 -0.3**
comp=Z,157nm,0.8s
MTBS Maitube 51.57 296 *e*P **P** **22 44 45.7 +0.9**
baz=296
BTLS Baital 52.12 299 *i*P **P** **22 44 48.0 -0.7**
baz=299
BTLS Baital 52.12 299 *i*P **P** **22 44 48.0 -0.7**
ULHL Ulahol 52.13 295 P **P** **22 44 50.8 +1.7**
SNR=8.1
TKM2 Tokmak 2 52.21 296 P **P** **22 44 50.9 +1.3**
SNR=6.1
SGDS Sogindy 52.55 297 *e*P **P** **22 44 52.0 0.0**
comp=Z,5.8nm,0.8s,baz=297
USP Ospenovka 52.73 297 P **P** **22 44 54.8 +1.5**
SNR=10
KBK Karagaybulak 52.75 296 P **P** **22 44 55.1 +1.4**
SNR=10
KZA Kyzart 52.85 295 P **P** **22 44 57.0 +2.2**
SNR=8.7
AAK Ala-Archa 53.05 296 LR LR 23 09 02.6
comp=Z,246nm,18.4s,baz=58,slow=38
AAK Ala-Archa 53.05 296 P **P** **22 44 57.3 +1.5**
SNR=9.1
AAK Ala-Archa 53.05 296 *i*P **P** **22 44 57.2 +1.3**
SNR=9.9
AAK Ala-Archa 53.05 296 *ce*P **P** **22 44 56.9 +1.1**
AAK pmax pmax
comp=Z,40nm,0.9s
AAK Ala-Archa 53.05 296 P **P** **22 44 56.5 +0.6**
AAK IAmb IAmb 22 44 57.9
comp=Z,12nm,0.9s
AAK Ala-Archa 53.05 296 *e*P **P** **22 44 56.9 +1.1**
YKA Yellowknife Ar 53.09 35 P **P** **22 44 54.5 -1.1**
comp=Z,2.8nm,0.9s,baz=302,slow=6.6,SNR=4.0
YKA Yellowknife Ar 53.09 35 *i*P **P** **22 44 55.9 +0.3**
YKA pmax pmax
comp=Z,3.0nm,0.9s
NOR Nord 53.23 358 *i*P **P** **22 44 55.6 -0.8**
NOR IAmb IAmb 22 44 57.0
comp=Z,11nm,1.2s
NOR Nord 53.23 358 *i*P **P** **22 44 55.6 -0.8**
NOR pmax pmax
comp=Z,11nm,1.2s
JIRN Jiri 53.45 274 *e*P **P** **22 45 00.8 +1.6**
comp=Z,65nm,0.6s
EKS2 Erkin-Say 53.49 297 P **P** **22 45 00.5 +1.4**
SNR=9.9
RAMN Ramite 53.59 273 *e*P **P** **22 45 01.3 +1.2**
comp=Z,63nm,0.6s
KSH Kashi 53.73 292 P P 22 45 06.1 +5.3
KSH pP sP 22 45 19.8 +0.4
KSH sP pP 22 45 23.6 +10
KSH pmax pmax
comp=Z,16nm,0.9s
KSH LR LR
comp=Z,240nm,14.5s
KSH LR LR
comp=Z,200nm,16.3s
KSH LR LR
comp=Z,260nm,20.4s
AML Almayashu 53.82 296 P **P** **22 45 03.7 +1.9**
SNR=5.6
AML Almayashu 53.82 296 P **P** **22 45 03.4 +1.6**
SVE Sverdlovsk 53.83 317 *e*P **P** **22 45 00.7 -0.4**
KKN Kakani 54.01 275 *e*P **P** **22 45 04.5 +1.4**
comp=Z,97nm,0.9s
PKI Pulchoki 54.05 275 *e*P **P** **22 45 04.7 +1.1**
comp=Z,38nm,0.8s
PKIN Phulchoki 54.05 275 *e*P **P** **22 45 04.7 +1.2**
comp=Z,19nm,0.6s
DMN Daman 54.24 275 *e*P **P** **22 45 06.4 +1.5**
comp=Z,92nm,1.0s
GKN Gorkha 54.33 275 *e*P **P** **22 45 06.7 +1.3**
comp=Z,77nm,0.8s
DANN Dangsing 54.74 276 *e*P **P** **22 45 10.1 +1.6**

comp=Z,53nm,0.6s
ARU Arti 55.03 317 *d i* P **P 22 45 07.1 -2.7**
ARU *PP **pP 22 45 19.0 -4.2**
ARU 22 46 08.9
ARU S **S 22 52 43.5 -4.7**
ARU pmax pmax
comp=Z,7.0nm,0.9s
ARU Arti 55.03 317 P **P 22 45 08.2 -1.7**
ARU IAmb IAmb 22 45 11.8
comp=Z,11nm,1.2s
KOLN Koldanda 55.20 276 *e*P **P 22 45 13.1 +1.3**
comp=Z,91nm,1.0s
KK31 Karatay Array 55.30 299 P **P 22 45 12.5 +0.4**
KK31 pmax pmax
comp=Z,9.0nm,0.8s
KK31 Karatay Array 55.30 299 P **P 22 45 12.4 +0.4**
KK31 IAmb IAmb 22 45 13.6
comp=Z,9.4nm,0.8s
KKAR Karatay Array 55.30 299 P **P 22 45 12.5 +0.4**
KKAR pmax pmax
comp=Z,9.0nm,0.8s
KKAR Karatay Array 55.30 299 P **P 22 45 12.4 +0.4**
KKAR IAmb IAmb 22 45 13.6
comp=Z,9.4nm,0.8s
PYUN Piuthan 55.43 277 *e*P **P 22 45 14.8 +1.4**
comp=Z,101nm,0.9s
DRK Karamyk 56.46 294 P **P 22 45 21.7 +1.0**
BTK Batken 56.77 295 P **P 22 45 23.2 +0.5**
BTK pmax pmax
comp=Z,22nm,1.0s
BTK Batken 56.77 295 P **P 22 45 23.2 +0.5**
NEEM North Greenlan 56.83 6 *i* P **P 22 45 21.3 -1.5**
NEEM IAmb IAmb 22 45 22.5
comp=Z,18nm,0.8s
PRGR Permogore 57.75 327 *e*P **P 22 45 27.2 -1.9**
PRGR pmax pmax
comp=Z,8.0nm,0.9s
DAG Danmarks Havn 58.08 357 *i* P **P 22 45 30.0 -1.2**
DAG IAmb IAmb 22 45 31.2
comp=Z,18nm,1.2s
DAG Danmarks Havn 58.08 357 *i* P **P 22 45 30.0 -1.2**
DAG pmax pmax
comp=Z,18nm,1.2s
ABKAR Akbulak array 58.14 310 IAmb IAmb 22 45 34.1
comp=Z,13nm,1.4s
ARCES ARCESS Array B 58.74 340 P **P 22 45 34.2 -1.7**
comp=Z,3.1nm,1.1s,baz=38,slow=8.0,SNR=3.6
NIL Nilore 58.84 288 P **P 22 45 38.5 +1.3**
NIL pmax pmax
comp=Z,74nm,0.9s
NIL Nilore 58.84 288 P **P 22 45 38.5 +1.3**
KLMR Klimovskoe 60.55 328 *e*P **P 22 45 44.4 -4.0**
KLMR pmax pmax
comp=Z,5.0nm,0.9s
KLMR Klimovskoe 60.55 328 *e*P **P 22 45 44.5 -4.0**
KLMR AMP 22 45 49.6
comp=Z,5.0nm,0.9s
KBL Kabul 61.11 291 P **P 22 45 52.8 -0.2**
KBL pmax pmax
comp=Z,35nm,0.8s
KBL Kabul 61.11 291 P **P 22 45 52.8 -0.2**
SUMG Summit 62.30 3 *i* P **P 22 46 01.0 +0.4**
SUMG IAmb IAmb 22 46 01.7
comp=Z,41nm,0.9s
SUMG Summit 62.30 3 *i* P **P 22 46 01.0 +0.4**
SUMG pmax pmax
comp=Z,41nm,0.9s
BELG Belogornoye 62.57 318 *ce*P **P 22 46 01.8 -0.4**
BELG pmax pmax
comp=Z,2.0nm,0.6s
BOZ Bozeman (W) 63.99 51 P **P 22 46 12.2 +0.3**
BOZ pmax pmax
comp=Z,3.0nm,1.0s
BOZ Bozeman (W) 63.99 51 P **P 22 46 12.2 +0.3**
NVAR Mina Array Bea 64.58 60 pP pP 22 46 28.2 -0.8
comp=Z,1.3nm,0.6s,baz=283,slow=5.5,SNR=3.6
FINES FINESS Array B 64.70 334 P **P 22 46 14.2 -1.9**
comp=Z,4.4nm,0.6s,baz=35,slow=7.3,SNR=29
FINES LR LR 23 16 48.6
comp=Z,127nm,20.1s,baz=50,slow=38
FINES FINESS Array B 64.70 334 *i* P **P 22 46 14.6 -1.5**
FINES pmax pmax
comp=Z,4.0nm,0.6s
DBJI Dramaga 64.89 230 P P 22 46 23.6 +5.6
comp=Z,32umcomp=Z,80nm,1.6s
HYB Hyderabad 65.40 270 *i* P **P 22 46 21.0 -0.3**
OBN Obninsk 65.62 325 *e*P **P 22 46 22.2 +0.1**
OBN *e*PP **pP 22 46 35.9 +0.2**
OBN *e* 22 46 54.0
OBN *e* 22 48 47.1
OBN pmax pmax
comp=Z,8.0nm,1.3s
OBN MLR MLR
comp=Z,61nm,19.0s
HRA Herat 65.63 295 P **P 22 46 23.2 +0.3**
HRA IAmb IAmb 22 46 24.6
comp=Z,12nm,0.7s
ICESG Greenland Ices 65.72 4 *i* P **P 22 46 23.3 +0.3**
ICESG IAmb IAmb 22 46 24.5
comp=Z,27nm,1.0s
LCH Last Change Ra 65.73 61 P **P 22 46 25.0 +1.6**
GEYT Alibeck 65.97 300 P **P 22 46 24.9 +0.1**
comp=Z,169nm,0.5s,baz=46,slow=4.3,SNR=38
WR0 Warramunga Arr 66.56 197 P **P 22 46 29.7 +1.2**
WR0 IAmb IAmb 22 46 43.2
comp=Z,15nm,0.9s
WB2 Warramunga Arr 66.58 197 P **P 22 46 29.6 +1.0**
WB2 IAmb IAmb 22 46 43.9
comp=Z,19nm,0.9s
WRA Warramunga Arr 66.58 197 P **P 22 46 29.4 +0.8**
comp=Z,5.0nm,0.8s,baz=15,slow=6.7,SNR=12
WRA pP **pP 22 46 42.8 +1.7**
comp=Z,13nm,0.8s,baz=17,slow=6.2,SNR=23
WRA Warramunga Arr 66.58 197 P **P 22 46 29.3 +0.6**
PDAR Pinedale Array 66.94 52 P **P 22 46 30.9 -0.3**
comp=Z,1.7nm,0.8s,baz=304,slow=1.7,SNR=14
FITZ Fitzroy Crossi 67.06 206 P **P 22 46 32.3 +0.6**
comp=Z,3.2nm,0.9s,baz=0.0,slow=3.0,SNR=3.7
DY2G Dye2 67.85 7 *i* P **P 22 46 36.6 +0.1**
DY2G IAmb IAmb 22 46 38.6
comp=Z,7.4nm,0.7s
POO Poona 67.98 274 *e*P **P 22 46 35.0 -2.8**
RDMU Red Mountain 68.38 54 P **P 22 46 41.1 +0.8**
RDMU IAmb IAmb 22 46 54.4
comp=Z,6.5nm,0.8s
DZM Mont Dzumac 68.49 164 *e*LR LR 23 07 27.4
comp=Z,163nm,21.2s
NC405 NORSAR Array S 68.93 340 P **P 22 46 41.5 -1.5**
NC204 NORSAR Array S 69.02 341 P **P 22 46 42.9 -0.8**
NB2 NORSAR Subarra 69.11 340 P **P 22 46 43.1 -1.1**
comp=Z,9.1nm,0.7s,baz=28,slow=6.5
NOA NORSAR Array B 69.11 340 P **P 22 46 43.4 -0.8**
comp=Z,10.0nm,0.8s,baz=28,slow=6.6,SNR=33
MNK Minsk 69.45 328 *i* P **P 22 46 44.6 -1.7**
MNK *i* 22 49 18.2
MNK *i* PPP PPP 22 50 59.4
MNK *i* S **S 22 55 48.5 -1.2**
MNK *i* SS **SS 23 00 15.9 -0.7**
MNK pmax pmax
comp=E,2.0nm,1.4s
MNK pmax pmax
comp=Z,16nm,0.8s
MNK pmax pmax
comp=N,12nm,1.1s
MNK MLR MLR
comp=N,171nm,18.0s
MNK MLR MLR
comp=Z,352nm,19.0s
MNK MLR MLR
comp=E,18nm,15.0s
MNK Minsk 69.45 328 *i* P **P 22 46 44.6 -1.7**
comp=E,2.0nm,1.4s
MNK *i* P **P 22 46 44.6 -1.7**
comp=N,12nm,1.1s
MNK *i* P **P 22 46 44.6 -1.7**
comp=Z,16nm,0.8s,baz=39
MNK *i* PP **PP 22 49 18.3 -1.4**
MNK *i* PPP PPP 22 50 59.4
MNK *i* S **S 22 55 48.5 -1.2**
MNK *i* SS **SS 23 00 15.9 -0.6**
MNK *i* SSS SSS 23 03 35.0
MNK *i* LQ LQ 23 12 26.8
MNK *i* LR LR 23 17 43.9
MNK *i* LRM MLR 23 20 14.4
comp=N,171nm,17.9s
MNK *i* LRM MLR 23 20 18.9
comp=Z,352nm,19.2s
MNK *i* LRM MLR 23 20 21.5
comp=E,18nm,14.7s
NACGM Naroch 69.54 329 *i* P **P 22 46 46.2 -0.6**
AKT Akhty 69.69 309 *e*P **P 22 46 49.4 +1.2**
AKT *e* 22 47 11.4
AKT pmax pmax
comp=Z,35nm,0.8s
GOF Gofitskoye 69.72 314 ⇑⇓ *e*P **P 22 46 49.3 +1.1**
GOF pmax pmax
comp=Z,70nm,0.9s
PV22 Blue Mesa, Par 70.19 55 P **P 22 46 52.1 +0.7**
ASAR Alice Springs 70.29 196 P **P 22 46 53.1 +1.3**
comp=Z,3.2nm,0.8s,baz=14,slow=5.8,SNR=18
ASAR pP **pP 22 47 06.7 +2.3**
comp=Z,9.1nm,0.9s,baz=14,slow=5.9,SNR=20
KIV Kislovodsk 70.67 313 ⇑ P **P 22 46 56.2 +2.0**
KIV Kislovodsk 70.67 313 *i* P **P 22 46 55.6 +1.5**
SNR=12
KIV Kislovodsk 70.67 313 ⇑ P **P 22 46 56.2 +2.0**
KIV Kislovodsk 70.67 313 P **P 22 46 54.5 +0.3**
KIV Kislovodsk 70.67 313 *e*P **P 22 46 55.4 +1.2**
KBZ Khabaz 70.72 313 P **P 22 46 55.1 +0.8**
comp=Z,28nm,0.9s,baz=62,slow=3.5,SNR=59
KBZ LR LR 23 21 49.7
comp=Z,257nm,20.5s,baz=36,slow=39
KBZ Khabaz 70.72 313 *c i* P **P 22 46 55.5 +1.2**
KBZ pmax pmax
comp=Z,40nm,1.0s
KBZ Khabaz 70.72 313 *e*P **P 22 46 55.5 +1.2**
ZEI Tsey 70.86 312 *e*P **P 22 46 55.3 -0.1**
ZEI pmax pmax
comp=Z,7.0nm,0.9s
NEY Neytrino 71.15 313 ⇓ *e*P **P 22 46 58.3 +1.1**
NEY pmax pmax
comp=Z,3.0nm,0.8s
F33A 5 Mile Ranch, 71.71 43 IAmb IAmb 22 47 00.7
comp=Z,6.7nm,0.8s
AKASG Malin Array Be 71.88 325 P **P 22 47 00.5 -0.7**
comp=Z,6.6nm,0.4s,baz=35,slow=6.2,SNR=29
AKASG LR LR 23 21 07.9
comp=Z,145nm,18.2s,baz=355,slow=38
AKASG Malin Array Be 71.88 325 *i* P **P 22 47 00.8 -0.4**
AKASG pmax pmax
comp=Z,7.0nm,0.4s
AKBB Malin Array Si 71.88 325 ⇑ *e*P **P 22 47 00.8 -0.4**
AKBB pmax pmax
comp=Z,10.0nm,0.6s
AKBB Malin Array Si 71.88 325 IAmb IAmb 22 47 01.6
comp=Z,11nm,0.7s
AKH Akhalkalaki 72.04 311 ⇑ P **P 22 47 04.6 +2.0**
GNI Garni 72.25 309 *c i* P **P 22 47 06.1 +2.3**
GNI pmax pmax
comp=Z,37nm,1.3s
GNI Garni 72.25 309 P **P 22 47 04.4 +0.6**
GNI IAmb IAmb 22 47 09.2
comp=Z,32nm,1.2s
ANN Anapa 72.69 317 *e*P **P 22 47 05.9 -0.2**
ANN *e*PP **pP 22 47 17.4 -2.4**
ANN *e*S **S 22 56 26.3 -1.1**
ANN pmax pmax
comp=Z,18nm,0.6s
BCA Borcka 73.01 312 ⇓ P **P 22 47 09.4 +1.3**
ECSD EROS Data Cent 73.09 44 P **P 22 47 08.6 0.0**
ECSD IAmb IAmb 22 47 09.2
comp=Z,10nm,1.1s
GKP Gorka Klasztor 74.13 333 *e*P **P 22 47 14.5 +0.1**
BEL Belsk 74.14 330 *e*P **P 22 47 13.2 -1.3**
SORM Soroca 74.24 324 ⇑ P **P 22 47 14.5 -0.6**
SORM Soroca 74.24 324 ⇑ P **P 22 47 14.5 -0.6**
LVV L'vov 74.61 327 *e*P **P 22 47 17.8 +0.5**
KOPT Kop Dagi 74.63 312 P **P 22 47 18.5 +0.6**
KOPT IAmb IAmb 22 47 21.6
comp=Z,16nm,1.1s
PURM Purcari 74.85 322 ⇓ P **P 22 47 17.7 -1.0**
MILM Milestii Mici 75.00 323 ⇑ P **P 22 47 18.6 -1.0**
BANOM Banah 75.06 292 *i* P **P 22 47 21.4 +1.0**
SNR=6.3
KWP Kalwaria Pacla 75.27 328 *e*P **P 22 47 22.3 +1.2**
IAS Iasi 75.31 324 ⇑ P **P 22 47 21.8 +0.4**
IAS Iasi 75.31 324 ⇑ P **P 22 47 21.8 +0.4**
SCHQ Schefferville 75.31 21 P **P 22 47 21.5 +0.2**
comp=Z,9.9nm,1.0s,baz=279,slow=9.3,SNR=3.8
SCHQ Schefferville 75.31 21 IAmb IAmb 22 47 22.3
comp=Z,15nm,1.1s
MSFE Esma-Masafi 75.53 291 P **P 22 47 24.0 +0.9**
BSEG Bad Segeberg 75.61 337 *e*P **P 22 47 23.6 +0.7**
comp=Z,14nm,0.9s,baz=28,slow=5.6
VASR Vaslui 75.65 323 ⇑ P **P 22 47 23.7 +0.4**
PRAR RASCA 75.73 325 ⇑ P **P 22 47 22.5 -1.3**
UOSS Minazif 75.79 291 P **P 22 47 25.1 +0.6**
UOSS Minazif 75.79 291 P **P 22 47 24.5 0.0**
UOSS IAmb IAmb 22 47 26.1
comp=Z,9.3nm,0.8s
OJC Ojcow 75.84 330 *e*P **P 22 47 24.9 +0.6**
RUE Ruedersdorf 75.89 335 *e*P **P 22 47 25.2 +0.6**
comp=Z,31nm,1.1s,baz=28,slow=5.6
HATD Hatta, Dubai 75.92 291 *i* P **P 22 47 26.5 +1.3**
SNR=6.8
BURAR Bucovina Array 75.93 325 ⇓ P **P 22 47 25.7 +0.6**
BURAR Bucovina Array 75.93 325 ⇓ P **P 22 47 25.7 +0.6**
KOLS Kolonicke sedl 76.00 328 *e*P **P 22 47 25.8 +0.5**
KOLS pmax pmax
comp=Z,31nm,1.2s
KOLS Kolonicke sedl 76.00 328 *e*P **P 22 47 25.8 +0.5**
ASHO Ashiyiah 76.06 291 P **P 22 47 27.2 +1.1**
DIKM Dikmen 76.09 316 ⇓ P **P 22 47 27.7 +1.8**
BIZ Bicaz 76.11 325 ⇑ P **P 22 47 26.6 +0.6**
SOHO SOHO 76.12 290 P **P 22 47 26.9 +0.5**
VLDR Vladesti 76.16 323 ⇑ P **P 22 47 27.0 +0.8**
TESR Tescani 76.23 324 ⇑ P **P 22 47 26.8 +0.1**
UZH Uzhgorod 76.24 328 *e*P **P 22 47 26.2 -0.5**
UZH *e* 22 47 40.0
UZH *e* 22 47 45.6
FAQ Al Faqa, Dubai 76.33 291 *i* P **P 22 47 27.9 +0.3**
SNR=6.8
NIE Niedzica 76.33 329 *e*P **P 22 47 28.9 +1.7**
TLCR 76.36 322 ⇓ P **P 22 47 27.4 0.0**
TLCR 76.36 322 ⇓ P **P 22 47 27.4 0.0**
MARD Mardin 76.44 310 P **P 22 47 29.6 +1.4**
BZK Bozkurt 76.47 317 P **P 22 47 26.8 -1.3**
KSP Ksiaz 76.50 332 *e*P **P 22 47 28.7 +0.6**
TRPA Tarpa 76.56 327 ⇓ P **P 22 47 29.5 +1.1**
TRPA Tarpa 76.56 327 *e*P **P 22 47 29.1 +0.7**
BMR Baia Mare 76.56 326 ⇓ P **P 22 47 29.9 +1.3**
BMR Baia Mare 76.56 326 ⇓ P **P 22 47 29.9 +1.3**
ASUD Al Ashush, Dub 76.58 291 P **P 22 47 29.9 +0.9**
CFR Carcaliu 76.66 322 ⇑ P **P 22 47 29.3 +0.2**
CFR Carcaliu 76.66 322 ⇑ P **P 22 47 29.3 +0.2**
ALNE Al Ain 76.69 291 P **P 22 47 30.9 +1.2**
VRI Vrincioaia 76.72 324 ⇓ P **P 22 47 28.7 -0.8**
VRI Vrincioaia 76.72 324 ⇓ P **P 22 47 28.7 -0.8**
PLOR Plostina 76.76 324 ⇑ P **P 22 47 30.5 +0.8**
PLOR Plostina 76.76 324 ⇑ P **P 22 47 30.5 +0.8**
FLTG Flechtingen 76.77 336 *e*P **P 22 47 29.7 +0.2**
comp=Z,22nm,0.9s,baz=28,slow=5.6
OSTC Ostas 76.78 332 *e*P **P 22 47 30.3 +0.6**
TPGR Topolog 76.79 322 ⇑ P **P 22 47 30.3 +0.4**
CHVC Chvalec 76.80 332 *e*P **P 22 47 30.3 +0.5**
AMTX Amarillo 76.82 54 P **P 22 47 30.1 -0.3**
AMTX IAmb IAmb 22 47 48.5
comp=Z,6.9nm,0.8s
LANS Liptovska Anna 76.85 330 *e*P **P 22 47 31.7 +1.5**
LANS pmax pmax
comp=Z,17nm,0.8s
LANS Liptovska Anna 76.85 330 *e*P **P 22 47 31.7 +1.5**
MSTX Muleshoe 76.85 55 P **P 22 47 31.3 +0.7**
MSTX IAmb IAmb 22 47 32.4
comp=Z,6.9nm,0.8s
UPC Upice 76.88 332 *e*P **P 22 47 31.1 +0.8**
UPC Upice 76.88 332 *e*P **P 22 47 31.1 +0.8**
DPC Dobruska-Polom 76.92 332 *e*P **P 22 47 31.1 +0.6**
DPC Dobruska-Polom 76.92 332 *e*P **P 22 47 31.1 +0.6**
OZUR 76.92 324 ⇓ P **P 22 47 30.8 +0.2**
NRDL Niedersach Rie 76.95 337 *e*P **P 22 47 31.2 +0.7**
comp=Z,21nm,1.1s,baz=28,slow=5.6
COVR Voineasa-Covas 76.95 324 ⇑ P **P 22 47 32.0 +1.2**
BISRR Bisoca 76.98 323 ⇑ P **P 22 47 32.6 +1.6**
MORC Moravsky Berou 76.99 331 ⇑ P **P 22 47 31.7 +0.7**
MORC Moravsky Berou 76.99 331 ⇑ P **P 22 47 31.7 +0.7**
MORC Moravsky Berou 76.99 331 *e*P **P 22 47 31.6 +0.7**
KRLC Kraliky 77.00 332 *e*P **P 22 47 31.4 +0.4**
KRLC Kraliky 77.00 332 *e*P **P 22 47 31.4 +0.4**
KECS Kecovo 77.04 329 *e*P **P 22 47 31.8 +0.6**
KECS Kecovo 77.04 329 *e*P **P 22 47 31.8 +0.6**
HARR Harsova 77.14 322 ⇑ P **P 22 47 32.6 +0.8**
HARR Harsova 77.14 322 ⇑ P **P 22 47 32.6 +0.8**
CLL Collm 77.14 334 *i* P **P 22 47 31.5 -0.2**
comp=Z,36nm,1.0s
CLL L L 23 24 00.0
comp=Z,100nm,19.3s
CLL Collm 77.14 334 *i* P **P 22 47 31.5 -0.2**
CLL pmax pmax
comp=Z,36nm,1.0s
CLL Collm 77.14 334 *e*P **P 22 47 31.9 +0.2**
comp=Z,36nm,1.0s,baz=28,slow=5.6
MESR Meseseni 77.21 326 ⇑ P **P 22 47 33.0 +0.8**
BRG Berggiesshubel 77.23 334 *e*P **P 22 47 32.7 +0.5**
comp=Z,12nm,1.2s,baz=28,slow=5.6
BRG Berggiesshubel 77.23 334 *e*P **P 22 47 32.3 +0.1**
BRG Amp 22 47 34.0
comp=Z,8.4nm,0.9s
BRG Berggiesshubel 77.23 334 P P 22 47 47.7 +15
BRG Amp 22 47 48.6
comp=Z,5.2nm,1.0s
ILGA Ilgaz 77.30 316 P **P 22 47 34.0 +0.9**
CJR Cluj-Napoca 77.31 326 ⇓ P **P 22 47 34.4 +1.6**
CJR Cluj-Napoca 77.31 326 ⇓ P **P 22 47 34.4 +1.6**
PVCC Panska Ves 77.33 333 *e*P **P 22 47 33.3 +0.5**
PVCC Panska Ves 77.33 333 *e*P **P 22 47 33.3 +0.5**
MLR Muntele Rosu 77.34 324 ⇓ P **P 22 47 33.8 +0.7**
MLR Muntele Rosu 77.34 324 ⇓ P **P 22 47 33.8 +0.7**
FBE Freiberg 77.37 334 *e*P **P 22 47 33.7 +0.7**
comp=Z,24nm,1.0s,baz=28,slow=5.6
ISR Istrita 77.39 323 ⇑ P **P 22 47 34.5 +1.2**
ISR Istrita 77.39 323 ⇑ P **P 22 47 34.5 +1.2**
CLZ Clausthal 77.45 336 *e*P **P 22 47 34.5 +1.0**
comp=Z,28nm,1.1s,baz=28,slow=5.6
DRGR 77.59 326 ⇑ P **P 22 47 34.8 +0.4**
DRGR 77.59 326 ⇑ P **P 22 47 34.8 +0.4**
NEUB Neuenburg 77.60 335 *e*P **P 22 47 34.8 +0.5**
comp=Z,22nm,0.9s,baz=28,slow=5.6
VYHS Vyhne 77.63 330 *e*P **P 22 47 35.2 +0.7**
VYHS pmax pmax
comp=Z,22nm,1.2s
VYHS Vyhne 77.63 330 *e*P **P 22 47 35.2 +0.7**
ICOR Ion Corvin 77.65 322 ⇑ P **P 22 47 36.0 +1.4**
VRAC Vranov 77.72 331 ⇑ P **P 22 47 35.9 +0.9**
VRAC Vranov 77.72 331 ⇑ P **P 22 47 35.9 +0.9**
VRAC Vranov 77.72 331 *e*P **P 22 47 35.9 +0.9**
PSZ Piszkesteto 77.73 329 ⇑ P **P 22 47 33.4 -1.7**
PSZ Piszkesteto 77.73 329 *e*P **P 22 47 36.3 +1.1**
PSZ Piszkesteto 77.73 329 ⇑ P **P 22 47 33.4 -1.7**
PSZ Piszkesteto 77.73 329 IAmb IAmb 22 47 37.0
comp=Z,18nm,1.0s
JAVC Velka Javorina 77.73 330 *e*P **P 22 47 36.8 +1.7**
IBBN Ibbenburen 77.76 338 *e*P **P 22 47 35.7 +0.6**
comp=Z,31nm,0.7s,baz=28,slow=5.6
VOIR 77.76 324 ⇑ P **P 22 47 36.0 +0.6**
VOIR 77.76 324 ⇑ P **P 22 47 36.0 +0.6**
PRU Pruhonice 77.81 333 *e*P **P 22 47 35.7 +0.2**
PRU Pruhonice 77.81 333 *e*P **P 22 47 35.7 +0.2**
GTTG Gettingen 77.83 306 *e*P **P 22 47 36.4 +0.9**
comp=Z,17nm,0.7s,baz=28,slow=5.6
BNN Bunyan 77.91 314 P **P 22 47 37.1 +0.7**
ARR Arges 77.99 324 ⇑ P **P 22 47 38.2 +1.6**
KRUC Moravsky 78.00 331 *e*P **P 22 47 37.2 +0.7**
TANN Tannenbergstha 78.09 334 *e*P **P 22 47 37.7 +0.6**
comp=Z,5.8nm,0.8s,baz=28,slow=5.6
BSZH Besenyszg 78.11 328 *e*P **P 22 47 39.6 +2.5**
SMOL Smolenice 78.11 330 *e*P **P 22 47 38.4 +1.2**
SMOL Smolenice 78.11 330 *e*P **P 22 47 38.4 +1.2**
WERD Werda 78.11 334 *e*P **P 22 47 37.8 +0.6**
comp=Z,41nm,1.8s,baz=28,slow=5.6
PLN Plauen 78.12 334 *e*P **P 22 47 37.8 +0.6**
comp=Z,16nm,1.3s,baz=28,slow=5.6
MOX Moxa 78.15 335 *e*P **P 22 47 38.0 +0.6**
comp=Z,17nm,1.2s,baz=28,slow=5.6
GUNZ Gunzen 78.18 334 *e*P **P 22 47 38.2 +0.7**
comp=Z,14nm,1.0s,baz=28,slow=5.6
WERN Wernitzgruen 78.23 334 *e*P **P 22 47 38.6 +0.8**
comp=Z,19nm,1.0s,baz=28,slow=5.6
NKC Novy Kostel 78.26 334 *e*P **P 22 47 38.2 +0.2**
NKC Novy Kostel 78.26 334 *e*P **P 22 47 38.2 +0.2**
DEV Deva 78.27 326 ⇑ P **P 22 47 39.4 +1.3**
DEV Deva 78.27 326 ⇑ P **P 22 47 39.4 +1.3**
MODS Modra-Piesok 78.28 330 *e*P **P 22 47 38.5 +0.4**
MODS pmax pmax
comp=Z,24nm,1.0s
MODS Modra-Piesok 78.28 330 *e*P **P 22 47 38.5 +0.4**
BR131 Keskin Array S 78.35 316 P **P 22 47 39.3 +0.4**
BR131 pmax pmax
comp=Z,14nm,1.0s
BR131 Keskin Array S 78.35 316 P **P 22 47 39.3 +0.4**
BR131 IAmb IAmb 22 47 40.7
comp=Z,14nm,1.0s
BRTR Keskin Array B 78.35 316 P **P 22 47 39.4 +0.4**
comp=Z,5.9nm,0.9s,baz=68,slow=4.6,SNR=48
BRTR sP **sP 22 47 58.0 -0.2**
comp=Z,1.1nm,0.7s,baz=32,slow=8.5,SNR=3.0
BRTR LR LR 23 27 12.0
comp=Z,95nm,18.7s,baz=37,slow=40
BRTR Keskin Array B 78.35 316 P **P 22 47 39.2 +0.4**
SRO Srobarova 78.39 330 *e*P **P 22 47 40.1 +1.4**
SRO Srobarova 78.39 330 *e*P **P 22 47 40.1 +1.4**
SRO2 Moca 78.40 329 *e*P **P 22 47 39.3 +0.5**
SRO2 Moca 78.40 329 *e*P **P 22 47 39.3 +0.5**
BUD Budapest 78.41 329 *e*P **P 22 47 40.2 +1.4**
SIRR Siria 78.44 327 ⇑ P **P 22 47 39.3 +0.3**
GAZ Gaziantep 78.46 312 P **P 22 47 39.7 +0.3**
GAZ IAmb IAmb 22 47 41.1
comp=Z,20nm,1.4s
ZST Bratislava 78.49 330 *e*P **P 22 47 40.3 +1.0**
ZST pmax pmax
comp=Z,30nm,1.1s
ZST Bratislava 78.49 330 *e*P **P 22 47 40.3 +1.0**
KASTN Kahler Asten 78.57 337 *e*P **P 22 47 40.5 +0.8**
comp=Z,16nm,1.0s,baz=28,slow=5.6
MANZ Manzenberg 78.58 334 *e*P **P 22 47 40.4 +0.6**
comp=Z,8.8nm,0.9s,baz=28,slow=5.6
ANTO Ankara 78.66 316 P **P 22 47 41.4 +1.0**
ANTO pmax pmax
comp=Z,17nm,0.8s
ANTO Ankara 78.66 316 P **P 22 47 41.4 +1.0**
ANTO IAmb IAmb 22 47 42.6
comp=Z,17nm,0.8s
BUG Bochum--Univer 78.67 338 *e*P **P 22 47 40.7 +0.6**
comp=Z,20nm,1.1s,baz=28,slow=5.6
BR231 Keskin MP Arra 78.69 316 P **P 22 47 41.6 +0.9**
BR231 IAmb IAmb 22 47 42.9
comp=Z,15nm,0.8s
GZR Gura Zlata 78.72 326 ⇑ P **P 22 47 41.1 +0.4**
GZR Gura Zlata 78.72 326 ⇑ P **P 22 47 41.1 +0.4**
ROTZ Rotzenmuhle 78.74 334 *e*P **P 22 47 41.6 +1.0**
comp=Z,14nm,0.9s,baz=28,slow=5.6
COPA Copaceanca 78.75 323 ⇑ P **P 22 47 40.9 +0.2**
KHC Kasperske Hory 78.87 333 *e*P **P 22 47 42.1 +0.7**
KHC Kasperske Hory 78.87 333 *e*P **P 22 47 42.1 +0.7**
CKRC Cesky Krumlov 78.90 332 *e*P **P 22 47 41.8 +0.3**
MDUB Mudurnu 78.97 317 P **P 22 47 42.8 +0.7**
BZS Buzias 78.99 326 ⇑ P **P 22 47 42.8 +0.7**
BZS Buzias 78.99 326 ⇑ P **P 22 47 42.8 +0.7**
GEC2 GERESS Array S 79.08 333 P **P 22 47 42.6 -0.1**
GEC2 IAmb IAmb 22 47 43.6
comp=Z,7.3nm,0.8s
GEC2 GERESS Array S 79.08 333 *e*P **P 22 47 43.2 +0.6**
comp=Z,12nm,1.2s,baz=28,slow=5.6
GERES GERESS Array B 79.08 333 P **P 22 47 42.5 -0.1**
comp=Z,5.0nm,0.6s,baz=37,slow=5.7,SNR=54
GERES LR LR 23 26 05.7
comp=Z,87nm,18.1s,baz=19,slow=38
EGYH Egyhazaskeszo 79.08 330 *e*P **P 22 47 40.6 -1.9**
WET Wettzell 79.08 333 *e*P **P 22 47 43.7 +1.2**
comp=Z,26nm,1.1s,baz=28,slow=5.6
GRF Grafenberg Arr 79.11 335 *e*P **P 22 47 43.8 +1.1**
comp=Z,34nm,1.1s,baz=28,slow=5.6
GRFO Grafenberg 79.11 335 P **P 22 47 43.5 +0.9**
GRFO pmax pmax
comp=Z,23nm,0.8s
GRFO Grafenberg 79.11 335 P **P 22 47 43.5 +0.9**
CONA Conrad Observa 79.15 331 *i* P **P 22 47 44.1 +1.1**
comp=Z,13nm,0.7s,SNR=7.3
MPLH Magyarpolny 79.21 330 *e*P **P 22 47 44.3 +1.0**
HERR Herculane 79.29 325 ⇑ P **P 22 47 43.7 0.0**
TNS Taunus Mts 79.45 336 *e*P **P 22 47 45.3 +0.7**
comp=Z,14nm,0.7s,baz=28,slow=5.6

CWF	**Charnwood Fore**	**79.50**	**343**	*e*P		**P**	**22 47 44.7**	**0.0**
CWF					IAmb	IAmb	22 47 45.7	
	comp=Z,11nm,1.0s							
AHRW	**Bad Neuenahr-A**	**79.54**	**337**	*e*P		**P**	**22 47 45.8**	**+0.8**
	comp=Z,22nm,1.1s,baz=28,slow=5.6							
MILB	**Miltenberg**	**79.56**	**336**	*e*P		**P**	**22 47 45.8**	**+0.7**
	comp=Z,22nm,0.8s,baz=28,slow=5.6							
ELMS	**Elmsett, Ipswi**	**79.61**	**342**	*e*P		**P**	**22 47 46.0**	**+0.7**
ELMS					IAmb	IAmb	22 47 46.7	
	comp=Z,70nm,0.7s							
TX31	**Lajitas Ar. Si**	**79.65**	**59**	IAmb		IAmb	22 47 59.7	
	comp=Z,14nm,0.7s							
MDVR	**Moldovita**	**79.65**	**326**	⇑P		**P**	**22 47 45.6**	**-0.2**
TXAR	**Lajitas Array**	**79.65**	**59**	P		**P**	**22 47 46.4**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=299,slow=3.9,SNR=9.9							
TXAR				pP		**pP**	**22 47 59.0**	**-0.2**
	comp=Z,4.2nm,0.6s,baz=303,slow=4.1,SNR=15							
TXAR	**Lajitas Array**	**79.65**	**59**	P		**P**	**22 47 47.2**	**+1.1**
BEBN	**Eben Emael**	**79.68**	**338**	*d*P		**P**	**22 47 46.3**	**+0.6**
	comp=Z,45nm,0.6s							
MOA	**Molln**	**79.76**	**332**	*e*P		**P**	**22 47 47.0**	**+0.7**
	comp=Z,7.5nm,0.9s							
MEM	**Membach**	**79.76**	**338**	*d*P		**P**	**22 47 46.6**	**+0.5**
	comp=Z,21nm,0.9s							
ARSA	**Arzberg**	**79.85**	**331**	*e*P		**P**	**22 47 47.6**	**+0.8**
	comp=Z,5.9nm,1.0s							
BSTI	**Sart Tilman**	**79.90**	**338**	*d*P		**P**	**22 47 47.3**	**+0.4**
	comp=Z,6.8nm,0.7s							
KOVH	**Kovagotottos**	**79.93**	**329**	*e*P		**P**	**22 47 47.2**	**+0.1**
BHOU	**Houvegnez**	**80.00**	**338**	*d*P		**P**	**22 47 47.8**	**+0.3**
	comp=Z,14nm,0.8s							
HLM1	**Long Mynd**	**80.02**	**344**	*e*P		**P**	**22 47 47.9**	**+0.3**
HLM1					IAmb	IAmb	22 47 49.8	
	comp=Z,42nm,1.4s							
FRGS	**Fruska Gora**	**80.08**	**327**	⇑P		**P**	**22 47 48.4**	**+0.4**
BCLA	**Clavier**	**80.12**	**338**	*d*P		**P**	**22 47 48.4**	**+0.3**
	comp=Z,13nm,0.7s							
BGES	**Gesves**	**80.21**	**339**	*d*P		**P**	**22 47 48.5**	**-0.1**
	comp=Z,13nm,0.9s							
RJOB	**Jochberg**	**80.34**	**333**	*e*P		**P**	**22 47 50.6**	**+1.2**
	comp=Z,40nm,0.9s,baz=28,slow=5.6							
BMRD	**Maredsous**	**80.37**	**339**	*d*P		**P**	**22 47 49.7**	**+0.3**
	comp=Z,17nm,1.0s							
FUR	**Furstenfeldbru**	**80.44**	**334**	*e*P		**P**	**22 47 50.9**	**+0.9**
	comp=Z,34nm,1.3s,baz=28,slow=5.6							
SOKA	**Soboth**	**80.52**	**331**	*i* P		**P**	**22 47 50.9**	**+0.4**
	comp=Z,20nm,1.3s,SNR=5.2							
PERS	**Pernice**	**80.52**	**331**	*e*P		**P**	**22 47 50.6**	**+0.2**
U40A	**Yellville**	**80.53**	**47**	IAmb		IAmb	22 47 50.9	
	comp=Z,10nm,0.8s							
STU	**Stuttgart**	**80.53**	**335**	*e*P		**P**	**22 47 51.1**	**+0.8**
	comp=Z,37nm,0.9s,baz=28,slow=5.6							
MCH1	**Michaelchurch**	**80.54**	**344**	*e*P		**P**	**22 47 50.5**	**+0.1**
MCH1					IAmb	IAmb	22 47 52.9	
	comp=Z,27nm,1.2s							
GROS	**Grobnik**	**80.54**	**330**	*i* P		**P**	**22 47 50.7**	**+0.2**
DOU	**Dourbes**	**80.60**	**339**	*d*P		**P**	**22 47 50.8**	**+0.2**
	comp=Z,8.5nm,1.2s							
BOVS	**Bovan**	**80.60**	**325**	⇑P		**P**	**22 47 50.3**	**-0.5**
VTS	**Vitosha**	**80.82**	**324**	⇓P		**P**	**22 47 52.5**	**+0.3**
VTS	**Vitosha**	**80.82**	**324**	⇓P		**P**	**22 47 52.5**	**+0.3**
WOL	**Wolverton**	**80.83**	**343**	*e*P		**P**	**22 47 52.0**	**+0.1**
GOLS	**Golise**	**80.89**	**330**	*i* P		**P**	**22 47 52.5**	**+0.2**
MYKA	**Terra Mystica**	**81.03**	**332**	*e*P		**P**	**22 47 53.0**	**-0.2**
	comp=Z,7.9nm,1.0s							
WATA	**Walderalm**	**81.08**	**333**	*i* P		**P**	**22 47 54.2**	**+0.7**
	comp=Z,18nm,1.0s,SNR=7.4							
WTTA	**Wattenberg**	**81.13**	**333**	*i* P		**P**	**22 47 54.5**	**+0.7**
	comp=Z,15nm,0.7s,SNR=6.0							
BFO	**Black Forest**	**81.18**	**336**	P		**P**	**22 47 54.5**	**+0.6**
BFO				pmax		pmax		
	comp=Z,16nm,1.1s							
BFO	**Black Forest**	**81.18**	**336**	P		**P**	**22 47 54.5**	**+0.6**
BFO					IAmb	IAmb	22 47 55.6	
	comp=Z,16nm,1.1s							
BFO	**Black Forest**	**81.18**	**336**	*e*P		**P**	**22 47 54.5**	**+0.6**
	comp=Z,13nm,1.0s,baz=28,slow=5.6							
RETA	**Reutte**	**81.21**	**334**	*e*P		**P**	**22 47 54.7**	**+0.6**
	comp=Z,13nm,1.3s							
MOTA	**Moosalm**	**81.23**	**334**	*i* P		**P**	**22 47 54.8**	**+0.5**
	comp=Z,22nm,1.0s,SNR=6.6							
ABTA	**Abfaltersbach**	**81.30**	**332**	*e*P		**P**	**22 47 55.0**	**+0.4**
	comp=Z,13nm,1.4s							
SQTA	**Sankt Quirin**	**81.30**	**333**	*i* P		**P**	**22 47 55.4**	**+0.7**
	comp=Z,15nm,1.0s,SNR=5.5							
MIAR	**Mount Ida**	**81.53**	**49**	IAmb		IAmb	22 47 57.1	
	comp=Z,6.6nm,0.9s							
PMOR	**Pomariorio Ree**	**81.62**	**121**	*e*T		T	00 17 42.5	
	comp=Z,7.0nm,0.2s							
FETA	**Feichten**	**81.63**	**334**	*e*P		**P**	**22 47 56.1**	**-0.4**
	comp=Z,7.5nm,1.1s							
DAVA	**Damuels**	**81.66**	**334**	*e*P		**P**	**22 47 57.2**	**+0.6**
	comp=Z,8.5nm,0.8s							
TAOE	**Nuku Hiva Isla**	**81.88**	**111**	*e*LR		LR	23 13 43.6	
	comp=Z,155nm,25.6s							
DYA	**Yadsworthy**	**82.21**	**344**	*e*P		**P**	**22 47 59.3**	**+0.1**
DYA					IAmb	IAmb	22 48 00.8	
	comp=Z,45nm,1.2s							
ELL	**Elmali**	**82.51**	**316**	P		**P**	**22 48 01.4**	**+0.2**
ELL				pmax		pmax		
	comp=Z,23nm,0.9s							
ELL	**Elmali**	**82.51**	**316**	P		**P**	**22 48 01.4**	**+0.2**
PPT	**Papeete**	**82.62**	**124**	LR		LR	23 16 44.4	
	comp=Z,106nm,21.4s,baz=358,slow=30							
PPT2	**Papeete2**	**82.64**	**124**	*e*LR		LR	23 14 01.3	
	comp=Z,173nm,24.2s							
SENIN	**Lac Senin/Sane**	**83.26**	**335**	P		**P**	**22 48 05.5**	**+0.5**
SENIN					IAmb	IAmb	22 48 07.4	
	comp=Z,4.8nm,0.8s							
NRCA	**Norcia**	**84.54**	**330**	P		**P**	**22 48 11.4**	**0.0**
KARP	**Karpathos**	**84.81**	**317**	P		**P**	**22 48 11.9**	**-0.9**
NHSC	**New Hope**	**89.35**	**41**			pP	22 48 46.4	-2.3
KEST	**Kesra**	**92.18**	**330**	LR		LR	23 35 06.2	
	comp=Z,60nm,18.7s,baz=267,slow=39							
ESDC	**Sonseca Array**	**92.47**	**341**	P		**P**	**22 48 48.5**	**-0.9**
	comp=Z,1.0nm,1.0s,baz=356,slow=4.2,SNR=5.2							
TORD	**Torodi Ar. Bea**	**115.50**	**326**	PKP		**PKiKP**	**22 54 20.4**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=8.8,slow=3.8,SNR=2.9							
BOAV	**Boa Vista**	**125.01**	**39**	*e*P		**PKPdf**	**22 54 38.0**	**-0.8**
H03N2	**Juan Fernandez**	**140.36**	**90**	T		T	01 31 38.8	
	baz=306,slow=77,SNR=41							
H03N3	**Juan Fernandez**	**140.37**	**90**	T		T	01 31 55.1	
	baz=306,slow=77,SNR=30							
H03N1	**Juan Fernandez**	**140.38**	**90**	T		T	01 31 40.2	
	baz=306,slow=77,SNR=39							
NBLA	**Lagarto - SE**	**145.08**	**15**	*e*P		**PKPbc**	**22 55 14.7**	**-0.6**
PP1B	**Ponte de Pedra**	**145.09**	**46**	*e*P		**PKPbc**	**22 55 15.0**	**-0.3**
BDFB	**Brasilia**	**146.50**	**34**	PKPbc		**PKPdf**	**22 55 18.6**	**+0.2**
	comp=Z,9.3nm,0.9s,baz=289,slow=2.6,SNR=9.4							
BDFB	**Brasilia**	**146.50**	**34**	PKP2		**PKPbc**	**22 55 20.2**	**+0.4**
BDFB	**Brasilia**	**146.50**	**34**			**PKPbc**	**22 55 20.2**	**+0.4**
PLCA	**Paso Flores**	**149.67**	**96**	PKPbc		**PKPbc**	**22 55 28.1**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=330,slow=0.3,SNR=5.7							
PLCA				pPKPbc		**pPKPbc**	**22 55 41.4**	**+0.2**
	comp=Z,10nm,1.0s,baz=281,slow=3.7,SNR=9.1							
CPUP	**Villa Florida**	**150.62**	**60**	PKPbc		**PKPbc**	**22 55 30.4**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=323,slow=4.4,SNR=4.7							
CPUP				PKPab		**PKPab**	**22 55 36.4**	**-0.7**
	comp=Z,3.9nm,0.8s,baz=32,slow=1.2,SNR=3.4							
CPUP				pPKPbc		**pPKPbc**	**22 55 43.4**	**-0.7**
	comp=Z,4.5nm,0.7s,baz=336,slow=5.1,SNR=5.6							
SNAA	**Sanae**	**150.65**	**197**	PKPab		**PKPab**	**22 55 43.7**	**+7.7**
SNAA	**Sanae**	**150.65**	**197**	PKPdf		**PKPbc**	**22 55 29.3**	**+0.4**
VNA2	**Neumayer--Watz**	**152.13**	**195**	PKPab		**PKPab**	**22 55 46.9**	**+4.7**
VNA2	**Neumayer--Watz**	**152.13**	**195**	PKPbc		**PKiKP**	**22 55 33.3**	**+0.7**
VNA3	**Neumayer Olymp**	**152.26**	**193**	PKPab		**PKPab**	**22 55 46.7**	**+4.1**
VNA3	**Neumayer Olymp**	**152.26**	**193**	PKPdf		**PKPbc**	**22 55 31.4**	**-1.2**

*IDC **24** 22:36:14.8±0.5,30°.55S×71°.97W,h0km,mb4.4/12, mb1 4.5/18,mb1mx4.4/34,mbtmp4.4/18,ML4.3/6,MS3.8/6, Ms1 3.8/6,ms1mx3.5/35,Error ellipse: s-maj=21.2km s-min=15.3km az=84.0*

*SJA **24** 22:36:14.4±0.7,30°.43S×72°.23W,h8km±7km,ML4.6, MW4.5*

*GUC **24** 22:36:16.8±0.8,30°.59S×72°.10W,h22km±5km,ML4.8*

*NEIC **24** 22:36:16.3±1.8,30°.53S±0°.03×72°.11W±0°.06,h13km±1km, mb4.8/26,Mwr4.5/43,ML4.8(GUC),Error ellipse: s-maj=7.3km s-min=4.6km az=105.0*

*NEIC **24** 22:36:16.3,30°.55S×72°.13W,h16km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}5.75; $M_{\theta\theta}$-0.01; $M_{\phi\phi}$-5.74; $M_{r\theta}$0.82; $M_{\theta\phi}$-0.94; $M_{\phi r}$-1.89; Fault plane solution: M_o6.18000×10^{15} NP1:φs178.88000°, δ54.20000°,λ77.74000°. NP2:φs19.25000°,δ37.58000°, λ106.41000°. Principal axes: T 6.2008, Plg77.0000°, Azm47.0000°; N -0.0514, Plg10.0000°, Azm186.0000°; P -6.1494, Plg8.0000°, Azm278.0000°;*

ISC 24 22:36:14.1±0.7,30°.53S±0°.03×72°.25W±0°.03,h2km±3km, n123,σ1φs58/137,mb4.7/19,19C-6D,Fault plane solution: NP1:φs5.87150°,δ31.09970°,λ63.64132°. NP2: φs215.92859°,δ62.43036°,λ104.99353°. Principal axes: T Plg68.8663°, Azm156.4185°; N Plg13.2578°, Azm28.8624°; P Plg16.1532°, Azm294.9493°; **Fault plane solution: NP1:φs9.28473°,δ23.16938°, λ109.73099°. NP2:φs167.97260°,δ68.26277°,λ81.77857°. Principal axes:** T Plg65.7766°, Azm63.7053°; N Plg7.6332°, Azm171.0356°; P Plg22.8424°, Azm264.2718°; **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.55**	**105**	*e*P	**Pb**	**22 36 25.4**	**-1.0**
CO06				*e*S	**Sg**	**22 36 31.0**	**-0.6**
CO06	**Fray Jorge**	**0.55**	**105**		**Pg**	**22 36 25.2**	**+0.7**
CO06				Sg	**Sg**	**22 36 30.7**	**-1.0**
CO05	**La Serena**	**1.07**	**55**	*e*P	**Pb**	**22 36 34.9**	**-0.3**
CO05				*e*S	**Sb**	**22 36 48.4**	**-1.4**
CO05				IAML		22 36 54.8	
	comp=E,25μm,0.4s						
CO05	**La Serena**	**1.07**	**55**		**Pb**	**22 36 35.0**	**-0.3**
CO05				Sg	**Sb**	**22 36 48.3**	**-1.4**
CO02	**Combarbal**	**1.26**	**122**	*e*P	**Pg**	**22 36 37.0**	**-1.4**
CO02				*e*S	**Sg**	**22 36 51.9**	**-2.8**
CO02				IAML		22 36 56.5	
	comp=N,53μm,0.3s						
CO02	**Combarbal**	**1.26**	**122**		**Pg**	**22 36 37.3**	**-1.0**
CO02					**Sg**	**22 36 52.9**	**-1.8**
GO04	**Tololo Observa**	**1.30**	**74**	*e*P	**Pg**	**22 36 38.3**	**-0.8**
GO04				*e*S	**Sg**	**22 36 54.4**	**-1.6**
GO04				IAML		22 36 58.4	
	comp=N,77μm,0.4s						
GO04	**Tololo Observa**	**1.30**	**74**		**Pg**	**22 36 38.4**	**-0.7**
GO04	**Tololo Observa**	**1.30**	**74**	*i* P	**Pb**	**22 36 38.9**	**-0.5**
GO04				*i* S	**Sn**	**22 36 56.4**	**-1.3**
CO03	**El Pedregal**	**1.38**	**103**	*e*P	**Pn**	**22 36 38.6**	**-1.9**
CO03				*e*S	**Sg**	**22 36 55.3**	**-3.1**
CO03				IAML		22 36 59.7	
	comp=E,15μm,0.5s						
CO03	**El Pedregal**	**1.38**	**103**		**Pn**	**22 36 38.6**	**-1.9**
LCO	**Las Campanas**	**2.03**	**42**	⇑*e*P	**Pn**	**22 36 49.6**	**0.0**
LCO				*e*S	**Sb**	**22 37 16.2**	**-1.5**
LCO	**Las Campanas**	**2.03**	**42**		**Pn**	**22 36 49.4**	**-0.2**
LCO					**Pn**	**22 36 49.6**	**0.0**
VA06	**Catapilco**	**2.18**	**158**	⇑*e*P	**Pn**	**22 36 51.5**	**+0.1**
VA06				*e*S	**Sn**	**22 37 18.9**	**-0.1**
VA06				IAML		22 37 28.0	
	comp=N,9μm,0.6s						
AROD	**Rodeo**	**2.42**	**82**	*i* P	**Pb**	**22 36 57.3**	**-1.4**
AROD				*i* S	**Sb**	**22 37 28.6**	**-0.6**
VA01	**Torpederas**	**2.53**	**169**	⇑*e*P	**Pn**	**22 36 57.0**	**+0.7**
VA01				*e*S	**Sn**	**22 37 28.6**	**+0.9**
VA01	**Torpederas**	**2.53**	**169**		**Pn**	**22 36 56.3**	**0.0**
AC04	**Llanos de Chal**	**2.54**	**24**	Pn	**Pn**	**22 36 56.2**	**-0.1**
ROCH	**El Roble**	**2.65**	**157**	⇑*e*P	**Pn**	**22 36 58.4**	**+0.2**
ROCH				*e*S	**Sn**	**22 37 30.8**	**-0.2**
ROCH				IAML		22 37 42.0	
	comp=E,5μm,0.5s						
ROC1	**El Roble**	**2.65**	**157**	*i* P	**Pb**	**22 37 00.8**	**-1.7**
ROC1				*i* S	**Sb**	**22 37 36.6**	**+1.0**
VA03	**San Esteban**	**2.65**	**147**	*e*P	**Pn**	**22 36 58.9**	**+0.8**
VA03				⇓*e*S	**Sn**	**22 37 30.6**	**-0.3**
VA03				IAML		22 37 44.2	
	comp=E,7μm,0.6s						
VA03	**San Esteban**	**2.65**	**147**		**Pn**	**22 36 58.4**	**+0.3**
ACDV	**Cuesta del Vie**	**2.73**	**83**	*i* P	**Pb**	**22 37 01.1**	**-2.6**
ACDV				IAML		22 37 46.9	
	comp=Z,2μm,1.1s						
ACCO	**Cerro Coronel**	**2.74**	**92**	*i* P	**Pb**	**22 37 02.0**	**-2.1**
ACCO				IAML		22 37 50.7	
	comp=Z,1μm,1.7s						
RTLS	**Leoncito**	**2.83**	**117**	*i* P	**Pb**	**22 37 03.5**	**-2.0**
RTLS				IAML		22 37 50.9	
	comp=Z,3μm,0.9s						
AUSP	**Uspallata**	**2.97**	**125**	*i* P	**Pb**	**22 37 05.5**	**-2.4**
MT05	**Renca**	**3.12**	**156**	*i* P	**Pn**	**22 37 05.4**	**+0.9**
MT05				*e*S	**Sn**	**22 37 42.1**	**-0.4**
MT05				IAML		22 37 57.0	
	comp=E,4μm,0.3s						
MT05	**Renca**	**3.12**	**156**		**Pn**	**22 37 05.4**	**+0.9**
VA05	**Santo Domingo**	**3.16**	**170**		**Pn**	**22 37 04.6**	**-0.3**
MT09	**Talagante**	**3.41**	**162**		**Pn**	**22 37 09.1**	**+0.7**
GO03	**Copiap**	**3.42**	**32**		**Pn**	**22 37 08.6**	**0.0**
MT01	**Popeta**	**3.43**	**166**		**Pn**	**22 37 08.6**	**0.0**
RTCV	**Cerro Valdivia**	**3.44**	**114**	*i* P	**Pn**	**22 37 11.6**	**+2.8**
RTCV				IAML		22 38 08.6	
	comp=Z,630nm,1.8s						
ASAL	**Salagasta**	**3.56**	**126**	*i* P	**Pn**	**22 37 13.8**	**+3.2**
ASAL				IAML		22 38 16.2	
	comp=Z,1μm,1.1s						
AC06	**Mina Casimiro**	**3.57**	**28**		**Pn**	**22 37 10.8**	**+0.1**
ARCO	**CERRO ARCO**	**3.64**	**130**	*i* P	**Pn**	**22 37 15.3**	**+3.5**
ARCO				IAML		22 38 14.2	
	comp=Z,1μm,1.7s						
AAGR	**Agrelo**	**3.87**	**132**	*i* P	**Pn**	**22 37 18.6**	**+3.9**
AAGR				IAML		22 38 20.2	
	comp=Z,822nm,0.9s						
VCA	**Vinchina**	**3.95**	**64**	*i* P	**Pn**	**22 37 17.7**	**+1.7**
BO01	**Tunca**	**3.97**	**166**		**Pn**	**22 37 16.3**	**+0.2**
BO02	**Sierra Bellavi**	**4.42**	**164**		**Pn**	**22 37 23.1**	**+0.8**
GO05	**Huala**	**4.47**	**177**		**Pn**	**22 37 22.6**	**-0.4**
AC02	**Maricunga**	**4.59**	**37**		**Pn**	**22 37 25.4**	**+0.3**
H03N1	**Juan Fernandez**	**6.36**	**241**	Pn	**Pn**	**22 37 50.2**	**+1.5**
	baz=111,slow=19,SNR=71						
H03N1				T	T	22 44 49.3	
	baz=71,slow=72						
H03N2	**Juan Fernandez**	**6.38**	**241**	Pn	**Pn**	**22 37 50.4**	**+1.5**
	baz=111,slow=19,SNR=43						
H03N2				T	T	22 44 50.6	
	baz=71,slow=72						
H03N3	**Juan Fernandez**	**6.38**	**241**	Pn	**Pn**	**22 37 50.3**	**+1.4**
	baz=111,slow=19,SNR=52						
H03N3				Sn	**Sn**	**22 38 57.9**	**-4.3**
H03N3				T	T	22 44 48.8	
	baz=71,slow=72						
VA04	**Juan Fernndez**	**6.39**	**239**	Pn	**Pn**	**22 37 50.5**	**+1.2**
H03S3	**Juan Fernandez**	**6.53**	**238**	T	T	22 45 08.5	
	baz=60,slow=75						
H03S1	**Juan Fernandez**	**6.54**	**238**	Sn	**Sn**	**22 39 00.6**	**-5.5**
H03S1				T	T	22 44 59.5	
	baz=60,slow=75						
H03S2	**Juan Fernandez**	**6.55**	**238**	T	T	22 45 05.4	
	baz=60,slow=75						
PB06	**IPOC Station P**	**8.15**	**18**	Pn	**Pn**	**22 38 11.5**	**-2.2**
PB04	**IPOC Station P**	**8.38**	**13**	Pn	**Pn**	**22 38 13.5**	**-3.3**
LVC	**Limon Verde**	**8.44**	**22**	Pn	**Pn**	**22 38 15.5**	**-2.3**
	comp=Z,1.4nm,0.3s,baz=186,slow=8.9,SNR=15						
LVC				Sn	**Sn**	**22 39 49.0**	**-4.9**
	comp=Z,3.2nm,0.3s,baz=162,slow=17,SNR=2.3						
LVC				LR	LR	22 41 49.1	
	comp=Z,448nm,19.1s,baz=210,slow=40						
LVC	**Limon Verde**	**8.44**	**22**	Pn	**Pn**	**22 38 16.9**	**-0.9**
PB07	**IPOC Station P**	**9.02**	**14**	Pn	**Pn**	**22 38 22.3**	**-3.3**
PB09	**IPOC Station P**	**9.11**	**18**	Pn	**Pn**	**22 38 25.3**	**-1.5**
PB01	**IPOC Station P**	**9.77**	**15**	Pn	**Pn**	**22 38 32.0**	**-3.9**
TA01	**Diego Aracena**	**10.10**	**11**	Pn	**Pn**	**22 38 40.4**	**+0.1**
PLCA	**Paso Flores**	**10.27**	**173**	Pn	**Pn**	**22 38 43.1**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=334,slow=11,SNR=22						
PLCA				Sn	**Sn**	**22 40 40.0**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=17,slow=19,SNR=1.1						
PLCA				LR	LR	22 43 01.4	
	comp=Z,421nm,20.4s,baz=352,slow=40						
PB08	**IPOC Station P**	**10.72**	**16**	Pn	**Pn**	**22 38 49.5**	**+0.5**
PB11	**IPOC Station P**	**10.98**	**13**	Pn	**Pn**	**22 38 51.7**	**-0.8**
PSGCX	**Pisagua**	**11.06**	**10**	Pn	**Pn**	**22 38 53.0**	**-0.5**
TRQA	**Tornquist**	**11.33**	**134**		**Pn**	**22 38 57.7**	**+0.6**
ITQB	**Itaqui**	**13.55**	**90**	Pn	**Pn**	**22 39 25.4**	**-2.1**
CPUP	**Villa Florida**	**13.78**	**76**	Pn	**Pn**	**22 39 28.9**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=237,slow=12,SNR=3.7						
CPUP				Sn	**Sn**	**22 42 04.3**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=207,slow=18,SNR=1.6						
CPUP				LR	LR	22 45 04.3	
	comp=Z,576nm,19.1s,baz=254,slow=39						
CPUP	**Villa Florida**	**13.78**	**76**		**Pn**	**22 39 30.1**	**-0.4**
LPAZ	**La Paz**	**14.67**	**16**	Pn	**Pn**	**22 39 45.1**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=196,slow=7.5,SNR=16						
LPAZ	**La Paz**	**14.67**	**16**	Pn	**Pn**	**22 39 45.9**	**+2.5**
PLTB	**Pedras Altas**	**16.01**	**99**	Pn	**Pn**	**22 39 59.1**	**-1.4**
SIV	**San Ignacio**	**17.73**	**38**	P	**Pn**	**22 40 21.7**	**-0.6**
	comp=Z,1.4nm,0.3s,baz=228,slow=10,SNR=90						
SIV				LR	LR	22 48 24.7	
	comp=Z,588nm,18.8s,baz=228,slow=42						
NNA	**Nana**	**18.94**	**346**	P	**Pn**	**22 40 39.4**	**+2.2**
	comp=Z,1.5nm,0.3s,baz=153,slow=2.3,SNR=2.6						
NNA				LR	LR	22 46 24.3	
	comp=Z,102nm,19.5s,baz=164,slow=32						
SAML	**Samuel**	**23.08**	**23**	P	**P**	**22 41 21.2**	**-0.1**
BDFB	**Brasilia**	**26.69**	**62**	P	**P**	**22 41 53.9**	**-1.0**
	comp=Z,18nm,0.7s,baz=238,slow=8.2,SNR=22						
BDFB	**Brasilia**	**26.69**	**62**	P	**P**	**22 41 53.9**	**-1.0**
BDFB					IAmb	IAmb	22 41 54.9	
	comp=Z,17nm,0.7s							
JTS	**Las Juntas de**	**42.39**	**341**	P	**P**	**22 44 13.1**	**+2.9**
	comp=Z,3.1nm,0.6s,baz=141,slow=17,SNR=2.1							
H05S1	**Guadeloupe/Mar**	**46.03**	**15**	P	**P**	**22 44 38.2**	**-1.1**
H05N1	**Guadeloupe/Mar**	**47.81**	**15**	P	**P**	**22 44 51.9**	**-1.3**
BANI	**BANI**	**48.68**	**2**	P	**P**	**22 44 59.4**	**-0.6**
SJG	**San Juan**	**48.72**	**8**	P	**P**	**22 44 59.7**	**-0.5**
ANWB	**Willy Bob**	**48.97**	**13**	P	**P**	**22 45 01.0**	**-1.1**
VNA3	**Neumayer Olymp**	**52.64**	**159**	P	**P**	**22 45 30.2**	**+0.9**
VNA1	**Neumayer--Stat**	**52.93**	**158**	P	**P**	**22 45 32.5**	**+1.1**
VNA2	**Neumayer--Watz**	**53.28**	**158**	P	**P**	**22 45 34.7**	**+0.7**
	baz=301,slow=8.5							
SNAA	**Sanae**	**54.86**	**159**	P	**P**	**22 45 46.3**	**+0.7**
QSPA	**South Pole Qui**	**59.69**	**180**	P	**P**	**22 46 21.6**	**+1.7**
	comp=Z,7.7nm,0.7s,baz=130,slow=2.9							
QSPA	**South Pole Qui**	**59.69**	**180**	P	**P**	**22 46 20.4**	**+0.4**
QSPA					IAmb	IAmb	22 46 22.5	
	comp=Z,7.2nm,0.8s							
TX32	**Lajitas Array**	**66.64**	**330**	P	**P**	**22 47 06.4**	**0.0**
TXAR	**Lajitas Array**	**66.64**	**330**	P	**P**	**22 47 09.1**	**+2.7**
	comp=Z,1.2nm,0.8s,baz=157,slow=8.5,SNR=9.8							
TX31	**Lajitas Ar. Si**	**66.64**	**330**	IAmb	IAmb		22 47 20.9	
	comp=Z,3.6nm,0.8s							
U40A	**Yellville**	**69.29**	**342**	P	**P**	**22 47 23.5**	**+0.6**
U40A				IAmb	IAmb	22 47 25.9		
	comp=Z,7.8nm,1.1s							
HHAR	**Hobbs**	**69.52**	**341**	P	**P**	**22 47 25.0**	**+0.8**
HHAR				IAmb	IAmb	22 47 26.8		
	comp=Z,6.7nm,0.8s							
CCM	**Cathedral Cave**	**70.51**	**344**	P	**P**	**22 47 30.4**	**+0.2**
CCM				IAmb	IAmb	22 47 49.5		
	comp=Z,8.0nm,0.8s							
S39A	**Bolivar**	**70.67**	**342**	IAmb	IAmb		22 47 44.0	
	comp=Z,6.6nm,0.9s							
DBIC	**Dimbokro**	**74.27**	**72**	P	**P**	**22 47 53.0**	**-0.3**	
	comp=Z,2.9nm,0.6s,baz=208,slow=7.2,SNR=7.4							
DBIC				LR	LR	23 18 03.9		
	comp=Z,156nm,19.4s,baz=212,slow=34							
DBIC	**Dimbokro**	**74.27**	**72**	IAmb	IAmb		22 48 02.5	
	comp=Z,8.3nm,0.8s							
MAW	**Mawson**	**76.55**	**164**	P	**P**	**22 48 06.1**	**+0.6**	
	comp=Z,5.1nm,0.8s,baz=209,slow=7.5,SNR=17							
KOWA	**Kowa**	**79.39**	**66**	P	**P**	**22 48 22.2**	**+0.1**	
KOWA				IAm

KUR					AMB	AMB	22 39 19.0	
	comp=E,100nm,0.5s							
KUR					*e*S	**Sn**	**22 39 43.5**	**-0.5**
KUR					A	A	22 39 47.2	
	comp=E,600nm,0.6s							
KUR					A	A	22 39 47.2	
	comp=E,230nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**3.83**	**253**	*e*P		**Pn**	**22 39 41.5**	**+0.2**
YUK					AMB	AMB	22 39 45.9	
	comp=E,60nm,0.3s							
YUK					*e*S	**Sn**	**22 40 24.5**	**-0.6**
YUK					A	A	22 40 34.3	
	comp=E,150nm,0.3s							
YUK					A	A	22 40 34.3	
	comp=E,90nm,0.3s							
NMR	**Nemuro--Hokkai**	**4.21**	**245**	*e*PN		**Pn**	**22 39 46.0**	**-0.4**
NMR	**Nemuro--Hokkai**	**4.21**	**245**	*e*P		**Pn**	**22 39 46.0**	**-0.4**
ERM	**Erimo**	**6.53**	**243**	*e*PN		**Pn**	**22 40 19.0**	**+0.7**
USRK	**Ussuriysk Ar.**	**13.51**	**272**	Pn		**Pn**	**22 41 54.2**	**+0.4**
	baz=79,slow=15,SNR=2.2							
MKAR	**Makanchi Array**	**46.27**	**298**	P		**P**	**22 47 06.4**	**+0.5**
	comp=E,1.0nm,0.6s,baz=78,slow=8.2,SNR=2.9							
KURK	**Kurchatov**	**46.91**	**304**	P		**P**	**22 47 10.7**	**-0.2**
KURK	**Kurchatov**	**46.91**	**304**	*e*P		**P**	**22 47 10.7**	**-0.2**
KURBB	**Kurchatov Arra**	**47.00**	**304**	P		**P**	**22 47 10.7**	**-0.9**
	comp=E,0.8nm,0.8s,baz=76,slow=8.3,SNR=3.9							
FINES	**FINESS Array B**	**64.69**	**334**	P		**P**	**22 49 16.6**	**-1.4**
	comp=E,0.4nm,0.4s,baz=39,slow=5.3,SNR=1.1							
GEYT	**Alibeck**	**66.03**	**300**	P		**P**	**22 49 27.5**	**+0.3**
	comp=E,244nm,0.4s,baz=74,slow=11,SNR=2.7							
NOA	**NORSAR Array B**	**69.10**	**340**	P		**P**	**22 49 45.8**	**-0.3**
	comp=E,0.5nm,0.5s,baz=28,slow=6.5,SNR=4.0							
KBZ	**Khabaz**	**70.76**	**313**	P		**P**	**22 49 57.4**	**+0.9**
	comp=E,3.5nm,0.9s,baz=333,slow=2.3,SNR=4.2							
AKASG	**Malin Array Be**	**71.89**	**325**	P		**P**	**22 50 02.7**	**-0.5**
	comp=E,1.0nm,0.4s,baz=36,slow=6.1,SNR=4.0							
KRLC	**Kraliky**	**77.00**	**332**	*e*P		**P**	**22 50 33.3**	**+0.3**
KRLC	**Kraliky**	**77.00**	**332**	*e*PKPDF		**P**	**22 50 33.3**	**+0.3**
KHC	**Kasperske Hory**	**78.86**	**333**	*e*P		**P**	**22 50 43.1**	**-0.3**
KHC	**Kasperske Hory**	**78.86**	**333**	*e*PKPDF		**P**	**22 50 43.1**	**-0.3**
GERES	**GERESS Array B**	**79.07**	**333**	P		**P**	**22 50 44.4**	**-0.2**
	comp=E,0.7nm,0.6s,baz=31,slow=5.9,SNR=4.5							
TXAR	**Lajitas Array**	**79.53**	**59**	P		**P**	**22 50 47.6**	**+0.1**
	comp=E,0.3nm,0.6s,baz=308,slow=4.4,SNR=3.1							

*IDC **24** 22:43:33.7±1.4,0.°75S×131.°02E, h0km, mb3.9/2, mb1 4.0/4, mb1mx3.6/37, mbtmp3.8/4, ML3.9/2, Error ellipse: s-maj=30.2km s-min=8.1km az=21.0*
*NEIC **24** 22:43:35.1±0.9,0.°71S±0.°07×131.°2E±0.°2, h10km±1km, mb4.3/11, Error ellipse: s-maj=39.8km s-min=11.8km az=84.0*

ISC 24 22:43:35.4±1.8,**0.°8S**±0.°1×**131.°2E**±0.°2,**h15**km±9km,**n21**, σ1s**08**/18,**mb4.1**/5,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**0.11**	**140**	Pg	**Pg**	**22 43 39.0**	**+0.2**
	6μm,0.3s,baz=323,slow=20,SNR=796						
SIJI				Lg	Lg	22 43 42.4	
	16μm,0.3s,baz=182,slow=23,SNR=231						
MTN	**Manton Dam**	**11.98**	**180**		**Pn**	**22 46 24.8**	**-1.1**
KNRA	**Kununurra**	**14.99**	**189**	Pn	**Pn**	**22 47 04.0**	**-3.0**
KNRA				IAmb	IAmb	22 47 08.8	
	comp=Z,12nm,0.6s						
COEN	**Coen**	**17.66**	**138**		**Pn**	**22 47 40.8**	**-0.4**
COEN				IAmb	IAmb	22 47 51.5	
	comp=Z,34nm,1.4s						
FITZ	**Fitzroy Crossi**	**18.05**	**197**	P	**Pn**	**22 47 45.8**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=24,slow=12,SNR=7.5						
FITZ				S	Sn	22 50 55.9	-11
	comp=Z,0.0nm,0.3s,baz=335,slow=17,SNR=1.8						
FITZ	**Fitzroy Crossi**	**18.05**	**197**	P	**P**	**22 47 46.9**	**+0.6**
WB0	**Warramunga Arr**	**19.13**	**171**	P	**P**	**22 47 58.2**	**0.0**
WB0				IAmb	IAmb	22 48 11.6	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**19.29**	**171**	P	**P**	**22 48 00.1**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=350,slow=12,SNR=7.2						
WRA				S	Sn	22 51 26.5	-11
	comp=Z,0.2nm,0.3s,baz=360,slow=18,SNR=5.2						
WB2	**Warramunga Arr**	**19.29**	**171**	P	**P**	**22 48 00.3**	**+0.4**
WR0	**Warramunga Arr**	**19.34**	**170**	P	**P**	**22 48 01.0**	**+0.5**
WR0				IAmb	IAmb	22 48 08.7	
	comp=Z,7.8nm,1.1s						
AS31	**Alice Springs**	**22.90**	**174**	P	**P**	**22 48 40.1**	**+1.2**
AS31				IAmb	IAmb	22 48 46.5	
	comp=Z,2.6nm,0.8s						
ASAR	**Alice Springs**	**22.90**	**174**	P	**P**	**22 48 40.4**	**+1.4**
	comp=Z,3.5nm,0.6s,baz=352,slow=12,SNR=26						
ASAR	**Alice Springs**	**22.90**	**174**	P	**P**	**22 48 39.5**	**+0.6**
EIDS	**Eidsvold**	**31.08**	**143**	P	**P**	**22 49 54.0**	**+0.7**
EIDS				IAmb	IAmb	22 49 57.5	
	comp=Z,15nm,1.4s						
MORW	**Morawa**	**31.63**	**206**	P	**P**	**22 49 58.9**	**+0.8**
ARMA	**Armidale**	**35.29**	**149**	P	**P**	**22 50 30.0**	**-0.2**
H11N1	**WAKE ISLAND Hy**	**40.49**	**58**	T	T	23 34 11.3	
	baz=245,slow=74,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**40.51**	**58**	T	T	23 34 13.5	
	baz=245,slow=74,SNR=4.1						
H11N3	**WAKE ISLAND Hy**	**40.51**	**58**	T	T	23 34 13.1	
	baz=245,slow=74,SNR=6.3						
MKAR	**Makanchi Array**	**63.79**	**325**	P	**P**	**22 54 06.5**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=111,slow=6.8,SNR=4.3						
MAKZ	**Makanchi**	**63.98**	**325**	P	**P**	**22 54 07.9**	**-0.4**
MAKZ				IAmb	IAmb	22 54 22.1	
	comp=Z,5.3nm,1.1s						

*SKHL **24** 22:44:11.7±0.3, 45.°00N×151.°40E, h54km±3km, mb4.9/2*
*JMA **24** 22:44:13.5±0.5, 45.°38N×151.°01E, h30km, M4.6*
*IDC **24** 22:44:17.9±5.6, 45.°32N×150.°85E, h60km±47km, mb3.5/11, mb1 3.7/14, mb1mx3.5/54, mbtmp3.7/14, ML3.4/3, Error ellipse: s-maj=38.7km s-min=24.3km az=79.0*
*MOS **24** 22:44:18.4±1.2, 45.°23N×150.°61E, h78km, mb4.3/4, Error ellipse: s-maj=14.6km s-min=12.0km az=139.3*

ISC 24 22:44:14.6±0.8,**45.°04N**±0.°10×**151.°00E**±0.°08,**h35**km,**n48**, σ1s**69**/55,**mb3.8**/13,**3D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.22**	**276**	*e*PN	**Pn**	**22 44 49.1**	**+0.2**
KUR				*i* S	**Sn**	**22 45 15.5**	**+0.3**
KUR				pmax	pmax		
	comp=Z,207nm,0.3s						
KUR				pmax	pmax		
	comp=N,126nm,0.2s						
KUR				pmax	pmax		
	comp=E,139nm,0.2s						
KUR				smax	smax		
	comp=N,757nm,0.3s						
KUR				smax	smax		
	comp=E,235nm,0.2s						
KUR	**Kuril'sk**	**2.22**	**276**	*e*P	**Pn**	**22 44 48.3**	**-0.6**
KUR				AMB	AMB	22 44 51.0	
	comp=E,180nm,0.6s						
KUR				*i* S	**Sn**	**22 45 16.0**	**+0.8**
KUR				A	A	22 45 20.0	
	comp=E,370nm,0.4s						
KUR				A	A	22 45 20.0	
	comp=E,180nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.81**	**256**	*e*PN	**Pn**	**22 45 13.5**	**+2.8**
YUK	**Yuzh-Kuril'sk**	**3.81**	**256**	*e*P	**Pn**	**22 45 12.0**	**+1.3**
YUK				AMB	AMB	22 45 14.6	
	comp=E,110nm,0.4s						
YUK				*e*S	**Sn**	**22 45 57.0**	**+2.8**
YUK				A	A	22 46 08.8	
	comp=E,190nm,0.4s						
YUK				A	A	22 46 08.8	
	comp=E,260nm,0.4s						
NEM2	**Nemuro 2**	**4.13**	**248**	P	**Pn**	**22 45 15.5**	**+0.3**
NEM2				*e*S	**Sn**	**22 46 01.1**	**-1.1**
JRA	**Rausu**	**4.35**	**257**	P	**Pn**	**22 45 20.7**	**+2.6**
JNK	**Nakash**	**4.74**	**254**	P	**Pn**	**22 45 25.1**	**+1.6**
JNK				*e*S	**Sn**	**22 46 17.1**	**0.0**
AKK	**Akkeshi**	**4.88**	**248**	*e*P	**Pn**	**22 45 25.5**	**+0.1**
AKK				*e*S	**Sn**	**22 46 19.6**	**-1.0**
JAK	**Akkeshi**	**4.98**	**248**	P	**Pn**	**22 45 26.9**	**+0.1**
JAK				*e*S	**Sn**	**22 46 22.0**	**-1.2**
JTKR	**Abashiri--Toko**	**5.18**	**261**	P	**Pn**	**22 45 31.8**	**+2.2**
JAR	**Ashorobuto**	**5.48**	**254**	P	**Pn**	**22 45 36.0**	**+2.2**
JAR				*e*S	**Sn**	**22 46 36.9**	**+1.3**
JMP	**Maruseppu**	**5.56**	**262**	P	**Pn**	**22 45 37.6**	**+2.8**
JOB	**Onbets**	**5.59**	**250**	P	**Pn**	**22 46 36.6**	**+1.4**
JOB				*e*S	**Sn**	**22 46 38.4**	**+0.2**
JCH	**Churui**	**6.03**	**249**	P	**Pn**	**22 45 42.4**	**+1.1**
JCH				*e*S	**Sn**	**22 46 48.0**	**-1.0**
JKA	**Kamikawa-asahi**	**6.07**	**264**	*e*P	**Pn**	**22 45 44.7**	**+2.9**
ASAJ	**Asahikawa**	**6.07**	**264**	P	**Pn**	**22 45 44.7**	**+2.9**
	comp=E,1.5nm,0.3s,baz=72,slow=9.6,SNR=5.5						
ASAJ	**Asahikawa**	**6.07**	**264**	P	**Pn**	**22 45 45.0**	**+3.2**
ERM	**Erimo**	**6.45**	**245**	*e*PN	**Pn**	**22 45 50.4**	**+3.4**
JNBK	**Urakawa-nobuka**	**6.58**	**248**	P	**Pn**	**22 45 49.1**	**+0.2**
JNBK				*e*S	**Sn**	**22 47 00.8**	**-1.9**
JBT2	**Biratori 2**	**6.63**	**253**	P	**Pn**	**22 45 50.5**	**+1.0**
JKB	**Kayabe**	**7.90**	**250**	P	**Pn**	**22 46 07.5**	**+0.6**
JKB				*e*S	**Sn**	**22 47 30.9**	**-4.2**
PEA0B	**Petropavlovsk-**	**9.19**	**26**	*e*PN	Pn	22 46 29.4	+4.8
USRK	**Ussuriysk Ar.**	**13.57**	**273**	P	**Pn**	**22 47 24.9**	**+0.4**
	baz=81,slow=14,SNR=7.8						
KSRS	**Korea Array**	**18.89**	**254**	P	**Pn**	**22 48 33.3**	**+0.6**
	comp=E,0.3nm,0.3s,baz=55,slow=11,SNR=4.2						
BILL	**Bilibino**	**24.40**	**14**	*e*P	**P**	**22 49 31.6**	**+2.3**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**28.48**	**147**	T	T	23 21 46.0	
	baz=337,slow=76,SNR=2.8						
H11N1	**WAKE ISLAND Hy**	**28.49**	**147**	T	T	23 21 52.2	
	baz=337,slow=76,SNR=35						
H11N3	**WAKE ISLAND Hy**	**28.50**	**147**	T	T	23 21 47.0	
	baz=337,slow=76,SNR=4.0						
H11S1	**WAKE ISLAND Hy**	**29.52**	**149**	T	T	23 23 08.1	
	baz=338						
H11S3	**WAKE ISLAND Hy**	**29.53**	**149**	T	T	23 22 58.7	
	baz=338						
H11S2	**WAKE ISLAND Hy**	**29.54**	**149**	T	T	23 22 38.4	
	baz=338						
SONM	**Songino Array**	**30.54**	**291**	P	**P**	**22 50 24.2**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=72,slow=6.2,SNR=2.2						
MKAR	**Makanchi Array**	**46.42**	**298**	P	**P**	**22 52 36.9**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=77,slow=8.0,SNR=7.0						
MKAR	**Makanchi Array**	**46.42**	**298**	*e*P	**P**	**22 52 37.2**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**46.42**	**298**	*e*P	**P**	**22 52 37.2**	**-0.5**
FINES	**FINESS Array B**	**64.95**	**334**	P	**P**	**22 54 47.6**	**-2.6**
	comp=Z,1.2nm,0.8s,baz=55,slow=10,SNR=1.5						
OBN	**Obninsk**	**65.87**	**325**	*e*P	**P**	**22 54 55.5**	**-0.8**
OBN				*e*		22 55 14.6	
OBN				*e*		22 57 17.4	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,43nm,15.0s						
OBN	**Obninsk**	**65.87**	**325**	*e*P	**P**	**22 54 55.5**	**-0.8**
WRA	**Warramunga Arr**	**66.43**	**197**	P	**P**	**22 55 01.3**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=345,slow=6.7,SNR=1.7						
NOA	**NORSAR Array B**	**69.36**	**340**	P	**P**	**22 55 16.6**	**-1.7**
	comp=Z,1.4nm,0.9s,baz=28,slow=6.5,SNR=4.4						
ASAR	**Alice Springs**	**70.13**	**197**	P	**P**	**22 55 25.7**	**+2.4**
	comp=Z,0.2nm,0.4s,baz=10,slow=5.7,SNR=2.9						
ASAR				pP	**pwP**	**22 55 38.8**	**-0.5**
	comp=Z,1.0nm,1.0s,baz=10,slow=5.7,SNR=3.5						
KBZ	**Khabaz**	**70.97**	**313**	P	**P**	**22 55 28.5**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=64,slow=3.1,SNR=3.6						
KBZ	**Khabaz**	**70.97**	**313**	*e*P	**P**	**22 55 28.8**	**+0.5**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KBZ	**Khabaz**	**70.97**	**313**	*e*P	**P**	**22 55 28.8**	**+0.5**
AKASG	**Malin Array Be**	**72.13**	**325**	P	**P**	**22 55 33.2**	**-2.0**
	comp=Z,0.8nm,0.4s,baz=39,slow=6.0,SNR=4.2						
BRTR	**Keskin Array B**	**78.60**	**316**	P	**P**	**22 56 11.7**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=35,slow=5.3,SNR=1.5						
GERES	**GERESS Array B**	**79.32**	**333**	P	**P**	**22 56 15.3**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=51,slow=7.0,SNR=5.2						
TXAR	**Lajitas Array**	**79.63**	**59**	P	**P**	**22 56 19.4**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=318,slow=1.2,SNR=2.6						
TXAR				pP	**sP**	**22 56 31.6**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=299,slow=4.3,SNR=5.8						

WEL 24 22:45:22.3±0.8,**45.°5S**±4.°×**16.°8E**±.°,**h29**km±4km,**M3.2**/11, **ML3.5**/19,**MLv3.2**/11,**Error ellipse: s-maj=0.0km s-min=0.0km az=110.9,South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.25**	**71**	P	Pn	22 45 29.5	-0.4
MSZ				S	Sb	22 45 36.0	+2.6
MLZ	**Mavora Lakes**	**0.72**	**149**	P	Pn	22 45 36.6	+0.2
MLZ				S	Sn	22 45 47.6	+1.1
WKZ	**Wanaka**	**1.01**	**95**	P	Pb	22 45 41.9	+0.7
WKZ				S	Sb	22 45 56.5	+2.3
JCZ	**Jackson Bay**	**1.09**	**52**	P	Pn	22 45 41.3	-0.4
JCZ				S	Sb	22 45 57.7	+1.2
WHZ	**Wether Hill Ro**	**1.17**	**168**	P	Pn	22 45 42.3	-0.3
WHZ				S	Sn	22 45 57.4	-0.1
EAZ	**Earnscleugh**	**1.30**	**112**	P	Pb	22 45 45.7	-0.4
PYZ	**Puysegur Point**	**1.55**	**204**	P	Pn	22 45 48.8	+0.9
LBZ	**Lake Benmore**	**1.89**	**80**	P	Pn	22 45 53.2	+0.7
FOZ	**Fox Glacier**	**2.01**	**53**	P	Pn	22 45 53.4	-0.8
SYZ	**Scrubby Hill**	**2.09**	**149**	P	Pn	22 45 55.2	0.0
APZ	**The Paps**	**2.10**	**173**	P	Pn	22 45 55.0	-0.4
ODZ	**Otahua Downs**	**2.19**	**99**	P	Pn	22 45 56.9	+0.3
ODZ				S	Sn	22 46 21.9	-0.8
HHSZ	**Highcliff Hill**	**2.40**	**119**	P	Pn	22 46 00.2	+0.6
HHSZ				S	Sn	22 46 26.8	-1.2
GCSZ	**Gaunt Creek Bo**	**2.44**	**55**	P	Pn	22 46 01.6	+1.5
TMZ	**Timaru**	**2.46**	**83**	P	Pn	22 46 00.6	+0.1
ARCZ	**Arundel**	**2.69**	**74**	P	Pn	22 46 03.4	-0.2
RPZ	**Rata Peaks**	**2.69**	**69**	P	Pn	22 46 03.7	0.0
MHCZ	**Mount Hutt**	**3.11**	**68**	P	Pn	22 46 08.5	-0.8
WACZ	**Wakanui South**	**3.15**	**77**	P	Pn	22 46 09.5	-0.3
MQZ	**McQueen's Vall**	**3.78**	**76**	P	Pn	22 46 17.9	-0.6
LTZ	**Lake Taylor**	**3.92**	**61**	P	Pn	22 46 19.4	-1.0
DSZ	**Denniston Nort**	**4.30**	**47**	P	Pn	22 46 24.7	-1.1
QRZ	**Quartz Range**	**5.35**	**44**	P	Pn	22 46 39.1	-1.0
WIZ	**White Island**	**10.22**	**48**	P	Pn	22 47 45.1	-1.7
GLKZ	**Green Lake**	**19.26**	**41**	P	P	22 49 42.2	-2.2

*IDC **24** 23:07:11.9±3.4, 32.°19S×71.°83W, h0km, mb3.6/1, mb1 3.6/2, mb1mx3.4/26, mbtmp3.5/2, ML3.7/1, Error ellipse: s-maj=148.7km s-min=46.2km az=96.0*
*GUC **24** 23:07:16.1±0.7, 32.°39S×71.°80W, h31km±6km, ML3.7*

ISC 24 23:07:14.3±1.9,**32.°28S**±0.°03×**71.°79W**±0.°10,**h17**km±10km, **n28**, σ0s**59**/23,**4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**0.50**	**124**	*i*P	**Pn**	**23 07 26.2**	**-0.6**
VA06				*e*S	**Sn**	**23 07 34.0**	**-1.1**
VA06				IAML		23 07 38.2	
	comp=E,6μm,0.4s						
VA01	**Torpederas**	**0.75**	**171**	*e*P	**Pb**	**23 07 29.1**	**+0.1**
ROCH	**El Roble**	**0.95**	**137**	*i*P	**Pn**	**23 07 33.3**	**+0.1**
ROCH				*e*S	**Sn**	**23 07 46.8**	**+0.3**
ROCH				IAML		23 07 50.7	
	comp=E,4μm,0.7s						
VA03	**San Esteban**	**1.15**	**115**	*i*P	**Pg**	**23 07 36.7**	**0.0**
VA03				*e*S	**Sg**	**23 07 53.1**	**+1.3**
VA03				IAML		23 07 57.5	
	comp=N,6μm,0.4s						
CO02	**Combarbal**	**1.27**	**32**	*i*P	**Pb**	**23 07 38.2**	**+0.4**
CO02				*e*S	**Sg**	**23 07 55.2**	**-0.1**
PEL	**Peldehue**	**1.27**	**133**	*i* P	**Pg**	**23 07 38.4**	**-0.5**
PEL				*e*S	**Sg**	**23 07 55.6**	**+0.1**
PEL				IAML		23 07 59.1	
	comp=N,3μm,0.2s						
VA05	**Santo Domingo**	**1.38**	**174**	*e*P	**Pn**	**23 07 38.4**	**-0.5**
VA05				IAML		23 08 03.6	
	comp=E,3μm,0.4s						
MT05	**Renca**	**1.42**	**142**	*e*P	**Pb**	**23 07 40.6**	**+0.2**
MT05				*e*S	**Sg**	**23 08 00.1**	**-0.2**
MT05				IAML		23 08 04.8	
	comp=E,3μm,0.3s						
CO06	**Fray Jorge**	**1.61**	**5**	*e*P	**Pn**	**23 07 41.5**	**-0.4**
MT09	**Talagante**	**1.64**	**156**	*e*P	**Pb**	**23 07 43.8**	**-0.4**
MT09				*e*S	**Sb**	**23 08 05.0**	**+0.4**
MT09				IAML		23 08 12.8	
	comp=N,1μm,0.3s						
MT01	**Popeta**	**1.64**	**164**	*e*P	**Pn**	**23 07 43.0**	**+0.5**
MT01				IAML		23 08 12.6	
	comp=N,982nm,0.4s						
CO03	**El Pedregal**	**1.72**	**34**	*e*P	**Pb**	**23 07 45.4**	**-0.1**
CO03				IAML		23 08 12.9	
	comp=E,1μm,0.3s						
LMEL	**Las Melosas**	**2.06**	**140**	*e*P	**Pb**	**23 07 50.4**	**-0.9**
LMEL				IAML		23 08 27.1	
	comp=N,1μm,0.2s						
H03N1	**Juan Fernandez**	**6.10**	**257**	T	T	23 15 20.7	
	baz=86,slow=73,SNR=320						
H03N3	**Juan Fernandez**	**6.12**	**257**	T	T	23 15 14.0	
	baz=86,slow=73,SNR=614						
H03N2	**Juan Fernandez**	**6.12**	**257**	T	T	23 15 11.7	
	baz=86,slow=73,SNR=553						
H03S3	**Juan Fernandez**	**6.17**	**254**	T	T	23 15 16.4	
	baz=82,slow=75,SNR=19						
H03S1	**Juan Fernandez**	**6.17**	**253**	T	T	23 15 15.0	
	baz=82,slow=75,SNR=19						
H03S2	**Juan Fernandez**	**6.19**	**254**	T	T	23 15 15.8	
	baz=82,slow=75,SNR=26						
PLCA	**Paso Flores**	**8.50**	**174**	Pn	**Pn**	**23 09 17.6**	**+0.9**
	comp=N,0.2nm,0.3s,baz=347,slow=12,SNR=7.6						
TORD	**Torodi Ar. Bea**	**83.43**	**70**	P	**P**	**23 19 41.6**	**+0.3**
	comp=N,0.4nm,0.7s,baz=228,slow=5.6,SNR=2.9						
H11S2	**WAKE ISLAND Hy**	**25.99**	**270**	T	T	01 45 18.7	
	baz=118,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**26.00**	**270**	T	T	01 45 20.8	
	baz=118,slow=75,SNR=19						
H11S3	**WAKE ISLAND Hy**	**26.00**	**270**	T	T	01 45 18.0	
	baz=118,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**26.36**	**272**	T	T	01 45 46.6	
	baz=115						
H11N1	**WAKE ISLAND Hy**	**26.37**	**272**	T	T	01 45 42.2	
	baz=115						
H11N2	**WAKE ISLAND Hy**	**26.37**	**272**	T	T	01 45 45.1	
	baz=115						
ZALV	**Zalesovo Beam**	**152.65**	**31**	PKPbc	**PKiKP**	**23 27 09.7**	**0.0**
	comp=N,0.4nm,0.4s,baz=338,slow=3.4,SNR=2.1						

*IDC **24** 23:13:07.5±0.9, 23.°95N×122.°57E, h0km, mb3.8/12, mb1 3.9/13, mb1mx3.8/55, mbtmp3.8/13, ML3.4/1, Error ellipse: s-maj=35.8km s-min=20.2km az=63.0*
*JMA **24** 23:13:10.0±0.1, 23.°76N×122.°49E, h20km, M3.7*
*TAP **24** 23:13:10.8, 23.°70N×122.°56E, h35km±1km, ML4.1, D*
*NIED **24** 23:13:10.1, 23.°76N×122.°49E, h20km, MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; M_{rr}0.07; $M_{\theta\theta}$-1.03; $M_{\phi\phi}$0.97; $M_{r\theta}$1.01; $M_{\theta\phi}$0.46; $M_{\phi r}$0.62; Fault plane solution: $M_0$1.62000×10¹⁵ NP1:ϕ_s59.00000°, δ89.00000°, λ47.00000°. NP2:ϕ_s327.00000°, δ43.00000°, λ178.00000°.*

ISC 24 23:13:08.4±1.0,**23.°66N**±0.°02×**122.°56E**±0.°02,**h15**km±7km, **n147**, σ0s**90**/254,**mb3.8**/12,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.86**	**24**	P	Pn	**23 13 25.2**	**-0.8**
JYNG				S	**Sb**	**23 13 35.7**	**-0.7**
YOJ	**Yonaguni jima**	**0.89**	**27**	P	**Pn**	**23 13 25.9**	**-0.6**
YOJ				*e*S	**Sg**	**23 13 36.9**	**-0.6**
YOJ	**Yonaguni jima**	**0.89**	**27**	*i* P	**Pn**	**23 13 26.6**	**+0.2**
	baz=28						
YOJ				*i* S	**Sn**	**23 13 38.2**	**-1.0**
	baz=28						
HWA	**Hwalien**	**0.93**	**290**	*i* P	**Pn**	**23 13 26.6**	**-0.3**
	baz=277						
HWA				*i* S	**Sb**	**23 13 38.4**	**-0.1**
	baz=277						
TWD	**Chiawan**	**0.98**	**295**	*i* P	**Pn**	**23 13 27.4**	**-0.3**
	baz=282						
TWD				*i* S	**Sb**	**23 13 39.3**	**-0.5**
	baz=282						
ETL	**Fush Village**	**0.99**	**300**	*i* P	**Pg**	**23 13 27.8**	**+0.2**
	baz=287						
ETL				*i* S	**Sb**	**23 13 40.4**	**+0.2**
	baz=287						
NACB	**Ninganchiao**	**1.02**	**300**	P	**Pb**	**23 13 27.6**	**-0.2**
	baz=288						
NACB				S	**Sb**	**23 13 40.2**	**-0.8**
	baz=288						
EGFH	**Guangfu**	**1.04**	**271**	P	**Pb**	**23 13 27.9**	**-0.2**
	baz=268						
EGFH				S	**Sb**	**23 13 40.8**	**-0.8**
	baz=268						
ESL	**Shilin**	**1.05**	**278**	P	**Pb**	**23 13 27.9**	**-0.3**
	baz=276						
ESL				S	**Sb**	**23 13 40.8**	**-0.9**
	baz=276						
EWUT	**Wuta**	**1.06**	**318**	*e*P	**Pg**	**23 13 28.7**	**-0.2**
	baz=316						
EWUT				S	**Sb**	**23 13 42.6**	**+0.5**
	baz=316						
HGSD	**Ruisui**	**1.06**	**261**	*e*P	**Pg**	**23 13 29.1**	**+0.2**
	baz=259						
HGSD				*e*S	**Sb**	**23 13 42.0**	**-0.1**
	baz=259						

NDT				*e*S	**Sb**	**23 13 51.0 +0.8**
	baz=313							
EDH	**Donghe**	**1.35 240**	*e*P	**Pg**	**23 13 34.2 -0.1**
	baz=238							
EDH				*e*S	**Sn**	**23 13 48.7 -1.6**
	baz=238							
NTC	**Toucheng**	**1.36 331**	*e*P	**Pg**	**23 13 34.2 -0.4**
	baz=330							
NTC				*e*S	**Sn**	**23 13 50.2 -0.5**
	baz=330							
TWT	**Tachien**	**1.40 295**	*e*P	**Pb**	**23 13 34.8 +0.5**
	baz=285							
TWT				*e*S	**Sb**	**23 13 52.6 +0.5**
	baz=285							
LDUT	**Ludao**	**1.41 226**	*e*P	**Pb**	**23 13 34.4 0.0**
	baz=225							
LDUT				*e*S	**Sb**	**23 13 51.8 -0.4**
	baz=225							
TDCB	**Techi**	**1.41 295**	*e*P	**Pb**	**23 13 34.5 -0.1**
	baz=285							
TDCB				*e*S	**Sn**	**23 13 49.5 -2.7**
	baz=285							
TWB1	**Santiao Chiao**	**1.44 339**	*e*P	**Pb**	**23 13 34.6 -0.3**
	baz=353							
TWB1				*e*S	**Sn**	**23 13 51.5 -1.1**
	baz=353							
JKRS	**Kuro-shima**	**1.44 66**	P	**Pg**	**23 13 36.3 +0.1**
TIPB	**Shuangxi**	**1.47 333**	*e*P	**Pn**	**23 13 34.2 -0.2**
	baz=332							
TIPB				*e*S	**Sn**	**23 13 53.0 -0.3**
	baz=332							
NWLT	**Wulai**	**1.47 319**	*e*P	**Pb**	**23 13 36.0 +0.4**
	baz=318							
NWLT				*e*S	**Sn**	**23 13 53.0 -0.5**
	baz=318							
YHNB	**Yeheng**	**1.48 313**	*e*P	**Pn**	**23 13 34.5 -0.1**
	baz=312							
YHNB				*e*S	**Sn**	**23 13 53.6 0.0**
	baz=312							
SSLB	**Suanglung**	**1.48 275**	*e*P	**Pb**	**23 13 35.3 -0.3**
	baz=273							
SSLB				*e*S	**Sn**	**23 13 53.0 -0.6**
	baz=273							
YUS	**Yu-Shan**	**1.49 264**	*e*P	**Pb**	**23 13 36.0 0.0**
	baz=262							
YUS				*e*S	**Sn**	**23 13 53.8 -0.7**
	baz=262							
NSK	**Sanguang**	**1.49 313**	*e*P	**Pb**	**23 13 35.6 -0.3**
	baz=312							
NSK				*e*S	**Sn**	**23 13 54.0 -0.1**
	baz=312							
ELDTW	**Lidau**	**1.50 252**	*e*P	**Pb**	**23 13 35.4 -0.6**
	baz=250							
ELDTW				*e*S	**Sn**	**23 13 53.0 -1.2**
	baz=250							
LONT	**Longtian**	**1.52 241**	*e*P	**Pg**	**23 13 36.9 -0.7**
	baz=231							
LONT				*e*S	**Sn**	**23 13 53.6 -0.9**
	baz=231							
SMLT	**Sun Moon Lake**	**1.54 279**	*e*P	**Pb**	**23 13 36.6 -0.1**
	baz=277							
SMLT				*e*S	**Sn**	**23 13 55.2 0.0**
	baz=277							
WCS	**Beigang Elemen**	**1.56 285**	*e*P	**Pb**	**23 13 37.1 +0.1**
	baz=276							
WCS				*e*S	**Sn**	**23 13 55.2 -0.4**
	baz=276							
WHYT	**Xinyi Township**	**1.57 272**	*e*P	**Pb**	**23 13 37.1 0.0**
	baz=270							
WHYT				*e*S	**Sn**	**23 13 55.8 0.0**
	baz=270							
NWF	**Wu-fen Shan**	**1.57 333**	*e*P	**Pn**	**23 13 35.9 0.0**
	baz=332							
NWF				*e*S	**Sn**	**23 13 55.5 -0.5**
	baz=332							
TYC	**Yuchr**	**1.58 279**	*e*P	**Pb**	**23 13 36.9 -0.5**
	baz=278							
TYC				*e*S	**Sn**	**23 13 55.5 -0.6**
	baz=278							
TTN	**Taitung**	**1.59 235**	*e*S	**Sn**	**23 13 55.8 -0.4**
	baz=234							
TWA	**Mucha**	**1.59 326**	*e*P	**Pb**	**23 13 37.6 +0.1**
	baz=325							
TWA				*e*S	**Sn**	**23 13 56.8 +0.5**
	baz=325							
WHP	**Taichung City**	**1.60 293**	*e*P	**Pg**	**23 13 39.2 0.0**
	baz=291							
WHP				*e*S	**Sn**	**23 13 56.8 0.0**
	baz=291							
TWGBT	**Beinan**	**1.60 239**	*e*P	**Pb**	**23 13 37.4 -0.4**
	baz=229							
TWGBT				*e*S	**Sn**	**23 13 56.1 -0.5**
	baz=229							
NHDH	**Xindian Distri**	**1.60 324**	*e*P	**Pb**	**23 13 37.4 -0.4**
	baz=323							
NHDH				*e*S	**Sb**	**23 13 57.4 -0.4**
	baz=323							
JIJ	**Ishigaki jima**	**1.60 64**	P	**Pb**	**23 13 37.2 -0.6**
TWG	**Pinlang**	**1.61 239**	*e*P	**Pb**	**23 13 37.6 -0.2**
	baz=229							
TWG				*e*S	**Sn**	**23 13 56.1 -0.6**
	baz=229							
ALS	**Alishan**	**1.62 265**	*e*P	**Pb**	**23 13 38.3 +0.1**
	baz=263							
ALS				*e*S	**Sn**	**23 13 57.4 -0.1**
	baz=263							
TAP	**Taipei**	**1.68 325**	*e*P	**Pb**	**23 13 39.6 +0.7**
	baz=324							
TAP				*e*S	**Sb**	**23 13 59.3 -0.6**
	baz=324							
WJS	**Zhushan**	**1.69 276**	*e*P	**Pg**	**23 13 40.4 -0.5**
	baz=274							
WJS				*e*S	**Sb**	**23 14 00.8 +0.6**
	baz=274							
STYH	**Taoyuan**	**1.71 254**	*e*P	**Pb**	**23 13 39.4 -0.2**
	baz=245							
STYH				*e*S	**Sn**	**23 13 59.6 +0.2**
	baz=245							
LIOB	**Emei**	**1.72 305**	*e*P	**Pb**	**23 13 39.9 +0.2**
	baz=294							
LIOB				*e*S	**Sn**	**23 13 59.3 -0.3**
	baz=294							
NSTT	**Nanjuang**	**1.72 304**	*e*P	**Pb**	**23 13 39.7 -0.1**
	baz=293							
NSTT				*e*S	**Sn**	**23 13 59.9 +0.3**
	baz=293							
CHN5	**Tsauling**	**1.73 268**	*e*P	**Pg**	**23 13 41.2 -0.4**
	baz=267							
CHN5				*e*S	**Sb**	**23 14 00.8 -0.7**
	baz=267							
WNT	**Mingjian**	**1.73 277**	*e*P	**Pg**	**23 13 40.8 -0.9**
	baz=276							
WNT				*e*S	**Sb**	**23 14 01.8 +0.2**
	baz=276							
TWS1	**Kuangyinshan**	**1.77 324**	*e*P	**Pn**	**23 13 39.2 +0.6**
	baz=323							
TWS1				*e*S	**Sn**	**23 14 01.4 +0.6**
	baz=323							
TWQ1	**Liyutan**	**1.77 293**	*e*P	**Pb**	**23 13 40.9 +0.2**
	baz=291							
TWQ1				*e*S	**Sb**	**23 14 03.4 +0.7**
	baz=291							
TCU	**Taichung**	**1.79 286**	*e*P	**Pb**	**23 13 41.1 +0.2**
	baz=284							
TCU				*e*S	**Sb**	**23 14 03.3 0.0**
	baz=284							
NTST	**Danshui**	**1.81 326**	*e*P	**Pb**	**23 13 40.3 -0.9**
	baz=339							
NTST				*e*S	**Sn**	**23 14 01.9 +0.2**
	baz=339							
NCU	**National Centr**	**1.81 316**	*e*S	**Sb**	**23 14 03.9 +0.2**
	baz=315							
NCUH	**Zhongli**	**1.81 316**	*e*P	**Pb**	**23 13 41.2 0.0**
	baz=315							
NCUH				*e*S	**Sn**	**23 14 02.4 +0.7**
	baz=315							
NSY	**Sanyi**	**1.81 295**	*e*P	**Pb**	**23 13 41.4 +0.1**
	baz=280							
NSY				*e*S	**Sb**	**23 14 03.7 -0.1**
	baz=280							
TPUB	**Ta-pu**	**1.81 259**	*e*P	**Pb**	**23 13 41.9 +0.6**
	baz=257							
TPUB				*e*S	**Sn**	**23 14 02.7 +0.8**
	baz=257							
ECL	**Taimali**	**1.82 235**	*e*P	**Pn**	**23 13 39.6 +0.3**
	baz=245							
ECL				*e*S	**Sn**	**23 14 01.8 -0.3**
	baz=245							
SBCB	**Hsinchu**	**1.83 308**	*e*P	**Pb**	**23 13 40.9 -0.7**
	baz=307							
SBCB				*e*S	**Sb**	**23 14 05.5 +1.3**
	baz=307							
TWY	**Chenhua**	**1.83 332**	*e*P	**Pb**	**23 13 42.0 +0.4**
	baz=330							
TWY				*e*S	**Sn**	**23 14 02.4 +0.1**
	baz=330							
CHN4	**Tsaushan**	**1.83 261**	*e*P	**Pb**	**23 13 41.8 +0.1**
	baz=253							
CHN4				*e*S	**Sb**	**23 14 03.9 -0.5**
	baz=253							
WTP	**Ta-pu**	**1.84 257**	*e*P	**Pg**	**23 13 42.5 -1.2**
	baz=256							
WTP				*e*S	**Sb**	**23 14 04.6 0.0**
	baz=256							
NMLH	**Miaoli**	**1.84 299**	*e*P	**Pb**	**23 13 41.9 +0.2**
	baz=297							
NMLH				*e*S	**Sb**	**23 14 04.9 +0.3**
	baz=297							
JISG	**Ishigakijimahi**	**1.84 60**	P	**Pb**	**23 13 41.4 -0.4**
JISG				*e*S	**Sb**	**23 14 04.3 -0.4**
WDLH	**Douliu**	**1.86 271**	*e*P	**Pb**	**23 13 42.1 +0.1**
	baz=270							
WDLH				*e*S	**Sb**	**23 14 04.8 -0.3**
	baz=270							
LAY	**Lan-yu**	**1.87 210**	*e*P	**Pb**	**23 13 41.2 -1.1**
	baz=209							
LAY				*e*S	**Sn**	**23 14 02.1 -1.1**
	baz=209							
WCHH	**Zhanghua**	**1.88 283**	*e*P	**Pb**	**23 13 43.2 +0.8**
	baz=281							
WCHH				*e*S	**Sb**	**23 14 06.1 +0.3**
	baz=281							
WDJ	**Dajia District**	**1.89 292**	*e*P	**Pb**	**23 13 42.8 +0.2**
	baz=290							
WDJ				*e*S	**Sb**	**23 14 06.6 +0.7**
	baz=290							
SGST	**Jiashian**	**1.91 253**	*e*P	**Pb**	**23 13 43.0 0.0**
	baz=251							
SGST				*e*S	**Sb**	**23 14 06.1 -0.5**
	baz=251							
CHN2	**Minshiung**	**1.92 267**	*e*P	**Pg**	**23 13 44.6 -0.7**
	baz=265							
CHN2				*e*S	**Sb**	**23 14 06.7 -0.2**
	baz=265							
CHN1	**Nanshi**	**1.93 256**	*e*P	**Pb**	**23 13 44.0 +0.7**
	baz=255							
CHN1				*e*S	**Sb**	**23 14 07.1 -0.1**
	baz=255							
TWK	**Hsinying**	**1.94 259**	*e*P	**Pb**	**23 13 44.1 +0.5**
	baz=257							
TWK				*e*S	**Sb**	**23 14 07.4 -0.4**
	baz=257							
SNST	**Tainan City**	**1.95 257**	*e*P	**Pb**	**23 13 44.4 +0.8**
	baz=256							
SNST				*e*S	**Sb**	**23 14 07.7 0.0**
	baz=256							
CHY	**Chiayi**	**1.97 266**	*e*P	**Pg**	**23 13 45.2 -1.0**
	baz=264							
CHY				*e*S	**Sb**	**23 14 07.4 -1.0**
	baz=264							
WTK	**Tuku**	**1.99 271**	*e*P	**Pb**	**23 13 45.3 +0.9**
	baz=270							
WTK				*e*S	**Sb**	**23 14 07.7 -1.3**
	baz=270							
TSMG	**Majia**	**2.00 242**	*e*P	**Pb**	**23 13 43.7 -0.9**
	baz=236							
TSMG				*e*S	**Sn**	**23 14 06.7 +0.1**
	baz=236							
PCYT	**Pengchaiyu**	**2.01 347**	*e*P	**Pn**	**23 13 41.8 0.0**
	baz=347							
WRL	**Guolierlin Hig**	**2.02 277**	*e*P	**Pb**	**23 13 44.4 -0.3**
	baz=276							
WRL				*e*S	**Sb**	**23 14 09.8 +0.1**
	baz=276							
EAST	**Anshuo**	**2.03 231**	*e*P	**Pb**	**23 13 43.8 -1.2**
	baz=239							
EAST				*e*S	**Sn**	**23 14 07.4 +0.1**
	baz=239							
SCST	**Cishan**	**2.05 248**	*e*P	**Pb**	**23 13 46.2 +0.7**
	baz=247							
SCST				*e*S	**Sb**	**23 14 11.1 +0.3**
	baz=247							
MASBT	**Mashibuluo**	**2.06 240**	*e*P	**Pb**	**23 13 44.3 -1.3**
MASBT				*e*S	**Sn**	**23 14 08.3 +0.3**
	baz=234							
WTCT	**Ta-ch'eng**	**2.10 276**	*e*S	**Sb**	**23 14 11.1 -1.0**
	baz=274							
ICHU	**Yijhu**	**2.12 262**	*e*P	**Pb**	**23 13 46.6 +0.1**
	baz=261							
ICHU				*e*S	**Sb**	**23 14 12.1 -0.5**
	baz=261							
SGLT	**Jiouru**	**2.12 244**	*e*P	**Pb**	**23 13 46.2 -0.4**
	baz=241							
SGLT				*e*S	**Sb**	**23 14 11.7 -1.0**
	baz=241							
WSF	**Szhu**	**2.15 270**	*e*P	**Pb**	**23 13 45.9 -1.1**
	baz=268							
WSF				*e*S	**Sb**	**23 14 13.0 -0.4**
	baz=268							
SLIU	**Shizi**	**2.17 229**	*e*P	**Pb**	**23 13 47.0 -0.5**
	baz=228							
SLIU				*e*S	**Sn**	**23 14 11.4 +0.7**
	baz=228							
SSPT	**Xinbi**	**2.18 238**	*e*P	**Pn**	**23 13 45.2 +1.1**
	baz=231							
SSPT				*e*S	**Sn**	**23 14 11.4 +0.5**
	baz=231							
CHN8	**Yiju**	**2.18 262**	*e*S	**Sb**	**23 14 13.3 -1.2**
	baz=261							
JTJ	**Tarama**	**2.18 63**	P	**Pb**	**23 13 46.7 -0.9**
SCZT	**Fangliau**	**2.20 235**	*e*P	**Pn**	**23 13 45.5 +1.1**
	baz=234							
SCZT				*e*S	**Sn**	**23 14 11.7 +0.3**
	baz=234							
TSEB	**Hengchuen, Pin**	**2.33 221**	*e*P	**Pb**	**23 13 48.7 -1.5**
	baz=230							
TSEB				*e*S	**Sb**	**23 14 18.0 -0.8**
	baz=230							
KAU	**Kaohsiung**	**2.34 243**	*e*S	**Sb**	**23 14 19.5 +0.4**
	baz=254							
TWKBT	**Hengchun**	**2.35 224**	*e*P	**Pb**	**23 13 48.0 -2.5**
	baz=223							
TWKBT				*e*S	**Sn**	**23 14 16.1 +0.9**
	baz=223							
HEN	**Hengchun**	**2.36 226**	*e*P	**Pn**	**23 13 47.7 +1.1**
	baz=225							
HEN				*e*S	**Sb**	**23 14 17.4 -2.2**
	baz=225							
TWK1	**Hengchun**	**2.36 224**	*e*P	**Pb**	**23 13 49.0 -1.6**
	baz=223							
TWK1				*e*S	**Sn**	**23 14 16.5 +1.2**
	baz=223							
WLCH	**Liuqiu**	**2.40 237**	*e*P	**Pb**	**23 13 51.8 +0.5**
	baz=232							
WLCH				*e*S	**Sb**	**23 14 20.8 +0.1**
	baz=232							
WDGT	**Dungji**	**2.69 262**	*e*P	**Pn**	**23 13 53.2 +1.9**
	baz=260							
WDGT				*e*S	**Sn**	**23 14 23.9 +0.3**
	baz=260							
PHUB	**P'eng-hu**	**2.75 267**	*e*P	**Pn**	**23 13 54.0 +2.1**
	baz=266							
PHUB				*e*S	**Sn**	**23 14 25.8 +0.8**
	baz=266							
PNG	**Penghu**	**2.76 269**	*e*P	**Pb**	**23 13 54.6 -2.9**
	baz=267							
PNG				*e*S	**Sn**	**23 14 26.4 +1.2**
	baz=267							
VWUC	**VWUC**	**3.13 296**	*e*P	**Pn**	**23 13 58.9 +1.6**
	baz=282							
VWUC				*e*S	**Sn**	**23 14 34.6 +0.2**
	baz=282							
PTMZ	**Houxiangcun**	**3.42 294**	*e*P	**Pn**	**23 14 03.2 +1.9**
	baz=280							
PTMZ				*e*S	**Sn**	**23 14 41.6 0.0**
	baz=280							
MATB	**Ma-tsu**	**3.43 317**	*e*P	**Pn**	**23 14 03.2 +1.8**
	baz=315							
LYJJ	**Jianjiangzhen**	**3.84 319**	*e*P	**Pn**	**23 14 07.2 +0.2**
	baz=318							
KNM	**Kinmen**	**3.85 282**	*e*P	**Pn**	**23 14 09.7 +2.6**
	baz=279							
KNM				*e*S	**Sn**	**23 14 52.7 +0.6**
	baz=279							
KNMB	**Chin-men Tao**	**3.90 283**	*e*P	**Pn**	**23 14 07.7 -0.1**
	baz=280							
KNMB				*e*S	**Sn**	**23 14 50.9 -2.5**
	baz=280							
XPSS	**Dashiqiu**	**3.90 327**	*e*P	**Pn**	**23 14 09.7 +2.0**
	baz=336							
MHZQ	**Yeshan**	**4.02 308**	*e*P	**Pn**	**23 14 11.7 +2.2**
	baz=317							
MHZQ				*e*S	**Sn**	**23 14 56.5 +0.1**
	baz=317							
AXDP	**Jialang**	**4.37 287**	*e*P	**Pn**	**23 14 16.0 +1.8**
	baz=285							
AXDP				*e*S	**Sn**	**23 15 03.9 -1.0**
	baz=285							
ZPLA	**Ao Xicun**	**4.42 274**	*e*P	**Pn**	**23 14 15.1 +0.2**
	baz=281							
JOW	**Kunigami**	**6.06 57**	Pn	**Pn**	**23 14 37.5 0.0**
	2.3nm,0.3s,baz=236,slow=7.3,SNR=9.3							
KSRS	**Korea Array**	**14.50 17**	Pn	**P**	**23 16 35.9 -3.8**
	0.3nm,0.3s,baz=193,slow=12,SNR=7.9							
SONM	**Songino Array**	**27.34 336**	P	**P**	**23 18 52.5 -0.5**
	0.9nm,0.6s,baz=151,slow=9.5,SNR=7.2							
MKAR	**Makanchi Array**	**39.59 316**	P	**P**	**23 20 39.4 +0.2**
	1.3nm,0.5s,baz=94,slow=9.2,SNR=16							
H11N1	**WAKE ISLAND Hy**	**41.26 87**	T	T	00 05 00.3
	baz=288							
H11N2	**WAKE ISLAND Hy**	**41.26 87**	T	T	00 05 00.2
	baz=288							
H11N3	**WAKE ISLAND Hy**	**41.27 87**	T	T	00 05 00.3
	baz=288							
ZALV	**Zalesovo Beam**	**41.37 327**	P	**P**	**23 20 52.4 -1.3**
	0.8nm,0.5s,baz=114,slow=6.6,SNR=4.2							
H11S3	**WAKE ISLAND Hy**	**41.37 89**	T	T	00 05 09.9
	baz=284,slow=75,SNR=5.7							
H11S1	**WAKE ISLAND Hy**	**41.38 88**	T	T	00 05 05.5
	baz=284,slow=75,SNR=4.0							
H11S2	**WAKE ISLAND Hy**	**41.39 89**	T	T	00 05 13.6
	baz=284,slow=75,SNR=5.2							
WRA	**Warramunga Arr**	**44.84 164**	P	**P**	**23 21 25.6 +3.5**
	0.2nm,0.5s,baz=343,slow=8.0,SNR=2.2							
ASAR	**Alice Springs**	**48.32 166**	P	**P**	**23 21 53.0 +3.5**
	0.5nm,0.8s,baz=347,slow=7.6,SNR=4.5							
SPITS	**Spitsbergen Ar**	**70.26 348**	P	**P**	**23 24 19.7 -0.9**
	2.7nm,0.8s,baz=52,slow=9.6,SNR=1.6							
ARCES	**ARCESS Array B**	**70.49 338**	P	**P**	**23 24 22.0 -0.1**
	0.6nm,0.8s,baz=82,slow=8.3,SNR=1.2							
FINES	**FINESS Array B**	**72.53 330**	P	**P**	**23 24 35.0 +0.6**
	1.4nm,0.9s,baz=94,slow=2.5,SNR=5.1							
BRTR	**Keskin Array B**	**74.49 307**	P	**P**	**23 24 47.8 +1.1**
	0.9nm,0.9s,baz=99,slow=7.8,SNR=8.1							
NOA	**NORSAR Array B**	**79.27 333**	P	**P**	**23 25 12.5 -0.6**
	0.5nm,0.8s,baz=62,slow=8.1,SNR=1.7							
YKA	**Yellowknife Ar**	**82.95 23**	P	**P**	**23 25 32.3 -0.3**
	1.1nm,0.7s,baz=348,slow=23,SNR=2.3							
GERES	**GERESS Array B**	**84.04 321**	P	**P**	**23 25 38.9 +0.3**
	0.5nm,0.7s,baz=76,slow=5.6,SNR=4.1							

IDC 24 23:30:49.5±3.1, 33.22S×178.37W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/25, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=73.5km s-min=36.4km az=119.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.23**	**215**	Pn	Pn	23 32 23.1	+0.4
	1.2nm,0.3s,baz=344,slow=20,SNR=11						
URZ				Sn	Sn	23 33 35.3	+0.7
	1.5nm,0.3s,baz=82,slow=19,SNR=7.1						
ASAR	**Alice Springs**	**42.72**	**270**	P	P	23 38 48.5	-0.1
	0.6nm,0.7s,baz=109,slow=7.6,SNR=6.2						
WRA	**Warramunga Arr**	**43.96**	**275**	P	P	23 38 58.5	-0.1
	0.6nm,0.5s,baz=121,slow=7.8,SNR=8.4						
FINES	**FINESS Array B**	**147.65**	**338**	PKPbc	PKPbc	23 50 34.3	-0.9
	3.2nm,1.1s,baz=46,slow=4.0,SNR=6.2						

IDC 24 23:48:51.0±2.6, 31.47S×71.66W, h0km, mb3.9/1, mb1 3.6/2, mb1mx3.4/25, mbtmp3.5/2, ML3.4/1, Error ellipse: s-maj=132.7km s-min=44.9km az=94.0
GUC 24 23:48:55.7±0.8, 31.66S×71.64W, h25km±15km, ML3.7
ISC 24 23:48:53.3±1.5, 31.60S±0.04×71.68W±0.09, h13km±11km, n26, σ0 90/26, 6C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO02	**Combarbal**	**0.71**	**56**	⇓*i*P	**Pn**	**23 49 09.7**	**+0.6**
CO02				*i* S	**Sn**	**23 49 19.0**	**-0.9**
CO02				IAML		23 49 20.9	
	comp=E,17μm,0.2s						
CO06	**Fray Jorge**	**0.93**	**2**	*e*P	**Pn**	**23 49 13.0**	**+0.9**
CO06				*e*S	**Sn**	**23 49 26.6**	**+1.3**
CO06				IAML		23 49 29.0	
	comp=E,2μm,0.3s						
VA06	**Catapilco**	**1.01**	**161**	⇑*e*P	**Pb**	**23 49 13.0**	**+0.4**
VA06				*i* S	**Sb**	**23 49 25.3**	**-0.6**
VA06				IAML		23 49 27.6	
	comp=N,7μm,0.2s						
CO03	**El Pedregal**	**1.14**	**48**	⇓*i*P	**Pn**	**23 49 16.6**	**+1.5**
CO03				*i* S	**Sn**	**23 49 31.2**	**+0.5**
CO03				IAML		23 49 32.5	
	comp=E,3μm,0.3s						
VA01	**Torpederas**	**1.42**	**179**	*e*P	**Pn**	**23 49 19.1**	**+0.3**
VA01				*e*S	**Sn**	**23 49 36.8**	**-0.5**
ROCH	**El Roble**	**1.48**	**158**	*e*P	**Pn**	**23 49 20.3**	**+0.4**
ROCH				*i* S	**Sn**	**23 49 38.3**	**-0.9**
ROCH				IAML		23 49 41.4	
	comp=N,1μm,0.4s						
VA03	**San Esteban**	**1.50**	**141**	⇑*e*P	**Pb**	**23 49 21.1**	**0.0**
VA03				*i* S	**Sn**	**23 49 39.6**	**0.0**
VA03				IAML		23 49 42.0	
	comp=E,3μm,0.2s						
GO04	**Tololo Observa**	**1.62**	**28**	⇑*e*P	**Pg**	**23 49 23.8**	**-0.5**
GO04				*i* S	**Sg**	**23 49 45.6**	**+0.3**
GO04				IAML		23 49 49.0	
	comp=N,5μm,0.5s						
CO05	**La Serena**	**1.72**	**13**	⇑*e*P	**Pg**	**23 49 25.9**	**-0.4**
CO05				*i* S	**Sg**	**23 49 48.7**	**0.0**
CO05				IAML		23 50 00.8	
	comp=N,715nm,0.4s						
PEL	**Peldehue**	**1.75**	**151**	⇑*e*P	**Pn**	**23 49 24.6**	**+1.1**
PEL				*e*S	**Sn**	**23 49 46.3**	**+0.6**
PEL				IAML		23 49 49.4	
	comp=E,711nm,0.2s						
MT05	**Renca**	**1.95**	**156**	⇑*e*P	**Pn**	**23 49 27.6**	**+1.3**
MT05				*i* S	**Sn**	**23 49 52.4**	**+1.7**
MT05				IAML		23 49 54.3	
	comp=E,1μm,0.4s						
H03N1	**Juan Fernandez**	**6.38**	**251**	T	T	23 57 06.5	
	baz=79,slow=72,SNR=1123						
H03N3	**Juan Fernandez**	**6.39**	**251**	T	T	23 56 59.3	
	baz=79,slow=72,SNR=988						
H03N2	**Juan Fernandez**	**6.39**	**251**	T	T	23 57 01.8	
	baz=79,slow=72,SNR=920						
H03S3	**Juan Fernandez**	**6.48**	**248**	T	T	23 57 17.4	
	baz=84,slow=76,SNR=3.7						
H03S1	**Juan Fernandez**	**6.48**	**248**	T	T	23 57 15.3	
	baz=84,slow=76,SNR=4.9						
H03S2	**Juan Fernandez**	**6.50**	**248**	T	T	23 57 19.6	
	baz=84,slow=76,SNR=7.6						
PLCA	**Paso Flores**	**9.16**	**175**	Pn	**Pn**	**23 51 06.1**	**+0.9**
	comp=E,0.1nm,0.3s,baz=338,slow=14,SNR=1.4						
TORD	**Torodi Ar. Bea**	**83.11**	**70**	P	**P**	**00 01 18.9**	**-0.4**
	comp=E,1.8nm,0.9s,baz=249,slow=5.0,SNR=1.9						
H11S2	**WAKE ISLAND Hy**	**126.08**	**271**	T	T	02 26 50.9	
	baz=117,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**126.09**	**271**	T	T	02 26 50.7	
	baz=117,slow=75,SNR=16						
H11S3	**WAKE ISLAND Hy**	**126.09**	**271**	T	T	02 26 52.2	
	baz=117,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy**	**126.43**	**272**	T	T	02 27 16.7	
	baz=117,slow=74						
H11N1	**WAKE ISLAND Hy**	**126.44**	**272**	T	T	02 27 08.6	
	baz=117						
H11N2	**WAKE ISLAND Hy**	**126.44**	**272**	T	T	02 27 19.6	
	baz=117,slow=74						
ZALV	**Zalesovo Beam**	**152.03**	**30**	PKPbc	**PKPbc**	**00 08 47.4**	**-0.4**
	comp=E,1.0nm,0.4s,baz=300,slow=2.4,SNR=7.2						
ZALV				PKPab	**PKPab**	**00 08 55.9**	**-1.3**
	comp=E,1.4nm,0.

RAC02	**Cali,SGC**	**0.27**	**255**	*e*	P	Pn	00 07 00.7	-0.6
RAC02					S	Sn	00 07 17.3	+0.1
YOTC	**Yotoco, Valle**	**0.54**	**352**	⇓*e*	P	Pn	00 07 02.2	-0.3
YOTC					S	Sn	00 07 18.7	-0.6
YOTC				*i*			00 07 19.6	
	comp=Z,440nm,0.1s							
MARP	**Paez Belalcaza**	**0.67**	**152**	⇓*e*	P	Pn	00 07 03.0	-0.3
MARP					S	Sn	00 07 20.8	-0.1
POPC	**Popayan, Colom**	**0.99**	**205**	⇓*i*	P	Pn	00 07 05.0	-0.6
POPC					S	Sn	00 07 24.2	-0.6
POPC				*i*			00 07 25.4	
	comp=Z,185nm,0.3s							
PCON	**Cinco Dias**	**1.11**	**187**	*e*	P	Pn	00 07 07.4	+0.3
PCON					S	Sn	00 07 28.1	+0.7
PCON				*i*			00 07 31.9	
	comp=Z,116nm,0.7s							
BETC	**Betania**	**1.12**	**133**	⇓*e*	P	Pn	00 07 05.9	-0.6
BETC					S	Sn	00 07 26.0	-0.5
BETC				*i*			00 07 27.9	
	comp=Z,102nm,0.6s							
ORTC	**Ortega, Tolima**	**1.12**	**66**	⇓*i*	P	Pn	00 07 05.8	-0.7
ORTC					S	Sn	00 07 25.2	-1.3
ORTC				*i*			00 07 27.1	
	comp=Z,165nm,0.6s							
MALC	**Bahia Malaga**	**1.21**	**298**	⇑*e*	P	Pn	00 07 08.8	+1.6
MALC					S	Sn	00 07 31.7	+3.9
MALC				*i*			00 07 34.1	
	comp=Z,204nm,0.3s							
SOTA	**Rioblanco**	**1.34**	**195**	*e*	P	Pn	00 07 08.9	-0.3
SOTA					S	Sn	00 07 31.1	0.0
SOTA				*i*			00 07 36.4	
	comp=Z,177nm,0.7s							
ANIL	**Santa Ana**	**1.35**	**40**	*e*	P	Pn	00 07 08.5	-0.5
ANIL				*e*	P	Pn	00 07 08.5	-0.5
ANIL				*e*	S	Sn	00 07 30.4	-0.5
GARC	**Garzon, Huila**	**1.47**	**148**	*i*	P	Pn	00 07 09.2	-0.9
GARC				*i*			00 07 31.1	
	comp=Z,68nm,0.3s							
GARC					S	Sn	00 07 31.9	-1.0
BBAC	**Balboa, Cauca**	**1.72**	**215**	*e*	P	Pn	00 07 12.4	-0.4
BBAC					S	Sn	00 07 36.7	-0.9
BBAC				*i*			00 07 39.7	
	comp=Z,254nm,0.5s							
FLOC	**Florencia**	**1.95**	**162**	⇓*i*	P	Pn	00 07 14.4	-0.8
FLOC					S	Sn	00 07 40.8	-1.1
FLOC				*i*			00 07 43.5	
	comp=Z,33nm,0.4s							
GR1C	**Gorgona, Isla**	**1.95**	**257**	*e*	P	Pn	00 07 14.4	-0.7
GR1C					S	Sn	00 07 40.6	-1.1
GUY2C	**Guyana, Caldas**	**1.98**	**27**	*e*	P	Pn	00 07 15.6	-0.4
GUY2C				*e*	S	Sn	00 07 42.0	-1.4
GUY2C				*i*			00 07 44.2	
	comp=Z,136nm,0.4s							
ROSC	**El Rosal**	**2.39**	**54**	*e*	P	Pn	00 07 21.2	+0.5
ROSC					S	Sn	00 07 52.3	+0.6
ROSC				*i*			00 07 59.9	
	comp=Z,24nm,0.5s							
CBOC	**Ciudad Bolivar**	**2.42**	**6**	*e*	P	Pn	00 07 20.9	0.0
CBOC					S	Sn	00 07 52.1	0.0
CBOC				*i*			00 07 59.0	
	comp=Z,71nm,0.6s							
GCUF	**Volcan Galeras**	**2.45**	**206**	*e*	P	Pn	00 07 21.8	+0.2
GCUF					S	Sn	00 07 52.4	-0.9
GCUF				*i*			00 07 56.4	
	comp=Z,62nm,0.2s							
NORC	**Norcasia**	**2.52**	**33**	*e*	P	Pn	00 07 21.1	-0.9
NORC					S	Sn	00 07 53.2	-1.0
VILC	**Villavicencio,**	**2.65**	**75**	*e*	P	Pn	00 07 23.8	+0.1
VILC					S	Sn	00 07 58.6	+1.5
VILC				*i*			00 08 00.3	
	comp=Z,38nm,0.7s							
CHIC	**Chingaza**	**2.79**	**65**	⇑*e*	P	Pn	00 07 25.8	+0.2
CHIC				*i*			00 08 03.1	
	comp=Z,13nm,0.4s							
HELC	**Santa Helena**	**2.83**	**15**	*e*	P	Pn	00 07 25.7	-0.4
HELC					S	Sn	00 08 00.3	-1.1
HELC					S		00 08 00.7	
HELC				*i*			00 08 03.9	
	comp=Z,34nm,0.6s							
ZARC	**Zaragoza, Cauc**	**4.26**	**19**	*e*	P	Pn	00 07 42.9	-1.3
ZARC					S	Sn	00 08 31.3	-2.6
ZARC				*i*			00 08 33.1	
	comp=Z,20nm,0.4s							
UREC	**San Jos de Ur**	**4.34**	**10**	*e*	P	Pn	00 07 45.7	+0.5
UREC					S	Sn	00 08 33.4	-2.4

IDC 25 00:14:14.8±7.7,7°74S×156°85E,h0km,mb3.8/5, mb1 3.9/5,mb1mx3.7/32,mbtmp3.8/5,Error ellipse: s-maj=236.7km s-min=32.9km az=114.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.96**	**239**	P	P	00 19 40.1	-0.1
	0.5nm,0.5s,baz=64,slow=9.3,SNR=4.8						
ASAR	**Alice Springs**	**27.11**	**232**	P	P	00 19 59.7	+0.1
	0.3nm,0.8s,baz=66,slow=7.3,SNR=1.8						
H11S3	**WAKE ISLAND Hy**	**27.82**	**20**	T	T	00 48 36.5	
	baz=201,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy**	**27.82**	**20**	T	T	00 48 37.1	
	baz=201,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**27.83**	**20**	T	T	00 48 35.4	
	baz=201,slow=75,SNR=8.0						
SONM	**Songino Array**	**70.96**	**327**	P	P	00 25 35.0	+0.7
	0.2nm,0.3s,baz=136,slow=7.2,SNR=4.3						
MKAR	**Makanchi Array**	**85.18**	**318**	P	P	00 26 52.9	-0.3
	1.7nm,0.8s,baz=94,slow=5.8,SNR=9.9						
ZALV	**Zalesovo Beam**	**85.83**	**326**	P	P	00 26 55.9	-0.2
	1.5nm,0.6s,baz=102,slow=6.2,SNR=7.1						

*IDC **25** 00:18:03.8±0.9,0°68S×130°93E,h0km,mb3.7/5, mb1 3.9/7,mb1mx3.7/33,mbtmp3.7/7,ML3.9/2,MS2.9/2, Ms1 2.9/2,ms1mx2.4/30,Error ellipse: s-maj=27.1km s-min=7.0km az=32.0*

ISC 25 00:18:04.6±0.9,0°90S±0°09×130°9E±0°1,h10km,n10, σ2s65/10,mb3.9/5,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**0.40**	**85**	Pg	**Pg**	**00 18 12.1**	**-0.5**
	355nm,0.3s,baz=1.4,slow=14,SNR=79						
SIJI				Lg	Lg	00 18 15.7	
	614nm,0.3s,baz=344,slow=20,SNR=25						
JAY	**Jayapura**	**9.96**	**99**	LR	LR	00 24 23.6	
	comp=Z,56nm,18.5s,baz=192,slow=38						
FITZ	**Fitzroy Crossi**	**17.84**	**196**	P	**P**	**00 22 16.9**	**+3.0**
	0.3nm,0.3s,baz=35,slow=14,SNR=8.7						
FITZ				S	**Sn**	**00 25 27.2**	**-5.0**
	0.1nm,0.3s,baz=320,slow=17,SNR=1.2						
WRA	**Warramunga Arr**	**19.23**	**170**	P	**P**	**00 22 30.9**	**+1.8**
	0.4nm,0.3s,baz=352,slow=13,SNR=10.0						
WRA				S	Sn	00 25 55.5	-10
	0.3nm,0.3s,baz=354,slow=20,SNR=7.1						
ASAR	**Alice Springs**	**22.82**	**173**	P	**P**	**00 23 10.7**	**+2.8**
	2.4nm,0.6s,baz=353,slow=10,SNR=21						
ASAR				S	**S**	**00 27 16.9**	**-0.5**
	0.2nm,0.6s,baz=359,slow=28,SNR=1.4						
CMAR	**Chiang Mai Arr**	**36.81**	**303**	P	**P**	**00 25 14.0**	**+0.8**
	1.0nm,0.4s,baz=121,slow=6.5,SNR=4.1						
KLR	**Kul'dur**	**49.94**	**1**	LR	LR	00 49 20.8	
	comp=Z,16nm,18.4s,baz=360,slow=38						
SONM	**Songino Array**	**53.02**	**340**	P	**P**	**00 27 21.1**	**-0.8**
	0.2nm,0.3s,baz=160,slow=4.6,SNR=1.8						
MKAR	**Makanchi Array**	**63.69**	**325**	P	**P**	**00 28 36.0**	**-0.4**
	0.6nm,0.6s,baz=101,slow=7.7,SNR=5.4						
ZALV	**Zalesovo Beam**	**66.57**	**332**	P	**P**	**00 28 53.4**	**-1.5**
	0.3nm,0.5s,baz=116,slow=6.7,SNR=1.7						

*AEIC **25** 00:34:05.6±0.9,63°17N±0°03×150°47W±0°07, h115km±5km,ML3.3/135,ML3.6/174(NEIC),Error ellipse: s-maj=5.0km s-min=4.1km az=128.0*
*ANF **25** 00:34:05.3±0.2,63°19N×150°44W,h114km±2km,ML3.5/65, Error ellipse: s-maj=1.4km s-min=1.2km az=133.0*
*NEIC **25** 00:34:05.1±1.0,63°20N±0°03×150°47W±0°05, h120km±6km,Error ellipse: s-maj=5.2km s-min=2.9km az=157.0*

ISC 25 00:34:04.6±1.2,63°19N±0°02×150°47W±0°02, h123km±6km,n235,σ0s60/253,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.27**	**17**		**Pn**	**00 34 22.4**	**+0.3**
TRF					**Sn**	**00 34 35.1**	**-0.1**
TRF				IAML		00 34 35.9	
	comp=N,1μm,0.5s						
TRF				IAML		00 34 36.1	
	comp=E,1μm,0.6s						
TRF	**Thorofare Moun**	**0.27**	**17**	P	**Pn**	**00 34 22.5**	**+0.5**
	baz=196,SNR=839						
TRF				S	**Sn**	**00 34 35.1**	**-0.1**
	baz=196						
KTH	**Kantishna Hill**	**0.42**	**331**		**Pn**	**00 34 22.7**	**+0.2**
KTH	**Kantishna Hill**	**0.42**	**331**		**Sn**	**00 34 35.9**	**-0.2**
RND	**Reindeer**	**0.76**	**73**		**Pn**	**00 34 25.2**	**+0.4**
RND				IAML		00 34 41.1	
	comp=E,925nm,0.4s						
RND				IAML		00 34 41.1	
	comp=N,772nm,0.7s						
CAST	**Castle Rocks**	**0.76**	**288**		**Pn**	**00 34 24.9**	**+0.2**
CAST	**Castle Rocks**	**0.76**	**288**		**Sn**	**00 34 39.5**	**-0.6**
CAST				IAML		00 34 40.0	
	comp=E,660nm,0.8s						
CAST				IAML		00 34 40.1	
	comp=N,790nm,0.6s						
CAST	**Castle Rocks**	**0.76**	**288**	P	**Pn**	**00 34 25.0**	**+0.2**
	baz=108,SNR=274						
CAST				S	**Sn**	**00 34 39.2**	**-0.9**
	baz=108						
CUT	**Chulitna**	**0.79**	**173**		**Pn**	**00 34 25.3**	**+0.3**
CUT					**Sn**	**00 34 40.5**	**+0.1**
CUT				IAML		00 34 41.8	
	comp=N,1μm,0.6s						
CUT	**Chulitna**	**0.79**	**173**	P	**Pn**	**00 34 25.3**	**+0.3**
	baz=353,SNR=140						
CUT				S	**Sn**	**00 34 40.3**	**-0.1**
	baz=353						
WAT7	**Susitna Watana**	**0.82**	**115**		**Pn**	**00 34 25.4**	**0.0**
WAT7					**Sn**	**00 34 40.8**	**-0.3**
PPLA	**Purkeypile**	**0.84**	**250**		**Pn**	**00 34 25.9**	**+0.4**
PPLA	**Purkeypile**	**0.84**	**250**	P	**Pn**	**00 34 26.0**	**+0.5**
	baz=70,SNR=182						
PPLA				S	**Sn**	**00 34 41.4**	**0.0**
	baz=70						
MCK	**McKinley**	**0.88**	**51**		**Pn**	**00 34 26.3**	**+0.6**
MCK					**Sn**	**00 34 41.7**	**-0.1**
MCK				IAML		00 34 43.3	
	comp=N,763nm,0.5s						
MCK				IAML		00 34 44.6	
	comp=E,573nm,0.5s						
MCK	**McKinley**	**0.88**	**51**	P	**Pn**	**00 34 26.4**	**+0.6**
	baz=232,SNR=101						
MCK				S	**Sn**	**00 34 41.5**	**-0.3**
	baz=232						
BPAW	**Bear Paw Mtn.**	**0.94**	**346**		**Pn**	**00 34 26.7**	**+0.3**
BPAW					**Sn**	**00 34 42.2**	**-0.7**
BPAW				IAML		00 34 42.9	
	comp=E,1μm,0.5s						
BPAW				IAML		00 34 43.0	
	comp=N,837nm,0.8s						
BPAW	**Bear Paw Mtn.**	**0.94**	**346**	P	**Pn**	**00 34 26.7**	**+0.3**
	baz=166,SNR=178						
BPAW				S	**Sn**	**00 34 42.1**	**-0.7**
	baz=166						
WAT1	**Susitna Watana**	**0.95**	**112**		**Pn**	**00 34 26.7**	**+0.3**
WAT1	**Susitna Watana**	**0.95**	**112**	P	**Pn**	**00 34 26.7**	**+0.3**
	baz=292						
WAT1				S	**Sn**	**00 34 42.6**	**-0.3**
	baz=292						
CHUM	**Lake Minchumin**	**1.08**	**311**		**Pn**	**00 34 28.1**	**+0.4**
CHUM					**Sn**	**00 34 44.7**	**-0.4**
CHUM	**Lake Minchumin**	**1.08**	**311**	P	**Pn**	**00 34 28.2**	**+0.6**
	baz=130,SNR=77						
CHUM				S	**Sn**	**00 34 44.7**	**-0.4**
	baz=130						
BWN	**Browne**	**1.08**	**24**		**Pn**	**00 34 28.5**	**+0.8**
SKT	**Skwentna**	**1.31**	**202**		**Pn**	**00 34 30.1**	**0.0**
SKT				IAML		00 34 50.8	
	comp=N,958nm,0.4s						
SKT				IAML		00 34 51.0	
	comp=E,1μm,0.4s						
SKT	**Skwentna**	**1.31**	**202**		**Sn**	**00 34 49.3**	**-0.2**
SKT	**Skwentna**	**1.31**	**202**	P	**Pn**	**00 34 30.1**	**0.0**
	baz=22,SNR=94						
SKT				S	**Sn**	**00 34 49.2**	**-0.2**
	baz=22						
WAT6	**Susitna Watana**	**1.39**	**115**		**Pn**	**00 34 31.3**	**+0.1**
WAT6	**Susitna Watana**	**1.39**	**115**	P	**Pn**	**00 34 31.3**	**+0.1**
	baz=297,SNR=212						
WAT6				S	**Sn**	**00 34 50.9**	**-0.4**
	baz=297						
DHY	**Denali Highway**	**1.41**	**93**		**Pn**	**00 34 31.8**	**+0.5**
DHY					**Sn**	**00 34 52.0**	**+0.3**
DHY	**Denali Highway**	**1.41**	**93**	P	**Pn**	**00 34 31.9**	**+0.5**
	baz=275,SNR=202						
DHY				S	**Sn**	**00 34 51.7**	**0.0**
	baz=275						
NEA2	**Nenana**	**1.54**	**23**		**Pn**	**00 34 32.9**	**+0.2**
NEA2	**Nenana**	**1.54**	**23**	P	**Pn**	**00 34 32.9**	**+0.2**
	baz=204,SNR=23						
NEA2				S	**Sn**	**00 34 52.8**	**-1.2**
	baz=204						
GHO	**Glory Hole Cre**	**1.59**	**153**		**Pn**	**00 34 33.7**	**+0.3**
K20K	**Telida**	**1.64**	**277**		**Pn**	**00 34 34.1**	**+0.3**
K20K				IAML		00 34 56.0	
	comp=E,496nm,0.9s						
K20K	**Telida**	**1.64**	**277**		**Sn**	**00 34 55.0**	**-1.0**
K20K	**Telida**	**1.64**	**277**	P	**Pn**	**00 34 34.2**	**+0.3**
	baz=95,SNR=61						
K20K				S	**Sn**	**00 34 55.1**	**-0.9**
	baz=95						
WRH	**Wood River Hil**	**1.66**	**38**		**Pn**	**00 34 34.6**	**+0.5**
SML	**Sawmill**	**1.71**	**143**		**Pn**	**00 34 34.6**	**0.0**
SML	**Sawmill**	**1.71**	**143**	IAML		00 35 03.1	
	comp=N,659nm,0.8s						
SML				IAML		00 35 03.2	
	comp=E,762nm,0.5s						
SML	**Sawmill**	**1.71**	**143**	P	**Pn**	**00 34 34.7**	**0.0**
	baz=325,SNR=45						
SML				S	**Sn**	**00 34 57.7**	**+0.1**
	baz=325						
L20K	**Farewell, AK**	**1.72**	**247**		**Pn**	**00 34 34.9**	**+0.1**
L20K					**Sn**	**00 34 57.2**	**-0.6**
L20K	**Farewell, AK**	**1.72**	**247**	P	**Pn**	**00 34 35.0**	**+0.1**
	baz=64,SNR=50						
L20K				S	**Sn**	**00 34 57.2**	**-0.6**
	baz=64						
PMR	**Palmer**	**1.72**	**158**		**Pn**	**00 34 34.6**	**-0.1**
PMR	**Palmer**	**1.72**	**158**	IAML		00 34 58.1	
	comp=E,401nm,0.3s						
PMR				IAML		00 35 04.0	
	comp=N,363nm,0.5s						
PMR	**Palmer**	**1.72**	**158**	P	**Pn**	**00 34 34.7**	**-0.1**
	baz=339,SNR=26						
PMR				S	**Sn**	**00 34 57.2**	**-0.5**
	baz=339						
SUA	**Susitna One**	**1.74**	**184**		**Pn**	**00 34 35.6**	**+0.5**
SUA					**Sn**	**00 34 59.0**	**+0.7**
SUA				IAML		00 35 01.9	
	comp=E,285nm,0.8s						
SUA				IAML		00 35 02.8	
	comp=N,448nm,0.7s						
SUA	**Susitna One**	**1.74**	**184**	P	**Pn**	**00 34 35.2**	**0.0**
	baz=4.2,SNR=74						
SUA				S	**Sn**	**00 34 58.6**	**+0.2**
	baz=4.2						
STLK	**Strandline Lak**	**1.81**	**201**		**Pn**	**00 34 36.0**	**0.0**
MLY	**Manley**	**1.85**	**356**		**Pn**	**00 34 36.9**	**+0.5**
MLY	**Manley**	**1.85**	**356**	P	**Pn**	**00 34 36.9**	**+0.5**
	baz=176,SNR=48						
MLY				S	**Sn**	**00 34 59.6**	**-1.1**
	baz=176						
CCB	**Clear Creek Bu**	**1.88**	**38**		**Pn**	**00 34 37.2**	**+0.5**
J20K	**Nowinta River**	**1.91**	**303**		**Pn**	**00 34 37.5**	**+0.5**
J20K				IAML		00 35 03.1	
	comp=E,201nm,1.1s						
J20K	**Nowinta River**	**1.91**	**303**	P	**Pn**	**00 34 37.6**	**+0.5**
	baz=120,SNR=75						
J20K				S	**Sn**	**00 35 01.1**	**-0.9**
	baz=120						
HDA	**Harding Lake**	**1.99**	**50**		**Pn**	**00 34 38.4**	**+0.4**
HDA				IAML		00 35 09.5	
	comp=N,176nm,0.4s						
HDA	**Harding Lake**	**1.99**	**50**	P	**Pn**	**00 34 38.4**	**+0.4**
	baz=233,SNR=42						
HDA				S	**Sn**	**00 35 02.8**	**-0.8**
	baz=233						
HDA				S	**Sn**	**00 35 02.8**	**-0.8**
	baz=233						
SCM	**Sheep Creek Mo**	**2.00**	**132**		**Pn**	**00 34 38.1**	**-0.1**
SCM				IAML		00 35 13.6	
	comp=E,493nm,0.6s						
KNK	**Knik Glacier**	**2.02**	**151**		**Pn**	**00 34 38.1**	**-0.3**
KNK					**Sn**	**00 35 04.0**	**-0.2**
KNK				IAML		00 35 12.5	
	comp=N,718nm,0.5s						
KNK	**Knik Glacier**	**2.02**	**151**	P	**Pn**	**00 34 38.4**	**0.0**
	baz=333,SNR=42						
KNK				S	**Sn**	**00 35 04.3**	**+0.1**
	baz=333						
I23K	**Minto, Yukon-K**	**2.03**	**13**		**Pn**	**00 34 39.0**	**+0.6**
I23K	**Minto, Yukon-K**	**2.03**	**13**	P	**Pn**	**00 34 39.0**	**+0.6**
	baz=194,SNR=27						
I23K				S	**Sn**	**00 35 03.5**	**-0.9**
	baz=194						
MDM	**Murphy Dome**	**2.03**	**28**		**Pn**	**00 34 38.9**	**+0.4**
SPCG	**Spurr Capps Gl**	**2.04**	**202**		**Pn**	**00 34 39.3**	**+0.5**
TCOL	**CIGO, UAF Yank**	**2.04**	**33**		**Pn**	**00 34 38.8**	**+0.1**
TCOL				IAML		00 35 15.3	
	comp=N,230nm,0.6s						
TCOL				IAML		00 35 24.1	
	comp=E,187nm,0.5s						
TCOL	**CIGO, UAF Yank**	**2.04**	**33**	S	**Sn**	**00 35 04.9**	**+0.2**
	baz=215						
COLA	**College**	**2.05**	**33**	Pn	**Pn**	**00 34 39.5**	**+0.8**
COLA	**College**	**2.05**	**33**	IAML		00 35 15.3	
	comp=E,231nm,0.6s						
COLA				IAML		00 35 24.2	
	comp=E,223nm,0.5s						
COLA	**College**	**2.05**	**33**	S	**Sn**	**00 35 05.1**	**+0.3**
	baz=215						
FIS	**Fire Island**	**2.06**	**177**		**Pn**	**00 34 39.5**	**+0.6**
FIS				IAML		00 35 19.2	
	comp=N,626nm,0.6s						
CRP	**Crater Peak**	**2.08**	**203**		**Pn**	**00 34 40.0**	**+0.6**
SPCP	**Crater Peak Br**	**2.08**	**203**		**Pn**	**00 34 39.7**	**+0.3**
I21K	**Tanana**	**2.10**	**342**		**Pn**	**00 34 40.1**	**+0.7**
I21K	**Tanana**	**2.10**	**342**	P	**Pn**	**00 34 40.1**	**+0.7**
	baz=161,SNR=72						
I21K				S	**Sn**	**00 35 05.3**	**-0.8**
	baz=161						
PS08	**TAPS Pump Stn8**	**2.11**	**48**		**Pn**	**00 34 39.9**	**+0.4**
SPCN	**Chakachatna No**	**2.13**	**203**		**Pn**	**00 34 41.2**	**+1.4**
SPBG	**Spurr Blockage**	**2.13**	**205**		**Pn**	**00 34 40.8**	**+0.9**
RC01	**Rabbit Creek A**	**2.14**	**170**		**Pn**	**00 34 39.6**	**-0.3**
RC01				IAML		00 35 07.9	
	comp=N,409nm,0.2s						
RC01				IAML		00 35 09.4	
	comp=E,325nm,0.1s						
RC01	**Rabbit Creek A**	**2.14**	**170**	P	**Pn**	**00 34 39.9**	**+0.1**
	baz=351,SNR=15						
RC01				S	**Sn**	**00 35 06.2**	**-0.7**
	baz=351						
SPCR	**Spurr Chakacha**	**2.16**	**203**		**Pn**	**00 34 41.0**	**+0.8**
SPCR	**Spurr Chakacha**	**2.16**	**203**	P	**Pn**	**00 34 41.0**	**+0.8**
	baz=22,SNR=13						
SPCR				S	**Sn**	**00 35 07.6**	**+0.1**
	baz=22						
M19K	**Big River Lodg**	**2.23**	**236**		**Pn**	**00 34 40.8**	**-0.2**
M19K	**Big River Lodg**	**2.23**	**236**	P	**Pn**	**00 34 40.9**	**-0.2**
	baz=53,SNR=10						
M19K				S	**Sn**	**00 35 08.9**	**0.0**
	baz=53						
IL31		**2.24**	**43**		**Pn**	**00 34 41.5**	**+0.4**
ILAR	**Eielson Array**	**2.24**	**43**		**Pn**	**00 34 41.5**	**+0.4**
L19K	**White Mountain**	**2.26**	**245**		**Pn**	**00 34 41.2**	**-0.3**
L19K	**White Mountain**	**2.26**	**245**	P	**Pn**	**00 34 41.5**	**0.0**
	baz=62,SNR=25						
L19K				S	**Sn**	**00 35 08.8**	**-0.9**
	baz=62						
M24K	**Tolsona, Glenn**	**2.26**	**117**		**Pn**	**00 34 42.1**	**+0.6**
M24K				IAML		00 35 18.3	
	comp=N,554nm,0.7s						
M24K	**Tolsona, Glenn**	**2.26**	**117**	P	**Pn**	**00 34 42.2**	**+0.6**
	baz=300,SNR=77						
PAX	**Paxson**	**2.29**	**93**		**Pn**	**00 34 42.5**	**+0.7**
PAX	**Paxson**	**2.29**	**93**	P	**Pn**	**00 34 42.6**	**+0.7**
	baz=277,SNR=142						
PAX				S	**Sn**	**00 35 10.1**	**-0.2**
	baz=277						
POKR	**Poker Plat Res**	**2.35**	**33**		**Pn**	**00 34 43.3**	**+0.8**
POKR	**Poker Plat Res**	**2.35**	**33**	P	**Pn**	**00 34 43.4**	**+0.8**
	baz=216,SNR=5.2						
POKR				S	**Sn**	**00 35 11.2**	**-0.4**
	baz=216						
CAPN	**Captain Cook N**	**2.45**	**188**		**Pn**	**00 34 43.8**	**0.0**
CAPN	**Captain Cook N**	**2.45**	**188**	P	**Pn**	**00 34 46.2**	**+2.3**
	baz=7.3,SNR=5.7						
PWL	**Port Wells**	**2.55**	**156**		**Pn**	**00 34 44.8**	**-0.3**
PWL				IAML		00 35 17.3	
	comp=E,389nm,0.5s						
PWL				IAML		00 35 17.7	
	comp=N,417nm,0.3s						
PS11	**TAPS Pump St11**	**2.56**	**114**		**Pn**	**00 34 46.2**	**+0.9**
HARP	**HAARP**	**2.57**	**106**		**Pn**	**00 34 46.0**	**+0.7**
HARP	**HAARP**	**2.57**	**106**	P	**Pn**	**00 34 46.0**	**+0.7**
	baz=290,SNR=27						
HARP				S	**Sn**	**00 35 14.5**	**-2.1**
	baz=290						
RIDG	**Independent Ri**	**2.58**	**75**		**Pn**	**00 34 46.3**	**+0.7**
RIDG				IAML		00 35 17.7	
	comp=E,148nm,0.7s						
RIDG	**Independent Ri**	**2.58**	**75**	P	**Pn**	**00 34 46.4**	**+0.8**
	baz=260,SNR=65						
J25K	**Salcha River,**	**2.67**	**55**		**Pn**	**00 34 47.1**	**+0.5**
J25K	**Salcha River,**	**2.67**	**55**	P	**Pn**	**00 34 47.1**	**+0.5**
	baz=240,SNR=36						
H21K	**Melozitna Rive**	**2.68**	**339**		**Pn**	**00 34 47.0**	**+0.3**
H21K	**Melozitna Rive**	**2.68**	**339**	P	**Pn**	**00 34 47.2**	**+0.5**
	baz=157,SNR=27						
PS06	**TAPS Pump Stn6**	**2.69**	**6**		**Pn**	**00 34 47.8**	**+0.9**
SLKM	**Skilak Lake**	**2.69**	**177**		**Pn**	**00 34 47.1**	**+0.1**
KLU	**Klutina**	**2.72**	**127**		**Pn**	**00 34 46.9**	**-0.5**
KLU				IAML		00 35 32.0	
	comp=E,360nm,0.5s						
KLU				IAML		00 35 32.0	
	comp=N,232nm,0.3s						
KLU	**Klutina**	**2.72**	**127**	P	**Pn**	**00 34 46.9**	**-0.5**
	baz=310,SNR=24						
O22K	**Cooper Landing**	**2.74**	**172**		**Pn**	**00 34 47.8**	**+0.2**
O22K	**Cooper Landing**	**2.74**	**172**	P	**Pn**	**00 34 47.8**	**+0.2**
	baz=353						
DFR	**Drift River**	**2.81**	**203**		**Pn**	**00 34 49.7**	**+1.1**
JPK	**Jack Peak**	**2.81**	**138**		**Pn**	**00 34 48.0**	**-0.5**
GLI	**Glacier Island**	**2.81**	**144**		**Pn**	**00 34 47.6**	**-0.8**
GLI	**Glacier Island**	**2.81**	**144**

PRP	**Porcupine Dome**	**3.18**	**40**	P		**Pn**	**00 34 53.8**	**+0.4**
	baz=225,SNR=12							
SVW2	**Sparrevohn**	**3.19**	**231**			**Pn**	**00 34 53.8**	**+0.4**
SVW2	**Sparrevohn**	**3.19**	**231**	IAML			00 37 06.3	
	comp=N,74nm,0.7s							
O20K	**Slope Mountain**	**3.28**	**199**			**Pn**	**00 34 56.1**	**+1.3**
O20K	**Slope Mountain**	**3.28**	**199**	P		**Pn**	**00 34 55.9**	**+1.2**
	baz=17							
J26L	**Joseph Creek**	**3.33**	**64**	P		**Pn**	**00 34 56.2**	**+0.9**
	baz=250,SNR=72							
HIN	**Hinchinbrook I**	**3.38**	**144**			**Pn**	**00 34 55.5**	**-0.4**
HIN				IAML			00 35 58.5	
	comp=N,209nm,0.7s							
IVE	**Iliamna Volcan**	**3.41**	**202**			**Pn**	**00 34 58.3**	**+1.9**
BRLK	**Bradley Lake**	**3.44**	**183**			**Pn**	**00 34 57.1**	**+0.3**
BRLK				IAML			00 35 38.0	
	comp=E,184nm,0.5s							
BRLK				IAML			00 35 39.1	
	comp=N,183nm,0.4s							
BRSE	**Bradley Lake S**	**3.46**	**182**			**Pn**	**00 34 57.1**	**0.0**
BRSE	**Bradley Lake S**	**3.46**	**182**	P		**Pn**	**00 34 57.2**	**+0.1**
	baz=2.0,SNR=8.3							
EYAK	**Cordova Ski Ar**	**3.47**	**138**			**Pn**	**00 34 57.0**	**0.0**
EYAK	**Cordova Ski Ar**	**3.47**	**138**	P		**Pn**	**00 34 56.8**	**-0.2**
	baz=322							
M26K	**Nabesna, AK**	**3.52**	**100**			**Pn**	**00 34 58.1**	**+0.2**
M26K	**Nabesna, AK**	**3.52**	**100**	IAML			00 36 01.6	
	comp=E,79nm,0.5s							
M26K				IAML			00 36 04.1	
	comp=N,100nm,0.5s							
M26K	**Nabesna, AK**	**3.52**	**100**	P		**Pn**	**00 34 57.9**	**0.0**
	baz=286,SNR=13							
BMRM	**Bremner River**	**3.55**	**126**			**Pn**	**00 34 57.5**	**-0.7**
BMRM	**Bremner River**	**3.55**	**126**	IAML			00 35 57.3	
	comp=N,204nm,0.8s							
BMRM				IAML			00 35 57.9	
	comp=E,165nm,0.5s							
BMRM	**Bremner River**	**3.55**	**126**	P		**Pn**	**00 34 57.5**	**-0.7**
	baz=311,SNR=7.9							
GLB	**Gilahina Butte**	**3.57**	**116**			**Pn**	**00 34 58.6**	**+0.1**
GLB	**Gilahina Butte**	**3.57**	**116**	IAML			00 37 31.6	
	comp=E,117nm,0.5s							
GLB				IAML			00 37 31.6	
	comp=N,70nm,0.5s							
HOM	**Homer**	**3.59**	**190**	Pn		**Pn**	**00 34 59.0**	**+0.4**
HOM	**Homer**	**3.59**	**190**	P		**Pn**	**00 34 59.5**	**+0.8**
	baz=8.6							
N18K	**Kilae Creek**	**3.59**	**228**	P		**Pn**	**00 34 59.0**	**+0.3**
	baz=43							
CNPM	**China Poot**	**3.70**	**186**			**Pn**	**00 35 00.5**	**+0.3**
GOAT	**Goat Mountain**	**3.77**	**131**			**Pn**	**00 35 00.8**	**-0.4**
P19K	**Oil Pt**	**3.79**	**202**	Pn		**Pn**	**00 35 01.8**	**+0.5**
P19K				IAML			00 37 26.8	
	comp=N,88nm,0.5s							
P19K				IAML			00 37 35.7	
	comp=E,111nm,0.4s							
P19K	**Oil Pt**	**3.79**	**202**	P		**Pn**	**00 35 02.2**	**+0.8**
	baz=19							
VRDI	**Verde Repeater**	**3.83**	**118**			**Pn**	**00 35 01.7**	**-0.4**
VRDI	**Verde Repeater**	**3.83**	**118**	IAML			00 36 03.4	
	comp=N,67nm,0.7s							
VRDI				IAML			00 37 30.1	
	comp=E,65nm,0.5s							
K27K	**Chicken**	**3.84**	**74**	IAML			00 35 47.2	
	comp=E,65nm,0.6s							
K27K				IAML			00 35 49.7	
	comp=N,71nm,0.7s							
K27K	**Chicken**	**3.84**	**74**	P		**Pn**	**00 35 02.3**	**+0.3**
	baz=261							
MCARA	**McCarthy VSAT**	**3.92**	**114**			**Pn**	**00 35 03.6**	**+0.5**
MCARA	**McCarthy VSAT**	**3.92**	**114**	IAML			00 37 27.0	
	comp=E,117nm,0.4s							
MCARA				IAML			00 37 38.7	
	comp=N,148nm,0.4s							
MCARA	**McCarthy VSAT**	**3.92**	**114**	P		**Pn**	**00 35 03.4**	**+0.3**
	baz=301,SNR=9.4							
L27K	**Beaver Creek,**	**3.93**	**88**			**Pn**	**00 35 03.1**	**-0.1**
L27K	**Beaver Creek,**	**3.93**	**88**	IAML			00 37 35.9	
	comp=E,61nm,0.5s							
L27K	**Beaver Creek,**	**3.93**	**88**	P		**Pn**	**00 35 03.1**	**-0.1**
	baz=276,SNR=28							
M27K	**Edge Creek, AK**	**4.04**	**98**			**Pn**	**00 35 05.7**	**+0.9**
M27K	**Edge Creek, AK**	**4.04**	**98**	IAML			00 37 25.8	
	comp=E,88nm,0.5s							
M27K				IAML			00 37 26.5	
	comp=N,72nm,0.5s							
M27K	**Edge Creek, AK**	**4.04**	**98**	P		**Pn**	**00 35 05.6**	**+0.9**
	baz=286,SNR=24							
O18K	**Koktuh Hills**	**4.04**	**216**			**Pn**	**00 35 05.2**	**+0.5**
O18K				IAML			00 37 26.5	
	comp=N,37nm,0.8s							
O18K	**Koktuh Hills**	**4.04**	**216**	P		**Pn**	**00 35 05.6**	**+0.9**
	baz=32							
COLD	**Coldfoot**	**4.06**	**1**			**Pn**	**00 35 05.2**	**+0.3**
COLD	**Coldfoot**	**4.06**	**1**	P		**Pn**	**00 35 05.5**	**+0.7**
	baz=182,SNR=6.0							
FYU	**Fort Yukon**	**4.06**	**31**	Pn		**Pn**	**00 35 05.6**	**+0.7**
FYU				IAML			00 37 32.8	
	comp=N,65nm,4.3s							
HMT	**Hamilton**	**4.11**	**131**			**Pn**	**00 35 05.4**	**-0.3**
CRQM	**Cirque**	**4.23**	**122**			**Pn**	**00 35 07.2**	**-0.2**
CRQM				IAML			00 37 39.7	
	comp=E,107nm,0.5s							
CRQE	**Cirque**	**4.25**	**122**	P		**Pn**	**00 35 07.4**	**-0.3**
	baz=308,SNR=7.9							
PTPK	**Patty Peak**	**4.25**	**115**			**Pn**	**00 35 08.0**	**+0.3**
Q23K	**Middleton Isla**	**4.26**	**150**	Pn		**Pn**	**00 35 08.7**	**+1.1**
BERG	**Berg Lake**	**4.27**	**128**			**Pn**	**00 35 07.4**	**-0.3**
MID	**Middleton Isla**	**4.27**	**150**	Pn		**Pn**	**00 35 08.7**	**+1.1**
NICHA	**Nichawak Mount**	**4.28**	**131**			**Pn**	**00 35 07.6**	**-0.4**
TGL	**Tana Glacier**	**4.35**	**121**			**Pn**	**00 35 08.6**	**-0.4**
TGL				IAML			00 36 19.0	
	comp=N,99nm,0.6s							
TGL				IAML			00 36 24.0	
	comp=E,97nm,0.7s							
KAIM	**Kayak Island**	**4.37**	**136**	Pn		**Pn**	**00 35 08.6**	**-0.4**
KAIM	**Kayak Island**	**4.37**	**136**	P		**Pn**	**00 35 08.6**	**-0.4**
	baz=321							
BALM	**Baldy**	**4.39**	**116**			**Pn**	**00 35 09.1**	**-0.3**
KHIT	**Khitrov Hills**	**4.39**	**126**			**Pn**	**00 35 08.9**	**-0.6**
EGAK	**Eagle**	**4.40**	**65**			**Pn**	**00 35 10.8**	**+1.4**
EGAK				IAML			00 36 15.2	
	comp=E,65nm,1.1s							
EGAK				IAML			00 37 44.0	
	comp=E,52nm,0.6s							
EGAK	**Eagle**	**4.40**	**65**	P		**Pn**	**00 35 10.0**	**+0.6**
	baz=253							
KIAG	**Kiagna River**	**4.44**	**117**			**Pn**	**00 35 09.6**	**-0.6**
SUCK	**Suckling Hills**	**4.47**	**131**	Pn		**Pn**	**00 35 10.0**	**-0.4**
BVCY	**Beaver Creek**	**4.48**	**96**			**Pn**	**00 35 10.9**	**+0.3**
BVCY	**Beaver Creek**	**4.48**	**96**	P		**Pn**	**00 35 10.5**	**0.0**
	baz=284,SNR=9.8							
GRIN	**Grindle Hills**	**4.48**	**127**			**Pn**	**00 35 10.4**	**-0.2**
Q19K	**Cape Douglas,**	**4.54**	**201**	Pn		**Pn**	**00 35 12.0**	**+0.5**
Q19K	**Cape Douglas,**	**4.54**	**201**	P		**Pn**	**00 35 12.1**	**+0.7**
	baz=18							
ISLE	**Juniper Island**	**4.64**	**120**			**Pn**	**00 35 12.0**	**-0.8**
ISLE	**Juniper Island**	**4.64**	**120**	IAML			00 36 32.3	
	comp=N,76nm,0.6s							
ISLE				IAML			00 38 29.1	
	comp=E,84nm,0.7s							
BARN	**Barnard Glacie**	**4.66**	**113**			**Pn**	**00 35 13.6**	**+0.5**
BARN	**Barnard Glacie**	**4.66**	**113**	IAML			00 38 15.6	
	comp=E,78nm,0.6s							
BARN				IAML			00 38 27.5	
	comp=N,58nm,0.8s							
YUK2	**White River**	**4.68**	**103**			**Pn**	**00 35 14.3**	**+1.0**
YUK1	**Sand Pete Hill**	**4.70**	**98**			**Pn**	**00 35 14.4**	**+0.8**
BARK	**Barkley Ridge**	**4.71**	**123**			**Pn**	**00 35 13.6**	**-0.1**
KULT	**Kultieth River**	**4.72**	**125**			**Pn**	**00 35 13.6**	**-0.2**
SNH	**Sunshine Point**	**4.72**	**126**	Pn		**Pn**	**00 35 14.2**	**+0.3**
SNH				IAML			00 38 25.6	
	comp=E,92nm,1.1s							
GRNC	**Granite Creek**	**4.80**	**117**			**Pn**	**00 35 14.8**	**-0.2**
GRNC	**Granite Creek**	**4.80**	**117**	IAML			00 37 44.9	
	comp=E,36nm,0.5s							
GRNC				IAML			00 37 45.9	
	comp=N,46nm,0.5s							
BAGL	**Bagley Icefiel**	**4.81**	**121**			**Pn**	**00 35 14.5**	**-0.3**
CTG	**Chitna Glacier**	**4.84**	**113**	P		**Pn**	**00 35 15.5**	**+0.1**
	baz=301,SNR=12							
CTGM	**Chitina Glacie**	**4.84**	**113**			**Pn**	**00 35 15.6**	**+0.1**
CTGM	**Chitina Glacie**	**4.84**	**113**	IAML			00 38 10.1	
	comp=E,34nm,1.6s							
CTGM				IAML			00 38 31.2	
	comp=N,53nm,0.6s							
YUK3	**Moose Creek**	**4.86**	**102**			**Pn**	**00 35 16.8**	**+1.0**
YUK3	**Moose Creek**	**4.86**	**102**	P		**Pn**	**00 35 16.7**	**+1.0**
	baz=291,SNR=28							
BMAR	**Burnt Mountain**	**4.92**	**28**	Pn		**Pn**	**00 35 17.3**	**+0.9**
DAWY	**Dawson**	**5.02**	**75**			**Pn**	**00 35 18.2**	**+0.4**
DAWY	**Dawson**	**5.02**	**75**	P		**Pn**	**00 35 18.0**	**+0.2**
	baz=265,SNR=17							
YAH	**Yahtse**	**5.02**	**120**			**Pn**	**00 35 17.6**	**-0.4**
YAH	**Yahtse**	**5.02**	**120**	IAML			00 36 43.9	
	comp=N,49nm,0.9s							
YAH				IAML			00 38 31.9	
	comp=E,48nm,0.8s							
LOGN	**Logan Glacier**	**5.05**	**114**			**Pn**	**00 35 18.5**	**+0.1**
LOGN	**Logan Glacier**	**5.05**	**114**	IAML			00 38 33.0	
	comp=E,31nm,1.4s							
LOGN				IAML			00 38 43.1	
	comp=N,35nm,0.6s							
MESA	**MESA**	**5.06**	**123**	P		**Pn**	**00 35 18.2**	**-0.3**
	baz=310							
TABL	**Table Mountain**	**5.21**	**118**			**Pn**	**00 35 20.5**	**0.0**
TABL	**Table Mountain**	**5.21**	**118**	IAML			00 38 58.6	
	comp=N,39nm,0.8s							
TABL				IAML			00 38 59.4	
	comp=E,41nm,0.9s							
RKAV	**Rock Avalanche**	**5.21**	**120**			**Pn**	**00 35 20.5**	**0.0**
TOLK	**Toolik Lake Re**	**5.49**	**3**	Pn		**Pn**	**00 35 25.5**	**+1.4**
PINM	**Pinnacle**	**5.77**	**118**	P		**Pn**	**00 35 27.9**	**0.0**
	baz=307,SNR=5.5							
YUK6	**Outpost Mounta**	**6.12**	**106**	P		**Pn**	**00 35 32.6**	**-0.2**
	baz=297							
OHAK	**Old Harbor**	**6.15**	**194**	Pn		**Pn**	**00 35 31.6**	**-1.3**
HYT	**Haines Junctio**	**6.55**	**105**	P		**Pn**	**00 35 38.4**	**-0.1**
	baz=297							

*IDC **25** 00:36:18.0±1.2,63.°07N×151.°24W,h110km±11km, mb3.7/23,mb1 3.8/28,mb1mx3.7/53,mbtmp4.0/28,Error ellipse: s-maj=12.2km s-min=9.4km az=93.0*
*MOS **25** 00:36:17.6±0.9,63.°03N×151.°31W,h126km,mb4.4/21, Error ellipse: s-maj=17.5km s-min=7.2km az=90.0*
*NEIC **25** 00:36:19.5±1.3,63.°05N±0.°04×151.°03W±0.°08, h127km±4km,Error ellipse: s-maj=5.4km s-min=5.2km az=194.0*
*ANF **25** 00:36:19.8±0.2,63.°05N×151.°00W,h123km±1km,ML4.2/70, Error ellipse: s-maj=1.5km s-min=1.3km az=118.0*
*AEIC **25** 00:36:20.1±1.2,63.°03N±0.°04×150.°97W±0.°08, h124km±4km,ML3.9/161,mb4.5/48(NEIC),ML4.2/171(NEIC), Error ellipse: s-maj=5.4km s-min=5.1km az=207.0*
ISC 25 00:36:19.7±0.4,63°05N±0.°02×151°04W±0.°03, h131km±3km,h130km;pP-P,n388,c0§93/424,mb4.4/61, 7C-4D,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.51**	**6**		**Pn**	**00 36 38.6**	**-0.4**
KTH				Sn	**Sn**	**00 36 52.2**	**-1.4**
KTH				IAML		00 36 53.3	
	comp=E,4µm,0.7s						
KTH				IAML		00 36 53.6	
	comp=N,7µm,0.6s						
TRF	**Thorofare Moun**	**0.53**	**40**	Pn	**Pn**	**00 36 38.8**	**-0.4**
TRF				Sn	**Sn**	**00 36 53.2**	**-0.8**
TRF				IAML		00 36 53.7	
	comp=N,7µm,0.6s						
TRF				IAML		00 36 54.1	
	comp=E,7µm,0.7s						
TRF	**Thorofare Moun**	**0.53**	**40**	P	**Pn**	**00 36 38.9**	**-0.3**
	baz=216,SNR=200						
TRF				S	**Sn**	**00 36 53.3**	**-0.7**
	baz=216						
PPLA	**Purkeypile**	**0.55**	**255**	Pn	**Pn**	**00 36 39.3**	**0.0**
PPLA				Sn	**Sn**	**00 36 53.2**	**-0.9**
PPLA	**Purkeypile**	**0.55**	**255**	P	**Pn**	**00 36 39.4**	**0.0**
	baz=76,SNR=196						
PPLA				S	**Sn**	**00 36 53.7**	**-0.4**
	baz=76						
CAST	**Castle Rocks**	**0.60**	**309**		**Pn**	**00 36 39.1**	**-0.4**
CAST				Sn	**Sn**	**00 36 53.0**	**-1.5**
CAST				IAML		00 36 53.9	
	comp=E,3µm,0.9s						
CAST				IAML		00 36 53.9	
	comp=N,3µm,0.6s						
CAST	**Castle Rocks**	**0.60**	**309**	P	**Pn**	**00 36 39.1**	**-0.4**
	baz=127,SNR=163						
CAST				S	**Sn**	**00 36 53.3**	**-1.2**
	baz=127						
CUT	**Chulitna**	**0.73**	**151**	Pn	**Pn**	**00 36 40.1**	**-0.2**
CUT				Sn	**Sn**	**00 36 55.3**	**-0.7**
CUT				IAML		00 36 57.5	
	comp=N,7µm,0.5s						
CUT	**Chulitna**	**0.73**	**151**	P	**Pn**	**00 36 40.2**	**-0.2**
	baz=333,SNR=64						
CUT				S	**Sn**	**00 36 55.5**	**-0.5**
	baz=333						
CHUM	**Lake Minchumin**	**1.02**	**326**		**Pn**	**00 36 42.8**	**0.0**
CHUM	**Lake Minchumin**	**1.02**	**326**	P	**Pn**	**00 36 42.8**	**0.0**
	baz=144,SNR=39						
CHUM				S	**Sn**	**00 36 59.5**	**-0.8**
	baz=144						
WAT7	**Susitna Watana**	**1.02**	**101**		**Pn**	**00 36 42.4**	**-0.6**
WAT7					**Sn**	**00 36 59.5**	**-1.1**
RND	**Reindeer**	**1.05**	**69**	P	**Pn**	**00 36 42.7**	**-0.5**
RND				pmax	pmax		
	comp=Z,1µm,0.5s						
RND	**Reindeer**	**1.05**	**69**	Pn	**Pn**	**00 36 42.7**	**-0.5**
BPAW	**Bear Paw Mtn.**	**1.06**	**1**	Pn	**Pn**	**00 36 42.9**	**-0.3**
BPAW				IAML		00 37 00.4	
	comp=E,4µm,0.5s						
BPAW				IAML		00 37 00.4	
	comp=N,3µm,0.7s						
BPAW	**Bear Paw Mtn.**	**1.06**	**1**	P	**Pn**	**00 36 42.9**	**-0.3**
	baz=180,SNR=46						
BPAW				S	**Sn**	**00 36 59.9**	**-1.2**
	baz=180						
SKT	**Skwentna**	**1.09**	**192**		**Pn**	**00 36 43.3**	**-0.3**
SKT				IAML		00 37 02.7	
	comp=N,4µm,0.3s						
SKT				IAML		00 37 03.7	
	comp=E,5µm,0.4s						
SKT	**Skwentna**	**1.09**	**192**		**Sn**	**00 37 00.9**	**-0.8**
SKT	**Skwentna**	**1.09**	**192**	P	**Pn**	**00 36 43.3**	**-0.3**
	baz=14						
SKT				S	**Sn**	**00 37 01.0**	**-0.7**
	baz=14						
WAT1	**Susitna Watana**	**1.16**	**100**		**Pn**	**00 36 43.8**	**-0.5**
WAT1	**Susitna Watana**	**1.16**	**100**	P	**Pn**	**00 36 43.8**	**-0.5**
	baz=281						
WAT1				S	**Sn**	**00 37 01.9**	**-1.0**
	baz=281						
MCK	**McKinley**	**1.17**	**53**	P	**Pn**	**00 36 44.1**	**-0.2**
MCK						00 37 01.7	
MCK				pmax	pmax		
	comp=N,808nm,0.7s						
MCK	**McKinley**	**1.17**	**53**	Pn	**Pn**	**00 36 44.1**	**-0.2**
MCK	**McKinley**	**1.17**	**53**	P	**Pn**	**00 36 44.2**	**-0.1**
	baz=233,SNR=35						
MCK				S	**Sn**	**00 37 01.8**	**-1.3**
	baz=233						
BWN	**Browne**	**1.33**	**31**	Pn	**Pn**	**00 36 46.2**	**+0.3**
BWN				IAML		00 37 06.5	
	comp=N,1µm,0.7s						
BWN				IAML		00 37 10.5	
	comp=E,1µm,0.7s						
K20K	**Telida**	**1.41**	**284**	Pn	**Pn**	**00 36 46.7**	**-0.1**
K20K				IAML		00 37 07.2	
	comp=E,1µm,0.9s						
K20K	**Telida**	**1.41**	**284**	P	**Pn**	**00 36 46.8**	**-0.1**
	baz=102						
K20K				S	**Sn**	**00 37 06.1**	**-1.4**
	baz=102						
L20K	**Farewell, AK**	**1.43**	**248**		**Pn**	**00 36 46.9**	**-0.2**
L20K	**Farewell, AK**	**1.43**	**248**	P	**Pn**	**00 36 46.9**	**-0.2**
	baz=66,SNR=28						
L20K				S	**Sn**	**00 37 06.9**	**-1.0**
	baz=66						
WAT6	**Susitna Watana**	**1.58**	**106**		**Pn**	**00 36 48.3**	**-0.6**
WAT6	**Susitna Watana**	**1.58**	**106**	P	**Pn**	**00 36 48.4**	**-0.6**
	baz=288,SNR=80						
WAT6				S	**Sn**	**00 37 10.2**	**-1.0**
	baz=288						
SUA	**Susitna One**	**1.59**	**175**		**Pn**	**00 36 48.8**	**-0.3**
SUA	**Susitna One**	**1.59**	**175**	IAML		00 37 11.9	
	comp=N,894nm,1.1s						
SUA				IAML		00 37 13.4	
	comp=E,807nm,0.5s						
SUA	**Susitna One**	**1.59**	**175**	P	**Pn**	**00 36 48.9**	**-0.1**
	baz=356,SNR=22						
SUA				S	**Sn**	**00 37 11.1**	**-0.3**
	baz=356						
STLK	**Strandline Lak**	**1.60**	**194**		**Pn**	**00 36 48.8**	**-0.2**
GHO	**Glory Hole Cre**	**1.61**	**141**		**Pn**	**00 36 48.9**	**-0.3**
DHY	**Denali Highway**	**1.67**	**87**	Pn	**Pn**	**00 36 49.7**	**-0.2**
DHY				IAML		00 37 13.2	
	comp=N,2µm,0.6s						
DHY				IAML		00 37 15.2	
	comp=E,2µm,0.6s						
DHY	**Denali Highway**	**1.67**	**87**		**Sn**	**00 37 12.2**	**-0.7**
DHY	**Denali Highway**	**1.67**	**87**	P	**Pn**	**00 36 49.7**	**-0.2**
	baz=270						
DHY				S	**Sn**	**00 37 11.9**	**-1.0**
	baz=270						
PMR	**Palmer**	**1.71**	**148**	P	**Pn**	**00 36 49.6**	**-0.6**
PMR				pmax	pmax		
	comp=Z,2µm,0.5s						
PMR	**Palmer**	**1.71**	**148**		**Pn**	**00 36 49.6**	**-0.6**
PMR	**Palmer**	**1.71**	**148**	IAML		00 37 18.6	
	comp=E,2µm,0.5s						
PMR				IAML		00 37 21.6	
	comp=N,2µm,0.6s						
PMR	**Palmer**	**1.71**	**148**	P	**Pn**	**00 36 49.6**	**-0.6**
	baz=330,SNR=71						
PMR				S	**Sn**	**00 37 12.2**	**-1.2**
	baz=330						
SML	**Sawmill**	**1.77**	**133**	Pn	**Pn**	**00 36 50.2**	**-0.7**
SML				IAML		00 37 21.8	
	comp=N,3µm,0.6s						
SML	**Sawmill**	**1.77**	**133**		**Sn**	**00 37 14.1**	**-0.7**
SML	**Sawmill**	**1.77**	**133**	P	**Pn**	**00 36 50.4**	**-0.5**
	baz=316,SNR=52						
SML				S	**Sn**	**00 37 14.7**	**-0.1**
	baz=316						
NEA2	**Nenana**	**1.78**	**28**	Pn	**Pn**	**00 36 50.5**	**-0.5**
NEA2	**Nenana**	**1.78**	**28**		**Sn**	**00 37 12.9**	**-2.1**
NEA2	**Nenana**	**1.78**	**28**	P	**Pn**	**00 36 50.5**	**-0.5**
	baz=209,SNR=58						
NEA2				S	**Sn**	**00 37 12.7**	**-2.3**
	baz=209						
J20K	**Nowinta River**	**1.79**	**311**	Pn	**Pn**	**00 36 51.2**	**+0.1**
J20K				IAML		00 37 15.5	
	comp=N,790nm,0.9s						
J20K				IAML		00 37 15.9	
	comp=E,644nm,0.6s						
J20K	**Nowinta River**	**1.79**	**311**	P	**Pn**	**00 36 51.3**	**+0.1**
	baz=128,SNR=78						
J20K				S	**Sn**	**00 37 13.7**	**-1.5**
	baz=128						
SPCG	**Spurr Capps Gl**	**1.82**	**195**		**Pn**	**00 36 51.7**	**0.0**
SPCP	**Crater Peak Br**	**1.86**	**197**		**Pn**	**00 36 52.0**	**-0.2**
SPBG	**Spurr Blockage**	**1.90**	**200**		**Pn**	**00 36 52.8**	**+0.2**
SPCN	**Chakachatna No**	**1.91**	**197**		**Pn**	**00 36 52.8**	**+0.2**
SPU	**Mount Spurr**	**1.93**	**195**	Pn	**Pn**	**00 36 52.7**	**-0.2**
SPCR	**Spurr Chakacha**	**1.93**	**197**		**Pn**	**00 36 52.7**	**-0.2**
SPCR	**Spurr Chakacha**	**1.93**	**197**	P	**Pn**	**00 36 52.7**	**-0.2**
	baz=17,SNR=28						
SPCR				S	**Sn**	**00 37 17.8**	**-0.6**
	baz=17						
M19K	**Big River Lodg**	**1.94**	**235**	Pn	**Pn**	**00 36 51.8**	**-1.1**
M19K	**Big River Lodg**	**1.94**	**235**	P	**Pn**	**00 36 52.4**	**-0.5**
	baz=53,SNR=7.1						
M19K				S	**Sn**	**00 37 17.6**	**-0.7**
	baz=53						
WRH	**Wood River Hil**	**1.94**	**41**	Pn	**Pn**	**00 36 52.5**	**-0.4**
FIS	**Fire Island**	**1.95**	**168**		**Pn**	**00 36 53.5**	**+0.5**
L19K	**White Mountain**	**1.97**	**246**	Pn	**Pn**	**00 36 52.4**	**-0.9**
L19K	**White Mountain**	**1.97**	**246**	P	**Pn**	**00 36 53.0**	**-0.3**
	baz=63,SNR=17						
L19K				S	**Sn**	**00 37 18.0**	**-1.0**
	baz=63						
MLY	**Manley**	**2.00**	**4**	Pn	**Pn**	**00 36 53.5**	**-0.2**
MLY	**Manley**	**2.00**	**4**	P	**Pn**	**00 36 53.5**	**-0.2**
	baz=183,SNR=93						
MLY				S	**Sn**	**00 37 17.9**	**-1.8**
	baz=183						
KNK	**Knik Glacier**	**2.04**	**142**		**Pn**	**00 36 53.5**	**-0.6**
KNK	**Knik Glacier**	**2.04**	**142**	P	**Pn**	**00 36 53.5**	**-0.6**
	baz=325,SNR=48						
KNK				S	**Sn**	**00 37 19.7**	**-0.8**
	baz=325						
RC01	**Rabbit Creek A**	**2.06**	**162**	Pn	**Pn**	**00 36 53.6**	**-0.8**
RC01				IAML		00 37 21.1	
	comp=N,2µm,0.3s						
RC01				IAML		00 37 22.7	
	comp=E,1µm,0.3s						
RC01	**Rabbit Creek A**	**2.06**	**162**		**Sn**	**00 37 19.4**	**-1.5**
RC01	**Rabbit Creek A**	**2.06**	**162**	P	**Pn**	**00 36 53.6**	**-0.8**
	baz=344,SNR=18						
RC01				S	**Sn**	**00 37 19.8**	**-1.1**
	baz=344						
SCM	**Sheep Creek Mo**	**2.11**	**124**	P	**Pn**	**00 36 54.4**	**-0.7**
SCM				pmax	pmax		
	comp=Z,3µm,0.8s						
SCM	**Sheep Creek Mo**	**2.11**	**124**	Pn	**Pn**	**00 36 54.4**	**-0.7**
SCM				IAML		00 37 31.2	
	comp=E,2µm,0.6s						
CCB	**Clear Creek Bu**	**2.15**	**40**	Pn	**Pn**	**00 36 55.1**	**-0.4**
I21K	**Tanana**	**2.18**	**349**	Pn	**Pn**	**00 36 55.8**	**0.0**
I21K	**Tanana**	**2.18**	**349**	P	**Pn**	**00 36 55.8**	**0.0**
	baz=168,SNR=45						
I21K				S	**Sn**	**00 37 22.6**	**-1.0**
	baz=168						
I23K	**Minto, Yukon-K**	**2.23**	**18**	Pn	**Pn**	**00 36 56.5**	**0.0**
I23K	**Minto, Yukon-K**	**2.23**	**18**	P	**Pn**	**00 36 56.5**	**0.0**
	baz=199,SNR=149						
HDA	**Harding Lake**	**2.28**	**51**	Pn	**Pn**	**00 36 56.8**	**-0.3**
HDA				IAML		00 37 30.3	
	comp=E,650nm,0.3s						
HDA				IAML		00 37 34.3	
	comp=N,508nm,0.4s						
HDA	**Harding Lake**	**2.28**	**51**	P	**Pn**	**00 36 56.5**	**-0.5**
	baz=234,SNR=60						
MDM	**Murphy Dome

baz=348
NCT North Crescent 2.65 201 Pn 00 37 02.2 +0.3
RDWB Redoubt West 2.71 199 Pn 00 37 02.8 +0.1
RSO Redoubt South 2.72 198 Pn Pn 00 37 02.7 -0.2
H21K Melozitna Rive 2.73 344 Pn Pn 00 37 02.4 -0.5
H21K Melozitna Rive 2.73 344 P Pn 00 37 02.7 -0.1
baz=162,SNR=43
PS11 TAPS Pump St11 2.75 108 Pn 00 37 03.1 0.0
RED Redoubt Volcan 2.76 198 Pn 00 37 03.2 -0.1
N19K Bonanza Creek 2.77 218 Pn Pn 00 37 03.3 -0.1
N19K Bonanza Creek 2.77 218 P Pn 00 37 03.5 0.0
baz=35,SNR=15
HARP HAARP 2.79 101 Pn 00 37 03.3 -0.3
HARP HAARP 2.79 101 P Pn 00 37 03.4 -0.1
baz=286,SNR=41
KLU Klutina 2.85 121 Pn Pn 00 37 03.2 -1.3
KLU IAML 00 37 50.9
comp=E,1µm,0.4s
KLU Klutina 2.85 121 P Pn 00 37 03.2 -1.3
baz=305,SNR=17
GLI Glacier Island 2.86 138 Pn 00 37 03.5 -1.0
GLI Glacier Island 2.86 138 P Pn 00 37 03.5 -1.0
baz=321,SNR=17
RIDG Independent Ri 2.87 73 Pn Pn 00 37 04.7 +0.1
RIDG IAML 00 37 49.8
comp=E,560nm,0.7s
RIDG IAML 00 37 50.0
comp=N,706nm,0.5s
RIDG Independent Ri 2.87 73 P Pn 00 37 04.5 -0.1
baz=258
PS06 TAPS Pump Stn6 2.88 11 Pn 00 37 04.8 +0.1
JPK Jack Peak 2.89 132 Pn 00 37 03.6 -1.4
SVW2 Sparrevohn 2.90 230 Pn Pn 00 37 04.2 -0.7
SVW2 IAML 00 37 40.7
comp=N,230nm,0.8s
SVW2 IAML 00 37 59.4
comp=E,189nm,0.8s
VMT TAPS Tl Valdez 2.95 130 Pn 00 37 04.3 -1.4
J25K Salcha River, 2.96 55 Pn 00 37 05.3 -0.5
J25K Salcha River, 2.96 55 P Pn 00 37 05.3 -0.5
baz=240,SNR=36
SEW Seward 3.05 165 Pn 00 37 06.2 -0.7
SEW Seward 3.05 165 P Pn 00 37 06.3 -0.6
baz=347,SNR=21
O20K Slope Mountain 3.07 195 Pn 00 37 07.5 +0.2
O20K Slope Mountain 3.07 195 P Pn 00 37 06.9 -0.4
baz=14,SNR=6.6
H24K Noodor Dome 3.12 25 Pn Pn 00 37 07.2 -0.6
H24K Noodor Dome 3.12 25 P Pn 00 37 07.5 -0.4
baz=207,SNR=18
DIV Divide 3.14 125 Pn 00 37 06.5 -1.6
FID Port Fidalgo 3.16 135 Pn 00 37 07.0 -1.3
IMAR Indian Mountai 3.17 340 Pn Pn 00 37 08.3 -0.2
PS12 TAPS Pump St12 3.17 117 Pn 00 37 07.3 -1.3
DOT Dot Lake 3.20 76 Pn Pn 00 37 07.8 -1.2
O19K Port Alsworth 3.26 210 Pn Pn 00 37 07.0 -2.6
O19K IAML 00 37 51.2
comp=N,309nm,0.5s
O19K IAML 00 38 12.7
comp=E,424nm,0.5s
BRLK Bradley Lake 3.29 179 Pn Pn 00 37 10.1 -0.1
BRLK IAML 00 37 59.7
comp=E,407nm,0.5s
BRLK IAML 00 38 00.2
comp=N,376nm,0.7s
SCRK Sand Creek 3.29 70 Pn Pn 00 37 09.7 -0.6
SCRK IAML 00 37 53.2
comp=E,202nm,0.7s
SCRK IAML 00 37 54.8
comp=N,215nm,0.5s
SCRK Sand Creek 3.29 70 P Pn 00 37 09.6 -0.6
baz=256
N18K Kilae Creek 3.31 226 Pn Pn 00 37 10.0 -0.3
N18K IAML 00 38 08.7
comp=E,122nm,0.7s
N18K IAML 00 38 14.8
comp=N,125nm,0.5s
N18K Kilae Creek 3.31 226 P Pn 00 37 09.9 -0.3
baz=42
BRSE Bradley Lake S 3.32 177 Pn 00 37 10.1 -0.4
BRSE Bradley Lake S 3.32 177 P Pn 00 37 10.1 -0.4
baz=358,SNR=12
N25K Chitina, Valde 3.33 113 Pn Pn 00 37 10.1 -0.6
N25K IAML 00 38 01.5
comp=E,375nm,0.5s
N25K IAML 00 38 06.0
comp=N,577nm,0.6s
N25K Chitina, Valde 3.33 113 P Pn 00 37 10.0 -0.7
baz=298,SNR=13
MENT Mentasta 3.34 89 Pn Pn 00 37 09.9 -0.8
MENT IAML 00 38 09.2
comp=E,948nm,0.6s
HOM Homer 3.41 185 Pn 00 37 12.1 +0.4
HOM IAML 00 37 59.7
comp=E,756nm,0.5s
HOM IAML 00 38 05.9
comp=N,878nm,0.5s
HOM Homer 3.41 185 P Pn 00 37 12.1 +0.4
baz=5.2,SNR=6.8
HIN Hinchinbrook I 3.42 139 Pn 00 37 11.0 -0.9
PRP Porcupine Dome 3.45 42 Pn Pn 00 37 11.5 -0.8
PRP IAML 00 37 55.2
comp=N,187nm,0.7s
PRP Porcupine Dome 3.45 42 P Pn 00 37 11.8 -0.5
baz=226,SNR=17
L26K Log Cabin Wild 3.50 87 IAML 00 38 03.1
comp=N,821nm,0.4s
L26K IAML 00 38 06.0
comp=E,734nm,0.4s
L26K Log Cabin Wild 3.50 87 P Pn 00 37 12.6 -0.3
baz=274,SNR=36
CNPM China Poot 3.54 182 Pn 00 37 13.1 -0.2
CNPM China Poot 3.54 182 IAML 00 38 04.6
comp=E,437nm,0.7s
CNPM IAML 00 38 05.1
comp=N,315nm,0.4s
EYAK Cordova Ski Ar 3.55 133 Pn 00 37 12.3 -1.1
EYAK Cordova Ski Ar 3.55 133 P Pn 00 37 12.7 -0.7
baz=317,SNR=8.9
OPT Oil Point 3.57 198 Pn 00 37 14.2 +0.5
P19K Oil Pt 3.57 198 Pn 00 37 14.2 +0.4
P19K IAML 00 37 57.5
comp=E,381nm,0.5s
P19K IAML 00 37 57.9
comp=N,363nm,0.4s
P19K Oil Pt 3.57 198 P Pn 00 37 14.1 +0.4
baz=17
J26L Joseph Creek 3.62 63 P Pn 00 37 14.4 -0.1
baz=249,SNR=87
BMRM Bremner River 3.68 122 Pn Pn 00 37 14.0 -1.2
BMRM IAML 00 38 19.9
comp=E,659nm,0.6s
BMRM Bremner River 3.68 122 P Pn 00 37 13.8 -1.4
baz=307
GLB Gilahina Butte 3.74 112 Pn Pn 00 37 15.1 -1.0
GLB IAML 00 38 13.5
comp=E,364nm,0.7s
GLB IAML 00 38 15.2
comp=N,414nm,0.6s
M26K Nabesna, AK 3.76 96 Pn Pn 00 37 15.9 -0.4
M26K IAML 00 38 13.4
comp=E,298nm,0.5s
M26K IAML 00 38 17.3
comp=N,397nm,0.6s
M26K Nabesna, AK 3.76 96 P Pn 00 37 15.6 -0.6
baz=283,SNR=11
O18K Koktuh Hills 3.78 214 Pn Pn 00 37 15.9 -0.6
O18K Koktuh Hills 3.78 214 P Pn 00 37 16.5 0.0
baz=31,SNR=6.6
PS05 TAPS Pump Stn5 3.78 2 Pn 00 37 16.8 +0.3
AU22 Augustine Moun 3.86 198 Pn 00 37 17.5 0.0
AUL Augustine Lava 3.86 199 Pn 00 37 17.9 +0.3
AUW Augustine West 3.87 199 Pn 00 37 17.9 +0.2
AGU Augustine-Summ 3.88 198 Pn 00 37 18.4 +0.5
AUCH Augustine Cone 3.88 199 Pn 00 37 17.6 -0.2
AUQ Augustine Qik' 3.88 198 Pn 00 37 18.1 +0.2
GOAT Goat Mountain 3.88 127 Pn 00 37 16.8 -1.2
VRDI Verde Repeater 4.00 114 Pn Pn 00 37 18.6 -1.0
VRDI IAML 00 38 21.9
comp=N,375nm,1.1s
VRDI IAML 00 38 25.8
comp=E,167nm,0.5s
MCARA McCarthy VSAT 4.11 110 Pn 00 37 19.9 -0.9
MCARA McCarthy VSAT 4.11 110 P Pn 00 37 20.5 -0.3
baz=297,SNR=7.0

K27K Chicken 4.13 72 Pn Pn 00 37 20.3 -0.8
K27K IAML 00 38 14.0
comp=E,174nm,0.5s
K27K IAML 00 38 16.4
comp=N,203nm,0.5s
K27K Chicken 4.13 72 P Pn 00 37 20.6 -0.5
baz=260
L27K Beaver Creek, 4.19 86 Pn Pn 00 37 20.8 -1.2
L27K IAML 00 38 32.4
comp=N,86nm,0.6s
L27K IAML 00 38 40.2
comp=E,72nm,0.8s
L27K Beaver Creek, 4.19 86 P Pn 00 37 21.0 -1.0
baz=274,SNR=22
BCAR Beaver Creek A 4.21 86 Pn Pn 00 37 20.8 -1.5
COLD Coldfoot 4.21 4 Pn Pn 00 37 21.9 -0.3
COLD Coldfoot 4.21 4 P Pn 00 37 22.3 +0.1
baz=185,SNR=24
HMT Hamilton 4.22 127 Pn 00 37 21.4 -0.9
M27K Edge Creek, AK 4.28 95 Pn Pn 00 37 23.4 +0.2
M27K IAML 00 38 37.9
comp=N,136nm,0.9s
M27K IAML 00 38 41.2
comp=E,88nm,0.7s
M27K Edge Creek, AK 4.28 95 P Pn 00 37 23.3 +0.2
baz=283,SNR=22
Q23K Middleton Isla 4.28 146 Pn Pn 00 37 22.3 -0.8
Q23K IAML 00 38 40.2
comp=E,353nm,2.2s
Q23K IAML 00 38 48.3
comp=N,262nm,0.8s
Q23K Middleton Isla 4.28 146 P Pn 00 37 22.8 -0.2
baz=330
MID Middleton Isla 4.28 146 P Pn 00 37 22.2 -0.9
MID pmax pmax
comp=Z,341nm,2.1s
MID Middleton Isla 4.28 146 Pn Pn 00 37 22.1 -0.9
MID IAML 00 38 40.1
comp=E,341nm,2.1s
MID IAML 00 39 01.6
comp=N,238nm,1.2s
FYU Fort Yukon 4.32 33 Pn Pn 00 37 23.0 -0.5
FYU IAML 00 38 15.0
comp=N,128nm,0.7s
Q19K Cape Douglas, 4.32 198 Pn Pn 00 37 23.8 +0.1
Q19K IAML 00 38 33.0
comp=E,337nm,0.8s
Q19K IAML 00 38 56.7
comp=N,251nm,0.8s
Q19K Cape Douglas, 4.32 198 P Pn 00 37 23.0 -0.7
baz=16,SNR=13
CRQM Cirque 4.38 118 Pn 00 37 23.6 -1.0
BERG Berg Lake 4.39 124 Pn 00 37 23.7 -0.9
NICHA Nichawak Mount 4.39 127 Pn 00 37 23.4 -1.2
CRQE Cirque 4.41 118 P Pn 00 37 24.0 -0.9
baz=305
PTPK Patty Peak 4.44 111 Pn 00 37 25.0 -0.4
KAIM Kayak Island 4.46 132 Pn Pn 00 37 24.2 -1.3
KAIM IAML 00 38 55.9
comp=E,246nm,1.7s
KAIM IAML 00 39 09.8
comp=N,240nm,2.3s
KAIM Kayak Island 4.46 132 P Pn 00 37 24.4 -1.1
baz=318
TGL Tana Glacier 4.51 117 Pn Pn 00 37 25.3 -0.9
KHIT Khitrov Hills 4.53 122 Pn 00 37 25.2 -1.4
BALM Baldy 4.56 112 Pn 00 37 25.8 -1.2
SUCK Suckling Hills 4.58 127 Pn Pn 00 37 26.3 -0.7
SUCK IAML 00 38 46.8
comp=E,330nm,0.6s
GRIN Grindle Hills 4.61 124 Pn 00 37 26.6 -0.9
KIAG Kiagna River 4.61 114 Pn 00 37 26.3 -1.4
WAX Waxell Ridge 4.68 120 Pn 00 37 28.3 -0.2
EGAK Eagle 4.70 64 Pn Pn 00 37 28.0 -0.5
EGAK IAML 00 38 25.7
comp=E,204nm,0.7s
EGAK IAML 00 38 39.1
comp=E,164nm,0.6s
EGAK Eagle 4.70 64 P Pn 00 37 28.1 -0.5
baz=252,SNR=12
BVCY Beaver Creek 4.72 93 Pn 00 37 28.5 -0.6
BVCY Beaver Creek 4.72 93 P Pn 00 37 28.5 -0.6
baz=282,SNR=9.1
ISLE Juniper Island 4.80 117 Pn 00 37 28.5 -1.7
BARN Barnard Glacie 4.84 110 Pn 00 37 29.8 -1.0
BARN IAML 00 38 47.6
comp=N,115nm,0.8s
BARN IAML 00 38 54.8
comp=E,159nm,1.3s
BARK Barkley Ridge 4.85 119 Pn 00 37 29.8 -1.0
KULT Kultieth River 4.86 122 Pn 00 37 29.9 -1.0
YUK2 White River 4.91 100 Pn 00 37 31.6 0.0
YUK1 Sand Pete Hill 4.94 96 Pn 00 37 32.1 +0.1
BAGL Bagley Icefiel 4.96 117 Pn 00 37 30.9 -1.3
GRNC Granite Creek 4.97 114 Pn 00 37 31.1 -1.4
GRNC Granite Creek 4.97 114 IAML 00 38 51.2
comp=E,109nm,0.6s
GRNC IAML 00 38 55.2
comp=N,190nm,0.7s
CTG Chitna Glacier 5.02 110 P Pn 00 37 32.6 -0.6
baz=299,SNR=13
CTGM Chitina Glacie 5.03 110 Pn Pn 00 37 32.3 -0.9
CTGM IAML 00 38 58.2
comp=N,102nm,1.3s
CTGM IAML 00 38 58.7
comp=E,76nm,1.3s
YUK3 Moose Creek 5.08 100 Pn 00 37 33.9 -0.1
YUK3 Moose Creek 5.08 100 P Pn 00 37 33.9 -0.1
baz=289,SNR=37
BMAR Burnt Mountain 5.17 29 Pn Pn 00 37 34.7 -0.2
YAH Yahtse 5.17 117 Pn 00 37 34.0 -1.3
YAH Yahtse 5.17 117 IAML 00 38 58.3
comp=E,235nm,0.8s
YAH IAML 00 39 00.6
comp=N,199nm,0.9s
MESA MESA 5.20 119 Pn 00 37 34.7 -0.9
MESA MESA 5.20 119 P Pn 00 37 34.9 -0.8
baz=308,SNR=7.3
KABU Katmai Buttres 5.23 205 Pn 00 37 36.5 +0.7
KCE Katmai Mt Cerb 5.23 205 Pn 00 37 37.0 +1.1
LOGN Logan Glacier 5.24 111 Pn 00 37 35.2 -0.8
LOGN Logan Glacier 5.24 111 IAML 00 38 58.6
comp=E,89nm,0.6s
LOGN IAML 00 39 06.5
comp=N,80nm,0.8s
KABR Katmai Barrier 5.30 203 Pn 00 37 35.1 -1.7
DAWY Dawson 5.31 74 Pn Pn 00 37 35.7 -1.1
DAWY Dawson 5.31 74 P Pn 00 37 36.3 -0.5
baz=264,SNR=24
KDAK Kodiak Island 5.34 189 P Pn 00 37 35.8 -1.4
comp=N,9.4nm,0.3s,baz=56,slow=6.5,SNR=20
KDAK S Sn 00 38 33.3 -4.3
comp=N,11nm,0.3s,baz=0.0,slow=20,SNR=9.3
KDAK Kodiak Island 5.34 189 P Pn 00 37 35.9 -1.4
baz=7.9
RKAV Rock Avalanche 5.37 116 Pn 00 37 37.0 -0.8
TABL Table Mountain 5.38 115 Pn 00 37 37.0 -1.0
CHX Chaix Hills 5.61 118 Pn 00 37 40.3 -0.6
TOLK Toolik Lake Re 5.65 5 Pn 00 37 42.7 +1.3
TOLK Toolik Lake Re 5.65 5 P Pn 00 37 42.8 +1.4
baz=186
SAMH Samovar Hills 5.70 116 Pn 00 37 41.9 -0.3
PCA Pinnacle 5.94 115 Pn 00 37 44.4 -1.0
PINM Pinnacle 5.94 115 P Pn 00 37 44.5 -0.8
baz=304,SNR=25
OHAK Old Harbor 5.95 192 Pn Pn 00 37 43.9 -1.6
OHAK Old Harbor 5.95 192 P Pn 00 37 43.6 -1.8
baz=10
YUK4 Talbot Arm 6.04 101 P Pn 00 37 46.1 -0.8
baz=291
BCPM Bancas Point 6.28 114 Pn Pn 00 37 49.3 -0.5
YUK6 Outpost Mounta 6.33 104 P Pn 00 37 49.8 -1.0
baz=295
SII Sitkinak Islan 6.70 195 Pn Pn 00 37 53.9 -1.7
HYT Haines Junctio 6.76 103 Pn 00 37 56.3 -0.2
HYT Haines Junctio 6.76 103 P Pn 00 37 55.9 -0.6
baz=295
CHGN Chignik 7.72 212 Pn Pn 00 38 08.4 -0.9
SKAG Skagway 8.38 108 P Pn 00 38 17.1 -0.9
baz=302,SNR=6.3
INK Inuvik 8.92 46 P Pn 00 38 24.5 -0.8
comp=N,0.6nm,0.3s,baz=241,slow=12,SNR=8.8
INK Inuvik 8.92 46 P Pn 00 38 24.9 -0.4
INK Inuvik 8.92 46 Pn Pn 00 38 24.9 -0.4
INK Inuvik 8.92 46 P Pn 00 38 25.1 -0.2

baz=242
BESE Bessie Mountai 9.07 112 Pn Pn 00 38 26.5 -1.0
JIS Juneau Island 9.46 113 Pn 00 38 31.6 -0.9
SIT Sitka 9.87 120 P Pn 00 38 37.9 -0.2
baz=314
DLBC Dease Lake 11.24 105 P Pn 00 38 56.0 -0.5
comp=N,0.1nm,0.3s,baz=307,slow=12,SNR=5.1
WRAK Wrangell Islan 11.50 117 Pn Pn 00 38 60.0 +0.2
DIB Dawson Inlet, 13.85 127 Pn Pn 00 39 31.6 +1.4
MOBC Moresby Island 14.08 126 P Pn 00 39 36.5 -0.3
ATKA Atka Island 16.37 239 Pn 00 40 01.7 0.0
ATKA IAmb IAmb 00 40 10.3
comp=Z,24nm,1.1s
YKA Yellowknife Ar 16.54 76 P P 00 40 04.4 +0.5
comp=Z,0.3nm,0.3s,baz=302,slow=8.5,SNR=4.8
YKA Yellowknife Ar 16.54 76 *cePP 00 40 05.9 +1.9
YKA Yellowknife Ar 16.54 76 P Pn 00 40 02.7 -1.0
GSTR Great Sitkin T 17.20 242 P P 00 40 10.6 -0.7
ADK Adak 17.61 242 P Pn 00 40 17.6 +1.0
ADK pmax pmax
comp=Z,24nm,1.1s
ADK Adak 17.61 242 P Pn 00 40 17.6 +1.0
ADK IAmb IAmb 00 40 25.3
comp=Z,24nm,1.1s
C03A Quillayute Air 21.06 124 P P 00 40 55.0 +1.8
RES Resolute Bay 22.24 36 P P 00 41 06.2 +0.9
comp=Z,4.9nm,0.5s,baz=252,slow=18,SNR=8.5
RES Resolute Bay 22.24 36 P P 00 41 06.5 +1.2
RES pmax pmax
comp=Z,17nm,1.2s
RES Resolute Bay 22.24 36 P P 00 41 06.5 +1.2
EUNU Eureka 24.42 22 P P 00 41 26.9 +1.4
PDAR Pinedale Array 31.39 111 P P 00 42 29.7 +1.5
comp=Z,0.6nm,0.8s,baz=318,slow=6.4,SNR=6.2
PDAR PcP PcP 00 45 18.8 +0.4
comp=Z,0.4nm,0.5s,baz=106,slow=0.9,SNR=5.9
PDAR Pinedale Array 31.39 111 P P 00 42 28.1 -0.1
NVAR Mina Array Bea 31.57 126 P P 00 42 32.4 +2.6
comp=Z,0.2nm,0.5s,baz=298,slow=10,SNR=3.1
NVAR pP pP 00 42 58.9 +0.7
comp=Z,0.9nm,0.7s,baz=311,slow=8.2,SNR=6.1
NVAR PcP PcP 00 45 20.2 +1.2
comp=Z,0.6nm,0.6s,baz=278,slow=2.7,SNR=5.7
DAG Danmarks Havn 37.30 16 *iP P 00 43 18.5 +0.1
DAG IAmb IAmb 00 43 19.3
comp=Z,4.5nm,0.3s
DAG Danmarks Havn 37.30 16 *iP P 00 43 18.4 +0.1
DAG pmax pmax
comp=Z,5.0nm,0.3s
E43A Lone Tree Farm 38.70 85 P P 00 43 30.8 +0.3
E43A IAmb IAmb 00 43 31.9
comp=Z,7.3nm,0.8s
SPITS Spitsbergen Ar 38.80 4 P P 00 43 30.8 -0.2
comp=Z,2.5nm,0.5s,baz=19,slow=5.5,SNR=10
SPITS Spitsbergen Ar 38.80 4 P P 00 43 31.5 +0.5
SPITS pmax pmax
comp=Z,9.0nm,1.1s
SPB2 Spitsbergen Ar 38.81 4 P P 00 43 31.5 +0.5
SPB2 IAmb IAmb 00 43 49.7
comp=Z,13nm,1.1s
NRIK Noril'sk 41.59 333 P P 00 43 55.0 +1.1
comp=Z,2.3nm,0.5s,baz=44,slow=7.9,SNR=5.2
NRIK Noril'sk 41.59 333 *ePP 00 43 55.1 +1.1
NRIK pmax pmax
comp=Z,4.0nm,0.8s
KLR Kul'dur 42.41 289 P P 00 44 00.9 0.0
comp=Z,0.6nm,0.4s,baz=29,slow=10,SNR=2.1
U38A Gravette 43.25 101 IAmb IAmb 00 44 08.4
comp=Z,4.7nm,0.7s
RSD Rainshed 43.65 186 P P 00 44 08.7 -2.5
PBMO Poplar Bluff 44.75 96 IAmb IAmb 00 44 20.7
comp=Z,8.5nm,0.7s
TX32 Lajitas Array 45.30 115 P P 00 44 26.5 +2.2
TXAR Lajitas Array 45.30 115 P P 00 44 26.3 +2.0
comp=Z,0.8nm,0.6s,baz=324,slow=6.1,SNR=11
TXAR PcP PcP 00 46 02.8 +1.1
comp=Z,0.4nm,0.7s,baz=316,slow=3.8,SNR=3.0
U49A Red Boiling Sp 47.08 92 IAmb IAmb 00 44 39.9
comp=Z,9.2nm,0.8s
VLA Vladivostok 47.09 283 *ePP 00 44 36.7 -1.2
VLA pmax pmax
comp=Z,21nm,0.6s
OXF Oxford 47.09 97 P P 00 44 39.4 +1.3
OXF pmax pmax
comp=Z,43nm,1.1s
OXF Oxford 47.09 97 P P 00 44 39.4 +1.3
T50A Nancy 47.09 91 IAmb IAmb 00 44 39.6
comp=Z,6.4nm,0.9s
ARCES ARCESS Array B 47.68 2 P P 00 44 41.5 -0.7
comp=Z,1.5nm,0.8s,baz=19,slow=4.1,SNR=12
ARCES PcP PcP 00 46 08.7 -0.7
comp=Z,0.9nm,0.7s,baz=350,slow=3.7,SNR=1.7
FPAL Fort Paine 48.79 94 P P 00 44 51.9 +0.7
Z47A Carrollton 48.80 97 P P 00 44 50.5 -0.7
Z47A IAmb IAmb 00 44 53.1
comp=Z,10nm,0.9s
U54A Nelsons Funny 48.88 89 P P 00 44 52.6 +0.7
U54A IAmb IAmb 00 44 53.6
comp=Z,9.1nm,0.7s
LMN Caledonia Moun 48.89 68 P P 00 44 52.1 +0.3
LMN IAmb IAmb 00 44 56.9
comp=Z,8.3nm,1.1s
CPNY Central Park 48.95 79 P P 00 44 52.8 +0.5
Y49A Blount Mountai 48.99 95 P P 00 44 52.6 -0.1
Y49A IAmb IAmb 00 44 54.4
comp=Z,7.2nm,1.0s
X51A Calhoun 49.11 93 P P 00 44 53.9 +0.3
X51A IAmb IAmb 00 44 56.3
comp=Z,3.8nm,0.6s
V53A Saluda 49.13 90 P P 00 44 54.3 +0.5
V53A IAmb IAmb 00 44 55.9
comp=Z,6.8nm,1.1s
T57A Hurt 49.65 86 P P 00 44 57.9 +0.2
T57A IAmb IAmb 00 44 59.0
comp=Z,6.5nm,1.0s
Y52A Lilburn 50.06 93 P P 00 45 01.9 +1.1
PAULI Pauline 50.28 90 P P 00 45 02.5 0.0
PAULI IAmb IAmb 00 45 12.5
comp=Z,9.6nm,1.1s
HODGE Hodges 50.57 91 P P 00 45 04.8 +0.2
HODGE IAmb IAmb 00 45 09.4
comp=Z,5.5nm,1.0s
GBN Guysborough 50.62 66 P P 00 45 05.0 +0.2
GOGA Godfrey 50.71 93 P P 00 45 05.2 -0.5
GOGA pmax pmax
comp=Z,3.0nm,1.0s
GOGA Godfrey 50.71 93 P P 00 45 05.2 -0.5
W57A Gilead 50.84 88 P P 00 45 07.1 +0.5
W57A IAmb IAmb 00 45 10.4
comp=Z,9.1nm,1.1s
255A Hazlehurst 52.41 93 P P 00 45 18.6 +0.4
KSRS Korea Array 53.45 282 P P 00 45 27.2 +1.3
comp=Z,0.9nm,0.5s,baz=27,slow=6.2,SNR=2.8
SONM Songino Array 53.77 305 P P 00 45 29.7 +1.4
comp=Z,0.9nm,0.7s,baz=24,slow=5.6,SNR=5.8
SONM Songino Array 53.77 305 P P 00 45 29.3 +1.0
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM Songino Array 53.77 305 P P 00 45 29.3 +1.0
ZALV Zalesovo Beam 55.47 324 P P 00 45 39.7 -0.5
comp=Z,1.5nm,0.5s,baz=22,slow=6.0,SNR=9.0
ZALV Zalesovo Beam 55.47 324 *iP P 00 45 40.4 +0.1
ZALV pmax pmax
comp=Z,2.0nm,0.5s
NB2 NORSAR Subarra 55.50 10 P P 00 45 39.4 -1.0
comp=Z,1.8nm,0.9s,baz=350,slow=7.4
NOA NORSAR Array B 55.50 10 P P 00 45 39.8 -0.7
comp=Z,0.8nm,0.7s,baz=350,slow=7.2,SNR=4.3
FIA1 FINESS Array S 55.81 2 P P 00 45 41.6 -0.9
FIA1 IAmb IAmb 00 45 44.9
comp=Z,9.8nm,1.1s
FINES FINESS Array B 55.81 2 P P 00 45 42.0 -0.6
comp=Z,2.3nm,0.7s,baz=14,slow=8.6,SNR=6.9
FINES FINESS Array B 55.81 2 P P 00 45 42.2 -0.3
FINES FINESS Array B 55.81 2 P P 00 45 42.2 -0.3
KLMR Klimovskoe 56.16 354 *eP P 00 45 43.4 -1.6
KLMR pmax pmax
comp=Z,10.0nm,1.5s
KLMR Klimovskoe 56.16 354 *eP P 00 45 43.5 -1.6
KLMR AMP 00 45 47.4
comp=Z,10.0nm,1.5s
ARU Arti 58.67 341 P P 00 46 02.8 +0.1
comp=Z,1.8nm,0.4s,baz=61,slow=23,SNR=11
ARU Arti 58.67 341 *c iP P 00 46 02.7 +0.1
ARU *PP pP 00 46 32.1 -1.6

ARU S **S** **00 53 58.7 +2.3**
ARU SS **SS** **00 57 54.6 +4.3**
ARU pmax pmax
comp=Z,3.0nm,0.5s
ARU Arti 58.67 341 P **P** **00 46 02.7 0.0**
BRVK Borovoye 59.79 333 P **P** **00 46 10.5 0.0**
BRVK pmax pmax
comp=Z,2.0nm,0.6s
BRVK Borovoye 59.79 333 P **P** **00 46 10.5 0.0**
BVAR Borovoye Array 59.80 332 P **P** **00 46 10.6 0.0**
comp=Z,1.8nm,0.5s,baz=45,slow=6.5,SNR=14
KURK Kurchatov 60.03 326 P **P** **00 46 12.8 +0.7**
KURK Kurchatov 60.03 326 P **P** **00 46 12.8 +0.7**
KURBB Kurchatov Arra 60.14 326 P **P** **00 46 12.8 0.0**
comp=Z,1.9nm,0.6s,baz=28,slow=7.2,SNR=16
PABE Paberze 61.72 3 P **P** **00 46 23.9 +0.5**
NJ2 Nanjing 62.01 286 *eP* **P** **00 46 25.3 -0.4**
NJ2 pmax pmax
comp=Z,11nm,0.5s
OBN Obninsk 62.03 355 *i* P **P** **00 46 25.8 +0.3**
OBN pmax pmax
comp=Z,6.0nm,0.8s
MK31 Makanchi Array 62.63 322 P **P** **00 46 28.9 -0.8**
MK31 pmax pmax
comp=Z,1.0nm,0.8s
MK31 Makanchi Array 62.63 322 P **P** **00 46 28.9 -0.8**
MKAR Makanchi Array 62.63 322 P **P** **00 46 29.2 -0.5**
comp=Z,1.7nm,0.5s,baz=50,slow=7.3,SNR=19
MKAR Makanchi Array 62.63 322 P **P** **00 46 29.5 -0.2**
MKAR Makanchi Array 62.63 322 P **P** **00 46 29.5 -0.2**
MAKZ Makanchi 62.70 322 P **P** **00 46 29.9 -0.3**
MAKZ pmax pmax
comp=Z,2.0nm,0.5s
MAKZ Makanchi 62.70 322 P **P** **00 46 29.9 -0.3**
MNK Minsk 62.79 1 *i* P **P** **00 46 30.5 -0.1**
MNK *i* *PP **pP** **00 47 01.8 -0.3**
MNK *i* 00 47 07.9
MNK *i* 00 48 49.9
MNK *i* PPP PPP 00 50 19.5
MNK *i* S **S** **00 54 48.3 -0.4**
MNK *i* 00 56 10.2
MNK *i* SS **SS** **00 58 51.1 -3.6**
MNK pmax pmax
comp=E,1.0nm,1.0s
MNK pmax pmax
comp=N,6.0nm,0.9s
MNK pmax pmax
comp=Z,8.0nm,0.9s
MNK MLR MLR
comp=E,5.0nm,15.0s
MNK MLR MLR
comp=Z,118nm,17.0s
MNK MLR MLR
comp=N,43nm,15.0s
MNK Minsk 62.79 1 *i* P **P** **00 46 30.6 0.0**
comp=E,1.0nm,1.0s
MNK *i* P **P** **00 46 30.6 0.0**
comp=N,6.0nm,0.9s
MNK *i* P **P** **00 46 30.6 0.0**
comp=Z,8.0nm,0.9s,baz=180
MNK *i* pP **pP** **00 47 01.9 -0.2**
MNK *i* PcP **PcP** **00 47 07.9 +0.1**
MNK *i* PP **PP** **00 48 50.0 +0.5**
MNK *i* PPP PPP 00 50 19.6
MNK *i* S **S** **00 54 48.3 -0.4**
MNK *i* sS **sS** **00 55 43.9 +1.0**
MNK *i* SS **SS** **00 58 51.1 -3.5**
MNK *i* SSS SSS 01 01 56.0
MNK *i* LRM MLR 01 16 03.3
comp=E,5.0nm,15.4s
MNK *i* LRM MLR 01 16 25.9
comp=Z,118nm,17.2s
MNK *i* LRM MLR 01 16 32.2
comp=N,43nm,15.4s
BELG Belogornoye 63.97 347 *c i* P **P** **00 46 38.1 -0.2**
BELG pmax pmax
comp=Z,3.0nm,0.7s
ABKAR Akbulak array 65.39 338 IAmb IAmb 00 46 48.5
comp=Z,4.2nm,0.8s
AKASG Malin Array Be 66.60 360 P **P** **00 46 54.9 -0.4**
comp=Z,5.0nm,0.5s,baz=4.4,slow=6.6,SNR=22
AKBB Malin Array Si 66.60 360 *ce* **P** **00 46 54.8 -0.5**
AKBB pmax pmax
comp=Z,4.0nm,0.6s
AKBB Malin Array Si 66.60 360 IAmb IAmb 00 46 55.7
comp=Z,5.1nm,0.6s
GERES GERESS Array B 67.80 11 P **P** **00 47 02.9 -0.2**
comp=Z,0.5nm,0.7s,baz=5.7,slow=12,SNR=2.9
AAK Ala-Archa 68.58 326 *ej eP* **P** **00 47 09.1 +1.0**
AAK pmax pmax
comp=Z,15nm,1.7s
KSH Kashi 71.11 323 P **P** **00 47 27.4 +3.8**
KSH pmax pmax
comp=Z,5.0nm,0.6s
KIV Kislovodsk 72.78 350 *eP* **P** **00 47 33.4 -0.1**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KBZ Khabaz 72.99 349 P **P** **00 47 35.1 +0.6**
comp=Z,2.0nm,0.8s,baz=11,slow=17,SNR=4.0
KBZ Khabaz 72.99 349 *ej eP* **P** **00 47 35.4 +0.9**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
GAR Garm 73.06 327 IAmb IAmb 00 47 36.3
comp=Z,12nm,1.1s
NCK Nalchik 73.16 349 *i eP* **P** **00 47 36.4 +0.8**
NCK pmax pmax
comp=Z,7.0nm,0.5s
CHGR Chuyangaron 73.67 328 P **P** **00 47 38.5 -0.3**
ESDC Sonseca Array 74.29 26 P **P** **00 47 42.5 +0.2**
comp=Z,0.6nm,0.8s,baz=333,slow=6.2,SNR=4.0
NIL Nilore 77.36 323 P **P** **00 47 59.7 -0.1**
NIL pmax pmax
comp=Z,4.0nm,0.5s
NIL Nilore 77.36 323 P **P** **00 47 59.7 -0.1**
NIL IAmb IAmb 00 48 00.5
comp=Z,3.9nm,0.5s
BRTR Keskin Array B 77.50 356 P **P** **00 48 00.5 -0.1**
comp=Z,0.3nm,0.4s,baz=349,slow=3.9,SNR=7.3
BRTR Keskin Array B 77.50 356 *ce* **P** **00 48 00.9 +0.3**
CMAR Chiang Mai Arr 82.41 296 *ce* P 00 48 18.1 -9.0
CMAR pmax pmax
comp=Z,8.0nm,0.8s
HYB Hyderabad 90.99 313 *i* P **P** **00 49 06.0 -2.9**
PTGA Pitinga 91.13 89 P **P** **00 49 09.8 +0.2**
comp=Z,1.3nm,0.4s,baz=356,slow=8.5,SNR=4.5
PLCA Paso Flores 121.42 119 PKP **PKiKP** **00 54 57.1 +0.4**
comp=Z,1.6nm,0.9s,baz=323,slow=10,SNR=2.1
BOSA Boshof 145.48 6 PKPbc **PKPdf** **00 55 41.7 -0.1**
comp=Z,1.5nm,0.8s,baz=326,slow=3.6,SNR=2.0

IDC ***25*** *00:41:05.8±0.4, 0.˚56S×131.˚07E, h0km, mb4.5/20, mb1 4.5/22, mb1mx4.5/30, mbtmp4.4/22, ML4.2/2, MS3.6/12, Ms1 3.6/12, ms1mx3.3/37, Error ellipse: s-maj=23.4km s-min=7.2km az=64.0*

DJA ***25*** *00:41:07.7±0.3, 1.˚S±2.˚×13.˚1E±.˚, h10km, M4.8/21, mB5.2/9, mb5.0/21, MLv4.9/10, Mw(mB)4.6/9*

NEIC ***25*** *00:41:07.6±1.7, 0.˚62S±0.˚04×131.˚19E±0.˚05, h10km±1km, mb4.8/56, Error ellipse: s-maj=9.5km s-min=5.9km az=121.0*

ISC 25 00:41:07.3±0.3, 0.˚59S±0.˚04×131.˚22E±0.˚06, h10km, n183, σ1s44/160, mb4.7/61, MS3.5/11, 1C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**0.27**	**171**	P	**Pb**	**00 41 14.9**	**+0.6**
SWI				S	**Sb**	**00 41 19.5**	**+0.5**
SIJI	**Sorong**	**0.28**	**170**	Pg	**Pg**	**00 41 13.7**	**+0.7**
	11μm,0.3s,baz=359,slow=15,SNR=2323						
SIJI	**Sorong**	**0.28**	**170**	P	**Pg**	**00 41 13.3**	**+0.4**
FAKI	**Fak Fak**	**2.53**	**156**		**Pn**	**00 41 49.2**	**+0.8**
FAKI	**Fak Fak**	**2.53**	**156**	P	**Pn**	**00 41 49.1**	**+0.6**
FAKI				S	**Sn**	**00 42 17.7**	**-1.7**
MSAI	**Masohi**	**3.57**	**220**	P	**Pn**	**00 42 05.5**	**+2.8**
KRAI	**Karang Ratu**	**3.91**	**226**	P	**Pn**	**00 42 11.2**	**+3.8**
TNTI	**Ternate**	**4.08**	**289**	Pn	**Pn**	**00 42 11.7**	**+1.9**
TNTI	**Ternate**	**4.08**	**289**	P	**Pn**	**00 42 11.6**	**+1.8**
BNDI	**Bandanaira**	**4.12**	**199**	P	**Pn**	**00 42 13.0**	**+2.7**
GAMI	**Galela, Maluku**	**4.19**	**305**	P	**Pn**	**00 42 12.8**	**+1.5**
SANI	**Sanana**	**5.42**	**254**	P	**Pn**	**00 42 29.5**	**+1.2**
	0.3nm1μm62nm,0.7s						
SGSI	**Sangihe**	**7.10**	**307**	P	**Pn**	**00 42 52.9**	**+1.6**
	1.2nm202nm,0.5s						
KMSI	**Cibinong**	**7.33**	**279**	P	**Pb**	**00 43 12.3**	**-2.4**

SAUI Saumlaki 7.34 179 Pn **Pn** **00 42 54.7 +0.1**
GTOI Gorontalo 8.30 278 P **Pn** **00 43 12.3 +4.5**
471nm41nm,0.9s
LUWI Luwuk 8.46 267 P Pn 00 43 16.9 +7.0
MRSI Marisa 9.34 277 P **Pn** **00 43 23.9 +1.9**
53nm,0.8s
DAV Davao City (W) 9.46 324 Pn **Pn** **00 43 25.2 +1.4**
119nm,0.3s,baz=225,slow=4.5,SNR=3.8
DAV Davao City (W) 9.46 324 Pn **Pn** **00 43 25.5 +1.7**
DAV Davao City (W) 9.46 324 P **Pn** **00 43 26.0 +2.2**
305nm,0.5s
APSI Ampana 9.57 268 P **Pn** **00 43 27.7 +2.4**
1μm144nm,0.6s
JAY Jayapura 9.67 101 Pn **Pn** **00 43 27.6 +0.9**
0.3nm,0.3s,baz=216,slow=11,SNR=1.8
JAY LR LR 00 47 50.1
comp=Z,640nm,19.5s,baz=192,slow=41
KKSI Kolaka, Sulawe 10.20 249 P Pn 00 43 44.9 +11
TOLI2 Tolitoli 10.57 279 Pn **Pn** **00 43 40.7 +1.7**
MPSI Mapaga 11.36 275 P **Pn** **00 43 52.8 +3.1**
622nm39nm,1.1s
SOEI Soe 11.43 217 Pn **Pn** **00 43 51.9 +1.1**
TTSI Tana Toraja 11.65 258 P Pn 00 44 12.1 +18
BNSI Bone 11.73 251 P Pn 00 44 12.0 +17
BKSI Bulukumba 12.03 247 P Pn 00 44 04.8 +5.8
892nm106nm,0.9s
BATI Baumata 12.15 218 Pn **Pn** **00 44 04.0 +3.4**
7.4nm,0.3s,baz=358,slow=14,SNR=3.6
BATI LR LR 00 48 34.4
comp=Z,407nm,21.4s,baz=42,slow=37
BATI Baumata 12.15 218 P Pn 00 44 12.4 +12
MTN Manton Dam 12.17 180 Pn **Pn** **00 43 58.9 -2.0**
KAPI Kappang 12.26 249 Pn Pn 00 44 08.1 +6.0
0.5nm,0.3s,baz=108,slow=8.0,SNR=11
KAPI LR LR 00 49 45.9
comp=Z,93nm,20.6s,baz=106,slow=43
KAPI Kappang 12.26 249 Pn **Pn** **00 44 05.0 +2.8**
KAPI Kappang 12.26 249 P Pn 00 44 08.0 +5.9
879nm101nm,1.0s
EDFI Ende, Flores 12.48 229 P **Pn** **00 44 06.9 +1.7**
9.2nm,1.0s
MMSI Mamuju 12.48 260 P **Pn** **00 44 07.7 +2.6**
13nm,0.5s
LBFI Labuhan Bajo, 13.74 235 P P 00 44 36.7 +5.7
WBSI Waikabubak, Su 14.81 232 P P 00 44 52.0 +9.1
KNRA Kununurra 15.18 189 Pn **Pn** **00 44 39.1 -2.8**
PLAI Plampang 15.69 238 P P 00 45 08.0 +15
BBKI Banjar Baru 16.61 260 P P 00 45 15.4 +12
COEN Coen 17.79 139 **P** **00 45 16.2 +0.3**
PMG Port Moresby 18.12 119 **Pn** **00 45 19.6 +0.3**
FITZ Fitzroy Crossi 18.24 197 P **Pn** **00 45 17.6 -3.1**
0.9nm,0.3s,baz=42,slow=11,SNR=31
FITZ S Sn 00 48 27.8 -17
0.5nm,0.3s,baz=185,slow=5.2,SNR=4.3
FITZ Fitzroy Crossi 18.24 197 P **Pn** **00 45 19.4 -1.3**
JAGI Jajag, Banyuwa 18.71 245 P **Pn** **00 45 26.4 -0.1**
JAGI IAmb IAmb 00 45 37.2
comp=Z,63nm,1.2s
JAGI Jajag, Banyuwa 18.71 245 P Pn 00 45 37.5 +11
GMJI Gumukmas 19.28 246 P **Pn** **00 45 38.2 +4.8**
WB0 Warramunga Arr 19.31 171 P **P** **00 45 32.6 -0.1**
WRAB Tennant Creek 19.46 171 P **P** **00 45 34.0 -0.4**
WRA Warramunga Arr 19.47 171 P **P** **00 45 33.5 -1.0**
comp=Z,1.5nm,0.3s,baz=349,slow=12,SNR=41
WRA S Sn 00 48 55.9 -18
comp=Z,1.2nm,0.3s,baz=341,slow=20,SNR=4.9
WRA Warramunga Arr 19.47 171 P **P** **00 45 33.9 -0.6**
WB2 Warramunga Arr 19.48 171 P **P** **00 45 33.3 -1.2**
WR0 Warramunga Arr 19.52 171 **P** **00 45 34.9 -0.1**
KRKI Karangkates 20.15 248 P Pn 00 45 51.6 +7.8
PWJI Pagerwojo 20.71 249 P Pn 00 46 06.9 +17
AS31 Alice Springs 23.08 174 P **P** **00 46 13.2 -0.1**
AS31 IAmb IAmb 00 46 23.1
comp=Z,12nm,0.6s
ASAR Alice Springs 23.09 174 P **P** **00 46 13.1 -0.3**
comp=Z,12nm,0.6s,baz=352,slow=9.6,SNR=58
ASAR S **S** **00 50 24.7 0.0**
comp=Z,4.7nm,0.9s,baz=354,slow=23,SNR=7.0
ASAR Alice Springs 23.09 174 P **P** **00 46 12.5 -0.8**
KPJI Karang Pucung 23.21 253 P P 00 46 25.2 +11
PSA00 Pilbara Seismi 23.62 207 P **P** **00 46 18.2 -0.5**
PSA00 IAmb IAmb 00 46 31.5
comp=Z,13nm,0.7s
PSA00 Pilbara Seismi 23.62 207 P **P** **00 46 18.7 0.0**
PSA00 IAmb IAmb 00 46 31.5
comp=Z,7.0nm,0.8s
CTA Charters Tower 24.33 144 P **P** **00 46 26.1 +0.7**
comp=Z,11nm,0.8s,baz=322,slow=10,SNR=7.1
CTAO Charters Tower 24.33 144 P **P** **00 46 25.7 +0.2**
CTAO IAmb IAmb 00 46 35.1
comp=Z,42nm,1.1s
CISI Cisompet, Garu 24.33 253 P **P** **00 46 24.3 -1.3**
CISI IAmb IAmb 00 46 39.5
comp=Z,17nm,0.6s
CBJI Citeko 24.99 256 P P 00 46 48.1 +17
SSLB Suanglung 26.20 338 P **P** **00 46 42.4 0.0**
SSLB IAmb IAmb 00 46 44.5
comp=Z,18nm,1.0s
MDSI Maura Dua 27.28 261 P P 00 46 59.7 +7.5
JOW Kunigami 27.41 354 LR LR 00 56 58.1
comp=Z,146nm,20.1s,baz=105,slow=35
JCJ Chichijima 29.48 20 LR LR 00 55 14.5
comp=Z,58nm,20.9s,baz=116,slow=29
RPSI Rantau Prapat 32.45 276 P **P** **00 47 37.4 -0.7**
RPSI IAmb IAmb 00 47 46.4
comp=Z,15nm,0.9s
PSI Prapat 32.46 276 P P 00 47 45.6 +7.3
PSI P P 00 47 45.7 +7.4
STKA Stephens Creek 32.63 163 P **P** **00 47 39.1 -0.2**
comp=Z,9.3nm,0.8s,baz=329,slow=9.2,SNR=15
STKA LR LR 01 03 48.4
comp=Z,85nm,21.9s,baz=1.2,slow=42
STKA Stephens Creek 32.63 163 P **P** **00 47 38.6 -0.7**
CHAI Chaiyaphum 33.19 301 P **P** **00 47 45.1 +0.6**
comp=Z,529nmcomp=Z,56nm,0.7s
CHAI Chaiyaphum 33.19 301 P **P** **00 47 45.1 +0.6**
comp=Z,132nmcomp=Z,14nm,0.7s
NJ2 Nanjing 34.51 341 *eP* **P** **00 47 59.3 +3.5**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
PHIT Phitsanulok 35.12 302 P **P** **00 48 02.8 +1.6**
comp=Z,2μmcomp=Z,105nm,0.8s
PHIT Phitsanulok 35.12 302 P **P** **00 48 02.0 +0.8**
comp=Z,580nmcomp=Z,26nm,0.8s
UTHA Uthaitani 35.25 298 P **P** **00 48 03.6 +1.2**
comp=Z,26nm,0.7s
UTHA Uthaitani 35.25 298 P **P** **00 48 03.0 +0.6**
comp=Z,6.5nm,0.7s
NANT Nan 35.63 304 P **P** **00 48 07.4 +1.7**
comp=Z,21nm,0.8s
NANT Nan 35.63 304 P **P** **00 48 07.0 +1.3**
comp=Z,5.3nm,0.8s
LAMP Lampang 36.39 303 P **P** **00 48 14.3 +2.2**
comp=Z,34nm,0.8s
LAMP Lampang 36.39 303 P **P** **00 48 14.3 +2.2**
comp=Z,8.4nm,0.8s
PAYA Payao 36.59 305 P **P** **00 48 15.5 +1.6**
comp=Z,855nmcomp=Z,22nm,0.8s
PAYA Payao 36.59 305 P **P** **00 48 15.6 +1.6**
comp=Z,213nmcomp=Z,5.5nm,0.8s
CM04 Chiang Mai Arr 36.88 302 P **P** **00 48 18.1 +1.7**
comp=Z,9.9nm,0.9s
CM04 Chiang Mai Arr 36.88 302 P **P** **00 48 18.1 +1.7**
comp=Z,9.9nm,0.9s
CM09 Chiang Mai Arr 36.89 303 P **P** **00 48 18.3 +1.9**
comp=Z,13nm,0.8s
CM09 Chiang Mai Arr 36.89 303 P **P** **00 48 18.4 +1.9**
comp=Z,13nm,0.8s
CM01 Chiang Mai Arr 36.91 302 P **P** **00 48 18.4 +1.8**
comp=Z,115nmcomp=Z,11nm,0.9s
CM01 Chiang Mai Arr 36.91 302 P **P** **00 48 18.4 +1.8**
comp=Z,115nmcomp=Z,11nm,0.9s
CM05 Chiang Mai Arr 36.91 302 P **P** **00 48 18.3 +1.7**
comp=Z,7.4nm,1.0s
CM05 Chiang Mai Arr 36.91 302 P **P** **00 48 18.3 +1.7**
comp=Z,7.4nm,1.0s
CM02 Chiang Mai Arr 36.93 302 P **P** **00 48 18.5 +1.8**
comp=Z,90nmcomp=Z,10nm,0.8s
CM02 Chiang Mai Arr 36.93 302 P **P** **00 48 18.0 +1.3**
comp=Z,90nmcomp=Z,10nm,0.8s
CM31 Chiang Mai Arr 36.94 303 P **P** **00 48 17.1 +0.2**
CM31 IAmb IAmb 00 48 19.0
comp=Z,12nm,0.8s
CMAR Chiang Mai Arr 36.94 303 P **P** **00 48 17.4 +0.6**
comp=Z,7.0nm,0.8s,baz=126,slow=6.9,SNR=32
CMAR PcP **PcP** **00 50 38.8 +0.5**
comp=Z,1.1nm,0.3s,baz=150,slow=1.9,SNR=5.9
CM15 Chiang Mai Arr 36.95 302 P **P** **00 48 18.6 +1.6**
comp=Z,14nm,0.7s
CM15 Chiang Mai Arr 36.95 302 P **P** **00 48 18.6 +1.6**
comp=Z,14nm,0.7s
CM13 Chiang Mai Arr 36.95 302 P **P** **00 48 18.5 +1.5**
comp=Z,9.7nm,0.8s
CM13 Chiang Mai Arr 36.95 302 P **P** **00 48 18.6 +1.5**
comp=Z,9.7nm,0.8s
ENH Enshi 37.02 328 P **P** **00 48 16.8 -0.6**
CMMT Chiang Mai 37.10 303 P **P** **00 48 19.1 +0.9**
comp=Z,21nm,1.0s
CMMT Chiang Mai 37.10 303 P **P** **00 48 19.1 +0.9**
CMMT Chiang Mai 37.10 303 P **P** **00 48 19.1 +0.9**
comp=Z,20nm,1.0s
CHTO Chiang Mai 37.10 303 P **P** **00 48 19.3 +1.1**
comp=Z,274nmcomp=Z,21nm,1.0s
CHTO Chiang Mai 37.10 303 P **P** **00 48 18.7 +0.4**
CHTO IAmb IAmb 00 48 20.1
comp=Z,12nm,0.8s
CHTO Chiang Mai 37.10 303 P **P** **00 48 19.3 +1.1**
comp=Z,154nmcomp=Z,12nm,1.0s
MJAR Matsushiro Arr 37.51 9 P **P** **00 48 20.2 -1.3**
comp=Z,0.8nm,0.4s,baz=191,slow=7.8,SNR=1.8
KSRS Korea Array 37.98 356 P **P** **00 48 25.3 -0.1**
comp=Z,1.5nm,0.5s,baz=171,slow=8.9,SNR=4.9
KSRS PcP **PcP** **00 50 41.6 +0.5**
comp=Z,0.9nm,0.5s,baz=177,slow=2.9,SNR=3.1
KSRS LR LR 01 02 32.1
comp=Z,39nm,19.3s,baz=182,slow=34
H11S3 WAKE ISLAND Hy 39.68 60 T T 01 31 04.6
baz=254,slow=75,SNR=20
H11S2 WAKE ISLAND Hy 39.70 60 T T 01 31 05.2
baz=254,slow=75,SNR=17
H11S1 WAKE ISLAND Hy 39.70 60 T T 01 31 05.2
baz=254,slow=75,SNR=9.5
XAN Xi'an 40.31 331 ⇑P **P** **00 48 44.5 -0.5**
XAN pP sP 00 48 53.8 +5.1
XAN sP pP 00 48 58.1 +10
XAN pmax pmax
comp=Z,8.0nm,1.1s
DZM Mont Dzumac 40.40 124 LR LR 01 05 21.8
comp=Z,131nm,18.6s,baz=357,slow=36
BJT Baijiatuau 42.69 343 P **P** **00 49 03.5 -0.9**
USA0B Ussuriysk Arra 44.60 1 P **P** **00 49 19.3 -0.4**
USA0B IAmb IAmb 00 49 20.6
comp=Z,8.9nm,0.9s
USRK Ussuriysk Ar. 44.60 1 P **P** **00 49 20.1 +0.4**
comp=Z,5.0nm,0.7s,baz=194,slow=8.2,SNR=11
USRK Ussuriysk Ar. 44.60 1 P **P** **00 49 19.9 +0.2**
HHC Hu-ho-hao-te 44.95 339 *eP* **P** **00 49 26.1 +3.4**
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,140nm,4.8s
HHC LR LR
comp=N,150nm,14.9s
HHC LR LR
comp=E,99nm,14.7s
HHC LR LR
comp=Z,110nm,14.3s
MDJ Mudanjiang 45.03 358 P **P** **00 49 22.4 -0.7**
MDJ IAmb IAmb 00 49 33.3
comp=Z,18nm,1.4s
SHL Shillong 46.04 307 P **P** **00 49 30.3 -1.4**
SHL IAmb IAmb 00 49 32.1
comp=Z,20nm,1.2s
GTA Gaotai 49.10 328 *eP* **P** **00 49 56.0 +0.8**
GTA pP sP 00 50 05.3 +6.3
GTA sP pP 00 50 11.0 +13
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA pmax pmax
comp=Z,45nm,5.8s
GTA LR LR
comp=N,150nm,17.4s
GTA LR LR
comp=E,160nm,19.3s
GTA LR LR
comp=Z,61nm,16.7s
KLR Kul'dur 49.63 0 P **P** **00 49 58.8 -0.1**
comp=Z,1.1nm,0.5s,baz=170,slow=8.2,SNR=3.9
ULN Ulaanbaatar 52.65 340 P **P** **00 50 21.7 -0.1**
ULN Ulaanbaatar 52.65 340 P **P** **00 50 23.6 +1.8**
SONM Songino Array 52.85 339 P **P** **00 50 23.1 -0.2**
comp=Z,1.1nm,0.7s,baz=154,slow=7.3,SNR=9.8
SONM PcP **PcP** **00 51 32.7 +0.3**
comp=Z,1.3nm,0.9s,baz=149,slow=2.1,SNR=3.8
SONM LR LR 01 12 57.6
comp=Z,51nm,21.9s,baz=147,slow=36
SONM Songino Array 52.85 339 P **P** **00 50 22.9 -0.4**
BSWZ Blackbirch Sta 56.13 142 P **P** **00 50 47.5 +0.4**
PETK Petropavlovsk- 57.90 19 P **P** **00 50 60.0 +0.6**
comp=Z,2.9nm,0.5s,baz=211,slow=11,SNR=1.9
WMQ Urumqi 58.82 324 *eP* **P** **00 51 08.8 +2.7**
MK31 Makanchi Array 63.65 325 IAmb IAmb 00 51 40.0
comp=Z,6.0nm,0.7s
MKAR Makanchi Array 63.65 325 P **P** **00 51 38.9 +0.1**
comp=Z,7.7nm,0.5s,baz=111,slow=7.9,SNR=104
MKAR LR LR 01 20 08.3
comp=Z,32nm,20.9s,baz=154,slow=37
MAKZ Makanchi 63.83 325 P **P** **00 51 39.9 0.0**
NIL Nilore 64.10 308 P **P** **00 51 41.0 -1.0**
NIL IAmb IAmb 00 51 42.4
comp=Z,6.6nm,0.7s
KSH Kashi 64.25 315 P **P** **00 51 44.1 +1.1**
KSH pmax pmax
comp=Z,9.0nm,1.0s
ZAA0 Zalesovo Array 66.46 332 IAmb IAmb 00 51 57.2
comp=Z,12nm,1.3s
ZALV Zalesovo Beam 66.46 332 P **P** **00 51 56.1 -0.7**
comp=Z,3.7nm,0.7s,baz=115,slow=6.7,SNR=17
KBL Kabul 67.70 308 P **P** **00 52 04.6 -0.8**
KBL IAmb IAmb 00 52 05.5
comp=Z,5.7nm,0.7s
BTK Batken 68.13 314 P **P** **00 52 07.1 -0.8**
BTK IAmb IAmb 00 52 09.7
comp=Z,6.3nm,0.8s
GAR Garm 68.13 313 P **P** **00 52 07.3 -0.6**
CHGR Chuyangaron 68.87 312 P **P** **00 52 12.0 -0.5**
KK31 Karatay Array 69.43 317 P **P** **00 52 15.8 -0.1**
KKAR Karatay Array 69.43 317 P **P** **00 52 15.7 -0.1**
KKAR Karatay Array 69.43 317 P **P** **00 52 15.5 -0.3**
BRVK Borovoye 73.44 327 P **P** **00 52 39.7 0.0**
BRVK IAmb IAmb 00 52 40.7
comp=Z,9.3nm,0.8s
NRIK Noril'sk 75.69 345 P **P** **00 52 52.5 0.0**
comp=Z,3.1nm,0.6s,baz=113,slow=6.3,SNR=6.7
NRIK LR LR 01 27 48.5
comp=Z,60nm,19.3s,baz=154,slow=37
NRIK Noril'sk 75.69 345 P **P** **00 52 52.0 -0.5**
NRIK IAmb IAmb 00 52 52.9
comp=Z,4.1nm,0.8s
GEYT Alibeck 77.08 309 P **P** **00 53 00.5 -0.7**
comp=Z,4.2nm,0.7s,baz=91,slow=12,SNR=8.3
ABKAR Akbulak array 78.31 321 IAmb IAmb 00 53 12.2
comp=Z,8.8nm,0.7s
VNDA Vanda 78.63 174 P **P** **00 53 09.2 +0.2**
comp=Z,2.8nm,0.8s,baz=325,slow=6.5,SNR=14
VNDA LR LR 01 28 31.6
comp=Z,58nm,18.1s,baz=355,slow=36
VNDA Vanda 78.63 174 P **P** **00 53 08.8 -0.1**
ARU Arti 80.96 328 P **P** **00 53 21.5 -0.5**
MAW Mawson 81.32 201 P **P** **00 53 24.2 +0.6**
comp=Z,1.9nm,0.7s,baz=16,slow=7.4,SNR=4.6
MAW Mawson 81.32 201 P **P** **00 53 23.6 -0.1**
KTH Kantishna Hill 85.12 26 P **P** **00 53 42.6 -0.8**
TRF Thorofare Moun 85.38 26 P **P** **00 53 44.3 -0.6**
SML Sawmill 86.00 28 P **P** **00 53 47.2 -0.6**
RND Reindeer 86.01 26 P **P** **00 53 47.3 -0.6**
RND IAmb IAmb 00 53 54.4
comp=Z,12nm,1.1s
MCK McKinley 86.03 26 P **P** **00 53 47.1 -0.8**
MCK IAmb IAmb 00 53 57.5
comp=Z,13nm,1.3s
CCB Clear Creek Bu 86.66 25 P **P** **00 53 50.5 -0.4**
CCB IAmb IAmb 00 53 51.7
comp=Z,13nm,1.3s
ILAR Eielson Array 87.07 25 P **P** **00 53 52.6 -0.4**
comp=Z,0.9nm,0.7s,baz=264,slow=5.2,SNR=6.8
ILAR Eielson Array 87.07 25 P **P** **00 53 51.7 -1.3**
KARS Kars 88.97 310 P **P** **00 54 02.0 -0.7**
QSPA South Pole Qui 89.34 180 P **P** **00 54 03.7 -0.2**
comp=Z,1.1nm,0.8s,baz=310,slow=1.7,SNR=21
QSPA South Pole Qui 89.34 180 P **P** **00 54 03.5 -0.3**
QSPA IAmb IAmb 00 54 13.7

	comp=Z,6.4nm,0.9s						
GURO	**Guroymak-BITLI**	**89.73**	**308**	P	**P**	**00 54 05.5**	**-0.9**
GURO				IAmb	IAmb	00 54 07.8	
	comp=Z,4.5nm,0.8s						
KLMR	**Klimovskoe**	**91.34**	**331**	*eP*	P	00 54 07.9	-5.2
KLMR				AMP		00 54 12.2	
	comp=Z,8.0nm,1.3s						
ARCES	**ARCESS Array B**	**96.02**	**340**	P	**P**	**00 54 33.0**	**-1.5**
	comp=Z,3.3nm,0.7s,baz=82,slow=5.6,SNR=15						
BRTR	**Keskin Array B**	**96.21**	**310**	P	**P**	**00 54 35.3**	**-0.9**
	comp=Z,0.6nm,0.9s,baz=109,slow=4.9,SNR=4.9						
FINES	**FINESS Array B**	**97.73**	**332**	P	**P**	**00 54 40.5**	**-1.8**
	comp=Z,2.0nm,0.8s,baz=62,slow=4.5,SNR=5.7						
VNA2	**Neumayer--Watz**	**103.71**	**193**	Pdiff	**Pdif**	**00 55 08.5**	**-0.4**
TXAR	**Lajitas Array**	**120.48**	**56**	PKKPbc	PKKPbc	01 10 06.4	0.0
	comp=Z,0.4nm,0.8s,baz=132,slow=7.4,SNR=3.8						
TORD	**Torodi Ar. Bea**	**128.48**	**286**	PKP	**PKPdf**	**01 00 14.4**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=53,slow=1.7,SNR=7.8						
DBIC	**Dimbokro**	**135.77**	**279**	PKP	**PKPdf**	**01 00 29.2**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=41,slow=4.2,SNR=1.2						
LVC	**Limon Verde**	**149.73**	**141**	PKPbc	**PKPbc**	**01 00 58.3**	**-0.6**
	comp=Z,6.1nm,0.8s,baz=281,slow=5.2,SNR=3.3						
CPUP	**Villa Florida**	**151.99**	**163**	PKPbc	**PKPbc**	**01 01 03.2**	**-0.3**
	comp=Z,3.1nm,0.8s,baz=261,slow=3.7,SNR=5.8						
LPAZ	**La Paz**	**154.58**	**132**	PKPbc	**PKPbc**	**01 01 09.7**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=270,slow=2.0,SNR=4.2						
LPAZ				PKPab	**PKPab**	**01 01 25.8**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=201,slow=4.0,SNR=5.0						
SIV	**San Ignacio**	**159.53**	**144**	PKPab	**PKPab**	**01 01 45.7**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=272,slow=6.8,SNR=4.9						

*IDC **25** 00:45:34.8±3.3,31°.15S×71°.91W,h0km,mb3.7/1, mb1 3.6/2,mb1mx3.4/23,mbtmp3.5/2,ML3.6/1,MS2.6/1, Ms1 2.6/1,ms1mx2.3/24,Error ellipse: s-maj=138.3km s-min=47.1km az=96.0*

*GUC **25** 00:45:35.7±0.7,31°.12S×71°.93W,h16km±9km,ML3.6*

ISC 25 00:45:36.0±2.2,31°.22S±0°.04×72°.0W±0°.1,h8km±12km,n24, σ1s21/24,1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.61**	**28**	*eP*	**Pn**	**00 45 51.2**	**+0.2**
CO06				*i* S	**Sn**	**00 46 00.1**	**-1.0**
CO06				IAML		00 46 01.0	
	comp=E,3μm,0.1s						
CO02	**Combarbal**	**0.82**	**89**	IAML		00 46 04.2	
	comp=N,19μm,0.2s						
CO03	**El Pedregal**	**1.16**	**71**	*eP*	**Pb**	**00 45 58.8**	**+0.5**
CO03				*eS*	**Sg**	**00 46 13.0**	**-0.2**
CO03				IAML		00 46 16.0	
	comp=N,2μm,0.1s						
CO05	**La Serena**	**1.44**	**26**	IAML		00 45 50.2	
	comp=E,1μm,0.4s						
GO04	**Tololo Observa**	**1.45**	**44**	*eP*	**Pg**	**00 46 03.8**	**0.0**
GO04				*eS*	**Sg**	**00 46 22.9**	**+0.4**
GO04				IAML		00 46 24.1	
	comp=N,1μm,0.5s						
GO04	**Tololo Observa**	**1.45**	**44**	*eP*	**Pn**	**00 45 59.5**	**-3.2**
GO04				IAML		00 46 26.3	
	comp=N,1μm,0.3s						
VA06	**Catapilco**	**1.45**	**157**	*i* P	**Pg**	**00 46 03.7**	**-0.2**
VA06				*eS*	**Sn**	**00 46 22.1**	**+0.2**
VA06				IAML		00 46 25.5	
	comp=N,1μm,0.6s						
ROCH	**El Roble**	**1.93**	**155**	*i* P	**Pb**	**00 46 10.7**	**-0.9**
ROCH				*i* S	**Sb**	**00 46 36.4**	**+0.6**
ROCH				IAML		00 46 41.9	
	comp=N,516nm,0.5s						
VA03	**San Esteban**	**1.95**	**143**	*i* P	**Pb**	**00 46 11.7**	**-0.3**
VA03				*i* S	**Sb**	**00 46 36.6**	**+0.1**
VA03				IAML		00 46 39.5	
	comp=E,1μm,0.8s						
PEL	**Peldehue**	**2.21**	**151**	*i* P	**Pb**	**00 46 14.9**	**-1.3**
PEL				*i* S	**Sb**	**00 46 44.2**	**+0.6**
PEL				IAML		00 46 50.2	
	comp=E,322nm,0.3s						
MT05	**Renca**	**2.40**	**155**	*eP*	**Pb**	**00 46 18.4**	**-1.2**
MT05				*i* S	**Sb**	**00 46 49.3**	**-0.1**
MT05				IAML		00 46 53.8	
	comp=E,674nm,0.2s						
MT09	**Talagante**	**2.68**	**162**	*eP*	**Pn**	**00 46 21.6**	**+1.9**
MT09				*eS*	**Sb**	**00 46 56.6**	**-0.9**
MT09				IAML		00 47 12.3	
	comp=N,223nm,0.7s						
MT01	**Popeta**	**2.71**	**167**	*eP*	**Pn**	**00 46 21.1**	**+1.2**
MT01				IAML		00 47 07.9	
	comp=E,155nm,0.6s						
LMEL	**Las Melosas**	**3.01**	**151**	*eP*	**Pn**	**00 46 26.7**	**+2.5**
LMEL				IAML		00 47 12.0	
	comp=N,154nm,0.4s						
H03N1	**Juan Fernandez**	**6.29**	**248**	T	T	00 53 51.2	
	baz=79,slow=74,SNR=2043						
H03N3	**Juan Fernandez**	**6.30**	**247**	T	T	00 53 55.0	
	baz=79						
H03N2	**Juan Fernandez**	**6.30**	**248**	T	T	00 53 52.4	
	baz=79,slow=74,SNR=1785						
LVC	**Limon Verde**	**9.99**	**18**	LR	LR	00 51 05.2	
	comp=N,32nm,18.5s,baz=157,slow=37						
PLCA	**Paso Flores**	**9.56**	**174**	Pn	**Pn**	**00 47 54.8**	**+0.7**
	comp=N,0.1nm,0.3s,baz=346,slow=12,SNR=5.5						
TORD	**Torodi Ar. Bea**	**83.21**	**70**	P	**P**	**00 58 02.9**	**-0.4**
	comp=N,0.4nm,0.7s,baz=241,slow=3.7,SNR=4.0						
H11S2	**WAKE ISLAND Hyd**	**125.83**	**271**	T	T	03 23 25.2	
	baz=116,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hyd**	**125.84**	**271**	T	T	03 23 24.7	
	baz=116,slow=75,SNR=18						
H11S3	**WAKE ISLAND Hyd**	**125.85**	**271**	T	T	03 23 25.2	
	baz=116,slow=75,SNR=11						
ZALV	**Zalesovo Beam**	**151.81**	**30**	PKPbc	**PKPbc**	**01 05 30.8**	**0.0**
	comp=N,0.4nm,0.5s,baz=322,slow=2.3,SNR=2.1						

*TAP **25** 01:11:23.2,24°.68N×122°.46E,h107km,ML3.1,C*
*JMA **25** 01:11:23.8±0.1,24°.51N×122°.45E,h105km±2km,M2.0*

ISC 25 01:11:24.2±1.6,24°.63N±0°.06×122°.46E±0°.03,h99km±10km, n51,σ0s57/85,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.48**	**112**	P	**Pn**	**01 11 39.9**	**+0.2**
JYNG				S	**Sn**	**01 11 52.2**	**+0.8**
YOJ	**Yonaguni jima**	**0.53**	**109**	P	**Pn**	**01 11 40.3**	**+0.2**
YOJ				*eS*	**Sn**	**01 11 52.7**	**+0.6**
YOJ	**Yonaguni jima**	**0.53**	**109**	*i* P	**Pn**	**01 11 40.1**	**0.0**
	baz=118						
YOJ				*i* S	**Sn**	**01 11 52.6**	**+0.6**
	baz=118						
TWC	**Suao**	**0.56**	**268**	*i* P	**Pn**	**01 11 40.1**	**-0.2**
	baz=260						
TWC				S	**Sn**	**01 11 51.0**	**-1.4**
	baz=260						
TWB1	**Santiao Chiao**	**0.57**	**311**	P	**Pn**	**01 11 40.4**	**-0.1**
	baz=299						
TWB1				S	**Sn**	**01 11 52.5**	**-0.1**
	baz=299						
NTC	**Toucheng**	**0.61**	**291**	*eP*	**Pn**	**01 11 40.5**	**-0.3**
	baz=287						
NTC				*eS*	**Sn**	**01 11 52.5**	**-0.8**
	baz=287						
EWUT	**Wuta**	**0.65**	**253**	*eP*	**Pn**	**01 11 41.3**	**+0.2**
	baz=250						
TIPB	**Shuangxi**	**0.67**	**300**	P	**Pn**	**01 11 41.1**	**-0.2**
	baz=292						
TIPB				S	**Sn**	**01 11 53.5**	**-0.7**
	baz=292						
NDS	**Dongshan**	**0.68**	**270**	*eP*	**Pn**	**01 11 42.0**	**+0.6**
	baz=264						
ENA	**Nanau**	**0.69**	**253**	P	**Pn**	**01 11 41.7**	**+0.3**
	baz=247						
ENA				S	**Sn**	**01 11 54.9**	**+0.5**
	baz=247						
TWE	**Neicheng**	**0.73**	**277**	P	**Pn**	**01 11 41.8**	**0.0**
	baz=275						
NWF	**Wu-fen Shan**	**0.76**	**305**	P	**Pn**	**01 11 42.0**	**-0.2**
	baz=295						
WFSB	**Wu-fen Shan**	**0.76**	**305**	*eP*	**Pn**	**01 11 42.0**	**-0.1**
	baz=295						
ENTT	**Nioudou**	**0.81**	**271**	*eP*	**Pn**	**01 11 43.2**	**+0.5**
	baz=272						
NDT	**Datong Townshi**	**0.86**	**268**	*eP*	**Pn**	**01 11 43.7**	**+0.6**
	baz=265						
NDT				S	**Sn**	**01 11 58.3**	**+0.9**
	baz=265						
NWLT	**Wulai**	**0.88**	**280**	*eP*	**Pn**	**01 11 43.1**	**-0.2**
	baz=282						
NWLT				*eS*	**Sn**	**01 11 56.7**	**-1.1**
	baz=282						
NACB	**Ninganchiao**	**0.91**	**240**	*eP*	**Pn**	**01 11 44.1**	**+0.5**
	baz=238						
NACB				S	**Sn**	**01 11 58.0**	**-0.3**
	baz=238						
TWD	**Chiawan**	**0.96**	**235**	*eP*	**Pn**	**01 11 44.5**	**+0.4**
	baz=230						
TWD				S	**Sn**	**01 11 59.4**	**+0.2**
	baz=230						
ETLH	**Xiulin Townshi**	**0.99**	**245**	*eP*	**Pn**	**01 11 44.5**	**0.0**
	baz=238						
ETLH				*eS*	**Sn**	**01 11 59.8**	**-0.1**
	baz=238						
YHNB	**Yeheng**	**0.99**	**272**	*eP*	**Pn**	**01 11 44.7**	**+0.1**
	baz=264						
YHNB				S	**Sn**	**01 11 59.9**	**+0.1**
	baz=264						
NNSB	**Datong**	**1.00**	**258**	*eP*	**Pn**	**01 11 45.2**	**+0.5**
	baz=252						
NNSB				S	**Sn**	**01 12 00.3**	**+0.1**
	baz=252						
NSK	**Sanguang**	**1.00**	**273**	*eP*	**Pn**	**01 11 44.7**	**0.0**
	baz=264						
NSK				*eS*	**Sn**	**01 11 59.9**	**-0.2**
	baz=264						
NNS	**Nan Shan**	**1.01**	**259**	*eP*	**Pn**	**01 11 44.9**	**+0.1**
	baz=252						
NNS				*eS*	**Sn**	**01 11 59.9**	**-0.5**
	baz=252						
ANP	**Anpu**	**1.02**	**303**	P	**Pn**	**01 11 44.3**	**-0.5**
	baz=293						
FUSS	**Fushou**	**1.17**	**251**	*eP*	**Pn**	**01 11 46.6**	**-0.2**
	baz=247						
IRIF	**Iriomote-Funau**	**1.19**	**104**	P	**Pn**	**01 11 46.8**	**+0.1**
IRIF				S	**Sn**	**01 12 03.9**	**+0.1**
WHF	**Hehuan Shan**	**1.19**	**246**	*eP*	**Pn**	**01 11 47.0**	**-0.2**
	baz=244						
WHF				*eS*	**Sn**	**01 12 04.2**	**-0.3**
	baz=244						
TWT	**Tachien**	**1.23**	**252**	*eP*	**Pn**	**01 11 48.1**	**+0.7**
	baz=244						
TWT				*eS*	**Sn**	**01 12 05.4**	**+0.5**
	baz=244						
TDCB	**Techi**	**1.25**	**253**	*eP*	**Pn**	**01 11 48.0**	**+0.4**
	baz=244						
TDCB				*eS*	**Sn**	**01 12 05.3**	**+0.2**
	baz=244						
CHGB	**Renai**	**1.30**	**244**	*eP*	**Pn**	**01 11 48.4**	**+0.1**
	baz=237						
CHGB				*eS*	**Sn**	**01 12 06.8**	**+0.3**
	baz=237						
LIOB	**Emei**	**1.31**	**271**	*eP*	**Pn**	**01 11 48.2**	**0.0**
	baz=269						
LIOB				*eS*	**Sn**	**01 12 06.4**	**0.0**
	baz=269						
NSTT	**Nanjuang**	**1.33**	**270**	*eP*	**Pn**	**01 11 48.4**	**0.0**
	baz=268						
NSTT				*eS*	**Sn**	**01 12 06.6**	**0.0**
	baz=268						
HATJ	**Hateruma jima**	**1.35**	**115**	*eS*	**Sn**	**01 12 05.9**	**-1.2**
WHP	**Taichung City**	**1.43**	**256**	P	**Pn**	**01 11 50.4**	**+0.8**
	baz=254						
WHP				*eS*	**Sn**	**01 12 09.0**	**+0.2**
	baz=254						
JKRS	**Kuro-shima**	**1.47**	**105**	P	**Pn**	**01 11 50.8**	**+0.8**
HGSD	**Ruisui**	**1.48**	**220**	*eP*	**Pn**	**01 11 49.9**	**-0.3**
	baz=219						
HGSD				*eS*	**Sn**	**01 12 10.0**	**+0.1**
	baz=219						
WCS	**Beigang Elemen**	**1.52**	**248**	*eP*	**Pn**	**01 11 51.1**	**+0.4**
	baz=243						
WCS				*eS*	**Sn**	**01 12 11.4**	**+0.5**
	baz=243						
JIJ	**Ishigaki jima**	**1.56**	**100**	P	**Pn**	**01 11 51.5**	**+0.4**
JIJ				*eS*	**Sn**	**01 12 10.8**	**-0.7**
SMLT	**Sun Moon Lake**	**1.61**	**243**	*eP*	**Pn**	**01 11 53.0**	**+1.1**
	baz=236						
SSLB	**Suanglung**	**1.61**	**239**	*eP*	**Pn**	**01 11 52.4**	**+0.5**
	baz=235						
SSLB				S	**Sn**	**01 12 13.3**	**+0.4**
	baz=235						
YULB	**Yu-li**	**1.63**	**221**	*eP*	**Pn**	**01 11 51.1**	**-1.0**
	baz=227						
TYC	**Yuchr**	**1.63**	**244**	*eP*	**Pn**	**01 11 53.2**	**+1.1**
	baz=245						
TYC				*eS*	**Sn**	**01 12 13.8**	**+0.6**
	baz=245						
TWF1	**Yuli**	**1.66**	**220**	*eP*	**Pn**	**01 11 52.1**	**-0.4**
	baz=226						
JISG	**Ishigakijimahi**	**1.69**	**91**	P	**Pn**	**01 11 52.9**	**+0.2**
JISG				S	**Sn**	**01 12 13.9**	**-0.5**
CHKT	**Chengkung**	**1.83**	**214**	*eP*	**Pn**	**01 11 53.9**	**-0.7**
	baz=208						
CHKT				*eS*	**Sn**	**01 12 16.1**	**-1.5**
	baz=208						
ALS	**Alishan**	**1.88**	**234**	*eP*	**Pn**	**01 11 56.2**	**+0.7**
	baz=227						
CHN5	**Tsauling**	**1.93**	**238**	*eP*	**Pn**	**01 11 56.5**	**+0.6**
	baz=237						
EDH	**Donghe**	**1.96**	**213**	*eP*	**Pn**	**01 11 55.8**	**-0.5**
	baz=208						
EDH				*eS*	**Sn**	**01 12 19.4**	**-1.4**
	baz=208						
JTJ	**Tarama**	**2.04**	**89**	P	**Pn**	**01 11 57.5**	**+0.3**
JTJ				S	**Sn**	**01 12 22.6**	**+0.1**
CHN4	**Tsaushan**	**2.13**	**234**	*eP*	**Pn**	**01 11 58.9**	**+0.4**
	baz=233						
TPUB	**Ta-pu**	**2.14**	**232**	*eP*	**Pn**	**01 11 59.1**	**+0.6**
	baz=231						

TAP 25 01:11:37.3,24°.22N×121°.65E,h10km±1km,ML1.7,1C,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.06**	**202**	*eP*	Pg	01 11 40.1	+0.7
	baz=201						
ETL				*eS*	Sg	01 11 41.9	+0.9
	baz=201						
NACB	**Ninganchiao**	**0.06**	**229**	*i* P	Pg	01 11 39.6	+0.2
	baz=229						
NACB				*i* S	Sg	01 11 42.0	+1.0
	baz=229						
TWD	**Chiawan**	**0.14**	**199**	*i* P	Pg	01 11 41.2	+0.7
	baz=196						
ETLH	**Xiulin Townshi**	**0.15**	**267**	P	Pg	01 11 41.2	+0.5
	baz=266						
ENA	**Nanau**	**0.23**	**22**	P	Pg	01 11 43.8	+1.8
	baz=23						
ENA				S	Sg	01 11 47.0	+1.8
	baz=23						
EWUT	**Wuta**	**0.26**	**27**	*i* P	Pb	01 11 43.8	-0.2
	baz=27						
EWUT				*i* S	Sb	01 11 47.4	-1.2
	baz=27						

IDC 25 01:13:44.7±1.6,0°.71S×131°.02E,h0km,mb3.4/2, mb1 3.6/4,mb1mx3.4/30,mbtmp3.4/4,ML3.4/2,Error ellipse: s-maj=34.9km s-min=8.9km az=28.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**0.29**	**122**	Pg	Pg	01 13 50.5	+0.2
	2μm,0.3s,baz=265,slow=22,SNR=664						
SIJI				Lg	Lg	01 13 54.1	
	12μm,0.3s,baz=269,slow=24,SNR=283						
FITZ	**Fitzroy Crossi**	**18.07**	**197**	P		01 17 57.6	-0.2
	0.1nm,0.3s,baz=24,slow=11,SNR=1.3						
WRA	**Warramunga Arr**	**19.39**	**171**	P		01 18 12.1	-0.3
	0.1nm,0.3s,baz=353,slow=10,SNR=2.7						
ASAR	**Alice Springs**	**22.99**	**173**	P		01 18 51.0	-0.2
	0.6nm,0.6s,baz=351,slow=10,SNR=9.9						
MKAR	**Makanchi Array**	**63.63**	**325**	P		01 24 17.5	-0.2
	0.3nm,0.6s,baz=113,slow=6.9,SNR=2.5						

*IDC **25** 01:16:37.7±0.9,36°.06N×96°.80W,h0km,mb3.4/3, mb1 3.8/9,mb1mx3.6/37,mbtmp3.5/9,ML3.6/6,MS3.3/14, Ms1 3.3/14,ms1mx3.1/25,Error ellipse: s-maj=14.5km s-min=10.7km az=158.0*

*TUL **25** 01:16:37.7±1.5,35°.99N±0°.02×96°.79W±0°.02,h3km±4km, ML4.2,mb4.0/5(NEIC),mb_Lg4.1/115(NEIC),*
Mwr4.0/72(NEIC),Error ellipse: s-maj=3.0km s-min=2.0km az=111.0

*NEIC **25** 01:16:37.7±1.4,36°.01N±0°.01×96°.81W±0°.02,h2km±4km, Error ellipse: s-maj=2.7km s-min=2.0km az=104.0*

*NEIC **25** 01:16:37.7,35°.99N×96°.79W,h4km,Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr=0.14; Mθθ=0.97; Mϕϕ=0.84; Mrθ=-0.01; Mrϕ=-0.43; Mθϕ=0.35; Fault plane solution: M0=1.07000×10^15 NP1:φs325.91000°, δ78.06000°,λ-16.88000°. NP2:φs59.50000°,δ73.49000°, λ-167.54000°. Principal axes: T 1.0744, Plg3.0000°, Azm13.0000°; N -0.0152, Plg69.0000°, Azm112.0000°; P -1.0593, Plg20.0000°, Azm282.0000°;*

*ANF **25** 01:16:38.1±0.2,35°.99N×96°.80W,h5km,ML4.8/21 Error ellipse: s-maj=2.6km s-min=2.1km az=154.0*

ISC 25 01:16:37.5±0.8,36°.00N±0°.02×96°.79W±0°.02,h7km±5km, n297,σ0s93/332,MS3.4/6,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.06**	**220**		**Pg**	**01 16 39.1**	**-0.1**
OK031				Sg	**Sg**	**01 16 40.0**	**-0.4**
OK030	**Cody Creek RV**	**0.07**	**175**		**Pg**	**01 16 39.4**	**0.0**
OK030				Sg	**Sg**	**01 16 40.9**	**+0.2**
QUOK	**Quay**	**0.19**	**21**	Pg	**Pg**	**01 16 41.9**	**+0.6**
QUOK				Sg	**Sg**	**01 16 45.3**	**+1.4**
OK005	**Luther M Schoo**	**0.47**	**224**		**Pg**	**01 16 46.9**	**+0.3**
OK005				Sg	**Sg**	**01 16 54.2**	**+1.4**
OK011	**Prague**	**0.52**	**170**		**Pg**	**01 16 47.9**	**+0.4**
OK011				Sg	**Sg**	**01 16 54.4**	**+0.1**
OK029	**Liberty Lake**	**0.57**	**250**		**Pg**	**01 16 48.8**	**+0.2**
OK029				IAmb_Lg		01 16 55.1	
	comp=Z,2μm,0.9s						
OK029				Sg	**Sg**	**01 16 57.3**	**+1.2**
OK001	**Jones High Sch**	**0.59**	**223**	Pg	**Pg**	**01 16 48.6**	**-0.4**
OK001				Sg	**Sg**	**01 16 57.1**	**+0.3**
OK025	**Westminster Rd**	**0.61**	**227**		**Pg**	**01 16 49.2**	**0.0**
OK025				Sg	**Sg**	**01 16 57.9**	**+0.7**
OK009	**Oakdale Elemen**	**0.66**	**231**		**Pg**	**01 16 50.7**	**+0.5**
OK009				Sg	**Sg**	**01 16 59.4**	**+0.6**
BCOK	**Bluff Creek, N**	**0.75**	**243**		**Pg**	**01 16 51.9**	**+0.1**
BCOK				Sg	**Sg**	**01 17 02.4**	**+0.9**
OKCFA	**Oklahoma City**	**0.79**	**223**		**Pg**	**01 16 52.6**	**-0.1**
OKCFA				Sg	**Sb**	**01 17 04.3**	**-0.2**
OKCFA	**Oklahoma City**	**0.79**	**223**	P	**Pg**	**01 16 52.4**	**-0.2**
	baz=41						
OKCFA				S	**Sg**	**01 17 04.0**	**+1.0**
	baz=41						
OKCSW	**OKLAHOMA CITY**	**0.79**	**222**		**Pg**	**01 16 52.3**	**-0.4**
OKCSW				Sg	**Sg**	**01 17 03.7**	**+0.8**
TUL1	**Leonard**	**0.82**	**96**	Pg	**Pg**	**01 16 52.8**	**-0.4**
TUL1				Sg	**Sg**	**01 17 04.2**	**+0.5**
TUL1	**Leonard**	**0.82**	**96**	P	**Pg**	**01 16 53.1**	**0.0**
	baz=276,SNR=712						
TUL1				S	**Sg**	**01 17 04.3**	**+0.6**
	baz=276						
TUL1	**Leonard**	**0.82**	**96**	P	**Pg**	**01 16 53.2**	**0.0**
	baz=276,SNR=764						
TUL1				S	**Sg**	**01 17 04.6**	**+0.8**
	baz=276						
BLOK	**Blackwell**	**0.83**	**336**		**Pg**	**01 16 53.6**	**+0.1**
BLOK				Sg	**Sg**	**01 17 04.6**	**+0.3**
FNO	**Franklin**	**0.89**	**214**		**Pg**	**01 16 54.1**	**-0.5**
FNO				IAmb_Lg		01 17 05.8	
	comp=Z,1μm,0.9s						
FNO				Sg	**Sg**	**01 17 06.4**	**+0.3**
T35A	**Sooner Cattle**	**0.94**	**14**	Pg	**Pg**	**01 16 55.3**	**-0.3**
T35A				Sg	**Sb**	**01 17 08.8**	**-0.1**
T35B	**Sooner Cattle**	**0.94**	**14**	P	**Pg**	**01 16 55.7**	**+0.1**
	baz=196						
CROK	**Carrier**	**1.09**	**298**	Pg	**Pg**	**01 16 58.0**	**-0.4**
CROK				Sg	**Sb**	**01 17 13.1**	**+0.1**
KAN13	**South Haven SW**	**1.15**	**332**		**Pg**	**01 16 59.5**	**-0.1**
KAN13				Sg	**Sb**	**01 17 14.7**	**-0.2**
KAN13					**Sg**	**01 17 15.0**	**+0.4**
GC02	**Grant County #**	**1.21**	**315**	Pg	**Pg**	**01 17 00.7**	**0.0**
GC02				Sg	**Sb**	**01 17 16.9**	**+0.3**
KAN17	**Caldwell West**	**1.30**	**323**	Pg	**Pn**	**01 17 02.0**	**-0.1**
KAN17				Sg	**Sb**	**01 17 19.5**	**+0.2**
KAN09	**Caldwell North**	**1.32**	**330**		**Pb**	**01 17 02.5**	**0.0**
KAN09				Sg	**Sg**	**01 17 19.7**	**-0.1**
KAN14	**Manchester OK**	**1.34**	**316**		**Pn**	**01 17 02.9**	**+0.2**
KAN14				Sg	**Sg**	**01 17 20.6**	**+0.1**
KS20	**Mayfield South**	**1.37**	**334**		**Pn**	**01 17 03.0**	**-0.1**
KS20				Sg	**Sg**	**01 17 21.5**	**-0.1**
OK032	**Salt Plains WL**	**1.40**	**306**		**Pn**	**01 17 03.7**	**+0.3**
KAN05	**Bluff City Nor**	**1.41**	**322**		**Pg**	**01 17 04.4**	**-0.1**
KAN06	**Argonia West S**	**1.51**	**326**		**Pg**	**01 17 06.3**	**-0.2**
KAN10	**Anthony SW Sta**	**1.54**	**317**		**Pb**	**01 17 06.2**	**-0.1**
KAN08	**Anthony NE Sta**	**1.55**	**323**		**Pg**	**01 17 06.9**	**-0.3**
KAN16	**Harper SW Stat**	**1.60**	**320**		**Pb**	**01 17 07.3**	**0.0**
X34A	**Smith Ranch, M**	**1.63**	**212**		**Pb**	**01 17 07.5**	**-0.4**
X37A	**Clayton**	**1.82**	**140**	Pn	**Pn**	**01 17 10.4**	**+1.2**
X37A	**Clayton**	**1.82**	**140**	P	**Pb**	**01 17 10.9**	**-0.2**
	baz=320,SNR=341						
X37A				S	**Sg**	**01 17 35.5**	**-0.6**
	baz=320						
U32A	**Winter Ranch,**	**1.83**	**283**		**Pb**	**01 17 10.5**	**-0.7**
U32A				IAmb_Lg		01 17 39.5	
	comp=Z,1μm,0.9s						
U32A	**Winter Ranch,**	**1.83**	**283**	P	**Pn**	**01 17 10.4**	**+1.1**
	baz=102,SNR=26						
U32A				S	**Sg**	**01 17 36.3**	**+0.1**
	baz=102						
U38A	**Gravette**	**2.00**	**77**		**Pn**	**01 17 12.8**	**+1.2**
U38A	**Gravette**	**2.00**	**77**	P	**Pb**	**01 17 13.2**	**-0.9**
	baz=258,SNR=214						
U38A				S	**Sg**	**01 17 40.9**	**-0.7**
	baz=258						
LOOK	**Love County**	**2.03**	**189**		**Pn**	**01 17 13.5**	**+1.4**
LOOK				IAmb_Lg		01 17 46.2	
	comp=Z,1μm,0.9s						
WMOK	**Wichita Mounta**	**2.06**	**233**		**Pn**	**01 17 13.8**	**+1.3**
WMOK				IAmb_Lg		01 17 46.3	
	comp=Z,969nm,0.9s						
WMOK	**Wichita Mounta**	**2.06**	**233**	P	**Pn**	**01 17 13.7**	**+1.3**
	baz=51,SNR=174						
WMOK				S	**Sb**	**01 17 41.7**	**+0.8**
	baz=51						
WMOK	**Wichita Mounta**	**2.06**	**233**	P	**Pn**	**01 17 13.1**	**+0.6**
	baz=51						
HHAR	**Hobbs**	**2.33**	**82**		**Pn**	**01 17 17.4**	**+1.3**
HHAR	**Hobbs**	**2.33**	**82**	P	**Pn**	**01 17 17.8**	**+1.6**

X40A **Basin Creek Fa** 3.57 114 Pn **Pn** 01 17 34.9 +1.6
X40A **Basin Creek Fa** 3.57 114 P **Pn** 01 17 34.9 +1.6
baz=296,SNR=58
X40A **Basin Creek Fa** 3.57 114 P **Pn** 01 17 34.1 +0.8
baz=296,SNR=44
X40A S **Sn** 01 18 17.5 +1.8
baz=296
CBKS **Cedar Bluff** 3.66 321 Pn **Pn** 01 17 35.5 +0.9
CBKS **Cedar Bluff** 3.66 321 S **Sn** 01 18 18.7 +0.7
baz=140
WHAR **Wooly Hollow** 3.73 100 Pn **Pn** 01 17 36.2 +0.7
WHAR IAmb_Lg 01 18 39.7
comp=Z,583nm,1.0s
FCAR **Ozark Folk Cen** 3.79 90 **Pn** 01 17 37.2 +0.9
FCAR IAmb_Lg 01 18 40.0
comp=Z,787nm,0.9s
W41B **Gary Mavity, V** 3.79 101 P **Pn** 01 17 37.1 +0.8
baz=284,SNR=229
W41B S **Sn** 01 18 22.8 +1.7
baz=284
W41B **Gary Mavity, V** 3.79 101 P **Pn** 01 17 37.4 +1.0
baz=284,SNR=58
W41B S **Sn** 01 18 22.6 +1.5
baz=284
WLAR **White Oak Lake** 3.80 126 Pn **Pn** 01 17 36.9 +0.4
WLAR IAmb_Lg 01 18 46.2
comp=Z,299nm,0.9s
MGMO **Mountain Grove** 3.82 71 **Pn** 01 17 37.8 +1.1
MGMO IAmb_Lg 01 18 43.3
comp=Z,461nm,0.7s
WHTX **Lake Whitney,** 4.04 188 Pn **Pn** 01 17 39.8 +0.1
WHTX **Lake Whitney,** 4.04 188 S **Sn** 01 18 28.0 +0.8
baz=7.1
WHTX **Lake Whitney,** 4.04 188 P **Pn** 01 17 39.7 +0.1
baz=7.1,SNR=20
WHTX S **Sn** 01 18 28.1 +0.9
baz=7.1
237A **Washetta, Mont** 4.07 168 Pn **Pn** 01 17 40.5 +0.4
237A **Washetta, Mont** 4.07 168 P **Pn** 01 17 40.8 +0.7
baz=348,SNR=14
ABTX **Abilene, Hawle** 4.11 216 Pn **Pn** 01 17 41.0 +0.3
ABTX IAmb_Lg 01 18 54.1
comp=Z,539nm,1.0s
ABTX **Abilene, Hawle** 4.11 216 P **Pn** 01 17 41.4 +0.7
baz=34,SNR=33
ABTX **Abilene, Hawle** 4.11 216 P **Pn** 01 17 40.8 +0.1
baz=34
ABTX S **Sn** 01 18 29.7 +0.6
baz=34
AMTX **Amarillo** 4.14 256 **Pn** 01 17 41.7 +0.5
AMTX IAmb_Lg 01 18 56.1
comp=Z,671nm,0.7s
AMTX **Amarillo** 4.14 256 P **Pn** 01 17 41.2 0.0
baz=73
AMTX Sb **Sb** 01 18 44.5 +3.5
baz=73
R40A **Maddies Statio** 4.28 56 **Pn** 01 17 44.6 +1.7
R40A **Maddies Statio** 4.28 56 P **Pn** 01 17 44.5 +1.6
baz=239,SNR=21
Z41A **Richland Creek** 4.28 129 P **Pn** 01 17 44.1 +1.1
baz=311,SNR=22
Z41A **Richland Creek** 4.28 129 P **Pn** 01 17 43.5 +0.5
baz=311,SNR=6.3
Z41A S **Sn** 01 18 34.2 +1.1
baz=311
P38A **Dawn** 4.45 35 **Pn** 01 17 46.7 +1.4
P38A **Dawn** 4.45 35 P **Pn** 01 17 46.9 +1.6
baz=217,SNR=19
LCAR **Lake Charles** 4.57 87 Pn **Pn** 01 17 47.2 +0.2
LCAR IAmb_Lg 01 19 03.2
comp=Z,279nm,0.9s
NATX **Nacogdoches** 4.58 157 **Pn** 01 17 47.8 +0.6
NATX IAmb_Lg 01 18 59.9
comp=Z,210nm,0.8s
NATX **Nacogdoches** 4.58 157 S **Sn** 01 18 39.6 -1.1
baz=337
CCAR **Cane Creek** 4.62 115 **Pn** 01 17 48.3 +0.7
CCAR IAmb_Lg 01 19 16.4
comp=Z,183nm,0.9s
CCAR **Cane Creek** 4.62 115 P **Pn** 01 17 48.8 +1.2
baz=296,SNR=14
T42A **Van Buren** 4.71 76 **Pn** 01 17 49.9 +1.1
T42A IAmb_Lg 01 19 14.9
comp=Z,392nm,0.9s
CCM **Cathedral Cave** 4.89 64 **Pn** 01 17 52.7 +1.3
CCM IAmb_Lg 01 19 18.0
comp=Z,571nm,1.0s
CCM **Cathedral Cave** 4.89 64 P **Pn** 01 17 52.4 +1.0
baz=247
N35A **Tabor** 4.94 10 **Pn** 01 17 52.5 +0.4
N35A IAmb_Lg 01 19 28.2
comp=Z,533nm,0.9s
HBAR **Harrisburg** 5.01 93 **Pn** 01 17 53.8 +0.8
HBAR IAmb_Lg 01 19 22.4
comp=Z,481nm,1.0s
P40A **Paris** 5.15 45 **Pn** 01 17 55.6 +0.6
P40A IAmb_Lg 01 19 24.9
comp=Z,269nm,0.7s
PBMO **Poplar Bluff** 5.19 80 **Pn** 01 17 55.4 -0.1
PBMO IAmb_Lg 01 19 25.3
comp=Z,445nm,0.8s
435B **Jarrell** 5.24 187 **Pn** 01 17 56.6 +0.3
435B IAmb_Lg 01 19 25.1
comp=Z,237nm,0.8s
435B **Jarrell** 5.24 187 P **Pn** 01 17 56.8 +0.5
baz=6.6,SNR=7.5
435B **Jarrell** 5.24 187 P **Pn** 01 17 56.7 +0.5
baz=6.6
435B S **Sn** 01 18 56.2 -0.8
baz=6.6
LPAR **Lepanto** 5.29 92 Pn **Pn** 01 17 58.2 +1.3
LPAR LR 01 19 25.2
LPAR IAmb_Lg 01 19 30.0
comp=Z,301nm,0.9s
MSTX **Muleshoe** 5.31 249 **Pn** 01 17 57.5 +0.2
MSTX **Muleshoe** 5.31 249 P **Pn** 01 17 57.5 +0.2
baz=66,SNR=7.1
MSTX S **Sn** 01 18 58.4 -0.4
baz=66
FVM **French Village** 5.47 67 **Pn** 01 18 01.1 +1.8
FVM IAmb_Lg 01 19 34.5
comp=Z,373nm,0.7s
FVM **French Village** 5.47 67 P **Pn** 01 18 00.3 +1.0
baz=251,SNR=16
GNAR **Gosnell** 5.49 88 Pn **Pn** 01 18 01.5 +1.8
BGNE **Belgrade** 5.50 349 **Pn** 01 17 59.2 -0.6
BGNE IAmb_Lg 01 19 41.1
comp=Z,290nm,0.8s
BGNE **Belgrade** 5.50 349 P **Pn** 01 18 00.7 +0.8
baz=169,SNR=16
BGNE **Belgrade** 5.50 349 P **Pn** 01 18 00.6 +0.7
baz=169
BGNE S **Sn** 01 19 03.0 -0.4
baz=169
KSCO **Kaye Shedlock'** 5.53 305 **Pn** 01 18 01.4 +1.1
KSCO IAmb_Lg 01 19 40.1
comp=Z,374nm,0.8s
KSCO **Kaye Shedlock'** 5.53 305 P **Pn** 01 18 00.9 +0.6
baz=122,SNR=21
KSCO **Kaye Shedlock'** 5.53 305 P **Pn** 01 18 00.9 +0.6
baz=122,SNR=5.8
KSCO S **Sn** 01 19 03.8 -0.3
baz=122
143A **Socs Landing,** 5.54 125 Pn **Pn** 01 18 01.4 +1.1
143A IAmb_Lg 01 19 38.4
comp=Z,178nm,0.7s
N38A **Joes South For** 5.54 29 **Pn** 01 18 00.5 +0.1
N38A IAmb_Lg 01 19 37.4
comp=Z,358nm,0.9s
N38A **Joes South For** 5.54 29 P **Pn** 01 18 01.1 +0.8
baz=212,SNR=11
PEBM **Pemiscott Bayo** 5.62 87 Pn **Pn** 01 18 02.9 +1.6
PEBM **Sb** 01 19 23.4 +0.1
PEBM IAmb_Lg 01 19 48.6
comp=Z,420nm,0.9s
MET **Memphis--Engin** 5.66 97 IAmb_Lg 01 19 46.5
comp=Z,416nm,0.9s
PARMO **Parma** 5.72 81 Pn **Pn** 01 18 03.3 +0.5
SLM **Saint Louis** 5.85 61 Pn **Pn** 01 18 04.6 +0.1
SLM **Sn** 01 19 10.7 -1.2
LNXT **Lenox** 5.92 87 Pn **Pn** 01 18 06.5 +1.0
LNXT LR 01 19 44.8
342A **Flagon Creek P** 5.93 140 Pn **Pn** 01 18 06.5 +0.9
HENM **Henderson Moun** 5.95 81 Pn **Pn** 01 18 06.8 +0.8
L34A **Svendsen Farm,** 5.97 3 Pn **Pn** 01 18 06.9 +0.7
L34A IAmb_Lg 01 20 01.2
comp=Z,445nm,0.9s
JCT **Junction City** 6.05 205 Pn **Pn** 01 18 07.0 -0.4
JCT IAmb_Lg 01 20 03.6
comp=Z,293nm,0.8s
JCT **Junction City** 6.05 205 P **Pn** 01 18 07.4 -0.1
baz=23,SNR=9.4
JCT **Junction City** 6.05 205 P **Pn** 01 18 07.5 0.0
baz=23,SNR=13
GLAT **Glass** 6.08 85 Pn **Pn** 01 18 09.6 +1.8
HICK **Hickman** 6.13 83 Pn **Pn** 01 18 09.3 +0.8
OXF **Oxford** 6.22 102 Pn **Pn** 01 18 09.7 +0.1
OXF IAmb_Lg 01 20 09.5
comp=Z,132nm,0.8s
OXF **Oxford** 6.22 102 P **Pn** 01 18 09.5 -0.2
baz=286,SNR=26
OXF **Oxford** 6.22 102 P **Pn** 01 18 09.4 -0.2
baz=286,SNR=14
T25A **Trinidad** 6.24 283 **Pn** 01 18 10.0 -0.1
T25A IAmb_Lg 01 20 11.8
comp=Z,190nm,0.8s
T25A **Trinidad** 6.24 283 P **Pn** 01 18 10.5 +0.3
baz=98
W45A **Hickory Valley** 6.25 95 Pn **Pn** 01 18 10.6 +0.5
W45A IAmb_Lg 01 20 09.4
comp=Z,360nm,1.0s
S44A **Carbondale** 6.28 72 **Pn** 01 18 11.2 +0.8
S44A IAmb_Lg 01 19 55.9
comp=Z,451nm,0.8s
SIUC **Southern Illin** 6.31 72 **Pn** 01 18 11.0 +0.1
Y45A **Yeager Farm, C** 6.32 108 Pn **Pn** 01 18 11.7 +0.6
Y45A IAmb_Lg 01 20 08.0
comp=Z,136nm,1.0s
Y45A **Yeager Farm, C** 6.32 108 P **Pn** 01 18 11.5 +0.5
baz=292,SNR=16
OGNE **Ogallala** 6.42 322 Pn **Pn** 01 18 12.7 +0.1
OGNE IAmb_Lg 01 20 14.2
comp=Z,370nm,0.8s
OGNE **Ogallala** 6.42 322 P **Pn** 01 18 13.2 +0.6
baz=139
OGNE S **Sn** 01 19 25.7 -0.5
baz=139
SCIA **State Center** 6.52 24 **Pn** 01 18 14.0 +0.1
SCIA IAmb_Lg 01 20 11.1
comp=Z,237nm,0.9s
SCIA **State Center** 6.52 24 P **Pn** 01 18 15.0 +1.1
baz=207,SNR=13
N41A **Harden Midland** 6.62 43 Pn **Pn** 01 18 16.1 +0.9
344A **Westbrook Farm** 6.78 130 Pn **Pn** 01 18 18.4 +0.9
K31A **O'Neill** 6.79 348 Pn **Pn** 01 18 18.4 +1.0
P43A **Skaggs, Pawnee** 6.81 56 **Pn** 01 18 17.9 +0.2
Q44A **Meyer Farm, Va** 6.83 63 Pn **Pn** 01 18 19.7 +1.6
735A **Kenedy** 7.17 187 **Pn** 01 18 23.2 +0.4
PLAL **Pickwick Lake** 7.18 96 **Pn** 01 18 22.8 -0.1
SDCO **Great Sand Dun** 7.20 287 Pn **Pn** 01 18 24.0 +0.6
SDCO **Great Sand Dun** 7.20 287 P **Pn** 01 18 24.5 +1.2
baz=102,SNR=51
146A **Union** 7.22 115 Pn **Pn** 01 18 23.9 +0.4
146A IAmb_Lg 01 20 47.1
comp=Z,111nm,1.2s
WVT **Waverly** 7.26 86 Pn **Pn** 01 18 24.2 +0.3
WVT IAmb_Lg 01 20 27.4
comp=Z,169nm,1.2s
WVT **Waverly** 7.26 86 P **Pn** 01 18 24.1 +0.2
baz=272
Q24A **Divide** 7.27 296 P **Pn** 01 18 24.9 +0.5
baz=112,SNR=6.5
K38A **Parkersburg** 7.33 24 **Pn** 01 18 24.9 -0.1
K38A IAmb_Lg 01 20 42.7
comp=Z,238nm,0.9s
K38A **Parkersburg** 7.33 24 P **Pn** 01 18 25.3 +0.4
baz=207,SNR=19
OLIL **Olney** 7.44 66 Pn **Pn** 01 18 27.8 +1.4
L40A **Anamosa** 7.45 34 **Pn** 01 18 27.1 +0.7
L40A IAmb_Lg 01 20 46.9
comp=Z,250nm,1.0s
HDIL **Hopedale** 7.45 50 **Pn** 01 18 26.3 -0.2
HDIL **Hopedale** 7.45 50 P **Pn** 01 18 26.9 +0.4
baz=235,SNR=6.2
USIN **University of** 7.56 72 Pn **Pn** 01 18 28.9 +0.8
346A **Big Creek Wild** 7.64 125 Pn **Pn** 01 18 29.3 +0.1
Z47A **Carrollton** 7.71 109 IAmb_Lg 01 20 56.6
comp=Z,101nm,1.2s
ECSD **EROS Data Cent** 7.73 1 Pn **Pn** 01 18 30.4 +0.1
ECSD **EROS Data Cent** 7.73 1 P **Pn** 01 18 30.4 +0.1
baz=181,SNR=14
ECSD **EROS Data Cent** 7.73 1 P **Pn** 01 18 30.3 0.0
baz=181,SNR=7.3
O44A **Mansfield** 7.76 55 Pn **Pn** 01 18 32.5 +1.7
O44A IAmb_Lg 01 20 57.2
comp=Z,236nm,0.9s
T47A **Sharon Grove** 7.86 80 **Pn** 01 18 33.0 +0.8
ISCO **Idaho Springs** 7.94 301 Pn **Pn** 01 18 34.0 +0.5
ISCO IAmb_Lg 01 21 02.0
comp=Z,99nm,0.8s
ISCO **Idaho Springs** 7.94 301 P **Pn** 01 18 33.7 +0.1
baz=116,SNR=17
ANMO **Albuquerque** 7.96 265 Pn **Pn** 01 18 34.4 +0.7
comp=Z,0.1nm,0.3s,baz=106,slow=18,SNR=3.8
ANMO Pg Pb 01 19 01.9 +6.2
comp=Z,1.0nm,0.3s,baz=83,slow=16,SNR=7.4
ANMO Lg Lg 01 20 49.2
comp=Z,6.6nm,0.3s,baz=318,slow=12,SNR=7.8
833A **Chaparral WMA,** 7.96 197 P **Pn** 01 18 33.9 +0.3
baz=15
V48A **Smith Brothers** 8.10 89 Pn **Pn** 01 18 36.2 +0.7
X48A **Hartselle** 8.12 98 Pn **Pn** 01 18 36.3 +0.5
L42A **Oliver, Polo** 8.17 41 **Pn** 01 18 37.0 +0.6
L42A IAmb_Lg 01 21 09.0
comp=Z,226nm,0.9s
BNM **Barren Site** 8.27 260 Pn **Pn** 01 18 38.9 +0.8
MNTX **Cornudas Mount** 8.33 241 Pn **Pn** 01 18 39.1 +0.5
MNTX IAmb_Lg 01 21 14.8
comp=Z,119nm,0.9s
MNTX **Cornudas Mount** 8.33 241 P **Pn** 01 18 38.9 +0.2
baz=56
P46A **Rosedale** 8.40 62 Pn **Pn** 01 18 39.9 +0.3
I37A **Lemond, Waseca** 8.42 17 Pn **Pn** 01 18 39.9 0.0
I37A IAmb_Lg 01 21 13.2
comp=Z,189nm,1.2s
CLTN **Cedars of Leba** 8.47 86 Pn **Pn** 01 18 40.6 0.0
Y22D **IRIS PASSCAL I** 8.53 260 Pn **Pn** 01 18 42.4 +0.9
JFWS **Jewell Farm** 8.56 34 Pn **Pn** 01 18 42.2 +0.5
JFWS IAmb_Lg 01 21 10.7
comp=Z,133nm,0.8s
JFWS **Jewell Farm** 8.56 34 P **Pn** 01 18 41.8 +0.1
baz=218,SNR=11
SUSD **Miller** 8.60 350 Pn **Pn** 01 18 42.3 +0.1
SUSD LR 01 21 10.8
SUSD IAmb_Lg 01 21 13.9
comp=Z,301nm,1.2s
SUSD **Miller** 8.60 350 P **Pn** 01 18 42.7 +0.5
baz=168
PHWY **Pilot Hill** 8.60 311 Pn **Pn** 01 18 43.8 +1.2
PHWY IAmb_Lg 01 21 19.0
comp=Z,129nm,0.9s
LRAL **Lakeview Retre** 8.61 107 Pn **Pn** 01 18 42.8 +0.4
LRAL **Lakeview Retre** 8.61 107 P **Pn** 01 18 42.3 -0.1
baz=293
WCI **Wyandotte Cave** 8.68 72 Pn **Pn** 01 18 44.5 +1.1
SMCO **Snowmass** 8.68 294 Pn **Pn** 01 18 44.6 +0.8
N23A **Red Feather La** 8.68 307 P **Pn** 01 18 44.2 +0.4
baz=122,SNR=7.3
M44A **Midewin, Midew** 8.70 49 Pn **Pn** 01 18 43.8 +0.1
BLO **Bloomington** 8.74 66 Pn **Pn** 01 18 44.9 +0.6
Y49A **Blount Mountai** 8.79 101 Pn **Pn** 01 18 45.1 +0.2
Y49A **Blount Mountai** 8.79 101 P **Pn** 01 18 45.9 +0.9
baz=287,SNR=7.4
SFIN **Lafayette** 8.79 57 Pn **Pn** 01 18 46.4 +1.4
SFIN **Sn** 01 20 23.8 -0.6
TX31 **Lajitas Ar. Si** 8.81 223 **Pn** 01 18 44.9 -0.6
TX32 **Lajitas Array** 8.81 223 Pn **Pn** 01 18 44.9 -0.5
TXAR **Lajitas Array** 8.81 223 Pn **Pn** 01 18 45.0 -0.4
comp=Z,0.5nm,0.3s,baz=50,slow=12,SNR=24
TXAR Lg Lg 01 21 14.6
comp=Z,7.1nm,0.3s,baz=43,slow=26,SNR=8.6
TXAR LR LR 01 22 22.4
comp=Z,141nm,20.2s,baz=0.0,slow=39
TXAR **Lajitas Array** 8.81 223 Pn **Pn** 01 18 46.0 +0.6
SWET **Sewanee** 8.88 92 Pn **Pn** 01 18 46.9 +0.7
U49A **Red Boiling Sp** 8.91 83 Pn **Pn** 01 18 46.8 +0.2
I40A **Norwalk** 9.20 29 **Pn** 01 18 49.9 -0.6
I40A IAmb_Lg 01 21 35.2
comp=Z,183nm,1.1s
L44A **Lake County Fo** 9.26 46 Pn **Pn** 01 18 51.4 +0.1
FPAL **Fort Paine** 9.26 96 Pn **Pn** 01 18 51.3 -0.1
K43A **Burlington** 9.37 42 Pn **Pn** 01 18 52.6 -0.2
K43A IAmb_Lg 01 21 42.6
comp=Z,182nm,0.8s
W50A **Signal Mountai** 9.38 92 Pn **Pn** 01 18 53.6 +0.4
R49A **Shelbyville** 9.56 73 Pn **Pn** 01 18 55.4 0.0
250A **Grady** 9.61 112 **Pn** 01 18 56.3 0.0
P48A **Milroy** 9.64 66 Pn **Pn** 01 18 58.0 +1.3
PV01 **Paradox Valley** 9.65 286 Pn **Pn** 01 18 57.9 +0.9
T50A **Nancy** 9.68 80 Pn **Pn** 01 18 57.9 +0.8
SPMN **Marine on St.** 9.70 17 P **Pn** 01 18 56.0 -1.4
baz=200,SNR=16
121A **Cookes Peak, D** 9.73 252 Pn **Pn** 01 18 58.4 +0.3
PV07 **Paradox Valley** 9.76 288 Pn **Pn** 01 18 59.4 +0.9
PV02 **Paradox Valley** 9.79 287 Pn **Pn** 01 18 59.3 +0.4
RSSD **Black Hills** 9.83 328 **Pn** 01 19 00.8 +1.5
RSSD IAmb_Lg 01 22 06.3
comp=Z,150nm,1.1s
RSSD **Black Hills** 9.83 328 P **Pn** 01 18 59.6 +0.2
baz=144
F33A **5 Mile Ranch,** 9.84 2 **Pn** 01 18 58.5 -0.7
F33A IAmb_Lg 01 21 49.7
comp=Z,98nm,1.0s
X51A **Calhoun** 9.86 95 Pn **Pn** 01 19 00.4 +0.7
PV22 **Blue Mesa, Par** 9.89 288 Pn **Pn** 01 19 00.7 +0.4
RWWY **Rawlins** 9.91 308 Pn **Pn** 01 19 01.8 +1.2
PV11 **David Mesa, Pa** 9.91 287 Pn **Pn** 01 19 02.3 +1.8
I42A **Draeger Farm,** 9.93 35 Pn **Pn** 01 19 00.2 -0.4
I42A IAmb_Lg 01 22 05.8
comp=Z,116nm,1.0s
Z51A **Franklin** 9.94 102 **Pn** 01 19 01.0 +0.3
PV23 **Carpenter Ridg** 10.05 288 Pn **Pn** 01 19 02.4 0.0
V51A **Loudon** 10.10 87 Pn **Pn** 01 19 03.9 +1.1
F36A **Milaca** 10.16 13 Pn **Pn** 01 19 03.4 -0.3
W52A **Murphy** 10.52 91 Pn **Pn** 01 19 10.0 +1.3
G40A **Rib Lake** 10.52 26 Pn **Pn** 01 19 07.9 -0.8
TKL **Tuckaleechee C** 10.58 88 Pn **Pn** 01 19 09.0 -0.4
comp=Z,0.4nm,0.3s,baz=227,slow=12,SNR=4.9
TKL Lg Lg 01 22 06.6
comp=Z,4.1nm,0.3s,baz=9.0,slow=19,SNR=13
TKL LR LR 01 23 16.0
comp=Z,180nm,18.6s,baz=276,slow=38
Y52A **Lilburn** 10.66 98 Pn **Pn** 01 19 12.5 +1.8
O49A **Covington** 10.67 63 Pn **Pn** 01 19 11.8 +1.1
352A **Blakely** 10.86 111 Pn **Pn** 01 19 12.7 -0.6
E28A **Huff** 10.96 346 Pn **Pn** 01 19 14.6 -0.1
RDMU **Red Mountain** 11.03 298 Pn **Pn** 01 19 15.9 +0.1
N49A **Columbus Grove** 11.04 60 Pn **Pn** 01 19 17.1 +1.4
Q51A **Peebles** 11.10 70 Pn **Pn** 01 19 17.1 +0.5
L48A **N Adams** 11.30 55 Pn **Pn** 01 19 20.6 +1.3
E38A **The Farm, Brul** 11.30 19 Pn **Pn** 01 19 19.6 +0.3
COWI **Conover** 11.62 27 **Pn** 01 19 23.4 -0.3
J47A **Sumner** 11.72 48 Pn **Pn** 01 19 25.6 +0.6
F42A **Maple Grove Fa** 11.74 31 **Pn** 01 19 24.1 -1.1
Q52A **Bidwell** 11.91 71 Pn **Pn** 01 19 28.0 +0.3
BW06 **Boulder Array** 11.96 308 Pn **Pn** 01 19 30.3 +1.7
PD31 **Pinedale Array** 11.96 308 Pn **Pn** 01 19 29.7 +1.2
PDAR **Pinedale Array** 11.96 308 P **Pn** 01 19 28.4 -0.2
comp=Z,0.2nm,0.3s,baz=121,slow=16,SNR=3.8
PDAR Lg Lg 01 22 50.0
comp=Z,0.9nm,0.3s,baz=113,slow=25,SNR=2.5
PDAR LR LR 01 24 06.7
comp=Z,57nm,21.6s,baz=117,slow=38
PDAR **Pinedale Array** 11.96 308 Pn **Pn** 01 19 30.0 +1.4
U54A **Nelsons Funny** 12.10 83 Pn **Pn** 01 19 31.3 +1.0
P52A **Corning** 12.15 68 Pn **Pn** 01 19 31.2 +0.3
AGMN **Agassiz Nation** 12.31 3 Pn **Pn** 01 19 30.7 -2.4
AGMN **Agassiz Nation** 12.31 3 P **Pn** 01 19 29.8 -3.3
baz=184,SNR=8.7
G45A **Suttons Bay** 12.37 40 Pn **Pn** 01 19 32.7 -1.2
MPU **Maple Canyon** 12.37 293 Pn **Pn** 01 19 32.8 -1.4
O52A **Adamsville** 12.48 66 Pn **Pn** 01 19 34.4 -1.1
TCUT **Toone Canyon** 12.53 298 Pn **Pn** 01 19 37.5 +1.2
PKCU **Pink Cliffs** 12.54 281 Pn **Pn** 01 19 36.3 -0.2
CTU **Camp Tracy** 12.64 296 Pn **Pn** 01 19 38.8 +1.0
NLU **North Lily Min** 12.69 293 Pn **Pn** 01 19 38.1 -0.4
E43A **Lone Tree Farm** 12.71 32 Pn **Pn** 01 19 39.3 +0.7
GLMI **Grayling** 12.79 43 Pn **Pn** 01 19 38.1 -1.5
HWUT **Hardware Ranch** 12.81 300 Pn **Pn** 01 19 40.3 +0.2
AHID **Auburn Hatcher** 12.96 306 Pn **Pn** 01 19 41.1 -1.1
MOOW **Moose Ponds** 13.21 310 Pn **Pn** 01 19 45.0 -0.6
DUG **Dugway, Tooele** 13.29 293 Pn **Pn** 01 19 46.4 -0.3
CCUT **Cedar City** 13.38 282 Pn **Pn** 01 19 47.8 -0.1
YNE **Yellowstone No** 13.48 316 Pn **Pn** 01 19 50.0 +0.7
E46A **Sault Ste Mari** 13.97 38 **Pn** 01 19 55.9 +0.1
SPR3 **Spring Creek 3** 14.24 287 Pn **Pn** 01 19 59.0 -0.9
ULM **Lac du Bonnet** 14.26 2 Pn **Pn** 01 19 55.5 -4.2
comp=Z,1.1nm,0.3s,baz=180,slow=13,SNR=6.8
ULM Lg Lg 01 24 01.6
comp=Z,0.9nm,0.3s,baz=277,slow=20,SNR=5.4
ULM LR LR 01 25 31.2
comp=Z,230nm,18.2s,baz=176,slow=38
ELK **Elko** 15.22 294 LR LR 01 26 25.0
comp=Z,186nm,18.7s,baz=99,slow=39
SADO **Sadowa** 16.02 51 Lg Lg 01 24 55.4
comp=Z,1.5nm,0.3s,baz=336,slow=22,SNR=11
SADO LR LR 01 26 27.9
comp=Z,67nm,18.5s,baz=256,slow=37
GWY **Greenwater Val** 16.07 277 Pn **Pn** 01 20 22.8 -1.3
GSC **Goldstone, Bar** 16.29 273 Pn **Pn** 01 20 26.9 +0.2
GSC IAmb IAmb 01 20 34.5
comp=Z,3.6nm,0.9s
PFO **Pinyon Flats O** 16.33 267 LR LR 01 27 03.9
comp=Z,123nm,19.9s,baz=80,slow=38
LPIG **La Paz** 16.64 228 LR LR 01 27 19.8
comp=Z,67nm,18.6s,baz=52,slow=38
NVAR **Mina Array Bea** 17.30 284 P **P** 01 20 42.3 +1.1
comp=Z,0.2nm,0.3s,baz=99,slow=9.5,SNR=8.2
NVAR **Mina Array Bea** 17.30 284 Pn **Pn** 01 20 37.2 -2.6
UCCT **U. Connecticut** 19.95 66 P **P** 01 21 09.3 -0.6
UCCT IAmb IAmb 01 21 12.1
comp=Z,66nm,1.5s
YBH **Yreka Blue Hor** 20.94 294 P Pn 01 21 23.8 +0.4
comp=Z,0.5nm,0.4s,baz=104,slow=10,SNR=4.5
YBH **Yreka Blue Hor** 20.94 294 IAmb IAmb 01 22 14.1
comp=Z,10nm,1.9s
JTS **Las Juntas de** 27.76 154 LR LR 01 36 03.6
comp=Z,25nm,18.3s,baz=62,slow=42
SCHQ **Schefferville** 27.90 38 LR LR 01 33 43.4
comp=Z,99nm,18.5s,baz=88,slow=37
YKA **Yellowknife Ar** 28.75 343 LR LR 01 34 33.9
comp=Z,68nm,21.7s,baz=0.0,slow=38
ILAR **Eielson Array** 41.27 330 P **P** 01 24 22.3 -0.6
comp=Z,0.3nm,0.5s,baz=91,slow=7.5,SNR=4.3
ARCES **ARCESS Array B** 66.71 19 P **P** 01 27 31.5 +2.8
comp=Z,0.3nm,0.5s,baz=355,slow=6.1,SNR=5.2
ARCES LR LR 01 55 26.6
comp=Z,61nm,18.1s,baz=240,slow=35
ARCES **ARCESS Array B** 66.71 19 IAmb IAmb 01 27 40.4
comp=Z,46nm,2.0s
NOA **NORSAR Array B** 67.10 30 LR LR 01 55 37.4
comp=Z,26nm,19.7s,baz=290,slow=35
ESDC **Sonseca Array** 70.05 55 LR LR 01 56 17.7
comp=Z,19nm,18.0s,baz=280,slow=34

TUL ***25*** *01:23:27.0 0.7, 35.99N 0.0 0.02 96.79W 0.0 0.03, h5km 2.7km, ML2.6, mb_Lg2.3/3.9(NEIC), Error ellipse: s-maj=3.9km s-min=2.6km az=127.0*

NEIC 25 01:23:26.8 0.7, 36.00N 0.0 0.02 96.79W 0.0 0.03, h5km 2.7km, Error ellipse: s-maj=3.8km s-min=3.0km az=124.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.06**	**218**	Pg	Pg	01 23 28.4	+0.2
OK030	**Cody Creek RV**	**0.08**	**176**	Pg	Pg	01 23 28.4	-0.1
QUOK	**Quay**	**0.18**	**22**	Pg	Pg	01 23 30.6	+0.3
OK025	**Westminster Rd**	**0.61**	**227**		Pg	01 23 38.3	-0.3
BCOK	**Bluff Creek, N**	**0.75**	**243**	Pg	Pg	01 23 40.8	-0.4
OKCFA	**Oklahoma City**	**0.80**	**223**	Pg	Pg	01 23 41.7	-0.3
OKCSW	**OKLAHOMA CITY**	**0.80**	**222**	Pg	Pg	01 23 41.9	-0.1
TUL1	**Leonard**	**0.81**	**96**	Pg	Pg	01 23 42.1	-0.4
FNO	**Franklin**	**0.90**	**214**	Pg	Pg	01 23 43.3	-0.6
T35A	**Sooner Cattle**	**0.94**	**14**	Pg	Pg	01 23 44.6	-0.2
CROK	**Carrier**	**1.09**	**298**	Pg	Pg	01 23 47.5	-0.1
KAN13	**South Haven SW**	**1.15**	**331**	Pg	Pg	01 23 48.9	+0.1
GC02	**Grant County #**	**1.21**	**315**	Pg	Pg	01 23 49.8	-0.1
KAN17	**Caldwell West**	**1.30**	**323**	IAmb_Lg		01 24 07.7	
	comp=Z,23nm,1.3s						
KAN09	**Caldwell North**	**1.31**	**330**	Pn	Pn	01 23 51.9	0.0
KAN14	**Manchester OK**	**1.34**	**316**	Pn	Pn	01 23 52.0	-0.2
OK032	**Salt Plains WL**	**1.40**	**305**	Pn	Pn	01 23 52.9	0.0
KAN05	**Bluff City Nor**	**1.41**	**322**	Pn	Pn	01 23 53.0	-0.1

KS21	**Milan North St**	**1.46**	**332**	IAmb_Lg			01 24 16.1		
	comp=Z,25nm,0.9s								
KAN10	**Anthony SW Sta**	**1.53**	**317**	Pn		Pb	01 23 55.4	-0.4	
KAN16	**Harper SW Stat**	**1.59**	**320**	Pn		Pn	01 23 56.0	+0.3	
KAN12	**Harper NE Stat**	**1.62**	**323**	Pn		Pn	01 23 56.0	0.0	
X34A	**Smith Ranch, M**	**1.64**	**212**	Pn		Pn	01 23 56.1	-0.2	
X37A	**Clayton**	**1.83**	**140**	Pn		Pn	01 23 59.0	+0.2	
U38A	**Gravette**	**1.99**	**77**	Pn		Pn	01 24 01.2	+0.1	
LOOK	**Love County**	**2.03**	**189**	Pn		Pn	01 24 02.3	+0.6	
WMOK	**Wichita Mounta**	**2.06**	**233**	Pn		Pn	01 24 02.7	+0.6	
WMOK				IAmb_Lg			01 24 34.5		
	comp=Z,9.7nm,0.7s								
S39A	**Bolivar**	**3.25**	**58**	Pn		Pn	01 24 18.6	+0.1	
FCAR	**Ozark Folk Cen**	**3.79**	**90**	Pn		Pn	01 24 26.5	+0.7	
MGMO	**Mountain Grove**	**3.82**	**71**	Pn		Pn	01 24 26.5	+0.2	

IDC 25 01:36:23.2±11.0, 1°.75S×130°.64E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/32, mbtmp3.3/3, ML3.1/1, Error ellipse: s-maj=286.3km s-min=105.9km az=104.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.44**	**169**	P	P	01 40 40.8	+0.4
	0.1nm,0.3s,baz=353,slow=12,SNR=1.6						
ASAR	**Alice Springs**	**22.01**	**172**	P	P	01 41 18.7	-0.6
	0.4nm,0.7s,baz=352,slow=11,SNR=2.3						
STKA	**Stephens Creek**	**31.70**	**162**	P	P	01 42 48.7	0.0
	1.3nm,0.7s,baz=345,slow=12,SNR=2.0						

*INET **25** 01:58:21.7, 8°.83N×85°.95W, h15km, MW3.1*
UCR 25 01:58:32.8±1.4, 9°.19N×85°.74W, h19km±3km, MW3.8, 4C-7D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INDI	**Punta indio, G**	**0.71**	**19**	↑*i*P	Pb	01 58 46.5	-0.1
INDI				*e*S	Sg	01 58 57.3	+0.9
SAJU	**San Juanillo,**	**0.87**	**2**	↑*i*P	Pb	01 58 48.5	-0.9
SAJU				*e*S	Sb	01 59 00.5	-0.2
LAFE	**Finca La Fe, P**	**1.02**	**53**	↓*i*P	Pb	01 58 50.8	-1.1
GUAI	**GUAI**	**1.10**	**12**	*i* P	Pn	01 58 52.0	-1.2
GUAI				*i* S	Sb	01 59 06.9	-0.3
JACO	**JACO, Garabito**	**1.17**	**66**	↓*i*P	Pn	01 58 53.2	-0.9
JACO				*e*S	Sb	01 59 08.8	-0.3
JTS	**Las Juntas de**	**1.34**	**35**	↓*e*P	Pn	01 58 55.8	-0.7
HZTE	**Horizontes, Gu**	**1.52**	**5**	↑*i*P	Pn	01 58 58.8	-0.3
SRA1	**San Ramn**	**1.53**	**54**	*e*P	Pn	01 58 59.2	0.0
COLC	**Colonia**	**1.56**	**20**	*i* P	Pn	01 58 59.2	-0.4
COLC				*i* S	Sn	01 59 19.4	+0.1
CUI	**Cuipilapa**	**1.57**	**21**	*i* P	Pn	01 58 59.3	-0.3
CUI				*i* S	Sn	01 59 19.9	+0.4
LIM1	**Limonal**	**1.58**	**18**	*i* P	Pn	01 58 59.5	-0.4
CASO	**Castillo**	**1.58**	**39**	*i* P	Pn	01 59 00.1	+0.1
GUAB	**Guayabo de Bag**	**1.59**	**18**	*i* P	Pn	01 58 59.7	-0.3
GPS2	**Hotel Rincn d**	**1.60**	**14**	↑*i*P	Pn	01 58 59.8	-0.4
HORNC	**Hornillas**	**1.61**	**20**	*i* P	Pn	01 58 59.9	-0.4
ARE1	**Arenal 1**	**1.62**	**38**	↓*e*P	Pn	01 59 00.7	+0.4
CEDE	**Laguna Cedeo**	**1.65**	**38**	*i* P	Pn	01 59 01.1	+0.4
FORC	**Fortuna**	**1.65**	**40**	*i* P	Pn	01 59 01.1	+0.3
GB1A	**Borinquen Arri**	**1.66**	**12**	*i* P	Pn	01 59 00.6	-0.4
BUAI	**Buenos Aires**	**1.73**	**13**	*i* P	Pn	01 59 01.6	-0.3
LCR2	**La Lucha 2**	**1.80**	**72**	↓*i*P	Pn	01 59 02.4	-0.6
OCM	**Ochomogo**	**1.89**	**68**	*e*P	Pn	01 59 04.0	-0.2
RIMA	**Rio Macho**	**1.94**	**73**	↓*e*P	Pn	01 59 04.6	-0.3
RIMA				*e*S	Sn	01 59 28.7	-0.1
CDM	**Cerro de Muert**	**1.98**	**79**	↓*i*P	Pn	01 59 05.6	-0.1
COVE	**Coope Vega, Sa**	**2.01**	**41**	*e*P	Pn	01 59 05.9	+0.2
RIFO	**Rio Frio, Sara**	**2.11**	**58**	*e*P	Pn	01 59 08.4	+1.3
CVTR	**Volcan Turrial**	**2.12**	**67**	*e*P	Pn	01 59 08.4	+0.8

*NEIC **25** 01:59:03.9±0.9, 36°.00N±0°.02×96°.78W±0°.02, h4km±6km, Error ellipse: s-maj=2.8km s-min=1.9km az=128.0*
*TUL **25** 01:59:03.6±0.9, 35°.99N±0°.01×96°.79W±0°.01, h0km±6km, ML3.3, mb_Lg3.5/130(NEIC), Mwr3.1/10(SLM), Error ellipse: s-maj=1.8km s-min=1.7km az=146.0*
*NEIC **25** 01:59:03.6, 36°.00N×96°.78W, h3km, Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; M_r=0.00; $M_{\theta\theta}$=4.10; $M_{\phi\phi}$=-4.10; $M_{r\theta}$=0.85; $M_{r\phi}$=-3.44; $M_{\theta\phi}$=0.40; Fault plane solution: M_0=5.43000×10^{13} NP1:ϕ_1=155.00000°, δ80.00000°, λ=0.00000°. NP2:ϕ_2=245.00000°, δ90.00000°, λ=-170.00000°. Principal axes: T 5.4345, Plg7.0000°, Azm20.0000°; N 0.0001, Plg80.0000°, Azm245.0000°; P -5.4346, Plg7.0000°, Azm110.0000°;*
*ANF **25** 01:59:04.3±0.2, 36°.00N×96°.78W, h5km, ML3.8/15 Error ellipse: s-maj=2.7km s-min=1.8km az=161.0*
ISC 25 01:59:04.0±0.9, 36°.00N±0°.02×96°.80W±0°.02, h6km±7km, n161, σ0°67/157, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.06**	**213**		**Pg**	**01 59 05.4**	**-0.2**
OK030	**Cody Creek RV**	**0.08**	**171**		**Pg**	**01 59 05.7**	**-0.1**
QUOK	**Quay**	**0.18**	**24**	Pg	**Pg**	**01 59 08.0**	**+0.3**
QUOK				Sg	**Sg**	**01 59 09.9**	**-0.2**
OK005	**Luther M Schoo**	**0.47**	**223**		**Pg**	**01 59 13.2**	**+0.2**
OK029	**Liberty Lake**	**0.57**	**249**		**Pg**	**01 59 14.8**	**-0.2**
OK029				Sg	**Sg**	**01 59 22.9**	**+0.4**
OK001	**Jones High Sch**	**0.59**	**222**		**Pg**	**01 59 15.2**	**-0.2**
OK025	**Westminster Rd**	**0.61**	**226**		**Pg**	**01 59 15.3**	**-0.4**
OK025				IAmb_Lg		01 59 22.7	
	comp=Z,517nm,0.8s						
OK025				Sg	**Sg**	**01 59 23.7**	**+0.1**
OK009	**Oakdale Elemen**	**0.66**	**231**		**Sg**	**01 59 25.1**	**-0.2**
BCOK	**Bluff Creek, N**	**0.74**	**243**		**Pg**	**01 59 17.6**	**-0.7**
BCOK				Sg	**Sg**	**01 59 28.6**	**+0.7**
OKCFA	**Oklahoma City**	**0.79**	**222**		**Pg**	**01 59 18.3**	**-0.9**
OKCFA				IAmb_Lg		01 59 29.2	
	comp=Z,268nm,0.9s						
OKCFA				Sg	**Sg**	**01 59 29.6**	**+0.2**
OKCFA	**Oklahoma City**	**0.79**	**222**	P	**Pg**	**01 59 18.8**	**-0.4**
	baz=43,SNR=39						
OKCFA				S	**Sg**	**01 59 30.0**	**+0.6**
	baz=43						
OKCSW	**OKLAHOMA CITY**	**0.79**	**221**		**Pg**	**01 59 18.6**	**-0.6**
TUL1	**Leonard**	**0.82**	**96**		**Pg**	**01 59 19.3**	**-0.5**
TUL1				Sg	**Sg**	**01 59 29.4**	**-1.0**
TUL1	**Leonard**	**0.82**	**96**	P	**Pg**	**01 59 19.3**	**-0.5**
	baz=277						
TUL1				S	**Sg**	**01 59 29.9**	**-0.5**
	baz=277						
TUL1	**Leonard**	**0.82**	**96**	P	**Pg**	**01 59 19.3**	**-0.5**
	baz=277						
TUL1				S	**Sg**	**01 59 30.2**	**-0.3**
	baz=277						
BLOK	**Blackwell**	**0.83**	**336**		**Pg**	**01 59 20.1**	**+0.2**
BLOK				Sg	**Sg**	**01 59 30.6**	**0.0**
FNO	**Franklin**	**0.89**	**214**		**Pg**	**01 59 20.4**	**-0.7**
FNO				IAmb_Lg		01 59 32.3	
	comp=Z,270nm,0.9s						
T35A	**Sooner Cattle**	**0.94**	**14**	Pg	**Pg**	**01 59 21.9**	**-0.2**
T35A				Sg	**Sg**	**01 59 34.4**	**+0.2**
T35B	**Sooner Cattle**	**0.94**	**14**	P	**Pg**	**01 59 21.8**	**-0.3**
	baz=193						
CROK	**Carrier**	**1.08**	**298**		**Pg**	**01 59 24.5**	**-0.3**
KAN13	**South Haven SW**	**1.15**	**332**		**Pg**	**01 59 25.8**	**-0.2**
KAN13				Sg	**Sg**	**01 59 41.0**	**+0.1**
GC02	**Grant County #**	**1.20**	**315**		**Pg**	**01 59 26.4**	**-0.7**
GC02				Sg	**Sb**	**01 59 43.0**	**0.0**
KAN17	**Caldwell West**	**1.30**	**323**		**Pn**	**01 59 28.4**	**-0.2**
KAN17				Sg	**Sg**	**01 59 45.4**	**-0.3**
KAN09	**Caldwell North**	**1.31**	**330**		**Pn**	**01 59 28.6**	**-0.2**
KAN09				Sg	**Sb**	**01 59 45.6**	**-0.4**
KAN14	**Manchester OK**	**1.34**	**316**		**Pn**	**01 59 28.8**	**-0.3**
KAN14				Sg	**Sg**	**01 59 47.1**	**+0.2**
KS20	**Mayfield South**	**1.37**	**334**		**Pn**	**01 59 29.0**	**-0.6**
OK032	**Salt Plains WL**	**1.39**	**305**		**Pn**	**01 59 29.8**	**-0.1**
KAN05	**Bluff City Nor**	**1.40**	**322**		**Pn**	**01 59 30.1**	**+0.1**
KS21	**Milan North St**	**1.46**	**332**	IAmb_Lg		01 59 52.5	
	comp=Z,269nm,0.8s						
KAN06	**Argonia West S**	**1.51**	**326**		**Pn**	**01 59 31.7**	**+0.2**
KAN10	**Anthony SW Sta**	**1.53**	**317**		**Pn**	**01 59 31.8**	**0.0**
KAN08	**Anthony NE Sta**	**1.54**	**323**		**Pn**	**01 59 32.2**	**+0.2**
KAN16	**Harper SW Stat**	**1.59**	**321**		**Pn**	**01 59 32.9**	**+0.2**
KAN12	**Harper NE Stat**	**1.61**	**324**		**Pn**	**01 59 33.5**	**+0.5**
X34A	**Smith Ranch, M**	**1.64**	**211**		**Pn**	**01 59 33.4**	**+0.2**
U32A	**Winter Ranch,**	**1.82**	**283**		**Pn**	**01 59 33.4**	**+0.5**
U32A	**Winter Ranch,**	**1.82**	**283**	P	**Pn**	**01 59 36.7**	**+0.9**
	baz=101						
U32A				Sb	**Sg**	**02 00 02.4**	**-0.1**
	baz=101						
X37A	**Clayton**	**1.83**	**140**	Pn	**Pn**	**01 59 35.9**	**0.0**
X37A				IAmb_Lg		02 00 06.2	
	comp=Z,333nm,0.7s						
X37A	**Clayton**	**1.83**	**140**	P	**Pn**	**01 59 36.6**	**+0.7**
	baz=321,SNR=127						
X37A				Sb	**Sg**	**02 00 02.5**	**-0.3**
	baz=321						
U38A	**Gravette**	**2.00**	**77**		**Pn**	**01 59 38.7**	**+0.5**
U38A	**Gravette**	**2.00**	**77**	P	**Pn**	**01 59 39.2**	**+0.9**
	baz=258,SNR=132						
LOOK	**Love County**	**2.03**	**189**		**Pn**	**01 59 39.1**	**+0.4**
LOOK				IAmb_Lg		02 00 11.3	
	comp=Z,256nm,0.9s						
WMOK	**Wichita Mounta**	**2.05**	**233**		**Pn**	**01 59 39.5**	**+0.5**
WMOK				IAmb_Lg		02 00 13.8	
	comp=Z,122nm,0.8s						
WMOK	**Wichita Mounta**	**2.05**	**233**	P	**Pn**	**01 59 40.0**	**+1.0**
	baz=52						
WMOK				S	**Sb**	**02 00 07.6**	**+0.2**
	baz=52						
WMOK	**Wichita Mounta**	**2.05**	**233**	P	**Pn**	**01 59 40.0**	**+1.0**
	baz=52						
WMOK				S	**Sb**	**02 00 07.6**	**+0.2**
	baz=52						
HHAR	**Hobbs**	**2.33**	**82**	Pn	**Pn**	**01 59 43.3**	**+0.4**
W39A	**Magazine**	**2.58**	**107**	Pn	**Pn**	**01 59 45.7**	**-0.6**
W39A				IAmb_Lg		02 00 30.8	
	comp=Z,248nm,1.3s						
W39A	**Magazine**	**2.58**	**107**	P	**Pn**	**01 59 47.0**	**+0.7**
	baz=289,SNR=22						
W39A	**Magazine**	**2.58**	**107**	P	**Pn**	**01 59 47.3**	**+1.0**
	baz=289						
Z35A	**Perchaven, San**	**2.69**	**188**		**Pn**	**01 59 48.2**	**+0.4**
Z35A	**Perchaven, San**	**2.69**	**188**	P	**Pn**	**01 59 48.8**	**+1.0**
	baz=8.1						
R32A	**Long Quarter,**	**2.86**	**328**	Pn	**Pn**	**01 59 51.4**	**+1.3**
MIAR	**Mount Ida**	**3.01**	**118**	Pn	**Pn**	**01 59 52.4**	**+0.2**
MIAR	**Mount Ida**	**3.01**	**118**	P	**Pn**	**01 59 53.0**	**+0.9**
	baz=300,SNR=63						
MIAR	**Mount Ida**	**3.01**	**118**	P	**Pn**	**01 59 53.1**	**+0.9**
	baz=300						
KSU1	**Kansas State U**	**3.10**	**3**	Pn	**Pn**	**01 59 52.7**	**-0.6**
KSU1				IAmb_Lg		02 00 48.7	
	comp=Z,144nm,0.8s						
KSU1	**Kansas State U**	**3.10**	**3**	Sb	**Sg**	**02 00 41.0**	**-2.4**
	baz=183						
Z38A	**Mt. Pleasant**	**3.12**	**151**	Pn	**Pn**	**01 59 52.9**	**-0.8**
Z38A				IAmb_Lg		02 00 49.2	
	comp=Z,155nm,0.8s						
Z38A	**Mt. Pleasant**	**3.12**	**151**	S	**Sn**	**02 00 32.2**	**+1.0**
	baz=332						
U40A	**Yellville**	**3.21**	**83**		**Pn**	**01 59 54.8**	**-0.2**
U40A	**Yellville**	**3.21**	**83**	S	**Sn**	**02 00 34.8**	**+1.4**
	baz=265						
S39A	**Bolivar**	**3.26**	**58**		**Pn**	**01 59 55.3**	**-0.2**
S39A	**Bolivar**	**3.26**	**58**	P	**Pn**	**01 59 56.5**	**+0.9**
	baz=240,SNR=16						
X40A	**Basin Creek Fa**	**3.58**	**114**		**Pn**	**02 00 00.4**	**+0.5**
X40A	**Basin Creek Fa**	**3.58**	**114**	P	**Pn**	**02 00 01.3**	**+1.3**
	baz=296						
CBKS	**Cedar Bluff**	**3.65**	**321**	Pn	**Pn**	**02 00 01.6**	**+0.6**
CBKS	**Cedar Bluff**	**3.65**	**321**	Pb	**Pb**	**02 00 10.3**	**+1.4**
	baz=139						
WHAR	**Wooly Hollow**	**3.74**	**100**	Pn	**Pn**	**02 00 02.1**	**-0.1**
WHAR				IAmb_Lg		02 01 05.7	
	comp=Z,140nm,1.0s						
FCAR	**Ozark Folk Cen**	**3.79**	**90**		**Pn**	**02 00 02.8**	**-0.1**
W41B	**Gary Mavity, V**	**3.80**	**101**	P	**Pn**	**02 00 03.4**	**+0.4**
	baz=284,SNR=77						
W41B	**Gary Mavity, V**	**3.80**	**101**	P	**Pn**	**02 00 03.4**	**+0.4**
	baz=284						
WLAR	**White Oak Lake**	**3.81**	**126**	Pn	**Pn**	**02 00 03.6**	**+0.4**
MGMO	**Mountain Grove**	**3.82**	**71**	Pn	**Pn**	**02 00 04.3**	**+0.9**
WHTX	**Lake Whitney,**	**4.04**	**188**	Pn	**Pn**	**02 00 06.4**	**+0.1**
WHTX	**Lake Whitney,**	**4.04**	**188**	P	**Pn**	**02 00 06.9**	**+0.6**
	baz=7.8						
237A	**Washetta, Mont**	**4.08**	**168**	Pn	**Pn**	**02 00 07.1**	**+0.3**
ABTX	**Abilene, Hawle**	**4.11**	**216**	Pn	**Pn**	**02 00 07.2**	**-0.1**
ABTX				IAmb_Lg		02 01 15.3	
	comp=Z,58nm,0.9s						
ABTX	**Abilene, Hawle**	**4.11**	**216**	Pb	**Pb**	**02 00 17.2**	**+0.4**
	baz=34						
AMTX	**Amarillo**	**4.14**	**256**	Pn	**Pn**	**02 00 08.0**	**+0.2**
AMTX				IAmb_Lg		02 01 26.0	
	comp=Z,109nm,0.9s						
AMTX	**Amarillo**	**4.14**	**256**	Sb	**Sg**	**02 01 12.6**	**-4.4**
	baz=73						
R40A	**Maddies Statio**	**4.28**	**56**		**Pn**	**02 00 08.8**	**-0.8**
R40A				IAmb_Lg		02 01 24.3	
	comp=Z,126nm,0.8s						
Z41A	**Richland Creek**	**4.28**	**129**	P	**Pn**	**02 00 09.9**	**+0.2**
	baz=311						
Z41A				S	**Sn**	**02 01 00.1**	**+0.2**
	baz=311						
P38A	**Dawn**	**4.45**	**35**		**Pn**	**02 00 11.9**	**0.0**
P38A				IAmb_Lg		02 01 26.4	
	comp=Z,99nm,0.8s						
P38A	**Dawn**	**4.45**	**35**	P	**Pn**	**02 00 12.6**	**+0.7**
	baz=216,SNR=11						
LCAR	**Lake Charles**	**4.57**	**88**	Pn	**Pn**	**02 00 13.5**	**-0.1**
LCAR				IAmb_Lg		02 01 34.7	
	comp=Z,93nm,0.8s						
NATX	**Nacogdoches**	**4.59**	**157**	IAmb_Lg		02 01 41.8	
	comp=Z,50nm,0.9s						
CCAR	**Cane Creek**	**4.62**	**115**	Pn	**Pn**	**02 00 13.7**	**-0.6**
T42A	**Van Buren**	**4.71**	**76**	Pn	**Pn**	**02 00 15.7**	**+0.2**
T42A				IAmb_Lg		02 01 29.6	
	comp=Z,81nm,0.8s						
CCM	**Cathedral Cave**	**4.89**	**64**	Pn	**Pn**	**02 00 18.5**	**+0.5**
N35A	**Tabor**	**4.93**	**10**	Pn	**Pn**	**02 00 18.2**	**-0.4**
N35A				IAmb_Lg		02 01 50.9	
	comp=Z,109nm,0.7s						
P40A	**Paris**	**5.15**	**45**	IAmb_Lg		02 01 52.7	
	comp=Z,79nm,0.7s						
PBMO	**Poplar Bluff**	**5.20**	**80**	Pn	**Pn**	**02 00 22.9**	**+0.7**
PBMO				IAmb_Lg		02 01 59.8	
	comp=Z,122nm,0.8s						
435B	**Jarrell**	**5.25**	**187**	Pn	**Pn**	**02 00 23.0**	**+0.1**
435B					LR	02 01 50.8	
435B				IAmb_Lg		02 01 55.8	
	comp=Z,45nm,0.7s						
LPAR	**Lepanto**	**5.30**	**92**	Pn	**Pn**	**02 00 24.0**	**+0.4**
LPAR				IAmb_Lg		02 01 57.3	
	comp=Z,94nm,0.8s						
MSTX	**Muleshoe**	**5.31**	**249**	Pn	**Pn**	**02 00 23.8**	**-0.1**
FVM	**French Village**	**5.47**	**67**	Pn	**Pn**	**02 00 26.4**	**+0.4**
FVM					**Sn**	**02 01 28.5**	**-0.7**
GNAR	**Gosnell**	**5.50**	**88**	Pn	**Pn**	**02 00 26.1**	**-0.2**
GNAR				IAmb_Lg		02 02 04.5	
	comp=Z,106nm,0.7s						
BGNE	**Belgrade**	**5.50**	**349**	Pn	**Pn**	**02 00 26.9**	**+0.5**
BGNE				IAmb_Lg		02 02 09.5	
	comp=Z,100nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.52**	**305**	Pn	**Pn**	**02 00 26.7**	**-0.1**
KSCO				IAmb_Lg		02 02 09.4	
	comp=Z,48nm,0.7s						
N38A	**Joes South For**	**5.54**	**29**	Pn	**Pn**	**02 00 27.1**	**+0.1**
N38A				IAmb_Lg		02 02 05.5	
	comp=Z,79nm,0.8s						
PEBM	**Pemiscott Bayo**	**5.62**	**87**	Pn	**Pn**	**02 00 27.8**	**-0.2**
MET	**Memphis--Engin**	**5.66**	**97**	IAmb_Lg		02 02 17.4	
	comp=Z,126nm,0.8s						
PARMO	**Parma**	**5.73**	**81**	Pn	**Pn**	**02 00 29.0**	**-0.5**
PENMO	**Penman**	**5.81**	**83**	Pn	**Pn**	**02 00 29.9**	**-0.7**
PENMO					LR	02 02 09.5	
LNXT	**Lenox**	**5.92**	**87**	Pn	**Pn**	**02 00 30.6**	**-1.5**
342A	**Flagon Creek P**	**5.93**	**140**	IAmb_Lg		02 02 28.2	
	comp=Z,34nm,1.3s						
L34A	**Svendsen Farm,**	**5.96**	**3**	Pn	**Pn**	**02 00 33.2**	**+0.5**
HALT	**Halls**	**6.05**	**89**	Pn	**Pn**	**02 00 34.2**	**+0.3**
JCT	**Junction City**	**6.06**	**205**	Pn	**Pn**	**02 00 34.3**	**+0.2**
JCT				IAmb_Lg		02 02 26.9	
	comp=Z,60nm,1.0s						
GLAT	**Glass**	**6.08**	**85**	Pn	**Pn**	**02 00 33.9**	**-0.5**
HKT	**Hockley**	**6.09**	**172**	Pn	**Pn**	**02 00 34.8**	**+0.3**
HICK	**Hickman**	**6.14**	**83**	Pn	**Pn**	**02 00 35.5**	**+0.3**
OXF	**Oxford**	**6.23**	**102**		**Pn**	**02 00 35.6**	**-0.7**
OXF				IAmb_Lg		02 02 26.0	
	comp=Z,51nm,0.9s						
T25A	**Trinidad**	**6.23**	**283**	Pn	**Pn**	**02 00 36.8**	**+0.1**
T25A				IAmb_Lg		02 02 23.5	
	comp=Z,46nm,1.0s						
W45A	**Hickory Valley**	**6.26**	**96**	Pn	**Pn**	**02 00 36.3**	**-0.5**
W45A				IAmb_Lg		02 02 25.5	
	comp=Z,88nm,0.9s						
S44A	**Carbondale**	**6.28**	**72**	Pn	**Pn**	**02 00 36.6**	**-0.5**
SIUC	**Southern Illin**	**6.31**	**72**	IAmb_Lg		02 02 30.4	
	comp=Z,116nm,0.7s						
Y45A	**Yeager Farm, C**	**6.33**	**108**	Pn	**Pn**	**02 00 37.3**	**-0.5**
Y45A				IAmb_Lg		02 02 38.0	
	comp=Z,42nm,0.9s						
OGNE	**Ogallala**	**6.42**	**322**	Pn	**Pn**	**02 00 39.3**	**+0.2**
OGNE				IAmb_Lg		02 02 32.9	
	comp=Z,79nm,0.8s						
SCIA	**State Center**	**6.52**	**24**	Pn	**Pn**	**02 00 40.0**	**-0.4**
SCIA				IAmb_Lg		02 02 40.7	
	comp=Z,36nm,0.8s						
N41A	**Harden Midland**	**6.62**	**43**	Pn	**Pn**	**02 00 41.9**	**+0.1**
K31A	**O'Neill**	**6.78**	**348**	Pn	**Pn**	**02 00 44.5**	**+0.5**
P43A	**Skaggs, Pawnee**	**6.81**	**56**	Pn	**Pn**	**02 00 43.9**	**-0.5**
P43A				IAmb_Lg		02 02 49.2	
	comp=Z,93nm,0.9s						
PLAL	**Pickwick Lake**	**7.19**	**96**	Pn	**Pn**	**02 00 49.1**	**-0.5**
SDCO	**Great Sand Dun**	**7.19**	**287**	Pn	**Pn**	**02 00 50.2**	**+0.3**
WVT	**Waverly**	**7.26**	**86**	Pn	**Pn**	**02 00 50.4**	**-0.2**
WVT				IAmb_Lg		02 02 56.5	
	comp=Z,27nm,0.8s						
K38A	**Parkersburg**	**7.33**	**24**		**Pn**	**02 00 50.9**	**-0.6**
K38A				IAmb_Lg		02 03 13.1	
	comp=Z,46nm,1.0s						
L40A	**Anamosa**	**7.44**	**34**	Pn	**Pn**	**02 00 52.4**	**-0.7**
L40A				IAmb_Lg		02 03 19.3	
	comp=Z,46nm,0.7s						
HDIL	**Hopedale**	**7.45**	**50**	Pn	**Pn**	**02 00 52.7**	**-0.4**
HDIL	**Hopedale**	**7.45**	**50**	P	**Pn**	**02 00 53.8**	**+0.7**
	baz=235,SNR=6.9						
ECSD	**EROS Data Cent**	**7.72**	**1**	Pn	**Pn**	**02 00 56.5**	**-0.3**
O44A	**Mansfield**	**7.77**	**55**	Pn	**Pn**	**02 00 58.4**	**+0.9**
O44A				IAmb_Lg		02 03 08.9	
	comp=Z,66nm,0.8s						
T47A	**Sharon Grove**	**7.87**	**80**	Pn	**Pn**	**02 00 59.2**	**+0.3**
ISCO	**Idaho Springs**	**7.93**	**301**		**Pn**	**02 01 00.3**	**+0.3**
X48A	**Hartselle**	**8.13**	**98**	Pn	**Pn**	**02 01 02.8**	**+0.3**
X48A				IAmb_Lg		02 03 18.8	
	comp=Z,39nm,1.1s						
L42A	**Oliver, Polo**	**8.17**	**41**	Pn	**Pn**	**02 01 03.6**	**+0.6**
L42A				IAmb_Lg		02 03 34.6	
	comp=Z,58nm,0.8s						
MNTX	**Cornudas Mount**	**8.33**	**241**	Pn	**Pn**	**02 01 05.6**	**+0.3**
P46A	**Rosedale**	**8.40**	**62**	Pn	**Pn**	**02 01 06.0**	**-0.2**
I37A	**Lemond, Waseca**	**8.41**	**17**	IAmb_Lg		02 03 45.1	
	comp=Z,24nm,0.9s						
CLTN	**Cedars of Leba**	**8.48**	**86**	IAmb_Lg		02 03 33.7	
	comp=Z,29nm,0.9s						
Y22D	**IRIS PASSCAL I**	**8.52**	**260**	IAmb_Lg		02 03 53.0	
	comp=Z,27nm,0.7s						
JFWS	**Jewell Farm**	**8.56**	**34**	Pn	**Pn**	**02 01 07.4**	**-1.0**
JFWS				IAmb_Lg		02 03 44.8	
	comp=Z,46nm,0.8s						
SUSD	**Miller**	**8.59**	**350**	IAmb_Lg		02 03 37.8	
	comp=Z,51nm,0.9s						
LRAL	**Lakeview Retre**	**8.61**	**107**	IAmb_Lg		02 03 54.1	
	comp=Z,22nm,1.2s						
WCI	**Wyandotte Cave**	**8.68**	**72**	IAmb_Lg		02 03 40.9	
	comp=Z,52nm,0.8s						
Y49A	**Blount Mountai**	**8.79**	**101**	IAmb_Lg		02 03 49.1	
	comp=Z,21nm,1.0s						
SFIN	**Lafayette**	**8.80**	**57**	IAmb_Lg		02 03 43.4	
	comp=Z,63nm,0.8s						
TX31	**Lajitas Ar. Si**	**8.81**	**223**	Pn	**Pn**	**02 01 12.2**	**+0.2**
SWET	**Sewanee**	**8.88**	**92**	IAmb_Lg		02 03 45.6	
	comp=Z,55nm,1.1s						
U49A	**Red Boiling Sp**	**8.92**	**83**	IAmb_Lg		02 03 47.3	
	comp=Z,43nm,1.3s						
I40A	**Norwalk**	**9.19**	**29**	IAmb_Lg		02 03 56.6	
	comp=Z,19nm,0.7s						
FPAL	**Fort Paine**	**9.26**	**96**	IAmb_Lg		02 04 03.1	
	comp=Z,38nm,0.8s						
K43A	**

PPT2	**Papeete2**	**52.62**	**41**	*e*T		T		03 52 10.5	
	2.1nm,0.3s								
PPT	**Papeete**	**52.64**	**41**		LR	LR		03 12 11.6	
	comp=Z,29nm,20.9s,baz=174,slow=28								
WRA	**Warramunga Arr**	**53.44**	**307**		P	P		02 56 51.3	+0.1
	1.7nm,0.9s,baz=162,slow=6.2,SNR=4.0								
VAH	**Vaihoa**	**55.40**	**42**	*e*T		T		03 55 38.0	
	18nm,0.2s								
PMOR	**Pomariorio Ree**	**55.55**	**42**	*e*T		T		03 55 49.3	
	2.8nm,0.3s								
TAOE	**Nuku Hiva Isla**	**63.66**	**48**	*e*LR		LR		03 16 05.5	
	comp=Z,59nm,27.3s								
H03S1	**Juan Fernandez**	**65.11**	**117**		T	T		04 08 49.0	
	baz=334,slow=74,SNR=43								
H03S3	**Juan Fernandez**	**65.12**	**117**		T	T		04 08 50.5	
	baz=206,slow=74,SNR=38								
H08S2	**Diego Garcia H**	**89.21**	**253**		T	T		04 40 50.8	
	baz=155,slow=76,SNR=6.0								
H08S1	**Diego Carcia H**	**89.22**	**253**		T	T		04 40 43.3	
	baz=155,slow=76,SNR=5.2								
H08S3	**Diego Garcia H**	**89.23**	**253**		T	T		04 40 49.7	
	baz=155,slow=76,SNR=9.2								
KBZ	**Khabaz**	**146.93**	**251**		PKPbc	PKPbc		03 07 12.4	-0.5
	1.8nm,0.8s,baz=180,slow=3.0,SNR=4.5								
BRTR	**Keskin Array B**	**146.95**	**237**		PKPbc	PKPbc		03 07 12.4	-0.9
	0.8nm,0.9s,baz=158,slow=4.2,SNR=5.8								

IDC ***25*** *02:48:06.2±1.6,0°.73S×130°.91E, h0km, mb3.8/2, mb1 4.0/4, mb1mx3.6/35, mbtmp3.8/4, ML4.0/2, MS3.0/3, Ms1 3.0/3, ms1mx2.6/30, Error ellipse: s-maj=30.6km s-min=9.6km az=15.0*

NEIC ***25*** *02:48:07.5±0.9, 0°.7S±0°.1×130°.99E±0°.10, h10km±2km, mb4.1/9, Error ellipse: s-maj=27.8km s-min=7.5km az=34.0*

ISC 25 02:48:06.9±0.8, 0°.7S±0°.1×130°.9E±0°.1, h10km, n20, σ0§66/17, mb4.2/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**0.36**	**112**	Pg		**Pg**		**02 48 13.9**	**-0.2**
	454nm,0.3s,baz=150,slow=13,SNR=77								
SIJI				Lg		Lg		02 48 18.3	
	676nm,0.3s,baz=293,slow=23,SNR=32								
FAKI	**Fak Fak**	**2.54**	**149**			**Pn**		**02 48 48.4**	**+0.2**
JAY	**Jayapura**	**9.93**	**100**	LR		LR		02 54 46.0	
	comp=Z,26nm,18.4s,baz=359,slow=40								
BATI	**Baumata**	**11.87**	**217**	LR		LR		02 56 20.8	
	comp=Z,60nm,21.1s,baz=142,slow=42								
MTN	**Manton Dam**	**12.04**	**179**			**Pn**		**02 50 59.0**	**+0.3**
KNRA	**Kununurra**	**15.00**	**188**	Pn		**Pn**		**02 51 38.0**	**-1.2**
FITZ	**Fitzroy Crossi**	**18.02**	**196**	P		**Pn**		**02 52 17.8**	**+0.1**
	0.3nm,0.3s,baz=27,slow=15,SNR=8.2								
WB0	**Warramunga Arr**	**19.22**	**170**	P		**P**		**02 52 31.6**	**+0.2**
WB0				IAmb		IAmb		02 52 37.4	
	comp=Z,5.4nm,0.9s								
WRA	**Warramunga Arr**	**19.38**	**170**	P		**P**		**02 52 33.5**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=354,slow=12,SNR=25								
WRA				S		Sn		02 56 00.2	-12
	comp=Z,0.4nm,0.3s,baz=344,slow=21,SNR=5.7								
WB2	**Warramunga Arr**	**19.38**	**170**	P		**P**		**02 52 32.6**	**-0.6**
WB2				IAmb		IAmb		02 52 59.8	
	comp=Z,12nm,1.4s								
AS31	**Alice Springs**	**22.98**	**173**	P		**P**		**02 53 11.5**	**-0.4**
ASAR	**Alice Springs**	**22.98**	**173**	P		**P**		**02 53 12.8**	**+0.9**
	comp=Z,4.0nm,0.6s,baz=353,slow=10,SNR=31								
LEM	**Lembang**	**24.03**	**255**	LR		LR		03 03 11.7	
	comp=Z,100nm,19.7s,baz=152,slow=38								
MK31	**Makanchi Array**	**63.59**	**325**	P		**P**		**02 58 36.6**	**-1.5**
MK31				IAmb		IAmb		02 58 39.4	
	comp=Z,2.8nm,1.2s								
MKAR	**Makanchi Array**	**63.59**	**325**	P		**P**		**02 58 38.3**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=131,slow=6.6,SNR=2.9								
ZAA0	**Zalesovo Array**	**66.45**	**332**	P		**P**		**02 58 56.6**	**+0.2**
ZAA0				IAmb		IAmb		02 59 11.9	
	comp=Z,1.3nm,0.7s								
ZALV	**Zalesovo Beam**	**66.45**	**332**	P		**P**		**02 58 56.0**	**-0.5**
KK31	**Karatay Array**	**69.34**	**317**	P		**P**		**02 59 14.9**	**0.0**
KK31				IAmb		IAmb		02 59 16.3	
	comp=Z,3.2nm,1.1s								
KKAR	**Karatay Array**	**69.34**	**317**	P		**P**		**02 59 15.6**	**+0.7**
ABKAR	**Akbulak array**	**78.24**	**321**	P		**P**		**03 00 07.1**	**+0.2**

NEIC ***25*** *02:59:47.5±2.7, 32°.31S±0°.04×72°.27W±0°.05, h10km±3km, mb4.6/20, Mwr4.4/49, ML4.5(GUC), Error ellipse: s-maj=6.7km s-min=5.2km az=93.0*

IDC ***25*** *02:59:47.6±0.7, 32°.26S×71°.99W, h0km, mb4.3/9, mb1 4.3/14, mb1mx4.1/33, mbtmp4.2/14, ML4.0/5, MS3.5/6, Ms1 3.5/6, ms1mx3.2/28, Error ellipse: s-maj=28.0km s-min=16.4km az=99.0*

SJA ***25*** *02:59:47.0, 32°.29S×72°.57W, h10km, ML4.9*

GUC ***25*** *02:59:49.7±0.8, 32°.34S×72°.09W, h34km±3km, ML4.5*

NEIC ***25*** *02:59:49.6, 32°.32S×72°.08W, h18km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr2.79; Mθθ0.02; Mφφ-2.80; Mrθ0.71; Mrφ0.69; Mθφ-3.64; Fault plane solution: Mo4.70000×10¹⁵ NP1:φs168.64000°, δ71.13000°, λ91.15000°. NP2:φs345.08000°, δ18.91000°, λ86.63000°. Principal axes: T 4.6075, Plg64.0000°, Azm80.0000°; N 0.1759, Plg1.0000°, Azm348.0000°; P -4.7835, Plg26.0000°, Azm258.0000°;*

ISC 25 02:59:46.9±1.5, 32°.29S±0°.02×72°.17W±0°.05, h5km±9km, n132, σ1§35/133, mb4.7/14, MS3.8/3, 7C-6D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.78**	**111**	⇓*i*P		**Pn**		**03 00 03.6**	**-0.9**
VA06				*i* S		**Sn**		**03 00 14.3**	**-2.3**
VA06				IAML				03 00 16.9	
	comp=N,45μm,0.3s								
VA01	**Torpederas**	**0.85**	**149**	⇓*i*P		**Pb**		**03 00 04.7**	**+0.6**
VA01				*i* S		**Sn**		**03 00 17.0**	**-1.3**
VA01	**Torpederas**	**0.85**	**149**			**Pb**		**03 00 04.7**	**+0.6**
VA01	**Torpederas**	**0.85**	**149**	*i* P		**Pn**		**03 00 05.0**	**-0.5**
ROCH	**El Roble**	**1.19**	**125**	⇓*i*P		**Pn**		**03 00 10.4**	**+0.1**
ROCH				*i* S		**Sn**		**03 00 26.7**	**-0.3**
ROCH				IAML				03 00 32.5	
	comp=E,11μm,0.6s								
VA05	**Santo Domingo**	**1.44**	**161**	⇑*i*P		**Pn**		**03 00 13.9**	**+0.3**
VA05				IAML				03 00 48.3	
	comp=E,8μm,0.5s								
VA05	**Santo Domingo**	**1.44**	**161**			**Pn**		**03 00 13.6**	**0.0**
VA03	**San Esteban**	**1.44**	**110**	⇓*i*P		**Pb**		**03 00 14.3**	**0.0**
VA03				*i* S		**Sg**		**03 00 33.4**	**+0.1**
VA03				IAML				03 00 37.1	
	comp=E,16μm,0.4s								
VA03	**San Esteban**	**1.44**	**110**			**Pb**		**03 00 13.8**	**-0.5**
VA03	**San Esteban**	**1.44**	**110**	*i* P		**Pb**		**03 00 14.0**	**-0.3**
CO02	**Combarbal**	**1.47**	**43**	⇓*i*P		**Pg**		**03 00 16.3**	**+1.3**
CO02				*i* S		**Sg**		**03 00 36.2**	**+2.2**
CO02				IAML				03 00 41.8	
	comp=E,25μm,0.2s								
CO02	**Combarbal**	**1.47**	**43**			**Pg**		**03 00 15.4**	**+0.4**
CO02	**Combarbal**	**1.47**	**43**	*i* P		**Pb**		**03 00 15.0**	**+0.3**
PEL	**Peldehue**	**1.51**	**125**	⇓*i*P		**Pb**		**03 00 15.3**	**-0.1**
PEL				*i* S		**Sg**		**03 00 35.0**	**-0.4**
PEL				IAML				03 00 39.4	
	comp=E,12μm,0.4s								
MT05	**Renca**	**1.63**	**133**	⇑*i*P		**Pb**		**03 00 17.7**	**+0.2**
MT05				*i* S		**Sg**		**03 00 38.7**	**-0.6**
MT05				IAML				03 00 45.6	
	comp=E,21μm,0.3s								
MT05	**Renca**	**1.63**	**133**	Pn		**Pb**		**03 00 17.1**	**-0.4**
MT05	**Renca**	**1.63**	**133**	*i* P		**Pg**		**03 00 18.0**	**-0.1**
CO06	**Fray Jorge**	**1.67**	**16**	⇑*i*P		**Pn**		**03 00 17.2**	**+0.5**
CO06				*i* S		**Sg**		**03 00 42.7**	**+2.1**
CO06				IAML				03 00 50.4	
	comp=N,4μm,0.6s								
CO06	**Fray Jorge**	**1.67**	**16**			**Pn**		**03 00 17.3**	**+0.5**
MT01	**Popeta**	**1.75**	**154**	⇑*i*P		**Pn**		**03 00 18.4**	**+0.5**
MT01				*i* S		**Sn**		**03 00 39.6**	**-0.9**
MT01				IAML				03 00 48.1	
	comp=E,5μm,0.1s								
MT01	**Popeta**	**1.75**	**154**			**Pn**		**03 00 18.4**	**+0.5**
MT01	**Popeta**	**1.75**	**154**	*i* P		**Pn**		**03 00 18.0**	**+0.2**
MT09	**Talagante**	**1.78**	**147**	⇑*i*P		**Pb**		**03 00 19.5**	**-0.6**
MT09				*i* S		**Sb**		**03 00 41.9**	**-0.9**
MT09				IAML				03 00 50.5	
	comp=N,6μm,0.6s								
MT09	**Talagante**	**1.78**	**147**	Pn		**Pb**		**03 00 19.5**	**-0.6**
CO03	**El Pedregal**	**1.92**	**41**	*e*P		**Pb**		**03 00 22.7**	**+0.4**
CO03				*i* S		**Sg**		**03 00 48.5**	**0.0**
CO03	**El Pedregal**	**1.92**	**41**	Pn		**Pb**		**03 00 22.0**	**-0.3**
CO03	**El Pedregal**	**1.92**	**41**	*i* P		**Pb**		**03 00 22.0**	**-0.3**
LMEL	**Las Melosas**	**2.27**	**134**	⇑*i*P		**Pb**		**03 00 27.0**	**-1.3**
LMEL				*i* S		**Sb**		**03 00 55.3**	**-1.4**
LMEL				IAML				03 01 04.2	
	comp=N,5μm,0.2s								
BO01	**Tunca**	**2.29**	**157**	Pn		**Pn**		**03 00 26.3**	**+1.1**
BO01	**Tunca**	**2.29**	**157**	*i* P		**Pn**		**03 00 26.0**	**+0.8**
AUSP	**Uspallata**	**2.35**	**89**	*i* P		**Pb**		**03 00 30.0**	**+0.1**
GO04	**Tololo Observa**	**2.41**	**29**	*e*P		**Pn**		**03 00 28.4**	**+1.3**
GO04	**Tololo Observa**	**2.41**	**29**	Pn		**Pn**		**03 00 28.6**	**+1.5**
RTLS	**Leoncito**	**2.48**	**79**	*i* P		**Pn**		**03 00 32.0**	**-0.1**
CO05	**La Serena**	**2.49**	**19**	Pn		**Pn**		**03 00 29.4**	**+1.4**
GO05	**Huala**	**2.72**	**176**	⇑*i*P		**Pn**		**03 00 31.0**	**-0.3**
GO05				*i* S		**Sn**		**03 01 06.9**	**+2.4**
GO05				IAML				03 01 25.3	
	comp=N,4μm,0.9s								
GO05	**Huala**	**2.72**	**176**	Pn		**Pn**		**03 00 31.4**	**+0.2**
GO05	**Huala**	**2.72**	**176**	*i* P		**Pn**		**03 00 31.0**	**-0.2**
BO02	**Sierra Bellavi**	**2.75**	**156**			**Pn**		**03 00 32.5**	**+0.8**
BO02	**Sierra Bellavi**	**2.75**	**156**	*i* P		**Pn**		**03 00 33.0**	**+1.3**
ARCO	**CERRO ARCO**	**2.79**	**102**	*i* P		**Pb**		**03 00 37.0**	**-0.2**
ASAL	**Salagasta**	**2.83**	**97**	*i* P		**Pb**		**03 00 38.0**	**+0.1**
AAGR	**Agrelo**	**2.92**	**107**	*i* P		**Pb**		**03 00 40.0**	**+0.5**
ZON	**Zonda**	**3.06**	**77**			**Pn**		**03 00 37.8**	**+2.0**
ZON	**Zonda**	**3.06**	**77**	*i* P		**Pb**		**03 00 41.0**	**-0.7**
RTCV	**Cerro Valdivia**	**3.11**	**83**	*i* P		**Pb**		**03 00 41.0**	**-1.6**
ACCO	**Cerro Coronel**	**3.14**	**58**	*i* P		**Pb**		**03 00 42.0**	**-1.4**
LCO	**Las Campanas**	**3.50**	**21**			**Pn**		**03 00 43.2**	**+1.0**
LCO	**Las Campanas**	**3.50**	**21**	*i* P		**Pn**		**03 00 43.0**	**+0.8**
ML02	**Panimavida**	**3.52**	**170**	Pn		**Pn**		**03 00 43.2**	**+1.1**
COIS	**El Sosneado**	**3.54**	**143**	*i* P		**Pn**		**03 00 46.0**	**+3.6**
LAMA	**Las Malvinas**	**3.61**	**138**	*i* P		**Pb**		**03 00 49.0**	**-2.2**
RFA	**San Rafael**	**3.96**	**130**	*i* P		**Pn**		**03 00 52.0**	**+3.7**
AC04	**Llanos de Chal**	**4.18**	**13**			**Pn**		**03 00 50.6**	**-0.6**
AC04	**Llanos de Chal**	**4.18**	**13**	*i* P		**Pn**		**03 00 51.0**	**-0.2**
AGUA	**GUANDACOL**	**4.21**	**49**	*i* P		**Pb**		**03 00 57.0**	**-4.5**
VCA	**Vinchina**	**4.92**	**45**	*i* P		**Pn**		**03 01 06.0**	**+4.4**
GO03	**Copiap**	**4.97**	**20**	Pn		**Pn**		**03 01 01.6**	**-0.5**
GO03	**Copiap**	**4.97**	**20**	*i* P		**Pn**		**03 01 05.0**	**+2.8**
AC06	**Mina Casimiro**	**5.16**	**18**	Pn		**Pn**		**03 01 04.3**	**-0.5**
H03N1	**Juan Fernandez**	**5.79**	**257**	T		T		03 07 54.2	
	baz=86,slow=73,SNR=384								
H03N3	**Juan Fernandez**	**5.80**	**257**	T		T		03 07 49.5	
	baz=86,slow=73,SNR=611								
H03N2	**Juan Fernandez**	**5.81**	**257**	T		T		03 07 53.8	
	baz=86,slow=73,SNR=531								
H03S3	**Juan Fernandez**	**5.87**	**253**	T		T		03 07 55.2	
	baz=83,slow=75,SNR=111								
H03S1	**Juan Fernandez**	**5.87**	**253**	T		T		03 07 47.2	
	baz=83,slow=75,SNR=88								
H03S2	**Juan Fernandez**	**5.88**	**253**	T		T		03 07 48.1	
	baz=83,slow=75,SNR=161								
AC02	**Maricunga**	**6.04**	**27**	Pn		**Pn**		**03 01 16.5**	**-0.8**
AC02	**Maricunga**	**6.04**	**27**	*i* P		**Pn**		**03 01 18.0**	**+0.7**
LC01	**Cunco**	**6.60**	**178**	Pn		**Pn**		**03 01 23.4**	**-1.1**
LC01	**Cunco**	**6.60**	**178**	*i* P		**Pn**		**03 01 25.0**	**+0.5**
CYA	**Choya**	**6.70**	**57**	*i* P		**Pn**		**03 01 28.0**	**+2.1**
LR03	**Panguipulli**	**7.33**	**181**			**Pn**		**03 01 33.2**	**-1.3**
FSA	**Cafayete**	**8.19**	**43**	*i* P		**Pn**		**03 01 47.0**	**+0.5**
PLCA	**Paso Flores**	**8.53**	**172**	Pn		**Pn**		**03 01 51.8**	**+0.7**
	comp=N,0.6nm,0.3s,baz=338,slow=12,SNR=25								
PLCA				LR		LR		03 04 51.1	
	comp=N,97nm,20.4s,baz=350,slow=36								
PLCA	**Paso Flores**	**8.53**	**172**			**Pn**		**03 01 50.8**	**-0.2**
PLCA	**Paso Flores**	**8.53**	**172**	*i* P		**Pn**		**03 01 53.0**	**+2.0**
LVC	**Limon Verde**	**10.06**	**17**	Pn		**Pn**		**03 02 13.6**	**+1.2**
	comp=N,0.5nm,0.3s,baz=203,slow=9.8,SNR=1.8								
LVC				Sn		Sn		03 04 15.5	+10
	comp=N,0.7nm,0.3s,baz=293,slow=21,SNR=3.8								
LVC				LR		LR		03 05 33.8	
	comp=N,95nm,18.8s,baz=195,slow=35								
TRQA	**Tornquist**	**10.13**	**127**			**Pn**		**03 02 11.8**	**-1.1**
TA01	**Diego Aracena**	**11.81**	**9**	Pn		**Pn**		**03 02 35.0**	**-0.9**
CPUP	**Villa Florida**	**14.23**	**69**	Pn		**Pn**		**03 03 09.1**	**0.0**
	comp=N,0.2nm,0.3s,baz=252,slow=10,SNR=4.9								
CPUP				LR		LR		03 09 28.2	
	comp=N,218nm,20.2s,baz=244,slow=41								
CPUP	**Villa Florida**	**14.23**	**69**			**Pn**		**03 03 08.4**	**-0.6**
LPAZ	**La Paz**	**16.34**	**14**	Pn		**P**		**03 03 39.6**	**-1.1**
	comp=N,0.2nm,0.3s,baz=194,slow=7.5,SNR=20								
LPAZ	**La Paz**	**16.34**	**14**	Pn		**Pn**		**03 03 35.4**	**-2.3**
SIV	**San Ignacio**	**19.10**	**34**	P		**P**		**03 04 10.6**	**+0.1**
	comp=N,0.8nm,0.3s,baz=216,slow=9.4,SNR=43								
SPB	**Sao Paulo**	**23.46**	**75**	P		**P**		**03 04 56.0**	**-1.3**
SPB				IAmb		IAmb		03 05 00.5	
	comp=Z,33nm,1.1s								
SAML	**Samuel**	**24.67**	**22**	P		**P**		**03 05 08.2**	**-0.5**
BDFB	**Brasilia**	**27.50**	**59**	P		**P**		**03 05 33.0**	**-1.4**
	comp=Z,7.2nm,0.6s,baz=237,slow=9.1,SNR=13								
BDFB	**Brasilia**	**27.50**	**59**	P		**P**		**03 05 32.7**	**-1.7**
BDFB				IAmb		IAmb		03 05 42.6	
	comp=Z,14nm,0.9s								
PTGA	**Pitinga**	**33.43**	**23**	P		**P**		**03 06 25.6**	**-1.1**
PTGA				IAmb		IAmb		03 06 28.6	
	comp=Z,7.1nm,0.8s								
RUSC	**La Rusia**	**37.98**	**359**	P		**P**		**03 07 04.5**	**-1.7**
SJG	**San Juan**	**50.44**	**7**	P		**P**		**03 08 43.1**	**-2.3**
VNA3	**Neumayer Olymp**	**50.98**	**158**	P		**P**		**03 08 48.5**	**-0.6**
VNA1	**Neumayer--Stat**	**51.29**	**157**	P		**P**		**03 08 52.2**	**+0.9**
VNA2	**Neumayer--Watz**	**51.63**	**158**	P		**P**		**03 08 55.0**	**+1.1**
SNAA	**Sanae**	**53.21**	**158**	P		**P**		**03 09 07.2**	**+1.5**
SNAA	**Sanae**	**53.21**	**158**	P		**P**		**03 09 07.4**	**+1.7**
	comp=Z,2.6nm,0.7s,baz=289,slow=5.8,SNR=13								
SNAA				LR		LR		03 30 43.7	
	comp=Z,58nm,18.9s,baz=256,slow=35								
SNAA	**Sanae**	**53.21**	**158**	P		**P**		**03 09 05.0**	**-0.7**
SNAA				IAmb		IAmb		03 09 21.0	
	comp=Z,4.0nm,0.9s								
QSPA	**South Pole Qui**	**57.94**	**180**	P		**P**		**03 09 41.8**	**+1.9**
	comp=Z,2.5nm,0.7s,baz=176,slow=1.6								
TXAR	**Lajitas Array**	**68.19**	**331**	P		**P**		**03 10 49.5**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=164,slow=10,SNR=3.9								
LIC	**Lamto**	**74.34**	**72**	*e*P		**P**		**03 11 26.2**	**+0.4**
	comp=Z,30nm,0.8s								
TIC	**Toumodi**	**74.59**	**72**	*e*P		**P**		**03 11 27.8**	**+0.5**
KIC	**Kosan Boka**	**74.65**	**72**	*e*P		**P**		**03 11 28.4**	**+0.8**
	comp=Z,16nm,0.6s								
DBIC	**Dimbokro**	**74.74**	**72**	P		**P**		**03 11 29.1**	**+1.0**
	comp=Z,8.0nm,0.6s,baz=232,slow=5.0,SNR=19								
DBIC	**Dimbokro**	**74.74**	**72**	IAmb		IAmb		03 11 29.9	
	comp=Z,11nm,0.8s								
MAW	**Mawson**	**74.85**	**164**	P		**P**		**03 11 29.4**	**+1.5**
	comp=Z,0.9nm,0.5s,baz=225,slow=7.6,SNR=8.7								
KOWA	**Kowa**	**80.03**	**66**	P		**P**		**03 11 56.0**	**-1.7**
KOWA				IAmb		IAmb		03 11 59.9	
	comp=Z,7.0nm,0.6s								
NVAR	**Mina Array Bea**	**82.42**	**325**	P		**P**		**03 12 12.1**	**+1.9**
	comp=Z,0.3nm,0.8s,baz=177,slow=6.3,SNR=1.8								
LBTB	**Lobatse**	**83.12**	**115**	P		**P**		**03 12 15.4**	**+1.2**
	comp=Z,3.4nm,0.8s,baz=308,slow=6.1,SNR=4.4								
TORD	**Torodi Ar. Bea**	**83.73**	**70**	P		**P**		**03 12 18.1**	**+0.8**
	comp=Z,7.1nm,0.7s,baz=278,slow=3.3,SNR=62								
TORD	**Torodi Ar. Bea**	**83.73**	**70**	P		**P**		**03 12 15.6**	**-1.6**
TORD				IAmb		IAmb		03 12 19.1	
	comp=Z,5.3nm,0.8s								
URZ	**Urewera**	**84.73**	**228**	LR		LR		03 42 44.5	
	comp=Z,70nm,18.7s,baz=124,slow=30								
AFI	**Afiamalu**	**90.59**	**253**	LR		LR		03 45 04.4	
	comp=Z,30nm,19.0s,baz=14,slow=30								
BRTR	**Keskin Array B**	**121.08**	**60**	PKP		**PKiKP**		**03 18 41.5**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=242,slow=3.1,SNR=2.5								
WRA	**Warramunga Arr**	**122.20**	**210**	PKP		**PKiKP**		**03 18 43.8**	**+0.3**
	comp=Z,1.1nm,1.1s,baz=164,slow=1.9,SNR=2.4								
H11S2	**WAKE ISLAND Hyl**	**25.67**	**270**	T		T		05 37 59.2	
	baz=118,slow=74,SNR=16								
H11S1	**WAKE ISLAND Hyl**	**25.68**	**270**	T		T		05 37 58.5	
	baz=118,slow=74,SNR=8.0								
H11S3	**WAKE ISLAND Hyl**	**25.69**	**270**	T		T		05 37 58.9	
	baz=118,slow=74,SNR=8.1								
BRVK	**Borovoye**	**146.01**	**41**			**PKPdf**		**03 19 23.6**	**-2.8**
BVAR	**Borovoye Array**	**146.08**	**41**	PKPbc		**PKPab**		**03 19 29.2**	**+1.2**
	comp=Z,2.2nm,0.6s,baz=252,slow=3.0,SNR=8.9								
KK31	**Karatay Array**	**148.79**	**59**	PKPbc		**PKPdf**		**03 19 32.4**	**+1.0**
KKAR	**Karatay Array**	**148.79**	**59**	PKPbc		**PKPdf**		**03 19 32.4**	**+1.0**
GAR	**Garm**	**148.94**	**67**	PKPbc		**PKPbc**		**03 19 35.0**	**-0.9**
BTK	**Batken**	**149.30**	**65**	PKPbc		**PKPbc**		**03 19 34.8**	**-1.9**
KURBB	**Kurchatov Arra**	**151.68**	**41**	PKPbc		**PKiKP**		**03 19 43.5**	**+1.2**
	comp=Z,2.1nm,0.5s,baz=299,slow=3.0,SNR=18								
KURK	**Kurchatov**	**151.68**	**41**			**PKiKP**		**03 19 43.5**	**+1.2**
AAK	**Ala-Archa**	**151.75**	**59**	PKPbc		**PKiKP**		**03 19 44.2**	**+1.2**
	comp=Z,3.2nm,0.6s,baz=224,slow=6.0,SNR=4.1								
AAK	**Ala-Archa**	**151.75**	**59**			**PKPbc**		**03 19 41.6**	**-1.0**
ZALV	**Zalesovo Beam**	**152.82**	**30**	PKPbc		**PKiKP**		**03 19 45.9**	**+1.3**
	comp=Z,3.6nm,0.6s,baz=305,slow=3.6,SNR=13								
ZALV	**Zalesovo Beam**	**152.82**	**30**			**PKPbc**		**03 19 43.8**	**-0.6**
KSH	**Kashi**	**153.30**	**65**	PKPbc		**PKPdf**		**03 19 40.6**	**+2.0**
MKAR	**Makanchi Array**	**155.69**	**46**	PKPab		**PKPab**		**03 20 09.1**	**+1.2**
	comp=Z,1.7nm,0.8s,baz=294,slow=3.9,SNR=10								
MKAR	**Makanchi Array**	**155.69**	**46**			**PKPab**		**03 20 07.1**	**-0.7**

NOU ***25*** *02:59:43.5, 37°.40S×176°.56E, h235km, MLv3.7/7, North Island, New Zealand*

WEL 25 02:59:46.7±0.6, 37°.5S±4°×177°.7E±°, h206km±5km, M2.8/26, ML2.8/7, MLv2.8/26, Error ellipse: s-maj=0.0km s-min=0.0km az=121.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.94**	**156**	P		**Pn**		**03 00 16.5**	**-0.1**
URZ				S		S		03 00 39.9	0.0
HAZ	**Te Kaha**	**0.98**	**111**	P		**Pn**		**03 00 16.1**	**-0.8**
HAZ				S		S		03 00 40.3	0.0
RUGZ	**Raukumara Rang**	**1.00**	**124**	P		**Pn**		**03 00 16.1**	**-1.1**
RUGZ				S		S		03 00 40.0	-0.8
MUGZ	**Murupara**	**1.08**	**174**	P		**Pn**		**03 00 17.7**	**+0.2**
MUGZ				S		S		03 00 42.6	+1.1
MWZ	**Matawai**	**1.17**	**143**	P		**Pn**		**03 00 18.2**	**0.0**
MWZ				S		S		03 00 43.0	+0.3
MKAZ	**Moumakai**	**1.21**	**284**	P		**Pn**		**03 00 18.1**	**-0.4**
RTZ	**Ruatahuna**	**1.24**	**167**	P		**Pn**		**03 00 19.2**	**+0.3**
RTZ				S		S		03 00 44.6	+0.9
PKGZ	**Pakihiroa**	**1.25**	**113**	P		**Pn**		**03 00 18.8**	**0.0**
RAGZ	**Rawiri**	**1.25**	**150**	P		**Pn**		**03 00 19.4**	**+0.5**
RAGZ				S		S		03 00 45.5	+1.5
TLZ	**Tolley Road**	**1.26**	**223**	P		**Pn**		**03 00 20.3**	**+1.3**
TWGZ	**Tauwhareparae**	**1.32**	**126**	P		**Pn**		**03 00 19.8**	**+0.4**
TWGZ				S		S		03 00 46.9	+2.2
WIAZ	**Waiheke Island**	**1.34**	**297**	P		**Pn**		**03 00 18.8**	**-0.8**
MXZ	**Matakaoa Point**	**1.35**	**97**	P		**Pn**		**03 00 19.2**	**-0.3**
TKGZ	**Te Karaka**	**1.41**	**137**	P		**Pn**		**03 00 19.9**	**-0.2**
TKGZ				S		S		03 00 46.5	+0

LBTB	**Lobatse**		**2.14**	**310**	Pn		**Pb**	**03 14 05.5**	**+0.7**
	comp=Z,21nm,0.3s,baz=130,slow=17,SNR=122								
LBTB					Pg		**Pg**	**03 14 06.5**	**-0.3**
	comp=Z,21nm,0.3s,baz=126,slow=14,SNR=248								
LBTB					Lg		Lg	03 14 35.3	
	comp=Z,98nm,0.3s,baz=208,slow=22,SNR=45								
BOSA	**Boshof**		**2.92**	**221**	Pn		**Pn**	**03 14 15.1**	**+2.6**
	comp=Z,6.9nm,0.3s,baz=41,slow=12,SNR=320								
BOSA					Pg		**Pg**	**03 14 20.9**	**-0.7**
	comp=Z,5.4nm,0.3s,baz=43,slow=15,SNR=24								
BOSA					Lg		Lg	03 14 58.1	
	comp=Z,29nm,0.3s,baz=32,slow=20,SNR=21								
BOSA	**Boshof**		**2.92**	**221**			**Pn**	**03 14 14.7**	**+2.2**
POGA	**Pongola**		**3.95**	**105**	*eP*		**Pn**	**03 14 27.0**	**+0.4**
POGA					*eS*		**Sn**	**03 15 13.1**	**-0.1**
POGA					IAML			03 15 26.8	
	comp=Z,76nm,0.5s								
MOPA	**Mopani**		**4.62**	**52**	*eP*		**Pn**	**03 14 35.8**	**-0.1**
MOPA					*eS*		**Sn**	**03 15 27.4**	**-2.3**
MOPA					IAML			03 16 09.2	
	comp=Z,34nm,3.0s								
MSNA	**Messina**		**4.69**	**31**	*eP*		**Pn**	**03 14 35.6**	**-1.2**
MSNA					*eS*		**Sn**	**03 15 26.6**	**-4.8**
MSNA					IAML			03 15 52.6	
	comp=Z,36nm,0.4s								
PKA	**Prieska**		**5.24**	**231**	*eP*		**Pn**	**03 14 44.2**	**-0.2**
PKA					*eS*		**Sn**	**03 15 41.7**	**-3.5**
PKA					IAML			03 16 24.0	
	comp=Z,13nm,0.2s								
UPI	**Upington**		**5.81**	**249**	*eP*		**Pn**	**03 14 51.4**	**-0.9**
UPI					*eS*		**Sn**	**03 15 54.8**	**-4.3**
UPI					IAML			03 16 57.5	
	comp=Z,21nm,2.0s								
MATP	**Matopo**		**6.04**	**10**	Pn		**Pn**	**03 14 56.0**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=190,slow=17,SNR=56								
MATP					Sn		**Sn**	**03 16 03.5**	**-1.2**
	comp=Z,1.0nm,0.3s,baz=121,slow=19,SNR=5.8								
MATP					Lg		Lg	03 16 32.0	
	comp=Z,1.7nm,0.3s,baz=109,slow=22,SNR=13								
KEIM	**Keimoes**		**6.16**	**247**	*eP*		**Pn**	**03 14 56.6**	**-0.4**
KEIM					*eS*		**Sn**	**03 16 03.0**	**-4.7**
KEIM					IAML			03 16 42.6	
	comp=Z,30nm,1.2s								
SOE	**Somerset East**		**6.49**	**194**	*eP*		**Pn**	**03 15 01.8**	**+0.3**
SOE					*eS*		**Sn**	**03 16 12.9**	**-2.9**
SOE					IAML			03 16 37.4	
	comp=Z,50nm,4.6s								
ARMS	**Ukamas**		**7.02**	**255**	*eP*		**Pn**	**03 15 08.4**	**-0.5**
ARMS					*eS*		**Sn**	**03 16 24.2**	**-4.7**
ARMS					IAML			03 17 16.7	
	comp=Z,23nm,0.4s								
SUR	**Sutherland**		**8.28**	**222**	Pn		**Pn**	**03 15 28.8**	**+2.5**
	comp=Z,1.1nm,0.3s,baz=24,slow=8.9,SNR=42								
SUR					Sn		**Sn**	**03 16 59.5**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=80,slow=20,SNR=2.0								
SUR					Lg		Lg	03 17 43.8	
	comp=Z,2.1nm,0.3s,baz=139,slow=22,SNR=7.0								
SUR	**Sutherland**		**8.28**	**222**	Pn		**Pn**	**03 15 29.0**	**+2.8**
CVNA	**Calvinia**		**8.39**	**231**	*eP*		**Pn**	**03 15 27.7**	**0.0**
CVNA					*eS*		**Sn**	**03 16 57.0**	**-5.7**
CVNA					IAML			03 17 18.3	
	comp=Z,24nm,3.0s								
ELIM	**Elim**		**10.50**	**217**	*eP*		**Pn**	**03 15 56.6**	**+0.1**
ELIM					*eS*		**Sn**	**03 17 47.9**	**-6.5**
ELIM					IAML			03 17 57.0	
	comp=Z,47nm,1.9s								
LSZ	**Lusaka**		**11.10**	**4**			**Pn**	**03 16 05.3**	**+0.4**
TSUM	**Tsumeb**		**11.55**	**306**	Pn		**Pn**	**03 16 11.7**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=132,slow=10,SNR=2.5								
MBAR	**Mbarara**		**25.85**	**8**	P		**P**	**03 19 00.0**	**+2.0**
TORD	**Torodi Ar. Bea**		**46.59**	**324**	P		**P**	**03 21 55.9**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=132,slow=5.9,SNR=6.4								
TORD	**Torodi Ar. Bea**		**46.59**	**324**	IAmb		IAmb	03 22 22.9	
	comp=Z,3.1nm,1.5s								
SNAA	**Sanae**		**48.34**	**192**	P		**P**	**03 22 09.4**	**+2.0**
SNAA					IAmb		IAmb	03 22 36.4	
	comp=Z,4.3nm,1.5s								
KOWA	**Kowa**		**50.86**	**319**	P		**P**	**03 22 29.8**	**+2.6**
KOWA					IAmb		IAmb	03 22 49.1	
	comp=Z,2.2nm,1.2s								
ESDC	**Sonseca Array**		**71.96**	**335**	P		**P**	**03 24 51.9**	**+2.3**
	comp=Z,0.3nm,0.7s,baz=158,slow=5.7,SNR=4.8								

SJA ***25*** *03:19:08.0, 32°.31S×72°.57W, h10km, ML4.7*
NEIC ***25*** *03:19:08.6±2.0, 32°.31S±0°.02×72°.3W±0°.1, h14km±5km, mb4.2/9, Mwr4.2/43, ML4.3(GUC), Error ellipse: s-maj=13.0km s-min=2.2km az=86.0*
GUC ***25*** *03:19:09.5±0.7, 32°.31S×72°.14W, h38km±4km, ML4.3*
VAO ***25*** *03:19:09.2±0.6, 32°.25S×72°.18W, h10km, mb4.4*
NEIC ***25*** *03:19:09.6, 32°.31S×72°.18W, h15km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.05; $M_{\theta\theta}$0.15; $M_{\phi\phi}$-2.20; $M_{r\theta}$0.23; $M_{\theta\phi}$0.15; $M_{\phi r}$-1.12; Fault plane solution: M_{o}2.42000×10^{15} NP1:ϕ_s172.48000°, δ59.16000°, λ85.81000°. NP2:ϕ_s0.62000°, δ31.10000°, λ96.98000°. Principal axes: T 2.3436, Plg75.0000°, Azm71.0000°; N 0.1465, Plg4.0000°, Azm175.0000°; P -2.4900, Plg14.0000°, Azm266.0000°;*
IDC ***25*** *03:19:10.2±1.5, 32°.28S×71°.64W, h0km, mb4.3/5, mb1 4.2/8, mb1mx3.9/31, mbtmp4.2/8, ML3.6/3 Error ellipse: s-maj=58.0km s-min=20.8km az=108.0*
ISC 25 03:19:07.3±1.8, 32°.31S±0°.04×72°.34W±0°.06, h1km±11km, n111, σ1§55/105, mb4.3/6, 5C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.92**	**106**	⇓*i*	P		**Pg**	**03 19 24.3**	**-0.6**
VA06				*i*	S		**Sg**	**03 19 35.5**	**-1.2**
VA06					IAML			03 19 39.0	
	comp=E,28μm,0.4s								
VA01	**Torpederas**	**0.92**	**141**	⇓*i*	P		**Pg**	**03 19 25.1**	**+0.1**
VA01				*i*	S		**Sg**	**03 19 37.7**	**+0.7**
VA01	**Torpederas**	**0.92**	**141**				**Pg**	**03 19 25.4**	**+0.4**
VA01	**Torpederas**	**0.92**	**141**	*i*	P		**Pg**	**03 19 26.0**	**+1.0**
ROCH	**El Roble**	**1.30**	**121**	⇓*i*	P		Pn	03 19 31.1	-1.8
ROCH				*i*	S		**Sb**	**03 19 46.9**	**-3.1**
ROCH					IAML			03 19 50.4	
	comp=N,11μm,0.3s								
VA05	**Santo Domingo**	**1.48**	**156**	*eP*			**Pn**	**03 19 34.7**	**-0.4**
VA05					IAML			03 20 02.3	
	comp=E,5μm,0.5s								
VA05	**Santo Domingo**	**1.48**	**156**				**Pn**	**03 19 34.4**	**-0.7**
VA03	**San Esteban**	**1.58**	**107**	*eP*			Pn	03 19 34.7	-1.8
VA03				*i*	S		**Sn**	**03 19 55.1**	**-2.5**
VA03					IAML			03 19 57.7	
	comp=E,9μm,0.3s								
VA03	**San Esteban**	**1.58**	**107**	*i*	P		Pn	03 19 35.5	-1.0
VA03	**San Esteban**	**1.58**	**107**	*i*	P		Pn	03 19 35.0	-1.5
CO02	**Combarbal**	**1.58**	**46**	⇑*i*	P		**Pn**	**03 19 35.9**	**-0.7**
CO02				*i*	S		**Sn**	**03 19 56.1**	**-1.7**
CO02					IAML			03 20 02.2	
	comp=E,9μm,0.2s								
CO02	**Combarbal**	**1.58**	**46**	Pn			**Pn**	**03 19 36.3**	**-0.3**
CO02	**Combarbal**	**1.58**	**46**	*i*	P		**Pn**	**03 19 36.0**	**-0.7**
MT05	**Renca**	**1.73**	**129**	⇓*eP*			**Pn**	**03 19 38.0**	**-0.6**
MT05				*i*	S		**Sn**	**03 19 58.9**	**-2.4**
MT05					IAML			03 20 03.3	
	comp=N,11μm,0.3s								
MT05	**Renca**	**1.73**	**129**				**Pn**	**03 19 38.5**	**-0.1**
MT05	**Renca**	**1.73**	**129**	*i*	P		**Pn**	**03 19 38.0**	**-0.6**
CO06	**Fray Jorge**	**1.73**	**20**	⇑*iP*			**Pn**	**03 19 38.1**	**-0.5**
CO06					IAML			03 20 11.8	
	comp=N,3μm,0.7s								
CO06	**Fray Jorge**	**1.73**	**20**				**Pn**	**03 19 38.2**	**-0.4**
MT01	**Popeta**	**1.80**	**150**	⇑*iP*			**Pn**	**03 19 39.0**	**-0.5**
MT01				*i*	S		**Sn**	**03 20 01.6**	**-1.5**
MT01					IAML			03 20 08.6	
	comp=E,5μm,0.8s								
MT01	**Popeta**	**1.80**	**150**				**Pn**	**03 19 39.1**	**-0.5**
MT01	**Popeta**	**1.80**	**150**	*i*	P		**Pn**	**03 19 39.0**	**-0.5**
MT09	**Talagante**	**1.85**	**143**	⇑*iP*			**Pn**	**03 19 40.2**	**-0.1**
MT09				*i*	S		**Sn**	**03 20 03.8**	**-0.7**
MT09					IAML			03 20 13.4	
	comp=E,4μm,0.4s								
MT09	**Talagante**	**1.85**	**143**	Pn			**Pn**	**03 19 40.3**	**-0.1**
CO03	**El Pedregal**	**2.03**	**44**	*eP*			**Pn**	**03 19 42.5**	**-0.2**
CO03					IAML			03 20 16.3	
	comp=E,3μm,0.6s								
CO03	**El Pedregal**	**2.03**	**44**	Pn			**Pn**	**03 19 42.8**	**0.0**
BO01	**Tunca**	**2.33**	**154**	Pn			**Pn**	**03 19 46.8**	**0.0**
BO01	**Tunca**	**2.33**	**154**	*i*	P		**Pn**	**03 19 47.0**	**+0.2**
LMEL	**Las Melosas**	**2.36**	**131**	⇑*iP*			**Pn**	**03 19 47.8**	**+0.4**
LMEL					IAML			03 20 24.7	
	comp=E,3μm,0.3s								
AUSP	**Uspallata**	**2.50**	**89**	*i*	P		**Pn**	**03 19 51.0**	**+1.6**
GO04	**Tololo Observa**	**2.50**	**32**	*eP*			**Pn**	**03 19 49.3**	**-0.1**
GO04	**Tololo Observa**	**2.50**	**32**		Pn		**Pn**	**03 19 49.6**	**+0.2**
CO05	**La Serena**	**2.56**	**22**	IAML				03 20 38.7	
	comp=E,2μm,0.7s								
CO05	**La Serena**	**2.56**	**22**				**Pn**	**03 19 48.7**	**-1.3**
RTLS	**Leoncito**	**2.63**	**80**	*i*	P		**Pn**	**03 19 53.0**	**+1.8**
GO05	**Huala**	**2.72**	**173**		Pn		**Pn**	**03 19 52.0**	**-0.2**
GO05	**Huala**	**2.72**	**173**	*i*	P		**Pn**	**03 19 52.0**	**-0.2**
BO02	**Sierra Bellavi**	**2.80**	**153**				**Pn**	**03 19 53.6**	**+0.2**
BO02	**Sierra Bellavi**	**2.80**	**153**	*i*	P		**Pn**	**03 19 54.0**	**+0.7**
ARCO	**CERRO ARCO**	**2.92**	**101**	*i*	P		**Pn**	**03 19 58.0**	**+2.9**
ASAL	**Salagasta**	**2.97**	**96**	*i*	P		**Pn**	**03 19 59.0**	**+3.2**
AAGR	**Agrelo**	**3.06**	**106**	*i*	P		**Pn**	**03 20 01.0**	**+4.1**
ZON	**Zonda**	**3.20**	**77**				**Pn**	**03 19 59.6**	**+0.7**
ZON	**Zonda**	**3.20**	**77**	*i*	P		**Pn**	**03 20 01.0**	**+2.1**
RTCV	**Cerro Valdivia**	**3.25**	**83**	*i*	P		**Pn**	**03 20 02.0**	**+2.4**
ML02	**Panimavida**	**3.53**	**168**				**Pn**	**03 20 03.0**	**-0.3**
LCO	**Las Campanas**	**3.58**	**24**	*i*	P		**Pn**	**03 20 04.0**	**-0.2**
RFA	**San Rafael**	**4.06**	**128**	*i*	P		**Pn**	**03 20 14.0**	**+3.3**
AC04	**Llanos de Chal**	**4.23**	**15**				**Pn**	**03 20 12.8**	**-0.2**
AC04	**Llanos de Chal**	**4.23**	**15**	*i*	P		**Pn**	**03 20 13.0**	**0.0**
AGUA	**GUANDACOL**	**4.34**	**51**	*i*	P		**Pn**	**03 20 18.0**	**+3.4**
VCA	**Vinchina**	**5.04**	**46**	*i*	P		**Pn**	**03 20 27.0**	**+2.8**
GO03	**Copiap**	**5.04**	**22**				**Pn**	**03 20 23.8**	**-0.4**
GO03	**Copiap**	**5.04**	**22**	*i*	P		**Pn**	**03 20 26.0**	**+1.9**
AC06	**Mina Casimiro**	**5.22**	**20**				Pn	03 20 25.1	-1.6
H03N3	**Juan Fernandez**	**5.66**	**257**	T			T	03 27 22.0	
	baz=88,slow=74,SNR=630								
H03N2	**Juan Fernandez**	**5.66**	**257**	T			T	03 27 16.5	
	baz=60,slow=74,SNR=390								
H03S3	**Juan Fernandez**	**5.72**	**253**	T			T	03 27 14.7	
	baz=86,slow=74,SNR=14								
H03S1	**Juan Fernandez**	**5.72**	**253**	T			T	03 27 13.4	
	baz=86,slow=74,SNR=16								
H03S2	**Juan Fernandez**	**5.74**	**253**	T			T	03 27 20.7	
	baz=86,slow=74,SNR=16								
AC02	**Maricunga**	**6.13**	**28**	*i*	P		**Pn**	**03 20 39.0**	**-0.5**
LC01	**Cunco**	**6.59**	**177**		Pn		Pn	03 20 44.0	-1.4
LC01	**Cunco**	**6.59**	**177**	*i*	P		**Pn**	**03 20 47.0**	**+1.7**
CYA	**Choya**	**6.83**	**57**	*i*	P		**Pn**	**03 20 48.0**	**-0.8**
PLCA	**Paso Flores**	**8.53**	**171**	Pn			**Pn**	**03 21 12.6**	**+0.5**
	comp=E,0.2nm,0.3s,baz=335,slow=12,SNR=6.2								
PLCA	**Paso Flores**	**8.53**	**171**	Pn			**Pn**	**03 21 13.0**	**+1.0**
PLCA	**Paso Flores**	**8.53**	**171**	*eP*			**Pn**	**03 21 13.2**	**+1.2**
TRQA	**Tornquist**	**10.23**	**127**				**Pn**	**03 21 34.9**	**-0.5**
TRQA	**Tornquist**	**10.23**	**127**	*eP*			**Pn**	**03 21 35.0**	**-0.3**
TRQA	**Tornquist**	**10.23**	**127**	*i*	P		**Pn**	**03 21 39.0**	**+3.7**
CPUP	**Villa Florida**	**14.38**	**69**	*eP*			Pn	03 22 30.6	-1.5
LPAZ	**La Paz**	**16.40**	**14**	Pn			**Pn**	**03 23 00.5**	**+1.0**
	comp=E,0.1nm,0.3s,baz=204,slow=6.5,SNR=9.8								
LPAZ	**La Paz**	**16.40**	**14**	*eP*			**Pn**	**03 22 59.3**	**-0.2**
SIV	**San Ignacio**	**19.20**	**35**	P			**P**	**03 23 32.4**	**-0.3**
	comp=E,0.3nm,0.3s,baz=217,slow=10,SNR=20								
PTGB	**Pitanga**	**19.34**	**72**	*eP*			**P**	**03 23 33.8**	**-0.4**
PTLB	**Pontes e Lacer**	**20.64**	**39**	*eP*			**P**	**03 23 47.9**	**-0.4**
PP1B	**Ponte de Pedra**	**21.52**	**51**	*eP*			**P**	**03 23 56.6**	**-1.3**
PCMB	**Pacaembu**	**21.56**	**66**	*eP*			**P**	**03 23 56.7**	**-1.7**
TIJ01	**Guaruva-PR**	**21.57**	**77**	*eP*			**P**	**03 23 57.6**	**-1.0**
FRTB	**Fartura**	**22.00**	**72**	*eP*			**P**	**03 24 01.4**	**-1.7**
VILB	**Vilhena**	**22.25**	**33**	*eP*			**P**	**03 24 05.4**	**-0.3**
SALV	**Santo Antonio**	**22.25**	**47**	*eP*			**P**	**03 24 04.5**	**-1.3**
ETMB	**Extrema**	**23.09**	**16**	*eP*			**P**	**03 24 14.4**	**-0.2**
ITRB	**Itirapina**	**23.35**	**53**	*eP*			**P**	**03 24 17.0**	**-0.3**
PET01	**Itanhaem-SP**	**23.43**	**76**	*eP*			**P**	**03 24 17.4**	**-0.7**
SPB	**Sao Paulo**	**23.61**	**75**	*eP*			**P**	**03 24 19.6**	**-0.2**
BB19B	**Bebedouro**	**23.98**	**68**	*eP*			**P**	**03 24 22.2**	**-1.3**
VAO	**Valinhos**	**24.26**	**74**	*eP*			**P**	**03 24 26.2**	**0.0**
CZSB	**Cruzeiro do Su**	**24.46**	**359**	*eP*			**P**	**03 24 27.4**	**-0.5**
SAML	**Samuel**	**24.75**	**22**	P			**P**	**03 24 26.7**	**-3.8**
SAML	**Samuel**	**24.75**	**22**	*eP*			**P**	**03 24 29.5**	**-1.0**
CLDB	**Colider**	**26.22**	**39**	*eP*			**P**	**03 24 43.2**	**-0.7**
BDFB	**Brasilia**	**27.63**	**59**	P			**P**	**03 24 56.2**	**-0.6**
	comp=E,3.2nm,0.5s,baz=235,slow=11,SNR=5.7								
BDFB	**Brasilia**	**27.63**	**59**	P			**P**	**03 24 54.5**	**-2.3**
BDFB					IAmb		IAmb	03 25 03.4	
	comp=Z,6.8nm,0.9s								
SNDB	**Serra Nova Dou**	**27.99**	**48**	*eP*			**P**	**03 24 59.5**	**-0.4**
CAM01	**Campos-RJ**	**29.15**	**77**	*eP*			**P**	**03 25 09.2**	**-0.9**
NPGB	**Novo Progresso**	**29.70**	**36**	*eP*			**P**	**03 25 14.2**	**-0.8**
SDBA	**SAO DESIDERIO**	**32.02**	**58**	*eP*			**P**	**03 25 34.4**	**-1.2**
SMTB	**Santa Maria do**	**32.71**	**50**	*eP*			**P**	**03 25 40.6**	**-1.0**
PRPB	**Parauapebas**	**33.43**	**44**	*eP*			**P**	**03 25 46.9**	**-1.0**
PTGA	**Pitinga**	**33.51**	**23**	P			**P**	**03 25 46.4**	**-2.1**
BOAV	**Boa Vista**	**36.29**	**20**	*eP*			**P**	**03 26 12.4**	**-0.1**
RUSC	**La Rusia**	**37.99**	**359**	P			**P**	**03 26 24.7**	**-2.9**
RUSC					IAmb		IAmb	03 26 32.8	
	comp=Z,4.6nm,0.8s								
SNAA	**Sanae**	**53.24**	**158**	P			**P**	**03 28 28.3**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=312,slow=6.4,SNR=4.2								
SNAA	**Sanae**	**53.24**	**158**	P			P	03 28 22.9	-4.2
SNAA					IAmb		IAmb	03 28 28.9	
	comp=Z,1.4nm,0.8s								
QSPA	**South Pole Qui**	**57.92**	**180**	P			**P**	**03 29 05.3**	**+4.3**
	comp=Z,2.6nm,0.9s,baz=92,slow=2.2,SNR=4.9								
DBIC	**Dimbokro**	**74.88**	**72**	P			**P**	**03 30 50.1**	**0.0**
	comp=Z,5.2nm,0.9s,baz=220,slow=4.4,SNR=6.1								
TORD	**Torodi Ar. Bea**	**83.87**	**70**	P			**P**	**03 31 38.9**	**-0.2**
	comp=Z,3.8nm,0.7s,baz=264,slow=4.5,SNR=23								
WRA	**Warramunga Arr**	**122.11**	**210**	PKP			**PKiKP**	**03 38 09.4**	**+4.8**
	comp=Z,0.4nm,0.8s,baz=165,slow=1.7,SNR=2.5								
ZALV	**Zalesovo Beam**	**152.91**	**30**	PKPbc			**PKPbc**	**03 39 06.4**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=305,slow=5.2,SNR=5.4								
ZALV	**Zalesovo Beam**	**152.91**	**30**				**PKPbc**	**03 39 06.8**	**+0.8**
MKAR	**Makanchi Array**	**155.81**	**46**	PKPab			**PKPab**	**03 39 29.8**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=310,slow=4.6,SNR=5.2								

VAO ***25*** *03:21:46.2±0.4, 20°.86S×69°.46W, h10km, mb5.0*
SJA ***25*** *03:21:55.3±0.4, 20°.93S×69°.37W, h99km±4km, ML4.9, MW4.6*
IDC ***25*** *03:21:56.9±0.3, 20°.83S×69°.05W, h92km±2km, mb4.4/20, mb1 4.5/25, mb1mx4.4/34, mbtmp4.7/25, MS3.5/3, Ms1 3.5/3, ms1mx3.1/14, Error ellipse: s-maj=13.2km s-min=5.4km az=86.0*
NEIC ***25*** *03:21:56.0±1.9, 20°.89S±0°.05×69°.09W±0°.07, h108km±4km, mb4.8/263, ML5.3(GUC), Error ellipse: s-maj=9.1km s-min=6.4km az=77.0*
GUC ***25*** *03:21:57.0±0.7, 20°.91S×69°.22W, h91km±3km, ML5.3*
GCMT ***25*** *03:22:02.0±0.3, 20°.79S±0°.02×69°.32W±0°.04, h83km±3km, MW4.8/74, Moment Tensor Solution. s16,c16; s74,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.24±.09; $M_{\theta\theta}$1.60±.09; $M_{\phi\phi}$-0.35±.13; $M_{r\theta}$0.43±.05; $M_{\theta\phi}$-0.73±.07; $M_{\phi r}$-0.64±.07; Best double couple: M_{o}1.77100×10^{16} NP1:ϕ_s83.00000°, δ40.00000°, λ-130.00000°. NP2: ϕ_s311.00000°, δ61.00000°, λ-61.00000°. Principal axes: T 1.9640, Plg11.0000°, Azm20.0000°; N -0.3840, Plg25.0000°, Azm116.0000°; P -1.5780, Plg63.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 25 03:21:56.1±0.3, 20°.89S±0°.03×69°.19W±0°.05, h87km±2km, h87km:pP-P, n488, σ1§23/436, mb4.8/139, 40C-34D, Fault plane solution: NP1:ϕ_s121.64061°, δ89.10933°, λ54.91046°. NP2:ϕ_s30.37307°, δ35.09940°, λ178.45087°. Principal axes: T Plg36.1226°, Azm1.4269°; N Plg35.0847°, Azm122.2663°; P Plg34.5783°, Azm241.2244°; Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.32**	**241**	⇓*iP*			**Pn**	**03 22 10.0**	**+0.6**
PB01				*i*	S		**Sn**	**03 22 20.1**	**+0.7**
PB01					IAML			03 22 20.5	
	comp=N,315μm,0.2s								
PB01	**IPOC Station P**	**0.32**	**241**				**Pn**	**03 22 09.8**	**+0.4**
PB01						Sn	**Sn**	**03 22 20.0**	**+0.7**
PB01	**IPOC Station P**	**0.32**	**241**	*i*	P		**Pn**	**03 22 10.0**	**+0.6**
PB01					IAML			03 22 22.8	
	comp=Z,59μm,0.3s								
PB08	**IPOC Station P**	**0.74**	**3**	⇓*iP*			**Pn**	**03 22 14.6**	**+1.3**
PB08				*i*	S		**Sn**	**03 22 27.8**	**+1.8**
PB08					IAML			03 22 28.7	
	comp=E,89μm,0.2s								
PB08	**IPOC Station P**	**0.74**	**3**				**Pn**	**03 22 14.4**	**+1.2**
PB08	**IPOC Station P**	**0.74**	**3**	*i*	P		**Pn**	**03 22 14.7**	**+1.5**
PB08					IAML			03 22 31.8	
	comp=Z,25μm,0.4s								
PB02	**IPOC Station P**	**0.79**	**237**	⇑*iP*			**Pn**	**03 22 13.8**	**+0.4**
PB02				*i*	S		**Sn**	**03 22 26.5**	**+0.3**
PB02					IAML			03 22 27.7	
	comp=N,195μm,0.3s								
PB02	**IPOC Station P**	**0.79**	**237**	*i*	P		**Pn**	**03 22 13.0**	**-0.4**
HMBC	**Humberstone**	**0.89**	**313**	*i*	P		**Pn**	**03 22 15.0**	**+0.5**
HMBC				*i*	S		**Sn**	**03 22 29.0**	**+0.8**
HMBC					IAML			03 22 29.7	
	comp=N,90μm,0.2s								
TA01	**Diego Aracena**	**0.98**	**289**				**Pn**	**03 22 15.6**	**+0.3**
PB07	**IPOC Station P**	**1.06**	**218**	⇑*iP*			**Pn**	**03 22 16.8**	**+0.3**
PB07				*i*	S		**Sn**	**03 22 31.9**	**+0.3**
PB07					IAML			03 22 33.1	
	comp=E,48μm,0.7s								
PB07	**IPOC Station P**	**1.06**	**218**	Pn			**Pn**	**03 22 15.9**	**-0.6**
TA02	**Huaiquique**	**1.07**	**305**	⇓*iP*			**Pn**	**03 22 16.8**	**+0.3**
TA02				*i*	S		**Sn**	**03 22 32.2**	**+0.5**
TA02	**Huaiquique**	**1.07**	**305**				**Pn**	**03 22 16.8**	**+0.3**
TA02	**Huaiquique**	**1.07**	**305**	*i*	P		**Pn**	**03 22 16.0**	**-0.4**
TA02					IAML			03 22 35.0	
	comp=Z,11μm,0.2s								
PB11	**IPOC Station P**	**1.20**	**339**	⇓*iP*			**Pn**	**03 22 19.1**	**+0.8**
PB11				*i*	S		**Sn**	**03 22 35.6**	**+0.9**
PB11					IAML			03 22 37.1	
	comp=E,114μm,0.3s								
PB11	**IPOC Station P**	**1.20**	**339**				**Pn**	**03 22 19.1**	**+0.8**
PB11	**IPOC Station P**	**1.20**	**339**	*i*	P		**Pn**	**03 22 19.0**	**+0.8**
PB11					IAML			03 22 38.8	
	comp=Z,21μm,0.3s								
PSGC	**Pisagua**	**1.55**	**326**	⇑*iP*			**Pn**	**03 22 22.9**	**+0.4**
PSGC				*i*	S		**Sn**	**03 22 42.5**	**0.0**
PSGCX	**Pisagua**	**1.55**	**326**				**Pn**	**03 22 22.5**	**0.0**
PSGCX	**Pisagua**	**1.55**	**326**	*i*	P		**Pn**	**03 22 22.9**	**+0.4**
PSGCX					IAML			03 22 45.8	
	comp=Z,12μm,0.3s								
PB04	**IPOC Station P**	**1.69**	**212**	⇑*iP*			**Pn**	**03 22 24.0**	**-0.4**
PB04				*eS*			**Sn**	**03 22 45.7**	**-0.1**
PB04	**IPOC Station P**	**1.69**	**212**				**Pn**	**03 22 24.1**	**-0.3**
PB04	**IPOC Station P**	**1.69**	**212**	*i*	P		**Pn**	**03 22 23.6**	**-0.7**
PB04					IAML			03 22 55.7	
	comp=Z,10μm,0.7s								
LVC	**Limon Verde**	**1.73**	**171**	P			**Pn**	**03 22 26.6**	**+1.5**
	comp=Z,3μm,0.3s,baz=348,slow=8.8,SNR=3041								
LVC					S		**Sn**	**03 22 48.9**	**+1.9**
	comp=Z,4μm,0.3s,baz=137,slow=20,SNR=

SOTA Rioblanco 24.01 342 eP P 03 27 06.5 +3.0
SMTB Santa Maria do 24.02 63 eP P 03 27 01.7 -1.4
BBAC Balboa, Cauca 24.10 340 eP P 03 27 05.5 +1.5
MC01 Montes Claros 24.25 84 eP P 03 27 03.1 -2.1
JANB Januaria 24.35 80 eP P 03 27 04.5 -1.7
POPC Popayan, Colom 24.41 342 eP P 03 27 08.1 +1.2
BOAV Boa Vista 24.65 21 eP P 03 27 08.5 -0.3
SDBA SAO DESIDERIO 24.73 74 eP P 03 27 07.4 -2.2
COYC Coyhaique 24.73 185 P P 03 27 07.9 -1.3
COYC IAmb IAmb 03 27 09.6
comp=Z,25nm,0.8s
DUB01 Friburgo-RJ 24.97 98 eP P 03 27 13.3 +1.5
VILC Villavicencio, 25.23 349 eP P 03 27 15.0 +0.7
CAM01 Campos-RJ 25.65 97 eP P 03 27 19.1 +1.2
ANIL Santa Ana 25.95 346 eP P 03 27 20.7 -0.2
ROSC El Rosal 26.06 348 P P 03 27 21.6 -0.3
comp=Z,14nm,0.4s,baz=271,slow=21,SNR=5.0
ROSC El Rosal 26.06 348 P P 03 27 21.4 -0.6
ROSC IAmb IAmb 03 27 26.9
comp=Z,18nm,0.6s
MCPB Macapa, AP 26.39 42 eP P 03 27 23.6 -1.1
SJMB Sao Joao De Ma 26.43 90 eP P 03 27 24.6 -0.3
ALF01 Guarapari-ES 26.61 95 eP P 03 27 27.1 +0.6
BSFB Barra de Sao F 26.73 91 eP P 03 27 27.6 -0.1
RUSC La Rusia 26.89 351 P P 03 27 28.8 -0.7
RUSC La Rusia 26.89 351 eP P 03 27 29.7 +0.1
RIB01 Linhares ES 27.08 92 eP P 03 27 30.5 -0.2
NAN01 Guarapari, ES 27.57 89 eP P 03 27 34.4 -0.8
BARC Barichara 27.59 351 eP P 03 27 35.0 -0.5
TMAB Tom-Au,PA,Br 27.60 51 eP P 03 27 36.1 +0.7
HELC Santa Helena 27.62 346 eP P 03 27 35.1 -0.9
GUA01 Guaratinga, BA 28.14 86 eP P 03 27 40.0 -0.2
ZARC Zaragoza, Cauc 28.75 348 eP P 03 27 43.7 -1.9
NBIT Itapeh - BA 28.90 83 eP P 03 27 47.5 +0.5
GDU01 Guandu, BA 29.13 81 eP P 03 27 48.4 -0.7
NBPN Ponto Novo - B 29.57 75 eP P 03 27 51.6 -1.4
SDV Santo Domingo 29.62 357 P P 03 27 52.2 -1.3
comp=Z,8.5nm,0.6s,baz=178,slow=10.0,SNR=9.9
SDV Santo Domingo 29.62 357 P P 03 27 52.2 -1.3
SDV IAmb IAmb 03 28 01.2
comp=Z,18nm,1.1s
SDV Santo Domingo 29.62 357 eP P 03 27 52.3 -1.3
SMLC San Martn de 29.89 350 eP P 03 27 53.1 -2.6
ROSB Rosito 30.26 57 eP P 03 27 60.0 +0.9
SJCC San Jacinto, C 31.15 349 P P 03 28 06.0 -0.9
SJCC IAmb IAmb 03 28 09.3
comp=Z,21nm,1.0s
PCRV Puerto La Cruz 31.19 9 P P 03 28 07.2 -0.1
comp=Z,11nm,0.4s,baz=323,slow=2.5,SNR=11
NBPS Pedro II - PI 31.56 63 eP P 03 28 09.9 -0.7
NBLA Lagarto - SE 31.70 77 eP P 03 28 11.2 -0.6
NBMA Muriti-CE 32.34 70 eP P 03 28 16.0 -1.5
URIC Uribia, Colomb 32.50 355 P P 03 28 17.4 -1.3
URIC IAmb IAmb 03 28 33.1
comp=Z,18nm,1.1s
NBPB Pedra_Branca-C 32.52 66 eP P 03 28 18.1 -0.8
TOSP Speyside 33.10 16 P P 03 28 23.4 -0.4
NBAN Anadia - AL 33.58 76 eP P 03 28 27.1 -1.1
NBLV Livramento - P 33.97 71 eP P 03 28 31.4 -0.3
NBCL Cascavel-CE 34.30 65 eP P 03 28 34.2 -0.2
COVE Coope Vega, Sa 34.79 333 P P 03 28 38.2 -0.4
COVE IAmb IAmb 03 28 47.7
comp=Z,18nm,1.0s
SVB Belmont 34.83 14 eP P 03 28 37.3 -1.6
SVV Soufriere Volc 34.88 14 eP P 03 28 40.0 +0.6
SSV Crater Summit 34.90 14 eP P 03 28 40.0 +0.4
SLB Belfond 35.42 14 eP P 03 28 43.8 -0.2
RCIR Riachuelo 35.57 70 P P 03 28 44.7 -0.7
SLBI Saint Lucia, B 35.62 14 eP P 03 28 44.2 -1.5
SLBI eS pP 03 29 08.7 +1.6
NBPV Pedro Velho 35.84 71 eP P 03 28 48.6 +1.0
MPOM Morne Pois Mar 36.05 14 eP P 03 28 47.3 -2.1
MPOM eS pP 03 29 06.5 -4.4
MPOM Morne Pois Mar 36.05 14 P P 03 28 48.1 -1.2
BIM Bigot 36.08 13 eP P 03 28 47.0 -2.6
BIM eS pP 03 29 09.4 -1.7
BIM Bigot 36.08 13 P P 03 28 47.5 -2.1
FDF Fort de France 36.27 13 eP P 03 28 48.9 -2.4
FDF Fort de France 36.27 13 P P 03 28 50.9 -0.4
ANBD Bethesda, Anti 38.40 11 eP P 03 29 02.9 -6.3
ANBD eS P 03 29 11.5 +2.4
OBIP Obispado Ponce 38.77 4 P P 03 29 09.5 -2.8
SJG San Juan 38.87 5 P P 03 29 10.7 -2.4
AOPR Arecibo Observ 39.06 4 eP P 03 29 12.0 -2.8
CUPR Culebra, Puert 39.14 6 IAmb IAmb 03 29 14.4
comp=Z,16nm,0.9s
PMSA Palmer Station 44.00 177 P P 03 29 54.9 +0.4
comp=Z,7.5nm,0.7s,baz=36,slow=10,SNR=4.8
ZAIG Zacatecas 54.24 321 P P 03 31 14.0 +0.4
ZAIG IAmb IAmb 03 31 22.6
comp=Z,6.1nm,0.8s
NHSC New Hope 54.71 349 P P 03 31 16.2 -0.2
baz=167
LRAL Lakeview Retre 56.25 342 P P 03 31 27.7 +0.2
baz=160
833A Chaparral WMA, 56.96 328 P P 03 31 32.5 -0.1
baz=146
SACV Santiago Islan 57.21 55 P P 03 31 35.2 +0.5
X48A Hartselle 57.59 343 IAmb IAmb 03 31 40.2
comp=Z,4.2nm,0.7s
NATX Nacogdoches 57.76 334 P P 03 31 40.1 +2.0
NATX IAmb IAmb 03 31 42.2
comp=Z,9.2nm,0.8s
V52A Sevierville 58.05 346 IAmb IAmb 03 31 42.5
comp=Z,11nm,1.0s
435B Jarrell 58.17 331 P P 03 31 40.5 -0.6
baz=148
OXF Oxford 58.35 340 P P 03 31 42.1 -0.1
OXF IAmb IAmb 03 31 59.0
comp=Z,12nm,0.9s
OXF Oxford 58.35 340 P P 03 31 41.8 -0.4
baz=158
PLAL Pickwick Lake 58.39 342 IAmb IAmb 03 31 44.7
comp=Z,4.5nm,0.6s
V48A Smith Brothers 58.74 343 IAmb IAmb 03 31 47.1
comp=Z,9.3nm,0.8s
BLA Blacksburg 58.75 350 P P 03 31 45.9 +0.9
baz=168
WLAR White Oak Lake 58.87 337 P P 03 31 46.8 +1.0
JCT Junction City 58.94 329 IAmb IAmb 03 31 51.2
comp=Z,7.4nm,0.8s
JCT Junction City 58.94 329 P P 03 31 45.4 -1.1
baz=146
CLTN Cedars of Leba 58.95 344 IAmb IAmb 03 31 49.7
comp=Z,8.0nm,0.8s
WHTX Lake Whitney, 59.14 332 IAmb IAmb 03 31 48.5
comp=Z,8.1nm,0.7s
WHTX Lake Whitney, 59.14 332 P P 03 31 47.1 -0.6
baz=149
U49A Red Boiling Sp 59.20 344 IAmb IAmb 03 31 51.4
comp=Z,7.0nm,0.6s
HPIG 59.23 322 P P 03 31 48.9 +0.1
HPIG IAmb IAmb 03 31 50.4
comp=Z,8.3nm,0.9s
WVT Waverly 59.39 343 P P 03 31 48.6 -0.8
WVT Waverly 59.39 343 P P 03 31 47.7 -1.7
baz=160
T50A Nancy 59.46 345 IAmb IAmb 03 31 52.3
comp=Z,5.6nm,0.8s
MIAR Mount Ida 59.81 337 P P 03 31 52.2 -0.1
MIAR IAmb IAmb 03 31 55.6
comp=Z,4.1nm,0.8s
MIAR Mount Ida 59.81 337 P P 03 31 51.8 -0.5
baz=154,SNR=5.7
W41B Gary Mavity, V 59.90 338 P P 03 31 52.6 -0.3
baz=155
TX31 Lajitas Ar. Si 59.98 325 IAmb IAmb 03 31 54.8
comp=Z,12nm,1.1s
TXAR Lajitas Array 59.98 325 P P 03 31 53.6 -0.1
comp=Z,1.6nm,0.8s,baz=152,slow=8.4,SNR=11
TXAR pP pP 03 32 15.9 -0.1
comp=Z,3.1nm,0.9s,baz=132,slow=9.2,SNR=7.1
TXAR Lajitas Array 59.98 325 P P 03 31 53.2 -0.5
TXAR pP pP 03 32 15.8 -0.2
LCAR Lake Charles 60.34 340 IAmb IAmb 03 32 06.2
comp=Z,11nm,1.4s
W39A Magazine 60.46 337 IAmb IAmb 03 32 00.7
comp=Z,5.8nm,0.8s
W39A Magazine 60.46 337 P P 03 31 56.1 -0.7
baz=153,SNR=5.3
FCAR Ozark Folk Cen 60.50 339 P P 03 31 56.6 -0.4
FCAR IAmb IAmb 03 32 06.0
comp=Z,8.8nm,1.4s
X37A Clayton 60.53 335 IAmb IAmb 03 31 58.3
comp=Z,6.9nm,0.8s
ABTX Abilene, Hawle 60.66 331 IAmb IAmb 03 31 58.9
comp=Z,6.7nm,0.8s
ABTX Abilene, Hawle 60.66 331 P P 03 31 57.3 -0.9
baz=147
VNA3 Neumayer Olymp 60.74 161 P P 03 31 58.3 0.0
Q52A Bidwell 60.78 348 IAmb IAmb 03 32 02.5
comp=Z,11nm,0.7s
VNA1 Neumayer--Stat 60.95 161 P P 03 32 00.0 +0.4
WCI Wyandotte Cave 60.96 345 P P 03 31 59.5 -0.6
baz=162
MCWV Mont Chateau 61.05 351 P P 03 32 01.0 +0.4
baz=169
Q51A Peebles 61.06 347 IAmb IAmb 03 32 02.9
comp=Z,9.8nm,0.8s
P53A Whipple 61.13 349 P P 03 32 01.9 +0.6
U40A Yellville 61.17 338 IAmb IAmb 03 32 04.7
comp=Z,4.9nm,0.7s
U40A Yellville 61.17 338 P P 03 32 01.1 -0.5
baz=155,SNR=5.2
SIUC Southern Illin 61.26 342 IAmb IAmb 03 32 05.1
comp=Z,17nm,1.2s
VNA2 Neumayer--Watz 61.31 161 P P 03 32 02.3 +0.2
baz=285,slow=6.6
P52A Corning 61.41 349 P P 03 32 02.4 -0.7
baz=166
P51A Williamsport 61.44 348 IAmb IAmb 03 32 05.3
comp=Z,10nm,0.8s
O56A Blue Knob Stat 61.46 352 P P 03 32 03.9 +0.4
baz=170
HHAR Hobbs 61.49 337 P P 03 32 03.7 -0.1
HHAR IAmb IAmb 03 32 06.5
comp=Z,4.1nm,0.8s
MGMO Mountain Grove 61.70 339 IAmb IAmb 03 32 06.8
comp=Z,5.5nm,1.1s
PAL Palisades 61.73 356 P P 03 32 05.3 +0.1
baz=175
SSPA Standing Stone 61.74 352 P P 03 32 04.9 -0.4
baz=171
N59A State Game Lan 61.79 354 P P 03 32 06.2 +0.5
baz=173
P49A Miami Univ. Ec 61.83 346 P P 03 32 04.6 -1.4
baz=164
O53A New Philadelph 61.84 350 P P 03 32 05.2 -0.8
baz=167
TUL1 Leonard 61.85 336 P P 03 32 05.5 -0.6
TUL1 IAmb IAmb 03 32 19.6
comp=Z,5.5nm,0.7s
TUL1 pP pP 03 32 27.6 -1.0
WMOK Wichita Mounta 62.06 333 IAmb IAmb 03 32 11.7
comp=Z,5.3nm,0.4s
WMOK Wichita Mounta 62.06 333 P P 03 32 07.2 -0.4
baz=148,SNR=5.8
ACSO Alum Creek Sta 62.15 348 P P 03 32 07.2 -0.9
baz=165
CCM Cathedral Cave 62.19 340 P P 03 32 09.3 +1.0
CCM IAmb IAmb 03 32 10.9
comp=Z,5.7nm,0.8s
CCM Cathedral Cave 62.19 340 P P 03 32 07.7 -0.6
baz=157
N54A Moraine State 62.34 351 P P 03 32 09.0 -0.3
baz=168
P46A Rosedale 62.50 344 IAmb IAmb 03 32 12.7
comp=Z,11nm,0.8s
S39A Bolivar 62.54 339 P P 03 32 10.2 -0.6
S39A pP pP 03 32 31.9 -1.3
M55A Ridgway 62.67 352 IAmb IAmb 03 32 14.6
comp=Z,10nm,0.8s
R40A Maddies Statio 62.73 340 IAmb IAmb 03 32 15.8
comp=Z,5.8nm,0.6s
MNTX Cornudas Mount 62.75 326 P P 03 32 10.6 -1.6
baz=142,SNR=9.1
M54A Oil Creek Stat 62.83 351 P P 03 32 11.8 -0.8
baz=169
M53A Wt Miller and 62.92 350 P P 03 32 12.4 -0.8
baz=168
SNAA Sanae 62.94 161 P P 03 32 13.0 -0.1
SNAA Sanae 62.94 161 P P 03 32 13.2 +0.1
comp=Z,16nm,0.6s,baz=282,slow=7.9,SNR=7.4
SNAA pP pP 03 32 36.9 +0.9
comp=Z,6.2nm,0.6s,baz=268,slow=8.5,SNR=5.5
SNAA Sanae 62.94 161 P P 03 32 12.2 -0.8
BINY Binghamton 63.08 354 P P 03 32 14.9 +0.7
BINY IAmb IAmb 03 32 18.0
comp=Z,15nm,0.9s
BINY Binghamton 63.08 354 P P 03 32 13.1 -1.1
baz=173
L61B Northampton 63.10 357 P P 03 32 13.9 -0.4
baz=176
HRV Adam Dziewonsk 63.11 358 P P 03 32 12.8 -1.5
baz=177
P43A Skaggs, Pawnee 63.14 343 IAmb IAmb 03 32 17.5
comp=Z,14nm,0.8s
SFIN Lafayette 63.19 345 P P 03 32 14.7 -0.3
SFIN Lafayette 63.19 345 P P 03 32 13.1 -1.9
baz=161
MSTX Muleshoe 63.24 329 IAmb IAmb 03 32 16.1
comp=Z,12nm,1.0s
MSTX Muleshoe 63.24 329 P P 03 32 14.0 -1.6
baz=145,SNR=7.4
K61A Williamstown 63.35 357 P P 03 32 14.4 -1.6
baz=176
AMTX Amarillo 63.47 330 IAmb IAmb 03 32 20.7
comp=Z,5.1nm,0.6s
AMTX Amarillo 63.47 330 P P 03 32 15.3 -1.8
baz=146
ERPA Erie 63.48 351 P P 03 32 15.6 -1.2
baz=169
WVNY West Valley, N 63.57 352 IAmb IAmb 03 32 21.5
comp=Z,14nm,0.8s
KS20 Mayfield South 63.69 335 P P 03 32 18.0 -0.3
KS20 IAmb IAmb 03 32 18.4
comp=Z,25nm,1.4s
KS20 pP pP 03 32 40.6 -0.3
P40A Paris 63.79 340 IAmb IAmb 03 32 21.9
comp=Z,10nm,0.6s
HDIL Hopedale 63.93 343 P P 03 32 19.0 -0.8
baz=159
J59A Piesco 64.22 356 IAmb IAmb 03 32 25.4
comp=Z,12nm,0.8s
P38A Dawn 64.35 339 IAmb IAmb 03 32 26.4
comp=Z,7.0nm,0.6s
I60A Shoreham 64.52 357 P P 03 32 23.4 -0.2
baz=176
319A Douglas 64.64 322 P P 03 32 25.7 +0.8
319A IAmb IAmb 03 32 26.9
comp=Z,14nm,0.8s
121A Cookes Peak, D 64.68 324 P P 03 32 24.7 -0.5
baz=140
LBNH Lisbon 64.86 358 P P 03 32 26.3 +0.5
baz=177
LONY Lake Ozonia 65.37 356 IAmb IAmb 03 32 35.7
comp=Z,13nm,1.1s
LONY Lake Ozonia 65.37 356 P P 03 32 28.5 -0.7
baz=174
PKME Peaks-Kenny Pk 65.83 360 P P 03 32 32.6 +0.6
baz=180
ANMO Albuquerque 65.84 327 P P 03 32 33.4 +0.7
ANMO Albuquerque 65.84 327 P P 03 32 31.5 -1.2
baz=142
CBKS Cedar Bluff 65.93 334 P P 03 32 32.5 -0.5
baz=149
MNTQ Montreal, Queb 66.19 357 IAmb IAmb 03 32 37.9
comp=Z,14nm,0.8s
TUC Tucson 66.19 322 P P 03 32 34.8 0.0
TUC Tucson 66.19 322 P P 03 32 34.2 -0.6
baz=137
JFWS Jewell Farm 66.38 343 P P 03 32 34.1 -1.6
baz=158
T25A Trinidad 66.59 330 P P 03 32 37.5 +0.1
T25A Trinidad 66.59 330 P P 03 32 38.1 +0.8
baz=144
GLMI Grayling 66.89 348 P P 03 32 37.6 -1.3
baz=164
I42A Dreher Farm, 66.95 345 IAmb IAmb 03 32 42.3
comp=Z,9.7nm,0.7s
214A Organ Pipe Nat 67.12 320 IAmb IAmb 03 32 43.1
comp=Z,23nm,1.4s
214A Organ Pipe Nat 67.12 320 P P 03 32 39.9 -0.7
baz=136
KSCO Kaye Shedlock' 67.31 332 P P 03 32 40.9 -0.9
baz=146
BGNE Belgrade 67.55 337 P P 03 32 41.5 -1.6
baz=151
SDCO Great Sand Dun 67.59 329 IAmb IAmb 03 32 45.4
comp=Z,16nm,1.3s
SDCO Great Sand Dun 67.59 329 P P 03 32 43.0 -0.8
baz=143,SNR=13
D62A Allapoint, All 67.65 0 P P 03 32 43.5 -0.1
W18A Petrified Fore 67.69 325 IAmb IAmb 03 32 47.6
comp=Z,7.1nm,0.8s
W18A Petrified Fore 67.69 325 P P 03 32 44.0 -0.4
baz=139
SFX San Felipe 67.72 318 P P 03 32 45.2 +0.8
SFX IAmb IAmb 03 32 46.1
comp=Z,7.9nm,1.0s
S22A 4UR Ranch, Cre 68.23 329 P P 03 32 47.7 -0.1
baz=142
Q24A Divide 68.40 331 P P 03 32 48.0 -0.9
baz=144,SNR=5.5
LIC Lamto 68.47 74 ePKIKP P 03 32 50.0 +0.5
comp=Z,31nm,1.2s
MVCO Mesa Verde 68.64 327 IAmb IAmb 03 32 52.1
comp=Z,7.9nm,0.8s
MVCO Mesa Verde 68.64 327 P P 03 32 49.8 -0.5
baz=141,SNR=7.5
TIC Toumodi 68.66 74 ePKIKP P 03 32 50.6 -0.1
KIC Kosan Boka 68.79 74 ePKIKP P 03 32 50.5 -1.0
comp=Z,16nm,0.6s
DBIC Dimbokro 68.82 74 P P 03 32 50.7 -0.9
comp=Z,11nm,0.8s,baz=253,slow=5.2,SNR=13
DBIC pP pP 03 33 14.8 -0.6
comp=Z,17nm,0.8s,baz=238,slow=5.6,SNR=8.1
DBIC Dimbokro 68.82 74 P P 03 32 50.5 -1.2
DBIC IAmb IAmb 03 32 51.5
comp=Z,9.0nm,0.8s
WUAZ Wupatki 68.88 324 IAmb IAmb 03 32 54.2
comp=Z,12nm,0.9s
WUAZ Wupatki 68.88 324 P P 03 32 51.8 0.0
baz=138,SNR=11
ECSD EROS Data Cent 69.05 339 P P 03 32 52.6 +0.1
baz=152
GLA Glamis 69.10 320 P P 03 32 53.0 -0.1
baz=134
SPMN Marine on St. 69.22 342 P P 03 32 53.4 0.0
baz=156
ISCO Idaho Springs 69.29 331 P P 03 32 54.8 +0.5
ISCO Idaho Springs 69.29 331 P P 03 32 53.6 -0.8
baz=144,SNR=5.4
QSPA South Pole Qui 69.30 180 P P 03 32 54.7 +0.8
comp=Z,19nm,0.5s,baz=154,slow=1.4,SNR=59
QSPA pP PcP 03 33 18.3 +1.4
comp=Z,14nm,0.7s,baz=118,slow=3.3,SNR=5.9
QSPA South Pole Qui 69.30 180 P P 03 32 54.9 +0.9
PV13 Radium Mtn., P 69.53 328 P P 03 32 56.4 +0.5
PDMCI Parker Dam,Lak 69.57 321 P P 03 32 56.8 +1.0
baz=135
IKP In-Ko-Pah, Jac 69.60 319 P P 03 32 55.9 -0.3
baz=133
SWSC Sam W. Stewart 69.62 319 P P 03 32 55.8 -0.3
baz=134
CBX Cerro Bola 69.72 318 P P 03 32 57.6 +0.6
BC3 Big Chuckawall 69.90 320 P P 03 32 57.7 -0.3
baz=134,SNR=7.1
MONP2 Monument Peak 69.96 319 P P 03 32 57.7 -0.9
baz=133
BAR Barrett 69.97 319 P P 03 32 59.2 +0.8
BAR IAmb IAmb 03 33 00.7
comp=Z,8.8nm,1.0s
U15A North Rim 70.06 324 IAmb IAmb 03 33 01.9
comp=Z,8.7nm,0.9s
IRM Iron Mountain 70.06 321 P P 03 32 58.4 -0.5
baz=134,SNR=9.7
N23A Red Feather La 70.32 331 P P 03 33 01.5 +0.8
baz=144
BELC Belle Mtn. Jos 70.46 320 P P 03 33 02.3 +0.8
baz=134,SNR=5.8
TPFO Pinon Flats 70.47 319 P P 03 33 01.7 +0.1
baz=133
PFO Pinyon Flats O 70.47 319 P P 03 33 02.7 +1.2
PFO Pinyon Flats O 70.47 319 P P 03 33 02.9 +1.4
baz=133,SNR=5.7
SUSD Miller 70.48 338 P P 03 33 01.5 +0.3
baz=150
KNB Kanab 70.78 324 IAmb IAmb 03 33 06.3
comp=Z,24nm,1.1s
O20A White River Ci 70.78 329 IAmb IAmb 03 33 05.3
comp=Z,7.5nm,0.9s
O20A White River Ci 70.78 329 P P 03 33 04.6 +1.2
baz=141
SRU San Rafael Swe 71.12 327 IAmb IAmb 03 33 07.2
comp=Z,13nm,0.8s
MTPU Mount Pierson 71.18 325 P P 03 33 06.6 +0.5
HEC Hector,Ludlow 71.23 320 P P 03 33 07.0 +0.9
baz=134,SNR=5.2
Q16A Castle Valley 71.31 327 IAmb IAmb 03 33 09.5
comp=Z,7.2nm,0.8s
EYMN Ely 71.38 344 P P 03 33 07.2 +0.6
baz=158
CCUT Cedar City 71.46 324 IAmb IAmb 03 33 10.6
comp=Z,14nm,0.9s
P17A Butcher Ranch, 71.50 327 IAmb IAmb 03 33 09.7
comp=Z,13nm,0.9s
TMUT Trail Mountain 71.61 327 P P 03 33 09.5 +0.9
BFSC Mount Baldy Ra 71.63 319 P P 03 33 09.4 +0.8
baz=133
RDMU Red Mountain 71.76 329 IAmb IAmb 03 33 10.4
comp=Z,7.0nm,0.7s
GSC Goldstone, Bar 71.84 321 P P 03 33 09.2 -0.6
baz=133
K22A Casper 71.98 332 P P 03 33 09.8 -0.8
baz=143
RSSD Black Hills 72.13 334 P P 03 33 11.1 -0.3
baz=146
EDW2 Edwards Air Fo 72.27 320 P P 03 33 11.8 -0.5
baz=132,SNR=5.1
MPU Maple Canyon 72.36 327 IAmb IAmb 03 33 14.9
comp=Z,8.3nm,1.0s
GWY Greenwater Val 72.37 321 P P 03 33 13.6 +0.6
GWY IAmb IAmb 03 33 15.1
comp=Z,8.7nm,0.9s
PSUT Pine Spring 72.44 325 IAmb IAmb 03 33 15.8
comp=Z,8.5nm,0.9s
LRMC Laurel Mtn Rad 72.48 320 P P 03 33 15.2 +1.6
baz=133
TPNV Topopah Spring 72.65 322 IAmb IAmb 03 33 17.4
comp=Z,9.1nm,1.0s
TPNV Topopah Spring 72.65 322 P P 03 33 15.0 +0.4
baz=134,SNR=12
FURC Furnace Creek, 72.67 321 P P 03 33 13.7 -0.8
baz=134,SNR=9.4
JLU Jordanelle 72.71 328 IAmb IAmb 03 33 17.1
comp=Z,8.9nm,0.9s
MPMC Manual Prospec 72.76 321 P P 03 33 13.8 -1.5
baz=133,SNR=5.6
AGMN Agassiz Nation 72.89 342 P P 03 33 15.2 -0.4
baz=154
KOWA Kowa 73.02 67 P P 03 33 16.4 -0.6
KOWA IAmb IAmb 03 33 19.3
comp=Z,7.3nm,0.8s
KOWA pP pP 03 33 39.3 -1.7
TCUT Toone Canyon 73.08 328 IAmb IAmb 03 33 19.0
comp=Z,6.6nm,0.8s
ISA Isabella, Lake 73.08 320 IAmb IAmb 03 33 19.5
comp=Z,8.9nm,0.8s
ISA Isabella, Lake 73.08 320 P P 03 33 17.9 +0.8
baz=132,SNR=8.6
DUG Dugway, Tooele 73.10 326 IAmb IAmb 03 33 19.4
comp=Z,8.4nm,1.1s
DUG Dugway, Tooele 73.10 326 P P 03 33 17.8 +0.6
baz=138,SNR=9.7
R11A Troy Canyon, C 73.26 324 P P 03 33 18.4 +0.2
baz=135,SNR=9.0
GRAC Grapevine Rang 73.33 321 P P 03 33 19.9 +1.4
baz=133
CWC Cottonwood Cre 73.37 321 P P 03 33 18.9 0.0
baz=133
PKM Mcpherson Peak 73.39 318 P P 03 33 19.5 +0.5
baz=131,SNR=7.7
BW06 Boulder Array 73.45 330 P P 03 33 19.1 -0.2
baz=141
PDAR Pinedale Array 73.45 330 P P 03 33 19.2 -0.1
comp=Z,1.3nm,0.8s,baz=152,slow=6.7,SNR=10
PDAR LR LR 04 08 41.6
comp=Z,17nm,19.4s,baz=102,slow=38
PDAR Pinedale Array 73.45 330 P P 03 33 19.6 +0.3
HWUT Hardware Ranch 73.53 328 IAmb IAmb 03 33 22.9
comp=Z,8.7nm,0.8s
MDND Maddock 73.67 339 IAmb IAmb 03 33 21.4
comp=Z,20nm,0.9s
MDND Maddock 73.67 339 P P 03 33 20.3 +0.1
baz=150
SPUT South Promonto 73.74 327 IAmb IAmb 03 33 22.7
comp=Z,9.4nm,0.9s
SMMC Simmler 73.78 319 P P 03 33 21.3 +0.1

baz=131
AHID Auburn Hatcher 74.18 329 P P 03 33 24.1 +0.6
AHID IAmb IAmb 03 33 25.0
comp=Z,14nm,0.9s
SNOW Snow King Moun 74.55 330 IAmb IAmb 03 33 27.5
comp=Z,8.3nm,0.8s
ULM Lac du Bonnet 74.66 343 P P 03 33 26.8 +1.0
comp=Z,4.0nm,0.6s,baz=150,slow=7.1,SNR=3.9
ULM pP pP 03 33 49.3 +0.3
comp=Z,4.1nm,0.5s,baz=158,slow=5.7,SNR=3.3
TPAW Teton Pass 74.66 330 P P 03 33 27.1 +0.7
TPAW IAmb IAmb 03 33 28.2
comp=Z,6.5nm,0.8s
NVAR Mina Array Bea 74.85 322 P P 03 33 28.7 +1.2
comp=Z,2.6nm,0.8s,baz=156,slow=6.6,SNR=20
NVAR pP pP 03 33 52.5 +1.9
comp=Z,4.1nm,0.9s,baz=148,slow=6.1,SNR=6.4
NVAR Mina Array Bea 74.85 322 P P 03 33 28.2 +0.7
NVAR pP pP 03 33 51.8 +1.2
IMW Indian Meadow 74.96 330 IAmb IAmb 03 33 30.0
comp=Z,6.6nm,0.8s
FLWY Flagg Ranch 74.99 330 IAmb IAmb 03 33 30.5
comp=Z,16nm,0.8s
LAO LASA Array 75.12 335 IAmb IAmb 03 33 30.7
comp=Z,26nm,1.4s
LAO LASA Array 75.12 335 P P 03 33 28.9 +0.2
baz=144
RLMT Red Lodge 75.15 332 IAmb IAmb 03 33 31.0
comp=Z,7.9nm,0.8s
RLMT Red Lodge 75.15 332 P P 03 33 28.6 -0.5
baz=142,SNR=6.8
KVN Kaiserville 75.16 323 IAmb IAmb 03 33 31.1
comp=Z,8.8nm,1.0s
H17A Grant Village 75.18 331 P P 03 33 30.4 +1.1
H17A Grant Village 75.18 331 P P 03 33 30.0 +0.7
baz=140
LKWY Lake 75.23 331 IAmb IAmb 03 33 35.1
comp=Z,7.3nm,0.8s
YMP Mirror Lake Pl 75.25 331 IAmb IAmb 03 33 49.3
comp=Z,17nm,1.3s
YNE Yellowstone No 75.39 331 IAmb IAmb 03 33 32.4
comp=Z,19nm,0.8s
SCHQ Schefferville 75.44 1 P P 03 33 30.2 -0.1
comp=Z,6.9nm,0.7s,baz=178,slow=5.8,SNR=6.3
SCHQ Schefferville 75.44 1 IAmb IAmb 03 33 34.0
comp=Z,7.8nm,0.8s
YMR Madison River 75.56 331 P P 03 33 33.7 +2.2
YMR IAmb IAmb 03 33 34.2
comp=Z,14nm,1.1s
YHH Holmes Hill 75.61 331 IAmb IAmb 03 33 35.0
comp=Z,14nm,1.0s
YHB Horse Butte 75.73 331 IAmb IAmb 03 33 34.9
comp=Z,9.9nm,0.8s
YHL Hebgen Lake 75.81 331 P P 03 33 34.0 +1.0
YHL IAmb IAmb 03 33 36.4
comp=Z,8.9nm,1.0s
YHL pP pP 03 33 58.1 +2.1
DGMT Dagmar 75.81 337 IAmb IAmb 03 33 34.4
comp=Z,15nm,1.1s
DGMT Dagmar 75.81 337 P P 03 33 33.4 +0.9
baz=146
PAHR Pah Rah Range 76.33 322 IAmb IAmb 03 33 38.3
comp=Z,15nm,0.9s
SBA Scott Base 76.38 190 P P 03 33 36.7 +1.3
HLID Hailey 76.39 328 IAmb IAmb 03 33 38.6
comp=Z,8.6nm,0.9s
HLID Hailey 76.39 328 P P 03 33 37.8 +1.6
baz=137
BOZ Bozeman (W) 76.58 331 P P 03 33 37.1 0.0
baz=140
MFID Camas Ranch 76.99 327 IAmb IAmb 03 33 41.8
comp=Z,10nm,1.2s
SYO Syowa Base 77.17 160 ‖ eP P 03 33 40.0 +0.1
TORD Torodi Ar. Bea 77.40 71 P P 03 33 41.1 -1.1
comp=Z,3.6nm,0.4s,baz=254,slow=5.5,SNR=63
TORD pP pP 03 34 05.5 -0.9
comp=Z,27nm,0.8s,baz=257,slow=5.2,SNR=17
TORD Torodi Ar. Bea 77.40 71 P P 03 33 41.3 -0.9
TORD IAmb IAmb 03 33 48.4
comp=Z,7.5nm,0.6s
VNDA Vanda 77.40 190 P P 03 33 42.8 +1.6
comp=Z,3.3nm,0.8s,baz=121,slow=5.2,SNR=18
VNDA Vanda 77.40 190 P P 03 33 42.5 +1.3
ORV Oroville 77.46 321 IAmb IAmb 03 33 44.3
comp=Z,12nm,1.1s
EGMT Eagleton 77.63 333 IAmb IAmb 03 33 44.1
comp=Z,16nm,1.1s
EGMT Eagleton 77.63 333 P P 03 33 42.1 -0.8
baz=142
O03E Paynes Creek 78.11 322 P P 03 33 44.3 -1.5
baz=131
PLID Pearl Lake 78.28 328 IAmb IAmb 03 33 48.4
comp=Z,13nm,0.9s
MOD Modoc Plateau 78.32 324 IAmb IAmb 03 33 49.0
comp=Z,12nm,1.2s
MSO Missoula 78.56 330 P P 03 33 47.4 -0.7
baz=138
BMO Blue Mountains 78.76 327 IAmb IAmb 03 33 51.0
comp=Z,8.2nm,0.9s
N02D Trinity Center 79.08 322 P P 03 33 50.8 -0.2
baz=130,SNR=8.4
M04C Macdoel 79.10 323 P P 03 33 49.9 -1.3
baz=131,SNR=7.2
K05A Summer Lake 79.20 324 P P 03 33 52.8 +1.0
K05A IAmb IAmb 03 33 54.2
comp=Z,16nm,0.8s
I07A Izee 79.36 326 IAmb IAmb 03 33 54.8
comp=Z,7.3nm,0.9s
M02C Callahan 79.43 322 P P 03 33 52.3 -0.7
baz=130
F10A Beach Ranch, E 79.51 328 IAmb IAmb 03 34 00.4
comp=Z,6.6nm,0.8s
L04D Klamath Falls 79.65 323 P P 03 33 53.1 -1.1
baz=131,SNR=5.0
J05D Fort Rock, OR 79.76 324 P P 03 33 54.5 -0.3
baz=132,SNR=7.9
PINE Pine Mountain 79.93 325 IAmb IAmb 03 33 58.1
comp=Z,16nm,0.8s
WALA Waterton Lakes 80.21 332 IAmb IAmb 03 33 58.5
comp=Z,8.9nm,0.9s
J04D Umpqua Nationa 80.21 324 P P 03 33 56.3 -0.9
baz=131
L02E Cave Junction 80.35 322 P P 03 33 57.3 -0.5
baz=130
TSUM Tsumeb 80.47 107 P P 03 33 59.0 -0.2
TSUM IAmb IAmb 03 34 00.5
comp=Z,15nm,0.8s
I05D Terrebonne, OR 80.51 325 P P 03 33 58.6 0.0
baz=132,SNR=17
K02D Willamette Mer 80.73 323 P P 03 33 59.7 -0.2
baz=130,SNR=6.3
I04A Tendick Farm, 80.73 324 P P 03 33 60.0 +0.1
baz=131,SNR=6.7
DBO Dodson Butte 80.76 323 IAmb IAmb 03 34 02.0
comp=Z,8.7nm,0.8s
F07A Phinny Hill Vi 80.81 327 IAmb IAmb 03 34 03.4
comp=Z,13nm,1.3s
HAWA Hanford 80.95 327 IAmb IAmb 03 34 02.9
comp=Z,12nm,0.8s
NEW Newport 81.09 330 P P 03 34 00.6 -1.0
baz=135
G05D Wamic, OR 81.10 326 P P 03 34 01.3 -0.4
baz=132
J01E Myrtle Point 81.18 323 P P 03 34 01.1 -1.0
baz=129
I03D Drain, OR 81.19 323 P P 03 34 02.7 +0.5
baz=130
H04A Detroit Lake 81.19 325 IAmb IAmb 03 34 03.4
comp=Z,11nm,0.7s
E07A Sunnyside 81.23 327 IAmb IAmb 03 34 05.5
comp=Z,4.7nm,0.5s
HOOD Mount Hood Mea 81.33 326 P P 03 34 03.9 +0.8
H04D Lebanon 81.39 324 P P 03 34 03.7 +0.5
baz=130
I02D Swisshome 81.73 324 P P 03 34 05.3 +0.3
baz=130
COR Corvallis 81.74 324 P P 03 34 06.0 +1.0
LTY Liberty 82.11 327 IAmb IAmb 03 34 08.1
comp=Z,8.0nm,0.8s
F04A Amboy 82.14 326 IAmb IAmb 03 34 08.6
comp=Z,16nm,0.9s
E04D Cinebar 82.62 326 P P 03 34 09.9 +0.3
baz=131
B05A Bryant 83.50 328 P P 03 34 14.3 +0.2
baz=131
BOSA Boshof 83.97 118 P P 03 34 16.6 -0.7
comp=Z,5.9nm,0.9s,baz=263,slow=4.5,SNR=7.8
BOSA pP pP 03 34 42.2 +0.8
comp=Z,5.2nm,0.8s,baz=273,slow=3.8,SNR=4.0
BOSA LR LR 04 12 02.0
comp=Z,36nm,19.5s,baz=188,slow=36
BOSA Boshof 83.97 118 IAmb IAmb 03 34 17.9
comp=Z,9.8nm,1.0s
A04D Lummi Island 84.11 328 P P 03 34 17.0 -0.2
baz=131
LLLB Lillooet 84.95 329 IAmb IAmb 03 34 22.4
comp=Z,10nm,0.9s
MAW Mawson 84.99 163 P P 03 34 22.0 +0.5
comp=Z,7.3nm,0.9s,baz=225,slow=5.1,SNR=17
MAW pP pP 03 34 46.8 +1.5
comp=Z,3.1nm,0.8s,baz=242,slow=7.8,SNR=4.2
PAB San Pablo 85.27 45 P P 03 34 23.7 +0.3
ESDC Sonseca Array 85.58 45 P P 03 34 24.6 -0.3
comp=Z,1.9nm,0.9s,baz=249,slow=5.4,SNR=11
ESDC pP pP 03 34 48.4 -1.0
comp=Z,2.5nm,0.9s,baz=252,slow=5.3,SNR=7.3
ESDC Sonseca Array 85.58 45 P P 03 34 26.6 +1.6
YKA Yellowknife Ar 90.53 341 P P 03 34 47.7 -0.1
comp=Z,7.4nm,0.8s,baz=129,slow=5.3,SNR=16
YKA pP pP 03 35 11.3 -0.4
comp=Z,11nm,0.8s,baz=130,slow=5.4,SNR=14
DLBC Dease Lake 93.54 333 IAmb IAmb 03 35 03.8
comp=Z,5.4nm,1.0s
K27K Chicken 101.37 335 P Pdif 03 35 36.3 -0.8
baz=114
KLU Klutina 102.01 331 P Pdif 03 35 39.7 -0.4
baz=112
SCRK Sand Creek 102.12 334 P Pdif 03 35 40.3 -0.3
baz=113
UNV Unalaska Valle 110.86 321 P PKiKP 03 40 17.8 -0.9
baz=97
KBZ Khabaz 119.94 51 PKP PKiKP 03 40 36.9 +0.3
comp=Z,3.1nm,1.0s,baz=18,slow=6.6,SNR=5.5
H11S2 WAKE ISLAND Hyd 27.54 278 T T 06 00 44.1
baz=102,slow=75,SNR=200
H11S1 WAKE ISLAND Hyd 27.55 278 T T 06 00 46.3
baz=102,slow=75,SNR=186
H11S3 WAKE ISLAND Hyd 27.55 278 T T 06 00 46.7
baz=102,slow=75,SNR=187
H11N3 WAKE ISLAND Hyd 27.60 279 T T 06 00 48.6
baz=102,slow=75,SNR=141
H11N2 WAKE ISLAND Hyd 27.62 279 T T 06 00 49.1
baz=102,slow=75,SNR=112
H11N1 WAKE ISLAND Hyd 27.62 279 T T 06 00 49.5
baz=102,slow=75,SNR=82
ASAR Alice Springs 130.33 208 PKP PKPdf 03 40 56.5 -0.6
comp=Z,3.0nm,0.8s,baz=157,slow=2.7,SNR=23
ASAR pPKP pPKPdf 03 41 22.6 +0.5
comp=Z,0.4nm,0.4s,baz=118,slow=1.6,SNR=2.4
ABKAR Akbulak array 130.88 42 PKPdf PKiKP 03 40 58.1 0.0
PETK Petropavlovsk- 131.92 324 PKP PKPdf 03 40 59.1 -0.1
comp=Z,2.6nm,0.6s,baz=61,slow=7.3,SNR=3.5
WRA Warramunga Arr 133.34 211 PKP PKPdf 03 41 02.5 -0.4
comp=Z,2.9nm,0.6s,baz=159,slow=2.0,SNR=30
WRA pPKP pPKPdf 03 41 28.0 +0.1
comp=Z,0.7nm,0.5s,baz=158,slow=1.9,SNR=2.5
WRA Warramunga Arr 133.34 211 PKPdf PKPdf 03 41 03.3 +0.4
ZAA0 Zalesovo Array 141.51 25 PKPdf PKPdf 03 41 16.0 -0.8
ZALV Zalesovo Beam 141.51 25 PKP PKPdf 03 41 16.6 -0.2
comp=Z,4.6nm,0.6s,baz=295,slow=2.5,SNR=12
ZALV Zalesovo Beam 141.51 25 PKPdf PKPdf 03 41 16.0 -0.8
NIL Nilore 144.47 61 PKPdf PKPbc 03 41 22.0 +0.5
JKA Kamikawa-asahi 144.92 319 PKPdf PKPdf 03 41 23.3 +0.1
KSH Kashi 144.92 50 PKP PKPdf 03 41 23.5 0.0
KSH sPKP 03 41 59.4
KSH PP PP 03 44 46.0 +3.9
MAKZ Makanchi 145.11 35 PKPbc PKPdf 03 41 23.5 0.0
MK31 Makanchi Array 145.29 35 PKPbc PKPdf 03 41 23.8 0.0
MKAR Makanchi Array 145.29 35 PKPbc PKPab 03 41 23.9 0.0
comp=Z,13nm,0.7s,baz=342,slow=2.7,SNR=77
MKAR pPKPbc pPKPdf 03 41 49.1 +0.1
comp=Z,6.3nm,0.6s,baz=330,slow=3.7,SNR=6.4
MKAR Makanchi Array 145.29 35 PKPbc PKPdf 03 41 23.8 0.0
JEM Erimo 145.59 315 PKPdf PKPab 03 41 25.4 +0.3
ERM Erimo 145.59 315 PKPbc PKPab 03 41 25.8 +0.7
SOEI Soe 146.80 205 PKPbc PKPab 03 41 30.5 -0.1
USRK Ussuriysk Ar. 150.85 328 PKPbc PKPbc 03 41 38.3 -0.3
comp=Z,9.4nm,0.8s,baz=335,slow=1.4,SNR=16
USRK pPKPbc pPKPbc 03 42 04.3 +1.0
comp=Z,13nm,0.8s,baz=5.5,slow=1.1,SNR=12
USRK Ussuriysk Ar. 150.85 328 PKPbc 03 41 38.7 +0.1
MJAR Matsushiro Arr 151.48 309 PKPbc PKPbc 03 41 39.7 -0.7
comp=Z,8.8nm,0.8s,baz=86,slow=1.9,SNR=13
MJAR pPKPbc pPKPbc 03 42 05.7 +0.6
comp=Z,4.2nm,0.8s,baz=62,slow=0.9,SNR=3.9
MAT Matsushiro 151.49 309 PKP PKPdf 03 41 35.8 +1.6
SONM Songino Array 152.88 7 PKP PKPdf 03 41 36.7 +0.6
comp=Z,2.0nm,0.8s,baz=295,slow=2.7,SNR=10
SONM PKPbc PKiKP 03 41 43.5 0.0
comp=Z,4.8nm,0.7s,baz=326,slow=1.3,SNR=16
SONM pPKPbc pPKPbc 03 42 08.8 +0.6
comp=Z,3.8nm,0.7s,baz=330,slow=1.7,SNR=5.8
KSRS Korea Array 157.79 322 PKP PKPdf 03 41 43.4 +0.6
comp=Z,2.8nm,0.8s,baz=58,slow=0.6,SNR=9.0
KSRS PKPab PKPab 03 42 16.2 +0.5
comp=Z,1.8nm,0.6s,baz=53,slow=4.5,SNR=5.7
GTA Gaotai 159.27 25 eP PKPdf 03 41 45.3 +0.6
GTA sPKP 03 42 10.8

IDC 25 03:37:41.7±6.9, 21°.97S×179°.89W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/20, mbtmp3.8/3 Error ellipse: s-maj=306.8km s-min=39.9km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.48**	**259**	P	P	03 45 38.6	-0.4
	0.9nm,0.7s,baz=98,slow=7.4,SNR=8.5						
WRA	**Warramunga Arr**	**42.67**	**264**	P	P	03 45 41.1	+0.5
	1.3nm,0.3s,baz=98,slow=8.4,SNR=34						
ILAR	**Eielson Array**	**90.14**	**14**	P	P	03 50 44.3	+1.0
	0.3nm,0.8s,baz=211,slow=5.1,SNR=2.2						
BRTR	**Keskin Array B**	**146.46**	**310**	PKPbc	PKPdf	03 57 22.8	-1.1
	0.3nm,0.8s,baz=72,slow=4.7,SNR=3.8						

*TUL **25** 03:54:35.3±1.8, 35°.99N±0°.02×96°.79W±0°.04, h6km±1km, ML2.6, mb_Lg2.3/12(NEIC), Error ellipse: s-maj=4.3km s-min=3.4km az=97.0*

NEIC 25 03:54:35.5±1.5, 36°.01N±0°.02×96°.82W±0°.03, h1km±6km, Error ellipse: s-maj=3.1km s-min=2.8km az=72.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.06**	**193**		Pg	03 54 36.9	+0.2
OK031				Sg	Sg	03 54 38.0	+0.5
OK030	**Cody Creek RV**	**0.09**	**160**		Pg	03 54 37.1	-0.1
QUOK	**Quay**	**0.18**	**30**		Pg	03 54 39.7	+0.7
QUOK				Sg	Sg	03 54 42.6	+1.2
OK029	**Liberty Lake**	**0.56**	**247**		Pg	03 54 46.7	+0.6
OK025	**Westminster Rd**	**0.60**	**224**		Pg	03 54 46.8	-0.2
BCOK	**Bluff Creek, N**	**0.73**	**241**	Pg	Pg	03 54 49.8	+0.3
OKCFA	**Oklahoma City**	**0.79**	**221**		Pg	03 54 50.6	0.0
OKCSW	**OKLAHOMA CITY**	**0.79**	**220**		Pg	03 54 50.4	-0.1
BLOK	**Blackwell**	**0.81**	**337**		Pg	03 54 51.6	+0.6
TUL1	**Leonard**	**0.84**	**97**		Pg	03 54 51.0	-0.7
FNO	**Franklin**	**0.89**	**212**		Pg	03 54 52.5	0.0
T35A	**Sooner Cattle**	**0.94**	**15**		Pg	03 54 52.6	-0.8
CROK	**Carrier**	**1.06**	**298**		Pg	03 54 55.7	0.0
KAN13	**South Haven SW**	**1.13**	**332**		Pg	03 54 56.8	-0.3
GC02	**Grant County #**	**1.18**	**315**		Pg	03 54 58.2	0.0
KAN17	**Caldwell West**	**1.28**	**324**		Pg	03 54 59.5	-0.5
KAN09	**Caldwell North**	**1.29**	**330**		Pn	03 55 00.8	+0.1
KAN14	**Manchester OK**	**1.32**	**316**		Pg	03 55 00.1	-0.6
KS20	**Mayfield South**	**1.35**	**334**		Pg	03 55 01.1	-0.3
OK032	**Salt Plains WL**	**1.37**	**306**	Pn	Pg	03 55 00.3	-1.5
KAN05	**Bluff City Nor**	**1.38**	**323**		Pn	03 55 01.0	-0.9
KAN06	**Argonia West S**	**1.49**	**326**	Pn	Pn	03 55 03.2	-0.1
KAN10	**Anthony SW Sta**	**1.51**	**318**	Pn	Pn	03 55 02.8	-0.8
KAN16	**Harper SW Stat**	**1.57**	**321**	Pn	Pn	03 55 03.9	-0.6
KAN12	**Harper NE Stat**	**1.59**	**324**	Pn	Pn	03 55 04.8	0.0
X34A	**Smith Ranch, M**	**1.63**	**211**		Pn	03 55 05.3	0.0
U32A	**Winter Ranch,**	**1.80**	**282**		Pn	03 55 08.3	+0.6
X37A	**Clayton**	**1.85**	**140**		Pn	03 55 08.5	+0.2
U38A	**Gravette**	**2.02**	**77**		Pn	03 55 11.1	+0.4
WMOK	**Wichita Mounta**	**2.04**	**232**		Pn	03 55 11.4	+0.4
HHAR	**Hobbs**	**2.35**	**83**		Pn	03 55 16.0	+0.8
W39A	**Magazine**	**2.61**	**107**	Pg	Pb	03 55 24.0	+1.1
R32A	**Long Quarter,**	**2.84**	**328**		Sg	03 56 05.4	-1.3
U40A	**Yellville**	**3.23**	**83**		Sn	03 56 08.2	+1.9
S39A	**Bolivar**	**3.27**	**58**		Sn	03 56 08.0	+0.6
S39A				IAmb_Lg		03 56 22.9	
	comp=Z,7.6nm,1.1s						
CBKS	**Cedar Bluff**	**3.63**	**321**		Sg	03 56 31.4	-0.8
CBKS				IAmb_Lg		03 56 34.5	
	comp=Z,10nm,0.9s						
WHAR	**Wooly Hollow**	**3.76**	**100**	Pg	Pb	03 55 43.2	+0.6
FCAR	**Ozark Folk Cen**	**3.81**	**90**	IAmb_Lg		03 56 35.9	
	comp=Z,7.0nm,0.7s						
MGMO	**Mountain Grove**	**3.84**	**71**		Sn	03 56 20.1	-1.3
MGMO				IAmb_Lg		03 56 42.5	
	comp=Z,7.7nm,1.1s						
T42A	**Van Buren**	**4.72**	**76**	IAmb_Lg		03 57 05.3	
	comp=Z,9.5nm,1.1s						
N35A	**Tabor**	**4.93**	**10**	IAmb_Lg		03 57 15.3	
	comp=Z,5.6nm,0.7s						

IDC 25 04:00:17.4±1.6, 0°.64S×131°.00E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/28, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=39.4km s-min=9.5km az=36.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**0.35**	**130**	Pg	Pg	04 00 24.4	+0.2
	120nm,0.3s,baz=101,slow=5.4,SNR=61						
SIJI				Lg	Lg	04 00 28.7	
	284nm,0.3s,baz=200,slow=23,SNR=27						
FITZ	**Fitzroy Crossi**	**18.13**	**197**	P	Pn	04 04 30.7	-0.1
	0.1nm,0.3s,baz=29,slow=11,SNR=2.6						
WRA	**Warramunga Arr**	**19.46**	**171**	P	P	04 04 45.7	-0.2
	0.1nm,0.3s,baz=352,slow=12,SNR=6.7						
ASAR	**Alice Springs**	**23.06**	**173**	P	P	04 05 24.8	+0.1
	0.5nm,0.7s,baz=354,slow=11,SNR=7.8						
MKAR	**Makanchi Array**	**63.56**	**325**	P	P	04 10 49.5	-0.4
	0.4nm,0.6s,baz=115,slow=9.7,SNR=3.3						

*IDC **25** 04:07:06.6±0.9, 30°.07S×72°.77W, h0km, mb3.9/5, mb1 4.0/9, mb1mx3.9/28, mbtmp3.9/9, ML3.8/4, MS2.7/5, Ms1 2.7/5, ms1mx2.6/19, Error ellipse: s-maj=38.0km s-min=22.7km az=89.0*

*NEIC **25** 04:07:07.3±1.6, 29°.96S±0°.05×72°.78W±0°.09, h6km±1km, mb4.1/9, Mwr3.8/25, ML4.5(GUC), Error ellipse: s-maj=12.9km s-min=8.9km az=276.0*

*NEIC **25** 04:07:09.6, 29°.98S×72°.74W, h6km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-5.12; $M_{\theta\theta}$-0.42; $M_{\phi\phi}$5.54; $M_{r\theta}$1.87; $M_{\theta\phi}$1.94; $M_{r\phi}$0.51; Fault plane solution: $M_0$6.00000×10^{14} NP1:ϕ_s358.22000°, δ42.97000°, λ-118.13000°. NP2:ϕ_s214.37000°, δ53.05000°, λ-66.29000°. Principal axes: T 6.2124, Plg5.0000°, Azm288.0000°; N -0.4391, Plg19.0000°, Azm20.0000°; P -5.7733, Plg70.0000°, Azm183.0000°;*

*GUC **25** 04:07:11.2±0.6, 30°.04S×72°.65W, h37km±3km, ML4.5*

ISC 25 04:07:06.5±3.1, 29°.98S±0°.04×72°.77W±0°.07, h5km±19km, n67, σ1°41/64, mb4.2/5, 5C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**1.21**	**126**	↑ iP	Pn	04 07 30.3	+0.3
CO06				i S	Sb	04 07 45.5	-0.2
CO06	**Fray Jorge**	**1.21**	**126**	Pn	Pn	04 07 30.2	+0.1
CO05	**La Serena**	**1.33**	**88**	↑ iP	Pn	04 07 32.5	+0.7
CO05				i S	Sb	04 07 49.3	-0.1
CO05	**La Serena**	**1.33**	**88**		Pn	04 07 32.1	+0.3
GO04	**Tololo Observa**	**1.72**	**97**		Pn	04 07 38.6	+1.1
CO02	**Combarbal**	**1.96**	**129**	↑ iP	Pb	04 07 41.9	-0.9
CO02				i S	Sn	04 08 05.1	-0.5
CO02				IAML		04 08 06.7	
	comp=N,6μm,0.4s						
CO02	**Combarbal**	**1.96**	**129**	Pn	Pn	04 07 41.3	+0.7
CO03	**El Pedregal**	**2.00**	**116**	↑ iP	Pb	04 07 42.6	-0.8
CO03				i S	Sn	04 08 06.4	-0.1
CO03	**El Pedregal**	**2.00**	**116**		Pn	04 07 42.6	-0.8
LCO	**Las Campanas**	**2.05**	**62**	eP	Pn	04 07 42.2	+0.3
LCO				i S	Sn	04 08 07.9	-0.1
LCO	**Las Campanas**	**2.05**	**62**		Pn	04 07 42.4	+0.5
AC04	**Llanos de Chal**	**2.31**	**41**	↑ iP	Pn	04 07 44.7	-0.5
AC04				i S	Sn	04 08 11.6	-2.5
AC04	**Llanos de Chal**	**2.31**	**41**		Pn	04 07 44.8	-0.5
VA06	**Catapilco**	**2.87**	**154**	eP	Pn	04 07 53.6	+0.7
VA06				IAML		04 08 28.0	
	comp=N,2μm,0.4s						
VA01	**Torpederas**	**3.19**	**163**	IAML		04 08 34.0	
	comp=N,599nm,0.5s						
VA01	**Torpederas**	**3.19**	**163**		Pn	04 07 57.5	+0.2
GO03	**Copiap**	**3.26**	**44**		Pn	04 07 58.9	+0.5
ROCH	**El Roble**	**3.34**	**154**	IAML		04 08 40.8	
	comp=N,415nm,0.4s						
AC06	**Mina Casimiro**	**3.37**	**40**		Pn	04 08 00.3	+0.5
VA03	**San Esteban**	**3.37**	**146**	IAML		04 08 42.1	
	comp=E,921nm,0.2s						
VA03	**San Esteban**	**3.37**	**146**		Pn	04 08 01.6	+1.7
VA05	**Santo Domingo**	**3.80**	**165**	eP	Pn	04 08 05.7	-0.1
VA05				i S	Sn	04 08 45.6	-5.2
VA05				IAML		04 08 49.9	
	comp=E,708nm,0.3s						
VA05	**Santo Domingo**	**3.80**	**165**		Pn	04 08 05.8	0.0
MT05	**Renca**	**3.82**	**154**	IAML		04 08 55.7	
	comp=E,551nm,0.4s						
MT05	**Renca**	**3.82**	**154**		Pn	04 08 06.5	+0.4
MT09	**Talagante**	**4.08**	**159**	IAML		04 08 59.9	
	comp=N,391nm,0.5s						
MT09	**Talagante**	**4.08**	**159**		Pn	04 08 10.8	+1.1
MT01	**Popeta**	**4.09**	**162**	IAML		04 08 56.5	
	comp=E,299nm,0.2s						
MT01	**Popeta**	**4.09**	**162**		Pn	04 08 09.8	+0.1
AC02	**Maricunga**	**4.48**	**47**		Pn	04 08 16.8	+1.2
BO01	**Tunca**	**4.63**	**162**		Pn	04 08 17.8	+0.7
GO05	**Huala**	**5.07**	**172**		Pn	04 08 23.1	-0.1
BO02	**Sierra Bellavi**	**5.09**	**161**		Pn	04 08 24.0	+0.5
ML02	**Panimavida**	**5.88**	**169**		Pn	04 08 35.1	+0.8
H03N1	**Juan Fernandez**	**6.27**	**235**	T	T	04 14 57.9	
	baz=60,slow=70,SNR=8.2						
H03N2	**Juan Fernandez**	**6.28**	**235**	T	T	04 15 01.5	
	baz=60,slow=70,SNR=5.3						
H03N3	**Juan Fernandez**	**6.28**	**235**	T	T	04 14 59.4	
	baz=60,slow=70,SNR=7.8						
LVC	**Limon Verde**	**8.11**	**26**	Pn	Pn	04 09 05.0	-0.4
	comp=E,0.7nm,0.3s,baz=184,slow=9.5,SNR=1.8						
LVC				Sn	Sn	04 10 34.0	-3.7
	comp=E,0.2nm,0.3s,baz=68,slow=9.4,SNR=1.1						
LVC				LR	LR	04 12 06.4	
	comp=E,53nm,20.1s,baz=200,slow=37						
LVC	**Limon Verde**	**8.11**	**26**		Pn	04 09 05.0	-0.4
LVC					Sn	04 10 34.0	-3.7
LC01	**Cunco**	**8.93**	**175**	Pn	Pn	04 09 16.2	-0.1
PB01	**IPOC Station P**	**9.38**	**19**	Pn	Pn	04 09 21.6	-0.8
LR03	**Panguipulli**	**9.64**	**178**		Pn	04 09 26.3	+0.4
PLCA	**Paso Flores**	**10.88**	**171**	Pn	Pn	04 09 41.9	-1.2
	comp=E,0.5nm,0.3s,baz=330,slow=12,SNR=17						
PLCA				LR	LR	04 13 23.0	
	comp=E,44nm,20.1s,baz=3.0,slow=35						
PLCA	**Paso Flores**	**10.88**	**171**	Pn	Pn	04 09 41.2	-1.9
CPUP	**Villa Florida**	**14.10**	**79**	LR	LR	04 16 19.8	
	comp=E,64nm,20.4s,baz=250,slow=39						
LPAZ	**La Paz**	**14.28**	**18**	Pn	Pn	04 10 32.6	+2.7
	comp=E,0.1nm,0.3s,baz=196,slow=9.9,SNR=6.3						
LPAZ				LR	LR	04 15 20.2	
	comp=E,14nm,20.0s,baz=100,slow=34						
LPAZ	**La Paz**	**14.28**	**18**	Pn	Pn	04 10 31.0	+1.0
COYC	**Coyhaique**	**15.58**	**178**	Pn	Pn	04 10 46.9	+0.1
COYC				IAmb	IAmb	04 10 54.5	
	comp=Z,14nm,0.8s						
SIV	**San Ignacio**	**17.58**	**40**	P	Pn	04 11 13.7	+1.2
	comp=Z,0.2nm,0.3s,baz=231,slow=11,SNR=3.9						
SIV	**San Ignacio**	**17.58**	**40**	P	Pn	04 11 13.7	+1.2
AQDB	**Aquidauana**	**18.09**	**62**	Pn	Pn	04 11 15.8	-3.0
NNA	**Nana**	**18.30**	**347**	LR	LR	04 15 53.1	
	comp=Z,17nm,21.0s,baz=163,slow=29						
TXAR	**Lajitas Array**	**65.93**	**331**	P	P	04 17 54.7	+1.0
	comp=Z,0.3nm,0.7s,baz=132,slow=5.6,SNR=3.9						
TXAR	**Lajitas Array**	**65.93**	**331**	P	P	04 17 54.7	+1.0
MAW	**Mawson**	**77.21**	**164**	P	P	04 19 01.9	+0.8
	com

TORD	**Torodi Ar. Bea**	**83.45**	**71**	P		**P**		**04 19 36.9**	**+1.3**
	comp=Z,1.9nm,0.8s,baz=278,slow=4.4,SNR=12								
TORD	**Torodi Ar. Bea**	**83.45**	**71**	P		**P**		**04 19 37.6**	**+2.0**
TORD				IAmb		IAmb		04 19 38.2	
	comp=Z,1.7nm,0.8s								
WRA	**Warramunga Arr**	**123.92**	**211**	PKP		**PKPdf**		**04 26 06.1**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=132,slow=1.4,SNR=5.5								
WRA	**Warramunga Arr**	**123.92**	**211**			**PKPdf**		**04 26 06.1**	**-0.4**
ZALV	**Zalesovo Beam**	**151.06**	**28**	PKPbc		**PKiKP**		**04 27 02.1**	**+1.3**
	comp=Z,8.0nm,0.7s,baz=297,slow=2.8,SNR=20								
ZALV	**Zalesovo Beam**	**151.06**	**28**			**PKPbc**		**04 26 58.5**	**-1.7**
MKAR	**Makanchi Array**	**154.39**	**42**	PKPab		**PKPab**		**04 27 23.4**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=305,slow=5.1,SNR=4.4								
MKAR	**Makanchi Array**	**154.39**	**42**			**PKPab**		**04 27 23.4**	**+1.2**

IDC ***25*** *04:07:20.3±0.9, 19.°73N×75.°57W, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.7/35, mbtmp3.7/8, ML3.5/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/41, Error ellipse: s-maj=31.8km s-min=24.3km az=60.0*
OSPL ***25*** *04:07:21.7±0.9, 19.°54N×75.°63W, h0km±10km, ML3.5*
SSNC ***25*** *04:07:23.2±1.1, 19.°66N×75.°59W, h15km±4km, MD3.9, ML3.6, MW3.7*

ISC 25 04:07:19.9±2.7, 19.°69N±0.°04×75.°61W±0.°02, h4km±17km, n37,σ≥24/61, mb3.8/7, 1C-1D, Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCC	**Rio Carpintero**	**0.32**	**345**	*i* P	**Pn**	**04 07 29.3**	**-2.0**
RCC				⇓*i* P	**Pn**	**04 07 29.4**	**-2.0**
RCC				*e*S	**Sb**	**04 07 34.3**	**+0.6**
RCC	**Rio Carpintero**	**0.32**	**345**	*i* P	**Pn**	**04 07 29.3**	**-2.0**
RCC				*e*S	**Sb**	**04 07 34.3**	**+0.6**
GTBY	**Guantanamo Bay**	**0.53**	**63**	*i* P	**Pn**	**04 07 32.6**	**-1.6**
GTBY				*e*S	**Sb**	**04 07 40.2**	**+0.5**
GTBY	**Guantanamo Bay**	**0.53**	**63**	*i* P	**Pn**	**04 07 32.6**	**-1.6**
GTBY				*e*S	**Sb**	**04 07 40.2**	**+0.5**
GTBY	**Guantanamo Bay**	**0.53**	**63**	*i* P	**Pn**	**04 07 32.6**	**-1.6**
GTMO	**Guantanamo**	**0.59**	**48**	*e*P	**Pn**	**04 07 33.8**	**-1.3**
GTMO	**Guantanamo**	**0.59**	**48**	*e*P	**Pn**	**04 07 33.8**	**-1.3**
GTMO				IAML		04 07 48.5	
	comp=N,58μm,0.1s						
GTMO				IAML		04 07 48.7	
	comp=E,92μm,0.3s						
MOAC	**Moa**	**1.15**	**32**	*i* P	**Pn**	**04 07 42.0**	**-0.8**
MOAC				*e*S	**Sn**	**04 07 56.6**	**-2.3**
MOAC				IAML		04 07 58.8	
	comp=E,408nm,0.2s						
MOAC				IAML		04 07 58.9	
	comp=N,836nm,0.3s						
MOAC	**Moa**	**1.15**	**32**	*i* P	**Pn**	**04 07 42.0**	**-0.8**
MOAC				*e*S	**Sg**	**04 07 55.1**	**-1.6**
MOAC				IAML		04 07 59.3	
	comp=E,498nm,0.3s						
MOAC				IAML		04 07 59.8	
	comp=N,619nm,0.3s						
LMGC	**Las Mercedes**	**1.37**	**286**	*i* P	**Pn**	**04 07 45.4**	**-0.3**
LMGC				*i* P	**Pn**	**04 07 45.6**	**-0.2**
LMGC				*e*S	**Sn**	**04 08 02.1**	**-2.3**
LMGC				*e*S	**Sb**	**04 08 02.3**	**-1.6**
LMGC				IAML		04 08 03.6	
	comp=N,788nm,0.1s						
LMGC				IAML		04 08 03.6	
	comp=E,688nm,0.1s						
LMGC				IAML		04 08 10.5	
	comp=N,1μm,0.2s						
LMGC				IAML		04 08 10.8	
	comp=E,742nm,0.2s						
MASC	**Masc**	**1.39**	**69**	*i* P	**Pn**	**04 07 44.7**	**-1.4**
MASC				*e*P	**Pn**	**04 07 44.7**	**-1.4**
MASC				*e*S	**Sb**	**04 08 01.3**	**-3.1**
MASC				*e*S	**Sb**	**04 08 01.3**	**-3.1**
MASC				IAML		04 08 07.5	
	comp=E,730nm,0.2s						
MASC				IAML		04 08 07.9	
	comp=N,481nm,0.4s						
MASC	**Masc**	**1.39**	**69**	*i* P	**Pn**	**04 07 44.7**	**-1.4**
MASC				*e*S	**Sb**	**04 08 01.3**	**-3.1**
MASC				IAML		04 08 07.5	
	comp=E,730nm,0.2s						
MASC				IAML		04 08 07.9	
	comp=N,481nm,0.4s						
MTDJ	**Mount Denham**	**2.33**	**232**	*e*P	**Pn**	**04 07 58.6**	**-0.6**
MTDJ				*e*S	**Sn**	**04 08 23.4**	**-4.9**
LGNH	**Logne**	**3.07**	**112**	*e*P	**Pn**	**04 08 09.0**	**-0.3**
LGNH				*e*S	**Sn**	**04 08 43.8**	**-2.6**
LGNH				IAML		04 08 56.1	
	comp=N,107nm,0.3s						
LGNH				IAML		04 08 56.1	
	comp=E,52nm,0.3s						
LGNH	**Logne**	**3.07**	**112**	*i* P	**Pn**	**04 08 08.5**	**-0.7**
JAKH	**Jacmel**	**3.26**	**116**	*i* P	**Pn**	**04 08 11.9**	**0.0**
JAKH				IAML		04 09 02.7	
	comp=Z,63nm,0.8s						
PAPH	**Port-au-Prince**	**3.34**	**110**	*i* P	**Pn**	**04 08 13.1**	**+0.1**
PAPH				IAML		04 09 03.8	
	comp=Z,72nm,0.2s						
CBCY	**The Bluff, Cay**	**3.91**	**271**	*e*P	**Pn**	**04 08 20.2**	**-0.6**
CBCY				*e*S	**Sn**	**04 09 01.0**	**-6.1**
CBCY				IAML		04 09 07.6	
	comp=N,20nm,0.4s						
CBCY				IAML		04 09 08.1	
	comp=E,37nm,0.4s						
LONE2	**Loma La Sidra**	**4.07**	**105**	*i* P	**Pn**	**04 08 23.6**	**+0.5**
LCCY	**Blossom Villag**	**4.21**	**270**	*e*P	**Pn**	**04 08 25.7**	**+0.7**
LCCY				*e*S	**Sn**	**04 09 10.0**	**-4.7**
GRTK	**Grand Turk**	**4.57**	**66**	*e*P	**Pn**	**04 08 31.2**	**+1.4**
GRTK				*e*S	**Sn**	**04 09 21.5**	**-1.9**
GRTK	**Grand Turk**	**4.57**	**66**	*i* P	**Pn**	**04 08 31.4**	**+1.5**
GRTK				*e*S	**Sn**	**04 09 22.6**	**-0.8**
GRTK				IAML		04 09 24.5	
	comp=Z,112nm,1.1s						
MGV	**Manicaragua**	**4.74**	**301**	*e*P	**Pn**	**04 08 33.2**	**+0.9**
MGV				*e*S	**Sn**	**04 09 24.8**	**-2.9**
MGV	**Manicaragua**	**4.74**	**301**	*e*P	**Pn**	**04 08 33.6**	**+1.4**
MGV				*e*S	**Sn**	**04 09 25.3**	**-2.4**
MGV				IAML		04 09 47.0	
	comp=N,10nm,0.6s						
MGV				IAML		04 09 47.9	
	comp=E,9.2nm,0.5s						
FSCY	**Frank Sound, G**	**5.27**	**267**	⇑*e*P	**Pn**	**04 08 38.7**	**-0.8**
FSCY				*e*S	**Sn**	**04 09 32.7**	**-8.1**
FSCY				IAML		04 09 37.1	
	comp=E,32nm,0.2s						
FSCY				IAML		04 09 37.3	
	comp=N,50nm,0.2s						
JTS	**Las Juntas de**	**12.98**	**225**	LR	LR	04 15 24.0	
	comp=N,42nm,20.2s,baz=174,slow=37						
CMIG	**Matias Romero**	**18.47**	**265**	P	**Pn**	**04 11 38.5**	**+1.5**
	comp=N,0.1nm,0.3s,baz=98,slow=5.0,SNR=2.6						
TXAR	**Lajitas Array**	**27.22**	**296**	P	**P**	**04 13 06.8**	**+1.6**
	comp=N,0.3nm,0.7s,baz=114,slow=5.8,SNR=4.0						
LPAZ	**La Paz**	**36.50**	**168**	P	**P**	**04 14 29.8**	**+2.5**
	comp=N,1.0nm,0.6s,baz=44,slow=4.3,SNR=5.6						
PDAR	**Pinedale Array**	**36.66**	**316**	P	**P**	**04 14 29.7**	**+1.6**
	comp=N,0.4nm,0.7s,baz=113,slow=9.8,SNR=4.9						
NVAR	**Mina Array Bea**	**41.30**	**306**	P	**P**	**04 15 08.7**	**+1.7**
	comp=N,0.5nm,0.8s,baz=105,slow=5.7,SNR=3.9						
ILAR	**Eielson Array**	**64.39**	**333**	P	**P**	**04 17 57.5**	**+0.5**
	comp=N,0.6nm,0.9s,baz=120,slow=8.5,SNR=4.9						
ARCES	**ARCESS Array B**	**75.55**	**21**	P	**P**	**04 19 06.5**	**+1.1**
	comp=N,1.0nm,0.8s,baz=205,slow=2.6,SNR=3.8						
FINES	**FINESS Array B**	**78.35**	**29**	P	**P**	**04 19 22.2**	**+1.0**
	comp=N,2.4nm,0.8s,baz=212,slow=13,SNR=3.9						
WRA	**Warramunga Arr**	**151.84**	**264**	PKPbc	**PKiKP**	**04 27 16.8**	**-0.5**
	comp=N,1.3nm,0.6s,baz=86,slow=3.0,SNR=15						
ASAR	**Alice Springs**	**152.31**	**256**	PKP	**PKPdf**	**04 27 10.9**	**-0.2**
	comp=N,0.6nm,0.8s,baz=102,slow=2.1,SNR=5.0						
ASAR				PKPbc	**PKiKP**	**04 27 18.0**	**-0.2**
	comp=N,1.1nm,0.7s,baz=97,slow=1.5,SNR=11						

IDC ***25*** *04:11:41.4±0.5, 0.°86S×130.°76E, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.8/29, mbtmp4.1/5, ML3.6/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/34, Error ellipse: s-maj=22.8km s-min=4.1km az=71.0*
DJA ***25*** *04:11:44.0±0.6, 1.°S±3.°×13.°1E±.°, h10km, M4.3/9, mb4.7/2, MLv4.1/9*
NEIC ***25*** *04:11:44.6±3.0, 1.°1S±0.°1×130.°69E±0.°09, h15km±5km, mb4.1/12, Error ellipse: s-maj=19.4km s-min=4.9km az=221.0*

ISC 25 04:11:44.0±0.9, 0.°82S±0.°07×131.°31E±0.°10, h25km±5km, n35,σ≥04/33, mb4.1/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**0.06**	**227**	P	**Pb**	**04 11 48.5**	**+0.1**
SWI				S	**Sb**	**04 11 52.8**	**+1.5**
SIJI	**Sorong**	**0.06**	**219**	P	**Pb**	**04 11 47.8**	**-0.6**
SIJI				S	**Sb**	**04 11 50.5**	**-0.9**
FAKI	**Fak Fak**	**2.29**	**156**		**Pn**	**04 12 22.6**	**+2.4**
FAKI	**Fak Fak**	**2.29**	**156**	P	**Pn**	**04 12 22.1**	**+1.9**
MSAI	**Masohi**	**3.45**	**223**	P	**Pn**	**04 12 38.8**	**+2.6**
KRAI	**Karang Ratu**	**3.82**	**229**	P	**Pn**	**04 12 44.4**	**+3.1**
BNDI	**Bandanaira**	**3.93**	**201**	P	**Pn**	**04 12 45.7**	**+2.9**
TNTI	**Ternate**	**4.24**	**292**	Pn	Pn	04 12 42.5	-4.6
TNTI	**Ternate**	**4.24**	**292**	P	**Pn**	**04 12 47.4**	**+0.3**
GAMI	**Galela, Maluku**	**4.40**	**307**	P	**Pn**	**04 12 51.4**	**+2.2**
SANI	**Sanana**	**5.45**	**257**	P	**Pn**	**04 13 06.5**	**+2.8**
	0.1nm22nm,0.9s						
SAUI	**Saumlaki**	**7.12**	**180**	Pn	Pn	04 13 22.3	-4.3
SOEI	**Soe**	**11.30**	**218**	Pn	Pn	04 14 15.9	-8.3
MTN	**Manton Dam**	**11.95**	**181**		**Pn**	**04 14 31.4**	**-1.4**
MTN					**Sn**	**04 16 41.4**	**-4.1**
KNRA	**Kununurra**	**14.97**	**190**		**Pn**	**04 15 10.5**	**-3.7**
FITZ	**Fitzroy Crossi**	**18.05**	**198**	P	**Pn**	**04 15 50.6**	**-2.6**
	baz=27,slow=13						
FITZ	**Fitzroy Crossi**	**18.05**	**198**		**Pn**	**04 15 51.1**	**-2.1**
FITZ				IAmb	IAmb	04 16 39.1	
	comp=Z,27nm,1.9s						
WB0	**Warramunga Arr**	**19.07**	**171**	P	**P**	**04 16 04.0**	**-0.8**
WB0				IAmb	IAmb	04 16 42.1	
	comp=Z,40nm,2.0s						
WRA	**Warramunga Arr**	**19.23**	**171**	P	**P**	**04 16 07.0**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=356,slow=12,SNR=6.1						
WRA				S	Sn	04 19 31.6	-11
	comp=Z,0.3nm,0.3s,baz=351,slow=25,SNR=7.2						
WB2	**Warramunga Arr**	**19.24**	**171**	P	**P**	**04 16 06.4**	**-0.2**
WB2				IAmb	IAmb	04 16 18.6	
	comp=Z,18nm,1.6s						
WR0	**Warramunga Arr**	**19.28**	**171**	P	**P**	**04 16 06.7**	**-0.4**
AS31	**Alice Springs**	**22.85**	**174**	P	**P**	**04 16 46.8**	**+1.2**
ASAR	**Alice Springs**	**22.85**	**174**	P	**P**	**04 16 47.0**	**+1.4**
	comp=Z,2.6nm,0.5s,baz=352,slow=12,SNR=18						
ASAR				S	**S**	**04 20 56.8**	**+3.0**
	comp=Z,2.1nm,0.9s,baz=357,slow=27,SNR=6.1						
STKA	**Stephens Creek**	**32.38**	**164**	P	**P**	**04 18 12.5**	**+0.7**
	comp=Z,3.2nm,0.7s,baz=319,slow=6.9,SNR=7.3						
STKA	**Stephens Creek**	**32.38**	**164**	IAmb	IAmb	04 18 13.4	
	comp=Z,1.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**37.13**	**303**	P	**P**	**04 18 52.0**	**-1.0**
	comp=Z,1.0nm,0.3s,baz=129,slow=7.6,SNR=5.4						
BJT	**Baijiatuan**	**42.94**	**343**	P	**P**	**04 19 43.3**	**+2.4**
ASAJ	**Asahikawa**	**45.86**	**11**	LR	LR	04 37 57.1	
	comp=Z,28nm,19.0s,baz=62,slow=34						
MK31	**Makanchi Array**	**63.88**	**325**	P	**P**	**04 22 13.7**	**-1.0**
MK31				IAmb	IAmb	04 22 14.1	
	comp=Z,1.5nm,0.8s						
MKAR	**Makanchi Array**	**63.88**	**325**	P	**P**	**04 22 13.7**	**-1.0**
	comp=Z,1.7nm,0.8s,baz=108,slow=7.8,SNR=13						
MKAR	**Makanchi Array**	**63.88**	**325**	P	**P**	**04 22 13.9**	**-0.8**
KK31	**Karatay Array**	**69.66**	**317**	P	**P**	**04 22 50.2**	**-1.3**
KKAR	**Karatay Array**	**69.66**	**317**	P	**P**	**04 22 49.9**	**-1.7**
MAW	**Mawson**	**81.14**	**201**	P	**P**	**04 23 57.9**	**+0.9**
MAW				IAmb	IAmb	04 24 23.2	
	comp=Z,2.8nm,1.8s						
BELG	**Belogornoye**	**86.78**	**322**	LR	LR	05 05 30.1	
	comp=Z,3μm,19.4s,baz=290,slow=37						

IDC ***25*** *04:21:52.3±1.9, 25.°26N×122.°09E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.3/54, mbtmp3.7/3, MS3.1/1, Ms1 3.1/1, ms1mx2.2/55, Error ellipse: s-maj=302.9km s-min=29.3km az=69.0*
TAP ***25*** *04:22:09.4, 25.°08N×121.°63E, h132km, ML3.8, B*
JMA ***25*** *04:22:09.0±0.2, 25.°05N×121.°65E, h128km±2km, M2.7*

ISC 25 04:22:08.5±0.9, 25.°10N±0.°03×121.°65E±0.°03, h136km±4km, n133,σ≥06/67/219, mb3.6/3, 7C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NHY	**Taipei**	**0.09**	**229**	P	**Pn**	**04 22 27.1**	**+0.2**
	baz=251						
NHY				*e*S	**Sn**	**04 22 40.1**	**-0.6**
	baz=251						
NWF	**Wu-fen Shan**	**0.13**	**103**	⇑*i*P	**Pn**	**04 22 27.3**	**+0.3**
	baz=92						
NWF				*i* S	**Sn**	**04 22 40.7**	**-0.3**
	baz=92						
TAP1	**Taipei**	**0.13**	**242**	*e*P	**Pn**	**04 22 27.3**	**+0.5**
	baz=252						
TAP1				*e*S	**Sn**	**04 22 40.2**	**-0.5**
	baz=252						
WFSB	**Wu-fen Shan**	**0.13**	**103**	⇑*i*P	**Pn**	**04 22 27.3**	**+0.5**
	baz=93						
WFSB				*i* S	**Sn**	**04 22 40.5**	**-0.3**
	baz=93						
TWA	**Mucha**	**0.13**	**205**	*i* P	**Pn**	**04 22 27.3**	**+0.3**
	baz=212						
TWA				*i* S	**Sn**	**04 22 40.4**	**-0.5**
	baz=212						
TAP	**Taipei**	**0.14**	**245**	P	**Pn**	**04 22 27.4**	**+0.5**
	baz=253						
TAP				S	**Sn**	**04 22 40.2**	**-0.6**
	baz=253						
ANP	**Anpu**	**0.14**	**308**	*e*P	**Pn**	**04 22 26.9**	**-0.1**
	baz=309						
ANP				*e*S	**Sn**	**04 22 39.4**	**-1.7**
	baz=309						
NHDH	**Xindian Distri**	**0.17**	**219**	P	**Pn**	**04 22 27.2**	**+0.2**
	baz=224						
NHDH				S	**Sn**	**04 22 40.1**	**-0.8**
	baz=224						
TWY	**Chenhua**	**0.18**	**347**	⇑*i*P	**Pn**	**04 22 27.6**	**+0.6**
	baz=352						
TWY				*i* S	**Sn**	**04 22 41.0**	**-0.1**
	baz=352						
TATO	**Taipei**	**0.19**	**229**	*i* P	**Pn**	**04 22 27.3**	**+0.3**
	baz=235						
TATO				*i* S	**Sn**	**04 22 40.5**	**-0.5**
	baz=235						
NTST	**Danshui**	**0.19**	**290**	*e*P	**Pn**	**04 22 27.2**	**+0.2**
	baz=287						
NTST				S	**Sn**	**04 22 41.1**	**+0.2**
	baz=287						
NSM	**Shimen**	**0.20**	**345**	*e*P	**Pn**	**04 22 27.4**	**+0.3**
	baz=348						
NSM				*e*S	**Sn**	**04 22 41.4**	**+0.3**
	baz=348						
TIPB	**Shuangxi**	**0.21**	**128**	P	**Pn**	**04 22 27.4**	**+0.3**
	baz=121						
TIPB				S	**Sn**	**04 22 40.2**	**-1.0**
	baz=121						
TWS1	**Kuangyinshan**	**0.21**	**271**	*i* P	**Pn**	**04 22 26.6**	**-0.4**
	baz=277						
TWS1				*i* S	**Sn**	**04 22 40.1**	**-0.9**
	baz=277						
BACT	**New Taipei Cit**	**0.21**	**241**	*e*P	**Pn**	**04 22 27.7**	**+0.6**
	baz=258						
BACT				*e*S	**Sn**	**04 22 40.4**	**-0.6**
	baz=258						
NTC	**Toucheng**	**0.29**	**145**	P	**Pn**	**04 22 27.8**	**+0.5**
	baz=142						
NTC				*e*S	**Sn**	**04 22 41.1**	**-0.4**
	baz=142						
TWB1	**Santiao Chiao**	**0.32**	**106**	*i* P	**Pn**	**04 22 27.8**	**+0.4**
	baz=102						
TWB1				*e*S	**Sn**	**04 22 41.9**	**+0.2**
	baz=102						
NTY	**Taoyuan**	**0.33**	**253**	*e*P	**Pn**	**04 22 27.9**	**+0.4**
	baz=259						
ILA	**Ilan**	**0.34**	**164**	*e*P	**Pn**	**04 22 27.2**	**-0.3**
	baz=165						
ILA				*e*S	**Sn**	**04 22 41.8**	**-0.1**
	baz=165						
NWLT	**Wulai**	**0.34**	**202**	⇑P	**Pn**	**04 22 27.5**	**-0.1**
	baz=193						
NWLT				S	**Sn**	**04 22 40.7**	**-1.2**
	baz=193						
TWE	**Neicheng**	**0.38**	**177**	P	**Pn**	**04 22 27.9**	**+0.3**
	baz=180						
TWE				*e*S	**Sn**	**04 22 41.4**	**-0.7**
	baz=180						
NCU	**National Centr**	**0.43**	**253**	*e*P	**Pn**	**04 22 28.4**	**+0.5**
	baz=256						
NCU				*i* S	**Sn**	**04 22 42.9**	**+0.4**
	baz=256						
NCUH	**Zhongli**	**0.44**	**253**	P	**Pn**	**04 22 28.4**	**+0.5**
	baz=256						
NCUH				S	**Sn**	**04 22 42.8**	**+0.2**
	baz=256						
ENTT	**Nioudou**	**0.46**	**189**	⇑*i*P	**Pn**	**04 22 28.2**	**+0.1**
	baz=195						
ENTT				*e*S	**Sn**	**04 22 41.8**	**-1.0**
	baz=195						
NDS	**Dongshan**	**0.47**	**172**	*e*P	**Pn**	**04 22 28.6**	**+0.5**
	baz=180						
NDS				S	**Sn**	**04 22 42.2**	**-0.7**
	baz=180						
YHNB	**Yeheng**	**0.49**	**210**	⇑*i*P	**Pn**	**04 22 28.3**	**0.0**
	baz=211						
YHNB				*i* S	**Sn**	**04 22 41.8**	**-1.5**
	baz=211						
NSK	**Sanguang**	**0.49**	**212**	⇑*i*P	**Pn**	**04 22 28.3**	**0.0**
	baz=212						
NSK				*e*S	**Sn**	**04 22 42.0**	**-1.2**
	baz=212						
NDT	**Datong Townshi**	**0.51**	**194**	P	**Pn**	**04 22 28.5**	**+0.2**
	baz=201						
NDT				S	**Sn**	**04 22 42.1**	**-1.2**
	baz=201						
TWC	**Suao**	**0.52**	**159**	P	**Pn**	**04 22 29.1**	**+0.8**
	baz=162						
TWC				S	**Sn**	**04 22 43.6**	**+0.3**
	baz=162						
NHW	**Xinwu Township**	**0.55**	**261**	*e*P	**Pn**	**04 22 29.1**	**+0.6**
	baz=244						
HSN1	**Hsinchu**	**0.65**	**241**	*e*P	**Pn**	**04 22 31.5**	**+2.3**
	baz=249						
PCYT	**Pengchaiyu**	**0.65**	**36**	P	**Pn**	**04 22 29.8**	**+0.7**
	baz=41						
PCYT				*e*S	**Sn**	**04 22 45.1**	**+0.3**
	baz=41						
EWUT	**Wuta**	**0.66**	**169**	*e*P	**Pn**	**04 22 30.0**	**+0.7**
	baz=176						
EWUT				*e*S	**Sn**	**04 22 45.1**	**+0.2**
	baz=176						
SBCB	**Hsinchu**	**0.67**	**243**	*e*P	**Pn**	**04 22 30.2**	**+1.0**
	baz=250						
ENA	**Nanau**	**0.67**	**173**	*e*P	**Pn**	**04 22 29.9**	**+0.6**
	baz=179						
ENA				*e*S	**Sn**	**04 22 44.9**	**-0.2**
	baz=179						
HSN	**Hsinchu**	**0.68**	**244**	*e*P	**Pn**	**04 22 29.0**	**-0.3**
	baz=254						
NNS	**Nan Shan**	**0.70**	**201**	*e*P	**Pn**	**04 22 30.0**	**+0.3**
	baz=200						
NNS				S	**Sn**	**04 22 44.6**	**-1.1**
	baz=200						
NNSB	**Datong**	**0.71**	**200**	*e*P	**Pn**	**04 22 29.8**	**+0.1**
	baz=200						
NNSB				S	**Sn**	**04 22 44.8**	**-1.0**
	baz=200						
LIOB	**Emei**	**0.73**	**232**	*e*P	**Pn**	**04 22 30.2**	**+0.5**
	baz=229						
LIOB				*e*S	**Sn**	**04 22 45.5**	**-0.3**
	baz=229						
NSTT	**Nanjuang**	**0.75**	**232**	P	**Pn**	**04 22 30.2**	**+0.4**
	baz=229						
NSTT				*i* S	**Sn**	**04 22 45.6**	**-0.4**
	baz=229						
ETLH	**Xiulin Townshi**	**0.90**	**190**	*e*P	**Pn**	**04 22 31.3**	**+0.1**
	baz=181						
ETLH				S	**Sn**	**04 22 48.0**	**-0.4**
	baz=181						
NACB	**Ninganchiao**	**0.92**	**183**	*e*P	**Pn**	**04 22 30.6**	**-0.7**
	baz=182						
NACB				*e*S	**Sn**	**04 22 47.1**	**-1.4**
	baz=182						
FUSS	**Fushou**	**0.92**	**203**	P	**Pn**	**04 22 32.0**	**+0.5**
	baz=207						
FUSS				*e*S	**Sn**	**04 22 49.5**	**+0.5**
	baz=207						
ETL	**Fush Village**	**0.94**	**181**	*e*P	**Pn**	**04 22 31.1**	**-0.3**
	baz=181						
ETL				*e*S	**Sn**	**04 22 47.7**	**-1.1**
	baz=181						
TWT	**Tachien**	**0.94**	**207**	*e*P	**Pn**	**04 22 32.8**	**+1.1**
	baz=211						
TWT				S	**Sn**	**04 22 49.2**	**0.0**
	baz=211						
TDCB	**Techi**	**0.95**	**208**	P	**Pn**	**04 22 32.4**	**+0.7**
	baz=211						
TDCB				S	**Sn**	**04 22 48.8**	**-0.4**
	baz=211						
NMLH	**Miaoli**	**0.96**	**234**	*e*P	**Pn**	**04 22 31.8**	**+0.2**
	baz=229						
NMLH				*e*S	**Sn**	**04 22 48.5**	**-0.5**
	baz=229						
WHF	**Hehuan Shan**	**1.01**	**200**	P	**Pn**	**04 22 33.3**	**+0.8**
	baz=204						
WHF				S	**Sn**	**04 22 50.9**	**+0.2**
	baz=204						
TWD	**Chiawan**	**1.01**	**183**	*e*P	**Pn**	**04 22 31.6**	**-0.5**
	baz=182						
TWD				*e*S	**Sn**	**04 22 48.2**	**-1.7**
	baz=182						
WHP	**Taichung City**	**1.04**	**218**	P	**Pn**	**04 22 32.9**	**+0.6**
	baz=227						
WHP				S	**Sn**	**04 22 49.6**	**-0.8**
	baz=227						
NSY	**Sanyi**	**1.05**	**230**	*e*P	**Pn**	**04 22 32.9**	**+0.4**
	baz=231						
NSY				*e*S	**Sn**	**04 22 50.9**	**+0.3**
	baz=231						
TWQ1	**Liyutan**	**1.09**	**227**	*e*P	**Pn**	**04 22 33.8**	**+1.0**
	baz=233						
TWQ1				S	**Sn**	**04 22 50.4**	**-0.8**
	baz=233						
HWA	**Hwalien**	**1.12**	**182**	*e*P	**Pn**	**04 22 34.3**	**+1.2**
	baz=187						
HWA				*e*S	**Sn**	**04 22 51.1**	**-0.6**
	baz=187						
CHGB	**Renai**	**1.12**	**203**	⇓*i*P	**Pn**	**04 22 34.2**	**+0.9**
	baz=203						
CHGB				S	**Sn**	**04 22 52.0**	**-0.2**
	baz=203						
ETM	**Tongmen**	**1.14**	**187**	*e*P	**Pn**	**04 22 32.4**	**-0.8**
	baz=187						
WDJ	**Dajia District**	**1.18**	**231**	*e*P	**Pn**	**04 22 32.8**	**-0.9**
	baz=232						
WDJ				*e*S	**Sn**	**04 22 51.7**	**-1.1**
	baz=232						
OWD	**Renai**	**1.22**	**201**	*e*P	**Pn**	**04 22 35.0**	**+0.8**
	baz=209						
OWD				*e*S	**Sn**	**04 22 53.5**	**-0.2**
	baz=209						

SSLB				S		Sn	04 22 57.5	-0.3
	baz=206							
WNT1	**Nantou City**	**1.48 217**	*e*P		P	**Pn**	04 22 37.4	+0.6
	baz=224							
WNT	**Mingjian**	**1.50 216**	P		P	**Pn**	04 22 37.9	+0.9
	baz=223							
WNT				*e*S		**Sn**	04 22 58.8	+0.1
	baz=223							
WJS	**Zhushan**	**1.52 214**	P		P	**Pn**	04 22 38.0	+0.8
	baz=207							
WJS				*e*S		**Sn**	04 22 59.1	-0.1
	baz=207							
WHYT	**Xinyi Township**	**1.57 208**	P		P	**Pn**	04 22 38.6	+0.7
	baz=202							
WHYT				S		**Sn**	04 23 00.4	+0.2
	baz=202							
HGSD	**Ruisui**	**1.61 187**	P		P	**Pn**	04 22 38.9	+0.7
	baz=187							
HGSD				*e*S		**Sn**	04 23 00.9	-0.1
	baz=187							
EHY	**Hungye**	**1.61 191**	*e*P		P	**Pn**	04 22 38.5	+0.2
	baz=183							
WRL	**Guolierlin Hig**	**1.66 224**	*e*P		P	**Pn**	04 22 39.4	+0.6
	baz=219							
WGK	**Gukeng**	**1.72 215**	*e*P		P	**Pn**	04 22 40.3	+0.9
	baz=222							
YULB	**Yu-li**	**1.73 191**	*e*P		P	**Pn**	04 22 39.4	-0.2
	baz=183							
YULB				*e*S		**Sn**	04 23 03.1	-0.3
	baz=183							
WDLH	**Douliu**	**1.73 216**	*e*P		P	**Pn**	04 22 39.6	0.0
	baz=224							
WDLH				*e*S		**Sn**	04 23 03.8	+0.5
	baz=224							
CHN5	**Tsauling**	**1.74 211**	P		P	**Pn**	04 22 40.5	+0.7
	baz=211							
CHN5				*e*S		**Sn**	04 23 04.1	+0.4
	baz=211							
ALS	**Alishan**	**1.76 206**	P		P	**Pn**	04 22 40.9	+0.6
	baz=206							
ALS				S		**Sn**	04 23 04.5	0.0
	baz=206							
TWF1	**Yuli**	**1.77 190**	*e*P		P	**Pn**	04 22 40.5	+0.4
	baz=185							
EYUL	**Yuli**	**1.77 190**	*e*P		P	**Pn**	04 22 40.9	+0.8
	baz=185							
ECBN	**Changbin**	**1.78 186**	*e*P		P	**Pn**	04 22 40.9	+0.6
	baz=180							
WTK	**Tuku**	**1.81 219**	*e*P		P	**Pn**	04 22 40.6	0.0
	baz=225							
WTK				*e*S		**Sn**	04 23 05.4	+0.3
	baz=225							
MATB	**Ma-tsu**	**1.86 305**	P		P	**Pn**	04 22 41.3	+0.2
	baz=305							
MATB				*e*S		**Sn**	04 23 05.0	-1.0
	baz=305							
FULB	**Fuli**	**1.92 190**	P		P	**Pn**	04 22 42.4	+0.5
	baz=181							
CHY	**Chiayi**	**1.94 215**	*e*P		P	**Pn**	04 22 42.1	0.0
	baz=222							
CHN4	**Tsaushan**	**1.99 209**	P		P	**Pn**	04 22 43.2	+0.6
	baz=201							
CHN4				*e*S		**Sn**	04 23 09.4	+0.6
	baz=201							
VWUC	**VWUC**	**2.00 267**	⇓P		P	**Pn**	04 22 43.0	+0.3
	baz=268							
VWUC				*e*S		**Sn**	04 23 07.6	-1.3
	baz=268							
TPUB	**Ta-pu**	**2.02 208**	⇓P		P	**Pn**	04 22 43.4	+0.3
	baz=200							
TPUB				*e*S		**Sn**	04 23 08.9	-0.6
	baz=200							
IRIF	**Iriomote-Funau**	**2.04 111**	S		Sn	**Sn**	04 23 09.0	-0.9
WTP	**Ta-pu**	**2.07 207**	*e*P		P	**Pn**	04 22 44.0	+0.3
	baz=207							
STYH	**Taoyuan**	**2.08 203**	*e*P		P	**Pn**	04 22 44.2	+0.4
	baz=203							
STYH				*e*S		**Sn**	04 23 10.5	-0.3
	baz=203							
STYT	**Tauyuan**	**2.09 203**	*e*P		P	**Pn**	04 22 44.4	+0.4
	baz=203							
TWK	**Hsinying**	**2.11 210**	P		P	**Pn**	04 22 44.7	+0.5
	baz=203							
TWK				*e*S		**Sn**	04 23 12.1	+0.5
	baz=203							
ICHU	**Yijhu**	**2.13 216**	*e*P		P	**Pn**	04 22 44.9	+0.5
	baz=216							
EDH	**Donghe**	**2.14 188**	*e*P		P	**Pn**	04 22 44.9	+0.4
	baz=181							
EDH				*e*S		**Sn**	04 23 11.9	-0.2
	baz=181							
SNST	**Tainan City**	**2.14 210**	*e*P		P	**Pn**	04 22 45.1	+0.6
	baz=202							
CHN1	**Nanshi**	**2.16 208**	P		P	**Pn**	04 22 45.2	+0.5
	baz=202							
CHN1				*e*S		**Sn**	04 23 12.5	-0.1
	baz=202							
HATJ	**Hateruma jima**	**2.22 117**	*e*S		Sn	**Sn**	04 23 14.1	+0.2
SGST	**Jiashian**	**2.23 206**	*e*P		P	**Pn**	04 22 45.4	-0.2
	baz=206							
SGST				*e*S		**Sn**	04 23 13.7	-0.5
	baz=206							
LYJJ	**Jianjiangzhen**	**2.23 311**	P		P	**Pn**	04 22 45.9	+0.4
	baz=311							
LYJJ				*e*S		**Sn**	04 23 12.6	-1.4
	baz=311							
LONT	**Longtian**	**2.23 192**	*e*P		P	**Pn**	04 22 46.0	+0.3
	baz=183							
XPSS	**Dashiqiu**	**2.25 325**	P		P	**Pn**	04 22 46.0	+0.2
	baz=325							
SLGT	**Liugui**	**2.29 204**	*e*P		P	**Pn**	04 22 47.1	+0.8
	baz=204							
PTMZ	**Houxiangcun**	**2.29 269**	P		P	**Pn**	04 22 46.6	+0.3
	baz=269							
JKRS	**Kuro-shima**	**2.31 111**	P		Pn	**Pn**	04 22 46.9	+0.3
JKRS				*e*S		**Sn**	04 23 15.0	-0.9
TWG	**Pinlang**	**2.33 193**	*e*P		P	**Pn**	04 22 47.5	+0.7
	baz=184							
TWGBT	**Beinan**	**2.33 193**	*e*P		P	**Pn**	04 22 47.3	+0.4
	baz=184							
JIJ	**Ishigaki jima**	**2.39 107**	P		P	**Pn**	04 22 47.7	+0.2
JIJ				*e*S		**Sn**	04 23 16.3	-1.2
LDUT	**Ludao**	**2.42 184**	*e*P		P	**Pn**	04 22 47.8	-0.2
	baz=184							
LDUT				*e*S		**Sn**	04 23 16.2	-2.1
	baz=184							
PNG	**Penghu**	**2.44 232**	*e*P		P	**Pn**	04 22 47.0	-1.2
	baz=226							
PHUB	**P'eng-hu**	**2.46 231**	*e*P		P	**Pn**	04 22 48.5	0.0
	baz=226							
PHUB				*e*S		**Sn**	04 23 17.3	-1.9
	baz=226							
JISG	**Ishigakijimahi**	**2.47 101**	P		P	**Pn**	04 22 49.4	+0.8
JISG				S		**Sn**	04 23 18.4	-1.0
SSD	**Sandimen**	**2.52 202**	P		P	**Pn**	04 22 50.0	+0.7
	baz=205							
SSD				S		**Sn**	04 23 20.1	-0.4
	baz=205							
TSMG	**Majia**	**2.55 201**	*e*P		P	**Pn**	04 22 50.2	+0.6
	baz=201							
MHZQ	**Yeshan**	**2.56 293**	P		P	**Pn**	04 22 50.0	+0.3
	baz=294							
WDGT	**Dungji**	**2.58 225**	P		P	**Pn**	04 22 50.2	+0.3
	baz=229							
MASBT	**Mashibuluo**	**2.64 201**	P		P	**Pn**	04 22 51.4	+0.6
	baz=209							
MASBT				*e*S		**Sn**	04 23 22.6	-0.8
	baz=209							
VCHM	**Qimei**	**2.76 228**	*e*P		P	**Pn**	04 22 52.9	+0.7
	baz=232							
VCHM				*e*S		**Sn**	04 23 25.1	-0.9
	baz=232							
EAST	**Anshuo**	**2.80 195**	*e*P		P	**Pn**	04 22 53.7	+0.9
	baz=203							
JTJ	**Tarama**	**2.81 99**	P		Pn	**Pn**	04 22 53.9	+1.0
JTJ				S		**Sn**	04 23 27.0	-0.1
SCZT	**Fangliau**	**2.87 199**	*e*P		P	**Pn**	04 22 54.3	+0.6
	baz=206							
WLCH	**Liuqiu**	**2.97 203**	*e*P		P	**Pn**	04 22 55.9	+0.9
	baz=203							
SLIU	**Shizi**	**2.97 195**	*e*P		P	**Pn**	04 22 55.2	+0.2
	baz=195							
KNMB	**Chin-men Tao**	**3.03 259**	*e*P		P	**Pn**	04 22 55.6	0.0
	baz=258							
LAY	**Lan-yu**	**3.05 182**	*e*P		P	**Pn**	04 22 55.4	-0.6
	baz=181							
TWKBT	**Hengchun**	**3.23 194**	*e*P		P	**Pn**	04 22 58.5	+0.1
	baz=194							
AXDP	**Jialang**	**3.34 267**	*e*P		P	**Pn**	04 23 00.7	+1.0
	baz=267							
WRA	**Warramunga Arr**	**46.44 163**	P		P	**P**	04 30 21.2	-0.6
	0.2nm,0.4s,baz=346,slow=8.5,SNR=6.5							
WRA				LR		LR	04 52 22.1	
	comp=Z,20nm,19.6s,baz=70,slow=39							
ARCES	**ARCESS Array B**	**68.85 338**	P			**P**	04 32 58.2	+0.3
	0.7nm,0.7s,baz=66,slow=2.3,SNR=5.4							
FINES	**FINESS Array B**	**70.87 330**	P			**P**	04 33 11.3	+1.0
	0.6nm,0.5s,baz=56,slow=7.1,SNR=8.1							

THE ***25*** *04:26:54.9,40˚.10N×21˚.66E,h0km±1km,ML3.1/22,Error ellipse: s-maj=1.6km s-min=0.6km az=291.0*
PDG ***25*** *04:26:54.7±0.3,40˚.10N×21˚.69E,h8km,ML3.2/11,Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
ATH ***25*** *04:26:54.8,40˚.09N×21˚.65E,h12km±2km,ML3.2/6,Error ellipse: s-maj=2.7km s-min=0.9km az=304.0*
BEO ***25*** *04:26:54.9±0.6,40˚.09N×21˚.76E,h0km,ML3.1/10*
IDC ***25*** *04:26:54.1±0.6,39˚.98N×21˚.51E,h0km,mb3.4/3, mb1 3.6/6,mb1mx3.4/43,mbtmp3.4/6,ML3.6/3,Error ellipse: s-maj=10.7km s-min=4.3km az=86.0*
TIR ***25*** *04:26:55.0,40˚.13N×21˚.64E,h2km±1km,Md3.5,Ml3.3*

ISC 25 04:26:54.9±1.0,40˚.09N±0˚.01×21˚.66E±0˚.02,h6km±7km, n130,σ1§17/186,mb3.4/3,17C-12D,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.23**	**21**	P	**Pg**	**04 26 59.6**	**+0.2**
KZN				S	**Sg**	**04 27 02.9**	**+0.4**
	15μm,0.4s						
KZN	**Kozani**	**0.23**	**21**	P	**Pg**	**04 26 59.6**	**+0.2**
KZN				S	**Sg**	**04 27 03.2**	**+0.8**
KZN				AML	AML	04 27 03.8	
	comp=N,18972μm,0.3s						
KZN				AML	AML	04 27 04.1	
	comp=E,38622μm,0.4s						
KPRO	**Kipourio**	**0.27**	**239**	P	**Pg**	**04 26 59.9**	**-0.3**
KPRO				S	**Sg**	**04 27 04.8**	**+1.0**
	comp=E,9μm,0.4s						
KPRO	**Kipourio**	**0.27**	**239**	P	**Pg**	**04 26 59.9**	**-0.3**
KPRO				S	**Sg**	**04 27 04.3**	**+0.6**
KPRO				AML	AML	04 27 05.8	
	comp=N,22884μm,0.5s						
KPRO				AML	AML	04 27 08.6	
	comp=E,12888μm,0.3s						
PENT	**Pentalofos**	**0.42**	**284**	P	**Pg**	**04 27 02.6**	**-0.3**
PENT				S	**Sg**	**04 27 09.8**	**+1.4**
	comp=E,4μm,0.4s						
PENT	**Pentalofos**	**0.42**	**284**	P	**Pg**	**04 27 02.6**	**-0.3**
PENT				S	**Sg**	**04 27 08.7**	**+0.2**
PENT				AML	AML	04 27 11.8	
	comp=E,4974μm,0.6s						
PENT				AML	AML	04 27 12.7	
	comp=N,9609μm,0.4s						
NEST	**Nestorio**	**0.57**	**304**	P	**Pg**	**04 27 05.6**	**-0.3**
NEST				S	**Sb**	**04 27 14.9**	**-0.8**
	comp=N,3μm,0.6s						
NEST	**Nestorio**	**0.57**	**304**	P	**Pg**	**04 27 05.6**	**-0.3**
NEST				AML	AML	04 27 20.4	
	comp=E,5942μm,0.6s						
NEST				AML	AML	04 27 21.1	
	comp=N,5977μm,0.5s						
THL	**Klokotos Trika**	**0.59**	**153**	P	**Pg**	**04 27 05.4**	**-0.9**
THL				S	**Sg**	**04 27 15.1**	**+1.1**
	comp=N,4μm,0.6s						
THL	**Klokotos Trika**	**0.59**	**153**	P	**Pg**	**04 27 05.7**	**-0.6**
THL				AML	AML	04 27 16.8	
	comp=E,7157μm,0.5s						
THL				AML	AML	04 27 17.4	
	comp=N,6546μm,0.5s						
LRSO	**Larissa Observ**	**0.70**	**127**	P	**Pg**	**04 27 07.8**	**-0.5**
LRSO				S	**Sb**	**04 27 19.6**	**+0.3**
LRSO	**Larissa Observ**	**0.70**	**127**	P	**Pg**	**04 27 08.5**	**+0.2**
FNA	**Florina**	**0.72**	**342**	*e*Pg	**Pg**	**04 27 08.3**	**-0.5**
FNA				*e*Sg	**Sg**	**04 27 17.9**	**-0.3**
FNA	**Florina**	**0.72**	**342**	P	**Pg**	**04 27 08.3**	**-0.5**
FNA				S	**Sg**	**04 27 18.5**	**+0.3**
	comp=N,2μm,0.3s						
FNA	**Florina**	**0.72**	**342**	P	**Pg**	**04 27 08.4**	**-0.5**
FNA				AML	AML	04 27 22.2	
	comp=N,4340μm,0.5s						
FNA				AML	AML	04 27 23.1	
	comp=E,3740μm,0.4s						
FNA	**Florina**	**0.72**	**342**	P	**Pg**	**04 27 08.5**	**-0.2**
	baz=344						
FNA				S	**Sg**	**04 27 18.4**	**+0.3**
	baz=344						
JAN	**Janina**	**0.76**	**235**	P	**Pg**	**04 27 08.9**	**-0.6**
JAN				S	**Sg**	**04 27 20.2**	**+0.8**
	comp=E,668nm,0.5s						
JAN	**Janina**	**0.76**	**235**	P	**Pg**	**04 27 09.2**	**-0.3**
LSK	**Leskovik**	**0.82**	**274**	P	**Pg**	**04 27 09.3**	**-1.3**
LSK				S	**Sg**	**04 27 22.1**	**+0.9**
	comp=E,1μm,0.6s						
LSK	**Leskovik**	**0.82**	**274**	P	**Pg**	**04 27 09.8**	**-0.7**
	baz=272						
LSK				S	**Sb**	**04 27 22.5**	**-0.3**
	baz=272						
LSK				AMP			
	comp=N,5.7nm,0.6s,baz=272						
KBN	**Korca**	**0.85**	**309**	P	**Pg**	**04 27 10.6**	**-0.7**
KBN				S	**Sg**	**04 27 23.0**	**+0.7**
	comp=N,1μm,0.5s						
KBN	**Korca**	**0.85**	**309**	P	**Pg**	**04 27 11.0**	**-0.3**
	baz=308						
KBN				S	**Sg**	**04 27 23.1**	**+0.7**
	baz=308						
KBN				AMP			
	comp=E,4.2nm,0.4s,baz=308						
GRG	**Griva**	**1.03**	**33**	P	**Pg**	**04 27 14.0**	**-0.6**
GRG				S	**Sb**	**04 27 29.9**	**+1.1**
	comp=E,835nm,0.5s						
THE	**Thessaloniki**	**1.13**	**61**	P	**Pg**	**04 27 16.7**	**+0.2**
THE				S	**Sb**	**04 27 32.3**	**+0.6**
	comp=E,305nm,0.5s						
THE	**Thessaloniki**	**1.13**	**61**	P	**Pg**	**04 27 16.2**	**-0.3**
THE	**Thessaloniki**	**1.13**	**61**	P	**Pg**	**04 27 16.8**	**+0.2**
	baz=63						
MAKR	**Makrakomi, Fth**	**1.14**	**161**	P	**Pg**	**04 27 15.7**	**-0.9**
EVR	**Evrytania**	**1.18**	**175**	P	**Pg**	**04 27 15.8**	**-1.7**
EVR				S	**Sn**	**04 27 35.5**	**+1.1**
	comp=E,1μm,0.4s						
EVR	**Evrytania**	**1.18**	**175**	P	**Pg**	**04 27 15.7**	**-1.7**
AGG	**Agios Georgios**	**1.19**	**154**	P	**Pg**	**04 27 16.5**	**-1.1**
AGG				S	**Sn**	**04 27 35.3**	**+0.9**
	comp=E,1μm,0.5s						
AGG	**Agios Georgios**	**1.19**	**154**	P	**Pg**	**04 27 16.5**	**-1.1**
OHR	**Ohrid**	**1.21**	**327**	*i* Pn	**Pg**	**04 27 17.6**	**-0.5**
SRN	**Sarande**	**1.30**	**261**	P	**Pg**	**04 27 19.3**	**-0.4**
	baz=260						
XOR	**Xorichti**	**1.38**	**121**	P	**Pn**	**04 27 20.3**	**-0.4**
XOR				S	**Sn**	**04 27 40.9**	**+1.6**
	comp=E,1μm,0.6s						
XOR	**Xorichti**	**1.38**	**121**	P	**Pn**	**04 27 20.2**	**-0.4**
PLG	**Polygyros**	**1.39**	**78**	P	**Pn**	**04 27 20.4**	**-0.4**
PLG				S	**Sb**	**04 27 40.0**	**+0.7**
	comp=E,260nm,0.7s						
PLG	**Polygyros**	**1.39**	**78**	P	**Pn**	**04 27 20.3**	**-0.4**
VAY	**Valandovo**	**1.41**	**29**	*e*Pn	**Pn**	**04 27 20.6**	**-0.4**
VAY				*e*Sn	**Sn**	**04 27 40.8**	**+1.0**
VAY	**Valandovo**	**1.41**	**29**	*i* Pn	**Pn**	**04 27 20.4**	**-0.5**
KNT	**Kendrikon**	**1.42**	**41**	P	**Pn**	**04 27 20.9**	**-0.3**
KNT				S	**Sn**	**04 27 41.1**	**+0.9**
	comp=E,272nm,0.7s						
KNT	**Kendrikon**	**1.42**	**41**	P	**Pn**	**04 27 20.7**	**-0.5**
NEO	**Neokhori**	**1.44**	**123**	P	**Pn**	**04 27 21.3**	**-0.1**
NEO				S	**Sn**	**04 27 42.7**	**+2.1**
	comp=E,2μm,0.5s						
SOH	**Sokhos**	**1.48**	**60**	P	**Pn**	**04 27 22.2**	**+0.1**
SOH				S	**Sn**	**04 27 42.9**	**+1.2**
	comp=E,485nm,0.5s						
SOH	**Sokhos**	**1.48**	**60**	P	**Pn**	**04 27 22.1**	**+0.1**
TSLK	**Tsoukalades, L**	**1.49**	**212**	P	**Pb**	**04 27 23.0**	**+0.1**
TSLK				S	**Sg**	**04 27 43.9**	**+1.2**
	comp=E,592nm,0.9s						
ANX	**Ano Chora**	**1.51**	**172**	P	**Pn**	**04 27 22.1**	**-0.4**
ANX				S	**Sg**	**04 27 44.7**	**+1.3**
	comp=E,1μm,0.5s						
LKD2	**Lefkada island**	**1.52**	**211**	P	**Pb**	**04 27 23.7**	**+0.3**
	baz=210						
PAIG	**Paliouri**	**1.56**	**95**	P	**Pn**	**04 27 22.4**	**-0.6**
PAIG				S	**Sg**	**04 27 46.0**	**+1.1**
	comp=E,232nm,0.5s						
EVGl	**Lefkada island**	**1.67**	**208**	P	**Pn**	**04 27 25.4**	**+0.9**
SRS	**Serrai**	**1.79**	**55**	*e*Pn	**Pn**	**04 27 25.7**	**-0.5**
PHP	**Peshkopia**	**1.84**	**330**	P	**Pn**	**04 27 28.1**	**+1.1**
	baz=331						
PHP				S	**Sb**	**04 27 52.8**	**+0.6**
	baz=331						
PHP				AMP			
	comp=N,0.9nm,0.9s,baz=331						
FSK	**Fiskardo**	**1.84**	**208**	P	**Pn**	**04 27 28.4**	**+1.5**
FSK				S	**Sn**	**04 27 51.3**	**+0.8**
	comp=N,452nm,1.4s						
TIR	**Tirane**	**1.85**	**313**	*e*Pn	**Pb**	**04 27 29.2**	**+0.1**
TIR				*e*Sn	**Sg**	**04 27 54.1**	**-0.3**
TIR	**Tirane**	**1.85**	**313**	P	**Pb**	**04 27 28.7**	**-0.4**
	baz=313						
TIR				S	**Sb**	**04 27 53.4**	**+0.9**
	baz=313						
TIR				AMP			
	comp=E,0.4nm,0.8s,baz=313						
PUK	**Puka**	**2.36**	**326**	P	**Pb**	**04 27 36.8**	**-1.0**
	baz=326						
BOSS	**Bosilegrad**	**2.48**	**14**	*e*Pn	**Pn**	**04 27 36.7**	**+1.0**
BOSS				*e*Sn	**Sn**	**04 28 07.5**	**+1.2**
ULC	**Ulcinj**	**2.62**	**316**	⇓*i*Pn	**Pn**	**04 27 38.6**	**+1.0**
ULC				*i* Sn	**Sb**	**04 28 12.7**	**-1.8**
BARS	**Barje**	**2.72**	**2**	*e*Pn	**Pn**	**04 27 38.6**	**-0.5**
VTS	**Vitosha**	**2.79**	**25**	⇑P	**Pn**	**04 27 40.7**	**+0.7**
VTS	**Vitosha**	**2.79**	**25**	*e*Pn	**Pn**	**04 27 40.6**	**+0.5**
VTS				*e*Sn	**Sn**	**04 28 13.7**	**-0.3**
DRME	**Dracevica, Mon**	**2.81**	**319**	*e*Pn	**Pn**	**04 27 41.7**	**+1.5**
DRME	**Dracevica, Mon**	**2.81**	**319**	⇓*i*Pn	**Pn**	**04 27 41.6**	**+1.4**
DRME				*i* Sn	**Sn**	**04 28 17.2**	**+2.8**
PVY	**Plav**	**2.81**	**333**	⇑*i*Pn	**Pn**	**04 27 41.3**	**+0.9**
PVY				*i* Sn	**Sn**	**04 28 17.1**	**+2.5**
PDG	**Podgorica**	**2.96**	**323**	⇑P	**Pn**	**04 27 44.6**	**+2.3**
PDG	**Podgorica**	**2.96**	**323**	*e*Pn	**Pn**	**04 27 44.3**	**+2.0**
PDG	**Podgorica**	**2.96**	**323**	*e*Pn	**Pn**	**04 27 42.7**	**+0.4**
TTG	**Podgorica**	**2.96**	**323**	⇑*i*Pn	**Pn**	**04 27 43.6**	**+1.3**
TTG				*i* Sn	**Sn**	**04 28 20.3**	**+2.3**
BUM	**Brajici-Budva**	**3.04**	**317**	⇓*i*Pn	**Pn**	**04 27 44.6**	**+1.1**
BUM				*i* Sn	**Sn**	**04 28 22.4**	**+2.2**
IVA	**Berane**	**3.08**	**335**	⇑*i*Pn	**Pn**	**04 27 44.9**	**+0.9**
IVA				*e*Sn	**Sn**	**04 28 23.5**	**+2.3**
SELS	**Selova**	**3.15**	**353**	*e*Pn	**Pn**	**04 27 45.0**	**0.0**
KOME	**Kolasin**	**3.19**	**330**	⇓*i*Pn	**Pn**	**04 27 47.4**	**+1.8**
KOME				*i* Sn	**Sn**	**04 28 26.6**	**+2.6**
CEME	**Cevo**	**3.21**	**321**	⇓*i*Pn	**Pn**	**04 27 46.7**	**+0.9**
CEME				*i* Sn	**Sn**	**04 28 26.9**	**+2.6**
ZAPS	**Zavoj**	**3.26**	**13**	*e*Pn	**Pn**	**04 27 47.8**	**+1.3**
ZAPS				*e*Sn	**Sn**	**04 28 26.4**	**+0.8**
HCY	**Herceg Novi**	**3.35**	**316**	*e*Pn	**Pb**	**04 27 52.0**	**-2.6**
HCY	**Herceg Novi**	**3.35**	**316**	⇓*i*Pn	**Pn**	**04 27 49.1**	**+1.4**
HCY				*i* Sn	**Sn**	**04 28 30.5**	**+2.7**
NKME	**Niksic**	**3.36**	**324**	⇓*i*Pn	**Pn**	**04 27 48.9**	**+1.0**
NKME				*i* Sn	**Sn**	**04 28 30.5**	**+2.4**
SJES	**Sjenica**	**3.41**	**339**	*e*Pn	**Pn**	**04 27 50.2**	**+1.6**
BOVS	**Bovan**	**3.54**	**0**	⇓P	**Pn**	**04 27 49.6**	**-0.7**
TREB	**Trebinje**	**3.62**	**318**	*e*Pn	**Pn**	**04 27 51.3**	**-0.1**
BRY	**Bratogost**	**3.66**	**321**	*e*Pn	**Pn**	**04 27 52.7**	**+0.7**
BRY	**Bratogost**	**3.66**	**321**	⇓*i*Pn	**Pn**	**04 27 52.8**	**+0.7**
BRY				*i* Sn	**Sn**	**04 28 37.7**	**+2.2**
IVAS	**Ivanjica**	**3.66**	**343**	*e*Pn	**Pn**	**04 27 52.0**	**0.0**
UPM	**Unac-Piva**	**3.73**	**327**	*e*Pn	**Pn**	**04 27 55.1**	**+2.0**
UPM	**Unac-Piva**	**3.73**	**327**	⇓*i*Pn	**Pn**	**04 27 53.9**	**+0.8**
UPM				*i* Sn	**Sn**	**04 28 39.3**	**+1.9**
ZAGS	**Zajecar**	**3.74**	**6**	*e*Pn	**Pn**	**04 27 52.7**	**-0.3**
MATE	**Matera**	**3.83**	**280**	⇑P	**Pn**	**04 27 55.0**	**+0.8**
GRUS	**Gruza**	**3.86**	**350**	*e*Pn	**Pn**	**04 27 55.4**	**+0.8**
TIP	**Timpagrande**	**3.90**	**258**	⇓P	**Pn**	**04 27 56.9**	**+1.6**
RUDO	**Rudo**	**3.92**	**335**	*e*Pn	**Pb**	**04 28 01.0**	**-3.3**
STON	**Ston**	**4.07**	**314**	*e*Pn	**Pn**	**04 27 56.9**	**-0.6**
STON				Sn	**Sn**	**04 28 44.3**	**-1.2**
BBLS	**Lazići**	**4.13**	**337**	*e*Pn	**Pn**	**04 27 59.0**	**+0.6**
DIVS	**Divibare**	**4.19**	**343**	*e*Pn	**Pn**	**04 28 00.1**	**+0.8**
DIVS	**Divibare**	**4.19**	**343**	*e*Pn	**Pn**	**04 27 59.9**	**+0.6**
TRUS	**Trudelj**	**4.23**	**348**	*e*Pn	**Pn**	**04 28 00.6**	**+0.8**
APE	**Apeiranthos**	**4.28**	**134**	⇑P	**Pn**	**04 28 01.2**	**+0.7**
MDVR	**Moldovita**	**4.69**	**0**	⇑P	**Pn**	**04 28 07.2**	**+1.1**
MAKA	**Makarska**	**4.72**	**314**	*e*Pn	**Pn**	**04 28 06.7**	**+0.2**
MAKA				Sn	**Sn**	**04 29 00.8**	**-0.6**
TEKS	**Tekeris**	**4.72**	**341**	*e*Pn	**Pn**	**04 28 06.3**	**-0.4**
TEKS	**Tekeris**	**4.72**	**341**	*e*Pn	**Pn**	**04 28 06.2**	**-0.4**
RICI	**Ricice**	**4.80**	**317**	*i* Pn	**Pn**	**04 28 08.4**	**+0.9**
RICI				Sn	**Sn**	**04 29 03.8**	**+0.3**
HERR	**Herculane**	**4.82**	**6**	⇑P	**Pn**	**04 28 09.9**	**+2.1**
HVAR	**Hvar**	**4.98**	**310**	*e*Pn	**Pn**	**04 28 09.3**	**-0.7**
HVAR				Sn	**Sn**	**04 29 05.2**	**-2.6**
FRGS	**Fruska Gora**	**5.24**	**345**	⇑P	**Pn**	**04 28 14.8**	**+1.1**
FRGS	**Fruska Gora**	**5.24**	**345**	*e*Pn	**Pn**	**04 28 14.2**	**+0.5**
FRGS	**Fruska Gora**	**5.24**	**345**	*e*Pn	**Pn**	**04 28 14.4**	**+0.7**
GZR	**Gura Zlata**	**5.36**	**8**	⇑P	**Pn**	**04 28 16.6**	**+1.2**
IDI	**Anoyia**	**5.44**	**151**	Pn	**Pn**	**04 28 17.4**	**+1.0**
	comp=E,0.7nm,0.3s,baz=337,slow=13,SNR=2.5						
IDI				Sn	**Sn**	**04 29

JMI					IAML			04 41 45.0	
	comp=Z,9.2nm,0.7s								
LOF	**Lofoten**		**5.96**	**123**	*e*P		**Pn**	**04 41 50.7**	**+1.4**
LOF					IAML			04 42 56.8	
	comp=Z,6.8nm,0.4s								
N2SV	**S_rvYgen**		**5.99**	**126**	*e*P		**Pn**	**04 41 50.7**	**+0.8**
BJO1	**Bjornoya**		**6.03**	**56**	Pn		**Pn**	**04 41 49.8**	**-0.5**
BJO1	**Bjornoya**		**6.03**	**56**	*e*P		**Pn**	**04 41 49.4**	**-1.0**
N2RO	**R_st**		**6.07**	**131**	*e*P		**Pn**	**04 41 52.3**	**+1.5**
N2RO					IAML			04 43 00.3	
	comp=Z,7.0nm,0.4s								
N2VA	**Vr_y**		**6.09**	**128**	*e*P		**Pn**	**04 41 52.5**	**+1.3**
N2VA					*e*S		**Sn**	**04 42 57.3**	**-3.5**
N2VA					IAML			04 43 02.6	
	comp=Z,7.0nm,0.4s								
DBG	**Daneborg**		**6.38**	**301**	*i* P		**Pn**	**04 41 50.6**	**-4.4**
DBG					*i* P		**Pn**	**04 41 50.9**	**-4.2**
DBG	**Daneborg**		**6.38**	**301**	Pn		**Pn**	**04 41 51.6**	**-3.5**
DBG	**Daneborg**		**6.38**	**301**	*i* P		**Pn**	**04 41 50.6**	**-4.4**
HSPB	**Hornsund (broa**		**6.54**	**32**	Pn		**Pn**	**04 41 57.0**	**-0.3**
STEI	**Steigen**		**6.55**	**120**	*e*P		**Pn**	**04 41 58.8**	**+1.3**
STEI					*e*S		**Sn**	**04 43 08.4**	**-3.7**
STEI					IAML			04 43 09.5	
	comp=Z,6.6nm,0.5s								
TRO	**Tromso**		**6.60**	**101**	*e*P		**Pn**	**04 41 57.9**	**-0.3**
TRO					*e*S		**Sn**	**04 43 08.6**	**-4.7**
TRO					IAML			04 43 12.4	
	comp=Z,6.3nm,0.4s								
N2IH	**Innhavet**		**6.71**	**119**	*e*P		**Pn**	**04 42 01.7**	**+2.0**
N2IH					*e*S		**Sn**	**04 43 11.9**	**-4.2**
N2IH					IAML			04 43 14.5	
	comp=Z,17nm,0.4s								
N2TV	**TYrnvik**		**6.78**	**123**	*e*P		**Pn**	**04 42 01.6**	**+0.9**
N2TV					*e*S		**Sn**	**04 43 13.9**	**-3.8**
N2TV					IAML			04 43 15.8	
	comp=Z,5.9nm,0.8s								
NBB08	**Skaug oppvekst**		**6.79**	**125**	*e*P		**Pn**	**04 42 02.3**	**+1.6**
NBB30	**Finnes**		**6.88**	**130**	*e*P		**Pn**	**04 42 03.8**	**+1.7**
NBB30					*e*S		**Sn**	**04 43 16.1**	**-4.1**
NBB30					IAML			04 43 17.8	
	comp=Z,12nm,0.4s								
NBB05	**Inndyr**		**6.90**	**128**	*e*P		**Pn**	**04 42 03.4**	**+1.0**
NBB05					IAML			04 43 19.2	
	comp=Z,6.4nm,0.3s								
FAUS	**Fauske**		**6.96**	**123**	*e*P		**Pn**	**04 42 04.5**	**+1.4**
FAUS					IAML			04 43 22.3	
	comp=Z,4.9nm,0.3s								
DAG	**Danmarks Havn**		**7.00**	**322**	*e*		Pn	04 41 56.9	-6.7
	baz=131,slow=18								
DAG					*i* P		**Pn**	**04 42 00.6**	**-3.0**
DAG					*i* S		Sn	04 43 07.8	-15
DAG					IAML			04 43 10.7	
	comp=Z,21nm,0.4s								
DAG	**Danmarks Havn**		**7.00**	**322**	*e*		Pn	04 41 56.9	-6.7
	baz=131,slow=18								
DAG					*i* P		**Pn**	**04 42 00.6**	**-3.0**
DAG					*i* S		Sn	04 43 07.8	-15
DAG					IAML			04 43 10.7	
	comp=Z,21nm,0.4s								
NBB15	**Halsa Church**		**7.03**	**131**	*e*P		**Pn**	**04 42 06.2**	**+2.1**
NBB15	**Halsa Church**		**7.03**	**131**	*e*S		**Sn**	**04 43 20.1**	**-3.8**
NBB15	**Halsa Church**		**7.03**	**131**	IAML			04 43 27.8	
	comp=Z,5.0nm,0.5s								
NBB17	**Glomfjord BYr**		**7.06**	**130**	*e*P		**Pn**	**04 42 06.7**	**+2.2**
N2ST	**Straumen**		**7.06**	**123**	*e*P		**Pn**	**04 42 06.2**	**+1.6**
NBB13	**Alf Garage**		**7.07**	**132**	*e*P		**Pn**	**04 42 05.6**	**+1.0**
NBB13	**Alf Garage**		**7.07**	**132**	IAML			04 43 22.5	
	comp=Z,9.2nm,0.5s								
NBB40	**Tonnes**		**7.09**	**134**	*e*P		**Pn**	**04 42 06.0**	**+1.1**
NBB40					*e*S		**Sn**	**04 43 21.9**	**-3.4**
NBB40					IAML			04 43 23.8	
	comp=Z,7.3nm,0.5s								
JETT	**Jettan, Norway**		**7.09**	**100**	Pn		**Pn**	**04 42 05.0**	**0.0**
KONS	**Konsvik**		**7.12**	**133**	*e*P		**Pn**	**04 42 06.1**	**+0.7**
KONS					IAML			04 43 43.0	
	comp=Z,6.5nm,0.6s								
STOK	**Stokkvaagen**		**7.24**	**134**	*e*P		**Pn**	**04 42 07.9**	**+1.0**
KIF	**Kilpisjarvi**		**7.50**	**103**	*e*P		**Pn**	**04 42 10.8**	**+0.3**
SPA0	**Spitsbergen Ar**		**7.51**	**26**	Pn		**Pn**	**04 42 11.4**	**+0.7**
	baz=211,slow=14								
SPA0	**Spitsbergen Ar**		**7.51**	**26**	Pn		**Pn**	**04 42 11.4**	**+0.7**
	baz=211,slow=14								
SPITS	**Spitsbergen Ar**		**7.51**	**26**	Pn		**Pn**	**04 42 11.7**	**+1.0**
	baz=205,slow=16,SNR=51								
KBS	**Kingsbay**		**7.62**	**17**	*i* P		**Pn**	**04 42 11.0**	**-1.1**
KBS	**Kingsbay**		**7.62**	**17**	Pn		**Pn**	**04 42 11.4**	**-0.6**
KBS							Sn	04 43 48.3	+10
KBS	**Kingsbay**		**7.62**	**17**	*e*P		**Pn**	**04 42 10.3**	**-1.7**
KBS					IAML			04 43 51.7	
	comp=Z,6.3nm,0.4s								
HAMF	**Hammerfest**		**7.66**	**88**	Pn		**Pn**	**04 42 11.0**	**-1.7**
HAMF	**Hammerfest**		**7.66**	**88**	*e*P		**Pn**	**04 42 10.6**	**-2.1**
HAMF					IAML			04 43 43.5	
	comp=Z,2.4nm,0.5s								
MOR8	**Moi Rana**		**7.70**	**132**	*e*P		**Pn**	**04 42 14.6**	**+1.3**
MOR8					IAML			04 43 39.8	
	comp=Z,7.2nm,0.3s								
SALU	**Saltoluokta**		**7.83**	**117**	*e*P		**Pn**	**04 42 16.5**	**+1.4**
KTK1	**Kautokeino**		**8.24**	**99**	*e*P		**Pn**	**04 42 20.9**	**+0.2**
KTK1					IAML			04 43 54.2	
	comp=Z,2.2nm,0.5s								
NSS	**Namsos**		**8.61**	**144**	*e*P		**Pn**	**04 42 26.8**	**+1.1**
NSS					*e*S		**Sn**	**04 43 56.8**	**-5.8**
NSS					IAML			04 44 02.7	
	comp=Z,10nm,0.4s								
ARA0	**ARCESS Array S**		**8.68**	**94**	Pn		**Pn**	**04 42 26.4**	**-0.3**
	baz=295,slow=11								
ARA0	**ARCESS Array S**		**8.68**	**94**	Pn		**Pn**	**04 42 26.4**	**-0.3**
	baz=295,slow=11								
ARCES	**ARCESS Array B**		**8.68**	**94**	Pn		**Pn**	**04 42 26.6**	**-0.2**
	baz=308,slow=12,SNR=53								
ARCES					LR		LR	04 44 38.9	
	comp=Z,36nm,19.7s,baz=265,slow=29								
HEF	**Hetta**		**8.70**	**102**	*e*P		**Pn**	**04 42 26.7**	**-0.3**
KEV	**Kevo**		**9.05**	**91**	*e*P		**Pn**	**04 42 31.5**	**-0.3**
TBLU	**Trondheim**		**9.51**	**151**	*e*P		**Pn**	**04 42 37.7**	**-0.4**
TBLU					IAML			04 44 21.7	
	comp=Z,6.2nm,0.6s								
MOL	**Molde**		**9.81**	**160**	*e*P		**Pn**	**04 42 42.4**	**+0.2**
AKN	**Aaknes**		**10.14**	**161**	*e*		**Pn**	**04 42 49.0**	**+2.4**
NOD	**Norderasen**		**10.15**	**140**	*e*P		**Pn**	**04 42 47.8**	**+0.9**
DOMB	**Dombas**		**10.50**	**156**	*e*P		**Pn**	**04 42 52.1**	**+0.4**
FOO	**Floro**		**10.54**	**167**	*e*P		**Pn**	**04 42 52.5**	**+0.3**
BORG	**Borgarnes**		**10.64**	**238**	LR		LR	04 45 45.9	
	comp=Z,53nm,19.4s,baz=20,slow=31								
HYA	**Hoyanger**		**11.06**	**165**	*e*P		**Pn**	**04 42 59.4**	**+0.1**
NC204	**NORSAR Array S**		**11.47**	**153**	*e*P		**Pn**	**04 43 05.3**	**+0.4**
NC303	**NORSAR Array S**		**11.60**	**152**	*e*P		**Pn**	**04 43 05.7**	**-1.0**
SUMG	**Summit**		**11.65**	**291**	*i* P		**Pn**	**04 43 06.1**	**-1.6**
SUMG	**Summit**		**11.65**	**291**	*i* P		**Pn**	**04 43 06.1**	**-1.6**
NOA	**NORSAR Array B**		**11.76**	**153**	Pn		**Pn**	**04 43 10.8**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=334,slow=12,SNR=5.9								
NOA					LR		LR	04 47 33.7	
	comp=Z,127nm,19.7s,baz=345,slow=37								
NAO01	**NORSAR Array S**		**11.90**	**154**	*e*P		**Pn**	**04 43 10.6**	**-0.2**
APA0	**Apatity Array**		**12.04**	**95**	Pn		**Pn**	**04 43 11.8**	**-0.8**
	baz=318,slow=8.6								
APA0	**Apatity Array**		**12.04**	**95**	Pn		**Pn**	**04 43 11.8**	**-0.8**
	baz=318,slow=8.6								
NRA0	**NORESS Array S**		**12.10**	**152**	Pn		**Pn**	**04 43 14.1**	**+0.6**
	baz=335,slow=16								
NRA0	**NORESS Array S**		**12.10**	**152**	Pn		**Pn**	**04 43 14.1**	**+0.6**
	baz=335,slow=16								
HFS	**Hagfors**		**13.00**	**149**	Pn		**Pn**	**04 43 27.4**	**+1.6**
	comp=Z,1.1nm,0.3s,baz=348,slow=11,SNR=24								
HFS					LR		LR	04 48 11.9	
	comp=Z,144nm,21.0s,baz=342,slow=36								
FIA0	**FINESS Array S**		**14.52**	**123**	P		**Pn**	**04 43 46.6**	**+0.1**
	baz=335,slow=11								
FIA0	**FINESS Array S**		**14.52**	**123**	P		**Pn**	**04 43 46.6**	**+0.1**
	baz=335,slow=11								
FINES	**FINESS Array B**		**14.52**	**123**	Pn		**Pn**	**04 43 47.0**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=335,slow=11,SNR=13								
FINES					LR		LR	04 48 57.2	
	comp=Z,175nm,19.1s,baz=317,slow=35								
EKA	**Eskdalemuir Ar**		**16.72**	**187**	Pn		**Pn**	**04 44 14.6**	**-0.6**
	baz=23,slow=15,SNR=4.9								
SFJD	**Kangerlussuaq**		**17.98**	**279**	LR		LR	04 50 31.1	
	comp=Z,140nm,18.9s,baz=32,slow=34								
OBN	**Obninsk**		**22.80**	**118**	LR		LR	04 54 04.5	
	comp=Z,58nm,20.1s,baz=358,slow=36								
KIRV	**Kirov**		**23.66**	**98**	LR		LR	04 54 17.8	
	comp=Z,50nm,18.4s,baz=329,slow=35								
VRAC	**Vranov**		**23.90**	**153**	P		**P**	**04 45 37.8**	**+2.9**
	comp=Z,2.2nm,0.6s,baz=19,slow=10,SNR=3.5								
VRAC					LR		LR	04 55 09.7	
	comp=Z,80nm,18.8s,baz=354,slow=37								
GERES	**GERESS Array B**		**23.98**	**158**	P		**P**	**04 45 38.1**	**+2.4**
	comp=Z,3.3nm,0.7s,baz=358,slow=9.9,SNR=26								
GERES					LR		LR	04 54 25.7	
	comp=Z,87nm,20.1s,baz=353,slow=35								
RES	**Resolute Bay**		**24.69**	**321**	LR		LR	04 55 03.9	
	comp=Z,108nm,20.7s,baz=76,slow=36								
AKASG	**Malin Array Be**		**24.95**	**133**	P		**P**	**04 45 45.2**	**+0.9**
	comp=Z,0.8nm,0.4s,baz=339,slow=10,SNR=6.3								
AKASG					LR		LR	04 55 14.7	
	comp=Z,123nm,19.0s,baz=340,slow=36								
DAVOX	**Davos/Dischmat**		**25.63**	**164**	LR		LR	04 55 27.9	
	comp=Z,73nm,18.5s,baz=6.5,slow=35								
ARU	**Arti**		**28.27**	**92**	LR		LR	04 57 23.7	
	comp=Z,68nm,18.3s,baz=346,slow=36								
MLR	**Muntele Rosu**		**29.20**	**141**	LR		LR	04 58 28.6	
	comp=Z,137nm,18.8s,baz=356,slow=37								
KBZ	**Khabaz**		**34.86**	**121**	LR		LR	05 00 51.7	
	comp=Z,41nm,18.8s,baz=6.0,slow=35								
BRTR	**Keskin Array B**		**36.34**	**134**	P		**P**	**04 47 27.6**	**+2.4**
	comp=Z,0.4nm,0.7s,baz=326,slow=6.4,SNR=4.0								
BRTR					LR		LR	05 03 01.9	
	comp=Z,41nm,18.1s,baz=6.5,slow=37								
ZALV	**Zalesovo Beam**		**38.43**	**71**	LR		LR	05 07 04.4	
	comp=Z,19nm,18.9s,baz=352,slow=42								
ILAR	**Eielson Array**		**41.74**	**339**	P		**P**	**04 48 10.8**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=4.1,slow=9.2,SNR=7.2								
MKAR	**Makanchi Array**		**43.98**	**79**	P		**P**	**04 48 31.2**	**+3.0**
	comp=Z,0.2nm,0.3s,baz=1.3,slow=6.3,SNR=2.1								
ULM	**Lac du Bonnet**		**44.98**	**295**	LR		LR	05 06 18.7	
	comp=Z,43nm,20.5s,baz=58,slow=35								
PDAR	**Pinedale Array**		**55.58**	**303**	P		**P**	**04 49 57.1**	**+0.4**
	comp=Z,0.5nm,0.9s,baz=53,slow=13,SNR=3.7								
PDAR					LR		LR	05 11 47.8	
	comp=Z,24nm,18.4s,baz=34,slow=34								
TORD	**Torodi Ar. Bea**		**58.76**	**178**	P		**P**	**04 50 20.6**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=352,slow=6.7,SNR=4.0								
NVAR	**Mina Array Bea**		**61.88**	**308**	LR		LR	05 17 14.8	
	comp=Z,41nm,18.5s,baz=68,slow=36								
KSRS	**Korea Array**		**64.97**	**44**	LR		LR	05 22 01.8	
	comp=Z,15nm,18.7s,baz=262,slow=38								
TXAR	**Lajitas Array**		**66.55**	**292**	P		**P**	**04 51 10.7**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=49,slow=4.0,SNR=3.9								
TXAR					LR		LR	05 19 48.1	
	comp=Z,25nm,18.1s,baz=0.0,slow=36								

MEX 25 04:58:43.5±0.8, 14.56N×92.49W, h87km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCIG		**1.34**	**328**	*e*P		Pn	04 59 06.1	-1.0
PCIG				*e*S		Sn	04 59 23.0	-2.0
CCIG	**Comitan**	**1.75**	**11**	*e*P		Pn	04 59 16.8	+4.3
CCIG				*e*S		Sn	04 59 40.0	+5.5

*BJI **25** 05:06:14.9±0.0, 36.52N×70.94E, h80km, mB4.6/13, mb4.5/20, Ms3.8/4, Ms7 3.5/3*
*IDC **25** 05:06:15.1±2.5, 36.29N×71.11E, h75km±22km, mb4.1/27, mb1 4.2/30, mb1mx4.0/49, mbtmp4.4/30, MS3.0/7, Ms1 3.0/7, ms1mx2.6/46, Error ellipse: s-maj=14.4km s-min=10.9km az=12.0*
*MOS **25** 05:06:16.5±1.1, 36.47N×71.20E, h97km, mb4.5/16, Error ellipse: s-maj=7.2km s-min=4.3km az=92.5*
*NEIC **25** 05:06:17.5±2.4, 36.39N±0.05×71.01E±0.05, h89km±6km, mb4.5/18, Error ellipse: s-maj=8.3km s-min=5.2km az=150.0*
*NNC **25** 05:06:20.8±3.1, 36.81N×70.87E, h124km±31km, mb4.2, mpv5.0, Error ellipse: s-maj=25.3km s-min=16.2km az=22.0*

ISC 25 05:06:17.2±0.4, 36.42N±0.04×71.03E±0.04, h100km, n209, σ2s45/236, mb4.4/41, 19C-14D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBL	**Kabul**	**2.48**	**221**	PN		**Pn**	**05 06 57.5**	**+1.3**
KBL	**Kabul**	**2.48**	**221**	Pn		**Pn**	**05 06 57.5**	**+1.3**
GAR	**Garm**	**2.63**	**348**			**Pn**	**05 06 58.9**	**+0.7**
CHGR	**Chuyangaron**	**2.68**	**327**			**Pn**	**05 06 58.7**	**0.0**
CEP	**Cherat**	**2.69**	**164**	P		**Pn**	**05 07 00.1**	**+1.1**
CEP				S		**Sn**	**05 07 31.0**	**-0.1**
DRK	**Karamyk**	**3.11**	**11**			**Pn**	**05 07 06.5**	**+1.8**
CHCP	**Chirah Chowk**	**3.31**	**146**	P		**Pn**	**05 07 08.5**	**+1.4**
NIL	**Nilore**	**3.31**	**146**	PN		**Pn**	**05 07 07.4**	**+0.2**
NIL	**Nilore**	**3.31**	**146**			**Pn**	**05 07 07.3**	**+0.2**
BTK	**Batken**	**3.63**	**357**	PN		**Pn**	**05 07 13.1**	**+1.6**
BTK	**Batken**	**3.63**	**357**			**Pn**	**05 07 13.1**	**+1.6**
THW	**Thamme Wali**	**3.67**	**171**	P		**Pn**	**05 07 12.1**	**+0.2**
SARP	**Sargodha**	**4.69**	**163**	P		**Pn**	**05 07 24.8**	**-0.9**
KSH	**Kashi**	**4.98**	**50**	P		**Pn**	**05 07 26.0**	**-3.7**
KSH				sP			05 07 45.3	
KSH				S		Sn	05 08 16.5	-10
KSH				*s*max		*s*max		
	comp=N,1μm,0.8s							
KSH				*s*max		*s*max		
	comp=E,1μm,0.7s							
TAS	**Tashkent**	**5.08**	**345**	PN		**Pn**	**05 07 31.0**	**+0.1**
TAS	**Tashkent**	**5.08**	**345**	Pn		**Pn**	**05 07 31.0**	**+0.1**
DHRM	**DHARAMSHALA**	**6.03**	**132**	*e*PG		**Pn**	**05 07 43.6**	**-0.4**
DHRM				*e*SG		**Sn**	**05 08 48.3**	**-3.5**
DHRM				IAML			05 08 52.5	
	comp=E,1μm,0.4s							
DHRM				IAML			05 08 52.7	
	comp=N,1μm,0.7s							
AML	**Almayashu**	**6.06**	**19**	P		**Pn**	**05 07 45.0**	**+0.3**
	SNR=305							
UCH	**Uchtor**	**6.39**	**24**	P		**Pn**	**05 07 49.5**	**+0.3**
	SNR=90							
KZA	**Kyzart**	**6.53**	**29**	P		**Pn**	**05 07 51.0**	**0.0**
	SNR=32							
EKS2	**Erkin-Say**	**6.58**	**18**	P		**Pn**	**05 07 52.0**	**+0.6**
	SNR=100							
KK31	**Karatay Array**	**6.69**	**357**	⇓P		**Pn**	**05 07 52.4**	**-0.2**
	comp=N,77nm,0.3s,baz=188,slow=15,SNR=1016							
KK31				⇑S		**Sn**	**05 09 03.0**	**-4.4**
	comp=N,39nm,0.5s,baz=190,slow=22,SNR=7.2							
KK31	**Karatay Array**	**6.69**	**357**	PN		**Pn**	**05 07 52.5**	**-0.2**
KK31	**Karatay Array**	**6.69**	**357**	Pn		**Pn**	**05 07 52.5**	**-0.2**
KKAR	**Karatay Array**	**6.69**	**357**	PN		**Pn**	**05 07 52.7**	**0.0**
KKAR	**Karatay Array**	**6.69**	**357**			**Pn**	**05 07 52.5**	**-0.2**
KKAR	**Karatay Array**	**6.69**	**357**	Pn		**Pn**	**05 07 52.7**	**0.0**
BHK	**Bhakra**	**6.71**	**137**	*e*PG		**Pn**	**05 07 55.8**	**+2.7**
BHK				*e*SG		**Sn**	**05 09 08.2**	**+0.2**
AAK	**Ala-Archa**	**6.76**	**22**	P		**Pn**	**05 07 54.5**	**+0.7**
	comp=N,52nm,0.3s,baz=189,slow=6.4,SNR=297							
AAK				S		**Sn**	**05 09 09.4**	**+0.1**
	comp=N,6.3nm,0.3s,baz=6.1,slow=17,SNR=4.7							
AAK	**Ala-Archa**	**6.76**	**22**	P		**Pn**	**05 07 54.5**	**+0.7**
	SNR=169							
AAK	**Ala-Archa**	**6.76**	**22**	⇑P		**Pn**	**05 07 54.3**	**+0.4**
	comp=N,107nm,0.5s							
AAK				⇓S		**Sn**	**05 09 07.2**	**-2.2**
	comp=N,46nm,0.5s							
AAK	**Ala-Archa**	**6.76**	**22**	PN		**Pn**	**05 07 54.2**	**+0.4**
AAK	**Ala-Archa**	**6.76**	**22**	Pn		**Pn**	**05 07 54.4**	**+0.5**
KBK	**Karagaybulak**	**6.92**	**25**	P		**Pn**	**05 07 56.3**	**+0.2**
	SNR=28							
FRU1	**Bishkek**	**6.96**	**22**	PN		**Pn**	**05 07 56.2**	**-0.3**
FRU1	**Bishkek**	**6.96**	**22**	Pn		**Pn**	**05 07 56.2**	**-0.3**
ULHL	**Ulahol**	**7.08**	**33**	P		**Pn**	**05 07 58.4**	**+0.2**
	SNR=17							
BOOM	**Boomskoye usch**	**7.15**	**31**	PN		**Pn**	**05 07 58.0**	**-1.2**
BOOM	**Boomskoye usch**	**7.15**	**31**			**Pn**	**05 07 58.0**	**-1.2**
CHMS	**Chumysh**	**7.17**	**22**	P		**Pn**	**05 07 59.6**	**+0.4**
	SNR=62							
USP	**Ospenovka**	**7.34**	**20**	P		**Pn**	**05 08 02.2**	**+0.6**
	SNR=27							
SMLA	**Simla**	**7.35**	**134**	*e*PG		**Pn**	**05 08 00.7**	**-1.1**
SMLA				*e*SG		**Sn**	**05 09 18.0**	**-5.6**
SMLA				IAML			05 09 24.1	
	comp=E,342nm,0.7s							
SMLA				IAML			05 09 25.3	
	comp=N,488nm,0.0s							
TKM2	**Tokmak 2**	**7.38**	**27**	P		**Pn**	**05 08 02.7**	**+0.3**
	SNR=58							
TKM2	**Tokmak 2**	**7.38**	**27**	⇑P		**Pn**	**05 08 02.1**	**-0.4**
	comp=N,59nm,0.6s							
TKM2				⇓S		**Sn**	**05 09 21.1**	**-3.5**
	comp=N,18nm,0.7s							
TKM2	**Tokmak 2**	**7.38**	**27**	PN		**Pn**	**05 08 02.0**	**-0.4**
HRA	**Herat**	**7.45**	**257**	Pn		**Pn**	**05 08 04.7**	**+1.2**
TARG	**Taragay, Kyrgy**	**7.47**	**43**			**Pn**	**05 08 04.1**	**+0.3**
SGDS	**Sogindy**	**7.55**	**20**	⇓*i*P		**Pn**	**05 08 03.8**	**-0.7**
	baz=20							
SGDS				*e*S		**Sn**	**05 09 26.1**	**-2.3**
	baz=20							
MTBS	**Maitube**	**7.88**	**30**	⇓*i*P		**Pn**	**05 08 09.2**	**+0.1**
	baz=30							
TNSS	**Tian-Shan**	**8.03**	**33**	*e*P		**Pn**	**05 08 10.6**	**-0.7**
	baz=32							
MDOK	**Medeo**	**8.17**	**33**	*e*P		**Pn**	**05 08 13.0**	**0.0**
	baz=32							
MDOK	**Medeo**	**8.17**	**33**	P		**Pn**	**05 08 12.3**	**-0.7**
	comp=N,25nm,0.8s							
MDOK	**Medeo**	**8.17**	**33**	*e*PN		**Pn**	**05 08 13.0**	**0.0**
KUU	**Kurty**	**8.50**	**27**	*e*P		**Pn**	**05 08 15.9**	**-1.4**
	baz=26							
KUU	**Kurty**	**8.50**	**27**	*e*PN		**Pn**	**05 08 15.9**	**-1.4**
CHKK	**Chushkaly**	**8.71**	**30**	*e*P		**Pn**	**05 08 18.7**	**-1.6**
	baz=29							
BTLS	**Baital**	**8.91**	**14**	*e*P		**Pn**	**05 08 21.6**	**-1.3**
	baz=13							
BTLS				*e*S		**Sn**	**05 09 57.6**	**-3.8**
	baz=13							
BTLS	**Baital**	**8.91**	**14**	*e*PN		**Pn**	**05 08 21.6**	**-1.3**
KPKS	**Kokpek**	**9.16**	**38**	*e*P		**Pn**	**05 08 25.1**	**-1.4**
	baz=37							
KPKS	**Kokpek**	**9.16**	**38**	*e*P		**Pn**	**05 08 25.1**	**-1.4**
NDI	**New Delhi**	**9.31**	**144**	*ex*		**Pn**	**05 08 30.0**	**+1.4**
NDI				*e*SG		Sn	05 10 02.0	-10
SHLS	**Shalkode**	**9.34**	**41**	*e*P		**Pn**	**05 08 29.2**	**+0.2**
	baz=42							
SHLS	**Shalkode**	**9.34**	**41**	*e*P		**Pn**	**05 08 29.1**	**+0.2**
AYAN	**Aya Nagar**	**9.44**	**145**	*e*PG		**Pn**	**05 08 28.1**	**-2.1**
AYAN				*e*SG		**Sn**	**05 10 06.7**	**-7.9**
KUDL	**Kundal**	**9.46**	**149**	*e*PG		**Pn**	**05 08 27.1**	**-3.4**
KUDL				*e*SG		Sn	05 10 04.6	-10
PDGK	**Podgornoye**	**9.48**	**41**	⇑P		**Pn**	**05 08 29.3**	**-1.5**
	comp=N,9.9nm,0.8s							
GEYT	**Alibeck**	**10.41**	**282**	P		**Pn**	**05 08 41.3**	**-2.1**
	comp=N,2.1nm,0.3s,baz=173,slow=30,SNR=14							
GEYT				S		**Sn**	**05 10 31.4**	**-6.8**
	comp=N,11nm,0.3s,baz=238,slow=12,SNR=15							
OTUK	**Ortayu**	**11.85**	**4**	⇓P		**Pn**	**05 09 00.5**	**-2.3**
	comp=N,25nm,0.7s							
PYUN	**Piuthan**	**13.08**	**126**	*e*P		**Pn**	**05 09 15.5**	**-3.8**
	comp=N,35nm,0.3s							
MAKZ	**Makanchi**	**13.21**	**35**	⇓P		**Pn**	**05 09 20.1**	**-0.5**
	comp=N,10nm,0.6s							
MAKZ	**Makanchi**	**13.21**	**35**	P		**Pn**	**05 09 19.0**	**-1.7**
MAKZ	**Makanchi**	**13.21**	**35**	Pn		**Pn**	**05 09 18.9**	**-1.7**
MK31	**Makanchi Array**	**13.34**	**36**	P		**Pn**	**05 09 20.7**	**-1.7**
	comp=N,5.2nm,0.6s,baz=223,slow=14,SNR=20							
MK31	**Makanchi Array**	**13.34**	**36**	P		**Pn**	**05 09 21.2**	**-1.2**
MK31	**Makanchi Array**	**13.34**	**36**			**Pn**	**05 09 21.2**	**-1.2**
MKAR	**Makanchi Array**	**13.34**	**36**	P		**Pn**	**05 09 20.5**	**-1.9**
	comp=N,0.4nm,0.3s,baz=221,slow=14,SNR=13							
MKAR	**Makanchi Array**	**13.34**	**36**	P		**Pn**	**05 09 21.3**	**-1.1**
MKAR	**Makanchi Array**	**13.34**	**36**			**Pn**	**05 09 21.3**	**-1.1**

ARU S **S** 05 11 30.1
ARU SS **SnSn** **05 14 59.1 +4.9**
ARU pmax pmax **05 15 40.6 +13**
comp=Z,32nm,1.5s
ARU Arti 21.71 341 P **P** **05 11 00.8 +0.9**
ARU IAmb IAmb 05 11 09.6
comp=Z,15nm,0.8s
ZEI Tsey 21.79 295 *e*P **P** **05 11 04.5 +3.4**
ZEI pmax pmax
comp=Z,5.0nm,1.3s
ONI Oni 22.09 295 P **P** **05 11 06.3 +2.1**
ONI pmax pmax
comp=Z,10.0nm,0.8s
ONI Oni 22.09 295 P **P** **05 11 06.3 +2.1**
ONI IAmb IAmb 05 11 29.8
comp=Z,10.0nm,0.8s
KBZ Khabaz 22.66 297 P **P** **05 11 10.9 +1.1**
comp=Z,2.1nm,0.5s,baz=108,slow=10,SNR=5.9
KBZ Khabaz 22.66 297⇓ *e*P **P** **05 11 13.2 +3.3**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
GTA Gaotai 22.86 74 ⇓P **P** **05 11 13.9 +1.7**
GTA pmax pmax
comp=Z,10.0nm,1.0s
GTA pmax pmax
comp=Z,74nm,4.0s
GTA LR LR
comp=Z,130nm,18.2s
GTA LR LR
comp=Z,210nm,18.9s
GTA LR LR
comp=Z,73nm,15.6s
BELG Belogornoye 22.96 321 P **P** **05 11 12.8 0.0**
comp=Z,17nm,0.7s,baz=330,slow=1.2,SNR=5.1
BELG Belogornoye 22.96 321*c i*P **P** **05 11 13.8 +1.0**
BELG pmax pmax
comp=Z,4.0nm,0.9s
VRH Novokhopyorsk 25.58 315 *e*P **P** **05 11 37.7 +1.0**
VRH pmax pmax
comp=Z,10.0nm,0.7s
KIRV Kirov 26.32 334 P **P** **05 11 44.1 +0.9**
comp=Z,7.9nm,0.7s,baz=292,slow=11,SNR=4.5
KIRV Kirov 26.32 334⇑ *e*P **P** **05 11 45.4 +2.2**
VORD Divnogorie 26.91 313 *e*P **P** **05 11 49.4 +0.8**
VORD pmax pmax
comp=Z,4.0nm,1.0s
LPSR Galich'ya Gora 27.72 316 *e*P **P** **05 11 56.9 +1.0**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
SONM Songino Array 28.36 55 P **P** **05 12 02.9 +1.1**
comp=Z,1.8nm,0.8s,baz=264,slow=10,SNR=8.8
SONM Songino Array 28.36 55 IAmb IAmb 05 12 04.2
comp=Z,2.1nm,1.2s
ULN Ulaanbaatar 28.80 55⇑ *e*P **P** **05 12 08.1 +2.3**
ULN pmax pmax
comp=Z,4.0nm,1.7s
BR131 Keskin Array S 29.48 288⇑ *e*P **P** **05 12 14.8 +3.0**
BR131 Keskin Array S 29.48 288 P **P** **05 12 13.9 +2.1**
BRTR Keskin Array B 29.48 288 P **P** **05 12 13.7 +1.9**
comp=Z,0.9nm,0.7s,baz=103,slow=9.1,SNR=9.3
BRTR Keskin Array B 29.48 288*ce*P **P** **05 12 14.8 +3.0**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 29.48 288 P **P** **05 12 13.3 +1.4**
PRGR Permogore 29.85 336 *e*P **P** **05 12 15.8 +1.2**
PRGR *e**SP **sP** **05 12 51.0 +1.5**
PRGR pmax pmax
comp=Z,13nm,0.9s
OBN Obninsk 30.01 319 *i* P **P** **05 12 16.6 +0.5**
OBN *i* 05 13 20.9
OBN *i* 05 15 17.0
OBN pmax pmax
comp=Z,7.0nm,0.7s
CMAR Chiang Mai Arr 30.40 119 P **P** **05 12 19.6 -0.4**
comp=Z,0.9nm,0.3s,baz=296,slow=8.3,SNR=5.6
CMAR LR LR 05 26 28.8
comp=Z,12nm,18.0s,baz=260,slow=40
CMAR Chiang Mai Arr 30.40 119*ce*P **P** **05 12 21.7 +1.7**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
KLMR Klimovskoe 31.56 331 *e*P **P** **05 12 29.9 +0.3**
KLMR pmax pmax
comp=Z,10.0nm,0.8s
KLMR Klimovskoe 31.56 331 *e*P **P** **05 12 30.0 +0.3**
KLMR AMP 05 12 33.3
comp=Z,10.0nm,0.8s
AKASG Malin Array Be 33.01 309 P **P** **05 12 44.4 +1.8**
comp=Z,2.2nm,0.5s,baz=82,slow=6.8,SNR=13
AKASG PP **PP** **05 13 59.8 +0.9**
comp=Z,0.5nm,0.3s,baz=85,slow=11,SNR=4.9
AKASG Malin Array Be 33.01 309 P **P** **05 12 44.6 +2.1**
AKASG Malin Array Be 33.01 309 P **P** **05 12 44.6 +2.1**
AKBB Malin Array Si 33.01 309⇑ *e*P **P** **05 12 43.9 +1.4**
AKBB pmax pmax
comp=Z,4.0nm,0.6s
NRIK Noril'sk 34.20 10 P **P** **05 12 54.9 +2.3**
comp=Z,9.1nm,0.7s,baz=195,slow=4.6,SNR=10
NRIK Noril'sk 34.20 10*ce*P **P** **05 12 55.9 +3.3**
NRIK Noril'sk 34.20 10 P **P** **05 12 54.9 +2.3**
MNK Minsk 34.57 315 *i* P **P** **05 12 55.5 -0.5**
MNK *i* *PP **pP** **05 13 20.0 +0.7**
MNK *i* 05 14 12.3
MNK *i* 05 15 31.4
MNK *i* S **S** **05 18 11.8 -5.7**
MNK *i* SS **SnSn** **05 20 35.6 -4.0**
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=Z,27nm,0.6s
MNK pmax pmax
comp=N,13nm,0.8s
MNK MLR MLR
comp=Z,73nm,17.0s
MNK MLR MLR
comp=E,12nm,19.0s
MNK Minsk 34.57 315 *i* P **P** **05 12 55.6 -0.4**
comp=E,3.0nm,0.8s
MNK *i* P **P** **05 12 55.6 -0.4**
comp=N,13nm,0.8s
MNK *i* P **P** **05 12 55.6 -0.4**
comp=Z,27nm,0.6s,baz=282
MNK *i* pP **pP** **05 13 20.1 +0.8**
MNK *i* PP **PnPn** **05 14 12.4 -2.3**
MNK *i* PcP **PcP** **05 15 31.4 +3.1**
MNK *i* S **S** **05 18 11.8 -5.7**
MNK *i* sS **sS** **05 18 55.9 -2.7**
MNK *i* SS **SnSn** **05 20 35.6 -4.0**
MNK *i* LRM MLR 05 27 50.9
comp=Z,73nm,16.6s
MNK *i* LRM MLR 05 28 12.6
MNK *i* LRM MLR 05 28 20.6
comp=E,12nm,18.8s
MLR Muntele Rosu 34.84 299 P **P** **05 13 01.8 +3.2**
comp=E,7.2nm,0.9s,baz=86,slow=2.9,SNR=9.0
MLR Muntele Rosu 34.84 299 P **P** **05 13 00.8 +2.2**
MLR IAmb IAmb 05 13 04.1
comp=Z,10nm,1.0s
BURAR Bucovina Array 35.34 303 P **P** **05 13 03.2 +0.3**
BUR08 Bucovina Ar. S 35.36 303 P **P** **05 13 04.0 +1.0**
PABE Paberze 36.99 316 P **P** **05 13 18.1 +1.5**
UBPT Khong Chiam 37.18 115 P **P** **05 13 19.4 +0.8**
UBPT IAmb IAmb 05 13 19.6
comp=Z,5.3nm,0.9s
FIA1 FINESS Array S 37.56 326 P **P** **05 13 23.6 +2.2**
FINES FINESS Array B 37.56 326 P **P** **05 13 22.4 +1.0**
comp=Z,7.7nm,0.6s,baz=115,slow=9.1,SNR=28
FINES FINESS Array B 37.56 326*ce*P **P** **05 13 23.2 +1.8**
FINES pmax pmax
comp=Z,8.0nm,0.6s
OJC Ojcow 38.97 307 P **P** **05 13 34.7 +1.4**
OJC pmax pmax
comp=Z,6.0nm,1.0s
OJC Ojcow 38.97 307 P **P** **05 13 34.7 +1.4**
OJC IAmb IAmb 05 13 37.9
comp=Z,6.0nm,1.0s
VRAC Vranov 41.06 306 P **P** **05 13 53.0 +2.3**
comp=Z,1.5nm,0.2s,baz=72,slow=6.9,SNR=3.1
ARA0 ARCESS Array S 41.22 338 *e*P **P** **05 13 53.9 +2.1**
ARCES ARCESS Array B 41.22 338 P **P** **05 13 53.8 +2.0**
comp=Z,5.0nm,0.5s,baz=112,slow=7.9,SNR=31
ARCES LR LR 05 32 06.7
comp=Z,26nm,19.0s,baz=85,slow=38
KTK1 Kautokeino 41.70 336 *e*P **P** **05 13 57.2 +1.6**
HAMF Hammerfest 42.31 339 *e*P **P** **05 14 02.6 +2.1**

JETT Jettan, Norway 42.84 336 *e*P **P** **05 14 07.5 +2.6**
HFS Hagfors 43.14 322 P **P** **05 14 08.8 +1.4**
comp=Z,15nm,0.7s,baz=98,slow=11,SNR=30
TRO Tromso 43.35 336 *e*P **P** **05 14 10.8 +1.9**
FAUS Fauske 43.88 333 *e*P **P** **05 14 14.9 +1.7**
MOR8 Moi Rana 43.90 331 *e*P **P** **05 14 14.5 +1.1**
STEI Steigen 44.05 333 *e*P **P** **05 14 16.5 +1.9**
NC602 NORSAR Array S 44.27 323 *e*P **P** **05 14 17.9 +1.6**
NB2 NORSAR Subarra 44.45 323 P **P** **05 14 19.3 +1.3**
comp=Z,7.2nm,0.6s,baz=96,slow=7.9
NB2 NORSAR Subarra 44.45 323 P **P** **05 14 19.3 +1.3**
baz=96,slow=7.9
NOA NORSAR Array B 44.45 323 P **P** **05 14 19.4 +1.5**
comp=Z,9.5nm,0.7s,baz=96,slow=7.8,SNR=38
KONS Konsvik 44.49 331 *e*P **P** **05 14 20.0 +1.9**
NSS Namsos 44.58 328 *e*P **P** **05 14 21.3 +2.5**
NAO01 NORSAR Array S 44.60 323 *e*P **P** **05 14 21.3 +2.2**
OSL Oslo 44.61 321 *e*P **P** **05 14 21.5 +2.4**
LOF Lofoten 44.72 333 *e*P **P** **05 14 22.2 +2.4**
KSRS Korea Array 44.88 71 P **P** **05 14 22.6 +1.0**
comp=Z,3.1nm,0.9s,baz=284,slow=6.5,SNR=7.8
KSRS LR LR 05 34 31.3
comp=Z,16nm,18.7s,baz=265,slow=38
HOPEN Hopen 45.08 346 *e*P **P** **05 14 24.6 +2.0**
TBLU Trondheim 45.14 326 *e*P **P** **05 14 24.8 +1.6**
KONO Kongsberg 45.16 321 *e*P **P** **05 14 25.8 +2.3**
BJO1 Bjornoya 45.35 343 *e*P **P** **05 14 27.0 +2.2**
DOMB Dombas 45.57 324 *e*P **P** **05 14 28.6 +1.9**
DAVOX Davos/Dischmat 45.82 303 P **P** **05 14 30.2 +1.0**
comp=Z,1.8nm,0.6s,baz=102,slow=6.4,SNR=5.5
USRK Ussuriysk Ar. 46.19 61 LR LR 05 36 30.2
comp=Z,56nm,18.3s,baz=234,slow=39
ASK Askoy 47.38 322 *e*P **P** **05 14 43.5 +2.6**
SPA0 Spitsbergen Ar 47.57 347 *e*P **P** **05 14 44.9 +2.7**
SPITS Spitsbergen Ar 47.57 347 P **P** **05 14 44.1 +1.9**
comp=Z,2.7nm,0.5s,baz=116,slow=11,SNR=12
KBS Kingsbay 48.69 347 *e*P **P** **05 14 53.1 +2.4**
EKA Eskdalemuir Ar 52.36 316 P **P** **05 15 21.1 +2.5**
comp=Z,2.4nm,0.7s,baz=89,slow=7.2,SNR=3.8
TORD Torodi Ar. Bea 65.74 269 P **P** **05 16 51.2 -0.4**
comp=Z,2.7nm,0.7s,baz=44,slow=5.8,SNR=19
TORD Torodi Ar. Bea 65.74 269 IAmb IAmb 05 16 52.0
comp=Z,1.1nm,0.8s
ILAR Eielson Array 74.85 16 P **P** **05 17 47.0 +0.7**
comp=Z,1.2nm,0.9s,baz=311,slow=3.2,SNR=8.0
ILAR PP **PP** **05 20 37.0 +2.8**
comp=Z,0.8nm,0.9s,baz=322,slow=7.8,SNR=4.4
BOSA Boshof 77.70 220 P **P** **05 18 04.1 +1.1**
comp=Z,4.6nm,0.7s,baz=36,slow=4.5,SNR=9.9
YKA Yellowknife Ar 81.32 3 P **P** **05 18 23.1 +1.0**
comp=Z,5.1nm,0.8s,baz=4.9,slow=5.2,SNR=11
WRA Warramunga Arr 81.93 122 P **P** **05 18 25.4 -0.5**
comp=Z,1.4nm,0.5s,baz=321,slow=4.7,SNR=23
ASAR Alice Springs 84.19 125 P **P** **05 18 37.1 -0.4**
comp=Z,1.7nm,0.7s,baz=322,slow=5.4,SNR=19
PLCA Paso Flores 149.82 250 PKPbc **PKPbc** **05 25 56.1 +0.7**
comp=Z,2.0nm,0.7s,baz=259,slow=3.7,SNR=3.8

*NEIC **25** 05:22:40.9±1.2,32.°30S±0.°04×72.°23W±0.°06, h6km±6km, mb4.2/6, ML3.5(GUC), Error ellipse: s-maj=8.6km s-min=3.5km az=56.0*
*IDC **25** 05:22:42.2±4.0, 32.°36S×71.°53W, h0km, mb4.1/3, mb1 3.9/7, mb1mx3.7/28, mbtmp3.8/7, ML3.5/4, MS2.7/2, Ms1 2.7/2, ms1mx2.4/21, Error ellipse: s-maj=112.6km s-min=29.1km az=96.0*
*GUC **25** 05:22:42.4±0.8, 32.°31S×72.°16W, h37km±3km, ML3.5*
ISC 25 05:22:41.0±2.0, 32.°31S±0.°04×72.°15W±0.°06, h6km±13km, n48, σ0=64/55, mb4.2/4, 3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.76**	**110**	⇓P		**Pb**	**Pb**	**05 22 56.3**	**-0.3**
VA06				*i* S		**Sb**	**Sb**	**05 23 06.6**	**-0.6**
VA06				IAML				05 23 09.5	
	comp=N,5μm,0.6s								
VA01	**Torpederas**	**0.83**	**150**	*e*P		**Pb**	**Pb**	**05 22 57.9**	**+0.2**
VA01				*i* S		**Sb**	**Sb**	**05 23 09.2**	**0.0**
VA01				IAML				05 23 11.8	
	comp=E,1μm,0.8s								
VA01	**Torpederas**	**0.83**	**150**	Pg		**Pb**	**Pb**	**05 22 57.8**	**0.0**
ROCH	**El Roble**	**1.17**	**125**	*e*P		**Pg**	**Pg**	**05 23 03.1**	**-0.3**
ROCH				*i* S		**Sb**	**Sb**	**05 23 19.0**	**-0.1**
ROCH				IAML				05 23 22.8	
	comp=N,2μm,0.5s								
VA05	**Santo Domingo**	**1.42**	**162**	*e*P		**Pn**	**Pn**	**05 23 06.8**	**-0.5**
VA05	**Santo Domingo**	**1.42**	**162**			**Pn**	**Pn**	**05 23 07.2**	**-0.1**
VA03	**San Esteban**	**1.42**	**109**	⇓*i*P		**Pn**	**Pn**	**05 23 06.9**	**-0.5**
VA03				*i* S		**Sn**	**Sn**	**05 23 26.1**	**-0.4**
VA03				IAML				05 23 31.5	
	comp=N,2μm,0.5s								
VA03	**San Esteban**	**1.42**	**109**			**Pn**	**Pn**	**05 23 07.3**	**-0.2**
CO02	**Combarbal**	**1.47**	**42**	*e*P		**Pn**	**Pn**	**05 23 08.5**	**+0.4**
CO02				*i* S		**Sn**	**Sn**	**05 23 27.0**	**-0.6**
CO02	**Combarbal**	**1.47**	**42**			**Pn**	**Pn**	**05 23 08.0**	**-0.1**
PEL	**Peldehue**	**1.49**	**125**	⇓*i*P		**Pn**	**Pn**	**05 23 08.4**	**+0.1**
PEL				*i* S		**Sb**	**Sb**	**05 23 27.7**	**-0.5**
PEL				IAML				05 23 32.4	
	comp=N,2μm,0.5s								
MT05	**Renca**	**1.61**	**133**	*e*P		**Pn**	**Pn**	**05 23 10.2**	**+0.3**
MT05				*e*S		**Sb**	**Sb**	**05 23 31.4**	**-0.2**
MT05				IAML				05 23 38.3	
	comp=E,2μm,0.4s								
MT05	**Renca**	**1.61**	**133**			**Pb**	**Pb**	**05 23 10.6**	**-0.4**
CO06	**Fray Jorge**	**1.69**	**15**			**Pn**	**Pn**	**05 23 10.0**	**-0.9**
MT01	**Popeta**	**1.73**	**154**	*e*P		**Pn**	**Pn**	**05 23 10.9**	**-0.6**
MT01				IAML				05 23 42.4	
	comp=E,449nm,0.5s								
MT01	**Popeta**	**1.73**	**154**			**Pn**	**Pn**	**05 23 11.5**	**0.0**
MT09	**Talagante**	**1.76**	**147**	*e*P		**Pn**	**Pn**	**05 23 12.3**	**+0.2**
MT09				*e*S		**Sn**	**Sn**	**05 23 34.7**	**-0.1**
MT09				IAML				05 23 42.8	
	comp=N,587nm,0.3s								
MT09	**Talagante**	**1.76**	**147**	Pn		**Pn**	**Pn**	**05 23 12.7**	**+0.6**
CO03	**El Pedregal**	**1.92**	**41**	*e*P		**Pn**	**Pn**	**05 23 14.9**	**+0.6**
CO03				*e*S		**Sn**	**Sn**	**05 23 39.1**	**+0.4**
CO03				IAML				05 23 50.3	
	comp=E,948nm,0.7s								
CO03	**El Pedregal**	**1.92**	**41**			**Pn**	**Pn**	**05 23 14.8**	**+0.6**
BO03	**Pichilemu**	**2.19**	**176**	*e*P		**Pn**	**Pn**	**05 23 17.3**	**-0.6**
LMEL	**Las Melosas**	**2.24**	**134**	*e*P		**Pn**	**Pn**	**05 23 19.8**	**+1.1**
LMEL				*e*S		**Sn**	**Sn**	**05 23 46.9**	**+0.1**
LMEL				IAML				05 23 57.1	
	comp=N,498nm,0.5s								
BO01	**Tunca**	**2.26**	**157**	IAML				05 24 02.2	
	comp=N,144nm,0.4s								
BO01	**Tunca**	**2.26**	**157**	Pn		**Pn**	**Pn**	**05 23 19.5**	**+0.6**
GO04	**Tololo Observa**	**2.42**	**29**	*e*P		**Pn**	**Pn**	**05 23 21.0**	**-0.2**
GO04	**Tololo Observa**	**2.42**	**29**			**Pn**	**Pn**	**05 23 21.1**	**-0.2**
CO05	**La Serena**	**2.50**	**18**	*e*P		**Pn**	**Pn**	**05 23 22.7**	**+0.5**
CO05				IAML				05 24 11.7	
	comp=N,430nm,0.5s								
CO05	**La Serena**	**2.50**	**18**	Pn		**Pn**	**Pn**	**05 23 22.2**	**0.0**
GO05	**Huala**	**2.70**	**176**	*e*P		**Pn**	**Pn**	**05 23 24.6**	**-0.4**
GO05	**Huala**	**2.70**	**176**	Pn		**Pn**	**Pn**	**05 23 24.4**	**-0.5**
BO02	**Sierra Bellavi**	**2.73**	**156**	*e*P		**Pn**	**Pn**	**05 23 26.1**	**+0.7**
BO02				IAML				05 24 13.7	
	comp=N,430nm,0.5s								
ML02	**Panimavida**	**3.50**	**170**			**Pn**	**Pn**	**05 23 35.7**	**-0.2**
LCO	**Las Campanas**	**3.51**	**21**	*e*P		**Pn**	**Pn**	**05 23 35.5**	**-0.8**
LCO	**Las Campanas**	**3.51**	**21**	Pn		**Pn**	**Pn**	**05 23 37.6**	**+1.3**
AC04	**Llanos de Chal**	**4.19**	**13**	Pn		**Pn**	**Pn**	**05 23 45.3**	**-0.1**
LC01	**Cunco**	**6.58**	**178**	Pn		**Pn**	**Pn**	**05 24 18.0**	**-0.3**
PLCA	**Paso Flores**	**8.51**	**172**	Pn		**Pn**	**Pn**	**05 24 45.6**	**+0.9**
	comp=N,0.2nm,0.3s,baz=340,slow=11,SNR=6.7								
LVC	**Limon Verde**	**10.08**	**17**	Pn		**Pn**	**Pn**	**05 25 07.6**	**+1.0**
	comp=N,0.3nm,0.3s,baz=193,slow=16,SNR=1.7								
LVC				LR		LR	LR	05 28 50.1	
	comp=N,32nm,19.9s,baz=178,slow=37								
TRQA	**Tornquist**	**10.10**	**127**	Pn		**Pn**	**Pn**	**05 25 07.4**	**+0.8**
CPUP	**Villa Florida**	**14.23**	**69**	LR		LR	LR	05 31 55.9	
	comp=N,44nm,20.4s,baz=258,slow=40								
LPAZ	**La Paz**	**16.36**	**14**	Pn		**Pn**	**Pn**	**05 26 33.1**	**+1.3**
	comp=N,0.1nm,0.3s,baz=206,slow=5.5,SNR=4.7								
LPAZ	**La Paz**	**16.36**	**14**	P		**Pn**	**Pn**	**05 26 33.7**	**+1.9**
SIV	**San Ignacio**	**19.11**	**34**	P		**P**	**Pn**	**05 27 04.3**	**-0.3**
	comp=N,0.2nm,0.3s,baz=220,slow=11,SNR=7.5								
BDFB	**Brasilia**	**27.49**	**59**	P		**P**	**P**	**05 28 27.1**	**-1.2**
	comp=N,1.3nm,0.5s,baz=207,slow=9.0,SNR=3.1								
QSPA	**South Pole Qui**	**57.92**	**180**	P		**P**	**P**	**05 32 34.4**	**+0.7**
QSPA				IAmb		IAmb	IAmb	05 32 46.0	
	comp=Z,2.5nm,1.1s								
DBIC	**Dimbokro**	**74.73**	**72**	P		**P**	**P**	**05 34 21.4**	**-0.6**

	comp=Z,2.1nm,0.8s,baz=221,slow=9.3,SNR=3.8								
TORD	**Torodi Ar. Bea**	**83.72**	**70**	P		**P**		**05 35 10.8**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=245,slow=3.0,SNR=7.0								
TORD	**Torodi Ar. Bea**	**83.72**	**70**	IAmb		IAmb		05 35 12.5	
	comp=Z,1.6nm,1.0s								

*NOU **25** 05:24:03.0, 42.°96S×175.°43E, h0km, MLv3.7/7, Off E. Coast of S. Island, N.Z.*
WEL 25 05:24:10.9±0.6, 43.°3S±4.°×17.°5E±.°, h33km, M3.1/15, ML3.4/19, MLv3.1/15, Error ellipse: s-maj=0.0km s-min=0.0km az=133.7, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLWZ	**Palliser**	**1.00**	**7**	P		P	Pb	05 24 29.2	-0.5
PLWZ				S		Sb	Sb	05 24 42.2	-0.5
CMWZ	**Cape Campbell**	**1.04**	**321**	P		Pb	Pb	05 24 30.6	+0.1
CMWZ				S		Sb	Sb	05 24 44.3	+0.5
MSWZ	**Moikau Station**	**1.16**	**6**	P		Pn	Pn	05 24 31.2	+0.5
MSWZ				S		Sn	Sn	05 24 45.2	-0.2
KHZ	**Kahutara**	**1.16**	**277**	P		Pn	Pn	05 24 30.3	-0.4
KHZ				S		Sn	Sn	05 24 44.5	-0.9
BHW	**Baring Head**	**1.17**	**352**	P		Pb	Pb	05 24 31.8	-0.7
BHW				S		Sn	Sn	05 24 45.4	-0.2
PAWZ	**Paruwai Farm**	**1.21**	**12**	P		Pn	Pn	05 24 32.0	+0.5
PAWZ				S		Sn	Sn	05 24 46.5	-0.2
BSWZ	**Blackbirch Sta**	**1.24**	**313**	P		Pb	Pb	05 24 32.9	-0.8
BSWZ				S		Sn	Sn	05 24 48.4	+0.9
TRWZ	**Traveller**	**1.25**	**21**	P		Pn	Pn	05 24 32.5	+0.5
TRWZ				S		Sn	Sn	05 24 48.5	+0.8
WEL	**Wellington**	**1.30**	**349**	P		Pb	Pb	05 24 33.8	-1.0
TUWZ	**Tuamarina**	**1.42**	**323**	P		Pn	Pn	05 24 35.4	+1.1
TUWZ				S		Sn	Sn	05 24 51.9	0.0
MTW	**Mount Morrison**	**1.44**	**12**	P		Pn	Pn	05 24 35.0	+0.4
MTW				S		Sn	Sn	05 24 52.1	-0.3
CAW	**Cannon Point**	**1.46**	**359**	P		Pn	Pn	05 24 35.9	+1.0
CAW				S		Sn	Sn	05 24 52.6	-0.2
TCW	**Tory Channel**	**1.48**	**336**	P		Pn	Pn	05 24 36.1	+0.9
TCW				S		Sn	Sn	05 24 53.1	-0.2
GVZ	**Greta Valley S**	**1.57**	**254**	P		Pn	Pn	05 24 36.2	+0.2
TMWZ	**Te Maipa**	**1.57**	**23**	P		Pn	Pn	05 24 36.7	+0.2
TMWZ				S		Sn	Sn	05 24 55.5	-0.3
HOWZ	**Holdsworth Sta**	**1.70**	**11**	P		Pn	Pn	05 24 38.6	+0.5
HOWZ				S		Sn	Sn	05 24 58.0	-0.7
KIW	**Kapiti Island**	**1.71**	**355**	P		Pn	Pn	05 24 39.6	+1.2
KIW				S		Sn	Sn	05 24 58.5	-0.5
OGWZ	**Otaki Gorge**	**1.75**	**2**	P		Pn	Pn	05 24 39.9	+1.0
OGWZ				S		Sn	Sn	05 24 59.6	-0.4
THZ	**Tophouse**	**1.81**	**296**	P		Pn	Pn	05 24 40.6	+0.8
THZ				S		Sb	Sb	05 25 04.5	-1.3
CPWZ	**Castlepoint**	**1.85**	**27**	P		Pn	Pn	05 24 40.7	+0.4
CPWZ				S		Sn	Sn	05 25 03.2	+0.6
NNZ	**Nelson**	**1.86**	**316**	P		Pn	Pn	05 24 41.5	+1.1
NNZ				S		Sn	Sn	05 25 03.0	+0.4
OKCZ	**Okains Bay**	**1.88**	**231**	P		Pn	Pn	05 24 39.8	-0.9
OKCZ				S		Sn	Sn	05 25 01.2	-2.2
AMCZ	**Amberley**	**1.89**	**250**	P		Pn	Pn	05 24 40.8	-0.1
MRZ	**Mangatainoka R**	**1.94**	**11**	P		Pn	Pn	05 24 42.0	+0.5
MRZ				S		Sn	Sn	05 25 03.9	-0.8
DUWZ	**D'Urville Isla**	**1.97**	**333**	P		Pn	Pn	05 24 43.7	+1.8
DUWZ				S		Sn	Sn	05 25 05.6	+0.2
AKCZ	**Akaroa Harbour**	**2.06**	**230**	P		Pn	Pn	05 24 42.1	-1.1
AKCZ				S		Sn	Sn	05 25 05.3	-2.4
BFZ	**Birch Farm**	**2.07**	**25**	P		Pn	Pn	05 24 43.1	-0.2
LTZ	**Lake Taylor**	**2.09**	**263**	P		Pn	Pn	05 24 43.8	+0.2
LTZ				S		Sn	Sn	05 25 06.6	-1.9
MQZ	**McQueen's Vall**	**2.12**	**237**	P		Pn	Pn	05 24 42.4	-1.5
MQZ				S		Sn	Sn	05 25 05.1	-3.9
POWZ	**Post Office Ro**	**2.23**	**13**	P		Pn	Pn	05 24 46.3	+0.8
POWZ				S		Sn	Sn	05 25 11.8	-0.1
ANWZ	**Angora Road**	**2.35**	**27**	P		Pn	Pn	05 24 46.6	-0.5
ANWZ				S		Sn	Sn	05 25 15.0	+0.3
OXZ	**Oxford**	**2.37**	**250**	P		Pn	Pn	05 24 46.7	-0.7
OXZ				S		Sn	Sn	05 25 11.8	-3.5
DVHZ	**Dannevirke**	**2.41**	**20**	P		Pn	Pn	05 24 47.3	0.0
DVHZ				S		Sn	Sn	05 25 15.4	-0.8
RACZ	**Rakaia**	**2.45**	**241**	P		Pn	Pn	05 24 48.5	0.0
DSZ	**Denniston Nort**	**2.58**	**287**	P		Pn	Pn	05 24 51.9	+1.7
DSZ				S		Sn	Sn	05 25 21.1	+0.5
QRZ	**Quartz Range**	**2.59**	**311**	P		Pn	Pn	05 24 51.8	+1.4
QRZ				S		Sn	Sn	05 25 22.0	+1.3
TSZ	**Takapari Road**	**2.59**	**15**	P		Pn	Pn	05 24 51.1	+0.6
TSZ				S		Sn	Sn	05 25 20.8	0.0
WPHZ	**Waipukurau**	**2.70**	**23**	P		Pn	Pn	05 24 52.0	0.0
WPHZ				S		Sn	Sn	05 25 23.3	-0.1
WACZ	**Wakanui South**	**2.75**	**239**	P		Pn	Pn	05 24 52.4	-0.2
MHCZ	**Mount Hutt**	**2.76**	**248**	P		Pn	Pn	05 24 52.5	-0.3
PNHZ	**Pukenui**	**2.78**	**18**	P		Pn	Pn	05 24 53.4	+0.4
PNHZ				S		Sn	Sn	05 25 25.4	0.0
WAZ	**Wanganui**	**2.81**	**358**	P		Pn	Pn	05 24 56.6	+3.1
PXZ	**Pawanui**	**2.86**	**28**	P		Pn	Pn	05 24 53.1	-1.1
PXZ				S		Sn	Sn	05 25 27.7	+0.3
KRHZ	**Kereru**	**3.08**	**19**	P		Pn	Pn	05 24 57.2	+0.1
KAHZ	**Kahuranaki**	**3.08**	**27**	P		Pn	Pn	05 24 56.4	-0.8
BHHZ	**Black Hill Sta**	**3.16**	**14**	P		Pn	Pn	05 24 59.2	+0.9
RPZ	**Rata Peaks**	**3.17**	**247**	P		Pn	Pn	05 24 58.2	-0.2
ARCZ	**Arundel**	**3.17**	**243**	P		Pn	Pn	05 24 58.2	-0.3
MTVZ	**Mangateitei**	**3.19**	**5**	P		Pn	Pn	05 25 01.1	+2.3
MOVZ	**Moawhango**	**3.19**	**9**	P		Pn	Pn	05 25 00.1	+1.3
WVZ	**Waitaha Valley**	**3.24**	**260**	P		Pn	Pn	05 25 00.3	+1.0
WNVZ	**Wahianoa**	**3.26**	**7**	P		Pn	Pn	05 25 01.4	+1.6
PKVZ	**Pokaka**	**3.28**	**3**	P		Pn	Pn	05 25 02.1	+2.2
TRVZ	**Turoa**	**3.28**	**6**	P		Pn	Pn	05 25 02.2	+2.0
KWHZ	**Kaweka Forest**	**3.30**	**18**	P		Pn	Pn	05 25 00.7	+0.5
WHVZ	**Whangaehu Hut**	**3.30**	**7**	P		Pn	Pn	05 25 02.4	+2.0
TUVZ	**Tukino**	**3.32**	**8**	P		Pn	Pn	05 25 02.9	+2.3
FWVZ	**Far West T-bar**	**3.33**	**6**	P		Pn	Pn	05 25 02.6	+1.9
MCHZ	**McNeill Hill**	**3.35**	**22**	P		Pn

Ms1 2.8/3, **ms1mx2.5**/37, **Error ellipse: s-maj=361.3km s-min=30.2km az=143.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.72**	**41**	Pn	Pn	05 26 57.7	-0.3
	5.1nm,0.3s,baz=135,slow=6.6,SNR=2.4						
AFI				Sn	Sn	05 27 25.6	-6.1
	18nm,0.3s,baz=67,slow=21,SNR=11						
AFI				LR	LR	05 27 53.1	
	comp=Z,50nm,21.3s,baz=254,slow=37						
RAR	**Rarotonga**	**14.12**	**114**	LR	LR	05 33 45.9	
	comp=Z,90nm,21.0s,baz=244,slow=32						
HNR	**Honiara**	**26.57**	**281**	LR	LR	05 41 05.4	
	comp=Z,105nm,19.6s,baz=148,slow=34						
WRA	**Warramunga Arr**	**49.50**	**257**	P	P	05 35 05.4	-0.3
	0.2nm,0.4s,baz=92,slow=6.9,SNR=5.6						
ASAR	**Alice Springs**	**49.73**	**252**	P	P	05 35 07.2	-0.2
	2.0nm,0.5s,baz=89,slow=8.2,SNR=25						
H03S2	**Juan Fernandez**	**85.07**	**124**	T	T	07 12 30.2	
	baz=252,slow=75,SNR=4.1						
H03S1	**Juan Fernandez**	**85.08**	**124**	T	T	07 12 32.0	
	baz=252,slow=75,SNR=4.7						
H03S3	**Juan Fernandez**	**85.08**	**124**	T	T	07 12 30.9	
	baz=252,slow=75,SNR=3.9						
BRTR	**Keskin Array B**	**146.46**	**320**	PKPbc	PKPbc	05 45 56.1	-0.4
	0.7nm,0.8s,baz=58,slow=5.4,SNR=4.6						

MEX 25 05:37:10.3±1.1, 16°.89N×95°.00W, h101km±6km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.23**	**30**	*e*P	Pn	05 37 23.5	-1.3
CMIG				*e*S	Sn	05 37 33.8	-1.7
VHO	**Vista Hermosa**	**1.67**	**276**	*e*P	Pn	05 37 38.3	-0.6
VHO				*e*S	Sn	05 37 59.2	-1.3
TGIG		**1.81**	**93**	*e*P	Pn	05 37 39.4	-1.1
TGIG				*e*S	Sn	05 38 01.6	-1.9
PCIG		**2.08**	**124**	*e*P	Pn	05 37 42.7	-1.3
PCIG				*e*S	Sn	05 38 08.5	-1.2
TOIG	**Toxpalan**	**2.30**	**302**	*e*P	Pn	05 37 46.1	-0.9
TOIG				*e*S	Sn	05 38 13.8	-1.2
YOIG	**Yosondua**	**2.44**	**269**	*e*P	Pn	05 37 47.6	-1.3
YOIG				*e*S	Sn	05 38 16.9	-1.5
HLIG	**Huajuapan de L**	**2.83**	**290**	*e*P	Pn	05 37 53.6	-0.4
HLIG				*e*S	Sn	05 38 25.6	-2.0
PNIG	**Pinotepa**	**3.04**	**261**	*e*P	Pn	05 37 55.5	-1.1
PNIG				*e*S	Sn	05 38 30.7	-1.5
FTIG	**Fresnillo de T**	**3.15**	**289**	*e*P	Pn	05 37 57.3	-0.9
FTIG				*e*S	Sn	05 38 33.8	-1.4

IDC 25 05:43:28.9±2.9, 53°.66N×87°.03E, h0km, mb1 2.8/2, **mb1mx2.7**/47, **mbtmp2.8**/2, **ML2.5**/2, **Error ellipse: s-maj=28.2km s-min=16.5km az=65.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.34**	**283**	*i*		05 52 00.0	
	baz=102,slow=333,SNR=5.9						
ZALV	**Zalesovo Beam**	**1.34**	**283**	Pg	Pg	05 43 53.5	-1.1
	0.7nm,0.3s,baz=106,slow=18,SNR=6.8						
ZALV				Lg	Lg	05 44 12.3	
	1.7nm,0.3s,baz=101,slow=38,SNR=10.0						
ZALV				Rg	Rg	05 44 17.9	
	10nm,1.0s,baz=119,slow=31,SNR=6.9						
KURBB	**Kurchatov Arra**	**6.05**	**243**	Pn	Pn	05 45 00.0	+0.4
	0.1nm,0.3s,baz=50,slow=19,SNR=1.6						
MKAR	**Makanchi Array**	**7.51**	**206**	Pn	Pn	05 45 21.2	+1.5
	0.1nm,0.3s,baz=22,slow=12,SNR=5.0						

*ANF **25** 06:02:58.6±0.3, 36°.48N×98°.42W, h0km, ML3.6/9, Error ellipse: s-maj=3.0km s-min=2.4km az=31.0*
*TUL **25** 06:02:58±1.0, 36°.53N±0°.01×98°.46W±0°.02, h1km±7km, ML3.4, mb_Lg3.1/90(NEIC), Error ellipse: s-maj=2.4km s-min=1.9km az=101.0*
*NEIC **25** 06:02:58.5±0.8, 36°.509N±0°.010×98°.45W±0°.02, h8km±7km, Error ellipse: s-maj=2.3km s-min=1.5km az=91.0*
ISC 25 06:02:58.3±1.1, 36°.51N±0°.02×98°.47W±0°.02, h6km±10km, n99, σ1s90/70, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.36**	**36**		**Pg**	**06 03 05.6**	**+0.3**
OK032				Sg	**Sg**	**06 03 09.3**	**-0.7**
CROK	**Carrier**	**0.40**	**91**		**Pg**	**06 03 06.4**	**+0.4**
CROK				Sg	**Sg**	**06 03 11.4**	**+0.3**
U32A	**Winter Ranch,**	**0.45**	**253**	Pg	**Pg**	**06 03 07.4**	**+0.5**
U32A				Sg	**Sg**	**06 03 13.4**	**+0.6**
U32A	**Winter Ranch,**	**0.45**	**253**	P	**Pg**	**06 03 07.5**	**+0.6**
	baz=71						
U32A				S	**Sg**	**06 03 14.2**	**+1.4**
	baz=71						
GC02	**Grant County #**	**0.60**	**55**		**Pg**	**06 03 09.9**	**+0.1**
GC02				Sg	**Sg**	**06 03 17.5**	**-0.1**
KAN14	**Manchester OK**	**0.60**	**43**		**Pg**	**06 03 09.9**	**0.0**
KAN14				Sg	**Sg**	**06 03 18.1**	**+0.3**
KAN10	**Anthony SW Sta**	**0.68**	**26**		**Pg**	**06 03 11.4**	**0.0**
KAN10				Sg	**Sg**	**06 03 20.4**	**+0.1**
KAN05	**Bluff City Nor**	**0.77**	**39**		**Pg**	**06 03 12.9**	**-0.1**
KAN17	**Caldwell West**	**0.78**	**47**		**Pg**	**06 03 13.1**	**-0.1**
KAN16	**Harper SW Stat**	**0.78**	**25**		**Pg**	**06 03 13.3**	**-0.1**
KAN08	**Anthony NE Sta**	**0.82**	**29**		**Pg**	**06 03 13.9**	**-0.1**
KAN12	**Harper NE Stat**	**0.87**	**26**		**Pg**	**06 03 14.8**	**-0.2**
KAN06	**Argonia West S**	**0.88**	**34**		**Pg**	**06 03 15.1**	**-0.2**
KAN09	**Caldwell North**	**0.93**	**48**		**Pg**	**06 03 15.9**	**-0.2**
KAN13	**South Haven SW**	**0.94**	**58**		**Pg**	**06 03 16.1**	**-0.3**
BLOK	**Blackwell**	**1.04**	**76**		**Pg**	**06 03 17.9**	**-0.4**
BCOK	**Bluff Creek, N**	**1.10**	**140**		**Pb**	**06 03 19.1**	**-0.7**
OK025	**Westminster Rd**	**1.31**	**135**		**Pn**	**06 03 22.8**	**-0.4**
OKCFA	**Oklahoma City**	**1.37**	**143**		**Pn**	**06 03 23.8**	**-0.3**
OKCFA	**Oklahoma City**	**1.37**	**143**	P	**Pn**	**06 03 23.8**	**-0.3**
	baz=324,SNR=18						
OKCFA				S	**Sg**	**06 03 42.5**	**+0.1**
	baz=324						
OKCSW	**OKLAHOMA CITY**	**1.39**	**142**		**Pn**	**06 03 23.8**	**-0.5**
OK031	**S. Brethren Rd**	**1.43**	**112**		**Pn**	**06 03 24.7**	**-0.2**
QUOK	**Quay**	**1.47**	**103**		**Pb**	**06 03 25.3**	**-0.7**
OK030	**Cody Creek RV**	**1.49**	**113**		**Pn**	**06 03 25.4**	**-0.2**
FNO	**Franklin**	**1.53**	**145**		**Pn**	**06 03 26.2**	**0.0**
T35A	**Sooner Cattle**	**1.63**	**75**		**Pb**	**06 03 28.0**	**-0.8**
T35B	**Sooner Cattle**	**1.63**	**75**	P	**Pb**	**06 03 27.9**	**-0.8**
	baz=257,SNR=109						
T35B				S	**Sb**	**06 03 49.2**	**-0.4**
	baz=257						
WMOK	**Wichita Mounta**	**1.79**	**188**		**Pn**	**06 03 30.2**	**+0.3**
WMOK	**Wichita Mounta**	**1.79**	**188**	P	**Pn**	**06 03 30.1**	**+0.3**
	baz=8.3,SNR=256						
WMOK	**Wichita Mounta**	**1.79**	**188**	P	**Pn**	**06 03 30.1**	**+0.3**
	baz=8.3						
WMOK				S	**Sb**	**06 03 54.7**	**+0.5**
	baz=8.3						
R32A	**Long Quarter,**	**1.92**	**354**		**Pb**	**06 03 32.6**	**-1.2**
R32A	**Long Quarter,**	**1.92**	**354**	P	**Pb**	**06 03 32.5**	**-1.2**
	baz=174,SNR=173						
R32A				S	**Sb**	**06 03 59.0**	**+1.0**
	baz=174						
X34A	**Smith Ranch, M**	**1.98**	**164**		**Pn**	**06 03 32.3**	**-0.1**
X34A				IAmb_Lg		06 04 01.5	
	comp=Z,52nm,0.9s						
TUL1	**Leonard**	**2.25**	**105**		**Pn**	**06 03 36.5**	**+0.4**
TUL1				IAmb_Lg		06 04 09.9	
	comp=Z,83nm,0.8s						
TUL1	**Leonard**	**2.25**	**105**	P	**Pn**	**06 03 36.5**	**+0.4**
	baz=287,SNR=46						
TUL1	**Leonard**	**2.25**	**105**	P	**Pn**	**06 03 36.7**	**+0.5**
	baz=287						
TUL1				Sb	**Sb**	**06 04 08.1**	**+0.5**
	baz=287						
CBKS	**Cedar Bluff**	**2.51**	**337**	IAmb_Lg		06 04 23.3	
	comp=Z,43nm,0.7s						
CBKS	**Cedar Bluff**	**2.51**	**337**	S	**Sb**	**06 04 15.8**	**+0.8**
	baz=156						
CBKS	**Cedar Bluff**	**2.51**	**337**	Sb	**Sb**	**06 04 15.7**	**+0.8**
	baz=156						
LOOK	**Love County**	**2.73**	**157**		**Pn**	**06 03 43.6**	**+0.9**
LOOK				IAmb_Lg		06 04 31.1	
	comp=Z,38nm,0.7s						
KSU1	**Kansas State U**	**2.98**	**29**		**Pn**	**06 03 47.1**	**+1.0**
KSU1	**Kansas State U**	**2.98**	**29**	P	**Pn**	**06 03 47.2**	**+1.0**
	baz=210						
KSU1				Sb	**Sb**	**06 04 30.8**	**+2.5**
	baz=210						
AMTX	**Amarillo**	**3.08**	**239**	IAmb_Lg		06 04 36.6	
	comp=Z,38nm,0.8s						
AMTX	**Amarillo**	**3.08**	**239**	Pb	**Pb**	**06 03 54.7**	**+1.2**
	baz=57						
X37A	**Clayton**	**3.17**	**126**		**Pn**	**06 03 49.8**	**+1.0**
X37A				IAmb_Lg		06 04 46.1	
	comp=Z,70nm,0.8s						
X37A	**Clayton**	**3.17**	**126**	P	**Pn**	**06 03 49.7**	**+0.8**
	baz=309,SNR=20						
U38A	**Gravette**	**3.29**	**90**		**Pn**	**06 03 51.3**	**+0.8**
Z35A	**Perchaven, San**	**3.33**	**162**		**Pn**	**06 03 51.1**	**+0.1**
HHAR	**Hobbs**	**3.67**	**92**		**Pn**	**06 03 55.8**	**+0.2**
W39A	**Magazine**	**4.03**	**108**	IAmb_Lg		06 05 08.6	
	comp=Z,42nm,0.9s						
W39A	**Magazine**	**4.03**	**108**	S	**Sn**	**06 04 48.9**	**+0.7**
	baz=291						
KSCO	**Kaye Shedlock'**	**4.13**	**308**	IAmb_Lg		06 05 11.3	
	comp=Z,46nm,0.7s						
S39A	**Bolivar**	**4.28**	**73**	IAmb_Lg		06 05 18.0	
	comp=Z,37nm,0.7s						
Z38A	**Mt. Pleasant**	**4.33**	**138**	IAmb_Lg		06 05 26.1	
	comp=Z,36nm,0.8s						
MSTX	**Muleshoe**	**4.34**	**235**	IAmb_Lg		06 05 21.3	
	comp=Z,36nm,0.8s						
MSTX	**Muleshoe**	**4.34**	**235**	Sb	**Sg**	**06 05 14.5**	**-3.2**
	baz=53						
MIAR	**Mount Ida**	**4.45**	**115**	IAmb_Lg		06 05 29.3	
	comp=Z,27nm,0.8s						
MIAR	**Mount Ida**	**4.45**	**115**	P	**Pn**	**06 04 07.1**	**+0.8**
	baz=298,SNR=16						
MIAR	**Mount Ida**	**4.45**	**115**	S	**Sn**	**06 04 59.2**	**+0.6**
	baz=298						
U40A	**Yellville**	**4.53**	**90**	P	**Pn**	**06 04 08.3**	**+0.8**
	baz=274,SNR=8.6						
U40A	**Yellville**	**4.53**	**90**	P	**Pn**	**06 04 08.4**	**+0.8**
	baz=274						
WHTX	**Lake Whitney,**	**4.59**	**169**	P	**Pn**	**06 04 08.9**	**+0.7**
	baz=350						
T25A	**Trinidad**	**4.80**	**279**	IAmb_Lg		06 05 37.6	
	comp=Z,37nm,0.9s						
T25A	**Trinidad**	**4.80**	**279**	Sb	**Sg**	**06 05 27.8**	**-4.9**
	baz=96						
BGNE	**Belgrade**	**4.89**	**3**	IAmb_Lg		06 05 41.3	
	comp=Z,43nm,0.8s						
BGNE	**Belgrade**	**4.89**	**3**	P	**Pn**	**06 04 13.0**	**+0.5**
	baz=183						
P38A	**Dawn**	**4.99**	**50**	IAmb_Lg		06 05 46.2	
	comp=Z,34nm,0.9s						
X40A	**Basin Creek Fa**	**5.02**	**112**	IAmb_Lg		06 05 45.3	
	comp=Z,27nm,0.7s						
WHAR	**Wooly Hollow**	**5.17**	**102**	IAmb_Lg		06 05 43.2	
	comp=Z,19nm,0.9s						
FCAR	**Ozark Folk Cen**	**5.17**	**95**	IAmb_Lg		06 05 43.9	
	comp=Z,26nm,0.9s						
WLAR	**White Oak Lake**	**5.22**	**121**	IAmb_Lg		06 05 53.2	
	comp=Z,28nm,0.7s						
W41B	**Gary Mavity, V**	**5.23**	**103**	S	**Sn**	**06 05 16.3**	**-1.5**
	baz=287						
R40A	**Maddies Statio**	**5.25**	**68**	IAmb_Lg		06 05 51.7	
	comp=Z,29nm,0.8s						
L34A	**Svendsen Farm,**	**5.68**	**16**	IAmb_Lg		06 06 13.7	
	comp=Z,44nm,0.8s						
435B	**Jarrell**	**5.76**	**172**	IAmb_Lg		06 06 07.4	
	comp=Z,26nm,1.0s						
CCM	**Cathedral Cave**	**5.97**	**73**	IAmb_Lg		06 06 21.2	
	comp=Z,25nm,1.0s						
CCAR	**Cane Creek**	**6.07**	**113**	IAmb_Lg		06 06 26.5	
	comp=Z,25nm,0.9s						
K31A	**O'Neill**	**6.11**	**358**	IAmb_Lg		06 06 27.1	
	comp=Z,36nm,0.9s						
JCT	**Junction City**	**6.12**	**191**	IAmb_Lg		06 06 13.9	
	comp=Z,40nm,1.1s						
PBMO	**Pojar Bluff**	**6.47**	**85**	IAmb_Lg		06 06 22.1	
	comp=Z,14nm,0.7s						
ISCO	**Idaho Springs**	**6.51**	**302**	IAmb_Lg		06 06 35.1	
	comp=Z,20nm,0.9s						
FVM	**French Village**	**6.58**	**75**	IAmb_Lg		06 06 37.9	
	comp=Z,14nm,0.7s						
PHWY	**Pilot Hill**	**7.25**	**313**	IAmb_Lg		06 07 06.0	
	comp=Z,15nm,0.8s						
GLAT	**Glass**	**7.41**	**89**	IAmb_Lg		06 07 00.6	
	comp=Z,32nm,0.8s						
S44A	**Carbondale**	**7.46**	**78**	IAmb_Lg		06 06 57.1	
	comp=Z,29nm,0.7s						
MNTX	**Cornudas Mount**	**7.47**	**232**	IAmb_Lg		06 07 05.3	
	comp=Z,12nm,0.9s						
SIUC	**Southern Illin**	**7.49**	**78**	IAmb_Lg		06 07 00.9	
	comp=Z,24nm,0.8s						
L40A	**Anamosa**	**7.89**	**43**	IAmb_Lg		06 07 11.4	
	comp=Z,23nm,0.9s						
SUSD	**Miller**	**7.93**	**357**	IAmb_Lg		06 07 22.3	
	comp=Z,13nm,0.8s						
OLIL	**Olney**	**8.53**	**72**	IAmb_Lg		06 07 43.8	
	comp=Z,25nm,1.0s						
RSSD	**Black Hills**	**8.70**	**333**	IAmb_Lg		06 07 39.3	
	comp=Z,18nm,1.2s						
L42A	**Oliver, Polo**	**8.76**	**49**	IAmb_Lg		06 07 34.6	
	comp=Z,22nm,0.8s						
JFWS	**Jewell Farm**	**9.00**	**42**	IAmb_Lg		06 07 56.0	
	comp=Z,19nm,0.7s						
P46A	**Rosedale**	**9.41**	**67**	IAmb_Lg		06 07 58.8	
	comp=Z,18nm,0.7s						
I40A	**Norwalk**	**9.51**	**37**	IAmb_Lg		06 08 01.4	
	comp=Z,11nm,1.0s						
SPMN	**Marine on St.**	**9.70**	**24**	IAmb_Lg		06 08 12.2	
	comp=Z,9.1nm,0.9s						
SFIN	**Lafayette**	**9.72**	**63**	IAmb_Lg		06 08 15.6	
	comp=Z,15nm,0.7s						
BLO	**Bloomington**	**9.82**	**71**	IAmb_Lg		06 08 10.2	
	comp=Z,18nm,0.8s						
WCI	**Wyandotte Cave**	**9.85**	**76**	IAmb_Lg		06 08 23.9	
	comp=Z,13nm,0.9s						

*IDC **25** 06:07:30.9±0.2, 21°.48S×66°.54W, h202km±3km, mb3.6/1, mb1 3.4/6, mb1mx3.2/26, mbtmp3.9/6, Error ellipse: s-maj=3.3km s-min=1.8km az=126.0*
ISC 25 06:07:31.4±0.9, 21°.44S±0°.08×66°.6W±0°.1, h219km, n8, σ0s99/10, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.41**	**241**	P	**Pn**	**06 08 15.8**	**-0.1**
	4.1nm,0.3s,baz=58,slow=9.5,SNR=39						
LVC				S	**S**	**06 08 49.2**	**-1.2**
	16nm,0.3s,baz=238,slow=20,SNR=46						
LPAZ	**La Paz**	**5.32**	**344**	P	**Pn**	**06 08 51.0**	**0.0**
	4.7nm,0.3s,baz=159,slow=8.6,SNR=135						
LPAZ				S	**S**	**06 09 53.5**	**-0.2**
	baz=346,slow=17,SNR=1.6						
SIV	**San Ignacio**	**7.56**	**45**	P	**Pn**	**06 09 17.8**	**-1.3**
	3.4nm,0.3s,baz=262,slow=11,SNR=79						
BDFB	**Brasilia**	**18.57**	**75**	P	**P**	**06 11 33.3**	**+0.9**
	0.8nm,0.3s,baz=255,slow=7.2,SNR=8.9						
PLCA	**Paso Flores**	**19.51**	**189**	P	**P**	**06 11 43.0**	**+0.7**
	0.1nm,0.3s,baz=360,slow=16,SNR=1.8						
PTGA	**Pitinga**	**21.59**	**18**	P	**P**	**06 12 03.7**	**-0.5**
	1.5nm,0.3s,baz=313,slow=18,SNR=4.0						
WRA	**Warramunga Arr**	**134.03**	**208**	PKP	**PKPdf**	**06 26 24.7**	**+1.3**
	0.1nm,0.3s,baz=154,slow=1.9,SNR=6.1						
MKAR	**Makanchi Array**	**144.32**	**37**	PKP	**PKPab**	**06 26 40.6**	**+0.6**
	1.8nm,0.8s,baz=313,slow=4.3,SNR=11						

MEX 25 06:08:58.4±0.6, 17°.50N×94°.94W, h125km±4km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.41**	**172**	*e*P	Pn	06 09 15.0	-1.4
CMIG				*e*S	Sn	06 09 28.1	-1.9
VHO	**Vista Hermosa**	**1.76**	**256**	*e*P	Pn	06 09 27.9	-1.5
VHO				*i* S	Sn	06 09 51.5	-1.5
TGIG		**1.88**	**112**	*e*P	Pn	06 09 29.6	-1.1
TGIG				*i* S	Sn	06 09 53.3	-2.1
TOIG	**Toxpalan**	**2.11**	**287**	*e*P	Pn	06 09 32.8	-0.8
TOIG				*i* S	Sn	06 09 58.7	-1.7
HLIG	**Huajuapan de L**	**2.75**	**277**	*e*P	Pn	06 09 40.4	-1.4
HLIG				*i* S	Sn	06 10 11.7	-3.5
FTIG	**Fresnillo de T**	**3.07**	**278**	*e*P	Pn	06 09 44.6	-1.3
FTIG				*e*S	Sn	06 10 18.4	-4.1

*IDC **25** 06:10:22.3±0.5, 32°.85N×46°.60E, h0km, mb4.4/30, mb1 4.5/38, mb1mx4.4/62, mbtmp4.4/38, ML3.9/8, MS4.5/42, Ms1 4.5/42, ms1mx4.4/53, Error ellipse: s-maj=11.3km s-min=10.3km az=152.0*
*BJI **25** 06:10:23.0±0.0, 32°.70N×46°.70E, h10km, mB5.1/47, mb4.8/54, Ms5.1/51, Ms7 4.9/49*
*KISR **25** 06:10:23.5±2.1, 32°.59N×46°.57E, h0km, 999km*
*ISN **25** 06:10:23.9±1.3, 32°.85N×46°.57E, h4km±5km, ML4.4*
*NEIC **25** 06:10:24.4±1.4, 32°.83N±0°.07×46°.60E±0°.08, h10km±1km, mb4.9/61, Error ellipse: s-maj=11.7km s-min=11.1km az=206.0*
*TEH **25** 06:10:24.3, 32°.85N×46°.53E, h16km, ML4.9*
*THR **25** 06:10:24.2±0.6, 32°.85N×46°.59E, h15km, ML4.9*
*MOS **25** 06:10:24.2±1.1, 32°.80N×46°.58E, h25km, mb5.0/36, MS4.4/13, Error ellipse: s-maj=6.0km s-min=4.0km az=94.3*
*GCMT **25** 06:10:27.4±0.2, 32°.69N±0°.01×46°.31E±0°.02, h22km±1km, MW5.1/103, Moment Tensor Solution. s59,c81; s103,c159; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr3.29±.18; Mθθ-2.05±.11; Mϕϕ-1.24±.11; Mrθ3.97±.26; Mθϕ2.27±.07; Mϕr-2.35±.21; Best double couple: M0 5.87000×10^16^ NP1:ϕs321.00000°, δ20.00000°, λ107.00000°. NP2:ϕs122.00000°, δ71.00000°, λ84.00000°. Principal axes: T 5.5780, Plg63.0000°, Azm22.0000°; N 0.5840, Plg6.0000°, Azm124.0000°; P -6.1630, Plg26.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DSN **25** 06:10:29.9±0.9, 32°.62N×47°.20E, h10km, mb5.3/3 Error ellipse: s-maj=14.3km s-min=6.6km az=75.0*
*OMAN **25** 06:10:31.5±0.4, 32°.47N×46°.87E, h45km±5km, Error ellipse: s-maj=8.3km s-min=6.1km az=241.0*
ISC 25 06:10:24.5±0.3, 32°.80N±0°.03×46°.61E±0°.03, h13km, n560, σ1s92/587, mb4.8/122, MS4.6/62, 8C-25D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.58**	**101**	*e*Pg	**Pb**	**06 10 36.9**	**+0.4**
IBDR	**Badra**	**0.65**	**299**	*e*Pg	**Pg**	**06 10 37.0**	**-0.1**
IBDR				*e*Sg	**Sb**	**06 10 47.0**	**+0.4**
IBDR				AML	AML	06 11 07.0	
	comp=N,12μm,0.6s						
IBDR				AML	AML	06 11 17.4	
	comp=E,12μm,0.7s						
IKFM	**Kafar-mosalman**	**1.27**	**55**	*e*Pg	**Pg**	**06 10 48.7**	**-0.2**
IKFM				*e*		06 11 11.5	
	comp=Z,22μm,0.8s						
KCHF	**Cheshme Sefid,**	**1.52**	**14**	*e*Pg	**Pb**	**06 10 52.3**	**-0.3**
KCHF				*e*		06 11 19.3	
	comp=Z,24μm,0.4s						
IGHG	**Ghaleghazi**	**1.53**	**359**	*e*Pg	**Pb**	**06 10 52.3**	**-0.5**
IGHG				*e*		06 11 20.2	
	comp=Z,52μm,0.7s						
KER	**Kermanshah**	**1.64**	**15**	*e*Pn	**Pb**	**06 10 54.1**	**-0.6**
IDOB	**Doab**	**1.65**	**53**	*e*Pn	**Pb**	**06 10 54.6**	**-0.2**
NSR	**Nassriya**	**1.82**	**193**	*e*Pn	**Pb**	**06 10 57.0**	**-0.7**
NSR				*e*Sn	**Sb**	**06 11 20.5**	**+0.1**
NSR				AML	AML	06 11 29.6	
	comp=E,25μm,0.5s						
IDHR	**Dehrash**	**1.91**	**355**	*e*Pn	**Pn**	**06 10 57.2**	**+0.3**
IDHR				*e*		06 11 29.7	
	comp=Z,74μm,0.4s						
BHD	**Baghdad**	**1.93**	**285**	*e*Pn	**Pn**	**06 10 57.5**	**+0.5**
BHD				*e*Sn	**Sn**	**06 11 20.5**	**-0.6**
BHD				AML	AML	06 11 34.2	
	comp=E,3μm,0.4s						
IBZA	**Bozab**	**1.97**	**32**	*e*Pn	**Pn**	**06 10 59.0**	**+1.2**
ILIN	**Lien**	**2.14**	**8**	*e*Pn	**Pn**	**06 11 00.3**	**+0.2**
HSAM	**Samen**	**2.18**	**49**	*e*Pn	**Pn**	**06 11 02.2**	**+1.5**
AHWZ	**Ahwaz**	**2.27**	**130**	*e*Pn	**Pb**	**06 11 03.8**	**-1.4**
IALM	**Almabolaq**	**2.43**	**32**	*e*Pn	**Pn**	**06 11 05.5**	**+1.3**
AMIS	**Naft Sefid**	**2.54**	**116**	*e*Pn	**Pn**	**06 11 07.6**	**+2.2**
HAGD	**Aghdareh**	**2.92**	**46**	*e*Pn	**Pn**	**06 11 12.3**	**+1.5**
KHMZ	**Khomeyn**	**2.96**	**71**	*e*Pn	**Pn**	**06 11 13.1**	**+1.7**
KHMZ	**Khomeyn**	**2.96**	**71**	*e*Pn	**Pn**	**06 11 13.1**	**+1.7**
MIB	**Mutribah**	**3.05**	**168**	*e*P	**Pn**	**06 11 14.1**	**+1.7**
IKRK	**Kirkuk**	**3.21**	**325**	*e*Pn	**Pn**	**06 11 15.0**	**+0.4**
IKRK				*e*Sn	**Sn**	**06 11 52.5**	**-0.1**
RST	**Umm Al-Ruwaisa**	**3.30**	**174**	*e*P	**Pn**	**06 11 18.0**	**+2.2**
UMR	**Umm Al-Rimmam**	**3.37**	**163**	*e*P	**Pn**	**06 11 18.7**	**+1.9**
IPIR	**Pirpir**	**3.61**	**91**	*e*Pn	**Pn**	**06 11 23.3**	**+2.9**
IPIR				*e*		06 12 34.7	
	comp=Z,48μm,0.8s						
SHK1	**Shahrekord**	**3.64**	**96**	*e*Pn	**Pn**	**06 11 22.2**	**+1.4**
KBD	**Kabd**	**3.73**	**165**	*e*P	**Pn**	**06 11 23.9**	**+2.1**
IRAZ	**Razeghan**	**3.79**	**46**	*e*Pn	**Pn**	**06 11 24.5**	**+1.7**
ABEH	**Behbahan**	**3.80**	**124**	*e*Pn	**Pn**	**06 11 25.1**	**+2.3**
QABG	**Abgarm-Qazvin**	**3.81**	**39**	*e*Pn	**Pn**	**06 11 23.8**	**+0.7**
RDF	**Al-Radifah**	**3.94**	**168**	*e*P	**Pn**	**06 11 27.1**	**+2.4**
MAHB	**Mahabad**	**4.03**	**350**	*e*Pn	**Pn**	**06 11 26.3**	**+0.3**
QAMS	**Qamsar**	**4.12**	**76**	*e*Pn	**Pn**	**06 11 29.1**	**+1.7**
QRN	**Al-Qurain**	**4.19**	**164**	*e*P	**Pn**	**06 11 30.4**	**+2.3**
IKLH	**Kolahrood**	**4.21**	**82**	*e*Pn	**Pn**	**06 11 30.7**	**+2.1**
ZNJK	**Zanjan**	**4.23**	**23**	*e*Pn	**Pn**	**06 11 30.1**	**+1.3**
ZNJK	**Zanjan**	**4.23**	**23**	*e*Pn	**Pn**	**06 11 30.1**	**+1.3**
IQOM	**Qom**	**4.24**	**60**	*e*Pn	**P

CLDR	Caldiran	6.70	342	*e*P		Pn	06 12 04.1	+1.4
SMAN	Sihmah	6.72	169	*e*Pn		Pn	06 12 06.4	+3.6
MAKU	Maku	6.73	347	*e*Pn		Pn	06 12 03.6	+0.5
MAKU	Maku	6.73	347	*e*Pn		Pn	06 12 03.6	+0.5
YZKH	Yazd	6.75	91	*e*Pn		Pn	06 12 04.6	+1.2
YZKH	Yazd	6.75	91	*e*Pn		Pn	06 12 04.6	+1.2
GURO	Guroymak-BITLI	6.84	328			Pn	06 12 04.1	-0.5
MAZI	Mazidag	6.86	314	*e*P		Pn	06 12 13.4	+8.5
IMEH	Mehriz	6.94	100	*e*Pn		Pn	06 12 07.0	+0.9
IGLO	Ghaloghah	7.01	56	*e*Pn		Pn	06 12 09.1	+2.1
QIR1	Qir	7.02	126	*e*Pn		Pn	06 12 08.8	+1.8
HANO	Al Hamad	7.16	261	*e*Pn		Pn	06 12 09.3	+0.3
AGRB	Hanur-Agry	7.37	338	*e*P		Pn	06 12 11.1	-0.8
GNI	Garni	7.49	349	Pn		Pn	06 12 16.3	+2.8
	comp=Z,0.4nm,0.3s,baz=125,slow=7.3,SNR=3.4							
GNI				Pg		Pb	06 12 35.7	+1.4
	comp=Z,1.6nm,0.3s,baz=62,slow=19,SNR=5.2							
GNI				LR		LR	06 15 06.1	
	comp=Z,2µm,18.0s,baz=170,slow=38							
GNI	Garni	7.49	349	Pn		Pn	06 12 14.6	+1.0
BNGB	Bingl	7.83	324	*e*P		Pn	06 12 18.4	+0.2
URFA	Urfa	7.88	308	*e*P		Pb	06 12 33.6	-7.4
KOPR	Koprukoy-ERZUR	8.14	333	*e*P		Pn	06 12 20.5	-1.9
SVRC	Sivrice-ELAZID	8.14	315	*e*P		Pn	06 12 29.6	+7.0
ASF	Jabal al Asfar	8.23	268	Pn		Pn	06 12 22.4	-1.2
	comp=Z,1.6nm,0.3s,baz=284,slow=9.2,SNR=12							
ASF				LR		LR	06 16 33.6	
	comp=Z,4µm,18.2s,baz=293,slow=45							
YEDI	Yedisu-Bingol	8.24	325	*e*P		Pn	06 12 24.8	+0.9
KARS	Kars	8.31	341	P		Pn	06 12 26.2	+1.4
KARS	Kars	8.31	341	Pn		Pn	06 12 26.2	+1.4
NHRD	Haradh	8.32	165	*e*Pn		Pn	06 12 25.2	+0.4
SHRO	Shahrood	8.40	65	*e*Pn		Pn	06 12 28.4	+2.4
SHRO	Shahrood	8.40	65	*e*Pn		Pn	06 12 28.4	+2.4
LAR1	LAR	8.44	125	*e*Pn		Pn	06 12 27.3	+0.8
PTK	Pertek	8.44	318	*e*P		Pn	06 12 31.1	+4.5
TNSJ	Nastanj	8.45	79	*e*Pn		Pn	06 12 28.5	+1.9
TPRV	Parvadeh(Tabas	8.48	86	*e*Pn		Pn	06 12 28.3	+1.2
AKT	Akhty	8.71	6	*e*P		Pn	06 12 32.9	+2.6
AKT				*e*S		Sn	06 14 12.7	+4.3
AKT				pmax	pmax			
	comp=Z,5.0nm,0.5s							
AKT				smax	smax			
	comp=E,11nm,0.8s							
AKT				smax	smax			
	comp=N,12nm,1.0s							
KHGB	Koh Gabri	8.76	103	*e*Pn		Pn	06 12 35.3	+4.3
TABS	Tabas	8.85	82	*e*Pn		Pn	06 12 33.4	+1.2
TABS	Tabas	8.85	82	*e*Pn		Pn	06 12 33.4	+1.2
TKDS	Koohdasht(Taba	8.85	82	*e*Pn		Pn	06 12 32.7	+0.5
TVBK	TV Kerman	9.12	105	*e*Pn		Pn	06 12 37.6	+1.5
KRBR	Kerman	9.12	105	*e*Pn		Pn	06 12 38.6	+2.5
KRBR	Kerman	9.12	105	*e*Pn		Pn	06 12 38.6	+2.5
MRVT	Maraveh tapeh	9.15	55	*e*Pn		Pn	06 12 37.6	+1.4
MRVT	Maraveh tapeh	9.15	55	*e*Pn		Pn	06 12 37.6	+1.4
NGRK	Negar Kerman	9.22	107	*e*Pn		Pn	06 12 38.8	+1.3
MMAI	Mount Meron Ar	9.42	274	Pn		Pn	06 12 39.6	-0.4
	comp=N,0.8nm,0.3s,baz=85,slow=16,SNR=2.0							
MMAI				LR		LR	06 17 22.0	
	comp=N,3µm,18.3s,baz=75,slow=45							
BCA	Borcka	9.50	337	⇓P		Pn	06 12 44.8	+3.8
JRN	Qarnain Island	9.55	143	P		Pn	06 12 40.9	-0.7
	SNR=10							
SBZV	Sabzevar	9.75	65	*e*Pn		Pn	06 12 45.4	+0.8
GENO	Geno	9.87	121	*e*Pn		Pn	06 12 46.1	-0.2
ONI	Oni	10.09	347	P		Pn	06 12 51.6	+2.5
ONI	Oni	10.09	347			Pn	06 12 51.6	+2.5
BJRD	Bojnurd	10.09	58	*e*P		Pn	06 12 51.0	+1.7
BJRD	Bojnurd	10.09	58	*e*Pn		Pn	06 12 51.0	+1.7
IBND	Bandar-abas	10.12	119	*e*Pn		Pn	06 12 49.4	0.0
MAK	Makhachkala	10.17	4	*e*P		Pn	06 12 50.1	0.0
MAK				*e*S		Sn	06 14 43.8	-0.2
MAK				pmax	pmax			
	comp=Z,86nm,0.3s							
MAK				MLR	MLR			
	comp=Z,6µm,15.0s							
ZEI	Tsey	10.20	349	*e*P		Pn	06 12 55.5	+4.8
ZEI				pmax	pmax			
	comp=Z,5.0nm,1.4s							
ISFR	Sfrayin	10.27	62	*e*Pn		Pn	06 12 54.4	+2.6
GROC	Groznyy	10.41	357	*e*P		Pn	06 12 56.1	+2.7
GROC				*e*S		Sn	06 14 54.6	+4.8
GROC				pmax	pmax			
	comp=Z,55nm,1.4s							
GROC				MLR	MLR			
	comp=Z,2µm,9.0s							
AFRZ	Afriz	10.43	83	*e*Pn		Pn	06 12 53.9	+0.1
EIL	Elat	10.45	256	Pn		Pn	06 12 53.8	-0.2
	comp=Z,0.8nm,0.3s,baz=184,slow=6.4,SNR=7.2							
EIL				LR		LR	06 17 54.9	
	comp=Z,4µm,20.5s,baz=78,slow=43							
SVSK	Karacayir	10.51	315	*e*P		Pn	06 13 01.6	+6.9
SHME	Shamm	10.69	127	*i* P		Pn	06 12 57.4	+0.1
	SNR=27							
SHME				S		Sn	06 14 51.0	-5.8
SHME	Shamm	10.69	127	P		Pn	06 12 57.4	+0.1
	SNR=27							
IAKL	Akhelmad	10.70	66	*e*Pn		Pn	06 12 58.1	+0.5
GEYT	Alibeck	10.70	58	Pn		Pn	06 12 58.3	+0.8
	comp=Z,0.5nm,0.3s,baz=243,slow=9.5,SNR=2.6							
UMQ	Umm Al-Quwin	10.73	130	P		Pn	06 12 56.5	-1.2
KHNJ	Kahnooj	10.73	114	*e*Pn		Pn	06 12 59.2	+1.3
KBAM	BAM	10.80	107	*e*Pn		Pn	06 12 59.4	+0.5
BANOM	Banah	10.88	127	*i* P		Pn	06 13 00.1	+0.2
	SNR=54							
BANOM	Banah	10.88	127	P		Pn	06 12 59.0	-0.9
	SNR=47							
IEMG	Emamgholi	10.89	62	*e*Pn		Pn	06 13 02.5	+2.3
NAZ	Nazwa, Dubai	11.11	132	*i* P		Pn	06 13 02.5	-0.5
	SNR=39							
NAZ	Nazwa, Dubai	11.11	132	P		Pn	06 13 03.3	+0.3
	SNR=39							
MSFE	Esma-Masafi	11.16	129	*i* P		Pn	06 13 03.2	-0.6
	SNR=31							
ASUD	Al Ashush, Dub	11.17	135	*i* P		Pn	06 13 03.6	-0.3
	SNR=38							
ASUD	Al Ashush, Dub	11.17	135	P		Pn	06 13 04.2	+0.3
	SNR=38							
FAQ	Al Faqa, Dubai	11.24	133	*i* P		Pn	06 13 04.6	-0.2
	SNR=27							
FAQ	Al Faqa, Dubai	11.24	133	P		Pn	06 13 05.0	+0.1
	SNR=27							
KBZ	Khabaz	11.29	346	Pn		Pn	06 13 07.2	+1.7
	comp=Z,0.1nm,0.3s,baz=159,slow=7.2,SNR=11							
KBZ				LR		LR	06 18 25.2	
	comp=Z,2µm,19.4s,baz=144,slow=43							
MDH	Madha	11.30	129	*i* P		Pn	06 13 04.6	-1.0
	SNR=18							
MDH	Madha	11.30	129	P		Pn	06 13 05.9	+0.3
	SNR=17							
UOSS	Minazif	11.48	130	*i* P		Pn	06 13 07.0	-1.1
	SNR=24							
UOSS	Minazif	11.48	130	Pn		Pn	06 13 07.1	-1.1
SHRT	Shahrakht	11.49	82	*e*Pn		Pn	06 13 10.7	+2.4
SHRT	Shahrakht	11.49	82	*e*Pn		Pn	06 13 10.7	+2.4
HATD	Hatta, Dubai	11.52	131	*i* P		Pn	06 13 08.0	-0.7
	SNR=60							
KVAR	Kislovodsk Arr	11.55	346	LR		LR	06 17 22.2	
	comp=Z,2µm,18.9s,baz=44,slow=36							
KIV	Kislovodsk	11.56	346	*e*P		Pn	06 13 13.2	+4.0
KIV				*e*S		Sn	06 15 22.6	+4.5
KIV				pmax	pmax			
	comp=Z,20nm,1.1s							
KIV				MLR	MLR			
	comp=Z,402nm,10.0s							
KIV	Kislovodsk	11.56	346	Pn		Pn	06 13 10.3	+1.1
ASHO	Ashiyiah	11.57	132	*i* P		Pn	06 13 10.0	+0.5
	SNR=36							
ASHO	Ashiyiah	11.57	132	P		Pn	06 13 08.8	-0.7
	SNR=66							
TBJM	Torbat-e-JAM	11.65	74	*e*Pn		Pn	06 13 11.7	+1.1
IMYA	Miami	11.67	69	*e*Pn		Pn	06 13 12.9	+2.0
ALNE	Al Ain	11.85	135	*i* P		Pn	06 13 13.5	+0.3
	SNR=48							
ALNE	Al Ain	11.85	135	P		Pn	06 13 13.5	+0.3
	SNR=48							
SOC	Sochi	12.05	335	*e*P		Pn	06 13 16.6	+0.8
SOC				*e*			06 15 32.6	
SOC				pmax	pmax			
	comp=Z,3.0nm,0.4s							
SOC				MLR	MLR			
	comp=Z,3µm,15.0s							
SOHO	SOHO	12.27	132	*i* P		Pn	06 13 18.1	-0.8
	SNR=12							
BR131	Keskin Array S	12.54	307	P		Pn	06 13 24.0	+1.3
BR131	Keskin Array S	12.54	307	Pn		Pn	06 13 24.0	+1.3
BRTR	Keskin Array B	12.54	307	Pn		Pn	06 13 23.2	+0.6
	comp=Z,0.0nm,0.3s,baz=119,slow=12,SNR=5.3							
BRTR				LR		LR	06 18 44.5	
	comp=Z,968nm,18.8s,baz=122,slow=40							
BRTR	Keskin Array B	12.54	307	Pn		Pn	06 13 22.8	+0.2
ZHSF	Zahedan	12.54	101	*e*Pn		Pn	06 13 25.4	+2.7
ZHSF	Zahedan	12.54	101	*e*Pn		Pn	06 13 25.4	+2.7
ZHDN	Zahedan	12.63	102	*e*Pn		Pn	06 13 26.0	+1.9
ARQ	Araqi	12.85	135	P		Pn	06 13 27.0	0.0
	SNR=20							
HRA	Herat	13.13	79	Pn		Pn	06 13 33.7	+2.7
HOQ	Hoqain	13.16	132	P		Pn	06 13 30.8	-0.3
	SNR=12							
BSY	Bisya	13.71	134	P		Pn	06 13 37.5	-1.2
	SNR=38							
ANN	Anapa	13.95	332	*e*P		Pn	06 13 44.6	+2.9
ANN				*e*S		Sn	06 16 22.8	+6.5
ANN				pmax	pmax			
	comp=Z,18nm,0.7s							
ANN				pmax	pmax			
	comp=N,22nm,0.9s							
ANN				pmax	pmax			
	comp=E,4.0nm,0.4s							
ANN				MLR	MLR			
	comp=Z,2µm,14.0s							
ANN				MLR	MLR			
	comp=N,4µm,14.0s							
SMDO	Samad	14.00	131	P		Pn	06 13 41.6	-1.1
	SNR=22							
ISP	Isparta	14.05	295	P		Pn	06 13 44.0	+0.7
ISP	Isparta	14.05	295	Pn		Pn	06 13 44.0	+0.7
WSAR	Wadi Sarin	14.25	129	Pn		Pn	06 13 44.0	-1.9
	comp=N,1.9nm,0.3s,baz=330,slow=7.9,SNR=30							
WSAR				Sn		Sn	06 16 15.4	-8.7
	comp=N,6.8nm,0.3s,baz=175,slow=17,SNR=14							
WSAR				LR		LR	06 20 25.0	
	comp=N,3µm,18.1s,baz=336,slow=42							
WSAR	Wadi Sarin	14.25	129	P		Pn	06 13 44.1	-1.9
	SNR=21							
ELL	Elmali	14.28	291	P		Pn	06 13 45.7	-0.7
ELL	Elmali	14.28	291	Pn		Pn	06 13 45.7	-0.7
JMDO	Jabal Madar	14.54	133	P		Pn	06 13 48.4	-1.6
	SNR=10.0							
SRVN	Saravan	14.68	107	*e*Pn		Pn	06 13 51.4	-0.7
RBK	Rabkut	16.70	154	P		Pn	06 14 15.9	-2.4
	SNR=27							
DMTO	DMTO	16.79	151	P		Pn	06 14 19.1	-0.3
	SNR=25							
SHAO	Shalim	16.80	149	*i* P		Pn	06 14 19.0	-0.6
	SNR=6.6							
IDI	Anoyia	18.17	284	P		P	06 14 37.2	+0.4
	comp=N,0.7nm,0.3s,baz=77,slow=12,SNR=9.7							
VRH	Novokhopyorsk	18.74	350	*e*P		P	06 14 42.7	-0.1
VRH				pmax	pmax			
	comp=Z,20nm,0.6s							
VRH				MLR	MLR			
	comp=Z,750nm,11.0s							
KBL	Kabul	18.75	79	P		P	06 14 43.7	+0.3
KBL				pmax	pmax			
	comp=Z,87nm,1.2s							
KBL	Kabul	18.75	79			P	06 14 43.7	+0.3
KBL				IAmb	IAmb		06 14 52.5	
	comp=Z,87nm,1.2s							
VORD	Divnogorie	18.94	346	*e*P		P	06 14 44.5	-0.5
VORD				pmax	pmax			
	comp=Z,20nm,0.6s							
CHGR	Chuyangaron	19.20	66	P		P	06 14 47.7	-0.4
CHGR				IAmb	IAmb		06 15 01.4	
	comp=Z,65nm,1.1s							
AB31	Akbulak array	19.23	27	*i* P		P	06 14 47.4	-0.8
ABKAR	Akbulak array	19.23	27	P		P	06 14 47.4	-0.8
ABKAR	Akbulak array	19.23	27	P		P	06 14 47.6	-0.6
ABKAR				IAmb	IAmb		06 14 56.9	
	comp=Z,27nm,1.1s							
AKTO	Aktyubinsk	19.54	22	P		P	06 14 50.5	-1.1
	comp=Z,1.5nm,0.3s,baz=214,slow=12,SNR=30							
AKTO				LR		LR	06 24 35.3	
	comp=Z,2µm,19.6s,baz=213,slow=44							
AKTO	Aktyubinsk	19.54	22	P		P	06 14 50.7	-0.9
BELG	Belogornoye	19.60	2	P		P	06 14 51.1	-1.1
	comp=Z,2.6nm,0.3s,baz=54,slow=2.1,SNR=9.2							
BELG				LR		LR	06 24 41.3	
	comp=Z,2µm,18.7s,baz=175,slow=44							
KIS	Kishinev	19.62	321	⇓*e*P		Pn	06 14 54.5	+0.6
	comp=Z,280nm,6.6s							
KIS				*e*S		S	06 18 28.0	-5.6
KIS				*e*LR		LR	06 24 40.0	
	comp=Z,400nm,16.0s							
KIS	Kishinev	19.62	321	*d i* P		Pn	06 14 54.5	+0.6
KIS				*e*S		S	06 18 28.0	-5.6
KIS				pmax	pmax			
	comp=Z,280nm,6.6s							
KIS				MLR	MLR			
	comp=Z,400nm,16.0s							
VRI	Vrincioaia	20.10	316	⇓P		P	06 14 58.6	+0.8
VRI	Vrincioaia	20.10	316	⇓P		P	06 14 58.6	+0.8
GAR	Garm	20.15	65	P		P	06 14 57.9	-0.7
MLR	Muntele Rosu	20.36	314	⇑P		Pn	06 15 03.0	+0.2
MLR	Muntele Rosu	20.36	314	P		P	06 15 01.2	+0.5
	comp=Z,5.0nm,1.0s,baz=190,slow=12,SNR=5.0							
MLR				LR		LR	06 25 13.4	
	comp=Z,897nm,18.9s,baz=123,slow=44							
MLR	Muntele Rosu	20.36	314	⇑P		Pn	06 15 03.0	+0.2
MLR	Muntele Rosu	20.36	314	P		P	06 14 59.9	-0.9
COVR	Voineasa-Covas	20.39	316	⇓P		P	06 15 01.2	+0.2
TESR	Tescani	20.51	318	⇓P		P	06 15 02.2	0.0
LPSR	Galich'ya Gora	20.56	347	*e*P		P	06 15 00.1	-2.6
LPSR				*e*S		S	06 18 42.0	-10
LPSR				pmax	pmax			
	comp=Z,60nm,0.9s							
LPSR				smax	smax			
	comp=E,890nm,5.8s							
LPSR				MLR	MLR			
	comp=Z,320nm,12.0s							
SORM	Soroca	20.60	323	⇓P		P	06 15 01.8	-1.4
SORM	Soroca	20.60	323	⇓P		P	06 15 01.8	-1.4
BTK	Batken	20.75	63	P		P	06 15 05.9	+0.9
BTK				pmax	pmax			
	comp=Z,94nm,1.4s							
BTK	Batken	20.75	63			P	06 15 05.9	+0.9
BTK				IAmb	IAmb		06 15 14.8	
	comp=Z,94nm,1.4s							
OZUR		20.77	316	⇓P		P	06 15 05.8	+0.6
VOIR		20.88	313	⇓P		P	06 15 06.6	+0.3
VOIR		20.88	313	⇓P		P	06 15 06.6	+0.3
DOPR	Dopca	20.94	315	⇓P		P	06 15 08.0	+1.0
BIZ	Bicaz	21.06	318	⇓P		P	06 15 08.2	0.0
ARR	Arges	21.10	313	⇓P		P	06 15 09.5	+0.8
DRK	Karamyk	21.37	65	P		P	06 15 13.0	+1.0
DRK				IAmb	IAmb		06 15 22.9	
	comp=Z,53nm,0.8s							
KK31	Karatay Array	21.41	54	*i* P		P	06 15 12.6	+0.6
KK31	Karatay Array	21.41	54			P	06 15 11.5	-0.5
KK31				IAmb	IAmb		06 15 22.2	
	comp=Z,104nm,1.4s							
KKAR	Karatay Array	21.41	54	P		P	06 15 11.7	-0.3
KKAR	Karatay Array	21.41	54	P		P	06 15 11.7	-0.3
KKAR	Karatay Array	21.41	54	P		P	06 15 11.3	-0.7
KKAR				IAmb	IAmb		06 15 22.2	
	comp=Z,104nm,1.4s							
ATD	Arta Tunnel	21.45	190	P		P	06 15 14.0	+1.4
	comp=Z,11nm,0.8s,baz=3.5,slow=7.7,SNR=9.7							
ATD				LR		LR	06 23 40.5	
	comp=Z,1µm,19.0s,baz=9.0,slow=37							
TEND	Ethiopian Broa	21.53	195	*e*P		P	06 15 16.4	+3.0
SOCY	Socotra	21.60	160	P		P	06 15 09.6	-4.7
SOCY				IAmb	IAmb		06 15 19.0	
	comp=Z,39nm,0.9s							
BURAR	Bucovina Array	21.94	319	⇓P		P	06 15 18.7	+0.9
BURAR	Bucovina Array	21.94	319	⇓P		P	06 15 18.7	+0.9
BURAR	Bucovina Array	21.94	319	P		P	06 15 16.8	-1.0
BUR08	Bucovina Ar. S	21.97	319	P		P	06 15 17.2	-0.8
AKASG	Malin Array Be	22.00	330	P		P	06 15 16.5	-1.7
	comp=Z,2.6nm,0.5s,baz=132,slow=12,SNR=13							
AKASG				LR		LR	06 25 29.4	
	comp=Z,474nm,19.7s,baz=130,slow=41							
AKASG	Malin Array Be	22.00	330	P		P	06 15 15.2	-3.0
AKBB	Malin Array Si	22.00	330	P		P	06 15 16.3	-1.9
AKBB				pmax	pmax			
	comp=Z,14nm,1.0s							
AKBB	Malin Array Si	22.00	330	P		P	06 15 16.3	-1.9
ARCR	ARCALIA	22.14	317	⇓P		P	06 15 23.6	+3.8
GZR	Gura Zlata	22.27	311	⇓P		P	06 15 24.1	+2.8
GZR	Gura Zlata	22.27	311	⇓P		P	06 15 24.1	+2.8
HERR	Herculane	22.28	310	⇓P		P	06 15 21.4	0.0
NIL	Nilore	22.29	80	P		P	06 15 21.2	-0.4
NIL				pmax	pmax			
	comp=Z,96nm,1.2s							
NIL	Nilore	22.29	80	P		P	06 15 21.2	-0.4
DESE	Dese	22.51	198	*e*P		P	06 15 26.9	+2.7
AML	Almayashu	23.35	59	*i* P		P	06 15 34.1	+1.1
	SNR=5.5							
OBN	Obninsk	23.40	345	LR		LR	06 26 20.0	
	comp=Z,361nm,19.7s,baz=158,slow=41							
OBN	Obninsk	23.40	345	*i* P		P	06 15 31.0	-1.9
OBN				*i*			06 15 41.5	
OBN				*i* S		S	06 19 36.4	-9.1
OBN				pmax	pmax			
	comp=Z,59nm,1.2s							
OBN				MLR	MLR			
	comp=Z,1µm,20.0s							
OBN	Obninsk	23.40	345	P		P	06 15 31.1	-1.7
OBN				IAmb	IAmb		06 15 33.5	
	comp=Z,52nm,1.1s							
HARA	HARA	23.60	188	*e*P		P	06 15 44.9	+9.5
TRPA	Tarpa	23.73	317	*e*P		P	06 15 37.8	+1.6
MOS	Moscow	23.78	347	*e*P		P	06 15 34.8	-1.8
MOS				*e*			06 15 45.9	
MOS				*e*S		S	06 19 48.3	-3.3
MOS				*e*			06 19 55.7	
MOS				pmax	pmax			
	comp=Z,73nm,1.5s							
MOS				MLR	MLR			
	comp=Z,2µm,17.0s							
ANKE	Ethiopia-Afar	23.95	197	*i* P		P	06 15 39.9	+1.0
AAK	Ala-Archa	24.05	58	P		P	06 15 39.7	+0.2
	comp=Z,3.0nm,0.6s,baz=248,slow=5.5,SNR=7.9							
AAK				LR		LR	06 26 35.0	
	comp=Z,3µm,18.4s,baz=264,slow=40							
AAK	Ala-Archa	24.05	58	P		P	06 15 41.8	+2.3
AAK	Ala-Archa	24.05	58	P		P	06 15 41.0	+1.5
AAK	Ala-Archa	24.05	58	P		P	06 15 39.7	+0.2
UZH	Uzhgorod	24.14	318	*c i* P		P	06 15 43.1	+3.1
UZH				*i*			06 15 46.2	
UZH				*e*			06 15 57.0	
UZH				*i*			06 16 16.9	
UZH				*i* S		S	06 19 58.8	+1.4
UZH				MLR	MLR			
	comp=N,200nm,13.0s							
UZH				MLR	MLR			
	comp=E,200nm,13.0s							
UZH				MLR	MLR			
	comp=Z,100nm,13.0s							
KOLS	Kolonicke sedl	24.31	319	*e*P		P	06 15 43.6	+2.0
KOLS				pmax	pmax			
	comp=Z,107nm,1.9s							
KOLS	Kolonicke sedl	24.31	319	*e*P		P	06 15 43.6	+2.0
SGDS	Sogindy	24.37	56	*e*P		P	06 15 42.0	-0.3
	comp=Z,27nm,2.0s,baz=56							
SGDS				*e*S		S	06 20 02.7	+1.3
	baz=56							
KWP	Kalwaria Pacla	24.46	320	*e*P		P	06 15 45.1	+2.1
KWP				*ep*P		sP	06 15 53.7	+5.1
BTLS	Baital	24.48	52	⇑*i* P		P	06 15 43.4	+0.2
	comp=Z,4.3nm,0.7s,baz=52							
BTLS				*e*S		S	06 19 59.4	-3.6
	baz=52							
BTLS	Baital	24.48	52	*i* P		P	06 15 43.4	+0.2
BTLS				*e*S		S	06 19 59.4	-3.6
BTLS				pmax	pmax			
	comp=E,4.0nm,0.7s							
KSH	Kashi	24.57	66	P		P	06 15 42.3	-2.0
KSH				pP	pP		06 15 45.9	-2.3
KSH				sP	sP		06 15 49.3	-0.6
KSH				S		S	06 20 01.0	-3.9
KSH				SS		SnSn	06 20 49.6	-0.2
KSH				pmax	pmax			
	comp=E,16nm,1.1s							
KSH				pmax	pmax			
	comp=E,670nm,4.6s							
KSH				LR	LR			
	comp=E,960nm,12.6s							
KSH				LR	LR			
	comp=E,460nm,13.0s							
KSH				LR	LR			
	comp=E,490nm,12.6s							
AAE	Adis Abeba	24.74	199	*e*P		P	06 15 50.9	+4.8
CRVS	Cervenica-Dubn	24.75	318	*e*P		P	06 15 46.7	+1.1
CRVS				pmax	pmax			
	comp=Z,40nm,1.6s							
CRVS	Cervenica-Dubn	24.75	318	*e*P		P	06 15 46.7	+1.1
STON	Ston	24.84	302	*i* P		P	06 15 47.2	+0.8
ARU	Arti	25.04	16	P		P	06 15 47.9	-0.3
	comp=Z,3.0nm,0.2s,baz=197,slow=9.4,SNR=24							
ARU				ScP		ScP	06 23 00.3	-1.0
	comp=Z,2.0nm,0.2s,baz=254,slow=6.2,SNR=4.3							
ARU				LR		LR	06 28 22.1	
	comp=Z,926nm,19.1s,baz=96,slow=43							
ARU	Arti	25.04	16	*c i* P		P	06 15 47.7	-0.4
ARU				PPP	PPP		06 16 30.6	
ARU				S		S	06 20 11.9	+0.1
ARU				pmax	pmax			
	comp=Z,36nm,1.2s							
ARU				MLR	MLR			
	comp=Z,1µm,17.0s							
ARU	Arti	25.04	16	P		P	06 15 47.6	-0.5
ARU				IAmb	IAmb		06 15 52.7	

KIRV LR LR 06 28 15.6
comp=Z,2µm,19.1s,baz=192,slow=42
TNSS Tian-Shan 25.90 58 ⇑*i* P **P 06 15 57.6 +1.0**
baz=58
SVE Sverdlovsk 25.90 18 *e*P **P 06 15 56.2 +0.2**
SVE *e*S **S 06 20 28.5 +3.0**
SVE pmax pmax
comp=Z,36nm,1.2s
SVE MLR MLR
comp=Z,801nm,14.0s
CSKK Cskako 25.94 312 *e*P P 06 16 05.1 +8.7
MDOK Medeo 26.00 58 *e*P **P 06 15 56.8 -0.5**
baz=58
MDOK *e*S **S 06 20 27.6 -0.2**
baz=58
MDOK Medeo 26.00 58 *e*P **P 06 15 56.7 -0.5**
MDOK *e*S **S 06 20 27.5 -0.2**
LANS Liptovska Anna 26.01 317 *e*P **P 06 15 59.9 +2.8**
LANS pmax pmax
comp=Z,10.0nm,0.9s
LANS Liptovska Anna 26.01 317 *e*P **P 06 15 59.9 +2.8**
KIJV Kijevo 26.04 304 *i* P **P 06 15 57.6 +0.2**
CHKK Chushkaly 26.13 56 *e*P **P 06 15 58.0 -0.1**
baz=56
TARG Taragay, Kyrgy 26.27 61 P **P 06 16 00.7 +0.8**
TARG IAmb IAmb 06 16 05.2
comp=Z,15nm,0.7s
MPLH Magyarpolny 26.31 312 *e*P **P 06 16 06.1 +6.4**
OJC Ojcow 26.36 319 *e*P **P 06 16 01.5 +1.3**
OJC Ojcow 26.36 319 P **P 06 16 00.2 +0.1**
OJC pmax pmax
comp=Z,28nm,1.3s
OJC Ojcow 26.36 319 P **P 06 16 00.2 +0.1**
OJC IAmb IAmb 06 16 05.6
comp=Z,28nm,1.3s
BRVK Borovoye 26.44 33 P **P 06 16 00.6 -0.3**
BRVK pmax pmax
comp=Z,18nm,1.0s
BRVK Borovoye 26.44 33 P **P 06 16 00.6 -0.3**
BRVK IAmb IAmb 06 16 05.2
comp=Z,18nm,1.0s
BVAR Borovoye Array 26.47 33 P **P 06 16 01.5 +0.3**
comp=Z,9.5nm,0.7s,baz=217,slow=12,SNR=30
BVAR ScP **ScP 06 23 04.3 -1.3**
comp=Z,1.2nm,0.7s,baz=274,slow=4.3,SNR=3.7
MODS Modra-Piesok 26.95 314 *e*P **P 06 16 07.8 +2.2**
MODS Modra-Piesok 26.95 314 *e*P **P 06 16 07.8 +2.2**
DUGI Dugi Otok 26.98 304 *i* P **P 06 16 05.7 -0.2**
OKC Ostrava-Krasne 27.09 317 *e*S **S 06 20 47.0 +2.6**
OKC AMS AMS 06 31 50.0
comp=Z,700nm,11.1s
KPKS Kokpek 27.23 58 *e*P **P 06 16 08.2 0.0**
baz=58
KPKS Kokpek 27.23 58 *e*P **P 06 16 08.2 0.0**
MORC Moravsky Berou 27.41 317 P **P 06 16 09.9 +0.2**
MORC pmax pmax
comp=Z,12nm,1.4s
MORC Moravsky Berou 27.41 317 P **P 06 16 09.9 +0.2**
CONA Conrad Observa 27.65 312 *e*P **P 06 16 16.1 +4.2**
comp=Z,7.7nm,1.4s
SHLS Shalkode 27.73 59 *e*P **P 06 16 15.0 +2.3**
baz=59
SHLS *e*S **S 06 21 02.3 +7.4**
baz=59
SHLS Shalkode 27.73 59 *e*P **P 06 16 15.0 +2.3**
SHLS *e*S **S 06 21 02.2 +7.4**
SOKA Soboth 27.75 309 *e*P **P 06 16 15.2 +2.4**
comp=Z,11nm,2.0s
VRAC Vranov 27.76 315 LR LR 06 29 33.7
comp=Z,376nm,18.9s,baz=94,slow=42
KRLC Kraliky 27.98 317 AMS AMS 06 30 40.0
comp=Z,900nm,14.8s
OBKA Obir 28.01 309 *e*P **P 06 16 14.9 -0.2**
comp=Z,13nm,1.6s
DPC Dobruska-Polom 28.37 317 *e*P **P 06 16 22.9 +4.6**
DPC *e*S **S 06 21 02.6 -2.1**
DPC MLR MLR
comp=Z,900nm,12.5s
DPC Dobruska-Polom 28.37 317 *e*P **P 06 16 22.9 +4.6**
DPC *e*S **S 06 21 02.6 -2.1**
DPC AMS AMS 06 31 00.0
comp=Z,900nm,12.5s
TREC Trest 28.41 315 AMS AMS 06 31 40.0
comp=Z,900nm,13.0s
KLMR Klimovskoe 28.45 353 *e*P **P 06 16 15.8 -3.0**
KLMR pmax pmax
comp=Z,32nm,1.1s
KLMR Klimovskoe 28.45 353 *e*P **P 06 16 15.8 -3.0**
KLMR AMP 06 16 19.4
comp=Z,32nm,1.1s
OSTC Ostas 28.53 317 AMS AMS 06 31 10.0
comp=Z,700nm,13.4s
CHVC Chvalec 28.63 317 *e*P **P 06 16 21.3 +0.7**
PRGR Permogore 28.86 359 *e*P **P 06 16 20.1 -2.3**
PRGR pmax pmax
comp=Z,21nm,1.4s
CKRC Cesky Krumlov 28.94 313 *e*S **S 06 21 11.7 -2.0**
CKRC AMS AMS 06 31 30.0
comp=Z,1µm,14.4s
PRU Pruhonice 29.25 315 AMS AMS 06 32 10.0
comp=Z,800nm,12.9s
GERES GERESS Array B 29.33 313 LR LR 06 30 52.9
comp=Z,300nm,19.2s,baz=116,slow=42
KURBB Kurchatov Arra 29.43 43 P **P 06 16 28.2 +0.6**
comp=Z,16nm,0.8s,baz=249,slow=9.2,SNR=46
KURBB ScP **ScP 06 23 13.1 -1.6**
comp=Z,2.3nm,1.0s,baz=248,slow=4.0,SNR=7.2
PVCC Panska Ves 29.46 316 AMS AMS 06 32 30.0
comp=Z,1µm,12.4s
KHC Kasperske Hory 29.50 313 *e*S **S 06 21 18.3 -4.2**
KHC AMS AMS 06 31 30.0
comp=Z,900nm,13.0s
KURK Kurchatov 29.52 43 P **P 06 16 28.3 -0.2**
KURK Kurchatov 29.52 43 P **P 06 16 28.2 -0.2**
WATA Walderalm 30.20 309 *e*P **P 06 16 36.4 +1.8**
comp=Z,7.3nm,1.0s
MAKZ Makanchi 30.28 52 P **P 06 16 34.8 -0.5**
MAKZ pmax pmax
comp=Z,5.0nm,1.0s
MAKZ Makanchi 30.28 52 P **P 06 16 34.8 -0.5**
SEM Semipalatinsk 30.35 45 *e*P **P 06 16 35.7 -0.4**
baz=45
SEM *e*S **S 06 21 37.6 +1.5**
baz=45
SEM Semipalatinsk 30.35 45 *e*P **P 06 16 35.6 -0.4**
SEM *e*S **S 06 21 37.6 +1.5**
MK31 Makanchi Array 30.49 52 *i* P **P 06 16 37.3 +0.2**
MK31 Makanchi Array 30.49 52 P **P 06 16 37.1 0.0**
MKAR Makanchi Array 30.49 52 P **P 06 16 37.0 -0.1**
comp=Z,5.9nm,0.6s,baz=253,slow=7.0,SNR=49
MKAR ScP **ScP 06 23 17.3 -0.9**
comp=Z,0.9nm,0.9s,baz=255,slow=5.5,SNR=3.5
MKAR LR LR 06 30 35.8
comp=Z,1µm,18.3s,baz=246,slow=40
MKAR Makanchi Array 30.49 52 P **P 06 16 37.5 +0.4**
MOTA Moosalm 30.51 309 *e*P **P 06 16 36.2 -1.2**
comp=Z,5.4nm,1.0s
FETA Feichten 30.67 308 *e*P **P 06 16 37.7 -1.2**
comp=Z,8.0nm,1.3s
CLL Collm 30.69 317 *e*S **S 06 21 35.0 -5.9**
DAVA Damuels 31.30 308 *e*P **P 06 16 46.0 +1.6**
comp=Z,11nm,0.8s
FINES FINESS Array B 31.59 341 P **P 06 16 45.9 -0.6**
comp=Z,3.9nm,0.5s,baz=142,slow=9.7,SNR=14
FINES LR LR 06 31 38.5
comp=Z,644nm,20.1s,baz=144,slow=40
FINES FINESS Array B 31.59 341 P **P 06 16 45.7 -0.9**
BLEU Blekinge 31.70 327 *e*P **P 06 16 48.9 +1.4**
DANN Dangsing 32.19 88 *e*P **P 06 16 53.6 +1.1**
comp=Z,222nm,1.3s
KOLN Koldanda 32.23 89 *e*P **P 06 16 53.5 +0.7**
comp=Z,38nm,1.0s
LUNU Lund 32.45 325 *e*P **P 06 16 54.8 +0.6**
HYB Hyderabad 32.57 110 *i* P **P 06 16 56.0 +0.3**
DEL Delary 32.69 326 *i* P **P 06 16 55.4 -0.8**
SENIN Lac Senin/Sane 32.84 306 P **P 06 16 57.6 -0.4**
SENIN IAmb IAmb 06 17 03.7
comp=Z,6.4nm,0.7s
GKN Gorkha 33.03 88 *e*P **P 06 17 00.2 +0.4**
comp=Z,53nm,0.8s
FABU Falkenberg 33.51 326 *i* P **P 06 17 03.4 0.0**
DMN Daman 33.55 89 *e*P **P 06 17 05.3 +0.9**
comp=Z,129nm,1.2s
KKN Kakani 33.63 88 *e*P **P 06 17 05.5 +0.4**
comp=Z,56nm,0.9s

WMQ Urumqi 33.75 59 *e*P **P 06 17 06.9 +1.1**
WMQ pmax pmax
comp=Z,20nm,1.1s
WMQ pmax pmax
comp=Z,170nm,4.5s
WMQ LR LR
comp=Z,2µm,13.7s
WMQ LR LR
comp=Z,1µm,14.5s
WMQ LR LR
comp=Z,1µm,14.3s
PKIN Phulchoki 33.80 88 *e*P **P 06 17 07.1 +0.5**
comp=Z,190nm,1.4s
PKI Pulchoki 33.81 88 *e*P **P 06 17 07.0 +0.2**
comp=Z,237nm,1.6s
BORU Boraas 33.82 327 *i* P **P 06 17 05.6 -0.5**
GUN Gumba 34.10 88 *e*P **P 06 17 10.0 +0.7**
comp=Z,351nm,1.4s
ZAA0 Zalesovo Array 34.31 40 P **P 06 17 10.2 -0.2**
ZAA0 IAmb IAmb 06 17 13.7
comp=Z,22nm,1.2s
ZALV Zalesovo Beam 34.31 40 P **P 06 17 10.6 +0.1**
comp=Z,7.8nm,0.5s,baz=256,slow=9.1,SNR=42
ZALV LR LR 06 33 43.8
comp=Z,575nm,19.7s,baz=240,slow=41
JIRN Jiri 34.44 88 *e*P **P 06 17 12.9 +0.6**
comp=Z,29nm,0.5s
KMBO Kilima Mbogo 34.88 197 P **P 06 17 16.8 +0.8**
comp=Z,1.5nm,0.5s,baz=31,slow=14,SNR=3.9
KMBO LR LR 06 31 40.3
comp=Z,835nm,19.1s,baz=26,slow=37
MUD Monsted U'grnd 34.95 324 *i* P **P 06 17 16.0 +0.1**
MUD Monsted U'grnd 34.95 324 *i* P **P 06 17 16.0 +0.1**
RAMN Ramite 35.02 89 *e*P **P 06 17 17.3 +0.2**
comp=Z,22nm,0.6s
APA Apatity 35.66 351 ⇓*i* P **P 06 17 20.0 -1.9**
APA *i* 06 18 40.0
APA *i* 06 19 50.0
APA *i* S **S 06 22 53.0 -4.7**
APA pmax pmax
comp=Z,18nm,0.9s
APA MLR MLR
comp=Z,800nm,16.0s
ODAN Odare 35.71 89 *e*P **P 06 17 23.5 +0.4**
comp=Z,28nm,0.9s
TAPN Taplejung 35.82 88 *e*P **P 06 17 24.9 +0.8**
comp=Z,241nm,1.5s
LVZ Lovozero 35.82 352 P **P 06 17 23.9 +0.6**
LVZ pmax pmax
comp=Z,71nm,1.5s
LVZ Lovozero 35.82 352 P **P 06 17 23.9 +0.6**
NC602 NORSAR Array S 36.08 331 *e*P **P 06 17 26.7 +1.1**
NB2 NORSAR Subarra 36.38 332 P **P 06 17 26.3 -1.9**
comp=Z,5.0nm,0.9s,baz=123,slow=8.6
NB2 NORSAR Subarra 36.38 332 P **P 06 17 26.3 -1.9**
baz=123,slow=8.6
NOA NORSAR Array B 36.38 332 P **P 06 17 27.2 -1.0**
comp=Z,2.0nm,0.7s,baz=124,slow=8.6,SNR=6.6
DOMB Dombas 37.80 332 *e*P **P 06 17 40.8 +0.6**
LSA Lhasa 38.00 82 P **P 06 17 42.7 -0.2**
LSA pmax pmax
comp=Z,12nm,0.8s
LSA Lhasa 38.00 82 P **P 06 17 42.7 -0.2**
LSA IAmb IAmb 06 17 45.3
comp=Z,12nm,0.8s
NSS Namsos 38.21 337 *e*P **P 06 17 43.6 0.0**
MOR8 Moi Rana 38.53 340 *e*P **P 06 17 45.8 -0.5**
KEV Kevo 38.60 349 P **P 06 17 47.0 +0.2**
KEV pmax pmax
comp=Z,16nm,0.9s
KEV Kevo 38.60 349 P **P 06 17 47.0 +0.2**
KEV IAmb IAmb 06 17 48.5
comp=Z,16nm,0.9s
KTK1 Kautokeino 38.61 347 *e*P **P 06 17 46.6 -0.3**
ARA0 ARCESS Array S 38.65 348 *e*P **P 06 17 47.0 -0.2**
ARCES ARCESS Array B 38.65 348 P **P 06 17 46.4 -0.8**
comp=Z,16nm,1.1s,baz=148,slow=7.1,SNR=27
ARCES LR LR 06 35 09.3
comp=Z,1µm,18.8s,baz=145,slow=38
ARCES ARCESS Array B 38.65 348 P **P 06 17 47.0 -0.2**
ARCES pmax pmax
comp=Z,23nm,1.2s
ARCES ARCESS Array B 38.65 348 P **P 06 17 47.0 -0.2**
ARCES IAmb IAmb 06 17 51.4
comp=Z,23nm,1.1s
STOK Stokkvaagen 39.06 339 *e*P **P 06 17 51.2 +0.4**
KONS Konsvik 39.15 339 *e*P **P 06 17 50.9 -0.5**
FAUS Fauske 39.16 341 *e*P **P 06 17 51.3 -0.2**
STEI Steigen 39.57 342 *e*P **P 06 17 54.4 -0.5**
JETT Jettan, Norway 39.62 346 *e*P **P 06 17 55.7 +0.2**
HAMF Hammerfest 39.92 348 *e*P **P 06 17 57.9 +0.1**
TRO Tromso 39.99 345 *e*P **P 06 17 57.5 -0.9**
LOF Lofoten 40.16 342 *e*P **P 06 17 59.7 -0.1**
ESBB Sonseca Array 40.92 294 P **P 06 18 06.1 -0.5**
ESDC Sonseca Array 40.92 294 P **P 06 18 07.1 +0.5**
comp=Z,1.0nm,0.6s,baz=76,slow=8.6,SNR=8.4
ESDC Sonseca Array 40.92 294 P **P 06 18 07.4 +0.8**
GTA Gaotai 42.97 66 ⇓P **P 06 18 24.3 +0.8**
GTA S **S 06 24 49.6 +1.0**
GTA sS sS 06 24 57.3 +2.0
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA pmax pmax
comp=Z,140nm,6.5s
GTA LR LR
comp=Z,750nm,15.3s
GTA LR LR
comp=Z,1µm,16.0s
GTA LR LR
comp=Z,2µm,16.4s
NRIK Noril'sk 43.13 20 P **P 06 18 23.8 -0.4**
comp=Z,8.9nm,1.0s,baz=235,slow=7.6,SNR=7.0
NRIK LR LR 06 40 34.3
comp=Z,982nm,19.7s,baz=238,slow=42
NRIK Noril'sk 43.13 20 P **P 06 18 23.8 -0.4**
NRIK pmax pmax
comp=Z,11nm,1.0s
NRIK Noril'sk 43.13 20 P **P 06 18 23.8 -0.4**
MOY Mondy 43.35 48 *e*P **P 06 18 28.1 +1.8**
MOY pmax pmax
comp=Z,30nm,1.6s
BJO1 Bjornoya 43.95 350 *e*P **P 06 18 31.1 +0.3**
ZAK Zakamensk 44.73 49 *e*P **P 06 18 38.3 +0.8**
ZAK pmax pmax
comp=Z,13nm,1.6s
TORD Torodi Ar. Bea 45.34 255 P **P 06 18 41.9 -0.7**
comp=Z,5.0nm,1.0s,baz=49,slow=7.8,SNR=21
TORD LR LR 06 40 04.0
comp=Z,737nm,18.2s,baz=50,slow=39
TORD Torodi Ar. Bea 45.34 255 P **P 06 18 42.2 -0.3**
TORD IAmb IAmb 06 18 43.4
comp=Z,12nm,1.4s
LZH Lanzhou 46.74 69 ⇑P **P 06 18 55.3 +1.7**
LZH pP pP 06 18 57.3 -0.4
LZH sP sP 06 19 00.3 +1.0
LZH S **S 06 25 44.4 +1.1**
LZH sS sS 06 25 56.9 +6.8
LZH pmax pmax
comp=Z,20nm,1.1s
LZH pmax pmax
comp=Z,96nm,5.2s
LZH LR LR
comp=Z,880nm,14.6s
LZH LR LR
comp=Z,2µm,14.1s
LZH LR LR
comp=Z,1µm,15.2s
SONM Songino Array 46.85 53 P **P 06 18 53.7 -0.5**
comp=Z,1.1nm,0.7s,baz=275,slow=7.3,SNR=10
SONM PcP **PcP 06 20 27.4 +0.3**
comp=Z,1.6nm,0.8s,baz=305,slow=5.2,SNR=4.1
SONM LR LR 06 41 16.1
comp=Z,590nm,18.2s,baz=276,slow=40
SONM Songino Array 46.85 53 P **P 06 18 54.9 +0.6**
ULN Ulaanbaatar 47.29 53 P **P 06 18 57.9 +0.2**
ULN pmax pmax
comp=Z,29nm,1.5s
ULN Ulaanbaatar 47.29 53 P **P 06 18 57.9 +0.2**
ULN Ulaanbaatar 47.29 53 P **P 06 18 58.6 +0.9**
comp=Z,53nm,1.5s
SPA0 Spitsbergen Ar 47.35 352 *e*P **P 06 18 57.6 +0.1**
MHMT Maesarieng 48.12 95 P P 06 19 10.5 +6.2
MHMT Maesarieng 48.12 95 P P 06 19 10.6 +6.3
comp=Z,32nm,1.1s
CM32 Chiang Mai Arr 48.67 93 P P 06 19 19.0 +10

CHTO Chiang Mai 48.68 93 P **P 06 19 08.5 -0.2**
CHTO pmax pmax
comp=Z,32nm,1.4s
CHTO Chiang Mai 48.68 93 P **P 06 19 08.8 +0.2**
comp=Z,288nmcomp=Z,16nm,1.5s
CHTO Chiang Mai 48.68 93 P **P 06 19 08.4 -0.2**
CHTO Chiang Mai 48.68 93 P **P 06 19 08.8 +0.2**
comp=Z,162nmcomp=Z,9.1nm,1.5s
CM33 Chiang Mai Arr 48.68 93 P **P 06 19 08.0 -0.7**
CM13 Chiang Mai Arr 48.83 94 P **P 06 19 12.0 +2.2**
comp=Z,8.4nm,1.3s
CM13 Chiang Mai Arr 48.83 94 P **P 06 19 12.0 +2.2**
comp=Z,8.4nm,1.3s
CM34 Chiang Mai Arr 48.84 93 P **P 06 19 10.0 +0.2**
CMAR Chiang Mai Arr 48.84 94 P **P 06 19 10.0 +0.1**
comp=Z,3.4nm,0.5s,baz=292,slow=7.8,SNR=15
CMAR PcP **PcP 06 20 33.2 -1.2**
comp=Z,1.6nm,0.3s,baz=286,slow=5.7,SNR=4.9
CMAR LR LR 06 42 52.6
comp=Z,195nm,21.5s,baz=342,slow=40
CMAR Chiang Mai Arr 48.84 94 P **P 06 19 09.8 -0.1**
CM02 Chiang Mai Arr 48.86 94 P **P 06 19 11.6 +1.6**
comp=Z,8.3nm,1.1s
CM02 Chiang Mai Arr 48.86 94 P **P 06 19 11.7 +1.7**
comp=Z,8.3nm,1.1s
CM05 Chiang Mai Arr 48.87 94 P **P 06 19 11.7 +1.6**
comp=Z,6.3nm,1.2s
CM05 Chiang Mai Arr 48.87 94 P **P 06 19 11.8 +1.6**
comp=Z,6.3nm,1.2s
CM01 Chiang Mai Arr 48.87 94 P **P 06 19 14.8 +4.7**
comp=Z,13nm,1.2s
CM01 Chiang Mai Arr 48.87 94 P **P 06 19 14.9 +4.8**
comp=Z,13nm,1.2s
CM09 Chiang Mai Arr 48.89 94 P P 06 19 16.5 +6.2
comp=Z,12nm,0.6s
CM09 Chiang Mai Arr 48.89 94 P P 06 19 16.6 +6.3
comp=Z,12nm,0.6s
CM04 Chiang Mai Arr 48.90 94 P **P 06 19 12.3 +2.0**
comp=Z,9.7nm,0.9s
CM04 Chiang Mai Arr 48.90 94 P **P 06 19 12.0 +1.7**
comp=Z,9.7nm,0.9s
CM35 Chiang Mai Arr 48.92 93 P **P 06 19 11.0 +0.5**
CM36 Chiang Mai Arr 48.94 93 P **P 06 19 11.0 +0.3**
PAYA Payao 49.21 92 P **P 06 19 14.2 +1.5**
comp=Z,244nmcomp=Z,24nm,1.0s
PAYA Payao 49.21 92 P **P 06 19 14.3 +1.5**
comp=Z,61nmcomp=Z,6.0nm,1.0s
KMI Kunming 49.23 84 ⇓P **P 06 19 13.3 +0.3**
KMI sP sP 06 19 18.8 0.0
KMI S **S 06 26 18.4 -0.5**
KMI pmax pmax
comp=Z,24nm,0.8s
KMI pmax pmax
comp=Z,140nm,3.5s
KMI LR LR
comp=Z,350nm,14.2s
KMI LR LR
comp=Z,380nm,16.0s
KMI LR LR
comp=Z,540nm,22.8s
KOWA Kowa 49.34 261 P **P 06 19 13.3 -0.4**
KOWA IAmb IAmb 06 19 16.5
comp=Z,7.8nm,0.8s
LAMP Lampang 49.39 93 P **P 06 19 15.3 +1.2**
comp=Z,264nmcomp=Z,30nm,1.3s
LAMP Lampang 49.39 93 P **P 06 19 15.4 +1.3**
comp=Z,66nmcomp=Z,7.4nm,1.3s
UMPA Umpang Tak 49.84 96 P **P 06 19 21.8 +4.2**
comp=Z,µmcomp=Z,24nm,1.3s
UMPA Umpang Tak 49.84 96 P **P 06 19 21.0 +3.4**
comp=Z,550nmcomp=Z,6.0nm,1.3s
NANT Nan 50.16 92 P **P 06 19 20.5 +0.5**
comp=Z,2µmcomp=Z,35nm,0.9s
NANT Nan 50.16 92 P **P 06 19 20.5 +0.5**
comp=Z,428nmcomp=Z,8.8nm,0.9s
BTO Baotou 50.47 62 *e*P **P 06 19 21.3 -0.9**
BTO LR LR
comp=Z,2µm,12.4s
BTO LR LR
comp=Z,3µm,19.4s
UTHA Uthaitani 50.65 97 P **P 06 19 25.9 +2.3**
comp=Z,18nm,0.7s
UTHA Uthaitani 50.65 97 P **P 06 19 25.9 +2.3**
comp=Z,4.5nm,0.7s
PHIT Phitsanulok 50.67 94 P **P 06 19 25.9 +2.1**
comp=Z,2µmcomp=Z,70nm,1.0s
PHIT Phitsanulok 50.67 94 P **P 06 19 26.0 +2.1**
comp=Z,378nmcomp=Z,17nm,1.0s
LSZ Lusaka 50.94 203 P **P 06 19 25.1 -0.8**
LSZ pmax pmax
comp=Z,14nm,1.4s
LSZ Lusaka 50.94 203 P **P 06 19 25.1 -0.8**
LSZ IAmb IAmb 06 19 28.2
comp=Z,14nm,1.4s
BOD Bodaibo 51.05 39 *e*P **P 06 19 26.3 +0.2**
BOD pmax pmax
comp=Z,23nm,1.6s
XAN Xi'an 51.29 70 P **P 06 19 28.0 -0.4**
XAN sP sP 06 19 35.1 +0.9
XAN S **S 06 26 45.5 -1.7**
XAN pmax pmax
comp=Z,10.0nm,1.2s
XAN LR LR
comp=Z,810nm,15.8s
XAN LR LR
comp=Z,730nm,18.6s
XAN LR LR
comp=Z,920nm,17.9s
XAN Xi'an 51.29 70 P **P 06 19 30.3 +1.9**
XAN Xi'an 51.29 70 P **P 06 19 30.2 +1.9**
HHC Hu-ho-hao-te 51.56 61 *e*P **P 06 19 31.3 +0.9**
HHC PP **PP 06 21 34.4 +6.8**
HHC S **S 06 26 49.5 -1.3**
HHC SS **SS 06 30 29.3 +2.7**
HHC pmax pmax
comp=Z,25nm,1.1s
HHC pmax pmax
comp=Z,180nm,6.2s
HHC LR LR
comp=Z,510nm,14.5s
HHC LR LR
comp=Z,750nm,16.8s
HHC LR LR
comp=Z,890nm,16.4s
SLVN Son La 51.74 88 P **P 06 19 32.4 +0.5**
GYA Guiyang 51.99 80 ⇑P **P 06 19 35.0 +1.2**
GYA pP pP 06 19 38.6 +0.6
GYA S **S 06 26 57.4 +0.3**
GYA pmax pmax
comp=Z,13nm,1.3s
GYA LR LR
comp=Z,370nm,14.9s
GYA LR LR
comp=Z,660nm,19.0s
GYA LR LR
comp=Z,510nm,14.1s
CHAI Chaiyaphum 52.61 95 P P 06 19 45.2 +6.9
CHAI Chaiyaphum 52.61 95 P P 06 19 45.3 +6.9
comp=Z,2.8nm,1.4s
DAG Danmarks Havn 52.72 345 *e*P P 06 19 33.2 -5.0
DAG Danmarks Havn 52.72 345 *e*P P 06 19 33.2 -5.1
TIY Taiyuan 52.99 65 *e*P **P 06 19 44.6 +3.6**
TIY S **S 06 27 13.1 +2.6**
TIY pmax pmax
comp=Z,200nm,4.7s
TIY LR LR
comp=Z,640nm,12.9s
TIY LR LR
comp=Z,560nm,15.9s
TIY LR LR
comp=Z,470nm,14.0s
SRAK Srakaew 53.59 97 P P 06 19 51.7 +6.1
comp=Z,3µmcomp=Z,210nm,1.0s
SKNT Sakolnakorn 53.77 92 P **P 06 19 46.9 0.0**
comp=Z,30nm,1.1s
SKNT Sakolnakorn 53.77 92 P **P 06 19 46.0 -0.9**
comp=Z,30nm,1.1s
DBIC Dimbokro 54.31 253 P **P 06 19 50.8 -0.1**
comp=Z,4.9nm,1.0s,baz=35,slow=8.9,SNR=3.7
DBIC LR LR 06 45 57.8
comp=Z,2µm,18.1s,baz=63,slow=39
TRTT Trang 54.95 105 P P 06 20 02.6 +7.1
TRTT Trang 54.95 105 P P 06 20 02.6 +7.1
comp=Z,19nm,1.3s
BJI Beijing 55.17 61 P **P 06 19 55.6 -1.1**
BJI sP **sP 06 20 02.5 0.0**

BJI				PcP	PcP	06 20 58.0	+0.2
BJI				ScP	ScP	06 24 54.8	-1.4
BJI				S	S	06 27 34.1	-5.5
BJI				SS	SS	06 31 18.4	-4.9
BJI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BJI				pmax	pmax		
	comp=Z,190nm,5.1s						
BJI				LR	LR		
	comp=Z,640nm,17.6s						
BJI				LR	LR		
	comp=Z,840nm,17.8s						
BJI				LR	LR		
	comp=Z,1μm,19.7s						
TPTI		**55.63**	**111**	P	P	06 20 07.7	+7.3
UBPT	**Khong Chiam**	**55.84**	**93**	P	**P**	**06 20 03.6**	**+1.7**
	comp=Z,14nm,1.3s						
UBPT	**Khong Chiam**	**55.84**	**93**	P	**P**	**06 20 03.0**	**+1.1**
	comp=Z,14nm,1.3s						
UBPT	**Khong Chiam**	**55.84**	**93**	P	**P**	**06 20 01.5**	**-0.4**
UBPT	**Khong Chiam**	**55.84**	**93**	P	**P**	**06 20 03.6**	**+1.7**
	comp=Z,13nm,1.3s						
SKLT	**Songkhla**	**56.09**	**105**	P	P	06 20 09.9	+6.2
SKLT	**Songkhla**	**56.09**	**105**	P	P	06 20 09.9	+6.3
WHN	**Wuhan**	**56.78**	**73**	⇓P	P	06 20 16.5	+8.1
WHN				S	**S**	**06 28 02.6**	**+1.3**
WHN				LR	LR		
	comp=N,960nm,13.2s						
WHN				LR	LR		
	comp=E,1μm,15.5s						
WHN				LR	LR		
	comp=Z,1μm,13.5s						
PSI	**Prapat**	**57.29**	**110**	P	**P**	**06 20 13.2**	**+0.9**
	comp=Z,4.7nm,0.7s,baz=289,slow=7.7,SNR=6.7						
PSI	**Prapat**	**57.29**	**110**	P	**P**	**06 20 13.2**	**+0.9**
PSI				pmax	pmax		
	comp=Z,32nm,1.4s						
PSI	**Prapat**	**57.29**	**110**	P	**P**	**06 20 16.5**	**+4.2**
	comp=Z,7.9nm,1.4s,comp=Z,20nm,1.4s						
PSI				P	**P**	**06 20 16.6**	**+4.2**
	comp=Z,7.9nm,1.4s,comp=Z,20nm,1.4s						
RPSI	**Rantau Prapat**	**57.35**	**110**	P	**P**	**06 20 11.9**	**-0.7**
RPSI	**Rantau Prapat**	**57.35**	**110**	P	**P**	**06 20 13.2**	**+0.6**
QIZ	**Qiongzhong**	**57.76**	**87**	P	**P**	**06 20 14.3**	**-1.2**
QIZ				S	**S**	**06 28 13.3**	**-1.1**
QIZ				LR	LR		
	comp=Z,370nm,15.9s						
QIZ				LR	LR		
	comp=Z,240nm,13.7s						
QIZ				LR	LR		
	comp=Z,460nm,16.9s						
QIZ	**Qiongzhong**	**57.76**	**87**	P	**P**	**06 20 14.7**	**-0.8**
ZEA	**Zeya**	**59.00**	**43**	*e*P	**P**	**06 20 24.3**	**+0.6**
ZEA				*e*		06 28 36.5	
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ZEA				MLR	MLR		
	comp=E,300nm,16.0s						
ZEA				MLR	MLR		
	comp=Z,500nm,15.0s						
NJ2	**Nanjing**	**59.82**	**69**	*e*P	**P**	**06 20 28.9**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
LBTB	**Lobatse**	**60.88**	**202**	P	**P**	**06 20 37.0**	**+0.1**
LBTB				pmax	pmax		
	comp=Z,13nm,1.1s						
LBTB	**Lobatse**	**60.88**	**202**	P	**P**	**06 20 37.0**	**+0.1**
LBTB				IAmb	IAmb	06 20 40.6	
	comp=Z,13nm,1.1s						
KLR	**Kul'dur**	**63.01**	**47**	P	**P**	**06 20 49.3**	**-1.7**
	comp=Z,0.9nm,0.5s,baz=326,slow=11,SNR=3.7						
BOSA	**Boshof**	**64.35**	**201**	P	**P**	**06 21 00.1**	**+0.1**
	comp=Z,18nm,1.1s,baz=36,slow=5.1,SNR=11						
BOSA				LR	LR	06 51 15.2	
	comp=Z,564nm,18.6s,baz=22,slow=38						
BOSA	**Boshof**	**64.35**	**201**	P	**P**	**06 21 00.4**	**+0.3**
BOSA				pmax	pmax		
	comp=Z,13nm,1.0s						
BOSA	**Boshof**	**64.35**	**201**	P	**P**	**06 21 00.4**	**+0.3**
KSRS	**Korea Array**	**64.68**	**60**	P	**P**	**06 21 00.8**	**-1.4**
	comp=Z,3.8nm,0.6s,baz=286,slow=7.0,SNR=10						
KSRS				LR	LR	06 52 56.5	
	comp=Z,675nm,18.6s,baz=281,slow=40						
USRK	**Ussuriysk Ar.**	**64.96**	**52**	P	**P**	**06 21 04.0**	**+0.2**
	comp=Z,2.7nm,0.7s,baz=302,slow=5.9,SNR=6.6						
USRK				LR	LR	06 52 11.3	
	comp=Z,592nm,18.0s,baz=281,slow=39						
ASAJ	**Asahikawa**	**71.90**	**49**	LR	LR	06 56 33.1	
	comp=Z,655nm,18.3s,baz=304,slow=39						
MJAR	**Matsushiro Arr**	**72.50**	**58**	P	**P**	**06 21 50.3**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=303,slow=6.7,SNR=4.5						
MJAR				LR	LR	06 56 22.4	
	comp=Z,211nm,18.2s,baz=305,slow=38						
MJAR	**Matsushiro Arr**	**72.50**	**58**	P	**P**	**06 21 50.3**	**-0.8**
MJAR				pmax	pmax		
	comp=Z,15nm,1.5s						
MJAR	**Matsushiro Arr**	**72.50**	**58**	IAmb	IAmb	06 21 59.1	
	comp=Z,15nm,1.5s						
PETK	**Petropavlovsk-**	**75.68**	**35**	LR	LR	07 00 17.8	
	comp=Z,294nm,19.3s,baz=301,slow=40						
SCHQ	**Schefferville**	**75.77**	**327**	P	**P**	**06 22 09.5**	**-0.3**
	comp=Z,8.5nm,0.9s,baz=58,slow=7.1,SNR=3.5						
SCHQ				LR	LR	06 56 54.2	
	comp=Z,128nm,18.2s,baz=74,slow=37						
SCHQ	**Schefferville**	**75.77**	**327**	IAmb	IAmb	06 22 14.9	
	comp=Z,13nm,1.1s						
INK	**Inuvik**	**79.20**	**0**	LR	LR	07 05 57.2	
	comp=Z,138nm,18.5s,baz=4.0,slow=42						
H21K	**Melozitna Rive**	**80.72**	**8**	P	**P**	**06 22 37.3**	**+0.2**
H21K				IAmb	IAmb	06 22 41.8	
	comp=Z,12nm,1.1s						
MLY	**Manley**	**81.56**	**7**	P	**P**	**06 22 41.7**	**+0.2**
MLY				IAmb	IAmb	06 22 50.1	
	comp=Z,11nm,1.4s						
J20K	**Nowinta River**	**81.97**	**9**	P	**P**	**06 22 43.4**	**-0.3**
J20K				IAmb	IAmb	06 22 47.8	
	comp=Z,14nm,1.2s						
ILAR	**Eielson Array**	**82.18**	**6**	P	**P**	**06 22 44.1**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=337,slow=3.8,SNR=8.1						
ILAR				LR	LR	07 04 43.7	
	comp=Z,92nm,18.2s,baz=334,slow=40						
K20K	**Telida**	**82.77**	**9**	P	**P**	**06 22 48.1**	**+0.2**
K20K				IAmb	IAmb	06 22 52.3	
	comp=Z,13nm,1.2s						
SCRK	**Sand Creek**	**83.19**	**5**	P	**P**	**06 22 50.3**	**+0.1**
SCRK				IAmb	IAmb	06 22 54.9	
	comp=Z,9.9nm,1.0s						
DOT	**Dot Lake**	**83.51**	**5**	P	**P**	**06 22 51.9**	**+0.2**
DOT				IAmb	IAmb	06 23 08.9	
	comp=Z,9.6nm,1.2s						
YKA	**Yellowknife Ar**	**83.84**	**351**	P	**P**	**06 22 52.8**	**-0.6**
	comp=Z,2.3nm,1.0s,baz=25,slow=5.8,SNR=4.9						
BCAR	**Beaver Creek A**	**84.23**	**4**	P	**P**	**06 22 54.9**	**-0.5**
SML	**Sawmill**	**84.95**	**7**	P	**P**	**06 22 58.9**	**-0.3**
DIV	**Divide**	**85.87**	**6**	P	**P**	**06 23 03.7**	**0.0**
HYT	**Haines Junctio**	**86.66**	**2**	P	**P**	**06 23 08.2**	**+0.6**
HYT				IAmb	IAmb	06 23 12.8	
	comp=Z,13nm,1.3s						
NBPV	**Pedro Velho**	**86.67**	**260**	*e*P	**P**	**06 23 11.2**	**+2.9**
RCBR	**Riachuelo**	**86.85**	**261**	*e*P	**P**	**06 23 11.2**	**+1.9**
NBRF	**Rio Formoso -**	**87.77**	**258**	*e*P	**P**	**06 23 16.1**	**+2.5**
PSA00	**Pilbara Seismi**	**88.34**	**117**	P	**P**	**06 23 17.0**	**+0.9**
DLBC	**Dease Lake**	**89.07**	**358**	LR	LR	07 09 39.3	
	comp=Z,171nm,19.9s,baz=346,slow=40						
ULM	**Lac du Bonnet**	**90.89**	**337**	LR	LR	07 07 16.2	
	comp=Z,158nm,18.9s,baz=40,slow=38						
BBB	**Bella Bella**	**95.25**	**357**	LR	LR	07 14 03.6	
	comp=Z,77nm,18.8s,baz=1.5,slow=40						
WRA	**Warramunga Arr**	**98.71**	**108**	P	Pdif	06 24 04.2	+0.2
	comp=Z,0.9nm,1.0s,baz=311,slow=4.7,SNR=3.5						
WRA				LR	LR	07 14 43.6	
	comp=Z,54nm,18.1s,baz=185,slow=39						
ASAR	**Alice Springs**	**100.30**	**111**	P	**Pdif**	**06 24 12.3**	**+1.3**
	comp=Z,0.5nm,0.9s,baz=285,slow=4.4,SNR=4.4						
PMSA	**Palmer Station**	**127.91**	**211**	*e*P	**PKPdf**	**06 29 28.7**	**-0.3**

*PGC **25** 06:22:25.0±0.1,50°.71N×130°.43W,h10km,MLSn3.1/28, Mw3.8/28,212km west of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **25** 06:22:27.4±0.3,51°.97N×129°.08W,h0km,mb3.1/1, mb1 3.7/4,mb1mx3.4/32,mbtmp3.3/4,ML3.8/2,MS3.1/2, Ms1 3.2/2,ms1mx2.8/8,Error ellipse: s-maj=16.7km s-min=3.3km az=35.0*

ISC 25 06:22:24.6±1.5,51.14N±0.06×129.94W±0.05,h4km±11km, n59,σ1§85/65,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.25**	**113**	P	**Pg**	**06 22 49.3**	**+0.8**
HOLB				S	**Sn**	**06 23 06.7**	**+0.5**
HG4B	**Hotspring**	**1.40**	**326**	Pn	**Pg**	**06 22 51.7**	**+0.3**
HG4B				Sn	**Sg**	**06 23 11.9**	**+2.4**
BBB	**Bella Bella**	**1.55**	**47**	Pn	Pg	06 22 58.1	+3.9
PHC	**Port Hardy**	**1.64**	**104**	Pn	**Pg**	**06 22 55.7**	**-0.4**
PHC				Sn	**Sg**	**06 23 17.6**	**+0.3**
BPBC	**Brooks Peninsu**	**1.69**	**125**	Pn	**Pn**	**06 22 53.2**	**-1.8**
BPBC				Sn	**Sn**	**06 23 14.2**	**-2.9**
PACB	**Port Alice, BC**	**1.70**	**113**	Pn	**Pn**	**06 22 55.1**	**0.0**
PACB				Sn	**Sb**	**06 23 16.9**	**-1.4**
BNB	**Barry Inlet**	**1.83**	**323**	Pn	**Pb**	**06 22 57.2**	**-1.5**
MAYB	**Maynard**	**1.90**	**112**	Pn	**Pn**	**06 22 58.5**	**+0.4**
TLCB	**Telegraph Cove**	**2.05**	**105**	Pn	**Pb**	**06 23 01.6**	**-0.9**
BUTB	**Butedale**	**2.13**	**25**	Pn	**Pg**	**06 23 06.9**	**+1.4**
EDB	**Eliza Dome**	**2.20**	**124**	Pn	**Pn**	**06 23 00.0**	**-1.9**
BNKB	**Banks Island**	**2.20**	**1**	Pn	**Pg**	**06 23 06.0**	**-0.8**
WOSB	**Woss**	**2.35**	**113**	Pn	**Pn**	**06 23 04.7**	**+0.5**
MOBC	**Moresby Island**	**2.37**	**329**	Pn	**Pb**	**06 23 05.9**	**-2.0**
BNAB	**Bonilla**	**2.40**	**350**	Pn	**Pb**	**06 23 07.5**	**-0.8**
NCRB	**Newcastle Ridg**	**2.57**	**105**	Pn	**Pn**	**06 23 08.4**	**+1.2**
DIB	**Dawson Inlet,**	**2.59**	**324**	Pn	**Pn**	**06 23 07.8**	**+0.4**
H02S1	**DAWSON INLET T**	**2.59**	**324**	Pn	**Pn**	**06 23 08.0**	**+0.6**
	SNR=178						
H02S1				Sn	**Sn**	**06 23 40.2**	**+0.9**
VIB	**Van Inlet**	**2.66**	**324**	Pn	**Pn**	**06 23 08.7**	**+0.4**
VIB				Sn	**Sb**	**06 23 42.3**	**-3.6**
H02N1	**VAN INLET T-PH**	**2.66**	**324**	Pn	**Pn**	**06 23 09.2**	**+0.9**
	SNR=136						
H02N1				Sn	**Sn**	**06 23 41.9**	**+0.9**
GRNB	**Grenville Isla**	**2.72**	**360**	Pn	**Pb**	**06 23 13.4**	**-0.4**
SPLB	**Strathcona Par**	**3.00**	**113**	Pn	**Pn**	**06 23 13.8**	**+0.8**
KITB	**Kitimat**	**3.05**	**15**	Pn	**Pb**	**06 23 19.0**	**-0.5**
CBB	**Campbell River**	**3.12**	**109**	Pn	**Pn**	**06 23 15.6**	**+1.1**
RUBB	**Prince Rupert**	**3.20**	**357**	Pn	**Pb**	**06 23 20.2**	**-1.8**
MWAB	**Mount Washingt**	**3.27**	**113**	Pn	**Pn**	**06 23 17.5**	**+0.7**
BTB	**Buttle Lake**	**3.29**	**119**	Pn	**Pn**	**06 23 16.6**	**-0.5**
OZB	**Mount Ozzard**	**3.60**	**126**	Pn	**Pn**	**06 23 20.8**	**-0.4**
TXB	**Texada**	**3.80**	**110**	Pn	**Pn**	**06 23 25.0**	**+1.0**
MGB	**Mount Grey**	**4.00**	**120**	Pn	**Pn**	**06 23 26.2**	**-0.6**
UBRB	**Upper Baezaeko**	**4.02**	**62**	Pn	**Pb**	**06 23 33.8**	**-2.3**
SHB	**Sechelt**	**4.17**	**109**	Pn	**Pn**	**06 23 30.8**	**+1.6**
PFB	**Port Renfrew**	**4.39**	**124**	Pn	**Pn**	**06 23 32.2**	**+0.2**
OCP	**Olym-Cheeka Pk**	**4.47**	**127**	Pn	**Pn**	**06 23 33.5**	**+0.4**
WPB	**Watts Point**	**4.55**	**106**	Pn	**Pn**	**06 23 36.2**	**+2.0**
BIB	**Bowen Island**	**4.59**	**110**	Pn	**Pn**	**06 23 36.5**	**+1.8**
FSB	**Fort Saint Jam**	**4.77**	**43**	Pn	**Pb**	**06 23 44.3**	**-4.5**
B010	**North Saanich**	**4.88**	**118**	Pn	**Pn**	**06 23 40.3**	**+1.7**
PGC	**Sidney**	**4.88**	**118**	Pn	**Pn**	**06 23 40.0**	**+1.3**
B009	**North Saanich**	**4.88**	**118**	Pn	**Pn**	**06 23 40.3**	**+1.6**
OBC	**Olympics--Boni**	**4.91**	**127**	Pn	**Pn**	**06 23 39.4**	**+0.1**
SNB	**Saturna Island**	**4.97**	**116**	Pn	**Pn**	**06 23 42.1**	**+2.2**
MCW	**Mount Constitu**	**5.21**	**115**	Pn	**Pn**	**06 23 45.6**	**+2.3**
VDB	**Vedder Mountai**	**5.47**	**110**	Pn	**Pn**	**06 23 50.0**	**+3.1**
HDW	**Hoodsport**	**5.69**	**125**	Pn	**Pn**	**06 23 50.9**	**+0.9**
MBW	**Mount Baker**	**5.70**	**111**	Pn	**Pn**	**06 23 53.4**	**+3.2**
CMW	**Cultus Mountai**	**5.75**	**115**	Pn	**Pn**	**06 23 53.4**	**+2.6**
JCW	**Jim Creek**	**5.97**	**116**	Pn	**Pn**	**06 23 56.2**	**+2.4**
B06A	**Marblemount**	**6.06**	**112**	Pn	**Pn**	**06 23 57.5**	**+2.4**
RPW	**Rockport**	**6.08**	**113**	Pn	**Pn**	**06 23 57.8**	**+2.5**
BMBC	**Bull Mountain**	**6.76**	**40**	Pn	Pb	06 24 12.6	-10
FMW	**Mount Fremont**	**6.87**	**125**	Pn	**Pn**	**06 24 08.1**	**+1.8**
LON	**Longmire**	**6.92**	**126**	Pn	**Pn**	**06 24 08.6**	**+1.7**
LTY	**Liberty**	**7.20**	**119**	Pn	**Pn**	**06 24 10.1**	**+2.3**
B08A	**Colville Reser**	**7.41**	**108**	Pn	**Pn**	**06 24 16.5**	**+2.9**
NVAR	**Mina Array Bea**	**15.13**	**143**	Pn	**P**	**06 26 08.5**	**+3.9**
	0.7nm,0.3s,baz=340,slow=13,SNR=7.0						
PDAR	**Pinedale Array**	**16.20**	**113**	Pn	**P**	**06 26 14.4**	**-2.0**
	0.0nm,0.3s,baz=318,slow=11,SNR=9.4						
ILAR	**Eielson Array**	**16.28**	**334**	Pn	**Pn**	**06 26 11.6**	**-2.3**
	baz=153,slow=8.9,SNR=2.0						
ILAR				LR	LR	06 32 14.5	
	comp=Z,74nm,18.0s,baz=110,slow=37						
TXAR	**Lajitas Array**	**29.33**	**128**	P	**P**	**06 28 30.9**	**+2.5**
	0.2nm,0.8s,baz=334,slow=6.0,SNR=2.3						
TXAR				LR	LR	06 41 06.0	
	comp=Z,30nm,18.1s,baz=0.0,slow=38						

*INET **25** 06:43:47.3,12°.49N×86°.58W,h19km,MW3.6*
SNET 25 06:43:52.9±1.8,12°.68N×86°.47W,h10km±23km,ML2.6, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**1.46**	**294**	*e*P	Pn	06 44 18.1	-1.4
CNCH				*e*S	Sg	06 44 39.9	0.0
TGUH	**Tegucigalpa,Un**	**1.58**	**330**	*e*P	Pn	06 44 20.5	-0.7
COEB	**Comit de Eme**	**2.17**	**292**	*e*P	Pn	06 44 29.4	+0.2
COEB				*e*S	Sn	06 44 56.2	-0.1
COEB				IAML		06 44 59.5	
	comp=Z,41nm,0.4s						
COEG	**Centro de Oper**	**2.53**	**292**	*e*P	Pn	06 44 34.7	+0.5
COEG				*e*S	Sn	06 45 06.8	+1.7

*IDC **25** 06:54:10.1±0.8,52°.08N×169°.64W,h0km,mb4.0/19, mb1 4.1/21,mb1mx3.9/64,mbtmp4.0/21,ML3.9/2,MS3.8/2, Ms1 3.8/2,ms1mx2.8/54,Error ellipse: s-maj=22.7km s-min=15.5km az=168.0*
*NEIC **25** 06:54:13.0±1.8,51°.9N±0°.1×169°.5W±0°.1,h26km±10km, Error ellipse: s-maj=21.6km s-min=7.6km az=154.0*
*AEIC **25** 06:54:14±2.0,52°.0N±0°.1×169°.5W±0°.1,h26km±7km,ML3.6, mb3.8/18(NEIC),Error ellipse: s-maj=18.4km s-min=6.7km az=148.0*
ISC 25 06:54:14.4±0.8,52°.1N±0°.1×169°.49W±0°.07,h30km,n76, σ1§12/72,mb4.0/19,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.98**	**23**		**Pb**	**06 54 32.7**	**-0.1**
OKSP	**Okmok Steeple**	**1.39**	**31**		**Pb**	**06 54 38.2**	**-1.6**
OKSO	**Okmok South**	**1.52**	**32**		**Pb**	**06 54 40.3**	**-1.6**
OKCE	**Okmok Cone E**	**1.58**	**30**		**Pb**	**06 54 41.5**	**-1.5**
OKTU	**Okmok Mt. Tuli**	**1.58**	**33**		**Pb**	**06 54 41.2**	**-1.8**
OKNC	**Okmok New Cone**	**1.62**	**30**		**Pb**	**06 54 42.5**	**-1.1**
OKFG	**Magazine Ridge**	**1.65**	**35**		**Pb**	**06 54 42.1**	**-2.0**
MAPS	**Pakushin South**	**2.33**	**41**		**Pn**	**06 54 51.5**	**+0.9**
MSW	**Makushin Switc**	**2.47**	**41**		**Pn**	**06 54 53.8**	**+1.3**
MNAT	**Makushin Natee**	**2.48**	**42**		**Pn**	**06 54 54.0**	**+1.2**
UNV	**Unalaska Valle**	**2.53**	**44**		**Pn**	**06 54 54.3**	**+0.9**
MTBL	**Makushin Table**	**2.55**	**41**		**Pb**	**06 54 55.5**	**-4.0**
KOFP	**Korovin Flat P**	**2.84**	**276**		**Pn**	**06 54 58.8**	**+1.0**
ATKA	**Atka Island**	**2.90**	**274**		**Pn**	**06 54 58.8**	**+0.3**
AKUT	**Akutan**	**3.05**	**46**	Pn	**Pn**	**06 55 01.9**	**+1.5**
GSTR	**Great Sitkin T**	**4.05**	**273**		**Pn**	**06 55 13.8**	**-0.5**
ADK	**Adak**	**4.45**	**270**		**Pn**	**06 55 19.9**	**+0.2**
KIWB	**Kanaga Island**	**4.74**	**270**		**Pn**	**06 55 22.4**	**-1.3**
SPIA	**Saint Paul Isl**	**5.13**	**355**	Pn	**Pn**	**06 55 32.0**	**+2.9**
SDPT	**Sand Point**	**6.28**	**55**	Pn	**Pn**	**06 55 46.4**	**+1.6**
CHGN	**Chignik**	**7.75**	**53**	Pn	**Pn**	**06 56 06.2**	**+1.2**
OHAK	**Old Harbor**	**10.70**	**55**	Pn	**Pn**	**06 56 44.5**	**-0.9**
O18K	**Koktuh Hills**	**11.15**	**40**	Pn	**Pn**	**06 56 51.1**	**-0.5**
KDAK	**Kodiak Island**	**11.27**	**53**	Pn	**Pn**	**06 56 52.3**	**-0.8**
	0.9nm,0.3s,baz=242,slow=4.3,SNR=25						
CNPM	**China Poot**	**12.66**	**47**	Pn	**Pn**	**06 57 12.3**	**0.0**
BRLK	**Bradley Lake**	**12.93**	**46**	Pn	**Pn**	**06 57 15.8**	**-0.1**
SEW	**Seward**	**13.73**	**46**	Pn	**Pn**	**06 57 25.7**	**-1.0**
O22K	**Cooper Landing**	**13.79**	**45**		**Pn**	**06 57 26.9**	**-0.6**
SUA	**Susitna One**	**13.88**	**40**	Pn	**Pn**	**06 57 28.6**	**-0.3**
PWL	**Port Wells**	**14.57**	**45**	Pn	**Pn**	**06 57 36.4**	**-1.8**
KNK	**Knik Glacier**	**14.79**	**43**	Pn	**Pn**	**06 57 40.6**	**-0.5**
SML	**Sawmill**	**15.04**	**41**	Pn	**Pn**	**06 57 43.8**	**-0.7**
SML				IAmb	IAmb	06 58 04.4	
	comp=Z,9.4nm,1.1s						
BPAW	**Bear Paw Mtn.**	**15.44**	**32**	P	**P**	**06 57 53.9**	**-0.2**
BPAW				IAmb	IAmb	06 57 55.3	
	comp=Z,12nm,1.2s						
DHY	**Denali Highway**	**16.09**	**38**		**Pn**	**06 57 58.0**	**-0.2**
DHY				IAmb	IAmb	06 58 14.1	
	comp=Z,3.6nm,1.0s						
HMT	**Hamilton**	**16.20**	**49**	Pn	**Pn**	**06 57 59.5**	**-0.1**
BMRM	**Bremner River**	**16.27**	**47**	Pn	**Pn**	**06 57 59.7**	**-0.8**
BMRM				IAmb	IAmb	06 58 14.6	
	comp=Z,5.9nm,0.9s						
N25K	**Chitina, Valde**	**16.52**	**45**		**Pn**	**06 58 02.9**	**-0.8**
N25K				IAmb	IAmb	06 58 04.2	
	comp=Z,3.5nm,0.7s						
I23K	**Minto, Yukon-K**	**16.67**	**30**	P	**P**	**06 58 07.0**	**-0.6**
I23K				IAmb	IAmb	06 58 14.6	
	comp=Z,9.0nm,1.4s						
PAX	**Paxson**	**16.78**	**40**		**Pn**	**06 58 06.9**	**0.0**
GLB	**Gilahina Butte**	**16.81**	**46**	Pn	**Pn**	**06 58 05.8**	**-1.5**
CCB	**Clear Creek Bu**	**16.85**	**33**		**Pn**	**06 58 07.6**	**-0.1**
CCB				IAmb	IAmb	06 58 28.4	
	comp=Z,5.6nm,1.4s						
ILAR	**Eielson Array**	**17.24**	**34**	P	**Pn**	**06 58 11.8**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=212,slow=10,SNR=8.7						
BARN	**Barnard Glacie**	**17.65**	**49**	P	**P**	**06 58 18.3**	**-0.4**
BARN				IAmb	IAmb	06 58 29.8	
	comp=Z,6.2nm,0.5s						
DOT	**Dot Lake**	**17.66**	**39**	P	**P**	**06 58 17.9**	**-0.7**
SCRK	**Sand Creek**	**17.86**	**38**	P	**P**	**06 58 20.2**	**-0.7**
LOGN	**Logan Glacier**	**17.89**	**50**	P	**P**	**06 58 21.6**	**+0.3**
LOGN				IAmb	IAmb	06 58 40.5	
	comp=Z,9.7nm,1.1s						
M27K	**Edge Creek, AK**	**18.00**	**44**	P	**P**	**06 58 22.3**	**-0.2**
M27K				IAmb	IAmb	06 58 47.8	
	comp=Z,8.9nm,1.2s						
L27K	**Beaver Creek,**	**18.30**	**42**	P	**Pn**	**06 58 25.3**	**-0.4**
BCAR	**Beaver Creek A**	**18.32**	**42**	P	**Pn**	**06 58 25.3**	**-0.7**
PEA0B	**Petropavlovsk-**	**19.87**	**286**	P	**P**	**06 58 43.2**	**+0.4**
PETK	**Petropavlovsk-**	**19.87**	**286**	P	**P**	**06 58 42.6**	**-0.2**
	comp=Z,3.0nm,0.3s,baz=89,slow=13,SNR=44						
INK	**Inuvik**	**23.64**	**33**	P	**P**	**06 59 21.6**	**-0.9**
	comp=Z,2.2nm,0.5s,baz=247,slow=6.5,SNR=19						
YKA	**Yellowknife Ar**	**30.49**	**48**	P	**P**	**07 00 26.0**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=299,slow=6.2,SNR=5.7						
KLR	**Kul'dur**	**36.49**	**290**	P	**P**	**07 01 15.0**	**-1.5**
	comp=Z,1.3nm,0.4s,baz=44,slow=5.4,SNR=8.8						
H11S1	**WAKE ISLAND Hy**	**38.36**	**218**	T	T	07 42 46.9	
	baz=23,slow=76,SNR=17						
H11S2	**WAKE ISLAND Hy**	**38.38**	**218**	T	T	07 42 49.5	
	baz=23,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**38.38**	**218**	T	T	07 42 47.7	
	baz=23,slow=76,SNR=14						
PDAR	**Pinedale Array**	**40.53**	**79**	P	**P**	**07 01 52.8**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=316,slow=4.1,SNR=4.1						
KSRS	**Korea Array**	**45.37**	**277**	P	**P**	**07 02 30.9**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=49,slow=8.5,SNR=6.0						
TXAR	**Lajitas Array**	**52.83**	**89**	P	**P**	**07 03 28.1**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=301,slow=5.6,SNR=9.3						
ZALV	**Zalesovo Beam**	**57.59**	**318**	P	**P**	**07 04 02.1**	**+1.2**
	comp=Z,0.7nm,0.4s,baz=18,slow=5.2,SNR=2.5						
ARCES	**ARCESS Array B**	**58.21**	**354**	P	**P**	**07 04 05.4**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=24,slow=6.9,SNR=15						
ARCES				LR	LR	07 32 04.7	
	comp=Z,26nm,18.6s,baz=250,slow=39						
KURBB	**Kurchatov Arra**	**62.65**	**318**	P	**P**	**07 04 36.0**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=44,slow=7.1,SNR=8.8						
BVAR	**Borovoye Array**	**63.90**	**324**	P	**P**	**07 04 44.6**	**+0.7**
	comp=Z,3.1nm,0.5s,baz=52,slow=5.7,SNR=17						
MKAR	**Makanchi Array**	**63.95**	**313**	P	**P**	**07 04 43.8**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=44,slow=6.9,SNR=13						
FINES	**FINESS Array B**	**66.15**	**352**	P	**P**	**07 04 58.7**	**+0.4**
	comp=Z,2.0nm,0.5s,baz=8.9,slow=7.6,SNR=11						
NB2	**NORSAR Subarra**	**67.24**	**360**	P	**P**	**07 05 05.7**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=0.3,slow=6.5						
NOA	**NORSAR Array B**	**67.24**	**360**	P	**P**	**07 05 05.6**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=359,slow=6.2,SNR=3.9						
HFS	**Hagfors**	**68.12**	**358**	P	**P**	**07 05 11.1**	**+0.3**
	comp=

σ0§39/10, 5C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.76**	**36**	Pg	**Pb**	**07 06 12.1**	**-0.1**
	2.2nm,0.3s,baz=167,slow=18,SNR=72						
KURBB				Lg	Lg	07 06 21.7	
	5.0nm,0.3s,baz=171,slow=32,SNR=36						
KURBB	**Kurchatov Arra**	**0.76**	**36**	⇓P	**Pb**	**07 06 11.7**	**-0.5**
	23nm,0.5s						
KURBB				⇓S	**Sg**	**07 06 20.5**	**+0.1**
	94nm,0.5s						
OTUK	**Ortayu**	**4.02**	**246**	⇑Pg	**Pg**	**07 07 12.9**	**-0.2**
	2.4nm,0.6s						
OTUK				⇑Lg	Lg	07 08 18.0	
	5.3nm,0.6s						
MAKZ	**Makanchi**	**4.23**	**138**	⇑Pg	**Pb**	**07 07 11.1**	**-0.2**
	2.0nm,0.6s						
MAKZ				⇑Lg	Lg	07 08 06.8	
	7.1nm,0.5s						
MK31	**Makanchi Array**	**4.38**	**136**	⇑Pn	**Pn**	**07 07 04.2**	**+0.5**
	1.1nm,0.6s,baz=322,slow=9.8,SNR=22						
MK31				⇓Pg	**Pb**	**07 07 13.3**	**-0.5**
	1.1nm,0.4s,baz=329,slow=14,SNR=15						
MK31				⇓Lg	Lg	07 08 09.0	
	5.7nm,0.5s,baz=324,slow=28						
MKAR	**Makanchi Array**	**4.38**	**136**	Pn	**Pn**	**07 07 04.2**	**+0.4**
	0.5nm,0.3s,baz=319,slow=9.7,SNR=31						
MKAR				Lg	Lg	07 08 06.4	
	3.4nm,0.3s,baz=330,slow=26,SNR=8.6						
BVAR	**Borovoye Array**	**5.54**	**306**	Sn	**Sb**	**07 08 40.9**	**+0.3**
	1.7nm,0.3s,baz=120,slow=26,SNR=13						
BVAR				Lg	Lg	07 09 10.3	
	1.0nm,0.3s,baz=128,slow=27,SNR=5.1						
I46RU	**ZALESOVO INFRA**	**5.84**	**45**	*i*		07 38 00.0	
	baz=226,slow=325,SNR=2.3						
ZALV	**Zalesovo Beam**	**5.84**	**45**	Pn	**Pn**	**07 07 24.1**	**+0.2**
	0.9nm,0.3s,baz=230,slow=11,SNR=9.7						
ZALV				Lg	Lg	07 08 57.7	
	0.5nm,0.3s,baz=216,slow=27,SNR=3.7						

PGC 25 07:25:04.8±0.9, 50°.67N×130°.49W, h10km, MLSn2.8/22, Mw3.5/22, 216km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.50**	**90**	Pn	Pn	07 25 29.8	-1.9
HOLB				Sn	Sn	07 25 47.4	-4.0
HG4B	**Hotspring**	**1.69**	**345**	Pn	Pn	07 25 32.0	-2.4
BPBC	**Brooks Peninsu**	**1.81**	**105**	Pn	Pn	07 25 33.8	-2.3
PACB	**Port Alice, BC**	**1.92**	**96**	Pn	Pn	07 25 35.6	-2.0
PACB				Sn	Sn	07 25 58.0	-3.8
PHC	**Port Hardy**	**1.94**	**88**	Pn	Pn	07 25 36.3	-1.5
PHC				Sn	Sn	07 25 58.1	-4.1
BNB	**Barry Inlet**	**2.07**	**338**	Pn	Pn	07 25 37.8	-1.8
BBB	**Bella Bella**	**2.12**	**43**	Pn	Pn	07 25 38.4	-1.9
BBB				Sn	Sn	07 26 02.2	-4.6
MAYB	**Maynard**	**2.13**	**96**	Pn	Pn	07 25 39.0	-1.6
EDB	**Eliza Dome**	**2.30**	**109**	Pn	Pn	07 25 40.8	-2.0
EDB				Sn	Sn	07 26 06.3	-4.8
TLCB	**Telegraph Cove**	**2.33**	**92**	Pn	Pn	07 25 41.9	-1.2
TLCB				Sn	Sn	07 26 08.7	-3.1
WOSB	**Woss**	**2.56**	**100**	Pn	Pn	07 25 45.0	-1.3
MOBC	**Moresby Island**	**2.65**	**340**	Pn	Pn	07 25 45.6	-1.9
MOBC				Sn	Sn	07 26 16.7	-3.0
BNKB	**Banks Island**	**2.69**	**7**	Pn	Pn	07 25 46.3	-1.9
BNKB				Sn	Sn	07 26 16.4	-4.4
BUTB	**Butedale**	**2.71**	**27**	Pn	Pn	07 25 47.2	-1.3
BUTB				Sn	Sn	07 26 18.6	-2.7
DIB	**Dawson Inlet,**	**2.82**	**335**	Pn	Pn	07 25 49.2	-0.8
BNAB	**Bonilla**	**2.83**	**358**	Pn	Pn	07 25 48.4	-1.7
BNAB				Sn	Sn	07 26 20.4	-3.8
NCRB	**Newcastle Ridg**	**2.84**	**94**	Pn	Pn	07 25 48.8	-1.5
VIB	**Van Inlet**	**2.88**	**335**	Pn	Pn	07 25 49.3	-1.5
HWKB	**Hawksbury Isla**	**3.05**	**15**	Pn	Pn	07 25 51.3	-1.8
HWKB				Sn	Sn	07 26 26.0	-3.7
SPLB	**Strathcona Par**	**3.19**	**102**	Pn	Pn	07 25 54.0	-1.0
GRNB	**Grenville Isla**	**3.20**	**6**	Pn	Pn	07 25 53.6	-1.6
GRNB				Sn	Sn	07 26 31.0	-2.4
CBB	**Campbell River**	**3.34**	**99**	Pn	Pn	07 25 56.4	-0.7
CBB				Sn	Sn	07 26 34.0	-2.8
BTB	**Buttle Lake**	**3.42**	**109**	Pn	Pn	07 25 56.8	-1.4
KITB	**Kitimat**	**3.60**	**18**	Pn	Pn	07 25 59.4	-1.2
KITB				Sn	Sn	07 26 40.1	-3.0
RUBB	**Prince Rupert**	**3.67**	**2**	Pn	Pn	07 26 00.6	-0.9
TXB	**Texada**	**4.01**	**102**	Pn	Pn	07 26 05.5	-0.8
MGB	**Mount Grey**	**4.10**	**112**	Pn	Pn	07 26 06.2	-1.5
MGB				Sn	Sn	07 26 51.9	-3.8
SHB	**Sechelt**	**4.38**	**102**	Pn	Pn	07 26 10.9	-0.6
SHB				Sn	Sn	07 26 59.2	-3.5
PFB	**Port Renfrew**	**4.45**	**116**	Pn	Pn	07 26 11.4	-1.0
OCP	**Olym-Cheeka Pk**	**4.50**	**120**	Pn	Pn	07 26 13.3	+0.3
UBRB	**Upper Baezaeko**	**4.56**	**58**	Pn	Pn	07 26 14.1	+0.2
UBRB				Sn	Sn	07 27 04.5	-2.4
WPB	**Watts Point**	**4.79**	**99**	Pn	Pn	07 26 16.6	-0.3
PGC	**Sidney**	**5.00**	**111**	Pn	Pn	07 26 19.7	-0.1
PGC				Sn	Sn	07 27 14.7	-2.8
HNBB	**Haney**	**5.29**	**102**	Pn	Pn	07 26 23.9	+0.1
HNBB				Sn	Sn	07 27 23.1	-1.7
FSB	**Fort Saint Jam**	**5.35**	**42**	Pn	Pn	07 26 24.6	-0.2
VDB	**Vedder Mountai**	**5.67**	**104**	Pn	Pn	07 26 29.8	+0.8
MBW	**Mount Baker**	**5.88**	**105**	Pn	Pn	07 26 33.1	+1.0
JCW	**Jim Creek**	**6.11**	**111**	Pn	Pn	07 26 36.0	+0.9
RPW	**Rockport**	**6.25**	**107**	Pn	Pn	07 26 38.0	+1.0

*NNC **25** 07:29:44.3±1.5, 54°.23N×86°.55E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=14.3km s-min=6.8km az=4.0, Suspected Mining explosion.*
*IDC **25** 07:29:46.4±2.5, 54°.14N×86°.49E, h0km, mb1 3.4/2, mb1mx3.1/45, mbtmp3.4/2, ML3.2/2, Error ellipse: s-maj=20.9km s-min=12.4km az=59.0*
ISC 25 07:29:45.4±3.9, 54°.2N±0°.2×86°.6E±0°.1, h0km, n8, σ1§12/12, 3C-8D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**257**	*i*		07 36 00.0	
	baz=80,slow=333,SNR=3.3						
ZAA0	**Zalesovo Array**	**1.05**	**257**	⇓P	**Pg**	**07 30 04.2**	**-1.3**
	0.3nm,0.2s						
ZAA0				⇓S	**Sg**	**07 30 19.3**	**+0.2**
	0.9nm,0.5s						
ZALV	**Zalesovo Beam**	**1.05**	**257**	Pg	**Pg**	**07 30 04.1**	**-1.5**
	3.0nm,0.3s,baz=80,slow=17,SNR=18						
ZALV				Lg	Lg	07 30 19.2	
	1.2nm,0.3s,baz=79,slow=30,SNR=5.1						
ZALV				Rg	Rg	07 30 24.9	
	9.6nm,0.6s,baz=77,slow=26,SNR=8.1						
KURBB	**Kurchatov Arra**	**6.07**	**237**	Pn	**Pn**	**07 31 17.5**	**+1.1**
	0.3nm,0.3s,baz=55,slow=14,SNR=14						
KURBB				Lg	Lg	07 32 59.5	
	0.0nm,0.3s,baz=58,slow=35,SNR=8.2						
KURBB	**Kurchatov Arra**	**6.07**	**237**	⇓Pn	**Pn**	**07 31 17.4**	**+1.0**
	2.7nm,0.5s						
KURBB				⇓Sn	**Sn**	**07 32 28.1**	**+1.5**
	2.7nm,0.7s						
KURBB				⇓Lg	Lg	07 32 56.9	
	7.3nm,0.8s						
MK31	**Makanchi Array**	**7.89**	**202**	⇓Pn	**Pn**	**07 31 41.7**	**+0.3**
	0.4nm,0.5s,baz=25,slow=13,SNR=26						
MK31				⇓Sn	**Sn**	**07 33 10.9**	**-0.5**
	0.3nm,0.5s						
MK31				⇓Lg	Lg	07 33 55.1	
	2.1nm,0.9s,baz=20,slow=32,SNR=5.8						
MKAR	**Makanchi Array**	**7.89**	**202**	Pn	**Pn**	**07 31 42.3**	**+0.9**
	0.6nm,0.3s,baz=24,slow=14,SNR=15						
MKAR				Sn	**Sn**	**07 33 10.6**	**-0.8**
	0.1nm,0.3s,baz=22,slow=33,SNR=5.2						
MKAR				Lg	Lg	07 33 57.1	
	0.1nm,0.3s,baz=22,slow=33,SNR=6.6						
MAKZ	**Makanchi**	**7.95**	**203**	⇑Pn	**Pn**	**07 31 43.1**	**+0.9**
	0.6nm,0.7s						
MAKZ				⇑Sn	**Sn**	**07 33 13.1**	**+0.3**
	0.7nm,0.7s						
MAKZ				⇑Lg	Lg	07 33 54.5	
	1.4nm,0.8s						

MEX 25 07:40:23.0±0.4, 17°.59N×94°.85W, h134km±4km, MD4.0, Chiapas

IDC 25 07:51:27.6±6.5, 0°.18S×132°.56E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.3/23, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=416.9km s-min=16.3km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.72**	**175**	P	P	07 55 58.0	-0.9
	0.1nm,0.3s,baz=351,slow=12,SNR=6.6						
ASAR	**Alice Springs**	**23.38**	**177**	P	P	07 56 38.4	+0.2
	0.8nm,0.6s,baz=353,slow=10,SNR=12						
MKAR	**Makanchi Array**	**64.09**	**324**	P	P	08 02 03.5	-0.1
	0.2nm,0.5s,baz=109,slow=7.8,SNR=1.9						

MEX 25 08:07:38.8±1.1, 15°.30N×93°.02W, h81km±10km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.45**	**334**	*e*P	Pn	08 07 50.4	-1.9
PCIG				*i* S	Sn	08 08 00.6	-1.6
TGIG		**1.47**	**356**	*i* P	Pn	08 08 03.1	-0.8
TGIG				*i* S	Sn	08 08 20.7	-2.1

IDC 25 08:27:19.0±1.2, 0°.56S×131°.25E, h0km, mb3.4/3, mb1 3.4/4, mb1mx3.3/48, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=13.6km s-min=7.8km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**0.31**	**176**	Pg	Pg	08 27 25.2	+0.3
	352nm,0.3s,baz=357,slow=15,SNR=187						
SIJI				Lg	Lg	08 27 28.9	
	376nm,0.3s,baz=152,slow=23,SNR=18						
WRA	**Warramunga Arr**	**19.50**	**171**	P	P	08 31 46.1	-1.8
	0.1nm,0.3s,baz=354,slow=12,SNR=4.8						
ASAR	**Alice Springs**	**23.11**	**174**	P	P	08 32 28.4	+1.5
	0.6nm,0.6s,baz=354,slow=12,SNR=9.0						
MKAR	**Makanchi Array**	**63.63**	**325**	P	P	08 37 51.7	-0.3
	0.2nm,0.5s,baz=120,slow=5.2,SNR=2.5						
KURBB	**Kurchatov Arra**	**67.77**	**327**	P	P	08 38 18.2	-0.3
	0.4nm,0.6s,baz=123,slow=5.5,SNR=4.9						

*IDC **25** 08:36:24.1±1.7, 30°.63S×71°.63W, h0km, mb4.2/4, mb1 4.0/8, mb1mx3.7/34, mbtmp4.0/8, ML3.6/4, MS3.2/5, Ms1 3.2/5, ms1mx2.9/24, Error ellipse: s-maj=66.6km s-min=21.1km az=101.0*
*GUC **25** 08:36:25.8±0.8, 30°.63S×72°.06W, h18km±3km, ML4.0*
*NEIC **25** 08:36:25.5±1.5, 30°.56S±0°.04×72°.06W±0°.03, h15km±4km, mb4.3/4, ML3.8(GUC), Error ellipse: s-maj=5.8km s-min=2.8km az=153.0*
ISC 25 08:36:25.8±1.3, 30°.60S±0°.04×72°.06W±0°.06, h19km±4km, n45, σ0§92/40, mb4.2/4, 1C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.37**	**102**	*i* P	**Pb**	**08 36 33.8**	**-0.1**
CO06				*i* S	**Sg**	**08 36 39.0**	**0.0**
CO06	**Fray Jorge**	**0.37**	**102**		**Pb**	**08 36 33.8**	**-0.1**
CO06				Sg	**Sg**	**08 36 39.0**	**0.0**
CO05	**La Serena**	**0.98**	**47**	⇓*i* P	**Pb**	**08 36 43.7**	**-0.5**
CO05				*i* S	**Sb**	**08 36 56.3**	**-0.3**
CO05				IAML		08 36 60.0	
	comp=N,6μm,0.1s						
CO05	**La Serena**	**0.98**	**47**	Pg	**Pb**	**08 36 43.6**	**-0.5**
CO05				Sg	**Sb**	**08 36 56.5**	**0.0**
CO02	**Combarbal**	**1.09**	**124**	*i* P	**Pb**	**08 36 45.7**	**-0.5**
CO02				*i* S	**Sb**	**08 36 59.7**	**-0.4**
CO02				IAML		08 37 07.2	
	comp=E,8μm,0.2s						
CO02	**Combarbal**	**1.09**	**124**	Pn	**Pb**	**08 36 45.9**	**-0.3**
GO04	**Tololo Observa**	**1.16**	**69**	*e*P	**Pn**	**08 36 47.1**	**-0.1**
GO04				*i* S	**Sb**	**08 37 03.0**	**+0.8**
GO04	**Tololo Observa**	**1.16**	**69**	Pn	**Pn**	**08 36 46.8**	**-0.5**
CO03	**El Pedregal**	**1.20**	**102**	*e*P	**Pn**	**08 36 47.2**	**-0.5**
CO03				*i* S	**Sn**	**08 37 03.6**	**+0.2**
CO03				IAML		08 37 07.0	
	comp=E,4μm,0.7s						
CO03	**El Pedregal**	**1.20**	**102**	Pn	**Pn**	**08 36 47.7**	**0.0**
LCO	**Las Campanas**	**1.97**	**37**	*e*P	**Pn**	**08 36 58.0**	**-0.3**
LCO				*i* S	**Sn**	**08 37 24.2**	**+1.5**
LCO	**Las Campanas**	**1.97**	**37**		**Pn**	**08 36 58.2**	**-0.1**
VA06	**Catapilco**	**2.06**	**162**	*e*P	**Pn**	**08 36 60.0**	**+0.6**
VA03	**San Esteban**	**2.51**	**150**	*e*S	**Sb**	**08 37 38.9**	**-2.1**
VA03				IAML		08 37 51.0	
	comp=E,1μm,0.4s						
AC04	**Llanos de Chal**	**2.53**	**20**	⇑*i* P	**Pn**	**08 37 04.6**	**-1.3**
AC04	**Llanos de Chal**	**2.53**	**20**	Pn	**Pn**	**08 37 04.5**	**-1.3**
MT05	**Renca**	**3.00**	**158**	IAML		08 38 08.4	
	comp=E,575nm,0.5s						
MT09	**Talagante**	**3.30**	**164**	IAML		08 38 19.8	
	comp=E,299nm,0.5s						
MT01	**Popeta**	**3.33**	**168**	IAML		08 38 23.2	
	comp=E,176nm,0.5s						
GO03	**Copiap**	**3.39**	**28**	IAML		08 38 20.7	
	comp=E,500nm,0.4s						
GO03	**Copiap**	**3.39**	**28**	Pn	**Pn**	**08 37 17.1**	**-0.6**
AC06	**Mina Casimiro**	**3.55**	**25**	Pn	**Pn**	**08 37 19.6**	**-0.4**
AC02	**Maricunga**	**4.54**	**35**	Pn	**Pn**	**08 37 34.6**	**+0.6**
H03N1	**Juan Fernandez**	**6.48**	**242**	T	T	08 45 00.6	
	baz=71,slow=72,SNR=430						
H03N2	**Juan Fernandez**	**6.49**	**242**	T	T	08 44 58.2	
	baz=71,slow=72,SNR=35						
H03N3	**Juan Fernandez**	**6.49**	**242**	T	T	08 45 05.4	
	baz=71,slow=72,SNR=33						
PB04	**IPOC Station P**	**8.40**	**12**		Lg	08 40 56.0	
LVC	**Limon Verde**	**8.44**	**20**	Pn	**Pn**	**08 38 24.4**	**-2.9**
	comp=E,0.2nm,0.3s,baz=135,slow=7.9,SNR=1.7						
LVC				LR	LR	08 41 58.5	
	comp=E,76nm,20.4s,baz=200,slow=40						
PLCA	**Paso Flores**	**10.19**	**174**	Pn	**Pn**	**08 38 50.1**	**-1.0**
	comp=E,0.2nm,0.3s,baz=336,slow=12,SNR=8.0						
PLCA				LR	LR	08 43 21.1	
	comp=E,78nm,19.0s,baz=352,slow=41						
CPUP	**Villa Florida**	**13.63**	**75**	LR	LR	08 45 12.6	
	comp=E,123nm,18.6s,baz=250,slow=40						
LPAZ	**La Paz**	**14.69**	**15**	Pn	**Pn**	**08 39 53.8**	**+0.6**
	comp=E,0.1nm,0.3s,baz=167,slow=2.1,SNR=5.1						
SIV	**San Ignacio**	**17.67**	**37**	P	**Pn**	**08 40 30.7**	**-0.3**
	comp=E,0.2nm,0.3s,baz=238,slow=13,SNR=20						
SIV				LR	LR	08 48 33.6	
	comp=E,134nm,18.8s,baz=264,slow=42						
BDFB	**Brasilia**	**26.57**	**61**	P	**P**	**08 42 01.7**	**-1.2**
	comp=E,2.6nm,0.6s,baz=230,slow=9.6,SNR=4.2						
SNAA	**Sanae**	**54.74**	**159**	P	**P**	**08 45 54.1**	**+0.4**
	comp=E,2.2nm,0.6s,baz=270,slow=9.8,SNR=12						
SNAA	**Sanae**	**54.74**	**159**	P	**P**	**08 45 54.5**	**+0.8**
SNAA				IAmb	IAmb	08 45 55.5	
	comp=Z,2.5nm,0.8s						
QSPA	**South Pole Qui**	**59.63**	**180**	P	**P**	**08 46 29.7**	**+1.3**
MAW	**Mawson**	**76.44**	**164**	P	**P**	**08 48 14.2**	**+0.5**
	comp=Z,1.5nm,1.0s,baz=256,slow=4.2,SNR=3.2						
MAW	**Mawson**	**76.44**	**164**	IAmb	IAmb	08 48 15.6	
	comp=Z,0.6nm,1.1s						
TORD	**Torodi Ar. Bea**	**83.07**	**70**	P	**P**	**08 48 49.6**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=269,slow=4.5,SNR=9.6						
TORD				LR	LR	09 24 51.4	
	comp=Z,31nm,18.4s,baz=85,slow=35						
TORD	**Torodi Ar. Bea**	**83.07**	**70**	P	**P**	**08 48 51.1**	**+0.6**
TORD				IAmb	IAmb	08 48 51.8	
	comp=Z,2.1nm,0.9s						
H11S2	**WAKE ISLAND Hyl**	**25.74**	**272**	T	T	11 14 06.1	
	baz=125,slow=74,SNR=13						
H11S1	**WAKE ISLAND Hyl**	**25.75**	**272**	T	T	11 14 08.5	
	baz=125,slow=74,SNR=14						
H11S3	**WAKE ISLAND Hyl**	**25.75**	**272**	T	T	11 14 09.0	
	baz=125,SNR=32						
BVAR	**Borovoye Array**	**144.74**	**40**	PKP	**PKPdf**	**08 56 01.6**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=298,slow=9.9,SNR=4.8						
ZALV	**Zalesovo Beam**	**151.31**	**29**	PKPbc	**PKiKP**	**08 56 18.9**	**+0.8**
	comp=Z,5.1nm,0.5s,baz=290,slow=2.9,SNR=20						

*DSN **25** 08:36:47.2±1.4, 28°.34N×52°.55E, h10km, ML3.8/12, Error ellipse: s-maj=19.1km s-min=7.3km az=4.0*
*IDC **25** 08:36:52.3±1.3, 27°.69N×52°.85E, h0km, mb3.8/12, mb1 3.9/17, mb1mx3.7/59, mbtmp3.8/17, ML3.7/5, MS3.1/4, Ms1 3.1/4, ms1mx2.6/55, Error ellipse: s-maj=26.3km s-min=17.6km az=161.0*

*SGS **25** 08:36:53.8, 28°.12N×52°.98E, h9km, Ml3.8*
*TEH **25** 08:36:53.4, 27°.80N×52°.81E, h12km, ML3.9*
*THR **25** 08:36:55.9±0.5, 27°.87N×52°.75E, h18km±5km, ML4.0*
*OMAN **25** 08:36:56.7±0.4, 27°.77N×52°.98E, h13km±9km, ml3.8/13, Error ellipse: s-maj=18.6km s-min=4.9km az=351.0*
ISC 25 08:36:54.8±0.5, 27°.79N±0°.03×52°.89E±0°.03, h14km, n114, σ1§55/128, mb3.8/12, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.51**	**151**	*e*		08 37 25.7	
	comp=Z,38μm,0.6s						
LMD1				*e*Pg	**Pg**	**08 37 04.4**	**-0.5**
QIR1	**Qir**	**0.70**	**12**	*e*Pg	**Pg**	**08 37 06.9**	**-1.6**
JHRM	**Jahrom**	**0.94**	**40**	*e*Pg	**Pb**	**08 37 12.2**	**-0.8**
JHRM				*e*		08 37 39.8	
	comp=Z,31μm,0.7s						
LAR1	**LAR**	**1.33**	**95**	*e*Pg	**Pg**	**08 37 20.7**	**+0.4**
LAR1				*e*		08 37 47.8	
	comp=Z,59μm,0.8s						
AHBU	**AHRAM**	**1.77**	**308**	*e*Pg	**Pb**	**08 37 25.8**	**-1.1**
KAZ1	**Kazerun**	**2.13**	**329**	*e*Pn	**Pn**	**08 37 30.8**	**+0.7**
KAZ1				*e*		08 38 28.1	
	comp=Z,16μm,0.7s						
SHMA	**Al-Shehemyia**	**2.58**	**222**	P	**Pn**	**08 37 38.1**	**+2.0**
SAKB	**Bahrain**	**2.77**	**230**	P	**Pb**	**08 37 41.5**	**-2.5**
SAKB				S	**Sg**	**08 38 25.6**	**+1.9**
JRN	**Qarnain Island**	**2.83**	**181**	*e*Pn	**Pb**	**08 37 42.5**	**-2.7**
JRN	**Qarnain Island**	**2.83**	**181**	P	**Pb**	**08 37 42.9**	**-2.2**
	SNR=11						
JRN				S	**Sg**	**08 38 25.7**	**-0.2**
BNDS	**Bandar-Abbas**	**2.94**	**97**	*e*Pn	**Pb**	**08 37 45.5**	**-1.6**
BNDS				*e*Sg	**Sg**	**08 38 31.9**	**+2.5**
BNDS				IAML		08 38 55.7	
	comp=N,757nm,0.7s						
BNDS	**Bandar-Abbas**	**2.94**	**97**	*e*Pn	**Pb**	**08 37 45.5**	**-1.6**
GENO	**Geno**	**2.94**	**97**	*e*Pn	**Pn**	**08 37 42.3**	**+1.0**
GENO				*e*		08 38 44.3	
	comp=Z,3μm,1.1s						
UMQ	**Umm Al-Quwin**	**3.35**	**132**	*e*Pn	**Pn**	**08 37 48.3**	**+1.5**
SHME	**Shamm**	**3.38**	**120**	*i* P	**Pn**	**08 37 48.5**	**+1.3**
	SNR=7.9						
SHME	**Shamm**	**3.38**	**120**	*e*Pn	**Pn**	**08 37 47.8**	**+0.6**
SHME	**Shamm**	**3.38**	**120**	P	**Pn**	**08 37 48.5**	**+1.3**
	SNR=6.6						
TRNA	**Turayna**	**3.39**	**207**	P	**Pn**	**08 37 49.1**	**+1.8**
KLNJ	**Kolanjah**	**3.40**	**341**	*e*Pn	**Pn**	**08 37 47.7**	**-0.1**
BANOM	**Banah**	**3.57**	**121**	*i* P	**Pn**	**08 37 51.0**	**+1.2**
	SNR=16						
BANOM				S	**Sb**	**08 38 39.7**	**-1.3**
BANOM	**Banah**	**3.57**	**121**	*e*Pn	**Pn**	**08 37 51.5**	**+1.7**
BANOM	**Banah**	**3.57**	**121**	P	**Pn**	**08 37 51.3**	**+1.4**
	SNR=15						
SLWS		**3.59**	**215**	P	**Pn**	**08 37 51.5**	**+1.4**
SLWS				S	**Pg**	**08 38 06.3**	**+2.6**
NAZ	**Nazwa, Dubai**	**3.74**	**138**	*i* P	**Pn**	**08 37 54.0**	**+1.9**
	SNR=33						
NAZ	**Nazwa, Dubai**	**3.74**	**138**	*e*Pn	**Pn**	**08 37 53.6**	**+1.5**
NAZ	**Nazwa, Dubai**	**3.74**	**138**	P	**Pn**	**08 37 54.0**	**+1.9**
	SNR=6.2						
NAZ				S	**Sn**	**08 38 38.0**	**+2.0**
MASF	**Masafi**	**3.79**	**129**	P	**Pn**	**08 37 54.4**	**+1.5**
	SNR=15						
MASF				S	**Sn**	**08 38 38.1**	**+0.8**
MSFE	**Esma-Masafi**	**3.80**	**129**	*i* P	**Pn**	**08 37 54.2**	**+1.2**
	SNR=15						
MSFE	**Esma-Masafi**	**3.80**	**129**	*e*Pn	**Pn**	**08 37 54.0**	**+1.0**
GHWR	**Ruwais**	**3.81**	**180**	*e*Pn	**Pn**	**08 37 55.3**	**+2.3**
GHWR	**Ruwais**	**3.81**	**180**	P	**Pn**	**08 37 55.5**	**+2.5**
ASUD	**Al Ashush, Dub**	**3.84**	**145**	*i* P	**Pn**	**08 37 55.1**	**+1.6**
	SNR=25						
ASUD	**Al Ashush, Dub**	**3.84**	**145**	*e*Pn	**Pn**	**08 37 53.9**	**+0.4**
ASUD	**Al Ashush, Dub**	**3.84**	**145**	P	**Pn**	**08 37 55.3**	**+1.9**
	SNR=13						
NGRK	**Negar Kerman**	**3.85**	**60**	*e*Pn	**Pn**	**08 37 55.5**	**+1.5**
NGRK				*e*		08 39 16.6	
	comp=Z,934nm,0.8s						
FAQ	**Al Faqa, Dubai**	**3.88**	**141**	*i* P	**Pn**	**08 37 55.1**	**+1.0**
	SNR=6.4						
FAQ	**Al Faqa, Dubai**	**3.88**	**141**	*e*Pn	**Pn**	**08 37 55.2**	**+1.1**
FAQ	**Al Faqa, Dubai**	**3.88**	**141**	P	**Pn**	**08 37 55.6**	**+1.5**
	SNR=6.6						
IMEH	**Mehriz**	**3.89**	**22**	*e*Pn	**Pn**	**08 37 56.6**	**+2.2**
MDH	**Madha**	**3.94**	**128**	P	**Pn**	**08 37 55.7**	**+0.9**
MDH	**Madha**	**3.94**	**128**	*e*Pn	**Pn**	**08 37 56.1**	**+1.3**
MDH	**Madha**	**3.94**	**128**	P	**Pn**	**08 37 56.1**	**+1.3**
	SNR=6.6						
MDH				S	**Sn**	**08 38 41.7**	**+0.9**
IRAM	**Ramesheh**	**4.03**	**354**	*e*Pn	**Pn**	**08 37 58.1**	**+1.8**
KRBR	**Kerman**	**4.04**	**56**	*e*Pn	**Pn**	**08 38 00.1**	**+3.6**
KRBR				IAML		08 38 53.8	
	comp=N,70nm,0.3s						
KRBR	**Kerman**	**4.04**	**56**	*e*Pn	**Pn**	**08 38 00.1**	**

WBK	Wadi Bani Khal	7.54	132	P		Pn		08 38 44.4	-0.1
JLN	Jalan Bani Buh	8.16	132	P		Pn		08 38 52.6	-0.3
MHTO	MHTO	8.20	145	P		Pn		08 38 53.7	+0.3
QABG	Abgarm-Qazvin	8.38	341	*e*Pn		Pn		08 38 55.0	-1.1
SRVN	Saravan	8.45	90	*e*Pn		Pn		08 38 57.6	+0.6
ASF	Jabal al Asfar	14.53	291	Pn		Pn		08 40 21.1	+1.0
	comp=Z,0.2nm,0.3s,baz=352,slow=18,SNR=1.9								
EIL	Elat	15.85	281	LR		LR		08 47 55.1	
	comp=Z,124nm,18.6s,baz=78,slow=42								
MMAI	Mount Meron Ar	15.95	293	Pn		Pn		08 40 39.5	+0.6
	comp=Z,0.5nm,0.3s,baz=101,slow=15,SNR=2.1								
MMAI				LR		LR		08 48 20.3	
	comp=Z,56nm,18.5s,baz=50,slow=43								
KBZ	Khabaz	17.83	336	P		P		08 41 04.4	+1.3
	comp=Z,0.1nm,0.3s,baz=166,slow=4.2,SNR=4.5								
BRTR	Keskin Array B	19.90	312	P		P		08 41 26.4	+0.3
	comp=Z,0.2nm,0.3s,baz=131,slow=13,SNR=17								
BRTR				LR		LR		08 51 20.9	
	comp=Z,51nm,18.6s,baz=126,slow=44								
AKTO	Aktyubinsk	22.95	8	P		P		08 41 59.7	+1.1
	comp=Z,1.9nm,0.7s,baz=182,slow=11,SNR=8.6								
AKTO				LR		LR		08 52 58.8	
	comp=Z,42nm,18.6s,baz=170,slow=42								
IDI	Anoyia	24.95	294	P		P		08 42 18.7	+0.9
	comp=Z,5.6nm,0.7s,baz=110,slow=9.1,SNR=8.4								
BVAR	Borovoye Array	28.36	22	P		P		08 42 49.6	+1.3
	comp=Z,0.9nm,0.7s,baz=205,slow=21,SNR=4.3								
MKAR	Makanchi Array	29.86	43	P		P		08 43 01.6	-0.2
	comp=Z,0.3nm,0.8s,baz=236,slow=12,SNR=2.9								
KURBB	Kurchatov Arra	29.98	33	P		P		08 43 04.0	+1.3
	comp=Z,0.7nm,0.8s,baz=232,slow=9.1,SNR=5.6								
ZALV	Zalesovo Beam	35.07	33	P		P		08 43 46.6	-0.6
	comp=Z,0.7nm,0.3s,baz=242,slow=9.4,SNR=4.3								
FINES	FINESS Array B	38.13	339	P		P		08 44 12.5	-0.6
	comp=Z,2.7nm,0.7s,baz=160,slow=6.1,SNR=6.4								
NOA	NORSAR Array B	43.35	332	P		P		08 44 56.3	0.0
	comp=Z,0.7nm,0.7s,baz=106,slow=13,SNR=1.5								
ARCES	ARCESS Array B	44.70	347	P		P		08 45 07.1	+0.1
	comp=Z,1.3nm,0.7s,baz=126,slow=6.2,SNR=5.6								
ESDC	Sonseca Array	48.02	300	P		P		08 45 31.9	-1.8
	comp=Z,0.3nm,0.4s,baz=42,slow=5.9,SNR=3.1								
TORD	Torodi Ar. Bea	49.78	264	P		P		08 45 46.5	-0.9
	comp=Z,0.7nm,0.6s,baz=60,slow=8.6,SNR=6.2								
DBIC	Dimbokro	58.45	260	P		P		08 46 49.6	-1.1
	comp=Z,2.6nm,0.9s,baz=40,slow=8.1,SNR=3.7								

PGC 25 08:46:19.3±1.6, 50°.67N×130°.49W, h10km, MLSn3.2/35, Mw3.9/35, 216km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.50**	**90**	Pn	Pn	08 46 44.2	-2.2
HOLB				Sn	Sn	08 47 02.1	-3.9
HG4B	**Hotspring**	**1.69**	**345**	Sn	Sn	08 47 06.3	-4.3
BPBC	**Brooks Peninsu**	**1.81**	**105**	Pn	Pn	08 46 48.3	-2.4
PACB	**Port Alice, BC**	**1.93**	**96**	Pn	Pn	08 46 50.0	-2.2
PACB				Sn	Sn	08 47 12.3	-4.1
PHC	**Port Hardy**	**1.95**	**88**	Pn	Pn	08 46 50.7	-1.6
PHC				Sn	Sn	08 47 12.6	-4.2
BNB	**Barry Inlet**	**2.07**	**338**	Pn	Pn	08 46 51.9	-2.2
BBB	**Bella Bella**	**2.13**	**44**	Pn	Pn	08 46 53.1	-1.7
BBB				Sn	Sn	08 47 17.5	-3.8
MAYB	**Maynard**	**2.13**	**96**	Pn	Pn	08 46 53.3	-1.9
EDB	**Eliza Dome**	**2.30**	**109**	Pn	Pn	08 46 55.6	-1.8
EDB				Sn	Sn	08 47 22.6	-3.1
TLCB	**Telegraph Cove**	**2.33**	**92**	Pn	Pn	08 46 56.3	-1.4
TLCB				Sn	Sn	08 47 23.0	-3.4
WOSB	**Woss**	**2.56**	**100**	Pn	Pn	08 46 59.5	-1.5
MOBC	**Moresby Island**	**2.64**	**340**	Sn	Sn	08 47 31.3	-2.9
BNKB	**Banks Island**	**2.69**	**8**	Sn	Sn	08 47 31.5	-3.8
BUTB	**Butedale**	**2.71**	**27**	Pn	Pn	08 47 01.8	-1.2
BUTB				Sn	Sn	08 47 33.6	-2.2
DIB	**Dawson Inlet,**	**2.82**	**335**	Sn	Sn	08 47 35.4	-3.1
BNAB	**Bonilla**	**2.83**	**358**	Pn	Pn	08 47 02.6	-1.9
BNAB				Sn	Sn	08 47 35.4	-3.2
NCRB	**Newcastle Ridg**	**2.84**	**94**	Pn	Pn	08 47 03.1	-1.8
ETB	**Estevan Point**	**2.86**	**115**	Pn	Pn	08 47 03.5	-1.5
VIB	**Van Inlet**	**2.88**	**335**	Sn	Sn	08 47 36.0	-4.1
GDR	**Gold River**	**3.00**	**106**	Pn	Pn	08 47 05.2	-1.7
HWKB	**Hawksbury Isla**	**3.05**	**15**	Sn	Sn	08 47 40.9	-3.2
SPLB	**Strathcona Par**	**3.20**	**102**	Pn	Pn	08 47 08.7	-0.9
GRNB	**Grenville Isla**	**3.20**	**6**	Pn	Pn	08 47 08.3	-1.4
TOFB	**Tofino**	**3.33**	**115**	Pn	Pn	08 47 10.0	-1.4
CBB	**Campbell River**	**3.34**	**99**	Pn	Pn	08 47 10.8	-0.8
CBB				Sn	Sn	08 47 47.5	-3.9
BTB	**Buttle Lake**	**3.42**	**109**	Pn	Pn	08 47 11.7	-1.1
MWAB	**Mount Washingt**	**3.46**	**104**	Sn	Sn	08 47 50.8	-3.5
KITB	**Kitimat**	**3.60**	**18**	Pn	Pn	08 47 13.4	-1.7
RUBB	**Prince Rupert**	**3.67**	**2**	Pn	Pn	08 47 15.0	-1.1
RUBB				Sn	Sn	08 47 57.3	-2.0
TXB	**Texada**	**4.01**	**102**	Pn	Pn	08 47 19.8	-1.1
MGB	**Mount Grey**	**4.11**	**112**	Pn	Pn	08 47 21.2	-1.1
MGB				Sn	Sn	08 48 06.0	-4.4
SHB	**Sechelt**	**4.39**	**102**	Pn	Pn	08 47 25.3	-0.8
SHB				Sn	Sn	08 48 15.4	-1.9
NLLB	**Nanaimo Lost L**	**4.44**	**106**	Pn	Pn	08 47 26.4	-0.3
PFB	**Port Renfrew**	**4.46**	**116**	Pn	Pn	08 47 26.0	-0.9
OCP	**Olym-Cheeka Pk**	**4.50**	**120**	Pn	Pn	08 47 27.6	+0.1
UBRB	**Upper Baezaeko**	**4.56**	**58**	Pn	Pn	08 47 28.1	-0.3
UBRB				Sn	Sn	08 48 19.1	-2.3
WPB	**Watts Point**	**4.79**	**99**	Pn	Pn	08 47 31.1	-0.4
BIB	**Bowen Island**	**4.80**	**102**	Pn	Pn	08 47 31.1	-0.5
GOBB	**Galiano Island**	**4.84**	**108**	Pn	Pn	08 47 31.7	-0.4
OBC	**Olympics--Boni**	**4.95**	**120**	Pn	Pn	08 47 34.0	+0.3
B010	**North Saanich**	**5.00**	**111**	Pn	Pn	08 47 34.2	-0.1
PGC	**Sidney**	**5.00**	**111**	Pn	Pn	08 47 34.0	-0.4
B011	**North Saanich**	**5.00**	**111**	Pn	Pn	08 47 34.2	-0.1
B011				Sn	Sn	08 48 29.1	-3.1
SNB	**Saturna Island**	**5.11**	**109**	Pn	Pn	08 47 36.1	+0.1
HNBB	**Haney**	**5.29**	**102**	Sn	Sn	08 48 37.6	-1.8
FSB	**Fort Saint Jam**	**5.35**	**42**	Pn	Pn	08 47 39.0	-0.3
VDB	**Vedder Mountai**	**5.67**	**104**	Pn	Pn	08 47 44.4	+0.8
HDW	**Hoodsport**	**5.74**	**119**	Pn	Pn	08 47 44.7	+0.1
MBW	**Mount Baker**	**5.88**	**105**	Pn	Pn	08 47 47.6	+0.9
CMW	**Cultus Mountai**	**5.89**	**109**	Pn	Pn	08 47 47.7	+1.0
JCW	**Jim Creek**	**6.11**	**111**	Pn	Pn	08 47 50.6	+1.0
B06A	**Marblemount**	**6.24**	**107**	Pn	Pn	08 47 51.9	+0.5
RPW	**Rockport**	**6.25**	**107**	Pn	Pn	08 47 52.0	+0.4
FMW	**Mount Fremont**	**6.92**	**119**	Pn	Pn	08 48 02.4	+1.4
DLBC	**Dease Lake**	**7.79**	**2**	Pn	Pn	08 48 14.7	+1.9
NBC5	**NorthernBC 5**	**8.26**	**31**	Pn	Pn	08 48 21.6	+2.5

*PGC **25** 08:47:20.8±0.4, 50°.64N×130°.48W, h10km, MLSn3.3/30, Mw4.0/30, 216km west of Pt. Hardy, Bc Vancouver Island, Canada Region*

*IDC **25** 08:47:22.0±0.5, 51°.03N×130°.28W, h0km, mb3.5/2, mb1 3.6/7, mb1mx3.5/42, mbtmp3.3/7, ML3.2/4, MS3.2/10, Ms1 3.2/10, ms1mx3.0/38, Error ellipse: s-maj=16.1km s-min=2.7km az=44.0*

ISC 25 08:47:20.6±1.0, 50°.77N±0°.05×130°.35W±0°.05, h12km, n76, σ1§63/84, MS3.1/4, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.42**	**94**	Pn	**Pn**	**08 47 45.7**	**-0.5**
HOLB				Sn	**Sn**	**08 48 03.5**	**-1.3**
HG4B	**Hotspring**	**1.62**	**341**	Pn	**Pn**	**08 47 48.2**	**-0.8**
HG4B				Sn	**Sn**	**08 48 08.3**	**-1.4**
BPBC	**Brooks Peninsu**	**1.76**	**109**	Pn	**Pn**	**08 47 49.8**	**-1.1**
PACB	**Port Alice, BC**	**1.85**	**99**	Pn	**Pn**	**08 47 51.5**	**-0.6**
PACB				Sn	**Sn**	**08 48 13.9**	**-1.5**
PHC	**Port Hardy**	**1.86**	**91**	Pn	**Pn**	**08 47 52.0**	**-0.2**
PHC				Sn	**Sn**	**08 48 14.8**	**-0.7**
BBB	**Bella Bella**	**1.99**	**44**	Pn	**Pn**	**08 47 53.9**	**-0.2**
	3.6nm,0.3s,baz=223,slow=13,SNR=1.5						
BBB				Sn	**Sb**	**08 48 19.5**	**-2.0**
	47nm,0.3s,baz=263,slow=22,SNR=5.3						
BBB	**Bella Bella**	**1.99**	**44**	Pn	**Pb**	**08 47 55.1**	**-1.6**
BBB				Sn	**Sb**	**08 48 19.1**	**-2.4**
BNB	**Barry Inlet**	**2.01**	**335**	Pn	**Pn**	**08 47 54.0**	**-0.4**
MAYB	**Maynard**	**2.06**	**99**	Pn	**Pn**	**08 47 54.8**	**-0.3**
TLCB	**Telegraph Cove**	**2.25**	**94**	Pn	**Pn**	**08 47 57.9**	**+0.3**
TLCB				Sn	**Sn**	**08 48 24.7**	**-0.5**
EDB	**Eliza Dome**	**2.26**	**112**	Pn	**Pn**	**08 47 56.9**	**-0.8**
EDB				Sn	**Sn**	**08 48 21.7**	**-3.7**
HG1B	**Mitchell Dam**	**2.43**	**334**	Sn	**Sn**	**08 48 29.9**	**+0.1**
WOSB	**Woss**	**2.49**	**103**	Pn	**Pn**	**08 48 01.1**	**0.0**
BUTB	**Butedale**	**2.58**	**26**	Pn	**Pb**	**08 48 04.0**	**-2.8**
BUTB				Sn	**Sb**	**08 48 35.7**	**-2.8**
BNKB	**Banks Island**	**2.58**	**6**	Pn	**Pn**	**08 48 03.0**	**+0.8**
BNKB				Sn	**Sn**	**08 48 33.4**	**-0.2**
MOBC	**Moresby Island**	**2.58**	**338**	Pn	**Pn**	**08 48 02.3**	**0.0**
MOBC				Sn	**Sn**	**08 48 33.3**	**-0.3**
BNAB	**Bonilla**	**2.73**	**356**	Pn	**Pn**	**08 48 04.7**	**+0.5**
BNAB				Sn	**Sn**	**08 48 36.2**	**-1.0**
NCRB	**Newcastle Ridg**	**2.76**	**96**	Pn	**Pn**	**08 48 04.5**	**-0.4**
DIB	**Dawson Inlet,**	**2.77**	**332**	Pn	**Pn**	**08 48 04.5**	**-0.2**
H02S1	**DAWSON INLET T**	**2.77**	**332**	Pn	**Pn**	**08 48 05.4**	**+0.7**
	SNR=338						
H02S1				Sn	**Sn**	**08 48 35.8**	**-2.3**
ETB	**Estevan Point**	**2.82**	**118**	Pn	**Pn**	**08 48 04.7**	**-0.8**
H02N1	**VAN INLET T-PH**	**2.83**	**332**	Pn	**Pn**	**08 48 05.1**	**-0.6**
	SNR=340						
H02N1				Sn	**Sn**	**08 48 37.4**	**-2.4**
VIB	**Van Inlet**	**2.83**	**332**	Pn	**Pn**	**08 48 05.4**	**-0.3**
VIB				Sn	**Sn**	**08 48 38.4**	**-1.4**
HWKB	**Hawksbury Isla**	**2.93**	**14**	Sn	**Sn**	**08 48 41.9**	**-0.2**
GDR	**Gold River**	**2.94**	**108**	Pn	**Pn**	**08 48 06.7**	**-0.5**
GRNB	**Grenville Isla**	**3.09**	**4**	Sn	**Sn**	**08 48 46.5**	**+0.4**
SPLB	**Strathcona Par**	**3.14**	**104**	Pn	**Pn**	**08 48 10.1**	**+0.2**
SPLB				Sn	**Sn**	**08 48 46.7**	**-0.4**
CBB	**Campbell River**	**3.27**	**101**	Pn	**Pn**	**08 48 12.2**	**+0.5**
CBB				Sn	**Sn**	**08 48 49.6**	**-0.9**
TOFB	**Tofino**	**3.29**	**118**	Pn	**Pn**	**08 48 11.8**	**-0.2**
TOFB				Sn	**Sn**	**08 48 47.1**	**-3.9**
BTB	**Buttle Lake**	**3.37**	**111**	Pn	**Pn**	**08 48 13.2**	**0.0**
MWAB	**Mount Washingt**	**3.40**	**106**	Pn	**Pn**	**08 48 13.5**	**0.0**
MWAB				Sn	**Sn**	**08 48 52.6**	**-1.2**
KITB	**Kitimat**	**3.48**	**17**	Pn	**Pn**	**08 48 16.0**	**+1.5**
KITB				Sn	**Sn**	**08 48 57.0**	**+1.5**
OZB	**Mount Ozzard**	**3.63**	**118**	Pn	**Pn**	**08 48 16.8**	**+0.1**
TXB	**Texada**	**3.95**	**103**	Pn	**Pn**	**08 48 21.2**	**+0.2**
MGB	**Mount Grey**	**4.07**	**114**	Pn	**Pn**	**08 48 23.0**	**+0.3**
MGB				Sn	**Sn**	**08 49 09.5**	**-0.8**
SHB	**Sechelt**	**4.32**	**103**	Pn	**Pn**	**08 48 26.4**	**+0.2**
PFB	**Port Renfrew**	**4.42**	**118**	Pn	**Pn**	**08 48 28.2**	**+0.6**
UBRB	**Upper Baezaeko**	**4.43**	**59**	Pn	**Pn**	**08 48 30.7**	**+3.0**
OCP	**Olym-Cheeka Pk**	**4.47**	**121**	Pn	**Pn**	**08 48 29.6**	**+1.4**
WPB	**Watts Point**	**4.72**	**101**	Pn	**Pn**	**08 48 32.2**	**+0.7**
BIB	**Bowen Island**	**4.74**	**104**	Pn	Pn	08 48 27.2	-4.5
OBC	**Olympics--Boni**	**4.92**	**121**	Pn	**Pn**	**08 48 35.7**	**+1.2**
PGC	**Sidney**	**4.95**	**113**	Pn	**Pn**	**08 48 35.9**	**+1.1**
FSB	**Fort Saint Jam**	**5.22**	**42**	Pn	**Pn**	**08 48 41.0**	**+2.5**
HNBB	**Haney**	**5.23**	**103**	Pn	**Pn**	**08 48 40.0**	**+1.4**
MCW	**Mount Constitu**	**5.31**	**110**	Pn	**Pn**	**08 48 40.5**	**+0.9**
LLLB	**Lillooet**	**5.39**	**88**	Pn	**Pn**	**08 48 42.7**	**+1.9**
VDB	**Vedder Mountai**	**5.61**	**105**	Pn	**Pn**	**08 48 45.5**	**+1.7**
A05A	**Maple Falls**	**5.63**	**105**	Pn	**Pn**	**08 48 46.2**	**+2.1**
MBW	**Mount Baker**	**5.82**	**107**	Pn	**Pn**	**08 48 49.3**	**+2.4**
CMW	**Cultus Mountai**	**5.84**	**110**	Pn	**Pn**	**08 48 49.5**	**+2.4**
JCW	**Jim Creek**	**6.06**	**112**	Pn	**Pn**	**08 48 52.3**	**+2.3**
B06A	**Marblemount**	**6.18**	**108**	Pn	**Pn**	**08 48 53.5**	**+1.8**
RPW	**Rockport**	**6.20**	**109**	Pn	**Pn**	**08 48 53.8**	**+1.9**
FMW	**Mount Fremont**	**6.89**	**120**	Pn	**Pn**	**08 49 04.0**	**+2.4**
LTY	**Liberty**	**7.27**	**115**	Pn	**Pn**	**08 49 09.3**	**+2.6**
B08A	**Colville Reser**	**7.56**	**104**	Pn	**Pn**	**08 49 12.4**	**+1.8**
DLBC	**Dease Lake**	**7.69**	**1**	Pn	**Pn**	**08 49 11.3**	**-1.1**
	0.1nm,0.3s,baz=176,slow=17,SNR=1.1						
DLBC				LR	LR	08 52 14.8	
	comp=Z,215nm,18.2s,baz=200,slow=39						
DLBC	**Dease Lake**	**7.69**	**1**	Pn	**Pn**	**08 49 15.6**	**+3.2**
NEW	**Newport**	**8.96**	**101**	LR	LR	08 53 04.0	
	comp=Z,277nm,18.1s,baz=288,slow=38						
FNBB	**Fort Nelson**	**9.17**	**25**	Pn	Pn	08 49 36.9	+4.3
YBH	**Yreka Blue Hor**	**10.47**	**147**	Pn	Pn	08 49 55.6	+5.1
	0.0nm,0.3s,baz=0.0,slow=12,SNR=2.5						
ELK	**Elko**	**14.52**	**128**	LR	LR	08 56 01.2	
	comp=Z,92nm,18.9s,baz=337,slow=35						
YKA	**Yellowknife Ar**	**14.54**	**30**	LR	LR	08 56 29.2	
	comp=Z,79nm,18.3s,baz=0.0,slow=38						
KDAK	**Kodiak Island**	**14.72**	**307**	LR	LR	08 55 05.7	
	comp=Z,129nm,19.5s,baz=153,slow=32						
NVAR	**Mina Array Bea**	**15.00**	**141**	Pn	**P**	**08 50 58.2**	**+0.2**
	0.1nm,0.3s,baz=331,slow=10,SNR=3.0						
PDAR	**Pinedale Array**	**16.30**	**111**	Pn	**P**	**08 51 13.1**	**+0.6**
	0.1nm,0.3s,baz=312,slow=12,SNR=12						
ILAR	**Eielson Array**	**16.49**	**335**	Pn	**P**	**08 51 13.5**	**-0.7**
	baz=145,slow=11,SNR=3.0						
INK	**Inuvik**	**17.66**	**356**	LR	LR	08 58 17.6	
	comp=Z,74nm,18.2s,baz=30,slow=38						
ANMO	**Albuquerque**	**23.45**	**123**	P	**P**	**08 52 34.5**	**+4.7**
	0.4nm,0.3s,baz=296,slow=4.2,SNR=5.0						
ANMO				LR	LR	09 01 20.6	
	comp=Z,38nm,19.0s,baz=301,slow=36						
TXAR	**Lajitas Array**	**29.32**	**127**	P	**P**	**08 53 27.0**	**+4.0**
	0.4nm,0.8s,baz=330,slow=7.3,SNR=3.9						
TXAR				LR	LR	09 06 11.3	
	comp=Z,53nm,19.0s,baz=0.0,slow=38						
FRB	**Frobisher Bay**	**34.38**	**44**	LR	LR	09 07 46.0	
	comp=Z,43nm,20.2s,baz=232,slow=36						
JTS	**Las Juntas de**	**54.84**	**121**	LR	LR	09 22 21.0	
	comp=Z,13nm,19.6s,baz=64,slow=38						
H11N2	**WAKE ISLAND Hy**	**57.78**	**262**	T	T	09 59 44.3	
	baz=41,slow=75,SNR=138						
H11N3	**WAKE ISLAND Hy**	**57.78**	**262**	T	T	09 59 33.4	
	baz=41,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**57.80**	**262**	T	T	09 59 45.6	
	baz=41,slow=75,SNR=13						

*NEIC **25** 08:47:47.1±1.8, 1°.28N×0°.06×122°.69E±0°.07, h7km±4km, mb5.0/52, Error ellipse: s-maj=9.9km s-min=8.1km az=62.0*

*MOS **25** 08:47:49.0±0.9, 1°.29N×122°.84E, h34km, mb4.9/17, Error ellipse: s-maj=13.8km s-min=7.1km az=102.1*

*BJI **25** 08:47:50.8±0.0, 1°.27N×122°.90E, h48km, mB4.8/26, mb4.7/39, Ms4.4/16, Ms7 4.1/15*

*DJA **25** 08:47:50.0±0.5, 1°N±2°×12°3E±°, h21km±4km, M4.9/30, mb5.1/30, mB5.3/13, MLv5.1/19, Mw(mB)4.7/13*

*GCMT **25** 08:47:51.0±0.3, 1°.52N±0°.02×122°.89E±0°.03, h28km±1km, MW4.9/85, Moment Tensor Solution. s36,c38; s85,c115; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr1.47±.12; Mθθ-1.72±.07; Mφφ0.24±.09; Mrθ-1.86±.13; Mφθ0.25±.07; Mφr0.13±.15; Best double couple: M0 2.46500×10^16^ NP1:φs101.00000°, δ21.00000°, λ96.00000°. NP2: φs275.00000°, δ70.00000°, λ88.00000°. Principal axes: T 2.3250, Plg65.0000°, Azm181.0000°; N 0.2750, Plg2.0000°, Azm275.0000°; P -2.6040, Plg25.0000°, Azm6.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **25** 08:47:51.1±0.6, 1°.23N×122°.82E, h40km±5km, mb4.2/19, mb1 4.4/22, mb1mx4.2/38, mbtmp4.5/22, ML5.0/3, MS3.7/29, Ms1 3.8/29, ms1mx3.6/52 Error ellipse: s-maj=19.9km s-min=10.5km az=85.0*

ISC 25 08:47:51.7±0.4, 1°.27N±0°.04×122°.91E±0°.04, h42km±3km, h42km:pP-P, n207, σ1§44/216, mb4.8/63, MS3.8/32, 11C-5D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.64**	**171**	P	**Pn**	**08 48 00.2**	**-4.1**
GTOI				S	**Sn**	**08 48 09.4**	**-3.9**
MRSI	**Marisa**	**1.25**	**231**	P	**Pn**	**08 48 11.5**	**-1.2**
KMSI	**Cibinong**	**1.27**	**123**	P	**Pn**	**08 48 13.6**	**+0.6**
MNI	**Manado**	**1.93**	**85**	P	**Pn**	**08 48 20.4**	**-1.7**
TOLI2	**Tolitoli**	**2.14**	**266**	Pn	**Pn**	**08 48 21.6**	**-3.3**
LUWI	**Luwuk**	**2.30**	**184**	Pn	**Pn**	**08 48 28.0**	**+0.9**
LUWI	**Luwuk**	**2.30**	**184**	P	**Pn**	**08 48 28.6**	**+1.5**
APSI	**Ampana**	**2.51**	**210**	P	**Pn**	**08 48 32.0**	**+2.0**
MPSI	**Mapaga**	**3.15**	**253**	P	**Pn**	**08 48 38.3**	**-0.6**
SGSI	**Sangihe**	**3.55**	**47**	P	**Pn**	**08 48 41.2**	**-3.1**
TNTI	**Ternate**	**4.48**	**96**	P	**Pn**	**08 48 55.7**	**-1.4**
SANI	**Sanana**	**4.51**	**137**	P	**Pn**	**08 48 57.4**	**-0.1**
GAMI	**Galela, Maluku**	**4.90**	**83**	P	**Pn**	**08 49 02.1**	**-0.8**
TTSI	**Tana Toraja**	**5.29**	**216**	P	**Pn**	**08 49 09.0**	**+0.8**
	2.8nm8µm791nm,0.9s						
KKSI	**Kolaka, Sulawe**	**5.55**	**193**	P	**Pn**	**08 49 11.9**	**+0.1**
	1.3nm342nm,0.7s						
MMSI	**Mamuju**	**5.61**	**226**	P	**Pn**	**08 49 13.1**	**+0.4**
	0.5nm1µm121nm,0.7s						
KCP	**Kidapawan**	**6.10**	**21↑**	*i*P	**Pn**	**08 49 17.7**	**-1.7**
PMSI	**Majene**	**6.20**	**220**	P	**Pn**	**08 49 21.8**	**+1.0**
	1.0nm2µm197nm,0.8s						
BNSI	**Bone**	**6.29**	**206**	P	**Pn**	**08 49 22.9**	**+0.9**
	2.6nm6µm764nm,1.1s						
DMPH	**Davao City--Mi**	**6.33**	**24↑**	*i*P	**Pn**	**08 49 22.6**	**0.0**
DAV	**Davao City (W)**	**6.35**	**25**	Pn	**Pn**	**08 49 23.2**	**+0.5**
	77nm,0.3s,baz=80,slow=1.0,SNR=8.7						
DAV				LR	LR	08 52 01.5	
	comp=Z,917nm,19.0s,baz=140,slow=39						
DAV	**Davao City (W)**	**6.35**	**25**	P	**Pn**	**08 49 24.5**	**+1.7**
	3.0nm966nm,0.8s						
BKB	**Balikpapan**	**6.52**	**247**	Pn	Pn	08 49 19.0	-6.2
KAPI	**Kappang**	**7.00**	**207**	Pn	**Pn**	**08 49 31.7**	**0.0**
	12nm,0.3s,baz=47,slow=5.9,SNR=29						
KAPI				Sn	**Sn**	**08 50 53.8**	**+3.8**
	baz=49,slow=19,SNR=1.4						
KAPI				LR	LR	08 52 46.8	
	comp=Z,1µm,19.0s,baz=56,slow=43						
KAPI	**Kappang**	**7.00**	**207**	Pn	**Pn**	**08 49 30.0**	**-1.7**
KAPI	**Kappang**	**7.00**	**207**	P	**Pn**	**08 49 32.2**	**+0.5**
	0.6nm1µm167nm,0.8s						
BKSI	**Bulukumba**	**7.12**	**203**	P	**Pn**	**08 49 33.4**	**+0.1**
	0.6nm2µm202nm,0.9s						
KRAI	**Karang Ratu**	**7.12**	**130**	P	**Pn**	**08 49 33.9**	**+0.4**
	0.7nm67nm,0.8s						
DCPH	**Dipolog City**	**7.28**	**3↑**	*e*P	**Pn**	**08 49 36.0**	**+0.4**
MKS	**Makassar**	**7.30**	**208**	P	**Pn**	**08 49 36.3**	**+0.4**
	0.7nm2µm174nm,0.7s						
MSAI	**Masohi**	**7.56**	**127**	P	Pn	08 49 49.2	+10
BSSI	**Bau Bau, Buton**	**7.75**	**198**	P	**Pn**	**08 49 46.1**	**+4.1**
KBKI	**Kotabaru**	**8.13**	**236**	P	Pn	08 50 00.4	+13
MMRI	**Maumere**	**9.86**	**184**	Pn	**Pn**	**08 50 09.7**	**-1.3**
EDFI	**Ende, Flores**	**10.03**	**187**	P	**Pn**	**08 50 15.4**	**+2.1**
	433nm35nm,0.7s						
SOEI	**Soe**	**11.03**	**173**	P	Pn	08 50 37.0	+10
PLAI	**Plampang**	**11.26**	**207**	P	Pn	08 50 37.2	+7.1
BATI	**Baumata**	**11.42**	**176**	LR	LR	08 54 47.4	
	comp=Z,1µm,21.1s,baz=335,slow=36						
TWSI	**Taliwang, Sumb**	**11.62**	**211**	P	Pn	08 50 49.7	+15
KLNI	**Mataram**	**11.78**	**215**	P	Pn	08 50 53.8	+16
MTN	**Manton Dam**	**16.22**	**150**	P	**Pn**	**08 51 36.9**	**+0.2**
	baz=16,SNR=8.1						
MTN	**Manton Dam**	**16.22**	**150**		**Pn**	**08 51 36.5**	**-0.2**
KPJI	**Karang Pucung**	**16.36**	**238**	P	**P**	**08 51 46.5**	**+5.7**
KDU	**Kakadu**	**16.80**	**146**	P	**Pn**	**08 51 43.0**	**-1.0**
	baz=17,SNR=10						
KNRA	**Kununurra**	**17.80**	**161**	P	**P**	**08 51 57.2**	**+0.5**
	baz=18,SNR=23						
KNRA	**Kununurra**	**17.80**	**161**	P	**Pn**	**08 51 56.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**19.43**	**172**	P	**P**	**08 52 14.1**	**-0.5**
	baz=20,SNR=47						
FITZ	**Fitzroy Crossi**	**19.43**	**172**	P	**P**	**08 52 14.2**	**-0.5**
	2.5nm,0.3s,baz=0.0,slow=8.9,SNR=77						
FITZ				LR	LR	09 00 21.2	
	comp=Z,247nm,19.4s,baz=340,slow=39						
FITZ	**Fitzroy Crossi**	**19.43**	**172**	P	**P**	**08 52 13.4**	**-1.2**
FITZ				lAmb	lAmb	08 52 15.3	
	comp=Z,44nm,0.8s						
MDSI	**Maura Dua**	**19.57**	**253**	P	**P**	**08 52 16.9**	**+0.6**
	comp=Z,557nmcomp=Z,47nm,1.0s						
LWLI	**Liwa**	**19.84**	**252**	P	Pn	08 52 35.2	+14
LHSI	**Lahat**	**20.03**

comp=Z,92nm,2.0s
NWAO Narrogin (SRO) 34.43 188 P P 08 54 33.9 -1.4
BBOO Buckleboo 36.10 161 P P 08 54 49.0 -0.6
baz=36,SNR=5.4
BBOO Buckleboo 36.10 161 P P 08 54 48.6 -1.0
BBOO IAmb IAmb 08 54 50.0
comp=Z,25nm,1.3s
KSRS Korea Array 36.30 7 P P 08 54 51.0 -0.3
comp=Z,1.6nm,0.8s,baz=192,slow=9.5,SNR=7.1
KSRS LR LR 09 12 07.8
comp=Z,106nm,18.6s,baz=176,slow=40
RMQ Roma 37.19 140 P P 08 54 59.2 +0.1
baz=37,SNR=4.2
STKA Stephens Creek 37.42 153 P P 08 55 00.7 -0.2
baz=38,SNR=22
STKA Stephens Creek 37.42 153 P P 08 55 00.8 -0.2
comp=Z,8.4nm,0.6s,baz=334,slow=9.0,SNR=28
STKA LR LR 09 13 53.2
comp=Z,99nm,18.5s,baz=334,slow=42
STKA Stephens Creek 37.42 153 *d* **P P 08 55 00.9 0.0**
STKA Stephens Creek 37.42 153 P P 08 55 00.7 -0.2
HTT Hallett 37.67 158 P P 08 55 03.1 +0.1
baz=38,SNR=18
MAJO Matsushiro 37.85 20 *ce* **P P 08 55 04.0 -0.5**
MAJO pmax pmax
comp=Z,7.0nm,1.0s
MJAR Matsushiro Arr 37.85 20 P P 08 55 05.8 +1.3
comp=Z,3.9nm,1.1s,baz=187,slow=8.7,SNR=4.4
MJAR LR LR 09 08 56.7
comp=Z,115nm,21.2s,baz=215,slow=33
MJAR Matsushiro Arr 37.85 20 P P 08 55 05.8 +1.3
MJAR pmax pmax
comp=Z,19nm,1.8s
BJI Beijing 39.08 352 P P 08 55 14.5 -0.2
BJI pP **pP 08 55 26.5 +1.1**
BJI PcP **PcP 08 57 23.0 -1.0**
BJI S **S 09 01 14.0 +2.8**
BJI sS **sS 09 01 29.8 +0.1**
BJI ScS **ScS 09 05 18.8 -1.7**
BJI pmax pmax
comp=Z,10.0nm,0.7s
CMSA Cobar Meteorol 39.14 148 P P 08 55 16.1 +0.7
baz=39,SNR=11
HHC Hu-ho-hao-te 40.72 347 *e* **P P 08 55 28.8 +0.3**
HHC S **S 09 01 39.3 +3.2**
HHC pmax pmax
comp=Z,21nm,0.9s
HHC pmax pmax
comp=Z,54nm,4.7s
HHC LR LR
comp=Z,250nm,14.7s
HHC LR LR
comp=Z,240nm,14.6s
HHC LR LR
comp=Z,190nm,15.2s
ARMA Armidale 41.73 141 P P 08 55 37.9 +0.9
baz=42,SNR=8.7
ARMA Armidale 41.73 141 P P 08 55 37.8 +0.9
ARMA IAmb IAmb 08 55 38.6
comp=Z,22nm,0.8s
ARPS Mount Arapiles 41.73 157 P P 08 55 36.4 -0.3
baz=42,SNR=6.6
GTA Gaotai 43.42 334 ⇑ **P P 08 55 51.8 +1.2**
GTA pP pP 08 56 03.3 +1.9
GTA sP sP 08 56 08.5 +2.5
GTA pmax pmax
comp=Z,7.0nm,0.8s
GTA pmax pmax
comp=Z,57nm,4.7s
GTA LR LR
comp=Z,150nm,16.7s
GTA LR LR
comp=Z,110nm,17.1s
GTA LR LR
comp=Z,180nm,17.8s
USA0B Ussuriysk Arra 43.50 9 ⇑ *eP* **P 08 55 50.6 -0.4**
USRK Ussuriysk Ar. 43.50 9 P P 08 55 50.0 -0.9
comp=Z,1.9nm,0.8s,baz=204,slow=7.9,SNR=4.7
USRK LR LR 09 16 36.9
comp=Z,47nm,18.0s,baz=151,slow=40
CAN Canberra 43.81 149 P P 08 55 54.8 +1.1
CAN pmax pmax
comp=Z,118nm,1.8s
CAN Canberra 43.81 149 P P 08 55 54.8 +1.1
TOO Toolangi 43.93 154 P P 08 55 55.9 +1.3
baz=44,SNR=5.0
TOO Toolangi 43.93 154 P P 08 55 55.7 +1.1
TOO pmax pmax
comp=Z,29nm,1.4s
TOO Toolangi 43.93 154 P P 08 55 55.7 +1.1
TOO IAmb IAmb 08 56 41.3
comp=Z,29nm,1.4s
ASAJ Asahikawa 46.11 20 P P 08 56 11.5 -0.3
comp=Z,7.2nm,0.9s,baz=243,slow=9.4,SNR=4.3
ASAJ pP **pP 08 56 23.6 +0.9**
comp=Z,8.5nm,0.7s,baz=254,slow=9.2,SNR=5.5
ASAJ LR LR 09 16 10.0
comp=Z,99nm,19.4s,baz=200,slow=37
JKA Kamikawa-asahi 46.11 20 P P 08 56 11.5 -0.3
JKA Kamikawa-asahi 46.11 20 IAmb IAmb 08 56 24.5
comp=Z,8.7nm,0.7s
HYB Hyderabad 46.45 293 *i* **P P 08 56 15.0 +0.1**
KLR Kul'dur 48.38 8 P P 08 56 28.8 -0.5
comp=Z,0.8nm,0.5s,baz=140,slow=9.4,SNR=3.6
KLR pP **pP 08 56 40.6 +0.3**
comp=Z,2.4nm,0.7s,baz=259,slow=6.6,SNR=4.8
ULN Ulaanbaatar 48.41 346 ⇓ *eP* **P 08 56 29.5 -0.3**
ULN pmax pmax
comp=Z,9.0nm,1.7s
ULN Ulaanbaatar 48.41 346 P P 08 56 36.6 +6.8
SONM Songino Array 48.55 345 P P 08 56 31.1 +0.3
comp=Z,3.9nm,0.8s,baz=162,slow=9.0,SNR=22
SONM pP **pP 08 56 42.1 +0.4**
comp=Z,6.3nm,0.7s,baz=161,slow=8.5,SNR=11
SONM LR LR 09 18 24.0
comp=Z,128nm,18.2s,baz=160,slow=38
SONM Songino Array 48.55 345 P P 08 56 30.5 -0.3
ZAK Zakamensk 51.70 344 *eP* **P 08 56 53.9 -0.8**
ZAK pmax pmax
comp=Z,7.0nm,1.4s
WMQ Urumqi 52.67 328 *eP* **P 08 57 03.3 +1.3**
WMQ LR LR
comp=Z,240nm,20.3s
WMQ LR LR
comp=Z,200nm,21.7s
WMQ LR LR
comp=Z,73nm,20.3s
DGZ Jazzator, Alta 56.95 333 ⇑ *i* **P P 08 57 33.0 0.0**
DGZ pmax pmax
comp=Z,7.0nm,2.5s
KSH Kashi 57.19 318 P P 08 57 35.8 +1.0
KSH pP pwP 08 57 49.0 -0.3
KSH sP sP 08 57 53.8 +3.0
KSH PcP **PcP 08 58 28.8 -0.2**
KSH pmax pmax
comp=Z,6.0nm,0.8s
MSVF Nonsavu 57.45 112 P P 08 57 38.6 +1.7
MSVF pmax pmax
comp=Z,40nm,1.6s
MSVF Nonsavu 57.45 112 P P 08 57 38.6 +1.7
MSVF IAmb IAmb 08 57 39.4
comp=Z,40nm,1.6s
MK31 Makanchi Array 57.50 328 P P 08 57 36.9 +0.2
MK31 pmax pmax
comp=Z,4.0nm,1.0s
MK31 Makanchi Array 57.50 328 P P 08 57 36.9 +0.2
MKAR Makanchi Array 57.50 328 P P 08 57 37.5 +0.8
comp=Z,3.0nm,0.9s,baz=116,slow=8.2,SNR=9.8
MKAR pP **pP 08 57 48.4 +0.3**
comp=Z,3.4nm,0.7s,baz=120,slow=8.7,SNR=10
MKAR LR LR 09 24 33.8
comp=Z,85nm,18.2s,baz=108,slow=38
PETK Petropavlovsk- 59.16 24 P P 08 57 48.7 +0.5
comp=Z,6.3nm,0.9s,baz=240,slow=4.5,SNR=4.5
PETK LR LR 09 21 28.9
comp=Z,60nm,21.7s,baz=204,slow=34
AAK Ala-Archa 59.71 320 LR LR 09 24 39.6
comp=Z,56nm,21.9s,baz=126,slow=37
AAK Ala-Archa 59.71 320 ⇑ *eP* **P 08 57 52.6 +0.3**
AAK *i* *PP **pwP 08 58 06.1 -0.8**
AAK pmax pmax
comp=Z,20nm,1.7s
AAK Ala-Archa 59.71 320 P P 08 57 52.5 +0.2
KBL Kabul 60.07 310 P P 08 57 54.2 -0.8
KBL IAmb IAmb 08 58 10.3
comp=Z,9.1nm,0.7s
YAK Yakutsk 60.83 4 LR LR 09 25 20.8
comp=Z,37nm,19.3s,baz=264,slow=37
GAR Garm 60.86 315 P P 08 57 59.4 -0.8
GAR IAmb IAmb 08 58 13.8
comp=Z,17nm,0.8s
ZALV Zalesovo Beam 61.13 335 LR LR 09 25 34.5
comp=Z,63nm,18.6s,baz=116,slow=37
WHZ Wether Hill Ro 61.46 146 P P 08 58 04.3 +0.3
CHGR Chuyangaron 61.55 314 P P 08 58 03.6 -1.3
MA2 Magadan 62.05 16 ⇓ *eP* **P 08 58 09.0 +1.3**
MA2 pmax pmax
comp=Z,28nm,2.5s
RPZ Rata Peaks 62.05 142 P P 08 58 09.3 +1.2
THZ Tophouse 62.21 140 P P 08 58 09.7 +0.5
KKAR Karatay Array 62.50 319 P P 08 58 10.4 -0.7
KKAR Karatay Array 62.50 319 P P 08 58 10.4 -0.7
BKZ Black Stump Fm 63.41 136 P P 08 58 17.7 +0.5
BRVK Borovoye 67.43 329 *d* **P P 08 58 43.6 +0.7**
BRVK pmax pmax
comp=Z,7.0nm,1.7s
BRVK Borovoye 67.43 329 P P 08 58 42.9 0.0
BRVK IAmb IAmb 08 58 57.7
comp=Z,13nm,1.4s
ABKAR Akbulak array 71.68 322 P P 08 59 08.3 -0.9
ABKAR Akbulak array 71.68 322 P P 08 59 08.8 -0.4
ABKAR IAmb IAmb 08 59 21.3
comp=Z,14nm,1.6s
ARU Arti 75.01 329 *d* **P P 08 59 27.1 -1.5**
ARU *PP **PcP 08 59 42.2 0.0**
ARU S **S 09 09 02.4 -0.9**
ARU pmax pmax
comp=Z,5.0nm,1.1s
ARU Arti 75.01 329 P P 08 59 27.1 -1.5
ARU IAmb IAmb 08 59 40.0
comp=Z,6.3nm,0.7s
VOI Vohitsoka 77.61 247 P P 08 59 41.5 -2.8
ATD Arta Tunnel 80.02 281 LR LR 09 36 23.9
comp=Z,20nm,18.7s,baz=357,slow=36
BELG Belogornoye 80.04 323 LR LR 09 38 41.0
comp=Z,47nm,18.5s,baz=141,slow=38
MAW Mawson 80.15 200 P P 08 59 56.6 -0.5
baz=80,SNR=11
MAW Mawson 80.15 200 P P 08 59 56.8 -0.3
comp=Z,9.2nm,1.0s,baz=46,slow=7.9,SNR=17
MAW LR LR 09 30 04.8
comp=Z,66nm,20.2s,baz=54,slow=32
MAW Mawson 80.15 200 P P 08 59 56.2 -0.9
ZEI Tsey 81.08 313 *eP* **P 09 00 08.3 +5.4**
ZEI pmax pmax
comp=Z,6.0nm,1.4s
VNDA Vanda 81.51 172 P P 09 00 04.1 -0.1
comp=Z,17nm,0.8s,baz=315,slow=5.6,SNR=105
VNDA LR LR 09 34 54.0
comp=Z,90nm,20.2s,baz=338,slow=35
VNDA Vanda 81.51 172 P P 09 00 03.8 -0.3
VNDA IAmb IAmb 09 00 05.2
comp=Z,20nm,0.8s
KBZ Khabaz 81.91 314 P P 09 00 06.0 -1.0
comp=Z,1.3nm,0.4s,baz=54,slow=4.1,SNR=4.1
KBZ Khabaz 81.91 314 P P 09 00 06.0 -1.0
GURO Guroymak-BITLI 82.08 309 P P 09 00 07.5 -0.7
GURO IAmb IAmb 09 00 20.6
comp=Z,15nm,0.9s
SBA Scott Base 82.46 171 P P 09 00 09.9 +0.7
SBA pmax pmax
comp=Z,19nm,1.1s
SBA Scott Base 82.46 171 P P 09 00 09.9 +0.7
SBA IAmb IAmb 09 00 11.3
comp=Z,19nm,1.1s
KLMR Klimovskoe 85.67 331 *eP* **P 09 00 21.4 -4.4**
KLMR pmax pmax
comp=Z,15nm,1.3s
KLMR Klimovskoe 85.67 331 *eP* **P 09 00 21.4 -4.4**
KLMR AMP 09 00 35.7
comp=Z,15nm,1.3s
OBN Obninsk 86.87 325 *i* **P P 09 00 32.3 +0.5**
OBN pmax pmax
comp=Z,6.0nm,0.9s
I23K Minto, Yukon-K 87.90 25 P P 09 00 36.7 +0.1
I23K IAmb IAmb 09 00 49.0
comp=Z,12nm,1.3s
BR131 Keskin Array S 88.64 310 ⇑ *eP* **P 09 00 39.8 -1.1**
BRTR Keskin Array B 88.64 310 P P 09 00 39.2 -1.7
comp=Z,0.6nm,0.7s,baz=125,slow=6.2,SNR=5.4
BRTR pP **pP 09 00 51.3 -1.5**
comp=Z,0.8nm,0.7s,baz=145,slow=6.6,SNR=4.5
BRTR LR LR 09 46 48.0
comp=Z,22nm,19.4s,baz=89,slow=40
SYO Syowa Base 88.78 201 ⇑ *eP* **P 09 00 41.6 +1.0**
ILAR Eielson Array 88.95 25 P P 09 00 40.4 -1.2
comp=Z,0.3nm,0.5s,baz=238,slow=5.1,SNR=4.1
QSPA South Pole Qui 91.19 180 P P 09 00 51.7 -0.5
comp=Z,4.7nm,0.8s,baz=261,slow=0.6,SNR=14
QSPA South Pole Qui 91.19 180 P P 09 00 52.3 +0.2
BCAR Beaver Creek A 91.29 27 P P 09 00 53.0 +0.4
AKASG Malin Array Be 91.37 321 P P 09 00 51.5 -1.7
comp=Z,1.5nm,0.4s,baz=59,slow=3.9,SNR=6.4
AKASG LR LR 09 44 14.6
comp=Z,14nm,21.4s,baz=265,slow=37
AKASG Malin Array Be 91.37 321 P P 09 00 51.5 -1.7
AKASG pmax pmax
comp=Z,4.0nm,1.5s
AKBB Malin Array Si 91.37 321 ⇑ **P P 09 00 54.2 +1.0**
ARCES ARCESS Array B 91.42 340 LR LR 09 46 36.0
comp=Z,56nm,18.0s,baz=135,slow=39
BARN Barnard Glacie 91.53 29 P P 09 00 54.3 +0.3
BARN IAmb IAmb 09 01 02.0
comp=Z,5.7nm,0.8s
CTGM Chitina Glacie 91.70 29 P P 09 00 55.1 +0.4
MNK Minsk 91.91 324 *i* **P P 09 00 57.2 +1.6**
MNK *i* *PP **sP 09 01 11.9 -0.1**
MNK *i* 09 04 36.4
MNK *i* PPP PPP 09 06 34.8
MNK *i* S **SKSac 09 11 25.1 0.0**
MNK *i* *SS **S 09 11 51.2 -2.7**
MNK *i* PS **PnS 09 13 10.3 +0.3**
MNK *i* SS **SS 09 18 03.1 +0.5**
MNK *i* SSS SSS 09 21 41.5
MNK pmax pmax
comp=Z,12nm,0.9s
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK pmax pmax
comp=N,6.0nm,0.5s
MNK MLR MLR
comp=E,31nm,17.0s
MNK MLR MLR
comp=N,150nm,17.0s
MNK MLR MLR
comp=Z,268nm,19.0s
MNK Minsk 91.91 324 *i* **P P 09 00 57.3 +1.7**
comp=E,2.0nm,0.7s
MNK *i* P **P 09 00 57.3 +1.7**
comp=N,6.0nm,0.5s
MNK *i* P **P 09 00 57.3 +1.7**
comp=Z,12nm,0.8s,baz=266
MNK *i* pP **sP 09 01 12.0 -0.1**
MNK *i* PP **PP 09 04 36.4 +1.4**
MNK *i* PPP PPP 09 06 34.8
MNK *i* S **SKSac 09 11 25.1 0.0**
MNK *i* sS **S 09 11 51.2 -2.7**
MNK *i* PS **PnS 09 13 10.4 +0.4**
MNK *i* SS **SS 09 18 03.1 +0.6**
MNK *i* SSS SSS 09 21 41.6
MNK *i* LR LR 09 40 31.8
MNK *i* LRM MLR 09 43 13.1
MNK *i* LRM MLR 09 43 24.0
MNK *i* LRM MLR 09 43 26.9
comp=Z,268nm,18.8s
BURAR Bucovina Array 94.27 318 P P 09 01 04.9 -1.8
BURAR IAmb IAmb 09 02 15.7
comp=Z,7.6nm,0.6s
BUR08 Bucovina Ar. S 94.28 318 P P 09 01 04.9 -1.9
BUR08 IAmb IAmb 09 02 13.3
comp=Z,7.4nm,0.6s
BOSA Boshof 97.33 241 LR LR 09 42 55.2
comp=Z,67nm,20.6s,baz=172,slow=34
NOA NORSAR Array B 99.25 333 LR LR 09 50 55.4
comp=Z,52nm,18.6s,baz=65,slow=38
SNAA Sanae 101.87 195 Pdiff Pdiff 09 01 40.4 -0.1
VNA2 Neumayer--Watz 103.50 195 Pdiff Pdif 09 01 47.6 0.0
TORD Torodi Ar. Bea 119.99 286 PKP PKPdf 09 06 36.9 -1.9
comp=Z,1.0nm,0.7s,baz=48,slow=0.9,SNR=7.3
TXAR Lajitas Array 126.11 52 PKP PKPdf 09 06 50.5 +0.2
comp=Z,0.3nm,0.7s,baz=321,slow=1.2,SNR=4.9
LPAZ La Paz 161.53 144 PKPab PKPab 09 08 34.5 +0.2
comp=Z,3.5nm,0.8s,baz=191,slow=4.4,SNR=12

NOU 25 08:51:38.8, 19.78S×140.02E, h0km, mb4.3/5, Queensland, Australia, Queensland

IDC ***25*** *08:56:16.7±1.1, 0.89S×131.49E, h0km, mb4.0/4, mb1 4.1/6, mb1mx3.7/40, mbtmp3.9/6, ML3.9/2, Error ellipse: s-maj=17.6km s-min=6.0km az=17.0*
DJA ***25*** *08:56:16.4±0.4, 1°S±6°×13°1E±°, h11km±5km, M4.2/8, mb4.1/1, MLv4.2/8*
NEIC ***25*** *08:56:20.3±1.3, 1.0S±0.1°×131.2E±0.2, h15km±6km, mb3.9/10, Error ellipse: s-maj=29.5km s-min=8.9km az=53.0*

ISC 25 08:56:17.2±0.7, 0.86S±0.06×130.99E±0.05, h10km, n30, σ1852/31, mb4.0/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**0.27**	**90**	P	**Pg**	**08 56 21.8**	**-0.8**
SWI				S	**Sg**	**08 56 26.6**	**+0.3**
SIJI	**Sorong**	**0.27**	**92**	Pg	**Pg**	**08 56 21.3**	**-1.4**
	925nm,0.3s,baz=345,slow=16,SNR=209						
SIJI				Lg	Lg	08 56 23.9	
	10μm,0.3s,baz=267,slow=23,SNR=191						
SIJI	**Sorong**	**0.27**	**92**	P	**Pg**	**08 56 21.3**	**-1.4**
FAKI	**Fak Fak**	**2.40**	**148**		**Pn**	**08 56 56.7**	**+0.1**
FAKI	**Fak Fak**	**2.40**	**148**	P	**Pn**	**08 56 56.5**	**-0.1**
FAKI				S	**Sn**	**08 57 25.7**	**-0.4**
MSAI	**Masohi**	**3.22**	**220**	P	**Pn**	**08 57 08.0**	**+0.2**
KRAI	**Karang Ratu**	**3.56**	**227**	P	**Pn**	**08 57 12.7**	**+0.1**
BNDI	**Bandanaira**	**3.80**	**197**	P	**Pn**	**08 57 15.6**	**-0.2**
TNTI	**Ternate**	**3.97**	**294**	Pn	**Pb**	**08 57 24.9**	**-2.4**
TNTI	**Ternate**	**3.97**	**294**	P	**Pn**	**08 57 17.7**	**-0.5**
GAMI	**Galela, Maluku**	**4.18**	**310**	P	**Pn**	**08 57 20.6**	**-0.4**
SANI	**Sanana**	**5.14**	**257**	P	**Pn**	**08 57 33.7**	**-0.6**
MTN	**Manton Dam**	**11.91**	**179**		**Pn**	**08 59 06.6**	**-0.5**
KNRA	**Kununurra**	**14.88**	**188**		**Pn**	**08 59 45.8**	**-2.1**
COEN	**Coen**	**17.74**	**138**		**Pn**	**09 00 22.8**	**-1.7**
COEN				IAmb	IAmb	09 00 25.4	
	comp=Z,23nm,1.2s						
FITZ	**Fitzroy Crossi**	**17.92**	**197**	Pn	**P**	**09 00 28.6**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=29,slow=9.7,SNR=13						
FITZ	**Fitzroy Crossi**	**17.92**	**197**	IAmb	IAmb	09 00 37.5	
	comp=Z,7.2nm,1.1s						
WB0	**Warramunga Arr**	**19.08**	**170**	P	**Pn**	**09 00 40.1**	**-0.8**
WB0				IAmb	IAmb	09 00 57.5	
	comp=Z,8.1nm,1.1s						
WRA	**Warramunga Arr**	**19.25**	**170**	P	**Pn**	**09 00 42.2**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=353,slow=13,SNR=30						
WRA				S	Sn	09 04 06.3	-12
	comp=Z,0.4nm,0.3s,baz=356,slow=22,SNR=9.5						
WB2	**Warramunga Arr**	**19.25**	**170**	P	**Pn**	**09 00 42.2**	**-0.7**
WB2				IAmb	IAmb	09 01 11.3	
	comp=Z,8.9nm,1.1s						
WR0	**Warramunga Arr**	**19.30**	**170**	P	**P**	**09 00 41.5**	**-1.0**
WR0				IAmb	IAmb	09 01 06.9	
	comp=Z,5.9nm,0.8s						
AS31	**Alice Springs**	**22.84**	**173**	P	**P**	**09 01 21.5**	**+0.7**
AS31				IAmb	IAmb	09 01 38.1	
	comp=Z,2.9nm,0.7s						
ASAR	**Alice Springs**	**22.84**	**173**	P	**P**	**09 01 21.1**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=352,slow=10.0,SNR=24						
ASAR				S	**S**	**09 05 32.1**	**+1.7**
	comp=Z,2.8nm,1.1s,baz=359,slow=21,SNR=5.6						
STKA	**Stephens Creek**	**32.44**	**163**	P	**P**	**09 02 46.6**	**-1.0**
	comp=Z,2.2nm,0.8s,baz=355,slow=9.2,SNR=4.3						
STKA	**Stephens Creek**	**32.44**	**163**	IAmb	IAmb	09 03 27.6	
	comp=Z,2.6nm,1.5s						
MK31	**Makanchi Array**	**63.73**	**325**	P	**P**	**09 06 52.1**	**+2.9**
MKAR	**Makanchi Array**	**63.73**	**325**	P	**P**	**09 06 51.9**	**+2.7**
	comp=Z,1.2nm,0.8s,baz=111,slow=7.9,SNR=5.2						
KURK	**Kurchatov**	**67.88**	**327**	P	**P**	**09 07 18.7**	**+2.9**
KURBB	**Kurchatov Arra**	**67.88**	**327**	P	**P**	**09 07 18.7**	**+2.9**
	comp=Z,1.8nm,1.0s,baz=126,slow=5.5,SNR=4.5						
QSPA	**South Pole Qui**	**89.07**	**180**	P	**P**	**09 09 14.7**	**+2.1**

MEX 25 08:57:04.7±0.5, 16.26N×98.06W, h6km±5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.15**	**333**	*eP*	Pg	08 57 07.4	-0.4
PNIG				*i* S	Sg	08 57 09.8	0.0
YOIG	**Yosondua**	**0.77**	**39**	*i* P	Pg	08 57 18.2	-1.3
YOIG				*i* S	Sg	08 57 28.4	-1.2
TXIG	**Tlaxiaco**	**1.03**	**16**	*eP*	Pg	08 57 22.3	-2.2
TXIG				*i* S	Sg	08 57 35.3	-2.5
MGIG	**Malinaltepec**	**1.12**	**330**	*eP*	Pg	08 57 23.2	-3.0
MGIG				*i* S	Sg	08 57 37.5	-3.2
VHO	**Vista Hermosa**	**1.50**	**57**	*eP*	Pn	08 57 28.4	-4.0
HLIG	**Huajuapan de L**	**1.58**	**9**	*eP*	Pn	08 57 30.4	-3.1
HLIG				*i* S	Sn	08 57 50.2	-4.2

IDC ***25*** *09:13:35.6±0.8, 31.82S×71.84W, h0km, mb4.0/8, mb1 4.0/12, mb1mx4.0/25, mbtmp3.9/12, ML3.8/4, MS3.2/5, Ms1 3.2/5, ms1mx3.0/20, Error ellipse: s-maj=31.3km s-min=18.9km az=97.0*
GUC ***25*** *09:13:36.9±0.6, 31.78S×72.20W, h36km±3km, ML4.1*
NEIC ***25*** *09:13:36.3±1.8, 31.77S±0.03×72.17W±0.07, h10km±1km, mb4.3/12, Mwr4.0/37, ML4.1(GUC), Error ellipse: s-maj=10.7km s-min=5.3km az=84.0*
NEIC ***25*** *09:13:36.3, 31.77S×72.17W, h17km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.41; $M_{\theta\theta}$-0.00; $M_{\phi\phi}$-1.41; $M_{r\theta}$-0.04; $M_{\theta\phi}$-0.00; $M_{\phi r}$-0.27; Fault plane solution: $M_0$1.44000×10^{15} NP1:ϕ_s181.61000°, δ50.48000°, λ91.83000°. NP2:ϕ_s358.73000°, δ39.56000°, λ87.78000°. Principal axes: T 1.4408, Plg84.0000°, Azm105.0000°; N -0.0032, Plg1.0000°, Azm0.0000°; P -1.4376, Plg5.0000°, Azm270.0000°;*

ISC 25 09:13:36.3±3.8, 31.76S±0.04×72.18W±0.06, h10km±24km, n77, σ0995/78, mb4.2/8, 9C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**1.09**	**137** ⇓	*iP*	**Pn**	**09 13 56.4**	**-1.3**
VA06				*i* S	**Sb**	**09 14 10.5**	**-1.1**
VA06				IAML		09 14 17.9	
	comp=E,11μm,0.5s						
CO02	**Combarbal**	**1.14**	**62** ⇑	*iP*	**Pn**	**09 13 57.8**	**-0.6**
CO02				*i* S	**Sb**	**09 14 13.2**	**0.0**
CO02				IAML		09 14 14.4	
	comp=N,18μm,0.6s						
CO02	**Combarbal**	**1.14**	**62**		**Pn**	**09 13 57.9**	**-0.6**
CO06	**Fray Jorge**	**1.17**	**23** ⇑	*iP*	**Pn**	**09 13 58.2**	**-0.5**
CO06				IAML		09 14 20.6	
	comp=N,3μm,0.4s						
CO06	**Fray Jorge**	**1.17**	**23**		**Pn**	**09 13 58.1**	**-0.5**
VA01	**Torpederas**	**1.34**	**161** ⇑	*iP*	**Pn**	**09 13 59.9**	**-1.1**
VA01	**Torpederas**	**1.34**	**161**	Pn	**Pn**	**09 13 59.9**	**-1.1**
ROCH	**El Roble**	**1.56**	**141** ⇑	*iP*	**Pn**	**09 14 03.6**	**-0.7**
ROCH				*i* S	**Sn**	**09 14 24.8**	**+0.1**
ROCH				IAML		09 14 32.7	
	comp=E,3μm,0.4s						
CO03	**El Pedregal**	**1.57**	**55** ⇑	*iP*	**Pn**	**09 14 04.4**	**+0.1**
CO03				*i* S	**Sn**	**09 14 25.2**	**+0.7**
CO03				IAML		09 14 27.5	
	comp=N,3μm,0.7s						
CO03	**El Pedregal**	**1.57**	**55**		**Pn**	**09 14 04.3**	**+0.1**
VA03	**San Esteban**	**1.70**	**127** ⇑	*iP*	**Pn**	**09 14 05.9**	**-0.3**
VA03				*i* S	**Sn**	**09 14 28.5**	**+0.4**
VA03				IAML		09 14 33.3	
	comp=N,9μm,0.7s						
VA03	**San Esteban**	**1.70**	**127**		**Pn**	**09 14 05.9**	**-0.3**
VA05	**Santo Domingo**	**1.95**	**166**	*eP*	**Pn**	**09 14 08.4**	**-1.1**
VA05				IAML		09 14 45.5	
	comp=E,2μm,0.3s						
VA05	**Santo Domingo**	**1.95**	**166**		**Pn**	**09 14 08.5**	**-0.9**
GO04	**Tololo Observa**	**1.97**	**37**	*eP*	**Pn**	**09 14 10.2**	**+0.3**
GO04	**Tololo Observa**	**1.97**	**37**		**Pn**	**09 14 10.2**	**+0.3**
CO05	**La Serena**	**2.00**	**24**	*eP*	**Pn**	**09 14 10.2**	**+0.2**
CO05				*i* S	**Sn**	**09 14 35.1**	**-0.1**

CO05					IAML			09 14 44.1	
	comp=E,3μm,0.4s								
CO05	**La Serena**	**2.00**	**24**			**Pn**	**Pn**	**09 14 10.4**	**+0.3**
MT05	**Renca**	**2.03**	**144**		*eP*	**Pn**	**Pn**	**09 14 10.1**	**-0.5**
MT05					*i* S	**Sn**	**Sn**	**09 14 37.0**	**+0.8**
MT05					IAML			09 14 45.4	
	comp=E,4μm,0.3s								
MT05	**Renca**	**2.03**	**144**			**Pn**	**Pn**	**09 14 10.3**	**-0.4**
MT01	**Popeta**	**2.24**	**160**	⇑	*iP*	**Pn**	**Pn**	**09 14 12.7**	**-0.8**
MT01					IAML			09 14 50.3	
	comp=E,917nm,0.6s								
MT01	**Popeta**	**2.24**	**160**			**Pn**	**Pn**	**09 14 12.7**	**-0.8**
MT09	**Talagante**	**2.25**	**154**	⇑	*iP*	**Pn**	**Pn**	**09 14 13.6**	**-0.1**
MT09					*i* S	**Sn**	**Sn**	**09 14 41.4**	**-0.1**
MT09					IAML			09 14 56.5	
	comp=E,1μm,0.8s								
MT09	**Talagante**	**2.25**	**154**			**Pn**	**Pn**	**09 14 13.6**	**-0.1**
LMEL	**Las Melosas**	**2.67**	**142**	⇑	*iP*	**Pn**	**Pn**	**09 14 19.8**	**+0.4**
LMEL					IAML			09 15 06.0	
	comp=N,675nm,0.6s								
BO01	**Tunca**	**2.78**	**161**		Pn	**Pn**	**Pn**	**09 14 20.3**	**-0.6**
LCO	**Las Campanas**	**3.02**	**25**		Pn	**Pn**	**Pn**	**09 14 24.8**	**+0.4**
BO02	**Sierra Bellavi**	**3.25**	**159**			**Pn**	**Pn**	**09 14 27.0**	**-0.3**
GO05	**Huala**	**3.25**	**176**		Pn	**Pn**	**Pn**	**09 14 26.2**	**-1.2**
AC04	**Llanos de Chal**	**3.67**	**15**		Pn	**Pn**	**Pn**	**09 14 32.2**	**-0.8**
ML02	**Panimavida**	**4.05**	**171**			**Pn**	**Pn**	**09 14 37.7**	**-0.6**
GO03	**Copiap**	**4.48**	**23**		Pn	**Pn**	**Pn**	**09 14 44.4**	**+0.2**
AC06	**Mina Casimiro**	**4.66**	**20**			**Pn**	**Pn**	**09 14 46.1**	**-0.6**
AC02	**Maricunga**	**5.58**	**29**		Pn	**Pn**	**Pn**	**09 15 00.4**	**+0.6**
VA04	**Juan Fernndez**	**5.92**	**250**		Pn	Pn	Pn	09 15 01.2	-2.7
H03N1	**Juan Fernandez**	**5.93**	**252**		T	T		09 21 50.6	
	baz=78,slow=72,SNR=190								
H03N3	**Juan Fernandez**	**5.94**	**252**		T	T		09 21 50.6	
	baz=78,slow=72,SNR=103								
H03N2	**Juan Fernandez**	**5.95**	**252**		T	T		09 21 50.6	
	baz=78,slow=72,SNR=121								
H03S3	**Juan Fernandez**	**6.04**	**248**		T	T		09 21 55.1	
	baz=84,slow=75,SNR=7.8								
H03S1	**Juan Fernandez**	**6.04**	**248**		T	T		09 21 54.2	
	baz=84,slow=75,SNR=7.6								
H03S2	**Juan Fernandez**	**6.05**	**248**		T	T		09 21 54.8	
	baz=84,slow=75,SNR=11								
LC01	**Cunco**	**7.13**	**178**		Pn	**Pn**	**Pn**	**09 15 19.7**	**-0.9**
PB14	**IPOC Station P**	**7.27**	**13**		Sn	**Sn**	**Sn**	**09 16 44.0**	**-1.7**
LR03	**Panguipulli**	**7.86**	**181**		Pn	**Pn**	**Pn**	**09 15 30.4**	**-0.2**
PB15	**IPOC Station P**	**8.85**	**16**		Pn	**Pn**	**Pn**	**09 15 45.4**	**+1.0**
PLCA	**Paso Flores**	**9.05**	**172**		Pn	**Pn**	**Pn**	**09 15 47.1**	**+0.1**
	comp=N,0.7nm,0.3s,baz=334,slow=11,SNR=33								
PLCA					LR		LR	09 19 36.0	
	comp=N,165nm,18.2s,baz=350,slow=40								
LL04	**Puerto Octay**	**9.14**	**181**		Pn	**Pn**	**Pn**	**09 15 49.8**	**+1.7**
PB04	**IPOC Station P**	**9.56**	**11**		Pn	**Pn**	**Pn**	**09 15 55.1**	**+1.0**
LVC	**Limon Verde**	**9.56**	**18**		Pn	**Pn**	**Pn**	**09 15 52.7**	**-1.7**
	comp=N,0.2nm,0.3s,baz=202,slow=19,SNR=1.4								
LVC					Sn		**Sn**	**09 17 38.7**	**-3.4**
	comp=N,0.6nm,0.3s,baz=272,slow=11,SNR=1.7								
LVC					LR		LR	09 19 47.5	
	comp=N,88nm,20.2s,baz=200,slow=39								
PB09	**IPOC Station P**	**10.26**	**15**		Pn	Pn		09 16 01.0	-2.7
TRQA	**Tornquist**	**10.46**	**130**		Pn	**Pn**	**Pn**	**09 16 06.4**	**0.0**
PB01	**IPOC Station P**	**10.94**	**13**		Pn	**Pn**	**Pn**	**09 16 11.2**	**-1.7**
CPUP	**Villa Florida**	**14.06**	**71**		Pn	**Pn**	**Pn**	**09 16 56.1**	**+0.6**
	comp=N,0.2nm,0.3s,baz=237,slow=13,SNR=3.7								
CPUP					LR		LR	09 22 35.7	
	comp=N,85nm,21.5s,baz=249,slow=39								
PLTB	**Pedras Altas**	**15.80**	**95**		Pn	**Pn**	**Pn**	**09 17 18.8**	**0.0**
PLTB					IAmb	IAmb		09 17 25.6	
	comp=Z,21nm,1.2s								
LPAZ	**La Paz**	**15.83**	**14**		Pn	**Pn**	**Pn**	**09 17 20.8**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=207,slow=8.8,SNR=6.5								
LPAZ	**La Paz**	**15.83**	**14**		Pn	**Pn**	**Pn**	**09 17 19.2**	**-0.7**
SIV	**San Ignacio**	**18.67**	**35**		P	**P**	**P**	**09 17 53.9**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=235,slow=11,SNR=5.3								
SIV					LR		LR	09 26 17.6	
	comp=Z,75nm,19.0s,baz=130,slow=41								
SPB	**Sao Paulo**	**23.34**	**76**		P	**P**		**09 18 44.3**	**-0.4**
SAML	**Samuel**	**24.18**	**22**		P	**P**		**09 18 52.5**	**-0.4**
BDFB	**Brasilia**	**27.23**	**60**		P	**P**		**09 19 18.9**	**-1.8**
	comp=Z,5.1nm,0.6s,baz=206,slow=8.7,SNR=5.6								
BDFB	**Brasilia**	**27.23**	**60**				**P**	**09 19 19.2**	**-1.5**
BDFB					IAmb		IAmb	09 19 28.0	
	comp=Z,8.7nm,1.0s								
SNAA	**Sanae**	**53.70**	**158**		P	**P**		**09 22 58.5**	**+0.5**
QSPA	**South Pole Qui**	**58.48**	**180**		P	**P**		**09 23 32.0**	**-0.3**
	comp=Z,2.9nm,0.9s,baz=153,slow=0.9,SNR=20								
QSPA	**South Pole Qui**	**58.48**	**180**		P	**P**		**09 23 31.5**	**-0.7**
QSPA					IAmb		IAmb	09 23 33.8	
	comp=Z,3.2nm,0.8s								
TXAR	**Lajitas Array**	**67.73**	**330**		P	**P**		**09 24 35.8**	**+1.8**
	comp=Z,0.2nm,0.7s,baz=101,slow=6.6,SNR=2.0								
TXAR	**Lajitas Array**	**67.73**	**330**		P	**P**		**09 24 34.0**	**0.0**
DBIC	**Dimbokro**	**74.58**	**72**		P	**P**		**09 25 15.8**	**0.0**
	comp=Z,2.9nm,0.8s,baz=9.9,slow=23,SNR=2.2								
MAW	**Mawson**	**75.36**	**164**		P	**P**		**09 25 19.8**	**+0.3**
	comp=Z,1.7nm,1.1s,baz=212,slow=11,SNR=2.7								
MAW					LR		LR	09 58 21.0	
	comp=Z,31nm,19.2s,baz=248,slow=36								
MAW	**Mawson**	**75.36**	**164**		P	**P**		**09 25 19.6**	**+0.1**
PDAR	**Pinedale Array**	**81.77**	**333**		P	**P**		**09 25 57.8**	**+2.8**
	comp=Z,0.2nm,0.5s,baz=152,slow=4.1,SNR=2.4								
PDAR	**Pinedale Array**	**81.71**	**333**		P	**P**		**09 25 54.4**	**-0.6**
NVAR	**Mina Array Bea**	**81.98**	**325**		P	**P**		**09 25 58.5**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=156,slow=4.6,SNR=2.2								
TORD	**Torodi Ar. Bea**	**83.56**	**70**		P	**P**		**09 26 05.1**	**+0.1**
	comp=Z,3.1nm,0.7s,baz=266,slow=4.8,SNR=20								
TORD	**Torodi Ar. Bea**	**83.56**	**70**		P	**P**		**09 26 04.9**	**-0.1**
BVAR	**Borovoye Array**	**145.69**	**41**		PKPbc		**PKPab**	**09 33 15.4**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=256,slow=2.6,SNR=7.5								
ZALV	**Zalesovo Beam**	**152.37**	**30**		PKPbc		**PKiKP**	**09 33 32.9**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=247,slow=3.7,SNR=2.0								
ZALV	**Zalesovo Beam**	**152.37**	**30**				**PKPbc**	**09 33 31.4**	**-0.5**

MEX 25 09:25:04.2±0.4, 17°.90N×97°.50W, h65km±4km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HLIG	**Huajuapan de L**	**0.29**	**256**	*iP*		Pn	09 25 13.5	-1.5
HLIG				*i* S		Sn	09 25 20.9	-2.0
TOIG	**Toxpalan**	**0.46**	**65**	*iP*		Pn	09 25 14.8	-1.5
TOIG				*i* S		Sn	09 25 22.9	-2.1
TPIG	**Tehuac#an**	**0.53**	**15**	*eP*		Pn	09 25 15.9	-1.1
TPIG				*i* S		Sn	09 25 25.0	-1.4
FTIG	**Fresnillo de T**	**0.60**	**270**	*iP*		Pn	09 25 16.4	-1.3
FTIG				*eS*		Sn	09 25 25.8	-1.9
TXIG	**Tlaxiaco**	**0.69**	**201**	*iP*		Pn	09 25 17.7	-1.3
TXIG				*i* S		Sn	09 25 28.1	-1.6
TLIG	**Tlapa**	**1.07**	**252**	*iP*		Pn	09 25 22.2	-1.2
TLIG				*i* S		Sn	09 25 36.5	-1.2
MGIG	**Malinaltepec**	**1.27**	**238**	*eP*		Pn	09 25 24.6	-1.5
MGIG				*eS*		Sn	09 25 41.4	-1.1
PLIG	**Platanillo**	**1.96**	**285**	*eP*		Pn	09 25 33.7	-1.7
PLIG				*i* S		Sn	09 25 57.0	-1.9

*IDC **25** 09:25:37.8±1.3, 31°.63S×71°.42W, h0km, mb4.0/4, mb1 3.9/7, mb1mx3.7/24, mbtmp3.8/7, ML3.2/3, MS2.9/7, Ms1 2.9/7, ms1mx2.8/25, Error ellipse: s-maj=41.2km s-min=35.6km az=130.0*
*SJA **25** 09:25:39.0, 31°.29S×72°.27W, h10km, ML4.6*
*NEIC **25** 09:25:40.9±2.0, 31°.30S±0°.02×71°.92W±0°.08, h21km±6km, mb4.4/7, ML4.2(GUC), Error ellipse: s-maj=10.3km s-min=3.3km az=98.0*
*GUC **25** 09:25:41.1±0.8, 31°.33S×71°.86W, h27km±4km, ML4.2*
ISC 25 09:25:39.7±0.6, 31°.33S±0°.03×71°.98W±0°.06, h19km±3km, n103, σ1§47/106, mb4.3/5, 6C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**0.72**	**24**	*eP*		**Pg**	**09 25 53.9**	**+0.1**
CO06				*i* S		**Sg**	**09 26 03.2**	**-0.2**
CO06				IAML			09 26 06.8	
	comp=E,10μm,0.3s							
CO06	**Fray Jorge**	**0.72**	**24**			**Pg**	**09 25 54.2**	**+0.4**
CO02	**Combarbal**	**0.85**	**82**	⇓	*iP*	**Pb**	**09 25 55.1**	**-0.7**
CO02				*i* S		**Sb**	**09 26 05.0**	**-1.9**
CO02				IAML			09 26 08.6	
	comp=E,25μm,0.2s							
CO02	**Combarbal**	**0.85**	**82**			**Pb**	**09 25 55.1**	**-0.7**
CO02	**Combarbal**	**0.85**	**82**	*i*	P	**Pb**	**09 25 55.0**	**-0.8**
CO03	**El Pedregal**	**1.21**	**66**	⇓	*iP*	**Pn**	**09 26 00.9**	**-0.8**
CO03	**El Pedregal**	**1.21**	**66**			**Pn**	**09 26 00.9**	**-0.8**
VA06	**Catapilco**	**1.36**	**155**	⇓	*iP*	**Pb**	**09 26 04.4**	**-0.1**
VA06				*i*	S	**Sn**	**09 26 21.0**	**-0.1**
VA06				IAML			09 26 23.9	
	comp=N,6μm,0.3s							
GO04	**Tololo Observa**	**1.54**	**42**	*eP*		**Pn**	**09 26 07.0**	**+0.7**
GO04				*i* S		**Sn**	**09 26 26.1**	**+0.2**
GO04				IAML			09 26 31.1	
	comp=N,10μm,0.5s							
GO04	**Tololo Observa**	**1.54**	**42**			**Pn**	**09 26 06.9**	**+0.7**
GO04	**Tololo Observa**	**1.54**	**42**	*i*	P	**Pn**	**09 26 07.0**	**+0.7**
CO05	**La Serena**	**1.54**	**25**	*eP*		**Pb**	**09 26 07.0**	**-0.7**
CO05				*i* S		**Sn**	**09 26 26.1**	**+0.5**
CO05				IAML			09 26 31.5	
	comp=E,3μm,0.5s							
CO05	**La Serena**	**1.54**	**25**			**Pb**	**09 26 06.9**	**-0.7**
VA01	**Torpederas**	**1.71**	**171**			**Pb**	**09 26 09.6**	**-0.9**
VA01	**Torpederas**	**1.71**	**171**	*i*	P	**Pn**	**09 26 09.0**	**+0.5**
ROCH	**El Roble**	**1.83**	**154**	⇑	*iP*	**Pn**	**09 26 11.5**	**+1.2**
ROCH				*i* S		**Sb**	**09 26 34.9**	**-0.4**
ROCH				IAML			09 26 40.6	
	comp=N,5μm,0.5s							
VA03	**San Esteban**	**1.87**	**140**	⇑	*iP*	**Pb**	**09 26 12.4**	**-1.0**
VA03				*i* S		**Sb**	**09 26 35.6**	**-0.8**
VA03				IAML			09 26 39.6	
	comp=E,5μm,0.3s							
VA03	**San Esteban**	**1.87**	**140**			**Pb**	**09 26 12.4**	**-1.0**
VA03	**San Esteban**	**1.87**	**140**	*i*	P	**Pn**	**09 26 12.0**	**+1.2**
PEL	**Peldehue**	**2.11**	**149**	⇑	*iP*	**Pn**	**09 26 15.7**	**+1.6**
PEL				*i* S		**Sb**	**09 26 42.9**	**-0.4**
PEL				IAML			09 26 46.6	
	comp=E,2μm,0.4s							
MT05	**Renca**	**2.31**	**153**	*eP*		**Pn**	**09 26 18.2**	**+1.5**
MT05				*i* S		**Sb**	**09 26 47.5**	**-1.4**
MT05	**Renca**	**2.31**	**153**			**Pn**	**09 26 18.2**	**+1.5**
MT05	**Renca**	**2.31**	**153**	*i*	P	**Pn**	**09 26 18.0**	**+1.2**
RTLS	**Leoncito**	**2.34**	**102**	*i*	P	**Pb**	**09 26 20.0**	**-1.3**
VA05	**Santo Domingo**	**2.34**	**173**	*eP*		**Pn**	**09 26 17.6**	**+0.6**
VA05				IAML			09 27 02.6	
	comp=E,2μm,0.3s							
VA05	**Santo Domingo**	**2.34**	**173**			**Pn**	**09 26 17.7**	**+0.6**
AUSP	**Uspallata**	**2.38**	**113**	*i*	P	**Pb**	**09 26 21.0**	**-1.1**
AROD	**Rodeo**	**2.45**	**62**	*i*	P	**Pb**	**09 26 22.0**	**-1.3**
LCO	**Las Campanas**	**2.56**	**26**	*eP*		**Pn**	**09 26 21.2**	**+0.8**
LCO				*i* S		**Sn**	**09 26 51.8**	**+0.6**
LCO	**Las Campanas**	**2.56**	**26**	Pn		**Pn**	**09 26 22.6**	**+2.2**
LCO	**Las Campanas**	**2.56**	**26**	*i*	P	**Pn**	**09 26 22.0**	**+1.6**
MT09	**Talagante**	**2.58**	**161**	⇑	*iP*	**Pn**	**09 26 22.5**	**+1.9**
MT09				IAML			09 27 05.7	
	comp=E,954nm,0.4s							
MT09	**Talagante**	**2.58**	**161**			**Pn**	**09 26 22.2**	**+1.7**
MT01	**Popeta**	**2.60**	**167**	⇑	*iP*	**Pn**	**09 26 21.9**	**+1.2**
MT01				IAML			09 27 07.3	
	comp=E,2μm,0.9s							
MT01	**Popeta**	**2.60**	**167**			**Pn**	**09 26 21.9**	**+1.2**
MT01	**Popeta**	**2.60**	**167**	*i*	P	**Pn**	**09 26 22.0**	**+1.2**
ACCO	**Cerro Coronel**	**2.61**	**74**	*i*	P	**Pb**	**09 26 24.0**	**-2.0**
ACDV	**Cuesta del Vie**	**2.72**	**66**	*i*	P	**Pb**	**09 26 27.0**	**-0.8**
ZON	**Zonda**	**2.83**	**95**	Pn		**Pb**	**09 26 27.9**	**-1.8**
ZON	**Zonda**	**2.83**	**95**	*i*	P	**Pb**	**09 26 28.0**	**-1.6**
LMEL	**Las Melosas**	**2.92**	**150**	⇑	*iP*	**Pn**	**09 26 27.4**	**+2.1**
LMEL				IAML			09 27 10.6	
	comp=N,1μm,0.2s							
ASAL	**Salagasta**	**2.95**	**116**	*i*	P	**Pb**	**09 26 30.0**	**-1.7**
ARCO	**CERRO ARCO**	**2.99**	**121**	*i*	P	**Pb**	**09 26 31.0**	**-1.5**
BO01	**Tunca**	**3.14**	**166**	*i*	P	**Pn**	**09 26 29.4**	**+1.2**
BO01				IAML			09 27 20.9	
	comp=E,248nm,0.4s							
BO01	**Tunca**	**3.14**	**166**			**Pn**	**09 26 29.4**	**+1.2**
BO01	**Tunca**	**3.14**	**166**	*i*	P	**Pn**	**09 26 29.0**	**+0.8**
AAGR	**Agrelo**	**3.19**	**124**	*i*	P	**Pb**	**09 26 33.0**	**-2.8**
AC04	**Llanos de Chal**	**3.21**	**14**	*i*	P	**Pn**	**09 26 29.3**	**+0.1**
AC04				IAML			09 27 28.7	
	comp=N,395nm,0.3s							
AC04	**Llanos de Chal**	**3.21**	**14**	Pn		**Pn**	**09 26 29.2**	**+0.1**
AGUA	**GUANDACOL**	**3.53**	**60**	*i*	P	**Pb**	**09 26 38.0**	**-3.6**
BO02	**Sierra Bellavi**	**3.60**	**164**	*eP*		**Pn**	**09 26 36.1**	**+1.6**
BO02	**Sierra Bellavi**	**3.60**	**164**			**Pn**	**09 26 36.1**	**+1.6**
BO02	**Sierra Bellavi**	**3.60**	**164**	*i*	P	**Pn**	**09 26 36.0**	**+1.6**
GO05	**Huala**	**3.67**	**179**	*eP*		**Pn**	**09 26 35.8**	**+0.3**
GO05	**Huala**	**3.67**	**179**	Pn		**Pn**	**09 26 35.8**	**+0.3**
GO05	**Huala**	**3.67**	**179**	*i*	P	**Pn**	**09 26 36.0**	**+0.6**
AVFE	**Valle Fertil**	**3.94**	**81**	*i*	P	**Pn**	**09 26 41.0**	**+1.8**
GO03	**Copiap**	**4.02**	**23**	Pn		**Pn**	**09 26 40.6**	**+0.3**
VCA	**Vinchina**	**4.17**	**53**	*i*	P	**Pn**	**09 26 47.0**	**+4.6**
AC06	**Mina Casimiro**	**4.21**	**20**	Pn		**Pn**	**09 26 43.8**	**+1.0**
COIS	**El Sosneado**	**4.26**	**153**	*i*	P	**Pn**	**09 26 48.0**	**+4.4**
LAMA	**Las Malvinas**	**4.28**	**148**	*i*	P	**Pn**	**09 26 48.0**	**+4.2**
ML02	**Panimavida**	**4.45**	**174**	Pn		**Pn**	**09 26 47.1**	**+1.0**
RFA	**San Rafael**	**4.52**	**140**	*i*	P	**Pn**	**09 26 50.0**	**+2.8**
ACHE	**Chepes**	**4.55**	**89**	*i*	P	Pn	09 26 53.0	+5.3
AC02	**Maricunga**	**5.12**	**30**			**Pn**	**09 26 54.0**	**-1.9**
CYA	**Choya**	**6.09**	**63**	*i*	P	**Pn**	**09 27 09.0**	**+0.3**
H03N1	**Juan Fernandez**	**6.23**	**248**	T		T	09 33 58.4	
	baz=77,slow=72,SNR=1597							
VA04	**Juan Fernndez**	**6.23**	**246**	Pn		**Pn**	**09 27 12.0**	**+1.4**
H03N3	**Juan Fernandez**	**6.25**	**248**	T		T	09 33 55.3	
	baz=77,slow=72,SNR=1801							
H03N2	**Juan Fernandez**	**6.25**	**248**	T		T	09 33 56.8	
	baz=77,slow=72,SNR=2193							
PB14	**IPOC Station P**	**6.82**	**12**	Pn		**Pn**	**09 27 19.0**	**0.0**
AHML	**Horco Molle**	**7.37**	**54**	*i*	P	**Pn**	**09 27 28.0**	**+1.7**
LC01	**Cunco**	**7.55**	**179**	Pn		**Pn**	**09 27 29.2**	**+0.5**
LR03	**Panguipulli**	**8.29**	**182**	Pn		**Pn**	**09 27 40.0**	**+1.2**
LVC	**Limon Verde**	**9.11**	**18**	Pn		**Pn**	**09 27 51.1**	**+0.7**
	comp=N,0.1nm,0.3s,baz=54,slow=4.4,SNR=1.2							
LVC						LR	LR	09 31 13.7	
	comp=N,83nm,18.1s,baz=216,slow=36							
LVC	**Limon Verde**	**9.11**	**18**			**Pn**	**09 27 48.8**	**-1.6**
PLCA	**Paso Flores**	**9.45**	**173**	Pn		**Pn**	**09 27 56.4**	**+1.5**
	comp=N,0.3nm,0.3s,baz=331,slow=11,SNR=12							
PLCA						LR	LR	09 31 37.2	
	comp=N,68nm,18.2s,baz=350,slow=40							
PLCA	**Paso Flores**	**9.45**	**173**			**Pn**	**09 27 55.7**	**+0.8**
PB07	**IPOC Station P**	**9.75**	**12**	Pn		**Pn**	**09 28 00.9**	**+1.9**
PB01	**IPOC Station P**	**10.48**	**13**	Pn		**Pn**	**09 28 07.8**	**-1.3**
TRQA	**Tornquist**	**10.61**	**132**	Pn		**Pn**	**09 28 11.6**	**+0.9**
CPUP	**Villa Florida**	**13.77**	**72**	Pn		**Pn**	**09 28 52.6**	**-1.3**
	comp=N,0.2nm,0.3s,baz=218,slow=17,SNR=1.8							
CPUP						LR	LR	09 33 20.3	
	comp=N,12nm,20.6s,baz=256,slow=34							
LPAZ	**La Paz**	**15.38**	**14**	Pn		**P**	**09 29 18.8**	**-2.1**
	comp=N,0.1nm,0.3s,baz=252,slow=13,SNR=1.9							
LPAZ						LR	LR	09 35 33.8	
	comp=N,27nm,20.7s,baz=166,slow=38							
LPAZ	**La Paz**	**15.38**	**14**			**Pn**	**09 29 16.7**	**+0.4**
SIV	**San Ignacio**	**18.23**	**36**	P		**Pn**	**09 29 51.4**	**-0.3**
	comp=N,0.1nm,0.3s,baz=217,slow=12,SNR=4.0							
SIV						LR	LR	09 36 45.9	
	comp=N,38nm,19.7s,baz=112,slow=37							
NNA	**Nana**	**19.77**	**346**	LR		LR	09 35 48.8	
	comp=N,39nm,20.8s,baz=156,slow=30							
BDFB	**Brasilia**	**26.87**	**60**	P		**P**	**09 31 18.9**	**-0.6**
	comp=N,1.9nm,0.4s,baz=247,slow=13,SNR=3.2							
BDFB	**Brasilia**	**26.87**	**60**			**P**	**09 31 18.2**	**-1.3**
BDFB						IAmb	IAmb	09 31 29.2	
	comp=Z,15nm,1.4s							
SVN	**Savane Anatole**	**47.07**	**14**	P		**P**	**09 34 09.5**	**-0.8**
QSPA	**South Pole Qui**	**58.90**	**180**	P		**P**	**09 35 36.4**	**-0.8**
QSPA						IAmb	IAmb	09 35 36.8	
	comp=Z,5.0nm,1.4s							
TXAR	**Lajitas Array**	**67.44**	**330**	P		P		09 36 39.9	+5.7
	comp=Z,0.2nm,0.8s,baz=148,slow=5.2,SNR=2.2								
TXAR	**Lajitas Array**	**67.44**	**330**	P		**P**		**09 36 36.9**	**+2.7**
DBIC	**Dimbokro**	**74.29**	**72**	P		**P**		**09 37 15.2**	**-0.9**
	comp=Z,1.9nm,0.6s,baz=206,slow=6.9,SNR=3.5								
DBIC	**Dimbokro**	**74.29**	**72**	P		**P**		**09 37 14.2**	**-1.9**
DBIC						IAmb	IAmb	09 37 22.0	
	comp=Z,13nm,1.4s								
TORD	**Torodi Ar. Bea**	**83.26**	**70**	P		**P**		**09 38 05.7**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=268,slow=4.7,SNR=10.0								
TORD	**Torodi Ar. Bea**	**83.26**	**70**	P		**P**		**09 38 05.4**	**0.0**
TORD						IAmb	IAmb	09 38 06.2	
	comp=Z,2.0nm,0.8s								
FRB	**Frobisher Bay**	**94.79**	**2**	LR		LR		10 25 19.2	
	comp=Z,31nm,18.7s,baz=358,slow=38								
WRA	**Warramunga Arr**	**123.11**	**210**	PKP		**PKiKP**		**09 44 35.8**	**0.0**
	comp=Z,0.8nm,1.2s,baz=143,slow=1.6,SNR=1.9								
KURBB	**Kurchatov Arra**	**150.85**	**40**	PKPbc		**PKiKP**		**09 45 30.8**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=301,slow=2.9,SNR=6.3								
KURK	**Kurchatov**	**150.85**	**40**			**PKiKP**		**09 45 30.8**	**-0.3**
ZALV	**Zalesovo Beam**	**151.92**	**30**	PKPbc		**PKiKP**		**09 45 33.8**	**+0.6**
	comp=Z,1.7nm,0.5s,baz=285,slow=2.9,SNR=7.3								
ZALV	**Zalesovo Beam**	**151.92**	**30**			**PKiKP**		**09 45 33.6**	**+0.4**

*IDC **25** 09:27:60.0±0.7, 32°.72N×46°.56E, h0km, mb4.0/21, mb1 4.1/27, mb1mx4.0/53, mbtmp4.0/27, ML3.7/7, MS2.7/4, Ms1 2.7/4, ms1mx2.5/49, Error ellipse: s-maj=16.9km s-min=13.4km az=162.0*
*MOS **25** 09:28:01.7±1.0, 32°.73N×46°.50E, h26km, mb4.3/17, Error ellipse: s-maj=8.9km s-min=5.8km az=85.6*
*THR **25** 09:28:01.7±0.4, 32°.81N×46°.60E, h18km±9km, ML3.9*
*TEH **25** 09:28:02.5, 32°.79N×46°.54E, h19km, ML3.9*
*NEIC **25** 09:28:02.4±1.9, 32°.75N±0°.07×46°.51E±0°.07, h10km±1km, mb4.1/26, mb_Lg3.9(TEH), Error ellipse: s-maj=12.1km s-min=9.4km az=182.0*
*ISN **25** 09:28:03.5±1.1, 32°.78N×46°.56E, h37km±4km, ML4.0*
*OMAN **25** 09:28:11.7±1.3, 31°.98N×46°.75E, h15km, mb5.5/23, ms2.8/3, Error ellipse: s-maj=20.7km s-min=8.6km az=26.0*
ISC 25 09:28:01.2±0.4, 32°.70N±0°.03×46°.55E±0°.03, h10km, n210, σ1§99/240, mb4.2/36, 3C-2D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DHL1	**Dehloran**	**0.61**	**92**	*ePg*		**Pg**	**09 28 14.7**	**+1.6**
DHL1				*eSg*		**Sb**	**09 28 24.7**	**+2.0**
IBDR	**Badra**	**0.67**	**308**	*ePg*		**Pb**	**09 28 15.5**	**+0.6**
IBDR				*eSg*		**Sn**	**09 28 26.0**	**-1.2**
IBDR				AML		AML	09 28 55.9	
	comp=E,4μm,0.6s							
IBDR				AML		AML	09 29 03.6	
	comp=N,4μm,0.7s							
IKFM	**Kafar-mosalman**	**1.36**	**53**	*ePg*		**Pn**	**09 28 27.1**	**+0.8**
IKFM				*e*			09 28 30.6	
	comp=Z,31μm,0.2s							
KCHF	**Cheshme Sefid,**	**1.62**	**14**			**Pb**	**09 28 30.9**	**-0.4**
KCHF	**Cheshme Sefid,**	**1.62**	**14**	*ePg*		**Pb**	**09 28 31.0**	**-0.4**
KCHF				*e*			09 28 56.6	
	comp=Z,28μm,0.4s							
IGHG	**Ghaleghazi**	**1.

ONI	Oni	10.17	347	P		Pn	09	30	28.6 +1.3
ONI	Oni	10.17	347			Pn	09	30	28.6 +1.3
EIL	Elat	10.39	256	Pn		Pn	09	30	30.3 +0.1
	comp=N,0.2nm,0.3s,baz=102,slow=16,SNR=1.3								
EIL				Lg		Lg	09	33	35.4
	comp=N,0.3nm,0.3s,baz=96,slow=15,SNR=2.3								
SHME	Shamm	10.67	126	Pn		Pn	09	30	34.9 +0.8
BANOM	Banah	10.86	126	Pn		Pn	09	30	37.3 +0.6
BANOM	Banah	10.86	126	P		Pn	09	30	39.0 +2.2
	SNR=12								
BANOM				S		Sn	09	32	35.4 -2.9
MZWR	Madinat Zayed	11.00	142	P		Pn	09	30	40.9 +2.2
NAZ	Nazwa, Dubai	11.08	132	Pn		Pn	09	30	41.3 +1.6
NAZ	Nazwa, Dubai	11.08	132	S		Sn	09	32	41.3 -2.4
MASF	Masafi	11.13	129	P		Pn	09	30	42.6 +2.1
MASF				S		Sn	09	32	42.4 -2.7
ASUD	Al Ashush, Dub	11.13	134	Pn		Pn	09	30	42.1 +1.6
MSFE	Esma-Masafi	11.14	129	Pn		Pn	09	30	41.4 +0.8
FAQ	Al Faqa, Dubai	11.21	133	Pn		Pn	09	30	42.1 +0.6
FAQ	Al Faqa, Dubai	11.21	133	P		Pn	09	30	43.9 +2.4
FAQ				S		Sn	09	32	44.9 -2.0
MDH	Madha	11.27	128	Pn		Pn	09	30	42.2 -0.2
MDH	Madha	11.27	128	P		Pn	09	30	44.3 +1.9
MDH				S		Sn	09	32	44.9 -3.5
KBZ	Khabaz	11.38	346	LR		LR	09	36	01.0
	comp=N,44nm,19.1s,baz=99,slow=42								
KBZ	Khabaz	11.38	346	*i* P		Pn	09	30	43.3 -0.4
UOSS	Minazif	11.45	130	Pn		Pn	09	30	45.1 +0.2
UOSS	Minazif	11.45	130	Pn		Pn	09	30	46.6 +1.7
UOSS	Minazif	11.45	130	P		Pn	09	30	48.6 +3.7
UOSS				P		Pn	09	30	48.6 +3.7
UOSS				S		Sn	09	32	49.8 -3.1
UOSS				S		Sn	09	32	49.8 -3.1
HATD	Hatta, Dubai	11.49	131	Pn		Pn	09	30	45.1 -0.3
HATD				Sn		Sn	09	32	49.2 -4.7
ASHO	Ashiyiah	11.54	131	Pn		Pn	09	30	46.9 +0.7
ASHO	Ashiyiah	11.54	131	P		Pn	09	30	48.6 +2.4
ALNE	Al Ain	11.81	134	P		Pn	09	30	51.7 +1.9
ALNE				S		Sn	09	32	57.8 -4.0
SOHO	SOHO	12.24	132	P		Pn	09	30	58.8 +3.2
SOHO				S		Sn	09	33	10.0 -2.2
UMZA	Um Al Zommool	12.53	140	P		Pn	09	31	02.0 +2.4
BRTR	Keskin Array B	12.56	308	Pn		Pn	09	31	02.0 +2.0
	comp=N,0.1nm,0.3s,baz=241,slow=15,SNR=1.6								
BRTR				LR		LR	09	37	10.1
	comp=N,34nm,19.5s,baz=106,slow=44								
BRTR	Keskin Array B	12.56	308			Pn	09	31	01.8 +1.7
BR131	Keskin Array S	12.56	308	P		Pn	09	31	00.5 +0.4
BR131	Keskin Array S	12.56	308	Pn		Pn	09	31	00.5 +0.4
ARQ	Araqi	12.82	134	S		Sn	09	33	23.3 -3.1
HOQ	Hoqain	13.13	131	P		Pn	09	31	11.2 +3.4
HOQ				S		Sn	09	33	31.3 -2.6
BSY	Bisya	13.67	134	P		Pn	09	31	15.7 +0.5
SMDO	Samad	13.97	131	P		Pn	09	31	22.8 +3.4
WSAR	Wadi Sarin	14.23	128	Pn		Pn	09	31	21.2 -1.6
	comp=N,0.8nm,0.3s,baz=315,slow=9,0,SNR=13								
WSAR				Sn		Sn	09	33	54.6 -6.2
	comp=N,0.4nm,0.3s,baz=196,slow=20,SNR=7.0								
WSAR	Wadi Sarin	14.23	128	P		Pn	09	31	23.8 +1.0
WSAR				S		Sn	09	33	56.4 -4.4
JMDO	Jabal Madar	14.51	132	P		Pn	09	31	28.6 +1.9
JMDO				S		Sn	09	34	03.9 -3.7
WBK	Wadi Bani Khal	14.89	129	P		Pn	09	31	35.0 +3.1
MHTO	MHTO	15.47	136	S		Sn	09	34	26.0 -5.1
MHTO				S		Sn	09	34	26.0 -5.1
JLN	Jalan Bani Buh	15.50	129	P		Pn	09	31	43.3 +3.4
DOK	Doka	15.59	152	P		Pn	09	31	40.2 -0.9
DQM	DQM	16.07	140	P		Pn	09	31	47.2 -0.1
ABTO	Aybut	16.45	157	P		Pn	09	31	51.9 -0.4
RBK	Rabkut	16.63	154	P		Pn	09	31	54.6 0.0
DMTO	DMTO	16.73	151	P		Pn	09	31	55.8 +0.1
IDI	Anoyia	18.15	284	P		P	09	32	15.0 +1.3
	comp=N,0.3nm,0.3s,baz=75,slow=20,SNR=1.4								
KBL	Kabul	18.82	78	P		P	09	32	22.1 +0.8
KBL				pmax		pmax			
	comp=Z,5.0nm,0.9s								
KBL	Kabul	18.82	78			P	09	32	22.1 +0.8
VRH	Novokhopyorsk	18.83	351	*e*P		P	09	32	19.4 -1.5
VRH				pmax		pmax			
	comp=Z,7.0nm,0.5s								
CHGR	Chuyangaron	19.28	66	P		P	09	32	26.2 0.0
CHGR				IAmb		IAmb	09	32	28.1
	comp=Z,8.2nm,0.7s								
ABKAR	Akbulak array	19.33	27	P		P	09	32	26.9 +0.4
AKTO	Aktyubinsk	19.64	22	P		P	09	32	29.5 -0.4
	comp=Z,0.6nm,0.3s,baz=208,slow=11,SNR=12								
BELG	Belogornoye	19.70	2	P		P	09	32	29.9 -0.6
	comp=Z,1.2nm,0.3s,baz=116,slow=1.6,SNR=3.0								
GAR	Garm	20.23	65	P		P	09	32	38.2 +1.6
MLR	Muntele Rosu	20.40	315	P		P	09	32	38.1 -0.2
	comp=Z,1.1nm,0.5s,baz=118,slow=13,SNR=2.0								
LPSR	Galich'ya Gora	20.64	347	*e*P		P	09	32	38.5 -2.2
LPSR				pmax		pmax			
	comp=Z,30nn,1.2s								
ITM	Ithomi	20.66	289	P		P	09	32	42.1 +1.0
BTK	Batken	20.83	62	P		P	09	32	42.7 -0.3
BTK				pmax		pmax			
	comp=Z,5.0nm,0.7s								
BTK	Batken	20.83	62	P		P	09	32	42.7 -0.3
BTK				IAmb		IAmb	09	32	58.6
	comp=Z,4.6nm,0.7s								
ATD	Arta Tunnel	21.34	190	P		P	09	32	48.5 -0.2
	comp=Z,2.2nm,0.3s,baz=279,slow=21,SNR=1.5								
KK31	Karatay Array	21.50	54	P		P	09	32	50.7 +0.5
KK31				pmax		pmax			
	comp=Z,5.0nm,0.9s								
KK31	Karatay Array	21.50	54	P		P	09	32	50.7 +0.5
KK31				IAmb		IAmb	09	32	55.3
	comp=Z,4.8nm,0.8s								
KKAR	Karatay Array	21.50	54	P		P	09	32	50.3 +0.1
KKAR				pmax		pmax			
	comp=Z,5.0nm,0.9s								
KKAR	Karatay Array	21.50	54	P		P	09	32	50.7 +0.5
KKAR				IAmb		IAmb	09	32	55.3
	comp=Z,4.8nm,0.8s								
KKAR	Karatay Array	21.50	54	P		P	09	32	50.3 +0.1
BURAR	Bucovina Array	21.98	319	P		P	09	32	54.9 -0.5
BUR08	Bucovina Ar. S	22.01	319	P		P	09	32	54.6 -1.1
AKASG	Malin Array Be	22.06	330	P		P	09	32	54.6 -1.4
	comp=Z,1.0nm,0.4s,baz=132,slow=11,SNR=8.2								
AKASG	Malin Array Be	22.06	330	*e*P		P	09	32	57.2 +1.2
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.5s								
AKASG	Malin Array Be	22.06	330	P		P	09	32	55.1 -0.9
AKBB	Malin Array Si	22.06	330	P		P	09	32	56.1 +0.1
AKBB				pmax		pmax			
	comp=Z,5.0nm,0.9s								
AKBB	Malin Array Si	22.06	330	P		P	09	32	56.1 +0.1
AKBB				IAmb		IAmb	09	33	02.5
	comp=Z,5.4nm,0.9s								
NIL	Nilore	22.35	80	P		P	09	33	00.0 +0.6
NIL				pmax		pmax			
	comp=Z,8.0nm,1.0s								
NIL	Nilore	22.35	80	P		P	09	32	60.0 +0.6
NIL				IAmb		IAmb	09	33	02.7
	comp=Z,7.7nm,1.0s								
OBN	Obninsk	23.49	346	*i* P		P	09	33	10.4 -0.5
OBN				*i*			09	33	37.8
OBN				pmax		pmax			
	comp=Z,8.0nm,0.8s								
AAK	Ala-Archa	24.14	58	P		P	09	33	17.8 +0.2
	comp=Z,0.7nm,0.3s,baz=228,slow=14,SNR=1.8								
KSH	Kashi	24.65	66	P		P	09	33	20.5 -1.7
KSH				pP		pP	09	33	25.8 +0.6
KSH				sP		sP	09	33	29.0 +2.5
KSH				pmax		pmax			
	comp=Z,6.0nm,0.7s								
ARU	Arti	25.15	16	P		P	09	33	27.2 +0.9
	comp=Z,0.9nm,0.3s,baz=193,slow=10,SNR=1.7								
ARU	Arti	25.15	16*c*	*i* P		P	09	33	27.2 +0.9
ARU							09	33	58.4
ARU				S		S	09	37	54.8 +3.8
ARU				SS		SnSn	09	38	49.4 +8.7
ARU				pmax		pmax			
	comp=Z,7.0nm,0.9s								
ARU	Arti	25.15	16	P		P	09	33	25.8 -0.4
MNK	Minsk	25.49	334	*i* P		P	09	33	27.0 -2.4
MNK				*i* PPP		PPP	09	34	09.7
MNK				*i*			09	36	59.2
MNK				*i* S		S	09	37	54.3 -2.2
MNK				*i* SSS		SSS	09	39	00.9
MNK				pmax		pmax			
	comp=Z,12nm,0.7s								
MNK				pmax		pmax			
	comp=N,15nm,0.7s								
MNK				pmax		pmax			
	comp=E,3.0nm,0.9s								
MNK				MLR		MLR			
	comp=N,305nm,25.0s								
MNK				MLR		MLR			
	comp=E,12nm,16.0s								
MNK	Minsk	25.49	334	*i* P		P	09	33	27.0 -2.4
	comp=E,3.0nm,0.9s								
MNK				*i* P		P	09	33	27.0 -2.4
	comp=N,15nm,0.7s								
MNK				*i* P		P	09	33	27.0 -2.4
	comp=Z,12nm,0.7s,baz=141								
MNK				*i* PP		PnPn	09	34	01.7 -3.1
MNK				*i* PPP		PPP	09	34	09.8
MNK				*i* PcP		PcP	09	36	59.2 -1.6
MNK				*i* S		S	09	37	54.3 -2.2
MNK				*i* SS		SnSn	09	38	47.2 -2.0
MNK				*i* SSS		SSS	09	39	00.9
MNK				*i* LQ		LQ	09	41	25.2
MNK				*i* LR		LR	09	43	20.9
MNK				*i* LRM		MLR	09	43	48.8
	comp=N,305nm,24.6s								
MNK				*i* LRM		MLR	09	44	12.5
	comp=E,12nm,15.9s								
MNK				*i* LRM		MLR	09	44	24.2
	comp=Z,400nm,26.8s								
BRVK	Borovoye	26.55	33	*e*P		P	09	33	39.7 +0.7
BRVK				pmax		pmax			
	comp=Z,3.0nm,1.0s								
BRVK	Borovoye	26.55	33	P		P	09	33	38.4 -0.7
BRVK				IAmb		IAmb	09	33	40.0
	comp=Z,2.6nm,0.7s								
BVAR	Borovoye Array	26.57	33	P		P	09	33	39.5 +0.3
	comp=Z,4.3nm,0.7s,baz=202,slow=11,SNR=10								
KLMR	Klimovskoe	28.54	353	*e*P		P	09	33	52.5 -4.3
KLMR				pmax		pmax			
	comp=Z,17nm,1.7s								
KLMR	Klimovskoe	28.54	353	*e*P		P	09	33	52.5 -4.3
KLMR				AMP			09	34	03.0
	comp=Z,17nm,1.7s								
KURBB	Kurchatov Arra	29.53	43	P		P	09	34	06.5 +0.8
	comp=Z,3.2nm,0.7s,baz=249,slow=9.1,SNR=19								
KURK	Kurchatov	29.63	43	P		P	09	34	06.5 0.0
KURK	Kurchatov	29.63	43	P		P	09	34	06.5 0.0
MK31	Makanchi Array	30.58	52	P		P	09	34	16.2 +1.1
MK31				pmax		pmax			
	comp=Z,2.0nm,0.7s								
MK31	Makanchi Array	30.58	52	P		P	09	34	16.2 +1.1
MK31				IAmb		IAmb	09	34	18.7
	comp=Z,1.6nm,0.7s								
MKAR	Makanchi Array	30.58	52	P		P	09	34	15.8 +0.7
	comp=Z,1.5nm,0.6s,baz=258,slow=6.1,SNR=12								
FINES	FINESS Array B	31.67	341	P		P	09	34	24.4 -0.1
	comp=Z,1.9nm,0.5s,baz=142,slow=9.6,SNR=8.3								
ZALV	Zalesovo Beam	34.41	40	P		P	09	34	48.6 +0.1
	comp=Z,2.6nm,0.5s,baz=251,slow=8.5,SNR=6.0								
ZALV	Zalesovo Beam	34.41	40	P		P	09	34	48.1 -0.4
DGZ	Jazzator, Alta	34.63	48	*e*P		P	09	34	47.9 -2.7
DGZ				pmax		pmax			
	comp=Z,2.0nm,0.6s								
NB2	NORSAR Subarra	36.44	332	P		P	09	35	05.4 -0.6
	comp=Z,3.2nm,1.0s,baz=126,slow=9.3								
NOA	NORSAR Array B	36.44	332	P		P	09	35	05.9 -0.1
	comp=Z,1.2nm,0.7s,baz=125,slow=8.7,SNR=4.0								
KEV	Kevo	38.68	349	P		P	09	35	25.3 +0.6
KEV				pmax		pmax			
	comp=Z,6.0nm,1.0s								
KEV	Kevo	38.68	349	P		P	09	35	25.3 +0.6
KEV				IAmb		IAmb	09	35	27.8
	comp=Z,6.0nm,1.0s								
ARCES	ARCESS Array B	38.73	348	P		P	09	35	25.5 +0.3
	comp=Z,2.1nm,0.6s,baz=147,slow=8.6,SNR=5.4								
ARCES	ARCESS Array B	38.73	348	P		P	09	35	25.2 0.0
ARCES				pmax		pmax			
	comp=Z,5.0nm,1.1s								
ARCES	ARCESS Array B	38.73	348	P		P	09	35	25.1 0.0
ARCES				IAmb		IAmb	09	35	29.9
	comp=Z,5.4nm,1.1s								
NRIK	Noril'sk	43.24	20	*de*P		P	09	36	02.5 +0.2
NRIK				pmax		pmax			
	comp=Z,4.0nm,1.1s								
TORD	Torodi Ar. Bea	45.27	255	P		P	09	36	19.6 +0.4
	comp=Z,0.5nm,0.4s,baz=61,slow=8.1,SNR=5.9								
TORD	Torodi Ar. Bea	45.27	255	IAmb		IAmb	09	36	43.5
	comp=Z,2.6nm,1.4s								
SONM	Songino Array	46.94	53	P		P	09	36	32.9 +0.7
	comp=Z,0.4nm,0.6s,baz=130,slow=18,SNR=2.3								
SONM				PcP		PcP	09	38	04.7 +0.1
	comp=Z,0.4nm,0.5s,baz=270,slow=4.3,SNR=2.1								
SONM	Songino Array	46.94	53	P		P	09	36	32.4 +0.2
ULN	Ulaanbaatar	47.38	53	*e*P		P	09	36	34.0 -1.7
ULN				pmax		pmax			
	comp=Z,2.0nm,0.9s								
CMAR	Chiang Mai Arr	48.88	94	P		P	09	36	47.5 0.0
	comp=Z,0.8nm,0.3s,baz=296,slow=6.9,SNR=1.2								
KOWA	Kowa	49.27	261	P		P	09	36	52.3 +1.8
KOWA				IAmb		IAmb	09	36	53.4
	comp=Z,1.8nm,0.6s								
KLR	Kul'dur	63.11	47	P		P	09	38	29.4 +0.5
	comp=Z,0.5nm,0.4s,baz=298,slow=17,SNR=1.6								
KLR				PP		PP	09	40	48.1 +0.8
	comp=Z,1.0nm,0.5s,baz=300,slow=11,SNR=3.0								
BOSA	Boshof	64.25	201	P		P	09	38	37.5 +0.9
	comp=Z,1.7nm,0.8s,baz=44,slow=4.0,SNR=1.8								
KSRS	Korea Array	64.77	60	P		P	09	38	39.2 -0.7
	comp=Z,1.1nm,0.4s,baz=284,slow=7.0,SNR=6.5								
SEY	Seymchan	68.11	28	P		P	09	39	01.2 +0.3
	comp=Z,2.9nm,0.6s,baz=240,slow=9.1,SNR=5.4								
SCHQ	Schefferville	75.82	327	P		P	09	39	48.6 +1.2
	comp=Z,1.8nm,0.6s,baz=45,slow=8.6,SNR=1.4								
ILAR	Eielson Array	82.28	6	P		P	09	40	22.4 -0.2
	comp=Z,0.4nm,0.8s,baz=337,slow=2.1,SNR=3.3								

IDC 25 09:31:54.0±2.4, 53.73N×86.95E, h0km, mb1 3.1/2, mb1mx2.9/53, mbtmp3.1/2, ML2.6/2, Error ellipse: s-maj=21.2km s-min=13.1km az=74.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
I46RU	ZALESOVO INFRA	1.28	281	*i*			09	40	20.0	
	baz=99,slow=333,SNR=9.3									
ZALV	Zalesovo Beam	1.28	281	Pg	Pg	Pg	09	32	16.8	-1.7
	1.2nm,0.3s,baz=96,slow=16,SNR=13									
ZALV				Lg	Lg	Lg	09	32	35.3	
	2.1nm,0.3s,baz=100,slow=26,SNR=16									
KURBB	Kurchatov Arra	6.04	242	Pn	Pn	Pn	09	33	25.6	+1.1
	0.1nm,0.3s,baz=59,slow=14,SNR=11									
KURBB				Sn	Sn	Sn	09	34	33.8	-0.5
	0.0nm,0.3s,baz=52,slow=4.8,SNR=1.2									
KURBB				Lg	Lg	Lg	09	35	04.2	
	0.0nm,0.3s,baz=62,slow=33,SNR=7.1									
MKAR	Makanchi Array	7.56	205	Pn	Pn	Pn	09	33	46.9	+1.5
	0.2nm,0.3s,baz=27,slow=14,SNR=6.5									
MKAR				Sn	Sn	Sn	09	35	11.4	-0.3
	0.1nm,0.3s,baz=23,slow=24,SNR=1.9									
MKAR				Lg	Lg	Lg	09	35	52.5	
	0.1nm,0.3s,baz=27,slow=27,SNR=5.7									

*TUL **25** 09:35:35.1±1.4, 35.99N±0.01×96.81W±0.01, h4km±3km, ML2.6, mb_Lg2.1/12(NEIC), Error ellipse: s-maj=2.2km s-min=1.2km az=150.0*

NEIC 25 09:35:35.0±1.1, 36.00N±0.01×96.79W±0.02, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.9km az=127.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
OK031	S. Brethren Rd	0.06	219	Pg	Pg	Pg	09	35	35.7	-0.8
OK031				Sg	Sg	Sg	09	35	37.7	+0.1
OK030	Cody Creek RV	0.07	175	Pg	Pg	Pg	09	35	36.1	-0.6
OK030				Sg	Sg	Sg	09	35	38.2	+0.4
QUOK	Quay	0.18	22		Pg	Pg	09	35	38.7	0.0
QUOK				Sg	Sg	Sg	09	35	42.5	+1.4
OK029	Liberty Lake	0.58	249		Pg	Pg	09	35	45.6	-0.5
OK029				Sg	Sg	Sg	09	35	54.0	+0.4
OK025	Westminster Rd	0.61	227		Pg	Pg	09	35	46.6	-0.1
OK025				Sg	Sg	Sg	09	35	55.3	+0.6
BCOK	Bluff Creek, N	0.75	243	Pg	Pg	Pg	09	35	49.3	-0.1
BCOK				Sg	Sg	Sg	09	35	59.7	+0.6
OKCFA	Oklahoma City	0.79	223	Sg	Sg	Sg	09	36	01.0	+0.4
OKCSW	OKLAHOMA CITY	0.79	222	Pg	Pg	Pg	09	35	50.3	0.0
OKCSW				Sg	Sg	Sg	09	36	00.8	+0.2
TUL1	Leonard	0.82	96		Pg	Pg	09	35	50.9	+0.2
TUL1				Sg	Sg	Sg	09	36	01.1	-0.2
BLOK	Blackwell	0.83	336		Pg	Pg	09	35	51.2	+0.2
BLOK				Sg	Sg	Sg	09	36	02.5	+0.6
FNO	Franklin	0.89	214		Pg	Pg	09	35	52.2	0.0
FNO				Sg	Sg	Sg	09	36	04.0	+0.2
T35A	Sooner Cattle	0.94	14		Pg	Pg	09	35	53.3	+0.2
CROK	Carrier	1.09	298		Pg	Pg	09	35	55.6	-0.3
KAN13	South Haven SW	1.15	331		Pg	Pg	09	35	56.8	-0.3
GC02	Grant County #	1.21	315	Pg	Pg	Pg	09	35	58.0	-0.3
KAN09	Caldwell North	1.31	330	Pn	Pn	Pn	09	35	59.8	-0.3
KAN14	Manchester OK	1.34	316		Pn	Pn	09	36	00.2	-0.3
KS20	Mayfield South	1.37	334		Pn	Pn	09	36	00.9	0.0
OK032	Salt Plains WL	1.40	305		Pn	Pn	09	36	00.8	-0.4
KAN06	Argonia West S	1.51	326	Pn	Pn	Pn	09	36	02.4	-0.4
X34A	Smith Ranch, M	1.64	212		Pn	Pn	09	36	04.0	-0.5
X34A				IAmb_Lg			09	36	27.6	
	comp=Z,6.2nm,1.1s									
X37A	Clayton	1.83	140	IAmb_Lg			09	36	36.2	
	comp=Z,10nm,0.9s									
U32A	Winter Ranch,	1.83	283			Pb	09	36	08.5	-0.5
U32A				IAmb_Lg			09	36	34.6	
	comp=Z,10nm,0.8s									
U38A	Gravette	1.99	77			Pn	09	36	09.3	-0.1
WMOK	Wichita Mounta	2.06	233			Pn	09	36	10.9	+0.6
HHAR	Hobbs	2.33	82			Pn	09	36	14.8	+0.8
R32A	Long Quarter,	2.86	328	IAmb_Lg			09	37	11.4	
	comp=Z,9.1nm,1.0s									
S39A	Bolivar	3.25	58	IAmb_Lg			09	37	27.1	
	comp=Z,5.2nm,0.7s									
MGMO	Mountain Grove	3.82	71	IAmb_Lg			09	37	46.2	
	comp=Z,4.6nm,0.9s									

*NNC **25** 09:37:29.1±2.6, 53.75N×86.98E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=21.9km s-min=9.7km az=43.0, Suspected Mining explosion.*

*IDC **25** 09:37:30.8±2.5, 53.78N×86.90E, h0km, mb1 3.4/2, mb1mx3.1/48, mbtmp3.4/2, ML3.1/2, Error ellipse: s-maj=21.9km s-min=13.7km az=63.0*

ISC 25 09:37:30.8±3.5, 53.8N±0.1×86.8E±0.2, h0km, n8, σ1s 16/13, 5C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
I46RU	ZALESOVO INFRA	1.20	278	*i*			09	42	30.0	
	baz=96,slow=334,SNR=1.7									
ZAA0	Zalesovo Array	1.20	278	⇑P		Pg	09	37	52.9	-0.9
	0.4nm,0.3s									
ZAA0				⇑S		Sb	09	38	11.2	+0.7
	1.0nm,0.4s									
ZALV	Zalesovo Beam	1.20	278	Pg		Pb	09	37	54.4	0.0
	4.5nm,0.3s,baz=98,slow=17,SNR=19									
ZALV				Lg		Lg	09	38	10.2	
	1.8nm,0.3s,baz=100,slow=28,SNR=7.4									
KURBB	Kurchatov Arra	6.01	241	Pn		Pn	09	39	02.0	+1.1
	0.2nm,0.3s,baz=57,slow=14,SNR=15									
KURBB				Sn		Sn	09	40	11.9	+1.5
	0.0nm,0.3s,baz=134,slow=19,SNR=1.5									
KURBB				Lg		Lg	09	40	41.5	
	0.0nm,0.3s,baz=60,slow=30,SNR=2.2									
KURBB	Kurchatov Arra	6.01	241	⇑Pn		Pn	09	39	00.2	-0.7
	4.8nm,0.8s									
KURBB				⇑Sn		Sn	09	40	09.8	-0.5
	2.5nm,0.5s									
KURBB				⇓Lg		Lg	09	40	41.4	
	5.7nm,0.8s									
MK31	Makanchi Array	7.59	204	⇓Pn		Pn	09	39	23.6	+1.1
	0.4nm,0.5s,baz=24,slow=15,SNR=27									
MK31				⇓Sn		Sn	09	40	47.7	-1.5
	0.4nm,0.6

2.4nm,0.3s,baz=71,slow=26,SNR=5.8
KURBB Kurchatov Arra 6.41 237 Pn Pn 09 55 35.6 +0.1
0.1nm,0.3s,baz=54,slow=14,SNR=6.6
KURBB Sn Sn 09 56 46.1 -3.2
0.0nm,0.3s,baz=67,slow=30,SNR=1.9
KURBB Lg Lg 09 57 24.7
0.0nm,0.3s,baz=51,slow=28,SNR=2.6
MKAR Makanchi Array 8.21 203 Pn Pn 09 56 02.6 +2.3
0.1nm,0.3s,baz=23,slow=15,SNR=7.0
MKAR Sn Sn 09 57 32.4 -1.4
0.1nm,0.3s,baz=17,slow=26,SNR=3.4
MKAR Lg Lg 09 58 19.9
0.1nm,0.3s,baz=13,slow=33,SNR=5.8

*SJA **25** 09:56:41.0, 31.77S×72.63W, h10km, ML4.7*
*IDC **25** 09:56:42.8±0.7, 31.79S×71.92W, h0km, mb4.3/10, mb1 4.3/15, mb1mx4.2/27, mbtmp4.2/15, ML3.8/5, MS3.7/8, Ms1 3.6/8, ms1mx3.3/27, Error ellipse: s-maj=25.4km s-min=16.5km az=89.0*
*NEIC **25** 09:56:43.1, 31.82S×72.21W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr=3.00; Mθθ=0.35; Mφφ=-3.35; Mrθ=-0.56; Mrφ=0.24; Mθφ=-0.49; Fault plane solution: M0=3.28000×10^15^ NP1:ϕ=344.43000°, δ=42.19000°, λ=72.31000°. NP2:ϕ=187.73000°, δ=50.22000°, λ=105.40000°. Principal axes: T 3.1529, Plg78.0000°, Azm158.0000°; N 0.2437, Plg12.0000°, Azm358.0000°; P -3.3966, Plg4.0000°, Azm267.0000°;*
*NEIC **25** 09:56:43.2±1.9, 31.80S±0.03×72.19W±0.06, h10km±1km, mb4.6/23, Mwr4.3/35, ML4.4(GUC) Error ellipse: s-maj=8.0km s-min=4.4km az=271.0*
*GUC **25** 09:56:43.8±0.8, 31.77S×72.19W, h33km±3km, ML4.4*
ISC 25 09:56:44.2±1.2, **31.79S**±0.03×**72.25W**±0.05, **h18**km±7km, **n129**, σ1§**47**/140, **mb4.6**/19, **MS3.8**/5, **8C-1D**, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**1.12**	**134**	⇓*i*P	**Pb**	**09 57 03.5**	**-1.5**
VA06				*i* S	**Sb**	**09 57 17.3**	**-1.9**
VA06				IAML		09 57 23.7	
	comp=E,12μm,0.6s						
CO02	**Combarbal**	**1.22**	**62**	⇑*i*P	**Pn**	**09 57 04.8**	**-1.5**
CO02				*i* S	**Sb**	**09 57 20.2**	**-1.9**
CO02				IAML		09 57 22.3	
	comp=N,40μm,0.7s						
CO02	**Combarbal**	**1.22**	**62**		**Pn**	**09 57 05.0**	**-1.4**
CO02				Sg	**Sb**	**09 57 20.4**	**-1.7**
CO06	**Fray Jorge**	**1.23**	**26**	⇑*i*P	**Pn**	**09 57 05.1**	**-1.3**
CO06				*i* S	**Sb**	**09 57 20.8**	**-1.5**
CO06				IAML		09 57 28.7	
	comp=E,6μm,0.7s						
CO06	**Fray Jorge**	**1.23**	**26**		**Pn**	**09 57 05.1**	**-1.3**
CO06				Sg	**Sb**	**09 57 21.5**	**-0.8**
CO06				Sn	**Sn**	**09 57 24.0**	**+1.5**
VA01	**Torpederas**	**1.34**	**158**	*eP*	**Pn**	**09 57 06.8**	**-1.1**
VA01	**Torpederas**	**1.34**	**158**	Pn	**Pn**	**09 57 06.9**	**-1.0**
VA01				Sn	**Sb**	**09 57 22.9**	**-2.5**
VA01	**Torpederas**	**1.34**	**158**	*i* P	**Pn**	**09 57 07.0**	**-0.9**
ROCH	**El Roble**	**1.58**	**139**	⇑*i*P	**Pn**	**09 57 10.7**	**-0.8**
ROCH				*i* S	**Sn**	**09 57 28.7**	**-2.9**
ROCH				IAML		09 57 39.4	
	comp=E,5μm,0.5s						
CO03	**El Pedregal**	**1.64**	**55**	⇑*i*P	**Pn**	**09 57 11.3**	**-0.8**
CO03				*i* S	**Sn**	**09 57 31.9**	**-0.8**
CO03				IAML		09 57 33.5	
	comp=N,5μm,0.3s						
CO03	**El Pedregal**	**1.64**	**55**		**Pn**	**09 57 11.4**	**-0.8**
CO03				Sn	**Sn**	**09 57 32.3**	**-0.4**
CO03	**El Pedregal**	**1.64**	**55**	*i* P	**Pn**	**09 57 11.0**	**-1.1**
VA03	**San Esteban**	**1.74**	**125**	⇑*i*P	**Pn**	**09 57 12.9**	**-0.6**
VA03				*i* S	**Sn**	**09 57 35.7**	**+0.4**
VA03				IAML		09 57 40.5	
	comp=N,22μm,0.5s						
VA03	**San Esteban**	**1.74**	**125**		**Pn**	**09 57 12.9**	**-0.6**
VA03				Sn	**Sn**	**09 57 34.5**	**-0.8**
VA03	**San Esteban**	**1.74**	**125**	*i* P	**Pn**	**09 57 13.0**	**-0.6**
PEL	**Peldehue**	**1.89**	**136**	⇑*i*P	**Pn**	**09 57 15.2**	**-0.5**
PEL				*i* S	**Sn**	**09 57 37.6**	**-1.5**
PEL				IAML		09 57 43.8	
	comp=E,4μm,0.3s						
VA05	**Santo Domingo**	**1.94**	**164**	*eP*	**Pn**	**09 57 15.5**	**-0.7**
VA05				IAML		09 57 52.7	
	comp=E,6μm,0.8s						
VA05	**Santo Domingo**	**1.94**	**164**		**Pn**	**09 57 15.5**	**-0.7**
GO04	**Tololo Observa**	**2.03**	**38**	*eP*	**Pn**	**09 57 16.9**	**-0.8**
GO04	**Tololo Observa**	**2.03**	**38**	Pn	**Pn**	**09 57 17.1**	**-0.6**
GO04	**Tololo Observa**	**2.03**	**38**	*i* P	**Pn**	**09 57 18.0**	**+0.3**
MT05	**Renca**	**2.05**	**142**	*eP*	**Pn**	**09 57 17.6**	**-0.2**
MT05				IAML		09 57 49.7	
	comp=E,5μm,0.3s						
MT05	**Renca**	**2.05**	**142**	Pn	**Pn**	**09 57 17.3**	**-0.5**
MT05	**Renca**	**2.05**	**142**	*i* P	**Pn**	**09 57 18.0**	**+0.2**
CO05	**La Serena**	**2.05**	**25**	*eP*	**Pn**	**09 57 17.0**	**-0.8**
CO05				*i* S	**Sn**	**09 57 42.0**	**-0.9**
CO05				IAML		09 57 51.2	
	comp=E,5μm,0.5s						
CO05	**La Serena**	**2.05**	**25**	Pn	**Pn**	**09 57 16.9**	**-0.8**
MT01	**Popeta**	**2.24**	**158**	⇑*i*P	**Pn**	**09 57 19.7**	**-0.6**
MT01				IAML		09 57 58.7	
	comp=N,1μm,0.6s						
MT01	**Popeta**	**2.24**	**158**		**Pn**	**09 57 19.8**	**-0.5**
MT01	**Popeta**	**2.24**	**158**	*i* P	**Pn**	**09 57 20.0**	**-0.3**
MT09	**Talagante**	**2.25**	**152**	Pn	**Pn**	**09 57 20.6**	**0.0**
AUSP	**Uspallata**	**2.47**	**101**	*i* P	**Pn**	**09 57 25.0**	**+1.2**
RTLS	**Leoncito**	**2.52**	**91**	*i* P	**Pn**	**09 57 26.0**	**+1.6**
LMEL	**Las Melosas**	**2.68**	**141**	⇑*i*P	**Pn**	**09 57 26.9**	**+0.3**
LMEL				IAML		09 58 14.9	
	comp=N,2μm,0.3s						
BO01	**Tunca**	**2.78**	**160**	Pn	**Pn**	**09 57 27.7**	**-0.1**
BO01	**Tunca**	**2.78**	**160**	*i* P	**Pn**	**09 57 28.0**	**+0.3**
AROD	**Rodeo**	**2.88**	**57**	*i* P	**Pn**	**09 57 31.0**	**+1.6**
ACCO	**Cerro Coronel**	**2.98**	**67**	*i* P	**Pn**	**09 57 33.0**	**+2.2**
ARCO	**CERRO ARCO**	**3.00**	**111**	*i* P	**Pn**	**09 57 35.0**	**+4.0**
ASAL	**Salagasta**	**3.01**	**106**	*i* P	**Pn**	**09 57 34.0**	**+3.0**
ZON	**Zonda**	**3.06**	**86**		**Pn**	**09 57 33.7**	**+2.1**
ZON	**Zonda**	**3.06**	**86**	*i* P	**Pn**	**09 57 36.0**	**+4.4**
LCO	**Las Campanas**	**3.07**	**26**	Pn	**Pn**	**09 57 31.5**	**-0.5**
LCO	**Las Campanas**	**3.07**	**26**	*i* P	**Pn**	**09 57 31.0**	**-1.0**
RTCV	**Cerro Valdivia**	**3.16**	**92**	*i* P	**Pn**	**09 57 35.0**	**+2.0**
AAGR	**Agrelo**	**3.17**	**115**	*i* P	**Pn**	**09 57 36.0**	**+2.8**
GO05	**Huala**	**3.23**	**175**		**Pn**	**09 57 33.2**	**-0.8**
GO05	**Huala**	**3.23**	**175**	*i* P	**Pn**	**09 57 33.0**	**-0.9**
BO02	**Sierra Bellavi**	**3.24**	**158**		**Pn**	**09 57 34.7**	**+0.5**
BO02	**Sierra Bellavi**	**3.24**	**158**	*i* P	**Pn**	**09 57 35.0**	**+0.8**
AC04	**Llanos de Chal**	**3.71**	**16**		**Pn**	**09 57 39.3**	**-1.3**
AC04	**Llanos de Chal**	**3.71**	**16**	*i* P	**Pn**	**09 57 39.0**	**-1.6**
AGUA	**GUANDACOL**	**3.97**	**56**	*i* P	**Pn**	**09 57 47.0**	**+2.8**
COIS	**El Sosneado**	**3.99**	**147**	*i* P	**Pn**	**09 57 47.0**	**+2.6**
ML02	**Panimavida**	**4.03**	**170**		**Pn**	**09 57 44.8**	**-0.1**
AVFE	**Valle Fertil**	**4.26**	**76**	*i* P	**Pn**	**09 57 49.0**	**+0.8**
RFA	**San Rafael**	**4.35**	**134**	*i* P	**Pn**	**09 57 51.0**	**+1.6**
GO03	**Copiap**	**4.53**	**23**		**Pn**	**09 57 51.2**	**-0.7**
GO03	**Copiap**	**4.53**	**23**	*i* P	**Pn**	**09 57 53.0**	**+1.1**
VCA	**Vinchina**	**4.63**	**50**	*i* P	**Pn**	**09 57 56.0**	**+2.6**
AC06	**Mina Casimiro**	**4.71**	**21**		**Pn**	**09 57 53.9**	**-0.5**
AC02	**Maricunga**	**5.63**	**30**		**Pn**	**09 58 06.4**	**-1.1**
AC02	**Maricunga**	**5.63**	**30**	*i* P	**Pn**	**09 58 07.0**	**-0.5**
VA04	**Juan Fernndez**	**5.85**	**250**	Pn	**Pn**	**09 58 10.3**	**+0.4**
H03N1	**Juan Fernandez**	**5.86**	**252**	T	T	10 05 05.4	
	baz=77,slow=72,SNR=737						
H03N3	**Juan Fernandez**	**5.87**	**252**	T	T	10 05 05.2	
	baz=77,slow=72,SNR=800						
H03N2	**Juan Fernandez**	**5.87**	**252**	T	T	10 05 10.6	
	baz=77,slow=72,SNR=706						
H03S3	**Juan Fernandez**	**5.96**	**248**	T	T	10 05 20.0	
	baz=85,slow=75,SNR=9.4						
H03S1	**Juan Fernandez**	**5.97**	**248**	T	T	10 05 10.1	
	baz=85,slow=75,SNR=12						
H03S2	**Juan Fernandez**	**5.98**	**248**	T	T	10 05 10.0	
	baz=85,slow=75,SNR=17						
CYA	**Choya**	**6.50**	**61**	*i* P	**Pn**	**09 58 21.0**	**+2.0**
LC01	**Cunco**	**7.10**	**178**		**Pn**	**09 58 26.8**	**-0.4**
LC01	**Cunco**	**7.10**	**178**	*i* P	**Pn**	**09 58 27.0**	**-0.2**
PB14	**IPOC Station P**	**7.32**	**13**	Pn	**Pn**	**09 58 30.2**	**-0.2**
AHML	**Horco Molle**	**7.83**	**52**	*i* P	**Pn**	**09 58 39.0**	**+1.8**
LR03	**Panguipulli**	**7.83**	**181**	Pn	**Pn**	**09 58 36.0**	**-1.2**
PB15	**IPOC Station P**	**8.89**	**17**	Pn	**Pn**	**09 58 51.5**	**-0.4**
PLCA	**Paso Flores**	**9.03**	**172**	Pn	**Pn**	**09 58 54.2**	**+0.5**
	comp=N,0.4nm,0.3s,baz=338,slow=12,SNR=13						
PLCA	**Paso Flores**	**9.03**	**172**		**Pn**	**09 58 54.3**	**+0.6**
LVC	**Limon Verde**	**9.61**	**19**	Pn	**Pn**	**09 59 01.5**	**-0.4**
	comp=N,0.3nm,0.3s,baz=278,slow=10.0,SNR=1.1						
LVC				Sn	**Sn**	**10 00 45.1**	**-4.6**
	comp=N,1.0nm,0.3s,baz=223,slow=11,SNR=2.2						
LVC				LR	LR	10 02 53.5	
	comp=N,203nm,18.4s,baz=200,slow=39						
LVC	**Limon Verde**	**9.61**	**19**	Pn	**Pn**	**09 59 00.4**	**-1.5**
LL05	**Los Muermos**	**9.65**	**185**	Pn	**Pn**	**09 59 01.4**	**-0.7**
TRQA	**Tornquist**	**10.50**	**129**		**Pn**	**09 59 14.8**	**+1.1**
CPUP	**Villa Florida**	**14.13**	**71**	Pn	**Pn**	**10 00 01.8**	**-1.7**
	comp=N,0.1nm,0.3s,baz=280,slow=7.2,SNR=4.0						
CPUP				LR	LR	10 05 43.2	
	comp=N,200nm,21.8s,baz=244,slow=39						
CPUP	**Villa Florida**	**14.13**	**71**	Pn	**Pn**	**10 00 02.8**	**-0.7**
PLTB	**Pedras Altas**	**15.86**	**95**	Pn	**Pn**	**10 00 25.0**	**-1.5**
PLTB				IAmb	IAmb	10 00 48.7	
	comp=Z,42nm,1.5s						
LPAZ	**La Paz**	**15.88**	**15**	Pn	**Pn**	**10 00 27.9**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=185,slow=7.1,SNR=13						
LPAZ	**La Paz**	**15.88**	**15**	Pn	**Pn**	**10 00 26.2**	**-1.1**
SIV	**San Ignacio**	**18.73**	**36**	P	**P**	**10 01 01.2**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=229,slow=12,SNR=12						
SIV				LR	LR	10 09 34.2	
	comp=Z,146nm,21.8s,baz=171,slow=42						
EFI	**East Falkland**	**22.44**	**156**	P	**P**	**10 01 40.2**	**-1.7**
EFI				IAmb	IAmb	10 01 54.3	
	comp=Z,44nm,1.1s						
SPB	**Sao Paulo**	**23.41**	**76**	P	**P**	**10 01 48.8**	**-3.3**
SAML	**Samuel**	**24.23**	**22**	P	**P**	**10 01 59.7**	**-0.3**
BDFB	**Brasilia**	**27.30**	**60**	P	**P**	**10 02 26.6**	**-1.4**
	comp=Z,11nm,0.8s,baz=246,slow=6.1,SNR=9.8						
BDFB	**Brasilia**	**27.30**	**60**	P	**P**	**10 02 26.4**	**-1.6**
BDFB				IAmb	IAmb	10 02 28.7	
	comp=Z,12nm,0.8s						
PTGA	**Pitinga**	**33.00**	**23**	P	**P**	**10 03 17.7**	**-0.5**
PTGA				IAmb	IAmb	10 03 19.0	
	comp=Z,7.4nm,0.9s						
PMSA	**Palmer Station**	**33.40**	**174**	P	**P**	**10 03 20.9**	**-0.4**
	comp=Z,13nm,1.1s,baz=293,slow=9.8,SNR=2.1						
RUSC	**La Rusia**	**37.47**	**359**	P	**P**	**10 03 57.1**	**-0.2**
RUSC				IAmb	IAmb	10 04 13.4	
	comp=Z,11nm,1.1s						
MASN	**Masaya**	**45.52**	**341**	P	**P**	**10 05 01.9**	**-0.8**
VNA3	**Neumayer Olymp**	**51.48**	**158**	P	**P**	**10 05 49.7**	**+1.7**
VNA1	**Neumayer--Stat**	**51.78**	**158**	P	**P**	**10 05 51.7**	**+1.5**
SNAA	**Sanae**	**53.70**	**158**	P	**P**	**10 06 05.4**	**+0.8**
SNAA	**Sanae**	**53.70**	**158**	P	**P**	**10 06 05.7**	**+1.2**
	comp=Z,10.0nm,0.8s,baz=282,slow=7.5,SNR=44						
SNAA	**Sanae**	**53.70**	**158**	P	**P**	**10 06 05.2**	**+0.7**
QSPA	**South Pole Qui**	**58.45**	**180**	P	**P**	**10 06 40.2**	**+1.6**
QSPA				IAmb	IAmb	10 06 53.0	
	comp=Z,9.5nm,1.1s						
SBA	**Scott Base**	**65.20**	**192**	P	**P**	**10 07 24.9**	**+1.2**
SBA				IAmb	IAmb	10 07 37.2	
	comp=Z,5.3nm,1.1s						
TX31	**Lajitas Ar. Si**	**67.72**	**331**	P	**P**	**10 07 42.9**	**+2.3**
TX31				IAmb	IAmb	10 07 54.6	
	comp=Z,4.3nm,1.1s						
TXAR	**Lajitas Array**	**67.72**	**331**	P	**P**	**10 07 42.3**	**+1.8**
	comp=Z,0.4nm,0.7s,baz=141,slow=8.1,SNR=5.2						
TXAR	**Lajitas Array**	**67.72**	**331**	P	**P**	**10 07 40.4**	**-0.2**
MSTX	**Muleshoe**	**71.45**	**334**	P	**P**	**10 08 04.9**	**+1.4**
MSTX				IAmb	IAmb	10 08 17.1	
	comp=Z,4.9nm,0.9s						
LIC	**Lamto**	**74.26**	**72**	*eP*	**P**	**10 08 20.2**	**-0.3**
	comp=Z,16nm,0.8s						
TIC	**Toumodi**	**74.51**	**72**	*eP*	**P**	**10 08 22.4**	**+0.4**
KIC	**Kosan Boka**	**74.57**	**72**	*eP*	**P**	**10 08 21.6**	**-0.7**
	comp=Z,28nm,1.0s						
DBIC	**Dimbokro**	**74.65**	**72**	P	**P**	**10 08 22.8**	**0.0**
	comp=Z,9.8nm,0.9s,baz=257,slow=3.9,SNR=8.8						
DBIC				LR	LR	10 37 37.9	
	comp=Z,50nm,21.6s,baz=192,slow=33						
DBIC	**Dimbokro**	**74.65**	**72**	IAmb	IAmb	10 08 23.8	
	comp=Z,11nm,0.9s						
MAW	**Mawson**	**75.35**	**164**	P	**P**	**10 08 26.8**	**+0.8**
	comp=Z,1.9nm,0.9s,baz=199,slow=6.1,SNR=4.3						
MAW				LR	LR	10 42 07.0	
	comp=Z,50nm,18.9s,baz=244,slow=36						
BOSA	**Boshof**	**81.26**	**118**	P	**P**	**10 08 60.0**	**+0.4**
	comp=Z,2.6nm,0.8s,baz=294,slow=3.8,SNR=5.8						
BOSA				LR	LR	10 42 03.3	
	comp=Z,36nm,18.5s,baz=187,slow=34						
PDAR	**Pinedale Array**	**81.71**	**333**	P	**P**	**10 09 03.7**	**+2.2**
	comp=Z,0.2nm,0.6s,baz=163,slow=3.4,SNR=2.7						
PDAR	**Pinedale Array**	**81.71**	**333**	P	**P**	**10 09 02.7**	**+1.1**
NVAR	**Mina Array Bea**	**81.97**	**325**	P	**P**	**10 09 05.5**	**+2.5**
	comp=Z,0.7nm,0.8s,baz=156,slow=5.7,SNR=5.7						
NVAR	**Mina Array Bea**	**81.97**	**325**	P	**P**	**10 09 02.5**	**-0.4**
LBTB	**Lobatse**	**83.40**	**115**	LR	LR	10 44 06.2	
	comp=Z,54nm,18.0s,baz=200,slow=34						
TORD	**Torodi Ar. Bea**	**83.63**	**70**	P	**P**	**10 09 11.9**	**0.0**
	comp=Z,6.1nm,0.7s,baz=262,slow=4.7,SNR=40						
TORD	**Torodi Ar. Bea**	**83.63**	**70**	P	**P**	**10 09 11.7**	**-0.2**
TORD				IAmb	IAmb	10 09 12.9	
	comp=Z,5.7nm,0.8s						
URZ	**Urewera**	**85.01**	**228**	LR	LR	10 38 55.8	
	comp=Z,79nm,18.4s,baz=211,slow=30						
WRA	**Warramunga Arr**	**122.59**	**210**	PKP	**PKiKP**	**10 15 43.0**	**+3.5**
	comp=Z,0.5nm,0.8s,baz=157,slow=1.7,SNR=1.8						
ZALV	**Zalesovo Beam**	**152.43**	**30**	PKPbc	**PKPbc**	**10 16 39.5**	**+0.8**
	comp=Z,2.1nm,0.5s,baz=298,slow=3.2,SNR=6.9						
ZALV				PKPab	**PKPab**	**10 16 49.9**	**+1.1**
	comp=Z,3.3nm,0.5s,baz=305,slow=3.7,SNR=5.0						
ZALV	**Zalesovo Beam**	**152.43**	**30**	PKPdf	**PKPdf**	**10 16 32.2**	**+0.5**
ZALV					**PKPbc**	**10 16 39.4**	**+0.8**
ZALV				PKPab	**PKPab**	**10 16 49.1**	**+0.3**
MKAR	**Makanchi Array**	**155.39**	**45**	PKPab	**PKPab**	**10 17 02.8**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=305,slow=4.3,SNR=7.8						
MKAR	**Makanchi Array**	**155.39**	**45**	PKPdf	**PKPdf**	**10 16 34.9**	**-1.4**
MKAR				PKPbc	**sPKPdf**	**10 16 44.6**	**+1.8**
MKAR					**PKPab**	**10 17 00.6**	**-1.1**
SONM	**Songino Array**	**163.94**	**3**	PKPab	**PKPab**	**10 17 41.5**	**+2.6**
	comp=Z,0.3nm,0.5s,baz=336,slow=3.2,SNR=1.7						

*TUL **25** 09:58:13.6±1.2, 36.08N±0.01×97.22W±0.01, h6km±7km, ML2.5, mb_Lg2.5/32(NEIC), Error ellipse: s-maj=1.7km s-min=1.6km az=126.0*
NEIC 25 09:58:13.4±1.2, **36.08N**±0.01×**97.22W**±0.01, **h4**km±7km, **Error ellipse: s-maj=1.8km s-min=1.5km az=124.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK031	**S. Brethren Rd**	**0.34**	**112**		Pg	09 58 18.9	-1.1
OK031				Sg	Sg	09 58 25.6	+1.2
OK029	**Liberty Lake**	**0.34**	**214**		Pg	09 58 19.0	-1.1
OK029				Sg	Sg	09 58 25.5	+1.0
OK030	**Cody Creek RV**	**0.39**	**113**		Pg	09 58 19.9	-1.0
OK030				Sg	Sg	09 58 26.8	+0.9
QUOK	**Quay**	**0.42**	**78**		Pg	09 58 20.6	-1.1
QUOK				Sg	Sg	09 58 27.9	+0.7
OK025	**Westminster Rd**	**0.51**	**191**		Pg	09 58 22.1	-1.1
OK025				Sg	Sg	09 58 30.2	+0.4
BCOK	**Bluff Creek, N**	**0.53**	**217**	Pg	Pg	09 58 23.2	-0.4
BCOK				Sg	Sg	09 58 31.4	+1.0
BLOK	**Blackwell**	**0.68**	**0**		Pg	09 58 26.7	+0.2
BLOK				Sg	Sg	09 58 35.8	+0.5
OKCFA	**Oklahoma City**	**0.69**	**196**		Pg	09 58 27.0	+0.3
OKCFA				Sg	Sg	09 58 36.8	+1.1
OKCSW	**OKLAHOMA CITY**	**0.70**	**195**		Pg	09 58 27.1	+0.3
CROK	**Carrier**	**0.75**	**305**		Pg	09 58 28.0	+0.2
CROK				Sg	Sg	09 58 38.1	+0.6
FNO	**Franklin**	**0.83**	**190**		Pg	09 58 29.5	0.0
GC02	**Grant County #**	**0.93**	**326**		Pg	09 58 31.2	-0.1
KAN13	**South Haven SW**	**0.95**	**348**		Pg	09 58 31.7	0.0
T35A	**Sooner Cattle**	**1.01**	**34**		Pg	09 58 32.8	0.0
KAN17	**Caldwell West**	**1.06**	**336**		Pg	09 58 33.6	-0.1
KAN14	**Manchester OK**	**1.06**	**326**		Pg	09 58 33.6	-0.2
OK032	**Salt Plains WL**	**1.08**	**312**		Pg	09 58 33.8	-0.3
KAN09	**Caldwell North**	**1.10**	**343**		Pg	09 58 34.3	-0.3
KAN05	**Bluff City Nor**	**1.15**	**333**		Pg	09 58 35.3	-0.3
TUL1	**Leonard**	**1.17**	**98**		Pg	09 58 35.1	-0.8
KS20	**Mayfield South**	**1.18**	**347**		Pg	09 58 35.7	-0.3
KAN10	**Anthony SW Sta**	**1.26**	**326**		Pg	09 58 37.2	-0.3
KAN06	**Argonia West S**	**1.27**	**336**		Pg	09 58 37.5	-0.4
KAN08	**Anthony NE Sta**	**1.29**	**332**		Pg	09 58 37.8	-0.4
KAN16	**Harper SW Stat**	**1.33**	**330**		Pn	09 58 38.5	-0.3
KAN12	**Harper NE Stat**	**1.36**	**333**		Pn	09 58 39.0	-0.2
U32A	**Winter Ranch,**	**1.47**	**282**		Pn	09 58 40.9	+0.1
X34A	**Smith Ranch, M**	**1.56**	**199**		Pn	09 58 42.3	+0.3
WMOK	**Wichita Mounta**	**1.85**	**224**		Pn	09 58 46.7	+0.8
LOOK	**Love County**	**2.08**	**179**	Pn	Pn	09 58 48.9	-0.2
X37A	**Clayton**	**2.12**	**134**		Pn	09 58 50.0	+0.4
X37A				IAmb_Lg		09 59 24.7	
	comp=Z,21nm,0.8s						
U38A	**Gravette**	**2.32**	**80**		Pn	09 58 53.1	+0.7
R32A	**Long Quarter,**	**2.62**	**333**	IAmb_Lg		09 59 42.5	
	comp=Z,9.8nm,0.8s						
HHAR	**Hobbs**	**2.66**	**85**		Pn	09 58 57.2	+0.1
Z35A	**Perchaven, San**	**2.74**	**181**	Pn	Pn	09 58 59.3	+1.1
KSU1	**Kansas State U**	**3.05**	**9**	IAmb_Lg		09 59 58.2	
	comp=Z,9.0nm,0.8s						
Z38A	**Mt. Pleasant**	**3.36**	**146**	IAmb_Lg		10 00 08.4	
	comp=Z,17nm,0.8s						
AMTX	**Amarillo**	**3.83**	**253**	IAmb_Lg		10 00 15.2	
	comp=Z,16nm,1.3s						
X40A	**Basin Creek Fa**	**3.92**	**113**	IAmb_Lg		10 00 25.0	
	comp=Z,11nm,0.9s						
ABTX	**Abilene, Hawle**	**3.99**	**211**	Pn	Pn	09 59 16.3	+0.9
ABTX				IAmb_Lg		10 00 28.6	
	comp=Z,9.0nm,1.0s						
WHAR	**Wooly Hollow**	**4.09**	**100**	Pn	Pn	09 59 15.7	-1.0
WHAR				IAmb_Lg		10 00 33.0	
	comp=Z,11nm,0.8s						
MGMO	**Mountain Grove**	**4.12**	**73**	IAmb_Lg		10 00 26.2	
	comp=Z,10nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.14**	**91**	IAmb_Lg		10 00 29.0	
	comp=Z,5.5nm,0.8s						
R40A	**Maddies Statio**	**4.53**	**59**	IAmb_Lg		10 00 43.2	
	comp=Z,8.2nm,0.7s						
P38A	**Dawn**	**4.59**	**38**	IAmb_Lg		10 00 45.6	
	comp=Z,13nm,0.8s						
T25A	**Trinidad**	**5.88**	**282**	IAmb_Lg		10 01 27.2	
	comp=Z,6.2nm,0.8s						
L34A	**Svendsen Farm,**	**5.91**	**6**	IAmb_Lg		10 01 26.1	
	comp=Z,11nm,0.7s						
JCT	**Junction City**	**5.99**	**202**	IAmb_Lg		10 01 39.3	
	comp=Z,7.2nm,1.0s						

IDC 25 10:09:29.8±3.6, **1.08S**×**129.89E**, **h0**km, **mb3.8**/3, **mb1 3.8**/4, **mb1mx3.5**/42, **mbtmp3.7**/4, **ML3.7/1, Error ellipse: s-maj=282.8km s-min=16.6km az=73.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**17.42**	**194**	S	S	10 16 56.3	-1.6
	0.1nm,0.3s,baz=162,slow=17,SNR=1.6						
WRA	**Warramunga Arr**	**19.25**	**167**	P	Pn	10 13 56.9	+0.1
	0.3nm,0.3s,baz=354,slow=13,SNR=24						
WRA				S	Sn	10 17 23.0	-10
	0.2nm,0.3s,baz=4.8,slow=22,SNR=5.8						
ASAR	**Alice Springs**	**22.79**	**170**	P	P	10 14 35.7	+1.5
	1.5nm,0.6s,baz=352,slow=10,SNR=28						
ASAR				S	S	10 18 44.3	-0.2
	0.1nm,0.3s,baz=320,slow=37,SNR=2.0						
MKAR	**Makanchi Array**	**63.28**	**325**	P	P	10 20 01.0	+0.5
	0.5nm,0.5s,baz=112,slow=8.4,SNR=5.4						
KURBB	**Kurchatov Arra**	**67.46**	**327**	P	P	10 20 26.4	-1.0
	0.5nm,0.3s,baz=121,slow=5.9,SNR=5.2						

LJU 25 10:09:56.8, 45.91N×14.20E, h0km, ML0.6, 1C, Suspected explosion, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAVS	**Javornik**	**0.10**	**258**	⇑*i*Pg	Pg	10 09 58.6	0.0
JAVS		

BSSI	Bau Bau, Buton	7.67	252	P	Pn	10 23 23.7	+2.1
	0.1nm34nm,1.5s						
BNSI	Bone	7.73	266	P	Pn	10 23 24.0	+1.6
	0.1nm14nm,0.8s						
EDFI	Ende, Flores	7.82	231	P	Pn	10 23 24.9	+1.1
	0.0nm8.7nm,0.7s						
BKSI	Bulukumba	7.83	259	P	Pn	10 23 25.6	+1.8
KAPI	Kappang	8.14	261	LR	LR	10 26 19.9	
	comp=Z,34nm,18.3s,baz=108,slow=37						
KAPI	Kappang	8.14	261	Pn	Pn	10 23 29.4	+1.3
TOLI2	Tolitoli	8.59	305	Pn	Pn	10 23 31.7	-2.5
DAV	Davao City (W)	11.06	348	LR	LR	10 29 34.2	
	comp=Z,62nm,18.6s,baz=48,slow=44						
KNRA	Kununurra	11.81	176	Pn	Pn	10 24 18.2	-0.1
FITZ	Fitzroy Crossi	14.35	188	Pn	Pn	10 24 50.7	-2.3
	0.1nm,0.3s,baz=9.5,slow=16,SNR=5.0						
FITZ				LR	LR	10 30 24.1	
	comp=Z,40nm,19.2s,baz=358,slow=37						
FITZ	Fitzroy Crossi	14.35	188	Pn	Pn	10 24 51.6	-1.4
WB0	Warramunga Arr	17.09	159	Pn	Pn	10 25 26.4	-2.3
WB0				IAmb	IAmb	10 25 43.5	
	comp=Z,20nm,1.3s						
WRAB	Tennant Creek	17.23	159	Pn	Pn	10 25 29.9	-0.4
WRAB				IAmb	IAmb	10 25 45.2	
	comp=Z,14nm,0.9s						
WRA	Warramunga Arr	17.23	159	P	Pn	10 25 27.9	-2.5
	comp=Z,0.3nm,0.3s,baz=334,slow=13,SNR=20						
WRA				PcP	PcP	10 30 12.1	-1.1
	comp=Z,0.1nm,0.3s,baz=321,slow=1.8,SNR=5.1						
WRA	Warramunga Arr	17.23	159	Pn	Pn	10 25 28.1	-2.3
WB2	Warramunga Arr	17.23	159		Pn	10 25 28.2	-2.2
WB2				IAmb	IAmb	10 25 45.2	
	comp=Z,17nm,0.9s						
WR0	Warramunga Arr	17.32	158	Pn	Pn	10 25 30.7	-0.8
COEN	Coen	18.18	125		P	10 25 42.1	-0.1
COEN				IAmb	IAmb	10 26 08.8	
	comp=Z,22nm,1.3s						
PSA00	Pilbara Seismi	19.27	203		P	10 25 54.0	-0.2
CISI	Cisompet, Garu	20.26	259	P	P	10 26 04.0	-1.1
LEM	Lembang	20.34	261	LR	LR	10 34 27.4	
	comp=Z,54nm,18.4s,baz=157,slow=39						
AS31	Alice Springs	20.58	164	P	P	10 26 09.2	+0.8
ASAR	Alice Springs	20.58	164	P	Pn	10 26 10.9	+0.1
	comp=Z,5.5nm,0.6s,baz=345,slow=11,SNR=81						
ASAR				PcP	PcP	10 30 18.6	-0.3
	comp=Z,1.2nm,0.6s,baz=359,slow=1.8,SNR=10.0						
ASAR	Alice Springs	20.58	164	Pn	Pn	10 26 10.5	-0.4
RPSI	Rantau Prapat	29.61	282	P	P	10 27 34.9	+0.2
PSI	Prapat	29.63	282	P	P	10 27 34.9	-0.2
	comp=Z,1.0nm,0.3s,baz=323,slow=15,SNR=7.5						
NWAO	Narrogin (SRO)	30.60	198	P	P	10 27 44.5	+1.3
	comp=Z,7.8nm,0.8s,baz=148,slow=22,SNR=2.9						
STKA	Stephens Creek	30.75	157	P	P	10 27 45.5	+0.9
	comp=Z,5.9nm,0.9s,baz=315,slow=7.1,SNR=13						
STKA	Stephens Creek	30.75	157	P	P	10 27 45.8	+1.1
TOO	Toolangi	37.28	157	P	P	10 28 39.3	-1.9
TOO				IAmb	IAmb	10 29 07.4	
	comp=Z,6.8nm,1.1s						
KSRS	Korea Array	41.07	0	P	P	10 29 13.0	+0.2
	comp=Z,2.6nm,0.8s,baz=178,slow=9.8,SNR=13						
KSRS				LR	LR	10 46 21.3	
	comp=Z,10.0nm,22.0s,baz=355,slow=36						
USA0B	Ussuriysk Arra	47.95	4	P	P	10 30 08.6	+1.0
USA0B				IAmb	IAmb	10 30 29.7	
	comp=Z,5.3nm,1.1s						
USRK	Ussuriysk Ar.	47.95	4	P	P	10 30 08.6	+0.9
	comp=Z,0.7nm,0.5s,baz=177,slow=4.7,SNR=5.2						
ASAJ	Asahikawa	49.54	14	P	P	10 30 21.0	+1.1
	comp=Z,3.1nm,0.8s,baz=236,slow=27,SNR=1.4						
SONM	Songino Array	54.78	342	P	P	10 30 59.6	+0.7
	comp=Z,0.7nm,0.8s,baz=162,slow=7.8,SNR=6.3						
SONM				PcP	PcP	10 32 01.5	+0.3
	comp=Z,0.9nm,0.6s,baz=171,slow=2.5,SNR=4.2						
PETK	Petropavlovsk-	62.05	20	P	P	10 31 50.0	+0.6
	comp=Z,5.1nm,0.9s,baz=29,slow=3.4,SNR=3.6						
MK31	Makanchi Array	64.41	327	P	P	10 32 05.0	-0.2
MK31				IAmb	IAmb	10 32 06.0	
	comp=Z,1.8nm,0.7s						
MKAR	Makanchi Array	64.41	327	P	P	10 32 05.0	-0.3
	comp=Z,2.0nm,0.5s,baz=118,slow=7.7,SNR=23						
MKAR	Makanchi Array	64.41	327	P	P	10 32 04.7	-0.6
MAKZ	Makanchi	64.59	327	P	P	10 32 05.7	-0.7
ZAA0	Zalesovo Array	67.80	334	P	P	10 32 26.4	-0.5
ZAA0				IAmb	IAmb	10 32 26.9	
	comp=Z,3.3nm,1.1s						
ZALV	Zalesovo Beam	67.80	334	P	P	10 32 26.1	-0.7
	comp=Z,1.0nm,0.4s,baz=122,slow=5.4,SNR=4.4						
GAR	Garm	67.91	315	P	P	10 32 27.9	-0.1
KURBB	Kurchatov Arra	68.69	329	P	P	10 32 31.6	-0.9
	comp=Z,2.9nm,0.8s,baz=130,slow=5.5,SNR=20						
KURK	Kurchatov	68.70	329	P	P	10 32 31.6	-0.9
SEY	Seymchan	69.13	12	P	P	10 32 36.6	+1.6
	comp=Z,8.0nm,0.7s,baz=214,slow=4.3,SNR=20						
KK31	Karatay Array	69.55	319	P	P	10 32 38.0	0.0
KK31				IAmb	IAmb	10 32 38.5	
	comp=Z,2.3nm,1.1s						
KKAR	Karatay Array	69.55	319	P	P	10 32 37.4	-0.6
BVAR	Borovoye Array	74.25	328	P	P	10 33 05.6	-0.4
	comp=Z,0.8nm,0.5s,baz=157,slow=12,SNR=5.1						
TIXI	Tiksi	75.34	0	P	P	10 33 12.1	+0.2
	baz=144,slow=4.2						
NRIK	Noril'sk	77.98	346	P	P	10 33 27.3	+0.5
	comp=Z,3.2nm,0.5s,baz=60,slow=1.8,SNR=1.4						
OPO	Ambohidratompo	79.33	252	P	P	10 33 37.3	-1.6
	comp=Z,8.2nm,0.3s,baz=104,slow=1.4,SNR=6.2						
AKTO	Aktyubinsk	80.26	322	P	P	10 33 39.4	-0.4
	comp=Z,2.6nm,0.5s,baz=92,slow=6.8,SNR=5.0						
ARU	Arti	81.89	328	P	P	10 33 47.4	-0.8
	comp=Z,0.8nm,0.3s,baz=155,slow=7.4,SNR=4.2						
ARU	Arti	81.89	328	IAmb	IAmb	10 33 50.7	
	comp=Z,4.0nm,0.9s						
BELG	Belogornoye	87.04	323	LR	LR	11 17 11.3	
	comp=Z,18nm,18.0s,baz=144,slow=38						
KBZ	Khabaz	88.96	314	P	P	10 34 23.0	-0.8
	comp=Z,2.0nm,0.7s,baz=56,slow=3.8,SNR=4.8						
ILAR	Eielson Array	91.42	25	P	P	10 34 33.7	-1.1
	comp=Z,0.4nm,0.6s,baz=240,slow=5.1,SNR=8.0						
ARCES	ARCESS Array B	97.87	340	P	P	10 35 02.6	-1.6
	comp=Z,1.3nm,0.6s,baz=84,slow=6.2,SNR=7.8						
ARCES	ARCESS Array B	97.87	340	IAmb	IAmb	10 35 09.5	
	comp=Z,4.4nm,1.2s						
PDAR	Pinedale Array	116.16	44	PKP	PKiKP	10 40 13.4	+0.6
	comp=Z,0.2nm,0.6s,baz=229,slow=0.8,SNR=2.6						
TXAR	Lajitas Array	125.08	57	PKP	PKiKP	10 40 30.6	+0.1
	comp=Z,0.4nm,0.7s,baz=204,slow=2.7,SNR=5.2						
TORD	Torodi Ar. Bea	126.03	283	PKP	PKPdf	10 40 31.9	-0.3
	comp=Z,0.5nm,0.6s,baz=68,slow=3.0,SNR=4.1						
LPAZ	La Paz	154.53	142	PKPbc	PKiKP	10 41 33.7	+2.2
LPAZ				PKPab	PKPab	10 41 47.3	+1.4
	comp=Z,1.9nm,0.8s,baz=214,slow=2.8,SNR=6.1						

*IDC **25** 10:22:51.7±1.4,28°.23N×52°.36E,h0km,mb3.7/10, mb1 3.7/12,mb1mx3.6/55,mbtmp3.7/12,ML3.5/2,Error ellipse: s-maj=28.4km s-min=21.5km az=170.0*
*TEH **25** 10:22:54.6,28°.35N×52°.49E,h17km, ML3.7*
*THR **25** 10:22:54.3±0.7,28°.31N×52°.57E,h14km±6km, ML3.6*
*OMAN **25** 10:22:56.3±0.5,28°.45N×52°.57E,h30km±19km,ml3.7/13, Error ellipse: s-maj=26.5km s-min=6.1km az=339.0*

ISC 25 10:22:55.4±0.6,28°.35N±0°.04×52°.49E±0°.04,h16km,n80, σ1ᵍ30/89,mb3.5/11,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QIR1	Qir	0.50	75	eSg	Sg	10 23 11.8	-0.4
QIR1				ePg	Pg	10 23 04.4	-1.0
QIR1				e		10 23 19.0	
	comp=Z,36μm,0.3s						
JHRM	Jahrom	0.97	81	ePg	Pn	10 23 14.3	-0.1
JHRM				e		10 23 35.8	
	comp=Z,52μm,0.4s						
LMD1	Lamerd	1.17	149	ePg	Pb	10 23 17.0	-0.3
LMD1				e		10 23 23.9	
	comp=Z,32μm,0.3s						
LMD1				eSg	Sg	10 23 33.4	+0.1
AHBU	AHRAM	1.17	296	ePg	Pb	10 23 17.3	0.0
SHI	Shiraz	1.29	1	ePg	Pb	10 23 18.9	-0.5
KAZ1	Kazerun	1.47	330	ePg	Pb	10 23 21.5	-1.0
LAR1	LAR	1.80	112	ePn	Pb	10 23 26.7	-1.3
KLNJ	Kolanjah	2.76	344	ePn	Pn	10 23 39.2	-0.2
KLNJ				e		10 24 36.1	
	comp=Z,2μm,0.5s						
BNDS	Bandar-Abbas	3.39	105	ePn	Pn	10 23 47.9	0.0
BNDS				eSg	Sb	10 24 37.5	+1.2
BNDS	Bandar-Abbas	3.39	105	ePn	Pn	10 23 47.9	0.0
GENO	Geno	3.39	105	ePn	Pn	10 23 48.9	+1.0
IRAM	Ramesheh	3.45	358	ePn	Pn	10 23 49.4	+0.7
ISAD	Sadrabad	3.70	16	ePn	Pn	10 23 53.4	+1.2
NGRK	Negar Kerman	3.93	70	ePn	Pn	10 23 56.6	+1.2
SHME	Shamm	3.98	124	ePn	Pn	10 23 56.3	+0.6
SHME	Shamm	3.98	124	P	Pn	10 23 55.3	-0.4
KHGB	Koh Gabri	4.02	59	ePn	Pn	10 23 58.6	+2.0
KHGB				e		10 25 11.3	
	comp=Z,548nm,1.1s						
KRBR	Kerman	4.07	65	ePn	Pn	10 23 58.0	+0.8
KRBR	Kerman	4.07	65	ePn	Pn	10 23 58.1	+0.8
TVBK	TV Kerman	4.07	65	ePn	Pn	10 23 59.3	+1.9
BANOM	Banah	4.16	125	ePn	Pn	10 23 58.4	0.0
BANOM	Banah	4.16	125	S	Sn	10 24 46.1	-0.7
AMIS	Naft Sefid	4.32	321	ePn	Pn	10 24 00.9	+0.4
NAZ	Nazwa, Dubai	4.39	139	ePn	Pn	10 24 02.1	+0.7
NAZ	Nazwa, Dubai	4.39	139	S	Sn	10 24 53.2	+1.0
YZKH	Yazd	4.42	24	ePn	Pn	10 24 04.0	+2.1
YZKH	Yazd	4.42	24	ePn	Pn	10 24 04.0	+2.1
MASF	Masafi	4.42	131	S	Sn	10 24 53.0	-0.1
MSFE	Esma-Masafi	4.43	131	ePn	Pn	10 24 02.5	+0.5
NASN	Na'in	4.44	3	ePn	Pn	10 24 03.7	+1.2
NASN				IAML		10 24 56.7	
	comp=N,56nm,0.4s						
NASN	Na'in	4.44	3	ePn	Pn	10 24 03.7	+1.2
ASUD	Al Ashush, Dub	4.50	145	ePn	Pn	10 24 04.2	+1.3
ASUD	Al Ashush, Dub	4.50	145	P	Pn	10 24 04.3	+1.3
ASUD				S	Sn	10 24 55.0	+0.1
IZEF	Zefreh	4.53	358	ePn	Pn	10 24 04.7	+1.0
IPIR	Pirpir	4.54	343	ePn	Pn	10 24 02.7	-1.0
FAQ	Al Faqa, Dubai	4.54	142	ePn	Pn	10 24 03.9	+0.4
FAQ	Al Faqa, Dubai	4.54	142	P	Pn	10 24 03.7	+0.2
FAQ				S	Sn	10 24 55.2	-0.7
MDH	Madha	4.56	131	ePn	Pn	10 24 04.3	+0.5
MDH	Madha	4.56	131	P	Pn	10 24 04.1	+0.3
MDH				S	Sn	10 24 56.4	-0.1
KHNJ	Kahnooj	4.62	94	ePn	Pn	10 24 05.2	+0.6
CHMN	Cheshme madani	4.66	70	e		10 24 09.4	
	comp=Z,601nm,0.4s						
CHMN				ePn	Pn	10 24 07.0	+1.5
MZWR	Madinat Zayed	4.74	164	P	Pn	10 24 07.1	+0.8
MZWR				S	Sn	10 25 04.0	+3.2
UOSS	Minazif	4.75	135	ePn	Pn	10 24 05.9	-0.5
UOSS	Minazif	4.75	135	P	Pn	10 24 06.0	-0.3
UOSS				S	Sn	10 25 00.9	-0.2
HATD	Hatta, Dubai	4.79	136	ePn	Pn	10 24 07.8	+0.9
HATD	Hatta, Dubai	4.79	136	P	Pn	10 24 07.9	+0.9
ANAR	Anarak	4.94	12	ePn	Pn	10 24 10.0	+0.9
IKLH	Kolahrood	5.01	351	ePn	Pn	10 24 11.0	+0.7
ALNE	Al Ain	5.18	145	ePn	Pn	10 24 12.7	+0.3
ALNE	Al Ain	5.18	145	P	Pn	10 24 12.4	0.0
KBAM	BAM	5.29	80	ePn	Pn	10 24 15.8	+1.9
SOHO	SOHO	5.55	138	ePn	Pn	10 24 16.7	-0.7
SOHO	SOHO	5.55	138	P	Pn	10 24 16.9	-0.5
KRSH	Karshahi	5.61	357	ePn	Pn	10 24 18.4	0.0
ISFB	Sefidab	5.99	358	ePn	Pn	10 24 23.3	-0.2
UMZA	Um Al Zommool	6.11	156	ePn	Pn	10 24 24.5	-0.6
UMZA	Um Al Zommool	6.11	156	P	Pn	10 24 24.7	-0.3
GHVR	GHOM	6.20	351	ePn	Pn	10 24 27.9	+1.6
GHVR	GHOM	6.20	351	ePn	Pn	10 24 27.9	+1.6
TKDS	Koohdasht(Taba	6.58	36	ePn	Pn	10 24 32.9	+1.3
TABS	Tabas	6.61	36	ePn	Pn	10 24 33.2	+1.2
TABS	Tabas	6.61	36	ePn	Pn	10 24 33.2	+1.2
TNSJ	Nastanj	6.61	31	ePn	Pn	10 24 33.8	+1.7
IVRN	Varamin	6.66	355	ePn	Pn	10 24 32.8	+0.1
HSAM	Samen	6.72	331	ePn	Pn	10 24 33.4	-0.4
WSAR	Wadi Sarin	7.51	131	Pn	Pn	10 24 43.4	-1.1
	comp=Z,0.5nm,0.3s,baz=315,slow=9.1,SNR=17						
WSAR				Sn	Sn	10 26 06.3	-3.0
	comp=Z,0.9nm,0.3s,baz=323,slow=21,SNR=2.5						
JLN	Jalan Bani Buh	8.79	133	S	Sn	10 26 41.6	+0.9
DMTO	DMTO	10.82	167	P	Pn	10 25 32.1	+2.3
BRTR	Keskin Array B	19.27	311	P	P	10 27 19.4	-0.1
	comp=Z,0.2nm,0.3s,baz=129,slow=13,SNR=10						
AKTO	Aktyubinsk	22.45	9	P	P	10 27 54.6	+1.0
	comp=Z,0.5nm,0.3s,baz=166,slow=12,SNR=2.2						
AAK	Ala-Archa	22.80	46	P	P	10 28 04.1	+6.5
	comp=Z,0.7nm,0.3s,baz=212,slow=12,SNR=1.6						
BVAR	Borovoye Array	27.98	23	P	P	10 28 45.5	+0.3
	comp=Z,0.4nm,0.4s,baz=232,slow=11,SNR=4.6						
AKASG	Malin Array Be	28.42	328	P	P	10 28 48.6	-0.6
	comp=Z,0.3nm,0.4s,baz=37,slow=30,SNR=1.5						
MKAR	Makanchi Array	29.68	44	P	P	10 28 59.9	-0.7
	comp=Z,0.3nm,0.5s,baz=232,slow=6.9,SNR=4.0						
KURBB	Kurchatov Arra	29.70	34	P	P	10 29 01.0	+0.4
	comp=Z,0.5nm,0.6s,baz=234,slow=9.1,SNR=4.6						
ZALV	Zalesovo Beam	34.79	34	P	P	10 29 45.8	+0.8
	comp=Z,1.3nm,0.5s,baz=239,slow=10,SNR=6.6						
FINES	FINESS Array B	37.48	339	P	P	10 30 07.2	-0.7
	comp=Z,1.3nm,0.4s,baz=147,slow=8.2,SNR=13						
NOA	NORSAR Array B	42.69	332	P	P	10 30 49.5	-1.8
	comp=Z,0.3nm,0.4s,baz=128,slow=9.0,SNR=4.1						
ARCES	ARCESS Array B	44.07	347	P	P	10 31 01.2	-1.2
	comp=Z,0.3nm,0.3s,baz=146,slow=6.7,SNR=8.7						
TORD	Torodi Ar. Bea	49.50	263	P	P	10 31 43.1	-2.4
	comp=Z,1.3nm,0.4s,baz=62,slow=8.2,SNR=24						

*IDC **25** 10:25:22.1±0.6,57°.81S×25°.40W,h0km,mb4.2/8, mb1 4.2/10,mb1mx4.1/25,mbtmp4.1/10,ML3.9/2,MS3.1/4, Ms1 3.1/4,ms1mx2.8/21,Error ellipse: s-maj=22.2km s-min=18.2km az=78.0*
*NEIC **25** 10:25:27.7±1.8,58°.0S±0°.1×25°.5W±0°.2,h35km±1km, mb4.6/16,Error ellipse: s-maj=21.6km s-min=14.3km az=223.0*

ISC 25 10:25:28.9±0.5,57°.91S±0°.08×25°.52W±0°.09,h49km,n42, σ1ᵍ33/37,mb4.2/11,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	Hope Point	7.13	296	Pn	Pn	10 27 07.6	-2.8
VNA1	Neumayer--Stat	14.72	157	P	Pn	10 28 53.8	+0.1
VNA3	Neumayer Olymp	14.93	160	P	Pn	10 28 55.4	-1.1
SNAA	Sanae	16.66	155	P	P	10 29 20.7	+0.3
SNAA	Sanae	16.66	155	Pn	Pn	10 29 18.7	+0.1
	1.4nm,0.3s,baz=320,slow=16,SNR=25						
SNAA				Sn	Sn	10 32 12.1	-10
	0.1nm,0.3s,baz=354,slow=10,SNR=2.2						
SNAA				LR	LR	10 34 08.8	
	comp=Z,44nm,18.3s,baz=235,slow=32						
SNAA	Sanae	16.66	155	Pn	Pn	10 29 13.6	-5.1
PMSA	Palmer Station	19.44	233	P	Pn	10 29 52.7	+0.3
	0.1nm,0.3s,baz=204,slow=13,SNR=0.9						
PMSA				LR	LR	10 35 50.4	
	comp=Z,59nm,21.3s,baz=94,slow=32						
EFI	East Falkland	19.63	274	P	P	10 29 52.3	-0.8
EFI				IAmb	IAmb	10 30 20.2	
	comp=Z,62nm,1.4s						
MG01	Puerto William	23.20	259	P	P	10 30 32.2	+1.1
MG01				IAmb	IAmb	10 30 56.4	
	comp=Z,37nm,0.7s						
USHA	Ushuaia	23.66	259	P	P	10 30 34.8	-0.7
	comp=Z,57nm,0.6s,baz=286,slow=0.7,SNR=5.7						
QSPA	South Pole Qui	32.33	180	P	P	10 31 53.9	+0.9
	comp=Z,3.1nm,0.6s,baz=217,slow=1.1,SNR=49						
QSPA	South Pole Qui	32.33	180	P	P	10 31 53.5	+0.4
QSPA				IAmb	IAmb	10 31 54.4	
	comp=Z,3.8nm,0.6s						
PLTB	Pedras Altas	32.42	312	P	P	10 31 54.7	+0.7
PLCA	Paso Flores	33.24	281	P	P	10 32 02.0	+0.8
	comp=Z,1.0nm,0.5s,baz=99,slow=1.7,SNR=4.9						
PLCA				LR	LR	10 44 01.1	
	comp=Z,20nm,19.4s,baz=138,slow=34						
PLCA	Paso Flores	33.24	281	P	P	10 32 02.0	+0.8
PLCA	Paso Flores	33.24	281	IAmb	IAmb	10 32 08.6	
	comp=Z,6.2nm,1.2s						
MAW	Mawson	38.11	142	P	P	10 32 42.3	-0.1
	comp=Z,1.0nm,0.7s,baz=232,slow=9.4,SNR=6.8						
ZON	Zonda	39.40	293		S	10 38 54.4	+2.6
SHEL	Horse Pasture	44.42	28	P	P	10 33 35.0	+0.3
VNDA	Vanda	44.75	182	P	P	10 33 38.1	+1.5
	comp=Z,2.8nm,0.7s,baz=180,slow=4.9,SNR=12						
VNDA	Vanda	44.75	182	P	P	10 33 38.4	+1.8
VNDA				IAmb	IAmb	10 33 39.0	
	comp=Z,3.3nm,0.8s						
PB14	IPOC Station P	46.00	297	P	P	10 33 47.4	-0.2
TSUM	Tsumeb	49.85	58	LR	LR	10 52 40.3	
	comp=Z,29nm,18.3s,baz=154,slow=33						
H10N1	ASCENSION HYDR	50.67	14	T	T	11 29 21.9	
	baz=180,slow=72,SNR=3.1						
H10N3	ASCENSION HYDR	50.68	14	T	T	11 29 23.9	
	baz=180,slow=72,SNR=7.4						
H10N2	ASCENSION HYDR	50.69	14	T	T	11 29 26.3	
	baz=180,slow=72,SNR=4.7						
LPAZ	La Paz	52.20	305	P	P	10 34 35.6	+0.2
	comp=Z,0.8nm,0.5s,baz=210,slow=3.4,SNR=2.7						
SAML	Samuel	56.76	314	P	P	10 35 08.0	+0.3
SAML				IAmb	IAmb	10 35 09.2	
	comp=Z,2.7nm,0.6s						
VA02	Isla de Pascua	64.25	260	P	P	10 35 58.2	-0.5
DBIC	Dimbokro	66.51	22	P	P	10 36 13.6	+0.3
	comp=Z,4.8nm,1.0s,baz=117,slow=7.2,SNR=2.7						
DBIC	Dimbokro	66.51	22	P	P	10 36 13.8	+0.5
DBIC				IAmb	IAmb	10 36 21.1	
	comp=Z,16nm,1.4s						
TORD	Torodi Ar. Bea	74.26	28	P	P	10 37 01.2	+0.7
	comp=Z,1.7nm,0.7s,baz=198,slow=6.5,SNR=11						
TORD	Torodi Ar. Bea	74.26	28		P	10 37 01.5	+0.9
ASAR	Alice Springs	96.93	161	P	P	10 38 54.2	-0.7
	comp=Z,0.3nm,0.6s,baz=180,slow=4.2,SNR=6.3						
PDAR	Pinedale Array	122.09	300	PKP	PKPdf	10 44 16.2	-1.1
	comp=Z,0.1nm,0.3s,baz=111,slow=4.3,SNR=5.4						
PDAR	Pinedale Array	122.09	300	PKPdf	PKPdf	10 44 15.9	-1.4
NVAR	Mina Array Bea	122.94	291	PKP	PKPdf	10 44 18.5	-0.5
	comp=Z,0.1nm,0.3s,baz=186,slow=2.7,SNR=3.8						
FINES	FINESS Array B	125.61	28	PKP	PKPdf	10 44 22.3	-0.8
	comp=Z,1.2nm,0.8s,baz=182,slow=3.5,SNR=3.6						
ARCES	ARCESS Array B	132.34	22	PKP	PKPdf	10 44 35.3	-0.4
	comp=Z,0.4nm,0.6s,baz=206,slow=3.9,SNR=1.4						
YKA	Yellowknife Ar	138.16	316	PKP	PKPdf	10 44 46.2	-0.5
	comp=Z,0.3nm,0.4s,baz=116,slow=3.3,SNR=4.1						
SONM	Songino Array	149.90	88	PKPbc	PKPbc	10 45 12.2	-0.5
	comp=Z,1.3nm,0.7s,baz=221,slow=3.5,SNR=6.1						
ILAR	Eielson Array	152.02	309	PKPbc	PKPbc	10 45 17.2	+0.3
	comp=Z,1.5nm,0.4s,baz=136,slow=1.8,SNR=21						

*NOU **25** 10:34:46.7,39°.38S×178°.41E,h14km,MLv4.4/9,Off E. Coast of N. Island, N.Z.*
*IDC **25** 10:34:51.2±2.6,37°.41S×177°.75E,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.8/37,mbtmp3.8/4,Error ellipse: s-maj=51.3km s-min=22.1km az=89.0*
*WEL **25** 10:34:53.0±0.6,39°.S±3°.×17°.8E±°,h30km±4km,M4.1/62, ML4.4/62,MLv4.1/62,Error ellipse: s-maj=0.0km s-min=0.0km az=119.3*

ISC 25 10:34:52.4±1.2,39°.25S±0°.04×178°.11E±0°.06,h48km±8km, n140,ₙ0ᵍ90/149,mb3.9/4,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MHGZ	Mahia Peninsul	0.18	300	P	Pn	10 35 01.2	+1.0
PRGZ	Paritu Road	0.37	331	P	Pn	10 35 01.9	0.0
PRGZ				S	Sn	10 35 08.4	-0.3
KNZ	Kokohu	0.41	303	P	Pn	10 35 01.9	-0.3
KNZ				S	Sn	10 35 08.1	-1.2
RIGZ	Rimuhau	0.60	333	P	Pn	10 35 04.5	-0.1
RIGZ				S	Sn	10 35 12.9	-0.7
WHHZ	Waihua	0.70	284	P	Pn	10 35 05.8	0.0
WHHZ				S	Sn	10 35 15.1	-0.7
SNGZ	Shannon Statio	0.76	307	P	Pn	10 35 06.2	-0.5
CNGZ	Carnagh Statio	0.76	6	P	Pn	10 35 07.5	+0.8
TKGZ	Te Karaka	0.83	346	P	Pn	10 35 07.5	0.0
TKGZ				S	Sn	10 35 17.6	-1.2
RAHZ	Arahi	0.86	292	P	Pn	10 35 07.9	-0.2
RAHZ				S	Sn	10 35 18.2	-1.5
ARHZ	Aropaoanui	0.87	268	P	Pn	10 35 08.3	+0.5
ARHZ				S	Sn	10 35 20.0	+0.4
CKHZ	Cape Kidnapper	0.90	242	P	Pn	10 35 09.4	+0.9
RAGZ	Rawiri	0.93	324	P	Pn	10 35 08.4	-0.5
RAGZ				S	Sn	10 35 19.1	-2.1

TRWZ	**Traveller**	**2.84**	**220**	P	**Pn**	**10 35 33.4**	**-1.6**
LREZ	**Lake Rotokare**	**2.88**	**265**	P	**Pn**	**10 35 36.3**	**+0.7**
KIW	**Kapiti Island**	**2.94**	**236**	P	**Pn**	**10 35 35.8**	**-0.6**
MHEZ	**Mangahewa**	**2.95**	**272**	P	**Pn**	**10 35 37.9**	**+1.4**
PAWZ	**Paruwai Farm**	**2.96**	**223**	P	**Pn**	**10 35 35.2**	**-1.5**
CAW	**Cannon Point**	**2.98**	**230**	P	**Pn**	**10 35 35.8**	**-1.2**
DREZ	**Durham Road**	**3.04**	**270**	P	**Pn**	**10 35 38.8**	**+1.1**
PREZ	**Palmer Road**	**3.07**	**267**	P	**Pn**	**10 35 39.4**	**+1.2**
MSWZ	**Moikau Station**	**3.08**	**224**	P	**Pn**	**10 35 36.6**	**-1.8**
NEZ	**North Egmont**	**3.12**	**268**	P	**Pn**	**10 35 39.9**	**+1.0**
KUZ	**Kuaotunu**	**3.13**	**322**	P	**Pn**	**10 35 37.5**	**-1.5**
MKAZ	**Moumakai**	**3.16**	**312**	P	**Pn**	**10 35 38.7**	**-0.7**
KHEZ	**Kahui Hut**	**3.18**	**268**	P	**Pn**	**10 35 41.1**	**+1.3**
PLWZ	**Palliser**	**3.19**	**222**	P	**Pn**	**10 35 37.7**	**-2.0**
PKE	**Pukeiti**	**3.20**	**270**	P	**Pn**	**10 35 41.1**	**+1.1**
WEL	**Wellington**	**3.27**	**230**	P	**Pn**	**10 35 39.5**	**-1.4**
BHW	**Baring Head**	**3.29**	**228**	P	**Pn**	**10 35 39.4**	**-1.7**
NMEZ	**Namu Road**	**3.29**	**266**	P	**Pn**	**10 35 42.2**	**+1.1**
NBEZ	**Newall Road No**	**3.29**	**268**	P	**Pn**	**10 35 42.1**	**+0.9**
WIAZ	**Waiheke Island**	**3.39**	**315**	P	**Pn**	**10 35 41.9**	**-0.7**
ETAZ	**East Tamaki Re**	**3.40**	**311**	P	**Pn**	**10 35 42.9**	**+0.2**
TCW	**Tory Channel**	**3.53**	**235**	P	**Pn**	**10 35 42.9**	**-1.5**
MBAZ	**Motutapu North**	**3.54**	**313**	P	**Pn**	**10 35 44.6**	**0.0**
DUWZ	**D'Urville Isla**	**3.57**	**243**	P	**Pn**	**10 35 43.7**	**-1.4**
WTAZ	**Waiatarua**	**3.62**	**308**	P	**Pn**	**10 35 46.2**	**+0.4**
ABAZ	**Army Bay**	**3.70**	**315**	P	**Pn**	**10 35 46.7**	**-0.1**
RVAZ	**Riverhead Bore**	**3.73**	**310**	P	**Pn**	**10 35 47.4**	**+0.3**
TUWZ	**Tuamarina**	**3.86**	**234**	P	**Pn**	**10 35 47.0**	**-2.0**
BSWZ	**Blackbirch Sta**	**4.06**	**231**	P	**Pn**	**10 35 49.9**	**-1.9**
NNZ	**Nelson**	**4.12**	**240**	P	**Pn**	**10 35 51.2**	**-1.4**
WCZ	**Waipu Caves**	**4.45**	**317**	P	**Pn**	**10 35 56.9**	**-0.3**
QRZ	**Quartz Range**	**4.57**	**248**	P	**Pn**	**10 35 56.6**	**-2.1**
GVZ	**Greta Valley S**	**5.34**	**224**	P	**Pn**	**10 36 07.3**	**-2.0**
OUZ	**Omahuta**	**5.40**	**317**	P	**Pn**	**10 36 10.4**	**+0.3**
CTZ	**Chatham Island**	**5.98**	**140**	P	Pn	10 36 21.9	+3.8
VNDA	**Vanda**	**39.00**	**186**	P	P	10 42 33.6	+20
	0.5nm,0.8s,baz=7.1,slow=8.6,SNR=2.3						
ASAR	**Alice Springs**	**40.37**	**279**	P	**P**	**10 42 26.1**	**+0.6**
	2.8nm,0.8s,baz=120,slow=7.4,SNR=25						
WRA	**Warramunga Arr**	**42.17**	**284**	P	**P**	**10 42 40.2**	**0.0**
	0.7nm,0.5s,baz=126,slow=7.3,SNR=20						
FITZ	**Fitzroy Crossi**	**49.87**	**279**	P	**P**	**10 43 41.3**	**+0.5**
	1.7nm,0.9s,baz=117,slow=6.8,SNR=2.1						
BRTR	**Keskin Array B**	**152.68**	**282**	PKPab	**PKPab**	**10 54 57.2**	**+2.9**
	0.4nm,0.7s,baz=90,slow=3.7,SNR=3.6						

*IDC **25** 10:42:20.3±1.2,3˚85S×134˚77E, h0km, mb3.7/3, mb1 4.0/8, mb1mx3.7/41, mbtmp3.9/8, ML4.0/5, MS3.4/1, Ms1 3.4/1, ms1mx2.4/34, Error ellipse: s-maj=34.4km s-min=21.6km az=57.0*

*DJA **25** 10:42:22.6±1.7, 4˚S±5˚×13˚5E±˚, h21km±16km, M4.3/7, mb4.5/3, mB5.0/1, MLv4.2/7, Mw(mB)4.4/1*

ISC 25 10:42:21.3±0.8, 3.99S±0.06×134.85E±0.05, h23km, n18, σ2.966/23, mb3.7/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**2.52**	**33**	P	**Pn**	**10 42 59.0**	**-1.9**
SRPI				S	**Sn**	**10 43 27.6**	**-3.4**
FAKI	**Fak Fak**	**2.81**	**292**	P	**Pn**	**10 43 06.2**	**+1.4**
BAKI	**Biak**	**3.05**	**24**	P	**Pn**	**10 43 06.6**	**-1.6**
SMPI	**Sarmi**	**4.34**	**63**	P	**Pn**	**10 43 26.3**	**+0.5**
SMPI				S	**Sn**	**10 44 16.2**	**+0.4**
SIJI	**Sorong**	**4.74**	**311**	Pn	**Pn**	**10 43 30.2**	**-1.2**
	8.2nm,0.3s,baz=179,slow=17,SNR=17						
SIJI				Sn	**Sn**	**10 44 20.5**	**-5.0**
	2.2nm,0.3s,baz=220,slow=23,SNR=1.8						
SIJI	**Sorong**	**4.74**	**311**	P	**Pn**	**10 43 30.4**	**-0.9**
SWI	**Sorong**	**4.74**	**311**	P	**Pn**	**10 43 31.7**	**+0.3**
BNDI	**Bandanaira**	**4.96**	**264**	P	**Pn**	**10 43 37.3**	**+2.9**
	0.8nm106nm,1.5s						
JAY	**Jayapura**	**6.03**	**76**	Pn	**Pn**	**10 43 50.6**	**+1.5**
	2.4nm,0.3s,baz=245,slow=8.1,SNR=7.4						
JAY	**Jayapura**	**6.03**	**76**	P	**Pn**	**10 43 49.7**	**+0.6**
	0.1nm14nm,1.2s						
WRA	**Warramunga Arr**	**15.86**	**182**	Pn	**Pn**	**10 46 02.2**	**-1.0**
	0.1nm,0.3s,baz=1.2,slow=14,SNR=11						
WRA				Sn	**Sn**	**10 48 55.5**	**-3.0**
	0.2nm,0.3s,baz=12,slow=23,SNR=3.6						
FITZ	**Fitzroy Crossi**	**16.67**	**212**	Pn	**P**	**10 46 15.9**	**+0.1**
	0.3nm,0.3s,baz=27,slow=11,SNR=7.4						
FITZ				Sn	**Sn**	**10 49 13.1**	**-5.0**
	0.3nm,0.3s,baz=177,slow=12,SNR=5.7						
CTA	**Charters Tower**	**19.48**	**146**	P	**Pn**	**10 46 51.5**	**+3.4**
	0.4nm,0.3s,baz=318,slow=13,SNR=5.7						
ASAR	**Alice Springs**	**19.58**	**183**	P	**Pn**	**10 46 51.0**	**+1.7**
	0.8nm,0.3s,baz=7.1,slow=11,SNR=48						
ASAR				S	**S**	**10 50 22.9**	**-4.9**
	0.1nm,0.3s,baz=4.1,slow=27,SNR=3.2						
STKA	**Stephens Creek**	**28.45**	**168**	LR	LR	11 00 51.0	
	comp=Z,80nm,19.2s,baz=27,slow=39						
CMAR	**Chiang Mai Arr**	**41.82**	**303**	P	**P**	**10 50 11.4**	**+1.7**
	0.6nm,0.4s,baz=121,slow=8.5,SNR=2.4						
MKAR	**Makanchi Array**	**68.50**	**324**	P	**P**	**10 53 23.8**	**+1.9**
	0.6nm,0.6s,baz=108,slow=8.1,SNR=5.7						
KURBB	**Kurchatov Arra**	**72.60**	**326**	P	**P**	**10 53 48.4**	**+1.7**
	0.3nm,0.5s,baz=122,slow=4.5,SNR=2.7						

*NEIC **25** 10:51:37.4±1.7, 56˚0S±0˚1×27˚9W±0˚2, h113km±6km, mb4.6/20, Error ellipse: s-maj=19.3km s-min=13.4km az=202.0*

*IDC **25** 10:51:39.4±6.4, 56˚03S×27˚74W, h130km±57km, mb3.8/8, mb1 3.9/9, mb1mx3.7/21, mbtmp4.2/9, Error ellipse: s-maj=24.9km s-min=18.8km az=87.0*

ISC 25 10:51:38.0±0.6, 56˚02S±0˚10×27˚92W±0˚09, h121km, n40, σ1.905/36, mb4.4/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.21**	**286**	Pn	**Pn**	**10 52 53.2**	**-0.5**
EFI	**East Falkland**	**18.22**	**271**	P	**P**	**10 55 40.9**	**-0.5**
EFI				IAmb	IAmb	10 55 55.9	
	comp=Z,97nm,1.4s						
SNAA	**Sanae**	**18.94**	**156**	P	**P**	**10 55 48.6**	**-0.6**
	comp=Z,1.9nm,0.3s,baz=300,slow=11,SNR=41						
SNAA	**Sanae**	**18.94**	**156**	P	**P**	**10 55 48.5**	**-0.7**
SNAA				IAmb	IAmb	10 55 49.6	
	comp=Z,6.3nm,0.5s						
PMSA	**Palmer Station**	**19.61**	**229**	P	**Pn**	**10 56 01.6**	**+2.7**
	comp=Z,0.5nm,0.3s,baz=63,slow=6.7,SNR=4.1						
PMSA	**Palmer Station**	**19.61**	**229**	P	**Pn**	**10 55 57.5**	**-1.5**
PMSA				IAmb	IAmb	10 56 22.5	
	comp=Z,40nm,1.3s						
TRQA	**Tornquist**	**28.93**	**294**	P	**P**	**10 57 26.1**	**+0.5**
QSPA	**South Pole Qui**	**34.24**	**180**	P	**P**	**10 58 12.3**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=150,slow=1.0,SNR=22						
MT05	**Renca**	**37.07**	**289**	P	**P**	**10 58 37.1**	**+0.9**
VA05	**Santo Domingo**	**37.33**	**288**	P	**P**	**10 58 37.5**	**-0.8**
ZON	**Zonda**	**37.44**	**294**	P	**P**	**10 58 39.1**	**-0.3**
ZON				IAmb	IAmb	10 59 00.7	
	comp=Z,8.7nm,0.6s						
CO05	**La Serena**	**40.06**	**292**	P	**P**	**10 58 59.4**	**-1.8**
MAW	**Mawson**	**40.42**	**144**	P	**P**	**10 59 03.4**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=220,slow=7.3,SNR=7.7						
MAW	**Mawson**	**40.42**	**144**	P	**P**	**10 59 03.7**	**+0.1**
AC04	**Llanos de Chal**	**41.36**	**294**	P	**P**	**10 59 09.5**	**-2.3**
AC02	**Maricunga**	**41.49**	**297**	P	**P**	**10 59 11.1**	**-2.4**
AC02				IAmb	IAmb	10 59 31.9	
	comp=Z,14nm,1.4s						
SBA	**Scott Base**	**46.09**	**184**	P	**P**	**10 59 48.2**	**-0.8**
PB01	**IPOC Station P**	**46.54**	**301**	P	**P**	**10 59 54.1**	**+0.8**
PB01				IAmb	IAmb	11 00 12.8	
	comp=Z,13nm,1.2s						
VNDA	**Vanda**	**46.59**	**183**	P	**P**	**10 59 53.9**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=184,slow=5.7,SNR=10.0						
VNDA	**Vanda**	**46.59**	**183**	P	**P**	**10 59 54.5**	**+1.6**
H10N1	**ASCENSION HYDR**	**49.21**	**18**	T	T	11 53 37.8	
	baz=197						
H10N3	**ASCENSION HYDR**	**49.21**	**18**	T	T	11 53 39.9	
	baz=197						
H10N2	**ASCENSION HYDR**	**49.22**	**18**	T	T	11 53 45.6	
	baz=197						
LBTB	**Lobatse**	**49.39**	**74**	P	**P**	**11 00 14.6**	**-0.7**
	comp=Z,2.4nm,0.8s,baz=194,slow=16,SNR=2.9						
LBTB	**Lobatse**	**49.39**	**74**	IAmb	IAmb	11 00 32.2	
	comp=Z,12nm,1.5s						
LPAZ	**La Paz**	**50.02**	**306**	P	**P**	**11 00 21.4**	**+0.7**
	comp=Z,1.2nm,0.4s,baz=105,slow=4.7,SNR=7.5						
LPAZ	**La Paz**	**50.02**	**306**	P	**P**	**11 00 21.0**	**+0.3**
LPAZ				IAmb	IAmb	11 00 21.8	
	comp=Z,1.7nm,0.5s						
DBIC	**Dimbokro**	**65.31**	**25**	P	**P**	**11 02 07.5**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=22,slow=18,SNR=1.3						
DBIC	**Dimbokro**	**65.31**	**25**	P	**P**	**11 02 07.6**	**+0.7**
DBIC				IAmb	IAmb	11 02 32.9	
	comp=Z,13nm,1.2s						
TORD	**Torodi Ar. Bea**	**73.23**	**30**	P	**P**	**11 02 56.2**	**+0.6**
	comp=Z,4.6nm,0.4s,baz=201,slow=6.3,SNR=46						
TORD	**Torodi Ar. Bea**	**73.23**	**30**	P	**P**	**11 02 56.3**	**+0.7**
TORD				IAmb	IAmb	11 02 56.6	
	comp=Z,4.3nm,0.5s						
ASAR	**Alice Springs**	**99.14**	**163**	P	**Pdif**	**11 05 04.7**	**-0.8**
	comp=Z,0.5nm,1.0s,baz=188,slow=3.8,SNR=4.8						
FINES	**FINESS Array B**	**124.55**	**28**	PKP	**PKPdf**	**11 10 20.5**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=176,slow=2.9,SNR=5.6						
FINES	**FINESS Array B**	**124.55**	**28**		**PKPdf**	**11 10 21.0**	**-0.4**
ARCES	**ARCESS Array B**	**131.06**	**22**	PKP	**PKPdf**	**11 10 33.4**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=211,slow=2.4,SNR=8.0						
INK	**Inuvik**	**145.52**	**321**	PKPbc	**PKPbc**	**11 11 00.5**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=101,slow=5.4,SNR=14						
ILAR	**Eielson Array**	**149.78**	**312**	PKPbc	**PKPbc**	**11 11 11.8**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=131,slow=1.6,SNR=17						
ILAR	**Eielson Array**	**149.78**	**312**		**PKPbc**	**11 11 12.2**	**+0.1**
SONM	**Songino Array**	**151.14**	**87**	PKPbc	**PKPbc**	**11 11 15.6**	**-0.3**
	comp=Z,2.7nm,0.5s,baz=217,slow=3.5,SNR=11						
SONM	**Songino Array**	**151.14**	**87**		**PKPbc**	**11 11 15.9**	**-0.1**

*IDC **25** 10:54:20.1±1.3,22˚64N×121˚61E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.4/45, mbtmp3.5/7, ML3.3/1, MS2.8/2, Ms1 2.8/2, ms1mx2.4/31, Error ellipse: s-maj=43.6km s-min=21.8km az=68.0*

*JMA **25** 10:54:24.5±0.1,22˚75N×121˚35E, h37km±4km, M4.0*

*NIED **25** 10:54:24.6,22˚75N×121˚35E, h37km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-2.90; Mθθ7.81; Mφφ-4.91; Mrθ-3.88; Mθφ0.10; Mφr-3.78; Fault plane solution: M₀8.68000×10¹⁴ NP1:φs52.00000°, δ77.00000°, λ-135.00000°. NP2:φs310.00000°, δ46.00000°, λ-18.00000°.*

*TAP **25** 10:54:25.9,22˚72N×121˚30E, h35km, ML4.2, B*

ISC 25 10:54:25.7±0.8, 22.70N±0.02×121.37E±0.02, h33km±2km, n147, σ1.911/248, mb3.4/6, 21C-16D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LDUT	**Ludao**	**0.10**	**107**	⇓*i*P	**Pb**	**10 54 32.3**	**+0.8**
	baz=99						
LDUT				*i* S	**Sb**	**10 54 37.1**	**+1.6**
	baz=99						
TTN	**Taitung**	**0.21**	**284**	P	**Pb**	**10 54 33.0**	**+0.5**
	baz=296						
TTN				S	**Sb**	**10 54 38.4**	**+1.5**
	baz=296						
EDH	**Donghe**	**0.28**	**348**	⇑*i*P	**Pb**	**10 54 33.4**	**+0.2**
	baz=356						
EDH				S	**Sb**	**10 54 38.5**	**+0.3**
	baz=356						
TWGBT	**Beinan**	**0.29**	**294**	⇓*i*P	**Pb**	**10 54 32.8**	**-0.5**
	baz=296						
TWGBT				*i* S	**Sn**	**10 54 37.7**	**-0.2**
	baz=296						
TWG	**Pinlang**	**0.29**	**294**	⇓*i*P	**Pb**	**10 54 32.9**	**-0.6**
	baz=296						
TWG				*i* S	**Sn**	**10 54 37.8**	**-0.4**
	baz=296						
LONT	**Longtian**	**0.30**	**313**	⇓*i*P	**Pb**	**10 54 33.3**	**-0.2**
	baz=320						
LONT				S	**Sn**	**10 54 38.5**	**+0.3**
	baz=320						
ECL	**Taimali**	**0.39**	**255**	⇓*i*P	**Pb**	**10 54 33.7**	**-1.0**
	baz=255						
ECL				S	**Sb**	**10 54 39.2**	**-1.7**
	baz=255						
CHKT	**Chengkung**	**0.40**	**0**	⇑*i*P	**Pb**	**10 54 34.8**	**0.0**
	baz=17						
CHKT				*i* S	**Sb**	**10 54 41.2**	**+0.3**
	baz=17						
ECS	**Chishang**	**0.41**	**341**	⇑P	**Pb**	**10 54 35.0**	**-0.1**
	baz=341						
ECS				S	**Sb**	**10 54 42.0**	**+0.5**
	baz=341						
FULB	**Fuli**	**0.50**	**353**	⇑*i*P	**Pb**	**10 54 36.0**	**-0.3**
	baz=351						
FULB				S	**Sn**	**10 54 44.4**	**+0.4**
	baz=351						
EAST	**Anshuo**	**0.57**	**236**	⇓*i*P	**Pn**	**10 54 36.5**	**-1.0**
	baz=230						
EAST				S	**Sb**	**10 54 43.3**	**-2.3**
	baz=230						
ELDTW	**Lidau**	**0.58**	**327**	⇑*i*P	**Pn**	**10 54 36.4**	**-1.2**
	baz=332						
ELDTW				S	**Sb**	**10 54 43.2**	**-2.7**
	baz=332						
ECBN	**Changbin**	**0.62**	**7**	P	**Pn**	**10 54 38.0**	**-0.1**
	baz=23						
ECBN				S	**Sn**	**10 54 47.5**	**+0.7**
	baz=23						
EYUL	**Yuli**	**0.64**	**356**	*e*P	**Pn**	**10 54 37.5**	**-0.9**
	baz=352						
EYUL				S	**Sn**	**10 54 46.4**	**-1.1**
	baz=352						
TWF1	**Yuli**	**0.65**	**355**	⇑*i*P	**Pn**	**10 54 37.4**	**-1.2**
	baz=353						
TWF1				*e*S	**Sn**	**10 54 45.6**	**-2.1**
	baz=353						
TSMG	**Majia**	**0.67**	**270**	P	**Pn**	**10 54 37.8**	**-0.9**
	baz=269						
SSD	**Sandimen**	**0.68**	**274**	⇓*i*P	**Pn**	**10 54 38.1**	**-0.8**
	baz=272						
SSD				*e*S	**Sn**	**10 54 47.8**	**-0.5**
	baz=272						
MASBT	**Mashibuluo**	**0.68**	**263**	P	**Pn**	**10 54 38.4**	**-0.6**
	baz=260						
MASBT				S	**Sn**	**10 54 46.1**	**-2.3**
	baz=260						
LAY	**Lan-yu**	**0.68**	**165**	P	**Pn**	**10 54 38.6**	**-0.4**
	baz=160						
LAY				*e*S	**Sb**	**10 54 49.4**	**+0.9**
	baz=160						
YULB	**Yu-li**	**0.69**	**355**	⇑P	**Pn**	**10 54 37.8**	**-1.3**
	baz=353						
SLIU	**Shizi**	**0.71**	**227**	P	**Pn**	**10 54 38.4**	**-1.0**
	baz=213						
SLIU				*e*S	**Sn**	**10 54 46.9**	**-2.3**
	baz=213						
STYH	**Taoyuan**	**0.71**	**311**	P	**Pn**	**10 54 39.2**	**-0.3**
	baz=313						
STYH				S	**Sn**	**10 54 48.6**	**-0.7**
	baz=313						
SCZT	**Fangliau**	**0.76**	**245**	⇑*i*P	**Pn**	**10 54 39.7**	**-0.4**
	baz=240						
SCZT				S	**Sn**	**10 54 49.2**	**-1.2**
	baz=240						
SSPT	**Xinbi**	**0.77**	**254**	*e*P	**Pn**	**10 54 40.3**	**+0.1**
	baz=250						
SSPT				*e*S	**Sn**	**10 54 50.2**	**-0.4**
	baz=250						
HGSD	**Ruisui**	**0.79**	**4**	P	**Pn**	**10 54 40.1**	**-0.4**
	baz=20						
HGSD				*e*S	**Sn**	**10 54 51.5**	**+0.4**
	baz=20						
EHY	**Hungye**	**0.80**	**357**	⇑*i*P	**Pn**	**10 54 39.4**	**-1.2**
	baz=354						
EHY				S	**Sn**	**10 54 49.1**	**-2.3**
	baz=354						
SGLT	**Jiouru**	**0.81**	**272**	P	**Pb**	**10 54 41.8**	**+0.4**
	baz=264						
SGLT				*e*S	**Sb**	**10 54 54.9**	**+2.9**
	baz=264						
SGST	**Jiashian**	**0.81**	**298**	⇓*i*P	**Pn**	**10 54 40.4**	**-0.4**
	baz=305						
SGST				*i* S	**Sn**	**10 54 51.3**	**-0.4**
	baz=305						
SCST	**Cishan**	**0.82**	**283**	P	**Pb**	**10 54 41.8**	**+0.1**
	baz=283						
SCST				*e*S	**Sb**	**10 54 54.7**	**+2.3**
	baz=283						
YUS	**Yu-Shan**	**0.87**	**334**	⇑*i*P	**Pn**	**10 54 41.5**	**-0.5**
	baz=341						
YUS				S	**Sn**	**10 54 51.5**	**-2.3**
	baz=341						
WTP	**Ta-pu**	**0.88**	**308**	⇓*i*P	**Pn**	**10 54 42.3**	**+0.6**
	baz=310						
WTP				*i* S	**Sb**	**10 54 54.8**	**+0.7**
	baz=310						
TPUB	**Ta-pu**	**0.90**	**311**	⇓*i*P	**Pn**	**10 54 42.7**	**+0.7**
	baz=314						
TPUB				S	**Sn**	**10 54 54.7**	**+0.8**
	baz=314						
HEN	**Hengchun**	**0.90**	**220**	P	**Pn**	**10 54 41.9**	**-0.1**
	baz=203						
HEN				S	**Sn**	**10 54 53.4**	**-0.5**
	baz=203						
TSEB	**Hengchuen, Pin**	**0.91**	**208**	⇑*i*P	**Pn**	**10 54 42.0**	**-0.1**
	baz=196						
TSEB				S	**Sn**	**10 54 54.1**	**+0.1**
	baz=196						
CHN1	**Nanshi**	**0.91**	**302**	⇓*i*P	**Pb**	**10 54 43.2**	**+0.1**
	baz=307						
CHN1				*i* S	**Sb**	**10 54 55.8**	**+0.9**
	baz=307						
TWKBT	**Hengchun**	**0.91**	**214**	⇑*i*P	**Pn**	**10 54 41.7**	**-0.5**
	baz=199						
TWKBT				S	**Sb**	**10 54 55.8**	**+0.8**
	baz=199						
TWK1	**Hengchun**	**0.92**	**215**	⇑*i*P	**Pn**	**10 54 41.7**	**-0.5**
	baz=199						
TWK1				*e*S	**Sn**	**10 54 53.4**	**-0.8**
	baz=199						
SNST	**Tainan City**	**0.95**	**303**	P	**Pn**	**10 54 43.9**	**+0.1**
	baz=304						
SNST				S	**Sb**	**10 54 56.9**	**+0.8**
	baz=304						
ALS	**Alishan**	**0.95**	**327**	⇑*i*P	**Pn**	**10 54 43.4**	**+0.3**
	baz=338						
ALS				*i* S	**Sn**	**10 54 56.0**	**+0.3**
	baz=338						
CHN4	**Tsaushan**	**0.96**	**312**	P	**Pb**	**10 54 43.8**	**-0.1**
	baz=321						
CHN4				S	**Sb**	**10 54 57.3**	**+1.0**
	baz=321						
EGFH	**Guangfu**	**0.96**	**3**	*e*P	**Pn**	**10 54 41.8**	**-1.1**
	baz=6.0						
WLCH	**Liuqiu**	**0.98**	**249**	*e*P	**Pb**	**10 54 46.3**	**+2.1**
	baz=233						
TWK	**Hsinying**	**0.98**	**305**	⇓*i*P	**Pn**	**10 54 44.1**	**+0.8**
	baz=307						
TWK				S	**Sb**	**10 54 57.4**	**+0.3**
	baz=307						
KAU	**Kaohsiung**	**0.98**	**262**	*e*P	**Pb**	**10 54 46.1**	**+1.8**
	baz=260						
KAU				*e*S	**Sb**	**10 55 00.1**	**+3.1**
	baz=260						
CHN3	**Shinhua**	**0.99**	**292**	P	**Pb**	**10 54 45.2**	**+0.8**
	baz=293						
CHN3				S	**Sb**	**10 55 00.3**	**+3.0**
	baz=293						
CHN5	**Tsauling**	**1.09**	**325**	⇑*i*P	**Pb**	**10 54 45.8**	**-0.3**
	baz=340						
CHN5				S	**Sb**	**10 55 01.4**	**+1.2**
	baz=340						
WHYT	**Xinyi Township**	**1.09**	**335**	P	**Pn**	**10 54 45.8**	**+1.0**
	baz=343						
WHYT				S	**Sn**	**10 54 59.4**	**+0.7**
	baz=343						
ESL	**Shilin**	**1.11**	**3**	P	**Pn**	**10 54 43.7**	**-1.2**
	baz=9.0						
ESL				S	**Sn**	**10 54 56.5**	**-2.5**
	baz=9.0						
SSLB	**Suanglung**	**1.14**	**341**	⇑*i*P	**Pn**	**10 54 45.8**	**+0.4**
	baz=350						
SSLB				S	**Sn**	**10 55 00.8**	**+0.8**
	baz=350						
CHN2	**Minshiung**	**1.16**	**315**	*e*P	**Pb**	**10 54 47.5**	**+0.1**
	baz=318						
CHN2				S	**Sb**	**10 55 03.0**	**+0.9**
	baz=318						
CHY	**Chiayi**	**1.17**	**313**	*e*P	**Pb**	**10 54 47.3**	**-0.2**
	baz=315						
CHY				*e*S	**Sb**	**10 55 02.8**	**+0.5**
	baz=315						
SCLT	**Jiali**	**1.18**	**294**	P	**Pn**	**10 54 46.9**	**+1.1**
	baz=295						
SCLT				S	**Sb**	**10 55 02.9**	**+0.4**
	baz=295						
ICHU	**Yijhu**	**1.20**	**303**	*e*P	**Pn**	**10 54 46.9**	**+0.9**
	baz=305						
ICHU				*e*S	**Sb**	**10 55 03.0**	**0.0**
	baz=305						
CHN8	**Yiju**	**1.24**	**301**	P	**Pb**	**10 54 48.0**	**-0.7**
	baz=303						
CHN8				S	**Sb**	**10 55 04.0**	**-0.3**
	baz=303						
WDLH	**Douliu**	**1.24**	**322**	P	**Pb**	**10 54 48.2**	**-0.4**
	baz=325						
WDLH				S	**Sb**	**10 55 04.2**	**-0.2**
	baz=325						
SMLT	**Sun Moon Lake**	**1.25**	**340**	⇑*i*P	**Pn**	**10 54 48.0**	**+1.1**
	baz=344						
SMLT				S	**Sb**	**10 55 04.7**	**0.0**
	baz=344						
OWD	**Renai**	**1.26**	**352**	⇑*i*P	**Pn**	**10 54 46.8**	**-0.3**
	baz=5.0						
WJS	**Zhushan**	**1.26**	**332**	P	**Pb**	**10 54 48.8**	**-0.2**
	baz=335						
WJS				S	**Sb**	**10 55 05.3**	**+0.5**
	baz=335						
TYC	**Yuchr**	**1.28**	**339**	⇑*i*P	**Pb**	**10 54 48.6**	**-0.7**
	baz=343						
TYC				S	**Sb**	**10 55 05.5**	**-0.1**
	baz=343						
HWA	**Hwalien**	**1.29**	**10**	*e*P	**Pn**	**10 54 47.3**	**-0.1**
	baz=6.0						
HWA				*e*S	**Sn**	**10 55 04.0**	**+0.6**
	baz=6.0						
WNT	**Mingjian**	**1.33**	**332**	P	**Pb**	**10 54 49.8**	**-0.3**
	baz=335						
WNT				S	**Sb**	**10 55 06.9**	**+0.2**
	baz=335						
WTK	**Tuku**	**1.33**	**318**	P	**Pn

TCU					*e*S		**Sb**	**10 55 12.6**	**-1.1**
	baz=339									
WHP	**Taichung City**	**1.61**	**346**	⇓	*i*P		**Pb**	**10 54 54.1**	**-0.9**
	baz=350									
WHP					*i* S		**Sb**	**10 55 14.4**	**-0.7**
	baz=350									
WDGT	**Dungji**	**1.67**	**290**	⇓	*i*P		**Pn**	**10 54 52.6**	**0.0**
	baz=290									
WDGT					S		**Sn**	**10 55 11.1**	**-1.7**
	baz=290									
NNSB	**Datong**	**1.72**	**1**		P		**Pn**	**10 54 53.2**	**-0.2**
	baz=13									
NNSB					*e*S		**Sn**	**10 55 12.6**	**-1.7**
	baz=13									
TWQ1	**Liyutan**	**1.73**	**342**		P		**Pn**	**10 54 55.1**	**+1.7**
	baz=344									
TWQ1					S		**Sb**	**10 55 17.1**	**-1.1**
	baz=344									
NNS	**Nan Shan**	**1.73**	**0**		P		**Pn**	**10 54 53.9**	**+0.4**
	baz=14									
NNS					*e*S		**Sb**	**10 55 17.5**	**-0.9**
	baz=14									
ENA	**Nanau**	**1.75**	**11**		P		**Pn**	**10 54 53.4**	**-0.3**
	baz=5.0									
ENA					S		**Sn**	**10 55 15.3**	**+0.4**
	baz=5.0									
WDJ	**Dajia District**	**1.77**	**338**		*e*P		**Pn**	**10 54 55.5**	**+1.5**
	baz=340									
WDJ					*e*S		**Sb**	**10 55 18.7**	**-0.6**
	baz=340									
EWUT	**Wuta**	**1.78**	**12**		*e*P		**Pn**	**10 54 54.1**	**0.0**
	baz=7.0									
EWUT					*e*S		**Sn**	**10 55 16.3**	**+0.8**
	baz=7.0									
NSY	**Sanyi**	**1.79**	**342**		P		**Pb**	**10 54 56.6**	**-1.4**
	baz=345									
NSY					S		**Sb**	**10 55 18.8**	**-1.3**
	baz=345									
PHUB	**P'eng-hu**	**1.84**	**296**		P		**Pn**	**10 54 54.2**	**-0.7**
	baz=297									
PHUB					S		**Sn**	**10 55 15.6**	**-1.4**
	baz=297									
VCHM	**Qimei**	**1.85**	**286**		P		**Pn**	**10 54 54.8**	**-0.4**
	baz=286									
VCHM					S		**Sn**	**10 55 15.1**	**-2.3**
	baz=286									
PNG	**Penghu**	**1.88**	**298**		*e*P		**Pn**	**10 54 55.3**	**-0.1**
	baz=298									
PNG					*e*S		**Sn**	**10 55 16.2**	**-1.7**
	baz=298									
NDT	**Datong Townshi**	**1.90**	**4**		*e*P		**Pn**	**10 54 56.2**	**+0.5**
	baz=14									
NMLH	**Miaoli**	**1.90**	**344**		*e*P		**Pn**	**10 54 57.3**	**+1.5**
	baz=346									
NMLH					S		**Sb**	**10 55 22.0**	**-1.1**
	baz=346									
ENTT	**Nioudou**	**1.94**	**5**		P		**Pn**	**10 54 56.3**	**0.0**
	baz=16									
NSTT	**Nanjuang**	**1.95**	**350**		P		**Pn**	**10 54 58.0**	**+1.6**
	baz=354									
NSTT					S		**Sn**	**10 55 22.2**	**+2.4**
	baz=354									
NDS	**Dongshan**	**1.95**	**9**		P		**Pn**	**10 54 56.4**	**0.0**
	baz=11									
TWC	**Suao**	**1.95**	**13**		P		**Pn**	**10 54 56.9**	**+0.5**
	baz=9.0									
TWC					*e*S		**Sn**	**10 55 21.2**	**+1.5**
	baz=9.0									
YHNB	**Yeheng**	**1.96**	**0**		P		**Pn**	**10 54 57.5**	**+0.8**
	baz=18									
YHNB					*e*S		**Sn**	**10 55 20.8**	**+0.7**
	baz=18									
LIOB	**Emei**	**1.96**	**351**		P		**Pn**	**10 54 58.4**	**+1.7**
	baz=354									
LIOB					S		**Sn**	**10 55 22.6**	**+2.5**
	baz=354									
NSK	**Sanguang**	**1.96**	**360**	⇓	*i*P		**Pn**	**10 54 57.6**	**+0.9**
	baz=18									
NSK					S		**Sn**	**10 55 19.8**	**-0.4**
	baz=18									
TWE	**Neicheng**	**2.03**	**8**	⇓	*i*P		**Pn**	**10 54 57.6**	**+0.1**
	baz=14									
TWE					*e*S		**Sn**	**10 55 21.5**	**-0.2**
	baz=14									
NWLT	**Wulai**	**2.07**	**3**		P		**Pn**	**10 54 58.7**	**+0.5**
	baz=18									
NWLT					*e*S		**Sn**	**10 55 22.8**	**0.0**
	baz=18									
SBCB	**Hsinchu**	**2.11**	**351**		*e*P		**Pn**	**10 55 00.9**	**+2.3**
	baz=350									
NTC	**Toucheng**	**2.18**	**11**		*e*P		**Pn**	**10 55 00.6**	**+0.9**
	baz=17									
NTC					*e*S		**Sn**	**10 55 27.7**	**+2.1**
	baz=17									
NHDH	**Xindian Distri**	**2.25**	**4**		*e*P		**Pn**	**10 55 01.6**	**+0.9**
	baz=15									
NCUH	**Zhongli**	**2.26**	**356**		*e*P		**Pn**	**10 55 02.5**	**+1.8**
	baz=340									
NCUH					*e*S		**Sn**	**10 55 30.6**	**+3.1**
	baz=340									
NCU	**National Centr**	**2.26**	**356**		*e*P		**Pn**	**10 55 02.5**	**+1.7**
	baz=341									
JYNG	**Yonagunijimaku**	**2.27**	**39**		P		**Pn**	**10 55 01.8**	**+1.0**
JYNG					*e*S		**Sn**	**10 55 27.9**	**+0.3**
TWA	**Mucha**	**2.28**	**5**		*e*P		**Pn**	**10 55 02.0**	**+1.0**
	baz=16									
TIPB	**Shuangxi**	**2.30**	**10**		P		**Pn**	**10 55 02.6**	**+1.3**
	baz=16									
TIPB					*e*S		**Sn**	**10 55 29.6**	**+1.2**
	baz=16									
YOJ	**Yonaguni jima**	**2.31**	**40**		P		**Pn**	**10 55 02.5**	**+1.1**
YOJ					S		**Sn**	**10 55 28.6**	**-0.2**
YOJ	**Yonaguni jima**	**2.31**	**40**		P		**Pn**	**10 55 02.1**	**+0.7**
	baz=55									
YOJ					S		**Sn**	**10 55 28.5**	**-0.2**
	baz=55									
TWB1	**Santiao Chiao**	**2.37**	**14**		P		**Pn**	**10 55 04.2**	**+2.0**
	baz=11									
TWB1					S		**Sn**	**10 55 31.8**	**+1.8**
	baz=11									
NWF	**Wu-fen Shan**	**2.39**	**9**		*i*P		**Pn**	**10 55 03.3**	**+0.7**
	baz=15									
NWF					S		**Sn**	**10 55 30.6**	**-0.2**
	baz=15									
TWS1	**Kuangyinshan**	**2.39**	**1**		P		**Pn**	**10 55 03.0**	**+0.5**
	baz=15									
HATJ	**Hateruma jima**	**2.62**	**59**		P		**Pn**	**10 55 06.0**	**+0.4**
HATJ					S		**Sn**	**10 55 36.2**	**0.0**
IRIF	**Iriomote-Funau**	**2.71**	**53**		P		**Pn**	**10 55 07.9**	**+1.0**
IRIF					*e*S		**Sn**	**10 55 38.6**	**0.0**
JKRS	**Kuro-shima**	**2.87**	**57**		P		**Pn**	**10 55 10.1**	**+1.0**
JKRS					S		**Sn**	**10 55 42.2**	**-0.3**
VWUC	**VWUC**	**2.88**	**323**		P		**Pn**	**10 55 09.2**	**0.0**
	baz=323									
JIJ	**Ishigaki jima**	**3.04**	**56**		P		**Pn**	**10 55 12.2**	**+0.8**
JIJ					S		**Sn**	**10 55 45.5**	**-1.2**
PTMZ	**Houxiangcun**	**3.10**	**319**		P		**Pn**	**10 55 12.3**	**0.0**
	baz=320									
KNM	**Kinmen**	**3.19**	**303**		*e*P		**Pn**	**10 55 14.9**	**+1.4**
	baz=302									
KNM					*e*S		**Sn**	**10 55 50.9**	**+0.6**
	baz=302									
KNMB	**Chin-men Tao**	**3.25**	**303**		*e*P		**Pn**	**10 55 15.0**	**+0.8**
	baz=304									
JISG	**Ishigakijimahi**	**3.29**	**55**		P		**Pn**	**10 55 15.2**	**+0.3**
JISG					S		**Sn**	**10 55 51.8**	**-1.0**
QZH	**Quanzhou**	**3.38**	**312**		Pn		**Pn**	**10 55 16.0**	**-0.1**
QZH					Sn		**Sn**	**10 55 52.5**	**-2.6**
QZH					smax		smax			
	comp=N,190nm,0.4s									
QZH					smax		smax			
	comp=E,190nm,0.5s									
ZPLA	**Ao Xicun**	**3.54**	**291**		*e*P		**Pn**	**10 55 18.4**	**+0.1**
	baz=291									
ZPLA					*e*S		**Sn**	**10 55 56.8**	**-2.2**
	baz=291									
JTJ	**Tarama**	**3.62**	**57**		P		**Pn**	**10 55 19.9**	**+0.5**
JTJ					S		**Sn**	**10 56 01.0**	**+0.1**
MATB	**Ma-tsu**	**3.67**	**340**		*e*P		**Pn**	**10 55 19.7**	**-0.4**
	baz=338									
AXDP	**Jialang**	**3.80**	**306**		*e*P		**Pn**	**10 55 22.9**	**+1.0**
	baz=307									
MHZQ	**Yeshan**	**4.00**	**328**		*e*P		**Pn**	**10 55 24.2**	**-0.3**
	baz=329									
JIRB	**Irabujima**	**4.08**	**58**		P		**Pn**	**10 55 26.3**	**+0.6**
JIRB					*e*S		**Sn**	**10 56 11.0**	**-1.4**
LYJJ	**Jianjiangzhen**	**4.10**	**339**		*e*P		**Pn**	**10 55 25.6**	**-0.4**
	baz=338									
JMJ2	**Miyako jima3**	**4.16**	**60**		P		**Pn**	**10 55 27.6**	**+0.8**
JIKM	**Ikemajima**	**4.19**	**57**		P		**Pn**	**10 55 28.5**	**+1.3**
JOGS	**Gusukube**	**4.23**	**60**		P		**Pn**	**10 55 28.8**	**+1.0**
XPSS	**Dashiqiu**	**4.34**	**346**		*e*P		**Pn**	**10 55 28.9**	**-0.4**
	baz=344									
KSRS	**Korea Array**	**15.75**	**20**		Pn		**Pn**	**10 58 05.0**	**0.0**
	comp=E,0.1nm,0.3s,baz=191,slow=13,SNR=3.8									
KSRS					LR		LR	11 04 11.5		
	comp=E,22nm,19.9s,baz=188,slow=38									
CMAR	**Chiang Mai Arr**	**21.41**	**263**		P		**P**	**10 59 12.5**	**+1.7**
	comp=E,0.9nm,0.8s,baz=63,slow=8.6,SNR=5.0									
SONM	**Songino Array**	**27.80**	**338**		P		**P**	**11 00 11.8**	**+0.1**
	comp=E,0.6nm,0.6s,baz=156,slow=11,SNR=3.4									
SONM					LR		LR	11 13 02.1		
	comp=E,26nm,18.4s,baz=158,slow=40									
MKAR	**Makanchi Array**	**39.52**	**317**		P		**P**	**11 01 54.8**	**+1.4**
	comp=E,0.5nm,0.7s,baz=93,slow=10,SNR=4.1									
ZALV	**Zalesovo Beam**	**41.58**	**328**		P		**P**	**11 02 10.0**	**-0.2**
	comp=E,0.9nm,0.3s,baz=116,slow=10,SNR=6.0									
H11N1	**WAKE ISLAND Hy**	**42.42**	**85**		T		T	11 47 35.2		
	baz=282,slow=75,SNR=71									
H11N2	**WAKE ISLAND Hy**	**42.43**	**85**		T		T	11 47 35.9		
	baz=282,slow=75,SNR=70									
H11N3	**WAKE ISLAND Hy**	**42.44**	**85**		T		T	11 47 35.8		
	baz=282,slow=75,SNR=47									
H11S2	**WAKE ISLAND Hy**	**42.51**	**87**		T		T	11 47 43.8		
	baz=284,slow=75,SNR=83									
H11S1	**WAKE ISLAND Hy**	**42.52**	**87**		T		T	11 47 44.4		
	baz=284,slow=75,SNR=83									
H11S2	**WAKE ISLAND Hy**	**42.53**	**87**		T		T	11 47 46.2		
	baz=284,slow=75,SNR=90									
WRA	**Warramunga Arr**	**44.24**	**162**		P		**P**	**11 02 29.2**	**-2.8**
	comp=E,0.3nm,0.8s,baz=341,slow=8.2,SNR=1.7									
ASAR	**Alice Springs**	**47.68**	**164**		P		**P**	**11 02 58.6**	**-0.6**
	comp=E,0.4nm,0.9s,baz=341,slow=6.6,SNR=2.5									

FUNV ***25*** *10:57:53.3, 10°.11N×71°.87W, h32km, MW3.2*

ISC 25 10:57:51.1±1.5, 10°.07N±0°.04×71°.68W±0°.04, h8km±13km, n10, σ0$58/17, Lake Maracaibo

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DABV	**Dabajuro**	**1.33**	**50**	*e*P		**Pg**	**10 58 16.7**	**+0.1**
DABV				*e*S		**Sg**	**10 58 34.4**	**+0.6**
CRJC	**Cerrejon, Guaj**	**1.52**	**309**	*e*P		**Pn**	**10 58 18.5**	**-0.2**
CRJC				*e*S		**Sn**	**10 58 38.9**	**+0.1**
CRJC				*i*			10 58 40.5	
	comp=Z,106nm,0.5s							
SDV	**Santo Domingo**	**1.56**	**139**	*e*S		**Sn**	**10 58 39.6**	**-0.3**
SDV				*i*			10 58 41.2	
	comp=Z,29nm,0.5s							
URIC	**Uribia, Colomb**	**1.65**	**349**	*e*P		**Pn**	**10 58 20.6**	**+0.2**
URIC				*e*S		**Sb**	**10 58 43.0**	**+0.1**
URIC				*i*			10 58 43.8	
	comp=Z,26nm,0.3s							
LL2C	**La Loma 2 Cana**	**1.81**	**254**	*e*P		**Pb**	**10 58 24.8**	**+0.3**
LL2C				*e*S		**Sg**	**10 58 48.9**	**-0.4**
LL2C				*i*			10 58 49.3	
	comp=Z,66nm,0.4s							
SIQV	**Siquisique**	**1.93**	**72**	*e*P		**Pb**	**10 58 25.5**	**-1.0**
SOCV	**Socops**	**1.95**	**155**	*e*P		**Pn**	**10 58 25.3**	**+0.8**
SOCV				*e*S		**Sn**	**10 58 48.8**	**-0.5**
MONV	**Montecano**	**2.51**	**42**	*e*P		**Pn**	**10 58 33.0**	**+0.7**
SMLC	**San Martn de**	**2.68**	**242**	*e*P		**Pb**	**10 58 38.6**	**-0.7**
SMLC				*e*S		**Sb**	**10 59 12.8**	**+0.4**
SMLC				*i*			10 59 15.5	
	comp=Z,22nm,0.2s							
SMLC	**San Martn de**	**2.68**	**242**	*e*P		**Pb**	**10 58 38.7**	**-0.6**
SMLC				*e*S		**Sb**	**10 59 12.8**	**+0.4**

IDC ***25*** *11:05:07.5±1.9, 8°.79S×67°.45E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.4/48, mbtmp3.6/5, MS3.2/3, Ms1 3.2/3, ms1mx2.7/39, Error ellipse: s-maj=51.4km s-min=35.1km az=53.0*

ISC 25 11:05:10.7±1.4, 8°.7S±0°.3×67°.7E±0°.1, h10km, n16, σ1$11/13, mb3.6/5, MS3.1/3, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H08S1	**Diego Carcia H**	**4.87**	**78**	Pn		**Pn**	**11 06 23.6**	**-0.3**
	baz=275,slow=15,SNR=18							
H08S1				Sn		**Sn**	**11 07 20.4**	**+0.1**
H08S1				T		T	11 11 51.1	
	baz=250,slow=72,SNR=9.7							
H08S3	**Diego Garcia H**	**4.89**	**78**	Pn		**Pn**	**11 06 23.8**	**-0.3**
	baz=275,slow=15,SNR=38							
H08S3				Sn		**Sn**	**11 07 20.7**	**+0.1**
H08S3				T		T	11 11 55.1	
	baz=250,slow=72,SNR=18							
H08S2	**Diego Garcia H**	**4.89**	**78**	Pn		**Pn**	**11 06 23.9**	**-0.3**
	baz=275,slow=15,SNR=42							
H08S2				Sn		**Sn**	**11 07 20.8**	**+0.1**
H08S2				T		T	11 11 52.7	
	baz=250,slow=72							
PALK	**Pallekele**	**20.49**	**40**	LR		LR	11 16 12.8	
	comp=Z,48nm,18.1s,baz=326,slow=32							
CMAR	**Chiang Mai Arr**	**40.98**	**49**	P		**P**	**11 12 55.8**	**+1.7**
	0.7nm,0.5s,baz=240,slow=8.2,SNR=1.9							
BOSA	**Boshof**	**44.50**	**238**	LR		LR	11 31 13.4	
	comp=Z,24nm,18.7s,baz=18,slow=35							
H01W3	**Cape Leeuwin H**	**49.83**	**129**	T		T	12 07 36.9	
	baz=291,slow=75,SNR=40							
H01W2	**Cape Leeuwin H**	**49.83**	**129**	T		T	12 07 35.6	
	baz=291,slow=75,SNR=38							
H01W1	**Cape Leeuwin H**	**49.84**	**129**	T		T	12 07 37.4	
	baz=291,slow=75,SNR=42							
MKAR	**Makanchi Array**	**56.74**	**12**	P		**P**	**11 14 52.7**	**-2.0**
	0.5nm,0.7s,baz=207,slow=6.0,SNR=2.8							
ASAR	**Alice Springs**	**64.85**	**112**	P		**P**	**11 15 50.2**	**-0.3**
	0.3nm,0.7s,baz=271,slow=5.5,SNR=4.7							
WRA	**Warramunga Arr**	**65.22**	**108**	P		**P**	**11 15 51.8**	**-1.2**
	0.4nm,0.9s,baz=273,slow=5.8,SNR=2.0							
SONM	**Songino Array**	**65.86**	**28**	P		**P**	**11 15 56.9**	**+0.2**
	1.0nm,0.8s,baz=227,slow=5.9,SNR=4.4							
TORD	**Torodi Ar. Bea**	**69.00**	**288**	LR		LR	11 45 30.8	
	comp=Z,23nm,18.3s,baz=90,slow=35							
ILAR	**Eielson Array**	**118.97**	**16**	PKP		**PKiKP**	**11 23 59.6**	**+0.2**
	0.2nm,0.9s,baz=289,slow=2.8,SNR=2.4							
NVAR	**Mina Array Bea**	**149.89**	**9**	PKPbc		**PKPdf**	**11 24 59.1**	**+1.9**
	0.1nm,0.3s,baz=289,slow=2.8,SNR=1.8							

IDC ***25*** *11:33:24.0±1.2, 31°.54S×71°.53W, h0km, mb3.8/3, mb1 3.8/5, mb1mx3.6/17, mbtmp3.6/5, ML3.5/2, MS2.5/2, Ms1 2.5/2, ms1mx2.4/21, Error ellipse: s-maj=48.6km s-min=34.5km az=86.0*

GUC ***25*** *11:33:28.1±1.1, 31°.64S×71°.56W, h36km±6km, ML4.0*

NEIC ***25*** *11:33:29.1±1.3, 31°.62S±0°.04×71°.72W±0°.08, h25km±5km, mb4.0/3, ML4.0(GUC), Error ellipse: s-maj=10.8km s-min=3.4km az=113.0*

ISC 25 11:33:27.2±1.1, 31°.64S±0°.02×71°.60W±0°.06, h18km±6km, n60, σ1$16/61, mb3.8/4, 4C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO02	**Combarbal**	**0.67**	**50**	⇓	*i*P	**Pn**	**11 33 42.3**	**+0.4**
CO02					*i* S	**Sn**	**11 33 52.1**	**+0.1**
CO02					IAML		11 33 54.0	
	comp=E,15μm,0.2s							
CO02	**Combarbal**	**0.67**	**50**			**Pn**	**11 33 42.7**	**+0.7**
VA06	**Catapilco**	**0.95**	**165**	⇓	*i*P	**Pn**	**11 33 46.3**	**+0.6**
VA06					*i* S	**Sg**	**11 33 58.9**	**+0.5**
VA06					IAML		11 34 01.6	
	comp=N,8μm,0.4s							
CO06	**Fray Jorge**	**0.96**	**358**	⇑	*i*P	**Pn**	**11 33 46.4**	**+0.5**
CO06					*i* S	**Sn**	**11 34 00.1**	**+1.0**
CO06					IAML		11 34 03.5	
	comp=E,5μm,0.2s							
CO06	**Fray Jorge**	**0.96**	**358**			**Pn**	**11 33 46.4**	**+0.5**
CO03	**El Pedregal**	**1.11**	**44**	⇓	*i*P	**Pg**	**11 33 49.5**	**+0.7**
CO03					*i* S	**Sn**	**11 34 04.4**	**+1.5**
CO03					IAML		11 34 06.0	
	comp=E,3μm,0.3s							
CO03	**El Pedregal**	**1.11**	**44**	Pn		**Pg**	**11 33 49.4**	**+0.7**
VA01	**Torpederas**	**1.38**	**182**	*e*P		**Pb**	**11 33 52.7**	**+0.2**
VA01	**Torpederas**	**1.38**	**182**	Pn		**Pn**	**11 33 52.5**	**+0.9**
ROCH	**El Roble**	**1.42**	**160**	⇑	*i*P	**Pb**	**11 33 53.5**	**+0.2**
ROCH					*i* S	**Sn**	**11 34 11.5**	**+0.7**
ROCH					IAML		11 34 16.4	
	comp=N,2μm,0.3s							

VA03	**San Esteban**	**1.43**	**142**	⇓	*i*P		**Pg**	**11 33 54.3**	**-0.5**
VA03					*i* S		**Sg**	**11 34 13.0**	**-0.4**
VA03					IAML			11 34 15.3	
	comp=E,6μm,0.1s								
VA03	**San Esteban**	**1.43**	**142**				**Pg**	**11 33 54.6**	**-0.2**
GO04	**Tololo Observa**	**1.61**	**25**		*i* P		**Pb**	**11 33 56.9**	**+0.3**
GO04					*i* S		**Sg**	**11 34 18.8**	**-0.6**
GO04					IAML			11 34 22.6	
	comp=N,6μm,0.4s								
GO04	**Tololo Observa**	**1.61**	**25**	Pn			**Pb**	**11 33 56.7**	**+0.1**
CO05	**La Serena**	**1.74**	**10**	Pn			**Pb**	**11 33 58.0**	**-0.7**
MT05	**Renca**	**1.89**	**158**	⇑	*i*P		**Pb**	**11 34 00.9**	**-0.4**
MT05					*i* S		**Sb**	**11 34 25.0**	**+0.3**
MT05					IAML			11 34 28.1	
	comp=E,3μm,0.3s								
MT05	**Renca**	**1.89**	**158**	Pn			**Pb**	**11 34 00.8**	**-0.5**
VA05	**Santo Domingo**	**2.01**	**180**	*e*P			**Pn**	**11 34 01.6**	**+1.2**
VA05					*i* S		**Sb**	**11 34 28.5**	**+0.5**
VA05					IAML			11 34 34.7	
	comp=N,2μm,0.5s								
VA05	**Santo Domingo**	**2.01**	**180**				**Pn**	**11 34 01.5**	**+1.2**
MT09	**Talagante**	**2.19**	**167**	⇑	*i*P		**Pb**	**11 34 05.2**	**-1.3**
MT09					*i* S		**Sb**	**11 34 34.1**	**+0.7**
MT09					IAML			11 34 42.5	
	comp=N,1μm,0.4s								
MT09	**Talagante**	**2.19**	**167**	Pn			**Pn**	**11 34 05.1**	**+2.2**
MT01	**Popeta**	**2.24**	**173**				**Pn**	**11 34 04.8**	**+1.3**
ZON	**Zonda**	**2.49**	**89**				**Pb**	**11 34 09.6**	**-1.9**
LCO	**Las Campanas**	**2.73**	**17**				**Pn**	**11 34 12.2**	**+1.7**
BO01	**Tunca**	**2.78**	**171**	Pn			**Pn**	**11 34 12.5**	**+1.7**
BO02	**Sierra Bellavi**	**3.22**	**168**				**Pn**	**11 34 19.0**	**+2.0**
GO05	**Huala**	**3.37**	**185**	Pn			**Pn**	**11 34 19.2**	**+0.1**
AC04	**Llanos de Chal**	**3.45**	**8**				**Pn**	**11 34 20.8**	**+0.6**
ML02	**Panimavida**	**4.12**	**178**				**Pn**	**11 34 30.1**	**+0.9**
GO03	**Copiap**	**4.20**	**17**				**Pn**	**11 34 32.0**	**+1.5**
AC06	**Mina Casimiro**	**4.40**	**15**				**Pn**	**11 34 34.4**	**+1.2**
AC02	**Maricunga**	**5.25**	**25**	Pn			**Pn**	**11 34 47.0**	**+1.8**
H03N1	**Juan Fernandez**	**6.43**	**252**	T			T	11 41 36.2		
	baz=81,slow=72,SNR=840									
H03N3	**Juan Fernandez**	**6.45**	**252**	T			T	11 41 35.0		
	baz=81,slow=72,SNR=1013									
H03N2	**Juan Fernandez**	**6.45**	**252**	T			T	11 41 35.2		
	baz=81,slow=72,SNR=878									
H03S3	**Juan Fernandez**	**6.54**	**249**	T			T	11 41 54.0		
	baz=83,slow=75,SNR=7.8									
H03S1	**Juan Fernandez**	**6.54**	**248**	T			T	11 41 52.6		
	baz=83,slow=75,SNR=10									
H03S2	**Juan Fernandez**	**6.55**	**249**	T			T	11 41 52.9		
	baz=83,slow=75,SNR=9.6									
PB14	**IPOC Station P**	**7.07**	**9**	Pn			**Pn**	**11 35 10.1**	**+0.1**
LC01	**Cunco**	**7.25**	**182**	Pn			**Pn**	**11 35 12.5**	**+0.3**
PLCA	**Paso Flores**	**9.12**	**175**	Pn			**Pn**	**11 35 39.5**	**+1.6**
	comp=N,0.2nm,0.3s,baz=336,slow=14,SNR=1.9									
PLCA					LR		LR	11 39 11.3		
	comp=N,25nm,20.1s,baz=356,slow=38									
PLCA	**Paso Flores**	**9.12**	**175**				**Pn**	**11 35 39.2**	**+1.2**
LL04	**Puerto Octay**	**9.28**	**184**	Pn			**Pn**	**11 35 41.7**	**+1.7**
TRQA	**Tornquist**	**10.17**	**132**	Pn			**Pn**	**11 35 54.8**	**+2.5**
CPUP	**Villa Florida**	**13.56**	**71**	LR			LR	11 42 33.2		
	comp=N,22nm,18.9s,baz=216,slow=41									
LPAZ	**La Paz**	**15.60**	**12**	Pn			**Pn**	**11 37 03.3**	**-3.7**
	comp=N,0.1nm,0.3s,baz=196,slow=18,SNR=1.4									
QSPA	**South Pole Qui**	**58.59**	**180**	P			**P**	**11 43 23.8**	**+0.9**
QSPA				IAmb			IAmb	11 43 41.1		
	comp=Z,1.0nm,1.1s									
TXAR	**Lajitas Array**	**67.87**	**330**	P			**P**	**11 44 24.7**	**0.0**
	comp=Z,0.2nm,0.8s,baz=148,slow=5.2,SNR=2.0									
TXAR	**Lajitas Array**	**67.87**	**330**	P			**P**	**11 44 24.1**	**-0.6**
DBIC	**Dimbokro**	**74.08**	**72**	P			**P**	**11 45 01.8**	**-0.8**
	comp=Z,4.0nm,0.9s,baz=216,slow=9.8,SNR=2.9									
DBIC	**Dimbokro**	**74.08**	**72**	P			**P**	**11 45 02.0**	**-0.6**
DBIC				IAmb			IAmb	11 45 03.5		
	comp=Z,13nm,1.4s									
TORD	**Torodi Ar. Bea**	**83.06**	**70**	P			**P**	**11 45 51.5**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=243,slow=5.4,SNR=4.0									
TORD	**Torodi Ar. Bea**	**83.06**	**70**	IAmb			IAmb	11 46 17.6		
	comp=Z,1.0nm,1.2s									
WRA	**Warramunga Arr**	**123.00**	**209**	PKP			**PKPdf**	**11 52 21.6**	**-1.6**
	comp=Z,0.6nm,1.1s,baz=156,slow=2.1,SNR=6.5									
WRA	**Warramunga Arr**	**123.00**	**209**				**PKPdf**	**11 52 21.9**	**-1.3**
H11S2	**WAKE ISLAND Hy**	**126.15**	**271**	T			T	14 11

VA03 IAML 11 48 01.6
comp=E,19µm,0.2s
VA03 San Esteban 1.71 137 Pb 11 47 36.6 -1.3
VA03 San Esteban 1.71 137 *i* P **Pb 11 47 37.0 -0.9**
MT05 Renca 2.12 152 *eP* **Pn 11 47 41.8 +0.2**
MT05 *i* S **Sb 11 48 08.8 -2.1**
MT05 IAML 11 48 11.9
comp=E,10µm,0.3s
MT05 Renca 2.12 152 Pn 11 47 42.2 +0.6
MT05 Renca 2.12 152 *i* P **Pn 11 47 43.0 +1.4**
VA05 Santo Domingo 2.15 173 *eP* **Pn 11 47 41.7 -0.1**
VA05 *i* S **Sb 11 48 11.9 +0.3**
VA05 Santo Domingo 2.15 173 Pn 11 47 41.6 -0.3
RTLS Leoncito 2.26 98 *i* P **Pb 11 47 46.0 -1.5**
AUSP Uspallata 2.28 109 *i* P **Pb 11 47 47.0 -0.7**
MT09 Talagante 2.39 161⇑ *i*P **Pn 11 47 46.4 +1.2**
MT09 Talagante 2.39 161 Pn 11 47 46.6 +1.3
MT01 Popeta 2.41 166⇓ *i*P **Pn 11 47 45.8 +0.3**
MT01 IAML 11 48 23.2
comp=E,3µm,0.1s
MT01 Popeta 2.41 166 Pn 11 47 45.8 +0.3
MT01 Popeta 2.41 166 *i* P **Pn 11 47 46.0 +0.6**
AROD Rodeo 2.50 58 *i* P **Pb 11 47 50.0 -1.6**
ACCO Cerro Coronel 2.63 70 *i* P **Pb 11 47 52.0 -1.7**
LCO Las Campanas 2.71 23 *i* P **Pn 11 47 50.8 +0.9**
LCO Las Campanas 2.71 23 Pn 11 47 50.8 +0.9
LCO Las Campanas 2.71 23 *i* P **Pn 11 47 51.0 +1.1**
LMEL Las Melosas 2.74 148⇑ *i*P **Pn 11 47 51.5 +1.3**
LMEL *i* S **Sn 11 48 23.8 +0.9**
LMEL IAML 11 48 34.8
comp=E,5µm,0.7s
ZON Zonda 2.78 91 Pb 11 47 54.0 -2.1
ZON Zonda 2.78 91 *i* P **Pb 11 47 55.0 -1.1**
RTCV Cerro Valdivia 2.91 98 *i* P **Pb 11 47 56.0 -2.4**
BO01 Tunca 2.95 166 *i* P **Pn 11 47 53.6 +0.7**
BO01 IAML 11 48 43.9
comp=E,1µm,0.5s
BO01 Tunca 2.95 166 Pn 11 47 53.6 +0.7
BO01 Tunca 2.95 166 *i* P **Pn 11 47 54.0 +1.1**
BO03 Pichilemu 2.97 180⇓ *i*P **Pn 11 47 52.6 -0.5**
BO03 IAML 11 49 05.7
comp=E,739nm,0.8s
AC04 Llanos de Chal 3.38 13⇑ *i*P **Pn 11 47 59.1 +0.3**
AC04 IAML 11 49 04.0
comp=E,1µm,0.7s
AC04 Llanos de Chal 3.38 13 Pn 11 47 59.1 +0.3
AC04 Llanos de Chal 3.38 13 *i* P **Pn 11 47 59.0 +0.2**
BO02 Sierra Bellavi 3.41 164 *i* P **Pn 11 47 59.8 +0.6**
BO02 *e*S **Sn 11 48 39.3 +0.2**
BO02 IAML 11 48 57.0
comp=E,3µm,0.4s
BO02 Sierra Bellavi 3.41 164 Pn 11 47 60.0 +0.8
BO02 Sierra Bellavi 3.41 164 *i* P **Pn 11 48 00.0 +0.8**
GO05 Huala 3.48 180 *i* P **Pn 11 47 59.6 -0.6**
GO05 IAML 11 49 07.6
comp=N,631nm,0.4s
GO05 Huala 3.48 180 Pn 11 47 59.7 -0.6
AVFE Valle Fertil 3.93 79 *i* P **Pn 11 48 09.0 +2.5**
COIS El Sosneado 4.08 152 *i* P **Pn 11 48 12.0 +3.6**
GO03 Copiap 4.18 21 *eP* **Pn 11 48 10.7 +0.9**
GO03 Copiap 4.18 21 Pn 11 48 10.4 +0.6
GO03 Copiap 4.18 21 *i* P **Pn 11 48 12.0 +2.2**
VCA Vinchina 4.25 50 *i* P **Pn 11 48 15.0 +4.1**
ML02 Panimavida 4.26 174 *eP* **Pn 11 48 11.0 +0.2**
ML02 *e*S **Sn 11 49 00.9 +0.9**
ML02 Panimavida 4.26 174 Pn 11 48 11.2 +0.4
RFA San Rafael 4.36 139 *i* P **Pn 11 48 14.0 +1.7**
AC06 Mina Casimiro 4.37 19 Pn 11 48 12.9 +0.5
ACHE Chepes 4.52 87 *i* P **Pn 11 48 19.0 +4.4**
AC02 Maricunga 5.27 28 Pn 11 48 26.0 +0.8
AC02 Maricunga 5.27 28 *i* P **Pn 11 48 26.0 +0.8**
CYA Choya 6.14 62 *i* P **Pn 11 48 38.0 +1.3**
VA04 Juan Fernndez 6.20 248 Pn 11 48 37.6 +0.1
H03N1 Juan Fernandez 6.20 250 T T 11 55 25.3
baz=78,slow=72,SNR=1101
H03N3 Juan Fernandez 6.22 250 T T 11 55 24.9
baz=78,slow=72,SNR=1253
H03N2 Juan Fernandez 6.22 250 T T 11 55 24.1
baz=78,slow=72,SNR=1410
H03S3 Juan Fernandez 6.32 247 T T 11 55 35.6
baz=83,slow=74,SNR=32
H03S1 Juan Fernandez 6.32 247 T T 11 55 33.8
baz=83,slow=74,SNR=22
H03S2 Juan Fernandez 6.33 247 T T 11 55 34.8
baz=83,slow=74,SNR=30
PB14 IPOC Station P 7.00 11 Pn **Pn 11 48 46.6 -2.1**
LC01 Cunco 7.37 180 Pn 11 48 53.0 -0.6
AHML Horco Molle 7.45 52 *i* P **Pn 11 48 56.0 +1.3**
FSA Cafayete 7.50 46 *i* P **Pn 11 48 59.0 +3.4**
PB05 IPOC Station P 8.77 11 *i* P **Pn 11 49 11.0 -1.9**
PLCA Paso Flores 9.27 173 Pn **Pn 11 49 20.6 +1.0**
comp=N,1.1nm,0.3s,baz=336,slow=12,SNR=33
PLCA LR LR 11 53 26.2
comp=N,215nm,20.5s,baz=346,slow=41
PLCA Paso Flores 9.27 173 Pn 11 49 20.5 +0.9
LVC Limon Verde 9.27 18 Pn **Pn 11 49 17.2 -2.8**
comp=N,0.8nm,0.3s,baz=160,slow=10,SNR=2.2
LVC LR LR 11 53 03.4
comp=N,386nm,21.5s,baz=211,slow=39
LVC Limon Verde 9.27 18 Pn 11 49 17.7 -2.3
LVC Limon Verde 9.27 18 *i* P **Pn 11 49 18.0 -2.0**
TRQA Tornquist 10.46 131 Pn 11 49 36.8 +0.8
ITQB Itaqui 13.31 86 Pn **Pn 11 50 16.4 +1.4**
CPUP Villa Florida 13.79 72 Pn **Pn 11 50 19.6 -1.9**
comp=N,0.2nm,0.3s,baz=247,slow=13,SNR=3.0
CPUP LR LR 11 56 03.6
comp=N,313nm,18.9s,baz=232,slow=40
CPUP Villa Florida 13.79 72 Pn Pn 11 50 20.0 -1.5
LPAZ La Paz 15.55 14 Pn **Pn 11 50 46.8 +0.9**
comp=N,0.6nm,0.3s,baz=188,slow=6.5,SNR=16
LPAZ La Paz 15.55 14 Pn Pn 11 50 45.9 0.0
SIV San Ignacio 18.35 35 P **P 11 51 20.1 -0.5**
comp=N,0.9nm,0.3s,baz=209,slow=8.1,SNR=22
SIV LR LR 11 59 49.8
comp=N,106nm,19.4s,baz=108,slow=42
NNA Nana 19.96 346 LR LR 11 57 39.0
comp=N,93nm,20.4s,baz=168,slow=32
SAML Samuel 23.89 22 P **P 11 52 19.7 +0.2**
BDFB Brasilia 26.93 60 P **P 11 52 46.0 -1.4**
comp=N,13nm,0.9s,baz=225,slow=10,SNR=7.7
BDFB Brasilia 26.93 60 P **P 11 52 46.3 -1.1**
BDFB IAmb IAmb 11 52 47.6
comp=Z,18nm,1.1s
PTGA Pitinga 32.65 23 P **P 11 53 37.5 -0.4**
comp=Z,4.8nm,0.6s,baz=181,slow=9.7,SNR=9.4
PTGA Pitinga 32.65 23 P **P 11 53 37.4 -0.5**
PTGA IAmb IAmb 11 53 38.5
comp=Z,6.9nm,0.9s
RUSC La Rusia 37.22 358 P **P 11 54 18.4 +0.5**
RUSC IAmb IAmb 11 54 31.2
comp=Z,19nm,1.1s
BATAN Batan 42.81 343 P **P 11 55 01.6 -2.1**
VNA2 Neumayer--Watz 52.27 158 P **P 11 56 17.7 +1.1**
SNAA Sanae 53.85 159 P **P 11 56 28.8 +0.4**
SNAA Sanae 53.85 159 P **P 11 56 28.5 +0.1**
comp=Z,4.3nm,0.8s,baz=287,slow=5.1,SNR=16
SNAA Sanae 53.85 159 P **P 11 56 28.4 +0.1**
SNAA IAmb IAmb 11 56 29.9
comp=Z,6.7nm,1.0s
QSPA South Pole Qui 58.71 180 P **P 11 57 03.9 +0.7**
comp=Z,1.7nm,0.6s,baz=181,slow=1.1,SNR=21
QSPA South Pole Qui 58.71 180 P **P 11 57 04.2 +0.9**
QSPA IAmb IAmb 11 57 05.3
comp=Z,6.9nm,1.2s
X48A Hartselle 67.14 346 P **P 11 57 59.8 +0.4**
X48A IAmb IAmb 11 58 00.8
comp=Z,6.7nm,0.7s
W50A Signal Mountai 67.55 348 P **P 11 58 02.6 +0.7**
TXAR Lajitas Array 67.62 330 P **P 11 58 04.0 +1.4**
comp=Z,1.0nm,0.7s,baz=154,slow=8.8,SNR=13
TXAR Lajitas Array 67.62 330 P 11 58 04.3 +1.7
TX31 Lajitas Ar. Si 67.62 330 P **P 11 58 03.4 +0.7**
TX31 IAmb IAmb 11 58 22.6
comp=Z,15nm,1.5s
TX32 Lajitas Array 67.62 330 P **P 11 58 03.9 +1.2**
TX32 IAmb IAmb 11 58 22.6
comp=Z,5.1nm,1.5s
SWET Sewanee 67.67 348 P **P 11 58 03.3 +0.5**
PLAL Pickwick Lake 67.87 346 P **P 11 58 04.2 +0.3**
PLAL IAmb IAmb 11 58 04.6
comp=Z,5.3nm,1.1s
V52A Sevierville 67.89 350 P **P 11 58 05.0 +0.9**
V52A IAmb IAmb 11 58 08.2
comp=Z,10nm,1.1s

SYO Syowa Base 68.14 159⇓ *eP* **P 11 58 03.8 -1.5**
T59A Double "B" Far 68.33 355 P **P 11 58 08.2 +1.4**
CLTN Cedars of Leba 68.60 348 P **P 11 58 09.1 +0.6**
Z35A Perchaven, San 68.79 337 P **P 11 58 09.8 0.0**
WVT Waverly 68.92 346 P **P 11 58 11.1 +0.6**
WVT IAmb IAmb 11 58 11.9
comp=Z,8.3nm,0.8s
ABTX Abilene, Hawle 68.97 335 IAmb IAmb 11 58 12.6
comp=Z,4.5nm,0.6s
ABTX P **P 11 58 12.7 +1.7**
W39A Magazine 69.47 341 P **P 11 58 15.4 +1.5**
LCAR Lake Charles 69.61 343 P **P 11 58 15.9 +1.1**
LCAR IAmb IAmb 11 58 16.1
comp=Z,6.5nm,0.6s
MNTX Cornudas Mount 70.40 330 P **P 11 58 20.0 +0.2**
HHAR Hobbs 70.53 341 P **P 11 58 21.1 +0.6**
HHAR IAmb IAmb 11 58 21.9
comp=Z,4.3nm,0.8s
MSTX Muleshoe 71.33 333 P **P 11 58 25.9 +0.4**
MSTX IAmb IAmb 11 58 27.4
comp=Z,6.0nm,0.8s
CCM Cathedral Cave 71.52 344 P **P 11 58 27.1 +0.7**
CCM IAmb IAmb 11 58 28.0
comp=Z,4.1nm,0.7s
R40A Maddies Statio 71.99 343 P **P 11 58 29.7 +0.4**
R40A IAmb IAmb 11 58 30.4
comp=Z,6.5nm,0.6s
SSPA Standing Stone 72.00 355 P **P 11 58 29.6 +0.4**
SSPA IAmb IAmb 11 58 57.5
comp=Z,17nm,1.3s
LIC Lamto 73.92 72 *eP* **P 11 58 40.1 -1.1**
comp=Z,43nm,1.2s
TIC Toumodi 74.16 72 *eP* **P 11 58 41.8 -0.9**
KIC Kosan Boka 74.23 72 *eP* **P 11 58 42.3 -0.8**
comp=Z,25nm,0.8s
DBIC Dimbokro 74.31 72 P **P 11 58 43.1 -0.4**
comp=Z,13nm,0.8s,baz=230,slow=5.0,SNR=18
DBIC LR LR 12 27 47.8
comp=Z,32nm,21.7s,baz=175,slow=33
DBIC Dimbokro 74.31 72 P **P 11 58 43.4 -0.1**
T25A Trinidad 74.75 334 P **P 11 58 46.5 +0.6**
T25A IAmb IAmb 11 58 49.0
comp=Z,5.0nm,0.9s
MAW Mawson 75.53 164 P **P 11 58 50.2 +0.5**
comp=Z,2.5nm,0.8s,baz=219,slow=8.6,SNR=7.6
MAW LR LR 12 34 23.5
comp=Z,54nm,19.0s,baz=232,slow=38
MAW Mawson 75.53 164 P **P 11 58 50.3 +0.6**
SMCO Snowmass 77.51 333 P **P 11 59 03.4 +1.7**
E62A Clayton Lake 77.80 2 P **P 11 59 04.3 +1.6**
ECSD EROS Data Cent 78.22 342 P **P 11 59 06.2 +1.1**
ECSD IAmb IAmb 11 59 06.7
comp=Z,3.9nm,0.8s
D62A Allapoint, All 78.28 2 P **P 11 59 06.5 +1.3**
KOWA Kowa 79.54 66 P **P 11 59 12.9 -0.1**
KOWA IAmb IAmb 11 59 13.8
comp=Z,8.2nm,0.6s
BOSA Boshof 81.15 118 P **P 11 59 22.0 +0.3**
comp=Z,3.0nm,0.8s,baz=197,slow=2.6,SNR=5.8
BOSA Boshof 81.15 118 IAmb IAmb 11 59 22.7
comp=Z,4.1nm,0.8s
PDAR Pinedale Array 81.59 333 P **P 11 59 25.4 +1.7**
comp=Z,0.2nm,0.5s,baz=126,slow=3.8,SNR=4.0
LHV Little Huntoon 81.86 325 P **P 11 59 27.0 +2.2**
NVAR Mina Array Bea 81.91 325 P **P 11 59 27.3 +1.9**
comp=Z,1.4nm,0.9s,baz=162,slow=5.9,SNR=11
KVN Kaiserville 82.29 325 P **P 11 59 29.0 +1.6**
ELK Elko 82.30 328 P **P 11 59 28.8 +1.4**
YERR Yerington 82.80 325 P **P 11 59 31.8 +1.8**
TORD Torodi Ar. Bea 83.28 70 P **P 11 59 32.8 0.0**
comp=Z,12nm,0.7s,baz=263,slow=4.7,SNR=84
TORD Torodi Ar. Bea 83.28 70 P **P 11 59 32.6 -0.2**
YBH Yreka Blue Hor 86.60 324 P **P 11 59 49.5 +0.5**
comp=Z,1.4nm,0.7s,baz=88,slow=2.6,SNR=8.6
YBH Yreka Blue Hor 86.60 324 IAmb IAmb 11 59 55.3
comp=Z,5.4nm,1.5s
PINE Pine Mountain 87.31 327 P **P 11 59 53.1 +0.5**
PINE IAmb IAmb 11 59 55.9
comp=Z,4.2nm,0.9s
ASAR Alice Springs 119.81 207 PKP **PKPdf 12 05 56.2 -0.4**
comp=Z,0.2nm,0.5s,baz=101,slow=2.0,SNR=1.8
AKASG Malin Array Be 120.43 46 PKP **PKPdf 12 05 56.1 -0.6**
comp=Z,1.1nm,0.5s,baz=254,slow=2.7,SNR=2.3
BRTR Keskin Array B 120.53 60 PKP **PKPdf 12 05 57.1 -0.3**
comp=Z,0.5nm,0.7s,baz=242,slow=2.7,SNR=4.2
FINES FINESS Array 120.80 34 PKP **PKPdf 12 05 57.1 -0.2**
comp=Z,0.5nm,0.5s,baz=343,slow=32,SNR=3.4
ARCES ARCESS Array B 121.72 24 PKP **PKPdf 12 05 58.6 -0.1**
comp=Z,1.9nm,1.1s,baz=263,slow=7.2,SNR=1.8
WRA Warramunga Arr 122.96 210 PKP **PKPdf 12 06 01.6 -1.1**
comp=Z,0.4nm,0.6s,baz=132,slow=1.4,SNR=11
H11S2 WAKE ISLAND Hyl 25.86 271 T T 14 25 01.3
baz=117,slow=75,SNR=103
H11S1 WAKE ISLAND Hyl 25.87 271 T T 14 25 00.7
baz=117,slow=75,SNR=42
H11S3 WAKE ISLAND Hyl 25.88 271 T T 14 25 00.1
baz=117,slow=75,SNR=46
H11N3 WAKE ISLAND Hyl 26.21 272 T T 14 25 26.0
baz=118,slow=74,SNR=14
H11N1 WAKE ISLAND Hyl 26.23 272 T T 14 25 23.4
baz=118
H11N2 WAKE ISLAND Hyl 26.23 272 T T 14 25 28.6
baz=118,slow=74,SNR=34
ARU Arti 137.78 39 PKP **PKPdf 12 06 29.9 +0.4**
comp=Z,0.8nm,0.3s,baz=180,slow=5.8,SNR=3.8
SEY Seymchan 137.91 332 PKP **PKPdf 12 06 30.3 +0.9**
comp=Z,2.9nm,0.8s,baz=160,slow=4.6,SNR=5.3
BVAR Borovoye Array 145.37 41 PKPbc **PKPab 12 06 44.1 +0.8**
comp=Z,19nm,0.5s,baz=268,slow=4.5,SNR=83
KURBB Kurchatov Arra 150.96 40 PKPbc **PKPbc 12 06 58.5 +0.5**
comp=Z,7.4nm,0.7s,baz=299,slow=3.0,SNR=71
KURK Kurchatov 150.97 40 PKiKP 12 06 58.5 -0.1
ZALV Zalesovo Beam 152.06 30 PKPbc **PKiKP 12 07 01.1 +0.3**
comp=Z,28nm,0.5s,baz=294,slow=5.4,SNR=15
ZALV Zalesovo Beam 152.06 30 PKPdf **PKPdf 12 06 54.3 +0.4**
ZALV **PKiKP 12 07 01.2 +0.3**
KSH Kashi 152.79 64 PKPbc **PKPdf 12 06 56.5 +0.8**
MKAR Makanchi Array 155.01 45 PKPbc 12 07 07.2
comp=Z,1.8nm,0.8s,baz=304,slow=2.6,SNR=11
MKAR Makanchi Array 155.01 45 PKPdf **PKPdf 12 06 58.0 -0.4**
MKAR 12 07 07.4
MKAR PKPab **PKPab 12 07 23.2 +0.4**
SONM Songino Array 163.65 4 PKPab **PKPab 12 08 01.2 +0.9**
comp=Z,0.4nm,0.4s,baz=349,slow=4.4,SNR=3.6

IDC 25 11:50:03.1±999.0, 51.°01N×49.°62E, h0km, Error ellipse: s-maj=1085.0km s-min=117.7km az=91.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**5.38**	**93**	*i*		12 24 30.0	
	baz=279,slow=313,SNR=2.2						
I46RU	**ZALESOVO INFRA**	**21.50**	**68**	*i*		13 58 10.0	
	baz=277,slow=328,SNR=1.3						
I34MN	**SONGINO INFRAS**	**36.31**	**72**	*i*		15 36 50.0	
	baz=293,slow=328						

*IDC **25** 11:53:00.9±1.0, 51.°69N×169.°87W, h0km, mb3.9/10, mb1 4.0/12, mb1mx3.7/69, mbtmp3.8/12, ML3.2/2, MS2.5/1, Ms1 2.5/1, ms1mx2.1/47, Error ellipse: s-maj=29.3km s-min=18.3km az=2.0*
*NEIC **25** 11:53:03.4±2.6, 51.°8N×0.°1×169.°89W×0.°10, h20km±6km, mb3.8/49, ML3.4(AEIC), Error ellipse: s-maj=16.9km s-min=7.4km az=162.0*
*AEIC **25** 11:53:05±5.3, 52.°0N×0.°1×170.°1W×0.°1, h109km±7km, Error ellipse: s-maj=19.3km s-min=8.7km az=151.0*
ISC 25 11:53:05.2±0.8, 51.°8N±0.°1×169.°78W±0.°07, h29km, n98, σ1°20/99, mb3.9/10, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**1.29**	**26**		**Pb**	**11 53 29.2**	**+0.4**
OKSP	**Okmok Steeple**	**1.70**	**32**		**Pb**	**11 53 35.2**	**-0.7**
OKSO	**Okmok South**	**1.83**	**32**		**Pb**	**11 53 37.1**	**-1.0**
OKTU	**Okmok Mt. Tuli**	**1.90**	**33**		**Pb**	**11 53 38.2**	**-0.9**
MAPS	**Pakushin South**	**2.64**	**40**		**Pn**	**11 53 48.5**	**+2.7**
KOFP	**Korovin Flat P**	**2.71**	**281**		**Pn**	**11 53 46.7**	**-0.1**
ATKA	**Atka Island**	**2.76**	**280**		**Pn**	**11 53 46.6**	**-0.8**
MNAT	**Makushin Natee**	**2.79**	**41**		**Pn**	**11 53 50.9**	**+3.0**
UNV	**Unalaska Valle**	**2.84**	**43**		**Pn**	**11 53 51.0**	**+2.4**
MTBL	**Makushin Table**	**2.86**	**40**		**Pn**	**11 53 52.4**	**+3.5**

AKUT Akutan 3.36 45 Pn **Pn 11 53 59.1 +3.5**
GSMY Great Sitkin M 3.89 276 Pn 11 54 02.6 -0.4
ADK Adak 4.28 274 Pn 11 54 07.9 -0.5
KIWB Kanaga Island 4.57 273 Pn 11 54 12.3 0.0
SPIA Saint Paul Isl 5.38 357 Pn **Pn 11 54 23.1 -0.3**
SDPT Sand Point 6.57 54 Pn **Pn 11 54 41.9 +2.2**
CNBA Chernabura Isl 6.81 60 Pn **Pn 11 54 44.4 +1.5**
CHGN Chignik 8.05 52 Pn **Pn 11 54 58.8 -1.3**
CHIR Chirikof Islan 9.28 59 Pn **Pn 11 55 17.2 +0.3**
OHAK Old Harbor 11.00 54 Pn **Pn 11 55 40.0 -0.3**
O18K Koktuh Hills 11.46 40 Pn **Pn 11 55 47.5 +0.7**
KDAK Kodiak Island 11.57 52 Pn **Pn 11 55 48.7 +0.6**
0.9nm,0.3s,baz=253,slow=7.2,SNR=24
KDAK Sn **Sn 11 57 52.2 -4.0**
0.3nm,0.3s,baz=102,slow=19,SNR=0.9
CNPM China Poot 12.97 46 Pn **Pn 11 56 08.0 +0.7**
M19K Big River Lodg 13.11 34 Pn **Pn 11 56 09.7 +0.4**
L19K White Mountain 13.15 32 Pn **Pn 11 56 09.9 0.0**
BRLK Bradley Lake 13.24 46 Pn **Pn 11 56 10.3 -0.7**
SEW Seward 14.04 46 Pn **Pn 11 56 22.2 +0.3**
O22K Cooper Landing 14.10 44 Pn **Pn 11 56 23.3 +0.6**
SUA Susitna One 14.19 40 Pn **Pn 11 56 23.3 -0.8**
K20K Telida 14.25 30 Pn **Pn 11 56 24.5 -0.3**
RC01 Rabbit Creek A 14.40 42 Pn **Pn 11 56 26.1 -0.7**
PWL Port Wells 14.88 44 Pn **Pn 11 56 33.0 -0.3**
PMR Palmer 14.91 41 Pn **Pn 11 56 33.9 +0.2**
PMR IAmb IAmb 11 56 37.5
comp=Z,7.8nm,1.4s
GHO Glory Hole Cre 15.09 41 Pn **Pn 11 56 37.4 +1.3**
GHO IAmb IAmb 11 56 42.2
comp=Z,14nm,1.4s
KNK Knik Glacier 15.09 42 Pn **Pn 11 56 35.6 -0.6**
SML Sawmill 15.35 41 Pn **Pn 11 56 41.2 +1.6**
SML IAmb IAmb 11 56 43.8
comp=Z,11nm,1.3s
HIN Hinchinbrook I 15.49 47 Pn **Pn 11 56 41.2 -0.2**
SCM Sheep Creek Mo 15.77 42 Pn **Pn 11 56 44.2 -0.9**
SCM IAmb IAmb 11 56 50.1
comp=Z,7.0nm,0.8s
EYAK Cordova Ski Ar 15.89 47 Pn **Pn 11 56 46.2 -0.3**
EYAK IAmb IAmb 11 57 02.9
comp=Z,9.2nm,1.2s
KLU Klutina 16.21 44 Pn **Pn 11 56 50.0 -0.6**
KLU IAmb IAmb 11 56 54.8
comp=Z,5.7nm,0.7s
RAGM Ragged Mountai 16.33 49 Pn **Pn 11 56 53.0 +0.8**
M24K Tolsona, Glenn 16.38 42 Pn **Pn 11 56 52.4 -0.5**
DHY Denali Highway 16.40 38 Pn **Pn 11 56 52.2 -0.9**
MLY Manley 16.47 29 Pn **Pn 11 56 54.0 0.0**
MLY IAmb IAmb 11 57 00.0
comp=Z,4.7nm,0.8s
HMT Hamilton 16.51 49 Pn **Pn 11 56 52.2 -2.2**
BERG Berg Lake 16.79 49 Pn **Pn 11 56 56.2 -1.7**
BERG IAmb IAmb 11 57 08.1
comp=Z,7.0nm,0.7s
N25K Chitina, Valde 16.83 45 Pn **Pn 11 56 57.5 -1.1**
N25K IAmb IAmb 11 57 04.0
comp=Z,4.2nm,0.6s
WRH Wood River Hil 16.96 33 Pn **Pn 11 56 59.2 -0.8**
I23K Minto, Yukon-K 16.98 30 Pn **Pn 11 56 59.0 -1.3**
PAX Paxson 17.09 40 Pn **Pn 11 57 00.3 -1.5**
GLB Gilahina Butte 17.11 46 Pn 11 57 03.0 +1.0
CCB Clear Creek Bu 17.16 33 Pn 11 57 03.3 +0.7
VRDI Verde Repeater 17.19 47 Pn **Pn 11 57 02.6 -0.5**
VRDI IAmb IAmb 11 57 30.5
comp=Z,9.7nm,1.2s
MDM Murphy Dome 17.22 32 Pn **Pn 11 57 03.3 0.0**
TGL Tana Glacier 17.31 48 Pn **Pn 11 57 03.7 -0.9**
TGL IAmb IAmb 11 57 15.7
comp=Z,8.1nm,1.0s
HDA Harding Lake 17.32 34 Pn **Pn 11 57 04.0 -0.5**
MCARA McCarthy VSAT 17.44 46 Pn 11 57 06.3 +0.2
MCARA IAmb IAmb 11 57 09.0
comp=Z,7.9nm,0.9s
ISLE Juniper Island 17.49 49 Pn 11 57 07.1 +0.2
ISLE P **P 11 57 08.0 +0.2**
ISLE IAmb IAmb 11 57 35.9
comp=Z,20nm,1.3s
IL31 17.55 34 Pn 11 57 07.2 -0.1
ILAR Eielson Array 17.55 34 P **Pn 11 57 06.5 -0.9**
comp=Z,0.1nm,0.3s,baz=222,slow=12,SNR=6.8
ILAR Eielson Array 17.55 34 Pn **Pn 11 57 05.9 -1.5**
POKR Poker Flat Res 17.58 32 Pn **Pn 11 57 06.0 -1.7**
POKR IAmb IAmb 11 57 17.0
comp=Z,6.3nm,1.1s
MENT Mentasta 17.78 41 P **Pn 11 57 10.1 -0.1**
M26K Nabesna, AK 17.85 43 Pn 11 57 11.4 +0.2
M26K IAmb IAmb 11 57 15.1
comp=Z,3.6nm,0.7s
BARN Barnard Glacie 17.95 48 P **Pn 11 57 12.2 -0.4**
BARN IAmb IAmb 11 57 21.1
comp=Z,4.2nm,0.7s
L26K Log Cabin Wild 17.97 41 P **Pn 11 57 13.2 +0.7**
L26K IAmb IAmb 11 57 24.5
comp=Z,9.1nm,1.4s
DOT Dot Lake 17.98 39 P **Pn 11 57 13.1 +0.4**
TABL Table Mountain 18.01 50 P **Pn 11 57 13.7 +0.4**
CTGM Chitina Glacie 18.07 48 Pn 11 57 12.7 -1.4
CTGM IAmb IAmb 11 57 24.4
comp=Z,4.7nm,0.8s
SCRK Sand Creek 18.17 38 P **Pn 11 57 15.4 +0.3**
LOGN Logan Glacier 18.19 49 P **Pn 11 57 14.4 -1.0**
LOGN IAmb IAmb 11 57 26.7
comp=Z,9.6nm,1.2s
M27K Edge Creek, AK 18.31 44 P **P 11 57 16.7 -0.1**
M27K IAmb IAmb 11 57 24.6
comp=Z,7.3nm,1.1s
L27K Beaver Creek, 18.61 42 P **Pn 11 57 21.1 +0.7**
L27K IAmb IAmb 11 57 33.8
comp=Z,7.8nm,1.5s
BCAR Beaver Creek A 18.63 42 P **P 11 57 19.8 -0.4**
EGAK Eagle 19.63 38 P **P 11 57 30.7 -0.4**
EGAK IAmb IAmb 11 57 46.1
comp=Z,5.0nm,1.2s
PETK Petropavlovsk- 19.77 287 P **P 11 57 31.7 -1.0**
comp=Z,0.3nm,0.3s,baz=86,slow=13,SNR=7.8
HYT Haines Junctio 19.85 50 P **P 11 57 31.9 -1.8**
BMAR Burnt Mountain 19.94 29 P **P 11 57 35.4 +0.9**
DAWY Dawson 20.02 41 P **P 11 57 34.9 -0.4**
DAWY IAmb IAmb 11 57 43.9
comp=Z,2.4nm,0.6s
SKAG Skagway 20.70 55 P **P 11 57 41.0 -1.7**
EPYK Eagle Plains 22.00 36 P **P 11 57 57.6 +1.0**
SEY Seymchan 22.86 314 P **P 11 58 07.7 +1.8**
comp=Z,0.9nm,0.6s,baz=75,slow=19,SNR=4.3
INK Inuvik 23.95 33 P **P 11 58 17.1 +0.7**
comp=Z,1.6nm,0.5s,baz=248,slow=9.6,SNR=9.1
INK Inuvik 23.95 33 P **P 11 58 17.0 +0.6**
INK IAmb IAmb 11 58 19.7
comp=Z,6.7nm,1.2s
PD31 Pinedale Array 40.76 78 P **P 12 00 42.3 -1.4**
PD31 IAmb IAmb 12 00 46.3
comp=Z,3.7nm,1.4s
PDAR Pinedale Array 40.76 78 P **P 12 00 44.9 +1.2**
comp=Z,1.0nm,0.6s,baz=306,slow=3.2,SNR=9.1
PDAR Pinedale Array 40.76 78 P **P 12 00 44.1 +0.4**
KSRS Korea Array 45.22 277 LR LR 12 19 32.1
comp=Z,6.1nm,21.7s,baz=175,slow=35
SONM Songino Array 51.37 301 P **P 12 02 08.1 +1.1**
comp=Z,0.6nm,0.5s,baz=55,slow=5.7,SNR=3.7
TX31 Lajitas Ar. Si 53.01 88 P **P 12 02 20.5 +1.1**
TX32 Lajitas Array 53.01 88 P **P 12 02 20.5 +1.1**
TXAR Lajitas Array 53.01 88 P **P 12 02 20.3 +0.9**
comp=Z,1.5nm,0.6s,baz=302,slow=5.3,SNR=22
ARCES ARCESS Array B 58.45 354 P **P 12 02 57.7 0.0**
comp=Z,0.7nm,0.6s,baz=44,slow=5.4,SNR=4.0
MKAR Makanchi Array 64.00 313 P **P 12 03 35.0 -0.7**
comp=Z,0.8nm,0.8s,baz=35,slow=5.3,SNR=1.7
HFS Hagfors 68.37 358 P **P 12 04 04.9 +1.5**
comp=Z,1.7nm,0.5s,baz=29,slow=3.4,SNR=6.3
CMAR Chiang Mai Arr 76.49 283 P **P 12 04 52.8 +0.4**
comp=Z,0.3nm,0.4s,baz=30,slow=7.3,SNR=1.7
ASAR Alice Springs 89.84 230 P **P 12 05 59.9 -1.1**
comp=Z,0.2nm,0.7s,baz=31,slow=5.6,SNR=2.0
MAW Mawson 150.28 218 PKPbc **PKPbc 12 12 51.1 -0.8**
comp=Z,1.5nm,0.9s,baz=18,slow=9.6,SNR=3.8

*JMA **25** 11:55:08.7±0.2, 24.°64N×122.°84E, h123km±2km, M3.2*
*TAP **25** 11:55:08.6, 24.°72N×122.°86E, h122km, ML3.2, C*
ISC 25 11:55:09.2±1.4, 24.°65N±0.°05×122.°86E±0.°02, h119km±8km, n65, σ0.°82/113, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.21**	**159**	P	**Pn**	**11 55 25.8**	**+0.1**
JYNG				S	**Sn**	**11 55 38.9**	**+0.9**
YOJ	**Yonaguni jima**	**0.23**	**144**	P	**Pn**	**11 55 26.0**	**+0.3**
YOJ				S	**Sn**	**11 55 38.9**	**+0.8**
YOJ	**Yonaguni jima** baz=160	**0.23**	**144**	*i* P	**Pn**	**11 55 26.0**	**+0.3**
YOJ				S	**Sn**	**11 55 38.6**	**+0.5**
IRIF	**Iriomote-Funau**	**0.85**	**112**	P	**Pn**	**11 55 29.8**	**+0.2**
IRIF				S	**Sn**	**11 55 44.9**	**-0.2**
TWC	**Suao** baz=260	**0.92**	**268**	*e*P	**Pn**	**11 55 30.1**	**-0.2**
TWC				*e*S	**Sn**	**11 55 44.9**	**-1.4**
NTC	**Toucheng** baz=278	**0.96**	**282**	*e*S	**Sn**	**11 55 46.6**	**-0.3**
TIPB	**Shuangxi** baz=280	**0.99**	**289**	*e*P	**Pn**	**11 55 31.1**	**0.0**
TIPB				*e*S	**Sn**	**11 55 47.0**	**-0.6**
EWUT	**Wuta** baz=252	**1.01**	**259**	*e*S	**Sn**	**11 55 47.8**	**0.0**
NDS	**Dongshan** baz=261	**1.04**	**269**	*e*P	**Pn**	**11 55 31.9**	**+0.4**
NDS				*e*S	**Sn**	**11 55 47.6**	**-0.8**
HATJ	**Hateruma jima**	**1.04**	**124**	P	**Pn**	**11 55 32.3**	**+0.8**
HATJ				*e*S	**Sn**	**11 55 49.8**	**+1.4**
ENA	**Nanau** baz=250	**1.04**	**258**	*e*P	**Pn**	**11 55 31.7**	**+0.2**
ENA				*e*S	**Sn**	**11 55 48.2**	**-0.2**
NWF	**Wu-fen Shan** baz=285	**1.07**	**293**	P	**Pn**	**11 55 31.8**	**0.0**
NWF				*e*S	**Sn**	**11 55 48.7**	**-0.3**
TWE	**Neicheng** baz=269	**1.09**	**274**	*e*P	**Pn**	**11 55 32.0**	**+0.1**
TWE				*e*S	**Sn**	**11 55 48.7**	**-0.5**
JKRS	**Kuro-shima**	**1.12**	**111**	P	**Pn**	**11 55 33.0**	**+0.7**
JKRS				S	**Sn**	**11 55 50.3**	**+0.5**
ENTT	**Nioudou** baz=266	**1.18**	**270**	*e*P	**Pn**	**11 55 33.4**	**+0.5**
ENTT				*e*S	**Sn**	**11 55 51.0**	**+0.1**
JIJ	**Ishigaki jima** baz=266	**1.20**	**104**	P	**Pn**	**11 55 33.2**	**+0.1**
JIJ				S	**Sn**	**11 55 50.5**	**-0.8**
NDT	**Datong Townshi** baz=259	**1.23**	**268**	*e*P	**Pn**	**11 55 34.2**	**+0.8**
ETL	**Fush Village** baz=238	**1.23**	**247**	*e*S	**Sn**	**11 55 51.6**	**-0.3**
NWLT	**Wulai** baz=273	**1.24**	**276**	*e*S	**Sn**	**11 55 51.4**	**-0.8**
NACB	**Ninganchiao** baz=240	**1.25**	**248**	*e*P	**Pn**	**11 55 33.1**	**-0.6**
NACB				*e*S	**Sn**	**11 55 51.0**	**-1.2**
TWD	**Chiawan** baz=236	**1.29**	**244**	*e*S	**Sn**	**11 55 52.2**	**-0.8**
JISG	**Ishigakijimahi**	**1.32**	**92**	P	**Pn**	**11 55 34.4**	**0.0**
JISG				S	**Sn**	**11 55 52.9**	**-0.7**
ETLH	**Xiulin Townshi** baz=248	**1.33**	**251**	*e*P	**Pn**	**11 55 34.6**	**-0.1**
ETLH				*e*S	**Sn**	**11 55 53.4**	**-0.6**
YHNB	**Yeheng** baz=273	**1.35**	**271**	*e*P	**Pn**	**11 55 35.2**	**+0.3**
YHNB				*e*S	**Sn**	**11 55 53.7**	**-0.7**
NNSB	**Datong** baz=253	**1.36**	**261**	*e*P	**Pn**	**11 55 35.2**	**+0.1**
NNSB				*e*S	**Sn**	**11 55 53.9**	**-0.9**
NSK	**Sanguang** baz=273	**1.37**	**271**	*e*P	**Pn**	**11 55 35.3**	**+0.2**
NSK				*e*S	**Sn**	**11 55 54.1**	**-0.6**
NNS	**Nan Shan** baz=253	**1.37**	**262**	*e*P	**Pn**	**11 55 35.3**	**+0.2**
NNS				*e*S	**Sn**	**11 55 54.8**	**0.0**
TWS1	**Kuangyinshan** baz=280	**1.39**	**289**	*e*S	**Sn**	**11 55 53.2**	**-1.7**
FUSS	**Fushou** baz=249	**1.53**	**255**	*e*P	**Pn**	**11 55 37.4**	**+0.3**
WHF	**Hehuan Shan** baz=248	**1.54**	**251**	*e*P	**Pn**	**11 55 37.3**	**-0.1**
WHF				*e*S	**Sn**	**11 55 57.9**	**-0.9**
ESL	**Shilin** baz=235	**1.55**	**238**	*e*P	**Pn**	**11 55 36.9**	**-0.2**
ESL				*e*S	**Sn**	**11 55 57.0**	**-1.3**
TDCB	**Techi** baz=249	**1.60**	**256**	*e*P	**Pn**	**11 55 38.0**	**+0.1**
TDCB				*e*S	**Sn**	**11 55 58.9**	**-0.8**
CHGB	**Renai** baz=241	**1.65**	**249**	*e*P	**Pn**	**11 55 39.2**	**+0.7**
CHGB				*e*S	**Sn**	**11 56 00.1**	**-0.7**
JTJ	**Tarama** baz=264	**1.67**	**90**	P	**Pn**	**11 55 38.7**	**+0.2**
JTJ				S	**Sn**	**11 56 00.0**	**-0.9**
LIOB	**Emei** baz=264	**1.68**	**270**	*e*P	**Pn**	**11 55 39.1**	**+0.5**
LIOB				*e*S	**Sn**	**11 56 00.7**	**-0.4**
OWD	**Renai** baz=239	**1.69**	**246**	*e*P	**Pn**	**11 55 39.2**	**+0.3**
OWD				*e*S	**Sn**	**11 56 00.7**	**-0.8**
HGSD	**Ruisui** baz=224	**1.75**	**229**	*e*P	**Pn**	**11 55 39.5**	**0.0**
HGSD				*e*S	**Sn**	**11 56 01.6**	**-0.9**
WHP	**Taichung City** baz=254	**1.79**	**258**	*e*P	**Pn**	**11 55 41.1**	**+1.1**
EHY	**Hungye** baz=229	**1.81**	**231**	*e*P	**Pn**	**11 55 40.5**	**+0.2**
EHY				*e*S	**Sn**	**11 56 02.8**	**-1.2**
YULB	**Yu-li** baz=233	**1.90**	**229**	*e*P	**Pn**	**11 55 40.9**	**-0.4**
YULB				*e*S	**Sn**	**11 56 04.5**	**-1.5**
SSLB	**Suanglung** baz=239	**1.94**	**244**	*e*P	**Pn**	**11 55 42.8**	**+1.0**
SSLB				*e*S	**Sn**	**11 56 06.2**	**-0.6**
SMLT	**Sun Moon Lake** baz=239	**1.95**	**247**	*e*P	**Pn**	**11 55 43.1**	**+1.1**
SMLT				*e*S	**Sn**	**11 56 07.9**	**+0.8**
TYC	**Yuchr** baz=241	**1.98**	**248**	*e*P	**Pn**	**11 55 43.5**	**+1.3**
TYC				*e*S	**Sn**	**11 56 08.1**	**+0.7**
FULB	**Fuli** baz=218	**2.04**	**225**	*e*P	**Pn**	**11 55 43.4**	**+0.3**
FULB				*e*S	**Sn**	**11 56 08.6**	**-0.3**
CHKT	**Chengkung** baz=216	**2.06**	**222**	*e*P	**Pn**	**11 55 43.6**	**+0.3**
CHKT				*e*S	**Sn**	**11 56 07.9**	**-1.6**
WHYT	**Xinyi Township** baz=240	**2.07**	**243**	*e*S	**Sn**	**11 56 10.8**	**+1.2**
JIRB	**Irabujima**	**2.11**	**85**	P	**Pn**	**11 55 43.9**	**0.0**
JIRB				*e*S	**Sn**	**11 56 09.3**	**-1.2**
JIKM	**Ikemajima**	**2.19**	**82**	P	**Pn**	**11 55 45.2**	**+0.4**
JIKM				*e*S	**Sn**	**11 56 10.9**	**-1.3**
EDH	**Donghe** baz=214	**2.20**	**221**	*e*S	**Sn**	**11 56 11.3**	**-1.2**
ELDTW	**Lidau** baz=224	**2.23**	**230**	P	**Pn**	**11 55 45.4**	**-0.1**
ELDTW				*e*S	**Sn**	**11 56 12.4**	**-1.0**
JMJ2	**Miyako jima3**	**2.24**	**87**	P	**Pn**	**11 55 46.0**	**+0.4**
JMJ2				S	**Sn**	**11 56 13.2**	**-0.3**
CHN5	**Tsauling** baz=234	**2.25**	**243**	*e*P	**Pn**	**11 55 46.9**	**+1.1**
CHN5				*e*S	**Sn**	**11 56 15.2**	**+1.3**
JOGS	**Gusukube**	**2.32**	**87**	P	**Pn**	**11 55 47.2**	**+0.7**
JOGS				S	**Sn**	**11 56 15.1**	**-0.1**
LDUT	**Ludao** baz=210	**2.35**	**213**	*e*S	**Sn**	**11 56 14.9**	**-0.9**
STYH	**Taoyuan** baz=227	**2.41**	**233**	*e*P	**Pn**	**11 55 49.5**	**+1.7**
STYH				*e*S	**Sn**	**11 56 18.9**	**+1.5**
TPUB	**Ta-pu** baz=235	**2.44**	**237**	*e*P	**Pn**	**11 55 49.3**	**+1.1**
TPUB				*e*S	**Sn**	**11 56 18.9**	**+0.7**
CHN4	**Tsaushan** baz=236	**2.45**	**239**	*e*P	**Pn**	**11 55 48.5**	**+0.3**
TWGBT	**Beinan** baz=226	**2.45**	**222**	*e*S	**Sn**	**11 56 17.5**	**-0.7**
TWG	**Pinlang** baz=226	**2.45**	**222**	*e*P	**Pn**	**11 55 47.9**	**-0.4**
TWG				*e*S	**Sn**	**11 56 17.5**	**-0.8**
WTP	**Ta-pu** baz=229	**2.49**	**236**	*e*P	**Pn**	**11 55 49.8**	**+1.0**
WTP				*e*S	**Sn**	**11 56 20.4**	**+1.1**
CHN1	**Nanshi** baz=234	**2.59**	**236**	*e*S	**Sn**	**11 56 21.7**	**+0.2**
SLGT	**Liugui** baz=234	**2.62**	**231**	*e*S	**Sn**	**11 56 22.7**	**+0.6**
SSD	**Sandimen** baz=226	**2.79**	**228**	*e*S	**Sn**	**11 56 26.4**	**+0.2**
LAY	**Lan-yu** baz=200	**2.87**	**205**	P	**Pn**	**11 55 53.2**	**-0.5**
LAY				*e*S	**Sn**	**11 56 25.1**	**-2.9**
MASBT	**Mashibuluo** baz=235	**2.88**	**226**	*e*P	**Pn**	**11 55 54.9**	**+1.0**
MASBT				*e*S	**Sn**	**11 56 29.2**	**+0.9**

MEX 25 11:56:29.3±1.1, 14°.26N×93°.33W, h18km±999km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.22**	**58**	*e*P	Pn	11 56 47.5	-3.9
THIG				*e*S	Sb	11 57 04.1	-3.1
PCIG		**1.44**	**4**	*e*P	Pn	11 56 52.0	-2.6
PCIG				*e*S	Sn	11 57 08.1	-4.9
CCIG	**Comitan**	**2.32**	**30**	*e*P	Pn	11 57 01.6	-5.2
CCIG				*e*S	Sn	11 57 30.5	-4.5
TGIG		**2.52**	**5**	*e*P	Pn	11 57 07.1	-2.3
TGIG				*e*S	Sn	11 57 36.0	-3.7
CMIG	**Matias Romero**	**3.19**	**332**	*e*P	Pn	11 57 10.3	-8.3
CMIG				*e*S	Sn	11 57 54.0	-2.2

NNC 25 11:57:26.1±3.6, 53°.70N×90°.54E, h0km, mb3.7, mpv3.4, 4C-1D, Error ellipse: s-maj=29.8km s-min=22.2km az=80.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array** 2.5nm,0.8s	**3.40**	**277**	⇑Pn	Pn	11 58 21.1	+0.7
ZAA0	12nm,0.9s			⇓Lg	Lg	11 59 13.5	
KURBB	**Kurchatov Arra** 3.2nm,0.6s	**8.00**	**252**	⇑Pn	Pn	11 59 19.7	-3.8
KURBB	14nm,0.8s			Sn	Sn	12 00 56.9	+2.2
KURBB	35nm,0.8s			Lg	Lg	12 01 41.0	
MK31	**Makanchi Array** 1.2nm,0.7s,baz=42,slow=14,SNR=5.6	**8.70**	**221**	⇑Pn	Pn	11 59 32.7	-0.4
MK31	1.9nm,0.8s,baz=45,slow=20,SNR=4.6			Sn	Sn	12 01 11.8	0.0
MK31	12nm,1.1s,baz=51,slow=36,SNR=3.5			Lg	Lg	12 02 03.2	
MAKZ	**Makanchi** 1.2nm,0.7s	**8.81**	**222**	⇑Pn	Pn	11 59 36.8	+2.1
MAKZ	1.4nm,0.8s			Sn	Sn	12 01 16.6	+2.1
MAKZ	6.7nm,1.1s			Lg	Lg	12 02 07.0	

*KRNET **25** 12:28:43.4±0.1, 40°.57N×70°.61E, mb2.0*
*NNC **25** 12:28:47.6±2.6, 40°.82N×70°.30E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=20.8km s-min=11.7km az=38.0*
ISC 25 12:28:42.1±1.7, 40°.58N±0°.04×70°.5E±0°.1, h10km, n6, σ1s39/10, 5C-7D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken** baz=63	**0.59**	**152**	⇓*i*P	**Pg**	**12 28 53.4**	**-0.2**
BTK	baz=63			⇓*i*S	**Sg**	**12 29 01.4**	**0.0**
TRKS	**Terek-Say** baz=25	**1.08**	**28**	⇑*i*P	**Pg**	**12 29 02.5**	**-0.4**
TRKS	baz=25			⇑*i*S	**Sg**	**12 29 15.7**	**-1.3**
MNAS	**Manas** baz=36	**2.45**	**38**	⇓*i*P	**Pb**	**12 29 25.5**	**-0.8**
MNAS	baz=36			⇓*i*S	**Sb**	**12 29 55.8**	**-0.8**
KK31	**Karatay Array** 0.5nm,0.3s,baz=192,slow=14,SNR=10	**2.52**	**1**	⇓Pn	**Pb**	**12 29 27.0**	**-0.6**
KK31	1.9nm,0.5s,baz=188,slow=23,SNR=5.8			⇑Sn	**Sn**	**12 29 56.6**	**+2.6**
AAK	**Ala-Archa** 1.1nm,0.7s	**3.66**	**54**	⇑Pg	**Pg**	**12 29 52.4**	**+0.2**
AAK	1.1nm,0.6s			⇓Lg	Lg	12 30 44.0	
TKM2	**Tokmak 2** 0.9nm,0.7s	**4.50**	**57**	⇑Pg	**Pg**	**12 30 10.1**	**+1.8**
TKM2	1.0nm,0.7s			⇓Lg	Lg	12 31 10.9	

IDC 25 12:34:41.5±3.3, 18°.66S×174°.48W, h0km, mb3.3/3, mb1 3.7/3, mb1mx3.4/28, mbtmp3.3/3, Error ellipse: s-maj=355.8km s-min=36.8km az=158.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=97,slow=7.0,SNR=2.0	**48.17**	**260**	P	P	12 43 24.0	-0.1
ASAR	**Alice Springs** 0.5nm,0.8s,baz=91,slow=7.4,SNR=5.7	**48.19**	**255**	P	P	12 43 23.9	-0.2
TXAR	**Lajitas Array** 0.2nm,0.7s,baz=232,slow=4.4,SNR=2.2	**83.28**	**56**	P	P	12 47 10.6	0.0

*IDC **25** 12:40:00.4±2.9, 33°.03S×178°.27W, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.7/31, mbtmp4.0/4, ML3.3/1, Error ellipse: s-maj=63.6km s-min=36.4km az=120.0*
*NEIC **25** 12:40:07.7±0.9, 31°.95S±0°.09×179°.0W±0°.2, h10km±2km, mb4.2/7, Error ellipse: s-maj=35.9km s-min=7.1km az=111.0*
ISC 25 12:40:06.3±1.3, 31°.8S±0°.1×178°.8W±0°.2, h10km, n15, σ1s05/12, mb4.1/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.61**	**16**	Pn	**Pb**	**12 40 53.1**	**-0.1**
URZ	**Urewera** 0.6nm,0.3s,baz=147,slow=10,SNR=1.7	**7.31**	**207**	Pn	Pn	12 41 36.5	-17
URZ	1.8nm,0.3s,baz=169,slow=23,SNR=4.1			Sn	Sn	12 42 50.9	-25
CTA	**Charters Tower** 2.3nm,0.5s,baz=94,slow=11,SNR=1.6	**33.42**	**282**	P	**P**	**12 46 46.8**	**+1.5**
AS31	**Alice Springs** comp=Z,1.3nm,1.2s	**42.41**	**269**	P	**P**	**12 47 59.9**	**-1.4**
AS31				IAmb	IAmb	12 48 04.5	
ASAR	**Alice Springs** comp=Z,1.3nm,0.8s,baz=109,slow=7.2,SNR=12	**42.41**	**269**	P	**P**	**12 48 00.5**	**-0.9**
ASAR	**Alice Springs**	**42.41**	**269**	P	P	12 47 59.5	-1.8
WR0	**Warramunga Arr** comp=Z,5.1nm,1.2s	**43.35**	**274**	P	**P**	**12 48 08.2**	**-0.7**
WR0				IAmb	IAmb	12 48 18.3	
WB2	**Warramunga Arr** comp=Z,8.8nm,1.5s	**43.52**	**274**	P	**P**	**12 48 10.1**	**-0.2**
WB2				IAmb	IAmb	12 48 34.8	
WRAB	**Tennant Creek**	**43.52**	**274**	P	**P**	**12 48 08.9**	**-1.4**
WRAB	comp=Z,2.6nm,0.8s			IAmb	IAmb	12 48 13.9	
WRA	**Warramunga Arr** comp=Z,1.3nm,0.5s,baz=116,slow=7.8,SNR=41	**43.53**	**274**	P	**P**	**12 48 09.7**	**-0.6**
WRA	**Warramunga Arr** comp=Z,0.4nm,1.4s	**43.53**	**274**	IAmb	IAmb	12 48 10.4	
KNRA	**Kununurra**	**50.19**	**276**	P	**P**	**12 49 01.0**	**-1.5**
QSPA	**South Pole Qui**	**58.34**	**180**	P	**P**	**12 50 01.5**	**+0.1**
QSPA				IAmb	IAmb	12 50 04.3	
FINES	**FINESS Array B** comp=Z,7.8nm,1.3s	**146.20**	**339**	PKPbc	**PKPdf**	**12 59 44.9**	**-0.1**
FINES	**FINESS Array B** comp=Z,1.2nm,0.5s,baz=18,slow=2.4,SNR=9.0	**146.20**	**339**		**PKPdf**	**12 59 45.3**	**+0.3**

*NEIC **25** 12:46:38.8±0.9, 32°.82S±0°.08×177°.88W±0°.05, h10km±2km, mb4.5/12, Error ellipse: s-maj=13.9km s-min=7.9km az=179.0*
*IDC **25** 12:46:38.9±2.2, 32°.92S×178°.25W, h0km, mb4.4/3, mb1 4.4/5, mb1mx3.9/38, mbtmp4.2/5, ML3.6/2, MS3.6/1, Ms1 3.6/1, ms1mx2.6/27, Error ellipse: s-maj=47.3km s-min=33.6km az=120.0*
ISC 25 12:46:43.3±1.4, 33°.0S±0°.1×178°.2W±0°.2, h34km, n26, σ0s34/25, mb4.5/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.69**	**3**	Pn	Pn	12 47 32.8	-5.2
URZ	**Urewera** 1.5nm,0.3s,baz=260,slow=2.8,SNR=8.0	**6.55**	**215**	Pn	**Pn**	**12 48 17.4**	**+0.2**
URZ	10.0nm,0.3s,baz=167,slow=20,SNR=16			Sn	**Sn**	**12 49 30.7**	**+0.1**
URZ	**Urewera**	**6.55**	**215**		**Pn**	**12 48 17.2**	**0.0**
OUZ	**Omahuta**	**7.20**	**249**	Pn	**Pn**	**12 48 26.5**	**+0.3**
BKZ	**Black Stump Fm**	**7.56**	**213**	Pn	**Pn**	**12 48 30.5**	**-0.7**
DZM	**Mont Dzumac** 0.2nm,0.3s,baz=51,slow=20,SNR=1.2	**17.41**	**305**	P	**Pn**	**12 50 43.2**	**-0.5**
DZM	comp=Z,196nm,21.3s,baz=298,slow=31			LR	LR	12 55 36.4	
DZM	**Mont Dzumac** comp=Z,18nm,1.0s	**17.41**	**305**	IAmb	IAmb	12 50 51.4	
CTA	**Charters Tower** comp=Z,3.7nm,0.5s,baz=114,slow=11,SNR=8.6	**34.15**	**283**	P	**P**	**12 53 25.4**	**0.0**
CTAO	**Charters Tower**	**34.15**	**283**	P	**P**	**12 53 25.8**	**+0.4**
AS31	**Alice Springs**	**42.90**	**270**	P	**P**	**12 54 38.8**	**0.0**
ASAR	**Alice Springs** comp=Z,2.6nm,0.8s,baz=107,slow=7.4,SNR=39	**42.90**	**270**	P	**P**	**12 54 38.5**	**-0.3**
ASAR	**Alice Springs**	**42.90**	**270**	P	**P**	**12 54 38.2**	**-0.6**
WR0	**Warramunga Arr**	**43.94**	**275**	P	**P**	**12 54 46.9**	**-0.3**
WR0	comp=Z,15nm,1.4s			IAmb	IAmb	12 54 56.5	
WB2	**Warramunga Arr** comp=Z,11nm,1.3s	**44.10**	**275**	P	**P**	**12 54 48.4**	**-0.2**
WB2				IAmb	IAmb	12 55 16.6	
WRAB	**Tennant Creek** comp=Z,3.8nm,0.7s	**44.11**	**275**	P	**P**	**12 54 48.5**	**-0.1**
WRAB				IAmb	IAmb	12 54 59.5	
WRA	**Warramunga Arr** comp=Z,3.2nm,0.5s,baz=117,slow=7.7,SNR=114	**44.12**	**275**	P	**P**	**12 54 48.2**	**-0.5**
WRA	**Warramunga Arr**	**44.12**	**275**	P	**P**	**12 54 48.7**	**+0.1**
WB0	**Warramunga Arr** comp=Z,4.7nm,0.5s	**44.15**	**275**	P	**P**	**12 54 48.5**	**-0.5**
WB0				IAmb	IAmb	12 54 49.6	
MTN	**Manton Dam**	**50.29**	**281**	P	**P**	**12 55 36.7**	**-0.1**
KNRA	**Kununurra**	**50.81**	**276**	P	**P**	**12 55 40.5**	**-0.1**
FITZ	**Fitzroy Crossi** comp=Z,3.5nm,1.1s	**52.26**	**272**	P	**P**	**12 55 51.7**	**+0.1**
FITZ				IAmb	IAmb	12 56 11.0	
CASY	**Casey** comp=Z,20nm,1.5s	**52.83**	**209**	P	**P**	**12 55 55.3**	**+0.2**
CASY				IAmb	IAmb	12 56 11.8	
FINES	**FINESS Array B** comp=Z,2.4nm,0.5s,baz=39,slow=3.9,SNR=17	**147.47**	**338**	PKPbc	**PKPbc**	**13 06 23.1**	**+0.2**
FINES	**FINESS Array B**	**147.47**	**338**		**PKPbc**	**13 06 22.9**	**0.0**
BRTR	**Keskin Array B** comp=Z,0.3nm,0.6s,baz=84,slow=1.8,SNR=2.8	**153.60**	**294**	PKPbc	**PKiKP**	**13 06 39.2**	**+0.6**
BRTR	**Keskin Array B**	**153.60**	**294**		**PKPbc**	**13 06 38.4**	**-0.2**

MEX 25 12:52:15.0±0.8, 13°.99N×93°.26W, h16km±999km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.71**	**1**	*e*P	Pn	12 52 40.7	-3.4
PCIG				*e*S	Sn	12 52 55.7	-10

*ANF **25** 12:55:30.3±0.4, 41°.82N×119°.57W, h0km, ML2.9/12, Error ellipse: s-maj=4.3km s-min=2.7km az=119.0*
*NEIC **25** 12:55:32.6±2.1, 41°.85N±0°.03×119°.63W±0°.03, h9km±6km, Error ellipse: s-maj=5.0km s-min=2.0km az=153.0*
*REN **25** 12:55:32.0±1.5, 41°.86N±0°.03×119°.64W±0°.05, h11km±5km, ML2.9/6, ML3.0/32(SEA), ML2.7/68(NEIC), Error ellipse: s-maj=6.1km s-min=2.9km az=51.0*
*SEA **25** 12:55:33.2±2.7, 41°.84N±0°.03×119°.66W±0°.05, h0km±6km, Error ellipse: s-maj=6.4km s-min=1.6km az=54.0*
ISC 25 12:55:32.1±1.3, 41°.86N±0°.03×119°.63W±0°.02, h3km±14km, n63, σ1s22/72, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOD	**Modoc Plateau**	**0.50**	**275**	Pg	**Pg**	**12 55 42.3**	**+0.5**
MOD	**Modoc Plateau**	**0.50**	**275**		**Sg**	**12 55 49.5**	**+1.3**
LKVW	**Lakeview**	**0.65**	**304**		**Pg**	**12 55 44.6**	**0.0**
WVOR	**Wild Horse Val**	**0.94**	**52**		**Pg**	**12 55 50.2**	**+0.1**
WVOR	**Wild Horse Val**	**0.94**	**52**		**Sg**	**12 56 02.5**	**+0.3**
WVOR	302nm,0.7s			IAML		12 56 06.3	
WVOR	169nm,0.8s			IAML		12 56 07.3	
K05A	**Summer Lake**	**1.27**	**313**		**Pn**	**12 55 56.1**	**-0.9**
LASM	**Arnica Sink**	**1.48**	**260**		**Pn**	**12 55 59.3**	**-0.6**
LTIM	**Timbered Crate**	**1.55**	**244**		**Pn**	**12 56 00.5**	**-0.3**
HOG	**Hogback Mounta**	**1.59**	**284**		**Pb**	**12 56 02.0**	**-0.3**
LBCM	**Butte Creek Ri**	**1.65**	**232**		**Pn**	**12 56 01.8**	**-0.4**
M04C	**Macdoel**	**1.65**	**268**		**Pn**	**12 56 01.5**	**-0.7**
M04C					**Sg**	**12 56 25.5**	**+0.4**
M04C	**Macdoel** baz=86,SNR=57	**1.65**	**268**	P	**Pn**	**12 56 01.4**	**-0.7**
M04C	baz=86			S	**Sg**	**12 56 25.0**	**-0.2**
J08A	**Circle Bar Ran**	**1.72**	**29**	Pn	**Pn**	**12 56 02.2**	**-1.0**
J08A	comp=N,106nm,0.7s			IAML		12 56 36.2	
J08A	comp=E,73nm,0.7s			IAML		12 56 37.3	
K04D	**Chiloquin, OR**	**1.75**	**297**		**Pb**	**12 56 04.3**	**-0.6**
K04D	**Chiloquin, OR** baz=115,SNR=31	**1.75**	**297**	Pb	**Pn**	**12 56 04.2**	**+0.7**
K04D	baz=115			S	**Sb**	**12 56 27.7**	**+0.3**
J05D	**Fort Rock, OR**	**1.85**	**321**		**Pb**	**12 56 06.2**	**-0.5**
J05D	**Fort Rock, OR** baz=140,SNR=109	**1.85**	**321**	Pb	**Pb**	**12 56 06.1**	**-0.5**
J05D	baz=140			S	**Sb**	**12 56 30.5**	**+0.2**
L04D	**Klamath Falls**	**2.02**	**281**		**Pn**	**12 56 06.6**	**-0.7**
L04D	**Klamath Falls** baz=99,SNR=58	**2.02**	**281**	P	**Pn**	**12 56 06.5**	**-0.7**
L04D	baz=99			Sb	**Sg**	**12 56 36.4**	**-0.6**
TMBU	**Tom Butte, New**	**2.06**	**328**		**Pb**	**12 56 09.6**	**-0.8**
BEKR	**Beckworth**	**2.07**	**196**	Pn	**Pb**	**12 56 10.6**	**+0.2**
BEKR	comp=N,47nm,0.3s			IAML		12 56 39.2	
BEKR	comp=E,64nm,0.5s			IAML		12 56 40.8	
SVIC	**Surveyors Ice**	**2.14**	**327**		**Pb**	**12 56 11.4**	**-0.3**
PINE	**Pine Mountain**	**2.15**	**334**		**Pb**	**12 56 11.2**	**-0.7**
PINE	comp=N,39nm,0.9s			IAML		12 56 43.4	
PINE	comp=E,59nm,1.0s			IAML		12 56 48.6	
PAHR	**Pah Rah Range**	**2.16**	**175**		**Pb**	**12 56 11.9**	**-0.1**
PAHR	comp=E,42nm,0.6s			IAML		12 56 42.4	
LCMM	**Colby Mountain**	**2.23**	**220**		**Pn**	**12 56 10.7**	**+0.5**
O03E	**Paynes Creek** baz=45,SNR=20	**2.27**	**227**	P	**Pn**	**12 56 09.8**	**-0.8**
O03E	baz=45			Sb	**Sb**	**12 56 43.1**	**+0.9**
YBH	**Yreka Blue Hor**	**2.31**	**268**	Pn	**Pn**	**12 56 10.3**	**-0.9**

BMN	**Battle Mountai**	**2.31**	**127**		**Pn**	**12 56 11.6**	**+0.3**
BMN				IAML		12 56 50.9	
	comp=E,27nm,0.7s						
M02C	**Callahan**	**2.46**	**260**	P	**Pn**	**12 56 11.8**	**-1.4**
	baz=78						
M02C				Sb	**Sg**	**12 56 49.8**	**-1.3**
	baz=78						
N02D	**Trinity Center**	**2.48**	**250**	P	**Pn**	**12 56 12.2**	**-1.3**
	baz=68						
N02D				Sb	**Sb**	**12 56 49.8**	**+1.6**
	baz=68						
WDC	**Whiskeytown Da**	**2.54**	**241**	Pn	**Pn**	**12 56 13.5**	**-0.7**
WDC				IAML		12 56 54.1	
	comp=N,32nm,0.6s						
VCNR	**Virginia City**	**2.56**	**180**	Pn	**Pn**	**12 56 12.5**	**-2.3**
HUMO	**Hull Mountain**	**2.58**	**288**	Pn	**Pn**	**12 56 13.6**	**-1.2**
HUMO				IAML		12 56 53.1	
	comp=E,28nm,0.7s						
HUMO				IAML		12 56 53.3	
	comp=N,41nm,0.7s						
ORV	**Oroville**	**2.71**	**212**	Pn	**Pn**	**12 56 15.3**	**-1.3**
I05D	**Terrebonne, OR**	**2.77**	**334**	Pb	**Pb**	**12 56 21.9**	**-0.5**
	baz=153						
HUOR	**Husband**	**2.78**	**325**		**Pb**	**12 56 22.7**	**+0.1**
I04A	**Tendick Farm,**	**2.81**	**314**	Pb	**Pb**	**12 56 22.8**	**-0.2**
	baz=133						
RUBR	**Rubicon Trail**	**2.84**	**188**	Pn	**Pn**	**12 56 16.2**	**-2.3**
RUBR				IAML		12 57 11.5	
	comp=N,27nm,1.0s						
RUBR				IAML		12 57 14.7	
	comp=E,30nm,0.9s						
YERR	**Yerington**	**2.89**	**174**	Pn	**Pn**	**12 56 16.5**	**-2.7**
YERR				IAML		12 57 06.5	
	comp=N,44nm,0.6s						
EMB	**Emerald Bay**	**2.91**	**187**	Pn	**Pn**	**12 56 17.3**	**-2.2**
O02D	**Mt. Diablo Mer**	**2.92**	**236**	Sb	**Sb**	**12 57 02.9**	**+1.8**
	baz=54						
DBO	**Dodson Butte**	**2.95**	**296**	Pn	**Pn**	**12 56 18.3**	**-1.7**
DBO				IAML		12 57 07.1	
	comp=N,22nm,1.0s						
L02E	**Cave Junction**	**2.97**	**277**	P	**Pn**	**12 56 20.1**	**-0.1**
	baz=94,SNR=12						
L02E				Sb	**Sb**	**12 57 03.9**	**+1.4**
	baz=94						
KVN	**Kaiserville**	**3.04**	**157**	Pn	**Pn**	**12 56 20.9**	**-0.4**
K02D	**Willamette Mer**	**3.11**	**287**	P	**Pn**	**12 56 23.0**	**+0.8**
	baz=104,SNR=23						
MFID	**Camas Ranch**	**3.21**	**60**		**Pn**	**12 56 22.7**	**-0.8**
MFID				IAML		12 57 23.2	
	comp=N,33nm,0.6s						
MFID				IAML		12 57 28.6	
	comp=N,36nm,0.6s						
KRMB	**Red Mountain**	**3.22**	**265**	Pn	**Pn**	**12 56 22.6**	**-1.1**
KRMB				IAML		12 56 50.9	
	comp=E,14nm,4.8s						
KRMB				IAML		12 56 54.4	
	comp=N,16nm,4.4s						
KMRM	**Mail Ridge**	**3.49**	**243**	Pn	**Pn**	**12 56 25.6**	**-1.9**
KMRM				IAML		12 57 15.4	
	comp=N,19nm,5.0s						
KMRM				IAML		12 57 27.1	
	comp=E,25nm,4.2s						
NVAR	**Mina Array Bea**	**3.58**	**163**	Pn	**Pn**	**12 56 29.4**	**+0.7**
NV11	**Mina Array Sit**	**3.61**	**161**	Pn	**Pn**	**12 56 29.1**	**0.0**
LHV	**Little Huntoon**	**3.71**	**166**		**Pn**	**12 56 29.5**	**-0.8**
LHV				IAML		12 57 34.1	
	comp=N,23nm,0.5s						
CMB	**Columbia Colle**	**3.87**	**189**	Pn	**Pn**	**12 56 33.0**	**+0.4**
PGO	**Gresham**	**4.14**	**331**		**Pn**	**12 56 40.6**	**+4.3**
PLID	**Pearl Lake**	**4.17**	**38**	Pn	**Pn**	**12 56 37.2**	**+0.4**
PLID				IAML		12 57 48.3	
	comp=N,6.8nm,4.2s						
HLID	**Hailey**	**4.20**	**64**	Pb	**Pb**	**12 56 44.6**	**-2.2**
	baz=248						
TPH	**Tonopah**	**4.21**	**153**	Pn	**Pn**	**12 56 38.6**	**+1.2**
MDPB	**Devils Postpil**	**4.25**	**174**	Pn	**Pn**	**12 56 37.2**	**-0.8**
TDL	**Tradedollar La**	**4.86**	**338**		**Pn**	**12 56 43.3**	**-2.9**
SPR3	**Spring Creek 3**	**4.95**	**124**	Pn	**Pn**	**12 56 48.4**	**+0.7**
SPR3				IAML		12 58 16.3	
	comp=N,6.4nm,0.8s						
SPR3				IAML		12 58 17.8	
	comp=E,6.2nm,0.8s						
BGU	**Big Grassy Mou**	**5.05**	**98**	Pn	**Pn**	**12 56 48.4**	**-0.5**
BGU				IAML		12 58 23.1	
	comp=E,5.2nm,1.4s						
BGU				IAML		12 58 52.2	
	comp=N,5.1nm,4.9s						
HVU	**Hansel Valley**	**5.12**	**89**	Pn	**Pn**	**12 56 51.7**	**+1.8**
PSUT	**Pine Spring**	**5.53**	**125**	Pn	**Pn**	**12 56 56.6**	**+1.0**
PRN	**Pahroc Range**	**5.68**	**140**	Pn	**Pn**	**12 56 57.4**	**-0.3**

*ATH **25** 13:09:05.2, 37.09N×28.45E, h82km±10km, ML3.4/2, Error ellipse: s-maj=10.9km s-min=2.4km az=187.0*
*ISK **25** 13:09:06.3, 37.15N×28.54E, h6km, ML3.6/30*
*DDA **25** 13:09:06.1, 37.14N×28.53E, h12km, MW3.7*
*THE **25** 13:09:06.5, 37.13N×28.56E, h7km, ML3.5/2, Error ellipse: s-maj=0.8km s-min=0.4km az=200.0*
*HLW **25** 13:09:14.9, 36.48N×28.57E, h7km±14km, Md3.5, ML3.7*

ISC 25 13:09:06.6±0.8, 37.16N±0.02×28.54E±0.01, h12km±6km, n117, σ1827/153, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MULA	**Mugla, Merkez-**	**0.20**	**299**	*i* P	**Pg**	**13 09 10.8**	**-0.2**
MULA				*i* S	**Sg**	**13 09 13.9**	**-0.1**
YER	**Yerkesik**	**0.20**	**263**	P	**Pg**	**13 09 11.2**	**+0.1**
YER				S	**Sg**	**13 09 14.9**	**+0.8**
YER	**Yerkesik**	**0.20**	**263**	PG	**Pg**	**13 09 11.2**	**+0.1**
YER				SG	**Sg**	**13 09 14.6**	**+0.5**
DALY	**Dalyan (Mula)**	**0.35**	**165**	PG	**Pb**	**13 09 13.6**	**-1.2**
DALY				SG	**Sb**	**13 09 18.9**	**-1.4**
TAVA	**DENIZLI_Tavas**	**0.43**	**44**	*i* P	**Pg**	**13 09 14.9**	**-0.2**
TAVA				*i* S	**Sg**	**13 09 20.7**	**-0.1**
TURN	**Turunc**	**0.45**	**212**	*i* P	**Pg**	**13 09 14.7**	**-0.7**
TURN				*i* S	**Sg**	**13 09 21.3**	**-0.1**
TURN	**Turunc**	**0.45**	**212**	PG	**Pg**	**13 09 14.5**	**-0.9**
TURN				SG	**Sb**	**13 09 21.9**	**-1.2**
MLSB	**Milas**	**0.62**	**283**	PG	**Pg**	**13 09 18.9**	**+0.2**
CAEL	**Denizli, Camel**	**0.63**	**93**	*i* P	**Pg**	**13 09 18.4**	**-0.4**
CAEL				*i* S	**Sb**	**13 09 30.1**	**+1.7**
CAME	**Cameli-Denizli**	**0.65**	**109**	PG	**Pg**	**13 09 18.6**	**-0.6**
CAME				SG	**Sb**	**13 09 28.8**	**-0.2**
FETY	**Fethiye**	**0.68**	**140**	P	**Pg**	**13 09 19.1**	**-0.7**
FETY				S	**Sb**	**13 09 28.9**	**-0.9**
FETY	**Fethiye**	**0.68**	**140**	PG	**Pg**	**13 09 19.3**	**-0.5**
AYDN	**Tasoluk**	**0.73**	**314**	*i* P	**Pg**	**13 09 20.7**	**+0.1**
AYDN				*i* S	**Sg**	**13 09 29.4**	**-0.8**
GOLH	**Golhisar**	**0.82**	**84**	*i* P	**Pg**	**13 09 18.5**	**-4.0**
GOLH				*i* S	**Sg**	**13 09 30.7**	**-2.6**
BDRM	**Kayabasi**	**0.88**	**264**	*i* P	**Pg**	**13 09 22.9**	**-0.7**
BDRM				*i* S	**Sg**	**13 09 33.7**	**-1.4**
AYDB	**Zeytinkoy-Aydi**	**0.94**	**327**	PG	**Pg**	**13 09 24.8**	**0.0**
AYDB				SG	**Sb**	**13 09 38.4**	**+1.0**
BODT	**Bodrum**	**0.99**	**265**	P	**Pg**	**13 09 25.0**	**-0.6**
BODT				S	**Sb**	**13 09 39.7**	**+1.1**
BODT	**Bodrum**	**0.99**	**265**	PG	**Pg**	**13 09 25.0**	**-0.6**
BODT				SG	**Sn**	**13 09 40.1**	**-0.1**
ARG	**Arkhangelos**	**1.00**	**200**	P	**Pg**	**13 09 24.9**	**-0.9**
ARG				S	**Sb**	**13 09 39.0**	**+0.1**
	1μm,0.5s						
ARG	**Arkhangelos**	**1.00**	**200**	P	**Pb**	**13 09 25.4**	**-0.4**
ARG				S	**Sn**	**13 09 39.8**	**-0.6**
ARG				AML	AML	13 09 45.1	
	comp=N,2023μm,0.5s						
ARG				AML	AML	13 09 45.8	
	comp=E,2523μm,0.4s						
ARG	**Arkhangelos**	**1.00**	**200**	PG	**Pg**	**13 09 24.7**	**-1.1**
ARG				SG	**Sn**	**13 09 40.1**	**-0.3**
YKAV	**Yalikavak-Bodr**	**1.00**	**268**	PG	**Pb**	**13 09 25.9**	**-0.1**
DIDI	**Didim-Aydin**	**1.06**	**282**	PG	**Pb**	**13 09 27.0**	**+0.2**
DDIM	**Aydin, Didim**	**1.08**	**286**	*i* P	**Pg**	**13 09 26.5**	**-0.8**
DDIM				*i* S	**Sb**	**13 09 42.4**	**+1.2**
GCAM	**G?zelcaml?**	**1.17**	**298**	*i* P	**Pg**	**13 09 28.5**	**-0.6**
GCAM				*i* S	**Sg**	**13 09 43.6**	**-0.7**
GCAM	**G?zelcaml?**	**1.17**	**298**	PN	**Pn**	**13 09 29.4**	**+0.6**
ELL	**Elmali**	**1.17**	**110**	PN	**Pn**	**13 09 29.1**	**+0.1**
NIS1	**Nisyros Isl.**	**1.22**	**243**	P	**Pb**	**13 09 28.4**	**-1.3**
NIS1				S	**Sg**	**13 09 45.4**	**-0.6**
	comp=E,5μm,0.5s						
NIS1	**Nisyros Isl.**	**1.22**	**243**	PN	**Pn**	**13 09 30.3**	**+0.7**
NISR	**Nisiros**	**1.25**	**245**	P	**Pn**	**13 09 29.1**	**-0.9**
NISR	**Nisiros**	**1.25**	**245**	P	**Pn**	**13 09 29.4**	**-0.5**
NISR				AML	AML	13 09 53.5	
	comp=E,4438μm,0.6s						
NISR				AML	AML	13 09 55.8	
	comp=N,3167μm,0.8s						
AKAS	**Kas**	**1.26**	**137**	*i* P	**Pn**	**13 09 30.6**	**+0.4**
AKAS				*i* S	**Sn**	**13 09 51.4**	**+4.2**
AKAS	**Kas**	**1.26**	**137**	PN	**Pn**	**13 09 30.3**	**+0.1**
KSL	**Kastellorizon**	**1.31**	**140**	P	**Pg**	**13 09 31.3**	**-0.5**
KOSK	**Kos Island**	**1.31**	**252**	PN	**Pg**	**13 09 31.9**	**+0.1**
BRDR	**BURDUR-Merkez**	**1.33**	**66**	P	**Pg**	**13 09 31.8**	**-0.3**
BRDR				*i* S	**Sn**	**13 09 50.4**	**+1.7**
MANT	**Manisa**	**1.33**	**1**	*i* P	**Pn**	**13 09 30.9**	**-0.3**
MANT				*i* S	**Sb**	**13 09 49.2**	**+0.4**
KULA	**Kula-Manisa**	**1.36**	**4**	P	**Pn**	**13 09 30.8**	**-0.7**
KULA				S	**Sb**	**13 09 49.0**	**-0.4**
KULA	**Kula-Manisa**	**1.36**	**4**	PN	**Pb**	**13 09 32.3**	**+0.3**
KHL	**Karahalli**	**1.40**	**34**	PN	**Pb**	**13 09 32.9**	**+0.1**
BASM	**Basmaki-Afyon**	**1.42**	**57**	PN	**Pb**	**13 09 33.3**	**+0.2**
DEMR	**Demre-Antalya**	**1.43**	**130**	PN	**Pg**	**13 09 33.4**	**-0.7**
KORT	**Korkueli**	**1.46**	**96**	PN	**Pb**	**13 09 33.7**	**-0.1**
SMG	**Samos**	**1.46**	**293**	P	**Pn**	**13 09 31.7**	**-1.1**
SMG	**Samos**	**1.46**	**293**	P	**Pn**	**13 09 32.7**	**-0.1**
GOMA	**Golmarmara-Man**	**1.62**	**343**	PN	**Pn**	**13 09 36.2**	**+1.2**
BCK	**Bucak**	**1.66**	**79**	PN	**Pb**	**13 09 36.7**	**-0.5**
AKUM	**Antalya-Kumluc**	**1.67**	**119**	*i* P	**Pg**	**13 09 37.9**	**-0.8**
AKUM				*i* S	**Sg**	**13 10 02.8**	**+2.4**
KZIL	**AFYON_Kizioren**	**1.68**	**49**	*i* P	**Pn**	**13 09 36.5**	**+0.6**
ISP	**Isparta**	**1.71**	**67**	PN	**Pb**	**13 09 37.7**	**-0.4**
ANTB	**Antalya**	**1.71**	**98**	PN	**Pb**	**13 09 37.5**	**-0.5**
AKHS	**Akhisar**	**1.81**	**342**	*i* P	**Pn**	**13 09 37.1**	**-0.5**
AKHS				*i* S	**Sn**	**13 10 02.3**	**+1.7**
AKS	**Akhisar**	**1.81**	**342**	PN	**Pn**	**13 09 39.1**	**+1.4**
DEMI	**Demirci**	**1.89**	**4**	*i* P	**Pn**	**13 09 38.7**	**-0.1**
DEMI				*i* S	**Sn**	**13 10 02.2**	**-0.4**
SHAP	**Saphane-Kutahy**	**1.94**	**16**	PN	**Pn**	**13 09 40.6**	**+1.1**
ZEYE	**Izmir, Urla-Ze**	**1.94**	**304**	*i* P	**Pn**	**13 09 39.0**	**-0.4**
URLA	**Izmir**	**1.95**	**309**	*i* P	**Pn**	**13 09 39.8**	**+0.2**
URLA	**Izmir**	**1.95**	**309**	PN	**Pn**	**13 09 40.9**	**+1.3**
SIMA	**Simav-Kutahya**	**1.95**	**10**	PN	**Pn**	**13 09 40.8**	**+1.1**
SMAA	**Simav-Kutahya**	**1.97**	**10**	PN	**Pn**	**13 09 41.3**	**+1.4**
BAGO	**Egridir - ISPA**	**1.97**	**64**	*i* P	**Pn**	**13 09 41.1**	**+1.1**
GEDZ	**Gediz**	**2.00**	**20**	PN	**Pn**	**13 09 41.5**	**+1.1**
GDZ	**Gediz**	**2.07**	**21**	*i* P	**Pn**	**13 09 41.4**	**+0.1**
FOCM	**Foa**	**2.11**	**318**	PN	**Pn**	**13 09 43.2**	**+1.5**
SHUT	**Suhut-Afyon**	**2.12**	**48**	PN	**Pn**	**13 09 43.4**	**+1.4**
KRBN	**Karaburun**	**2.12**	**313**	PN	**Pn**	**13 09 43.2**	**+1.2**
AFYO	**Afyonkarahisar**	**2.14**	**40**	*i* P	**Pb**	**13 09 44.3**	**-1.1**
ZEDA	**zmir-Bergama**	**2.14**	**328**	*i* P	**Pn**	**13 09 42.0**	**-0.2**
CAND	**Candarli**	**2.26**	**323**	PN	**Pn**	**13 09 45.1**	**+1.4**
DKL	**Dikili**	**2.30**	**327**	PN	**Pn**	**13 09 45.3**	**+0.9**
STEP	**BALIKESIR_Sava**	**2.31**	**344**	*i* P	**Pn**	**13 09 44.6**	**+0.1**
TVSB	**Tavsanli**	**2.40**	**17**	PN	**Pn**	**13 09 47.2**	**+1.4**
APE	**Apeiranthos**	**2.41**	**269**	P	**Pn**	**13 09 45.9**	**0.0**
APE	**Apeiranthos**	**2.41**	**269**	P	**Pn**	**13 09 46.9**	**+1.0**
APE	**Apeiranthos**	**2.41**	**269**	PN	**Pn**	**13 09 47.5**	**+1.6**
YVAC	**Isparta, Yalva**	**2.41**	**62**	*i* P	**Pn**	**13 09 47.7**	**+1.6**
DURS	**Dursunbey**	**2.44**	**359**	*i* P	**Pn**	**13 09 46.3**	**-0.1**
BALB	**Balikesir**	**2.53**	**348**	PN	**Pn**	**13 09 49.4**	**+1.9**
ANDZ	**Kutahya, Merke**	**2.58**	**24**	*i* P	**Pn**	**13 09 48.5**	**+0.2**
SEDI	**Konya, Seydise**	**2.58**	**83**	*i* P	**Pb**	**13 09 51.2**	**-1.7**
SANT	**Santorini**	**2.59**	**253**	PN	**Pn**	**13 09 49.6**	**+1.2**
BUHA	**Balikesir, Bur**	**2.61**	**334**	*i* P	**Pn**	**13 09 48.9**	**+0.3**
DOGA	**KONYA_Doganhis**	**2.66**	**68**	*i* P	**Pn**	**13 09 50.5**	**+1.1**
PRK	**Paraskevi**	**2.74**	**320**	P	**Pn**	**13 09 52.2**	**+1.7**
ZKR	**Zakros**	**2.77**	**223**	P	**Pn**	**13 09 52.8**	**+1.9**
ZKR	**Zakros**	**2.77**	**223**	PN	**Pn**	**13 09 52.7**	**+1.8**
KOCA	**Canakkale, Ayv**	**3.01**	**322**	*i* P	**Pn**	**13 09 54.2**	**+0.2**
ULDT	**Uludag**	**3.02**	**9**	*i* P	**Pn**	**13 09 53.3**	**-1.1**
BORA	**Eskisehir**	**3.10**	**28**	*i* P	**Pn**	**13 09 56.3**	**+0.8**
IGD	**Bursa**	**3.14**	**9**	*i* P	**Pn**	**13 09 57.0**	**+1.0**
BILE	**Bilecik/Merkez**	**3.18**	**19**	*i* P	**Pn**	**13 09 58.0**	**+1.5**
EZN	**Ezine**	**3.18**	**328**	P	**Pn**	**13 09 56.1**	**-0.3**
BOZC	**Bozcaada**	**3.31**	**325**	*i* P	**Pn**	**13 09 59.5**	**+1.2**
KKBE	**Karaman, Kazim**	**3.52**	**88**	*i* P	**Pn**	**13 10 04.5**	**+3.3**
KKBE				*i* S	**Sn**	**13 10 44.9**	**+2.1**
ERMK	**Ermenek**	**3.54**	**97**	*i* P	**Pn**	**13 10 05.2**	**+3.5**
ERMK				*i* S	**Sb**	**13 10 49.8**	**-2.6**
ALIN	**Konya, Altinte**	**3.62**	**70**	*i* P	**Pn**	**13 10 00.9**	**-1.8**
LIA	**Limnos Island**	**3.79**	**317**	P	**Pn**	**13 10 04.7**	**-0.2**
KESN	**Edirne-Kesan**	**3.94**	**339**	*i* P	**Pn**	**13 10 07.5**	**+0.3**
KESN				*i* S	**Sn**	**13 10 52.5**	**-1.1**
SAHE	**Sakarya_HENDEK**	**4.11**	**25**	*i* P	**Pn**	**13 10 10.5**	**+1.3**
GULN	**MERSIN_Gulnar**	**4.14**	**102**	*i* P	**Pn**	**13 10 14.4**	**+4.8**
VIZE	**Kirklareli, Vi**	**4.45**	**353**	*i* P	**Pn**	**13 10 13.3**	**-0.6**
VIZE				*i* S	**Sn**	**13 11 05.6**	**0.0**
BCAM	**Yenicaga**	**4.57**	**36**	*i* P	**Pn**	**13 10 17.4**	**+1.7**
RDO	**Rodhopi**	**4.62**	**331**	P	**Pn**	**13 10 16.0**	**-0.2**
KIRS	**Kirehir-Merke**	**4.68**	**63**	*i* P	**Pn**	**13 10 17.5**	**+0.4**
KIRK	**Kirklareli**	**4.75**	**347**	*i* P	**Pn**	**13 10 17.7**	**-0.3**
ARMN	**Kirklareli, Me**	**4.78**	**350**	*i* P	**Pn**	**13 10 17.3**	**-1.1**
ARMN				*i* S	**Sn**	**13 11 11.4**	**-2.3**
DEVR	**Zonguldak/Devr**	**4.79**	**33**	*i* P	**Pn**	**13 10 19.8**	**+1.2**
GULE	**Gulek**	**4.98**	**87**	*i* P	**Pn**	**13 10 24.7**	**+3.4**
ELDT	**Eldivan**	**5.06**	**47**	*i* P	**Pn**	**13 10 24.3**	**+1.8**
DELI	**KIRIKKALE**	**5.08**	**54**	*i* P	**Pn**	**13 10 24.7**	**+2.0**
DELI				*i* S	**Sn**	**13 11 20.9**	**-0.5**
CDAG	**Cicekdag**	**5.20**	**60**	*i* P	**Pn**	**13 10 26.3**	**+1.9**
CDAG				*i* S	**Sn**	**13 11 24.3**	**-0.1**
SLUM	**Salum**	**6.29**	**207**	P	**Pn**	**13 10 40.0**	**+0.8**
	baz=211						
SLUM				AMP		13 11 00.0	
	baz=211						
SLUM				S	Sn	13 11 42.0	-8.9
	baz=211						
HNAT	**Natroun**	**7.70**	**166**	P	**Pn**	**13 10 58.5**	**-0.2**
	baz=165						
KOT	**Kottamia**	**7.72**	**158**	P	**Pn**	**13 10 59.4**	**+0.6**
	baz=156						
HSAF	**As Saff**	**7.93**	**161**	P	**Pn**	**13 11 02.2**	**+0.5**
	baz=159						
SUZ	**Suez**	**8.13**	**153**	P	**Pn**	**13 11 04.7**	**+0.2**
	baz=150						
SWA2		**8.30**	**199**	P	**Pn**	**13 11 07.3**	**+0.5**
	baz=201						

*IDC **25** 13:21:27.9±1.3, 31.10S×72.44W, h0km, mb3.9/4, mb1 4.1/7, mb1mx3.9/24, mbtmp4.0/7, ML3.8/3, MS2.8/1, Ms1 2.8/1, ms1mx2.4/21, Error ellipse: s-maj=43.8km s-min=25.0km az=93.0*

ISC 25 13:21:33.0±1.2, 31.1S±0.1×72.4W±0.3, h35km, n9, σ0.954/8, mb3.9/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**9.71**	**172**	Pn	**Pn**	**13 23 49.8**	**-0.5**
	0.2nm,0.3s,baz=340,slow=14,SNR=4.8						
CPUP	**Villa Florida**	**14.05**	**74**	LR	LR	13 30 50.5	
	comp=Z,38nm,19.8s,baz=222,slow=40						
LPAZ	**La Paz**	**15.27**	**16**	Pn	**Pn**	**13 25 06.1**	**-0.4**
	0.2nm,0.3s,baz=191,slow=5.3,SNR=8.8						
SIV	**San Ignacio**	**18.27**	**37**	P	**P**	**13 25 43.5**	**-0.2**
	0.7nm,0.3s,baz=240,slow=12,SNR=51						
BDFB	**Brasilia**	**27.08**	**61**	P	**P**	**13 27 12.2**	**-0.4**
	3.2nm,0.6s,baz=276,slow=12,SNR=3.4						
SNAA	**Sanae**	**54.37**	**159**	P	**P**	**13 30 56.2**	**+0.3**
	1.4nm,0.8s,baz=265,slow=7.0,SNR=5.6						
TXAR	**Lajitas Array**	**67.08**	**331**	P	**P**	**13 32 22.9**	**0.0**
	0.2nm,0.6s,baz=180,slow=8.8,SNR=2.4						
TORD	**Torodi Ar. Bea**	**83.52**	**71**	P	**P**	**13 33 58.5**	**+0.9**
	0.5nm,0.8s,baz=248,slow=4.8,SNR=2.6						
ZALV	**Zalesovo Beam**	**151.91**	**29**	PKPbc	**PKiKP**	**13 41 24.1**	**+0.1**
	1.7nm,0.5s,baz=302,slow=2.8,SNR=5.3						

*MAN **25** 13:25:48.4, 13.88N×120.66E, h1km, mb3.9, ML2.7, MS2.3*

IDC 25 13:25:14.9±7.5, 13.18N×121.54E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.4/55, mbtmp3.7/5, MS3.4/1, Ms1 3.4/1, ms1mx2.4/34, Error ellipse: s-maj=171.2km s-min=146.3km az=37.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**18.16**	**186**	LR	LR	13 36 15.7	
	comp=Z,105nm,18.1s,baz=252,slow=36						
SONM	**Songino Array**	**36.79**	**343**	P	P	13 32 24.6	+0.1
	0.3nm,0.4s,baz=154,slow=8.3,SNR=3.1						
MKAR	**Makanchi Array**	**46.93**	**323**	P	P	13 33 47.5	+0.1
	0.2nm,0.3s,baz=122,slow=8.5,SNR=7.3						
ZALV	**Zalesovo Beam**	**49.89**	**332**	P	P	13 34 09.2	-0.8
	0.7nm,0.4s,baz=116,slow=6.6,SNR=4.2						
BVAR	**Borovoye Array**	**56.66**	**326**	P	P	13 34 59.9	0.0
	0.3nm,0.3s,baz=132,slow=12,SNR=2.2						
ARCES	**ARCESS Array B**	**79.86**	**339**	P	P	13 37 25.1	+0.1
	1.2nm,1.0s,baz=83,slow=7.4,SNR=5.6						

*SOME **25** 13:25:37.4, 42.18N×81.15E, h10km*
*KRNET **25** 13:25:37.0±0.1, 42.52N×81.49E, mb3.4*
*NNC **25** 13:25:40.8±1.6, 42.29N×81.13E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=10.8km s-min=9.7km az=163.0*

ISC 25 13:25:40.8±2.0, 42.34N±0.06×81.06E±0.06, h5km±12km, n57, σ221/89, 20C-8D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.22**	**335**	*e*P	**Pn**	**13 26 04.1**	**-0.7**
	16nm,0.2s						
KTMS				*e*S	**Sn**	**13 26 23.2**	**+1.4**
	66nm,0.3s						
KTMS	**Ketmen**	**1.22**	**335**	P	**Pn**	**13 26 04.1**	**-0.7**
	16nm,0.2s						
KTMS				S	**Sn**	**13 26 23.2**	**+1.4**
	66nm,0.3s						
SHLS	**Shalkode**	**1.43**	**305**	⇑*i*P	**Pn**	**13 26 04.4**	**-3.3**
	48nm,0.2s						
SHLS				*e*S	**Sn**	**13 26 23.7**	**-3.3**
	151nm,0.4s						
SHLS	**Shalkode**	**1.43**	**305**	P	**Pn**	**13 26 04.4**	**-3.3**
	48nm,0.2s						
SHLS				S	**Sn**	**13 26 23.7**	**-3.3**
	143nm,0.3s						
PDGK	**Podgornoye**	**1.52**	**311**	P	**Pn**	**13 26 09.7**	**+0.8**
	6.3nm,0.3s						
PDGK				S	**Sg**	**13 26 33.1**	**+3.4**
	32nm,0.4s						
PDGK	**Podgornoye**	**1.52**	**311**	⇓Pn	**Pn**	**13 26 09.4**	**+0.6**
	10nm,0.4s						
PDGK				⇓Sn	**Sg**	**13 26 34.0**	**+4.3**
	45nm,0.5s						
PRZ	**Przheval'sk**	**1.97**	**275**	⇑*e*P	**Pb**	**13 26 18.1**	**+0.7**
	baz=70						
PRZ				⇑*i*S	**Sg**	**13 26 48.1**	**+3.8**
	baz=70						
KPKS	**Kokpek**	**2.08**	**304**	*e*P	**Pb**	**13 26 19.5**	**+0.4**
	84nm,0.3s						
KPKS				*e*S	**Sg**	**13 26 49.9**	**+2.4**
	550nm,0.4s						
SATY	**Saty**	**2.08**	**291**	*e*P	**Pb**	**13 26 20.2**	**+1.0**
	32nm,0.4s						
SATY				*e*S	**Sg**	**13 26 51.1**	**+3.3**
	120nm,0.2s						
SATY	**Saty**	**2.08**	**291**	Pg	**Pb**	**13 26 20.3**	**+1.0**
	27nm,0.2s						
SATY				Lg	Lg	13 26 51.1	
	120nm,0.2s						
DJR	**Jarkent**	**2.20**	**336**	*e*P	**Pb**	**13 26 21.5**	**+0.4**
	2.3nm,0.5s						
DJR				*e*S	**Sg**	**13 26 53.6**	**+2.2**
	24nm,0.4s						
DJR	**Jarkent**	**2.20**	**336**	Pg	**Pb**	**13 26 21.5**	**+0.4**
	2.3nm,0.5s						
DJR				Lg	Lg	13 26 53.6	
	24nm,0.5s						
KURS	**Kuram**	**2.41**	**299**	*e*P	**Pb**	**13 26 25.9**	**+1.1**
	17nm,0.5s						
KURS				*e*S	**Sg**	**13 27 00.9**	**+2.6**
	54nm,0.7s						
KURS	**Kuram**	**2.41**	**299**	Pg	**Pb**	**13 26 25.9**	**+1.1**
	17nm,0.5s						
KURS				Lg	Lg	13 27 00.9	
	54nm,0.6s						
TARG	**Taragay, Kyrgy**	**2.50**	**257**	⇑*i*P	**Pb**	**13 26 26.2**	**-0.3**
	baz=55						
TARG				⇑*i*S	**Sg**	**13 27 02.2**	**+1.1**
	baz=55						
ANVS	**Anan'yevo**	**2.54**	**281**	⇑*e*P	**Pb**	**13 26 26.0**	**-1.1**
	baz=77	

KUU				Lg	Lg	13 27 42.6	
	25nm,0.5s						
BOOM	**Boomskoye usch**	**3.79**	**274**⇑	*eP*	**Pn**	**13 26 43.5**	**+3.3**
	baz=71						
BOOM				⇑*iS*	**Sb**	**13 27 32.0**	**-2.7**
	baz=71						
KST	**Kastek**	**3.82**	**282**	*eP*	**Pb**	**13 26 50.0**	**+1.1**
KST	5.3nm,0.4s			*eS*	**Sg**	**13 27 42.3**	**-1.3**
	8.0nm,0.6s						
KST	**Kastek**	**3.82**	**282**	Pg	**Pb**	**13 26 50.0**	**+1.1**
KST	5.4nm,0.5s			Lg	Lg	13 27 42.3	
	7.0nm,0.5s						
DGS	**Degeres**	**3.99**	**285**	*eP*	**Pb**	**13 26 52.9**	**+1.1**
DGS	7.7nm,0.2s			*eS*	**Sg**	**13 27 47.5**	**-1.6**
	27nm,0.5s						
DGS	**Degeres**	**3.99**	**285**	Pg	**Pb**	**13 26 52.9**	**+1.1**
DGS	7.7nm,0.3s			Lg	Lg	13 27 47.5	
	26nm,0.7s						
TKM2	**Tokmak 2**	**4.07**	**280**⇑	*eP*	**Pn**	**13 26 47.3**	**+3.3**
	baz=77						
TKM2				⇑*iS*	**Sb**	**13 27 38.2**	**-4.6**
	baz=77						
TKM2	**Tokmak 2**	**4.07**	**280**	⇑Pg	**Pg**	**13 26 57.9**	**-1.0**
TKM2	4.9nm,0.7s			⇑Lg	Lg	13 27 51.1	
	6.3nm,0.4s						
KRBS	**Karabastau**	**4.17**	**291**	*eP*	**Pb**	**13 26 56.0**	**+1.2**
KRBS	1.9nm,0.3s			*eS*	**Sg**	**13 27 52.7**	**-2.2**
	12nm,0.4s						
KRBS	**Karabastau**	**4.17**	**291**	Pg	**Pb**	**13 26 56.0**	**+1.2**
KRBS	5.0nm,0.4s			Lg	Lg	13 27 52.7	
	12nm,0.4s						
KZA	**Kyzart**	**4.32**	**268**⇑	*eP*	**Pn**	**13 26 51.2**	**+3.6**
	baz=67						
KZA				⇑*iS*	**Sb**	**13 27 45.4**	**-4.8**
	baz=67						
MAKZ	**Makanchi**	**4.52**	**8**	⇑Pn	**Pn**	**13 26 51.9**	**+1.9**
MAKZ	1.6nm,0.7s			⇑Lg	Lg	13 28 01.4	
	22nm,0.8s						
MK31	**Makanchi Array**	**4.54**	**11**	Pn	**Pn**	**13 26 51.6**	**+1.4**
MK31	0.6nm,0.5s,baz=194,slow=13,SNR=22			⇑Lg	Lg	13 28 05.3	
	16nm,0.6s,baz=200,slow=28,SNR=13						
SGDS	**Sogindy**	**4.85**	**285**	Pg	**Pb**	**13 27 07.6**	**+1.3**
SGDS	3.0nm,0.8s			Lg	Lg	13 28 12.7	
	5.4nm,0.7s						
AAK	**Ala-Archa**	**4.86**	**276**	⇓Pg	**Pb**	**13 27 10.8**	**+4.2**
AAK	1.5nm,0.3s			⇓Lg	Lg	13 28 16.5	
	11nm,0.8s						
ZSN	**Zaisan**	**5.78**	**27**	*eP*	**Pb**	**13 27 23.8**	**+1.6**
ZSN	2.6nm,0.1s			*eS*	**Sg**	**13 28 40.1**	**-6.3**
	5.8nm,0.1s						
MRKS	**Merke**	**5.80**	**277**	*eP*	**Pb**	**13 27 27.1**	**+4.6**
MRKS	1.8nm,0.3s			*eS*	**Sg**	**13 28 45.8**	**-1.3**
	3.6nm,0.4s						
MRKS	**Merke**	**5.80**	**277**	Pg	**Pb**	**13 27 27.1**	**+4.6**
MRKS	1.8nm,0.4s			Lg	Lg	13 28 45.8	
	3.5nm,0.4s						
KK31	**Karatay Array**	**7.80**	**279**	⇑Pg	**Pg**	**13 28 07.2**	**-3.1**
KK31	0.2nm,0.3s			⇓Lg	Lg	13 29 52.6	
	1.0nm,0.5s,baz=90,slow=29,SNR=4.8						

*IDC **25** 13:28:50.5±0.6,7.74S×110.56E,h0km,mb4.0/15, mb1 4.1/16,mb1mx3.9/47,mbtmp4.0/16,ML3.5/1,MS3.1/9, Ms1 3.1/9,ms1mx2.9/32,Error ellipse: s-maj=24.9km s-min=14.1km az=64.0*

*DJA **25** 13:28:53.2±0.2,8.6S±2.2°×11.1E±°,h10km,M4.5/25, mb4.7/11,mB5.0/5,MLv4.6/25,Mw(mB)4.3/5*

*NEIC **25** 13:28:53.3±2.1,7.99S±0.04×110.43E±0.05,h11km±4km, mb4.4/17,Error ellipse: s-maj=7.2km s-min=5.7km az=68.0*

ISC 25 13:28:53.4±0.7,**7.94S**±0.05×**110.51E**±0.03,**h18**km±4km, **n80**,σ1ᵍ**58**/90,**mb4.1**/19,**MS3.1**/6,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**0.03**	**38**	Pg	**Pg**	**13 28 56.4**	**-0.2**
UGM				Sg	**Sg**	**13 28 58.4**	**-0.3**
UGM	**Wanagama**	**0.03**	**38**	P	**Pg**	**13 28 56.4**	**-0.2**
UGM				S	**Sg**	**13 28 58.6**	**-0.1**
YOGI	**Yogyakarta**	**0.24**	**299**	P	**Pg**	**13 28 58.7**	**-0.2**
YOGI				S	**Sg**	**13 29 03.1**	**+0.4**
PCJI	**Pacitan**	**0.71**	**111**	P	**Pg**	**13 29 06.7**	**-0.8**
PCJI				S	**Sg**	**13 29 16.2**	**-0.8**
SMRI	**Semarang**	**0.88**	**356**	Pg	**Pn**	**13 29 11.8**	**+0.7**
SMRI				Sg	**Sn**	**13 29 24.2**	**+0.8**
SMRI	**Semarang**	**0.88**	**356**	P	**Pn**	**13 29 11.8**	**+0.7**
SMRI				S	**Sn**	**13 29 24.5**	**+1.1**
SJI	**Sawahan**	**1.27**	**81**	P	**Pn**	**13 29 15.5**	**-0.9**
PWJI	**Pagerwojo**	**1.29**	**94**	P	**Pn**	**13 29 15.6**	**-1.0**
PWJI				S	**Sb**	**13 29 30.8**	**-2.6**
SCJI	**Gunung Srandil**	**1.35**	**281**	P	**Pn**	**13 29 15.4**	**-2.0**
CTJI	**Waduk Cacaban**	**1.60**	**305**	P	**Pb**	**13 29 22.5**	**0.0**
KPJI	**Karang Pucung**	**1.67**	**291**	P	**Pn**	**13 29 22.8**	**+0.9**
TBJI	**Tambak Boyo**	**1.73**	**50**	P	**Pn**	**13 29 23.2**	**+0.5**
TBJI				S	**Sn**	**13 29 46.7**	**+2.3**
KRKI	**Karangkates**	**1.94**	**97**	P	**Pn**	**13 29 26.7**	**+1.1**
KRKI				S	**Sn**	**13 29 52.1**	**+2.6**
CMJI	**Cimerak**	**2.04**	**274**	P	**Pn**	**13 29 25.9**	**-1.1**
GRJI	**Gresik**	**2.20**	**63**	P	**Pn**	**13 29 30.4**	**+1.2**
CISI	**Cisompet, Garu**	**2.69**	**278**	Pn	**Pn**	**13 29 36.4**	**+0.4**
CISI	**Cisompet, Garu**	**2.69**	**278**	P	**Pn**	**13 29 36.7**	**+0.7**
GMJI	**Gumukmas**	**2.93**	**97**	P	**Pn**	**13 29 41.4**	**+2.2**
GMJI				S	**Sn**	**13 30 15.9**	**+1.9**
BWJI	**Bawean**	**2.98**	**46**	P	**Pn**	**13 29 42.7**	**+2.9**
LEM	**Lembang**	**3.07**	**291**	Pn	**Pn**	**13 29 44.1**	**+2.8**
	32nm,0.3s,baz=61,slow=9.3,SNR=27						
LEM				Sn	**Sn**	**13 30 20.6**	**+2.9**
	28nm,0.3s,baz=114,slow=22,SNR=5.1						
LEM				LR	LR	13 30 40.9	
	comp=Z,126nm,21.7s,baz=76,slow=36						
LEM	**Lembang**	**3.07**	**291**	P	**Pn**	**13 29 43.7**	**+2.4**
CNJI	**Cibinong**	**3.40**	**280**	P	**Pn**	**13 29 46.8**	**+1.1**
KMMI	**Kalianget**	**3.54**	**76**	P	**Pn**	**13 29 48.4**	**+0.8**
JAGI	**Jajag, Banyuwa**	**3.65**	**99**	Pn	**Pn**	**13 29 51.5**	**+2.4**
JAGI	**Jajag, Banyuwa**	**3.65**	**99**	P	**Pn**	**13 29 51.1**	**+2.0**
ABJI	**Asem Bagus**	**3.70**	**88**	P	**Pn**	**13 29 51.8**	**+2.1**
BYJI	**Banyuwangi**	**3.82**	**94**	P	**Pn**	**13 29 55.5**	**+4.0**
CBJI	**Citeko**	**3.93**	**292**	P	**Pn**	**13 29 53.0**	**+0.1**
DBJI	**Dramaga**	**3.97**	**290**	P	**Pn**	**13 29 55.5**	**+2.0**
SKJI	**Sukabumi**	**4.02**	**283**	P	**Pn**	**13 29 57.2**	**+2.9**
SRBI	**Singaraja**	**4.66**	**92**	P	**Pn**	**13 30 04.3**	**+1.2**
XMIS	**Christmas Isla**	**5.42**	**242**	Pn	**Pn**	**13 30 11.1**	**-2.3**
TWSI	**Taliwang, Sumb**	**6.36**	**98**	P	**Pn**	**13 30 25.2**	**-1.2**
	0.2nm424nm56nm,0.7s						
MDSI	**Maura Dua**	**7.16**	**298**	P	**Pn**	**13 30 40.8**	**+3.4**
	0.1nm287nm34nm,0.9s						
PPBI	**Pangkal Pinang**	**7.20**	**323**	P	**Pn**	**13 30 40.8**	**+2.9**
	1.1nm15μm65nm,0.6s						
PLAI	**Plampang**	**7.25**	**98**	P	**Pn**	**13 30 40.8**	**+2.2**
	0.3nm639nm56nm,0.7s						
EGSI	**Enggano, Bengk**	**8.57**	**287**	P	**Pn**	**13 30 55.6**	**-1.1**
	72nm,0.9s						
EDFI	**Ende, Flores**	**11.10**	**95**	P	**Pn**	**13 31 32.1**	**+0.6**
	11nm,0.6s						
SOEI	**Soe**	**13.72**	**99**	Pn	**Pn**	**13 32 08.4**	**+1.0**
SOEI	**Soe**	**13.72**	**99**	P	**Pn**	**13 32 07.2**	**-0.2**
	56nm,0.9s						
MNSI	**Mandailing Nat**	**13.93**	**308**	P	**Pn**	**13 32 09.0**	**-1.1**
	935nm12nm,0.8s						
GIRL	**Giralia**	**15.06**	**167**	P	**Pn**	**13 32 28.8**	**+3.3**
PSI	**Prapat**	**15.72**	**312**	LR	LR	13 39 00.6	
	comp=Z,52nm,21.9s,baz=149,slow=39						
PSA00	**Pilbara Seismi**	**16.28**	**147**	Pn	**Pn**	**13 32 42.7**	**+1.3**
FITZ	**Fitzroy Crossi**	**17.86**	**126**	P	**Pn**	**13 33 00.8**	**-0.3**
	0.1nm,0.3s,baz=318,slow=11,SNR=2.1						
FITZ				LR	LR	13 39 16.7	
	comp=Z,59nm,21.1s,baz=300,slow=35						
FITZ	**Fitzroy Crossi**	**17.86**	**126**	P	**Pn**	**13 33 01.6**	**+0.4**
FITZ				IAmb	IAmb	13 33 09.4	
	comp=Z,12nm,0.9s						
KNRA	**Kununurra**	**19.45**	**115**	P	**P**	**13 33 20.0**	**+0.7**
KNRA				IAmb	IAmb	13 33 34.2	
	comp=Z,32nm,1.2s						
MTN	**Manton Dam**	**20.86**	**105**	P	**P**	**13 33 34.9**	**+0.2**
MTN				IAmb	IAmb	13 33 49.1	
	comp=Z,34nm,1.4s						
DAV	**Davao City (W)**	**21.17**	**46**	LR	LR	13 43 58.4	
	comp=Z,77nm,19.6s,baz=178,slow=43						
WB0	**Warramunga Arr**	**25.96**	**119**	P	**P**	**13 34 27.1**	**+1.8**
WB0				IAmb	IAmb	13 34 33.6	
	comp=Z,8.8nm,1.0s						
WRA	**Warramunga Arr**	**25.98**	**120**	P	**P**	**13 34 25.9**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=290,slow=11,SNR=21						
WRA				PcP	**PcP**	**13 37 53.3**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=299,slow=2.1,SNR=1.4						
WRA				LR	LR	13 46 33.1	
	comp=Z,32nm,18.1s,baz=95,slow=41						
WRA	**Warramunga Arr**	**25.98**	**120**	P	**P**	**13 34 26.8**	**+1.3**
WB2	**Warramunga Arr**	**26.00**	**120**	P	**P**	**13 34 26.9**	**+1.3**
WB2				IAmb	IAmb	13 34 40.8	
	comp=Z,8.2nm,0.8s						
PBKT	**Sadao Pong**	**26.11**	**339**	P	**P**	**13 34 25.9**	**-0.6**
WR0	**Warramunga Arr**	**26.16**	**120**	P	**P**	**13 34 27.8**	**+0.7**
WR0				IAmb	IAmb	13 34 37.5	
	comp=Z,12nm,1.0s						
AS31	**Alice Springs**	**27.34**	**128**	P	**P**	**13 34 38.7**	**+0.9**
ASAR	**Alice Springs**	**27.34**	**128**	P	**P**	**13 34 38.2**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=303,slow=8.1,SNR=21						
ASAR				PcP	**PcP**	**13 37 56.6**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=329,slow=1.6,SNR=5.4						
ASAR	**Alice Springs**	**27.34**	**128**	P	**P**	**13 34 38.7**	**+0.9**
FORT	**Forrest**	**28.04**	**146**	P	**P**	**13 34 42.5**	**-1.4**
CMAR	**Chiang Mai Arr**	**28.60**	**337**	P	**P**	**13 34 47.8**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=153,slow=8.6,SNR=4.5						
CMAR				LR	LR	13 46 40.8	
	comp=Z,34nm,19.3s,baz=210,slow=38						
CMAR	**Chiang Mai Arr**	**28.60**	**337**	P	**P**	**13 34 47.3**	**-1.6**
COEN	**Coen**	**32.60**	**103**	P	**P**	**13 35 23.7**	**-0.8**
STKA	**Stephens Creek**	**37.46**	**134**	P	**P**	**13 36 07.0**	**+0.9**
	comp=Z,2.7nm,0.6s,baz=315,slow=9.4,SNR=8.9						
STKA				LR	LR	13 51 59.2	
	comp=Z,35nm,19.3s,baz=241,slow=37						
STKA	**Stephens Creek**	**37.46**	**134**	P	**P**	**13 36 07.0**	**+0.9**
KSRS	**Korea Array**	**48.00**	**19**	P	**P**	**13 37 30.5**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=202,slow=8.9,SNR=4.5						
MJAR	**Matsushiro Arr**	**51.32**	**29**	P	**P**	**13 37 54.8**	**-2.1**
	comp=Z,2.5nm,0.9s,baz=189,slow=8.6,SNR=5.3						
SONM	**Songino Array**	**55.65**	**357**	P	**P**	**13 38 28.8**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=174,slow=7.8,SNR=4.9						
SONM	**Songino Array**	**55.65**	**357**	IAmb	IAmb	13 38 29.6	
	comp=Z,2.2nm,1.2s						
KLR	**Kul'dur**	**59.89**	**16**	P	**P**	**13 38 55.1**	**-3.1**
	comp=Z,1.4nm,0.6s,baz=22,slow=5.9,SNR=4.1						
MKAR	**Makanchi Array**	**60.00**	**338**	P	**P**	**13 38 57.0**	**-2.0**
	comp=Z,0.5nm,0.5s,baz=158,slow=7.3,SNR=6.9						
MKAR				LR	LR	14 08 02.7	
	comp=Z,21nm,19.3s,baz=158,slow=39						
MKAR	**Makanchi Array**	**60.00**	**338**	P	**P**	**13 38 58.7**	**-0.3**
OPO	**Ambohidratompo**	**62.27**	**253**	P	**P**	**13 39 16.2**	**+1.0**
	comp=Z,3.1nm,0.8s,baz=312,slow=5.0,SNR=2.5						
ZALV	**Zalesovo Beam**	**65.35**	**344**	P	**P**	**13 39 32.9**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=130,slow=7.8,SNR=1.4						
MAW	**Mawson**	**67.52**	**198**	P	**P**	**13 39 49.5**	**+1.3**
	comp=Z,1.5nm,0.7s,baz=354,slow=8.6,SNR=1.9						
MAW				LR	LR	14 04 08.7	
	comp=Z,22nm,22.0s,baz=250,slow=31						
VNDA	**Vanda**	**74.43**	**170**	P	**P**	**13 40 31.1**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=313,slow=6.6,SNR=6.4						
VNDA	**Vanda**	**74.43**	**170**	P	**P**	**13 40 31.0**	**+1.0**
VNDA				IAmb	IAmb	13 40 33.1	
	comp=Z,5.3nm,1.4s						
SEY	**Seymchan**	**77.56**	**18**	P	**P**	**13 40 47.2**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=34,slow=23,SNR=1.9						
QSPA	**South Pole Qui**	**82.06**	**180**	P	**P**	**13 41 13.3**	**+0.7**
QSPA				IAmb	IAmb	13 41 29.9	
	comp=Z,4.6nm,1.1s						
BRTR	**Keskin Array B**	**85.05**	**311**	P	**P**	**13 41 27.6**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=134,slow=5.3,SNR=6.4						
BRTR	**Keskin Array B**	**85.05**	**311**	P	**P**	**13 41 28.2**	**-0.3**

MAN 25 13:29:47.9,17.11N×121.43E,h23km,mb4.5,ML3.3, MS3.2,Luzon

*IDC **25** 13:30:26.8±0.9,28.87N×139.78E,h418km±28km,mb2.9/7, mb1 2.9/9,mb1mx2.7/52,mbtmp3.7/9,Error ellipse: s-maj=82.2km s-min=15.6km az=71.0*

ISC 25 13:30:27.1±0.9,**28.8N**±0.2×**139.8E**±0.2,**h424**km,**n9**, σ0ᵍ**75**/10,**mb3.2**/7,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.74**	**129**	P	**P**	**13 31 30.6**	**+0.4**
	20nm,0.3s,baz=260,slow=23,SNR=8.1						
JCJ				S	**S**	**13 32 20.3**	**-1.0**
	20nm,0.3s,baz=120,slow=23,SNR=7.0						
USRK	**Ussuriysk Ar.**	**16.55**	**340**	P	**P**	**13 33 56.5**	**+1.3**
	baz=139,slow=9.6,SNR=3.8						
SONM	**Songino Array**	**32.00**	**316**	P	**P**	**13 36 15.8**	**-0.7**
	0.4nm,0.5s,baz=133,slow=6.3,SNR=1.8						
MKAR	**Makanchi Array**	**47.74**	**308**	P	**P**	**13 38 23.4**	**-0.3**
	0.4nm,0.4s,baz=74,slow=10,SNR=7.0						
WRA	**Warramunga Arr**	**48.77**	**187**	P	**P**	**13 38 32.1**	**+0.4**
	0.2nm,0.4s,baz=1.5,slow=8.0,SNR=7.9						
KURBB	**Kurchatov Arra**	**50.31**	**313**	P	**P**	**13 38 42.5**	**-0.3**
	1.2nm,0.4s,baz=91,slow=8.0,SNR=6.4						
ASAR	**Alice Springs**	**52.50**	**187**	P	**P**	**13 38 59.6**	**+0.5**
	0.1nm,0.4s,baz=2.3,slow=7.1,SNR=1.1						
BVAR	**Borovoye Array**	**55.33**	**317**	P	**P**	**13 39 18.9**	**-0.1**
	0.7nm,0.4s,baz=148,slow=8.7,SNR=4.0						
FINES	**FINESS Array B**	**75.45**	**333**	P	**P**	**13 41 25.6**	**-0.2**
	0.4nm,0.4s,baz=36,slow=3.5,SNR=4.2						

MEX 25 13:37:04.7±0.5,**14.07N**×**93.24W**,**h10km**,**MD3.7**,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.62**	**1**	*eP*	Pn	13 37 29.8	-3.5
PCIG				*eS*	Sn	13 37 44.5	-10

*IDC **25** 13:46:53.5±12.0,36.44N×142.79E,h0km,mb3.3/2, mb1 3.5/3,mb1mx3.3/34,mbtmp3.2/3,ML2.1/1,Error ellipse: s-maj=284.3km s-min=45.6km az=32.0*

*JMA **25** 13:47:01.5±0.2,35.80N×141.93E,h12km±3km,M3.3*

ISC 25 13:46:57.3±1.9,**36.2N**±0.1×**142.01E**±0.09,**h10**km,**n8**, σ1ᵍ**23**/11,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.07**	**241**	P	**Pg**	**13 47 18.0**	**+0.2**
CHOJ				S	**Sg**	**13 47 29.7**	**-2.1**
JIHU	**Itakohorinouch**	**1.23**	**258**	S	**Sn**	**13 47 39.6**	**+2.5**
JSMT	**Sammumatsuo**	**1.40**	**245**	P	**Pb**	**13 47 24.3**	**+0.9**
JSMT				*eS*	**Sb**	**13 47 41.0**	**-0.2**
BSO3	**Boso 3**	**1.88**	**221**	P	**Pn**	**13 47 28.9**	**-0.3**
MJAR	**Matsushiro Arr**	**3.08**	**277**	Pn	**Pb**	**13 47 51.5**	**-0.6**
	0.2nm,0.3s,baz=88,slow=8.8,SNR=8.1						
MAT	**Matsushiro**	**3.08**	**277**	P	**Pb**	**13 47 51.9**	**-0.2**
MAT				*eS*	**Sb**	**13 48 29.9**	**+0.1**
WRA	**Warramunga Arr**	**56.34**	**189**	P	**P**	**13 56 38.3**	**-0.2**
	0.3nm,0.5s,baz=6.3,slow=7.4,SNR=2.3						
ASAR	**Alice Springs**	**60.07**	**189**	P	**P**	**13 57 04.5**	**-0.1**
	0.3nm,0.9s,baz=4.4,slow=6.7,SNR=2.1						

*IDC **25** 13:46:57.2±1.6,30.47S×71.75W,h0km,mb3.6/2, mb1 3.7/4,mb1mx3.6/19,mbtmp3.5/4,ML3.5/2,MS2.6/1, Ms1 2.6/1,ms1mx2.3/18,Error ellipse: s-maj=65.3km s-min=36.5km az=80.0*

*GUC **25** 13:46:58.8±0.7,30.37S×72.06W,h31km±6km,ML3.7*

ISC 25 13:46:58.6±1.0,**30.42S**±0.05×**72.11W**±0.07,**h16**km,**n21**, σ1ᵍ**41**/21,**1D**,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.48**	**122**	*i* P	**Pb**	**13 47 09.2**	**+0.5**
CO05	**La Serena**	**0.91**	**57**	*eP*	**Pb**	**13 47 15.1**	**-0.9**
CO05				*eS*	**Sb**	**13 47 27.4**	**-0.3**
GO04	**Tololo Observa**	**1.16**	**78**	*i* P	**Pn**	**13 47 19.7**	**-0.7**
CO02	**Combarbal**	**1.24**	**130**	*i* P	**Pg**	**13 47 21.7**	**-0.8**
CO02				*eS*	**Sg**	**13 47 39.4**	**+0.7**
CO02				IAML		13 47 41.2	
	comp=N,4μm,0.3s						
CO03	**El Pedregal**	**1.30**	**109**	*i* P	**Pb**	**13 47 22.8**	**+0.1**
CO03				*eS*	**Sg**	**13 47 40.1**	**-0.5**
CO03				IAML		13 47 43.5	
	comp=N,2μm,0.8s						
LCO	**Las Campanas**	**1.86**	**42**	*eP*	**Pn**	**13 47 29.3**	**-0.8**
VA06	**Catapilco**	**2.25**	**162**	*eP*	**Pn**	**13 47 35.8**	**+0.7**
VA06				IAML		13 48 17.7	
	comp=N,815nm,0.4s						
AC04	**Llanos de Chal**	**2.38**	**23**	*i* P	**Pn**	**13 47 35.0**	**-2.0**
AC04				IAML		13 48 24.5	
	comp=E,155nm,0.6s						
VA03	**San Esteban**	**2.69**	**151**	*eP*	**Pb**	**13 47 43.2**	**-3.3**
VA03				IAML		13 48 30.8	
	comp=E,319nm,0.4s						
ROCH	**El Roble**	**2.71**	**160**	*eP*	**Pn**	**13 47 42.7**	**+0.9**
ROCH				IAML		13 48 40.4	
	comp=E,219nm,0.5s						
MT05	**Renca**	**3.19**	**159**	IAML		13 48 47.6	
	comp=E,286nm,0.1s						
GO03	**Copiapo**	**3.26**	**31**	*i* P	**Pn**	**13 47 47.6**	**-1.5**
AC06	**Mina Casimiro**	**3.42**	**27**	*i* P	**Pn**	**13 47 50.1**	**-1.1**
AC06				IAML		13 48 51.5	
	comp=E,93nm,0.3s						
MT09	**Talagante**	**3.48**	**164**	IAML		13 49 04.4	
	comp=E,87nm,0.5s						
LMEL	**Las Melosas**	**3.78**	**155**	*eP*	**Pn**	**13 47 58.9**	**+2.4**
LMEL				IAML		13 49 02.7	
	comp=N,85nm,0.3s						
PLCA	**Paso Flores**	**10.37**	**173**	Pn	**Pn**	**13 49 25.9**	**-0.8**
	comp=N,0.1nm,0.3s,baz=343,slow=17,SNR=0.9						
CPUP	**Villa Florida**	**13.63**	**76**	LR	LR	13 54 48.1	
	comp=N,23nm,18.0s,baz=218,slow=35						
LPAZ	**La Paz**	**14.53**	**15**	Pn	**Pn**	**13 50 24.1**	**-0.1**
	comp=N,0.2nm,0.3s,baz=192,slow=4.6,SNR=4.2						
TXAR	**Lajitas Array**	**66.59**	**330**	P	**P**	**13 57 50.7**	**+2.4**
	comp=N,0.2nm,0.7s,baz=145,slow=9.6,SNR=2.6						
TORD	**Torodi Ar. Bea**	**83.06**	**70**	P	**P**	**13 59 23.6**	**-0.2**
	comp=N,0.7nm,0.9s,baz=246,slow=6.1,SNR=3.5						
ZALV	**Zalesovo Beam**	**151.18**	**29**	PKPbc	**PKiKP**	**14 06 51.6**	**+0.5**
	comp=N,0.8nm,0.4s,baz=304,slow=3.4,SNR=7.6						

MEX 25 13:47:37.5±0.3,**14.48N**×**92.95W**,**h154**km±45km,**MD3.6, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.25**	**348**	*eP*	Pn	13 48 03.4	-1.4
PCIG				*eS*	Sn	13 48 18.4	-7.4

*IDC **25** 13:56:40.2±0.7,12.04N×143.02E,h0km,mb4.3/13, mb1 4.5/14,mb1mx4.2/33,mbtmp4.3/14,ML4.6/1,MS3.4/13, Ms1 3.4/13,ms1mx3.2/37,Error ellipse: s-maj=22.1km s-min=16.0km az=108.0*

*BJI **25** 13:56:43.4±0.0,12.21N×142.32E,h15km,mB4.9/14, mb4.6/19,Ms4.2/3,Ms7 3.8/3*

*NEIC **25** 13:56:45.8±2.0,12.26N±0.10×142.76E±0.06,h35km±2km, mb4.9/55,Error ellipse: s-maj=17.8km s-min=8.3km az=203.0*

ISC 25 13:56:45.0±0.6,**12.32N**±0.10×**142.73E**±0.08,**h35**km,**n197**, σ1ᵍ**37**/191,**mb4.8**/46,**MS3.5**/14,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.44**	**59**	Pn	**Pn**	**13 57 22.2**	**-0.2**
	146nm,0.3s,baz=297,slow=0.9,SNR=35						
GUMO				LR	LR	13 57 40.0	
	comp=Z,176nm,20.6s,baz=156,slow=25						
GUMO				Sn	**Sn**	**13 57 51.3**	**+0.2**
	126nm,0.3s,baz=34,slow=18,SNR=8.4						
ANA2	**Anatahan**	**4.94**	**35**		**Pn**	**13 57 54.7**	**-2.1**
JNU	**Nakatsue**	**23.38**	**334**	P	**P**	**14 01 53.4**	**+2.7**
	7.5nm,0.7s,baz=153,slow=4.5,SNR=3.7						
JNU	**Nakatsue**	**23.38**	**334**	P	**P**	**14 01 47.8**	**-2.9**
H11N1	**WAKE ISLAND Hy**	**24.34**	**69**	T	T	14 27 10.3	
	baz=254,slow=75,SNR=18						
H11N2	**WAKE ISLAND Hy**	**24.35**	**69**	T	T	14 27 08.0	
	baz=254,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**24.36**	**69**	T	T	14 27 07.5	
	baz=254,slow=75,SNR=19						
MJAR	**Matsushiro Arr**	**24.46**	**351**	P	**P**	**14 01 58.9**	**-1.9**
MJAR				IAmb	IAmb	14 02 00.3	
	comp=Z,23nm,1.0s						
MAJO	**Matsushiro**	**24.46**	**351**	P	**P**	**14 01 59.2**	**-1.6**
KSRS	**Korea Array**	**28.33**	**335**	P	P	14 02 40.0	+4.5
	comp=Z,0.8nm,0.8s,baz=150,slow=9.9,SNR=4.3						
NJ2	**Nanjing**	**29.45**	**316**	*eP*	**P**	**14 02 46.8**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
USRK	**Ussuriysk Ar.**	**33.09**	**346**	P	P	14 03 21.7	+4.2
	comp=Z,2.5nm,0.7s,baz=156,slow=9.6,SNR=6.2						
USRK	**Ussuriysk Ar.**	**33.09**	**346**	P	**P**	**14 03 18.8**	**+1.3**

K20K	**Telida**	**67.18**	**26**	P	**P**	**14 07 36.9 +1.5**
K20K				IAmb	IAmb	14 07 38.4
	comp=Z,6.0nm,0.8s					
K20K	**Telida**	**67.18**	**26**	P	**P**	**14 07 36.4 +1.1**
	baz=251,SNR=5.1					
J20K	**Nowinta River**	**67.42**	**25**	P	**P**	**14 07 37.7 +0.9**
	baz=251					
BRSE	**Bradley Lake S**	**67.67**	**30**	P	**P**	**14 07 39.8 +1.3**
	baz=256					
PPLA	**Purkeypile**	**67.85**	**27**	P	**P**	**14 07 40.1 +0.3**
	baz=253					
SKT	**Skwentna**	**67.89**	**28**	P	**P**	**14 07 39.8 0.0**
	baz=254,SNR=5.0					
CHUM	**Lake Minchumin**	**68.09**	**26**	P	**P**	**14 07 41.5 +0.5**
	baz=253					
SUA	**Susitna One**	**68.11**	**28**	P	**P**	**14 07 41.8 +0.4**
SUA				IAmb	IAmb	14 07 43.5
	comp=Z,8.6nm,0.8s					
SUA	**Susitna One**	**68.11**	**28**	P	**P**	**14 07 41.3 0.0**
	baz=255					
O22K	**Cooper Landing**	**68.35**	**29**	P	**P**	**14 07 43.2 +0.5**
	baz=256					
SEW	**Seward**	**68.39**	**30**	P	**P**	**14 07 42.5 -0.5**
SEW				IAmb	IAmb	14 07 48.1
	comp=Z,13nm,0.8s					
SEW	**Seward**	**68.39**	**30**	P	**P**	**14 07 43.3 +0.4**
	baz=257					
H21K	**Melozitna Rive**	**68.44**	**24**	P	**P**	**14 07 43.8 +0.6**
	baz=252					
RC01	**Rabbit Creek A**	**68.49**	**29**	P	**P**	**14 07 43.5 -0.1**
	baz=256,SNR=5.7					
CUT	**Chulitna**	**68.57**	**27**	P	**P**	**14 07 43.5 -0.5**
	baz=255					
I21K	**Tanana**	**68.62**	**24**	P	**P**	**14 07 45.1 +0.8**
	baz=252					
BPAW	**Bear Paw Mtn.**	**68.71**	**26**	P	**P**	**14 07 45.5 +0.5**
BPAW				IAmb	IAmb	14 07 47.3
	comp=Z,11nm,0.8s					
BPAW	**Bear Paw Mtn.**	**68.71**	**26**	P	**P**	**14 07 45.9 +0.9**
	baz=254					
TRF	**Thorofare Moun**	**68.83**	**26**	P	**P**	**14 07 45.2 -0.7**
TRF				IAmb	IAmb	14 07 47.3
	comp=Z,8.0nm,0.8s					
TRF	**Thorofare Moun**	**68.83**	**26**	P	**P**	**14 07 46.2 +0.3**
	baz=255					
PMR	**Palmer**	**68.89**	**28**	P	**P**	**14 07 46.0 0.0**
PMR	**Palmer**	**68.89**	**28**	P	**P**	**14 07 46.2 +0.2**
	baz=256,SNR=9.9					
GHO	**Glory Hole Cre**	**69.03**	**28**	P	**P**	**14 07 47.7 +0.7**
MLY	**Manley**	**69.08**	**25**	P	**P**	**14 07 48.4 +1.2**
MLY				IAmb	IAmb	14 07 50.3
	comp=Z,20nm,1.4s					
MLY	**Manley**	**69.08**	**25**	P	**P**	**14 07 48.0 +0.8**
	baz=254,SNR=9.8					
KNK	**Knik Glacier**	**69.16**	**29**	P	**P**	**14 07 49.1 +1.3**
KNK	**Knik Glacier**	**69.16**	**29**	P	**P**	**14 07 48.2 +0.4**
	baz=257,SNR=8.1					
SML	**Sawmill**	**69.31**	**28**	P	**P**	**14 07 49.2 +0.5**
	baz=257,SNR=6.2					
WAT1	**Susitna Watana**	**69.44**	**27**	P	**P**	**14 07 49.8 +0.3**
	baz=257					
RND	**Reindeer**	**69.45**	**27**	P	**P**	**14 07 50.2 +0.6**
MCK	**McKinley**	**69.49**	**26**	P	**P**	**14 07 50.5 +0.7**
	baz=256					
I23K	**Minto, Yukon-K**	**69.67**	**25**	P	**P**	**14 07 52.0 +1.2**
I23K				IAmb	IAmb	14 07 53.5
	comp=Z,7.2nm,0.8s					
I23K	**Minto, Yukon-K**	**69.67**	**25**	P	**P**	**14 07 51.6 +0.8**
	baz=255,SNR=5.6					
GLI	**Glacier Island**	**69.70**	**29**	P	**P**	**14 07 51.5 +0.4**
	baz=259					
WAT6	**Susitna Watana**	**69.75**	**28**	P	**P**	**14 07 51.4 -0.2**
	baz=257,SNR=7.1					
SCM	**Sheep Creek Mo**	**69.78**	**28**	P	**P**	**14 07 53.0 +1.3**
COLD	**Coldfoot**	**69.91**	**22**	P	**P**	**14 07 53.0 +0.7**
	baz=253					
FID	**Port Fidalgo**	**69.97**	**30**	P	**P**	**14 07 53.8 +1.0**
DHY	**Denali Highway**	**70.02**	**27**	P	**P**	**14 07 52.7 -0.6**
DHY	**Denali Highway**	**70.02**	**27**	P	**P**	**14 07 53.5 +0.3**
	baz=259					
WRH	**Wood River Hil**	**70.03**	**26**	P	**P**	**14 07 53.2 +0.1**
WRH				IAmb	IAmb	14 07 54.5
	comp=Z,8.1nm,0.8s					
MDM	**Murphy Dome**	**70.09**	**25**	P	**P**	**14 07 53.6 +0.2**
CCB	**Clear Creek Bu**	**70.19**	**25**	P	**P**	**14 07 54.8 +0.8**
TCOL	**CIGO, UAF Yank**	**70.22**	**25**	P	**P**	**14 07 54.9 +0.7**
	baz=256					
EYAK	**Cordova Ski Ar**	**70.29**	**30**	P	**P**	**14 07 55.2 +0.6**
	baz=260					
M24K	**Tolsona, Glenn**	**70.37**	**28**	P	**P**	**14 07 55.7 +0.5**
	baz=259					
KLU	**Klutina**	**70.37**	**29**	P	**P**	**14 07 56.8 +1.5**
KLU				IAmb	IAmb	14 07 57.6
	comp=Z,12nm,0.7s					
KLU	**Klutina**	**70.37**	**29**	P	**P**	**14 07 56.1 +0.8**
	baz=260,SNR=10.0					
DIV	**Divide**	**70.38**	**29**	P	**P**	**14 07 56.7 +1.4**
DIV				IAmb	IAmb	14 07 57.7
	comp=Z,12nm,0.8s					
H24K	**Noodor Dome**	**70.44**	**24**	P	**P**	**14 07 56.5 +0.9**
	baz=256					
HDA	**Harding Lake**	**70.50**	**26**	P	**P**	**14 07 55.4 -0.5**
HDA	**Harding Lake**	**70.50**	**26**	P	**P**	**14 07 56.2 +0.3**
	baz=258,SNR=5.0					
IL31		**70.60**	**25**	P	**P**	**14 07 55.6 -0.9**
IL31				IAmb	IAmb	14 07 57.4
	comp=Z,6.6nm,0.8s					
ILAR	**Eielson Array**	**70.60**	**25**	P	**P**	**14 07 56.5 -0.1**
	comp=Z,4.2nm,0.6s,baz=248,slow=6.1,SNR=39					
ILAR				LR	LR	14 36 10.2
	comp=Z,22nm,21.7s,baz=298,slow=34					
ILAR	**Eielson Array**	**70.60**	**25**	P	**P**	**14 07 55.6 -0.9**
KAIM	**Kayak Island**	**70.84**	**31**	P	**P**	**14 07 58.9 +0.8**
	baz=261					
PAX	**Paxson**	**70.85**	**27**	P	**P**	**14 07 59.4 +1.2**
PAX				IAmb	IAmb	14 08 00.3
	comp=Z,7.6nm,0.7s					
PAX	**Paxson**	**70.85**	**27**	P	**P**	**14 07 58.6 +0.3**
	baz=259,SNR=8.8					
HARP	**HAARP**	**70.89**	**28**	P	**P**	**14 07 58.7 +0.3**
	baz=260,SNR=7.9					
BMRM	**Bremner River**	**70.91**	**30**	P	**P**	**14 07 58.9 +0.3**
BMRM				IAmb	IAmb	14 08 01.4
	comp=Z,13nm,0.8s					
BMRM	**Bremner River**	**70.91**	**30**	P	**P**	**14 07 58.9 +0.3**
	baz=261					
N25K	**Chitina, Valde**	**71.02**	**29**	P	**P**	**14 07 59.3 +0.1**
N25K				IAmb	IAmb	14 08 01.7
	comp=Z,5.0nm,0.7s					
N25K	**Chitina, Valde**	**71.02**	**29**	P	**P**	**14 08 00.1 +0.9**
	baz=261					
J25K	**Salcha River,**	**71.21**	**26**	P	**P**	**14 08 00.6 +0.3**
	baz=259					
BERG	**Berg Lake**	**71.26**	**30**	P	**P**	**14 08 01.5 +0.9**
RIDG	**Independent Ri**	**71.27**	**27**	P	**P**	**14 08 01.2 +0.5**
RIDG				IAmb	IAmb	14 08 02.6
	comp=Z,9.4nm,1.0s					
RIDG	**Independent Ri**	**71.27**	**27**	P	**P**	**14 08 01.6 +0.9**
	baz=260,SNR=6.9					
GLB	**Gilahina Butte**	**71.36**	**29**	P	**P**	**14 08 01.4 +0.1**
GLB				IAmb	IAmb	14 08 03.6
	comp=Z,8.7nm,0.9s					
VRDI	**Verde Repeater**	**71.50**	**29**	P	**P**	**14 08 02.8 +0.5**
VRDI				IAmb	IAmb	14 08 04.3
	comp=Z,6.9nm,0.6s					
CRQM	**Cirque**	**71.59**	**30**	P	**P**	**14 08 04.1 +1.2**
DOT	**Dot Lake**	**71.60**	**27**	P	**P**	**14 08 03.8 +1.2**
DOT				IAmb	IAmb	14 08 04.6
	comp=Z,13nm,0.8s					
CRQE	**Cirque**	**71.61**	**30**	P	**P**	**14 08 03.8 +0.9**
	baz=262					
MENT	**Mentasta**	**71.64**	**28**	P	**P**	**14 08 03.8 +0.9**
SCRK	**Sand Creek**	**71.69**	**26**	P	**P**	**14 08 04.0 +0.6**
SCRK	**Sand Creek**	**71.69**	**26**	P	**P**	**14 08 03.9 +0.6**
	baz=260,SNR=6.3					
WAX	**Waxell Ridge**	**71.69**	**30**	P	**P**	**14 08 04.0 +0.7**
MCARA	**McCarthy VSAT**	**71.73**	**29**	P	**P**	**14 08 04.3 +0.8**
	baz=262					
L26K	**Log Cabin Wild**	**71.82**	**27**	P	**P**	**14 08 05.3 +1.3**
	baz=261					
M26K	**Nabesna, AK**	**71.89**	**28**	P	**P**	**14 08 05.9 +1.4**
	baz=262					
J26L	**Joseph Creek**	**71.96**	**26**	P	**P**	**14 08 05.4 +0.5**
	baz=261,SNR=8.8					
MESA	**MESA**	**72.10**	**31**	P	**P**	**14 08 06.4 +0.4**
	baz=264					
YAH	**Yahtse**	**72.22**	**30**	P	**P**	**14 08 08.4 +1.7**
YAH				IAmb	IAmb	14 08 09.3
	comp=Z,13nm,0.7s					
GRNC	**Granite Creek**	**72.26**	**30**	P	**P**	**14 08 08.7 +1.8**
M27K	**Edge Creek, AK**	**72.40**	**28**	P	**P**	**14 08 08.3 +0.7**
	baz=263					
CTG	**Chitna Glacier**	**72.49**	**30**	P	**P**	**14 08 09.1 +1.0**
	baz=264					
CTGM	**Chitina Glacie**	**72.49**	**30**	P	**P**	**14 08 10.1 +1.9**
L27K	**Beaver Creek,**	**72.51**	**28**	P	**P**	**14 08 08.8 +0.7**
L27K				IAmb	IAmb	14 08 11.2
	comp=Z,16nm,1.5s					
L27K	**Beaver Creek,**	**72.51**	**28**	P	**P**	**14 08 09.8 +1.7**
	baz=263					
K27K	**Chicken**	**72.53**	**27**	P	**P**	**14 08 09.4 +1.2**
BCAR	**Beaver Creek A**	**72.53**	**28**	P	**P**	**14 08 09.5 +1.3**
TABL	**Table Mountain**	**72.53**	**30**	P	**P**	**14 08 09.9 +1.3**
LOGN	**Logan Glacier**	**72.64**	**30**	P	**P**	**14 08 09.7 +0.7**
BVCY	**Beaver Creek**	**72.87**	**28**	P	**P**	**14 08 11.1 +0.8**
	baz=264					
PINM	**Pinnacle**	**72.94**	**31**	P	**P**	**14 08 11.7 +0.9**
	baz=265					
YUK3	**Moose Creek**	**73.00**	**29**	P	**P**	**14 08 12.0 +0.8**
	baz=264					
EGAK	**Eagle**	**73.02**	**26**	P	**P**	**14 08 12.2 +1.1**
	baz=263					
PPT	**Papeete**	**73.13**	**113**	LR	LR	14 36 53.2
	comp=Z,32nm,19.2s,baz=10.0,slow=33					
DAWY	**Dawson**	**73.71**	**27**	P	**P**	**14 08 16.3 +1.1**
	baz=265					
YUK4	**Talbot Arm**	**73.82**	**29**	P	**P**	**14 08 17.1 +0.9**
	baz=266					
YUK6	**Outpost Mounta**	**73.93**	**30**	P	**P**	**14 08 17.5 +0.7**
	baz=266					
HYT	**Haines Junctio**	**74.35**	**30**	P	**P**	**14 08 19.9 +0.8**
	baz=267					
HRA	**Herat**	**75.36**	**303**	P	**P**	**14 08 25.3 -0.3**
HRA				IAmb	IAmb	14 08 27.4
	comp=Z,5.9nm,0.6s					
BESE	**Bessie Mountai**	**75.64**	**32**	P	**P**	**14 08 28.0 +1.5**
BESE				IAmb	IAmb	14 08 29.3
	comp=Z,8.5nm,0.8s					
ABKAR	**Akbulak array**	**76.08**	**318**	P	**P**	**14 08 30.2 +1.1**
INK	**Inuvik**	**76.33**	**22**	P	**P**	**14 08 31.5 +1.4**
	baz=269					
FARO	**Faro, Yukon**	**76.37**	**29**	P	**P**	**14 08 31.3 +0.7**
	baz=270					
ARU	**Arti**	**76.62**	**325**	LR	LR	14 45 54.8
	comp=Z,22nm,18.2s,baz=64,slow=38					
WRAK	**Wrangell Islan**	**77.04**	**35**	P	**P**	**14 08 35.5 +1.1**
	baz=273					
AKTO	**Aktyubinsk**	**77.26**	**319**	LR	LR	14 43 34.4
	comp=Z,18nm,20.2s,baz=71,slow=36					
MMPY	**Sheldon Lake,**	**77.33**	**28**	P	**P**	**14 08 37.0 +1.0**
	baz=272					
GEYT	**Alibeck**	**78.33**	**306**	LR	LR	14 48 11.0
	comp=Z,25nm,19.4s,baz=225,slow=39					
TGTN	**Hyland Airport**	**78.80**	**29**	P	**P**	**14 08 45.8 +1.6**
	baz=275					
BELG	**Belogornoye**	**83.44**	**322**	LR	LR	14 50 02.8
	comp=Z,26nm,18.1s,baz=140,slow=38					
L02E	**Cave Junction**	**84.54**	**48**	P	**P**	**14 09 15.2 +0.3**
	baz=282					
YKA	**Yellowknife Ar**	**84.94**	**27**	P	**P**	**14 09 16.6 +0.3**
	comp=Z,3.1nm,0.8s,baz=288,slow=4.2,SNR=4.3					
YKA				LR	LR	14 45 06.5
	comp=Z,31nm,21.5s,baz=0.0,slow=34					
M02C	**Callahan**	**85.24**	**49**	P	**P**	**14 09 19.7 +1.3**
	baz=282					
L04D	**Klamath Falls**	**85.47**	**48**	P	**P**	**14 09 20.4 +0.7**
	baz=282					
G05D	**Wamic, OR**	**85.50**	**45**	P	**P**	**14 09 20.5 +0.9**
	baz=283					
J05D	**Fort Rock, OR**	**86.00**	**47**	P	**P**	**14 09 23.0 +0.7**
	baz=283					
PINE	**Pine Mountain**	**86.09**	**46**	P	**P**	**14 09 22.4 -0.4**
PINE				IAmb	IAmb	14 09 25.5
	comp=Z,5.9nm,1.0s					
B08A	**Colville Reser**	**86.11**	**41**	P	**P**	**14 09 22.4 -0.2**
B08A				IAmb	IAmb	14 09 24.7
	comp=Z,8.5nm,0.9s					
O03E	**Paynes Creek**	**86.26**	**50**	P	**P**	**14 09 24.1 +0.5**
	baz=283					
NEW	**Newport**	**87.56**	**41**	P	**P**	**14 09 31.0 +1.3**
	baz=286					
ARCES	**ARCESS Array B**	**87.64**	**342**	P	**P**	**14 09 31.1 +1.6**
	comp=Z,3.2nm,0.8s,baz=68,slow=6.2,SNR=18					
SMMC	**Simnler**	**88.81**	**54**	P	**P**	**14 09 36.7 +0.8**
	baz=284					
NVAR	**Mina Array Bea**	**89.34**	**51**	P	**P**	**14 09 40.1 +1.6**
	comp=Z,3.5nm,0.6s,baz=265,slow=5.5,SNR=40					
NVAR	**Mina Array Bea**	**89.34**	**51**	P	**P**	**14 09 39.9 +1.4**
NV11	**Mina Array Sit**	**89.45**	**51**	P	**P**	**14 09 38.5 -0.4**
ISA	**Isabella, Lake**	**89.92**	**54**	P	**P**	**14 09 41.8 +0.7**
	baz=285					
CWC	**Cottonwood Cre**	**90.03**	**53**	P	**P**	**14 09 42.2 +0.5**
	baz=285					
EDW2	**Edwards Air Fo**	**90.51**	**54**	P	**P**	**14 09 44.7 +0.9**
	baz=285					
CIS	**Catalina Islan**	**90.56**	**56**	P	**P**	**14 09 45.2 +1.1**
	baz=285					
MPMC	**Manual Prospec**	**90.59**	**53**	P	**P**	**14 09 45.2 +0.8**
	baz=286					
LRMC	**Laurel Mtn Rad**	**90.60**	**54**	P	**P**	**14 09 44.8 +0.4**
	baz=286					
HLID	**Hailey**	**90.72**	**45**	P	**P**	**14 09 45.8 +1.0**
	baz=288					
BFSC	**Mount Baldy Ra**	**90.94**	**55**	P	**P**	**14 09 46.6 +0.6**
	baz=286					
TPNV	**Topopah Spring**	**91.31**	**52**	P	**P**	**14 09 48.5 +0.8**
	baz=286					
GSC	**Goldstone, Bar**	**91.33**	**54**	P	**P**	**14 09 48.2 +0.5**
	baz=286					
R11A	**Troy Canyon, C**	**91.41**	**50**	P	**P**	**14 09 48.8 +0.7**
	baz=287					
FINES	**FINESS Array B**	**91.42**	**335**	P	**P**	**14 09 48.0 +0.7**
	comp=Z,2.9nm,0.8s,baz=104,slow=4.7,SNR=8.1					
HEC	**Hector,Ludlow**	**91.83**	**54**	P	**P**	**14 09 50.3 +0.2**
	baz=286					
BOZ	**Bozeman (W)**	**91.95**	**43**	P	**P**	**14 09 50.9 +0.5**
	baz=290					
TUQ	**Turquoise Moun**	**91.99**	**53**	P	**P**	**14 09 51.2 +0.4**
	baz=287					
PFO	**Pinyon Flats O**	**92.08**	**55**	P	**P**	**14 09 52.1 +0.8**
	baz=286					
TPFO	**Pinon Flats**	**92.08**	**55**	P	**P**	**14 09 52.0 +0.7**
	baz=286					
MONP2	**Monument Peak**	**92.31**	**56**	P	**P**	**14 09 53.1 +0.7**
	baz=286					
BELC	**Belle Mtn. Jos**	**92.33**	**55**	P	**P**	**14 09 53.1 +0.7**
	baz=286					
BC3	**Big Chuckawall**	**92.87**	**55**	P	**P**	**14 09 55.2 +0.4**
	baz=287					
IRM	**Iron Mountain**	**92.97**	**54**	P	**P**	**14 09 56.2 +0.9**
	baz=287					
MNK	**Minsk**	**93.86**	**328**	*i* P	**P**	**14 09 54.4 -4.4**
	comp=E,3.0nm,1.1s					
MNK				*i* P	**P**	**14 09 54.4 -4.4**
	comp=N,11nm,0.7s					
MNK				*i* P	**P**	**14 09 54.4 -4.4**
	comp=Z,3.0nm,0.4s,baz=244					
MNK				*i* PP	**PP**	**14 13 38.8 -5.4**
MNK				*i* PPP	PPP	14 15 39.6
MNK				*i* S	**SKSac**	**14 20 27.5 -3.4**
MNK				*i* PS	**PS**	**14 22 19.1 -5.1**
MNK				*i* SS	**SS**	**14 27 21.7 -2.9**
MNK				*i* SSS	SSS	14 30 52.0
MNK				*i* LR	LR	14 48 16.3
MNK				*i* LRM	MLR	14 51 20.1
	comp=Z,251nm,23.1s					
MNK				*i* LRM	MLR	14 52 32.5
	comp=E,6.0nm,17.4s					
MNK				*i* LRM	MLR	14 52 42.6
	comp=N,23nm,17.4s					
PDAR	**Pinedale Array**	**94.33**	**45**	P	**P**	**14 10 01.8 +0.2**
	comp=N,0.2nm,0.5s,baz=300,slow=7.1,SNR=2.1					
PDAR				LR	LR	14 44 33.7
	comp=N,22nm,20.6s,baz=291,slow=30					
NOA	**NORSAR Array B**	**97.48**	**338**	LR	LR	14 58 36.4
	comp=N,6.8nm,18.0s,baz=10.0,slow=38					
CRVS	**Cervenica-Dubn**	**100.11**	**325**	*e*PDIFF	**Pdif**	**14 10 27.5 +0.3**
VYHS	**Vyhne**	**101.79**	**326**	*e*PDIFF	**Pdif**	**14 10 36.2 +1.5**
TORD	**Torodi Ar. Bea**	**133.81**	**302**	PKP	**PKiKP**	**14 16 00.4 -0.2**
	comp=N,0.4nm,0.5s,baz=24,slow=4.5,SNR=3.4					
LPAZ	**La Paz**	**149.85**	**101**	PKPbc	**PKiKP**	**14 16 33.9 -0.3**
	comp=N,2.5nm,0.7s,baz=279,slow=2.5,SNR=7.0					

*NOU **25** 14:17:37.3,26.18S×179.59E,h522km,mb4.3/40,South of Fiji Islands*
*IDC **25** 14:17:38.3±0.9,26.13S×179.36E,h515km±13km,mb3.8/8, mb1 3.9/10,mb1mx3.5/27,mbtmp4.7/10,Error ellipse: s-maj=23.2km s-min=13.6km az=169.0*
*NEIC **25** 14:17:39.2±1.7,26.3S±0.1×179.3E±0.2,h513km±11km, mb4.4/15,Error ellipse: s-maj=21.4km s-min=18.9km az=67.0*

ISC 25 14:17:37.1±0.5,26.21S±0.06×179.37E±0.07,h503km, n110,σ2.906/125,mb4.4/17,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**3.86**	**142**	P		P	**P**	**14 18 57.5**	**+3.0**
RAO	**Raoul Island**	**3.87**	**142**	P		P	**P**	**14 18 56.7**	**+2.2**
	251nm,0.3s,baz=83,slow=8.8,SNR=27								
RAO				S		S	**S**	**14 20 01.2**	**+3.4**
	22nm,0.3s,baz=41,slow=22,SNR=1.4								
RAO	**Raoul Island**	**3.87**	**142**	P		P		14 18 59.6	+5.1
GLKZ	**Green Lake**	**3.88**	**142**	P		P	**P**	**14 18 56.2**	**+1.6**
GLKZ				S		S	**S**	**14 20 03.6**	**+5.8**
MSVF	**Nonsavu**	**8.52**	**351**	P		P	**P**	**14 19 38.8**	**-0.4**
	2.1nm,0.3s,baz=218,slow=13,SNR=20								
MSVF	**Nonsavu**	**8.52**	**351**	P		P	**P**	**14 19 38.5**	**-0.7**
OUZ	**Omahuta**	**10.27**	**208**	P		P	**P**	**14 20 00.6**	**+3.5**
WCZ	**Waipu Caves**	**10.61**	**203**	P		P	**P**	**14 20 04.0**	**+3.2**
MXZ	**Matakaoa Point**	**11.36**	**184**	P		P	**P**	**14 20 10.0**	**+1.4**
MARNC	**Mare, Loyalty**	**11.40**	**292**	P		P	**P**	**14 20 10.8**	**+1.6**
MARNC	**Mare, Loyalty**	**11.40**	**292**	P		P	**P**	**14 20 11.1**	**+1.8**
PINNC	**Pines Island,**	**11.44**	**286**	P		P	**P**	**14 20 10.8**	**+1.1**
PINNC	**Pines Island,**	**11.44**	**286**	P		P	**P**	**14 20 11.9**	**+2.1**
HAZ	**Te Kaha**	**11.60**	**186**	P		P	**P**	**14 20 12.7**	**+1.6**
HAZ				S		S	**S**	**14 22 14.8**	**-3.2**
PKGZ	**Pakihiroa**	**11.70**	**185**	P		P	**P**	**14 20 14.5**	**+2.2**
RUGZ	**Raukumara Rang**	**11.81**	**187**	P		P	**P**	**14 20 14.6**	**+1.0**
PUZ	**Puketiti**	**11.87**	**184**	P		P	**P**	**14 20 16.5**	**+2.4**
PUZ				S		S	**S**	**14 22 20.8**	**-2.7**
TOZ	**Tahuroa Road**	**11.95**	**195**	P		P	**P**	**14 20 19.6**	**+4.7**
KMRZ	**Kaimai**	**11.96**	**193**	P		P	**P**	**14 20 18.7**	**+3.6**
TWGZ	**Tauwhareparae**	**11.99**	**185**	P		P	**P**	**14 20 17.2**	**+1.8**
TWGZ				S		S	**S**	**14 22 24.4**	**-1.5**
OUENC	**Ouen Island, N**	**12.03**	**286**	P		P	**P**	**14 20 17.9**	**+1.8**
OUENC	**Ouen Island, N**	**12.03**	**286**	P		P	**P**	**14 20 18.5**	**+2.5**
YATNC	**Mamie plateau,**	**12.12**	**287**	P		P	**P**	**14 20 19.2**	**+2.2**
URZ	**Urewera**	**12.17**	**188**	P		P	**P**	**14 20 16.5**	**-0.6**
	5.6nm,0.3s,baz=59,slow=1.7,SNR=30								
URZ				S		S	**S**	**14 22 27.0**	**-2.2**
	0.6nm,0.3s,baz=240,slow=22,SNR=6.2								
URZ	**Urewera**	**12.17**	**188**	P		P	**P**	**14 20 16.9**	**-0.3**
URZ	**Urewera**	**12.17**	**188**	P		P	**P**	**14 20 16.6**	**-0.6**
URZ				S		S	**S**	**14 22 26.8**	**-2.5**
MWZ	**Matawai**	**12.19**	**187**	P		P	**P**	**14 20 18.7**	**+1.2**
MWZ				S		S	**S**	**14 22 28.5**	**-1.3**
TKGZ	**Te Karaka**	**12.27**	**186**	P		P	**P**	**14 20 20.0**	**+1.8**
LIFNC	**LIFOU**	**12.37**	**293**	P		P	**P**	**14 20 18.9**	**-0.7**
LIFNC	**LIFOU**	**12.37**	**293**	P		P	**P**	**14 20 19.3**	**-0.3**
DZM	**Mont Dzumac**	**12.50**	**286**	P		P	**P**	**14 20 23.0**	**+1.9**
	2.3nm,0.3s,baz=119,slow=7.7,SNR=19								
DZM	**Mont Dzumac**	**12.50**	**286**	P		P	**P**	**14 20 23.4**	**+2.3**
TLZ	**Tolley Road**	**12.51**	**194**	P		P	**P**	**14 20 23.9**	**+2.9**
RIGZ	**Rimuhau**	**12.54**	**186**	P		P	**P**	**14 20 22.5**	**+1.3**
NOUC	**Port Laguerre**	**12.61**	**286**	P		P	**P**	**14 20 24.2**	**+2.0**
SNGZ	**Shannon Statio**	**12.66**	**187**	P		P	**P**	**14 20 22.1**	**-0.3**
SNGZ				S		S	**S**	**14 22 35.7**	**-3.0**
MTHZ	**Maungataniwha**	**12.79**	**189**	P		P	**P**	**14 20 24.2**	**+0.3**
HIZ	**Hauiti**	**12.85**	**196**	P		P		14 20 30.2	+5.8
BKZ	**Black Stump Fm**	**13.15**	**190**	P		P	**P**	**14 20 26.7**	**-0.9**
BKZ	**Black Stump Fm**	**13.15**	**190**	P		P	**P**	**14 20 26.1**	**-1.5**
BKZ				S		S	**S**	**14 22 43.9**	**-4.3**
TWVZ	**Taurewa**	**13.25**	**193**	P		P	**P**	**14 20 30.2**	**+1.5**
WTVZ	**West Tongariro**	**13.26**	**193**	P		P	**P**	**14 20 29.9**	**+1.0**
OTVZ	**Oturere**	**13.29**	**193**	P		P	**P**	**14 20 30.1**	**+0.9**
SNVZ	**South Ngauruho**	**13.32**	**193**	P		P	**P**	**14 20 30.4**	**+0.8**
TUVZ	**Tukino**	**13.39**	**193**	P		P	**P**	**14 20 30.6**	**+0.2**
KWHZ	**Kaweka Forest**	**13.41**	**190**	P		P	**P**	**14 20 29.9**	**-0.6**
KWHZ				S		S	**S**	**14 22 48.9**	**-4.4**
WHNZ	**Whangaehu Hut**	**13.42**	**193**	P		P	**P**	**14 20 31.1**	**+0.3**
WNVZ	**Wahianoa**	**13.46**	**193**	P		P	**P**	**14 20 31.1**	**+0.1**
WNVZ				S		S	**S**	**14 22 51.9**	**-2.6**
BHHZ	**Black Hill Sta**	**13.53**	**191**	P		P	**P**	**14 20 30.8**	**-0.9**
BHHZ				S		S	**S**	**14 22 52.0**	**-3.7**
KRHZ	**Kereru**	**13.63**	**190**	P		P	**P**	**14 20 30.2**	**-2.5**
KRHZ				S		S	**S**	**14 22 54.8**	**-2.8**
KAHZ	**Kahuranaki**	**13.71**	**188**	P		P	**P**	**14 20 33.2**	**-0.4**
KAHZ				S		S	**S**	**14 22 56.5**	**-2.6**
PNHZ	**Pukenui**	**13.93**	**190**	P		P	**P**	**14 20 34.6**	**-1.2**
PXZ	**Pawanui**	**13.95**	**188**	P		P	**P**	**14 20 35.7**	**-0.3**
PXZ				S		S	**S**	**14 23 00.7**	**-2.8**
TSZ	**Takapari Road**	**14.11**	**191**	P		P	**P**	**14 20 37.9**	**+0.2**
TSZ				S		S	**S**	**14 23 00.4**	**-6.3**
DVHZ	**Dannevirke**	**14.31**	**190**	P		P	**P**	**14 20 39.4**	**-0.4**
DVHZ				S		S	**S**	**14 23 05.6**	**-4.8**
BFZ	**Birch Farm**	**14.67**	**189**	P		P	**P**	**14 20 41.6**	**-2.0**
B

WB0				IAmb	IAmb	14 24 42.6		
	comp=Z,14nm,0.8s							
JAY	**Jayapura**	**43.95**	**296**	P	**P**	**14 24 59.3**	**0.0**	
	comp=Z,12nm,0.9s,baz=88,slow=2.7,SNR=6.7							
FORT	**Forrest**	**45.02**	**252**	P	**P**	**14 25 07.1**	**-0.2**	
	baz=46							
FORT	**Forrest**	**45.02**	**252**	P	**P**	**14 25 07.1**	**-0.2**	
WRKA	**Warakurna**	**45.83**	**260**	P	**P**	**14 25 13.6**	**0.0**	
	baz=46,SNR=35							
KDU	**Kakadu**	**45.98**	**278**	P	**P**	**14 25 14.6**	**-0.2**	
	baz=46,SNR=9.0							
KNRA	**Kununurra**	**48.16**	**272**	P	**P**	**14 25 32.1**	**+0.8**	
	baz=49,SNR=10							
KNRA	**Kununurra**	**48.16**	**272**	P	**P**	**14 25 31.6**	**+0.3**	
FITZ	**Fitzroy Crossi**	**50.13**	**268**	P	**P**	**14 25 46.5**	**+0.7**	
	baz=51,SNR=6.0							
FITZ	**Fitzroy Crossi**	**50.13**	**268**	P	**P**	**14 25 46.3**	**+0.5**	
FITZ				IAmb	IAmb	14 25 47.3		
	comp=Z,6.6nm,0.8s							
SIJI	**Sorong**	**52.67**	**291**	P	**P**	**14 26 03.4**	**-1.0**	
	comp=Z,20nm,0.8s,baz=82,slow=6.5,SNR=8.5							
QSPA	**South Pole Qui**	**63.89**	**180**	P	**P**	**14 27 19.2**	**-0.5**	
PETK	**Petropavlovsk-**	**81.20**	**347**	P	**P**	**14 28 59.9**	**+0.4**	
	comp=Z,1.7nm,0.8s,baz=147,slow=3.4,SNR=1.7							
NVAR	**Mina Aray Bea**	**86.80**	**44**	P	**P**	**14 29 27.9**	**+0.1**	
	comp=Z,1.2nm,0.7s,baz=219,slow=7.9,SNR=12							
NVAR	**Mina Aray Bea**	**86.80**	**44**	P	**P**	**14 29 29.4**	**+1.6**	
FINES	**FINESS Array B**	**140.43**	**340**	PKhKP	PKPpre	14 36 00.8		
	comp=Z,4.1nm,1.1s,baz=44,slow=5.8,SNR=4.5							
NC303	**NORSAR Array S**	**144.05**	**350**		PKPbc	14 36 13.7	0.0	
NB2	**NORSAR Subarra**	**144.25**	**350**	PKP	PKPbc	14 36 14.0	-0.4	
	comp=Z,1.1nm,0.7s,baz=16,slow=3.2							
NOA	**NORSAR Array B**	**144.25**	**350**	PKP	PKPbc	14 36 14.3	-0.2	
	comp=Z,2.0nm,0.7s,baz=21,slow=2.6,SNR=8.7							
HFS	**Hagfors**	**144.68**	**348**	PKP	**PKPdf**	**14 36 15.2**	**-0.4**	
	comp=Z,2.0nm,0.4s,baz=63,slow=2.4,SNR=26							
BRTR	**Keskin Array B**	**148.45**	**304**	PKPbc	**PKPbc**	**14 36 26.7**	**-0.3**	
	comp=Z,3.0nm,0.4s,baz=103,slow=3.9,SNR=2.2							
EKA	**Eskdalemuir Ar**	**150.84**	**3**	PKPbc	**PKPbc**	**14 36 31.2**	**-0.7**	
	comp=Z,0.4nm,0.4s,baz=348,slow=3.3,SNR=5.3							
VRAC	**Vranov**	**153.34**	**334**	PKPbc	**PKPbc**	**14 36 37.0**	**-0.7**	
	comp=Z,2.2nm,0.4s,baz=135,slow=10.0,SNR=2.1							

*IDC **25** 14:57:39.8±1.3,33.°01S×178.°28W,h0km,mb4.5/2, mb1 4.7/4,mb1mx4.0/21,mbtmp4.6/4,ML4.1/3,MS3.7/12, Ms1 3.7/12,ms1mx3.5/24,Error ellipse: s-maj=37.5km s-min=28.9km az=124.0*

*WEL **25** 14:57:41.6±1.0,33.°S×17.°8W±2.°0,h33km,M4.7/8, mB5.2/7,ML5.1/10,MLv4.9/8,Mw(mB)4.5/7,Error ellipse: s-maj=0.0km s-min=0.0km az=109.5*

*NEIC **25** 14:57:43.1±1.0,32.°85S±0.°1×178.5W±0.°2,h10km±1km, mb4.6/14,Error ellipse: s-maj=23.1km s-min=17.5km az=78.0*

ISC 25 14:57:44.0±0.8,32.°90S±0.°06×178.°3W±0.°1,h35km,n53, σ1s85/56,mb4.6/9,MS3.6/11,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.64**	**5**	P	**Pn**	**14 58 35.4**	**-2.5**
GLKZ				S	**Sn**	**14 59 17.9**	**-1.7**
RAO	**Raoul Island**	**3.65**	**5**	Pn	**Pn**	**14 58 37.0**	**-1.0**
	52nm,0.3s,baz=109,slow=22,SNR=2.1						
RAO				Sn	**Sn**	**14 59 18.4**	**-1.4**
	97nm,0.3s,baz=115,slow=21,SNR=2.5						
MXZ	**Matakaoa Point**	**5.43**	**210**	Pn	**Pn**	**14 59 01.5**	**-1.0**
MXZ	**Matakaoa Point**	**5.43**	**210**	P	**Pn**	**14 58 60.0**	**-2.6**
MXZ				S	**Sn**	**15 00 00.4**	**-3.4**
WMGZ	**Waiomatatini S**	**5.61**	**208**	P	**Pn**	**14 59 03.8**	**-1.1**
WMGZ				S	**Sn**	**15 00 08.3**	**+0.1**
PKGZ	**Pakihiroa**	**5.81**	**210**	P	**Pn**	**14 59 05.8**	**-2.0**
PKGZ				S	**Sn**	**15 00 12.3**	**-0.8**
HAZ	**Te Kaha**	**5.83**	**213**	P	**Pn**	**14 59 05.6**	**-2.3**
HAZ				S	**Sn**	**15 00 15.4**	**+1.9**
PUZ	**Puketiti**	**5.89**	**208**	P	**Pn**	**14 59 08.7**	**-0.1**
PUZ				S	**Sn**	**15 00 12.0**	**-3.1**
RUGZ	**Raukumara Rang**	**6.04**	**212**	P	**Pn**	**14 59 09.1**	**-1.9**
RUGZ				S	**Sn**	**15 00 17.7**	**-1.4**
TWGZ	**Tauwhareparae**	**6.09**	**209**	P	**Pn**	**14 59 09.3**	**-2.4**
TWGZ				S	**Sn**	**15 00 17.8**	**-2.3**
KUZ	**Kuaotunu**	**6.26**	**231**	P	**Pn**	**14 59 15.0**	**+1.1**
CNGZ	**Carnagh Statio**	**6.27**	**206**	P	**Pn**	**14 59 12.2**	**-1.8**
CNGZ				S	**Sn**	**15 00 22.8**	**-1.6**
TKGZ	**Te Karaka**	**6.37**	**209**	P	**Pn**	**14 59 13.4**	**-2.0**
TKGZ				S	**Sn**	**15 00 23.2**	**-3.7**
MWZ	**Matawai**	**6.42**	**211**	P	**Pn**	**14 59 13.8**	**-2.3**
MWZ				S	**Sn**	**15 00 25.2**	**-2.9**
OPRZ	**Ohinepanea**	**6.50**	**219**	P	**Pn**	**14 59 16.0**	**-1.2**
OPRZ				S	**Sn**	**15 00 29.0**	**-1.1**
URZ	**Urewera**	**6.54**	**214**	Pn	**Pn**	**14 59 14.0**	**-3.8**
	5.6nm,0.3s,baz=33,slow=1.0,SNR=38						
URZ				Sn	**Sn**	**15 00 27.5**	**-3.7**
	18nm,0.3s,baz=100,slow=20,SNR=10.0						
URZ	**Urewera**	**6.54**	**214**		**Pn**	**14 59 15.0**	**-2.8**
NIUE	**Niue**	**15.66**	**30**	Pn	**P**	**15 01 24.1**	**-1.7**
PINNC	**Pines Island,**	**16.27**	**305**	Pn	**Pn**	**15 01 28.8**	**-1.0**
PINNC				IAmb	IAmb	15 01 46.3	
	comp=Z,75nm,1.5s						
DZM	**Mont Dzumac**	**17.32**	**305**	P	**P**	**15 01 45.0**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=190,slow=12,SNR=2.1						
DZM				LR	LR	15 06 53.3	
	comp=Z,423nm,21.8s,baz=68,slow=32						
EIDS	**Eidsvold**	**27.75**	**278**	P	**P**	**15 03 31.5**	**+2.1**
EIDS				IAmb	IAmb	15 03 38.0	
	comp=Z,8.6nm,1.0s						
PPT	**Papeete**	**29.97**	**66**	LR	LR	15 16 07.2	
	comp=Z,80nm,18.6s,baz=212,slow=37						
STKA	**Stephens Creek**	**33.78**	**261**	LR	LR	15 17 34.6	
	comp=Z,311nm,18.4s,baz=40,slow=35						
CTAO	**Charters Tower**	**34.06**	**283**	P	**P**	**15 04 26.8**	**+1.5**
CTAO				IAmb	IAmb	15 04 33.7	
	comp=Z,11nm,1.0s						
AS31	**Alice Springs**	**42.82**	**270**	P	**P**	**15 05 39.2**	**+0.4**
ASAR	**Alice Springs**	**42.82**	**270**	P	**P**	**15 05 39.5**	**+0.7**
	comp=Z,2.9nm,0.7s,baz=110,slow=7.6,SNR=60						
ASAR				LR	LR	15 23 08.3	
	comp=Z,72nm,18.1s,baz=92,slow=36						
ASAR	**Alice Springs**	**42.82**	**270**	P	**P**	**15 05 38.9**	**+0.1**
WR0	**Warramunga Arr**	**43.85**	**275**	P	**P**	**15 05 47.8**	**+0.7**
WB2	**Warramunga Arr**	**44.02**	**275**	P	**P**	**15 05 49.0**	**+0.5**
WRAB	**Tennant Creek**	**44.03**	**275**	P	**P**	**15 05 49.1**	**+0.5**
WRAB				IAmb	IAmb	15 06 04.0	
	comp=Z,7.5nm,0.8s						
WRA	**Warramunga Arr**	**44.03**	**275**	P	**P**	**15 05 49.1**	**+0.6**
	comp=Z,4.9nm,0.4s,baz=119,slow=7.7,SNR=167						
WRA	**Warramunga Arr**	**44.03**	**275**	P	**P**	**15 05 47.9**	**-0.7**
WB0	**Warramunga Arr**	**44.07**	**275**	P	**P**	**15 05 49.3**	**+0.4**
FORT	**Forrest**	**45.24**	**258**	P	**P**	**15 05 57.8**	**-0.4**
FORT				IAmb	IAmb	15 06 12.1	
	comp=Z,9.5nm,0.8s						
VNDA	**Vanda**	**45.59**	**186**	LR	LR	15 21 35.5	
	comp=Z,71nm,20.3s,baz=17,slow=32						
JAY	**Jayapura**	**48.89**	**299**	LR	LR	15 26 46.4	
	comp=Z,62nm,18.3s,baz=98,slow=36						
KNRA	**Kununurra**	**50.72**	**276**	P	**P**	**15 06 40.5**	**-0.1**
KNRA				IAmb	IAmb	15 06 54.4	
	comp=Z,10.0nm,1.1s						
FITZ	**Fitzroy Crossi**	**52.18**	**272**	P	**P**	**15 06 51.8**	**+0.3**
CASY	**Casey**	**52.84**	**209**	P	**P**	**15 06 56.9**	**+1.2**
CASY				IAmb	IAmb	15 07 15.6	
	comp=Z,10nm,1.1s						
NWAO	**Narrogin (SRO)**	**53.35**	**251**	LR	LR	15 28 51.0	
	comp=Z,97nm,19.0s,baz=22,slow=35						
QSPA	**South Pole Qui**	**57.22**	**180**		**P**	**15 07 31.0**	**+3.5**
QSPA				IAmb	IAmb	15 07 47.5	
	comp=Z,5.7nm,0.8s						
GUMO	**Guam**	**58.12**	**317**	LR	LR	15 30 02.0	
	comp=Z,39nm,18.8s,baz=92,slow=33						
MAW	**Mawson**	**69.90**	**201**	LR	LR	15 38 02.0	
	comp=Z,95nm,20.3s,baz=66,slow=35						
PLCA	**Paso Flores**	**80.97**	**133**	LR	LR	15 40 00.8	
	comp=Z,52nm,18.1s,baz=228,slow=31						
KSRS	**Korea Array**	**86.11**	**320**	LR	LR	15 45 58.9	
	comp=Z,18nm,18.3s,baz=142,slow=34						
CPUP	**Villa Florida**	**98.60**	**129**	LR	LR	15 50 40.3	
	comp=Z,47nm,18.6s,baz=224,slow=32						
ARCES	**ARCESS Array B**	**140.97**	**347**	PKhKP	PKPpre	15 17 04.3	
	comp=Z,0.5nm,0.5s,baz=92,slow=2.7,SNR=4.5						
FINES	**FINESS Array B**	**147.40**	**338**	PKPbc	**PKiKP**	**15 17 24.9**	**-0.6**
	comp=Z,3.9nm,0.4s,baz=43,slow=3.6,SNR=39						
NB2	**NORSAR Subarra**	**151.18**	**350**	PKP	**PKiKP**	**15 17 34.4**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=15,slow=2.5						
NOA	**NORSAR Array B**	**151.18**	**350**	PKPbc	**PKiKP**	**15 17 34.5**	**+1.0**
	comp=Z,1.2nm,0.9s,baz=15,slow=4.6,SNR=4.5						
AKASG	**Malin Array Be**	**153.10**	**320**	PKPbc	**PKiKP**	**15 17 38.3**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=66,slow=2.3,SNR=4.0						
BRTR	**Keskin Array B**	**153.51**	**294**	PKPbc	**PKiKP**	**15 17 40.2**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=147,slow=3.9,SNR=10						
TORD	**Torodi Ar. Bea**	**160.34**	**180**	PKPab	**PKPab**	**15 18 22.2**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=160,slow=3.7,SNR=1.9						

*TUL **25** 14:57:53.3±0.8,36.°52N±0.°02×98.°47W±0.°03,h5km±7km, ML2.6,mb_Lg2.4/8(NEIC),Error ellipse: s-maj=3.7km s-min=1.7km az=135.0*

NEIC 25 14:57:53.6±1.1,36.°51N±0.°02×98.°45W±0.°02,h7km±7km, Error ellipse: s-maj=3.6km s-min=0.5km az=144.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.35**	**32**	Pg	Pg	14 58 00.3	-0.3
OK032				Sg	Sg	14 58 05.7	+0.4
CROK	**Carrier**	**0.37**	**90**		Pg	14 58 01.3	+0.4
U32A	**Winter Ranch,**	**0.47**	**255**	Pg	Pg	14 58 02.4	-0.3
U32A				Sg	Sg	14 58 09.3	+0.5
GC02	**Grant County #**	**0.58**	**54**		Pg	14 58 04.9	0.0
KAN14	**Manchester OK**	**0.59**	**41**	Pg	Pg	14 58 05.1	0.0
KAN14				Sg	Sg	14 58 13.3	+0.4
KAN10	**Anthony SW Sta**	**0.68**	**24**	Pg	Pg	14 58 06.5	-0.2
KAN05	**Bluff City Nor**	**0.76**	**37**	Pg	Pg	14 58 07.9	-0.3
KAN17	**Caldwell West**	**0.77**	**45**	Pg	Pg	14 58 08.1	-0.2
KAN16	**Harper SW Stat**	**0.78**	**23**	Pg	Pg	14 58 08.3	-0.4
KAN12	**Harper NE Stat**	**0.87**	**24**	Pg	Pg	14 58 09.7	-0.6
KAN06	**Argonia West S**	**0.88**	**32**	Pg	Pg	14 58 10.0	-0.5
KAN09	**Caldwell North**	**0.91**	**46**	Pg	Pg	14 58 10.9	-0.3
KS20	**Mayfield South**	**1.02**	**44**	Pg	Pg	14 58 12.7	-0.4
BLOK	**Blackwell**	**1.02**	**75**		Pg	14 58 12.9	-0.4
BCOK	**Bluff Creek, N**	**1.08**	**141**	Pg	Pg	14 58 13.9	-0.5
OK025	**Westminster Rd**	**1.29**	**135**	Pn	Pn	14 58 17.9	-0.1
OKCFA	**Oklahoma City**	**1.35**	**143**	Pn	Pn	14 58 18.1	-0.9
OK031	**S. Brethren Rd**	**1.41**	**113**	Pn	Pb	14 58 20.0	-0.3
QUOK	**Quay**	**1.44**	**103**		Pb	14 58 20.6	-0.2
OK030	**Cody Creek RV**	**1.46**	**113**	Pn	Pb	14 58 20.9	-0.2
FNO	**Franklin**	**1.51**	**145**	Pn	Pn	14 58 21.3	+0.2
T35A	**Sooner Cattle**	**1.61**	**75**	Pn	Pb	14 58 23.4	-0.3
WMOK	**Wichita Mounta**	**1.79**	**189**		Pn	14 58 25.5	+0.6
R32A	**Long Quarter,**	**1.93**	**354**	Pn	Pn	14 58 27.6	+0.8
X34A	**Smith Ranch, M**	**1.96**	**165**		Pb	14 58 29.2	-0.5
AMTX	**Amarillo**	**3.09**	**239**	IAmb_Lg		14 59 39.2	
	comp=Z,11nm,0.9s						
HHAR	**Hobbs**	**3.64**	**92**	IAmb_Lg		14 59 52.5	
	comp=Z,6.8nm,0.8s						
S39A	**Bolivar**	**4.26**	**72**	IAmb_Lg		15 00 09.0	
	comp=Z,8.0nm,1.1s						
FCAR	**Ozark Folk Cen**	**5.15**	**95**	IAmb_Lg		15 00 35.2	
	comp=Z,7.1nm,1.3s						

IDC 25 15:00:26.4±1.0,57.°30S×25.°86W,h0km,mb4.1/3, mb1 4.3/3,mb1mx3.9/17,mbtmp4.1/3,Error ellipse: s-maj=44.7km s-min=30.8km az=83.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**45.35**	**182**	P	P	15 08 45.8	+0.3
	1.8nm,0.9s,baz=181,slow=6.8,SNR=9.5						
H10S2	**ASCENSION HYDR**	**49.01**	**15**	T	T	16 02 08.6	
	baz=32,slow=74,SNR=5.8						
H10S3	**ASCENSION HYDR**	**49.01**	**15**	T	T	16 02 08.6	
	baz=188,slow=74,SNR=14						
H10N1	**ASCENSION HYDR**	**50.13**	**15**	T	T	16 03 32.3	
	baz=191						
H10N3	**ASCENSION HYDR**	**50.13**	**15**	T	T	16 03 31.2	
	baz=191						
H10N2	**ASCENSION HYDR**	**50.15**	**15**	T	T	16 03 32.6	
	baz=191						
LPAZ	**La Paz**	**51.70**	**305**	P	P	15 09 36.0	+0.2
	1.5nm,0.4s,baz=125,slow=6.4,SNR=9.4						
TORD	**Torodi Ar. Bea**	**73.80**	**28**	P	P	15 12 03.0	+0.6
	1.0nm,0.5s,baz=200,slow=6.6,SNR=7.4						
SONM	**Songino Array**	**150.06**	**88**	PKPbc	PKPbc	15 20 16.8	-1.2
	0.6nm,0.5s,baz=215,slow=1.8,SNR=2.7						
ILAR	**Eielson Array**	**151.49**	**310**	PKPbc	PKPbc	15 20 19.8	-0.9
	2.1nm,0.8s,baz=122,slow=2.3,SNR=10						

*JMA **25** 15:10:26.9±0.1,24.°60N×121.°98E,h65km±2km,M2.5*
*TAP **25** 15:10:26.9,24.°63N×121.°95E,h66km,ML3.1,B*

ISC 25 15:10:27.0±1.2,24.°66N±0.°03×121.°98E±0.°02,h67km±6km, n80,σ0s63/138,1C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.13**	**247**	*eP*	**Pn**	**15 10 37.1**	**+0.1**
	baz=257						
TWC				*eS*	**Sn**	**15 10 44.3**	**0.0**
	baz=257						
NTC	**Toucheng**	**0.24**	**324**	*eP*	**Pn**	**15 10 37.9**	**+0.4**
	baz=346						
NTC				*eS*	**Sn**	**15 10 45.2**	**0.0**
	baz=346						
NDS	**Dongshan**	**0.24**	**263**	P	**Pn**	**15 10 38.0**	**+0.4**
	baz=272						
NDS				*eS*	**Sn**	**15 10 45.6**	**+0.4**
	baz=272						
EWUT	**Wuta**	**0.28**	**221**	P	**Pn**	**15 10 37.9**	**0.0**
	baz=215						
EWUT				*eS*	**Sn**	**15 10 45.8**	**+0.2**
	baz=215						
TWE	**Neicheng**	**0.29**	**282**	*iP*	**Pn**	**15 10 38.4**	**+0.5**
	baz=291						
TWE				*eS*	**Sn**	**15 10 46.7**	**+0.9**
	baz=291						
ENA	**Nanau**	**0.32**	**224**	P	**Pn**	**15 10 38.0**	**-0.1**
	baz=217						
ENA				*eS*	**Sn**	**15 10 46.2**	**0.0**
	baz=217						
TIPB	**Shuangxi**	**0.34**	**335**	P	**Pn**	**15 10 38.4**	**+0.1**
	baz=344						
TIPB				*eS*	**Sn**	**15 10 46.1**	**-0.4**
	baz=344						
TWB1	**Santiao Chiao**	**0.34**	**1**	P	**Pn**	**15 10 38.2**	**0.0**
	baz=14						
TWB1				*eS*	**Sn**	**15 10 46.1**	**-0.3**
	baz=14						
ENTT	**Nioudou**	**0.38**	**267**	P	**Pn**	**15 10 38.9**	**+0.4**
	baz=279						
NDT	**Datong Townshi**	**0.43**	**262**	*eP*	**Pn**	**15 10 39.3**	**+0.3**
	baz=275						
NDT				*eS*	**Sn**	**15 10 48.0**	**+0.2**
	baz=275						
NWF	**Wu-fen Shan**	**0.45**	**336**	P	**Pn**	**15 10 39.3**	**+0.1**
	baz=343						
NWF				*eS*	**Sn**	**15 10 48.2**	**0.0**
	baz=343						
NWLT	**Wulai**	**0.45**	**285**	*eP*	**Pn**	**15 10 39.4**	**+0.2**
	baz=302						
NWLT				*eS*	**Sn**	**15 10 48.2**	**+0.1**
	baz=302						
TWA	**Mucha**	**0.48**	**311**	P	**Pn**	**15 10 39.6**	**+0.2**
	baz=326						
TWA				*eS*	**Sn**	**15 10 48.6**	**+0.1**
	baz=326						
NHDH	**Xindian Distri**	**0.51**	**306**	P	**Pn**	**15 10 40.1**	**+0.3**
	baz=320						
NHDH				*eS*	**Sn**	**15 10 49.3**	**+0.3**
	baz=320						
YHNB	**Yeheng**	**0.55**	**271**	*eP*	**Pn**	**15 10 40.2**	**0.0**
	baz=275						
YHNB				*eS*	**Sn**	**15 10 49.6**	**-0.3**
	baz=275						
NSK	**Sanguang**	**0.57**	**272**	P	**Pn**	**15 10 40.3**	**-0.1**
	baz=275						
NSK				*eS*	**Sn**	**15 10 49.8**	**-0.4**
	baz=275						
TAP	**Taipei**	**0.57**	**311**	*eP*	**Pn**	**15 10 40.6**	**+0.2**
	baz=317						
TAP				*eS*	**Sn**	**15 10 50.4**	**+0.2**
	baz=317						
NNSB	**Datong**	**0.59**	**247**	*eP*	**Pn**	**15 10 40.7**	**0.0**
	baz=249						
NNSB				*eS*	**Sn**	**15 10 50.4**	**-0.4**
	baz=249						
NNS	**Nan Shan**	**0.60**	**248**	*eP*	**Pn**	**15 10 40.8**	**0.0**
	baz=250						
NNS				*eS*	**Sn**	**15 10 50.4**	**-0.4**
	baz=250						
ETL	**Fush Village**	**0.60**	**213**	*eP*	**Pn**	**15 10 40.5**	**-0.1**
	baz=212						
NACB	**Ninganchiao**	**0.60**	**216**	*eP*	**Pn**	**15 10 40.0**	**-0.6**
	baz=215						
NACB				*eS*	**Sn**	**15 10 49.8**	**-0.8**
	baz=215						
ETLH	**Xiulin Townshi**	**0.64**	**225**	*eP*	**Pn**	**15 10 40.8**	**-0.5**
	baz=234						
ETLH				*eS*	**Sn**	**15 10 51.0**	**-0.6**
	baz=234						
ANP	**Anpu**	**0.67**	**321**	*eP*	**Pn**	**15 10 41.5**	**-0.1**
	baz=333						
ANP				*eS*	**Sn**	**15 10 52.2**	**+0.1**
	baz=333						
TWS1	**Kuangyinshan**	**0.67**	**310**	P	**Pn**	**15 10 40.8**	**-0.7**
	baz=320						
TWS1				*eS*	**Sn**	**15 10 51.8**	**-0.3**
	baz=320						
TWD	**Chiawan**	**0.68**	**211**	*eP*	**Pn**	**15 10 41.0**	**-0.5**
	baz=221						
TWD				*eS*	**Sn**	**15 10 51.2**	**-1.0**
	baz=221						
TWY	**Chenhua**	**0.70**	**330**	*eP*	**Pn**	**15 10 42.2**	**+0.4**
	baz=344						
NCU	**National Centr**	**0.79**	**293**	*eP*	**Pn**	**15 10 42.9**	**+0.2**
	baz=287						
NCU				*eS*	**Sn**	**15 10 54.8**	**+0.5**
	baz=287						
NCUH	**Zhongli**	**0.79**	**293**	*eP*	**Pn**	**15 10 43.1**	**+0.3**
	baz=287						
NCUH				*eS*	**Sn**	**15 10 55.0**	**+0.6**
	baz=287						
FUSS	**Fushou**	**0.79**	**239**	*eP*	**Pn**	**15 10 43.1**	**0.0**
	baz=238						
FUSS				*eS*	**Sn**	**15 10 54.5**	**-0.4**
	baz=238						
WHF	**Hehuan Shan**	**0.83**	**232**	*eP*	**Pn**	**15 10 43.5**	**-0.3**
	baz=227						
WHF				*eS*	**Sn**	**15 10 55.5**	**-0.5**
	baz=227						
TWT	**Tachien**	**0.84**	**241**	*eP*	**Pn**	**15 10 44.0**	**+0.4**
	baz=234						
TWT				*eS*	**Sn**	**15 10 55.9**	**0.0**
	baz=234						
TDCB	**Techi**	**0.85**	**242**	*eP*	**Pn**	**15 10 43.9**	**+0.2**
	baz=234						
TDCB				*eS*	**Sn**	**15 10 55.6**	**-0.5**
	baz=234						
LIOB	**Emei**	**0.88**	**269**	P	**Pn**	**15 10 44.0**	**0.0**
	baz=271						
LIOB				*eS*	**Sn**	**15 10 56.6**	**+0.2**
	baz=271						
NSTT	**Nanjuang**	**0.90**	**268**	P	**Pn**	**15 10 44.0**	**0.0**
	baz=269						
NSTT				*eS*	**Sn**	**15 10 56.6**	**-0.1**
	baz=269						
JYNG	**Yonagunijimaku**	**0.90**	**103**	P	**Pn**	**15 10 44.1**	**0.0**
JYNG				S	**Sn**	**15 10 56.5**	**-0.3**
SBCB	**Hsinchu**	**0.92**	**278**	*eP*	**Pn**	**15 10 44.4**	**+0.1**
	baz=280						
SBCB				*eS*	**Sn**	**15 10 57.3**	**+0.1**
	baz=280						
HSN	**Hsinchu**	**0.93**	**279**	*eP*	**Pn**	**15 10 44.2**	**-0.3**
	baz=283						
HSN				*eS*	**Sn**	**15 10 57.1**	**-0.4**
	baz=283						
CHGB	**Renai**	**0.95**	**231**	*eP*	**Pn**	**15 10 44.9**	**-0.1**
	baz=229						
CHGB				*eS*	**Sn**	**15 10 57.2**	**-1.0**
	baz=229						
YOJ	**Yonaguni jima**	**0.96**	**102**	P	**Pn**	**15 10 44.8**	**0.0**
YOJ				S	**Sn**	**15 10 57.8**	**-0.2**
YOJ	**Yonaguni jima**	**0.96**	**102**	P	**Pn**	**15 10 45.0**	**+0.1**
	baz=93						
YOJ				S	**Sn**	**15 10 57.8**	**-0.2**
	baz=93						
OWD	**Renai**	**1.02**	**226**	*eP*	**Pn**	**15 10 45.4**	**-0.4**
	baz=218						
WHP	**Taichung City**	**1.02**	**248**	P	**Pn**	**15 10 46.3**	**+0.6**
	baz=247						
WHP				*eS*	**Sn**	**15 10 59.9**	**+0.3**
	baz=247						
NMLH	**Miaoli**	**1.09**	**264**	*eP*	**Pn**	**15 10 46.8**	**+0.2**
	baz=264						
NMLH				*eS*	**Sn**	**15 11 01.2**	**+0.1**
	baz=264						
NSY	**Sanyi**	**1.14**	**258**	*eP*	**Pn**	**15 10 47.5**	**+0.3**
	baz=258						
TWQ1	**Liyutan**	**1.15**	**254**	*eP*	**Pn**	**15 10 47.5**	**+0.2**
	baz=254						
TWQ1				*eS*	**Sn**	**15 11 02.6**	**+0.2**
	baz=254						
WCS	**Beigang Elemen**	**1.15**	**239**	*eP*	**Pn**	**15 10 47.9**	**+0.6**
	baz=247						
WCS				*eS*	**Sn**	**15 11 02.9**	**+0.5**
	baz=247						
SMLT	**Sun Moon Lake**	**1.26**	**232**	*eP*	**Pn**	**15 10 49.9**	**+1.0**
	baz=231						
WDJ	**Dajia District**	**1.26**	**256**	*eS*	**Sn**	**15 11 05.1**	**0.0**
	baz=255						
HGSD	**Ruisui**	**1.27**	**204**	*eP*	**Pn**	**15 10 49.1**	**+0.2**
	baz=200						
HGSD				*eS*	**Sn**	**15 11 05.4**	**+0.1**
	baz=200						
TYC	**Yuchr**	**1.27**	**234**	*eP*	**Pn**	**15 10 49.4**	**+0.5**
	baz=226						
TYC				*eS*	**Sn**

	baz=226								
JISG	**Ishigakijimahi**	**2.12**	**92**	P		**Pn**	**15 11 00.4**	**+0.2**	
JISG				S		**Sn**	**15 11 24.8**	**-0.7**	
VWUC	**VWUC**	**2.33**	**279**	*e*P		**Pn**	**15 11 02.0**	**-1.0**	
	baz=277								
MATB	**Ma-tsu**	**2.37**	**309**	*e*P		**Pn**	**15 11 02.9**	**-0.6**	
	baz=311								
MASBT	**Mashibuluo**	**2.39**	**212**	*e*P		**Pn**	**15 11 04.5**	**+0.6**	
	baz=205								
MASBT				*e*S		**Sn**	**15 11 32.1**	**0.0**	
	baz=205								
JTJ	**Tarama**	**2.47**	**90**	P		**Pn**	**15 11 06.1**	**+1.1**	
JTJ				*e*S		**Sn**	**15 11 35.5**	**+1.3**	
PHUB	**P'eng-hu**	**2.48**	**243**	*e*S		**Sn**	**15 11 30.9**	**-3.5**	
	baz=239								
PTMZ	**Houxiangcun**	**2.63**	**279**	*e*P		**Pn**	**15 11 06.2**	**-0.9**	
	baz=276								

DDA ***25*** *15:18:29.6, 38.˚73N×43.˚75E, h4km±3km, ML2.5*
ISK ***25*** *15:18:30.3, 38.˚74N×43.˚64E, h7km, ML2.5/10*

ISC 25 15:18:30.7±1.1, 38.˚74N±0.˚02×43.˚68E±0.˚03, h11km±10km, n27, σ1§16/40, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.26**	**342**	*i* P			**Pg**	**15 18 35.6**	**-0.5**
VMUR				*i* S			**Sb**	**15 18 41.0**	**-1.3**
VMUR				IAML				15 18 43.0	
	comp=E,796nm,0.3s								
VMUR				IAML				15 18 43.0	
	comp=N,877nm,0.7s								
VANB	**Van**	**0.27**	**238**	PG			**Pb**	**15 18 36.5**	**-1.1**
TVAN	**Van**	**0.30**	**225**	*i* P			**Pg**	**15 18 36.2**	**-0.6**
TVAN				*i* S			**Sb**	**15 18 42.7**	**-0.5**
TVAN				IAML				15 18 47.0	
	comp=N,652nm,0.6s								
CLDR	**Caldiran**	**0.45**	**25**	PG			**Pg**	**15 18 39.1**	**-0.4**
CLDR				SG			**Sb**	**15 18 47.1**	**-0.4**
AKDM	**Akdamar-Van**	**0.68**	**233**	PG			**Pg**	**15 18 43.3**	**-0.6**
AKDM				SG			**Sb**	**15 18 53.4**	**-0.9**
ADCV	**BITLIS_Adilcev**	**0.75**	**276**	*i* P			**Pg**	**15 18 44.9**	**-0.2**
ADCV				*i* S			**Sb**	**15 18 56.8**	**+0.6**
DYDN	**Diyadin**	**0.80**	**1**	*i* P			**Pn**	**15 18 47.6**	**-0.6**
MLAZ	**Malazgirt-MUS**	**0.97**	**295**	PG			**Pb**	**15 18 49.2**	**-0.4**
AGRB	**Hanur-Agry**	**0.99**	**328**	PG			**Pg**	**15 18 48.9**	**-0.9**
AGRB				SG			**Sb**	**15 19 03.5**	**+0.3**
HAKT	**HAKKARI**	**1.18**	**179**	*i* P			**Pg**	**15 18 51.4**	**-2.0**
HAKT				*i* S			**Sn**	**15 19 09.7**	**+0.1**
PERV	**Siirt/Pervari-**	**1.19**	**229**	*i* P			**Pn**	**15 18 55.6**	**+2.2**
PERV				IAML				15 19 18.0	
	comp=E,98nm,0.7s								
PERV				IAML				15 19 18.0	
	comp=N,93nm,0.4s								
YOVA	**Hakkari_Yksek**	**1.25**	**157**	*i* P			**Pg**	**15 18 53.6**	**-1.0**
YOVA				*i* S			**Sn**	**15 19 11.8**	**+0.6**
YOVA				IAML				15 19 12.0	
	comp=E,103nm,1.0s								
BLIS	**Bitlis-Merkez**	**1.27**	**256**	*i* P			**Pg**	**15 18 53.1**	**-1.9**
BLIS				*i* S			**Sg**	**15 19 09.6**	**-1.8**
GURO	**Guroymak-BITLI**	**1.30**	**262**	PN			**Pn**	**15 18 54.5**	**-0.5**
GURO				SN			**Sn**	**15 19 13.1**	**+0.7**
TASB	**TASBURUN-IGDIR**	**1.32**	**19**	PN			**Pg**	**15 18 56.2**	**+0.2**
EATA	**Eleskirt**	**1.45**	**321**	*i* P			**Pn**	**15 18 57.2**	**+0.1**
CUKT	**Cukurca**	**1.49**	**182**	PN			**Pg**	**15 18 58.9**	**-0.4**
SRTM	**Siirt_Merkez**	**1.57**	**242**	*i* P			**Pg**	**15 19 00.1**	**-0.7**
SRTM				*i* S			**Sg**	**15 19 23.1**	**+2.0**
SRTM				IAML				15 19 30.0	
	comp=N,45nm,0.7s								
SIRT	**Sirnak**	**1.57**	**219**	PN			**Pb**	**15 18 59.5**	**-0.4**
SIRN	**Sirnak**	**1.59**	**219**	*i* P			**Pg**	**15 19 00.6**	**-0.6**
SIRN				*i* S			**Sg**	**15 19 25.4**	**+3.6**
GNI	**Garni**	**1.63**	**30**	PN			**Pb**	**15 19 00.6**	**-0.3**
MUSM	**Mu-Merkez**	**1.69**	**270**	*i* P			**Pb**	**15 19 01.3**	**-0.6**
HOMI	**Horasan**	**1.89**	**314**	*i* P			**Pg**	**15 19 06.1**	**-0.9**
BTMN	**Batman**	**2.07**	**247**	*i* P			**Pb**	**15 19 07.9**	**-0.5**
ERZM	**Erzurum**	**2.14**	**304**	*i* P			**Pb**	**15 19 10.3**	**+0.7**
ERZM				*i* S			**Sg**	**15 19 41.2**	**+1.8**
EJDE	**Erzurum, Palan**	**2.14**	**301**	*i* P			**Pb**	**15 19 09.2**	**-0.5**
EJDE				IAML				15 19 45.0	
	comp=N,28nm,0.5s								
EMRE	**Erzurum,Aziziy**	**2.46**	**302**	*i* P			**Pb**	**15 19 14.2**	**-0.8**
EMRE				IAML				15 19 40.0	
	comp=E,22nm,0.8s								

NNC 25 15:42:18.8±5.9, 37.˚16N×71.˚18E, h0km, mb3.8, mpv3.4, 3C-3D, Error ellipse: s-maj=46.0km s-min=38.5km az=168.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.96**	**355**	⇓P			Pn	15 43 48.0	-0.2
	1.1nm,0.4s,baz=167,slow=11,SNR=18								
KK31				⇓S			Sn	15 44 57.6	+0.5
	1.1nm,0.3s,baz=175,slow=23,SNR=7.2								
AAK	**Ala-Archa**	**6.03**	**24**	⇑P			Pn	15 43 50.0	+0.5
	2.8nm,0.4s								
AAK				⇓S			Sn	15 45 01.7	+2.5
	6.1nm,0.7s								
TKM2	**Tokmak 2**	**6.67**	**29**	⇑P			Pn	15 43 57.6	-0.7
	1.1nm,0.6s								
TKM2				⇑S			Sn	15 45 15.8	+0.6
	3.9nm,0.9s								

IDC 25 15:48:41.9±8.7, 26.˚27S×28.˚38E, h0km, mb1 2.5/1, mb1mx2.5/26, mbtmp2.6/1, ML2.2/1, Error ellipse: s-maj=77.9km s-min=55.3km az=139.0, South Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**3.63**	**229**	Pn			Pn	15 49 39.5	+0.1
	0.1nm,0.3s,baz=47,slow=17,SNR=1.9								
BOSA				Lg			Lg	15 50 37.2	
	0.3nm,0.3s,baz=337,slow=18,SNR=4.1								
BOSA				Rg			Rg	15 51 05.0	
	1.0nm,0.4s,baz=251,slow=2.5,SNR=1.6								
I47ZA	**BOSHOF INFRASO**	**3.65**	**229**	*i*				16 12 00.0	
	baz=52,slow=324,SNR=3.5								
I35NA	**TSUMEB INFRASO**	**12.20**	**303**	*i*				16 59 50.0	
	baz=127,slow=334,SNR=1.3								

MEX 25 15:54:57.4±0.8, 16.˚75N×94.˚01W, h130km±8km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TGIG		**0.85**	**88**	*i* P			Pn	15 55 17.8	-1.2
TGIG				*i* S			Sn	15 55 33.7	-1.7
CMIG	**Matias Romero**	**0.90**	**293**	*i* P			Pn	15 55 18.2	-1.1
CMIG				*i* S			Sn	15 55 34.6	-1.4
PCIG		**1.28**	**143**	*e*P			Pn	15 55 21.6	-1.5
PCIG				*i* S			Sn	15 55 40.5	-2.1
CCIG	**Comitan**	**1.86**	**104**	*i* P			Pn	15 55 28.6	-1.2
CCIG				*e*S			Sn	15 55 51.9	-2.7
VHO	**Vista Hermosa**	**2.62**	**278**	*e*P			Pn	15 55 38.8	-0.6
VHO				*i* S			Sn	15 56 09.6	-2.0
PEIG	**Puerto Escondi**	**3.10**	**257**	*i* P			Pn	15 55 41.5	-3.8
PEIG				*e*S			Sn	15 56 18.1	-4.2
TOIG	**Toxpalan**	**3.21**	**295**	*e*P			Pn	15 55 45.8	-1.0
TOIG				*e*S			Sn	15 56 22.2	-2.8
YOIG	**Yosondua**	**3.38**	**272**	*e*P			Pn	15 55 47.8	-1.5
YOIG				*i* S			Sn	15 56 25.9	-3.5
HLIG	**Huajuapan de L**	**3.78**	**287**	*e*P			Pn	15 55 53.9	-0.6
HLIG				*e*S			Sn	15 56 35.1	-3.5
PNIG	**Pinotepa**	**3.96**	**266**	*e*P			Pn	15 55 53.6	-3.0
PNIG				*e*S			Sn	15 56 36.0	-6.7
FTIG	**Fresnillo de T**	**4.10**	**287**	*e*P			Pn	15 55 58.4	-0.2
FTIG				*e*S			Sn	15 56 42.1	-4.0

TAP ***25*** *16:02:42.0, 24.˚75N×122.˚97E, h127km, ML3.1, B*
JMA ***25*** *16:02:42.4±0.2, 24.˚71N×122.˚95E, h124km±2km, M2.0*

ISC 25 16:02:42.6±1.5, 24.˚69N±0.˚05×122.˚96E±0.˚03, h123km±9km, n90, σ0§61/158, 7C-5D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.23**	**169**	P			**Pn**	**16 02 59.9**	**+0.2**
YOJ				S			**Sn**	**16 03 12.7**	**+0.2**
YOJ	**Yonaguni jima**	**0.23**	**169**	*i* P			**Pn**	**16 03 00.1**	**+0.4**
	baz=165								
YOJ				*i* S			**Sn**	**16 03 13.0**	**+0.5**
	baz=165								
JYNG	**Yonagunijimaku**	**0.23**	**184**	P			**Pn**	**16 02 59.8**	**+0.1**
JYNG				S			**Sn**	**16 03 12.9**	**+0.4**
IRIF	**Iriomote-Funau**	**0.78**	**116**	P			**Pn**	**16 03 03.0**	**+0.1**
IRIF				*e*S			**Sn**	**16 03 18.3**	**+0.1**
TWB1	**Santiao Chiao**	**0.94**	**290**	*e*P			**Pn**	**16 03 04.6**	**+0.3**
	baz=283								
HATJ	**Hateruma jima**	**0.99**	**129**	P			**Pn**	**16 03 05.3**	**+0.5**
HATJ				*e*S			**Sn**	**16 03 22.4**	**+0.9**
TWC	**Suao**	**1.02**	**266**	⇓P			**Pn**	**16 03 04.8**	**-0.2**
	baz=258								
TWC				*e*S			**Sn**	**16 03 21.2**	**-0.8**
	baz=258								
NTC	**Toucheng**	**1.04**	**280**	*e*P			**Pn**	**16 03 06.1**	**+0.8**
	baz=272								
NTC				*e*S			**Sn**	**16 03 22.2**	**-0.3**
	baz=272								
JKRS	**Kuro-shima**	**1.05**	**115**	P			**Pn**	**16 03 06.2**	**+0.8**
JKRS				S			**Sn**	**16 03 23.2**	**+0.6**
TIPB	**Shuangxi**	**1.07**	**286**	*i* P			**Pn**	**16 03 05.8**	**+0.1**
	baz=276								
TIPB				S			**Sn**	**16 03 22.4**	**-0.7**
	baz=276								
EWUT	**Wuta**	**1.11**	**258**	⇓P			**Pn**	**16 03 06.0**	**0.0**
	baz=250								
EWUT				S			**Sn**	**16 03 23.5**	**-0.1**
	baz=250								
JIJ	**Ishigaki jima**	**1.12**	**106**	P			**Pn**	**16 03 06.2**	**+0.1**
JIJ				S			**Sn**	**16 03 23.3**	**-0.6**
NDS	**Dongshan**	**1.14**	**268**	*e*P			**Pn**	**16 03 06.3**	**+0.1**
	baz=259								
NDS				*e*S			**Sn**	**16 03 23.6**	**-0.6**
	baz=259								
NWF	**Wu-fen Shan**	**1.14**	**290**	*e*P			**Pn**	**16 03 06.5**	**+0.1**
	baz=281								
NWF				*e*S			**Sn**	**16 03 23.7**	**-0.7**
	baz=281								
WFSB	**Wu-fen Shan**	**1.14**	**290**	P			**Pn**	**16 03 06.6**	**+0.3**
	baz=282								
WFSB				S			**Sn**	**16 03 24.4**	**+0.2**
	baz=282								
ENA	**Nanau**	**1.14**	**257**	⇓P			**Pn**	**16 03 06.4**	**+0.1**
	baz=250								
ENA				S			**Sn**	**16 03 24.1**	**-0.1**
	baz=250								
TWE	**Neicheng**	**1.18**	**272**	⇑P			**Pn**	**16 03 06.8**	**+0.1**
	baz=267								
TWE				S			**Sn**	**16 03 24.2**	**-0.7**
	baz=267								
JISG	**Ishigakijimahi**	**1.23**	**94**	P			**Pn**	**16 03 07.2**	**0.0**
JISG				S			**Sn**	**16 03 25.2**	**-0.7**
PCYT	**Pengchaiyu**	**1.24**	**319**	P			**Pn**	**16 03 07.5**	**+0.2**
	baz=317								
PCYT				*e*S			**Sn**	**16 03 25.1**	**-1.1**
	baz=317								
ENTT	**Nioudou**	**1.27**	**268**	P			**Pn**	**16 03 08.2**	**+0.4**
	baz=265								
ENTT				*e*S			**Sn**	**16 03 26.8**	**0.0**
	baz=265								
TWA	**Mucha**	**1.29**	**283**	*e*P			**Pn**	**16 03 08.1**	**+0.3**
	baz=275								
TWA				*e*S			**Sn**	**16 03 26.6**	**-0.4**
	baz=275								
NDT	**Datong Townshi**	**1.32**	**267**	*e*P			**Pn**	**16 03 08.9**	**+0.6**
	baz=262								
NDT				*e*S			**Sn**	**16 03 27.7**	**0.0**
	baz=262								
ETL	**Fush Village**	**1.33**	**247**	*e*P			**Pn**	**16 03 08.4**	**+0.1**
	baz=238								
ETL				*e*S			**Sn**	**16 03 27.8**	**-0.1**
	baz=238								
NWLT	**Wulai**	**1.33**	**274**	*e*P			**Pn**	**16 03 08.8**	**+0.4**
	baz=271								
NWLT				*e*S			**Sn**	**16 03 27.7**	**-0.3**
	baz=271								
NHDH	**Xindian Distri**	**1.34**	**282**	*e*P			**Pn**	**16 03 08.7**	**+0.4**
	baz=270								
NHDH				*e*S			**Sn**	**16 03 27.6**	**-0.4**
	baz=270								
NACB	**Ninganchiao**	**1.35**	**248**	P			**Pn**	**16 03 07.8**	**-0.7**
	baz=240								
NACB				*e*S			**Sn**	**16 03 27.4**	**-0.8**
	baz=240								
TWD	**Chiawan**	**1.39**	**245**	*e*P			**Pn**	**16 03 08.8**	**-0.2**
	baz=237								
TWD				*e*S			**Sn**	**16 03 28.4**	**-0.5**
	baz=237								
ETLH	**Xiulin Townshi**	**1.43**	**251**	P			**Pn**	**16 03 09.4**	**-0.1**
	baz=248								
ETLH				S			**Sn**	**16 03 29.6**	**-0.4**
	baz=248								
YHNB	**Yeheng**	**1.45**	**270**	⇑*i*P			**Pn**	**16 03 10.0**	**+0.4**
	baz=272								
YHNB				S			**Sn**	**16 03 29.9**	**-0.4**
	baz=272								
NSK	**Sanguang**	**1.46**	**270**	*i* P			**Pn**	**16 03 10.1**	**+0.2**
	baz=272								
NSK				S			**Sn**	**16 03 30.1**	**-0.5**
	baz=272								
NNSB	**Datong**	**1.46**	**260**	P			**Pn**	**16 03 10.0**	**0.0**
	baz=252								
NNSB				*e*S			**Sn**	**16 03 30.2**	**-0.5**
	baz=252								
NNS	**Nan Shan**	**1.47**	**261**	P			**Pn**	**16 03 10.1**	**+0.1**
	baz=252								
NNS				*e*S			**Sn**	**16 03 30.3**	**-0.5**
	baz=252								
ETM	**Tongmen**	**1.52**	**242**	*e*P			**Pn**	**16 03 10.2**	**-0.3**
	baz=237								
ETM				*e*S			**Sn**	**16 03 31.4**	**-0.3**
	baz=237								
JTJ	**Tarama**	**1.58**	**91**	P			**Pn**	**16 03 11.3**	**+0.1**
JTJ				S			**Sn**	**16 03 32.2**	**-0.7**
TEGC	**Jichi Village**	**1.62**	**234**	*e*P			**Pn**	**16 03 11.9**	**+0.3**
	baz=230								
TEGC				*e*S			**Sn**	**16 03 33.1**	**-0.7**
	baz=230								
FUSS	**Fushou**	**1.63**	**255**	⇑*e*P			**Pn**	**16 03 12.1**	**+0.1**
	baz=249								
FUSS				*e*S			**Sn**	**16 03 33.8**	**-0.5**
	baz=249								
WHF	**Hehuan Shan**	**1.64**	**251**	⇑*i*P			**Pn**	**16 03 12.3**	**0.0**
	baz=249								
WHF				S			**Sn**	**16 03 34.5**	**-0.4**
	baz=249								
ESL	**Shilin**	**1.65**	**238**	*e*P			**Pn**	**16 03 11.6**	**-0.3**
	baz=236								
ESL				*e*S			**Sn**	**16 03 33.3**	**-1.0**
	baz=236								
TWT	**Tachien**	**1.69**	**256**	*e*P			**Pn**	**16 03 12.5**	**-0.1**
	baz=250								
TWT				*e*S			**Sn**	**16 03 35.1**	**-0.3**
	baz=250								
TDCB	**Techi**	**1.70**	**256**	⇑*e*P			**Pn**	**16 03 13.2**	**+0.4**
	baz=250								
TDCB				*e*S			**Sn**	**16 03 34.9**	**-0.8**
	baz=250								
EGFH	**Guangfu**	**1.73**	**235**	P			**Pn**	**16 03 12.8**	**-0.1**
	baz=236								
EGFH				*e*S			**Sn**	**16 03 35.6**	**-0.4**
	baz=236								
CHGB	**Renai**	**1.75**	**250**	⇑*i*P			**Pn**	**16 03 13.7**	**+0.3**
	baz=242								
CHGB				*i* S			**Sn**	**16 03 36.2**	**-0.5**
	baz=242								
LIOB	**Emei**	**1.77**	**269**	P			**Pn**	**16 03 13.6**	**+0.2**
	baz=267								
LIOB				*e*S			**Sn**	**16 03 36.6**	**-0.4**
	baz=267								
OWD	**Renai**	**1.79**	**246**	P			**Pn**	**16 03 13.9**	**+0.2**
	baz=240								
OWD				*e*S			**Sn**	**16 03 36.9**	**-0.6**
	baz=240								
NSTT	**Nanjuang**	**1.79**	**269**	P			**Pn**	**16 03 13.8**	**+0.2**
	baz=266								
NSTT				*e*S			**Sn**	**16 03 36.7**	**-0.6**
	baz=266								
HGSD	**Ruisui**	**1.84**	**230**	P			**Pn**	**16 03 14.2**	**-0.1**
	baz=227								
HGSD				*e*S			**Sn**	**16 03 38.4**	**0.0**
	baz=227								
WHP	**Taichung City**	**1.88**	**258**	*e*P			**Pn**	**16 03 15.9**	**+1.0**
	baz=254								
WHP				*e*S			**Sn**	**16 03 39.7**	**+0.2**
	baz=254								
EHY	**Hungye**	**1.91**	**232**	P			**Pn**	**16 03 14.7**	**-0.4**
	baz=230								
EHY				*e*S			**Sn**	**16 03 39.0**	**-0.9**
	baz=230								
ECBN	**Changbin**	**1.94**	**226**	*e*P			**Pn**	**16 03 15.7**	**+0.2**
	baz=220								
WPL	**Puli Township**	**1.95**	**250**	*e*P			**Pn**	**16 03 15.6**	**0.0**
	baz=247								
DPDB	**Guoxing**	**1.97**	**251**	*e*P			**Pn**	**16 03 16.8**	**+0.9**
	baz=247								
WCS	**Beigang Elemen**	**1.97**	**252**	P			**Pn**	**16 03 17.0**	**+1.1**
	baz=250								
WCS				*e*S			**Sn**	**16 03 41.2**	**-0.1**
	baz=250								
NMLH	**Miaoli**	**1.98**	**266**	*e*P			**Pn**	**16 03 16.1**	**+0.1**
	baz=271								
NMLH				*e*S			**Sn**	**16 03 41.0**	**-0.6**
	baz=271								
YULB	**Yu-li**	**1.99**	**230**	⇑P			**Pn**	**16 03 15.9**	**-0.3**
	baz=235								
YULB				*e*S			**Sn**	**16 03 41.1**	**-0.7**
	baz=235								
EYUL	**Yuli**	**2.01**	**229**	*e*P			**Pn**	**16 03 16.9**	**+0.5**
	baz=225								
JIRB	**Irabujima**	**2.01**	**85**	P			**Pn**	**16 03 16.4**	**0.0**
JIRB				S			**Sn**	**16 03 41.4**	**-0.8**
TWF1	**Yuli**	**2.02**	**229**	P			**Pn**	**16 03 16.3**	**-0.2**
	baz=235								
TWQ1	**Liyutan**	**2.02**	**261**	*e*P			**Pn**	**16 03 17.0**	**+0.4**
	baz=259								
TWQ1				*e*S			**Sn**	**16 03 42.0**	**-0.5**
	baz=259								
SSLB	**Suanglung**	**2.04**	**244**	*e*P			**Pn**	**16 03 17.2**	**+0.4**
	baz=240								
SSLB				*e*S			**Sn**	**16 03 42.5**	**-0.4**
	baz=240								
SMLT	**Sun Moon Lake**	**2.05**	**247**	P			**Pn**	**16 03 17.7**	**+0.8**
	baz=240								
SMLT				*e*S			**Sn**	**16 03 43.2**	**+0.1**
	baz=240								
TYC	**Yuchr**	**2.07**	**248**	⇓P			**Pn**	**16 03 18.0**	**+0.9**
	baz=242								
TYC				*e*S			**Sn**	**16 03 43.7**	**+0.1**
	baz=242								
JMJ	**Miyako jima 2**	**2.12**	**86**	*e*P			**Pn**	**16 03 17.9**	**+0.2**
	baz=87								
FULB	**Fuli**	**2.13**	**226**	*e*P			**Pn**	**16 03 18.0**	**+0.1**
	baz=220								
FULB				*e*S			**Sn**	**16 03 44.7**	**-0.1**
	baz=220								
WDJ	**Dajia District**	**2.14**	**261**	*e*P			**Pn**	**16 03 17.8**	**-0.2**
	baz=260								
CHKT	**Chengkung**	**2.15**	**223**	*e*P			**Pn**	**16 03 15.9**	**-2.2**
	baz=219								
CHKT				*e*S			**Sn**	**16 03 44.9**	**-0.4**
	baz=219								
WHYT	**Xinyi Township**	**2.16**	**243**	*e*P			**Pn**	**16 03 19.3**	**+1.0**
	baz=241								
WHYT				*e*S			**Sn**	**16 03 47.1**	**+1.5**
	baz=241								
WNT	**Mingjian**	**2.23**	**249**	*e*P			**Pn**	**16 03 19.6**	**+0.5**
	baz=247								
WNT				*e*S			**Sn**	**16 03 48.0**	**+0.9**
	baz=247								
ECS	**Chishang**	**2.25**	**226**	*e*P			**Pn**	**16 03 19.3**	**-0.1**
	baz=233								
EDH	**Donghe**	**2.28**	**222**	P			**Pn**	**16 03 19.4**	**-0.4**
	baz=220								
EDH				*e*S			**Sn**	**16 03 47.8**	**-0.5**
	baz=220								
ALS	**Alishan**	**2.29**	**240**	⇓*i*P			**Pn**	**16 03 20.9**	**+0.7**
	baz=233								
ALS				*e*S			**Sn**	**16 03 49.4**	**+0.5**
	baz=233								
ELDTW	**Lidau**	**2.32**	**230**	P			**Pn**	**16 03 20.4**	**+0.1**
	baz=225								
ELDTW				*e*S			**Sn**	**16 03 48.6**	**-0.7**
	baz=225								
CHN5	**Tsauling**	**2.35**	**243**	*e*P			**Pn**	**16 03 21.7**	**+1.0**
	baz=234								
CHN5				*e*S			**Sn**	**16 03 51.0**	**+1.1**
	baz=234								
LDUT	**Ludao**	**2.43**	**215**	P			**Pn**	**16 03 21.3**	**-0.3**
	baz=212								
LDUT				*e*S			**Sn**	**16 03 49.9**	**-1.6**
	baz=212								
LONT	**Longtian**	**2.44**	**224**	*e*P			**Pn**	**16 03 21.9**	**+0.1**
	baz=229								
WRL	**Guolierlin Hig**	**2.49**	**252**	*e*P			**Pn**	**16 03 22.5**	**+0.1**
	baz=258								
WRL				*e*S			**Sn**	**16 03 52.1**	**-0.8**
	baz=258								
STYH	**Taoyuan**	**2.51**	**233**	*e*P			**Pn**	**16 03 23.6**	**+1.0**
	baz=229								
STYH				*e*S			**Sn**	**16 03 52.6**	**-0.7**
	baz=229								
STYT	**Tauyuan**	**2.52**	**234**	*e*P			**Pn**	**16 03 23.8**	**+0.8**
	baz=228								
TWGBT	**Beinan**	**2.54**	**223**	*e*P			**Pn**	**16 03 22.6**	**-0.4**
	baz=228								
TWG	**Pinlang**	**2.54**	**223**	*e*P			**Pn**	**16 03 22.7**	**-0.4**
	baz=228								
TPUB	**Ta-pu**	**2.54**	**238**	*e*P			**Pn**	**16 03 23.8**	**+0.7**
	baz=230								
TPUB				*e*S			**Sn**	**16 03 56.0**	**+1.8**
	baz=230								
CHN4	**Tsaushan**	**2.54**	**239**	*e*P			**Pn**	**16 03 23.9**	**+0.9**
	baz=237								
CHN4				*e*S			**Sn**	**16 03 55.7**	**+1.5**
	baz=237								
WTP	**Ta-pu**	**2.58**	**237**	*e*P			**Pn**	**16 03 24.9**	**+1.2**
	baz=236								
TWK	**Hsinying**	**2.67**	**239**	*e*P			**Pn**	**16 03 25.3**	**+0.5**
	baz=237								
CHN1	**Nanshi**	**2.68**	**237**	*e*P			**Pn**	**16 03 25.8**	**+0.9**
	baz=244								
SGST	**Jiashian**	**2.70**	**234**	*e*P			**Pn**	**16 03 26.3**	**+1.1**
	baz=228								
SLGT	**Liugui**	**2.71**	**232**	*e*P			**Pn**	**16 03 26.1**	**+0.8**
	baz=225								
SSD	**Sandimen**	**2.88**	**228**	*e*P			**Pn**	**16 03 28.0**	**+0.5**
	baz=227								
LAY	**Lan-yu**	**2.94**	**207**	*e

	baz=222								
ETM				*e*S		**Sg**	**16 10 56.7**	**+0.1**	
	baz=222								
NNSB	**Datong**	**0.40**	**309**	⇓*i*P		**Pg**	**16 10 54.5**	**+0.1**	
	baz=308								
NNSB				S		**Sg**	**16 11 00.3**	**+0.6**	
	baz=308								
NNS	**Nan Shan**	**0.41**	**309**	⇓*i*P		**Pg**	**16 10 54.7**	**+0.1**	
	baz=309								
NNS				*i* S		**Sg**	**16 11 00.7**	**+0.5**	
	baz=309								
WHF	**Hehuan Shan**	**0.42**	**265**	⇓*i*P		**Pg**	**16 10 54.8**	**-0.2**	
	baz=263								
WHF				S		**Sg**	**16 11 01.0**	**+0.5**	
	baz=263								
FUSS	**Fushou**	**0.44**	**279**	⇓*e*P		**Pg**	**16 10 55.6**	**+0.3**	
	baz=277								
FUSS				S		**Sg**	**16 11 02.0**	**+0.8**	
	baz=277								
TWC	**Suao**	**0.44**	**15**	P		**Pg**	**16 10 55.0**	**-0.2**	
	baz=17								
TWC				*e*S		**Sg**	**16 11 01.1**	**0.0**	
	baz=17								
ESL	**Shilin**	**0.45**	**216**	⇓P		**Pg**	**16 10 54.9**	**-0.5**	
	baz=213								
NDS	**Dongshan**	**0.45**	**359**	P		**Pg**	**16 10 55.3**	**-0.1**	
NDS				*e*S		**Sg**	**16 11 01.7**	**+0.3**	
NDT	**Datong Townshi**	**0.46**	**336**	⇓*i*P		**Pg**	**16 10 55.9**	**+0.3**	
	baz=335								
NDT				*e*S		**Sb**	**16 11 02.6**	**-1.2**	
	baz=335								
ENTT	**Nioudou**	**0.48**	**343**	⇓*i*P		**Pg**	**16 10 56.1**	**+0.1**	
	baz=343								
ENTT				S		**Sg**	**16 11 02.9**	**+0.6**	
	baz=343								
TWT	**Tachien**	**0.51**	**278**	*e*P		**Pg**	**16 10 56.9**	**+0.5**	
	baz=276								
TWT				*e*S		**Sb**	**16 11 04.5**	**-0.7**	
	baz=276								
CHGB	**Renai**	**0.52**	**257**	⇓P		**Pg**	**16 10 56.7**	**0.0**	
	baz=255								
CHGB				S		**Sg**	**16 11 03.9**	**+0.4**	
	baz=255								
TDCB	**Techi**	**0.52**	**278**	⇓*e*P		**Pg**	**16 10 57.0**	**+0.3**	
	baz=277								
TDCB				*e*S		**Sg**	**16 11 03.9**	**+0.2**	
	baz=277								
TWE	**Neicheng**	**0.54**	**355**	⇓*i*P		**Pg**	**16 10 57.1**	**+0.1**	
	baz=356								
TWE				*e*S		**Sg**	**16 11 04.7**	**+0.5**	
	baz=356								
OWD	**Renai**	**0.55**	**246**	*e*P		**Pg**	**16 10 57.0**	**-0.2**	
	baz=244								
OWD				*e*S		**Sg**	**16 11 04.8**	**+0.3**	
	baz=244								
EGFH	**Guangfu**	**0.58**	**208**	P		**Pg**	**16 10 57.4**	**-0.3**	
	baz=206								
EGFH				*e*S		**Sb**	**16 11 06.8**	**-0.2**	
	baz=206								
YHNB	**Yeheng**	**0.58**	**327**	⇓P		**Pg**	**16 10 58.1**	**+0.3**	
	baz=327								
YHNB				S		**Sg**	**16 11 06.1**	**+0.6**	
	baz=327								
NSK	**Sanguang**	**0.60**	**326**	*i* P		**Pg**	**16 10 58.3**	**+0.2**	
	baz=326								
NSK				*i* S		**Sb**	**16 11 06.7**	**-0.9**	
	baz=326								
NWLT	**Wulai**	**0.63**	**341**	P		**Pg**	**16 10 58.6**	**-0.1**	
	baz=341								
NWLT				*e*S		**Sg**	**16 11 07.3**	**+0.3**	
	baz=341								
NTC	**Toucheng**	**0.68**	**8**	*e*P		**Pg**	**16 10 59.4**	**-0.3**	
	baz=8.0								
NTC				*e*S		**Sg**	**16 11 08.9**	**+0.3**	
	baz=8.0								
WHP	**Taichung City**	**0.72**	**278**	*e*P		**Pg**	**16 11 00.5**	**+0.1**	
	baz=277								
WHP				*e*S		**Sb**	**16 11 10.7**	**-0.4**	
	baz=277								
WPL	**Puli Township**	**0.72**	**257**	P		**Pg**	**16 11 00.3**	**-0.2**	
	baz=255								
WPL				S		**Sb**	**16 11 10.6**	**-0.5**	
	baz=255								
HGSD	**Ruisui**	**0.74**	**202**	*e*P		**Pb**	**16 11 01.4**	**-0.1**	
	baz=200								
DPDB	**Guoxing**	**0.74**	**259**	*e*P		**Pg**	**16 11 01.0**	**+0.1**	
	baz=257								
WCS	**Beigang Elemen**	**0.75**	**261**	*e*P		**Pg**	**16 11 01.1**	**+0.1**	
	baz=259								
WCS				*e*S		**Sb**	**16 11 11.5**	**-0.6**	
	baz=259								
EHY	**Hungye**	**0.77**	**209**	P		**Pg**	**16 11 00.7**	**-0.6**	
	baz=207								
EHY				*e*S		**Sb**	**16 11 12.5**	**+0.1**	
	baz=207								
LIOB	**Emei**	**0.79**	**306**	*e*P		**Pb**	**16 11 02.3**	**-0.2**	
	baz=305								
TIPB	**Shuangxi**	**0.79**	**7**	*e*P		**Pg**	**16 11 01.4**	**-0.5**	
	baz=7.0								
TIPB				*e*S		**Sb**	**16 11 12.9**	**-0.4**	
	baz=7.0								
NSTT	**Nanjuang**	**0.80**	**304**	*e*P		**Pb**	**16 11 02.1**	**-0.4**	
	baz=304								
NSTT				*e*S		**Sb**	**16 11 13.0**	**-0.4**	
	baz=304								
SSLB	**Suanglung**	**0.81**	**241**	⇑*e*P		**Pg**	**16 11 01.8**	**-0.2**	
	baz=240								
SSLB				S		**Sg**	**16 11 12.5**	**0.0**	
	baz=240								
SMLT	**Sun Moon Lake**	**0.81**	**249**	*e*P		**Pb**	**16 11 02.8**	**0.0**	
	baz=247								
TYC	**Yuchr**	**0.84**	**251**	*e*P		**Pg**	**16 11 02.5**	**-0.2**	
	baz=249								
TYC				*e*S		**Sb**	**16 11 14.2**	**-0.3**	
	baz=249								
TWB1	**Santiao Chiao**	**0.86**	**16**	*e*P		**Pg**	**16 11 02.9**	**-0.2**	
	baz=17								
YULB	**Yu-li**	**0.88**	**207**	*e*P		**Pg**	**16 11 02.9**	**-0.5**	
	baz=205								
YULB				*e*S		**Sb**	**16 11 15.4**	**-0.2**	
	baz=205								
TWQ1	**Liyutan**	**0.88**	**281**	*e*P		**Pn**	**16 11 04.9**	**-0.2**	
	baz=280								
NWF	**Wu-fen Shan**	**0.89**	**3**	*e*P		**Pg**	**16 11 03.8**	**+0.1**	
	baz=3.0								
WFSB	**Wu-fen Shan**	**0.89**	**3**	*e*P		**Pg**	**16 11 03.3**	**-0.4**	
	baz=3.0								
TWF1	**Yuli**	**0.91**	**205**	*e*P		**Pg**	**16 11 03.7**	**-0.4**	
	baz=204								
WHYT	**Xinyi Township**	**0.93**	**239**	*e*P		**Pb**	**16 11 04.9**	**+0.1**	
	baz=238								
ALS	**Alishan**	**1.07**	**232**	P		**Pg**	**16 11 06.8**	**-0.4**	
	baz=230								
ALS				*e*S		**Sb**	**16 11 21.8**	**+0.2**	
	baz=230								
CHN5	**Tsauling**	**1.12**	**239**	P		**Pb**	**16 11 08.0**	**-0.1**	
	baz=238								
CHN5				*e*S		**Sn**	**16 11 24.5**	**+0.7**	
	baz=238								
JYNG	**Yonagunijimaku**	**1.15**	**76**	P		**Pn**	**16 11 09.5**	**+0.8**	
JYNG				*e*S		**Sn**	**16 11 25.0**	**+0.6**	
ELDTW	**Lidau**	**1.18**	**213**	*e*P		**Pb**	**16 11 08.3**	**-0.8**	
	baz=212								
ELDTW				*e*S		**Sn**	**16 11 25.1**	**-0.4**	
	baz=212								
CHN4	**Tsaushan**	**1.32**	**232**	*e*P		**Pn**	**16 11 11.1**	**0.0**	
	baz=230								
CHN4				*e*S		**Sg**	**16 11 30.3**	**+1.1**	
	baz=230								
STYH	**Taoyuan**	**1.33**	**221**	*e*P		**Pn**	**16 11 10.7**	**-0.5**	
	baz=220								
TPUB	**Ta-pu**	**1.33**	**229**	*e*P		**Pb**	**16 11 11.7**	**+0.1**	
	baz=228								
TPUB				*e*S		**Sb**	**16 11 28.8**	**0.0**	
	baz=228								
WTP	**Ta-pu**	**1.38**	**228**	*e*P		**Pn**	**16 11 11.3**	**-0.6**	
	baz=226								
WTP				*e*S		**Sb**	**16 11 29.9**	**-0.3**	
	baz=226								
IRIF	**Iriomote-Funau**	**1.84**	**85**	*e*S		**Sn**	**16 11 42.4**	**+0.9**	

TAP 25 16:10:58.7, 24.97N×122.67E, h16km±3km, ML2.7, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.59**	**148**	P	Pg	16 11 09.8	-0.6
YOJ	**Yonaguni jima**	**0.59**	**148**	*i* P	Pg	16 11 10.2	-0.1
	baz=148						
YOJ	**Yonaguni jima**	**0.59**	**148**	*i* S	Sg	16 11 14.7	-3.5
	baz=148						
TWB1	**Santiao Chiao**	**0.62**	**274**	*i* P	Pb	16 11 11.1	-0.1
	baz=273						
TWB1				*e*S	Sb	16 11 20.0	+0.3
	baz=273						
TIPB	**Shuangxi**	**0.77**	**271**	*e*P	Pg	16 11 13.6	-0.1
	baz=257						
NTC	**Toucheng**	**0.77**	**262**	*e*P	Pb	16 11 14.1	+0.3
	baz=262						
NWF	**Wu-fen Shan**	**0.81**	**278**	*e*P	Pg	16 11 15.1	+0.5
	baz=277						
WFSB	**Wu-fen Shan**	**0.81**	**278**	*e*P	Pg	16 11 14.9	+0.3
	baz=277						
TWC	**Suao**	**0.83**	**245**	P	Pb	16 11 13.9	-0.8
	baz=244						
PCYT	**Pengchaiyu**	**0.85**	**321**	P	Pg	16 11 15.7	+0.3
	baz=331						
ILA	**Ilan**	**0.86**	**257**	*e*P	Pb	16 11 14.9	-0.4
	baz=256						
NDS	**Dongshan**	**0.93**	**249**	*e*P	Pn	16 11 17.2	0.0
	baz=238						
TWE	**Neicheng**	**0.94**	**255**	*e*P	Pn	16 11 17.5	+0.2
	baz=254						
EWUT	**Wuta**	**0.96**	**238**	*e*P	Pg	16 11 17.5	+0.1
	baz=237						
ENA	**Nanau**	**1.00**	**238**	P	Pn	16 11 18.5	+0.4
	baz=237						
TWY	**Chenhua**	**1.02**	**288**	*e*P	Pb	16 11 17.9	-0.1
	baz=287						
ENTT	**Nioudou**	**1.05**	**252**	*e*P	Pg	16 11 19.6	+0.5
	baz=252						
NDT	**Datong Townshi**	**1.11**	**251**	*e*P	Pg	16 11 20.6	+0.4
	baz=251						
YHNB	**Yeheng**	**1.21**	**256**	*e*P	Pn	16 11 21.0	-0.2
	baz=269						
NSK	**Sanguang**	**1.23**	**257**	*e*P	Pb	16 11 21.9	+0.2
	baz=269						
NACB	**Ninganchiao**	**1.26**	**231**	*e*P	Pb	16 11 22.2	+0.2
	baz=221						
NNSB	**Datong**	**1.29**	**246**	*e*P	Pb	16 11 23.0	+0.3
	baz=245						
NNS	**Nan Shan**	**1.29**	**246**	*e*P	Pg	16 11 23.2	-0.4
	baz=245						
TWD	**Chiawan**	**1.32**	**228**	*e*P	Pb	16 11 23.6	+0.5
	baz=227						
ETLH	**Xiulin Townshi**	**1.32**	**235**	*e*P	Pg	16 11 24.0	-0.2
	baz=234						
FUSS	**Fushou**	**1.48**	**241**	*e*P	Pb	16 11 26.5	+0.4
	baz=241						
WHF	**Hehuan Shan**	**1.52**	**238**	*e*P	Pb	16 11 27.2	+0.4
	baz=237						

MEX 25 16:21:30.6±0.4, 18.07N×100.51W, h49km±5km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.26**	**36**	*i* P	Pn	16 21 37.9	-1.5
ARIG				*i* S	Sn	16 21 43.6	-1.9
MEIG	**Mezcala**	**0.86**	**99**	*i* P	Pn	16 21 44.7	-1.8
MEIG				*i* S	Sn	16 21 55.8	-2.3
PLIG	**Platanillo**	**1.01**	**71**	*i* P	Pn	16 21 47.0	-1.6
PLIG				*i* S	Sn	16 21 59.8	-2.0
DAIG	**Los Arroyos**	**1.32**	**142**	*e*P	Pn	16 21 51.6	-1.1
DAIG				*e*S	Sn	16 22 07.8	-1.4

MEX 25 16:32:55.4±0.8, 15.21N×92.52W, h109km±9km, MD3.7, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.39**	**141**	*i* P	Pn	16 33 10.3	-1.2
THIG				*i* S	Sn	16 33 21.8	-1.7
PCIG		**0.84**	**306**	*e*P	Pn	16 33 12.9	-2.0
PCIG				*e*S	Sn	16 33 28.5	-1.1
CMIG	**Matias Romero**	**2.95**	**310**	*e*P	Pn	16 33 41.2	+0.5
CMIG				*e*S	Sn	16 34 08.6	-7.0

*IDC **25** 16:37:13.2±1.3, 55.44S×142.81W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.8/20, mbtmp3.8/3, MS4.0/20, Ms1 4.0/20, ms1mx3.9/25, Error ellipse: s-maj=381.5km s-min=31.6km az=176.0*

*GCMT **25** 16:37:19.0±0.2, 56.93S±0.01×141.73W±0.02, h23km±1km, MW5.1/110, Moment Tensor Solution. s60,c73; s110,c167; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.23±.16; Mθθ4.22±.17; Mϕϕ-3.99±.13; Mrθ-0.23±.22; Mθϕ3.01±.10; Mϕr0.36±.18; Best double couple: Mo5.10900×10^16 NP1:ϕ207.00000°, δ86.00000°, λ-177.00000°. NP2:ϕ117.00000°, δ87.00000°, λ-4.00000°. Principal axes: T 5.2070, Plg1.0000°, Azm162.0000°; N -0.1920, Plg85.0000°, Azm265.0000°; P -5.0110, Plg5.0000°, Azm72.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 25 16:37:14.6±1.2, 56.4S±0.2×142.6W±0.2, h10km, n42, σ0s49/7, mb4.0/3, MS4.1/22, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**28.36**	**202**	LR	LR	16 50 57.2	
	comp=Z,310nm,21.0s,baz=78,slow=28						
URZ	**Urewera**	**32.19**	**287**	LR	LR	16 53 48.8	
	comp=Z,410nm,21.3s,baz=32,slow=31						
RKT	**Rikitea**	**33.74**	**13**	*e*T	T	17 19 23.8	
	3.2nm,0.3s						
RAO	**Raoul Island**	**36.84**	**303**	LR	LR	16 57 07.7	
	comp=Z,62nm,19.9s,baz=119,slow=33						
RAR	**Rarotonga**	**37.41**	**333**	LR	LR	16 55 48.1	
	comp=Z,180nm,19.8s,baz=169,slow=31						
MEH	**Mehetia**	**38.72**	**352**	*e*T	T	17 25 30.6	
	10nm,0.2s						
PPT2	**Papeete2**	**39.14**	**349**	*e*S	**S**	**16 50 41.7**	**-0.3**
PPT2	169nm,27.5s						
				*e*LR	LR	16 55 18.8	
	comp=Z,1μm,28.5s,baz=198						
PPT	**Papeete**	**39.16**	**349**	LR	LR	16 56 54.6	
	comp=Z,222nm,19.0s,baz=181,slow=31						
VAH	**Vaihoa**	**41.30**	**353**	*e*T	T	17 28 44.4	
	7.7nm,0.2s						
TAOE	**Nuku Hiva Isla**	**47.50**	**3**	*e*S	**S**	**16 52 44.9**	**+0.4**
TAOE	131nm,28.0s						
				*e*LR	LR	16 59 14.5	
	comp=Z,582nm,28.8s,baz=202						
AFI	**Afiamalu**	**47.97**	**320**	LR	LR	17 00 29.5	
	comp=Z,93nm,19.3s,baz=151,slow=30						
H03S2	**Juan Fernandez**	**48.24**	**90**	T	T	17 37 13.0	
	baz=219,slow=74,SNR=110						
H03S1	**Juan Fernandez**	**48.25**	**90**	T	T	17 37 14.3	
	baz=219,slow=74,SNR=104						
H03S3	**Juan Fernandez**	**48.26**	**90**	T	T	17 37 14.2	
	baz=219,slow=74,SNR=101						
H03N3	**Juan Fernandez**	**48.52**	**90**	T	T	17 37 25.0	
	baz=222,slow=72,SNR=116						
H03N2	**Juan Fernandez**	**48.53**	**90**	T	T	17 37 32.8	
	baz=222,slow=72,SNR=165						
H03N1	**Juan Fernandez**	**48.54**	**90**	T	T	17 37 23.9	
	baz=222,slow=72,SNR=133						
MSVF	**Monsavu**	**48.62**	**306**	LR	LR	17 03 51.4	
	comp=Z,96nm,18.3s,baz=147,slow=33						
DZM	**Mont Dzumac**	**50.57**	**291**	LR	LR	17 04 50.6	
	comp=Z,167nm,18.5s,baz=88,slow=33						
DZM	**Mont Dzumac**	**50.57**	**291**	*e*LR	LR	17 00 29.5	
	comp=Z,272nm,24.9s						
MAW	**Mawson**	**54.84**	**192**	LR	LR	17 07 00.2	
	comp=Z,163nm,21.2s,baz=154,slow=32						
STKA	**Stephens Creek**	**56.44**	**262**	LR	LR	17 06 19.7	
	comp=Z,148nm,21.6s,baz=175,slow=31						
LVC	**Linn Verde**	**62.48**	**90**	LR	LR	17 07 16.4	
	comp=Z,61nm,21.9s,baz=228,slow=29						
HNR	**Honiara**	**64.53**	**293**	LR	LR	17 10 06.0	
	comp=Z,77nm,20.2s,baz=139,slow=31						
ASAR	**Alice Springs**	**67.08**	**262**	P	**P**	**16 48 08.3**	**+0.2**
	1.3nm,1.1s,baz=145,slow=6.3,SNR=7.2						
ASAR				LR	LR	17 13 12.5	
	comp=Z,90nm,21.8s,baz=160,slow=32						
LPAZ	**La Paz**	**67.99**	**86**	P	**P**	**16 48 14.7**	**0.0**
	1.2nm,1.0s,baz=196,slow=7.4,SNR=2.2						
H01W1	**Cape Leeuwin H**	**68.36**	**239**	T	T	18 03 48.9	
	baz=144,slow=76,SNR=111						
H01W2	**Cape Leeuwin H**	**68.36**	**239**	T	T	18 03 49.4	
	baz=144,slow=76,SNR=112						
H01W3	**Cape Leeuwin H**	**68.37**	**239**	T	T	18 03 50.1	
	baz=144,slow=76,SNR=107						
WRA	**Warramunga Arr**	**69.82**	**264**	P	**P**	**16 48 25.6**	**+0.3**
	0.8nm,1.0s,baz=147,slow=5.7,SNR=3.7						
BDFB	**Brasilia**	**79.62**	**102**	LR	LR	17 21 05.8	
	comp=Z,119nm,18.9s,baz=231,slow=33						
ROSC	**El Rosal**	**82.23**	**69**	LR	LR	17 21 04.4	
	comp=Z,56nm,18.4s,baz=236,slow=32						
BOSA	**Boshof**	**94.66**	**169**	LR	LR	17 30 39.9	
	comp=Z,111nm,18.1s,baz=184,slow=34						
NVAR	**Mina Array Bea**	**96.72**	**19**	LR	LR	17 24 01.8	
	comp=Z,125nm,22.0s,baz=238,slow=29						
SJG	**San Juan**	**97.65**	**69**	LR	LR	17 30 09.0	
	comp=Z,277nm,20.3s,baz=54,slow=33						
YBH	**Yreka Blue Hor**	**99.23**	**15**	LR	LR	17 25 23.2	
	comp=Z,88nm,21.0s,baz=184,slow=29						
ELK	**Elko**	**99.54**	**21**	LR	LR	17 26 07.1	
	comp=Z,66nm,21.5s,baz=204,slow=30						
H10N3	**ASCENSION HYDR**	**103.11**	**127**	T	T	18 46 19.1	
	baz=206,slow=75,SNR=14						
H10N1	**ASCENSION HYDR**	**103.11**	**127**	T	T	18 46 24.3	
	baz=206,slow=75,SNR=15						
H10N2	**ASCENSION HYDR**	**103.12**	**127**	T	T	18 46 20.8	
	baz=206,slow=75,SNR=16						
ESDC	**Sonseca Array**	**148.26**	**104**	PKPbc	**PKiKP**	**16 57 02.0**	**+0.1**
	0.3nm,0.6s,baz=236,slow=1.4,SNR=1.9						
MKAR	**Makanchi Array**	**151.00**	**270**	PKPbc	**PKPbc**	**16 57 05.9**	**-0.8**
	1.6nm,0.9s,baz=110,slow=3.8,SNR=6.4						

*IDC **25** 16:41:00.2±2.6, 37.14N×71.83E, h0km, mb3.6/3, mb1 3.7/9, mb1mx3.4/43, mbtmp3.7/9, ML3.4/7, MS3.3/2, Ms1 3.3/2, ms1mx2.4/52, Error ellipse: s-maj=45.6km s-min=18.2km az=137.0*

ISC 25 16:41:01.9±2.4, 37.1N±0.2×71.6E±0.2, h10km, n15, σ2s78/12, mb3.7/3, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.28**	**17**	P	**Pn**	**16 42 21.7**	**+0.5**
	SNR=39						
AAK	**Ala-Archa**	**5.96**	**21**	Pn	**Pn**	**16 42 31.6**	**+1.2**
	1.7nm,0.3s,baz=201,slow=17,SNR=12						
AAK				Sn	**Sn**	**16 43 42.5**	**+3.7**
	5.9nm,0.3s,baz=178,slow=8.2,SNR=12						
CHMS	**Chumysh**	**6.37**	**21**	P	Pn	16 42 37.7	+1.9
	SNR=7.0						
TKM2	**Tokmak 2**	**6.57**	**26**	P	Pn	16 42 40.5	+1.8
	SNR=17						
GEYT	**Alibeck**	**10.77**	**279**	Pn	**Pn**	**16 43 37.3**	**+1.1**
	0.4nm,0.3s,baz=151,slow=9.5,SNR=6.1						
MKAR	**Makanchi Array**	**12.51**	**36**	Pn	**Pn**	**16 44 00.3**	**+0.4**
	0.1nm,0.3s,baz=228,slow=13,SNR=15						
KURBB	**Kurchatov Arra**	**14.40**	**18**	Pn	**Pn**	**16 44 21.0**	**-4.7**
	0.0nm,0.3s,baz=213,slow=12,SNR=6.6						
BVAR	**Borovoye Array**	**15.96**	**357**	Pn	**Pn**	**16 44 43.0**	**-3.4**
	0.1nm,0.3s,baz=161,slow=15,SNR=2.5						
AKTO	**Aktyubinsk**	**16.54**	**328**	Pn	**Pn**	**16 44 51.0**	**-2.8**
	0.3nm,0.3s,baz=136,slow=12,SNR=12						
ZALV	**Zalesovo Beam**	**19.17**	**24**	P	**Pn**	**16 45 23.1**	**-3.1**
	1.4nm,0.3s,baz=219,slow=10,SNR=22						
ARU	**Arti**	**21.25**	**340**	LR	LR	16 54 58.0	
	comp=Z,18nm,19.6s,baz=150,slow=39						
FINES	**FINESS Array B**	**37.28**	**326**	P	**P**	**16 48 13.6**	**-0.1**
	0.5nm,0.3s,baz=123,slow=7.2,SNR=7.5						
ARCES	**ARCESS Array B**	**40.80**	**337**	P	**P**	**16 48 42.8**	**-0.2**
	0.5nm,0.7s,baz=110,slow=4.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**66.24**	**269**	P	**P**	**16 51 51.6**	**+1.1**
	0.5nm,0.7s,baz=39,slow=5.4,SNR=3.2						
DLBC	**Dease Lake**	**83.12**	**11**	LR	LR	17 33 10.2	
	comp=Z,85nm,21.3s,baz=141,slow=38						

*SOME **25** 16:43:06.6, 40.85N×74.23E, h10km*
*NNC **25** 16:43:07.9±1.4, 40.85N×74.25E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=10.0km s-min=7.4km az=170.0*
*KRNET **25** 16:43:07.6±0.1, 40.90N×74.27E, h19km, mb3.0*

ISC 25 16:43:05.9±0.9, 40.85N±0.04×74.29E±0.02, h10km, n60, σ0s92/95, 36C-14D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**1.01**	**1**	⇑*i*P	**Pn**	**16 43 25.9**	**-0.4**
	baz=3.0						
ARLS				⇑*i*S	**Sn**	**16 43 39.7**	**-1.0**
	baz=3.0						
OHH	**Osh**	**1.19**	**255**	⇑*i*P	**Pg**	**16 43 30.3**	**+1.5**
	baz=52						
OHH				⇑*i*S	**Sn**	**16 43 47.1**	**+2.1**
	baz=52						
AML	**Almayashu**	**1.36**	**341**	⇑*e*P	**Pg**	**16 43 32.5**	**+0.5**
	baz=41						
AML				⇑*i*S	**Sg**	**16 43 50.3**	**+0.7**
	baz=41						
UCH	**Uchtor**	**1.39**	**7**	⇑*e*P	**Pg**	**16 43 33.3**	**+0.8**
	baz=8.0						
UCH				⇑*i*S	**Sg**	**16 43 51.4**	**+0.8**
	baz=8.0						
UCH	**Uchtor**	**1.39**	**7**	P	**Pg**	**16 43 34.1**	**+1.5**
	SNR=11						
KZA	**Kyzart**	**1.42**	**30**	⇑*e*P	**Pg**	**16 43 33.9**	**+0.7**
	baz=32						
KZA				⇑*i*S	**Sg**	**16 43 52.8**	**+1.1**
	baz=32						
KZA	**Kyzart**	**1.42**	**30**	P	**Pg**	**16 43 34.4**	**+1.2**
	SNR=7.5						
AAK	**Ala-Archa**	**1.79**	**5**	⇑*i*P	**Pg**	**16 43 40.3**	**0.0**
	baz=5.0						
AAK				⇑*i*S	**Sg**	**16 44 03.7**	**+0.2**
	baz=5.0						
AAK	**Ala-Archa**	**1.79**	**5**	⇑Pn	**Pg**	**16 43 41.6**	**+1.3**
	8.8nm,0.4s						
AAK				⇑Sn	**Sg**	**16 44 05.5**	**+2.0**
	17nm,0.5s						
EKS2	**Erkin-Say**	**1.85**	**348**	⇑*i*P	**Pg**	**16 43 41.0**	**-0.4**
	baz=48						
EKS2				⇑*i*S	**Sg**	**16 44 05.5**	**+0.1**
	baz=48						
EKS2	**Erkin-Say**	**1.85**	**348**	P	**Pg**	**16 43 41.9**	**+0.5**
	SNR=6.0						
KBK	**Karagaybulak**	**1.87**	**15**	⇑*i*P	**Pg**	**16 43 41.8**	**0.0**
	baz=16						
KBK				⇑*i*S	**Sg**	**16 44 06.4**	**+0.4**
	baz=16						
KBK	**Karagaybulak**	**1.87**	**15**	P	**Pg**	**16 43 42.8**	**+1.1**
	SNR=12						
FRU1	**Bishkek**	**1.98**	**7**	⇑*e*P	**Pg**	**16 43 43.2**	**-0.6**
	baz=8.0						
FRU1				⇑*i*S	**Sg**	**16 44 10.1**	**+0.7**
	baz=8.0						
ULHL	**Ulahol**	**2.02**	**46**	⇓*i*P	**Pg**	**16 43 44.3**	**-

DRK	**Karamyk**	**2.35**	**235**	⇑	*i*	P	**Pb**	**16 43 49.5**	**+1.0**
	baz=34								
DRK				⇑	*i*	S	**Sg**	**16 44 19.8**	**-1.6**
	baz=34								
USP	**Ospenovka**	**2.42**	**4**	⇑	*i*	P	**Pb**	**16 43 49.6**	**+0.1**
	baz=4.0								
USP				⇑	*i*	S	**Sb**	**16 44 20.3**	**+0.8**
	baz=4.0								
USP	**Ospenovka**	**2.42**	**4**			P	**Pg**	**16 43 52.7**	**+0.4**
	SNR=10.0								
TRKS	**Terek-Say**	**2.48**	**287**	⇓	*i*	P	**Pb**	**16 43 49.7**	**-0.9**
	baz=85								
TRKS				⇓	*i*	S	**Sb**	**16 44 21.1**	**-0.1**
	baz=85								
KDJ	**Kajisay**	**2.52**	**59**	⇓	*i*	P	**Pb**	**16 43 51.1**	**-0.2**
	baz=60								
KDJ				⇓	*i*	S	**Sb**	**16 44 23.7**	**+1.3**
	baz=60								
KST	**Kastek**	**2.52**	**29**	*e*	P		**Pg**	**16 43 55.0**	**+0.8**
	3.1nm,0.3s								
KST				*e*	S		**Sg**	**16 44 29.1**	**+2.2**
	15nm,0.3s								
KST	**Kastek**	**2.52**	**29**			Pg	**Pg**	**16 43 55.0**	**+0.8**
	3.1nm,0.4s								
KST						Lg	Lg	16 44 29.1	
	15nm,0.6s								
SGDS	**Sogindy**	**2.61**	**5**			Pg	**Pg**	**16 43 55.8**	**-0.1**
	3.7nm,0.4s								
SGDS						Lg	Lg	16 44 30.5	
	21nm,0.5s								
DGS	**Degeres**	**2.63**	**24**	*e*	P		**Pg**	**16 43 56.6**	**+0.2**
	15nm,0.3s								
DGS				*e*	S		**Sg**	**16 44 31.8**	**+1.4**
	54nm,0.3s								
DGS	**Degeres**	**2.63**	**24**			Pg	**Pg**	**16 43 56.6**	**+0.2**
	15nm,0.4s								
DGS						Lg	Lg	16 44 31.8	
	54nm,0.5s								
BTK	**Batken**	**2.77**	**255**	⇑	*i*	P	**Pb**	**16 43 55.1**	**-0.4**
	baz=53								
BTK				⇑	*i*	S	**Sb**	**16 44 29.6**	**+0.1**
	baz=53								
MTBS	**Maitube**	**2.78**	**34**	*e*	P		**Pg**	**16 43 59.0**	**-0.1**
	6.9nm,0.4s								
MTBS				*e*	S		**Sg**	**16 44 36.1**	**+0.9**
	31nm,0.2s								
MTBS	**Maitube**	**2.78**	**34**			Pg	**Pg**	**16 43 59.0**	**-0.1**
	6.9nm,0.4s								
MTBS						Lg	Lg	16 44 36.1	
	31nm,0.5s								
IZV	**Izvestkoviy**	**2.79**	**38**	*e*	P		**Pg**	**16 43 59.0**	**-0.3**
	7.3nm,0.6s								
IZV				*e*	S		**Sg**	**16 44 36.3**	**+0.9**
	78nm,0.4s								
IZV	**Izvestkoviy**	**2.79**	**38**			Pg	**Pg**	**16 43 59.0**	**-0.3**
	6.6nm,0.7s								
IZV						Lg	Lg	16 44 36.3	
	72nm,0.6s								
TARG	**Taragay, Kyrgy**	**2.79**	**70**	⇑	*i*	P	**Pb**	**16 43 55.5**	**-0.5**
	baz=71								
TARG				⇑	*i*	S	**Sb**	**16 44 30.9**	**+0.5**
	baz=71								
TNSS	**Tian-Shan**	**2.95**	**41**	*e*	P		**Pg**	**16 44 02.0**	**-0.4**
	6.5nm,0.3s								
TNSS				*e*	S		**Sg**	**16 44 41.4**	**+0.8**
	12nm,0.4s								
TNSS	**Tian-Shan**	**2.95**	**41**			Pg	**Pg**	**16 44 02.0**	**-0.4**
	6.5nm,0.3s								
TNSS						Lg	Lg	16 44 41.4	
	12nm,0.5s								
KRBS	**Karabastau**	**3.02**	**19**	*e*	P		**Pg**	**16 44 03.2**	**-0.6**
	2.3nm,0.2s								
KRBS				*e*	S		**Sg**	**16 44 43.2**	**+0.2**
	26nm,0.5s								
KRBS	**Karabastau**	**3.02**	**19**			Pg	**Pg**	**16 44 03.2**	**-0.6**
	2.3nm,0.3s								
KRBS						Lg	Lg	16 44 43.2	
	26nm,0.7s								
AAA	**Alma-Ata**	**3.06**	**39**	*e*	P		**Pg**	**16 44 04.9**	**+0.3**
	8.6nm,0.1s								
AAA				*e*	S		**Sg**	**16 44 45.9**	**+1.7**
	92nm,0.4s								
AAA	**Alma-Ata**	**3.06**	**39**			Pg	**Pg**	**16 44 04.9**	**+0.3**
	8.6nm,0.1s								
AAA						Lg	Lg	16 44 45.9	
	92nm,0.5s								
KNDC	**Almaty**	**3.09**	**39**	⇓		Pg	**Pg**	**16 44 03.3**	**-1.8**
	13nm,0.5s								
KNDC				⇑		Lg	Lg	16 44 46.3	
	36nm,0.5s								
MDOK	**Medeo**	**3.09**	**41**	*e*	P		**Pg**	**16 44 04.5**	**-0.6**
	5.2nm,0.4s								
MDOK				*e*	S		**Sg**	**16 44 45.5**	**+0.3**
	40nm,0.6s								
MDOK	**Medeo**	**3.09**	**41**			Pg	**Pg**	**16 44 03.3**	**-1.8**
	7.1nm,0.8s								
MDOK						Lg	Lg	16 44 45.2	
	42nm,0.7s								
MDOK	**Medeo**	**3.09**	**41**			Pg	**Pg**	**16 44 04.5**	**-0.6**
	5.2nm,0.4s								
MDOK						Lg	Lg	16 44 45.4	
	40nm,0.6s								
KOTS	**Kotyrbulak**	**3.17**	**40**	*e*	P		**Pg**	**16 44 06.4**	**-0.3**
	7.7nm,0.5s								
KOTS				*e*	S		**Sg**	**16 44 48.6**	**+0.8**
	90nm,0.5s								
KOTS	**Kotyrbulak**	**3.17**	**40**			Pg	**Pg**	**16 44 06.4**	**-0.3**
	7.7nm,0.5s								
KOTS						Lg	Lg	16 44 48.6	
	90nm,0.7s								
KTBS	**Karatobe**	**3.37**	**31**	*e*	P		**Pg**	**16 44 09.3**	**-1.1**
	2.5nm,0.3s								
KTBS				*e*	S		**Sg**	**16 44 53.4**	**-0.5**
	33nm,0.4s								
KTBS	**Karatobe**	**3.37**	**31**			Pg	**Pg**	**16 44 09.3**	**-1.1**
	2.2nm,0.2s								
KTBS						Lg	Lg	16 44 53.4	
	33nm,0.8s								
KUU	**Kurty**	**3.40**	**26**	*e*	P		**Pg**	**16 44 09.7**	**-1.2**
	1.5nm,0.1s								
KUU				*e*	S		**Sg**	**16 44 54.2**	**-0.8**
	24nm,0.6s								
KUU	**Kurty**	**3.40**	**26**			Pg	**Pg**	**16 44 09.7**	**-1.2**
	1.6nm,0.2s								
KUU						Lg	Lg	16 44 54.2	
	24nm,0.9s								
CHKK	**Chushkaly**	**3.60**	**33**	*e*	P		**Pg**	**16 44 14.0**	**-0.9**
	1.4nm,0.1s								
CHKK				*e*	S		**Sg**	**16 45 01.5**	**-0.2**
	15nm,0.3s								
CHKK	**Chushkaly**	**3.60**	**33**			Pg	**Pg**	**16 44 14.0**	**-0.9**
	1.4nm,0.2s								
CHKK						Lg	Lg	16 45 01.5	
	15nm,0.3s								
KK31	**Karatay Array**	**3.61**	**310**	⇓		Pn	**Pn**	**16 44 00.9**	**-1.0**
	10nm,0.7s,baz=132,slow=17,SNR=4.0								
KK31				⇓		Lg	Lg	16 45 00.6	
	3.4nm,0.4s,baz=126,slow=28,SNR=5.6								
KPKS	**Kokpek**	**4.18**	**50**	*e*	P		**Pg**	**16 44 24.2**	**-1.8**
	2.8nm,0.4s								
KPKS				*e*	S		**Sg**	**16 45 18.8**	**-1.3**
	9.8nm,0.5s								
PDGK	**Podgornoye**	**4.59**	**56**	⇑		Pg	**Pg**	**16 44 32.9**	**-1.0**
	4.0nm,0.8s								
PDGK				⇑		Lg	Lg	16 45 34.5	
	5.5nm,0.7s								

NOU 25 16:43:24.5, 15°50S × 173°03W, h170 km, MLv4.0/6, Tonga Islands, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.99**	**38**	P	Pn	16 44 00.4	-0.5
AFI	**Afiamalu**	**1.99**	**38**	P	Pn	16 44 00.4	-0.5

*IDC **25** 16:50:39.6±1.0, 3°.95N × 71°.06W, h0 km, mb3.4/4, mb1 3.8/7, mb1mx3.6/32, mbtmp3.7/7, ML2.6/2, MS3.1/2, Ms1 3.1/2, ms1mx2.5/30, Error ellipse: s-maj=16.4km s-min=15.0km az=19.0*

*RSNC **25** 16:50:42.5±1.2, 3°.81N × 71°.30W, h0 km±6 km, ML3.8, Mw3.9*

ISC 25 16:50:40.4±1.4, 3°.97N±0°.03 × 71°.16W±0°.04, h2 km±9 km, n43, σ 25 11/67, mb3.5/3, 1D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTGC	**Puerto Gaitan,**	**0.99**	**283**	⇓	*e* P	**Pg**	**16 50 58.1**	**-1.3**
PTGC					*e* S	**Sg**	**16 51 11.2**	**-1.2**
PTGC					*i*		16 51 17.9	
	comp=Z,726nm,0.2s							
GUVC	**San Jose del G**	**2.03**	**226**		*e* P	**Pn**	**16 51 13.6**	**-2.1**
GUVC					*e* S	**Sn**	**16 51 38.0**	**-3.8**
GUVC					*i*		16 51 41.9	
	comp=Z,1μm,0.4s							
VILC	**Villavicencio,**	**2.53**	**273**		*e* P	**Pn**	**16 51 22.8**	**+0.1**
VILC					*e* S	**Sn**	**16 51 53.9**	**-0.3**
VILC					*i*		16 52 06.1	
	comp=Z,898nm,0.4s							
TAMC	**Tame, Arauca**	**2.53**	**346**		*e* P	**Pb**	**16 51 25.2**	**-1.4**
TAMC					*e* S	**Sb**	**16 51 58.6**	**+0.3**
TAMC					*i*		16 52 17.2	
	comp=Z,449nm,0.5s							
CHIC	**Chingaza**	**2.64**	**284**		*e* P	**Pn**	**16 51 24.6**	**+0.1**
CHIC					*e* S	**Sn**	**16 51 57.0**	**-0.5**
CHIC					*i*		16 52 14.7	
	comp=Z,350nm,0.4s							
RUSC	**La Rusia**	**2.70**	**315**		*e* P	**Pn**	**16 51 27.1**	**+1.7**
RUSC					*e* S	**Sb**	**16 52 02.0**	**-1.7**
RUSC					*i*		16 52 17.7	
	comp=Z,202nm,0.4s							
MACC	**Macarena, Meta**	**3.23**	**236**		*e* P	**Pn**	**16 51 34.5**	**+2.2**
MACC					*e* S	**Sn**	**16 52 12.9**	**+1.4**
MACC					*i*		16 52 19.0	
	comp=Z,512nm,0.5s							
ROSC	**El Rosal**	**3.27**	**285**	Pn		**Pn**	**16 51 35.0**	**+1.9**
	comp=Z,9.1nm,0.3s,baz=278,slow=21,SNR=5.1							
ROSC				Pg		**Pg**	**16 51 43.3**	**+0.2**
	comp=Z,41nm,0.3s,baz=150,slow=8.2,SNR=26							
ROSC				Sn		**Sn**	**16 52 14.4**	**+1.7**
	comp=Z,17nm,0.3s,baz=129,slow=22,SNR=3.6							
ROSC				Lg		Lg	16 52 27.4	
	comp=Z,26nm,0.3s,baz=301,slow=23,SNR=1.5							
ROSC	**El Rosal**	**3.27**	**285**		*e* P	**Pg**	**16 51 44.7**	**+1.7**
ROSC					*e* S	**Sn**	**16 52 13.1**	**+0.3**
ROSC					*i*		16 52 41.0	
	comp=Z,106nm,0.5s							
BARC	**Barichara**	**3.29**	**322**		*e* P	**Pg**	**16 51 42.0**	**-1.6**
BARC					*e* S	**Sg**	**16 52 26.1**	**-0.2**
BARC					*i*		16 52 33.3	
	comp=Z,210nm,0.4s							
SPBC	**San Pablo de B**	**3.35**	**300**		*e* S	**Sb**	**16 52 22.7**	**+0.9**
SPBC					*i*		16 52 33.0	
	comp=Z,134nm,0.3s							
ELOV	**Elorza**	**3.44**	**29**		*e* P	**Pg**	**16 51 48.5**	**+2.0**
ELOV					*e* S	**Sg**	**16 52 31.4**	**+0.3**
PAMC	**Pamplona, Colo**	**3.68**	**336**		*e* P	**Pg**	**16 51 50.1**	**-1.0**
PAMC					*e* S	**Sg**	**16 52 38.4**	**-0.4**
PAMC					*i*		16 52 44.0	
	comp=Z,198nm,0.3s							
BRRC	**Barranca, Sant**	**4.02**	**321**		*e* S	**Sn**	**16 52 31.5**	**+0.7**
BRRC					*i*		16 52 59.2	
	comp=Z,77nm,0.4s							
ORTC	**Ortega, Tolima**	**4.07**	**269**		*e* P	**Pb**	**16 51 52.4**	**-0.6**
ORTC					*e* S	**Sb**	**16 52 44.8**	**+2.0**
ORTC					*i*		16 52 49.7	
	comp=Z,150nm,0.7s							
PTBC	**PUERTO BERRIO,**	**4.16**	**308**		*e* S	**Sb**	**16 52 48.1**	**+3.0**
PTBC					*i*		16 52 57.3	
	comp=Z,81nm,0.3s							
ANIL	**Santa Ana**	**4.26**	**277**		*e* P	**Pb**	**16 51 56.4**	**+0.1**
ANIL					*e* S	**Sb**	**16 52 50.5**	**+2.1**
ANIL					*i*		16 53 00.5	
	comp=Z,387nm,0.4s							
GUY2C	**Guyana, Caldas**	**4.37**	**287**		*e* P	**Pn**	**16 51 49.2**	**+0.9**
GUY2C					*e* S	**Sn**	**16 52 37.0**	**-3.2**
GUY2C					*i*		16 53 16.5	
	comp=Z,45nm,0.5s							
BETC	**Betania**	**4.46**	**253**		*e* P	**Pb**	**16 51 57.7**	**-1.8**
BETC					*e* S	**Sb**	**16 52 58.4**	**+4.6**
BETC					*i*		16 53 09.0	
	comp=Z,159nm,0.6s							
GARC	**Garzon, Huila**	**4.67**	**248**		*e* P	**Pb**	**16 52 02.9**	**-0.4**
GARC					*e* S	**Sb**	**16 52 55.4**	**-4.8**
OCAC	**Ocana**	**4.75**	**333**		*e* S	**Sn**	**16 52 53.0**	**+3.9**
OCAC					*i*		16 53 23.6	
	comp=Z,214nm,0.6s							
MARP	**Paez Belalcaza**	**4.91**	**257**		*e* P	**Pb**	**16 52 04.5**	**-2.9**
MARP					*e* S	**Sb**	**16 53 08.2**	**+1.1**
SDV	**Santo Domingo**	**4.91**	**6**	Pn		**Pn**	**16 51 56.5**	**+0.9**
	comp=Z,3.4nm,0.3s,baz=199,slow=3.7,SNR=2.4							
SDV				Pg		**Pb**	**16 52 05.8**	**-1.5**
	comp=Z,9.7nm,0.3s,baz=354,slow=19,SNR=8.0							
SDV				Sn		**Sn**	**16 52 53.2**	**+0.1**
	comp=Z,17nm,0.3s,baz=29,slow=21,SNR=6.1							
SDV				Lg		Lg	16 53 16.8	
	comp=Z,16nm,0.3s,baz=78,slow=19,SNR=4.7							
SDV	**Santo Domingo**	**4.91**	**6**		*e* P	**Pg**	**16 52 15.9**	**+1.3**
SDV					*e* S	**Sg**	**16 53 17.9**	**-0.5**
SDV					*i*		16 53 27.4	
	comp=Z,126nm,0.5s							
FLOC	**Florencia**	**5.07**	**242**		*e* P	**Pb**	**16 52 07.6**	**-2.4**
FLOC					*e* S	**Sb**	**16 53 09.5**	**-2.0**
FLOC					*i*		16 53 22.0	
	comp=Z,230nm,0.6s							
ZARC	**Zaragoza, Cauc**	**5.08**	**314**		*e* S	**Sn**	**16 52 55.8**	**-1.1**
ZARC					*i*		16 53 00.5	
	comp=Z,42nm,0.5s							
YOTC	**Yotoco, Valle**	**5.17**	**270**		*e* P	**Pn**	**16 51 58.1**	**-0.9**
PTLC	**Puerto Leguiza**	**5.24**	**224**		*e* P	**Pb**	**16 52 16.7**	**+3.9**
PTLC					*e* S	**Sb**	**16 53 21.0**	**+4.8**
PTLC					*i*		16 53 31.0	
	comp=Z,203nm,0.5s							
PCON	**Cinco Dias**	**5.47**	**253**		*e* P	**Pb**	**16 52 16.2**	**-1.0**
PCON					*e* S	**Sb**	**16 53 25.9**	**+2.4**
PCON					*i*		16 53 33.4	
	comp=Z,130nm,0.6s							
POPC	**Popayan, Colom**	**5.68**	**256**		*e* P	**Pn**	**16 52 09.2**	**+3.1**
POPC					*e* S	**Sb**	**16 53 32.9**	**+3.6**
POPC					*i*		16 53 43.8	
	comp=Z,21nm,0.5s							
DBBC	**Dabeiba**	**5.87**	**301**		*e* P	**Pn**	**16 52 10.3**	**+1.8**
DBBC					*e* S	**Sn**	**16 53 17.1**	**+0.6**
DBBC					*i*		16 53 23.6	
	comp=Z,103nm,0.8s							
GCUF	**Volcan Galeras**	**6.75**	**246**		*e* S	**Sb**	**16 54 05.3**	**+5.1**
GCUF					*i*		16 54 09.5	
	comp=Z,39nm,0.4s							
PCRV	**Puerto La Cruz**	**8.94**	**46**	Pn		**Pn**	**16 52 51.4**	**+0.6**
	comp=Z,2.0nm,0.3s,baz=115,slow=4.3,SNR=2.1							
PCRV				Sn		**Sn**	**16 54 31.2**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=321,slow=6.9,SNR=1.1							
PCRV				Lg		Lg	16 55 23.6	
	comp=Z,2.0nm,0.3s,baz=50,slow=19,SNR=1.8							
PTGA	**Pitinga**	**12.12**	**112**	Lg		Lg	16 57 00.1	
	comp=Z,3.0nm,0.3s,baz=174,slow=23,SNR=12							
SJG	**San Juan**	**14.89**	**19**	LR		LR	17 00 43.7	
	comp=Z,26nm,20.9s,baz=105,slow=41							
MDP	**Montagnes des**	**18.50**	**86**	Lg		Lg	17 00 12.2	
	comp=Z,0.4nm,0.3s,baz=132,slow=16,SNR=2.0							
LPAZ	**La Paz**	**20.35**	**172**	P		**P**	**16 55 19.0**	**+0.1**
	comp=Z,2.3nm,0.6s,baz=350,slow=9.7,SNR=6.9							
LPAZ				Lg		Lg	17 01 10.6	
	comp=Z,1.5nm,0.8s,baz=72,slow=16,SNR=2.5							
SIV	**San Ignacio**	**22.20**	**154**	P		**P**	**16 55 39.0**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=338,slow=19,SNR=2.0							
SIV				Lg		Lg	17 02 04.7	
	comp=Z,3.0nm,0.7s,baz=350,slow=8.1,SNR=3.4							
CPUP	**Villa Florida**	**32.97**	**157**	LR		LR	17 12 06.8	
	comp=Z,76nm,19.6s,baz=222,slow=39							
TXAR	**Lajitas Array**	**39.81**	**313**	P		**P**	**16 58 15.4**	**0.0**
	comp=Z,0.1nm,0.6s,baz=130,slow=8.4,SNR=1.7							
TORD	**Torodi Ar. Bea**	**72.42**	**78**	P		**P**	**17 02 07.5**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=285,slow=5.3,SNR=5.0							
ASAR	**Alice Springs**	**148.87**	**229**	PKPbc		**PKPbc**	**17 10 29.1**	**-1.7**
	comp=Z,0.5nm,0.8s,baz=121,slow=3.8,SNR=4.6							
WRA	**Warramunga Arr**	**150.51**	**235**	PKPbc		**PKPbc**	**17 10 32.8**	**-2.0**
	comp=Z,0.3nm,0.5s,baz=124,slow=2.6,SNR=6.6							

MEX 25 16:54:30.7±0.6, 15°.50N × 94°.16W, h30 km±12 km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.93**	**77**	*i* P	Pn	16 54 45.5	-2.2
PCIG				*e* S	Sn	16 54 56.5	-3.4
TGIG		**1.61**	**38**	*e* P	Pn	16 54 52.0	-5.2
TGIG				*e* S	Sn	16 55 10.8	-6.2
CMIG	**Matias Romero**	**1.73**	**336**	*e* P	Pn	16 54 56.7	-2.1
CMIG				*e* S	Sn	16 55 17.3	-2.5

*BJI **25** 16:57:39.2±0.0, 26°.63N × 91°.83E, h36 km, mB4.7/16, mb4.4/32, ML3.9/3, Ms3.8/3, Ms7 3.6/4*

*MOS **25** 16:57:39.4±1.1, 26°.47N × 91°.63E, h55 km, mb4.5/7, Error ellipse: s-maj=11.8km s-min=5.8km az=114.1*

*NDI **25** 16:57:40.5±2.8, 26°.52N × 91°.72E, h33 km, ML4.1, mb4.4(NEIC)*

*NEIC **25** 16:57:41.4±2.2, 26°.53N±0°.06 × 91°.7E±0°.1, h49 km±7 km, mb4.4/27, Error ellipse: s-maj=14.2km s-min=7.6km az=66.0*

*IDC **25** 16:57:41.1±0.4, 26°.53N × 91°.71E, h51 km±4 km, mb3.8/23, mb1 3.9/24, mb1mx3.8/52, mbtmp4.0/24, MS3.0/7, Ms1 3.0/7, ms1mx2.7/46, Error ellipse: s-maj=13.4km s-min=7.9km az=69.0*

ISC 25 16:57:40.9±0.4, 26°.54N±0°.03 × 91°.73E±0°.04, h55 km±3 km, h55 km:pP-P, n136, σ 1§96/162, mb4.3/43, MS3.0/8, 8C-3D, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**0.98**	**172**	P	**Pn**	**16 57 59.6**	**+0.9**
SHL						16 58 10.7	
SHL	**Shillong**	**0.98**	**172**	Pn	**Pn**	**16 57 59.6**	**+0.9**
SHL				Sn	**Sn**	**16 58 10.7**	**-1.2**
SHL	**Shillong**	**0.98**	**172**	*e* P	**Pn**	**16 57 59.7**	**+0.9**
SHL				*i* Sg	**Sn**	**16 58 10.5**	**-1.3**
SHL				*e* S	**Sn**	**16 58 10.5**	**-1.3**
SHL				IAML		16 58 13.2	
	comp=E,3μm,0.1s						
SHL				IAML		16 58 13.2	
	comp=N,3μm,0.0s						
ITAN	**ITANAGAR**	**1.88**	**71**	*e* P	**Pn**	**16 58 10.7**	**0.0**
ITAN				*ex* x		16 58 10.8	
ITAN				*e* SG	Sn	16 58 47.3	+14
ITAN				IAML		16 58 49.3	
	comp=N,5μm,0.4s						
ITAN				IAML		16 58 49.6	
	comp=E,4μm,0.5s						
AGT	**Agartala**	**2.68**	**189**	*e* P	**Pn**	**16 58 24.1**	**+2.5**
AGT				*ex*	**Sn**	**16 58 57.5**	**+4.6**
AGT				IAML		16 59 12.5	
	comp=E,2μm,0.2s						
AGT				IAML		16 59 13.2	
	comp=N,2μm,1.3s						
LSA	**Lhasa**	**3.19**	**351**	P	**Pn**	**16 58 31.3**	**+2.3**
LSA				S	**Sn**	**16 59 11.3**	**+5.3**
LSA				LR	LR		
	comp=N,630nm,5.3s						
LSA	**Lhasa**	**3.19**	**351**	P	**Pn**	**16 58 30.8**	**+1.9**
LSA	**Lhasa**	**3.19**	**351**	Pn	**Pn**	**16 58 30.8**	**+1.9**
LKP	**Lekhapani**	**3.76**	**77**	*e* P	**Pn**	**16 58 36.2**	**-0.2**
LKP				IAML		16 58 50.5	
	comp=Z,286nm,0.1s						
LKP				*e* S	**Sn**	**16 59 16.5**	**-3.0**
LKP				IAML		16 59 18.4	
	comp=N,1μm,0.4s						
LKP				IAML		16 59 18.9	
	comp=E,933nm,0.4s						
BRDH	**Bariadhala**	**3.85**	**181**	P	**Pn**	**16 58 39.2**	**+1.6**
	comp=E,68nm,0.3s,baz=34,slow=7.3,SNR=19						
BRDH				S	**Sn**	**16 59 21.8**	**+0.2**
	comp=E,132nm,0.3s,baz=245,slow=22,SNR=16						
MHMT	**Maesarieng**	**10.11**	**144**	P	**Pn**	**17 00 04.3**	**+0.9**
CHTO	**Chiang Mai**	**10.17**	**138**	P	**Pn**	**17 00 04.7**	**+0.4**
CHTO	**Chiang Mai**	**10.17**	**138**	Pn	**Pn**	**17 00 04.7**	**+0.4**
CHTO	**Chiang Mai**	**10.17**	**138**	P	**Pn**	**17 00 04.5**	**+0.2**
	comp=E,4.4nm,0.7s						
CMMT	**Chiang Mai**	**10.18**	**138**	P	**Pn**	**17 00 03.3**	**-1.1**
	comp=E,248nmcomp=E,7.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**10.45**	**139**	P	**Pn**	**17 00 07.6**	**-0.5**
	comp=E,0.4nm,0.3s,baz=316,slow=12,SNR=11						
CMAR				LR	LR	17 05 00.1	
	comp=E,30nm,20.3s,baz=340,slow=42						
CMAR	**Chiang Mai Arr**	**10.45**	**139**	*i* P	**Pn**	**17 00 08.0**	**-0.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**10.45**	**139**		**Pn**	**17 00 06.9**	**-1.2**
UTTA	**Uttaradit**	**11.98**	**135**	P	**Pn**	**17 00 29.6**	**+0.7**
	comp=Z,10nm,0.7s						
DGPR	**DIGLIPUR**	**13.34**	**175**	*e* P	**Pn**	**17 00 46.5**	**-1.1**
BHPL	**Bhopal**	**13.39**	**259**	*e* P	**Pn**	**17 00 46.7**	**-1.5**
BHPL				*i* x		17 00 56.8	
LZH	**Lanzhou**	**14.05**	**44**	*e* P	**Pn**	**17 00 56.3**	**-1.0**
LZH				pP	P	17 01 03.8	+0.3
LZH				sP		17 01 11.3	
LZH				pmax	pmax		
	comp=Z,13nm,1.2s						
CHAI	**Chaiyaphum**	**14.26**	**136**	P	**P**	**17 01 09.5**	**+3.8**
DHRM	**DHARAMSHALA**	**14.59**	**297**	*e* P	**Pn**	**17 01 02.2**	**-2.2**
HYB	**Hyderabad**	**15.21**	**236**	*i* P	**P**	**17 01 20.0**	**+3.7**
HYB				*e* S	**Sn**	**17 04 02.0**	**+2.1**
ENH	**Enshi**	**16.06**	**73**	P	**Pn**	**17 01 22.5**	**-0.7**
UBPT	**Khong Chiam**	**17.02**	**128**	P	**Pn**	**17 01 34.2**	**-1.1**
	comp=Z,1μmcomp=Z,8.7nm,0.9s						
UBPT				pP	**P**	**17 01 37.9**	**+1.5**
	comp=Z,1μmcomp=Z,8.7nm,0.9s						
NIL	**Nilore**	**17.47**	**298**	P	**Pn**	**17 01 38.9**	**-1.9**
NIL				pmax	pmax		
	comp=Z,12nm,0.7s						
NIL	**Nilore**	**17.47**	**298**	Pn	**Pn**	**17 01 38.9**	**-1.9**
NIL				IAmb	IAmb	17 01 56.1	
	comp=Z,12nm,0.7s						
WMQ	**Urumqi**	**17.55**	**350**	*e* P	**P**	**17 01 44.0**	**+1.9**
KSH	**Kashi**	**18.45**	**318**	P	**Pn**	**17 01 56.0**	**+3.3**
KSH				S	**S**	**17 05 19.5**	**-0.4**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BOOM	**Boomskoye usch**	**20.49**	**325**	P	**P**	**17 02 13

KKAR	Karatay Array	23.90	319	P		P	17 02 51.1	+1.6
KKAR	Karatay Array	23.90	319	P		P	17 02 51.1	+1.6
SONM	Songino Array	24.18	25	P		P	17 02 53.5	+1.5
	comp=Z,6.3nm,0.6s,baz=208,slow=9.2,SNR=32							
SONM				LR		LR	17 13 40.6	
	comp=Z,52nm,20.7s,baz=232,slow=40							
SONM	Songino Array	24.18	25	P		P	17 02 53.6	+1.5
SONM				pmax		pmax		
	comp=Z,7.0nm,0.8s							
SONM	Songino Array	24.18	25	P		P	17 02 53.6	+1.6
SONM				IAmb		IAmb	17 02 54.3	
	comp=Z,7.4nm,0.8s							
BJI	Beijing	24.38	50	P		P	17 02 55.8	+2.0
BJI				pmax		pmax		
	comp=Z,9.0nm,0.7s							
ULN	Ulaanbaatar	24.45	25	P		P	17 02 55.7	+1.1
ULN				pmax		pmax		
	comp=Z,14nm,0.6s							
ULN	Ulaanbaatar	24.45	25	P		P	17 02 55.7	+1.1
ULN	Ulaanbaatar	24.45	25	P		P	17 02 55.2	+0.6
PSI	Prapat	24.60	162	LR		LR	17 15 11.1	
	comp=Z,49nm,19.6s,baz=186,slow=42							
KURBB	Kurchatov Arra	26.08	341	P		P	17 03 09.9	+0.8
	comp=Z,3.2nm,0.6s,baz=155,slow=9.4,SNR=16							
KURBB				pP		pP	17 03 23.2	0.0
	comp=Z,3.9nm,0.8s,baz=155,slow=9.3,SNR=9.9							
KURK	Kurchatov	26.14	341	P		P	17 03 10.0	+0.3
KURK	Kurchatov	26.14	341	P		P	17 03 09.9	+0.3
ZAA0	Zalesovo Array	27.85	351	P		P	17 03 23.1	-1.9
ZALV	Zalesovo Beam	27.85	351	P		P	17 03 24.4	-0.6
	comp=Z,1.6nm,0.3s,baz=170,slow=8.1,SNR=12							
ZALV				pP		pP	17 03 39.0	0.0
	comp=Z,2.7nm,0.6s,baz=171,slow=8.5,SNR=7.6							
ZALV	Zalesovo Beam	27.85	351	P		P	17 03 23.1	-1.9
BVAR	Borovoye Array	30.88	335	P		P	17 03 52.7	+0.8
	comp=Z,0.4nm,0.3s,baz=134,slow=10,SNR=3.8							
HIA	Hailar	31.37	36	iP		P	17 03 57.4	+1.1
HIA				pmax		pmax		
	comp=Z,5.0nm,0.6s							
KSRS	Korea Array	32.39	61	LR		LR	17 16 42.6	
	comp=Z,13nm,19.1s,baz=130,slow=35							
ABKAR	Akbulak array	33.42	321	P		P	17 04 15.6	+1.5
ABKAR	Akbulak array	33.42	321	P		P	17 04 15.5	+1.3
ABKAR				IAmb		IAmb	17 04 16.3	
	comp=Z,2.0nm,0.6s							
AKTO	Aktyubinsk	35.09	322	P		P	17 04 29.8	+1.1
	comp=Z,1.5nm,0.6s,baz=121,slow=12,SNR=5.3							
AKTO				pP		pP	17 04 43.4	+0.5
	comp=Z,1.5nm,0.6s,baz=82,slow=10,SNR=3.8							
USRK	Ussuriysk Ar.	36.83	51	P		P	17 04 44.4	+0.9
	comp=Z,0.9nm,0.7s,baz=260,slow=8.6,SNR=4.3							
USRK				pP		pP	17 04 57.2	-0.5
	comp=Z,0.7nm,0.6s,baz=256,slow=12,SNR=2.8							
ARU	Arti	38.17	331	c iP		P	17 04 54.3	-0.5
ARU				*PP		pP	17 05 05.6	-3.4
ARU				S		S	17 10 45.2	+1.2
ARU				SS		SnSn	17 13 21.8	-10
ARU				pmax		pmax		
	comp=Z,3.0nm,0.8s							
KLR	Kul'dur	38.25	43	P		P	17 04 56.1	+0.6
	comp=Z,1.2nm,0.6s,baz=270,slow=13,SNR=2.5							
KLR	Kul'dur	38.25	43	iP		P	17 04 56.9	+1.4
KLR				pmax		pmax		
	comp=Z,2.0nm,1.1s							
MJAR	Matsushiro Arr	40.52	64	P		P	17 05 14.9	+0.3
	comp=Z,2.1nm,0.8s,baz=268,slow=10,SNR=5.3							
MJAR				pP		pP	17 05 30.9	+1.9
	comp=Z,2.1nm,1.0s,baz=281,slow=10,SNR=2.8							
MJAR	Matsushiro Arr	40.52	64	P		P	17 05 13.8	-0.9
NRIK	Noril'sk	42.90	358	P		P	17 05 34.2	+0.7
	comp=Z,3.8nm,0.4s,baz=158,slow=7.3,SNR=8.9							
NRIK	Noril'sk	42.90	358	c iP		P	17 05 34.6	+1.1
NRIK	Noril'sk	42.90	358	P		P	17 05 34.4	+0.8
NRIK				IAmb		IAmb	17 05 35.7	
	comp=Z,5.3nm,0.5s							
KIRV	Kirov	43.48	329	eP		P	17 05 39.7	+1.3
YAK	Yakutsk	43.53	25	eP		P	17 05 39.6	+0.8
YAK				pmax		pmax		
	comp=Z,4.0nm,1.2s							
BR131	Keskin Array S	49.60	301	eP		P	17 06 27.6	+0.8
BRTR	Keskin Array B	49.60	301	P		P	17 06 27.6	+0.8
	comp=Z,0.5nm,0.7s,baz=110,slow=5.4,SNR=5.0							
BRTR				pP		pP	17 06 41.1	-0.4
	comp=Z,0.5nm,0.6s,baz=104,slow=6.1,SNR=3.6							
BRTR	Keskin Array B	49.60	301	P		P	17 06 27.9	+1.0
AKASG	Malin Array Be	52.70	315	P		P	17 06 49.2	-0.5
	comp=Z,1.3nm,0.4s,baz=80,slow=6.9,SNR=5.0							
AKASG				pP		pP	17 07 03.6	-0.9
	comp=Z,0.6nm,0.3s,baz=82,slow=6.6,SNR=3.9							
AKBB	Malin Array Si	52.70	315	eP		P	17 06 50.2	+0.5
LVZ	Lovozero	53.44	337	P		P	17 06 55.2	+0.3
LVZ				pmax		pmax		
	comp=Z,12nm,1.2s							
LVZ	Lovozero	53.44	337	P		P	17 06 55.1	+0.3
MNK	Minsk	53.75	320	iP		P	17 06 51.7	-5.6
MNK				i			17 07 57.7	
MNK				iS		S	17 14 21.9	-5.5
MNK				i			17 16 44.2	
MNK				iSS		SKiKP	17 18 00.2	-6.1
MNK				iSSS		SSS	17 20 00.7	
MNK				pmax		pmax		
	comp=N,10.0nm,0.9s							
MNK				pmax		pmax		
	comp=Z,6.0nm,0.9s							
MNK				pmax		pmax		
	comp=E,2.0nm,1.0s							
MNK				MLR		MLR		
	comp=E,9.0nm,20.0s							
MNK				MLR		MLR		
	comp=N,31nm,17.0s							
MNK				MLR		MLR		
	comp=Z,229nm,22.0s							
MNK	Minsk	53.75	320	iP		P	17 06 51.7	-5.6
	comp=E,2.0nm,1.0s							
MNK				iP		P	17 06 51.7	-5.6
	comp=N,10.0nm,0.9s							
MNK				iP		P	17 06 51.7	-5.6
	comp=Z,6.0nm,0.9s,baz=94							
MNK				iPcP		PcP	17 07 57.7	-5.0
MNK				iPP		PP	17 08 52.8	-5.7
MNK				iPPP		PPP	17 10 00.4	
MNK				iS		S	17 14 21.9	-5.5
MNK				iSS		SKiKP	17 18 00.2	-6.1
MNK				iSSS		SSS	17 20 00.7	
MNK				iLQ		LQ	17 26 44.9	
MNK				iLR		LR	17 29 14.0	
MNK				iLRM		MLR	17 32 11.3	
	comp=E,9.0nm,20.3s							
MNK				iLRM		MLR	17 32 23.4	
	comp=N,31nm,16.6s							
MNK				iLRM		MLR	17 32 35.1	
	comp=Z,229nm,21.7s							
FINES	FINESS Array B	55.44	328	P		P	17 07 10.1	+0.6
	comp=Z,1.6nm,0.6s,baz=100,slow=8.3,SNR=8.1							
FINES				pP		pP	17 07 24.4	-0.1
	comp=Z,1.2nm,0.5s,baz=115,slow=9.0,SNR=2.8							
FINES	FINESS Array B	55.44	328	P		P	17 07 10.3	+0.9
FINES	FINESS Array B	55.44	328	P		P	17 07 10.3	+0.9
ARA0	ARCESS Array S	57.10	337	eP		P	17 07 22.5	+1.2
ARCES	ARCESS Array B	57.10	337	P		P	17 07 22.3	+1.1
	comp=Z,0.7nm,0.5s,baz=107,slow=7.8,SNR=16							
ARCES				pP		pP	17 07 36.1	-0.2
	comp=Z,0.6nm,0.5s,baz=102,slow=8.8,SNR=2.6							
ARCES	ARCESS Array B	57.10	337	P		P	17 07 22.3	+1.1
ARCES				pmax		pmax		
	comp=Z,2.0nm,0.9s							
ARCES	ARCESS Array B	57.10	337	P		P	17 07 22.3	+1.1
ARCES				IAmb		IAmb	17 07 23.4	
	comp=Z,2.3nm,0.9s							
KTK1	Kautokeino	57.80	337	eP		P	17 07 27.1	+1.0
HAMF	Hammerfest	57.95	339	eP		P	17 07 28.5	+1.4
AGG	Agios Georgios	58.38	301	P		P	17 07 30.3	-0.4
AGG				pmax		pmax		
	comp=Z,20nm,1.5s							
AGG	Agios Georgios	58.38	301	P		P	17 07 30.3	-0.4
JETT	Jettan, Norway	58.87	337	eP		P	17 07 35.1	+1.4
TRO	Tromso	59.40	337	eP		P	17 07 38.3	+1.1
FAUS	Fauske	60.59	334	eP		P	17 07 46.0	+0.7
STEI	Steigen	60.62	335	eP		P	17 07 46.7	+1.2
LOF	Lofoten	61.26	335	eP		P	17 07 50.3	+0.4
KONS	Konsvik	61.44	333	eP		P	17 07 52.2	+1.1
NSS	Namsos	61.99	331	eP		P	17 07 56.1	+1.2
WRA	Warramunga Arr	62.00	134	P		P	17 07 57.0	+1.4
	comp=Z,0.7nm,0.5s,baz=324,slow=6.3,SNR=18							
WRA				pP		pP	17 08 09.6	-1.2
	comp=Z,1.2nm,0.5s,baz=314,slow=6.4,SNR=5.9							
WRAB	Tennant Creek	62.00	134	iP		P	17 07 57.1	+1.5
WRAB				pmax		pmax		
	comp=Z,6.0nm,1.3s							
WB2	Warramunga Arr	62.01	134	P		P	17 07 57.1	+1.4
WB2				IAmb		IAmb	17 07 58.2	
	comp=Z,4.4nm,1.1s							
WR0	Warramunga Arr	62.14	134	P		P	17 07 57.7	+1.2
WR0				IAmb		IAmb	17 07 59.2	
	comp=Z,6.6nm,1.3s							
NC602	NORSAR Array S	62.47	327	eP		P	17 07 59.4	+1.2
NB2	NORSAR Subarra	62.60	327	P		P	17 07 59.5	+0.3
	comp=Z,0.7nm,0.5s,baz=83,slow=6.5							
NB2	NORSAR Subarra	62.60	327	P		P	17 07 59.5	+0.3
	baz=83,slow=6.5							
NOA	NORSAR Array B	62.60	327	P		P	17 07 59.5	+0.3
	comp=Z,0.8nm,0.6s,baz=85,slow=6.4,SNR=4.9							
NC204	NORSAR Array S	62.80	328	P		P	17 08 00.6	+0.1
GERES	GERESS Array B	62.84	313	P		P	17 08 02.1	+1.1
	comp=Z,2.1nm,0.5s,baz=74,slow=6.7,SNR=23							
GERES				pP		pP	17 08 15.6	-0.6
	comp=Z,1.0nm,0.7s,baz=76,slow=5.6,SNR=4.6							
GERES	GERESS Array B	62.84	313	P		P	17 08 01.7	+0.7
DOMB	Dombas	63.52	329	eP		P	17 08 06.0	+0.9
KONO	Kongsberg	63.56	326	eP		P	17 08 06.3	+0.8
SKAR	Skarslia	64.06	327	eP		P	17 08 09.7	+0.9
MOL	Molde	64.15	329	eP		P	17 08 10.5	+1.3
HOMB	Homborsund	64.33	324	eP		P	17 08 11.1	+0.6
AS31	Alice Springs	64.45	137	P		P	17 08 13.2	+1.4
ASAR	Alice Springs	64.45	137	P		P	17 08 13.3	+1.5
	comp=Z,0.5nm,0.5s,baz=320,slow=6.3,SNR=19							
ASAR				pP		pP	17 08 25.9	-1.1
	comp=Z,0.9nm,0.7s,baz=322,slow=6.2,SNR=6.6							
MBAR	Mbarara	64.54	256	ceP		P	17 08 12.8	0.0
ESDC	Sonseca Array	77.64	308	P		P	17 09 32.1	+0.5
	comp=Z,0.4nm,0.6s,baz=46,slow=5.5,SNR=2.6							
ILAR	Eielson Array	78.37	22	P		P	17 09 35.8	+0.7
	comp=Z,1.2nm,0.7s,baz=294,slow=4.0,SNR=6.0							
ILAR	Eielson Array	78.37	22	P		P	17 09 32.3	-2.8
RES	Resolute Bay	78.93	2	LR		LR	17 46 16.2	
	comp=Z,32nm,19.5s,baz=76,slow=37							
KDAK	Kodiak Island	80.37	29	P		P	17 09 46.7	+0.6
	comp=Z,7.0nm,0.7s,baz=326,slow=4.2,SNR=8.4							
TORD	Torodi Ar. Bea	84.26	282	P		P	17 10 08.1	+0.9
	comp=Z,0.3nm,0.7s,baz=61,slow=6.9,SNR=2.0							
TORD				pP		pP	17 10 22.5	-0.4
	comp=Z,0.3nm,0.6s,baz=52,slow=3.8,SNR=2.8							

*NOU **25** 17:30:59.0, 38.40S×173.30E, h9km, MLv3.8/8, Off W. Coast of N. Island, N.Z.*

WEL 25 17:31:05.4±0.9, 39.5S±5.5°×17.4E±.°, h4km±2km, M3.5/32, ML3.7/34, MLv3.5/32, Error ellipse: s-maj=0.0km s-min=0.0km az=123.4, Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKE	Pukeiti	0.20	180	P	Pg	17 31 09.8	+0.5
PKE				S	Sg	17 31 13.1	+1.2
DREZ	Durham Road	0.26	139	P	Pg	17 31 10.7	+0.4
MHEZ	Mangahewa	0.28	107	P	Pg	17 31 11.5	+0.8
NBEZ	Newall Road No	0.29	199	P	Pg	17 31 11.7	+0.8
NEZ	North Egmont	0.29	163	P	Pg	17 31 11.3	+0.3
NEZ				S	Sg	17 31 15.3	+0.5
KHEZ	Kahui Hut	0.30	176	P	Pg	17 31 11.5	+0.3
KHEZ				S	Sg	17 31 15.8	+0.6
PREZ	Palmer Road	0.37	159	P	Pg	17 31 13.1	+0.5
PREZ				S	Sg	17 31 18.9	+1.4
NMEZ	Namu Road	0.42	191	P	Pg	17 31 14.0	+0.5
NMEZ				S	Sb	17 31 20.7	-1.4
LREZ	Lake Rotokare	0.57	145	P	Pg	17 31 16.6	+0.3
VRZ	Vera Road	0.61	102	P	Pg	17 31 17.2	+0.1
HIZ	Hauiti	0.83	55	P	Pg	17 31 21.6	+0.2
HIZ				S	Sb	17 31 33.5	-0.4
WAZ	Wanganui	1.08	135	P	Pg	17 31 25.4	-0.8
PKVZ	Pokaka	1.10	106	P	Pg	17 31 25.3	-1.2
TWVZ	Taurewa	1.13	94	P	Pg	17 31 26.1	-1.0
MTVZ	Mangateitei	1.22	109	P	Pg	17 31 27.0	-1.7
FWVZ	Far West T-bar	1.25	102	P	Pg	17 31 28.7	-0.6
TRVZ	Turoa	1.25	104	P	Pg	17 31 28.2	-1.2
NGZ	Ngauruhoe	1.27	99	P	Pg	17 31 28.7	-1.0
NNVZ	North Ngauruho	1.28	97	P	Pg	17 31 28.9	-0.9
WHVZ	Whangaehu Hut	1.28	103	P	Pg	17 31 28.5	-1.5
KRVZ	Karewarewa	1.29	95	P	Pg	17 31 29.0	-1.1
WNVZ	Wahianoa	1.30	105	P	Pg	17 31 28.6	-1.6
SNVZ	South Ngauruho	1.30	99	P	Pg	17 31 29.2	-1.1
OTVZ	Oturere	1.32	98	P	Pg	17 31 29.6	-1.1
TUVZ	Tukino	1.33	102	P	Pn	17 31 29.6	-1.1
KATZ	Kakaramea	1.33	90	P	Pn	17 31 29.9	-0.9
TMVZ	Te Maari	1.34	96	P	Pn	17 31 30.0	-1.0
ETVZ	East Tongariro	1.35	96	P	Pn	17 31 30.2	-0.8
TLZ	Tolley Road	1.39	62	P	Pn	17 31 30.2	-1.3
WATZ	Wairara	1.40	79	P	Pn	17 31 31.3	-0.3
RATZ	Rangitukua	1.40	85	P	Pn	17 31 30.8	-0.9
MOVZ	Moawhango	1.43	107	P	Pn	17 31 30.8	-1.4
RITZ	Rihia Road	1.46	90	P	Pn	17 31 32.4	-0.1
KUTZ	Kaahu Road	1.52	71	P	Pn	17 31 33.2	-0.1
WHTZ	Whakaora	1.57	79	P	Pb	17 31 34.8	-0.2
OHWZ	Ohakea	1.59	140	P	Pn	17 31 34.3	+0.1
BHHZ	Black Hill Sta	1.69	108	P	Pn	17 31 34.8	-0.8
TOZ	Tahuroa Road	1.74	44	P	Pn	17 31 35.3	-1.0
DUWZ	D'Urville Isla	1.80	182	P	Pn	17 31 35.9	-1.4
TSZ	Takapari Road	1.86	125	P	Pn	17 31 38.8	+0.8
KMRZ	Kaimai	1.92	54	P	Pn	17 31 39.6	+0.8
KWHZ	Kaweka Forest	1.94	103	P	Pn	17 31 39.5	+0.3
NGRZ	Ngongotaha	1.94	63	P	Pn	17 31 39.0	-0.1
PNHZ	Pukenui	1.94	119	P	Pn	17 31 40.2	+1.0
BKZ	Black Stump Fm	1.96	96	P	Pn	17 31 39.3	0.0
POWZ	Post Office Ro	1.96	136	P	Pn	17 31 40.2	+0.9
KRHZ	Kereru	1.96	110	P	Pb	17 31 41.3	-0.3
KIW	Kapiti Island	1.99	159	P	Pn	17 31 40.1	+0.2
KARZ	Kaharoa	2.02	62	P	Pb	17 31 43.2	+0.6
OGWZ	Otaki Gorge	2.03	154	P	Pn	17 31 41.3	+0.9
MRZ	Mangatainoka R	2.07	144	P	Pn	17 31 41.6	+0.8
MKAZ	Moumakai	2.10	27	P	Pn	17 31 40.9	-0.4
WTAZ	Waiatarua	2.11	13	P	Pn	17 31 41.1	-0.4
DVHZ	Dannevirke	2.13	128	P	Pb	17 31 43.2	-1.3
QRZ	Quartz Range	2.14	211	P	Pn	17 31 39.6	-2.2
MCHZ	McNeill Hill	2.15	103	P	Pb	17 31 44.0	-0.9
ETAZ	East Tamaki Re	2.17	23	P	Pn	17 31 41.8	-0.4
WPHZ	Wpukurau	2.18	120	P	Pb	17 31 44.3	-1.0
PRWZ	Pori Road	2.18	136	P	Pb	17 31 44.0	-1.3
TGRZ	Tauranga	2.19	55	P	Pn	17 31 42.5	0.0
TCW	Tory Channel	2.22	174	P	Pn	17 31 43.2	+0.3
MTHZ	Maungataniwha	2.23	87	P	Pb	17 31 46.9	+0.6
HOWZ	Holdsworth Sta	2.23	149	P	Pb	17 31 44.8	-1.5
CAW	Cannon Point	2.27	159	P	Pn	17 31 44.5	+1.0
NNZ	Nelson	2.27	192	P	Pn	17 31 42.1	-1.4
RVAZ	Riverhead Bore	2.27	12	P	Pn	17 31 43.0	-0.6
TIWZ	Tintock	2.30	141	P	Pb	17 31 46.0	-1.5
MBAZ	Motutapu North	2.34	18	P	Pn	17 31 43.9	-0.6
KAHZ	Kahuranaki	2.38	110	P	Pb	17 31 48.6	-0.2
WIAZ	Waiheke Island	2.38	23	P	Pn	17 31 44.6	-0.5
ARAHZ	Arahi	2.42	89	P	Pb	17 31 49.8	+0.4
BFZ	Birch Farm	2.42	135	P	Pb	17 31 48.0	-1.4
TUWZ	Tuamarina	2.43	181	P	Pn	17 31 44.8	-1.0
MTW	Mount Morrison	2.45	152	P	Pn	17 31 47.8	+1.7
PXZ	Pawanui	2.45	116	P	Pb	17 31 50.6	+0.8
ABAZ	Army Bay	2.48	16	P	Pn	17 31 45.8	-0.7
URZ	Urewera	2.56	74	P	Pb	17 31 52.4	+0.7
TMWZ	Te Maipa	2.56	146	P	Pb	17 31 49.9	-2.1
MSWZ	Moikau Station	2.60	159	P	Pb	17 31 50.8	-1.7
PAWZ	Paruwai Farm	2.63	156	P	Pb	17 31 52.3	-0.7
KUZ	Kuaotunu	2.63	32	P	Pn	17 31 47.5	-1.1
BSWZ	Blackbirch Sta	2.72	182	P	Pn	17 31 50.4	+0.7
MWZ	Matawai	2.85	78	P	Pb	17 31 55.0	-1.8
THZ	Tophouse	2.88	196	P	Pn	17 31 51.2	-0.9
WCZ	Waipu Caves	3.06	5	P	Pn	17 31 54.0	-0.5
DSZ	Denniston Nort	3.21	211	P	Pn	17 31 55.1	-1.4
HAZ	Te Kaha	3.23	69	P	Pb	17 32 00.6	-2.6
KHZ	Kahutara	3.43	186	P	Pn	17 31 59.7	+0.1
LTZ	Lake Taylor	4.00	198	P	Pn	17 32 06.8	-0.6
OXZ	Oxford	4.57	198	P	Pn	17 32 14.0	-1.2
WVZ	Waitaha Valley	4.76	210	P	Pn	17 32 16.3	-1.5
GCSZ	Gaunt Creek Bo	5.12	211	P	Pn	17 32 21.7	-1.1
RPZ	Rata Peaks	5.21	204	P	Pn	17 32 24.4	+0.4
FOZ	Fox Glacier	5.51	213	P	Pn	17 32 26.0	-2.2
TMZ	Timaru	5.83	202	P	Pn	17 32 30.1	-2.4

RSNC 25 17:31:27.9±0.6, 3.83N×71.35W, h0km±4km, ML3.3, Mw3.5,

Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTGC	Puerto Gaitan,	0.87	295	eP	Pg	17 31 43.1	-1.4
PTGC				eS	Sg	17 31 56.2	+0.4
PTGC				i		17 32 01.4	
	comp=Z,246nm,0.2s						
GUVC	San Jose del G	1.80	225	eP	Pn	17 31 59.0	-1.2
GUVC				eS	Sn	17 32 23.0	-0.8
GUVC				i		17 32 26.1	
	comp=Z,555nm,0.2s						
VILC	Villavicencio,	2.35	277	eP	Pn	17 32 08.4	+0.4
VILC				eS	Sn	17 32 39.1	+1.4
VILC				i		17 32 45.0	
	comp=Z,275nm,0.4s						
CHIC	Chingaza	2.51	289	eP	Pn	17 32 09.5	-0.8
CHIC				eS	Sn	17 32 40.7	-1.1
CHIC				i		17 32 57.4	
	comp=Z,87nm,0.4s						
TAMC	Tame, Arauca	2.63	350	eP	Pn	17 32 10.4	-1.3
TAMC				eS	Sn	17 32 43.9	-0.4
TAMC				i		17 33 09.7	
	comp=Z,80nm,0.5s						
RUSC	La Rusia	2.68	320	eP	Pn	17 32 11.9	-1.0
RUSC				eS	Sn	17 32 45.7	-0.6
MACC	Macarena, Meta	3.00	236	eS	Sb	17 32 57.6	-1.9
MACC				i		17 33 03.5	
	comp=Z,221nm,0.5s						
ROSC	El Rosal	3.13	289	eP	Pg	17 32 30.3	+2.4
BARC	Barichara	3.30	327	eP	Pb	17 32 26.7	-0.8
BARC				eS	Sg	17 33 14.3	+0.3
BARC				i		17 33 17.4	
	comp=Z,66nm,0.4s						
ELOV	Elorza	3.66	30	eP	Pb	17 32 33.0	-0.5
ELOV				eS	Sb	17 33 20.8	+2.3
ORTC	Ortega, Tolima	3.89	271	eP	Pb	17 32 39.7	+2.3
ORTC				eS	Sg	17 33 31.9	-1.1
ORTC				i		17 33 34.6	
	comp=Z,50nm,0.5s						
GUY2C	Guyana, Caldas	4.24	289	eP	Pn	17 32 33.1	-1.1
GUY2C				eS	Sn	17 33 22.1	-2.5
GUY2C				i		17 33 28.6	
	comp=Z,15nm,0.5s						
BETC	Betania	4.24	255	eP	Pb	17 32 42.4	-1.0
BETC				eS	Sb	17 33 37.3	+2.0
BETC				i		17 33 54.0	
	comp=Z,45nm,0.5s						
GARC	Garzon, Huila	4.45	249	eS	Sb	17 33 42.4	+1.1
FLOC	Florencia	4.84	243	eP	Pb	17 32 52.5	-1.1
FLOC				eS	Sb	17 33 47.1	-5.4
FLOC				i		17 34 08.2	
	comp=Z,76nm,0.4s						
PTLC	Puerto Leguiza	5.00	224	eS	Sg	17 34 07.2	-1.6
PTLC				i		17 34 24.0	
	comp=Z,59nm,0.4s						
ZARC	Zaragoza, Cauc	5.05	316	eS	Sn	17 33 41.1	-2.9
ZARC				i		17 33 48.7	
	comp=Z,12nm,0.4s						
SDV	Santo Domingo	5.08	8	eP	Pb	17 33 00.7	+2.9
SDV				eS	Sb	17 33 59.1	-0.4
SDV				i		17 34 26.8	
	comp=Z,17nm,0.6s						
PCON	Cinco Dias	5.25	254	eP	Pb	17 32 59.7	-1.4
PCON				eS	Sb	17 34 09.2	+4.2
PCON				i		17 34 24.8	
	comp=Z,36nm,0.5s						
CRJC	Cerrejon, Guaj	7.31	348	eP	Pn	17 33 13.0	-3.1
CRJC				eS	Sn	17 34 31.9	-8.0
CRJC				i		17 34 40.6	
	comp=Z,5.3nm,0.5s						

MAN 25 17:44:33.9, 17.64N×122.31E, h31km, mb4.7, ML3.6, MS3.5, Luzon

IDC 25 17:59:35.1±4.0, 4.43S×151.86E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/36, mbtmp3.6/3, Error ellipse: s-maj=152.7km s-min=51.2km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.00	226	P	P	18 04 41.6	-0.2
	0.5nm,0.4s,baz=53,slow=10,SNR=18						
ASAR	Alice Springs	25.81	220	P	P	18 05 08.4	+0.1
	0.3nm,0.7s,baz=54,slow=9.2,SNR=11						
FITZ	Fitzroy Crossi	29.02	240	P	P	18 05 37.2	+0.1
	2.6nm,1.1s,baz=55,slow=9.8,SNR=2.3						
TORD	Torodi Ar. Bea	149.30	288	PKPbc	PKPbc	18 19 26.4	-0.6
	0.3nm,0.6s,baz=70,slow=3.6,SNR=2.5						

*IDC **25** 18:02:19.4±1.3, 5.23S×152.79E, h0km, mb4.0/10, mb1 4.2/10, mb1mx3.9/35, mbtmp4.0/10, MS3.3

SUA	**Susitna One**	**79.26**	**24**	P	**P**	18 14 28.1	+1.4		
PPLA	**Purkeypile**	**79.47**	**22**	P	**P**	18 14 29.6	+1.7		
PPLA				IAmb	IAmb	18 14 53.4			
	comp=Z,16nm,1.2s								
J20K	**Nowinta River**	**79.49**	**21**	P	**P**	18 14 30.0	+2.3		
J20K				IAmb	IAmb	18 14 30.7			
	comp=Z,6.1nm,0.8s								
PWL	**Port Wells**	**79.95**	**25**	P	**P**	18 14 31.3	+0.9		
SML	**Sawmill**	**80.42**	**24**	P	**P**	18 14 34.4	+1.5		
SML				IAmb	IAmb	18 14 35.4			
	comp=Z,7.7nm,0.6s								
MKAR	**Makanchi Array**	**80.47**	**319**	P	**P**	18 14 34.3	+0.9		
	comp=Z,0.2nm,0.4s,baz=99,slow=7.6,SNR=5.4								
BPAW	**Bear Paw Mtn.**	**80.59**	**22**	P	**P**	18 14 34.4	+0.7		
MAKZ	**Makanchi**	**80.68**	**319**	P	**P**	18 14 35.2	+0.6		
IMAR	**Indian Mountai**	**80.68**	**19**	P	**P**	18 14 35.7	+1.5		
FID	**Port Fidalgo**	**80.69**	**26**	P	**P**	18 14 34.7	+0.4		
FID				IAmb	IAmb	18 14 39.0			
	comp=Z,16nm,1.1s								
H21K	**Melozitna Rive**	**80.81**	**20**	P	**P**	18 14 36.8	+1.9		
H21K				IAmb	IAmb	18 14 52.0			
	comp=Z,23nm,1.6s								
I21K	**Tanana**	**80.83**	**21**	P	**P**	18 14 37.0	+2.1		
I21K				IAmb	IAmb	18 14 37.8			
	comp=Z,5.2nm,0.9s								
RND	**Reindeer**	**81.03**	**23**	P	**P**	18 14 36.6	+0.5		
RND				IAmb	IAmb	18 14 37.9			
	comp=Z,5.5nm,0.7s								
MCK	**McKinley**	**81.16**	**23**	P	**P**	18 14 37.5	+0.8		
MCK				IAmb	IAmb	18 14 38.2			
	comp=Z,8.7nm,0.8s								
MLY	**Manley**	**81.18**	**21**	P	**P**	18 14 38.3	+1.4		
MLY				IAmb	IAmb	18 14 39.0			
	comp=Z,7.9nm,0.6s								
KLU	**Klutina**	**81.28**	**25**	P	**P**	18 14 38.8	+1.3		
KLU				IAmb	IAmb	18 14 40.2			
	comp=Z,6.3nm,1.0s								
ZALV	**Zalesovo Beam**	**81.33**	**326**	P	**P**	18 14 38.1	+0.3		
	comp=Z,1.3nm,0.6s,baz=103,slow=5.3,SNR=6.8								
ZALV	**Zalesovo Beam**	**81.33**	**326**	P	**P**	18 14 37.6	-0.2		
DHY	**Denali Highway**	**81.44**	**23**	P	**P**	18 14 39.7	+1.3		
M24K	**Tolsona, Glenn**	**81.46**	**25**	P	**P**	18 14 39.6	+1.1		
HMT	**Hamilton**	**81.47**	**27**	P	**P**	18 14 39.9	+1.4		
NEA2	**Nenana**	**81.56**	**22**	P	**P**	18 14 38.9	0.0		
NEA2				IAmb	IAmb	18 14 40.1			
	comp=Z,4.3nm,0.7s								
I23K	**Minto, Yukon-K**	**81.74**	**21**	P	**P**	18 14 41.4	+1.6		
I23K				IAmb	IAmb	18 14 57.3			
	comp=Z,20nm,1.7s								
BERG	**Berg Lake**	**81.75**	**27**	P	**P**	18 14 42.0	+2.0		
CCB	**Clear Creek Bu**	**82.06**	**22**	P	**P**	18 14 41.6	+0.2		
CCB				IAmb	IAmb	18 14 42.5			
	comp=Z,3.4nm,0.7s								
TCOL	**CIGO, UAF Yank**	**82.15**	**22**	P	**P**	18 14 42.4	+0.5		
COLA	**College**	**82.15**	**22**	P	**P**	18 14 42.1	+0.2		
PAX	**Paxson**	**82.15**	**24**	P	**P**	18 14 42.9	+0.8		
PAX				IAmb	IAmb	18 15 17.7			
	comp=Z,8.3nm,1.7s								
WAX	**Waxell Ridge**	**82.16**	**27**	P	**P**	18 14 44.0	+1.8		
CRQM	**Cirque**	**82.16**	**26**	P	**P**	18 14 43.9	+1.6		
CRQM				IAmb	IAmb	18 14 51.2			
	comp=Z,15nm,1.2s								
GLB	**Gilahina Butte**	**82.16**	**26**	P	**P**	18 14 44.0	+1.8		
GLB				IAmb	IAmb	18 15 10.6			
	comp=Z,12nm,1.4s								
ILAR	**Eielson Array**	**82.46**	**22**	P	**P**	18 14 44.0	+0.4		
	comp=Z,3.0nm,0.7s,baz=248,slow=5.4,SNR=20								
COLD	**Coldfoot**	**82.56**	**19**	P	**P**	18 14 46.1	+2.1		
COLD				IAmb	IAmb	18 15 02.6			
	comp=Z,18nm,1.7s								
BARN	**Barnard Glacie**	**82.94**	**27**	P	**P**	18 14 48.3	+2.0		
DOT	**Dot Lake**	**83.03**	**24**	P	**P**	18 14 47.6	+1.0		
DOT				IAmb	IAmb	18 14 49.2			
	comp=Z,5.7nm,0.8s								
CTGM	**Chitina Glacie**	**83.05**	**27**	P	**P**	18 14 48.7	+1.8		
CTGM				IAmb	IAmb	18 15 18.1			
	comp=Z,15nm,1.4s								
SCRK	**Sand Creek**	**83.20**	**23**	P	**P**	18 14 49.4	+1.8		
M27K	**Edge Creek, AK**	**83.38**	**25**	P	**P**	18 14 51.2	+2.7		
M27K				IAmb	IAmb	18 14 51.5			
	comp=Z,5.8nm,0.8s								
K27K	**Chicken**	**83.99**	**24**	P	**P**	18 14 53.7	+2.3		
NIL	**Nilore**	**84.05**	**304**	P	**P**	18 14 53.0	+0.5		
NIL				IAmb	IAmb	18 14 54.0			
	comp=Z,3.8nm,0.7s								
BMAR	**Burnt Mountain**	**84.55**	**20**	P	**P**	18 14 56.5	+2.2		
QSPA	**South Pole Qui**	**84.88**	**180**	P	**P**	18 14 56.4	+0.3		
QSPA				IAmb	IAmb	18 15 10.8			
	comp=Z,9.4nm,1.4s								
MAW	**Mawson**	**85.27**	**203**	P	**P**	18 14 57.0	-0.8		
	comp=Z,0.9nm,0.7s,baz=18,slow=6.4,SNR=2.0								
NVAR	**Mina Array Bea**	**92.34**	**52**	LR	LR	18 50 49.0			
	comp=Z,32nm,19.9s,baz=94,slow=32								
SZCU	**Shurtz Canyon**	**96.41**	**53**	P	**P**	18 15 50.2	-0.8		
SZCU				IAmb	IAmb	18 15 51.6			
	comp=Z,2.9nm,0.8s								
GERES	**GERESS Array B**	**124.24**	**328**	PKP	**PKiKP**	18 21 21.1	+0.6		
	comp=Z,0.3nm,0.5s,baz=101,slow=3.1,SNR=4.4								
TORD	**Torodi Ar. Bea**	**150.29**	**288**	PKPbc	**PKPbc**	18 22 13.6	+0.1		
	comp=Z,1.5nm,0.7s,baz=65,slow=2.7,SNR=10								
TORD	**Torodi Ar. Bea**	**150.29**	**288**		**PKPbc**	18 22 13.0	-0.5		

MDD 25 18:14:06.5±0.4, 36°69N×3°67W, h0km, mbLg2.2/14, 1C-1D, Error ellipse: s-maj=3.6km s-min=2.9km az=163.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELGU	**Los Guajares,**	**0.18**	**10**	⇓Pg	Pg	18 14 09.9	+0.1
	301nm,0.1s,SNR=18						
ELGU				Lg	Lg	18 14 11.8	
	2µm,0.1s,SNR=7.9						
EQUE	**Quentar**	**0.54**	**19**	⇑Pg	Pg	18 14 15.6	-1.3
	28nm,0.2s,SNR=18						
EQUE				Lg	Lg	18 14 21.1	
	52nm,0.1s,SNR=4.9						
EGOR	**Sierra Gorda,**	**0.55**	**320**	Pg	Pg	18 14 16.5	-0.5
	1.7nm,0.2s,SNR=7.9						
EGOR				Lg	Lg	18 14 24.1	
	42nm,0.2s,SNR=7.9						
EMAL	**Malaga-Limoner**	**0.62**	**277**	Pg	Pg	18 14 17.9	-0.4
EMAL				Lg	Lg	18 14 25.2	
EMAL	**Malaga-Limoner**	**0.62**	**277**	P	Pg	18 14 17.9	-0.4
EMAL				S	Sg	18 14 25.2	-1.2
EBER	**Berja**	**0.66**	**72**	Pg	Pg	18 14 18.7	-0.3
	6.9nm,0.1s,SNR=7.9						
EBER				Lg	Lg	18 14 26.7	
	79nm,0.3s						
EMIJ	**Mijas**	**0.90**	**262**	Pg	Pg	18 14 22.0	-1.7
	0.9nm,0.1s,SNR=17						
EMIJ				Lg	Lg	18 14 33.2	
	9.0nm,0.1s,SNR=9.9						
EALB	**Alboran**	**0.91**	**146**	Pg	Pg	18 14 23.4	-0.5
	1.0nm,0.2s,SNR=7.9						
EALB				Lg	Lg	18 14 35.0	
	27nm,0.2s,SNR=7.9						
GORA	**Gorafe**	**0.93**	**32**	Pg	Pg	18 14 23.1	-1.2
	15nm,0.2s,SNR=7.9						
GORA				Lg	Lg	18 14 35.3	
	SNR=4.0						
ENIJ	**Nijar**	**1.20**	**76**	Pg	Pg	18 14 28.3	-1.2
	0.9nm,0.1s,SNR=7.9						
ENIJ				Lg	Lg	18 14 43.2	
	16nm,0.2s,SNR=7.9						
EQES	**Quesada**	**1.21**	**23**	Pg	Pg	18 14 28.8	-0.7
	6.7nm,0.2s,SNR=4.6						
EQES				Lg	Lg	18 14 45.4	
	40nm,0.3s						
EJIF	**Jimena Fronter**	**1.47**	**261**	Lg	Lg	18 14 52.3	
	SNR=4.0						
EADA	**Adamuz**	**1.64**	**334**	Pn	Pn	18 14 35.3	-1.4
	0.3nm,0.1s,SNR=7.9						
EADA				Pg	Pb	18 14 36.6	-1.0
	4.9nm,0.2s,SNR=7.9						
EADA				Lg	Lg	18 14 57.7	
	13nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**1.68**	**32**	Pn	Pn	18 14 36.0	-1.2
	0.3nm,0.2s,SNR=4.0						
SESP				Pg	Pb	18 14 36.8	-1.6
	21nm,0.2s,SNR=7.9						
SESP				Lg	Lg	18 14 58.3	
	20nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**1.96**	**315**	Pg	Pb	18 14 42.4	-0.7
	0.8nm,0.3s,SNR=7.9						
ECAB				Lg	Lg	18 15 09.0	
	3.8nm,0.2s						
EMUR	**La Murta**	**2.25**	**59**	Pg	Pb	18 14 47.9	0.0
	3.4nm,0.4s,SNR=4.0						
EMUR				Lg	Lg	18 15 14.9	
	1.4nm,0.3s,SNR=4.0						
ETOB	**Tobarra**	**2.57**	**40**	Pg	Pb	18 14 52.2	-1.3
	0.5nm,0.2s,SNR=6.5						
ETOB				Lg	Lg	18 15 27.9	
	1.8nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.63**	**295**	Pn	Pn	18 14 48.4	-1.8
	0.2nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**2.90**	**349**	Pn	Pn	18 14 53.9	-0.1
	0.3nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**2.99**	**356**	Pn	Pn	18 14 54.3	-0.8
	0.2nm,0.1s,baz=175,slow=12,SNR=3.8						
ESDC				Pg	Pb	18 15 00.9	+0.4
	1.1nm,0.4s,baz=172,slow=16,SNR=7.4						
ESDC				Lg	Lg	18 15 39.5	
	8.8nm,0.3s,baz=174,slow=28,SNR=21						
EBAD	**Badajoz**	**3.36**	**309**	Pn	Pn	18 15 00.7	+0.5
	0.2nm,0.1s,SNR=7.9						
ECHE	**Chera**	**3.59**	**35**	Pn	Pn	18 15 02.5	-0.9
	0.1nm,0.1s,SNR=7.9						
ECHE				Pg	Pb	18 15 12.1	+1.3
	0.8nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**3.86**	**331**	Pn	Pn	18 15 06.0	-1.2
	0.2nm,0.1s,SNR=7.9						
ETOR	**Torete**	**4.31**	**16**	Pn	Pn	18 15 12.4	-0.9
	1.4nm,0.1s,SNR=7.9						

CNRM ***25*** *18:14:22.9, 36°.55N×9°.93W, h30km, ml3.1*
MDD ***25*** *18:14:24.7±1.0, 36°.66N×9°.84W, h17km±6km, mbLg3.1/48, Error ellipse: s-maj=9.2km s-min=5.8km az=46.0, PRXIMO*
IGIL ***25*** *18:14:25.7, 36°.62N×9°.77W, h16km, ML2.6*
INMG ***25*** *18:14:25.5±1.3, 36°.56N×9°.85W, h27km±10km, MD2.9, ML2.8, Error ellipse: s-maj=6.1km s-min=3.3km az=62.0*
LDG ***25*** *18:14:25.2±0.2, 36°.63N×9°.90W, h20km, Ml3.2/3, Error ellipse: s-maj=4.4km s-min=2.7km az=40.0*

ISC 25 18:14:19.8±1.2, 36°.54N±0°.03×9°.86W±0°.05, h10km, n145, σ2s45/251, 1C-12D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.02**	**54**	⇓P	Pn	18 14 42.0	+1.8
	49nm,0.1s,SNR=18						
PFVI				S	Sb	18 14 54.1	+1.0
	99nm,0.1s,SNR=19						
PFVI	**Vila Bisbo**	**1.02**	**54**	⇓*i*P	Pn	18 14 42.0	+1.8
PFVI				*e*S	Sn	18 14 54.5	-0.1
PFVI				A	A	18 14 55.2	
	135nm,0.3s						
PFVI	**Vila Bisbo**	**1.02**	**54**	P	Pn	18 14 41.7	+1.5
PFVI	**Vila Bisbo**	**1.02**	**54**	P	Pn	18 14 41.7	+1.5
PFVI	**Vila Bisbo**	**1.02**	**54**	P	Pn	18 14 41.7	+1.5
MORF	**Marmelete**	**1.24**	**51**	*e*P	Pg	18 14 45.1	+1.5
MORF				*e*S	Sb	18 14 59.5	+0.1
MORF				IAML		18 15 00.4	
	comp=N,116nm,0.0s						
MORF	**Marmelete**	**1.24**	**51**	P	Pg	18 14 45.1	+1.5
MORF				S	Sb	18 14 59.5	+0.1
MORF	**Marmelete**	**1.24**	**51**	⇓*e*P	Pg	18 14 45.1	+1.5
MORF				*e*S	Sg	18 15 00.2	+0.5
MORF				A	A	18 15 01.9	
	comp=N,90nm,0.1s						
PTEO	**Sao Teotonio**	**1.35**	**42**	P	Pg	18 14 46.7	+0.8
PTEO				S	Sb	18 15 02.8	+0.1
	comp=N,30nm,0.3s						
PTEO	**Sao Teotonio**	**1.35**	**42**	⇓*i*P	Pg	18 14 46.7	+0.8
PTEO				*e*S	Sb	18 15 02.8	+0.1
PTEO				A	A	18 15 13.2	
	comp=N,61nm,0.3s						
PBDV	**Barranco-do-Ve**	**1.70**	**65**	P	Pb	18 14 51.8	+0.6
PBDV				S	Sn	18 15 10.9	-0.5
	comp=N,25nm,0.1s						
PBDV	**Barranco-do-Ve**	**1.70**	**65**	⇓*i*P	Pb	18 14 51.8	+0.6
PBDV				*e*S	Sn	18 15 10.9	-0.5
PBDV				A	A	18 15 18.4	
	comp=N,25nm,0.1s						
PCVE	**Castro Verde**	**1.82**	**53**	P	Pb	18 14 53.5	+0.2
PCVE				S	Sn	18 15 15.0	+0.6
	comp=N,49nm,0.3s						
PCVE	**Castro Verde**	**1.82**	**53**	⇓*e*Pn	Pb	18 14 53.5	+0.2
PCVE				*e*Sn	Sn	18 15 15.0	+0.6
PCVE				A	A	18 15 16.2	
	comp=N,49nm,0.3s						
MESJ	**Messejana**	**1.84**	**45**	*e*P	Pb	18 14 53.5	-0.1
MESJ				*e*S	Sn	18 15 14.0	-0.9
MESJ				IAML		18 15 17.3	
	comp=E,39nm,0.1s						
MESJ	**Messejana**	**1.84**	**45**	P	Pb	18 14 53.5	-0.1
MESJ				S	Sn	18 15 14.0	-0.9
MESJ	**Messejana**	**1.84**	**45**	⇓*e*Pn	Pb	18 14 53.5	-0.1
MESJ				*e*Sn	Sn	18 15 14.4	-0.6
MESJ				A	A	18 15 17.1	
	comp=E,29nm,0.2s						
PNCL	**Nicolau / Gran**	**1.90**	**34**	P	Pn	18 14 54.0	+1.8
PNCL				S	Sn	18 15 15.7	-0.5
	comp=E,45nm,0.1s						
PNCL	**Nicolau / Gran**	**1.90**	**34**	⇓*e*Pn	Pn	18 14 54.0	+1.8
PNCL				*e*Sn	Sn	18 15 15.7	-0.5
PNCL				A	A	18 15 18.8	
	comp=E,45nm,0.1s						
PVAQ	**Vaqueiros**	**1.92**	**63**	P	Pn	18 14 54.8	+2.2
PVAQ				S	Sn	18 15 16.3	-0.6
	comp=E,48nm,0.1s						
PVAQ	**Vaqueiros**	**1.92**	**63**	⇓*i*Pn	Pn	18 14 54.8	+2.2
PVAQ				*e*Sn	Sn	18 15 16.3	-0.6
PVAQ				A	A	18 15 20.8	
	comp=E,48nm,0.1s						
PVAQ	**Vaqueiros**	**1.92**	**63**	P	Pn	18 14 54.4	+1.8
PVAQ	**Vaqueiros**	**1.92**	**63**	P	Pn	18 14 54.6	+2.0
PVAQ				S	Sn	18 15 16.5	-0.4
PVAQ	**Vaqueiros**	**1.92**	**63**	P	Pn	18 14 54.4	+1.8
PVAQ	**Vaqueiros**	**1.92**	**63**	P	Pn	18 14 54.4	+1.8
EGRO	**El Granado**	**2.15**	**62**	P	Pn	18 14 57.7	+2.0
	comp=E,4.0nm,0.2s,SNR=29						
EGRO				S	Sn	18 15 21.8	-0.5
	comp=E,37nm,0.1s,SNR=4.7						
PBEJ	**Beja**	**2.18**	**46**	P	Pn	18 14 57.8	+1.7
PBEJ				S	Sn	18 15 22.1	-1.0
	comp=E,8.4nm,0.1s						
PBEJ	**Beja**	**2.18**	**46**	*e*Pn	Pn	18 14 57.8	+1.7
PBEJ				*e*Sn	Sn	18 15 22.1	-1.0
PBEJ				A	A	18 15 26.3	
	comp=E,17nm,0.1s						
PMST	**Lisbon--Monsan**	**2.26**	**14**	*e*Pn	Pn	18 14 59.0	+1.7
PMST				*e*Sn	Sn	18 15 24.3	-0.9
PMST				A	A	18 15 26.8	
	comp=E,67nm,0.5s						
PMAFR	**Mafra**	**2.46**	**11**	⇓P	Pn	18 15 01.5	+1.5
	comp=E,42nm,0.1s,SNR=18						
PMAFR				S	Sn	18 15 28.5	-1.5
	comp=E,78nm,0.1s,SNR=9.0						
PMAFR	**Mafra**	**2.46**	**11**	⇓*e*Pn	Pn	18 15 01.5	+1.5
PMAFR				*e*Sn	Sn	18 15 28.7	-1.3
PMAFR				A	A	18 15 32.4	
	comp=E,85nm,0.4s						
EVO	**Evora**	**2.47**	**36**	P	Pn	18 15 01.8	+1.6
EVO				S	Sn	18 15 28.9	-1.5
EVO	**Evora**	**2.47**	**36**	P	Pn	18 15 01.8	+1.6
EVO				S	Sn	18 15 28.9	-1.5
EVO	**Evora**	**2.47**	**36**	*e*Pn	Pn	18 15 01.8	+1.6
EVO				*e*Sn	Sn	18 15 29.5	-1.0
EVO				A	A	18 15 31.4	
	comp=E,76nm,0.1s						
ARNO	**Arenosillo**	**2.57**	**77**	Lg	Sn	18 15 32.5	-0.3
ARNO	**Arenosillo**	**2.57**	**77**	S	Sn	18 15 32.5	-0.3
PBAR	**Barrancos**	**2.78**	**53**	P	Pn	18 15 06.2	+1.8
PBAR				S	Sn	18 15 38.0	0.0
	comp=E,20nm,0.4s						
PBAR	**Barrancos**	**2.78**	**53**	*e*Pn	Pn	18 15 06.2	+1.8
PBAR				*e*Sn	Sn	18 15 38.0	0.0
PBAR				A	A	18 15 38.8	
	comp=E,20nm,0.4s						
EMIN	**Mina Concepcio**	**2.83**	**63**	P	Pn	18 15 06.7	+1.7
	comp=E,0.9nm,0.1s,SNR=20						
EMIN				S	Sn	18 15 37.4	-1.8
	comp=E,8.0nm,0.1s,SNR=5.8						
PMTG	**Montargil**	**2.84**	**27**	P	Pn	18 15 06.9	+1.7
PMTG				S	Sn	18 15 38.0	-1.5
	comp=E,35nm,0.1s						
PMTG	**Montargil**	**2.84**	**27**	*e*Pn	Pn	18 15 06.9	+1.7
PMTG				*e*Sn	Sn	18 15 38.0	-1.5
PMTG				A	A	18 15 40.3	
	comp=E,35nm,0.1s						
PESTR	**Estremoz**	**2.94**	**37**	*e*Pn	Pn	18 15 08.0	+1.4
PESTR				*e*Sn	Sn	18 15 40.6	-1.4
PESTR				A	A	18 15 43.4	
	comp=E,15nm,0.2s						
PESTR	**Estremoz**	**2.94**	**37**	P	Pn	18 15 09.4	+2.7
PESTR				S	Sn	18 15 42.2	+0.2
PESTR	**Estremoz**	**2.94**	**37**	P	Pn	18 15 09.3	+2.6
PESTR				S	Sn	18 15 41.8	-0.2
PESTR	**Estremoz**	**2.94**	**37**	P	Pn	18 15 09.4	+2.7
PESTR	**Estremoz**	**2.94**	**37**	S	Sn	18 15 42.2	+0.2
PSBE	**So Bento**	**3.09**	**16**	*e*Pn	Pn	18 15 10.5	+1.8
PSBE				*e*Sn	Sn	18 15 44.5	-1.2
PSBE				A	A	18 15 48.4	
	comp=E,13nm,0.1s						
EBAD	**Badajoz**	**3.16**	**45**	⇓P	Pn	18 15 11.0	+1.3
	comp=E,8.5nm,0.1s,SNR=18						
EBAD				S	Sn	18 15 45.5	-2.0
	comp=E,16nm,0.1s,SNR=7.9						
ESPR	**Espera**	**3.23**	**83**	P	Pn	18 15 12.9	+2.2
	comp=E,11nm,0.2s,SNR=32						
ESPR				S	Sn	18 15 48.6	-0.6
	comp=E,118nm,0.3s,SNR=8.2						
PMRV	**Marv??o**	**3.48**	**33**	P	Pn	18 15 15.7	+1.6
PMRV				S	Sn	18 15 53.3	-2.1
	comp=E,15nm,0.2s						
PMRV	**Marv??o**	**3.48**	**33**	*e*Pn	Pn	18 15 15.7	+1.6
PMRV				*e*Sn	Sn	18 15 53.3	-2.1
PMRV				A	A	18 15 56.0	
	comp=E,15nm,0.2s						
EJIF	**Jimena Fronter**	**3.54**	**90**	P	Pn	18 15 17.8	+3.0
	comp=E,12µm,0.2s,SNR=7.9						
PCAS	**Casmilo, Conde**	**3.67**	**17**	P	Pn	18 15 18.3	+1.7
PCAS				S	Sn	18 15 58.5	-1.5
	comp=E,15nm,0.1s						
PCAS	**Casmilo, Conde**	**3.67**	**17**	*e*Pn	Pn	18 15 18.3	+1.7
PCAS				*e*Sn	Sn	18 15 58.5	-1.5
PCAS				A	A	18 16 01.5	
	comp=E,15nm,0.1s						
ECEU	**Ceuta**	**3.68**	**99**	P	Pn	18 15 19.7	+2.8
	comp=E,7.6nm,0.1s,SNR=7.9						
ECEU				S	Sn	18 16 01.5	+1.2
	comp=E,5.1nm,0.1s,SNR=7.9						
CEU	**Ceuta**	**3.69**	**99**	P	Pn	18 15 20.2	+3.3
CEU				S	Sn	18 16 01.1	+0.7
CEU	**Ceuta**	**3.69**	**99**	P	Pn	18 15 20.2	+3.3
CEU				S	Sn	18 16 01.1	+0.7
SMIR	**Smir Dam**	**3.73**	**102**	P	Pn	18 15 19.4	+2.0
SMIR				S	Sn	18 15 55.7	-5.7
PCBR	**Castelo Branco**	**3.79**	**29**	P	Pn	18 15 20.4	+2.1
PCBR				S	Sn	18 16 01.2	-1.8
	comp=E,4.3nm,0.3s						
PCBR	**Castelo Branco**	**3.79**	**29**	*e*Pn	Pn	18 15 20.4	+2.1
PCBR				*e*Sn	Sn	18 16 01.2	-1.8
PCBR				A	A	18 16 03.2	
	comp=E,8.7nm,0.3s						
AVE	**Averroes**	**3.81**	**147**	P	Pn	18 15 20.6	+2.0
AVE				S	Sn	18 15 59.9	-3.5
AVE	**Averroes**	**3.81**	**147**	P	Pn	18 15 21.0	+2.4
AVE				S	Sn	18 16 01.6	-1.9
ECAB	**El Cabril**	**3.86**	**65**	P	Pn	18 15 21.5	+2.2
	comp=E,3.7nm,0.2s,SNR=8.5						
ECAB				S	Sn	18 16 02.8	-1.9
	comp=E,11nm,0.1s,SNR=7.5						
CHEFC	**Chefchaouen**	**3.94**	**110**	P	Pn	18 15 22.6	+2.1
CHEFC				S	Sn	18 16 01.8	-5.0
ZHG	**ZHG**	**4.06**	**138**	P	Pn	18 15 24.0	+1.9
ZHG	**ZHG**	**4.06**	**138**	P	Pn	18 15 23.1	+1.0
ZHG				S	Sn	18 16 05.8	-4.0
ZHG	**ZHG**	**4.06**	**138**	P	Pn	18 15 24.0	+1.9
ZHG	**ZHG**	**4.06**	**138**	P	Pn	18 15 24.0	+1.9
EMIJ	**Mijas**	**4.10**	**88**	P	Pn	18 15 25.4	+2.9
	comp=E,1.2nm,0.2s,SNR=7.9						
EMIJ				S	Sn	18 16 09.6	-1.0
	comp=E,3.8nm,0.2s,SNR=5.3						
MTE	**Manteigas**	**4.26**	**25**	P	Pn	18 15 26.5	+1.6
MTE				S	Sn	18 16 12.3	-2.4
	comp=E,6.0nm,0.3s						
MTE	**Manteigas**	**4.26**	**25**	*e*Pn	Pn	18 15 26.5	+1.6
MTE				*e*Sn	Sn	18 16 12.3	-2.4
MTE				A	A	18 16 14.5	
	comp=E,12nm,0.3s						
PVIS	**Viseu**	**4.45**	**20**	P	Pn	18 15 29.0	+1.6
PVIS				S	Sn	18 16 17.0	-2.2
	comp=E,11nm,0.1s						
PVIS	**Viseu**	**4.45**	**20**	⇑*e*Pn	Pn	18 15 29.0	+1.6
PVIS				*e*Sn	Sn	18 16 17.0	-2.2
PVIS				A	A	18 16 20.1	
	comp=E,22nm,0.1s						
EADA	**Adamuz**	**4.51**	**67**	P	Pn	18 15 30.4	+2.2
	comp=E,2.4nm,0.2s,SNR=7.9						
EADA				S	Sn	18 16 18.0	-2.8
	comp=E,8.9nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**4.61**	**39**	P	Pn	18 15 31.0	+1.4
	comp=E,4.3nm,0.2s,SNR=19						
EPLA		

comp=E,4.7nm,0.2s,SNR=4.0
PGAV Gavieira, Arco 5.56 12 P **Pn** 18 15 43.9 +1.2
PGAV S **Sn** 18 16 42.2 -4.5
comp=E,6.9nm,0.5s
PGAV Gavieira, Arco 5.56 12 *e*Pn **Pn** 18 15 43.9 +1.2
PGAV *e*Sn **Sn** 18 16 42.2 -4.5
PGAV A A 18 16 47.8
comp=E,6.9nm,0.5s
EQES Quesada 5.57 75 P **Pn** 18 15 44.5 +1.7
comp=E,0.8nm,0.1s,SNR=7.9
EQES S **Sn** 18 16 43.8 -3.2
comp=E,5.4nm,0.2s,SNR=9.8
OUK Oukaimeden 5.57 162 P **Pn** 18 15 44.0 +0.8
OUK Oukaimeden 5.57 162 P **Pn** 18 15 44.0 +0.8
OUK Oukaimeden 5.57 162 P **Pn** 18 15 44.0 +0.8
MD31 MD31 5.58 130 P **Pn** 18 15 43.7 +0.8
MD31 S **Sn** 18 16 42.1 -5.0
ESDC Sonseca Array 5.61 54 P **Pn** 18 15 44.8 +1.4
comp=E,7.9nm,0.1s,baz=242,slow=14,SNR=4.6
ESDC S **Sn** 18 16 44.4 -3.4
comp=E,5.4nm,0.2s,baz=240,slow=24,SNR=19
EBER Berja 5.61 84 P **Pn** 18 15 46.3 +2.8
comp=E,0.5nm,0.2s,SNR=7.9
EBER S **Sn** 18 16 47.4 -0.7
comp=E,1.9nm,0.2s,SNR=4.0
EZAM Zamans 5.67 9 P **Pn** 18 15 45.6 +1.4
comp=E,4.9nm,0.1s,SNR=7.9
EZAM S **Sn** 18 16 45.3 -4.1
comp=E,4.0nm,0.1s,SNR=7.9
MDT Midelt 5.71 129 P **Pn** 18 15 46.0 +1.3
MDT Midelt 5.71 129 P **Pn** 18 15 46.1 +1.3
MDT S **Sn** 18 16 44.5 -5.8
MDT Midelt 5.71 129 P **Pn** 18 15 46.0 +1.3
GOG Mont Gurugu 5.73 101 P **Pn** 18 15 44.3 -0.7
GOG S **Sn** 18 16 44.2 -6.6
PBRG Braganca 5.79 24 P **Pn** 18 15 47.5 +1.7
PBRG S **Sn** 18 16 49.3 -3.0
comp=E,1.9nm,0.4s
PBRG Braganca 5.79 24 *e*Pn **Pn** 18 15 47.5 +1.7
PBRG *e*Sn **Sn** 18 16 49.3 -3.0
PBRG A A 18 16 51.0
comp=E,3.8nm,0.4s
ECAL Calabor 5.91 23 P **Pn** 18 15 48.3 +0.7
comp=E,12nm,0.2s,SNR=54
ECAL S **Sn** 18 16 52.2 -3.2
comp=E,4.4nm,0.2s
SESP Santiago Espad 6.04 73 P **Pn** 18 15 50.8 +1.5
comp=E,1.5nm,0.2s,SNR=7.9
SESP S **Sn** 18 16 54.9 -3.8
comp=E,18nm,0.2s,SNR=7.9
GUD Guadarrama 6.06 46 P **Pn** 18 15 53.7 +4.0
comp=E,3.8nm,0.2s,SNR=7.9
GUD S **Sn** 18 16 57.9 -1.3
comp=E,6.9nm,0.3s,SNR=4.0
JBK JBK 6.35 108 P **Pn** 18 15 53.2 -0.5
JBK S Sn 18 16 58.0 -8.3
EMAZ Mazaricos 6.44 6 P **Pn** 18 15 55.0 +0.3
comp=E,9.2nm,0.1s,SNR=7.9
EMAZ S **Sn** 18 17 00.9 -7.3
comp=E,12nm,0.2s,SNR=7.9
TZRR Tazzarine 6.76 147 P **Pn** 18 16 01.3 +2.0
TZRR S **Sn** 18 17 12.5 -3.9
ETOB Tobarra 6.93 70 P **Pn** 18 16 02.9 +1.4
comp=E,1.0nm,0.3s,SNR=7.9
ETOB S **Sn** 18 17 15.8 -4.6
comp=E,1.9nm,0.1s,SNR=7.9
EMUR La Murta 7.00 77 P **Pn** 18 16 04.9 +2.5
comp=E,0.3nm,0.2s,SNR=7.9
EMUR S **Sn** 18 17 19.5 -2.7
comp=E,3.0nm,0.3s,SNR=7.9
EPON Pontenova 7.09 16 P **Pn** 18 16 04.5 +0.8
comp=E,1.0nm,0.2s,SNR=7.0
EPON S **Sn** 18 17 21.1 -3.2
comp=E,0.5nm,0.1s,SNR=7.9
TDRA Tendrara 7.33 116 P **Pn** 18 16 08.0 +0.9
TDRA S Sn 18 17 20.5 -10
ETOR Torete 7.45 53 P **Pn** 18 16 10.2 +1.5
comp=E,12nm,0.2s,SNR=13
ETOR S **Sn** 18 17 28.3 -5.0
comp=E,9.3nm,0.2s
EARI Arriondas 7.64 26 P **Pn** 18 16 13.9 +2.7
comp=E,2.5nm,0.3s,SNR=13
EARI S **Sn** 18 17 35.1 -2.7
SNR=7.9
ECHE Chera 7.65 64 P **Pn** 18 16 13.7 +2.4
comp=E,0.4nm,0.2s,SNR=7.9
ECHE S **Sn** 18 17 36.1 -2.0
comp=E,0.9nm,0.1s,SNR=7.9
EMOS Mosqueruela 8.30 60 S **Sn** 18 17 52.4 -1.8
comp=E,2.5nm,0.2s,SNR=7.9
EIBI Ibiza 9.21 71 S **Sn** 18 18 10.8 -5.6
comp=E,0.2nm,0.1s,SNR=7.9
SJPF Ste Jean 9.34 43 *e*Pn **Pn** 18 16 36.2 +1.7
SJPF *e*Sn **Sn** 18 18 13.1 -6.4
comp=E,1.8nm,0.4s
SJPF Ste Jean 9.34 43 P **Pn** 18 16 36.2 +1.7
SJPF S **Sn** 18 18 13.1 -6.4
comp=E,0.9nm,0.4s
ETSF Etsaut 9.57 46 *e*Pn **Pn** 18 16 39.5 +1.8
ETSF *e*Sn **Sn** 18 18 18.9 -6.5
comp=E,0.6nm,0.3s
ETSF Etsaut 9.57 46 P **Pn** 18 16 39.5 +1.8
ETSF S **Sn** 18 18 18.9 -6.5
comp=E,0.3nm,0.3s
EPF Esparros 10.18 47 *e*Pn **Pn** 18 16 47.6 +1.6
EPF *e*Sn **Sn** 18 18 33.6 -6.6
comp=E,1.2nm,0.3s
EPF Esparros 10.18 47 P **Pn** 18 16 47.6 +1.6
EPF S **Sn** 18 18 33.6 -6.6
comp=E,0.6nm,0.3s
CAF Calviac 12.32 43 *e*Pn **Pn** 18 17 16.1 +0.8
CAF Calviac 12.32 43 P **Pn** 18 17 16.1 +0.8
QUIF Quistinic 12.40 21 *e*Pn **Pn** 18 17 16.3 0.0
QUIF Quistinic 12.40 21 P **Pn** 18 17 16.3 0.0
ROSF Rostrenen 12.75 20 *e*Pn **Pn** 18 17 21.3 +0.2
ROSF Rostrenen 12.75 20 P **Pn** 18 17 21.3 +0.2
SGMF Saint Gilles 12.88 22 *e*Pn **Pn** 18 17 23.2 +0.3
SGMF Saint Gilles 12.88 22 P **Pn** 18 17 23.2 +0.3

*GUC **25** 18:20:24.6±0.8, 19°.94S×70°.98W, h32km±3km, ML2.8*
*SJA **25** 18:20:25.0,20°.08S×70°.85W,h10km, ML5.2*
ISC 25 18:20:24.1±1.6, 20°.01S±0°.04×70°.94W±0°.09, h20km±9km, n24, σ0s68/32, 6C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.80**	**109**	*e*S	**Sb**	**18 20 50.8**	**+1.0**
TA02				IAML		18 20 52.2	
	comp=N,799nm,0.1s						
PSGC	**Pisagua**	**0.87**	**62**⇑	*e*P	**Pb**	**18 20 39.7**	**-0.9**
PSGC				*e*S	**Sb**	**18 20 51.3**	**-0.5**
PSGCX	**Pisagua**	**0.87**	**62**	*i* P	**Pb**	**18 20 40.0**	**-0.6**
TA01	**Diego Aracena**	**0.90**	**128**⇑	*e*P	**Pb**	**18 20 41.2**	**+0.1**
TA01				*e*S	**Sn**	**18 20 53.8**	**-0.3**
TA01	**Diego Aracena**	**0.90**	**128**	*i* P	**Pb**	**18 20 41.0**	**-0.1**
HMBC	**Humberstone**	**1.02**	**105**⇑	*e*P	**Pb**	**18 20 43.0**	**-0.3**
HMBC				*e*S	**Sn**	**18 20 57.3**	**0.0**
HMBC				IAML		18 21 03.6	
	comp=Z,256nm,0.5s						
PB11	**IPOC Station P**	**1.23**	**79**⇑	*e*P	**Pn**	**18 20 46.0**	**-0.4**
PB11				*e*S	**Sb**	**18 21 01.9**	**-0.4**
PB11				IAML		18 21 04.9	
	comp=N,834nm,0.3s						
PB11	**IPOC Station P**	**1.23**	**79**	*i* P	**Pn**	**18 20 46.0**	**-0.4**
PB02	**IPOC Station P**	**1.63**	**143**⇓	*e*P	**Pn**	**18 20 51.7**	**-0.1**
PB02				*e*S	**Sb**	**18 21 14.1**	**+0.3**
PB02				IAML		18 21 20.3	
	comp=N,292nm,0.3s						
PB02	**IPOC Station P**	**1.63**	**143**	*i* P	**Pn**	**18 20 51.0**	**-0.8**
PB08	**IPOC Station P**	**1.68**	**95**⇑	*e*P	**Pn**	**18 20 53.4**	**+0.6**
PB08				*e*S	**Sb**	**18 21 15.6**	**0.0**
PB08				IAML		18 21 17.7	
	comp=N,117nm,0.3s						
PB08	**IPOC Station P**	**1.68**	**95**	*i* P	**Pn**	**18 20 53.0**	**+0.2**
PB01	**IPOC Station P**	**1.71**	**127**	*e*P	**Pn**	**18 20 53.0**	**+0.2**
PB01				*e*S	**Sb**	**18 21 16.2**	**+0.2**
PB01				IAML		18 21 20.9	
	comp=E,130nm,0.7s						
PB01	**IPOC Station P**	**1.71**	**127**	*i* P	**Pn**	**18 20 53.0**	**+0.2**
AP01	**Chacalluta**	**1.72**	**19**	*i* P	**Pb**	**18 20 56.0**	**+0.9**
PB07	**IPOC Station P**	**1.97**	**150**⇑	*e*P	**Pn**	**18 20 56.6**	**0.0**
PB07				*e*S	**Sb**	**18 21 23.5**	**-0.2**
PB07				IAML		18 21 34.5	
	comp=E,68nm,0.2s						
PB07	**IPOC Station P**	**1.97**	**150**	*i* P	**Pn**	**18 20 56.0**	**-0.6**
PB09	**IPOC Station P**	**2.38**	**139**	*e*P	**Pn**	**18 21 03.4**	**+1.1**
PB09	**IPOC Station P**	**2.38**	**139**	*i* P	**Pn**	**18 21 03.0**	**+0.8**
PB04	**IPOC Station P**	**2.43**	**162**	*e*P	**Pn**	**18 21 01.9**	**-1.0**
PB04				IAML		18 21 54.3	
	comp=E,52nm,0.5s						
PB04	**IPOC Station P**	**2.43**	**162**	*i* P	**Pn**	**18 21 03.0**	**+0.1**
PB05	**IPOC Station P**	**2.91**	**167**	*i* P	**Pn**	**18 21 08.0**	**-1.5**
LVC	**Limon Verde**	**3.21**	**144**	*e*P	**Pn**	**18 21 15.1**	**+1.4**
ACDV	**Cuesta del Vie**	**10.25**	**171**	*i* P	**Pn**	**18 22 51.0**	**+0.7**

*ISK **25** 18:21:00.1, 35°.52N×29°.45E, h24km, ML2.5/11*
*NIC **25** 18:21:01.9±0.0, 35°.45N×29°.78E, h15km±31km, Ml2.8/2*
*DDA **25** 18:21:04.3, 35°.99N×29°.46E, h4km±3km, ML2.2*
ISC 25 18:20:58.2±1.6, 35°.43N±0°.04×29°.46E±0°.04, h16km±12km, n37, σ1s24/51, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**0.81**	**8**	*i* P	**Pg**	**18 21 14.7**	**+0.7**
AKAS	**Kas**	**0.81**	**8**	PG	**Pb**	**18 21 15.2**	**+1.2**
AKAS				SG	**Sb**	**18 21 25.5**	**+0.8**
AKUM	**Antalya-Kumluc**	**1.14**	**39**	*i* P	**Pg**	**18 21 18.8**	**-1.4**
FETY	**Fethiye**	**1.24**	**346**	PN	**Pg**	**18 21 21.4**	**-0.8**
ARG	**Arkhangelos**	**1.34**	**306**	PN	**Pg**	**18 21 22.9**	**-1.1**
ELL	**Elmali**	**1.36**	**15**	PN	**Pg**	**18 21 23.1**	**-1.4**
CAME	**Cameli-Denizli**	**1.51**	**355**	PN	**Pn**	**18 21 25.0**	**+0.2**
DALY	**Dalyan (Mula)**	**1.53**	**335**	PN	**Pn**	**18 21 25.4**	**+0.6**
TURN	**Turunc**	**1.66**	**324**	*i* P	**Pn**	**18 21 26.5**	**-0.2**
TURN				IAML		18 21 53.0	
	comp=N,33nm,0.3s						
TURN	**Turunc**	**1.66**	**324**	PN	**Pn**	**18 21 27.4**	**+0.7**
CAEL	**Denizli, Camel**	**1.69**	**356**	*i* P	Pg	18 21 34.8	+4.0
KORT	**Korkueli**	**1.72**	**24**	*i* P	**Pn**	**18 21 26.9**	**-0.7**
KORT				*i* S	Sn	18 21 43.5	-5.9
KORT	**Korkueli**	**1.72**	**24**	PN	**Pn**	**18 21 28.2**	**+0.6**
GOLH	**Golhisar**	**1.80**	**3**	*i* P	Pn	18 21 25.9	-2.9
GOLH				*i* S	Sn	18 21 43.3	-8.0
YER	**Yerkesik**	**1.95**	**331**	PN	**Pn**	**18 21 31.2**	**+0.5**
TAVA	**DENIZLI_Tavas**	**2.08**	**348**	*i* P	**Pn**	**18 21 33.4**	**+0.9**
TAVA				*i* S	Sn	18 21 52.4	-5.6
BCK	**Bucak**	**2.22**	**24**	PN	**Pn**	**18 21 35.7**	**+1.3**
BRDR	**BURDUR-Merkez**	**2.31**	**12**	*i* P	**Pn**	**18 21 38.0**	**+2.3**
BRDR				*i* S	Sn	18 21 57.9	-5.9
AKMS	**Akamas**	**2.39**	**99**	P	**Pn**	**18 21 36.7**	**+0.1**
AKMS				S	**Sn**	**18 22 04.2**	**-1.4**
AKMS				AML	AML	18 22 09.8	
	comp=N,0.1nm,0.5s						
AKMS				AML	AML	18 22 09.8	
	comp=N,0.1nm,0.5s						
AKMS				AML	AML	18 22 15.2	
	comp=N,0.2nm,0.4s						
AKMS				AML	AML	18 22 15.2	
	comp=N,0.2nm,0.4s						
OSC1	**CSNet OBS 1**	**2.44**	**142**	P	**Pn**	**18 21 38.5**	**+1.1**
OSC1				S	**Sn**	**18 22 07.2**	**+0.4**
GAZI	**Gazipasa**	**2.45**	**70**	*i* P	**Pn**	**18 21 36.7**	**-0.9**
GAZI				*i* S	Sn	18 22 00.9	-6.3
GAZI	**Gazipasa**	**2.45**	**70**	PN	**Pn**	**18 21 37.8**	**+0.2**
AYDN	**Tasoluk**	**2.56**	**331**	*i* P	**Pn**	**18 21 40.2**	**+1.0**
AYDN				*i* S	**Sn**	**18 22 07.5**	**-2.5**
ALFC	**Alefka**	**2.58**	**95**	P	**Pn**	**18 21 39.4**	**+0.1**
ALFC				S	**Sn**	**18 22 09.0**	**-1.4**
NATA	**Nata**	**2.63**	**103**	P	**Pn**	**18 21 40.4**	**+0.4**
NATA				S	**Sn**	**18 22 11.2**	**-0.3**
SEDI	**Konya, Seydise**	**2.73**	**42**	*i* P	**Pn**	**18 21 42.5**	**+0.9**
SEDI				*i* S	**Sn**	**18 22 13.5**	**-0.8**
SEDI				IAML		18 22 16.0	
	comp=N,24nm,0.4s						
SEDI				IAML		18 22 17.0	
	comp=E,16nm,0.4s						
SEYD	**Seydisehir-KON**	**2.75**	**44**	PN	**Pn**	**18 21 42.8**	**+1.1**
SEYD				SN	**Sn**	**18 22 14.6**	**0.0**
BAGO	**Egridir - ISPA**	**2.77**	**22**	*i* P	**Pn**	**18 21 43.8**	**+1.9**
BAGO				*i* S	**Sn**	**18 22 14.3**	**-0.7**
SZAC	**Souni**	**2.88**	**103**	P	**Pn**	**18 21 44.0**	**+0.5**
SZAC				S	**Sn**	**18 22 17.8**	**-0.1**
SZAC				AML	AML	18 22 20.9	
	comp=E,0.2nm,0.6s						
SZAC				AML	AML	18 22 20.9	
	comp=E,0.2nm,0.6s						
ERMK	**Ermenek**	**3.05**	**66**	*i* P	**Pn**	**18 21 47.3**	**+1.4**
ERMK				*i* S	**Sn**	**18 22 23.2**	**+1.1**
ERMK				IAML		18 22 28.0	
	comp=E,14nm,0.3s						
ERMK				IAML		18 22 33.0	
	comp=N,11nm,0.3s						
ASGA	**Asgata**	**3.17**	**101**	P	**Pn**	**18 21 47.8**	**+0.3**
YVAC	**Isparta, Yalva**	**3.17**	**26**	*i* P	**Pn**	**18 21 49.4**	**+1.8**
YVAC				*i* S	**Sn**	**18 22 23.1**	**-2.0**
CSS	**Mathiatis**	**3.20**	**97**	P	**Pn**	**18 21 48.0**	**+0.1**
DOGA	**KONYA_Doganhis**	**3.20**	**33**	*i* P	**Pn**	**18 21 49.9**	**+1.9**
DOGA				*i* S	**Sn**	**18 22 25.6**	**-0.3**
DOGA				IAML		18 22 29.0	
	comp=E,21nm,0.4s						
DOGA				IAML		18 22 29.0	
	comp=N,16nm,0.4s						
KKBE	**Karaman, Kazim**	**3.33**	**57**	*i* P	**Pn**	**18 21 50.8**	**+1.1**
KKBE				*i* S	**Sn**	**18 22 27.3**	**-1.6**
KKBE				IAML		18 22 31.0	
	comp=E,6.6nm,0.5s						
GULN	**MERSIN_Gulnar**	**3.40**	**76**	*i* P	**Pn**	**18 21 50.8**	**+0.2**
GULN				*i* S	**Sn**	**18 22 27.5**	**-3.0**
KDHN	**Kadinhani**	**3.74**	**34**	*i* P	**Pn**	**18 21 55.8**	**+0.4**
KDHN				*i* S	**Sn**	**18 22 36.7**	**-2.5**
KDHN				IAML		18 22 40.0	
	comp=E,6.9nm,0.3s						
KDHN				IAML		18 22 41.0	
	comp=N,5.2nm,0.5s						

MEX 25 18:33:51.6±0.9, 16°.70N×99°.82W, h5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAIG	**Los Arroyos**	**0.36**	**27**	*i* P	Pg	18 33 58.0	-0.5
DAIG				*i* S	Sg	18 34 02.7	-0.5
MEIG	**Mezcala**	**1.23**	**9**	*i* P	Pg	18 34 11.9	-3.4
MEIG				*i* S	Sg	18 34 27.9	-3.5
MGIG	**Malinaltepec**	**1.25**	**65**	*e*P	Pg	18 34 12.1	-3.5
MGIG				*e*S	Sg	18 34 28.8	-3.1
PLIG	**Platanillo**	**1.71**	**10**	*e*P	Pn	18 34 19.1	-3.1
PLIG				*e*S	Sn	18 34 40.0	-4.5
FTIG	**Fresnillo de T**	**2.01**	**53**	*e*P	Pn	18 34 24.4	-1.9
FTIG				*e*S	Sn	18 34 47.4	-4.5
TXIG	**Tlaxiaco**	**2.04**	**74**	*e*P	Pn	18 34 22.9	-4.0
TXIG				*e*S	Sn	18 34 50.6	-2.2
HLIG	**Huajuapan de L**	**2.23**	**59**	*e*P	Pn	18 34 25.8	-3.7
HLIG				*e*S	Sn	18 34 53.8	-3.7

*IDC **25** 18:40:29.1±2.5, 63°.13N×150°.94W, h94km±39km, mb3.5/7, mb1 3.6/9, mb1mx3.3/46, mbtmp3.8/9, Error ellipse: s-maj=77.5km s-min=17.9km az=120.0*
*ANF **25** 18:40:30.7±0.2, 63°.01N×150°.67W, h110km±2km, ML3.5/59, Error ellipse: s-maj=1.5km s-min=1.3km az=100.0*
*NEIC **25** 18:40:30.4±1.1, 63°.01N±0°.03×150°.64W±0°.06, h117km±3km, Error ellipse: s-maj=5.1km s-min=3.5km az=199.0*
*AEIC **25** 18:40:31.3±1.5, 63°.01N±0°.03×150°.62W±0°.07, h108km±4km, ML3.3/118, ML3.5/166(NEIC), Error ellipse: s-maj=4.9km s-min=4.2km az=220.0*
ISC 25 18:40:30.4±0.8, 63°.02N±0°.02×150°.66W±0°.03, h119km±5km, n218, σ0s79/272, mb3.8/7, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.47**	**21**		**Pn**	**18 40 48.0**	**-0.2**
TRF				Sn	**Sn**	**18 41 01.0**	**-0.7**
TRF	**Thorofare Moun**	**0.47**	**21**	P	**Pn**	**18 40 48.2**	**-0.1**
	baz=199,SNR=75						
TRF				S	**Sn**	**18 41 01.1**	**-0.5**
	baz=199						
KTH	**Kantishna Hill**	**0.55**	**348**		**Pn**	**18 40 48.6**	**-0.1**
KTH				Sn	**Sn**	**18 41 01.4**	**-1.0**
KTH				IAML		18 41 02.4	
	comp=E,842nm,1.0s						
CUT	**Chulitna**	**0.64**	**164**		**Pn**	**18 40 49.1**	**0.0**
CUT				Sn	**Sn**	**18 41 02.8**	**-0.4**
CUT	**Chulitna**	**0.64**	**164**	P	**Pn**	**18 40 49.2**	**+0.1**
	baz=345,SNR=96						
CUT				S	**Sn**	**18 41 03.0**	**-0.2**
	baz=345						
PPLA	**Purkeypile**	**0.71**	**261**		**Pn**	**18 40 50.1**	**+0.3**
PPLA	**Purkeypile**	**0.71**	**261**		**Sn**	**18 41 04.1**	**-0.5**
PPLA	**Purkeypile**	**0.71**	**261**	P	**Pn**	**18 40 50.2**	**+0.3**
	baz=80,SNR=183						
PPLA				S	**Sn**	**18 41 04.1**	**-0.5**
	baz=80						
CAST	**Castle Rocks**	**0.76**	**303**		**Pn**	**18 40 48.5**	**-1.6**
CAST				IAML		18 41 04.6	
	comp=N,543nm,0.8s						
CAST	**Castle Rocks**	**0.76**	**303**	S	**Sn**	**18 41 04.1**	**-1.0**
	baz=121						
WAT7	**Susitna Watana**	**0.85**	**102**		**Pn**	**18 40 50.7**	**-0.3**
WAT7					**Sn**	**18 41 05.9**	**-0.6**
RND	**Reindeer**	**0.91**	**64**		**Pn**	**18 40 51.5**	**0.0**
RND				Sn	**Sn**	**18 41 06.5**	**-0.9**
RND				IAML		18 41 07.6	
	comp=N,734nm,0.6s						
RND				IAML		18 41 08.7	
	comp=E,683nm,0.4s						
WAT1	**Susitna Watana**	**0.98**	**100**		**Pn**	**18 40 52.1**	**0.0**
WAT1					**Sn**	**18 41 08.2**	**-0.4**
WAT1	**Susitna Watana**	**0.98**	**100**	P	**Pn**	**18 40 52.1**	**0.0**
	baz=282						
WAT1				S	**Sn**	**18 41 07.8**	**-0.8**
	baz=282						
MCK	**McKinley**	**1.06**	**46**		**Pn**	**18 40 52.9**	**0.0**
MCK				Sn	**Sn**	**18 41 08.8**	**-1.1**
MCK	**McKinley**	**1.06**	**46**	P	**Pn**	**18 40 53.1**	**+0.2**
	baz=227,SNR=83						
MCK				S	**Sn**	**18 41 09.1**	**-0.9**
	baz=227						
BPAW	**Bear Paw Mtn.**	**1.10**	**352**	Pn	**Pn**	**18 40 53.3**	**0.0**
BPAW				Sn	**Sn**	**18 41 09.8**	**-0.9**
BPAW				IAML		18 41 10.6	
	comp=E,343nm,0.8s						
BPAW	**Bear Paw Mtn.**	**1.10**	**352**	P	**Pn**	**18 40 53.4**	**0.0**
	baz=171,SNR=31						
BPAW				S	**Sn**	**18 41 09.5**	**-1.2**
	baz=171						
SKT	**Skwentna**	**1.11**	**202**		**Pn**	**18 40 53.5**	**0.0**
SKT				Sn	**Sn**	**18 41 10.3**	**-0.7**
SKT	**Skwentna**	**1.11**	**202**	P	**Pn**	**18 40 53.5**	**0.0**
	baz=22,SNR=236						
SKT				S	**Sn**	**18 41 10.5**	**-0.5**
	baz=22						
CHUM	**Lake Minchumin**	**1.15**	**320**		**Pn**	**18 40 54.1**	**+0.3**
CHUM	**Lake Minchumin**	**1.15**	**320**	P	**Pn**	**18 40 54.1**	**+0.3**
	baz=138,SNR=13						
CHUM				S	**Sn**	**18 41 10.7**	**-0.8**
	baz=138						
BWN	**Browne**	**1.28**	**24**		**Pn**	**18 40 55.8**	**+0.6**
BWN				IAML		18 41 43.3	
	comp=E,347nm,0.9s						
WAT6	**Susitna Watana**	**1.41**	**107**		**Pn**	**18 40 56.8**	**0.0**
WAT6					**Sn**	**18 41 16.1**	**-0.8**
WAT6	**Susitna Watana**	**1.41**	**107**	P	**Pn**	**18 40 56.8**	**0.0**
	baz=289,SNR=133						
WAT6				S	**Sn**	**18 41 15.8**	**-1.1**
	baz=289						
GHO	**Glory Hole Cre**	**1.48**	**146**		**Pn**	**18 40 57.8**	**+0.2**
GHO	**Glory Hole Cre**	**1.48**	**146**	IAML		18 41 22.4	
	comp=E,727nm,0.8s						
DHY	**Denali Highway**	**1.50**	**86**		**Pn**	**18 40 57.9**	**+0.1**
DHY				Sn	**Sn**	**18 41 17.8**	**-0.8**
DHY				IAML		18 41 19.9	
	comp=E,728nm,0.8s						
DHY				IAML		18 41 19.9	
	comp=N,880nm,0.6s						
DHY	**Denali Highway**	**1.50**	**86**	P	**Pn**	**18 40 58.0**	**+0.2**
	baz=269,SNR=159						
DHY				S	**Sn**	**18 41 18.1**	**-0.5**
	baz=269						
SUA	**Susitna One**	**1.56**	**182**		**Pn**	**18 40 58.6**	**+0.1**
SUA				Sn	**Sn**	**18 41 19.9**	**0.0**
SUA				IAML		18 41 23.3	
	comp=E,538nm,0.7s						
SUA				IAML		18 41 24.0	
	comp=N,561nm,0.8s						
SUA	**Susitna One**	**1.56**	**182**	P	**Pn**	**18 40 58.7**	**+0.1**
	baz=2.1,SNR=43						
SUA				S	**Sn**	**18 41 20.0**	**+0.1**
	baz=2.1						
L20K	**Farewell, AK**	**1.58**	**252**		**Pn**	**18 40 58.7**	**0.0**
L20K	**Farewell, AK**	**1.58**	**252**	P	**Pn**	**18 40 58.8**	**+0.1**
	baz=69,SNR=90						
L20K				S	**Sn**	**18 41 19.5**	**-0.7**
	baz=69						
K20K	**Telida**	**1.59**	**284**		**Pn**	**18 40 58.9**	**+0.2**
K20K				Sn	**Sn**	**18 41 18.7**	**-1.6**
K20K				IAML		18 41 20.1	
	comp=E,349nm,0.9s						
K20K				IAML		18 41 20.2	
	comp=N,362nm,0.6s						
K20K	**Telida**	**1.59**	**284**	P	**Pn**	**18 40 58.9**	**+0.2**
	baz=101,SNR=35						
K20K				S	**Sn**	**18 41 18.9**	**-1.4**
	baz=101						
PMR	**Palmer**	**1.60**	**153**		**Pn**	**18 40 58.9**	**+0.1**
PMR				Sn	**Sn**	**18 41 19.6**	**-0.8**
PMR				IAML		18 41 25.4	
	comp=E,411nm,0.5s						
PMR				IAML		18 41 26.4	
	comp=N,293nm,0.5s						
PMR	**Palmer**	**1.60**	**153**	P	**Pn**	**18 40 58.6**	**-0.2**
	baz=335,SNR=27						
PMR				S	**Sn**	**18 41 19.8**	**-0.6**
	baz=335						
STLK	**Strandline Lak**	**1.62**	**200**		**Pn**	**18 40 59.2**	**0.0**
SML	**Sawmill**	**1.62**	**137**		**Pn**	**18 40 59.1**	**-0.1**
SML				Sn	**Sn**	**18 41 20.7**	**-0.5**
SML				IAML		18 41 21.7	
	comp=E,437nm,0.5s						
SML				IAML		18 41 22.3	
	comp=N,470nm,0.6s						
SML	**Sawmill**	**1.62**	**137**	P	**Pn**	**18 40 59.2**	**-0.1**
	baz=320,SNR=32						
SML				S	**Sn**	**18 41 20.8**	**-0.4**
	baz=320						
NEA2	**Nenana**	**1.73**	**23**		**Pn**	**18 41 00.5**	**0.0**
NEA2				Sn	**Sn**	**18 41 21.8**	**-1.7**
NEA2	**Nenana**	**1.73**	**23**	P	**Pn**	**18 41 00.5**	**0.0**
	baz=204,SNR=68						
NEA2				S	**Sn**	**18 41 21.8**	**-1.7**
	baz=204						
SPCG	**Spurr Capps Gl**	**1.84**	**201**		**Pn**	**18 41 02.2**	**+0.2**
WRH	**Wood River Hil**	**1.85**	**37**	Pn	**Pn**	**18 41 02.0**	**+0.1**
WRH				Sn	**Sn**	**18 41 25.6**	**-0.4**
FIS	**Fire Island**	**1.89**	**174**	Pn	**Pn**	**18 41 05.6**	**+3.2**
SPCP	**Crater Peak Br**	**1.89**	**202**		**Pn**	**18 41 02.4**	**-0.2**
KNK	**Knik Glacier**	**1.91**	**146**		**Pn**	**18 41 02.5**	**-0.2**
KNK				Sn	**Sn**	**18 41 26.8**	**-0.5**
KNK				IAML		18 41 33.2	
	comp=E,521nm,0.7s						
KNK				IAML		18 41 34.8	
	comp=N,382nm,0.5s						
KNK	**Knik Glacier**	**1.91**	**146**	P	**Pn**	**18 41 02.5**	**-0.2**
	baz=329,SNR=48						
KNK				S	**Sn**	**18 41 26.8**	**-0.5**

RC01 IAML 18 41 34.1
comp=N,275nm,0.5s
RC01 Rabbit Creek A 1.98 167 P **Pn** 18 41 03.5 0.0
baz=348,SNR=15
RC01 S **Sn** 18 41 27.9 -0.9
baz=348
MLY Manley 2.02 359 Pn **Pn** 18 41 04.3 +0.2
MLY Sn **Sn** 18 41 28.2 -1.7
MLY Manley 2.02 359 P **Pn** 18 41 04.4 +0.3
baz=178
MLY S **Sn** 18 41 28.4 -1.5
baz=178
M19K Big River Lodg 2.06 239 Pn **Pn** 18 41 04.3 -0.2
M19K Sn **Sn** 18 41 29.7 -1.0
M19K Big River Lodg 2.06 239 P **Pn** 18 41 04.3 -0.2
baz=56,SNR=13
M19K S **Sn** 18 41 29.7 -1.0
baz=56
CCB Clear Creek Bu 2.07 36 **Pn** 18 41 04.6 +0.1
CCB Sn **Sn** 18 41 29.4 -1.4
L19K White Mountain 2.11 249 **Pn** 18 41 05.0 -0.2
L19K Sn **Sn** 18 41 30.6 -1.3
L19K IAML 18 41 33.9
comp=E,152nm,0.9s
L19K White Mountain 2.11 249 P **Pn** 18 41 05.1 -0.1
baz=65,SNR=37
L19K S **Sn** 18 41 30.7 -1.1
baz=65
HDA Harding Lake 2.16 48 **Pn** 18 41 05.8 0.0
HDA IAML 18 41 36.4
comp=N,149nm,0.6s
HDA Harding Lake 2.16 48 P **Pn** 18 41 05.9 +0.1
baz=231,SNR=251
HDA S **Sn** 18 41 31.8 -1.2
baz=231
HDA S **Sn** 18 41 31.8 -1.2
baz=231
I23K Minto, Yukon-K 2.22 14 **Pn** 18 41 06.7 +0.3
I23K Minto, Yukon-K 2.22 14 P **Pn** 18 41 06.8 +0.4
baz=195,SNR=61
I23K S **Sn** 18 41 32.1 -1.9
baz=195
MDM Murphy Dome 2.23 28 **Pn** 18 41 06.7 +0.1
TCOL CIGO, UAF Yank 2.24 32 Pn **Pn** 18 41 06.9 +0.2
TCOL IAML 18 41 38.9
comp=N,376nm,0.6s
TCOL IAML 18 41 39.1
comp=E,278nm,0.5s
TCOL CIGO, UAF Yank 2.24 32 P **Pn** 18 41 07.0 +0.3
baz=214,SNR=9.5
TCOL S **Sn** 18 41 35.0 +0.5
baz=214
COLA College 2.24 32 **Pn** 18 41 06.8 +0.1
COLA IAML 18 41 38.9
comp=E,449nm,0.6s
COLA IAML 18 41 39.1
comp=E,310nm,0.5s
COLA College 2.24 32 P **Pn** 18 41 07.0 +0.3
baz=214
I21K Tanana 2.25 346 **Pn** 18 41 07.3 +0.5
I21K Tanana 2.25 346 P **Pn** 18 41 07.3 +0.5
baz=164,SNR=15
I21K S **Sn** 18 41 33.8 -1.1
baz=164
PS10 TAPS Pump St10 2.25 77 **Pn** 18 41 07.4 +0.5
CAPN Captain Cook N 2.27 186 Pn **Pn** 18 41 07.4 +0.3
M24K Tolsona, Glenn 2.27 112 Pn **Pn** 18 41 07.6 +0.4
M24K Tolsona, Glenn 2.27 112 P **Pn** 18 41 07.6 +0.4
baz=296,SNR=35
PS08 TAPS Pump Stn8 2.29 46 **Pn** 18 41 07.5 +0.1
PAX Paxson 2.37 89 **Pn** 18 41 08.8 +0.3
PAX Paxson 2.37 89 P **Pn** 18 41 09.1 +0.6
baz=273,SNR=277
PWL Port Wells 2.43 152 **Pn** 18 41 08.8 -0.4
PWL IAML 18 41 52.6
comp=E,292nm,0.6s
PWL IAML 18 41 53.4
comp=N,304nm,0.5s
IL31 2.43 42 **Pn** 18 41 09.1 0.0
ILAR Eielson Array 2.43 42 P **Pn** 18 41 08.9 -0.2
comp=N,15nm,0.3s,baz=224,slow=13,SNR=544
ILAR S **Sn** 18 41 36.5 -2.3
comp=N,5.0nm,0.3s,baz=233,slow=18,SNR=7.3
SLKM Skilak Lake 2.52 175 **Pn** 18 41 10.5 0.0
POKR Poker Plat Res 2.54 32 **Pn** 18 41 10.9 +0.3
POKR Poker Plat Res 2.54 32 P **Pn** 18 41 11.1 +0.5
baz=215,SNR=48
PS11 TAPS Pump St11 2.58 109 **Pn** 18 41 11.8 +0.7
O22K Cooper Landing 2.58 170 **Pn** 18 41 11.3 +0.1
O22K Cooper Landing 2.58 170 P **Pn** 18 41 11.6 +0.5
baz=351
HARP HAARP 2.61 101 **Pn** 18 41 12.1 +0.6
HARP HAARP 2.61 101 P **Pn** 18 41 12.1 +0.6
baz=286,SNR=102
NCT North Crescent 2.69 205 **Pn** 18 41 13.2 +0.5
KLU Klutina 2.69 122 **Pn** 18 41 11.9 -0.8
KLU IAML 18 41 55.0
comp=N,254nm,0.7s
KLU IAML 18 41 55.1
comp=E,192nm,0.4s
KLU Klutina 2.69 122 P **Pn** 18 41 11.9 -0.8
baz=307,SNR=31
RIDG Independent Ri 2.72 72 **Pn** 18 41 13.6 +0.7
RIDG IAML 18 41 54.3
comp=N,161nm,0.7s
RIDG IAML 18 41 54.6
comp=E,143nm,0.5s
RIDG Independent Ri 2.72 72 P **Pn** 18 41 13.4 +0.4
baz=257,SNR=62
GLI Glacier Island 2.73 140 **Pn** 18 41 12.2 -0.8
GLI IAML 18 41 56.0
comp=N,267nm,0.7s
GLI Glacier Island 2.73 140 P **Pn** 18 41 12.4 -0.6
baz=324
RDWB Redoubt West 2.74 203 **Pn** 18 41 13.9 +0.5
JPK Jack Peak 2.74 134 **Pn** 18 41 12.7 -0.7
RSO Redoubt South 2.75 202 **Pn** 18 41 12.7 -0.8
RED Redoubt Volcan 2.79 202 **Pn** 18 41 14.3 +0.3
H21K Melozitna Rive 2.81 342 Pn **Pn** 18 41 14.2 +0.1
H21K Melozitna Rive 2.81 342 P **Pn** 18 41 14.4 +0.2
baz=159,SNR=8.6
J25K Salcha River, 2.84 53 **Pn** 18 41 14.6 +0.1
J25K Salcha River, 2.84 53 P **Pn** 18 41 14.8 +0.2
baz=238,SNR=119
N19K Bonanza Creek 2.86 221 **Pn** 18 41 15.4 +0.5
N19K IAML 18 42 11.8
comp=E,72nm,1.0s
N19K IAML 18 42 15.0
comp=N,74nm,0.7s
N19K Bonanza Creek 2.86 221 P **Pn** 18 41 15.0 +0.2
baz=38,SNR=6.6
DIV Divide 2.98 127 Pn **Pn** 18 41 15.4 -1.0
SEW Seward 2.98 168 Pn **Pn** 18 41 16.1 -0.2
SEW Seward 2.98 168 P **Pn** 18 41 16.1 -0.2
baz=350,SNR=5.9
FID Port Fidalgo 3.01 137 **Pn** 18 41 15.8 -1.0
SVW2 Sparrevohn 3.01 233 **Pn** 18 41 16.8 0.0
SVW2 IAML 18 42 13.2
comp=N,64nm,0.7s
DOT Dot Lake 3.04 75 **Pn** 18 41 17.2 +0.1
H24K Noodor Dome 3.08 22 Pn **Pn** 18 41 17.5 -0.1
H24K Noodor Dome 3.08 22 P **Pn** 18 41 17.8 +0.1
baz=204,SNR=10
SCRK Sand Creek 3.14 69 Pn **Pn** 18 41 18.5 -0.1
SCRK Sand Creek 3.14 69 P **Pn** 18 41 18.6 +0.1
baz=255,SNR=68
N25K Chitina, Valde 3.16 114 **Pn** 18 41 18.8 -0.1
N25K IAML 18 41 58.1
comp=E,84nm,0.6s
N25K IAML 18 41 58.3
comp=N,122nm,0.6s
N25K Chitina, Valde 3.16 114 P **Pn** 18 41 18.7 -0.1
baz=299,SNR=18
MENT Mentasta 3.17 88 **Pn** 18 41 19.2 +0.3
MENT IAML 18 42 07.7
comp=N,152nm,0.7s
MENT IAML 18 42 10.1
comp=E,199nm,0.6s
BRLK Bradley Lake 3.26 182 **Pn** 18 41 20.5 +0.4
BRLK IAML 18 42 12.9
comp=N,165nm,0.8s
IMAR Indian Mountai 3.27 337 **Pn** 18 41 20.3 +0.2
BRSE Bradley Lake S 3.29 181 **Pn** 18 41 20.4 +0.1
BRSE Bradley Lake S 3.29 181 P **Pn** 18 41 20.5 +0.1
baz=0.9,SNR=8.0
HIN Hinchinbrook I 3.29 141 **Pn** 18 41 19.8 -0.6
HIN IAML 18 42 17.0
comp=N,178nm,0.9s
O19K Port Alsworth 3.33 213 **Pn** 18 41 20.8 -0.1
O19K IAML 18 42 00.6
comp=N,168nm,0.5s
L26K Log Cabin Wild 3.33 87 **Pn** 18 41 21.6 +0.6
L26K IAML 18 42 07.9
comp=E,152nm,0.5s
L26K IAML 18 42 12.3
comp=N,168nm,0.4s
L26K Log Cabin Wild 3.33 87 P **Pn** 18 41 21.4 +0.4
baz=273,SNR=44
EYAK Cordova Ski Ar 3.40 135 Pn **Pn** 18 41 21.1 -0.7
J26L Joseph Creek 3.49 62 P **Pn** 18 41 23.5 +0.5
baz=248,SNR=307
CNPM China Poot 3.51 185 Pn **Pn** 18 41 23.4 0.0
BMRM Bremner River 3.52 123 **Pn** 18 41 23.8 +0.4
BMRM IAML 18 42 22.8
comp=N,136nm,1.1s
BMRM IAML 18 42 26.1
comp=E,114nm,0.5s
BMRM Bremner River 3.52 123 P **Pn** 18 41 22.5 -0.9
baz=308
GLB Gilahina Butte 3.57 113 Pn **Pn** 18 41 23.3 -0.9
GLB IAML 18 42 06.1
comp=E,73nm,0.7s
GLB IAML 18 42 06.2
comp=N,98nm,0.8s
M26K Nabesna, AK 3.58 96 Pn **Pn** 18 41 24.1 -0.2
M26K IAML 18 41 56.7
comp=E,111nm,0.6s
M26K IAML 18 42 27.0
comp=N,83nm,0.6s
M26K Nabesna, AK 3.58 96 P **Pn** 18 41 24.2 -0.1
baz=283,SNR=15
P19K Oil Pt 3.59 201 **Pn** 18 41 25.7 +1.2
P19K IAML 18 42 43.7
comp=N,109nm,0.7s
GOAT Goat Mountain 3.73 128 **Pn** 18 41 25.7 -0.5
VRDI Verde Repeater 3.83 115 **Pn** 18 41 27.0 -0.7
VRDI IAML 18 42 11.8
comp=N,54nm,0.6s
VRDI IAML 18 42 15.2
comp=E,41nm,0.9s
O18K Koktuh Hills 3.85 217 **Pn** 18 41 28.3 +0.4
O18K Koktuh Hills 3.85 217 P **Pn** 18 41 28.0 +0.1
baz=33
RAGM Ragged Mountai 3.88 130 **Pn** 18 41 28.5 +0.2
MCARA McCarthy VSAT 3.93 111 Pn **Pn** 18 41 28.9 0.0
MCARA IAML 18 42 16.8
comp=E,111nm,1.0s
MCARA McCarthy VSAT 3.93 111 P **Pn** 18 41 29.2 +0.3
baz=298
L27K Beaver Creek, 4.02 85 Pn **Pn** 18 41 29.3 -0.9
L27K Beaver Creek, 4.02 85 P **Pn** 18 41 29.8 -0.4
baz=273,SNR=41
BCAR Beaver Creek A 4.04 85 **Pn** 18 41 29.8 -0.6
HMT Hamilton 4.06 129 **Pn** 18 41 30.1 -0.7
M27K Edge Creek, AK 4.10 95 Pn **Pn** 18 41 32.0 +0.7
M27K Edge Creek, AK 4.10 95 P **Pn** 18 41 32.0 +0.7
baz=283,SNR=32
Q23K Middleton Isla 4.16 148 Pn **Pn** 18 41 30.5 -1.4
Q23K Middleton Isla 4.16 148 P **Pn** 18 41 32.7 +0.8
baz=332
CRQM Cirque 4.22 119 **Pn** 18 41 32.5 -0.4
CRQM IAML 18 42 42.9
comp=N,90nm,0.6s
BERG Berg Lake 4.23 125 Pn **Pn** 18 41 32.4 -0.5
COLD Coldfoot 4.24 2 Pn **Pn** 18 41 33.9 +0.9
COLD Coldfoot 4.24 2 P **Pn** 18 41 33.8 +0.9
baz=183,SNR=5.5
CRQE Cirque 4.24 119 P **Pn** 18 41 32.7 -0.4
baz=306
FYU Fort Yukon 4.25 31 Pn **Pn** 18 41 32.8 -0.4
FYU IAML 18 42 41.4
comp=E,49nm,2.6s
FYU IAML 18 42 53.4
comp=N,36nm,3.4s
PTPK Patty Peak 4.26 112 **Pn** 18 41 33.6 +0.1
KAIM Kayak Island 4.31 133 Pn **Pn** 18 41 34.5 +0.6
KAIM IAML 18 42 44.5
comp=E,75nm,2.2s
KAIM IAML 18 43 04.2
comp=N,82nm,2.4s
TGL Tana Glacier 4.34 118 **Pn** 18 41 33.9 -0.6
TGL IAML 18 42 44.8
comp=N,74nm,0.8s
TGL IAML 18 42 47.7
comp=E,83nm,0.8s
BALM Baldy 4.39 113 **Pn** 18 41 34.6 -0.5
SUCK Suckling Hills 4.42 129 Pn **Pn** 18 41 34.1 -1.4
SUCK IAML 18 42 48.0
comp=E,75nm,0.7s
KIAG Klagna River 4.44 114 **Pn** 18 41 35.1 -0.8
WAX Waxell Ridge 4.51 121 **Pn** 18 41 36.0 -0.8
BVCY Beaver Creek 4.55 93 P **Pn** 18 41 37.2 0.0
baz=282,SNR=6.1
EGAK Eagle 4.55 63 **Pn** 18 41 37.3 +0.1
EGAK IAML 18 42 46.7
comp=E,44nm,0.6s
EGAK IAML 18 42 49.0
comp=E,50nm,0.8s
EGAK Eagle 4.55 63 P **Pn** 18 41 37.4 +0.2
baz=251,SNR=16
ISLE Juniper Island 4.63 118 Pn **Pn** 18 41 37.4 -1.0
ISLE IAML 18 42 48.9
comp=E,62nm,0.9s
BARN Barnard Glacie 4.67 111 **Pn** 18 41 38.9 0.0
BARN IAML 18 42 33.1
comp=E,28nm,0.6s
BARN IAML 18 42 59.7
comp=N,39nm,0.8s
BARK Barkley Ridge 4.69 120 **Pn** 18 41 38.7 -0.4
SNH Sunshine Point 4.69 124 Pn **Pn** 18 41 39.5 +0.4
SNH IAML 18 42 55.3
comp=N,50nm,0.8s
SNH IAML 18 42 57.8
comp=E,52nm,1.3s
YUK2 White River 4.73 101 **Pn** 18 41 40.2 +0.5
BAGL Bagley Icefiel 4.79 118 **Pn** 18 41 39.6 -0.9
GRNC Granite Creek 4.79 115 **Pn** 18 41 40.0 -0.7
GRNC IAML 18 42 56.5
comp=N,31nm,1.0s
GRNC IAML 18 43 16.7
comp=E,20nm,1.7s
CTG Chitna Glacier 4.85 111 P **Pn** 18 41 41.6 +0.3
baz=299
CTGM Chitina Glacie 4.85 111 **Pn** 18 41 41.3 -0.1
CTGM IAML 18 43 17.9
comp=N,21nm,1.1s
YUK3 Moose Creek 4.90 100 P **Pn** 18 41 42.7 +0.5
baz=289,SNR=18
YAH Yahtse 5.01 118 Pn **Pn** 18 41 40.2 -3.3
YAH IAML 18 43 01.9
comp=E,45nm,1.2s
YAH IAML 18 43 07.9
comp=N,44nm,2.3s
MESA MESA 5.04 120 Pn **Pn** 18 41 42.8 -1.1
MESA MESA 5.04 120 P **Pn** 18 41 43.8 -0.1
baz=308
LOGN Logan Glacier 5.06 111 **Pn** 18 41 43.9 -0.3
LOGN IAML 18 43 17.5
comp=N,23nm,0.7s
LOGN IAML 18 43 23.3
comp=E,25nm,1.1s
BMAR Burnt Mountain 5.11 27 Pn **Pn** 18 41 44.5 -0.2
DAWY Dawson 5.15 73 Pn **Pn** 18 41 45.3 0.0
DAWY IAML 18 42 51.0
comp=N,20nm,0.6s
DAWY IAML 18 43 08.2
comp=E,17nm,0.6s
DAWY Dawson 5.15 73 P **Pn** 18 41 45.2 0.0
baz=263,SNR=36
TABL Table Mountain 5.21 115 Pn **Pn** 18 41 45.8 -0.5
TABL IAML 18 45 13.1
comp=E,32nm,1.1s
TABL IAML 18 45 18.1
comp=N,30nm,0.9s
KDAK Kodiak Island 5.34 191 P **Pn** 18 41 46.9 -0.8
comp=N,1.7nm,0.3s,baz=64,slow=6.0,SNR=34
KDAK S **Sn** 18 42 43.7 -4.3
comp=N,2.3nm,0.3s,baz=145,slow=21,SNR=12
KDAK Kodiak Island 5.34 191 Pn **Pn** 18 41 46.7 -1.1
KDAK Kodiak Island 5.34 191 P **Pn** 18 41 46.8 -0.9
baz=9.6
TOLK Toolik Lake Re 5.67 4 Pn **Pn** 18 41 54.0 +1.8
PCA Pinnacle 5.77 116 **Pn** 18 41 53.4 -0.2
PINM Pinnacle 5.77 116 P **Pn** 18 41 53.3 -0.3
baz=305
YUK4 Talbot Arm 5.87 101 P **Pn** 18 41 55.0 -0.1
baz=291
OHAK Old Harbor 5.96 194 Pn **Pn** 18 41 54.7 -1.5
OHAK Old Harbor 5.96 194 P **Pn** 18 41 54.7 -1.5
baz=12
BCPM Bancas Point 6.11 115 **Pn** 18 41 57.2 -0.9
YUK6 Outpost Mounta 6.16 104 P **Pn** 18 41 58.8 -0.2
baz=295
HYT Haines Junctio 6.59 104 Pn **Pn** 18 42 04.1 -0.6
HYT Haines Junctio 6.59 104 P **Pn** 18 42 04.5 -0.3
baz=295
SII Sitkinak Islan 6.72 197 Pn **Pn** 18 42 05.8 -0.6
EPYK Eagle Plains 6.85 54 **Pn** 18 42 08.2 0.0
EPYK Eagle Plains 6.85 54 P **Pn** 18 42 08.3 0.0
baz=247
CHIR Chirikof Islan 7.64 202 Pn **Pn** 18 42 17.0 -1.9
CHGN Chignik 7.79 214 Pn **Pn** 18 42 20.2 -0.7
INK Inuvik 8.82 46 P **Pn** 18 42 36.2 +1.5
comp=N,0.4nm,0.3s,baz=242,slow=15,SNR=5.4
INK Inuvik 8.82 46 Pn **Pn** 18 42 36.5 +1.8
BESE Bessie Mountai 8.90 113 Pn **Pn** 18 42 35.6 -0.4
JIS Juneau Island 9.28 113 Pn **Pn** 18 42 39.9 -1.1
ARCES ARCESS Array B 47.70 2 P **P** 18 48 54.2 -0.1
comp=N,0.9nm,0.8s,baz=2.1,slow=7.2,SNR=4.2
ZALV Zalesovo Beam 55.60 324 P **P** 18 49 53.1 -0.1
comp=N,0.7nm,0.5s,baz=6.2,slow=9.0,SNR=4.1
FINES FINESS Array B 55.84 2 P **P** 18 49 55.6 +1.0
comp=N,3.0nm,1.0s,baz=352,slow=8.4,SNR=2.7
MKAR Makanchi Array 62.76 322 P **P** 18 50 42.4 -0.2
comp=N,0.3nm,0.4s,baz=56,slow=5.9,SNR=7.5
AKASG Malin Array Be 66.63 0 P **P** 18 51 07.6 +0.1
comp=N,0.6nm,0.4s,baz=4.2,slow=6.9,SNR=2.8
KBZ Khabaz 73.05 350 P **P** 18 51 48.4 +1.5
comp=N,1.3nm,0.8s,baz=309,slow=3.3,SNR=4.4
BRTR Keskin Array B 77.55 357 P **P** 18 52 13.8 +0.8
comp=N,0.4nm,0.7s,baz=20,slow=4.7,SNR=2.8

*IDC **25** 18:48:55.4±2.8, 36°.43N×140°.81E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.3/35, mbtmp3.5/3, ML2.5/1, Error ellipse: s-maj=53.3km s-min=31.1km az=42.0*
*JMA **25** 18:49:07.6±0.1, 36°.33N×139°.95E, h76km±1km, M2.6*
ISC 25 18:49:07.4±1.1, 36°.29N±0°.06×140°.02E±0°.06, h77km±8km, n12, σ2s01/20, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.15**	**112**	P	**Pn**	**18 49 19.2**	**+0.5**
JYT				S	**Sn**	**18 49 27.6**	**+0.6**
JAG	**Ashikaga**	**0.47**	**287**	P	**Pn**	**18 49 20.2**	**-0.5**
JAG				S	**Sn**	**18 49 29.7**	**-0.8**
JKT	**Katashina**	**0.78**	**308**	P	**Pn**	**18 49 23.3**	**-0.6**
JKT				S	**Sn**	**18 49 35.3**	**-0.8**
JRY	**Ryogami san**	**0.94**	**254**	P	**Pn**	**18 49 25.6**	**0.0**
JRY				S	**Sn**	**18 49 38.5**	**-0.7**
JFY	**Yanaizu**	**1.15**	**347**	P	**Pn**	**18 49 27.5**	**-0.6**
JFT	**Otama**	**1.26**	**12**	P	**Pn**	**18 49 29.1**	**-0.4**
JOD2	**Odawara 2**	**1.27**	**217**	P	**Pn**	**18 49 29.8**	**+0.1**
JOD2				S	**Sn**	**18 49 46.2**	**-0.2**
JFK	**Kawauchi**	**1.28**	**32**	P	**Pn**	**18 49 30.2**	**+0.4**
JFK				S	**Sn**	**18 49 47.0**	**+0.4**
MJAR	**Matsushiro Arr**	**1.48**	**280**	Pn	**Pn**	**18 49 31.8**	**-0.5**
	1.6nm,0.3s,baz=90,slow=17,SNR=77						
MJAR				Sn	**Sn**	**18 49 58.6**	**+7.3**
	0.7nm,0.3s,baz=262,slow=26,SNR=4.3						
MAT	**Matsushiro**	**1.48**	**280**	P	**Pn**	**18 49 32.1**	**-0.3**
MAT				eS	**Sn**	**18 49 49.2**	**-2.1**
SONM	**Songino Array**	**27.29**	**306**	P	**P**	**18 54 45.6**	**+1.0**
	0.7nm,0.6s,baz=94,slow=10,SNR=2.5						
WRA	**Warramunga Arr**	**56.18**	**186**	P	**P**	**18 58 38.2**	**-1.1**
	0.3nm,0.7s,baz=0.2,slow=7.3,SNR=2.1						

*SOME **25** 19:08:45.1, 40°.22N×77°.35E, h5km*
*KRNET **25** 19:08:46.7±0.1, 40°.13N×77°.90E, mb3.0*
*NNC **25** 19:08:49.9±1.5, 40°.38N×77°.47E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=10.2km s-min=8.9km az=175.0*
ISC 25 19:08:51.2±2.1, 40°.42N±0°.10×77°.39E±0°.04, h10km, n46, σ1s22/71, 19C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.35**	**13**	⇑*i*P	**Pn**	**19 09 15.4**	**-1.1**
	baz=57						
TARG				⇑*i*S	**Sg**	**19 09 36.3**	**+1.6**
	baz=57						
ULHL	**Ulahol**	**2.02**	**335**	⇑*i*P	**Pb**	**19 09 27.2**	**-0.9**
	baz=30						
ULHL				⇑*i*S	**Sg**	**19 09 56.7**	**+0.6**
	baz=30						
KZA	**Kyzart**	**2.31**	**317**	⇑*i*P	**Pb**	**19 09 31.9**	**-1.3**
	baz=15						
KZA				⇑*i*S	**Sg**	**19 10 05.3**	**-0.2**
	baz=15						
BOOM	**Boomskoye usch**	**2.34**	**333**	⇑*i*P	**Pb**	**19 09 31.5**	**-2.0**
	baz=29						
BOOM				⇑*i*S	**Sb**	**19 10 04.7**	**+2.1**
	baz=29						
TNSS	**Tian-Shan**	**2.64**	**353**	*e*P	**Pb**	**19 09 38.3**	**-0.5**
	20nm,0.6s						
TNSS				*e*S	**Sg**	**19 10 16.8**	**+0.8**
	9.6nm,0.6s						
TNSS	**Tian-Shan**	**2.64**	**353**	Pg	**Pb**	**19 09 38.3**	**-0.5**
	20nm,0.6s						
TNSS				Lg	Lg	19 10 16.8	
	9.6nm,0.6s						
IZV	**Izvestkoviy**	**2.68**	**348**	*e*P	**Pb**	**19 09 39.1**	**-0.3**
	5.2nm,0.4s						
IZV				*e*S	**Sg**	**19 10 18.3**	**+1.0**
	33nm,0.5s						
IZV	**Izvestkoviy**	**2.68**	**348**	Pg	**Pb**	**19 09 39.1**	**-0.3**
	5.3nm,0.5s						
IZV				Lg	Lg	19 10 18.3	
	33nm,0.7s						
SATY	**Saty**	**2.75**	**16**	*e*P	**Pb**	**19 09 40.5**	**0.0**
	16nm,0.8s						
SATY				*e*S	**Sg**	**19 10 20.5**	**+1.0**
	14nm,0.4s						
SATY	**Saty**	**2.75**	**16**	Pg	**Pb**	**19 09 40.5**	**0.0**
	8.4nm,0.4s						
SATY				Lg	Lg	19 10 20.5	
	13nm,0.3s						
MDOK	**Medeo**	**2.76**	**355**	*e*P	**Pb**	**19 09 40.3**	**-0.3**
	5.6nm,0.2s						
MDOK				*e*S	**Sg**	**19 10 20.2**	**+0.5**
	19nm,0.4s						
MDOK	**Medeo**	**2.76**	**355**	Pn	**Pb**	**19 09 38.8**	**-1.8**
	5.8nm,0.5s						
MDOK				Lg	Lg	19 10 20.7	
	12nm,0.4s						
MDOK	**Medeo**	**2.76**	**355**	Pg	**Pb**	**19 09 40.3**	**-0.3**
	7.4nm,0.6s						
MDOK				Lg	Lg	19 10 20.2	
	19nm,0.4s						
MTBS	**Maitube**	**2.80**	**346**	*e*P	**Pb**	**19 09 41.0**	**-0.4**
	3.1nm,0.2s						
MTBS				*e*S	**Sg**	**19 10 21.5**	**+0.2**
	10nm,0.3s						
MTBS	**Maitube**	**2.80**	**346**	Pg	**Pb**	**19 09 41.0**	**-0.4**
	3.1nm,0.2s						
MTBS				Lg	Lg	19 10 21.5	
	11nm,0.3s						
KNDC	**Almaty**	**2.82**	**354**	⇑Pn	**Pn**	**19 09 37.0**	**+0.6**
	23nm,0.6s						
KNDC				⇑Lg	Lg	19 10 21.7	
	62nm,0.8s						
UCH	**Uchtor**	**2.82**	**311**	⇑*e*P	**Pn**	**19 09 39.1**	**+2.4**
	baz=10.0						
UCH				⇑*i*S	**Sb**	**19 10 17.3**	**+0.7**
	baz=10.0						
KOTS	**Kotyrbulak**	**2.82**	**356**	*e*P	**Pb**	**19 09 41.5**	**-0.3**
	7.5nm,0.2s						
KOTS				*e*S	**Sg**	**19 10 22.2**	**+0.4**
	24nm,0.5s						
KOTS	**Kotyrbulak**	**2.82**	**356**	Pg	**Pb**	**19 09 41.5**	**-0.3**
	7.3nm,0.4s						
KOTS				Lg	Lg	19 10 22.2	
	24nm,0.4s						
KST	**Kastek**	**2.83**	**338**	*e*P	**Pb**	**19 09 41.5**	**-0.4**
	1.1nm,0.2s						
KST				*e*S	**Sg**	**19 10 22.2**	**+0.1**
	6.1nm,0.9s						
KST	**Kastek**	**2.83**	**338**	Pg	**Pb**	**19 09 41.5**	**-0.4**

	1.1nm,0.4s								
KST					Lg	Lg	19 10 22.2		
	6.1nm,0.7s								
TKM2	**Tokmak 2**	**2.84**	**332**	⇑	*i*P	**Pn**	**19 09 38.7**	**+1.9**	
	baz=29								
TKM2				⇑	*i*S	**Sb**	**19 10 16.6**	**-0.3**	
	baz=29								
TKM2	**Tokmak 2**	**2.84**	**332**	⇑	Pg	**Pb**	**19 09 41.3**	**-0.7**	
	2.4nm,0.6s								
TKM2				⇓	Lg	Lg	19 10 21.5		
	6.0nm,0.5s								
KBK	**Karagaybulak**	**2.89**	**322**	⇑	*i*P	**Pn**	**19 09 39.8**	**+2.4**	
	baz=20								
KBK				⇑	*i*S	**Sb**	**19 10 18.7**	**+0.3**	
	baz=20								
DGS	**Degeres**	**3.07**	**337**		*e*P	**Pb**	**19 09 45.5**	**-0.4**	
	4.7nm,0.3s								
DGS					*e*S	**Sg**	**19 10 29.2**	**-0.5**	
	15nm,0.3s								
DGS	**Degeres**	**3.07**	**337**		Pg	**Pb**	**19 09 45.5**	**-0.4**	
	4.5nm,0.5s								
DGS					Lg	Lg	19 10 29.2		
	15nm,0.5s								
AAK	**Ala-Archa**	**3.10**	**317**	⇓	*i*P	**Pn**	**19 09 42.9**	**+2.5**	
	baz=15								
AAK				⇓	*i*S	**Sb**	**19 10 23.9**	**-0.6**	
	baz=15								
AAK	**Ala-Archa**	**3.10**	**317**	⇑	Pn	**Pb**	**19 09 44.5**	**-2.1**	
	1.6nm,0.6s								
AAK					Lg	Lg	19 10 28.2		
	12nm,0.8s								
KURS	**Kuram**	**3.12**	**11**		*e*P	**Pb**	**19 09 47.1**	**+0.2**	
	1.6nm,0.4s								
KURS					*e*S	**Sg**	**19 10 32.1**	**+0.6**	
	8.7nm,0.6s								
SHLS	**Shalkode**	**3.15**	**29**		*e*P	**Pg**	**19 09 50.1**	**-1.4**	
	3.9nm,0.2s								
SHLS					*e*S	**Sg**	**19 10 37.1**	**+4.8**	
	17nm,0.4s								
SHLS	**Shalkode**	**3.15**	**29**		Pg	**Pg**	**19 09 50.1**	**-1.4**	
	3.9nm,0.4s								
SHLS					Lg	Lg	19 10 37.1		
	17nm,0.4s								
KPKS	**Kokpek**	**3.20**	**17**		*e*P	**Pb**	**19 09 47.5**	**-0.6**	
	4.1nm,0.2s								
KPKS					*e*S	**Sg**	**19 10 32.7**	**-1.2**	
	24nm,0.3s								
PDGK	**Podgornoye**	**3.31**	**28**		Pg	**Pb**	**19 09 49.2**	**-0.8**	
	1.2nm,0.4s								
PDGK					Lg	Lg	19 10 35.4		
	7.3nm,0.7s								
PDGK	**Podgornoye**	**3.31**	**28**	⇑	Pg	**Pb**	**19 09 49.8**	**-0.2**	
	3.8nm,0.8s								
PDGK				⇓	Lg	Lg	19 10 34.4		
	14nm,0.7s								
KTBS	**Karatobe**	**3.33**	**351**		*e*P	**Pb**	**19 09 50.1**	**-0.3**	
	1.5nm,0.3s								
KTBS					*e*S	**Sg**	**19 10 37.1**	**-1.1**	
	24nm,0.6s								
KTBS	**Karatobe**	**3.33**	**351**		Pg	**Pb**	**19 09 50.1**	**-0.3**	
	1.5nm,0.4s								
KTBS					Lg	Lg	19 10 37.1		
	24nm,0.6s								
CHKK	**Chushkaly**	**3.45**	**355**		*e*P	**Pb**	**19 09 52.5**	**+0.1**	
	2.9nm,0.3s								
CHKK					*e*S	**Sg**	**19 10 41.2**	**-0.7**	
	24nm,0.5s								
CHKK	**Chushkaly**	**3.45**	**355**		Pg	**Pb**	**19 09 52.5**	**+0.1**	
	2.9nm,0.4s								
CHKK					Lg	Lg	19 10 41.2		
	23nm,0.5s								
KRBS	**Karabastau**	**3.52**	**339**		*e*P	**Pb**	**19 09 53.3**	**-0.3**	
	3.5nm,0.4s								
KRBS					*e*S	**Sg**	**19 10 42.3**	**-1.8**	
	5.6nm,0.4s								
KRBS	**Karabastau**	**3.52**	**339**		Pg	**Pb**	**19 09 53.3**	**-0.3**	
	3.5nm,0.5s								
KRBS					Lg	Lg	19 10 42.3		
	5.6nm,0.5s								
KUU	**Kurty**	**3.56**	**348**		*e*P	**Pb**	**19 09 54.1**	**-0.2**	
	1.8nm,0.1s								
KUU					*e*S	**Sg**	**19 10 44.0**	**-1.4**	
	18nm,0.5s								
KUU	**Kurty**	**3.56**	**348**		Pg	**Pb**	**19 09 54.1**	**-0.2**	
	1.8nm,0.1s								
KUU					Lg	Lg	19 10 44.0		
	18nm,1.1s								
KTMS	**Ketmen**	**3.75**	**35**		*e*P	**Pb**	**19 09 57.1**	**-0.4**	
	1.1nm,0.0s								
KTMS					*e*S	**Sg**	**19 10 49.2**	**-2.4**	
	6.9nm,0.1s								
KTMS	**Ketmen**	**3.75**	**35**		Pg	**Pb**	**19 09 57.1**	**-0.4**	
	1.1nm,0.1s								
KTMS					Lg	Lg	19 10 49.2		
	6.0nm,0.4s								
DJR	**Jarkent**	**4.30**	**24**		*e*P	**Pb**	**19 10 07.6**	**+0.7**	
DJR					*e*S	**Sg**	**19 11 07.0**	**-2.3**	
	0.4nm,0.5s								
DJR	**Jarkent**	**4.30**	**24**		Pg	**Pb**	**19 10 07.6**	**+0.7**	
DJR					Lg	Lg	19 11 07.0		
	0.4nm,0.8s								

MEX 25 19:09:00.2±0.6, 16°29N×97°94W, h27km±13km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.21**	**299**	*i* P	Pb	19 09 04.8	-1.4
PNIG				*i* S	Sb	19 09 08.9	-1.4
YOIG	**Yosondua**	**0.68**	**34**	*i* P	Pb	19 09 11.2	-2.4
YOIG				*i* S	Sb	19 09 20.1	-2.7
PEIG	**Puerto Escondi**	**0.81**	**111**	*i* P	Pb	19 09 13.1	-2.7
PEIG				*i* S	Sb	19 09 23.8	-2.6
TXIG	**Tlaxiaco**	**0.97**	**10**	*i* P	Pn	19 09 16.2	-2.2
TXIG				*e*S	Sb	19 09 28.0	-3.1

MEX 25 19:12:25.4±1.6, 16°66N×99°94W, h13km±31km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAIG	**Los Arroyos**	**0.45**	**38**	*i* P	Pg	19 12 30.2	-4.2
DAIG				*i* S	Sg	19 12 35.2	-5.3
MGIG	**Malinaltepec**	**1.38**	**66**	*e*P	Pn	19 12 46.6	-3.9
MGIG				*i* S	Sn	19 13 04.6	-4.0
ARIG	**Puente Sto Nin**	**1.65**	**347**	*i* P	Pn	19 12 51.0	-3.1
ARIG				*e*S	Sn	19 13 10.2	-5.0

*KOLA **25** 19:22:26.7, 67°47N×20°29E, h0km, ML2.4, Kiruna Area, Sweden*
*NAO **25** 19:22:27.6±1.0, 67°13N×20°91E, ML2.8*
*DNK **25** 19:22:27.5±0.4, 67°18N×20°65E, h0km, ML2.8(UPP), Suspected explosion*
*HEL **25** 19:22:28.0±0.1, 67°18N×20°65E, h1km, ML2.4, ML2.8(UPP), Confirmed Induced event*
*IDC **25** 19:22:28.1±0.9, 67°17N×20°85E, h0km, mb1 3.0/4, mb1mx2.9/53, mbtmp3.0/4, ML2.6/4, Error ellipse: s-maj=14.0km s-min=7.3km az=117.0*
*BER **25** 19:22:29.8±3.2, 67°10N×20°73E, h1km, ML2.2, ML2.8(NAO), Confirmed Induced event*

ISC 25 19:22:26.7±0.7, 67°16N±0°02×20°64E±0°02, h0km, n58, σ1s50/90, 1D, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MASU	**Masugnsbyn**	**0.60**	**60**	P	**Pg**	**19 22 38.6**	**+0.4**
MASU				S	**Sg**	**19 22 46.4**	**+0.4**
MASU	**Masugnsbyn**	**0.60**	**60**	*i* P	**Pg**	**19 22 38.6**	**+0.4**
MASU				*i* S	**Sg**	**19 22 46.4**	**+0.4**
RATU	**Laukkuluspa**	**0.78**	**329**	P	**Pg**	**19 22 41.5**	**0.0**
RATU				S	**Sg**	**19 22 51.6**	**0.0**
RATU	**Laukkuluspa**	**0.78**	**329**	*i* P	**Pg**	**19 22 41.5**	**0.0**
RATU				*i* S	**Sg**	**19 22 51.6**	**0.0**
KUA	**Kurravaara**	**0.80**	**352**	*i* P	**Pg**	**19 22 41.7**	**-0.3**
KUA				*i* S	**Sg**	**19 22 52.4**	**0.0**
SALU	**Saltoluokta**	**0.85**	**286**	P	**Pg**	**19 22 43.4**	**+0.4**
SALU	**Saltoluokta**	**0.85**	**286**	⇓	*i*P	**Pg**	**19 22 43.4**	**+0.4**
SALU				*e*S	**Sg**	**19 22 54.9**	**+0.8**
SALU	**Saltoluokta**	**0.85**	**286**	*i* P	**Pg**	**19 22 43.4**	**+0.4**
ERTU	**Ertsjaerv**	**0.87**	**134**	P	**Pg**	**19 22 43.5**	**+0.2**
ERTU				S	**Sg**	**19 22 55.1**	**+0.6**
ERTU	**Ertsjaerv**	**0.87**	**134**	*e*P	**Pg**	**19 22 43.5**	**+0.2**
ERTU				*e*S	**Sg**	**19 22 55.4**	**+1.0**
PAJU	**Pajala**	**0.98**	**97**	P	**Pg**	**19 22 45.4**	**0.0**
PAJU	**Pajala**	**0.98**	**97**	*e*P	**Pg**	**19 22 45.4**	**0.0**
HARU	**Harads**	**1.01**	**172**	P	**Pg**	**19 22 46.2**	**+0.2**
HARU	**Harads**	**1.01**	**172**	*e*P	**Pg**	**19 22 46.2**	**+0.2**
LANU	**Lannavaara**	**1.03**	**30**	P	**Pg**	**19 22 45.8**	**-0.6**
LANU	**Lannavaara**	**1.03**	**30**	*e*P	**Pg**	**19 22 45.8**	**-0.6**
LANU				*e*S	**Sg**	**19 22 59.3**	**-0.4**
KOVU	**Salmi**	**1.08**	**351**	P	**Pg**	**19 22 47.1**	**-0.2**
KOVU	**Salmi**	**1.08**	**351**	*e*P	**Pg**	**19 22 47.1**	**-0.2**
KLF	**Kolari**	**1.30**	**85**	*e*P	**Pg**	**19 22 51.0**	**-0.5**
KLF				*e*S	**Sb**	**19 23 08.6**	**-0.5**
HEF	**Hetta**	**1.70**	**41**	Pn	**Pn**	**19 22 57.4**	**-0.2**
HEF				Sn	**Sn**	**19 23 19.3**	**-0.7**
HEF	**Hetta**	**1.70**	**41**	Pn	**Pn**	**19 22 57.4**	**-0.2**
HEF				Sn	**Sn**	**19 23 19.3**	**-0.7**
HEF	**Hetta**	**1.70**	**41**	*e*P	**Pn**	**19 22 57.5**	**-0.1**
HEF				*e*S	**Sn**	**19 23 19.2**	**-0.7**
KALU	**Kalix**	**1.70**	**139**	P	**Pn**	**19 22 58.3**	**+0.8**
KALU	**Kalix**	**1.70**	**139**	*e*P	**Pn**	**19 22 58.3**	**+0.8**
KALU				*e*S	**Sb**	**19 23 21.2**	**+0.5**
TOF	**Tornio**	**1.83**	**125**	MSG		19 23 29.1	
	comp=Z,29nm,0.3s						
KIF	**Kilpisjarvi**	**1.85**	**2**	Pn	**Pb**	**19 23 00.4**	**-0.9**
KIF				Sn	**Sg**	**19 23 26.9**	**+0.9**
KIF	**Kilpisjarvi**	**1.85**	**2**	*e*P	**Pb**	**19 23 00.8**	**-0.6**
KIF	**Kilpisjarvi**	**1.85**	**2**	*e*P	**Pb**	**19 23 00.7**	**-0.6**
FAUS	**Fauske**	**2.09**	**279**	*e*P	**Pb**	**19 23 04.9**	**-0.5**
FAUS				IAML		19 23 36.3	
	comp=Z,34nm,0.4s						
KTK1	**Kautokeino**	**2.10**	**27**	Pn	**Pb**	**19 23 04.4**	**-1.2**
KTK1				Sn	**Sb**	**19 23 31.7**	**-0.4**
KTK1	**Kautokeino**	**2.10**	**27**	*e*P	**Pb**	**19 23 04.5**	**-1.0**
KTK1				IAML		19 23 33.8	
	comp=Z,56nm,0.5s						
RNF	**Rovaniemi**	**2.19**	**102**	MSG		19 23 36.9	
	comp=Z,20nm,0.2s						
STEI	**Steigen**	**2.21**	**293**	*e*P	**Pn**	**19 23 06.1**	**+1.6**
STEI				IAML		19 23 39.1	
	comp=Z,22nm,0.6s						
STEI	**Steigen**	**2.21**	**293**	*e*P	**Pn**	**19 23 06.2**	**+1.7**
SGF	**Sodankyl**	**2.30**	**80**	MSG		19 23 39.7	
	comp=Z,22nm,0.4s						
JETT	**Jettan, Norway**	**2.41**	**358**	Pn	**Pb**	**19 23 10.1**	**-0.7**
JETT				Sn	**Sb**	**19 23 41.0**	**0.0**
TRO	**Tromso**	**2.56**	**346**	*e*P	**Pn**	**19 23 10.8**	**+1.5**
TRO				*e*S	**Sn**	**19 23 42.5**	**+1.4**
BURU	**Burvik**	**2.61**	**173**	*e*P	**Pn**	**19 23 11.9**	**+2.0**
BURU				*e*S	**Sn**	**19 23 44.0**	**+1.7**
MOR8	**Moi Rana**	**2.66**	**251**	*e*P	**Pn**	**19 23 11.4**	**+0.6**
MOR8				IAML		19 23 47.4	
	comp=Z,24nm,0.4s						
ARA0	**ARCESS Array S**	**2.99**	**35**	Pn	**Pn**	**19 23 15.8**	**+0.6**
	baz=216,slow=16						
ARA0				Sn	**Sn**	**19 23 52.6**	**+0.9**
	baz=216,slow=28						
ARA0	**ARCESS Array S**	**2.99**	**35**	Pn	**Pn**	**19 23 15.8**	**+0.6**
	baz=216,slow=16						
ARA0				Sn	**Sn**	**19 23 52.6**	**+0.9**
	baz=216,slow=28						
ARCES	**ARCESS Array B**	**2.99**	**35**	Pn	**Pn**	**19 23 16.1**	**+0.8**
	baz=219,slow=13,SNR=84						
ARCES				Sn	**Sn**	**19 23 52.3**	**+0.5**
	baz=214,slow=24,SNR=5.7						
KONS	**Konsvik**	**3.05**	**261**	*e*P	**Pn**	**19 23 17.6**	**+1.6**
KONS				IAML		19 24 08.5	
	comp=Z,14nm,0.5s						
UMAU	**Umeaa**	**3.29**	**180**	*e*P	**Pn**	**19 23 21.0**	**+1.6**
UMAU				*e*S	**Sn**	**19 23 59.5**	**+0.3**
KEV	**Kevo**	**3.51**	**39**	*e*P	**Pn**	**19 23 23.0**	**+0.7**
KEV	**Kevo**	**3.51**	**39**	MSG		19 24 21.8	
	comp=Z,7.4nm,0.3s						
APA0	**Apatity Array**	**4.79**	**79**	Pn	**Pn**	**19 23 39.7**	**-0.2**
	baz=262,slow=12						
APA0				Sn	**Sn**	**19 24 34.9**	**-1.2**
	baz=265,slow=28						
APA0				Lg	Lg	19 24 52.2	
	baz=276,slow=22						
APA0	**Apatity Array**	**4.79**	**79**	Pn	**Pn**	**19 23 39.7**	**-0.2**
	baz=262,slow=12						
APA0				Sn	**Sn**	**19 24 34.9**	**-1.2**
	baz=265,slow=28						
APA0	**Apatity Array**	**4.79**	**79**	P	**Pn**	**19 23 40.0**	**0.0**
APA0				S	**Sn**	**19 24 35.0**	**-1.2**
FIA0	**FINESS Array S**	**6.21**	**155**	Pn	**Pn**	**19 24 01.0**	**+1.6**
	baz=345,slow=16						
FIA0				Sn	**Sn**	**19 25 10.4**	**-0.6**
	baz=349,slow=28						
FIA0				Lg	Lg	19 25 38.3	
	baz=341,slow=37						
FIA0	**FINESS Array S**	**6.21**	**155**	Pn	**Pn**	**19 24 01.0**	**+1.6**
	baz=345,slow=16						
FIA0				Sn	**Sn**	**19 25 10.4**	**-0.6**
	baz=349,slow=28						
FIA0				Sg	**Sb**	**19 25 38.3**	**+8.1**
	baz=341,slow=37						
FINES	**FINESS Array B**	**6.21**	**155**	Pn	**Pn**	**19 24 01.1**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=345,slow=12,SNR=29						
FINES				Pg	**Pb**	**19 24 13.9**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=346,slow=14,SNR=4.0						
FINES				Sn	**Sn**	**19 25 11.3**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=340,slow=24,SNR=7.1						
FINES				Lg	Lg	19 25 41.8	
	comp=Z,0.8nm,0.3s,baz=342,slow=26,SNR=4.6						
NB2	**NORSAR Subarra**	**7.39**	**218**	Pn	**Pn**	**19 24 16.5**	**+0.7**
	baz=26,slow=14						
NB2	**NORSAR Subarra**	**7.39**	**218**	Pn	**Pn**	**19 24 16.5**	**+0.7**
	baz=26,slow=14						
NOA	**NORSAR Array B**	**7.39**	**218**	Pn	**Pn**	**19 24 17.1**	**+1.3**
	comp=Z,0.0nm,0.3s,baz=28,slow=11,SNR=4.9						
NOA				Sn	**Sn**	**19 25 38.4**	**-1.8**
	comp=Z,0.0nm,0.3s,baz=48,slow=23,SNR=5.1						
NOA				Lg	Lg	19 26 22.1	
	comp=Z,0.1nm,0.3s,baz=50,slow=10,SNR=4.2						
NRA0	**NORESS Array S**	**7.58**	**216**	Pn	**Pn**	**19 24 18.6**	**+0.3**
	baz=27,slow=12						
NRA0				Sn	**Sn**	**19 25 41.4**	**-3.5**
	baz=31,slow=22						
NRA0				Lg	Lg	19 26 23.4	
	baz=22,slow=28						
NRA0	**NORESS Array S**	**7.58**	**216**	Pn	**Pn**	**19 24 18.6**	**+0.3**
	baz=27,slow=12						
NRA0				Sn	**Sn**	**19 25 41.4**	**-3.5**
	baz=31,slow=22						
NRA0				Sg	**Sg**	**19 26 23.4**	**-6.6**
	baz=22,slow=28						
HFS	**Hagfors**	**7.70**	**207**	Pn	**Pn**	**19 24 19.9**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=28,slow=13,SNR=17						
HFS				Sn	**Sn**	**19 25 45.5**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=23,slow=21,SNR=7.5						
HFS				Lg	Lg	19 26 30.7	
	comp=Z,0.5nm,0.3s,baz=19,slow=27,SNR=2.9						

RSNC 25 19:27:03.2±1.2, 6°82N×73°12W, h150km±4km, ML3.2, Mw3.7, 3C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.23**	**195**	⇓ *i*P	Pn	19 27 23.2	-0.6
BARC				*e*S	Sn	19 27 39.5	0.0
BARC				*i*		19 27 41.0	
	comp=Z,312nm,0.3s						
BRRC	**Barranca, Sant**	**0.65**	**296**	⇓ *i*P	Pn	19 27 25.1	-0.3
BRRC				*e*S	Sn	19 27 42.4	+0.2
BRRC				*i*		19 27 46.8	
	comp=Z,178nm,0.3s						
PAMC	**Pamplona, Colo**	**0.67**	**39**	⇑ *e*P	Pn	19 27 25.9	-0.1
PAMC				*e*S	Sn	19 27 43.3	-0.1
PAMC				*i*		19 27 45.0	
	comp=Z,140nm,0.3s						
RUSC	**La Rusia**	**0.92**	**178**	*e*P	Pn	19 27 27.1	-0.8
RUSC				*e*S	Sn	19 27 46.2	-0.4
RUSC				*i*		19 27 48.6	
	comp=Z,176nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.35**	**258**	*e*P	Pn	19 27 29.9	-1.4
PTBC				*e*S	Sn	19 27 51.4	-1.3
PTBC				*i*		19 27 58.6	
	comp=Z,320nm,0.4s						
TAMC	**Tame, Arauca**	**1.37**	**106**	⇑ *e*P	Pn	19 27 31.4	-0.1
TAMC				*e*S	Sn	19 27 53.0	0.0
OCAC	**Ocana**	**1.43**	**352**	*e*P	Pn	19 27 31.6	-0.5
OCAC				*e*S	Sn	19 27 53.2	-1.1
OCAC				*i*		19 27 58.1	
	comp=Z,316nm,0.3s						

SPBC	**San Pablo de B**	**1.49**	**219**		*e*P	**Pn**	19 27 32.2	-0.5	
SPBC					*e*S	Sn	19 27 54.3	-1.1	
SPBC					*i*		19 27 60.0		
	comp=Z,290nm,0.2s								
ZARC	**Zaragoza, Cauc**	**1.85**	**291**		*e*P	**Pn**	19 27 35.9	-0.7	
ZARC					*e*S	Sn	19 28 01.5	-0.7	
ZARC					*i*		19 28 07.4		
	comp=Z,280nm,0.7s								
NORC	**Norcasia**	**2.14**	**234**		*e*P	**Pn**	19 27 39.0	-1.0	
NORC					*e*S	Sn	19 28 08.3	0.0	
NORC					*i*		19 28 10.9		
	comp=Z,177nm,0.2s								
SMLC	**San Martn de**	**2.19**	**335**		*e*P	**Pn**	19 27 39.6	-0.9	
SMLC					*e*S	Sn	19 28 09.3	0.0	
SMLC					*i*		19 28 11.4		
	comp=Z,137nm,0.2s								
CHIC	**Chingaza**	**2.26**	**196**		*e*P	**Pn**	19 27 41.0	-0.7	
CHIC					*e*S	Sn	19 28 10.3	-1.1	
CHIC					*i*		19 28 20.2		
	comp=Z,77nm,0.3s								
ROSC	**El Rosal**	**2.30**	**211**		*e*P	**Pn**	19 27 42.8	+0.5	
ROSC					*e*S	Sn	19 28 13.4	+1.2	
ROSC					*i*		19 28 20.7		
	comp=Z,190nm,0.3s								
HELC	**Santa Helena**	**2.47**	**256**		*e*P	**Pn**	19 27 44.9	+0.6	
HELC					*e*S	Sn	19 28 16.0	0.0	
HELC					*i*		19 28 22.4		
	comp=Z,145nm,0.4s								
UREC	**San Jos de Ur**	**2.57**	**291**		*e*P	**Pn**	19 27 43.2	-2.0	
UREC					*e*S	Sn	19 28 14.6	-2.9	
UREC					*i*		19 28 27.2		
	comp=Z,82nm,0.3s								
GUY2C	**Guyana, Caldas**	**2.73**	**235**		*e*P	**Pn**	19 27 48.1	+0.4	
GUY2C					*e*S	Sn	19 28 21.4	-0.5	
GUY2C					*i*		19 28 30.0		
	comp=Z,92nm,0.3s								
VILC	**Villavicencio,**	**2.75**	**192**		*e*P	**Pn**	19 27 47.7	+0.2	
VILC					*e*S	Sn	19 28 21.0	-0.7	
VILC					*i*		19 28 26.8		
	comp=Z,88nm,0.3s								
PTGC	**Puerto Gaitan,**	**2.78**	**159**		*e*P	**Pn**	19 27 46.0	-1.9	
PTGC					*e*S	Sn	19 28 19.5	-2.8	
PTGC					*i*		19 28 20.0		
	comp=Z,81nm,0.3s								
CBOC	**Ciudad Bolivar**	**3.02**	**252**		*e*P	**Pn**	19 27 51.6	+0.6	
CBOC					*e*S	Sn	19 28 28.1	+0.1	
CBOC					*i*		19 28 32.4		
	comp=Z,41nm,0.5s								
DBBC	**Dabeiba**	**3.07**	**274**	⇑	*e*P	**Pn**	19 27 50.8	-0.8	
DBBC					*e*S	Sn	19 28 27.0	-2.0	
SDV	**Santo Domingo**	**3.21**	**50**		*e*P	**Pn**	19 27 52.5	-1.0	
SDV					*e*S	Sn	19 28 30.7	-1.6	
SDV					*i*		19 28 32.0		
	comp=Z,18nm,0.6s								
ARGC	**Ariguani, Magd**	**3.22**	**340**		*e*P	**Pn**	19 27 53.3	-0.1	
ARGC					*e*S	Sn	19 28 31.0	-1.3	
ARGC					*i*		19 28 39.2		
	comp=Z,21nm,0.3s								
ANIL	**Santa Ana**	**3.24**	**225**		*e*P	**Pn**	19 27 54.3	+0.4	
ANIL					*e*S	Sn	19 28 33.5	+0.4	
ORTC	**Ortega, Tolima**	**3.58**	**216**		*e*P	**Pn**	19 27 57.5	-0.5	
ORTC					*e*S	Sn	19 28 40.4	-0.2	
ORTC					*i*		19 28 47.0		
	comp=Z,56nm,0.4s								
CRJC	**Cerrejon, Guaj**	**4.18**	**3**		*e*P	**Pn**	19 28 03.5	-2.4	
CRJC					*e*S	Sn	19 28 51.0	-3.8	
CRJC					*i*		19 28 57.6		
	comp=Z,33nm,0.2s								
YOTC	**Yotoco, Valle**	**4.27**	**229**		*e*P	**Pn**	19 28 08.7	+1.6	
YOTC					*e*S	Sn	19 28 48.6	-8.3	
SMRC	**Santa Marta, M**	**4.46**	**346**		*e*S	Sn	19 28 56.2	-4.8	
SMRC					*i*		19 28 58.9		
	comp=Z,28nm,0.3s								
MACC	**Macarena, Meta**	**4.70**	**189**		*e*P	**Pn**	19 28 09.8	-2.9	
MACC					*e*S	Sn	19 29 02.7	-4.1	
MACC					*i*		19 29 06.1		
	comp=Z,13nm,0.6s								
GARC	**Garzon, Huila**	**5.17**	**207**		*e*P	**Pn**	19 28 17.6	-1.6	

*NEIC **25** 19:40:18.2±1.9, 27°87S±0°07×177°9W±0°2, h197km±6km, mb4.5/18, Error ellipse: s-maj=20.9km s-min=9.9km az=96.0*
*IDC **25** 19:40:18.3±0.9, 27°84S×178°16W, h194km±9km, mb3.7/7, mb1 3.8/9, mb1mx3.5/33, mbtmp4.2/9, Error ellipse: s-maj=21.1km s-min=18.5km az=55.0*

ISC 25 19:40:17.8±0.5, 27°89S±0°07×177°9W±0°1, h200km, n47, σ1s28/48, mb4.2/13, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.36**	**180**	LR	LR	19 40 43.9	
	comp=Z,98nm,21.8s,baz=116,slow=18						
RAO				P	**Pn**	**19 40 50.7**	**+0.5**
	363nm,0.3s,baz=66,slow=19,SNR=20						
RAO				S	**Sn**	**19 41 16.0**	**+0.4**
	434nm,0.3s,baz=60,slow=20,SNR=5.4						
RAO	**Raoul Island**	**1.36**	**180**		**Pn**	**19 40 50.6**	**+0.3**
MSVF	**Nonsavu**	**10.77**	**339**	P	**Pn**	**19 42 46.9**	**-0.2**
	0.8nm,0.3s,baz=142,slow=11,SNR=13						
MSVF	**Nonsavu**	**10.77**	**339**		**Pn**	**19 42 47.2**	**+0.1**
URZ	**Urewera**	**11.14**	**201**	P	**Pn**	**19 42 52.7**	**+1.1**
	0.4nm,0.3s,baz=73,slow=17,SNR=1.6						
URZ				S	Sn	19 44 47.0	-8.9
	1.2nm,0.3s,baz=165,slow=22,SNR=7.6						
URZ	**Urewera**	**11.14**	**201**		**Pn**	**19 42 52.2**	**+0.5**
NIUE	**Niue**	**11.43**	**42**	Pn	**Pn**	**19 42 53.3**	**-2.2**
BKZ	**Black Stump Fm**	**12.17**	**201**	P

comp=Z,3.1nm,0.7s,baz=131,slow=4.3,SNR=6.0
PLCA Paso Flores 84.17 133 P **P** 19 52 29.5 **+2.7**
comp=Z,1.4nm,0.8s,baz=119,slow=2.4,SNR=3.6
MKAR Makanchi Array 116.20 311 PKP **PKPdf** 19 58 36.8 **-0.2**
comp=Z,0.3nm,0.5s,baz=35,slow=5.3,SNR=2.9
ARCES ARCESS Array B 136.16 348 PKhKP PKPpre 19 59 10.1
comp=Z,1.3nm,1.0s,baz=35,slow=4.4,SNR=3.6
ARCES PKP **PKPdf** **19 59 14.7 +0.3**
comp=Z,2.4nm,0.8s,baz=338,slow=1.3,SNR=8.7
FINES FINESS Array B 142.81 341 PKhKP PKPpre 19 59 22.9
comp=Z,1.2nm,0.6s,baz=39,slow=3.5,SNR=14
NB2 NORSAR Subarra146.29 352 PKP **PKPbc** **19 59 34.4 +0.1**
comp=Z,1.3nm,0.6s,baz=19,slow=3.0
NOA NORSAR Array B146.29 352 PKPbc **PKPbc** **19 59 34.0 -0.3**
comp=Z,1.6nm,0.7s,baz=15,slow=4.6,SNR=7.8
HFS Hagfors 146.80 349 PKPbc **PKPbc** **19 59 35.3 -0.4**
baz=56,slow=2.6
AKASG Malin Array Be 149.32 325 PKPbc **PKPbc** **19 59 42.8 +0.2**
comp=Z,2.4nm,0.5s,baz=44,slow=3.2,SNR=16
AKASG Malin Array Be 149.32 325 **PKPbc** **19 59 42.3 -0.3**
BRTR Keskin Array B 151.39 303 PKPbc **PKPbc** **19 59 48.1 +0.1**
comp=Z,1.0nm,0.6s,baz=143,slow=4.7,SNR=8.8
BRTR PKPab **PKPab** **19 59 57.1 +0.1**
comp=Z,1.3nm,0.7s,baz=86,slow=2.6,SNR=8.1
TORD Torodi Ar. Bea 165.33 179 PKPab **PKPab** **20 00 58.9 +1.4**
comp=Z,0.3nm,0.5s,baz=173,slow=3.3,SNR=4.3

*NOU **25** 20:00:46.2, 37°.71S×176°.59E, h233km, mb3.7/8, North Island, New Zealand*
WEL 25 20:00:54.9±0.6, 38°S±3°×17°6E±°, h159km±5km, M3.2/55, ML1.9/6, MLv3.2/55, Error ellipse: s-maj=0.0km s-min=0.0km az=120.6, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.13**	**59**	P	Pn	20 01 16.7	+0.6
OPRZ				S	Sn	20 01 34.2	+2.0
OMRZ	**Omania**	**0.20**	**190**	P	Pn	20 01 17.2	+0.9
TGRZ	**Tauranga**	**0.22**	**325**	P	Pn	20 01 17.1	+0.8
TARZ	**Mount Tarawera**	**0.33**	**168**	P	Pn	20 01 17.8	+1.1
HLRZ	**Highlands Stat**	**0.35**	**189**	P	Pn	20 01 18.1	+1.5
KMRZ	**Kaimai**	**0.38**	**279**	P	Pn	20 01 17.6	+0.8
HSRZ	**Hossack Road**	**0.42**	**199**	P	Pn	20 01 17.9	+1.0
RRRZ	**Republican Roa**	**0.44**	**170**	P	Pn	20 01 17.6	+0.6
HRRZ	**Handcock Road**	**0.49**	**192**	P	Pn	20 01 18.0	+0.8
GRRZ	**Galatos Road**	**0.50**	**209**	P	Pn	20 01 18.2	+0.9
MUGZ	**Murupara**	**0.63**	**154**	P	Pn	20 01 18.3	+0.4
WPRZ	**Whakapapatarin**	**0.64**	**198**	P	Pn	20 01 18.7	+0.7
URZ	**Urewera**	**0.65**	**123**	P	Pn	20 01 18.2	+0.2
URZ				S	Sn	20 01 36.1	+0.4
ALRZ	**Allen Road**	**0.65**	**185**	P	Pn	20 01 18.7	+0.7
WIZ	**White Island**	**0.72**	**58**	P	Pn	20 01 19.0	+0.6
KUTZ	**Kaahu Road**	**0.74**	**219**	P	Pn	20 01 19.3	+0.7
TOZ	**Tahuroa Road**	**0.75**	**284**	P	Pn	20 01 19.4	+0.8
TLZ	**Tolley Road**	**0.81**	**239**	P	Pn	20 01 19.8	+0.7
RTZ	**Ruatahuna**	**0.83**	**148**	P	Pn	20 01 19.7	+0.4
RTZ				S	Sn	20 01 39.0	+0.9
WHTZ	**Whakaora**	**0.84**	**205**	P	Pn	20 01 20.2	+0.9
MRHZ	**Matea Rd**	**0.92**	**180**	P	Pn	20 01 20.2	+0.3
MRHZ				S	Sn	20 01 39.1	-0.2
WATZ	**Wairara**	**0.96**	**214**	P	Pn	20 01 20.8	+0.6
MWZ	**Matawai**	**0.97**	**116**	P	Pn	20 01 20.5	+0.2
MWZ				S	Sn	20 01 40.5	+0.7
RAGZ	**Rawiri**	**0.98**	**127**	P	Pn	20 01 21.1	+0.7
RAGZ				S	Sn	20 01 40.8	+0.8
MTHZ	**Maungataniwha**	**1.00**	**161**	P	Pn	20 01 20.9	+0.4
MTHZ				S	Sn	20 01 41.1	+0.8
RUGZ	**Raukumara Rang**	**1.00**	**94**	P	Pn	20 01 19.9	-0.7
RUGZ				S	Sn	20 01 39.0	-1.3
RATZ	**Rangitukua**	**1.08**	**208**	P	Pn	20 01 21.5	+0.3
HAZ	**Te Kaha**	**1.09**	**82**	P	Pn	20 01 20.8	-0.4
HAZ				S	Sn	20 01 41.0	-0.4
SNGZ	**Shannon Statio**	**1.13**	**140**	P	Pn	20 01 22.3	+0.6
SNGZ				S	Sn	20 01 42.7	+0.5
RAHZ	**Arahi**	**1.13**	**153**	P	Pn	20 01 22.4	+0.7
RAHZ				S	Sn	20 01 43.7	+1.4
RITZ	**Rihia Road**	**1.15**	**202**	P	Pn	20 01 22.4	+0.6
KATZ	**Kakaramea**	**1.21**	**208**	P	Pn	20 01 23.2	+0.8
NMHZ	**Naumai**	**1.22**	**166**	P	Pn	20 01 23.4	+0.9
NMHZ				S	Sn	20 01 45.2	+1.4
TKGZ	**Te Karaka**	**1.25**	**116**	P	Pn	20 01 23.1	+0.5
TKGZ				S	Sn	20 01 44.2	+0.4
BKZ	**Black Stump Fm**	**1.26**	**177**	P	Pn	20 01 22.6	-0.1
BKZ				S	Sn	20 01 43.7	-0.5
TWGZ	**Tauwhareparae**	**1.26**	**103**	P	Pn	20 01 23.4	+0.6
TWGZ				S	Sn	20 01 45.4	+1.1
MKAZ	**Moumakai**	**1.28**	**308**	P	Pn	20 01 23.4	+0.4
KUZ	**Kuaotunu**	**1.29**	**334**	P	Pn	20 01 23.1	+0.1
PKGZ	**Pakihiroa**	**1.31**	**90**	P	Pn	20 01 22.1	-1.2
PKGZ				S	Sn	20 01 45.5	+0.4
RIGZ	**Rimuhau**	**1.32**	**127**	P	Pn	20 01 23.9	+0.6
RIGZ				S	Sn	20 01 46.9	+1.6
TMVZ	**Te Maari**	**1.33**	**205**	P	Pn	20 01 23.6	+0.1
WHHZ	**Waihua**	**1.33**	**151**	P	Pn	20 01 23.9	+0.5
WHHZ				S	Sn	20 01 45.7	+0.3
KRVZ	**Karewarewa**	**1.33**	**207**	P	Pn	20 01 21.4	-2.2
ETVZ	**East Tongariro**	**1.34**	**204**	P	Pn	20 01 23.9	+0.2
HIZ	**Hauiti**	**1.37**	**243**	P	Pn	20 01 24.1	+0.4
NNVZ	**North Ngauruho**	**1.37**	**207**	P	Pn	20 01 24.1	+0.1
OTVZ	**Oturere**	**1.38**	**205**	P	Pn	20 01 24.3	+0.2
OTVZ				S	Sn	20 01 47.7	+1.1
TWVZ	**Taurewa**	**1.39**	**213**	P	Pn	20 01 23.0	-1.1
SNVZ	**South Ngauruho**	**1.41**	**205**	P	Pn	20 01 24.4	0.0
NGZ	**Ngauruhoe**	**1.42**	**207**	P	Pn	20 01 24.6	+0.2
ARHZ	**Aropaoanui**	**1.43**	**162**	P	Pn	20 01 24.8	+0.5
ARHZ				S	Sn	20 01 47.8	+0.7
PUZ	**Puketiti**	**1.46**	**97**	P	Pn	20 01 24.6	-0.1
TUVZ	**Tukino**	**1.48**	**204**	P	Pn	20 01 25.0	0.0
KNZ	**Kokohu**	**1.48**	**139**	P	Pn	20 01 25.1	+0.2
KNZ				S	Sn	20 01 46.9	-1.2
FWVZ	**Far West T-bar**	**1.50**	**206**	P	Pn	20 01 25.0	-0.4
KWHZ	**Kaweka Forest**	**1.51**	**180**	P	Pn	20 01 25.3	0.0
KWHZ				S	Sn	20 01 49.6	+0.8
WIAZ	**Waiheke Island**	**1.51**	**317**	P	Pn	20 01 25.5	+0.3
WHVZ	**Whangaehu Hut**	**1.52**	**205**	P	Pn	20 01 25.1	-0.4
CNGZ	**Carnagh Statio**	**1.52**	**113**	P	Pn	20 01 26.4	+1.1
ETAZ	**East Tamaki Re**	**1.52**	**308**	P	Pn	20 01 25.7	+0.4
PRGZ	**Paritu Road**	**1.53**	**132**	P	Pn	20 01 25.8	+0.3
MXZ	**Matakaoa Point**	**1.54**	**78**	P	Pn	20 01 25.7	+0.2
MCHZ	**McNeill Hill**	**1.55**	**172**	P	Pn	20 01 26.0	+0.5
MCHZ				S	Sn	20 01 49.6	+0.3
WNVZ	**Wahianoa**	**1.55**	**204**	P	Pn	20 01 25.5	-0.3
MOVZ	**Moawhango**	**1.58**	**199**	P	Pn	20 01 25.3	-0.7
WMGZ	**Waiomatatini S**	**1.58**	**87**	P	Pn	20 01 26.0	+0.1
BHHZ	**Black Hill Sta**	**1.60**	**190**	P	Pn	20 01 25.7	-0.5
BHHZ				S	Sn	20 01 49.5	-0.9
MTVZ	**Mangateitei**	**1.65**	**206**	P	Pn	20 01 26.6	-0.2
MBAZ	**Motutapu North**	**1.66**	**313**	P	Pn	20 01 27.0	+0.2
MHGZ	**Mahia Peninsul**	**1.70**	**137**	P	Pn	20 01 27.7	+0.4
KRHZ	**Kereru**	**1.73**	**181**	P	Pn	20 01 27.1	-0.5
VRZ	**Vera Road**	**1.78**	**227**	P	Pn	20 01 28.2	+0.2
CKHZ	**Cape Kidnapper**	**1.82**	**164**	P	Pn	20 01 28.6	+0.1
KAHZ	**Kahuranaki**	**1.92**	**169**	P	Pn	20 01 29.5	-0.1
PNHZ	**Pukenui**	**2.01**	**185**	P	Pn	20 01 29.6	-1.0
PXZ	**Pawanui**	**2.15**	**171**	P	Pn	20 01 31.5	-0.6
WPHZ	**Waipukurau**	**2.15**	**180**	P	Pn	20 01 31.3	-1.0
WAZ	**Wanganui**	**2.15**	**211**	P	Pn	20 01 31.5	-0.8
TSZ	**Takapari Road**	**2.17**	**189**	P	Pn	20 01 31.5	-1.0
NEZ	**North Egmont**	**2.27**	**233**	P	Pn	20 01 34.0	+0.3
PREZ	**Palmer Road**	**2.27**	**230**	P	Pn	20 01 33.1	-0.6
PKE	**Pukeiti**	**2.30**	**235**	P	Pn	20 01 34.2	+0.2
DVHZ	**Dannevirke**	**2.39**	**185**	P	Pn	20 01 33.6	-1.6
POWZ	**Post Office Ro**	**2.53**	**191**	P	Pn	20 01 35.1	-1.6
ANWZ	**Angora Road**	**2.55**	**179**	P	Pn	20 01 35.9	-1.0
WCZ	**Waipu Caves**	**2.57**	**319**	P	Pn	20 01 37.2	-0.1
PRWZ	**Pori Road**	**2.66**	**187**	P	Pn	20 01 36.9	-1.5
BFZ	**Birch Farm**	**2.77**	**183**	P	Pn	20 01 37.7	-2.0
MRZ	**Mangatainoka R**	**2.82**	**193**	P	Pn	20 01 38.1	-2.3
TIWZ	**Tintock**	**2.89**	**188**	P	Pn	20 01 39.2	-2.1
CPWZ	**Castlepoint**	**3.00**	**183**	P	Pn	20 01 41.0	-1.6
OGWZ	**Otaki Gorge**	**3.06**	**198**	P	Pn	20 01 40.8	-2.5
HOWZ	**Holdsworth Sta**	**3.06**	**193**	P	Pn	20 01 40.6	-2.8
KIW	**Kapiti Island**	**3.17**	**201**	P	Pn	20 01 41.8	-2.9
TMWZ	**Te Maipa**	**3.22**	**187**	P	Pn	20 01 42.6	-2.7
MTW	**Mount Morrison**	**3.32**	**192**	P	Pn	20 01 43.4	-3.2
CAW	**Cannon Point**	**3.36**	**198**	P	Pn	20 01 44.0	-3.0
DUWZ	**D'Urville Isla**	**3.48**	**213**	P	Pn	20 01 45.4	-3.2
TRWZ	**Traveller**	**3.53**	**189**	P	Pn	20 01 46.1	-3.2
PAWZ	**Paruwai Farm**	**3.55**	**192**	P	Pn	20 01 46.1	-3.4
WEL	**Wellington**	**3.60**	**200**	P	Pn	20 01 46.9	-3.3
MSWZ	**Moikau Station**	**3.62**	**194**	P	Pn	20 01 46.8	-3.6
TCW	**Tory Channel**	**3.69**	**206**	P	Pn	20 01 47.9	-3.4
BHW	**Baring Head**	**3.69**	**198**	P	Pn	20 01 47.6	-3.7
PLWZ	**Palliser**	**3.76**	**193**	P	Pn	20 01 48.5	-3.8
TUWZ	**Tuamarina**	**4.00**	**208**	P	Pn	20 01 51.7	-3.6
NNZ	**Nelson**	**4.05**	**214**	P	Pn	20 01 52.0	-4.0
QRZ	**Quartz Range**	**4.19**	**225**	P	Pn	20 01 53.8	-4.0
BSWZ	**Blackbirch Sta**	**4.28**	**206**	P	Pn	20 01 55.2	-3.6
THZ	**Tophouse**	**4.70**	**214**	P	Pn	20 02 00.7	-3.8
KHZ	**Kahutara**	**5.01**	**205**	P	Pn	20 02 04.3	-4.2
GVZ	**Greta Valley S**	**5.67**	**206**	P	Pn	20 02 12.5	-4.8
LTZ	**Lake Taylor**	**5.81**	**212**	P	Pn	20 02 13.8	-5.2
OKCZ	**Okains Bay**	**6.34**	**203**	P	Pn	20 02 20.9	-5.2
MQZ	**McQueen's Vall**	**6.46**	**205**	P	Pn	20 02 21.4	-6.2
AKCZ	**Akaroa Harbour**	**6.52**	**203**	P	Pn	20 02 23.1	-5.4
MHCZ	**Mount Hutt**	**6.71**	**212**	P	Pn	20 02 26.3	-4.8
TMZ	**Timaru**	**7.65**	**211**	P	Pn	20 02 38.0	-5.5
ODZ	**Otahua Downs**	**8.34**	**209**	P	Pn	20 02 47.1	-5.6

*IDC **25** 20:09:44.4±1.1, 34°.04N×141°.72E, h0km, mb3.7/6, mb1 3.8/8, mb1mx3.5/75, mbtmpg3.7/8, ML3.3/2, MS3.2/2, Ms1 3.3/2, ms1mx2.4/45, Error ellipse: s-maj=25.5km s-min=17.9km az=88.0*
*JMA **25** 20:09:49.9±0.4, 34°.12N×141°.48E, h47km±3km, M3.0*
ISC 25 20:09:48.7±3.2, 34°.06N±0°.06×141°.58E±0°.10, h27km±23km, n26, σ1s15/27, mb3.9/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.77**	**320**	P	**Pn**	**20 10 03.3**	**0.0**
BSO1				eK		20 10 13.4	
BSO3	**Boso 3**	**1.15**	**310**	P	**Pn**	**20 10 08.7**	**0.0**
BSO3				eS	**Sn**	**20 10 22.1**	**-1.4**
BSO4	**Boso 4**	**1.38**	**312**	P	**Pn**	**20 10 12.6**	**+0.5**
BSO4				eS	**Sn**	**20 10 29.1**	**-0.3**
JKUC	**kamogawauchiur**	**1.58**	**314**	P	**Pn**	**20 10 15.3**	**+0.4**
JKUC				S	**Sn**	**20 10 33.6**	**-0.8**
JMKN	**Mikurajimanish**	**1.66**	**265**	P	**Pn**	**20 10 16.3**	**+0.3**
JMKN				eS	**Sn**	**20 10 35.5**	**-1.0**
JHJ2	**Mitsune**	**1.75**	**238**	P	**Pn**	**20 10 18.3**	**+1.1**
JHJ	**Hachijo jima 2**	**1.77**	**238**	Pn	**Pn**	**20 10 18.3**	**+0.7**
	67nm,0.3s,baz=108,slow=22,SNR=7.6						
JHJ				Sn	**Sb**	**20 10 42.1**	**-0.2**
	84nm,0.3s,baz=84,slow=22,SNR=5.5						
JIM2	**Oshima 3**	**1.89**	**291**	P	**Pn**	**20 10 19.2**	**0.0**
JTHY	**Toshimahigashi**	**1.95**	**284**	eS	**Sn**	**20 10 42.3**	**-1.3**
JIZS	**Izushimoda**	**2.33**	**287**	P	**Pn**	**20 10 25.9**	**+0.7**
JOD2	**Odawara 2**	**2.38**	**301**	P	**Pn**	**20 10 25.9**	**0.0**
MJAR	**Matsushiro Arr**	**3.70**	**313**	Pn	**Pn**	**20 10 45.0**	**+0.9**
	1.0nm,0.3s,baz=280,slow=7.6,SNR=74						
MJAR				Sn	**Sn**	**20 11 30.4**	**+3.5**
	0.1nm,0.3s,baz=90,slow=14,SNR=1.7						
MAT	**Matsushiro**	**3.71**	**313**	S	**Sn**	**20 11 27.7**	**+0.8**
MAT	**Matsushiro**	**3.71**	**313**	P	**Pn**	**20 10 45.9**	**+1.8**
ASAJ	**Asahikawa**	**10.07**	**4**	Pn	**Pn**	**20 12 09.3**	**-2.1**
	0.4nm,0.3s,baz=177,slow=13,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**26.62**	**116**	T	T	20 43 16.6	
	baz=308						
H11N1	**WAKE ISLAND Hy**	**26.62**	**116**	T	T	20 43 22.5	
	baz=308						
H11N3	**WAKE ISLAND Hy**	**26.64**	**116**	T	T	20 43 20.4	
	baz=308						
CMAR	**Chiang Mai Arr**	**40.97**	**259**	LR	LR	20 37 49.5	
	comp=Z,9.7nm,18.3s,baz=175,slow=41						
MKAR	**Makanchi Array**	**45.86**	**305**	P	**P**	**20 18 08.3**	**-0.2**
	0.3nm,0.6s,baz=78,slow=9.7,SNR=2.5						
KURBB	**Kurchatov Arra**	**47.98**	**310**	P	**P**	**20 18 25.5**	**+0.6**
	1.4nm,0.2s,baz=48,slow=1.4,SNR=1.4						
KDAK	**Kodiak Island**	**49.24**	**40**	LR	LR	20 40 58.1	
	comp=Z,67nm,18.0s,baz=238,slow=38						
ILAR	**Eielson Array**	**51.94**	**31**	P	**P**	**20 18 54.8**	**0.0**
	0.2nm,0.7s,baz=256,slow=6.4,SNR=2.1						
FITZ	**Fitzroy Crossi**	**54.05**	**199**	P	**P**	**20 19 10.2**	**-0.5**
	1.6nm,0.8s,baz=355,slow=8.0,SNR=6.8						
WRA	**Warramunga Arr**	**54.15**	**188**	P	**P**	**20 19 11.0**	**-0.5**
	0.8nm,0.4s,baz=2.3,slow=7.2,SNR=26						
ASAR	**Alice Springs**	**57.87**	**188**	P	**P**	**20 19 38.2**	**+0.1**
	0.3nm,0.4s,baz=0.9,slow=6.8,SNR=14						

JMA 25 20:10:03.2, 35°.04N×135°.64E, h7km, M0.8, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.31**	**321**	P	Pg	20 10 09.4	+0.1
JHE	**Heguri**	**0.39**	**175**	P	Pg	20 10 11.1	+0.4
JKS	**Kasai**	**0.66**	**265**	P	Pg	20 10 15.6	-0.2
JKS				S	Sg	20 10 24.2	-0.2

*IDC **25** 20:10:26.7±10.0, 33°.00N×73°.35E, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.2/72, mbtmpg3.6/5, ML3.3/2, MS3.2/2, Ms1 3.2/2, ms1mx2.4/38, Error ellipse: s-maj=375.0km s-min=23.9km az=83.0*
ISC 25 20:10:33.8±5.6, 33°.1N±0°.2×7°4E±°, h35km, n7, σ0s66/6, mb3.4/3, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**9.57**	**3**	Pn	**Pn**	**20 12 49.2**	**0.0**
	0.3nm,0.3s,baz=130,slow=23,SNR=2.5						
AAK				Sn	**Sn**	**20 14 36.2**	**+0.6**
	0.2nm,0.3s,baz=314,slow=14,SNR=1.4						
KURBB	**Kurchatov Arra**	**17.88**	**10**	P	**Pn**	**20 14 38.8**	**-0.8**
	0.1nm,0.3s,baz=185,slow=9.3,SNR=1.5						
ZALV	**Zalesovo Beam**	**22.29**	**17**	P	**P**	**20 15 27.4**	**-0.4**
	0.4nm,0.3s,baz=217,slow=12,SNR=3.6						
BELG	**Belogornoye**	**27.05**	**323**	LR	LR	20 29 51.4	
	comp=Z,16nm,19.6s,baz=157,slow=43						
ASAJ	**Asahikawa**	**53.41**	**57**	LR	LR	20 46 24.0	
	comp=Z,80nm,21.2s,baz=50,slow=40						
WRA	**Warramunga Arr**	**78.15**	**123**	P	**P**	**20 22 30.1**	**+0.4**
	0.3nm,0.5s,baz=321,slow=5.4,SNR=5.3						
ASAR	**Alice Springs**	**80.34**	**126**	P	**P**	**20 22 41.6**	**0.0**
	0.3nm,0.8s,baz=306,slow=5.7,SNR=4.1						

*TUL **25** 20:14:52±1.1, 36°.282N±0°.006×97°.51W±0°.02, h8km±6km, ML2.8, mb_Lg2.7/35(NEIC), Error ellipse: s-maj=1.9km s-min=0.9km az=95.0*
NEIC 25 20:14:51.8±1.2, 36°.285N±0°.005×97°.51W±0°.02, h7km±6km, Error ellipse: s-maj=2.1km s-min=0.5km az=70.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.44**	**300**		Pg	20 15 00.6	+0.2
CROK				Sg	Sg	20 15 06.9	+0.7
OK029	**Liberty Lake**	**0.49**	**175**		Pg	20 15 01.4	+0.1
OK029				Sg	Sg	20 15 08.0	+0.4
BLOK	**Blackwell**	**0.53**	**26**		Pg	20 15 02.2	+0.1
BLOK				Sg	Sg	20 15 09.7	+0.7
BCOK	**Bluff Creek, N**	**0.63**	**187**		Pg	20 15 03.9	-0.1
BCOK				Sg	Sg	20 15 12.6	+0.4
GC02	**Grant County #**	**0.63**	**334**		Pg	20 15 04.0	0.0
GC02				Sg	Sg	20 15 12.4	+0.1
OK031	**S. Brethren Rd**	**0.64**	**121**		Pg	20 15 04.1	0.0
OK031				Sg	Sg	20 15 12.6	+0.3
QUOK	**Quay**	**0.66**	**100**		Pg	20 15 04.5	+0.1
QUOK				Sg	Sg	20 15 13.4	+0.4
OK030	**Cody Creek RV**	**0.69**	**121**		Pg	20 15 05.2	+0.2
OK030				Sg	Sg	20 15 14.6	+0.6
OK025	**Westminster Rd**	**0.72**	**169**		Pg	20 15 05.5	0.0
OK025				Sg	Sg	20 15 15.3	+0.4
KAN13	**South Haven SW**	**0.73**	**2**		Pg	20 15 05.9	+0.1
KAN14	**Manchester OK**	**0.76**	**332**		Pg	20 15 06.5	0.0
KAN14				Sg	Sg	20 15 16.8	+0.4
OK032	**Salt Plains WL**	**0.77**	**313**		Pg	20 15 06.6	+0.1
OK032				Sg	Sg	20 15 17.0	+0.5
KAN17	**Caldwell West**	**0.79**	**345**		Pg	20 15 06.9	0.0
KAN17				Sg	Sg	20 15 17.4	+0.2
KAN09	**Caldwell North**	**0.85**	**354**		Pg	20 15 08.1	-0.1
KAN09				Sg	Sg	20 15 19.9	+0.6
OKCFA	**Oklahoma City**	**0.87**	**177**		Pg	20 15 08.4	-0.1
KAN05	**Bluff City Nor**	**0.87**	**341**		Pg	20 15 08.6	0.0
KAN05				Sg	Sg	20 15 20.4	+0.4
OKCSW	**OKLAHOMA CITY**	**0.88**	**176**		Pg	20 15 08.5	-0.2
OKCSW				Sg	Sg	20 15 20.6	+0.5
KS20	**Mayfield South**	**0.94**	**358**		Pg	20 15 09.2	-0.2
KS20				Sg	Sg	20 15 22.8	-0.5
KAN10	**Anthony SW Sta**	**0.96**	**331**		Pg	20 15 10.1	-0.2
KAN10				Sg	Sg	20 15 23.0	+0.2
KAN06	**Argonia West S**	**1.00**	**344**	Pg	Pg	20 15 10.8	-0.2
KAN06				Sg	Sb	20 15 24.6	-0.3
KAN08	**Anthony NE Sta**	**1.01**	**339**		Pg	20 15 11.0	-0.3
KAN08				Sg	Sg	20 15 24.2	-0.1
T35A	**Sooner Cattle**	**1.02**	**52**		Pg	20 15 11.0	-0.4
T35A				Sg	Sg	20 15 24.5	-0.1
FNO	**Franklin**	**1.03**	**175**		Pg	20 15 11.1	-0.5
FNO				Sg	Sb	20 15 25.3	-0.3
KAN16	**Harper SW Stat**	**1.04**	**335**		Pg	20 15 11.3	-0.5
KAN16				Sg	Sb	20 15 25.7	-0.3
KAN12	**Harper NE Stat**	**1.08**	**339**	Pg	Pg	20 15 12.2	-0.4
KAN12				Sg	Sg	20 15 26.7	0.0
U32A	**Winter Ranch,**	**1.21**	**275**		Pg	20 15 14.2	-0.8
TUL1	**Leonard**	**1.44**	**105**		Pn	20 15 17.9	-0.4
TUL1				Sn	Sn	20 15 37.3	-0.1
X34A	**Smith Ranch, M**	**1.70**	**189**		Pb	20 15 23.0	-0.4
WMOK	**Wichita Mounta**	**1.86**	**214**		Pn	20 15 24.1	0.0
WMOK				Sn	Sb	20 15 49.2	-0.3
LOOK	**Love County**	**2.30**	**173**		Pn	20 15 30.5	+0.3
LOOK				IAmb_Lg		20 16 10.8	
	comp=Z,27nm,1.2s						
R32A	**Long Quarter,**	**2.34**	**336**	Pn	Pn	20 15 31.8	+1.1
X37A	**Clayton**	**2.43**	**133**	Pn	Pn	20 15 32.6	+0.7
U38A	**Gravette**	**2.52**	**86**		Pn	20 15 35.1	+1.8
HHAR	**Hobbs**	**2.88**	**89**		Pn	20 15 39.6	+1.5
KSU1	**Kansas State U**	**2.90**	**14**		Pn	20 15 37.5	-0.9
Z35A	**Perchaven, San**	**2.96**	**176**	Pn	Pn	20 15 38.0	-1.1
CBKS	**Cedar Bluff**	**3.08**	**326**	Pn	Pn	20 15 39.1	-1.9
W39A	**Magazine**	**3.22**	**109**		Pn	20 15 42.3	-0.5
W39A				IAmb_Lg		20 16 42.0	
	comp=Z,21nm,0.8s						
S39A	**Bolivar**	**3.63**	**66**		Pn	20 15 47.4	-1.1
MIAR	**Mount Ida**	**3.65**	**117**	Pn	Pn	20 15 46.8	-1.9
Z38A	**Mt. Pleasant**	**3.66**	**145**	Pn	Pn	20 15 48.0	-0.8
Z38A				IAmb_Lg		20 16 53.6	
	comp=Z,35nm,0.7s						
AMTX	**Amarillo**	**3.68**	**249**	Pn	Pn	20 15 48.5	-0.6
AMTX				IAmb_Lg		20 16 52.8	
	comp=Z,19nm,1.1s						
U40A	**Yellville**	**3.76**	**88**		Pn	20 15 49.8	-0.4
U40A				IAmb_Lg		20 16 58.5	
	comp=Z,14nm,0.9s						
ABTX	**Abilene, Hawle**	**4.06**	**206**	Pn	Pn	20 15 51.7	-2.6
ABTX				IAmb_Lg		20 17 06.0	
	comp=Z,12nm,0.9s						
X40A	**Basin Creek Fa**	**4.22**	**114**	Pn	Pn	20 15 56.1	-0.4
X40A				IAmb_Lg		20 17 07.2	
	comp=Z,17nm,0.9s						
WHTX	**Lake Whitney,**	**4.28**	**179**	Pn	Pn	20 15 56.0	-1.4
WHTX				IAmb_Lg		20 17 19.6	
	comp=Z,14nm,0.8s						
MGMO	**Mountain Grove**	**4.30**	**77**	Pn	Pn	20 15 54.9	-2.8
MGMO				IAmb_Lg		20 17 10.8	
	comp=Z,11nm,0.7s						
WHAR	**Wooly Hollow**	**4.36**	**102**	Pn	Pn	20 15 56.5	-1.9
FCAR	**Ozark Folk Cen**	**4.38**	**94**	Pn	Pn	20 15 58.1	-0.5
P38A	**Dawn**	**4.58**	**42**	Pn	Pn	20 16 00.8	-0.7
P38A				IAmb_Lg		20 17 19.8	
	comp=Z,12nm,0.8s						
**R

CBKS	**Cedar Bluff**	**2.69**	**326**	Pn	Pn	20 19 01.0	-1.1
U38A	**Gravette**	**2.75**	**92**		Pn	20 19 02.3	-0.5
X37A	**Clayton**	**2.81**	**135**	Pn	Pn	20 19 02.8	-1.0
HHAR	**Hobbs**	**3.12**	**95**		Pn	20 19 07.4	-0.6
W39A	**Magazine**	**3.54**	**112**	Pn	Pn	20 19 13.5	-0.2
S39A	**Bolivar**	**3.73**	**72**		Pn	20 19 16.6	+0.3
S39A				IAmb_Lg		20 20 15.7	
	comp=Z,9.4nm,0.9s						
U40A	**Yellville**	**3.98**	**92**	Pn	Pn	20 19 21.6	+1.7
U40A				IAmb_Lg		20 20 25.7	
	comp=Z,13nm,0.8s						
P38A	**Dawn**	**4.51**	**47**	Pn	Pn	20 19 27.7	+0.6
X40A	**Basin Creek Fa**	**4.56**	**116**	Pn	Pn	20 19 27.0	-0.7
WHAR	**Wooly Hollow**	**4.65**	**105**	Pn	Pn	20 19 27.2	-1.7
R40A	**Maddies Statio**	**4.71**	**67**		Pn	20 19 28.5	-1.2
T25A	**Trinidad**	**5.34**	**278**	Pn	Pn	20 19 36.8	-1.8
T42A	**Van Buren**	**5.39**	**83**	Pn	Pn	20 19 36.3	-2.8
P40A	**Paris**	**5.39**	**55**	IAmb_Lg		20 21 12.0	
	comp=Z,12nm,0.8s						
PHWY	**Pilot Hill**	**7.60**	**310**	IAmb_Lg		20 22 36.1	
	comp=Z,3.9nm,0.8s						
735A	**Kenedy**	**7.72**	**180**	IAmb_Lg		20 22 26.6	
	comp=Z,16nm,0.7s						
RSSD	**Black Hills**	**8.89**	**330**	IAmb_Lg		20 23 02.7	
	comp=Z,13nm,1.0s						

TUL ***25*** *20:19:44.3±0.8,36°.28N±0°.01×97°.52W±0°.02,h12km±3km, ML2.7,mb_Lg2.8/35(NEIC),Error ellipse: s-maj=2.0km s-min=1.5km az=67.0*

NEIC 25 20:19:44.0±0.8,36°.28N±0°.01×97°.51W±0°.02,h10km±6km, Error ellipse: s-maj=2.0km s-min=1.5km az=78.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.45**	**301**		Pg	20 19 52.9	+0.2
CROK				Sg	Sg	20 19 59.2	+0.6
OK029	**Liberty Lake**	**0.48**	**175**		Pg	20 19 53.7	+0.4
OK029				Sg	Sg	20 20 00.4	+0.7
BLOK	**Blackwell**	**0.54**	**26**		Pg	20 19 54.7	+0.3
BLOK				Sg	Sg	20 20 02.0	+0.6
BCOK	**Bluff Creek, N**	**0.62**	**188**		Pg	20 19 56.3	+0.2
BCOK				Sg	Sg	20 20 05.0	+0.7
OK031	**S. Brethren Rd**	**0.63**	**121**		Pg	20 19 56.5	+0.3
OK031				Sg	Sg	20 20 04.9	+0.5
GC02	**Grant County #**	**0.64**	**334**		Pg	20 19 56.3	-0.1
GC02				Sg	Sg	20 20 04.9	+0.2
QUOK	**Quay**	**0.66**	**99**		Pg	20 19 56.9	+0.2
QUOK				Sg	Sg	20 20 05.2	-0.1
OK030	**Cody Creek RV**	**0.68**	**121**		Pg	20 19 57.4	+0.3
OK030				Sg	Sg	20 20 05.5	-0.6
OK025	**Westminster Rd**	**0.71**	**169**		Pg	20 19 57.8	+0.1
OK025				Sg	Sg	20 20 07.2	+0.3
KAN13	**South Haven SW**	**0.73**	**2**		Pg	20 19 58.3	+0.1
KAN13				Sg	Sg	20 20 08.2	+0.4
KAN14	**Manchester OK**	**0.77**	**332**		Pg	20 19 58.8	0.0
KAN14				Sg	Sg	20 20 09.2	+0.3
OK032	**Salt Plains WL**	**0.77**	**313**		Pb	20 19 59.6	+0.1
OK032				Sg	Sg	20 20 09.3	+0.3
KAN17	**Caldwell West**	**0.79**	**345**		Pg	20 19 59.1	-0.2
KAN09	**Caldwell North**	**0.86**	**354**		Pg	20 20 00.5	-0.1
OKCFA	**Oklahoma City**	**0.86**	**177**		Pg	20 20 00.8	+0.2
OKCFA				IAmb_Lg		20 20 12.7	
	comp=Z,104nm,1.1s						
OKCSW	**OKLAHOMA CITY**	**0.87**	**176**		Pb	20 20 01.1	-0.1
OKCSW				Sg	Sb	20 20 12.6	-0.4
KAN05	**Bluff City Nor**	**0.88**	**341**		Pg	20 20 00.9	-0.1
KAN05				Sg	Sg	20 20 12.7	+0.3
KS20	**Mayfield South**	**0.95**	**358**		Pg	20 20 12.1	-0.2
KS20				Sg	Sb	20 20 15.1	-0.2
KAN10	**Anthony SW Sta**	**0.97**	**331**		Pg	20 20 02.4	-0.2
KAN10				Sg	Sg	20 20 15.2	0.0
KAN06	**Argonia West S**	**1.01**	**344**		Pg	20 20 03.1	-0.2
KAN06				Sg	Sb	20 20 16.9	0.0
KAN08	**Anthony NE Sta**	**1.02**	**339**		Pg	20 20 03.4	-0.2
KAN08				Sg	Sg	20 20 16.7	-0.1
FNO	**Franklin**	**1.02**	**175**	Pn	Pg	20 20 03.4	-0.2
T35A	**Sooner Cattle**	**1.02**	**51**		Pb	20 20 03.9	+0.1
T35A				Sg	Sg	20 20 16.8	-0.2
KAN16	**Harper SW Stat**	**1.05**	**335**		Pg	20 20 03.9	-0.2
KAN16				Sg	Sb	20 20 17.9	-0.1
U32A	**Winter Ranch,**	**1.21**	**275**		Pb	20 20 06.7	-0.3
TUL1	**Leonard**	**1.44**	**104**		Pn	20 20 09.1	-1.0
TUL1				Sn	Sg	20 20 29.9	-0.3
X34A	**Smith Ranch, M**	**1.69**	**189**		Pn	20 20 12.4	-1.2
WMOK	**Wichita Mounta**	**1.85**	**214**		Pn	20 20 15.7	-0.2
LOOK	**Love County**	**2.30**	**173**	Pn	Pn	20 20 23.1	+1.2
R32A	**Long Quarter,**	**2.35**	**336**	Pn	Pn	20 20 23.2	+0.6
X37A	**Clayton**	**2.42**	**133**		Pn	20 20 23.7	0.0
U38A	**Gravette**	**2.52**	**85**		Pn	20 20 25.8	+0.7
HHAR	**Hobbs**	**2.88**	**89**	Pn	Pn	20 20 29.8	-0.2
Z35A	**Perchaven, San**	**2.95**	**176**	Pn	Pn	20 20 31.1	+0.2
W39A	**Magazine**	**3.22**	**109**	IAmb_Lg		20 21 30.4	
	comp=Z,33nm,0.8s						
S39A	**Bolivar**	**3.63**	**66**	Pn	Pn	20 20 41.6	+1.3
MIAR	**Mount Ida**	**3.65**	**117**	Pn	Pn	20 20 42.1	+1.7
AMTX	**Amarillo**	**3.67**	**249**	Pn	Pn	20 20 40.4	-0.5
AMTX				IAmb_Lg		20 21 42.0	
	comp=Z,14nm,0.7s						
U40A	**Yellville**	**3.76**	**87**	IAmb_Lg		20 21 45.0	
	comp=Z,30nm,0.9s						
ABTX	**Abilene, Hawle**	**4.05**	**206**	Pn	Pn	20 20 43.6	-2.4
ABTX				IAmb_Lg		20 21 54.0	
	comp=Z,21nm,1.0s						
X40A	**Basin Creek Fa**	**4.21**	**114**	IAmb_Lg		20 22 08.3	
	comp=Z,28nm,0.7s						
MGMO	**Mountain Grove**	**4.30**	**77**	IAmb_Lg		20 22 10.9	
	comp=Z,13nm,0.8s						
WHAR	**Wooly Hollow**	**4.36**	**102**	IAmb_Lg		20 22 09.6	
	comp=Z,21nm,0.8s						
P38A	**Dawn**	**4.59**	**42**	IAmb_Lg		20 22 20.4	
	comp=Z,24nm,0.8s						
T42A	**Van Buren**	**5.21**	**80**	Pn	Pn	20 21 00.6	-1.4
T42A				IAmb_Lg		20 22 33.4	
	comp=Z,10nm,0.7s						
CCM	**Cathedral Cave**	**5.31**	**69**		Pn	20 21 01.5	-1.8
CCM				IAmb_Lg		20 22 39.3	
	comp=Z,17nm,0.9s						
P40A	**Paris**	**5.40**	**51**	Pn	Pn	20 21 04.5	-0.1
P40A				IAmb_Lg		20 22 47.0	
	comp=Z,23nm,0.7s						
N38A	**Joes South For**	**5.62**	**35**	IAmb_Lg		20 22 45.8	
	comp=Z,23nm,0.7s						
PBMO	**Poplar Bluff**	**5.72**	**83**	IAmb_Lg		20 22 57.5	
	comp=Z,22nm,0.7s						
FVM	**French Village**	**5.91**	**71**		Pn	20 21 10.0	-1.6
SLM	**Saint Louis**	**6.25**	**66**	IAmb_Lg		20 23 08.0	
	comp=Z,18nm,0.7s						
S44A	**Carbondale**	**6.75**	**75**	IAmb_Lg		20 23 27.2	
	comp=Z,13nm,0.9s						
P43A	**Skaggs, Pawnee**	**7.15**	**60**	IAmb_Lg		20 23 41.7	
	comp=Z,18nm,0.8s						
ISCO	**Idaho Springs**	**7.30**	**301**	IAmb_Lg		20 23 55.5	
	comp=Z,8.5nm,1.1s						
PHWY	**Pilot Hill**	**7.98**	**311**	IAmb_Lg		20 24 07.4	
	comp=Z,10.0nm,0.7s						

AEIC ***25*** *20:23:33.7±1.7,51°.8N±0°.1×174°.47W±0°.07,h44km±8km, Error ellipse: s-maj=16.8km s-min=3.1km az=158.0*

NEIC 25 20:23:34.2±0.9,52°.0N±0°.1×174°.47W±0°.06,h60km±9km, mb4.1/3,MLJ3.4/15(AEIC),Error ellipse: s-maj=16.5km s-min=5.6km az=175.0,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.31**	**33**		Pn	20 23 43.6	-0.7
ATKA					Sn	20 23 51.8	+0.1
KOFP	**Korovin Flat P**	**0.40**	**34**		Pn	20 23 45.0	-0.2
KOKL	**Mount Kliuchef**	**0.41**	**23**		Pn	20 23 45.2	-0.2
GSMY	**Great Sitkin M**	**0.99**	**276**		Pn	20 23 51.4	-0.7
GSTR	**Great Sitkin T**	**1.00**	**279**		Pn	20 23 52.1	-0.1
GSTR					Sn	20 24 06.0	+0.4
GSTD	**Great Sitkin T**	**1.04**	**277**		Pn	20 23 52.5	-0.4
GSTD					Sn	20 24 07.0	+0.2
ADK	**Adak**	**1.38**	**268**		Pn	20 23 56.9	-0.3
ADK					Sn	20 24 14.8	+0.3
KIWB	**Kanaga Island**	**1.67**	**268**		Pn	20 24 01.3	+0.2
KIKV	**Kanaga Island**	**1.68**	**269**		Pn	20 24 01.3	0.0
KICM	**Kanaga Island**	**1.69**	**270**		Pn	20 24 01.5	0.0
KIMD	**Kanaga Island**	**1.73**	**265**		Pn	20 24 02.2	+0.3
TASE	**Tanaga Southea**	**2.22**	**269**		Pn	20 24 08.9	+0.3
NIKH	**Nikolski High**	**3.58**	**71**		Pn	20 24 29.1	+1.8
AMKA	**Amchitka**	**3.92**	**264**	Pn	Pn	20 24 31.1	-0.8
UNV	**Unalaska Valle**	**5.18**	**65**	Pn	Pn	20 24 50.3	+1.2
AKUT	**Akutan**	**5.68**	**64**	Pn	Pn	20 24 56.1	+0.2
SPIA	**Saint Paul Isl**	**5.79**	**23**	Pn	Pn	20 24 57.3	-0.1
CNBA	**Chernabura Isl**	**9.34**	**66**	Pn	Pn	20 25 42.1	-3.9
Q19K	**Cape Douglas,**	**13.69**	**51**	Pn	Pn	20 26 45.2	-0.1
SVW2	**Sparrevohn**	**13.83**	**41**	Pn	Pn	20 26 45.0	-2.0
KDAK	**Kodiak Island**	**13.86**	**56**	Pn	Pn	20 26 44.3	-3.1
L19K	**White Mountain**	**14.72**	**38**	Pn	Pn	20 26 59.2	+0.3
M19K	**Big River Lodg**	**14.75**	**40**	Pn	Pn	20 27 00.9	+1.8
CNPM	**China Poot**	**15.06**	**51**	Pn	Pn	20 27 03.1	-0.2
CNPM					IAmb	20 27 17.1	
	comp=Z,20nm,1.3s						
BRLK	**Bradley Lake**	**15.31**	**50**	Pn	Pn	20 27 05.8	-0.7
BRLK				IAmb	IAmb	20 27 21.4	
	comp=Z,24nm,1.3s						
J20K	**Nowinta River**	**16.20**	**33**		P	20 27 19.5	-0.3
J20K				IAmb	IAmb	20 27 39.8	
	comp=Z,9.6nm,1.6s						

BJI ***25*** *20:28:36.9±0.0,23°.23N×94°.46E,h72km,mB4.9/3, mb4.3/11*

NDI ***25*** *20:28:38.7±2.0,23°.09N×94°.46E,h33km,ML4.0*

NEIC ***25*** *20:28:38.9±1.8,23°.15N±0°.08×94°.52E±0°.07,h90km±4km, mb4.1/24,Error ellipse: s-maj=12.4km s-min=7.0km az=211.0*

IDC ***25*** *20:28:39.3±1.6,23°.03N×94°.51E,h102km±17km,mb3.5/15, mb1 3.6/17,mb1mx3.4/44,mbtmp3.9/17,MS3.0/1, Ms1 3.0/1,ms1mx2.3/41,Error ellipse: s-maj=19.8km s-min=9.4km az=36.0*

ISC 25 20:28:39.3±0.5,23°.20N±0°.06×94°.54E±0°.05,h100km,n66, σ1§55/70,mb4.0/24,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**2.72**	**259**	P	**Pn**	**20 29 20.5**	**-0.8**
	24nm,0.3s,baz=224,slow=7.1,SNR=12						
BRDH				S	**Sn**	**20 29 53.0**	**-0.6**
	128nm,0.3s,baz=85,slow=23,SNR=19						
AGT	**Agartala**	**3.09**	**283**	*e*P	**Pn**	**20 29 23.6**	**-2.6**
AGT				*e*S	**Sn**	**20 30 00.0**	**-2.4**
AGT				IAML		20 30 04.2	
	comp=E,600nm,0.3s						
AGT				IAML		20 30 04.4	
	comp=N,363nm,0.3s						
SHL	**Shillong**	**3.37**	**315**	Pn	**Pn**	**20 29 29.9**	**-0.4**
SHL				Sn	**Sn**	**20 30 06.0**	**-3.5**
SHL	**Shillong**	**3.37**	**315**	*e*P	**Pn**	**20 29 30.1**	**-0.2**
SHL				*e*S	**Sn**	**20 30 05.8**	**-3.7**
SHL				IAML		20 30 09.5	
	comp=N,1μm,0.5s						
SHL				IAML		20 30 10.3	
	comp=E,780nm,0.3s						
ITAN	**ITANAGAR**	**3.99**	**350**	*e*P	**Pn**	**20 29 39.2**	**+0.9**
ITAN				*e*S	**Sn**	**20 30 23.4**	**-0.8**
ITAN				IAML		20 30 33.6	
	comp=E,328nm,0.6s						
ITAN				IAML		20 30 33.9	
	comp=N,517nm,0.4s						
CM15	**Chiang Mai Arr**	**6.26**	**138**	P	**Pn**	**20 30 10.2**	**+1.0**
	comp=N,0.1nmcomp=N,162nmcomp=N,13nm,0.5s						
CM31	**Chiang Mai Arr**	**6.27**	**138**		**Pn**	**20 30 07.3**	**-2.0**
CMAR	**Chiang Mai Arr**	**6.27**	**138**	P	**Pn**	**20 30 07.2**	**-2.2**
	comp=N,0.7nm,0.3s,baz=311,slow=13,SNR=21						
CMAR				S	**Sn**	**20 31 17.7**	**-1.9**
	comp=N,0.9nm,0.3s,baz=315,slow=23,SNR=3.3						
CMAR	**Chiang Mai Arr**	**6.27**	**138**		**Pn**	**20 30 07.7**	**-1.6**
PAYA	**Payao**	**6.27**	**127**	P	**Pn**	**20 30 08.8**	**-0.6**
	comp=N,0.1nmcomp=N,366nmcomp=N,37nm,0.8s						
PAYA	**Payao**	**6.27**	**127**	P	**Pn**	**20 30 08.9**	**-0.5**
	comp=N,91nmcomp=N,9.2nm,0.8s						
GTK	**Tadong**	**6.75**	**309**	*e*P	**Pn**	**20 30 15.7**	**-0.3**
GTK				*e*S	**Sn**	**20 31 26.4**	**-5.2**
GTK				IAML		20 31 35.5	
	comp=E,212nm,0.6s						
GTK				IAML		20 31 36.0	
	comp=N,190nm,0.6s						
LSA	**Lhasa**	**7.14**	**336**	P	**Pn**	**20 30 22.5**	**+0.9**
LSA				S	**Sn**	**20 31 37.0**	**-4.4**
LSA				smax	smax		
	comp=N,210nm,0.7s						
LSA				smax	smax		
	comp=N,180nm,0.6s						
LSA	**Lhasa**	**7.14**	**336**		**Pn**	**20 30 22.1**	**+0.5**
NANT	**Nan**	**7.24**	**126**	P	**Pn**	**20 30 20.0**	**-2.5**
	comp=N,0.2nmcomp=N,36nm,0.8s						
SLVN	**Son La**	**8.88**	**100**	Pn	**Pn**	**20 30 44.2**	**-0.6**
UTHA	**Uthaitani**	**8.90**	**148**	P	**Pn**	**20 30 47.3**	**+2.1**
	comp=N,0.1nmcomp=N,285nmcomp=N,13nm,0.9s						
UTHA	**Uthaitani**	**8.90**	**148**	P	**Pn**	**20 30 47.0**	**+1.8**
PBKT	**Sadao Pong**	**8.95**	**136**	Pn	**Pn**	**20 30 44.3**	**-1.5**
QIZ	**Qiongzhong**	**14.87**	**103**		**P**	**20 32 08.1**	**+0.4**
ENH	**Enshi**	**15.09**	**59**		**P**	**20 32 09.6**	**-0.5**
XAN	**Xi'an**	**16.60**	**46**	P	**Pn**	**20 32 26.3**	**+0.3**
XAN				pmax	pmax		
	comp=N,7.0nm,0.8s						
KSH	**Kashi**	**22.64**	**320**	P	**P**	**20 33 33.5**	**+1.4**
KSH				pmax	pmax		
	comp=N,5.0nm,0.9s						
KBL	**Kabul**	**24.95**	**303**	P	**P**	**20 33 55.2**	**+1.5**
MK31	**Makanchi Array**	**25.52**	**340**	P	**P**	**20 33 59.7**	**+1.3**
MK31				IAmb	IAmb	20 34 01.3	
	comp=Z,5.6nm,0.9s						
MKAR	**Makanchi Array**	**25.52**	**340**	P	**P**	**20 33 60.0**	**+1.5**
	comp=Z,5.6nm,0.7s,baz=145,slow=11,SNR=47						
AAK	**Ala-Archa**	**25.55**	**324**	P	**P**	**20 34 00.9**	**+2.0**
	comp=Z,2.0nm,0.8s,baz=249,slow=8.4,SNR=4.1						
AAK	**Ala-Archa**	**25.55**	**324**	IAmb	IAmb	20 34 39.5	
	comp=Z,5.9nm,1.1s						
MAKZ	**Makanchi**	**25.63**	**340**	P	**P**	**20 34 01.3**	**+1.8**
MAKZ				IAmb	IAmb	20 34 02.3	
	comp=Z,5.0nm,0.9s						
GAR	**Garm**	**25.92**	**313**	P	**P**	**20 34 03.1**	**+0.8**
GAR				IAmb	IAmb	20 34 04.5	
	comp=Z,9.5nm,1.0s						
SONM	**Songino Array**	**26.34**	**18**	P	**P**	**20 34 07.5**	**+1.5**
	comp=Z,0.3nm,0.4s,baz=206,slow=9.9,SNR=2.9						
KURBB	**Kurchatov Arra**	**30.08**	**339**	P	**P**	**20 34 40.2**	**+1.2**
	comp=Z,2.2nm,0.6s,baz=153,slow=8.3,SNR=18						
KURK	**Kurchatov**	**30.13**	**340**	P	**P**	**20 34 40.2**	**+0.8**
ZAA0	**Zalesovo Array**	**31.56**	**349**	P	**P**	**20 34 53.1**	**+1.1**
ZAA0				IAmb	IAmb	20 34 53.9	
	comp=Z,2.3nm,0.6s						
ZALV	**Zalesovo Beam**	**31.56**	**349**	P	**P**	**20 34 53.1**	**+1.0**
	comp=Z,1.5nm,0.4s,baz=170,slow=8.6,SNR=11						
ZALV	**Zalesovo Beam**	**31.56**	**349**	P	**P**	**20 34 52.3**	**+0.3**
ABKAR	**Akbulak array**	**37.61**	**322**	P	**P**	**20 35 45.5**	**+1.4**
ABKAR	**Akbulak array**	**37.61**	**322**	P	**P**	**20 35 45.5**	**+1.4**
ABKAR				IAmb	IAmb	20 35 46.4	
	comp=Z,1.8nm,1.0s						
AKTO	**Aktyubinsk**	**39.28**	**323**	LR	LR	20 53 49.9	
	comp=Z,20nm,18.6s,baz=170,slow=38						
MJAR	**Matsushiro Arr**	**39.81**	**60**	P	**P**	**20 36 03.4**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=280,slow=7.3,SNR=2.2						
FITZ	**Fitzroy Crossi**	**51.07**	**141**	P	**P**	**20 37 30.7**	**-1.1**
FITZ				IAmb	IAmb	20 37 40.9	
	comp=Z,7.0nm,1.4s						
KNRA	**Kununurra**	**51.13**	**136**	P	**P**	**20 37 31.4**	**-0.8**
BRTR	**Keskin Array B**	**53.52**	**303**	P	**P**	**20 37 50.0**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=138,slow=8.0,SNR=5.3						
BRTR	**Keskin Array B**	**53.52**	**303**	P	**P**	**20 37 50.7**	**+0.8**
AKASG	**Malin Array Be**	**56.86**	**316**	P	**P**	**20 38 13.2**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=86,slow=6.1,SNR=4.5						
WB0	**Warramunga Arr**	**57.76**	**134**	P	**P**	**20 38 19.2**	**-1.0**
WRA	**Warramunga Arr**	**57.85**	**135**	P	**P**	**20 38 19.9**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=314,slow=6.4,SNR=42						
WRA	**Warramunga Arr**	**57.85**	**135**	P	**P**	**20 38 19.9**	**-0.9**
WB2	**Warramunga Arr**	**57.86**	**135**	P	**P**	**20 38 19.9**	**-0.9**
WB2				IAmb	IAmb	20 38 20.4	
	comp=Z,2.9nm,0.7s						
WR0	**Warramunga Arr**	**57.99**	**135**	P	**P**	**20 38 20.6**	**-1.2**
BURAR	**Bucovina Array**	**59.45**	**313**	P	**P**	**20 38 31.4**	**-0.4**
FIA1	**FINESS Array S**	**59.61**	**329**	P	**P**	**20 38 33.0**	**+0.6**
FINES	**FINESS Array B**	**59.61**	**329**	P	**P**	**20 38 32.9**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=71,slow=5.6,SNR=6.5						
FINES	**FINESS Array B**	**59.61**	**329**	P	**P**	**20 38 32.4**	**0.0**
NWAO	**Narrogin (SRO)**	**59.87**	**158**	P	**P**	**20 38 33.7**	**-0.9**
AS31	**Alice Springs**	**60.28**	**138**	P	**P**	**20 38 37.1**	**-0.5**
AS31				IAmb	IAmb	20 39 14.5	
	comp=Z,1.3nm,1.2s						
ASAR	**Alice Springs**	**60.28**	**138**	P	**P**	**20 38 36.9**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=321,slow=6.8,SNR=34						
ASAR	**Alice Springs**	**60.28**	**138**	P	**P**	**20 38 37.1**	**-0.4**
ARCES	**ARCESS Array B**	**61.15**	**338**	P	**P**	**20 38 43.8**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=100,slow=7.9,SNR=10						
ARCES	**ARCESS Array B**	**61.15**	**338**	IAmb	IAmb	20 38 52.4	
	comp=Z,9.0nm,1.5s						
NOA	**NORSAR Array B**	**66.78**	**328**	P	**P**	**20 39 19.7**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=89,slow=4.4,SNR=3.5						
NC204	**NORSAR Array S**	**66.97**	**329**	P	**P**	**20 39 21.0**	**-0.1**
GERES	**GERESS Array B**	**66.99**	**315**	P	**P**	**20 39 21.9**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=67,slow=4.5,SNR=5.5						
CASP	**Castiglione de**	**70.13**	**309**	P	**P**	**20 39 42.1**	**+1.1**
TORD	**Torodi Ar. Bea**	**87.47**	**283**	P	**P**	**20 41 16.2**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=67,slow=4.9,SNR=2.0						
TORD	**Torodi Ar. Bea**	**87.47**	**283**	IAmb	IAmb	20 41 38.1	
	comp=Z,2.5nm,1.4s						

SJA ***25*** *20:30:57.6±1.1,30°.41S×72°.28W,h30km,ML5.0,MW5.2*

IDC ***25*** *20:30:57.1±0.5,30°.56S×71°.97W,h0km,mb4.4/11, mb1 4.5/16,mb1mx4.4/28,mbtmp4.4/16,ML4.2/5,MS4.1/19, Ms1 4.1/19,ms1mx4.0/28,Error ellipse: s-maj=20.3km s-min=16.4km az=91.0*

NEIC ***25*** *20:30:58.2±2.0,30°.59S±0°.04×72°.09W±0°.04,h11km±3km, mb4.9/90,Mwr4.7/51,ML5.2(GUC),Error ellipse: s-maj=6.0km s-min=4.9km az=130.0*

NEIC ***25*** *20:30:58.4,30°.57S×72°.10W,h18km,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr1.33; Mθθ0.17; Mϕϕ-1.50; Mrθ0.22; Mϕθ-0.07; Mϕr-0.65; Fault plane solution: M₀1.58000×10¹⁶ NP1:ϕs172.47000°, δ58.05000°, λ78.73000°. NP2:ϕs13.11000°, δ33.68000°, λ107.40000°. Principal axes: T 1.5132, Plg74.0000°, Azm52.0000°; N 0.1319, Plg10.0000°, Azm178.0000°; P -1.6450, Plg12.0000°, Azm271.0000°;*

GUC ***25*** *20:30:59.2±0.7,30°.65S×71°.93W,h34km±2km,ML5.0, MW5.0*

VAO ***25*** *20:31:02.7±0.5,30°.32S×71°.52W,h10km,mb4.8*

GCMT ***25*** *20:31:02.2±0.3,30°.58S±0°.02×72°.27W±0°.02,h28km, MW5.0/73,Moment Tensor Solution. s42,c48; s73,c93; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.16±.17; Mθθ0.33±.11; Mϕϕ-3.49±.12; Mrθ-0.24±.17; Mϕθ0.49±.07; Mϕr-2.15±.17; Best double couple: M₀3.99700×10¹⁶ NP1:ϕs344.00000°, δ30.00000°, λ75.00000°. NP2: ϕs181.00000°, δ62.00000°, λ98.00000°. Principal axes: T 3.8340, Plg72.0000°, Azm110.0000°; N 0.3260, Plg7.0000°, Azm357.0000°; P -4.1610, Plg16.0000°, Azm265.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 20:30:57.5±1.5,30°.59S±0°.03×72°.08W±0°.05,h7km±9km, n296,σ1§33/283,mb4.8/49,MS4.3/18,8C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.39**	**102**	*e*P	**Pb**	**20 31 07.2**	**+0.4**
CO06				*i* S	**Sb**	**20 31 12.3**	**-0.6**
CO06	**Fray Jorge**	**0.39**	**102**		**Pg**	**20 31 06.9**	**+1.8**
CO06				Sg	**Sb**	**20 31 12.1**	**-0.9**
CO05	**La Serena**	**0.99**	**47**	*e*P	**Pb**	**20 31 16.8**	**-0.1**
CO05				*e*S	**Sn**	**20 31 30.8**	**-1.2**
CO05				IAML		20 31 33.3	
	comp=E,83μm,0.7s						
CO05	**La Serena**	**0.99**	**47**		**Pb**	**20 31 17.1**	**+0.1**
CO05				Sg	**Sg**	**20 31 30.4**	**+1.0**
CO02	**Combarbal**	**1.11**	**124**		**Sb**	**20 31 32.5**	**-1.2**
GO04	**Tololo Observa**	**1.18**	**70**	*e*P	**Pn**	**20 31 20.0**	**-0.7**
GO04				*e*S	**Sn**	**20 31 35.6**	**-1.5**
GO04				IAML		20 31 41.9	
	comp=E,93μm,0.4s						
GO04	**Tololo Observa**	**1.18**	**70**		**Pn**	**20 31 20.1**	**-0.6**
GO04	**Tololo Observa**	**1.18**	**70**	*i* P	**Pn**	**20 31 20.5**	**-0.2**
GO04				*e*S	**Sg**	**20 31 38.2**	**+2.6**
CO03	**El Pedregal**	**1.22**	**102**	*e*P	**Pn**	**20 31 19.8**	**-1.3**
CO03				*e*S	**Sb**	**20 31 35.3**	**-1.7**
CO03	**El Pedregal**	**1.22**	**102**		**Pn**	**20 31 20.3**	**-0.7**
CO03				Sg	**Sb**	**20 31 35.3**	**-1.7**
LCO	**Las Campanas**	**1.98**	**38**	*i* P	**Pn**	**20 31 31.7**	**0.0**
LCO	**Las Campanas**	**1.98**	**38**	Pn	**Pn**	**20 31 31.6**	**0.0**
**

AC06 IAML 20 33 01.3
comp=E,2µm,0.5s
AC06 Mina Casimiro 3.56 26 Pn **Pn 20 31 52.9 -0.3**
LMEL Las Melosas 3.61 154 *i* P **Pn 20 31 54.8 +0.8**
LMEL *i* S **Sn 20 32 37.9 +0.9**
LMEL IAML 20 32 53.8
comp=N,2µm,0.3s
AAGR Agrelo 3.72 133 *i* P **Pb 20 32 00.2 -3.4**
VCA Vinchina 3.85 62 *i* P **Pn 20 32 01.0 +3.8**
VCA IAML 20 33 08.1
comp=Z,4µm,1.4s
BO01 Tunca 3.88 168 *i* P **Pn 20 31 57.9 +0.3**
BO01 *e*S **Sn 20 32 43.3 -0.1**
BO01 Tunca 3.88 168 Pn **Pn 20 31 57.8 +0.3**
BO01 Tunca 3.88 168 *i* P **Pn 20 31 58.5 +1.0**
BO02 Sierra Bellavi 4.33 166 **Pn 20 32 04.7 +0.9**
BO02 Sierra Bellavi 4.33 166 *i* P **Pn 20 32 05.0 +1.3**
GO05 Huala 4.41 178 Pn **Pn 20 32 04.4 -0.4**
AC02 Maricunga 4.55 35 Pn **Pn 20 32 07.9 +0.7**
AC02 Maricunga 4.55 35 *i* P **Pn 20 32 08.4 +1.2**
ACLC CERRO LA CRUZ 4.60 77 *i* P **Pn 20 32 10.0 +2.4**
ACLC IAML 20 33 32.1
comp=Z,2µm,1.1s
APLL PUNTA DE LOS L 4.79 89 *i* P **Pn 20 32 12.7 +2.5**
APLL IAML 20 33 45.0
comp=Z,8µm,3.7s
RFA San Rafael 5.16 145 *i* P **Pn 20 32 18.9 +3.8**
RFA IAML 20 33 51.5
comp=Z,579nm,1.3s
ML02 Panimavida 5.18 174 **Pn 20 32 15.8 +0.3**
CYA Choya 5.88 70 *i* P **Pn 20 32 26.2 +1.2**
CYA IAML 20 34 20.8
comp=Z,443nm,1.1s
PB14 IPOC Station P 6.13 14 **Pn 20 32 25.8 -2.9**
PB14 IPOC Station P 6.13 14 *i* P **Pn 20 32 28.3 -0.5**
PB14 IAML 20 34 13.5
comp=Z,557nm,1.0s
H03N1 Juan Fernandez 6.46 242 T T 20 39 30.6
baz=71,slow=72,SNR=1326
H03N2 Juan Fernandez 6.47 242 T T 20 39 31.3
baz=71,slow=72,SNR=2792
H03N3 Juan Fernandez 6.47 242 T T 20 39 36.9
baz=71,slow=72,SNR=423
VA04 Juan Fernndez 6.48 240 Pn **Pn 20 32 32.2 -1.1**
FSA Cafayete 6.99 52 *i* P **Pn 20 32 42.5 +2.0**
AHML Horco Molle 7.03 59 *i* P **Pn 20 32 42.4 +1.5**
AHML IAML 20 34 49.6
comp=Z,266nm,0.8s
PB10 IPOC Station P 7.18 11 Pn **Pn 20 32 41.0 -1.9**
PB15 IPOC Station P 7.71 18 **Pn 20 32 48.3 -2.2**
PB15 IPOC Station P 7.71 18 *i* P **Pn 20 32 48.1 -2.3**
PB05 IPOC Station P 7.89 13 *i* P **Pn 20 32 49.0 -3.8**
PB05 IAML 20 35 19.1
comp=Z,381nm,1.2s
PB06 IPOC Station P 8.17 17 Pn **Pn 20 32 54.4 -2.2**
LC01 Cunco 8.29 179 Pn **Pn 20 32 57.4 -0.7**
PB04 IPOC Station P 8.41 12 Pn **Pn 20 32 57.9 -2.0**
LVC Limon Verde 8.44 20 Pn **Pn 20 32 58.5 -2.1**
comp=Z,0.8nm,0.3s,baz=195,slow=6.5,SNR=8.7
LVC Sn **Sn 20 34 36.9 +0.6**
comp=Z,3.4nm,0.3s,baz=158,slow=19,SNR=4.3
LVC Limon Verde 8.44 20 Pn **Pn 20 32 58.1 -2.5**
LVC Limon Verde 8.44 20 *e*P **Pn 20 32 58.9 -1.7**
PB07 IPOC Station P 9.05 13 Pn **Pn 20 33 07.0 -1.8**
PB09 IPOC Station P 9.12 17 Pn **Pn 20 33 08.4 -1.4**
PB01 IPOC Station P 9.79 14 Pn **Pn 20 33 15.7 -3.2**
PB01 IPOC Station P 9.79 14 *i* P Pn 20 33 14.4 -4.4
PLCA Paso Flores 10.19 173 Pn **Pn 20 33 24.9 +0.6**
comp=Z,0.6nm,0.3s,baz=337,slow=12,SNR=17
PLCA LR LR 20 38 03.2
comp=Z,1µm,18.5s,baz=352,slow=42
PB08 IPOC Station P 10.74 15 Pn **Pn 20 33 31.1 -1.0**
PB11 IPOC Station P 11.01 12 Pn **Pn 20 33 31.8 -3.8**
PSGCX Pisagua 11.09 10 Pn **Pn 20 33 32.5 -4.2**
TRQA Tornquist 11.18 134 Pn **Pn 20 33 36.3 -1.4**
TRQA Tornquist 11.18 134 *e*P **Pn 20 33 38.1 +0.3**
ITQB Itaqui 13.41 90 Pn **Pn 20 34 05.5 -2.7**
ITQB Itaqui 13.41 90 *e*P **Pn 20 34 06.9 -1.3**
CPUP Villa Florida 13.65 75 Pn **Pn 20 34 12.3 +0.8**
comp=Z,0.4nm,0.3s,baz=217,slow=18,SNR=2.7
CPUP LR LR 20 39 45.9
comp=Z,2µm,19.8s,baz=250,slow=39
CPUP Villa Florida 13.65 75 **Pn 20 34 10.0 -1.5**
CPUP Villa Florida 13.65 75 *e*P **Pn 20 34 07.8 -3.7**
LPAZ La Paz 14.69 15 Pn **Pn 20 34 27.1 +0.7**
comp=Z,0.4nm,0.3s,baz=184,slow=9.2,SNR=30
LPAZ La Paz 14.69 15 **Pn 20 34 26.9 +0.6**
COYC Coyhaique 14.95 180 **Pn 20 34 28.9 -0.3**
PLTB Pedras Altas 15.86 99 P **Pn 20 34 39.5 -1.7**
PLTB Pedras Altas 15.86 99 *e*P **Pn 20 34 39.5 -1.7**
CPSB Cacapava Do Su 16.07 94 *e*P **Pn 20 34 41.5 -2.5**
SIV San Ignacio 17.69 37 P **Pn 20 35 03.4 -1.0**
comp=Z,1.2nm,0.3s,baz=237,slow=13,SNR=131
SIV LR LR 20 43 07.4
comp=Z,2µm,19.2s,baz=218,slow=42
AQDB Aquidauana 17.87 60 P **Pn 20 35 04.4 -2.3**
AQDB Aquidauana 17.87 60 *e*P **Pn 20 35 04.4 -2.3**
CNLB Canela 18.44 91 *e*P **P 20 35 12.7 -1.0**
TRCB Terra Rica 19.01 71 P P 20 35 12.4 -7.5
TRCB IAmb IAmb 20 35 28.1
comp=Z,38nm,0.7s
TRCB Terra Rica 19.01 71 *e*P **P 20 35 19.6 -0.3**
NNA Nana 19.04 346 LR LR 20 41 26.3
comp=Z,294nm,18.1s,baz=171,slow=33
PTLB Pontes e Lacer 19.18 41 *e*P **P 20 35 21.6 -0.2**
TER01 Tubaro-SC 20.07 90 *e*P **P 20 35 31.3 -0.1**
PP1B Ponte de Pedra 20.31 54 *e*P **P 20 35 33.6 -0.5**
PCMB Pacaembu 20.70 69 *e*P **P 20 35 38.0 -0.3**
VILB Vilhena 20.70 35 *e*P **P 20 35 38.0 -0.4**
SALV Santo Antonio 20.95 49 *e*P **P 20 35 40.4 -0.7**
TU01 Guaruva-PR 21.03 81 *e*P **P 20 35 41.6 -0.4**
FRTB Fartura 21.30 76 *e*P **P 20 35 44.7 -0.2**
ETMB Extrema 21.38 16 *e*P **P 20 35 46.7 +1.0**
ITRB Iturama 22.41 66 *e*P **P 20 35 56.1 -0.7**
CZSB Cruzeiro do Su 22.75 358 *e*P **P 20 36 03.2 +2.8**
PET01 Itanhaem-SP 22.87 80 *e*P **P 20 36 01.3 -0.3**
SPB Sao Paulo 23.00 78 P **P 20 36 00.7 -2.3**
SPB IAmb IAmb 20 36 04.2
comp=Z,36nm,1.0s
SPB Sao Paulo 23.00 78 *e*P **P 20 36 02.2 -0.8**
SAML Samuel 23.08 23 P **P 20 36 02.5 -1.3**
SAML IAmb IAmb 20 36 06.0
comp=Z,33nm,1.2s
SAML Samuel 23.08 23 *e*P **P 20 36 03.8 0.0**
BB19B Bebedouro 23.18 71 *e*P **P 20 36 05.1 +0.1**
RCLB Rio Claro- Sao 23.39 76 *e*P **P 20 36 06.2 -0.9**
VAO Valinhos 23.62 77 *e*P **P 20 36 07.9 -1.4**
CLDB Colider 24.78 41 *e*P **P 20 36 19.6 -0.4**
IPMB Ipameri, GO 25.05 65 *e*P **P 20 36 21.6 -1.0**
ESAR Ângra dos Reis 25.75 80 *e*P **P 20 36 29.5 +0.7**
BSCB Bom Sucesso 26.32 75 *e*P **P 20 36 33.2 -0.8**
TBTG Tabatinga, AM 26.35 5 *e*P **P 20 36 36.1 +1.8**
BDFB Brasilia 26.59 61 P **P 20 36 36.2 -0.4**
comp=Z,36nm,0.8s,baz=232,slow=8.1,SNR=38
BDFB LR LR 20 48 33.7
comp=Z,574nm,19.4s,baz=246,slow=40
BDFB Brasília 26.59 61 P **P 20 36 35.5 -1.1**
BDFB IAmb IAmb 20 36 36.9
comp=Z,35nm,0.8s
SNDB Serra Nova Dou 26.71 51 *e*P **P 20 36 38.4 +0.8**
NPGB Novo Progresso 28.19 37 *e*P **P 20 36 49.2 -1.6**
DIAM Diamantina, MG 28.52 71 *e*P **P 20 36 53.8 -0.2**
PEXB Peixe 28.68 55 *e*P **P 20 36 54.8 -0.5**
MC01 Montes Claros 29.15 68 *e*P **P 20 36 58.4 -1.0**
JANB Januaria 29.79 65 *e*P **P 20 37 04.7 -0.4**
ALF01 Guarapari-ES 29.88 78 *e*P **P 20 37 05.4 -0.4**
ITTB Itaituba 30.30 34 *e*P **P 20 37 09.0 -0.6**
SJMB Sao Joao De Ma 30.37 74 *e*P **P 20 37 09.8 -0.3**
BSFB Barra de Sao F 30.59 75 *e*P **P 20 37 11.8 -0.3**
RIB01 Linhares ES 30.74 76 *e*P **P 20 37 14.5 +1.0**
SDBA SAO DESIDERIO 30.96 60 *e*P **P 20 37 15.0 -0.5**
OTAV Otavalo 31.25 348 *e*P **P 20 37 22.4 +3.9**
SMTB Santa Maria do 31.46 52 *e*P **P 20 37 19.8 -0.1**
NAN01 Guarapari, ES 31.67 74 *e*P **P 20 37 20.9 -0.7**
PTGA Pitinga 31.85 23 P **P 20 37 22.5 -0.7**
PTGA IAmb IAmb 20 37 24.2
comp=Z,16nm,1.0s
PRPB Parauapebas 32.06 45 *e*P **P 20 37 24.4 -0.6**
MALB Monte Alegre 33.20 34 *e*P **P 20 37 34.1 -0.9**
CMC01 Camacan, BA 33.44 70 *e*P **P 20 37 36.3 -0.9**
NBIT Itapeh - BA 33.74 70 *e*P **P 20 37 39.8 -0.1**
GDU01 Guandu, BA 34.30 68 *e*P **P 20 37 43.6 -1.1**

PMSA Palmer Station 34.57 174 *e*P P 20 37 55.7 +9.3
BOAV Boa Vista 34.61 21 *e*P **P 20 37 47.6 +0.4**
HOPE Hope Point 34.78 143 P **P 20 37 49.8 +1.5**
ROSC El Rosal 35.30 356 LR LR 20 53 04.9
comp=Z,241nm,19.2s,baz=236,slow=38
MCPB Macapa, AP 35.58 36 *e*P **P 20 37 55.2 -0.4**
TMAB Tom-Au,PA,Br 36.10 44 *e*P **P 20 38 00.5 +0.3**
RUSC La Rusia 36.29 358 P **P 20 38 01.8 -0.5**
NBLA Lagarto - SE 37.30 66 *e*P **P 20 38 09.7 -0.7**
SDV Santo Domingo 39.28 2 P **P 20 38 26.9 -0.3**
CAP2 Capurgana 39.35 352 P **P 20 38 27.7 +0.1**
SJCC San Jacinto, C 40.37 355 P **P 20 38 35.5 -0.6**
SJCC IAmb IAmb 20 38 39.7
comp=Z,24nm,1.0s
SRBA San Rafael, Bu 41.05 343 P **P 20 38 40.9 -1.0**
URIC Uribia, Colomb 42.05 0 P **P 20 38 49.3 -0.6**
URIC IAmb IAmb 20 38 51.2
comp=Z,20nm,1.3s
DUNO Dulce Nombre, 42.44 340 P **P 20 38 52.8 -0.3**
COVE Coope Vega, Sa 42.75 342 P **P 20 38 54.8 -0.8**
COVE IAmb IAmb 20 38 59.3
comp=Z,46nm,1.2s
MPOM Morne Pois Mar 46.06 15 P **P 20 39 20.9 -1.1**
FDF Fort de France 46.28 15 P **P 20 39 22.1 -1.7**
MLPR Magueyes Islan 48.52 6 P **P 20 39 41.2 0.0**
OBIP Obispado Ponce 48.64 7 P **P 20 39 40.7 -1.4**
PDPR Patillas Dam, 48.68 8 P **P 20 39 41.5 -1.0**
SJG San Juan 48.76 8 P **P 20 39 42.2 -0.8**
CBYP Canovanas 48.95 8 P **P 20 39 43.1 -1.4**
VNA3 Neumayer Olymp 52.53 159 P **P 20 40 12.5 +1.5**
VNA1 Neumayer--Stat 52.82 158 P **P 20 40 14.8 +1.7**
VNA2 Neumayer--Watz 53.17 158 P **P 20 40 17.2 +1.5**
SNAA Sanae 54.75 159 P **P 20 40 28.2 +0.8**
SNAA Sanae 54.75 159 P **P 20 40 27.5 +0.2**
RKT Rikitea 55.98 261 *e*T T 21 41 04.2
comp=Z,6.1nm,0.3s
QSPA South Pole Qui 59.63 180 P **P 20 41 02.9 +0.8**
QSPA IAmb IAmb 20 41 04.0
comp=Z,8.3nm,0.9s
X51A Calhoun 65.92 348 P **P 20 41 43.8 -0.2**
JCT Junction City 66.21 334 P **P 20 41 45.0 -1.0**
JCT IAmb IAmb 20 42 01.6
comp=Z,13nm,1.2s
X48A Hartselle 66.22 347 IAmb IAmb 20 42 02.6
comp=Z,11nm,0.9s
TAOE Nuku Hiva Isla 66.69 273 *e*LR LR 21 02 01.8
comp=Z,106nm,23.0s
TXAR Lajitas Array 66.76 330 P **P 20 41 50.9 +1.3**
comp=Z,1.3nm,0.8s,baz=143,slow=8.6,SNR=14
TXAR LR LR 21 06 53.2
comp=Z,154nm,18.1s,baz=0.0,slow=32
TX31 Lajitas Ar. Si 66.76 330 P **P 20 41 49.1 -0.5**
TX31 IAmb IAmb 20 42 47.8
comp=Z,15nm,1.2s
TX32 Lajitas Array 66.76 330 P **P 20 41 49.1 -0.5**
VNDA Vanda 67.43 191 P **P 20 41 54.8 +1.7**
comp=Z,0.5nm,0.8s,baz=121,slow=7.0,SNR=2.4
VNDA LR LR 21 06 14.8
comp=Z,66nm,21.5s,baz=133,slow=31
VNDA Vanda 67.43 191 IAmb IAmb 20 43 52.0
comp=Z,8.9nm,1.6s
CLTN Cedars of Leba 67.67 348 P **P 20 41 55.4 +0.3**
CLTN IAmb IAmb 20 43 44.5
comp=Z,17nm,1.1s
WVT Waverly 68.00 346 P **P 20 41 56.9 -0.3**
W39A Magazine 68.56 341 P **P 20 42 00.7 0.0**
W39A IAmb IAmb 20 42 03.4
comp=Z,9.9nm,0.9s
MEH Mehetia 69.31 261 *e*T T 21 57 42.9
comp=Z,25nm,0.2s
U40A Yellville 69.39 342 IAmb IAmb 20 42 12.9
comp=Z,13nm,1.3s
MNTX Cornudas Mount 69.54 330 P **P 20 42 06.7 -0.3**
HHAR Hobbs 69.62 341 P **P 20 42 06.7 -0.6**
HHAR IAmb IAmb 20 42 09.1
comp=Z,7.5nm,0.8s
MSTX Muleshoe 70.45 333 P **P 20 42 12.3 -0.3**
MSTX IAmb IAmb 20 42 29.5
comp=Z,10nm,1.0s
CCM Cathedral Cave 70.60 344 P **P 20 42 12.5 -0.8**
CCM IAmb IAmb 20 42 19.3
comp=Z,11nm,1.0s
PPT2 Papeete2 70.72 261 *e*S **S 20 51 31.4 +1.6**
comp=Z,74nm,24.0s
PPT2 Papeete2 70.72 261 *e*LR LR 21 03 47.5
comp=Z,224nm,24.0s,baz=91
PPT Papeete 70.73 261 LR LR 21 03 18.9
comp=Z,15nm,21.4s,baz=4.0,slow=27
S39A Bolivar 70.78 342 P **P 20 42 14.0 -0.4**
R40A Maddies Statio 71.08 343 P **P 20 42 16.1 -0.1**
R40A IAmb IAmb 20 42 17.9
comp=Z,9.6nm,0.8s
214A Organ Pipe Nat 73.22 325 P **P 20 42 30.1 +0.9**
LIC Lamto 73.76 72 *e*PKP1 **P 20 42 33.2 +0.5**
comp=Z,76nm,1.5s
TIC Toumodi 74.00 72 *e*PKP1 **P 20 42 33.9 -0.3**
KIC Kosan Boka 74.07 73 *e*PKP1 **P 20 42 34.3 -0.3**
comp=Z,12nm,0.8s
DBIC Dimbokro 74.15 72 P **P 20 42 35.2 +0.2**
comp=Z,6.7nm,0.9s,baz=233,slow=5.4,SNR=5.1
DBIC Dimbokro 74.15 72 IAmb IAmb 20 42 46.6
comp=Z,11nm,0.8s
MVCO Mesa Verde 75.58 331 IAmb IAmb 20 43 12.9
comp=Z,8.5nm,1.2s
MAW Mawson 76.45 164 P **P 20 42 48.1 +0.8**
comp=Z,8.6nm,0.9s,baz=227,slow=6.4,SNR=20
MAW LR LR 21 15 37.8
comp=Z,237nm,21.1s,baz=236,slow=35
MAW Mawson 76.45 164 P **P 20 42 48.0 +0.6**
SMCO Snowmass 76.64 333 P **P 20 42 49.1 -0.2**
SMCO IAmb IAmb 20 42 52.7
comp=Z,8.3nm,1.0s
ECSD EROS Data Cent 77.31 342 IAmb IAmb 20 43 09.6
comp=Z,10nm,1.1s
KNB Kanab 77.33 328 P **P 20 42 53.8 +0.8**
KNB IAmb IAmb 20 42 56.4
comp=Z,7.8nm,1.2s
RAR Rarotonga 77.61 253 LR LR 21 08 31.5
comp=Z,151nm,18.2s,baz=122,slow=29
O20A White River Ci 77.96 332 P **P 20 42 57.0 +0.6**
O20A IAmb IAmb 20 43 08.7
comp=Z,26nm,1.8s
CCUT Cedar City 78.02 328 P **P 20 42 56.6 -0.2**
Q16A Castle Valley 78.16 330 IAmb IAmb 20 43 14.6
comp=Z,15nm,1.5s
MVU Marysvale 78.27 329 P **P 20 42 59.0 +0.8**
P17A Butcher Ranch, 78.43 330 IAmb IAmb 20 43 01.8
comp=Z,8.2nm,1.2s
RDMU Red Mountain 78.87 332 IAmb IAmb 20 43 10.9
comp=Z,7.6nm,1.0s
RWWY Rawlins 78.89 334 P **P 20 43 01.6 0.0**
RWWY IAmb IAmb 20 43 04.4
comp=Z,9.9nm,1.0s
ISA Isabella, Lake 79.03 323 P **P 20 43 03.0 +0.8**
KOWA Kowa 79.28 66 P **P 20 43 03.6 -0.3**
KOWA IAmb IAmb 20 43 05.5
comp=Z,14nm,0.9s
DUG Dugway, Tooele 79.92 329 P **P 20 43 07.8 +0.7**
TCUT Toone Canyon 80.08 331 P **P 20 43 06.9 -1.2**
TCUT IAmb IAmb 20 43 44.0
comp=Z,12nm,0.8s
HWUT Hardware Ranch 80.56 331 P **P 20 43 10.9 +0.4**
HWUT IAmb IAmb 20 43 12.8
comp=Z,7.1nm,0.8s
PDAR Pinedale Array 80.72 333 P **P 20 43 12.2 +0.8**
comp=Z,1.0nm,0.8s,baz=161,slow=6.5,SNR=5.8
PDAR LR LR 21 15 44.0
comp=Z,67nm,20.0s,baz=130,slow=33
NVAR Mina Array Bea 81.08 325 P **P 20 43 14.7 +1.2**
comp=Z,1.5nm,1.0s,baz=161,slow=6.0,SNR=6.1
NVAR LR LR 21 12 48.2
comp=Z,43nm,19.2s,baz=90,slow=31
HVU Hansel Valley 81.21 330 IAmb IAmb 20 43 16.1
comp=Z,6.1nm,0.9s
BOSA Boshof 81.69 118 P **P 20 43 18.7 +1.6**
comp=Z,5.3nm,1.1s,baz=190,slow=12,SNR=4.0
BOSA LR LR 21 15 01.3
comp=Z,147nm,19.7s,baz=224,slow=32
BOSA Boshof 81.69 118 P **P 20 43 17.5 +0.4**
TORD Torodi Ar. Bea 83.09 70 P **P 20 43 24.4 +0.1**
comp=Z,13nm,0.8s,baz=258,slow=4.7,SNR=74
TORD LR LR 21 18 39.3
comp=Z,379nm,18.8s,baz=235,slow=34
TORD Torodi Ar. Bea 83.09 70 P **P 20 43 23.9 -0.4**
BEKR Beckworth 83.20 325 IAmb IAmb 20 43 41.9
comp=Z,12nm,1.7s
CASY Casey 83.42 181 P **P 20 43 25.9 +0.8**
CASY IAmb IAmb 20 43 27.6
comp=Z,13nm,1.0s
ORV Oroville 83.54 324 IAmb IAmb 20 43 33.3
comp=Z,3.2nm,0.7s
J08A Circle Bar Ran 84.99 328 IAmb IAmb 20 43 36.3
comp=Z,7.7nm,1.0s
SCHQ Schefferville 85.20 3 LR LR 21 22 18.3
comp=Z,46nm,20.3s,baz=112,slow=36
PLID Pearl Lake 85.27 330 P **P 20 43 34.8 -0.1**
PLID IAmb IAmb 20 43 37.1
comp=Z,4.3nm,0.8s
YBH Yreka Blue Hor 85.78 325 P **P 20 43 37.9 +0.5**
comp=Z,1.0nm,0.5s,baz=91,slow=4.2,SNR=6.0
URZ Urewera 85.92 228 LR LR 21 14 54.9
comp=Z,119nm,18.2s,baz=211,slow=31
PINE Pine Mountain 86.47 327 P **P 20 43 41.9 +1.0**
PINE IAmb IAmb 20 43 43.9
comp=Z,6.2nm,0.9s
RAO Raoul Island 87.68 237 LR LR 21 17 59.1
comp=Z,102nm,18.1s,baz=224,slow=32
ESDC Sonseca Array 94.24 46 P **P 20 44 16.6 -0.7**
comp=Z,1.2nm,1.0s,baz=257,slow=5.6,SNR=7.1
ESDC LR LR 21 26 38.6
comp=Z,123nm,18.1s,baz=250,slow=36
DZM Mont Dzumac 103.21 234 *e*LR LR 21 18 51.8
comp=Z,175nm,24.7s
AKASG Malin Array Be 119.89 46 PKP **PKPdf 20 49 47.0 -1.2**
comp=Z,0.6nm,0.4s,baz=271,slow=2.3,SNR=7.6
BRTR Keskin Array B 120.17 59 PKP **PKPdf 20 49 49.0 -0.3**
comp=Z,0.7nm,0.8s,baz=222,slow=1.7,SNR=5.5
ASAR Alice Springs 120.57 208 PKP **PKPdf 20 49 50.5 0.0**
comp=Z,0.3nm,0.8s,baz=143,slow=3.2,SNR=2.2
WRA Warramunga Arr 123.70 210 PKP **PKPdf 20 49 56.5 -0.1**
comp=Z,0.5nm,0.7s,baz=178,slow=2.3,SNR=4.8
H11S2 WAKE ISLAND Hyl 125.72 272 T T 23 08 42.2
baz=115,slow=74,SNR=104
H11S1 WAKE ISLAND Hyl 125.73 272 T T 23 08 43.3
baz=115,slow=74,SNR=14
H11S3 WAKE ISLAND Hyl 125.73 272 T T 23 08 43.5
baz=115,slow=74,SNR=73
H11N3 WAKE ISLAND Hyl 126.04 273 T T 23 09 11.4
baz=116
H11N1 WAKE ISLAND Hyl 126.06 273 T T 23 09 12.0
baz=116
H11N2 WAKE ISLAND Hyl 126.06 273 T T 23 09 11.7
baz=116
KLMR Klimovskoe 126.65 35 *e* **PKPdf 20 50 00.1 -0.7**
KLMR AMP 20 50 02.4
comp=Z,13nm,1.0s
KBZ Khabaz 127.79 56 PKP **PKiKP 20 50 04.7 +0.5**
comp=Z,1.9nm,0.9s,baz=225,slow=2.9,SNR=3.5
SEY Seymchan 137.04 332 PKP **PKPdf 20 50 21.1 +0.7**
comp=Z,1.7nm,0.3s,baz=204,slow=2.0,SNR=8.5
ARU Arti 137.15 38 PKP **PKPdf 20 50 21.5 +0.7**
comp=Z,1.0nm,0.6s,baz=277,slow=2.2
BVAR Borovoye Array 144.75 40 PKP **PKPdf 20 50 34.6 0.0**
comp=Z,10nm,0.7s,baz=250,slow=4.3,SNR=42
YAK Yakutsk 145.50 342 PKPbc **PKPab 20 50 36.0 +0.1**
comp=Z,8.6nm,0.7s,baz=281,slow=1.2,SNR=14
YAK Yakutsk 145.50 342 PKPdf **PKPab 20 50 36.1 +0.2**
HYB Hyderabad 150.24 109 *i* PKP **PKPbc 20 50 49.0 -0.9**
EKS2 Erkin-Say 150.27 57 P **PKiKP 20 50 51.1 +0.8**
SNR=11
AML Almayashu 150.32 58 P **PKiKP 20 50 51.4 +0.6**
SNR=6.0
KURBB Kurchatov Arra 150.34 39 PKPbc **PKiKP 20 50 49.7 -0.2**
comp=Z,14nm,0.8s,baz=298,slow=3.1,SNR=12
KURK Kurchatov 150.34 39 **PKiKP 20 50 49.7 -0.2**
USP Ospenovka 150.64 55 P **PKiKP 20 50 51.2 +0.3**
SNR=9.2
AAK Ala-Archa 150.79 56 PKPbc **PKiKP 20 50 51.7 +0.3**
comp=Z,19nm,0.9s,baz=209,slow=2.5,SNR=33
AAK Ala-Archa 150.79 56 P **PKiKP 20 50 52.2 +0.9**
SNR=16
CHMS Chumysh 150.89 56 P **PKiKP 20 50 52.2 +0.8**
SNR=8.8
UCH Uchtor 150.89 57 P **PKiKP 20 50 52.9 +0.9**
SNR=16
ZALV Zalesovo Beam 151.32 29 PKPbc **PKiKP 20 50 52.3 +0.5**
comp=Z,61nm,0.8s,baz=301,slow=3.1,SNR=7.5
TKM2 Tokmak 2 151.51 55 P **PKiKP 20 50 53.3 +0.4**
SNR=8.1
KSH Kashi 152.49 62 PKPbc **PKPdf 20 50 48.8 +1.0**
KSH PP **PP 20 50 35.8 -2.1**
KLR Kul'dur 154.09 323 PKPbc **PKiKP 20 50 58.2 +0.5**
comp=Z,0.3nm,0.3s,baz=207,slow=2.3,SNR=3.8
MJAR Matsushiro Arr 154.14 291 PKPab **PKPab 20 51 12.8 +0.9**
comp=Z,2.2nm,1.0s,baz=114,slow=3.5,SNR=5.1
MKAR Makanchi Array 154.44 44 PKPbc **PKiKP 20 50 58.7 +0.1**
comp=Z,3.4nm,0.8s,baz=336,slow=2.7,SNR=18
MKAR PKPab **PKPab 20 51 13.1 +0.3**
comp=Z,4.7nm,0.9s,baz=294,slow=3.9,SNR=10
MKAR Makanchi Array 154.44 44 PKPdf **PKPdf 20 50 40.9 -1.2**
WMQ Urumqi 159.24 45 *e*P **PKPdf 20 50 56.8 +0.3**
WMQ pmax pmax
comp=Z,110nm,5.9s
JNU Nakatsue 160.34 283 PKP **PKPdf 20 50 57.8 -0.2**
comp=Z,8.4nm,0.8s,baz=243,slow=2.3,SNR=3.7
SONM Songino Array 162.74 3 PKPab **PKPab 20 51 49.7 +0.9**
comp=Z,2.4nm,0.9s,baz=332,slow=4.6,SNR=8.7
SONM Songino Array 162.74 3 **PKPab 20 51 49.5 +0.7**
CMAR Chiang Mai Arr 165.42 144 PKPab **PKPab 20 52 01.4 +0.2**
comp=Z,0.5nm,0.4s,baz=212,slow=5.0,SNR=4.9
GTA Gaotai 168.98 35 || PKP **PKPdf 20 51 07.0 +1.5**
GTA pPKP sPKPdf 20 51 17.3 +10
GTA sPKP 20 51 21.8
GTA PKP **PKPab 20 52 17.8 +1.2**
GTA LR LR
comp=N,190nm,17.4s
GTA LR LR
comp=E,120nm,20.4s
GTA LR LR
comp=Z,77nm,18.9s
HHC Hu-ho-hao-te 169.35 345 *e*P **PKPdf 20 51 01.3 -4.4**
HHC PP **PP 20 56 08.0 +1.0**
HHC LR LR
comp=N,200nm,20.4s
HHC LR LR
comp=E,160nm,19.9s
HHC LR LR
comp=Z,200nm,20.8s
NJ2 Nanjing 170.54 282 *e*P **PKPdf 20 51 05.8 -0.7**
NJ2 pmax pmax
comp=Z,12nm,0.5s

PGC 25 20:46:54.6±0.9,50°49N×130°37W,h10km,MLSn3.1/22,
Mw3.7/22,209km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.43**	**83**	Pn	Pn	20 47 18.7	-2.0
HOLB				Sn	Sn	20 47 35.6	-4.0
BPBC	**Brooks Peninsu**	**1.70**	**100**	Pn	Pn	20 47 22.2	-2.1
PACB	**Port Alice, BC**	**1.84**	**91**	Pn	Pn	20 47 24.2	-2.0
PACB				Sn	Sn	20 47 45.1	-4.4
HG4B	**Hotspring**	**1.88**	**344**	Pn	Pn	20 47 24.2	-2.5
HG4B				Sn	Sn	20 47 46.3	-4.1
PHC	**Port Hardy**	**1.88**	**82**	Pn	Pn	20 47 25.2	-1.5
PHC				Sn	Sn	20 47 46.2	-4.3
MAYB	**Maynard**	**2.04**	**91**	Pn	Pn	20 47 27.4	-1.8
EDB	**Eliza Dome**	**2.18**	**105**	Pn	Pn	20 47 29.4	-1.5
BBB	**Bella Bella**	**2.21**	**39**	Pn	Pn	20 47 29.6	-1.7
BBB				Sn	Sn	20 47 53.9	-4.7
TLCB	**Telegraph Cove**	**2.26**	**87**	Pn	Pn	20 47 30.9	-1.1
TLCB				Sn	Sn	20 47 56.5	-3.2
BNB	**Barry Inlet**	**2.26**	**338**	Pn	Pn	20 47 29.9	-2.1
WOSB	**Woss**	**2.46**	**96**	Pn	Pn	20 47 33.6	-1.2
NCRB	**Newcastle Ridg**	**2.76**	**90**	Pn	Pn	20 47 37.6	-1.4
MOBC	**Moresby Island**	**2.83**	**340**	Pn	Pn	20 47 39.4	-0.6
MOBC				Sn	Sn	20 48 11.0	-3.2
BNKB	**Banks Island**	**2.86**	**6**	Pn	Pn	20 47 38.5	-1.7
BNKB				Sn	Sn	20 48 10.3	-4.3
GDR	**Gold River**	**2.88**	**103**	Pn	Pn	20 47 38.4	-2.1
BNAB	**Bonilla**	**3.01**	**357**	Pn	Pn	20 47 40.9	-1.4
BNAB				Sn	Sn	20 48 14.6	-3.7
DIB	**Dawson Inlet,**	**3.01**	**335**	Pn	Pn	20 47 40.5	-1.8
VIB	**Van Inlet**	**3.07**	**335**	Pn	Pn	20 47 41.6	-1.7
VIB				Sn	Sn	20 48 16.9	-3.2
HWKB	**Hawksbury Isla**	**3.20**	**13**	Pn	Pn	20 47 43.0	-2.0
HWKB				Sn	Sn	20 48 19.5	-3.6
CBB	**Campbell River**	**3.24**	**96**	Pn	Pn	20 47 44.8	-0.7
CBB				Sn	Sn	20 48 21.4	-2.8

BTB	**Buttle Lake**	**3.29**	**106**	Pn	Pn	20 47 45.1	-1.2
GRNB	**Grenville Isla**	**3.37**	**4**	Pn	Pn	20 47 45.7	-1.5
GRNB				Sn	Sn	20 48 23.4	-3.8
OZB	**Mount Ozzard**	**3.52**	**114**	Pn	Pn	20 47 48.0	-1.3
KITB	**Kitimat**	**3.74**	**16**	Pn	Pn	20 47 50.9	-1.5
KITB				Sn	Sn	20 48 33.1	-3.3
RUBB	**Prince Rupert**	**3.84**	**1**	Pn	Pn	20 47 53.1	-0.6
RUBB				Sn	Sn	20 48 35.8	-3.1
TXB	**Texada**	**3.90**	**100**	Pn	Pn	20 47 53.9	-0.7
MGB	**Mount Grey**	**3.97**	**110**	Pn	Pn	20 47 54.6	-1.0
MGB				Sn	Sn	20 48 38.9	-3.4
SHB	**Sechelt**	**4.28**	**100**	Pn	Pn	20 47 59.5	-0.4
PFB	**Port Renfrew**	**4.31**	**114**	Pn	Pn	20 47 59.5	-0.7
OCP	**Olym-Cheeka Pk**	**4.35**	**118**	Pn	Pn	20 48 01.0	+0.3
UBRB	**Upper Baezaeko**	**4.59**	**56**	Pn	Pn	20 48 02.9	-1.2
UBRB				Sn	Sn	20 48 54.4	-3.1
OBC	**Olympics--Boni**	**4.80**	**118**	Pn	Pn	20 48 07.8	+0.9
LLLB	**Lillooet**	**5.41**	**86**	Pn	Pn	20 48 15.4	+0.1
FSB	**Fort Saint Jam**	**5.43**	**40**	Pn	Pn	20 48 15.8	+0.1
VDB	**Vedder Mountai**	**5.55**	**102**	Pn	Pn	20 48 18.1	+0.8
HDW	**Hoodsport**	**5.59**	**118**	Pn	Pn	20 48 18.7	+0.9
JCW	**Jim Creek**	**5.97**	**109**	Pn	Pn	20 48 23.9	+0.8
RPW	**Rockport**	**6.12**	**106**	Pn	Pn	20 48 26.2	+1.1
FMW	**Mount Fremont**	**6.77**	**118**	Pn	Pn	20 48 35.9	+1.8

MEX 25 20:57:21.1±1.7, 15°83N×93°06W, h130km±80km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.20**	**231**	*i* P	Pn	20 57 37.5	-1.4
PCIG				*e*S	Sn	20 57 50.2	-2.2
CMIG	**Matias Romero**	**2.15**	**306**	*e*P	Pn	20 57 49.7	-7.3
CMIG				*e*S	Sn	20 58 25.6	+1.1

*IDC **25** 21:03:05.5±1.1, 16°.53N×146°.20E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/44, mbtmp3.7/7, MS3.0/7, Ms1 3.1/7, ms1mx2.7/53, Error ellipse: s-maj=33.0km s-min=22.7km az=99.0*

ISC 25 21:03:10.7±1.1, 16°.5N±0°.2×146°.2E±0°.2, h35km, n18, σ1°56/7, mb3.9/7, MS3.1/5, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.15**	**203**	LR	LR	21 04 26.2	
	comp=Z,50nm,19.1s,baz=20,slow=25						
JCJ	**Chichijima**	**11.17**	**341**	LR	LR	21 09 25.8	
	comp=Z,183nm,20.5s,baz=130,slow=34						
H11S3	**WAKE ISLAND Hy**	**19.68**	**81**	T	T	21 28 16.3	
	baz=269,slow=75						
H11S1	**WAKE ISLAND Hy**	**19.69**	**81**	T	T	21 28 17.4	
	baz=269,slow=75						
H11S2	**WAKE ISLAND Hy**	**19.70**	**81**	T	T	21 28 18.1	
	baz=269,slow=75						
H11N1	**WAKE ISLAND Hy**	**19.96**	**78**	T	T	21 28 35.8	
	baz=267,slow=74						
H11N2	**WAKE ISLAND Hy**	**19.97**	**78**	T	T	21 28 36.3	
	baz=267,slow=74						
H11N3	**WAKE ISLAND Hy**	**19.98**	**78**	T	T	21 28 37.1	
	baz=267,slow=74						
KSRS	**Korea Array**	**26.36**	**326**	P	**P**	**21 08 45.2**	**+1.7**
	3.1nm,1.0s,baz=148,slow=10.0,SNR=8.9						
KSRS				LR	LR	21 18 35.1	
	comp=Z,13nm,19.7s,baz=145,slow=35						
ASAJ	**Asahikawa**	**27.69**	**354**	LR	LR	21 18 44.2	
	comp=Z,32nm,21.4s,baz=194,slow=34						
HNR	**Honiara**	**29.16**	**151**	LR	LR	21 20 34.4	
	comp=Z,60nm,19.5s,baz=274,slow=36						
WRA	**Warramunga Arr**	**38.04**	**198**	P	**P**	**21 10 27.6**	**+1.7**
	1.8nm,1.0s,baz=15,slow=7.9,SNR=5.6						
ASAR	**Alice Springs**	**41.68**	**197**	P	**P**	**21 10 55.6**	**-0.6**
	0.3nm,0.9s,baz=17,slow=10,SNR=2.6						
CMAR	**Chiang Mai Arr**	**44.98**	**280**	P	**P**	**21 11 21.2**	**-1.7**
	1.5nm,0.9s,baz=74,slow=6.4,SNR=8.1						
CMAR				LR	LR	21 29 24.0	
	comp=Z,22nm,20.3s,baz=201,slow=35						
SONM	**Songino Array**	**45.13**	**323**	P	**P**	**21 11 24.4**	**+0.5**
	0.5nm,0.7s,baz=106,slow=7.6,SNR=3.2						
ILAR	**Eielson Array**	**65.42**	**26**	P	**P**	**21 13 49.2**	**-0.4**
	1.1nm,0.9s,baz=262,slow=5.0,SNR=7.8						
PPT	**Papeete**	**71.78**	**115**	LR	LR	21 40 06.8	
	comp=Z,29nm,19.7s,baz=1.0,slow=31						
NVAR	**Mina Array Bea**	**84.14**	**52**	P	**P**	**21 15 38.4**	**-0.4**
	0.2nm,0.3s,baz=275,slow=5.3,SNR=3.0						

IDC 25 21:07:50.7±1.6, 16°.61N×145°.73E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/53, mbtmp3.6/4, MS4.0/2, Ms1 4.0/2, ms1mx2.7/46, Error ellipse: s-maj=43.3km s-min=31.0km az=107.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy**	**20.07**	**82**	T	T	21 32 57.9	
	baz=269,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**20.08**	**81**	T	T	21 32 55.6	
	baz=269,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**20.09**	**82**	T	T	21 33 03.0	
	baz=269,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**20.34**	**78**	T	T	21 33 05.8	
	baz=266,slow=74,SNR=17						
H11N2	**WAKE ISLAND Hy**	**20.35**	**78**	T	T	21 33 05.9	
	baz=266,slow=74,SNR=28						
H11N3	**WAKE ISLAND Hy**	**20.36**	**78**	T	T	21 33 06.0	
	baz=266,slow=74,SNR=20						
KSRS	**Korea Array**	**26.04**	**326**	P	P	21 13 27.8	+2.1
	1.6nm,1.0s,baz=138,slow=9.8,SNR=5.0						
WRA	**Warramunga Arr**	**38.01**	**198**	P	P	21 15 11.2	+0.4
	0.7nm,0.9s,baz=17,slow=8.8,SNR=3.0						
CMAR	**Chiang Mai Arr**	**44.56**	**280**	P	P	21 16 03.6	-1.2
	0.6nm,0.8s,baz=74,slow=6.7,SNR=4.6						
ILAR	**Eielson Array**	**65.50**	**26**	P	P	21 18 34.8	-0.8
	0.8nm,0.8s,baz=247,slow=4.9,SNR=6.4						
INK	**Inuvik**	**71.27**	**23**	LR	LR	21 51 16.4	
	comp=Z,118nm,19.2s,baz=112,slow=37						
YBH	**Yreka Blue Hor**	**80.28**	**49**	LR	LR	21 47 55.8	
	comp=Z,86nm,20.0s,baz=124,slow=30						

MAN 25 21:10:25.8, 15°.21N×119°.99E, h13km, mb4.7, ML3.6, MS3.5, Luzon

MEX 25 21:11:13.3±0.7, 14°.51N×92°.97W, h20km±883km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.22**	**348**	*i* P	Pn	21 11 32.8	-2.4
PCIG				*i* S	Sb	21 11 46.5	-4.5

*IDC **25** 21:21:31.4±1.4, 12°.44N×142°.14E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.7/61, mbtmp3.9/8, MS3.4/1, Ms1 3.4/1, ms1mx2.3/43, Error ellipse: s-maj=50.7km s-min=18.4km az=75.0*

ISC 25 21:21:36.6±1.4, 12°.4N±0°.2×142°.1E±0°.4, h33km, n10, σ0°64/9, mb3.9/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**33.02**	**193**	P	**P**	**21 28 08.9**	**0.0**
	2.5nm,0.8s,baz=12,slow=9.8,SNR=19						
ASAR	**Alice Springs**	**36.71**	**193**	P	**P**	**21 28 41.0**	**+0.2**
	0.4nm,0.4s,baz=22,slow=10,SNR=13						
CMAR	**Chiang Mai Arr**	**41.95**	**284**	P	**P**	**21 29 24.8**	**+0.1**
	1.7nm,0.6s,baz=85,slow=6.7,SNR=18						
PSI	**Prapat**	**43.77**	**261**	LR	LR	21 48 58.6	
	comp=Z,51nm,20.1s,baz=219,slow=38						
STKA	**Stephens Creek**	**44.01**	**181**	P	**P**	**21 29 40.9**	**-0.1**
	0.6nm,0.3s,baz=352,slow=7.1,SNR=2.1						
SONM	**Songino Array**	**46.21**	**327**	P	**P**	**21 29 59.5**	**+0.9**
	0.3nm,0.5s,baz=117,slow=7.8,SNR=2.0						
MKAR	**Makanchi Array**	**60.49**	**317**	P	**P**	**21 31 43.1**	**-0.3**
	0.5nm,0.5s,baz=87,slow=7.7,SNR=5.2						
KURBB	**Kurchatov Arra**	**63.81**	**321**	P	**P**	**21 32 04.7**	**-0.8**
	0.9nm,0.3s,baz=104,slow=6.4,SNR=6.8						
BVAR	**Borovoye Array**	**69.20**	**322**	P	**P**	**21 32 39.1**	**-0.8**
	0.7nm,0.4s,baz=135,slow=8.1,SNR=6.0						
LPAZ	**La Paz**	**150.48**	**101**	PKPbc	**PKPbc**	**21 41 26.8**	**+0.2**
	0.8nm,0.6s,baz=0.0,slow=4.0,SNR=2.2						

*SFS **25** 21:25:00.0, 33°.10N×5°.38W, ML1.8, FEZ (MARRUECOS)*
*CNRM **25** 21:25:28.9, 32°.80N×5°.16W, h0km, ml2.2*

INMG 25 21:25:25.8±0.8, 33°.10N×5°.34W, h3km±14km, ML1.9, Error ellipse: s-maj=7.5km s-min=5.7km az=114.0, Morocco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CZD	**Col de Zad**	**0.26**	**105**	P	Pb	21 25 33.5	+0.2
CZD				S	Sb	21 25 41.5	+3.2
CZD	**Col de Zad**	**0.26**	**105**	P	Pb	21 25 33.3	0.0
IFR	**Ifrane**	**0.46**	**23**	P	Pn	21 25 39.1	-0.3
IFR				S	Sb	21 25 50.3	+6.5
MD31	**MD31**	**0.54**	**115**	P	Pg	21 25 35.7	-0.5
MD31				S	Sg	21 25 44.4	+1.2
MDT	**Midelt**	**0.68**	**114**	P	Pg	21 25 38.2	-0.7
MDT				S	Sg	21 25 48.1	+0.5
MDT	**Midelt**	**0.68**	**114**	P	Pg	21 25 37.7	-1.1
LCRM	**LCR**	**0.71**	**34**	P	Pn	21 25 43.9	+1.0
LCRM				S	Sn	21 25 56.6	+2.1
LCRM	**LCR**	**0.71**	**34**	P	Pn	21 25 44.1	+1.2
ZHG	**ZHG**	**1.14**	**288**	P	Pg	21 25 45.7	-2.0
ZHG				S	Sg	21 26 03.0	+0.4
AVE	**Averroes**	**1.75**	**277**	P	Pn	21 25 57.0	0.0
AVE				S	Sn	21 26 17.4	-2.4
RSA	**Sarsar**	**1.83**	**348**	P	Pg	21 26 03.4	+2.6
RSA				S	Sg	21 26 29.6	+5.1
AKLM	**AKL**	**1.87**	**41**	P	Pg	21 26 02.8	+1.1
AKLM				S	Sg	21 26 33.1	+7.2
AKLM	**AKL**	**1.87**	**41**	P	Pg	21 26 05.0	+3.3
CHEFC	**Chefchaouen**	**2.00**	**0**	P	Pg	21 26 04.1	-0.1
CHEFC				S	Sg	21 26 35.6	+5.4
TZRR	**Tazzarine**	**2.31**	**185**	P	Pn	21 25 58.8	-6.1
TZRR				S	Sn	21 26 24.3	-10
PALE	**Palemas**	**2.41**	**28**	P	Pb	21 26 08.2	-1.7
PALE				S	Sg	21 26 45.9	+2.5
JBK	**JBK**	**2.62**	**61**	P	Pn	21 26 09.5	+0.3
JBK				S	Sb	21 26 46.8	+0.6
JBK	**JBK**	**2.62**	**61**	P	Pn	21 26 11.1	+1.9
TDRA	**Tendrara**	**2.78**	**90**	P	Pn	21 26 10.1	-1.3
TDRA				S	Sn	21 26 46.0	+0.4
OUK	**Oukaimeden**	**2.85**	**229**	P	Pn	21 26 04.5	-8.0
OUK				S	Sn	21 26 47.6	-10
TAF	**Taforalt**	**2.97**	**54**	P	Pn	21 26 15.6	+1.6
TAF				S	Sb	21 26 56.8	+0.5
FIGM	**Figuig**	**3.57**	**105**	P	Pn	21 26 22.4	+0.2
FIGM				S	Sn	21 27 07.4	+2.3
TTIG	**Tnine Tigouga,**	**3.67**	**227**	P	Pn	21 26 18.1	-5.4
TTIG				S	Sn	21 26 58.0	-9.3
PBDV	**Barranco-do-Ve**	**4.65**	**334**	*e*P	Pn	21 26 35.8	-1.1
PBDV				*e*S	Sn	21 27 28.3	-3.1
PVAQ	**Vaqueiros**	**4.71**	**336**	*e*P	Pn	21 26 37.0	-0.8
PVAQ				*e*S	Sn	21 27 30.2	-2.8
PVAQ				A	A	21 27 36.0	
	1.7nm,0.7s						
PVAQ	**Vaqueiros**	**4.71**	**336**	P	Pn	21 26 37.6	-0.2
PVAQ				S	Sn	21 27 38.4	+5.4
MORF	**Marmelete**	**5.00**	**328**	*e*P	Pn	21 26 40.4	-1.3
PCVE	**Castro Verde**	**5.03**	**335**	*e*S	Sn	21 27 37.4	-3.4
PBAR	**Barrancos**	**5.25**	**345**	*e*P	Pn	21 26 45.1	-0.1
PBAR				*e*S	Sn	21 27 44.6	-1.6
PBAR				A	A	21 27 51.9	
	1.2nm,0.8s						
MESJ	**Messejana**	**5.28**	**334**	*e*P	Pn	21 26 45.4	-0.2
MESJ				*e*S	Sn	21 27 46.8	-0.2
PNCL	**Nicolau / Gran**	**5.64**	**333**	*e*P	Pn	21 26 50.0	-0.5

MEX 25 21:35:57.8±0.4, 15°.36N×93°.29W, h84km±15km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.35**	**11**	*e*P	Pn	21 36 09.5	-1.4
PCIG				*i* S	Sn	21 36 18.9	-1.6

MEX 25 21:36:48.8±0.8, 16°.79N×99°.58W, h36km±12km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAIG	**Los Arroyos**	**0.24**	**345**	*i* P	Pn	21 36 54.7	-2.6
DAIG				*i* S	Sn	21 36 59.5	-5.6
MGIG	**Malinaltepec**	**1.01**	**64**	*i* P	Pn	21 37 05.2	-1.5
MGIG				*i* S	Sn	21 37 17.2	-2.4
MEIG	**Mezcala**	**1.14**	**358**	*i* P	Pn	21 37 09.2	+1.0
MEIG				*i* S	Sn	21 37 24.4	+1.8
TLIG	**Tlapa**	**1.24**	**51**	*i* P	Pn	21 37 08.5	-1.3
TLIG				*e*S	Sn	21 37 23.4	-1.9
PNIG	**Pinotepa**	**1.45**	**105**	*e*P	Pn	21 37 10.1	-2.4
PNIG				*i* S	Sn	21 37 27.9	-2.3
PNIG				*e*S	Sn	21 37 28.6	-1.7
PLIG	**Platanillo**	**1.60**	**3**	*e*P	Pn	21 37 13.0	-1.7
PLIG				*e*S	Sn	21 37 38.4	+4.3
ARIG	**Puente Sto Nin**	**1.66**	**334**	*e*P	Pn	21 37 16.9	+1.5
ARIG				*e*S	Sn	21 37 47.6	+2.2
FTIG	**Fresnillo de T**	**1.78**	**51**	*e*P	Pn	21 37 16.8	-0.3
FTIG				*e*S	Sn	21 37 39.4	+0.9
TXIG	**Tlaxiaco**	**1.80**	**75**	*e*P	Pn	21 37 16.3	-1.2
TXIG				*e*S	Sn	21 37 38.5	-0.8
YOIG	**Yosondua**	**1.95**	**88**	*e*P	Pn	21 37 20.3	+0.7
YOIG				*e*S	Sn	21 37 41.1	-2.0
HLIG	**Huajuapan de L**	**1.99**	**58**	*e*P	Pn	21 37 19.0	-1.2
HLIG				*e*S	Sn	21 37 41.4	-2.5

*IDC **25** 21:43:36.7±0.8, 17°.02N×146°.06E, h0km, mb3.6/9, mb1 3.9/10, mb1mx3.7/57, mbtmp3.7/10, ML3.8/1, MS3.4/3, Ms1 3.4/3, ms1mx2.8/43, Error ellipse: s-maj=27.8km s-min=17.4km az=102.0*

*NEIC **25** 21:43:39.0±1.4, 17°.04N×145°.92E±0°.09, h10km±1km, mb4.6/26, Error ellipse: s-maj=17.1km s-min=8.8km az=58.0*

ISC 25 21:43:38.5±0.7, 17°.06N±0°.08×146°.0E±0°.2, h10km, n51, σ0°99/41, mb4.3/21, MS3.5/3, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANA2	**Anatahan**	**0.75**	**198**		**Pn**	**21 43 54.9**	**-0.3**
GUMO	**Guam**	**3.61**	**197**	Pn	**Pn**	**21 44 35.7**	**+1.3**
	8.8nm,0.3s,baz=353,slow=16,SNR=1.6						
GUMO					Sn	**21 45 18.8**	**+1.7**
	8.1nm,0.3s,baz=168,slow=20,SNR=1.5						
GUMO	**Guam**	**3.61**	**197**	Pn	**Pn**	**21 44 35.6**	**+1.1**
H11S3	**WAKE ISLAND Hy**	**19.80**	**83**	T	T	22 08 42.6	
	baz=269,slow=75,SNR=55						
H11S1	**WAKE ISLAND Hy**	**19.82**	**83**	T	T	22 08 40.4	
	baz=269,slow=75,SNR=77						
H11S2	**WAKE ISLAND Hy**	**19.82**	**83**	T	T	22 08 40.8	
	baz=269,slow=75,SNR=123						
H11N1	**WAKE ISLAND Hy**	**20.05**	**79**	T	T	22 08 59.5	
	baz=266,slow=75,SNR=125						
H11N2	**WAKE ISLAND Hy**	**20.05**	**79**	T	T	22 08 54.1	
	baz=266,slow=75,SNR=127						
H11N3	**WAKE ISLAND Hy**	**20.07**	**79**	T	T	22 08 55.2	
	baz=266,slow=75,SNR=136						
MJAR	**Matsushiro Arr**	**20.58**	**342**	P	**P**	**21 48 19.4**	**+1.8**
	0.6nm,0.5s,baz=166,slow=10,SNR=1.7						
MJAR				LR	LR	21 55 14.5	
	comp=Z,48nm,18.1s,baz=95,slow=34						
JNU	**Nakatsue**	**20.98**	**322**	P	**P**	**21 48 21.2**	**-0.8**
FAKI	**Fak Fak**	**24.02**	**216**	P	**P**	**21 48 54.1**	**+0.3**
FAKI				IAmb	IAmb	21 49 10.8	
	comp=Z,21nm,1.0s						
KSRS	**Korea Array**	**25.78**	**326**	P	**P**	**21 49 10.4**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=152,slow=10,SNR=2.0						
KAPI	**Kappang**	**33.93**	**232**	LR	LR	22 03 06.1	
	comp=Z,101nm,20.0s,baz=105,slow=34						
WB0	**Warramunga Arr**	**38.32**	**198**	P	**P**	**21 50 57.8**	**-1.8**
WR0	**Warramunga Arr**	**38.46**	**197**	P	**P**	**21 51 00.0**	**-0.8**
WRAB	**Tennant Creek**	**38.49**	**198**	P	**P**	**21 51 00.8**	**-0.3**
WRAB				IAmb	IAmb	21 51 01.6	
	comp=Z,11nm,0.9s						
WB2	**Warramunga Arr**	**38.50**	**198**	P	**P**	**21 50 59.8**	**-1.4**
WRA	**Warramunga Arr**	**38.50**	**198**	P	**P**	**21 50 59.9**	**-1.2**
	comp=Z,0.8nm,0.7s,baz=22,slow=9.1,SNR=6.8						
WRA	**Warramunga Arr**	**38.50**	**198**	P	**P**	**21 51 01.2**	**+0.1**
ASAR	**Alice Springs**	**42.16**	**197**	P	**P**	**21 51 30.6**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=19,slow=8.6,SNR=7.1						
CMAR	**Chiang Mai Arr**	**44.69**	**279**	P	**P**	**21 51 52.9**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=66,slow=6.8,SNR=9.8						
MSVF	**Nonsavu**	**46.84**	**136**	LR	LR	22 09 04.8	

	comp=Z,67nm,18.5s,baz=305,slow=33						
GSI	**Gunungsitoli**	**50.07**	**257**	P	**P**	**21 52 33.5**	**-0.5**
FORT	**Forrest**	**50.58**	**200**	P	**P**	**21 52 35.1**	**-2.4**
MK31	**Makanchi Array**	**59.77**	**315**	P	**P**	**21 53 44.0**	**+0.2**
MK31				IAmb	IAmb	21 53 44.9	
	comp=Z,2.8nm,1.1s						
MKAR	**Makanchi Array**	**59.77**	**315**	P	**P**	**21 53 43.8**	**0.0**
	comp=Z,0.5nm,0.7s,baz=82,slow=9.1,SNR=4.3						
MAKZ	**Makanchi**	**59.98**	**315**	P	**P**	**21 53 45.8**	**+0.5**
MAKZ				IAmb	IAmb	21 53 54.4	
	comp=Z,2.7nm,1.1s						
SVW2	**Sparrevohn**	**60.14**	**29**	P	**P**	**21 53 46.7**	**+0.7**
SVW2				IAmb	IAmb	21 54 05.2	
	comp=Z,6.6nm,1.2s						
L19K	**White Mountain**	**60.84**	**27**	P	**P**	**21 53 50.8**	**0.0**
L19K				IAmb	IAmb	21 54 03.0	
	comp=Z,5.2nm,1.1s						
K20K	**Telida**	**61.57**	**26**	P	**P**	**21 53 56.4**	**+0.5**
K20K				IAmb	IAmb	21 53 58.0	
	comp=Z,4.6nm,1.1s						
CNPM	**China Poot**	**61.73**	**31**	P	**P**	**21 53 57.3**	**+0.4**
IMAR	**Indian Mountai**	**62.61**	**24**	P	**P**	**21 54 04.0**	**+1.3**
SEW	**Seward**	**62.75**	**31**	P	**P**	**21 54 04.2**	**+0.6**
SEW				IAmb	IAmb	21 54 22.2	
	comp=Z,5.1nm,0.8s						
PWL	**Port Wells**	**63.46**	**30**	P	**P**	**21 54 08.3**	**-0.1**
MLY	**Manley**	**63.49**	**25**	P	**P**	**21 54 08.9**	**+0.2**
SCM	**Sheep Creek Mo**	**64.15**	**29**	P	**P**	**21 54 12.3**	**-0.7**
SCM				IAmb	IAmb	21 54 14.9	
	comp=Z,7.1nm,1.0s						
ILAR	**Eielson Array**	**65.00**	**26**	P	**P**	**21 54 16.8**	**-1.8**
	comp=Z,0.7nm,0.8s,baz=254,slow=4.5,SNR=6.0						
DOT	**Dot Lake**	**65.98**	**27**	P	**P**	**21 54 24.6**	**-0.3**
DOT				IAmb	IAmb	21 54 34.1	
	comp=Z,1.6nm,0.8s						
BMAR	**Burnt Mountain**	**66.52**	**23**	P	**P**	**21 54 29.1**	**+0.8**
NIL	**Nilore**	**66.54**	**300**	P	**P**	**21 54 28.9**	**-0.1**
KKAR	**Karatay Array**	**67.99**	**310**	P	**P**	**21 54 37.9**	**-0.2**
GAR	**Garm**	**68.42**	**306**	P	**P**	**21 54 40.1**	**-0.9**
GAR				IAmb	IAmb	21 54 41.9	
	comp=Z,3.5nm,1.0s						
CHGR	**Chuyangaron**	**69.36**	**305**	P	**P**	**21 54 46.1**	**-0.6**
CHGR				IAmb	IAmb	21 54 47.5	
	comp=Z,6.2nm,0.8s						
KBL	**Kabul**	**69.91**	**301**	P	**P**	**21 54 49.0**	**-1.3**
KBL				IAmb	IAmb	21 54 51.2	
	comp=Z,2.7nm,0.9s						
NVAR	**Mina Array Bea**	**83.96**	**52**	P	**P**	**21 56 09.9**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=253,slow=7.0,SNR=3.6						
ELK	**Elko**	**85.51**	**49**	P	**P**	**21 56 17.9**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=254,slow=7.2,SNR=4.7						
H03S2	**Juan Fernandez**	**136.54**	**121**	T	T	00 34 51.7	
	baz=257,slow=75,SNR=3.5						
H03S1	**Juan Fernandez**	**136.55**	**121**	T	T	00 34 52.3	
	baz=257,slow=75,SNR=5.9						
H03S3	**Juan Fernandez**	**136.56**	**121**	T	T	00 34 50.8	
	baz=257,slow=75,SNR=9.0						
LPAZ	**La Paz**	**147.37**	**94**	PKPbc	**PKPbc**	**22 03 23.6**	**-0.7**
	comp=Z,1.8nm,1.1s,baz=256,slow=2.9,SNR=2.3						

*IDC **25** 21:51:18.8±1.2, 16°.93N×145°.95E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.5/57, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=35.1km s-min=26.5km az=115.0*

ISC 25 21:51:19.8±1.0, 16°.9N±0°.1×146°.0E±0°.2, h10km, n12, σ1°56/7, mb3.6/4, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.49**	**199**	Pn	**Pn**	**21 52 12.5**	**-1.6**
	7.0nm,0.3s,baz=12,slow=19,SNR=3.0						
GUMO					Sn	**21 52 57.2**	**+1.7**
	12nm,0.3s,baz=349,slow=24,SNR=1.7						
H11S3	**WAKE ISLAND Hy**	**19.75**	**82**	T	T	22 16 26.8	
	baz=269,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy**	**19.76**	**82**	T	T	22 16 33.5	
	baz=269,slow=75,SNR=26						
H11S2	**WAKE ISLAND Hy**	**19.77**	**82**	T	T	22 16 33.8	
	baz=269,slow=75,SNR=28						
H11N1	**WAKE ISLAND Hy**	**20.00**	**79**	T	T	22 16 51.1	
	baz=266,slow=74,SNR=49						
H11N2	**WAKE ISLAND Hy**	**20.01**	**79**	T	T	22 16 51.6	
	baz=266,slow=74,SNR=33						
H11N3	**WAKE ISLAND Hy**	**20.02**	**79**	T	T	22 16 44.2	
	baz=266,slow=74,SNR=50						
KSRS	**Korea Array**	**25.95**	**326**	P	**P**	**21 56 52.4**	**0.0**
	0.4nm,0.5s,baz=153,slow=10.0,SNR=1.9						
CMAR	**Chiang Mai Arr**	**44.79**	**279**	P	**P**	**21 59 34.5**	**+0.4**
	1.4nm,0.8s,baz=78,slow=6.6,SNR=7.1						
ILAR	**Eielson Array**	**65.11**	**26**	P	**P**	**22 01 59.5**	**-1.0**
	0.4nm,0.8s,baz=249,slow=4.8,SNR=3.2						
NVAR	**Mina Array Bea**	**83.99**	**52**	P	**P**	**22 03 52.6**	**+1.6**
	0.1nm,0.3s,baz=261,slow=5.1,SNR=2.0						
LPAZ	**La Paz**	**147.28**	**94**	PKPbc	**PKiKP**	**22 11 07.0**	**-0.6**
	1.6nm,1.1s,baz=275,slow=5.

baz=12,SNR=139
KDU S Sn 21 58 14.0 -6.4
baz=12
BKSI Bulukumba 11.93 247 P Pn 21 56 12.3 +3.8
640nm65nm,1.2s
BATI Baumata 12.00 218 P Pn 21 56 12.4 +3.0
7.9nm,0.3s,baz=123,slow=1.9,SNR=13
BATI Baumata 12.00 218 P Pn 21 56 12.6 +3.2
11µm38nm,0.7s
MTN Manton Dam 12.00 180 P Pn 21 56 08.5 -1.0
baz=12,SNR=77
MTN Manton Dam 12.00 180 Pn Pn 21 56 08.8 -0.7
KAPI Kappang 12.17 249 P Pn 21 56 15.9 +4.2
2.2nm,0.3s,baz=94,slow=13,SNR=14
KAPI Kappang 12.17 249 Pn Pn 21 56 14.5 +2.8
KAPI Kappang 12.17 249 P Pn 21 56 17.6 +5.9
830nm61nm,1.2s
EDFI Ende, Flores 12.34 230 P P 21 56 32.7 +6.7
WBSI Waikabubak, Su 14.68 233 P P 21 57 01.5 +10
KNRA Kununurra 15.01 189 P Pn 21 56 47.6 -2.8
baz=15,SNR=31
KNRA Kununurra 15.01 189 Pn Pn 21 56 47.7 -2.8
PLAI Plampang 15.57 239 P P 21 57 11.0 +9.2
MANU Manus Island 16.23 95 Pn Pn 21 57 05.8 -0.6
MTKI Muara Teweh, K 16.28 269 P P 21 57 11.3 +1.5
2µm24nm,1.1s
BBKI Banjar Baru 16.55 260 P P 21 57 23.3 +11
COEN Coen 17.68 138 P P 21 57 25.8 +0.5
baz=18
COEN Coen 17.68 138 P Pn 21 57 25.2 +0.6
FITZ Fitzroy Crossi 18.07 197 P Pn 21 57 28.1 -1.2
baz=18,SNR=60
FITZ S Sn 22 00 40.8 -9.4
baz=18
FITZ Fitzroy Crossi 18.07 197 P Pn 21 57 26.5 -2.7
2.3nm,0.3s,baz=33,slow=12,SNR=35
FITZ S Sn 22 00 41.5 -8.6
0.5nm,0.3s,baz=200,slow=22,SNR=3.5
FITZ LR LR 22 05 46.0
comp=Z,58nm,18.0s,baz=20,slow=41
FITZ Fitzroy Crossi 18.07 197 P Pn 21 57 29.0 -0.2
PMG Port Moresby 18.07 119 Pn 21 57 28.3 -1.0
PMG Port Moresby 18.07 119 P P 21 57 31.1 +1.5
40nm,0.9s
JAGI Jajag, Banyuwa 18.61 245 P P 21 57 35.9 +0.4
JAGI IAmb IAmb 21 57 39.6
comp=Z,135nm,1.5s
JAGI Jajag, Banyuwa 18.61 245 P Pn 21 57 38.8 +2.9
comp=Z,55nm,0.9s
WB0 Warramunga Arr 19.15 171 P P 21 57 41.7 +0.3
GMJI Gumukmas 19.18 247 P Pn 21 57 43.2 +0.4
comp=Z,2µmcomp=Z,45nm,1.4s
WRAB Tennant Creek 19.30 171 P P 21 57 43.9 +0.8
WRAB IAmb IAmb 21 57 59.9
comp=Z,23nm,0.7s
WRA Warramunga Arr 19.31 171 P P 21 57 44.2 +1.0
comp=Z,1.6nm,0.3s,baz=350,slow=12,SNR=50
WRA S S 22 01 10.0 -10
comp=Z,2.2nm,0.3s,baz=356,slow=22,SNR=8.0
WRA Warramunga Arr 19.31 171 P P 21 57 43.9 +0.7
WB2 Warramunga Arr 19.31 171 P P 21 57 43.7 +0.5
WB2 IAmb IAmb 21 58 00.0
comp=Z,27nm,0.7s
WC3 Warramunga Arr 19.33 171 P P 21 57 44.6 +1.2
baz=19
WR0 Warramunga Arr 19.36 170 P P 21 57 43.6 -0.1
PBKI Pangkalan Bun 19.60 264 P Pn 21 57 48.6 +0.8
comp=Z,132nm,0.8s
SJI Sawahan 20.55 250 P Pn 21 58 15.0 +16
QIS Mount Isa 21.33 158 P P 21 58 06.1 +1.1
baz=21,SNR=12
MTSU Mount Surprise 21.55 144 P P 21 58 09.0 +1.5
baz=22,SNR=27
AS31 Alice Springs 22.92 174 P P 21 58 23.0 +0.9
ASAR Alice Springs 22.92 174 P P 21 58 23.1 +1.1
comp=Z,13nm,0.7s,baz=354,slow=7.0,SNR=76
ASAR S S 22 02 26.2 -4.3
comp=Z,0.7nm,0.5s,baz=294,slow=25,SNR=2.0
ASAR Alice Springs 22.92 174 P P 21 58 23.3 +1.2
ASPA Alice Springs 22.92 174 P P 21 58 23.2 +1.1
baz=23
KPJI Karang Pucung 23.12 253 P P 21 58 27.2 +3.0
comp=Z,1µmcomp=Z,43nm,1.0s
PSA00 Pilbara Seismi 23.45 207 P P 21 58 27.7 +0.3
PSA00 IAmb IAmb 21 58 30.3
comp=Z,13nm,0.6s
PSA00 Pilbara Seismi 23.45 207 P P 21 58 26.5 -0.9
PSA00 IAmb IAmb 21 58 29.6
comp=Z,4.3nm,0.7s
CTA Charters Tower 24.22 143 P P 21 58 36.3 +1.7
comp=Z,14nm,0.8s,baz=312,slow=11,SNR=14
CTAO Charters Tower 24.22 143 P P 21 58 36.3 +1.7
CTAO IAmb IAmb 21 58 41.9
comp=Z,48nm,1.3s
CISI Cisompet, Garu 24.25 253 P P 21 58 34.2 -0.9
CISI IAmb IAmb 21 58 41.7
comp=Z,24nm,0.8s
CISI Cisompet, Garu 24.25 253 P P 21 58 36.4 +1.3
comp=Z,40nm,0.8s
LEM Lembang 24.26 255 P P 21 58 36.1 +0.8
comp=Z,20nm,0.4s,baz=8.4,slow=12,SNR=4.3
WRKA Warakurna 24.29 186 P P 21 58 36.7 +1.4
baz=24,SNR=87
TPUB Ta-pu 26.03 337 P P 21 58 50.1 -1.0
TPUB IAmb IAmb 21 58 57.2
comp=Z,20nm,1.0s
KLI Kotabumi 26.60 261 P P 21 59 04.1 +7.7
MDSI Maura Dua 27.22 262 P P 21 59 02.4 +0.5
comp=Z,16nm,0.9s
GIRL Giralia 27.29 216 P P 21 59 03.7 +1.3
LWLI Liwa 27.41 261 P P 21 59 04.9 +1.1
comp=Z,66nm,0.9s
BTDF Bukit Timah Da 27.49 274 P P 21 59 05.3 +1.0
comp=Z,14nm,1.1s
MASI Maura Aman, Be 29.02 265 P P 21 59 18.9 +0.8
comp=Z,117nm,0.8s
UBPT Khong Chiam 30.00 303 P P 21 59 28.2 +1.5
comp=Z,610nmcomp=Z,10nm,0.9s
UBPT Khong Chiam 30.00 303 P P 21 59 26.4 -0.2
UBPT Khong Chiam 30.00 303 P P 21 59 28.2 +1.5
comp=Z,582nmcomp=Z,10nm,0.9s
EIDS Eidsvold 31.11 143 P P 21 59 37.0 +0.7
EIDS IAmb IAmb 21 59 46.3
comp=Z,17nm,1.4s
MNSI Mandailing Nat 31.64 273 P P 21 59 40.9 -0.3
comp=Z,21nm,1.0s
MORW Morawa 31.64 206 P P 21 59 42.2 +1.2
baz=32,SNR=4.3
MORW Morawa 31.64 206 P P 21 59 41.7 +0.7
MORW IAmb IAmb 21 59 52.4
comp=Z,19nm,1.4s
BBOO Buckleboo 32.21 172 P P 21 59 47.1 +1.1
BBOO IAmb IAmb 21 59 53.6
comp=Z,9.9nm,0.9s
RPSI Rantau Prapat 32.43 276 P P 21 59 47.9 -0.2
PSI Prapat 32.44 276 P P 21 59 48.2 -0.2
comp=Z,12nm,1.4s,comp=Z,31nm,0.9s
PSI P P 21 59 48.2 -0.2
comp=Z,12nm,1.4s,comp=Z,31nm,0.9s
STKA Stephens Creek 32.48 163 P P 21 59 49.4 +1.1
baz=33,SNR=7.6
STKA Stephens Creek 32.48 163 P P 21 59 49.4 +1.1
comp=Z,10nm,0.8s,baz=343,slow=7.4,SNR=22
STKA LR LR 22 13 50.4
comp=Z,106nm,18.9s,baz=16,slow=38
STKA Stephens Creek 32.48 163 P P 21 59 49.4 +1.1
CHAI Chaiyaphum 33.25 301 P P 21 59 55.4 +0.2
comp=Z,814nmcomp=Z,101nm,0.6s
GSI Gunungsitoli 33.66 273 P P 21 59 58.3 -0.7
SLVN Son La 34.53 311 P P 22 00 06.1 -0.4
NWAO Narrogin (SRO) 34.58 201 P P 22 00 06.7 +0.1
baz=35,SNR=5.4
NWAO Narrogin (SRO) 34.58 201 P P 22 00 08.2 +1.6
NWAO IAmb IAmb 22 00 14.6
comp=Z,14nm,1.1s
NJ2 Nanjing 34.66 341 eP P 22 00 09.3 +2.0
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
PHIT Phitsanulok 35.17 302 P P 22 00 12.9 +1.0
comp=Z,2µmcomp=Z,171nm,0.7s
UTHA Uthaitani 35.30 299 P P 22 00 13.7 +0.7
comp=Z,387nmcomp=Z,42nm,0.7s
UTTA Uttaradit 35.31 303 P P 22 00 13.9 +0.8
comp=Z,28nm,0.8s
ARMA Armidale 35.32 149 P P 22 00 14.5 +1.4
baz=35,SNR=4.5
ARMA Armidale 35.32 149 P P 22 00 14.1 +0.9
ARMA IAmb IAmb 22 00 15.8
comp=Z,17nm,0.8s
JHS Saijyo 35.62 3 P P 22 00 15.3 -0.3
JHS IAmb IAmb 22 00 16.6
comp=Z,21nm,1.2s
NANT Nan 35.70 305 P P 22 00 17.6 +1.1
comp=Z,43nm,0.7s
GYA Guiyang 35.93 321 ⇑P P
GYA pP sP 22 00 26.0 +7.5
GYA pmax pmax 22 00 31.5 +1.4
comp=Z,7.0nm,1.8s
JWT Wachi 36.08 6 P P 22 00 18.2 -1.2
JWT IAmb IAmb 22 00 19.0
comp=Z,7.8nm,0.7s
UMPA Umpang Tak 36.08 299 P P 22 00 21.0 +1.2
comp=Z,31nm,1.0s
LAMP Lampang 36.45 303 P P 22 00 24.3 +1.4
comp=Z,387nmcomp=Z,49nm,0.8s
PAYA Payao 36.66 305 P P 22 00 25.2 +0.5
comp=Z,326nmcomp=Z,41nm,0.8s
CM04 Chiang Mai Arr 36.94 303 P P 22 00 28.2 +1.1
comp=Z,155nmcomp=Z,18nm,0.9s
CM09 Chiang Mai Arr 36.95 303 P P 22 00 28.3 +1.1
comp=Z,190nmcomp=Z,24nm,0.8s
CM01 Chiang Mai Arr 36.97 303 P P 22 00 28.5 +1.2
comp=Z,182nmcomp=Z,20nm,0.9s
CM05 Chiang Mai Arr 36.97 303 P P 22 00 28.4 +1.1
comp=Z,120nmcomp=Z,11nm,0.8s
CM02 Chiang Mai Arr 36.99 303 P P 22 00 28.5 +1.0
comp=Z,155nmcomp=Z,21nm,0.8s
CM31 Chiang Mai Arr 37.00 303 P P 22 00 28.4 +0.8
CM31 IAmb IAmb 22 00 29.5
comp=Z,18nm,0.8s
CMAR Chiang Mai Arr 37.00 303 P P 22 00 28.5 +0.9
comp=Z,12nm,0.8s,baz=126,slow=7.1,SNR=62
CMAR PcP PcP 22 02 49.8 +1.3
comp=Z,1.3nm,0.4s,baz=130,slow=0.8,SNR=6.3
CMAR Chiang Mai Arr 37.00 303 P P 22 00 28.0 +0.4
CMAR PcP PcP 22 02 49.5 +1.1
CM13 Chiang Mai Arr 37.01 303 P P 22 00 28.7 +1.0
comp=Z,135nmcomp=Z,18nm,0.8s
CM15 Chiang Mai Arr 37.01 303 P P 22 00 28.7 +1.0
comp=Z,187nmcomp=Z,27nm,0.8s
ENH Enshi 37.14 328 P P 22 00 28.1 -0.5
CMMT Chiang Mai 37.16 303 P P 22 00 29.3 +0.3
comp=Z,36nm,0.7s
CMMT Chiang Mai 37.16 303 P P 22 00 29.3 +0.3
comp=Z,34nm,0.7s
CHTO Chiang Mai 37.16 303 P P 22 00 29.4 +0.4
comp=Z,35nm,0.7s
CHTO Chiang Mai 37.16 303 P P 22 00 28.8 -0.2
CHTO IAmb IAmb 22 00 30.5
comp=Z,21nm,0.7s
CHTO Chiang Mai 37.16 303 P P 22 00 29.4 +0.4
comp=Z,20nm,0.7s
MJAR Matsushiro Arr 37.69 9 P P 22 00 31.1 -2.0
comp=Z,0.4nm,0.4s,baz=164,slow=4.6,SNR=2.8
KSAR Wonju Array Be 38.14 356 P P 22 00 36.1 -0.8
KSRS Korea Array 38.15 356 P P 22 00 35.6 -1.4
comp=Z,1.1nm,0.7s,baz=181,slow=9.4,SNR=5.5
KSRS PcP PcP 22 02 51.5 0.0
comp=Z,1.6nm,0.8s,baz=186,slow=3.1,SNR=5.8
XAN Xi'an 40.44 331 P P 22 00 54.5 -1.8
XAN pP pP 22 01 01.5 -2.9
XAN sP sP 22 01 05.8 -2.1
XAN ScP ScP 22 06 48.3 +1.7
XAN pmax pmax
comp=Z,15nm,0.9s
H11N1 WAKE ISLAND Hy 40.49 58 T T 22 43 58.5
baz=245,slow=75,SNR=76
H11N2 WAKE ISLAND Hy 40.51 58 T T 22 43 50.4
baz=245,slow=75,SNR=39
H11N3 WAKE ISLAND Hy 40.51 58 T T 22 44 00.1
baz=245,slow=75,SNR=65
BJT Baijiatuan 42.84 343 P P 22 01 15.2 -0.6
BJI Beijing 42.86 343 P P 22 01 16.0 +0.1
BJI sP sP 22 01 28.8 +1.2
BJI PcP PcP 22 03 07.3 +0.7
BJI pmax pmax
comp=Z,9.0nm,1.1s
LZH Lanzhou 44.62 328 ⇑P P 22 01 30.5 +0.1
LZH pP pP 22 01 37.8 -0.7
LZH sP sP 22 01 43.8 +1.7
LZH pmax pmax
comp=Z,16nm,1.1s
USA0B Ussuriysk Arra 44.77 1 P P 22 01 30.1 -1.1
USA0B IAmb IAmb 22 01 31.2
comp=Z,7.7nm,0.8s
USRK Ussuriysk Ar. 44.77 1 P P 22 01 29.9 -1.3
comp=Z,3.7nm,0.7s,baz=183,slow=7.4,SNR=6.8
USRK Ussuriysk Ar. 44.77 1 P P 22 01 30.4 -0.8
HHC Hu-ho-hao-te 45.10 339 eP P 22 01 35.8 +1.8
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,130nm,5.3s
HHC LR LR
comp=Z,200nm,15.6s
HHC LR LR
comp=Z,140nm,14.3s
HHC LR LR
comp=Z,180nm,14.6s
ASAJ Asahikawa 45.83 11 P P 22 01 40.1 +0.5
comp=Z,3.3nm,0.7s,baz=166,slow=8.3,SNR=1.5
SHL Shillong 46.11 307 P P 22 01 40.9 -1.5
LSA Lhasa 48.73 312 P P 22 02 03.1 0.0
LSA IAmb IAmb 22 02 12.5
comp=Z,8.4nm,1.0s
MSVF Nonsavu 49.04 113 P P 22 02 06.9 +1.8
comp=Z,9.0nm,0.9s,baz=110,slow=23,SNR=3.7
MSVF Nonsavu 49.04 113 P P 22 02 05.3 +0.2
MSVF IAmb IAmb 22 02 08.8
comp=Z,12nm,0.9s
GTA Gaotai 49.23 328 ⇓P P 22 02 06.3 0.0
GTA pP pP 22 02 13.0 -1.5
GTA sP sP 22 02 17.8 -0.2
GTA PcP PcP 22 03 30.3 +1.1
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA pmax pmax
comp=Z,76nm,5.1s
GTA LR LR
comp=Z,190nm,17.1s
GTA LR LR
comp=Z,110nm,18.5s
GTA LR LR
comp=Z,86nm,16.4s
KLR Kul'dur 49.80 0 P P 22 02 10.4 +0.1
comp=Z,0.7nm,0.4s,baz=118,slow=12,SNR=4.4
TAPN Taplejung 50.25 307 eP P 22 02 14.1 -0.4
comp=Z,16nm,0.5s
ODAN Odare 50.29 307 eP P 22 02 14.2 -0.6
comp=Z,42nm,0.7s
RAMN Ramite 50.97 306 eP P 22 02 19.7 -0.2
comp=Z,30nm,0.5s
JIRN Jiri 51.60 307 eP P 22 02 24.3 -0.5
comp=Z,27nm,0.6s
PKI Pulchoki 52.19 306 eP P 22 02 28.0 -1.1
comp=Z,15nm,0.8s
PKIN Phulchoki 52.20 306 eP P 22 02 27.8 -1.3
comp=Z,20nm,0.9s
KKN Kakani 52.38 307 eP P 22 02 29.7 -0.7
comp=Z,20nm,0.7s
DMN Daman 52.45 306 eP P 22 02 30.1 -0.9
comp=Z,47nm,0.9s
ULN Ulaanbaatar 52.79 340 P P 22 02 32.6 -0.4
ULN Ulaanbaatar 52.79 340 P P 22 02 33.2 +0.2
comp=Z,28nm,0.8s
GKN Gorkha 52.99 307 eP P 22 02 33.9 -0.9
comp=Z,46nm,1.0s
SONM Songino Array 53.00 339 P P 22 02 34.2 -0.3
comp=Z,0.9nm,0.5s,baz=159,slow=8.6,SNR=8.1
SONM PcP PcP 22 03 42.5 -0.4
comp=Z,1.7nm,0.7s,baz=151,slow=3.7,SNR=4.3
SONM Songino Array 53.00 339 P P 22 02 33.9 -0.6
KOLN Koldanda 53.73 306 eP P 22 02 40.1 -0.3
comp=Z,116nm,0.8s
DANN Dangsing 53.84 306 eP P 22 02 40.7 -0.5
comp=Z,93nm,0.7s
PYUN Piuthan 54.36 306 eP P 22 02 44.7 -0.2
comp=Z,99nm,0.7s
PETK Petropavlovsk- 58.07 18 P P 22 03 10.3 -0.4
comp=Z,3.1nm,0.7s,baz=191,slow=6.8,SNR=3.3
WMQ Urumqi 58.94 324 eP P 22 03 17.5 +0.5
WMQ pP sP 22 03 30.3 +1.4
SHLS Shalkode 63.62 320 eP P 22 03 46.1 -2.8
baz=320
MK31 Makanchi Array 63.76 325 P P 22 03 49.4 -0.2
MKAR Makanchi Array 63.76 325 P P 22 03 49.4 -0.2
comp=Z,12nm,0.5s,baz=114,slow=9.7,SNR=172
MKAR Makanchi Array 63.76 325 P P 22 03 49.2 -0.4
MAKZ Makanchi 63.95 325 P P 22 03 50.6 -0.2
NIL Nilore 64.18 308 P P 22 03 51.9 -0.7
SATY Saty 64.25 320 eP P 22 03 50.3 -2.7
comp=Z,41nm,1.6s,baz=320
KPKS Kokpek 64.27 320 eP P 22 03 50.7 -2.4
baz=320
KSH Kashi 64.34 315 P P 22 03 54.8 +1.1
KSH sP sP 22 04 11.0 +5.5
KSH pmax pmax
comp=Z,9.0nm,0.8s
MDOK Medeo 65.19 319 eP P 22 03 58.8 -0.3
baz=319
TNSS Tian-Shan 65.20 319 eP P 22 03 59.3 -0.2
baz=319
SEY Seymchan 65.50 10 P P 22 04 00.5 0.0
comp=Z,12nm,0.7s,baz=199,slow=4.5,SNR=32
CHKK Chushkaly 65.54 320 eP P 22 03 59.9 -1.3
baz=320
MTBS Maitube 65.58 319 eP P 22 04 00.6 -1.0
baz=319
KUU Kurty 65.97 320 eP P 22 04 02.8 -1.3
comp=Z,18nm,0.8s,baz=320
TKM2 Tokmak 2 66.03 318 P P 22 04 04.7 0.0
SNR=9.3
UCH Uchtor 66.47 317 P P 22 04 08.3 +0.6
SNR=10
ZAA0 Zalesovo Array 66.59 332 P P 22 04 06.7 -1.0
ZAA0 IAmb IAmb 22 04 07.7
comp=Z,9.4nm,1.0s
ZALV Zalesovo Beam 66.59 332 P P 22 04 06.7 -1.1
comp=Z,6.2nm,0.8s,baz=104,slow=6.3,SNR=22
SEM Semipalatinsk 66.85 327 eP P 22 04 07.9 -1.9
baz=327
SGDS Sogindy 66.90 319 eP P 22 04 07.6 -2.4
baz=319
USP Ospenovka 66.91 318 P P 22 04 10.1 0.0
SNR=13
AML Almayashu 66.99 317 P P 22 04 11.5 +0.5
SNR=13
CASY Casey 67.01 189 P P 22 04 11.4 +1.3
CASY IAmb IAmb 22 04 12.8
comp=Z,7.9nm,0.9s
EKS2 Erkin-Say 67.14 318 P P 22 04 12.6 +0.9
SNR=11
KBL Kabul 67.77 308 P P 22 04 14.9 -1.0
KBL IAmb IAmb 22 04 16.0
comp=Z,8.6nm,0.7s
GAR Garm 68.22 313 P P 22 04 17.5 -1.1
BTK Batken 68.22 314 P P 22 04 17.9 -0.6
BTK IAmb IAmb 22 04 20.3
comp=Z,7.9nm,0.8s
CHGR Chuyangaron 68.96 312 P P 22 04 22.4 -0.8
KK31 Karatay Array 69.53 317 P P 22 04 25.7 -0.7
BRZS Berezniki 70.90 324 eP P 22 04 33.4 -1.4
comp=Z,6.6nm,0.9s,baz=324
HRA Herat 73.16 306 P P 22 04 48.0 -0.8
HRA IAmb IAmb 22 04 56.9
comp=Z,13nm,1.4s
BRVK Borovoye 73.56 327 P P 22 04 50.1 -0.4
NRIK Noril'sk 75.85 345 P P 22 05 03.0 -0.4
comp=Z,3.2nm,0.5s,baz=120,slow=6.8,SNR=4.7
NRIK Noril'sk 75.85 345 P P 22 05 02.4 -1.0
NRIK IAmb IAmb 22 05 16.0
comp=Z,6.5nm,0.9s
GEYT Alibeck 77.16 309 P P 22 05 12.0 +0.4
comp=Z,36nm,0.6s,baz=111,slow=8.1,SNR=9.9
GYA0B ALIBECK ARRAY 77.16 309 P P 22 05 11.3 -0.3
GYA0B IAmb IAmb 22 05 12.5
comp=Z,8.9nm,0.8s
ABKAR Akbulak array 78.42 321 IAmb IAmb 22 05 22.6
comp=Z,11nm,0.7s
VNDA Vanda 78.46 173 P P 22 05 19.6 +1.5
comp=Z,2.6nm,0.8s,baz=317,slow=5.6,SNR=21
VNDA Vanda 78.46 173 P P 22 05 18.8 +0.8
ARU Arti 81.09 328 P P 22 05 31.9 -0.7
MAW Mawson 81.15 201 P P 22 05 34.6 +1.9
baz=81,SNR=12
MAW Mawson 81.15 201 P P 22 05 34.1 +1.4
comp=Z,5.1nm,0.7s,baz=69,slow=7.3,SNR=17
MAW Mawson 81.15 201 P P 22 05 33.6 +0.9
J20K Nowinta River 84.04 25 P P 22 05 47.7 -0.1
J20K IAmb IAmb 22 05 57.5
comp=Z,8.0nm,0.9s
MLY Manley 85.66 25 IAmb IAmb 22 06 05.8
comp=Z,4.5nm,0.8s
SML Sawmill 86.17 28 P P 22 05 58.4 -0.3
RND Reindeer 86.18 26 IAmb IAmb 22 06 07.1
comp=Z,10nm,0.8s
MCK McKinley 86.20 26 P P 22 05 58.0 -0.7
MCK IAmb IAmb 22 06 07.0
comp=Z,9.1nm,1.0s
I23K Minto, Yukon-K 86.25 25 P P 22 05 58.5 -0.3
I23K IAmb IAmb 22 06 08.1
comp=Z,7.3nm,1.0s
SCM Sheep Creek Mo 86.64 28 IAmb IAmb 22 06 11.7
comp=Z,11nm,1.0s
DHY Denali Highway 86.79 27 P P 22 06 01.7 -0.1
DHY IAmb IAmb 22 06 10.6
comp=Z,5.9nm,0.9s
CCB Clear Creek Bu 86.83 25 P P 22 06 00.8 -0.9
CCB IAmb IAmb 22 06 09.6
comp=Z,4.4nm,0.8s
ILAR Eielson Array 87.24 25 P P 22 06 02.2 -1.6
comp=Z,0.7nm,0.7s,baz=257,slow=4.7,SNR=7.4
ONI Oni 88.83 312 P P 22 06 09.9 -2.0
ONI IAmb IAmb 22 06 13.8
comp=Z,5.0nm,1.1s
KARS Kars 89.05 310 P P 22 06 12.2 -0.9
QSPA South Pole Qui 89.17 180 P P 22 06 13.4 +0.3
QSPA IAmb IAmb 22 06 15.4
comp=Z,7.5nm,0.8s
KBZ Khabaz 89.28 314 P P 22 06 15.3 +1.5
comp=Z,1.5nm,0.8s,baz=56,slow=3.1,SNR=4.1
KLMR Klimovskoe 91.47 331 eP P 22 06 20.3 -3.4
KLMR AMP 22 06 22.7
comp=Z,12nm,1.3s
KMBO Kilima Mbogo 93.91 269 P P 22 06 37.5 +1.1
comp=Z,0.5nm,0.3s,baz=70,slow=3.7,SNR=3.8
KMBO Kilima Mbogo 93.91 269 P P 22 06 35.4 -0.9
KMBO IAmb IAmb 22 06 39.1
comp=Z,5.0nm,1.2s
ARCES ARCESS Array B 96.16 340 P P 22 06 43.5 -1.7
comp=Z,3.6nm,0.7s,baz=72,slow=5.8,SNR=13
ARCES ARCESS Array B 96.16 340 IAmb IAmb 22 06 44.8
comp=Z,5.3nm,0.9s
BRTR Keskin Array B 96.29 310 P P 22 06 44.9 -1.7
comp=Z,1.1nm,0.9s,baz=98,slow=3.7,SNR=6.8
FINES FINESS Array B 97.86 332 P P 22 06 51.2 -1.7
comp=Z,0.8nm,0.5s,baz=72,slow=6.2,SNR=7.1
TORD Torodi Ar. Bea 128.49 286 PKP **PKPdf** 22 12 25.2 -0.2
comp=Z,0.9nm,0.7s,baz=59,slow=2.4,SNR=6.3
PLCA Paso Flores 134.21 157 PKP **PKPdf** 22 12 35.6 -0.1
comp=Z,1.0nm,0.8s,baz=188,slow=7.1,SNR=2.1
CPUP Villa Florida 151.84 164 PKPbc **PKiKP** 22 13 13.6 +0.1
comp=Z,2.3nm,0.7s,baz=224,slow=5.5,SNR=4.2

WEL 25 21:56:21.8±1.0, 31°S±6°×17°8E±1°6, h33km, M4.5/6, mB5.0/6, ML4.9/12, MLv4.6/4, Mw(mB)4.3/6, Error ellipse: s-maj=0.0km s-min=0.0km az=105.1, North of New Zealand

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.29**	**64**	P		P	Pn	21 57 23.3	-1.5
MXZ	**Matakaoa Point**	**6.35**	**175**	P		P	Pn	21 57 54.5	+1.5
MXZ				S		S	Sn	21 59 05.6	+1.1
HAZ	**Te Kaha**	**6.52**	**179**	P		P	Pn	21 57 55.2	-0.3
HAZ				S		S	Sn	21 59 10.2	+1.6
PKGZ	**Pakihiroa**	**6.66**	**177**	P		P	Pn	21 57 57.9	+0.5
RUGZ	**Raukumara Rang**	**6.73**	**180**	P		P	Pn	21 58 00.5	+2.1
RUGZ				S		S	Sn	21 59 15.8	+1.8
TWGZ	**Tauwhareparae**	**6.95**	**178**	P		P	Pn	21 58 06.4	+5.1
TWGZ				S		S	Sn	21 59 20.7	+1.5
MWZ	**Matawai**	**7.10**	**181**	P		P	Pn	21 58 04.9	+1.5
MWZ				S		S	Sn	21 59 24.8	+1.8
MUGZ	**Murupara**	**7.28**	**186**	P		P	Pn	21 58 09.0	+3.1
MUGZ				S		S	Sn	21 59 32.0	+4.7
RIGZ	**Rimuhau**	**7.47**	**179**	P		P	Pn	21 58 07.0	-1.5
RIGZ				S		S	Sn	21 59 28.0	-4.1

RAHZ	**Arahi**	**7.70**	**183**	P	Pn	21 58 11.8	+0.3	
RAHZ				S	Sn	21 59 38.6	+1.0	
NMHZ	**Naumai**	**7.89**	**185**	P	Pn	21 58 14.5	+0.2	
NMHZ				S	Sn	21 59 44.4	+1.9	
BKZ	**Black Stump Fm**	**7.99**	**187**	P	Pn	21 58 16.3	+0.7	
BKZ				S	Sn	21 59 45.8	+1.0	
MCHZ	**McNeill Hill**	**8.25**	**185**	P	Pn	21 58 18.8	-0.3	
KWHZ	**Kaweka Forest**	**8.25**	**187**	P	Pn	21 58 19.3	+0.1	
KWHZ				S	Sn	21 59 51.5	+0.2	
KRHZ	**Kereru**	**8.47**	**187**	P	Pn	21 58 20.5	-1.8	
KRHZ				S	Sn	21 59 54.6	-2.1	
PNHZ	**Pukenui**	**8.76**	**187**	P	Pn	21 58 23.3	-2.8	
PNHZ				S	Sn	22 00 01.2	-2.5	
PXZ	**Pawanui**	**8.82**	**184**	P	Pn	21 58 23.0	-3.9	
MRZ	**Mangatainoka R**	**9.57**	**190**	P	Pn	21 58 33.1	-4.2	

MEX 25 21:58:34.3±0.6, 16°90N×94°68W, h118km±5km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.27**	**315**	*i* P	Pn	21 58 49.9	-1.1
CMIG				*i* S	Sn	21 59 01.5	-2.0
TGIG		**1.50**	**94**	*e*P	Pn	21 59 00.4	-1.3
TGIG				*e*S	Sn	21 59 19.3	-3.1
PCIG		**1.84**	**130**	*i* P	Pn	21 59 04.3	-1.3
PCIG				*e*S	Sn	21 59 27.4	-2.2
VHO	**Vista Hermosa**	**1.97**	**275**	*e*P	Pn	21 59 07.3	-0.3
VHO				*i* S	Sn	21 59 32.9	0.0
PEIG	**Puerto Escondi**	**2.53**	**250**	*i* P	Pn	21 59 11.8	-2.6
PEIG				*i* S	Sn	21 59 43.1	-2.2
TOIG	**Toxpalan**	**2.57**	**298**	*e*P	Pn	21 59 12.8	-2.2
TOIG				*i* S	Sn	21 59 45.0	-1.3
YOIG	**Yosondua**	**2.74**	**270**	*e*P	Pn	21 59 16.5	-1.0
YOIG				*e*S	Sn	21 59 50.0	-0.6
PNIG	**Pinotepa**	**3.34**	**262**	*i* P	Pn	21 59 23.7	-1.3
PNIG				*i* S	Sn	22 00 02.5	-1.9

*IDC **25** 22:04:25.7±0.7, 17°05N×146°00E, h0km, mb4.0/13, mb1 4.3/14, mb1mx4.0/49, mbtmp4.0/14, ML4.1/1, MS3.3/14, Ms1 3.3/14, ms1mx3.1/45, Error ellipse: s-maj=23.6km s-min=15.5km az=101.0*

*BJI **25** 22:04:28.6±0.0, 16°95N×145°81E, h23km, mB4.8/28, mb4.6/42, Ms4.3/9, Ms7 3.9/8*

*NEIC **25** 22:04:30.2±1.1, 16°92N±0°07×145°9E±0°1, h24km±5km, mb4.7/69, Error ellipse: s-maj=16.4km s-min=9.7km az=93.0*

ISC 25 22:04:31.2±0.5, 17°02N±0°06×145°92E±0°09, h35km, n136, σ0s96/114, mb4.7/70, MS3.6/18, 2C-1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**0.34**	**203**	P	**Pn**	**22 04 37.3**	**-2.4**
ANA2	**Anatahan**	**0.70**	**196**	Pn	**Pn**	**22 04 43.6**	**-1.1**
ANA2	**Anatahan**	**0.70**	**196**	P	**Pn**	**22 04 43.6**	**-1.0**
GUMO	**Guam**	**3.56**	**197**	Pn	**Pn**	**22 05 23.9**	**0.0**
	15nm,0.3s,baz=52,slow=12,SNR=5.0						
GUMO				LR	LR	22 05 54.3	
	comp=Z,106nm,18.1s,baz=17,slow=24						
GUMO				Sn	**Sn**	**22 06 07.6**	**+2.8**
	16nm,0.3s,baz=130,slow=21,SNR=1.8						
GUMO	**Guam**	**3.56**	**197**	Pn	**Pn**	**22 05 23.1**	**-0.8**
JOW	**Kunigami**	**19.04**	**304**	P	**P**	**22 08 50.1**	**-0.3**
JOW				IAmb	IAmb	22 09 04.5	
	comp=Z,87nm,1.1s						
H11S3	**WAKE ISLAND Hy**	**19.84**	**83**	T	T	22 29 37.6	
	baz=269,slow=75,SNR=116						
H11S1	**WAKE ISLAND Hy**	**19.85**	**83**	T	T	22 29 39.0	
	baz=269,slow=75,SNR=146						
JMN	**Monobe**	**19.85**	**329**	P	**P**	**22 08 59.9**	**+0.6**
JMN				IAmb	IAmb	22 09 15.3	
	comp=Z,76nm,1.4s						
H11S2	**WAKE ISLAND Hy**	**19.85**	**83**	T	T	22 29 39.4	
	baz=269,slow=75,SNR=149						
INU	**Inuyama**	**19.91**	**338**	P	**P**	**22 08 59.7**	**0.0**
JGF	**Kuroka**	**20.02**	**339**	P	**P**	**22 09 00.5**	**-0.6**
H11N1	**WAKE ISLAND Hy**	**20.08**	**79**	T	T	22 29 43.2	
	baz=266,slow=74,SNR=400						
H11N2	**WAKE ISLAND Hy**	**20.09**	**79**	T	T	22 29 46.9	
	baz=266,slow=74,SNR=241						
H11N3	**WAKE ISLAND Hy**	**20.10**	**79**	T	T	22 29 45.0	
	baz=266,slow=74,SNR=394						
JSU	**Suzuyama**	**20.13**	**319**	P	Pn	22 09 03.3	-1.0
MJAR	**Matsushiro Arr**	**20.61**	**342**	P	**P**	**22 09 06.5**	**-0.9**
	comp=Z,3.7nm,1.0s,baz=165,slow=12,SNR=4.4						
MJAR				LR	LR	22 15 54.7	
	comp=Z,101nm,19.9s,baz=150,slow=34						
MJAR	**Matsushiro Arr**	**20.61**	**342**		Pn	22 09 09.4	-0.5
MAJO	**Matsushiro**	**20.61**	**342**	P	Pn	22 09 08.7	-1.2
MAT	**Matsushiro**	**20.61**	**342**	P	**P**	**22 09 06.1**	**-1.4**
MAT				*e*S	**S**	**22 12 55.0**	**-1.0**
JSD	**Sado**	**22.00**	**344**	P	**P**	**22 06 22.6**	**+0.4**
DAV	**Davao City (W)**	**22.19**	**246**	LR	LR	22 16 19.6	
	comp=Z,32nm,20.3s,baz=70,slow=32						
NACB	**Ninganchiao**	**23.83**	**291**	P	**P**	**22 09 41.3**	**+0.1**
NACB				IAmb	IAmb	22 09 57.0	
	comp=Z,18nm,0.9s						
TWG	**Pinlang**	**24.05**	**288**	P	**P**	**22 09 42.5**	**-0.7**
TWG				IAmb	IAmb	22 09 46.9	
	comp=Z,28nm,1.0s						
SSLB	**Suanglung**	**24.33**	**290**	P	**P**	**22 09 45.2**	**-0.7**
SSLB				IAmb	IAmb	22 09 58.6	
	comp=Z,33nm,1.1s						
KSRS	**Korea Array**	**25.80**	**326**	P	**P**	**22 09 58.7**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=141,slow=10,SNR=5.9						
KSRS				LR	LR	22 18 38.6	
	comp=Z,56nm,20.2s,baz=122,slow=33						
KSAR	**Wonju Array Be**	**25.82**	**326**	P	**P**	**22 09 59.8**	**+0.7**
KS19	**Wonju Array Si**	**25.87**	**326**	P	**P**	**22 10 00.4**	**+0.8**
ASAJ	**Asahikawa**	**27.16**	**355**	LR	LR	22 20 16.1	
	comp=Z,35nm,21.1s,baz=190,slow=35						
NJ2	**Nanjing**	**28.70**	**306**	*e*P	**P**	**22 10 27.0**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
BJT	**Baijiatuan**	**34.49**	**318**	P	**P**	**22 11 15.4**	**-0.5**
BJI	**Beijing**	**34.50**	**318**	P	**P**	**22 11 16.0**	**0.0**
BJI				pP	**pP**	**22 11 25.3**	**0.0**
BJI				pmax	pmax		
	comp=Z,17nm,0.9s						
BATI	**Baumata**	**34.87**	**221**	LR	LR	22 23 23.2	
	comp=Z,54nm,20.9s,baz=48,slow=32						
MIDW	**Midway**	**35.55**	**65**	P	**P**	**22 11 25.4**	**+0.3**
ENH	**Enshi**	**35.72**	**298**	P	**P**	**22 11 26.1**	**-0.7**
ENH				IAmb	IAmb	22 11 29.8	
	comp=Z,12nm,0.8s						
XAN	**Xi'an**	**37.19**	**304**	P	**P**	**22 11 38.3**	**-0.9**
XAN				pP	pP	22 11 48.0	-0.6
XAN				sP	sP	22 11 52.5	-0.1
XAN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GYA	**Guiyang**	**37.53**	**291**	⇑P	**P**	**22 11 43.0**	**+0.7**
GYA				pP	pwP	22 11 52.5	-1.7
GYA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
HHC	**Hu-ho-hao-te**	**37.94**	**316**	*e*P	**P**	**22 11 45.8**	**+0.3**
HHC				pmax	pmax		
	comp=Z,14nm,0.9s						
HHC				pmax	pmax		
	comp=Z,96nm,4.4s						
HHC				LR	LR		
	comp=Z,120nm,15.0s						
HHC				LR	LR		
	comp=Z,170nm,14.8s						
HHC				LR	LR		
	comp=Z,130nm,14.7s						
WB0	**Warramunga Arr**	**38.27**	**198**	P	**P**	**22 11 47.2**	**-1.2**
WR0	**Warramunga Arr**	**38.41**	**197**	P	**P**	**22 11 48.6**	**-0.9**
WB2	**Warramunga Arr**	**38.45**	**198**	P	**P**	**22 11 49.4**	**-0.4**
WB2				IAmb	IAmb	22 11 50.7	
	comp=Z,20nm,1.4s						
WRA	**Warramunga Arr**	**38.45**	**198**	P	**P**	**22 11 49.4**	**-0.5**
	comp=Z,5.6nm,1.1s,baz=19,slow=8.3,SNR=14						
WRA	**Warramunga Arr**	**38.45**	**198**	P	**P**	**22 11 48.9**	**-1.0**
SLVN	**Son La**	**39.83**	**283**	P	**P**	**22 12 01.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**40.20**	**211**	P	**P**	**22 12 03.8**	**-0.7**
LZH	**Lanzhou**	**41.77**	**305**	⇑P	**P**	**22 12 18.8**	**+1.3**
LZH				pP	pP	22 12 27.0	0.0
LZH				sP	sP	22 12 30.0	-0.9
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
CHAI	**Chaiyaphum**	**42.08**	**275**	P	**P**	**22 12 20.8**	**+0.7**
	comp=Z,17nm,0.9s						
ASAR	**Alice Springs**	**42.10**	**197**	P	**P**	**22 12 19.7**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=19,slow=10,SNR=13						
ASAR	**Alice Springs**	**42.10**	**197**	P	**P**	**22 12 19.2**	**-0.9**
UTTA	**Uttaradit**	**43.22**	**278**	P	**P**	**22 12 30.5**	**+1.2**
	comp=Z,7.0nm,0.8s						
PHIT	**Phitsanulok**	**43.41**	**277**	P	**P**	**22 12 32.3**	**+1.4**
	comp=Z,40nm,1.0s						
DZM	**Mont Dzumac**	**43.74**	**152**	*e*LR	LR	22 24 40.3	
	comp=Z,163nm,24.9s						
ONTNC	**Ouen Toro**	**43.95**	**152**	P	**P**	**22 12 34.0**	**-1.0**
ULN	**Ulaanbaatar**	**44.22**	**323**	P	**P**	**22 12 37.0**	**-0.2**
OUENC	**Ouen Island, N**	**44.22**	**152**	P	**P**	**22 12 37.1**	**0.0**
OUENC				IAmb	IAmb	22 12 54.8	
	comp=Z,17nm,1.0s						
SONM	**Songino Array**	**44.59**	**322**	P	**P**	**22 12 40.6**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=128,slow=9.6,SNR=3.6						
SONM	**Songino Array**	**44.59**	**322**	IAmb	IAmb	22 12 50.0	
	comp=Z,1.2nm,0.8s						
CM09	**Chiang Mai Arr**	**44.62**	**279**	P	**P**	**22 12 43.1**	**+2.5**
	comp=Z,8.7nm,1.5s						
CM04	**Chiang Mai Arr**	**44.64**	**279**	P	**P**	**22 12 42.6**	**+1.9**
	comp=Z,85nmcomp=Z,11nm,1.0s						
CM01	**Chiang Mai Arr**	**44.66**	**279**	P	**P**	**22 12 42.4**	**+1.5**
	comp=Z,9.4nm,1.1s						
CM02	**Chiang Mai Arr**	**44.67**	**279**	P	**P**	**22 12 42.4**	**+1.4**
	comp=Z,75nmcomp=Z,9.8nm,1.0s						
CM31	**Chiang Mai Arr**	**44.67**	**279**	P	**P**	**22 12 41.3**	**+0.3**
CM31				IAmb	IAmb	22 12 42.8	
	comp=Z,11nm,1.1s						
CMAR	**Chiang Mai Arr**	**44.67**	**279**	P	**P**	**22 12 41.6**	**+0.7**
	comp=Z,5.1nm,0.8s,baz=73,slow=6.6,SNR=28						
CMAR				LR	LR	22 31 25.1	
	comp=Z,24nm,18.2s,baz=24,slow=36						
CMAR	**Chiang Mai Arr**	**44.67**	**279**	P	**P**	**22 12 41.1**	**+0.1**
CM05	**Chiang Mai Arr**	**44.67**	**279**	P	**P**	**22 12 42.4**	**+1.4**
	comp=Z,79nmcomp=Z,9.1nm,1.1s						
CM15	**Chiang Mai Arr**	**44.69**	**279**	P	**P**	**22 12 42.5**	**+1.4**
	comp=Z,8.6nm,0.6s						
CM13	**Chiang Mai Arr**	**44.71**	**279**	P	**P**	**22 12 42.5**	**+1.2**
	comp=Z,81nmcomp=Z,9.2nm,1.0s						
GTA	**Gaotai**	**45.75**	**309**	⇓P	**P**	**22 12 49.5**	**+0.1**
GTA				pP	pP	22 12 59.8	+0.8
GTA				sP	sP	22 13 04.8	+2.0
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,66nm,5.5s						
GTA				LR	LR		
	comp=Z,210nm,18.2s						
GTA				LR	LR		
	comp=Z,170nm,18.5s						
GTA				LR	LR		
	comp=Z,110nm,19.3s						
RPSI	**Rantau Prapat**	**48.28**	**258**	P	**P**	**22 13 08.8**	**-0.5**
RPSI				IAmb	IAmb	22 13 10.6	
	comp=Z,7.0nm,1.0s						
GSI	**Gunungsitoli**	**50.03**	**257**	P	**P**	**22 13 22.3**	**-0.4**
SHL	**Shillong**	**50.78**	**289**	P	**P**	**22 13 27.7**	**-0.8**
SHL				IAmb	IAmb	22 13 28.8	
	comp=Z,11nm,1.0s						
LSA	**Lhasa**	**51.42**	**295**	P	**P**	**22 13 34.1**	**+0.5**
LSA				IAmb	IAmb	22 13 37.1	
	comp=Z,14nm,0.9s						
AFI	**Afiamalu**	**51.86**	**124**	LR	LR	22 29 43.3	
	comp=Z,59nm,21.3s,baz=19,slow=29						
TAPN	**Taplejung**	**54.46**	**292**	*e*P	**P**	**22 13 55.0**	**-0.9**
ODAN	**Odare**	**54.76**	**291**	*e*P	**P**	**22 13 57.9**	**-0.1**
	comp=Z,26nm,1.2s						
WMQ	**Urumqi**	**55.57**	**312**	*e*P	**P**	**22 14 04.0**	**+0.6**
WMQ				pP	pP	22 14 10.8	-2.3
WMQ				pmax	pmax		
	comp=Z,15nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,150nm,4.3s						
JIRN	**Jiri**	**55.80**	**292**	*e*P	**P**	**22 14 06.0**	**+0.4**
	comp=Z,18nm,0.8s						
PKI	**Pulchoki**	**56.49**	**292**	*e*P	**P**	**22 14 10.2**	**-0.3**
PKIN	**Phulchoki**	**56.51**	**292**	*e*P	**P**	**22 14 10.4**	**-0.1**
	comp=Z,5.4nm,0.5s						
KKN	**Kani**	**56.60**	**292**	*e*P	**P**	**22 14 10.3**	**-0.8**
DMN	**Daman**	**56.76**	**292**	*e*P	**P**	**22 14 11.9**	**-0.5**
	comp=Z,14nm,0.9s						
GKN	**Gorkha**	**57.16**	**293**	*e*P	**P**	**22 14 14.9**	**-0.1**
	comp=Z,33nm,1.0s						
DANN	**Dangsing**	**57.91**	**293**	*e*P	**P**	**22 14 20.8**	**+0.3**
	comp=Z,56nm,0.7s						
KOLN	**Koldanda**	**58.09**	**292**	*e*P	**P**	**22 14 21.5**	**-0.1**
	comp=Z,30nm,0.8s						
PYUN	**Pinhan**	**58.60**	**293**	*e*P	**P**	**22 14 25.5**	**+0.2**
	comp=Z,32nm,0.9s						
ZALV	**Zalesovo Beam**	**59.47**	**323**	P	**P**	**22 14 29.7**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=111,slow=8.2,SNR=2.1						
ZALV				LR	LR	22 39 10.2	
	comp=Z,22nm,19.5s,baz=120,slow=35						
MK31	**Makanchi Array**	**59.78**	**315**	P	**P**	**22 14 33.5**	**+0.6**
MKAR	**Makanchi Array**	**59.78**	**315**	P	**P**	**22 14 33.2**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=83,slow=9.9,SNR=6.8						
MKAR	**Makanchi Array**	**59.78**	**315**	P	**P**	**22 14 33.7**	**+0.9**
MLY	**Manley**	**63.54**	**25**	IAmb	IAmb	22 15 05.6	
	comp=Z,4.0nm,0.8s						
SML	**Sawmill**	**63.73**	**29**	P	**P**	**22 15 00.1**	**+0.9**
KSH	**Kashi**	**64.02**	**306**	P	**P**	**22 15 05.0**	**+3.4**
KSH				pP	sP	22 15 15.5	+0.3
KSH				PcP	**PcP**	**22 15 38.3**	**+1.5**
KSH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NEA2	**Nenana**	**64.10**	**26**	P	**P**	**22 15 02.4**	**+0.9**
NEA2				IAmb	IAmb	22 15 09.1	
	comp=Z,8.6nm,1.4s						
GLI	**Glacier Island**	**64.11**	**30**	P	**P**	**22 15 03.8**	**+2.2**
I23K	**Minto, Yukon-K**	**64.13**	**25**	P	**P**	**22 15 02.6**	**+0.9**
SCM	**Sheep Creek Mo**	**64.20**	**29**	P	**P**	**22 15 03.0**	**+0.7**
FID	**Port Fidalgo**	**64.38**	**30**	P	**P**	**22 15 03.8**	**+0.4**
MDM	**Murphy Dome**	**64.55**	**25**	P	**P**	**22 15 04.9**	**+0.5**
MDM				IAmb	IAmb	22 15 13.0	
	comp=Z,3.2nm,0.8s						
RPZ	**Rata Peaks**	**64.67**	**160**	P	**P**	**22 15 04.9**	**-0.6**
EYAK	**Cordova Ski Ar**	**64.69**	**31**	P	**P**	**22 15 06.7**	**+1.3**
EYAK				IAmb	IAmb	22 15 13.7	
	comp=Z,11nm,1.1s						
KLU	**Klutina**	**64.79**	**29**	P	**P**	**22 15 06.8**	**+0.6**
KLU				IAmb	IAmb	22 15 14.7	
	comp=Z,7.0nm,1.0s						
IL31		**65.06**	**26**	IAmb	IAmb	22 15 13.9	
	comp=Z,4.8nm,1.1s						
ILAR	**Eielson Array**	**65.06**	**26**	P	**P**	**22 15 06.2**	**-1.6**
	comp=Z,1.9nm,0.9s,baz=260,slow=4.9,SNR=14						
PAX	**Paxson**	**65.28**	**28**	IAmb	IAmb	22 15 10.5	
	comp=Z,4.3nm,1.0s						
GLB	**Gilahina Butte**	**65.78**	**30**	P	**P**	**22 15 13.3**	**+0.7**
DOT	**Dot Lake**	**66.03**	**27**	IAmb	IAmb	22 15 14.9	
	comp=Z,5.3nm,1.0s						
SCRK	**Sand Creek**	**66.13**	**27**	P	**P**	**22 15 15.3**	**+0.4**
SCRK				IAmb	IAmb	22 15 22.1	
	comp=Z,7.1nm,1.1s						
NIL	**Nilore**	**66.53**	**300**	P	**P**	**22 15 18.4**	**+0.4**
KK31	**Karatay Array**	**68.00**	**310**	P	**P**	**22 15 27.8**	**+0.8**
KK31				IAmb	IAmb	22 15 28.0	
	comp=Z,4.3nm,0.9s						
KKAR	**Karatay Array**	**68.00**	**310**	P	**P**	**22 15 26.7**	**-0.3**
KKAR	**Karatay Array**	**68.00**	**310**	P	**P**	**22 15 26.8**	**-0.2**
KKAR				IAmb	IAmb	22 15 28.0	
	comp=Z,4.3nm,0.9s						
HYT	**Haines Junctio**	**68.75**	**31**	P	**P**	**22 15 32.4**	**+0.9**
HYT				IAmb	IAmb	22 15 40.8	
	comp=Z,8.5nm,0.9s						
CHGR	**Chuyangaron**	**69.36**	**305**	P	**P**	**22 15 35.5**	**-0.1**
KBL	**Kabul**	**69.91**	**301**	P	**P**	**22 15 39.0**	**-0.3**
KBL				IAmb	IAmb	22 15 40.8	
	comp=Z,10nm,0.9s						
INK	**Inuvik**	**70.83**	**23**	P	**P**	**22 15 42.9**	**-1.0**
	comp=Z,4.1nm,0.9s,baz=252,slow=5.5,SNR=3.3						
INK	**Inuvik**	**70.83**	**23**	IAmb	IAmb	22 15 54.6	
	comp=Z,10nm,1.1s						
PPT	**Papeete**	**72.21**	**115**	LR	LR	22 40 25.4	
	comp=Z,86nm,19.3s,baz=305,slow=30						
PPT2	**Papeete2**	**72.22**	**115**	*e*LR	LR	22 37 48.2	
	comp=Z,99nm,22.0s						
TAOE	**Nuku Hiva Isla**	**77.46**	**103**	*e*LR	LR	22 40 17.6	
	comp=Z,194nm,26.9s						
GEYT	**Alibeck**	**78.05**	**306**	P	**P**	**22 16 27.0**	**+0.4**
	comp=Z,20nm,0.3s,baz=20,slow=4.6,SNR=2.5						
GEYT				LR	LR	22 52 34.5	
	comp=Z,29nm,21.2s,baz=55,slow=37						
PINE	**Pine Mountain**	**80.64**	**47**	P	**P**	**22 16 41.2**	**+0.4**
PINE				IAmb	IAmb	22 16 43.6	
	comp=Z,8.0nm,0.8s						
SPB2	**Spitsbergen Ar**	**80.85**	**351**	P	**P**	**22 16 40.6**	**-0.4**
NVAR	**Mina Array Bea**	**84.01**	**52**	P	**P**	**22 16 59.5**	**+1.0**
	comp=Z,1.7nm,0.8s,baz=268,slow=6.0,SNR=5.3						
ELK	**Elko**	**85.56**	**49**	P	**P**	**22 17 07.7**	**+1.3**
	comp=Z,2.5nm,0.9s,baz=277,slow=17,SNR=3.2						
ELK	**Elko**	**85.56**	**49**	P	**P**	**22 17 07.3**	**+0.9**
ELK				IAmb	IAmb	22 17 15.2	
	comp=Z,3.9nm,0.9s						
YHH	**Holmes Hill**	**87.23**	**44**	P	**P**	**22 17 15.7**	**+1.1**
YHH				IAmb	IAmb	22 17 26.8	
	comp=Z,6.9nm,1.3s						
KBZ	**Khabaz**	**87.47**	**315**	LR	LR	23 00 55.7	
	comp=Z,21nm,18.5s,baz=124,slow=39						
DUG	**Dugway, Tooele**	**87.49**	**49**	P	**P**	**22 17 15.3**	**-0.4**
DUG				IAmb	IAmb	22 17 24.4	
	comp=Z,4.6nm,0.9s						
FINES	**FINESS Array B**	**88.49**	**335**	LR	LR	22 58 45.3	
	comp=Z,31nm,18.1s,baz=60,slow=37						
MVU	**Marysvale**	**88.51**	**50**	P	**P**	**22 17 21.3**	**+0.5**
KNB	**Kanab**	**88.58**	**52**	P	**P**	**22 17 20.8**	**-0.3**
KNB				IAmb	IAmb	22 17 30.4	
	comp=Z,5.6nm,1.0s						
PDAR	**Pinedale Array**	**88.85**	**45**	P	**P**	**22 17 22.1**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=249,slow=4.7,SNR=2.1						
P17A	**Butcher Ranch,**	**89.24**	**49**	P	**P**	**22 17 24.0**	**0.0**
P17A				IAmb	IAmb	22 17 32.8	
	comp=Z,5.5nm,1.1s						
SRU	**San Rafael Swe**	**89.53**	**49**	P	**P**	**22 17 25.5**	**+0.1**
SRU				IAmb	IAmb	22 17 33.8	
	comp=Z,3.6nm,0.8s						
SMCO	**Snowmass**	**92.05**	**48**	P	**P**	**22 17 37.5**	**+0.1**
SMCO				IAmb	IAmb	22 17 46.6	
	comp=Z,3.7nm,0.9s						
NOA	**NORSAR Array B**	**94.21**	**340**	LR	LR	23 04 21.4	
	comp=Z,14nm,19.2s,baz=20,slow=38						

IDC 25 22:10:17.4±1.4, 16°70N×145°68E, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.6/40, mbtmp3.7/4, Error ellipse: s-maj=49.2km s-min=31.2km az=131.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**20.10**	**82**	T	T	22 35 27.5	
	baz=269,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy**	**20.11**	**82**	T	T	22 35 28.4	
	baz=269,slow=75,SNR=27						
H11S2	**WAKE ISLAND Hy**	**20.12**	**82**	T	T	22 35 31.7	
	baz=269,slow=75,SNR=31						
H11N1	**WAKE ISLAND Hy**	**20.37**	**78**	T	T	22 35 42.4	
	baz=266,slow=74,SNR=41						
H11N2	**WAKE ISLAND Hy**	**20.39**	**78**	T	T	22 35 42.8	
	baz=266,slow=74,SNR=33						
H11N3	**WAKE ISLAND Hy**	**20.39**	**78**	T	T	22 35 47.6	
	baz=266,slow=74,SNR=40						
WRA	**Warramunga Arr**	**38.09**	**197**	P	P	22 17 38.2	+0.1
	0.9nm,1.1s,baz=22,slow=10,SNR=3.2						
CMAR	**Chiang Mai Arr**	**44.50**	**280**	P	P	22 18 30.6	-0.4
	0.8nm,0.8s,baz=70,slow=6.9,SNR=5.3						
ILAR	**Eielson Array**	**65.44**	**26**	P	P	22 21 02.4	+0.6
	0.4nm,0.7s,baz=246,slow=6.8,SNR=4.3						
NVAR	**Mina Array Bea**	**84.38**	**52**	P	P	22 22 51.4	-0.8
	0.5nm,0.6s,baz=270,slow=5.4,SNR=1.9						

*IDC **25** 22:26:54.9±1.3, 11°16S×163°98E, h0km, mb3.9/7, mb1 4.1/9, mb1mx3.9/40, mbtmp4.0/9, ML4.2/2, MS3.1/3, Ms1 3.1/3, ms1mx2.7/32, Error ellipse: s-maj=31.8km s-min=24.6km az=113.0*

ISC 25 22:26:59.0±1.0, 11°25S±0°1×164°0E±0°1, h29km, n10, σ0s94/10, mb4.0/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.35**	**294**	Pn	**Pn**	**22 28 01.5**	**-1.7**
	22nm,0.3s,baz=73,slow=23,SNR=3.2						
HNR				Sn	**Sn**	**22 28 54.6**	**+1.6**
	4.2nm,0.3s,baz=192,slow=22,SNR=1.0						
HNR				LR	LR	22 29 00.6	
	comp=Z,58nm,21.7s,baz=78,slow=29						
DZM	**Mont Dzumac**	**11.06**	**168**	Pn	**Pn**	**22 29 35.6**	**+0.2**
	1.0nm,0.3s,baz=331,slow=18,SNR=16						
DZM				LR	LR	22 32 37.7	
	comp=Z,195nm,18.4s,baz=343,slow=31						
MSVF	**Nonsavu**	**15.08**	**117**	LR	LR	22 35 08.4	
	comp=Z,157nm,19.2s,baz=256,slow=33						
WRA	**Warramunga Arr**	**29.81**	**249**	P	**P**	**22 33 03.9**	**+0.1**
	3.0nm,0.8s,baz=76,slow=9.6,SNR=10						
ASAR	**Alice Springs**	**31.18**	**243**	P	**P**	**22 33 15.9**	**0.0**
	0.6nm,0.6s,baz=65,slow=10.0,SNR=8.7						
KSRS	**Korea Array**	**59.05**	**327**	P	**P**	**22 36 56.8**	**+0.2**
	0.7nm,0.7s,baz=142,slow=6.7,SNR=3.0						
USRK	**Ussuriysk Ar.**	**62.33**	**335**	P	**P**	**22 37 18.8**	**+0.1**
	1.7nm,0.9s,ba

X37A					lAmb_Lg		22 32 17.5
	comp=Z,37nm,0.8s						
W39A	**Magazine**	**3.99**	**104**		lAmb_Lg		22 32 48.5
	comp=Z,42nm,0.9s						
MIAR	**Mount Ida**	**4.38**	**111**		lAmb_Lg		22 33 01.4
	comp=Z,27nm,0.7s						
U40A	**Yellville**	**4.57**	**87**		lAmb_Lg		22 32 56.9
	comp=Z,44nm,0.9s						
MGMO	**Mountain Grove**	**5.10**	**78**		lAmb_Lg		22 33 21.3
	comp=Z,26nm,1.1s						
WLAR	**White Oak Lake**	**5.12**	**118**		lAmb_Lg		22 33 29.0
	comp=Z,18nm,0.7s						
WHAR	**Wooly Hollow**	**5.15**	**99**		lAmb_Lg		22 33 17.3
	comp=Z,37nm,0.8s						
P38A	**Dawn**	**5.18**	**48**		lAmb_Lg		22 33 26.1
	comp=Z,30nm,0.9s						
FCAR	**Ozark Folk Cen**	**5.19**	**92**		lAmb_Lg		22 33 15.3
	comp=Z,16nm,0.7s						
OGNE	**Ogallala**	**5.44**	**331**		lAmb_Lg		22 33 34.1
	comp=Z,24nm,0.8s						
435B	**Jarrell**	**5.51**	**172**		lAmb_Lg		22 33 29.9
	comp=Z,30nm,0.8s						
LCAR	**Lake Charles**	**5.96**	**90**		lAmb_Lg		22 33 45.5
	comp=Z,27nm,0.7s						
CCAR	**Cane Creek**	**6.00**	**111**		lAmb_Lg		22 33 53.0
	comp=Z,28nm,0.8s						
T42A	**Van Buren**	**6.01**	**80**		lAmb_Lg		22 33 55.9
	comp=Z,14nm,0.8s						
P40A	**Paris**	**6.07**	**55**		lAmb_Lg		22 33 48.1
	comp=Z,16nm,0.7s						
CCM	**Cathedral Cave**	**6.08**	**71**		lAmb_Lg		22 33 53.9
	comp=Z,13nm,0.8s						
PBMO	**Poplar Bluff**	**6.53**	**83**		lAmb_Lg		22 34 04.6
	comp=Z,25nm,0.7s						
SCIA	**State Center**	**6.99**	**34**		lAmb_Lg		22 34 23.2
	comp=Z,27nm,0.8s						
PHWY	**Pilot Hill**	**7.40**	**315**		lAmb_Lg		22 34 24.4
	comp=Z,9.4nm,0.8s						
S44A	**Carbondale**	**7.55**	**76**		lAmb_Lg		22 34 31.6
	comp=Z,14nm,0.7s						
SIUC	**Southern Illin**	**7.58**	**76**		lAmb_Lg		22 34 35.7
	comp=Z,19nm,0.8s						
ECSD	**EROS Data Cent**	**7.61**	**10**		lAmb_Lg		22 34 37.5
	comp=Z,11nm,0.8s						
P43A	**Skaggs, Pawnee**	**7.87**	**62**		lAmb_Lg		22 34 50.6
	comp=Z,29nm,0.8s						
Q44A	**Meyer Farm, Va**	**7.99**	**68**		lAmb_Lg		22 34 59.1
	comp=Z,25nm,1.0s						
L40A	**Anamosa**	**8.10**	**42**		lAmb_Lg		22 35 08.3
	comp=Z,15nm,0.9s						
SUSD	**Miller**	**8.19**	**358**		lAmb_Lg		22 34 56.4
	comp=Z,17nm,0.8s						
JFWS	**Jewell Farm**	**9.21**	**41**		lAmb_Lg		22 35 37.7
	comp=Z,11nm,0.8s						

*JMA **25** 22:31:23.5±0.1, 36°.94N×141°.13E, h51km±1km, M3.9*
JMA Felt I J1.
*NIED **25** 22:31:23.6, 36°.94N×141°.13E, h51km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.01; $M_{\theta\theta}$-2.31; $M_{\phi\phi}$1.30; $M_{r\theta}$4.29; $M_{\theta\phi}$0.32; $M_{\phi r}$2.12; Fault plane solution: $M_0$5.19000×10^{14} NP1:ϕ_S64.00000°, δ83.00000°, λ72.00000°. NP2:ϕ_S314.00000°, δ19.00000°, λ159.00000°.*
*IDC **25** 22:31:23.8±1.9, 36°.88N×141°.29E, h51km±18km, mb3.5/8, mb1 3.6/13, mb1mx3.5/44, mbtmp3.8/13, ML3.1/5, MS2.7/2, Ms1 2.7/2, ms1mx2.3/33 Error ellipse: s-maj=17.1km s-min=10.6km az=96.0*
ISC 25 22:31:23.3±1.3, 36°.92N±0°.05×141°.22E±0°.09, h42km±11km, n31, σ0°93/33, mb3.6/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.38**	**298**	P	**Pn**	**22 31 32.7**	**0.0**
ONAJ				S	**Sn**	**22 31 39.0**	**-0.3**
JFK	**Kawauchi**	**0.52**	**328**	P	**Pn**	**22 31 34.3**	**-0.2**
JFK				S	**Sn**	**22 31 41.8**	**-0.6**
JFFD	**Fukushimafurud**	**0.55**	**288**	P	**Pn**	**22 31 34.5**	**-0.3**
JFFD				S	**Sn**	**22 31 42.2**	**-0.8**
JHO	**Hitachi**	**0.61**	**240**	P	**Pn**	**22 31 35.3**	**-0.2**
JHO				*eS*	**Sn**	**22 31 43.4**	**-0.8**
JFT	**Otama**	**0.92**	**311**	P	**Pn**	**22 31 40.2**	**+0.3**
JFT				S	**Sn**	**22 31 51.7**	**-0.3**
JMM	**Marumori**	**1.00**	**340**	P	**Pn**	**22 31 40.6**	**-0.3**
JMM				S	**Sn**	**22 31 53.0**	**-0.9**
JFY	**Yanaizu**	**1.30**	**292**	P	**Pn**	**22 31 44.9**	**-0.2**
JAG	**Ashikaga**	**1.50**	**251**	P	**Pn**	**22 31 47.5**	**-0.3**
JOU	**Okura**	**1.51**	**343**	P	**Pn**	**22 31 48.2**	**+0.3**
MJAR	**Matsushiro Arr**	**2.45**	**262**	P	**Pn**	**22 32 01.6**	**+0.8**
	1.4nm,0.3s,baz=81,slow=15,SNR=48						
MJAR				S	**Sn**	**22 32 31.7**	**+2.2**
	2.7nm,0.3s,baz=90,slow=26,SNR=3.5						
MAT	**Matsushiro**	**2.45**	**262**	P	**Pn**	**22 32 01.5**	**+0.7**
MAT				*eS*	**Sn**	**22 32 28.8**	**-0.7**
JHJ	**Hachijo jima 2**	**3.97**	**198**	P	**Pn**	**22 32 22.2**	**+0.5**
	35nm,0.3s,baz=321,slow=22,SNR=13						
JHJ				S	**Sn**	**22 33 07.3**	**+0.3**
	55nm,0.3s,baz=84,slow=22,SNR=6.5						
ASAJ	**Asahikawa**	**7.26**	**8**	P	**Pn**	**22 33 06.7**	**-0.2**
	1.0nm,0.3s,baz=218,slow=13,SNR=6.4						
ASAJ				S	**Sn**	**22 34 28.7**	**+0.7**
	0.3nm,0.3s,baz=342,slow=24,SNR=2.6						
USRK	**Ussuriysk Ar.**	**10.10**	**319**	P	**Pn**	**22 33 48.6**	**+2.9**
	baz=129,slow=13,SNR=14						
KSRS	**Korea Array**	**10.62**	**277**	P	**Pn**	**22 33 52.6**	**-0.2**
	0.0nm,0.3s,baz=87,slow=14,SNR=1.8						
KLR	**Kul'dur**	**14.10**	**334**	LR	LR	22 39 43.6	
	comp=Z,30nm,18.4s,baz=170,slow=35						
YAK	**Yakutsk**	**26.15**	**348**	LR	LR	22 47 39.3	
	comp=Z,14nm,20.3s,baz=94,slow=37						
SEY	**Seymchan**	**26.93**	**11**	P	**P**	**22 37 01.2**	**+0.9**
	2.7nm,0.8s,baz=185,slow=16,SNR=4.7						
SONM	**Songino Array**	**27.72**	**304**	P	**P**	**22 37 09.1**	**+1.3**
	0.9nm,0.6s,baz=105,slow=8.7,SNR=7.3						
H11N2	**WAKE ISLAND Hy**	**28.22**	**120**	T	T	23 07 01.4	
	baz=313,slow=75,SNR=54						
H11N1	**WAKE ISLAND Hy**	**28.23**	**120**	T	T	23 07 02.9	
	baz=313,slow=75,SNR=42						
H11N3	**WAKE ISLAND Hy**	**28.24**	**120**	T	T	23 07 02.7	
	baz=313,slow=75,SNR=40						
H11S1	**WAKE ISLAND Hy**	**28.93**	**122**	T	T	23 07 53.7	
	baz=315						
H11S3	**WAKE ISLAND Hy**	**28.93**	**122**	T	T	23 07 53.5	
	baz=315						
H11S2	**WAKE ISLAND Hy**	**28.95**	**122**	T	T	23 07 56.9	
	baz=315						
ZALV	**Zalesovo Beam**	**41.88**	**312**	P	**P**	**22 39 08.2**	**-1.0**
	1.1nm,0.5s,baz=80,slow=5.7,SNR=7.1						
MKAR	**Makanchi Array**	**44.05**	**302**	P	**P**	**22 39 26.1**	**-0.8**
	0.5nm,0.7s,baz=91,slow=10,SNR=4.6						
ILAR	**Eielson Array**	**49.67**	**32**	P	**P**	**22 40 10.4**	**-0.1**
	0.3nm,0.9s,baz=278,slow=6.3,SNR=5.1						
WRA	**Warramunga Arr**	**56.93**	**188**	P	**P**	**22 41 03.4**	**-0.9**
	0.2nm,0.4s,baz=5.2,slow=7.0,SNR=6.4						
ASAR	**Alice Springs**	**60.65**	**188**	P	**P**	**22 41 29.4**	**-0.7**
	0.5nm,0.9s,baz=1.5,slow=5.2,SNR=4.2						
FINES	**FINESS Array B**	**68.84**	**332**	P	**P**	**22 42 22.4**	**-0.6**
	1.4nm,0.9s,baz=5.7,slow=5.7,SNR=3.8						

*NNC **25** 22:44:18.8±7.3, 37°.14N×70°.75E, h158km±111km, mb3.0, mpv4.0, Error ellipse: s-maj=62.7km s-min=40.2km az=21.0*
ISC 25 22:44:10.1±1.4, 36°.62N±0°.09×70°.9E±0°.1, h150km, n19, σ2°52/24, 7C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.92**	**21**	P	**Pn**	**22 45 39.0**	**+3.0**
	SNR=59						
UCH	**Uchtor**	**6.27**	**26**	P	**Pn**	**22 45 43.5**	**+2.7**
	SNR=21						
KZA	**Kyzart**	**6.42**	**31**	P	**Pn**	**22 45 44.6**	**+1.9**
	SNR=6.8						
EKS2	**Erkin-Say**	**6.43**	**19**	P	**Pn**	**22 45 45.8**	**+3.2**
	SNR=5.0						
KK31	**Karatay Array**	**6.48**	**358**	⇓P	**Pn**	**22 45 47.3**	**+4.2**
	2.0nm,0.4s,baz=173,slow=12,SNR=32						
KK31				⇑S	**Sn**	**22 46 52.6**	**-3.4**
	15nm,0.5s,baz=184,slow=22,SNR=34						
AAK	**Ala-Archa**	**6.63**	**24**	P	**Pn**	**22 45 48.4**	**+3.2**
	SNR=11						
AAK	**Ala-Archa**	**6.63**	**24**	⇑P	**Pn**	**22 45 47.7**	**+2.5**
	8.4nm,0.7s						
AAK				⇑S	**Sn**	**22 46 59.3**	**-0.5**
	7.3nm,0.6s						
KBK	**Karagaybulak**	**6.80**	**26**	P	**Pn**	**22 45 50.8**	**+3.2**
	SNR=8.3						
ULHL	**Ulahol**	**6.99**	**35**	P	**Pn**	**22 45 52.1**	**+2.0**
	SNR=9.6						
CHMS	**Chumysh**	**7.03**	**24**	P	**Pn**	**22 45 53.4**	**+2.8**
	SNR=5.5						
USP	**Ospenovka**	**7.20**	**22**	P	**Pn**	**22 45 55.4**	**+2.6**
	SNR=5.9						
TKM2	**Tokmak 2**	**7.27**	**29**	P	**Pn**	**22 45 56.2**	**+2.3**
	comp=Z,18nm						
TKM2	**Tokmak 2**	**7.27**	**29**	⇓P	**Pn**	**22 45 55.4**	**+1.6**
	20nm,0.8s						
TKM2				⇑S	**Sn**	**22 47 13.8**	**-1.4**
	4.6nm,0.8s						
AB31	**Akbulak array**	**14.93**	**331**	⇑P	**P**	**22 47 36.7**	**+1.4**
	0.3nm,0.3s,baz=149,slow=10,SNR=26						
AB31				⇑S	**Sn**	**22 50 16.3**	**-2.8**
	0.4nm,0.5s						
PKIN	**Phulchoki**	**15.24**	**122**	*eP*	**Pn**	**22 47 36.7**	**-1.1**
	12nm,0.4s						
PKI	**Pulchoki**	**15.26**	**122**	*eP*	**Pn**	**22 47 38.0**	**0.0**
	9.3nm,0.4s						
JIRN	**Jiri**	**15.74**	**120**	*eP*	**Pn**	**22 47 42.9**	**-1.1**
	14nm,0.3s						
RAMN	**Ramite**	**16.47**	**121**	*eP*	**P**	**22 47 51.1**	**-1.7**
	7.1nm,0.3s						
AKTO	**Aktyubinsk**	**16.62**	**330**	⇓P	**P**	**22 47 54.7**	**+0.7**
	1.6nm,0.7s						
AKTO				⇑S	**S**	**22 50 56.9**	**-1.9**
	1.0nm,0.8s						

MEX 25 22:47:40.9±0.7, 16°.49N×97°.75W, h41km±7km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.37**	**255**	*i* P	Pn	22 47 48.4	-1.7
PNIG				*i* S	Sn	22 47 55.0	-1.6
YOIG	**Yosondua**	**0.42**	**28**	*i* P	Pn	22 47 49.3	-1.6
YOIG				*i* S	Sn	22 47 56.3	-1.6
PEIG	**Puerto Escondi**	**0.76**	**130**	*eP*	Pn	22 47 53.4	-1.8
PEIG				*eS*	Sn	22 48 03.8	-1.7
TXIG	**Tlaxiaco**	**0.76**	**359**	*eP*	Pn	22 47 53.4	-2.1
TXIG				*i* S	Sn	22 48 03.5	-2.5
VHO	**Vista Hermosa**	**1.14**	**59**	*i* P	Pn	22 47 59.1	-1.5
VHO				*i* S	Sn	22 48 11.7	-3.3
HLIG	**Huajuapan de L**	**1.34**	**358**	*eP*	Pn	22 48 02.2	-1.1
HLIG				*i* S	Sn	22 48 18.0	-2.0
FTIG	**Fresnillo de T**	**1.46**	**346**	*eP*	Pn	22 48 03.7	-1.2
FTIG				*eS*	Sn	22 48 20.8	-2.1
TOIG	**Toxpalan**	**1.73**	**22**	*eP*	Pn	22 48 07.2	-1.4
TOIG				*eS*	Sn	22 48 26.9	-2.7

MEX 25 22:51:05.6±0.8, 19°.22N×104°.06W, h20km±5km, MD3.9, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
R15V		**0.09**	**123**	*eP*	Pb	22 51 08.2	-1.4
R15V				*eP*	Pb	22 51 08.3	-1.3
R15V				*eS*	Sb	22 51 11.3	-1.0
COIG	**Colima**	**0.35**	**96**	*i* P	Pb	22 51 11.4	-1.7
COIG				*i* S	Sb	22 51 16.9	-1.3
EZ5V		**0.50**	**59**	*i* P	Pb	22 51 14.4	-1.5
EZ5V				*eS*	Sb	22 51 21.0	-1.9
CJM	**Chamela**	**0.97**	**287**	*i* P	Pb	22 51 21.6	-2.2
CJM				*eS*	Sb	22 51 34.7	-1.5
MMIG	**Aquila**	**1.14**	**144**	*i* P	Pn	22 51 24.1	-2.3
MMIG				*eS*	Sb	22 51 39.5	-1.6

*BJI **25** 22:58:37.0±0.0, 16°.88N×146°.03E, h20km, mB5.1/54, mb4.9/65, Ms4.7/65, Ms7 4.4/63*
*IDC **25** 22:58:37.2±0.5, 17°.08N×145°.87E, h0km, mb4.3/25, mb1 4.5/26, mb1mx4.4/39, mbtmp4.4/26, ML4.5/1, MS4.1/26, Ms1 4.1/26, ms1mx3.9/46, Error ellipse: s-maj=17.3km s-min=11.3km az=93.0*
*MOS **25** 22:58:38.3±0.9, 17°.05N×145°.79E, h20km, mb4.9/16, MS4.6/7, Error ellipse: s-maj=8.7km s-min=5.7km az=108.4*
*NEIC **25** 22:58:40.3±1.2, 16°.99N±0°.04×145°.90E±0°.09, h16km±3km, mb5.2/251, Error ellipse: s-maj=12.4km s-min=6.0km az=99.0*
*GCMT **25** 22:58:43.3±0.2, 17°.07N±0°.02×145°.80E±0°.01, h12km, MW5.0/106, Moment Tension Solution. s57,c74; s106,c173; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.13±.14; $M_{\theta\theta}$-0.95±.10; $M_{\phi\phi}$3.07±.11; $M_{r\theta}$1.89±.36; $M_{\theta\phi}$2.55±.09; $M_{\phi r}$0.92±.28; Best double couple: $M_0$4.28300×10^{16} NP1:ϕ_S241.00000°, δ60.00000°, λ-35.00000°. NP2:ϕ_S350.00000°, δ60.00000°, λ-145.00000°. Principal axes: T 4.3080, Plg0.0000°, Azm116.0000°; N -0.0550, Plg45.0000°, Azm26.0000°; P -4.2590, Plg45.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 25 22:58:41.0±0.6, 17°.02N±0°.04×145°.94E±0°.05, h26km±3km, h26km:pP-P, n537, σ1°25/520, mb5.1/219, MS4.3/50, 13C-6D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**0.35**	**206**	P	**Pb**	**22 58 48.6**	**-0.2**
ANA2	**Anatahan**	**0.70**	**198**		**Pb**	**22 58 54.2**	**-0.5**
ANA2	**Anatahan**	**0.70**	**198**	P	**Pb**	**22 58 54.7**	**0.0**
GUMO	**Guam**	**3.56**	**197**	Pn	**Pn**	**22 59 35.0**	**+0.4**
	40nm,0.3s,baz=145,slow=4.1,SNR=20						
GUMO				Sn	**Sn**	**23 00 19.1**	**+3.2**
	37nm,0.3s,baz=163,slow=23,SNR=1.8						
GUMO	**Guam**	**3.56**	**197**	Pn	**Pn**	**22 59 34.4**	**-0.2**
GUMO	**Guam**	**3.56**	**197**	P	**Pn**	**22 59 35.7**	**+1.1**
PATS	**Pohnpei**	**15.77**	**128**		**Pn**	**23 02 21.0**	**-0.5**
JMZ	**Minamidaito 2**	**16.25**	**305**	Pn	**Pn**	**23 02 27.8**	**+0.3**
JHJ	**Hachijo jima 2**	**16.97**	**342**	LR	LR	23 07 58.5	
	comp=Z,748nm,18.6s,baz=152,slow=33						
MANU	**Manus Island**	**18.99**	**176**	P	**P**	**23 03 00.7**	**-0.1**
JOW	**Kunigami**	**19.06**	**304**		**Pn**	**23 03 02.0**	**-0.3**
H11S3	**WAKE ISLAND Hy**	**19.82**	**83**	T	T	23 23 51.6	
	baz=277,slow=75,SNR=716						
H11S1	**WAKE ISLAND Hy**	**19.83**	**83**	T	T	23 23 51.0	
	baz=277,slow=75,SNR=784						
H11S2	**WAKE ISLAND Hy**	**19.84**	**83**	T	T	23 23 52.7	
	baz=277,slow=75,SNR=1255						
JMN	**Monobe**	**19.86**	**329**	P	**P**	**23 03 10.4**	**+0.2**
JMN				lAmb	lAmb	23 03 22.6	
	comp=Z,207nm,1.3s						
INU	**Inuyama**	**19.92**	**338**	P	**P**	**23 03 09.6**	**-1.1**
H11N1	**WAKE ISLAND Hy**	**20.07**	**79**	T	T	23 24 09.8	
	baz=266,slow=75						
H11N2	**WAKE ISLAND Hy**	**20.07**	**79**	T	T	23 24 10.3	
	baz=266,slow=75						
H11N3	**WAKE ISLAND Hy**	**20.09**	**79**	T	T	23 24 11.2	
	baz=266,slow=75						
JSU	**Suzuyama**	**20.15**	**319**	P	**P**	**23 03 14.2**	**+0.8**
JSU				lAmb	lAmb	23 03 23.4	
	comp=Z,125nm,1.4s						
JWT	**Wachi**	**20.48**	**335**	P	**P**	**23 03 15.7**	**-1.2**
MJAR	**Matsushiro Arr**	**20.62**	**342**	P	**P**	**23 03 16.5**	**-1.9**
	comp=Z,1.2nm,0.4s,baz=165,slow=12,SNR=7.8						
MJAR	**Matsushiro Arr**	**20.62**	**342**	P	**P**	**23 03 18.3**	**-0.1**
MJAR				pmax	pmax		
	comp=Z,24nm,1.4s						
MJAR	**Matsushiro Arr**	**20.62**	**342**	P	**P**	**23 03 18.3**	**-0.1**
MAJO	**Matsushiro**	**20.62**	**342**	P	**P**	**23 03 18.2**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,142nm,1.8s						
MAJO	**Matsushiro**	**20.62**	**342**	P	**P**	**23 03 18.2**	**-0.2**
MAJO				lAmb	lAmb	23 03 27.5	
	comp=Z,142nm,1.8s						
MAT	**Matsushiro**	**20.62**	**342**	P	**P**	**23 03 17.1**	**-1.3**
MAT				S	**S**	**23 07 03.8**	**-3.9**
JNU	**Nakatsue**	**21.01**	**323**	P	**P**	**23 03 21.7**	**-1.0**
	comp=Z,18nm,0.9s,baz=104,slow=7.8,SNR=2.5						
JNU	**Nakatsue**	**21.01**	**323**	P	**P**	**23 03 23.3**	**+0.6**
JHS	**Saijyo**	**21.26**	**330**	P	**P**	**23 03 23.7**	**-1.6**
JSD	**Sado**	**22.00**	**344**	P	**P**	**23 03 32.0**	**-1.3**
JSD				lAmb	lAmb	23 03 42.4	
	comp=Z,107nm,1.5s						
DAV	**Davao City (W)**	**22.20**	**246**	LR	LR	23 13 13.3	
	comp=Z,285nm,18.3s,baz=78,slow=40						
SIJI	**Sorong**	**22.91**	**221**	P	**P**	**23 03 43.4**	**+0.2**
	comp=Z,59nm,0.9s,baz=31,slow=9.7,SNR=11						
SIJI				LR	LR	23 11 36.3	
	comp=Z,408nm,18.2s,baz=258,slow=34						
NACB	**Ninganchiao**	**23.85**	**291**	P	**P**	**23 03 52.3**	**-0.1**
YULB	**Yu-li**	**23.96**	**289**	P	**P**	**23 03 52.5**	**-0.9**
YULB				lAmb	lAmb	23 03 58.0	
	comp=Z,63nm,1.2s						
FAKI	**Fak Fak**	**23.98**	**216**	P	**P**	**23 03 53.1**	**-0.5**
FAKI				lAmb	lAmb	23 03 58.1	
	comp=Z,62nm,1.0s						
TWG	**Pinlang**	**24.06**	**288**	P	**P**	**23 03 53.1**	**-1.3**
TWG				lAmb	lAmb	23 03 58.4	
	comp=Z,79nm,1.1s						
YHNB	**Yeheng**	**24.16**	**292**	P	**P**	**23 03 52.3**	**-3.0**
YHNB				lAmb	lAmb	23 03 59.1	
	comp=Z,85nm,1.0s						
SSLB	**Suanglung**	**24.34**	**290**	P	**P**	**23 03 56.0**	**-1.0**
TNTI	**Ternate**	**24.39**	**230**	P	**P**	**23 03 57.5**	**+0.1**
TNTI				lAmb	lAmb	23 04 11.1	
	comp=Z,64nm,1.2s						
TPUB	**Ta-pu**	**24.55**	**289**	P	**P**	**23 03 58.4**	**-0.5**
TPUB				lAmb	lAmb	23 04 13.8	
	comp=Z,46nm,1.0s						
ERM	**Erimo**	**25.03**	**355**	⇓*eP*	**P**	**23 04 00.9**	**-2.0**
TJN	**Taejon**	**25.36**	**323**	⇓*eP*	**P**	**23 04 03.5**	**-2.4**
KSRS	**Korea Array**	**25.82**	**326**	P	**P**	**23 04 09.5**	**-0.6**
	comp=Z,7.7nm,1.1s,baz=142,slow=10,SNR=18						
KSRS				LR	LR	23 12 39.5	
	comp=Z,119nm,20.4s,baz=136,slow=33						
KSAR	**Wonju Array Be**	**25.83**	**326**	P	**P**	**23 04 10.5**	**+0.3**
KSAR	**Wonju Array Be**	**25.83**	**326**	P	**P**	**23 04 10.5**	**+0.3**
KS19	**Wonju Array Si**	**25.88**	**326**	lAmb	lAmb	23 04 20.5	
	comp=Z,36nm,1.0s						
PMG	**Port Moresby**	**26.28**	**177**	P	**P**	**23 04 13.7**	**-0.8**
PMG				pmax	pmax		
	comp=Z,43nm,0.9s						
PMG	**Port Moresby**	**26.28**	**177**	P	**P**	**23 04 13.7**	**-0.8**
PMG				lAmb	lAmb	23 04 34.3	
	comp=Z,43nm,0.9s						
SSE	**Sheshan**	**26.51**	**306**	P	**P**	**23 04 15.5**	**-1.0**
SSE				S	**S**	**23 08 49.5**	**+0.2**
SSE				pmax	pmax		
	comp=Z,150nm,6.1s						
SSE				LR	LR		
	comp=Z,260nm,21.4s						
SSE				LR	LR		
	comp=Z,240nm,21.5s						
QZH	**Quanzhou**	**26.68**	**292**	P	**P**	**23 04 20.0**	**+1.9**
QZH				S	**S**	**23 08 56.8**	**+4.7**
QZH				pmax	pmax		
	comp=Z,340nm,6.1s						
QZH				LR	LR		
	comp=Z,460nm,16.2s						
QZH				LR	LR		
	comp=Z,550nm,19.1s						
QZH				LR	LR		
	comp=Z,650nm,21.0s						
ASAJ	**Asahikawa**	**27.16**	**355**	P	**P**	**23 04 22.1**	**-0.1**
	comp=Z,7.7nm,1.0s,baz=220,slow=7.9,SNR=3.3						
ASAJ				LR	LR	23 14 17.9	
	comp=Z,380nm,21.9s,baz=182,slow=35						
NJ2	**Nanjing**	**28.72**	**306**	*eP*	**P**	**23 04 36.0**	**-0.3**
NJ2				sP	**pwP**	**23 04 48.3**	**+1.5**
NJ2				S	**S**	**23 09 24.0**	**0.0**
NJ2				sS	**sS**	**23 09 36.5**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,250nm,6.2s						
NJ2				LR	LR		
	comp=Z,680nm,15.6s						
NJ2				LR	LR		
	comp=Z,640nm,18.0s						
NJ2				LR	LR		
	comp=Z,980nm,21.8s						
LUWI	**Luwuk**	**29.04**	**234**	P	**P**	**23 04 38.1**	**-1.2**
TOLI2	**Tolitoli**	**29.37**	**240**	P	**P**	**23 04 41.6**	**-0.6**
USRK	**Ussuriysk Ar.**	**29.55**	**339**	LR	LR	23 15 35.1	
	comp=Z,320nm,18.8s,baz=145,slow=34						
HNR	**Honiara**	**29.71**	**151**	LR	LR	23 17 03.2	
	comp=Z,975nm,18.9s,baz=336,slow=37						
YSS	**Yuzh-Sakhalins**	**29.97**	**356**	*eP*	P	23 04 54.3	+7.1
YSS				*eS*	**S**	**23 09 50.3**	**+7.0**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS				MLR	MLR		
	comp=Z,400nm,13.0s						
YSS				MLR	MLR		
	comp=E,400nm,17.0s						
TIA	**Tai'an**	**31.89**	**312**	*eP*	**P**	**23 05 03.5**	**-0.8**
TIA				pmax	pmax		
	comp=E,7.0nm,0.9s						
TIA				LR	LR		
	comp=E,780nm,19.6s						
TIA				LR	LR		
	comp=E,460nm,21.6s						
TIA				LR	LR		
	comp=E,480nm,18.1s						
KAPI	**Kappang**	**33.89**	**232**	P	**P**	**23 05 21.9**	**-0.1**
KAPI				pmax	pmax		
	comp=Z,14nm,0.9s						
KAPI	**Kappang**	**33.89**	**232**	P	**P**	**23 05 21.9**	**-0.1**
KLR	**Kul'dur**	**34.14**	**343**	P	**P**	**23 05 22.6**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=162,slow=7.6,SNR=4.9						
KLR	**Kul'dur**	**34.14**	**343**	⇓*eP*	**P**	**23 05 22.8**	**-0.9**
KLR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
QIZ	**Qiongzhong**	**34.34**	**279**	P	**P**	**23 05 26.0**	**+0.1**
QIZ				S	**S**	**23 10 53.0**	**+0.8**
QIZ				LR	LR		
	comp=Z,250nm,20.0s						
QIZ				LR	LR		
	comp=Z,400nm,20.1s						
QIZ				LR	LR		
	comp=Z,430nm,20.6s						
BJI	**Beijing**	**34.51**	**318**	P	**P**	**23 05 26.5**	**-0.6**
BJI				sP	**pwP**	**23 05 38.8**	**+1.5**
BJI			

comp=Z,300nm,15.0s
GYA Guiyang 37.55 291 ⇑P **P** **23 05 54.3 +0.9**
GYA pP sP 23 06 04.0 +0.5
GYA PP **PnPn** **23 07 20.3 0.0**
GYA S **S** **23 11 42.8 +1.4**
GYA SS **SnSn** **23 14 18.5 -1.9**
GYA pmax pmax
comp=Z,19nm,1.0s
GYA LR LR
comp=Z,320nm,14.9s
GYA LR LR
comp=Z,410nm,16.4s
GYA LR LR
comp=Z,540nm,19.0s
HHC Hu-ho-hao-te 37.95 316 *e*P **P** **23 05 56.0 -0.6**
HHC S **S** **23 11 51.0 +3.9**
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,150nm,4.9s
HHC LR LR
comp=Z,300nm,14.3s
HHC LR LR
comp=Z,530nm,14.9s
HHC LR LR
comp=Z,480nm,15.4s
WB0 Warramunga Arr 38.27 198 P **P** **23 05 58.5 -0.9**
WR0 Warramunga Arr 38.41 197 P **P** **23 05 59.6 -1.0**
WRAB Tennant Creek 38.44 198 *ce*P **P** **23 06 00.4 -0.4**
WRAB pmax pmax
comp=Z,22nm,1.0s
WRAB Tennant Creek 38.44 198 P **P** **23 05 59.8 -1.0**
WRAB IAmb IAmb 23 07 26.4
comp=Z,24nm,0.5s
WB2 Warramunga Arr 38.45 198 P **P** **23 05 59.5 -1.4**
WRA Warramunga Arr 38.45 198 P **P** **23 06 00.1 -0.8**
comp=Z,22nm,1.1s,baz=18,slow=8.7,SNR=41
WRA LR LR 23 22 15.6
comp=Z,192nm,18.8s,baz=15,slow=37
WRA Warramunga Arr 38.45 198 P **P** **23 05 59.9 -1.0**
SANVU Saraoutou 38.48 146 P **P** **23 06 01.3 +0.1**
SANVU IAmb IAmb 23 06 25.1
comp=Z,77nm,1.5s
UBPT Khong Chiam 38.86 273 P **P** **23 06 08.0 +3.5**
comp=Z,11nm,2.0s
UBPT Khong Chiam 38.86 273 P **P** **23 06 04.2 -0.2**
BTO Baotou 38.88 315 *e*P **P** **23 06 05.5 +1.1**
SLVN Son La 39.85 283 P **P** **23 06 13.2 +0.4**
SKNT Sakolnakorn 40.07 276 P **P** **23 06 15.0 +0.5**
comp=Z,14nm,1.2s
FITZ Fitzroy Crossi 40.21 211 P **P** **23 06 15.2 -0.4**
JAGI Jajag, Banyuwa 40.36 234 P **P** **23 06 16.0 -0.9**
CD2 Chengdu 40.71 298 P **P** **23 06 19.5 -0.2**
CD2 pP pwP 23 06 28.5 -0.6
CD2 PP **PP** **23 07 54.5 +0.8**
CD2 S **S** **23 12 32.8 +4.1**
CD2 sS sS 23 12 40.0 -0.2
CD2 pmax pmax
comp=Z,60nm,1.1s
CD2 pmax pmax
comp=Z,270nm,6.9s
CD2 LR LR
comp=Z,700nm,12.9s
CD2 LR LR
comp=Z,610nm,15.8s
CD2 LR LR
comp=Z,730nm,14.4s
KMI Kunming 40.97 289 ⇑P **P** **23 06 23.3 +1.1**
KMI pP sP 23 06 32.5 +0.2
KMI sP pwP 23 06 36.0 +4.2
KMI PP **PnPn** **23 08 02.0 +0.8**
KMI S **S** **23 12 31.3 -1.8**
KMI pmax pmax
comp=Z,8.0nm,1.5s
KMI pmax pmax
comp=Z,180nm,6.7s
KMI LR LR
comp=Z,190nm,19.6s
KMI LR LR
comp=Z,300nm,24.3s
KMI LR LR
comp=Z,410nm,21.5s
KHON Khomkaen 41.24 276 P **P** **23 06 25.0 +0.8**
comp=Z,45nm,0.4s
KHON Khomkaen 41.24 276 P **P** **23 06 25.0 +0.8**
comp=Z,11nm,0.4s
LZH Lanzhou 41.78 305 ⇑P **P** **23 06 29.5 +0.8**
LZH pP pP 23 06 37.0 +1.1
LZH sP sP 23 06 41.0 +2.1
LZH PP **PnPn** **23 08 09.8 -0.7**
LZH S **S** **23 12 47.5 +2.7**
LZH sS sS 23 13 01.5 +5.1
LZH pmax pmax
comp=Z,45nm,1.3s
LZH pmax pmax
comp=Z,280nm,4.3s
LZH LR LR
comp=Z,370nm,16.3s
LZH LR LR
comp=Z,430nm,15.2s
LZH LR LR
comp=Z,410nm,17.4s
CHAI Chaiyaphum 42.10 275 P **P** **23 06 31.6 +0.3**
comp=Z,346nmcomp=Z,41nm,0.9s
CHAI Chaiyaphum 42.10 275 P **P** **23 06 31.6 +0.4**
comp=Z,86nmcomp=Z,10nm,0.9s
AS31 Alice Springs 42.11 197 P **P** **23 06 30.6 -0.6**
ASAR Alice Springs 42.11 197 P **P** **23 06 30.7 -0.5**
comp=Z,4.6nm,0.9s,baz=21,slow=10.0,SNR=27
ASAR Alice Springs 42.11 197 P **P** **23 06 30.6 -0.6**
SRAK Srakaew 42.34 272 P **P** **23 06 30.1 -3.1**
comp=Z,2µmcomp=Z,232nm,1.1s
PHIT Phitsanulok 43.43 277 P **P** **23 06 42.9 +0.9**
comp=Z,875nmcomp=Z,102nm,1.0s
PHIT Phitsanulok 43.43 277 P **P** **23 06 42.0 0.0**
comp=Z,217nmcomp=Z,25nm,1.0s
DZM Mont Dzumac 43.73 152 P **P** **23 06 45.7 +1.3**
comp=Z,8.2nm,0.9s,baz=22,slow=9.3,SNR=3.8
DZM LR LR 23 23 26.3
comp=Z,519nm,21.4s,baz=14,slow=34
DZM Mont Dzumac 43.73 152 *e*S **S** **23 13 16.1 +2.7**
comp=Z,117nm,29.6s
DZM *e*LR LR 23 18 59.8
comp=Z,1µm,25.4s
DZM Mont Dzumac 43.73 152 P **P** **23 06 44.0 -0.4**
PAYA Payao 43.73 280 P **P** **23 06 45.8 +1.3**
comp=Z,610nmcomp=Z,20nm,1.1s
PAYA Payao 43.73 280 P **P** **23 06 45.0 +0.5**
comp=Z,152nmcomp=Z,5.0nm,1.1s
MARNC Mare, Loyalty 43.96 150 P **P** **23 06 45.7 -0.5**
ULN Ulaanbaatar 44.23 323 P **P** **23 06 48.5 +0.2**
ULN pmax pmax
comp=Z,11nm,1.3s
ULN Ulaanbaatar 44.23 323 P **P** **23 06 48.5 +0.2**
UTHA Uthaitani 44.57 275 P **P** **23 06 52.5 +1.3**
comp=Z,264nmcomp=Z,27nm,1.0s
UTHA Uthaitani 44.57 275 P **P** **23 06 52.5 +1.3**
comp=Z,66nmcomp=Z,6.6nm,1.0s
SONM Songino Array 44.60 322 P **P** **23 06 51.3 +0.1**
comp=Z,2.2nm,0.8s,baz=134,slow=9.4,SNR=12
SONM Songino Array 44.60 322 P **P** **23 06 51.5 +0.3**
SONM pmax pmax
comp=Z,5.0nm,1.1s
SONM Songino Array 44.60 322 P **P** **23 06 51.5 +0.3**
CM09 Chiang Mai Arr 44.64 279 P **P** **23 06 52.8 +1.0**
comp=Z,193nmcomp=Z,21nm,1.0s
CMMT Chiang Mai 44.65 280 P **P** **23 06 51.9 +0.1**
comp=Z,10nm,1.0s
CMMT Chiang Mai 44.65 280 P **P** **23 06 52.0 +0.1**
comp=Z,10nm,1.0s
CHTO Chiang Mai 44.65 280 P **P** **23 06 51.2 -0.6**
CHTO pmax pmax
comp=Z,9.0nm,1.0s
CHTO Chiang Mai 44.65 280 P **P** **23 06 52.1 +0.2**
comp=Z,11nm,1.1s
CHTO Chiang Mai 44.65 280 P **P** **23 06 51.2 -0.6**
CM04 Chiang Mai Arr 44.66 279 P **P** **23 06 52.9 +1.0**
comp=Z,227nmcomp=Z,33nm,1.0s
CM01 Chiang Mai Arr 44.67 279 P **P** **23 06 53.0 +1.0**
comp=Z,222nmcomp=Z,29nm,0.9s
CM02 Chiang Mai Arr 44.69 279 P **P** **23 06 53.0 +0.9**
comp=Z,181nmcomp=Z,26nm,1.1s
CM31 Chiang Mai Arr 44.69 279 P **P** **23 06 53.1 +1.0**
comp=Z,5µmcomp=Z,527nm,0.9s
CM31 Chiang Mai Arr 44.69 279 P **P** **23 06 52.3 +0.2**
CM31 IAmb IAmb 23 06 54.4
comp=Z,43nm,1.2s
CMAR Chiang Mai Arr 44.69 279 P **P** **23 06 52.8 +0.6**
comp=Z,20nm,1.0s,baz=72,slow=6.5,SNR=76
CMAR LR LR 23 25 28.5
comp=Z,130nm,18.5s,baz=136,slow=36
CMAR Chiang Mai Arr 44.69 279 P **P** **23 06 52.3 +0.2**
CM05 Chiang Mai Arr 44.69 279 P **P** **23 06 53.0 +0.8**
comp=Z,190nmcomp=Z,25nm,1.1s
CM15 Chiang Mai Arr 44.70 279 P **P** **23 06 53.0 +0.7**
comp=Z,168nmcomp=Z,25nm,1.1s
CM15 Chiang Mai Arr 44.70 279 P **P** **23 06 53.1 +0.8**
comp=Z,168nmcomp=Z,25nm,1.1s
CM13 Chiang Mai Arr 44.72 279 P **P** **23 06 53.2 +0.8**
comp=Z,184nmcomp=Z,27nm,1.0s
CM13 Chiang Mai Arr 44.72 279 P **P** **23 06 53.0 +0.6**
comp=Z,184nmcomp=Z,27nm,1.0s
UMPA Umpang Tak 45.03 276 P **P** **23 06 57.1 +2.2**
comp=Z,3µmcomp=Z,46nm,1.1s
UMPA Umpang Tak 45.03 276 P **P** **23 06 57.2 +2.2**
comp=Z,661nmcomp=Z,12nm,1.1s
MHMT Maesarieng 45.67 279 P **P** **23 07 01.5 +1.6**
comp=Z,46nm,1.2s
MHMT Maesarieng 45.67 279 P **P** **23 07 01.5 +1.6**
GTA Gaotai 45.76 309 ⇑P **P** **23 07 01.0 +0.5**
GTA pP sP 23 07 11.0 +0.2
GTA sP pwP 23 07 15.5 +4.6
GTA PP **PP** **23 08 49.5 +1.6**
GTA S **S** **23 13 44.5 +1.8**
GTA pmax pmax
comp=Z,13nm,1.2s
GTA pmax pmax
comp=Z,160nm,5.1s
GTA LR LR
comp=Z,420nm,18.9s
GTA LR LR
comp=Z,570nm,18.9s
GTA LR LR
comp=Z,630nm,19.3s
PSA00 Pilbara Seismi 46.09 215 P **P** **23 07 02.5 -0.6**
MSVF Nonsavu 46.82 136 LR LR 23 24 18.4
comp=Z,265nm,18.8s,baz=330,slow=33
ZAK Zakamensk 47.63 324 *e*P **P** **23 07 14.2 -0.8**
ZAK pmax pmax
comp=Z,9.0nm,1.3s
PSI Prapat 48.26 258 P **P** **23 07 20.0 -0.4**
PSI pmax pmax
comp=Z,24nm,1.0s
RPSI Rantau Prapat 48.30 258 P **P** **23 07 20.0 -0.5**
RPSI IAmb IAmb 23 07 23.2
comp=Z,24nm,1.0s
STKA Stephens Creek 48.79 185 P **P** **23 07 23.9 0.0**
comp=Z,2.7nm,0.9s,baz=328,slow=6.1,SNR=5.3
STKA LR LR 23 27 41.1
comp=Z,126nm,18.5s,baz=12,slow=36
STKA Stephens Creek 48.79 185 P **P** **23 07 23.9 0.0**
STKA pmax pmax
comp=Z,8.0nm,2.0s
LHMI Lhok Sumawe 49.34 262 P **P** **23 07 29.1 +0.6**
BBOO Buckleboo 50.44 191 P **P** **23 07 36.2 -0.3**
BBOO IAmb IAmb 23 08 20.9
comp=Z,52nm,1.8s
FORT Forrest 50.53 200 P **P** **23 07 36.3 -0.9**
FORT IAmb IAmb 23 07 47.5
comp=Z,19nm,0.9s
SHL Shillong 50.79 289 P **P** **23 07 38.7 -1.0**
SHL pmax pmax
comp=Z,24nm,1.0s
SHL Shillong 50.79 289 P **P** **23 07 38.7 -1.0**
SHL IAmb IAmb 23 07 39.9
comp=Z,24nm,1.0s
LSA Lhasa 51.44 295 P **P** **23 07 45.7 +0.9**
LSA pmax pmax
comp=Z,41nm,0.8s
LSA Lhasa 51.44 295 P **P** **23 07 45.7 +0.9**
SPIA Saint Paul Isl 51.69 29 P **P** **23 07 46.2 +0.6**
AFI Afiamalu 51.84 124 P **P** **23 07 47.0 -0.4**
AFI pmax pmax
comp=Z,59nm,1.3s
AFI Afiamalu 51.84 124 P **P** **23 07 47.0 -0.4**
BILL Bilibino 52.63 9 *i*P **P** **23 07 51.7 -0.8**
BILL *i* 23 09 01.4
BILL pmax pmax
comp=Z,7.0nm,0.9s
BILL MLR MLR
comp=Z,225nm,18.0s
MORW Morawa 54.16 213 P **P** **23 08 03.9 -0.4**
MORW IAmb IAmb 23 08 05.5
comp=Z,18nm,1.0s
RAMN Ramite 55.48 291 *e*P **P** **23 08 14.1 -0.2**
WMQ Urumqi 55.59 312 *e*P **P** **23 08 15.5 +1.0**
WMQ pP pwP 23 08 24.5 +0.1
WMQ PP **PP** **23 10 17.3 -1.4**
WMQ S **S** **23 16 01.3 +2.5**
WMQ pmax pmax
comp=Z,30nm,1.1s
WMQ pmax pmax
comp=Z,230nm,4.5s
WMQ LR LR
comp=Z,290nm,21.3s
SDPT Sand Point 55.73 34 P **P** **23 08 15.8 +0.6**
SDPT Sand Point 55.73 34 P **P** **23 08 16.6 +1.4**
baz=249
JIRN Jiri 55.81 292 *e*P **P** **23 08 16.8 0.0**
comp=Z,42nm,0.8s
CNBA Cherrabura Isl 56.02 35 P **P** **23 08 18.1 +0.8**
PKI Pulchoki 56.51 292 *e*P **P** **23 08 21.2 -0.5**
comp=Z,21nm,0.7s
PKIN Phulchoki 56.52 292 *e*P **P** **23 08 21.1 -0.6**
comp=Z,16nm,0.6s
KKN Kakani 56.61 292 *e*P **P** **23 08 21.9 -0.4**
comp=Z,29nm,0.8s
DMN Daman 56.78 292 *e*P **P** **23 08 23.2 -0.3**
comp=Z,31nm,0.7s
DGZ Jazzator, Alta 56.92 319 *de*P **P** **23 08 24.2 +0.1**
DGZ pmax pmax
comp=Z,10.0nm,1.0s
GKN Gorkha 57.17 293 *e*P **P** **23 08 25.8 -0.4**
comp=Z,70nm,0.9s
RAO Raoul Island 57.74 142 LR LR 23 29 04.1
comp=Z,220nm,21.8s,baz=304,slow=32
DANN Dangsing 57.93 293 *e*P **P** **23 08 31.8 +0.1**
comp=Z,169nm,0.7s
KOLN Koldanda 58.10 292 *e*P **P** **23 08 32.5 -0.3**
comp=Z,78nm,0.8s
ZSN Zaisan 58.15 316 *e*P **P** **23 08 31.0 -1.6**
baz=316
ZSN Zaisan 58.15 316 *e*P **P** **23 08 31.0 -1.6**
PYUN Piuthan 58.62 293 *e*P **P** **23 08 35.8 -0.6**
comp=Z,73nm,0.9s
SII Sitkinak Islan 59.47 34 P **P** **23 08 42.9 +1.3**
ZAA0 Zalesovo Array 59.48 323 P **P** **23 08 41.5 -0.2**
ZALV Zalesovo Beam 59.48 323 P **P** **23 08 41.4 -0.4**
comp=Z,2.7nm,0.9s,baz=94,slow=6.5,SNR=9.4
MK31 Makanchi Array 59.79 315 *i*P **P** **23 08 44.9 +0.9**
MK31 Makanchi Array 59.79 315 P **P** **23 08 43.5 -0.5**
MKAR Makanchi Array 59.79 315 P **P** **23 08 44.3 +0.2**
comp=Z,2.4nm,0.7s,baz=87,slow=9.4,SNR=20
MKAR LR LR 23 35 32.5
comp=Z,321nm,18.2s,baz=48,slow=37
MKAR Makanchi Array 59.79 315 P **P** **23 08 43.2 -0.8**
N18K Kilae Creek 59.90 29 P **P** **23 08 45.1 +0.6**
N18K IAmb IAmb 23 08 57.2
comp=Z,23nm,1.1s
O18K Koktuh Hills 59.95 30 P **P** **23 08 45.2 +0.4**
MAKZ Makanchi 60.01 315 P **P** **23 08 45.5 0.0**
MAKZ pmax pmax
comp=Z,18nm,1.3s
MAKZ Makanchi 60.01 315 P **P** **23 08 45.5 0.0**
MAKZ IAmb IAmb 23 08 55.4
comp=Z,18nm,1.3s
OHAK Old Harbor 60.12 33 P **P** **23 08 47.1 +1.1**
SVW2 Sparrevohn 60.19 29 P **P** **23 08 47.3 +0.8**
SVW2 IAmb IAmb 23 08 56.0
comp=Z,15nm,1.0s
N19K Bonanza Creek 60.60 29 P **P** **23 08 49.5 +0.2**
N19K IAmb IAmb 23 08 58.9
comp=Z,19nm,0.9s
N19K Bonanza Creek 60.60 29 P **P** **23 08 51.5 +2.1**
baz=251
KDAK Kodiak Island 60.64 33 P **P** **23 08 50.4 +0.9**
comp=Z,10.0nm,0.9s,baz=249,slow=8.6,SNR=4.5
KDAK Kodiak Island 60.64 33 P **P** **23 08 51.2 +1.6**
KDAK pmax pmax
comp=Z,123nm,1.9s
KDAK Kodiak Island 60.64 33 P **P** **23 08 51.2 +1.6**
P19K Oil Pt 60.84 31 P **P** **23 08 52.0 +1.1**
L19K White Mountain 60.88 27 P **P** **23 08 51.0 -0.1**
L19K IAmb IAmb 23 09 00.5
comp=Z,19nm,1.1s
M19K Big River Lodg 60.99 28 P **P** **23 08 52.8 +0.8**
M19K IAmb IAmb 23 09 00.9
comp=Z,17nm,1.2s
SHLS Shalkode 61.47 310 *e*P **P** **23 08 52.4 -3.2**
comp=Z,14nm,1.2s,baz=310
SHLS Shalkode 61.47 310 *e*P **P** **23 08 52.4 -3.2**
SHLS pmax pmax
comp=Z,14nm,1.2s
K20K Telida 61.62 26 IAmb IAmb 23 09 06.8
comp=Z,15nm,0.9s
K20K Telida 61.62 26 P **P** **23 08 57.4 +1.3**
baz=250
J20K Nowinta River 61.87 25 IAmb IAmb 23 09 12.6
comp=Z,27nm,1.1s
J20K Nowinta River 61.87 25 P **P** **23 08 58.9 +1.2**
baz=250
BRLK Bradley Lake 62.01 31 P **P** **23 08 59.1 +0.3**
KPKS Kokpek 62.05 311 *e*P **P** **23 08 58.4 -1.1**
baz=310
KPKS Kokpek 62.05 311 *e*P **P** **23 08 58.4 -1.1**
CAPN Captain Cook N 62.14 30 P **P** **23 08 60.0 +0.3**
SATY Saty 62.23 310 *e*P **P** **23 08 59.6 -1.3**
baz=310
SATY Saty 62.23 310 *e*P **P** **23 08 59.5 -1.3**
PPLA Purkeypile 62.28 27 P **P** **23 09 01.1 +0.3**
PPLA IAmb IAmb 23 09 18.9
comp=Z,21nm,1.1s
URZ Urewera 62.28 153 LR LR 23 31 23.9
comp=Z,238nm,21.2s,baz=31,slow=32
SKT Skwentna 62.30 28 IAmb IAmb 23 09 09.2
comp=Z,13nm,0.9s
SKT Skwentna 62.30 28 P **P** **23 09 00.7 -0.1**
baz=254
CAST Castle Rocks 62.49 27 P **P** **23 09 02.3 +0.3**
CAST IAmb IAmb 23 09 10.9
comp=Z,25nm,1.0s
CAST Castle Rocks 62.49 27 P **P** **23 09 03.1 +1.1**
baz=252
SUA Susitna One 62.52 29 P **P** **23 09 02.1 -0.2**
CHUM Lake Minchumin 62.53 26 P **P** **23 09 03.4 +1.2**
baz=252
O22K Cooper Landing 62.75 30 P **P** **23 09 05.3 +1.5**
SEW Seward 62.79 31 P **P** **23 09 04.5 +0.5**
H21K Melozitna Rive 62.91 24 P **P** **23 09 04.8 +0.1**
H21K IAmb IAmb 23 09 13.8
comp=Z,16nm,1.0s
H21K Melozitna Rive 62.91 24 P **P** **23 09 05.8 +1.0**
baz=250
CUT Chulitna 62.99 28 P **P** **23 09 06.6 +1.3**
BPAW Bear Paw Mtn. 63.16 26 IAmb IAmb 23 09 15.2
comp=Z,25nm,1.0s
BPAW Bear Paw Mtn. 63.16 26 P **P** **23 09 06.7 +0.3**
baz=253
MDOK Medeo 63.23 310 *e*P **P** **23 09 07.0 -0.5**
baz=310
MDOK Medeo 63.23 310 *e*P **P** **23 09 07.0 -0.5**
NRIK Noril'sk 63.26 340 ‖*e*P **P** **23 09 07.3 +0.3**
NRIK pmax pmax
comp=Z,5.0nm,1.0s
CHKK Chushkaly 63.29 311 *e*P **P** **23 09 06.8 -0.9**
baz=311
TNSS Tian-Shan 63.30 310 *e*P **P** **23 09 08.3 0.0**
baz=310
AAA Alma-Ata 63.33 310 *e*P **P** **23 09 08.0 0.0**
baz=310
AAA Alma-Ata 63.33 310 *e*P **P** **23 09 08.0 0.0**
GHO Glory Hole Cre 63.44 29 P **P** **23 09 08.2 -0.2**
GHO IAmb IAmb 23 09 31.6
comp=Z,15nm,0.8s
MLY Manley 63.53 25 IAmb IAmb 23 09 17.7
comp=Z,22nm,1.1s
MLY Manley 63.53 25 P **P** **23 09 09.6 +0.6**
baz=253
KNK Knik Glacier 63.57 29 P **P** **23 09 09.2 0.0**
KNK Knik Glacier 63.57 29 P **P** **23 09 09.5 +0.3**
baz=257
MTBS Maitube 63.68 310 *e*P **P** **23 09 09.6 -0.8**
baz=310
SML Sawmill 63.72 29 P **P** **23 09 09.8 -0.4**
SML Sawmill 63.72 29 P **P** **23 09 10.9 +0.6**
baz=257
KUU Kurty 63.76 311 *e*P **P** **23 09 09.3 -1.5**
comp=Z,18nm,0.9s,baz=311
KUU Kurty 63.76 311 *e*P **P** **23 09 09.3 -1.5**
KUU pmax pmax
comp=Z,18nm,0.9s
BWN Browne 63.82 26 P **P** **23 09 11.7 +1.0**
RND Reindeer 63.88 27 IAmb IAmb 23 09 23.3
comp=Z,9.0nm,0.8s
MCK McKinley 63.93 27 P **P** **23 09 12.1 +0.6**
MCK pmax pmax
comp=Z,12nm,1.1s
MCK McKinley 63.93 27 P **P** **23 09 12.1 +0.6**
MCK McKinley 63.93 27 P **P** **23 09 11.9 +0.4**
baz=255
KSH Kashi 64.03 306 P **P** **23 09 16.0 +3.2**
KSH pP sP 23 09 23.5 +0.3
KSH sP pwP 23 09 27.5 +4.6
KSH PcP **PcP** **23 09 49.8 +1.8**
KSH sS sS 23 18 03.5 +3.5
KSH pmax pmax
comp=Z,20nm,1.2s
KSH pmax pmax
comp=Z,150nm,4.5s
KSH LR LR
comp=Z,2µm,10.9s
KSH LR LR
comp=Z,1µm,11.1s
KSH LR LR
comp=Z,1µm,10.9s
BOOM Boomskoye usch 64.03 309 P **P** **23 09 10.8 -2.0**
BOOM pmax pmax
comp=Z,18nm,1.1s
BOOM Boomskoye usch 64.03 309 P **P** **23 09 10.8 -2.0**
BOOM IAmb IAmb 23 09 14.2
comp=Z,18nm,1.1s
HYB Hyderabad 64.04 281 *i*P **P** **23 09 11.0 -2.0**
NEA2 Nenana 64.10 26 P **P** **23 09 13.1 +0.5**
NEA2 IAmb IAmb 23 09 21.7
comp=Z,14nm,1.0s
GLI Glacier Island 64.10 30 P **P** **23 09 12.2 -0.5**
GLI IAmb IAmb 23 09 21.5
comp=Z,24nm,1.1s
I23K Minto, Yukon-K 64.13 25 P **P** **23 09 12.8 0.0**
I23K IAmb IAmb 23 09 21.7
comp=Z,19nm,1.1s
I23K Minto, Yukon-K 64.13 25 P **P** **23 09 13.3 +0.6**
baz=254
MSWZ Moikau Station 64.16 156 P **P** **23 09 13.3 0.0**
WAT6 Susitna Watana 64.17 28 P **P** **23 09 13.4 +0.1**
baz=257
SCM Sheep Creek Mo 64.19 29 P **P** **23 09 13.0 -0.4**
SCM pmax pmax
comp=Z,46nm,1.0s
SCM Sheep Creek Mo 64.19 29 P **P** **23 09 13.0 -0.4**
TKM2 Tokmak 2 64.29 310 P **P** **23 09 14.8 +0.2**
SNR=8.4
HIN Hinchinbrook I 64.29 31 P **P** **23 09 14.5 +0.5**
FID Port Fidalgo 64.37 30 P **P** **23 09 14.6 +0.2**
COLD Coldfoot 64.41 23 P **P** **23 09 15.0 +0.4**
COLD Coldfoot 64.41 23 P **P** **23 09 15.4 +0.8**
baz=252
DHY Denali Highway 64.45 28 IAmb IAmb 23 09 28.2
comp=Z,5nm,1.9s
MDM Murphy Dome 64.54 25 IAmb IAmb 23 09 24.7
comp=Z,16nm,1.0s
KZA Kyzart 64.55 309 P **P** **23 09 17.8 +1.3**
SNR=5.9
RPZ Rata Peaks 64.67 160 P **P** **23 09 16.2 -0.3**
EYAK Cordova Ski Ar 64.69 31 P **P** **23 09 16.6 +0.1**
EYAK IAmb IAmb 23 09 25.1
comp=Z,14nm,0.9s
KBK Karagaybulak 64.77 310 P **P** **23 09 18.0 +0.4**
SNR=5.6
KLU Klutina 64.78 29 P **P** **23 09 18.0 +0.7**
KLU IAmb IAmb 23 09 26.7
comp=Z,17nm,0.9s
KLU Klutina 64.78 29 P **P** **23 09 18.2 +0.9**
baz=259
DIV Divide 64.78 30 P **P** **23 09 17.4 +0.2**
DIV IAmb IAmb 23 09 26.4
comp=Z,18nm,1.0s
M24K Tolsona, Glenn 64.78 29 P **P** **23 09 17.4 +0.2**

POKR	Poker Plat Res	64.91	25	IAmb	IAmb	23 09 26.3			B05A	Bryant	78.79	43	P	P	23 10 43.1	+1.6	R11A			IAmb	IAmb	23 11 29.9		
	comp=Z,35nm,1.8s									baz=283								comp=Z,22nm,1.4s						
POKR	Poker Plat Res	64.91	25	P	P	23 09 17.9	0.0		K02D	Willamette Mer	78.95	49	P	P	23 10 45.0	+2.3	R11A	Troy Canyon, C	86.06	51	P	P	23 11 21.5	+1.5
	baz=256								KHMM	Horse Mountain	79.32	51	P	P	23 10 44.2	-0.6		baz=288						
H24K	Noodor Dome	64.91	25	IAmb	IAmb	23 09 41.7			LON	Longmire	79.32	44	P	P	23 10 44.5	-0.1	BOZ	Bozeman (W)	86.42	43	P	P	23 11 21.4	-0.2
	comp=Z,18nm,1.4s								LON				pmax	pmax			BOZ	Bozeman (W)	86.42	43	P	P	23 11 21.4	-0.2
H24K	Noodor Dome	64.91	25	P	P	23 09 19.1	+1.2			comp=Z,7.0nm,1.1s											IAmb	IAmb	23 13 38.8	
	baz=255								LON	Longmire	79.32	44	P	P	23 10 44.5	-0.1		comp=Z,26nm,1.4s						
HDA	Harding Lake	64.94	26	IAmb	IAmb	23 09 30.0			YKA	Yellowknife Ar	79.36	28	P	P	23 10 44.2	-0.2	BOZ	Bozeman (W)	86.42	43	P	P	23 11 22.7	+1.2
	comp=Z,11nm,0.9s									comp=Z,3.2nm,0.7s,baz=287,slow=4.8,SNR=3.9								baz=291						
HDA	Harding Lake	64.94	26	P	P	23 09 17.7	-0.5		YKA				LR	LR	23 46 02.5		EGMT	Eagleton	86.74	41	P	P	23 11 23.4	+0.4
	baz=257									comp=Z,104nm,19.7s,baz=0.0,slow=36							EGMT				IAmb	IAmb	23 11 48.0	
SGDS	Sogindy	65.00	310	*e*P	P	23 09 17.7	-1.3		HUMO	Hull Mountain	79.48	49	P	P	23 10 45.9	+0.4		comp=Z,32nm,1.5s						
	baz=310								HUMO				IAmb	IAmb	23 10 56.1		PRN	Pahroc Range	86.76	52	P	P	23 11 23.3	0.0
	comp=Z,13nm,0.9s									comp=Z,30nm,1.7s							PRN				IAmb	IAmb	23 11 33.3	
IL31		65.05	26	IAmb	IAmb	23 09 25.9			I04A	Tendick Farm,	79.60	47	P	P	23 10 47.6	+1.5		comp=Z,12nm,1.1s						
	comp=Z,13nm,0.9s									baz=284							SPR3	Spring Creek 3	86.78	50	P	P	23 11 23.8	+0.2
ILAR	Eielson Array	65.05	26	P	P	23 09 17.4	-1.4		KCPM	Cahto Peak	79.70	52	P	P	23 10 47.5	+0.7	SPR3				IAmb	IAmb	23 11 33.6	
	comp=Z,6.6nm,1.1s,baz=258,slow=4.9,SNR=29								KCPM				IAmb	IAmb	23 10 56.9			comp=Z,22nm,1.2s						
ILAR				LR	LR	23 36 23.3				comp=Z,20nm,1.0s							PFO	Pinyon Flats O	86.87	56	LR	LR	23 42 33.0	
	comp=Z,61nm,20.2s,baz=288,slow=35								M02C	Callahan	79.84	50	P	P	23 10 50.0	+2.4		comp=Z,59nm,21.9s,baz=246,slow=30						
TOLK	Toolik Lake Re	65.07	21	P	P	23 09 19.3	+0.4			baz=284							PFO	Pinyon Flats O	86.87	56	P	P	23 11 23.8	-0.2
TOLK				IAmb	IAmb	23 09 27.2			YBH	Yreka Blue Hor	79.87	49	LR	LR	23 39 23.1						pmax	pmax		
	comp=Z,29nm,1.2s									comp=Z,103nm,19.5s,baz=292,slow=31								comp=Z,11nm,1.2s						
TOLK	Toolik Lake Re	65.07	21	P	P	23 09 20.1	+1.2		YBH	Yreka Blue Hor	79.87	49	P	P	23 10 48.6	+0.9	PFO	Pinyon Flats O	86.87	56	P	P	23 11 23.8	-0.2
	baz=252								YBH				pmax	pmax			PFO	Pinyon Flats O	86.87	56	P	P	23 11 25.0	+1.1
UCH	Uchtor	65.09	309	P	P	23 09 21.2	+1.1			comp=Z,19nm,1.6s								baz=288						
	SNR=9.5								YBH	Yreka Blue Hor	79.87	49	P	P	23 10 48.6	+0.9	TPFO	Pinon Flats	86.88	56	P	P	23 11 25.6	+1.6
AAK	Ala-Archa	65.10	310	P	P	23 09 19.8	0.0		J04D	Umpqua Nationa	79.94	48	P	P	23 10 50.3	+2.0		baz=288						
AAK				pmax	pmax					baz=284							HVU	Hansel Valley	86.96	47	P	P	23 11 24.2	-0.1
	comp=Z,16nm,1.5s								LTY	Liberty	79.96	44	P	P	23 10 48.4	+0.3	HVU				pmax	pmax		
AAK	Ala-Archa	65.10	310	P	P	23 09 19.8	0.0		L04D	Klamath Falls	80.04	49	P	P	23 10 50.5	+1.7		comp=Z,20nm,1.1s						
PAX	Paxson	65.28	28	IAmb	IAmb	23 09 32.0				baz=284							HVU	Hansel Valley	86.96	47	P	P	23 11 24.2	-0.1
	comp=Z,11nm,0.8s								O02D	Mt. Diablo Mer	80.18	51	P	P	23 10 51.9	+2.5		comp=Z,20nm,1.1s			IAmb	IAmb	23 11 34.1	
PAX	Paxson	65.28	28	P	P	23 09 20.4	0.0			baz=284							YHL	Hebgen Lake	86.98	44	P	P	23 11 25.8	+1.3
	baz=259								M04C	Macdoel	80.49	49	P	P	23 10 53.1	+2.0	BGU	Big Grassy Mou	87.08	48	P	P	23 11 25.2	+0.3
HARP	HAARP	65.31	29	P	P	23 09 21.4	+0.8			baz=284							MONP2	Monument Peak	87.13	57	P	P	23 11 27.0	+1.7
	baz=259								J05D	Fort Rock, OR	80.55	48	P	P	23 10 53.5	+2.1		baz=288						
BMRM	Bremner River	65.31	30	P	P	23 09 21.3	+0.6			baz=284							YHH	Holmes Hill	87.22	44	P	P	23 11 25.2	-0.5
BMRM	Bremner River	65.31	30	P	P	23 09 22.6	+1.9		B08A	Colville Reser	80.56	42	IAmb	IAmb	23 10 60.0		YHH				IAmb	IAmb	23 11 38.6	
	baz=260									comp=Z,16nm,0.9s								comp=Z,19nm,1.3s						
N25K	Chitina, Valde	65.42	29	IAmb	IAmb	23 09 30.6			O03E	Paynes Creek	80.88	51	P	P	23 10 54.4	+1.2	PSUT	Pine Spring	87.28	51	P	P	23 11 26.8	+0.8
	comp=Z,16nm,1.1s									baz=284							PSUT				IAmb	IAmb	23 11 35.0	
N25K	Chitina, Valde	65.42	29	P	P	23 09 22.5	+1.1		K05A	Summer Lake	80.93	48	P	P	23 10 53.8	+0.3		comp=Z,22nm,1.1s						
	baz=260								K05A				IAmb	IAmb	23 11 03.2		YNR	Norris Junctio	87.36	44	P	P	23 11 27.8	+1.5
J25K	Salcha River,	65.65	26	P	P	23 09 21.7	-1.2			comp=Z,24nm,1.1s							DUG	Dugway, Tooele	87.48	49	P	P	23 11 28.2	+1.4
	baz=258								HAWA	Hanford	80.93	44	P	P	23 10 53.7	+0.5		baz=290						
BERG	Berg Lake	65.66	31	P	P	23 09 23.4	+0.5		D08A	Wollman Farm,	81.17	44	P	P	23 10 54.7	+0.2	IMW	Indian Meadow	87.48	45	P	P	23 11 27.8	+0.8
RIDG	Independent Ri	65.70	27	P	P	23 09 23.0	-0.1		ORV	Oroville	81.29	51	P	P	23 10 55.2	-0.1	IMW				IAmb	IAmb	23 11 39.2	
	baz=259								ORV				pmax	pmax				comp=Z,14nm,1.1s						
AML	Almayashu	65.70	309	P	P	23 09 25.1	+1.1			comp=Z,11nm,1.1s							KBZ	Khabaz	87.49	315	P	P	23 11 25.9	-0.7
	SNR=9.9								ORV	Oroville	81.29	51	P	P	23 10 55.2	-0.1		comp=Z,1.3nm,0.9s,baz=72,slow=6.4,SNR=2.4						
GLB	Gilahina Butte	65.77	30	P	P	23 09 23.6	0.0		C09A	Chrisman Ranch	81.39	43	P	P	23 10 55.3	-0.3	KBZ				LR	LR	23 53 10.8	
VRDI	Verde Repeater	65.91	30	P	P	23 09 24.7	0.0		I07A	Izee	81.56	47	P	P	23 10 56.5	-0.3		comp=Z,173nm,18.4s,baz=53,slow=38						
VRDI				IAmb	IAmb	23 09 33.4			G08A	Pilot Rock	81.61	45	P	P	23 10 58.0	+1.0	FXWY	Fox Creek	87.52	45	P	P	23 11 28.1	+1.0
	comp=Z,22nm,1.1s								BELG	Belogornoye	81.66	322⇑	*e*P	P	23 10 55.3	-1.6	FXWY				IAmb	IAmb	23 11 39.6	
CRQM	Cirque	65.99	31	P	P	23 09 25.4	+0.2		BELG				pmax	pmax				comp=Z,12nm,1.2s						
CRQE	Cirque	66.01	31	P	P	23 09 26.3	+1.1			comp=Z,3.0nm,1.4s							H17A	Grant Village	87.55	44	P	P	23 11 28.0	+0.8
	baz=262								E09A	Wood Farm, Sta	81.82	44	P	P	23 10 58.3	+0.4	H17A				IAmb	IAmb	23 11 38.4	
DOT	Dot Lake	66.03	27	IAmb	IAmb	23 09 33.4			NEW	Newport	82.00	42	IAmb	IAmb	23 11 08.2			comp=Z,16nm,1.2s						
	comp=Z,18nm,1.0s									comp=Z,17nm,1.1s							H17A	Grant Village	87.55	44	P	P	23 11 30.7	+3.5
SCRK	Sand Creek	66.12	27	IAmb	IAmb	23 09 36.5			NEW	Newport	82.00	42	P	P	23 11 00.1	+1.2		baz=291						
	comp=Z,22nm,1.2s									baz=286							FLWY	Flagg Ranch	87.58	45	P	P	23 11 28.1	+0.8
SCRK	Sand Creek	66.12	27	P	P	23 09 25.9	0.0		BEKR	Beckworth	82.06	51	P	P	23 10 59.5	0.0	FLWY				IAmb	IAmb	23 11 39.9	
	baz=260								BEKR				IAmb	IAmb	23 11 09.2			comp=Z,18nm,1.0s						
FYU	Fort Yukon	66.12	24	P	P	23 09 26.1	+0.4			comp=Z,17nm,1.0s							TPAW	Teton Pass	87.62	45	P	P	23 11 28.3	+0.7
MCARA	McCarthy VSAT	66.14	30	P	P	23 09 27.1	+1.2		J08A	Circle Bar Ran	82.47	47	P	P	23 11 02.1	+0.5	TPAW				IAmb	IAmb	23 11 37.3	
	baz=262								J08A				IAmb	IAmb	23 11 11.2			comp=Z,19nm,1.4s						
M26K	Nabesna, AK	66.30	29	P	P	23 09 27.8	+0.8			comp=Z,19nm,1.1s							BC3	Big Chuckawall	87.65	56	P	P	23 11 28.6	+0.8
M26K	Nabesna, AK	66.30	29	P	P	23 09 27.9	+0.9		CMB	Columbia Colle	82.53	53	P	P	23 11 02.7	+0.8		baz=289						
	baz=261								CMB				pmax	pmax			MOOW	Moose Ponds	87.67	45	P	P	23 11 28.6	+0.8
J26L	Joseph Creek	66.40	26	P	P	23 09 27.6	0.0			comp=Z,14nm,1.1s							AHID	Auburn Hatcher	87.78	46	P	P	23 11 29.2	+0.9
	baz=260								CMB	Columbia Colle	82.53	53	P	P	23 11 02.7	+0.8	AHID				IAmb	IAmb	23 11 37.7	
BRZS	Berezniki	66.42	318	*e*P	P	23 09 26.9	-1.0		CMB				IAmb	IAmb	23 11 11.7			comp=Z,15nm,1.1s						
	baz=318									comp=Z,14nm,1.1s							LOHW	Long Hollow	87.81	45	P	P	23 11 28.6	+0.1
BRZS	Berezniki	66.42	318	*e*P	P	23 09 26.9	-1.0		WVOR	Wild Horse Val	82.61	48	P	P	23 11 03.3	+0.9	CCUT	Cedar City	87.98	51	P	P	23 11 30.0	+0.6
NIL	Nilore	66.55	300	P	P	23 09 29.5	+0.4		WVOR				pmax	pmax			CCUT				IAmb	IAmb	23 11 39.0	
NIL				pmax	pmax					comp=Z,9.0nm,0.8s								comp=Z,9.8nm,1.0s						
	comp=Z,103nm,1.0s								WVOR	Wild Horse Val	82.61	48	P	P	23 11 03.2	+0.9	CTU	Camp Tracy	88.07	48	P	P	23 11 30.2	+0.5
NIL	Nilore	66.55	300	P	P	23 09 29.5	+0.4		APA	Apatity	82.65	339⇓	*i*P	P	23 11 03.4	+1.6	CTU				IAmb	IAmb	23 11 40.8	
YAH	Yahtse	66.62	31	P	P	23 09 29.8	+0.5		APA				pmax	pmax				comp=Z,14nm,1.0s						
GRNC	Granite Creek	66.66	31	P	P	23 09 30.4	+0.8			comp=Z,3.0nm,0.9s							NLU	North Lily Min	88.09	49	P	P	23 11 30.7	+0.8
GRNC				IAmb	IAmb	23 09 38.5			APA				MLR	MLR			NLU				IAmb	IAmb	23 11 39.3	
	comp=Z,21nm,1.0s									comp=Z,500nm,16.0s								comp=Z,15nm,1.0s						
CTG	Chitna Glacier	66.89	30	P	P	23 09 31.8	+0.9		PAHR	Pah Rah Range	82.83	51	P	P	23 11 04.3	+0.8	TCUT	Toone Canyon	88.16	48	IAmb	IAmb	23 11 41.7	
	baz=263								PAHR				IAmb	IAmb	23 11 13.3			comp=Z,20nm,1.2s						
CTGM	Chitina Glacie	66.89	30	P	P	23 09 31.6	+0.6			comp=Z,18nm,1.2s							SZCU	Shurtz Canyon	88.17	51	P	P	23 11 30.5	+0.3
CTGM				IAmb	IAmb	23 09 40.2			PNTR	Pine Nut	82.84	51	P	P	23 11 04.4	+0.7	SZCU				IAmb	IAmb	23 11 40.1	
	comp=Z,17nm,0.9s								PNTR				IAmb	IAmb	23 11 13.8			comp=Z,8.9nm,1.0s						
L27K	Beaver Creek,	66.93	28	P	P	23 09 31.4	+0.4			comp=Z,18nm,1.0s							LCMT	Little Creek M	88.25	52	P	P	23 11 30.9	+0.3
	baz=262								BMO	Blue Mountains	82.86	45	IAmb	IAmb	23 11 12.9		LCMT				IAmb	IAmb	23 11 40.0	
K27K	Chicken	66.96	27	P	P	23 09 32.0	+0.9			comp=Z,16nm,1.1s								comp=Z,8.6nm,1.1s						
	baz=261								YERR	Yerington	83.14	51	P	P	23 11 05.9	+0.7	TCRU	Three Creeks R	88.29	50	P	P	23 11 31.0	+0.1
LOGN	Logan Glacier	67.04	31	IAmb	IAmb	23 10 00.0			YERR				IAmb	IAmb	23 11 15.2		TCRU				IAmb	IAmb	23 11 40.6	
	comp=Z,24nm,1.1s									comp=Z,22nm,1.2s								comp=Z,8.7nm,0.8s						
DRK	Karamyk	67.26	306	P	P	23 09 33.2	-0.7		PLID	Pearl Lake	83.67	45	P	P	23 11 07.2	-0.7	JLU	Jordanelle	88.31	48	P	P	23 11 30.9	0.0
YUK3	Moose Creek	67.40	30	P	P	23 09 35.1	+0.8		PLID				IAmb	IAmb	23 11 24.2		MPU	Maple Canyon	88.39	49	P	P	23 11 32.0	+0.7
	baz=264									comp=Z,12nm,1.2s							MPU				IAmb	IAmb	23 11 40.7	
EGAK	Eagle	67.46	26	IAmb	IAmb	23 09 43.6			RYN	Ryan	83.77	52	P	P	23 11 08.8	+0.4		comp=Z,16nm,1.1s						
	comp=Z,17nm,1.4s								RYN				IAmb	IAmb	23 11 18.4		W13A	Hualapai Mount	88.41	54	P	P	23 11 31.6	+0.2
EGAK	Eagle	67.46	26	P	P	23 09 34.9	+0.6			comp=Z,13nm,1.1s							FINES	FINESS Array B	88.50	335	P	P	23 11 29.7	-1.3
	baz=262								WALA	Waterton Lakes	83.79	41	P	P	23 11 09.1	+0.8		comp=Z,1.2nm,0.8s,baz=83,slow=4.3,SNR=1.7						
BTK	Batken	67.97	307	P	P	23 09 37.3	-0.8		PKM	Mcpherson Peak	83.84	56	P	P	23 11 11.3	+2.4	MVU	Marysvale	88.50	50	P	P	23 11 32.6	+0.8
BTK				pmax	pmax					baz=286							MSU	Marysvale	88.53	50	P	P	23 11 32.8	+0.8
	comp=Z,8.0nm,1.1s								LHV	Little Huntoon	83.90	52	P	P	23 11 10.0	+1.2	MSU	Marysvale	88.53	50	P	P	23 11 32.8	+0.8
BTK	Batken	67.97	307	P	P	23 09 37.3	-0.8		LHV				IAmb	IAmb	23 11 19.8		KNB	Kanab	88.56	52	P	P	23 11 33.3	+1.2
BRVK	Borovoye	67.98	321⇑	*e*P	P	23 09 37.4	-0.3			comp=Z,11nm,1.0s							KNB				pmax	pmax		
BRVK				pmax	pmax				KVN	Kaiserville	83.97	51	P	P	23 11 10.2	+0.7		comp=Z,21nm,1.1s						
	comp=Z,11nm,1.6s								KVN				pmax	pmax			KNB	Kanab	88.56	52	P	P	23 11 33.3	+1.2
KK31	Karatay Array	68.02	310	P	P	23 09 38.0	-0.2			comp=Z,14nm,1.0s							KNB				IAmb	IAmb	23 11 41.9	
KK31				pmax	pmax				KVN	Kaiserville	83.97	51	P	P	23 11 10.2	+0.7		comp=Z,21nm,1.1s						
	comp=Z,17nm,1.2s								KVN				IAmb	IAmb	23 11 19.2		MTPU	Mount Pierson	88.68	51	P	P	23 11 33.1	+0.2
KK31	Karatay Array	68.02	310	P	P	23 09 38.0	-0.2			comp=Z,14nm,1.0s							PKCU	Pink Cliffs	88.80	51	P	P	23 11 34.4	+1.1
KK31				IAmb	IAmb	23 09 47.2			JTMT	Jette	83.98	42	P	P	23 11 10.0	+0.7	PDAR	Pinedale Array	88.84	45	P	P	23 11 33.3	0.0
	comp=Z,17nm,1.1s								JTMT				IAmb	IAmb	23 11 18.4			comp=Z,0.4nm,0.6s,baz=35,slow=3.3,SNR=2.8						
KKAR	Karatay Array	68.02	310	P	P	23 09 37.4	-0.8			comp=Z,19nm,1.2s							TMUT	Trail Mountain	88.95	49	P	P	23 11 34.6	+0.6
KKAR	Karatay Array	68.02	310	P	P	23 09 37.4	-0.8		NVAR	Mina Array Bea	84.00	52	P	P	23 11 11.3	+1.6	TMUT				IAmb	IAmb	23 11 43.5	
KKAR	Karatay Array	68.02	310	IAmb	IAmb	23 09 47.2				comp=Z,3.2nm,0.7s,baz=266,slow=6.2,SNR=27								comp=Z,13nm,1.0s						
	comp=Z,17nm,1.1s								NV11	Mina Array Sit	84.11	52	P	P	23 11 10.9	+0.8	Q16A	Castle Valley	89.12	50	P	P	23 11 35.4	+0.7
DAWY	Dawson	68.14	27	IAmb	IAmb	23 09 47.5			NV11				IAmb	IAmb	23 11 20.0		Q16A				IAmb	IAmb	23 11 44.6	
	comp=Z,14nm,1.0s									comp=Z,13nm,1.1s								comp=Z,22nm,1.1s						
DAWY	Dawson	68.14	27	P	P	23 09 39.5	+0.9		ARCES	ARCESS Array B	84.16	342	P	P	23 11 09.8	+0.3	U15A	North Rim	89.17	52	P	P	23 11 35.6	+0.6
	baz=264									comp=Z,1.7nm,0.9s,baz=56,slow=4.9,SNR=1.5							U15A				IAmb	IAmb	23 11 46.7	
POO	Poona	68.22	284	*e*P	P	23 09 36.0	-3.9		ARCES	ARCESS Array B	84.16	342	P	P	23 11 09.8	+0.3		comp=Z,13nm,1.1s						
YUK4	Talbot Arm	68.23	30	P	P	23 09 40.7	+1.3		ARCES				pmax	pmax			P17A	Butcher Ranch,	89.23	49	P	P	23 11 35.4	+0.2
	baz=266									comp=Z,32nm,1.8s							P17A				IAmb	IAmb	23 11 44.8	
YUK6	Outpost Mounta	68.33	31	P	P	23 09 41.3	+1.2		ARCES	ARCESS Array B	84.16	342	IAmb	IAmb	23 12 23.9			comp=Z,20nm,1.2s						
	baz=266									comp=Z,32nm,1.8s							Y14A	Wickenburg	89.48	55	P	P	23 11 36.8	+0.5
HYT	Haines Junctio	68.75	31	P	P	23 09 43.2	+0.7		BMN	Battle Mountai	84.21	50	P	P	23 11 11.2	+0.6	Y14A				IAmb	IAmb	23 11 46.1	
HYT	Haines Junctio	68.75	31	P	P	23 09 44.1	+1.5		BMN				pmax	pmax				comp=Z,8.3nm,0.9s						
	baz=267									comp=Z,8.0nm,1.0s							SRU	San Rafael Swe	89.52	49	P	P	23 11 36.9	+0.3
KBL	Kabul	69.92	301	P	P	23 09 50.6	+0.1		BMN	Battle Mountai	84.21	50	P	P	23 11 11.2	+0.6	SRU				pmax	pmax		
KBL				pmax	pmax				MFID	Camas Ranch	84.30	46	IAmb	IAmb	23 11 20.6			comp=Z,13nm,0.9s						
	comp=Z,36nm,1.1s									comp=Z,21nm,1.0s							SRU	San Rafael Swe	89.52	49	P	P	23 11 36.9	+0.3
KBL	Kabul	69.92	301	P	P	23 09 50.6	+0.1		CWC	Cottonwood Cre	84.75	54	P	P	23 11 14.9	+1.5	SRU				IAmb	IAmb	23 11 47.5	
INK	Inuvik	70.83	23	P	P	23 09 54.2	-0.8			baz=287								comp=Z,13nm,0.9s						
	comp=Z,11nm,0.9s,baz=241,slow=4.9,SNR=7.1								TPH	Tonopah	84.91	52	P	P	23 11 15.0	+0.7	RDMU	Red Mountain	89.66	48	P	P	23 11 37.7	+0.5
INK	Inuvik	70.83	23	IAmb	IAmb	23 10 03.4			TPH				pmax	pmax			RDMU				IAmb	IAmb	23 11 46.6	
	comp=Z,22nm,0.9s									comp=Z,42nm,1.0s								comp=Z,23nm,1.1s						
INK	Inuvik	70.83	23	P	P	23 09 54.7	-0.3		TPH	Tonopah	84.91	52	P	P	23 11 15.0	+0.7	SOC	Sochi	89.68	316	*e*P	P	23 11 32.2	-4.7
	baz=268								HLID	Hailey	85.23	46	IAmb	IAmb	23 11 25.3		SOC				*e*		23 15 04.1	
PPT	Papeete	72.19	115	LR	LR	23 35 10.8				comp=Z,21nm,1.1s							SOC				*e*PPP	PPP	23 17 01.3	
	comp=Z,378nm,19.3s,baz=342,slow=30								HLID	Hailey	85.23	46	P	P	23 11 16.7	+0.9	SOC				*e*S	S	23 21 58.7	-28
PPT2	Papeete2	72.20	115	*e*S	S	23 19 27.3	+1.5			baz=289							SOC				*e*SS	SS	23 28 19.2	-3.8
	comp=Z,85nm,27.5s								EDW2	Edwards Air Fo	85.27	55	P	P	23 11 18.3	+2.3	SOC				*e*SSS	SSS	23 31 58.6	
PPT2	Papeete2	72.20	115	*e*LR	LR	23 32 04.0				baz=287							SOC				MLR	MLR		
	comp=Z,728nm,23.0s,baz=293								MPMC	Manual Prospec	85.32	54	P	P	23 11 17.6	+1.3		comp=Z,281nm,16.0s						
DLBC	Dease Lake	72.56	33	P	P	23 10 06.2	+0.4			baz=288							WUAZ	Wupatki	90.19	53	P	P	23 11 40.1	+0.4
DLBC				IAmb	IAmb	23 10 15.0			LRMC	Laurel Mtn Rad	85.34	54	P	P	23 11 18.2	+1.8	WUAZ				IAmb	IAmb	23 11 49.8	
	comp=Z,17nm,1.0s									baz=288								comp=Z,14nm,1.0s						
SVE	Sverdlovsk	73.38	325	*e*P	P	23 10 10.3	-0.3		ELK	Elko	85.55	49	LR	LR	23 43 40.0		WUAZ	Wupatki	90.19	53	P	P	23 11 41.6	+1.9
ARU	Arti	74.56	325	*c i*P	P	23 10 17.2	-0.3			comp=Z,138nm,19.9s,baz=284,slow=32								baz=291						
ARU						23 10 30.6			ELK	Elko	85.55	49	IAmb	IAmb	23 11 27.2		214A	Organ Pipe Nat	90.32	56	P	P	23 11 41.1	+0.9
ARU				PPP	PPP	23 14 51.5				comp=Z,19nm,1.1s							214A				IAmb	IAmb	23 11 50.4	
ARU				S	S	23 19 52.7	+1.4		DLMT	Dillon	85.86	44	IAmb	IAmb	23 11 28.0			comp=Z,13nm,0.9s						
ARU				SS	SS	23 24 35.2	-2.7			comp=Z,22nm,1.5s							214A	Organ Pipe Nat	90.32	56	P	P	23 11 42.1	+1.9
ARU				pmax	pmax				MCMT	McKenzie Canyo	85.88	44	P	P	23 11 19.4	+0.4		baz=290						
	comp=Z,7.0nm,1.5s								GWY	Greenwater Val	85.91	54	P	P	23 11 20.0	+0.7	ANN	Anapa	90.68	318	*e*P	P	23 11 37.4	-4.2
TAOE	Nuku Hiva Isla	77.44	103	*e*LR	LR	23 34 30.9			GWY				IAmb	IAmb	23 11 30.8		ANN				pmax	pmax		
	comp=Z,706nm,27.6s									comp=Z,24nm,1.7s								comp=Z,32nm,1.0s						
NLWA	Neilton Lookou	77.81	44	P	P	23 10 37.1	+0.9		TPNV	Topopah Spring	85.99	53	P	P	23 11 20.1	+0.5	ANN				MLR	MLR		
GEYT	Alibeck	78.06	306	P	P	23 10 37.6	-0.2		TPNV				pmax	pmax				comp=Z,292nm,15.0s						
GEYT				LR	LR	23 49 17.8				comp=Z,6.0nm,0.9s							O20A	White River Ci	90.76	48	P	P	23 11 42.4	+0.1
	comp=Z,217nm,18.1s,baz=225,slow=39								TPNV	Topopah Spring	85.99	53	P	P	23 11 20.1	+0.5	O20A				IAmb	IAmb	23 11 53.7	
GYA0B	ALIBECK ARRAY	78.

comp=Z,14nm,1.0s
O20A White River Ci 90.76 48 P **P** 23 11 42.8 +0.5
baz=293
RWWY Rawlins 90.86 46 IAmb IAmb 23 11 52.0
comp=Z,23nm,1.3s
MNK Minsk 91.50 329 *i* P **P** **23 11 44.9 -0.3**
MNK *i* 23 15 22.4
MNK *i* PPP PPP 23 17 20.9
MNK *i* S **SKSac** **23 22 14.1 -1.9**
MNK *i* PS PS 23 23 55.0 0.0
MNK *i* SS **SS** **23 28 48.5 0.0**
MNK *i* SSS SSS 23 32 26.7
MNK pmax pmax
comp=N,6.0nm,0.8s
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=Z,6.0nm,0.8s
MNK MLR MLR
comp=Z,584nm,18.0s
MNK MLR MLR
comp=E,74nm,18.0s
MNK MLR MLR
comp=N,152nm,16.0s
MNK Minsk 91.50 329 *i* P **P** **23 11 45.0 -0.2**
comp=E,1.0nm,0.9s
MNK *i* P **P** **23 11 45.0 -0.2**
comp=N,6.0nm,0.8s
MNK *i* P **P** **23 11 45.0 -0.2**
comp=Z,6.0nm,0.8s,baz=58
MNK *i* PP **PP** **23 15 22.4 -0.3**
MNK *i* PPP PPP 23 17 20.9
MNK *i* S **SKSac** **23 22 14.2 -1.8**
MNK *i* PS **PnS** **23 23 55.1 -0.5**
MNK *i* SS **SS** **23 28 48.5 0.0**
MNK *i* SSS SSS 23 32 26.8
MNK *i* LQ LQ 23 44 58.1
MNK *i* LR LR 23 51 47.9
MNK *i* LRM MLR 23 53 47.3
comp=Z,584nm,17.6s
MNK *i* LRM MLR 23 53 54.1
comp=N,152nm,16.3s
MVCO Mesa Verde 91.71 50 P **P** **23 11 46.9 +0.1**
MVCO IAmb IAmb 23 11 56.4
comp=Z,14nm,1.1s
MVCO Mesa Verde 91.71 50 P **P** **23 11 47.8 +0.9**
baz=293
SMCO Snowmass 92.04 48 P **P** **23 11 49.1 +0.6**
N23A Red Feather La 92.06 46 P **P** **23 11 49.7 +1.3**
baz=295
S22A 4UR Ranch, Cre 92.72 49 P **P** **23 11 52.7 +1.2**
baz=294
ISCO Idaho Springs 92.74 47 P **P** **23 11 51.9 +0.2**
ISCO pmax pmax
comp=Z,10.0nm,1.1s
ISCO Idaho Springs 92.74 47 P **P** **23 11 51.9 +0.2**
ISCO IAmb IAmb 23 12 03.1
comp=Z,10nm,1.1s
ISCO Idaho Springs 92.74 47 P **P** **23 11 52.9 +1.2**
baz=295
SDCO Great Sand Dun 93.68 49 P **P** **23 11 55.5 -0.5**
SDCO IAmb IAmb 23 12 05.3
comp=Z,7.4nm,1.1s
SDCO Great Sand Dun 93.68 49 P **P** **23 11 57.0 +1.0**
baz=295
ANMO Albuquerque 94.12 52⇑ *e*P **P** **23 11 58.5 +0.5**
ANMO pmax pmax
comp=Z,3.0nm,1.2s
ANMO Albuquerque 94.12 52 P **P** **23 11 57.5 -0.5**
ANMO Albuquerque 94.12 52 P **P** **23 11 59.7 +1.7**
baz=294
VNDA Vanda 94.80 177 LR LR 23 52 50.6
comp=Z,47nm,20.3s,baz=4.0,slow=34
BRTR Keskin Array B 95.44 314 P **P** **23 12 00.9 -2.9**
comp=Z,0.6nm,1.0s,baz=92,slow=4.3,SNR=4.5
BRTR Keskin Array B 95.44 314 *ce*P **P** **23 12 02.5 -1.3**
BRTR pmax pmax
comp=Z,1.0nm,1.0s
TXAR Lajitas Array 98.59 56 P Pdif 23 12 18.5 +0.2
comp=Z,0.2nm,0.7s,baz=333,slow=5.3,SNR=1.9
CLL Collm 100.53 332 *e*SS SS 23 31 07.0 +11
SYO Syowa Base 111.61 202⇓ *e*PKiKP **PKiKP** **23 17 12.6 +0.1**
SYO Syowa Base 111.61 202⇑ *ep*PKiKP **PKiKP** **23 17 19.6 +7.1**
H03S2 Juan Fernandez 136.52 121 T T 01 49 43.0
baz=257,slow=75,SNR=10
H03S1 Juan Fernandez 136.54 121 T T 01 49 55.7
baz=257,slow=75,SNR=16
H03S3 Juan Fernandez 136.54 121 T T 01 49 52.5
baz=257,slow=75,SNR=20
PLCA Paso Flores 140.68 135 PKP **PKiKP** **23 18 10.8 -0.5**
comp=Z,0.9nm,0.8s,baz=315,slow=4.3,SNR=1.8
AC06 Mina Casimiro 144.97 113 **PKPab** **23 18 14.3 -1.6**
LVC Limon Verde 146.80 105 PKPbc **PKPab** **23 18 23.1 -0.2**
comp=Z,7.7nm,1.0s,baz=259,slow=1.1,SNR=4.0
LVC Limon Verde 146.80 105 PKP2 **PKPab** **23 18 23.8 +0.5**
LVC Limon Verde 146.80 105 **PKPab** **23 18 23.8 +0.5**
LPAZ La Paz 147.38 94 PKPbc **PKPab** **23 18 26.1 0.0**
comp=Z,13nm,1.1s,baz=327,slow=1.5,SNR=18
LPAZ La Paz 147.38 94 PKPab **PKPab** **23 18 25.6 -0.4**
PTGA Pitinga 149.80 60 **PKPdf** **23 18 23.8 -1.1**
SAML Samuel 150.55 78 PKiKP **PKiKP** **23 18 32.9 +0.7**
SAML 23 18 39.3
SAML Samuel 150.55 78 **PKiKP** **23 18 32.9 +0.7**
SAML **pPKPbc** **23 18 39.2 -0.1**

MEX 25 23:01:19.7±1.0, 16°.01N×98°.04W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.39**	**348**	*i* P	Pg	23 01 26.7	-0.6
PNIG				*i* S	Sg	23 01 32.5	+0.2
PEIG	**Puerto Escondi**	**0.86**	**91**	*i* P	Pg	23 01 32.6	-3.6
PEIG				*e*S	Sg	23 01 43.5	-3.8
YOIG	**Yosondua**	**0.96**	**29**	*i* P	Pg	23 01 35.9	-2.3
YOIG				*i* S	Sg	23 01 48.7	-2.1
TXIG	**Tlaxiaco**	**1.26**	**12**	*e*P	Pg	23 01 40.8	-3.2
TXIG				*e*S	Sg	23 01 57.5	-2.9
MGIG	**Malinaltepec**	**1.34**	**335**	*e*P	Pn	23 01 42.2	-3.1
MGIG				*e*S	Sg	23 02 00.3	-2.6
HLIG	**Huajuapan de L**	**1.82**	**7**	*e*P	Pn	23 01 51.7	-0.3
HLIG				*e*S	Sn	23 02 13.9	-1.7
DAIG	**Los Arroyos**	**1.84**	**303**	*e*P	Pn	23 01 46.2	-5.8
DAIG				*e*S	Sn	23 02 07.0	-8.7

*IDC **25** 23:13:41.8±0.9, 17°.30N×145°.92E, h0km, mb3.6/9, mb1 3.8/9, mb1mx3.6/54, mbtmp3.6/9, Error ellipse: s-maj=29.1km s-min=22.6km az=92.0*
*NEIC **25** 23:13:42.9±1.4, 17°.09N±0°.05×145°.98E±0°.05, h10km±1km, mb4.5/19, Error ellipse: s-maj=8.8km s-min=8.2km az=51.0*

ISC 25 23:13:42.8±0.6, 17°.14N±0°.07×145°.9E±0°.2, h10km, n46, σ0s87/40, mb4.4/20, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANA2	**Anatahan**	**0.82**	**195**		**Pg**	**23 13 57.8**	**-0.8**
GUMO	**Guam**	**3.68**	**196**	Pn	**Pn**	**23 14 39.9**	**+0.2**
H11S3	**WAKE ISLAND Hy 19.80**	**83**		T	T	23 38 35.2	
baz=269,slow=75,SNR=149							
H11S1	**WAKE ISLAND Hy 19.81**	**83**		T	T	23 38 35.9	
baz=269,slow=75,SNR=181							
H11S2	**WAKE ISLAND Hy 19.82**	**83**		T	T	23 38 36.2	
baz=269,slow=75,SNR=221							
H11N1	**WAKE ISLAND Hy 20.04**	**79**		T	T	23 39 10.9	
baz=266,slow=75,SNR=362							
H11N2	**WAKE ISLAND Hy 20.05**	**79**		T	T	23 38 53.1	
baz=266,slow=75,SNR=242							
H11N3	**WAKE ISLAND Hy 20.06**	**79**		T	T	23 39 12.2	
baz=266,slow=75,SNR=250							
KSRS	**Korea Array**	**25.71**	**325**	P	**P**	**23 19 12.0**	**-1.2**
1.0nm,0.6s,baz=151,slow=10,SNR=4.5							
KSAR	**Wonju Array Be**	**25.73**	**325**	P	**P**	**23 19 13.0**	**-0.4**
KS19	**Wonju Array Si**	**25.78**	**325**	P	**P**	**23 19 14.0**	**0.0**
KS19				IAmb	IAmb	23 19 15.4	
comp=Z,8.2nm,0.8s							
PETK	**Petropavlovsk-**	**37.06**	**12**	P	**P**	**23 20 51.6**	**-1.3**
WB2	**Warramunga Arr**	**38.57**	**198**	P	**P**	**23 21 06.6**	**+0.6**
WRA	**Warramunga Arr**	**38.57**	**198**	P	**P**	**23 21 06.7**	**+0.7**
comp=Z,0.9nm,0.8s,baz=18,slow=9.0,SNR=5.3							
ASAR	**Alice Springs**	**42.23**	**197**	P	**P**	**23 21 38.2**	**+1.9**
comp=Z,0.6nm,0.9s,baz=16,slow=12,SNR=2.9							
CMAR	**Chiang Mai Arr**	**44.67**	**279**	P	**P**	**23 21 56.5**	**+0.4**
comp=Z,0.6nm,0.6s,baz=68,slow=7.4,SNR=5.5							
ARMA	**Armidale**	**47.60**	**173**	P	**P**	**23 22 17.9**	**-1.2**
ARMA				IAmb	IAmb	23 22 21.9	
comp=Z,8.8nm,1.1s							
MKAR	**Makanchi Array**	**59.71**	**315**	P	**P**	**23 23 48.5**	**+0.8**
comp=Z,0.3nm,0.6s,baz=90,slow=9.7,SNR=1.9							
SVW2	**Sparrevohn**	**60.08**	**29**	P	**P**	**23 23 50.1**	**+0.1**
SVW2				IAmb	IAmb	23 24 05.3	
comp=Z,7.4nm,1.2s							
KDAK	**Kodiak Island**	**60.53**	**33**	P	**P**	**23 23 51.8**	**-1.3**
K20K	**Telida**	**61.51**	**26**	P	**P**	**23 24 00.2**	**+0.6**
K20K				IAmb	IAmb	23 24 01.3	
comp=Z,3.5nm,0.9s							
SKT	**Skwentna**	**62.19**	**28**	P	**P**	**23 24 04.3**	**+0.1**
SKT				IAmb	IAmb	23 24 04.8	
comp=Z,4.6nm,1.2s							
IMAR	**Indian Mountai**	**62.54**	**24**	P	**P**	**23 24 07.2**	**+0.7**
KURBB	**Kurchatov Arra**	**62.63**	**319**	P	**P**	**23 24 06.2**	**-1.2**
comp=Z,0.2nm,0.3s,baz=94,slow=7.0,SNR=2.3							
SEW	**Seward**	**62.68**	**31**	P	**P**	**23 24 07.0**	**-0.5**
H21K	**Melozitna Rive**	**62.80**	**24**	P	**P**	**23 24 08.5**	**+0.3**
SML	**Sawmill**	**63.61**	**29**	P	**P**	**23 24 13.1**	**-0.7**
RND	**Reindeer**	**63.77**	**27**	P	**P**	**23 24 14.5**	**-0.3**
RND				IAmb	IAmb	23 24 20.7	
comp=Z,4.0nm,1.1s							
CMWZ	**Cape Campbell**	**64.16**	**157**	P	**P**	**23 24 18.1**	**+0.6**
FID	**Port Fidalgo**	**64.26**	**30**	P	**P**	**23 24 17.3**	**-0.7**
FID				IAmb	IAmb	23 24 19.1	
comp=Z,4.8nm,0.8s							
MSWZ	**Moikau Station**	**64.28**	**156**	P	**P**	**23 24 17.5**	**-0.8**
DHY	**Denali Highway**	**64.34**	**28**	P	**P**	**23 24 19.7**	**+1.1**
MDM	**Murphy Dome**	**64.43**	**25**	P	**P**	**23 24 19.2**	**+0.2**
MDM				IAmb	IAmb	23 24 19.7	
comp=Z,3.4nm,1.2s							
IL31		**64.94**	**26**	P	**P**	**23 24 21.0**	**-1.3**
IL31				IAmb	IAmb	23 24 33.3	
comp=Z,2.8nm,1.1s							
ILAR	**Eielson Array**	**64.94**	**26**	P	**P**	**23 24 20.9**	**-1.5**
comp=Z,0.7nm,0.7s,baz=249,slow=5.7,SNR=6.5							
ILAR	**Eielson Array**	**64.94**	**26**	P	**P**	**23 24 21.1**	**-1.3**
BMAR	**Burnt Mountain**	**66.45**	**23**	P	**P**	**23 24 32.6**	**+0.5**
GRNC	**Granite Creek**	**66.55**	**31**	P	**P**	**23 24 33.6**	**+0.5**
GRNC				IAmb	IAmb	23 24 42.3	
comp=Z,4.7nm,1.0s							
L27K	**Beaver Creek,**	**66.82**	**28**	P	**P**	**23 24 34.6**	**0.0**
TABL	**Table Mountain**	**66.82**	**31**	P	**P**	**23 24 35.4**	**+0.6**
BCAR	**Beaver Creek A**	**66.84**	**28**	P	**P**	**23 24 34.8**	**+0.2**
BVAR	**Borovoye Array**	**67.82**	**321**	P	**P**	**23 24 41.3**	**+0.3**
comp=Z,0.3nm,0.5s,baz=77,slow=6.2,SNR=2.4							
KKAR	**Karatay Array**	**67.94**	**310**	P	**P**	**23 24 42.5**	**+0.5**
EPYK	**Eagle Plains**	**69.36**	**25**	P	**P**	**23 24 49.4**	**-1.0**
EPYK				IAmb	IAmb	23 25 06.9	
comp=Z,3.3nm,1.0s							
NVAR	**Mina Array Bea**	**83.92**	**52**	P	**P**	**23 26 14.7**	**+1.1**
comp=Z,0.6nm,0.6s,baz=270,slow=6.9,SNR=5.4							
LPAZ	**La Paz**	**147.38**	**94**	PKPbc	**PKPbc**	**23 33 29.5**	**+1.0**
comp=Z,2.8nm,0.5s,baz=14,slow=4.2,SNR=2.5							

*BJI **25** 23:24:10.7±0.0, 54°.93N×111°.79E, h11km, mB4.8/32, mb4.4/49, ML5.6/1, Ms5.0/49, Ms7 4.6/44*
*IDC **25** 23:24:11.4±0.5, 54°.70N×111°.71E, h0km, mb4.2/33, mb1 4.3/37, mb1mx4.3/49, mbtmp4.2/37, ML2.8/2, MS4.0/28, Ms1 4.0/28, ms1mx3.9/43, Error ellipse: s-maj=13.7km s-min=9.6km az=0.0*
*BYKL **25** 23:24:11.6±0.2, 54°.89N×111°.74E, h11km±3km, Mw4.7/16(IEC), #STATIONS HRV RSSD ADK YSS MAJO INCN TATO XAN CHTO LSA AAK GNI ARU OBN KEV SFJD FELT I=IV MSK at Ulyunkhan, Argada, Yanchukan, Kunerma, Kolotovka, Vitimskiy, Muskovit, Kropotkin; III at Novyy Uoyan, Taksimo.*
*MOS **25** 23:24:11.4±1.2, 54°.79N×111°.71E, h13km, mb4.8/20, MS4.5/22, Error ellipse: s-maj=5.5km s-min=4.3km az=90.5*
MOS Felt (III) at Novyy-Uoyan.
*GCMT **25** 23:24:12.4±0.3, 54°.99N±0°.01×111°.82E±0°.03, h14km±1km, MW4.8/93, Moment Tensor Solution. s20,c27; s93,c143; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.38±.07; Mθθ-0.68±.06; Mφφ 1.06±.07; Mrθ 0.12±.14; Mrφ 1.41±.06; Mθφ-0.71±.16; Best double couple: Mo 1.81400×10^16 NP1: φs=254.00000°, δ65.00000°, λ-6.00000°. NP2: φs=346.00000°, δ85.00000°, λ-155.00000°. Principal axes: T 1.9840, Plg14.0000°, Azm117.0000°; N -0.3400, Plg64.0000°, Azm357.0000°; P -1.6450, Plg21.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **25** 23:24:13.4±1.4, 54°.84N±0°.06×111°.7E±0°.1, h11km±4km, mb4.6/129 Error ellipse: s-maj=10.0km s-min=9.4km az=85.0*
*BGR **25** 23:24:20.2±0.0, 55°.46N×111°.76E, h33km, mb4.6, Ms4.2*

ISC 25 23:24:11.2±0.5, 54°.87N±0°.02×111°.76E±0°.02, h1km±3km, h3km:pP-P, n468, σ2s11/540, mb4.6/160, MS4.5/53, 42C-40D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YLYR	**Ulyunkhan**	**0.35**	**271**	⇑ *i*Pg	**Pg**	**23 24 17.6**	**-0.2**
YLYR				Pmax		23 24 18.2	
13μm,0.3s							
YLYR				*e*Sg	**Sg**	**23 24 22.4**	**+0.1**
YLYR				Smax		23 24 22.6	
162μm,0.4s							
YLYR	**Ulyunkhan**	**0.35**	**271**	⇑ *i*PG	**Pg**	**23 24 17.9**	**+0.1**
YLYR				*e*		23 24 21.7	
YLYR				pmax	pmax		
comp=Z,13μm,0.3s							
YLYR				smax	smax		
comp=N,174μm,0.5s							
KMO	**Kumora**	**1.07**	**343**	⇑ *i*Pg	**Pg**	**23 24 30.2**	**-1.4**
comp=N,531nm,0.7s							
KMO				⇓ *i*Pg	**Pg**	**23 24 30.2**	**-1.4**
comp=N,193nm,0.7s							
KMO				⇑ *i*Pg	**Pg**	**23 24 30.2**	**-1.4**
comp=N,2μm,0.7s							
KMO				Pmax		23 24 36.1	
comp=N,8μm,0.4s							
KMO				*e*Sg	**Sg**	**23 24 44.1**	**-1.3**
KMO				Smax		23 24 46.9	
comp=N,78μm,1.0s							
KMO	**Kumora**	**1.07**	**343**	⇑ *i*PG	**Pg**	**23 24 30.2**	**-1.4**
KMO				*e*		23 24 43.2	
KMO				pmax	pmax		
comp=Z,5μm,0.3s							
KMO				smax	smax		
comp=N,78μm,1.2s							
UKT	**Uakit**	**1.23**	**59**	⇓ *i*Pg	**Pn**	**23 24 33.4**	**-2.2**
UKT				*e*		23 24 36.2	
UKT				max		23 24 36.5	
comp=N,3μm,0.4s							
UKT				*e*Sg	**Sb**	**23 24 50.1**	**-1.6**
UKT				*e*		23 24 54.7	
UKT				max		23 24 55.7	
comp=N,58μm,0.5s							
UKT	**Uakit**	**1.23**	**59**	⇓ *i*PG	**Pn**	**23 24 33.5**	**-2.2**
UKT				*e*		23 24 50.5	
UKT				pmax	pmax		
comp=Z,2μm,0.4s							
UKT				smax	smax		
comp=N,10μm,0.3s							
YOA	**Uoyan**	**1.26**	**359**	⇓ *i*Pg	**Pn**	**23 24 34.2**	**-1.7**
YOA				Pmax		23 24 34.9	
comp=N,8μm,0.2s							
YOA				*e*Sg	**Sg**	**23 24 51.6**	**-0.1**
YOA				Smax		23 25 03.1	
comp=N,55μm,1.0s							
YOA	**Uoyan**	**1.26**	**359**	⇓ *i*PG	**Pn**	**23 24 34.2**	**-1.7**
YOA				*i*		23 24 51.8	
YOA				pmax	pmax		
comp=Z,8μm,0.2s							
YOA				smax	smax		
comp=N,137μm,0.6s							
NIZ	**Nizh Angarsk**	**1.56**	**306**	⇑ *i*Pg	**Pn**	**23 24 39.0**	**-1.0**
NIZ				Pmax		23 24 40.5	
comp=N,4μm,0.5s							
NIZ				*e*Sg	**Sb**	**23 25 00.2**	**-0.8**
NIZ				Smax		23 25 04.4	
comp=N,37μm,0.4s							
NIZ	**Nizh Angarsk**	**1.56**	**306**	⇑ *i*PN	**Pn**	**23 24 39.0**	**-1.0**
NIZ				*e*		23 25 00.3	
NIZ				pmax	pmax		
comp=Z,5μm,1.1s							
NIZ				smax	smax		
comp=N,14μm,3.6s							
SYVR	**Suvo**	**1.60**	**221**	⇑ *i*Pg	**Pn**	**23 24 40.3**	**-0.2**
SYVR				⇑ *i*Pg	**Pn**	**23 24 40.3**	**-0.2**
comp=N,2μm,1.1s							
SYVR				⇓ *i*Pg	**Pn**	**23 24 40.3**	**-0.2**
comp=N,3μm,1.1s							
SYVR				Pmax		23 24 42.3	
comp=N,9μm,1.4s							
SYVR				*e*Sg	**Sb**	**23 25 02.1**	**0.0**
SYVR				*e*		23 25 04.8	
SYVR				max		23 25 07.7	
comp=N,23μm,1.2s							
SYVR	**Suvo**	**1.60**	**221**	⇓ *i*PN	**Pn**	**23 24 40.3**	**-0.2**
SYVR				*e*		23 25 02.4	
SYVR				pmax	pmax		
comp=Z,10μm,1.4s							
SYVR				smax	smax		
comp=N,123μm,1.1s							
SVKR	**Severomuysk**	**1.61**	**39**	⇓ *i*Pg	**Pb**	**23 24 41.2**	**-0.5**
SVKR				Pmax		23 24 42.6	
comp=N,10μm,0.3s							
SVKR				*e*Sg	**Sg**	**23 25 03.9**	**+1.0**
SVKR				*e*		23 25 06.9	
SVKR				max		23 25 07.4	
comp=N,820nm,0.5s							
SVKR	**Severomuysk**	**1.61**	**39**	⇑ *i*PN	**Pb**	**23 24 41.2**	**-0.5**
SVKR				*e*		23 25 03.4	
SVKR				pmax	pmax		
comp=Z,10μm,0.4s							
SVKR				smax	smax		
comp=N,122μm,1.0s							
MXMB	**Maximikha**	**2.40**	**229**	⇓ *i*Pn	**Pn**	**23 24 51.6**	**+0.1**
MXMB				*e*Pg	**Pb**	**23 24 54.4**	**-0.7**
MXMB				*e*Sg	**Sb**	**23 25 26.4**	**+1.2**
OGRR	**Ongureny**	**2.74**	**245**	⇓ *i*Pn	**Pb**	**23 24 58.2**	**-2.6**
OGRR				*e*Pg	**Pg**	**23 25 01.6**	**-2.0**
OGRR				Pmax		23 25 04.8	
comp=N,886nm,0.4s							
OGRR				*e*Sn	**Sn**	**23 25 29.8**	**-0.1**
OGRR				*e*Sg	**Sg**	**23 25 37.0**	**-2.0**
OGRR				Smax		23 25 40.5	
comp=N,2μm,1.3s							
OGRR	**Ongureny**	**2.74**	**245**	⇓ *i*PN	**Pb**	**23 24 58.2**	**-2.6**
OGRR				*e*		23 25 01.8	
OGRR				*e*		23 25 37.1	
OGRR				pmax	pmax		
comp=Z,1μm,1.5s							
OGRR				smax	smax		
comp=N,1μm,1.6s							
NLYR	**Nelyaty**	**2.76**	**52**	⇓ *i*Pn	**Pn**	**23 24 56.8**	**+0.3**
NLYR				*e*Pg	**Pb**	**23 25 00.5**	**-0.7**
NLYR				Pmax		23 25 05.7	
comp=N,2μm,0.6s							
NLYR				*i* Sg	**Sg**	**23 25 37.9**	**-1.8**
NLYR				Smax		23 25 40.0	
comp=N,63μm,1.5s							
NLYR	**Nelyaty**	**2.76**	**52**	⇓ *i*PN	**Pn**	**23 24 56.8**	**+0.3**
NLYR				*e*		23 25 00.7	
NLYR				*e*		23 25 36.6	
NLYR				pmax	pmax		
comp=Z,3μm,1.4s							
NLYR				smax	smax		
comp=N,62μm,1.6s							
KELR	**Kotokel**	**3.04**	**227**	⇓ *i*Pn	**Pn**	**23 25 00.2**	**-0.1**
KELR				*e*Pg	**Pb**	**23 25 06.3**	**+0.3**
KELR				*e*Sg	**Sg**	**23 25 46.4**	**-2.3**
CIT	**Chita**	**3.05**	**159**	*e*Pn	**Pn**	**23 25 00.2**	**-0.3**
CIT				*e*Pg	**Pb**	**23 25 05.6**	**-0.6**
CIT				Pmax		23 25 14.0	
comp=N,1μm,0.6s							
CIT				*e*Sn	**Sn**	**23 25 35.0**	**-2.6**
CIT				*e*Sg	**Sb**	**23 25 46.2**	**+2.3**
CIT				Smax		23 25 49.1	
comp=N,28μm,1.6s							
CIT	**Chita**	**3.05**	**159**	*e*PN	**Pn**	**23 25 00.1**	**-0.4**
CIT				*e*		23 25 05.8	
CIT				*e*S	**Sn**	**23 25 38.0**	**+0.4**
CIT				*e*		23 25 46.0	
CIT				pmax	pmax		
comp=Z,863nm,1.4s							
CIT				smax	smax		
comp=N,23μm,1.6s							
BOD	**Bodaibo**	**3.21**	**22**	⇓ *i*Pn	**Pn**	**23 25 02.1**	**-0.5**
BOD				*e*Pg	**Pb**	**23 25 08.6**	**-0.2**
BOD				*e*PgPg	**PbPb**	**23 25 11.4**	**-0.6**
BOD				max		23 25 12.0	
comp=N,2μm,1.2s							
BOD				*e*Sg	**Sb**	**23 25 49.4**	**+1.1**
BOD				*e*SgSg	**Sg**	**23 25 54.6**	**+0.5**
BOD				max		23 25 57.9	
comp=N,18μm,1.1s							
BOD	**Bodaibo**	**3.21**	**22**	⇓ *i*PN	**Pn**	**23 25 02.0**	**-0.5**
BOD				*e*		23 25 10.9	
BOD				*e*		23 25 49.3	
BOD				pmax	pmax		
comp=Z,2μm,0.9s							
BOD				smax	smax		
comp=N,18μm,1.2s							
TRG	**Tyrgan**	**3.84**	**239**	⇓ *i*Pn	**Pn**	**23 25 11.0**	**-0.4**
TRG				*e*Pg	**Pb**	**23 25 19.7**	**0.0**
TRG				Pmax		23 25 24.4	
comp=N,348nm,0.6s							
TRG				*e*Sg	**Sb**	**23 26 09.1**	**+2.4**
TRG				Smax		23 26 11.5	
comp=N,3μm,0.4s							
TRG	**Tyrgan**	**3.84**	**239**	⇓ *i*PN	**Pn**	**23 25 11.0**	**-0.4**
TRG				*e*		23 25 19.9	
TRG				*e*S	**Sn**	**23 25 55.1**	**-2.1**
TRG				*e*		23 26 08.2	
TRG				pmax	pmax		
comp=Z,398nm,0.7s							
TRG				smax	smax		
comp=E,4μm,0.8s							
UUDB	**Ulan-Yde**	**3.88**	**221**	⇓ *i*Pn	**Pn**	**23 25 12.0**	**+0.1**
UUDB				*e*		23 25 19.9	
UUDB				*e*Pg	**Pb**	**23 25 22.3**	**+1.9**
UUDB				Pmax		23 25 24.7	
comp=E,5μm,1.5s							
UUDB				*e*Sn	**Sn**	**23 25 56.8**	**-1.4**
UUDB				*e*Sg	**Sg**	**23 26 13.3**	**-2.6**
UUDB				Smax		23 26 17.5	
comp=E,9μm,1.5s							
FFNB	**Fofonovo**	**4.12**	**229**	⇑ *i*Pn	**Pn**	**23 25 14.8**	**-0.3**
FFNB				*e*Pg	**Pb**	**23 25 25.5**	**+1.2**
FFNB				*e*Sn	**Sn**	**23 26 01.8**	**-2.0**
FFNB				*e*Sg	**Sg**	**23 26 19.5**	**-3.7**
KAB	**Kabansk**	**4.16**	**229**	*e*Pn	**Pn**	**23 25 15.9**	**+0.2**
KAB				*e*Pg	**Pb**	**23 25 26.3**	**+1.2**
KAB				Pmax		23 25 40.9	
comp=E,1μm,1.1s							
KAB				*e*Sn	**Sn**	**23 26 03.7**	**-1.2**
KAB				*e*Sg	**Sg**	**23 26 21.6**	**-3.1**
KAB				Smax		23 26 41.5	
comp=E,15μm,1.4s							
CRS	**Chara**	**4.19**	**58**	*e*Pn	**Pn**	**23 25 16.6**	**+0.5**
CRS				*e*Pg	**Pb**	**23 25 26.1**	**+0.5**
CRS				Pmax		23 25 32.6	
comp=E,2μm,1.1s							
CRS				*e*Sn	**Sn**	**23 26 04.0**	**-1.7**
CRS				*e*Sg	**Sg**	**23 26 21.7**	**-3.9**
CRS				Smax		23 26 28.3	
comp=E,29μm,1.8s							
CRS	**Chara**	**4.19**	**58**	*e*PN	**Pb**	**23 25 28.2**	**+2.6**
CRS				*e*		23 26 21.6	
CRS				pmax	pmax		
comp=Z,2μm,1.1s							
CRS				smax	smax		
comp=N,29μm,1.8s							
HRMR	**Khuramsha**	**4.35**	**224**	⇓ *i*Pn	**Pn**	**23 25 18.4**	**+0.1**
HRMR				*e*Pg	**Pb**	**23 25 29.3**	**+1.0**
HRMR				Pmax		23 25 32.0	
comp=N,2μm,0.4s							
HRMR				*e*Sg	**Sg**	**23 26 27.4**	**-3.3**
HRMR				Smax		23 26 37.8	
comp=N,9μm,0.8s							
BGT	**Bolshoye Golou**	**4.74**	**236**	*e*Pn	**Pn**	**23 25 23.3**	**-0.3**
BGT				*e*Pg	**Pb**	**23 25 35.9**	**+1.0**
BGT				Pmax		23 25 41.2	
comp=N,165nm,0.4s							
BGT				*e*Sg	**Sb**	**23 26 37.4**	**+5.0**

BGT Smax 23 26 51.6
comp=N,3μm,1.0s
TUP Tupik 4.78 92 ⇑*i*Pn **Pn 23 25 24.2 0.0**
TUP *e*Pg **Pb 23 25 37.6 +2.0**
TUP Pmax 23 25 40.1
comp=N,562nm,1.2s
TUP *e*Sn **Sn 23 26 17.8 -2.4**
TUP *e*Sg **Sg 23 26 39.9 -4.6**
TUP Smax 23 26 44.8
comp=N,7μm,0.7s
TUP Tupik 4.78 92 *e*PN **Pn 23 25 24.1 -0.1**
TUP *e* 23 25 37.4
TUP *e*S **Sn 23 26 17.6 -2.6**
TUP *e* 23 26 39.2
TUP pmax pmax
comp=Z,336nm,0.6s
TUP smax smax
comp=N,7μm,1.3s
LSTR Listvyanka 5.12 237 *e*Pn **Pn 23 25 28.7 -0.3**
LSTR *e*Pg **Pb 23 25 43.0 +1.5**
LSTR Pmax 23 25 54.1
comp=N,133nm,0.8s
LSTR *e*Sn **Sn 23 26 24.8 -3.9**
LSTR *e*Sg **Sg 23 26 49.4 -6.3**
LSTR Smax 23 27 02.2
comp=N,2μm,1.7s
IRK Irkutsk 5.18 243 *e*Sg **Sg 23 26 52.3 -5.2**
IRK Smax 23 26 55.8
comp=N,7μm,0.9s
IRK Irkutsk 5.18 243 *e*PN **Pn 23 25 28.9 -0.9**
IRK *e* 23 25 42.7
IRK *e* 23 26 49.8
IRK pmax pmax
comp=Z,330nm,0.8s
IRK smax smax
comp=N,7μm,0.9s
KPC Khapcheranga 5.19 176 *e*Pn **Pn 23 25 29.4 -0.5**
KPC *e*Pg **Pb 23 25 45.4 +2.7**
KPC Pmax 23 25 51.4
comp=N,219nm,0.7s
KPC *e*Sn **Sn 23 26 26.9 -3.5**
KPC *e*Sg **Sg 23 26 52.7 -5.1**
KPC Smax 23 26 55.8
comp=N,11μm,2.1s
KPC *e* 23 27 02.2
KPC Khapcheranga 5.19 176 *e*PN **Pn 23 25 29.6 -0.3**
KPC *e* 23 25 43.8
KPC *e* 23 26 51.5
KPC pmax pmax
comp=Z,218nm,0.7s
KPC smax smax
comp=N,11μm,2.1s
IVK Ivanovka 5.37 238 *e*Pn **Pn 23 25 31.9 -0.4**
IVK *e* 23 25 43.3
IVK max 23 25 59.2
comp=N,125nm,0.5s
IVK *e*Sg **Sb 23 26 55.7 +5.1**
IVK Smax 23 27 03.2
comp=N,3μm,1.8s
TLY Talaya 5.83 240 *e*Pn **Pn 23 25 37.8 -0.8**
TLY *e*Pg **Pb 23 25 54.9 +1.5**
TLY Pmax 23 25 58.8
comp=N,89nm,0.5s
TLY *e*Sn **Sn 23 26 42.1 -3.9**
TLY *e*Sg **Sg 23 27 10.9 -7.2**
TLY Smax 23 27 33.0
comp=N,2μm,1.3s
TLY Talaya 5.83 240 *e*PN **Pn 23 25 37.0 -1.6**
TLY *e* 23 25 54.3
TLY *e* 23 27 09.0
TLY pmax pmax
comp=Z,88nm,0.5s
TLY smax smax
comp=E,2μm,1.2s
YKLR Yuktali 5.85 69 *e*Pn **Pn 23 25 38.5 -0.4**
YKLR *e* 23 25 41.9
YKLR *e*Pg **Pb 23 25 57.2 +3.4**
YKLR *e*Sg **Sg 23 27 13.7 -5.1**
ZAK Zakamensk 6.84 232 *e*Pn **Pn 23 25 53.3 +0.6**
ZAK *e*Pg **Pb 23 26 15.1 +4.2**
ZAK Pmax 23 26 23.8
comp=E,120nm,1.2s
ZAK *e*Sg **Sg 23 27 44.0 -6.8**
ZAK Smax 23 27 55.3
comp=E,2μm,1.5s
ZAK Zakamensk 6.84 232 *e*PN **Pn 23 25 52.4 -0.3**
ZAK *e* 23 26 13.8
ZAK *e* 23 27 43.4
ZAK pmax pmax
comp=Z,120nm,0.9s
ZAK smax smax
comp=N,2μm,1.5s
MOY Mondy 7.21 248 *e*Pn **Pn 23 25 58.1 +0.4**
MOY *e*Pg **Pb 23 26 21.0 +3.9**
MOY Pmax 23 26 26.3
comp=N,230nm,0.8s
MOY *e*Sg Sg 23 27 53.1 -9.5
MOY Smax 23 28 08.8
comp=N,5μm,1.3s
MOY Mondy 7.21 248 *e*PN **Pn 23 25 58.9 +1.2**
MOY *e* 23 27 53.4
HIA Hailar 7.46 136 *e*Pn **Pn 23 25 59.8 -1.2**
HIA *e*Sg Sg 23 28 02.5 -8.0
HIA Hailar 7.46 136 PN **Pn 23 25 59.6 -1.4**
HIA Hailar 7.46 136 Pn **Pn 23 25 59.6 -1.4**
ORL Orlik 7.47 257 ⇑*i*Pn **Pn 23 26 01.5 +0.3**
ORL max 23 26 07.3
comp=N,386nm,1.3s
ORL *e*Pg **Pb 23 26 24.9 +3.4**
ORL *e*Sn **Sn 23 27 23.2 -3.4**
ORL *e*Sg Sg 23 28 02.4 -8.4
ORL Smax 23 28 09.2
comp=N,4μm,1.3s
ORL Orlik 7.47 257 *e*PN **Pn 23 26 01.6 +0.3**
ORL *e* 23 26 25.8
ORL *e*S **Sn 23 27 23.7 -2.9**
ORL *e* 23 28 01.2
ORL pmax pmax
comp=Z,502nm,0.8s
ORL smax smax
comp=N,4μm,0.9s
ULN Ulaanbaatar 7.61 205 *e*Pn **Pn 23 26 03.8 +0.6**
ULN *e*Pg Pb 23 26 29.7 +5.8
ULN *e*Sg **Sg 23 28 09.4 -5.9**
ULN Ulaanbaatar 7.61 205 PN **Pn 23 26 03.1 -0.1**
ULN 23 26 29.1
ULN Ulaanbaatar 7.61 205 Pn **Pn 23 26 03.1 -0.1**
ULN Pg Pb 23 26 29.1 +5.2
ULN Ulaanbaatar 7.61 205 P **Pn 23 26 04.0 +0.8**
comp=N,9.1nmcomp=N,6μmcomp=N,569nm,0.5s
CLNS Chul'man 7.65 70 *e*Pn **Pn 23 26 03.5 -0.1**
CLNS *e*Sn **Sn 23 27 27.3 -3.5**
CLNS *e*Sg **Sg 23 28 08.8 -7.7**
SONM Songino Array 7.80 208 Pn **Pn 23 26 06.0 +0.1**
comp=N,15nm,0.3s,baz=21,slow=12,SNR=220
SONM Lg Lg 23 28 17.4
comp=N,22nm,0.3s,baz=18,slow=29,SNR=22
SONM LR LR 23 29 21.4
comp=N,2μm,20.3s,baz=6.0,slow=41
SONM Songino Array 7.80 208 PN **Pn 23 26 06.0 +0.1**
ZEA Zeya 9.13 91 *e*P **Pn 23 26 24.2 +0.4**
ZEA pmax pmax
comp=Z,30nm,0.9s
YAK Yakutsk 11.78 45 Pn **Pn 23 27 00.5 +0.4**
comp=Z,0.1nm,0.3s,baz=75,slow=6.9,SNR=5.4
YAK Sn Sn 23 29 02.3 -10
comp=Z,0.2nm,0.3s,baz=237,slow=2.1,SNR=1.4
YAK Lg Lg 23 30 10.2
comp=Z,0.5nm,0.3s,baz=131,slow=18,SNR=4.6
YAK LR LR 23 31 29.3
comp=Z,1μm,18.3s,baz=266,slow=37
YAK Yakutsk 11.78 45 *e*P **Pn 23 26 59.7 -0.3**
YAK *e*S **Sn 23 29 15.1 +3.1**
YAK pmax pmax
comp=Z,22nm,0.8s
YAK pmax pmax
comp=E,12nm,1.0s
YAK pmax pmax
comp=Z,25nm,0.6s
YAK pmax pmax
comp=N,10.0nm,0.7s
YAK pmax pmax
comp=E,6.0nm,0.4s
YAK smax smax
comp=E,67nm,0.9s
YAK MLR MLR
comp=Z,2μm,12.0s
YAK MLR MLR
comp=N,846nm,10.0s
YAK MLR MLR
comp=E,1μm,10.0s
YAK Yakutsk 11.78 45 Pn **Pn 23 26 59.5 -0.5**
KLR Kul'dur 13.51 106 Pn **Pn 23 27 22.6 -1.2**
comp=E,2.7nm,0.3s,baz=304,slow=13,SNR=61
KLR Sn **Sn 23 29 55.4 +0.9**
comp=E,0.7nm,0.3s,baz=324,slow=17,SNR=1.6
KLR Lg Lg 23 31 05.3
comp=E,1.7nm,0.3s,baz=248,slow=14,SNR=4.2
KLR LR LR 23 33 04.4
comp=E,1μm,18.1s,baz=302,slow=40
KLR Kul'dur 13.51 106*c* *i*P **Pn 23 27 23.4 -0.4**
BTO Baotou 14.32 185 *e*P **Pn 23 27 33.0 -2.0**
BTO S **Sn 23 30 14.0 -0.4**
BTO LR LR
comp=E,7μm,6.9s
BTO LR LR
comp=E,22μm,7.9s
BJT Baijiatuau 15.15 167 P **Pn 23 27 46.4 +0.3**
BJT pmax pmax
comp=Z,31nm,1.4s
BJT Baijiatuau 15.15 167 Pn **Pn 23 27 46.4 +0.3**
BJT IAmb IAmb 23 27 57.8
comp=Z,31nm,1.4s
GRNR Gornyy 15.43 95 ⇑*i*P **Pn 23 27 50.9 +1.1**
GRNR *e*S **Sn 23 30 46.0 +4.8**
GRNR pmax pmax
comp=Z,9.0nm,0.5s
GRNR smax smax
comp=N,7.0nm,0.4s
GRNR MLR MLR
comp=E,1μm,13.0s
GRNR MLR MLR
comp=Z,2μm,15.0s
ZAA0 Zalesovo Array 15.68 278 Pn **Pn 23 27 51.9 -1.1**
ZAA0 **P 23 27 52.0 -5.2**
ZAA0 pP 23 27 52.7 -5.4
ZALV Zalesovo Beam 15.68 278 Pn **Pn 23 27 51.9 -1.1**
comp=Z,0.7nm,0.3s,baz=81,slow=9.3,SNR=96
ZALV Lg Lg 23 32 21.3
comp=Z,0.5nm,0.3s,baz=90,slow=21,SNR=3.9
ZALV LR LR 23 34 09.0
comp=Z,690nm,21.4s,baz=79,slow=38
ZALV Zalesovo Beam 15.68 278 *i*P **Pn 23 27 51.9 -1.1**
ZALV pmax pmax
comp=Z,71nm,1.0s
ZALV Zalesovo Beam 15.68 278 **Pn 23 27 51.3 -1.7**
DGZ Jazzator, Alta 15.72 261‖*e*P **Pn 23 27 52.7 -1.1**
USA0B Ussuriysk Arra 16.86 121‖*e*P **P 23 28 09.5 -0.8**
USA0B Ussuriysk Arra 16.86 121 Pn **Pn 23 28 08.4 +0.3**
USA0B **P 23 28 08.9 -1.4**
USRK Ussuriysk Ar. 16.86 121 Pn **Pn 23 28 06.3 -1.9**
baz=317,slow=14,SNR=6.2
USRK Lg Lg 23 32 48.8
baz=324,slow=18,SNR=5.5
USRK LR LR 23 35 10.3
comp=Z,655nm,18.2s,baz=329,slow=39
USRK Ussuriysk Ar. 16.86 121 P **Pn 23 28 08.2 +0.1**
USRK Ussuriysk Ar. 16.86 121 **Pn 23 28 08.2 +0.1**
TIY Taiyuan 17.17 178 *e*P **Pn 23 28 08.5 -3.7**
TIY S **S 23 31 27.5 -5.8**
TIY SS **SnSn 23 31 45.5 +8.8**
TIY pmax pmax
comp=Z,110nm,6.1s
TIY LR LR
comp=Z,1μm,8.5s
TIY LR LR
comp=Z,530nm,5.0s
TIY LR LR
comp=Z,700nm,7.0s
GTA Gaotai 17.43 212 *e*P **P 23 28 15.8 -1.1**
GTA pP pP 23 28 19.5 +1.8
GTA sP sP 23 28 22.8 +4.6
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA pmax pmax
comp=Z,140nm,4.0s
GTA LR LR
comp=Z,2μm,13.8s
GTA LR LR
comp=Z,2μm,11.3s
GTA LR LR
comp=Z,3μm,14.2s
NRIK Noril'sk 18.19 332 P **Pn 23 28 18.4 -6.2**
comp=Z,1.4nm,0.3s,baz=127,slow=10,SNR=13
NRIK Sn Sn 23 31 35.8 -12
comp=Z,3.1nm,0.3s,baz=316,slow=16,SNR=6.7
NRIK Lg Lg 23 33 35.2
comp=Z,1.2nm,0.3s,baz=251,slow=18,SNR=2.6
NRIK Noril'sk 18.19 332 *i*P **Pn 23 28 18.1 -6.5**
NRIK Noril'sk 18.19 332 **Pn 23 28 23.0 -1.6**
NRIK IAmb IAmb 23 28 36.6
comp=Z,27nm,0.6s
OKH Okha 18.21 81*de*P **Pn 23 28 19.9 -4.9**
OKH pmax pmax
comp=Z,100nm,15.6s
OKH MLR MLR
comp=E,2μm,9.0s
OKH MLR MLR
comp=N,900nm,9.0s
OKH MLR MLR
comp=Z,2μm,10.0s
ZSN Zaisan 18.35 257 *e*P **Pn 23 28 25.5 -1.2**
baz=257
ZSN Zaisan 18.35 257 *e*P **Pn 23 28 25.4 -1.2**
TIXI Tiksi 18.38 17 P **Pn 23 28 21.6 -5.2**
comp=Z,0.9nm,0.3s,baz=214,slow=5.1,SNR=3.8
TIXI S Sn 23 31 36.5 -16
comp=Z,1.1nm,0.3s,baz=271,slow=5.6,SNR=3.2
TIXI Lg Lg 23 33 37.7
comp=Z,0.1nm,0.3s,baz=134,slow=23,SNR=3.8
TIXI LR LR 23 35 37.5
comp=Z,473nm,19.4s,baz=252,slow=37
TIXI Tiksi 18.38 17 P **P 23 28 26.4 -0.5**
TIXI pmax pmax
comp=Z,50nm,1.2s
TIXI Tiksi 18.38 17 P **Pn 23 28 25.5 -1.3**
TIXI **P 23 28 26.4 -0.5**
TIXI IAmb IAmb 23 28 36.2
comp=Z,50nm,1.2s
TYV Tymovskoe 18.99 89 *e*P **P 23 28 31.4 -2.4**
TYV *e*S **Sn 23 32 03.7 -3.6**
TYV pmax pmax
comp=Z,9.0nm,1.5s
TYV pmax pmax
comp=Z,100nm,2.9s
TYV smax smax
comp=N,500nm,3.8s
TYV smax smax
comp=E,400nm,3.8s
TYV MLR MLR
comp=Z,3μm,13.0s
TIA Tai'an 19.03 167 *e*P **Pn 23 28 38.0 +3.0**
TIA S **S 23 32 14.8 +4.0**
TIA pmax pmax
comp=Z,12nm,1.0s
TIA LR LR
comp=Z,570nm,12.3s
TIA LR LR
comp=Z,1μm,7.8s
TIA LR LR
comp=Z,870nm,10.3s
WMQ Urumqi 19.08 245 *e*P **Pn 23 28 35.8 +0.1**
WMQ pP sP 23 28 39.0 +2.8
WMQ pmax pmax
comp=Z,37nm,1.3s
WMQ pmax pmax
comp=Z,270nm,3.9s
WMQ LR LR
comp=Z,3μm,15.7s
WMQ LR LR
comp=Z,1μm,19.7s
WMQ LR LR
comp=Z,540nm,20.3s
SEM Semipalatinsk 19.54 270 *e*P **Pn 23 28 40.0 -1.3**
baz=270
SEM Semipalatinsk 19.54 270 *e*P **Pn 23 28 39.9 -1.3**
LZH Lanzhou 19.57 199 ⇑P **Pn 23 28 43.0 +1.4**
LZH pP sP 23 28 46.3 +4.6
LZH S **Sn 23 32 22.5 +0.8**
LZH SS **SnSn 23 32 46.3 +11**
LZH pmax pmax
comp=Z,20nm,1.2s
LZH pmax pmax
comp=Z,210nm,4.9s
LZH LR LR
comp=Z,2μm,10.8s
LZH LR LR
comp=Z,1μm,10.2s
LZH LR LR
comp=Z,1μm,11.8s
INCN Inchon 20.14 144 P Pn 23 28 47.2 -1.0
INCN pmax pmax
comp=Z,23nm,0.9s
INCN Inchon 20.14 144 P Pn 23 28 47.2 -1.0
INCN IAmb IAmb 23 28 48.9
comp=Z,23nm,0.9s
MK31 Makanchi Array 20.17 259 P **P 23 28 46.4 -0.4**
MK31 pmax pmax
comp=Z,10.0nm,1.0s
MK31 Makanchi Array 20.17 259 P **P 23 28 46.2 -0.6**
MK31 Pn 23 28 46.4 -2.3
MK31 **pP 23 28 46.7 -0.9**
MKAR Makanchi Array 20.17 259 P Pn 23 28 46.8 -1.9
comp=Z,4.7nm,0.6s,baz=39,slow=7.6,SNR=26
MKAR Lg Lg 23 34 47.8
comp=Z,12nm,1.2s,baz=56,slow=26,SNR=3.2
MKAR Makanchi Array 20.17 259 P **P 23 28 46.5 -0.3**
MAKZ Makanchi 20.34 259 P **P 23 28 48.0 -0.6**
MAKZ *PP Pn 23 28 48.9 -1.7
MAKZ Makanchi 20.34 259 P **P 23 28 48.0 -0.6**
MAKZ Pn 23 28 48.3 -2.3
MAKZ **pP 23 28 48.9 -0.6**
KURK Kurchatov 20.35 272 P Pn 23 28 49.4 -1.2
KURK Kurchatov 20.35 272 P Pn 23 28 49.4 -1.2
KURBB Kurchatov Arra 20.44 272 P **P 23 28 49.4 -0.2**
comp=Z,11nm,0.7s,baz=63,slow=12,SNR=29
KURBB Lg Lg 23 34 49.2
comp=Z,37nm,1.4s,baz=70,slow=31,SNR=4.6
KS19 Wonju Array Si 20.56 141 **P 23 28 50.8 -0.2**
KS19 Pn 23 28 52.2 -1.0
KSAR Wonju Array Be 20.61 141 P Pn 23 28 53.1 -0.7
KSAR Wonju Array Be 20.61 141 P Pn 23 28 53.1 -0.7
KSRS Korea Array 20.62 141 P **P 23 28 52.0 +0.4**
comp=Z,2.1nm,0.9s,baz=333,slow=10.0,SNR=5.6
KSRS Lg Lg 23 35 02.0
comp=Z,2.5nm,0.9s,baz=336,slow=25,SNR=5.4
KSRS LR LR 23 37 50.1
comp=Z,252nm,21.4s,baz=332,slow=40
XAN Xi'an 20.93 187 P Pn 23 28 56.0 -1.5
XAN pP sP 23 29 04.3 +8.0
XAN sP pP 23 29 08.5 +13
XAN S **S 23 32 39.5 -9.4**
XAN pmax pmax
comp=Z,34nm,1.2s
XAN LR LR
comp=Z,1μm,14.4s
XAN LR LR
comp=Z,4μm,15.1s
XAN LR LR
comp=Z,800nm,10.3s
YSS Yuzh-Sakhalins 20.95 99 *e*P Pn 23 28 57.5 -0.1
YSS MLR MLR
comp=Z,1μm,15.0s
YSS MLR MLR
comp=E,1μm,12.0s
MA2 Magadan 21.40 61 P **P 23 29 00.3 +0.4**
comp=E,18nm,0.8s,baz=288,slow=13,SNR=5.1
MA2 Lg Lg 23 35 16.3
comp=E,7.8nm,0.5s,baz=170,slow=23,SNR=4.4
MA2 LR LR 23 37 34.5
comp=E,349nm,21.4s,baz=275,slow=37
MA2 Magadan 21.40 61 P **P 23 29 00.8 +0.9**
MA2 **pP 23 29 01.3 +0.5**
MA2 IAmb IAmb 23 29 05.0
comp=Z,35nm,1.0s
SEY Seymchan 22.13 52 P **P 23 29 08.7 +1.0**
comp=Z,5.0nm,0.6s,baz=278,slow=12,SNR=9.7
SEY Lg Lg 23 35 40.4
comp=Z,46nm,1.1s,baz=296,slow=13,SNR=14
SEY LR LR 23 38 04.8
comp=Z,725nm,19.8s,baz=269,slow=37
ASAJ Asahikawa 22.55 106 LR LR 23 38 33.6
comp=Z,620nm,18.1s,baz=316,slow=38
NJ2 Nanjing 23.36 165 *e*P **P 23 29 22.8 +1.9**
NJ2 S **S 23 33 38.5 +4.0**
NJ2 sS **sS 23 33 42.8 +6.8**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
NJ2 LR LR
comp=Z,540nm,14.2s
NJ2 LR LR
comp=Z,3μm,14.2s
NJ2 LR LR
comp=Z,660nm,10.4s
TDK Taldyqorghan 23.42 259 *e*P **P 23 29 20.8 -0.7**
baz=259
TDK Taldyqorghan 23.42 259 *e*P **P 23 29 20.7 -0.7**
SHLS Shalkode 23.98 254 *e*P **P 23 29 23.2 -3.9**
comp=Z,36nm,1.5s,baz=254
SHLS Shalkode 23.98 254 *e*P **P 23 29 23.1 -3.9**
SHLS pmax pmax
comp=Z,37nm,1.5s
BRZS Berezniki 24.10 275 *e*P **P 23 29 26.6 -1.4**
comp=Z,9.2nm,0.9s,baz=275
BRZS Berezniki 24.10 275 *e*P **P 23 29 26.6 -1.4**
BRZS pmax pmax
comp=Z,9.0nm,0.9s
BVAR Borovoye Array 24.17 283 P **P 23 29 28.2 -0.3**
comp=Z,6.3nm,0.6s,baz=79,slow=7.7,SNR=32
BVAR S **S 23 33 48.4 +1.2**
comp=Z,4.3nm,0.9s,baz=57,slow=16,SNR=1.7
KPKS Kokpek 24.22 256 *e*P **P 23 29 28.5 -0.8**
comp=Z,44nm,1.6s,baz=256
KPKS Kokpek 24.22 256 *e*P **P 23 29 28.4 -0.8**
KPKS pmax pmax
comp=Z,44nm,1.6s
BRVK Borovoye 24.22 283*ce*P **P 23 29 29.5 +0.5**
BRVK pmax pmax
comp=Z,24nm,1.0s
BRVK Borovoye 24.22 283 P **P 23 29 28.9 -0.1**
BRVK **pP 23 29 29.3 -0.7**
BRVK **P 23 29 29.5 +0.5**
ENH Enshi 24.64 185 P **P 23 29 32.4 -0.7**
ENH IAmb IAmb 23 29 36.4
comp=Z,16nm,1.1s
SSE Sheshan 24.70 160 P **P 23 29 33.0 -0.5**
SSE S **S 23 33 54.5 -1.4**
SSE pmax pmax
comp=Z,7.0nm,0.6s
SSE pmax pmax
comp=Z,90nm,5.6s
SSE LR LR
comp=Z,460nm,16.7s
SSE LR LR
comp=Z,1μm,16.7s
KUU Kurty 25.27 259 *e*P **P 23 29 38.5 -0.2**
comp=Z,108nm,2.9s,baz=259
KUU Kurty 25.27 259 *e*P **P 23 29 38.4 -0.2**
KUU pmax pmax
comp=Z,108nm,2.9s
MDOK Medeo 25.33 257 *e*P **P 23 29 39.6 +0.2**
baz=257
MDOK Medeo 25.33 257 *e*P **P 23 29 39.5 +0.2**
MTBS Maitube 25.70 258 *e*P **P 23 29 41.0 -1.6**
baz=258
MJAR Matsushiro Arr 25.77 124 LR LR 23 40 09.8
comp=Z,310nm,18.9s,baz=320,slow=37
SGDS Sogindy 26.52 260 *e*P **P 23 29 51.4 +1.3**
comp=Z,14nm,2.0s,baz=260
PEA0B Petropavlovsk- 26.70 75‖*e*P **P 23 29 48.8 -2.7**
PETK Petropavlovsk- 26.70 75 P **P 23 29 53.0 +1.6**
comp=Z,5.3nm,0.8s,baz=307,slow=4.5,SNR=5.0
PETK LR LR 23 40 08.1
comp=Z,170nm,19.5s,baz=287,slow=36
PETK Petropavlovsk- 26.70 75 P **P 23 29 52.5 +1.1**
FRU1 Bishkek 26.92 259 P **P 23 29 52.3 -1.4**
FRU1 pmax pmax
comp=Z,20nm,1.2s
FRU1 Bishkek 26.92 259 P **P 23 29 52.3 -1.4**
FRU1 IAmb IAmb 23 29 59.6
comp=Z,20nm,1.2s
AAK Ala-Archa 27.11 259 P **P 23 29 55.7 +0.3**
comp=Z,3.6nm,0.8s,baz=78,slow=11,SNR=7.0
AAK Lg Lg 23 38 29.5
comp=Z,1.4nm,0.8s,baz=156,slow=16,SNR=4.2
AAK Ala-Archa 27.11 259‖*e*P **P 23 29 56.7 +1.2**

AAK pmax pmax
comp=Z,23nm,1.1s
AAK Ala-Archa 27.11 259 P **P** **23 29 55.0 -0.5**
AAK IAmb IAmb 23 30 03.6
comp=Z,21nm,1.5s
PET Petropavlovsk 27.26 74 *eP* **P** **23 30 00.0 +3.5**
PET *eS* **S** **23 34 34.7 -1.5**
PET MLR MLR
comp=Z,800nm,14.0s
BILL Bilibino 28.07 41 *eP* **P** **23 30 03.9 +0.2**
BILL pmax pmax
comp=Z,7.0nm,1.1s
SVE Sverdlovsk 28.23 295 *eP* **P** **23 30 05.6 +0.5**
SVE *eS* **S** **23 34 50.7 -0.7**
SVE pmax pmax
comp=Z,40nm,1.1s
SVE MLR MLR
comp=Z,864nm,14.0s
KSH Kashi 28.38 252 P P 23 30 12.8 +6.0
KSH sP sP 23 30 20.3 +12
KSH S S 23 35 04.0 +10
KSH pmax pmax
comp=Z,5.0nm,1.0s
KSH LR LR
comp=Z,450nm,8.8s
KSH LR LR
comp=Z,550nm,11.1s
KSH LR LR
comp=Z,310nm,8.8s
KK31 Karatay Array 29.09 263 P **P** **23 30 13.3 +0.3**
KK31 pmax pmax
comp=Z,4.0nm,1.1s
KK31 Karatay Array 29.09 263 P **P** **23 30 13.2 +0.3**
KKAR Karatay Array 29.09 263 P **P** **23 30 12.7 -0.2**
KKAR Karatay Array 29.09 263 P **P** **23 30 12.7 -0.2**
KKAR Karatay Array 29.09 263 P **P** **23 30 12.6 -0.4**
KKAR IAmb IAmb 23 30 15.9
comp=Z,4.0nm,1.1s
JHJ Hachijo jima 2 29.31 126 LR LR 23 42 22.9
comp=Z,185nm,20.0s,baz=328,slow=37
ARU Arti 29.44 295 P **P** **23 30 16.3 +0.4**
comp=Z,0.9nm,0.6s,baz=38,slow=4.8,SNR=5.4
ARU Arti 29.44 295*c* *iP* **P** **23 30 15.7 -0.2**
ARU PPP PPP 23 31 17.0
ARU S **S** **23 35 11.5 +1.0**
ARU SS **SnSn** **23 36 37.9 +1.5**
ARU pmax pmax
comp=Z,6.0nm,1.3s
ARU MLR MLR
comp=Z,801nm,13.0s
ARU Arti 29.44 295 P **P** **23 30 15.5 -0.4**
DRK Karamyk 30.73 257 P **P** **23 30 26.9 -0.9**
DRK IAmb IAmb 23 30 36.2
comp=Z,15nm,1.4s
BTK Batken 30.89 258 P **P** **23 30 28.2 -0.8**
BTK pmax pmax
comp=Z,13nm,1.1s
BTK Batken 30.89 258 P **P** **23 30 28.2 -0.8**
BTK IAmb IAmb 23 30 33.2
comp=Z,13nm,1.1s
ABKAR Akbulak array 31.73 282 P **P** **23 30 35.8 -0.3**
ABKAR Akbulak array 31.73 282 P **P** **23 30 36.2 0.0**
GAR Garm 31.89 257 P **P** **23 30 37.9 0.0**
TAPN Taplejung 32.61 222 *eP* **P** **23 30 44.1 -0.3**
SHL Shillong 32.73 215 P **P** **23 30 44.8 -0.6**
SHL pmax pmax
comp=Z,9.0nm,1.1s
SHL Shillong 32.73 215 P **P** **23 30 44.8 -0.6**
SHL IAmb IAmb 23 30 45.7
comp=Z,8.7nm,1.1s
CHGR Chuyangaron 32.78 258 P **P** **23 30 45.2 -0.4**
JIRN Jiri 32.94 225 *eP* **P** **23 30 47.5 +0.1**
comp=Z,40nm,0.7s
ODAN Odare 33.17 222 *eP* **P** **23 30 49.3 0.0**
comp=Z,60nm,0.8s
KKN Kakani 33.20 226 *eP* **P** **23 30 50.1 +0.6**
comp=Z,25nm,0.7s
GKN Gorkha 33.28 227 *eP* **P** **23 30 50.7 +0.5**
comp=Z,39nm,1.0s
KIRV Kirov 33.31 302 P **P** **23 30 51.2 +1.3**
comp=Z,10.0nm,0.7s,baz=158,slow=2.6,SNR=9.5
PKI Pulchoki 33.34 226 *eP* **P** **23 30 50.8 0.0**
comp=Z,16nm,0.9s
PKIN Phulchoki 33.34 226 *eP* **P** **23 30 50.9 +0.1**
comp=Z,8.4nm,0.7s
DANN Dangsing 33.35 229 *eP* **P** **23 30 52.0 +1.0**
DMN Daman 33.43 226 *eP* **P** **23 30 52.3 +0.7**
comp=Z,32nm,1.0s
PYUN Piuthan 33.91 230 *eP* **P** **23 30 56.5 +0.8**
comp=Z,39nm,1.0s
KOLN Koldanda 33.93 229 *eP* **P** **23 30 56.8 +0.9**
comp=Z,12nm,0.6s
SLVN Son La 34.01 193 P **P** **23 30 55.8 -0.6**
SLVN IAmb IAmb 23 30 57.2
comp=Z,9.5nm,1.5s
PRGR Permogore 34.04 309 *eP* **P** **23 30 56.5 +0.3**
PRGR *e* 23 32 05.0
PRGR pmax pmax
comp=Z,18nm,0.9s
NIL Nilore 34.17 248 P **P** **23 30 57.7 -0.1**
NIL pmax pmax
comp=Z,14nm,1.1s
NIL Nilore 34.17 248 P **P** **23 30 57.7 -0.1**
NIL IAmb IAmb 23 30 59.5
comp=Z,14nm,1.1s
JCJ Chichijima 35.51 129 P **P** **23 31 10.3 +1.0**
KBL Kabul 35.79 253 P **P** **23 31 11.2 -0.7**
KBL pmax pmax
comp=Z,9.0nm,1.4s
KBL Kabul 35.79 253 P **P** **23 31 11.2 -0.7**
KBL IAmb IAmb 23 31 15.2
comp=Z,8.9nm,1.4s
QIZ Qiongzhong 35.81 183 P **P** **23 31 13.5 +1.6**
QIZ S **S** **23 36 52.5 +2.4**
QIZ pmax pmax
comp=Z,11nm,1.1s
QIZ LR LR
comp=Z,340nm,14.5s
QIZ LR LR
comp=Z,1μm,17.5s
QIZ LR LR
comp=Z,380nm,16.9s
LVZ Lovozero 36.47 322⇑ *eP* **P** **23 31 18.0 +0.8**
LVZ pmax pmax
comp=Z,3.0nm,1.0s
LVZ MLR MLR
comp=Z,299nm,20.0s
APA Apatity 37.03 321⇓ *iP* **P** **23 31 22.0 +0.1**
APA pmax pmax
comp=Z,7.0nm,1.0s
KLMR Klimovskoe 37.07 309 *eP* **P** **23 31 22.0 -0.2**
KLMR pmax pmax
comp=Z,11nm,0.7s
KLMR Klimovskoe 37.07 309 *eP* **P** **23 31 22.1 -0.2**
KLMR AMP 23 31 24.5
comp=Z,11nm,0.7s
CMAR Chiang Mai Arr 37.65 200 P **P** **23 31 27.4 -0.2**
comp=Z,0.6nm,0.4s,baz=338,slow=6.8,SNR=1.9
CMAR LR LR 23 47 35.3
comp=Z,160nm,19.1s,baz=69,slow=38
SPITS Spitsbergen Ar 38.06 341 P **P** **23 31 34.0 +3.5**
comp=Z,7.2nm,0.8s,baz=125,slow=14,SNR=3.5
SKNT Sakolnakorn 38.30 192 P **P** **23 31 34.4 +1.3**
ARCES ARCESS Array B 39.00 326 P **P** **23 31 39.7 +1.2**
comp=Z,1.0nm,0.5s,baz=61,slow=8.6,SNR=17
ARCES ARCESS Array B 39.00 326 P **P** **23 31 39.6 +1.1**
GEYT Alibeck 39.61 267 P **P** **23 31 44.6 +0.6**
comp=Z,50nm,0.7s,baz=56,slow=5.6,SNR=5.5
MOS Moscow 40.33 303 *eP* P 23 31 55.8 +6.1
MOS *e* 23 33 54.6
MOS MLR MLR
comp=N,300nm,16.0s
MOS MLR MLR
comp=E,300nm,16.0s
MOS MLR MLR
comp=Z,500nm,16.0s
VRH Novokhopyorsk 40.67 295 *eP* **P** **23 31 53.6 +1.0**
VRH pmax pmax
comp=Z,9.0nm,0.7s
VRH MLR MLR
comp=Z,830nm,15.0s
OBN Obninsk 41.17 302 *iP* **P** **23 31 56.4 -0.2**
OBN *i* 23 33 31.0
OBN pmax pmax
comp=Z,4.0nm,1.1s

OBN MLR MLR
comp=Z,659nm,17.0s
LPSR Galich'ya Gora 41.35 298 *eP* **P** **23 31 57.7 -0.4**
LPSR pmax pmax
comp=Z,7.0nm,0.7s
LPSR MLR MLR
comp=Z,560nm,15.0s
VSR Storozhevoye 42.00 296 *eP* **P** **23 32 02.0 -1.4**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR MLR MLR
comp=Z,820nm,13.0s
MAK Makhachkala 42.40 281 *eP* **P** **23 32 02.3 -4.5**
MAK *eS* **S** **23 38 22.0 -6.9**
FIA1 FINESS Array S 42.56 315 P **P** **23 32 08.9 +1.0**
FIA1 IAmb IAmb 23 32 11.5
comp=Z,12nm,1.1s
FINES FINESS Array B 42.56 315 P **P** **23 32 09.1 +1.2**
comp=Z,5.1nm,0.8s,baz=66,slow=6.6,SNR=24
FINES FINESS Array B 42.56 315 P **P** **23 32 08.9 +1.0**
TOLK Toolik Lake Re 43.33 32 P **P** **23 32 15.2 +1.0**
TOLK IAmb IAmb 23 32 17.4
comp=Z,13nm,1.3s
IMAR Indian Mountai 43.44 36 P **P** **23 32 16.6 +1.6**
GOF Gofitskoye 43.59 287⇑ *eP* P 23 32 20.9 +4.5
COLD Coldfoot 43.93 34 P **P** **23 32 20.1 +1.2**
COLD IAmb IAmb 23 32 23.9
comp=Z,5.8nm,0.8s
H21K Melozitna Rive 43.95 36 P **P** **23 32 20.8 +1.7**
H21K IAmb IAmb 23 32 24.1
comp=Z,12nm,0.9s
J20K Nowinta River 44.31 39 P **P** **23 32 23.9 +1.9**
J20K IAmb IAmb 23 32 27.4
comp=Z,7.5nm,1.1s
KIV Kislovodsk 44.48 286 *eP* **P** **23 32 22.7 -1.0**
KIV pmax pmax
comp=Z,15nm,1.0s
KIV MLR MLR
comp=Z,203nm,16.0s
KIV Kislovodsk 44.48 286 P **P** **23 32 23.4 -0.4**
KIV IAmb IAmb 23 32 30.4
comp=Z,12nm,0.8s
KBZ Khabaz 44.51 285 P **P** **23 32 25.9 +2.1**
comp=Z,1.9nm,0.8s,baz=0.6,slow=6.6,SNR=4.9
K20K Telida 44.81 40 P **P** **23 32 26.5 +0.5**
EUNU Eureka 44.92 4 P **P** **23 32 28.1 +1.4**
ONI Oni 44.93 284 P **P** **23 32 27.0 -0.3**
ONI Oni 44.93 284 P **P** **23 32 27.0 -0.3**
MLY Manley 45.02 37 P **P** **23 32 28.6 +0.9**
L19K White Mountain 45.20 41 P **P** **23 32 32.2 +3.1**
L19K IAmb IAmb 23 32 45.5
comp=Z,12nm,1.4s
I23K Minto, Yukon-K 45.42 36 P **P** **23 32 33.1 +2.3**
I23K IAmb IAmb 23 32 36.2
comp=Z,11nm,1.0s
CAST Castle Rocks 45.50 39 P **P** **23 32 32.8 +1.3**
H24K Noodor Dome 45.50 35 P **P** **23 32 33.1 +1.6**
H24K IAmb IAmb 23 32 36.9
comp=Z,7.0nm,0.8s
BMAR Burnt Mountain 45.56 32 P **P** **23 32 33.3 +1.3**
MNK Minsk 45.67 306 *iP* **P** **23 32 34.6 +1.7**
MNK *i* 23 34 21.6
MNK *i* PPP PPP 23 35 01.2
MNK *i* S **S** **23 39 17.0 +0.7**
MNK *i* SSS SSS 23 43 32.0
MNK pmax pmax
comp=Z,9.0nm,0.9s
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK pmax pmax
comp=N,18nm,1.1s
MNK MLR MLR
comp=Z,626nm,19.0s
MNK MLR MLR
comp=N,148nm,16.0s
MNK MLR MLR
comp=E,83nm,20.0s
MNK Minsk 45.67 306 *iP* **P** **23 32 34.6 +1.7**
comp=E,1.0nm,0.8s
MNK *iP* **P** **23 32 34.6 +1.7**
comp=N,18nm,1.1s
MNK *iP* **P** **23 32 34.6 +1.7**
comp=Z,9.0nm,0.8s,baz=53
MNK *i* PP **PP** **23 34 21.6 +2.3**
MNK *i* PPP PPP 23 35 01.3
MNK *i* S **S** **23 39 17.1 +0.8**
MNK *i* SS **SS** **23 42 43.7 +4.1**
MNK *i* SSS SSS 23 43 32.1
MNK *i* LQ LQ 23 48 24.6
MNK *i* LR LR 23 51 53.2
MNK *i* LRM MLR 23 53 46.2
comp=Z,626nm,18.8s
MNK *i* LRM MLR 23 53 50.6
comp=E,83nm,19.5s
MNK *i* LRM MLR 23 53 51.3
comp=N,148nm,15.9s
MDM Murphy Dome 45.92 36 P **P** **23 32 37.1 +2.3**
MDM IAmb IAmb 23 32 40.6
comp=Z,7.6nm,1.1s
NACGM Naroch 45.94 307 *iP* **P** **23 32 36.4 +1.3**
BWN Browne 45.98 37 P **P** **23 32 37.2 +1.9**
POKR Poker Plat Res 46.09 35 P **P** **23 32 37.6 +1.5**
POKR IAmb IAmb 23 32 41.5
comp=Z,4.6nm,0.8s
TCOL CIGO, UAF Yank 46.09 36 P **P** **23 32 36.7 +0.6**
COLA College 46.10 36 P **P** **23 32 37.4 +1.3**
COLA pmax pmax
comp=Z,12nm,0.9s
COLA College 46.10 36 P **P** **23 32 37.4 +1.3**
TRF Thorofare Moun 46.12 38 P **P** **23 32 37.3 +0.7**
CCB Clear Creek Bu 46.25 36 P **P** **23 32 37.8 +0.4**
CCB IAmb IAmb 23 32 42.9
comp=Z,5.0nm,1.0s
WRH Wood River Hil 46.27 36 P **P** **23 32 38.6 +1.1**
KARS Kars 46.43 282 P **P** **23 32 39.3 0.0**
KARS pmax pmax
comp=Z,47nm,1.1s
KARS Kars 46.43 282 P **P** **23 32 39.3 0.0**
IL31 46.48 35 IAmb IAmb 23 32 44.2
comp=Z,9.4nm,0.9s
ILAR Eielson Array 46.48 35 P **P** **23 32 40.1 +0.8**
comp=Z,5.5nm,0.8s,baz=292,slow=4.4,SNR=29
ILAR LR LR 23 56 20.0
comp=Z,105nm,18.2s,baz=300,slow=41
HDA Harding Lake 46.69 36 P **P** **23 32 41.7 +0.8**
HDA IAmb IAmb 23 32 45.0
comp=Z,7.3nm,0.8s
AKASG Malin Array Be 47.35 301 P **P** **23 32 45.8 -0.4**
comp=Z,0.9nm,0.3s,baz=45,slow=8.5,SNR=8.7
AKBB Malin Array Si 47.35 301⇑ *eP* **P** **23 32 44.7 -1.4**
DHY Denali Highway 47.39 37 P **P** **23 32 48.4 +1.9**
DHY IAmb IAmb 23 32 52.6
comp=Z,5.2nm,0.6s
PMR Palmer 47.71 40 P **P** **23 32 49.9 +1.1**
PMR Palmer 47.71 40 P **P** **23 32 49.9 +1.1**
RIDG Independent Ri 47.83 36 IAmb IAmb 23 32 53.3
comp=Z,6.4nm,0.9s
SCRK Sand Creek 47.96 35 P **P** **23 32 51.9 +0.9**
SCRK IAmb IAmb 23 32 54.1
comp=Z,4.1nm,1.0s
PAX Paxson 48.12 37 P **P** **23 32 53.2 +1.1**
PAX pmax pmax
comp=Z,10.0nm,1.3s
PAX Paxson 48.12 37 P **P** **23 32 53.2 +1.1**
PAX IAmb IAmb 23 32 56.7
comp=Z,10nm,1.3s
KOPT Kop Dagi 48.30 283 P **P** **23 32 52.7 -1.3**
EGAK Eagle 48.35 33 P **P** **23 32 54.1 +0.4**
EGAK IAmb IAmb 23 32 58.5
comp=Z,6.8nm,0.9s
GURO Guroymak-BITLI 48.43 281 P **P** **23 32 54.1 -0.8**
GURO IAmb IAmb 23 32 59.6
comp=Z,4.7nm,0.9s
K27K Chicken 48.56 34 P **P** **23 32 57.0 +1.6**
K27K IAmb IAmb 23 33 00.2
comp=Z,9.7nm,1.1s
NB2 NORSAR Subarra 48.59 320 P **P** **23 32 54.9 -0.8**
comp=Z,1.5nm,0.6s,baz=52,slow=7.9
NOA NORSAR Array B 48.59 320 P **P** **23 32 56.2 +0.5**
comp=Z,2.0nm,0.6s,baz=52,slow=7.8,SNR=8.7
KLU Klutina 48.94 38 P **P** **23 32 59.3 +0.9**
KLU IAmb IAmb 23 33 15.3
comp=Z,7.1nm,0.8s
DAV Davao City (W) 48.94 162 LR LR 23 53 23.1
comp=Z,196nm,20.5s,baz=342,slow=36

L27K Beaver Creek, 49.30 35 IAmb IAmb 23 33 06.0
comp=Z,6.9nm,0.7s
BCAR Beaver Creek A 49.31 35 P **P** **23 33 01.8 +0.6**
N25K Chitina, Valde 49.34 38 P **P** **23 33 02.2 +0.8**
N25K IAmb IAmb 23 33 07.5
comp=Z,7.2nm,0.8s
SORM Soroca 49.43 299⇓ **P** **P** **23 33 00.1 -2.1**
SORM Soroca 49.43 299⇓ **P** **P** **23 33 00.1 -2.1**
SNOP Sinop 49.88 289 P **P** **23 33 05.0 -0.7**
MARD Mardin 50.01 280 P **P** **23 33 07.2 +0.3**
UOSS Minazif 50.28 257 P **P** **23 33 07.6 -1.4**
UOSS IAmb IAmb 23 33 09.6
comp=Z,10nm,1.1s
CTGM Chitina Glacie 50.92 37 P **P** **23 33 15.0 +1.4**
CTGM IAmb IAmb 23 33 20.5
comp=Z,7.3nm,0.8s
PRAR RASCA 51.02 299⇑ **P** **P** **23 33 12.6 -1.7**
KWP Kalwaria Pacla 51.23 304 P **P** **23 33 16.1 +0.2**
KWP Kalwaria Pacla 51.23 304 P **P** **23 33 16.1 +0.2**
BUR08 Bucovina Ar. S 51.34 300 P **P** **23 33 17.0 +0.2**
BURAR Bucovina Array 51.36 300⇓ **P** **P** **23 33 14.1 -2.9**
BURAR Bucovina Array 51.36 300⇓ **P** **P** **23 33 14.1 -2.9**
BURAR Bucovina Array 51.36 300 P **P** **23 33 17.1 +0.1**
BIZ Bicaz 51.37 299⇓ **P** **P** **23 33 17.7 +0.8**
BNN Bunyan 51.71 285 P **P** **23 33 20.2 +0.4**
VRI Vrincioaia 51.78 298⇓ **P** **P** **23 33 21.3 +1.3**
VRI Vrincioaia 51.78 298⇓ **P** **P** **23 33 21.3 +1.3**
PLOR Plostina 51.83 298⇑ **P** **P** **23 33 23.2 +2.8**
PLOR Plostina 51.83 298⇑ **P** **P** **23 33 23.2 +2.8**
KOLS Kolonicke sedl 51.91 303 *eP* **P** **23 33 22.2 +1.2**
KOLS Kolonicke sedl 51.91 303 *eP* **P** **23 33 22.2 +1.2**
HARR Harsova 51.96 296⇑ **P** P 23 33 27.0 +5.6
HARR Harsova 51.96 296⇑ **P** P 23 33 27.0 +5.7
UZH Uzhgorod 52.11 303 *eP* **P** **23 33 19.8 -2.6**
UZH *e* 23 33 25.3
GAZ Gaziantep 52.12 283 P **P** **23 33 22.4 -0.4**
OJC Ojcow 52.22 306 P **P** **23 33 24.0 +0.8**
OJC pmax pmax
comp=Z,4.0nm,1.1s
OJC Ojcow 52.22 306 P **P** **23 33 24.0 +0.8**
BR131 Keskin Array S 52.32 288⇑ *eP* **P** **23 33 24.6 +0.3**
BR131 Keskin Array S 52.32 288 P **P** **23 33 24.2 -0.1**
BR131 IAmb IAmb 23 33 29.4
comp=Z,5.6nm,0.7s
BRTR Keskin Array B 52.32 288 P **P** **23 33 25.1 +0.7**
comp=Z,4.3nm,1.0s,baz=67,slow=3.5,SNR=23
BRTR Keskin Array B 52.32 288 P **P** **23 33 24.2 -0.1**
TRPA Tarpa 52.33 302⇓ **P** **P** **23 33 21.7 -2.4**
TRPA Tarpa 52.33 302 *eP* **P** **23 33 25.0 +0.9**
ISR Istrita 52.38 297⇓ **P** **P** **23 33 27.4 +2.8**
ISR Istrita 52.38 297⇓ **P** **P** **23 33 27.4 +2.8**
DOPR Dopca 52.39 299⇑ **P** **P** **23 33 25.4 +0.8**
MLR Muntele Rosu 52.43 298⇓ **P** **P** **23 33 27.7 +2.7**
MLR Muntele Rosu 52.43 298⇓ **P** **P** **23 33 27.7 +2.7**
ANTO Ankara 52.69 288 P **P** **23 33 27.2 +0.2**
ANTO pmax pmax
comp=Z,6.0nm,1.1s
ANTO Ankara 52.69 288 P **P** **23 33 27.1 +0.2**
VOIR 52.93 298⇑ **P** **P** **23 33 30.5 +1.9**
VOIR 52.93 298⇑ **P** **P** **23 33 30.5 +1.9**
MDUB Mudurnu 53.14 290 P **P** **23 33 30.6 +0.3**
DRGR 53.17 301⇑ **P** **P** **23 33 30.1 -0.3**
DRGR 53.17 301⇑ **P** **P** **23 33 30.1 -0.3**
ARR Arges 53.19 298⇑ **P** **P** **23 33 32.6 +2.1**
OKC Ostrava-Krasne 53.25 306 AMS AMS 23 57 50.0
comp=Z,500nm,15.2s
MORC Moravsky Berou 53.58 307⇓ **P** **P** **23 33 35.6 +2.3**
MORC Moravsky Berou 53.58 307⇓ **P** **P** **23 33 35.6 +2.3**
MORC Moravsky Berou 53.58 307 P **P** **23 33 33.5 +0.2**
MORC Moravsky Berou 53.58 307 *eP* **P** **23 33 35.4 +2.1**
OSTC Ostas 53.64 308 *eP* **P** **23 33 36.3 +2.5**
OSTC AMS AMS 23 58 30.0
comp=Z,400nm,15.9s
CHVC Chvalec 53.69 308 *eP* **P** **23 33 36.4 +2.3**
CHVC *ex* x 23 33 40.7
KRLC Kraliky 53.72 307 *eP* **P** **23 33 36.6 +2.2**
KRLC MLR MLR
comp=Z,500nm,15.9s
KRLC Kraliky 53.72 307 *eP* **P** **23 33 36.6 +2.2**
KRLC AMS AMS 23 58 20.0
comp=Z,500nm,15.9s
DPC Dobruska-Polom 53.74 308 *eP* **P** **23 33 37.3 +2.8**
DPC MLR MLR
comp=Z,300nm,14.1s
DPC Dobruska-Polom 53.74 308 *eP* **P** **23 33 37.3 +2.8**
DPC AMS AMS 23 59 40.0
comp=Z,300nm,14.1s
UPC Upice 53.77 308 AMS AMS 23 58 40.0
comp=Z,400nm,11.9s
VYHS Vyhne 53.87 305 *eP* **P** **23 33 38.0 +2.6**
VYHS Vyhne 53.87 305 *eP* **P** **23 33 38.0 +2.6**
SIRR Siria 54.05 301⇓ **P** **P** **23 33 37.7 +0.9**
GZR Gura Zlata 54.11 300⇑ **P** **P** **23 33 40.2 +2.9**
GZR Gura Zlata 54.11 300⇑ **P** **P** **23 33 40.2 +2.9**
PVCC Panska Ves 54.41 309 AMS AMS 23 59 20.0
comp=Z,400nm,13.6s
BRG Berggiesshubel 54.44 310 *eP* **P** **23 33 41.9 +2.4**
comp=Z,3.5nm,0.7s,baz=43,slow=7.2
BRG Berggiesshubel 54.44 310 *eP* **P** **23 33 42.0 +2.4**
BRG Amp 23 33 43.4
comp=Z,3.5nm,0.7s
BZS Buzias 54.53 300⇑ **P** **P** **23 33 43.0 +2.7**
BZS Buzias 54.53 300⇑ **P** **P** **23 33 43.0 +2.7**
CLL Collm 54.55 310 *iP* **P** **23 33 42.0 +1.7**
comp=Z,4.0nm,0.7s
CLL *eS* **S** **23 41 18.0 -2.1**
CLL Collm 54.55 310 *iP* **P** **23 33 42.0 +1.7**
CLL *eS* **S** **23 41 15.0 -5.1**
CLL pmax pmax
comp=Z,4.0nm,0.7s
CLL MLR MLR
comp=Z,400nm,17.2s
CLL Collm 54.55 310 *eP* **P** **23 33 42.1 +1.7**
comp=Z,3.9nm,0.7s,baz=43,slow=7.2
KRUC Moravsky 54.61 307 *eP* **P** **23 33 43.0 +2.2**
HERR Herculane 54.65 299⇓ **P** **P** **23 33 44.1 +2.9**
PRA Prague 54.79 309 AMS AMS 23 58 40.0
comp=Z,400nm,10.5s
PRU Pruhonice 54.80 308 *eP* **P** **23 33 45.7 +3.5**
PRU MLR MLR
comp=Z,400nm,17.1s
PRU Pruhonice 54.80 308 *eP* **P** **23 33 45.7 +3.5**
PRU AMS AMS 23 59 10.0
comp=Z,400nm,17.1s
TREC Trest 54.87 307 *eP* **P** **23 33 45.3 +2.6**
TREC AMS AMS 00 00 40.0
comp=Z,400nm,12.5s
NEUB Neuenburg 55.16 311 *eP* **P** **23 33 46.7 +1.9**
comp=Z,6.8nm,0.8s,baz=43,slow=7.2
MPLH Magyarpolny 55.42 304 *eP* P 23 33 51.0 +4.3
TANN Tannenbergstha 55.43 310 *eP* **P** **23 33 48.8 +2.0**
comp=Z,2.4nm,0.8s,baz=43,slow=7.2
PLN Plauen 55.51 310 *eP* **P** **23 33 50.0 +2.7**
comp=Z,4.8nm,0.8s,baz=43,slow=7.2
GUNZ Gunzen 55.52 310 *eP* **P** **23 33 50.2 +2.7**
comp=Z,3.4nm,0.7s,baz=43,slow=7.2
WERN Wernitzgruen 55.56 310 *eP* **P** **23 33 50.3 +2.6**
comp=Z,4.4nm,0.8s,baz=43,slow=7.2
NKC Novy Kostel 55.57 310 AMS AMS 00 01 10.0
comp=Z,400nm,17.8s
MOX Moxa 55.63 311 *eP* **P** **23 33 50.2 +2.0**
comp=Z,6.6nm,0.7s,baz=43,slow=7.2
MOX *eL* L 23 59 29.3
comp=Z,302nm,20.0s
CONA Conrad Observa 55.67 306 *eP* **P** **23 33 51.8 +3.2**
comp=Z,6.3nm,1.4s
GTTG Gottingen 55.70 312 *eP* **P** **23 33 51.3 +2.7**
comp=Z,11nm,0.8s,baz=43,slow=7.2
CKRC Cesky Krumlov 55.75 308 *eP* **P** **23 33 51.4 +2.3**
CKRC AMS AMS 00 00 50.0
comp=Z,400nm,13.1s
VTS Vitosha 55.84 297⇑ P P 23 33 53.7 +3.7
VTS Vitosha 55.84 297⇑ P P 23 33 53.7 +3.7
VTS Vitosha 55.84 297 P **P** **23 33 50.4 +0.4**
VTS IAmb IAmb 23 33 54.6
comp=Z,7.5nm,1.4s
KHC Kasperske Hory 55.86 308 *eP* **P** **23 33 52.2 +2.3**
KHC MLR MLR
comp=Z,500nm,11.4s
KHC Kasperske Hory 55.86 308 *eP* **P** **23 33 52.2 +2.3**
KHC *ex* x 23 34 11.5
KHC AMS AMS 00 00 00.0
comp=Z,500nm,11.4s
CSS Mathiatis 55.90 284 P **P** **23 33 49.8 -0.5**

KOVH	**Kovagotottos**	**55.92**	**303**	*e*P		**P**		**23 33 52.9**	**+2.6**
GEC2	**GERESS Array S**	**56.01**	**308**	P		**P**		**23 33 51.5**	**+0.5**
GEC2	**GERESS Array S**	**56.01**	**308**	*e*P		**P**		**23 33 53.0**	**+2.0**
	comp=Z,3.7nm,1.1s,baz=43,slow=7.2								
GERES	**GERESS Array B**	**56.01**	**308**	P		**P**		**23 33 52.5**	**+1.5**
	comp=Z,1.4nm,0.8s,baz=52,slow=8.6,SNR=11								
GERES				LR		LR		00 00 01.6	
	comp=Z,354nm,19.4s,baz=50,slow=38								
GERES	**GERESS Array B**	**56.01**	**308**	P		**P**		**23 33 50.4**	**-0.6**
ROTZ	**Rotzenmuhle**	**56.01**	**310**	*e*P		**P**		**23 33 53.1**	**+2.2**
	comp=Z,2.6nm,0.8s,baz=43,slow=7.2								
WET	**Wettzell**	**56.16**	**309**	*e*P		**P**		**23 33 54.7**	**+2.7**
	comp=Z,4.1nm,0.9s,baz=43,slow=7.2								
ARSA	**Arzberg**	**56.32**	**306**	*e*P		**P**		**23 33 56.1**	**+2.9**
	comp=Z,4.5nm,1.3s								
MOA	**Molln**	**56.47**	**307**	*e*P		**P**		**23 33 57.2**	**+3.0**
	comp=Z,3.8nm,1.0s								
GRF	**Grafenberg Arr**	**56.50**	**310**	*e*P		**P**		**23 33 56.8**	**+2.4**
	comp=Z,4.8nm,0.9s,baz=43,slow=7.2								
GRF				*e*L		L		23 59 30.1	
	comp=Z,156nm,20.1s								
BUG	**Bochum--Univer**	**56.91**	**314**	*e*P		**P**		**23 33 59.4**	**+2.1**
	comp=Z,6.2nm,0.9s,baz=43,slow=7.2								
RJOB	**Jochberg**	**57.23**	**308**	*e*P		**P**		**23 34 02.4**	**+2.7**
	comp=Z,18nm,1.1s,baz=43,slow=7.2								
MILB	**Miltenberg**	**57.25**	**311**	*e*P		**P**		**23 34 02.0**	**+2.3**
	comp=Z,3.0nm,0.8s,baz=43,slow=7.2								
OBKA	**Obir**	**57.31**	**306**	*e*P		**P**		**23 34 03.6**	**+3.2**
	comp=Z,7.7nm,0.7s								
TNS	**Taunus Mts**	**57.32**	**312**	*e*P		**P**		**23 34 02.8**	**+2.6**
	comp=Z,6.8nm,1.1s,baz=43,slow=7.2								
KBA	**Koelnbreinsper**	**57.46**	**307**	*e*P		**P**		**23 34 04.8**	**+3.3**
	comp=Z,14nm,0.8s								
MYKA	**Terra Mystica**	**57.65**	**306**	*e*P		**P**		**23 34 05.4**	**+2.8**
	comp=Z,8.9nm,1.0s								
WATA	**Walderalm**	**58.08**	**308**	*i* P		**P**		**23 34 08.8**	**+3.0**
	comp=Z,1.1nm,1.1s								
ABTA	**Abfaltersbach**	**58.09**	**307**	*i* P		**P**		**23 34 08.0**	**+2.2**
	comp=Z,6.3nm,1.2s								
WTTA	**Wattenberg**	**58.11**	**308**	*i* P		**P**		**23 34 09.2**	**+3.2**
	comp=Z,5.7nm,0.9s								
MOTA	**Moosalm**	**58.29**	**308**	*e*P		**P**		**23 34 09.1**	**+1.8**
	comp=Z,8.1nm,1.0s								
SQTA	**Sankt Quirin**	**58.34**	**308**	*i* P		**P**		**23 34 10.6**	**+3.0**
	comp=Z,8.0nm,1.0s								
RETA	**Reutte**	**58.34**	**309**	*e*P		**P**		**23 34 10.4**	**+2.9**
	comp=Z,5.2nm,1.1s								
STAL	**STALIGIAL**	**58.36**	**306**	P		**P**		**23 34 08.1**	**+0.5**
FETA	**Feichten**	**58.70**	**308**	*e*P		**P**		**23 34 12.9**	**+2.8**
	comp=Z,6.6nm,0.9s								
BFO	**Black Forest**	**58.79**	**311**	P		**P**		**23 34 11.0**	**+0.4**
BFO				pmax		pmax			
	comp=Z,4.0nm,0.8s								
BFO	**Black Forest**	**58.79**	**311**	P		**P**		**23 34 11.0**	**+0.4**
BFO				IAmb		IAmb		23 34 13.5	
	comp=Z,3.5nm,0.8s								
BFO	**Black Forest**	**58.79**	**311**	*e*P		**P**		**23 34 12.2**	**+1.6**
	comp=Z,5.3nm,1.0s,baz=43,slow=7.2								
DAVA	**Damuels**	**58.89**	**309**	*e*P		**P**		**23 34 13.1**	**+1.6**
	comp=Z,8.2nm,1.2s								
CTI	**Castel Tesino**	**59.01**	**307**	P		**P**		**23 34 12.7**	**+0.5**
CTI				pmax		pmax			
	comp=Z,8.0nm,0.8s								
CTI	**Castel Tesino**	**59.01**	**307**	P		**P**		**23 34 12.7**	**+0.5**
ECH	**Echery**	**59.39**	**311**	IAmb		IAmb		23 34 21.9	
	comp=Z,4.8nm,0.9s								
TEOL	**Teolo**	**59.52**	**306**	P		**P**		**23 34 16.1**	**+0.5**
KAPI	**Kappang**	**60.04**	**171**	LR		LR		00 01 04.8	
	comp=Z,67nm,20.1s,baz=353,slow=37								
TIP	**Timpagrande**	**61.69**	**298**	P		**P**		**23 34 31.3**	**+0.7**
JAY	**Jayapura**	**61.98**	**147**	LR		LR		00 01 10.4	
	comp=Z,75nm,18.1s,baz=0.5,slow=36								
YOGI	**Yogyakarta**	**62.47**	**182**	P		**P**		**23 34 38.8**	**+2.9**
	comp=Z,74nm,1.5s								
SOEI	**Soe**	**65.24**	**166**	P		**P**		**23 34 55.6**	**+1.3**
BATI	**Baumata**	**65.60**	**167**	LR		LR		00 06 18.6	
	comp=Z,52nm,20.1s,baz=139,slow=39								
KEST	**Kesra**	**68.08**	**301**	P		**P**		**23 35 13.2**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=346,slow=3.0,SNR=7.2								
KEST				LR		LR		00 08 17.2	
	comp=Z,315nm,18.0s,baz=310,slow=39								
SCHQ	**Schefferville**	**70.65**	**359**	P		**P**		**23 35 29.4**	**+1.6**
	comp=Z,2.4nm,0.5s,baz=9.5,slow=2.2,SNR=7.3								
ESDC	**Sonseca Array**	**71.02**	**313**	P		**P**		**23 35 30.9**	**+0.5**
	comp=Z,3.1nm,0.8s,baz=28,slow=6.0,SNR=22								
ESDC				LR		LR		00 09 03.0	
	comp=Z,111nm,18.5s,baz=5.0,slow=38								
ESDC	**Sonseca Array**	**71.02**	**313**	P		**P**		**23 35 30.8**	**+0.5**
F10A	**Beach Ranch, E**	**71.32**	**34**	P		**P**		**23 35 33.6**	**+1.5**
F10A				IAmb		IAmb		23 35 42.8	
	comp=Z,4.9nm,0.8s								
MSO	**Missoula**	**71.57**	**31**	P		**P**		**23 35 35.7**	**+2.0**
MSO				IAmb		IAmb		23 35 39.4	
	comp=Z,4.7nm,0.8s								
EGMT	**Eagleton**	**71.68**	**28**	P		**P**		**23 35 35.6**	**+1.4**
PINE	**Pine Mountain**	**71.99**	**37**	P		**P**		**23 35 37.7**	**+1.3**
PINE				IAmb		IAmb		23 35 43.1	
	comp=Z,6.6nm,1.2s								
I07A	**Izee**	**72.23**	**36**	P		**P**		**23 35 38.8**	**+1.1**
BMO	**Blue Mountains**	**72.29**	**34**	P		**P**		**23 35 40.4**	**+2.4**
BMO				pmax		pmax			
	comp=Z,3.0nm,0.9s								
BMO	**Blue Mountains**	**72.29**	**34**	P		**P**		**23 35 40.4**	**+2.4**
BMO				IAmb		IAmb		23 35 43.2	
	comp=Z,3.5nm,0.8s								
HRY	**Holter Researc**	**72.30**	**30**	P		**P**		**23 35 40.4**	**+2.4**
PLID	**Pearl Lake**	**72.50**	**33**	P		**P**		**23 35 41.1**	**+1.7**
PLID				IAmb		IAmb		23 35 44.8	
	comp=Z,4.0nm,0.8s								
ULM	**Lac du Bonnet**	**72.72**	**18**	LR		LR		00 10 17.8	
	comp=Z,67nm,18.1s,baz=307,slow=38								
YBH	**Yreka Blue Hor**	**73.16**	**40**	P		**P**		**23 35 45.3**	**+2.1**
	comp=Z,0.9nm,0.5s,baz=45,slow=1.4,SNR=4.7								
DLMT	**Dillon**	**73.30**	**31**	P		**P**		**23 35 45.5**	**+1.5**
DLMT				IAmb		IAmb		23 35 48.8	
	comp=Z,4.4nm,0.7s								
MOOW	**Moose Ponds**	**75.31**	**30**	P		**P**		**23 35 57.7**	**+1.8**
MOOW				IAmb		IAmb		23 36 01.0	
	comp=Z,7.7nm,1.5s								
FXWY	**Fox Creek**	**75.33**	**31**	P		**P**		**23 35 57.9**	**+1.9**
FXWY				IAmb		IAmb		23 36 01.2	
	comp=Z,4.1nm,0.8s								
TPAW	**Teton Pass**	**75.49**	**31**	P		**P**		**23 35 59.1**	**+2.1**
TPAW				IAmb		IAmb		23 36 02.1	
	comp=Z,4.8nm,0.8s								
PD31	**Pinedale Array**	**76.56**	**30**	P		**P**		**23 36 03.2**	**+0.1**
PDAR	**Pinedale Array**	**76.56**	**30**	P		**P**		**23 36 04.8**	**+1.7**
	comp=Z,1.2nm,0.5s,baz=29,slow=2.8,SNR=16								
PDAR				LR		LR		00 13 27.9	
	comp=Z,117nm,18.2s,baz=344,slow=38								
PDAR	**Pinedale Array**	**76.56**	**30**	P		**P**		**23 36 04.4**	**+1.3**
ELK	**Elko**	**76.64**	**35**	P		**P**		**23 36 04.7**	**+1.2**
	comp=Z,1.1nm,0.5s,baz=291,slow=8.6,SNR=6.0								
ELK	**Elko**	**76.64**	**35**	P		**P**		**23 36 04.8**	**+1.2**
ELK				pmax		pmax			
	comp=Z,2.0nm,0.9s								
ELK	**Elko**	**76.64**	**35**	P		**P**		**23 36 04.8**	**+1.2**
RSSD	**Black Hills**	**76.79**	**26**	P		**P**		**23 36 06.1**	**+1.8**
RSSD				pmax		pmax			
	comp=Z,4.0nm,0.7s								
RSSD	**Black Hills**	**76.79**	**26**	P		**P**		**23 36 06.1**	**+1.8**
RSSD				IAmb		IAmb		23 36 08.2	
	comp=Z,4.0nm,0.7s								
WRA	**Warramunga Arr**	**76.97**	**158**	P		**P**		**23 36 03.8**	**-1.4**
	comp=Z,1.2nm,0.7s,baz=347,slow=5.3,SNR=8.7								
WRA	**Warramunga Arr**	**76.97**	**158**	*i* P		**P**		**23 36 05.4**	**+0.2**
WRA				pmax		pmax			
	comp=Z,2.0nm,0.6s								
WRA	**Warramunga Arr**	**76.97**	**158**	IAmb		IAmb		23 36 09.3	
	comp=Z,0.6nm,1.3s								
HWUT	**Hardware Ranch**	**77.03**	**32**	P		**P**		**23 36 06.8**	**+1.1**
HWUT				IAmb		IAmb		23 36 10.6	
	comp=Z,5.8nm,0.8s								
KVN	**Kaiserville**	**77.18**	**38**	P		**P**		**23 36 07.9**	**+1.3**
KVN				pmax		pmax			
	comp=Z,3.0nm,0.8s								
KVN	**Kaiserville**	**77.18**	**38**	P		**P**		**23 36 07.8**	**+1.3**
NVAR	**Mina Array Bea**	**77.66**	**38**	P		**P**		**23 36 12.1**	**+2.8**
	comp=Z,1.2nm,0.7s,baz=302,slow=4.1,SNR=10								
NVAR				LR		LR		00 12 36.9	
	comp=Z,63nm,18.9s,baz=273,slow=37								
NVAR	**Mina Array Bea**	**77.66**	**38**	P		**P**		**23 36 10.7**	**+1.4**
SUSD	**Miller**	**77.67**	**22**	P		**P**		**23 36 10.7**	**+1.7**
DUG	**Dugway, Tooele**	**77.92**	**33**	P		**P**		**23 36 10.9**	**+0.3**
DUG				pmax		pmax			
	comp=Z,4.0nm,1.1s								
DUG	**Dugway, Tooele**	**77.92**	**33**	P		**P**		**23 36 10.9**	**+0.3**
NLU	**North Lily Min**	**78.37**	**33**	P		**P**		**23 36 14.8**	**+1.6**
RDMU	**Red Mountain**	**78.58**	**31**	P		**P**		**23 36 15.5**	**+1.2**
RDMU				IAmb		IAmb		23 36 19.0	
	comp=Z,8.3nm,1.1s								
R11A	**Troy Canyon, C**	**78.68**	**36**	P		**P**		**23 36 15.1**	**+0.2**
I40A	**Norwalk**	**79.78**	**16**	P		**P**		**23 36 21.0**	**+0.4**
I40A				IAmb		IAmb		23 36 24.4	
	comp=Z,9.8nm,0.8s								
ASAR	**Alice Springs**	**80.50**	**159**	P		**P**		**23 36 23.7**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=355,slow=5.2,SNR=5.9								
SMCO	**Snowmass**	**80.62**	**30**	P		**P**		**23 36 27.1**	**+1.5**
SMCO				IAmb		IAmb		23 36 30.5	
	comp=Z,7.1nm,1.2s								
KNB	**Kanab**	**80.81**	**35**	P		**P**		**23 36 27.8**	**+1.3**
KNB				pmax		pmax			
	comp=Z,12nm,1.4s								
KNB	**Kanab**	**80.81**	**35**	P		**P**		**23 36 27.8**	**+1.3**
KNB				IAmb		IAmb		23 36 33.6	
	comp=Z,12nm,1.4s								
L40A	**Anamosa**	**81.46**	**17**	P		**P**		**23 36 29.6**	**0.0**
KMBO	**Kilima Mbogo**	**82.05**	**257**	P		**P**		**23 36 33.1**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=3.1,slow=6.5,SNR=5.8								
KMBO				LR		LR		00 16 41.2	
	comp=Z,140nm,18.5s,baz=22,slow=38								
KMBO	**Kilima Mbogo**	**82.05**	**257**	*e*P		**P**		**23 36 33.5**	**+0.2**
SDCO	**Great Sand Dun**	**82.37**	**29**	P		**P**		**23 36 35.9**	**+1.0**
ANMO	**Albuquerque**	**84.70**	**31**	P		**P**		**23 36 47.9**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=315,slow=2.8,SNR=4.2								
ANMO	**Albuquerque**	**84.70**	**31**	IAmb		IAmb		23 36 51.7	
	comp=Z,5.9nm,1.5s								
R40A	**Maddies Statio**	**84.94**	**19**	P		**P**		**23 36 48.7**	**+1.1**
S39A	**Bolivar**	**85.32**	**20**	P		**P**		**23 36 50.4**	**+0.9**
S39A				IAmb		IAmb		23 36 53.0	
	comp=Z,6.0nm,0.9s								
CCM	**Cathedral Cave**	**85.36**	**18**	P		**P**		**23 36 50.5**	**+0.7**
CCM				pmax		pmax			
	comp=Z,6.0nm,0.7s								
CCM	**Cathedral Cave**	**85.36**	**18**	P		**P**		**23 36 50.5**	**+0.7**
WCI	**Wyandotte Cave**	**85.98**	**14**	P		**P**		**23 36 53.6**	**+0.8**
WCI				pmax		pmax			
	comp=Z,10.0nm,0.7s								
WCI	**Wyandotte Cave**	**85.98**	**14**	P		**P**		**23 36 53.6**	**+0.8**
U38A	**Gravette**	**86.32**	**21**	P		**P**		**23 36 54.9**	**+0.3**
U38A				IAmb		IAmb		23 36 58.0	
	comp=Z,5.2nm,0.8s								
T42A	**Van Buren**	**86.38**	**18**	P		**P**		**23 36 55.8**	**+1.0**
T42A				IAmb		IAmb		23 36 58.6	
	comp=Z,6.7nm,1.0s								
WMOK	**Wichita Mounta**	**86.97**	**25**	P		**P**		**23 36 59.2**	**+1.4**
WMOK				pmax		pmax			
	comp=Z,3.0nm,0.9s								
WMOK	**Wichita Mounta**	**86.97**	**25**	P		**P**		**23 36 59.2**	**+1.4**
WMOK				IAmb		IAmb		23 37 03.2	
	comp=Z,3.3nm,0.9s								
WVT	**Waverly**	**87.81**	**16**	P		**P**		**23 37 02.0**	**+0.2**
WVT				pmax		pmax			
	comp=Z,8.0nm,0.8s								
WVT	**Waverly**	**87.81**	**16**	P		**P**		**23 37 02.0**	**+0.2**
DZM	**Mont Dzumac**	**89.71**	**131**	LR		LR		00 13 20.3	
	comp=Z,47nm,19.2s,baz=93,slow=33								
TORD	**Torodi Ar. Bea**	**90.50**	**294**	P		**P**		**23 37 13.9**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=31,slow=4.5,SNR=8.8								
TXAR	**Lajitas Array**	**90.77**	**30**	P		**P**		**23 37 17.8**	**+1.8**
	comp=Z,0.2nm,0.6s,baz=12,slow=4.6,SNR=2.4								
TXAR				LR		LR		00 22 43.4	
	comp=Z,65nm,18.1s,baz=0.0,slow=39								
TXAR	**Lajitas Array**	**90.77**	**30**	P		**P**		**23 37 17.3**	**+1.3**
LPAZ	**La Paz**	**141.49**	**360**	PKP		**PKPdf**		**23 43 42.8**	**-1.9**
	comp=Z,1.6nm,0.7s,baz=276,slow=2.6,SNR=5.6								
VNA2	**Neumayer--Watz**	**149.69**	**215**	PKPdf		**PKPbc**		**23 43 58.1**	**-2.7**
CPUP	**Villa Florida**	**150.38**	**340**	PKPbc		**PKiKP**		**23 44 04.8**	**+0.2**
	comp=Z,4.5nm,1.0s,baz=309,slow=5.0,SNR=5.4								

*IDC **25** 23:38:45.7±1.9, 42.°97N×105.°02W, h0km, mb4.0/1, mb1 3.9/4, mb1mx3.5/46, mbtmp3.7/4, ML2.8/2, Error ellipse: s-maj=43.0km s-min=9.6km az=158.0*
*NEIC **25** 23:38:51.1±1.3, 43.°70N±0.°05×105.°28W±0.°06, h0km±2km, ML3.2/67, Error ellipse: s-maj=9.1km s-min=6.1km az=317.0*

ISC 25 23:38:50.0±1.0, 43.°70N±0.°06×105.°31W±0.°06, h0km, n62, σ1°31/59, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.01**	**65**		**Pg**	**23 39 09.9**	**+0.5**
K22A	**Casper**	**1.38**	**221**		**Pg**	**23 39 15.6**	**-0.7**
K22A				IAML		23 39 38.9	
	comp=E,693nm,0.3s						
PHWY	**Pilot Hill**	**2.40**	**183**		**Pn**	**23 39 31.6**	**+0.7**
RWWY	**Rawlins**	**2.45**	**216**		**Pn**	**23 39 33.3**	**+1.8**
RWWY				IAML		23 40 09.6	
	comp=E,175nm,1.0s						
RWWY				IAML		23 40 10.5	
	comp=E,117nm,0.4s						
LAO	**LASA Array**	**3.06**	**348**		**Pn**	**23 39 40.5**	**+0.8**
LAO				IAML		23 40 27.1	
	comp=E,96nm,0.4s						
RLMT	**Red Lodge**	**3.17**	**298**		**Pn**	**23 39 42.8**	**+1.4**
RLMT				IAML		23 40 34.7	
	comp=E,46nm,0.3s						
RLMT				IAML		23 40 36.3	
	comp=E,47nm,0.3s						
PD31	**Pinedale Array**	**3.24**	**255**		**Pn**	**23 39 43.5**	**+1.2**
PDAR	**Pinedale Array**	**3.24**	**255**	Pn	**Pn**	**23 39 43.7**	**+1.4**
	comp=E,6.8nm,0.3s,baz=78,slow=17,SNR=66						
PDAR				Lg	Lg	23 40 28.8	
	comp=E,22nm,0.3s,baz=89,slow=33,SNR=12						
PDAR	**Pinedale Array**	**3.24**	**255**		**Pn**	**23 39 43.3**	**+1.0**
BW06	**Boulder Array**	**3.24**	**255**		**Pn**	**23 39 43.5**	**+1.2**
BW06				IAML		23 40 31.1	
	comp=E,60nm,0.3s						
BW06				IAML		23 40 35.0	
	comp=E,56nm,0.3s						
YNE	**Yellowstone No**	**3.61**	**293**		**Pn**	**23 39 48.7**	**+1.2**
YNE				IAML		23 40 50.1	
	comp=N,48nm,0.3s						
YNE				IAML		23 40 50.2	
	comp=E,62nm,0.3s						
YMP	**Mirror Lake Pl**	**3.63**	**288**		**Pn**	**23 39 49.5**	**+1.7**
YMP				IAML		23 40 49.6	
	comp=E,65nm,0.3s						
OGNE	**Ogallala**	**3.67**	**137**		**Pn**	**23 39 48.7**	**+0.6**
OGNE				IAML		23 40 54.1	
	comp=E,68nm,1.1s						
GCMT	**Greycliff**	**3.74**	**305**		**Pn**	**23 39 50.6**	**+1.5**
LKWY	**Lake**	**3.77**	**285**	Pn	**Pn**	**23 39 51.0**	**+1.5**
LKWY				IAML		23 40 58.8	
	comp=E,31nm,0.7s						
LOHW	**Long Hollow**	**3.84**	**270**		**Pn**	**23 39 51.7**	**+1.1**
LOHW				IAML		23 40 53.8	
	comp=E,20nm,0.3s						
H17A	**Grant Village**	**3.86**	**282**	Pn	**Pn**	**23 39 53.2**	**+2.3**
H17A				IAML		23 40 53.8	
	comp=N,22nm,0.3s						
ISCO	**Idaho Springs**	**3.91**	**183**		**Pn**	**23 39 53.2**	**+1.7**
FLWY	**Flagg Ranch**	**3.91**	**277**	IAML		23 41 01.1	
	comp=N,55nm,1.2s						
FLWY				IAML		23 41 05.5	
	comp=N,34nm,1.1s						
SNOW	**Snow King Moun**	**3.96**	**268**	Pn	**Pn**	**23 39 54.5**	**+2.2**
SNOW				IAML		23 41 08.4	
	comp=N,36nm,1.1s						
SNOW				IAML		23 41 09.2	
	comp=N,34nm,1.1s						
YPP	**Pitchstone Pla**	**4.01**	**280**	Pn	**Pn**	**23 39 55.0**	**+2.1**
REDW	**Red Top Meadow**	**4.04**	**267**		**Pn**	**23 39 54.6**	**+1.2**
REDW				IAML		23 41 04.9	
	comp=N,32nm,1.0s						
IMW	**Indian Meadow**	**4.08**	**275**		**Pn**	**23 39 55.5**	**+1.6**
IMW				IAML		23 41 05.5	
	comp=N,20nm,0.4s						
TPAW	**Teton Pass**	**4.10**	**269**		**Pn**	**23 39 55.3**	**+1.1**
TPAW				IAML		23 41 14.4	
	comp=N,26nm,1.0s						
YHH	**Holmes Hill**	**4.13**	**287**		**Pn**	**23 39 54.0**	**-0.6**
FXWY	**Fox Creek**	**4.15**	**271**		**Pn**	**23 39 56.0**	**+1.2**
O20A	**White River Ci**	**4.18**	**213**	IAML		23 41 11.2	
	comp=E,30nm,0.7s						
O20A				IAML		23 41 14.2	
	comp=N,28nm,1.1s						
AHID	**Auburn Hatcher**	**4.33**	**260**		**Pn**	**23 39 59.2**	**+1.9**
AHID				IAML		23 41 07.8	
	comp=N,34nm,0.3s						
AHID				IAML		23 41 12.8	
	comp=N,30nm,1.2s						
E28A	**Huff**	**4.35**	**47**		**Pn**	**23 39 58.7**	**+1.3**
YHB	**Horse Butte**	**4.36**	**286**	Pn	**Pn**	**23 39 58.2**	**+0.6**
YHB				IAML		23 41 12.2	
	comp=E,15nm,4.5s						
YHB				IAML		23 42 26.1	
	comp=N,14nm,3.9s						
RDMU	**Red Mountain**	**4.45**	**227**		**Pn**	**23 39 60.0**	**+1.0**
RDMU				IAML		23 41 11.3	
	comp=E,20nm,0.7s						
RDMU				IAML		23 41 14.9	
	comp=N,20nm,1.0s						
ECR	**Eagle Creek**	**4.46**	**264**		**Pn**	**23 40 01.1**	**+1.9**
SUSD	**Miller**	**4.64**	**79**		**Pn**	**23 40 03.7**	**+2.4**
SMCO	**Snowmass**	**4.69**	**196**		**Pn**	**23 40 03.9**	**+1.5**
SMCO				IAML		23 41 23.6	
	comp=N,13nm,0.7s						
SMCO				IAML		23 41 25.9	
	comp=N,22nm,0.3s						
DGMT	**Dagmar**	**4.83**	**9**		**Pn**	**23 40 04.5**	**+0.5**
BOZ	**Bozeman (W)**	**4.89**	**295**		**Pn**	**23 40 05.5**	**+0.6**
BOZ				IAML		23 41 25.6	
	comp=N,9.7nm,0.7s						
HWUT	**Hardware Ranch**	**5.07**	**248**		**Pn**	**23 40 08.5**	**+1.1**
HWUT				IAML		23 41 38.2	
	comp=N,17nm,1.1s						
HWUT				IAML		23 41 46.6	
	comp=N,17nm,1.0s						
KSCO	**Kaye Shedlock'**	**5.10**	**156**		**Pn**	**23 40 08.0**	**+0.1**
TCUT	**Toone Canyon**	**5.20**	**242**		**Pn**	**23 40 10.5**	**+1.2**
EGMT	**Eagleton**	**5.32**	**326**		**Pn**	**23 40 11.6**	**+0.9**
DLMT	**Dillon**	**5.47**	**290**	Pn	**Pn**	**23 40 14.5**	**+1.7**
HRY	**Holter Researc**	**5.50**	**305**		**Pn**	**23 40 14.3**	**+1.0**
LRM	**Limekiln Ridge**	**5.51**	**295**		**Pn**	**23 40 14.3**	**+0.8**
JLU	**Jordanelle**	**5.51**	**238**	Pn	**Pn**	**23 40 14.4**	**+0.8**
MCMT	**McKenzie Canyo**	**5.53**	**284**	Pn	**Pn**	**23 40 16.6**	**+2.9**
CTU	**Camp Tracy**	**5.65**	**240**	Pn	**Pn**	**23 40 15.9**	**+0.6**
BGNE	**Belgrade**	**5.76**	**111**	Pn	**Pn**	**23 40 18.7**	**+1.9**
SPUT	**South Promonto**	**5.79**	**248**	Pn	**Pn**	**23 40 18.4**	**+1.0**
HVU	**Hansel Valley**	**5.82**	**253**	Pn	**Pn**	**23 40 18.2**	**+0.5**
MPU	**Maple Canyon**	**5.99**	**234**	Pn	**Pn**	**23 40 20.2**	**+0.2**
SRU	**San Rafael Swe**	**6.03**	**222**		**Pn**	**23 40 20.8**	**+0.1**
TMUT	**Trail Mountain**	**6.24**	**227**		**Pn**	**23 40 23.9**	**+0.3**
NLU	**North Lily Min**	**6.29**	**236**	Pn	**Pn**	**23 40 25.7**	**+1.5**
ECSD	**EROS Data Cent**	**6.30**	**87**	Pn	**Pn**	**23 40 24.2**	**0.0**
BGU	**Big Grassy Mou**	**6.36**	**247**	Pn	**Pn**	**23 40 26.0**	**+0.9**
CBKS	**Cedar Bluff**	**6.44**	**137**	Pn	**Pn**	**23 40 26.2**	**+0.1**
Q16A	**Castle Valley**	**6.50**	**225**		**Pn**	**23 40 27.9**	**+0.8**
DUG	**Dugway, Tooele**	**6.60**	**240**	Pn	**Pn**	**23 40 28.9**	**+0.5**
MSO	**Missoula**	**6.84**	**300**	Pn	**Pn**	**23 40 32.4**	**+0.7**
ULM	**Lac du Bonnet**	**9.19**	**41**	Pn	**Pn**	**23 41 02.5**	**-1.2**
	comp=N,2.0nm,0.3s,baz=232,slow=13,SNR=11						
NVAR	**Mina Array Bea**	**11.13**	**246**	Pn	Pn	23 41 26.7	-3.9
	comp=N,0.0nm,0.3s,baz=60,slow=15,SNR=2.0						
ARCES	**ARCESS Array B**	**61.46**	**18**	P	**P**	**23 49 06.7**	**-1.1**
	comp=N,1.6nm,0.9s,baz=330,slow=8.3,SNR=4.2						

IDC 25 23:47:25.8±2.3, 5.°18S×154.°12E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/33, mbtmp3.7/5, Error ellipse: s-maj=93.4km s-min=28.0km az=125.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.20**	**231**	P	P	23 52 45.1	+0.7
	2.2nm,0.6s,baz=58,slow=10.0,SNR=17						
ASAR	**Alice Springs**	**26.78**	**225**	P	P	23 53 07.5	-0.2
	0.2nm,0.4s,baz=56,slow=9.4,SNR=5.4						
FITZ	**Fitzroy Crossi**	**30.64**	**243**	P	P	23 53 41.8	-0.3
	1.7nm,0.7s,baz=62,slow=10,SNR=6.5						
MKAR	**Makanchi Array**	**81.47**	**319**	P	P	23 59 45.6	+0.5
	0.4nm,0.8s,baz=104,slow=6.1,SNR=2.1						
ILAR	**Eielson Array**	**82.02**	**22**	P	P	23 59 46.9	-0.7
	0.2nm,0.8s,baz=245,slow=5.8,SNR=2.4						

*IDC **25** 23:53:09.4±1.9, 24.°06S×67.°16W, h186km±29km, mb3.5/1, mb1 3.5/6, mb1mx3.2/24, mbtmp3.9/6, Error ellipse: s-maj=39.1km s-min

moment-rate function
ISC 26 00:01:40.5±0.5, 16°94N±0°06×146°03E±0°09, h35km, n80, σ1°31/60, mb4.5/33, MS3.9/28, 2C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**0.67**	**207**	Pn	**Pn**	**00 01 53.1**	**-0.4**
ANA2				Sn	**Sn**	**00 02 04.5**	**+1.7**
GUMO	**Guam**	**3.51**	**199**	Pn	**Pn**	**00 02 32.9**	**+0.3**
	44nm,0.3s,baz=55,slow=5.6,SNR=7.9						
GUMO				Sn	**Sn**	**00 03 14.2**	**+1.2**
	18nm,0.3s,baz=3.2,slow=18,SNR=1.5						
GUMO	**Guam**	**3.51**	**199**	Pn	**Pn**	**00 02 32.2**	**-0.5**
JCJ	**Chichijima**	**10.72**	**341**	LR	LR	00 06 59.6	
	comp=Z,155nm,21.1s,baz=144,slow=30						
PATS	**Pohnpei**	**15.65**	**128**	Pn	**Pn**	**00 05 20.1**	**+1.5**
PATS				IAmb	IAmb	00 05 21.9	
	comp=Z,80nm,1.2s						
H11S3	**WAKE ISLAND Hy**	**19.74**	**82**	T	T	00 26 41.8	
	baz=269,slow=75,SNR=133						
H11S1	**WAKE ISLAND Hy**	**19.76**	**82**	T	T	00 26 49.3	
	baz=269,slow=75,SNR=180						
H11S2	**WAKE ISLAND Hy**	**19.76**	**82**	T	T	00 26 49.6	
	baz=269,slow=75,SNR=233						
H11N1	**WAKE ISLAND Hy**	**20.00**	**79**	T	T	00 26 56.5	
	baz=266,slow=75,SNR=222						
H11N2	**WAKE ISLAND Hy**	**20.00**	**79**	T	T	00 27 08.5	
	baz=266,slow=75,SNR=302						
H11N3	**WAKE ISLAND Hy**	**20.02**	**79**	T	T	00 27 09.0	
	baz=266,slow=75,SNR=210						
JAY	**Jayapura**	**20.03**	**196**	P	Pn	00 06 11.3	-1.3
	comp=Z,16nm,1.0s,baz=355,slow=8.0,SNR=4.3						
MJAR	**Matsushiro Arr**	**20.72**	**342**	P	**P**	**00 06 16.8**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=178,slow=13,SNR=1.5						
MJAR				LR	LR	00 13 12.7	
	comp=Z,272nm,19.0s,baz=185,slow=34						
JHS	**Saijyo**	**21.37**	**330**	P	**P**	**00 06 24.3**	**-0.7**
SIJI	**Sorong**	**22.91**	**221**	P	**P**	**00 06 40.1**	**-1.5**
	comp=Z,15nm,0.7s,baz=57,slow=7.4,SNR=2.1						
KSRS	**Korea Array**	**25.93**	**326**	P	**P**	**00 07 08.2**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=137,slow=15,SNR=2.8						
KSRS				LR	LR	00 15 36.9	
	comp=Z,74nm,19.1s,baz=138,slow=33						
NJ2	**Nanjing**	**28.84**	**306**	*e*P	**P**	**00 07 36.5**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**29.65**	**339**	LR	LR	00 18 41.8	
	comp=Z,201nm,19.1s,baz=157,slow=35						
PETK	**Petropavlovsk-**	**37.24**	**12**	LR	LR	00 22 39.0	
	comp=Z,68nm,19.4s,baz=199,slow=34						
GYA	**Guiyang**	**37.65**	**291**	⇑P	**P**	**00 08 54.0**	**+1.3**
GYA				pP	pP	00 09 01.5	-0.6
GYA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GYA				LR	LR		
	comp=Z,120nm,10.5s						
GYA				LR	LR		
	comp=Z,200nm,22.1s						
GYA				LR	LR		
	comp=Z,270nm,15.7s						
HHC	**Hu-ho-hao-te**	**38.06**	**316**	*e*P	**P**	**00 08 58.3**	**+2.4**
HHC				sP	sP	00 09 12.5	+3.0
HHC				S	**S**	**00 14 52.5**	**+6.1**
HHC				pmax	pmax		
	comp=Z,14nm,1.1s						
HHC				pmax	pmax		
	comp=Z,250nm,5.0s						
HHC				LR	LR		
	comp=Z,150nm,17.8s						
HHC				LR	LR		
	comp=Z,250nm,18.0s						
HHC				LR	LR		
	comp=Z,230nm,19.4s						
WR0	**Warramunga Arr**	**38.36**	**198**	P	**P**	**00 08 58.6**	**+0.1**
WB2	**Warramunga Arr**	**38.40**	**198**	P	**P**	**00 08 58.6**	**-0.2**
WB2				IAmb	IAmb	00 08 59.5	
	comp=Z,6.1nm,1.0s						
WRA	**Warramunga Arr**	**38.41**	**198**	P	**P**	**00 08 57.8**	**-1.1**
	comp=Z,4.8nm,1.1s,baz=17,slow=8.8,SNR=10						
WRA	**Warramunga Arr**	**38.41**	**198**	P	**P**	**00 08 58.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**40.18**	**211**	P	**P**	**00 09 13.9**	**+0.2**
KMI	**Kunming**	**41.07**	**289**	⇑P	**P**	**00 09 22.3**	**+0.9**
KMI				pP	pP	00 09 30.0	-1.4
KMI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KMI				LR	LR		
	comp=Z,110nm,19.3s						
KMI				LR	LR		
	comp=Z,170nm,20.2s						
KMI				LR	LR		
	comp=Z,180nm,19.5s						
LZH	**Lanzhou**	**41.90**	**305**	*e*P	**P**	**00 09 26.5**	**-1.4**
LZH				pP	pP	00 09 34.8	-2.8
LZH				sP	pwP	00 09 39.0	-1.4
LZH				S	**S**	**00 15 45.8**	**+1.8**
LZH				sS	sS	00 16 03.0	+3.0
LZH				pmax	pmax		
	comp=Z,11nm,1.2s						
LZH				pmax	pmax		
	comp=Z,110nm,4.9s						
LZH				LR	LR		
	comp=Z,180nm,14.1s						
LZH				LR	LR		
	comp=Z,220nm,16.8s						
LZH				LR	LR		
	comp=Z,190nm,15.7s						
ASAR	**Alice Springs**	**42.06**	**197**	P	**P**	**00 09 28.0**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=16,slow=11,SNR=11						
EIDS	**Eidsvold**	**42.34**	**173**	P	**P**	**00 09 30.4**	**-0.9**
EIDS				IAmb	IAmb	00 09 38.7	
	comp=Z,7.2nm,1.1s						
DZM	**Mont Dzumac**	**43.62**	**152**	P	**P**	**00 09 44.1**	**+2.2**
	comp=Z,5.9nm,0.9s,baz=331,slow=17,SNR=2.7						
DZM	**Mont Dzumac**	**43.62**	**152**	IAmb	IAmb	00 09 48.5	
	comp=Z,14nm,1.2s						
SONM	**Songino Array**	**44.71**	**322**	P	**P**	**00 09 50.9**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=133,slow=8.1,SNR=2.1						
SONM				LR	LR	00 28 11.1	
	comp=Z,82nm,18.5s,baz=90,slow=36						
SONM	**Songino Array**	**44.71**	**322**	P	**P**	**00 09 50.6**	**+0.2**
CMAR	**Chiang Mai Arr**	**44.78**	**279**	P	**P**	**00 09 50.1**	**-1.2**
	comp=Z,2.3nm,0.3s,baz=72,slow=6.4,SNR=11						
CMAR				LR	LR	00 28 35.5	
	comp=Z,54nm,18.1s,baz=168,slow=36						
GTA	**Gaotai**	**45.88**	**309**	*e*P	**P**	**00 09 59.0**	**-0.8**
GTA				pP	pP	00 10 07.3	-2.2
GTA				sP	sP	00 10 12.5	-0.9
GTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,93nm,5.6s						
GTA				LR	LR		
	comp=Z,220nm,20.7s						
GTA				LR	LR		
	comp=Z,250nm,18.2s						
GTA				LR	LR		
	comp=Z,280nm,18.9s						
STKA	**Stephens Creek**	**48.72**	**185**	LR	LR	00 30 28.7	
	comp=Z,59nm,18.8s,baz=22,slow=36						
GSI	**Gunungsitoli**	**50.12**	**257**	P	**P**	**00 10 31.2**	**-1.6**
BBOO	**Buckleboo**	**50.38**	**191**	P	**P**	**00 10 34.4**	**+0.1**
BBOO				IAmb	IAmb	00 10 35.7	
	comp=Z,15nm,1.2s						
LSA	**Lhasa**	**51.55**	**295**	P	**P**	**00 10 43.8**	**-0.1**
LSA				pmax	pmax		
	comp=Z,21nm,0.3s						
AFI	**Afiamalu**	**51.73**	**124**	LR	LR	00 27 27.8	
	comp=Z,122nm,21.9s,baz=338,slow=30						
WMQ	**Urumqi**	**55.70**	**312**	*e*P	**P**	**00 11 15.5**	**+1.9**
WMQ				LR	LR		
	comp=Z,110nm,20.3s						
RAO	**Raoul Island**	**57.62**	**142**	LR	LR	00 32 04.1	
	comp=Z,132nm,20.7s,baz=223,slow=32						
OUZ	**Omahuta**	**58.10**	**153**	P	**P**	**00 11 30.1**	**-0.4**
ZALV	**Zalesovo Beam**	**59.60**	**323**	P	**P**	**00 11 38.9**	**-1.9**
	comp=Z,0.4nm,0.4s,baz=63,slow=7.0,SNR=2.2						
ZALV				LR	LR	00 38 07.6	
	comp=Z,47nm,18.2s,baz=101,slow=37						
MK31	**Makanchi Array**	**59.91**	**315**	P	**P**	**00 11 42.3**	**-0.8**
MKAR	**Makanchi Array**	**59.91**	**315**	P	**P**	**00 11 42.0**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=81,slow=8.6,SNR=7.3						
MKAR				LR	LR	00 39 00.6	
	comp=Z,46nm,18.2s,baz=90,slow=38						
MKAR	**Makanchi Array**	**59.91**	**315**	P	**P**	**00 11 42.1**	**-0.9**
MAKZ	**Makanchi**	**60.12**	**315**	P	**P**	**00 11 44.2**	**-0.3**
MAKZ				IAmb	IAmb	00 11 53.0	
	comp=Z,4.3nm,1.2s						
NRIK	**Noril'sk**	**63.36**	**340**	LR	LR	00 40 15.4	
	comp=Z,98nm,18.1s,baz=130,slow=37						
COLA	**College**	**64.71**	**26**	P	**P**	**00 12 15.2**	**+0.4**
ILAR	**Eielson Array**	**65.08**	**26**	LR	LR	00 37 11.3	
	comp=Z,24nm,21.2s,baz=300,slow=33						
NIL	**Nilore**	**66.66**	**300**	P	**P**	**00 12 27.1**	**-1.0**
KKAR	**Karatay Array**	**68.13**	**310**	P	**P**	**00 12 35.7**	**-1.5**
CHGR	**Chuyangaron**	**69.49**	**306**	P	**P**	**00 12 44.6**	**-1.2**
CHGR				IAmb	IAmb	00 13 02.2	
	comp=Z,7.7nm,0.9s						
KBL	**Kabul**	**70.04**	**301**	P	**P**	**00 12 47.8**	**-1.6**
KBL				IAmb	IAmb	00 12 50.7	
	comp=Z,6.3nm,1.1s						
PPT	**Papeete**	**72.08**	**115**	LR	LR	00 37 45.7	
	comp=Z,168nm,19.8s,baz=356,slow=30						
GEYT	**Alibeck**	**78.18**	**306**	LR	LR	00 52 39.1	
	comp=Z,69nm,18.2s,baz=50,slow=39						
PINE	**Pine Mountain**	**80.62**	**47**	P	**P**	**00 13 50.7**	**+0.6**
PINE				IAmb	IAmb	00 14 07.4	
	comp=Z,12nm,1.3s						
BEKR	**Beckworth**	**82.04**	**51**	P	**P**	**00 13 57.0**	**-0.6**
KVN	**Kaiserville**	**83.95**	**51**	P	**P**	**00 14 07.6**	**0.0**
KVN				IAmb	IAmb	00 14 15.2	
	comp=Z,7.3nm,1.5s						
NVAR	**Mina Array Bea**	**83.98**	**52**	P	**P**	**00 14 08.4**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=269,slow=6.8,SNR=7.4						
NVAR				LR	LR	00 46 40.3	
	comp=Z,32nm,18.8s,baz=272,slow=32						
NVAR	**Mina Array Bea**	**83.98**	**52**	P	**P**	**00 14 07.7**	**-0.1**
ARCES	**ARCESS Array B**	**84.26**	**342**	LR	LR	00 55 23.5	
	comp=Z,70nm,19.5s,baz=85,slow=38						
MFID	**Camas Ranch**	**84.29**	**46**	P	**P**	**00 14 09.1**	**0.0**
MFID				IAmb	IAmb	00 14 27.4	
	comp=Z,5.1nm,1.1s						
ELK	**Elko**	**85.54**	**49**	P	**P**	**00 14 16.2**	**+0.6**
ELK				IAmb	IAmb	00 14 23.9	
	comp=Z,2.3nm,0.8s						
SPR3	**Spring Creek 3**	**86.76**	**50**	P	**P**	**00 14 21.9**	**+0.1**
SPR3				IAmb	IAmb	00 14 30.4	
	comp=Z,8.3nm,1.4s						
DUG	**Dugway, Tooele**	**87.47**	**49**	P	**P**	**00 14 25.3**	**+0.4**
DUG				IAmb	IAmb	00 14 33.1	
	comp=Z,6.9nm,1.4s						
KBZ	**Khabaz**	**87.60**	**315**	LR	LR	00 55 32.3	
	comp=Z,60nm,21.2s,baz=58,slow=37						
TCUT	**Toone Canyon**	**88.15**	**48**	P	**P**	**00 14 28.8**	**+0.4**
MVU	**Marysvale**	**88.48**	**50**	P	**P**	**00 14 30.1**	**+0.1**
FINES	**FINESS Array B**	**88.61**	**335**	LR	LR	00 56 28.4	
	comp=Z,50nm,19.5s,baz=68,slow=37						
PDAR	**Pinedale Array**	**88.83**	**46**	P	**P**	**00 14 31.0**	**-0.5**
	comp=Z,0.1nm,0.4s,baz=320,slow=2.7,SNR=2.3						
SRU	**San Rafael Swe**	**89.50**	**49**	P	**P**	**00 14 34.2**	**-0.4**
SRU				IAmb	IAmb	00 14 43.6	
	comp=Z,2.1nm,0.8s						
RDMU	**Red Mountain**	**89.64**	**48**	P	**P**	**00 14 36.0**	**+0.6**
RDMU				IAmb	IAmb	00 14 44.8	
	comp=Z,3.0nm,0.9s						
SMCO	**Snowmass**	**92.03**	**48**	P	**P**	**00 14 46.2**	**-0.4**
SMCO				IAmb	IAmb	00 14 55.3	
	comp=Z,2.3nm,0.8s						
AKASG	**Malin Array Be**	**92.92**	**325**	LR	LR	00 58 36.6	
	comp=Z,41nm,20.6s,baz=90,slow=37						
NOA	**NORSAR Array B**	**94.32**	**340**	LR	LR	01 00 11.6	
	comp=Z,23nm,21.4s,baz=15,slow=37						
BRTR	**Keskin Array B**	**95.56**	**314**	LR	LR	01 02 44.4	
	comp=Z,22nm,18.2s,baz=66,slow=38						
LPAZ	**La Paz**	**147.28**	**94**	PKPbc	**PKPbc**	**00 21 21.0**	**-1.0**
	comp=Z,1.8nm,0.9s,baz=313,slow=2.8,SNR=4.5						

*TAP **26** 00:01:45.7, 24°.90N×122°.45E, h13km, ML2.7, C*
*JMA **26** 00:01:45.3±0.2, 24°.81N×122°.41E, h0km, M2.7*
ISC 26 00:01:45.6±1.1, 24°87N±0°04×122°43E±0°02, h11km±11km, n26, σ0°45/46, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.43**	**289**	*i* P	**Pg**	**00 01 54.1**	**+0.1**
	baz=284						
TWB1				S	**Sg**	**00 01 59.9**	**+0.2**
	baz=284						
NTC	**Toucheng**	**0.55**	**269**	*e*P	**Pb**	**00 01 56.9**	**-0.3**
	baz=265						
TIPB	**Shuangxi**	**0.56**	**281**	P	**Pg**	**00 01 56.8**	**+0.3**
	baz=277						
TIPB				*e*S	**Sg**	**00 02 04.7**	**+0.7**
	baz=277						
TWC	**Suao**	**0.59**	**244**	*e*P	**Pg**	**00 01 57.2**	**+0.2**
	baz=241						
TWC				*e*S	**Sb**	**00 02 06.7**	**+0.4**
	baz=241						
JYNG	**Yonagunijimaku**	**0.62**	**132**	P	**Pg**	**00 01 57.3**	**-0.4**
JYNG				*e*S	**Sg**	**00 02 06.3**	**+0.4**
NWF	**Wu-fen Shan**	**0.63**	**289**	*e*P	**Pg**	**00 01 57.8**	**+0.1**
	baz=285						
NWF				*e*S	**Sg**	**00 02 06.6**	**+0.5**
	baz=285						
YOJ	**Yonaguni jima**	**0.66**	**127**	P	**Pg**	**00 01 58.3**	**-0.1**
YOJ				*e*S	**Sg**	**00 02 06.9**	**-0.2**
YOJ	**Yonaguni jima**	**0.66**	**127**	*i* P	**Pg**	**00 01 58.4**	**-0.1**
	baz=130						
YOJ				*i* S	**Sg**	**00 02 07.1**	**0.0**
	baz=130						
NDS	**Dongshan**	**0.69**	**251**	P	**Pg**	**00 01 58.9**	**-0.1**
	baz=248						
NDS				*e*S	**Sb**	**00 02 08.9**	**-0.4**
	baz=248						
TWE	**Neicheng**	**0.71**	**258**	*e*P	**Pg**	**00 01 59.5**	**+0.1**
	baz=255						
EWUT	**Wuta**	**0.73**	**235**	*e*P	**Pg**	**00 01 59.8**	**+0.2**
	baz=233						
EWUT				*e*S	**Sb**	**00 02 10.1**	**-0.2**
	baz=233						
ENA	**Nanau**	**0.77**	**235**	*e*P	**Pg**	**00 02 00.3**	**-0.1**
	baz=233						
ENA				*e*S	**Sb**	**00 02 10.9**	**-0.5**
	baz=233						
ENTT	**Nioudou**	**0.82**	**254**	*e*P	**Pg**	**00 02 01.3**	**-0.1**
	baz=252						
ENTT				*e*S	**Sb**	**00 02 13.0**	**0.0**
	baz=252						
PCYT	**Pengchaiyu**	**0.83**	**337**	*e*P	**Pg**	**00 02 00.5**	**-1.1**
	baz=335						
NWLT	**Wulai**	**0.85**	**264**	*e*P	**Pg**	**00 02 01.8**	**-0.2**
	baz=262						
NWLT				*e*S	**Sg**	**00 02 13.5**	**+0.4**
	baz=262						
YHNB	**Yeheng**	**0.98**	**259**	*e*P	**Pg**	**00 02 03.8**	**-0.7**
	baz=256						
YHNB				*e*S	**Sb**	**00 02 17.6**	**0.0**
	baz=256						
NSK	**Sanguang**	**1.00**	**259**	*e*P	**Pg**	**00 02 04.2**	**-0.6**
	baz=257						
NACB	**Ninganchiao**	**1.03**	**228**	*e*P	**Pg**	**00 02 04.1**	**-1.3**
	baz=227						
NACB				*e*S	**Sb**	**00 02 19.2**	**+0.3**
	baz=227						
NNSB	**Datong**	**1.05**	**246**	*e*P	**Pg**	**00 02 05.0**	**-0.8**
	baz=244						
NNSB				*e*S	**Sb**	**00 02 19.7**	**+0.1**
	baz=244						
NNS	**Nan Shan**	**1.05**	**246**	*e*P	**Pg**	**00 02 05.5**	**-0.4**
	baz=244						
NNS				*e*S	**Sg**	**00 02 19.5**	**-0.1**
	baz=244						
ETLH	**Xiulin Townshi**	**1.09**	**233**	*e*P	**Pg**	**00 02 05.7**	**-0.8**
	baz=232						
ETLH				*e*S	**Sb**	**00 02 20.8**	**+0.1**
	baz=232						
FUSS	**Fushou**	**1.25**	**241**	*e*P	**Pg**	**00 02 09.1**	**-0.4**
	baz=239						
FUSS				*e*S	**Sb**	**00 02 25.8**	**+0.3**
	baz=239						
WHF	**Hehuan Shan**	**1.28**	**236**	*e*P	**Pg**	**00 02 09.7**	**-0.6**
	baz=235						
WHF				*e*S	**Sb**	**00 02 26.7**	**0.0**
	baz=235						
IRIF	**Iriomote-Funau**	**1.29**	**114**	P	**Pg**	**00 02 10.3**	**-0.1**
CHGB	**Renai**	**1.40**	**235**	*e*P	**Pb**	**00 02 11.9**	**0.0**
	baz=234						
HATJ	**Hateruma jima**	**1.49**	**123**	P	**Pb**	**00 02 13.2**	**0.0**
HATJ				*e*S	**Sn**	**00 02 32.3**	**+0.6**

*IDC **26** 00:08:10.1±1.1, 31°.76S×71°.78W, h0km, mb3.6/3, mb1 3.7/7, mb1mx3.6/26, mbtmp3.5/7, ML3.5/4, Error ellipse: s-maj=43.9km s-min=27.7km az=94.0*
*GUC **26** 00:08:13.5±0.7, 31°.71S×71°.90W, h31km±5km, ML3.7*
ISC 26 00:08:12.3±2.1, 31°73S±0°03×71°8W±0°1, h13km±13km, n29, σ0°77/23, mb3.6/3, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.88**	**54**	*i* S	**Sn**	**00 08 42.4**	**-0.7**
CO02				IAML		00 08 47.9	
	comp=N,6μm,0.5s						
VA06	**Catapilco**	**0.94**	**152**	*i* P	**Pn**	**00 08 31.2**	**0.0**
VA06				*i* S	**Sn**	**00 08 44.5**	**0.0**
VA06				IAML		00 08 50.8	
	comp=N,6μm,0.5s						
CO06	**Fray Jorge**	**1.06**	**9**	*e*P	**Pb**	**00 08 32.5**	**-0.1**
CO06				*i* S	**Sb**	**00 08 46.1**	**-0.2**
CO06				IAML		00 08 53.1	
	comp=N,2μm,0.6s						
CO03	**El Pedregal**	**1.32**	**48**	*i* S	**Sg**	**00 08 54.8**	**0.0**
CO03				IAML		00 08 60.0	
	comp=N,1μm,0.5s						
ROCH	**El Roble**	**1.42**	**151**	⇑*i* P	**Pb**	**00 08 38.8**	**0.0**
ROCH				*i* S	**Sg**	**00 08 58.1**	**0.0**
ROCH				IAML		00 09 04.0	
	comp=N,2μm,0.7s						
VA03	**San Esteban**	**1.50**	**134**	*i* P	**Pb**	**00 08 40.5**	**+0.5**
VA03				*i* S	**Sg**	**00 09 00.8**	**+0.2**
VA03				IAML		00 09 07.7	
	comp=E,3μm,0.5s						
CO05	**La Serena**	**1.87**	**16**	*e*P	**Pb**	**00 08 46.4**	**+0.1**
CO05				*i* S	**Sg**	**00 09 11.6**	**-1.0**
CO05				IAML		00 09 22.0	
	comp=E,908nm,0.6s						
LCO	**Las Campanas**	**2.88**	**20**	*e*P	**Pn**	**00 08 59.0**	**+0.9**
LCO				*e*S	**Sn**	**00 09 34.7**	**+2.1**
H03N1	**Juan Fernandez**	**6.22**	**252**	T	T	00 16 21.9	
	baz=80,slow=72,SNR=528						
H03N3	**Juan Fernandez**	**6.23**	**252**	T	T	00 16 19.2	
	baz=80,slow=72,SNR=643						
H03N2	**Juan Fernandez**	**6.24**	**252**	T	T	00 16 29.0	
	baz=80,slow=72,SNR=639						
H03S3	**Juan Fernandez**	**6.32**	**249**	T	T	00 16 35.5	
	baz=82,slow=74,SNR=3.5						
H03S1	**Juan Fernandez**	**6.32**	**249**	T	T	00 16 28.6	
	baz=82,slow=74,SNR=3.1						
H03S2	**Juan Fernandez**	**6.34**	**249**	T	T	00 16 28.4	
	baz=82,slow=74,SNR=5.2						
PLCA	**Paso Flores**	**9.05**	**174**	Pn	**Pn**	**00 10 22.7**	**+0.1**
	comp=E,0.3nm,0.3s,baz=326,slow=11,SNR=13						
LVC	**Limon Verde**	**9.45**	**17**	Pn	**Pn**	**00 10 29.6**	**+1.2**
	comp=E,0.5nm,0.3s,baz=277,slow=19,SNR=2.2						
LPAZ	**La Paz**	**15.73**	**13**	Pn	**Pn**	**00 11 53.5**	**-0.8**
	comp=E,0.0nm,0.3s,baz=142,slow=19,SNR=1.7						
SIV	**San Ignacio**	**18.48**	**34**	P	**P**	**00 12 27.2**	**-0.9**
	comp=E,0.1nm,0.3s,baz=251,slow=21,SNR=2.4						
TXAR	**Lajitas Array**	**67.85**	**330**	P	**P**	**00 19 10.5**	**+0.2**
	comp=E,0.1nm,0.3s,baz=163,slow=4.8,SNR=1.8						
NVAR	**Mina Array Bea**	**82.13**	**325**	P	**P**	**00 20 33.2**	**+0.4**
	comp=E,0.2nm,0.3s,baz=178,slow=7.4,SNR=3.7						
TORD	**Torodi Ar. Bea**	**83.27**	**70**	P	**P**	**00 20 38.5**	**-0.4**
	comp=E,1.2nm,0.8s,baz=251,slow=4.5,SNR=7.5						
WRA	**Warramunga Arr**	**122.83**	**210**	PKP	**PKPdf**	**00 27 07.7**	**-1.0**
	comp=E,1.3nm,1.2s,baz=243,slow=2.8,SNR=2.0						
H11S2	**WAKE ISLAND Hy**	**25.95**	**271**	T	T	02 46 08.4	
	baz=117,slow=74,SNR=6.2						
H11S1	**WAKE ISLAND Hy**	**25.97**	**271**	T	T	02 46 02.8	
	baz=117,slow=74,SNR=5.7						
H11S3	**WAKE ISLAND Hy**	**25.97**	**271**	T	T	02 46 02.7	
	baz=117,slow=74,SNR=4.7						
H11N3	**WAKE ISLAND Hy**	**26.31**	**272**	T	T	02 46 28.7	
	baz=117						
H11N1	**WAKE ISLAND Hy**	**26.32**	**272**	T	T	02 46 33.0	
	baz=117						
H11N2	**WAKE ISLAND Hy**	**26.33**	**272**	T	T	02 46 31.8	
	baz=117						
ZALV	**Zalesovo Beam**	**152.19**	**30**	PKPbc	**PKiKP**	**00 28 07.2**	**-0.2**
	comp=E,1.9nm,0.4s,baz=310,slow=2.5,SNR=9.5						

KRNET 26 00:21:59.9±0.1, 41°.76N×78°.43E, h35km, mb1.9, 6C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.72**	**358**	⇑*i* P	Pn	00 22 16.0	+2.2
	baz=58						
PRZ				⇑*i* S	Sn	00 22 27.0	+3.3
	baz=58						
KDJ	**Kajisay**	**1.00**	**292**	⇑*i* P	Pn	00 22 18.9	+1.2
	baz=92						
KDJ				⇑*i* S	Sn	00 22 32.8	+2.1
	baz=92						
ANVS	**Anan'yevo**	**1.17**	**331**	⇓*i* P	Pn	00 22 20.9	+0.9
	baz=31						
ANVS				⇓*i* S	Sn	00 22 37.0	+2.2
	baz=31						
BOOM	**Boomskoye usch**	**1.99**	**292**	⇑*i* P	Pn	00 22 32.5	+1.2
	baz=92						
BOOM				⇑*i* S	Sn	00 22 56.3	+1.2
	baz=92						

*NNC **26** 00:22:57.3±0.2, 43°.41N×78°.13E, h0km, mb2.9, mpv2.3, Error ellipse: s-maj=2.6km s-min=0.9km az=171.0*
SOME 26 00:22:57.5, 43°43N×78°13E, h5km, 4C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURS	**Kuram**	**0.06**	**26**	⇓*e*P	Pg	00 22 59.3	+0.2
	21nm,0.1s						
KURS				*e*S	Sg	00 23 00.7	+0.5
	6.5nm,0.1s						
KURS	**Kuram**	**0.06**	**26**	P	Pg	00 22 59.3	+0.2
	21nm,0.1s						
KURS				S	Sg	00 23 00.2	0.0
	5.8nm,0.1s						
KPKS	**Kokpek**	**0.40**	**85**	*e*P	Pg	00 23 05.3	0.0
	5.0nm,0.1s						
KPKS				*e*S	Sg	00 23 10.9	+0.3
	4.7nm,0.2s						
SATY	**Saty**	**0.42**	**152**	*e*P	Pg	00 23 05.4	-0.3
	1.3nm,0.1s						
SATY				*e*S	Sg	00 23 10.9	-0.3
	14nm,0.1s						
SATY	**Saty**	**0.42**	**152**	P	Pg	00 23 05.5	-0.2
	1.3nm,0.1s						
SATY				S	Sg	00 23 10.9	-0.3
	14nm,0.1s						
KOTS	**Kotyrbulak**	**0.77**	**255**	*e*P	Pg

YOJ				*i* S	**Sn**	**00 23 23.0**	**-0.2**
	baz=84								
TWC	**Suao**	**0.61**	**286**	⇑*i* P	**Pn**	**00 23 14.4**	**-0.1**
	baz=287								
TWC				S	**Sn**	**00 23 24.8**	**-0.6**
	baz=287								
EWUT	**Wuta**	**0.65**	**271**	P	**Pn**	**00 23 15.1**	**+0.2**
	baz=271								
EWUT				S	**Sn**	**00 23 26.3**	**+0.2**
	baz=271								
ENA	**Nanau**	**0.69**	**269**	P	**Pn**	**00 23 15.3**	**0.0**
	baz=269								
ENA				*e*S	**Sn**	**00 23 27.1**	**+0.4**
	baz=269								
TWB1	**Santiao Chiao**	**0.73**	**321**	P	**Pn**	**00 23 15.7**	**0.0**
	baz=322								
TWB1				*e*S	**Sn**	**00 23 27.0**	**-0.6**
	baz=322								
NTC	**Toucheng**	**0.73**	**305**	*i* P	**Pn**	**00 23 15.7**	**0.0**
	baz=305								
NTC				S	**Sn**	**00 23 26.9**	**-0.7**
	baz=305								
NDS	**Dongshan**	**0.73**	**286**	P	**Pn**	**00 23 16.1**	**+0.3**
	baz=286								
NDS				*e*S	**Sn**	**00 23 28.0**	**+0.3**
	baz=286								
ILA	**Ilan**	**0.75**	**296**	*e*P	**Pn**	**00 23 16.2**	**+0.2**
	baz=297								
ILA				*e*S	**Sn**	**00 23 27.9**	**0.0**
	baz=297								
TWE	**Neicheng**	**0.80**	**291**	⇑*i* P	**Pn**	**00 23 16.8**	**+0.3**
	baz=291								
TWE				S	**Sn**	**00 23 28.8**	**-0.2**
	baz=291								
TIPB	**Shuangxi**	**0.81**	**311**	P	**Pn**	**00 23 16.6**	**0.0**
	baz=312								
TIPB				*e*S	**Sn**	**00 23 28.6**	**-0.5**
	baz=312								
ETL	**Fush Village**	**0.84**	**251**	P	**Pn**	**00 23 16.9**	**-0.1**
	baz=251								
ETL				*e*S	**Sn**	**00 23 29.5**	**-0.3**
	baz=251								
NACB	**Ninganchiao**	**0.86**	**252**	⇑*i* P	**Pn**	**00 23 16.8**	**-0.4**
	baz=252								
NACB				S	**Sn**	**00 23 29.7**	**-0.4**
	baz=252								
ENTT	**Nioudou**	**0.87**	**284**	⇑*i* P	**Pn**	**00 23 17.9**	**+0.6**
	baz=284								
ENTT				S	**Sn**	**00 23 30.8**	**+0.5**
	baz=284								
TWD	**Chiawan**	**0.89**	**247**	P	**Pn**	**00 23 17.4**	**-0.2**
	baz=246								
TWD				*e*S	**Sn**	**00 23 30.1**	**-0.7**
	baz=246								
NWF	**Wu-fen Shan**	**0.90**	**314**	⇑*i* P	**Pn**	**00 23 18.0**	**+0.2**
	baz=315								
NWF				S	**Sn**	**00 23 30.7**	**-0.5**
	baz=315								
NDT	**Datong Townshi**	**0.91**	**281**	P	**Pn**	**00 23 18.5**	**+0.7**
	baz=281								
NDT				*e*S	**Sn**	**00 23 31.9**	**+0.8**
	baz=281								
HWA	**Hwalien**	**0.93**	**241**	*e*P	**Pn**	**00 23 18.2**	**+0.2**
	baz=240								
HWA				*e*S	**Sn**	**00 23 32.3**	**+0.8**
	baz=240								
ETLH	**Xiulin Townshi**	**0.95**	**256**	P	**Pn**	**00 23 18.3**	**0.0**
	baz=256								
ETLH				*e*S	**Sn**	**00 23 31.6**	**-0.5**
	baz=256								
NWLT	**Wulai**	**0.96**	**291**	P	**Pn**	**00 23 19.1**	**+0.6**
	baz=291								
NWLT				S	**Sn**	**00 23 32.0**	**-0.2**
	baz=291								
TWA	**Mucha**	**0.99**	**303**	P	**Pn**	**00 23 18.8**	**+0.1**
	baz=304								
TWA				*e*S	**Sn**	**00 23 32.0**	**-0.8**
	baz=304								
NNSB	**Datong**	**1.01**	**270**	P	**Pn**	**00 23 19.2**	**+0.1**
	baz=270								
NNSB				*e*S	**Sn**	**00 23 33.4**	**-0.1**
	baz=270								
NNS	**Nan Shan**	**1.02**	**270**	P	**Pn**	**00 23 19.3**	**+0.1**
	baz=270								
NNS				*e*S	**Sn**	**00 23 34.0**	**+0.3**
	baz=270								
NHDH	**Xindian Distri**	**1.02**	**301**	P	**Pn**	**00 23 19.5**	**+0.4**
	baz=301								
NHDH				*e*S	**Sn**	**00 23 33.1**	**-0.4**
	baz=301								
YHNB	**Yeheng**	**1.04**	**283**	⇑*i* P	**Pn**	**00 23 20.0**	**+0.6**
	baz=283								
YHNB				S	**Sn**	**00 23 34.7**	**+0.6**
	baz=283								
NSK	**Sanguang**	**1.06**	**283**	P	**Pn**	**00 23 20.1**	**+0.5**
	baz=283								
NSK				S	**Sn**	**00 23 34.5**	**+0.1**
	baz=283								
TAP	**Taipei**	**1.08**	**304**	*e*P	**Pn**	**00 23 19.7**	**-0.1**
	baz=304								
TAP				*e*S	**Sn**	**00 23 34.1**	**-0.6**
	baz=304								
IRIF	**Iriomote-Funau**	**1.13**	**95**	P	**Pn**	**00 23 20.6**	**+0.2**
IRIF				S	**Sn**	**00 23 35.9**	**0.0**
ESL	**Shilin**	**1.15**	**238**	*e*P	**Pn**	**00 23 20.3**	**-0.4**
	baz=237								
FUSS	**Fushou**	**1.15**	**261**	P	**Pn**	**00 23 21.5**	**+0.6**
	baz=261								
FUSS				*e*S	**Sn**	**00 23 36.9**	**+0.1**
	baz=261								
WHF	**Hehuan Shan**	**1.16**	**256**	⇑*i* P	**Pn**	**00 23 21.3**	**+0.1**
	baz=255								
WHF				S	**Sn**	**00 23 36.6**	**-0.6**
	baz=255								
TWY	**Chenhua**	**1.16**	**316**	*e*P	**Pn**	**00 23 21.0**	**+0.1**
	baz=316								
TWY				*e*S	**Sn**	**00 23 36.9**	**+0.3**
	baz=316								
TWS1	**Kuangyinshan**	**1.18**	**304**	P	**Pn**	**00 23 20.2**	**-0.8**
	baz=305								
TWS1				*e*S	**Sn**	**00 23 35.7**	**-1.2**
	baz=305								
NTST	**Danshui**	**1.19**	**308**	P	**Pn**	**00 23 21.7**	**+0.5**
	baz=308								
NTST				*e*S	**Sn**	**00 23 37.3**	**0.0**
	baz=308								
TWT	**Tachien**	**1.22**	**262**	P	**Pn**	**00 23 22.9**	**+1.2**
	baz=261								
TWT				S	**Sn**	**00 23 38.3**	**+0.3**
	baz=261								
TDCB	**Techi**	**1.23**	**262**	*i* P	**Pn**	**00 23 22.6**	**+0.8**
	baz=261								
TDCB				*i* S	**Sn**	**00 23 38.2**	**-0.1**
	baz=261								
EGFH	**Guangfu**	**1.24**	**232**	P	**Pn**	**00 23 21.9**	**+0.1**
	baz=231								
EGFH				*e*S	**Sn**	**00 23 38.1**	**-0.2**
	baz=231								
PCYT	**Pengchaiyu**	**1.25**	**342**	*e*P	**Pn**	**00 23 22.8**	**+0.9**
	baz=343								
HATJ	**Hateruma jima**	**1.26**	**107**	P	**Pn**	**00 23 22.8**	**+0.8**
HATJ				*e*S	**Sn**	**00 23 39.7**	**+1.1**
CHGB	**Renai**	**1.26**	**253**	*i* P	**Pn**	**00 23 22.7**	**+0.5**
	baz=252								
CHGB				S	**Sn**	**00 23 38.6**	**-0.5**
	baz=252								
OWD	**Renai**	**1.29**	**249**	*e*P	**Pn**	**00 23 23.0**	**+0.3**
	baz=248								
OWD				*e*S	**Sn**	**00 23 39.0**	**-0.7**
	baz=248								
NCU	**National Centr**	**1.30**	**294**	*e*P	**Pn**	**00 23 23.3**	**+0.7**
	baz=294								
NCU				*e*S	**Sn**	**00 23 40.8**	**+1.1**
	baz=294								
NCUH	**Zhongli**	**1.30**	**294**	*e*P	**Pn**	**00 23 23.4**	**+0.8**
	baz=294								
NCUH				*e*S	**Sn**	**00 23 40.5**	**+0.8**
	baz=294								
HGSD	**Ruisui**	**1.36**	**226**	P	**Pn**	**00 23 23.1**	**-0.2**
	baz=226								
HGSD				S	**Sn**	**00 23 40.5**	**-0.4**
	baz=226								
LIOB	**Emei**	**1.36**	**279**	P	**Pn**	**00 23 24.2**	**+0.8**
	baz=279								
LIOB				*e*S	**Sn**	**00 23 42.0**	**+0.9**
	baz=279								
NSTT	**Nanjuang**	**1.37**	**278**	*e*P	**Pn**	**00 23 24.3**	**+0.8**
	baz=278								
NSTT				*e*S	**Sn**	**00 23 41.8**	**+0.5**
	baz=278								
JKRS	**Kuro-shima**	**1.40**	**98**	P	**Pn**	**00 23 24.4**	**+0.6**
JKRS				S	**Sn**	**00 23 42.8**	**+1.0**
EHY	**Hungye**	**1.42**	**229**	P	**Pn**	**00 23 23.6**	**-0.5**
	baz=228								
EHY				*e*S	**Sn**	**00 23 41.9**	**-0.4**
	baz=228								
SBCB	**Hsinchu**	**1.42**	**285**	*e*P	**Pn**	**00 23 24.5**	**+0.5**
	baz=285								
SBCB				*e*S	**Sn**	**00 23 43.0**	**+0.7**
	baz=285								
WHP	**Taichung City**	**1.42**	**264**	*e*P	**Pn**	**00 23 25.8**	**+1.6**
	baz=263								
WHP				*e*S	**Sn**	**00 23 43.6**	**+1.1**
	baz=263								
WCS	**Beigang Elemen**	**1.49**	**256**	*e*P	**Pn**	**00 23 26.1**	**+1.1**
	baz=255								
WCS				*e*S	**Sn**	**00 23 44.6**	**+0.6**
	baz=255								
JIJ	**Ishigaki jima**	**1.51**	**92**	P	**Pn**	**00 23 25.3**	**+0.1**
JIJ				S	**Sn**	**00 23 43.6**	**-0.8**
YULB	**Yu-li**	**1.51**	**227**	*i* P	**Pn**	**00 23 24.8**	**-0.4**
	baz=226								
YULB				*e*S	**Sn**	**00 23 43.1**	**-1.3**
	baz=226								
EYUL	**Yuli**	**1.53**	**225**	P	**Pn**	**00 23 25.5**	**+0.1**
	baz=224								
EYUL				*e*S	**Sn**	**00 23 44.2**	**-0.6**
	baz=224								
SSLB	**Suanglung**	**1.55**	**246**	P	**Pn**	**00 23 26.2**	**+0.4**
	baz=245								
SSLB				*e*S	**Sn**	**00 23 45.9**	**+0.5**
	baz=245								
NMLH	**Miaoli**	**1.55**	**274**	*e*P	**Pn**	**00 23 27.1**	**+1.3**
	baz=274								
NMLH				*e*S	**Sn**	**00 23 46.7**	**+1.2**
	baz=274								
SMLT	**Sun Moon Lake**	**1.56**	**250**	P	**Pn**	**00 23 26.8**	**+0.8**
	baz=249								
SMLT				*e*S	**Sn**	**00 23 46.9**	**+1.2**
	baz=249								
TWQ1	**Liyutan**	**1.57**	**267**	*e*P	**Pn**	**00 23 27.1**	**+1.1**
	baz=267								
TWQ1				*e*S	**Sn**	**00 23 46.9**	**+1.0**
	baz=267								
NSY	**Sanyi**	**1.58**	**270**	*e*P	**Pn**	**00 23 27.4**	**+1.2**
	baz=269								
NSY				*e*S	**Sn**	**00 23 47.2**	**+1.1**
	baz=269								
TYC	**Yuchr**	**1.58**	**251**	*e*P	**Pn**	**00 23 27.2**	**+1.0**
	baz=250								
FULB	**Fuli**	**1.65**	**222**	*e*P	**Pn**	**00 23 27.1**	**0.0**
	baz=221								
FULB				*e*S	**Sn**	**00 23 47.4**	**-0.4**
	baz=221								
JISG	**Ishigakijimahi**	**1.66**	**84**	P	**Pn**	**00 23 27.3**	**+0.1**
JISG				S	**Sn**	**00 23 47.4**	**-0.6**
WHYT	**Xinyi Township**	**1.67**	**244**	P	**Pn**	**00 23 28.8**	**+1.4**
	baz=243								
WHYT				*e*S	**Sn**	**00 23 48.7**	**+0.4**
	baz=243								
TCU	**Taichung**	**1.68**	**261**	*e*P	**Pn**	**00 23 28.8**	**+1.3**
	baz=260								
TCU				*e*S	**Sn**	**00 23 50.3**	**+1.9**
	baz=260								
CHKT	**Chengkung**	**1.69**	**218**	*e*P	**Pn**	**00 23 26.9**	**-0.6**
	baz=217								
CHKT				*e*S	**Sn**	**00 23 46.5**	**-2.0**
	baz=217								
WDJ	**Dajia District**	**1.69**	**267**	*e*P	**Pn**	**00 23 28.6**	**+1.0**
	baz=267								
WDJ				*e*S	**Sn**	**00 23 49.5**	**+0.9**
	baz=267								
YUS	**Yu-Shan**	**1.70**	**237**	P	**Pn**	**00 23 28.7**	**+0.6**
	baz=236								
YUS				*e*S	**Sn**	**00 23 48.9**	**-0.7**
	baz=236								
WJS	**Zhushan**	**1.73**	**250**	P	**Pn**	**00 23 30.0**	**+1.9**
	baz=249								
WJS				*e*S	**Sn**	**00 23 51.3**	**+1.8**
	baz=249								
WNT	**Mingjian**	**1.74**	**252**	*e*P	**Pn**	**00 23 30.1**	**+1.8**
	baz=251								
WNT				*e*S	**Sn**	**00 23 52.0**	**+2.1**
	baz=251								
ALS	**Alishan**	**1.80**	**239**	P	**Pn**	**00 23 30.6**	**+1.3**
	baz=239								
ALS				*e*S	**Sn**	**00 23 52.5**	**+0.8**
	baz=239								
WCHH	**Zhanghua**	**1.80**	**259**	*e*P	**Pn**	**00 23 30.1**	**+1.0**
	baz=258								
WCHH				*e*S	**Sn**	**00 23 52.4**	**+1.1**
	baz=258								
EDH	**Donghe**	**1.82**	**217**	*e*P	**Pn**	**00 23 29.1**	**-0.3**
	baz=216								
EDH				*e*S	**Sn**	**00 23 50.2**	**-1.5**
	baz=216								
ELDTW	**Lidau**	**1.83**	**228**	*e*P	**Pn**	**00 23 29.5**	**-0.1**
	baz=227								
ELDTW				*e*S	**Sn**	**00 23 51.1**	**-1.2**
	baz=227								
WDLH	**Douliu**	**1.94**	**248**	*e*P	**Pn**	**00 23 32.5**	**+1.6**
	baz=247								
WDLH				*e*S	**Sn**	**00 23 56.0**	**+1.5**
	baz=247								
LONT	**Longtian**	**1.97**	**220**	*e*P	**Pn**	**00 23 30.9**	**-0.4**
	baz=219								
LONT				*e*S	**Sn**	**00 23 54.4**	**-0.9**
	baz=219								
LDUT	**Ludao**	**1.99**	**208**	*e*P	**Pn**	**00 23 30.9**	**-0.7**
	baz=207								
LDUT				*e*S	**Sn**	**00 23 53.5**	**-2.2**
	baz=207								
WRL	**Guolierlin Hig**	**2.00**	**255**	*e*P	**Pn**	**00 23 32.4**	**+0.7**
	baz=254								
WRL				*e*S	**Sn**	**00 23 56.1**	**+0.1**
	baz=254								
STYH	**Taoyuan**	**2.02**	**232**	*e*P	**Pn**	**00 23 33.2**	**+1.3**
	baz=231								
STYH				*e*S	**Sn**	**00 23 56.9**	**+0.6**
	baz=231								
JTJ	**Tarama**	**2.02**	**84**	P	**Pn**	**00 23 32.7**	**+0.7**
JTJ				S	**Sn**	**00 23 57.1**	**+0.6**
TPUB	**Ta-pu**	**2.05**	**237**	P	**Pn**	**00 23 34.0**	**+1.7**
	baz=236								
TPUB				*e*S	**Sn**	**00 23 58.6**	**+1.4**
	baz=236								
CHN4	**Tsaushan**	**2.05**	**239**	*e*P	**Pn**	**00 23 34.0**	**+1.6**
	baz=238								
CHN4				*e*S	**Sn**	**00 23 59.3**	**+2.2**
	baz=238								
CHN2	**Minshiung**	**2.05**	**244**	*e*P	**Pn**	**00 23 34.5**	**+2.1**
	baz=244								
WTK	**Tuku**	**2.06**	**249**	*e*P	**Pn**	**00 23 33.1**	**+0.6**
	baz=248								
WTK				*e*S	**Sn**	**00 23 58.4**	**+0.9**
	baz=248								
TWGBT	**Beinan**	**2.07**	**219**	*e*P	**Pn**	**00 23 32.2**	**-0.5**
	baz=218								
TWGBT				*e*S	**Sn**	**00 23 56.0**	**-1.6**
	baz=218								
TWG	**Pinlang**	**2.07**	**219**	*e*P	**Pn**	**00 23 32.2**	**-0.5**
	baz=218								
TWG				*e*S	**Sn**	**00 23 56.0**	**-1.6**
	baz=218								
WTP	**Ta-pu**	**2.09**	**236**	*e*P	**Pn**	**00 23 34.4**	**+1.5**
	baz=235								
WTP				*e*S	**Sn**	**00 23 59.7**	**+1.5**
	baz=235								
WTCT	**Ta-ch'eng**	**2.10**	**255**	*e*P	**Pn**	**00 23 34.4**	**+1.4**
	baz=254								
WTCT				*e*S	**Sn**	**00 23 59.0**	**+0.7**
	baz=254								
CHY	**Chiayi**	**2.11**	**244**	*e*P	**Pn**	**00 23 35.2**	**+2.1**
	baz=243								
CHY				*e*S	**Sn**	**00 24 00.1**	**+1.5**
	baz=243								
TWK	**Hsinying**	**2.17**	**238**	*e*P	**Pn**	**00 23 35.5**	**+1.4**
	baz=237								
TWK				*e*S	**Sn**	**00 24 01.8**	**+1.5**
	baz=237								
CHN1	**Nanshi**	**2.19**	**236**	*e*P	**Pn**	**00 23 35.7**	**+1.5**
	baz=235								
CHN1				*e*S	**Sn**	**00 24 02.6**	**+2.0**
	baz=235								
SNST	**Tainan City**	**2.19**	**237**	*e*P	**Pn**	**00 23 36.5**	**+2.2**
	baz=236								
SNST				*e*S	**Sn**	**00 24 02.1**	**+1.5**
	baz=236								
SGST	**Jiashian**	**2.21**	**233**	*e*P	**Pn**	**00 23 36.0**	**+1.5**
	baz=232								
SGST				*e*S	**Sn**	**00 24 02.1**	**+1.1**
	baz=232								
SLGT	**Liugui**	**2.22**	**230**	*e*P	**Pn**	**00 23 36.6**	**+1.9**
	baz=229								
SLGT				*e*S	**Sn**	**00 24 02.1**	**+0.8**
	baz=229								
WSF	**Szhu**	**2.22**	**250**	*e*P	**Pn**	**00 23 35.3**	**+0.7**
	baz=249								
WSF				*e*S	**Sn**	**00 24 02.4**	**+1.1**
	baz=249								
ICHU	**Yijhu**	**2.29**	**243**	*e*P	**Pn**	**00 23 36.6**	**+1.1**
	baz=242								
ICHU				*e*S	**Sn**	**00 24 04.0**	**+1.1**
	baz=242								
ECL	**Taimali**	**2.31**	**218**	*e*P	**Pn**	**00 23 35.2**	**-0.7**
	baz=217								
CHN8	**Yiju**	**2.35**	**243**	*e*P	**Pn**	**00 23 38.0**	**+1.6**
	baz=242								
CHN8				*e*S	**Sn**	**00 24 06.0**	**+1.6**
	baz=242								
TSMG	**Majia**	**2.42**	**225**	*e*P	**Pn**	**00 23 39.0**	**+1.7**
	baz=224								
JIRB	**Irabujima**	**2.47**	**80**	S	**Sn**	**00 24 06.6**	**-0.7**
MASBT	**Mashibuluo**	**2.49**	**224**	*e*P	**Pn**	**00 23 38.8**	**+0.5**
	baz=223								
LAY	**Lan-yu**	**2.54**	**200**	*e*P	**Pn**	**00 23 38.3**	**-0.7**
	baz=199								
LAY				*e*S	**Sn**	**00 24 06.9**	**-2.1**
	baz=199								
EAST	**Anshuo**	**2.54**	**217**	*e*P	**Pn**	**00 23 39.0**	**0.0**
	baz=216								
JIKM	**Ikemajima**	**2.55**	**78**	P	**Pn**	**00 23 39.6**	**+0.5**
JIKM				S	**Sn**	**00 24 09.4**	**+0.2**
JMJ2	**Miyako jima3**	**2.60**	**83**	*e*S	**Sn**	**00 24 10.7**	**+0.3**
SSPT	**Xinbi**	**2.63**	**223**	*e*P	**Pn**	**00 23 43.0**	**+2.9**
	baz=222								
SCZT	**Fangliau**	**2.68**	**220**	*e*P	**Pn**	**00 23 42.4**	**+1.6**
	baz=219								
SLIU	**Shizi**	**2.70**	**215**	*e*P	**Pn**	**00 23 41.3**	**+0.1**
	baz=215								
PNG	**Penghu**	**2.82**	**253**	*e*P	**Pn**	**00 23 42.5**	**-0.3**
	baz=252								
PNG				*e*S	**Sn**	**00 24 14.5**	**-1.3**
	baz=252								
VWUC	**VWUC**	**2.82**	**282**	P	**Pn**	**00 23 42.5**	**-0.2**
	baz=281								
VWUC				*e*S	**Sn**	**00 24 13.3**	**-2.4**
	baz=281								
PHUB	**P'eng-hu**	**2.83**	**252**	*e*P	**Pn**	**00 23 42.5**	**-0.3**
	baz=251								
PHUB				*e*S	**Sn**	**00 24 13.8**	**-2.1**
	baz=251								
WDGT	**Dungji**	**2.85**	**246**	*e*P	**Pn**	**00 23 43.7**	**+0.6**
	baz=245								
WDGT				*e*S	**Sn**	**00 24 15.6**	**-0.8**
	baz=245								
MATB	**Ma-tsu**	**2.87**	**307**	*e*P	**Pn**	**00 23 43.2**	**-0.1**
	baz=306								
MATB				*e*S	**Sn**	**00 24 15.5**	**-1.4**
	baz=306								
TWKBT	**Hengchun**	**2.93**	**212**	*e*P	**Pn**	**00 23 44.3**	**+0.1**
	baz=211								
TWKBT				*e*S	**Sn**	**00 24 18.4**	**0.0**
	baz=211								
TWK1	**Hengchun**	**2.93**	**212**	*e*P	**Pn**	**00 23 44.4**	**+0.2**
	baz=211								
VCHM	**Qimei**	**3.06**	**247**	*e*P	**Pn**	**00 23 46.2**	**+0.2**
	baz=246								
VCHM				*e*S	**Sn**	**00 24 20.1**	**-1.5**
	baz=246								
PTMZ	**Houxiangcun**	**3.12**	**282**	*e*P	**Pn**	**00 23 46.5**	**-0.3**
	baz=281								
PTMZ				*e*S	**Sn**	**00 24 20.6**	**-2.5**
	baz=281								
XPSS	**Dashiqiu**	**3.24**	**321**	*e*P	**Pn**	**00 23 47.9**	**-0.5**
	baz=320								
LYJJ	**Jianjiangzhen**	**3.24**	**311**	*e*P	**Pn**	**00 23 48.5**	**0.0**
	baz=310								
MHZQ	**Yeshan**	**3.54**	**299**	*e*P	**Pn**	**00 23 52.4**	**-0.2**
	baz=298								
KNM	**Kinmen**	**3.70**	**271**	*e*P	**Pn**	**00 23 56.2**	**+1.6**
	baz=269								
KNMB	**Chin-men Tao**	**3.74**	**271**	*e*P	**Pn**	**00 23 54.4**	**-0.8**
	baz=270								
AXDP	**Jialang**	**4.14**	**277**	*e*P	**Pn**	**00 24 01.4**	**+0.8**
	baz=276								
AXDP				*e*S	**Sn**	**00 24 45.5**	**-2.4**
	baz=276								
ZPLA	**Ao Xicun**	**4.36**	**264**	*e*P	**Pn**	**00 24 03.3**	**-0.4**
	baz=263								
ZPLA				*e*S	**Sn**	**00 24 49.5**	**-3.8**
	baz=263								
KSRS	**Korea Array**	**13.78**	**18**	Pn	**P**	**00 26 17.2**	**-0.2**
	0.3nm,0.3s,baz=200,slow=11,SNR=7.6								
ZALV	**Zalesovo Beam**	**40.69**	**326**	P	P	00 30 41.6	+9.3
	0.7nm,0.8s,baz=106,slow=9.2,SNR=1.8								
WRA	**Warramunga Arr**	**45.59**	**164**	P	**P**	**00 31 12.2**	**0.0**
	0.6nm,0.4s,baz=346,slow=8.4,SNR=10								
ASAR	**Alice Springs**	**49.08**	**166**	P	**P**	**00 31 39.8**	**+0.5**
	0.3nm,0.3s,baz=347,slow=7.6,SNR=4.4								

*IDC **26** 00:30:42.0±1.5,31°.63S×71°.98W,h0km,mb4.2/2,*
mb1 3.9/5,mb1mx3.6/18,mbtmp3.8/5,ML3.7/3,MS3.0/2,
Ms1 3.0/2,ms1mx2.7/17,Error ellipse: s-maj=51.1km
s-min=33.4km az=120.0
*GUC **26** 00:30:45.3±0.8,31°.72S×71°.85W,h49km±6km,ML3.9*

ISC 26 00:30:44.5±1.0,31.72S±0.04×72.07W±0.09,h19km±4km,
n30,σ0.99/30,3C-5D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
CO02	**Combarbal**	**1.05**	**61**	⇓*i* P		**Pb**		**00 31 03.1**	**-0.9**
CO02				*e*S		**Sb**		**00 31 15.8**	**-1.6**
CO02				IAML				00 31 18.4	
	comp=N,10μm,0.2s								
VA06	**Catapilco**	**1.06**	**142**	⇓*i* P		**Pb**		**00 31 03.5**	**-0.8**
VA06				*i* S		**Sb**		**00 31 17.2**	**-0.6**
VA06				IAML				00 31 20.8	
	comp=E,5μm,0.4s								
CO06	**Fray Jorge**	**1.11**	**20**	⇑*i* P		**Pn**		**00 31 04.9**	**-0.1**
CO06				*i* S		**Sg**		**00 31 20.1**	**-0.4**
CO06				IAML				00 31 24.8	
	comp=E,2μm,0.3s								
VA01	**Torpederas**	**1.35**	**165**	*e*P		**Pn**		**00 31 08.5**	**+0.2**
VA01				*i* S		**Sn**		**00 31 23.0**	**-2.6**
CO03	**El Pedregal**	**1.47**	**54**	⇓*i* P		**Pn**		**00 31 10.0**	**-0.1**
CO03				*i* S		**Sn**		**00 31 27.8**	**-1.0**
CO03				IAML				00 31 30.4	
	comp=N,2μm,0.4s								
ROCH	**El Roble**	**1.54**	**145**	⇑*i* P		**Pn**		**00 31 10.9**	**-0.1**
ROCH				*i* S		**Sn**		**00 31 31.1**	**+0.5**
ROCH				IAML				00 31 33.8	
	comp=N,2μm,0.3s								
VA03	**San Esteban**	**1.65**	**129**	⇓*i* P		**Pn**		**00 31 12.3**	**-0.3**
VA03				*i* S		**Sn**		**00 31 32.4**	**-1.0**
VA03				IAML				00 31 39.3	
	comp=E,3μm,0.5s								
GO04	**Tololo Observa**	**1.89**	**36**	⇑*i* P		**Pn**		**00 31 16.1**	**+0.2**
GO04				*i* S		**Sn**		**00 31 39.9**	**+0.5**
GO04				IAML				00 31 51.5	
	comp=N,5μm,0.4s								
VA05	**Santo Domingo**	**1.97**	**169**	*e*P		**Pn**		**00 31 16.8**	**0.0**
VA05				*i* S		**Sb**		**00 31 42.5**	**-1.4**
VA05				IAML				00 31 50.0	

H03S1	**Juan Fernandez**	**6.14**	**248**	T	T	00 39 00.5		
	baz=76,slow=74,SNR=7.4							
H03S2	**Juan Fernandez**	**6.15**	**248**	T	T	00 39 02.8		
	baz=76,slow=74,SNR=10.0							
PLCA	**Paso Flores**	**9.08**	**173**	Pn	**Pn**	**00 32 55.6**	**+1.1**	
	comp=E,0.2nm,0.3s,baz=330,slow=11,SNR=9.2							
PLCA				LR	LR	00 36 35.1		
	comp=E,77nm,18.2s,baz=338,slow=39							
CPUP	**Villa Florida**	**13.96**	**71**	Pn	**Pn**	**00 34 00.7**	**-0.6**	
	comp=E,0.2nm,0.3s,baz=225,slow=17,SNR=3.4							
CPUP				Sn	**Sn**	**00 36 36.0**	**+0.2**	
	comp=E,0.1nm,0.3s,baz=151,slow=19,SNR=3.0							
CPUP				LR	LR	00 39 21.0		
	comp=E,60nm,20.4s,baz=21,slow=37							
LPAZ	**La Paz**	**15.78**	**14**	Pn	**Pn**	**00 34 24.2**	**-2.1**	
	comp=E,0.1nm,0.3s,baz=190,slow=12,SNR=1.5							
DBIC	**Dimbokro**	**74.49**	**72**	P	**P**	**00 42 21.2**	**-0.8**	
	comp=E,1.6nm,0.6s,baz=207,slow=6.8,SNR=1.4							
TORD	**Torodi Ar. Bea**	**83.46**	**70**	P	**P**	**00 43 11.5**	**+0.3**	
	comp=E,1.2nm,0.8s,baz=270,slow=4.7,SNR=8.0							
WRA	**Warramunga Arr**	**122.73**	**210**	PKP	**PKiKP**	**00 49 40.0**	**+0.1**	
	comp=E,0.5nm,0.8s,baz=164,slow=1.8,SNR=1.8							
H11S2	**WAKE ISLAND Hy**	**125.75**	**271**	T	T	03 08 39.2		
	baz=117,slow=74							
H11S1	**WAKE ISLAND Hy**	**125.76**	**271**	T	T	03 08 43.7		
	baz=117							
H11S3	**WAKE ISLAND Hy**	**125.77**	**271**	T	T	03 08 39.9		
	baz=117,slow=74							
H11N3	**WAKE ISLAND Hy**	**126.10**	**272**	T	T	03 09 09.5		
	baz=118							
H11N1	**WAKE ISLAND Hy**	**126.12**	**272**	T	T	03 09 02.3		
	baz=118							
H11N2	**WAKE ISLAND Hy**	**126.12**	**272**	T	T	03 09 08.4		
	baz=118							
ZALV	**Zalesovo Beam**	**152.29**	**30**	PKPbc	**PKiKP**	**00 50 39.5**	**+0.7**	
	comp=E,1.7nm,0.4s,baz=308,slow=2.0,SNR=10							

IDC 26 00:47:28.4±2.9, 31°48S×70°54W, h0km, mb3.5/1, mb1 3.6/3, mb1mx3.5/16, mbtmp3.5/3, ML3.4/2, Error ellipse: s-maj=135.0km s-min=38.8km az=97.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N1	**Juan Fernandez**	**7.34**	**252**	T	T	00 55 55.4	
	baz=83						
H03N3	**Juan Fernandez**	**7.36**	**252**	T	T	00 55 59.3	
	baz=83						
H03N2	**Juan Fernandez**	**7.36**	**252**	T	T	00 56 20.4	
	baz=83						
PLCA	**Paso Flores**	**9.23**	**180**	Pn	Pn	00 49 42.9	0.0
	0.1nm,0.3s,baz=350,slow=12,SNR=3.5						
LPAZ	**La Paz**	**15.28**	**9**	Pn	Pn	00 51 06.0	-0.1
	0.1nm,0.3s,baz=197,slow=11,SNR=5.1						
TORD	**Torodi Ar. Bea**	**82.15**	**69**	P	P	00 59 51.5	0.0
	0.3nm,0.7s,baz=233,slow=3.5,SNR=1.7						
ZALV	**Zalesovo Beam**	**151.42**	**31**	PKPbc	PKPbc	01 07 23.6	-0.2
	0.6nm,0.4s,baz=327,slow=2.4,SNR=2.4						

*TUL **26** 00:55:11.8±1.5, 35°98N±0°02×96°82W±0°02, h4km±4km, ML2.3, mb_Lg2.3/20(NEIC), Error ellipse: s-maj=3.3km s-min=2.3km az=143.0*

NEIC 26 00:55:11.8±0.9, 36°00N±0°02×96°83W±0°02, h2km±6km, Error ellipse: s-maj=2.8km s-min=2.3km az=167.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.05**	**190**	Pg	Pg	00 55 13.0	+0.1
OK031				Sg	Sg	00 55 13.8	+0.3
OK030	**Cody Creek RV**	**0.08**	**153**	Pg	Pg	00 55 13.6	+0.1
OK030				Sg	Sg	00 55 14.8	+0.3
QUOK	**Quay**	**0.20**	**30**	Pg	Pg	00 55 16.3	+0.6
QUOK				Sg	Sg	00 55 19.5	+1.2
OK029	**Liberty Lake**	**0.55**	**248**	Pg	Pg	00 55 22.4	+0.1
OK029				Sg	Sg	00 55 30.2	+0.7
OK025	**Westminster Rd**	**0.59**	**225**	Pg	Pg	00 55 23.0	-0.2
OK025				Sg	Sg	00 55 31.4	+0.6
BCOK	**Bluff Creek, N**	**0.72**	**242**	Pg	Pg	00 55 25.5	-0.2
BCOK				Sg	Sg	00 55 35.5	+0.5
OKCFA	**Oklahoma City**	**0.77**	**221**	Pg	Pg	00 55 26.3	-0.3
OKCSW	**OKLAHOMA CITY**	**0.77**	**220**	Pg	Pg	00 55 26.4	-0.2
BLOK	**Blackwell**	**0.82**	**338**	Pg	Pg	00 55 27.8	+0.2
TUL1	**Leonard**	**0.85**	**96**		Pg	00 55 27.5	-0.6
FNO	**Franklin**	**0.88**	**212**	Pg	Pg	00 55 27.9	-0.8
FNO				IAmb_Lg		00 55 39.3	
	comp=Z,19nm,0.8s						
T35A	**Sooner Cattle**	**0.95**	**15**		Pg	00 55 29.9	-0.2
CROK	**Carrier**	**1.06**	**299**		Pg	00 55 32.2	0.0
KAN13	**South Haven SW**	**1.14**	**333**		Pg	00 55 33.5	-0.1
GC02	**Grant County #**	**1.19**	**316**		Pg	00 55 34.4	-0.3
KAN17	**Caldwell West**	**1.29**	**324**		Pg	00 55 36.2	-0.3
KAN09	**Caldwell North**	**1.30**	**331**		Pg	00 55 36.5	-0.3
KAN14	**Manchester OK**	**1.32**	**317**		Pg	00 55 36.8	-0.4
KS20	**Mayfield South**	**1.36**	**335**	Pn	Pn	00 55 37.3	-0.5
OK032	**Salt Plains WL**	**1.37**	**306**	Pn	Pn	00 55 37.4	-0.7
KAN05	**Bluff City Nor**	**1.39**	**323**	Pn	Pn	00 55 38.1	-0.2
KAN10	**Anthony SW Sta**	**1.52**	**318**	Pn	Pn	00 55 40.2	+0.2
KAN16	**Harper SW Stat**	**1.58**	**321**	Pn	Pn	00 55 41.0	+0.1
X34A	**Smith Ranch, M**	**1.62**	**211**	Pn	Pn	00 55 41.3	-0.1
X34A				IAmb_Lg		00 56 04.3	
	comp=Z,11nm,0.8s						
U32A	**Winter Ranch,**	**1.80**	**283**	Pn	Pn	00 55 44.1	+0.2
X37A	**Clayton**	**1.84**	**139**	Pn	Pn	00 55 44.4	-0.1
X37A				IAmb_Lg		00 56 11.4	
	comp=Z,13nm,0.8s						
U38A	**Gravette**	**2.02**	**77**	Pn	Pn	00 55 47.5	+0.6
LOOK	**Love County**	**2.02**	**188**	Pn	Pn	00 55 47.4	+0.5
LOOK				IAmb_Lg		00 56 18.7	
	comp=Z,14nm,0.8s						
WMOK	**Wichita Mounta**	**2.03**	**232**	Pn	Pn	00 55 47.4	+0.2
W39A	**Magazine**	**2.61**	**107**	Pn	Pn	00 55 55.3	+0.3
MIAR	**Mount Ida**	**3.03**	**118**	Pn	Pn	00 56 01.1	+0.3
S39A	**Bolivar**	**3.28**	**58**	IAmb_Lg		00 56 59.9	
	comp=Z,7.8nm,0.8s						
WHAR	**Wooly Hollow**	**3.77**	**100**	Pn	Pn	00 56 10.8	-0.1
FCAR	**Ozark Folk Cen**	**3.82**	**90**	IAmb_Lg		00 57 16.6	
	comp=Z,14nm,0.8s						
MGMO	**Mountain Grove**	**3.85**	**71**	IAmb_Lg		00 57 16.9	
	comp=Z,5.8nm,0.8s						
AMTX	**Amarillo**	**4.12**	**256**	IAmb_Lg		00 57 28.0	
	comp=Z,8.3nm,0.7s						
CCM	**Cathedral Cave**	**4.92**	**64**	IAmb_Lg		00 57 46.5	
	comp=Z,8.2nm,0.9s						
PBMO	**Poplar Bluff**	**5.22**	**80**	IAmb_Lg		00 57 56.9	
	comp=Z,6.8nm,0.8s						

*IDC **26** 01:23:45.1±0.9, 17°00N×146°01E, h0km, mb3.6/7, mb1 3.9/8, mb1mx3.7/38, mbtmp3.6/8, ML4.1/1, MS2.5/2, Ms1 2.6/2, ms1mx2.3/25, Error ellipse: s-maj=31.1km s-min=19.1km az=101.0*

*NEIC **26** 01:23:48.1±2.1, 16°85N±0°05×146°0E±0°1, h10km±1km, mb4.4/8, Error ellipse: s-maj=18.8km s-min=6.8km az=291.0*

ISC 26 01:23:46.9±0.8, 17°01N±0°08×146°0E±0°2, h10km, n27, σt1s38/20, mb3.9/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**0.71**	**201**		**Pb**	**01 24 00.1**	**-1.3**
GUMO	**Guam**	**3.56**	**198**	Pn	**Pn**	**01 24 43.0**	**+0.7**
	16nm,0.3s,baz=184,slow=14,SNR=3.7						
GUMO				Sn	**Sn**	**01 25 27.0**	**+2.6**
	11nm,0.3s,baz=348,slow=22,SNR=1.8						
JCJ	**Chichijima**	**10.64**	**341**	Pn	Pn	01 26 23.4	+3.9
H11S3	**WAKE ISLAND Hy**	**19.78**	**83**	T	T	01 48 48.0	
	baz=269,slow=75,SNR=44						
H11S1	**WAKE ISLAND Hy**	**19.79**	**83**	T	T	01 48 48.9	
	baz=269,slow=75,SNR=52						
H11S2	**WAKE ISLAND Hy**	**19.80**	**83**	T	T	01 48 48.6	
	baz=269,slow=75,SNR=75						
H11N1	**WAKE ISLAND Hy**	**20.03**	**79**	T	T	01 49 01.0	
	baz=266,slow=74,SNR=104						
H11N2	**WAKE ISLAND Hy**	**20.04**	**79**	T	T	01 49 04.9	
	baz=266,slow=74,SNR=54						
H11N3	**WAKE ISLAND Hy**	**20.05**	**79**	T	T	01 49 02.5	
	baz=266,slow=74,SNR=63						
KSRS	**Korea Array**	**25.84**	**326**	P	**P**	**01 29 19.5**	**+0.9**
	0.7nm,0.9s,baz=150,slow=9.9,SNR=2.3						
KSRS				LR	LR	01 38 42.9	
	comp=Z,12nm,20.1s,baz=140,slow=35						
WR0	**Warramunga Arr**	**38.42**	**197**	P	**P**	**01 31 07.7**	**-1.1**
WR0				IAmb	IAmb	01 31 16.1	
	comp=Z,11nm,1.5s						
WB2	**Warramunga Arr**	**38.45**	**198**	P	**P**	**01 31 08.0**	**-1.2**
WRA	**Warramunga Arr**	**38.46**	**198**	P	**P**	**01 31 07.8**	**-1.4**
	comp=Z,0.8nm,0.7s,baz=18,slow=11,SNR=6.8						
ASAR	**Alice Springs**	**42.11**	**197**	P	**P**	**01 31 38.7**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=15,slow=7.7,SNR=5.3						
CMAR	**Chiang Mai Arr**	**44.73**	**279**	P	**P**	**01 32 01.1**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=73,slow=6.4,SNR=7.6						
CMAR				LR	LR	01 47 14.0	
	comp=Z,4.8nm,21.5s,baz=280,slow=32						
MK31	**Makanchi Array**	**59.83**	**315**	P	**P**	**01 33 53.2**	**+0.6**
MKAR	**Makanchi Array**	**59.83**	**315**	P	**P**	**01 33 52.1**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=106,slow=11,SNR=3.1						
IL31		**65.04**	**26**	P	P	01 34 30.8	+3.7
IL31				IAmb	IAmb	01 34 34.8	
	comp=Z,3.6nm,1.4s						
ILAR	**Eielson Array**	**65.04**	**26**	P	**P**	**01 34 25.1**	**-2.0**
	comp=Z,0.6nm,0.9s,baz=224,slow=8.0,SNR=4.5						
ILAR	**Eielson Array**	**65.04**	**26**	P	**P**	**01 34 29.1**	**+1.9**
NIL	**Nilore**	**66.59**	**300**	P	**P**	**01 34 37.6**	**-0.2**
KBL	**Kabul**	**69.96**	**301**	P	**P**	**01 34 58.5**	**-0.6**
KBL				IAmb	IAmb	01 35 07.0	
	comp=Z,3.0nm,1.0s						
PINE	**Pine Mountain**	**80.61**	**47**	P	**P**	**01 36 01.5**	**+1.2**
PINE				IAmb	IAmb	01 36 12.9	
	comp=Z,2.9nm,0.8s						
NVAR	**Mina Array Bea**	**83.97**	**52**	P	**P**	**01 36 19.2**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=226,slow=3.9,SNR=4.2						
LRM	**Limekiln Ridge**	**85.78**	**43**	P	**P**	**01 36 27.1**	**+0.1**
MSU	**Marysvale**	**88.50**	**50**	P	**P**	**01 36 41.8**	**+1.5**
LPAZ	**La Paz**	**147.34**	**94**	PKPbc	**PKiKP**	**01 43 32.9**	**-1.9**
	comp=Z,1.8nm,0.7s,baz=287,slow=2.9,SNR=3.6						

*NEIC **26** 01:59:20.7±1.6, 30°44S±0°05×72°78W±0°07, h10km±1km, mb4.2/4, ML3.8(GUC), Error ellipse: s-maj=10.2km s-min=8.9km az=249.0*

*IDC **26** 01:59:22.3±1.6, 30°39S×72°31W, h0km, mb4.1/2, mb1 4.1/6, mb1mx3.9/24, mbtmp4.0/6, ML3.9/4, MS2.5/3, Ms1 2.5/3, ms1mx2.3/26, Error ellipse: s-maj=62.3km s-min=28.8km az=107.0*

*GUC **26** 01:59:25.4±0.6, 30°42S×72°48W, h22km±10km, ML3.8*

ISC 26 01:59:21.8±2.0, 30°40S±0°06×72°64W±0°08, h9km±11km, n48, σt1s09/47, 5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.91**	**108**	⇓*iP*	**Pg**	**01 59 39.9**	**+0.7**
CO06				*i* S	**Sg**	**01 59 51.7**	**+0.6**
CO06	**Fray Jorge**	**0.91**	**108**		**Pg**	**01 59 39.9**	**+0.7**
CO05	**La Serena**	**1.31**	**69**	⇓*iP*	**Pn**	**01 59 45.8**	**-0.3**
CO05				*i* S	**Sb**	**02 00 01.7**	**-1.6**
CO05				IAML		02 00 03.2	
	comp=N,2μm,0.3s						
CO05	**La Serena**	**1.31**	**69**		**Pn**	**01 59 45.8**	**-0.3**
GO04	**Tololo Observa**	**1.61**	**82**	*eP*	**Pn**	**01 59 50.9**	**+0.4**
GO04				*i* S	**Sn**	**02 00 11.1**	**-0.4**
GO04	**Tololo Observa**	**1.61**	**82**		**Pn**	**01 59 51.2**	**+0.7**
CO02	**Combarbal**	**1.62**	**120**	⇓*iP*	**Pn**	**01 59 51.0**	**+0.4**
CO02				*i* S	**Sn**	**02 00 10.7**	**-0.9**
CO02				IAML		02 00 14.2	
	comp=N,5μm,0.3s						
CO02	**Combarbal**	**1.62**	**120**		**Pn**	**01 59 50.5**	**-0.1**
CO03	**El Pedregal**	**1.74**	**105**	*i* P	**Pn**	**01 59 52.9**	**+0.7**
CO03				*i* S	**Sn**	**02 00 13.9**	**-0.6**
CO03				IAML		02 00 15.9	
	comp=N,2μm,0.4s						
CO03	**El Pedregal**	**1.74**	**105**	Pn	**Pn**	**01 59 52.0**	**-0.1**
LCO	**Las Campanas**	**2.18**	**51**	⇓*iP*	**Pn**	**01 59 58.6**	**+0.2**
LCO	**Las Campanas**	**2.18**	**51**	Pn	**Pn**	**01 59 58.6**	**+0.2**
VA06	**Catapilco**	**2.44**	**152**	⇓*iP*	**Pn**	**02 00 01.7**	**0.0**
VA06				*eP*	**Pb**	**02 00 04.3**	**-1.4**
VA06				IAML		02 00 32.6	
	comp=N,655nm,0.6s						
AC04	**Llanos de Chal**	**2.58**	**32**	*eP*	**Pn**	**02 00 05.9**	**+2.2**
AC04				IAML		02 00 33.6	
	comp=E,374nm,0.6s						
AC04	**Llanos de Chal**	**2.58**	**32**	Pn	**Pn**	**02 00 02.6**	**-1.1**
ROCH	**El Roble**	**2.91**	**152**	*eP*	**Pn**	**02 00 09.1**	**+0.6**
VA03	**San Esteban**	**2.95**	**143**	*eP*	**Pn**	**02 00 10.1**	**+1.2**
VA03	**San Esteban**	**2.95**	**143**		**Pn**	**02 00 08.7**	**-0.2**
GO03	**Copiap**	**3.50**	**38**	*i* P	**Pn**	**02 00 16.1**	**-0.3**
GO03	**Copiap**	**3.50**	**38**	Pn	**Pn**	**02 00 16.2**	**-0.3**
ZON	**Zonda**	**3.59**	**110**	Pn	**Pn**	**02 00 19.3**	**+1.7**
AC06	**Mina Casimiro**	**3.64**	**34**	*i* P	**Pn**	**02 00 18.3**	**+0.1**
AC06	**Mina Casimiro**	**3.64**	**34**	Pn	**Pn**	**02 00 18.0**	**-0.2**
MT09	**Talagante**	**3.64**	**158**	Pn	**Pn**	**02 00 17.6**	**-0.9**
MT01	**Popeta**	**3.65**	**162**	Pn	**Pn**	**02 00 16.5**	**-1.8**
AC02	**Maricunga**	**4.71**	**42**	Pn	**Pn**	**02 00 33.5**	**+0.1**
H03N1	**Juan Fernandez**	**6.13**	**239**	T	T	02 08 57.3	
	baz=70,slow=72,SNR=25						
H03N2	**Juan Fernandez**	**6.15**	**239**	T	T	02 09 00.5	
	baz=70,slow=72,SNR=24						
H03N3	**Juan Fernandez**	**6.15**	**239**	T	T	02 08 58.2	
	baz=70,slow=72,SNR=11						
LVC	**Limon Verde**	**8.45**	**24**	Pn	**Pn**	**02 01 22.9**	**-1.7**
	comp=E,0.7nm,0.3s,baz=168,slow=9.3,SNR=8.7						
LC01	**Cunco**	**8.50**	**176**	Pn	**Pn**	**02 01 23.8**	**-1.2**
PB01	**IPOC Station P**	**9.74**	**18**	Pn	**Pn**	**02 01 39.3**	**-2.9**
PLCA	**Paso Flores**	**10.45**	**171**	Pn	**Pn**	**02 01 52.4**	**+0.7**
	comp=E,0.3nm,0.3s,baz=338,slow=11,SNR=9.5						
PLCA				LR	LR	02 05 51.6	
	comp=E,15nm,18.4s,baz=32,slow=37						
TRQA	**Tornquist**	**11.66**	**134**	Pn	**Pn**	**02 02 08.5**	**+0.2**
CPUP	**Villa Florida**	**14.07**	**77**	LR	LR	02 08 29.8	
	comp=E,30nm,19.6s,baz=218,slow=40						
LPAZ	**La Paz**	**14.64**	**17**	Pn	**Pn**	**02 02 50.8**	**+1.0**
	comp=E,0.1nm,0.3s,baz=174,slow=5.3,SNR=9.6						
LPAZ	**La Paz**	**14.64**	**17**	Pn	**Pn**	**02 02 47.1**	**-2.6**
COYC	**Coyhaique**	**15.15**	**178**	Pn	**Pn**	**02 02 56.1**	**+0.2**
COYC				IAmb	IAmb	02 03 04.2	
	comp=Z,11nm,1.0s						
SIV	**San Ignacio**	**17.84**	**39**	P	**Pn**	**02 03 30.4**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=236,slow=10,SNR=34						
NNA	**Nana**	**18.74**	**347**	LR	LR	02 09 25.3	
	comp=Z,16nm,18.7s,baz=102,slow=32						
BDFB	**Brasilia**	**26.93**	**62**	P	**P**	**02 05 02.8**	**-0.8**
	comp=Z,4.6nm,0.8s,baz=240,slow=7.1,SNR=5.4						
BDFB	**Brasilia**	**26.93**	**62**	IAmb	IAmb	02 05 06.0	
	comp=Z,6.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**83.49**	**71**	P	**P**	**02 11 51.5**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=285,slow=5.0,SNR=8.6						
TORD	**Torodi Ar. Bea**	**83.49**	**71**	IAmb	IAmb	02 11 58.6	
	comp=Z,2.6nm,1.4s						
KURBB	**Kurchatov Arra**	**150.49**	**39**	PKPbc	**PKiKP**	**02 19 15.0**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=293,slow=3.3,SNR=11						
AAK	**Ala-Archa**	**151.08**	**56**	PKPbc	**PKiKP**	**02 19 17.2**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=255,slow=2.0,SNR=5.2						
ZALV	**Zalesovo Beam**	**151.38**	**28**	PKPbc	**PKiKP**	**02 19 16.9**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=296,slow=4.8,SNR=5.2						
MKAR	**Makanchi Array**	**154.63**	**43**	PKPbc	**PKPbc**	**02 19 23.6**	**+0.7**
	comp=Z,0.5nm,0.9s,baz=270,slow=2.9,SNR=2.4						

*IDC **26** 02:09:37.8±1.0, 27°44N×92°89E, h0km, mb3.5/7, mb1 3.7/8, mb1mx3.5/35, mbtmp3.6/8, ML4.0/1, Error ellipse: s-maj=39.7km s-min=18.4km az=71.0*

ISC 26 02:09:42.8±1.0, 27°5N±0°1×92°9E±0°2, h35km, n8, σ0s44/8, mb3.5/7, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**4.88**	**193**	Pn	**Pn**	**02 10 53.7**	**-0.1**
	6.2nm,0.3s,baz=31,slow=8.5,SNR=5.1						
MKAR	**Makanchi Array**	**21.03**	**339**	P	**P**	**02 14 23.4**	**-0.2**
	0.8nm,0.6s,baz=148,slow=11,SNR=7.3						
SONM	**Songino Array**	**22.93**	**24**	P	**P**	**02 14 43.6**	**-0.3**
	0.6nm,0.7s,baz=203,slow=11,SNR=2.6						
KURBB	**Kurchatov Arra**	**25.59**	**339**	P	**P**	**02 15 09.0**	**+0.5**
	0.9nm,0.7s,baz=147,slow=10,SNR=7.0						
ZALV	**Zalesovo Beam**	**27.13**	**350**	P	**P**	**02 15 22.8**	**+0.4**
	0.4nm,0.4s,baz=164,slow=10,SNR=2.0						
WRA	**Warramunga Arr**	**61.90**	**135**	P	**P**	**02 19 58.7**	**-0.4**
	0.4nm,0.5s,baz=317,slow=6.6,SNR=5.8						
ASAR	**Alice Springs**	**64.43**	**138**	P	**P**	**02 20 16.4**	**+0.6**
	0.4nm,0.4s,baz=322,slow=6.7,SNR=8.8						
TORD	**Torodi Ar. Bea**	**85.07**	**282**	P	**P**	**02 22 15.4**	**-0.1**
	0.4nm,0.6s,baz=44,slow=4.6,SNR=4.0						

MEX 26 02:13:25.2±0.9, 15°19N×93°11W, h108km±7km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.52**	**349**	*eP*	Pn	02 13 40.6	-1.4
PCIG				*eS*	Sn	02 13 52.8	-1.7
THIG		**0.87**	**109**	*eP*	Pn	02 13 44.2	-0.6
THIG				*eS*	Sn	02 13 57.0	-2.7
CCIG	**Comitan**	**1.43**	**41**	*eP*	Pn	02 13 51.8	+0.5
CCIG				*eS*	Sn	02 14 11.0	0.0
TGIG		**1.57**	**360**	*eP*	Pn	02 13 52.3	-0.6
TGIG				*eS*	Sn	02 14 11.8	-2.1

MEX 26 02:34:35.8±1.2, 16°42N×99°57W, h16km±19km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAIG	**Los Arroyos**	**0.61**	**352**	*eP*	Pg	02 34 45.7	-2.1
DAIG				*eS*	Sg	02 34 52.7	-3.2
MGIG	**Malinaltepec**	**1.21**	**48**	*eP*	Pn	02 34 54.1	-4.0
MGIG				*eS*	Sb	02 35 08.2	-5.6
PNIG	**Pinotepa**	**1.38**	**91**	*eP*	Pn	02 34 56.7	-3.8
PNIG				*eS*	Sn	02 35 12.2	-6.2
TLIG	**Tlapa**	**1.49**	**40**	*eP*	Pn	02 34 58.7	-3.3
TLIG				*eS*	Sn	02 35 16.2	-5.0
MEIG	**Mezcala**	**1.50**	**358**	*eP*	Pn	02 34 59.8	-2.4
MEIG				*eS*	Sn	02 35 18.1	-3.4
TXIG	**Tlaxiaco**	**1.91**	**64**	*eP*	Pn	02 35 04.7	-3.3
TXIG				*eS*	Sn	02 35 27.6	-4.2
PLIG	**Platanillo**	**1.96**	**2**	*eP*	Pn	02 35 08.2	-0.4
PLIG				*eS*	Sn	02 35 31.6	-1.4
YOIG	**Yosondua**	**1.98**	**77**	*eP*	Pn	02 35 05.7	-3.3
YOIG				*eS*	Sn	02 35 32.9	-0.7
FTIG	**Fresnillo de T**	**2.02**	**43**	*eP*	Pn	02 35 06.3	-3.0
FTIG				*eS*	Sn	02 35 32.7	-1.6
HLIG	**Huajuapan de L**	**2.19**	**50**	*eP*	Pn	02 35 08.3	-3.5
HLIG				*eS*	Sn	02 35 34.8	-3.9
PEIG	**Puerto Escondi**	**2.36**	**100**	*eP*	Pn	02 35 09.3	-4.6
PEIG				*eS*	Sn	02 35 35.0	-7.6
PPM	**Popocatepetl**	**2.78**	**19**	*eP*	Pn	02 35 17.4	-2.8
PPM				*eS*	Sn	02 35 49.3	-4.4
VHO	**Vista Hermosa**	**2.79**	**76**	*eP*	Pn	02 35 17.6	-2.4
VHO				*eS*	Sn	02 35 48.8	-4.7
TOIG	**Toxpalan**	**2.92**	**55**	*eP*	Pn	02 35 17.9	-3.7
TOIG				*eS*	Sn	02 35 50.1	-6.3

*IDC **26** 02:34:57.9±0.9, 17°20N×146°09E, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.8/42, mbtmp3.8/9, ML3.9/1, MS2.9/3, Ms1 2.9/3, ms1mx2.7/51, Error ellipse: s-maj=32.9km s-min=18.3km az=106.0*

*NEIC **26** 02:35:00.4±1.9, 17°15N±0°05×145°9E±0°1, h10km±1km, mb4.5/24, Error ellipse: s-maj=21.5km s-min=8.7km az=98.0*

ISC 26 02:34:59.8±0.7, 17°12N±0°06×145°9E±0°1, h10km, n43, σt1s15/36, mb4.4/19, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**0.80**	**193**		**Pg**	**02 35 15.5**	**+0.3**
GUMO	**Guam**	**3.65**	**196**	Pn	**Pn**	**02 35 57.7**	**+1.3**
	9.4nm,0.3s,baz=22,slow=19,SNR=2.0						
GUMO				Sn	**Sb**	**02 36 45.5**	**-3.4**
	17nm,0.3s,baz=285,slow=8.8,SNR=2.5						
GUMO				LR	LR	02 37 10.0	
	comp=Z,184nm,18.4s,baz=116,slow=35						
H11S3	**WAKE ISLAND Hy**	**19.84**	**83**	T	T	03 00 10.4	
	baz=269,slow=75,SNR=85						
H11S1	**WAKE ISLAND Hy**	**19.85**	**83**	T	T	03 00 04.6	
	baz=269,slow=75,SNR=80						
H11S2	**WAKE ISLAND Hy**	**19.86**	**83**	T	T	02 59 52.4	
	baz=269,slow=75,SNR=117						
H11N1	**WAKE ISLAND Hy**	**20.08**	**79**	T	T	03 00 25.6	
	baz=266,slow=75,SNR=110						
H11N2	**WAKE ISLAND Hy**	**20.09**	**79**	T	T	03 00 22.1	
	baz=266,slow=75,SNR=102						
H11N3	**WAKE ISLAND Hy**	**20.10**	**79**	T	T	03 00 24.6	
	baz=266,slow=75,SNR=105						
JAY	**Jayapura**	**20.18**	**195**	LR	LR	02 47 12.3	
	comp=Z,38nm,19.0s,baz=128,slow=36						
MJAR	**Matsushiro Arr**

CCIG	**Comitan**	**1.28**	**58**	*eP*	Pn	02 41 39.9	-1.2
CCIG				*eS*	Sn	02 41 57.7	-1.4
CMIG	**Matias Romero**	**2.15**	**314**	*eP*	Pn	02 41 52.1	+0.3
CMIG				*eS*	Sn	02 42 14.8	-3.5

IDC ***26*** *02:41:38.8±2.2, 17°41′S×178°93′W, h581km±18km, mb2.7/6, mb1 3.1/7, mb1mx2.9/34, mbtmp3.6/7, Error ellipse: s-maj=100.0km s-min=20.0km az=151.0*

ISC 26 02:41:39.7±1.7, 17°4S±0.6×179°0W±0.3, h600km, n10, σ0.98/11, mb3.2/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.84**	**263**	P	**P**	**02 42 56.1**	**-2.0**
	3.4nm,0.3s,baz=104,slow=1.7,SNR=25						
WRA	**Warramunga Arr**	**44.18**	**259**	P	**P**	**02 48 57.5**	**+0.4**
	0.4nm,1.0s,baz=90,slow=7.5,SNR=5.9						
ASAR	**Alice Springs**	**44.40**	**254**	P	**P**	**02 48 59.2**	**+0.4**
	0.6nm,0.4s,baz=88,slow=8.1,SNR=16						
ASAR				PcP	**PcP**	**02 50 29.6**	**+0.4**
	0.2nm,0.4s,baz=98,slow=3.9,SNR=5.4						
FITZ	**Fitzroy Crossi**	**52.56**	**260**	P	**P**	**02 49 59.8**	**+0.7**
	2.1nm,1.1s,baz=86,slow=22,SNR=1.5						
ILAR	**Eielson Array**	**85.52**	**13**	P	**P**	**02 53 14.9**	**0.0**
	0.2nm,0.5s,baz=219,slow=5.1,SNR=5.8						
TXAR	**Lajitas Array**	**86.20**	**58**	P	**P**	**02 53 19.9**	**+0.8**
	0.4nm,0.7s,baz=220,slow=4.9,SNR=4.4						
PDAR	**Pinedale Array**	**87.37**	**44**	P	**P**	**02 53 23.8**	**-0.6**
	0.2nm,0.5s,baz=183,slow=3.6,SNR=2.6						
BRTR	**Keskin Array B**	**144.03**	**315**	PKP	**PKPab**	**03 00 09.3**	**+1.0**
	0.4nm,0.5s,baz=104,slow=1.1,SNR=7.3						
GERES	**GERESS Array B**	**146.98**	**345**	PKPbc	**PKiKP**	**03 00 17.0**	**-0.9**
	0.7nm,0.5s,baz=25,slow=3.3,SNR=7.9						
DAVOX	**Davos/Dischmat**	**149.80**	**348**	PKPbc	**PKiKP**	**03 00 24.1**	**+0.2**
	1.6nm,0.6s,baz=270,slow=9.1,SNR=2.9						

MEX 26 02:51:05.3±0.8, 18°18N×103°45W, h10km, MD4.0, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.14**	**42**	*iP*	Pg	02 51 07.8	-0.8
MMIG				*iS*	Sg	02 51 10.4	-0.5
COIG	**Colima**	**1.02**	**347**	*eP*	Pg	02 51 21.8	-3.2
COIG				*eS*	Sg	02 51 34.8	-3.4
R15V		**1.11**	**333**	*eP*	Pb	02 51 23.1	-3.5
R15V				*eS*	Sg	02 51 37.0	-4.1
EZ5V		**1.30**	**354**	*eP*	Pn	02 51 27.2	-2.5
EZ5V				*eS*	Sb	02 51 44.2	-2.6
CJM	**Chamela**	**2.00**	**311**	*eP*	Pn	02 51 38.4	-0.8
CJM				*eS*	Sn	02 52 05.4	+1.1

SJA ***26*** *02:51:13.0, 30°70S×71°86W, h30km, ML6.2*

BJI ***26*** *02:51:15.7±0.0, 30°80S×71°30W, h30km, mB6.1/77, Ms6.3/89, Ms7 6.3/88*

MOS ***26*** *02:51:15.9±0.9, 30°75S×71°31W, h35km, mb6.2/41, MS5.9/39, Error ellipse: s-maj=11.4km s-min=6.4km az=93.6*

IDC ***26*** *02:51:16.6±3.2, 30°79S×71°31W, h33km±23km, mb5.8/24, mb1 5.7/29, mb1mx5.7/30, mbtmp5.9/29, ML5.2/6, MS5.9/25, Ms1 5.9/25, ms1mx5.8/30, Error ellipse: s-maj=13.3km s-min=9.3km az=84.0*

VAO ***26*** *02:51:17.5±0.4, 30°72S×71°18W, h28km, mb6.8*

NEIC ***26*** *02:51:18.2, 30°82S×71°39W, h46km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}3.50; $M_{\theta\theta}$-0.32; $M_{\phi\phi}$-3.19; $M_{r\theta}$0.61; $M_{\theta\phi}$0.17; $M_{\phi r}$-0.73; Fault plane solution: M_o3.49000×10^{18} NP1:ϕ_s168.30000°, δ52.03000°, λ79.92000°. NP2:ϕ_s42000°, δ39.09000°, λ102.64000°. Principal axes: T 3.6701, Plg80.0000°, Azm35.0000°; N -0.3880, Plg8.0000°, Azm175.0000°; P -3.2821, Plg7.0000°, Azm265.0000°;*

GUC ***26*** *02:51:18.2±0.6, 30°79S×71°42W, h41km±1km, MW6.3*

SVSA ***26*** *02:51:18.8, 30°81S×71°32W, h46km, MW6.3(NEIC)*

NEIC ***26*** *02:51:18.8±1.9, 30°82S±0°05×71°32W±0°07, h46km±1km, mb6.1/659, Ms_20 5.9/330, Mwb6.3/58, Mwr6.3/51, Mww6.3, Mwc6.3(GCMT), Mwr6.3(GUC), Error ellipse: s-maj=10.5km s-min=8.1km az=105.0*

NEIC ***26*** *02:51:18.2, 30°82S×71°39W, h46km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}2.21; $M_{\theta\theta}$-0.56; $M_{\phi\phi}$-1.64; $M_{r\theta}$-0.15; $M_{\theta\phi}$0.51; $M_{\phi r}$-2.42; Fault plane solution: M_o3.18000×10^{18} NP1:ϕ_s176.61000°, δ70.37000°, λ99.37000°. NP2:ϕ_s330.44000°, δ21.67000°, λ65.46000°. Principal axes: T 3.4064, Plg63.0000°, Azm102.0000°; N -0.5274, Plg9.0000°, Azm353.0000°; P -2.8790, Plg25.0000°, Azm259.0000°;*

GCMT ***26*** *02:51:21.8±0.1, 30°88S×71°62W, h52km, MW6.3/162, Moment Tensor Solution. s162,c398; s158,c594; Duration: 3s3 Moment tensor: Scale 10^{18}Nm; M_{rr}2.78±.02; $M_{\theta\theta}$0.26±.01; $M_{\phi\phi}$-3.04±.01; $M_{r\theta}$0.24±.01; $M_{\theta\phi}$0.34±.01; $M_{\phi r}$-1.30±.02; Best double couple: M_o3.21200×10^{18} NP1:ϕ_s357.00000°, δ33.00000°, λ94.00000°. NP2:ϕ_s172.00000°, δ57.00000°, λ88.00000°. Principal axes: T 3.0670, Plg78.0000°, Azm74.0000°; N 0.2880, Plg2.0000°, Azm173.0000°; P -3.3570, Plg12.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

BGR ***26*** *02:51:22.4±0.0, 30°41S×69°70W, h33km, Ms6.1*

NEIC ***26*** *02:51:23, 30°92S×71°67W, h53km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}2.64; $M_{\theta\theta}$0.33; $M_{\phi\phi}$-2.96; $M_{r\theta}$0.18; $M_{\theta\phi}$0.28; $M_{\phi r}$-1.33; Fault plane solution: M_o3.13000×10^{18} NP1:ϕ_s357.00000°, δ32.00000°, λ93.00000°. NP2:ϕ_s174.00000°, δ58.00000°, λ88.00000°. Principal axes: T 2.9421, Plg77.0000°, Azm79.0000°; N 0.3469, Plg1.0000°, Azm175.0000°; P -3.2890, Plg13.0000°, Azm265.0000°;*

NEIC ***26*** *02:51:24, 30°92S×71°27W, h60km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}2.85; $M_{\theta\theta}$-0.12; $M_{\phi\phi}$-2.73; $M_{r\theta}$-0.21; $M_{\theta\phi}$0.45; $M_{\phi r}$-2.04; Fault plane solution: M_o3.49000×10^{18} NP1:ϕ_s342.00000°, δ28.00000°, λ75.00000°. NP2:ϕ_s179.00000°, δ63.00000°, λ98.00000°. Principal axes: T 3.5471, Plg71.0000°, Azm107.0000°; N -0.1093, Plg7.0000°, Azm356.0000°; P -3.4378, Plg18.0000°, Azm263.0000°;*

ISC 26 02:51:16.0±0.5, 30.75S±0.02×71°33W±0.03, h30km±2km, h30km:pP-P, n1913, σ1.91/1873, mb6.2/407, MS6.0/229, 182C-55D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.27**	**287**	⇑*iP*	**Pn**	**02 51 25.4**	**+1.4**
CO06				*iS*	**Sn**	**02 51 30.2**	**+1.1**
CO06	**Fray Jorge**	**0.27**	**287**		**Pn**	**02 51 25.4**	**+1.4**
CO02	**Combarbal**	**0.53**	**148**	⇓*iP*	**Pn**	**02 51 29.3**	**+1.6**
CO02				*iS*	**Sn**	**02 51 37.8**	**+2.0**
CO02	**Combarbal**	**0.53**	**148**	Pn	**Pn**	**02 51 29.3**	**+1.6**
CO03	**El Pedregal**	**0.56**	**99**	⇓*iP*	**Pn**	**02 51 30.5**	**+2.4**
CO03				*iS*	**Sn**	**02 51 39.8**	**+3.4**
CO03	**El Pedregal**	**0.56**	**99**	Pn	**Pn**	**02 51 30.2**	**+2.1**
CO03	**El Pedregal**	**0.56**	**99**	*iP*	**Pn**	**02 51 30.0**	**+1.9**
GO04	**Tololo Observa**	**0.74**	**39**	⇓*iP*	**Pn**	**02 51 33.3**	**+2.7**
GO04				*iS*	**Sn**	**02 51 45.6**	**+4.6**
GO04	**Tololo Observa**	**0.74**	**39**	Pn	**Pn**	**02 51 33.6**	**+2.9**
GO04	**Tololo Observa**	**0.74**	**39**	*iP*	**Pn**	**02 51 33.0**	**+2.3**
CO05	**La Serena**	**0.83**	**6**	⇓*iP*	**Pn**	**02 51 33.9**	**+2.2**
CO05				*iS*	**Sn**	**02 51 46.9**	**+3.9**
CO05	**La Serena**	**0.83**	**6**	Pn	**Pn**	**02 51 34.1**	**+2.3**
AROD	**Rodeo**	**1.71**	**71**	*iP*	**Pb**	**02 51 49.0**	**+2.0**
VA06	**Catapilco**	**1.80**	**179**	*eP*	**Pn**	**02 51 46.2**	**+1.1**
LCO	**Las Campanas**	**1.82**	**18**	*eP*	**Pb**	**02 51 48.4**	**-0.5**
LCO	**Las Campanas**	**1.82**	**18**	⇓*iP*	**Pb**	**02 51 48.4**	**-0.5**
LCO				*iS*	**Sb**	**02 52 12.2**	**+0.9**
LCO	**Las Campanas**	**1.82**	**18**		**Pb**	**02 51 48.4**	**-0.5**
LCO	**Las Campanas**	**1.82**	**18**	*iP*	**Pb**	**02 51 48.0**	**-0.8**
ACCO	**Cerro Coronel**	**1.96**	**86**	*iP*	**Pb**	**02 51 53.0**	**+1.7**
ACDV	**Cuesta del Vie**	**2.00**	**74**	*iP*	**Pb**	**02 51 54.0**	**+2.2**
RTLS	**Leoncito**	**2.03**	**121**	*iP*	**Pb**	**02 51 53.0**	**+0.5**
VA03	**San Esteban**	**2.11**	**162**	⇓*iP*	**Pn**	**02 51 51.2**	**+1.7**
VA03				*iS*	**Sb**	**02 52 18.6**	**-1.0**
VA03	**San Esteban**	**2.11**	**162**	*iP*	**Pn**	**02 51 51.0**	**+1.5**
AUSP	**Uspallata**	**2.22**	**132**	*iP*	**Pb**	**02 51 55.0**	**-0.6**
ROCH	**El Roble**	**2.23**	**173**	*eP*	**Pn**	**02 51 52.2**	**+1.1**
VA01	**Torpederas**	**2.28**	**187**	*eP*	**Pn**	**02 51 50.9**	**-0.7**
VA01	**Torpederas**	**2.28**	**187**		**Pn**	**02 51 51.5**	**-0.1**
VA01	**Torpederas**	**2.28**	**187**	*iP*	**Pn**	**02 51 52.0**	**+0.4**
ZON	**Zonda**	**2.41**	**110**	P	**Pb**	**02 51 58.8**	**0.0**
ZON	**Zonda**	**2.41**	**110**	Pn	**Pb**	**02 51 58.8**	**0.0**
ZON	**Zonda**	**2.41**	**110**	*iP*	**Pb**	**02 51 58.0**	**-0.8**
AC04	**Llanos de Chal**	**2.55**	**5**	*eP*	**Pn**	**02 51 57.7**	**+2.4**
AC04	**Llanos de Chal**	**2.55**	**5**		**Pb**	**02 51 58.6**	**-2.5**
AC04	**Llanos de Chal**	**2.55**	**5**	*iP*	**Pb**	**02 51 58.0**	**-3.1**
RTCV	**Cerro Valdivia**	**2.63**	**116**	*iP*	**Pb**	**02 52 01.0**	**-1.6**
MT05	**Renca**	**2.68**	**169**	⇑*iP*	**Pn**	**02 51 59.1**	**+1.8**
MT05				*iS*	**Sn**	**02 52 32.0**	**+3.3**
MT05	**Renca**	**2.68**	**169**		**Pn**	**02 51 60.0**	**+2.7**
MT05	**Renca**	**2.68**	**169**	*iP*	**Pn**	**02 51 59.0**	**+1.8**
AGUA	**GUANDACOL**	**2.77**	**64**	*iP*	**Pb**	**02 52 05.0**	**+0.1**
FSR	**Penalolen**	**2.80**	**166**	*eP*	**Pn**	**02 52 02.1**	**+3.2**
FSR				*iS*	**Sn**	**02 52 35.4**	**+3.7**
ASAL	**Salagasta**	**2.81**	**131**	*iP*	**Pb**	**02 52 04.0**	**-1.6**
VA05	**Santo Domingo**	**2.91**	**185**	*iP*	**Pn**	**02 52 00.1**	**-0.1**
VA05	**Santo Domingo**	**2.91**	**185**		**Pn**	**02 52 01.3**	**+1.0**
ARCO	**CERRO ARCO**	**2.92**	**136**	*iP*	**Pb**	**02 52 06.0**	**-1.5**
MT09	**Talagante**	**3.03**	**175**	⇑*iP*	**Pn**	**02 52 03.6**	**+1.5**
MT09				*iS*	**Sn**	**02 52 39.5**	**+2.0**
MT09	**Talagante**	**3.03**	**175**		**Pn**	**02 52 04.3**	**+2.2**
MT01	**Popeta**	**3.10**	**179**	⇑*iP*	**Pn**	**02 52 03.7**	**+0.7**
MT01	**Popeta**	**3.10**	**179**		**Pn**	**02 52 04.4**	**+1.4**
MT01	**Popeta**	**3.10**	**179**	*iP*	**Pn**	**02 52 04.0**	**+1.0**
AAGR	**Agrelo**	**3.15**	**138**	*iP*	**Pb**	**02 52 09.0**	**-2.5**
LMEL	**Las Melosas**	**3.23**	**163**	⇑*iP*	**Pn**	**02 52 07.8**	**+2.9**
LMEL				*iS*	**Sn**	**02 52 45.4**	**+3.0**
GO03	**Copiap**	**3.29**	**17**	*eP*	**Pn**	**02 52 08.8**	**+3.2**
GO03				*iS*	**Sb**	**02 52 48.7**	**-4.7**
GO03	**Copiap**	**3.29**	**17**		**Pb**	**02 52 10.4**	**-3.3**
GO03	**Copiap**	**3.29**	**17**	*iP*	**Pn**	**02 52 09.0**	**+3.4**
AVFE	**Valle Fertil**	**3.34**	**89**	*iP*	**Pn**	**02 52 10.0**	**+3.7**
VCA	**Vinchina**	**3.38**	**54**	*iP*	**Pb**	**02 52 13.0**	**-2.4**
AC06	**Mina Casimiro**	**3.49**	**14**	⇑*iP*	**Pn**	**02 52 11.1**	**+2.8**
AC06	**Mina Casimiro**	**3.49**	**14**		**Pb**	**02 52 13.4**	**-3.7**
BO01	**Tunca**	**3.64**	**177**	⇑*iP*	**Pn**	**02 52 10.8**	**+0.5**
BO01	**Tunca**	**3.64**	**177**		**Pn**	**02 52 12.6**	**+2.3**
BO01	**Tunca**	**3.64**	**177**	*iP*	**Pn**	**02 52 11.0**	**+0.7**
ACLC	**CERRO LA CRUZ**	**4.02**	**72**	*iP*	**Pn**	**02 52 20.0**	**+4.2**
ACHE	**Chepes**	**4.03**	**97**	*iP*	**Pn**	**02 52 20.0**	**+4.1**
BO02	**Sierra Bellavi**	**4.06**	**174**		**Pn**	**02 52 17.4**	**+1.2**
BO02	**Sierra Bellavi**	**4.06**	**174**	*iP*	**Pn**	**02 52 17.0**	**+0.9**
APLL	**PUNTA DE LOS L**	**4.16**	**86**	*iP*	**Pn**	**02 52 21.0**	**+3.5**
TINO	**Tinogasta**	**4.24**	**52**	*iP*	Pn	02 52 24.0	+5.3
GO05	**Huala**	**4.28**	**187**	⇓*iP*	**Pn**	**02 52 18.1**	**-1.1**
GO05	**Huala**	**4.28**	**187**	Pn	**Pn**	**02 52 18.4**	**-0.7**
GO05	**Huala**	**4.28**	**187**	*iP*	**Pn**	**02 52 18.0**	**-1.1**
AC02	**Maricunga**	**4.36**	**27**	*eP*	**Pn**	**02 52 25.0**	**+4.4**
AC02	**Maricunga**	**4.36**	**27**		Pn	02 52 26.1	+5.4
AC02	**Maricunga**	**4.36**	**27**	*iP*	**Pn**	**02 52 24.0**	**+3.4**
LAMA	**Las Malvinas**	**4.54**	**157**	*iP*	**Pn**	**02 52 27.0**	**+4.3**
COIS	**El Sosneado**	**4.58**	**162**	*iP*	**Pn**	**02 52 27.0**	**+3.7**
RFA	**San Rafael**	**4.68**	**150**	*iP*	**Pn**	**02 52 27.0**	**+2.3**
PUMA	**Malargue**	**4.99**	**162**	*iP*	**Pn**	**02 52 32.0**	**+3.1**
ML02	**Panimavida**	**5.00**	**181**		**Pn**	**02 52 29.6**	**+0.6**
EDS3	**Malargue**	**5.26**	**163**	*iP*	**Pn**	**02 52 37.0**	**+4.2**
CYA	**Choya**	**5.34**	**66**	*iP*	**Pn**	**02 52 37.0**	**+3.3**
PB14	**IPOC Station P**	**6.16**	**8**	*iP*	**Pn**	**02 52 45.0**	**-0.3**
AHML	**Horco Molle**	**6.58**	**55**	*iP*	**Pn**	**02 52 53.0**	**+2.1**
FSA	**Cafayete**	**6.60**	**47**	*iP*	**Pn**	**02 52 55.0**	**+3.8**
H03N1	**Juan Fernandez**	**6.97**	**245**	Pn	**Pn**	**02 52 55.3**	**-0.4**
	baz=119,slow=19						
H03N1				T	T	02 59 45.6	
	baz=74,slow=72,SNR=1696						
VA04	**Juan Fernndez**	**6.98**	**244**		**Pn**	**02 52 54.5**	**-1.6**
H03N3	**Juan Fernandez**	**6.98**	**245**	Pn	**Pn**	**02 52 55.1**	**-0.9**
	baz=119,slow=19,SNR=1801						
H03N3				T	T	02 59 48.8	
	baz=74,slow=72,SNR=1270						
H03N2	**Juan Fernandez**	**6.98**	**245**	Pn	**Pn**	**02 52 55.6**	**-0.4**
	baz=119,slow=19,SNR=5114						
H03N2				T	T	02 59 51.4	
	baz=74,slow=72,SNR=1452						
H03S3	**Juan Fernandez**	**7.11**	**242**	Pn	**Pn**	**02 52 55.3**	**-2.4**
	baz=38,slow=19,SNR=2324						
H03S3				T	T	03 00 14.3	
	baz=84,slow=75,SNR=59						
H03S1	**Juan Fernandez**	**7.11**	**242**	Pn	**Pn**	**02 52 55.9**	**-1.9**
	baz=38,slow=19,SNR=2418						
H03S1				T	T	03 00 07.1	
	baz=84,slow=75,SNR=87						
H03S2	**Juan Fernandez**	**7.12**	**242**	Pn	**Pn**	**02 52 55.4**	**-2.6**
	baz=38,slow=19,SNR=2653						
H03S2				T	T	03 00 13.4	
	baz=84,slow=75,SNR=121						
PB10	**IPOC Station P**	**7.24**	**6**	*iP*	**Pn**	**02 53 00.0**	**+0.1**
PB15	**IPOC Station P**	**7.70**	**13**	*iP*	**Pn**	**02 53 07.0**	**+0.7**
SLA	**San Lorenzo**	**7.92**	**42**	*iP*	**Pn**	**02 53 13.0**	**+3.7**
PB05	**IPOC Station P**	**7.93**	**8**	*iP*	**Pn**	**02 53 08.0**	**-1.4**
LC01	**Cunco**	**8.14**	**183**	*iP*	**Pn**	**02 53 11.0**	**-1.1**
PB06	**IPOC Station P**	**8.17**	**12**	Pn	**Pn**	**02 53 14.2**	**+1.5**
PB06	**IPOC Station P**	**8.17**	**12**	*iP*	**Pn**	**02 53 12.0**	**-0.7**
LVC	**Limon Verde**	**8.39**	**16**	Pn	**Pn**	**02 53 16.1**	**+0.1**
	15nm,0.3s,baz=197,slow=8.5,SNR=54						
LVC				Sn	**Sn**	**02 54 54.7**	**+4.8**
	152nm,0.3s,baz=235,slow=21,SNR=4.5						
LVC				LR	LR	02 56 50.3	
	comp=Z,110μm,21.9s,baz=210,slow=40						
LVC	**Limon Verde**	**8.39**	**16**	*eP*	**Pn**	**02 53 16.6**	**+0.6**
LVC	**Limon Verde**	**8.39**	**16**		**Pn**	**02 53 16.6**	**+0.6**
LVC	**Limon Verde**	**8.39**	**16**	*eP*	**Pn**	**02 53 15.9**	**0.0**
LVC	**Limon Verde**	**8.39**	**16**	*iP*	**Pn**	**02 53 16.0**	**0.0**
PB04	**IPOC Station P**	**8.45**	**7**		**Pn**	**02 53 16.6**	**0.0**
PB04	**IPOC Station P**	**8.45**	**7**	*iP*	**Pn**	**02 53 15.0**	**-1.6**
LR03	**Panguipulli**	**8.90**	**185**		**Pn**	**02 53 21.6**	**-0.9**
PB07	**IPOC Station P**	**9.08**	**9**		**Pn**	**02 53 26.4**	**+1.2**
PB07	**IPOC Station P**	**9.08**	**9**	*iP*	**Pn**	**02 53 24.0**	**-1.3**
HJA	**Humahuaca**	**9.18**	**37**	*iP*	**Pn**	**02 53 31.0**	**+4.1**
PB02	**IPOC Station P**	**9.48**	**8**	*iP*	**Pn**	**02 53 30.0**	**-0.7**
PB01	**IPOC Station P**	**9.81**	**10**	*iP*	**Pn**	**02 53 33.0**	**-2.2**
PLCA	**Paso Flores**	**9.98**	**177**	Pn	**Pn**	**02 53 36.4**	**-1.0**
	3.4nm,0.3s,baz=345,slow=9.6,SNR=74						
PLCA				LR	LR	02 58 03.2	
	comp=Z,72μm,21.4s,baz=344,slow=41						
TA01	**Diego Aracena**	**10.20**	**6**	Pn	**Pn**	**02 53 43.1**	**+2.7**
LL03	**Petrohue**	**10.40**	**184**		**Pn**	**02 53 42.5**	**-0.6**
TRQA	**Tornquist**	**10.62**	**136**	P	**Pn**	**02 53 47.1**	**+1.0**
TRQA	**Tornquist**	**10.62**	**136**	Pn	**Pn**	**02 53 47.0**	**+1.0**
TRQA	**Tornquist**	**10.62**	**136**	*eP*	**Pn**	**02 53 47.9**	**+1.8**
PB08	**IPOC Station P**	**10.75**	**11**	*iP*	**Pn**	**02 53 47.0**	**-1.3**
PB11	**IPOC Station P**	**11.05**	**8**		**Pn**	**02 53 54.0**	**+2.6**
PSGCX	**Pisagua**	**11.16**	**6**	*iP*	**Pn**	**02 53 51.0**	**-2.7**
LPA	**La Plata**	**12.01**	**114**	*iP*	**Pn**	**02 54 05.6**	**+0.5**
LPA				PP	**P**	**02 54 20.0**	**+2.3**
LPA				sP		02 54 26.5	
LPA				sS		02 54 26.7	
LPA				S	**Sn**	**02 56 11.2**	**-6.8**
LPA				SS	**SnSn**	**02 56 43.2**	**+13**
LPA				PCP	**PcP**	**02 59 49.9**	**+0.2**
LPA				SCS	**ScS**	**03 06 49.5**	**-6.8**
LPA				PKIKP	**PKiKP**	**03 07 50.7**	**+3.1**
LPA				SKIKP		03 10 49.1	
LPA				PKIKS		03 10 55.4	
LPA				SKIKS		03 14 41.6	
LL07	**Hotel Espejo d**	**12.18**	**187**	Pn	**Pn**	**02 54 05.5**	**-1.9**
GO07	**Milladeo Hill,**	**12.48**	**188**		**Pn**	**02 54 09.6**	**-1.9**
ITQB	**Itaqui**	**12.77**	**89**	Pn	**Pn**	**02 54 15.2**	**-0.3**
CPUP	**Villa Florida**	**13.07**	**74**	Pn	**Pn**	**02 54 17.9**	**-1.9**
	23nm,0.3s,baz=253,slow=12,SNR=152						
CPUP				Sn	**Sn**	**02 56 46.2**	**+2.1**
	17nm,0.3s,baz=259,slow=19,SNR=1.5						
CPUP				LR	LR	02 59 55.9	
	comp=Z,133μm,18.7s,baz=254,slow=40						
CPUP	**Villa Florida**	**13.07**	**74**	P	**Pn**	**02 54 18.5**	**-1.2**
CPUP						02 56 46.3	
CPUP	**Villa Florida**	**13.07**	**74**	Pn	**Pn**	**02 54 18.5**	**-1.2**
LPAZ	**La Paz**	**14.69**	**12**	Pn	**Pn**	**02 54 42.2**	**-0.2**
	2.9nm,0.3s,baz=181,slow=7.4,SNR=134						
LPAZ	**La Paz**	**14.69**	**12**	P	**Pn**	**02 54 43.2**	**+0.8**
LPAZ	**La Paz**	**14.69**	**12**	Pn	**Pn**	**02 54 43.2**	**+0.8**
LPAZ	**La Paz**	**14.69**	**12**	*eP*	**Pn**	**02 54 42.7**	**+0.3**
PLTB	**Pedras Altas**	**15.20**	**98**	*eP*	**Pn**	**02 54 47.0**	**-1.6**
AQDB	**Aquidauana**	**17.40**	**58**	Pn	**Pn**	**02 55 15.6**	**-1.1**
AQDB					IAmb	IAmb	02 55 30.0
	comp=Z,3μm,1.0s						
AQDB	**Aquidauana**	**17.40**	**58**	*eP*	**Pn**	**02 55 16.3**	**-0.4**
SIV	**San Ignacio**	**17.44**	**35**	P	**Pn**	**02 55 17.4**	**+0.2**
	comp=Z,15nm,0.3s,baz=228,slow=12,SNR=176						
SIV				LR	LR	03 03 24.5	
	comp=Z,37μm,19.9s,baz=227,slow=42						
CNLB	**Canela**	**17.79**	**91**	*eP*	**Pn**	**02 55 20.7**	**-0.8**
TRCB	**Terra Rica**	**18.47**	**69**		**P**	**02 55 29.5**	**0.0**
TRCB	**Terra Rica**	**18.47**	**69**	*eP*	**P**	**02 55 29.8**	**+0.3**
PTLB	**Pontes e Lacer**	**18.89**	**39**	*eP*	**Pn**	**02 55 35.4**	**+0.5**
NNA	**Nana**	**19.36**	**344**	P	**Pn**	**02 55 41.1**	**+0.5**
	comp=Z,2.6nm,0.3s,baz=183,slow=14,SNR=18						
NNA				S	**Sn**	**02 59 20.2**	**+3.3**
	comp=Z,0.9nm,0.3s,baz=194,slow=14,SNR=1.0						
NNA				LR	LR	03 02 17.7	
	comp=Z,19μm,18.9s,baz=170,slow=34						
NNA	**Nana**	**19.36**	**344**	*eP*	**Pn**	**02 55 43.7**	**+3.1**
NNA	**Nana**	**19.36**	**344**	P	**Pn**	**02 55 41.7**	**+1.1**
TER01	**Tubaro-SC**	**19.43**	**89**	*eP*	**Pn**	**02 55 42.0**	**+0.7**
PCMB	**Pacaembu**	**20.16**	**68**	*eP*	Pn	02 55 49.8	-0.2
TIJ01	**Guaruva-PR**	**20.43**	**80**	*eP*	**P**	**02 55 49.6**	**-1.4**
VILB	**Vilhena**	**20.48**	**33**	*eP*	Pn	02 55 52.9	-0.9
SALV	**Santo Antonio**	**20.57**	**48**	*eP*	**P**	**02 55 53.5**	**+1.0**
FRTB	**Fartura**	**20.73**	**74**	*eP*	**P**	**02 55 55.5**	**+1.3**
ETMB	**Extrema**	**21.37**	**14**	*eP*	**P**	**02 56 03.8**	**+2.7**
ITRB	**Iturama**	**21.89**	**65**	*eP*	**P**	**02 56 07.4**	**+0.7**
MG02	**Cerro Sombrero**	**22.07**	**177**	IAmb	IAmb	02 56 33.8	
	comp=Z,2μm,1.4s						
PET01	**Itanhaem-SP**	**22.26**	**79**	*eP*	**P**	**02 56 10.8**	**+0.1**
GO10	**Punta Arenas**	**22.39**	**180**	P	**P**	**02 56 12.8**	**+1.0**
GO10				IAmb	IAmb	02 56 34.6	
	comp=Z,966nm,1.0s						
SPB	**Sao Paulo**	**22.40**	**77**	P	**P**	**02 56 12.1**	**0.0**
SPB	**Sao Paulo**	**22.40**	**77**	*eP*	**P**	**02 56 12.5**	**+0.4**
BB19B	**Bebedouro**	**22.63**	**70**	*eP*	**P**	**02 56 14.3**	**-0.4**
RCLB	**Rio Claro- Sao**	**22.81**	**74**	*eP*	**P**	**02 56 16.2**	**-0.4**
CZSB	**Cruzeiro do Su**	**22.94**	**357**	*eP*	**P**	**02 56 19.4**	**+1.5**
SAML	**Samuel**	**22.99**	**21**	P	**P**	**02 56 18.9**	**+0.6**
SAML				pmax	pmax		
	comp=Z,2μm,1.2s						
SAML				MLR	MLR		
	comp=Z,54μm,22.0s						
SAML	**Samuel**	**22.99**	**21**	P	**P**	**02 56 18.9**	**+0.6**
SAML	**Samuel**	**22.99**	**21**	IAMs_20	IAMs_20	03 06 13.8	
	comp=Z,54μm,22.0s						
VAO	**Valinhos**	**23.03**	**76**	*eP*	**P**	**02 56 19.0**	**+0.1**
EFI	**East Falkland**	**23.09**	**159**	P	**P**	**02 56 18.8**	**-0.3**
EFI				pmax	pmax		
	comp=Z,710nm,0.8s						
EFI				MLR	MLR		
	comp=Z,39μm,18.0s						
EFI	**East Falkland**	**23.09**	**159**	P	**P**	**02 56 18.8**	**-0.3**
EFI				IAmb	IAmb	02 56 24.0	
	comp=Z,710nm,0.8s						
EFI	**East Falk

TAMC Tame, Arauca 36.98 359⇑*i*P P 02 58 23.8 +1.0
BARC Barichara 37.17 357 *e*P P 02 58 25.1 +0.3
PTBC PUERTO BERRIO, 37.20 355⇑*i*P P 02 58 24.5 -0.2
SOLC Bahia Solano 37.23 350 *e*P P 02 58 27.1 +2.2
ELOV Elorza 37.58 3⇑*i*P P 02 58 28.4 +0.4
BRRC Barranca, Sant 37.71 356⇑*i*P P 02 58 28.8 -0.2
ROSB Rosrio 37.80 48 *e*P P 02 58 30.1 +0.3
DBBC Dabeiba 37.84 352⇑*i*P P 02 58 32.9 +2.7
PAMC Pamplona, Colo 37.90 358 *e*P P 02 58 31.4 +0.3
ZARC Zaragoza, Cauc 38.18 354⇑*i*P P 02 58 33.4 +0.4
PTAC Punta Ardita, 38.19 350⇑*i*P P 02 58 35.7 +2.6
NBMA Muriti-CE 38.34 59 *e*P P 02 58 35.3 +0.9
NBPS Pedro II - PI 38.47 53 *e*P P 02 58 36.0 +0.4
UREC San Jos de Ur 38.49 353⇑*i*P P 02 58 36.4 +0.7
NBAN Anadia - AL 38.77 65 *e*P P 02 58 38.1 0.0
OCAC Ocana 38.81 357⇑*i*P P 02 58 37.3 -1.2
SOCV Socops 38.81 1⇑*i*P P 02 58 38.0 -0.4
CACAO El Cacao, Vera 38.97 345⇑*i*P P 02 58 41.6 +2.0
NBPB Pedra_Branca-C 38.97 56 *e*P P 02 58 40.6 +0.8
AZU Azuero 39.27 346⇑*i*P P 02 58 44.8 +2.7
SMLC San Martn de 39.41 356⇑*i*P P 02 58 42.9 -0.4
SDV Santo Domingo 39.42 1 P P 02 58 43.8 +0.2
comp=Z,185nm,0.9s,baz=189,slow=6.8,SNR=80
SDV LR LR 03 14 49.0
comp=Z,7µm,19.8s,baz=175,slow=36
SDV Santo Domingo 39.42 1 P P 02 58 43.2 -0.4
SDV IAmb IAmb 02 58 52.0
comp=Z,179nm,0.7s
SDV Santo Domingo 39.42 1 IAMs_20 IAMs_20 03 16 23.8
comp=Z,18µm,20.0s
SDV Santo Domingo 39.42 1⇑*i*P P 02 58 43.7 +0.2
SDV Santo Domingo 39.42 1 *e*P P 02 58 44.0 +0.4
GMAL Guarumal, Vera 39.45 344⇑*i*P P 02 58 46.3 +2.6
CAPC Capurgana 39.59 351⇑*i*P P 02 58 47.1 +2.3
BAUV El Baul 39.59 5 *i* P P 02 58 44.8 0.0
UPD2 Meteti 39.60 350⇑*i*P P 02 58 47.5 +2.6
LCBC Los crdobas, 39.68 352 *e*P P 02 58 46.0 +0.5
NBLV Livramento - P 39.72 61 *e*P P 02 58 46.3 +0.3
MDP Montagnes des 39.88 30 P P 02 58 47.3 0.0
comp=Z,734nm,0.9s,baz=202,slow=8.5,SNR=240
MDP S S 03 04 46.7 -3.6
comp=Z,22nm,1.1s,baz=74,slow=21,SNR=7.3
PNME Penonome 39.96 346⇑*e*P P 02 58 50.3 +2.4
LL1C La Loma 1 Cana 40.12 357⇑*i*P P 02 58 49.6 +0.4
LL2C La Loma 2 Cana 40.13 357⇑*i*P P 02 58 48.8 -0.4
NBRF Rio Formoso - 40.26 65 *e*P P 02 58 50.0 -0.5
UPA Univ. de Panam 40.28 347⇑*i*P P 02 58 52.3 +1.7
ARGC Ariguani, Magd 40.47 356⇑*i*P P 02 58 52.9 +0.8
BCIP Isla Barro Col 40.52 347 IAmb IAmb 02 59 15.3
comp=Z,376nm,1.4s
BCIP Isla Barro Col 40.52 347⇑*i*P P 02 58 54.3 +1.8
SJCC San Jacinto, C 40.58 354 P P 02 58 54.4 +1.3
SJCC IAmb IAmb 02 59 01.1
comp=Z,285nm,0.8s
SJCC San Jacinto, C 40.58 354⇑*i*P P 02 58 54.3 +1.2
BRU2 Volcan 40.80 343⇑*i*P P 02 58 57.5 +2.5
NBCL Cascavel-CE 40.80 56 *e*P P 02 58 55.8 +0.9
PCRV Puerto La Cruz 41.20 10 P P 02 58 58.8 +0.6
comp=Z,242nm,0.8s,baz=182,slow=4.2,SNR=83
RCBR Riachuelo 41.48 61 P P 02 59 00.8 +0.2
RCBR pmax pmax
comp=Z,2µm,1.1s
RCBR Riachuelo 41.48 61 P P 02 59 00.8 +0.2
RCBR Riachuelo 41.48 61 *e*P P 02 59 01.6 +1.0
CRJC Cerrejon, Guaj 41.56 358⇑*i*P P 02 58 59.5 -1.7
NBPV Pedro Velho 41.56 62 *e*P P 02 59 02.4 +1.2
PEZE Perez Zeledon, 41.63 341 P P 02 59 03.5 +1.7
SMRC Santa Marta, M 41.77 356⇑*e*P P 02 59 03.3 +0.6
TPP Pointe-a-Pierr 41.92 15 *e*P P 02 59 04.7 +0.6
URIC Uribia, Colomb 42.21 359 P P 02 59 05.0 -1.4
URIC Uribia, Colomb 42.21 359⇑*i*P P 02 59 04.5 -1.9
TRN Trinidad (W) 42.25 15⇑*i*P P 02 59 05.7 -1.0
CAO2 Cobano, Puntar 42.33 340 P P 02 59 09.1 +1.8
HATO Hato, Curacao 42.74 3 P P 02 59 11.1 +0.4
HATO IAmb IAmb 02 59 12.9
comp=Z,531nm,0.8s
HATO IAMs_20 IAMs_20 03 19 00.1
comp=Z,16µm,20.0s
JTS Las Juntas de 42.85 340 P P 02 59 12.4 +0.7
comp=Z,44nm,0.8s,baz=189,slow=4.4,SNR=26
JTS LR LR 03 13 33.2
comp=Z,6µm,21.6s,baz=236,slow=31
JTS Las Juntas de 42.85 340*c i*P P 02 59 13.8 +2.1
JTS pmax pmax
comp=Z,381nm,2.3s
JTS MLR MLR
comp=Z,8µm,20.0s
JTS Las Juntas de 42.85 340 P P 02 59 13.4 +1.8
JTS Las Juntas de 42.85 340⇑*e*P P 02 59 14.1 +2.5
BOT Bacolet 42.91 15 *e*P P 02 59 11.1 -0.9
TOSP Speyside 43.08 16⇑*i*P P 02 59 13.3 -0.1
TOSP Speyside 43.08 16 P P 02 59 14.3 +0.9
COVE Coope Vega, Sa 43.10 341 IAmb IAmb 02 59 30.9
comp=Z,388nm,1.1s
GRFF Grenada Fort F 43.54 14⇑*i*P P 02 59 16.6 -0.6
GRGR Grenville 43.64 14⇑*i*P P 02 59 17.6 -0.4
GRGR Grenville 43.64 14 P P 02 59 18.7 +0.7
GRGR IAMs_20 IAMs_20 03 20 42.8
comp=Z,21µm,20.0s
GRHS Sauteurs 43.73 14⇓*i*P P 02 59 19.2 +0.5
GCMP Grenada, Carri 44.03 14⇑*i*P P 02 59 20.6 -0.5
SVB Belmont 44.83 14⇑*i*P P 02 59 26.8 -0.7
SVB Belmont 44.83 14 *e*S S 03 05 54.7 -8.5
SSV Crater Summit 44.90 14 *e*P P 02 59 28.5 +0.4
PRVC Isla de Provid 44.92 346⇑*e*P P 02 59 29.9 +1.7
BBSP Saint Philip 45.08 16 *e*P P 02 59 31.9 +2.4
BBGH Gun Hill 45.09 16⇑*i*P P 02 59 29.6 +0.1
BBGH Gun Hill 45.09 16 IAMs_20 IAMs_20 03 21 26.1
comp=Z,21µm,21.0s
MCLT Moule a Chique 45.32 14⇑*e*P P 02 59 30.6 -0.8
SLB Belfond 45.41 14 *e*P P 02 59 32.8 +0.6
CNGN Cerro Negro 45.47 339 P P 02 59 33.9 +1.3
SLBI Saint Lucia, B 45.62 14⇑*i*P P 02 59 33.1 -0.6
SLBI Saint Lucia, B 45.62 14 *e*S S 03 06 05.6 -8.9
CRIN San Cristobal 45.77 338 IAmb IAmb 03 00 06.1
comp=Z,177nm,0.8s
MPOM Morne Pois Mar 46.05 14⇑*i*P P 02 59 36.1 -1.1
MPOM Morne Pois Mar 46.05 14 *e*S S 03 06 08.2 -12
BIM Bigot 46.08 14⇑*i*P P 02 59 34.9 -2.5
FDF Fort de France 46.27 14⇑*i*P P 02 59 37.2 -1.7
FDF Fort de France 46.27 14 IAMs_20 IAMs_20 03 22 02.6
comp=Z,18µm,22.0s
ILAM Ilet Lapin Mar 46.37 14⇑*i*P P 02 59 38.3 -1.3
SVN Savane Anatole 46.37 14 IAMs_20 IAMs_20 03 22 16.2
comp=Z,18µm,20.0s
DLPL La Plaine 46.84 13⇑*i*P P 02 59 41.4 -2.0
DLPL La Plaine 46.84 13 IAmb IAmb 02 59 56.9
comp=Z,294nm,0.7s
DSLB Salisbury 46.90 13⇑*i*P P 02 59 41.7 -2.1
MDCT Cottage Hill, 47.07 13 *e*P P 02 59 45.8 +0.7
MDVC Dominica, Viel 47.08 13 *e*P P 02 59 44.7 -0.5
MDPV Dominica, Penn 47.09 13 *e* P 02 59 58.8 +14
TGUH Tegucigalpa,Un 47.12 339 IAmb IAmb 02 59 49.4
comp=Z,230nm,0.9s
TGUH Tegucigalpa,Un 47.12 339⇑*i*P P 02 59 46.4 +0.7
TDBA Terre de Bas, 47.26 13⇑*i*P P 02 59 44.5 -2.1
TBG Guadaloupe-3 47.26 13 *e*P P 02 59 46.3 -0.3
SNET Serv Nac Est T 47.42 336 P P 02 59 49.9 +1.9
SNET IAmb IAmb 02 59 53.3
comp=Z,544nm,1.4s
MAGL Barre de l'ile 47.43 13⇑*i*P P 02 59 44.7 -3.2
CBE Ff, Capester 47.48 13⇑*i*P P 02 59 46.3 -2.1
ESQI Esquipulas 48.27 336 IAmb IAmb 03 00 23.4
comp=Z,212nm,1.0s
ANBD Bethesda, Anti 48.41 12 *e*P P 02 59 51.7 -3.8
ANDO Antigua, Disas 48.46 12 *e*P P 02 59 54.1 -1.7
ANOC Antigua Open C 48.46 12 *e*P P 02 59 53.6 -2.3
SKI Saint Kitts 48.52 11 *e*P P 02 59 55.2 -1.1
SEUS St. Eustatius 48.63 11⇑*i*P P 02 59 56.5 -0.7
SEUS St. Eustatius 48.63 11 IAMs_20 IAMs_20 03 22 04.2
comp=Z,20µm,22.0s
CDVI St. Croix 48.64 8 P P 02 59 57.4 +0.2
CDVI IAmb IAmb 03 00 02.5
comp=Z,299nm,0.8s
JAKH Jacmel 48.72 359 IAmb IAmb 03 00 26.0
comp=Z,229nm,1.0s
SJG San Juan 48.84 7 P P 02 59 58.2 -0.6
comp=Z,1µm,1.1s,baz=190,slow=4.8,SNR=183
SJG S S 03 06 57.8 -2.5
comp=Z,11nm,1.0s,baz=333,slow=20,SNR=7.7
SJG San Juan 48.84 7 P P 02 59 58.1 -0.6
SJG San Juan 48.84 7⇑*i*P P 02 59 58.2 -0.6
HUMP Col San Antoni 48.90 7 IAmb IAmb 03 00 01.4
comp=Z,281nm,0.9s
LGNH Logne 48.99 358 P P 03 00 01.1 +1.2
LGNH IAmb IAmb 03 00 03.8
comp=Z,205nm,0.7s
ANWB Willy Bob 49.01 12 *e*P P 02 59 57.0 -3.1
AOPR Arecibo Observ 49.01 6⇑*i*P P 02 59 59.2 -1.0
MTDJ Mount Denham 49.06 352 IAmb IAmb 03 00 02.8
comp=Z,229nm,1.1s
MTDJ Mount Denham 49.06 352⇑*i*P P 03 00 01.3 +0.7
RTAL Retalhuleu 49.09 334 P P 03 00 01.7 +0.9
RTAL IAmb IAmb 03 00 28.5
comp=Z,224nm,1.1s
CUPR Culebra, Puert 49.12 8 IAmb IAmb 03 00 02.8
comp=Z,219nm,0.8s
SMRT St. Maarten 49.17 10⇑*i*P P 02 59 59.7 -1.6
SMRT St. Maarten 49.17 10 IAMs_20 IAMs_20 03 24 08.3
comp=Z,15µm,20.0s
STVI Saint Thomas 49.20 8 IAmb IAmb 03 00 04.3
comp=Z,232nm,0.8s
SDDR Presa de Saban 49.45 0 P P 03 00 03.8 +0.3
SDDR IAmb IAmb 03 00 10.4
comp=Z,147nm,0.9s
SDDR Presa de Saban 49.45 0⇑*i*P P 03 00 03.5 0.0
HUEH Huehuetenango 49.74 334 IAmb IAmb 03 00 10.1
comp=Z,195nm,0.9s
GTBY Guantanamo Bay 50.52 355 IAmb IAmb 03 00 15.0
comp=Z,252nm,0.8s
GTBY Guantanamo Bay 50.52 355⇑*i*P P 03 00 12.3 +0.8
PETF Flores 50.64 337 IAmb IAmb 03 00 16.3
comp=Z,203nm,0.9s
LCCY Blossom Villag 50.83 349 P P 03 00 14.7 +0.8
LCCY IAmb IAmb 03 00 40.0
comp=Z,232nm,1.1s
CBCY The Bluff, Cay 50.85 350 IAmb IAmb 03 00 18.1
comp=Z,174nm,1.0s
CCIG Comitan 50.87 334 IAmb IAmb 03 00 18.2
comp=Z,204nm,1.0s
GRTK Grand Turk 51.96 0 IAMs_20 IAMs_20 03 24 31.4
comp=Z,11µm,21.0s
VNA3 Neumayer Olymp 52.15 159 P P 03 00 23.8 +0.5
VNA1 Neumayer--Stat 52.44 158 P P 03 00 26.2 +0.9
VNA2 Neumayer--Watz 52.78 158 P P 03 00 28.5 +0.6
baz=286,slow=8.8
SNAA Sanae 54.37 159 P P 03 00 40.1 +0.4
SNAA Sanae 54.37 159 P P 03 00 39.5 -0.2
comp=Z,466nm,1.1s,baz=273,slow=8.6,SNR=486
SNAA Sanae 54.37 159 P P 03 00 38.8 -0.9
SNAA IAMs_20 IAMs_20 03 23 21.4
comp=Z,10µm,20.0s
SOR Soroa 54.40 347 IAmb IAmb 03 01 05.5
comp=Z,300nm,1.4s
TLIG Tlapa 54.72 328 IAmb IAmb 03 00 47.5
comp=Z,178nm,1.0s
UNM Universidad Na 56.53 328 P P 03 00 57.1 +1.0
UNM pmax pmax
comp=Z,389nm,0.8s
UNM Universidad Na 56.53 328 P P 03 00 57.0 +1.0
RKT Rikitea 56.59 261 *e*T T 04 01 14.6
comp=Z,32nm,0.2s
061Z Ochoppi 57.04 350 IAmb IAmb 03 01 24.6
comp=Z,355nm,1.1s
H10N3 ASCENSION HYDR 57.62 79 P P 03 01 04.7 +1.5
baz=229,slow=6.9,SNR=8.4
H10N1 ASCENSION HYDR 57.63 79 P P 03 01 05.3 +1.9
baz=229,slow=6.9,SNR=14
H10N2 ASCENSION HYDR 57.63 79 P P 03 01 05.3 +2.0
baz=229,slow=6.9,SNR=10
ASCN Ascension 57.69 79 P P 03 01 03.9 -0.2
DWPF Disney Wildern 59.32 350 P P 03 01 15.1 0.0
DWPF IAmb IAmb 03 01 20.8
comp=Z,397nm,1.4s
DWPF Disney Wildern 59.32 350 P P 03 01 15.7 +0.6
baz=170
DWPF S S 03 09 21.1 -0.5
baz=170
QSPA South Pole Qui 59.48 180 P P 03 01 16.2 +0.2
QSPA IAmb IAmb 03 01 27.7
comp=Z,198nm,0.9s
ZAIG Zacatecas 61.08 327 P P 03 01 28.8 +1.2
ZAIG IAmb IAmb 03 01 32.5
comp=Z,117nm,1.1s
SHEL Horse Pasture 61.23 92 P P 03 01 29.3 +0.7
SHEL pmax pmax
comp=Z,936nm,1.4s
SHEL Horse Pasture 61.23 92 P P 03 01 29.3 +0.7
H06S1 SOCORRO T 62.23 317 T T 04 09 04.0
SNR=22
H06E1 SOCORRO T-PHAS 62.24 317 T T 04 09 11.3
SNR=103
H06N1 SOCORRO T-PHAS 62.34 317 T T 04 09 07.7
SNR=6.6
451A Vernon 62.55 346 IAmb IAmb 03 02 02.5
comp=Z,248nm,1.1s
TIGA Tifton 62.94 348 IAmb IAmb 03 02 03.9
comp=Z,338nm,1.3s
TIGA Tifton 62.94 348 P P 03 01 39.7 +0.2
baz=168,SNR=34
TIGA S S 03 10 06.5 -1.1
baz=168
BBSR BB Station 63.09 6 P P 03 01 41.2 +0.6
BBSR IAmb IAmb 03 01 43.7
comp=Z,228nm,0.8s
255A Hazlehurst 63.23 349 IAmb IAmb 03 01 44.5
comp=Z,147nm,0.8s
BRAL Brewton 63.36 345 IAmb IAmb 03 01 45.9
comp=Z,235nm,0.8s
BRAL Brewton 63.36 345 P P 03 01 43.0 +0.6
baz=165,SNR=29
BRAL S S 03 10 11.9 -0.9
baz=165
CSU Charleston Sou 63.93 352 P P 03 01 47.1 +1.0
250A Grady 63.98 346 IAmb IAmb 03 02 11.4
comp=Z,356nm,1.4s
NHSC New Hope 64.06 352 P P 03 01 47.9 +1.0
baz=172,SNR=30
NHSC S S 03 10 22.0 +0.6
baz=172
346A Big Creek Wild 64.15 343 IAmb IAmb 03 01 51.8
comp=Z,221nm,0.7s
152A Waverly Hall 64.34 347 IAmb IAmb 03 01 50.5
comp=Z,167nm,0.8s
344A Westbrook Farm 64.55 342 IAmb IAmb 03 01 54.9
comp=Z,345nm,1.2s
833A Chaparral WMA, 64.56 333 P P 03 01 51.8 +1.5
baz=154,SNR=164
833A S S 03 10 30.2 +2.4
baz=154
SACV Santiago Islan 64.59 52 P P 03 01 51.2 +0.3
441A DeRidder 64.59 339 IAmb IAmb 03 01 55.0
comp=Z,308nm,0.8s
HKT Hockley 64.71 337*c i*P P 03 01 52.2 +1.0
HKT pmax pmax
comp=Z,622nm,2.6s
HKT Hockley 64.71 337 P P 03 01 51.5 +0.3
HKT IAmb IAmb 03 01 56.1
comp=Z,154nm,1.1s
Y59A Loris 64.79 353 IAmb IAmb 03 01 54.5
comp=Z,174nm,0.7s
GOGA Godfrey 64.84 349 IAmb IAmb 03 01 53.2
comp=Z,141nm,0.9s
GOGA Godfrey 64.84 349 P P 03 01 52.2 +0.1
baz=169,SNR=63
GOGA S S 03 10 28.8 -2.3
baz=169
Y57A Sumter 64.99 352 P P 03 01 53.4 +0.4
Y57A IAmb IAmb 03 01 54.6
comp=Z,190nm,0.8s
Z51A Franklin 65.05 347 IAmb IAmb 03 01 54.8
comp=Z,151nm,0.9s
LRAL Lakeview Retre 65.15 346 P P 03 01 54.3 +0.3
baz=165,SNR=46
LRAL S S 03 10 32.7 -2.2
baz=165
VBMS Vicksburg 65.21 342 P P 03 01 55.8 +1.3
baz=162,SNR=42
VBMS S S 03 10 36.1 +0.4
baz=162
JSC Jenkinsville 65.36 351 IAmb IAmb 03 01 56.9
comp=Z,144nm,0.8s
Y52A Lilburn 65.38 348 IAmb IAmb 03 02 20.5
comp=Z,175nm,1.1s
HODGE Hodges 65.45 350 IAmb IAmb 03 01 57.4
comp=Z,195nm,1.2s
Z47A Carrollton 65.55 345 IAmb IAmb 03 01 58.3
comp=Z,199nm,0.8s
SLBS Sierra La Lagu 65.58 321 P P 03 01 58.0 +0.8
BIRD Birdtown, Kers 65.61 352 IAmb IAmb 03 02 21.4
comp=Z,184nm,1.3s
CNNC Cliffs of the 65.93 354 IAmb IAmb 03 02 02.5
comp=Z,392nm,1.2s
CNNC Cliffs of the 65.93 354 P P 03 02 00.1 +1.0
baz=174,SNR=18
CNNC S S 03 10 45.7 +1.3
baz=174
PAULI Pauline 65.97 351 IAmb IAmb 03 02 05.0
comp=Z,240nm,1.3s
NATX Nacogdoches 65.99 338 P P 03 02 01.0 +1.4
baz=158,SNR=45
NATX S S 03 10 47.8 +2.5
baz=158
W57A Gilead 66.06 352 P P 03 02 00.0 +0.1
W57A IAmb IAmb 03 02 01.4
comp=Z,172nm,0.8s
HPIG 66.08 327 IAmb IAmb 03 02 05.4
comp=Z,438nm,1.5s
435B Jarrell 66.08 335 IAmb IAmb 03 02 04.0
comp=Z,201nm,0.9s
435B Jarrell 66.08 335 P P 03 02 01.4 +1.2
baz=156,SNR=28
435B S S 03 10 47.3 +0.8
baz=156
KMSC Kings Mountain 66.22 351 IAmb IAmb 03 02 25.2
comp=Z,151nm,1.1s
KMSC Kings Mountain 66.22 351 P P 03 02 01.3 +0.4
baz=171,SNR=53
KMSC S S 03 10 46.5 -1.4
baz=171
BG3 Lake Jocassee 66.30 350 IAmb IAmb 03 02 26.1
comp=Z,147nm,1.0s
SBA Scott Base 66.37 191 P P 03 02 02.4 +0.9
SBA pmax pmax
comp=Z,106nm,1.3s
SBA Scott Base 66.37 191 P P 03 02 02.4 +0.9
W52A Murphy 66.56 349 IAmb IAmb 03 02 07.2
comp=Z,126nm,0.8s
237A Washetta, Mont 66.58 337 P P 03 02 04.7 +1.4
V58A Windy Hill, Pi 66.60 353 IAmb IAmb 03 02 04.9
comp=Z,222nm,0.7s
JCT Junction City 66.64 333 IAmb IAmb 03 02 06.8
comp=Z,261nm,1.1s
JCT Junction City 66.64 333 P P 03 02 04.9 +1.1
baz=154,SNR=42
JCT S S 03 10 55.3 +2.0
baz=154
Z41A Richland Creek 66.82 341 P P 03 02 06.1 +1.3
baz=160,SNR=29
Z41A S S 03 10 57.4 +2.1
baz=160
V55A Taylorsville 66.90 351 IAmb IAmb 03 02 30.4
comp=Z,159nm,0.9s
W50A Signal Mountai 66.91 348 IAmb IAmb 03 02 09.3
comp=Z,147nm,0.9s
V53A Saluda 66.95 350 IAmb IAmb 03 02 07.1
comp=Z,196nm,0.8s
CPCT Cooper Cave 67.01 348 IAmb IAmb 03 02 09.8
comp=Z,126nm,0.7s
U59A Littleton 67.03 354 IAmb IAmb 03 02 21.9
comp=Z,236nm,1.2s
SWET Sewanee 67.04 347 P P 03 02 06.0 -0.3
SWET IAmb IAmb 03 02 09.4
comp=Z,236nm,0.8s
TKL Tuckaleechee C 67.09 349 IAmb IAmb 03 02 07.7
comp=Z,212nm,0.8s
OXF Oxford 67.12 344 P P 03 02 06.7 +0.1
OXF pmax pmax
comp=Z,723nm,1.0s
OXF Oxford 67.12 344 P P 03 02 06.7 +0.1
OXF Oxford 67.12 344 P P 03 02 06.8 +0.1
baz=163,SNR=96
OXF S S 03 10 56.7 -2.1
baz=163
WHTX Lake Whitney, 67.14 336 IAmb IAmb 03 02 09.7
comp=Z,266nm,0.9s
WHTX Lake Whitney, 67.14 336 P P 03 02 07.8 +0.9
baz=156,SNR=101
WHTX S S 03 10 60.0 +0.8
baz=156
CCAR Cane Creek 67.16 342 IAmb IAmb 03 02 10.6
comp=Z,271nm,0.9s
TX31 Lajitas Ar. Si 67.22 330 IAmb IAmb 03 02 24.5
comp=Z,453nm,1.4s
TXAR Lajitas Array 67.22 330 P P 03 02 08.4 +0.8
comp=Z,42nm,0.8s,baz=151,slow=7.7,SNR=244
TXAR S S 03 11 02.8 +2.3
comp=Z,0.7nm,0.8s,baz=90,slow=6.3,SNR=1.3
TXAR LR LR 03 27 20.2
comp=Z,8µm,18.8s,baz=0.0,slow=32
TXAR PKPPKP P'P'df 03 30 30.6 +1.8
comp=Z,0.4nm,0.8s,baz=357,slow=2.5,SNR=3.8
V52A Sevierville 67.24 349 IAmb IAmb 03 02 12.7
comp=Z,182nm,0.7s
PLAL Pickwick Lake 67.26 345 IAmb IAmb 03 02 08.8
comp=Z,166nm,1.0s
WLAR White Oak Lake 67.31 340 IAmb IAmb 03 02 37.2
comp=Z,290nm,1.0s
V51A Loudon 67.33 349 IAmb IAmb 03 02 09.9
comp=Z,211nm,0.8s
TAOE Nuku Hiva Isla 67.34 273 *e*S S 03 11 02.6 0.0
comp=Z,6µm,27.9s
TAOE Nuku Hiva Isla 67.34 273 *e*LR LR 03 22 22.8
comp=Z,20µm,31.5s,baz=131
TAOE Nuku Hiva Isla 67.34 273 P P 03 02 09.7 +0.9
VNDA Vanda 67.39 191 P P 03 02 08.8 +0.8
comp=Z,23nm,1.0s,baz=129,slow=5.3,SNR=79
VNDA S S 03 11 02.2 +0.9
comp=Z,1.4nm,1.0s,baz=177,slow=11,SNR=1.3
VNDA PKPPKP P'P'df 03 30 22.5 -16
comp=Z,7.1nm,1.2s,baz=290,slow=3.4,SNR=11
VNDA Vanda 67.39 191 P P 03 02 08.2 +0.2
Z38A Mt. Pleasant 67.48 339 IAmb IAmb 03 02 12.1
comp=Z,278nm,1.0s
U54A Nelsons Funny 67.64 351 P P 03 02 10.0 0.0
T57A Hurt 67.80 353 IAmb IAmb 03 02 12.7
comp=Z,150nm,0.9s
TZTN Tazewell 67.92 349 IAmb IAmb 03 02 14.5
comp=Z,126nm,0.9s
TZTN IAMs_20 IAMs_20 03 33 57.8
comp=Z,6µm,21.0s
TZTN Tazewell 67.92 349 P P 03 02 11.9 +0.2
baz=169,SNR=51
TZTN S S 03 11 06.4 -2.0
baz=169
CLTN Cedars of Leba 67.97 347 P P 03 02 12.3 +0.3
X40A Basin Creek Fa 67.98 341 P P 03 02 12.4 +0.2
baz=160,SNR=27
X40A S S 03 11 08.8 -0.4
baz=160
BLA Blacksburg 68.14 352 IAmb IAmb 03 02 14.9
comp=Z,439nm,1.5s
BLA Blacksburg 68.14 352 P P 03 02 13.7 +0.6
baz=172,SNR=20
BLA S S 03 11 10.5 -0.6
baz=172
MIAR Mount Ida 68.25 340 P P 03 02 14.4 +0.6
baz=160,SNR=55
MIAR S S 03 11 11.7 -0.7
baz=160
U49A Red Boiling Sp 68.27 348 IAmb IAmb 03 02 15.3
comp=Z,175nm,0.7s
WVT Waverly 68.31 346 P P 03 02 14.1 -0.1
WVT pmax pmax
comp=Z,274nm,0.9s
WVT Waverly 68.31 346 P P 03 02 14.1 -0.1
WVT IAmb IAmb 03 02 17.2
comp=Z,274nm,0.8s
WVT Waverly 68.31 346 P P 03 02 14.4 +0.3
baz=165
WVT S S 03 11 10.7 -2.3
baz=165
LPAR Lepanto 68.37 343 IAmb IAmb 03 02 18.1
comp=Z,456nm,1.4s
HBAR Harrisburg 68.41 343 IAmb IAmb 03 02 16.5
comp=Z,158nm,0.9s
HALT Halls 68.44 344 IAmb IAmb 03 02 18.1
comp=Z,372nm,1.0s
W41B Gary Mavity, V 68.47 342 P P 03 02 15.7 +0.5
baz=161,SNR=86
W41B S S 03 11 14.7 -0.2
baz=161
ABTX Abilene, Hawle 68.49 335 IAmb IAmb 03 02 45.4
comp=Z,382nm,1.4s
ABTX Abilene, Hawle 68.49 335 P P 03 02 16.4 +0.9
baz=154,SNR=90
ABTX S S 03 11 16.6 +1.1
baz=154

S57A Dark Hollow, R 68.53 354 IAmb IAmb 03 02 31.2
comp=Z,206nm,1.1s
WHAR Wooly Hollow 68.59 342 P P 03 02 16.3 +0.4
WHAR IAmb IAmb 03 02 32.3
comp=Z,262nm,1.4s
R58B Mineral 68.63 354 IAmb IAmb 03 02 20.3
comp=Z,250nm,1.1s
SYO Syowa Base 68.67 159⇑iP P 03 02 15.4 -0.7
SYO Syowa Base 68.67 159⇑epP pP 03 02 26.4 +0.8
GLAT Glass 68.77 344 P P 03 02 17.9 +1.0
X37A Clayton 68.83 339 IAmb IAmb 03 02 42.0
comp=Z,263nm,1.4s
CBN Corbin Frederi 68.83 355 IAmb IAmb 03 02 19.6
comp=Z,485nm,1.4s
CBN IAMs_20 IAMs_20 03 33 33.1
comp=Z,7µm,22.0s
CBN Corbin Frederi 68.83 355 P P 03 02 18.4 +1.1
baz=174,SNR=20
CBN S S 03 11 21.0 +1.9
baz=174
S54A Dingess, Beckl 68.83 352 IAmb IAmb 03 02 20.9
comp=Z,116nm,0.6s
LOOK Love County 68.86 337 IAmb IAmb 03 02 30.3
comp=Z,161nm,0.9s
W39A Magazine 68.92 340 P P 03 02 19.3 +1.3
baz=160,SNR=254
W39A S S 03 11 21.8 +1.5
baz=160
S51A Beattyville 69.00 350 IAmb IAmb 03 02 19.7
comp=Z,186nm,0.8s
PVMO Portageville 69.00 344 P P 03 02 19.3 +0.8
LCAR Lake Charles 69.03 343 IAmb IAmb 03 02 20.7
comp=Z,340nm,0.8s
FCAR Ozark Folk Cen 69.11 342 P P 03 02 19.2 0.0
FCAR IAmb IAmb 03 02 21.7
comp=Z,135nm,0.8s
R55A Marlinton 69.17 353 IAmb IAmb 03 02 31.8
comp=Z,187nm,1.1s
Q61A Milford 69.38 357 P P 03 02 22.8 +2.2
baz=176
R53A Hurricane 69.44 351 IAmb IAmb 03 02 22.4
comp=Z,135nm,0.8s
PBMO Poplar Bluff 69.52 344 IAmb IAmb 03 02 23.8
comp=Z,295nm,0.8s
X34A Smith Ranch, M 69.64 337 IAmb IAmb 03 02 25.1
comp=Z,299nm,0.8s
SRIG Santa Rosalia 69.72 322 P P 03 02 23.9 +0.8
U40A Yellville 69.74 342 IAmb IAmb 03 02 25.3
comp=Z,259nm,0.8s
U40A Yellville 69.74 342 P P 03 02 23.6 +0.5
baz=160,SNR=125
U40A S S 03 11 30.3 +0.2
baz=160
Q56A Snyder Ridge, 69.82 353 IAmb IAmb 03 02 39.0
comp=Z,291nm,1.4s
MEH Mehetia 69.92 261 eP P 03 02 25.5 +0.8
comp=Z,25nm,0.9s
MEH Mehetia 69.92 261 eT T 04 17 52.8
comp=Z,90nm,0.2s
Q54A Coxs Mills 69.94 352 IAmb IAmb 03 02 25.8
comp=Z,134nm,0.6s
HHAR Hobbs 69.98 341 IAmb IAmb 03 02 26.8
comp=Z,356nm,0.8s
SDMD Soldier's Deli 69.99 355 IAmb IAmb 03 02 27.7
comp=Z,349nm,1.5s
MNTX Cornudas Mount 70.00 329 P P 03 02 24.7 -0.1
baz=149,SNR=252
MNTX S S 03 11 34.1 +0.8
baz=149
WCI Wyandotte Cave 70.03 348 P P 03 02 24.4 -0.4
WCI pmax pmax
comp=Z,181nm,0.7s
WCI MLR MLR
comp=Z,5µm,22.0s
WCI Wyandotte Cave 70.03 348 P P 03 02 24.4 -0.4
WCI IAmb IAmb 03 02 26.2
comp=Z,181nm,0.7s
WCI Wyandotte Cave 70.03 348 P P 03 02 24.6 -0.2
baz=166
WCI S S 03 11 30.7 -2.6
baz=166
WMOK Wichita Mounta 70.09 336 P P 03 02 25.5 +0.3
baz=155,SNR=67
WMOK S S 03 11 34.9 +0.7
baz=155
FNO Franklin 70.09 338 IAmb IAmb 03 02 49.5
comp=Z,230nm,1.2s
Q52A Bidwell 70.10 351 IAmb IAmb 03 02 27.2
comp=Z,510nm,1.2s
S44A Carbondale 70.12 345 IAmb IAmb 03 02 27.4
comp=Z,328nm,0.8s
SIUC Southern Illin 70.14 345 IAmb IAmb 03 02 27.4
comp=Z,305nm,0.8s
TUL1 Leonard 70.18 339 P P 03 02 26.0 +0.2
TUL1 Leonard 70.18 339 P P 03 02 26.0 +0.2
baz=158,SNR=185
TUL1 S S 03 11 35.5 +0.3
baz=158
OKCFA Oklahoma City 70.25 338 IAmb IAmb 03 02 29.6
comp=Z,179nm,1.0s
Q51A Peebles 70.32 350 IAmb IAmb 03 02 28.4
comp=Z,258nm,0.9s
P60A Greenville 70.32 356 P P 03 02 27.8 +1.3
baz=176,SNR=34
P60A S S 03 11 37.6 +1.0
baz=176
MGMO Mountain Grove 70.34 342 IAmb IAmb 03 02 29.1
comp=Z,169nm,0.9s
HSIG 70.41 324 P P 03 02 27.8 +0.4
WUPA West Chester U 70.44 357 IAmb IAmb 03 02 30.4
comp=Z,579nm,1.5s
MCWV Mont Chateau 70.50 353 IAmb IAmb 03 02 29.4
comp=Z,317nm,1.2s
MCWV Mont Chateau 70.50 353 P P 03 02 28.4 +0.8
baz=172,SNR=50
MCWV S S 03 11 38.7 -0.1
baz=172
OK030 Cody Creek RV 70.51 338 IAmb IAmb 03 02 29.9
comp=Z,273nm,1.0s
BCOK Bluff Creek, N 70.53 338 IAmb IAmb 03 02 31.2
comp=Z,288nm,0.9s
MVL Millersville 70.55 356 IAmb IAmb 03 02 31.2
comp=Z,458nm,1.3s
OK031 S. Brethren Rd 70.55 338 IAmb IAmb 03 02 30.1
comp=Z,304nm,0.9s
OK029 Liberty Lake 70.60 338 IAmb IAmb 03 02 30.5
comp=Z,291nm,0.8s
FVM French Village 70.67 344 IAmb IAmb 03 02 32.0
comp=Z,244nm,0.8s
QUOK Quay 70.71 338 IAmb IAmb 03 02 32.5
comp=Z,163nm,0.9s
P52A Corning 70.74 351 IAmb IAmb 03 02 53.1
comp=Z,367nm,1.2s
P52A Corning 70.74 351 P P 03 02 29.1 0.0
baz=170,SNR=75
P52A S S 03 11 39.4 -2.2
baz=170
OLIL Olney 70.87 346 IAmb IAmb 03 02 31.6
comp=Z,509nm,1.2s
MSTX Muleshoe 70.89 333 IAmb IAmb 03 02 32.7
comp=Z,250nm,0.9s
MSTX Muleshoe 70.89 333 P P 03 02 30.8 +0.5
baz=152,SNR=173
MSTX S S 03 11 44.4 +0.7
baz=152
CCM Cathedral Cave 70.93 343 P P 03 02 30.3 0.0
CCM pmax pmax
comp=Z,377nm,0.8s
CCM Cathedral Cave 70.93 343 P P 03 02 30.3 0.0
CCM Cathedral Cave 70.93 343 P P 03 02 31.0 +0.7
baz=162
CCM S S 03 11 43.5 -0.3
baz=162
O56A Blue Knob Stat 70.98 354 IAmb IAmb 03 02 36.9
comp=Z,290nm,1.4s
O56A Blue Knob Stat 70.98 354 P P 03 02 31.7 +1.1
baz=174,SNR=43
O56A S S 03 11 45.2 +0.8
baz=174
BLO Bloomington 70.99 348 IAmb IAmb 03 02 31.6
comp=Z,194nm,0.7s
P49A Miami Univ. Ec 71.03 349 IAmb IAmb 03 02 31.7
comp=Z,211nm,0.8s
P49A Miami Univ. Ec 71.03 349 P P 03 02 30.6 -0.3
baz=168,SNR=92
P49A S S 03 11 42.5 -2.3
baz=168
LUPA Lehigh Univers 71.09 357 P P 03 02 32.5 +1.3
LUPA IAmb IAmb 03 02 34.5
comp=Z,590nm,1.5s
S39A Bolivar 71.12 342 IAmb IAmb 03 02 33.9
comp=Z,371nm,1.1s
TIAR Tiarei 71.15 260 eP P 03 02 33.3 +1.1
comp=Z,9.6nm,1.1s
TIAR Tiarei 71.15 260 eT T 04 19 25.0
comp=Z,9.4nm,0.2s
O52A Adamsville 71.18 352 IAmb IAmb 03 02 33.6
comp=Z,157nm,0.7s
CPNY Central Park 71.22 358 IAmb IAmb 03 02 34.0
comp=Z,340nm,1.5s
Q44A Meyer Farm, Va 71.23 346 IAmb IAmb 03 02 34.5
comp=Z,133nm,0.8s
O53A New Philadelph 71.23 352 IAmb IAmb 03 02 53.8
comp=Z,248nm,1.3s
O53A New Philadelph 71.23 352 P P 03 02 32.3 +0.3
baz=171,SNR=39
O53A S S 03 11 45.0 -2.2
baz=171
SLM Saint Louis 71.25 344 IAmb IAmb 03 02 35.4
comp=Z,199nm,0.8s
AMTX Amarillo 71.27 334 IAmb IAmb 03 02 36.6
comp=Z,416nm,1.3s
AMTX Amarillo 71.27 334 P P 03 02 33.3 +0.7
baz=153
AMTX S S 03 11 48.4 +0.3
baz=153
SSPA Standing Stone 71.29 355 P P 03 02 33.1 +0.7
SSPA IAmb IAmb 03 02 54.7
comp=Z,276nm,1.3s
SSPA Standing Stone 71.29 355 IAMs_20 IAMs_20 03 35 07.1
comp=Z,6µm,22.0s
SSPA Standing Stone 71.29 355 P P 03 02 33.4 +1.0
baz=174
SSPA S S 03 11 49.2 +1.3
baz=174
PAE Paea 71.30 260 eP P 03 02 33.9 +0.8
comp=Z,42nm,1.2s
PAE Paea 71.30 260 eT T 04 19 36.2
comp=Z,3.2nm,0.3s
PPTF Pamatai, Papee 71.32 260 P P 03 02 33.9 +0.6
PPTF IAmb IAmb 03 02 48.6
comp=Z,167nm,1.1s
PPT2 Papeete2 71.33 260 eP P 03 02 34.4 +1.0
comp=Z,192nm,1.3s
PPT2 eS S 03 11 49.0 -0.6
comp=Z,12µm,32.5s
PPT2 Papeete2 71.33 260 eLR LR 03 24 14.3
comp=Z,21µm,25.0s,baz=118
PPT2 Papeete2 71.33 260 eT T 04 19 38.1
comp=Z,3.8nm,0.2s
T35A Sooner Cattle 71.33 339 IAmb IAmb 03 02 37.3
comp=Z,173nm,0.9s
PPT Papeete 71.34 260 P P 03 02 34.3 +0.9
comp=Z,46nm,0.9s,baz=258,slow=14,SNR=4.1
PPT LR LR 03 26 26.0
comp=Z,4µm,19.5s,baz=118,slow=30
N59A State Game Lan 71.43 356 IAmb IAmb 03 02 51.7
comp=Z,192nm,1.1s
N59A State Game Lan 71.43 356 P P 03 02 34.9 +1.6
baz=176,SNR=56
N59A S S 03 11 52.7 +3.2
baz=176
PAL Palisades 71.44 358 P P 03 02 34.0 +0.8
PAL pmax pmax
comp=Z,110nm,1.1s
PAL Palisades 71.44 358 P P 03 02 34.0 +0.8
PAL Palisades 71.44 358 P P 03 02 34.2 +1.0
baz=178,SNR=12
PAL S S 03 11 52.0 +2.5
baz=178
ACSO Alum Creek Sta 71.45 351 P P 03 02 33.5 +0.1
baz=170,SNR=97
ACSO S S 03 11 47.0 -2.7
baz=170
319A Douglas 71.52 326 IAmb IAmb 03 02 38.4
comp=Z,190nm,0.9s
P46A Rosedale 71.55 347 IAmb IAmb 03 02 36.4
comp=Z,171nm,0.7s
WSPT Westport, CT 71.59 358 IAMs_20 IAMs_20 03 34 58.0
comp=Z,6µm,22.0s
TRNY Table Rock, Ra 71.59 358 IAmb IAmb 03 02 37.3
comp=Z,482nm,1.4s
O49A Covington 71.61 350 IAmb IAmb 03 02 50.6
comp=Z,207nm,0.9s
U32A Winter Ranch, 71.65 337 IAmb IAmb 03 02 38.5
comp=Z,196nm,0.8s
GC02 Grant County # 71.70 338 P P 03 02 35.4 +0.4
YLE Yale 71.72 359 IAMs_20 IAMs_20 03 37 54.6
comp=Z,7µm,22.0s
OK032 Salt Plains WL 71.77 338 IAmb IAmb 03 02 37.3
comp=Z,207nm,1.0s
121A Cookes Peak, D 71.78 328 IAmb IAmb 03 02 40.8
comp=Z,268nm,0.9s
121A Cookes Peak, D 71.78 328 P P 03 02 37.5 +1.7
baz=148,SNR=244
121A S S 03 11 57.5 +3.3
baz=148
N54A Moraine State 71.80 353 IAmb IAmb 03 02 59.5
comp=Z,232nm,1.2s
N54A Moraine State 71.80 353 P P 03 02 36.2 +0.7
baz=172,SNR=43
N54A S S 03 11 53.2 -0.6
baz=172
KAN14 Manchester OK 71.83 338 IAmb IAmb 03 02 39.3
comp=Z,163nm,0.8s
KAN09 Caldwell North 71.88 338 IAmb IAmb 03 02 39.8
comp=Z,245nm,0.8s
M57A Sunshine Farm, 71.93 355 IAmb IAmb 03 02 38.4
comp=Z,344nm,1.3s
KAN05 Bluff City Nor 71.94 338 IAmb IAmb 03 02 40.2
comp=Z,259nm,0.8s
KS20 Mayfield South 71.95 338 P P 03 02 37.2 +0.8
KS20 IAmb IAmb 03 02 40.2
comp=Z,262nm,0.8s
M65A Busby, Falmout 71.96 1 P P 03 02 37.5 +1.1
baz=181
M65A S S 03 11 58.5 +3.0
baz=181
KAN10 Anthony SW Sta 72.02 338 IAmb IAmb 03 02 40.6
comp=Z,174nm,0.9s
N51A Ashland 72.04 351 IAmb IAmb 03 03 00.9
comp=Z,402nm,1.4s
P43A Skaggs, Pawnee 72.05 345 IAmb IAmb 03 02 38.3
comp=Z,278nm,0.7s
KAN06 Argonia West S 72.06 338 IAmb IAmb 03 02 41.0
comp=Z,229nm,0.8s
KSPA Keystone Colle 72.07 357 IAmb IAmb 03 02 39.2
comp=Z,332nm,1.4s
KSCT Kent School, K 72.14 358 P P 03 02 38.5 +1.0
KSCT IAmb IAmb 03 02 40.7
comp=Z,300nm,1.2s
M55A Ridgway 72.19 354 IAmb IAmb 03 02 43.6
comp=Z,441nm,1.4s
SFIN Lafayette 72.27 347 P P 03 02 37.6 -0.7
baz=166,SNR=45
SFIN S S 03 11 55.2 -3.9
baz=166
M54A Oil Creek Stat 72.31 353 IAMs_20 IAMs_20 03 39 10.1
comp=Z,5µm,20.0s
M54A Oil Creek Stat 72.31 353 P P 03 02 38.9 +0.4
baz=173,SNR=29
M54A S S 03 11 58.6 -1.0
baz=173
O44A Mansfield 72.32 346 IAmb IAmb 03 02 39.9
comp=Z,175nm,0.8s
L64A Middleborough 72.33 0 IAmb IAmb 03 02 41.7
comp=Z,607nm,1.5s
L64A Middleborough 72.33 0 P P 03 02 39.9 +1.3
baz=180,SNR=18
L64A S S 03 12 02.6 +2.9
baz=180
M53A WI Miller and 72.35 353 IAmb IAmb 03 02 41.7
comp=Z,188nm,1.1s
M53A WI Miller and 72.35 353 P P 03 02 39.1 +0.4
baz=172,SNR=28
M53A S S 03 11 58.1 -1.9
baz=172
ALLY Alegheny Colle 72.50 353 P P 03 02 39.9 +0.2
ALLY IAmb IAmb 03 02 45.1
comp=Z,213nm,1.2s
M52A Chesterland 72.53 352 IAmb IAmb 03 02 42.8
comp=Z,216nm,0.9s
M50A Fremont 72.61 351 IAmb IAmb 03 02 42.1
comp=Z,309nm,0.8s
L59A Walton 72.66 357 IAmb IAmb 03 02 44.5
comp=Z,208nm,0.9s
QUA2 Belchertown 72.68 359 IAmb IAmb 03 02 43.7
comp=Z,366nm,1.3s
Y22D IRIS PASSCAL I 72.70 330 P P 03 02 42.2 +1.0
Y22D IRIS PASSCAL I 72.70 330 P P 03 02 43.4 +2.1
baz=148
Y22D S S 03 12 09.0 +4.4
baz=148
BINY Binghamton 72.72 356 IAmb IAmb 03 02 57.5
comp=Z,207nm,1.3s
BINY Binghamton 72.72 356 P P 03 02 42.0 +1.0
baz=176,SNR=32
BINY S S 03 12 06.3 +2.1
baz=176
BCX Boston College 72.73 0 IAmb IAmb 03 02 44.0
comp=Z,226nm,1.4s
WES Weston 72.78 0 IAmb IAmb 03 02 44.4
comp=Z,324nm,1.4s
L61B Northampton 72.85 359 P P 03 02 42.9 +1.1
baz=179,SNR=54
L61B S S 03 12 07.1 +1.4
baz=179
HDIL Hopedale 72.88 346 IAmb IAmb 03 02 43.1
comp=Z,257nm,0.8s
HDIL Hopedale 72.88 346 P P 03 02 41.9 0.0
baz=164,SNR=50
HDIL S S 03 12 04.5 -1.6
baz=164
HRV Adam Dziewonsk 72.90 360 P P 03 02 43.0 +1.0
HRV pmax pmax
comp=Z,670nm,1.5s
HRV MLR MLR
comp=Z,4µm,20.0s
HRV Adam Dziewonsk 72.90 360 P P 03 02 43.0 +1.0
HRV IAmb IAmb 03 02 45.3
comp=Z,670nm,1.5s
HRV Adam Dziewonsk 72.90 360 P P 03 02 43.5 +1.5
baz=180
HRV S S 03 12 09.1 +2.9
baz=180
ERPA Erie 72.95 353 IAMs_20 IAMs_20 03 35 59.0
comp=Z,7µm,22.0s
ERPA Erie 72.95 353 P P 03 02 42.6 +0.3
baz=172,SNR=16
ERPA S S 03 12 04.8 -2.0
baz=172
P38A Dawn 73.00 342 IAmb IAmb 03 02 44.6
comp=Z,310nm,0.9s
TUC Tucson 73.01 326 P P 03 02 43.2 +0.2
TUC pmax pmax
comp=Z,117nm,1.4s
TUC Tucson 73.01 326 P P 03 02 43.2 +0.2
TUC Tucson 73.01 326 IAMs_20 IAMs_20 03 30 15.5
comp=Z,6µm,20.0s
TUC Tucson 73.01 326 P P 03 02 44.3 +1.3
baz=145
TUC S S 03 12 10.0 +1.9
baz=145
WVNY West Valley, N 73.11 354 IAmb IAmb 03 02 46.9
comp=Z,428nm,1.1s
LIC Lamto 73.19 72 eP P 03 02 45.0 +0.6
comp=Z,7µm,1.3s
ANMO Albuquerque 73.24 330 P P 03 02 45.6 +1.1
ANMO pmax pmax
comp=Z,262nm,1.5s
ANMO Albuquerque 73.24 330 P P 03 02 45.6 +1.1
ANMO IAmb IAmb 03 03 02.6
comp=Z,262nm,1.5s
ANMO Albuquerque 73.24 330 P P 03 02 45.8 +1.3
baz=149
ANMO S SKiKP 03 12 13.5 -0.6
baz=149
L48A N Adams 73.34 350 IAmb IAmb 03 02 46.1
comp=Z,249nm,0.7s
KSU1 Kansas State U 73.37 340 IAmb IAmb 03 02 46.9
comp=Z,136nm,0.8s
KSU1 Kansas State U 73.37 340 P P 03 02 44.9 0.0
baz=158,SNR=21
KSU1 S S 03 12 10.4 -1.4
baz=158
MMNY Mt. Morris Dam 73.37 355 IAmb IAmb 03 02 48.1
comp=Z,439nm,1.2s
R32A Long Quarter, 73.41 338 IAmb IAmb 03 02 48.9
comp=Z,273nm,0.8s
M44A Midewin, Midew 73.42 347 IAmb IAmb 03 02 46.7
comp=Z,532nm,1.2s
TIC Toumodi 73.44 72 eP P 03 02 46.4 +0.5
KIC Kosan Boka 73.50 72 eP P 03 02 46.9 +0.6
comp=Z,1µm,1.0s
AAM Ann Arbor 73.57 350 IAmb IAmb 03 03 02.5
comp=Z,313nm,1.5s
AAM Ann Arbor 73.57 350 P P 03 02 45.9 -0.1
baz=169,SNR=15
AAM S S 03 12 11.8 -2.1
baz=169
DBIC Dimbokro 73.58 72 P P 03 02 47.1 +0.4
comp=Z,2µm,0.8s,baz=232,slow=5.5,SNR=956
DBIC S SKiKP 03 12 12.3 -2.7
comp=Z,7.5nm,0.9s,baz=7.7,slow=21,SNR=1.8
DBIC LR LR 03 32 26.9
comp=Z,19µm,20.2s,baz=242,slow=34
DBIC Dimbokro 73.58 72 P P 03 02 46.8 +0.1
I17CI DIMBOKRO INFRA 73.58 72 P P 03 02 46.6 -0.1
baz=216,slow=7.9,SNR=4.5
L46A Eue Claire 73.71 348 IAmb IAmb 03 02 47.4
comp=Z,196nm,0.8s
214A Organ Pipe Nat 73.72 324 P P 03 02 48.6 +1.5
baz=144,SNR=104
214A S S 03 12 18.9 +2.8
baz=144
HQIL Hanson Quary C 73.78 347 IAmb IAmb 03 02 48.2
comp=Z,238nm,0.7s
ACCN Adirondack Com 73.81 358 P P 03 02 48.4 +1.0
ACCN IAmb IAmb 03 02 50.5
comp=Z,663nm,1.4s
J58A Remsen 73.84 357 IAmb IAmb 03 02 50.2
comp=Z,340nm,1.4s
MEDO Medina 73.85 355 IAmb IAmb 03 02 48.1
comp=Z,490nm,1.5s
FFD Franklin Falls 73.86 360 IAmb IAmb 03 02 50.4
comp=Z,636nm,1.5s
J57A Williamstown 73.92 356 IAmb IAmb 03 02 51.3
comp=Z,235nm,1.1s
J54A Appleton 73.97 354 IAmb IAmb 03 02 49.8
comp=Z,569nm,1.5s
SFX San Felipe 74.05 322 P P 03 02 50.0 +1.0
CBKS Cedar Bluff 74.10 337 IAmb IAmb 03 02 53.1
comp=Z,327nm,0.8s
CBKS Cedar Bluff 74.10 337 P P 03 02 50.1 +0.9
baz=155,SNR=87
CBKS S S 03 12 21.0 +1.0
baz=155
L44A Lake County Fo 74.16 347 IAmb IAmb 03 03 05.8
comp=Z,167nm,1.0s
L44A Lake County Fo 74.16 347 P P 03 02 49.3 -0.1
baz=165,SNR=9.4
L44A S SKiKP 03 12 17.3 +2.3
baz=165
I60A Shoreham 74.26 359 P P 03 02 51.0 +1.1
baz=178,SNR=49
I60A S S 03 12 25.4 +3.9
baz=178
T25A Trinidad 74.30 333 IAmb IAmb 03 02 55.4
comp=Z,232nm,1.0s
T25A Trinidad 74.30 333 P P 03 02 52.2 +1.5
baz=151,SNR=150
T25A S S 03 12 25.9 +3.1
baz=151
L42A Oliver, Polo 74.34 346 IAmb IAmb 03 02 52.4
comp=Z,642nm,1.4s
NCB Newcomb 74.41 358 IAmb IAmb 03 02 53.5
comp=Z,334nm,1.5s
PECO Prince Edward 74.50 356 IAmb IAmb 03 02 53.0
comp=Z,517nm,1.4s
LBNH Lisbon 74.63 360 IAmb IAmb 03 02 55.4
comp=Z,505nm,1.4s
LBNH Lisbon 74.63 360 P P 03 02 53.5 +1.4
baz=180,SNR=40
LBNH S S 03 12 29.7 +4.0
baz=180
J47A Sunmer 74.66 350 IAmb IAmb 03 02 54.2
comp=Z,239nm,0.8s
N35A Tabor 74.72 341 P P 03 02 52.7 0.0
W18A Petrified Fore 74.83 328 IAmb IAmb 03 03 11.1
comp=Z,450nm,1.5s
W18A Petrified Fore 74.83 328 P P 03 02 55.0 +1.2
baz=147,SNR=14
W18A S S 03 12 32.2 +3.5
baz=147

WVL	**Waterville**	**74.97**	**1**	P	**P**	**03 02 55.6**	**+1.6**
WVL				IAmb	IAmb	03 02 57.5	
	comp=Z,419nm,1.4s						
SCIA	**State Center**	**75.06**	**343**	P	**P**	**03 02 55.0**	**+0.3**
	baz=161,SNR=19						
SCIA				S	**S**	**03 12 29.4**	**-1.3**
	baz=161						
LONY	**Lake Ozonia**	**75.07**	**358**	IAmb	IAmb	03 02 57.4	
	comp=Z,614nm,1.4s						
LONY	**Lake Ozonia**	**75.07**	**358**	P	**P**	**03 02 55.5**	**+0.8**
	baz=177,SNR=55						
LONY				S	**S**	**03 12 32.5**	**+1.8**
	baz=177						
I49A	**Point Hope**	**75.07**	**351**	IAmb	IAmb	03 02 57.2	
	comp=Z,458nm,1.3s						
GUVIX	**Guadalupe Vict**	**75.16**	**323**	P	**P**	**03 02 57.0**	**+1.6**
GUVIX				IAmb	IAmb	03 02 59.8	
	comp=Z,343nm,1.2s						
EMMW	**East Machias**	**75.18**	**3**	IAMs_20	IAMs_20	03 33 52.1	
	comp=Z,6µm,22.0s						
FRNY	**Flat Rock**	**75.25**	**358**	P	**P**	**03 02 56.5**	**+0.8**
SDCO	**Great Sand Dun**	**75.25**	**333**	IAMs_20	IAMs_20	03 32 21.0	
	comp=Z,5µm,19.0s						
SDCO	**Great Sand Dun**	**75.25**	**333**	P	**P**	**03 02 57.6**	**+1.3**
	baz=150,SNR=150						
SDCO				S	**S**	**03 12 36.0**	**+2.4**
	baz=150						
KSCO	**Kaye Shedlock'**	**75.28**	**335**	IAmb	IAmb	03 03 00.6	
	comp=Z,439nm,1.2s						
KSCO	**Kaye Shedlock'**	**75.28**	**335**	P	**P**	**03 02 57.4**	**+1.2**
	baz=153,SNR=40						
KSCO				S	**S**	**03 12 35.0**	**+1.5**
	baz=153						
JFWS	**Jewell Farm**	**75.34**	**346**	IAMs_20	IAMs_20	03 41 45.2	
	comp=Z,6µm,19.0s						
JFWS	**Jewell Farm**	**75.34**	**346**	IAmb	IAmb	03 02 59.4	
	comp=Z,245nm,0.8s						
JFWS	**Jewell Farm**	**75.34**	**346**	P	**P**	**03 02 56.5**	**+0.3**
	baz=163,SNR=109						
JFWS				S	**S**	**03 12 32.7**	**-1.0**
	baz=163						
HAL	**Halifax**	**75.36**	**6**	IAmb	IAmb	03 03 00.2	
	comp=Z,256nm,1.0s						
CPBX	**Cerro Prieto**	**75.37**	**323**	IAmb	IAmb	03 03 01.2	
	comp=Z,192nm,1.1s						
SADO	**Sadowa**	**75.50**	**354**	IAmb	IAmb	03 03 12.3	
	comp=Z,329nm,1.3s						
PLVO	**Plevna**	**75.61**	**356**	P	**P**	**03 02 58.5**	**+0.8**
GLA	**Glamis**	**75.62**	**323**	P	**P**	**03 02 59.6**	**+1.5**
	baz=142,SNR=16						
GLA				S	**S**	**03 12 41.1**	**+3.8**
	baz=142						
K38A	**Parkersburg**	**75.65**	**344**	IAmb	IAmb	03 02 59.2	
	comp=Z,224nm,0.8s						
I45A	**Fountain**	**75.67**	**349**	IAmb	IAmb	03 02 58.7	
	comp=Z,221nm,1.1s						
PKME	**Peaks-Kenny Pk**	**75.68**	**1**	P	**P**	**03 02 59.2**	**+1.1**
PKME				IAmb	IAmb	03 03 01.3	
	comp=Z,545nm,1.4s						
PKME	**Peaks-Kenny Pk**	**75.68**	**1**	P	**P**	**03 02 59.4**	**+1.3**
	baz=182,SNR=45						
S22A	**4UR Ranch, Cre**	**75.79**	**332**	P	**P**	**03 03 00.6**	**+1.3**
	baz=149,SNR=108						
S22A				S	**S**	**03 12 42.1**	**+2.6**
	baz=149						
SUR	**Sutherland**	**75.88**	**119**	P	**P**	**03 03 00.4**	**+0.3**
SUR				IAmb	IAmb	03 03 04.3	
	comp=Z,253nm,0.8s						
SUR	**Sutherland**	**75.88**	**119**	IAMs_20	IAMs_20	03 34 29.8	
	comp=Z,7µm,19.0s						
SUR	**Sutherland**	**75.88**	**119**	P	**P**	**03 03 00.9**	**+0.8**
WUAZ	**Wupatki**	**75.91**	**327**	IAMs_20	IAMs_20	03 31 21.4	
	comp=Z,9µm,22.0s						
WUAZ	**Wupatki**	**75.91**	**327**	P	**P**	**03 03 01.5**	**+1.6**
	baz=145,SNR=107						
WUAZ				S	**S**	**03 12 45.3**	**+4.6**
	baz=145						
MNTQ	**Montreal, Queb**	**75.92**	**358**	IAmb	IAmb	03 03 02.2	
	comp=Z,667nm,1.5s						
RMX	**La Rumorosa**	**75.92**	**322**	P	**P**	**03 03 00.5**	**+0.5**
BGNE	**Belgrade**	**75.95**	**340**	P	**P**	**03 03 00.4**	**+0.5**
BGNE	**Belgrade**	**75.95**	**340**	P	**P**	**03 03 00.3**	**+0.5**
	baz=157,SNR=69						
BGNE				S	**S**	**03 12 39.7**	**-1.0**
	baz=157						
IKP	**In-Ko-Pah, Jac**	**75.97**	**322**	P	**P**	**03 03 01.8**	**+1.6**
	baz=142,SNR=39						
IKP				S	**S**	**03 12 45.0**	**+3.7**
	baz=142						
I42A	**Draeger Farm,**	**76.00**	**347**	IAmb	IAmb	03 03 03.1	
	comp=Z,481nm,1.4s						
MVCO	**Mesa Verde**	**76.03**	**330**	IAmb	IAmb	03 03 17.1	
	comp=Z,172nm,1.1s						
MVCO				IAMs_20	IAMs_20	03 32 17.6	
	comp=Z,9µm,21.0s						
MVCO	**Mesa Verde**	**76.03**	**330**	P	**P**	**03 03 01.9**	**+1.2**
	baz=148,SNR=90						
MVCO				S	**S**	**03 12 45.4**	**+3.2**
	baz=148						
SWSC	**Sam W. Stewart**	**76.04**	**323**	P	**P**	**03 03 01.8**	**+1.4**
	baz=142,SNR=37						
SWSC				S	**S**	**03 12 45.4**	**+3.6**
	baz=142						
MAW	**Mawson**	**76.12**	**164**	P	**P**	**03 03 00.4**	**-0.1**
	comp=Z,83nm,0.5s,baz=205,slow=7.2,SNR=248						
MAW				PKPPKP	P'P'df	03 30 10.1	-13
	comp=Z,2.0nm,1.0s,baz=37,slow=6.6,SNR=4.0						
MAW				LR	LR	03 37 19.6	
	comp=Z,13µm,20.6s,baz=233,slow=36						
F63A	**Nahmakanta, Br**	**76.12**	**2**	IAmb	IAmb	03 03 04.0	
	comp=Z,573nm,1.4s						
Q24A	**Divide**	**76.17**	**333**	P	**P**	**03 03 02.8**	**+1.3**
	baz=151,SNR=88						
Q24A				S	**S**	**03 12 46.7**	**+3.0**
	baz=151						
TKX	**Tecate**	**76.17**	**322**	P	**P**	**03 03 02.3**	**+1.0**
GLMI	**Grayling**	**76.18**	**350**	IAmb	IAmb	03 03 03.8	
	comp=Z,155nm,1.1s						
GLMI				IAMs_20	IAMs_20	03 41 35.7	
	comp=Z,5µm,20.0s						
GLMI	**Grayling**	**76.18**	**350**	P	**P**	**03 03 00.8**	**-0.2**
	baz=168,SNR=17						
GLMI				S	**S**	**03 12 39.7**	**-3.2**
	baz=168						
PDMCI	**Parker Dam,Lak**	**76.27**	**325**	P	**P**	**03 03 03.1**	**+1.3**
	baz=143,SNR=34						
PDMCI				S	**S**	**03 12 47.5**	**+3.2**
	baz=143						
MONP2	**Monument Peak**	**76.33**	**322**	P	**P**	**03 03 03.8**	**+1.4**
	baz=141,SNR=30						
MONP2				S	**S**	**03 12 48.7**	**+3.2**
	baz=141						
H43A	**Windswept, Lux**	**76.35**	**348**	IAmb	IAmb	03 03 05.0	
	comp=Z,464nm,1.4s						
I40A	**Norwalk**	**76.35**	**346**	P	**P**	**03 03 02.0**	**0.0**
I40A				IAmb	IAmb	03 03 04.9	
	comp=Z,190nm,0.8s						
BC3	**Big Chuckawall**	**76.42**	**323**	P	**P**	**03 03 04.1**	**+1.3**
	baz=142,SNR=127						
BC3				S	**S**	**03 12 50.4**	**+4.2**
	baz=142						
G45A	**Suttons Bay**	**76.55**	**350**	IAmb	IAmb	03 03 05.8	
	comp=Z,120nm,0.8s						
IRM	**Iron Mountain**	**76.66**	**324**	P	**P**	**03 03 05.4**	**+1.4**
	baz=142,SNR=83						
IRM				S	**S**	**03 12 52.5**	**+3.9**
	baz=142						
109C	**Camp Elliot, M**	**76.69**	**322**	P	**P**	**03 03 05.4**	**+1.2**
	baz=141						
109C				S	**S**	**03 12 52.9**	**+3.9**
	baz=141						
OGNE	**Ogallala**	**76.78**	**337**	IAmb	IAmb	03 03 08.7	
	comp=Z,132nm,0.8s						
OGNE	**Ogallala**	**76.78**	**337**	P	**P**	**03 03 05.7**	**+1.0**
	baz=153,SNR=27						
OGNE				S	**S**	**03 12 52.4**	**+2.5**
	baz=153						
NEE2	**Needles Airpor**	**76.87**	**325**	P	**P**	**03 03 06.5**	**+1.3**
	baz=143						
NEE2				S	**S**	**03 12 53.8**	**+2.8**
	baz=143						
PFO	**Pinyon Flats O**	**76.91**	**323**	P	**P**	**03 03 06.4**	**+0.9**
PFO				pmax	pmax		
	comp=Z,112nm,1.0s						
PFO	**Pinyon Flats O**	**76.91**	**323**	P	**P**	**03 03 06.4**	**+0.9**
PFO	**Pinyon Flats O**	**76.91**	**323**	IAMs_20	IAMs_20	03 30 31.6	
	comp=Z,8µm,21.0s						
PFO	**Pinyon Flats O**	**76.91**	**323**	P	**P**	**03 03 07.1**	**+1.5**
	baz=141,SNR=71						
PFO				S	**S**	**03 12 55.5**	**+4.0**
	baz=141						
BELC	**Belle Mtn. Jos**	**76.97**	**323**	P	**P**	**03 03 07.3**	**+1.4**
	baz=142,SNR=53						
BELC				S	**S**	**03 12 56.9**	**+4.6**
	baz=142						
SMCO	**Snowmass**	**77.07**	**332**	IAmb	IAmb	03 03 11.6	
	comp=Z,229nm,0.8s						
ISCO	**Idaho Springs**	**77.08**	**334**	IAMs_20	IAMs_20	03 33 36.3	
	comp=Z,5µm,22.0s						
ISCO	**Idaho Springs**	**77.08**	**334**	P	**P**	**03 03 07.8**	**+1.2**
	baz=150,SNR=106						
ISCO				S	**S**	**03 12 55.6**	**+2.1**
	baz=150						
U15A	**North Rim**	**77.08**	**327**	IAmb	IAmb	03 03 11.0	
	comp=Z,150nm,0.9s						
PQI	**Presque Isle**	**77.12**	**2**	P	**P**	**03 03 07.4**	**+1.2**
MURC	**Murrieta**	**77.28**	**322**	P	**P**	**03 03 09.1**	**+1.6**
	baz=141,SNR=45						
MURC				S	**S**	**03 13 00.3**	**+4.8**
	baz=141						
SCI2	**San Clemente I**	**77.53**	**321**	P	**P**	**03 03 10.3**	**+1.4**
	baz=140						
SCI2				S	**S**	**03 13 03.3**	**+5.1**
	baz=140						
G40A	**Rib Lake**	**77.58**	**346**	IAmb	IAmb	03 03 11.0	
	comp=Z,279nm,1.2s						
BBRC	**Big Bear Solar**	**77.65**	**323**	P	**P**	**03 03 11.6**	**+1.7**
	baz=141,SNR=8.8						
BBRC				S	**S**	**03 13 04.7**	**+4.8**
	baz=141						
ECSD	**EROS Data Cent**	**77.66**	**342**	P	**P**	**03 03 09.7**	**+0.4**
	baz=158,SNR=479						
ECSD				S	**S**	**03 12 58.6**	**-0.5**
	baz=158						
F42A	**Maple Grove Fa**	**77.66**	**348**	IAmb	IAmb	03 03 11.5	
	comp=Z,164nm,0.8s						
CIS	**Catalina Islan**	**77.78**	**321**	P	**P**	**03 03 11.7**	**+1.3**
	baz=140,SNR=6.2						
CIS				S	**S**	**03 13 04.9**	**+4.0**
	baz=140						
HEC	**Hector,Ludlow**	**77.79**	**323**	P	**P**	**03 03 12.0**	**+1.6**
	baz=142,SNR=58						
HEC				S	**S**	**03 13 04.8**	**+3.8**
	baz=142						
KNB	**Kanab**	**77.81**	**327**	IAmb	IAmb	03 03 29.2	
	comp=Z,432nm,1.5s						
BATG	**Bathurst New B**	**77.81**	**4**	P	**P**	**03 03 10.8**	**+0.7**
BATG				IAmb	IAmb	03 03 12.4	
	comp=Z,405nm,1.3s						
FMP	**Fort Macarthur**	**77.95**	**321**	P	**P**	**03 03 12.8**	**+1.5**
	baz=140						
FMP				S	**S**	**03 13 07.3**	**+4.7**
	baz=140						
BFSC	**Mount Baldy Ra**	**78.02**	**322**	P	**P**	**03 03 12.9**	**+1.1**
	baz=141,SNR=55						
BFSC				S	**S**	**03 13 07.7**	**+4.1**
	baz=141						
TUQ	**Turquoise Moun**	**78.06**	**324**	P	**P**	**03 03 13.4**	**+1.5**
	baz=142,SNR=103						
TUQ				S	**S**	**03 13 07.3**	**+3.3**
	baz=142						
SPMN	**Marine on St.**	**78.10**	**345**	IAmb	IAmb	03 03 13.3	
	comp=Z,184nm,0.8s						
SPMN	**Marine on St.**	**78.10**	**345**	P	**P**	**03 03 11.5**	**-0.2**
	baz=161,SNR=83						
SPMN				S	**S**	**03 13 01.8**	**-2.0**
	baz=161						
N23A	**Red Feather La**	**78.15**	**334**	P	**P**	**03 03 13.7**	**+1.2**
	baz=150,SNR=52						
N23A				S	**S**	**03 13 07.1**	**+2.0**
	baz=150						
RRX	**Edison Barstow**	**78.17**	**323**	P	**P**	**03 03 14.0**	**+1.6**
	baz=141,SNR=11						
RRX				S	**S**	**03 13 09.0**	**+4.1**
	baz=141						
COWI	**Conover**	**78.18**	**347**	IAmb	IAmb	03 03 27.6	
	comp=Z,207nm,1.4s						
RAR	**Rarotonga**	**78.18**	**252**	LR	LR	03 28 47.4	
	comp=Z,5µm,19.3s,baz=132,slow=29						
RAR	**Rarotonga**	**78.18**	**252**	IAMs_20	IAMs_20	03 28 35.4	
	comp=Z,6µm,21.0s						
MWC	**Mount Wilson**	**78.22**	**322**	IAmb	IAmb	03 03 16.9	
	comp=Z,146nm,1.0s						
PASC	**Pasadena Art C**	**78.25**	**322**	P	**P**	**03 03 13.7**	**+0.8**
PASC				IAmb	IAmb	03 03 31.3	
	comp=Z,284nm,1.5s						
DECC	**Green Verdugo**	**78.39**	**322**	P	**P**	**03 03 15.1**	**+1.4**
	baz=140,SNR=13						
DECC				S	**S**	**03 13 10.5**	**+3.0**
	baz=140						
GSC	**Goldstone, Bar**	**78.40**	**323**	P	**P**	**03 03 15.2**	**+1.4**
	baz=141,SNR=69						
GSC				S	**S**	**03 13 11.0**	**+3.4**
	baz=141						
O20A	**White River Ci**	**78.40**	**332**	IAmb	IAmb	03 03 31.9	
	comp=Z,340nm,1.2s						
O20A	**White River Ci**	**78.40**	**332**	P	**P**	**03 03 15.0**	**+1.1**
	baz=148,SNR=143						
O20A				S	**S**	**03 13 11.0**	**+3.4**
	baz=148						
SZCU	**Shurtz Canyon**	**78.40**	**327**	IAmb	IAmb	03 03 33.3	
	comp=Z,200nm,1.4s						
SRU	**San Rafael Swe**	**78.50**	**330**	IAmb	IAmb	03 03 18.4	
	comp=Z,135nm,0.8s						
MACI	**Morro de la Ar**	**78.58**	**47**	P	**P**	**03 03 16.0**	**+0.9**
SHOC	**Shoshone, Teco**	**78.60**	**324**	P	**P**	**03 03 16.0**	**+1.3**
	baz=142,SNR=18						
SHOC				S	**S**	**03 13 13.8**	**+4.3**
	baz=142						
Q16A	**Castle Valley**	**78.62**	**329**	IAmb	IAmb	03 03 32.4	
	comp=Z,386nm,1.5s						
EDW2	**Edwards Air Fo**	**78.69**	**322**	P	**P**	**03 03 16.3**	**+1.0**
	baz=140,SNR=71						
EDW2				S	**S**	**03 13 12.1**	**+1.4**
	baz=140						
KOWA	**Kowa**	**78.76**	**66**	P	**P**	**03 03 16.4**	**+0.3**
	comp=Z,2µm,1.1s,baz=233,slow=5.0,SNR=736						
KOWA	**Kowa**	**78.76**	**66**	P	**P**	**03 03 16.4**	**+0.3**
F36A	**Milaca**	**78.87**	**344**	IAmb	IAmb	03 03 17.6	
	comp=Z,215nm,0.8s						
OSI	**Osito Audit: C**	**78.87**	**322**	IAmb	IAmb	03 03 20.3	
	comp=Z,148nm,0.9s						
OSI	**Osito Audit: C**	**78.87**	**322**	P	**P**	**03 03 17.6**	**+1.2**
	baz=140,SNR=12						
OSI				S	**S**	**03 13 15.5**	**+2.9**
	baz=140						
P17A	**Bitcher Ranch,**	**78.89**	**330**	IAmb	IAmb	03 03 20.7	
	comp=Z,174nm,1.1s						
SUSD	**Miller**	**78.97**	**340**	IAmb	IAmb	03 03 18.6	
	comp=Z,294nm,0.8s						
SUSD	**Miller**	**78.97**	**340**	P	**P**	**03 03 16.7**	**0.0**
	baz=156,SNR=42						
SUSD				S	**S**	**03 13 12.4**	**-0.7**
	baz=156						
LRMC	**Laurel Mtn Rad**	**78.99**	**323**	P	**P**	**03 03 18.3**	**+1.2**
	baz=141,SNR=26						
LRMC				S	**S**	**03 13 16.9**	**+2.9**
	baz=141						
D41A	**Chassel**	**79.00**	**348**	P	**P**	**03 03 17.4**	**+0.7**
H07S1	**FLORES T-PHASE**	**79.12**	**31**	*e*P	**P**	**03 03 18.8**	**+1.2**
	comp=Z,773nm,1.2s						
PRN	**Pahroc Range**	**79.18**	**326**	IAmb	IAmb	03 03 35.1	
	comp=Z,219nm,1.1s						
SBC	**Santa Barbara**	**79.27**	**321**	P	**P**	**03 03 19.9**	**+1.4**
	baz=139						
SBC				S	**S**	**03 13 21.2**	**+4.5**
	baz=139						
RDMU	**Red Mountain**	**79.31**	**331**	IAmb	IAmb	03 03 22.8	
	comp=Z,245nm,0.8s						
ARVC	**Arvin**	**79.32**	**322**	P	**P**	**03 03 20.1**	**+1.4**
	baz=140,SNR=14						
ARVC				S	**S**	**03 13 21.0**	**+3.8**
	baz=140						
RWWY	**Rawlins**	**79.32**	**333**	IAmb	IAmb	03 03 23.2	
	comp=Z,199nm,0.9s						
RWWY				IAMs_20	IAMs_20	03 34 58.6	
	comp=Z,6µm,21.0s						
FURC	**Furnace Creek,**	**79.33**	**324**	P	**P**	**03 03 20.3**	**+1.6**
	baz=142,SNR=110						
FURC				S	**S**	**03 13 21.0**	**+3.7**
	baz=142						
MPMC	**Manual Prospec**	**79.33**	**324**	P	**P**	**03 03 20.1**	**+1.0**
	baz=141,SNR=66						
MPMC				S	**S**	**03 13 21.4**	**+3.6**
	baz=141						
TPNV	**Topopah Spring**	**79.41**	**325**	P	**P**	**03 03 20.9**	**+1.5**
	baz=142,SNR=109						
TPNV				S	**S**	**03 13 22.1**	**+3.6**
	baz=142						
H07N1	**FLORES T-PHASE**	**79.42**	**30**	*e*P	**P**	**03 03 19.9**	**+0.7**
	comp=Z,408nm,1.1s						
TSUM	**Tsumeb**	**79.53**	**106**	P	**P**	**03 03 20.3**	**-0.3**
TSUM	**Tsumeb**	**79.53**	**106**	*i* P	**P**	**03 03 21.2**	**+0.7**
ISA	**Isabella, Lake**	**79.54**	**323**	P	**P**	**03 03 21.6**	**+1.5**
	baz=140,SNR=106						
ISA				S	**S**	**03 13 23.9**	**+4.2**
	baz=140						
CALA	**Caldeira**	**79.61**	**33**	*e*P	**P**	**03 03 21.4**	**+1.1**
	comp=Z,358nm,1.4s						
PCAN	**Candelaria**	**79.61**	**33**	*e*P	**P**	**03 03 21.6**	**+1.3**
	comp=Z,398nm,1.3s						
PCED	**Cedros**	**79.64**	**33**	*e*P	**P**	**03 03 22.1**	**+1.7**
	comp=Z,545nm,1.6s						
PKM	**Mcpherson Peak**	**79.66**	**321**	P	**P**	**03 03 22.5**	**+1.6**
	baz=139,SNR=50						
PKM				S	**S**	**03 13 25.0**	**+3.7**
	baz=139						
PICO	**Pico**	**79.67**	**33**	*e*P	**P**	**03 03 22.2**	**+1.6**
	comp=Z,822nm,1.6s						
MPU	**Maple Canyon**	**79.72**	**330**	IAmb	IAmb	03 03 25.2	
	comp=Z,141nm,0.8s						
PID	**Ribeirinha**	**79.77**	**33**	*e*P	**P**	**03 03 21.9**	**+0.8**
	comp=Z,932nm,1.9s						
K22A	**Casper**	**79.89**	**334**	IAmb	IAmb	03 03 26.1	
	comp=Z,345nm,1.1s						
K22A	**Casper**	**79.89**	**334**	P	**P**	**03 03 22.9**	**+1.0**
	baz=150,SNR=124						
K22A				S	**S**	**03 13 26.6**	**+3.3**
	baz=150						
ROSA	**Rosais**	**79.93**	**33**	*e*P	**P**	**03 03 23.4**	**+1.4**
	comp=Z,616nm,1.1s						
ROSA	**Rosais**	**79.93**	**33**	IAmb	IAmb	03 03 25.6	
	comp=Z,498nm,1.2s						
CWC	**Cottonwood Cre**	**79.93**	**323**	P	**P**	**03 03 23.6**	**+1.4**
	baz=141						
CWC				S	**S**	**03 13 28.0**	**+3.9**
	baz=141						
PMAN	**Manadas**	**79.93**	**33**	*e*P	**P**	**03 03 23.3**	**+1.3**
	comp=Z,606nm,1.7s						
VES	**Vestal, Richgr**	**80.00**	**322**	P	**P**	**03 03 23.6**	**+1.2**
	baz=140,SNR=72						
VES				S	**S**	**03 13 27.1**	**+2.8**
	baz=140						
GRAC	**Grapevine Rang**	**80.00**	**324**	P	**P**	**03 03 24.0**	**+1.5**
	baz=141,SNR=56						
GRAC				S	**S**	**03 13 28.8**	**+4.4**
	baz=141						
SMMC	**Simmler**	**80.08**	**321**	P	**P**	**03 03 24.6**	**+1.7**
	baz=139,SNR=29						
SMMC				S	**S**	**03 13 30.2**	**+4.8**
	baz=139						
PSMA	**Santa Maria**	**80.09**	**36**	*e*P	**P**	**03 03 24.3**	**+1.5**
	comp=Z,608nm,1.5s						
SPR3	**Spring Creek 3**	**80.11**	**327**	IAmb	IAmb	03 03 40.3	
	comp=Z,286nm,1.5s						
PSMN	**Pico do Norte,**	**80.12**	**36**	*e*P	**P**	**03 03 24.4**	**+1.3**
	comp=Z,649nm,1.5s						
JLU	**Jordanelle**	**80.13**	**330**	IAmb	IAmb	03 03 27.3	
	comp=Z,146nm,0.8s						
R11A	**Troy Canyon, C**	**80.18**	**326**	P	**P**	**03 03 25.0**	**+1.4**
	baz=143,SNR=79						
R11A				S	**S**	**03 13 29.7**	**+3.0**
	baz=143						
SRBC	**Serra Branca**	**80.28**	**33**	*e*P	**P**	**03 03 25.5**	**+1.7**
	comp=Z,680nm,1.3s						
RSSD	**Black Hills**	**80.28**	**337**	P	**P**	**03 03 24.6**	**+0.6**
RSSD				pmax	pmax		
	comp=Z,123nm,0.8s						
RSSD	**Black Hills**	**80.28**	**337**	P	**P**	**03 03 24.6**	**+0.6**
RSSD	**Black Hills**	**80.28**	**337**	P	**P**	**03 03 24.8**	**+0.8**
	baz=152						
RSSD				S	**S**	**03 13 29.5**	**+2.0**
	baz=152						
PGRA	**Graciosa**	**80.30**	**33**	*e*P	**P**	**03 03 26.3**	**+2.3**
	comp=Z,389nm,1.0s						
ADH	**Angra Heroismo**	**80.35**	**34**	*e*P	**P**	**03 03 25.2**	**+1.0**
	comp=Z,677nm,1.3s						
DUG	**Dugway, Tooele**	**80.39**	**329**	P	**P**	**03 03 25.6**	**+1.0**
	baz=145,SNR=136						
DUG				S	**S**	**03 13 31.1**	**+2.4**
	baz=145						
PDA	**Ponta Delgada**	**80.40**	**35**	*e*P	**P**	**03 03 25.5**	**+1.0**
	comp=Z,509nm,1.0s						
EYMN	**Ely**	**80.41**	**346**	IAmb	IAmb	03 03 26.1	
	comp=Z,258nm,1.0s						
EYMN	**Ely**	**80.41**	**346**	P	**P**	**03 03 24.0**	**-0.3**
	baz=163,SNR=66						
EYMN				S	**S**	**03 13 25.1**	**-3.1**
	baz=163						
PSET	**Sete Cidades**	**80.43**	**35**	*e*P	**P**	**03 03 25.8**	**+1.1**
	comp=Z,393nm,1.3s						
PSCM	**Serra do Cume**	**80.45**	**34**	*e*P	**P**	**03 03 26.6**	**+1.8**
	comp=Z,743nm,1.8s						
PAGU	**Agualva, Azore**	**80.47**	**34**	*e*P	**P**	**03 03 26.5**	**+1.6**
	comp=Z,645nm,1.3s						
TIN	**Tinemaha, Big**	**80.48**	**324**	P	**P**	**03 03 26.7**	**+1.5**
	baz=141,SNR=40						
TIN				S	**S**	**03 13 33.1**	**+3.4**
	baz=141						
GRON	**Grota Negra**	**80.48**	**35**	*e*P	**P**	**03 03 26.9**	**+1.9**
	comp=Z,624nm,1.7s						
CMLA	**Cha da Macela**	**80.48**	**35**	P	**P**	**03 03 26.3**	**+1.3**
CMLA				pmax	pmax		
	comp=Z,417nm,1.2s						
CMLA				MLR	MLR		
	comp=Z,6µm,20.0s						
CMLA	**Cha da Macela**	**80.48**	**35**	*e*P	**P**	**03 03 26.3**	**+1.3**
	comp=Z,414nm,1.0s						
CMLA	**Cha da Macela**	**80.48**	**35**	P	**P**	**03 03 26.3**	**+1.3**
CMLA				IAmb	IAmb	03 03 28.0	
	comp=Z,417nm,1.2s						
CMLA	**Cha da Macela**	**80.48**	**35**	IAMs_20	IAMs_20	03 39 27.6	
	comp=Z,6µm,20.0s						
VOG	**Valley Oaks Go**	**80.52**	**322**	P	**P**	**03 03 25.5**	**+0.3**
	baz=140						
VOG				S	**S**	**03 13 31.1**	**+1.3**
	baz=140						
PCALD	**Caldeiras da R**	**80.53**	**35**	*e*P	**P**	**03 03 26.0**	**+0.8**
	comp=Z,452nm,0.9s						
PAGB	**Antelope Grade**	**80.53**	**322**	IAmb	IAmb	03 03 29.4	
	comp=Z,186nm,1.2s						
DRLN	**Deer Lake**	**80.60**	**9**	IAmb	IAmb	03 03 28.2	
	comp=Z,207nm,0.8s						
BART	**Pico Bartolome**	**80.67**	**35**	*e*P	**P**	**03 03 27.5**	**+1.4**
	comp=Z,1000nm,1.8s						
D32A	**Dogwood Acres,**	**80.91**	**343**	IAmb	IAmb	03 03 30.1	
	comp=Z,428nm,0.9s						
HWUT	**Hardware Ranch**	**81.01**	**331**	IAmb	IAmb	03 03 31.6	
	comp=Z,229nm,0.9s						
BOSA	**Boshof**	**81.05**	**118**	P	**P**	**03 03 28.4**	**-0.2**
	comp=Z,409nm,1.0s,baz=245,slow=4.8,SNR=306						
BOSA				LR	LR	03 34 51.3	
	comp=Z,11µm,21.1s,baz=250,slow=32						
BOSA	**Boshof**	**81.05**

PMOZ **Porto Moniz, M** 81.36 44 *e*LR LR 03 30 36.8
PMOZ **Porto Moniz, M** 81.36 44 P **P** **03 03 30.7 +0.8**
PMOZ **Porto Moniz, M** 81.36 44 P **P** **03 03 31.8 +1.9**
PMOZ **Porto Moniz, M** 81.36 44 P **P** **03 03 31.8 +1.9**
E28A **Huff** 81.42 340 IAmb IAmb 03 03 35.6
comp=Z,506nm,1.5s
FUL **Funchal** 81.42 44⇑ *i*P **P** **03 03 30.9 +0.8**
comp=Z,940nm,1.5s
PMAR **Madeira** 81.46 44⇑ *i*P **P** **03 03 31.3 +0.8**
comp=Z,944nm,1.6s
NVAR **Mina Array Bea** 81.58 325 P **P** **03 03 32.0 +0.9**
comp=Z,47nm,0.8s,baz=153,slow=5.8,SNR=150
NVAR PKKPbc **PKKPbc** **03 22 05.1 -0.2**
comp=Z,2.3nm,0.8s,baz=292,slow=2.3,SNR=9.2
NVAR PKPPKP P'P'df 03 30 12.6 +8.1
comp=Z,2.1nm,1.0s,baz=230,slow=1.5,SNR=7.2
NVAR LR LR 03 33 26.0
comp=Z,4μm,21.1s,baz=143,slow=31
HVU **Hansel Valley** 81.67 330 IAmb IAmb 03 03 34.2
comp=Z,178nm,0.9s
AGMN **Agassiz Nation** 81.71 344 IAmb IAmb 03 03 34.2
comp=Z,176nm,0.8s
AGMN **Agassiz Nation** 81.71 344 P **P** **03 03 31.3 +0.1**
baz=159,SNR=142
AGMN S **S** **03 13 39.1 -2.6**
baz=159
AHID **Auburn Hatcher** 81.77 332 IAmb IAmb 03 03 35.6
comp=Z,206nm,1.4s
AHID IAMs_20 IAMs_20 03 36 27.6
comp=Z,8μm,21.0s
ELK **Elko** 81.92 328 IAMs_20 IAMs_20 03 35 37.6
comp=Z,7μm,20.0s
PMPS **Porto Santo** 82.04 44⇑ *i*P **P** **03 03 34.8 +1.5**
comp=Z,799nm,1.7s
PMPST **Porto Santo, M** 82.06 44⇑ *i*P **P** **03 03 34.4 +1.0**
comp=Z,938nm,1.8s
PMPST **Porto Santo, M** 82.06 44 *e*S **S** **03 13 47.9 +2.0**
TANT **Tantan** 82.11 50 P **P** **03 03 37.0 +3.1**
TANT **Tantan** 82.11 50 P **P** **03 03 37.0 +3.1**
REDW **Red Top Meadow** 82.17 332 P **P** **03 03 34.3 +0.2**
REDW IAMs_20 IAMs_20 03 36 28.0
comp=Z,7μm,21.0s
SNOW **Snow King Moun** 82.21 332 IAMs_20 IAMs_20 03 36 30.2
comp=Z,8μm,21.0s
MDND **Maddock** 82.26 341 P **P** **03 03 34.6 +0.5**
baz=156,SNR=105
MDND S **S** **03 13 46.9 -0.5**
baz=156
TPAW **Teton Pass** 82.31 332 IAMs_20 IAMs_20 03 36 32.9
comp=Z,6μm,22.0s
FXWY **Fox Creek** 82.47 332 IAMs_20 IAMs_20 03 36 38.1
comp=Z,6μm,22.0s
TORD **Torodi Ar. Bea** 82.54 70 P **P** **03 03 36.3 -0.1**
comp=Z,2μm,1.1s,baz=278,slow=3.7,SNR=1575
TORD PP **PP** **03 06 42.1 -4.1**
comp=Z,100nm,0.9s,baz=250,slow=7.9,SNR=4.0
TORD S **S** **03 13 47.7 -3.9**
comp=Z,38nm,1.3s,baz=254,slow=10,SNR=12
TORD ScS **ScS** **03 14 13.3 +6.5**
comp=Z,29nm,1.3s,baz=263,slow=12,SNR=5.6
TORD PKKPbc **PKKPdf** **03 21 55.2 +2.6**
comp=Z,1.1nm,0.9s,baz=52,slow=5.1,SNR=4.0
TORD PKP2bc 03 29 49.9
comp=Z,0.5nm,0.8s,baz=75,slow=1.4,SNR=4.6
TORD LR LR 03 37 31.8
comp=Z,19μm,21.0s,baz=240,slow=34
TORD **Torodi Ar. Bea** 82.54 70 P **P** **03 03 36.4 0.0**
IMW **Indian Meadow** 82.65 332 IAMs_20 IAMs_20 03 36 55.7
comp=Z,7μm,21.0s
PNTR **Pine Nut** 82.73 324 IAmb IAmb 03 03 41.8
comp=Z,156nm,0.9s
EMB **Emerald Bay** 82.90 324 P **P** **03 03 39.4 +1.4**
H17A **Grant Village** 82.92 333 P **P** **03 03 39.1 +1.1**
baz=147,SNR=20
LKWY **Lake** 82.99 333 IAMs_20 IAMs_20 03 39 57.8
comp=Z,6μm,21.0s
RLMT **Red Lodge** 83.03 334 IAMs_20 IAMs_20 03 38 22.7
comp=Z,5μm,22.0s
RLMT **Red Lodge** 83.03 334 P **P** **03 03 39.1 +0.6**
baz=148,SNR=68
PAHR **Pah Rah Range** 83.10 325 IAmb IAmb 03 03 57.1
comp=Z,231nm,1.3s
LBTB **Lobatse** 83.12 115 *i*P **P** **03 03 40.3 +0.8**
CASY **Casey** 83.27 181 P **P** **03 03 38.9 -0.5**
LAO **LASA Array** 83.28 337 IAmb IAmb 03 03 43.0
comp=Z,146nm,0.8s
LAO **LASA Array** 83.28 337 P **P** **03 03 39.9 +0.3**
baz=150,SNR=39
YMR **Madison River** 83.30 333 IAmb IAmb 03 03 44.1
comp=Z,166nm,1.0s
ULM **Lac du Bonnet** 83.53 344 P **P** **03 03 40.2 -0.4**
comp=Z,200nm,0.8s,baz=159,slow=5.1,SNR=107
ULM **Lac du Bonnet** 83.53 344 P **P** **03 03 40.3 -0.4**
ULM IAmb IAmb 03 03 42.2
comp=Z,321nm,0.9s
HLID **Hailey** 83.82 330 IAMs_20 IAMs_20 03 36 34.6
comp=Z,8μm,21.0s
HLID **Hailey** 83.82 330 P **P** **03 03 43.5 +0.9**
baz=144,SNR=168
ORV **Oroville** 84.05 323 IAmb IAmb 03 04 00.2
comp=Z,200nm,1.2s
DGMT **Dagmar** 84.17 339 P **P** **03 03 44.9 +0.8**
baz=152,SNR=147
MFID **Camas Ranch** 84.31 329 P **P** **03 03 45.5 +0.5**
BOZ **Bozeman (W)** 84.33 333 IAMs_20 IAMs_20 03 38 03.3
comp=Z,5μm,20.0s
BOZ **Bozeman (W)** 84.33 333 P **P** **03 03 45.4 +0.3**
baz=146,SNR=35
CGR **Cap Guir** 84.45 50 P **P** **03 03 49.0 +3.1**
CGR **Cap Guir** 84.45 50 P **P** **03 03 49.0 +3.1**
HOPS **Hopland Field** 84.46 322 IAmb IAmb 03 04 04.2
comp=Z,160nm,1.4s
DLMT **Dillon** 84.53 332 IAMs_20 IAMs_20 03 37 55.4
comp=Z,6μm,21.0s
O03E **Paynes Creek** 84.76 324 P **P** **03 03 47.1 -0.2**
baz=138,SNR=54
O03E S **S** **03 14 12.6 -0.5**
baz=138
O02D **Mt. Diablo Mer** 85.18 323 P **P** **03 03 49.9 +0.5**
baz=138,SNR=25
O02D S **S** **03 14 18.3 +1.0**
baz=138
MOD **Modoc Plateau** 85.22 326 IAmb IAmb 03 04 06.7
comp=Z,204nm,1.5s
KCPM **Cahto Peak** 85.23 322 IAmb IAmb 03 04 06.8
comp=Z,222nm,1.4s
EAH **EAH** 85.30 49 P **P** **03 03 52.0 +1.9**
EAH **EAH** 85.30 49 P **P** **03 03 52.0 +1.9**
SCHQ **Schefferville** 85.32 3 P **P** **03 03 49.3 -0.3**
comp=Z,264nm,1.1s,baz=190,slow=3.6,SNR=51
SCHQ LR LR 03 41 54.0
comp=Z,3μm,21.5s,baz=192,slow=36
SCHQ **Schefferville** 85.32 3 P **P** **03 03 49.9 +0.2**
WDC **Whiskeytown Da** 85.35 323 IAmb IAmb 03 04 06.7
comp=Z,130nm,1.4s
TTIG **Tnine Tigouga,** 85.35 50 P **P** **03 03 52.1 +1.6**
TTIG **Tnine Tigouga,** 85.35 50 P **P** **03 03 52.1 +1.6**
BFZ **Birch Farm** 85.37 225 P **P** **03 03 52.0 +1.5**
J08A **Circle Bar Ran** 85.47 328 IAmb IAmb 03 03 55.0
comp=Z,215nm,1.0s
EGMT **Eagleton** 85.66 335 IAmb IAmb 03 04 06.0
comp=Z,135nm,1.3s
EGMT IAMs_20 IAMs_20 03 39 43.4
comp=Z,4μm,20.0s
EGMT **Eagleton** 85.66 335 P **P** **03 03 51.5 -0.1**
baz=148,SNR=36
EGMT S **S** **03 14 20.5 -1.2**
baz=148
HOWZ **Holdsworth Sta** 85.68 224 P **P** **03 03 55.3 +3.2**
PLID **Pearl Lake** 85.72 330 IAmb IAmb 03 03 55.8
comp=Z,109nm,0.8s
N02D **Trinity Center** 85.72 324 P **P** **03 03 52.0 0.0**
baz=138,SNR=45
N02D S **S** **03 14 22.4 -0.2**
baz=138
MRZ **Mangatainoka R** 85.79 225 P **P** **03 03 54.6 +2.0**
CAW **Cannon Point** 85.83 224 P **P** **03 03 51.4 -1.3**
M04C **Macdoel** 85.89 325 P **P** **03 03 53.6 +0.7**
baz=138,SNR=41
M04C S **S** **03 14 25.9 +1.6**
baz=138
KHZ **Kahutara** 85.92 222 P **P** **03 03 55.9 +2.8**
BMO **Blue Mountains** 86.10 329 P **P** **03 03 54.0 +0.1**
BMO pmax pmax
comp=Z,51nm,1.3s
BMO **Blue Mountains** 86.10 329 P **P** **03 03 54.0 +0.1**
M02C **Callahan** 86.11 324 P **P** **03 03 54.4 +0.5**
baz=138,SNR=52
M02C S **S** **03 14 26.7 +0.3**
baz=138
K05A **Summer Lake** 86.13 326 IAmb IAmb 03 03 58.6
comp=Z,181nm,0.9s
OUK **Oukaimeden** 86.15 50 P **P** **03 03 56.0 +1.2**
OUK **Oukaimeden** 86.15 50 P **P** **03 03 56.0 +1.2**
KHMM **Horse Mountain** 86.18 323 IAmb IAmb 03 03 59.0
comp=Z,97nm,1.0s
TCW **Tory Channel** 86.23 224 P **P** **03 03 58.8 +4.0**
MSO **Missoula** 86.26 332 IAmb IAmb 03 03 57.7
comp=Z,215nm,1.5s
MSO IAMs_20 IAMs_20 03 39 56.4
comp=Z,7μm,20.0s
MSO **Missoula** 86.26 332 P **P** **03 03 55.4 +0.7**
baz=144,SNR=33
MSO S **S** **03 14 29.3 +1.6**
baz=144
URZ **Urewera** 86.29 227 LR LR 03 33 05.7
comp=Z,7μm,21.3s,baz=204,slow=29
URZ **Urewera** 86.29 227 P **P** **03 03 56.5 +1.4**
JCC **Jacoby Creek,** 86.29 323 IAmb IAmb 03 04 11.5
comp=Z,222nm,1.4s
LTZ **Lake Taylor** 86.41 221 P **P** **03 03 57.3 +1.6**
L04D **Klamath Falls** 86.44 325 P **P** **03 03 55.7 +0.1**
baz=138,SNR=41
L04D S **S** **03 14 30.0 +0.3**
baz=138
K04D **Chiloquin, OR** 86.47 325 P **P** **03 03 56.4 +0.6**
baz=138,SNR=16
K04D S **S** **03 14 31.4 +1.4**
baz=138
I07A **Izee** 86.50 327 IAmb IAmb 03 04 00.0
comp=Z,130nm,1.0s
WNVZ **Wahianoa** 86.59 226 P **P** **03 03 57.9 +1.1**
LESE **Lesego, Limpop** 86.66 116 *i*P **P** **03 03 57.5 +0.3**
THZ **Tophouse** 86.69 222 P **P** **03 03 58.2 +1.1**
WAZ **Wanganui** 86.70 225 P **P** **03 03 59.4 +2.3**
J05D **Fort Rock, OR** 86.71 326 P **P** **03 03 57.9 +0.8**
baz=139,SNR=60
J05D S **S** **03 14 33.5 +1.2**
baz=139
KRMB **Red Mountain** 86.74 323 IAmb IAmb 03 04 01.4
comp=Z,97nm,1.0s
NNZ **Nelson** 86.76 223 P **P** **03 03 59.3 +2.0**
INZ **Inchbonnie** 86.92 221 P **P** **03 04 00.9 +2.8**
L02E **Cave Junction** 87.05 324 P **P** **03 03 59.5 +1.0**
baz=137,SNR=34
L02E S **S** **03 14 36.8 +1.4**
baz=137
J04D **Umpqua Nationa** 87.10 325 P **P** **03 03 59.7 +0.7**
baz=138,SNR=43
J04D S **S** **03 14 37.1 +0.8**
baz=138
JTMT **Jette** 87.14 333 IAmb IAmb 03 04 02.4
comp=Z,101nm,0.8s
VRZ **Vera Road** 87.23 225 P **P** **03 04 02.4 +2.7**
DSZ **Denniston Nort** 87.34 222 P **P** **03 03 59.9 -0.3**
TZRR **Tazzarine** 87.42 52 P **P** **03 04 02.1 +1.4**
TZRR **Tazzarine** 87.42 52 P **P** **03 04 02.1 +1.4**
K02D **Willamette Mer** 87.47 324 P **P** **03 04 01.6 +1.0**
baz=137,SNR=40
K02D S **S** **03 14 40.7 +1.2**
baz=137
QRZ **Quartz Range** 87.50 223 P **P** **03 04 00.3 -0.7**
QRZ IAmb IAmb 03 04 03.9
comp=Z,262nm,1.5s
QRZ **Quartz Range** 87.50 223 P **P** **03 04 00.7 -0.3**
NEZ **North Egmont** 87.54 225 P **P** **03 04 02.5 +1.2**
I05D **Terrebonne, OR** 87.56 327 P **P** **03 04 02.0 +1.1**
baz=139,SNR=9.7
I05D S **S** **03 14 42.1 +1.9**
baz=139
DBO **Dodson Butte** 87.57 325 IAmb IAmb 03 04 18.4
comp=Z,216nm,1.5s
KHEZ **Kahui Hut** 87.58 225 P **P** **03 04 02.4 +0.9**
CRZF **Crozet Islands** 87.62 145 P **P** **03 04 00.8 -0.7**
CRZF IAmb IAmb 03 04 01.8
comp=Z,197nm,1.4s
CRZF IAMs_20 IAMs_20 03 39 58.1
comp=Z,5μm,20.0s
I04A **Tendick Farm,** 87.66 326 P **P** **03 04 01.5 +0.1**
baz=138,SNR=34
I04A S **S** **03 14 40.5 -0.8**
baz=138
XMAS **Kiritimati** 87.69 274 P **P** **03 04 02.4 +0.1**
XMAS IAmb IAmb 03 04 07.5
comp=Z,109nm,1.1s
XMAS **Kiritimati** 87.69 274 IAMs_20 IAMs_20 03 34 50.1
comp=Z,4μm,20.0s
AVE **Averroes** 87.77 49 P **P** **03 04 01.9 -0.2**
AVE S **S** **03 14 41.8 -0.8**
AVE **Averroes** 87.77 49 P **P** **03 04 04.0 +1.8**
AVE **Averroes** 87.77 49 P **P** **03 04 04.0 +1.8**
J01E **Myrtle Point** 87.95 324 P **P** **03 04 03.5 +0.8**
baz=137
J01E S **S** **03 14 44.9 +1.1**
baz=137
I03D **Drain, OR** 88.05 325 P **P** **03 04 04.0 +0.8**
baz=137,SNR=8.1
I03D S **S** **03 14 45.6 +0.8**
baz=137
WALA **Waterton Lakes** 88.06 334 IAmb IAmb 03 04 06.7
comp=Z,204nm,1.1s
ITZ **Itezhi-Tezhi** 88.21 107 *e*P **P** **03 04 01.1 -3.8**
ITZ *i* 03 14 35.0
ITZ **Itezhi-Tezhi** 88.21 107 *e*P **P** **03 04 01.1 -3.8**
ITZ *i* 03 14 35.0
H04A **Detroit Lake** 88.22 326 IAmb IAmb 03 04 07.2
comp=Z,146nm,0.8s
G05D **Wamic, OR** 88.22 327 P **P** **03 04 05.1 +1.0**
baz=139,SNR=36
G05D S **S** **03 14 48.2 +1.7**
baz=139
HAWA **Hanford** 88.28 329 IAmb IAmb 03 04 08.1
comp=Z,171nm,1.2s
H04D **Lebanon** 88.36 326 P **P** **03 04 04.9 +0.2**
baz=138,SNR=20
H04D S **S** **03 14 47.1 -0.6**
baz=138
ZHG **ZHG** 88.36 49 P **P** **03 04 06.0 +0.9**
ZHG **ZHG** 88.36 49 P **P** **03 04 06.0 +0.9**
HOOD **Mount Hood Mea** 88.44 327 P **P** **03 04 03.9 -1.3**
I02D **Swisshome** 88.59 325 P **P** **03 04 06.8 +1.0**
baz=137
I02D S **S** **03 14 51.0 +1.1**
baz=137
COR **Corvallis** 88.68 326 P **P** **03 04 06.6 +0.5**
COR **Corvallis** 88.68 326 P **P** **03 04 06.6 +0.5**
COR IAmb IAmb 03 04 10.6
comp=Z,160nm,1.1s
NEW **Newport** 88.71 331 P **P** **03 04 05.6 -0.7**
baz=142,SNR=38
NEW S **S** **03 14 48.1 -2.8**
baz=142
F05D **White Salmon** 88.77 328 P **P** **03 04 07.3 +0.7**
baz=139,SNR=30
F05D S **S** **03 14 53.6 +2.0**
baz=139
C09A **Chrisman Ranch** 88.83 330 IAmb IAmb 03 04 10.0
comp=Z,75nm,0.9s
G03D **McMinnville, O** 89.12 326 P **P** **03 04 09.3 +1.1**
baz=138,SNR=6.5
G03D S **S** **03 14 55.4 +0.6**
baz=138
FFC **Flin Flon** 89.13 343 P **P** **03 04 07.4 -0.6**
FFC pmax pmax
comp=Z,126nm,1.2s
FFC **Flin Flon** 89.13 343 P **P** **03 04 07.4 -0.6**
FFC IAmb IAmb 03 04 10.4
comp=Z,126nm,1.1s
FFC **Flin Flon** 89.13 343 IAMs_20 IAMs_20 03 51 16.1
comp=Z,4μm,19.0s
CZD **Col de Zad** 89.16 50 P **P** **03 04 11.0 +1.9**
CZD **Col de Zad** 89.16 50 P **P** **03 04 11.0 +1.9**
F04A **Amboy** 89.25 327 IAmb IAmb 03 04 11.0
comp=Z,120nm,0.9s
MDT **Midelt** 89.31 51 P **P** **03 04 10.5 +0.9**
comp=Z,66nm,1.1s,baz=256,slow=5.2,SNR=45
MDT **Midelt** 89.31 51 P **P** **03 04 10.6 +1.0**
MDT **Midelt** 89.31 51 P **P** **03 04 10.6 +1.0**
PFVI **Vila Bisbo** 89.33 45⇑ *i*P **P** **03 04 09.6 +0.2**
comp=Z,186nm,1.8s
PFVI **Vila Bisbo** 89.33 45 *e*S **S** **03 14 56.7 -0.4**
PFVI **Vila Bisbo** 89.33 45 P **P** **03 04 09.3 -0.1**
PFVI IAmb IAmb 03 04 11.7
comp=Z,112nm,1.1s
IFR **Ifrane** 89.40 50 P **P** **03 04 10.0 -0.1**
IFR S **S** **03 14 56.4 -2.0**
LTY **Liberty** 89.45 329 IAmb IAmb 03 04 26.2
comp=Z,80nm,1.2s
MORF **Marmelete** 89.54 45 *e*P **P** **03 04 11.0 +0.4**
MORF *e*PP **PP** **03 07 42.8 +0.1**
MORF *e*SKSac **SKSac** **03 14 37.7 -0.9**
MORF IAMs_20 IAMs_20 03 39 48.3
comp=E,10μm,24.9s
MORF **Marmelete** 89.54 45 *e*P **P** **03 04 10.9 +0.4**
MORF *e* 03 07 42.7
MORF *e* 03 14 37.7
MORF **Marmelete** 89.54 45⇑ *i*P **P** **03 04 10.8 +0.3**
comp=E,164nm,1.4s
MORF **Marmelete** 89.54 45 *e*PP PP 03 07 42.2 -0.5
MORF *e*S **S** **03 14 59.6 +0.3**
LON **Longmire** 89.58 328 IAmb IAmb 03 04 13.4
comp=Z,76nm,0.9s
F04D **Rainier, OR** 89.64 327 P **P** **03 04 11.7 +1.1**
baz=138
F04D S **S** **03 15 03.9 +4.2**
baz=138
PTEO **Sao Teotonio** 89.65 45⇑ *i*P **P** **03 04 11.5 +0.6**
comp=Z,345nm,1.1s
PTEO **Sao Teotonio** 89.65 45 *e*PP PP 03 07 44.7 +1.2
LCRM **LCR** 89.68 50 P **P** **03 04 12.0 +0.6**
LCRM **LCR** 89.68 50 P **P** **03 04 12.0 +0.6**
E04D **Cinebar** 89.78 327 P **P** **03 04 11.5 +0.2**
baz=138,SNR=23
E04D S **S** **03 15 01.2 +0.2**
baz=138
RSA **Sarsar** 89.79 48 P **P** **03 04 13.0 +1.3**
RSA **Sarsar** 89.79 48 P **P** **03 04 13.0 +1.3**
PBDV **Barranco-do-Ve** 89.94 46⇑ *i*P **P** **03 04 12.8 +0.5**
comp=Z,303nm,1.3s
PBDV **Barranco-do-Ve** 89.94 46 *e*S **S** **03 15 02.1 -0.9**
D05A **Enumclaw** 89.99 328 IAmb IAmb 03 04 14.4
comp=Z,161nm,1.0s
C06D **Leavenworth** 90.05 329 P **P** **03 04 11.7 -0.8**
baz=139
PCVE **Castro Verde** 90.13 45⇑ *i*P **P** **03 04 13.4 +0.3**
comp=Z,183nm,1.3s
PCVE **Castro Verde** 90.13 45 *e*PP PP 03 07 47.1 -0.2
PCVE *e*S **S** **03 15 04.0 -0.6**
PNCL **Nicolau / Gran** 90.14 45⇑ *i*P **P** **03 04 13.3 +0.1**
comp=Z,179nm,1.4s
PNCL **Nicolau / Gran** 90.14 45 *e*PP PP 03 07 47.1 -0.2
PNCL *e*S **S** **03 15 06.9 +2.3**
PMST **Lisbon--Monsan** 90.15 44⇑ *i*P **P** **03 04 13.5 +0.3**
comp=Z,182nm,1.6s
PMST **Lisbon--Monsan** 90.15 44 *e*PP PP 03 07 47.1 -0.3
MESJ **Messejana** 90.15 45 *e*P **P** **03 04 13.7 +0.5**
MESJ IAMs_20 IAMs_20 03 38 44.6
comp=Z,10μm,25.0s
MESJ **Messejana** 90.15 45 *e*P **P** **03 04 13.7 +0.5**
MESJ **Messejana** 90.15 45⇑ *i*P **P** **03 04 13.4 +0.2**
comp=Z,187nm,1.7s
MESJ **Messejana** 90.15 45 *e*PP PP 03 07 47.2 -0.2
LIS **Lisbon** 90.15 44 *e*P **P** **03 04 13.6 +0.4**
LIS *e* 03 14 41.3
LIS *e*SKSac **SKSac** **03 14 41.3 -0.7**
LIS IAMs_20 IAMs_20 03 40 24.5
comp=Z,13μm,25.5s
LIS **Lisbon** 90.15 44 *e*P **P** **03 04 13.6 +0.4**
LIS *e* 03 14 41.3
PVAQ **Vaqueiros** 90.18 46⇑ *i*P **P** **03 04 13.4 0.0**
comp=Z,251nm,1.5s
PVAQ **Vaqueiros** 90.18 46 *e*PP PP 03 07 48.2 +0.5
PVAQ *e*S **S** **03 15 08.4 +3.3**
PVAQ **Vaqueiros** 90.18 46 *e*LR LR 03 34 49.5
PVAQ **Vaqueiros** 90.18 46 IAmb IAmb 03 04 15.9
comp=Z,163nm,1.3s
PVAQ **Vaqueiros** 90.18 46 P **P** **03 04 14.0 +0.6**
PVAQ **Vaqueiros** 90.18 46 P **P** **03 04 14.0 +0.6**
PMAFR **Mafra** 90.23 44⇑ *i*P **P** **03 04 13.9 +0.3**
comp=Z,211nm,1.3s
PMAFR **Mafra** 90.23 44 *e*PP PP 03 07 48.0 -0.1
PMAFR *e*S **S** **03 15 07.5 +2.0**
CHEFC **Chefchaouen** 90.24 49 P **P** **03 04 15.0 +1.1**
CHEFC **Chefchaouen** 90.24 49 P **P** **03 04 15.0 +1.1**
LSZ **Lusaka** 90.24 108 P **P** **03 04 14.9 +0.4**
LSZ pmax pmax
comp=Z,1μm,1.1s
LSZ **Lusaka** 90.24 108 P **P** **03 04 14.9 +0.4**
LSZ **Lusaka** 90.24 108 P **P** **03 04 15.3 +0.9**
LSZ **Lusaka** 90.24 108 *i*P **P** **03 04 14.5 +0.1**
RADR **Rader Ridge** 90.26 327 IAmb IAmb 03 04 17.3
comp=Z,94nm,0.8s
D04E **Lakebay** 90.34 328 P **P** **03 04 14.8 +0.9**
baz=138,SNR=9.9
D04E S **S** **03 15 09.3 +3.2**
baz=138
PBEJ **Beja** 90.48 45⇑ *i*P **P** **03 04 14.8 0.0**
comp=Z,158nm,2.0s
PBEJ **Beja** 90.48 45 *e*PP PP 03 07 50.6 +0.5
SFS **San Fernando** 90.53 47 P **P** **03 04 15.1 +0.1**
SFS S **S** **03 15 11.6 +3.3**
SMIR **Smir Dam** 90.56 48 P **P** **03 04 16.0 +0.8**
SMIR **Smir Dam** 90.56 48 P **P** **03 04 16.0 +0.8**
ARNO **Arenosillo** 90.59 46 P **P** **03 04 14.8 -0.5**
ARNO S **S** 03 14 59.5 -9.3
CEU **Ceuta** 90.70 48 P **P** **03 04 15.8 0.0**
CEU S **S** **03 15 10.8 +0.9**
EVO **Evora** 90.72 44 P **P** **03 04 15.0 -0.9**
EVO S **S** 03 15 25.4 +15
EVO **Evora** 90.72 44⇑ *i*P **P** **03 04 15.7 -0.2**
comp=Z,116nm,1.4s
EVO **Evora** 90.72 44 *e*PP PP 03 07 51.6 -0.3
WISH **Wishkah** 90.76 327 IAmb IAmb 03 04 44.9
comp=Z,87nm,1.2s
B06A **Marblemount** 90.76 329 IAmb IAmb 03 04 17.1
comp=Z,80nm,0.9s
AKLM **AKL** 90.83 50 P **P** **03 04 18.0 +1.3**
AKLM **AKL** 90.83 50 P **P** **03 04 17.0 +0.4**
B05A **Bryant** 90.84 329 P **P** **03 04 15.7 -0.4**
baz=138,SNR=30
PSBE **So Bento** 90.88 43⇑ *i*P **P** **03 04 16.3 -0.3**
comp=Z,287nm,1.2s
PSBE **So Bento** 90.88 43 *e*PP PP 03 07 53.1 -0.1
PSBE *e*S **S** **03 15 15.3 +3.8**
PMTG **Montargil** 90.93 44⇑ *i*P **P** **03 04 16.8 -0.1**
comp=Z,311nm,1.7s
PMTG **Montargil** 90.93 44 *e*PP PP 03 07 51.6 -2.0
PVLZ **Peæn de** 90.95 49 P **P** **03 04 15.1 -2.0**
PVLZ S **S** **03 15 09.9 -2.3**
PBAR **Barrancos** 91.08 45⇑ *i*P **P** **03 04 17.7 +0.1**
comp=Z,140nm,1.7s
PBAR **Barrancos** 91.08 45 *e*PP PP 03 07 53.4 -1.4
FIGM **Figuig** 91.17 53 P **P** **03 04 20.0 +1.7**
FIGM **Figuig** 91.17 53 P **P** **03 04 20.0 +1.7**
FCC **Fort Churchill** 91.17 348 P **P** **03 04 18.2 +0.7**
FCC pmax pmax
comp=Z,669nm,1.5s
FCC **Fort Churchill** 91.17 348 P **P** **03 04 18.2 +0.7**
TDRA **Tendrara** 91.18 52 P **P** **03 04 20.0 +1.6**
TDRA **Tendrara** 91.18 52 P **P** **03 04 20.0 +1.6**
PESTR **Estremoz** 91.18 44⇑ *i*P **P** **03 04 18.1 0.0**
comp=Z,196nm,2.1s
PESTR **Estremoz** 91.18 44 *e*PP PP 03 07 55.8 +0.1
PESTR *e*S **S** **03 15 07.1 -7.2**
PESTR **Estremoz** 91.18 44 IAmb IAmb 03 04 20.3
comp=Z,92nm,1.3s
PESTR **Estremoz** 91.18 44 P **P** **03 04 18.5 +0.4**
PESTR **Estremoz** 91.18 44 P **P** **03 04 18.5 +0.4**
PALE **Palemas** 91.21 49 P **P** **03 04 19.0 +0.7**
PALE **Palemas** 91.21 49 P **P** **03 04 19.0 +0.7**
EDM **Edmonton** 91.26 336 IAmb IAmb 03 04 21.7
comp=Z,68nm,0.7s
PCAS **Casmilo, Conde** 91.40 43⇑ *i*P **P** **03 04 19.1 +0.1**
comp=Z,169nm,2.3s
PCAS **Casmilo, Conde** 91.40 43 *e*PP PP 03 07 57.3 0.0
PCAS *e*S **S** **03 15 11.8 -4.4**
A04D **Lummi Island** 91.45 329 P **P** **03 04 19.1 +0.1**
baz=138,SNR=26
A04D S **S** **03 15 19.7 +3.6**
baz=138
COI **Coimbra** 91.55 43 *e*S **S** **03 15 16.4 -1.1**
JBK **JBK** 91.58 51 P **P** **03 04 21.0 +0.7**
JBK **JBK** 91.58 51 P **P** **03 04 21.0 +0.7**
PMRV **Marv??o** 91.66 44⇑ *i*P **P** **03 04 19.5 -0.8**
comp=Z,127nm,1.3s
PMRV **Marv??o** 91.66 44 *e*PP PP 03 07 59.3 -0.1
PMRV *e*S **S** **03 15 12.1 -6.5**
PMRV **Marv??o** 91.66 44 *e*LR LR 03 35 14.8

AFI	**Afiamalu**	**91.72**	**253**	LR	LR	03 35 02.5				
	comp=Z,9μm,21.3s,baz=138,slow=29									
EMAL	**Malaga-Limoner**	**91.83**	**48**	P	**P**	**03 04 19.2**	**-1.8**			
EMAL				S	**S**	**03 15 20.6**	**+0.4**			
PCBR	**Castelo Branco**	**91.87**	**44**⇑	*iP*	**P**	**03 04 20.7**	**-0.5**			
	comp=Z,147nm,1.4s									
MELI	**Melilla**	**91.91**	**50**	P	**P**	**03 04 20.8**	**-0.7**			
MELI				S	**S**	**03 15 21.3**	**+0.3**			
TAF	**Taforalt**	**91.97**	**50**	P	**P**	**03 04 23.0**	**+1.1**			
TAF	**Taforalt**	**91.97**	**50**	P	**P**	**03 04 23.0**	**+1.1**			
PVIS	**Viseu**	**92.18**	**43**⇑	*iP*	**P**	**03 04 22.0**	**-0.7**			
	comp=Z,107nm,2.3s									
PVIS	**Viseu**	**92.18**	**43**	*e*PP	PP	03 08 03.9	+0.4			
MTE	**Manteigas**	**92.18**	**43**⇑	*iP*	**P**	**03 04 22.5**	**-0.2**			
	comp=Z,177nm,1.2s									
MTE	**Manteigas**	**92.18**	**43**	*e*S	**S**	**03 15 20.6**	**-2.7**			
MTE	**Manteigas**	**92.18**	**43**	*e*LR	LR	03 35 33.7				
MTE	**Manteigas**	**92.18**	**43**	IAmb	IAmb	03 04 24.3				
	comp=Z,136nm,1.2s									
PVRL	**Vila Real**	**92.64**	**43**⇑	*iP*	**P**	**03 04 23.9**	**-0.9**			
	comp=Z,180nm,1.4s									
PVRL	**Vila Real**	**92.64**	**43**	*e*PP	PP	03 08 06.4	-0.7			
POLO	**Lamas de Olo**	**92.66**	**42**⇑	*iP*	**P**	**03 04 24.4**	**-0.5**			
	comp=Z,73nm,1.6s									
POLO	**Lamas de Olo**	**92.66**	**42**	*e*PP	PP	03 08 06.8	-0.5			
POLO				*e*S	**S**	**03 15 21.4**	**-6.2**			
PCAB	**Cabril**	**92.73**	**42**⇑	*iP*	**P**	**03 04 24.8**	**-0.4**			
	comp=Z,134nm,1.4s									
PCAB	**Cabril**	**92.73**	**42**	*e*PP	PP	03 08 08.9	+1.0			
PGAV	**Gavieira, Arco**	**92.76**	**42**⇑	*iP*	**P**	**03 04 24.5**	**-0.9**			
	comp=Z,122nm,1.5s									
PGAV	**Gavieira, Arco**	**92.76**	**42**	*e*PP	PP	03 08 06.6	-1.5			
PGAV				*e*S	S	03 15 17.9	-11			
PGAV	**Gavieira, Arco**	**92.76**	**42**	*e*LR	LR	03 35 51.6				
OZB	**Mount Ozzard**	**92.89**	**328**	IAmb	IAmb	03 04 29.0				
	comp=Z,67nm,0.8s									
MVO	**Moncorvo**	**92.97**	**43**⇑	*iP*	**P**	**03 04 26.3**	**0.0**			
	comp=Z,200nm,1.3s									
MVO	**Moncorvo**	**92.97**	**43**	*e*PP	PP	03 08 09.7	-0.1			
MVO				*e*S	**S**	**03 15 23.4**	**-6.9**			
MVO	**Moncorvo**	**92.97**	**43**	*e*LR	LR	03 35 52.9				
PAF	**Port-aux-Franc**	**93.21**	**156**	P	**P**	**03 04 28.3**	**+0.9**			
PAF				pmax	pmax					
	comp=Z,430nm,1.5s									
PAF	**Port-aux-Franc**	**93.21**	**156**	P	**P**	**03 04 28.3**	**+0.9**			
PBRG	**Braganca**	**93.54**	**43**⇑	*iP*	**P**	**03 04 28.5**	**-0.4**			
	comp=Z,135nm,1.6s									
PBRG	**Braganca**	**93.54**	**43**	*e*PP	PP	03 08 13.4	-0.8			
PBRG				*e*S	S	03 15 25.4	-10			
PAB	**San Pablo**	**93.58**	**45**	P	**P**	**03 04 28.5**	**-0.7**			
PAB				pmax	pmax					
	comp=Z,131nm,1.4s									
PAB				MLR	MLR					
	comp=Z,9μm,19.0s									
PAB	**San Pablo**	**93.58**	**45**	P	**P**	**03 04 28.4**	**-0.7**			
PAB				IAmb	IAmb	03 04 31.1				
	comp=Z,131nm,1.4s									
PAB	**San Pablo**	**93.58**	**45**	P	**P**	**03 04 29.1**	**-0.1**			
PAB	**San Pablo**	**93.58**	**45**	P	**P**	**03 04 29.1**	**-0.1**			
ESDC	**Sonseca Array**	**93.89**	**46**	P	**P**	**03 04 30.6**	**0.0**			
	comp=Z,15nm,0.8s,baz=238,slow=4.7,SNR=80									
ESDC				PP	**PP**	**03 08 14.3**	**-2.7**			
	comp=Z,9.7nm,1.1s,baz=229,slow=6.1,SNR=4.3									
ESDC				LR	LR	03 46 09.2				
	comp=Z,7μm,18.9s,baz=250,slow=35									
NRS	**Narsarsuaq**	**93.99**	**12**	IAmb	IAmb	03 04 31.7				
	comp=Z,186nm,1.5s									
NRS				IAMs_20	IAMs_20	03 46 42.6				
	comp=Z,6μm,21.0s									
CART	**Cartagena**	**94.52**	**49**	P	**P**	**03 04 31.1**	**-2.3**			
CART				S	S	03 15 22.8	-21			
CART	**Cartagena**	**94.52**	**49**	IAmb	IAmb	03 04 34.4				
	comp=Z,164nm,1.5s									
CART	**Cartagena**	**94.52**	**49**	P	**P**	**03 04 33.6**	**+0.1**			
CART	**Cartagena**	**94.52**	**49**	P	**P**	**03 04 33.4**	**-0.1**			
NUUK	**Nuuk**	**95.87**	**8**	*iP*	**P**	**03 04 39.3**	**+0.4**			
NUUK				IAmb	IAmb	03 04 39.7				
	comp=Z,224nm,1.7s									
ITUM	**Tunduma**	**97.50**	**106**	*i* P	Pdif	03 04 48.5	+0.6			
ISOK	**Kyela**	**97.69**	**106**	*i* P	Pdif	03 04 51.0	+2.2			
PDHT	**Panda Hill**	**97.77**	**105**	*i* P	Pdif	03 04 51.0	+1.9			
ILIND	**Ilindi**	**97.79**	**105**	*i* P	Pdif	03 04 50.5	+1.2			
MBAM	**Mbamba Bay**	**97.81**	**108**	*i* P	Pdif	03 04 52.1	+2.9			
MZUN	**Kiwira**	**97.91**	**106**	*i* P	Pdif	03 04 52.1	+2.4			
MKIL	**Mkili**	**97.92**	**108**	*i* P	Pdif	03 04 52.2	+2.5			
MANDA	**Manda**	**98.08**	**107**	*i* P	Pdif	03 04 53.4	+3.0			
NKAL	**Nkalisi**	**98.10**	**106**	*i* P	Pdif	03 04 51.9	+1.3			
TIRI	**Matiri**	**98.16**	**108**	*i* P	Pdif	03 04 52.9	+2.0			
JILO	**Lwanjilo**	**98.17**	**105**	*i* P	Pdif	03 04 54.0	+3.0			
UNDA	**Madunda**	**98.31**	**107**	*i* P	**P**	**03 04 51.8**	**+0.2**			
UKWA	**Ukwama**	**98.32**	**106**	*i* P	Pdif	03 04 52.6	+0.9			
MAKE	**Makete**	**98.32**	**106**	*i* P	Pdif	03 04 52.9	+1.1			
MATAM	**Matamba**	**98.38**	**106**	*i* P	Pdif	03 04 53.6	+1.6			
CHML	**Chimala**	**98.50**	**106**	*i* P	Pdif	03 04 55.5	+3.1			
LIGA	**Liganga**	**98.50**	**108**	*i* P	**P**	**03 04 52.7**	**+0.4**			
TOLA	**Matola**	**98.55**	**106**	*i* P	Pdif	03 04 54.9	+2.1			
KIPE	**Kipengere**	**98.59**	**106**	*i* P	**P**	**03 04 52.0**	**-0.9**			
ZINI	**Mgazini**	**98.69**	**108**	*i* P	Pdif	03 04 54.7	+1.5			
MUDIN	**Mudindi**	**98.69**	**107**	*i* P	**P**	**03 04 53.6**	**+0.4**			
SFJD	**Kangerlussuaq**	**98.71**	**8**	LR	LR	03 49 49.5				
	comp=Z,2μm,20.2s,baz=189,slow=36									
SFJD	**Kangerlussuaq**	**98.71**	**8**	P	**P**	**03 04 51.2**	**-0.5**			
SFJD				pmax	pmax					
	comp=Z,33nm,1.3s									
SFJD				MLR	MLR					
	comp=Z,3μm,22.0s									
SFJD	**Kangerlussuaq**	**98.71**	**8**	P	**P**	**03 04 51.2**	**-0.5**			
UWEM	**Njombe**	**98.78**	**106**	*i* P	**P**	**03 04 52.5**	**-1.3**			
DY2G	**Dye2**	**98.80**	**10**	*i* P	**P**	**03 04 52.4**	**-0.1**			
DY2G				IAmb	IAmb	03 04 53.7				
	comp=Z,218nm,1.6s									
DY2G				*i*		03 08 52.8				
GAWA	**Igawa**	**98.83**	**106**	*i* P	Pdif	03 04 55.5	+1.7			
WINO	**Wino**	**99.05**	**107**	*i* P	**Pdif**	**03 04 56.5**	**+1.6**			
KIDE	**Kidegembe**	**99.08**	**106**	*i* P	**Pdif**	**03 04 55.5**	**+0.4**			
BAKO	**Makambako**	**99.13**	**106**	*i* P	**Pdif**	**03 04 56.5**	**+1.2**			
BANG	**Mbangamawe**	**99.14**	**107**	*i* P	**Pdif**	**03 04 58.1**	**+2.9**			
YKA	**Yellowknife Ar**	**99.18**	**341**	P	**Pdif**	**03 04 53.1**	**-0.8**			
	comp=Z,10nm,0.8s,baz=134,slow=5.3,SNR=15									
MFRI	**Mfriga**	**99.31**	**107**	*i* P	**Pdif**	**03 04 56.3**	**+0.3**			
CCA1	**Carmmenellis**	**99.53**	**37**	*e*P	**Pdif**	**03 04 54.5**	**-1.3**			
MBAR	**Mbarara**	**100.06**	**97**	P	**Pdif**	**03 05 00.1**	**+0.8**			
	comp=Z,4.2nm,0.8s,baz=262,slow=1.3,SNR=16									
MBAR				PP	**PP**	**03 09 07.0**	**+2.1**			
	comp=Z,26nm,1.0s,baz=226,slow=8.6,SNR=4.7									
MBAR	**Mbarara**	**100.06**	**97***c*	*iP*	**Pdif**	**03 05 00.8**	**+1.4**			
MBAR	**Mbarara**	**100.06**	**97**	Pdif	**Pdif**	**03 05 00.2**	**+0.9**			
MBAR	**Mbarara**	**100.06**	**97**	P	**Pdif**	**03 05 00.5**	**+1.1**			
DYA	**Yadsworthy**	**100.35**	**37**	*e*P	**Pdif**	**03 04 57.6**	**-1.8**			
HTL	**Hartland**	**100.39**	**36**	*e*P	**Pdif**	**03 04 58.4**	**-1.2**			
KEST	**Kesra**	**100.51**	**55**	P	**Pdif**	**03 05 01.1**	**+0.4**			
	comp=Z,11nm,1.0s,baz=96,slow=1.3,SNR=8.1									
KEST	**Kesra**	**100.51**	**55**	||P	**Pdif**	**03 04 59.4**	**-1.2**			
JSA	**Saint Aubin**	**100.55**	**39**	*e*P	**Pdif**	**03 04 58.0**	**-2.3**			
ILULI	**Ilulissat**	**100.77**	**7**	IAMs_20	IAMs_20	03 52 51.8				
	comp=Z,4μm,19.0s									
DSB	**Dublin**	**100.82**	**34**	Pdif	**Pdif**	**03 05 00.9**	**-0.6**			
RSBS	**Rosebush, Pemb**	**100.83**	**35**	*e*P	**Pdif**	**03 05 00.6**	**-0.9**			
VOI	**Vohitsoka**	**100.85**	**124**	IAMs_20	IAMs_20	03 47 50.8				
	comp=Z,4μm,20.0s									
VOI	**Vohitsoka**	**100.85**	**124**	P	**Pdif**	**03 04 60.0**	**-2.7**			
GETA	**Geita**	**101.02**	**100**	*i* P	**Pdif**	**03 05 02.7**	**-0.9**			
WRAK	**Wrangell Islan**	**101.02**	**330**	Pdif	**Pdif**	**03 05 01.9**	**-0.3**			
WRAK	**Wrangell Islan**	**101.02**	**330**	IAMs_20	IAMs_20	03 46 40.7				
	comp=Z,3μm,20.0s									
WRAK	**Wrangell Islan**	**101.02**	**330**	Pdiff	**Pdif**	**03 05 02.4**	**+0.1**			
	baz=130									
LLW	**Llanuwchllyn**	**101.90**	**35**	*e*P	**Pdif**	**03 05 03.5**	**-2.8**			
STRD	**Stroud**	**102.03**	**36**	*e*P	**Pdif**	**03 05 06.1**	**-0.7**			
WTLY	**Watson Lake, Y**	**102.03**	**334**	Pdiff	**Pdif**	**03 05 07.4**	**+0.6**			
	baz=132									
SWN1	**Swindon**	**102.07**	**37**	*e*P	**Pdif**	**03 05 06.7**	**-0.4**			
HLM1	**Long Mynd**	**102.09**	**36**	*e*P	**Pdif**	**03 05 06.3**	**-0.9**			
ICESG	**Greenland Ices**	**102.23**	**11**	*e*P	**Pdif**	**03 05 07.6**	**-0.2**			
CLF	**Chambon-Foret**	**102.35**	**41**	Pdif	**Pdif**	**03 05 08.8**	**+0.4**			
VSL	**Villasalto**	**102.40**	**51**	IAMs_20	IAMs_20	03 50 34.9				
	comp=Z,5μm,21.0s									
TGTN	**Hyland Airport**	**102.80**	**336**	Pdiff	**Pdif**	**03 05 10.6**	**+0.5**			
	baz=132,SNR=7.1									
HMNX	**Herstmonceux**	**102.83**	**38**	*e*P	**Pdif**	**03 05 09.7**	**-0.7**			
BORG	**Borgarnes**	**102.84**	**20**	IAMs_20	IAMs_20	03 48 05.7				
	comp=Z,5μm,22.0s									
CWF	**Charnwood Fore**	**103.01**	**36**	*e*P	**Pdif**	**03 05 07.6**	**-3.6**			
JIS	**Juneau Island**	**103.05**	**331**	IAMs_20	IAMs_20	03 49 27.4				
	comp=Z,5μm,20.0s									
ESK	**Eskdalemuir**	**103.54**	**33**	P	**Pdif**	**03 05 12.7**	**-0.8**			
ESK				MLR	MLR					
	comp=Z,4μm,18.0s									
ESK	**Eskdalemuir**	**103.54**	**33**	Pdif	**Pdif**	**03 05 12.7**	**-0.8**			
ESK	**Eskdalemuir**	**103.54**	**33**	IAMs_20	IAMs_20	03 54 03.6				
	comp=Z,4μm,18.0s									
EKA	**Eskdalemuir Ar**	**103.57**	**33**	Pdiff	**Pdif**	**03 05 13.1**	**-0.6**			
	comp=Z,6.0nm,0.9s,baz=224,slow=3.5,SNR=16									
DZM	**Mont Dzumac**	**103.63**	**234**	*e*PP	**PKiKP**	**03 09 38.4**	**+5.0**			
	comp=Z,974nm,28.3s									
DZM				*e*SKSac	**SKSac**	**03 15 53.7**	**+0.4**			
	comp=Z,2μm,25.4s									
DZM				*e*SP	**SP**	**03 18 30.6**	**-7.4**			
	comp=Z,3μm,29.0s									
DZM				*e*SS	**SS**	**03 24 16.9**	**+2.3**			
	comp=Z,13μm,29.9s									
DZM	**Mont Dzumac**	**103.63**	**234**	*e*LR	LR	03 39 17.7				
	comp=Z,24μm,27.8s,baz=135									
ELMS	**Elmsett, Ipswi**	**103.84**	**37**	*e*P	**Pdif**	**03 05 14.4**	**-0.5**			
LIFNC	**LIFOU**	**103.92**	**235**	IAMs_20	IAMs_20	03 51 13.7				
	comp=Z,3μm,18.0s									
SKAG	**Skagway**	**104.16**	**332**	Pdiff	**Pdif**	**03 05 17.0**	**+0.8**			
	baz=127									
SENIN	**Lac Senin/Sane**	**104.45**	**45**	Pdif	**Pdif**	**03 05 17.6**	**-0.5**			
MMPY	**Sheldon Lake,**	**104.58**	**336**	Pdiff	**Pdif**	**03 05 19.3**	**+1.3**			
	baz=130									
DOU	**Dourbes**	**104.74**	**40**	*d*P	**Pdif**	**03 05 18.8**	**-0.1**			
	comp=Z,14nm,1.2s									
SNF	**Seneffe**	**104.78**	**40**	*d*P	**Pdif**	**03 05 20.0**	**+0.9**			
	comp=Z,15nm,0.9s									
SNF				*d*PKiKP	**PKiKP**	**03 09 35.5**	**+1.1**			
BMRD	**Maredsous**	**104.94**	**40**	*d*P	**Pdif**	**03 05 20.5**	**+0.6**			
	comp=Z,20nm,1.3s									
BMRD				*d*PKiKP	**PKiKP**	**03 09 36.8**	**+2.1**			
UCC	**Uccle**	**104.96**	**40**	*d*P	**Pdif**	**03 05 20.6**	**+0.6**			
RCHB	**Rochefort**	**105.12**	**40**	*d*P	**Pdif**	**03 05 21.3**	**+0.6**			
	comp=Z,13nm,1.1s									
BGES	**Gesves**	**105.16**	**40**	*d*P	**Pdif**	**03 05 21.4**	**+0.6**			
	comp=Z,10nm,1.3s									
BGES				*d*PKiKP	**PKiKP**	**03 09 34.5**	**-0.6**			
BGES				*d*PP	**PP**	**03 09 41.2**	**-1.3**			
JOHN	**Johnston Islan**	**105.26**	**281**	IAMs_20	IAMs_20	03 43 21.0				
	comp=Z,4μm,18.0s									
ECH	**Echery**	**105.27**	**43**	P	**Pdif**	**03 05 21.5**	**0.0**			
ECH				MLR	MLR					
	comp=Z,5μm,21.0s									
ECH	**Echery**	**105.27**	**43**	Pdif	**Pdif**	**03 05 21.5**	**0.0**			
ECH				IAMs_20	IAMs_20	03 51 28.4				
	comp=Z,5μm,21.0s									
BCLA	**Clavier**	**105.30**	**40**	*d*P	**Pdif**	**03 05 22.0**	**+0.6**			
BCLA				*d*PKiKP	**PKiKP**	**03 09 38.7**	**+3.4**			
BCLA				*d*PP	**PP**	**03 09 45.8**	**+2.3**			
VLC	**Villacollemand**	**105.31**	**48**	IAMs_20	IAMs_20	03 53 02.7				
	comp=Z,4μm,21.0s									
KMBO	**Kilima Mbogo**	**105.33**	**101**	Pdiff	**Pdif**	**03 05 24.8**	**+2.0**			
	comp=Z,5.5nm,1.3s,baz=207,slow=6.7,SNR=4.7									
KMBO	**Kilima Mbogo**	**105.33**	**101**	*i* P	**Pdif**	**03 05 26.3**	**+3.4**			
	SNR=6.0									
KMBO	**Kilima Mbogo**	**105.33**	**101**	P	**Pdif**	**03 05 24.7**	**+1.8**			
KMBO				MLR	MLR					
	comp=Z,9μm,20.0s									
KMBO	**Kilima Mbogo**	**105.33**	**101**	Pdif	**Pdif**	**03 05 24.7**	**+1.8**			
KMBO	**Kilima Mbogo**	**105.33**	**101**	*i* P	**Pdif**	**03 05 26.0**	**+3.1**			
WLF	**Walferdange**	**105.40**	**41**	*d*P	**Pdif**	**03 05 22.7**	**+0.8**			
	comp=Z,25nm,1.3s									
WLF	**Walferdange**	**105.40**	**41**	P	**Pdif**	**03 05 22.3**	**+0.4**			
WLF	**Walferdange**	**105.40**	**41**	Pdif	**Pdif**	**03 05 22.3**	**+0.4**			
WLF	**Walferdange**	**105.40**	**41**	*e*Pdiff	**Pdif**	**03 05 22.4**	**+0.4**			
	baz=245,slow=4.6									
SUMG	**Summit**	**105.51**	**10**	*e*P	**Pdif**	**03 05 24.5**	**+2.0**			
SUMG				*i*		03 09 38.3				
SUMG	**Summit**	**105.51**	**10**	*e*P	**Pdif**	**03 05 24.4**	**+2.0**			
SUMG	**Summit**	**105.51**	**10**	IAMs_20	IAMs_20	03 52 36.9				
	comp=Z,5μm,22.0s									
BSTI	**Sart Tilman**	**105.52**	**40**	*d*P	**Pdif**	**03 05 23.3**	**+0.9**			
BSTI				*d*PKiKP	**PKiKP**	**03 09 38.9**	**+3.1**			
BHOU	**Houvegnez**	**105.65**	**40**	*d*P	**Pdif**	**03 05 24.1**	**+1.0**			
	comp=Z,11nm,1.2s									
BHOU				*d*PKiKP	**PKiKP**	**03 09 36.8**	**+0.8**			
BEBN	**Eben Emael**	**105.69**	**40**	*d*P	**Pdif**	**03 05 23.2**	**+0.1**			
BEBN				*d*PKiKP	**PKiKP**	**03 09 40.3**	**+4.3**			
MEM	**Membach**	**105.78**	**40**	*d*P	**Pdif**	**03 05 24.2**	**+0.6**			
	comp=Z,7.0nm,0.9s									
MEM				*dx*	x	03 09 43.6				
BTNL	**Ternell**	**105.84**	**40**	*d*P	**Pdif**	**03 05 24.4**	**+0.6**			
	comp=Z,8.4nm,1.3s									
BTNL				*d*PKiKP	**PKiKP**	**03 09 41.0**	**+4.7**			
BFO	**Black Forest**	**106.01**	**43**	IAMs_20	IAMs_20	03 51 40.2				
	comp=Z,5μm,22.0s									
BFO	**Black Forest**	**106.01**	**43**	*e*Pdiff	**Pdif**	**03 05 24.7**	**-0.1**			
	baz=245,slow=4.6									
BFO				*e*SKSac	SKSac	03 16 23.1	+21			
	baz=241,slow=6.2									
SALO	**Salr**	**106.07**	**46**	Pdif	**Pdif**	**03 05 24.8**	**-0.3**			
DAVOX	**Davos/Dischmat**	**106.21**	**45**	Pdiff	**Pdif**	**03 05 27.6**	**+1.7**			
	comp=Z,8.5nm,0.8s,baz=232,slow=1.8,SNR=16									
DAVOX				PKKPbc	**PKKPbc**	**03 20 59.6**	**0.0**			
	comp=Z,3.0nm,0.8s,baz=63,slow=4.5,SNR=4.9									
AHRW	**Bad Neuenahr-A**	**106.34**	**41**	*e*Pdiff	**Pdif**	**03 05 26.9**	**+0.8**			
	baz=245,slow=4.6									
DAVA	**Damuels**	**106.45**	**45**	*e*P	**Pdif**	**03 05 27.9**	**+1.0**			
	comp=Z,30nm,1.4s,SNR=11									
DAVA				*e*P	**PP**	**03 09 50.1**	**-2.2**			
	comp=Z,105nm,1.3s									
STU	**Stuttgart**	**106.73**	**43**	P	**Pdif**	**03 05 27.9**	**+0.1**			
STU				MLR	MLR					
	comp=Z,4μm,19.0s									
STU	**Stuttgart**	**106.73**	**43**	Pdif	**Pdif**	**03 05 27.9**	**+0.1**			
STU				IAMs_20	IAMs_20	03 55 14.1				
	comp=Z,4μm,19.0s									
STU	**Stuttgart**	**106.73**	**43**	*e*Pdiff	**Pdif**	**03 05 28.2**	**+0.3**			
	baz=245,slow=4.6									
STU				*e*SKSac	SKSac	03 16 26.5	+21			
	baz=241,slow=6.2									
UBR	**Ueberruh**	**106.77**	**44**	*e*Pdiff	**Pdif**	**03 05 28.8**	**+0.7**			
	baz=245,slow=4.6									
FETA	**Feichten**	**106.84**	**45**	*e*P	**Pdif**	**03 05 29.3**	**+0.7**			
	comp=Z,23nm,1.3s,SNR=13									
FETA				*e*P	**PP**	**03 09 53.4**	**-1.8**			
	comp=Z,26nm,1.0s									
BUG	**Bochum--Univer**	**106.88**	**40**	*e*Pdiff	**Pdif**	**03 05 28.7**	**+0.3**			
	baz=245,slow=4.6									
BUG				*e*PP	**PP**	**03 09 52.3**	**-2.8**			
	baz=244,slow=7.2									
BUG				*e*SKSac	SKSac	03 16 28.5	+22			
	baz=241,slow=6.2									
BUG				*e*SP	**SP**	**03 19 05.3**	**-5.6**			
	baz=244,slow=9.4									
SCO	**Scoresbysund**	**106.91**	**15**	IAMs_20	IAMs_20	03 50 43.1				
	comp=Z,4μm,21.0s									
TNS	**Taunus Mts**	**106.97**	**41**	*e*Pdiff	**Pdif**	**03 05 29.5**	**+0.6**			
	baz=245,slow=4.6									
TULEG	**Thule**	**107.05**	**1**	IAMs_20	IAMs_20	03 53 53.5				
	comp=Z,4μm,22.0s									
RETA	**Reutte**	**107.07**	**45**	*e*P	**Pdif**	**03 05 30.2**	**+0.7**			
	comp=Z,23nm,1.3s,SNR=11									
RETA				*e*P	**PP**	**03 09 54.4**	**-2.4**			
	comp=Z,54nm,1.3s									
TABL	**Table Mountain**	**107.13**	**331**	IAMs_20	IAMs_20	03 49 59.2				
	comp=Z,3μm,20.0s									
MOTA	**Moosalm**	**107.22**	**45**	*e*P	**Pdif**	**03 05 30.8**	**+0.5**			
	comp=Z,32nm,1.4s,SNR=12									
MOTA				*e*P	**PP**	**03 09 54.2**	**-3.8**			
	comp=Z,61nm,1.3s									
SQTA	**Sankt Quirin**	**107.22**	**45**	*e*P	**Pdif**	**03 05 30.8**	**+0.6**			
	comp=Z,28nm,1.2s,SNR=11									
SQTA				*e*P	**PP**	**03 09 55.1**	**-2.9**			
	comp=Z,43nm,1.2s									
MILB	**Miltenberg**	**107.27**	**42**	*e*Pdiff	**Pdif**	**03 05 30.4**	**+0.1**			
	baz=245,slow=4.6									
LOGN	**Logan Glacier**	**107.28**	**331**	IAMs_20	IAMs_20	03 50 51.7				
	comp=Z,3μm,21.0s									
MESA	**MESA**	**107.33**	**330**	IAMs_20	IAMs_20	03 49 50.5				
	comp=Z,4μm,20.0s									
YAH	**Yahtse**	**107.34**	**331**	IAMs_20	IAMs_20	03 49 51.8				
	comp=Z,5μm,21.0s									
KASTN	**Kahler Asten**	**107.40**	**40**	*e*Pdiff	**Pdif**	**03 05 30.9**	**0.0**			
	baz=245,slow=4.6									
KASTN				*e*PP	**PP**	**03 09 55.8**	**-3.3**			
	baz=244,slow=7.2									
CTGM	**Chitina Glacie**	**107.49**	**331**	IAMs_20	IAMs_20	03 50 57.7				
	comp=Z,3μm,21.0s									
WATA	**Walderalm**	**107.50**	**45**	*e*P	**Pdif**	**03 05 32.0**	**+0.4**			
	comp=Z,26nm,1.3s,SNR=11									
WATA				*e*P	**PP**	**03 09 57.1**	**-2.9**			
	comp=Z,44nm,1.2s									
WTTA	**Wattenberg**	**107.50**	**45**	*e*P	**Pdif**	**03 05 32.2**	**+0.6**			
	comp=Z,33nm,1.3s,SNR=14									
WTTA				*e*P	**PP**	**03 10 00.6**	**+0.5**			
	comp=Z,49nm,1.3s									
GRNC	**Granite Creek**	**107.54**	**331**	IAMs_20	IAMs_20	03 50 00.6				
	comp=Z,4μm,21.0s									
IBBN	**Ibbenburen**	**107.55**	**39**	*e*Pdiff	**Pdif**	**03 05 31.7**	**+0.3**			
	baz=245,slow=4.6									
IBBN				*e*PP	**PP**	**03 09 57.9**	**-2.1**			
	baz=244,slow=7.2									
IBBN				*e*SKSac	SKSac	03 16 34.9	+26			
	baz=241,slow=6.2									
RER	**Riviere de l'E**	**107.57**	**129**	IAMs_20	IAMs_20	03 45 45.8				
	comp=Z,4μm,22.0s									
FUR	**Furstenfeldbru**	**107.69**	**44**	*e*Pdiff	**Pdif**	**03 05 32.9**	**+0.7**			
	baz=245,slow=4.6									
ISLE	**Juniper Island**	**107.72**	**331**	IAMs_20	IAMs_20	03 50 02.8				
	comp=Z,5μm,21.0s									
ABTA	**Abfaltersbach**	**107.81**	**46**	*e*P	**Pdif**	**03 05 33.4**	**+0.6**			
	comp=Z,12nm,1.2s,SNR=5.1									
ABTA				*e*P	**PP**	**03 10 02.9**	**+0.6**			
	comp=Z,58nm,1.1s									
WAX	**Waxell Ridge**	**107.86**	**330**	IAMs_20	IAMs_20	03 49 54.4				
	comp=Z,5μm,22.0s									
TGL	**Tana Glacier**	**108.00**	**331**	IAMs_20	IAMs_20	03 50 11.3				
	comp=Z,4μm,22.0s			

NKC ePP PP 03 10 09.8 -2.9
NKC ex x 03 16 41.8
NKC AMS AMS 03 52 10.0
comp=Z,8µm,22.4s
WERD Werda 109.28 42 ePdiff **Pdif 03 05 40.1 +0.9**
baz=245,slow=4.6
WERD ePP PP 03 10 10.0 -2.8
baz=244,slow=7.2
NEUB Neuenburg 109.30 41 ePdiff **Pdif 03 05 40.1 +0.9**
baz=245,slow=4.6
NEUB ePP PP 03 10 10.1 -2.7
baz=244,slow=7.2
SOKA Soboth 109.35 47 eP **Pdif 03 05 41.7 +2.0**
comp=Z,6.5nm,1.2s
SOKA eP PP 03 10 15.4 +1.9
comp=Z,45nm,1.3s
TANN Tannenbergstha 109.36 42 ePdiff **Pdif 03 05 40.7 +1.1**
baz=245,slow=4.6
TANN ePP PP 03 10 10.9 -2.5
baz=244,slow=7.2
MOA Molln 109.36 45 eP **Pdif 03 05 39.9 +0.3**
comp=Z,9.6nm,1.2s,SNR=6.9
L26K Log Cabin Wild 109.36 333 IAMs_20 IAMs_20 03 53 43.3
comp=Z,4µm,20.0s
K27K Chicken 109.38 334 IAMs_20 IAMs_20 03 54 06.2
comp=Z,5µm,20.0s
EGAK Eagle 109.42 335 IAMs_20 IAMs_20 03 55 22.7
comp=Z,3µm,20.0s
GEC2 GERESS Array S 109.44 44 ePdiff **Pdif 03 05 40.3 +0.3**
baz=245,slow=4.6
GEC2 eSKSac SKSac 03 16 44.6 +27
baz=241,slow=6.2
GEC2 eSP **SP 03 19 27.2 -10**
baz=244,slow=9.4
GERES GERESS Array B 109.44 44 Pdiff **Pdif 03 05 41.0 +1.0**
comp=Z,0.9nm,0.7s,baz=212,slow=4.7,SNR=9.7
GERES PKiKP **PKiKP 03 09 43.6 +0.4**
comp=Z,5.3nm,0.9s,baz=242,slow=2.9,SNR=5.7
GERES PP PP 03 10 17.4 +3.3
comp=Z,5.2nm,0.8s,baz=224,slow=4.1,SNR=4.3
GERES PKKPbc **PKKPbc 03 20 49.9 +0.5**
comp=Z,1.1nm,0.8s,baz=50,slow=2.3,SNR=5.3
GERES GERESS Array B 109.44 44 P **Pdif 03 05 40.5 +0.5**
GERES GERESS Array B 109.44 44 Pdif **Pdif 03 05 40.5 +0.5**
FLTG Flechtingen 109.48 40 ePdiff **Pdif 03 05 40.4 +0.5**
baz=245,slow=4.6
FLTG ePP PP 03 10 10.9 -3.1
baz=244,slow=7.2
KHC Kasperske Hory 109.48 44 eP **Pdif 03 05 40.9 +0.7**
KHC e 03 10 10.5
KHC eSP SP 03 19 31.9 -5.9
KHC MLR MLR
comp=Z,3µm,18.3s
KHC Kasperske Hory 109.48 44 ePDIFF **Pdif 03 05 40.9 +0.7**
KHC ex x 03 06 02.0
KHC ePP **PP 03 10 10.5 -3.8**
KHC ex x 03 16 39.3
KHC eXS 03 18 14.6
KHC eSP SP 03 19 31.9 -5.9
KHC AMS AMS 03 58 30.0
comp=Z,3µm,18.3s
SKMB Sankelmark Bun 109.53 37 ePdiff **Pdif 03 05 40.8 +0.7**
baz=245,slow=4.6
SKMB eSKSac SKSac 03 16 47.3 +30
baz=241,slow=6.2
FID Port Fidalgo 109.56 330 IAMs_20 IAMs_20 03 52 39.6
comp=Z,3µm,22.0s
BSEG Bad Segeberg 109.66 38 ePdiff **Pdif 03 05 41.3 +0.6**
baz=245,slow=4.6
BSEG eSP SP 03 19 30.2 -9.0
baz=244,slow=9.4
KLU Klutina 109.67 331 IAMs_20 IAMs_20 03 50 25.5
comp=Z,3µm,21.0s
CKRC Cesky Krumlov 109.79 44 ePDIFF **Pdif 03 05 42.7 +1.2**
CKRC ePP **PP 03 10 13.2 -3.3**
CKRC eSP SP 03 19 33.3 -7.6
CKRC AMS AMS 03 51 40.0
comp=Z,7µm,23.9s
GLI Glacier Island 109.89 330 IAMs_20 IAMs_20 03 52 47.2
comp=Z,3µm,22.0s
ARSA Arzberg 109.89 46 eP **Pdif 03 05 42.5 +0.5**
comp=Z,8.6nm,1.3s
ARSA eP **PP 03 10 17.6 +0.3**
comp=Z,29nm,1.2s
PBCC Pribram 109.96 44 ePDIFF **Pdif 03 05 42.7 +0.5**
PBCC ePP **PP 03 10 14.2 -3.5**
CLL Collm 110.04 42 ePdif **Pdif 03 05 44.0 +1.5**
comp=Z,15nm,1.3s
CLL e 03 09 08.0
CLL ePKiKP **PKiKP 03 09 44.0 -0.1**
CLL e(pPKiKP) 03 09 56.0
CLL i PP **PP 03 10 15.1 -3.1**
comp=Z,159nm,1.6s
CLL ePPP PPP 03 12 41.0
CLL epPPPP 03 14 38.0
CLL epSKSac pSKSac 03 16 36.0 +3.1
CLL epSKKSac 03 17 42.0
CLL eSdiff 03 18 18.0
CLL ePKKPab **PKKPab 03 20 58.0 +2.6**
CLL esPKKPab 03 21 11.0
CLL e 03 21 29.0
CLL eSS **SS 03 25 42.0 +0.1**
CLL e 03 26 30.0
CLL eSSS SSS 03 29 46.0
CLL e 03 30 42.0
CLL eSSSS 03 33 30.0
CLL Lm MLR 03 55 00.0
comp=N,2µm,21.2s
CLL Lm MLR 03 55 00.0
comp=E,6µm,19.9s
CLL Lm MLR 03 55 00.0
comp=Z,7µm,19.8s
CLL Collm 110.04 42 eP **Pdif 03 05 44.0 +1.5**
CLL e 03 09 44.0
CLL i 03 10 15.1
CLL e 03 20 58.0
CLL pmax pmax
comp=Z,15nm,1.3s
CLL pmax pmax
comp=Z,159nm,1.6s
CLL MLR MLR
comp=Z,7µm,19.8s
CLL Collm 110.04 42 ePdiff **Pdif 03 05 43.3 +0.8**
baz=245,slow=4.6
CLL ePP **PP 03 10 15.2 -3.1**
baz=244,slow=7.2
CLL eSP SP 03 19 36.6 -6.6
baz=244,slow=9.4
SCRK Sand Creek 110.08 333 Pdif **Pdif 03 05 43.3 +0.7**
FBE Freiberg 110.09 42 ePdiff **Pdif 03 05 43.9 +1.1**
baz=245,slow=4.6
FBE ePP **PP 03 10 15.7 -2.8**
baz=244,slow=7.2
MUD Monsted U'grnd 110.14 36 eP **Pdif 03 05 44.1 +1.3**
MUD IAmb IAmb 03 05 47.7
comp=Z,34nm,1.2s
MUD i 03 10 15.9
MUD Monsted U'grnd 110.14 36 eP **Pdif 03 05 44.1 +1.3**
MUD i 03 10 15.8
MUD pmax pmax
comp=Z,34nm,1.2s
RIDG Independent Ri 110.30 333 IAMs_20 IAMs_20 03 54 21.6
comp=Z,4µm,20.0s
STKA Stephens Creek 110.33 210 PKKPbc PKKPbc 03 20 45.6 -0.2
comp=Z,4.4nm,0.6s,baz=356,slow=4.9,SNR=10
PRA Prague 110.37 43 ePP **PP 03 10 16.0 -4.6**
PRA AMS AMS 03 58 10.0
comp=Z,4µm,20.3s
CONA Conrad Observa 110.38 46 i P **Pdif 03 05 45.0 +0.8**
comp=Z,9.9nm,1.7s
CONA P **PP 03 10 18.0 -2.9**
comp=Z,82nm,1.5s
PRU Pruhonice 110.40 43 eP **Pdif 03 05 45.8 +1.6**
PRU e 03 10 17.0
PRU MLR MLR
comp=Z,4µm,19.6s
PRU Pruhonice 110.40 43 ePDIFF **Pdif 03 05 45.8 +1.6**
PRU ePP **PP 03 10 17.0 -3.9**
PRU AMS AMS 03 58 20.0
comp=Z,4µm,19.6s
BRG Berggiesshubel 110.41 42 ePdiff **Pdif 03 05 45.0 +0.8**
baz=245,slow=4.6
BRG ePP **PP 03 10 17.8 -3.0**
baz=244,slow=7.2
BRG eSP SP 03 19 39.8 -6.8
baz=244,slow=9.4
BRG Berggiesshubel 110.41 42⇓ ePif 03 05 45.8
BRG Amp 03 05 51.7
comp=Z,9.5nm,1.4s
BRG Berggiesshubel 110.41 42 PKP **PKiKP 03 09 48.1 +3.3**
BRG Amp 03 09 49.7
comp=Z,13nm,1.2s
BRG PP **PP 03 10 18.0 -2.8**
BRG Amp 03 10 19.2
comp=Z,93nm,1.6s
BRG Berggiesshubel 110.41 42⇑ SKS **SKSdf 03 16 47.0 -7.5**
BRG Berggiesshubel 110.41 42 PS **SP 03 19 43.0 -3.6**
BRG PKKP 03 20 44.9
BRG Amp 03 20 47.2
comp=Z,7.2nm,1.4s
BRG Berggiesshubel 110.41 42 SS SS 03 25 59.0 +12
PVCC Panska Ves 110.64 43 ePP **PP 03 10 18.0 -4.5**
PVCC eSP SP 03 19 41.0 -7.7
PVCC AMS AMS 03 55 00.0
comp=Z,6µm,22.1s
TREC Trest 110.69 44 eP **Pdif 03 05 46.4 +0.9**
TREC e 03 10 20.3
TREC MLR MLR
comp=Z,6µm,19.5s
TREC Trest 110.69 44 ePDIFF **Pdif 03 05 46.4 +0.9**
TREC ePP **PP 03 10 20.3 -2.7**
TREC eSP SP 03 19 34.9 -14
TREC AMS AMS 03 57 10.0
comp=Z,6µm,19.5s
KNK Knik Glacier 110.72 330 IAMs_20 IAMs_20 04 05 22.8
comp=Z,3µm,21.0s
RUE Ruedersdorf 110.96 41 eP PKiKP 03 09 55.3 +10
RUE Ruedersdorf 110.96 41 ePP **PP 03 10 22.2 -2.5**
baz=244,slow=7.2
DHY Denali Highway 111.01 332 IAMs_20 IAMs_20 03 52 28.7
comp=Z,3µm,22.0s
KDAK Kodiak Island 111.07 325 PKKPbc PKKPbc 03 20 43.1 -1.0
comp=Z,17nm,0.9s,baz=360,slow=0.7,SNR=4.6
KRUC Moravsky 111.15 45 ePDIFF **Pdif 03 05 48.3 +0.8**
KRUC e 03 09 09.3
KRUC ePKIKP **PKiKP 03 09 43.7 -2.6**
KRUC ePP **PP 03 10 21.8 -4.5**
KRUC eSDIFF 03 17 45.3
KRUC eSS SS 03 26 11.4 +15
ZST Bratislava 111.25 46 eP **PP 03 10 24.7 -2.3**
ZST e 03 19 46.5
VRAC Vranov 111.36 45 Pdiff **Pdif 03 05 49.2 +0.6**
comp=Z,1.2nm,0.5s,baz=263,slow=11,SNR=3.3
VRAC Vranov 111.36 45 ePDIFF **Pdif 03 05 49.1 +0.6**
VRAC e 03 09 13.0
VRAC ePKIKP **PKiKP 03 09 46.6 -0.1**
VRAC ePP **PP 03 10 23.6 -4.2**
VRAC eSDIFF 03 17 46.9
VRAC eSS SS 03 26 17.2 +17
SII Sitkinak Islan 111.37 324 IAMs_20 IAMs_20 03 45 13.5
comp=Z,3µm,22.0s
FIS Fire Island 111.37 329 IAMs_20 IAMs_20 04 07 06.9
comp=Z,3µm,21.0s
PRP Porcupine Dome 111.39 334 IAMs_20 IAMs_20 03 54 13.8
comp=Z,5µm,22.0s
MODS Modra-Piesok 111.42 46 ePP **PP 03 10 23.9 -4.4**
MODS e 03 19 58.6
MODS eL L 03 53 26.9
HDA Harding Lake 111.43 333 IAMs_20 IAMs_20 03 54 29.9
comp=Z,4µm,21.0s
UPC Upice 111.48 43 eP **Pdif 03 05 50.5 +1.6**
UPC e 03 10 24.9
UPC MLR MLR
comp=Z,5µm,19.8s
UPC Upice 111.48 43 ePDIFF **Pdif 03 05 50.5 +1.6**
UPC ePP **PP 03 10 24.9 -3.7**
UPC AMS AMS 03 58 30.0
comp=Z,5µm,19.8s
RGN Rugen 111.52 39 IAMs_20 IAMs_20 04 02 06.7
comp=Z,4µm,18.0s
RGN Rugen 111.52 39 ePP **PP 03 10 25.9 -2.8**
baz=244,slow=7.2
CHVC Chvalec 111.53 43 ePP **PP 03 10 25.0 -4.0**
CHVC AMS AMS 03 58 30.0
comp=Z,4µm,21.3s
ILAR Eielson Array 111.57 333 Pdiff **Pdif 03 05 49.8 +0.7**
comp=Z,1.2nm,0.3s,baz=165,slow=1.9,SNR=23
ILAR PKiKP **PKiKP 03 09 48.6 +2.0**
comp=Z,2.7nm,0.9s,baz=138,slow=1.3,SNR=7.0
ILAR PP PP 03 10 37.1 +8.3
comp=Z,6.0nm,0.9s,baz=126,slow=6.3,SNR=6.4
ILAR PKKPbc **PKKPbc 03 20 39.5 -3.2**
comp=Z,2.9nm,0.8s,baz=303,slow=3.1,SNR=10
ILAR Eielson Array 111.57 333 Pdif **Pdif 03 05 49.6 +0.6**
SMOL Smolenice 111.57 46 ePP **PP 03 10 26.0 -3.3**
LNIZ Loecknitz 111.59 40 ePP **PP 03 10 27.1 -2.1**
baz=244,slow=7.2
DPC Dobruska-Polom 111.60 44 eP **Pdif 03 05 51.4 +1.8**
DPC e 03 10 25.9
DPC eSP SP 03 19 51.0 -6.6
DPC MLR MLR
comp=Z,4µm,22.2s
DPC Dobruska-Polom 111.60 44 ePDIFF **Pdif 03 05 51.4 +1.8**
DPC ePP **PP 03 10 25.9 -3.6**
DPC eSP SP 03 19 51.0 -6.6
DPC AMS AMS 03 55 30.0
comp=Z,4µm,22.2s
OSTC Ostas 111.61 43 AMS AMS 03 58 40.0
comp=Z,4µm,20.4s
CAPN Captain Cook N 111.63 329 IAMs_20 IAMs_20 04 04 35.2
comp=Z,3µm,20.0s
IDI Anoyia 111.65 61 Pdiff **Pdif 03 05 51.0 +0.9**
comp=Z,3.8nm,1.1s,baz=304,slow=6.1,SNR=3.5
IDI PKiKP **PKiKP 03 09 49.4 +1.6**
comp=Z,12nm,1.1s,baz=270,slow=20,SNR=4.3
SUA Susitna One 111.74 329 IAMs_20 IAMs_20 04 06 06.6
comp=Z,3µm,21.0s
FYU Fort Yukon 111.77 336 IAMs_20 IAMs_20 03 56 00.7
comp=Z,3µm,21.0s
KRLC Kraliky 111.77 44 eP **Pdif 03 05 52.2 +1.9**
KRLC e 03 10 27.7
KRLC MLR MLR
comp=Z,4µm,22.8s
KRLC Kraliky 111.77 44 ePDIFF **Pdif 03 05 52.2 +1.9**
KRLC ePP **PP 03 10 27.7 -3.0**
KRLC eSP SP 03 19 39.7 -20
KRLC AMS AMS 03 54 30.0
comp=Z,4µm,22.8s
KSP Ksiaz 111.77 43 ePdif **Pdif 03 05 48.3 -2.0**
KSP ePP **PP 03 10 26.7 -4.0**
KSP ePS **SP 03 19 54.5 -4.6**
CHIR Chirikof Islan 111.82 323 IAMs_20 IAMs_20 03 46 02.5
comp=Z,4µm,21.0s
JAVC Velka Javorina 111.85 45 ePDIFF **Pdif 03 05 52.6 +1.9**
JAVC e 03 09 16.7
JAVC ePKIKP **PKiKP 03 09 48.3 +0.6**
JAVC ePP **PP 03 10 27.8 -3.6**
JAVC eSDIFF 03 17 49.7
JAVC eSS SS 03 26 19.8 +13
CCB Clear Creek Bu 111.87 333 IAMs_20 IAMs_20 03 55 32.5
comp=Z,4µm,20.0s
SRO2 Moca 111.89 47 ePP **PP 03 10 27.0 -4.6**
WRH Wood River Hil 111.91 333 IAMs_20 IAMs_20 03 55 34.4
comp=Z,4µm,21.0s
CUT Chulitna 111.92 330 IAMs_20 IAMs_20 04 05 53.8
comp=Z,3µm,20.0s
MCK McKinley 111.92 332 IAMs_20 IAMs_20 03 52 32.0
comp=Z,3µm,22.0s
BMAR Burnt Mountain 111.94 337 Pdif **Pdif 03 05 51.2 +0.6**
COLA College 111.99 333 IAMs_20 IAMs_20 03 55 33.6
comp=Z,4µm,20.0s
TCOL CIGO, UAF Yank 111.99 333 IAMs_20 IAMs_20 03 55 33.6
comp=Z,4µm,20.0s
MORC Moravsky Berou 112.11 44 ePDIFF **Pdif 03 05 53.0 +1.1**
MORC e 03 09 17.3
MORC ePKIKP **PKiKP 03 09 48.1 -0.1**
MORC ePP **PP 03 10 29.8 -3.4**
MORC eSDIFF 03 17 54.2
MORC eSS SS 03 26 26.1 +16
MDM Murphy Dome 112.17 333 IAMs_20 IAMs_20 03 55 40.4
comp=Z,4µm,20.0s
KOLL Kolacno 112.19 46 ePP **PP 03 10 30.0 -3.8**
BWN Browne 112.32 332 IAMs_20 IAMs_20 03 53 51.7
comp=Z,5µm,22.0s
NEA2 Nenana 112.34 333 IAMs_20 IAMs_20 03 55 46.9
comp=Z,4µm,20.0s
TRF Thorofare Moun 112.36 332 IAMs_20 IAMs_20 03 54 37.4
comp=Z,3µm,20.0s
H24K Noodor Dome 112.41 334 IAMs_20 IAMs_20 03 54 53.7
comp=Z,5µm,21.0s
VYHS Vyhne 112.43 46 ePKIKP **PKiKP 03 09 49.5 +0.7**
VYHS e 03 10 32.0
VYHS MLR MLR
comp=Z,8µm,22.7s
VYHS Vyhne 112.43 46 ePKP **PKiKP 03 09 49.5 +0.7**
VYHS ePP **PP 03 10 32.0 -3.5**
SANT Santorini 112.49 60 IAMs_20 IAMs_20 03 59 48.1
comp=Z,4µm,20.0s
OKC Ostrava-Krasne 112.50 44 ePP **PP 03 10 32.5 -3.4**
OKC eSP SP 03 19 56.9 -9.0
OKC AMS AMS 04 00 10.0
comp=Z,5µm,18.6s
KTH Kantishna Hill 112.66 331 IAMs_20 IAMs_20 03 54 46.4
comp=Z,3µm,20.0s
I23K Minto, Yukon-K 112.68 333 IAMs_20 IAMs_20 03 56 33.0
comp=Z,3µm,20.0s
TARA Tarawa 112.69 257 IAMs_20 IAMs_20 03 46 33.5
comp=Z,3µm,20.0s
PSZ Piszkesteto 112.89 47⇓ P PKiKP 03 09 58.4 +8.6
PSZ Piszkesteto 112.89 47⇓ PKiKP PKiKP 03 09 58.4 +8.6
BPAW Bear Paw Mtn. 112.90 332 IAMs_20 IAMs_20 03 55 56.8
comp=Z,3µm,21.0s
MDVR Moldovita 112.94 51⇑ P **PKiKP 03 09 49.3 -0.6**
NB2 NORSAR Subarra1 112.96 32 PKPdf PKiKP 03 09 36.4 -13
comp=Z,91nm,3.3s,baz=248,slow=1.9
NB2 NORSAR Subarra1 112.96 32 PKPdf PKiKP 03 09 36.4 -13
baz=248,slow=1.9
NOA NORSAR Array B 112.96 32 PP **PP 03 10 38.0 -0.9**
comp=Z,6.2nm,1.1s,baz=243,slow=7.0,SNR=4.9
NOA PKKPbc **PKKPab 03 20 43.6 +1.5**
comp=Z,1.7nm,0.8s,baz=67,slow=4.6,SNR=5.2
LANS Liptovska Anna 113.06 46 ePKIKP **PKiKP 03 09 52.4 +2.4**
LANS e **PP 03 10 37.1 -2.9**
LANS Liptovska Anna 113.06 46 ePKP **PKiKP 03 09 52.4 +2.4**
LANS ePP **PP 03 10 37.1 -2.9**
CAST Castle Rocks 113.09 331 IAMs_20 IAMs_20 04 06 44.7
comp=Z,3µm,20.0s
ALE Alert 113.12 1 IAMs_20 IAMs_20 04 00 48.1
comp=Z,3µm,20.0s
O18K Koktuh Hills 113.13 327 IAMs_20 IAMs_20 04 08 43.6
comp=Z,2µm,19.0s
N19K Bonanza Creek 113.15 328 IAMs_20 IAMs_20 04 07 21.1
comp=Z,3µm,20.0s
MLY Manley 113.17 333 IAMs_20 IAMs_20 03 56 11.9
comp=Z,5µm,20.0s
VTS Vitosha 113.19 53⇓ P PKiKP 03 09 40.0 -11
VTS Vitosha 113.19 53⇓ PKiKP PKiKP 03 09 40.0 -11
SIRR Siria 113.43 49⇓ P **PKKPbc 03 20 36.6 +0.7**
KECS Kecovo 113.45 46 ePP **PP 03 10 39.2 -3.6**
OJC Ojcow 113.63 45 ePdif **Pdif 03 06 00.5 +1.9**
OJC ePP **PP 03 10 39.3 -4.7**
OJC ePS **SP 03 20 11.0 -5.2**
OJC eL L 03 55 31.7
comp=Z,4µm,22.7s
NIE Niedzica 113.66 45 ePdif **Pdif 03 06 00.8 +2.0**
NIE ePP **PP 03 10 40.2 -4.0**
NIE ePS **PS 03 20 22.9 +2.1**
NIE eL L 03 54 17.9
I21K Tanana 113.72 333 IAMs_20 IAMs_20 03 55 50.3
comp=Z,5µm,22.0s
N18K Kilae Creek 113.75 328 IAMs_20 IAMs_20 04 07 42.8
comp=Z,3µm,20.0s
HFS Hagfors 113.77 33 PP **PP 03 10 43.7 -1.0**
comp=Z,26nm,1.0s,baz=243,slow=6.5,SNR=10
L19K White Mountain 113.81 329 IAMs_20 IAMs_20 03 56 03.5
comp=Z,3µm,21.0s
COLD Coldfoot 113.83 335 P **PKiKP 03 09 51.8 +1.0**
baz=113
K20K Telida 113.89 331 IAMs_20 IAMs_20 03 55 17.1
comp=Z,3µm,22.0s
K20K Telida 113.89 331 P **PKiKP 03 09 50.8 -0.4**
baz=111
TOLK Toolik Lake Re 114.15 337 IAMs_20 IAMs_20 04 04 39.6
comp=Z,3µm,19.0s
TOLK Toolik Lake Re 114.15 337 P PKPdf 03 09 51.9 +0.4
baz=113
CRVS Cervenica-Dubn 114.20 46 ePP **PP 03 10 44.6 -3.5**
H21K Melozitna Rive 114.21 333 IAMs_20 IAMs_20 03 57 31.3
comp=Z,4µm,20.0s
H21K Melozitna Rive 114.21 333 P PKPdf 03 09 51.3 -0.4
baz=111
J20K Nowinta River 114.22 332 IAMs_20 IAMs_20 03 55 29.6
comp=Z,3µm,22.0s
DRGR 114.29 49⇓ P **PKKPbc 03 20 33.7 +0.7**
TRPA Tarpa 114.63 47⇑ P **PKiKP 03 09 53.4 +0.5**
UZH Uzhgorod 114.64 47 eP **Pdif 03 06 10.0 +7.0**
UZH ePPP PPP 03 13 18.9
UZH e 03 16 34.7
UZH ePS **SP 03 20 20.2 -5.3**
UZH eSS **SS 03 26 41.0 -2.1**
UZH MLR MLR
comp=N,1µm,22.0s
UZH MLR MLR
comp=E,1µm,22.0s
UZH MLR MLR
comp=Z,550nm,22.0s
KOLS Kolonicke sedl 114.72 46 ePKIKP **PKiKP 03 10 00.7 +7.5**
KOLS e 03 10 48.3
KOLS Kolonicke sedl 114.72 46 ePKP **PKiKP 03 10 00.7 +7.5**
KOLS ePP **PP 03 10 48.3 -3.4**
COPA Copaceanca 115.07 52⇑ P PKPdf 03 09 42.0 -12
KWP Kalwaria Pacla 115.21 46 *i* PKiKP **PKPdf 03 09 53.7 -0.4**
KWP Kalwaria Pacla 115.21 46 PKiKP **PKPdf 03 09 53.7 -0.4**
VOIR 115.39 51⇑ P **PKPdf 03 09 54.2 -0.4**
VOIR 115.39 51⇑ PKiKP **PKPdf 03 09 54.3 -0.4**
DOPR Dopca 115.78 50⇓ P **PKiKP 03 09 56.3 +1.0**
MLR Muntele Rosu 116.00 51 PKP **PKPdf 03 09 55.2 -0.7**
comp=Z,25nm,1.2s,baz=120,slow=1.8,SNR=9.1
MLR PP **PP 03 10 58.5 -2.5**
comp=Z,152nm,1.1s,baz=234,slow=5.4,SNR=12
LVV L'vov 116.09 46 eP **Pdif 03 06 16.7 +7.2**
LVV e 03 09 54.8
LVV e 03 13 27.7
LVV e 03 16 49.2
LVV e 03 20 31.8
LVV e 03 26 54.9
LVV e 03 31 18.1
LVV MLR MLR
comp=N,4µm,23.0s
LVV MLR MLR
comp=E,6µm,23.0s
LVV MLR MLR
comp=Z,8µm,23.0s
NWAO Narrogin (SRO) 116.15 188 IAMs_20 IAMs_20 03 50 27.3
comp=Z,4µm,20.0s
BURAR Bucovina Array 116.17 49⇑ P **PKKPbc 03 20 28.4 +1.8**
NEHR Nehoiu 116.21 51⇑ P **PKPdf 03 09 55.9 -0.3**
ATD Arta Tunnel 116.53 92 PKP **PKPdf 03 09 57.1 -0.6**
comp=Z,2.2nm,0.3s,baz=161,slow=4.9,SNR=3.5
ATD PP **PP 03 11 04.8 -0.2**
comp=Z,4.8nm,0.5s,baz=313,slow=4.1,SNR=6.0
BISRR Bisoca 116.53 51⇑ P **PKiKP 03 09 57.6 +0.8**
BIZ Bicaz 116.55 49⇑ P PKPdf 03 09 43.6 -13
PLOR Plostina 116.58 51⇑ P **PKPdf 03 09 56.4 -0.5**
PLOR Plostina 116.58 51⇓ P **PKKPbc 03 20 29.9 +4.9**
PLOR Plostina 116.58 51⇑ PKiKP **PKPdf 03 09 56.4 -0.5**
VRI Vrincioaia 116.64 51⇑ P **PKPdf 03 09 56.6 -0.3**
VRI Vrincioaia 116.64 51⇑ P **PKKPbc 03 20 30.4 +5.6**
VRI Vrincioaia 116.64 51⇑ PKiKP **PKPdf 03 09 56.6 -0.3**
MIDW Midway 116.69 288 IAMs_20 IAMs_20 03 48 12.1
comp=Z,3µm,20.0s
TESR Tescani 116.78 50⇓ P **PKPdf 03 09 57.6 +0.4**
TESR Tescani 116.78 50⇑ P **PKKPbc 03 20 29.9 +5.6**
SUW Suwalki 116.79 41 eP **PKPdf 03 09 51.0 -6.0**
ISP Isparta 116.79 60 PKiKP **PKiKP 03 09 58.2 +0.6**
ISP MLR MLR
comp=Z,4µm,21.0s
ISP Isparta 116.79 60 **PKiKP 03 09 58.2 +0.6**
ISP Isparta 116.79 60 IAMs_20 IAMs_20 04 02 04.8
comp=Z,4µm,21.0s
HARR Harsova 117.09 52⇓ P **PKPdf 03 09 58.2 +0.4**
HARR Harsova 117.09 52⇓ PKiKP **PKPdf 03 09 58.2 +0.4**
A21K Barrow 117.31 339 IAMs_20 IAMs_20 03 59 05.1
comp=Z,3µm,22.0s
TIRR Tirgusor 117.36 53⇑ P **PKiKP 03 09 59.1 +0.8**
TIRR Tirgusor 117.36 53⇑ PKiKP **PKiKP 03 09 59.1 +0.8**
CFR Carcaliu 117.38 52⇑ P **PKPdf 03 09 58.6 +0.3**
CFR Carcaliu 117.38 52⇑ PKiKP **PKPdf 03 09 58.6 +0.3**
SCTR Scanteiesti 117.43 51⇑ P **PKiKP 03 09 59.8 +1.4**
EIL Elat 117.43 70 PKP **PKPdf 03 09 59.4 +0.4**
comp=Z,11nm,1.2s,baz=187,slow=4.8,SNR=4.5
VLDR Vladesti 117.53 51⇑ P **PKPdf 03 09 58.5 -0.2**
TLCR 117.84 52⇑ P **PKiKP 03 10 00.3 +1.1**
TLCR 117.84 52⇑ PKiKP **PKiKP 03 10 00.3 +1.1**

CTAO **Charters Tower** 117.87 220 PKIKP **PKPdf** 03 09 59.3 -0.9
CTAO **Charters Tower** 117.87 220 PKPdf **PKPdf** 03 09 59.3 -0.9
MILM **Milestii Mici** 118.32 50 ⇑P **PKPdf** 03 10 00.0 -0.1
SORM **Soroca** 118.34 49 ⇓P **PKPdf** 03 09 59.7 -0.4
SORM **Soroca** 118.34 49 ⇓PKIKP **PKPdf** 03 09 59.7 -0.4
KIS **Kishinev** 118.35 50 *e*P **Pdif** 03 06 22.0 +2.4
KIS **Kishinev** 118.35 50 *e*PKP **PKPdf** 03 09 58.0 -2.1
KIS **Kishinev** 118.35 50 *i* PP PP 03 11 11.0 -6.1
comp=Z,700nm,8.0s
KIS **Kishinev** 118.35 50 *e*PS PS 03 21 00.0 -3.4
KIS *e*LR LR 03 47 07.0
comp=Z,2μm,20.0s
KIS **Kishinev** 118.35 50 *e*P **Pdif** 03 06 22.0 +2.4
KIS *e* 03 09 58.0
KIS *e*PS **PS** 03 21 00.0 -3.4
KIS pmax pmax
comp=Z,700nm,8.0s
ISAL **Salakas** 118.83 40 *e*P **PKPdf** 03 10 00.1 -0.7
IIGN **Ignalina** 118.84 40 *e*P **PKPdf** 03 09 58.2 -2.6
PURM **Purcari** 118.92 51 ⇑P **PKPdf** 03 10 01.1 -0.2
MMAI **Mount Meron Ar** 118.96 67 PKP **PKPdf** 03 10 02.1 +0.2
comp=Z,3.0nm,0.5s,baz=236,slow=5.9,SNR=8.7
ANM **Nome** 119.02 330 IAMs_20 IAMs_20 03 58 54.5
comp=Z,3μm,20.0s
NACGM **Naroch** 119.05 41 *i* PKP **PKPdf** 03 10 01.1 -0.2
ANTO **Ankara** 119.12 59 PKIKP **PKPdf** 03 10 02.2 +0.2
ANTO MLR MLR
comp=Z,6μm,21.0s
ANTO **Ankara** 119.12 59 **PKPdf** 03 10 02.2 +0.2
SPITS **Spitsbergen Ar** 119.39 14 PKKPbc PKKPbc 03 20 13.5 -2.0
comp=Z,9.1nm,0.6s,baz=316,slow=4.0,SNR=10
AKASG **Malin Array Be** 119.54 46 PKP **PKPdf** 03 10 00.2 -2.1
comp=Z,18nm,0.9s,baz=275,slow=2.4,SNR=28
AKASG PP **PP** 03 11 21.6 -3.6
comp=Z,22nm,1.0s,baz=255,slow=6.3,SNR=8.7
AKASG PKKPbc **PKKPab** 03 20 14.2 +0.4
comp=Z,4.0nm,0.6s,baz=62,slow=4.2,SNR=9.6
AKASG SKKPbc SKKPbc 03 24 00.6 -1.2
comp=Z,0.6nm,0.3s,baz=64,slow=4.4,SNR=4.5
AKBB **Malin Array Si** 119.54 46*c* *i*PKIKP **PKPdf** 03 10 00.5 -1.8
MNK **Minsk** 119.58 41 *i* PKIKP **PKPdf** 03 10 00.4 -1.9
MNK *i* 03 11 23.7
MNK *i* PPP PPP 03 13 56.1
MNK *i* 03 17 09.7
MNK *i* PS **PS** **03 21 13.3 -1.0**
MNK *i* SS SS 03 27 47.5 +0.3
MNK pmax pmax
comp=E,1.0nm,1.0s
MNK pmax pmax
comp=N,8.0nm,1.0s
MNK pmax pmax
comp=Z,56nm,1.0s
MNK MLR MLR
comp=N,1μm,20.0s
MNK MLR MLR
comp=E,772nm,20.0s
MNK MLR MLR
comp=Z,6μm,20.0s
MNK **Minsk** 119.58 41 *i* PKP **PKPdf** 03 10 00.4 -1.9
comp=E,1.0nm,1.0s
MNK *i* PKP **PKPdf** 03 10 00.4 -1.9
comp=N,8.0nm,1.0s
MNK *i* PKP **PKPdf** 03 10 00.4 -1.9
comp=Z,56nm,1.0s,baz=258
MNK *i* PP **PP** **03 11 23.8 -1.7**
MNK *i* PPP PPP 03 13 56.2
MNK *i* SKS **SKSdf** **03 17 09.8 -2.1**
MNK *i* SKKS **SKKSac** **03 18 28.3 +5.8**
MNK *i* SP SP 03 20 52.7 -17
MNK *i* PS **PS** **03 21 13.3 -1.0**
MNK *i* SS **SS** **03 27 47.5 +0.4**
MNK *i* SSS SSS 03 31 20.1
MNK *i* LQ LQ 03 50 32.9
MNK *i* LR LR 03 56 26.5
MNK *i* LRM MLR 04 01 05.1
comp=E,772nm,20.4s
MNK *i* LRM MLR 04 01 05.1
comp=N,1μm,20.4s
MNK *i* LRM MLR 04 01 05.1
comp=Z,6μm,20.4s
BR131 **Keskin Array S** 119.70 59 PKIKP **PKPdf** 03 10 02.8 -0.4
BR131 03 11 24.3
BR131 **Keskin Array S** 119.70 59 **PKPdf** 03 10 02.8 -0.4
BR131 PP **PP** **03 11 24.3 -2.5**
BR131 **Keskin Array S** 119.70 59 P **PKPdf** 03 10 03.2 0.0
SNR=5.9
BRTR **Keskin Array B** 119.70 59 PKP **PKPdf** 03 10 01.6 -1.6
comp=Z,6.0nm,0.9s,baz=199,slow=2.6,SNR=11
BRTR PP **PP** **03 11 24.8 -2.0**
comp=Z,89nm,1.1s,baz=243,slow=6.1,SNR=13
BRTR **Keskin Array B** 119.70 59*c* *i*PKIKP **PKPdf** 03 10 02.7 -0.4
BRTR pmax pmax
comp=Z,6.0nm,0.8s
VSU **Vasula** 119.76 37⇑ *i*PKIKP **PKPdf** 03 10 02.6 +0.1
VSU MLR MLR
comp=Z,17μm,22.0s
ASF **Jabal al Asfar** 119.87 68 PKP **PKPdf** 03 10 03.1 -0.6
comp=Z,14nm,1.1s,baz=111,slow=0.3,SNR=14
FINES **FINESS Array B** 119.97 33 PKP **PKPdf** 03 10 02.5 -0.3
comp=Z,5.7nm,0.9s,baz=159,slow=1.6,SNR=7.5
FINES PP **PP** **03 11 23.1 -4.7**
comp=Z,17nm,1.0s,baz=268,slow=7.0,SNR=6.8
FINES PKKPbc **PKKPab** **03 20 12.4 +1.0**
comp=Z,8.1nm,0.8s,baz=96,slow=3.7,SNR=17
FINES **FINESS Array B** 119.97 33 PKIKP **PKPdf** 03 10 02.8 0.0
FINES **FINESS Array B** 119.97 33 PKPdf **PKPdf** 03 10 02.8 0.0
FINES PP **PP** **03 11 23.0 -4.8**
ASAR **Alice Springs** 120.72 207 PKP **PKPdf** 03 10 04.0 -1.7
comp=Z,6.1nm,0.7s,baz=132,slow=1.7,SNR=26
ASAR PKKPbc **PKKPbc** **03 20 08.8 -1.0**
comp=Z,5.7nm,0.8s,baz=335,slow=2.9,SNR=32
ARCES **ARCESS Array B** 120.82 24 PKP **PKPdf** 03 10 04.1 -0.2
comp=Z,3.4nm,0.7s,baz=267,slow=2.2,SNR=9.0
ARCES PP **PP** **03 11 32.2 -1.2**
comp=Z,12nm,1.1s,baz=263,slow=6.0,SNR=6.5
ARCES PKKPbc **PKKPab** **03 20 08.4 +0.9**
comp=Z,6.4nm,0.6s,baz=87,slow=3.2,SNR=27
ARCES **ARCESS Array B** 120.82 24 PKIKP **PKiKP** **03 10 05.8 +1.4**
ARCES 03 11 30.7
ARCES **ARCESS Array B** 120.82 24 PKPdf **PKiKP** **03 10 05.8 +1.4**
ARCES PP **PP** **03 11 30.7 -2.7**
KEV **Kevo** 121.36 24 IAMs_20 IAMs_20 04 01 59.3
comp=Z,3μm,22.0s
SIM **Simferopol'** 121.41 53*d* *i*PKIKP **PKPdf** 03 10 04.8 -1.3
SIM 03 11 43.0
SIM pmax pmax
comp=Z,30nm,1.2s
ADK **Adak** 122.72 315 IAMs_20 IAMs_20 03 53 12.1
comp=Z,4μm,20.0s
APA **Apatity** 123.63 26⇓ *i*PKIKP **PKPdf** 03 10 07.7 -2.0
APA pmax pmax
comp=Z,16nm,0.8s
ANN **Anapa** 123.67 54 *i* PKIKP **PKPdf** 03 10 08.8 -1.6
ANN *e* 03 11 49.7
ANN *e*PPP PPP 03 14 30.8
ANN *e* 03 17 07.5
ANN *e*SP SP 03 21 45.0 -2.0
ANN pmax pmax
comp=Z,49nm,0.9s
ANN MLR MLR
comp=Z,5μm,22.0s
ANN MLR MLR
comp=N,4μm,24.0s
WRA **Warramunga Arr** 123.88 209 PKP **PKPdf** 03 10 09.8 -1.9
comp=N,10.0nm,0.5s,baz=162,slow=2.0,SNR=79
WRA PKKPbc **PKKPbc** **03 19 56.9 -0.7**
comp=N,6.9nm,0.8s,baz=331,slow=3.8,SNR=48
WRAB **Tennant Creek** 123.88 209*c* *i*PKIKP **PKPdf** 03 10 10.0 -1.8
WRAB pmax pmax
comp=Z,85nm,1.7s
WRAB **Tennant Creek** 123.88 209 **PKPdf** 03 10 10.0 -1.8
WRAB **Tennant Creek** 123.88 209 IAMs_20 IAMs_20 03 57 07.2
comp=Z,4μm,20.0s
LVZ **Lovozero** 124.10 26*c* *i*PKIKP **PKPdf** 03 10 10.0 -0.7
LVZ pmax pmax
comp=Z,55nm,1.3s
LVZ **Lovozero** 124.10 26 **PKPdf** 03 10 09.6 -1.1
LVZ IAMs_20 IAMs_20 04 12 34.8
comp=Z,3μm,20.0s
COEN **Coen** 124.53 222 PKPdf **PKiKP** **03 10 13.7 +0.3**
KTUT **Trabzon** 124.55 59 ⇑P **PKiKP** **03 10 13.4 +0.9**
OBN **Obninsk** 124.64 42 PKP **PKPdf** 03 10 10.9 -1.1
comp=Z,12nm,0.8s,baz=185,slow=1.9,SNR=23
OBN **Obninsk** 124.64 42*c* *i*PKIKP **PKPdf** 03 10 10.7 -1.3
OBN *e* 03 11 59.7
OBN *e* 03 17 16.6
OBN *e*PS **PS** **03 21 57.5 -1.7**
OBN pmax pmax
comp=Z,132nm,1.3s
OBN MLR MLR
comp=Z,7μm,20.0s
OBN **Obninsk** 124.64 42 **PKPdf** 03 10 11.7 -0.3
SOC **Sochi** 125.05 56 *i* P **Pdif** 03 06 46.4 -3.0
SOC *i* 03 10 10.2
SOC *e*PPP PPP 03 14 38.8
SOC *e*PS **PS** **03 22 04.2 +0.9**
SOC *e*SSS SSS 03 33 34.8
SOC MLR MLR
comp=Z,2μm,21.0s
MOS **Moscow** 125.30 41 *i* PKIKP **PKPdf** 03 10 10.8 -2.4
MOS *e* 03 12 01.5
MOS *e*PPP PPP 03 14 48.4
MOS *e* 03 17 09.7
MOS *e*PS **PS** **03 22 02.4 -2.6**
MOS *e*PPS PPS 03 23 29.7
MOS *e*SS SS 03 29 04.4 +4.7
MOS pmax pmax
comp=Z,104nm,1.4s
PMG **Port Moresby** 125.61 229 PKIKP **PKPdf** 03 10 15.2 +0.1
PMG **Port Moresby** 125.61 229 PKPdf **PKPdf** 03 10 15.2 +0.1
SIRT **Sirnak** 125.76 64 PKPdf **PKPdf** 03 10 15.5 +0.6
LPSR **Galich'ya Gora** 125.81 45 *e*PKIKP **PKPdf** 03 10 13.6 -0.7
LPSR *e* 03 12 04.7
LPSR *e*PS **SP** **03 22 00.5 -4.7**
LPSR pmax pmax
comp=Z,60nm,1.0s
LPSR MLR MLR
comp=Z,3μm,21.0s
VSR **Storozhevoye** 125.82 47 *e*PKIKP **PKPdf** 03 10 13.1 -1.3
VSR *e* 03 12 04.5
VSR *e*PS **SP** **03 22 02.4 -3.0**
VSR pmax pmax
comp=Z,90nm,1.4s
VSR MLR MLR
comp=Z,4μm,21.0s
VORD **Divnogorie** 125.87 47 *e*PKIKP **PKPdf** 03 10 13.1 -1.4
VORD *e* 03 12 06.2
VORD pmax pmax
comp=Z,40nm,1.1s
BCA **Borcka** 126.01 59 ⇑P **PKPdf** 03 10 14.5 -0.6
H11S2 **WAKE ISLAND Hyd** 126.36 271 T T 05 29 10.3
baz=116,slow=75,SNR=4287
H11S1 **WAKE ISLAND Hyd** 126.37 271 T T 05 29 10.1
baz=116,slow=75,SNR=2741
H11S3 **WAKE ISLAND Hyd** 126.38 271 T T 05 29 11.6
baz=116,slow=75,SNR=2921
KLMR **Klimovskoe** 126.42 35 *e*PKIKP **PKPdf** 03 10 12.4 -2.8
KLMR *e*SS SS 03 29 08.2 -5.2
KLMR pmax pmax
comp=Z,148nm,1.1s
KLMR MLR MLR
comp=Z,5μm,19.0s
KLMR **Klimovskoe** 126.42 35 *e*PKPdf **PKPdf** 03 10 12.5 -2.8
KLMR AMP 03 10 17.0
comp=Z,148nm,1.1s
KLMR *e*PP **PP** **03 12 06.8 -4.5**
KLMR *e*SS **SS** **03 29 08.3 -5.1**
KLMR *e*SS **SS** **03 29 08.3 -5.1**
KLMR LQ LQ 03 55 03.6
KLMR LQ LQ 03 55 03.6
KLMR LR LR 04 02 38.3
KLMR AMP 04 05 51.9
comp=Z,5μm,19.2s
CHVG **Ch'k'valeri** 126.59 57 ⇓P **PKPdf** 03 10 16.3 +0.2
CHVG **Ch'k'valeri** 126.59 57 ⇓PKIKP **PKPdf** 03 10 16.3 +0.2
H11N3 **WAKE ISLAND Hyd** 126.69 273 T T 05 29 32.9
baz=116,slow=75,SNR=234
H11N1 **WAKE ISLAND Hyd** 126.70 273 T T 05 29 33.8
baz=116,slow=75,SNR=105
H11N2 **WAKE ISLAND Hyd** 126.71 273 T T 05 29 34.1
baz=116,slow=75,SNR=1108
PSA00 **Pilbara Seismi** 126.88 193 PKPdf **PKPdf** 03 10 15.3 -2.2
KIV **Kislovodsk** 127.23 56 ⇑P **PKPdf** 03 10 16.8 -0.6
KIV **Kislovodsk** 127.23 56 *i* P **PKPdf** 03 10 16.4 -1.0
SNR=12
KIV **Kislovodsk** 127.23 56 *e*P **Pdif** 03 06 58.3 -1.0
KIV *i* 03 10 16.8
KIV *e* 03 12 15.9
KIV *e*PPP PPP 03 15 00.7
KIV *e* 03 17 19.3
KIV *e*PS **PS** **03 22 21.6 -1.1**
KIV *e*SS SS 03 29 24.5 -0.4
KIV pmax pmax
comp=Z,39nm,1.1s
KIV **Kislovodsk** 127.23 56 PKPdf **PKPdf** 03 10 16.4 -1.0
KIV PP **PP** **03 12 12.7 -4.7**
KIV IAMs_20 IAMs_20 04 09 57.0
comp=Z,3μm,22.0s
KIV **Kislovodsk** 127.23 56 P **PKPdf** 03 10 15.8 -1.6
KBZ **Khabaz** 127.34 56 PKP **PKPdf** 03 10 17.9 +0.4
comp=Z,17nm,1.1s,baz=263,slow=2.7,SNR=23
KBZ PP **PP** **03 12 14.7 -3.4**
comp=Z,12nm,0.9s,baz=222,slow=7.2,SNR=4.2
AKH **Akhalkalaki** 127.38 59 ⇑ **PKPdf** 03 10 17.5 -0.5
VRH **Novokhopyorsk** 127.42 47 *e*PKIKP **PKPdf** 03 10 15.6 -1.8
VRH *e*PS **PS** **03 22 18.6 -5.1**
VRH pmax pmax
comp=Z,70nm,1.3s
VRH MLR MLR
comp=Z,4μm,21.0s
GOF **Gofitskoye** 127.64 55⇑ *e*PKIKP **PKPdf** 03 10 17.7 -0.4
GOF pmax pmax
comp=Z,97nm,1.6s
ZEI **Tsey** 127.92 58 *i* PKIKP **PKPdf** 03 10 17.8 -1.2
ZEI pmax pmax
comp=Z,9.0nm,1.5s
GNI **Garni** 128.08 61 PKP **PKPdf** 03 10 19.0 -0.3
comp=Z,3.8nm,0.5s,baz=350,slow=3.9,SNR=8.5
GNI PP **PP** **03 12 19.3 -4.0**
comp=Z,56nm,1.1s,baz=194,slow=2.0,SNR=5.5
GNI **Garni** 128.08 61 PKIKP **PKiKP** **03 10 20.5 +0.6**
GNI **Garni** 128.08 61 PKPdf **PKiKP** **03 10 20.5 +0.6**
GNI **Garni** 128.08 61 IAMs_20 IAMs_20 04 10 12.8
comp=Z,3μm,20.0s
GNI **Garni** 128.08 61 P **PKPdf** 03 10 17.6 -1.7
ABTO **Aybut** 128.18 92 P **PKPdf** 03 10 19.2 -0.8
SNR=6.6
FITZ **Fitzroy Crossi** 128.76 201 PKPdf **PKPdf** 03 10 19.1 -2.0
WHFO **Wadi Hawf** 128.82 91 P **PKPdf** 03 10 19.8 -1.4
RBK **Rabkut** 129.02 92 P **PKPdf** 03 10 19.5 -2.0
SAKB **Bahrain** 129.11 80 P **PKPdf** 03 10 20.4 -1.1
TRNA **Turayna** 129.26 82 P **PKPdf** 03 10 20.7 -1.0
PRGR **Permogore** 129.30 33 *e*PKIKP **PKPdf** 03 10 20.1 -0.6
PRGR *e* 03 12 29.3
PRGR pmax pmax
comp=Z,269nm,1.5s
GROC **Groznyy** 129.35 57 *i* PKIKP **PKPdf** 03 10 20.4 -1.0
GROC *e* 03 10 35.6
GROC *e* 03 12 29.3
GROC *e*PS **PS** **03 22 39.1 -1.9**
GROC pmax pmax
comp=Z,62nm,1.4s
DOK **Doka** 129.43 90 P **PKPdf** 03 10 19.6 -2.7
SNR=5.5
SHMA **Al-Shehemyia** 129.43 80 P **PKPdf** 03 10 20.8 -1.3
DMTO **DMTO** 129.75 92 P **PKPdf** 03 10 21.9 -1.0
KNRA **Kununurra** 129.95 206 PKPdf **PKPdf** 03 10 22.8 -0.6
BILL **Bilibino** 130.16 335 *de*PKIKP **PKPdf** 03 10 21.6 -0.6
BILL *e* 03 17 34.9
BILL *e*PS **PS** **03 22 48.4 +1.3**
BILL pmax pmax
comp=Z,77nm,1.7s
BILL MLR MLR
comp=Z,2μm,19.0s
BILL **Bilibino** 130.16 335 **PKPdf** 03 10 22.4 +0.2
BILL IAMs_20 IAMs_20 04 08 56.8
comp=Z,2μm,20.0s
GHWR **Ruwais** 130.41 84 P **PKPdf** 03 10 22.9 -1.1
SHAO **Shalim** 130.47 92 P **PKPdf** 03 10 23.0 -1.2
AKT **Akhty** 130.54 60 *e*PKIKP **PKPdf** 03 10 24.1 +0.2
AKT *e* 03 12 41.3
AKT pmax pmax
comp=Z,92nm,1.5s
MAK **Makhachkala** 130.57 58 *e*P **Pdif** 03 07 11.5 -2.5
MAK *i* 03 10 23.3
MAK *e* 03 12 36.3
MAK pmax pmax
comp=Z,174nm,1.0s
JRN **Qarnain Island** 130.73 82 P **PKPdf** 03 10 23.5 -1.1
SNR=5.6
MANU **Manus Island** 130.80 236 PKPdf **PKPdf** 03 10 25.9 +0.8
BELG **Belogornoye** 131.11 45 PKP **PKPdf** 03 10 23.7 -0.6
comp=Z,78nm,1.1s,baz=102,slow=0.5,SNR=23
BELG PP **PP** 03 12 39.4 -2.9
comp=Z,81nm,1.0s,baz=118,slow=10,SNR=3.9
MZWR **Madinat Zayed** 131.20 84 P **PKPdf** 03 10 24.5 -1.0
MTN **Manton Dam** 131.57 210 PKPdf **PKPdf** 03 10 25.2 -1.3
KIRV **Kirov** 131.60 37 PKP **PKPdf** 03 10 25.2 +0.1
comp=Z,25nm,0.7s,baz=274,slow=2.9,SNR=21
KIRV PP **PP** 03 12 42.6 -2.6
comp=Z,23nm,0.8s,baz=289,slow=9.0,SNR=7.2
UMZA **Um Al Zommool** 131.92 86 P **PKPdf** 03 10 26.1 -0.8
ASUD **Al Ashush, Dub** 132.74 84 *i* P **PKPdf** 03 10 27.7 -0.7
SNR=7.7
ASUD **Al Ashush, Dub** 132.74 84 P **PKPdf** 03 10 27.5 -0.9
SNR=5.9
DQM **DQM** 132.90 91 P **PKPdf** 03 10 27.7 -1.1
SNR=6.8
ALNE **Al Ain** 132.91 85 *i* P **PKPdf** 03 10 27.7 -1.1
SNR=15
ALNE **Al Ain** 132.91 85 P **PKPdf** 03 10 28.2 -0.6
SNR=15
FAQ **Al Faqa, Dubai** 133.00 84 *i* P **PKPdf** 03 10 27.5 -1.4
SNR=8.7
FAQ **Al Faqa, Dubai** 133.00 84 P **PKPdf** 03 10 28.2 -0.7
SNR=12
NAZ **Nazwa, Dubai** 133.15 83 *i* P **PKPdf** 03 10 28.1 -1.0
SNR=5.8
NAZ **Nazwa, Dubai** 133.15 83 P **PKPdf** 03 10 28.4 -0.7
SNR=12
ARQ **Araqi** 133.31 86 P **PKPdf** 03 10 28.3 -1.2
SNR=8.9
ASHO **Ashiyiah** 133.38 84 *i* P **PKPdf** 03 10 28.4 -1.3
SNR=13
ASHO **Ashiyiah** 133.38 84 P **PKPdf** 03 10 28.1 -1.5
SNR=10
HATD **Hatta, Dubai** 133.49 84 *i* P **PKPdf** 03 10 28.8 -1.1
SNR=12
HATD **Hatta, Dubai** 133.49 84 P **PKPdf** 03 10 27.8 -2.1
SNR=10
UOSS **Minazif** 133.60 84 *i* P **PKPdf** 03 10 28.1 -2.0
SNR=7.4
UOSS **Minazif** 133.60 84 **PKPdf** 03 10 28.7 -1.3
UOSS PP **PP** 03 12 52.1 -7.0
SOHO **SOHO** 133.60 85 *i* P **PKPdf** 03 10 28.6 -1.4
SNR=9.2
SOHO **SOHO** 133.60 85 P **PKPdf** 03 10 28.5 -1.5
BSY **Bisya** 133.69 87 P **PKPdf** 03 10 29.2 -1.0
SNR=10
MHTO **MHTO** 133.69 90 P **PKPdf** 03 10 28.5 -1.7
SNR=7.3
MSFE **Esma-Masafi** 133.69 83 *i* P **PKPdf** 03 10 29.1 -1.1
SNR=7.5
MASF **Masafi** 133.70 83 P **PKPdf** 03 10 29.0 -1.2
SNR=5.9
MDH **Madha** 133.79 83 *i* P **PKPdf** 03 10 28.6 -1.7
SNR=9.4
MDH **Madha** 133.79 83 P **PKPdf** 03 10 28.6 -1.7
SHME **Shamm** 133.90 82 *i* P **PKPdf** 03 10 29.1 -1.4
SNR=13
SHME **Shamm** 133.90 82 P **PKPdf** 03 10 29.5 -1.0
SNR=7.3
BANOM **Banah** 134.00 82 *i* P **PKPdf** 03 10 29.7 -1.1
SNR=7.9
BANOM **Banah** 134.00 82 P **PKPdf** 03 10 29.6 -1.1
SNR=5.1
HOQ **Hoqain** 134.08 86 P **PKPdf** 03 10 29.3 -1.7
SNR=7.4
JMDO **Jabal Madar** 134.32 88 P **PKPdf** 03 10 29.7 -1.7
SMDO **Samad** 134.53 87 P **PKPdf** 03 10 30.7 -1.3
SNR=12
BIDO **Bidbid** 134.76 86 P **PKPdf** 03 10 31.1 -1.1
SNR=8.1
JAY **Jayapura** 134.98 229 PKP **PKPdf** 03 10 32.6 -0.5
comp=Z,13nm,0.8s,baz=181,slow=2.5,SNR=10
WSAR **Wadi Sarin** 135.09 87 PKP **PKPdf** 03 10 33.0 +0.1
comp=Z,23nm,0.9s,baz=261,slow=5.0,SNR=11
WSAR PP **PP** **03 13 06.8 -1.9**
comp=Z,118nm,1.2s,baz=308,slow=4.4,SNR=12
WSAR **Wadi Sarin** 135.09 87 P **PKPdf** 03 10 32.0 -0.9
SNR=7.0
WBK **Wadi Bani Khal** 135.16 88 P **PKPdf** 03 10 32.3 -0.8
SNR=7.1
JLN **Jalan Bani Buh** 135.37 89 P **PKPdf** 03 10 34.0 +0.6
SNR=9.0
ARU **Arti** 136.87 39 PKhKP PKPpre 03 10 27.3
comp=Z,1.7nm,0.6s,baz=308,slow=1.0,SNR=7.4
ARU PKP **PKPdf** **03 10 34.8 -0.3**
comp=Z,7.3nm,0.7s,baz=250,slow=2.0,SNR=22
ARU PP **PP** **03 13 17.5 -1.2**
comp=Z,12nm,1.1s,baz=286,slow=7.2,SNR=6.0
ARU **Arti** 136.87 39 *i* PKIKP **PKPdf** **03 10 35.0 -0.1**
ARU 03 13 17.5
ARU 03 23 32.6
ARU SS SS 03 31 14.7 -6.3
ARU MLR MLR
comp=Z,7μm,22.0s
ARU **Arti** 136.87 39 PKPdf **PKPdf** **03 10 35.7 +0.6**
SOEI **Soe** 137.03 203 **PKPdf** **03 10 34.7 -2.3**
TIXI **Tiksi** 137.60 351 PKIKP **PKPdf** **03 10 36.3 +0.3**
TIXI MLR MLR
comp=Z,3μm,22.0s
TIXI **Tiksi** 137.60 351 PKPdf **PKPdf** **03 10 36.3 +0.3**
TIXI IAMs_20 IAMs_20 04 12 32.3
comp=Z,3μm,22.0s
PET **Petropavlovsk** 137.72 317 *e*P Pdif 03 08 04.9 +19
PET *e* 03 10 25.5
PET *i* 03 10 36.6
PET *e* 03 13 31.8
PET *e*PS **PS** **03 23 52.2 0.0**
PET *e* 03 25 37.9
PET *e*SS SS 03 31 35.1 +3.8
PET pmax pmax
comp=Z,1μm,6.1s
PET MLR MLR
comp=Z,2μm,17.0s
PET MLR MLR
comp=Z,2μm,18.0s
PET **Petropavlovsk** 137.72 317 IAMs_20 IAMs_20 03 58 57.7
comp=Z,3μm,22.0s
AKTO **Aktyubinsk** 137.75 47 PKhKP PKPpre 03 10 28.7
comp=Z,3.1nm,0.7s,baz=264,slow=0.6,SNR=5.8
AKTO PKP **PKPdf** **03 10 36.8 -0.2**
comp=Z,31nm,1.1s,baz=311,slow=2.7,SNR=28
AKTO PP **PP** **03 13 22.4 -2.2**
comp=Z,28nm,1.0s,baz=262,slow=3.4,SNR=6.1
SVE **Sverdlovsk** 137.86 38 *i* PKIKP **PKPdf** **03 10 37.1 +0.2**
SVE pmax pmax
comp=Z,51nm,1.3s
SVE MLR MLR
comp=E,6μm,25.0s
SVE MLR MLR
comp=Z,6μm,24.0s
GEYT **Alibeck** 138.07 66 PKhKP PKPpre 03 10 29.3
comp=Z,5.0nm,0.8s,baz=5.2,slow=4.8,SNR=6.7
GEYT PKP **PKPdf** **03 10 37.6 -0.4**
comp=Z,20nm,0.8s,baz=73,slow=5.0,SNR=14
GEYT PP **PP** **03 13 26.4 -0.7**
comp=Z,49nm,1.1s,baz=274,slow=10,SNR=8.4
GYA0B **ALIBECK ARRAY** 138.07 66 PKPpre 03 10 25.9
GYA0B PKPdf **PKPdf** **03 10 37.4 -0.6**
GYA0B PP **PP** **03 13 22.0 -5.1**
PEA0B **Petropavlovsk-** 138.26 317 *de*PKIKP **PKPdf** **03 10 38.8 +1.0**
PETK **Petropavlovsk-** 138.26 317 PKhKP PKPpre 03 10 29.6
comp=Z,3.9nm,0.8s,baz=180,slow=7.1,SNR=4.8
PETK PKP **PKPdf** **03 10 38.4 +0.6**
comp=Z,14nm,0.8s,baz=144,slow=5.3,SNR=13
XMIS **Christmas Isla** 138.90 175 PKPdf **PKPdf** **03 10 37.6 -2.6**
AB31 **Akbulak array** 139.15 49 *i* PKHKP PKPpre 03 10 30.4
ABKAR **Akbulak array** 139.15 49 PKPpre 03 10 28.7
ABKAR PKPdf **PKPdf** **03 10 38.8 -0.7**
NRIK **Noril'sk** 139.53 11 PKhKP PKPpre 03 10 31.1
comp=Z,3.4nm,0.4s,baz=342,slow=5.6,SNR=4.9
NRIK PKP **PKPdf** **03 10 39.8 +0.2**
comp=Z,24nm,1.1s,baz=248,slow=0.9,SNR=12
NRIK **Noril'sk** 139.53 11 PKHKP PKPpre 03 10 29.7
NRIK 03 10 39.8
NRIK **Noril'sk** 139.53 11 PKPpre 03 10 29.7
NRIK PKPdf **PKPdf** **03 10 39.8 +0.2**
FAKI **Fak Fak** 139.66 218 PKPdf **PKPdf** **03 10 40.6 -1.1**
FAKI IAMs_20 IAMs_20 04 04 24.8
comp=Z,4μm,21.0s
SKR **Severo-Kuril's** 139.72 314 *e*PKHKP PKPpre 03 10 25.5
SKR *e* 03 13 36.9
SKR *e*PPP PPP 03 17 47.7

SKR					*e*SS	SS	03 31 54.8	-0.3		
SKR					pmax	pmax				
	comp=Z,600nm,5.8s									
SKR					pmax	pmax				
	comp=Z,200nm,6.3s									
SKR					MLR	MLR				
	comp=Z,900nm,19.0s									
SKR					MLR	MLR				
	comp=Z,900nm,18.0s									
MA2	**Magadan**	**139.73**	**328**		PKP	**PKPdf**	**03 10 40.3**	**0.0**		
	comp=Z,30nm,1.1s,baz=319,slow=6.6,SNR=5.7									
MA2	**Magadan**	**139.73**	**328**	*de*	PKIKP	**PKPdf**	**03 10 41.3**	**+1.0**		
MA2					pmax	pmax				
	comp=Z,39nm,1.3s									
MA2					MLR	MLR				
	comp=Z,3μm,24.0s									
MA2	**Magadan**	**139.73**	**328**		PKPdf	**PKPdf**	**03 10 40.1**	**-0.2**		
MA2					IAMs_20	IAMs_20	04 02 58.2			
	comp=Z,2μm,22.0s									
JAGI	**Jajag, Banyuwa**	**140.65**	**189**			**PKPdf**	**03 10 40.8**	**-2.6**		
JAGI	**Jajag, Banyuwa**	**140.65**	**189**		PKP	**PKPdf**	**03 10 43.4**	**0.0**		
UGM	**Wanagama**	**141.52**	**183**		IAMs_20	IAMs_20	04 12 26.3			
	comp=Z,2μm,20.0s									
SMRI	**Semarang**	**142.38**	**183**		IAMs_20	IAMs_20	04 09 19.1			
	comp=Z,3μm,22.0s									
KAPI	**Kappang**	**142.89**	**199**		PKIKP	**PKPdf**	**03 10 44.1**	**-3.3**		
KAPI					MLR	MLR				
	comp=Z,2μm,20.0s									
KAPI	**Kappang**	**142.89**	**199**			**PKPdf**	**03 10 44.1**	**-3.3**		
KAPI	**Kappang**	**142.89**	**199**		IAMs_20	IAMs_20	04 14 04.3			
	comp=Z,2μm,20.0s									
KAPI	**Kappang**	**142.89**	**199**		PKP	**PKPdf**	**03 10 44.7**	**-2.7**		
TRD	**Trivandrum**	**143.06**	**120**	*ex*	x		03 10 42.9			
BRVK	**Borovoye**	**144.39**	**40**		PKIKP	PKPbc	03 10 47.6	+0.3		
BRVK					MLR	MLR				
	comp=Z,4μm,20.0s									
BRVK	**Borovoye**	**144.39**	**40**		PKPdf	PKPbc	03 10 47.6	+0.3		
BRVK	**Borovoye**	**144.39**	**40**		P	**PKPab**	**03 10 47.4**	**+0.4**		
BVAR	**Borovoye Array**	**144.46**	**40**		PKP	PKPbc	03 10 47.8	+0.3		
	comp=Z,94nm,0.6s,baz=267,slow=5.8,SNR=170									
BHUJ	**Bhuj**	**144.58**	**93**	*eP*		**PKPab**	**03 10 48.1**	**-0.4**		
GOA	**Goa**	**144.71**	**108**	*eP*		**PKPab**	**03 10 48.9**	**-0.3**		
PALK	**Pallekele**	**144.92**	**126**	*c i*	PKIKP	**PKPab**	**03 10 49.7**	**-0.4**		
PALK					MLR	MLR				
	comp=Z,6μm,20.0s									
PALK	**Pallekele**	**144.92**	**126**		PKPdf	**PKPab**	**03 10 49.2**	**-0.9**		
PALK	**Pallekele**	**144.92**	**126**		P	**PKPab**	**03 10 49.8**	**-0.3**		
PALK	**Pallekele**	**144.92**	**126**		PKP	**PKPab**	**03 10 50.1**	**0.0**		
KSI	**Kapahiang**	**145.30**	**169**		PKP	**PKPbc**	**03 10 51.2**	**-0.2**		
LUWI	**Luwuk**	**145.65**	**206**		PKPbc	**PKPbc**	**03 10 52.8**	**+0.3**		
YAK	**Yakutsk**	**145.85**	**342**		PKPbc	**PKPbc**	**03 10 52.0**	**+0.4**		
	comp=Z,399nm,0.7s,baz=37,slow=1.0,SNR=64									
YAK	**Yakutsk**	**145.85**	**342**	*c i*	PKIKP	**PKPdf**	**03 10 50.0**	**-1.0**		
YAK				*e*			03 14 11.2			
YAK					pmax	pmax				
	comp=Z,387nm,0.7s									
YAK					pmax	pmax				
	comp=N,46nm,0.9s									
YAK					pmax	pmax				
	comp=E,41nm,0.7s									
YAK					pmax	pmax				
	comp=Z,2μm,3.0s									
YAK					pmax	pmax				
	comp=E,354nm,1.8s									
YAK					pmax	pmax				
	comp=N,646nm,2.0s									
YAK	**Yakutsk**	**145.85**	**342**		PKPbc	**PKPbc**	**03 10 51.7**	**+0.1**		
YAK					IAMs_20	IAMs_20	04 20 37.1			
	comp=Z,2μm,20.0s									
POO	**Poona**	**146.23**	**103**	*e*	P	**PKPdf**	**03 10 53.1**	**+0.1**		
KUR	**Kuril'sk**	**146.25**	**307**	*c i*	PKIKP	**PKPdf**	**03 10 51.6**	**-0.6**		
KUR				*i*			03 10 56.6			
KUR				*e*			03 14 15.9			
KUR				*e*			03 17 57.2			
KUR				*e*	SS	SS	03 33 13.1	+2.3		
KUR					SSS	SSS	03 38 36.4			
KUR					pmax	pmax				
	comp=Z,11μm,4.6s									
KUR					pmax	pmax				
	comp=E,3μm,4.1s									
KUR					pmax	pmax				
	comp=N,800nm,4.3s									
KUR					pmax	pmax				
	comp=Z,890nm,1.2s									
KUR					pmax	pmax				
	comp=N,609nm,1.3s									
KUR					pmax	pmax				
	comp=E,387nm,1.2s									
PMBI	**Palembang**	**146.30**	**173**		PKPbc	**PKPdf**	**03 10 53.4**	**+0.1**		
KBL	**Kabul**	**146.57**	**73**		PKP2	**PKPdf**	**03 10 54.3**	**+0.9**		
KBL	**Kabul**	**146.57**	**73**			**PKPdf**	**03 10 54.3**	**+0.9**		
KBL	**Kabul**	**146.57**	**73**		P	**PKPdf**	**03 10 53.4**	**0.0**		
	SNR=148									
TAS	**Tashkent**	**146.71**	**61**		PKP2	**PKPdf**	**03 10 54.0**	**+0.8**		
TAS	**Tashkent**	**146.71**	**61**		PKPbc	**PKPdf**	**03 10 54.0**	**+0.8**		
CHGR	**Chuyangaron**	**146.78**	**65**			**PKPdf**	**03 10 53.6**	**+0.1**		
BRZS	**Berezniki**	**146.96**	**44**	*i*	PKP	**PKPdf**	**03 10 51.7**	**-1.6**		
	baz=44									
BRZS				*e*	PP	**PP**	**03 14 17.9**	**-2.3**		
	baz=44									
BRZS	**Berezniki**	**146.96**	**44**	*i*	PKIKP	**PKPdf**	**03 10 51.7**	**-1.6**		
BRZS				*e*			03 14 17.8			
BKB	**Balikpapan**	**147.22**	**195**		IAMs_20	IAMs_20	04 15 07.7			
	comp=Z,3μm,21.0s									
OTUK	**Ortayu**	**147.35**	**47**		PKIKP	**PKPdf**	**03 10 54.6**	**+0.6**		
KK31	**Karatay Array**	**147.38**	**57**		PKP2	**PKPbc**	**03 10 56.2**	**-0.5**		
KK31	**Karatay Array**	**147.38**	**57**		PKPbc	**PKPbc**	**03 10 56.2**	**-0.5**		
KKAR	**Karatay Array**	**147.38**	**57**		PKIKP	**PKPdf**	**03 10 53.2**	**-1.0**		
KKAR							03 10 57.5			
KKAR	**Karatay Array**	**147.38**	**57**		PKPdf	**PKPdf**	**03 10 53.2**	**-1.0**		
KKAR					PKPbc	**PKPbc**	**03 10 57.5**	**+0.8**		
NKL	**Nikolayevsk**	**147.76**	**323**	*i*	PKIKP	**PKPdf**	**03 10 54.1**	**-0.4**		
YUK	**Yuzh-Kuril'sk**	**147.89**	**305**	*d i*	PKHKP	PKPpre	03 10 52.0			
YUK				*e*			03 14 25.1			
YUK				*i*	PPP	PPP	03 17 45.0			
YUK				*e*	SS	SS	03 33 30.2	+0.7		
YUK				*i*	SSS	SSS	03 38 57.9			
YUK					MLR	MLR				
	comp=N,1μm,21.0s									
YUK					MLR	MLR				
	comp=Z,3μm,21.0s									
YUK					MLR	MLR				
	comp=E,3μm,23.0s									
DZA	**Taraz**	**148.00**	**57**	*e*	PKP	**PKPdf**	**03 10 54.4**	**-0.9**		
	baz=57									
DZA				*e*	PP	**PP**	**03 14 23.6**	**-3.1**		
	baz=57									
DZA	**Taraz**	**148.00**	**57**	*e*	PKIKP	**PKPdf**	**03 10 54.4**	**-0.9**		
DZA				*e*			03 14 23.6			
TOLI2	**Tolitoli**	**148.36**	**204**		PKPdf	**PKPdf**	**03 10 54.6**	**-2.1**		
TOLI2					PKPbc	**PKPbc**	**03 10 59.4**	**-0.7**		
TOLI2					IAMs_20	IAMs_20	04 17 04.7			
	comp=Z,2μm,22.0s									
MDRS	**Chennai**	**148.44**	**118**	*eP*		**PKPdf**	**03 10 56.5**	**-0.2**		
UGL	**Uglegorsk**	**148.86**	**316**	*e*	PKIKP	**PKPdf**	**03 10 57.0**	**+0.6**		
UGL					pmax	pmax				
	comp=Z,240nm,2.1s									
UGL					pmax	pmax				
	comp=Z,4μm,4.5s									
YSS	**Yuzh-Sakhalins**	**149.21**	**311**	*c i*	PKHKP	PKPpre	03 10 56.7			
YSS					pmax	pmax				
	comp=Z,190nm,2.0s									
YSS					pmax	pmax				
	comp=Z,4μm,3.8s									
YSS	**Yuzh-Sakhalins**	**149.21**	**311**			**PKPbc**	**03 10 59.9**	**-1.4**		
YSS					IAMs_20	IAMs_20	04 11 08.9			
	comp=Z,3μm,22.0s									
HYB	**Hyderabad**	**149.58**	**109**	*eP*		**PKPdf**	**03 10 58.4**	**-0.2**		
HYB	**Hyderabad**	**149.58**	**109**	*i*	PKP	**PKPdf**	**03 10 58.0**	**-0.6**		
HYB				*es*	PKP		03 11 22.0			
HYB				*e*	PP	**PP**	**03 14 36.0**	**-0.2**		
HYB				*e*	PPP	PPP	03 18 08.0			
JMP	**Maruseppu**	**149.66**	**306**		P	**PKPdf**	**03 10 57.7**	**-0.2**		
EKS2	**Erkin-Say**	**149.82**	**57**		P	**PKPdf**	**03 10 59.4**	**+1.0**		
	SNR=12									
AML	**Almayashu**	**149.86**	**58**		P	**PKPdf**	**03 10 59.8**	**+1.0**		
	SNR=12									
AML	**Almayashu**	**149.86**	**58**		P	**PKPdf**	**03 10 58.5**	**-0.4**		
NIL	**Nilore**	**149.98**	**75**		PKIKP	**PKPdf**	**03 10 57.2**	**-1.6**		
NIL							03 11 04.4			
NIL	**Nilore**	**149.98**	**75**		PKPdf	**PKPdf**	**03 10 57.2**	**-1.6**		
NIL					PKPbc	**PKPbc**	**03 11 04.4**	**+0.6**		
NIL	**Nilore**	**149.98**	**75**		P	**PKPdf**	**03 10 58.0**	**-0.7**		
KURBB	**Kurchatov Arra**	**150.05**	**40**		PKP	**PKPdf**	**03 10 57.9**	**-0.3**		
	comp=Z,25nm,1.2s,baz=300,slow=2.3,SNR=76									
KURBB						PKPbc	**PKPbc**	**03 11 03.6**	**+0.3**	
	comp=Z,128nm,0.9s,baz=305,slow=3.0,SNR=90									
KURBB						PP	**PP**	**03 14 43.4**	**+5.4**	
	comp=Z,55nm,1.0s,baz=290,slow=6.6,SNR=8.9									
KURBB	**Kurchatov Arra**	**150.05**	**40**		PKIKP	**PKPdf**	**03 10 56.9**	**-1.4**		
KURK	**Kurchatov**	**150.05**	**40**		PKIKP	**PKPdf**	**03 10 57.9**	**-0.4**		
KURK							03 11 03.6			
ASAJ	**Asahikawa**	**150.16**	**306**		PKP	**PKPdf**	**03 10 58.3**	**-0.3**		
	comp=Z,21nm,1.1s,baz=244,slow=6.5,SNR=6.2									
ASAJ						PKPbc	**PKPbc**	**03 11 03.8**	**0.0**	
	comp=Z,58nm,1.0s,baz=92,slow=2.4,SNR=6.4									
ASAJ	**Asahikawa**	**150.16**	**306**		P	**PKPdf**	**03 10 59.0**	**+0.3**		
USP	**Ospenovka**	**150.20**	**56**		P	**PKPdf**	**03 10 59.7**	**+0.8**		
	SNR=13									
ERM	**Erimo**	**150.23**	**302**	*c i*	PKIKP	**PKiKP**	**03 11 05.5**	**+0.7**		
ERM					pmax	pmax				
	comp=Z,145nm,1.3s									
JEM	**Erimo**	**150.23**	**302**		P	**PKiKP**	**03 11 05.0**	**+0.2**		
SGDS	**Sogindy**	**150.25**	**55**	⇑*i*	PKP	**PKPdf**	**03 10 58.1**	**-0.8**		
	baz=55									
SGDS				*e*	PP	**PP**	**03 14 37.0**	**-2.8**		
	baz=55									
JWK2	**Keihoku**	**150.30**	**309**		P	**PKPbc**	**03 11 04.2**	**+0.2**		
AAK	**Ala-Archa**	**150.34**	**57**		PKP	**PKPdf**	**03 10 58.8**	**-0.4**		
	comp=Z,5.6nm,0.7s,baz=222,slow=1.3,SNR=22									
AAK						PKPbc	**PKPbc**	**03 11 05.1**	**+0.6**	
	comp=Z,196nm,1.0s,baz=227,slow=2.1,SNR=89									
AAK	**Ala-Archa**	**150.34**	**57**		P	**PKPdf**	**03 10 59.7**	**+0.5**		
	SNR=7.0									
AAK	**Ala-Archa**	**150.34**	**57**	*i*	P	**PKPdf**	**03 10 59.4**	**+0.1**		
	SNR=133									
AAK	**Ala-Archa**	**150.34**	**57**		PKPdf	**PKPdf**	**03 10 58.8**	**-0.4**		
AAK					PKPbc	**PKiKP**	**03 11 06.5**	**+1.3**		
AAK	**Ala-Archa**	**150.34**	**57**		P	**PKPdf**	**03 10 59.5**	**+0.3**		
UCH	**Uchtor**	**150.44**	**58**		P	**PKPdf**	**03 11 01.0**	**+1.2**		
	SNR=17									
CHMS	**Chumysh**	**150.44**	**56**		P	**PKiKP**	**03 11 05.4**	**+0.1**		
	SNR=27									
RPSI	**Rantau Prapat**	**150.61**	**160**		PKPdf	**PKPdf**	**03 10 58.5**	**-1.8**		
RPSI					PKPbc	**PKPbc**	**03 11 05.7**	**0.0**		
RPSI					PKPab	**pPKPbc**	**03 11 13.9**	**-1.8**		
KBK	**Karagaybulak**	**150.66**	**57**		P	**PKPbc**	**03 11 06.0**	**+0.8**		
	SNR=21									
PSI	**Prapat**	**150.71**	**160**		PKP	**PKPdf**	**03 10 59.4**	**-1.3**		
	baz=200,slow=9.5									
PSI						PKPbc	**PKPbc**	**03 11 05.5**	**-0.6**	
PSI	**Prapat**	**150.71**	**160**		PKIKP	**PKPdf**	**03 10 58.6**	**-2.1**		
PSI							03 11 05.7			
PSI							03 11 13.9			
KZA	**Kyzart**	**151.00**	**58**		P	**PKiKP**	**03 11 07.7**	**+0.8**		
	SNR=19									
TKM2	**Tokmak 2**	**151.07**	**56**		P	**PKPdf**	**03 10 59.9**	**-0.5**		
	SNR=14									
SEM	**Semipalatinsk**	**151.10**	**39**	⇑*i*	PKP	**PKPdf**	**03 10 55.1**	**-5.1**		
	baz=39									
SEM				*e*	PP	**PP**	**03 14 37.4**	**-6.9**		
	baz=39									
SEM	**Semipalatinsk**	**151.10**	**39**	*c i*	PKIKP	**PKPdf**	**03 10 55.1**	**-5.1**		
ZAA0	**Zalesovo Array**	**151.14**	**30**		PKPdf	**PKPdf**	**03 10 58.9**	**-1.0**		
ZAA0					PKPbc	**PKPbc**	**03 11 05.9**	**+0.2**		
ZALV	**Zalesovo Beam**	**151.14**	**30**		PKP	**PKPdf**	**03 10 59.1**	**-0.8**		
	comp=Z,18nm,0.8s,baz=270,slow=1.3,SNR=39									
ZALV						PKPbc	**PKPbc**	**03 11 06.0**	**+0.3**	
	comp=Z,343nm,0.6s,baz=303,slow=3.2,SNR=130									
BHPL	**Bhopal**	**151.24**	**97**	*eP*		**PKPdf**	**03 11 00.4**	**-0.6**		
KUU	**Kurty**	**151.34**	**54**	⇑*i*	PKP	**PKPdf**	**03 10 58.6**	**-2.0**		
	baz=54									
KUU				*e*	PP	**PP**	**03 14 44.2**	**-1.6**		
	baz=54									
KUU	**Kurty**	**151.34**	**54**	*c i*	PKIKP	**PKPdf**	**03 10 58.5**	**-2.0**		
KUU				*e*			03 14 44.2			
MTBS	**Maitube**	**151.60**	**55**	⇑*i*	PKP	**PKPdf**	**03 10 59.8**	**-1.2**		
	baz=55									
MTBS				*e*	PP	**PP**	**03 14 43.4**	**-4.2**		
	baz=55									
ULHL	**Ulahol**	**151.69**	**57**		P	**PKPbc**	**03 11 08.2**	**+0.5**		
	SNR=13									
CHKK	**Chushkaly**	**151.80**	**53**	*e*	PKP	**PKPdf**	**03 11 01.2**	**0.0**		
	baz=54									
CHKK				*e*	PP	**PP**	**03 14 47.6**	**-0.9**		
	baz=54									
JOT	**Ohata**	**151.91**	**301**		P	**PKPbc**	**03 11 07.7**	**-0.2**		
AAA	**Alma-Ata**	**151.93**	**55**	⇑*i*	PKP	**PKPdf**	**03 11 01.1**	**-0.4**		
	baz=55									
AAA				*e*	PP	**PP**	**03 14 47.6**	**-1.8**		
	baz=55									
AAA	**Alma-Ata**	**151.93**	**55**	*c i*	PKIKP	**PKPdf**	**03 11 01.1**	**-0.4**		
AAA				*e*			03 14 47.5			
KSH	**Kashi**	**151.99**	**63**		PKPbc	**PKPdf**	**03 11 01.5**	**-0.3**		
KSH					pPKP	sPKPdf	03 11 12.3	-3.0		
KSH					sPKP		03 11 16.0			
KSH					LR	LR				
	comp=Z,3μm,23.7s									
KSH					LR	LR				
	comp=Z,4μm,23.7s									
KSH					LR	LR				
	comp=Z,7μm,23.7s									
TNSS	**Tian-Shan**	**152.00**	**55**	*e*	PKP	**PKPdf**	**03 11 00.3**	**-1.8**		
	baz=55									
TNSS				*e*	PP	**PP**	**03 14 48.1**	**-2.1**		
	baz=55									
MDOK	**Medeo**	**152.03**	**55**	*i*	PKP	**PKPdf**	**03 11 00.3**	**-1.6**		
	baz=55									
MDOK				*e*	PP	**PP**	**03 14 47.2**	**-2.8**		
	baz=55									
MDOK	**Medeo**	**152.03**	**55**	*i*	PKIKP	**PKPdf**	**03 11 00.2**	**-1.6**		
MDOK				*e*			03 14 47.2			
JOM	**Ohasama**	**152.05**	**297**		P	**PKPbc**	**03 11 08.2**	**-0.1**		
LHMI	**Lhok Sumawe**	**152.32**	**154**			**PKPbc**	**03 11 07.8**	**-1.9**		
TDK	**Taldyqorghan**	**152.39**	**50**	*e*	PKP	**PKPdf**	**03 11 00.3**	**-1.9**		
	baz=51									
TDK				*e*	PP	**PP**	**03 14 48.1**	**-3.7**		
	baz=51									
TDK				*e*	LR	LR	04 16 35.9			
	comp=Z,3μm,21.8s,baz=51									
TDK	**Taldyqorghan**	**152.39**	**50**	*e*	PKIKP	**PKPdf**	**03 11 00.2**	**-1.9**		
TDK				*e*			03 14 48.0			
DHRM	**DHARAMSHALA**	**152.42**	**78**	*eP*		**PKPdf**	**03 11 02.7**	**-0.1**		
BHK	**Bhakra**	**152.42**	**80**	*ex*		**PKPab**	**03 11 14.0**	**-5.8**		
BHK				*ex*		x	03 12 51.8			
CMBY	**CAMPBELL BAY**	**152.64**	**147**	*eP*		**PKPdf**	**03 11 04.1**	**+0.7**		
NDI	**New Delhi**	**152.65**	**86**	*ex*		**PKiKP**	**03 11 11.0**	**+0.8**		
BOD	**Bodaibo**	**152.69**	**354**	*e*	PKIKP	**PKPdf**	**03 11 00.5**	**-1.6**		
BOD					pmax	pmax				
	comp=Z,385nm,1.5s									
SATY	**Saty**	**153.02**	**54**	⇑*i*	PKP	**PKPdf**	**03 11 01.5**	**-1.7**		
	baz=55									
SATY				*e*	PP	**PP**	**03 14 54.0**	**-1.6**		
	baz=55									
SATY	**Saty**	**153.02**	**54**	*c i*	PKIKP	**PKPdf**	**03 11 01.5**	**-1.7**		
SATY				*e*			03 14 54.0			
SMLA	**Simla**	**153.02**	**81**	*eP*		**PKPdf**	**03 11 05.2**	**+1.8**		
KPKS	**Kokpek**	**153.09**	**53**	⇑*i*	PKP	**PKPdf**	**03 11 02.0**	**-1.3**		
	baz=54									
KPKS				*e*	PP	**PP**	**03 14 55.4**	**-0.5**		
	baz=54									
KPKS	**Kokpek**	**153.09**	**53**	*c i*	PKIKP	**PKPdf**	**03 11 01.9**	**-1.3**		
KPKS				*e*			03 14 55.4			
ZEA	**Zeya**	**153.38**	**335**	*i*	PKIKP	**PKPdf**	**03 11 02.4**	**-0.8**		
ZEA				*e*			03 14 54.5			
ZEA				*e*			03 34 28.9			
ZEA					pmax	pmax				
	comp=E,200nm,7.1s									
ZEA					pmax	pmax				
	comp=N,600nm,8.2s									
ZEA					pmax	pmax				
	comp=Z,2μm,9.2s									
ZEA					pmax	pmax				
	comp=E,20nm,1.0s									
ZEA					pmax	pmax				
	comp=N,20nm,0.7s									
ZEA					pmax	pmax				
	comp=Z,60nm,1.6s									
JYA	**Atsumi**	**153.39**	**296**		P	**PKiKP**	**03 11 11.9**	**+0.5**		
PDGK	**Podgornoye**	**153.69**	**53**		PKIKP	**PKPdf**	**03 11 03.7**	**-0.5**		
SHLS	**Shalkode**	**153.72**	**54**	⇑*i*	PKP	**PKPdf**	**03 11 02.8**	**-1.4**		
	baz=54									
SHLS				*e*	PP	**PP**	**03 15 00.4**	**+0.9**		
	baz=54									
SHLS	**Shalkode**	**153.72**	**54**	*c i*	PKIKP	**PKPdf**	**03 11 02.8**	**-1.4**		
SHLS				*e*			03 15 00.4			
TEY	**Ternei**	**153.90**	**311**	⇑*eP*		**PKPdf**	**03 11 03.3**	**-0.9**		
TEY				*e*			03 14 59.4			
TEY				*e*			03 34 33.9			
TEY					pmax	pmax				
	comp=Z,10.0nm,2.8s									
MAKZ	**Makanchi**	**153.91**	**45**		PKIKP	**PKPdf**	**03 11 02.6**	**-1.7**		
MAKZ							03 11 12.4			
MAKZ							03 11 25.4			
MAKZ	**Makanchi**	**153.91**	**45**		PKPdf	**PKPdf**	**03 11 02.6**	**-1.7**		
MAKZ					PKPbc	**PKPbc**	**03 11 12.4**	**+0.1**		
MAKZ					PKPab	**PKPab**	**03 11 25.4**	**-0.1**		
MK31	**Makanchi Array**	**154.10**	**44**		PKIKP	**PKPdf**	**03 11 03.6**	**-0.9**		
MK31							03 11 13.5			
MK31	**Makanchi Array**	**154.10**	**44**			**PKPdf**	**03 11 03.6**	**-0.9**		
MK31					PKPbc	**pPKPdf**	**03 11 13.5**	**-1.1**		
MK31					PKPab	**PKPab**	**03 11 27.5**	**+1.2**		
MKAR	**Makanchi Array**	**154.10**	**44**		PKP	**PKPdf**	**03 11 03.3**	**-1.3**		
	comp=Z,7.1nm,1.0s,baz=336,slow=2.7,SNR=22									
MKAR					PKPbc	**PKPbc**	**03 11 12.1**	**-0.6**		
	comp=Z,36nm,0.9s,baz=307,slow=1.0,SNR=43									
MKAR					PKPab	**PKPab**	**03 11 27.3**	**+0.9**		
	comp=Z,198nm,0.8s,baz=313,slow=2.0,SNR=34									
MKAR					PP	**PP**	**03 15 04.8**	**+3.5**		
	comp=Z,40nm,1.0s,baz=286,slow=6.2,SNR=3.6									
KLR	**Kul'dur**	**154.61**	**323**		PKP	**PKPdf**	**03 11 03.9**	**-1.2**		
	comp=Z,10nm,1.0s,baz=61,slow=1.9,SNR=15									
KLR					PKPbc	**pPKPdf**	**03 11 13.5**	**-1.6**		
	comp=Z,26nm,1.3s,baz=27,slow=3.3,SNR=16									
KLR					PKPab	**PKPab**	**03 11 29.1**	**+0.7**		
	comp=Z,19nm,0.8s,baz=50,slow=4.6,SNR=12									
MJAR	**Matsushiro Arr**	**154.79**	**291**		PKP	**PKPdf**	**03 11 04.5**	**-1.3**		
	comp=Z,5.2nm,1.0s,baz=162,slow=0.2,SNR=16									
MJAR					PKPbc	**pPKPdf**	**03 11 13.6**	**-2.2**		
	comp=Z,5.2nm,1.1s,baz=211,slow=0.9,SNR=7.1									
MJAR					PKPab	**PKPab**	**03 11 29.6**	**0.0**		
	comp=Z,34nm,0.9s,baz=100,slow=1.5,SNR=24									
MJAR	**Matsushiro Arr**	**154.79**	**291**		PKPdf	**PKPdf**	**03 11 04.8**	**-1.1**		
MAJO	**Matsushiro**	**154.80**	**291**		PKIKP	**PKPdf**	**03 11 04.8**	**-1.0**		
MAJO	**Matsushiro**	**154.80**	**291**			**PKPdf**	**03 11 04.8**	**-1.0**		
MAJO					PKPab	**PKPab**	**03 11 31.0**	**+1.4**		
MAT	**Matsushiro**	**154.80**	**291**		PKP	**PKPdf**	**03 11 04.0**	**-1.8**		
ZSN	**Zaisan**	**155.27**	**41**	⇑*i*	PKP	**PKPdf**	**03 11 04.1**	**-2.1**		
	baz=41									
ZSN				*e*	PP	**PP**	**03 15 06.8**	**-0.9**		
	baz=41									
ZSN	**Zaisan**	**155.27**	**41**	*c i*	PKIKP	**PKPdf**	**03 11 04.0**	**-2.1**		
ZSN				*e*			03 15 06.8			
SKLT	**Songkhla**	**155.36**	**161**		PKP	**PKPdf**	**03 11 09.1**	**+1.9**		
JGN	**Niukaw**	**155.54**	**291**		P	**PKPdf**	**03 11 06.6**	**-0.3**		
TRTT	**Trang**	**155.70**	**158**		PKP	PKPab	03 11 22.1	-12		
INU	**Inuyama**	**155.84**	**288**		IAMs_20	IAMs_20	04 11 03.4			
	comp=Z,2μm,21.0s									
PBA	**Port Blair**	**155.94**	**139**	*eP*		PKPdf	03 11 07.5	-0.4		
SURA	**Surathani**	**156.93**	**157**		PKP	PKPab	03 11 25.7	-13		
JWT	**Wachi**	**157.16**	**289**		P	**PKPdf**	**03 11 08.7**	**-0.2**		
USA0B	**Ussuriysk Arra**	**157.23**	**313**		PKIKP	**PKPdf**	**03 11 08.0**	**-0.7**		
USA0B	**Ussuriysk Arra**	**157.23**	**313**		PKPdf	**PKPdf**	**03 11 08.0**	**-0.7**		
USA0B					PKPab	**PKPab**	**03 11 38.8**	**-1.0**		
USRK	**Ussuriysk Ar.**	**157.23**	**313**		PKP	**PKPdf**	**03 11 06.7**	**-2.0**		
	comp=Z,2.5nm,0.9s,baz=294,slow=1.9,SNR=

SILR	**SILCHAR**	**164.76**	**109**	*e*P		**PKPdf**	**03 11 18.2**	**+0.9**
SILR				*i* x		**PKPab**	**03 12 14.1**	**+0.9**
LSA	**Lhasa**	**164.82**	**90**	PKP		**PKPdf**	**03 11 18.0**	**+0.1**
LSA				LR	LR			
	comp=Z,3μm,19.9s							
LSA				LR	LR			
	comp=Z,8μm,24.2s							
LSA				LR	LR			
	comp=Z,5μm,19.9s							
LSA	**Lhasa**	**164.82**	**90**	*i* P		**PKPdf**	**03 11 17.8**	**-0.2**
	SNR=30							
LSA	**Lhasa**	**164.82**	**90**	PKIKP		**PKPdf**	**03 11 17.2**	**-0.8**
LSA	**Lhasa**	**164.82**	**90**			**PKPdf**	**03 11 17.1**	**-0.8**
LSA				PKPab		**PKPab**	**03 12 14.5**	**+0.5**
CM13	**Chiang Mai Arr**	**164.86**	**142**	PKP		**PKPdf**	**03 11 18.4**	**+0.7**
CM05	**Chiang Mai Arr**	**164.87**	**142**	PKP		**PKPdf**	**03 11 18.4**	**+0.7**
CM04	**Chiang Mai Arr**	**164.88**	**142**	PKP		**PKPdf**	**03 11 18.5**	**+0.8**
CM01	**Chiang Mai Arr**	**164.89**	**142**	PKP		**PKPdf**	**03 11 19.0**	**+1.3**
CM02	**Chiang Mai Arr**	**164.90**	**142**	PKP		**PKPdf**	**03 11 18.5**	**+0.8**
CM15	**Chiang Mai Arr**	**164.90**	**142**	PKP		**PKPdf**	**03 11 18.7**	**+1.0**
CMAR	**Chiang Mai Arr**	**164.91**	**142**	PKP		**PKPdf**	**03 11 17.0**	**-0.7**
	comp=Z,2.7nm,0.5s,baz=252,slow=2.1,SNR=32							
CMAR				PKPab		**PKPab**	**03 12 13.3**	**-0.6**
	comp=Z,93nm,1.1s,baz=224,slow=4.4,SNR=32							
CMAR				PP		**PP**	**03 16 06.3**	**+6.7**
	comp=Z,11nm,1.0s,baz=240,slow=6.2,SNR=4.6							
CMAR	**Chiang Mai Arr**	**164.91**	**142**			**PKPdf**	**03 11 16.7**	**-1.0**
CMAR				PKPab		**PKPab**	**03 12 12.2**	**-1.7**
CM09	**Chiang Mai Arr**	**164.93**	**142**	PKP		**PKPdf**	**03 11 18.7**	**+1.0**
CHTO	**Chiang Mai**	**165.21**	**141**	PKIKP		**PKPdf**	**03 11 16.1**	**-1.8**
CHTO							03 12 14.3	
CHTO	**Chiang Mai**	**165.21**	**141**	PKP		**PKPdf**	**03 11 17.9**	**-0.1**
CHTO	**Chiang Mai**	**165.21**	**141**			**PKPdf**	**03 11 16.1**	**-1.8**
CHTO				PKPab		**PKPab**	**03 12 14.3**	**-0.9**
CHTO	**Chiang Mai**	**165.21**	**141**	P		**PKPdf**	**03 11 17.0**	**-0.9**
CMMT	**Chiang Mai**	**165.21**	**141**	PKP		**PKPdf**	**03 11 17.8**	**-0.2**
IMP	**Imphal**	**165.70**	**111**	*e*P		**PKPdf**	**03 11 18.2**	**-0.1**
IMP				*i* x		**PKPab**	**03 12 17.9**	**+0.4**
KOHI	**KOHIMA**	**166.23**	**108**	*e*P		**PKPdf**	**03 11 18.8**	**0.0**
KOHI				*i* x		**PKPab**	**03 12 18.7**	**-1.2**
ITAN	**ITANAGAR**	**166.43**	**102**	*e*P		**PKPdf**	**03 11 18.5**	**-0.2**
ITAN				*i* x		**PKPab**	**03 12 20.8**	**+0.2**
DL2	**Dalian**	**166.61**	**311**	PKP		**PKPdf**	**03 11 17.3**	**-1.2**
DL2				PKPab		**PKPab**	**03 12 20.5**	**-0.4**
DL2				PP		**PP**	**03 16 08.5**	**-0.3**
DL2				SS	SS		03 36 49.5	0.0
DL2				AMB	AMB			
	comp=Z,1μm,6.3s							
DL2				LR	LR			
	comp=Z,1μm,20.8s							
DL2				LR	LR			
	comp=Z,2μm,19.9s							
DL2				LR	LR			
	comp=Z,3μm,29.9s							
MOKO	**MOKOCHONG**	**166.80**	**106**	*e*P		**PKPdf**	**03 11 19.3**	**+0.1**
MOKO				*i* x		**PKPab**	**03 12 22.3**	**-0.1**
DIBR	**DIBRUGARH**	**167.54**	**102**	*i* x		**PKPab**	**03 12 25.6**	**+0.2**
QIZ	**Qiongzhong**	**168.28**	**185**	PKP		**PKPdf**	**03 11 20.0**	**-0.3**
QIZ				PKPab		**PKPab**	**03 12 26.8**	**-1.8**
QIZ				PP		**PP**	**03 16 16.3**	**+0.1**
QIZ				SS	SS		03 37 05.5	+1.2
QIZ				AMB	AMB			
	comp=Z,2μm,9.2s							
QIZ				LR	LR			
	comp=Z,2μm,18.6s							
QIZ				LR	LR			
	comp=Z,2μm,20.6s							
QIZ				LR	LR			
	comp=Z,3μm,20.1s							
GTA	**Gaotai**	**168.73**	**38**	⇑PKP		**PKPdf**	**03 11 20.0**	**-0.2**
GTA				pPKP		pPKPdf	03 11 30.0	-0.2
GTA				sPKP			03 11 35.3	
GTA				PKPab		**PKPab**	**03 12 31.3**	**+0.9**
GTA				PP		**PP**	**03 16 18.5**	**-0.9**
GTA				AMB	AMB			
	comp=Z,3μm,5.5s							
GTA				LR	LR			
	comp=Z,3μm,21.8s							
GTA				LR	LR			
	comp=Z,2μm,22.2s							
GTA				LR	LR			
	comp=Z,5μm,22.5s							
BJI	**Beijing**	**168.90**	**329**	PKP		**PKPdf**	**03 11 19.0**	**-1.0**
BJI				pPKP		**sPKPdf**	**03 11 32.0**	**-1.5**
BJI				PP		**PP**	**03 16 18.5**	**-1.4**
BJI				SKS		**SKSdf**	**03 18 16.3**	**-5.2**
BJI				SKKS		**SKKSac**	**03 23 04.0**	**-1.1**
BJI				SS		**SS**	**03 37 14.3**	**+2.9**
BJI				AMB	AMB			
	comp=Z,3μm,9.1s							
BJI				LR	LR			
	comp=Z,3μm,20.0s							
BJI				LR	LR			
	comp=Z,2μm,19.4s							
BJI				LR	LR			
	comp=Z,7μm,23.7s							
BJT	**Baijiatuan**	**168.92**	**329**	PKIKP		**PKPdf**	**03 11 18.7**	**-1.4**
BJT							03 12 30.9	
BJT	**Baijiatuan**	**168.92**	**329**			**PKPdf**	**03 11 18.6**	**-1.4**
BJT				PKPab		**PKPab**	**03 12 30.9**	**-0.2**
SSE	**Sheshan**	**169.24**	**275**	PKP		**PKPdf**	**03 11 20.8**	**+0.3**
SSE				PP		**PP**	**03 16 25.8**	**+2.7**
SSE				SS	SS		03 37 15.0	-2.4
SSE				AMB	AMB			
	comp=Z,390nm,8.8s							
SSE				LR	LR			
	comp=Z,600nm,19.9s							
SSE				LR	LR			
	comp=Z,470nm,20.5s							
QZH	**Quanzhou**	**169.49**	**239**	*i* PKP		**PKPdf**	**03 11 20.5**	**-0.4**
QZH				PKPab		**PKPab**	**03 12 35.8**	**+1.8**
QZH				PP		**PP**	**03 16 22.8**	**-1.0**
QZH				SKKS			03 23 08.8	
QZH				SS	SS		03 37 21.0	+2.1
QZH				AMB	AMB			
	comp=Z,2μm,5.4s							
QZH				LR	LR			
	comp=Z,1μm,22.2s							
QZH				LR	LR			
	comp=Z,890nm,18.5s							
QZH				LR	LR			
	comp=Z,2μm,20.0s							
HHC	**Hu-ho-hao-te**	**169.65**	**348**	*e*PKP		**PKPdf**	**03 11 20.3**	**-0.4**
HHC				SKKS			03 23 09.5	
HHC				AMB	AMB			
	comp=Z,3μm,8.1s							
HHC				LR	LR			
	comp=Z,3μm,19.1s							
HHC				LR	LR			
	comp=Z,3μm,19.3s							
HHC				LR	LR			
	comp=Z,7μm,21.2s							
BTO	**Baotou**	**170.11**	**354**	*e*PKP		**PKPdf**	**03 11 20.3**	**-0.6**
BTO				PP		**PP**	**03 16 25.8**	**+0.2**
BTO				SS	SS		03 37 20.8	-2.0
BTO				LR	LR			
	comp=Z,10μm,20.5s							
BTO				LR	LR			
	comp=Z,5μm,20.3s							
HKC	**Hong Kong Obse**	**170.25**	**212**	⇑P		**PKPdf**	**03 11 21.0**	**-0.4**
TIA	**Tai'an**	**171.08**	**310**	PKP		**PKPdf**	**03 11 20.5**	**-1.0**
TIA				pPKP		**sPKPdf**	**03 11 36.5**	**+1.6**
TIA				PP		**PP**	**03 16 29.8**	**-1.7**
TIA				SKKS			03 23 13.0	
TIA				SS	SS		03 37 37.3	+3.0
TIA				AMB	AMB			
	comp=Z,2μm,5.4s							
TIA				LR	LR			
	comp=Z,3μm,24.9s							
TIA				LR	LR			
	comp=Z,2μm,22.1s							
TIA				LR	LR			
	comp=Z,3μm,27.1s							
NJ2	**Nanjing**	**171.20**	**281**	⇑PKP		**PKPdf**	**03 11 20.8**	**-0.8**
NJ2				pPKP		**pPKPdf**	**03 11 31.5**	**-0.2**
NJ2				sPKP			03 11 36.3	
NJ2				PKPab		**PKPab**	**03 12 40.8**	**-0.8**
NJ2				PP		**PP**	**03 16 32.3**	**-0.5**
NJ2				SKS		**SKSdf**	**03 18 20.8**	**-2.1**
NJ2				SS		**SS**	**03 37 37.5**	**+0.8**
NJ2				AMB	AMB			
	comp=Z,2μm,8.6s							
NJ2				LR	LR			
	comp=Z,2μm,23.2s							
NJ2				LR	LR			
	comp=Z,2μm,21.3s							
NJ2				LR	LR			
	comp=Z,3μm,21.6s							
GZH	**Guangzhou**	**171.30**	**210**	⇑*i*PKP		**PKPdf**	**03 11 21.3**	**-0.6**
GZH				PKS		**PKSdf**	**03 14 52.8**	**-1.6**
GZH				PP		**PP**	**03 16 34.0**	**+2.1**
GZH				SS	SS		03 37 39.5	+4.4
GZH				LR	LR			
	comp=Z,2μm,21.6s							
GZH				LR	LR			
	comp=Z,2μm,19.6s							
KMI	**Kunming**	**172.33**	**136**	⇑PKP		**PKPdf**	**03 11 22.3**	**-0.4**
KMI				pPKP		sPKPdf	03 11 35.3	-0.9
TIY	**Taiyuan**	**172.39**	**337**	⇑PKP		**PKPdf**	**03 11 21.5**	**-0.6**
TIY				PKPab		**PKPab**	**03 12 46.5**	**0.0**
TIY				PP		**PP**	**03 16 36.0**	**-1.2**
TIY				SS	SS		03 37 46.8	+1.1
TIY				AMB	AMB			
	comp=Z,2μm,11.2s							
TIY				LR	LR			
	comp=Z,580nm,15.7s							
TIY				LR	LR			
	comp=Z,2μm,17.1s							
TIY				LR	LR			
	comp=Z,3μm,18.8s							
LZH	**Lanzhou**	**173.33**	**36**	⇑PKP		**PKPdf**	**03 11 22.8**	**+0.1**
LZH				pPKP		pPKPdf	03 11 31.5	-1.2
LZH				sPKP			03 11 40.0	
LZH				PKPab		**PKPab**	**03 12 51.5**	**+0.6**
LZH				SS	SS		03 37 59.0	+3.3
LZH				AMB	AMB			
	comp=Z,2μm,5.3s							
LZH				LR	LR			
	comp=Z,950nm,17.9s							
LZH				LR	LR			
	comp=Z,1μm,18.4s							
LZH				LR	LR			
	comp=Z,1μm,17.9s							
WHN	**Wuhan**	**175.10**	**269**	⇑PKP		**PKPdf**	**03 11 22.5**	**-0.7**
WHN				sPKP			03 11 36.3	
WHN				PKPab		**PKPab**	**03 12 59.5**	**+0.5**
WHN				PP		**PP**	**03 16 51.5**	**-0.5**
WHN				SKKS			03 23 32.8	
WHN				AMB	AMB			
	comp=Z,5μm,6.0s							
WHN				LR	LR			
	comp=Z,14μm,27.4s							
WHN				LR	LR			
	comp=Z,4μm,23.2s							
WHN				LR	LR			
	comp=Z,18μm,25.5s							
GYA	**Guiyang**	**175.38**	**157**	⇑*i*PKP		**PKPdf**	**03 11 22.8**	**-0.8**
GYA				PKPab		**PKPab**	**03 13 00.0**	**-0.1**
GYA				PP		**PP**	**03 16 49.8**	**-2.0**
GYA				SS	SS		03 38 10.5	-4.1
GYA				LR	LR			
	comp=Z,3μm,21.0s							
GYA				LR	LR			
	comp=Z,2μm,23.0s							
GYA				LR	LR			
	comp=Z,5μm,23.4s							
CD2	**Chengdu**	**175.78**	**87**	PKP		**PKPdf**	**03 11 22.5**	**-1.0**
CD2				sPKP			03 11 35.8	
CD2				PKPab		**PKPab**	**03 13 00.0**	**-2.1**
CD2				PP		**PP**	**03 16 51.8**	**-3.6**
CD2				SKKS			03 23 39.0	
CD2				AMB	AMB			
	comp=Z,9μm,10.1s							
CD2				LR	LR			
	comp=Z,4μm,19.6s							
CD2				LR	LR			
	comp=Z,3μm,23.5s							
CD2				LR	LR			
	comp=Z,7μm,26.0s							
XAN	**Xi'an**	**176.72**	**356**	PKP		**PKPdf**	**03 11 22.5**	**-1.1**
XAN				pPKP		sPKPdf	03 11 34.5	-2.5
XAN				sPKP			03 11 38.5	
XAN				PKPab		**PKPab**	**03 13 05.5**	**-0.2**
XAN				AMB	AMB			
	comp=Z,5μm,6.7s							
XAN				LR	LR			
	comp=Z,1μm,26.5s							
XAN				LR	LR			
	comp=Z,3μm,24.5s							
XAN				LR	LR			
	comp=Z,4μm,27.0s							
ENH	**Enshi**	**179.15**	**236**			**PKPdf**	**03 11 22.7**	**-1.3**

*IDC **26** 02:56:39.6±2.3,8.°09S×122.°92E,h243km±23km, mb2.9/1, mb1 3.2/5, mb1mx3.0/36, mbtmp3.7/5, Error ellipse: s-maj=125.2km s-min=26.2km az=56.0*
ISC 26 02:56:39.9±1.5,8.°1S±0.°3×123.°0E±0.°5,h250km,n5,
σ1§18/6,Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.17**	**162**	P		P	**Pn**	**02 57 23.2**	**-0.8**
	9.1nm,0.3s,baz=68,slow=21,SNR=2.1								
BATI				S			**S**	**02 57 59.0**	**+0.2**
	32nm,0.3s,baz=151,slow=22,SNR=11								
FITZ	**Fitzroy Crossi**	**10.24**	**166**	P		P	**Pn**	**02 59 01.1**	**-0.4**
	0.2nm,0.3s,baz=4.6,slow=9.2,SNR=6.8								
WRA	**Warramunga Arr**	**16.10**	**138**	P		P	**P**	**03 00 11.3**	**-0.6**
	0.5nm,0.3s,baz=311,slow=10.0,SNR=25								
WRA				S		S	S	03 02 55.0	-13
	0.1nm,0.3s,baz=329,slow=22,SNR=4.2								
ASAR	**Alice Springs**	**18.67**	**147**	P		P	**P**	**03 00 41.5**	**+1.8**
	1.2nm,0.3s,baz=320,slow=10,SNR=35								
MKAR	**Makanchi Array**	**65.56**	**331**	P		P	**P**	**03 06 57.0**	**+0.1**
	0.2nm,0.4s,baz=123,slow=7.3,SNR=1.8								

*IDC **26** 03:03:14.9±0.8,30.°82S×71.°43W,h0km,mb4.5/10, mb1 4.7/15,mb1mx4.5/32,mbtmp4.5/15,ML4.2/5,Error ellipse: s-maj=26.5km s-min=18.9km az=80.0*
*SJA **26** 03:03:18.0,30.°71S×71.°61W,h10km,ML4.9*
*NEIC **26** 03:03:20.5±2.1,30.°735S±0.°004×71.°57W±0.°09, h29km±4km,mb5.0/26,ML4.4(GUC),Error ellipse: s-maj=11.1km s-min=0.4km az=91.0*
*GUC **26** 03:03:21.4±0.7,30.°78S×71.°43W,h46km±2km,ML4.6*
ISC 26 03:03:20.5±0.5,30.°77S±0.°03×71.°50W±0.°06,h36km±1km,
n161,σ1§55/159,mb4.8/25,1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.15**	**310**	*e*P		P	**Pn**	**03 03 29.0**	**-1.0**
CO06				*i* S		Sn	Sn	03 03 33.8	-4.9
CO06				IAML				03 03 35.3	
	comp=E,107μm,0.2s								
CO06	**Fray Jorge**	**0.15**	**310**			P	Pn	03 03 25.6	-4.4
CO02	**Combarbal**	**0.61**	**135**	*e*P		P	**Pn**	**03 03 33.4**	**+0.5**
CO02				*i* S		Sn	**Sn**	**03 03 42.0**	**+0.5**
CO02				IAML				03 03 43.8	
	comp=E,81μm,0.2s								
CO02	**Combarbal**	**0.61**	**135**	Pn		P	**Pn**	**03 03 33.1**	**+0.2**
CO03	**El Pedregal**	**0.70**	**96**	*e*P		P	**Pn**	**03 03 34.5**	**+0.5**
CO03				*i* S		Sn	**Sn**	**03 03 43.4**	**-0.3**
CO03				IAML				03 03 44.7	
	comp=E,25μm,0.4s								
CO03	**El Pedregal**	**0.70**	**96**	Pn		P	**Pn**	**03 03 34.1**	**0.0**
GO04	**Tololo Observa**	**0.85**	**46**	*e*P		P	**Pn**	**03 03 37.0**	**+0.7**
GO04				*i* S		Sn	**Sn**	**03 03 48.7**	**+1.1**
GO04	**Tololo Observa**	**0.85**	**46**			P	**Pn**	**03 03 36.4**	**+0.2**
CO05	**La Serena**	**0.88**	**15**	*e*P		P	**Pn**	**03 03 38.0**	**+1.6**
CO05				*i* S		Sn	**Sn**	**03 03 49.6**	**+1.6**
CO05				IAML				03 03 55.2	
	comp=E,32μm,0.2s								
CO05	**La Serena**	**0.88**	**15**			P	**Pn**	**03 03 36.9**	**+0.5**
VA06	**Catapilco**	**1.79**	**174**	*e*P		P	**Pn**	**03 03 50.4**	**+1.5**
VA06				*e*S		Sn	**Sn**	**03 04 13.1**	**+2.7**
VA06				IAML				03 04 29.4	
AROD	**Rodeo**	**1.85**	**72**	*i* P		P	**Pn**	**03 03 50.0**	**0.0**
LCO	**Las Campanas**	**1.89**	**22**	*e*P		P	**Pn**	**03 03 52.0**	**+1.5**
LCO				*i* S		Sn	**Sn**	**03 04 15.8**	**+2.6**
LCO	**Las Campanas**	**1.89**	**22**	*i* P		P	**Pn**	**03 03 49.0**	**-1.5**
ACDV	**Cuesta del Vie**	**2.14**	**74**	*i* P		P	**Pn**	**03 03 55.0**	**+1.1**
VA03	**San Esteban**	**2.14**	**158**	*e*P		P	**Pn**	**03 03 55.9**	**+2.0**
VA03				IAML				03 04 27.7	
	comp=E,5μm,0.4s								
VA03	**San Esteban**	**2.14**	**158**				**Pn**	**03 03 55.9**	**+2.0**

VA03	**San Esteban**	**2.14**	**158**	*i* P		P	**Pn**	**03 03 54.0**	**+0.1**
ROCH	**El Roble**	**2.23**	**169**	*e*P		P	**Pn**	**03 03 56.4**	**+1.2**
ROCH				*i* S		Sn	**Sn**	**03 04 24.7**	**+3.0**
ROCH				IAML				03 04 38.6	
	comp=E,2μm,0.3s								
VA01	**Torpederas**	**2.25**	**183**	*e*P		P	**Pn**	**03 03 56.0**	**+0.8**
VA01	**Torpederas**	**2.25**	**183**				**Pn**	**03 03 55.7**	**+0.5**
VA01	**Torpederas**	**2.25**	**183**	*i* P		P	**Pn**	**03 03 56.0**	**+0.8**
ZON	**Zonda**	**2.54**	**108**			P	**Pn**	**03 04 01.1**	**+1.8**
ZON	**Zonda**	**2.54**	**108**	*i* P		P	**Pn**	**03 04 00.0**	**+0.7**
AC04	**Llanos de Chal**	**2.59**	**8**	IAML				03 04 47.4	
	comp=N,3μm,0.5s								
AC04	**Llanos de Chal**	**2.59**	**8**			P	**Pn**	**03 03 59.1**	**-0.8**
MT05	**Renca**	**2.69**	**166**	*i* P		P	**Pn**	**03 04 03.3**	**+2.0**
MT05				*i* S		Sn	**Sn**	**03 04 33.4**	**+0.6**
MT05				IAML				03 04 50.8	
	comp=E,4μm,0.3s								
MT05	**Renca**	**2.69**	**166**			P	**Pn**	**03 04 04.4**	**+3.1**
MT05	**Renca**	**2.69**	**166**	*i* P		P	**Pn**	**03 04 03.0**	**+1.6**
RTCV	**Cerro Valdivia**	**2.76**	**114**	*i* P		P	**Pn**	**03 04 04.0**	**+1.8**
VA05	**Santo Domingo**	**2.88**	**182**	*e*P		P	**Pn**	**03 04 04.3**	**+0.5**
VA05				IAML				03 04 58.2	
	comp=E,2μm,0.3s								
VA05	**Santo Domingo**	**2.88**	**182**				**Pn**	**03 04 04.5**	**+0.6**
AGUA	**GUANDACOL**	**2.91**	**65**	*i* P		P	**Pn**	**03 04 07.0**	**+2.7**
ASAL	**Salagasta**	**2.91**	**129**	*i* P		P	**Pn**	**03 04 06.0**	**+1.6**
ARCO	**CERRO ARCO**	**3.01**	**134**	*i* P		P	**Pn**	**03 04 09.0**	**+3.2**
MT09	**Talagante**	**3.03**	**172**	*i* P		P	**Pn**	**03 04 08.0**	**+2.0**
MT09				*i* S		Sn	**Sn**	**03 04 43.5**	**+2.3**
MT09				IAML				03 05 01.1	
	comp=N,2μm,0.6s								
MT09	**Talagante**	**3.03**	**172**			P	**Pn**	**03 04 07.0**	**+0.9**
MT01	**Popeta**	**3.09**	**176**	*e*P		P	**Pn**	**03 04 08.1**	**+1.3**
MT01				*i* S		Sn	**Sn**	**03 04 44.4**	**+1.9**
MT01				IAML				03 04 56.4	
	comp=E,903nm,0.2s								
MT01	**Popeta**	**3.09**	**176**			P	**Pn**	**03 04 08.1**	**+1.3**
MT01	**Popeta**	**3.09**	**176**	*i* P		P	**Pn**	**03 04 07.0**	**+0.2**
AAGR	**Agrelo**	**3.24**	**136**	*i* P		P	**Pn**	**03 04 12.0**	**+3.1**
LMEL	**Las Melosas**	**3.26**	**161**	IAML				03 05 01.7	
	comp=N,1μm,0.2s								
GO03	**Copiap**	**3.35**	**20**	*e*P		P	**Pn**	**03 04 12.4**	**+1.9**
GO03	**Copiap**	**3.35**	**20**			P	**Pn**	**03 04 11.0**	**+0.5**
GO03	**Copiap**	**3.35**	**20**	*i* P		P	**Pn**	**03 04 12.0**	**+1.5**
AVFE	**Valle Fertil**	**3.48**	**89**	*i* P		P	**Pn**	**03 04 12.0**	**-0.3**
VCA	**Vinchina**	**3.51**	**56**	*i* P		P	**Pn**	**03 04 15.0**	**+2.3**
AC06	**Mina Casimiro**	**3.55**	**17**	*i* P		P	**Pn**	**03 04 14.6**	**+1.5**
AC06	**Mina Casimiro**	**3.55**	**17**				**Pn**	**03 04 13.4**	**+0.2**
BO01	**Tunca**	**3.63**	**175**				**Pn**	**03 04 14.4**	**+0.3**
BO01	**Tunca**	**3.63**	**175**	*i* P		P	**Pn**	**03 04 15.0**	**+0.8**
BO02	**Sierra Bellavi**	**4.05**	**172**				**Pn**	**03 04 21.6**	**+1.5**
BO02	**Sierra Bellavi**	**4.05**	**172**	*i* P		P	**Pn**	**03 04 22.0**	**+1.9**
ACLC	**CERRO LA CRUZ**	**4.16**	**72**	*i* P		P	**Pn**	**03 04 21.0**	**-0.7**
ACHE	**Chepes**	**4.17**	**97**	*i* P		P	**Pn**	**03 04 21.0**	**-0.8**
GO05	**Huala**	**4.24**	**185**	*i* P		P	**Pn**	**03 04 22.4**	**-0.2**
GO05	**Huala**	**4.24**	**185**	Pn		P	**Pn**	**03 04 22.2**	**-0.4**
AC02	**Maricunga**	**4.44**	**29**			P	**Pn**	**03 04 26.7**	**+0.9**
AC02	**Maricunga**	**4.44**	**29**	*i* P		P	**Pn**	**03 04 26.0**	**+0.2**
COIS	**El Sosneado**	**4.61**	**160**	*i* P		P	**Pn**	**03 04 31.0**	**+3.3**
RFA	**San Rafael**	**4.74**	**148**	*i* P		P	**Pn**	**03 04 30.0**	**+0.5**
ML02	**Panimavida**	**4.98**	**179**	Pn		P	**Pn**	**03 04 33.1**	**+0.3**
CYA	**Choya**	**5.48**	**66**	*i* P		P	**Pn**	**03 04 39.0**	**-0.7**
PB14	**IPOC Station P**	**6.20**	**9**	*i* P		P	**Pn**	**03 04 49.0**	**-0.8**
AHML	**Horco Molle**	**6.71**	**55**	*i* P		P	**Pn**	**03 04 57.0**	**+0.4**
FSA	**Cafayete**	**6.72**	**48**	*i* P		P	**Pn**	**03 04 59.0**	**+2.1**
H03N1	**Juan Fernandez**	**6.83**	**245**	T		T	T	03 11 49.9	
	baz=71,slow=72,SNR=212								
H03N3	**Juan Fernandez**	**6.84**	**245**	T		T	T	03 12 00.4	
	baz=71,slow=72,SNR=193								
H03N2	**Juan Fernandez**	**6.84**	**245**	T		T	T	03 11 56.9	
	baz=71,slow=72,SNR=194								
PB15	**IPOC Station P**	**7.75**	**14**			P	**Pn**	**03 05 10.8**	**-0.2**
PB15	**IPOC Station P**	**7.75**	**14**	*i* P		P	**Pn**	**03 05 11.0**	**0.0**
PB05	**IPOC Station P**	**7.97**	**9**	*i* P		P	**Pn**	**03 05 12.0**	**-2.0**
LC01	**Cunco**	**8.11**	**182**	*i* P		P	**Pn**	**03 05 15.0**	**-0.8**
PB06	**IPOC Station P**	**8.22**	**13**	*i* P		P	**Pn**	**03 05 16.0**	**-1.4**
LVC	**Limon Verde**	**8.45**	**17**	Pn		P	**Pn**	**03 05 18.9**	**-1.9**
	comp=N,1.2nm,0.3s,baz=142,slow=9.7,SNR=10								
LVC						Sn	Sn	03 07 08.6	+13
	comp=N,9.6nm,0.3s,baz=79,slow=5.2,SNR=4.3								
PB04	**IPOC Station P**	**8.49**	**9**	Pn		P	**Pn**	**03 05 21.1**	**-0.1**
PB07	**IPOC Station P**	**9.12**	**10**	Pn		P	**Pn**	**03 05 30.6**	**+0.7**
PB01	**IPOC Station P**	**9.86**	**11**	Pn		P	**Pn**	**03 05 37.3**	**-2.5**
PLCA	**Paso Flores**	**9.97**	**176**	Pn		P	**Pn**	**03 05 40.8**	**-0.5**
	comp=N,0.2nm,0.3s,baz=305,slow=12,SNR=0.9								
CPUP	**Villa Florida**	**13.22**	**74**	Pn		P	**Pn**	**03 06 25.3**	**-0.4**
	comp=N,0.9nm,0.3s,baz=228,slow=15,SNR=1.4								
LPAZ	**La Paz**	**14.74**	**13**	Pn		P	**Pn**	**03 06 47.3**	**+0.2**
	comp=N,0.5nm,0.3s,baz=190,slow=5.5,SNR=8.9								
SIV	**San Ignacio**	**17.54**	**35**	P		P	**Pn**	**03 07 21.8**	**-0.4**
	comp=N,0.9nm,0.3s,baz=251,slow=14,SNR=2.3								
MDP	**Montagnes des**	**39.37**	**30**	P		P	**P**	**03 10 50.7**	**-1.1**
	comp=N,15nm,1.1s,baz=210,slow=12,SNR=4.3								
MTO3	**Montecristo**	**48.09**	**336**	P		P	**P**	**03 11 58.4**	**+1.4**
MTO3				IAmb		IAmb	IAmb	03 12 02.3	
	comp=Z,12nm,1.3s								
MLPR	**Magueyes Islan**	**48.65**	**6

KSCO	Kaye Shedlock'	75.23	335	P		P		03 15 01.3	+1.7
JFWS	Jewell Farm	75.32	346	P		P		03 15 00.4	+0.6
	baz=164								
Y14A	Wickenburg	75.35	325	P		P		03 15 01.2	+0.9
BGNE	Belgrade	75.92	340	P		P		03 15 03.9	+0.5
MAW	Mawson	76.14	164	P		P		03 15 03.8	-0.5
	comp=Z,2.6nm,0.5s,baz=213,slow=6.0,SNR=8.0								
BC3	Big Chuckawall	76.35	323	P		P		03 15 08.1	+2.1
	baz=142								
TPFO	Pinon Flats	76.83	323	P		P		03 15 11.5	+2.7
	baz=142								
PFO	Pinyon Flats O	76.83	323	P		P		03 15 11.1	+2.3
	baz=142								
SMCO	Snowmass	77.03	332	P		P		03 15 11.5	+1.4
K31A	O'Neill	77.22	340	P		P		03 15 12.0	+1.3
ECSD	EROS Data Cent	77.63	342	P		P		03 15 11.9	-1.0
ECSD				IAmb		IAmb		03 15 14.2	
	comp=Z,13nm,0.8s								
ECSD	EROS Data Cent	77.63	342	P		P		03 15 13.8	+0.9
	baz=158								
HEC	Hector,Ludlow	77.72	324	P		P		03 15 16.3	+2.5
	baz=142								
KNB	Kanab	77.75	327	P		P		03 15 15.8	+1.9
TUQ	Turquoise Moun	77.99	324	P		P		03 15 17.6	+2.4
	baz=142								
EDW2	Edwards Air Fo	78.62	323	P		P		03 15 20.5	+1.8
	baz=141								
LRMC	Laurel Mtn Rad	78.92	323	P		P		03 15 22.3	+1.9
	baz=141								
PDAR	Pinedale Array	81.10	333	P		P		03 15 33.2	+1.1
	comp=Z,0.3nm,0.5s,baz=138,slow=11,SNR=1.5								
BOSA	Boshof	81.17	118	P		P		03 15 32.6	-0.3
	comp=Z,3.9nm,0.9s,baz=230,slow=6.0,SNR=6.7								
NVAR	Mina Array Bea	81.51	325	P		P		03 15 35.6	+1.2
	comp=Z,0.7nm,0.6s,baz=148,slow=5.3,SNR=2.9								
TORD	Torodi Ar. Bea	82.69	70	P		P		03 15 40.9	0.0
	comp=Z,1.8nm,0.5s,baz=279,slow=6.5,SNR=50								
TORD	Torodi Ar. Bea	82.69	70	IAmb		IAmb		03 15 42.0	
	comp=Z,2.7nm,0.7s								
ULM	Lac du Bonnet	83.51	345	P		P		03 15 44.8	+0.6
	comp=Z,1.9nm,0.6s,baz=147,slow=11,SNR=3.3								
DGMT	Dagmar	84.14	339	P		P		03 15 48.8	+1.3
DGMT	Dagmar	84.14	339	P		P		03 15 49.0	+1.4
	baz=152								
WRA	Warramunga Arr	123.79	210	PKP		PKPdf		03 22 13.8	-1.4
	comp=Z,0.6nm,0.5s,baz=164,slow=2.1,SNR=4.7								
H11S2	WAKE ISLAND Hyl	26.22	271	T		T		05 41 06.0	
	baz=116,slow=75,SNR=51								
H11S1	WAKE ISLAND Hyl	26.23	271	T		T		05 41 06.6	
	baz=116,slow=75,SNR=70								
H11S3	WAKE ISLAND Hyl	26.23	271	T		T		05 41 06.1	
	baz=116,slow=75,SNR=43								
H11N3	WAKE ISLAND Hyl	26.55	273	T		T		05 41 34.0	
	baz=154,slow=74,SNR=6.7								
H11N2	WAKE ISLAND Hyl	26.56	273	T		T		05 41 38.3	
	baz=120,slow=74,SNR=9.9								
BVAR	Borovoye Array	144.57	40	PKP		PKPbc		03 22 51.9	+0.4
	comp=Z,3.5nm,0.5s,baz=277,slow=2.6,SNR=9.6								
KK31	Karatay Array	147.51	57	PKPbc		PKPbc		03 23 01.7	+1.0
KKAR	Karatay Array	147.51	57	PKPbc		PKPbc		03 23 01.1	+0.4
TOLI2	Tolitoli	148.28	204			PKPdf		03 23 01.6	+1.3
KURBB	Kurchatov Arra	150.16	40	PKPbc		PKPbc		03 23 06.5	-0.6
	comp=Z,1.9nm,0.7s,baz=300,slow=3.1,SNR=5.5								
ZAA0	Zalesovo Array	151.23	30			PKPbc		03 23 09.0	-0.6
ZALV	Zalesovo Beam	151.23	30	PKPbc		PKPbc		03 23 09.7	+0.1
	comp=Z,12nm,0.8s,baz=302,slow=3.0,SNR=13								
MDJ	Mudanjiang	158.41	316	P		PKPdf		03 23 12.8	-1.0
MDJ				pmax		pmax			
	comp=Z,16nm,1.8s								
MDJ				pmax		pmax			
	comp=Z,530nm,7.9s								
WMQ	Urumqi	159.01	46	*e*P		PKPdf		03 23 15.0	+0.3
WMQ				pmax		pmax			
	comp=Z,450nm,8.7s								
WMQ				LR		LR			
	comp=N,4μm,21.9s								
WMQ				LR		LR			
	comp=E,5μm,18.7s								
WMQ				LR		LR			
	comp=Z,5μm,20.1s								
GTA	Gaotai	168.83	37	*e*PKPbc		PKPdf		03 23 24.0	+0.1
GTA				sPKP				03 23 37.5	
GTA				PKPab		PKPab		03 24 39.0	+4.5
HHC	Hu-ho-hao-te	169.64	347	*e*P		PKPdf		03 23 23.5	-0.8
BTO	Baotou	170.11	353	*e*PKP		PKPdf		03 23 24.3	-0.2
BTO				PP		PP		03 28 21.8	-7.5
NJ2	Nanjing	171.06	281	*e*P		PKPdf		03 23 25.3	+0.1
NJ2				pmax		pmax			
	comp=Z,32nm,2.0s								
CD2	Chengdu	175.92	87	PKP		PKPdf		03 23 26.0	-1.1

IDC ***26*** *03:10:49.2±0.6, 14°.19N×145°.06E, h156km±4km, mb3.7/10, mb1 3.9/10, mb1mx3.6/60, mbtmp4.2/10, Error ellipse: s-maj=28.6km s-min=15.7km az=79.0*

NEIC ***26*** *03:10:50.6±1.8, 14°.17N±0°.07×145°.0E±0°.2, h162km±2km, mb4.3/4, Error ellipse: s-maj=22.7km s-min=10.0km az=100.0*

ISC 26 03:10:49.3±0.7, 14°.13N±0°.08×144°.8E±0°.2, h150km, n18, σ2s00/16, mb4.1/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.54	174	P		Pn		03 11 13.5	+2.6
	1μm,0.3s,baz=331,slow=0.8,SNR=220								
GUMO				S		Sn		03 11 30.3	+3.0
	861nm,0.3s,baz=67,slow=22,SNR=68								
SARN	Sarigan	2.72	20	P		Pn		03 11 37.0	+3.8
JCJ	Chichijima	13.13	350	Pn		Pn		03 13 50.0	-0.2
WRA	Warramunga Arr	35.39	197	P		P		03 17 31.2	+0.3
	1.3nm,0.7s,baz=27,slow=8.5,SNR=7.5								
AS31	Alice Springs	39.05	196	P		P		03 18 01.8	0.0
AS31				IAmb		IAmb		03 18 10.6	
	comp=Z,2.5nm,1.4s								
ASAR	Alice Springs	39.05	196	P		P		03 18 01.2	-0.5
	comp=Z,4.8nm,1.0s,baz=15,slow=12,SNR=4.7								
DZM	Mont Dzumac	41.76	149	P		P		03 18 23.2	-0.9
	comp=Z,6.7nm,0.5s,baz=233,slow=3.6,SNR=9.3								
DZM	Mont Dzumac	41.76	149	IAmb		IAmb		03 18 25.2	
	comp=Z,10nm,0.7s								
SONM	Songino Array	46.26	325	P		P		03 19 00.3	+0.5
	comp=Z,3.2nm,1.0s,baz=111,slow=7.9,SNR=2.0								
SONM	Songino Array	46.26	325	IAmb		IAmb		03 19 01.5	
	comp=Z,14nm,1.3s								
MKAR	Makanchi Array	61.07	316	P		P		03 20 48.4	+1.0
	comp=Z,1.3nm,0.6s,baz=82,slow=7.7,SNR=5.6								
KURK	Kurchatov	64.14	320	P		P		03 21 08.3	+0.7
KURBB	Kurchatov Arra	64.18	320	P		P		03 21 08.3	+0.4
	comp=Z,1.8nm,0.6s,baz=251,slow=6.9,SNR=3.8								
ILAR	Eielson Array	68.11	25	P		P		03 21 29.5	-3.2
	comp=Z,0.7nm,0.7s,baz=250,slow=5.9,SNR=5.7								
ARCES	ARCESS Array B	86.56	342	P		P		03 23 13.8	-1.5
	comp=Z,1.7nm,0.7s,baz=56,slow=8.9,SNR=3.9								
ARCES	ARCESS Array B	86.56	342	IAmb		IAmb		03 23 21.4	
	comp=Z,12nm,1.3s								
NVAR	Mina Array Bea	86.63	51	P		P		03 23 16.0	-0.5
	comp=Z,1.9nm,0.7s,baz=266,slow=5.7,SNR=4.5								
FINES	FINESS Array B	90.65	335	P		P		03 23 32.1	-2.5
	comp=Z,1.5nm,0.7s,baz=42,slow=5.9,SNR=3.4								

IDC ***26*** *03:20:43.8±0.5, 21°.01S×169°.19E, h0km, mb4.8/17, mb1 5.0/21, mb1mx4.9/26, mbtmp4.9/21, ML4.7/4, MS5.0/8, Ms1 5.0/8, ms1mx4.5/40, Error ellipse: s-maj=17.1km s-min=15.0km az=135.0*

MOS ***26*** *03:20:45.7±0.9, 20°.96S×169°.13E, h20km, mb5.5/35, Error ellipse: s-maj=9.1km s-min=8.1km az=134.2*

NOU ***26*** *03:20:46.0, 20°.88S×169°.05E, h0km, mb5.3/57, Vanuatu Islands*

NEIC ***26*** *03:20:47.6±1.9, 20°.96S±0°.06×169°.01E±0°.05, h15km±3km, mb5.4/202, Error ellipse: s-maj=9.7km s-min=4.3km az=143.0*

BJI ***26*** *03:20:48.6±0.0, 20°.50S×169°.66E, h33km, mB5.6/25, mb4.9/44, Ms5.5/16, Ms7 5.4/15*

BGR ***26*** *03:20:50.8±0.0, 19°.98S×170°.57E, h33km*

ISC 26 03:20:48.6±0.7, 20°.93S±0°.04×169°.06E±0°.04, h28km±4km, h28km:pP-P, n659, σ1s25/579, mb5.4/160, MS5.1/15, 44C-39D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.11	240			Pn		03 21 07.1	-1.2
MARNC	Mare, Loyalty	1.11	240	P		Pn		03 21 07.3	-1.0
LIFNC	LIFOU	1.71	275	Pn		Pn		03 21 14.3	-2.2
LIFNC	LIFOU	1.71	275	P		Pn		03 21 14.3	-2.2
PINNC	Pines Island,	2.25	222			Pn		03 21 22.4	-1.7
PINNC	Pines Island,	2.25	222	P		Pn		03 21 23.4	-0.6
YATNC	Mamie plateau,	2.31	240	P		Pn		03 21 23.5	-1.4
OUENC	Ouen Island, N	2.54	234	Pn		Pn		03 21 27.8	-0.2
OUENC	Ouen Island, N	2.54	234	P		Pn		03 21 29.0	+1.0
DZM	Mont Dzumac	2.69	244	Pn		Pn		03 21 30.2	+0.1
	204nm,0.3s,baz=76,slow=19,SNR=138								
DZM				Sn		Sn		03 22 00.3	-1.6
	706nm,0.3s,baz=185,slow=23,SNR=9.3								
DZM				LR		LR		03 22 32.4	
	comp=Z,21μm,18.5s,baz=76,slow=39								
DZM	Mont Dzumac	2.69	244	*e*Pn		Pn		03 21 29.2	-0.9
	4μm,1.1s								
DZM				*e*Sn		Sn		03 22 00.0	-1.9
	26μm,1.1s								
DZM	Mont Dzumac	2.69	244	P		Pn		03 21 30.5	+0.4
ONTNC	Ouen Toro	2.79	240	Pn		Pn		03 21 30.7	-0.7
ONTNC	Ouen Toro	2.79	240	P		Pn		03 21 32.1	+0.7
NOUC	Port Laguerre	2.82	245	P		Pn		03 21 32.3	+0.4
RTV	Rentapao	3.17	349	P		Pn		03 21 36.7	0.0
DVP	Devils Point	3.29	345	P		Pn		03 21 39.1	+0.8
KOUNC	Kounac, New Ca	4.49	274	P		Pn		03 21 55.9	+1.2
SANVU	Saraoutou	5.73	342			Pn		03 22 09.6	-2.3
SANVU	Saraoutou	5.73	342	P		Pn		03 22 09.6	-2.3
NFK	Norfolk Island	8.14	187	P		Pn		03 22 46.0	+1.0
	baz=8.6,SNR=15								
NFK				S		Sn		03 24 10.7	-5.5
	baz=8.6								
NFK	Norfolk Island	8.14	187	P		Pn		03 22 46.1	+1.1
MSVF	Nonsavu	9.06	71	Pn		Pn		03 23 01.2	+3.5
	baz=219,slow=10,SNR=41								
MSVF				LR		LR		03 25 59.1	
	comp=Z,14μm,19.1s,baz=248,slow=35								
MSVF	Nonsavu	9.06	71	*c iP*		Pn		03 23 02.6	+4.9
MSVF				pmax		pmax			
	comp=Z,275nm,1.5s								
MSVF	Nonsavu	9.06	71	P		Pn		03 23 00.1	+2.4
HNR	Honiara	14.41	321	Pn		Pn		03 24 12.3	+1.4
	comp=Z,24nm,0.3s,baz=216,slow=5.2,SNR=7.6								
HNR	Honiara	14.41	321	Pn		Pn		03 24 12.8	+1.9
OUZ	Omahuta	14.79	165	Pn		Pn		03 24 16.8	+0.9
FUNA	Funafuti	15.74	40	Pn		Pn		03 24 29.7	+1.3
FUNA				IAmb		IAmb		03 24 34.1	
	comp=Z,264nm,1.1s								
EIDS	Eidsvold	17.11	252	P		P		03 24 47.9	+0.5
	baz=17,SNR=4.5								
EIDS	Eidsvold	17.11	252			Pn		03 24 46.1	+0.2
HIZ	Hauiti	18.23	165			Pn		03 24 59.4	-0.2
HIZ				IAmb		IAmb		03 25 05.5	
	comp=Z,239nm,1.1s								
ARMA	Armidale	18.32	235	P		Pn		03 25 02.8	+2.0
	baz=19,SNR=7.6								
ARMA	Armidale	18.32	235			P		03 24 59.4	-1.4
URZ	Urewera	18.62	160	P		P		03 25 02.8	-1.1
	comp=Z,0.3nm,0.3s,baz=106,slow=8.4,SNR=10								
URZ	Urewera	18.62	160	P		Pn		03 25 05.7	+1.3
URZ				IAmb		IAmb		03 25 08.8	
	comp=Z,538nm,1.4s								
BKZ	Black Stump Fm	19.27	162	P		Pn		03 25 12.9	+0.7
BKZ				IAmb		IAmb		03 25 16.7	
	comp=Z,231nm,1.0s								
RMQ	Roma	19.39	250	P		Pn		03 25 13.9	+0.2
	baz=20,SNR=16								
AFI	Afiamalu	19.56	72	P		P		03 25 13.6	-0.9
	comp=Z,1.3nm,0.3s,baz=132,slow=5.0,SNR=6.5								
AFI	Afiamalu	19.56	72	P		P		03 25 13.5	-0.9
NIUE	Niue	19.83	88	P		P		03 25 17.1	-0.3
	baz=20,SNR=3.7								
NIUE	Niue	19.83	88	P		P		03 25 16.9	-0.4
QRZ	Quartz Range	20.05	172	P		Pn		03 25 21.4	-0.1
QRZ				IAmb		IAmb		03 25 25.6	
	comp=Z,185nm,1.2s								
RIV	Riverview	20.40	227	P		Pn		03 25 25.6	0.0
	baz=21,SNR=3.9								
BFZ	Birch Farm	20.62	164	P		P		03 25 26.4	+0.7
BFZ				IAmb		IAmb		03 25 27.8	
	comp=Z,250nm,1.0s								
CTA	Charters Tower	21.38	268	P		P		03 25 35.2	+1.1
	comp=Z,45nm,0.8s,baz=88,slow=12,SNR=25								
CTA				LR		LR		03 33 51.8	
	comp=Z,3μm,18.7s,baz=90,slow=37								
CTAO	Charters Tower	21.38	268	P		P		03 25 34.8	+0.7
CTAO				pmax		pmax			
	comp=Z,112nm,1.2s								
CTAO	Charters Tower	21.38	268	P		P		03 25 34.8	+0.7
CNB	Canberra Magne	22.46	226	P		P		03 25 49.8	+4.1
	baz=23,SNR=6.1								
OXZ	Oxford	22.47	174	P		P		03 25 46.0	+0.4
OXZ				IAmb		IAmb		03 26 01.4	
	comp=Z,176nm,1.2s								
YNG	Young	22.59	230	P		P		03 25 49.8	+2.9
	baz=23,SNR=10								
CAN	Canberra	22.71	227	P		P		03 25 48.4	+0.1
CAN				pmax		pmax			
	comp=Z,132nm,1.2s								
CAN	Canberra	22.71	227	P		P		03 25 48.4	+0.1
CAN				IAmb		IAmb		03 26 07.2	
	comp=Z,132nm,1.2s								
RABL	Rabaul	23.38	313	P		P		03 25 56.0	+0.8
QLP	Quilpie	23.39	251	P		P		03 25 57.0	+1.8
	baz=24,SNR=5.1								
CMSA	Cobar Meteorol	23.43	238	P		P		03 25 57.9	+2.3
	baz=24,SNR=9.5								
MTSU	Mount Surprise	23.48	273	P		P		03 25 55.1	-1.1
	baz=23,SNR=33								
MILA	Mila	23.62	223	P		P		03 26 01.0	+3.5
	baz=24,SNR=5.9								
PMG	Port Moresby	24.01	295	*e*P		P		03 26 01.5	+0.3
PMG	Port Moresby	24.01	295	P		P		03 26 01.5	+0.3
PMG				IAmb		IAmb		03 26 03.7	
	comp=Z,147nm,1.1s								
PMG	Port Moresby	24.01	295	P		P		03 26 02.6	+1.4
	comp=Z,2μmcomp=Z,167nm,1.1s								
PMG	Port Moresby	24.01	295	P		P		03 26 02.6	+1.4
PMG	Port Moresby	24.01	295	P		P		03 26 02.6	+1.4
COEN	Coen	25.63	281	P		P		03 26 16.1	+0.1
COEN				IAmb		IAmb		03 26 18.3	
	comp=Z,59nm,0.9s								
TOO	Toolangi	26.31	226	P		P		03 26 26.7	+4.6
	baz=27,SNR=5.2								
TOO	Toolangi	26.31	226	P		P		03 26 21.5	-0.5
TOO				pmax		pmax			
	comp=Z,97nm,1.2s								
TOO	Toolangi	26.31	226	P		P		03 26 21.5	-0.5
TOO				IAmb		IAmb		03 26 40.2	
	comp=Z,97nm,1.1s								
STKA	Stephens Creek	26.84	240	P		P		03 26 28.7	+1.9
	baz=27,SNR=11								
STKA	Stephens Creek	26.84	240	P		P		03 26 26.4	-0.4
	comp=Z,7.1nm,0.7s,baz=78,slow=9.3,SNR=11								
STKA	Stephens Creek	26.84	240	*c iP*		P		03 26 28.6	+1.8
STKA	Stephens Creek	26.84	240	P		P		03 26 27.2	+0.4
MANU	Manus Island	28.28	309	P		P		03 26 39.9	0.0
ARPS	Mount Arapiles	28.46	230	P		P		03 26 43.6	+2.3
	baz=29,SNR=8.3								
TAU	Tasmania Unive	28.50	215	P		P		03 26 41.5	0.0
TAU				pmax		pmax			
	comp=Z,63nm,1.2s								
TAU	Tasmania Unive	28.50	215	P		P		03 26 41.5	0.0
TAU				IAmb		IAmb		03 26 58.0	
	comp=Z,63nm,1.1s								
HTT	Hallett	29.45	239	P		P		03 26 51.7	+1.5
	baz=30,SNR=6.3								
BBOO	Buckleboo	31.60	241	P		P		03 27 10.3	+1.1
	baz=32,SNR=6.6								
BBOO	Buckleboo	31.60	241	P		P		03 27 08.5	-0.7
BBOO				IAmb		IAmb		03 27 17.8	
	comp=Z,64nm,1.1s								
WB2	Warramunga Arr	32.51	265	IAmb		IAmb		03 27 44.1	
	comp=Z,38nm,1.1s								
WRAB	Tennant Creek	32.51	265	P		P		03 27 16.9	-0.4
WRAB				pmax		pmax			
	comp=Z,89nm,1.5s								
WRAB	Tennant Creek	32.51	265	P		P		03 27 16.9	-0.4
WRAB				IAmb		IAmb		03 27 44.0	
	comp=Z,89nm,1.5s								
WRA	Warramunga Arr	32.52	265	P		P		03 27 16.5	-0.8
	comp=Z,22nm,1.1s,baz=105,slow=9.0,SNR=33								
ASAR	Alice Springs	32.59	259	P		P		03 27 17.4	-0.7
	comp=Z,20nm,0.9s,baz=85,slow=9.2,SNR=92								
JAY	Jayapura	33.14	300	P		P		03 27 23.4	+0.6
	comp=Z,41nm,1.1s								
GENI	Genyem	33.53	299	P		P		03 27 27.2	+1.0
	comp=Z,2μmcomp=Z,139nm,1.2s								
MTN	Manton Dam	37.10	276	P		P		03 27 57.1	+0.2
WRKA	Warakurna	37.65	256	P		P		03 28 01.6	0.0
	baz=38,SNR=15								
FORT	Forrest	38.00	247	P		P		03 28 04.0	-0.4
FORT				IAmb		IAmb		03 28 20.6	
	comp=Z,60nm,0.9s								
KNRA	Kununurra	38.54	271	P		P		03 28 08.8	-0.3
	baz=38,SNR=8.7								
KNRA	Kununurra	38.54	271	P		P		03 28 08.2	-0.9
KNRA				IAmb		IAmb		03 28 36.0	
	comp=Z,76nm,1.1s								
PPT2	Papeete2	39.11	92	*e*LQ		LQ		03 37 23.5	
	comp=Z,6μm,27.8s								
PPT2				*e*LR		LR		03 38 59.6	
	comp=Z,2μm,24.0s								
PPT	Papeete	39.12	92	LR		LR		03 40 33.4	
	comp=Z,1μm,18.9s,baz=234,slow=30								
XMAS	Kiritimati	39.96	59	P		P		03 28 22.2	+1.3
XMAS				IAmb		IAmb		03 28 24.9	
	comp=Z,81nm,1.1s								
FITZ	Fitzroy Crossi	40.94	266	P		P		03 28 29.6	+0.6
	baz=41,SNR=43								
FITZ	Fitzroy Crossi	40.94	266	P		P		03 28 28.9	-0.1
FITZ				IAmb		IAmb		03 28 56.7	
	comp=Z,94nm,1.0s								
SIJI	Sorong	41.93	294	P		P		03 28 36.8	-0.4
	comp=Z,36nm,0.8s								
KRAI	Karang Ratu	43.25	288	P		P		03 28 48.8	+0.8
	comp=Z,3μmcomp=Z,52nm,1.1s								
SOEI	Soe	44.46	277	P		P		03 28 58.5	+0.6
SOEI				IAmb		IAmb		03 29 23.3	
	comp=Z,60nm,0.9s								
PSA00	Pilbara Seismi	45.72	260	IAmb		IAmb		03 29 24.0	
	comp=Z,76nm,1.1s								
SANI	Sanana	45.97	288	P		P		03 29 10.9	+1.3
	comp=Z,122nm,1.1s								
TNTI	Ternate	46.11	293	P		P		03 29 12.7	+1.9
TNTI				IAmb		IAmb		03 29 38.6	
	comp=Z,55nm,1.1s								
MEEK	Meekatharra	46.28	253	P		P		03 29 12.0	0.0
	baz=46,SNR=12								
EDFI	Ende, Flores	47.20	278	P		P		03 29 23.0	+3.6
	comp=Z,10nm,1.2s								
NWAO	Narrogin (SRO)	47.31	244	P		P		03 29 20.3	+0.3
	baz=47,SNR=4.5								
NWAO	Narrogin (SRO)	47.31	244	P		P		03 29 21.5	+1.5
NWAO				pmax		pmax			
	comp=Z,58nm,1.2s								
NWAO	Narrogin (SRO)	47.31	244	P		P		03 29 21.5	+1.5
NWAO				IAmb		IAmb		03 29 47.2	
	comp=Z,58nm,1.1s								
MORW	Morawa	48.40	249	P		P		03 29 27.1	-1.4
	baz=48,SNR=5.3								
MORW	Morawa	48.40	249	P		P		03 29 28.8	+0.3
MORW				IAmb		IAmb		03 29 36.5	
	comp=Z,53nm,1.2s								
LUWI	Luwuk	49.29	288	P		P		03 29 35.1	-0.3
BNSI	Bone	50.27	282	P		P		03 29 44.8	+1.9
	comp=Z,45nm,1.2s								
TAOE	Nuku Hiva Isla	50.33	84	*e*LQ		LQ		03 42 03.4	
	comp=Z,3μm,29.9s								
TAOE				*e*LR		LR		03 44 09.7	
	comp=Z,6μm,30.5s								
KAPI	Kappang	50.36	281	P		P		03 29 43.4	-0.2
KAPI				pmax		pmax			
	comp=Z,50nm,1.1s								
KAPI	Kappang	50.36	281	P		P		03 29 43.4	-0.2
KAPI				IAmb		IAmb		03 29 45.7	
	comp=Z,50nm,1.1s								
KAPI	Kappang	50.36	281	P		P		03 29 45.1	+1.5
	comp=Z,49nm,1.4s								
TTSI	Tana Toraja	51.08	284	P		P		03 29 51.8	+2.8
	comp=Z,38nm,1.3s								
TOLI2	Tolitoli	52.04	289	P		P		03 29 56.1	-0.1
TOLI2				IAmb		IAmb		03 29 57.3	
	comp=Z,63nm,0.9s								
MPSI	Mapaga	52.47	287	P		P		03 30 00.0	+0.6
	comp=Z,928nmcomp=Z,72nm,1.1s								
VNDA	Vanda	56.75	182	P		P		03 30 29.4	-0.1
	comp=Z,14nm,1.1s,baz=323,slow=7.7,SNR=15								
SJI	Sawahan	56.77	274	P		P		03 30 38.7	+8.0
SBA	Scott Base	56.98	181	P		P		03 30 31.5	+0.3
SBA				pmax		pmax			
	comp=Z,69nm,1.4s								
SBA	Scott Base	56.98	181	P		P		03 30 31.5	+0.3
SBA				IAmb		IAmb		03 30 52.6	
	comp=Z,69nm,1.4s								
PCJI	Pacitan	57.16	274	P		P		03 30 42.9	+9.5
CASY	Casey	58.52	204	P		P		03 30 42.0	-0.2
CASY				IAmb		IAmb		03 31 01.7	
	comp=Z,53nm,1.4s								
CISI	Cisompet, Garu	60.51	273	P		P		03 30 55.4	-1.4
INU	Inuyama	63.69	331	P		P		03 31 17.8	+0.3
INU				IAmb		IAmb		03 31 43.1	
	comp=Z,47nm,1.5s								
JSU

PETK LR LR 03 59 49.8
comp=Z,3µm,21.8s,baz=64,slow=32
MDJ Mudanjiang 74.52 332 P **P** **03 32 26.8 +2.2**
MDJ sP PcP 03 32 40.5 +1.6
MDJ pmax pmax
comp=Z,22nm,1.0s
MDJ pmax pmax
comp=Z,230nm,5.7s
MDJ Mudanjiang 74.52 332 P **P** **03 32 25.4 +0.9**
MDJ IAmb IAmb 03 32 45.0
comp=Z,33nm,1.2s
TIA Tai'an 75.09 319 P **P** **03 32 29.3 +1.2**
TIA pmax pmax
comp=Z,5.0nm,0.7s
TYV Tymovskoe 75.17 343 *e*P **P** **03 32 29.4 +1.2**
TYV pmax pmax
comp=Z,200nm,2.1s
TYV pmax pmax
comp=Z,46nm,1.4s
CHAI Chaiyaphum 75.30 294 P **P** **03 32 31.6 +1.9**
comp=Z,18nm,0.8s
CN2 Changchun 75.81 329 *e*P **P** **03 32 32.5 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
NIKH Nikolski High 76.05 14 P **P** **03 32 32.0 -1.1**
baz=201
SLVN Son La 76.25 299 P **P** **03 32 35.2 +0.1**
GYA Guiyang 76.65 305 ⇑P **P** **03 32 38.5 +1.2**
GYA pP pwP 03 32 53.8 +2.3
GYA pmax pmax
comp=Z,11nm,0.9s
MAW Mawson 76.81 202 P **P** **03 32 39.0 +1.6**
baz=77,SNR=7.0
MAW Mawson 76.81 202 P **P** **03 32 36.7 -0.8**
comp=Z,2.5nm,0.9s,baz=134,slow=6.7,SNR=3.0
MAW Mawson 76.81 202 P **P** **03 32 38.0 +0.6**
MAW pmax pmax
comp=Z,6.0nm,1.1s
MAW Mawson 76.81 202 P **P** **03 32 38.0 +0.6**
GRNR Gornyy 76.96 339⇓ *i*P **P** **03 32 38.8 +0.4**
GRNR pmax pmax
comp=Z,30nm,1.2s
GRNR MLR MLR
comp=E,620nm,20.0s
GRNR MLR MLR
comp=N,510nm,19.0s
GRNR MLR MLR
comp=Z,940nm,20.0s
PHIT Phitsanulok 77.23 294 P **P** **03 32 43.3 +2.7**
comp=Z,1µmcomp=Z,45nm,1.0s
KLR Kul'dur 77.33 336⇓ *e*P **P** **03 32 41.5 +1.0**
KLR pmax pmax
comp=Z,13nm,0.9s
UTHA Uthaitani 77.34 292 P **P** **03 32 44.2 +2.9**
comp=Z,21nm,1.2s
NANT Nan 77.71 296 P **P** **03 32 45.3 +2.0**
comp=Z,35nm,0.8s
UMPA Umpang Tak 78.13 293 P **P** **03 32 48.2 +2.5**
comp=Z,1µmcomp=Z,36nm,1.0s
BJI Beijing 78.14 321 P **P** **03 32 49.5 +4.3**
BJI pmax pmax
comp=Z,12nm,1.1s
BJI LR LR
comp=Z,590nm,19.2s
BJI LR LR
comp=Z,680nm,19.6s
BJI LR LR
comp=Z,1µm,22.2s
LAMP Lampang 78.49 295 P **P** **03 32 50.5 +2.9**
comp=Z,549nmcomp=Z,42nm,0.9s
CM04 Chiang Mai Arr 78.99 295 P **P** **03 32 52.7 +2.3**
comp=Z,173nmcomp=Z,21nm,0.9s
CM09 Chiang Mai Arr 79.00 295 P **P** **03 32 53.1 +2.6**
comp=Z,18nm,1.1s
CM01 Chiang Mai Arr 79.02 295 P **P** **03 32 53.0 +2.5**
comp=Z,163nmcomp=Z,19nm,1.0s
CM05 Chiang Mai Arr 79.02 295 P **P** **03 32 52.8 +2.2**
comp=Z,147nmcomp=Z,14nm,1.1s
KMI Kunming 79.02 302 ⇑P **P** **03 32 53.0 +2.3**
KMI pP sP 03 33 00.8 -0.3
KMI sP pwP 03 33 06.3 +1.4
KMI pmax pmax
comp=Z,22nm,1.2s
KMI LR LR
comp=Z,2µm,20.8s
KMI LR LR
comp=Z,3µm,22.1s
KMI LR LR
comp=Z,5µm,29.7s
CM02 Chiang Mai Arr 79.03 295 P **P** **03 32 53.1 +2.5**
comp=Z,146nmcomp=Z,19nm,0.9s
CM31 Chiang Mai Arr 79.05 295 P **P** **03 32 51.3 +0.6**
CM31 IAmb IAmb 03 33 12.1
comp=Z,58nm,1.4s
CMAR Chiang Mai Arr 79.05 295 P **P** **03 32 52.7 +2.0**
comp=Z,9.7nm,0.8s,baz=130,slow=4.3,SNR=32
CMAR Chiang Mai Arr 79.05 295 P **P** **03 32 51.6 +0.9**
CM15 Chiang Mai Arr 79.06 295 P **P** **03 32 53.4 +2.6**
CM13 Chiang Mai Arr 79.06 295 P **P** **03 32 52.9 +2.1**
comp=Z,145nmcomp=Z,16nm,0.9s
CMMT Chiang Mai 79.20 295 P **P** **03 32 53.3 +1.7**
comp=Z,29nm,1.0s
CMMT Chiang Mai 79.20 295 P **P** **03 32 53.3 +1.7**
comp=Z,28nm,1.0s
CHTO Chiang Mai 79.20 295 P **P** **03 32 52.2 +0.6**
CHTO pmax pmax
comp=Z,22nm,0.9s
CHTO Chiang Mai 79.20 295 P **P** **03 32 53.4 +1.8**
comp=Z,29nm,1.0s
CHTO Chiang Mai 79.20 295 P **P** **03 32 52.2 +0.6**
CHTO Chiang Mai 79.20 295 P **P** **03 32 53.4 +1.8**
comp=Z,16nm,1.0s
CD2 Chengdu 81.13 308 P P 03 33 10.8 +9.0
CD2 pmax pmax
comp=Z,30nm,1.7s
HHC Hu-ho-hao-te 81.39 320 *e*P **P** **03 33 07.0 +4.0**
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,580nm,5.0s
BTO Baotou 82.19 319 SS SS 03 48 29.5 -12
BTO LR LR
comp=N,2µm,15.9s
BTO LR LR
comp=E,3µm,17.1s
BTO Baotou 82.19 319 *e*P P 03 33 12.3 +5.1
ZEA Zeya 82.63 336 *e*P **P** **03 33 09.8 +0.8**
ZEA pmax pmax
comp=N,20nm,1.2s
ZEA pmax pmax
comp=Z,30nm,1.0s
SII Sitkinak Islan 83.17 19 P **P** **03 33 11.6 -0.2**
baz=214
SYO Syowa Base 83.28 196⇓ *e*P **P** **03 33 12.8 +0.5**
LZH Lanzhou 83.73 312 ⇑P P 03 33 25.5 +10
LZH pP pwP 03 33 33.0 +4.6
LZH sP sP 03 33 43.3 +18
LZH pmax pmax
comp=Z,38nm,1.3s
OHAK Old Harbor 83.99 20 P **P** **03 33 15.9 0.0**
OHAK Old Harbor 83.99 20 P **P** **03 33 15.8 -0.2**
baz=215
KDAK Kodiak Island 84.67 20⇓ *e*P **P** **03 33 17.8 -1.6**
KDAK pmax pmax
comp=Z,30nm,1.2s
PMSA Palmer Station 85.39 160 P **P** **03 33 20.4 -2.7**
comp=Z,15nm,0.9s,baz=254,slow=7.4,SNR=7.7
PMSA LR LR 04 04 42.2
comp=Z,745nm,21.6s,baz=18,slow=31
PMSA Palmer Station 85.39 160 P **P** **03 33 23.3 +0.2**
O19K Port Alsworth 86.14 17 IAmb IAmb 03 33 26.9
comp=Z,40nm,1.1s
O19K Port Alsworth 86.14 17 P **P** **03 33 26.1 -0.6**
baz=214
HOPS Hopland Field 87.02 46 P **P** **03 33 31.6 0.0**
SAO San Andreas Ge 87.05 49 P **P** **03 33 31.2 -0.5**
SAO pmax pmax
comp=Z,39nm,1.4s
SAO San Andreas Ge 87.05 49 P **P** **03 33 31.2 -0.5**
SAO IAmb IAmb 03 33 32.5
comp=Z,39nm,1.4s
GDXM Geysers 87.12 47 IAmb IAmb 03 33 34.0
comp=Z,38nm,1.4s
JCC Jacoby Creek, 87.30 44 P **P** **03 33 32.9 +0.1**
PKM Mcpherson Peak 87.34 51 P **P** **03 33 34.0 +0.6**
baz=242
SMMC Simmler 87.40 51 P **P** **03 33 33.7 +0.2**
baz=242
PAGB Antelope Grade 87.42 50 IAmb IAmb 03 33 38.2
comp=Z,19nm,1.1s
SNAA Sanae 87.48 183 P **P** **03 33 33.0 -0.4**
SNAA Sanae 87.48 183 P **P** **03 33 33.1 -0.2**
SNAA pmax pmax
comp=Z,37nm,1.2s
SNAA Sanae 87.48 183 P **P** **03 33 33.1 -0.2**
SNAA IAmb IAmb 03 33 54.4
comp=Z,37nm,1.2s
KHMM Horse Mountain 87.53 44 IAmb IAmb 03 33 35.3
comp=Z,31nm,1.0s
L19K White Mountain 87.66 16 P **P** **03 33 33.8 -0.3**
L19K IAmb IAmb 03 33 36.9
comp=Z,21nm,1.1s
L19K White Mountain 87.66 16 P **P** **03 33 33.0 -1.1**
baz=214
O02D Mt. Diablo Mer 87.80 45 P **P** **03 33 36.1 +0.7**
baz=240,SNR=19
SHL Shillong 88.00 298 P **P** **03 33 37.2 +0.4**
SHL pmax pmax
comp=Z,30nm,1.0s
SHL Shillong 88.00 298 P **P** **03 33 37.2 +0.4**
SHL IAmb IAmb 03 33 46.1
comp=Z,30nm,1.0s
VNA3 Neumayer Olymp 88.07 180 P **P** **03 33 35.7 -0.4**
ULN Ulaanbaatar 88.11 323 P **P** **03 33 37.6 +0.8**
ULN pmax pmax
comp=Z,13nm,1.0s
ULN Ulaanbaatar 88.11 323 P **P** **03 33 37.6 +0.8**
ULN Ulaanbaatar 88.11 323 P **P** **03 33 38.0 +1.2**
comp=Z,59nm,1.6s
GTA Gaotai 88.16 314 *e*P **P** **03 33 38.3 +1.1**
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA LR LR
comp=Z,700nm,22.2s
GTA LR LR
comp=Z,870nm,22.5s
GTA LR LR
comp=Z,2µm,21.8s
ARVC Arvin 88.17 51 P **P** **03 33 37.1 0.0**
baz=243,SNR=6.6
N02D Trinity Center 88.25 45 P **P** **03 33 38.0 +0.5**
baz=240,SNR=35
L02E Cave Junction 88.26 43 P **P** **03 33 38.0 +0.6**
baz=240,SNR=5.6
VES Vestal, Richgr 88.31 51 P **P** **03 33 37.2 -0.5**
baz=243,SNR=5.5
MWC Mount Wilson 88.33 52 IAmb IAmb 03 33 38.4
comp=Z,26nm,1.1s
CCX Cicese 88.34 55 IAmb IAmb 03 33 38.6
comp=Z,23nm,1.0s
M02C Callahan 88.36 44 P **P** **03 33 38.6 +0.6**
baz=240,SNR=25
ORV Oroville 88.36 46 IAmb IAmb 03 33 40.8
comp=Z,35nm,1.4s
VNA2 Neumayer--Watz 88.36 181 P **P** **03 33 37.6 0.0**
CMB Columbia Colle 88.40 48 IAmb IAmb 03 33 40.1
comp=Z,20nm,1.1s
YAK Yakutsk 88.42 343 *i*P **P** **03 33 37.3 -0.3**
YAK pmax pmax
comp=Z,48nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK Yakutsk 88.42 343 P **P** **03 33 37.5 -0.1**
109C Camp Elliot, M 88.45 54 IAmb IAmb 03 33 38.9
comp=Z,30nm,1.1s
109C Camp Elliot, M 88.45 54 P **P** **03 33 38.3 -0.2**
baz=244,SNR=5.2
SONM Songino Array 88.46 323 P **P** **03 33 38.5 +0.1**
comp=Z,6.6nm,1.1s,baz=136,slow=4.6,SNR=22
SONM Songino Array 88.46 323 P **P** **03 33 38.8 +0.4**
SONM pmax pmax
comp=Z,20nm,1.4s
SONM Songino Array 88.46 323 P **P** **03 33 38.8 +0.4**
SONM IAmb IAmb 03 33 59.6
comp=Z,20nm,1.4s
K02D Willamette Mer 88.49 43 P **P** **03 33 38.5 -0.1**
baz=240,SNR=7.9
O03E Paynes Creek 88.52 46 P **P** **03 33 38.7 0.0**
baz=241,SNR=26
YBH Yreka Blue Hor 88.62 44 IAmb IAmb 03 33 40.2
comp=Z,22nm,1.1s
BFSC Mount Baldy Ra 88.63 53 P **P** **03 33 39.0 -0.5**
baz=244,SNR=12
VNA1 Neumayer--Stat 88.65 181 P **P** **03 33 38.5 -0.3**
EDW2 Edwards Air Fo 88.67 52 P **P** **03 33 39.4 -0.2**
baz=243,SNR=14
ISA Isabella, Lake 88.67 51 P **P** **03 33 39.7 +0.1**
baz=243,SNR=26
BAR Barrett 88.68 54 IAmb IAmb 03 33 40.0
comp=Z,16nm,1.1s
MURC Murrieta 88.69 53 P **P** **03 33 39.7 0.0**
baz=244,SNR=7.4
BILL Bilibino 88.73 359 *de*P **P** **03 33 38.6 -0.4**
BILL pmax pmax
comp=Z,54nm,2.5s
MONP2 Monument Peak 88.97 54 P **P** **03 33 41.2 0.0**
baz=244,SNR=17
IKP In-Ko-Pah, Jac 89.10 55 P **P** **03 33 41.8 +0.1**
baz=244,SNR=10.0
L04D Klamath Falls 89.12 44 P **P** **03 33 41.5 -0.1**
baz=240,SNR=8.6
LRMC Laurel Mtn Rad 89.16 51 P **P** **03 33 42.1 +0.1**
baz=244,SNR=17
I03D Drain, OR 89.19 42 P **P** **03 33 41.8 +0.1**
baz=240
M04C Macdoel 89.21 44 P **P** **03 33 42.0 -0.1**
baz=241,SNR=7.2
PFO Pinyon Flats O 89.25 54 P **P** **03 33 42.1 -0.3**
PFO pmax pmax
comp=Z,50nm,1.5s
PFO Pinyon Flats O 89.25 54 P **P** **03 33 42.1 -0.3**
PFO Pinyon Flats O 89.25 54 P **P** **03 33 42.5 +0.1**
baz=244,SNR=7.9
BEKR Beckworth 89.28 47 IAmb IAmb 03 33 44.6
comp=Z,39nm,1.4s
MLAC Mammoth, Mammo 89.30 49 P **P** **03 33 43.5 +0.8**
baz=243
CWC Cottonwood Cre 89.30 50 P **P** **03 33 42.6 -0.1**
baz=243
SFX San Felipe 89.38 56 IAmb IAmb 03 33 44.9
comp=Z,25nm,1.4s
PNTR Pine Nut 89.44 48 IAmb IAmb 03 33 45.5
comp=Z,31nm,1.1s
SWSC Sam W. Stewart 89.46 54 P **P** **03 33 43.4 +0.2**
baz=245,SNR=13
TIN Tinemaha, Big 89.47 50 P **P** **03 33 43.9 +0.5**
baz=243
VCNR Virginia City 89.50 47 P **P** **03 33 44.0 +0.4**
MPMC Manual Prospec 89.56 51 P **P** **03 33 43.6 -0.3**
baz=244,SNR=16
GSC Goldstone, Bar 89.73 52 IAmb IAmb 03 33 45.1
comp=Z,22nm,1.4s
GSC Goldstone, Bar 89.73 52 P **P** **03 33 44.6 0.0**
baz=244,SNR=12
J04D Umpqua Nationa 89.75 43 P **P** **03 33 45.1 +0.4**
baz=241
BELC Belle Mtn. Jos 89.76 53 P **P** **03 33 44.9 0.0**
baz=244,SNR=32
LHV Little Huntoon 89.82 49 IAmb IAmb 03 33 50.5
comp=Z,40nm,1.3s
I04A Tendick Farm, 89.83 42 P **P** **03 33 44.4 -0.4**
baz=240,SNR=7.4
HEC Hector,Ludlow 89.87 52 P **P** **03 33 45.2 -0.1**
baz=244,SNR=25
PAHR Pah Rah Range 89.87 47 IAmb IAmb 03 33 47.3
comp=Z,37nm,1.3s
LCH Last Change Ra 89.97 50 IAmb IAmb 03 33 47.7
comp=Z,28nm,1.4s
RYN Ryan 89.97 48 IAmb IAmb 03 33 46.3
comp=Z,20nm,1.1s
H04D Lebanon 89.99 42 P **P** **03 33 45.6 +0.2**
baz=240,SNR=6.0
G03D McMinnville, O 90.01 41 P **P** **03 33 45.5 0.0**
baz=240
BC3 Big Chuckawall 90.03 54 P **P** **03 33 46.6 +0.5**
baz=245,SNR=22
NVAR Mina Array Bea 90.04 49 P **P** **03 33 45.9 -0.2**
comp=Z,7.0nm,0.8s,baz=227,slow=7.4,SNR=30
NVAR LR LR 04 09 10.5
comp=Z,618nm,18.1s,baz=70,slow=32
NVAR Mina Array Bea 90.04 49 P **P** **03 33 45.8 -0.3**
GRAC Grapevine Rang 90.06 50 P **P** **03 33 46.1 +0.1**
baz=244,SNR=11
NV11 Mina Array Sit 90.14 49 IAmb IAmb 03 33 48.5
comp=Z,36nm,1.4s
FURC Furnace Creek, 90.19 51 P **P** **03 33 46.5 0.0**
baz=244,SNR=12
N25K Chitina, Valde 90.19 20 P **P** **03 33 47.0 +0.9**
baz=223
GLA Glamis 90.25 55 P **P** **03 33 47.5 +0.4**
baz=245,SNR=18
MOD Modoc Plateau 90.28 45 IAmb IAmb 03 33 47.5
comp=Z,19nm,1.1s
K05A Summer Lake 90.28 44 IAmb IAmb 03 33 47.9
comp=Z,28nm,1.1s
J05D Fort Rock, OR 90.33 43 P **P** **03 33 47.4 +0.1**
baz=241,SNR=20
SHOC Shoshone, Teco 90.38 52 P **P** **03 33 47.5 0.0**
baz=244,SNR=18
H04A Detroit Lake 90.41 42 IAmb IAmb 03 33 47.6
comp=Z,21nm,1.0s
TUQ Turquoise Moun 90.43 52 P **P** **03 33 47.8 -0.2**
baz=244,SNR=17
SLBS Sierra La Lagu 90.44 65 P **P** **03 33 48.4 +0.2**
KVN Kaiserville 90.46 48 IAmb IAmb 03 33 48.4
comp=Z,20nm,1.1s
IRM Iron Mountain 90.47 54 P **P** **03 33 48.2 +0.2**
baz=245,SNR=27
TLCB Telegraph Cove 90.74 35 IAmb IAmb 03 33 50.0
comp=Z,40nm,1.4s
PINE Pine Mountain 90.76 43 P **P** **03 33 49.4 0.0**
BOD Bodaibo 90.77 334 *e*P **P** **03 33 47.9 -0.8**
BOD pmax pmax
comp=Z,30nm,1.5s
BARN Barnard Glacie 90.78 22 IAmb IAmb 03 33 50.8
comp=Z,28nm,1.4s
TPNV Topopah Spring 90.85 51 P **P** **03 33 49.7 -0.1**
baz=244,SNR=22
I21K Tanana 90.86 15 IAmb IAmb 03 33 52.6
comp=Z,24nm,1.5s
I21K Tanana 90.86 15 P **P** **03 33 48.0 -1.0**
baz=216
E04D Cinebar 91.10 40 P **P** **03 33 51.1 +0.5**
baz=240,SNR=9.2
G05D Wamic, OR 91.22 41 P **P** **03 33 51.2 0.0**
baz=241
PDMCI Parker Dam,Lak 91.29 54 P **P** **03 33 52.3 +0.6**
baz=246,SNR=22
D04E Lakebay 91.29 39 P **P** **03 33 52.4 +1.0**
baz=240
M26K Nabesna, AK 91.29 20 P **P** **03 33 51.2 0.0**
M26K Nabesna, AK 91.29 20 P **P** **03 33 50.2 -1.0**
baz=224
CLRS Cowichan Lake 91.33 37 IAmb IAmb 03 33 52.7
comp=Z,31nm,1.1s
214A Organ Pipe Nat 91.35 56 P **P** **03 33 52.8 +0.6**
baz=246
WRAK Wrangell Islan 91.40 28 IAmb IAmb 03 33 52.5
comp=Z,21nm,0.9s
WRAK Wrangell Islan 91.40 28 P **P** **03 33 51.4 -0.3**
baz=233
F05D White Salmon 91.44 41 P **P** **03 33 52.3 +0.1**
baz=241
ZAK Zakamensk 91.56 324 *e*P **P** **03 33 52.3 -0.5**
ZAK pmax pmax
comp=Z,12nm,1.4s
HDA Harding Lake 91.59 18 IAmb IAmb 03 33 53.8
comp=Z,25nm,1.3s
HDA Harding Lake 91.59 18 P **P** **03 33 50.7 -1.8**
baz=221,SNR=9.8
WVOR Wild Horse Val 91.62 45 P **P** **03 33 52.8 -0.5**
WVOR pmax pmax
comp=Z,20nm,1.1s
WVOR Wild Horse Val 91.62 45 P **P** **03 33 52.8 -0.5**
WVOR IAmb IAmb 03 33 53.8
comp=Z,20nm,1.1s
M27K Edge Creek, AK 91.63 21 P **P** **03 33 53.4 +0.6**
baz=225
L26K Log Cabin Wild 91.63 20 IAmb IAmb 03 33 53.8
comp=Z,18nm,1.4s
L26K Log Cabin Wild 91.63 20 P **P** **03 33 53.1 +0.4**
baz=224
JIS Juneau Island 91.67 26 IAmb IAmb 03 33 53.6
comp=Z,20nm,1.1s
BMN Battle Mountai 91.68 47 IAmb IAmb 03 33 55.6
comp=Z,18nm,1.1s
RIDG Independent Ri 91.70 19 P **P** **03 33 51.3 -1.7**
baz=222
I07A Izee 91.81 43 P **P** **03 33 54.4 +0.3**
I07A IAmb IAmb 03 33 54.6
comp=Z,17nm,1.1s
IL31 91.88 17 IAmb IAmb 03 33 54.1
comp=Z,18nm,1.4s
ILAR Eielson Array 91.88 17 P **P** **03 33 51.6 -2.1**
comp=Z,1.8nm,0.6s,baz=232,slow=4.5,SNR=35
R11A Troy Canyon, C 91.92 50 IAmb IAmb 03 33 55.0
comp=Z,16nm,1.4s
R11A Troy Canyon, C 91.92 50 P **P** **03 33 54.6 -0.3**
baz=245,SNR=6.4
POKR Poker Plat Res 92.00 17 P **P** **03 33 52.0 -2.3**
baz=220
YUK4 Talbot Arm 92.03 22 P **P** **03 33 54.3 -0.6**
baz=228
A04D Lummi Island 92.09 38 P **P** **03 33 55.2 +0.2**
baz=240,SNR=25
HYT Haines Junctio 92.10 23 IAmb IAmb 03 33 54.9
comp=Z,13nm,0.9s
HYT Haines Junctio 92.10 23 P **P** **03 33 53.7 -1.4**
baz=229
SCRK Sand Creek 92.13 19 IAmb IAmb 03 33 56.2
comp=Z,18nm,1.3s
SCRK Sand Creek 92.13 19 P **P** **03 33 54.5 -0.6**
baz=223,SNR=6.9
L27K Beaver Creek, 92.14 20 IAmb IAmb 03 33 56.1
comp=Z,17nm,1.5s
L27K Beaver Creek, 92.14 20 P **P** **03 33 53.8 -1.3**
baz=225
J08A Circle Bar Ran 92.15 44 P **P** **03 33 55.3 -0.3**
J08A IAmb IAmb 03 33 56.0
comp=Z,15nm,1.0s
J25K Salcha River, 92.19 18 P **P** **03 33 53.5 -1.8**
baz=222
B05A Bryant 92.22 39 P **P** **03 33 55.9 +0.2**
baz=241,SNR=15
G08A Pilot Rock 92.72 42 IAmb IAmb 03 33 58.4
comp=Z,13nm,1.1s
K27K Chicken 92.75 19 IAmb IAmb 03 33 59.4
comp=Z,19nm,1.1s
K27K Chicken 92.75 19 P **P** **03 33 57.1 -0.7**
baz=225
COLD Coldfoot 92.94 15 IAmb IAmb 03 33 58.8
comp=Z,14nm,1.2s
COLD Coldfoot 92.94 15 P **P** **03 33 58.3 -0.4**
baz=218
TUC Tucson 93.07 57 P **P** **03 34 00.1 -0.1**
TUC pmax pmax
comp=Z,32nm,1.2s
TUC Tucson 93.07 57 P **P** **03 34 00.1 -0.1**
TUC Tucson 93.07 57 P **P** **03 34 00.7 +0.5**
baz=247
CCUT Cedar City 93.19 51 IAmb IAmb 03 34 01.6
comp=Z,19nm,1.4s
KNB Kanab 93.37 52 IAmb IAmb 03 34 02.4
comp=Z,20nm,1.4s
X16A Lo Mia Camp, P 93.38 55 P **P** **03 34 02.3 +0.6**
SZCU Shurtz Canyon 93.41 51 IAmb IAmb 03 34 03.3
comp=Z,27nm,1.5s
LLLB Lillooet 93.48 37 IAmb IAmb 03 34 02.4
comp=Z,16nm,1.1s
EGAK Eagle 93.56 19 IAmb IAmb 03 34 02.5
comp=Z,12nm,0.9s
EGAK Eagle 93.56 19 P **P** **03 34 00.3 -1.2**
baz=226,SNR=9.1
DAWY Dawson 93.63 20 P **P** **03 34 00.6 -1.3**
baz=227,SNR=5.1
COYC Coyhaique 93.68 142 P **P** **03 34 03.2 +0.5**
COYC IAmb IAmb 03 34 22.8
comp=Z,21nm,1.3s
WUAZ Wupatki 93.86 54 P **P** **03 34 03.9 +0.1**
baz=247
319A Douglas 93.90 58 IAmb IAmb 03 34 05.5
comp=Z,25nm,1.0s
PKCU Pink Cliffs 93.91 51 IAmb IAmb 03 34 10.4
comp=Z,31nm,1.4s
MTPU Mount Pierson 94.24 51 P **P** **03 34 06.0 +0.2**
MVU Marysvale 94.40 51 IAmb IAmb 03 34 19.1
comp=Z,32nm,1.4s
FARO Faro, Yukon 94.53 23 P **P** **03 34 04.6 -1.6**
baz=232

X18A	Snowflake	94.56	55	IAmb	IAmb	03 34 08.4			
	comp=Z,15nm,1.1s								
HLID	Hailey	94.90	45	P	P	03 34 08.2	-0.2		
	baz=246								
Q16A	Castle Valley	95.31	50	IAmb	IAmb	03 34 11.9			
	comp=Z,21nm,1.4s								
MMPY	Sheldon Lake,	95.55	24	P	P	03 34 09.0	-1.8		
	baz=234								
EPYK	Eagle Plains	96.01	19	P	P	03 34 11.7	-1.0		
	baz=230								
ZAIG	Zacatecas	96.44	68	P	P	03 34 16.1	+0.1		
ZAIG				IAmb	IAmb	03 34 17.9			
	comp=Z,22nm,1.3s								
MCMT	McKenzie Canyo	96.44	44	P	P	03 34 15.3	-0.2		
MNTX	Cornudas Mount	97.12	59	P	P	03 34 18.3	-0.4		
	baz=250								
ANMO	Albuquerque	97.39	56	*ce*P	P	03 34 20.1	+0.1		
ANMO				pmax	pmax				
	comp=Z,10.0nm,2.5s								
LC01	Cunco	97.60	137	P	P	03 34 20.9	+0.1		
LC01				IAmb	IAmb	03 34 27.8			
	comp=Z,7.8nm,1.0s								
TXAR	Lajitas Array	97.71	62	P	P	03 34 20.4	-1.0		
	comp=Z,2.7nm,0.9s,baz=252,slow=3.7,SNR=7.1								
TXAR	Lajitas Array	97.71	62	P	P	03 34 21.0	-0.4		
TXAR	Lajitas Array	97.71	62	P	P	03 34 21.0	-0.4		
PDAR	Pinedale Array	97.88	47	P	Pdif	03 34 23.2	+1.1		
	comp=Z,1.3nm,0.9s,baz=202,slow=1.6,SNR=5.6								
S22A	4UR Ranch, Cre	98.07	53	Pdiff	P	03 34 22.5	-0.6		
	baz=250								
WMQ	Urumqi	98.25	314	*e*P	Pdif	03 34 25.5	+2.0		
MKAR	Makanchi Array	102.82	315	P	Pdif	03 34 44.9	+1.2		
	comp=Z,0.7nm,0.8s,baz=94,slow=4.3,SNR=3.3								
BRVK	Borovoye	111.67	320	⇓*i*PKIKP	PKiKP	03 39 17.7	-2.6		
BRVK				pmax	pmax				
	comp=Z,6.0nm,2.5s								
ARU	Arti	118.50	324	*i* PKIKP	PKPdf	03 39 32.4	-0.9		
ARU						03 40 51.1			
ARU						03 46 41.5			
ARU				SS	SS	03 57 01.0	-5.0		
O54A	Avella	118.67	55		PKPdf	03 39 33.1	-1.1		
SPITS	Spitsbergen Ar	121.25	354	PKP	PKPdf	03 39 36.7	-1.4		
	comp=Z,4.4nm,0.7s,baz=71,slow=3.6,SNR=3.7								
KIRV	Kirov	123.00	327	⇓*i*PKIKP	PKPdf	03 39 41.1	-0.8		
PRGR	Permogore	123.91	331	*e*PKIKP	PKPdf	03 39 41.0	-2.6		
PRGR				pmax	pmax				
	comp=Z,25nm,1.5s								
I60A	Shoreham	123.98	51	P	PKPdf	03 39 43.2	-1.1		
	baz=273								
L61B	Northampton	124.50	52	P	PKPdf	03 39 44.2	-1.2		
	baz=272								
BELG	Belogornoye	125.41	320	⇓*i*PKIKP	PKPdf	03 39 46.3	-0.4		
APA	Apatity	125.77	341	⇑*i*PKIKP	PKiKP	03 39 53.4	+6.0		
APA				pmax	pmax				
	comp=Z,2.0nm,0.8s								
G62A	West of Eustis	125.85	49	PKPdf	PKPdf	03 39 46.2	-1.6		
D62A	Allapoint, All	126.64	46	PKPdf	PKPdf	03 39 47.8	-1.5		
ARCES	ARCESS Array B	126.65	345	PKP	PKPdf	03 39 48.2	-0.5		
	comp=Z,2.7nm,0.7s,baz=22,slow=1.3,SNR=11								
PKME	Peaks-Kenny Pk	126.71	49	P	PKPdf	03 39 48.6	-0.9		
	baz=277								
F63A	Nahmakanta, Br	126.79	48	PKPdf	PKPdf	03 39 48.7	-0.9		
KLMR	Klimovskoe	126.94	332	*e*PKIKP	PKPdf	03 39 46.3	-3.1		
KLMR				pmax	pmax				
	comp=Z,19nm,1.8s								
KLMR	Klimovskoe	126.94	332	*e*PKPdf	PKPdf	03 39 46.4	-3.0		
KLMR				AMP		03 39 50.9			
	comp=Z,19nm,1.8s								
KMBO	Kilima Mbogo	128.04	251	⇓*i*PKIKP	PKiKP	03 39 54.2	+0.3		
SJG	San Juan	128.10	83	PKIKP	PKPdf	03 39 51.5	-1.4		
SJG	San Juan	128.10	83	PKPdf	PKPdf	03 39 51.5	-1.4		
PDPR	Patillas Dam,	128.19	83	PKPdf	PKPdf	03 39 51.5	-1.6		
HUMP	Col San Antoni	128.38	83		PKPdf	03 39 52.4	-1.0		
FINES	FINESS Array B	132.07	337	PKP	PKPdf	03 39 57.6	-1.5		
	comp=Z,1.6nm,0.7s,baz=97,slow=7.9,SNR=5.3								
MNK	Minsk	135.50	329	*i* PKIKP	PKPdf	03 40 03.8	-2.0		
MNK				*i*		03 42 40.6			
MNK				*i* PPP	PPP	03 45 36.9			
MNK				*i* SP	SP	03 52 58.6	-2.9		
MNK				*i* PS	PS	03 53 02.8	-3.5		
MNK				*i* SS	SS	04 00 35.4	-2.0		
MNK				*i* SSS	SSS	04 05 37.0			
MNK				pmax	pmax				
	comp=N,10.0nm,0.9s								
MNK				pmax	pmax				
	comp=E,1.0nm,0.9s								
MNK				pmax	pmax				
	comp=Z,8.0nm,0.9s								
MNK				MLR	MLR				
	comp=E,70nm,20.0s								
MNK				MLR	MLR				
	comp=Z,631nm,20.0s								
MNK				MLR	MLR				
	comp=N,392nm,20.0s								
MNK	Minsk	135.50	329	*i* PKP	PKPdf	03 40 03.9	-1.9		
	comp=E,1.0nm,0.9s								
MNK				*i* PKP	PKPdf	03 40 03.9	-1.9		
	comp=N,10.0nm,0.9s								
MNK				*i* PKP	PKPdf	03 40 03.9	-1.9		
	comp=Z,8.0nm,0.9s,baz=57								
MNK				*i* PP	PP	03 42 40.7	-2.2		
MNK				*i* PPP	PPP	03 45 37.0			
MNK				*i* SP	SP	03 52 58.6	-2.8		
MNK				*i* PS	PS	03 53 02.9	-3.4		
MNK				*i* SPP	SPP	03 58 20.3			
MNK				*i* PPS	PPS	03 58 20.3			
MNK				*i* SS	SS	04 00 35.4	-2.0		
MNK				*i* SSS	SSS	04 05 37.0			
MNK				*i* LQ	LQ	04 27 41.4			
MNK				*i* LR	LR	04 33 05.6			
MNK				*i* LRM	MLR	04 39 08.8			
	comp=E,70nm,20.4s								
MNK				*i* LRM	MLR	04 39 14.4			
	comp=Z,631nm,20.4s								
MNK				*i* LRM	MLR	04 40 25.7			
	comp=N,392nm,20.4s								
AKASG	Malin Array Be	136.75	323	PKP	PKPdf	03 40 07.7	-0.6		
	comp=N,0.2nm,0.3s,baz=55,slow=2.5,SNR=5.6								
AKBB	Malin Array Si	136.75	323	⇓*i*PKIKP	PKPdf	03 40 07.5	-0.7		
NOA	NORSAR Array B	137.02	344	PKP	PKPdf	03 40 07.7	-0.8		
	comp=N,1.2nm,0.9s,baz=30,slow=2.0,SNR=3.7								
HFS	Hagfors	137.11	342	PKP	PKPdf	03 40 08.2	-0.4		
	comp=N,2.0nm,0.8s,baz=29,slow=3.4,SNR=5.1								
BR131	Keskin Array S	137.69	306	⇑*i*PKIKP	PKPdf	03 40 10.5	-0.1		
BRTR	Keskin Array B	137.70	306	PKP	PKPdf	03 40 09.9	-0.7		
	comp=N,1.9nm,1.1s,baz=102,slow=4.0,SNR=8.8								
BRTR	Keskin Array B	137.70	306	PKPdf	PKPdf	03 40 09.8	-0.8		
BIZ	Bicaz	140.35	320	⇓P	PKPdf	03 40 10.3	-4.7		
BURAR	Bucovina Array	140.55	321	PKPdf	PKPdf	03 40 15.1	-0.3		
KWP	Kalwaria Pacla	140.88	325	*e*PKPdf	PKPdf	03 40 17.1	+1.2		
MLR	Muntele Rosu	141.11	318	⇓P	PKPdf	03 40 12.7	-3.9		
MLR	Muntele Rosu	141.11	318	⇓PKIKP	PKPdf	03 40 12.7	-3.9		
UZH	Uzhgorod	141.67	324	*e*PKIKP	PKPdf	03 40 16.8	-0.5		
UZH				*e*		03 40 20.7			
ARR	Arges	141.99	318	⇑P	PKPdf	03 40 15.5	-2.6		
OJC	Ojcow	142.03	328	*e*PKPdf	PKPdf	03 40 17.5	-0.4		
NIE	Niedzica	142.27	326	*e*PKPdf	PKiKP	03 40 20.1	-1.3		
DRGR		142.44	321	⇑P	PKPdf	03 40 14.5	-4.3		
DRGR		142.44	321	⇑PKIKP	PKPdf	03 40 14.5	-4.3		
GZR	Gura Zlata	143.12	319	⇑P	PKPbc	03 40 17.1	+0.1		
GZR	Gura Zlata	143.12	319	⇑PKHKP	PKPpre	03 40 17.1			
BSEG	Bad Segeberg	143.28	339	*e*PKPbc	PKPab	03 40 15.8	0.0		
	baz=33,slow=3.2								
KSP	Ksiaz	143.28	331	*e*PKPdf	PKPbc	03 40 17.3	+0.1		
SIRR	Siria	143.33	321	⇓P	PKPdf	03 40 19.0	-1.3		
PSZ	Piszkesteto	143.39	325	⇑P	PKPbc	03 40 18.4	+0.8		
PSZ	Piszkesteto	143.39	325	⇑PKIKP	PKPbc	03 40 18.4	+0.7		
MORC	Moravsky Berou	143.42	329	⇑P	PKPab	03 40 17.1	+0.5		
MORC	Moravsky Berou	143.42	329	PKIKP	PKPdf	03 40 20.4	-0.1		
MORC	Moravsky Berou	143.42	329	PKPdf	PKPdf	03 40 20.4	-0.1		
MORC	Moravsky Berou	143.42	329	*e*PKP	PKPdf	03 40 20.0	-0.5		
KPL	Plockton	143.43	355	*e*P	PKPab	03 40 16.2	-0.1		
OSTC	Ostas	143.52	331	*e*PKP	PKPbc	03 40 17.5	-0.4		
CHVC	Chvalec	143.57	331	*e*PKP	PKPbc	03 40 18.0	0.0		
KRLC	Kraliky	143.59	330	*e*PKIKP	PKPbc	03 40 18.1	0.0		
KRLC	Kraliky	143.59	330	*e*PKP	PKPbc	03 40 18.1	0.0		
HERR	Herculane	143.60	319	⇓P	PKPbc	03 40 18.4	+0.2		
DPC	Dobruska-Polom	143.61	330	*e*PKIKP	PKPbc	03 40 18.3	+0.1		
DPC	Dobruska-Polom	143.61	330	*e*PKP	PKPbc	03 40 18.3	+0.1		
BZS	Buzias	143.70	320	⇑P	PKPab	03 40 18.1	+0.3		
BZS	Buzias	143.70	320	⇑PKIKP	PKPab	03 40 18.1	+0.3		
JAVC	Velka Javorina	143.96	327	*e*PKP	PKPdf	03 40 21.3	-0.1		
MDVR	Moldovita	144.08	319	⇓P	PKPbc	03 40 20.3	+0.5		
VTS	Vitosha	144.14	315	⇑P	PKPbc	03 40 20.4	+0.2		
VTS	Vitosha	144.14	315	PKIKP	PKPbc	03 40 20.7	+0.5		
VTS	Vitosha	144.14	315	PKPdf	PKPbc	03 40 20.7	+0.5		
VRAC	Vranov	144.20	329	⇑P	PKPbc	03 40 20.5	+0.5		
VRAC	Vranov	144.20	329	PKP	PKPbc	03 40 20.2	+0.2		
	comp=N,6.2nm,0.8s,baz=66,slow=3.4,SNR=8.8								
VRAC	Vranov	144.20	329	⇑PKIKP	PKPbc	03 40 20.5	+0.6		
VRAC	Vranov	144.20	329	*e*PKP	PKPab	03 40 19.6	+0.1		
FLTG	Flechtingen	144.25	337	*e*PKPbc	PKPab	03 40 19.1	-0.5		
	baz=33,slow=3.2								
NVR	Nevrokopi	144.26	313	P	PKPab	03 40 20.0	-0.1		
PVCC	Panska Ves	144.28	332	*e*PKIKP	PKPbc	03 40 20.5	+0.4		
PVCC	Panska Ves	144.28	332	*e*PKP	PKPbc	03 40 20.5	+0.4		
BRG	Berggiesshubel	144.30	333	*e*PKPbc	PKPab	03 40 19.8	-0.1		
	baz=33,slow=3.2								
BRG	Berggiesshubel	144.30	333	*e*PKP	PKPbc	03 40 20.3	+0.1		
BRG				Amp		03 40 21.3			
	comp=Z,28nm,0.8s								
BRG	Berggiesshubel	144.30	333	P	PKiKP	03 40 28.4	+2.9		
BRG				Amp		03 40 30.9			
	comp=Z,16nm,1.1s								
CLL	Collm	144.36	334	⇑*i*PKPdf	PKPab	03 40 19.4	-0.7		
	comp=Z,29nm,1.0s								
CLL				*i*		03 40 23.2			
CLL	Collm	144.36	334	⇑*i*PKIKP	PKPab	03 40 19.4	-0.7		
CLL				pmax	pmax				
	comp=Z,29nm,1.0s								
CLL	Collm	144.36	334	*e*PKPbc	PKPab	03 40 19.7	-0.3		
	baz=33,slow=3.2								
KRUC	Moravsky	144.46	329	*e*PKP	PKPab	03 40 20.4	-0.1		
MODS	Modra-Piesok	144.48	327	*e*PKIKP	PKPbc	03 40 21.1	+0.2		
MODS	Modra-Piesok	144.48	327	*e*PKP	PKPbc	03 40 21.1	+0.2		
MODS				*e*		03 40 40.1			
FBE	Freiberg	144.51	333	*e*PKPbc	PKPbc	03 40 20.8	0.0		
	baz=33,slow=3.2								
NRDL	Niedersach Rie	144.53	338	*e*PKPbc	PKPab	03 40 20.4	-0.1		
	baz=33,slow=3.2								
APE	Apeiranthos	144.53	305	⇑P	PKPab	03 40 20.7	-0.5		
APE	Apeiranthos	144.53	305	⇑PKIKP	PKPab	03 40 20.7	-0.5		
ASSE	Asse, Remlinge	144.62	337	*e*PKPbc	PKPab	03 40 20.9	0.0		
	baz=33,slow=3.2								
BOVS	Bovan	144.66	317	⇑P	PKPab	03 40 21.3	-0.1		
PRU	Pruhonice	144.68	331	*e*PKIKP	PKPab	03 40 21.4	+0.1		
PRU	Pruhonice	144.68	331	*e*PKP	PKPab	03 40 21.4	+0.1		
EBL	Broad Law	144.71	352	*e*P	PKPab	03 40 20.7	-0.4		
TREC	Trest	144.73	330	*e*PKIKP	PKPbc	03 40 21.9	+0.2		
TREC				*e*		03 40 30.7			
TREC	Trest	144.73	330	*e*PKP	PKPbc	03 40 21.9	+0.2		
TREC				*e*pPKP	pPKPdf	03 40 30.7	+0.2		
SANT	Santorini	144.78	304	⇑P	PKPab	03 40 21.1	-1.0		
SANT	Santorini	144.78	304	P	PKPab	03 40 21.0	-1.2		
PGBU	Glenifferbraes	144.83	354	*e*P	PKPab	03 40 20.5	-1.1		
PGBU				IAmb	IAmb	03 40 21.7			
	comp=Z,172nm,1.3s								
NEUB	Neuenburg	144.93	335	*e*PKPbc	PKPab	03 40 22.0	-0.2		
	baz=33,slow=3.2								
NPS	Neapolis	144.95	302	P	PKPab	03 40 22.8	0.0		
CLZ	Clausthal	144.97	337	*e*PKPbc	PKPab	03 40 22.2	-0.1		
	baz=33,slow=3.2								
KNT	Kendrikon	145.00	313	P	PKPbc	03 40 22.0	-0.8		
FRGS	Fruska Gora	145.02	321	⇑P	PKPab	03 40 23.0	+0.3		
FRGS	Fruska Gora	145.02	321	⇑*i*P	PKPab	03 40 22.9	+0.2		
MORH	Mrgy, Hungar	145.09	323	⇑*i*P	PKPbc	03 40 22.8	0.0		
PBCC	Pribram	145.14	331	*e*PKP	PKPbc	03 40 23.2	+0.2		
EKA	Eskdalemuir Ar	145.15	352	PKPbc	PKPbc	03 40 22.1	-0.6		
	comp=Z,5.9nm,0.3s,baz=2.6,slow=2.4,SNR=82								
VAY	Valandovo	145.15	313	*i* P	PKPbc	03 40 22.9	-0.3		
ESK	Eskdalemuir	145.17	352	*e*P	PKPbc	03 40 21.9	-0.9		
ESK	Eskdalemuir	145.17	352	PKIKP	PKPbc	03 40 22.1	-0.7		
ESK	Eskdalemuir	145.17	352		PKPbc	03 40 22.1	-0.7		
STIP	Stip	145.25	314	*i* P	PKPdf	03 40 24.0	+0.2		
TANN	Tannenbergstha	145.26	334	*e*PKPbc	PKPbc	03 40 23.3	-0.1		
	baz=33,slow=3.2								
WERD	Werda	145.30	334	*e*PKPbc	PKPbc	03 40 23.4	0.0		
	baz=33,slow=3.2								
PLN	Plauen	145.34	334	*e*PKPbc	PKPbc	03 40 23.5	-0.1		
	baz=33,slow=3.2								
GTTG	Gottingen	145.35	337	*e*PKPbc	PKPbc	03 40 23.5	-0.1		
	baz=33,slow=3.2								
GUNZ	Gunzen	145.36	334	*e*PKPbc	PKPbc	03 40 23.8	+0.1		
	baz=33,slow=3.2								
WERN	Wernitzgruen	145.40	333	*e*PKPbc	PKPab	03 40 24.0	+0.1		
	baz=33,slow=3.2								
NKC	Novy Kostel	145.41	333	*e*PKIKP	PKPab	03 40 24.1	+0.1		
NKC	Novy Kostel	145.41	333	*e*PKP	PKPab	03 40 24.1	+0.1		
GRG	Griva	145.42	313	P	PKPbc	03 40 22.5	-1.7		
MOX	Moxa	145.44	335	*e*PKPbc	PKPbc	03 40 23.8	-0.1		
	baz=33,slow=3.2								
EDMD	Edmundbyers	145.47	351	*e*P	PKPdf	03 40 22.8	-0.9		
CONA	Conrad Observa	145.48	328	*i* P	PKPab	03 40 24.8	+0.3		
	comp=Z,44nm,1.0s,SNR=29								
IBBN	Ibbenburen	145.48	340	*e*PKPbc	PKPbc	03 40 24.0	+0.1		
	baz=33,slow=3.2								
DIVS	Divibare	145.49	319	⇑*i*P	PKPbc	03 40 24.4	+0.1		
NEWG	New Galloway	145.49	353	*e*P	PKPdf	03 40 22.6	-1.1		
NEWG				IAmb	IAmb	03 40 23.8			
	comp=Z,249nm,1.5s								
NEO	Neokhori	145.50	310	P	PKPdf	03 40 23.3	-1.1		
XOR	Xorichti	145.50	310	P	PKPdf	03 40 23.1	-1.3		
IDI	Anoyia	145.51	302	P	PKPdf	03 40 24.3	-0.3		
TEKS	Tekeris	145.52	320	*e*P	PKPdf	03 40 23.6	-0.6		
CKRC	Cesky Krumlov	145.62	330	*e*PKP	PKPbc	03 40 24.5	0.0		
CKRC				*ex*	x	03 40 32.6			
SKO	Skopje	145.62	315	*i* P	PKPab	03 40 25.1	0.0		
GDLE	Glaisdale, N Y	145.69	350	*e*P	PKPdf	03 40 23.3	-0.9		
CLGH	Cloghs, Cushen	145.70	355	*e*P	PKPdf	03 40 23.3	-0.8		
KHC	Kasperske Hory	145.73	331	*e*PKP2	PKPbc	03 40 25.0	+0.1		
KHC	Kasperske Hory	145.73	331	*e*PKP	PKPbc	03 40 25.0	+0.1		
KHC				*e*pPKP	sPKPdf	03 40 33.6	-1.4		
MANZ	Manzenberg	145.74	333	*e*PKPbc	PKPbc	03 40 24.9	0.0		
	baz=33,slow=3.2								
GAL1	Galloway	145.79	354	*e*P	PKPdf	03 40 23.5	-0.8		
GAL1				IAmb	IAmb	03 40 25.6			
	comp=Z,176nm,0.9s								
ROTZ	Rotzenmuhle	145.86	333	*e*PKPbc	PKPbc	03 40 25.4	+0.2		
	baz=33,slow=3.2								
KESW	Keswick, Cumbr	145.87	352	*e*P	PKPdf	03 40 24.3	-0.1		
GEC2	GERESS Array S	145.88	331	*e*PKPbc	PKPbc	03 40 25.4	-0.1		
	baz=33,slow=3.2								
GERES	GERESS Array B	145.88	331	PKPbc	PKPbc	03 40 25.4	-0.1		
	comp=Z,14nm,0.8s,baz=46,slow=3.9,SNR=103								
UBBA	Unterbreizbach	145.93	336	*e*PKPbc	PKPbc	03 40 25.2	0.0		
	baz=33,slow=3.2								
BBLS	Lazići	145.97	319	⇑*i*P	PKPbc	03 40 26.1	+0.3		
VAM	Vamos	146.03	303	P	PKPbc	03 40 26.5	+0.3		
WET	Wettzell	146.04	332	*e*PKPbc	PKPbc	03 40 25.8	0.0		
	baz=33,slow=3.2								
ARSA	Arzberg	146.11	327	*i* P	PKPbc	03 40 26.1	0.0		
	comp=Z,14nm,1.4s								
RUDO	Rudo	146.12	319	⇑*i*P	PKPdf	03 40 25.5	+0.2		
IMMV	Ieira Moni Meta	146.18	303	P	PKPbc	03 40 26.5	-0.2		
KASTN	Kahler Asten	146.19	338	*e*PKPbc	PKPbc	03 40 25.9	-0.3		
	baz=33,slow=3.2								
FNA	Florina	146.20	313	P	PKPdf	03 40 24.3	-1.3		
AGG	Agios Georgios	146.25	310	P	PKPdf	03 40 25.7	0.0		
HPK	Haverah Park	146.26	350	*e*P	PKPbc	03 40 26.1	-0.2		
HPK				IAmb	IAmb	03 40 27.2			
	comp=Z,206nm,1.1s								
MOA	Molln	146.32	329	*e*P	PKPbc	03 40 26.8	0.0		
	comp=Z,19nm,1.1s,SNR=12								
GRF	Grafenberg Arr	146.33	334	*e*PKPbc	PKPbc	03 40 26.7	+0.1		
	baz=33,slow=3.2								
GRF				*e*PKPab	PKiKP	03 40 28.9	-0.8		
	baz=38,slow=4.0								
GRFO	Grafenberg	146.33	334	PKP2	PKPbc	03 40 26.6	-0.1		
GRFO	Grafenberg	146.33	334		PKPbc	03 40 26.6	-0.1		
BUG	Bochum--Univer	146.38	339	*e*PKPbc	PKPbc	03 40 26.2	-0.5		
	baz=33,slow=3.2								
PHP	Peshkopia	146.41	315	P	PKPbc	03 40 26.8	-0.4		
OHR	Ohrid	146.44	314	*i* P	PKPbc	03 40 27.3	0.0		
KNDR	Palaiochora Ch	146.48	303	P	PKPbc	03 40 27.4	-0.1		
WIM	Isle of Man	146.49	353	*e*P	PKPbc	03 40 26.8	-0.1		
GMM	Mts of Mourne	146.53	355	*e*P	PKPdf	03 40 25.4	-0.2		
SERG	Sergoula	146.68	309	P	PKPbc	03 40 27.7	-0.4		
ANX	Ano Chora	146.71	309	P	PKPdf	03 40 27.4	+0.8		
SOKA	Soboth	146.74	327	*e*P	PKPbc	03 40 27.6	-0.4		
	comp=Z,18nm,1.5s,SNR=5.2								
KLV	Kalavryta, Ach	146.75	308	P	PKPbc	03 40 27.8	-0.5		
BLY	Banja Luka	146.78	322	⇑*i*P	PKPbc	03 40 28.2	+0.1		
LAKA	Lakka	146.81	309	P	PKPbc	03 40 27.9	-0.5		
PDG	Podgorica	146.81	317	⇑P	PKPbc	03 40 28.0	-0.3		
PDG	Podgorica	146.81	317	⇑*i*P	PKPbc	03 40 27.9	-0.3		
PDG	Podgorica	146.81	317		PKPbc	03 40 27.8	-0.4		
LBWR	Ladybower, Pea	146.82	350	*e*P	PKPbc	03 40 27.8	-0.2		
LBWR				IAmb	IAmb	03 40 29.9			
	comp=Z,198nm,1.3s								
TRIP	Tripoli	146.85	307	P	PKPdf	03 40 23.8	-3.0		
TIR	Tirane	146.96	315	⇓P	PKPab	03 40 30.4	+0.2		
TIR	Tirane	146.96	315	⇓PKP2	PKPab	03 40 30.4	+0.2		
DRME	Dracevica, Mon	146.98	317	⇑*i*P	PKPbc	03 40 28.5	-0.3		
TNS	Taunus Mts	146.99	337	*e*PKPbc	PKPbc	03 40 28.6	0.0		
	baz=33,slow=3.2								
MILB	Miltenberg	147.00	336	*e*PKPbc	PKPbc	03 40 28.6	0.0		
	baz=33,slow=3.2								
MILB				*e*PKPab	PKiKP	03 40 31.4	+0.3		
	baz=38,slow=4.0								
BRY	Bratogost	147.02	318	⇑*i*P	PKPbc	03 40 28.2	-0.8		
WACR	West Acre	147.02	347	*e*P	PKPbc	03 40 28.5	0.0		
MGRS	Mrkonjic Grad	147.04	322	*e*P	PKiKP	03 40 34.3	+2.9		
CRES	Cresnjev	147.07	325	⇑*i*P	PKPbc	03 40 28.6	-0.3		
OBKA	Obir	147.10	327	*i* P	PKPbc	03 40 28.2	-0.9		
	comp=Z,16nm,1.3s								
RJOB	Jochberg	147.10	330	*e*PKPbc	PKPbc	03 40 29.0	0.0		
	baz=33,slow=3.2								
WME	Myndd Eilian	147.19	353	*e*P	PKPbc	03 40 28.0	-1.0		
STNC	Stoke	147.19	350	*e*P	PKPbc	03 40 29.2	+0.2		
WPS	Cemaes, Angles	147.21	353	*e*P	PKPdf	03 40 27.6	+0.9		
WPS				IAmb	IAmb	03 40 30.4			
	comp=Z,34nm,0.9s								
AHRW	Bad Neuenahr-A	147.21	339	*e*PKPbc	PKPbc	03 40 29.1	0.0		
	baz=33,slow=3.2								
TREB	Trebinje	147.23	318	⇑*i*P	PKPdf	03 40 22.5	-4.7		
WLF1	Llynfaes	147.30	353	*e*P	PKPbc	03 40 28.9	-0.3		
KBA	Koelnbreinsper	147.31	329	*i* P	PKPbc	03 40 29.0	-0.7		
	comp=Z,9.0nm,0.7s								
YRC	Rhoscolyn	147.36	353	*e*P	PKPdf	03 40 28.1	+1.1		
CWF	Charnwood Fore	147.38	349	*e*P	PKPbc	03 40 28.4	-1.1		
BOJS	Bojanci	147.39	325	⇑*i*P	PKPbc	03 40 29.8	0.0		
LJU	Ljubljana	147.42	326	⇑*i*P	PKPbc	03 40 29.6	-0.3		
YLL	Llanberis	147.42	352	*e*P	PKPbc	03 40 30.1	+0.5		
FUR	Furstenfeldbru	147.47	332	*e*PKPbc	PKPbc	03 40 29.8	-0.2		
	baz=33,slow=

ARG				S	Sn	03 24 28.7	+0.4		
ARG				AML	AML	03 24 29.0			
	comp=N,700μm,0.4s								
ARG				AML	AML	03 24 29.9			
	comp=E,512μm,0.2s								
ARG	**Arkhangelos**	**0.56**	**264**	PG	**Pn**	**03 24 19.4**	**+0.5**		
ARG				SG	**Sn**	**03 24 28.7**	**+0.4**		
ARG	**Arkhangelos**	**0.56**	**264**	P	**Pn**	**03 24 19.2**	**+0.3**		
ARG				S	**Sn**	**03 24 28.8**	**+0.4**		
KSL	**Kastellorizon**	**0.64**	**101**	P	**Pn**	**03 24 20.3**	**+0.4**		
KSL				S	**Sn**	**03 24 30.3**	**+0.5**		
	comp=E,410nm,0.4s								
KSL	**Kastellorizon**	**0.64**	**101**	P	**Pn**	**03 24 20.3**	**+0.4**		
KSL				S	**Sn**	**03 24 30.4**	**+0.6**		
KSL				AML	AML	03 24 31.1			
	comp=N,444μm,0.4s								
KSL				AML	AML	03 24 31.5			
	comp=E,1166μm,0.3s								
KSL	**Kastellorizon**	**0.64**	**101**	P	**Pn**	**03 24 19.8**	**0.0**		
KSL				S	**Sn**	**03 24 29.4**	**-0.5**		
AKAS	**Kas**	**0.64**	**94**	*iP*	**Pn**	**03 24 19.1**	**-1.0**		
AKAS				*iS*	**Sn**	**03 24 29.3**	**-0.9**		
AKAS				IAML		03 24 32.0			
	comp=E,99nm,0.4s								
AKAS	**Kas**	**0.64**	**94**	PG	**Pn**	**03 24 20.4**	**+0.3**		
TURN	**Turunc**	**0.68**	**318**	PG	**Pn**	**03 24 20.5**	**+0.2**		
TURN				SG	**Sn**	**03 24 30.6**	**0.0**		
CAME	**Cameli-Denizli**	**0.78**	**30**	PG	**Pn**	**03 24 21.7**	**0.0**		
DEMR	**Demre-Antalya**	**0.89**	**92**	PG	**Pn**	**03 24 22.7**	**-0.2**		
YER	**Yerkesik**	**0.96**	**334**	P	**Pn**	**03 24 24.9**	**+1.0**		
YER				S	**Sn**	**03 24 37.9**	**+1.0**		
YER	**Yerkesik**	**0.96**	**334**	PG	**Pn**	**03 24 24.1**	**+0.2**		
ELL	**Elmali**	**1.00**	**62**	PG	**Pn**	**03 24 24.9**	**+0.4**		
ELL	**Elmali**	**1.00**	**62**	P	**Pn**	**03 24 25.9**	**+1.4**		
ELL				S	**Sn**	**03 24 40.2**	**+2.2**		
MULA	**Mugla, Merkez-**	**1.05**	**338**	*iP*	**Pn**	**03 24 26.3**	**+1.1**		
MULA				*iS*	**Sn**	**03 24 40.0**	**+0.8**		
MULA				IAML		03 24 42.0			
	comp=E,62nm,0.4s								
GOLH	**Golhisar**	**1.13**	**32**	*iP*	**Pn**	**03 24 23.6**	**-2.6**		
GOLH				*iS*	**Sn**	**03 24 37.8**	**-3.2**		
TAVA	**DENIZLI_Tavas**	**1.19**	**4**	*iP*	**Pn**	**03 24 27.4**	**+0.5**		
TAVA				*iS*	**Sn**	**03 24 42.1**	**-0.3**		
AKUM	**Antalya-Kumluc**	**1.24**	**87**	*iP*	**Pn**	**03 24 28.3**	**+0.9**		
AKUM				*iS*	**Sn**	**03 24 43.5**	**+0.2**		
MLSB	**Milas**	**1.31**	**321**	PN	**Pn**	**03 24 29.1**	**+0.6**		
BDRM	**Kayabasi**	**1.35**	**306**	*iP*	**Pn**	**03 24 29.4**	**+0.4**		
BDRM				*iS*	**Sn**	**03 24 46.0**	**-0.1**		
NIS1	**Nisyros Isl.**	**1.36**	**284**	P	**Pn**	**03 24 29.6**	**+0.5**		
NIS1				S	**Sn**	**03 24 47.4**	**+1.2**		
NIS1	**Nisyros Isl.**	**1.36**	**284**	P	**Pn**	**03 24 29.4**	**+0.4**		
NIS1				AML	AML	03 24 48.0			
	comp=E,213μm,0.7s								
NIS1				AML	AML	03 24 48.9			
	comp=N,276μm,0.5s								
NIS1	**Nisyros Isl.**	**1.36**	**284**	PN	**Pn**	**03 24 29.6**	**+0.5**		
NISR	**Nisiros**	**1.40**	**284**	P	**Pn**	**03 24 30.2**	**+0.6**		
KORT	**Korkueli**	**1.43**	**59**	*iP*	**Pn**	**03 24 31.7**	**+1.5**		
KORT				*iS*	**Sn**	**03 24 50.1**	**+1.9**		
KORT	**Korkueli**	**1.43**	**59**	PN	**Pn**	**03 24 30.9**	**+0.7**		
BODT	**Bodrum**	**1.44**	**303**	PN	**Pn**	**03 24 30.6**	**+0.4**		
YKAV	**Yalikavak-Bodr**	**1.49**	**305**	PN	**Pn**	**03 24 31.6**	**+0.7**		
AYDN	**Tasoluk**	**1.57**	**332**	*iP*	**Pn**	**03 24 32.3**	**+0.3**		
AYDN				*iS*	**Sn**	**03 24 47.9**	**-3.5**		
ANTB	**Antalya**	**1.61**	**67**	PN	**Pn**	**03 24 33.4**	**+1.0**		
DDIM	**Aydin, Didim**	**1.73**	**314**	*iP*	**Pn**	**03 24 35.0**	**+1.0**		
DDIM				*iS*	**Sn**	**03 24 55.0**	**0.0**		
DDIM				IAML		03 24 56.0			
	comp=N,45nm,0.2s								
AYDB	**Zeytinkoy-Aydi**	**1.82**	**336**	PN	**Pn**	**03 24 35.2**	**-0.2**		
BCK	**Bucak**	**1.85**	**50**	PN	**Pn**	**03 24 36.8**	**+1.0**		
GCAM	**G?zelcaml?**	**1.90**	**319**	*iP*	**Pn**	**03 24 36.7**	**+0.4**		
GCAM				*iS*	**Sn**	**03 24 58.7**	**-0.5**		
GCAM				IAML		03 25 01.0			
	comp=E,39nm,0.3s								
GCAM				IAML		03 25 01.0			
	comp=N,41nm,0.2s								
GCAM	**G?zelcaml?**	**1.90**	**319**	PN	**Pn**	**03 24 36.9**	**+0.5**		
BASM	**Basmaki-Afyon**	**1.92**	**31**	PN	**Pn**	**03 24 37.5**	**+0.8**		
SMG	**Samos**	**2.13**	**313**	P	**Pn**	**03 24 40.0**	**+0.5**		
MANT	**Manisa**	**2.22**	**355**	*iP*	**Pn**	**03 24 41.2**	**+0.3**		
MANT				*iS*	**Sn**	**03 25 04.2**	**-3.1**		
KZIL	**AFYON_Kizioren**	**2.25**	**28**	*iP*	**Pn**	**03 24 42.5**	**+1.4**		
USAK	**Uak-Merkez**	**2.44**	**4**	*iP*	**Pn**	**03 24 43.8**	**0.0**		
USAK				*iS*	**Sn**	**03 25 09.7**	**-2.8**		
SEDI	**Konya, Seydise**	**2.64**	**63**	*iP*	**Pn**	**03 24 48.6**	**+2.1**		
SEDI				*iS*	**Sn**	**03 25 18.9**	**+1.5**		
SEDI				IAML		03 25 22.0			
	comp=N,9.8nm,0.5s								
SEDI				IAML		03 25 22.0			
	comp=E,12nm,0.6s								
DEMI	**Demirci**	**2.76**	**358**	*iP*	**Pn**	**03 24 47.7**	**-0.5**		
YVAC	**Isparta, Yalva**	**2.78**	**43**	*iP*	**Pn**	**03 24 51.2**	**+2.8**		
GAZI	**Gazipasa**	**2.83**	**90**	*iP*	**Pn**	**03 24 48.6**	**-0.5**		
GAZI				IAML		03 25 23.0			
	comp=N,15nm,0.9s								
GDZ	**Gediz**	**2.86**	**11**	*iP*	**Pn**	**03 24 49.5**	**0.0**		
DOGA	**KONYA_Doganhis**	**2.92**	**50**	*iP*	**Pn**	**03 24 52.0**	**+1.6**		
DOGA				IAML		03 25 27.0			
	comp=N,7.8nm,0.9s								
AKMS	**Akamas**	**3.13**	**113**	P	**Pn**	**03 24 53.2**	**0.0**		
AKMS				S	**Sn**	**03 25 28.7**	**-0.7**		
AKMS				AML	AML	03 25 28.7			
	comp=N,0.2nm,0.3s								
AKMS				AML	AML	03 25 28.7			
	comp=N,0.2nm,0.3s								
AKMS				AML	AML	03 25 28.8			
	comp=N,0.3nm,0.3s								
AKMS				AML	AML	03 25 28.8			
	comp=N,0.3nm,0.3s								
ALFC	**Alefka**	**3.28**	**109**	P	**Pn**	**03 24 55.6**	**+0.5**		
ALFC				AML	AML	03 25 31.6			
	comp=N,0.1nm,0.1s								
ALFC				AML	AML	03 25 32.3			
	comp=N,0.1nm,0.3s								
NATA	**Nata**	**3.41**	**115**	P	**Pn**	**03 24 57.1**	**+0.1**		
OSC1	**CSNet OBS 1**	**3.43**	**143**	P	**Pn**	**03 24 57.0**	**-0.2**		
OSC1				S	**Sn**	**03 25 33.8**	**-2.8**		
KKBE	**Karaman, Kazim**	**3.45**	**73**	*iP*	**Pn**	**03 24 59.7**	**+2.1**		
KKBE				*iS*	**Sn**	**03 25 36.4**	**-0.9**		
SZAC	**Souni**	**3.65**	**113**	P	**Pn**	**03 25 00.4**	**+0.1**		
SZAC				AML	AML	03 25 41.5			
	comp=N,0.1nm,0.2s								
SZAC				AML	AML	03 25 41.5			
	comp=N,0.1nm,0.2s								
SZAC				S	**Sn**	**03 25 41.8**	**-0.3**		
SZAC				AML	AML	03 25 42.6			
	comp=N,0.2nm,0.2s								
SZAC				AML	AML	03 25 42.6			
	comp=N,0.2nm,0.2s								
ASGA	**Asgata**	**3.91**	**111**	P	**Pn**	**03 25 03.7**	**0.0**		
OSC2	**CSNet OBS 4**	**4.28**	**137**	P	**Pn**	**03 25 08.1**	**-0.7**		

*IDC **26** 03:24:34.2±2.5, 30.°91S×70.°13W, h0km, mb3.4/1, mb1 3.7/4, mb1mx3.6/22, mbtmp3.6/4, ML3.7/3, Error ellipse: s-maj=108.9km s-min=31.4km az=94.0*
*GUC **26** 03:24:36.4±0.6, 30.°79S×71.°39W, h40km±2km, ML4.1*
ISC 26 03:24:35.8±0.9, 30.°76S±0.°03×71.°41W±0.°06, h40km±9km, n20, σ2°02/31, 6C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.21**	**294**	⇑*iP*	**Pn**	**03 24 43.5**	**+0.3**
CO06				*iS*	**Sn**	**03 24 48.9**	**+0.5**
CO06				IAML		03 24 50.1	
	comp=N,34μm,0.2s						
CO02	**Combarbal**	**0.57**	**141**	⇓*iP*	**Pn**	**03 24 47.1**	**-0.5**
CO02				*iS*	**Sn**	**03 24 55.6**	**-0.3**
CO02				IAML		03 24 56.2	
	comp=N,24μm,0.1s						
CO03	**El Pedregal**	**0.63**	**97**	⇓*iP*	**Pn**	**03 24 48.3**	**-0.1**
CO03				*iS*	**Sn**	**03 24 57.7**	**+0.3**
CO03				IAML		03 24 58.3	
	comp=E,9μm,0.1s						
GO04	**Tololo Observa**	**0.79**	**42**	*eP*	**Pn**	**03 24 51.3**	**+0.6**
GO04				*iS*	**Sn**	**03 25 03.3**	**+1.8**
CO05	**La Serena**	**0.85**	**10**	⇑*iP*	**Pn**	**03 24 52.0**	**+0.7**
CO05				*iS*	**Sn**	**03 25 04.6**	**+2.0**
CO05				IAML		03 25 09.9	
	comp=E,7μm,0.4s						
VA06	**Catapilco**	**1.80**	**177**	⇑*iP*	**Pn**	**03 25 04.0**	**-0.4**
VA06				*iS*	**Sn**	**03 25 28.5**	**+2.5**
VA06				IAML		03 25 33.3	
	comp=N,3μm,0.5s						
LCO	**Las Campanas**	**1.85**	**20**	⇑*iP*	**Pn**	**03 25 06.3**	**+1.1**
LCO				*iS*	**Sn**	**03 25 29.9**	**+2.4**
VA03	**San Esteban**	**2.13**	**160**	*eP*	**Pn**	**03 25 09.5**	**+0.5**
VA03				*iS*	**Sn**	**03 25 37.0**	**+2.8**
VA03				IAML		03 25 43.4	
	comp=E,2μm,0.2s						
VA01	**Torpederas**	**2.27**	**185**	*eP*	**Pn**	**03 25 09.6**	**-1.2**
VA01				IAML		03 25 44.6	
	comp=E,731nm,0.4s						
AC04	**Llanos de Chal**	**2.56**	**7**	*eP*	**Pn**	**03 25 15.9**	**+1.0**
AC04				IAML		03 25 57.3	
	comp=N,738nm,0.3s						
MT05	**Renca**	**2.69**	**168**	⇑*iP*	**Pn**	**03 25 16.7**	**+0.1**
MT05				*iS*	**Sn**	**03 25 50.5**	**+2.5**
MT05				IAML		03 25 57.1	
	comp=E,2μm,0.4s						
VA05	**Santo Domingo**	**2.90**	**183**	*eP*	**Pn**	**03 25 17.1**	**-2.3**
VA05				IAML		03 26 06.7	
	comp=E,1μm,0.1s						
MT09	**Talagante**	**3.03**	**173**	⇑*iP*	**Pn**	**03 25 21.4**	**0.0**
MT09				IAML		03 26 05.2	
	comp=N,784nm,0.5s						
MT01	**Popeta**	**3.10**	**178**	*eP*	**Pn**	**03 25 21.5**	**-0.7**
MT01				*iS*	**Sn**	**03 26 04.5**	**+6.5**
MT01				IAML		03 26 09.1	
	comp=E,646nm,0.5s						
LMEL	**Las Melosas**	**3.25**	**162**	*eP*	**Pn**	**03 25 25.8**	**+1.4**
LMEL				*iS*	**Sn**	**03 26 04.3**	**+2.4**
LMEL				IAML		03 26 13.4	
	comp=N,738nm,0.4s						
LVC	**Limon Verde**	**8.42**	**16**	Pn	**Pn**	**03 26 34.4**	**-1.2**
	comp=N,0.4nm,0.3s,baz=193,slow=10,SNR=1.7						
PLCA	**Paso Flores**	**9.98**	**176**	Pn	**Pn**	**03 26 54.9**	**-1.7**
	comp=N,0.3nm,0.3s,baz=341,slow=11,SNR=14						
LPAZ	**La Paz**	**14.71**	**13**	Pn	**Pn**	**03 28 03.0**	**+1.1**
	comp=N,0.1nm,0.3s,baz=190,slow=12,SNR=5.7						
TORD	**Torodi Ar. Bea**	**82.61**	**70**	P	**P**	**03 36 54.4**	**-0.8**
	comp=N,0.1nm,0.4s,baz=248,slow=4.0,SNR=7.5						
ZALV	**Zalesovo Beam**	**151.18**	**30**	PKPbc	**PKPab**	**03 44 29.1**	**-3.0**
	comp=N,0.5nm,0.4s,baz=287,slow=2.4,SNR=2.1						

*MAN **26** 03:37:01.8, 5.°63N×126.°12E, h119km, mb4.4, ML3.2, MS3.0*
IDC 26 03:36:47.4±2.1, 5.°47N×124.°89E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/46, mbtmp3.3/4, Error ellipse: s-maj=135.2km s-min=26.6km az=68.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**23.43**	**178**	P	P	03 41 59.6	+1.3
	0.5nm,0.5s,baz=12,slow=7.3,SNR=6.2						
WRA	**Warramunga Arr**	**26.91**	**160**	P	P	03 42 30.9	+0.5
	0.5nm,0.9s,baz=336,slow=11,SNR=2.5						
ASAR	**Alice Springs**	**30.26**	**163**	P	P	03 42 58.7	-1.7
	0.1nm,0.3s,baz=343,slow=6.8,SNR=4.5						
MKAR	**Makanchi Array**	**55.09**	**325**	P	P	03 46 21.3	0.0
	0.2nm,0.4s,baz=110,slow=6.3,SNR=4.3						

*IDC **26** 03:47:04.5±1.6, 31.°00S×71.°40W, h0km, mb4.5/2, mb1 4.1/4, mb1mx3.7/29, mbtmp4.1/4, ML3.4/2, Error ellipse: s-maj=45.8km s-min=17.4km az=96.0*
*NEIC **26** 03:47:09.1±2.4, 30.°77S±0.°03×71.°44W±0.°06, h10km±1km, Error ellipse: s-maj=8.9km s-min=3.0km az=242.0*
*GUC **26** 03:47:11.6±0.6, 30.°75S×71.°39W, h49km±2km, ML4.2*
ISC 26 03:47:11.4±0.9, 30.°75S±0.°03×71.°46W±0.°06, h47km±9km, n51, σ0°95/57, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.17**	**298**	⇑*iP*	**Pn**	**03 47 19.6**	**+0.4**
CO06	**Fray Jorge**	**0.17**	**298**		**Pn**	**03 47 19.8**	**+0.5**
CO02	**Combarbal**	**0.60**	**139**	*iP*	**Pn**	**03 47 23.6**	**-0.3**
CO02				*iS*	**Sn**	**03 47 32.3**	**-0.5**
CO02	**Combarbal**	**0.60**	**139**	Pn	**Pn**	**03 47 23.4**	**-0.4**
CO03	**El Pedregal**	**0.67**	**98**	⇓*iP*	**Pn**	**03 47 24.3**	**-0.4**
CO03				*iS*	**Sn**	**03 47 33.4**	**-0.9**
CO03	**El Pedregal**	**0.67**	**98**		**Pn**	**03 47 24.3**	**-0.4**
GO04	**Tololo Observa**	**0.81**	**45**	*eP*	**Pn**	**03 47 26.8**	**0.0**
GO04				*iS*	**Sn**	**03 47 38.0**	**+0.1**
GO04				IAML		03 47 39.9	
	comp=N,23μm,0.3s						
GO04	**Tololo Observa**	**0.81**	**45**		**Pn**	**03 47 26.6**	**-0.1**
CO05	**La Serena**	**0.85**	**13**	*eP*	**Pn**	**03 47 27.7**	**+0.6**
CO05				*iS*	**Sn**	**03 47 37.8**	**-0.7**
CO05	**La Serena**	**0.85**	**13**	Pn	**Pn**	**03 47 27.5**	**+0.4**
VA06	**Catapilco**	**1.81**	**176**	IAML		03 48 08.4	
	comp=N,3μm,0.2s						
LCO	**Las Campanas**	**1.86**	**21**	*iP*	**Pn**	**03 47 41.9**	**+0.9**
LCO				*iS*	**Sn**	**03 48 04.9**	**+1.5**
VA03	**San Esteban**	**2.15**	**159**	*eP*	**Pn**	**03 47 46.2**	**+1.3**
VA03				*iS*	**Sn**	**03 48 12.4**	**+2.1**
VA03				IAML		03 48 16.9	
	comp=E,3μm,0.4s						
VA03	**San Esteban**	**2.15**	**159**	Pn	**Pn**	**03 47 45.1**	**+0.2**
ROCH	**El Roble**	**2.25**	**170**	*eP*	**Pn**	**03 47 47.3**	**+1.0**
ROCH				*iS*	**Sn**	**03 48 14.8**	**+1.9**
ROCH				IAML		03 48 23.5	
	comp=N,995nm,0.4s						
VA01	**Torpederas**	**2.27**	**184**		**Pn**	**03 47 45.2**	**-1.2**
ZON	**Zonda**	**2.51**	**109**	Pn	**Pn**	**03 47 50.7**	**+0.9**
AC04	**Llanos de Chal**	**2.56**	**8**	*iP*	**Pn**	**03 47 51.5**	**+1.1**
AC04	**Llanos de Chal**	**2.56**	**8**		**Pn**	**03 47 50.5**	**+0.1**
MT05	**Renca**	**2.70**	**167**	*iP*	**Pn**	**03 47 53.5**	**+1.1**
MT05				*iS*	**Sn**	**03 48 25.6**	**+1.7**
MT05				IAML		03 48 36.6	
	comp=N,1μm,0.3s						
MT05	**Renca**	**2.70**	**167**		**Pn**	**03 47 52.3**	**-0.1**
VA05	**Santo Domingo**	**2.90**	**183**		**Pn**	**03 47 54.9**	**-0.1**
MT09	**Talagante**	**3.04**	**173**	*iP*	**Pn**	**03 47 58.0**	**+0.9**
MT09				IAML		03 48 44.2	
	comp=E,630nm,0.3s						
MT09	**Talagante**	**3.04**	**173**	Pn	**Pn**	**03 47 57.2**	**+0.1**
MT01	**Popeta**	**3.11**	**177**	IAML		03 48 46.6	
	comp=E,459nm,0.1s						
MT01	**Popeta**	**3.11**	**177**		**Pn**	**03 47 57.6**	**-0.3**
LMEL	**Las Melosas**	**3.26**	**161**	*iP*	**Pn**	**03 48 02.3**	**+2.0**
LMEL				IAML		03 48 49.7	
	comp=N,819nm,0.1s						
GO03	**Copiap**	**3.33**	**19**		**Pn**	**03 48 02.6**	**+1.6**
AC06	**Mina Casimiro**	**3.52**	**16**	*iP*	**Pn**	**03 48 05.2**	**+1.6**
AC06				IAML		03 49 02.9	
	comp=E,304nm,0.8s						
AC06	**Mina Casimiro**	**3.52**	**16**		**Pn**	**03 48 04.8**	**+1.2**
BO01	**Tunca**	**3.64**	**175**	*iP*	**Pn**	**03 48 05.8**	**+0.6**
BO01				*iS*	**Sn**	**03 48 46.1**	**-0.9**
BO01				IAML		03 49 03.4	
	comp=E,168nm,0.3s						
BO01	**Tunca**	**3.64**	**175**		**Pn**	**03 48 05.7**	**+0.4**
BO02	**Sierra Bellavi**	**4.07**	**172**		**Pn**	**03 48 11.8**	**+0.6**
GO05	**Huala**	**4.26**	**185**		**Pn**	**03 48 12.6**	**-1.2**
AC02	**Maricunga**	**4.41**	**28**		**Pn**	**03 48 17.0**	**+0.7**
ML02	**Panimavida**	**5.00**	**180**		**Pn**	**03 48 25.1**	**+1.3**
PB14	**IPOC Station P**	**6.17**	**9**	Pn	**Pn**	**03 48 40.7**	**+0.4**
VA04	**Juan Fernndez**	**6.88**	**243**	Pn	**Pn**	**03 48 48.4**	**-1.2**
PB15	**IPOC Station P**	**7.72**	**14**	Pn	**Pn**	**03 49 01.0**	**-0.4**
LC01	**Cunco**	**8.13**	**182**	Pn	**Pn**	**03 49 05.9**	**-0.9**
LVC	**Limon Verde**	**8.42**	**16**	Pn	**Pn**	**03 49 11.3**	**+0.1**
	comp=E,0.4nm,0.3s,baz=190,slow=11,SNR=1.6						
LVC				Sn	Sn	03 50 59.8	+15
	comp=E,1.2nm,0.3s,baz=221,slow=8.9,SNR=3.9						
PB01	**IPOC Station P**	**9.83**	**11**	Pn	**Pn**	**03 49 28.8**	**-1.4**
LL04	**Puerto Octay**	**10.16**	**184**	Pn	**Pn**	**03 49 34.0**	**-0.6**
TRQA	**Tornquist**	**10.69**	**135**		**Pn**	**03 49 40.8**	**-1.1**
SIV	**San Ignacio**	**17.50**	**35**	P	**Pn**	**03 51 12.1**	**0.0**
	comp=E,0.1nm,0.3s,baz=236,slow=11,SNR=5.1						
DBIC	**Dimbokro**	**73.69**	**72**	P	**P**	**03 58 40.9**	**+0.3**
	comp=E,24nm,1.4s,baz=240,slow=6.2,SNR=8.1						
DBIC	**Dimbokro**	**73.69**	**72**	P	**P**	**03 58 40.0**	**-0.6**
DBIC				IAmb	IAmb	03 58 42.0	
	comp=Z,12nm,1.1s						
TORD	**Torodi Ar. Bea**	**82.64**	**70**	P	**P**	**03 59 30.3**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=251,slow=5.8,SNR=11						
TORD	**Torodi Ar. Bea**	**82.64**	**70**	IAmb	IAmb	03 59 49.0	
	comp=Z,0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**151.20**	**30**	PKPbc	**PKPbc**	**04 06 59.5**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=330,slow=5.1,SNR=4.4						
KSH	**Kashi**	**152.09**	**63**	PKPbc	**PKPdf**	**04 06 55.5**	**+0.4**

*IDC **26** 03:48:45.3±13.0, 5.°61S×154.°37E, h101km±111km, mb3.6/6, mb1 3.7/6, mb1mx3.3/41, mbtmp3.9/6, Error ellipse: s-maj=79.3km s-min=31.4km az=8.0*
*NEIC **26** 03:48:49.8±1.2, 5.°9S±0.°1×154.°3E±0.°1, h125km±10km, mb4.1/10, Error ellipse: s-maj=21.5km s-min=15.3km az=114.0*
ISC 26 03:48:51.5±1.0, 5.°8S±0.°1×154.°2E±0.°2, h150km, n19, σ0°90/16, mb3.7/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.59**	**308**	P	**Pn**	**03 49 32.5**	**-1.3**
PMG	**Port Moresby**	**7.85**	**242**	Pn	**Pn**	**03 50 42.8**	**-0.2**
DZM	**Mont Dzumac**	**20.04**	**145**	P	**P**	**03 53 11.3**	**-1.7**
	2.1nm,0.5s,baz=273,slow=11,SNR=6.9						
DZM	**Mont Dzumac**	**20.04**	**145**	IAmb	IAmb	03 53 49.9	
	comp=Z,38nm,1.8s						
WR0	**Warramunga Arr**	**23.74**	**232**	P	**P**	**03 53 50.5**	**+0.4**
WR0				IAmb	IAmb	03 54 38.6	
	comp=Z,21nm,1.8s						
WB0	**Warramunga Arr**	**23.75**	**232**	P	**P**	**03 53 50.2**	**-0.1**
WB0				IAmb	IAmb	03 53 58.0	
	comp=Z,27nm,1.9s						
WB2	**Warramunga Arr**	**23.88**	**232**	P	**P**	**03 53 52.3**	**+0.9**
WB2				IAmb	IAmb	03 53 52.8	
	comp=Z,9.9nm,1.4s						
WRA	**Warramunga Arr**	**23.89**	**232**	P	**P**	**03 53 52.8**	**+1.2**
	comp=Z,1.7nm,0.6s,baz=55,slow=9.6,SNR=24						
AS31	**Alice Springs**	**26.41**	**226**	P	**P**	**03 54 14.5**	**+0.2**
ASAR	**Alice Springs**	**26.41**	**226**	P	**P**	**03 54 14.9**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=57,slow=9.2,SNR=22						
STKA	**Stephens Creek**	**28.50**	**203**	P	**P**	**03 54 32.5**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=12,slow=14,SNR=4.0						
STKA	**Stephens Creek**	**28.50**	**203**	IAmb	IAmb	03 54 47.4	
	comp=Z,2.2nm,1.4s						
FITZ	**Fitzroy Crossi**	**30.45**	**244**	P	**P**	**03 54 50.2**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=57,slow=9.3,SNR=6.2						
FORT	**Forrest**	**34.94**	**221**	P	**P**	**03 55 29.2**	**+0.2**
CAST	**Castle Rocks**	**79.91**	**22**	P	**P**	**04 00 45.0**	**+1.6**
MKAR	**Makanchi Array**	**82.00**	**319**	P	**P**	**04 00 54.7**	**-0.1**
MAW	**Mawson**	**85.19**	**203**	P	**P**	**04 01 10.9**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=82,slow=7.1,SNR=4.1						
MAW	**Mawson**	**85.19**	**203**	IAmb	IAmb	04 02 44.5	
	comp=Z,1.7nm,1.6s						
TORD	**Torodi Ar. Bea**	**151.94**	**287**	PKPbc	**PKiKP**	**04 08 30.1**	**0.0**
	comp=Z,0.1nm,0.3s,baz=91,slow=2.9,SNR=1.4						

MEX 26 03:54:33.3±0.8, 19.°10N×104.°50W, h34km±10km, MD3.6, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
R15V		**0.50**	**82**	*eP*	Pb	03 54 41.8	-2.2
R15V				*eS*	Sb	03 54 48.8	-2.5
CJM	**Chamela**	**0.65**	**308**	*iP*	Pn	03 54 44.3	-1.7
CJM				*eS*	Sn	03 54 52.7	-2.4
COIG	**Colima**	**0.77**	**84**	*eP*	Pn	03 54 45.4	-2.5
COIG				*eS*	Sn	03 54 55.6	-2.8
EZ5V		**0.93**	**66**	*eP*	Pn	03 54 48.5	-1.7
EZ5V				*eS*	Sn	03 55 00.9	-1.5
MMIG	**Aquila**	**1.36**	**126**	*eP*	Pn	03 54 54.1	-1.8
MMIG				*eS*	Sn	03 55 10.7	-2.1

IDC 26 03:56:56.1±4.7, 28.°56S×177.°79W, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.5/30, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=92.4km s-min=58.0km az=86.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**10.56**	**202**	Pn	Pn	03 59 29.6	+0.9
	0.3nm,0.3s,baz=160,slow=23,SNR=2.2						
URZ				Sn	Sn	04 01 11.6	-16
	1.4nm,0.3s,baz=136,slow=20,SNR=8.6						
ASAR	**Alice Springs**	**43.42**	**265**	P	P	04 05 00.2	-0.7
	0.3nm,0.9s,baz=108,slow=6.0,SNR=2.0						
WRA	**

comp=E,0.1nm,0.3s,baz=183,slow=9.4,SNR=4.0
LPAZ La Paz 14.67 13 Pn Pn 04 04 24.4 -0.5
SIV San Ignacio 17.46 35 P P 04 05 00.7 +0.1
comp=E,0.2nm,0.3s,baz=220,slow=6.5,SNR=8.2
BDFB Brasilia 26.18 60 P P 04 06 30.0 -0.1
comp=E,2.1nm,0.5s,baz=280,slow=12,SNR=4.2
BDFB Brasilia 26.18 60 IAmb IAmb 04 06 38.7
comp=Z,11nm,1.3s
DBIC Dimbokro 73.67 72 P **P 04 12 28.4 -0.4**
comp=Z,2.1nm,0.5s,baz=235,slow=4.3,SNR=8.9
TORD Torodi Ar. Bea 82.63 70 P **P 04 13 18.1 -0.3**
comp=Z,0.8nm,0.7s,baz=278,slow=6.2,SNR=20
TORD Torodi Ar. Bea 82.63 70 IAmb IAmb 04 13 19.7
comp=Z,2.9nm,1.4s
KURBB Kurchatov Arra 150.08 40 PKPbc **PKPbc 04 20 43.8 -1.0**
comp=Z,0.5nm,0.5s,baz=274,slow=2.5,SNR=6.2
ZALV Zalesovo Beam 151.15 30 PKPbc **PKPbc 04 20 46.0 -1.3**
comp=Z,1.5nm,0.3s,baz=262,slow=1.0,SNR=5.6
ZALV Zalesovo Beam 151.15 30 PKPbc 04 20 46.2 -1.0

IDC 26 04:02:12.7±4.4, 48°32N×33°57E, h0km, mb3.6/1, mb1 3.8/3, mb1mx3.2/33, mbtmp3.8/3, ML2.6/3, Error ellipse: s-maj=51.0km s-min=29.2km az=4.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**3.71**	**312**	Pn	Pn	04 03 10.4	-0.7
	1.0nm,0.3s,baz=126,slow=17,SNR=4.8						
AKASG				Pg	Pb	04 03 18.3	-0.6
	2.1nm,0.3s,baz=124,slow=17,SNR=6.9						
AKASG				Lg	Lg	04 04 09.0	
	6.3nm,0.3s,baz=128,slow=29,SNR=12						
FINES	**FINESS Array B**	**13.83**	**345**	Pn	Pn	04 05 24.1	-5.7
	0.1nm,0.3s,baz=155,slow=17,SNR=2.3						
HFS	**Hagfors**	**16.50**	**323**	Pn	Pn	04 05 58.3	-6.9
	0.1nm,0.3s,baz=125,slow=20,SNR=1.7						
ARCES	**ARCESS Array B**	**21.65**	**352**	P	P	04 07 02.6	-1.7
	1.9nm,0.7s,baz=173,slow=10,SNR=18						

*JMA **26** 04:08:48.4±0.1, 24°.18N×121°.96E, h37km±2km, M2.5*
*TAP **26** 04:08:48.5, 24°.29N×122°.00E, h15km, ML2.7, B*
ISC 26 04:08:49.0±1.0, 24°29N±0°.02×122°02E±0°.02, h11km±8km, n44, σ0s47/75, 3C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.26**	**274**	*e*P	**Pg**	**04 08 54.3**	**0.0**
	baz=280						
EHP				*e*S	**Sg**	**04 08 58.4**	**+0.5**
	baz=280						
EWUT	**Wuta**	**0.27**	**304**	P	**Pg**	**04 08 54.4**	**-0.1**
	baz=307						
EWUT				*e*S	**Sg**	**04 08 58.2**	**-0.1**
	baz=307						
ENA	**Nanau**	**0.29**	**298**	*i* P	**Pg**	**04 08 54.6**	**-0.3**
	baz=300						
ENA				*e*S	**Sg**	**04 08 59.2**	**+0.3**
	baz=300						
TWC	**Suao**	**0.35**	**333**	⇑*i*P	**Pg**	**04 08 55.8**	**-0.2**
	baz=338						
TWC				S	**Sg**	**04 09 00.7**	**-0.1**
	baz=338						
ETL	**Fush Village**	**0.39**	**250**	*e*P	**Pg**	**04 08 56.2**	**-0.5**
	baz=256						
ETL				*e*S	**Sg**	**04 09 01.8**	**-0.2**
	baz=256						
NACB	**Ninganchiao**	**0.41**	**253**	*e*P	**Pg**	**04 08 56.4**	**-0.6**
	baz=260						
NACB				*e*S	**Sg**	**04 09 02.5**	**0.0**
	baz=260						
NDS	**Dongshan**	**0.44**	**321**	*e*P	**Pg**	**04 08 57.6**	**0.0**
	baz=330						
NDS				*e*S	**Sg**	**04 09 03.8**	**+0.3**
	baz=330						
TWD	**Chiawan**	**0.44**	**242**	P	**Pg**	**04 08 57.7**	**0.0**
	baz=246						
TWD				*e*S	**Sg**	**04 09 03.6**	**0.0**
	baz=246						
ETLH	**Xiulin Townshi**	**0.50**	**260**	*e*P	**Pg**	**04 08 58.7**	**-0.2**
	baz=269						
ETLH				*e*S	**Sg**	**04 09 05.7**	**+0.2**
	baz=269						
ILA	**Ilan**	**0.53**	**332**	*e*P	**Pg**	**04 08 59.4**	**0.0**
	baz=329						
TWE	**Neicheng**	**0.54**	**323**	P	**Pg**	**04 08 59.4**	**-0.1**
	baz=327						
TWE				*e*S	**Sg**	**04 09 07.2**	**+0.6**
	baz=327						
ENTT	**Nioudou**	**0.54**	**310**	⇑P	**Pg**	**04 08 59.5**	**-0.1**
	baz=313						
ENTT				*e*S	**Sg**	**04 09 07.4**	**+0.6**
	baz=313						
NDT	**Datong Townshi**	**0.56**	**304**	P	**Pg**	**04 08 59.9**	**+0.1**
	baz=306						
NDT				S	**Sg**	**04 09 07.5**	**+0.2**
	baz=306						
NTC	**Toucheng**	**0.59**	**343**	*e*P	**Pg**	**04 09 00.6**	**+0.2**
	baz=346						
NTC				*e*S	**Sg**	**04 09 09.0**	**+0.8**
	baz=346						
NNSB	**Datong**	**0.60**	**283**	*e*P	**Pg**	**04 09 00.5**	**-0.2**
	baz=292						
NNSB				*e*S	**Sg**	**04 09 09.0**	**+0.4**
	baz=292						
NNS	**Nan Shan**	**0.61**	**284**	P	**Pg**	**04 09 00.9**	**0.0**
	baz=293						
NNS				S	**Sg**	**04 09 09.0**	**0.0**
	baz=293						
NWLT	**Wulai**	**0.68**	**316**	*e*P	**Pg**	**04 09 02.2**	**+0.1**
	baz=318						
NWLT				*e*S	**Sb**	**04 09 12.0**	**-0.2**
	baz=318						
TIPB	**Shuangxi**	**0.70**	**345**	*e*P	**Pg**	**04 09 02.9**	**+0.3**
	baz=349						
TIPB				*e*S	**Sg**	**04 09 12.3**	**+0.5**
	baz=349						
YHNB	**Yeheng**	**0.70**	**303**	⇑P	**Pg**	**04 09 02.6**	**+0.1**
	baz=311						
YHNB				*e*S	**Sg**	**04 09 11.9**	**+0.1**
	baz=311						
WHF	**Hehuan Shan**	**0.71**	**258**	*e*P	**Pg**	**04 09 02.9**	**+0.1**
	baz=265						
WHF				*e*S	**Sg**	**04 09 12.1**	**-0.1**
	baz=265						
FUSS	**Fushou**	**0.71**	**267**	*e*P	**Pg**	**04 09 03.4**	**+0.5**
	baz=274						
FUSS				*e*S	**Sg**	**04 09 13.0**	**+0.8**
	baz=274						
TWB1	**Santiao Chiao**	**0.71**	**357**	*e*P	**Pg**	**04 09 03.1**	**+0.3**
	baz=353						
TWB1				*e*S	**Sb**	**04 09 13.4**	**+0.2**
	baz=353						
NSK	**Sanguang**	**0.72**	**302**	*e*P	**Pg**	**04 09 02.9**	**0.0**
	baz=309						
NSK				*e*S	**Sg**	**04 09 12.3**	**0.0**
	baz=309						
ESL	**Shilin**	**0.72**	**229**	*e*P	**Pb**	**04 09 04.0**	**+0.5**
	baz=225						
TDCB	**Techi**	**0.79**	**267**	*e*P	**Pb**	**04 09 04.6**	**-0.2**
	baz=274						
TDCB				*e*S	**Sb**	**04 09 14.5**	**-1.1**
	baz=274						
TWA	**Mucha**	**0.79**	**330**	*e*P	**Pb**	**04 09 04.6**	**-0.2**
	baz=320						
NWF	**Wu-fen Shan**	**0.81**	**344**	P	**Pb**	**04 09 05.2**	**+0.2**
	baz=338						
NWF				S	**Sb**	**04 09 15.7**	**-0.3**
	baz=338						
CHGB	**Renai**	**0.81**	**254**	*e*P	**Pb**	**04 09 04.5**	**-0.7**
	baz=253						
CHGB				*e*S	**Sg**	**04 09 16.3**	**+1.0**
	baz=253						
JYNG	**Yonagunijimaku**	**0.85**	**79**	P	**Pb**	**04 09 05.3**	**-0.5**
JYNG				*e*S	**Sb**	**04 09 17.5**	**+0.2**
YOJ	**Yonaguni jima**	**0.92**	**79**	P	**Pb**	**04 09 06.2**	**-0.7**
YOJ				*e*S	**Sg**	**04 09 19.6**	**+1.0**
YOJ	**Yonaguni jima**	**0.92**	**79**	*e*P	**Pb**	**04 09 06.3**	**-0.5**
	baz=79						
YOJ				*e*S	**Sg**	**04 09 19.7**	**+1.0**
	baz=79						
TWS1	**Kuangyinshan**	**0.98**	**326**	*e*P	**Pb**	**04 09 07.9**	**0.0**
	baz=318						
LIOB	**Emei**	**0.98**	**291**	*e*P	**Pn**	**04 09 09.0**	**+0.3**
	baz=299						
LIOB				*e*S	**Sn**	**04 09 22.4**	**-0.3**
	baz=299						
WHP	**Taichung City**	**0.98**	**269**	*e*P	**Pg**	**04 09 08.7**	**+0.7**
	baz=278						
WHP				*e*S	**Sb**	**04 09 21.1**	**0.0**
	baz=278						
NSTT	**Nanjuang**	**0.99**	**290**	*e*P	**Pg**	**04 09 08.8**	**+0.8**
	baz=292						
NSTT				*e*S	**Sb**	**04 09 21.2**	**0.0**
	baz=292						
TWY	**Chenhua**	**1.05**	**339**	*e*P	**Pg**	**04 09 10.1**	**+0.8**
	baz=332						
SSLB	**Suanglung**	**1.10**	**243**	*e*P	**Pb**	**04 09 09.7**	**-0.3**
	baz=244						
YULB	**Yu-li**	**1.12**	**217**	*e*P	**Pb**	**04 09 10.2**	**-0.1**
	baz=212						
TYC	**Yuchr**	**1.13**	**250**	*e*P	**Pg**	**04 09 11.8**	**+1.0**
	baz=248						
YUS	**Yu-Shan**	**1.27**	**231**	*e*P	**Pb**	**04 09 13.4**	**+0.3**
	baz=227						
CHN5	**Tsauling**	**1.41**	**241**	*e*P	**Pg**	**04 09 17.2**	**+1.1**
	baz=238						
IRIF	**Iriomote-Funau**	**1.56**	**88**	P	**Pn**	**04 09 15.8**	**-0.8**
JKRS	**Kuro-shima**	**1.81**	**91**	P	**Pn**	**04 09 20.0**	**-0.1**
JIJ	**Ishigaki jima**	**1.93**	**87**	*e*S	**Sn**	**04 09 45.6**	**-0.5**

*TIR **26** 04:09:48.9, 41°.15N×20°.08E, h1km±1km, Md2.6, Ml2.6*
ISC 26 04:09:49.3±3.3, 41°1N±0°2×20°09E±0°07, h9km, n4, σ0s51/7, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.28**	**322**	P	**Pg**	**04 09 54.9**	**0.0**
	baz=321						
TIR				S	**Sg**	**04 09 59.2**	**+0.6**
	baz=321						
TIR				AMP			
	comp=N,0.2nm,0.2s,baz=321						
PHP	**Peshkopia**	**0.61**	**25**	P	**Pg**	**04 10 01.7**	**+0.4**
	baz=26						
PHP				S	**Sb**	**04 10 10.8**	**-0.3**
	baz=26						
PHP				AMP			
	comp=N,0.3nm,0.4s,baz=26						
PUK	**Puka**	**0.92**	**351**	P	**Pg**	**04 10 07.2**	**0.0**
	baz=351						
PUK				S	**Sn**	**04 10 21.4**	**-0.7**
	baz=351						
STIP	**Stip**	**1.68**	**70**	*i* Pn	**Pg**	**04 10 21.5**	**0.0**

*TUL **26** 04:12:10.5±1.1, 36°.57N±0°.02×97°.40W±0°.03, h5km±2km, ML2.5, mb_Lg2.6/31(NEIC), Error ellipse: s-maj=4.4km s-min=3.0km az=54.0*
NEIC 26 04:12:10.5±0.8, 36°56N±0°02×97°41W±0°03, h6km±7km, Error ellipse: s-maj=3.8km s-min=2.1km az=56.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLOK	**Blackwell**	**0.25**	**38**		Pg	04 12 15.5	+0.1
BLOK				Sg	Sg	04 12 19.3	+0.5
KAN13	**South Haven SW**	**0.45**	**353**		Pg	04 12 19.6	+0.3
KAN13				Sg	Sg	04 12 25.3	+0.1
GC02	**Grant County #**	**0.47**	**309**		Pg	04 12 19.9	+0.5
CROK	**Carrier**	**0.47**	**263**		Pg	04 12 19.5	0.0
CROK				Sg	Sg	04 12 26.4	+0.8
KAN17	**Caldwell West**	**0.56**	**329**		Pg	04 12 21.3	0.0
KAN17				Sg	Sg	04 12 28.8	+0.2
KAN14	**Manchester OK**	**0.60**	**312**		Pg	04 12 21.8	-0.2
KAN09	**Caldwell North**	**0.60**	**344**		Pg	04 12 22.2	+0.2
KAN05	**Bluff City Nor**	**0.66**	**326**		Pg	04 12 22.7	-0.5
KAN05				Sg	Sg	04 12 32.0	+0.2
KS20	**Mayfield South**	**0.68**	**350**		Pg	04 12 23.2	-0.3
KS20				Sg	Sg	04 12 32.5	+0.2
QUOK	**Quay**	**0.69**	**124**		Pg	04 12 23.5	-0.2
OK032	**Salt Plains WL**	**0.69**	**291**		Pg	04 12 24.0	+0.3
OK031	**S. Brethren Rd**	**0.76**	**143**		Pg	04 12 25.0	-0.1
OK029	**Liberty Lake**	**0.77**	**183**		Pg	04 12 25.4	+0.2
KAN06	**Argonia West S**	**0.78**	**332**		Pg	04 12 25.4	0.0
KAN10	**Anthony SW Sta**	**0.79**	**316**		Pg	04 12 25.7	+0.1
T35A	**Sooner Cattle**	**0.80**	**64**		Pg	04 12 25.2	-0.6
KAN08	**Anthony NE Sta**	**0.80**	**326**		Pg	04 12 25.4	-0.5
OK030	**Cody Creek RV**	**0.81**	**141**		Pg	04 12 25.6	-0.4
KAN16	**Harper SW Stat**	**0.85**	**322**		Pg	04 12 26.0	-0.7
KAN12	**Harper NE Stat**	**0.87**	**327**	Pg	Pg	04 12 26.5	-0.8
BCOK	**Bluff Creek, N**	**0.92**	**190**		Pg	04 12 27.6	-0.5
OK025	**Westminster Rd**	**0.98**	**177**		Pg	04 12 29.4	+0.1
OKCFA	**Oklahoma City**	**1.15**	**182**		Pg	04 12 32.2	-0.2
OKCSW	**OKLAHOMA CITY**	**1.15**	**181**		Pg	04 12 31.6	-1.1
U32A	**Winter Ranch,**	**1.30**	**262**		Pn	04 12 35.1	-0.1
FNO	**Franklin**	**1.30**	**180**		Pn	04 12 35.0	-0.3
TUL1	**Leonard**	**1.46**	**116**		Pn	04 12 37.3	-0.1
TUL1				IAmb_Lg		04 12 59.7	
	comp=Z,30nm,0.8s						
X34A	**Smith Ranch, M**	**1.99**	**190**		Pn	04 12 45.5	+0.8
R32A	**Long Quarter,**	**2.13**	**331**		Pn	04 12 47.0	+0.3
WMOK	**Wichita Mounta**	**2.14**	**212**		Pn	04 12 47.0	+0.3
WMOK				IAmb_Lg		04 13 20.8	
	comp=Z,25nm,0.8s						
U38A	**Gravette**	**2.44**	**92**		Pn	04 12 51.2	+0.3
LOOK	**Love County**	**2.57**	**176**	Pn	Pn	04 12 52.7	0.0
LOOK				IAmb_Lg		04 13 35.8	
	comp=Z,15nm,1.0s						
X37A	**Clayton**	**2.57**	**139**	Pn	Pn	04 12 52.7	-0.1
KSU1	**Kansas State U**	**2.61**	**14**	Pn	Pn	04 12 53.0	-0.2
HHAR	**Hobbs**	**2.81**	**95**		Pn	04 12 54.2	-1.8
CBKS	**Cedar Bluff**	**2.91**	**321**	Pn	Pn	04 12 56.5	-1.0
W39A	**Magazine**	**3.24**	**114**	Pn	Pn	04 13 01.2	-0.7
S39A	**Bolivar**	**3.45**	**70**	Pn	Pn	04 13 05.1	+0.3
S39A				IAmb_Lg		04 14 07.1	
	comp=Z,11nm,0.7s						
U40A	**Yellville**	**3.68**	**92**	Pn	Pn	04 13 07.7	-0.2
MIAR	**Mount Ida**	**3.71**	**122**	Pn	Pn	04 13 07.8	-0.7
MIAR				IAmb_Lg		04 14 12.6	
	comp=Z,12nm,0.8s						
Z38A	**Mt. Pleasant**	**3.85**	**148**	IAmb_Lg		04 14 19.8	
	comp=Z,16nm,0.8s						
AMTX	**Amarillo**	**3.86**	**246**	Pn	Pn	04 13 10.2	-0.3
AMTX				IAmb_Lg		04 14 17.2	
	comp=Z,18nm,0.8s						
MGMO	**Mountain Grove**	**4.16**	**80**	Pn	Pn	04 13 14.4	-0.2
MGMO				IAmb_Lg		04 14 22.8	
	comp=Z,13nm,0.7s						
X40A	**Basin Creek Fa**	**4.26**	**118**	Pn	Pn	04 13 15.8	-0.1
X40A				IAmb_Lg		04 14 28.0	
	comp=Z,8.2nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.32**	**97**	Pn	Pn	04 13 16.9	+0.1
P38A	**Dawn**	**4.32**	**44**	Pn	Pn	04 13 15.5	-1.3
P38A				IAmb_Lg		04 14 31.7	
	comp=Z,8.6nm,0.7s						
WHAR	**Wooly Hollow**	**4.34**	**105**	Pn	Pn	04 13 16.6	-0.4
N35A	**Tabor**	**4.51**	**17**	Pn	Pn	04 13 18.6	-0.8
LCAR	**Lake Charles**	**5.07**	**94**	Pn	Pn	04 13 25.8	-1.2
CCM	**Cathedral Cave**	**5.13**	**71**	IAmb_Lg		04 14 54.1	
	comp=Z,11nm,0.8s						
P40A	**Paris**	**5.16**	**53**	IAmb_Lg		04 15 02.3	
	comp=Z,12nm,0.8s						
L34A	**Svendsen Farm,**	**5.46**	**8**	IAmb_Lg		04 15 10.4	
	comp=Z,16nm,1.0s						
K31A	**O'Neill**	**6.14**	**351**	IAmb_Lg		04 15 41.2	
	comp=Z,13nm,0.8s						
SCIA	**State Center**	**6.25**	**30**	IAmb_Lg		04 15 39.6	
	comp=Z,9.9nm,0.7s						
N41A	**Harden Midland**	**6.59**	**49**	IAmb_Lg		04 15 45.5	
	comp=Z,10nm,0.8s						
K38A	**Parkersburg**	**7.05**	**29**	IAmb_Lg		04 16 09.7	
	comp=Z,9.1nm,1.0s						

*TUL **26** 04:13:06.1±0.7, 36°.57N±0°.02×97°.39W±0°.04, h8km±7km, ML2.5, mb_Lg2.5/9(NEIC), Error ellipse: s-maj=5.0km s-min=2.2km az=54.0*
NEIC 26 04:13:05.8±0.6, 36°55N±0°02×97°41W±0°02, h5km±6km, Error ellipse: s-maj=2.9km s-min=2.2km az=224.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLOK	**Blackwell**	**0.26**	**37**	Pg	Pg	04 13 11.1	+0.1
CROK	**Carrier**	**0.46**	**265**	Pg	Pg	04 13 15.0	+0.3
KAN13	**South Haven SW**	**0.47**	**354**	Pg	Pg	04 13 15.0	+0.2
GC02	**Grant County #**	**0.47**	**310**	Pg	Pg	04 13 15.1	+0.2
KAN17	**Caldwell West**	**0.57**	**330**	Pg	Pg	04 13 16.6	-0.1
KAN14	**Manchester OK**	**0.60**	**313**	Pg	Pg	04 13 17.6	+0.2
KAN09	**Caldwell North**	**0.61**	**344**	Pg	Pg	04 13 16.6	-0.9
QUOK	**Quay**	**0.68**	**123**	Pg	Pg	04 13 19.1	+0.2
KS20	**Mayfield South**	**0.69**	**351**	Pg	Pg	04 13 18.9	-0.1
OK032	**Salt Plains WL**	**0.69**	**292**	Pg	Pg	04 13 19.1	0.0
OK029	**Liberty Lake**	**0.75**	**183**	Pg	Pg	04 13 20.6	+0.3
OK031	**S. Brethren Rd**	**0.76**	**142**	Pg	Pg	04 13 20.5	+0.2
KAN10	**Anthony SW Sta**	**0.79**	**316**	Pg	Pg	04 13 21.0	0.0
OK030	**Cody Creek RV**	**0.80**	**140**	Pg	Pg	04 13 21.1	-0.2
KAN08	**Anthony NE Sta**	**0.81**	**327**	Pg	Pg	04 13 21.3	-0.1
BCOK	**Bluff Creek, N**	**0.91**	**190**	Pg	Pb	04 13 23.7	-0.3
OK025	**Westminster Rd**	**0.97**	**176**	Pg	Pg	04 13 24.3	-0.1
OKCFA	**Oklahoma City**	**1.13**	**182**	Pg	Pg	04 13 27.3	-0.2
OKCSW	**OKLAHOMA CITY**	**1.14**	**181**	Pg	Pg	04 13 27.5	-0.2
FNO	**Franklin**	**1.29**	**180**	Pn	Pg	04 13 30.6	0.0
TUL1	**Leonard**	**1.46**	**115**	Pn	Pn	04 13 33.0	+0.2
X34A	**Smith Ranch, M**	**1.98**	**190**	Pn	Pn	04 13 41.0	+1.0
U40A	**Yellville**	**3.68**	**92**		Pn	04 14 03.0	-0.4
MIAR	**Mount Ida**	**3.71**	**121**		Pn	04 14 04.2	+0.4
AMTX	**Amarillo**	**3.85**	**246**	Pn	Pn	04 14 06.6	+0.8
AMTX				IAmb_Lg		04 15 12.6	
	comp=Z,10nm,0.7s						
P38A	**Dawn**	**4.33**	**44**	Pn	Pn	04 14 11.3	-1.1
WHAR	**Wooly Hollow**	**4.34**	**105**	Pn	Pn	04 14 12.2	-0.4
LCAR	**Lake Charles**	**5.08**	**94**	Pn	Pn	04 14 22.3	-0.2
T42A	**Van Buren**	**5.09**	**83**	Pn	Pn	04 14 22.4	-0.5
CCM	**Cathedral Cave**	**5.14**	**71**	Pn	Pn	04 14 23.1	-0.4
CCM				IAmb_Lg		04 15 49.8	
	comp=Z,8.0nm,0.9s						
P40A	**Paris**	**5.17**	**53**	Pn	Pn	04 14 24.0	+0.1
PBMO	**Poplar Bluff**	**5.62**	**86**	IAmb_Lg		04 16 07.3	
	comp=Z,6.5nm,0.8s						
143A	**Socs Landing,**	**6.27**	**126**	IAmb_Lg		04 16 21.1	
	comp=Z,13nm,0.8s						

WEL 26 04:25:13.3±1.3, 37°S±11°×177°9E±1°4, h33km, M3.4/10, ML3.7/10, MLv3.4/10, Error ellipse: s-maj=0.0km s-min=0.0km az=124.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.88**	**225**	P	Pn	04 25 27.3	-1.9
MXZ				S	Sn	04 25 37.5	-3.4
WMGZ	**Waiomatatini S**	**1.02**	**211**	P	Pn	04 25 31.7	+0.4
WMGZ				S	Sb	04 25 45.6	-0.1
PKGZ	**Pakihiroa**	**1.24**	**220**	P	Pn	04 25 34.5	+0.2
PKGZ				S	Sn	04 25 50.1	+0.2
PUZ	**Puketiti**	**1.30**	**210**	P	Pn	04 25 35.3	+0.1
PUZ				S	Sn	04 25 51.3	-0.3
HAZ	**Te Kaha**	**1.32**	**232**	P	Pn	04 25 33.8	-1.5
HAZ				S	Sb	04 25 53.1	-0.9
TWGZ	**Tauwhareparae**	**1.51**	**215**	P	Pn	04 25 38.6	+0.5
TWGZ				S	Sn	04 25 57.5	+0.8
RUGZ	**Raukumara Rang**	**1.52**	**227**	P	Pn	04 25 38.2	0.0
CNGZ	**Carnagh Statio**	**1.69**	**204**	P	Pn	04 25 41.0	+0.6
TKGZ	**Te Karaka**	**1.79**	**213**	P	Pn	04 25 42.1	+0.3
MWZ	**Matawai**	**1.86**	**221**	P	Pn	04 25 43.3	+0.4
WHRZ	**Whale Island**	**1.91**	**241**	P	Pn	04 25 44.6	+1.1
RAGZ	**Rawiri**	**2.04**	**220**	P	Pn	04 25 45.9	+0.6
RAGZ				S	Sn	04 26 09.6	-0.1
URZ	**Urewera**	**2.05**	**230**	P	Pn	04 25 45.4	+0.1
URZ				S	Sn	04 26 08.4	-1.4
RIGZ	**Rimuhau**	**2.05**	**210**	P	Pn	04 25 45.1	-0.3
PRGZ	**Paritu Road**	**2.19**	**205**	P	Pn	04 25 46.9	-0.5
EDRZ	**Edgecumbe**	**2.20**	**237**	P	Pn	04 25 47.7	+0.1
OPRZ	**Ohinepanea**	**2.21**	**245**	P	Pn	04 25 48.3	+0.7
SNGZ	**Shannon Statio**	**2.30**	**217**	P	Pn	04 25 48.8	-0.1
SNGZ				S	Sn	04 26 15.7	-0.3
MYRZ	**Mayor Island**	**2.30**	**261**	P	Pn	04 25 49.2	+0.4
KNZ	**Kokohu**	**2.36**	**208**	P	Pn	04 25 48.7	-1.0
RTZ	**Ruatahuna**	**2.36**	**224**	P	Pn	04 25 49.8	+0.1
MUGZ	**Murupara**	**2.39**	**230**	P	Pn	04 25 50.1	-0.1
MHGZ	**Mahia Peninsul**	**2.39**	**203**	P	Pn	04 25 49.8	-0.4
MTHZ	**Maungataniwha**	**2.60**	**222**	P	Pn	04 25 53.5	+0.4
KUZ	**Kuaotunu**	**2.71**	**273**	P	Pn	04 25 53.4	-1.0
NMHZ	**Naumai**	**2.80**	**219**	P	Pn	04 25 55.9	0.0
TOZ	**Tahuroa Road**	**2.96**	**254**	P	Pn	04 25 56.4	-1.6
BKZ	**Black Stump Fm**	**3.02**	**222**	P	Pn	04 25 58.3	-0.6
MCHZ	**McNeill Hill**	**3.13**	**216**	P	Pn	04 25 59.6	-0.7
MKAZ	**Moumakai**	**3.15**	**266**	P	Pn	04 25 60.0	-0.5
WIAZ	**Waiheke Island**	**3.17**	**272**	P	Pn	04 26 00.7	-0.2
KWHZ	**Kaweka Forest**	**3.25**	**219**	P	Pn	04 26 01.2	-0.8
ETAZ	**East Tamaki Re**	**3.33**	**269**	P	Pn	04 26 03.1	0.0
KAHZ	**Kahuranaki**	**3.33**	**211**	P	Pn	04 26 01.4	-1.7
MBAZ	**Motutapu North**	**3.37**	**272**	P	Pn	04 26 04.9	+1.4
KRHZ	**Kereru**	**3.44**	**218**	P	Pn	04 26 03.6	-1.0
TMVZ	**Te Maari**	**3.44**	**230**	P	Pn	04 26 03.9	-0.8
BHHZ	**Black Hill Sta**	**3.48**	**222**	P	Pn	04 26 04.4	-0.8
OTVZ	**Oturere**	**3.49**	**230**	P	Pn	04 26 04.6	-0.9
SNVZ	**South Ngauruho**	**3.52**	**230**	P	Pn	04 26 05.3	-0.5
TWVZ	**Taurewa**	**3.58**	**233**	P	Pn	04 26 06.7	+0.1
MOVZ	**Moawhango**	**3.60**	**226**	P	Pn	04 26 05.6	-1.2
WHVZ	**Whangaehu Hut**	**3.61**	**229**	P	Pn	04 26 06.3	-0.8
FWVZ	**Far West T-bar**	**3.62**	**229**	P	Pn	04 26 07.1	-0.1
RVAZ	**Riverhead Bore**	**3.62**	**271**	P	Pn	04 26 07.5	+0.5
WNVZ	**Wahianoa**	**3.64**	**228**	P	Pn	04 26 06.4	-1.0
PNHZ	**Pukenui**	**3.73**	**217**	P	Pn	04 26 06.7	-1.9
WPHZ	**Waipukurau**	**3.74**	**213**	P	Pn	04 26 06.5	-2.2
WCZ	**Waipu Caves**	**3.95**	**283**	P	Pn	04 26 12.3	+0.7
VRZ	**Vera Road**	**4.05**	**236**	P	Pn	04 26 13.4	+0.5
WAZ	**Wanganui**	**4.27**	**228**	P	Pn	04 26 15.7	-0.3
MRZ	**Mangataino

DY2G IAML 04 54 34.9
comp=Z,449nm,0.4s
SFJD Kangerlussuaq 6.95 339 Pn **Pn** **04 53 37.9 -0.5**
comp=Z,14nm,0.3s,baz=144,slow=14,SNR=40
SFJD Sn **Sn** **04 54 53.6 -3.7**
comp=Z,28nm,0.3s,baz=122,slow=1.8,SNR=6.4
SFJD Lg Lg 04 55 26.6
comp=Z,59nm,0.3s,baz=55,slow=21,SNR=14
SFJD LR LR 04 56 25.9
comp=Z,2µm,18.9s,baz=172,slow=38
SFJD Kangerlussuaq 6.95 339 PN **Pn** **04 53 38.0 -0.4**
SFJD SN **Sn** **04 54 55.5 -1.8**
SFJD Trac 04 55 37.4
comp=Z,285nm,0.9s
SFJD LG Lg 04 55 39.8
SFJD Kangerlussuaq 6.95 339 *i* P **Pn** **04 53 38.1 -0.2**
SFJD *i* P **Pn** **04 53 39.0 +0.7**
SFJD IAML 04 55 34.5
comp=Z,129nm,0.5s
ICESG Greenland Ices 8.69 11 *i* P **Pn** **04 54 01.3 -1.2**
ICESG *i* 04 55 38.1
ICESG IAML 04 56 25.1
comp=Z,99nm,0.5s
ILULI Ilulissat 9.05 344 PN **Pn** **04 54 06.6 -0.6**
ILULI SN **Sn** **04 55 43.2 -5.8**
ILULI LG Lg 04 56 42.6
ILULI Trac 04 56 42.8
comp=Z,5µm,1.9s
ILULI Ilulissat 9.05 344 *i* P **Pn** **04 54 04.7 -2.5**
ILULI IAML 04 56 02.7
comp=Z,62nm,0.4s
ILULI Ilulissat 9.05 344 **Pn** **04 54 04.7 -2.5**
NANL Nain 9.97 253 PN **Pn** **04 54 20.6 +0.9**
NANL SN **Sn** **04 56 08.0 -3.5**
NANL Trac 04 56 10.7
comp=Z,17nm,0.1s
KAJQ Kangiqsualujju 11.11 269 PN **Pn** **04 54 37.4 +2.1**
KAJQ SN **Sn** **04 56 38.5 -0.9**
KAJQ Trac 04 56 58.6
comp=Z,50nm,0.5s
BORG Borgarnes 11.28 59 Pn **Pn** **04 54 36.7 -0.9**
comp=Z,16nm,0.3s,baz=266,slow=1.5,SNR=23
BORG Borgarnes 11.28 59 **Pn** **04 54 37.1 -0.5**
NUUG Nuugaatsiaq 11.49 346 *i* P **Pn** **04 54 39.4 -1.1**
FRB Frobisher Bay 11.71 296 Pn **Pn** **04 54 44.4 +0.9**
comp=Z,1.9nm,0.3s,baz=116,slow=8.9,SNR=8.0
FRB Frobisher Bay 11.71 296 PN **Pn** **04 54 45.1 +1.6**
FRB SN **Sn** **04 56 52.9 -1.2**
FRB SN **Sn** **04 56 53.6 -0.5**
FRB Trac 04 57 12.8
comp=Z,836nm,3.1s
SUMG Summit 12.18 8 *i* P **Pn** **04 54 48.6 -1.7**
SUMG *i* S **Sn** **04 57 00.5 -5.7**
SUMG IAML 04 57 09.8
comp=Z,30nm,0.4s
SUMG Summit 12.18 8 Pn **Pn** **04 54 48.6 -1.7**
SCHQ Schefferville 13.34 254 Pn **Pn** **04 55 05.8 -0.1**
comp=Z,4.7nm,0.3s,baz=56,slow=9.7,SNR=38
SCHQ Sn **Sn** **04 57 30.5 -3.6**
comp=Z,11nm,0.3s,baz=192,slow=9.3,SNR=11
SCHQ Schefferville 13.34 254 PN **Pn** **04 55 07.1 +1.3**
SCHQ SN **Sn** **04 57 29.7 -4.4**
SCHQ Trac 04 57 31.5
comp=Z,66nm,0.6s
SCHQ Schefferville 13.34 254 Pn **Pn** **04 55 08.1 +2.2**
DRLN Deer Lake 13.68 219 PN **Pn** **04 55 08.4 -2.1**
DRLN SN **Sn** **04 57 34.1 -8.4**
DRLN Trac 04 57 55.1
comp=Z,90nm,0.8s
DRLN Deer Lake 13.68 219 Pn **Pn** **04 55 13.4 +2.9**
SJNN Saint John's 13.97 204 PN **Pn** **04 55 12.2 -2.2**
SJNN SN Sn 04 57 37.8 -12
SJNN Trac 04 57 46.4
comp=Z,158nm,0.7s
NATG Natashquan Que 14.71 233 PN **Pn** **04 55 24.7 +0.1**
NATG SN **Sn** **04 58 01.0 -6.5**
NATG Trac 04 58 32.9
comp=Z,291nm,1.8s
SMQ Clarke City 16.37 240 PN **Pn** **04 55 47.1 +0.8**
SMQ SN **Sn** **04 58 40.2 -7.6**
SMQ Trac 04 58 54.5
comp=Z,28nm,0.5s
NEEM North Greenlan 17.02 355 *i* P **Pn** **04 55 52.5 -2.2**
NEEM *i* 04 58 53.8
NEEM IAML 04 59 10.2
comp=Z,13nm,0.3s
ICQ Pointe Anglais 17.14 240 PN **Pn** **04 55 56.2 +0.2**
ICQ SN **Sn** **04 58 58.2 -8.2**
ICQ Trac 04 59 05.5
comp=Z,45nm,0.5s
LG4Q La Grande 4 17.52 260 PN **P** **04 56 02.5 +0.6**
LG4Q SN **Sn** **04 59 08.2 -7.4**
LG4Q Trac 04 59 14.5
comp=Z,31nm,0.5s
GSQ Grosses Roches 17.54 238 PN **P** **04 56 02.2 +0.1**
GSQ SN **Sn** **04 59 07.3 -8.9**
CNQ Baie Comeau 17.65 241 PN **P** **04 56 04.7 +1.3**
CNQ SN **Sn** **04 59 10.8 -8.0**
CNQ Trac 04 59 22.6
comp=Z,10nm,0.3s
TULEG Thule 18.00 342 *i* P **Pn** **04 56 05.0 -1.5**
TULEG IAML 04 59 24.4
comp=Z,6.3nm,0.4s
GBN Guysborough 18.36 221 P **Pn** **04 56 11.1 0.0**
BATG Bathurst New B 18.41 233 P **Pn** **04 56 12.2 +0.4**
BATG **PcP** **05 00 42.0 +0.1**
LMN Caledonia Moun 19.12 228 P **P** **04 56 19.4 -0.2**
LMN IAmb IAmb 04 56 27.9
comp=Z,62nm,1.2s
PQI Presque Isle 19.69 235 P **Pn** **04 56 26.7 -0.4**
PQI IAmb IAmb 04 56 30.9
comp=Z,52nm,1.4s
HAL Halifax 19.74 224 P **Pn** **04 56 27.7 0.0**
D62A Allapoint, All 19.78 238 **Pn** **04 56 28.5 +0.3**
D62A IAmb IAmb 04 56 35.0
comp=Z,32nm,0.7s
LMQ La Malbaie 19.96 241 P **P** **04 56 28.8 +0.2**
E62A Clayton Lake 20.35 238 P **P** **04 56 33.9 +1.0**
F64A Sherman 20.48 235 P Pn 04 56 35.6 -0.9
G65A Princeton 20.72 232 P **P** **04 56 38.0 +1.2**
F63A Nahmakanta, Br 20.91 235 P **P** **04 56 40.3 +1.2**
EMMW East Machias 21.09 231 P **P** **04 56 42.4 +1.5**
EMMW IAmb IAmb 04 56 54.6
comp=Z,28nm,0.9s
F62A Pittston Farm, 21.11 237 P **P** **04 56 43.5 +2.3**
F62A IAmb IAmb 04 56 47.1
comp=Z,64nm,1.2s
PKME Peaks-Kenny Pk 21.35 235 P **P** **04 56 45.0 +1.2**
PKME IAmb IAmb 04 56 49.6
comp=Z,47nm,1.1s
PKME Peaks-Kenny Pk 21.35 235 P **P** **04 56 44.9 +1.2**
baz=35,SNR=5.3
DSB Dublin 21.70 93 P **P** **04 56 47.7 +0.3**
G62A West of Eustis 21.89 237 P **P** **04 56 51.1 +1.5**
WVL Waterville 22.07 235 IAmb IAmb 04 57 08.0
comp=Z,27nm,1.1s
EKA Eskdalemuir Ar 22.15 85 P **P** **04 56 52.0 -0.2**
comp=Z,4.2nm,0.6s,baz=301,slow=9.6,SNR=14
NOR Nord 22.33 10 *i* P **P** **04 56 53.4 -0.5**
MOQ Mont Orford 22.54 240 P **P** **04 56 55.3 -1.3**
H62A Milan 22.67 237 IAmb IAmb 04 57 17.0
comp=Z,25nm,1.2s
RES Resolute Bay 22.77 328 P **P** **04 56 58.3 -0.4**
RES IAmb IAmb 04 57 13.1
comp=Z,19nm,0.9s
I63A Otisfield 22.87 235 IAmb IAmb 04 57 06.0
comp=Z,60nm,1.4s
MNTQ Montreal, Queb 22.98 242 IAmb IAmb 04 57 16.8
comp=Z,23nm,1.1s
EUNU Eureka 22.99 343 P **P** **04 57 02.5 +1.4**
EUNU IAmb IAmb 04 57 17.3
comp=Z,25nm,0.9s
LBNH Lisbon 23.27 238 P **P** **04 57 06.2 +2.1**
baz=35
FRNY Flat Rock 23.49 241 P **P** **04 57 08.0 +1.7**
FRNY IAmb IAmb 04 57 10.0
comp=Z,13nm,0.8s
HNH Hanover 23.85 237 IAmb IAmb 04 57 12.2
comp=Z,35nm,1.4s
PLVO Plevna 24.86 246 IAmb IAmb 04 57 25.2
comp=Z,30nm,1.0s
J58A Remsen 25.40 241 IAmb IAmb 04 57 29.6
comp=Z,21nm,1.1s
DELO Deloro Mine 25.51 246 P **P** **04 57 27.4 +2.4**

SPITS Spitsbergen Ar 25.66 25 P **P** **04 57 27.4 +1.3**
comp=Z,5.3nm,0.8s,baz=171,slow=10,SNR=2.8
SADO Sadowa 26.01 248 P **P** **04 57 30.4 +0.8**
comp=Z,10nm,1.0s,baz=50,slow=10,SNR=2.1
NOA NORSAR Array B 26.36 65 P **P** **04 57 33.7 +1.1**
comp=Z,0.8nm,0.7s,baz=292,slow=9.1,SNR=3.4
NOA LR LR 05 07 00.3
comp=Z,115nm,20.0s,baz=70,slow=34
E43A Lone Tree Farm 28.53 259 IAmb IAmb 04 58 07.0
comp=Z,10nm,1.0s
PGAV Gavieira, Arco 28.73 114 *e*P **P** **04 57 53.3 -0.8**
comp=Z,30nm,1.9s
SSPA Standing Stone 28.75 241 P **P** **04 57 55.6 +1.5**
baz=34
M54A Oil Creek Stat 28.81 244 P **P** **04 57 56.2 +1.5**
baz=36
ARCES ARCESS Array B 29.01 43 P **P** **04 57 54.7 -1.4**
comp=Z,4.6nm,0.6s,baz=289,slow=7.6,SNR=23
ARCES ARCESS Array B 29.01 43 P **P** **04 57 56.2 0.0**
ARCES IAmb IAmb 04 58 02.0
comp=Z,18nm,1.1s
PCAB Cabril 29.05 114 *e*P **P** **04 57 58.0 +1.2**
CLF Chambon-Foret 29.25 94 IAmb IAmb 04 58 05.6
comp=Z,14nm,0.9s
N54A Moraine State 29.40 244 IAmb IAmb 04 58 05.4
comp=Z,20nm,0.9s
N54A Moraine State 29.40 244 P **P** **04 58 01.7 +1.8**
baz=36
KEV Kevo 29.44 42 P **P** **04 57 59.6 -0.4**
PBRG Braganca 29.55 113 *e*P **P** **04 58 01.7 +0.4**
comp=Z,26nm,1.7s
EYMN Ely 29.63 266 P **P** **04 58 02.6 +0.7**
baz=47
MVO Moncorvo 29.93 114 *e*P **P** **04 58 04.4 -0.3**
comp=Z,23nm,1.7s
PCAS Casmilo, Conde 30.18 117 *e*P **P** **04 58 06.3 -0.5**
comp=Z,34nm,1.8s
ULM Lac du Bonnet 30.26 273 P **P** **04 58 07.8 +0.4**
comp=Z,8.7nm,0.7s,baz=54,slow=9.7,SNR=6.3
ULM Lac du Bonnet 30.26 273 IAmb IAmb 04 58 11.0
comp=Z,9.4nm,0.8s
MTE Manteigas 30.32 115 *e*P **P** **04 58 10.6 +2.5**
PSBE So Bento 30.49 118 *e*P **P** **04 58 09.7 +0.1**
comp=Z,41nm,1.9s
O53A New Philadelph 30.52 245 P **P** **04 58 11.8 +2.0**
baz=36
PCBR Castelo Branco 30.80 116 *e*P **P** **04 58 11.8 -0.5**
comp=Z,24nm,1.3s
PMTG Montargil 31.11 118 *e*P **P** **04 58 14.1 -0.9**
comp=Z,21nm,2.4s
ECH Echery 31.54 90 P **P** **04 58 18.2 -0.5**
ECH IAmb IAmb 04 58 21.5
comp=Z,7.3nm,0.9s
AGMN Agassiz Nation 31.54 271 IAmb IAmb 04 58 23.2
comp=Z,10nm,0.8s
AGMN Agassiz Nation 31.54 271 P **P** **04 58 19.8 +1.0**
baz=47
PESTR Estremoz 31.55 117 *e*P **P** **04 58 20.4 +1.5**
comp=Z,18nm,1.3s
PESTR Estremoz 31.55 117 P **P** **04 58 19.0 +0.1**
EVO Evora 31.64 118 *e*P **P** **04 58 19.5 -0.2**
comp=Z,19nm,2.0s
YKA Yellowknife Ar 32.02 304 P **P** **04 58 23.8 +1.0**
comp=Z,1.0nm,0.7s,baz=127,slow=7.0,SNR=3.0
BFO Black Forest 32.03 88 P **P** **04 58 23.2 +0.1**
BFO IAmb IAmb 04 58 26.4
comp=Z,6.4nm,0.9s
SPMN Marine on St. 32.19 264 IAmb IAmb 04 58 28.1
comp=Z,10nm,0.6s
SPMN Marine on St. 32.19 264 P **P** **04 58 25.9 +1.4**
baz=44
SSB Saint Sauveur 32.30 96 P **P** **04 58 25.1 -0.4**
SSB IAmb IAmb 04 58 25.1
comp=Z,9.8nm,1.3s
PBAR Barrancos 32.37 117 *e*P **P** **04 58 26.1 +0.1**
comp=Z,20nm,1.5s
CLL Colm 32.38 81 *i* P **P** **04 58 24.8 -1.2**
comp=Z,8.0nm,1.5s
CLL *i* pP **pP** **04 58 28.4 -0.9**
comp=Z,9.0nm,1.2s
CLL *e*PP **PP** **04 59 36.0 -2.9**
CLL *e*PPP PPP 04 59 40.0
MORF Marmelete 32.39 120 *e*P **P** **04 58 26.1 -0.3**
comp=Z,33nm,1.7s
MEF Metsahovi 32.49 60 *e*P **P** **04 58 27.9 +1.0**
ESDC Sonseca Array 32.52 112 P **P** **04 58 26.8 -0.6**
comp=Z,3.6nm,1.0s,baz=322,slow=8.8,SNR=22
ESDC Sonseca Array 32.52 112 P **P** **04 58 27.2 -0.3**
GRF Grafenberg Arr 32.55 84 *e*P **P** **04 58 27.0 -0.6**
comp=Z,5.2nm,1.0s,baz=307,slow=8.7
GRFO Grafenberg 32.55 84 P **P** **04 58 27.4 -0.1**
GRFO IAmb IAmb 04 58 33.1
comp=Z,6.8nm,0.8s
FINES FINESS Array B 32.56 57 P **P** **04 58 27.1 -0.4**
comp=Z,6.0nm,0.8s,baz=308,slow=6.8,SNR=14
FINES FINESS Array B 32.56 57 P **P** **04 58 27.8 +0.2**
P49A Miami Univ. Ec 32.68 248 P **P** **04 58 29.9 +1.1**
baz=36
BLA Blacksburg 32.69 241 P **P** **04 58 31.2 +2.3**
baz=32
L42A Oliver, Polo 33.06 257 IAmb IAmb 04 58 36.9
comp=Z,12nm,0.8s
BRG Berggiesshubel 33.11 80 *e*P **P** **04 58 31.9 -0.5**
BRG Amp 04 58 35.8
comp=Z,5.8nm,1.1s
SFIN Lafayette 33.11 252 P **P** **04 58 34.0 +1.5**
baz=38
F33A 5 Mile Ranch, 33.46 268 IAmb IAmb 04 58 53.0
comp=Z,9.9nm,1.1s
DAVA Damuels 33.51 89 *i* P **P** **04 58 36.0 -0.2**
comp=Z,7.9nm,1.0s
MDND Maddock 33.69 273 P **P** **04 58 38.8 +1.2**
MDND Maddock 33.69 273 P **P** **04 58 38.6 +1.0**
baz=47
S51A Beattyville 33.72 245 IAmb IAmb 04 58 43.0
comp=Z,7.7nm,0.8s
L40A Anamosa 33.77 258 IAmb IAmb 04 58 43.0
comp=Z,14nm,0.9s
RETA Reutte 33.81 88 *i* P **P** **04 58 38.2 -0.5**
comp=Z,7.0nm,1.7s
KHC Kasperske Hory 34.07 83 *e*P **P** **04 58 40.4 -0.5**
KHC *e*pP **pP** **04 58 43.0 -1.0**
MOTA Moosalm 34.07 87 *e*P **P** **04 58 42.1 +1.0**
comp=Z,2.5nm,0.8s
FETA Feichten 34.11 88 *e*P **P** **04 58 43.0 +1.6**
comp=Z,6.9nm,1.0s
V55A Taylorsville 34.17 240 IAmb IAmb 04 58 47.7
comp=Z,16nm,1.1s
SQTA Sankt Quirin 34.21 88 *e*P **P** **04 58 42.2 0.0**
comp=Z,5.1nm,0.8s
WATA Walderalm 34.31 87 *e*P **P** **04 58 42.1 -1.0**
comp=Z,3.7nm,0.7s
CHVC Chvalec 34.32 79 *e*P **P** **04 58 42.5 -0.5**
CHVC *ex* x 04 58 47.7
GERES GERESS Array B 34.33 83 P **P** **04 58 42.8 -0.4**
comp=Z,2.0nm,0.9s,baz=318,slow=5.8,SNR=12
UPC Upice 34.35 79 *e*P **P** **04 58 43.7 +0.5**
WTTA Wattenberg 34.39 87 *i* P **P** **04 58 43.8 0.0**
comp=Z,4.0nm,0.8s
VSU Vasula 34.45 61 *e*P **P** **04 58 45.2 +1.2**
WCI Wyandotte Cave 34.46 249 P **P** **04 58 45.2 +0.9**
WCI Wyandotte Cave 34.46 249 P **P** **04 58 45.4 +1.1**
baz=36
DPC Dobruska-Polom 34.60 79 *e*P **P** **04 58 45.0 -0.5**
T50A Nancy 34.79 246 IAmb IAmb 04 58 50.8
comp=Z,6.9nm,0.8s
KMSC Kings Mountain 34.83 240 IAmb IAmb 04 58 54.5
comp=Z,14nm,1.0s
KMSC Kings Mountain 34.83 240 P **P** **04 58 50.0 +2.5**
baz=31
PABE Paberze 34.96 67 *e*P **P** **04 58 49.5 +1.0**
PABE Paberze 34.96 67 P **P** **04 58 48.4 0.0**
KRLC Kraliky 35.01 79 *e*P **P** **04 58 48.8 -0.2**
V53A Saluda 35.02 242 IAmb IAmb 04 58 54.7
comp=Z,13nm,1.0s
V52A Sevierville 35.22 243 IAmb IAmb 04 58 59.8
comp=Z,11nm,0.9s
CTI Castel Tesino 35.25 89 P **P** **04 58 50.9 -0.2**
CTI IAmb IAmb 04 59 01.2
comp=Z,8.0nm,0.9s
PAULI Pauline 35.31 240 P **P** **04 58 53.2 +1.5**
PAULI IAmb IAmb 04 58 57.4
comp=Z,22nm,1.4s
VRAC Vranov 35.42 81 *e*P **P** **04 58 52.2 -0.3**
KRUC Moravsky 35.49 81 *e*P **P** **04 58 52.3 -0.8**
SUW Suwalki 35.52 70 *e*P **P** **04 58 53.0 -0.3**
SUW Suwalki 35.52 70 P **P** **04 58 52.9 -0.3**

DGMT Dagmar 35.52 278 P **P** **04 58 55.5 +2.1**
baz=47
MORC Moravsky Berou 35.57 79 *e*P **P** **04 58 53.5 -0.3**
U49A Red Boiling Sp 35.63 246 IAmb IAmb 04 58 56.6
comp=Z,11nm,0.7s
MYKA Terra Mystica 35.82 86 *i* P **P** **04 58 56.2 +0.1**
comp=Z,15nm,1.8s
T47A Sharon Grove 35.84 248 IAmb IAmb 04 59 04.7
comp=Z,8.8nm,0.8s
INK Inuvik 35.87 321 P **P** **04 58 57.1 +1.0**
INK IAmb IAmb 04 58 59.7
comp=Z,16nm,0.9s
INK Inuvik 35.87 321 P **P** **04 58 56.8 +0.7**
baz=57
ISAL Salakas 35.90 66 *e*P **P** **04 58 57.3 +0.8**
CPCT Cooper Cave 35.95 244 IAmb IAmb 04 59 00.1
comp=Z,16nm,0.8s
W52A Murphy 35.99 243 IAmb IAmb 04 59 03.1
comp=Z,6.8nm,0.8s
HODGE Hodges 36.00 240 IAmb IAmb 04 59 04.0
comp=Z,22nm,1.4s
IIGN Ignalina 36.07 66 *e*P **P** **04 58 58.8 +0.7**
P40A Paris 36.12 256 IAmb IAmb 04 59 03.2
comp=Z,6.8nm,0.8s
CLTN Cedars of Leba 36.23 247 IAmb IAmb 04 59 05.1
comp=Z,12nm,1.0s
ARSA Arzberg 36.31 84 *i* P **P** **04 59 00.4 +0.2**
comp=Z,3.1nm,0.7s
OBKA Obir 36.35 86 *e*P **P** **04 59 00.1 -0.5**
comp=Z,12nm,1.2s
SOKA Soboth 36.47 85 *e*P **P** **04 59 00.9 -0.7**
comp=Z,7.0nm,1.3s
W50A Signal Mountai 36.51 245 IAmb IAmb 04 59 04.8
comp=Z,11nm,0.9s
NACGM Naroch 36.60 66 *i* P **P** **04 59 02.2 -0.3**
V48A Smith Brothers 36.74 247 IAmb IAmb 04 59 10.6
comp=Z,11nm,0.8s
EDM Edmonton 36.75 290 P **P** **04 59 05.4 +1.5**
EDM IAmb IAmb 04 59 09.7
comp=Z,14nm,0.7s
X51A Calhoun 36.85 244 IAmb IAmb 04 59 07.6
comp=Z,14nm,0.7s
WVT Waverly 36.88 248 P **P** **04 59 06.2 +1.1**
WVT IAmb IAmb 04 59 06.9
comp=Z,12nm,0.8s
WVT Waverly 36.88 248 P **P** **04 59 06.2 +1.1**
baz=34
CCM Cathedral Cave 36.91 254 P **P** **04 59 06.4 +1.1**
CCM IAmb IAmb 04 59 06.8
comp=Z,9.5nm,0.7s
CCM Cathedral Cave 36.91 254 P **P** **04 59 06.4 +1.1**
baz=37
MNK Minsk 37.35 66 *i* P **P** **04 59 07.2 -1.7**
comp=E,1.0nm,0.9s
MNK *i* P **P** **04 59 07.2 -1.7**
comp=N,14nm,0.9s
MNK *i* P **P** **04 59 07.2 -1.7**
comp=Z,20nm,0.9s,baz=309
MNK *i* PP **PP** **05 00 32.4 -1.5**
MNK *i* PPP PPP 05 00 48.6
MNK *i* PcP **PcP** **05 01 26.2 -1.5**
MNK *i* S **S** **05 04 55.6 -0.8**
MNK *i* SS SnSn 05 06 35.1 -57
MNK *i* SSS SSS 05 07 32.8
MNK *i* LQ LQ 05 11 47.2
MNK *i* LR LR 05 12 29.7
MNK *i* LRM MLR 05 14 54.3
comp=E,34nm,19.2s
MNK *i* LRM MLR 05 14 55.1
comp=Z,398nm,19.2s
MNK *i* LRM MLR 05 14 57.3
comp=N,130nm,19.2s
LAO LASA Array 37.74 277 P **P** **04 59 14.8 +2.4**
baz=45,SNR=15
X48A Hartselle 37.92 246 IAmb IAmb 04 59 16.2
comp=Z,12nm,0.7s
PLAL Pickwick Lake 37.94 248 IAmb IAmb 04 59 16.6
comp=Z,8.3nm,0.8s
TGTN Hyland Airport 37.95 309 P **P** **04 59 16.1 +2.2**
baz=53
PSZ Piszkesteto 37.98 80 ⇑P **P** **04 59 14.2 -0.1**
PSZ Piszkesteto 37.98 80 *e*P **P** **04 59 16.5 +2.2**
PSZ Piszkesteto 37.98 80 P **P** **04 59 15.1 +0.7**
EPYK Eagle Plains 38.00 319 P **P** **04 59 15.4 +1.1**
baz=53
GNAR Gosnell 38.02 251 P **P** **04 59 16.5 +1.7**
Y49A Blount Mountai 38.13 245 IAmb IAmb 04 59 24.2
comp=Z,14nm,0.9s
KLMR Klimovskoe 38.29 52 *e*P **P** **04 59 16.4 -0.3**
KLMR AMP 04 59 19.3
comp=Z,44nm,1.3s
KLMR *e*PP **PnPn** **05 00 45.1 -0.5**
152A Waverly Hall 38.40 242 IAmb IAmb 04 59 24.3
comp=Z,22nm,1.4s
MMPY Sheldon Lake, 38.40 312 P **P** **04 59 20.2 +2.5**
baz=52
EGMT Eagleton 38.52 281 P **P** **04 59 20.1 +1.1**
EGMT IAmb IAmb 04 59 25.7
comp=Z,14nm,1.1s
EGMT Eagleton 38.52 281 P **P** **04 59 20.3 +1.3**
baz=46
KSU1 Kansas State U 38.66 260 P **P** **04 59 20.7 +0.6**
baz=38
AQU L'Aquila 38.80 91 P **P** **04 59 21.0 -0.4**
AQU IAmb IAmb 04 59 31.7
comp=Z,13nm,0.9s
TIGA Tifton 38.97 239 IAmb IAmb 04 59 25.2
comp=Z,14nm,0.7s
TIGA Tifton 38.97 239 P **P** **04 59 24.9 +2.1**
baz=30
U40A Yellville 39.03 254 P **P** **04 59 24.4 +1.1**
baz=36
LRAL Lakeview Retre 39.09 245 P **P** **04 59 25.5 +1.8**
baz=32,SNR=20
TRPA Tarpa 39.10 78 ⇑P **P** **04 59 23.4 -0.3**
TRPA Tarpa 39.10 78 *e*P **P** **04 59 24.9 +1.2**
INTR Introdacqua 39.31 91 P **P** **04 59 24.8 -0.8**
FARO Faro, Yukon 39.40 312 P **P** **04 59 28.5 +2.4**
baz=51
352A Blakely 39.51 241 IAmb IAmb 04 59 29.8
comp=Z,19nm,0.8s
WHAR Wooly Hollow 39.63 252 IAmb IAmb 04 59 33.3
comp=Z,23nm,1.2s
250A Grady 39.66 243 IAmb IAmb 04 59 32.9
comp=Z,19nm,0.8s
W41B Gary Mavity, V 39.71 252 P **P** **04 59 30.5 +1.6**
baz=35,SNR=7.8
BMAR Burnt Mountain 39.75 324 P **P** **04 59 30.3 +1.3**
WALA Waterton Lakes 39.80 286 P **P** **04 59 31.1 +1.4**
WALA IAmb IAmb 04 59 34.5
comp=Z,12nm,0.9s
FRGS Fruska Gora 39.89 83 ⇑P **P** **04 59 29.5 -0.9**
DRGR 40.13 79 ⇑P **P** **04 59 31.9 -0.5**
DAWY Dawson 40.32 317 IAmb IAmb 04 59 42.3
comp=Z,14nm,1.1s
DAWY Dawson 40.32 317 P **P** **04 59 35.8 +2.1**
baz=49,SNR=9.8
TOLK Toolik Lake Re 40.34 327 P **P** **04 59 35.4 +1.5**
baz=47
146A Union 40.35 247 P **P** **04 59 35.0 +0.8**
146A IAmb IAmb 04 59 35.5
comp=Z,17nm,0.7s
RLMT Red Lodge 40.35 278 P **P** **04 59 36.2 +1.8**
baz=43
W39A Magazine 40.42 254 IAmb IAmb 04 59 43.5
comp=Z,30nm,1.5s
W39A Magazine 40.42 254 P **P** **04 59 36.0 +1.3**
baz=35
EGAK Eagle 40.44 319 IAmb IAmb 04 59 41.5
comp=Z,9.1nm,0.8s
EGAK Eagle 40.44 319 P **P** **04 59 35.9 +1.3**
baz=49,SNR=7.7
BZS Buzias 40.44 81 ⇑P **P** **04 59 35.2 +0.3**
AKASG Malin Array Be 40.49 70 P **P** **04 59 34.1 -1.0**
comp=Z,21nm,0.9s,baz=312,slow=7.6,SNR=29
AKBB Malin Array Si 40.49 70 IAmb IAmb 04 59 37.2
comp=Z,19nm,1.1s
X40A Basin Creek Fa 40.55 252 IAmb IAmb 04 59 42.2
comp=Z,10nm,0.8s
X40A Basin Creek Fa 40.55 252 P **P** **04 59 37.1 +1.2**
baz=34,SNR=11
BRAL Brewton 40.70 243 P **P** **04 59 39.0 +1.9**
baz=31
KAN13 South Haven SW 40.72 259 IAmb IAmb 04 59 42.9
comp=Z,16nm,0.9s
BUR01 Bucovina Ar. S 40.75 76 ⇑P **P** **04 59 38.4 +0.9**

OBN **Obninsk** 40.77 60 P P 04 59 37.0 -0.5
YNE **Yellowstone No** 40.79 278 IAmb IAmb 04 59 43.4
comp=Z,16nm,1.0s
BLOK **Blackwell** 40.80 259 IAmb IAmb 04 59 44.1
comp=Z,12nm,0.9s
K22A **Casper** 40.82 273 P P 04 59 38.9 +0.6
baz=42
MIAR **Mount Ida** 40.85 253 P P 04 59 39.4 +1.1
baz=35
JTMT **Jette** 40.89 284 IAmb IAmb 04 59 44.7
comp=Z,9.0nm,0.7s
KAN14 **Manchester OK** 41.00 260 IAmb IAmb 04 59 50.9
comp=Z,11nm,0.8s
BOZ **Bozeman (W)** 41.16 280 P P 04 59 41.2 +0.2
BOZ **Bozeman (W)** 41.16 280 P P 04 59 42.4 +1.5
baz=44,SNR=10
GZR **Gura Zlata** 41.17 80 ⇓P P 04 59 40.7 -0.2
K27K **Chicken** 41.23 319 IAmb IAmb 04 59 48.5
comp=Z,13nm,1.0s
K27K **Chicken** 41.23 319 P P 04 59 43.4 +2.2
baz=48
WLAR **White Oak Lake** 41.34 252 IAmb IAmb 04 59 49.5
comp=Z,21nm,0.9s
MSO **Missoula** 41.38 283 P P 04 59 43.8 +1.1
baz=44,SNR=7.0
COLD **Coldfoot** 41.49 326 P P 04 59 44.9 +1.7
baz=45
H17A **Grant Village** 41.52 278 P P 04 59 47.4 +3.3
baz=43,SNR=7.2
Z41A **Richland Creek** 41.55 251 P P 04 59 45.6 +1.5
baz=34,SNR=6.9
PDG **Podgorica** 41.63 86 ⇑P P 04 59 44.1 -0.5
PDG **Podgorica** 41.63 86 P P 04 59 46.0 +1.3
PDG IAmb IAmb 04 59 47.5
comp=Z,14nm,1.3s
BIZ **Bicaz** 41.66 76 ⇓P P 04 59 45.4 +0.5
H24K **Noodor Dome** 41.80 323 IAmb IAmb 04 59 52.9
comp=Z,12nm,1.1s
H24K **Noodor Dome** 41.80 323 P P 04 59 48.0 +2.1
baz=46,SNR=9.2
L27K **Beaver Creek,** 41.81 317 P P 04 59 48.4 +2.5
baz=47,SNR=13
HYT **Haines Junctio** 41.83 313 IAmb IAmb 04 59 53.9
comp=Z,13nm,0.8s
HYT **Haines Junctio** 41.83 313 P P 04 59 48.9 +2.6
baz=47,SNR=10
SORM **Soroca** 41.87 73 ⇑P P 04 59 47.6 +1.0
NEW **Newport** 41.87 287 P P 04 59 48.2 +1.5
baz=45
YUK4 **Talbot Arm** 41.88 314 P P 04 59 48.4 +1.6
baz=47
J25K **Salcha River,** 41.88 321 P P 04 59 48.4 +1.8
baz=46,SNR=5.9
SCRK **Sand Creek** 41.89 319 P P 04 59 48.5 +1.8
SCRK IAmb IAmb 04 59 54.5
comp=Z,19nm,0.9s
SCRK **Sand Creek** 41.89 319 P P 04 59 49.1 +2.4
baz=46,SNR=20
BVCY **Beaver Creek** 41.92 316 P P 04 59 49.2 +2.2
baz=47
BOVS **Bovan** 41.93 83 ⇑P P 04 59 46.2 -0.9
KEST **Kesra** 41.96 102 P P 04 59 47.5 0.0
comp=Z,56nm,1.3s,baz=243,slow=3.9,SNR=12
KEST **Kesra** 41.96 102 P P 04 59 48.0 +0.4
DOPR **Dopca** 42.01 78 ⇑P P 04 59 49.0 +1.2
YUK6 **Outpost Mounta** 42.06 313 P P 04 59 50.9 +2.6
baz=47
ARR **Arges** 42.09 79 ⇑P P 04 59 48.4 0.0
OZUR 42.11 77 ⇑P P 04 59 49.8 +1.1
DOT **Dot Lake** 42.14 319 IAmb IAmb 04 59 56.3
comp=Z,10nm,1.0s
POKR **Poker Plat Res** 42.17 322 IAmb IAmb 04 59 56.0
comp=Z,18nm,1.0s
POKR **Poker Plat Res** 42.17 322 P P 04 59 50.9 +2.1
baz=45,SNR=12
PDAR **Pinedale Array** 42.22 276 P P 04 59 50.1 +0.3
comp=Z,1.9nm,0.6s,baz=62,slow=7.6,SNR=21
BW06 **Boulder Array** 42.22 276 P P 04 59 50.7 +0.8
baz=42,SNR=8.1
YUK3 **Moose Creek** 42.23 315 P P 04 59 52.1 +2.5
baz=47
VOIR 42.23 79 ⇑P P 04 59 49.2 -0.6
IL31 42.24 322 P P 04 59 50.3 +0.9
IL31 IAmb IAmb 04 59 56.7
comp=Z,12nm,0.8s
ILAR **Eielson Array** 42.24 322 P P 04 59 51.1 +1.6
comp=Z,5.5nm,0.6s,baz=44,slow=6.8,SNR=100
ILAR PcP PcP 05 01 42.6 -0.5
comp=Z,2.5nm,0.5s,baz=27,slow=2.0,SNR=20
SNOW **Snow King Moun** 42.29 277 P P 04 59 50.6 +0.2
M27K **Edge Creek, AK** 42.31 317 P P 04 59 52.7 +2.5
baz=46
RIDG **Independent Ri** 42.33 320 IAmb IAmb 04 59 59.0
comp=Z,18nm,0.9s
RIDG **Independent Ri** 42.33 320 P P 04 59 52.7 +2.5
baz=46,SNR=11
L26K **Log Cabin Wild** 42.34 318 P P 04 59 52.8 +2.5
baz=46
LLLB **Lilooet** 42.42 293 IAmb IAmb 04 59 54.0
comp=Z,8.6nm,0.7s
TCOL **CIGO, UAF Yank** 42.47 322 IAmb IAmb 04 59 53.6
comp=Z,13nm,0.8s
TCOL **CIGO, UAF Yank** 42.47 322 P P 04 59 53.4 +2.2
baz=45
HDA **Harding Lake** 42.52 321 IAmb IAmb 04 59 53.8
comp=Z,8.6nm,0.6s
HDA **Harding Lake** 42.52 321 P P 04 59 53.5 +1.8
baz=45,SNR=11
MDM **Murphy Dome** 42.52 322 IAmb IAmb 04 59 56.5
comp=Z,17nm,0.9s
CCB **Clear Creek Bu** 42.61 322 IAmb IAmb 04 59 54.4
comp=Z,6.3nm,0.6s
MLR **Muntele Rosu** 42.63 78 ⇑P P 04 59 53.6 +0.6
MLR **Muntele Rosu** 42.63 78 P P 04 59 53.0 0.0
MLR IAmb IAmb 04 59 58.9
comp=Z,16nm,1.3s
M26K **Nabesna, AK** 42.66 317 P P 04 59 55.5 +2.5
baz=46
PLOR **Plostina** 42.70 77 ⇑P P 04 59 54.5 +1.1
I23K **Minto, Yukon-K** 42.72 323 P P 04 59 55.5 +2.2
baz=44,SNR=15
VRI **Vrincioaia** 42.73 77 ⇑P P 04 59 54.7 +1.1
VRI ⇑P P 04 59 54.8 +1.1
C09A **Chrisman Ranch** 42.75 287 IAmb IAmb 04 59 55.9
comp=Z,12nm,0.6s
WRH **Wood River Hil** 42.82 322 IAmb IAmb 04 59 56.2
comp=Z,12nm,1.0s
B08A **Colville Reser** 42.84 289 P P 04 59 55.2 +0.6
B08A IAmb IAmb 04 59 59.5
comp=Z,12nm,1.1s
BISRR **Bisoca** 42.95 77 ⇓P P 04 59 55.8 +0.3
LOOK **Love County** 43.01 256 IAmb IAmb 05 00 05.1
comp=Z,21nm,0.9s
NEA2 **Nenana** 43.03 322 P P 04 59 57.4 +1.6
baz=44
PAX **Paxson** 43.07 319 P P 04 59 58.0 +1.7
baz=45
WMOK **Wichita Mounta** 43.18 258 P P 04 59 58.2 +0.8
baz=36
MLY **Manley** 43.21 324 IAmb IAmb 05 00 01.3
comp=Z,15nm,1.4s
MLY **Manley** 43.21 324 P P 04 59 58.9 +1.5
baz=43
H21K **Melozitna Rive** 43.35 325 IAmb IAmb 05 00 07.5
comp=Z,13nm,1.2s
H21K **Melozitna Rive** 43.35 325 P P 05 00 00.3 +1.9
baz=43
IMAR **Indian Mountai** 43.37 326 P P 05 00 00.2 +1.6
VTS **Vitosha** 43.44 83 ⇓P P 04 59 58.7 -0.9
I21K **Tanana** 43.46 324 IAmb IAmb 05 00 04.0
comp=Z,9.5nm,0.9s
I21K **Tanana** 43.46 324 P P 05 00 01.4 +2.1
baz=43
O20A **White River Ci** 43.57 272 P P 05 00 02.1 +1.4
baz=40
F10A **Beach Ranch, E** 43.57 285 IAmb IAmb 05 00 05.3
comp=Z,33nm,1.5s
DHY **Denali Highway** 43.60 320 IAmb IAmb 05 00 05.6
comp=Z,16nm,1.1s
DHY **Denali Highway** 43.60 320 P P 05 00 02.7 +2.1
baz=44,SNR=8.1
MCK **McKinley** 43.61 321 IAmb IAmb 05 00 07.6
comp=Z,17nm,0.8s
MCK **McKinley** 43.61 321 P P 05 00 02.5 +1.9
baz=44,SNR=12
PLID **Pearl Lake** 43.63 283 IAmb IAmb 05 00 12.1
comp=Z,16nm,1.3s

NATX **Nacogdoches** 43.66 252 P P 05 00 03.0 +1.7
NATX IAmb IAmb 05 00 06.6
comp=Z,16nm,0.8s
N25K **Chitina, Valde** 43.75 317 P P 05 00 03.8 +1.9
baz=44
RND **Reindeer** 43.83 321 IAmb IAmb 05 00 04.1
comp=Z,11nm,0.6s
CRQE **Cirque** 43.85 316 P P 05 00 04.4 +1.7
baz=44
RDMU **Red Mountain** 43.89 273 IAmb IAmb 05 00 09.4
comp=Z,11nm,1.0s
CFR **Carcaliu** 43.91 76 ⇑P P 05 00 03.1 0.0
FNA **Florina** 43.91 86 IAmb IAmb 05 00 06.5
comp=Z,12nm,0.8s
M24K **Tolsona, Glenn** 43.92 318 P P 05 00 05.3 +2.2
baz=44
BPAW **Bear Paw Mtn.** 43.97 323 P P 05 00 04.4 +1.0
BPAW IAmb IAmb 05 00 06.2
comp=Z,13nm,0.9s
BPAW **Bear Paw Mtn.** 43.97 323 P P 05 00 05.0 +1.6
baz=43,SNR=14
HLID **Hailey** 44.00 280 P P 05 00 05.8 +1.7
baz=42
T25A **Trinidad** 44.01 266 P P 05 00 06.1 +1.8
baz=38
HWUT **Hardware Ranch** 44.08 276 IAmb IAmb 05 00 06.6
comp=Z,5.9nm,0.7s
WAT6 **Susitna Watana** 44.08 320 P P 05 00 06.2 +1.7
baz=43
KLU **Klutina** 44.28 318 IAmb IAmb 05 00 16.4
comp=Z,16nm,1.2s
KLU **Klutina** 44.28 318 P P 05 00 07.6 +1.6
baz=44
KTH **Kantishna Hill** 44.35 322 P P 05 00 07.1 +0.5
CBB **Campbell River** 44.40 294 IAmb IAmb 05 00 20.8
comp=Z,15nm,1.2s
BMO **Blue Mountains** 44.43 284 IAmb IAmb 05 00 12.8
comp=Z,6.6nm,0.8s
AMTX **Amarillo** 44.47 261 IAmb IAmb 05 00 20.8
comp=Z,7.9nm,0.7s
AMTX **Amarillo** 44.47 261 P P 05 00 09.3 +1.5
baz=36
S22A **4UR Ranch, Cre** 44.72 269 P P 05 00 12.4 +2.3
baz=38,SNR=8.0
WHTX **Lake Whitney,** 44.79 255 IAmb IAmb 05 00 12.2
comp=Z,13nm,0.9s
WHTX **Lake Whitney,** 44.79 255 P P 05 00 11.4 +1.0
baz=34
SML **Sawmill** 44.83 319 P P 05 00 12.2 +1.8
baz=42
J20K **Nowinta River** 44.84 324 IAmb IAmb 05 00 16.8
comp=Z,7.5nm,0.8s
J20K **Nowinta River** 44.84 324 P P 05 00 11.5 +1.2
baz=41,SNR=5.1
G08A **Pilot Rock** 44.90 285 P P 05 00 12.5 +1.3
KNK **Knik Glacier** 45.17 319 P P 05 00 15.1 +2.0
baz=42
PPLA **Purkeypile** 45.23 322 P P 05 00 14.7 +1.1
baz=41,SNR=5.8
PMR **Palmer** 45.25 319 IAmb IAmb 05 00 19.8
comp=Z,17nm,1.2s
PMR **Palmer** 45.25 319 P P 05 00 15.8 +2.1
baz=42
P17A **Butcher Ranch,** 45.30 273 IAmb IAmb 05 00 20.4
comp=Z,14nm,1.4s
ABTX **Abilene, Hawle** 45.31 258 IAmb IAmb 05 00 16.4
comp=Z,12nm,0.8s
ABTX **Abilene, Hawle** 45.31 258 P P 05 00 15.4 +0.9
baz=34
K20K **Telida** 45.44 323 P P 05 00 16.8 +1.7
K20K IAmb IAmb 05 00 19.7
comp=Z,9.3nm,0.8s
K20K **Telida** 45.44 323 P P 05 00 16.8 +1.7
baz=40,SNR=6.3
NLU **North Lily Mtn** 45.59 275 IAmb IAmb 05 00 22.2
comp=Z,8.7nm,1.1s
TMUT **Trail Mountain** 45.67 274 IAmb IAmb 05 00 23.6
comp=Z,10nm,1.2s
SKT **Skwentna** 45.72 321 P P 05 00 18.5 +1.2
baz=41,SNR=7.8
HKT **Hockley** 45.72 252 P P 05 00 19.4 +1.7
HKT IAmb IAmb 05 00 23.0
comp=Z,12nm,1.3s
AGG **Agios Georgios** 45.73 87 IAmb IAmb 05 00 24.7
comp=Z,9.6nm,0.8s
MSTX **Muleshoe** 45.73 262 IAmb IAmb 05 00 23.8
comp=Z,12nm,1.2s
MSTX **Muleshoe** 45.73 262 P P 05 00 19.8 +1.8
baz=36
DUG **Dugway, Tooele** 45.77 276 P P 05 00 20.3 +2.1
baz=40
NRIK **Noril'sk** 45.81 22 P P 05 00 18.4 +0.4
comp=Z,3.4nm,0.5s,baz=340,slow=4.0,SNR=4.6
NRIK LR LR 05 20 30.5
comp=Z,362nm,18.9s,baz=13,slow=37
NRIK **Noril'sk** 45.81 22 P P 05 00 19.2 +1.3
NRIK IAmb IAmb 05 00 21.0
comp=Z,12nm,1.1s
SUA **Susitna One** 45.86 320 P P 05 00 20.6 +2.0
baz=41
MVCO **Mesa Verde** 45.96 270 P P 05 00 21.5 +1.6
baz=38
L20K **Farewell, AK** 46.05 323 P P 05 00 20.6 +0.6
baz=40
ALN **Alexandroupoli** 46.11 82 P P 05 00 20.8 +0.1
ELK **Elko** 46.53 278 IAmb IAmb 05 00 27.2
comp=Z,4.7nm,0.9s
L19K **White Mountain** 46.57 323 P P 05 00 24.7 +0.6
L19K IAmb IAmb 05 00 25.5
comp=Z,8.0nm,0.9s
L19K **White Mountain** 46.57 323 P P 05 00 24.3 +0.2
baz=39
M19K **Big River Lodg** 46.65 322 P P 05 00 25.7 +0.9
baz=36
WVOR **Wild Horse Val** 46.89 282 IAmb IAmb 05 00 32.6
comp=Z,11nm,1.4s
PINE **Pine Mountain** 46.96 285 P P 05 00 28.4 +0.8
PINE IAmb IAmb 05 00 33.1
comp=Z,7.9nm,0.9s
MTPU **Mount Pierson** 47.13 273 IAmb IAmb 05 00 40.2
comp=Z,7.6nm,1.3s
JCT **Junction City** 47.16 256 IAmb IAmb 05 00 30.8
comp=Z,6.0nm,0.8s
JCT **Juun City** 47.16 256 P P 05 00 30.0 +0.9
baz=33
SPR3 **Spring Creek 3** 47.43 276 P P 05 00 32.5 +1.0
SPR3 IAmb IAmb 05 00 38.2
comp=Z,12nm,1.4s
J05D **Fort Rock, OR** 47.48 285 P P 05 00 33.8 +2.2
baz=40,SNR=12
N19K **Bonanza Creek** 47.53 321 P P 05 00 32.1 +0.5
N19K **Bonanza Creek** 47.53 321 P P 05 00 32.8 +1.1
baz=39
PSUT **Pine Spring** 47.56 275 IAmb IAmb 05 00 38.1
comp=Z,6.7nm,0.9s
PKCU **Pink Cliffs** 47.66 273 IAmb IAmb 05 00 50.8
comp=Z,7.4nm,1.1s
J04D **Umpqua Nationa** 47.93 286 P P 05 00 36.7 +1.6
baz=40
BALB **Balikesir** 47.97 82 P P 05 00 34.7 -0.5
N18K **Kilae Creek** 48.06 322 P P 05 00 36.3 +0.6
baz=38
MOD **Modoc Plateau** 48.09 283 IAmb IAmb 05 00 41.2
comp=Z,11nm,0.9s
KNB **Kanab** 48.24 273 IAmb IAmb 05 00 54.9
comp=Z,5.3nm,0.9s
ARU **Arti** 48.48 46 P P 05 00 38.9 -0.1
R11A **Troy Canyon, C** 48.55 277 P P 05 00 41.6 +1.6
baz=38
WUAZ **Wupatki** 48.72 271 IAmb IAmb 05 00 47.5
comp=Z,7.6nm,1.1s
WUAZ **Wupatki** 48.72 271 P P 05 00 42.9 +1.6
baz=37
MNTX **Cornudas Mount** 48.85 262 IAmb IAmb 05 00 47.9
comp=Z,7.2nm,1.2s
MNTX **Cornudas Mount** 48.85 262 P P 05 00 43.1 +0.9
baz=35,SNR=8.4
M04C **Macdoel** 48.92 284 P P 05 00 43.6 +0.8
baz=39
MDUB **Mudurnu** 48.94 78 P P 05 00 42.8 0.0
PRN **Pahroc Range** 49.03 275 IAmb IAmb 05 00 49.5
comp=Z,7.0nm,1.1s
K02D **Willamette Mer** 49.09 286 P P 05 00 44.3 +0.4
baz=40
KVN **Kaiserville** 49.23 279 IAmb IAmb 05 00 47.9
comp=Z,11nm,0.7s
PAHR **Pah Rah Range** 49.34 281 IAmb IAmb 05 00 51.8
comp=Z,17nm,1.3s

M02C **Callahan** 49.70 285 P P 05 00 48.4 -0.2
baz=39
NV11 **Mina Array Sit** 49.74 279 IAmb IAmb 05 00 54.3
comp=Z,7.8nm,1.1s
RYN **Ryan** 49.77 279 IAmb IAmb 05 00 51.5
comp=Z,8.9nm,0.7s
VCNR **Virginia City** 49.79 281 IAmb IAmb 05 00 52.4
comp=Z,7.0nm,0.8s
NVAR **Mina Array Bea** 49.82 279 P P 05 00 51.0 +1.2
comp=Z,3.4nm,0.7s,baz=51,slow=6.0,SNR=38
NVAR PcP PcP 05 02 11.3 +1.0
comp=Z,1.2nm,0.6s,baz=52,slow=5.8,SNR=3.8
N02D **Trinity Center** 49.96 284 P P 05 00 50.3 -0.2
baz=39
TX31 **Lajitas Ar. Si** 49.97 259 IAmb IAmb 05 00 58.6
comp=Z,12nm,0.9s
TXAR **Lajitas Array** 49.97 259 P P 05 00 52.1 +1.4
comp=Z,1.9nm,0.7s,baz=52,slow=6.6,SNR=27
TXAR PcP PcP 05 02 10.7 -0.1
comp=Z,1.8nm,0.8s,baz=48,slow=5.3,SNR=3.9
TPNV **Topopah Spring** 49.98 276 P P 05 00 52.2 +1.3
baz=38
O03E **Paynes Creek** 50.05 283 P P 05 00 51.8 +0.5
baz=39,SNR=9.3
LHV **Little Huntoon** 50.05 279 IAmb IAmb 05 01 17.2
comp=Z,8.6nm,1.0s
LCH **Last Change Ra** 50.44 277 P P 05 00 56.0 +1.7
GRAC **Grapevine Rang** 50.49 277 P P 05 00 56.4 +1.8
baz=37,SNR=14
O02D **Mt. Diablo Mer** 50.62 284 P P 05 00 55.0 -0.5
baz=38
BR131 **Keskin Array S** 50.69 77 IAmb IAmb 05 01 01.7
comp=Z,8.6nm,0.9s
BRTR **Keskin Array B** 50.69 77 P P 05 00 56.9 +0.6
comp=Z,4.0nm,0.7s,baz=318,slow=5.6,SNR=20
GWY **Greenwater Val** 50.79 276 IAmb IAmb 05 00 59.6
comp=Z,9.3nm,0.8s
TUC **Tucson** 51.01 268 P P 05 01 00.6 +2.1
TUC **Tucson** 51.01 268 P P 05 01 00.9 +2.4
baz=35
PDMCI **Parker Dam,Lak** 51.05 272 P P 05 01 00.3 +1.5
baz=36
CWC **Cottonwood Cre** 51.28 277 P P 05 01 02.1 +1.4
baz=37
MPMC **Manual Prospec** 51.29 276 P P 05 01 02.7 +1.8
baz=37
KIV **Kislovodsk** 51.63 67 P P 05 01 03.0 -0.1
KBZ **Khabaz** 51.90 67 P P 05 01 06.3 +1.3
comp=Z,12nm,0.9s,baz=311,slow=7.8,SNR=19
ISA **Isabella, Lake** 52.09 277 P P 05 01 08.6 +1.9
baz=37
214A **Organ Pipe Nat** 52.29 269 IAmb IAmb 05 01 13.9
comp=Z,11nm,1.4s
CHGN **Chignik** 52.38 320 P P 05 01 08.7 +0.3
baz=34
MONP2 **Monument Peak** 53.31 273 P P 05 01 18.1 +2.2
baz=36
RMX **La Rumorosa** 53.37 272 P P 05 01 18.6 +2.3
RMX IAmb IAmb 05 01 21.6
comp=Z,6.7nm,1.1s
CBX **Cerro Bola** 53.90 273 P P 05 01 22.3 +2.2
GAZ **Gaziantep** 54.42 76 IAmb IAmb 05 01 26.9
comp=Z,14nm,1.2s
KOWA **Kowa** 54.52 130 P P 05 01 23.8 -0.7
KOWA IAmb IAmb 05 01 30.8
comp=Z,9.5nm,0.9s
ABKAR **Akbulak array** 54.68 51 P P 05 01 25.1 -0.3
ZAIG **Zacatecas** 54.98 253 P P 05 01 30.0 +1.8
ZAIG IAmb IAmb 05 01 34.4
comp=Z,6.2nm,0.8s
BRVK **Borovoye** 55.23 42 P P 05 01 29.3 0.0
BRVK IAmb IAmb 05 01 32.5
comp=Z,15nm,1.2s
SDV **Santo Domingo** 55.27 212 P P 05 01 31.9 +1.6
SDV IAmb IAmb 05 01 39.4
comp=Z,7.0nm,0.9s
GNI **Garni** 55.57 68 LR LR 05 24 33.8
comp=Z,183nm,18.2s,baz=9.5,slow=35
SJCC **San Jacinto, C** 55.60 218 P P 05 01 33.9 +1.4
SJCC IAmb IAmb 05 01 35.2
comp=Z,9.1nm,0.8s
MATN **Matagalpa** 56.47 231 P P 05 01 39.1 +0.4
MATN IAmb IAmb 05 01 40.2
comp=Z,6.3nm,0.7s
TLIG **Tlapa** 57.63 246 IAmb IAmb 05 01 52.3
comp=Z,8.6nm,0.8s
ZARC **Zaragoza, Cauc** 57.78 217 eP P 05 01 49.6 +1.7
BRRC **Barranca, Sant** 57.81 215 eP P 05 01 39.7 -8.4
TORD **Torodi Ar. Bea** 57.99 124 P P 05 01 47.5 -1.9
comp=Z,4.8nm,0.6s,baz=334,slow=7.2,SNR=46
TORD **Torodi Ar. Bea** 57.99 124 P P 05 01 47.5 -1.9
TORD IAmb IAmb 05 01 48.9
comp=Z,13nm,1.4s
PTBC **PUERTO BERRIO,** 58.57 216 eP P 05 01 54.3 +0.9
DBBC **Dabeiba** 58.63 218 eP P 05 01 55.6 +1.6
ZAA0 **Zalesovo Array** 58.78 32 P P 05 01 55.0 +0.6
ZAA0 IAmb IAmb 05 01 57.3
comp=Z,13nm,1.4s
ZALV **Zalesovo Beam** 58.78 32 P P 05 01 54.1 -0.3
comp=Z,2.6nm,0.7s,baz=324,slow=9.1,SNR=12
ZALV **Zalesovo Beam** 58.78 32 P P 05 01 54.0 -0.4
HELC **Santa Helena** 59.21 217 eP P 05 01 59.7 +1.4
SPBC **San Pablo de B** 59.30 215 eP P 05 01 59.8 +1.2
NORC **Norcasia** 59.61 216 eP P 05 02 01.9 +1.1
GUY2C **Guyana, Caldas** 60.08 216 eP P 05 02 06.0 +1.6
ROSC **El Rosal** 60.15 215 P P 05 02 05.2 +0.4
comp=Z,22nm,0.6s,baz=68,slow=6.0,SNR=8.3
ROSC **El Rosal** 60.15 215 P P 05 02 06.3 +1.5
CHIC **Chingaza** 60.18 214 eP P 05 02 04.4 -0.7
VILC **Villavicencio,** 60.66 214 eP P 05 02 07.6 -0.4
ANIL **Santa Ana** 60.79 216 eP P 05 02 09.2 +0.1
TIC **Toumodi** 61.39 134 eP P 05 02 11.7 -1.1
DBIC **Dimbokro** 61.43 134 P P 05 02 11.8 -1.2
comp=Z,13nm,0.6s,baz=348,slow=7.5,SNR=36
DBIC **Dimbokro** 61.43 134 P P 05 02 12.6 -0.4
YOTC **Yotoco, Valle** 61.55 217 eP P 05 02 14.8 +0.8
KIC **Kosan Boka** 61.76 134 eP P 05 02 14.2 -1.1
comp=Z,17nm,0.6s
LIC **Lamto** 61.78 134 eP P 05 02 13.9 -1.5
comp=Z,61nm,0.7s
PTGA **Pitinga** 62.41 198 P P 05 02 20.7 +1.1
PTGA IAmb IAmb 05 02 28.6
comp=Z,10nm,1.1s
POPC **Popayan, Colom** 63.01 217 eP P 05 02 22.9 -1.0
GEYT **Alibeck** 63.31 60 P P 05 02 25.3 -0.2
comp=Z,3.7nm,0.8s,baz=266,slow=8.9,SNR=6.5
GYA0B **ALIBECK ARRAY** 63.31 60 P P 05 02 26.3 +0.8
FLOC **Florencia** 63.63 216 P P 05 02 28.7 +1.0
FLOC **Florencia** 63.63 216 eP P 05 02 27.7 -0.1
FLOC eP P 05 02 28.7 +1.0
KK31 **Karatay Array** 63.81 48 P P 05 02 29.6 +0.9
KK31 IAmb IAmb 05 02 33.9
comp=Z,5.6nm,0.8s
KKAR **Karatay Array** 63.81 48 P P 05 02 29.6 +0.9
KKAR IAmb IAmb 05 02 33.9
comp=Z,5.6nm,0.8s
MAKZ **Makanchi** 64.38 38 P P 05 02 32.4 0.0
MK31 **Makanchi Array** 64.49 38 P P 05 02 32.8 -0.3
MKAR **Makanchi Array** 64.49 38 P P 05 02 32.8 -0.3
comp=Z,8.5nm,0.6s,baz=352,slow=5.9,SNR=45
ZSN **Zaisan** 64.65 36 eP P 05 02 34.3 +0.1
baz=36
SGDS **Sogindy** 64.97 45 eP P 05 02 37.3 +0.9
comp=Z,3.0nm,0.9s,baz=45
USP **Ospenovka** 65.09 45 P P 05 02 37.9 +0.8
SNR=5.5
KUU **Kuriy** 65.17 43 eP P 05 02 36.9 -0.7
comp=Z,28nm,1.1s,baz=43
PETK **Petropavlovsk-** 65.23 346 LR LR 05 32 13.2
comp=Z,214nm,19.1s,baz=339,slow=37
EKS2 **Erkin-Say** 65.37 46 P P 05 02 42.2 +3.2
SNR=11
AAK **Ala-Archa** 65.64 45 P P 05 02 42.3 +1.5
SNR=6.3
AAK **Ala-Archa** 65.64 45 P P 05 02 41.1 +0.2
OTAV **Otavalo** 65.73 218 P P 05 02 43.2 +1.3
OTAV IAmb IAmb 05 02 43.8
comp=Z,4.9nm,0.8s
TKM2 **Tokmak 2** 65.78 44 P P 05 02 43.0 +1.3
SNR=7.9
AML **Almayashu** 65.81 46 P P 05 02 43.7 +1.5
SNR=7.7
MTBS **Maitube** 65.88 44 eP P 05 02 41.8 -0.5
baz=44
UCH **Uchtor** 66.01 45 P P 05 02 45.1 +1.5
SNR=7.4

MDOK	**Medeo**	**66.06**	**43**	*eP*	**P**		**05 02 43.5**	**0.0**
	baz=43							
KPKS	**Kokpek**	**66.33**	**42**	*eP*	**P**		**05 02 44.6**	**-0.6**
	comp=Z,14nm,1.0s,baz=42							
SATY	**Saty**	**66.60**	**42**	*eP*	**P**		**05 02 46.4**	**-0.6**
	comp=Z,5.2nm,0.8s,baz=42							
SHLS	**Shalkode**	**66.86**	**41**	*eP*	**P**		**05 02 49.1**	**+0.5**
	comp=Z,12nm,0.9s,baz=41							
CHGR	**Chuyangaron**	**67.17**	**51**	P	**P**		**05 02 51.5**	**+1.0**
WMQ	**Urumqi**	**68.77**	**35**	*eP*	**P**		**05 03 03.3**	**+2.7**
KSH	**Kashi**	**68.92**	**46**	P	**P**		**05 03 04.0**	**+2.4**
KSH				sP	sP		05 03 12.0	+5.6
KSH				pmax	pmax			
	comp=Z,28nm,0.8s							
SONM	**Songino Array**	**69.28**	**21**	P	**P**		**05 03 04.3**	**+0.6**
	comp=Z,6.0nm,0.8s,baz=319,slow=4.6,SNR=22							
SONM				LR	LR		05 34 34.2	
	comp=Z,372nm,21.6s,baz=4.0,slow=37							
SONM	**Songino Array**	**69.28**	**21**	P	**P**		**05 03 04.0**	**+0.2**
SONM				IAmb	IAmb		05 03 06.7	
	comp=Z,7.2nm,1.0s							
ULN	**Ulaanbaatar**	**69.36**	**20**	P	**P**		**05 03 05.2**	**+1.0**
KBL	**Kabul**	**70.72**	**53**	P	**P**		**05 03 13.2**	**+0.3**
KBL				IAmb	IAmb		05 03 16.4	
	comp=Z,5.0nm,0.9s							
NIL	**Nilore**	**73.14**	**51**	P	**P**		**05 03 27.5**	**+0.4**
UOSS	**Minazif**	**73.52**	**69**	P	**P**		**05 03 28.8**	**-0.7**
USRK	**Ussuriysk Ar.**	**75.45**	**3**	P	**P**		**05 03 40.5**	**0.0**
	comp=Z,4.4nm,0.8s,baz=332,slow=5.3,SNR=10							
GTA	**Gaotai**	**76.04**	**28**	*eP*	**P**		**05 03 44.0**	**0.0**
GTA				pP	sP		05 03 49.3	+0.5
GTA				sP	PcP		05 03 52.5	-3.8
GTA				pmax	pmax			
	comp=Z,5.0nm,1.2s							
GTA				pmax	pmax			
	comp=Z,80nm,5.6s							
GTA				LR	LR			
	comp=Z,210nm,18.5s							
GTA				LR	LR			
	comp=Z,170nm,17.8s							
GTA				LR	LR			
	comp=Z,270nm,18.2s							
BDFB	**Brasilia**	**76.10**	**184**	P	**P**		**05 03 44.6**	**+0.2**
	comp=Z,5.0nm,0.7s,baz=5.2,slow=7.5,SNR=8.4							
BDFB	**Brasilia**	**76.10**	**184**	P	**P**		**05 03 45.6**	**+1.2**
BDFB				IAmb	IAmb		05 03 57.6	
	comp=Z,6.0nm,0.9s							
BTO	**Baotou**	**76.92**	**20**	*eP*	**P**		**05 03 48.3**	**-0.7**
BTO				S	**S**		**05 13 34.5**	**-2.3**
BTO				LR	LR			
	comp=Z,1μm,20.5s							
BTO				LR	LR			
	comp=Z,700nm,17.9s							
HHC	**Hu-ho-hao-te**	**76.93**	**19**	*eP*	**P**		**05 03 47.5**	**-1.5**
HHC				pmax	pmax			
	comp=Z,7.0nm,0.9s							
HHC				pmax	pmax			
	comp=Z,250nm,5.6s							
BJT	**Baijiatuau**	**78.40**	**15**	P	**P**		**05 03 57.0**	**-0.1**
BJT				IAmb	IAmb		05 04 01.4	
	comp=Z,6.5nm,0.8s							
LPAZ	**La Paz**	**79.05**	**203**	P	**P**		**05 04 01.4**	**-0.1**
	comp=Z,3.0nm,0.6s,baz=5.2,slow=2.8,SNR=26							
LPAZ	**La Paz**	**79.05**	**203**	IAmb	IAmb		05 04 11.5	
	comp=Z,6.6nm,1.1s							
PYUN	**Piuthan**	**81.70**	**45**	*eP*	**P**		**05 04 15.5**	**+0.1**
KSRS	**Korea Array**	**82.03**	**6**	P	**P**		**05 04 17.0**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=356,slow=5.9,SNR=9.2							
KSAR	**Wonju Array Be**	**82.04**	**6**	P	**P**		**05 04 17.2**	**+0.5**
KOLN	**Koldanda**	**82.22**	**45**	*eP*	**P**		**05 04 17.7**	**-0.4**
	comp=Z,14nm,0.8s							
KKN	**Kakani**	**82.78**	**44**	*eP*	**P**		**05 04 21.1**	**+0.1**
GUN	**Gumba**	**82.87**	**43**	*eP*	**P**		**05 04 21.9**	**+0.2**
	comp=Z,44nm,0.7s							
DMN	**Daman**	**82.89**	**44**	*eP*	**P**		**05 04 21.5**	**-0.2**
LSA	**Lhasa**	**82.89**	**38**	P	**P**		**05 04 21.2**	**-0.7**
LSA				IAmb	IAmb		05 04 25.5	
	comp=Z,12nm,1.4s							
PKI	**Pulchoki**	**83.02**	**43**	*eP*	**P**		**05 04 22.7**	**+0.2**
XAN	**Xi'an**	**83.11**	**22**	P	**P**		**05 04 22.3**	**-0.2**
XAN				pmax	pmax			
	comp=Z,19nm,0.9s							
XAN				pmax	pmax			
	comp=Z,160nm,6.0s							
MJAR	**Matsushiro Arr**	**83.12**	**358**	P	**P**		**05 04 22.7**	**+0.3**
	comp=Z,1.0nm,0.4s,baz=30,slow=4.4,SNR=4.2							
MJAR	**Matsushiro Arr**	**83.12**	**358**	P	**P**		**05 04 22.4**	**0.0**
JIRN	**Jiri**	**83.20**	**43**	*eP*	**P**		**05 04 23.9**	**+0.5**
	comp=Z,49nm,0.9s							
TAPN	**Taplejung**	**83.99**	**42**	*eP*	**P**		**05 04 27.3**	**-0.1**
RAMN	**Ramite**	**84.00**	**43**	*eP*	**P**		**05 04 27.8**	**+0.4**
NJ2	**Nanjing**	**86.59**	**14**	*eP*	**P**		**05 04 41.8**	**+1.9**
NJ2				pmax	pmax			
	comp=Z,16nm,0.7s							
CPUP	**Villa Florida**	**87.33**	**192**	P	**P**		**05 04 42.5**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=2.6,slow=6.2,SNR=3.8							
CPUP	**Villa Florida**	**87.33**	**192**	IAmb	IAmb		05 05 05.2	
	comp=Z,5.6nm,1.2s							
GYA	**Guiyang**	**90.02**	**26**	⇑P	**P**		**05 04 58.5**	**+2.0**
GYA				pmax	pmax			
	comp=Z,20nm,0.8s							
KMI	**Kunming**	**90.40**	**30**	⇑P	**P**		**05 04 58.0**	**-0.4**
KMI				sP	sP		05 05 03.0	-0.3
KMI				pmax	pmax			
	comp=Z,11nm,1.2s							
KMI				LR	LR			
	comp=Z,170nm,20.1s							
KMI				LR	LR			
	comp=Z,200nm,18.1s							
KMI				LR	LR			
	comp=Z,250nm,19.1s							
CMAR	**Chiang Mai Arr**	**95.77**	**35**	P	**P**		**05 05 22.4**	**-0.5**
	comp=Z,1.9nm,0.4s,baz=330,slow=5.9,SNR=6.2							
CMAR				LR	LR		05 53 30.0	
	comp=Z,90nm,18.9s,baz=190,slow=39							
CMAR	**Chiang Mai Arr**	**95.77**	**35**	P	**P**		**05 05 22.0**	**-0.9**
SNAA	**Sanae**	**135.14**	**163**	PKPdf	**PKPdf**		**05 11 13.4**	**-1.1**
WRA	**Warramunga Arr**	**139.31**	**2**	PKhKP	PKPpre		05 11 13.8	
	comp=Z,0.5nm,0.7s,baz=357,slow=1.9,SNR=3.6							
WRA				PKP	**PKPdf**		**05 11 22.0**	**-1.8**
	comp=Z,0.7nm,0.6s,baz=359,slow=2.2,SNR=7.8							
ASAR	**Alice Springs**	**143.01**	**3**	PKhKP	PKPpre		05 11 26.4	
	comp=Z,1.8nm,0.5s,baz=359,slow=2.4,SNR=35							
ASAR	**Alice Springs**	**143.01**	**3**	PKPdf	PKPbc		05 11 27.1	0.0
URZ	**Urewera**	**145.84**	**292**	PKPbc	**PKPdf**		**05 11 34.4**	**-0.3**
	comp=Z,8.0nm,0.7s,baz=259,slow=2.8,SNR=2.2							
MAW	**Mawson**	**149.27**	**134**	PKPbc	**PKPbc**		**05 11 42.9**	**-0.8**
	comp=Z,3.5nm,0.8s,baz=288,slow=4.1,SNR=12							
STKA	**Stephens Creek**	**150.95**	**350**	PKPbc	**PKPbc**		**05 11 48.4**	**-0.6**
	comp=Z,2.7nm,0.4s,baz=350,slow=5.1,SNR=7.7							

*IDC **26** 04:53:52.8±1.0,30.°82S×71.°43W, h0km, mb4.1/6, mb1 4.1/11, mb1mx4.0/30, mbtmp3.9/11, ML3.8/5, Error ellipse: s-maj=28.7km s-min=22.2km az=93.0*

*NEIC **26** 04:53:59.1±1.9,30.°71S±0.°05×71.°40W±0.°04, h38km±8km, Error ellipse: s-maj=7.3km s-min=4.9km az=207.0*

*GUC **26** 04:53:59.1±0.7,30.°72S×71.°39W, h50km±2km, ML4.4*

ISC 26 04:53:58.8±0.7,30.°72S±0.°04×71.°43W±0.°05, h44km±7km, n71, σ1°s05/66, mb4.2/9, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.19**	**283**	⇑*iP*	**Pn**	**04 54 07.0**	**+0.5**
CO06				*i* S	**Sn**	**04 54 13.0**	**+1.2**
CO06				IAML		04 54 13.9	
	comp=E,26μm,0.3s						
CO06	**Fray Jorge**	**0.19**	**283**		**Pn**	**04 54 06.9**	**+0.5**
CO02	**Combarbal**	**0.61**	**143**	*eP*	**Pn**	**04 54 11.4**	**+0.1**
CO02				*i* S	**Sn**	**04 54 20.4**	**+0.2**
CO02	**Combarbal**	**0.61**	**143**		**Pn**	**04 54 11.7**	**+0.4**
CO03	**El Pedregal**	**0.65**	**101**	*eP*	**Pn**	**04 54 12.0**	**+0.3**
CO03				*i* S	**Sn**	**04 54 21.1**	**+0.1**
CO03				IAML		04 54 22.3	
	comp=E,23μm,0.3s						
CO03	**El Pedregal**	**0.65**	**101**		**Pn**	**04 54 11.7**	**0.0**
GO04	**Tololo Observa**	**0.77**	**45**	⇓*iP*	**Pn**	**04 54 14.1**	**+0.7**
GO04				*i* S	**Sn**	**04 54 25.1**	**+1.1**
GO04				IAML		04 54 28.2	
	comp=N,37μm,0.4s						
GO04	**Tololo Observa**	**0.77**	**45**		**Pn**	**04 54 13.2**	**-0.3**
CO05	**La Serena**	**0.81**	**12**	⇑*iP*	**Pn**	**04 54 14.6**	**+0.7**
CO05				*i* S	**Sn**	**04 54 26.0**	**+1.2**
CO05	**La Serena**	**0.81**	**12**		**Pn**	**04 54 14.5**	**+0.7**
LCO	**Las Campanas**	**1.81**	**20**	⇓*iP*	**Pn**	**04 54 28.9**	**+1.2**
LCO				*i* S	**Sn**	**04 54 51.4**	**+1.7**
LCO	**Las Campanas**	**1.81**	**20**	Pn	**Pn**	**04 54 29.1**	**+1.3**
VA06	**Catapilco**	**1.84**	**177**	⇑*iP*	**Pn**	**04 54 29.0**	**+1.0**
VA06				*i* S	**Sn**	**04 54 51.6**	**+1.6**
VA06				IAML		04 54 58.9	
	comp=E,3μm,0.4s						
VA03	**San Esteban**	**2.17**	**160**	*eP*	**Pn**	**04 54 34.1**	**+1.5**
VA03				*i* S	**Sn**	**04 55 00.3**	**+2.0**
VA03				IAML		04 55 09.8	
	comp=E,4μm,0.1s						
VA03	**San Esteban**	**2.17**	**160**		**Pn**	**04 54 33.4**	**+0.8**
VA01	**Torpederas**	**2.31**	**185**	*eP*	**Pn**	**04 54 34.5**	**+0.2**
VA01				IAML		04 55 11.2	
	comp=N,1μm,0.3s						
VA01	**Torpederas**	**2.31**	**185**		**Pn**	**04 54 34.6**	**+0.2**
AC04	**Llanos de Chal**	**2.52**	**7**	Pn	**Pn**	**04 54 37.6**	**+0.3**
MT05	**Renca**	**2.73**	**168**	⇑*iP*	**Pn**	**04 54 41.8**	**+1.6**
MT05				IAML		04 55 28.8	
	comp=E,3μm,0.2s						
MT05	**Renca**	**2.73**	**168**	Pn	**Pn**	**04 54 41.1**	**+0.8**
VA05	**Santo Domingo**	**2.94**	**183**	⇑*iP*	**Pn**	**04 54 43.0**	**0.0**
VA05				IAML		04 55 29.4	
	comp=E,2μm,0.4s						
VA05	**Santo Domingo**	**2.94**	**183**		**Pn**	**04 54 43.3**	**+0.4**
MT09	**Talagante**	**3.07**	**173**	Pn	**Pn**	**04 54 45.8**	**+0.8**
MT01	**Popeta**	**3.14**	**177**		**Pn**	**04 54 46.6**	**+0.8**
GO03	**Copiap**	**3.28**	**19**	Pn	**Pn**	**04 54 48.4**	**+0.6**
LMEL	**Las Melosas**	**3.29**	**162**	⇓*iP*	**Pn**	**04 54 50.7**	**+2.7**
LMEL				*i* S	**Sn**	**04 55 27.4**	**+1.5**
LMEL				IAML		04 55 42.3	
	comp=N,886nm,0.2s						
BO01	**Tunca**	**3.68**	**176**	Pn	**Pn**	**04 54 52.8**	**-0.4**
BO02	**Sierra Bellavi**	**4.10**	**173**		**Pn**	**04 55 00.1**	**+1.1**
GO05	**Huala**	**4.30**	**186**	Pn	**Pn**	**04 55 00.6**	**-1.1**
AC02	**Maricunga**	**4.36**	**28**	Pn	**Pn**	**04 55 04.7**	**+1.7**
ML02	**Panimavida**	**5.03**	**180**	Pn	**Pn**	**04 55 11.9**	**+0.2**
PB14	**IPOC Station P**	**6.13**	**9**	Pn	**Pn**	**04 55 26.6**	**-0.6**
H03N1	**Juan Fernandez**	**6.91**	**245**	T	T	05 02 26.6	
	baz=74,slow=72,SNR=2116						
H03N3	**Juan Fernandez**	**6.92**	**245**	T	T	05 02 26.5	
	baz=74,slow=72,SNR=2251						
H03N2	**Juan Fernandez**	**6.93**	**245**	T	T	05 02 27.9	
	baz=74,slow=72,SNR=2909						
H03S3	**Juan Fernandez**	**7.06**	**242**	T	T	05 02 42.0	
	baz=83,slow=75,SNR=10						
H03S1	**Juan Fernandez**	**7.06**	**242**	T	T	05 02 43.8	
	baz=83,slow=75,SNR=4.9						
H03S2	**Juan Fernandez**	**7.07**	**242**	T	T	05 02 41.4	
	baz=83,slow=75,SNR=10						
PB15	**IPOC Station P**	**7.68**	**14**	Pn	**Pn**	**04 55 48.0**	**-0.3**
PB06	**IPOC Station P**	**8.15**	**12**	Pn	**Pn**	**04 55 53.9**	**-0.8**
LC01	**Cunco**	**8.17**	**182**	Pn	**Pn**	**04 55 53.9**	**-0.9**
LVC	**Limon Verde**	**8.38**	**16**	Pn	**Pn**	**04 55 57.2**	**-0.9**
	comp=N,0.8nm,0.3s,baz=189,slow=8.2,SNR=6.7						
LVC	**Limon Verde**	**8.38**	**16**	Pn	**Pn**	**04 55 57.8**	**-0.3**
PB07	**IPOC Station P**	**9.06**	**9**	Pn	**Pn**	**04 56 06.3**	**-0.8**
PB01	**IPOC Station P**	**9.79**	**11**	Pn	**Pn**	**04 56 16.1**	**-1.1**
PLCA	**Paso Flores**	**10.02**	**176**	Pn	**Pn**	**04 56 18.3**	**-1.9**
	comp=N,0.2nm,0.3s,baz=339,slow=10,SNR=9.2						
TRQA	**Tornquist**	**10.70**	**136**	Pn	**Pn**	**04 56 29.2**	**-0.2**
ITQB	**Itaqui**	**12.85**	**89**	Pn	**Pn**	**04 56 57.4**	**-1.4**
CPUP	**Villa Florida**	**13.14**	**74**	Pn	**Pn**	**04 57 02.2**	**-0.6**
	comp=N,0.3nm,0.3s,baz=258,slow=14,SNR=1.6						
LPAZ	**La Paz**	**14.68**	**13**	Pn	**Pn**	**04 57 25.4**	**+1.2**
	comp=N,0.1nm,0.3s,baz=180,slow=9.1,SNR=8.1						
LPAZ	**La Paz**	**14.68**	**13**	Pn	**Pn**	**04 57 22.1**	**-2.1**
SIV	**San Ignacio**	**17.45**	**35**	P	**P**	**04 58 00.2**	**+0.4**
	comp=N,0.5nm,0.3s,baz=221,slow=9.0,SNR=17						
SAML	**Samuel**	**22.98**	**21**	P	**P**	**04 58 58.5**	**-1.2**
SAML				IAmb	IAmb	04 59 18.9	
	comp=Z,13nm,2.0s						
BDFB	**Brasilia**	**26.16**	**60**	P	**P**	**04 59 29.3**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=222,slow=11,SNR=5.7						
BDFB	**Brasilia**	**26.16**	**60**	IAmb	IAmb	04 59 29.4	
	comp=Z,37nm,1.8s						
PTGA	**Pitinga**	**31.74**	**22**	P	**P**	**05 00 17.2**	**-1.6**
PTGA				IAmb	IAmb	05 01 25.0	
	comp=Z,5.6nm,1.2s						
RUSC	**La Rusia**	**36.44**	**357**	P	**P**	**05 00 59.0**	**-0.9**
RUSC				IAmb	IAmb	05 01 58.1	
	comp=Z,9.4nm,0.9s						
H06E1	**SOCORRO T-PHAS**	**52.16**	**317**	T	T	06 11 46.4	
	SNR=6.9						
TXAR	**Lajitas Array**	**67.15**	**330**	P	**P**	**05 04 49.6**	**+1.5**
	comp=Z,0.6nm,0.6s,baz=156,slow=8.7,SNR=8.2						
DBIC	**Dimbokro**	**73.65**	**72**	P	**P**	**05 05 28.5**	**+0.4**
	comp=Z,4.0nm,0.5s,baz=225,slow=5.6,SNR=10.0						
MAW	**Mawson**	**76.17**	**164**	P	**P**	**05 05 42.0**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=212,slow=5.2,SNR=7.5						
PDAR	**Pinedale Array**	**81.08**	**333**	P	**P**	**05 06 09.9**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=141,slow=5.8,SNR=2.2						
TORD	**Torodi Ar. Bea**	**82.60**	**70**	P	**P**	**05 06 18.4**	**+0.8**
	comp=Z,1.0nm,0.4s,baz=279,slow=6.4,SNR=26						
TORD	**Torodi Ar. Bea**	**82.60**	**70**	IAmb	IAmb	05 06 18.8	
	comp=Z,3.5nm,1.3s						
H11S2	**WAKE ISLAND Hy**	**126.28**	**271**	T	T	07 31 42.7	
	baz=115,slow=74,SNR=93						
H11S1	**WAKE ISLAND Hy**	**126.29**	**271**	T	T	07 31 45.1	
	baz=115,slow=74,SNR=99						
H11S3	**WAKE ISLAND Hy**	**126.30**	**271**	T	T	07 31 44.0	
	baz=115,slow=74,SNR=66						
H11N3	**WAKE ISLAND Hy**	**126.61**	**273**	T	T	07 32 12.9	
	baz=153,slow=74,SNR=12						
H11N2	**WAKE ISLAND Hy**	**126.63**	**273**	T	T	07 32 16.1	
	baz=121,slow=74,SNR=24						
ZALV	**Zalesovo Beam**	**151.15**	**30**	PKPbc	**PKiKP**		**05 13 47.0**	**-0.1**
	comp=Z,4.4nm,0.5s,baz=305,slow=3.9,SNR=18							
ZALV	**Zalesovo Beam**	**151.15**	**30**		**PKiKP**		**05 13 46.7**	**-0.5**

*NEIC **26** 05:10:42.7±0.7, 0.°84S±0.°09×91.°90W±0.°08, h10km±2km, mb4.3/13, Error ellipse: s-maj=18.1km s-min=10.1km az=139.0*

*IDC **26** 05:10:46.9±1.4, 0.°99S×95.°18W, h0km, mb3.9/5, mb1 4.3/5, mb1mx3.8/25, mbtmp3.9/5, Error ellipse: s-maj=92.5km s-min=26.6km az=60.0*

ISC 26 05:10:45.3±1.1, 0.°9S±0.°2×91.°92W±0.°10, h35km, n27, σ0°s66/26, mb4.2/11, Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAYG	**Puerto Ayora**	**1.65**	**83**		**Pn**	**05 11 11.5**	**-0.2**
PAYG				Sn	**Sn**	**05 11 31.9**	**+0.2**
TXAR	**Lajitas Array**	**32.06**	**340**	P	**P**	**05 17 09.2**	**+0.1**
	1.2nm,0.9s,baz=115,slow=8.4,SNR=11						
TXAR	**Lajitas Array**	**32.06**	**340**	P	**P**	**05 17 09.2**	**+0.1**
X16A	**Lo Mia Camp, P**	**39.59**	**334**	P	**P**	**05 18 13.8**	**+0.2**
WUAZ	**Wupatki**	**40.50**	**335**	P	**P**	**05 18 22.1**	**+1.0**
WUAZ				IAmb	IAmb	05 18 26.3	
	comp=Z,4.4nm,0.8s						
Q54A	**Coxs Mills**	**40.95**	**13**	P	**P**	**05 18 24.6**	**+0.1**
W13A	**Hualapai Mount**	**41.26**	**332**	P	**P**	**05 18 27.5**	**+0.1**
CPUP	**Villa Florida**	**41.81**	**130**	P	P	05 18 59.0	+27
	comp=Z,1.6nm,0.8s,baz=279,slow=13,SNR=3.3						
ISCO	**Idaho Springs**	**42.37**	**344**	P	**P**	**05 18 37.2**	**+0.7**
ISCO				IAmb	IAmb	05 18 40.9	
	comp=Z,5.0nm,0.8s						
MSU	**Marysvale**	**43.40**	**337**	P	**P**	**05 18 44.6**	**-0.3**
NVAR	**Mina Array Bea**	**46.03**	**331**	P	**P**	**05 19 03.3**	**-2.6**
	comp=Z,0.9nm,0.8s,baz=158,slow=9.5,SNR=8.4						
NVAR	**Mina Array Bea**	**46.03**	**331**	P	**P**	**05 19 06.2**	**+0.4**
PD31	**Pinedale Array**	**46.25**	**342**	P	**P**	**05 19 07.4**	**-0.1**
PD31				IAmb	IAmb	05 19 14.6	
	comp=Z,2.6nm,1.4s						
PDAR	**Pinedale Array**	**46.25**	**342**	P	**P**	**05 19 07.0**	**-0.5**
	comp=Z,1.1nm,0.9s,baz=144,slow=5.5,SNR=7.3						
PDAR	**Pinedale Array**	**46.25**	**342**	P	**P**	**05 19 07.0**	**-0.5**
ELK	**Elko**	**46.54**	**336**	P	**P**	**05 19 10.3**	**+0.5**
ELK				IAmb	IAmb	05 19 13.9	
	comp=Z,2.7nm,0.9s						
SNOW	**Snow King Moun**	**47.25**	**341**	P	**P**	**05 19 15.1**	**-0.3**
TPAW	**Teton Pass**	**47.34**	**341**	P	**P**	**05 19 16.3**	**+0.2**
TPAW				IAmb	IAmb	05 19 19.5	
	comp=Z,2.5nm,0.8s						
FXWY	**Fox Creek**	**47.50**	**341**	P	**P**	**05 19 17.4**	**+0.2**
FXWY				IAmb	IAmb	05 19 17.9	
	comp=Z,2.6nm,0.9s						
HLID	**Hailey**	**48.60**	**338**	P	**P**	**05 19 26.1**	**+0.4**
QLMT	**Earthquake Lak**	**48.69**	**342**	P	**P**	**05 19 26.7**	**+0.3**
MCMT	**McKenzie Canyo**	**49.15**	**340**	P	**P**	**05 19 30.2**	**+0.2**
ILAR	**Eielson Array**	**76.56**	**339**	P	**P**	**05 22 31.6**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=143,slow=4.1,SNR=15						
ILAR	**Eielson Array**	**76.56**	**339**	P	**P**	**05 22 31.6**	**-0.1**
QSPA	**South Pole Qui**	**89.18**	**180**	P	P	05 23 40.8	+3.5
QSPA				IAmb	IAmb	05 23 41.4	
	comp=Z,2.6nm,1.1s						
VNDA	**Vanda**	**92.64**	**192**	P	**P**	**05 23 52.9**	**-0.1**
WRA	**Warramunga Arr**	**130.18**	**243**	PKP	**PKiKP**	**05 29 54.2**	**+0.6**
	comp=Z,0.8nm,0.9s,baz=110,slow=2.2,SNR=5.2						

*IDC **26** 05:11:53.4±2.2, 30.°36S×72.°44W, h0km, mb3.8/1, mb1 3.6/5, mb1mx3.5/22, mbtmp3.5/5, ML3.4/4, Error ellipse: s-maj=96.3km s-min=30.5km az=101.0*

ISC 26 05:11:54.9±2.3, 30.°4S±0.°1×72.°3W±0.°6, h10km, n7, σ0°97/7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**8.30**	**22**	Pn	**Pn**	**05 13 54.4**	**-1.3**
	0.2nm,0.3s,baz=163,slow=11,SNR=0.7						
PLCA	**Paso Flores**	**10.42**	**173**	Pn	**Pn**	**05 14 24.2**	**-0.2**
	0.2nm,0.3s,baz=341,slow=14,SNR=7.4						
LPAZ	**La Paz**	**14.53**	**16**	Pn	**Pn**	**05 15 22.0**	**+0.7**
	0.1nm,0.3s,baz=196,slow=6.8,SNR=4.2						
SIV	**San Ignacio**	**17.61**	**38**	P	**P**	**05 16 01.7**	**+0.1**
	0.1nm,0.3s,baz=234,slow=12,SNR=8.1						
TORD	**Torodi Ar. Bea**	**83.17**	**71**	P	**P**	**05 24 22.6**	**+1.0**
	0.5nm,0.6s,baz=253,slow=4.2,SNR=4.6						
KURBB	**Kurchatov Arra**	**150.27**	**39**	PKPbc	**PKiKP**	**05 31 46.2**	**-0.5**
	0.2nm,0.3s,baz=286,slow=2.7,SNR=7.0						
ZALV	**Zalesovo Beam**	**151.21**	**29**	PKPbc	**PKiKP**	**05 31 48.1**	**-0.4**
	0.6nm,0.5s,baz=318,slow=4.1,SNR=4.7						

*IDC **26** 05:43:35.9±5.2, 25.°55N×141.°44E, h34km±42km, mb3.6/6, mb1 3.8/7, mb1mx3.5/40, mbtmp3.8/7, ML3.3/1, Error ellipse: s-maj=31.9km s-min=18.7km az=94.0*

ISC 26 05:43:35.8±1.0, 25.°5N±0.°1×141.°4E±0.°2, h35km, n12, σ0°84/10, mb3.8/6, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.69**	**23**	Pn	**Pn**	**05 44 02.4**	**-0.3**
	50nm,0.3s,baz=266,slow=22,SNR=9.3						
JCJ				Sn	**Sn**	**05 44 23.3**	**+0.2**
	26nm,0.3s,baz=233,slow=23,SNR=6.9						
KSRS	**Korea Array**	**16.52**	**319**	Pn	**P**	**05 47 26.8**	**-0.3**
	0.1nm,0.3s,baz=132,slow=11,SNR=14						
H11S3	**WAKE ISLAND Hy**	**24.41**	**102**	T	T	06 14 23.0	
	baz=291,slow=75,SNR=42						
H11S1	**WAKE ISLAND Hy**	**24.42**	**102**	T	T	06 14 23.4	
	baz=291,slow=75,SNR=55						
H11S2	**WAKE ISLAND Hy**	**24.43**	**102**	T	T	06 14 21.6	
	baz=291,slow=75,SNR=36						
SONM	**Songino Array**	**35.39**	**318**	P	**P**	**05 50 29.4**	**+1.1**
	0.4nm,0.6s,baz=116,slow=7.6,SNR=4.2						
WRA	**Warramunga Arr**	**45.74**	**189**	P	**P**	**05 51 54.0**	**+0.3**
	5.9nm,0.7s,baz=8.3,slow=9.4,SNR=65						
ASAR	**Alice Springs**	**49.46**	**189**	P	**P**	**05 52 22.4**	**-0.3**
	0.4nm,0.8s,baz=12,slow=13,SNR=7.1						
MKAR	**Makanchi Array**	**50.96**	**311**	P	**P**	**05 52 34.1**	**+0.2**
	0.3nm,0.3s,baz=94,slow=12,SNR=3.9						
ILAR	**Eielson Array**	**59.39**	**28**	P	**P**	**05 53 35.1**	**+0.7**
	0.7nm,0.9s,baz=250,slow=4.9,SNR=6.7						
FINES	**FINESS Array B**	**79.04**	**334**	P	**P**	**05 55 34.3**	**-1.7**
	1.7nm,0.9s,baz=64,slow=7.9,SNR=6.2						
LPAZ	**La Paz**	**150.94**	**77**	PKPbc	**PKiKP**	**06 03 27.1**	**+0.2**
	0.7nm,0.6s,baz=259,slow=5.2,SNR=3.6						

*IDC **26** 05:52:38.9±2.6, 47.°3S±0.°3×101.°1E±0.°5, h10km, n13, σ0°82/7, mb3.9/5, Southeast Indian Ridge*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.81**	**43**	T	T	06 12 53.2	
	baz=215,slow=74,SNR=246						
H01W3	**Cape Leeuwin H**	**15.82**	**43**	T	T	06 12 54.1	
	baz=215,slow=74,SNR=296						
H01W1	**Cape Leeuwin H**	**15.83**	**43**	T	T	06 12 48.0	
	baz=215,slow=74,SNR=392						
STKA	**Stephens Creek**	**34.38**	**78**	P	**P**	**05 59 26.6**	**-0.4**

HOR Horta 1.71 151 *e*P Pn **06 15 33.1 -1.2**
HOR *e*S Sn **06 15 53.2 -3.3**
HOR A A 06 15 54.8
603nm,0.2s
ROSA Rosais 1.72 139 *e*P Pn **06 15 32.5 -2.0**
ROSA *e*S Sn **06 15 52.8 -4.1**
ROSA A A 06 15 53.5
62nm,0.2s
ROSA Rosais 1.72 139 Pn Pn **06 15 32.8 -1.8**
PICO Pico 1.81 147 *e*P Pn **06 15 34.5 -1.4**
PICO *e*S Sn **06 15 56.0 -3.2**
PICO A A 06 15 57.4
188nm,0.3s
PCAN Candelaria 1.82 149 *e*P Pn **06 15 34.7 -1.2**
PCAN *e*S Sn **06 15 56.1 -3.2**
PCAN A A 06 15 57.9
311nm,0.3s
PMAN Manadas 1.86 138 *e*P Pn **06 15 34.6 -1.9**
PMAN *e*S Sn **06 15 56.3 -4.1**
PMAN A A 06 15 57.0
145nm,0.2s
PID Ribeirinha 2.00 142 *e*P Pn **06 15 37.2 -1.2**
PID *e*S Sn **06 15 59.9 -3.9**
PID A A 06 16 03.8
110nm,0.2s
PAGU Agualva, Azore 2.31 122 *e*P Pn **06 15 40.3 -2.4**
PAGU *e*S Sn **06 16 06.3 -5.2**
PAGU A A 06 16 06.8
48nm,0.1s
ADH Angra Heroismo 2.34 125 *e*P Pn **06 15 41.0 -2.1**
ADH *e*S Sn **06 16 07.4 -4.9**
ADH A A 06 16 15.7
148nm,0.4s
PSCM Serra do Cume 2.39 123 *e*P Pn **06 15 41.3 -2.5**
PSET Sete Cidades 3.80 124 *e*P Pn **06 16 01.9 -1.2**
PSET *e*S Sn **06 16 43.5 -4.7**
PSET A A 06 16 48.6
86nm,0.4s
PSET A A 06 16 51.9
67nm,0.5s
PDA Ponta Delgada 3.88 125 A A 06 16 45.3
13nm,0.3s
CMLA Cha da Macela 3.96 123 *e*P Pn **06 16 03.6 -1.7**
CMLA *e*S Sn **06 16 49.3 -2.8**
CMLA A A 06 16 50.1
48nm,0.2s
CMLA Cha da Macela 3.96 123 Pn **06 16 04.3 -1.1**
CMLA Cha da Macela 3.96 123 P Pn **06 16 04.2 -1.1**
CMLA Cha da Macela 3.96 123 P Pn **06 16 04.2 -1.1**
BART Pico Bartolome 4.18 121 *e*P Pn **06 16 06.8 -1.7**
PSMA Santa Maria 4.68 129 *e*P Pn **06 16 13.9 -1.4**
PSMN Pico do Norte, 4.72 128 *e*P Pn **06 16 14.6 -1.2**
PMAR Madeira 12.60 121 *e*P Pn **06 18 06.8 +2.7**
PCAS Casmilo, Conde 16.23 83 *e*P Pn **06 18 53.8 +1.1**
33nm,1.6s
PCAS *e*S S 06 22 23.0 +17
PTEO Sao Teotonio 16.53 92 *e*P Pn **06 18 56.8 +0.3**
61nm,2.2s
PNCL Nicolau / Gran 16.54 90 *e*P Pn **06 18 56.8 +0.1**
34nm,2.0s
PNCL *e*S S 06 22 38.5 +26
PFVI Vila Bisbo 16.57 93 *e*P P **06 19 01.6 +2.0**
PFVI Vila Bisbo 16.57 93 Pn Pn **06 18 55.0 -1.9**
PFVI IAmb IAmb 06 19 15.4
comp=Z,42nm,1.0s
PMTG Montargil 16.58 86 *e*P Pn **06 18 57.8 +0.6**
comp=Z,40nm,1.7s
PMTG *e*S S 06 22 24.1 +11
PVIS Viseu 16.62 81 *e*P P **06 19 01.4 +1.1**
MORF Marmelete 16.65 93 *e*P Pn **06 18 58.6 +0.5**
comp=Z,51nm,2.0s
MORF *e*S S 06 22 50.5 +36
POLO Lamas de Olo 16.66 78 *e*P P **06 19 02.4 +1.7**
comp=Z,15nm,1.6s
POLO *e*S S **06 22 24.5 +9.4**
MESJ Messejana 16.84 91 *e*P Pn **06 19 01.1 +0.6**
comp=Z,38nm,1.5s
EVO Evora 16.85 88 *e*P Pn **06 18 59.8 -0.7**
comp=Z,33nm,1.7s
MTE Manteigas 16.92 82 *e*P P **06 19 02.9 -0.6**
comp=Z,23nm,1.4s
MTE *e*S S **06 22 29.9 +9.5**
MTE Manteigas 16.92 82 Pn Pn **06 18 58.9 -2.6**
PCVE Castro Verde 17.04 91 *e*P Pn **06 19 03.4 +0.5**
comp=Z,31nm,1.3s
PCBR Castelo Branco 17.04 83 *e*P Pn **06 19 03.0 +0.1**
comp=Z,27nm,1.7s
PESTR Estremoz 17.11 87 *e*P P **06 19 07.9 +2.3**
PESTR *e*S S 06 22 49.7 +26
PMRV Marv??o 17.16 85 *e*P P **06 19 08.1 +1.9**
comp=Z,18nm,1.6s
PMRV *e*S S 06 22 44.4 +19
PBDV Barranco-do-Ve 17.22 92 *e*P Pn **06 19 06.2 +0.9**
comp=Z,51nm,1.2s
PBDV *e*S S 06 22 49.0 +22
MVO Moncorvo 17.25 79 *e*P P **06 19 06.9 -0.2**
comp=Z,29nm,2.0s
MVO *e*S S 06 22 47.8 +21
PVAQ Vaqueiros 17.34 92 *e*P P **06 19 08.1 -0.1**
comp=Z,34nm,2.0s
PVAQ *e*S S 06 22 53.9 +25
PVAQ Vaqueiros 17.34 92 P Pn **06 19 06.8 +0.1**
PBAR Barrancos 17.67 89 *e*P Pn **06 19 11.1 +0.3**
comp=Z,22nm,2.0s
PAB San Pablo 19.47 83 P P **06 19 30.4 -1.2**
ESDC Sonseca Array 19.74 83 P P **06 19 34.9 +0.3**
comp=Z,0.1nm,0.3s,baz=288,slow=9.4,SNR=16
ESDC LR LR 06 26 02.6
comp=Z,718nm,18.4s,baz=275,slow=33
ESDC Sonseca Array 19.74 83 P P **06 19 33.2 -1.4**
ESBB Sonseca Array 19.74 83 P P **06 19 34.1 -0.5**
CZD Col de Zad 20.96 102 P Pn 06 19 51.0 +0.3
CZD Col de Zad 20.96 102 P Pn 06 19 51.0 +0.3
AKLM AKL 21.24 97 P P **06 19 53.0 +2.1**
AKLM AKL 21.24 97 P P **06 19 53.0 +2.1**
MDT Midelt 21.39 102 P P **06 19 53.9 +1.4**
comp=Z,7.3nm,1.0s,baz=315,slow=11,SNR=15
MDT LR LR 06 26 23.2
comp=Z,445nm,21.3s,baz=316,slow=32
MDT Midelt 21.39 102 P P **06 19 54.5 +2.0**
MDT Midelt 21.39 102 P P **06 19 54.6 +2.1**
TZRR Tazzarine 21.66 108 P P **06 19 59.0 +3.5**
TZRR Tazzarine 21.66 108 P P **06 19 59.0 +3.5**
TAF Taforalt 22.24 95 P P **06 20 06.0 +4.4**
TAF Taforalt 22.24 95 P P **06 20 05.0 +3.4**
JBK JBK 22.30 96 P P **06 20 05.1 +2.6**
JBK JBK 22.30 96 P P **06 20 04.1 +1.7**
TDRA Tendrara 23.23 99 P P **06 20 16.0 +3.7**
EKA Eskdalemuir Ar 23.33 40 P P **06 20 12.2 -0.5**
comp=Z,7.2nm,1.0s,baz=243,slow=7.4,SNR=12
GBN Guysborough 23.90 294 P P **06 20 18.3 -0.1**
GBN IAmb IAmb 06 20 27.2
comp=Z,34nm,1.2s
CLF Chambon-Foret 24.19 60 P P **06 20 19.7 -1.5**
CLF IAmb IAmb 06 20 36.2
comp=Z,44nm,1.5s
BORG Borgarnes 25.24 8 LR LR 06 27 34.8
comp=Z,297nm,20.8s,baz=228,slow=30
SNF Seneffe 25.89 55 *b*P P **06 20 36.0 -0.6**
comp=Z,8.9nm,1.1s
DOU Dourbes 26.02 56 *b*P P **06 20 37.1 -0.6**
comp=Z,5.6nm,0.9s
BMRD Maredsous 26.16 55 *d*P P **06 20 38.4 -0.7**
comp=Z,3.7nm,1.0s
LMN Caledonia Moun 26.21 294 P P **06 20 38.9 -0.7**
LMN IAmb IAmb 06 20 47.4
comp=Z,15nm,1.1s
BGES Gesves 26.38 55 *b*P P **06 20 40.5 -0.5**
BCLA Clavier 26.52 55 *d*P P **06 20 41.5 -0.8**
comp=Z,9.0nm,1.0s
WLF Walferdange 26.95 57 P P **06 20 45.7 -0.5**
WLF IAmb IAmb 06 20 47.1
comp=Z,12nm,1.1s
WLF Walferdange 26.95 57 *e*P P **06 20 46.2 0.0**
comp=Z,9.7nm,1.0s,baz=263,slow=8.9
BHOU Houvegnez 26.95 56 *d*P P **06 20 46.3 +0.1**
comp=Z,3.8nm,1.2s
ECH Echery 27.48 60 P P **06 20 50.4 -0.6**
ECH IAmb IAmb 06 20 55.2
comp=Z,12nm,1.2s
BFO Black Forest 28.26 60 P P **06 20 57.6 -0.4**
TNS Taunus Mts 28.49 56 *e*P P **06 21 00.1 +0.1**
comp=Z,4.7nm,1.2s,baz=263,slow=8.9
SCHQ Schefferville 28.76 313 LR LR 06 31 19.5
comp=Z,287nm,18.5s,baz=80,slow=34
MILB Miltenberg 29.00 57 *e*P P **06 21 04.4 -0.1**
comp=Z,9.1nm,0.9s,baz=263,slow=8.9
DAVOX Davos/Dischmat 29.29 63 LR LR 06 31 06.4
comp=Z,195nm,19.4s,baz=266,slow=33
SFJD Kangerlussuaq 29.44 343 LR LR 06 29 56.1
comp=Z,193nm,21.1s,baz=161,slow=30
GTTG Gottingen 29.60 54 *e*P P **06 21 09.3 -0.5**
comp=Z,20nm,1.4s,baz=263,slow=8.9
NRDL Niedersach Rie 29.82 52 *e*P P **06 21 12.4 +0.8**
comp=Z,10nm,1.1s,baz=263,slow=8.9
CLZ Clausthal 29.89 53 *e*P P **06 21 12.7 +0.3**
comp=Z,5.7nm,1.0s,baz=263,slow=8.9
BSEG Bad Segeberg 30.19 49 *e*P P **06 21 15.1 +0.2**
comp=Z,18nm,0.9s,baz=263,slow=8.9
GRF Grafenberg Arr 30.23 58 *e*L L 06 31 55.8
comp=Z,341nm,18.9s
MOX Moxa 30.55 56 *e*P P **06 21 18.5 +0.3**
comp=Z,4.7nm,0.9s,baz=263,slow=8.9
MOX *e*L L 06 31 39.3
comp=Z,313nm,20.0s
MANZ Manzenberg 30.82 57 *e*P P **06 21 20.7 0.0**
comp=Z,4.1nm,0.9s,baz=263,slow=8.9
ROTZ Rotzenmuhle 30.88 58 *e*P P **06 21 20.6 -0.6**
comp=Z,2.9nm,1.0s,baz=263,slow=8.9
PLN Plauen 30.88 56 *e*P P **06 21 21.2 +0.1**
comp=Z,7.5nm,1.1s,baz=263,slow=8.9
KEST Kesra 30.94 85 LR LR 06 33 45.7
comp=Z,302nm,18.0s,baz=292,slow=36
WERD Werda 30.97 56 *e*P P **06 21 22.1 +0.1**
comp=Z,2.3nm,0.7s,baz=263,slow=8.9
GUNZ Gunzen 30.98 56 *e*P P **06 21 22.3 +0.2**
baz=263,slow=8.9
WERN Wernitzgruen 31.01 57 *e*P P **06 21 22.4 +0.1**
baz=263,slow=8.9
NKC Novy Kostel 31.05 57 *e*P P **06 21 23.2 +0.5**
NKC AMS AMS 06 32 50.0
comp=Z,500nm,15.2s
WET Wettzell 31.30 59 *e*P P **06 21 24.6 -0.3**
comp=Z,2.7nm,0.9s,baz=263,slow=8.9
CLL Collm 31.47 55 *e*P P **06 21 26.0 -0.3**
comp=Z,5.0nm,1.0s
CLL *e*sP **pwP 06 21 31.0 +1.6**
CLL *e*S S **06 26 35.0 +0.4**
CLL *e*SSS SSS 06 28 36.0
CLL Collm 31.47 55 *e*P P **06 21 26.3 0.0**
comp=Z,4.3nm,1.0s,baz=263,slow=8.9
FBE Freiberg 31.66 55 *e*P P **06 21 28.2 +0.2**
comp=Z,8.6nm,1.0s,baz=263,slow=8.9
KHC Kasperske Hory 31.76 59 *e*P P **06 21 28.8 -0.1**
KHC AMS AMS 06 31 50.0
comp=Z,200nm,21.6s
GERES GERESS Array B 31.84 59 P P **06 21 27.8 -1.9**
comp=Z,1.3nm,0.4s,baz=270,slow=7.5,SNR=4.9
GERES LR LR 06 32 31.3
comp=Z,137nm,20.8s,baz=270,slow=33
PRA Prague 32.32 57 AMS AMS 06 33 30.0
comp=Z,300nm,18.0s
PRU Pruhonice 32.39 57 AMS AMS 06 34 20.0
comp=Z,300nm,14.6s
PVCC Panska Ves 32.42 56 AMS AMS 06 33 40.0
comp=Z,500nm,18.0s
NOA NORSAR Array B 32.64 36 LR LR 06 32 47.1
comp=Z,114nm,21.1s,baz=250,slow=33
UPC Upice 33.34 56 AMS AMS 06 34 20.0
comp=Z,500nm,14.7s
CHVC Chvalec 33.37 56 *e*P P **06 21 43.2 +0.2**
CHVC AMS AMS 06 34 10.0
comp=Z,500nm,15.8s
OSTC Ostas 33.47 56 AMS AMS 06 34 20.0
comp=Z,500nm,16.1s
DPC Dobruska-Polom 33.54 57 AMS AMS 06 34 30.0
comp=Z,400nm,15.8s
KRLC Kraliky 33.84 57 *e*P P **06 21 47.6 +0.5**
KRLC AMS AMS 06 33 20.0
comp=Z,300nm,16.8s
KOWA Kowa 33.93 131 P P **06 21 48.8 +0.6**
KOWA IAmb IAmb 06 21 52.4
comp=Z,18nm,1.5s
OKC Ostrava-Krasne 34.72 57 AMS AMS 06 34 40.0
comp=Z,300nm,18.3s
OJC Ojcow 35.77 57 *e*P P **06 22 04.2 +0.4**
OJC Ojcow 35.77 57 P P **06 22 03.0 -0.8**
OJC IAmb IAmb 06 22 05.3
comp=Z,11nm,0.8s
SIRR Siria 37.43 63 ⇓P P **06 22 18.6 +0.6**
MDVR Moldovita 37.73 65 ⇑P P **06 22 20.6 0.0**
BOVS Bovan 37.97 67 ⇓P P **06 22 22.2 -0.4**
DRGR 38.06 62 ⇓P P **06 22 23.1 -0.3**
GZR Gura Zlata 38.36 64 ⇓P P **06 22 26.1 +0.2**
TORD Torodi Ar. Bea 38.43 125 P P **06 22 27.5 +0.8**
comp=Z,1.9nm,0.8s,baz=319,slow=8.5,SNR=13
TORD LR LR 06 37 42.5
comp=Z,267nm,18.4s,baz=335,slow=35
BUR01 Bucovina Ar. S 39.61 60 ⇑P P **06 22 37.4 +1.0**
BURAR Bucovina Array 39.61 60 ⇓P P **06 22 37.2 +0.8**
BURAR Bucovina Array 39.61 60 P P **06 22 36.0 -0.4**
ARR Arges 39.64 64 ⇑P P **06 22 37.1 +0.4**
FINES FINESS Array B 39.70 38 P P **06 22 36.5 -0.3**
comp=Z,6.3nm,0.8s,baz=256,slow=7.7,SNR=15
FINES LR LR 06 37 16.8
comp=Z,198nm,20.1s,baz=264,slow=34
FINES FINESS Array B 39.70 38 P P **06 22 35.9 -0.9**
VOIR 39.91 64 ⇑P P **06 22 39.3 +0.4**
DBIC Dimbokro 39.99 140 P P **06 22 41.6 +1.9**
comp=Z,4.1nm,0.9s,baz=331,slow=10,SNR=3.1
DBIC LR LR 06 38 08.9
comp=Z,170nm,19.4s,baz=312,slow=34
DBIC Dimbokro 39.99 140 IAmb IAmb 06 22 52.3
comp=Z,23nm,1.5s
BIZ Bicaz 40.33 61 ⇑P P **06 22 39.7 -2.6**
MNK Minsk 40.49 49 *i* P P **06 22 42.1 -1.3**
comp=E,1.0nm,0.9s
MNK *i* P P **06 22 42.1 -1.3**
comp=N,16nm,0.9s
MNK *i* P P **06 22 42.1 -1.3**
comp=Z,38nm,0.9s,baz=274
MNK *i* PP PP **06 24 15.2 -1.2**
MNK *i* PPP PPP 06 24 39.9
MNK *i* PcP PcP **06 24 44.9 -1.1**
MNK *i* S S **06 28 51.2 -1.4**
MNK *i* SS SS 06 31 22.7 -29
MNK *i* SSS SSS 06 32 08.5
MNK *i* LQ LQ 06 34 33.8
MNK *i* LR LR 06 36 58.0
MNK *i* LRM MLR 06 38 55.7
comp=E,48nm,18.4s
MNK *i* LRM MLR 06 39 24.8
comp=N,201nm,18.2s
MNK *i* LRM MLR 06 40 29.9
comp=Z,302nm,18.1s
MLR Muntele Rosu 40.52 63 ⇑P P **06 22 44.4 +0.4**
MLR Muntele Rosu 40.52 63 P P **06 22 43.4 -0.6**
PLOR Plostina 40.92 63 ⇑P P **06 22 47.6 +0.4**
VRI Vrincioaia 40.97 63 ⇓P P **06 22 47.6 +0.1**
ISR Istrita 41.01 64 ⇑P P **06 22 48.7 +0.7**
ARCES ARCESS Array B 41.08 26 P P **06 22 46.3 -1.9**
comp=Z,4.4nm,0.9s,baz=280,slow=7.3,SNR=6.6
ARCES LR LR 06 36 47.5
comp=Z,78nm,21.1s,baz=270,slow=32
ARCES ARCESS Array B 41.08 26 IAmb IAmb 06 22 48.1
comp=Z,9.8nm,1.1s
SORM Soroca 41.59 59 ⇑P P **06 22 50.9 -1.7**
AKASG Malin Array Be 41.71 55 P P **06 22 52.9 -0.7**
comp=Z,8.4nm,0.8s,baz=279,slow=8.0,SNR=19
AKASG LR LR 06 39 51.5
comp=Z,200nm,18.1s,baz=270,slow=36
AKASG Malin Array Be 41.71 55 IAmb IAmb 06 22 58.6
comp=Z,2.9nm,1.2s
AKBB Malin Array Si 41.71 55 P P **06 22 52.5 -1.1**
AKBB IAmb IAmb 06 22 53.6
comp=Z,15nm,0.9s
ALN Alexandroupoli 41.80 70 P P **06 22 53.6 -0.8**
ALN IAmb IAmb 06 22 56.8
comp=Z,9.7nm,0.8s
HARR Harsova 42.07 64 ⇓P P **06 22 56.1 -0.5**
CFR Carcaliu 42.09 63 ⇑P P **06 22 55.3 -1.4**
TPGR Topolog 42.37 64 ⇑P P **06 22 57.1 -1.9**
TIRR Tirgusor 42.47 64 ⇑P P **06 22 59.3 -0.5**
TIRR Tirgusor 42.47 64 P P **06 22 58.8 -1.0**
APE Apeiranthos 42.71 76 ⇓P P **06 23 01.4 -0.5**
LVZ Lovozero 44.05 29 P P **06 23 12.8 +0.5**
LVZ IAmb IAmb 06 23 26.9
comp=Z,13nm,1.2s
KLMR Klimovskoe 46.21 39 *e*P P **06 23 27.1 -2.4**
KLMR Klimovskoe 46.21 39 AMP 06 23 29.8
comp=Z,20nm,1.3s
ULM Lac du Bonnet 46.35 306 LR LR 06 42 02.7
comp=Z,476nm,18.7s,baz=92,slow=35
OXF Oxford 47.08 283 P P **06 23 36.5 -0.2**
ILGA Ilgaz 47.23 67 P P **06 23 38.1 0.0**
ILGA IAmb IAmb 06 23 40.5
comp=Z,6.8nm,1.0s
BR131 Keskin Array S 47.66 69 P P **06 23 41.2 0.0**
BR131 IAmb IAmb 06 23 42.6
comp=Z,5.4nm,1.1s
BRTR Keskin Array B 47.66 69 P P **06 23 41.4 0.0**
comp=Z,1.8nm,0.9s,baz=281,slow=7.3,SNR=11
BRTR PcP **PcP 06 25 11.1 +0.2**
comp=Z,1.0nm,0.8s,baz=202,slow=2.3,SNR=5.3
BRTR LR LR 06 44 30.6
comp=Z,82nm,19.7s,baz=260,slow=37
BRTR Keskin Array B 47.66 69 P P **06 23 40.8 -0.6**
U40A Yellville 48.86 287 P P **06 23 50.7 +0.2**
U40A IAmb IAmb 06 23 56.0
comp=Z,7.7nm,0.9s
PTGA Pitinga 49.08 222 P P **06 23 53.6 +1.2**
PTGA IAmb IAmb 06 24 01.4
comp=Z,9.9nm,1.4s
CCAR Cane Creek 49.10 284 P P **06 23 52.9 +0.5**
BNN Bunyan 49.57 69 P P **06 23 56.2 +0.2**
KAN12 Harper NE Stat 52.20 290 P P **06 24 15.7 -0.1**
KBZ Khabaz 52.57 61 P P **06 24 19.8 +1.4**
comp=Z,8.1nm,1.0s,baz=312,slow=5.9,SNR=9.6
KBZ LR LR 06 46 33.5
comp=Z,81nm,20.4s,baz=322,slow=36
YKA Yellowknife Ar 53.21 325 LR LR 06 44 34.4
comp=Z,125nm,19.0s,baz=0.0,slow=33
ROSC El Rosal 53.26 241 LR LR 06 44 04.6
comp=Z,257nm,21.9s,baz=52,slow=33
AMTX Amarillo 55.95 289 P P **06 24 43.1 -0.2**
AMTX IAmb IAmb 06 24 45.8
comp=Z,11nm,1.1s
GCMT Greycliff 56.55 304 P P **06 24 47.7 +0.2**
PETF Flores 56.58 264 P P **06 24 48.5 +0.6**
JCT Junction City 56.72 284 P P **06 24 48.4 -0.3**
JCT IAmb IAmb 06 24 50.1
comp=Z,10nm,1.1s
ARU Arti 56.93 42 P P **06 24 48.8 -1.0**
JTS Las Juntas de 57.02 255 LR LR 06 45 08.6
comp=Z,139nm,21.2s,baz=167,slow=32
YNE Yellowstone No 57.10 304 P P **06 24 51.6 0.0**
YNE IAmb IAmb 06 24 54.1
comp=Z,6.6nm,1.1s
PDAR Pinedale Array 57.80 301 P P **06 24 55.9 -0.6**
comp=Z,4.1nm,0.9s,baz=68,slow=6.4,SNR=20
PDAR LR LR 06 49 49.0
comp=Z,397nm,18.2s,baz=87,slow=36
BDFB Brasilia 57.95 201 P P **06 24 59.0 +1.5**
comp=Z,5.2nm,1.1s,baz=186,slow=14,SNR=3.6
BDFB LR LR 06 47 10.9
comp=Z,120nm,19.1s,baz=316,slow=33
INK Inuvik 58.24 335 LR LR 06 48 01.3
comp=Z,144nm,18.4s,baz=20,slow=34
PV21 Cone Mtn., Par 59.36 296 P P **06 25 08.0 +0.5**
PV23 Carpenter Ridg 59.44 296 P P **06 25 08.0 0.0**
PV23 IAmb IAmb 06 25 10.6
comp=Z,5.7nm,0.9s
HWUT Hardware Ranch 59.66 301 P P **06 25 09.5 +0.1**
HWUT IAmb IAmb 06 25 10.8
comp=Z,7.1nm,0.9s
BNM Barren Site 59.88 291 P P **06 25 12.0 +1.0**
TXAR Lajitas Array 60.18 285 P P **06 25 13.3 +0.3**
comp=Z,6.3nm,1.0s,baz=75,slow=5.9,SNR=34
TXAR LR LR 06 51 49.0
comp=Z,161nm,18.8s,baz=0.0,slow=37
TX32 Lajitas Array 60.18 285 P P **06 25 13.0 0.0**
TX32 IAmb IAmb 06 25 15.5
comp=Z,5.7nm,1.0s
ABKAR Akbulak array 60.85 49 P P **06 25 16.8 -0.4**
PLID Pearl Lake 60.85 306 P P **06 25 17.3 -0.2**
BGU Big Grassy Mou 60.95 301 P P **06 25 18.4 +0.1**
BGU IAmb IAmb 06 25 23.6
comp=Z,8.5nm,1.3s
DUG Dugway, Tooele 61.17 300 P P **06 25 19.6 -0.1**
DUG IAmb IAmb 06 25 24.8
comp=Z,7.6nm,1.0s
ELK Elko 62.50 301 P P **06 25 28.5 -0.2**
PSUT Pine Spring 62.70 299 P P **06 25 29.7 -0.4**
PSUT IAmb IAmb 06 25 38.4
comp=Z,4.0nm,1.0s
SPR3 Spring Creek 3 62.78 299 P P **06 25 31.1 +0.4**
ZAIG Zacatecas 62.92 278 P P **06 25 32.7 +0.8**
ZAIG IAmb IAmb 06 25 35.4
comp=Z,9.8nm,1.3s
SIV San Ignacio 62.93 214 P P **06 25 33.5 +2.0**
comp=Z,0.8nm,0.8s,baz=73,slow=6.3,SNR=4.0
ILAR Eielson Array 64.64 335 P P **06 25 41.0 -1.1**
comp=Z,0.5nm,0.9s,baz=48,slow=6.7,SNR=6.6
ILAR LR LR 06 50 50.4
comp=Z,52nm,19.5s,baz=88,slow=33
K05A Summer Lake 65.09 306 P P **06 25 45.3 -0.4**
KVN Kaiserville 65.26 301 P P **06 25 46.0 -0.9**
KVN IAmb IAmb 06 25 48.2
comp=Z,4.0nm,0.9s
NVAR Mina Array Bea 65.73 301 P P **06 25 48.9 -1.0**
comp=Z,0.9nm,1.0s,baz=46,slow=8.5,SNR=4.2
NVAR LR LR 06 54 02.5
comp=Z,216nm,20.6s,baz=58,slow=36
LPAZ La Paz 66.48 221 LR LR 06 52 53.8
comp=Z,62nm,20.6s,baz=9.5,slow=34
KK31 Karatay Array 70.33 50 P P **06 26 18.1 -0.5**
KKAR Karatay Array 70.33 50 P P **06 26 18.1 -0.5**
ZALV Zalesovo Beam 70.83 35 P P **06 26 21.6 +0.2**
comp=Z,0.5nm,0.5s,baz=311,slow=9.6,SNR=4.1
ZALV Zalesovo Beam 70.83 35 P P **06 26 21.4 +0.1**
CHGR Chuyangaron 72.18 54 P P **06 26 30.1 +0.1**
BTK Batken 72.35 52 P P **06 26 30.8 -0.1**
BTK IAmb IAmb 06 26 38.5
comp=Z,4.3nm,1.0s
GAR Garm 72.69 53 P P **06 26 33.5 +0.5**
MK31 Makanchi Array 74.46 41 P P **06 26 42.5 -0.7**
MKAR Makanchi Array 74.46 41 P P **06 26 43.0 -0.2**
comp=Z,1.7nm,0.8s,baz=336,slow=5.7,SNR=9.9
MKAR Makanchi Array 74.46 41 P P **06 26 42.7 -0.4**
KSH Kashi 75.78 50 P P **06 26 52.5 +1.4**
KSH pP pwP 06 26 57.0 +2.7
KSH sP sP 06 26 58.5 +6.2
KSH pmax pmax
comp=Z,8.0nm,0.9s
NIL Nilore 77.89 56 P P **06 27 02.6 -0.3**
SONM Songino Array 84.22 28 P P **06 27 36.8 +0.3**
comp=Z,0.3nm,0.4s,baz=306,slow=5.0,SNR=2.6
SONM Songino Array 84.22 28 IAmb IAmb 06 27 42.2
comp=Z,3.6nm,1.4s
BOSA Boshof 85.26 134 LR LR 07 03 26.8
comp=Z,184nm,20.4s,baz=320,slow=34
PETK Petropavlovsk- 87.02 356 LR LR 07 07 01.7
comp=Z,48nm,19.0s,baz=44,slow=36
GTA Gaotai 88.47 37 *e*P P **06 27 57.0 -0.6**
GTA pP pwP 06 28 03.5 +2.6
GTA sP sP 06 28 06.5 +7.7
GTA pmax pmax
comp=Z,3.0nm,1.3s
HHC Hu-ho-hao-te 92.12 28 *e*P P **06 28 13.5 -1.0**
HHC pmax pmax
comp=Z,8.0nm,0.9s
HHC pmax pmax
comp=Z,85nm,5.0s
WRA Warramunga Arr 155.74 39 PKPab **PKPab 06 35 24.4 -1.2**
comp=Z,1.4nm,0.8s,baz=327,slow=3.0,SNR=8.5
ASAR Alice Springs 158.61 45 PKP **PKPdf 06 35 03.4 +0.4**
comp=Z,0.8nm,1.1s,baz=357,slow=2.5,SNR=4.2
ASAR PKPab **PKPab 06 35 37.5 -0.5**
comp=Z,1.7nm,0.9s,baz=328,slow=4.2,SNR=13

IDC ***26*** *06:16:30.8±2.1,31°.90S×71°.55W,h0km,mb4.2/4, mb1 4.0/7,mb1mx3.8/34,mbtmp3.9/7,ML3.6/2,MS3.3/1, Ms1 3.3/1,ms1mx2.9/18,Error ellipse: s-maj=77.2km s-min=23.0km az=103.0*
NEIC ***26*** *06:16:31.1±1.4,31°.82S±0°.03×72°.11W±0°.09,h13km±1km, mb4.2/7,ML4.1(GUC),Error ellipse: s-maj=11.4km s-min=4.7km az=95.0*
GUC ***26*** *06:16:32.1±0.7,31°.86S×72°.06W,h40km±5km,ML4.1*
ISC 26 06:16:29.8±3.3,31°.84S±0°.03×72°.11W±0°.07,h6km±21km, n51,σ0°68/53,mb4.3/5,6C-2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**1.00**	**136**	⇓*i*P	**Pb**		**06 16 49.4**	**0.0**

VA06				*i* S		**Sb**	**06 17 02.4**	**-0.5**
VA06				IAML			06 17 04.0	
	comp=E,17μm,0.4s							
CO02	**Combarbal**	**1.14**	**56**	⇓*i* P		**Pb**	**06 16 52.0**	**0.0**
CO02				*i* S		**Sb**	**06 17 06.8**	**-0.3**
CO02				IAML			06 17 08.6	
	comp=E,10μm,0.8s							
CO02	**Combarbal**	**1.14**	**56**			**Pb**	**06 16 52.0**	**0.0**
CO02				Sn		**Sb**	**06 17 06.7**	**-0.3**
CO06	**Fray Jorge**	**1.23**	**19**			**Pn**	**06 16 53.3**	**-0.2**
VA01	**Torpederas**	**1.24**	**162**	*eP*		**Pn**	**06 16 53.6**	**-0.1**
VA01				*i* S		**Sb**	**06 17 09.1**	**-0.8**
VA01	**Torpederas**	**1.24**	**162**			**Pn**	**06 16 53.8**	**+0.1**
ROCH	**El Roble**	**1.46**	**141**	⇑*i* P		**Pn**	**06 16 57.0**	**0.0**
ROCH				*i* S		**Sb**	**06 17 16.1**	**-0.4**
ROCH				IAML			06 17 17.4	
	comp=N,4μm,0.5s							
CO03	**El Pedregal**	**1.57**	**51**	*i* P		**Pn**	**06 16 58.7**	**+0.4**
CO03				*i* S		**Sn**	**06 17 18.8**	**-0.3**
CO03	**El Pedregal**	**1.57**	**51**	Pn		**Pn**	**06 16 58.2**	**-0.1**
CO03				Sn		**Sb**	**06 17 19.3**	**-0.2**
VA03	**San Esteban**	**1.61**	**125**	⇑*i* P		**Pn**	**06 16 59.1**	**+0.3**
VA03				*i* S		**Sn**	**06 17 19.2**	**-0.8**
VA03				IAML			06 17 23.7	
	comp=E,6μm,0.4s							
VA03	**San Esteban**	**1.61**	**125**			**Pn**	**06 16 59.1**	**+0.3**
VA03				Sn		**Sb**	**06 17 19.6**	**-1.0**
VA05	**Santo Domingo**	**1.86**	**167**	⇑*i* P		**Pn**	**06 17 02.3**	**+0.1**
VA05				IAML			06 17 37.3	
	comp=E,7μm,0.4s							
VA05	**Santo Domingo**	**1.86**	**167**			**Pn**	**06 17 02.4**	**+0.2**
MT05	**Renca**	**1.93**	**144**	*eP*		**Pn**	**06 17 03.8**	**+0.5**
MT05				*i* S		**Sn**	**06 17 27.7**	**-0.3**
MT05				IAML			06 17 34.7	
	comp=N,4μm,0.3s							
MT05	**Renca**	**1.93**	**144**	Pn		**Pn**	**06 17 04.0**	**+0.7**
GO04	**Tololo Observa**	**2.01**	**34**	*eP*		**Pn**	**06 17 05.0**	**+0.5**
GO04				*i* S		**Sn**	**06 17 30.8**	**+0.8**
GO04	**Tololo Observa**	**2.01**	**34**			**Pn**	**06 17 04.8**	**+0.4**
CO05	**La Serena**	**2.06**	**22**	IAML			06 17 46.5	
	comp=E,707nm,0.5s							
CO05	**La Serena**	**2.06**	**22**	Pn		**Pn**	**06 17 05.2**	**+0.3**
MT01	**Popeta**	**2.14**	**161**	⇑*i* P		**Pn**	**06 17 06.4**	**+0.3**
MT01				*i* S		**Sn**	**06 17 32.5**	**-0.6**
MT01				IAML			06 17 45.7	
	comp=N,1μm,0.4s							
MT01	**Popeta**	**2.14**	**161**			**Pn**	**06 17 06.2**	**+0.1**
MT09	**Talagante**	**2.15**	**154**	⇑*i* P		**Pn**	**06 17 07.3**	**+1.0**
MT09				IAML			06 17 41.9	
	comp=E,2μm,0.4s							
MT09	**Talagante**	**2.15**	**154**	Pn		**Pn**	**06 17 07.4**	**+1.1**
LMEL	**Las Melosas**	**2.57**	**142**	⇑*i* P		**Pn**	**06 17 13.3**	**+1.2**
LMEL				IAML			06 17 54.4	
	comp=N,1μm,0.4s							
BO01	**Tunca**	**2.69**	**162**	Pn		**Pn**	**06 17 14.2**	**+0.6**
BO02	**Sierra Bellavi**	**3.15**	**160**			**Pn**	**06 17 20.9**	**+0.9**
GO05	**Huala**	**3.17**	**177**	Pn		**Pn**	**06 17 20.0**	**-0.2**
AC04	**Llanos de Chal**	**3.73**	**14**			**Pn**	**06 17 27.6**	**-0.3**
AC02	**Maricunga**	**5.62**	**28**			**Pn**	**06 17 54.8**	**+0.4**
H03N1	**Juan Fernandez**	**5.96**	**253**	T		T	06 24 29.4	
	baz=84,slow=72,SNR=478							
H03N3	**Juan Fernandez**	**5.97**	**253**	T		T	06 24 45.7	
	baz=84,slow=72,SNR=510							
H03N2	**Juan Fernandez**	**5.97**	**253**	T		T	06 24 47.1	
	baz=84,slow=72,SNR=626							
H03S3	**Juan Fernandez**	**6.06**	**249**	T		T	06 24 54.6	
	baz=84,slow=75,SNR=7.5							
H03S1	**Juan Fernandez**	**6.06**	**249**	T		T	06 24 53.8	
	baz=84,slow=75,SNR=9.6							
H03S2	**Juan Fernandez**	**6.07**	**249**	T		T	06 24 49.5	
	baz=84,slow=75,SNR=26							
LC01	**Cunco**	**7.04**	**179**	Pn		**Pn**	**06 18 13.2**	**-0.3**
PLCA	**Paso Flores**	**8.96**	**172**	Pn		**Pn**	**06 18 40.7**	**+0.9**
	comp=N,0.2nm,0.3s,baz=339,slow=14,SNR=9.4							
PLCA				LR		LR	06 22 30.4	
	comp=N,230nm,21.9s,baz=360,slow=41							
LPAZ	**La Paz**	**15.90**	**14**	IAmb		IAmb	06 20 24.1	
	comp=N,0.0nm,0.3s,baz=108,slow=6.4,SNR=2.2							
LPAZ	**La Paz**	**15.90**	**14**	IAmb		IAmb	06 20 24.1	
	comp=Z,2.5nm,0.9s							
SIV	**San Ignacio**	**18.70**	**35**	P		**Pn**	**06 20 50.3**	**+1.0**
	baz=230,slow=12,SNR=4.0							
BDFB	**Brasilia**	**27.23**	**59**	P		**P**	**06 22 12.7**	**-2.2**
	comp=Z,2.0nm,0.6s,baz=222,slow=8.0,SNR=4.4							
BDFB	**Brasilia**	**27.23**	**59**	P		**P**	**06 22 14.4**	**-0.4**
BDFB				IAmb		IAmb	06 22 36.0	
	comp=Z,16nm,1.3s							
SNAA	**Sanae**	**53.61**	**158**	P		**P**	**06 25 52.0**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=261,slow=7.2							
SNAA	**Sanae**	**53.61**	**158**	IAmb		IAmb	06 25 53.3	
	comp=Z,4.2nm,1.0s							
SOR	**Soroa**	**55.31**	**348**	P		**P**	**06 26 03.0**	**-1.3**
QSPA	**South Pole Qui**	**58.39**	**180**	P		**P**	**06 26 27.1**	**+1.2**
QSPA				IAmb		IAmb	06 26 41.1	
	comp=Z,1.8nm,1.0s							
MAW	**Mawson**	**75.26**	**164**	P		**P**	**06 28 14.0**	**+0.9**
	comp=Z,2.7nm,1.0s,baz=210,slow=14,SNR=3.2							
MAW	**Mawson**	**75.26**	**164**	IAmb		IAmb	06 28 26.6	
	comp=Z,1.2nm,1.2s							
TORD	**Torodi Ar. Bea**	**83.53**	**70**	P		**P**	**06 28 58.7**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=244,slow=5.0,SNR=12							
TORD	**Torodi Ar. Bea**	**83.53**	**70**	P		**P**	**06 28 59.0**	**-0.1**
TORD				IAmb		IAmb	06 28 60.0	
	comp=Z,1.6nm,0.8s							
ZALV	**Zalesovo Beam**	**152.41**	**30**	PKPbc		**PKiKP**	**06 36 27.1**	**+0.6**
	comp=Z,2.8nm,0.9s,baz=308,slow=4.9,SNR=7.5							

*IDC **26** 06:28:50.3±1.1,47°.19S×100°.20E,h0km,mb4.1/7,*
mb1 4.3/7,mb1mx4.0/30,mbtmp4.1/7,MS4.0/7,Ms1 4.0/7,
ms1mx3.6/24,Error ellipse: s-maj=37.0km s-min=18.9km
az=117.0

ISC 26 06:28:51.9±1.0,47°.2S±0°.2×100°.3E±0°.2,h10km,n17,
σ0s72/10,mb4.0/7,MS3.9/7,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**16.10**	**45**	T		T		06 48 58.2	
	baz=215,slow=74,SNR=405								
H01W3	**Cape Leeuwin H**	**16.11**	**45**	T		T		06 49 05.5	
	baz=215,slow=74,SNR=926								
H01W1	**Cape Leeuwin H**	**16.11**	**45**	T		T		06 49 09.2	
	baz=215,slow=74,SNR=699								
MAW	**Mawson**	**27.98**	**210**	P		**P**		**06 34 41.4**	**-0.8**
	1.5nm,0.8s,baz=44,slow=13,SNR=4.8								
STKA	**Stephens Creek**	**34.91**	**79**	P		**P**		**06 35 43.2**	**-0.4**
	3.7nm,0.7s,baz=221,slow=7.6,SNR=9.9								
STKA				LR		LR		06 47 10.8	
	comp=Z,248nm,21.7s,baz=208,slow=32								
ASAR	**Alice Springs**	**35.65**	**61**	P		**P**		**06 35 50.0**	**-0.2**
	2.6nm,1.0s,baz=224,slow=6.9,SNR=12								
ASAR				PcP		**PcP**		**06 38 19.6**	**+1.0**
	0.5nm,0.8s,baz=219,slow=2.3,SNR=5.6								
ASAR				LR		LR		06 48 55.3	
	comp=Z,173nm,18.3s,baz=220,slow=34								
VNDA	**Vanda**	**38.33**	**162**	P		**P**		**06 36 11.9**	**-0.3**
	2.6nm,0.9s,baz=283,slow=11,SNR=8.4								
VNDA				LR		LR		06 50 45.8	
	comp=Z,353nm,18.7s,baz=276,slow=34								
WRA	**Warramunga Arr**	**38.79**	**57**	P		**P**		**06 36 17.1**	**+0.4**
	2.9nm,1.0s,baz=210,slow=9.9,SNR=8.6								
WRA				LR		LR		06 50 22.1	
	comp=Z,211nm,21.3s,baz=205,slow=33								
QSPA	**South Pole Qui**	**42.95**	**180**	P		**P**		**06 36 50.5**	**-0.2**
	3.5nm,0.8s,baz=306,slow=5.3,SNR=8.0								
H08S2	**Diego Garcia H**	**45.99**	**320**	T		T		07 26 12.8	
	baz=153,slow=76,SNR=35								
H08S1	**Diego Carcia H**	**46.00**	**320**	T		T		07 26 15.8	
	baz=153,slow=76,SNR=16								
H08S3	**Diego Garcia H**	**46.01**	**320**	T		T		07 26 14.2	
	baz=153,slow=76,SNR=54								
SNAA	**Sanae**	**49.84**	**204**	P		**P**		**06 37 45.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**65.35**	**359**	P		**P**		**06 39 33.6**	**-0.6**
	0.8nm,0.3s,baz=194,slow=6.3,SNR=6.0								
CMAR				LR		LR		07 05 08.6	
	comp=Z,104nm,19.3s,baz=325,slow=33								
PLCA	**Paso Flores**	**92.08**	**187**	LR		LR		07 21 45.9	
	comp=Z,84nm,21.1s,baz=192,slow=34								
MKAR	**Makanchi Array**	**94.92**	**348**	LR		LR		07 24 44.4	
	comp=Z,37nm,18.2s,baz=262,slow=35								
NVAR	**Mina Array Bea**	**150.63**	**93**	PKPbc		**PKiKP**		**06 48 45.3**	**+0.7**
	1.5nm,0.9s,baz=212,slow=3.9,SNR=11								

*IDC **26** 06:33:53.2±1.5,30°.95S×71°.99W,h0km,mb3.6/1,*
mb1 3.7/4,mb1mx3.5/23,mbtmp3.6/4,ML3.5/3,Error
ellipse: s-maj=28.5km s-min=21.8km az=102.0
*GUC **26** 06:34:01.5±0.6,30°.81S×71°.40W,h49km±1km,ML3.7*

ISC 26 06:34:02.3±0.9,30°.82S±0°.03×71°.43W±0°.06,h43km±9km,
n19,σ0s85/30,2C-6D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.22**	**309**	⇑*i* P		**Pn**		**06 34 09.8**	**-0.4**
CO06				*i* S		**Sn**		**06 34 15.6**	**-0.1**
CO06				IAML				06 34 17.6	
	comp=E,8μm,0.2s								
CO02	**Combarbal**	**0.54**	**136**	⇓*i* P		**Pn**		**06 34 13.1**	**-0.7**
CO02				*i* S		**Sn**		**06 34 21.4**	**-0.6**
CO03	**El Pedregal**	**0.64**	**92**	⇓*i* P		**Pn**		**06 34 14.4**	**-0.8**
CO03				*i* S		**Sn**		**06 34 23.3**	**-1.1**
CO03				IAML				06 34 24.4	
	comp=E,6μm,0.3s								
GO04	**Tololo Observa**	**0.84**	**41**	⇓*i* P		**Pn**		**06 34 17.5**	**-0.5**
GO04				*i* S		**Sn**		**06 34 29.4**	**-0.1**
CO05	**La Serena**	**0.91**	**11**	*i* P		**Pn**		**06 34 18.3**	**-0.4**
CO05				*i* S		**Sn**		**06 34 30.5**	**-0.2**
CO05				IAML				06 34 31.4	
	comp=E,2μm,0.3s								
VA06	**Catapilco**	**1.74**	**176**	*eP*		**Pn**		**06 34 29.9**	**-0.2**
VA06				*i* S		**Sn**		**06 34 51.2**	**0.0**
LCO	**Las Campanas**	**1.91**	**20**	*eP*		**Pn**		**06 34 32.6**	**-0.1**
LCO				*i* S		**Sn**		**06 34 56.0**	**+0.4**
VA03	**San Esteban**	**2.08**	**159**	⇓*i* P		**Pn**		**06 34 35.3**	**+0.4**
VA03				*i* S		**Sn**		**06 35 00.9**	**+1.3**
VA03				IAML				06 35 10.9	
	comp=N,595nm,0.7s								
ROCH	**El Roble**	**2.18**	**171**	⇑*i* P		**Pn**		**06 34 36.4**	**+0.1**
ROCH				IAML				06 35 19.2	
	comp=N,425nm,0.3s								
AC04	**Llanos de Chal**	**2.62**	**7**	⇓*i* P		**Pn**		**06 34 42.4**	**+0.2**
AC04				*i* S		**Sn**		**06 35 13.5**	**+0.7**
AC04				IAML				06 35 27.6	
	comp=E,452nm,0.5s								
MT05	**Renca**	**2.63**	**167**	*i* P		**Pn**		**06 34 42.7**	**+0.2**
MT05				IAML				06 35 29.4	
	comp=E,617nm,0.5s								
MT09	**Talagante**	**2.98**	**173**	*i* P		**Pn**		**06 34 47.4**	**+0.2**
MT09				*i* S		**Sn**		**06 35 21.9**	**+0.2**
MT09				IAML				06 35 37.0	
	comp=E,300nm,0.3s								
MT01	**Popeta**	**3.04**	**177**	⇓*i* P		**Pn**		**06 34 47.5**	**-0.5**
MT01				*i* S		**Sn**		**06 35 22.4**	**-0.8**
MT01				IAML				06 35 36.5	
	comp=E,142nm,0.5s								
LMEL	**Las Melosas**	**3.20**	**161**	*i* P		**Pn**		**06 34 51.6**	**+1.4**
LMEL				IAML				06 35 48.9	
	comp=E,144nm,0.4s								
LVC	**Limon Verde**	**8.48**	**16**	Pn		**Pn**		**06 36 01.6**	**-1.3**
	comp=E,0.2nm,0.3s,baz=180,slow=5.1,SNR=2.3								
CPUP	**Villa Florida**	**13.17**	**74**	Pn		**Pn**		**06 37 09.3**	**+2.5**
	comp=E,0.2nm,0.3s,baz=237,slow=14,SNR=3.1								
SIV	**San Ignacio**	**17.54**	**35**	P		**P**		**06 38 03.4**	**-1.0**
	comp=E,0.1nm,0.3s,baz=236,slow=13,SNR=3.9								
TORD	**Torodi Ar. Bea**	**82.65**	**70**	P		**P**		**06 46 20.7**	**-0.8**
	comp=E,0.3nm,0.4s,baz=233,slow=3.5,SNR=6.8								
ZALV	**Zalesovo Beam**	**151.24**	**30**	PKPbc		**PKiKP**		**06 53 50.3**	**-0.7**
	comp=E,0.9nm,0.3s,baz=318,slow=4.1,SNR=2.6								

*TAP **26** 06:38:06.8,24°.73N×122°.79E,h12km,ML2.7,D*
*JMA **26** 06:38:07.6±0.2,24°.70N×122°.82E,h18km±3km,M1.9*

ISC 26 06:38:05.9±1.1,24°.74N±0°.05×122°.83E±0°.02,h15km±9km,
n27,σ0s37/52,5C-6D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.31**	**159**	P		**Pb**		**06 38 13.6**	**+0.4**
JYNG				S		**Sb**		**06 38 17.5**	**-0.6**
YOJ	**Yonaguni jima**	**0.33**	**149**	P		**Pb**		**06 38 13.8**	**+0.3**
YOJ				eS		**Sb**		**06 38 18.3**	**-0.3**
YOJ	**Yonaguni jima**	**0.33**	**149**	⇓P		**Pb**		**06 38 13.8**	**+0.3**
	baz=144								
YOJ				S		**Sb**		**06 38 18.5**	**-0.1**
	baz=144								
TWB1	**Santiao Chiao**	**0.80**	**289**	⇑*eP*		**Pg**		**06 38 21.9**	**+0.3**
	baz=290								
TWB1				*eS*		**Sg**		**06 38 31.7**	**-0.5**
	baz=290								
TWC	**Suao**	**0.90**	**262**	⇑P		**Pg**		**06 38 23.3**	**0.0**
	baz=262								
TWC				*eS*		**Sb**		**06 38 34.3**	**-0.7**
	baz=262								
NTC	**Toucheng**	**0.91**	**277**	*eP*		**Pb**		**06 38 23.4**	**0.0**
	baz=277								
NTC				*eS*		**Sg**		**06 38 35.6**	**+0.1**
	baz=277								
IRIF	**Iriomote-Funau**	**0.92**	**116**	P		**Pn**		**06 38 24.5**	**+0.2**
IRIF				*eS*		**Sn**		**06 38 37.3**	**0.0**
TIPB	**Shuangxi**	**0.94**	**284**	*eP*		**Pn**		**06 38 24.7**	**+0.1**
	baz=284								
TIPB				*eS*		**Sg**		**06 38 36.6**	**+0.2**
	baz=284								
ILA	**Ilan**	**0.98**	**271**	⇓*eP*		**Pb**		**06 38 24.5**	**-0.1**
	baz=272								
EWUT	**Wuta**	**1.00**	**253**	*eP*		**Pn**		**06 38 25.5**	**+0.1**
	baz=253								
EWUT				*eS*		**Sb**		**06 38 38.0**	**+0.1**
	baz=253								
NWF	**Wu-fen Shan**	**1.00**	**289**	*eP*		**Pn**		**06 38 25.4**	**-0.2**
	baz=290								
WFSB	**Wu-fen Shan**	**1.00**	**289**	⇓*eP*		**Pn**		**06 38 26.0**	**+0.5**
	baz=289								
WFSB				*eS*		**Sb**		**06 38 38.1**	**0.0**
	baz=289								
NDS	**Dongshan**	**1.01**	**264**	⇓P		**Pg**		**06 38 25.6**	**0.0**
	baz=264								
NDS				S		**Sb**		**06 38 38.8**	**+0.3**
	baz=264								
ENA	**Nanau**	**1.04**	**253**	⇑*eP*		**Pg**		**06 38 26.0**	**0.0**
	baz=253								
ENA				*eS*		**Sb**		**06 38 38.4**	**-0.7**
	baz=253								
ENTT	**Nioudou**	**1.15**	**265**	⇑*eP*		**Pg**		**06 38 28.1**	**0.0**
	baz=266								
ENTT				*eS*		**Sb**		**06 38 42.4**	**0.0**
	baz=266								
JKRS	**Kuro-shima**	**1.19**	**115**	P		**Pg**		**06 38 29.0**	**+0.1**
JKRS				*eS*		**Sg**		**06 38 44.9**	**+0.4**
NDT	**Datong Townshi**	**1.20**	**264**	⇑*eP*		**Pg**		**06 38 30.0**	**+0.8**
	baz=264								
NDT				*eS*		**Sn**		**06 38 44.6**	**+0.3**
	baz=264								
NWLT	**Wulai**	**1.20**	**272**	*eP*		**Pg**		**06 38 29.2**	**0.0**
	baz=284								
NWLT				*eS*		**Sb**		**06 38 44.0**	**+0.2**
	baz=284								
NACB	**Ninganchiao**	**1.26**	**243**	⇓*eP*		**Pg**		**06 38 30.3**	**+0.2**
	baz=243								
NACB				*eS*		**Sn**		**06 38 45.8**	**+0.1**
	baz=243								
JIJ	**Ishigaki jima**	**1.26**	**107**	P		**Pb**		**06 38 29.2**	**-0.2**
JIJ				*eS*		**Sg**		**06 38 45.8**	**-0.8**
YHNB	**Yeheng**	**1.32**	**267**	⇓*eP*		**Pg**		**06 38 31.0**	**-0.4**
	baz=269								
YHNB				*eS*		**Sn**		**06 38 47.1**	**-0.3**
	baz=269								
ETLH	**Xiulin Townshi**	**1.34**	**247**	*eP*		**Pg**		**06 38 31.9**	**+0.2**
	baz=247								
ETLH				*eS*		**Sg**		**06 38 48.8**	**-0.3**
	baz=247								
NSK	**Sanguang**	**1.34**	**267**	*eP*		**Pg**		**06 38 31.3**	**-0.4**
	baz=269								
NSK				*eS*		**Sb**		**06 38 48.2**	**+0.5**
	baz=269								
NNS	**Nan Shan**	**1.36**	**257**	*eP*		**Pg**		**06 38 32.2**	**+0.2**
	baz=258								
NNS				*eS*		**Sb**		**06 38 48.8**	**+0.4**
	baz=258								
FUSS	**Fushou**	**1.52**	**251**	*eP*		**Pg**		**06 38 35.1**	**-0.2**
	baz=263								
FUSS				*eS*		**Sb**		**06 38 53.1**	**-0.2**
	baz=263								
WHF	**Hehuan Shan**	**1.54**	**248**	*eP*		**Pb**		**06 38 34.2**	**-0.3**
	baz=248								
WHF				*eS*		**Sn**		**06 38 52.8**	**-0.5**
	baz=248								
CHGB	**Renai**	**1.65**	**246**	*eP*		**Pn**		**06 38 35.3**	**+0.6**
	baz=248								
CHGB				*eS*		**Sb**		**06 38 56.5**	**-0.5**
	baz=248								

*VAO **26** 07:01:04.0±0.5,14°.24S×73°.54W,h61km,mb4.1*
*NEIC **26** 07:01:04.9±2.1,14°.25S±0°.08×73°.54W±0°.10,h68km±7km,*
mb4.3/18,Error ellipse: s-maj=15.1km s-min=9.5km
az=59.0
*IDC **26** 07:01:04.8±1.4,14°.27S×73°.55W,h76km±13km,mb3.5/5,*
mb1 4.0/11,mb1mx3.8/33,mbtmp4.1/11,Error ellipse:
s-maj=35.2km s-min=9.3km az=30.0

ISC 26 07:01:05.1±0.6,14°.31S±0°.07×73°.56W±0°.08,h87km,n72,
σ1s90/72,mb4.2/13,Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.94**	**305**	P		**Pn**		**07 02 02.6**	**-0.8**
	34nm,0.3s,baz=140,slow=11,SNR=61								
NNA				S		**Sn**		**07 02 48.2**	**-0.4**
	84nm,0.3s,baz=44,slow=23,SNR=11								
AP01	**Chacalluta**	**5.08**	**143**	Pn		**Pn**		**07 02 18.7**	**-0.1**
LPAZ	**La Paz**	**5.59**	**111**	P		**Pn**		**07 02 27.1**	**+0.8**
	6.4nm,0.3s,baz=293,slow=9.2,SNR=183								
LPAZ				S		**Sn**		**07 03 32.0**	**+2.4**
	baz=198,slow=19,SNR=4.7								
LPAZ	**La Paz**	**5.59**	**111**	Pn		**Pn**		**07 02 29.0**	**+2.7**
PSGCX	**Pisagua**	**6.20**	**149**			**Pn**		**07 02 32.3**	**-1.8**
PB11	**IPOC Station P**	**6.58**	**146**			**Pn**		**07 02 37.6**	**-1.8**
CZSB	**Cruzeiro do Su**	**6.59**	**7**	*eP*		**Pn**		**07 02 35.7**	**-3.7**
PB08	**IPOC Station P**	**7.17**	**145**			**Pn**		**07 02 46.2**	**-1.3**
ETMB	**Extrema**	**8.45**	**59**	*eP*		**Pn**		**07 03 02.9**	**-1.9**
LVC	**Limon Verde**	**9.36**	**153**	P		**Pn**		**07 03 16.1**	**-1.4**
	1.5nm,0.3s,baz=356,slow=8.5,SNR=8.8								
LVC				S		**Sn**		**07 04 56.6**	**-4.6**
	0.4nm,0.3s,baz=184,slow=14,SNR=4.6								
LVC	**Limon Verde**	**9.36**	**153**	*eP*		**Pn**		**07 03 16.5**	**-1.0**
TBTG	**Tabatinga, AM**	**10.68**	**20**	*eP*		**Pn**		**07 03 31.9**	**-3.2**
SAML	**Samuel**	**11.47**	**63**			**Pn**		**07 03 42.3**	**-3.6**
SIV	**San Ignacio**	**12.17**	**100**	P		**Pn**		**07 03 53.5**	**-1.8**
	3.0nm,0.3s,baz=295,slow=9.5,SNR=70								
VILB	**Vilhena**	**13.05**	**86**	*eP*		**Pn**		**07 04 06.2**	**-1.0**
PTLB	**Pontes e Lacer**	**13.98**	**96**	*eP*		**Pn**		**07 04 18.5**	**-0.9**
OTAV	**Otavalo**	**15.24**	**341**	*eP*		**Pn**		**07 04 35.3**	**-0.7**
MACA	**Manacapuru-AM**	**16.85**	**50**	*eP*		**P**		**07 04 56.3**	**-0.1**
SALV	**Santo Antonio**	**17.32**	**98**	*eP*		**Pn**		**07 05 00.8**	**-0.6**
CLDB	**Colider**	**17.66**	**81**	*eP*		**Pn**		**07 05 06.4**	**+0.7**
AQDB	**Aquidauana**	**18.10**	**112**	*eP*		**P**		**07 05 19.4**	**+0.3**
PP1B	**Ponte de Pedra**	**18.25**	**103**	*eP*		**P**		**07 05 11.9**	**+0.1**
CHIC	**Chingaza**	**18.81**	**359**	*eP*		**Pn**		**07 05 22.2**	**+2.4**
PTGA	**Pitinga**	**19.04**	**46**	*eP*		**P**		**07 05 20.7**	**+0.2**
	1.4nm,0.3s,baz=147,slow=23,SNR=14								
PTGA	**Pitinga**	**19.04**	**46**	P		**Pn**		**07 05 21.0**	**-1.1**
NPGB	**Novo Progresso**	**19.27**	**70**	*eP*		**P**		**07 05 23.5**	**+0.5**
CPUP	**Villa Florida**	**19.33**	**131**	P		**P**		**07 05 24.1**	**+0.5**
	0.2nm,0.3s,baz=308,slow=9.5,SNR=6.6								
CPUP	**Villa Florida**	**19.33**	**131**	*eP*		**Pn**		**07 05 25.1**	**-0.3**
GUY2C	**Guyana, Caldas**	**19.49**	**355**	*eP*		**Pn**		**07 05 29.9**	**+2.1**
NORC	**Norcasia**	**19.78**	**356**	*eP*		**P**		**07 05 28.0**	**-0.6**
SPBC	**San Pablo de B**	**19.84**	**358**	*eP*		**P**		**07 05 23.2**	**-6.0**
RUSC	**La Rusia**	**20.07**	**1**	P		**P**		**07 05 32.5**	**+0.4**
RUSC	**La Rusia**	**20.07**	**1**	*eP*		**P**		**07 05 31.9**	**-0.3**
ITTB	**Itaituba**	**20.15**	**62**	*eP*		**P**		**07 05 32.1**	**-0.4**
CBOC	**Ciudad Bolivar**	**20.19**	**353**	*eP*		**P**		**07 05 32.9**	**-0.2**
HELC	**Santa Helena**	**20.46**	**354**	*eP*		Pn		07 05 40.6	+1.5
PTBC	**PUERTO BERRIO,**	**20.73**	**357**	*eP*		**P**		**07 05 38.4**	**-0.4**
BARC	**Barichara**	**20.77**	**1**	*eP*		**P**		**07 05 38.9**	**-0.5**
BOAV	**Boa Vista**	**21.03**	**39**	*eP*		**P**		**07 05 43.0**	**+1.0**
BRRC	**Barranca, Sant**	**21.27**	**360**	*eP*		**P**		**07 05 37.7**	**-6.9**
DBBC	**Dabeiba**	**21.35**	**353**	*eP*		**P**		**07 05 47.9**	**+2.4**
ZARC	**Zaragoza, Cauc**	**21.70**	**357**	*eP*		**P**		**07 05 48.9

AGRB	Hanur-Agry	3.29	331	PN	Pn	07 08 04.8 -0.6
IBDR	Badra	3.67	169	*e*Pn	Pn	07 08 10.0 -0.3
IBDR				*e*Sn	Sn	07 08 53.0 -0.6
IBDR				AML	AML	07 08 58.6
	comp=E,27nm,0.4s					
IBDR				AML	AML	07 09 10.4
	comp=N,24nm,0.5s					
MAZI	Mazidag	3.77	283	PN	Pn	07 08 09.9 -2.0
KOPR	Koprukoy-ERZUR	4.13	323	PN	Pn	07 08 16.8 -0.2

TAP 26 07:16:07.1, 24°.33N×121°.72E, h14km±1km, ML1.8, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.03**	**131**	*e*S	Sg	07 16 12.7	+1.4
	baz=126						
ENA	**Nanau**	**0.10**	**14**	*i* P	Pg	07 16 11.0	+0.8
	baz=17						
ENA				*i* S	Sg	07 16 13.6	+1.3
	baz=17						
EWUT	**Wuta**	**0.13**	**27**	*i* P	Pb	07 16 11.2	-0.1
	baz=26						
EWUT				*i* S	Sb	07 16 13.9	-0.2
	baz=26						
NACB	**Ninganchiao**	**0.19**	**215**	P	Pb	07 16 12.2	-0.1
	baz=215						
NACB				*i* S	Sb	07 16 15.7	-0.2
	baz=215						
ETLH	**Xiulin Townshi**	**0.25**	**240**	P	Pb	07 16 13.4	0.0
	baz=239						
ETLH				S	Sb	07 16 17.7	+0.1
	baz=239						
NDS	**Dongshan**	**0.30**	**0**	*e*P	Pb	07 16 14.2	-0.1
NDS				*e*S	Sb	07 16 18.7	-0.5
TWC	**Suao**	**0.30**	**24**	*e*P	Pb	07 16 14.4	+0.1
	baz=25						
TWC				*e*S	Sb	07 16 19.2	+0.1
	baz=25						
NNSB	**Datong**	**0.32**	**288**	*e*P	Pb	07 16 14.6	0.0
	baz=287						
NNSB				*e*S	Sb	07 16 19.8	+0.1
	baz=287						
NDT	**Datong Townshi**	**0.33**	**326**	*e*P	Pb	07 16 14.8	+0.1
	baz=325						
NDT				*e*S	Sb	07 16 19.8	-0.1
	baz=325						
NNS	**Nan Shan**	**0.33**	**289**	*e*S	Sb	07 16 20.5	+0.4
	baz=289						
ENTT	**Nioudou**	**0.34**	**336**	*e*P	Pb	07 16 15.0	+0.1
	baz=337						
ENTT				*e*S	Sb	07 16 20.3	+0.1
	baz=337						
FUSS	**Fushou**	**0.44**	**259**	*e*P	Pb	07 16 17.2	+0.5
	baz=259						
WHF	**Hehuan Shan**	**0.45**	**246**	*e*P	Pb	07 16 17.3	+0.2
	baz=245						
WHF				*e*S	Sb	07 16 23.8	0.0
	baz=245						
YHNB	**Yeheng**	**0.46**	**318**	*e*P	Pb	07 16 17.5	+0.5
	baz=317						
TWA	**Mucha**	**0.66**	**350**	*e*S	Sb	07 16 29.6	+0.2
	baz=350						
NSTT	**Nanjuang**	**0.72**	**295**	*e*S	Sb	07 16 31.4	+0.3
	baz=294						
NHY	**Taipei**	**0.72**	**349**	*e*P	Pg	07 16 21.0	-0.1
	baz=349						
NHY				*e*S	Sb	07 16 31.5	+0.4
	baz=349						

DJA 26 07:23:01.7±0.2, 8°S±2°×117°E, h10km, M4.0/12, MLv4.0/12, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.79**	**211**	P	Pg	07 23 16.7	-0.2
TWSI				S	Sg	07 23 27.2	0.0
PLAI	**Plampang**	**0.90**	**148**	P	Pg	07 23 19.2	+0.1
PLAI				S	Sb	07 23 32.2	+0.6
KHKI	**Kahang-Kahang**	**1.69**	**260**	P	Pn	07 23 31.3	0.0
KHKI				S	Sb	07 23 54.1	-0.2
SRBI	**Singaraja**	**2.06**	**269**	P	Pn	07 23 36.6	+0.2
SRBI				S	Sb	07 24 03.5	-1.3
DNP	**Denpasar**	**2.15**	**253**	P	Pn	07 23 38.0	+0.4
WBSI	**Waikabubak, Su**	**2.60**	**127**	P	Pn	07 23 43.9	0.0
LBFI	**Labuhan Bajo,**	**2.61**	**99**	P	Pn	07 23 43.7	-0.2
ABJI	**Asem Bagus**	**3.04**	**275**	P	Pn	07 23 50.0	+0.1
JAGI	**Jajag, Banyuwa**	**3.13**	**262**	P	Pn	07 23 50.1	-1.1
KMMI	**Kalianget**	**3.44**	**287**	P	Pn	07 23 56.0	+0.6
BSSI	**Bau Bau, Buton**	**3.70**	**59**	P	Pn	07 23 59.5	+0.5
KAPI	**Kappang**	**3.89**	**39**	P	Pn	07 24 01.4	-0.2
BKSI	**Bulukumba**	**3.91**	**46**	P	Pn	07 24 02.5	+0.6
EDFI	**Ende, Flores**	**4.41**	**99**	P	Pn	07 24 09.2	+0.4
BNSI	**Bone**	**4.59**	**38**	P	Pg	07 24 31.2	+1.5
PMSI	**Majene**	**4.81**	**20**	P	Pn	07 24 12.6	-1.7

*IDC **26** 07:39:52.7±2.1, 32°.41N×137°.68E, h409km±23km, mb2.9/3, mb1 2.9/7, mb1mx2.7/55, mbtmp3.7/7, Error ellipse: s-maj=50.5km s-min=24.3km az=75.0*
*JMA **26** 07:39:53.9±0.3, 32°.55N×137°.78E, h404km, M3.5*
ISC 26 07:39:52.2±1.2, 32°.4N±0°.1×137°.8E±0°.1, h400km, n19, σ1§72/21, mb3.2/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO1	**TONANKAI O.B.S**	**1.47**	**324**	P	**Pn**	**07 40 47.7**	**+2.9**
JKN2	**Miekihoku**	**2.22**	**325**	P	**Pn**	**07 40 51.4**	**+2.0**
JAI	**Aioi**	**3.13**	**296**	P	**Pn**	**07 40 57.4**	**+1.0**
BSO4	**Boso 4**	**3.30**	**39**	P	**Pn**	**07 41 00.1**	**+2.4**
BSO1	**Boso 1**	**3.44**	**49**	P	**Pn**	**07 41 00.0**	**+1.6**
JHU	**Hanno**	**3.62**	**19**	P	**Pn**	**07 41 02.5**	**+1.9**
JHU				S	**S**	**07 41 56.3**	**+0.1**
JRY	**Ryogami san**	**3.68**	**14**	P	**Pn**	**07 41 03.9**	**+2.7**
MJAR	**Matsushiro Arr**	**4.11**	**4**	P	**Pn**	**07 41 06.3**	**+1.1**
	0.8nm,0.3s,baz=176,slow=9.9,SNR=55						
MAT	**Matsushiro**	**4.11**	**4**	P	**Pn**	**07 41 06.8**	**+1.6**
MAT				S	**S**	**07 42 05.5**	**+0.9**
JAG	**Ashikaga**	**4.20**	**18**	P	**Pn**	**07 41 07.0**	**+0.9**
JYT	**Yasato**	**4.26**	**27**	S	**S**	**07 42 05.2**	**-2.0**
JHO	**Hitachi**	**4.74**	**28**	S	**S**	**07 42 14.1**	**-1.8**
JFK	**Kawauchi**	**5.52**	**26**	S	**S**	**07 42 28.7**	**-2.1**
KSRS	**Korea Array**	**9.54**	**304**	P	**P**	**07 42 04.6**	**0.0**
	0.1nm,0.3s,baz=121,slow=10,SNR=4.4						
USRK	**Ussuriysk Ar.**	**12.60**	**340**	P	**P**	**07 42 39.5**	**+1.3**
	baz=154,slow=13,SNR=4.8						
KLR	**Kul'dur**	**17.38**	**347**	P	**P**	**07 43 29.7**	**-0.2**
	0.4nm,0.3s,baz=191,slow=6.3,SNR=4.1						
MKAR	**Makanchi Array**	**44.22**	**306**	P	**P**	**07 47 22.4**	**-1.3**
	0.7nm,0.6s,baz=75,slow=11,SNR=6.5						
WRA	**Warramunga Arr**	**52.19**	**184**	P	**P**	**07 48 23.3**	**-0.6**
	0.2nm,0.3s,baz=0.6,slow=7.8,SNR=1.9						
FINES	**FINESS Array B**	**71.48**	**332**	P	**P**	**07 50 29.9**	**-0.4**
	0.6nm,0.5s,baz=56,slow=7.1,SNR=9.2						

*IDC **26** 07:55:29.9±0.7, 30°.70S×71°.81W, h0km, mb4.4/8, mb1 4.4/13, mb1mx4.2/37, mbtmp4.3/13, ML4.1/5, MS3.9/8, Ms1 3.9/8, ms1mx3.6/21, Error ellipse: s-maj=25.0km s-min=17.4km az=98.0*
*VAO **26** 07:55:32.9±0.4, 30°.57S×71°.81W, h10km, mb4.6*
*NEIC **26** 07:55:32.5, 30°.625×72°.03W, h22km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}5.56; $M_{\theta\theta}$0.36; $M_{\phi\phi}$-5.91; $M_{r\theta}$1.63; $M_{\theta\phi}$-0.25; $M_{\phi r}$-2.44; Fault plane solution: $M_0$6.45000×10^{15} NP1:ϕ_s166.99000°, δ58.19000°, λ72.79000°. NP2:ϕ_s17.43000°, δ35.73000°, λ115.50000°. Principal axes: T 6.4945, Plg71.0000°, Azm36.0000°; N -0.0846, Plg15.0000°, Azm176.0000°; P -6.4099, Plg12.0000°, Azm269.0000°;*
*NEIC **26** 07:55:32.9±1.5, 30°.63S±0°.04×71°.99W±0°.05, h19km±3km, mb4.7/20, Mwr4.5/49, ML4.6(GUC) Error ellipse: s-maj=6.3km s-min=5.7km az=152.0*
*SJA **26** 07:55:32.9±0.8, 30°.67S×71°.91W, h39km±3km, ML4.4, MW4.6*
*GUC **26** 07:55:33.5±0.6, 30°.67S×71°.94W, h30km±3km, ML4.7*
ISC 26 07:55:30.3±1.6, 30°.65S±0°.03×72°.04W±0°.05, h4km±10km, n163, σ1§01/174, mb4.6/13, MS3.8/5, 16C-15D, Fault plane solution: NP1:ϕ_s136.50853°, δ72.91986°, λ61.80666°. NP2:ϕ_s17.78942°, δ32.59644°, λ146.96170°. Principal

axes: T Plg53.4571°, Azm12.3791°; N Plg26.8471°, Azm145.4558°; P Plg22.8328°, Azm247.7608°; **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.35**	**93**	*i*↓P	**Pb**	**07 55 39.9**	**+0.8**
CO06				*i* S	**Sb**	**07 55 44.5**	**-0.6**
CO06				IAML		07 55 45.2	
	comp=E,68μm,0.5s						
CO06	**Fray Jorge**	**0.35**	**93**		**Pb**	**07 55 40.0**	**+0.9**
CO06				Sg	**Sb**	**07 55 44.4**	**-0.6**
CO05	**La Serena**	**1.01**	**44**	*i*↓P	**Pg**	**07 55 50.8**	**+1.1**
CO05				*i* S	**Sg**	**07 56 03.4**	**+0.6**
CO05				IAML		07 56 08.7	
	comp=E,28μm,0.6s						
CO05	**La Serena**	**1.01**	**44**		**Pg**	**07 55 50.8**	**+1.1**
CO05					**Sb**	**07 56 03.7**	**-0.2**
CO02	**Combarbal**	**1.05**	**122**	*i*↓P	**Pb**	**07 55 51.1**	**+0.1**
CO02				*i* S	**Sb**	**07 56 03.7**	**-1.5**
CO02				IAML		07 56 07.3	
	comp=N,60μm,0.5s						
CO02	**Combarbal**	**1.05**	**122**		**Pb**	**07 55 51.2**	**+0.1**
CO02	**Combarbal**	**1.05**	**122**	*i* P	**Pb**	**07 55 51.2**	**+0.1**
CO02				*i* S	**Sb**	**07 56 04.2**	**-1.1**
GO04	**Tololo Observa**	**1.18**	**66**	*i*↓P	**Pb**	**07 55 53.2**	**0.0**
GO04				*i* S	**Sb**	**07 56 07.9**	**-1.1**
GO04	**Tololo Observa**	**1.18**	**66**		**Pb**	**07 55 53.3**	**0.0**
GO04	**Tololo Observa**	**1.18**	**66**	*i* P	**Pb**	**07 55 53.4**	**+0.1**
CO03	**El Pedregal**	**1.18**	**99**	*i*↓P	**Pb**	**07 55 52.9**	**-0.4**
CO03				*i* S	**Sb**	**07 56 07.7**	**-1.3**
CO03				IAML		07 56 15.1	
	comp=E,18μm,0.5s						
CO03	**El Pedregal**	**1.18**	**99**		**Pb**	**07 55 52.9**	**-0.4**
CO03	**El Pedregal**	**1.18**	**99**	*i* P	**Pb**	**07 55 52.9**	**-0.4**
CO03				*e*S	**Sb**	**07 56 07.4**	**-1.6**
VA06	**Catapilco**	**2.00**	**162**	*i*↑P	**Pn**	**07 56 05.2**	**+0.3**
VA06				*i* S	**Sb**	**07 56 32.6**	**0.0**
VA06				IAML		07 56 38.2	
	comp=E,9μm,0.2s						
LCO	**Las Campanas**	**2.01**	**36**	*i*↑P	**Pn**	**07 56 05.7**	**+0.5**
LCO				*i* S	**Sn**	**07 56 30.6**	**-0.4**
LCO	**Las Campanas**	**2.01**	**36**		**Pn**	**07 56 05.6**	**+0.4**
LCO	**Las Campanas**	**2.01**	**36**	*i* P	**Pn**	**07 56 05.8**	**+0.5**
LCO				*i* S	**Sg**	**07 56 34.3**	**-0.6**
AROD	**Rodeo**	**2.27**	**78**	*i* P	**Pb**	**07 56 12.2**	**+0.1**
AROD				*i* S	**Sb**	**07 56 38.6**	**-2.0**
VA01	**Torpederas**	**2.39**	**172**		**Pn**	**07 56 11.3**	**+1.2**
VA03	**San Esteban**	**2.46**	**149**	*i*↑P	**Pn**	**07 56 12.5**	**+1.3**
VA03	**San Esteban**	**2.46**	**149**		**Pn**	**07 56 12.6**	**+1.3**
ROCH	**El Roble**	**2.47**	**159**	*i*↑P	**Pn**	**07 56 12.1**	**+0.5**
ROC1	**El Roble**	**2.48**	**160**	*i* P	**Pn**	**07 56 12.1**	**+0.5**
ROC1				*e*S	**Sb**	**07 56 46.6**	**+0.2**
ACCO	**Cerro Coronel**	**2.57**	**89**	*e*P	**Pb**	**07 56 16.7**	**-0.4**
ACCO				IAML		07 56 53.4	
	comp=Z,1μm,1.0s						
ACDV	**Cuesta del Vie**	**2.57**	**80**	*i* P	**Pb**	**07 56 17.0**	**0.0**
ACDV				IAML		07 57 05.0	
	comp=Z,2μm,0.9s						
AC04	**Llanos de Chal**	**2.58**	**19**	*i*↑P	**Pn**	**07 56 12.6**	**-0.3**
AC04				IAML		07 57 02.8	
	comp=N,2μm,0.7s						
AC04	**Llanos de Chal**	**2.58**	**19**	Pn	**Pn**	**07 56 12.7**	**-0.2**
AC04	**Llanos de Chal**	**2.58**	**19**	*i* P	**Pn**	**07 56 12.6**	**-0.3**
AC04				*i* S	**Sb**	**07 56 50.1**	**+0.8**
RTLS	**Leoncito**	**2.61**	**117**	*i* P	**Pb**	**07 56 17.5**	**-0.4**
RTLS				*i* S	**Sb**	**07 56 51.5**	**+1.1**
RTLS				IAML		07 56 55.3	
	comp=Z,2μm,0.7s						
AUSP	**Uspallata**	**2.76**	**125**	*i* P	**Pb**	**07 56 19.3**	**-1.0**
AUSP				*i* S	**Sb**	**07 56 56.0**	**+1.4**
MT05	**Renca**	**2.95**	**158**	*i* P	**Pn**	**07 56 19.4**	**+1.4**
MT05				*i* S	**Sn**	**07 56 55.0**	**+1.2**
MT05				IAML		07 57 07.6	
	comp=E,5μm,0.3s						
MT05	**Renca**	**2.95**	**158**		**Pn**	**07 56 18.9**	**+1.0**
VA05	**Santo Domingo**	**3.02**	**173**	*i* P	**Pn**	**07 56 19.0**	**+0.2**
VA05				IAML		07 57 15.1	
	comp=E,3μm,0.4s						
VA05	**Santo Domingo**	**3.02**	**173**		**Pn**	**07 56 19.0**	**+0.2**
ZON	**Zonda**	**3.02**	**108**	*i* P	**Pb**	**07 56 22.7**	**-2.0**
ZON				*i* S	**Sb**	**07 57 02.2**	**+0.3**
ZON				IAML		07 57 10.6	
	comp=Z,2μm,0.6s						
RTLL	**Cerro Villicun**	**3.14**	**103**	*e*P	**Pn**	**07 56 23.6**	**+3.0**
RTCV	**Cerro Valdivia**	**3.23**	**113**	*e*P	**Pb**	**07 56 25.6**	**-2.7**
RTCV				IAML		07 57 17.2	
	comp=Z,688nm,1.8s						
MT09	**Talagante**	**3.24**	**164**	*i* P	**Pn**	**07 56 22.9**	**+0.9**
MT09				IAML		07 57 17.7	
	comp=N,2μm,0.4s						
MT09	**Talagante**	**3.24**	**164**	Pn	**Pn**	**07 56 23.3**	**+1.3**
MT01	**Popeta**	**3.27**	**168**	*i* P	**Pn**	**07 56 22.4**	**+0.1**
MT01				IAML		07 57 23.8	
	comp=E,1μm,0.4s						
MT01	**Popeta**	**3.27**	**168**		**Pn**	**07 56 22.9**	**+0.6**
MT01	**Popeta**	**3.27**	**168**	*i* P	**Pn**	**07 56 22.7**	**+0.4**
GO03	**Copiap**	**3.44**	**28**	*i* P	**Pn**	**07 56 24.7**	**+0.2**
GO03				IAML		07 57 32.0	
	comp=E,2μm,0.3s						
GO03	**Copiap**	**3.44**	**28**	Pn	**Pn**	**07 56 24.9**	**+0.2**
GO03	**Copiap**	**3.44**	**28**	*e*P	**Pn**	**07 56 24.8**	**+0.2**
LMEL	**Las Melosas**	**3.54**	**154**	*i* P	**Pn**	**07 56 28.1**	**+1.9**
LMEL				*i* S	**Sn**	**07 57 09.9**	**+1.2**
LMEL				IAML		07 57 26.6	
	comp=N,1μm,0.3s						
BO01	**Tunca**	**3.81**	**168**	*i*↓P	**Pn**	**07 56 30.4**	**+0.6**
BO01	**Tunca**	**3.81**	**168**	Pn	**Pn**	**07 56 30.4**	**+0.6**
BO01	**Tunca**	**3.81**	**168**	*i* P	**Pn**	**07 56 30.5**	**+0.6**
BO02	**Sierra Bellavi**	**4.26**	**166**		**Pn**	**07 56 37.0**	**+1.0**
BO02	**Sierra Bellavi**	**4.26**	**166**	*e*P	**Pn**	**07 56 37.0**	**+1.0**
GO05	**Huala**	**4.34**	**179**		**Pn**	**07 56 36.6**	**-0.5**
GO05	**Huala**	**4.34**	**179**	*i* P	**Pn**	**07 56 36.4**	**-0.7**
AC02	**Maricunga**	**4.58**	**35**	Pn	**Pn**	**07 56 41.6**	**+0.8**
AC02	**Maricunga**	**4.58**	**35**	*i* P	**Pn**	**07 56 41.8**	**+1.0**
RFA	**San Rafael**	**5.09**	**145**	*e*P	**Pn**	**07 56 49.7**	**+2.2**
RFA				IAML		07 58 19.7	
	comp=Z,381nm,1.0s						
ML02	**Panimavida**	**5.12**	**174**		**Pn**	**07 56 49.0**	**+1.3**
PB14	**IPOC Station P**	**6.18**	**14**		**Pn**	**07 57 00.2**	**-2.4**
H03N1	**Juan Fernandez**	**6.46**	**243**	T	T	08 04 04.1	
	baz=72,slow=72,SNR=1988						
H03N2	**Juan Fernandez**	**6.47**	**243**	T	T	08 04 00.6	
	baz=72,slow=72,SNR=2178						
H03N3	**Juan Fernndez**	**6.47**	**243**	T	T	08 04 01.9	
	baz=72,slow=72,SNR=2178						
VA04	**Juan Fernndez**	**6.48**	**241**		**Pn**	**07 57 05.6**	**-0.8**
H03S3	**Juan Fernandez**	**6.62**	**240**	T	T	08 04 21.3	
	baz=83,slow=76,SNR=19						
H03S1	**Juan Fernandez**	**6.63**	**240**	T	T	08 04 21.6	
	baz=83,slow=76,SNR=16						
H03S2	**Juan Fernandez**	**6.64**	**240**	T	T	08 04 14.6	
	baz=83,slow=76,SNR=16						
PB15	**IPOC Station P**	**7.76**	**18**		**Pn**	**07 57 22.8**	**-1.4**
LC01	**Cunco**	**8.23**	**179**		**Pn**	**07 57 29.8**	**-0.6**
LVC	**Limon Verde**	**8.49**	**20**	Pn	**Pn**	**07 57 31.9**	**-2.4**
	comp=Z,0.9nm,0.3s,baz=188,slow=6.8,SNR=9.5						
LVC				Sn	Sb	07 59 25.9	-14
	comp=Z,2.9nm,0.3s,baz=230,slow=22,SNR=5.8						
LVC	**Limon Verde**	**8.49**	**20**	*e*P	**Pn**	**07 57 32.0**	**-2.4**
LR03	**Panguipulli**	**8.96**	**182**		**Pn**	**07 57 40.4**	**-0.1**
PLCA	**Paso Flores**	**10.13**	**174**	Pn	**Pn**	**07 57 55.0**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=333,slow=15,SNR=6.1						
PLCA				LR	LR	08 02 04.0	
	comp=Z,620nm,18.3s,baz=352,slow=39						
PLCA	**Paso Flores**	**10.13**	**174**		**Pn**	**07 57 56.9**	**+0.3**
PLCA	**Paso Flores**	**10.13**	**174**	*e*P	**Pn**	**07 57 58.7**	**+2.1**
TRQA	**Tornquist**	**11.12**	**134**		**Pn**	**07 58 10.0**	**0.0**
TRQA	**Tornquist**	**11.12**	**134**	*e*P	**Pn**	**07 58 11.8**	**+1.8**
ITQB	**Itaqui**	**13.38**	**90**		**Pn**	**07 58 40.3**	**-0.7**
ITQB	**Itaqui**	**13.38**	**90**	*e*P	**Pn**	**07 58 40.8**	**-0.2**
CPUP	**Villa Florida**	**13.63**	**75**	Pn	**Pn**	**07 58 41.5**	**-2.9**
	comp=Z,0.3nm,0.3s,baz=238,slow=11,SNR=6.1						
CPUP				LR	LR	08 04 18.1	
	comp=Z,648nm,21.0s,baz=248,slow=39						
CPUP	**Villa Florida**	**13.63**	**75**	*e*P	**Pn**	**07 58 44.7**	**+0.3**
LPAZ	**La Paz**	**14.74**	**15**	Pn	**Pn**	**07 58 59.0**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=186,slow=7.5,SNR=24						
LPAZ	**La Paz**	**14.74**	**15**	*e*P	**Pn**	**07 58 59.9**	**-0.3**
PLTB	**Pedras Altas**	**15.82**	**99**	*e*P	**Pn**	**07 59 12.7**	**-1.2**
CPSB	**Cacapava Do Su**	**16.04**	**94**	*e*P	**Pn**	**07 59 16.5**	**-0.1**
SIV	**San Ignacio**	**17.71**	**37**	P	**Pn**	**07 59 37.0**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=230,slow=11,SNR=72						
SIV				LR	LR	08 07 42.5	
	comp=Z,772nm,19.7s,baz=216,slow=42						
AQDB	**Aquidauana**	**17.87**	**59**	*e*P	**Pn**	**07 59 39.9**	**+0.1**
CNLB	**Canela**	**18.41**	**91**	*e*P	**Pn**	**07 59 46.2**	**-0.3**
TRCB	**Terra Rica**	**19.00**	**70**	P	**P**	**07 59 52.3**	**-0.8**
TRCB	**Terra Rica**	**19.00**	**70**	*e*P	**P**	**07 59 52.9**	**-0.2**
NNA	**Nana**	**19.10**	**346**	LR	LR	08 05 44.0	
	comp=Z,142nm,18.9s,baz=175,slow=32						
PTLB	**Pontes e Lacer**	**19.21**	**41**	*e*P	**P**	**07 59 55.6**	**+0.3**
TER01	**Tubarao-SC**	**20.03**	**90**	*e*P	**P**	**08 00 03.5**	**-0.8**
PCMB	**Pacaembu**	**20.69**	**69**	*e*P	**P**	**08 00 11.0**	**-0.5**
VILB	**Vilhena**	**20.73**	**34**	*e*P	**P**	**08 00 12.0**	**0.0**
SALV	**Santo Antonio**	**20.96**	**49**	*e*P	**P**	**08 00 14.5**	**+0.1**
TIJ01	**Guaruva-PR**	**21.01**	**81**	*e*P	**P**	**08 00 14.3**	**-0.7**
ETMB	**Extrema**	**21.43**	**16**	*e*P	**P**	**08 00 20.5**	**+1.1**
ITRB	**Iturama**	**22.41**	**66**	*e*P	**P**	**08 00 29.2**	**-0.8**
CZSB	**Cruzeiro do Su**	**22.82**	**358**	*e*P	**P**	**08 00 36.1**	**+1.8**
PET01	**Itanhaem-SP**	**22.84**	**80**	*e*P	**P**	**08 00 33.1**	**-1.5**
SPB	**Sao Paulo**	**22.98**	**78**	*e*P	**P**	**08 00 35.8**	**-0.1**
SAML	**Samuel**	**23.12**	**23**	P	**P**	**08 00 37.1**	**-0.4**
SAML				IAmb	IAmb	08 00 39.7	
	comp=Z,21nm,1.2s						
SAML	**Samuel**	**23.12**	**23**	*e*P	**P**	**08 00 37.4**	**-0.1**
BB19B	**Bebedouro**	**23.18**	**71**	*e*P	**P**	**08 00 37.0**	**-1.1**
RCLB	**Rio Claro- Sao**	**23.38**	**75**	*e*P	**P**	**08 00 38.6**	**-1.5**
VALO	**Valinhos**	**23.61**	**77**	*e*P	**P**	**08 00 41.2**	**-1.3**
PARB	**Paraibuna**	**24.51**	**79**	*e*P	**P**	**08 00 52.2**	**+0.4**
CLDB	**Colider**	**24.80**	**41**	*e*P	**P**	**08 00 52.4**	**-1.1**
IPMB	**Ipameri, GO**	**25.05**	**65**	*e*P	**P**	**08 00 55.1**	**-0.7**
ESAR	**Angra dos Reis**	**25.73**	**80**	*e*P	**P**	**08 01 01.0**	**-0.8**
BSCB	**Bom Sucesso**	**26.30**	**75**	*e*P	**P**	**08 01 06.3**	**-0.9**
TBTG	**Tabatinga, AM**	**26.40**	**5**	*e*P	**P**	**08 01 09.3**	**+1.3**
BDFB	**Brasilia**	**26.59**	**61**	P	**P**	**08 01 08.6**	**-1.2**
	comp=Z,19nm,0.8s,baz=240,slow=8.2,SNR=27						
BDFB				LR	LR	08 12 42.5	
	comp=Z,643nm,18.7s,baz=248,slow=39						
BDFB	**Brasilia**	**26.59**	**61**	P	**P**	**08 01 08.4**	**-1.4**
SNDB	**Serra Nova Dou**	**26.73**	**50**	*e*P	**P**	**08 01 10.2**	**-0.8**
VAS01	**Vassouras-RJ**	**26.87**	**79**	*e*P	**P**	**08 01 11.7**	**-0.5**
DUB01	**Friburgo-RJ**	**27.86**	**79**	*e*P	**P**	**08 01 20.8**	**-0.3**
NPGB	**Novo Progresso**	**28.22**	**37**	*e*P	**P**	**08 01 23.3**	**-1.1**
DIAM	**Diamantina, MG**	**28.51**	**71**	*e*P	**P**	**08 01 26.5**	**-0.6**
PEXB	**Peixe**	**28.69**	**55**	*e*P	**P**	**08 01 28.7**	**+0.2**
MACA	**Manacapuru-AM**	**29.38**	**24**	*e*P	**P**	**08 01 34.7**	**+0.1**
JANB	**Januaria**	**29.79**	**65**	*e*P	**P**	**08 01 37.4**	**-0.9**
ITTB	**Itaituba**	**30.33**	**34**	*e*P	**P**	**08 01 43.6**	**+0.5**
SJMB	**Sao Joao De Ma**	**30.36**	**74**	*e*P	**P**	**08 01 42.2**	**-1.1**
SMTB	**Santa Maria do**	**31.48**	**52**	*e*P	**P**	**08 01 53.6**	**+0.4**
NAN01	**Guarapari, ES**	**31.65**	**74**	*e*P	**P**	**08 01 54.3**	**-0.4**
PTGA	**Pitinga**	**31.89**	**23**	P	**P**	**08 01 55.3**	**-1.6**
PTGA				IAmb	IAmb	08 01 57.8	
	comp=Z,7.4nm,0.9s						
PRPB	**Parauapebas**	**32.08**	**45**	*e*P	**P**	**08 01 57.8**	**-0.7**
MALB	**Monte Alegre**	**33.23**	**34**	*e*P	**P**	**08 02 07.3**	**-1.3**
CMC01	**Camacan, BA**	**33.43**	**70**	*e*P	**P**	**08 02 10.4**	**+0.1**
BOAV	**Boa Vista**	**34.65**	**21**	*e*P	**P**	**08 02 21.5**	**+0.6**
MCPB	**Macapa, AP**	**35.51**	**36**	*e*P	**P**	**08 02 29.0**	**-0.2**
TMAB	**Tom-Au,PA,Br**	**36.12**	**43**	*e*P	**P**	**08 02 34.3**	**+0.8**
RUSC	**La Rusia**	**36.35**	**358**	P	**P**	**08 02 38.2**	**+2.1**
NBPS	**Pedro II - PI**	**38.90**	**54**	*e*P	**P**	**08 02 57.0**	**-0.3**
NBAN	**Anadia - AL**	**39.28**	**66**	*e*P	**P**	**08 02 58.9**	**-1.5**
SDV	**Santo Domingo**	**39.34**	**2**	P	**P**	**08 03 01.7**	**+0.7**
SDV				IAmb	IAmb	08 03 03.5	
	comp=Z,7.1nm,0.6s						
SDV	**Santo Domingo**	**39.34**	**2**	*e*P	**P**	**08 03 02.4**	**+1.4**
NBPB	**Pedra_Branca-C**	**39.42**	**57**	*e*P	**P**	**08 03 02.5**	**+0.9**
SJCC	**San Jacinto, C**	**40.43**	**355**	P	**P**	**08 03 09.7**	**-0.2**
SJCC				IAmb	IAmb	08 03 14.4	
	comp=Z,11nm,1.0s						
NBRF	**Rio Formoso -**	**40.78**	**65**	*e*P	**P**	**08 03 13.1**	**+0.3**
URIC

	baz=290								
TAW				eS	Sn	08 15 41.4	-1.0		
	baz=290								
TWKBT	**Hengchun**	0.73	260	eP	Pn	08 15 29.1	+0.7		
	baz=257								
TWKBT				eS	Sn	08 15 43.1	+0.2		
	baz=257								
TWK1	**Hengchun**	0.74	260	P	Pn	08 15 29.1	+0.7		
	baz=257								
TWK1				S	Sn	08 15 43.3	+0.3		
	baz=257								
SLIU	**Shizi**	0.75	281	eP	Pn	08 15 29.1	+0.6		
	baz=283								
SLIU				eS	Sn	08 15 43.4	+0.3		
	baz=283								
EAST	**Anshuo**	0.75	294	eP	Pn	08 15 28.5	-0.1		
	baz=291								
EAST				eS	Sn	08 15 43.5	+0.2		
	baz=291								
ECL	**Taimali**	0.79	312	⇓P	Pn	08 15 28.4	-0.4		
	baz=314								
ECL				S	Sn	08 15 42.3	-1.4		
	baz=314								
TTN	**Taitung**	0.79	329	eP	Pn	08 15 30.1	+1.2		
	baz=319								
TTN				eS	Sn	08 15 45.0	+1.2		
	baz=319								
HEN	**Hengchun**	0.79	265	eP	Pn	08 15 29.8	+0.9		
	baz=272								
HEN				S	Sn	08 15 44.1	+0.4		
	baz=272								
TWGBT	**Beinan**	0.88	328	eP	Pn	08 15 29.5	-0.2		
	baz=319								
TWGBT				eS	Sn	08 15 43.7	-1.5		
	baz=319								
TWG	**Pinlang**	0.88	327	⇓P	Pn	08 15 29.5	-0.2		
	baz=319								
TWG				S	Sn	08 15 43.9	-1.5		
	baz=319								
LONT	**Longtian**	0.93	333	P	Pn	08 15 30.2	0.0		
	baz=324								
LONT				eS	Sn	08 15 44.5	-1.7		
	baz=324								
EDH	**Donghe**	0.93	344	P	Pn	08 15 30.3	+0.1		
	baz=336								
EDH				eS	Sn	08 15 45.7	-0.4		
	baz=336								
SCZT	**Fangliau**	0.94	288	⇓eP	Pn	08 15 30.6	+0.3		
	baz=286								
SCZT				eS	Sn	08 15 45.3	-1.0		
	baz=286								
MASBT	**Mashibuluo**	1.03	301	⇓eP	Pn	08 15 31.6	+0.3		
	baz=298								
MASBT				eS	Sn	08 15 46.6	-1.3		
	baz=298								
CHKT	**Chengkung**	1.04	349	P	Pn	08 15 31.3	0.0		
	baz=351								
CHKT				S	Sn	08 15 47.7	-0.3		
	baz=351								
TSMG	**Majia**	1.08	306	P	Pn	08 15 32.1	+0.5		
	baz=295								
TSMG				eS	Sn	08 15 47.7	-0.9		
	baz=295								
SSD	**Sandimen**	1.11	307	P	Pn	08 15 32.4	+0.4		
	baz=297								
SSD				eS	Sn	08 15 48.2	-1.1		
	baz=297								
FULB	**Fuli**	1.15	346	P	Pn	08 15 33.0	+0.5		
	baz=340								
FULB				S	Sn	08 15 51.2	+1.1		
	baz=340								
WLCH	**Liuqiu**	1.16	284	P	Pn	08 15 34.4	+2.0		
	baz=281								
WLCH				eS	Sn	08 15 53.2	+3.1		
	baz=281								
SGLT	**Jiouru**	1.21	303	eP	Pn	08 15 34.6	+1.6		
	baz=295								
SGLT				eS	Sn	08 15 52.5	+1.4		
	baz=295								
ELDTW	**Lidau**	1.23	335	P	Pn	08 15 33.2	-0.3		
	baz=333								
ELDTW				eS	Sn	08 15 51.5	-0.3		
	baz=333								
KAU	**Kaohsiung**	1.28	293	eP	Pn	08 15 35.2	+1.4		
	baz=290								
KAU				eS	Sn	08 15 54.3	+1.7		
	baz=290								
EYUL	**Yuli**	1.29	349	eP	Pn	08 15 34.9	+0.9		
	baz=339								
EYUL				eS	Sn	08 15 51.9	-1.0		
	baz=339								
SCST	**Cishan**	1.29	309	eP	Pn	08 15 35.0	+1.0		
	baz=306								
SCST				eS	Sn	08 15 53.7	+0.8		
	baz=306								
STYH	**Taoyuan**	1.32	326	eP	Pn	08 15 35.1	+0.8		
	baz=316								
STYH				eS	Sn	08 15 53.6	+0.1		
	baz=316								
YULB	**Yu-li**	1.34	348	eP	Pn	08 15 34.4	-0.2		
	baz=341								
YULB				eS	Sn	08 15 51.9	-1.9		
	baz=341								
SNJT	**Kaohsiung City**	1.34	300	eS	Sn	08 15 55.2	+1.4		
	baz=298								
SGST	**Jiashian**	1.37	317	⇓eP	Pn	08 15 34.5	-0.3		
	baz=307								
SGST				eS	Sn	08 15 53.1	-1.3		
	baz=307								
HGSD	**Ruisui**	1.42	354	eP	Pn	08 15 35.1	-0.3		
	baz=355								
HGSD				eS	Sn	08 15 56.6	+1.2		
	baz=355								
EHY	**Hungye**	1.45	350	eP	Pn	08 15 35.8	0.0		
	baz=342								
EHY				eS	Sn	08 15 54.6	-1.4		
	baz=342								
WTP	**Ta-pu**	1.47	322	⇓P	Pn	08 15 36.6	+0.5		
	baz=312								
WTP				S	Sn	08 15 56.3	-0.3		
	baz=312								
CHN1	**Nanshi**	1.48	319	P	Pn	08 15 36.6	+0.4		
	baz=309								
CHN1				S	Sn	08 15 56.3	-0.3		
	baz=309								
CHN3	**Shinhua**	1.51	312	eP	Pn	08 15 37.8	+1.4		
	baz=310								
CHN3				eS	Sn	08 15 58.8	+1.6		
	baz=310								
TPUB	**Ta-pu**	1.51	324	⇓eP	Pn	08 15 36.9	+0.4		
	baz=314								
TPUB				eS	Sn	08 15 56.7	-0.5		
	baz=314								
SNST	**Tainan City**	1.52	319	eP	Pn	08 15 36.5	-0.1		
	baz=317								
SNST				eS	Sn	08 15 57.2	-0.3		
	baz=317								
YUS	**Yu-Shan**	1.53	337	eP	Pn	08 15 38.0	+0.9		
	baz=326								
YUS				eS	Sn	08 15 59.6	+1.1		
	baz=326								
TWK	**Hsinying**	1.56	320	eP	Pn	08 15 37.4	+0.3		
	baz=311								
TWK				eS	Sn	08 15 57.8	-0.6		
	baz=311								
CHN4	**Tsaushan**	1.57	324	⇓eP	Pn	08 15 37.5	+0.4		
	baz=315								
CHN4				eS	Sn	08 15 57.8	-0.7		
	baz=315								
TAI1	**Yung-k'ang**	1.58	308	eP	Pn	08 15 38.2	+0.9		
	baz=306								
TAI1				eS	Sn	08 15 59.4	+0.7		
	baz=306								
EGFH	**Guangfu**	1.59	355	eP	Pn	08 15 37.6	+0.2		
	baz=347								
EGFH				eS	Sn	08 15 58.5	-0.5		
	baz=347								
ALS	**Alishan**	1.60	333	P	Pn	08 15 38.5	+0.6		
	baz=323								
ALS				S	Sn	08 15 59.9	+0.2		
	baz=323								
SCLT	**Jiali**	1.69	311	P	Pn	08 15 39.2	+0.6		
	baz=309								
SCLT				S	Sn	08 16 01.4	+0.3		
	baz=309								
CHN5	**Tsauling**	1.73	331	eP	Pn	08 15 39.4	+0.2		
	baz=323								
CHN5				eS	Sn	08 16 02.1	0.0		
	baz=323								
ESL	**Shilin**	1.74	355	eP	Pn	08 15 39.2	0.0		
	baz=349								
ESL				eS	Sn	08 16 00.9	-1.2		
	baz=349								
WHYT	**Xinyi Township**	1.75	337	eP	Pn	08 15 39.9	+0.5		
	baz=327								
WHYT				eS	Sn	08 16 02.3	-0.2		
	baz=327								
ICHU	**Yijhu**	1.76	317	P	Pn	08 15 39.9	+0.4		
	baz=316								
ICHU				S	Sn	08 16 02.3	-0.3		
	baz=316								
CHY	**Chiayi**	1.78	323	eP	Pn	08 15 40.1	+0.4		
	baz=332								
CHY				eS	Sn	08 16 02.6	-0.3		
	baz=332								
CHN8	**Yiju**	1.79	315	eP	Pn	08 15 39.9	+0.1		
	baz=314								
CHN8				eS	Sn	08 16 03.0	-0.3		
	baz=314								
SSLB	**Suanglung**	1.80	341	eP	Pn	08 15 40.3	+0.3		
	baz=330								
SSLB				eS	Sn	08 16 03.2	-0.4		
	baz=330								
WDLH	**Douliu**	1.88	329	eP	Pn	08 15 41.4	+0.5		
	baz=328								
WDLH				eS	Sn	08 16 05.1	-0.1		
	baz=328								
SMLT	**Sun Moon Lake**	1.91	341	P	Pn	08 15 41.8	+0.4		
	baz=331								
SMLT				eS	Sn	08 16 06.5	+0.5		
	baz=331								
WJS	**Zhushan**	1.91	336	eP	Pn	08 15 41.6	+0.3		
	baz=335								
WJS				eS	Sn	08 16 06.8	+0.9		
	baz=335								
TYC	**Yuchr**	1.94	340	eP	Pn	08 15 41.8	+0.1		
	baz=331								
TYC				eS	Sn	08 16 06.3	-0.2		
	baz=331								
WTK	**Tuku**	1.95	326	eP	Pn	08 15 42.1	+0.3		
	baz=325								
WTK				eS	Sn	08 16 06.3	-0.5		
	baz=325								
WNT	**Mingjian**	1.98	335	eP	Pn	08 15 42.8	+0.6		
	baz=335								
WNT				eS	Sn	08 16 07.1	-0.3		
	baz=335								
TWD	**Chiawan**	2.00	0	eP	Pn	08 15 42.1	-0.3		
	baz=9.0								
TWD				eS	Sn	08 16 07.4	-0.4		
	baz=9.0								
WSF	**Szhu**	2.00	321	eP	Pn	08 15 42.2	-0.3		
	baz=312								
WSF				eS	Sn	08 16 07.2	-0.8		
	baz=312								
CHGB	**Renai**	2.01	349	eP	Pn	08 15 43.8	+1.0		
	baz=342								
CHGB				eS	Sn	08 16 09.1	+0.5		
	baz=342								
WCS	**Beigang Elemen**	2.07	343	eP	Pn	08 15 44.4	+1.1		
	baz=334								
WCS				eS	Sn	08 16 10.1	+0.7		
	baz=334								
WHF	**Hehuan Shan**	2.08	352	eP	Pn	08 15 44.6	+0.7		
	baz=358								
WHF				eS	Sn	08 16 10.5	+0.1		
	baz=358								
NACB	**Ninganchiao**	2.09	0	eP	Pn	08 15 43.6	0.0		
	baz=354								
NACB				eS	Sn	08 16 05.1	-4.8		
	baz=354								
ETLH	**Xiulin Townshi**	2.12	357	eP	Pn	08 15 44.9	+0.7		
	baz=358								
ETLH				eS	Sn	08 16 08.2	-2.7		
	baz=358								
WRL	**Guolierlin Hig**	2.13	329	eP	Pn	08 15 43.7	-0.4		
	baz=328								
WRL				eS	Sn	08 16 11.5	+0.6		
	baz=328								
WDGT	**Dungji**	2.14	304	eP	Pn	08 15 44.0	-0.2		
	baz=302								
WDGT				S	Sn	08 16 08.9	-2.0		
	baz=302								
WTCT	**Ta-ch'eng**	2.15	326	eS	Sn	08 16 10.9	-0.4		
	baz=332								
FUSS	**Fushou**	2.19	352	eP	Pn	08 15 46.5	+1.5		
	baz=355								
FUSS				eS	Sn	08 16 13.0	+0.5		
	baz=355								
TWT	**Tachien**	2.20	350	eS	Sn	08 16 13.3	+0.6		
	baz=345								
TDCB	**Techi**	2.20	350	eP	Pn	08 15 46.7	+1.5		
	baz=345								
TDCB				eS	Sn	08 16 13.9	+1.2		
	baz=345								
WCHH	**Zhanghua**	2.21	335	eP	Pn	08 15 45.7	+0.6		
	baz=334								
WCHH				eS	Sn	08 16 13.4	+0.8		
	baz=334								
WHP	**Taichung City**	2.27	345	eP	Pn	08 15 46.8	+0.8		
	baz=337								
WHP				eS	Sn	08 16 14.9	+0.7		
	baz=337								
VCHM	**Qimei**	2.29	300	eP	Pn	08 15 45.9	-0.3		
	baz=297								
VCHM				eS	Sn	08 16 12.5	-2.0		
	baz=297								
ENA	**Nanau**	2.35	3	eP	Pn	08 15 47.5	+0.7		
	baz=12								
ENA				eS	Sn	08 16 16.6	+0.9		
	baz=12								
PHUB	**P'eng-hu**	2.35	308	eP	Pn	08 15 46.4	-0.5		
	baz=306								
PHUB				eS	Sn	08 16 13.1	-2.6		
	baz=306								
NNSB	**Datong**	2.35	355	eP	Pn	08 15 47.3	+0.3		
	baz=360								
NNSB				eS	Sn	08 16 15.2	-0.8		
	baz=360								
NNS	**Nan Shan**	2.36	355	eP	Pn	08 15 49.3	+2.1		
	baz=359								
NNS				eS	Sn	08 16 16.5	+0.2		
	baz=359								
EWUT	**Wuta**	2.37	4	eP	Pn	08 15 46.9	-0.2		
	baz=5.0								
EWUT				eS	Sn	08 16 17.4	+1.3		
	baz=5.0								
TWQ1	**Liyutan**	2.38	342	eP	Pn	08 15 48.0	+0.7		
	baz=343								
TWQ1				eS	Sn	08 16 16.8	+0.1		
	baz=343								
PNG	**Penghu**	2.39	309	eP	Pn	08 15 47.2	-0.2		
	baz=302								
PNG				eS	Sn	08 16 14.8	-2.0		
	baz=302								
NSY	**Sanyi**	2.45	342	eP	Pn	08 15 49.1	+0.8		
	baz=343								
NSY				eS	Sn	08 16 18.6	+0.3		
	baz=343								
NDT	**Datong Townshi**	2.52	358	eP	Pn	08 15 52.7	+3.6		
	baz=7.0								
NDT				eS	Sn	08 16 19.8	0.0		
	baz=7.0								
NDS	**Dongshan**	2.55	3	eP	Pn	08 15 50.3	+0.9		
	baz=10.0								
NDS				eS	Sn	08 16 20.5	0.0		
	baz=10.0								
ENTT	**Nioudou**	2.55	360	eP	Pn	08 15 50.0	+0.5		
	baz=1.0								
ENTT				eS	Sn	08 16 21.1	+0.5		
	baz=1.0								
YHNB	**Yeheng**	2.59	356	eP	Pn	08 15 51.3	+1.3		
	baz=357								
YHNB				eS	Sn	08 16 21.4	-0.1		
	baz=357								
NSK	**Sanguang**	2.60	355	eP	Pn	08 15 51.6	+1.5		
	baz=357								
NSK				eS	Sn	08 16 22.5	+0.8		
	baz=357								
NSTT	**Nanjuang**	2.60	348	eP	Pn	08 15 53.5	+3.3		
	baz=339								
NSTT				eS	Sn	08 16 21.5	-0.1		
	baz=339								
LIOB	**Emei**	2.61	348	eP	Pn	08 15 53.5	+3.2		
	baz=339								
LIOB				eS	Sn	08 16 20.9	-1.1		
	baz=339								
TIPB	**Shuangxi**	2.89	4	eP	Pn	08 15 55.4	+1.4		
	baz=354								
TIPB				eS	Sn	08 16 29.6	+1.1		
	baz=354								
NWF	**Wu-fen Shan**	2.99	3	eP	Pn	08 15 57.3	+2.0		
	baz=353								
VWUC	**VWUC**	3.50	326	eP	Pn	08 16 01.6	-0.4		
	baz=328								
VWUC				eS	Sn	08 16 40.1	-2.7		
	baz=328								
PTMZ	**Houxiangcun**	3.72	323	eP	Pn	08 16 04.5	-0.4		
	baz=325								
PTMZ				eS	Sn	08 16 45.1	-2.9		
	baz=325								
KNM	**Kinmen**	3.72	309	eP	Pn	08 16 06.4	+1.5		
	baz=307								
KNM				eS	Sn	08 16 48.2	+0.2		
	baz=307								
KNMB	**Chin-men Tao**	3.78	310	eP	Pn	08 16 05.7	0.0		
	baz=309								
KNMB				eS	Sn	08 16 46.8	-2.7		
	baz=309								
ZPLA	**Ao Xicun**	3.99	298	eP	Pn	08 16 09.0	+0.5		
	baz=295								
ZPLA				eS	Sn	08 16 52.9	-1.6		
	baz=295								
MATB	**Ma-tsu**	4.33	340	eP	Pn	08 16 12.2	-0.9		
	baz=342								
AXDP	**Jialang**	4.35	311	eP	Pn	08 16 14.1	+0.7		
	baz=310								
MHZQ	**Yeshan**	4.64	330	eP	Pn	08 16 17.1	-0.1		
	baz=333								
LYJJ	**Jianjiangzhen**	4.76	340	eP	Pn	08 16 18.2	-0.6		
	baz=342								
KLR	**Kul'dur**	28.27	14	LR	LR	08 28 54.8			
	comp=Z,31nm,19.0s,baz=66,slow=34								
MKAR	**Makanchi Array**	40.12	318	P	P	08 22 35.6	+2.1		
	0.2nm,0.5s,baz=114,slow=9.6,SNR=2.2								
WRA	**Warramunga Arr**	43.58	162	P	P	08 23 00.0	-1.8		
	0.5nm,0.7s,baz=354,slow=8.8,SNR=7.5								
ASAR	**Alice Springs**	47.02	164	P	P	08 23 27.7	-1.3		
	0.2nm,0.3s,baz=343,slow=6.6,SNR=11								

IDC ***26*** *08:17:47.7±8.6,31°.97S×179°.90E,h319km±95km,mb2.7/2, mb1 3.1/3,mb1mx2.8/31,mbtmp3.6/3,Error ellipse: s-maj=102.7km s-min=42.9km az=2.0*

WEL ***26*** *08:17:57.7±1.1,33°S±15'×17'9E±1'9,h379km±33km, M4.1/6,mB4.5/6,ML4.6/10,MLv4.5/6,Mw(mB)3.7/6,Error ellipse: s-maj=0.0km s-min=0.0km az=76.0*

ISC 26 08:17:57.4±1.3,32°66S±0°.09×179°3E±0°.2,h400km,n20, σ0°83/33,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**4.12**	**35**	**P**	**Pn**	**08 19 11.2**	**+0.5**
GRZ	**Great Barrier**	**4.81**	**221**	**P**	**Pn**	**08 19 16.6**	**-0.7**
MXZ	**Matakaoa Point**	**4.96**	**190**	**P**	**Pn**	**08 19 19.0**	**+0.1**
MXZ				S	**S**	**08 20 24.7**	**-0.5**
KUZ	**Kuaotunu**	**5.05**	**215**	**S**	**S**	**08 20 26.8**	**0.0**
WMGZ	**Waiomatatini S**	**5.20**	**188**	**P**	**Pn**	**08 19 22.8**	**+1.5**
WMGZ				S	**S**	**08 20 29.7**	**0.0**
HAZ	**Te Kaha**	**5.24**	**194**	**P**	**Pn**	**08 19 20.0**	**-1.7**
HAZ				S	**S**	**08 20 30.4**	**0.0**
PKGZ	**Pakihiroa**	**5.32**	**191**	**P**	**Pn**	**08 19 23.1**	**+0.4**
PKGZ				S	**S**	**08 20 32.2**	**+0.1**
RUGZ	**Raukumara Rang**	**5.46**	**194**	**P**	**Pn**	**08 19 24.1**	**-0.2**
RUGZ				S	**S**	**08 20 34.6**	**-0.4**
PUZ	**Puketiti**	**5.47**	**189**	**P**	**Pn**	**08 19 23.9**	**-0.3**
PUZ				S	**S**	**08 20 32.8**	**-2.1**
TWGZ	**Tauwhareparae**	**5.61**	**191**	**P**	**Pn**	**08 19 26.6**	**+0.9**
TWGZ				S	**S**	**08 20 38.8**	**+1.0**
URZ	**Urewera**	**5.88**	**197**	**P**	**Pn**	**08 19 26.6**	**-1.9**
	1.9nm,0.3s,baz=272,slow=4.9,SNR=20						
URZ				S	**S**	**08 20 43.3**	**+0.5**
	2.5nm,0.3s,baz=61,slow=17,SNR=14						
URZ	**Urewera**	**5.88**	**197**	**P**	**Pn**	**08 19 28.0**	**-0.5**
URZ				S	**S**	**08 20 42.8**	**0.0**
CNGZ	**Carnagh Statio**	**5.88**	**189**	**P**	**Pn**	**08 19 28.5**	**-0.1**
TKGZ	**Te Karaka**	**5.89**	**192**	**P**	**Pn**	**08 19 28.6**	**-0.1**
TKGZ				S	**S**	**08 20 42.8**	**-0.3**
RIGZ	**Rimuhau**	**6.17**	**192**	**P**	**Pn**	**08 19 31.4**	**-0.3**
RIGZ				S	**S**	**08 20 48.3**	**-0.4**
MUGZ	**Murupara**	**6.17**	**199**	**P**	**Pn**	**08 19 31.7**	**0.0**
MUGZ				S	**S**	**08 20 49.4**	**+0.7**
RAHZ	**Arahi**	**6.50**	**196**	**P**	**Pn**	**08 19 36.4**	**+1.0**
RAHZ				S	**S**	**08 20 56.1**	**+0.7**
ASAR	**Alice Springs**	**40.79**	**271**	**P**	**P**	**08 25 02.9**	**+0.9**
	0.2nm,0.4s,baz=102,slow=7.8,SNR=5.7						
WRA	**Warramunga Arr**	**42.00**	**276**	**P**	**P**	**08 25 11.8**	**+0.2**
	0.3nm,0.3s,baz=112,slow=7.7,SNR=8.6						
FINES	**FINESS Array B**	**146.41**	**337**	PKPbc	**PKPdf**	**08 36 48.3**	**-1.0**
	0.9nm,0.7s,baz=35,slow=5.1,SNR=5.4						

IDC ***26*** *08:19:30.6±1.9,30°.98S×71°.33W,h0km,mb4.1/4, mb1 4.1/8,mb1mx3.8/26,mbtmp3.9/8,ML3.7/4,MS2.9/2, Ms1 2.9/2,ms1mx2.6/20,Error ellipse: s-maj=43.4km s-min=35.3km az=18.0*

NEIC ***26*** *08:19:37.7±1.6,30°.78S±0°.03×71°.4W±0°.1,h41km±8km, mb4.2/4,ML4.1(GUC),Error ellipse: s-maj=14.7km s-min=3.4km az=103.0*

GUC ***26*** *08:19:37.1±0.6,30°.76S×71°.39W,h50km±1km,ML4.1*

ISC 26 08:19:37.4±0.8,30°76S±0°.03×71°40W±0°.05,h43km±7km, n59,σ1s01/55,mb4.2/5,1C-5D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.22**	**294**	**⇑iP**	**Pn**	**08 19 45.3**	**+0.1**
CO06				*i* S	**Sn**	**08 19 51.3**	**+0.6**
CO06				IAML		08 19 52.3	
	comp=N,51μm,0.5s						
CO06	**Fray Jorge**	**0.22**	**294**		**Pn**	**08 19 45.2**	**+0.1**
CO02	**Combarbal**	**0.56**	**142**	**⇓iP**	**Pn**	**08 19 49.1**	**0.0**
CO02				*i* S	**Sn**	**08 19 57.8**	**+0.3**
CO02				IAML		08 19 58.5	
	comp=N,26μm,0.1s						
CO02	**Combarbal**	**0.56**	**142**		**Pn**	**08 19 49.2**	**0.0**
CO03	**El Pedregal**	**0.62**	**97**	**⇓iP**	**Pn**	**08 19 50.0**	**+0.1**
CO03				*i* S	**Sn**	**08 19 59.4**	**+0.5**
CO03				IAML		08 19 59.8	
	comp=E,8μm,0.2s						
CO03	**El Pedregal**	**0.62**	**97**		**Pn**	**08 19 50.1**	**+0.1**
GO04	**Tololo Observa**	**0.79**	**42**	**eP**	**Pn**	**08 19 52.5**	**+0.2**
GO04	**Tololo Observa**	**0.79**	**42**		**Pn**	**08 19 52.6**	**+0.3**
CO05	**La Serena**	**0.85**	**10**	**⇓iP**	**Pn**	**08 19 53.2**	**+0.3**
CO05				*i* S	**Sn**	**08 20 04.6**	**+0.3**
CO05				IAML		08 20 10.7	
	comp=E,14μm,0.4s						
CO05	**La Serena**	**0.85**	**10**		**Pn**	**08 19 53.3**	**+0.3**
VA06	**Catapilco**	**1.79**	**177**	*i* P	**Pn**	**08 20 06.3**	**+0.5**
VA06				IAML		08 20 46.6	
	comp=E,2μm,0.6s						
LCO	**Las Campanas**	**1.85**	**19**	**⇓iP**	**Pn**	**08 20 07.6**	**+0.7**
LCO				*i* S	**Sn**	**08 20 30.7**	**+1.5**
LCO	**Las Campanas**	**1.85**	**19**		**Pn**	**08 20 07.5**	**+0.6**
VA03	**San Esteban**	**2.12**	**160**	*i* P	**Pn**	**08 20 11.4**	**+1.0**
VA03				IAML		08 20 42.5	
	comp=E,1μm,0.5s						
VA03	**San Esteban**	**2.12**	**160**		**Pn**	**08 20 11.9**	**+1.5**
ROCH	**El Roble**	**2.23**	**171**	*i* P	**Pn**	**08 20 13.2**	**+1.2**
ROCH				IAML		08 20 46.6	
	comp=N,1μm,0.8s						
VA01	**Torpederas**	**2.26**	**185**	Pn	**Pn**	**08 20 12.0**	**-0.2**
AC04	**Llanos de Chal**	**2.57**	**7**	**⇓iP**	**Pn**	**08 20 17.1**	**+0.6**
AC04				IAML		08 20 57.8	
	comp=E,1μm,0.5s						
AC04	**Llanos de Chal**	**2.57**	**7**		**Pn**	**08 20 17.2**	**+0.7**
MT05	**Renca**	**2.68**	**168**	*i* P	**Pn**	**08 20 19.3**	**+1.2**
MT05				IAML		08 21 06.4	
	comp=E,1μm,0.5s						
MT05	**Renca**	**2.68**	**168**

LMEL	**Las Melosas**	**3.24**	**162**	*i* P		**Pn**	**08 20 28.1**	**+2.2**
GO03	**Copiap**	**3.32**	**18**	Pn		**Pn**	**08 20 27.8**	**+1.0**
BO01	**Tunca**	**3.63**	**176**	*i* P		**Pn**	**08 20 31.7**	**+0.7**
BO01	**Tunca**	**3.63**	**176**	Pn		**Pn**	**08 20 31.6**	**+0.5**
BO02	**Sierra Bellavi**	**4.05**	**173**			**Pn**	**08 20 38.2**	**+1.3**
GO05	**Huala**	**4.26**	**186**	Pn		**Pn**	**08 20 38.5**	**-1.2**
AC02	**Maricunga**	**4.39**	**28**	Pn		**Pn**	**08 20 44.0**	**+2.0**
H03N1	**Juan Fernandez**	**6.91**	**245**	T		T	08 28 14.3	
	baz=72,slow=72,SNR=778							
H03N3	**Juan Fernandez**	**6.92**	**245**	T		T	08 28 08.0	
	baz=72,slow=72,SNR=660							
H03N2	**Juan Fernandez**	**6.92**	**245**	T		T	08 28 14.9	
	baz=72,slow=72,SNR=592							
LVC	**Limon Verde**	**8.42**	**16**	Pn		**Pn**	**08 21 36.0**	**-1.2**
	comp=E,0.4nm,0.3s,baz=196,slow=7.4,SNR=4.7							
LVC				Sn		**Sn**	**08 23 07.6**	**-3.5**
	comp=E,1.1nm,0.3s,baz=172,slow=19,SNR=1.4							
PLCA	**Paso Flores**	**9.97**	**176**	LR		LR	08 25 48.2	
	comp=E,41nm,18.9s,baz=31,slow=39							
TRQA	**Tornquist**	**10.65**	**136**	Pn		**Pn**	**08 22 07.3**	**0.0**
ITQB	**Itaqui**	**12.83**	**89**	Pn		**Pn**	**08 22 36.2**	**-0.9**
CPUP	**Villa Florida**	**13.13**	**74**	Pn		**Pn**	**08 22 40.5**	**-0.8**
	comp=E,0.2nm,0.3s,baz=229,slow=15,SNR=3.8							
CPUP				LR		LR	08 28 08.5	
	comp=E,70nm,19.1s,baz=220,slow=39							
LPAZ	**La Paz**	**14.72**	**12**	Pn		**Pn**	**08 23 05.0**	**+1.6**
	comp=E,0.1nm,0.3s,baz=190,slow=6.6,SNR=7.9							
LPAZ	**La Paz**	**14.72**	**12**	Pn		**Pn**	**08 23 04.5**	**+1.2**
SIV	**San Ignacio**	**17.48**	**35**	P		**Pn**	**08 23 38.0**	**0.0**
	comp=E,0.2nm,0.3s,baz=231,slow=12,SNR=8.6							
BDFB	**Brasilia**	**26.16**	**60**	P		**P**	**08 25 06.8**	**-1.1**
	comp=E,2.9nm,0.6s,baz=255,slow=8.1,SNR=5.9							
BDFB	**Brasilia**	**26.16**	**60**	P		**P**	**08 25 07.3**	**-0.6**
SNAA	**Sanae**	**54.38**	**159**	P		**P**	**08 28 59.1**	**-0.4**
QSPA	**South Pole Qui**	**59.46**	**180**	P		**P**	**08 29 35.9**	**+0.3**
QSPA				IAmb		IAmb	08 29 56.8	
	comp=Z,1.6nm,0.9s							
TXAR	**Lajitas Array**	**67.20**	**330**	P		**P**	**08 30 27.9**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=150,slow=7.3,SNR=3.5							
DBIC	**Dimbokro**	**73.65**	**72**	P		**P**	**08 31 05.7**	**-1.0**
	comp=Z,2.5nm,0.5s,baz=232,slow=4.8,SNR=8.1							
TORD	**Torodi Ar. Bea**	**82.60**	**70**	P		**P**	**08 31 56.4**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=280,slow=6.2,SNR=20							
TORD	**Torodi Ar. Bea**	**82.60**	**70**	IAmb		IAmb	08 31 56.6	
	comp=Z,3.6nm,1.4s							
H11S2	**WAKE ISLAND Hyl**	**26.30**	**271**	T		T	10 57 31.6	
	baz=115,slow=75,SNR=49							
H11S1	**WAKE ISLAND Hyl**	**26.31**	**271**	T		T	10 57 29.0	
	baz=115,slow=75,SNR=53							
H11S3	**WAKE ISLAND Hyl**	**26.32**	**271**	T		T	10 57 29.0	
	baz=115,slow=75,SNR=37							
H11N3	**WAKE ISLAND Hyl**	**26.63**	**273**	T		T	10 57 55.7	
	baz=116,slow=74,SNR=10							
H11N1	**WAKE ISLAND Hyl**	**26.64**	**273**	T		T	10 57 56.0	
	baz=116							
H11N2	**WAKE ISLAND Hyl**	**26.65**	**273**	T		T	10 57 57.3	
	baz=116,slow=74,SNR=13							
ZALV	**Zalesovo Beam**	**151.18**	**30**	PKPbc		**PKiKP**	**08 39 26.6**	**+0.7**
	comp=Z,2.0nm,0.4s,baz=318,slow=1.9,SNR=2.4							

NEIC ***26*** *08:22:35.8±1.9,30.79S±0.04×71.5W±0.2,h41km±8km, mb4.0/2,ML4.0(GUC),Error ellipse: s-maj=19.6km s-min=6.3km az=87.0*

GUC ***26*** *08:22:35.6±0.6,30.76S×71.40W,h51km±1km,ML3.9*

ISC 26 08:22:36.0±1.0,30.76S±0.04×71.43W±0.06,h46km±8km, n31,σ0s74/39,1C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.20**	**295**	⇑*i*P	**Pn**	**08 22 43.8**	**-0.1**
CO06				*i* S	**Sn**	**08 22 49.9**	**+0.4**
CO06				IAML		08 22 50.7	
	comp=N,16μm,0.3s						
CO06	**Fray Jorge**	**0.20**	**295**	Pn	**Pn**	**08 22 44.0**	**+0.1**
CO02	**Combarbal**	**0.58**	**141**	⇓*i*P	**Pn**	**08 22 47.8**	**-0.4**
CO02				*i* S	**Sn**	**08 22 56.5**	**-0.3**
CO02				IAML		08 22 57.0	
	comp=N,23μm,0.2s						
CO02	**Combarbal**	**0.58**	**141**	Pn	**Pn**	**08 22 47.8**	**-0.4**
CO03	**El Pedregal**	**0.64**	**98**	⇓*i*P	**Pn**	**08 22 48.6**	**-0.4**
CO03				*i* S	**Sn**	**08 22 57.9**	**-0.3**
CO03				IAML		08 23 00.0	
	comp=E,8μm,0.1s						
CO03	**El Pedregal**	**0.64**	**98**	Pn	**Pn**	**08 22 48.4**	**-0.5**
GO04	**Tololo Observa**	**0.80**	**43**	⇓*i*P	**Pn**	**08 22 51.1**	**0.0**
GO04				*i* S	**Sn**	**08 23 02.5**	**+0.4**
GO04				IAML		08 23 03.7	
	comp=N,10μm,0.1s						
GO04	**Tololo Observa**	**0.80**	**43**	Pn	**Pn**	**08 22 51.2**	**0.0**
CO05	**La Serena**	**0.85**	**11**	*e*P	**Pn**	**08 22 51.8**	**+0.1**
CO05				*i* S	**Sn**	**08 23 03.3**	**+0.2**
CO05	**La Serena**	**0.85**	**11**	Pn	**Pn**	**08 22 51.7**	**+0.1**
VA06	**Catapilco**	**1.80**	**177**	*e*P	**Pn**	**08 23 04.9**	**+0.3**
VA06				*i* S	**Sn**	**08 23 26.9**	**+0.6**
LCO	**Las Campanas**	**1.85**	**20**	*i* P	**Pn**	**08 23 06.1**	**+0.6**
LCO				*i* S	**Sn**	**08 23 29.2**	**+1.3**
LCO	**Las Campanas**	**1.85**	**20**	Pn	**Pn**	**08 23 06.1**	**+0.6**
VA03	**San Esteban**	**2.13**	**160**	*i* P	**Pn**	**08 23 10.1**	**+0.8**
VA03				IAML		08 23 40.8	
	comp=E,1μm,0.2s						
VA03	**San Esteban**	**2.13**	**160**	Pn	**Pn**	**08 23 10.2**	**+0.8**
ROCH	**El Roble**	**2.24**	**171**	*i* P	**Pn**	**08 23 11.5**	**+0.7**
ROCH				*i* S	**Sn**	**08 23 38.6**	**+1.3**
ROCH				IAML		08 23 44.7	
	comp=N,595nm,0.3s						
VA01	**Torpederas**	**2.27**	**185**	Pn	**Pn**	**08 23 09.7**	**-1.3**
AC04	**Llanos de Chal**	**2.56**	**7**	Pn	**Pn**	**08 23 15.5**	**+0.4**
MT05	**Renca**	**2.69**	**168**	*i* P	**Pn**	**08 23 17.5**	**+0.6**
MT05				IAML		08 23 58.0	
	comp=E,725nm,0.2s						
MT05	**Renca**	**2.69**	**168**	Pn	**Pn**	**08 23 17.3**	**+0.4**
VA05	**Santo Domingo**	**2.90**	**183**	IAML		08 24 02.4	
	comp=E,377nm,0.6s						
VA05	**Santo Domingo**	**2.90**	**183**	Pn	**Pn**	**08 23 18.9**	**-0.7**
MT09	**Talagante**	**3.03**	**173**	*i* P	**Pn**	**08 23 22.5**	**+0.8**
MT09				*i* S	**Sn**	**08 23 57.5**	**+0.6**
MT09				IAML		08 24 08.3	
	comp=E,273nm,0.2s						
MT09				IAML		08 24 18.2	
	comp=N,285nm,0.5s						
MT09	**Talagante**	**3.03**	**173**	Pn	**Pn**	**08 23 22.5**	**+0.8**
MT01	**Popeta**	**3.10**	**177**	*i* P	**Pn**	**08 23 22.5**	**0.0**
MT01				IAML		08 24 10.2	
	comp=E,232nm,0.2s						
MT01	**Popeta**	**3.10**	**177**	Pn	**Pn**	**08 23 22.5**	**0.0**
LMEL	**Las Melosas**	**3.25**	**162**	*i* P	**Pn**	**08 23 26.6**	**+1.9**
LMEL				IAML		08 24 08.1	
	comp=N,468nm,0.1s						
GO05	**Huala**	**4.26**	**186**	Pn	**Pn**	**08 23 37.0**	**-1.4**
PB07	**IPOC Station P**	**9.10**	**9**	Pn	**Pn**	**08 24 44.4**	**-0.6**
SNAA	**Sanae**	**54.40**	**159**	P	**P**	**08 31 57.0**	**-1.1**
SNAA				IAmb	IAmb	08 32 23.0	
	comp=Z,5.2nm,1.4s						
TORD	**Torodi Ar. Bea**	**82.62**	**70**	P	**P**	**08 34 54.9**	**+0.1**
TORD				IAmb	IAmb	08 35 16.5	
	comp=Z,0.6nm,0.9s						

BJI ***26*** *08:28:04.0±0.0,6.40S×68.03E,h10km,mB5.2/44, mb5.0/63,Ms4.7/40,Ms7 4.5/39*

IDC ***26*** *08:28:09.6±0.5,5.72S×68.33E,h0km,mb4.4/26, mb1 4.5/27,mb1mx4.5/32,mbtmp4.4/27,ML4.6/1,MS4.3/31, Ms1 4.3/31,ms1mx4.2/40,Error ellipse: s-maj=14.1km s-min=13.2km az=180.0*

MOS ***26*** *08:28:10.1±0.9,5.68S×68.27E,h15km,mb5.1/49,Error ellipse: s-maj=8.2km s-min=5.1km az=90.1*

NEIC ***26*** *08:28:12.0±1.4,5.7S±0.1×68.35E±0.05,h10km±1km, mb5.0/67,Error ellipse: s-maj=17.6km s-min=8.7km az=169.0*

GCMT ***26*** *08:28:13.0±0.2,5.79S±0.01×68.31E±0.01,h12km, MW5.1/128,Moment Tensor Solution. s47,c56; s128,c228; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr~0.27±.11; Mθθ~4.87±.09; Mϕϕ5.14±.09; Mrθ~0.77±.29; Mθϕ~0.28±.10; Mrϕ~0.32±.28; Best double couple: M₀5.08500×10¹⁶ NP1:ϕs134.00000°,δ81.00000°, λ~176.00000°. NP2:ϕs43.00000°,δ86.00000°,λ~9.00000°. Principal axes: T 5.1650, Plg3.0000°, Azm89.0000°; N -0.1600, Plg80.0000°, Azm197.0000°; P -5.0050, Plg9.0000°, Azm358.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

Triangular moment-rate function

BGR ***26*** *08:28:13.4±0.0,5.25S×67.86E,h10km,mb5.0*

ISC 26 08:28:12.7±0.6,5.74S±0.05×68.31E±0.05,h19km±2km, n377,σ1s17/379,mb5.0/140,MS4.4/46,31C-15D,Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**4.55**	**115**	Pn	**Pn**	**08 29 18.7**	**-1.7**
	baz=319,slow=17,SNR=885						
H08S1				T	T	08 34 04.9	
	baz=312,slow=74,SNR=38						
H08S3	**Diego Garcia H**	**4.55**	**115**	Pn	**Pn**	**08 29 18.6**	**-1.8**
	baz=319,slow=17,SNR=2546						
H08S3				T	T	08 34 04.3	
	baz=312,slow=74,SNR=28						
H08S2	**Diego Garcia H**	**4.57**	**115**	Pn	**Pn**	**08 29 19.0**	**-1.6**
	baz=319,slow=17,SNR=2104						
H08S2				T	T	08 34 05.8	
	baz=312,slow=74,SNR=39						
MSEY	**Mahe Island**	**12.82**	**274**	P	**Pn**	**08 31 13.9**	**-0.2**
MSEY	**Mahe Island**	**12.82**	**274**		**Pn**	**08 31 13.9**	**-0.2**
PALK	**Pallekele**	**17.89**	**44**	P	**P**	**08 32 21.4**	**+0.2**
	1.8nm,0.3s,baz=340,slow=10.0,SNR=7.0						
PALK				LR	LR	08 36 56.4	
	comp=Z,578nm,20.2s,baz=326,slow=30						
PALK	**Pallekele**	**17.89**	**44**	*i* P	**P**	**08 32 21.8**	**+0.6**
PALK				pmax	pmax		
	comp=Z,55nm,1.3s						
PALK	**Pallekele**	**17.89**	**44**	P	**Pn**	**08 32 20.5**	**-0.2**
RER	**Riviere de l'E**	**19.58**	**217**	P	**Pn**	**08 32 40.6**	**-0.6**
OPO	**Ambohidratompo**	**24.23**	**236**	P	**P**	**08 33 30.0**	**+1.2**
	comp=Z,6.1nm,0.9s,baz=96,slow=9.2,SNR=4.4						
POO	**Poona**	**24.72**	**13**	*e*P	**P**	**08 33 31.0**	**-2.1**
VOI	**Vohitsoka**	**26.30**	**230**	P	**P**	**08 33 48.9**	**+1.4**
VOI				IAmb	IAmb	08 33 55.6	
	comp=Z,44nm,1.6s						
KIBK	**Kibwezi**	**30.37**	**275**	P	**P**	**08 34 24.0**	**+0.1**
KMBO	**Kilima Mbogo**	**31.33**	**277**	P	**P**	**08 34 32.8**	**+0.3**
	comp=Z,3.8nm,0.7s,baz=57,slow=10.0,SNR=11						
KMBO				LR	LR	08 44 38.6	
	comp=Z,1μm,21.7s,baz=94,slow=32						
KMBO	**Kilima Mbogo**	**31.33**	**277**	P	**P**	**08 34 32.2**	**-0.3**
KULM	**Kulim**	**34.10**	**72**	P	**P**	**08 34 57.0**	**+0.5**
LODK	**Lodwar**	**34.14**	**285**	P	**P**	**08 34 57.4**	**+0.4**
LHSI	**Lahat**	**35.14**	**89**	P	**P**	**08 35 07.1**	**+1.6**
	comp=Z,40nm,0.7s						
JRMM	**Jerantut**	**35.44**	**75**	P	**P**	**08 35 09.0**	**+0.9**
MDSI	**Maura Dua**	**35.74**	**90**	P	**P**	**08 35 11.2**	**+0.5**
	comp=Z,29nm,1.3s						
KOLN	**Koldamda**	**36.44**	**23**	*e*P	**P**	**08 35 17.4**	**+0.7**
	comp=Z,77nm,1.0s						
PYUN	**Piuthan**	**36.50**	**22**	*e*P	**P**	**08 35 18.4**	**+1.2**
DMN	**Daman**	**36.91**	**25**	*e*P	**P**	**08 35 21.7**	**+0.9**
	comp=Z,134nm,0.9s						
PKI	**Pulchoki**	**37.01**	**26**	*e*P	**P**	**08 35 22.0**	**+0.3**
	comp=Z,35nm,0.8s						
PKIN	**Phulchoki**	**37.01**	**26**	*e*P	**P**	**08 35 22.1**	**+0.5**
	comp=Z,35nm,0.7s						
DANN	**Dangsing**	**37.02**	**23**	*e*P	**P**	**08 35 22.3**	**+0.6**
	comp=Z,132nm,1.0s						
GKN	**Gorkha**	**37.06**	**24**	*e*P	**P**	**08 35 22.6**	**+0.7**
	comp=Z,165nm,0.9s						
KKN	**Kakani**	**37.14**	**25**	*e*P	**P**	**08 35 23.5**	**+0.8**
ODAN	**Odare**	**37.30**	**29**	*e*P	**P**	**08 35 25.1**	**+1.0**
JIRN	**Jiri**	**37.43**	**27**	*e*P	**P**	**08 35 25.6**	**+0.3**
	comp=Z,41nm,0.7s						
GUN	**Gumba**	**37.51**	**26**	*e*P	**P**	**08 35 26.8**	**+0.9**
	comp=Z,161nm,1.0s						
MHMT	**Maesarieng**	**37.67**	**50**	P	P	08 35 34.8	+7.8
CM31	**Chiang Mai Arr**	**38.61**	**51**	P	**P**	**08 35 34.7**	**-0.2**
CMAR	**Chiang Mai Arr**	**38.61**	**51**	P	**P**	**08 35 35.4**	**+0.4**
	comp=Z,2.5nm,0.3s,baz=241,slow=9.2,SNR=15						
CMAR				PcP	**PcP**	**08 37 47.4**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=240,slow=5.1,SNR=5.5						
CMAR				LR	LR	08 49 07.2	
	comp=Z,237nm,21.2s,baz=272,slow=33						
CMAR	**Chiang Mai Arr**	**38.61**	**51**	P	**P**	**08 35 35.0**	**0.0**
SHL	**Shillong**	**38.64**	**35**	P	**P**	**08 35 35.7**	**+0.4**
SHL				pmax	pmax		
	comp=Z,26nm,0.9s						
SHL	**Shillong**	**38.64**	**35**	P	**P**	**08 35 35.6**	**+0.4**
SHL				IAmb	IAmb	08 35 36.7	
	comp=Z,26nm,0.9s						
CHTO	**Chiang Mai**	**38.82**	**50**	P	**P**	**08 35 36.7**	**0.0**
CHTO				pmax	pmax		
	comp=Z,12nm,0.9s						
CHTO	**Chiang Mai**	**38.82**	**50**	P	**P**	**08 35 37.2**	**+0.5**
	comp=Z,307nmcomp=Z,17nm,1.1s						
CHTO	**Chiang Mai**	**38.82**	**50**	P	**P**	**08 35 36.7**	**0.0**
CHTO	**Chiang Mai**	**38.82**	**50**	P	**P**	**08 35 37.7**	**+1.0**
	comp=Z,172nmcomp=Z,9.6nm,1.1s						
CMMT	**Chiang Mai**	**38.82**	**50**	P	**P**	**08 35 37.0**	**+0.3**
	comp=Z,425nmcomp=Z,17nm,1.1s						
CMMT	**Chiang Mai**	**38.82**	**50**	P	**P**	**08 35 37.0**	**+0.3**
	comp=Z,405nmcomp=Z,16nm,1.1s						
PHIT	**Phitsanulok**	**39.06**	**54**	P	**P**	**08 35 42.0**	**+3.3**
	comp=Z,41nm,0.9s						
NIL	**Nilore**	**39.45**	**6**	P	**P**	**08 35 42.3**	**+0.5**
NIL				pmax	pmax		
	comp=Z,52nm,1.1s						
NIL	**Nilore**	**39.45**	**6**	P	**P**	**08 35 42.3**	**+0.5**
NIL				IAmb	IAmb	08 35 45.4	
	comp=Z,52nm,1.1s						
CHAI	**Chaiyaphum**	**39.67**	**57**	P	**P**	**08 35 45.4**	**+1.5**
	comp=Z,549nmcomp=Z,29nm,0.8s						
PAYA	**Payao**	**39.84**	**50**	P	P	08 35 53.7	+8.4
KBL	**Kabul**	**40.07**	**1**	P	**P**	**08 35 48.3**	**+1.1**
KBL				pmax	pmax		
	comp=Z,24nm,1.0s						
KBL	**Kabul**	**40.07**	**1**	P	**P**	**08 35 48.2**	**+1.1**
KBL				IAmb	IAmb	08 35 51.0	
	comp=Z,24nm,0.9s						
HRA	**Herat**	**40.32**	**352**	P	**P**	**08 35 48.3**	**-0.9**
LSZ	**Lusaka**	**40.50**	**253**	P	**P**	**08 35 51.4**	**+0.4**
LSA	**Lhasa**	**41.50**	**31**	P	**P**	**08 36 00.5**	**+1.1**
LSA				LR	LR		
	comp=Z,2μm,18.9s						
LSA				LR	LR		
	comp=Z,1μm,15.7s						
LSA				LR	LR		
	comp=Z,2μm,18.8s						
LSA	**Lhasa**	**41.50**	**31**	P	**P**	**08 36 00.0**	**+0.6**
LSA				pmax	pmax		
	comp=Z,80nm,1.8s						
LSA	**Lhasa**	**41.50**	**31**	P	**P**	**08 36 00.0**	**+0.6**
LSA				IAmb	IAmb	08 36 02.1	
	comp=Z,80nm,1.8s						
UBPT	**Khong Chiam**	**42.33**	**60**	P	**P**	**08 36 06.9**	**+1.1**
	comp=Z,12nm,2.0s						
KSM	**Kuching**	**42.55**	**82**	P	**P**	**08 36 09.0**	**+1.4**
GEYT	**Alibeck**	**44.47**	**348**	LR	LR	08 53 30.4	
	comp=Z,800nm,21.6s,baz=130,slow=34						
GAR	**Garm**	**44.55**	**2**	P	**P**	**08 36 23.1**	**-0.4**
SBUM	**Sibu**	**44.60**	**81**	P	**P**	**08 36 25.0**	**+0.8**
DRK	**Karamyk**	**45.11**	**4**	P	**P**	**08 36 27.3**	**-0.9**
LBTB	**Lobatse**	**45.16**	**240**	P	**P**	**08 36 28.9**	**+0.3**
LBTB				pmax	pmax		
	comp=Z,32nm,1.8s						
LBTB	**Lobatse**	**45.16**	**240**	P	**P**	**08 36 28.9**	**+0.3**
LBTB				IAmb	IAmb	08 36 40.5	
	comp=Z,32nm,1.8s						
KMI	**Kunming**	**45.41**	**46**	⇑P	**P**	**08 36 33.5**	**+2.8**
KMI				pP	pP	08 36 36.5	+0.9
KMI				S	**S**	**08 43 17.5**	**+6.1**
KMI				SS	**ScS**	**08 46 29.5**	**+2.4**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KMI				LR	LR		
	comp=Z,290nm,15.7s						
KMI				LR	LR		
	comp=Z,97nm,13.9s						
KMI				LR	LR		
	comp=Z,220nm,16.6s						
KSH	**Kashi**	**45.58**	**8**	P	**P**	**08 36 29.5**	**-2.2**
KSH				pP	pP	08 36 35.0	-1.9
KSH				sP	sP	08 36 37.5	-1.0
KSH				PcP	**PcP**	**08 38 10.8**	**+0.7**
KSH				S	**S**	**08 43 07.8**	**-5.5**
KSH				pmax	pmax		
	comp=Z,24nm,1.3s						
KSH				pmax	pmax		
	comp=Z,140nm,2.6s						
KSH				LR	LR		
	comp=Z,740nm,15.4s						
KSH				LR	LR		
	comp=Z,620nm,13.7s						
KSH				LR	LR		
	comp=Z,1μm,16.6s						
BTK	**Batken**	**45.63**	**3**	P	**P**	**08 36 32.3**	**+0.3**
BTK				pmax	pmax		
	comp=Z,30nm,0.9s						
BTK	**Batken**	**45.63**	**3**	P	**P**	**08 36 32.3**	**+0.3**
BOSA	**Boshof**	**46.64**	**236**	P	**P**	**08 36 39.7**	**-0.6**
	comp=Z,12nm,1.0s,baz=69,slow=7.9,SNR=12						
BOSA				LR	LR	08 54 29.7	
	comp=Z,424nm,18.9s,baz=76,slow=34						
BOSA	**Boshof**	**46.64**	**236**	P	**P**	**08 36 40.7**	**+0.4**
BOSA				pmax	pmax		
	comp=Z,30nm,1.3s						
BOSA	**Boshof**	**46.64**	**236**	P	**P**	**08 36 40.7**	**+0.4**
QIZ	**Qiongzhong**	**47.74**	**58**	P	**P**	**08 36 45.0**	**-3.8**
QIZ				S	**S**	**08 43 45.8**	**+1.2**
QIZ				LR	LR		
	comp=Z,250nm,14.7s						
QIZ				LR	LR		
	comp=Z,210nm,23.0s						
QIZ				LR	LR		
	comp=Z,240nm,19.1s						
AML	**Almayashu**	**47.89**	**5**	P	**P**	**08 36 51.2**	**+1.2**
	SNR=9.5						
KZA	**Kyzart**	**48.01**	**7**	P	**P**	**08 36 52.6**	**+1.7**
	SNR=12						
UCH	**Uchtor**	**48.07**	**6**	P	**P**	**08 36 54.2**	**+2.7**
	SNR=9.0						
EKS2	**Erkin-Say**	**48.42**	**5**	P	**P**	**08 36 55.6**	**+1.8**
	SNR=7.8						
AAK	**Ala-Archa**	**48.47**	**6**	P	**P**	**08 36 55.8**	**+1.5**
	SNR=12						
AAK	**Ala-Archa**	**48.47**	**6**	*ce*P	**P**	**08 36 54.7**	**+0.4**
AAK				pmax	pmax		
	comp=Z,58nm,1.0s						
AAK	**Ala-Archa**	**48.47**	**6**	P	**P**	**08 36 55.0**	**+0.7**
AAK				IAmb	IAmb	08 36 57.9	
	comp=Z,21nm,1.1s						
KK31	**Karatay Array**	**48.65**	**2**	P	**P**	**08 36 55.9**	**+0.4**
KK31				pmax	pmax		
	comp=Z,18nm,0.9s						
KK31	**Karatay Array**	**48.65**	**2**	P	**P**	**08 36 55.9**	**+0.4**
KK31				IAmb	IAmb	08 36 58.5	
	comp=Z,18nm,0.9s						
KKAR	**Karatay Array**	**48.65**	**2**	P	**P**	**08 36 55.4**	**-0.1**
KKAR						08 36 55.9	
KKAR	**Karatay Array**	**48.65**	**2**	P	**P**	**08 36 55.9**	**+0.4**
KKAR				IAmb	IAmb	08 36 58.5	
	comp=Z,18nm,0.9s						
KKAR	**Karatay Array**	**48.65**	**2**	P	**P**	**08 36 55.4**	**-0.1**
TKM2	**Tokmak 2**	**48.88**	**7**	P	**P**	**08 36 58.4**	**+0.9**
	SNR=8.9						
GYA	**Guiyang**	**49.04**	**47**	⇑P	**P**	**08 36 58.0**	**-0.9**
GYA				sP	sP	08 37 05.5	-0.3
GYA				S	**S**	**08 44 04.3**	**+1.3**
GYA				pmax	pmax		
	comp=Z,11nm,0.6s						
GYA				LR	LR		
	comp=Z,260nm,8.4s						
GYA				LR	LR		
	comp=Z,170nm,10.9s						
GYA				LR	LR		
	comp=Z,260nm,10.9s						
MTBS	**Maitube**	**49.19**	**8**	*e*P	**P**	**08 36 59.5**	**-0.2**
	baz=7.9						
SPMM	**Sapulut**	**49.19**	**79**	P	**P**	**08 37 01.0**	**+0.8**
SGDS	**Sogindy**	**49.29**	**6**	*e*P	**P**	**08 37 00.0**	**-0.4**
	comp=Z,21nm,1.8s,baz=6.1						
MDOK	**Medeo**	**49.31**	**8**	*e*P	**P**	**08 36 59.8**	**-0.9**
	baz=8.5						
MDOK	**Medeo**	**49.31**	**8**	*e*P	**P**	**08 36 59.8**	**-0.9**
SATY	**Saty**	**49.42**	**10**	*e*P	**P**	**08 37 00.6**	**-1.0**
	baz=9.8						
SATY	**Saty**	**49.42**	**10**	*e*P	**P**	**08 37 00.5**	**-1.0**
SHLS	**Shalkode**	**49.70**	**11**	*e*P	**P**	**08 37 04.2**	**+0.5**
	comp=Z,30nm,1.9s,baz=11						
SHLS	**Shalkode**	**49.70**	**11**	*e*P	**P**	**08 37 04.2**	**+0.5**
SHLS				pmax	pmax		
	comp=Z,30nm,1.9s						
CD2	**Chengdu**	**49.76**	**41**	P	**P**	**08 37 05.0**	**+0.7**
CD2				pmax	pmax		
	comp=Z,50nm,1.0s						
KPKS	**Kokpek**	**49.87**	**10**	*e*P	**P**	**08 37 03.9**	**-0.9**
	baz=9.9						
KPKS	**Kokpek**	**49.87**	**10**	*e*P	**P**	**08 37 03.9**	**-0.9**
KUU	**Kurty**	**49.93**	**8**	*e*P	**P**	**08 37 03.9**	**-1.3**
	comp=Z,54nm,2.7s,baz=7.6						
KUU	**Kurty**	**49.93**	**8**	*e*P	**P**	**08 37 03.8**	**-1.4**
KUU				pmax	pmax		
	comp=Z,54nm,2.7s						
MARD	**Mardin**	**49.94**	**331**	P	**P**	**08 37 06.0**	**+0.4**
MARD				IAmb	IAmb	08 37 07.8	
	comp=Z,9.9nm,0.8s						
CHKK	**Chushkaly**	**49.98**	**8**	*e*P	**P**	**08 37 04.9**	**-0.8**
	baz=8.3						
GURO	**Guroymak-BITLI**	**50.36**	**333**	P	**P**	**08 37 09.1**	**+0.4**
GURO				IAmb	IAmb	08 37 25.9	
	comp=Z,21nm,1.4s						
MMSI	**Mamuju**	**50.54**	**89**	P	**P**	**08 37 10.8**	**+0.4**
	comp=Z,474nmcomp=Z,43nm,1.0s						
GNI	**Garni**	**50.56**	**337**	*ce*P	**P**	**08 37 11.0**	**+0.8**
GNI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
AKT	**Akhty**	**50.62**	**340**	*e*P	**P**

LZH LR LR
comp=Z,130nm,16.3s
GTA Gaotai 53.53 30 ⇑P **P 08 37 32.0 -0.3**
GTA pP sP 08 37 39.0 -0.2
GTA sP pwP 08 37 43.0 +1.1
GTA S **S 08 45 04.3 -0.3**
GTA sS sS 08 45 16.5 +3.7
GTA pmax pmax
comp=Z,17nm,1.4s
GTA pmax pmax
comp=Z,110nm,5.5s
GTA LR LR
comp=Z,220nm,17.8s
GTA LR LR
comp=Z,260nm,18.5s
GTA LR LR
comp=Z,340nm,19.3s
MAKZ Makanchi 53.70 12 P **P 08 37 32.6 -0.7**
MAKZ pmax pmax
comp=Z,14nm,1.2s
MAKZ Makanchi 53.70 12 P **P 08 37 32.6 -0.7**
MAKZ IAmb IAmb 08 37 35.3
comp=Z,14nm,1.1s
MK31 Makanchi Array 53.75 12 P **P 08 37 33.2 -0.5**
MK31 pmax pmax
comp=Z,11nm,1.1s
MK31 Makanchi Array 53.75 12 P **P 08 37 33.2 -0.5**
MKAR Makanchi Array 53.75 12 P **P 08 37 33.5 -0.2**
comp=Z,4.3nm,0.7s,baz=199,slow=7.2,SNR=43
MKAR PcP **PcP 08 38 40.2 +0.6**
comp=Z,2.8nm,0.8s,baz=228,slow=3.1,SNR=4.0
MKAR LR LR 08 59 47.0
comp=Z,195nm,21.7s,baz=200,slow=35
NCK Nalchik 53.86 338 *i* P **P 08 37 35.4 +0.8**
NCK pmax pmax
comp=Z,4.0nm,0.5s
NEY Neytrino 53.99 337 *i* P **P 08 37 36.4 +0.7**
NEY pmax pmax
comp=Z,2.0nm,0.8s
KBZ Khabaz 54.33 337 P **P 08 37 38.4 +0.5**
comp=Z,8.6nm,0.9s,baz=160,slow=6.4,SNR=12
KBZ LR LR 09 00 56.3
comp=Z,116nm,20.6s,baz=161,slow=36
KIV Kislovodsk 54.60 337 *e*P **P 08 37 40.2 +0.2**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,75nm,17.0s
ZSN Zaisan 54.94 14 *e*P **P 08 37 40.9 -1.5**
baz=14
ZSN Zaisan 54.94 14 *e*P **P 08 37 40.9 -1.5**
XAN Xi'an 55.12 41 P **P 08 37 42.8 -1.1**
XAN pP pP 08 37 49.0 +0.1
XAN pmax pmax
comp=Z,22nm,1.1s
XAN pmax pmax
comp=Z,130nm,3.3s
XAN LR LR
comp=Z,170nm,17.1s
XAN LR LR
comp=Z,180nm,13.7s
XAN LR LR
comp=Z,210nm,18.6s
ABKAR Akbulak array 55.25 353 P **P 08 37 44.0 -0.5**
ABKAR Akbulak array 55.25 353 P **P 08 37 43.5 -1.0**
ABKAR IAmb IAmb 08 37 46.6
comp=Z,19nm,1.4s
BR131 Keskin Array S 55.39 328 *i* P **P 08 37 46.0 +0.1**
BR131 Keskin Array S 55.39 328 P **P 08 37 45.4 -0.5**
BRTR Keskin Array B 55.39 328 P **P 08 37 46.1 +0.1**
comp=Z,2.6nm,0.8s,baz=142,slow=11,SNR=18
BRTR LR LR 09 00 35.9
comp=Z,160nm,19.9s,baz=142,slow=35
BRTR Keskin Array B 55.39 328 P **P 08 37 45.7 -0.3**
SOEI Soe 55.54 98 P **P 08 37 47.3 -0.2**
SOEI Soe 55.54 98 P **P 08 37 48.4 +1.0**
comp=Z,74nm,0.9s
BRZS Berezniki 55.62 3 *e*P **P 08 37 46.7 -0.6**
comp=Z,9.5nm,1.2s,baz=3.5
BRZS Berezniki 55.62 3 *e*P **P 08 37 46.6 -0.6**
BRZS pmax pmax
comp=Z,10.0nm,1.2s
ISP Isparta 55.80 324 P **P 08 37 49.0 +0.1**
ISP pmax pmax
comp=Z,10.0nm,1.0s
ISP Isparta 55.80 324 P **P 08 37 49.0 +0.1**
ANTO Ankara 55.95 327 P **P 08 37 50.3 +0.5**
ANTO pmax pmax
comp=Z,12nm,1.1s
ANTO Ankara 55.95 327 P **P 08 37 50.3 +0.5**
ANTO IAmb IAmb 08 38 07.1
comp=Z,12nm,1.1s
SEM Semipalatinsk 56.87 9 *e*P **P 08 37 55.5 -0.9**
baz=9.1
SEM Semipalatinsk 56.87 9 *e*P **P 08 37 55.4 -0.9**
FITZ Fitzroy Crossi 57.21 108 LR LR 09 01 06.5
comp=Z,392nm,19.0s,baz=282,slow=35
FITZ Fitzroy Crossi 57.21 108 P **P 08 37 59.0 -0.2**
FITZ IAmb IAmb 08 38 07.6
comp=Z,13nm,1.0s
MDUB Mudurnu 57.24 327 P **P 08 37 59.5 +0.5**
DGZ Jazzator, Alta 57.66 15 *i* P **P 08 38 02.0 +0.1**
DGZ pmax pmax
comp=Z,8.0nm,0.7s
DAV Davao City (W) 58.55 78 LR LR 09 02 01.4
comp=Z,205nm,21.6s,baz=250,slow=35
BRVK Borovoye 58.60 1 P **P 08 38 07.9 -0.3**
BRVK pmax pmax
comp=Z,20nm,1.1s
BRVK Borovoye 58.60 1 P **P 08 38 07.9 -0.3**
BRVK IAmb IAmb 08 38 10.7
comp=Z,20nm,1.1s
BTO Baotou 59.92 36 *e*P **P 08 38 18.0 +0.2**
BTO S **S 08 46 27.5 -1.6**
BTO LR LR
comp=Z,650nm,14.9s
BTO LR LR
comp=Z,630nm,18.2s
BELG Belogornoye 60.53 346 *i* P **P 08 38 21.6 +0.1**
BELG pmax pmax
comp=Z,5.0nm,1.0s
HHC Hu-ho-hao-te 60.98 36 *e*P **P 08 38 25.5 +0.5**
HHC pP pP 08 38 30.3 +0.2
HHC S **S 08 46 42.5 -0.2**
HHC pmax pmax
comp=Z,22nm,1.0s
HHC pmax pmax
comp=Z,190nm,4.9s
HHC LR LR
comp=Z,210nm,15.9s
HHC LR LR
comp=Z,220nm,16.1s
HHC LR LR
comp=Z,170nm,17.2s
NJ2 Nanjing 61.02 49 *e*P **P 08 38 25.8 +0.5**
NJ2 pmax pmax
comp=Z,15nm,0.6s
ZAA0 Zalesovo Array 61.06 11 P **P 08 38 24.8 -0.4**
ZALV Zalesovo Beam 61.06 11 P **P 08 38 24.8 -0.3**
comp=Z,3.2nm,0.5s,baz=235,slow=5.2,SNR=9.8
ZALV LR LR 09 04 48.5
comp=Z,196nm,21.6s,baz=212,slow=36
ZALV Zalesovo Beam 61.06 11 P **P 08 38 24.5 -0.6**
TIA Tai'an 61.87 44 P **P 08 38 30.5 -0.5**
TIA pmax pmax
comp=Z,14nm,0.7s
MAW Mawson 61.88 182 P **P 08 38 30.7 +0.3**
comp=Z,3.6nm,1.0s,baz=22,slow=8.7,SNR=6.6
MAW LR LR 08 58 50.5
comp=Z,289nm,21.8s,baz=32,slow=30
MAW Mawson 61.88 182 P **P 08 38 30.6 +0.1**
CFR Carcaliu 62.12 329 ⇓P **P 08 38 33.0 +0.6**
CFR Carcaliu 62.12 329 ⇓P **P 08 38 33.0 +0.6**
ARU Arti 62.47 354 *d* iP **P 08 38 33.9 -0.7**
ARU 08 39 13.2
ARU 08 40 48.6
ARU S **S 08 47 03.9 +3.2**
ARU SS **SS 08 51 05.7 +0.7**
ARU pmax pmax
comp=Z,20nm,0.9s
ARU Arti 62.47 354 P **P 08 38 33.8 -0.7**
SVE Sverdlovsk 62.67 355 *e*P **P 08 38 35.6 -0.2**
SVE pmax pmax
comp=Z,11nm,0.8s

ISR Istrita 62.91 328 ⇓P P 08 38 42.8 +5.0
ISR Istrita 62.91 328 ⇓P P 08 38 42.8 +5.0
SONM Songino Array 62.98 28 P **P 08 38 39.0 +0.7**
comp=Z,21nm,0.8s,baz=218,slow=6.8,SNR=65
SONM LR LR 09 05 39.6
comp=Z,593nm,21.3s,baz=220,slow=36
SONM Songino Array 62.98 28 P **P 08 38 39.0 +0.7**
SONM Songino Array 62.98 28 P **P 08 38 37.8 -0.5**
SIJI Sorong 63.01 88 LR LR 09 04 51.3
comp=Z,132nm,20.9s,baz=138,slow=35
VTS Vitosha 63.15 324 ⇑P **P 08 38 40.7 +1.1**
VTS Vitosha 63.15 324 ⇑P **P 08 38 40.7 +1.1**
ULN Ulaanbaatar 63.31 28*ce*P **P 08 38 40.6 +0.1**
ULN pmax pmax
comp=Z,20nm,1.3s
ULN Ulaanbaatar 63.31 28 P **P 08 38 40.4 -0.1**
ULN Ulaanbaatar 63.31 28 P **P 08 38 41.0 +0.5**
comp=Z,48nm,0.9s
BJT Baijiatuau 63.31 40 P **P 08 38 40.8 +0.3**
BJT pmax pmax
comp=Z,13nm,0.8s
BJT Baijiatuau 63.31 40 P **P 08 38 40.8 +0.3**
BJT IAmb IAmb 08 38 41.8
comp=Z,13nm,0.8s
VRI Vrincioaia 63.32 329 ⇓P **P 08 38 40.4 -0.1**
VRI Vrincioaia 63.32 329 ⇓P **P 08 38 40.4 -0.1**
BJI Beijing 63.33 40 P **P 08 38 41.0 +0.4**
BJI pP **pP 08 38 45.5 -0.2**
BJI sP **sP 08 38 48.0 +0.4**
BJI PcP **PcP 08 39 14.0 -3.6**
BJI S **S 08 47 11.5 -0.6**
BJI pmax pmax
comp=Z,20nm,0.8s
PLOR Plostina 63.35 329 ⇓P **P 08 38 40.9 +0.2**
PLOR Plostina 63.35 329 ⇓P **P 08 38 40.9 +0.2**
MLR Muntele Rosu 63.48 328 ⇑P P 08 38 36.0 -5.6
MLR Muntele Rosu 63.48 328 ⇑P P 08 38 36.0 -5.7
ZAK Zakamensk 63.53 24 *e*P **P 08 38 41.6 -0.3**
ZAK pmax pmax
comp=Z,8.0nm,1.3s
COVR Voineasa-Covas 63.58 328 ⇑P **P 08 38 41.3 -0.9**
TESR Tescani 63.79 329 ⇑P **P 08 38 42.5 -1.1**
VOIR 63.92 328 ⇑P **P 08 38 44.0 -0.5**
VOIR 63.92 328 ⇑P **P 08 38 44.0 -0.5**
DOPR Dopca 64.08 328 ⇑P **P 08 38 45.0 -0.5**
ARR Arges 64.09 327 ⇑P **P 08 38 43.6 -2.1**
BIZ Bicaz 64.36 329 ⇑P **P 08 38 46.4 -0.9**
HERR Herculane 65.01 326 ⇑P **P 08 38 51.5 -0.1**
GZR Gura Zlata 65.12 326 ⇑P **P 08 38 52.6 +0.2**
GZR Gura Zlata 65.12 326 ⇑P **P 08 38 52.6 +0.2**
BURAR Bucovina Array 65.26 329 ⇓P P 08 39 02.0 +8.7
BURAR Bucovina Array 65.26 329 ⇓P P 08 39 02.0 +8.7
ASAR Alice Springs 65.38 113 P **P 08 38 54.0 -0.5**
comp=Z,2.3nm,0.8s,baz=280,slow=6.0,SNR=24
ASAR LR LR 09 06 08.1
comp=Z,182nm,19.5s,baz=280,slow=35
ASAR Alice Springs 65.38 113 P **P 08 38 54.0 -0.5**
ASAR Alice Springs 65.38 113 P **P 08 38 53.6 -0.9**
AS31 Alice Springs 65.38 113 P **P 08 38 53.6 -0.9**
AKASG Malin Array Be 65.51 334 P **P 08 38 53.2 -1.5**
comp=Z,2.8nm,0.7s,baz=132,slow=5.7,SNR=7.9
AKASG LR LR 09 10 21.7
comp=Z,132nm,18.9s,baz=180,slow=39
AKASG Malin Array Be 65.51 334 P **P 08 38 54.4 -0.3**
AKASG pmax pmax
comp=Z,6.0nm,1.4s
AKASG Malin Array Be 65.51 334 P **P 08 38 54.4 -0.3**
AKBB Malin Array Si 65.51 334*ce*P **P 08 38 53.7 -1.0**
WRA Warramunga Arr 65.55 109 P **P 08 38 55.5 -0.1**
comp=Z,6.7nm,0.8s,baz=284,slow=6.2,SNR=43
WRA LR LR 09 03 30.0
comp=Z,284nm,21.9s,baz=295,slow=32
WRA Warramunga Arr 65.55 109 P **P 08 38 55.0 -0.6**
WRAB Tennant Creek 65.56 109*ce*P **P 08 38 55.5 -0.1**
WRAB pmax pmax
comp=Z,44nm,2.5s
WRAB Tennant Creek 65.56 109 P **P 08 38 55.5 -0.1**
WRAB IAmb IAmb 08 39 03.3
comp=Z,13nm,0.8s
WB2 Warramunga Arr 65.56 109 P **P 08 38 55.5 -0.2**
WB2 IAmb IAmb 08 39 03.3
comp=Z,12nm,0.8s
WR0 Warramunga Arr 65.73 109 P **P 08 38 56.3 -0.5**
WR0 IAmb IAmb 08 39 04.8
comp=Z,11nm,0.8s
KIRV Kirov 65.89 349*ce*P **P 08 38 55.1 -1.8**
BZS Buzias 65.90 326 ⇓P **P 08 38 56.8 -0.5**
BZS Buzias 65.90 326 ⇓P **P 08 38 56.8 -0.5**
DIVS Divibare 65.93 324 P **P 08 38 57.5 -0.1**
DIVS IAmb IAmb 08 39 21.4
comp=Z,12nm,1.2s
SYO Syowa Base 65.98 191⇑*ep*P pP 08 39 02.8 +0.3
DRGR 66.03 328 ⇑P **P 08 38 57.9 -0.3**
DRGR 66.03 328 ⇑P **P 08 38 57.9 -0.3**
OBN Obninsk 66.11 341 *e*P **P 08 39 01.2 +2.8**
OBN *e* 08 41 26.0
OBN *i* S **S 08 47 51.7 +5.9**
OBN *e*SS **SS 08 52 07.9 +6.1**
OBN pmax pmax
comp=Z,4.0nm,1.0s
OBN MLR MLR
comp=Z,83nm,18.0s
MOS Moscow 66.29 342 *e*P **P 08 38 58.0 -1.6**
TRPA Tarpa 66.97 329 ⇑P **P 08 39 04.3 +0.3**
MORH Mrgy, Hungar 67.93 325 ⇑P **P 08 39 09.5 -0.7**
TORD Torodi Ar. Bea 68.76 286 P **P 08 39 16.8 +0.8**
comp=Z,2.7nm,1.1s,baz=104,slow=12,SNR=4.6
TORD LR LR 09 09 22.8
comp=Z,230nm,18.0s,baz=115,slow=36
MNK Minsk 68.83 336 *i* P **P 08 39 13.0 -2.7**
MNK *i* 08 39 37.4
MNK *i* 08 41 44.6
MNK *i* PPP PPP 08 43 24.0
MNK *i* S **S 08 48 17.1 -1.4**
MNK *i* 08 48 48.6
MNK *i* SSS SSS 08 55 50.6
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=N,10.0nm,0.9s
MNK pmax pmax
comp=Z,8.0nm,0.9s
MNK Minsk 68.83 336 *i* P **P 08 39 13.0 -2.6**
comp=E,1.0nm,0.9s
MNK *i* P **P 08 39 13.0 -2.6**
comp=N,10.0nm,0.9s
MNK *i* P **P 08 39 13.0 -2.6**
comp=Z,8.0nm,0.9s,baz=136
MNK *i* PcP **PcP 08 39 37.5 -2.6**
MNK *i* PP **PP 08 41 44.6 -3.3**
MNK *i* PPP PPP 08 43 24.0
MNK *i* S **S 08 48 17.2 -1.3**
MNK *i* SS SS 08 52 25.5 -18
MNK *i* SSS SSS 08 55 50.7
MNK *i* LQ LQ 09 05 40.9
MNK *i* LR LR 09 08 47.9
MNK *i* LRM MLR 09 15 27.3
comp=N,433nm,17.5s
MNK *i* LRM MLR 09 17 33.0
comp=E,51nm,17.8s
MNK *i* LRM MLR 09 21 57.1
comp=Z,288nm,17.2s
PRGR Permogore 69.44 349 *e*P **P 08 39 17.0 -2.3**
PRGR pmax pmax
comp=Z,16nm,1.4s
NRCA Norcia 69.48 320 P **P 08 39 21.1 +1.0**
NRCA IAmb IAmb 08 39 27.9
comp=Z,16nm,1.1s
MODS Modra-Piesok 69.93 326 *e*P **P 08 39 21.2 -1.4**
MODS Modra-Piesok 69.93 326 *e*P **P 08 39 21.2 -1.4**
KSAR Wonju Array Be 70.06 47 P **P 08 39 23.2 -0.5**
KSAR Wonju Array Be 70.06 47 P **P 08 39 23.2 -0.5**
KSRS Korea Array 70.10 47 P **P 08 39 23.4 -0.5**
comp=Z,2.5nm,0.7s,baz=250,slow=7.9,SNR=13
KSRS LR LR 09 11 40.0
comp=Z,240nm,18.6s,baz=236,slow=37
KLMR Klimovskoe 70.10 345 *e*P **P 08 39 21.5 -1.8**
KLMR pmax pmax
comp=Z,31nm,1.3s
KLMR Klimovskoe 70.10 345 *e*P **P 08 39 21.6 -1.8**
KLMR AMP 08 39 30.7
comp=Z,31nm,1.3s
SOKA Soboth 70.27 324 *i* P **P 08 39 25.4 +0.5**
comp=Z,3.9nm,1.2s

CONA Conrad Observa 70.47 326 P **P 08 39 24.9 -1.1**
comp=Z,9.2nm,1.3s
HIA Hailar 70.65 33 P **P 08 39 27.0 0.0**
HIA pmax pmax
comp=Z,13nm,0.7s
HIA Hailar 70.65 33 P **P 08 39 27.0 0.0**
HIA IAmb IAmb 08 39 29.2
comp=Z,13nm,0.7s
KRLC Kraliky 71.16 328 *e*P **P 08 39 29.5 -0.7**
KRLC Kraliky 71.16 328 *e*P **P 08 39 29.5 -0.7**
CN2 Changchun 71.19 40 *e*P **P 08 39 29.8 -0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
MOA Molln 71.33 325 *i* P **P 08 39 31.2 0.0**
comp=Z,5.0nm,0.9s
DPC Dobruska-Polom 71.56 328 *e*P P 08 39 39.4 +6.8
DPC Dobruska-Polom 71.56 328 *ep*P pP 08 39 39.4 +1.7
ABTA Abfaltersbach 71.79 323 *e*P **P 08 39 34.5 +0.4**
comp=Z,7.3nm,0.8s
CHVC Chvalec 71.83 328 *e*P **P 08 39 33.9 -0.3**
CTI Castel Tesino 71.96 322 P **P 08 39 35.2 0.0**
CTI pmax pmax
comp=Z,8.0nm,1.0s
CTI Castel Tesino 71.96 322 P **P 08 39 35.2 0.0**
GERES GERESS Array B 72.17 326 P **P 08 39 35.1 -1.3**
comp=Z,0.5nm,0.7s,baz=180,slow=8.0,SNR=3.7
JAY Jayapura 72.24 91 LR LR 09 11 24.2
comp=Z,74nm,21.0s,baz=210,slow=36
KHC Kasperske Hory 72.39 326 *e*P **P 08 39 36.8 -0.8**
KHC Kasperske Hory 72.39 326 *e*P **P 08 39 36.8 -0.8**
WTTA Wattenberg 72.56 323 *e*P **P 08 39 38.6 -0.2**
comp=Z,8.7nm,1.0s
WATA Walderalm 72.64 323 *e*P **P 08 39 39.0 -0.2**
comp=Z,5.3nm,0.7s
SQTA Sankt Quirin 72.80 323 *e*P **P 08 39 40.1 0.0**
comp=Z,12nm,0.9s
STKA Stephens Creek 72.80 121 P **P 08 39 40.1 -0.3**
comp=Z,1.9nm,0.7s,baz=311,slow=6.1,SNR=7.8
STKA LR LR 09 08 07.4
comp=Z,268nm,20.1s,baz=246,slow=33
STKA Stephens Creek 72.80 121 *i* P **P 08 39 40.7 +0.3**
MOTA Moosalm 72.92 323 *e*P **P 08 39 40.7 -0.3**
comp=Z,15nm,1.1s
FETA Feichten 72.99 323 *e*P **P 08 39 41.7 +0.4**
comp=Z,17nm,1.1s
BRG Berggiesshubel 73.11 327 *e*P **P 08 39 42.2 +0.4**
BRG Amp 08 39 48.6
comp=Z,5.4nm,1.1s
RETA Reutte 73.19 323 *e*P **P 08 39 41.4 -1.0**
comp=Z,6.4nm,1.1s
NKC Novy Kostel 73.59 326 *e*P **P 08 39 45.5 +0.9**
NKC Novy Kostel 73.59 326 *e*P **P 08 39 45.5 +0.9**
DAVA Damuels 73.62 323 *e*P **P 08 39 45.6 +0.5**
comp=Z,18nm,1.0s
CLL Collm 73.85 327 *e*P **P 08 39 47.0 +0.9**
comp=Z,13nm,1.4s
CLL *i* sP **pP 08 39 51.9 +0.7**
comp=Z,17nm,1.3s
CLL *e*S **S 08 49 17.0 +0.3**
CLL *e*SS **SS 08 54 00.0 -1.1**
CLL *e*SSS SSS 08 57 18.0
CLL *e* 08 57 54.0
CLL *e*SSSS 08 59 06.0
CLL Lm MLR 09 16 00.0
comp=Z,100nm,18.2s
CLL Collm 73.85 327 *e*P **P 08 39 47.0 +0.9**
CLL *i* 08 39 51.9
CLL *e*S **S 08 49 17.0 +0.3**
CLL pmax pmax
comp=Z,13nm,1.4s
KIC Kosan Boka 73.89 278 *e*P **P 08 39 44.2 -3.0**
comp=Z,8.3nm,0.6s
GRA1 Grafenberg Arr 74.00 325 P **P 08 39 47.6 +0.5**
GRA1 IAmb IAmb 08 39 55.2
comp=Z,18nm,0.8s
GRF Grafenberg Arr 74.00 325 P **P 08 39 47.6 +0.5**
GRF pmax pmax
comp=Z,18nm,0.8s
GRF Grafenberg Arr 74.00 325 *e*P **P 08 39 46.3 -0.7**
comp=Z,14nm,1.1s,baz=119,slow=7.4
DBIC Dimbokro 74.05 279 P **P 08 39 47.5 -0.5**
comp=Z,4.9nm,1.0s,baz=136,slow=3.9,SNR=4.7
DBIC LR LR 09 13 15.2
comp=Z,105nm,18.0s,baz=114,slow=36
LIC Lamto 74.16 278 *e*P P 08 39 40.2 -8.5
comp=Z,40nm,1.6s
TIC Toumodi 74.21 279 *e*P P 08 39 41.6 -7.4
MDJ Mudanjiang 74.22 41 P **P 08 39 49.0 +0.6**
MDJ pP pP 08 39 54.5 +0.9
MDJ sP sP 08 39 55.5 0.0
MDJ pmax pmax
comp=Z,39nm,0.8s
MDJ pmax pmax
comp=Z,230nm,5.7s
MDJ Mudanjiang 74.22 41 P **P 08 39 48.2 -0.2**
FINES FINESS Array B 74.52 340 P **P 08 39 49.8 +0.1**
comp=Z,4.9nm,0.9s,baz=79,slow=9.9,SNR=8.3
FINES LR LR 09 15 13.6
comp=Z,129nm,18.4s,baz=138,slow=38
SENIN Lac Senin/Sane 74.79 321 P **P 08 39 51.9 -0.1**
SENIN IAmb IAmb 08 40 01.1
comp=Z,12nm,0.8s
JWT Wachi 74.94 51 P **P 08 39 52.4 -0.4**
JWT IAmb IAmb 08 39 53.4
comp=Z,12nm,0.9s
VLA Vladivostok 75.13 43 *i* P **P 08 39 54.0 +0.3**
VLA pmax pmax
comp=Z,21nm,1.0s
USA0B Ussuriysk Arra 75.62 42 P **P 08 39 56.0 -0.5**
USA0B pmax pmax
comp=Z,58nm,2.0s
USA0B Ussuriysk Arra 75.62 42 P **P 08 39 56.0 -0.5**
USRK Ussuriysk Ar. 75.62 42 P **P 08 39 55.8 -0.8**
comp=Z,6.4nm,0.8s,baz=244,slow=5.3,SNR=16
USRK Ussuriysk Ar. 75.62 42 P **P 08 39 55.9 -0.6**
USRK Ussuriysk Ar. 75.62 42 P **P 08 39 55.9 -0.6**
NRIK Noril'sk 76.08 7 P **P 08 39 58.6 0.0**
comp=Z,1.7nm,0.4s,baz=201,slow=3.0,SNR=3.0
NRIK LR LR 09 14 18.5
comp=Z,180nm,19.9s,baz=184,slow=36
NRIK Noril'sk 76.08 7*ce*P **P 08 39 59.4 +0.8**
NRIK pmax pmax
comp=Z,18nm,2.0s
NRIK Noril'sk 76.08 7 IAmb IAmb 08 40 02.5
comp=Z,33nm,1.9s
CTA Charters Tower 76.75 109 LR LR 09 13 39.9
comp=Z,271nm,19.0s,baz=235,slow=36
ZEA Zeya 76.99 31 *e*P **P 08 40 03.9 -0.2**
ZEA pmax pmax
comp=Z,20nm,1.1s
ZEA MLR MLR
comp=E,100nm,20.0s
ZEA MLR MLR
comp=Z,200nm,19.0s
LVZ Lovozero 77.20 348 *i* P **P 08 40 04.3 -0.7**
LVZ pmax pmax
comp=Z,9.0nm,1.0s
KLR Kul'dur 77.49 37*ce*P **P 08 40 06.1 -0.9**
KLR pmax pmax
comp=Z,13nm,0.9s
MAJO Matsushiro 77.49 51 *i* P **P 08 40 07.0 -0.3**
MAJO pmax pmax
comp=Z,10.0nm,1.1s
MAJO Matsushiro 77.49 51 P **P 08 40 06.8 -0.6**
MAT Matsushiro 77.49 51 P **P 08 40 06.4 -0.9**
MJAR Matsushiro Arr 77.50 51 P **P 08 40 06.4 -0.9**
comp=Z,5.1nm,0.8s,baz=246,slow=5.1,SNR=18
MJAR LR LR 09 15 38.0
comp=Z,59nm,18.5s,baz=285,slow=37
MJAR Matsushiro Arr 77.50 51 P **P 08 40 07.1 -0.3**
MJAR pmax pmax
comp=Z,11nm,1.0s
MJAR Matsushiro Arr 77.50 51 P **P 08 40 07.1 -0.3**
MJAR IAmb IAmb 08 40 09.2
comp=Z,11nm,1.0s
SNAA Sanae 78.70 198 P **P 08 40 14.1 +0.6**
SNAA Sanae 78.70 198*ce*P **P 08 40 13.7 +0.3**
SNAA pmax pmax
comp=Z,5.0nm,1.1s
NOA NORSAR Array B 79.84 335 P **P 08 40 19.6 -0.1**
comp=Z,2.1nm,1.1s,baz=115,slow=5.9,SNR=3.7
NOA LR LR 09 16 23.3
comp=Z,104nm,21.9s,baz=110,slow=36
VNA2 Neumayer--Watz 79.95 199 P **P 08 40 21.0 +0.9**
ESDC Sonseca Array 80.17 312 P **P 08 40 22.4 +0.3**
comp=Z,1.8nm,0.8s,baz=89,slow=4.6,SNR=10.0

ARCES	**ARCESS Array B**	**80.57**	**346**	P		**P**		**08 40 23.2**	**-0.3**
	comp=Z,4.1nm,0.9s,baz=143,slow=4.2,SNR=7.5								
ARCES				LR		LR		09 16 39.7	
	comp=Z,178nm,20.4s,baz=115,slow=36								
VNA3	**Neumayer Olymp**	**80.73**	**199**	P		**P**		**08 40 25.3**	**+0.9**
YAK	**Yakutsk**	**82.11**	**25**	*i* P		**P**		**08 40 31.6**	**-0.2**
YAK				pmax	pmax				
	comp=Z,28nm,0.4s								
YSS	**Yuzh-Sakhalins**	**83.66**	**42**	ǁ *eP*		**P**		**08 40 39.6**	**-0.5**
YSS				*e*				08 40 47.2	
YSS				pmax	pmax				
	comp=Z,30nm,1.1s								
YSS	**Yuzh-Sakhalins**	**83.66**	**42**	P		**P**		**08 40 39.0**	**-1.1**
QSPA	**South Pole Qui**	**84.28**	**180**	P		**P**		**08 40 44.3**	**+1.2**
QSPA				IAmb	IAmb			08 40 52.1	
	comp=Z,15nm,1.2s								
VNDA	**Vanda**	**85.21**	**167**	P		**P**		**08 40 48.3**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=318,slow=7.8,SNR=8.2								
VNDA				LR		LR		09 15 33.5	
	comp=Z,167nm,18.2s,baz=264,slow=33								
VNDA	**Vanda**	**85.21**	**167**	P		**P**		**08 40 48.0**	**+0.5**
TIXI	**Tiksi**	**86.52**	**16**	*i* P		**P**		**08 40 54.3**	**+0.4**
MA2	**Magadan**	**91.09**	**30**	*i* P		**P**		**08 41 16.4**	**+0.5**
MA2				pmax	pmax				
	comp=Z,10.0nm,1.0s								
SEY	**Seymchan**	**92.37**	**27**	LR		LR		09 23 55.6	
	comp=Z,361nm,18.8s,baz=260,slow=36								
PETK	**Petropavlovsk-**	**94.18**	**37**	LR		LR		09 26 49.5	
	comp=Z,100nm,21.0s,baz=268,slow=37								
BILL	**Bilibino**	**98.27**	**22**	*eP*		Pdif		08 41 49.1	+0.5
BILL				pmax	pmax				
	comp=Z,8.0nm,1.5s								
ILAR	**Eielson Array**	**115.99**	**16**	PKP		**PKPdf**		**08 46 54.6**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=316,slow=2.5,SNR=3.1								
ULM	**Lac du Bonnet**	**133.69**	**346**	PP		PP		08 49 58.8	+2.6
	comp=Z,4.9nm,0.8s,baz=51,slow=6.5,SNR=3.0								
HLID	**Hailey**	**142.25**	**3**	P		**PKPdf**		**08 47 41.8**	**-2.7**
	baz=356								
BW06	**Boulder Array**	**143.08**	**357**	P		**PKPdf**		**08 47 46.8**	**+0.8**
	baz=3.5								
PDAR	**Pinedale Array**	**143.08**	**357**	PKP		PKPbc		08 47 44.0	+1.2
	comp=Z,1.6nm,0.7s,baz=85,slow=3.0,SNR=11								
M02C	**Callahan**	**143.12**	**14**	P		**PKiKP**		**08 47 49.1**	**-0.1**
	baz=341								
N02D	**Trinity Center**	**143.56**	**14**	P		**PKPdf**		**08 47 45.9**	**-0.8**
	baz=341								
LRAL	**Lakeview Retre**	**144.42**	**323**	P		PKPbc		08 47 47.4	+0.6
	baz=45								
N23A	**Red Feather La**	**144.62**	**352**	P		**PKPdf**		**08 47 48.6**	**-0.3**
	baz=9.8								
TCUT	**Toone Canyon**	**144.77**	**360**			**PKPdf**		**08 47 48.6**	**-0.4**
U40A	**Yellville**	**144.97**	**333**	P		PKPbc		08 47 48.7	+0.2
	baz=34								
CBKS	**Cedar Bluff**	**145.34**	**343**	P		**PKPab**		**08 47 49.7**	**-0.1**
	baz=21,SNR=12								
O20A	**White River Ci**	**145.61**	**355**	P		**PKPab**		**08 47 50.8**	**-0.1**
	baz=6.0								
ISCO	**Idaho Springs**	**145.65**	**352**	P		**PKPab**		**08 47 51.1**	**-0.1**
	baz=11								
W41B	**Gary Mavity, V**	**145.65**	**331**	P		**PKPab**		**08 47 51.2**	**+0.2**
	baz=36								
DUG	**Dugway, Tooele**	**145.68**	**2**	P		**PKPab**		**08 47 51.6**	**+0.5**
	baz=358								
KSCO	**Kaye Shedlock'**	**145.88**	**347**	P		**PKPbc**		**08 47 51.4**	**0.0**
	baz=16,SNR=6.3								
W39A	**Magazine**	**146.35**	**333**	P		**PKPbc**		**08 47 52.7**	**-0.1**
	baz=33								
TUL1	**Leonard**	**146.60**	**336**	P		**PKPbc**		**08 47 53.3**	**-0.2**
	baz=30								
MIAR	**Mount Ida**	**146.79**	**332**	P		**PKPbc**		**08 47 54.7**	**+0.6**
	baz=34								
NVAR	**Mina Array Bea**	**146.91**	**10**	PKPbc		**PKPab**		**08 47 56.1**	**+0.2**
	comp=Z,6.3nm,0.8s,baz=348,slow=1.9,SNR=32								
VBMS	**Vicksburg**	**147.06**	**326**	P		**PKPab**		**08 47 55.8**	**-0.6**
	baz=41								
R11A	**Troy Canyon, C**	**147.34**	**6**	P		**PKPbc**		**08 47 56.6**	**+0.8**
	baz=353								
SDCO	**Great Sand Dun**	**147.64**	**351**	P		**PKPbc**		**08 47 57.0**	**+0.2**
	baz=11,SNR=13								
S22A	**4UR Ranch, Cre**	**147.83**	**353**	P		**PKPbc**		**08 47 56.2**	**-1.1**
	baz=9.0,SNR=9.9								
T25A	**Trinidad**	**148.04**	**349**	P		**PKPbc**		**08 47 58.1**	**+0.4**
	baz=14,SNR=11								
GRAC	**Grapevine Rang**	**148.46**	**9**	P		**PKiKP**		**08 47 59.6**	**-0.6**
	baz=349,SNR=7.8								
MVCO	**Mesa Verde**	**148.54**	**355**	P		**PKiKP**		**08 48 00.4**	**-0.3**
	baz=6.0								
TPNV	**Topopah Spring**	**148.66**	**7**	P		**PKiKP**		**08 48 00.2**	**-0.7**
	baz=351								
WMOK	**Wichita Mounta**	**148.77**	**339**	P		**PKPbc**		**08 47 58.4**	**-1.1**
	baz=25								
CWC	**Cottonwood Cre**	**148.89**	**10**	P		**PKPbc**		**08 48 00.5**	**+0.6**
	baz=348								
FURC	**Furnace Creek,**	**149.05**	**8**	P		**PKPdf**		**08 47 56.9**	**+0.9**
	baz=350,SNR=8.0								
MPMC	**Manual Prospec**	**149.36**	**9**	P		**PKPbc**		**08 48 00.8**	**-0.4**
	baz=349,SNR=7.4								
SHOC	**Shoshone, Teco**	**149.69**	**7**	P		**PKiKP**		**08 48 02.3**	**-0.4**
	baz=351								
LRMC	**Laurel Mtn Rad**	**149.89**	**10**	P		**PKPbc**		**08 48 02.9**	**+0.5**
	baz=348								
TUQ	**Turquoise Moun**	**150.19**	**7**	P		**PKPbc**		**08 48 02.7**	**-0.4**
	baz=352								
GSC	**Goldstone, Bar**	**150.20**	**8**	P		**PKiKP**		**08 48 04.2**	**+0.3**
	baz=350,SNR=10								
WUAZ	**Wupatki**	**150.36**	**359**	P		**PKiKP**		**08 48 04.4**	**+0.1**
	baz=0.6								
EDW2	**Edwards Air Fo**	**150.42**	**11**	P		**PKiKP**		**08 48 04.6**	**+0.2**
	baz=347								
ANMO	**Albuquerque**	**150.53**	**351**	P		**PKPbc**		**08 48 04.3**	**+0.2**
	baz=10								
MSTX	**Muleshoe**	**150.72**	**345**	P		**PKPbc**		**08 48 03.9**	**-0.5**
	baz=18								
ABTX	**Abilene, Hawle**	**150.98**	**339**	P		**PKPbc**		**08 48 05.1**	**+0.1**
	baz=25								
PDMCI	**Parker Dam,Lak**	**151.48**	**4**	P		**PKiKP**		**08 48 07.4**	**+0.9**
	baz=355								
IRM	**Iron Mountain**	**151.54**	**6**	P		**PKiKP**		**08 48 07.9**	**+1.3**
	baz=353								
BELC	**Belle Mtn. Jos**	**151.59**	**8**	P		**PKiKP**		**08 48 07.9**	**+0.9**
	baz=351								
MURC	**Murrieta**	**151.81**	**10**	P		**PKiKP**		**08 48 08.7**	**+1.4**
	baz=348								
PFO	**Pinyon Flats O**	**151.91**	**8**	P		**PKiKP**		**08 48 09.4**	**+1.8**
	baz=350								
TPFO	**Pinon Flats**	**151.92**	**8**	P		**PKiKP**		**08 48 09.3**	**+1.8**
	baz=350								
BC3	**Big Chuckawall**	**152.00**	**7**	P		**PKiKP**		**08 48 08.7**	**+0.9**
	baz=352								
MONP2	**Monument Peak**	**152.62**	**9**	P		**PKiKP**		**08 48 10.5**	**+1.3**
	baz=350								
JCT	**Junction City**	**152.96**	**337**	P		**PKiKP**		**08 48 10.2**	**+0.4**
	baz=27								
121A	**Cookes Peak, D**	**153.09**	**353**	P		**PKiKP**		**08 48 11.0**	**+0.9**
	baz=8.5								
MNTX	**Cornudas Mount**	**153.50**	**348**	P		**PKiKP**		**08 48 11.2**	**+0.5**
	baz=14								
TUC	**Tucson**	**153.55**	**358**	P		**PKiKP**		**08 48 11.7**	**+0.7**
	baz=1.9								
TXAR	**Lajitas Array**	**155.34**	**343**	PKP		**PKPdf**		**08 48 06.4**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=79,slow=2.7,SNR=4.5								
TXAR				PKPbc		**sPKPdf**		**08 48 15.3**	**+2.2**
	comp=Z,1.2nm,0.9s,baz=247,slow=1.0,SNR=7.7								

IDC ***26*** *08:44:53.7±2.7, 30.97S×71.11W, h0km, mb4.1/4, mb1 4.0/8, mb1mx3.8/27, mbtmp3.9/8, ML3.6/4, MS2.6/2, Ms1 2.6/2, ms1mx2.5/22, Error ellipse: s-maj=73.8km s-min=26.0km az=101.0*

NEIC ***26*** *08:44:58.9±2.4, 30.82S±0.04×71.6W±0.1, h37km±9km, mb4.3/4, ML4.1(GUC), Error ellipse: s-maj=14.8km s-min=5.7km az=96.0*

GUC ***26*** *08:44:58.6±0.6, 30.82S×71.42W, h50km±1km, ML4.2*

ISC 26 08:44:58.6±0.8, 30.83S±0.03×71.43W±0.05, h41km±8km, n62, σ1§20/58, mb4.0/5, 9C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.23**	**311**	ǁ *iP*		**Pn**	**08 45 06.9**	**+0.5**
CO06				*i* S		**Sn**	**08 45 12.7**	**+1.0**
CO06				IAML			08 45 13.4	
	comp=N,20µm,0.2s							
CO06	**Fray Jorge**	**0.23**	**311**			**Pn**	**08 45 06.9**	**+0.5**
CO02	**Combarbal**	**0.53**	**135**	ǁ *iP*		**Pn**	**08 45 10.2**	**+0.3**
CO02				*i* S		**Sn**	**08 45 18.5**	**+0.6**
CO02	**Combarbal**	**0.53**	**135**			**Pn**	**08 45 10.3**	**+0.3**
CO03	**El Pedregal**	**0.64**	**91**	ǁ *iP*		**Pn**	**08 45 11.5**	**+0.1**
CO03				*i* S		**Sn**	**08 45 20.9**	**+0.4**
CO03				IAML			08 45 21.9	
	comp=N,12µm,0.1s							
CO03	**El Pedregal**	**0.64**	**91**			**Pn**	**08 45 11.8**	**+0.4**
GO04	**Tololo Observa**	**0.85**	**40**	*eP*		**Pn**	**08 45 14.7**	**+0.3**
GO04				*i* S		**Sn**	**08 45 26.9**	**+1.1**
GO04	**Tololo Observa**	**0.85**	**40**			**Pn**	**08 45 14.9**	**+0.5**
CO05	**La Serena**	**0.92**	**11**	ǁ *iP*		**Pn**	**08 45 15.5**	**+0.4**
CO05				*i* S		**Sn**	**08 45 28.0**	**+0.8**
CO05				IAML			08 45 28.6	
	comp=N,5µm,0.4s							
CO05	**La Serena**	**0.92**	**11**	Pn		**Pn**	**08 45 15.6**	**+0.5**
VA06	**Catapilco**	**1.73**	**176**	ǁ *iP*		**Pn**	**08 45 27.0**	**+0.8**
VA06				IAML			08 45 56.1	
	comp=N,4µm,0.4s							
LCO	**Las Campanas**	**1.92**	**20**	*eP*		**Pn**	**08 45 29.6**	**+0.6**
LCO				*i* S		**Sn**	**08 45 53.6**	**+1.5**
LCO	**Las Campanas**	**1.92**	**20**			**Pn**	**08 45 30.2**	**+1.1**
VA03	**San Esteban**	**2.07**	**159**	*eP*		**Pn**	**08 45 32.5**	**+1.4**
VA03				*i* S		**Sn**	**08 45 57.5**	**+1.8**
VA03				IAML			08 46 02.2	
	comp=E,3µm,0.1s							
VA03	**San Esteban**	**2.07**	**159**			**Pn**	**08 45 32.7**	**+1.7**
ROCH	**El Roble**	**2.17**	**171**	ǁ *iP*		**Pn**	**08 45 33.5**	**+1.1**
ROCH				*i* S		**Sn**	**08 46 00.3**	**+2.0**
ROCH				IAML			08 46 06.2	
	comp=N,2µm,0.4s							
VA01	**Torpederas**	**2.20**	**185**	Pn		**Pn**	**08 45 32.7**	**+0.1**
ZON	**Zonda**	**2.47**	**108**	Pn		**Pn**	**08 45 39.6**	**+3.2**
MT05	**Renca**	**2.62**	**167**	ǁ *iP*		**Pn**	**08 45 39.9**	**+1.3**
MT05				*i* S		**Sn**	**08 46 11.2**	**+1.9**
MT05	**Renca**	**2.62**	**167**	Pn		**Pn**	**08 45 39.9**	**+1.3**
AC04	**Llanos de Chal**	**2.63**	**7**	ǁ *iP*		**Pn**	**08 45 39.5**	**+0.9**
AC04				IAML			08 46 28.0	
	comp=E,789nm,0.4s							
AC04	**Llanos de Chal**	**2.63**	**7**			**Pn**	**08 45 40.1**	**+1.4**
VA05	**Santo Domingo**	**2.83**	**183**	*i* P		**Pn**	**08 45 41.0**	**-0.2**
VA05				IAML			08 46 27.7	
	comp=E,1µm,0.4s							
VA05	**Santo Domingo**	**2.83**	**183**			**Pn**	**08 45 41.3**	**0.0**
MT09	**Talagante**	**2.96**	**173**	ǁ *iP*		**Pn**	**08 45 44.4**	**+1.0**
MT09				*i* S		**Sn**	**08 46 19.1**	**+1.3**
MT09				IAML			08 46 32.2	
	comp=E,1µm,0.1s							
MT09	**Talagante**	**2.96**	**173**	Pn		**Pn**	**08 45 45.0**	**+1.7**
MT01	**Popeta**	**3.03**	**177**	ǁ *iP*		**Pn**	**08 45 44.5**	**+0.4**
MT01				IAML			08 46 31.9	
	comp=E,830nm,0.3s							
MT01	**Popeta**	**3.03**	**177**			**Pn**	**08 45 45.2**	**+1.1**
GO03	**Copiap**	**3.39**	**18**	*i* P		**Pn**	**08 45 51.1**	**+2.0**
GO03				IAML			08 46 47.0	
	comp=E,461nm,0.5s							
GO03	**Copiap**	**3.39**	**18**	Pn		**Pn**	**08 45 51.2**	**+2.1**
BO01	**Tunca**	**3.57**	**175**	ǁ *iP*		**Pn**	**08 45 51.7**	**+0.2**
BO01				*i* S		**Sn**	**08 46 31.2**	**-1.1**
BO01				IAML			08 46 52.1	
	comp=E,273nm,0.7s							
BO01	**Tunca**	**3.57**	**175**	Pn		**Pn**	**08 45 52.1**	**+0.6**
BO02	**Sierra Bellavi**	**3.99**	**172**	ǁ *eP*		**Pn**	**08 45 57.9**	**+0.5**
BO02	**Sierra Bellavi**	**3.99**	**172**			**Pn**	**08 45 58.5**	**+1.1**
GO05	**Huala**	**4.19**	**186**	Pn		**Pn**	**08 45 59.1**	**-1.0**
AC02	**Maricunga**	**4.46**	**20**	Pn		**Pn**	**08 46 06.1**	**+1.9**
ML02	**Panimavida**	**4.92**	**180**			**Pn**	**08 46 10.1**	**0.0**
H03N1	**Juan Fernandez**	**6.86**	**246**	T		T	08 53 26.1	
	baz=74,slow=72,SNR=2021							
H03N3	**Juan Fernandez**	**6.87**	**246**	T		T	08 53 25.6	
	baz=74,slow=72,SNR=2267							
H03N2	**Juan Fernandez**	**6.87**	**246**	T		T	08 53 26.9	
	baz=74,slow=72,SNR=1630							
H03S3	**Juan Fernandez**	**7.00**	**243**	T		T	08 53 41.0	
	baz=94,slow=74,SNR=3.3							
H03S1	**Juan Fernandez**	**7.00**	**243**	T		T	08 53 39.8	
	baz=94,slow=74,SNR=7.5							
H03S2	**Juan Fernandez**	**7.01**	**243**	T		T	08 53 40.3	
	baz=94,slow=74,SNR=12							
LVC	**Limon Verde**	**8.49**	**16**	Pn		**Pn**	**08 46 58.9**	**-0.5**
	comp=E,0.4nm,0.3s,baz=225,slow=13,SNR=1.5							
LVC				Sn		Sn	08 48 48.2	+14
	comp=E,1.2nm,0.3s,baz=196,slow=18,SNR=2.3							
LVC				LR		LR	08 50 26.7	
	comp=E,40nm,19.9s,baz=200,slow=39							
PLCA	**Paso Flores**	**9.91**	**176**	LR		LR	08 51 09.1	
	comp=E,41nm,20.8s,baz=347,slow=38							
TRQA	**Tornquist**	**10.62**	**135**	Pn		**Pn**	**08 47 28.9**	**+0.6**
CPUP	**Villa Florida**	**13.18**	**74**	Pn		**Pn**	**08 48 00.5**	**-2.7**
	comp=E,0.2nm,0.3s,baz=238,slow=13,SNR=1.4							
LPAZ	**La Paz**	**14.78**	**13**	Pn		**Pn**	**08 48 26.9**	**+1.3**
	comp=E,0.1nm,0.3s,baz=182,slow=9.2,SNR=5.4							
SIV	**San Ignacio**	**17.55**	**35**	P		**P**	**08 49 00.9**	**0.0**
	comp=E,0.2nm,0.3s,baz=207,slow=7.1,SNR=7.9							
BDFB	**Brasilia**	**26.22**	**60**	P		**P**	**08 50 28.9**	**-1.0**
	comp=Z,2.3nm,0.6s,baz=204,slow=10.0,SNR=3.5							
BDFB	**Brasilia**	**26.22**	**60**	IAmb		IAmb	08 50 29.6	
	comp=Z,2.5nm,0.7s							
SNAA	**Sanae**	**54.34**	**159**	P		**P**	**08 54 20.4**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=267,slow=12,SNR=9.9							
QSPA	**South Pole Qui**	**59.40**	**180**	P		**P**	**08 54 57.2**	**+0.5**
QSPA				IAmb		IAmb	08 55 22.0	
	comp=Z,3.4nm,1.4s							
DBIC	**Dimbokro**	**73.69**	**72**	P		**P**	**08 56 27.4**	**-1.1**
	comp=Z,4.8nm,0.9s,baz=226,slow=7.1,SNR=5.3							
TORD	**Torodi Ar. Bea**	**82.65**	**70**	P		**P**	**08 57 18.1**	**0.0**
	comp=Z,0.5nm,0.5s,baz=232,slow=1.1,SNR=12							
TORD	**Torodi Ar. Bea**	**82.65**	**70**	IAmb		IAmb	08 57 37.9	
	comp=Z,3.4nm,1.4s							
H11S2	**WAKE ISLAND Hyl**	**26.28**	**271**	T		T	11 22 45.6	
	baz=116,slow=75,SNR=69							
H11S1	**WAKE ISLAND Hyl**	**26.29**	**271**	T		T	11 22 46.6	
	baz=116,slow=75,SNR=79							
H11S3	**WAKE ISLAND Hyl**	**26.29**	**271**	T		T	11 22 46.9	
	baz=116,slow=75,SNR=68							
H11N3	**WAKE ISLAND Hyl**	**26.61**	**273**	T		T	11 23 11.6	
	baz=116,slow=75,SNR=13							
H11N1	**WAKE ISLAND Hyl**	**26.62**	**273**	T		T	11 23 12.0	
	baz=116,slow=75,SNR=6.2							
H11N2	**WAKE ISLAND Hyl**	**26.62**	**273**	T		T	11 23 13.6	
	baz=116,slow=75,SNR=20							

IDC ***26*** *08:45:56.7±1.7, 4.48S×153.47E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/38, mbtmp3.7/7, MS3.0/1, Ms1 3.0/1, ms1mx2.5/37, Error ellipse: s-maj=66.3km s-min=22.5km az=114.0*

ISC 26 08:46:07.6±1.5, 4.6S±0.2×153.4E±0.4, h85km, n9, σ0§63/8, mb3.7/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**8.12**	**127**	LR		LR	08 51 13.6	
	comp=Z,98nm,19.8s,baz=8.5,slow=39							
WRA	**Warramunga Arr**	**24.03**	**229**	P		**P**	**08 51 15.3**	**+0.5**
	2.8nm,0.5s,baz=52,slow=9.8,SNR=27							
ASAR	**Alice Springs**	**26.72**	**223**	P		**P**	**08 51 39.0**	**-0.2**
	0.2nm,0.7s,baz=54,slow=9.5,SNR=2.2							
STKA	**Stephens Creek**	**29.33**	**201**	P		**P**	**08 52 02.8**	**+0.4**
	0.8nm,0.9s,baz=18,slow=13,SNR=3.1							
FITZ	**Fitzroy Crossi**	**30.27**	**241**	P		**P**	**08 52 10.3**	**-0.5**
	0.8nm,0.4s,baz=68,slow=8.4,SNR=8.7							
KLR	**Kul'dur**	**56.79**	**343**	P		**P**	**08 55 43.8**	**+0.9**
	0.5nm,0.5s,baz=153,slow=6.8,SNR=2.3							
MKAR	**Makanchi Array**	**80.53**	**319**	P		**P**	**08 58 10.4**	**-0.2**
	0.8nm,0.8s,baz=96,slow=6.5,SNR=5.0							
ILAR	**Eielson Array**	**81.73**	**22**	P		**P**	**08 58 15.9**	**-0.6**
	0.3nm,0.8s,baz=236,slow=6.4,SNR=2.8							
TORD	**Torodi Ar. Bea**	**150.78**	**289**	PKPbc		**PKiKP**	**09 05 51.7**	**-0.1**
	1.7nm,0.6s,baz=58,slow=2.6,SNR=12							

MEX 26 08:46:18.2±0.6, 16.78N×99.64W, h5km±5km, MD3.7, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DAIG	**Los Arroyos**	**0.24**	**357**	*i* P		Pg	08 46 22.4	-0.5
DAIG				*i* S		Sg	08 46 26.1	+0.1
MGIG	**Malinaltepec**	**1.06**	**65**	*eP*		Pg	08 46 35.8	-2.8
MGIG				*eS*		Sg	08 46 49.6	-2.8
MEIG	**Mezcala**	**1.14**	**1**	*eP*		Pg	08 46 36.9	-3.1
MEIG				*eS*		Sg	08 46 51.4	-3.4
TLIG	**Tlapa**	**1.28**	**53**	*eP*		Pg	08 46 39.5	-3.4
TLIG				*eS*		Sg	08 46 55.7	-3.8
PNIG	**Pinotepa**	**1.50**	**105**	*eP*		Pn	08 46 41.1	-4.7
PNIG				*eS*		Sn	08 47 00.4	-5.4
PLIG	**Platanillo**	**1.61**	**5**	*i* P		Pn	08 46 43.6	-3.8
PLIG				*i* S		Sn	08 47 02.7	-5.8
FTIG	**Fresnillo de T**	**1.82**	**52**	*eP*		Pn	08 46 46.2	-4.2
FTIG				*eS*		Sn	08 47 09.6	-4.3
TXIG	**Tlaxiaco**	**1.85**	**75**	*eP*		Pn	08 46 48.3	-2.6
TXIG				*eS*		Sn	08 47 09.7	-5.1
YOIG	**Yosondua**	**2.01**	**88**	*eP*		Pn	08 46 50.0	-3.0
YOIG				*eS*		Sn	08 47 14.6	-4.1
HLIG	**Huajuapan de L**	**2.04**	**59**	ǁ *eP*		Pn	08 46 50.0	-3.4
HLIG				*eS*		Sn	08 47 15.0	-4.4

IDC ***26*** *08:47:51.4±6.2, 21.66N×142.98E, h286km±61km, mb3.3/9, mb1 3.5/9, mb1mx3.1/42, mbtmp3.9/9, Error ellipse: s-maj=37.2km s-min=12.1km az=91.0*

ISC 26 08:47:53.6±0.8, 21.6N±0.1×143.0E±0.2, h311km, n11, σ0§69/11, mb3.6/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSRS	**Korea Array**	**20.46**	**324**	P		**P**	**08 52 08.9**	**+0.5**
	0.7nm,0.5s,baz=148,slow=8.7,SNR=5.5							
WRA	**Warramunga Arr**	**42.16**	**192**	P		**P**	**08 55 16.9**	**+0.3**
	2.4nm,0.5s,baz=17,slow=8.8,SNR=52							
FITZ	**Fitzroy Crossi**	**42.97**	**205**	P		**P**	**08 55 23.4**	**+0.3**
	1.8nm,0.5s,baz=26,slow=9.3,SNR=7.6							
ASAR	**Alice Springs**	**45.87**	**192**	P		**P**	**08 55 46.0**	**+0.1**
	0.7nm,0.6s,baz=16,slow=10,SNR=14							
STKA	**Stephens Creek**	**53.21**	**181**	P		**P**	**08 56 40.1**	**-0.5**
	0.5nm,0.2s,baz=41,slow=8.5,SNR=4.3							
ILAR	**Eielson Array**	**62.20**	**27**	P		**P**	**08 57 41.5**	**-0.9**
	0.5nm,0.6s,baz=260,slow=5.6,SNR=12							
ARCES	**ARCESS Array B**	**78.94**	**341**	P		**P**	**08 59 22.9**	**+0.2**
	1.0nm,0.5s,baz=69,slow=7.9,SNR=8.2							
FINES	**FINESS Array B**	**83.17**	**334**	P		**P**	**08 59 44.1**	**-0.9**
	0.9nm,0.4s,baz=62,slow=4.6,SNR=13							
NVAR	**Mina Array Bea**	**83.34**	**51**	P		**P**	**08 59 47.9**	**+1.2**
	0.7nm,0.6s,baz=275,slow=5.4,SNR=8.9							
PLCA	**Paso Flores**	**145.85**	**132**	PKPbc		**PKPab**	**09 06 57.9**	**-0.1**
	2.4nm,0.7s,baz=235,slow=5.4,SNR=13							
LPAZ	**La Paz**	**150.14**	**85**	PKPbc		**PKiKP**	**09 07 10.1**	**0.0**
	1.2nm,0.5s,baz=357,slow=2.6,SNR=12							

NOU ***26*** *09:09:05.3, 19.22S×177.25W, h586km, mb4.6/46, Fiji Islands Region*

BGR ***26*** *09:09:05.1±0.0, 20.62S×178.13W, h585km*

NEIC ***26*** *09:09:06.6±1.9, 19.3S±0.1×177.5W±0.1, h567km±6km, mb4.5/47, Error ellipse: s-maj=17.1km s-min=14.8km az=151.0*

IDC ***26*** *09:09:08.2±1.3, 19.18S×177.65W, h587km±15km, mb3.5/16, mb1 3.7/19, mb1mx3.5/40, mbtmp4.5/19, Error ellipse: s-maj=15.5km s-min=10.1km az=156.0*

ISC 26 09:09:08.3±0.4, 19.23S±0.07×177.60W±0.06, h600km, n167, σ1§32/170, mb4.5/40, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**4.39**	**289**	P		**P**	**09 10 34.4**	**-2.3**
	23nm,0.3s,baz=152,slow=6.0,SNR=122							
MSVF	**Nonsavu**	**4.39**	**289**	P		**P**	**09 10 34.3**	**-2.4**
MSVF	**Nonsavu**	**4.39**	**289**	P		**P**	**09 10 34.6**	**-2.1**
NIUE	**Niue**	**7.25**	**90**	P		**P**	**09 10 57.0**	**-3.6**
AFI	**Afiamalu**	**7.69**	**47**	P		P	09 10 59.2	-5.7
	24nm,0.3s,baz=39,slow=0.5,SNR=53							
AFI	**Afiamalu**	**7.69**	**47**	P		P	09 10 59.1	-5.8
AFI	**Afiamalu**	**7.69**	**47**	P		P	09 10 58.9	-6.0
FUNA	**Funafuti**	**11.09**	**343**	P		**P**	**09 11 35.3**	**-2.7**
DVP	**Devils Point**	**13.57

PSA00	**Pilbara Seismi**	**58.33**	**256**	P	**P**	**09 18 07.5**	**0.0**
PSA00				IAmb	IAmb	09 18 08.4	
	comp=Z,26nm,0.8s						
PSA00	**Pilbara Seismi**	**58.33**	**256**	P	**P**	**09 18 07.1**	**-0.4**
PSA00				IAmb	IAmb	09 18 08.5	
	comp=Z,11nm,0.8s						
SBA	**Scott Base**	**59.16**	**184**	P	**P**	**09 18 14.8**	**+2.8**
VNDA	**Vanda**	**59.20**	**185**	P	**P**	**09 18 14.0**	**+1.6**
	comp=Z,2.7nm,0.8s,baz=359,slow=7.1,SNR=17						
VNDA	**Vanda**	**59.20**	**185**	P	**P**	**09 18 13.9**	**+1.6**
NWAO	**Narrogin (SRO)**	**59.28**	**243**	P	**P**	**09 18 13.7**	**-0.1**
	comp=Z,6.5nm,0.7s,baz=88,slow=5.8,SNR=5.9						
NWAO	**Narrogin (SRO)**	**59.28**	**243**	P	**P**	**09 18 14.0**	**+0.3**
MORW	**Morawa**	**60.66**	**247**	P	**P**	**09 18 23.1**	**+0.1**
MORW				IAmb	IAmb	09 18 32.6	
	comp=Z,57nm,1.8s						
CASY	**Casey**	**65.27**	**205**	P	**P**	**09 18 52.5**	**+0.9**
CASY				IAmb	IAmb	09 18 53.1	
	comp=Z,14nm,1.0s						
MJAR	**Matsushiro Arr**	**69.42**	**323**	P	**P**	**09 19 18.0**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=173,slow=4.3,SNR=5.9						
MAT	**Matsushiro**	**69.42**	**323**	P	**P**	**09 19 17.7**	**+0.2**
UGM	**Wanagama**	**70.37**	**268**	P	**P**	**09 19 24.4**	**+0.8**
QSPA	**South Pole Qui**	**70.83**	**180**	P	**P**	**09 19 26.7**	**+1.2**
QSPA				IAmb	IAmb	09 19 27.6	
	comp=Z,18nm,0.9s						
PETK	**Petropavlovsk-**	**75.15**	**345**	P	**P**	**09 19 50.6**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=97,slow=6.2,SNR=2.1						
NJ2	**Nanjing**	**79.37**	**309**	*e*P	**P**	**09 20 15.0**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
NVAR	**Mina Array Bea**	**79.85**	**43**	P	**P**	**09 20 17.1**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=225,slow=8.8,SNR=6.4						
NVAR	**Mina Array Bea**	**79.85**	**43**	P	**P**	**09 20 17.5**	**+1.5**
K05A	**Summer Lake**	**80.74**	**39**	P	**P**	**09 20 22.1**	**+1.7**
K05A				IAmb	IAmb	09 23 16.1	
	comp=Z,31nm,1.9s						
PINE	**Pine Mountain**	**81.35**	**38**	P	**P**	**09 20 25.6**	**+2.0**
PMSA	**Palmer Station**	**82.30**	**157**	P	**P**	**09 20 29.4**	**+1.6**
PMSA				IAmb	IAmb	09 21 46.7	
	comp=Z,44nm,1.8s						
I07A	**Izee**	**82.36**	**38**	P	**P**	**09 20 30.1**	**+1.5**
I07A				IAmb	IAmb	09 23 35.3	
	comp=Z,22nm,2.0s						
MAW	**Mawson**	**82.88**	**200**	P	**P**	**09 20 31.7**	**+1.0**
	comp=Z,3.9nm,0.7s,baz=138,slow=5.3,SNR=19						
MAW	**Mawson**	**82.88**	**200**	P	**P**	**09 20 31.9**	**+1.3**
L19K	**White Mountain**	**83.13**	**11**	P	**P**	**09 20 33.0**	**+1.2**
L19K				IAmb	IAmb	09 20 59.1	
	comp=Z,37nm,2.0s						
SUA	**Susitna One**	**83.24**	**13**	P	**P**	**09 20 33.0**	**+0.5**
SUA				IAmb	IAmb	09 23 40.6	
	comp=Z,34nm,1.4s						
PMR	**Palmer**	**83.70**	**13**	P	**P**	**09 20 35.0**	**+0.4**
PMR				IAmb	IAmb	09 23 34.7	
	comp=Z,33nm,1.6s						
SCM	**Sheep Creek Mo**	**84.32**	**14**	P	**P**	**09 20 38.5**	**+0.7**
TXAR	**Lajitas Array**	**86.06**	**57**	P	**P**	**09 20 49.0**	**+2.0**
	comp=Z,1.0nm,0.8s,baz=214,slow=6.2,SNR=12						
TXAR	**Lajitas Array**	**86.06**	**57**	P	**P**	**09 20 49.3**	**+2.3**
HDA	**Harding Lake**	**86.67**	**13**	P	**P**	**09 20 49.3**	**+0.5**
HDA				IAmb	IAmb	09 22 54.2	
	comp=Z,10nm,1.5s						
IMAR	**Indian Mountai**	**86.85**	**10**	P	**P**	**09 20 50.2**	**+0.5**
ILAR	**Eielson Array**	**87.00**	**13**	P	**P**	**09 20 50.2**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=232,slow=4.9,SNR=13						
ILAR	**Eielson Array**	**87.00**	**13**	P	**P**	**09 20 50.9**	**+0.5**
PDAR	**Pinedale Array**	**87.78**	**43**	P	**P**	**09 20 55.5**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=326,slow=4.4,SNR=2.7						
PDAR	**Pinedale Array**	**87.78**	**43**	P	**P**	**09 20 55.7**	**+0.8**
DAWY	**Dawson**	**88.14**	**16**	P	**P**	**09 20 57.0**	**+1.2**
DAWY				IAmb	IAmb	09 21 33.6	
	comp=Z,16nm,1.7s						
COLD	**Coldfoot**	**88.57**	**10**	P	**P**	**09 20 58.4**	**+0.7**
COLD				IAmb	IAmb	09 23 02.4	
	comp=Z,11nm,1.4s						
HHC	**Hu-ho-hao-te**	**88.74**	**314**	*e*P	P	09 21 05.3	+6.0
HHC				pmax	pmax		
	comp=Z,19nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,5.2s						
SNAA	**Sanae**	**89.26**	**178**	P	**P**	**09 21 01.4**	**+0.3**
SNAA	**Sanae**	**89.26**	**178**	P	**P**	**09 21 01.5**	**+0.3**
SNAA				IAmb	IAmb	09 21 02.0	
	comp=Z,3.8nm,0.8s						
VNA3	**Neumayer Olymp**	**89.38**	**176**	P	**P**	**09 21 02.1**	**+0.5**
VNA2	**Neumayer--Watz**	**89.83**	**177**	P	**P**	**09 21 04.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**90.05**	**289**	P	**P**	**09 21 08.2**	**+2.5**
	comp=Z,2.1nm,0.3s,baz=109,slow=1.8,SNR=7.6						
MKAR	**Makanchi Array**	**110.60**	**314**	PKiKP	**PKiKP**	**09 26 33.5**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=222,slow=0.7,SNR=7.3						
MKAR	**Makanchi Array**	**110.60**	**314**		**PKiKP**	**09 26 33.6**	**0.0**
KURBB	**Kurchatov Arra**	**113.37**	**318**	PKiKP	**PKiKP**	**09 26 38.5**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=94,slow=1.8,SNR=5.6						
KKAR	**Karatay Array**	**118.75**	**309**		**PKiKP**	**09 26 49.9**	**+0.4**
ARCES	**ARCESS Array B**	**127.74**	**350**	PKP	**PKiKP**	**09 27 06.3**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=66,slow=1.1,SNR=7.7						
AKASG	**Malin Array Be**	**142.08**	**332**	PKhKP	PKPpre	09 27 29.4	
	comp=Z,0.4nm,0.3s,baz=40,slow=4.6,SNR=4.4						
GAZ	**Gaziantep**	**144.75**	**308**		**PKPab**	**09 27 38.8**	**-0.8**
BSEG	**Bad Segeberg**	**144.82**	**352**	*e*PKPbc	**PKiKP**	**09 27 39.8**	**-1.8**
	baz=16,slow=2.5						
BNN	**Bunyan**	**145.10**	**311**		**PKPab**	**09 27 40.2**	**-0.8**
BUR08	**Bucovina Ar. S**	**146.12**	**332**		**PKPab**	**09 27 43.8**	**-0.8**
FLTG	**Flechtingen**	**146.25**	**350**	*e*PKPbc	**PKPab**	**09 27 43.2**	**-1.7**
	baz=16,slow=2.5						
BR131	**Keskin Array S**	**146.25**	**314**		**PKPbc**	**09 27 41.2**	**-1.8**
BR131				PKPbc	**PKiKP**	**09 27 43.8**	**-1.4**
BRTR	**Keskin Array B**	**146.25**	**314**	PKPbc	**PKiKP**	**09 27 43.8**	**-1.5**
	comp=Z,2.3nm,0.6s,baz=137,slow=4.9,SNR=16						
BRTR	**Keskin Array B**	**146.25**	**314**		**PKiKP**	**09 27 43.9**	**-1.4**
CLZ	**Clausthal**	**146.86**	**351**	*e*PKPbc	**PKiKP**	**09 27 44.8**	**-1.2**
	baz=16,slow=2.5						
OSTC	**Ostas**	**146.87**	**344**	*e*PKP	**PKPab**	**09 27 45.5**	**-2.0**
CLL	**Collm**	**146.91**	**348**	*e*PKPab	**PKPab**	**09 27 48.0**	**+0.4**
	comp=Z,4.0nm,0.9s						
CLL	**Collm**	**146.91**	**348**		**PKiKP**	**09 27 45.1**	**-1.0**
CLL	**Collm**	**146.91**	**348**	*e*PKPbc	**PKiKP**	**09 27 44.9**	**-1.1**
	baz=16,slow=2.5						
CLL	**Collm**	**146.91**	**348**	⇓ *i*PKPbc	**PKiKP**	**09 27 45.0**	**-1.0**
	comp=Z,7.0nm,0.9s						
DPC	**Dobruska-Polom**	**147.03**	**344**	*e*PKP	**PKPab**	**09 27 46.0**	**-2.1**
BRG	**Berggiesshubel**	**147.12**	**346**	*e*PKPbc	**PKPab**	**09 27 45.9**	**-2.5**
	baz=16,slow=2.5						
BRG	**Berggiesshubel**	**147.12**	**346**	*e*PKP	**PKPab**	**09 27 46.0**	**-2.5**
BRG				Amp		09 27 47.7	
	comp=Z,4.4nm,0.9s						
KRLC	**Kraliky**	**147.15**	**343**	*e*PKP	**PKPab**	**09 27 46.2**	**-2.5**
GTTG	**Gottingen**	**147.21**	**351**	*e*PKPbc	**PKPab**	**09 27 46.2**	**-2.5**
	baz=16,slow=2.5						
FBE	**Freiberg**	**147.21**	**347**	*e*PKPbc	**PKPab**	**09 27 46.5**	**-2.3**
	baz=16,slow=2.5						
MDUB	**Mudurnu**	**147.50**	**317**	PKPdf	**PKPbc**	**09 27 43.1**	**-3.2**
MDUB					**PKiKP**	**09 27 47.2**	**-0.6**
PRU	**Pruhonice**	**147.81**	**345**	*e*PKP	**PKiKP**	**09 27 47.6**	**-0.4**
PLN	**Plauen**	**147.86**	**348**	*e*PKPbc	**PKiKP**	**09 27 47.8**	**-0.2**
	baz=16,slow=2.5						
TANN	**Tannenbergstha**	**147.87**	**348**	*e*PKPbc	**PKiKP**	**09 27 47.7**	**-0.4**
	baz=16,slow=2.5						
WERD	**Werda**	**147.87**	**348**	*e*PKPbc	**PKiKP**	**09 27 47.8**	**-0.3**
	baz=16,slow=2.5						
GUNZ	**Gunzen**	**147.94**	**348**	*e*PKPbc	**PKiKP**	**09 27 47.9**	**-0.4**
	baz=16,slow=2.5						
GUNZ				*ep*PKPbc	**pPKPbc**	**09 30 01.9**	**-1.2**
MANZ	**Manzenberg**	**148.35**	**348**	*e*PKPbc	**PKiKP**	**09 27 49.2**	**+0.1**
	baz=16,slow=2.5						
MODS	**Modra-Piesok**	**148.53**	**341**	*e*PKP	**PKiKP**	**09 27 49.2**	**-0.3**
ROTZ	**Rotzenmuhle**	**148.54**	**348**	*e*PKPbc	**PKiKP**	**09 27 49.2**	**-0.2**
	baz=16,slow=2.5						
TNS	**Taunus Mts**	**148.70**	**353**	*e*PKPbc	**PKiKP**	**09 27 50.1**	**+0.2**
	baz=16,slow=2.5						
GRF	**Grafenberg Arr**	**148.80**	**349**	*e*PKPbc	**PKiKP**	**09 27 50.1**	**0.0**
	baz=16,slow=2.5						
KHC	**Kasperske Hory**	**148.84**	**346**	*e*PKP	**PKiKP**	**09 27 50.1**	**-0.1**
CKRC	**Cesky Krumlov**	**148.95**	**345**	*e*PKP	**PKiKP**	**09 27 50.5**	**+0.1**
MILB	**Miltenberg**	**148.98**	**351**	*e*PKPbc	**PKiKP**	**09 27 50.4**	**0.0**
	baz=16,slow=2.5						
GEC2	**GERESS Array S**	**149.08**	**345**	PKPdf	**PKPdf**	**09 27 44.8**	**-0.2**
GEC2					**PKiKP**	**09 27 50.6**	**-0.1**
GEC2	**GERESS Array S**	**149.08**	**345**	*e*PKPbc	**PKiKP**	**09 27 50.5**	**-0.2**
	baz=16,slow=2.5						
GERES	**GERESS Array B**	**149.08**	**345**	PKPbc	**PKiKP**	**09 27 50.7**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=29,slow=3.0,SNR=16						
GERES	**GERESS Array B**	**149.08**	**345**		**PKiKP**	**09 27 51.0**	**+0.3**
ISP	**Isparta**	**149.30**	**313**	PKPbc	**PKiKP**	**09 27 50.9**	**-0.7**
CONA	**Conrad Observa**	**149.35**	**342**	*i* P	**PKiKP**	**09 27 52.0**	**+0.7**
	comp=Z,3.7nm,0.7s						
WLF	**Walferdange**	**149.49**	**355**	*e*PKPbc	**PKiKP**	**09 27 52.1**	**+0.6**
	baz=16,slow=2.5						
MOA	**Molln**	**149.86**	**344**	*i* P	**PKiKP**	**09 27 52.6**	**+0.3**
	comp=Z,2.7nm,0.7s						
STU	**Stuttgart**	**150.02**	**351**	*e*PKPbc	**PKiKP**	**09 27 53.3**	**+0.7**
	baz=16,slow=2.5						
ARSA	**Arzberg**	**150.06**	**342**	*i* P	**PKiKP**	**09 27 52.9**	**+0.1**
	comp=Z,3.5nm,0.8s						
FUR	**Furstenfeldbru**	**150.25**	**348**	*e*PKPbc	**PKiKP**	**09 27 53.7**	**+0.6**
	baz=16,slow=2.5						
RJOB	**Jochberg**	**150.33**	**346**	*e*PKPbc	**PKiKP**	**09 27 53.3**	**0.0**
	baz=16,slow=2.5						
BFO	**Black Forest**	**150.57**	**352**	*e*PKPbc	**PKiKP**	**09 27 54.2**	**+0.5**
	baz=16,slow=2.5						
SOKA	**Soboth**	**150.72**	**342**	*i* P	**PKiKP**	**09 27 54.3**	**+0.1**
	comp=Z,4.2nm,1.0s						
KBA	**Koelnbreinsper**	**150.81**	**345**	*i* P	**PKiKP**	**09 27 54.3**	**-0.1**
	comp=Z,3.5nm,0.6s						
UBR	**Ueberruh**	**150.93**	**349**	*e*PKPbc	**PKiKP**	**09 27 55.1**	**+0.5**
	baz=16,slow=2.5						
WATA	**Walderalm**	**150.98**	**347**	*i* P	**PKiKP**	**09 27 55.1**	**+0.3**
	comp=Z,4.8nm,0.7s						
WTTA	**Wattenberg**	**151.03**	**347**	*i* P	**PKiKP**	**09 27 55.5**	**+0.6**
	comp=Z,7.6nm,0.6s						
MOTA	**Moosalm**	**151.07**	**348**	*i* P	**PKiKP**	**09 27 55.3**	**+0.3**
	comp=Z,4.8nm,0.8s						
MYKA	**Terra Mystica**	**151.15**	**344**	*i* P	**PKiKP**	**09 27 54.8**	**-0.2**
	comp=Z,3.1nm,0.5s						
SQTA	**Sankt Quirin**	**151.17**	**348**	*i* P	**PKiKP**	**09 27 55.7**	**+0.5**
	comp=Z,5.8nm,0.6s						
ABTA	**Abfaltersbach**	**151.32**	**345**	*i* P	**PKiKP**	**09 27 55.5**	**0.0**
	comp=Z,6.9nm,0.6s						
FETA	**Feichten**	**151.45**	**348**	*i* P	**PKiKP**	**09 27 56.6**	**+0.8**
	comp=Z,3.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**173.91**	**173**	PKP	**PKPdf**	**09 28 09.4**	**-1.3**
	comp=Z,0.7nm,0.8s,baz=336,slow=1.8,SNR=4.5						
TORD				PKPab	**PKPab**	**09 29 46.1**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=203,slow=2.1,SNR=3.4						

*IDC **26** 09:15:19.4±2.6, 4.27S×137.81E, h150km±27km, mb3.3/5, mb1 3.6/9, mb1mx3.3/41, mbtmp3.9/9, Error ellipse: s-maj=40.5km s-min=12.3km az=97.0*

ISC 26 09:15:19.2±0.8, 4.3S±0.1×137.9E±0.1, h150km, n9, σ1°14/11, mb3.5/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.32**	**59**	P		**Pn**	**09 16 11.2**	**+0.5**
	1.0nm,0.3s,baz=240,slow=14,SNR=3.9							
JAY				S		**Sn**	**09 16 49.3**	**-1.3**
	4.3nm,0.3s,baz=336,slow=20,SNR=4.5							
WRA	**Warramunga Arr**	**15.97**	**192**	P		**P**	**09 18 56.0**	**-0.2**
	2.4nm,0.3s,baz=14,slow=12,SNR=56							
FITZ	**Fitzroy Crossi**	**18.23**	**220**	P		**P**	**09 19 18.8**	**-2.3**
	0.1nm,0.3s,baz=40,slow=14,SNR=1.5							
ASAR	**Alice Springs**	**19.67**	**191**	P		**P**	**09 19 38.0**	**+1.2**
	1.9nm,0.3s,baz=17,slow=9.8,SNR=68							
ASAR				S		**S**	**09 23 10.7**	**+0.1**
	0.2nm,0.3s,baz=11,slow=20,SNR=19							
STKA	**Stephens Creek**	**27.70**	**173**	P		**P**	**09 20 53.0**	**-0.4**
	0.9nm,0.5s,baz=330,slow=6.8,SNR=4.7							
KLR	**Kul'dur**	**53.53**	**355**	P		**P**	**09 24 24.9**	**+0.6**
	1.1nm,0.7s,baz=240,slow=8.1,SNR=3.0							
MKAR	**Makanchi Array**	**70.50**	**323**	P		**P**	**09 26 17.9**	**+0.2**
	0.4nm,0.5s,baz=106,slow=8.9,SNR=5.5							
VNDA	**Vanda**	**74.33**	**175**	P		**P**	**09 26 40.5**	**+0.8**
	0.5nm,0.6s,baz=310,slow=8.8,SNR=3.6							
ILAR	**Eielson Array**	**87.58**	**25**	P		**P**	**09 27 49.5**	**-0.5**
	0.2nm,0.6s,baz=258,slow=4.5,SNR=3.3							

LJU 26 09:25:45.8, 45.77N×15.29E, h9km, ML0.2, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CRES	**Cresnjev**	**0.13**	**66**	*i* Pg		Pg	09 25 48.9	+0.2
CRES				*i* Sg		Sg	09 25 51.0	+0.2
CRES				IAML			09 25 51.4	
	comp=Z,6.9nm,0.1s							
LEGS	**Legarje**	**0.18**	**7**	*i* Pg		Pg	09 25 49.4	-0.1
BOJS	**Bojanci**	**0.27**	**185**	*i* Pg		Pg	09 25 51.2	0.0
BOJS				IAML			09 25 57.3	
	comp=Z,0.6nm,0.1s							
VISS	**Visnje**	**0.31**	**276**	*i* Pg		Pg	09 25 52.2	+0.2

*SJA **26** 09:37:50.0, 31.37S×71.76W, h10km, ML4.7*

*IDC **26** 09:37:52.7±0.8, 31.42S×71.36W, h42km±6km, mb4.0/7, mb1 4.1/12, mb1mx4.0/28, mbtmp4.2/12, ML3.9/5, MS3.1/4, Ms1 3.1/4, ms1mx2.9/19, Error ellipse: s-maj=19.6km s-min=18.7km az=105.0*

*GUC **26** 09:37:52.7±0.8, 31.36S×71.41W, h46km±5km, ML4.3*

*NEIC **26** 09:37:53.6, 31.40S×71.48W, h50km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.45; $M_{\theta\theta}$0.61; $M_{\phi\phi}$-3.06; $M_{r\theta}$0.24; $M_{r\phi}$0.18; $M_{\theta\phi}$-1.35; Fault plane solution: $M_0$3.13000×10^{15} NP1:$\phi_0$2.53000°, δ32.13000°, λ98.18000°. NP2:$\phi_0$172.89000°, δ58.24000°, λ84.89000°. Principal axes: T 2.7828, Plg76.0000°, Azm68.0000°; N 0.6010, Plg4.0000°, Azm176.0000°; P -3.3837, Plg13.0000°, Azm267.0000°;*

*NEIC **26** 09:37:53.7±1.0, 31.40S±0.04×71.48W±0.06, h45km±5km, mb4.6/56, Mwr4.3/30, ML4.3(GUC) Error ellipse: s-maj=7.0km s-min=5.6km az=87.0*

ISC 26 09:37:52.5±0.6, 31.39S±0.03×71.56W±0.04, h40km±6km, n167, σ1°39/172, mb4.6/33, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.52**	**69**	⇓ *i*P		**Pn**	**09 38 03.7**	**+0.1**
CO02				*i* S		**Sn**	**09 38 11.1**	**-0.3**
CO02	**Combarbal**	**0.52**	**69**			**Pn**	**09 38 03.8**	**+0.1**
CO02						**Sn**	**09 38 11.5**	**+0.1**
CO02	**Combarbal**	**0.52**	**69**	*i* P		**Pn**	**09 38 03.0**	**-0.6**
CO06	**Fray Jorge**	**0.72**	**355**	⇑ *i*P		**Pn**	**09 38 07.2**	**+1.0**
CO06				*i* S		**Sn**	**09 38 17.8**	**+1.7**
CO06				IAML			09 38 22.3	
	comp=E,10μm,0.2s							
CO06	**Fray Jorge**	**0.72**	**355**			**Pn**	**09 38 07.3**	**+1.0**
CO06						**Sn**	**09 38 17.9**	**+1.7**
CO03	**El Pedregal**	**0.93**	**54**	⇓ *i*P		**Pn**	**09 38 09.3**	**+0.1**
CO03				*i* S		**Sn**	**09 38 21.1**	**-0.3**
CO03				IAML			09 38 23.2	
	comp=E,18μm,0.1s							
CO03	**El Pedregal**	**0.93**	**54**			**Pn**	**09 38 09.3**	**+0.1**
CO03						**Sn**	**09 38 21.3**	**-0.1**
CO03	**El Pedregal**	**0.93**	**54**	*i* P		**Pn**	**09 38 09.0**	**-0.2**
VA06	**Catapilco**	**1.19**	**169**	*e*P		**Pn**	**09 38 13.2**	**+0.5**
VA06				*i* S		**Sn**	**09 38 28.8**	**+1.2**
VA06				IAML			09 38 33.7	
	comp=E,8μm,0.3s							
GO04	**Tololo Observa**	**1.38**	**28**	*e*P		**Pn**	**09 38 16.3**	**+0.7**
GO04				*i* S		**Sn**	**09 38 33.0**	**+0.2**
GO04	**Tololo Observa**	**1.38**	**28**			**Pn**	**09 38 16.4**	**+0.9**
GO04	**Tololo Observa**	**1.38**	**28**	*i* P		**Pn**	**09 38 16.0**	**+0.4**
CO05	**La Serena**	**1.50**	**11**	*e*P		**Pn**	**09 38 18.2**	**+1.3**
CO05				*i* S		**Sn**	**09 38 37.5**	**+2.3**
CO05				IAML			09 38 42.2	
	comp=N,5μm,0.3s							
CO05	**La Serena**	**1.50**	**11**	Pn		**Pn**	**09 38 18.2**	**+1.3**
VA03	**San Esteban**	**1.61**	**148**	⇓ *i*P		**Pn**	**09 38 19.0**	**+0.4**
VA03				*i* S		**Sn**	**09 38 40.2**	**+1.9**
VA03	**San Esteban**	**1.61**	**148**	Pn		**Pn**	**09 38 19.0**	**+0.4**
VA03	**San Esteban**	**1.61**	**148**	*i* P		**Pn**	**09 38 19.0**	**+0.4**
VA01	**Torpederas**	**1.63**	**183**	*e*P		**Pn**	**09 38 19.6**	**+0.9**
VA01				IAML			09 38 45.3	
	comp=E,3μm,0.7s							
VA01	**Torpederas**	**1.63**	**183**			**Pn**	**09 38 19.6**	**+0.9**
VA01	**Torpederas**	**1.63**	**183**	*i* P		**Pn**	**09 38 19.0**	**+0.3**
ROCH	**El Roble**	**1.64**	**164**	*e*P		**Pn**	**09 38 19.9**	**+0.7**
ROCH				*i* S		**Sn**	**09 38 40.9**	**+1.8**
ROCH				IAML			09 38 45.1	
	comp=E,4μm,0.4s							
RTLS	**Leoncito**	**1.97**	**102**	*i* P		**Pn**	**09 38 26.0**	**+2.2**
AUSP	**Uspallata**	**2.03**	**115**	*i* P		**Pn**	**09 38 27.0**	**+2.5**
MT05	**Renca**	**2.11**	**161**	*e*P		**Pn**	**09 38 26.6**	**+1.1**
MT05				*i* S		**Sn**	**09 38 54.8**	**+4.3**
MT05				IAML			09 38 58.0	
	comp=E,5μm,0.2s							
MT05	**Renca**	**2.11**	**161**			**Pn**	**09 38 26.5**	**+1.1**
MT05	**Renca**	**2.11**	**161**	*i* P		**Pn**	**09 38 26.0**	**+0.6**
AROD	**Rodeo**	**2.17**	**56**	*i* P		**Pn**	**09 38 29.0**	**+2.5**
VA05	**Santo Domingo**	**2.26**	**181**	*e*P		**Pn**	**09 38 28.0**	**+0.6**
VA05				IAML			09 39 10.6	
	comp=E,2μm,0.1s							
VA05	**Santo Domingo**	**2.26**	**181**			**Pn**	**09 38 28.3**	**+0.9**
ACCO	**Cerro Coronel**	**2.29**	**70**	*i* P		**Pn**	**09 38 31.0**	**+2.9**
MT09	**Talagante**	**2.42**	**169**	⇑ *i*P		**Pn**	**09 38 31.3**	**+1.5**
MT09				IAML			09 39 15.7	
	comp=N,2μm,0.1s							
MT09	**Talagante**	**2.42**	**169**			**Pn**	**09 38 31.2**	**+1.5**
ACDV	**Cuesta del Vie**	**2.43**	**61**	*i* P		**Pn**	**09 38 33.0**	**+3.1**
ZON	**Zonda**	**2.47**	**94**	*i* P		**Pn**	**09 38 33.0**	**+2.7**
MT01	**Popeta**	**2.48**	**174**	IAML			09 39 09.1	
	comp=E,1μm,0.4s							
MT01	**Popeta**	**2.48**	**174**			**Pn**	**09 38 31.2**	**+0.8**
MT01	**Popeta**	**2.48**	**174**	*i* P		**Pn**	**09 38 31.0**	**+0.6**
LCO	**Las Campanas**	**2.49**	**18**	*e*P		**Pn**	**09 38 32.1**	**+1.3**
LCO				*i* S		**Sn**	**09 39 02.4**	**+2.4**
LCO	**Las Campanas**	**2.49**	**18**	Pn		**Pn**	**09 38 32.5**	**+1.7**
LCO	**Las Campanas**	**2.49**	**18**	*i* P		**Pn**	**09 38 32.0**	**+1.2**
ASAL	**Salagasta**	**2.61**	**118**	*i* P		**Pn**	**09 38 35.0**	**+2.8**
RTCV	**Cerro Valdivia**	**2.62**	**101**	*i* P		**Pn**	**09 38 35.0**	**+2.6**
ARCO	**CERRO ARCO**	**2.66**	**124**	*i* P		**Pn**	**09 38 37.0**	**+4.0**
LMEL	**Las Melosas**	**2.70**	**155**	*e*P		**Pn**	**09 38 35.8**	**+2.1**
LMEL				*i* S		**Sn**	**09 39 09.7**	**+4.5**
LMEL				IAML			09 39 17.1	
	comp=N,3μm,0.3s							
AAGR	**Agrelo**	**2.87**	**127**	*i* P		**Pn**	**09 38 39.0**	**+3.2**
BO01	**Tunca**	**3.02**	**173**	Pn		**Pn**	**09 38 38.6**	**+0.8**
BO01	**Tunca**	**3.02**	**173**	*i* P		**Pn**	**09 38 39.0**	**+1.2**
AC04	**Llanos de Chal**	**3.21**	**8**	Pn		**Pn**	**09 38 41.5**	**+1.0**
AC04	**Llanos de Chal**	**3.21**	**8**	*i* P		**Pn**	**09 38 41.0**	**+0.6**
AGUA	**GUANDACOL**	**3.26**	**55**	*i* P		**Pn**	**09 38 45.0**	**+3.7**
BO02	**Sierra Bellavi**	**3.45**	**169**			**Pn**	**09 38 44.6**	**+0.7**
BO02	**Sierra Bellavi**	**3.45**	**169**	*i* P		**Pn**	**09 38 45.0**	**+1.1**
AVFE	**Valle Fertil**	**3.60**	**79**	*i* P		**Pn**	**09 38 47.0**	**+1.1**
GO05	**Huala**	**3.62**	**185**	Pn		**Pn**	**09 38 46.1**	**0.0**
GO05	**Huala**	**3.62**	**185**	*i* P		**Pn**	**09 38 46.0**	**-0.1**
VCA	**Vinchina**	**3.93**	**49**	*i* P		**Pn**	**09 38 54.0**	**+3.4**
GO03	**Copiap**	**3.96**	**17**	Pn		**Pn**	**09 38 52.0**	**+1.1**
GO03	**Copiap**	**3.96**	**17**	*i* P		**Pn**	**09 38 52.0**	**+1.1**
COIS	**El Sosneado**	**4.05**	**157**	*i* P		**Pn**	**09 38 55.0**	**+2.9**
ACHE	**Chepes**	**4.20**	**88**	*i* P		**Pn**	**09 38 55.0**	**+0.8**
RFA	**San Rafael**	**4.25**	**143**	*i* P		**Pn**	**09 38 56.0**	**+1.1**
ML02	**Panimavida**	**4.36**	**178**			**Pn**	**09 38 56.8**	**+0.6**
ACLC	**CERRO LA CRUZ**	**4.44

CCM					IAmb	IAmb	09 49 10.1		
	comp=Z,6.1nm,0.8s								
S39A	**Bolivar**	**71.67**	**342**	P	**P**	**09 49 10.5**	**+0.4**		
R40A	**Maddies Statio**	**71.97**	**343**	P	**P**	**09 49 12.2**	**+0.5**		
N49A	**Columbus Grove**	**72.89**	**350**	P	**P**	**09 49 17.2**	**-0.1**		
N49A					IAmb	IAmb	09 49 17.8		
	comp=Z,6.3nm,0.7s								
N47A	**Urbana**	**73.09**	**349**	P	**P**	**09 49 17.8**	**-0.6**		
LIC	**Lamto**	**73.58**	**72**	*e*P	**P**	**09 49 20.4**	**-1.5**		
	comp=Z,39nm,1.2s								
TIC	**Toumodi**	**73.82**	**72**	*e*P	**P**	**09 49 22.1**	**-1.3**		
KIC	**Kosan Boka**	**73.89**	**72**	*e*P	**P**	**09 49 22.5**	**-1.3**		
	comp=Z,15nm,0.7s								
DBIC	**Dimbokro**	**73.97**	**72**	P	**P**	**09 49 23.6**	**-0.6**		
	comp=Z,4.4nm,0.5s,baz=248,slow=5.8,SNR=10								
DBIC					LR	LR	10 18 54.4		
	comp=Z,29nm,21.0s,baz=188,slow=33								
DBIC	**Dimbokro**	**73.97**	**72**	P	**P**	**09 49 23.6**	**-0.6**		
DBIC					IAmb	IAmb	09 49 42.8		
	comp=Z,9.1nm,1.0s								
MAW	**Mawson**	**75.56**	**164**	P	**P**	**09 49 32.8**	**+0.3**		
	comp=Z,2.0nm,0.6s,baz=226,slow=11,SNR=7.9								
MAW	**Mawson**	**75.56**	**164**	P	**P**	**09 49 33.0**	**+0.5**		
SDCO	**Great Sand Dun**	**75.73**	**333**	P	**P**	**09 49 35.2**	**+0.9**		
SMCO	**Snowmass**	**77.55**	**333**	P	**P**	**09 49 46.8**	**+2.2**		
I37A	**Lemond, Waseca**	**77.66**	**344**	P	**P**	**09 49 45.2**	**+0.7**		
I37A					IAmb	IAmb	09 49 46.6		
	comp=Z,5.7nm,0.8s								
ECSD	**EROS Data Cent**	**78.20**	**342**	P	**P**	**09 49 48.1**	**+0.5**		
ECSD					IAmb	IAmb	09 49 48.7		
	comp=Z,6.6nm,0.8s								
KOWA	**Kowa**	**79.20**	**66**	P	**P**	**09 49 53.3**	**-0.4**		
KOWA					IAmb	IAmb	09 49 54.0		
	comp=Z,5.5nm,0.7s								
D41A	**Chassel**	**79.58**	**348**	P	**P**	**09 49 55.8**	**+0.7**		
PDAR	**Pinedale Array**	**81.63**	**333**	P	**P**	**09 50 06.8**	**+0.3**		
	comp=Z,0.4nm,0.6s,baz=146,slow=6.2,SNR=4.5								
PDAR	**Pinedale Array**	**81.63**	**333**	P	**P**	**09 50 07.0**	**+0.5**		
B35A	**Bob, Littlefor**	**81.84**	**345**	P	**P**	**09 50 07.2**	**+0.1**		
B35A					IAmb	IAmb	09 50 10.6		
	comp=Z,5.9nm,1.3s								
NVAR	**Mina Array Bea**	**81.99**	**325**	P	**P**	**09 50 09.7**	**+1.2**		
	comp=Z,0.6nm,0.7s,baz=170,slow=6.2,SNR=6.7								
NVAR	**Mina Array Bea**	**81.99**	**325**	P	**P**	**09 50 09.9**	**+1.4**		
AGMN	**Agassiz Nation**	**82.27**	**344**	P	**P**	**09 50 09.7**	**+0.4**		
AGMN					IAmb	IAmb	09 50 34.2		
	comp=Z,7.3nm,1.3s								
CASY	**Casey**	**82.63**	**181**	P	**P**	**09 50 12.1**	**+0.9**		
CASY					IAmb	IAmb	09 50 13.0		
	comp=Z,4.6nm,1.0s								
TORD	**Torodi Ar. Bea**	**82.94**	**70**	P	**P**	**09 50 13.1**	**-0.6**		
	comp=Z,5.3nm,0.8s,baz=264,slow=4.8,SNR=30								
TORD					pP		**pP**	**09 50 26.1**	**0.0**
	comp=Z,2.2nm,0.8s,baz=263,slow=3.8,SNR=5.9								
MOD	**Modoc Plateau**	**85.64**	**326**	P	**P**	**09 50 28.6**	**+1.7**		
MOD					IAmb	IAmb	09 50 29.5		
	comp=Z,5.4nm,1.4s								
PLID	**Pearl Lake**	**86.18**	**330**	P	**P**	**09 50 30.3**	**+0.7**		
K05A	**Summer Lake**	**86.55**	**326**	P	**P**	**09 50 33.3**	**+1.8**		
K05A					IAmb	IAmb	09 50 33.8		
	comp=Z,5.7nm,1.0s								
PINE	**Pine Mountain**	**87.38**	**327**	P	**P**	**09 50 37.2**	**+1.7**		
PINE					IAmb	IAmb	09 50 41.4		
	comp=Z,4.2nm,1.2s								
H04A	**Detroit Lake**	**88.64**	**327**	P	**P**	**09 50 42.2**	**+0.9**		
ASAR	**Alice Springs**	**120.07**	**207**	PKP	**PKPdf**	**09 56 37.2**	**-2.3**		
	comp=Z,0.2nm,0.6s,baz=146,slow=2.1,SNR=1.5								
AKASG	**Malin Array Be**	**120.12**	**46**	PKP	**PKPdf**	**09 56 36.9**	**-1.6**		
	comp=Z,0.2nm,0.2s,baz=250,slow=2.8,SNR=1.9								
BRTR	**Keskin Array B**	**120.19**	**59**	PKP	**PKPdf**	**09 56 38.7**	**-0.6**		
	comp=Z,0.5nm,0.8s,baz=159,slow=1.2,SNR=3.2								
WRA	**Warramunga Arr**	**123.23**	**209**	PKP	**PKPdf**	**09 56 45.0**	**-0.7**		
	comp=Z,0.5nm,0.4s,baz=158,slow=1.7,SNR=17								
WRA					pPKP		**pPKPdf**	**09 56 58.2**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=151,slow=1.8,SNR=2.5								
H11S2	**WAKE ISLAND Hyl**	**126.18**	**271**	T	T	12 15 40.3			
	baz=116,slow=75,SNR=79								
H11S1	**WAKE ISLAND Hyl**	**126.19**	**271**	T	T	12 15 41.6			
	baz=116,slow=75,SNR=97								
H11S3	**WAKE ISLAND Hyl**	**126.19**	**271**	T	T	12 15 41.4			
	baz=116,slow=75,SNR=68								
H11N3	**WAKE ISLAND Hyl**	**126.52**	**272**	T	T	12 16 05.5			
	baz=116,slow=75,SNR=49								
H11N1	**WAKE ISLAND Hyl**	**126.54**	**272**	T	T	12 16 09.8			
	baz=116,slow=75,SNR=24								
H11N2	**WAKE ISLAND Hyl**	**126.54**	**272**	T	T	12 16 06.8			
	baz=116,slow=75,SNR=69								
ZALV	**Zalesovo Beam**	**151.79**	**30**	PKPbc	**PKPbc**	**09 57 41.0**	**-1.4**		
	comp=Z,15nm,0.5s,baz=316,slow=3.8,SNR=11								

*IDC **26** 09:37:58.4±2.0, 11°.52S×116°.17E, h0km, mb3.3/2, mb1 3.6/5, mb1mx3.4/42, mbtmp3.5/5, ML3.7/3, MS3.4/1, Ms1 3.3/1, ms1mx2.4/17, Error ellipse: s-maj=64.7km s-min=23.6km az=50.0*

*DJA **26** 09:38:03.7±0.7, 11°.S±.6°×11°.7E±.°, h10km, M4.1/12, mb3.9/3, mB5.4/1, MLv4.1/12, Mw(mB)4.8/1*

ISC 26 09:38:01.3±1.3, 11°.3S±0°.1×116°.48E±0°.06, h10km, n22, σ1§29/23, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**2.54**	**9**	P	**Pn**	**09 38 43.0**	**+0.4**
PLAI	**Plampang**	**2.73**	**28**	P	**Pn**	**09 38 45.4**	**+0.1**
DNP	**Denpasar**	**2.85**	**334**	P	**Pn**	**09 38 47.4**	**+0.4**
KHKI	**Kahang-Kahang**	**3.00**	**343**	P	**Pn**	**09 38 49.5**	**+0.5**
KHKI				S	**Sn**	**09 39 24.8**	**-0.3**
WBSI	**Waikabubak, Su**	**3.28**	**61**	P	**Pn**	**09 38 53.0**	**+0.1**
WBSI				S	**Sn**	**09 39 30.7**	**-1.4**
SRBI	**Singaraja**	**3.39**	**338**	P	**Pn**	**09 38 55.0**	**+0.6**
SRBI				S	**Sn**	**09 39 34.6**	**-0.1**
JAGI	**Jajag, Banyuwa**	**3.60**	**320**	P	**Pn**	**09 38 58.1**	**+0.9**
JAGI				S	**Sn**	**09 39 36.8**	**-3.0**
BYJI	**Banyuwangi**	**3.68**	**325**	P	**Pn**	**09 38 58.9**	**+0.6**
ABJI	**Asem Bagus**	**4.09**	**327**	P	**Pn**	**09 39 04.6**	**+0.6**
GMJI	**Gumukmas**	**4.21**	**314**	P	**Pn**	**09 39 06.8**	**+1.1**
LBFI	**Labuhan Bajo,**	**4.35**	**51**	P	**Pn**	**09 39 07.8**	**+0.3**
PWJI	**Pagerwojo**	**5.62**	**304**	P	**Pn**	**09 39 27.1**	**+2.0**
	0.2nm31nm,1.6s						
EDFI	**Ende, Flores**	**5.70**	**65**	P	**Pn**	**09 39 26.3**	**0.0**
	0.0nm3.6nm,1.4s						
SJI	**Sawahan**	**5.82**	**307**	P	**Pn**	**09 39 28.9**	**+1.0**
BKSI	**Bulukumba**	**6.91**	**32**	P	**Pn**	**09 39 45.1**	**+2.3**
KAPI	**Kappang**	**7.00**	**28**	Pn	**Pn**	**09 39 46.5**	**+2.6**
	1.6nm,0.3s,baz=234,slow=14,SNR=2.3						
TNG	**Tangerang**	**10.96**	**297**	P	Pn	09 40 32.4	-5.9
FITZ	**Fitzroy Crossi**	**11.16**	**129**	Pn	Pn	09 40 38.7	-2.4
	0.5nm,0.3s,baz=299,slow=6.7,SNR=19						
FITZ				Sn	Sn	09 42 34.1	-12
	0.8nm,0.3s,baz=11,slow=22,SNR=8.4						
WRA	**Warramunga Arr**	**19.23**	**119**	P	**P**	**09 42 26.7**	**+0.8**
	0.1nm,0.3s,baz=289,slow=14,SNR=12						
WRA				S	Sn	09 45 48.8	-14
	0.1nm,0.3s,baz=291,slow=23,SNR=2.7						
ASAR	**Alice Springs**	**20.67**	**129**	P	**P**	**09 42 41.3**	**-0.3**
	0.4nm,0.8s,baz=300,slow=9.7,SNR=5.0						
ASAR				S	S	09 46 22.1	-11
	0.8nm,0.6s,baz=306,slow=23,SNR=5.6						
STKA	**Stephens Creek**	**30.95**	**135**	LR	LR	09 57 57.3	
	comp=Z,67nm,21.2s,baz=14,slow=39						
MKAR	**Makanchi Array**	**65.38**	**335**	P	**P**	**09 48 43.5**	**-0.6**
	0.5nm,0.4s,baz=149,slow=6.2,SNR=9.2						

*IDC **26** 09:39:05.7±1.3, 2°.33S×133°.75E, h0km, mb4.2/3, mb1 4.6/5, mb1mx3.9/38, mbtmp4.3/5, ML4.0/2, MS3.0/5, Ms1 3.0/5, ms1mx2.7/34, Error ellipse: s-maj=39.9km s-min=22.8km az=64.0*

*DJA **26** 09:39:09.3±1.7, 2°.S±.5°×13°.4E±.°, h15km±15km, M4.4/7, mb4.5/4, mB5.6/2, MLv4.4/7, Mw(mB)5.1/2*

ISC 26 09:39:10.5±0.9, 2°.44S±0°.08×133°.62E±0°.05, h35km, n23, σ1§17/24, mb4.0/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.45**	**251**	P	**Pn**	**09 39 34.0**	**-0.3**
FAKI				S	**Sn**	**09 39 52.5**	**+0.3**
FAKI	**Fak Fak**	**1.45**	**251**	P	**Pn**	**09 39 33.8**	**-0.5**
SRPI	**Serui, Papua**	**2.67**	**78**	P	**Pn**	**09 39 53.5**	**+2.4**
SRPI				S	**Sn**	**09 40 21.4**	**-0.9**
BAKI	**Biak**	**2.77**	**63**	P	**Pn**	**09 39 53.8**	**+1.3**
SIJI	**Sorong**	**2.83**	**303**	Pn	**Pn**	**09 39 52.2**	**-1.0**
	27nm,0.3s,baz=254,slow=22,SNR=29						
SIJI				Sn	**Sn**	**09 40 27.9**	**+1.8**
	29nm,0.3s,baz=97,slow=14,SNR=3.8						
SIJI				LR	LR	09 41 23.6	
	comp=Z,441nm,21.5s,baz=12,slow=48						
SIJI	**Sorong**	**2.83**	**303**	P	**Pn**	**09 39 52.7**	**-0.5**
SIJI	**Sorong**	**2.83**	**303**	P	**Pn**	**09 39 52.7**	**-0.5**
SWI	**Sorong**	**2.83**	**303**	P	**Pn**	**09 39 53.3**	**-0.1**
SWI	**Sorong**	**2.83**	**303**	P	**Pn**	**09 39 53.2**	**-0.1**
BNDI	**Bandanaira**	**4.25**	**241**	P	**Pn**	**09 40 12.7**	**-0.1**
BNDI				S	**Sn**	**09 41 02.4**	**+1.2**
MSAI	**Masohi**	**4.78**	**259**	P	**Pn**	**09 40 19.7**	**-0.3**
SMPI	**Sarmi**	**5.10**	**85**	P	**Pn**	**09 40 26.4**	**+1.9**
	0.5nm8µm21nm,1.0s						
KRAI	**Karang Ratu**	**5.29**	**260**	P	**Pn**	**09 40 26.7**	**-0.5**
	0.4nm4µm33nm,0.6s						
JAY	**Jayapura**	**7.07**	**91**	LR	LR	09 44 10.2	
	comp=Z,146nm,20.4s,baz=328,slow=44						
SANI	**Sanana**	**7.64**	**273**	P	**Pn**	**09 40 58.9**	**-0.5**
	0.1nm32nm,1.0s						
SANI	**Sanana**	**7.64**	**273**	P	**Pn**	**09 40 59.1**	**-0.3**
KAPI	**Kappang**	**14.08**	**259**	LR	LR	09 48 56.7	
	comp=Z,48nm,18.8s,baz=125,slow=42						
WRA	**Warramunga Arr**	**17.41**	**178**	P	**P**	**09 43 10.3**	**-1.5**
	0.6nm,0.3s,baz=357,slow=12,SNR=29						
WRA				LR	LR	09 50 19.9	
	comp=Z,54nm,21.8s,baz=310,slow=38						
FITZ	**Fitzroy Crossi**	**17.42**	**206**	LR	LR	09 51 14.9	
	comp=Z,44nm,18.6s,baz=28,slow=42						
ASAR	**Alice Springs**	**21.10**	**179**	P	**P**	**09 43 53.9**	**+1.6**
	41nm,0.9s,baz=5.7,slow=12,SNR=142						
PMBI	**Palembang**	**28.82**	**268**	P	**P**	**09 45 04.3**	**-1.5**
MKAR	**Makanchi Array**	**66.54**	**324**	P	**P**	**09 49 58.3**	**+1.3**
	0.7nm,0.5s,baz=107,slow=8.4,SNR=11						
ILAR	**Eielson Array**	**87.71**	**25**	P	**P**	**09 51 54.6**	**-0.8**
	0.4nm,0.6s,baz=270,slow=4.6,SNR=7.4						

NOU 26 09:48:34.2, 19°.29S×175°.36W, h0km, mb4.5/9, Tonga Islands, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**15.45**	**273**	P	Pn	09 52 13.3	-0.3
	725µm,1.1s						

*BGR **26** 09:49:40.7±0.0, 41°.74N×141°.91E, h33km, mb4.5*

*BJI **26** 09:49:42.4±0.0, 42°.16N×142°.36E, h90km, mB4.8/33, mb5.0/62*

*JMA **26** 09:49:46.4±0.1, 42°.21N×141°.96E, h94km±2km, M4.5 Broadband fault plane solution: P waves. NP1: φs86.00000°, δ46.00000°, λ-163.00000°. NP2: φs344.00000°, δ78.00000°, λ-46.00000°. Principal axes: T Plg20.0000°, Azm42.0000°; N Plg43.0000°, Azm152.0000°; P Plg40.0000°, Azm294.0000°;*

JMA Felt II J1.

*NIED **26** 09:49:46.5, 42°.21N×141°.96E, h94km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr-3.13; Mθθ3.75; Mφφ-0.62; Mrθ2.48; Mθφ-4.81; Mφr-5.59; Fault plane solution: M08.44000×10^15 NP1: φs335.00000°, δ76.00000°, λ-57.00000°. NP2: φs84.00000°, δ36.00000°, λ-156.00000°.*

*MOS **26** 09:49:46.4±0.9, 42°.22N×141°.97E, h93km, mb4.9/40 Error ellipse: s-maj=6.0km s-min=4.6km az=113.1*

*SKHL **26** 09:49:47.9±0.8, 42°.20N×142°.10E, h101km±6km, mb5.7/6, mbv5.2/2, msh5.5/2, msha6.5/4*

*NEIC **26** 09:49:47.4±1.1, 42°.23N±0°.06×142°.0E±0°.1, h86km±2km, mb5.0/390, Error ellipse: s-maj=12.7km s-min=7.1km az=117.0*

*IDC **26** 09:49:47.4±1.3, 42°.26N×142°.00E, h86km±10km, mb4.3/24, mb1 4.5/30, mb1mx4.4/36, mbtmp4.7/30, MS3.3/19, Ms1 3.3/19, ms1mx3.1/40, Error ellipse: s-maj=12.3km s-min=10.3km az=120.0*

*GCMT **26** 09:49:48.4±0.3, 42°.34N±0°.03×142°.01E±0°.03, h68km±4km, MW4.7/77, Moment Tensor Solution. s8,c9; s77,c92; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.41±.13; Mθθ1.03±.10; Mφφ-0.62±.11; Mrθ0.10±.06; Mθφ-0.63±.07; Mφr-1.24±.05; Best double couple: M0 1.62500×10^16 NP1: φs73.00000°, δ45.00000°, λ-163.00000°. NP2: φs331.00000°, δ78.00000°, λ-47.00000°. Principal axes: T 1.4320, Plg21.0000°, Azm30.0000°; N 0.3820, Plg42.0000°, Azm140.0000°; P -1.8180, Plg41.0000°, Azm281.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 09:49:46.7±0.5, 42°.23N±0°.03×142°.01E±0°.03, h85km±4km, n842, σ1§34/717, mb4.9/287, 159C-102D, Fault plane solution: NP1: φs76.39683°, δ19.35718°, λ-176.61848°. NP2: φs343.20606°, δ88.87975°, λ-70.67402°. Principal axes: T Plg40.7916°, Azm55.2015°; N Plg19.3221°, Azm162.8132°; P Plg42.9186°, Azm271.8416°; Fault plane solution: NP1: φs314.44568°, δ79.38148°, λ-25.89758°. NP2: φs49.55814°, δ64.57784°, λ-168.22757°. Principal axes: T Plg9.9770°, Azm4.2152°; N Plg62.1498°, Azm113.6625°; P Plg25.7120°, Azm269.3561°; Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSHD	**Hidakashinhida**	**0.38**	**61**	↓P	**Pn**	**09 50 01.2**	**+1.1**
JSHD				*e*S	**Sn**	**09 50 12.9**	**+2.9**
JIAM	**Iburiatsuma**	**0.40**	**350**	↓P	**Pn**	**09 50 01.3**	**+1.1**
JIAM				*e*S	**Sn**	**09 50 12.0**	**+1.8**
JNBK	**Urakawa-nobuka**	**0.55**	**84**	↓P	**Pn**	**09 50 02.2**	**+0.8**
JNBK				*e*S	**Sn**	**09 50 14.1**	**+1.8**
JBT2	**Biratori 2**	**0.61**	**25**	↓P	**Pn**	**09 50 02.7**	**+0.7**
JBT2				*e*S	**Sn**	**09 50 14.7**	**+1.4**
JEW	**Eniwo**	**0.74**	**326**	↑P	**Pn**	**09 50 03.8**	**+0.6**
JEW				*e*S	**Sn**	**09 50 15.9**	**+0.4**
JEW	**Eniwo**	**0.74**	**326**	Pn	**Pn**	**09 50 04.0**	**+0.8**
JNB	**Noboribetsu**	**0.76**	**289**	↑P	**Pn**	**09 50 03.2**	**-0.2**
JNB				*e*S	**Sn**	**09 50 15.6**	**-0.3**
JKB	**Kayabe**	**0.80**	**246**	↑P	**Pn**	**09 50 04.0**	**+0.1**
JKB				*e*S	**Sn**	**09 50 16.7**	**+0.1**
ERM	**Erimo**	**0.88**	**103**	PN	**Pn**	**09 50 06.1**	**+1.5**
ERM	**Erimo**	**0.88**	**103**		**Pn**	**09 50 06.1**	**+1.5**
JEM	**Erimo**	**0.88**	**103**	↓P	**Pn**	**09 50 06.0**	**+1.3**
JEM				*e*S	**Sn**	**09 50 20.3**	**+2.2**
JFR	**Furan**	**1.03**	**24**	↑P	**Pn**	**09 50 07.0**	**+0.5**
JFR				*e*S	**Sn**	**09 50 21.8**	**+0.5**
JCH	**Churui**	**1.07**	**68**	↓P	**Pn**	**09 50 08.1**	**+1.2**
JCH				*e*S	**Sn**	**09 50 23.5**	**+1.4**
JOT	**Ohata**	**1.11**	**221**	↑P	**Pn**	**09 50 07.6**	**+0.2**
JOT				*e*S	**Sn**	**09 50 23.0**	**+0.2**
JISS	**Ishikarishitsu**	**1.14**	**338**	P	**Pn**	**09 50 08.4**	**+0.7**
JISS				*e*S	**Sn**	**09 50 24.4**	**+0.9**
JYM2	**Yakumo 2**	**1.23**	**266**	↑P	**Pn**	**09 50 09.0**	**+0.2**
JYM2				*e*S	**Sn**	**09 50 25.5**	**+0.1**
JAB	**Ashibetsu**	**1.29**	**7**	↑P	**Pn**	**09 50 11.1**	**+1.5**
JAB				*e*S	**Sn**	**09 50 29.4**	**+2.6**
JHR	**Hokuryu**	**1.53**	**352**	↑P	**Pn**	**09 50 14.0**	**+1.4**
JHR				*e*S	**Sn**	**09 50 34.2**	**+2.0**
JSK	**Shakotan**	**1.60**	**315**	↓P	**Pn**	**09 50 14.1**	**+0.7**
JTM	**Tenmabayashi**	**1.60**	**207**	Pn	**Pn**	**09 50 14.0**	**+0.5**
JOMM	**Oshimamatsumae**	**1.65**	**246**	↑P	**Pn**	**09 50 15.0**	**+0.8**
JAR	**Ashorobuto**	**1.68**	**50**	↑P	**Pn**	**09 50 15.3**	**+0.8**
JAR				*e*S	**Sn**	**09 50 36.8**	**+1.1**
JKK2	**Kamakawa 2**	**1.73**	**18**	↑P	**Pn**	**09 50 16.5**	**+1.2**
JKK2				*e*S	**Sn**	**09 50 38.6**	**+1.7**
JANG	**Nango**	**1.89**	**192**	↑P	**Pn**	**09 50 17.1**	**-0.2**
JANG				*e*S	**Sn**	**09 50 39.5**	**-1.0**
JOSM	**Okushiri--Mats**	**1.89**	**267**	↑P	**Pn**	**09 50 17.7**	**+0.4**
JOSM				*e*S	**Sn**	**09 50 41.2**	**+0.6**
ASAJ	**Asahikawa**	**1.94**	**13**	P	**Pn**	**09 50 19.1**	**+1.2**
	402nm,0.3s,baz=223,slow=13,SNR=1851						
ASAJ				S	**Sn**	**09 50 44.0**	**+2.3**
	201nm,0.3s,baz=351,slow=32,SNR=9.3						
JKA	**Kamikawa-asahi**	**1.94**	**13**	Pn	**Pn**	**09 50 19.1**	**+1.2**
AKK	**Akkeshi**	**2.23**	**68**	*e*P	**Pn**	**09 50 22.0**	**+0.2**
AKK				*e*S	**Sn**	**09 50 46.9**	**-1.8**
NMR	**Nemuro--Hokkai**	**2.96**	**66**	*e*PN	**Pn**	**09 50 31.3**	**-0.3**
NMR				*e*S	**Sn**	**09 51 02.7**	**-3.5**
NMR	**Nemuro--Hokkai**	**2.96**	**66**	*e*P	**Pn**	**09 50 31.0**	**-0.6**
NMR				*e*S	**Sn**	**09 51 03.3**	**-2.9**
RUSJ	**Misakicho**	**3.02**	**50**	↑*i*PN	**Pn**	**09 50 34.0**	**+1.6**
RUSJ				*e*S	**Sn**	**09 51 06.3**	**-1.3**
GRPR	**Tuman**	**3.27**	**56**	↑*i*PN	**Pn**	**09 50 36.6**	**+0.8**
GRPR				*e*S	**Sn**	**09 51 13.2**	**-0.4**
GRPR				pmax	pmax		
	comp=N,481nm,0.4s						
GRPR				pmax	pmax		
	comp=Z,2µm,0.4s						
GRPR				smax	smax		
	comp=N,2µm,0.2s						
GRPR				smax	smax		
	comp=E,7µm,0.3s						
GRPR	**Tuman**	**3.27**	**56**	*i* P	**Pn**	**09 50 36.8**	**+1.0**
GRPR				AMB	AMB	09 50 37.0	
	comp=E,2µm,0.4s						
GRPR				*e*S	**Sn**	**09 51 13.2**	**-0.4**
GRPR				A	A	09 51 21.0	
	comp=E,2µm,0.4s						
GRPR				A	A	09 51 21.0	
	comp=E,7µm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.35**	**56**	*c i* PN	**Pn**	**09 50 38.0**	**+1.2**
YUK				*i* S	**Sn**	**09 51 15.2**	**-0.3**
YUK				pmax	pmax		
	comp=Z,2µm,0.3s						
YUK				pmax	pmax		
	comp=N,228nm,0.2s						
YUK				pmax	pmax		
	comp=E,294nm,0.3s						
YUK				smax	smax		
	comp=E,7µm,0.3s						
YUK				smax	smax		
	comp=N,7µm,0.7s						
YUK	**Yuzh-Kuril'sk**	**3.35**	**56**	*i* P	**Pn**	**09 50 38.0**	**+1.2**
YUK				AMB	AMB	09 50 39.0	
	comp=N,2µm,0.4s						
YUK				*i* S	**Sn**	**09 51 15.2**	**-0.3**
YUK				A	A	09 51 20.0	
	comp=N,7µm,0.7s						
YUK				A	A	09 51 20.0	
	comp=N,7µm,0.7s						
JMM	**Marumori**	**4.45**	**193**		**Pn**	**09 50 51.1**	**-0.8**
YSS	**Yuzh-Sakhalins**	**4.76**	**6**	↑*i* PN	**Pn**	**09 50 57.8**	**+1.9**
YSS				*e*S	**Sn**	**09 51 50.1**	**+0.4**
YSS				pmax	pmax		
	comp=Z,390nm,0.6s						
YSS				smax	smax		
	comp=E,120nm,1.0s						
YSS	**Yuzh-Sakhalins**	**4.76**	**6**	Pn	**Pn**	**09 50 57.7**	**+1.7**
YSS	**Yuzh-Sakhalins**	**4.76**	**6**	*i* P	**Pn**	**09 50 57.8**	**+1.9**
YSS				AMB	AMB	09 50 58.9	
	comp=E,390nm,0.6s						
YSS				*e*S	**Sn**	**09 51 50.1**	**+0.4**
YSS				A	A	09 51 53.0	
	comp=E,120nm,1.0s						
YSS				A	A	09 51 53.0	
	comp=E,120nm,1.0s						
TEY	**Ternei**	**4.83**	**307**	↓*e* PN	**Pn**	**09 50 57.8**	**+0.9**
TEY				*e*		09 51 50.2	
TEY				pmax	pmax		
	comp=N,140nm,1.5s						
TEY				pmax	pmax		
	comp=E,80nm,1.5s						
TEY				pmax	pmax		
	comp=Z,100nm,1.5s						
TEY				pmax	pmax		
	comp=E,200nm,1.9s						
TEY				pmax	pmax		
	comp=N,100nm,1.8s						
TEY				pmax	pmax		
	comp=Z,200nm,1.8s						
TEY	**Ternei**	**4.83**	**307**	*e*P	**Pn**	**09 50 58.2**	**+1.3**
TEY				AMB	AMB	09 50 58.6	
	comp=Z,100nm,0.5s						
TEY				AMB	AMB	09 50 58.8	
	comp=Z,200nm,2.0s						
JSD	**Sado**	**5.08**	**216**	Pn	**Pn**	**09 51 01.5**	**+1.2**
KUR	**Kuril'sk**	**5.20**	**53**	*c i* PN	**Pn**	**09 51 03.2**	**+1.3**
KUR				*e*S	**Sn**	**09 52 02.4**	**+1.9**
KUR				pmax	pmax		
	comp=N,105nm,0.3s						
KUR				pmax	pmax		
	comp=E,148nm,0.3s						
KUR				pmax	pmax		
	comp=Z,550nm,0.3s						
KUR				smax	smax		
	comp=N,411nm,0.4s						
KUR				smax	smax		
	comp=E,796nm,0.4s						
KUR				smax	smax		
	comp=N,2µm,1.8s						
KUR				smax	smax		
	comp=E,1µm,2.0s						
KUR	**Kuril'sk**	**5.20**	**53**	*i* P	**Pn**	**09 51 03.5**	**+1.6**
KUR				AMB	AMB	09 51 04.0	
	comp=E,550nm,0.3s						
KUR				*e*S	**Sn**	**09 52 01.1**	**+0.6**
KUR				A	A	09 52 08.0	
	comp=E,411nm,0.4s						
KUR				A	A	09 52 08.0	
	comp=E,796nm,0.4s						
KUR				A	A	09 52 23.0	
	comp=E,2µm,2.0s						
KUR				A	A	09 52 23.0	
	comp=E,1µm,2.0s						
JYT	**Yasato**	**6.15**	**194**		**Pn**	**09 51 12.6**	**-2.4**
MAJO	**Matsushiro**	**6.39**	**209**	*d i* PN	**Pn**	**09 51 19.8**	**+1.5**
MAJO	**Matsushiro**	**6.39**	**209**		**Pn**	**09 51 19.8**	**+1.5**
MAT	**Matsushiro**	**6.39**	**209**	P	**Pn**	**09 51 19.2**	**+0.9**
MAT				*e*S	**Sn**	**09 52 30.3**	**+0.5

KLR Kul'dur 10.02 318 P **Pn 09 52 09.1 +1.5**
comp=E,1.2nm,0.3s,baz=120,slow=16,SNR=29
KLR LR LR 09 56 22.0
comp=E,148nm,18.8s,baz=136,slow=40
KLR Kul'dur 10.02 318 *ce*PN **Pn 09 52 09.4 +1.8**
KLR pmax pmax
comp=Z,35nm,0.9s
KLR Kul'dur 10.02 318 *e*P **Pn 09 52 09.4 +1.8**
JMN Monobe 10.63 220 Pn **Pn 09 52 16.0 -0.1**
IMWB Imwonan-gil 10.95 247 P Pn 09 52 27.3 +6.9
SNR=6.9
IMWB Imwonan-gil 10.95 247 P Pn 09 52 27.3 +6.9
SNR=6.9
UJN ULJIN 11.03 246 P Pn 09 52 27.5 +6.1
SNR=8.1
UJN ULJIN 11.03 246 P Pn 09 52 27.5 +6.1
SNR=8.1
KSULJ Uljin 11.19 245 P Pn 09 52 30.0 +6.3
SNR=16
KSULJ Uljin 11.19 245 P Pn 09 52 30.0 +6.3
SNR=16
SEHB SEOHWA 11.23 254 P Pn 09 52 29.0 +4.8
SNR=11
SEHB SEOHWA 11.23 254 P Pn 09 52 29.0 +4.8
SNR=11
KSTBA Taebaek 11.28 247 P Pn 09 52 30.1 +5.3
SNR=7.6
KSTBA Taebaek 11.28 247 P Pn 09 52 30.1 +5.3
SNR=7.6
KSIJA INJE 11.46 253 P Pn 09 52 31.6 +4.3
SNR=8.1
KSIJA INJE 11.46 253 P Pn 09 52 31.6 +4.3
SNR=8.1
KSPHA Pohang 11.50 243 P Pn 09 52 35.0 +7.1
SNR=14
KSPHA Pohang 11.50 243 P Pn 09 52 35.0 +7.1
SNR=14
KSYOW Yeongwol 11.59 249 P Pn 09 52 34.6 +5.5
SNR=7.4
KSYOW Yeongwol 11.59 249 P Pn 09 52 33.9 +4.8
SNR=14
KSADO Andong 11.66 244 P Pn 09 52 37.0 +7.0
SNR=12
KSADO Andong 11.66 244 P Pn 09 52 37.0 +7.0
SNR=12
HWCB Hwacheon 11.67 255 P Pn 09 52 35.0 +4.9
SNR=9.9
HWCB Hwacheon 11.67 255 P Pn 09 52 35.0 +4.9
SNR=9.9
KSRS Korea Array 11.83 251 P **Pn 09 52 34.1 +1.8**
comp=Z,0.5nm,0.3s,baz=62,slow=12,SNR=47
KSRS S Sn 09 54 50.0 +7.7
comp=Z,0.7nm,0.3s,baz=66,slow=23,SNR=14
KSRS LR LR 09 57 05.6
comp=Z,71nm,18.8s,baz=62,slow=37
KS19 Wonju Array Si 11.85 251 Pn 09 52 34.0 +1.5
KSAR Wonju Array Be 11.86 251 PN **Pn 09 52 33.7 +1.0**
KSAR Wonju Array Be 11.86 251 Pn **Pn 09 52 33.7 +1.0**
KSEUS ULSEONG 11.87 245 P Pn 09 52 40.0 +7.2
SNR=14
KSEUS ULSEONG 11.87 245 P Pn 09 52 40.0 +7.2
SNR=14
KSYOC YEONGCHEON 11.91 243 P Pn 09 52 40.9 +7.5
SNR=17
KSYOC YEONGCHEON 11.91 243 P Pn 09 52 40.9 +7.5
SNR=17
KSUSN Ulsan 11.95 241 P Pn 09 52 41.7 +7.7
SNR=15
KSUSN Ulsan 11.95 241 P Pn 09 52 41.7 +7.7
SNR=15
KSDAG Daegu 12.06 242 P **P 09 52 43.0 -1.8**
SNR=15
KSDAG Daegu 12.06 242 P **P 09 52 43.0 -1.8**
SNR=15
KSMGY Mungyeong 12.13 247 P **P 09 52 42.6 -2.9**
SNR=7.1
KSMGY Mungyeong 12.13 247 P **P 09 52 42.6 -2.9**
SNR=7.1
CN2 Changchun 12.23 283 *e*P **Pn 09 52 39.3 +1.7**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,200nm,13.0s
CN2 LR LR
comp=Z,200nm,13.0s
CN2 LR LR
comp=Z,300nm,12.0s
KSCPR CHUPUNGNYEONG 12.42 246 P **P 09 52 46.6 -2.2**
SNR=9.8
EKMR Ekimchan 12.44 334 *e*P **Pn 09 52 42.0 +1.6**
EKMR AMB AMB 09 53 02.5
comp=Z,11nm,0.7s
KSMAS Masan 12.63 241 P **P 09 52 50.6 -0.5**
SNR=24
JNU Nakatsue 12.65 228 P **Pn 09 52 43.7 +0.3**
comp=Z,0.7nm,0.3s,baz=42,slow=15,SNR=3.0
EURB Uiryeong-eup 12.73 242 P **P 09 52 53.0 +0.9**
SNR=17
TJN Taejon 12.75 248 *ce*PN **Pn 09 52 46.2 +1.5**
SKR Severo-Kuril's 12.87 44 *e*PN **Pn 09 52 43.0 -3.2**
SKR *e*S **Sn 09 55 08.8 +1.4**
SKR pmax pmax
comp=Z,127nm,1.0s
SKR MLR MLR
comp=Z,200nm,15.0s
SKR Severo-Kuril's 12.87 44 *e*P **Pn 09 52 45.6 -0.6**
SKR AMB AMB 09 52 46.6
comp=Z,127nm,0.6s
HAMB Hamyang 12.97 244 P **P 09 52 55.0 +0.1**
SNR=6.2
KSNAH Namhae 13.27 241 P **P 09 53 00.2 +2.0**
SNR=7.0
PEA0B Petropavlovsk- 15.13 39 *ce*P **Pn 09 53 13.5 -2.1**
PEA0B Petropavlovsk- 15.13 39 Pn **Pn 09 53 13.0 -2.6**
PEA0B IAmb IAmb 09 53 16.1
comp=Z,56nm,0.6s
PETK Petropavlovsk- 15.13 39 P **Pn 09 53 12.5 -3.1**
comp=Z,6.9nm,0.3s,baz=218,slow=9.4,SNR=104
PETK LR LR 09 59 01.2
comp=Z,142nm,21.9s,baz=223,slow=37
PETK Petropavlovsk- 15.13 39 P **Pn 09 53 12.6 -3.0**
PETK Petropavlovsk- 15.13 39 Pn **Pn 09 53 12.6 -3.0**
ZEA Zeya 15.14 325 *e*P **P 09 53 17.0 -1.8**
ZEA pmax pmax
comp=E,10.0nm,1.0s
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,30nm,0.8s
ZEA MLR MLR
comp=E,100nm,11.0s
ZEA MLR MLR
comp=N,100nm,14.0s
ZEA MLR MLR
comp=Z,100nm,13.0s
ZEA Zeya 15.14 325 *e*P **P 09 53 17.0 -1.8**
ZEA AMB AMB 09 53 19.8
comp=Z,30nm,0.9s
PET Petropavlovsk 15.53 40 *e*P **Pn 09 53 14.3 -6.3**
PET *e*S **Sn 09 56 02.4 -9.4**
PET pmax pmax
comp=Z,78nm,0.6s
PET MLR MLR
comp=Z,200nm,18.0s
PET Petropavlovsk 15.53 40 **Pn 09 53 19.0 -1.6**
PET IAmb IAmb 09 53 22.6
comp=Z,40nm,0.6s
PET Petropavlovsk 15.53 40 *e*P **Pn 09 53 14.3 -6.3**
PET AMB AMB 09 53 22.3
comp=Z,80nm,0.6s
KROS Kirovskiy 15.74 326 *e*P **Pn 09 53 22.2 -1.1**
KROS AMB AMB 09 53 24.2
comp=Z,4.0nm,0.5s
HIA Hailar 17.03 302 P **Pn 09 53 38.1 -1.2**
HIA pmax pmax
comp=Z,26nm,1.2s
HIA Hailar 17.03 302 Pn **Pn 09 53 38.1 -1.2**
MA2 Magadan 18.20 14 P **P 09 53 51.1 -1.4**
comp=Z,3.5nm,0.3s,baz=199,slow=9.7,SNR=24
MA2 Magadan 18.20 14 *ce*P **P 09 53 50.9 -1.7**
MA2 pmax pmax
comp=Z,159nm,1.3s
MA2 Magadan 18.20 14 P **P 09 53 50.9 -1.7**
BJI Beijing 19.56 272 P **P 09 54 06.3 -1.3**
BJI PP **PnPn 09 54 27.5 +1.2**
BJI pmax pmax
comp=Z,54nm,1.0s

BJT Baijiatuau 19.57 272 P **P 09 54 06.1 -1.6**
BJT pmax pmax
comp=Z,40nm,0.9s
BJT Baijiatuau 19.57 272 P **P 09 54 06.1 -1.6**
TIA Tai'an 20.16 261 P **P 09 54 12.3 -1.8**
TIA pmax pmax
comp=Z,36nm,0.8s
YAK Yakutsk 21.16 344 P **P 09 54 24.9 +0.3**
comp=Z,9.3nm,0.3s,baz=120,slow=1.7,SNR=5.7
YAK Yakutsk 21.16 344 *e*P **P 09 54 21.4 -3.2**
YAK *e*S **S 09 58 07.9 -7.0**
YAK *e**SS sS 09 58 53.5 +11
YAK pmax pmax
comp=Z,14nm,0.8s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK smax smax
comp=E,144nm,1.7s
YAK smax smax
comp=N,138nm,1.6s
YAK Yakutsk 21.16 344 P **P 09 54 22.5 -2.1**
YAK IAmb IAmb 09 54 34.3
comp=Z,33nm,0.8s
SEY Seymchan 21.62 13 P **P 09 54 27.2 -2.3**
comp=Z,31nm,0.7s,baz=198,slow=7.5,SNR=84
HHC Hu-ho-hao-te 22.78 277 *e*P **P 09 54 40.0 -2.1**
HHC pmax pmax
comp=Z,19nm,1.0s
HHC pmax pmax
comp=Z,90nm,5.9s
BOD Bodaibo 23.57 321 *e*P **P 09 54 45.1 -4.2**
BOD pmax pmax
comp=Z,6.0nm,0.9s
SMY Shemya 23.91 53 P **P 09 54 52.6 +0.3**
SMY pmax pmax
comp=Z,91nm,1.3s
SMY Shemya 23.91 53 P **P 09 54 52.6 +0.3**
SMY IAmb IAmb 09 54 53.5
comp=Z,91nm,1.3s
BTO Baotou 23.98 277 *e*P **P 09 54 52.0 -1.3**
TATO Taipei 24.15 231 P **P 09 54 55.5 +0.7**
YHNB Yeheng 24.45 231 P **P 09 54 56.8 -0.8**
YHNB IAmb IAmb 09 55 09.7
comp=Z,47nm,1.1s
WHN Wuhan 25.02 251 ⇑P **P 09 55 01.5 -1.2**
WHN pmax pmax
comp=Z,52nm,1.0s
ULN Ulaanbaatar 25.19 295 P **P 09 55 04.6 +0.3**
ULN pmax pmax
comp=Z,16nm,1.0s
ULN Ulaanbaatar 25.19 295 P **P 09 55 04.6 +0.3**
ULN Ulaanbaatar 25.19 295 P **P 09 55 04.1 -0.2**
comp=Z,75nm,0.9s
ULN Ulaanbaatar 25.19 295 *e*P **P 09 55 04.3 0.0**
SONM Songino Array 25.63 295 P **P 09 55 07.8 -0.5**
comp=Z,16nm,0.7s,baz=88,slow=8.8,SNR=56
SONM ScP **ScP 10 02 08.8 +0.5**
comp=Z,2.0nm,0.8s,baz=119,slow=3.3,SNR=7.0
SONM LR LR 10 05 56.1
comp=Z,79nm,18.4s,baz=87,slow=38
SONM Songino Array 25.63 295 P **P 09 55 07.7 -0.6**
XAN Xi'an 27.15 263 P **P 09 55 22.5 +0.5**
XAN pmax pmax
comp=Z,22nm,1.1s
XAN pmax pmax
comp=Z,75nm,3.4s
IRK Irkutsk 27.23 305 *e*P **P 09 55 21.6 -0.8**
IRK pmax pmax
comp=Z,34nm,1.4s
ZAK Zakamensk 27.71 301 *e*P **P 09 55 26.2 -0.7**
ZAK pmax pmax
comp=Z,14nm,1.1s
ENH Enshi 28.64 256 P **P 09 55 33.4 -1.9**
ENH IAmb IAmb 09 55 38.6
comp=Z,17nm,0.7s
BILL Bilibino 28.94 19 *e*P **P 09 55 39.8 +2.3**
BILL pmax pmax
comp=Z,7.0nm,0.9s
BILL Bilibino 28.94 19 *e*P **P 09 55 39.8 +2.3**
LZH Lanzhou 30.04 271 ⇑P **P 09 55 48.8 +1.0**
LZH pP pP 09 56 08.8 +1.5
LZH sP sP 09 56 16.8 -0.3
LZH pmax pmax
comp=Z,33nm,1.1s
TIXI Tiksi 30.21 352 *i*P **P 09 55 49.6 +1.0**
TIXI Tiksi 30.21 352 *e*P **P 09 55 49.6 +1.0**
H11N2 WAKE ISLAND Hy 30.75 129 T T 10 27 43.1
baz=326,slow=75,SNR=178
H11N1 WAKE ISLAND Hy 30.76 129 T T 10 27 47.8
baz=326,slow=75,SNR=136
H11N3 WAKE ISLAND Hy 30.77 129 T T 10 27 44.4
baz=326,slow=75,SNR=112
H11S1 WAKE ISLAND Hy 31.61 131 T T 10 28 54.2
baz=328,slow=76,SNR=181
H11S3 WAKE ISLAND Hy 31.61 131 T T 10 28 51.1
baz=328,slow=76,SNR=168
H11S2 WAKE ISLAND Hy 31.62 131 T T 10 28 55.5
baz=328,slow=76,SNR=168
GTA Gaotai 31.82 279 ⇑P **P 09 56 03.5 +0.1**
GTA pmax pmax
comp=Z,10.0nm,0.9s
GTA pmax pmax
comp=Z,71nm,5.6s
GTA LR LR
comp=Z,100nm,17.8s
GTA LR LR
comp=Z,110nm,16.0s
GTA LR LR
comp=Z,100nm,16.7s
GYA Guiyang 32.88 253 ⇑P **P 09 56 12.3 -0.4**
GYA pP pP 09 56 37.0 +4.7
GYA pmax pmax
comp=Z,8.0nm,0.7s
KMI Kunming 36.49 255 ⇓P **P 09 56 46.0 +2.0**
DAV Davao City (W) 37.91 207 LR LR 10 10 08.3
comp=Z,57nm,21.5s,baz=338,slow=32
DGZ Jazzator, Alta 37.93 301 *i*P **P 09 56 56.5 +0.7**
DGZ pmax pmax
comp=Z,30nm,1.1s
SLVN Son La 38.09 249 P **P 09 56 57.9 +0.6**
SLVN IAmb IAmb 09 57 00.3
comp=Z,23nm,0.8s
NRIK Noril'sk 38.81 333 P **P 09 57 03.0 +0.3**
comp=Z,2.4nm,0.4s,baz=120,slow=6.6,SNR=2.7
NRIK Noril'sk 38.81 333 *i*P **P 09 57 03.6 +0.9**
NRIK pmax pmax
comp=Z,3.0nm,0.6s
ZAA0 Zalesovo Array 38.93 308 **P 09 57 04.0 +0.1**
ZAA0 IAmb IAmb 09 57 04.9
comp=Z,21nm,0.8s
ZALV Zalesovo Beam 38.93 308 P **P 09 57 03.8 -0.1**
comp=Z,17nm,0.5s,baz=86,slow=8.3,SNR=24
ZALV PcP **PcP 09 59 13.7 +0.9**
comp=Z,4.9nm,0.5s,baz=103,slow=3.3,SNR=3.5
ZALV ScP **S 10 02 53.1 -2.6**
comp=Z,5.2nm,0.6s,baz=78,slow=4.3,SNR=9.6
ZALV LR LR 10 14 07.9
comp=Z,57nm,19.3s,baz=60,slow=38
ZALV Zalesovo Beam 38.93 308 P **P 09 57 03.9 +0.1**
WMQ Urumqi 39.14 291 *e*P **P 09 57 06.0 +0.1**
WMQ sP sP 09 57 35.5 -0.2
WMQ pmax pmax
comp=Z,51nm,0.7s
WMQ pmax pmax
comp=Z,140nm,3.9s
WMQ LR LR
comp=Z,57nm,21.9s
CHNA Chernabura Isl 39.53 51 P **P 09 57 08.2 -0.6**
baz=276
ZSN Zaisan 40.07 298 *e*P **P 09 57 12.4 -1.1**
baz=298
ZSN Zaisan 40.07 298 *e*P **P 09 57 12.4 -1.1**
N18K Kilae Creek 41.07 41 P **P 09 57 23.2 +1.6**
N18K IAmb IAmb 09 57 24.0
comp=Z,28nm,0.9s
N18K Kilae Creek 41.07 41 P **P 09 57 23.2 +1.6**
baz=272
SVW2 Sparrevohn 41.20 41 P **P 09 57 24.0 +1.4**
SVW2 IAmb IAmb 09 57 24.9
comp=Z,33nm,1.3s
O18K Koktuh Hills 41.45 43 P **P 09 57 25.9 +1.2**
O18K IAmb IAmb 09 57 26.4
comp=Z,16nm,0.8s
O18K Koktuh Hills 41.45 43 P **P 09 57 25.8 +1.1**
baz=274
L19K White Mountain 41.52 39 P **P 09 57 25.9 +0.7**
L19K IAmb IAmb 09 57 28.2
comp=Z,35nm,1.5s
L19K White Mountain 41.52 39 P **P 09 57 26.1 +0.9**
baz=272,SNR=6.6
CHIR Chirikof Islan 41.65 49 P **P 09 57 25.9 -0.4**
CHIR Chirikof Islan 41.65 49 P **P 09 57 27.1 +0.8**
baz=278
M19K Big River Lodg 41.74 40 P **P 09 57 28.3 +1.3**
M19K IAmb IAmb 09 57 28.7
comp=Z,9.7nm,0.7s
M19K Big River Lodg 41.74 40 P **P 09 57 28.3 +1.3**
baz=272
N19K Bonanza Creek 41.75 41 P **P 09 57 28.2 +1.0**
baz=273
J20K Nowinta River 41.81 36 IAmb IAmb 09 57 29.2
comp=Z,24nm,0.8s
J20K Nowinta River 41.81 36 P **P 09 57 28.4 +0.8**
baz=270,SNR=22
K20K Telida 41.85 37 IAmb IAmb 09 57 29.8
comp=Z,21nm,0.9s
K20K Telida 41.85 37 P **P 09 57 28.9 +1.0**
baz=271,SNR=14
O19K Port Alsworth 41.87 42 IAmb IAmb 09 57 30.1
comp=Z,13nm,0.8s
MK31 Makanchi Array 41.94 297 *i*P **P 09 57 28.5 -0.4**
MK31 pmax pmax
comp=Z,16nm,0.6s
MK31 Makanchi Array 41.94 297 IAmb IAmb 09 57 29.9
comp=Z,17nm,0.8s
MKAR Makanchi Array 41.94 297 P **P 09 57 28.9 0.0**
comp=Z,15nm,0.7s,baz=77,slow=9.8,SNR=124
MKAR PcP **PcP 09 59 23.4 +0.7**
comp=Z,1.9nm,0.6s,baz=96,slow=1.4,SNR=1.9
MKAR ScP **ScP 10 03 05.6 +0.3**
comp=Z,1.8nm,0.9s,baz=74,slow=4.3,SNR=6.5
MKAR LR LR 10 14 34.6
comp=Z,30nm,20.1s,baz=120,slow=36
MKAR Makanchi Array 41.94 297 *e*P **P 09 57 28.8 -0.1**
L20K Farewell, AK 41.96 39 P **P 09 57 29.9 +1.0**
baz=272,SNR=5.7
MAKZ Makanchi 42.15 298 P **P 09 57 31.1 +0.6**
MAKZ pmax pmax
comp=Z,26nm,0.8s
MAKZ Makanchi 42.15 298 **P 09 57 31.1 +0.6**
MAKZ IAmb IAmb 09 57 33.6
comp=Z,26nm,0.8s
PAYA Payao 42.22 251 P **P 09 57 33.5 +2.1**
comp=Z,599nmcomp=Z,9.2nm,0.7s
KHON Khomkaen 42.28 244 P **P 09 57 34.6 +2.8**
comp=Z,18nm,0.7s
SEM Semipalatinsk 42.32 303 *e*P **P 09 57 31.1 -1.1**
baz=303
SEM Semipalatinsk 42.32 303 *e*P **P 09 57 31.0 -1.1**
Q19K Cape Douglas, 42.33 44 P **P 09 57 32.1 +0.2**
Q19K Cape Douglas, 42.33 44 P **P 09 57 31.8 -0.1**
baz=276
H21K Melozitna Rive 42.39 34 IAmb IAmb 09 57 36.4
comp=Z,8.5nm,0.6s
H21K Melozitna Rive 42.39 34 P **P 09 57 32.4 +0.1**
baz=270,SNR=11
LSA Lhasa 42.44 270 P **P 09 57 35.4 +1.7**
LSA Lhasa 42.44 270 P **P 09 57 33.3 -0.3**
LSA pmax pmax
comp=Z,64nm,1.4s
LSA Lhasa 42.44 270 P **P 09 57 33.3 -0.3**
CHUM Lake Minchumin 42.62 37 P **P 09 57 35.4 +1.3**
baz=272,SNR=8.7
PPLA Purkeypile 42.72 38 P **P 09 57 35.4 +0.3**
PPLA IAmb IAmb 09 57 38.4
comp=Z,22nm,0.8s
PPLA Purkeypile 42.72 38 P **P 09 57 36.5 +1.4**
baz=273,SNR=12
OHAK Old Harbor 42.73 46 P **P 09 57 35.0 0.0**
baz=278
I21K Tanana 42.74 35 P **P 09 57 35.6 +0.5**
baz=271
CAST Castle Rocks 42.74 37 P **P 09 57 36.3 +1.2**
baz=273,SNR=30
UTTA Uttaradit 42.84 248 P **P 09 57 38.0 +1.6**
comp=Z,5.9nm,0.8s
LAMP Lampang 42.94 250 P **P 09 57 40.1 +2.8**
comp=Z,7.0nm,0.6s
KDAK Kodiak Island 43.03 46 P **P 09 57 37.5 0.0**
baz=278
SKT Skwentna 43.09 39 P **P 09 57 38.3 +0.3**
baz=275
CHAI Chaiyaphum 43.15 245 P **P 09 57 39.6 +0.7**
comp=Z,142nmcomp=Z,8.4nm,1.0s
BPAW Bear Paw Mtn. 43.20 36 IAmb IAmb 09 57 40.4
comp=Z,14nm,0.7s
BPAW Bear Paw Mtn. 43.20 36 P **P 09 57 39.6 +0.8**
baz=273,SNR=12
CMMT Chiang Mai 43.23 251 P **P 09 57 40.0 +0.4**
comp=Z,472nmcomp=Z,20nm,1.1s
CMMT Chiang Mai 43.23 251 P **P 09 57 39.6 0.0**
comp=Z,451nmcomp=Z,20nm,1.1s
CHTO Chiang Mai 43.23 251 P **P 09 57 40.3 +0.7**
CHTO pmax pmax
comp=Z,15nm,0.8s
CHTO Chiang Mai 43.23 251 P **P 09 57 40.3 +0.7**
CHTO IAmb IAmb 09 57 41.4
comp=Z,15nm,0.8s
CHTO Chiang Mai 43.23 251 P **P 09 57 39.6 0.0**
comp=Z,12nm,0.9s
MLY Manley 43.27 35 P **P 09 57 40.2 +0.8**
baz=272,SNR=9.5
PHIT Phitsanulok 43.31 248 P **P 09 57 42.4 +2.2**
comp=Z,10nm,0.8s
KURBB Kurchatov Arra 43.33 304 P **P 09 57 39.7 -0.3**
COLD Coldfoot 43.44 32 IAmb IAmb 09 57 44.5
comp=Z,15nm,1.0s
COLD Coldfoot 43.44 32 P **P 09 57 40.6 -0.1**
baz=270,SNR=13
CMAR Chiang Mai Arr 43.47 250 P **P 09 57 42.5 +1.0**
comp=Z,5.8nm,0.7s,baz=43,slow=6.8,SNR=23
CMAR PcP **PcP 09 59 29.1 +0.9**
comp=Z,2.2nm,0.8s,baz=24,slow=2.9,SNR=4.5
CMAR ScP **ScP 10 03 13.4 +1.6**
comp=Z,0.9nm,0.4s,baz=28,slow=4.1,SNR=5.2
CMAR LR LR 10 17 09.6
comp=Z,52nm,18.0s,baz=84,slow=38
CMAR Chiang Mai Arr 43.47 250 P **P 09 57 41.6 +0.1**
SUA Susitna One 43.51 40 P **P 09 57 41.3 -0.1**
baz=276
TRF Thorofare Moun 43.55 37 IAmb IAmb 09 57 44.2
comp=Z,30nm,1.0s
TRF Thorofare Moun 43.55 37 P **P 09 57 42.2 +0.4**
baz=274
CUT Chulitna 43.64 39 P **P 09 57 42.5 +0.2**
baz=275
TOLK Toolik Lake Re 43.69 30 P **P 09 57 42.9 +0.2**
TOLK IAmb IAmb 09 57 46.1
comp=Z,9.2nm,0.7s
TOLK Toolik Lake Re 43.69 30 P **P 09 57 42.6 -0.1**
baz=269
BRSE Bradley Lake S 43.71 43 P **P 09 57 43.9 +0.9**
baz=278
I23K Minto, Yukon-K 43.84 35 IAmb IAmb 09 57 48.9
comp=Z,9.4nm,0.5s
I23K Minto, Yukon-K 43.84 35 P **P 09 57 44.6 +0.7**
baz=273,SNR=8.8
NEA2 Nenana 44.00 35 P **P 09 57 45.9 +0.6**
baz=274,SNR=40
RC01 Rabbit Creek A 44.03 40 IAmb IAmb 09 57 46.5
comp=Z,25nm,0.8s
RC01 Rabbit Creek A 44.03 40 P **P 09 57 45.9 +0.4**
baz=277,SNR=5.6
O22K Cooper Landing 44.12 41 P **P 09 57 46.5 +0.4**
baz=278
MCK McKinley 44.13 37 IAmb IAmb 09 57 47.5
comp=Z,28nm,0.8s
MCK McKinley 44.13 37 P **P 09 57 46.9 +0.6**
baz=275,SNR=17
RND Reindeer 44.19 37 IAmb IAmb 09 57 47.7
comp=Z,24nm,0.8s
PMR Palmer 44.26 40 IAmb IAmb 09 57 48.7
comp=Z,23nm,0.9s
PMR Palmer 44.26 40 P **P 09 57 47.2 -0.1**
baz=277,SNR=8.6
SEW Seward 44.30 42 P **P 09 57 47.8 +0.2**
SEW IAmb IAmb 09 57 53.8
comp=Z,22nm,0.8s
SEW Seward 44.30 42 P **P 09 57 47.7 +0.1**
baz=278
MDM Murphy Dome 44.34 35 IAmb IAmb 09 57 49.4

comp=Z,16nm,0.8s
MHMT Maesarieng 44.37 251 P P 09 57 50.0 +1.3
comp=Z,35nm,0.9s
H24K Noodor Dome 44.42 34 IAmb IAmb 09 57 54.1
comp=Z,13nm,0.8s
H24K Noodor Dome 44.42 34 P P 09 57 49.3 +0.7
baz=274,SNR=12
WRH Wood River Hil 44.43 36 IAmb IAmb 09 57 50.6
comp=Z,11nm,0.7s
TCOL CIGO, UAF Yank 44.50 35 P P 09 57 50.0 +0.8
baz=275,SNR=23
KNK Knik Glacier 44.60 40 IAmb IAmb 09 57 52.2
comp=Z,21nm,0.6s
KNK Knik Glacier 44.60 40 P P 09 57 50.4 +0.3
baz=278,SNR=5.4
SML Sawmill 44.61 39 P P 09 57 50.7 +0.5
baz=277,SNR=14
POKR Poker Plat Res 44.66 35 IAmb IAmb 09 57 52.4
comp=Z,20nm,0.7s
POKR Poker Plat Res 44.66 35 P P 09 57 51.4 +1.0
baz=275,SNR=16
PWL Port Wells 44.74 41 IAmb IAmb 09 57 53.0
comp=Z,25nm,0.8s
WAT6 Susitna Watana 44.79 38 P P 09 57 51.5 -0.2
baz=277,SNR=6.7
DHY Denali Highway 44.89 37 P P 09 57 52.9 +0.4
baz=277,SNR=28
IL31 44.92 35 IAmb IAmb 09 57 53.5
comp=Z,22nm,0.7s
ILAR Eielson Array 44.92 35 P P 09 57 52.3 -0.2
comp=Z,23nm,0.9s,baz=251,slow=5.3,SNR=277
ILAR LR LR 10 17 36.7
comp=Z,20nm,18.8s,baz=112,slow=37
HDA Harding Lake 44.93 36 P P 09 57 52.4 -0.2
baz=276,SNR=31
PDGK Podgornoye 44.94 294 P P 09 57 52.2 -0.9
SHLS Shalkode 45.02 293 *eP* P 09 57 50.7 -3.0
baz=293
SHLS Shalkode 45.02 293 *eP* P 09 57 50.7 -3.0
UMPA Umpang Tak 45.06 248 P P 09 57 58.1 +3.8
TDK Taldyqorghan 45.08 296 *eP* P 09 57 53.8 -0.3
baz=296
TDK Taldyqorghan 45.08 296 *eP* P 09 57 53.7 -0.3
SCM Sheep Creek Mo 45.08 39 IAmb IAmb 09 57 55.8
comp=Z,26nm,0.8s
MRSI Marisa 45.32 209 P P 09 57 56.1 -0.1
comp=Z,61nm,0.9s
GLI Glacier Island 45.34 41 P P 09 57 56.3 +0.4
GLI Glacier Island 45.34 41 P P 09 57 56.1 +0.2
baz=279
KPKS Kokpek 45.43 294 *eP* P 09 57 55.9 -1.2
baz=294
KPKS Kokpek 45.43 294 *eP* P 09 57 55.8 -1.2
M24K Tolsona, Glenn 45.58 39 P P 09 57 59.1 +1.3
baz=279,SNR=5.5
J25K Salcha River, 45.59 35 P P 09 57 57.0 -0.9
baz=277,SNR=8.7
PAX Paxson 45.77 37 P P 09 58 00.3 +0.9
baz=279
SATY Saty 45.77 294 *eP* P 09 57 58.7 -1.1
baz=294
SATY Saty 45.77 294 *eP* P 09 57 58.6 -1.1
KLU Klutina 45.80 40 P P 09 58 00.3 +0.7
baz=280,SNR=8.0
DIV Divide 45.93 40 P P 09 58 01.2 +0.6
RIDG Independent Ri 45.93 36 IAmb IAmb 09 58 01.6
comp=Z,14nm,0.6s
RIDG Independent Ri 45.93 36 P P 09 58 00.4 -0.3
baz=278,SNR=9.2
HARP HAARP 46.00 38 P P 09 58 02.4 +1.3
baz=279,SNR=10
EYAK Cordova Ski Ar 46.05 41 P P 09 58 02.7 +1.3
EYAK Cordova Ski Ar 46.05 41 P P 09 58 02.5 +1.1
baz=281,SNR=5.4
TAPN Taplejung 46.25 269 *eP* P 09 58 04.7 +0.8
comp=Z,24nm,0.5s
SCRK Sand Creek 46.27 36 P P 09 58 03.6 +0.2
SCRK Sand Creek 46.27 36 P P 09 58 03.3 0.0
baz=279,SNR=55
J26L Joseph Creek 46.38 35 P P 09 58 04.3 +0.2
baz=279,SNR=6.2
N25K Chitina, Valde 46.40 39 P P 09 58 05.2 +0.8
baz=281
CHKK Chushkaly 46.44 295 *eP* P 09 58 04.7 -0.1
baz=295
BMRM Bremner River 46.52 40 P P 09 58 06.2 +0.9
BMRM IAmb IAmb 09 58 07.0
comp=Z,20nm,0.8s
BMRM Bremner River 46.52 40 P P 09 58 05.9 +0.7
baz=281
MENT Mentasta 46.56 37 IAmb IAmb 09 58 22.4
comp=Z,11nm,0.8s
MDOK Medeo 46.66 294 *eP* P 09 58 06.7 0.0
baz=294
MDOK Medeo 46.66 294 *eP* P 09 58 06.7 0.0
TARG Taragay, Kyrgy 46.69 292 IAmb IAmb 09 58 09.0
comp=Z,17nm,0.7s
L26K Log Cabin Wild 46.72 37 IAmb IAmb 09 58 08.8
comp=Z,23nm,0.8s
L26K Log Cabin Wild 46.72 37 P P 09 58 08.0 +1.3
baz=280,SNR=21
AAA Alma-Ata 46.73 294 *eP* P 09 58 07.1 0.0
baz=294
AAA Alma-Ata 46.73 294 *eP* P 09 58 07.1 0.0
ODAN Odare 46.76 269 *eP* P 09 58 08.3 +0.5
comp=Z,74nm,0.8s
TNSS Tian-Shan 46.77 294 *eP* P 09 58 08.2 +0.3
baz=294
KUU Kurty 46.86 295 *eP* P 09 58 07.0 -1.1
baz=296
KUU Kurty 46.86 295 *eP* P 09 58 07.0 -1.1
M26K Nabesna, AK 46.99 38 P P 09 58 10.3 +1.4
baz=281,SNR=14
VRDI Verde Repeater 47.02 40 IAmb IAmb 09 58 11.1
comp=Z,22nm,0.8s
MTBS Maitube 47.09 294 *eP* P 09 58 09.8 -0.1
baz=294
K27K Chicken 47.10 36 P P 09 58 10.7 +1.1
baz=280
BRZS Berezniki 47.11 304 *iP* P 09 58 09.4 -0.5
comp=Z,4.1nm,0.4s,baz=304
BRZS Berezniki 47.11 304 *d iP* P 09 58 09.4 -0.5
BRZS pmax pmax
comp=Z,4.0nm,0.4s
MCARA McCarthy VSAT 47.19 39 P P 09 58 11.8 +1.5
baz=282,SNR=7.8
JIRN Jiri 47.21 271 *eP* P 09 58 12.1 +0.7
comp=Z,28nm,0.4s
CRQE Cirque 47.29 40 P P 09 58 12.2 +0.9
baz=283,SNR=11
RAMN Ramite 47.30 270 *eP* P 09 58 12.3 +0.3
comp=Z,29nm,0.4s
GUN Gumba 47.31 271 *eP* P 09 58 12.7 +0.6
comp=Z,214nm,0.6s
EGAK Eagle 47.35 35 P P 09 58 11.6 +0.1
baz=280,SNR=22
L27K Beaver Creek, 47.39 37 P P 09 58 13.4 +1.5
baz=282,SNR=39
TGL Tana Glacier 47.41 40 IAmb IAmb 09 58 14.3
comp=Z,19nm,0.9s
M27K Edge Creek, AK 47.51 38 IAmb IAmb 09 58 15.3
comp=Z,16nm,0.8s
M27K Edge Creek, AK 47.51 38 P P 09 58 14.3 +1.3
baz=282,SNR=16
BRVK Borovoye 47.59 309 *ceP* P 09 58 14.3 +0.7
BRVK pmax pmax
comp=Z,20nm,1.0s
BRVK Borovoye 47.59 309 P P 09 58 13.9 +0.3
BRVK IAmb IAmb 09 58 15.1
comp=Z,15nm,0.8s
BRVK Borovoye 47.59 309 *eP* P 09 58 14.3 +0.7
ISLE Juniper Island 47.68 40 IAmb IAmb 09 58 18.9
comp=Z,29nm,0.9s
TKM2 Tokmak 2 47.73 295 P P 09 58 15.9 +0.8
SNR=38
TKM2 Tokmak 2 47.73 295 P P 09 58 15.9 +0.8
KKN Kakani 47.82 271 *eP* P 09 58 16.4 +0.5
comp=Z,134nm,0.9s
PKI Pulchoki 47.84 271 *eP* P 09 58 16.4 +0.1
PKIN Phulchoki 47.85 271 *eP* P 09 58 16.4 +0.2
comp=Z,64nm,0.7s
OTUK Ortayu 47.90 302 P P 09 58 15.3 -0.8
BARN Barnard Glacie 47.90 40 IAmb IAmb 09 58 18.1
comp=Z,20nm,0.7s
GRNC Granite Creek 47.93 40 IAmb IAmb 09 58 18.3
comp=Z,24nm,0.8s
BVCY Beaver Creek 47.96 38 P P 09 58 17.5 +1.1
baz=283,SNR=9.0
MESA MESA 47.97 41 P P 09 58 17.7 +1.1
baz=284
YAH Yahtse 48.02 40 IAmb IAmb 09 58 19.2
comp=Z,25nm,0.8s
DMN Daman 48.05 271 *eP* P 09 58 18.3 +0.5
comp=Z,72nm,0.7s
CTG 48.07 40 P P 09 58 18.5 +1.1
CTGM Chitina Glacie 48.08 40 IAmb IAmb 09 58 19.4
baz=284,SNR=8.0
comp=Z,23nm,0.7s
SGDS Sogindy 48.17 296 *eP* P 09 58 18.1 -0.2
comp=Z,7.0nm,1.0s,baz=296
GKN Gorkha 48.18 272 *eP* P 09 58 19.0 +0.3
comp=Z,70nm,0.6s
DAWY Dawson 48.25 35 P P 09 58 19.1 +0.5
DAWY Dawson 48.25 35 P P 09 58 19.1 +0.5
baz=283
LOGN Logan Glacier 48.27 40 IAmb IAmb 09 58 20.6
comp=Z,9.6nm,0.8s
KBK Karagaybulak 48.27 294 P P 09 58 20.0 +0.8
SNR=9.9
YUK3 Moose Creek 48.29 38 P P 09 58 20.1 +1.0
baz=284,SNR=6.7
KZA Kyzart 48.30 294 P P 09 58 20.9 +1.1
SNR=6.2
USP Ospenovka 48.33 295 P P 09 58 19.9 +0.4
SNR=8.3
AAK Ala-Archa 48.59 295 P P 09 58 22.0 +0.4
SNR=5.1
AAK Ala-Archa 48.59 295 P P 09 58 21.8 +0.1
AAK Ala-Archa 48.59 295 *ceP* P 09 58 22.1 +0.4
AAK pmax pmax
comp=Z,62nm,1.7s
AAK Ala-Archa 48.59 295 P P 09 58 22.0 +0.4
AAK Ala-Archa 48.59 295 *eP* P 09 58 22.1 +0.4
DANN Dangsing 48.64 273 *eP* P 09 58 23.3 +0.9
comp=Z,381nm,0.7s
EPYK Eagle Plains 48.84 32 P P 09 58 24.0 +0.9
baz=283
KSH Kashi 48.88 290 P P 09 58 28.3 +4.4
KSH pP pP 09 58 49.0 +4.5
KSH pmax pmax
comp=Z,19nm,1.1s
EKS2 Erkin-Say 49.06 295 P P 09 58 25.6 +0.4
SNR=8.9
KOLN Koldanda 49.08 273 *eP* P 09 58 26.3 +0.7
YUK4 Talbot Arm 49.24 39 P P 09 58 27.6 +1.2
baz=286,SNR=5.2
AML Almayashu 49.34 294 P P 09 58 28.4 +0.7
SNR=8.2
AML Almayashu 49.34 294 *i* P P 09 58 28.5 +0.8
SNR=8.3
PYUN Piuthan 49.35 273 *eP* P 09 58 28.3 +0.6
comp=Z,98nm,0.6s
MTKI Muara Teweh, K 49.45 217 P P 09 58 42.9 +15
YUK6 Outpost Mounta 49.48 39 P P 09 58 29.9 +1.6
baz=286
INK Inuvik 49.59 29 P P 09 58 29.1 +0.4
INK pmax pmax
comp=Z,13nm,0.6s
INK Inuvik 49.59 29 P P 09 58 29.1 +0.4
INK IAmb IAmb 09 58 29.4
comp=Z,13nm,0.6s
INK Inuvik 49.59 29 P P 09 58 29.1 +0.4
baz=284,SNR=5.2
MAYO Mayo, Yukon 49.87 35 P P 09 58 32.4 +1.5
baz=286,SNR=8.9
HYT Haines Junctio 49.92 39 P P 09 58 33.6 +2.1
baz=287,SNR=49
DZA Taraz 50.61 296 *eP* P 09 58 36.7 -0.1
baz=296
DZA Taraz 50.61 296 *eP* P 09 58 36.7 -0.1
KK31 Karatay Array 51.06 297 P P 09 58 38.1 -2.1
KK31 Karatay Array 51.06 297 IAmb IAmb 09 58 44.8
comp=Z,12nm,0.6s
KKAR Karatay Array 51.06 297 IAmb IAmb 09 58 44.8
comp=Z,12nm,0.6s
KAPI Kappang 51.20 209 LR LR 10 18 23.1
comp=Z,18nm,21.9s,baz=84,slow=34
FARO Faro, Yukon 51.38 37 P P 09 58 43.6 +1.3
baz=289,SNR=8.0
SVE Sverdlovsk 51.64 316 *i* P P 09 58 45.0 +0.7
SVE pmax pmax
comp=Z,39nm,0.9s
MMPY Sheldon Lake, 52.17 36 P P 09 58 49.8 +1.6
baz=290,SNR=5.4
BTK Batken 52.20 293 IAmb IAmb 09 58 49.7
comp=Z,18nm,1.2s
ARU Arti 52.86 316 *c iP* P 09 58 53.1 -0.2
ARU *PP pP 09 59 11.8 -2.5
ARU 09 59 56.5
ARU S S 10 06 17.6 +2.3
ARU SS SS 10 09 51.2 -3.3
ARU pmax pmax
comp=Z,32nm,1.0s
ARU MLR MLR
comp=Z,78nm,17.0s
ARU Arti 52.86 316 P P 09 58 53.5 +0.2
ARU Arti 52.86 316 *eP* P 09 58 53.7 +0.4
NIL Nilore 53.58 285 P P 09 58 59.9 +0.9
NIL pmax pmax
comp=Z,27nm,0.8s
NIL Nilore 53.58 285 P P 09 58 59.9 +0.9
TGTN Hyland Airport 53.88 36 P P 09 59 02.3 +1.5
baz=293
DLBC Dease Lake 54.31 40 IAmb IAmb 09 59 07.0
comp=Z,23nm,1.4s
PSI Prapat 54.95 236 P P 09 59 09.8 +0.6
PSI pmax pmax
comp=Z,13nm,0.7s
PSI Prapat 54.95 236 P P 09 59 10.1 +0.9
comp=Z,8.5nm,0.9s,comp=Z,22nm,0.9s
PSI P P 09 59 10.1 +0.9
comp=Z,8.5nm,0.9s,comp=Z,22nm,0.9s
EUNU Eureka 54.99 9 P P 09 59 08.3 -0.3
RPSI Rantau Prapat 55.03 236 P P 09 59 09.8 +0.2
RPSI IAmb IAmb 09 59 10.8
comp=Z,13nm,0.7s
AB31 Akbulak array 55.04 308 P P 09 59 09.2 -0.1
ABKAR Akbulak array 55.04 308 P P 09 59 09.6 +0.3
ABKAR Akbulak array 55.04 308 IAmb IAmb 09 59 10.8
comp=Z,10nm,0.6s
DIB Dawson Inlet, 55.26 47 P P 09 59 12.0 +1.2
DIB IAmb IAmb 09 59 12.8
comp=Z,13nm,0.8s
SPA0 Spitsbergen Ar 55.53 348 *eP* P 09 59 13.3 +0.9
KBS Kingsbay 55.63 350 *eP* P 09 59 14.1 +1.0
KBL Kabul 56.12 288 P P 09 59 16.5 -1.0
KBL pmax pmax
comp=Z,16nm,0.9s
KBL Kabul 56.12 288 P P 09 59 16.5 -1.0
KBL IAmb IAmb 09 59 17.6
comp=Z,16nm,0.8s
KIRV Kirov 56.44 321 *ceP* P 09 59 19.6 +0.5
HSPB Hornsund (broa 56.48 347 *eP* P 09 59 20.0 +0.9
PRGR Permogore 56.71 325 *eP* P 09 59 19.4 -1.6
PRGR *eS S 10 07 04.2 -2.5
PRGR pmax pmax
comp=Z,10.0nm,1.0s
BJO1 Bjornoya 57.58 345 *eP* P 09 59 28.0 +1.1
MDSI Maura Dua 57.80 226 P P 09 59 31.1 +1.8
comp=Z,9.9nm,1.2s
KNRA Kununurra 58.89 195 P P 09 59 36.8 +0.1
YKA Yellowknife Ar 59.12 32 P P 09 59 38.0 +0.2
comp=Z,0.7nm,0.4s,baz=278,slow=8.5,SNR=10.0
ARA0 ARCESS Array S 59.32 339 *eP* P 09 59 39.9 +0.8
ARCES ARCESS Array B 59.32 339 P P 09 59 39.8 +0.6
comp=Z,1.7nm,0.5s,baz=46,slow=7.6,SNR=22
ARCES ARCESS Array B 59.32 339 IAmb IAmb 09 59 54.1
comp=Z,11nm,1.4s
KLMR Klimovskoe 59.66 326 *eP* P 09 59 40.4 -1.1
KLMR pmax pmax
comp=Z,32nm,1.4s
KLMR Klimovskoe 59.66 326 *eP* P 09 59 40.5 -1.1
KLMR AMP 09 59 42.6
comp=Z,32nm,1.4s
KTK1 Kautokeino 60.28 339 *eP* P 09 59 46.5 +0.8
NEEM North Greenlan 60.33 3 *i* P P 09 59 46.1 -0.2
NEEM IAmb IAmb 09 59 47.7
comp=Z,17nm,0.7s
BELG Belogornoye 60.38 315 *d iP* P 09 59 46.8 +0.2
BELG pmax pmax
comp=Z,6.0nm,0.7s
DAG Danmarks Havn 60.65 355 *i* P P 09 59 47.6 -0.5
DAG IAmb IAmb 09 59 48.5
comp=Z,6.1nm,0.7s
DAG Danmarks Havn 60.65 355 *i* P P 09 59 47.6 -0.5
DAG pmax pmax
comp=Z,6.0nm,0.7s
JETT Jettan, Norway 60.65 340 *eP* P 09 59 49.5 +1.2
CBB Campbell River 60.67 48 IAmb IAmb 09 59 50.6
comp=Z,8.6nm,0.9s
HRA Herat 60.95 291 P P 09 59 51.2 +0.1
TRO Tromso 60.97 340 *eP* P 09 59 51.0 +0.7
CLRS Cowichan Lake 62.00 48 P P 09 59 58.4 +0.8
CLRS IAmb IAmb 09 59 59.6
comp=Z,13nm,0.9s
WB0 Warramunga Arr 62.08 188 P P 09 59 58.2 -0.2
WB0 IAmb IAmb 09 59 59.0
comp=Z,6.0nm,0.7s
LLLB Lillooet 62.24 46 IAmb IAmb 10 00 01.3
comp=Z,16nm,0.9s
WRAB Tennant Creek 62.25 188 *ceP* P 10 00 01.2 +1.7
WRAB pmax pmax
comp=Z,4.0nm,1.0s
WRAB Tennant Creek 62.25 188 P P 09 59 59.6 +0.1
WRAB IAmb IAmb 10 00 01.6
comp=Z,16nm,1.4s
WR0 Warramunga Arr 62.26 188 P P 09 59 59.3 -0.3
WR0 IAmb IAmb 10 00 01.3
comp=Z,6.0nm,0.7s
WRA Warramunga Arr 62.26 188 P P 09 59 59.3 -0.3
comp=Z,2.9nm,0.6s,baz=6.4,slow=6.9,SNR=32
PGC Sidney 62.47 48 IAmb IAmb 10 00 02.6
comp=Z,14nm,0.8s
A04D Lummi Island 62.84 48 P P 10 00 04.7 +1.5
baz=304,SNR=8.8
NLWA Neilton Lookou 62.93 50 IAmb IAmb 10 00 06.7
comp=Z,20nm,0.8s
STEI Steigen 63.13 340 *eP* P 10 00 05.6 +0.7
MOS Moscow 63.40 322 *eP* P 10 00 06.0 -0.8
LOF Lofoten 63.41 341 *eP* P 10 00 07.0 +0.4
B05A Bryant 63.44 48 P P 10 00 08.5 +1.4
baz=304,SNR=12
FAUS Fauske 63.53 340 *eP* P 10 00 08.5 +1.0
D04E Lakebay 63.67 49 P P 10 00 10.9 +2.1
baz=304
D05A Enumclaw 64.11 49 IAmb IAmb 10 00 14.5
comp=Z,20nm,0.8s
E04D Cinebar 64.14 50 P P 10 00 13.8 +2.0
baz=305,SNR=8.3
OBN Obninsk 64.25 322 *ceP* P 10 00 12.6 +0.2
OBN pmax pmax
comp=Z,9.0nm,0.5s
OBN MLR MLR
comp=Z,26nm,14.0s
OBN Obninsk 64.25 322 *eP* P 10 00 12.6 +0.2
C06D Leavenworth 64.29 48 P P 10 00 14.4 +1.5
baz=305
LON Longmire 64.46 49 IAmb IAmb 10 00 18.4
comp=Z,7.1nm,0.7s
FIA1 FINESS Array S 64.46 331 P P 10 00 13.7 +0.1
FIA1 IAmb IAmb 10 00 14.7
comp=Z,21nm,1.2s
FINES FINESS Array B 64.46 331 P P 10 00 13.6 -0.1
comp=Z,6.5nm,0.4s,baz=57,slow=6.5,SNR=72
FINES LR LR 10 30 28.4
comp=Z,32nm,20.9s,baz=72,slow=38
FINES FINESS Array B 64.46 331 P P 10 00 14.1 +0.4
FINES FINESS Array B 64.46 331 P P 10 00 14.1 +0.4
MOR8 Moi Rana 64.67 339 *eP* P 10 00 13.8 -1.2
LTY Liberty 64.80 48 P P 10 00 16.9 +0.7
LTY IAmb IAmb 10 00 17.6
comp=Z,12nm,0.6s
B08A Colville Reser 64.89 47 P P 10 00 17.5 +0.7
B08A IAmb IAmb 10 00 19.3
comp=Z,9.2nm,0.8s
EDM Edmonton 65.03 40 P P 10 00 17.8 +0.2
EDM pmax pmax
comp=Z,26nm,0.8s
EDM Edmonton 65.03 40 P P 10 00 17.8 +0.2
H04D Lebanon 65.21 52 P P 10 00 20.8 +2.0
baz=306
I03D Drain, OR 65.33 53 P P 10 00 21.6 +2.0
baz=306
HOOD Mount Hood Mea 65.37 50 P P 10 00 19.6 -0.4
H04A Detroit Lake 65.44 51 P P 10 00 21.5 +1.1
H04A IAmb IAmb 10 00 22.5
comp=Z,15nm,0.8s
SUMG Summit 65.50 0 *i* P P 10 00 20.9 +0.2
SUMG Summit 65.50 0 P P 10 00 21.4 +0.7
SUMG pmax pmax
comp=Z,18nm,0.9s
SUMG Summit 65.50 0 P P 10 00 21.4 +0.7
SUMG IAmb IAmb 10 00 22.3
comp=Z,18nm,0.9s
G05D Wamic, OR 65.61 50 P P 10 00 23.2 +1.7
baz=306
E07A Sunnyside 65.66 49 P P 10 00 22.6 +0.8
E07A IAmb IAmb 10 00 24.1
comp=Z,24nm,1.1s
K02D Willamette Mer 65.72 54 P P 10 00 23.8 +1.5
baz=306
C09A Chrisman Ranch 65.79 47 IAmb IAmb 10 00 24.4
comp=Z,17nm,0.8s
I04A Tendick Farm, 65.83 52 P P 10 00 24.5 +1.6
baz=306,SNR=5.7
HAWA Hanford 65.94 49 IAmb IAmb 10 00 25.7
comp=Z,15nm,0.7s
ASAR Alice Springs 65.99 188 P P 10 00 24.4 +0.5
comp=Z,1.5nm,0.7s,baz=7.6,slow=4.8,SNR=17
ASAR Alice Springs 65.99 188 P P 10 00 24.0 +0.1
L02E Cave Junction 66.08 54 P P 10 00 25.9 +1.4
baz=306
I05D Terrebonne, OR 66.13 51 P P 10 00 26.3 +1.4
baz=306
NEW Newport 66.13 46 IAmb IAmb 10 00 26.6
comp=Z,9.8nm,0.8s
NEW Newport 66.13 46 P P 10 00 25.7 +0.9
baz=307,SNR=11
E08A Dider Farm, El 66.14 48 P P 10 00 25.4 +0.6
VSU Vasula 66.24 329 *eP* P 10 00 26.2 +1.0
VSU Vasula 66.24 329 *i* P P 10 00 25.5 +0.3
VSU pmax pmax
comp=Z,33nm,0.6s
J04D Umpqua Nationa 66.33 53 P P 10 00 28.0 +1.7
baz=306
AKT Akhty 66.41 305 *eP* P 10 00 26.9 +0.1
AKT *e*PP pP 10 00 47.6 -1.0
AKT *e*SP PcP 10 00 56.1 +0.2
AKT *e* 10 02 55.7
AKT pmax pmax
comp=Z,18nm,0.8s
NSS Namsos 66.60 339 *eP* P 10 00 28.1 +0.8
E09A Wood Farm, Sta 66.64 48 IAmb IAmb 10 00 30.1
comp=Z,24nm,0.9s
PINE Pine Mountain 66.69 51 IAmb IAmb 10 00 31.3
comp=Z,19nm,0.8s
KHMM Horse Mountain 66.75 55 IAmb IAmb 10 00 31.9
comp=Z,36nm,1.4s
J05D Fort Rock, OR 66.82 52 P P 10 00 31.0 +1.7
baz=307,SNR=7.7
L04D Klamath Falls 66.82 54 P P 10 00 30.9 +1.5
baz=307,SNR=9.5
YBH Yreka Blue Hor 66.86 54 IAmb IAmb 10 00 32.3
comp=Z,14nm,1.3s
M02C Callahan 66.98 55 P P 10 00 32.3 +2.0
baz=307,SNR=5.4
MTSE Matsula 67.17 330 *eP* P 10 00 31.7 +0.6
N02D Trinity Center 67.32 55 P P 10 00 34.5 +2.0
baz=307,SNR=9.5
WALA Waterton Lakes 67.33 44 IAmb IAmb 10 00 34.2
comp=Z,11nm,0.8s
K05A Summer Lake 67.35 52 IAmb IAmb 10 00 35.6
comp=Z,20nm,1.0s
M04C Macdoel 67.36 54 P P 10 00 34.2 +1.5
baz=307,SNR=8.9
O02D Mt. Diablo Mer 67.75 56 P P 10 00 37.1 +1.9
baz=307,SNR=6.3
KIV Kislovodsk 67.90 310 P P 10 00 37.9 +1.8
KIV Kislovodsk 67.90 310 *eP* P 10 00 37.5 +1.4
KIV pmax pmax
comp=Z,28nm,1.0s
KIV MLR MLR
comp=Z,16nm,17.0s
KIV Kislovodsk 67.90 310 P P 10 00 36.6 +0.5
KIV IAmb IAmb 10 00 38.3
comp=Z,18nm,0.7s
KIV Kislovodsk 67.90 310 *eP* P 10 00 37.5 +1.4
ZEI Tsey 67.91 308 *eP* P 10 00 35.6 -0.7
ZEI pmax pmax

comp=Z,2.0nm,0.6s
KBZ Khabaz 67.92 309 P **P 10 00 37.4 +1.4**
comp=Z,7.4nm,0.8s,baz=42,slow=3.4,SNR=12
KBZ LR LR 10 36 18.4
comp=Z,28nm,18.3s,baz=29,slow=41
KBZ Khabaz 67.92 309 *eP* **P 10 00 37.3 +1.2**
JTMT Jette 67.95 45 IAmb IAmb 10 00 38.6
comp=Z,19nm,1.0s
BMO Blue Mountains 68.12 49 IAmb IAmb 10 00 39.5
comp=Z,13nm,1.1s
O03E Paynes Creek 68.28 55 P **P 10 00 39.4 +0.8**
baz=308,SNR=8.2
NEY Neytrino 68.31 309 *i* P **P 10 00 41.4 +2.6**
NEY pmax pmax
comp=Z,2.0nm,0.9s
ISAL Salakas 68.47 327 *eP* **P 10 00 40.7 +1.3**
MNK Minsk 68.48 325 *i* P **P 10 00 37.8 -1.6**
MNK *i* 10 01 02.2
MNK *i* PPP PPP 10 04 49.7
MNK *i* S **S 10 09 34.1 -0.2**
MNK *i* 10 10 34.3
MNK pmax pmax
comp=Z,15nm,0.9s
MNK pmax pmax
comp=N,14nm,0.9s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK MLR MLR
comp=E,12nm,20.0s
MNK MLR MLR
comp=N,120nm,20.0s
MNK MLR MLR
comp=Z,358nm,20.0s
MNK Minsk 68.48 325 *i* P **P 10 00 37.8 -1.6**
comp=E,2.0nm,0.9s
MNK *i* P **P 10 00 37.8 -1.6**
comp=N,14nm,0.9s
MNK *i* P **P 10 00 37.8 -1.6**
comp=Z,15nm,0.9s,baz=47
MNK *i* PcP **pP 10 01 02.3 +0.9**
MNK *i* PP PP 10 02 30.4 -41
MNK *i* PPP PPP 10 04 49.7
MNK *i* S **S 10 09 34.2 -0.1**
MNK *i* SS SS 10 13 40.9 -18
MNK *i* SSS SSS 10 17 17.5
MNK *i* LQ LQ 10 26 00.8
MNK *i* LR LR 10 27 59.2
MNK *i* LRM MLR 10 32 44.8
comp=E,12nm,19.8s
MNK *i* LRM MLR 10 32 49.2
comp=N,120nm,19.8s
MNK *i* LRM MLR 10 34 19.2
comp=Z,358nm,19.8s
IIGN Ignalina 68.59 326 *eP* **P 10 00 41.3 +1.3**
NACGM Naroch 68.67 326 *i* P **P 10 00 41.2 +0.6**
MSO Missoula 68.72 46 IAmb IAmb 10 00 42.8
comp=Z,15nm,1.2s
MSO Missoula 68.72 46 P **P 10 00 42.0 +0.9**
baz=309,SNR=7.3
ICESG Greenland Ices 69.00 1 *i* P **P 10 00 43.3 +0.5**
ICESG IAmb IAmb 10 00 44.1
comp=Z,18nm,0.7s
GNI Garni 69.02 305 *ceP* **P 10 00 43.8 +0.5**
GNI pmax pmax
comp=Z,26nm,1.3s
FFC Flin Flon 69.12 34 P **P 10 00 43.9 +0.5**
FFC pmax pmax
comp=Z,20nm,1.1s
FFC Flin Flon 69.12 34 P **P 10 00 43.9 +0.5**
FFC IAmb IAmb 10 00 44.8
comp=Z,20nm,1.1s
DOMB Dombas 69.39 338 *eP* **P 10 00 45.3 +0.3**
NB2 NORSAR Subarra 69.59 337 P **P 10 00 46.1 -0.1**
comp=Z,3.1nm,0.8s,baz=38,slow=6.5
NB2 NORSAR Subarra 69.59 337 P **P 10 00 46.1 -0.1**
baz=38,slow=6.5
NOA NORSAR Array B 69.59 337 P **P 10 00 46.4 +0.1**
comp=Z,3.1nm,0.7s,baz=38,slow=6.2,SNR=14
NOA LR LR 10 36 50.6
comp=Z,14nm,19.4s,baz=40,slow=41
NC602 NORSAR Array S 69.74 337 *eP* **P 10 00 47.7 +0.6**
MFID Camas Ranch 69.85 49 IAmb IAmb 10 00 50.4
comp=Z,20nm,1.5s
RUBR Rubicon Trail 70.04 55 IAmb IAmb 10 00 51.8
comp=Z,18nm,1.0s
BANOM Banah 70.05 287 *i* P **P 10 00 50.1 +0.4**
SNR=14
BANOM P **P 10 00 50.3 +0.6**
SHME Shamm 70.09 287 *i* P **P 10 00 50.1 +0.3**
SNR=15
EGMT Eagleton 70.11 43 IAmb IAmb 10 00 51.4
comp=Z,24nm,0.8s
EGMT Eagleton 70.11 43 P **P 10 00 50.6 +0.9**
baz=312,SNR=13
DLMT Dillon 70.37 46 IAmb IAmb 10 00 53.4
comp=Z,19nm,0.6s
MDH Madha 70.44 287 P **P 10 00 51.9 0.0**
AKASG Malin Array Be 70.50 322 P **P 10 00 51.9 0.0**
comp=Z,9.0nm,0.5s,baz=44,slow=6.0,SNR=28
AKBB Malin Array Si 70.50 322 *ceP* **P 10 00 52.0 +0.1**
AKBB Malin Array Si 70.50 322 IAmb IAmb 10 00 52.7
comp=Z,8.3nm,0.7s
MSFE Esma-Masafi 70.50 287 P **P 10 00 52.9 +0.5**
HLID Hailey 70.54 49 P **P 10 00 53.8 +1.3**
baz=310,SNR=12
OSL Oslo 70.62 336 *eP* **P 10 00 52.4 -0.1**
YERR Yerington 70.64 55 IAmb IAmb 10 00 55.5
comp=Z,22nm,1.1s
SKAR Skarslia 70.72 338 *eP* **P 10 00 54.2 +1.1**
UOSS Minazif 70.72 286 *i* P **P 10 00 54.1 +0.4**
SNR=12
UOSS Minazif 70.72 286 P **P 10 00 53.6 -0.1**
BOZ Bozeman (W) 70.74 46 IAmb IAmb 10 00 55.6
comp=Z,16nm,0.7s
BOZ Bozeman (W) 70.74 46 P **P 10 00 54.8 +1.2**
baz=311,SNR=34
HATD Hatta, Dubai 70.85 286 *i* P **P 10 00 55.2 +0.7**
SNR=14
BMN Battle Mountai 70.94 53 P **P 10 00 55.4 +0.4**
BMN pmax pmax
comp=Z,7.0nm,0.8s
BMN Battle Mountai 70.94 53 P **P 10 00 55.4 +0.4**
ASHO Ashiyiah 70.99 286 *i* P **P 10 00 56.1 +0.7**
SNR=8.3
SOHO SOHO 70.99 286 *i* P **P 10 00 55.9 +0.6**
SNR=11
KONO Kongsberg 71.19 337 *eP* **P 10 00 56.5 +0.6**
FAQ Al Faqa, Dubai 71.28 287 *i* P **P 10 00 57.3 +0.2**
SNR=7.4
KVN Kaiserville 71.29 54 IAmb IAmb 10 00 59.4
comp=Z,13nm,0.9s
DY2G Dye2 71.45 3 *i* P **P 10 00 57.8 +0.1**
DY2G IAmb IAmb 10 00 58.7
comp=Z,24nm,0.7s
YHB Horse Butte 71.53 46 IAmb IAmb 10 01 00.7
comp=Z,15nm,0.8s
ASUD Al Ashush, Dub 71.55 287 *i* P **P 10 00 59.2 +0.6**
SNR=25
LHV Little Huntoon 71.55 55 IAmb IAmb 10 01 01.5
comp=Z,28nm,1.1s
NVAR Mina Array Bea 71.56 55 P **P 10 01 00.1 +1.3**
comp=Z,7.4nm,0.7s,baz=292,slow=6.0,SNR=72
GURO Guroymak-BITLI 71.66 306 IAmb IAmb 10 01 01.8
comp=Z,21nm,0.8s
YMR Madison River 71.70 46 IAmb IAmb 10 01 01.8
comp=Z,9.0nm,0.7s
MLAC Mammoth, Mammo 71.74 56 P **P 10 01 01.9 +2.0**
baz=310,SNR=5.9
BER Bergen 71.78 339 *eP* **P 10 00 58.6 -0.8**
PAGB Antelope Grade 72.07 58 IAmb IAmb 10 01 04.1
comp=Z,15nm,0.9s
H17A Grant Village 72.09 46 IAmb IAmb 10 01 05.8
comp=Z,15nm,0.9s
H17A Grant Village 72.09 46 P **P 10 01 04.9 +2.9**
baz=312,SNR=16
IMW Indian Meadow 72.23 47 IAmb IAmb 10 01 05.6
comp=Z,9.3nm,0.7s
RLMT Red Lodge 72.30 45 IAmb IAmb 10 01 04.8
comp=Z,7.8nm,0.6s
RLMT Red Lodge 72.30 45 P **P 10 01 04.4 +1.3**
baz=312,SNR=7.5
DGMT Dagmar 72.52 40 P **P 10 01 04.2 +0.1**
DGMT IAmb IAmb 10 01 05.6
comp=Z,29nm,0.9s
DGMT Dagmar 72.52 40 P **P 10 01 04.9 +0.7**
baz=315,SNR=11

SNOW Snow King Moun 72.62 47 IAmb IAmb 10 01 07.8
comp=Z,25nm,1.5s
HVU Hansel Valley 72.62 49 IAmb IAmb 10 01 07.3
comp=Z,12nm,1.0s
SORM Soroca 72.69 320 ⇓P **P 10 01 05.2 +0.1**
SORM Soroca 72.69 320 ⇓P **P 10 01 05.2 +0.1**
VES Vestal, Richgr 72.73 57 P **P 10 01 06.2 +0.6**
baz=310
LAO LASA Array 72.78 42 IAmb IAmb 10 01 07.8
comp=Z,14nm,0.9s
LAO LASA Array 72.78 42 P **P 10 01 06.7 +1.0**
baz=314,SNR=7.2
CWC Cottonwood Cre 72.97 56 P **P 10 01 07.7 +0.5**
baz=310
GRAC Grapevine Rang 73.05 55 P **P 10 01 09.2 +1.7**
baz=310,SNR=22
SPUT South Promonto 73.12 49 IAmb IAmb 10 01 10.3
comp=Z,9.8nm,0.8s
ISA Isabella, Lake 73.22 57 P **P 10 01 08.7 +0.1**
baz=310
R11A Troy Canyon, C 73.25 53 IAmb IAmb 10 01 11.0
comp=Z,18nm,1.5s
R11A Troy Canyon, C 73.25 53 P **P 10 01 10.0 +1.2**
baz=311,SNR=14
HWUT Hardware Ranch 73.41 49 IAmb IAmb 10 01 12.1
comp=Z,19nm,1.2s
DIKM Dikmen 73.57 312 ⇑P **P 10 01 12.0 +1.6**
MPMC Manual Prospec 73.58 56 P **P 10 01 12.0 +1.2**
baz=310,SNR=9.3
DUG Dugway, Tooele 73.65 50 IAmb IAmb 10 01 13.4
comp=Z,15nm,0.8s
DUG Dugway, Tooele 73.65 50 P **P 10 01 12.6 +1.5**
baz=312,SNR=22
FURC Furnace Creek, 73.70 55 P **P 10 01 12.7 +1.5**
baz=311,SNR=16
BW06 Boulder Array 73.73 47 IAmb IAmb 10 01 13.2
comp=Z,15nm,1.0s
BW06 Boulder Array 73.73 47 P **P 10 01 12.5 +0.8**
baz=313,SNR=19
PD31 Pinedale Array 73.73 47 IAmb IAmb 10 01 13.2
comp=Z,13nm,1.0s
PDAR Pinedale Array 73.73 47 P **P 10 01 12.3 +0.7**
comp=Z,11nm,0.6s,baz=251,slow=1.2,SNR=111
PDAR LR LR 10 33 10.0
comp=Z,23nm,21.5s,baz=312,slow=35
STKA Stephens Creek 73.74 180 P **P 10 01 12.4 +1.2**
comp=Z,0.9nm,0.6s,baz=344,slow=8.3,SNR=3.7
TPNV Topopah Spring 73.76 55 IAmb IAmb 10 01 14.0
comp=Z,15nm,0.9s
TPNV Topopah Spring 73.76 55 P **P 10 01 13.2 +1.3**
baz=311,SNR=18
TCUT Toone Canyon 73.83 49 IAmb IAmb 10 01 14.5
comp=Z,20nm,0.7s
LRMC Laurel Mtn Rad 73.83 57 P **P 10 01 13.2 +0.9**
baz=311
QSM Queen of Sheba 74.02 56 IAmb IAmb 10 01 15.4
comp=Z,20nm,1.1s
EDW2 Edwards Air Fo 74.03 57 P **P 10 01 14.5 +1.2**
baz=311,SNR=5.6
BZK Bozkurt 74.05 312 ⇓P **P 10 01 14.3 +1.1**
NLU North Lily Min 74.23 50 IAmb IAmb 10 01 16.8
comp=Z,13nm,0.9s
SHOC Shoshone, Teco 74.43 56 P **P 10 01 16.7 +1.2**
baz=311
MPU Maple Canyon 74.44 50 IAmb IAmb 10 01 17.9
comp=Z,18nm,0.7s
GSC Goldstone, Bar 74.49 56 P **P 10 01 17.1 +1.1**
baz=311,SNR=5.8
BUR08 Bucovina Ar. S 74.53 321 P **P 10 01 16.3 +0.3**
BURAR Bucovina Array 74.54 321 ⇑P **P 10 01 16.6 +0.5**
BURAR Bucovina Array 74.54 321 ⇑P **P 10 01 16.6 +0.5**
BIZ Bicaz 74.61 320 ⇑P **P 10 01 17.7 +1.3**
BFSC Mount Baldy Ra 74.65 58 P **P 10 01 18.5 +1.5**
baz=311
TESR Tescani 74.66 320 ⇓P **P 10 01 17.2 +0.5**
CFR Carcaliu 74.89 318 ⇓P **P 10 01 18.3 +0.3**
CFR Carcaliu 74.89 318 ⇓P **P 10 01 18.3 +0.3**
ULM Lac du Bonnet 74.94 34 P **P 10 01 17.4 -0.8**
comp=Z,8.2nm,0.8s,baz=313,slow=7.3,SNR=6.4
TUQ Turquoise Moun 74.95 56 P **P 10 01 20.1 +1.4**
baz=311,SNR=8.2
OJC Ojcow 75.00 326 *eP* **P 10 01 19.4 +0.9**
OJC Ojcow 75.00 326 P **P 10 01 19.3 +0.7**
OJC pmax pmax
comp=Z,12nm,0.7s
OJC Ojcow 75.00 326 P **P 10 01 19.2 +0.7**
OJC IAmb IAmb 10 01 20.3
comp=Z,12nm,0.7s
VRI Vrincioaia 75.09 319 ⇓P P 10 01 23.3 +4.1
VRI Vrincioaia 75.09 319 ⇓P P 10 01 23.3 +4.1
HEC Hector,Ludlow 75.09 56 P **P 10 01 20.7 +1.2**
baz=311,SNR=5.1
BBRC Big Bear Solar 75.10 57 P **P 10 01 20.3 +0.6**
baz=311
MDND Maddock 75.11 38 P **P 10 01 20.1 +0.8**
baz=318
TMUT Trail Mountain 75.17 50 IAmb IAmb 10 01 23.2
comp=Z,11nm,0.6s
CRVS Cenica-Dubn 75.29 324 *eP* **P 10 01 21.3 +1.0**
CRVS Cervenica-Dubn 75.29 324 *eP* **P 10 01 21.2 +1.0**
P17A Butcher Ranch, 75.32 50 IAmb IAmb 10 01 23.0
comp=Z,20nm,0.7s
MURC Murrieta 75.36 58 P **P 10 01 21.6 +0.6**
baz=311
OZUR 75.38 320 ⇓P **P 10 01 22.3 +1.5**
TRPA Tarpa 75.39 323 ⇓P **P 10 01 22.1 +1.3**
NIE Niedzica 75.40 325 *eP* **P 10 01 22.9 +2.0**
K22A Casper 75.43 45 IAmb IAmb 10 01 23.1
comp=Z,25nm,1.5s
K22A Casper 75.43 45 P **P 10 01 22.0 +0.6**
baz=314,SNR=6.9
Q16A Castle Valley 75.45 50 IAmb IAmb 10 01 24.0
comp=Z,21nm,1.4s
GAZ Gaziantep 75.45 307 IAmb IAmb 10 01 22.9
comp=Z,16nm,0.9s
E28A Huff 75.53 39 IAmb IAmb 10 01 23.2
comp=Z,15nm,0.9s
DOPR Dopca 75.66 320 ⇓P **P 10 01 24.9 +2.4**
RSSD Black Hills 75.68 43 P **P 10 01 23.0 +0.1**
RSSD pmax pmax
comp=Z,14nm,0.9s
RSSD Black Hills 75.68 43 P **P 10 01 22.9 +0.1**
RSSD IAmb IAmb 10 01 24.2
comp=Z,14nm,0.9s
RSSD Black Hills 75.68 43 P **P 10 01 23.3 +0.5**
baz=316
MLR Muntele Rosu 75.74 319 ⇓P **P 10 01 24.6 +1.5**
MLR Muntele Rosu 75.74 319 ⇓P **P 10 01 24.6 +1.5**
RWWY Rawlins 75.74 46 P **P 10 01 23.6 +0.3**
RWWY IAmb IAmb 10 01 25.0
comp=Z,18nm,0.8s
BRTR Keskin Array B 75.78 311 P **P 10 01 23.9 +0.6**
comp=Z,3.9nm,0.7s,baz=84,slow=3.8,SNR=28
BRTR Keskin Array B 75.78 311 P **P 10 01 24.0 +0.6**
PFO Pinyon Flats O 75.81 58 P **P 10 01 24.1 +0.4**
PFO pmax pmax
comp=Z,5.0nm,0.8s
PFO Pinyon Flats O 75.81 58 P **P 10 01 24.1 +0.4**
PFO Pinyon Flats O 75.81 58 P **P 10 01 24.4 +0.7**
baz=312,SNR=5.0
BELC Belle Mtn. Jos 75.85 57 P **P 10 01 24.5 +0.6**
baz=312,SNR=6.3
KSP Ksiaz 75.94 328 *eP* **P 10 01 25.0 +1.1**
LANS Liptovska Anna 75.96 325 *eP* **P 10 01 25.9 +1.8**
LANS Liptovska Anna 75.96 325 *eP* **P 10 01 25.9 +1.8**
ANTO Ankara 76.15 312 P **P 10 01 25.8 +0.4**
ANTO pmax pmax
comp=Z,12nm,0.7s
ANTO Ankara 76.15 312 P **P 10 01 25.8 +0.4**
ANTO IAmb IAmb 10 01 27.3
comp=Z,12nm,0.7s
O20A White River Ci 76.26 48 IAmb IAmb 10 01 27.9
comp=Z,20nm,1.2s
O20A White River Ci 76.26 48 P **P 10 01 27.0 +0.8**
baz=314,SNR=8.5
IRM Iron Mountain 76.27 56 P **P 10 01 27.5 +1.3**
baz=312,SNR=8.2
MORC Moravsky Berou 76.27 327 ⇑P **P 10 01 27.2 +1.3**
MORC Moravsky Berou 76.27 327 ⇑P **P 10 01 27.2 +1.3**
MORC Moravsky Berou 76.27 327 *eP* **P 10 01 27.2 +1.3**
DRGR 76.31 322 ⇑P **P 10 01 27.2 +1.0**
DRGR 76.31 322 ⇑P **P 10 01 27.2 +1.0**
DPC Dobruska-Polom 76.32 328 *eP* **P 10 01 27.2 +1.1**
DPC Dobruska-Polom 76.32 328 *eP* **P 10 01 27.2 +1.1**
KRLC Kraliky 76.35 327 *eP* **P 10 01 27.4 +1.1**
KRLC Kraliky 76.35 327 *eP* **P 10 01 27.4 +1.1**

BC3 Big Chuckawall 76.42 57 P **P 10 01 28.2 +1.2**
baz=312
AGMN Agassiz Nation 76.43 36 P **P 10 01 26.5 -0.2**
baz=320
ARR Arges 76.46 320 ⇑P **P 10 01 29.0 +1.9**
U15A North Rim 76.48 53 IAmb IAmb 10 01 30.3
comp=Z,15nm,1.1s
IKP In-Ko-Pah, Jac 76.67 58 P **P 10 01 29.4 +0.9**
baz=312
PSZ Piszkesteto 76.71 324 ⇓P **P 10 01 29.7 +1.2**
PSZ Piszkesteto 76.71 324 ⇓P **P 10 01 29.7 +1.2**
PDMCI Parker Dam,Lak 76.79 56 P **P 10 01 30.3 +1.2**
baz=312,SNR=10
CLL Collm 76.83 330 *i* P **P 10 01 30.0 +1.0**
CLL Collm 76.83 330 *i* P **P 10 01 30.0 +1.0**
JAVC Velka Javorina 76.94 326 *eP* P 10 01 33.3 +3.6
N23A Red Feather La 76.98 46 P **P 10 01 31.6 +1.3**
baz=315,SNR=7.0
PV23 Carpenter Ridg 77.00 50 IAmb IAmb 10 01 32.6
comp=Z,25nm,0.9s
VRAC Vranov 77.03 327 *eP* **P 10 01 31.6 +1.5**
PV14 Lion Creek, Pa 77.04 50 IAmb IAmb 10 01 32.7
comp=Z,25nm,0.9s
PV22 Blue Mesa, Par 77.06 49 IAmb IAmb 10 01 32.8
comp=Z,21nm,0.8s
PV04 Paradox Valley 77.10 50 IAmb IAmb 10 01 33.2
comp=Z,16nm,0.8s
PV20 West Nyswonger 77.10 50 IAmb IAmb 10 01 33.0
comp=Z,19nm,0.8s
PV16 Nyswonger Mesa 77.15 50 IAmb IAmb 10 01 33.4
comp=Z,14nm,0.8s
PV11 David Mesa, Pa 77.18 50 IAmb IAmb 10 01 33.6
comp=Z,15nm,0.7s
PV18 Skein Mesa, Pa 77.20 50 IAmb IAmb 10 01 33.6
comp=Z,17nm,0.8s
PV05 Paradox Valley 77.20 50 IAmb IAmb 10 01 33.9
comp=Z,26nm,1.0s
GLA Glamis 77.21 57 IAmb IAmb 10 01 33.6
comp=Z,11nm,0.8s
GLA Glamis 77.21 57 P **P 10 01 32.9 +1.4**
baz=312
PV12 Saucer Basin, 77.21 50 IAmb IAmb 10 01 46.1
comp=Z,12nm,1.0s
PV03 Paradox Valley 77.22 50 IAmb IAmb 10 01 33.8
comp=Z,11nm,0.7s
PRU Pruhonice 77.31 328 *eP* **P 10 01 32.3 +0.7**
PRU Pruhonice 77.31 328 *eP* **P 10 01 32.3 +0.7**
PV13 Radium Mtn., P 77.31 50 IAmb IAmb 10 01 34.4
comp=Z,18nm,1.0s
GZR Gura Zlata 77.32 321 ⇑P **P 10 01 32.6 +0.7**
GZR Gura Zlata 77.32 321 ⇑P **P 10 01 32.6 +0.7**
PV15 Paradox Valley 77.37 49 IAmb IAmb 10 01 34.5
comp=Z,11nm,0.8s
SMCO Snowmass 77.63 48 IAmb IAmb 10 01 35.7
comp=Z,8.5nm,0.6s
WUAZ Wupatki 77.64 53 P **P 10 01 35.5 +1.5**
baz=313,SNR=10
BZS Buzias 77.69 322 ⇓P **P 10 01 34.2 +0.3**
BZS Buzias 77.69 322 ⇓P **P 10 01 34.2 +0.3**
ISCO Idaho Springs 77.93 47 P **P 10 01 36.4 +0.7**
ISCO pmax pmax
comp=Z,6.0nm,0.8s
ISCO Idaho Springs 77.93 47 P **P 10 01 36.4 +0.7**
ISCO Idaho Springs 77.93 47 P **P 10 01 37.0 +1.3**
baz=316,SNR=9.8
SUSD Miller 77.94 40 P **P 10 01 35.8 +0.5**
baz=318,SNR=6.6
F33A 5 Mile Ranch, 78.11 37 P **P 10 01 36.0 -0.2**
F33A IAmb IAmb 10 01 36.8
comp=Z,17nm,0.6s
MVCO Mesa Verde 78.15 50 P **P 10 01 37.1 +0.2**
MVCO Mesa Verde 78.15 50 P **P 10 01 37.9 +1.1**
baz=314,SNR=8.7
MDVR Moldovita 78.28 321 ⇓P **P 10 01 37.6 +0.4**
CKRC Cesky Krumlov 78.33 328 *eP* **P 10 01 38.2 +0.8**
KHC Kasperske Hory 78.37 328 *eP* **P 10 01 38.2 +0.6**
KHC Kasperske Hory 78.37 328 *eP* **P 10 01 38.2 +0.6**
CONA Conrad Observa 78.41 326 *eP* **P 10 01 39.0 +1.1**
comp=Z,1.4nm,0.5s
EYMN Ely 78.54 33 IAmb IAmb 10 01 39.3
comp=Z,16nm,0.7s
EYMN Ely 78.54 33 P **P 10 01 38.4 -0.1**
baz=323,SNR=5.7
GERES GERESS Array B 78.55 328 P **P 10 01 38.5 -0.2**
comp=Z,0.6nm,0.4s,baz=36,slow=5.4,SNR=5.8
GERES LR LR 10 39 04.6
comp=Z,23nm,18.6s,baz=330,slow=38
S22A 4UR Ranch, Cre 78.72 49 P **P 10 01 41.5 +1.5**
baz=315,SNR=10
Q24A Divide 78.78 47 P **P 10 01 41.3 +0.9**
baz=316
GRF Grafenberg Arr 78.81 330 *eP* **P 10 01 41.0 +1.0**
comp=Z,7.0nm,1.3s,baz=34,slow=4.6
W18A Petrified Fore 78.89 53 P **P 10 01 42.6 +1.7**
baz=314
OGNE Ogallala 79.00 44 P **P 10 01 40.9 -0.3**
baz=317
ARSA Arzberg 79.09 326 *eP* **P 10 01 42.7 +1.1**
comp=Z,1.5nm,0.6s
MOA Molln 79.13 327 *eP* **P 10 01 42.9 +1.1**
comp=Z,2.6nm,0.8s
BOVS Bovan 79.15 320 ⇓P **P 10 01 41.7 -0.2**
VTS Vitosha 79.18 319 ⇑P **P 10 01 44.4 +2.1**
VTS Vitosha 79.18 319 ⇑P **P 10 01 44.4 +2.1**
214A Organ Pipe Nat 79.20 57 P **P 10 01 43.5 +1.0**
baz=313
SDCO Great Sand Dun 79.46 48 P **P 10 01 44.6 +0.5**
SDCO Great Sand Dun 79.46 48 P **P 10 01 45.2 +1.1**
baz=316,SNR=10.0
ECSD EROS Data Cent 79.58 39 IAmb IAmb 10 01 45.3
comp=Z,18nm,0.8s
ECSD EROS Data Cent 79.58 39 P **P 10 01 44.6 +0.3**
baz=320,SNR=20
E38A The Farm, Brul 79.58 34 IAmb IAmb 10 01 44.9
comp=Z,18nm,1.1s
SOKA Soboth 79.75 326 *eP* **P 10 01 46.3 +1.0**
comp=Z,6.7nm,0.9s
KSCO Kaye Shedlock' 80.10 46 P **P 10 01 48.1 +0.7**
baz=317
SPMN Marine on St. 80.14 36 IAmb IAmb 10 01 47.9
comp=Z,14nm,0.9s
SPMN Marine on St. 80.14 36 P **P 10 01 47.2 -0.1**
baz=322,SNR=5.2
TUC Tucson 80.20 55 P **P 10 01 48.4 +0.4**
TUC pmax pmax
comp=Z,4.0nm,1.0s
TUC Tucson 80.20 55 P **P 10 01 48.4 +0.4**
TUC Tucson 80.20 55 P **P 10 01 49.1 +1.1**
baz=314
SCHQ Schefferville 80.23 16 P **P 10 01 47.8 +0.2**
comp=Z,7.4nm,0.7s,baz=344,slow=6.4,SNR=7.1
SCHQ LR LR 10 40 05.0
comp=Z,30nm,18.6s,baz=50,slow=38
SCHQ Schefferville 80.23 16 P **P 10 01 48.0 +0.4**
SCHQ IAmb IAmb 10 02 03.7
comp=Z,26nm,1.4s
MYKA Terra Mystica 80.36 327 *i* P **P 10 01 49.0 +0.4**
comp=Z,4.8nm,0.8s
GHAJ Ghor Haditha 80.43 304 P **P 10 01 49.4 +0.3**
GHAJ IAmb IAmb 10 01 51.1
comp=Z,21nm,1.0s
T25A Trinidad 80.50 48 P **P 10 01 50.3 +0.7**
T25A IAmb IAmb 10 01 51.5
comp=Z,13nm,0.8s
T25A Trinidad 80.50 48 P **P 10 01 50.6 +1.0**
baz=316,SNR=9.2
BGNE Belgrade 80.61 41 P **P 10 01 50.2 +0.4**
BGNE Belgrade 80.61 41 P **P 10 01 50.3 +0.4**
baz=319,SNR=6.8
WATA Walderalm 80.61 328 *i* P **P 10 01 51.0 +1.0**
comp=Z,3.9nm,0.5s
WTTA Wattenberg 80.64 328 *i* P **P 10 01 51.3 +1.1**
comp=Z,4.4nm,0.6s
MOTA Moosalm 80.78 329 *i* P **P 10 01 52.0 +1.1**
comp=Z,9.3nm,1.3s
RETA Reutte 80.80 329 *i* P **P 10 01 52.0 +1.1**
comp=Z,6.5nm,0.9s
I37A Lemond, Waseca 80.83 37 P **P 10 01 51.4 +0.5**
SQTA Sankt Quirin 80.85 328 *eP* **P 10 01 52.2 +1.0**
comp=Z,2.7nm,0.4s
ANMO Albuquerque 80.92 51 P **P 10 01 52.0 +0.1**
ANMO pmax pmax
comp=Z,6.0nm,1.0s
ANMO Albuquerque 80.92 51 P **P 10 01 52.0 +0.1**
ANMO Albuquerque 80.92 51 P **P 10 01 53.6 +1.7**
baz=316

COWI	Conover	80.98	33	IAmb	IAmb	10 01 52.3	
	comp=Z,13nm,0.5s						
FETA	Feichten	81.20	329	*i* P	P	**10 01 54.1**	**+1.0**
	comp=Z,2.2nm,0.5s						
PDG	Podgorica	81.22	321	IAmb	IAmb	10 01 54.3	
	comp=Z,13nm,0.6s						
DAVA	Damuels	81.30	329	*e*P	P	**10 01 54.6**	**+0.9**
	comp=Z,4.3nm,0.7s						
CBKS	Cedar Bluff	81.76	44	IAmb	IAmb	10 01 56.7	
	comp=Z,14nm,0.9s						
CBKS	Cedar Bluff	81.76	44	P	P	**10 01 56.1**	**0.0**
	baz=319						
319A	Douglas	81.77	55	IAmb	IAmb	10 01 58.6	
	comp=Z,12nm,0.9s						
121A	Cookes Peak, D	81.85	53	P	P	**10 01 58.6**	**+1.8**
	baz=315,SNR=7.5						
I40A	Norwalk	82.15	35	IAmb	IAmb	10 01 58.5	
	comp=Z,16nm,0.9s						
SCIA	State Center	82.57	38	P	P	**10 02 00.8**	**+0.6**
	baz=322,SNR=5.1						
JFWS	Jewell Farm	83.09	36	P	P	**10 02 02.5**	**-0.3**
	baz=324						
KSU1	Kansas State U	83.13	42	P	P	**10 02 03.1**	**0.0**
	baz=320,SNR=7.1						
L40A	Anamosa	83.35	37	IAmb	IAmb	10 02 05.2	
	comp=Z,14nm,0.8s						
NRCA	Norcia	83.66	325	IAmb	IAmb	10 02 09.0	
	comp=Z,14nm,0.8s						
MSTX	Muleshoe	83.72	49	P	P	**10 02 07.1**	**+0.7**
	baz=318						
GLMI	Grayling	83.83	31	P	P	**10 02 07.1**	**+0.5**
	baz=327						
MNTX	Cornudas Mount	83.87	52	P	P	**10 02 08.2**	**+1.2**
	baz=316,SNR=8.5						
T35A	Sooner Cattle	84.86	43	IAmb	IAmb	10 02 13.5	
	comp=Z,18nm,0.9s						
P40A	Paris	84.99	39	IAmb	IAmb	10 02 13.9	
	comp=Z,24nm,1.1s						
OK029	Liberty Lake	85.23	45	IAmb	IAmb	10 02 15.1	
	comp=Z,13nm,0.6s						
WMOK	Wichita Mounta	85.33	46	P	P	**10 02 15.2**	**+0.8**
	baz=320						
HDIL	Hopedale	85.42	37	P	P	**10 02 15.2**	**+0.5**
	baz=325,SNR=5.3						
OK031	S. Brethren Rd	85.43	44	IAmb	IAmb	10 02 16.4	
	comp=Z,17nm,1.1s						
OK025	Westminster Rd	85.46	45	IAmb	IAmb	10 02 16.5	
	comp=Z,18nm,0.7s						
S39A	Bolivar	85.84	41	IAmb	IAmb	10 02 17.4	
	comp=Z,10.0nm,0.9s						
R40A	Maddies Statio	85.87	40	IAmb	IAmb	10 02 17.9	
	comp=Z,14nm,0.6s						
TUL1	Leonard	86.00	44	IAmb	IAmb	10 02 18.7	
	comp=Z,9.0nm,0.6s						
TUL1	Leonard	86.00	44	P	P	**10 02 18.3**	**+0.6**
	baz=321						
U38A	Gravette	86.30	42	IAmb	IAmb	10 02 20.2	
	comp=Z,9.9nm,1.0s						
ABTX	Abilene, Hawle	86.46	48	P	P	**10 02 20.9**	**+0.9**
	baz=319						
SFIN	Lafayette	86.52	35	P	P	**10 02 20.5**	**+0.4**
	baz=326						
CCM	Cathedral Cave	86.55	39	P	P	**10 02 20.5**	**+0.2**
CCM				pmax	pmax		
	comp=Z,14nm,0.8s						
CCM	Cathedral Cave	86.55	39	P	P	**10 02 20.5**	**+0.2**
CCM				IAmb	IAmb	10 02 21.4	
	comp=Z,14nm,0.8s						
CCM	Cathedral Cave	86.55	39	P	P	**10 02 20.7**	**+0.4**
	baz=324						
TX31	Lajitas Ar. Si	86.60	53	IAmb	IAmb	10 02 22.7	
	comp=Z,13nm,0.7s						
TXAR	Lajitas Array	86.60	53	P	P	**10 02 21.9**	**+1.1**
	comp=Z,4.3nm,0.7s,baz=294,slow=3.7,SNR=66						
HHAR	Hobbs	86.65	42	IAmb	IAmb	10 02 21.2	
	comp=Z,5.9nm,0.7s						
MGMO	Mountain Grove	86.78	41	IAmb	IAmb	10 02 22.3	
	comp=Z,7.2nm,0.8s						
U40A	Yellville	87.13	41	P	P	**10 02 23.5**	**+0.3**
	baz=323,SNR=7.9						
T42A	Van Buren	87.44	40	IAmb	IAmb	10 02 25.4	
	comp=Z,8.7nm,0.7s						
BATG	Bathurst New B	87.47	19	IAmb	IAmb	10 02 26.1	
	comp=Z,17nm,0.9s						
FCAR	Ozark Folk Cen	87.85	41	IAmb	IAmb	10 02 27.5	
	comp=Z,16nm,1.3s						
PBMO	Poplar Bluff	87.96	40	IAmb	IAmb	10 02 28.5	
	comp=Z,14nm,0.8s						
WHTX	Lake Whitney,	88.14	47	P	P	**10 02 28.8**	**+0.8**
	baz=320						
MIAR	Mount Ida	88.20	43	IAmb	IAmb	10 02 29.9	
	comp=Z,11nm,0.9s						
MIAR	Mount Ida	88.20	43	P	P	**10 02 29.0**	**+0.7**
	baz=322,SNR=6.2						
P49A	Miami Univ. Ec	88.24	34	IAmb	IAmb	10 02 29.5	
	comp=Z,17nm,0.9s						
P49A	Miami Univ. Ec	88.24	34	P	P	**10 02 28.7**	**+0.3**
	baz=327,SNR=5.1						
WHAR	Wooly Hollow	88.25	42	IAmb	IAmb	10 02 29.7	
	comp=Z,12nm,0.8s						
ACSO	Alum Creek Sta	88.36	33	P	P	**10 02 29.6**	**+0.7**
	baz=326						
W41B	Gary Mavity, V	88.36	42	P	P	**10 02 29.2**	**+0.2**
	baz=323						
M54A	Oil Creek Stat	88.55	30	P	P	**10 02 30.5**	**+0.7**
	baz=330						
X40A	Basin Creek Fa	88.62	42	IAmb	IAmb	10 02 31.9	
	comp=Z,6.6nm,0.9s						
X40A	Basin Creek Fa	88.62	42	P	P	**10 02 31.4**	**+1.1**
	baz=323						
WCI	Wyandotte Cave	88.65	36	P	P	**10 02 29.9**	**-0.5**
WCI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WCI	Wyandotte Cave	88.65	36	P	P	**10 02 29.9**	**-0.5**
WCI				IAmb	IAmb	10 02 31.8	
	comp=Z,9.9nm,0.7s						
WCI	Wyandotte Cave	88.65	36	P	P	**10 02 31.2**	**+0.8**
	baz=326						
N54A	Moraine State	88.90	30	P	P	**10 02 32.4**	**+0.9**
	baz=330,SNR=5.1						
O53A	New Philadelph	89.04	32	P	P	**10 02 32.9**	**+0.7**
	baz=330						
P52A	Corning	89.21	33	P	P	**10 02 33.4**	**+0.4**
	baz=329						
WVT	Waverly	89.70	38	P	P	**10 02 35.7**	**+0.4**
WVT				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WVT	Waverly	89.70	38	P	P	**10 02 35.7**	**+0.4**
WVT				IAmb	IAmb	10 02 36.7	
	comp=Z,5.4nm,0.8s						
WVT	Waverly	89.70	38	P	P	**10 02 35.7**	**+0.4**
	baz=326						
SSPA	Standing Stone	89.96	29	P	P	**10 02 37.4**	**+1.0**
	baz=332						
O56A	Blue Knob Stat	90.03	30	P	P	**10 02 37.9**	**+1.1**
	baz=331						
T50A	Nancy	90.29	36	IAmb	IAmb	10 02 39.4	
	comp=Z,8.9nm,0.7s						
U49A	Red Boiling Sp	90.31	37	IAmb	IAmb	10 02 39.6	
	comp=Z,8.0nm,0.8s						
V48A	Smith Brothers	90.48	38	IAmb	IAmb	10 02 41.3	
	comp=Z,6.9nm,1.1s						
ESDC	Sonseca Array	92.83	334	P	P	**10 02 50.5**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=18,slow=4.3,SNR=4.5						
TORD	Torodi Ar. Bea	113.92	317	PP	PP	**10 09 04.5**	**-5.4**
	comp=Z,2.7nm,1.0s,baz=10,slow=8.9,SNR=9.7						
MAW	Mawson	124.39	207	PKP	PKiKP	**10 08 36.0**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=79,slow=5.2,SNR=2.5						
MAW	Mawson	124.39	207	PKiKP	PKiKP	**10 08 36.0**	**+1.2**
SYO	Syowa Base	133.01	209	*e*Pdiff	Pdif	**10 05 50.6**	**+2.6**
LPAZ	La Paz	143.46	54	PKhKP	PKPpre	10 09 09.4	
	comp=Z,0.5nm,0.4s,baz=64,slow=5.8,SNR=4.8						
SNAA	Sanae	145.82	199	PKPdf	PKiKP	**10 09 15.8**	**-2.5**
VNA2	Neumayer--Watz	147.41	198	PKPdf	PKiKP	**10 09 19.6**	**-1.9**
BDFB	Brasilia	152.14	21	PKPbc	PKiKP	**10 09 32.9**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=124,slow=3.6,SNR=3.1						
BDFB				PKPab	PKPab	**10 09 42.7**	**+0.2**
	comp=Z,3.7nm,0.6s,baz=219,slow=6.5,SNR=4.7						
PLCA	Paso Flores	155.63	98	PKPab	PKPab	**10 09 58.6**	**+1.7**
	comp=Z,1.9nm,1.0s,baz=278,slow=3.3,SNR=7.8						

*IDC **26** 09:50:14.4±2.2,25°.14S×179°.60W,h475km±23km,mb3.3/5, mb1 3.6/9,mb1mx3.3/24,mbtmp4.4/9 Error ellipse: s-maj=36.8km s-min=19.1km az=120.0*
*NEIC **26** 09:50:15.8±2.1,25°.08S±0°.03×179°.7W±0°.2,h483km±11km, mb4.1/19,Error ellipse: s-maj=20.3km s-min=3.8km az=91.0*

ISC 26 09:50:15.6±0.7,25°.01S±0°.08×179°.50W±0°.10,h500km, n39,σ1946/41,mb4.1/16,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	7.59	342	P		P	P	09 52 07.6	-0.4
	5.2nm,0.3s,baz=255,slow=20,SNR=33								
NIUE	Niue	10.65	58	P		P	P	09 52 42.0	+2.0
OUZ	Omahuta	11.80	209	P		P	P	09 52 53.6	+1.8
MARNC	Mare, Loyalty	11.99	284	P		P	P	09 52 53.8	-0.3
PINNC	Pines Island,	12.19	279	P		P	P	09 52 56.9	+0.8
AFI	Afiamalu	13.22	35	P		P	P	09 53 06.4	-0.8
	4.7nm,0.3s,baz=66,slow=2.2,SNR=12								
AFI				S		S	S	09 55 25.0	-3.8
	1.3nm,0.3s,baz=316,slow=19,SNR=2.2								
AFI	Afiamalu	13.22	35	P		P	P	09 53 06.9	-0.3
DZM	Mont Dzumac	13.22	280	P		P	P	09 53 06.9	-0.3
	0.3nm,0.3s,baz=92,slow=17,SNR=3.7								
DZM	Mont Dzumac	13.22	280	P		P	P	09 53 04.9	-2.3
URZ	Urewera	13.52	191	P		P	P	09 53 07.9	-2.1
	2.3nm,0.3s,baz=252,slow=4.4,SNR=14								
URZ				S		S	S	09 55 30.3	-3.6
	0.7nm,0.3s,baz=229,slow=20,SNR=1.9								
URZ	Urewera	13.52	191	P		P	P	09 53 08.5	-1.5
BKZ	Black Stump Fm	14.52	193	P		P	P	09 53 19.5	-1.1
OXZ	Oxford	19.55	199	P		P	P	09 54 09.3	-0.6
EIDS	Eidsvold	26.61	263	P		P	P	09 55 13.5	+0.1
CAN	Canberra	29.00	242	P		P	P	09 55 34.8	+0.5
CTAO	Charters Tower	31.95	272	P		P	P	09 55 59.8	-0.1
CTAO				IAmb		IAmb		09 56 25.9	
	comp=Z,12nm,1.1s								
TOO	Toolangi	32.25	239	P		P	P	09 56 03.4	+1.2
TOO				IAmb		IAmb		09 56 27.7	
	comp=Z,8.1nm,1.3s								
STKA	Stephens Creek	34.75	250	P		P	P	09 56 23.3	-0.2
	comp=Z,1.1nm,0.4s,baz=92,slow=12,SNR=8.7								
STKA	Stephens Creek	34.75	250	P		P	P	09 56 23.2	-0.2
BBOO	Buckleboo	39.45	248	P		P	P	09 57 01.0	-1.1
BBOO				IAmb		IAmb		09 57 14.2	
	comp=Z,14nm,1.4s								
AS31	Alice Springs	42.32	262	P		P	P	09 57 24.7	-0.4
ASAR	Alice Springs	42.32	262	P		P	P	09 57 24.6	-0.6
	comp=Z,2.2nm,0.4s,baz=92,slow=7.2,SNR=42								
ASAR	Alice Springs	42.32	262	P		P	P	09 57 24.3	-0.8
WR0	Warramunga Arr	42.61	267	P		P	P	09 57 26.4	-1.1
WR0				IAmb		IAmb		09 57 27.0	
	comp=Z,3.5nm,0.8s								
WB2	Warramunga Arr	42.79	267	P		P	P	09 57 27.8	-1.1
WB2				IAmb		IAmb		09 57 28.6	
	comp=Z,6.3nm,0.9s								
WB0	Warramunga Arr	42.80	267	P		P	P	09 57 28.0	-1.0
WB0				IAmb		IAmb		09 57 28.6	
	comp=Z,6.6nm,0.7s								
WRA	Warramunga Arr	42.80	267	P		P	P	09 57 27.6	-1.3
	comp=Z,3.0nm,0.3s,baz=100,slow=6.7,SNR=70								
WRA	Warramunga Arr	42.80	267	P		P	P	09 57 27.7	-1.3
FORT	Forrest	46.37	251	P		P	P	09 57 55.3	-1.0
FORT				IAmb		IAmb		09 57 59.1	
	comp=Z,11nm,0.9s								
KNRA	Kununurra	49.15	271	P		P	P	09 58 17.2	-0.2
FITZ	Fitzroy Crossi	51.21	266	P		P	P	09 58 32.4	-0.1
FITZ				IAmb		IAmb		09 58 33.7	
	comp=Z,5.2nm,0.8s								
MORW	Morawa	56.93	250	P		P	P	09 59 12.6	-0.2
MORW				IAmb		IAmb		09 59 34.9	
	comp=Z,18nm,1.2s								
CASY	Casey	59.32	206	P		P	P	09 59 28.8	+0.4
CASY				IAmb		IAmb		09 59 53.7	
	comp=Z,4.0nm,1.2s								
QSPA	South Pole Qui	65.08	180	P		P	P	10 00 09.0	+2.9
QSPA				IAmb		IAmb		10 00 09.5	
	comp=Z,4.1nm,1.2s								
MJAR	Matsushiro Arr	73.06	325	P		P	P	10 00 55.4	+1.0
	comp=Z,1.1nm,0.7s,baz=168,slow=5.6,SNR=5.1								
MJAR	Matsushiro Ar	73.06	325	P		P	P	10 00 55.3	+1.0
KSRS	Korea Array	79.39	320	P		P	P	10 01 31.3	+2.1
	comp=Z,0.5nm,0.6s,baz=124,slow=5.5,SNR=4.3								
BRTR	Keskin Array B	148.60	306	PKPbc		PKiKP		10 09 07.5	+0.3
	comp=Z,0.3nm,0.4s,baz=166,slow=3.0,SNR=3.3								
MORC	Moravsky Berou	151.94	336	PKPab		PKPab		10 09 27.2	+2.0

*TRN **26** 10:07:45.6,18°.81N×64°.38W,h32km,M3.6(RSPR)*
*NEIC **26** 10:07:46.3±0.9,18°.88N±0°.07×64°.34W±0°.04,h32km±11km, Error ellipse: s-maj=10.6km s-min=3.9km az=155.0*
*RSPR **26** 10:07:46.2,18°.89N×64°.27W,h38km,MD3.4/14*

ISC 26 10:07:46.5±1.4,18°.88N±0°.08×64°.35W±0°.03,h33km±4km, n54,σ0°67/74,12C-12D,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ABV	Anegada	0.15	173	*i*	P	P	Pb	10 07 52.4	-0.2
ABV	Anegada	0.15	173	*i*	P	P	Pb	10 07 52.4	-0.2
ABV				*e*	S	S	Sb	10 07 57.4	+0.6
ABVI	Anegada Island	0.15	174			P	Pb	10 07 52.3	-0.3
ABVI						S	Sb	10 07 57.3	+0.5
VGBI	Virgin Gorda,	0.39	187	*e*	P	P	Pb	10 07 55.0	-0.5
VGBI	Virgin Gorda,	0.39	187	*e*	S	S	Sb	10 08 01.7	+0.2
VGBI	Virgin Gorda,	0.39	187			P	Pb	10 07 55.0	-0.5
VGBI						S	Sb	10 08 01.7	+0.2
TBVI	Tortola	0.52	209	*e*	P	P	Pb	10 07 57.0	-0.5
TBVI	Tortola	0.52	209	*e*	P	P	Pb	10 07 57.0	-0.5
TBVI				*e*	S	S	Sb	10 08 05.0	+0.1
STVI	Saint Thomas	0.78	228	*e*	P	P	Pn	10 08 00.6	-0.5
STVI	Saint Thomas	0.78	228	*e*	P	P	Pn	10 08 00.6	-0.5
STVI				*e*	S	S	Sn	10 08 11.7	0.0
STVI	Saint Thomas	0.78	228			P	Pn	10 08 00.6	-0.5
STVI						S	Sn	10 08 11.6	0.0
STVI				IAML				10 08 12.9	
	comp=E,1μm,0.3s								
CUPR	Culebra, Puert	1.05	238	*i*	P	P	Pn	10 08 04.6	-0.4
CUPR	Culebra, Puert	1.05	238	*e*	S	S	Sn	10 08 18.5	+0.1
CUPR	Culebra, Puert	1.05	238			P	Pn	10 08 04.6	-0.4
CUPR						S	Sn	10 08 18.5	+0.1
CUPR				IAML				10 08 19.2	
	comp=N,349nm,0.4s								
CDVI	St. Croix	1.19	200			P	Pn	10 08 07.5	+0.7
MTP	Monte Pirata	1.38	236	*e*	P	P	Pn	10 08 08.7	-0.8
MTP	Monte Pirata	1.38	236	*e*	P	P	Pn	10 08 08.7	-0.8
MTP				*e*	S	S	Sn	10 08 25.9	-0.7
MTP	Monte Pirata	1.38	236			P	Pn	10 08 09.3	-0.2
MTP				IAML				10 08 28.0	
	comp=N,327nm,0.4s								
MTP				IAML				10 08 31.1	
	comp=E,399nm,0.2s								
SMRT	St. Maarten	1.46	124	*e*	P	P	Pn	10 08 09.9	-0.8
SMRT				*e*	S	S	Sb	10 08 30.5	-0.9
SMRT	St. Maarten	1.46	124			P	Pn	10 08 10.4	-0.2
SMRT				IAML				10 08 31.4	
	comp=N,643nm,0.2s								
CBYP	Canovanas	1.55	247	*i*	P	P	Pn	10 08 11.3	-0.6
CBYP	Canovanas	1.55	247	*i*	P	P	Pn	10 08 11.3	-0.6
CBYP				*e*	S	S	Sn	10 08 30.9	0.0
CBYP	Canovanas	1.55	247			P	Pn	10 08 11.2	-0.7
CBYP						S	Sn	10 08 30.7	-0.2
HUMP	Col San Antoni	1.60	243	*i*	P	P	Pn	10 08 12.3	-0.2
HUMP	Col San Antoni	1.60	243	*i*	P	P	Pn	10 08 12.3	-0.2
HUMP				*e*	S	S	Sn	10 08 31.5	-0.5
HUMP	Col San Antoni	1.60	243			P	Pn	10 08 12.2	-0.2
HUMP						S	Sn	10 08 32.1	+0.1
HUMP				IAML				10 08 37.5	
	comp=E,232nm,0.2s								
HUMP				IAML				10 08 38.7	
	comp=N,214nm,0.2s								
GCPR	Guaynabo City	1.74	251	*i*	P	P	Pn	10 08 13.9	-0.5
GCPR	Guaynabo City	1.74	251	*e*	S	S	Sn	10 08 35.1	-0.4
GCPR	Guaynabo City	1.74	251			P	Pn	10 08 14.4	0.0
GCPR						S	Sn	10 08 35.0	-0.5
PDPR	Patillas Dam,	1.80	242			P	Pn	10 08 15.4	+0.2
PDPR				IAML				10 08 43.0	
	comp=E,196nm,0.6s								
SJG	San Juan	1.87	246	*e*	P	P	Pn	10 08 16.5	+0.3
SJG	San Juan	1.87	246			P	Pn	10 08 16.4	+0.2
SJG				IAML				10 08 45.2	
	comp=E,124nm,0.4s								
SJG				IAML				10 08 49.2	
	comp=E,126nm,0.5s								
IGPR	InterUniversit	1.90	242	*i*	P	P	Pn	10 08 16.8	+0.2
IGPR	InterUniversit	1.90	242	*e*	S	S	Sn	10 08 39.7	+0.3
IGPR	InterUniversit	1.90	242	Pn		P	Pn	10 08 17.2	+0.6
IGPR				IAML				10 08 46.7	
	comp=E,222nm,0.3s								
EMPR	Esperanza - Ma	2.10	259	*i*	P	P	Pn	10 08 20.0	+0.6
EMPR	Esperanza - Ma	2.10	259	*e*	S	S	Sn	10 08 46.4	+1.9
EMPR	Esperanza - Ma	2.10	259			P	Pn	10 08 19.2	-0.2
EMPR				IAML				10 08 48.1	
	comp=E,196nm,0.6s								
EMPR				IAML				10 08 57.0	
	comp=N,147nm,0.5s								
CELP	Cerrillos	2.26	250	*i*	P	P	Pn	10 08 22.0	+0.3
CELP	Cerrillos	2.26	250	*i*	P	P	Pn	10 08 22.0	+0.3
CELP				*e*	S	S	Sn	10 08 49.0	+0.7
CELP	Cerrillos	2.26	250			P	Pn	10 08 22.0	+0.3
CELP						S	Sn	10 08 49.0	+0.7
OBIP	Obispado Ponce	2.30	249	*i*	P	P	Pn	10 08 20.9	-1.2
OBIP	Obispado Ponce	2.30	249	*i*	P	P	Pn	10 08 20.9	-1.2
OBIP				*e*	S	S	Sn	10 08 49.1	-0.2
OBIP	Obispado Ponce	2.30	249			P	Pn	10 08 22.1	+0.1
OBIP				IAML				10 08 50.5	
	comp=E,100nm,0.6s								
AOPR	Arecibo Observ	2.34	257	*i*	P	P	Pn	10 08 22.0	-0.7
AOPR	Arecibo Observ	2.34	257	*e*	P	P	Pn	10 08 23.7	+1.0
AOPR				*e*	S	S	Sn	10 08 51.3	+0.9
AOPR	Arecibo Observ	2.34	257			P	Pn	10 08 23.0	+0.3
AOPR				IAML				10 09 03.6	
	comp=N,216nm,0.4s								
ANWB	Willy Bob	2.72	116	Pn		Pn	Pn	10 08 26.2	-1.6
CRPR	Cabo Rojo, PR	2.76	252	*i*	P	P	Pn	10 08 29.1	+0.7
CRPR	Cabo Rojo, PR	2.76	252	*i*	P	P	Pn	10 08 29.1	+0.7
CRPR				*e*	S	S	Sn	10 09 00.9	+0.2
CRPR	Cabo Rojo, PR	2.76	252	Pn		P	Pn	10 08 29.6	+1.2
CRPR				IAML				10 09 04.3	
	comp=E,60nm,0.8s								
CRPR				IAML				10 09 12.2	
	comp=N,63nm,0.8s								
ANBD	Bethesda, Anti	3.06	126	*e*	P	P	Pn	10 08 32.5	-0.1
ANBD				*e*	S	S	Sn	10 09 08.6	+0.5
MAGL	Barre de l'ile	4.13	134	*e*	P	P	Pn	10 08 48.1	+0.8
MAGL	Barre de l'ile	4.13	134	*e*	S	S	Sn	10 09 36.9	+2.4

IDC 26 10:10:18.3±3.4,5°.16S×152°.18E,h0km,mb3.6/3, mb1 3.9/3,mb1mx3.4/37,mbtmp3.7/3,Error ellipse: s-maj=132.9km s-min=45.2km az=122.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.75	228	P		P	P	10 15 21.9	-0.4
	1.1nm,0.6s,baz=54,slow=10.0,SNR=14								
ASAR	Alice Springs	25.47	222	P		P	P	10 15 48.5	+0.2
	0.6nm,0.6s,baz=51,slow=9.3,SNR=9.8								
FITZ	Fitzroy Crossi	28.94	241	P		P	P	10 16 19.4	-0.2
	0.8nm,0.5s,baz=62,slow=12,SNR=2.0								
TORD	Torodi Ar. Bea	149.82	287	PKPbc		PKPbc		10 30 11.2	-0.3
	1.1nm,0.7s,baz=65,slow=3.5,SNR=9.9								

*SJA **26** 10:46:13.0,32°.93S×72°.70W,h10km,ML4.9*
*IDC **26** 10:46:14.2±1.0,32°.86S×72°.12W,h0km,mb3.9/6, mb1 4.0/9,mb1mx3.9/22,mbtmp3.9/9,ML3.9/3,MS2.9/3, Ms1 2.9/3,ms1mx2.6/23,Error ellipse: s-maj=35.8km s-min=20.8km az=88.0*
*NEIC **26** 10:46:14.3±1.6,32°.90S±0°.04×72°.42W±0°.06,h10km±1km, mb4.3/19,ML4.0(GUC),Error ellipse: s-maj=9.3km s-min=6.8km az=241.0*
*GUC **26** 10:46:15.8±0.8,32°.92S×72°.35W,h41km±3km,ML4.0*

ISC 26 10:46:12.9±1.1,32°.88S±0°.04×72°.43W±0°.04,h4km±6km, n109,σ1947/115,mb4.2/11,13C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VA01	Torpederas	0.67	102	*e*	P	P	Pb	10 46 27.5	+0.2
VA01				*i*	S	S	Sb	10 46 36.5	-0.4
VA01				IAML				10 46 37.7	
	comp=N,9μm,0.3s								
VA01	Torpederas	0.67	102			P	Pb	10 46 27.7	+0.5
VA01	Torpederas	0.67	102	*i*	P	P	Pb	10 46 27.0	-0.2
VA06	Catapilco	1.01	72	*i*	P	P	Pb	10 46 33.2	+0.3
VA06				*i*	S	S	Sg	10 46 44.5	-0.8
VA06				IAML				10 46 51.2	
	comp=N,11μm,0.4s								
VA05	Santo Domingo	1.03	139	*i*	P	P	Pb	10 46 33.4	0.0
VA05				*i*	S	S	Sg	10 46 46.2	+0.1
VA05				IAML				10 46 52.3	
	comp=E,6μm,0.2s								
VA05	Santo Domingo	1.03	139			P	Pb	10 46 33.3	0.0
ROCH	El Roble	1.20	95	*i*	P	P	Pg	10 46 35.9	+0.1
ROCH				*i*	S	S	Sg	10 46 51.4	+0.1
ROCH				IAML				10 46 54.4	
	comp=N,6μm,0.3s								
MT01	Popeta	1.39	135	*i*	P	P	Pn	10 46 38.5	-0.7
MT01				*i*	S	S	Sb	10 46 54.9	-2.7
MT01				IAML				10 47 00.6	
	comp=E,2μm,0.5s								
MT01	Popeta	1.39	135			P	Pn	10 46 38.6	-0.5
MT01	Popeta	1.39	135	*i*	P	P	Pn	10 46 38.0	-1.2
MT09	Talagante	1.50	127	*i*	P	P	Pn	10 46 40.6	-0.2
MT09				*i*	S	S	Sn	10 46 58.8	-2.2
MT09				IAML				10 47 01.9	
	comp=N,4μm,0.4s								
MT09	Talagante	1.50	127			P	Pn	10 46 40.7	-0.1
MT05

H03N1	**Juan Fernandez** baz=90,slow=74,SNR=100	**5.47**	**262**	T		T		10 53 14.2	
H03N3	**Juan Fernandez** baz=90,slow=74,SNR=158	**5.48**	**262**	T		T		10 53 13.8	
H03N2	**Juan Fernandez** baz=90,slow=74,SNR=148	**5.48**	**262**	T		T		10 53 15.1	
VCA	**Vinchina**	**5.50**	**42**	*i* P		**Pn**		**10 47 39.0**	**+3.1**
H03S1	**Juan Fernandez** baz=84,slow=75,SNR=118	**5.50**	**258**	T		T		10 54 07.2	
H03S3	**Juan Fernandez** baz=84,slow=75,SNR=138	**5.50**	**258**	T		T		10 54 08.5	
H03S2	**Juan Fernandez** baz=84,slow=75,SNR=242	**5.52**	**258**	T		T		10 54 01.1	
GO03	**Copiap**	**5.60**	**20**	Pn		**Pn**		**10 47 37.7**	**+0.5**
GO03	**Copiap**	**5.60**	**20**	*i* P		**Pn**		**10 47 38.0**	**+0.8**
APLL	**PUNTA DE LOS L**	**5.61**	**65**	*i* P		**Pn**		**10 47 39.0**	**+1.8**
ACLC	**CERRO LA CRUZ**	**5.82**	**55**	*i* P		**Pn**		**10 47 41.0**	**+0.7**
LC01	**Cunco**	**6.02**	**176**	Pn		**Pn**		**10 47 43.0**	**+0.2**
LC01	**Cunco**	**6.02**	**176**	*i* P		**Pn**		**10 47 43.0**	**+0.2**
AC02	**Maricunga**	**6.67**	**26**	Pn		**Pn**		**10 47 52.9**	**+0.6**
AC02	**Maricunga**	**6.67**	**26**	*i* P		**Pn**		**10 47 53.0**	**+0.8**
PLCA	**Paso Flores** comp=E,0.6nm,0.3s,baz=332,slow=11,SNR=22	**7.98**	**170**	Pn		**Pn**		**10 48 11.3**	**+1.5**
PLCA				LR		LR		10 50 53.0	
	comp=E,47nm,18.9s,baz=348,slow=35								
PLCA	**Paso Flores**	**7.98**	**170**	*i* P		**Pn**		**10 48 12.0**	**+2.2**
LL04	**Puerto Octay**	**8.01**	**180**	Pn		**Pn**		**10 48 11.4**	**+1.2**
TRQA	**Tornquist**	**9.96**	**124**	Pn		**Pn**		**10 48 37.6**	**+0.7**
TRQA	**Tornquist**	**9.96**	**124**	*i* P		**Pn**		**10 48 38.0**	**+1.1**
LVC	**Limon Verde** comp=E,0.3nm,0.3s,baz=278,slow=14,SNR=1.1	**10.70**	**18**	Pn		**Pn**		**10 48 44.0**	**-3.3**
LVC	**Limon Verde**	**10.70**	**18**	Pn		**Pn**		**10 48 43.8**	**-3.6**
PB01	**IPOC Station P**	**12.08**	**13**	Pn		**Pn**		**10 49 02.3**	**-3.7**
PB11	**IPOC Station P**	**13.30**	**11**	Pn		**Pn**		**10 49 19.7**	**-3.1**
CPUP	**Villa Florida** comp=E,40nm,18.1s,baz=248,slow=39	**14.66**	**67**	LR		LR		10 55 29.8	
LPAZ	**La Paz** comp=E,0.1nm,0.3s,baz=175,slow=8.3,SNR=7.1	**16.98**	**14**	Pn		**Pn**		**10 50 12.9**	**+0.9**
LPAZ	**La Paz**	**16.98**	**14**	P		**Pn**		**10 50 12.2**	**+0.2**
SIV	**San Ignacio** comp=E,0.7nm,0.3s,baz=201,slow=9.0,SNR=14	**19.71**	**34**	P		**P**		**10 50 43.4**	**-0.2**
SIV				LR		LR		10 59 29.5	
	comp=E,56nm,20.8s,baz=304,slow=41								
TRCB	**Terra Rica**	**20.15**	**65**	P		**P**		**10 50 48.0**	**-0.3**
TRCB				IAmb		IAmb		10 50 49.0	
	comp=Z,16nm,0.7s								
NNA	**Nana**	**21.19**	**348**	P		**P**		**10 50 59.4**	**-0.2**
SAML	**Samuel**	**25.31**	**22**	P		**P**		**10 51 41.8**	**+1.1**
SAML				IAmb		IAmb		10 51 44.5	
	comp=Z,4.9nm,1.0s								
BDFB	**Brasilia** comp=E,2.4nm,0.5s,baz=244,slow=5.8,SNR=3.6	**28.00**	**58**	P		**P**		**10 52 04.5**	**-0.7**
BDFB	**Brasilia**	**28.00**	**58**	P		**P**		**10 52 05.6**	**+0.4**
OTAV	**Otavalo**	**33.43**	**349**	P		**P**		**10 52 51.5**	**-2.0**
OTAV				IAmb		IAmb		10 52 52.2	
	comp=Z,6.2nm,1.1s								
SNAA	**Sanae**	**52.74**	**158**	P		**P**		**10 55 29.9**	**+1.3**
	comp=Z,2.1nm,0.8s,baz=244,slow=8.1,SNR=7.8								
SNAA	**Sanae**	**52.74**	**158**	P		**P**		**10 55 29.4**	**+0.8**
SNAA				IAmb		IAmb		10 55 31.3	
	comp=Z,3.7nm,1.0s								
QSPA	**South Pole Qui**	**57.35**	**180**	P		**P**		**10 56 01.9**	**-0.2**
QSPA				IAmb		IAmb		10 56 05.9	
	comp=Z,3.7nm,1.1s								
TIGA	**Tifton**	**64.84**	**349**	P		**P**		**10 56 52.1**	**-0.9**
JSC	**Jenkinsville**	**67.32**	**352**	P		**P**		**10 57 09.1**	**+0.1**
BG3	**Lake Jocassee**	**68.24**	**351**	P		**P**		**10 57 15.9**	**+1.2**
TXAR	**Lajitas Array** comp=Z,0.3nm,0.6s,baz=150,slow=8.2,SNR=5.7	**68.60**	**331**	P		**P**		**10 57 20.1**	**+2.8**
TXAR	**Lajitas Array**	**68.60**	**331**	P		**P**		**10 57 17.3**	**0.0**
ABTX	**Abilene, Hawle**	**70.03**	**336**	P		**P**		**10 57 25.5**	**-0.4**
ABTX				IAmb		IAmb		10 57 34.0	
	comp=Z,2.1nm,1.1s								
MNTX	**Cornudas Mount**	**71.38**	**331**	P		**P**		**10 57 33.8**	**-0.4**
R50A	**Paris**	**71.66**	**350**	P		**P**		**10 57 35.0**	**-0.7**
R50A				IAmb		IAmb		10 57 42.7	
	comp=Z,2.3nm,0.6s								
MGMO	**Mountain Grove**	**72.10**	**343**	P		**P**		**10 57 39.1**	**+0.8**
MAW	**Mawson** comp=Z,0.5nm,0.5s,baz=233,slow=10,SNR=2.2	**74.34**	**164**	P		**P**		**10 57 52.6**	**+1.3**
NVAR	**Mina Array Bea**	**82.78**	**325**	P		**P**		**10 58 40.4**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=170,slow=7.1,SNR=2.8								
TORD	**Torodi Ar. Bea** comp=Z,1.6nm,0.8s,baz=256,slow=4.9,SNR=7.9	**84.14**	**70**	P		**P**		**10 58 46.4**	**+0.7**
TORD	**Torodi Ar. Bea**	**84.14**	**70**	P		**P**		**10 58 45.9**	**+0.2**
TORD				IAmb		IAmb		10 58 47.7	
	comp=Z,1.7nm,0.8s								
ZALV	**Zalesovo Beam** comp=Z,1.1nm,0.7s,baz=319,slow=5.9,SNR=4.8	**153.45**	**31**	PKPbc		**PKiKP**		**11 06 13.6**	**+1.4**
ZALV	**Zalesovo Beam**	**153.45**	**31**	PKPdf		**PKPdf**		**11 06 04.3**	**-0.1**
ZALV						**sPKPbc**		**11 06 13.3**	**+1.1**
MKAR	**Makanchi Array** comp=Z,0.7nm,0.7s,baz=294,slow=3.9,SNR=6.7	**156.26**	**47**	PKPab		**PKPab**		**11 06 37.6**	**+0.9**
MKAR	**Makanchi Array**	**156.26**	**47**			**PKPab**		**11 06 38.0**	**+1.4**

MEX 26 10:49:09.4±0.3, 14.66N×92.46W, h77km±16km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCIG		**1.27**	**325**	*e*P		Pn	10 49 30.6	-1.1
PCIG				*e*S		Sn	10 49 46.2	-2.2

MEX 26 11:05:42.7±1.3, 16.73N×100.71W, h19km±35km, MD4.3, Near coast of Guerrero

GUC 26 11:08:55.0±0.7, 30.83S×71.36W, h48km±2km, ML3.7, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.28**	**304**	⇑*i*P		Pn	11 09 04.9	+1.0
CO06				*i* S		Sn	11 09 11.1	+1.0
CO06				IAML			11 09 13.1	
	comp=N,4μm,0.2s							
CO02	**Combarbal**	**0.48**	**140**	*e*P		Pn	11 09 07.7	+1.6
CO02				*i* S		Sn	11 09 16.1	+2.0
CO02				IAML			11 09 16.4	
	comp=N,30μm,0.2s							
CO02	**Combarbal**	**0.48**	**140**	*i* S		Sn	11 09 16.0	+2.0
CO03	**El Pedregal**	**0.58**	**91**	⇓*i*P		Pn	11 09 09.0	+1.8
CO03				*i* S		Sn	11 09 18.3	+2.3
CO03				IAML			11 09 19.9	
	comp=N,5μm,0.1s							
CO03	**El Pedregal**	**0.58**	**91**	*i* S		Sn	11 09 17.7	+1.7
GO04	**Tololo Observa**	**0.82**	**37**	⇓*i*P		Pn	11 09 12.3	+1.8
GO04				*i* S		Sn	11 09 24.6	+2.9
GO04				IAML			11 09 25.5	
	comp=N,13μm,0.3s							
GO04	**Tololo Observa**	**0.82**	**37**	*i* P		Pn	11 09 12.3	+1.8
GO04				*i* S		Sn	11 09 24.2	+2.5
CO05	**La Serena**	**0.92**	**7**	⇓*i*P		Pn	11 09 12.9	+1.3
CO05				*i* S		Sn	11 09 25.6	+2.0
CO05				IAML			11 09 34.6	
	comp=E,1μm,0.4s							
CO05	**La Serena**	**0.92**	**7**	*i* P		Pn	11 09 13.3	+1.8
CO05				*i* S		Sn	11 09 25.3	+1.6
VA06	**Catapilco**	**1.73**	**178**	*e*P		Pn	11 09 24.3	+1.8
VA06				*i* S		Sn	11 09 46.8	+3.4
VA06				IAML			11 10 04.7	
	comp=E,804nm,0.5s							
LCO	**Las Campanas**	**1.90**	**18**	*i* P		Pn	11 09 27.5	+2.3
VA03	**San Esteban**	**2.05**	**160**	⇑*i*P		Pn	11 09 29.9	+2.9
VA03				*i* S		Sn	11 09 55.5	+4.0
VA03				IAML			11 10 02.2	
	comp=E,998nm,0.1s							
ROCH	**El Roble**	**2.15**	**172**	⇑*i*P		Pn	11 09 31.1	+2.4
ROCH				*i* S		Sn	11 09 59.1	+4.8
ROCH				IAML			11 10 13.9	
	comp=N,379nm,0.6s							
AC04	**Llanos de Chal**	**2.63**	**6**	*e*P		Pn	11 09 37.0	+2.0
AC04				IAML			11 10 21.1	
	comp=N,213nm,0.4s							
MT09	**Talagante**	**2.95**	**174**	⇓*i*P		Pn	11 09 42.1	+2.6
MT09				*e*S		Sn	11 10 16.4	+2.5
MT09				IAML			11 10 31.4	
	comp=N,332nm,0.3s							
MT01	**Popeta**	**3.02**	**178**	*i* P		Pn	11 09 42.5	+2.1
LMEL	**Las Melosas**	**3.16**	**162**	*i* P		Pn	11 09 46.4	+4.0
LMEL				IAML			11 10 34.3	
	comp=N,272nm,0.2s							
BO01	**Tunca**	**3.56**	**176**	*i* P		Pn	11 09 49.9	+2.2
BO01				IAML			11 10 48.3	
	comp=E,57nm,0.5s							

*IDC **26** 11:15:26.7±0.8, 31.84S×71.76W, h0km, mb4.3/7, mb1 4.4/12, mb1mx4.1/27, mbtmp4.2/12, ML4.2/5, MS3.7/8, Ms1 3.7/8, ms1mx3.4/21, Error ellipse: s-maj=25.9km s-min=20.6km az=92.0*
*SJA **26** 11:15:27.0, 31.81S×72.35W, h10km, ML4.7*
*GUC **26** 11:15:29.4±0.8, 31.83S×71.95W, h37km±3km, ML4.6*
*NEIC **26** 11:15:29.4±1.5, 31.81S±0.04×72.07W±0.08, h24km±4km, mb4.5/21, ML4.6(GUC), Error ellipse: s-maj=9.9km s-min=5.8km az=84.0*

ISC 26 11:15:30.3±1.5, 31.82S±0.03×72.14W±0.06, h33km±5km, n121, σ1°38/124, mb4.5/13, MS3.9/4, 4C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VA06	**Catapilco**	**1.03**	**136**	⇓*i*P		**Pn**	**11 15 46.4**	**-2.0**
VA06				*i* S		**Sn**	**11 15 58.3**	**-3.5**
VA06				IAML			11 15 59.5	
	comp=E,43μm,0.4s							
CO02	**Combarbal**	**1.15**	**58**	⇓*i*P		**Pn**	**11 15 48.2**	**-2.0**
CO02				*i* S		**Sn**	**11 16 01.6**	**-3.2**
CO02				IAML			11 16 03.6	
	comp=E,45μm,0.6s							
CO02	**Combarbal**	**1.15**	**58**			**Pn**	**11 15 48.1**	**-2.0**
CO06	**Fray Jorge**	**1.22**	**21**	⇑*i*P		**Pn**	**11 15 50.4**	**-0.6**
CO06				*i* S		**Sn**	**11 16 05.9**	**-0.4**
CO06	**Fray Jorge**	**1.22**	**21**			**Pn**	**11 15 50.4**	**-0.6**
VA01	**Torpederas**	**1.27**	**161**	*e*P		**Pn**	**11 15 50.9**	**-0.9**
VA01				IAML			11 16 13.1	
	comp=E,11μm,0.9s							
VA01	**Torpederas**	**1.27**	**161**			**Pn**	**11 15 50.8**	**-1.0**
VA01	**Torpederas**	**1.27**	**161**	*i* P		**Pn**	**11 15 51.0**	**-0.8**
ROCH	**El Roble**	**1.50**	**141**	⇑*i*P		**Pn**	**11 15 54.0**	**-1.1**
ROCH				*i* S		**Sn**	**11 16 12.0**	**-1.6**
ROCH				IAML			11 16 14.0	
	comp=N,19μm,0.3s							
CO03	**El Pedregal**	**1.58**	**52**	⇓*i*P		**Pn**	**11 15 55.3**	**-0.8**
CO03				*i* S		**Sn**	**11 16 14.0**	**-1.4**
CO03				IAML			11 16 17.6	
	comp=E,8μm,0.4s							
CO03	**El Pedregal**	**1.58**	**52**	*i* P		**Pn**	**11 15 55.0**	**-1.1**
VA03	**San Esteban**	**1.65**	**125**	⇓*i*P		**Pn**	**11 15 55.6**	**-1.4**
VA03				*i* S		**Sn**	**11 16 15.3**	**-1.7**
VA03				IAML			11 16 17.2	
	comp=E,17μm,0.2s							
VA03	**San Esteban**	**1.65**	**125**	*i* P		**Pn**	**11 15 55.0**	**-2.0**
MT05	**Renca**	**1.97**	**143**	*e*P		**Pn**	**11 16 00.7**	**-0.6**
MT05				*i* S		**Sn**	**11 16 24.8**	**-0.2**
MT05				IAML			11 16 33.2	
	comp=E,11μm,0.5s							
MT05	**Renca**	**1.97**	**143**	Pn		**Pn**	**11 16 00.8**	**-0.6**
MT05	**Renca**	**1.97**	**143**	*i* P		**Pn**	**11 16 01.0**	**-0.4**
GO04	**Tololo Observa**	**2.00**	**35**	⇑*i*P		**Pn**	**11 16 01.2**	**-0.8**
GO04				*i* S		**Sn**	**11 16 26.3**	**+0.2**
GO04	**Tololo Observa**	**2.00**	**35**			**Pn**	**11 16 01.5**	**-0.5**
GO04	**Tololo Observa**	**2.00**	**35**	*i* P		**Pn**	**11 16 01.0**	**-1.1**
CO05	**La Serena**	**2.05**	**23**	*e*P		**Pn**	**11 16 02.2**	**-0.2**
CO05				*i* S		**Sb**	**11 16 31.0**	**-0.9**
CO05				IAML			11 16 38.5	
	comp=N,5μm,0.3s							
MT01	**Popeta**	**2.17**	**160**	*i* P		**Pn**	**11 16 03.7**	**-0.5**
MT01				*i* S		**Sn**	**11 16 32.2**	**+2.2**
MT01				IAML			11 16 40.7	
	comp=E,4μm,0.3s							
MT01	**Popeta**	**2.17**	**160**	*i* P		**Pn**	**11 16 04.0**	**-0.2**
MT09	**Talagante**	**2.18**	**154**	*e*P		**Pn**	**11 16 04.5**	**+0.1**
MT09				*i* S		**Sn**	**11 16 30.5**	**+0.2**
MT09				IAML			11 16 38.9	
	comp=E,4μm,0.2s							
AUSP	**Uspallata**	**2.38**	**101**	*i* P		**Pn**	**11 16 08.0**	**+0.8**
RTLS	**Leoncito**	**2.42**	**90**	*i* P		**Pn**	**11 16 09.0**	**+1.1**
LMEL	**Las Melosas**	**2.60**	**142**	⇑*i*P		**Pn**	**11 16 10.2**	**0.0**
LMEL				*i* S		**Sn**	**11 16 40.5**	**-0.2**
LMEL				IAML			11 16 51.6	
	comp=N,4μm,0.6s							
BO01	**Tunca**	**2.72**	**161**	*e*P		**Pn**	**11 16 11.3**	**-0.3**
BO01				IAML			11 16 59.4	
	comp=N,1μm,0.5s							
BO01	**Tunca**	**2.72**	**161**	Pn		**Pn**	**11 16 11.4**	**-0.3**
BO01	**Tunca**	**2.72**	**161**	*i* P		**Pn**	**11 16 11.0**	**-0.6**
AROD	**Rodeo**	**2.82**	**55**	*i* P		**Pn**	**11 16 15.0**	**+1.6**
ARCO	**CERRO ARCO**	**2.90**	**111**	*i* P		**Pn**	**11 16 17.0**	**+2.7**
ACCO	**Cerro Coronel**	**2.91**	**66**	*i* P		**Pn**	**11 16 17.0**	**+1.4**
ASAL	**Salagasta**	**2.91**	**106**	*i* P		**Pn**	**11 16 17.0**	**+2.7**
ZON	**Zonda**	**2.97**	**86**	Pn		**Pn**	**11 16 15.3**	**+0.2**
ZON	**Zonda**	**2.97**	**86**	*i* P		**Pn**	**11 16 17.0**	**+1.9**
LCO	**Las Campanas**	**3.06**	**24**	*e*P		**Pn**	**11 16 16.1**	**-0.5**
LCO	**Las Campanas**	**3.06**	**24**	*i* P		**Pn**	**11 16 16.0**	**-0.6**
RTCV	**Cerro Valdivia**	**3.07**	**92**	*i* P		**Pn**	**11 16 18.0**	**+1.5**
ACDV	**Cuesta del Vie**	**3.07**	**58**	*i* P		**Pn**	**11 16 18.0**	**+1.3**
AAGR	**Agrelo**	**3.07**	**115**	*i* P		**Pn**	**11 16 19.0**	**+2.4**
BO02	**Sierra Bellavi**	**3.18**	**159**	*i* P		**Pn**	**11 16 18.0**	**0.0**
GO05	**Huala**	**3.19**	**177**	*i* P		**Pn**	**11 16 17.0**	**-1.1**
AC04	**Llanos de Chal**	**3.72**	**15**	Pn		**Pn**	**11 16 24.6**	**-0.8**
AC04	**Llanos de Chal**	**3.72**	**15**	*i* P		**Pn**	**11 16 24.0**	**-1.4**
AGUA	**GUANDACOL**	**3.91**	**55**	*i* P		**Pn**	**11 16 30.0**	**+1.9**
LAMA	**Las Malvinas**	**3.96**	**143**	*i* P		**Pn**	**11 16 31.0**	**+2.3**
ML02	**Panimavida**	**3.98**	**171**	Pn		**Pn**	**11 16 28.3**	**-0.7**
AVFE	**Valle Fertil**	**4.18**	**75**	*i* P		**Pn**	**11 16 32.0**	**+0.2**
RFA	**San Rafael**	**4.26**	**135**	*i* P		**Pn**	**11 16 34.0**	**+1.1**
GO03	**Copiap**	**4.52**	**22**	*e*P		**Pn**	**11 16 34.9**	**-1.7**
GO03	**Copiap**	**4.52**	**22**	*i* P		**Pn**	**11 16 37.0**	**+0.4**
VCA	**Vinchina**	**4.58**	**49**	*i* P		**Pn**	**11 16 40.0**	**+2.5**
ACHE	**Chepes**	**4.73**	**83**	*i* P		**Pn**	**11 16 39.0**	**-0.4**
APLL	**PUNTA DE LOS L**	**5.02**	**75**	*i* P		**Pn**	**11 16 43.0**	**-0.3**
ACLC	**CERRO LA CRUZ**	**5.07**	**63**	*i* P		**Pn**	**11 16 44.0**	**-0.1**
MRA	**San Martin**	**5.49**	**98**	*i* P		**Pn**	**11 16 49.0**	**-0.8**
AC02	**Maricunga**	**5.62**	**29**	*i* P		**Pn**	**11 16 51.0**	**-1.0**
H03N1	**Juan Fernandez** baz=83,slow=72,SNR=4027	**5.94**	**252**	T		T	11 23 27.8	
H03N3	**Juan Fernandez** baz=83,slow=72,SNR=3491	**5.95**	**252**	T		T	11 23 32.2	
H03N2	**Juan Fernandez** baz=83,slow=72,SNR=3442	**5.95**	**252**	T		T	11 23 28.6	
H03S3	**Juan Fernandez** baz=86,slow=75,SNR=39	**6.04**	**249**	T		T	11 23 50.8	
H03S1	**Juan Fernandez** baz=86,slow=75,SNR=32	**6.04**	**249**	T		T	11 23 42.9	
H03S2	**Juan Fernandez** baz=86,slow=75,SNR=62	**6.05**	**249**	T		T	11 23 45.7	
CYA	**Choya**	**6.44**	**60**	*i* P		**Pn**	**11 17 03.0**	**+0.2**
LC01	**Cunco**	**7.07**	**178**			**Pn**	**11 17 10.3**	**-1.1**
LC01	**Cunco**	**7.07**	**178**	*i* P		**Pn**	**11 17 10.0**	**-1.4**
AHML	**Horco Molle**	**7.78**	**52**	*i* P		**Pn**	**11 17 21.0**	**-0.2**
LR03	**Panguipulli**	**7.80**	**181**			**Pn**	**11 17 21.2**	**-0.2**
PLCA	**Paso Flores** comp=N,1.1nm,0.3s,baz=337,slow=12,SNR=42	**8.99**	**172**	Pn		**Pn**	**11 17 38.2**	**+0.3**
PLCA				LR		LR	11 21 17.2	
	comp=N,326nm,21.3s,baz=348,slow=39							
PLCA	**Paso Flores**	**8.99**	**172**			**Pn**	**11 17 37.0**	**-0.9**
PLCA	**Paso Flores**	**8.99**	**172**	*i* P		**Pn**	**11 17 38.0**	**+0.2**
LVC	**Limon Verde** comp=N,0.4nm,0.3s,baz=212,slow=13,SNR=1.6	**9.61**	**18**	Pn		**Pn**	**11 17 44.0**	**-2.6**
LVC				LR		LR	11 21 34.5	
	comp=N,390nm,19.9s,baz=212,slow=39							
LVC	**Limon Verde**	**9.61**	**18**			**Pn**	**11 17 43.6**	**-3.1**
TRQA	**Tornquist**	**10.40**	**130**			**Pn**	**11 17 56.2**	**-0.9**
ITQB	**Itaqui**	**13.52**	**85**			**Pn**	**11 18 38.3**	**-1.4**
CPUP	**Villa Florida** comp=N,0.4nm,0.3s,baz=242,slow=10,SNR=4.8	**14.06**	**71**	Pn		**Pn**	**11 18 44.9**	**-2.2**
CPUP				Sn		**Sn**	**11 21 23.9**	**+2.0**
	comp=N,0.6nm,0.3s,baz=180,slow=16,SNR=2.7							
CPUP				LR		LR	11 24 31.5	
	comp=N,481nm,18.1s,baz=246,slow=40							
CPUP	**Villa Florida**	**14.06**	**71**			**Pn**	**11 18 45.4**	**-1.7**
PLTB	**Pedras Altas**	**15.77**	**95**	Pn		**Pn**	**11 19 06.9**	**-3.0**
LPAZ	**La Paz** comp=N,0.3nm,0.3s,baz=178,slow=11,SNR=9.9	**15.88**	**14**	Pn		**Pn**	**11 19 12.9**	**+0.9**
LPAZ	**La Paz**	**15.88**	**14**			**Pn**	**11 19 10.7**	**-1.4**
SIV	**San Ignacio** comp=N,0.6nm,0.3s,baz=223,slow=10,SNR=14	**18.70**	**35**	P		**P**	**11 19 45.2**	**-0.9**
SIV				LR		LR	11 27 26.7	
	comp=N,128nm,19.6s,baz=210,slow=39							
NNA	**Nana** comp=N,67nm,18.2s,baz=172,slow=34	**20.20**	**347**	LR		LR	11 26 52.1	
EFI	**East Falkland**	**22.38**	**157**	P		**P**	**11 20 26.1**	**+0.6**
SAML	**Samuel**	**24.23**	**22**	P		**P**	**11 20 44.7**	**+0.6**
BDFB	**Brasilia** comp=N,16nm,1.0s,baz=225,slow=8.7,SNR=12	**27.24**	**59**	P		**P**	**11 21 10.1**	**-1.5**
BDFB				LR		LR	11 33 29.4	
	comp=N,273nm,21.0s,baz=231,slow=40							
BDFB	**Brasilia**	**27.24**	**59**	P		**P**	**11 21 10.2**	**-1.4**
BDFB				IAmb		IAmb	11 21 12.1	
	comp=Z,14nm,0.8s							
PTGA	**Pitinga**	**32.99**	**23**	P		**P**	**11 22 01.5**	**-0.8**
PTGA				IAmb		IAmb	11 22 03.0	
	comp=Z,6.6nm,1.1s							
HOPE	**Hope Point**	**33.84**	**142**	P		**P**	**11 22 07.5**	**-1.8**
RUSC	**La Rusia**	**37.51**	**358**	P		**P**	**11 22 42.1**	**+0.4**
RUSC				IAmb		IAmb	11 23 01.8	
	comp=Z,9.8nm,0.8s							
CBYP	**Canovanas**	**50.17**	**8**	P		**P**	**11 24 22.0**	**-0.8**
SNAA	**Sanae**	**53.64**	**158**	P		**P**	**11 24 48.0**	**-0.2**
SNAA				IAmb		IAmb	11 24 55.4	
	comp=Z,6.7nm,1.3s							
QSPA	**South Pole Qui**	**58.41**	**180**	P		**P**	**11 25 23.6**	**+1.1**
QSPA				IAmb		IAmb	11 25 25.3	
	comp=Z,3.1nm,0.8s							
H06E1	**SOCORRO T-PHAS** SNR=4.6	**62.56**	**318**	T		T	12 34 10.9	
TXAR	**Lajitas Array** comp=Z,0.9nm,0.7s,baz=153,slow=7.8,SNR=13	**67.79**	**330**	P		**P**	**11 26 27.7**	**+2.7**
TXAR	**Lajitas Array**	**67.79**	**330**	P		**P**	**11 26 26.2**	**+1.2**
PPT	**Papeete** comp=Z,198nm,19.0s,baz=136,slow=29	**70.48**	**261**	LR		LR	11 49 23.8	
LIC	**Lamto** comp=Z,27nm,1.2s	**74.18**	**72**	*e*P		**P**	**11 27 02.7**	**-1.3**
TIC	**Toumodi**	**74.43**	**72**	*e*P		**P**	**11 27 03.0**	**-2.5**
KIC	**Kosan Boka** comp=Z,12nm,0.7s	**74.49**	**72**	*e*P		**P**	**11 27 05.7**	**-0.1**
DBIC	**Dimbokro** comp=Z,5.2nm,0.7s,baz=244,slow=5.4,SNR=9.9	**74.58**	**72**	P		**P**	**11 27 06.3**	**+0.1**
DBIC	**Dimbokro**	**74.58**	**72**	P		**P**	**11 27 06.1**	**-0.1**
MAW	**Mawson** comp=Z,2.1nm,0.8s,baz=213,slow=9.0,SNR=6.5	**75.29**	**164**	P		**P**	**11 27 10.9**	**+1.3**
MAW				LR		LR	11 59 29.7	
	comp=Z,77nm,21.8s,baz=214,slow=35							
MAW	**Mawson**	**75.29**	**164**	P		**P**	**11 27 10.2**	**+0.7**
BOSA	**Boshof** comp=Z,2.8nm,0.8s,baz=198,slow=8.7,SNR=4.6	**81.17**	**118**	P		**P**	**11 27 42.2**	**-0.8**
BOSA	**Boshof**	**81.17**	**118**	P		**P**	**11 27 42.0**	**-1.0**
BOSA				IAmb		IAmb	11 28 01.6	
	comp=Z,6.3nm,1.2s							
TPH	**Tonopah**	**81.25**	**326**	P		**P**	**11 27 41.5**	**-1.5**
NVAR	**Mina Array Bea** comp=Z,0.6nm,0.9s,baz=155,slow=5.2,SNR=4.6	**82.05**	**325**	P		**P**	**11 27 50.5**	**+3.2**
NVAR	**Mina Array Bea**	**82.05**	**325**	P		**P**	**11 27 47.2**	**-0.1**
TORD	**Torodi Ar. Bea** comp=Z,3.9nm,0.8s,baz=264,slow=5.0,SNR=20	**83.55**	**70**	P		**P**	**11 27 55.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**83.55**	**70**	P		**P**	**11 27 54.9**	**-0.5**
TORD				IAmb		IAmb	11 27 56.5	
	comp=Z,4.5nm,0.9s							
WRA	**Warramunga Arr** comp=Z,0.6nm,0.8s,baz=174,slow=1.5,SNR=5.2	**122.61**	**210**	PKP		**PKiKP**	**11 34 23.7**	**+0.4**
H11S2	**WAKE ISLAND Hy** baz=117,slow=74,SNR=72	**125.69**	**271**	T		T	13 53 32.9	
H11S1	**WAKE ISLAND Hy** baz=117,slow=74,SNR=29	**125.70**	**271**	T		T	13 53 31.9	
H11S3	**WAKE ISLAND Hy** baz=117,slow=74,SNR=30	**125.70**	**271**	T		T	13 53 34.3	
BVAR	**Borovoye Array** comp=Z,2.5nm,0.6s,baz=266,slow=4.3,SNR=16	**145.72**	**41**	PKPbc		**PKPab**	**11 35 07.0**	**+1.3**
KURBB	**Kurchatov Arra** comp=Z,1.5nm,0.4s,baz=318,slow

YOIG	Yosondua	0.61	95	*e*P		Pn	11 29 14.5 -1.5
YOIG				*e*S		Sn	11 29 23.6 -1.7
TLIG	Tlapa	0.75	330	*e*P		Pn	11 29 16.2 -1.6
TLIG				*i* S		Sn	11 29 26.4 -2.0
HLIG	Huajuapan de L	0.98	21	*e*P		Pn	11 29 19.5 -1.4
HLIG				*e*S		Sn	11 29 32.3 -1.7
FTIG	Fresnillo de T	1.00	2	*e*P		Pn	11 29 19.7 -1.4
FTIG				*e*S		Sn	11 29 32.2 -1.9

IDC ***26*** *11:31:37.5±2.9, 7.°45S×128.°49E, h113*$^{km}_{\pm 26}$*, mb4.2/23, mb1 4.2/25, mb1mx4.1/42, mbtmp4.6/25, MS3.0/4, Ms1 3.0/4, ms1mx2.6/37, Error ellipse: s-maj=19.9km s-min=9.7km az=82.0*

DJA ***26*** *11:31:41.6±0.2, 8.°S±2.°×12.°9E±.°, h121*$^{km}_{\pm 3}$*, M4.8/49, mb4.8/49, mB5.3/15, MLv5.1/12, Mw(mB)4.7/15, MwMwp6.2/1, Mwp6.2/1*

NEIC ***26*** *11:31:42.5±1.9, 7.°48S±0.°07×128.°45E±0.°06, h157*$^{km}_{\pm 5}$*, mb4.7/41, Error ellipse: s-maj=10.5km s-min=8.9km az=176.0*

ISC 26 11:31:41.5±0.3, 7.°56S±0.°04×128.°51E±0.°04, h151km, n164, σ1.°51/174, mb4.5/47, 3C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.80**	**99**	Pn	**Pn**	**11 32 27.9**	**+1.6**
SAUI	**Saumlaki**	**2.80**	**99**	P	**Pn**	**11 32 24.9**	**-1.5**
SAUI				S	**Sn**	**11 32 57.9**	**-3.1**
BNDI	**Bandanaira**	**3.32**	**25**	P	**Pn**	**11 32 34.0**	**+1.0**
BNDI				S	**Sn**	**11 33 15.0**	**+2.1**
MSAI	**Masohi**	**4.20**	**6**	P	**Pn**	**11 32 46.8**	**+2.3**
KRAI	**Karang Ratu**	**4.21**	**358**	P	**Pn**	**11 32 47.0**	**+2.4**
SOEI	**Soe**	**4.73**	**242**	Pn	**Pn**	**11 32 52.1**	**+0.6**
SOEI	**Soe**	**4.73**	**242**	P	**Pn**	**11 32 52.4**	**+0.9**
BATI	**Baumata**	**5.46**	**241**	P	**Pn**	**11 33 01.9**	**+0.8**
	628nm,0.3s,baz=126,slow=4.2,SNR=236						
BATI				S	**Sn**	**11 34 02.3**	**-1.1**
	254nm,0.3s,baz=47,slow=21,SNR=12						
BATI				LR	LR	11 35 00.8	
	comp=Z,148nm,19.3s,baz=145,slow=37						
BATI	**Baumata**	**5.46**	**241**	P	**Pn**	**11 33 01.4**	**+0.3**
	6.8nm20μm2μm,0.5s						
BATI				S	**Sn**	**11 34 01.8**	**-1.5**
	6.8nm20μm2μm,0.5s						
MTN	**Manton Dam**	**5.85**	**154**	Pn	**Pn**	**11 33 05.6**	**-0.7**
FAKI	**Fak Fak**	**5.92**	**39**	Pn	**Pn**	**11 33 06.3**	**-0.9**
FAKI	**Fak Fak**	**5.92**	**39**	P	**Pn**	**11 33 07.2**	**-0.1**
	1.0nm3μm106nm,0.6s						
SANI	**Sanana**	**6.02**	**335**	P	**Pn**	**11 33 10.1**	**+1.6**
	0.4nm938nm103nm,0.9s						
MMRI	**Maumere**	**6.30**	**260**	Pn	**Pn**	**11 33 12.3**	**0.0**
MMRI	**Maumere**	**6.30**	**260**	P	**Pn**	**11 33 12.3**	**0.0**
	0.9nm5μm193nm,0.8s						
EDFI	**Ende, Flores**	**6.85**	**260**	P	**Pn**	**11 33 19.8**	**+0.1**
	0.2nm488nm33nm,1.0s						
KDI	**Kendari**	**6.86**	**301**	P	**Pn**	**11 33 21.7**	**+1.9**
SIJI	**Sorong**	**7.19**	**23**	S	**Sn**	**11 34 40.0**	**-4.8**
	baz=288,slow=20,SNR=0.7						
KKSI	**Kolaka, Sulawe**	**7.61**	**296**	P	**Pn**	**11 33 30.7**	**+1.0**
	0.3nm24nm,0.5s						
KNRA	**Kununurra**	**8.07**	**178**	Pn	**Pn**	**11 33 34.5**	**-1.3**
BSSI	**Bau Bau, Buton**	**8.09**	**280**	P	**Pn**	**11 33 38.3**	**+2.2**
	29nm,0.8s						
BASI	**Baing, Sumba**	**8.27**	**251**	P	**Pn**	**11 33 37.5**	**-1.0**
	2μm112nm,0.5s						
TNTI	**Ternate**	**8.35**	**352**	P	**Pn**	**11 33 41.9**	**+2.2**
LBFI	**Labuhan Bajo,**	**8.58**	**263**	P	**Pn**	**11 33 42.8**	**+0.1**
	40nm,0.7s						
BKSI	**Bulukumba**	**8.62**	**284**	P	**Pn**	**11 33 44.7**	**+1.4**
	22nm,0.7s						
LUWI	**Luwuk**	**8.64**	**318**	Pn	**Pn**	**11 33 43.7**	**+0.3**
LUWI	**Luwuk**	**8.64**	**318**	P	**Pn**	**11 33 45.5**	**+2.1**
	2μm205nm,1.2s						
BNSI	**Bone**	**8.93**	**290**	P	**Pn**	**11 33 48.8**	**+1.5**
	25nm,1.1s						
KAPI	**Kappang**	**9.06**	**286**	LR	LR	11 37 22.8	
	comp=Z,32nm,18.3s,baz=118,slow=38						
KAPI	**Kappang**	**9.06**	**286**	P	**Pn**	**11 33 51.1**	**+2.0**
	12nm,1.7s						
WBSI	**Waikabubak, Su**	**9.25**	**256**	P	**Pn**	**11 33 52.6**	**+0.9**
	1μm101nm,0.6s						
KMSI	**Cibinong**	**9.26**	**331**	P	**Pn**	**11 33 54.5**	**+2.8**
	141nm,0.9s						
MKS	**Makassar**	**9.28**	**284**	P	**Pn**	**11 33 53.5**	**+1.5**
	42nm,0.8s						
GAMI	**Galela, Maluku**	**9.36**	**356**	P	**Pn**	**11 33 56.8**	**+3.7**
	38nm,0.9s						
APSI	**Ampana**	**9.51**	**314**	P	**Pn**	**11 33 57.7**	**+2.7**
	30nm,1.4s						
MNI	**Manado**	**9.66**	**338**	P	**Pn**	**11 33 59.7**	**+2.6**
	141nm,0.6s						
TTSI	**Tana Toraja**	**9.74**	**297**	P	**Pn**	**11 33 59.7**	**+1.5**
	14nm,1.2s						
BAKI	**Biak**	**9.87**	**50**	P	**Pn**	**11 34 00.3**	**+0.5**
	276nm,0.7s						
MRSI	**Marisa**	**10.32**	**320**	P	**Pn**	**11 34 09.0**	**+3.1**
	50nm,1.1s						
PMSI	**Majene**	**10.36**	**292**	P	**Pn**	**11 34 08.5**	**+2.1**
	31nm,0.9s						
PLAI	**Plampang**	**10.70**	**262**	P	**Pn**	**11 34 10.2**	**-0.6**
	712nm38nm,0.7s						
MMSI	**Mamuju**	**10.71**	**296**	P	**Pn**	**11 34 13.7**	**+2.7**
	6.4nm,1.0s						
WAMI	**Wamena**	**10.79**	**71**	P	**Pn**	**11 34 14.8**	**+2.9**
	160nm,0.4s						
FITZ	**Fitzroy Crossi**	**10.84**	**195**	P	**Pn**	**11 34 09.7**	**-3.0**
	8.6nm,0.3s,baz=16,slow=11,SNR=221						
FITZ				S	Sn	11 36 03.2	-9.4
	18nm,0.3s,baz=86,slow=13,SNR=13						
FITZ				LR	LR	11 38 41.5	
	comp=Z,68nm,18.2s,baz=26,slow=39						
FITZ	**Fitzroy Crossi**	**10.84**	**195**	Pn	**Pn**	**11 34 09.5**	**-3.2**
TOLI2	**Tolitoli**	**11.56**	**318**		**Pn**	**11 34 18.0**	**-4.0**
SGSI	**Sangihe**	**11.56**	**345**	P	**Pn**	**11 34 23.2**	**+1.1**
	114nm,0.6s						
SMPI	**Sarmi**	**11.57**	**62**	P	**Pn**	**11 34 23.4**	**+1.2**
	20nm,1.6s						
TWSI	**Taliwang, Sumb**	**11.57**	**263**	P	**Pn**	**11 34 23.4**	**+1.2**
	12nm,0.9s						
MPSI	**Mapaga**	**11.63**	**312**	P	**Pn**	**11 34 26.0**	**+3.0**
	536nm8.8nm,0.9s						
GENI	**Genyem**	**12.61**	**68**	P	**Pn**	**11 34 36.8**	**+1.0**
	50nm,0.8s						
WRA	**Warramunga Arr**	**13.55**	**156**	P	**Pn**	**11 34 44.9**	**-2.9**
	13nm,0.3s,baz=325,slow=15,SNR=307						
WRA				S	Sn	11 37 07.0	-11
	8.1nm,0.3s,baz=336,slow=21,SNR=5.8						
WRA				LR	LR	11 41 14.7	
	comp=Z,121nm,20.5s,baz=25,slow=42						
JAGI	**Jajag, Banyuwa**	**14.25**	**265**	Pn	**Pn**	**11 34 56.8**	**+0.2**
MTKI	**Muara Teweh, K**	**15.08**	**295**	P	**P**	**11 35 09.9**	**+1.3**
	4μm21nm,0.5s						
COEN	**Coen**	**15.74**	**115**		**P**	**11 35 15.9**	**-0.1**
COEN				IAmb	IAmb	11 35 35.9	
	comp=Z,47nm,1.3s						
PSA00	**Pilbara Seismi**	**16.25**	**210**	P	**Pn**	**11 35 21.3**	**0.0**
PSA00	**Pilbara Seismi**	**16.25**	**210**		**Pn**	**11 35 20.8**	**-0.5**
PSA00				IAmb	IAmb	11 35 37.2	
	comp=Z,10nm,0.6s						
TBJI	**Tambak Boyo**	**16.55**	**271**	P	**Pn**	**11 35 26.9**	**+1.9**
	comp=Z,172nm,1.5s						
PWJI	**Pagerwojo**	**16.56**	**267**	P	**Pn**	**11 35 27.4**	**+2.3**
	comp=Z,32nm,0.9s						
SJI	**Sawahan**	**16.59**	**268**	P	**Pn**	**11 35 27.9**	**+2.3**
AS31	**Alice Springs**	**16.83**	**163**	P	**P**	**11 35 27.8**	**-0.2**
AS31				IAmb	IAmb	11 35 31.4	
	comp=Z,16nm,0.6s						
ASAR	**Alice Springs**	**16.83**	**163**	P	**P**	**11 35 27.6**	**-0.4**
	comp=Z,5.8nm,0.3s,baz=334,slow=9.6,SNR=249						
ASAR				S	**S**	**11 38 32.9**	**-2.7**
	comp=Z,4.1nm,0.3s,baz=331,slow=23,SNR=6.5						
ASAR	**Alice Springs**	**16.83**	**163**		**Pn**	**11 35 28.4**	**-0.1**
PCJI	**Pacitan**	**17.18**	**267**	P	**Pn**	**11 35 34.8**	**+2.2**
	comp=Z,46nm,1.3s						
PBKI	**Pangkalan Bun**	**17.45**	**285**	P	**Pn**	**11 35 37.8**	**+2.0**
	comp=Z,64μmcomp=Z,6μmcomp=Z,68nm,0.6s						
PMG	**Port Moresby**	**18.54**	**97**	P	**Pn**	**11 35 48.6**	**-0.1**
	comp=Z,74nm,0.9s						
SCJI	**Gunung Srandil**	**19.17**	**268**	P	**Pn**	**11 35 56.6**	**+0.5**
	comp=Z,68nm,1.0s						
CTJI	**Waduk Cacaban**	**19.18**	**270**	P	**Pn**	**11 35 57.2**	**+1.0**
	comp=Z,12nm,1.1s						
KPJI	**Karang Pucung**	**19.41**	**269**	P	**Pn**	**11 35 59.5**	**+0.5**
	comp=Z,24nm,1.3s						
GIRL	**Giralia**	**20.34**	**221**	P	**P**	**11 36 05.5**	**-0.6**
CTA	**Charters Tower**	**21.23**	**128**	P	**P**	**11 36 16.6**	**+0.9**
	comp=Z,3.3nm,0.7s,baz=303,slow=13,SNR=5.9						
CTAO	**Charters Tower**	**21.23**	**128**	P	**P**	**11 36 16.6**	**+0.9**
FORT	**Forrest**	**23.11**	**181**	P	**P**	**11 36 35.1**	**+0.9**
MORW	**Morawa**	**24.41**	**207**	P	**P**	**11 36 46.9**	**+0.8**
MORW				IAmb	IAmb	11 36 48.9	
	comp=Z,23nm,0.6s						
BBOO	**Buckleboo**	**26.09**	**165**	P	**P**	**11 37 02.0**	**+0.8**
BBOO				IAmb	IAmb	11 37 02.7	
	comp=Z,16nm,0.7s						
STKA	**Stephens Creek**	**27.10**	**155**	P	**P**	**11 37 11.2**	**+0.9**
	comp=Z,12nm,0.6s,baz=326,slow=9.5,SNR=40						
STKA	**Stephens Creek**	**27.10**	**155**	P	**P**	**11 37 10.6**	**+0.3**
NWAO	**Narrogin (SRO)**	**27.33**	**201**	P	**P**	**11 37 13.0**	**+0.8**
	comp=Z,4.6nm,0.5s,baz=35,slow=8.4,SNR=8.6						
NWAO	**Narrogin (SRO)**	**27.33**	**201**	P	**P**	**11 37 12.6**	**+0.3**
NWAO				IAmb	IAmb	11 37 34.9	
	comp=Z,26nm,1.2s						
ARMA	**Armidale**	**31.41**	**139**	P	**P**	**11 37 51.3**	**+2.8**
ARMA				IAmb	IAmb	11 37 57.8	
	comp=Z,29nm,1.4s						
CAN	**Canberra**	**33.42**	**149**	P	**P**	**11 38 08.1**	**+2.1**
TOO	**Toolangi**	**33.62**	**155**	P	**P**	**11 38 09.8**	**+2.2**
TOO				IAmb	IAmb	11 38 11.0	
	comp=Z,12nm,0.6s						
CMAR	**Chiang Mai Arr**	**38.98**	**312**	P	**P**	**11 38 53.9**	**+0.6**
				PcP	**PcP**	**11 41 01.9**	**+1.2**
	comp=Z,0.8nm,0.3s,baz=149,slow=2.8,SNR=5.4						
CMAR	**Chiang Mai Arr**	**38.98**	**312**	P	**P**	**11 38 52.6**	**-0.7**
CMAR				PcP	**PcP**	**11 40 59.8**	**-1.0**
WHN	**Wuhan**	**40.24**	**341**	⇑*i*P	**P**	**11 39 04.5**	**+0.9**
NJ2	**Nanjing**	**40.45**	**347**	⇓P	**P**	**11 39 05.0**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
KMI	**Kunming**	**41.05**	**323**	⇑P	**P**	**11 39 10.5**	**0.0**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KSRS	**Korea Array**	**44.78**	**359**	P	**P**	**11 39 40.0**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=178,slow=8.6,SNR=12						
MJAR	**Matsushiro Arr**	**44.80**	**11**	P	**P**	**11 39 38.5**	**-1.8**
	comp=Z,6.8nm,0.8s,baz=184,slow=9.4,SNR=32						
MAT	**Matsushiro**	**44.80**	**11**	P	**P**	**11 39 38.0**	**-2.3**
KS19	**Wonju Array Si**	**44.83**	**359**	P	**P**	**11 39 40.0**	**-0.4**
KS19				IAmb	IAmb	11 40 01.8	
	comp=Z,26nm,1.4s						
XAN	**Xi'an**	**45.34**	**337**	P	**P**	**11 39 43.5**	**-1.2**
XAN				pP	pP	11 39 50.0	-27
XAN				pmax	pmax		
	comp=Z,16nm,1.0s						
BJI	**Beijing**	**48.71**	**347**	P	**P**	**11 40 09.8**	**-0.8**
BJI				PP	**PP**	**11 42 05.0**	**-0.3**
BJI				pmax	pmax		
	comp=Z,17nm,0.7s						
LZH	**Lanzhou**	**49.22**	**333**	*e*P	**P**	**11 40 15.0**	**+0.2**
LZH				pP	pwP	11 40 58.0	+5.6
LZH				sP	sP	11 41 14.3	+10
LZH				pmax	pmax		
	comp=Z,22nm,1.1s						
MSVF	**Nonsavu**	**49.25**	**107**	P	**P**	**11 40 16.7**	**+1.4**
MSVF				IAmb	IAmb	11 40 18.6	
	comp=Z,9.7nm,0.9s						
JTM	**Tenmabayashi**	**49.48**	**13**	P	**P**	**11 40 15.7**	**-0.7**
HHC	**Hu-ho-hao-te**	**50.63**	**343**	*e*P	**P**	**11 40 27.3**	**+2.0**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,190nm,4.6s						
FOZ	**Fox Glacier**	**50.85**	**142**	P	**P**	**11 40 28.5**	**+1.7**
FOZ				IAmb	IAmb	11 40 50.7	
	comp=Z,41nm,1.3s						
MLZ	**Mavora Lakes**	**50.87**	**145**	P	**P**	**11 40 28.2**	**+1.2**
MLZ				IAmb	IAmb	11 40 29.9	
	comp=Z,41nm,1.4s						
WHZ	**Wether Hill Ro**	**51.08**	**145**	P	**P**	**11 40 29.0**	**+0.5**
WHZ				IAmb	IAmb	11 40 30.1	
	comp=Z,11nm,0.6s						
ERM	**Erimo**	**51.12**	**14**	P	**P**	**11 40 28.1**	**-0.6**
ERM				IAmb	IAmb	11 40 55.6	
	comp=Z,26nm,0.9s						
USRK	**Ussuriysk Ar.**	**51.61**	**3**	P	**P**	**11 40 31.9**	**-0.4**
	comp=Z,4.1nm,0.6s,baz=192,slow=7.3,SNR=11						
USRK	**Ussuriysk Ar.**	**51.61**	**3**	P	**P**	**11 40 31.7**	**-0.7**
RPZ	**Rata Peaks**	**51.71**	**141**	P	**P**	**11 40 33.3**	**+0.1**
THZ	**Tophouse**	**51.93**	**138**	P	**P**	**11 40 35.8**	**+0.9**
ASAJ	**Asahikawa**	**52.99**	**13**	P	**P**	**11 40 41.8**	**-0.7**
	comp=Z,8.5nm,0.7s,baz=222,slow=14,SNR=9.7						
JKA	**Kamikawa-asahi**	**52.99**	**13**	P	**P**	**11 40 41.4**	**-1.2**
JKA				IAmb	IAmb	11 40 42.5	
	comp=Z,9.0nm,0.7s						
BKZ	**Black Stump Fm**	**53.27**	**134**	P	**P**	**11 40 45.9**	**+1.0**
URZ	**Urewera**	**53.37**	**133**	P	**P**	**11 40 45.5**	**0.0**
GTA	**Gaotai**	**53.76**	**333**	*e*P	**P**	**11 40 48.5**	**0.0**
GTA				pP	pP	11 40 54.0	-28
GTA				sP	pwP	11 40 56.5	-30
GTA				PcP	**PP**	**11 42 52.5**	**+1.3**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KLR	**Kul'dur**	**56.62**	**3**	P	**P**	**11 41 07.7**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=245,slow=2.4,SNR=6.1						
SONM	**Songino Array**	**58.51**	**343**	P	**P**	**11 41 22.3**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=158,slow=6.5,SNR=8.2						
SONM	**Songino Array**	**58.51**	**343**	P	**P**	**11 41 21.9**	**-0.1**
SONM				IAmb	IAmb	11 41 22.5	
	comp=Z,7.2nm,1.4s						
CASY	**Casey**	**59.93**	**188**	P	**P**	**11 41 32.8**	**+1.5**
CASY				IAmb	IAmb	11 41 33.3	
	comp=Z,6.6nm,1.1s						
WMQ	**Urumqi**	**63.06**	**328**	*e*P	**P**	**11 41 53.5**	**+0.7**
PETK	**Petropavlovsk-**	**65.32**	**19**	P	**P**	**11 42 06.7**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=188,slow=6.0,SNR=14						
PETK	**Petropavlovsk-**	**65.32**	**19**	P	**P**	**11 42 07.0**	**-0.2**
PET	**Petropavlovsk**	**65.56**	**19**	P	**P**	**11 42 08.4**	**-0.3**
KSH	**Kashi**	**67.44**	**318**	P	**P**	**11 42 21.0**	**-0.2**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MK31	**Makanchi Array**	**67.89**	**328**	P	**P**	**11 42 23.7**	**0.0**
MKAR	**Makanchi Array**	**67.89**	**328**	P	**P**	**11 42 23.6**	**-0.1**
	comp=Z,3.5nm,0.6s,baz=122,slow=7.5,SNR=28						
MKAR	**Makanchi Array**	**67.89**	**328**	P	**P**	**11 42 23.2**	**-0.5**
MAKZ	**Makanchi**	**68.07**	**327**	P	**P**	**11 42 24.5**	**-0.3**
YAK	**Yakutsk**	**69.39**	**1**	P	**P**	**11 42 31.7**	**-0.9**
	comp=Z,8.7nm,0.5s,baz=266,slow=1.8,SNR=4.9						
AAK	**Ala-Archa**	**70.02**	**321**	P	**P**	**11 42 36.1**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=95,slow=3.5,SNR=5.0						
AAK	**Ala-Archa**	**70.02**	**321**	P	**P**	**11 42 36.5**	**-0.6**
ZALV	**Zalesovo Beam**	**71.44**	**334**	P	**P**	**11 42 43.9**	**-1.3**
	comp=Z,3.4nm,0.6s,baz=124,slow=4.9,SNR=4.2						
ZALV	**Zalesovo Beam**	**71.44**	**334**	P	**P**	**11 42 44.3**	**-0.9**
VNDA	**Vanda**	**72.08**	**173**	P	**P**	**11 42 49.5**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=324,slow=7.3,SNR=19						
VNDA	**Vanda**	**72.08**	**173**	P	**P**	**11 42 49.5**	**+0.7**
KURBB	**Kurchatov Arra**	**72.22**	**329**	P	**P**	**11 42 49.3**	**-0.6**
	comp=Z,7.1nm,0.8s,baz=131,slow=5.0,SNR=64						
SEY	**Seymchan**	**72.63**	**11**	P	**P**	**11 42 51.9**	**-0.2**
	comp=Z,5.3nm,0.6s,baz=208,slow=4.3,SNR=23						
KKAR	**Karatay Array**	**72.79**	**319**	P	**P**	**11 42 53.4**	**-0.2**
SBA	**Scott Base**	**72.98**	**172**	P	**P**	**11 42 55.8**	**+1.8**
MAW	**Mawson**	**73.89**	**201**	P	**P**	**11 43 00.6**	**+1.1**
	comp=Z,2.1nm,0.6s,baz=74,slow=4.8,SNR=4.1						
MAW	**Mawson**	**73.89**	**201**	P	**P**	**11 42 59.8**	**+0.2**
BVAR	**Borovoye Array**	**77.75**	**328**	P	**P**	**11 43 20.5**	**-1.1**
	comp=Z,6.1nm,0.8s,baz=157,slow=8.0,SNR=24						
BRVK	**Borovoye**	**77.82**	**328**	P	**P**	**11 43 21.4**	**-0.7**
BRVK				IAmb	IAmb	11 43 23.1	
	comp=Z,8.9nm,1.0s						
NRIK	**Noril'sk**	**81.74**	**346**	P	**P**	**11 43 42.6**	**-0.2**
	comp=Z,2.5nm,0.4s,baz=115,slow=5.2,SNR=4.8						
NRIK	**Noril'sk**	**81.74**	**346**	P	**P**	**11 43 42.3**	**-0.5**
NRIK				IAmb	IAmb	11 43 43.3	
	comp=Z,12nm,1.3s						
ABKAR	**Akbulak array**	**82.03**	**322**	P	**P**	**11 43 43.7**	**-1.0**
ABKAR	**Akbulak array**	**82.03**	**322**	P	**P**	**11 43 43.4**	**-1.3**
ABKAR				IAmb	IAmb	11 43 47.0	
	comp=Z,3.3nm,0.9s						
QSPA	**South Pole Qui**	**82.42**	**180**	P	**P**	**11 43 46.4**	**-0.3**
QSPA				IAmb	IAmb	11 43 47.8	
	comp=Z,6.4nm,0.7s						
SYO	**Syowa Base**	**82.61**	**201**	⇑*e*P	**P**	**11 43 48.0**	**+0.6**
AKTO	**Aktyubinsk**	**83.61**	**323**	P	**P**	**11 43 52.8**	**-0.1**
	comp=Z,4.5nm,0.8s,baz=115,slow=5.3,SNR=14						
ARU	**Arti**	**85.40**	**328**	P	**P**	**11 44 01.3**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=151,slow=4.8,SNR=7.7						
ARU	**Arti**	**85.40**	**328**	P	**P**	**11 44 00.2**	**-1.5**
ARU				IAmb	IAmb	11 44 02.2	
	comp=Z,6.4nm,0.9s						
ILAR	**Eielson Array**	**94.48**	**25**	P	**P**	**11 44 40.5**	**-3.7**
	comp=Z,0.8nm,0.8s,baz=261,slow=4.1,SNR=6.3						
ILAR	**Eielson Array**	**94.48**	**25**	P	**P**	**11 44 41.6**	**-2.7**
SNAA	**Sanae**	**94.78**	**194**	P	**P**	**11 44 46.6**	**+1.0**
L27K	**Beaver Creek,**	**96.53**	**27**	P	**P**	**11 44 50.8**	**-2.8**
L27K				IAmb	IAmb	11 44 54.5	
	comp=Z,3.5nm,1.1s						
BCAR	**Beaver Creek A**	**96.55**	**27**	P	**P**	**11 44 53.1**	**-0.6**
GERES	**GERESS Array B**	**111.89**	**320**	PKiKP	**PKiKP**	**11 49 58.3**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=73,slow=6.6,SNR=2.2						
PDAR	**Pinedale Array**	**118.33**	**45**	PKP	**PKPdf**	**11 50 11.6**	**0.0**
	comp=Z,0.3nm,0.7s,baz=151,slow=1.5,SNR=3.9						
PDAR	**Pinedale Array**	**118.33**	**45**		**PKPdf**	**11 50 09.4**	**-2.1**
TXAR	**Lajitas Array**	**126.48**	**59**	PKP	**PKiKP**	**11 50 28.1**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=149,slow=3.2,SNR=3.9						
TORD	**Torodi Ar. Bea**	**127.46**	**281**	PKP	**PKPdf**	**11 50 29.8**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=61,slow=1.7,SNR=6.7						
TORD	**Torodi Ar. Bea**	**127.46**	**281**		**PKPdf**	**11 50 28.3**	**-1.2**
PLCA	**Paso Flores**	**128.84**	**161**	PKP	**PKiKP**	**11 50 32.2**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=180,slow=2.0,SNR=3.5						
DBIC	**Dimbokro**	**133.73**	**272**	PKP	**PKPdf**	**11 50 42.0**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=98,slow=4.7,SNR=1.3						
DBIC	**Dimbokro**	**133.73**	**272**	PKPdf	**PKPdf**	**11 50 40.4**	**-1.1**
CPUP	**Villa Florida**	**145.84**	**171**	PKPbc	**PKPbc**	**11 51 03.9**	**+0.1**
	comp=Z,3.7nm,0.7s,baz=185,slow=2.7,SNR=7.7						
LPAZ	**La Paz**	**151.15**	**145**	PKPbc	**PKiKP**	**11 51 19.6**	**+0.5**
	comp=Z,2.2nm,0.4s,baz=39,slow=5.4,SNR=16						
LPAZ	**La Paz**	**151.15**	**145**	PKPdf	**PKPdf**	**11 51 08.6**	**-4.1**
LPAZ					**PKiKP**	**11 51 19.9**	**+0.8**
LPAZ				PKPab	**PKPab**	**11 51 28.3**	**+1.5**

JMA 26 11:41:54.3, 35.°10N×134.°87E, h10km, M2.7, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKS	**Kasai**	**0.12**	**190**	P	Pg	11 41 57.2	0.0
JKS				S	Sg	11 41 59.2	0.0
JMIK	**Miki**	**0.33**	**153**	P	Pg	11 42 01.0	+0.1
JMIK				S	Sg	11 42 05.5	+0.3
JWT	**Wachi**	**0.47**	**67**	P	Pg	11 42 03.4	-0.1
MAT	**Matsushiro**	**3.07**	**61**	P	Pg	11 42 52.1	-1.0
MAT				S	Sg	11 43 31.3	-1.6

MEX 26 11:42:26.9±1.2, 16.°10N×98.°84W, h16km±82km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.74**	**67**	*i* P	Pg	11 42 38.5	-2.9
PNIG				*e*S	Sg	11 42 48.0	-3.2
MGIG	**Malinaltepec**	**1.14**	**10**	*e*P	Pn	11 42 44.1	-4.2
MGIG				*e*S	Sb	11 42 58.4	-4.6
DAIG	**Los Arroyos**	**1.20**	**320**	*e*P	Pn	11 42 44.9	-4.1
DAIG				*e*S	Sb	11 43 00.1	-4.5
YOIG	**Yosondua**	**1.45**	**59**	*e*P	Pn	11 42 49.4	-3.2
YOIG				*e*S	Sn	11 43 07.0	-4.4
TLIG	**Tlapa**	**1.48**	**10**	*e*P	Pn	11 42 49.9	-3.0
TLIG				*e*S	Sn	11 43 07.6	-4.3
TXIG	**Tlaxiaco**	**1.54**	**42**	*e*P	Pn	11 42 50.5	-3.3
TXIG				*e*S	Sn	11 43 07.7	-6.0
PEIG	**Puerto Escondi**	**1.63**	**93**	*e*P	Pn	11 42 51.7	-3.2
PEIG				*e*S	Sn	11 43 10.5	-5.0
FTIG	**Fresnillo de T**	**1.92**	**20**	*e*P	Pn	11 42 56.1	-2.8
FTIG				*e*S	Sn	11 43 18.4	-4.4

GTMO					IAML			13 01 53.9	
	comp=N,11μm,0.1s								
GTMO					IAML			13 01 55.0	
	comp=E,11μm,0.2s								
MOAC	**Moa**	**1.15**	**33**	*eP*		**Pn**		**13 01 52.7**	**+0.3**
MOAC				*eP*		**Pb**		**13 01 52.9**	**-0.8**
MOAC				*eS*		**Sn**		**13 02 06.7**	**-0.4**
MOAC				*eS*		**Sb**		**13 02 06.8**	**-1.4**
MOAC				IAML				13 02 09.3	
	comp=N,163nm,0.2s								
MOAC				IAML				13 02 09.3	
	comp=N,152nm,0.2s								
MOAC				IAML				13 02 09.4	
	comp=E,67nm,0.2s								
MOAC				IAML				13 02 10.8	
	comp=E,83nm,0.2s								
LMGC	**Las Mercedes**	**1.35**	**286**	*eP*		**Pb**		**13 01 56.4**	**-0.6**
LMGC				*eS*		**Sn**		**13 02 13.1**	**+1.1**
LMGC				*eS*		**Sn**		**13 02 13.1**	**+1.1**
LMGC				IAML				13 02 14.1	
	comp=N,158nm,0.1s								
LMGC				IAML				13 02 14.1	
	comp=N,162nm,0.1s								
LMGC				IAML				13 02 14.2	
	comp=E,151nm,0.1s								
LMGC				IAML				13 02 14.6	
	comp=E,122nm,0.1s								
MASC	**Masc**	**1.40**	**70**	*eP*		**Pn**		**13 01 55.5**	**-0.3**
MASC				*eP*		**Pb**		**13 01 55.7**	**-2.2**
MASC				*eS*		**Sn**		**13 02 12.9**	**-0.3**
MASC				*eS*		**Sn**		**13 02 12.9**	**-0.3**
MASC				IAML				13 02 16.2	
	comp=N,77nm,0.2s								
MASC				IAML				13 02 17.8	
	comp=N,77nm,0.2s								
MASC				IAML				13 02 17.9	
	comp=E,123nm,0.2s								
MASC				IAML				13 02 17.9	
	comp=E,125nm,0.2s								
GWJ	**Greenwich**	**1.92**	**213**	*iP*		**Pn**		**13 02 03.9**	**+0.8**
STH	**Stony Hill**	**1.96**	**215**	*iP*		**Pn**		**13 02 04.3**	**+0.8**
STH				*i* S		**Sn**		**13 02 25.5**	**-1.6**
HOJ	**Hope**	**1.99**	**213**	*iP*		**Pn**		**13 02 05.3**	**+1.4**
MTDJ	**Mount Denham**	**2.32**	**231**	*eP*		**Pn**		**13 02 08.6**	**0.0**
MTDJ				*eS*		**Sn**		**13 02 32.6**	**-3.5**
LONE2	**Loma La Sidra**	**4.09**	**105**	*iP*		**Pn**		**13 02 35.8**	**+2.9**
SDDR	**Presa de Saban**	**4.16**	**99**	*eP*		**Pn**		**13 02 36.3**	**+2.4**
SDDR				*eS*		**Sn**		**13 03 22.8**	**+1.4**
SDDR	**Presa de Saban**	**4.16**	**99**	*iP*		**Pn**		**13 02 36.1**	**+2.3**
LCCY	**Blossom Villag**	**4.20**	**270**	*eP*		**Pn**		**13 02 37.0**	**+2.7**
LCCY				*eS*		**Sn**		**13 03 21.3**	**-1.1**

*IDC **26** 13:02:21.5±1.8, 30.°56S×71.°82W, h0km, mb4.2/4, mb1 3.9/8, mb1mx3.7/35, mbtmp3.9/8, ML3.6/4, Error ellipse: s-maj=61.6km s-min=23.9km az=104.0*
*GUC **26** 13:02:27.5±0.9, 30.°64S×71.°60W, h44km±3km, ML4.0*
*NEIC **26** 13:02:28.2±2.9, 30.°66S±0.°04×71.°64W±0.°08, h35km±2km, Error ellipse: s-maj=11.4km s-min=7.2km az=104.0*
ISC 26 13:02:27.2±0.9, 30.°64S±0.°05×71.°69W±0.°08, h36km±1km, n49, σ1933/48, mb4.1/5, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
CO06	**Fray Jorge**	**0.06**	**125**	↑*iP*		**Pn**	**13 02 33.7**	**+0.4**
CO06				IAML			13 02 38.5	
	comp=N,18μm,0.1s							
CO06	**Fray Jorge**	**0.06**	**125**			**Pn**	**13 02 33.6**	**+0.4**
CO05	**La Serena**	**0.82**	**29**	*eP*		**Pn**	**13 02 42.6**	**+0.4**
CO05				*eS*		**Sn**	**13 02 53.1**	**0.0**
CO05	**La Serena**	**0.82**	**29**			**Pn**	**13 02 42.6**	**+0.4**
CO03	**El Pedregal**	**0.89**	**103**	*eP*		**Pn**	**13 02 42.8**	**-0.4**
CO03				*eS*		**Sn**	**13 02 54.0**	**-1.0**
CO03				IAML			13 02 54.8	
	comp=N,12μm,0.5s							
CO03	**El Pedregal**	**0.89**	**103**			**Pn**	**13 02 42.8**	**-0.4**
GO04	**Tololo Observa**	**0.90**	**59**	*iP*		**Pn**	**13 02 43.6**	**+0.1**
GO04				*eS*		**Sn**	**13 02 55.4**	**-0.1**
GO04	**Tololo Observa**	**0.90**	**59**			**Pn**	**13 02 43.7**	**+0.1**
LCO	**Las Campanas**	**1.84**	**28**	*eP*		**Pn**	**13 02 57.6**	**+1.2**
LCO				*eS*		**Sn**	**13 03 20.5**	**+2.0**
LCO	**Las Campanas**	**1.84**	**28**	Pn		**Pn**	**13 02 57.6**	**+1.2**
VA06	**Catapilco**	**1.95**	**170**	*eP*		**Pn**	**13 02 58.6**	**+1.0**
VA06				IAML			13 03 31.6	
	comp=E,1μm,0.3s							
VA03	**San Esteban**	**2.33**	**156**	*eP*		**Pn**	**13 03 05.2**	**+2.2**
VA03				IAML			13 03 41.4	
VA03	**San Esteban**	**2.33**	**156**			**Pn**	**13 03 05.3**	**+2.2**
ROCH	**El Roble**	**2.40**	**166**	*eP*		**Pn**	**13 03 05.5**	**+1.4**
ROCH				IAML			13 03 42.9	
	comp=N,768nm,0.3s							
AC04	**Llanos de Chal**	**2.48**	**13**	*iP*		**Pn**	**13 03 06.1**	**+1.0**
AC04				IAML			13 03 48.5	
	comp=E,779nm,0.5s							
AC04	**Llanos de Chal**	**2.48**	**13**	Pn		**Pn**	**13 03 06.0**	**+1.0**
MT05	**Renca**	**2.86**	**164**	*eP*		**Pn**	**13 03 12.0**	**+1.7**
MT05				IAML			13 04 01.3	
	comp=E,1μm,0.4s							
MT05	**Renca**	**2.86**	**164**	Pn		**Pn**	**13 03 12.0**	**+1.7**
MT09	**Talagante**	**3.19**	**169**	*iP*		**Pn**	**13 03 16.4**	**+1.5**
MT09				IAML			13 04 07.8	
	comp=N,459nm,0.5s							
MT09	**Talagante**	**3.19**	**169**	Pn		**Pn**	**13 03 16.3**	**+1.5**
MT01	**Popeta**	**3.24**	**173**	*eP*		**Pn**	**13 03 16.4**	**+1.0**
MT01				IAML			13 04 06.1	
	comp=E,248nm,0.7s							
MT01	**Popeta**	**3.24**	**173**			**Pn**	**13 03 17.0**	**+1.6**
GO03	**Copiap**	**3.29**	**23**	Pn		**Pn**	**13 03 17.8**	**+1.5**
LMEL	**Las Melosas**	**3.44**	**159**	*eP*		**Pn**	**13 03 20.9**	**+2.6**
LMEL				IAML			13 04 13.6	
	comp=N,291nm,0.4s							
BO01	**Tunca**	**3.78**	**172**	Pn		**Pn**	**13 03 25.1**	**+2.3**
BO02	**Sierra Bellavi**	**4.21**	**170**	Pn		**Pn**	**13 03 30.6**	**+1.8**
GO05	**Huala**	**4.36**	**183**	Pn		**Pn**	**13 03 30.6**	**-0.4**
AC02	**Maricunga**	**4.41**	**31**	Pn		**Pn**	**13 03 33.5**	**+1.5**
H03N1	**Juan Fernandez** baz=65,slow=72	**6.74**	**244**	T		T	13 10 59.2	
H03N2	**Juan Fernandez** baz=65,slow=72	**6.75**	**244**	T		T	13 11 00.5	
H03N3	**Juan Fernandez** baz=65,slow=72	**6.75**	**244**	T		T	13 10 54.9	
VA04	**Juan Fernndez**	**6.75**	**242**	Pn		**Pn**	**13 04 03.5**	**-0.2**
LC01	**Cunco**	**8.24**	**181**	Pn		**Pn**	**13 04 23.6**	**-0.5**
LVC	**Limon Verde** comp=N,0.2nm,0.3s,baz=169,slow=5.2,SNR=1.3	**8.37**	**18**	Pn		**Pn**	**13 04 24.1**	**-2.2**
LVC				Sn		**Sn**	**13 05 59.3**	**-0.5**
	comp=N,1.4nm,0.3s,baz=223,slow=6.3,SNR=4.5							
PLCA	**Paso Flores** comp=N,0.1nm,0.3s,baz=332,slow=11,SNR=1.4	**10.12**	**175**	Pn		**Pn**	**13 04 51.2**	**+1.3**
TRQA	**Tornquist**	**10.91**	**135**	Pn		**Pn**	**13 05 01.9**	**+1.1**
CPUP	**Villa Florida** comp=N,0.2nm,0.3s,baz=247,slow=12,SNR=3.6	**13.34**	**75**	Pn		**Pn**	**13 05 35.5**	**+1.5**
CPUP	**Villa Florida**	**13.34**	**75**			**Pn**	**13 05 31.3**	**-2.7**
PLTB	**Pedras Altas**	**15.52**	**99**	P		**Pn**	**13 06 03.2**	**-0.1**
PLTB				IAmb	IAmb		13 06 19.0	
	comp=Z,13nm,1.1s							
SIV	**San Ignacio** comp=Z,0.3nm,0.3s,baz=208,slow=8.8,SNR=7.1	**17.52**	**36**	P		**Pn**	**13 06 29.2**	**+0.5**
QSPA	**South Pole Qui**	**59.59**	**180**	P		**P**	**13 12 26.3**	**-0.7**
QSPA				IAmb	IAmb		13 12 32.5	
	comp=Z,1.4nm,0.9s							
DBIC	**Dimbokro** comp=Z,2.8nm,0.6s,baz=218,slow=6.4,SNR=4.7	**73.84**	**72**	P		**P**	**13 13 58.8**	**+0.3**
MAW	**Mawson** comp=Z,0.9nm,0.7s,baz=256,slow=12,SNR=4.6	**76.31**	**164**	P		**P**	**13 14 12.6**	**+0.8**
BOSA	**Boshof** comp=Z,2.6nm,1.0s,baz=221,slow=7.5,SNR=3.1	**81.38**	**118**	P		**P**	**13 14 40.7**	**+0.1**
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.5s,baz=228,slow=3.3,SNR=4.9	**82.80**	**70**	P		**P**	**13 14 47.0**	**-0.9**
H11S2	**WAKE ISLAND Hyl** baz=116,slow=75,SNR=28	**126.05**	**271**	T		T	15 40 11.3	
H11S1	**WAKE ISLAND Hyl** baz=116,slow=75,SNR=34	**126.06**	**271**	T		T	15 40 12.3	
H11S3	**WAKE ISLAND Hyl** baz=116,slow=75,SNR=32	**126.06**	**271**	T		T	15 40 12.6	
ZALV	**Zalesovo Beam** comp=Z,2.8nm,0.7s,baz=290,slow=4.3,SNR=11	**151.20**	**29**	PKPbc		**PKPbc**	**13 22 16.5**	**+0.5**

*IDC **26** 13:06:32.9±0.8, 31.°80S×71.°76W, h0km, mb4.3/7, mb1 4.3/11, mb1mx4.1/32, mbtmp4.2/11, ML3.8/4, MS3.7/6, Ms1 3.6/6, ms1mx3.4/20, Error ellipse: s-maj=27.9km s-min=20.4km az=91.0*

*NEIC **26** 13:06:33.6±2.1, 31.°85S±0.°04×72.°1W±0.°1, h10km±1km, Error ellipse: s-maj=15.4km s-min=5.8km az=262.0*
*GUC **26** 13:06:35.3±1.0, 31.°85S×71.°95W, h33km±3km, ML4.3*
ISC 26 13:06:33.3±1.5, 31.°85S±0.°03×71.°96W±0.°07, h9km±9km, n68, σ0999/69, mb4.6/10, 8C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
VA06	**Catapilco**	**0.91**	**142**	↑*eP*		**Pb**	**13 06 51.8**	**+0.5**
VA06				*eS*		**Sb**	**13 07 03.5**	**0.0**
VA06				IAML			13 07 08.1	
	comp=N,33μm,0.4s							
CO06	**Fray Jorge**	**1.20**	**14**	↑*eP*		**Pb**	**13 06 56.2**	**0.0**
CO06				*eS*		**Sg**	**13 07 12.2**	**+0.2**
CO06				IAML			13 07 17.2	
	comp=N,3μm,0.3s							
CO06	**Fray Jorge**	**1.20**	**14**			**Pn**	**13 06 56.5**	**+0.2**
VA01	**Torpederas**	**1.20**	**167**	↑*eP*		**Pn**	**13 06 56.5**	**+0.1**
VA01				*eS*		**Sb**	**13 07 11.7**	**-0.3**
VA01				IAML			13 07 17.4	
	comp=E,3μm,0.3s							
VA01	**Torpederas**	**1.20**	**167**			**Pg**	**13 06 57.0**	**+0.5**
CO03	**El Pedregal**	**1.48**	**48**	↑*eP*		**Pb**	**13 07 01.2**	**+0.1**
CO03				*eS*		**Sb**	**13 07 20.1**	**0.0**
CO03				IAML			13 07 24.3	
	comp=E,5μm,0.3s							
CO03	**El Pedregal**	**1.48**	**48**	Pn		**Pn**	**13 07 00.7**	**+0.4**
VA03	**San Esteban**	**1.50**	**128**	↑*eP*		**Pb**	**13 07 01.4**	**-0.2**
VA03				*eS*		**Sb**	**13 07 20.8**	**0.0**
VA03				IAML			13 07 26.9	
	comp=E,12μm,0.2s							
VA03	**San Esteban**	**1.50**	**128**			**Pb**	**13 07 01.6**	**0.0**
VA05	**Santo Domingo**	**1.83**	**171**	*eP*		**Pn**	**13 07 05.8**	**+0.8**
VA05				*eS*		**Sb**	**13 07 30.6**	**+0.5**
VA05				IAML			13 07 40.8	
VA05	**Santo Domingo**	**1.83**	**171**			**Pn**	**13 07 05.8**	**+0.8**
MT05	**Renca**	**1.86**	**147**	↑*eP*		**Pb**	**13 07 06.9**	**-0.6**
MT05				*eS*		**Sb**	**13 07 30.8**	**-0.1**
MT05				IAML			13 07 37.6	
	comp=E,10μm,0.2s							
MT05	**Renca**	**1.86**	**147**			**Pn**	**13 07 05.9**	**+0.5**
GO04	**Tololo Observa**	**1.94**	**31**	*eP*		**Pn**	**13 07 07.8**	**+1.0**
GO04				*eS*		**Sb**	**13 07 32.9**	**-0.7**
GO04				IAML			13 07 41.1	
	comp=E,14μm,0.4s							
CO05	**La Serena**	**2.02**	**18**	Pn		**Pn**	**13 07 08.6**	**+1.0**
MT09	**Talagante**	**2.09**	**157**	↑*eP*		**Pb**	**13 07 10.4**	**-1.2**
MT09				*eS*		**Sn**	**13 07 36.1**	**+1.0**
MT09				IAML			13 07 45.5	
	comp=N,3μm,0.5s							
MT09	**Talagante**	**2.09**	**157**			**Pb**	**13 07 10.5**	**-1.2**
MT01	**Popeta**	**2.10**	**164**	↑*eP*		**Pn**	**13 07 09.6**	**+0.8**
MT01				*eS*		**Sn**	**13 07 34.2**	**-0.9**
MT01	**Popeta**	**2.10**	**164**			**Pn**	**13 07 09.9**	**+1.2**
LMEL	**Las Melosas**	**2.48**	**144**	*eP*		**Pn**	**13 07 15.7**	**+1.5**
LMEL				*eS*		**Sn**	**13 07 45.5**	**+0.7**
LMEL				IAML			13 08 00.4	
	comp=N,2μm,0.6s							
BO01	**Tunca**	**2.64**	**164**	Pn		**Pn**	**13 07 16.6**	**+0.3**
ZON	**Zonda**	**2.81**	**85**			**Pb**	**13 07 23.1**	**-0.7**
LCO	**Laz Campanas**	**3.03**	**21**	Pn		**Pn**	**13 07 22.6**	**+0.9**
BO02	**Sierra Bellavi**	**3.10**	**162**			**Pn**	**13 07 23.9**	**+1.3**
GO05	**Huala**	**3.16**	**180**	Pn		**Pn**	**13 07 23.2**	**0.0**
AC04	**Llanos de Chal**	**3.71**	**12**			**Pn**	**13 07 32.2**	**+1.4**
GO03	**Copiap**	**4.50**	**20**			**Pn**	**13 07 42.5**	**+0.8**
AC02	**Maricunga**	**5.57**	**27**			**Pn**	**13 07 57.8**	**+0.9**
H03N1	**Juan Fernandez** baz=83,slow=72,SNR=399	**6.08**	**253**	T		T	13 14 39.5	
H03N3	**Juan Fernandez** baz=83,slow=72,SNR=507	**6.09**	**253**	T		T	13 14 34.5	
H03N2	**Juan Fernandez** baz=83,slow=72,SNR=606	**6.09**	**253**	T		T	13 14 35.6	
H03S3	**Juan Fernandez** baz=82,slow=75,SNR=27	**6.17**	**249**	T		T	13 14 52.6	
H03S1	**Juan Fernandez** baz=82,slow=75,SNR=31	**6.17**	**249**	T		T	13 14 49.3	
H03S2	**Juan Fernandez** baz=82,slow=75,SNR=38	**6.19**	**249**	T		T	13 14 50.4	
LC01	**Cunco**	**7.04**	**179**			**Pn**	**13 08 16.7**	**+0.1**
PLCA	**Paso Flores** comp=N,0.5nm,0.3s,baz=325,slow=9.2,SNR=17	**8.94**	**173**	Pn		**Pn**	**13 08 43.9**	**+1.1**
PLCA				LR		LR	13 12 23.1	
	comp=N,376nm,18.2s,baz=347,slow=39							
PLCA	**Paso Flores**	**8.94**	**173**			**Pn**	**13 08 41.8**	**-1.0**
LVC	**Limon Verde** comp=N,0.2nm,0.3s,baz=197,slow=11,SNR=1.0	**9.59**	**17**	Pn		**Pn**	**13 08 50.1**	**-1.9**
LVC				LR		LR	13 12 29.0	
	comp=N,244nm,19.0s,baz=210,slow=38							
TRQA	**Tornquist**	**10.27**	**130**	Pn		**Pn**	**13 08 59.1**	**-1.8**
CPUP	**Villa Florida** comp=N,424nm,18.4s,baz=255,slow=40	**13.92**	**70**	LR		LR	13 15 38.4	
LPAZ	**La Paz** comp=N,0.1nm,0.3s,baz=203,slow=6.6,SNR=6.1	**15.88**	**14**	Pn		**Pn**	**13 10 18.4**	**+0.6**
LPAZ	**La Paz**	**15.88**	**14**	P		**Pn**	**13 10 17.6**	**-0.1**
SIV	**San Ignacio** comp=N,0.2nm,0.3s,baz=236,slow=11,SNR=9.4	**18.64**	**35**	P		**P**	**13 10 50.7**	**-0.8**
SIV				LR		LR	13 18 32.3	
	comp=N,144nm,19.7s,baz=264,slow=39							
BDFB	**Brasilia** comp=N,13nm,0.9s,baz=236,slow=7.6,SNR=11	**27.12**	**59**	P		**P**	**13 12 16.4**	**-0.6**
VNA3	**Neumayer Olymp**	**51.33**	**158**	P		**P**	**13 15 38.7**	**+1.1**
SNAA	**Sanae**	**53.55**	**158**	P		**P**	**13 15 55.1**	**+0.9**
SNAA	**Sanae**	**53.55**	**158**	P		**P**	**13 15 53.1**	**-1.2**
QSPA	**South Pole Qui**	**58.38**	**180**	P		**P**	**13 16 27.2**	**-1.8**
QSPA				IAmb	IAmb		13 16 31.5	
	comp=Z,3.7nm,0.8s							
TXAR	**Lajitas Array** comp=Z,0.6nm,0.7s,baz=152,slow=8.4,SNR=8.0	**67.89**	**330**	P		**P**	**13 17 33.6**	**+1.3**
TXAR	**Lajitas Array**	**67.89**	**330**	P		**P**	**13 17 30.6**	**-1.8**
LIC	**Lamto** comp=Z,29nm,1.2s	**74.04**	**72**	*eP*		**P**	**13 18 09.7**	**-0.3**
TIC	**Toumodi**	**74.29**	**72**	*eP*		**P**	**13 18 12.1**	**+0.6**
KIC	**Kosan Boka** comp=Z,12nm,0.8s	**74.35**	**72**	*eP*		**P**	**13 18 11.6**	**-0.2**
DBIC	**Dimbokro** comp=Z,5.3nm,0.7s,baz=243,slow=6.6,SNR=5.9	**74.44**	**72**	P		**P**	**13 18 12.2**	**-0.1**
MAW	**Mawson** comp=Z,2.6nm,0.8s,baz=241,slow=7.8,SNR=6.9	**75.22**	**164**	P		**P**	**13 18 16.8**	**+0.9**
MAW				LR		LR	13 50 38.7	
	comp=Z,67nm,20.2s,baz=242,slow=35							
MAW	**Mawson**	**75.22**	**164**	P		**P**	**13 18 13.8**	**-2.1**
MAW				IAmb	IAmb		13 18 17.6	
	comp=Z,0.5nm,0.8s							
BOSA	**Boshof** comp=Z,6.1nm,1.0s,baz=182,slow=6.9,SNR=5.3	**81.02**	**118**	P		**P**	**13 18 49.6**	**+0.6**
BOSA				LR		LR	13 51 00.5	
	comp=Z,44nm,18.1s,baz=192,slow=33							
NVAR	**Mina Array Bea** comp=Z,0.4nm,0.7s,baz=123,slow=6.5,SNR=4.5	**82.16**	**325**	P		**P**	**13 18 56.0**	**+1.3**
TORD	**Torodi Ar. Bea** comp=Z,3.9nm,0.8s,baz=253,slow=5.2,SNR=22	**83.42**	**70**	P		**P**	**13 19 01.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**83.42**	**70**	P		**P**	**13 18 59.9**	**-1.6**
TORD				IAmb	IAmb		13 19 02.3	
	comp=Z,4.1nm,0.9s							
ASAR	**Alice Springs** comp=Z,0.3nm,0.8s,baz=141,slow=3.2,SNR=2.7	**119.51**	**207**	PKP		**PKiKP**	**13 25 27.0**	**+2.8**
WRA	**Warramunga Arr** comp=Z,0.3nm,0.6s,baz=172,slow=1.8,SNR=2.1	**122.67**	**210**	PKP		**PKPdf**	**13 25 30.0**	**-0.2**
H11S2	**WAKE ISLAND Hyl** baz=118	**125.84**	**271**	T		T	15 44 33.9	
H11S1	**WAKE ISLAND Hyl** baz=118	**125.85**	**271**	T		T	15 44 35.9	
H11S3	**WAKE ISLAND Hyl** baz=118	**125.86**	**271**	T		T	15 44 34.4	
ZALV	**Zalesovo Beam** comp=Z,5.7nm,0.6s,baz=306,slow=3.7,SNR=21	**152.35**	**30**	PKPbc		**PKiKP**	**13 26 29.5**	**-0.1**
MKAR	**Makanchi Array** comp=Z,1.0nm,0.8s,baz=306,slow=4.1,SNR=9.3	**155.26**	**45**	PKPab		**PKPab**	**13 26 52.5**	**+0.5**
SONM	**Songino Array** comp=Z,0.3nm,0.3s,baz=331,slow=4.8,SNR=2.0	**163.98**	**4**	PKPab		**PKPab**	**13 27 30.8**	**+1.0**

WEL 26 13:37:02.2±0.4, 42.°3S±3.°×17.°3E±.°, h73km±6km, M3.5/31, ML3.8/32, MLv3.5/31, Error ellipse: s-maj=0.0km s-min=0.0km az=127.0, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
THZ	**Tophouse**	**0.30**	**354**	P		Pn	13 37 15.2	+1.4
THZ				S		Sn	13 37 24.0	+1.7
KHZ	**Kahutara**	**0.56**	**129**	P		Pn	13 37 17.4	+1.6
KHZ				S		Sn	13 37 28.0	+2.1
BSWZ	**Blackbirch Sta**	**0.78**	**64**	P		Pn	13 37 19.8	+1.6
LTZ	**Lake Taylor**	**0.87**	**215**	P		Pn	13 37 20.2	+0.8
LTZ				S		Sn	13 37 33.0	+0.9
GVZ	**Greta Valley S**	**0.91**	**176**	P		Pn	13 37 21.0	+1.3
GVZ				S		Sn	13 37 33.9	+1.2
NNZ	**Nelson**	**0.91**	**21**	P		Pn	13 37 20.7	+1.1
NNZ				S		Sn	13 37 34.2	+1.5
DSZ	**Denniston Nort**	**0.91**	**290**	P		Pn	13 37 20.4	+0.6
DSZ				S		Sn	13 37 33.2	+0.3
TUWZ	**Tuamarina**	**0.98**	**50**	P		Pn	13 37 21.7	+1.1
CMWZ	**Cape Campbell**	**1.00**	**72**	P		Pn	13 37 22.2	+1.4
AMCZ	**Amberley**	**1.13**	**191**	P		Pn	13 37 23.3	+0.8
AMCZ				S		Sn	13 37 39.0	+1.3
QRZ	**Quartz Range**	**1.28**	**346**	P		Pn	13 37 24.9	+0.6
QRZ				S		Sn	13 37 41.2	+0.2
INZ	**Inchbonnie**	**1.29**	**239**	P		Pn	13 37 24.9	+0.4
TCW	**Tory Channel**	**1.31**	**50**	P		Pn	13 37 25.6	+0.8
TCW				S		Sn	13 37 41.5	+0.2
OXZ	**Oxford**	**1.43**	**208**	P		Pn	13 37 26.3	-0.1
OXZ				S		Sn	13 37 44.0	-0.4
DUWZ	**D'Urville Isla**	**1.46**	**30**	P		Pn	13 37 27.9	+1.2
WEL	**Wellington**	**1.57**	**61**	P		Pn	13 37 28.6	+0.4
BHW	**Baring Head**	**1.58**	**66**	P		Pn	13 37 28.7	+0.3
MQZ	**McQueen's Vall**	**1.66**	**187**	P		Pn	13 37 28.9	-0.4
OKCZ	**Okains Bay**	**1.66**	**177**	P		Pn	13 37 29.8	+0.4
RACZ	**Rakaia**	**1.76**	**199**	P		Pn	13 37 30.5	-0.2
MHCZ	**Mount Hutt**	**1.78**	**214**	P		Pn	13 37 30.8	-0.2
PLWZ	**Palliser**	**1.79**	**75**	P		Pn	13 37 30.9	-0.3
AKCZ	**Akaroa Harbour**	**1.81**	**181**	P		Pn	13 37 31.4	+0.1
MSWZ	**Moikau Station**	**1.84**	**70**	P		Pn	13 37 31.5	-0.3
CAW	**Cannon Point**	**1.85**	**60**	P		Pn	13 37 32.0	0.0
KIW	**Kapiti Island**	**1.90**	**51**	P		Pn	13 37 33.1	+0.5
WVZ	**Waitaha Valley**	**1.92**	**238**	P		Pn	13 37 32.8	+0.1
PAWZ	**Paruwai Farm**	**1.98**	**71**	P		Pn	13 37 33.3	-0.3
WAKZ	**Wakanui South**	**2.04**	**203**	P		Pn	13 37 34.1	-0.4
OGWZ	**Otaki Gorge**	**2.08**	**54**	P		Pn	13 37 35.1	0.0
MTW	**Mount Morrison**	**2.12**	**66**	P		Pn	13 37 34.8	-0.7
TRWZ	**Traveller**	**2.16**	**73**	P		Pn	13 37 35.7	-0.4
RPZ	**Rata Peaks**	**2.16**	**220**	P		Pn	13 37 35.7	-0.4
HOWZ	**Holdsworth Sta**	**2.25**	**60**	P		Pn	13 37 36.7	-0.7
ARCZ	**Arundel**	**2.29**	**214**	P		Pn	13 37 37.3	-0.5
GCSZ	**Gaunt Creek Bo**	**2.30**	**236**	P		Pn	13 37 37.9	-0.1
TMWZ	**Te Maipa**	**2.41**	**68**	P		Pn	13 37 38.4	-1.0
MRZ	**Mangatainoka R**	**2.43**	**56**	P		Pn	13 37 39.1	-0.5
TIWZ	**Tintock**	**2.56**	**61**	P		Pn	13 37 40.8	-0.6
TMZ	**Timaru**	**2.72**	**211**	P		Pn	13 37 43.1	-0.5
FOZ	**Fox Glacier**	**2.73**	**236**	P		Pn	13 37 43.3	-0.4
PRWZ	**Pori Road**	**2.73**	**57**	P		Pn	13 37 43.1	-0.7
NMEZ	**Namu Road**	**2.74**	**15**	P		Pn	13 37 45.3	+1.4
WAZ	**Wanganui**	**2.78**	**34**	P		Pn	13 37 45.8	+1.4
BFZ	**Birch Farm**	**2.84**	**62**	P		Pn	13 37 43.7	-1.5
PREZ	**Palmer Road**	**2.87**	**19**	P		Pn	13 37 47.0	+1.3
NBEZ	**Newall Road No**	**2.88**	**14**	P		Pn	13 37 47.1	+1.3
KHEZ	**Kahui Hut**	**2.88**	**17**	P		Pn	13 37 47.0	+1.1
NEZ	**North Egmont**	**2.92**	**18**	P		Pn	13 37 47.5	+1.0
PKE	**Pukeiti**	**2.98**	**16**	P		Pn	13 37 48.4	+1.2
DVHZ	**Dannevirke**	**3.00**	**55**	P		Pn	13 37 46.1	-1.4
DREZ	**Durham Road**	**3.03**	**19**	P		Pn	13 37 48.9	+1.1
LBZ	**Lake Benmore**	**3.08**	**220**	P		Pn	13 37 47.7	-0.7
VRZ	**Vera Road**	**3.25**	**26**	P		Pn	13 37 51.9	+1.1
PNHZ	**Pukenui**	**3.27**	**50**	P		Pn	13 37 49.9	-1.3
MTVZ	**Mangateitei**	**3.29**	**36**	P		Pn	13 37 52.2	+0.8
PKVZ	**Pokaka**	**3.32**	**34**	P		Pn	13 37 52.3	+0.4
WNVZ	**Wahianoa**	**3.40**	**37**	P		Pn	13 37 53.4	+0.4
MOVZ	**Moawhango**	**3.41**	**40**	P		Pn	13 37 52.7	-0.3
ODZ	**Otahua Downs**	**3.42**	**209**	P		Pn	13 37 52.6	-0.5
WHVZ	**Whangaehu Hut**	**3.43**	**37**	P		Pn	13 37 53.8	+0.3
FWVZ	**Far West T-bar**	**3.44**	**36

YUK1	**Sand Pete Hill**	**7.79**	**279**	Pn	**Pn**	**13 39 46.9**	**-1.3**
YUK3	**Moose Creek**	**7.80**	**276**	Pn	**Pn**	**13 39 48.1**	**-0.3**
YUK3				Sg	Sg	13 41 53.5	-11
YUK2	**White River**	**7.98**	**277**	Pn	Pn	13 39 40.2	-11
YUK2				Sg	Sg	13 41 58.5	-12
UBRB	**Upper Baezaeko**	**9.03**	**180**	Pn	**Pn**	**13 40 04.8**	**-0.3**
UBRB				Sg	Sn	13 42 35.6	+49
MNB	**Mounoet Dainar**	**10.18**	**160**	Pn	**Pn**	**13 40 21.9**	**+0.9**
MNB				Sn	**Sn**	**13 42 13.1**	**-2.1**
EDM	**Edmonton**	**10.38**	**142**	Pn	**Pn**	**13 40 25.3**	**+1.7**
ILAR	**Eielson Array**	**10.67**	**296**	Pn	**Pn**	**13 40 26.9**	**-0.5**
	0.1nm,0.3s,baz=104,slow=12,SNR=6.0						
ILAR				Lg	Lg	13 43 23.4	
	0.1nm,0.3s,baz=101,slow=28,SNR=2.8						
SLEB	**Sale Mountain**	**11.22**	**161**	Pn	**Pn**	**13 40 37.0**	**+1.8**
COLD	**Coldfoot**	**12.41**	**307**	Pn	**Pn**	**13 40 50.5**	**-0.7**
PDAR	**Pinedale Array**	**20.99**	**149**	P	**P**	**13 42 43.1**	**+4.9**
	0.3nm,0.5s,baz=358,slow=10,SNR=2.4						
NVAR	**Mina Array Bea**	**23.75**	**169**	P	**P**	**13 43 10.9**	**+3.7**
	0.1nm,0.3s,baz=354,slow=7.3,SNR=3.8						
FINES	**FINESS Array B**	**54.88**	**17**	P	**P**	**13 47 25.8**	**+1.1**
	0.8nm,0.6s,baz=353,slow=9.8,SNR=3.9						

*IDC **26** 13:47:48.8±0.6,23°.92N×109°.09W,h0km,mb4.3/17, mb1 4.5/20,mb1mx4.4/33,mbtmp4.3/20,ML4.8/2,MS4.2/26, Ms1 4.2/26,ms1mx4.1/38,Error ellipse: s-maj=17.0km s-min=9.8km az=17.0*
*NEIC **26** 13:47:50.8±2.7,23°.93N±0°.08×108°.97W±0°.04,h10km±1km, mb4.9/59,Md5.0/17(MEX),Error ellipse: s-maj=13.3km s-min=5.7km az=176.0*
*MEX **26** 13:47:51.9±1.2,24°.13N×108°.93W,h20km±41km,MD5.0*
*GCMT **26** 13:47:51.8±0.2,24°.08N±0°.01×108°.88W±0°.01,h19km±1km, MW5.0/120,Moment Tensor Solution. s46,c52; s120,c187; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.80±.12; Mθθ-3.35±.09; Mϕϕ4.15±.11; Mrθ-0.90±.22; Mθϕ-1.47±.09; Mrϕ0.62±.20; Best double couple: M₀4.18400×10¹⁶ NP1:ϕs34.00000°,δ74.00000°, λ-4.00000° NP2:ϕs125.00000°,δ86.00000°, λ-164.00000°. Principal axes: T 4.5420, Plg8.0000°, Azm259.0000°; N -0.7150, Plg73.0000°, Azm140.0000°; P -3.8270, Plg15.0000°, Azm351.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 13:47:51.7±1.6,24°.04N±0°.04×108°.99W±0°.03, h16km±10km,nr292,σ2°28/270,mb4.8/33,MS4.3/25,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLBS	**Sierra La Lagu**	**0.95**	**248**	Pg	**Pg**	**13 48 07.6**	**-2.4**
SLBS				Sn	**Sn**	**13 48 23.2**	**-0.4**
LPIG	**La Paz**	**1.21**	**273**	Pg	**Pn**	**13 48 11.3**	**-2.6**
	454nm,0.3s,baz=60,slow=2.4,SNR=210						
LPIG				Lg	Lg	13 48 23.8	
	3μm,0.3s,baz=68,slow=2.3,SNR=15						
LPIG	**La Paz**	**1.21**	**273**	*eP*	**Pn**	**13 48 11.2**	**-2.7**
LPIG				*eS*	**Sb**	**13 48 26.0**	**-3.6**
LPIG	**La Paz**	**1.21**	**273**		**Pn**	**13 48 11.2**	**-2.7**
LPIG					**Sb**	**13 48 26.0**	**-3.6**
TSIG	**Topolobambo**	**1.55**	**358**	*eP*	Pn	13 48 14.7	-4.0
TSIG				*eS*	**Sn**	**13 48 31.6**	**-6.8**
SSIG	**Sanalona**	**1.85**	**65**	*eP*	Pn	13 48 17.4	-5.4
SSIG				*eS*	Sn	13 48 27.4	-18
MAIG	**Mazatlaan**	**2.50**	**109**	*eP*	**Pn**	**13 48 29.6**	**-2.1**
MAIG				*eS*	**Sn**	**13 49 00.8**	**-1.0**
MAIG	**Mazatlaan**	**2.50**	**109**		**Pn**	**13 48 29.6**	**-2.1**
MAIG					**Sn**	**13 49 00.8**	**-1.0**
CSIG	**Choix**	**2.83**	**11**	*eP*	**Pn**	**13 48 33.1**	**-3.1**
CSIG				*eS*	**Sn**	**13 49 02.9**	**-7.2**
PDIG	**Papasquiaro**	**3.42**	**72**	*eP*	**Pn**	**13 48 40.9**	**-3.6**
PDIG				*eS*	**Sn**	**13 49 19.2**	**-5.6**
HPIG		**4.16**	**45**	*eP*	**Pn**	**13 48 51.8**	**-2.9**
HPIG				*eS*	**Sn**	**13 49 42.7**	**-0.5**
HPIG		**4.16**	**45**		**Pn**	**13 48 52.1**	**-2.6**
GUYB	**Guaymas**	**4.20**	**337**	*eP*	**Pn**	**13 48 51.6**	**-3.4**
SRIG	**Santa Rosalia**	**4.39**	**319**	*eP*	**Pn**	**13 48 59.1**	**+1.4**
SRIG				*eS*	**Sn**	**13 49 47.6**	**-0.9**
SRIG	**Santa Rosalia**	**4.39**	**319**		**Pn**	**13 48 58.9**	**+1.1**
H06E1	**SOCORRO T-PHAS**	**5.54**	**199**	T	T	13 55 02.7	
	SNR=343						
TX31	**Lajitas Ar. Si**	**7.10**	**41**		**Pn**	**13 49 32.3**	**-2.8**
TX32	**Lajitas Array**	**7.10**	**41**		**Pn**	**13 49 32.0**	**-3.1**
TXAR	**Lajitas Array**	**7.10**	**41**	Pn	**Pn**	**13 49 31.8**	**-3.2**
	1.4nm,0.3s,baz=205,slow=14,SNR=71						
TXAR				Sn	**Sn**	**13 50 52.3**	**-3.2**
	baz=228,slow=25,SNR=1.9						
TXAR				Lg	Lg	13 51 29.1	
	2.1nm,0.3s,baz=223,slow=32,SNR=2.6						
TXAR				LR	LR	13 52 01.7	
	comp=Z,1μm,19.9s,baz=0.0,slow=35						
319A	**Douglas**	**7.31**	**358**		**Pn**	**13 49 37.4**	**-0.6**
MNTX	**Cornudas Mount**	**8.27**	**22**	Pn	**Pn**	**13 49 49.2**	**-1.8**
MNTX	**Cornudas Mount**	**8.27**	**22**	P	**Pn**	**13 49 49.4**	**-1.6**
	baz=203,SNR=62						
TUC	**Tucson**	**8.39**	**350**		**Pn**	**13 49 53.6**	**+0.9**
TUC	**Tucson**	**8.39**	**350**	P	**Pn**	**13 49 53.6**	**+0.9**
	baz=168						
121A	**Cookes Peak, D**	**8.53**	**7**		**Pn**	**13 49 54.1**	**-0.6**
121A	**Cookes Peak, D**	**8.53**	**7**	P	**Pn**	**13 49 54.1**	**-0.6**
	baz=187,SNR=7.5						
214A	**Organ Pipe Nat**	**8.58**	**338**	Pn	**Pn**	**13 49 55.0**	**-0.3**
214A	**Organ Pipe Nat**	**8.58**	**338**	P	**Pn**	**13 49 57.4**	**+2.2**
	baz=156,SNR=6.1						
833A	**Chaparral WMA,**	**9.61**	**62**	P	**Pn**	**13 50 06.1**	**-3.3**
	baz=245,SNR=20						
LENM	**Lemitar**	**10.24**	**9**		**Pn**	**13 50 15.9**	**-2.3**
BNM	**Barren Site**	**10.28**	**11**	Pn	**Pn**	**13 50 17.4**	**-1.4**
GLA	**Glamis**	**10.34**	**332**	P	**Pn**	**13 50 23.7**	**+4.3**
	baz=149						
JCT	**Junction City**	**10.38**	**50**	P	**Pn**	**13 50 19.4**	**-0.6**
	baz=233,SNR=6.9						
Y14A	**Wickenburg**	**10.47**	**341**		**Pn**	**13 50 24.8**	**+3.6**
X18A	**Snowflake**	**10.49**	**356**		**Pn**	**13 50 22.5**	**+0.9**
X16A	**Lo Mia Camp, P**	**10.56**	**349**		**Pn**	**13 50 24.2**	**+1.6**
IKP	**In-Ko-Pah, Jac**	**10.62**	**325**	P	**Pn**	**13 50 27.5**	**+4.2**
	baz=142,SNR=13						
MONP2	**Monument Peak**	**10.98**	**325**	P	**Pn**	**13 50 32.6**	**+4.3**
	baz=142,SNR=7.0						
W18A	**Petrified Fore**	**11.06**	**357**	P	**Pn**	**13 50 32.7**	**+3.3**
	baz=176,SNR=9.0						
ANMO	**Albuquerque**	**11.09**	**11**	Pn	**Pn**	**13 50 31.3**	**+1.5**
ANMO	**Albuquerque**	**11.09**	**11**	P	**Pn**	**13 50 32.7**	**+2.9**
	baz=191						
BC3	**Big Chuckawall**	**11.13**	**331**	P	**Pn**	**13 50 34.6**	**+4.4**
	baz=148,SNR=11						
PDMCI	**Parker Dam,Lak**	**11.17**	**337**	P	Pn	13 50 35.9	+5.2
	baz=155,SNR=7.0						
MSTX	**Muleshoe**	**11.29**	**27**	P	**Pn**	**13 50 32.8**	**+0.4**
	baz=210						
IRM	**Iron Mountain**	**11.43**	**333**	P	Pn	13 50 39.2	+5.0
	baz=150,SNR=47						
PFO	**Pinyon Flats O**	**11.56**	**327**	P	**Pn**	**13 50 40.9**	**+4.6**
	baz=144						
WUAZ	**Wupatki**	**11.62**	**350**	P	**Pn**	**13 50 41.1**	**+4.0**
	baz=169,SNR=22						
BELC	**Belle Mtn. Jos**	**11.66**	**330**	P	**Pn**	**13 50 42.1**	**+4.5**
	baz=146,SNR=10.0						
ABTX	**Abilene, Hawle**	**11.86**	**42**	P	**Pn**	**13 50 39.9**	**-0.3**
	baz=225,SNR=15						
435B	**Jarrell**	**12.15**	**54**	P	**Pn**	**13 50 44.5**	**+0.4**
	baz=238						
HEC	**Hector,Ludlow**	**12.51**	**331**	P	Pn	13 50 54.4	+5.2
	baz=147						
AMTX	**Amarillo**	**12.53**	**29**	Pn	**Pn**	**13 50 47.1**	**-2.4**
BFSC	**Mount Baldy Ra**	**12.67**	**325**	P	**P**	**13 50 59.8**	**-2.9**
	baz=141						
TUQ	**Turquoise Moun**	**12.85**	**334**	P	**Pn**	**13 50 58.6**	**+4.8**
	baz=150,SNR=29						
WHTX	**Lake Whitney,**	**12.89**	**50**	P	**Pn**	**13 50 56.1**	**+1.8**
	baz=234						
GSC	**Goldstone, Bar**	**13.11**	**331**	P	Pn	13 51 02.4	+5.0
	baz=147,SNR=15						
MVCO	**Mesa Verde**	**13.13**	**2**	P	**Pn**	**13 50 60.0**	**+2.2**
	baz=182,SNR=5.7						
EDW2	**Edwards Air Fo**	**13.34**	**326**	P	**P**	**13 51 06.4**	**-3.6**
	baz=142,SNR=7.4						
KNB	**Kanab**	**13.35**	**347**	Pn	**Pn**	**13 51 04.7**	**+4.0**
SHOC	**Shoshone, Teco**	**13.39**	**334**	P	Pn	13 51 06.0	+4.8
	baz=150,SNR=45						
LCMT	**Little Creek M**	**13.44**	**345**	Pn	**Pn**	**13 51 05.6**	**+3.8**
T25A	**Trinidad**	**13.63**	**16**	P	**Pn**	**13 51 07.4**	**+2.8**
	baz=197,SNR=9.7						
LRMC	**Laurel Mtn Rad**	**13.66**	**329**	P	**Pn**	**13 51 09.6**	**+4.6**
	baz=144,SNR=31						
QSM	**Queen of Sheba**	**13.70**	**332**		**Pn**	**13 51 09.8**	**+4.6**
S22A	**4UR Ranch, Cre**	**13.79**	**7**	P	**Pn**	**13 51 09.6**	**+2.9**
	baz=188						
GWY	**Greenwater Val**	**13.80**	**333**		**Pn**	**13 51 10.9**	**+4.0**
WMOK	**Wichita Mounta**	**13.87**	**37**		**Pn**	**13 51 04.5**	**-3.2**
CCUT	**Cedar City**	**13.98**	**345**	Pn	**Pn**	**13 51 11.3**	**+2.0**
SDCO	**Great Sand Dun**	**13.98**	**12**	P	**P**	**13 51 15.4**	**-2.0**
	baz=193,SNR=34						
MPMC	**Manual Prospec**	**14.05**	**330**	P	**Pn**	**13 51 14.8**	**+4.6**
	baz=146,SNR=32						
PV01	**Paradox Valley**	**14.05**	**1**		**Pn**	**13 51 13.4**	**+3.0**
FURC	**Furnace Creek,**	**14.12**	**333**	P	**Pn**	**13 51 15.5**	**+4.4**
	baz=149,SNR=12						
PV17	**East Wray Mesa**	**14.20**	**0**		**Pn**	**13 51 13.0**	**+0.7**
ISA	**Isabella, Lake**	**14.20**	**327**	P	**P**	**13 51 17.0**	**-2.5**
	baz=142,SNR=12						
TPNV	**Topopah Spring**	**14.30**	**336**	P	**P**	**13 51 19.0**	**-1.8**
	baz=152,SNR=38						
PKM	**Mcpherson Peak**	**14.33**	**321**	P	**P**	**13 51 23.9**	**+2.7**
	baz=136						
CWC	**Cottonwood Cre**	**14.63**	**330**	P	**P**	**13 51 22.8**	**-1.7**
	baz=145						
VES	**Vestal, Richgr**	**14.65**	**326**	P	**P**	**13 51 27.3**	**+2.8**
	baz=141,SNR=5.2						
MSU	**Marysvale**	**14.68**	**350**		**Pn**	**13 51 18.4**	**-0.5**
SMMC	**Simmler**	**14.74**	**322**	P	**P**	**13 51 28.2**	**+2.6**
	baz=137						
GRAC	**Grapevine Rang**	**14.79**	**333**	P	**P**	**13 51 24.9**	**-1.1**
	baz=148						
NATX	**Nacogdoches**	**14.81**	**56**	P	**Pn**	**13 51 18.1**	**-2.3**
	baz=242						
CMIG	**Matias Romero**	**14.90**	**115**	Pn	**Pn**	**13 51 20.7**	**-1.0**
	0.2nm,0.3s,baz=312,slow=11,SNR=8.5						
CMIG				LR	LR	13 56 56.4	
	comp=Z,2μm,19.6s,baz=286,slow=37						
PSUT	**Pine Spring**	**15.03**	**345**	P	**Pn**	**13 51 25.6**	**+1.9**
Q24A	**Divide**	**15.23**	**11**	P	**P**	**13 51 33.9**	**+2.6**
	baz=193,SNR=7.5						
R11A	**Troy Canyon, C**	**15.33**	**340**	P	**P**	**13 51 31.2**	**-1.1**
	baz=156,SNR=30						
SPR3	**Spring Creek 3**	**15.59**	**344**	P	**Pn**	**13 51 33.7**	**+2.7**
SPR3				IAmb	IAmb	13 51 41.6	
	comp=Z,118nm,1.2s						
MLAC	**Mammoth, Mammo**	**15.96**	**330**	P	**P**	**13 51 44.1**	**+4.8**
	baz=145						
ISCO	**Idaho Springs**	**15.97**	**9**	P	**P**	**13 51 39.4**	**-0.1**
	baz=191,SNR=44						
O20A	**White River Ci**	**16.06**	**2**	P	**Pn**	**13 51 39.4**	**+2.3**
	baz=182,SNR=23						
LHV	**Little Huntoon**	**16.33**	**332**	P	**P**	**13 51 43.1**	**0.0**
NV11	**Mina Array Sit**	**16.33**	**334**	P	**P**	**13 51 44.8**	**+1.4**
NVAR	**Mina Array Bea**	**16.39**	**333**	Pn	**P**	**13 51 44.9**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=152,slow=12,SNR=36						
NVAR				LR	LR	13 57 38.6	
	comp=Z,592nm,19.1s,baz=150,slow=36						
NVAR	**Mina Array Bea**	**16.39**	**333**	P	**P**	**13 51 45.1**	**+1.0**
DUG	**Dugway, Tooele**	**16.43**	**350**	P	**P**	**13 51 44.5**	**+0.1**
DUG	**Dugway, Tooele**	**16.43**	**350**	P	**P**	**13 51 44.8**	**+0.4**
	baz=167,SNR=27						
TUL1	**Leonard**	**16.43**	**41**	P	**P**	**13 51 44.5**	**+0.2**
	baz=227						
RDMU	**Red Mountain**	**16.49**	**358**	P	**P**	**13 51 45.9**	**+0.7**
CBKS	**Cedar Bluff**	**16.69**	**26**	P	**P**	**13 51 48.6**	**+1.4**
	baz=210,SNR=8.1						
Z41A	**Richland Creek**	**16.90**	**53**	P	**Pn**	**13 51 44.9**	**-2.6**
	baz=241						
N23A	**Red Feather La**	**17.00**	**8**	P	**P**	**13 51 51.4**	**+0.6**
	baz=189,SNR=8.0						
MIAR	**Mount Ida**	**17.02**	**49**	P	**Pn**	**13 51 47.6**	**-1.4**
	baz=236,SNR=8.7						
W39A	**Magazine**	**17.25**	**46**	P	**P**	**13 51 53.5**	**+0.2**
	baz=233,SNR=12						
ELK	**Elko**	**17.46**	**344**	LR	LR	13 58 03.3	
	comp=Z,590nm,18.2s,baz=172,slow=35						
PNTR	**Pine Nut**	**17.50**	**332**	P	**P**	**13 51 59.7**	**+3.3**
X40A	**Basin Creek Fa**	**17.50**	**50**	P	**Pn**	**13 51 52.7**	**-2.3**
	baz=237						
OGNE	**Ogallala**	**17.84**	**17**	P	**P**	**13 52 02.8**	**+2.9**
	baz=201						
W41B	**Gary Mavity, V**	**18.27**	**49**	P	**Pn**	**13 52 03.8**	**-0.8**
	baz=237						
KSU1	**Kansas State U**	**18.32**	**32**	P	**Pn**	**13 52 05.5**	**+0.4**
	baz=218,SNR=8.0						
U40A	**Yellville**	**18.54**	**45**	P	**P**	**13 52 06.0**	**-1.7**
	baz=232						
K22A	**Casper**	**18.67**	**6**	P	**Pn**	**13 52 11.0**	**+1.4**
	baz=187,SNR=38						
BW06	**Boulder Array**	**18.68**	**359**	P	**Pn**	**13 52 10.6**	**+0.8**
BW06	**Boulder Array**	**18.68**	**359**	P	**Pn**	**13 52 10.5**	**+0.7**
	baz=178,SNR=38						
PD31	**Pinedale Array**	**18.68**	**359**	P	**Pn**	**13 52 10.8**	**+1.0**
PDAR	**Pinedale Array**	**18.68**	**359**	P	**Pn**	**13 52 10.5**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=168,slow=11,SNR=123						
PDAR				LR	LR	13 59 26.9	
	comp=Z,655nm,18.6s,baz=192,slow=37						
PDAR	**Pinedale Array**	**18.68**	**359**	P	**P**	**13 52 10.0**	**+0.6**
REDW	**Red Top Meadow**	**19.33**	**356**	P	**Pn**	**13 52 18.6**	**+0.9**
REDW				IAmb	IAmb	13 52 31.6	
	comp=Z,77nm,1.2s						
O03E	**Paynes Creek**	**19.47**	**329**	P	**Pn**	**13 52 22.5**	**+3.4**
	baz=142,SNR=16						
TPAW	**Teton Pass**	**19.47**	**356**	P	**P**	**13 52 17.9**	**-0.1**
TPAW				IAmb	IAmb	13 52 31.5	
	comp=Z,60nm,1.3s						
MOOW	**Moose Ponds**	**19.71**	**356**	IAmb	IAmb	13 52 31.5	
	comp=Z,70nm,1.4s						
O02D	**Mt. Diablo Mer**	**19.85**	**327**	P	**Pn**	**13 52 30.3**	**+6.7**
	baz=140,SNR=6.4						
HLID	**Hailey**	**19.98**	**348**	P	Pn	13 52 25.8	+0.6
	baz=165,SNR=30						
H17A	**Grant Village**	**20.35**	**357**	P	Pn	13 52 30.6	+1.0
	baz=176,SNR=18						
N02D	**Trinity Center**	**20.42**	**329**	P	**P**	**13 52 29.6**	**+1.3**
	baz=142						
RSSD	**Black Hills**	**20.44**	**10**	P	**P**	**13 52 30.2**	**+1.7**
	baz=193						
M04C	**Macdoel**	**20.68**	**332**	P	Pn	13 52 34.4	+0.9
	baz=145,SNR=5.9						
YHH	**Holmes Hill**	**20.75**	**356**	IAmb	IAmb	13 52 46.0	
	comp=Z,84nm,1.3s						
M02C	**Callahan**	**20.82**	**330**	P	Pn	13 52 37.0	+1.9
	baz=142						
YHL	**Hebgen Lake**	**20.84**	**356**	P	**P**	**13 52 33.8**	**+0.9**
YHL				IAmb	IAmb	13 52 46.4	
	comp=Z,100nm,1.4s						
KHMM	**Horse Mountain**	**20.84**	**327**	P	Pn	13 52 35.6	+0.2
KHMM				IAmb	IAmb	13 52 47.4	
	comp=Z,46nm,0.9s						
YNE	**Yellowstone No**	**20.93**	**358**	P	**P**	**13 52 35.0**	**+1.1**
YNE				IAmb	IAmb	13 52 45.8	
	comp=Z,56nm,1.1s						
YBH	**Yreka Blue Hor**	**21.02**	**330**	LR	LR	14 00 49.6	
	comp=Z,186nm,20.3s,baz=161,slow=37						
YBH	**Yreka Blue Hor**	**21.02**	**330**	P	**P**	**13 52 36.0**	**+1.2**
RLMT	**Red Lodge**	**21.03**	**359**	IAmb	IAmb	13 52 44.4	
	comp=Z,46nm,1.1s						
RLMT	**Red Lodge**	**21.03**	**359**	P	**P**	**13 52 36.6**	**+1.6**
	baz=179,SNR=24						
L04D	**Klamath Falls**	**21.24**	**332**	P	**P**	**13 52 39.1**	**+2.0**
	baz=144						
LRAL	**Lakeview Retre**	**21.26**	**60**	P	**P**	**13 52 36.7**	**-0.6**
	baz=250						
BOZ	**Bozeman (W)**	**21.61**	**355**	P	**P**	**13 52 43.7**	**+2.5**
	baz=173,SNR=13						
J05D	**Fort Rock, OR**	**21.69**	**335**	P	**P**	**13 52 44.7**	**+2.7**
	baz=148,SNR=16						
WVT	**Waverly**	**21.86**	**52**	P	**P**	**13 52 42.8**	**-0.9**
WVT				IAmb	IAmb	13 53 01.2	
	comp=Z,28nm,0.8s						
WVT	**Waverly**	**21.86**	**52**	P	**P**	**13 52 43.6**	**-0.1**
	baz=242						
SUSD	**Miller**	**21.94**	**20**	P	**P**	**13 52 45.8**	**+1.3**
	baz=205						
J04D	**Umpqua Nationa**	**22.00**	**334**	P	**P**	**13 52 49.4**	**+4.1**
	baz=146						
ECSD	**EROS Data Cent**	**22.12**	**24**	P	**P**	**13 52 47.0**	**+0.6**
ECSD				IAmb	IAmb	13 53 00.1	
	comp=Z,42nm,0.8s						
ECSD	**EROS Data Cent**	**22.12**	**24**	P	**P**	**13 52 49.2**	**+2.8**
	baz=211,SNR=9.9						
I04A	**Tendick Farm,**	**22.58**	**334**	P	**P**	**13 52 54.6**	**+3.2**
	baz=146						
I05D	**Terrebonne, OR**	**22.63**	**336**	P	**P**	**13 52 55.4**	**+3.4**
	baz=149,SNR=10						
LAO	**LASA Array**	**22.71**	**5**	P	**P**	**13 52 53.6**	**+0.8**
	baz=186,SNR=20						
HRY	**Holter Researc**	**22.74**	**355**	P	**P**	**13 52 53.9**	**+0.8**
MSO	**Missoula**	**23.09**	**351**	P	**P**	**13 52 59.3**	**+2.6**
	baz=168,SNR=7.0						
H04A	**Detroit Lake**	**23.24**	**336**	P	**P**	**13 52 57.1**	**-1.1**
TIGA	**Tifton**	**23.62**	**66**	P	**P**	**13 53 01.4**	**-0.7**
	baz=258,SNR=6.9						
EGMT	**Eagleton**	**23.94**	**359**	P	**P**	**13 53 06.7**	**+1.6**
	baz=178,SNR=7.3						
WCI	**Wyandotte Cave**	**23.94**	**48**	P	**P**	**13 53 06.2**	**+1.1**
	baz=240						
F05D	**White Salmon**	**24.02**	**338**	P	**P**	**13 53 08.7**	**+3.0**
	baz=151						
CPCT	**Cooper Cave**	**24.03**	**56**	P	**P**	**13 53 03.2**	**-2.8**
GOGA	**Godfrey**	**24.20**	**62**	P	**P**	**13 53 06.8**	**-0.8**
	baz=254,SNR=11						
V51A	**Loudon**	**24.29**	**55**	P	**P**	**13 53 06.0**	**-2.3**
V51A				IAmb	IAmb	13 53 08.8	
	comp=Z,69nm,1.0s						
JFWS	**Jewell Farm**	**24.37**	**35**	P	**P**	**13 53 12.0**	**+3.0**
	baz=225						
T50A	**Nancy**	**24.41**	**52**	P	**P**	**13 53 07.5**	**-2.0**
SFIN	**Lafayette**	**24.56**	**43**	P	**P**	**13 53 10.9**	**+0.1**
	baz=235						
TKL	**Tuckaleechee C**	**24.67**	**56**	P	**P**	**13 53 10.9**	**-0.9**
	comp=Z,19nm,0.9s,baz=240,slow=9.1,SNR=11						
TKL				LR	LR	14 03 40.7	
	comp=Z,1μm,19.8s,baz=254,slow=38						
TKL	**Tuckaleechee C**	**24.67**	**56**	P	**P**	**13 53 09.7**	**-2.2**
TKL				IAmb	IAmb	13 53 12.8	
	comp=Z,48nm,1.2s						
C09A	**Chrisman Ranch**	**24.84**	**345**	P	**P**	**13 53 13.6**	**+0.4**
V52A	**Sevierville**	**24.87**	**56**	P	**P**	**13 53 12.1**	**-1.5**
V52A				IAmb	IAmb	13 53 13.8	
	comp=Z,40nm,0.8s						
SPMN	**Marine on St.**	**24.89**	**28**	P	**P**	**13 53 17.5**	**+3.8**
	baz=217						
MDND	**Maddock**	**24.91**	**15**	P	**P**	**13 53 15.3**	**+1.5**
	baz=200						
NEW	**Newport**	**25.02**	**347**	P	**P**	**13 53 15.8**	**+0.9**
	comp=Z,6.8nm,0.7s,baz=146,slow=11,SNR=9.7						
NEW				LR	LR	14 04 00.8	
	comp=Z,657nm,18.2s,baz=170,slow=39						
NEW	**Newport**	**25.02**	**347**	P	**P**	**13 53 16.1**	**+1.2**
	baz=162						
TZTN	**Tazewell**	**25.17**	**54**	P	**P**	**13 53 16.3**	**0.0**
	baz=247,SNR=6.8						
WALA	**Waterton Lakes**	**25.27**	**352**	P	**P**	**13 53 17.4**	**+0.1**
WALA				IAmb	IAmb	13 53 26.7	
	comp=Z,21nm,0.9s						
P49A	**Miami Univ. Ec**	**25.66**	**47**	P	**P**	**13 53 20.2**	**-0.6**
	baz=240						
B05A	**Bryant**	**26.31**	**340**	P	**P**	**13 53 29.0**	**+2.4**
	baz=152						
AGMN	**Agassiz Nation**	**26.35**	**20**	P	**P**	**13 53 27.6**	**+0.8**
	baz=208						
KMSC	**Kings Mountain**	**26.38**	**59**	P	**P**	**13 53 26.8**	**-0.6**
	baz=252,SNR=8.5						
JTS	**Las Juntas de**	**26.66**	**117**	P	**P**	**13 53 30.8**	**+0.7**
	comp=Z,4.5nm,0.7s,baz=325,slow=12,SNR=3.6						
JTS				LR	LR	14 04 06.0	
	comp=Z,508nm,21.0s,baz=14,slow=37						
A04D	**Lummi Island**	**26.91**	**340**	P	**P**	**13 53 36.1**	**+4.3**
	baz=151						
R53A	**Hurricane**	**27.04**	**52**	P	**P**	**13 53 32.1**	**-1.1**
P52A	**Corning**	**27.47**	**49**	P	**P**	**13 53 36.9**	**-0.2**
	baz=243						
EYMN	**Ely**	**27.61**	**26**	P	**P**	**13 53 38.1**	**-0.2**
EYMN	**Ely**	**27.61**	**26**	P	**P**	**13 53 40.0**	**+1.8**
	baz=216,SNR=8.6						
ULM	**Lac du Bonnet**	**28.09**	**18**	P	**P**	**13 53 41.9**	**-0.6**
	comp=Z,3.9nm,0.7s,baz=195,slow=8.1,SNR=2.5						
ULM				LR	LR	14 04 43.9	
	comp=Z,634nm,18.3s,baz=216,slow=36						
ULM	**Lac du Bonnet**	**28.09**	**18**	P	**P**	**13 53 42.0**	**-0.4**
ULM				IAmb	IAmb	13 53 51.4	
	comp=Z,28nm,1.1s						
R55A	**Marlinton**	**28.35**	**53**	P	**P**	**13 53 43.3**	**-1.8**
R55A				IAmb	IAmb	13 53 45.6	
	comp=Z,28nm,0.9s						
O53A	**New Philadelph**	**28.37**	**49**	P	**P**	**13 53 44.4**	**-0.8**
	baz=243,SNR=11						
M53A	**WI Miller and**	**29.28**	**47**	P	**P**	**13 53 52.5**	**-0.7**
	baz=242						
N54A	**Moraine State**	**29.52**	**48**	P	**P**	**13 53 54.4**	**-1.0**
N54A	**Moraine State**	**29.52**	**48**	P	**P

	baz=125						
CAST	**Castle Rocks**	**48.54**	**336**	P	**P**	**13 56 33.5**	**-0.2**
CAST				IAmb	IAmb	13 56 42.2	
	comp=Z,12nm,0.7s						
CAST	**Castle Rocks**	**48.54**	**336**	P	**P**	**13 56 34.6**	**+0.8**
	baz=124						
H24K	**Noodor Dome**	**48.54**	**340**	P	**P**	**13 56 36.4**	**+2.6**
	baz=130						
I23K	**Minto, Yukon-K**	**48.59**	**339**	P	**P**	**13 56 35.6**	**+1.6**
	baz=128						
M19K	**Big River Lodg**	**48.65**	**333**	P	**P**	**13 56 35.9**	**+1.3**
	baz=120						
N18K	**Kilae Creek**	**48.69**	**331**	P	**P**	**13 56 36.4**	**+1.4**
	baz=117						
L20K	**Farewell, AK**	**48.73**	**334**	P	**P**	**13 56 36.5**	**+1.2**
	baz=121						
L19K	**White Mountain**	**48.97**	**333**	P	**P**	**13 56 38.6**	**+1.4**
L19K				IAmb	IAmb	13 56 45.7	
	comp=Z,10nm,0.7s						
L19K	**White Mountain**	**48.97**	**333**	P	**P**	**13 56 38.4**	**+1.2**
	baz=120						
MLY	**Manley**	**48.98**	**338**	P	**P**	**13 56 39.8**	**+2.6**
	baz=126						
K20K	**Telida**	**49.26**	**335**	P	**P**	**13 56 40.0**	**+0.7**
K20K				IAmb	IAmb	13 56 47.5	
	comp=Z,8.7nm,0.8s						
K20K	**Telida**	**49.26**	**335**	P	**P**	**13 56 41.2**	**+1.9**
	baz=121						
I21K	**Tanana**	**49.50**	**338**	P	**P**	**13 56 42.3**	**+1.3**
	baz=125						
J20K	**Nowinta River**	**49.72**	**336**	IAmb	IAmb	13 56 51.2	
	comp=Z,14nm,0.7s						
J20K	**Nowinta River**	**49.72**	**336**	P	**P**	**13 56 43.7**	**+0.9**
	baz=122,SNR=5.9						
H21K	**Melozitna Rive**	**50.05**	**338**	P	**P**	**13 56 46.8**	**+1.5**
	baz=124						
RKT	**Rikitea**	**53.24**	**210**	*e*T	T	14 54 05.7	
	comp=Z,5.4nm,0.3s						
LPAZ	**La Paz**	**56.55**	**131**	P	**P**	**13 57 33.4**	**-1.0**
	comp=Z,2.3nm,0.8s,baz=348,slow=9.9,SNR=6.6						
PPT	**Papeete**	**57.26**	**228**	LR	LR	14 15 46.6	
	comp=Z,192nm,19.4s,baz=350,slow=29						
PPT2	**Papeete2**	**57.28**	**228**	*e*S	**S**	**14 05 26.8**	**-7.9**
	comp=Z,88nm,27.8s						
PPT2				*e*LR	LR	14 14 19.0	
	comp=Z,711nm,26.8s,baz=29						
PB11	**IPOC Station P**	**58.00**	**135**	P	**P**	**13 57 43.4**	**-0.7**
PB01	**IPOC Station P**	**59.04**	**136**	P	**P**	**13 57 50.8**	**-0.4**
SUMG	**Summit**	**61.44**	**19**	P	**P**	**13 58 08.9**	**+1.6**
SUMG				IAmb	IAmb	13 58 13.8	
	comp=Z,9.7nm,0.7s						
H03N2	**Juan Fernandez**	**63.93**	**152**	T	T	15 08 14.4	
	baz=337,slow=74						
H03N1	**Juan Fernandez**	**63.94**	**152**	T	T	15 08 30.9	
	baz=337,slow=74						
H03N3	**Juan Fernandez**	**63.95**	**152**	T	T	15 08 30.0	
	baz=337						
CO06	**Fray Jorge**	**65.13**	**145**	P	**P**	**13 58 32.4**	**+0.5**
BO01	**Tunca**	**68.36**	**147**	P	**P**	**13 58 52.0**	**-0.4**
CPUP	**Villa Florida**	**70.71**	**132**	P	**P**	**13 59 06.2**	**-0.8**
	comp=Z,3.4nm,0.7s,baz=325,slow=6.2,SNR=6.4						
CPUP				LR	LR	14 28 21.6	
	comp=Z,78nm,21.7s,baz=334,slow=34						
CPUP	**Villa Florida**	**70.71**	**132**	P	**P**	**13 59 06.5**	**-0.6**
CPUP				IAmb	IAmb	13 59 14.7	
	comp=Z,16nm,1.1s						
BDFB	**Brasilia**	**71.41**	**117**	P	**P**	**13 59 11.3**	**-0.3**
	comp=Z,2.2nm,0.5s,baz=320,slow=3.0,SNR=3.1						
BDFB				LR	LR	14 31 48.2	
	comp=Z,133nm,18.3s,baz=305,slow=37						
AFI	**Afiamalu**	**71.99**	**245**	LR	LR	14 23 48.2	
	comp=Z,178nm,18.1s,baz=70,slow=30						
PLCA	**Paso Flores**	**73.69**	**151**	P	**P**	**13 59 25.1**	**+0.4**
	comp=Z,3.6nm,0.7s,baz=330,slow=8.6,SNR=8.8						
PLCA	**Paso Flores**	**73.69**	**151**	P	**P**	**13 59 24.6**	**-0.1**
PLCA				IAmb	IAmb	13 59 33.4	
	comp=Z,15nm,0.8s						
TRQA	**Tornquist**	**75.91**	**143**	P	**P**	**13 59 37.5**	**0.0**
TRQA				IAmb	IAmb	13 59 44.9	
	comp=Z,10nm,1.1s						
ARCES	**ARCESS Array B**	**81.15**	**15**	P	**P**	**14 00 06.9**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=324,slow=6.0,SNR=1.6						
ARCES				LR	LR	14 38 17.1	
	comp=Z,116nm,18.5s,baz=350,slow=37						
ARCES	**ARCESS Array B**	**81.15**	**15**	P	**P**	**14 00 07.1**	**+1.0**
ARCES				IAmb	IAmb	14 00 14.3	
	comp=Z,18nm,1.2s						
MSVF	**Nonsavu**	**82.38**	**247**	LR	LR	14 27 36.2	
	comp=Z,168nm,19.3s,baz=85,slow=29						
NB2	**NORSAR Subarra**	**82.53**	**25**	P	P	14 00 20.9	+7.4
	comp=Z,11nm,1.4s,baz=308,slow=5.3						
NOA	**NORSAR Array B**	**82.53**	**25**	P	**P**	**14 00 15.0**	**+1.5**
	comp=Z,0.7nm,0.8s,baz=307,slow=5.4,SNR=3.8						
NOA				LR	LR	14 35 59.9	
	comp=Z,122nm,21.2s,baz=300,slow=35						
ESDC	**Sonseca Array**	**85.72**	**48**	P	**P**	**14 00 29.5**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=306,slow=5.2,SNR=4.1						
ESDC				LR	LR	14 37 03.7	
	comp=Z,289nm,20.5s,baz=285,slow=34						
NRIK	**Noril'sk**	**86.12**	**354**	LR	LR	14 40 09.9	
	comp=Z,117nm,20.3s,baz=3.5,slow=36						
FINES	**FINESS Array B**	**87.46**	**20**	P	**P**	**14 00 39.8**	**+1.6**
	comp=Z,5.2nm,1.2s,baz=325,slow=2.2,SNR=2.6						
CLL	**Collm**	**89.35**	**32**	*e*SS	SS	14 17 36.0	+5.7
CLL				Lm	MLR	14 42 00.0	
	comp=Z,200nm,19.9s						
GERES	**GERESS Array B**	**91.26**	**34**	P	**P**	**14 00 58.4**	**+1.9**
	comp=Z,0.5nm,0.8s,baz=338,slow=4.4,SNR=1.8						
GERES				LR	LR	14 42 17.9	
	comp=Z,150nm,18.7s,baz=308,slow=36						
KLMR	**Klimovskoe**	**91.63**	**15**	*e*P	**P**	**14 01 01.1**	**+3.3**
KLMR				AMP		14 01 06.1	
	comp=Z,23nm,1.6s						
USRK	**Ussuriysk Ar.**	**92.16**	**321**	P	**P**	**14 01 00.3**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=69,slow=7.9,SNR=2.0						
MJAR	**Matsushiro Arr**	**92.59**	**312**	P	**P**	**14 01 02.8**	**0.0**
	comp=Z,1.1nm,0.7s,baz=90,slow=6.5,SNR=5.4						
MJAR				LR	LR	14 37 29.7	
	comp=Z,57nm,20.0s,baz=55,slow=32						
MAJO	**Matsushiro**	**92.59**	**312**	P	**P**	**14 01 02.5**	**-0.3**
MAT	**Matsushiro**	**92.59**	**312**	P	**P**	**14 01 02.9**	**+0.1**
URZ	**Urewera**	**92.88**	**229**	LR	LR	14 33 05.3	
	comp=Z,183nm,21.4s,baz=31,slow=29						
DZM	**Mont Dzumac**	**94.08**	**248**	*e*LR	LR	14 31 28.7	
	comp=Z,386nm,23.2s						
KEST	**Kesra**	**96.75**	**46**	LR	LR	14 45 22.6	
	comp=Z,142nm,18.1s,baz=286,slow=36						
WMQ	**Urumqi**	**110.76**	**347**	*e*P	**PKiKP**	**14 06 24.5**	**+0.4**
WMQ				pmax	pmax		
	comp=Z,45nm,4.7s						
KSH	**Kashi**	**116.61**	**356**	PKP	**PKiKP**	**14 06 40.5**	**+5.0**
WRA	**Warramunga Arr**	**121.57**	**261**	PKP	**PKPdf**	**14 06 44.7**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=66,slow=2.5,SNR=8.0						
ASAR	**Alice Springs**	**122.94**	**257**	PKhKP	PKPpre	14 06 42.5	
	comp=Z,0.3nm,0.6s,baz=77,slow=2.3,SNR=2.0						
ASAR				PKP	**PKPdf**	**14 06 46.8**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=81,slow=2.6,SNR=8.1						
ASAR				PKKPbc	**PKKPbc**	**14 16 44.2**	**+4.9**
	comp=Z,0.3nm,0.9s,baz=255,slow=3.6,SNR=1.6						
CMAR	**Chiang Mai Arr**	**129.74**	**325**	PKP	**PKPdf**	**14 07 01.6**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=48,slow=1.3,SNR=2.5						
MAW	**Mawson**	**136.14**	**176**	PKP	**PKPdf**	**14 07 10.9**	**-0.6**
	comp=Z,1.3nm,0.9s,baz=211,slow=7.1,SNR=1.9						
BOSA	**Boshof**	**138.92**	**107**	PKP	**PKPdf**	**14 07 16.7**	**-1.3**
	comp=Z,1.9nm,0.8s,baz=180,slow=2.0,SNR=2.0						

SJA 26 13:49:24.0,21.82S×68.64W,h132km,ML5.0,
Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.56**	**272**	*i* P	Pn	13 49 44.0	+0.1
LVC	**Limon Verde**	**0.82**	**198**	*i* P	Pn	13 49 46.0	0.0
PB01	**IPOC Station P**	**1.10**	**314**	*i* P	Pn	13 49 47.0	-1.2
PB07	**IPOC Station P**	**1.16**	**274**	*i* P	Pn	13 49 48.0	-0.8
PB06	**IPOC Station P**	**1.23**	**224**	*i* P	Pn	13 49 50.0	+0.4
PB02	**IPOC Station P**	**1.27**	**293**	*i* P	Pn	13 49 49.0	-0.9
PB04	**IPOC Station P**	**1.49**	**250**	*i* P	Pn	13 49 52.0	-0.3
PB08	**IPOC Station P**	**1.74**	**344**	*i* P	Pn	13 49 56.0	+0.6
PB05	**IPOC Station P**	**1.77**	**234**	*i* P	Pn	13 49 55.0	-0.5
TA01	**Diego Aracena**	**1.90**	**311**	*i* P	Pn	13 49 58.0	+1.1
PB11	**IPOC Station P**	**2.26**	**335**	*i* P	Pn	13 50 00.0	-1.5
PSGCX	**Pisagua**	**2.61**	**328**	*i* P	Pn	13 50 05.0	-0.8
VCA	**Vinchina**	**6.90**	**177**	*i* P	Pn	13 51 02.0	-0.7

OTT 26 13:54:31.1±0.5,42.17N×55.34W,h18km,ML3.9/6,
Atlantic Ocean. 549km south from Grand Bank, NI,
North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GBN	**Guysborough**	**5.52**	**308**	PN	Pn	13 55 52.0	-0.3
GBN				SN	Sn	13 56 51.6	-3.6
GBN				Trac		13 56 59.0	
	comp=Z,1.3nm,0.1s						
CHEG	**Cheticamp, Nov**	**6.00**	**322**	PN	Pn	13 55 58.5	-0.5
CHEG				SN	Sn	13 57 03.4	-3.8
CHEG				Trac		13 57 03.5	
	comp=Z,9.6nm,0.3s						
DRLN	**Deer Lake**	**7.25**	**349**	PN	Pn	13 56 14.8	-1.3
DRLN				SN	Sn	13 57 32.1	-5.6
DRLN				Trac		13 57 36.6	
	comp=Z,130nm,1.7s						
ELNB	**Elgin, New Bru**	**7.97**	**301**	SN	Sn	13 57 50.1	-5.6
WCNB	**Wards Creek**	**8.12**	**299**	PN	Pn	13 56 26.4	-1.6
WCNB				SN	Sn	13 57 52.8	-6.6
WCNB				Trac		13 58 00.6	
	comp=Z,0.4nm,0.0s						
HKNB	**Havelock Quarr**	**8.17**	**301**	PN	Pn	13 56 27.7	-1.0
HKNB				SN	Sn	13 57 53.8	-6.7
HKNB				Trac		13 57 57.0	
	comp=Z,4.4nm,0.2s						
SRNB	**Snider Mountai**	**8.28**	**300**	PN	Pn	13 56 29.1	-1.0
SRNB				SN	Sn	13 57 56.7	-6.5
SRNB				Trac		13 57 57.8	
	comp=Z,2.2nm,0.2s						
BATG	**Bathurst New B**	**9.18**	**307**	PN	Pn	13 56 41.1	-1.5
BATG				SN	Sn	13 58 17.4	-8.0
BATG				Trac		13 58 26.7	
	comp=Z,6.2nm,0.3s						
PKME	**Peaks-Kenny Pk**	**10.56**	**292**	PN	Pn	13 57 06.7	+5.1
PKME				SN	Sn	13 58 49.0	-10
PKME				Trac		13 58 53.1	
	comp=Z,35nm,0.8s						

*IDC **26** 14:12:33.9±14.0,37.13N×72.61E,h213km±254km,*
mb2.9/1,mb1 2.9/3,mb1mx2.6/33,mbtmp3.6/3,ML3.1/2,
Error ellipse: s-maj=614.4km s-min=78.4km az=129.0
*NNC **26** 14:12:38.1±9.9,37.93N×72.20E,h0km,mb4.4,mpv4.0,*
Error ellipse: s-maj=78.4km s-min=64.9km az=6.0
*SOME **26** 14:12:39.6,38.97N×72.33E,h0km*
ISC 26 14:12:35.4±3.9,37.6N±0.2×72.0E±0.2,h200km,n16,
σ1§47/19,3C-2D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.68**	**16**	P	**Pn**	**14 13 46.5**	**+0.5**
	SNR=21						
UCH	**Uchtor**	**4.98**	**22**	P	**Pn**	**14 13 50.4**	**+0.5**
	SNR=46						
KZA	**Kyzart**	**5.09**	**28**	P	**Pn**	**14 13 50.9**	**-0.4**
	SNR=6.0						
MRKS	**Merke**	**5.19**	**10**	*e*P	**Pn**	**14 13 54.3**	**+2.0**
	35nm,0.3s						
MRKS				*e*S	**Sn**	**14 14 51.9**	**-1.1**
	28nm,0.3s						
EKS2	**Erkin-Say**	**5.20**	**15**	P	**Pn**	**14 13 53.5**	**+1.1**
	SNR=16						
AAK	**Ala-Archa**	**5.35**	**20**	P	**Pn**	**14 13 55.4**	**+1.0**
	SNR=44						
AAK	**Ala-Archa**	**5.35**	**20**	⇓Pn	**Pn**	**14 13 55.1**	**+0.7**
	19nm,0.4s						
AAK				⇓Sn	**Sn**	**14 14 56.4**	**-0.4**
	7.7nm,0.6s						
KBK	**Karagaybulak**	**5.50**	**23**	P	**Pn**	**14 13 58.1**	**+1.7**
	SNR=8.4						
KK31	**Karatay Array**	**5.58**	**349**	⇑Pn	**Pn**	**14 13 58.7**	**+1.5**
	4.9nm,0.4s,baz=155,slow=13,SNR=48						
KK31				⇑Sn	**Sn**	**14 15 00.8**	**-1.1**
	9.0nm,0.3s,baz=163,slow=23,SNR=17						
CHMS	**Chumysh**	**5.75**	**21**	P	**Pn**	**14 14 00.5**	**+1.0**
	SNR=6.6						
TKM2	**Tokmak 2**	**5.95**	**26**	P	**Pn**	**14 14 02.5**	**+0.3**
	SNR=14						
TKM2	**Tokmak 2**	**5.95**	**26**	⇑Pn	**Pn**	**14 14 02.2**	**0.0**
	17nm,0.9s						
DGS	**Degeres**	**6.29**	**26**	*e*P	**Pn**	**14 14 09.9**	**+3.4**
	4.4nm,0.3s						
DGS				*e*S	**Sn**	**14 15 20.0**	**+1.3**
	3.2nm,0.1s						
MKAR	**Makanchi Array**	**11.90**	**36**	P	**Pn**	**14 15 18.7**	**-0.2**
	0.1nm,0.3s,baz=220,slow=13,SNR=2.8						
ZALV	**Zalesovo Beam**	**18.55**	**24**	P	**Pn**	**14 16 37.4**	**-2.2**
	0.3nm,0.3s,baz=212,slow=10,SNR=9.8						
TORD	**Torodi Ar. Bea**	**66.55**	**269**	P	P	14 23 04.3	+0.1
	0.2nm,0.4s,baz=56,slow=6.5,SNR=2.2						

*BJI **26** 14:24:16.0±0.0,21.83S×175.50W,h153km,mB5.1/13,*
mb4.7/20
*NEIC **26** 14:24:17.6±2.6,21.2S±0.1×175.93W±0.08,h122km±7km,*
mb4.9/46,Error ellipse: s-maj=17.5km s-min=6.0km
az=148.0
*IDC **26** 14:24:22.5±0.8,21.37S×176.21W,h156km±6km,mb4.0/19,*
mb1 4.2/20,mb1mx4.2/28,mbtmp4.5/20,MS3.2/2,
Ms1 3.2/2,ms1mx2.7/36,Error ellipse: s-maj=14.9km
s-min=11.2km az=153.0
*NOU **26** 14:24:23.5,21.32S×175.36W,h218km,mb4.9/38,Tonga*
Islands
*BGR **26** 14:24:24.6±0.0,21.13S×176.64W,h165km±1km*
ISC 26 14:24:17.1±0.4,21.28S±0.05×175.79W±0.04,
h118km±3km,h119km±pP-P,n267,σ1§88/288,mb4.8/48,
30C-12D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**5.92**	**69**	P	**Pn**	**14 25 45.2**	**+2.7**
	baz=6.1,SNR=502						
NIUE				S	**Sn**	**14 26 43.4**	**-5.8**
	baz=6.1						
NIUE	**Niue**	**5.92**	**69**	Pn	**Pn**	**14 25 45.5**	**+3.0**
NIUE	**Niue**	**5.92**	**69**	P	**Pn**	**14 25 45.2**	**+2.7**
	3μm,0.5s						
MSVF	**Nonsavu**	**6.80**	**300**	P	Pn	14 25 59.5	+5.1
	7.7nm,0.3s,baz=135,slow=11,SNR=51						
MSVF				S	**Sn**	**14 27 14.6**	**+4.1**
	baz=140,slow=20,SNR=0.5						
MSVF	**Nonsavu**	**6.80**	**300**		**Pn**	**14 25 58.6**	**+4.2**
MSVF	**Nonsavu**	**6.80**	**300**	P	Pn	14 25 59.6	+5.2
RAO	**Raoul Island**	**8.17**	**193**	S	**Sn**	**14 27 41.1**	**-2.4**
	76nm,0.3s,baz=246,slow=23,SNR=6.9						
AFI	**Afiamalu**	**8.27**	**28**	P	**Pn**	**14 26 12.3**	**-2.0**
	7.7nm,0.3s,baz=199,slow=3.5,SNR=29						
AFI				S	**Sn**	**14 27 39.0**	**-7.1**
	30nm,0.3s,baz=123,slow=23,SNR=7.4						
AFI	**Afiamalu**	**8.27**	**28**		**Pn**	**14 26 12.7**	**-1.6**
AFI	**Afiamalu**	**8.27**	**28**	P	**Pn**	**14 26 12.9**	**-1.4**
RAR	**Rarotonga**	**14.93**	**93**	P	**P**	**14 27 46.5**	**+1.7**
	3.1nm,0.3s,baz=261,slow=10,SNR=18						
RAR				S	**Sn**	**14 30 22.5**	**-4.8**
	2.5nm,0.3s,baz=110,slow=23,SNR=3.3						
RAR	**Rarotonga**	**14.93**	**93**	P	**P**	**14 27 46.7**	**+1.9**
RAR				IAmb	IAmb	14 27 50.7	
	comp=Z,53nm,1.1s						
RAR	**Rarotonga**	**14.93**	**93**	P	**Pn**	**14 27 39.8**	**-2.4**
MARNC	**Mare, Loyalty**	**15.08**	**266**	P	**P**	**14 27 46.1**	**-0.3**
MARNC	**Mare, Loyalty**	**15.08**	**266**	P	**P**	**14 27 51.3**	**+4.9**
MARNC	**Mare, Loyalty**	**15.08**	**266**	P	**P**	**14 27 50.5**	**+4.1**
PINNC	**Pines Island,**	**15.61**	**262**	P	**P**	**14 27 54.1**	**+1.7**
PINNC	**Pines Island,**	**15.61**	**262**	P	**P**	**14 27 57.1**	**+4.7**
LIFNC	**LIFOU**	**15.86**	**269**	P	**P**	**14 27 56.6**	**+1.6**
LIFNC	**LIFOU**	**15.86**	**269**	P	**P**	**14 27 55.2**	**+0.1**
LIFNC	**LIFOU**	**15.86**	**269**	P	**P**	**14 27 57.9**	**+2.8**
YATNC	**Mamie plateau,**	**16.12**	**264**	P	**P**	**14 28 02.5**	**+4.5**
OUENC	**Ouen Island, N**	**16.17**	**263**	P	**P**	**14 27 59.3**	**+0.8**
OUENC				IAmb	IAmb	14 28 04.2	
	comp=Z,65nm,1.0s						
OUENC	**Ouen Island, N**	**16.17**	**263**	P	**P**	**14 28 02.5**	**+4.0**
ONTNC	**Ouen Toro**	**16.53**	**263**		**P**	**14 28 02.1**	**-0.4**
ONTNC	**Ouen Toro**	**16.53**	**263**	P	**P**	**14 28 07.3**	**+4.8**
DZM	**Mont Dzumac**	**16.54**	**264**	P	**P**	**14 28 06.2**	**+3.5**
	comp=Z,3.6nm,0.3s,baz=80,slow=17,SNR=74						
DZM				LR	LR	14 33 30.1	
	comp=Z,229nm,19.3s,baz=66,slow=34						
DZM	**Mont Dzumac**	**16.54**	**264**	*e*P	**P**	**14 28 05.9**	**+3.2**
	comp=Z,274nm,0.9s						
DZM	**Mont Dzumac**	**16.54**	**264**	P	**P**	**14 28 06.5**	**+3.8**
	comp=Z,167nm,0.9s						

HAZ	**Te Kaha**	**17.34**	**197**	P	**P**	**14 28 09.7**	**-1.6**
PUZ	**Puketiti**	**17.51**	**196**	P	**P**	**14 28 12.8**	**-0.4**
RUGZ	**Raukumara Rang**	**17.56**	**197**	P	**P**	**14 28 13.4**	**-0.5**
TWGZ	**Tauwhareparae**	**17.68**	**196**	P	**Pn**	**14 28 17.8**	**+1.9**
OPRZ	**Ohinepanea**	**17.79**	**200**	P	**Pn**	**14 28 18.1**	**+1.0**
MWZ	**Matawai**	**17.95**	**197**	P	**Pn**	**14 28 19.1**	**0.0**
TKGZ	**Te Karaka**	**17.96**	**196**	P	**P**	**14 28 18.1**	**0.0**
KMRZ	**Kaimai**	**17.99**	**202**	P	**Pn**	**14 28 20.3**	**+0.7**
URZ	**Urewera**	**18.00**	**198**	P	**P**	**14 28 17.9**	**-0.6**
	comp=Z,5.0nm,0.3s,baz=295,slow=1.3,SNR=25						
URZ				S	S	14 31 22.5	-17
	comp=Z,1.1nm,0.3s,baz=179,slow=22,SNR=1.7						
URZ	**Urewera**	**18.00**	**198**	P	**P**	**14 28 18.0**	**-0.6**
URZ	**Urewera**	**18.00**	**198**	P	**P**	**14 28 18.1**	**-0.4**
TOZ	**Tahuroa Road**	**18.05**	**203**	P	**Pn**	**14 28 20.7**	**+0.5**
MUGZ	**Murupara**	**18.30**	**199**	P	**P**	**14 28 19.8**	**-2.1**
SNGZ	**Shannon Statio**	**18.42**	**197**	P	**P**	**14 28 23.2**	**0.0**
RAHZ	**Arahi**	**18.62**	**198**	P	**P**	**14 28 26.2**	**+0.9**
KOUNC	**Koumac, New Ca**	**18.63**	**269**	P	**Pn**	**14 28 28.8**	**+1.5**
QRZ	**Quartz Range**	**21.87**	**204**	P	**P**	**14 28 59.5**	**-0.8**
THZ	**Tophouse**	**22.54**	**202**	P	**P**	**14 29 05.2**	**-2.1**
THZ				IAmb	IAmb	14 29 11.9	
	comp=Z,36nm,0.5s						
KHZ	**Kahutara**	**22.90**	**201**	P	**P**	**14 29 10.3**	**-0.4**
KHZ				IAmb	IAmb	14 29 18.8	
	comp=Z,27nm,0.6s						
OXZ	**Oxford**	**24.22**	**202**	P	**P**	**14 29 22.4**	**-0.3**
RPZ	**Rata Peaks**	**24.91**	**203**	P	**P**	**14 29 29.3**	**+0.3**
PAE	**Paea**	**24.96**	**86**	*e*P	**P**	**14 29 33.6**	**+3.9**
	comp=Z,6.7nm,1.0s						
PPT2	**Papeete2**	**24.98**	**86**	*e*P	**P**	**14 29 34.3**	**+4.3**
	comp=Z,37nm,1.1s						
PPT	**Papeete**	**24.98**	**86**	P	**P**	**14 29 34.4**	**+4.4**
	comp=Z,30nm,0.9s,baz=321,slow=9.5,SNR=5.4						
PPT				LR	LR	14 39 20.0	
	comp=Z,21nm,18.2s,baz=310,slow=35						
TIAR	**Tiarei**	**25.20**	**86**	*e*P	**P**	**14 29 36.0**	**+4.1**
	comp=Z,5.6nm,1.0s						
ARMA	**Armidale**	**30.61**	**246**	P	**P**	**14 30 19.6**	**-0.6**
	baz=30,SNR=24						
ARMA	**Armidale**	**30.61**	**246**	P	**P**	**14 30 19.4**	**-0.8**
ARMA				IAmb	IAmb	14 30 21.9	
	comp=Z,28nm,1.1s						
EIDS	**Eidsvold**	**30.65**	**256**	P	**P**	**14 30 18.5**	**-2.0**
	baz=30,SNR=4.3						
EIDS	**Eidsvold**	**30.65**	**256**	P	**P**	**14 30 18.9**	**-1.5**
EIDS				IAmb	IAmb	14 30 20.7	
	comp=Z,28nm,1.1s						
MGCD	**Mangrove Creek**	**31.61**	**241**	P	**P**	**14 30 26.9**	**-1.9**
	baz=32,SNR=8.5						
RMQ	**Roma**	**32.76**	**254**	P	**P**	**14 30 37.7**	**-1.2**
	baz=32,SNR=14						
CNB	**Canberra Magne**	**33.53**	**238**	P	**P**	**14 30 45.6**	**0.0**
	baz=33,SNR=7.0						
CAN	**Canberra**	**33.82**	**238**	P	**P**	**14 30 47.3**	**-0.8**
CAN				IAmb	IAmb	14 30 49.9	
	comp=Z,19nm,1.1s						
CTA	**Charters Tower**	**35.48**	**265**	P	**P**	**14 31 01.6**	**-0.9**
	comp=Z,15nm,0.5s,baz=91,slow=11,SNR=32						
CTAO	**Charters Tower**	**35.48**	**265**	P	**P**	**14 31 01.6**	**-0.9**
CTAO				IAmb	IAmb	14 31 02.6	
	comp=Z,22nm,0.9s						
CMSA	**Cobar Meteorol**	**35.82**	**245**	P	**P**	**14 31 04.2**	**-1.1**
	baz=36,SNR=28						
QLP	**Quilpie**	**36.81**	**254**	P	**P**	**14 31 12.6**	**-1.2**
	baz=37,SNR=16						
TOO	**Toolangi**	**37.13**	**235**	P	**P**	**14 31 15.6**	**-0.8**
	baz=37,SNR=13						
TOO	**Toolangi**	**37.13**	**235**	P	**P**	**14 31 15.5**	**-0.9**
TOO				IAmb	IAmb	14 31 17.4	
	comp=Z,10.0nm,0.8s						
PMG	**Port Moresby**	**37.53**	**283**	P	**P**	**14 31 19.2**	**-0.7**
PMG	**Port Moresby**	**37.53**	**283**	P	**P**	**14 31 20.1**	**+0.1**
	comp=Z,834nmcomp=Z,134nm,0.9s						
PMG	**Port Moresby**	**37.53**	**283**	P	**P**	**14 31 20.6**	**+0.6**
PMG	**Port Moresby**	**37.53**	**283**	P	**P**	**14 31 20.4**	**+0.4**
TAU	**Tasmania Unive**	**37.55**	**226**	P	**P**	**14 31 19.2**	**-0.6**
MTSU	**Mount Surprise**	**37.62**	**268**	P	**P**	**14 31 20.1**	**-0.7**
	baz=37,SNR=10.0						
STKA	**Stephens Creek**	**39.33**	**245**	P	**P**	**14 31 33.7**	**-1.1**
	baz=39,SNR=34						
STKA	**Stephens Creek**	**39.33**	**245**	P	**P**	**14 31 33.6**	**-1.3**
	comp=Z,13nm,0.5s,baz=91,slow=11,SNR=48						
STKA	**Stephens Creek**	**39.33**	**245**	P	**P**	**14 31 33.6**	**-1.3**
COEN	**Coen**	**39.70**	**274**	P	**P**	**14 31 37.3**	**-0.8**
COEN				IAmb	IAmb	14 31 38.6	
	comp=

PET IAmb IAmb 14 35 58.3
comp=Z,15nm,1.0s
PEA0B Petropavlovsk- 77.57 344 P **P** **14 36 00.7 +1.0**
PEA0B IAmb IAmb 14 36 01.2
comp=Z,17nm,1.1s
PETK Petropavlovsk- 77.57 344 P **P** **14 35 59.9 +0.2**
comp=Z,9.3nm,0.9s,baz=126,slow=8.2,SNR=32
PETK Petropavlovsk- 77.57 344 P **P** **14 35 59.6 -0.1**
PFO Pinyon Flats O 78.57 47 P **P** **14 36 06.9 +1.1**
baz=235
KSRS Korea Array 78.85 318 P **P** **14 36 07.5 +0.4**
comp=Z,0.9nm,0.9s,baz=134,slow=6.7,SNR=3.6
NVAR Mina Array Bea 80.19 42 P **P** **14 36 18.1 +3.5**
comp=Z,0.4nm,0.6s,baz=228,slow=7.8,SNR=4.3
NVAR pP **sP** **14 36 56.7 0.0**
comp=Z,1.2nm,0.7s,baz=224,slow=8.4,SNR=6.2
USRK Ussuriysk Ar. 80.78 325 P **P** **14 36 18.6 +1.2**
comp=Z,4.9nm,0.9s,baz=151,slow=4.2,SNR=8.1
MAW Mawson 81.53 199 P **P** **14 36 22.3 +1.2**
baz=81,SNR=6.1
MAW Mawson 81.53 199 P **P** **14 36 21.6 +0.6**
comp=Z,2.5nm,0.6s,baz=105,slow=7.3,SNR=9.1
MAW Mawson 81.53 199 P **P** **14 36 22.7 +1.6**
NJ2 Nanjing 81.97 309 *e*P **P** **14 36 25.5 +1.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
MDJ Mudanjiang 82.35 324 P **P** **14 36 26.5 +0.9**
MDJ pmax pmax
comp=Z,9.0nm,0.9s
MDJ pmax pmax
comp=Z,180nm,5.4s
H03S2 Juan Fernandez 83.84 124 T T 16 09 19.2
baz=248,slow=75,SNR=100
H03S1 Juan Fernandez 83.86 124 T T 16 09 18.3
baz=248,slow=75,SNR=131
H03S3 Juan Fernandez 83.86 124 T T 16 09 06.8
baz=248,slow=75,SNR=98
H03N2 Juan Fernandez 83.98 123 T T 16 09 33.3
baz=257
H03N3 Juan Fernandez 83.98 123 T T 16 09 24.2
baz=257,slow=74
H03N1 Juan Fernandez 84.00 123 T T 16 09 20.7
baz=257,slow=74
GLI Glacier Island 85.09 14 P **P** **14 36 40.9 +1.7**
baz=207
MNTX Cornudas Mount 85.53 54 P **P** **14 36 45.8 +3.7**
baz=242
TXAR Lajitas Array 85.75 56 P **P** **14 36 46.5 +3.1**
comp=Z,1.3nm,0.8s,baz=216,slow=8.5,SNR=13
TXAR pP **sP** **14 37 26.2 +0.6**
comp=Z,1.2nm,1.0s,baz=218,slow=7.3,SNR=3.2
TXAR PKKPbc **PKKPbc** **14 54 45.1 -0.2**
comp=Z,0.3nm,0.8s,baz=94,slow=3.9,SNR=3.9
K20K Telida 86.07 10 P **P** **14 36 46.0 +1.9**
baz=200
N25K Chitina, Valde 86.30 14 P **P** **14 36 47.4 +2.1**
baz=209
SYO Syowa Base 86.41 192 ⇑*e*P **P** **14 36 45.6 -0.2**
CAST Castle Rocks 86.45 10 P **P** **14 36 46.3 +0.4**
baz=202
PSI Prapat 86.62 274 P **P** **14 36 46.6 -1.4**
comp=Z,2.1nm,0.4s,baz=126,slow=14,SNR=2.3
TRF Thorofare Moun 86.79 11 P **P** **14 36 47.3 -0.5**
TRF IAmb IAmb 14 36 50.0
comp=Z,13nm,0.7s
TRF Thorofare Moun 86.79 11 P **P** **14 36 49.0 +1.2**
baz=204
RND Reindeer 87.02 12 P **P** **14 36 50.2 +1.5**
RND IAmb IAmb 14 36 50.9
comp=Z,7.5nm,0.7s
PLCA Paso Flores 87.23 133 P **P** **14 36 53.0 +2.5**
comp=Z,1.3nm,0.7s,baz=250,slow=7.4,SNR=7.7
MCK McKinley 87.30 12 P **P** **14 36 51.4 +1.4**
baz=205
YUK3 Moose Creek 87.46 16 P **P** **14 36 53.5 +2.4**
baz=213
VNA2 Neumayer--Watz 87.69 176 P **P** **14 36 51.1 -0.9**
BVCY Beaver Creek 87.90 15 P **P** **14 36 55.3 +2.4**
baz=212
I21K Tanana 88.10 10 P **P** **14 36 55.2 +1.5**
baz=202
PDAR Pinedale Array 88.12 42 P **P** **14 36 57.8 +3.0**
comp=Z,0.2nm,0.5s,baz=216,slow=4.5,SNR=2.6
WRH Wood River Hil 88.13 12 P **P** **14 36 51.8 -2.1**
MLY Manley 88.17 10 P **P** **14 36 54.9 +0.7**
baz=203
HDA Harding Lake 88.29 12 P **P** **14 36 55.9 +1.2**
baz=207
CCB Clear Creek Bu 88.34 12 P **P** **14 36 55.6 +0.8**
H21K Melozitna Rive 88.42 9 P **P** **14 36 56.9 +1.6**
baz=201
TCOL CIGO, UAF Yank 88.53 12 P **P** **14 36 56.8 +1.0**
baz=206
ILAR Eielson Array 88.63 12 P **P** **14 36 57.1 +0.8**
comp=Z,0.6nm,0.6s,baz=226,slow=6.1,SNR=6.0
ILAR pP **sP** **14 37 37.4 -1.3**
comp=Z,3.0nm,1.2s,baz=225,slow=4.1,SNR=4.2
J25K Salcha River, 88.79 13 P **P** **14 36 58.6 +1.4**
baz=208
K27K Chicken 88.99 14 P **P** **14 37 00.8 +2.8**
baz=211
J26L Joseph Creek 89.07 13 P **P** **14 37 01.1 +2.7**
baz=210
DAWY Dawson 89.65 15 P **P** **14 37 03.6 +2.4**
baz=214
COLD Coldfoot 90.28 10 P **P** **14 37 06.2 +2.2**
baz=204
HHC Hu-ho-hao-te 91.38 314 *e*P **P** **14 37 11.3 +1.5**
HHC pmax pmax
comp=Z,18nm,1.0s
HHC pmax pmax
comp=Z,79nm,5.1s
CMAR Chiang Mai Arr 92.32 289 P **P** **14 37 14.8 +0.3**
comp=Z,2.0nm,0.7s,baz=124,slow=2.8,SNR=8.7
ZALV Zelesovo Beam 112.39 321 PKiKP **PKiKP** **14 42 38.4 -0.4**
comp=Z,1.1nm,0.4s,baz=96,slow=1.1,SNR=5.0
MKAR Makanchi Array 113.24 313 PKiKP **PKiKP** **14 42 40.0 -0.7**
comp=Z,1.3nm,0.6s,baz=88,slow=2.5,SNR=12
KSH Kashi 117.03 304 PKP **PKPdf** **14 42 43.0 -5.4**
ARCES ARCESS Array B 130.04 350 PKP **PKiKP** **14 43 12.8 -0.3**
comp=Z,0.7nm,0.6s,baz=11,slow=0.8,SNR=7.5
FINES FINESS Array B 137.08 345 PKhKP PKPpre 14 43 15.3
comp=Z,0.5nm,0.6s,baz=5.7,slow=1.4,SNR=3.4
FINES PKP **PKPdf** **14 43 25.1 -0.5**
comp=Z,0.7nm,0.4s,baz=104,slow=5.9,SNR=12
FINES SKP 14 46 47.4
comp=Z,1.3nm,0.8s,baz=300,slow=2.7,SNR=4.7
NB2 NORSAR Subarra139.97 355 PKP **PKPdf** **14 43 28.0 -3.0**
comp=Z,0.6nm,0.6s,baz=16,slow=3.3
NOA NORSAR Array B139.97 355 PKhKP PKPpre 14 43 28.0
comp=Z,0.6nm,0.8s,baz=19,slow=2.8,SNR=4.0
MNK Minsk 142.31 337 *i* PKP **PKPdf** **14 43 33.0 -2.4**
comp=E,2.0nm,1.1s
MNK *i* PKP **PKPdf** **14 43 33.0 -2.4**
comp=N,26nm,1.1s
MNK *i* PKP **PKPdf** **14 43 33.0 -2.4**
comp=Z,9.0nm,1.1s,baz=38
MNK *i* pPKP **pPKPdf** **14 44 12.7 +6.0**
MNK *i* sPKP 14 44 33.3
MNK *i* PP PP 14 46 30.2 -13
MNK *i* SKP 14 46 41.6
MNK *i* PKS PKSdf 14 46 55.9 -15
MNK *i* PPP PPP 14 48 15.8
MNK *i* SKS 14 48 57.4
MNK *i* SKKS SKKSac 14 53 44.1 +19
MNK *i* SPP SPP 15 02 00.5
MNK *i* PPS PPS 15 03 02.2
MNK *i* SS **SS** **15 05 05.2 -2.3**
MNK *i* SSS SSS 15 10 15.1
AKASG Malin Array Be 144.68 332 PKP **PKPab** **14 43 38.3 -0.3**
comp=Z,30nm,0.5s,baz=41,slow=4.9,SNR=12
AKASG Malin Array Be 144.68 332 PKPbc 14 43 38.6 -0.1
DIKM Dikmen 146.90 315 ⇑P **PKPbc** **14 43 46.0 +0.2**
SORM Soroca 146.93 330 ⇑P **PKPbc** **14 43 45.5 -0.1**
BSEG Bad Segeberg 147.07 353 *e*PKPbc **PKPab** **14 43 46.7 -0.8**
baz=11,slow=2.3
BZK Bozkurt 147.57 316 ⇑P **PKPbc** **14 43 48.3 +0.7**
VASR Vaslui 148.26 328 ⇓P **PKiKP** **14 43 50.9 0.0**
FLTG Flechtingen 148.53 352 *e*PKPbc **PKPbc** **14 43 50.3 +0.5**
baz=11,slow=2.3
OJC Ojcow 148.60 341 *e*PKPab **PKiKP** **14 43 50.8 -0.7**
BURAR Bucovina Array 148.73 332 ⇑P **PKiKP** **14 43 52.9 +0.9**
TLCR 148.73 325 ⇑P **PKiKP** **14 43 51.5 -0.3**
BIZ Bicaz 148.84 330 ⇑P **PKiKP** **14 43 52.2 +0.1**
GHRR 148.86 328 ⇑P **PKiKP** **14 43 52.0 -0.1**
KOLS Kolonicke sedl 148.87 337 *e*PKP **PKiKP** **14 43 53.0 +0.9**

BR131 Keskin Array S 148.89 313 **PKPbc** **14 43 51.7 +0.3**
BRTR Keskin Array B 148.89 313 PKPbc **PKPbc** **14 43 51.4 0.0**
comp=Z,11nm,0.5s,baz=138,slow=4.8,SNR=102
BRTR Keskin Array B 148.89 313 **PKPbc** **14 43 51.6 +0.3**
KSP Ksiaz 149.00 345 *e*PKPab **PKiKP** **14 43 52.3 0.0**
CFR Carcaliu 149.10 326 ⇑P **PKiKP** **14 43 52.2 -0.4**
CLZ Clausthal 149.12 353 *e*PKPbc **PKiKP** **14 43 52.6 0.0**
baz=11,slow=2.3
CLZ *e*pPKPbc **sPKPbc** **14 44 35.4 +0.5**
NIE Niedzica 149.14 339 *e*PKPab **PKiKP** **14 43 53.4 +0.7**
TPGR Topolog 149.16 325 ⇓P **PKiKP** **14 43 52.5 -0.4**
CRVS Cervenica-Dubn 149.19 338 *e*PKP **PKiKP** **14 43 53.5 +0.7**
CLL Collm 149.25 349 *e*PKPdf **PKPbc** **14 43 50.0 -1.6**
CLL ⇓ *i* PKPbc **PKiKP** **14 43 52.6 -0.2**
comp=Z,12nm,0.9s
CLL *i* PKiKP **PKPab** **14 43 54.9 -1.5**
comp=Z,7.0nm,0.6s
CLL *i* PKPab **PKPab** **14 43 57.8 +1.4**
comp=Z,8.0nm,0.6s
CLL *e*sPKPdf **sPKPbc** **14 44 33.0 -2.2**
CLL *e*sPKPbc **sPKPab** **14 44 38.0 -0.9**
CLL Collm 149.25 349 *e*PKPbc **PKiKP** **14 43 52.6 -0.2**
baz=11,slow=2.3
CLL *e*PKPab **PKPab** **14 43 56.0 -0.5**
baz=13,slow=4.7
OSTC Ostas 149.29 345 ⇑*e*PKP **PKiKP** **14 43 53.4 +0.5**
CHVC Chvalec 149.30 345 ⇑*e*PKP **PKiKP** **14 43 53.1 +0.1**
VRI Vrincioaia 149.33 328 ⇑P **PKPdf** **14 43 48.8 +1.2**
VRI Vrincioaia 149.33 328 ⇑P **PKiKP** **14 43 53.8 +0.6**
TRPA Tarpa 149.43 336 ⇓P **PKiKP** **14 43 52.9 -0.3**
DPC Dobruska-Polom 149.45 345 ⇑*e*PKP **PKiKP** **14 43 53.6 +0.3**
DPC *e*PKPAB **PKPab** **14 43 58.9 +1.5**
BRG Berggiesshubel 149.49 348 *e*PKPbc **PKiKP** **14 43 53.2 -0.1**
baz=11,slow=2.3
BRG *e*PKPab **PKPab** **14 43 58.1 +0.6**
baz=13,slow=4.7
BRG Berggiesshubel 149.49 348 *i* PKP **PKiKP** **14 43 53.6 +0.3**
BRG Amp 14 43 55.1
comp=Z,5.7nm,0.8s
ARCR ARCALIA 149.51 332 ⇓P **PKPab** **14 43 57.9 +0.2**
HARR Harsova 149.53 326 ⇓P **PKiKP** **14 43 54.0 +0.4**
FBE Freiberg 149.56 349 *e*PKPbc **PKiKP** **14 43 53.8 +0.3**
baz=11,slow=2.3
KRLC Kraliky 149.59 344 ⇑*e*PKP **PKiKP** **14 43 53.7 +0.1**
KRLC *e*PKPAB **PKPab** **14 43 59.1 +1.1**
COVR Voineasa-Covas 149.60 329 ⇓P **PKiKP** **14 43 54.2 +0.4**
MORC Moravsky Berou 149.66 343 ⇑P **PKPab** **14 43 59.2 +1.0**
MORC Moravsky Berou 149.66 343 *e*PKIKP **PKiKP** **14 43 53.9 +0.1**
MORC *e* 14 43 59.3
PVCC Panska Ves 149.69 347 ⇑*e*PKP **PKiKP** **14 43 54.4 +0.7**
BUG Bochum--Univer 149.80 356 *e*PKPbc **PKiKP** **14 43 53.9 0.0**
baz=11,slow=2.3
BUG *e*PKPab **PKPab** **14 43 59.5 +0.9**
baz=13,slow=4.7
DOPR Dopca 149.90 330 ⇑P **PKiKP** **14 43 54.7 +0.4**
SHAB Shabla 149.92 323 ⇓P **PKiKP** **14 43 56.3 +1.9**
KASTN Kahler Asten 149.95 355 *e*PKPbc **PKiKP** **14 43 54.5 +0.2**
baz=11,slow=2.3
KASTN *e*pPKPbc **sPKPbc** **14 44 37.9 +1.0**
MLR Muntele Rosu 149.98 329 ⇑P **PKiKP** **14 43 54.5 -0.1**
MOX Moxa 150.12 351 *e*PKPbc **PKiKP** **14 43 54.6 0.0**
baz=11,slow=2.3
PLN Plauen 150.19 350 *e*PKPbc **PKiKP** **14 43 55.0 +0.2**
baz=11,slow=2.3
WERD Werda 150.20 350 *e*PKPbc **PKiKP** **14 43 55.0 +0.2**
baz=11,slow=2.3
TANN Tannenbergstha 150.20 349 *e*PKPbc **PKiKP** **14 43 55.0 +0.1**
baz=11,slow=2.3
PRU Pruhonice 150.21 347 ⇑*e*PKP **PKiKP** **14 43 55.0 +0.2**
GUNZ Gunzen 150.28 349 *e*PKPbc **PKiKP** **14 43 55.4 +0.4**
baz=11,slow=2.3
WERN Wernitzgruen 150.34 349 *e*PKPbc **PKiKP** **14 43 55.6 +0.5**
baz=11,slow=2.3
WERN *e*PKPab **PKPab** **14 44 02.4 +1.4**
baz=13,slow=4.7
VRAC Vranov 150.34 344 *e*PKIKP **PKiKP** **14 43 57.5 +2.4**
VRAC *e* 14 44 02.3
VYHS Vyhne 150.42 340 *e*PKP **PKPbc** **14 43 54.1 -0.5**
VYHS *e* 14 44 02.7
DRGR 150.44 334 ⇑P **PKPbc** **14 43 54.5 -0.3**
VOIR 150.45 329 ⇑P **PKiKP** **14 43 55.5 -0.1**
JAVC Velka Javorina 150.45 342 *e*PKIKP **PKiKP** **14 43 56.8 +1.4**
JAVC *e* 14 44 03.8
KRUC Moravsky 150.62 344 *e*PKIKP **PKiKP** **14 43 56.1 +0.4**
KRUC *e* 14 44 03.2
MANZ Manzenberg 150.68 350 *e*PKPbc **PKiKP** **14 43 56.2 +0.4**
baz=11,slow=2.3
ARR Arges 150.70 330 ⇓P **PKiKP** **14 43 56.9 +0.9**
MODS Modra-Piesok 151.00 342 *e*PKP **PKiKP** **14 43 56.6 +0.1**
KHC Kasperske Hory 151.22 347 ⇑*e*PKP **PKiKP** **14 43 57.6 +0.6**
KHC *e*PKPAB **PKPab** **14 44 03.3 -1.4**
KHC *ex* x 14 44 46.0
MILB Miltenberg 151.23 353 *e*PKPbc **PKiKP** **14 43 57.6 +0.7**
baz=11,slow=2.3
SIRR Siria 151.29 334 ⇓P **PKiKP** **14 43 57.2 0.0**
LEF Lefka 151.33 305 ⇑P **PKiKP** **14 43 57.4 -0.2**
CKRC Cesky Krumlov 151.36 346 ⇑*e*PKP **PKiKP** **14 43 58.0 +0.7**
GEC2 GERESS Array S 151.47 347 *e*PKPbc **PKiKP** **14 43 58.0 +0.4**
baz=11,slow=2.3
GERES GERESS Array B 151.47 347 PKPbc **PKiKP** **14 43 57.7 +0.1**
comp=Z,2.0nm,0.8s,baz=64,slow=3.1,SNR=12
GERES PKPab **PKPab** **14 44 06.2 +0.3**
comp=Z,0.6nm,0.5s,baz=20,slow=4.3,SNR=4.5
GZR Gura Zlata 151.52 332 ⇓P **PKiKP** **14 43 58.8 +1.0**
WLF Walferdange 151.63 357 *e*PKPab **PKPab** **14 44 08.5 +2.1**
baz=13,slow=4.7
CONA Conrad Observa 151.80 343 *e*P **PKiKP** **14 43 59.0 +0.7**
comp=Z,4.0nm,1.0s,SNR=6.1
CONA *i* P **PKPab** **14 44 08.8 +1.6**
comp=Z,6.8nm,0.7s
BZS Buzias 151.84 334 ⇑P **PKiKP** **14 43 58.6 +0.3**
HERR Herculane 152.08 332 ⇑P **PKiKP** **14 43 59.2 +0.4**
MOA Molln 152.28 345 *e*P **PKiKP** **14 44 02.5 +3.3**
comp=Z,5.0nm,0.6s
MORH Mrgy, Hungar 152.47 338 ⇑P **PKiKP** **14 43 59.9 +0.3**
FUR Furstenfeldbru 152.58 350 *e*PKPbc **PKPab** **14 43 58.9 -0.7**
baz=11,slow=2.3
RJOB Jochberg 152.71 347 *e*PKPab **PKPab** **14 44 12.7 +1.6**
baz=13,slow=4.7
SOKA Soboth 153.18 343 *e*P **PKPab** **14 44 13.9 +0.9**
comp=Z,6.1nm,1.1s,SNR=4.6
KBA Koelnbreinsper 153.22 346 *e*P **PKPab** **14 44 13.3 0.0**
comp=Z,5.4nm,0.6s
WATA Walderalm 153.33 349 *i* P **PKPab** **14 44 15.5 +1.8**
comp=Z,1.6nm,0.5s
BOVS Bovan 153.37 331 ⇑P **PKiKP** **14 44 01.4 -0.1**
WTTA Wattenberg 153.39 349 *i* P **PKiKP** **14 44 04.5 +2.8**
comp=Z,1.2nm,0.4s
WTTA *e*P **PKPab** **14 44 16.0 +1.9**
comp=Z,2.8nm,0.4s
VTS Vitosha 153.41 327 ⇑P **PKiKP** **14 44 03.2 +1.3**
MYKA Terra Mystica 153.57 345 *e*P **PKPab** **14 44 14.8 +0.1**
comp=Z,3.3nm,0.5s
DAVA Damuels 153.65 351 *e*P **PKiKP** **14 44 05.5 +3.2**
comp=Z,4.5nm,1.0s
DAVA *e*P **PKPab** **14 44 16.8 +1.6**
comp=Z,2.8nm,0.7s
APE Apeiranthos 155.71 315 ⇓P **PKPdf** **14 43 59.5 +2.2**
ESDC Sonseca Array 160.38 19 PKPab **PKPab** **14 44 45.9 +1.7**
comp=Z,0.6nm,0.7s,baz=324,slow=5.2,SNR=5.3
KEST Kesra 164.91 344 PKPab **PKPab** **14 45 04.9 +0.7**
comp=Z,4.0nm,0.6s,baz=39,slow=1.1,SNR=8.7
TORD Torodi Ar. Bea 171.56 163 PKPab **PKPab** **14 45 36.5 +2.6**
comp=Z,0.5nm,0.7s,baz=182,slow=2.6,SNR=2.5
TORD pPKPab **sPKPab** **14 46 14.2 -2.5**
comp=Z,0.8nm,0.8s,baz=194,slow=5.2,SNR=3.4

*DJA **26** 14:28:49.1±0.1,4°S±2°×12°8E±°, h220km±2km, M4.4/55, mb4.6/55, mB5.0/20, MLv4.8/24, Mw(mB)4.3/20, MwMwp5.2/1, Mwp5.4/1*
*NEIC **26** 14:28:49.4±2.1,4°.09S±0°.07×127°.63E±0°.08, h227km±8km, mb4.6/31, Error ellipse: s-maj=11.9km s-min=10.0km az=75.0*
*IDC **26** 14:28:49.0±1.2,4°.08S×127°.60E, h226km±12km, mb4.0/17, mb1 4.1/22, mb1mx3.9/34, mbtmp4.6/22, Error ellipse: s-maj=13.2km s-min=8.2km az=75.0*
ISC 26 14:28:48.9±0.3,4°.07S±0°.05×127°.65E±0°.05, h227km, n162, σ1°13/172, mb4.3/47, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRAI	**Karang Ratu**	**1.06**	**45**	P	**Pn**	**14 29 21.3**	**-0.6**
KRAI				S	**S**	**14 29 45.1**	**-2.5**

MSAI Masohi 1.47 61 P **Pn** **14 29 23.9 -0.9**
MSAI S **S** **14 29 50.4 -2.4**
BNDI Bandanaira 2.30 101 P **Pn** **14 29 33.0 +0.6**
BNDI S **S** **14 30 06.9 +0.5**
SANI Sanana 2.60 320 P **Pn** **14 29 34.0 -1.7**
FAKI Fak Fak 4.74 76 **Pn** **14 30 00.8 0.0**
FAKI Fak Fak 4.74 76 P **Pn** **14 30 00.6 -0.2**
SWI Sorong 4.82 49 P **Pn** **14 30 01.8 0.0**
SIJI Sorong 4.82 49 P **Pn** **14 30 00.6 -1.2**
105nm,0.3s,baz=225,slow=23,SNR=130
SIJI S **S** **14 30 56.5 -2.9**
98nm,0.3s,baz=32,slow=23,SNR=13
SIJI Sorong 4.82 49 P **Pn** **14 30 00.6 -1.2**
TNTI Ternate 4.82 357 **Pn** **14 30 01.3 -0.5**
TNTI Ternate 4.82 357 P **Pn** **14 30 01.7 -0.1**
SAUI Saumlaki 5.32 137 P **Pn** **14 30 09.0 +1.0**
2.0nm10µm237nm,0.7s
LUWI Luwuk 5.72 302 Pn **Pn** **14 30 16.4 +3.3**
LUWI Luwuk 5.72 302 P **Pn** **14 30 13.7 +0.6**
0.3nm3µm95nm,0.7s
GAMI Galela, Maluku 5.87 1 P **Pn** **14 30 14.9 -0.1**
0.3nm64nm,0.8s
KMSI Cibinong 5.89 321 P **Pn** **14 30 14.8 -0.5**
0.6nm177nm,0.7s
KKSI Kolaka, Sulawe 5.98 269 P **Pn** **14 30 16.8 +0.4**
1.1nm88nm,0.4s
MNI Manado 6.16 333 P **Pn** **14 30 18.2 -0.4**
1.3nm5µm420nm,0.8s
SOEI Soe 6.57 211 **Pn** **14 30 23.1 -0.8**
SOEI Soe 6.57 211 P **Pn** **14 30 25.5 +1.5**
0.2nm32nm,0.8s
APSI Ampana 6.76 298 P **Pn** **14 30 26.8 +0.4**
0.1nm40nm,0.8s
BATI Baumata 7.26 213 P **Pn** **14 30 33.9 +1.1**
8.3nm,0.3s,baz=107,slow=1.6,SNR=11
BATI Baumata 7.26 213 P **Pn** **14 30 33.6 +0.8**
0.2nm56nm,1.3s
MRSI Marisa 7.27 308 P **Pn** **14 30 32.8 -0.1**
0.8nm2µm270nm,1.0s
BSSI Bau Bau, Buton 7.42 254 P **Pn** **14 30 35.2 +0.5**
0.2nm34nm,0.7s
EDFI Ende, Flores 7.52 232 P **Pn** **14 30 37.2 +1.0**
0.1nm321nm30nm,0.7s
BNSI Bone 7.53 267 P **Pn** **14 30 36.9 +0.8**
0.2nm74nm,0.7s
BKSI Bulukumba 7.60 260 P **Pn** **14 30 37.5 +0.4**
0.1nm511nm52nm,0.9s
TTSI Tana Toraja 7.88 277 P **Pn** **14 30 41.4 +0.8**
0.2nm66nm,0.9s
KAPI Kappang 7.92 263 P **Pn** **14 30 41.6 +0.3**
2.8nm,0.3s,baz=123,slow=5.7,SNR=5.5
KAPI Kappang 7.92 263 P **Pn** **14 30 42.0 +0.8**
0.1nm21nm,1.0s
SGSI Sangihe 7.99 345 P **Pn** **14 30 41.1 -1.0**
1.8nm6µm497nm,0.6s
MKS Makassar 8.23 262 P **Pn** **14 30 46.0 +0.9**
39nm,1.1s
TOLI2 Tolitoli 8.58 307 **Pn** **14 30 50.7 +1.1**
PMSI Majene 8.73 273 P **Pn** **14 30 52.4 +0.8**
57nm,0.8s
MMSI Mamuju 8.83 279 P **Pn** **14 30 53.7 +0.8**
13nm,0.8s
SRPI Serui, Papua 8.86 76 P **Pn** **14 30 53.6 +0.4**
1.0nm4µm161nm,0.6s
LBFI Labuhan Bajo, 8.87 240 P **Pn** **14 30 54.3 +1.0**
501nm53nm,0.8s
MPSI Mapaga 8.89 299 P **Pn** **14 30 54.3 +0.6**
401nm15nm,1.0s
BAKI Biak 8.92 72 P **Pn** **14 30 54.3 +0.2**
152nm,0.7s
WSI Waingapu 9.17 232 P **Pn** **14 30 58.7 +1.5**
BASI Baing, Sumba 9.30 229 P **Pn** **14 31 00.6 +1.8**
2µm113nm,1.0s
MTN Manton Dam 9.37 159 **Pn** **14 31 00.2 +0.4**
WBSI Waikabubak, Su 9.89 236 P **Pn** **14 31 05.5 -0.9**
1µm101nm,0.9s
PLAI Plampang 10.88 244 P **Pn** **14 31 19.1 0.0**
1µm174nm,0.8s
SMPI Sarmi 11.24 80 P **Pn** **14 31 25.1 +1.5**
55nm,0.7s
KBKI Kotabaru 11.48 273 P **Pn** **14 31 27.6 +1.0**
62nm,0.6s
KNRA Kununurra 11.59 175 **Pn** **14 31 27.9 0.0**
TWSI Taliwang, Sumb 11.66 246 P **Pn** **14 31 28.9 +0.1**
477nm42nm,0.7s
KLNI Mataram 12.27 249 P **Pn** **14 31 37.0 +0.5**
812nm38nm,0.6s
GENI Genyem 12.59 84 P **Pn** **14 31 41.5 +1.0**
106nm,0.6s
BBKI Banjar Baru 12.79 272 P **Pn** **14 31 44.2 +1.1**
55nm,1.0s
MTKI Muara Teweh, K 13.11 283 P **P** **14 31 49.0 -0.3**
3µm50nm,0.6s
JAY Jayapura 13.13 84 P **Pn** **14 31 48.4 +1.1**
1.0nm,0.3s,baz=217,slow=11,SNR=7.0
JAY Jayapura 13.13 84 P **Pn** **14 31 47.7 +0.4**
364nm19nm,0.9s
KMMI Kalianget 13.93 257 P **P** **14 31 58.8 +0.4**
9µm105nm,1.2s
FITZ Fitzroy Crossi 14.08 188 P **Pn** **14 31 57.5 -1.3**
1.4nm,0.3s,baz=21,slow=11,SNR=45
FITZ Fitzroy Crossi 14.08 188 P **Pn** **14 31 58.6 -0.2**
GMJI Gumukmas 14.72 253 P **P** **14 32 07.2 +0.1**
20nm,0.6s
BWJI Bawean 15.04 263 P **P** **14 32 11.3 +0.7**
411nm,1.2s
GRJI Gresik 15.36 259 P **Pn** **14 32 15.6 +1.2**
52nm,1.1s
TBJI Tambak Boyo 15.96 259 P **Pn** **14 32 22.1 +0.4**
89nm,0.9s
SJI Sawahan 16.21 256 P **Pn** **14 32 24.7 0.0**
53nm,0.7s
PWJI Pagerwojo 16.23 255 P **Pn** **14 32 24.8 -0.1**
34nm,0.8s
STKI Sintang 16.67 284 P **Pn** **14 32 30.1 0.0**
17nm,1.0s
WRAB Tennant Creek 17.07 158 P **Pn** **14 32 34.5 -0.2**
WRA Warramunga Arr 17.07 158 P **P** **14 32 29.3 -3.6**
3.0nm,0.3s,baz=342,slow=12,SNR=250
WRA S **S** **14 35 37.2 -2.0**
0.5nm,0.3s,baz=347,slow=21,SNR=4.7
WR0 Warramunga Arr 17.16 158 P **P** **14 32 34.8 +0.8**
SMRI Semarang 17.38 259 P **P** **14 32 37.1 +0.7**
163nm,1.6s
UGM Wanagama 17.45 257 P **P** **14 32 38.3 +1.1**
96nm,1.5s
YOGI Yogyakarta 17.65 257 P **P** **14 32 40.5 +1.2**
87nm,1.6s
COEN Coen 18.20 124 P **P** **14 32 46.3 +1.0**
COEN IAmb IAmb 14 32 47.1
comp=Z,18nm,0.8s
CTJI Waduk Cacaban 18.60 260 P **P** **14 32 50.9 +1.2**
comp=Z,4µmcomp=Z,32nm,1.0s
KPJI Karang Pucung 18.90 259 P **P** **14 32 52.1 -0.7**
comp=Z,74nm,0.6s
PSA00 Pilbara Seismi 18.97 203 P **P** **14 32 52.7 -0.9**
PSA00 Pilbara Seismi 18.97 203 P **P** **14 32 51.7 -1.9**
PSA00 IAmb IAmb 14 32 53.4
comp=Z,17nm,0.8s
CISI Cisompet, Garu 20.03 259 P **P** **14 33 01.6 -3.4**
CISI Cisompet, Garu 20.03 259 P **P** **14 33 01.9 -3.1**
PMG Port Moresby 20.08 106 P **P** **14 33 05.5 0.0**
comp=Z,24nm,0.9s
LEM Lembang 20.12 261 P **P** **14 33 03.0 -3.1**
comp=Z,28nm,0.7s,baz=53,slow=9.2,SNR=5.9
AS31 Alice Springs 20.40 163 P **P** **14 33 09.0 +0.1**
AS31 IAmb IAmb 14 33 12.5
comp=Z,11nm,0.4s
ASAR Alice Springs 20.40 163 P **P** **14 33 08.7 -0.1**
comp=Z,11nm,0.3s,baz=346,slow=11,SNR=47
ASAR S **S** **14 36 43.6 -0.8**
comp=Z,4.3nm,0.8s,baz=347,slow=20,SNR=12
ASAR PcP **PcP** **14 37 11.0 -0.6**
comp=Z,1.1nm,0.4s,baz=346,slow=1.9,SNR=2.6
ASAR ScP **ScP** **14 40 25.6 -0.8**
comp=Z,0.8nm,0.6s,baz=338,slow=2.2,SNR=4.1
ASAR Alice Springs 20.40 163 P **P** **14 33 09.1 +0.3**
GIRL Giralia 22.57 214 P **P** **14 33 29.6 -0.5**
MDSI Maura Dua 23.41 268 P **P** **14 33 36.7 -1.1**
comp=Z,8.8nm,1.2s
CTA Charters Tower 24.13 133 P **P** **14 33 45.9 +1.5**
comp=Z,2.6nm,0.7s,baz=310,slow=12,SNR=1.7
BTDF Bukit Timah Da 24.46 282 P **P** **14 33 50.0 +2.6**
comp=Z,561nmcomp=Z,50nm,0.9s
FORT Forrest 26.57 179 P **P** **14 34 06.2 0.0**
FORT IAmb IAmb 14 34 18.3
comp=Z,17nm,0.8s

MORW	**Morawa**	**27.19**	**203**	P	**P**	**14 34 12.1**	**+0.4**
MORW				IAmb	IAmb	14 34 24.6		
	comp=Z,12nm,1.1s							
TPUB	**Ta-pu**	**28.05**	**346**	P	**P**	**14 34 18.7**	**-0.7**
NACB	**Ninganchiao**	**28.69**	**348**	P	**P**	**14 34 23.0**	**-2.0**
NACB				IAmb	IAmb	14 34 38.2		
	comp=Z,18nm,0.9s							
YHNB	**Yeheng**	**29.21**	**348**	P	**P**	**14 34 28.4**	**-1.4**
YHNB				IAmb	IAmb	14 34 40.8		
	comp=Z,24nm,1.0s							
PSI	**Prapat**	**29.50**	**283**	P	**P**	**14 34 32.1**	**-0.4**
	comp=Z,4.0nm,0.7s,baz=52,slow=4.9,SNR=6.2							
BBOO	**Buckleboo**	**29.66**	**166**	P	**P**	**14 34 34.1**	**+0.6**
GSI	**Gunungsitoli**	**30.52**	**279**	P	**P**	**14 34 39.2**	**-2.1**
GSI				IAmb	IAmb	14 34 40.9		
	comp=Z,9.4nm,0.6s							
STKA	**Stephens Creek**	**30.61**	**156**	P	**P**	**14 34 42.2**	**+0.4**
	comp=Z,8.9nm,0.6s,baz=329,slow=10,SNR=34							
STKA	**Stephens Creek**	**30.61**	**156**	P	**P**	**14 34 42.5**	**+0.6**
COCO	**West Island**	**31.52**	**253**	P	P	14 34 58.3	+8.2	
CHAI	**Chaiyaphum**	**32.23**	**309**	P	**P**	**14 34 58.0**	**+1.8**
	comp=Z,19nm,0.6s							
CM09	**Chiang Mai Arr**	**36.03**	**309**	P	P	14 35 35.1	+6.2	
	comp=Z,6.3nm,0.7s							
CM01	**Chiang Mai Arr**	**36.04**	**309**	P	P	14 35 35.2	+6.2	
	comp=Z,5.0nm,0.6s							
CM05	**Chiang Mai Arr**	**36.04**	**309**	P	**P**	**14 35 30.1**	**+1.1**
	comp=Z,58nmcomp=Z,5.3nm,0.5s							
CMAR	**Chiang Mai Arr**	**36.07**	**309**	P	**P**	**14 35 29.9**	**+0.7**
	comp=Z,3.1nm,0.6s,baz=135,slow=7.1,SNR=21							
CMAR				ScP	**ScP**	**14 41 15.7**	**+0.6**	
	comp=Z,1.2nm,0.8s,baz=145,slow=3.0,SNR=6.3							
CM13	**Chiang Mai Arr**	**36.08**	**309**	P	**P**	**14 35 31.5**	**+2.2**
	comp=Z,63nmcomp=Z,5.0nm,0.7s							
CMMT	**Chiang Mai**	**36.27**	**310**	P	**P**	**14 35 31.7**	**+0.7**
	comp=Z,9.6nm,1.0s							
CMMT	**Chiang Mai**	**36.27**	**310**	P	**P**	**14 35 31.7**	**+0.7**
	comp=Z,9.2nm,1.0s							
CHTO	**Chiang Mai**	**36.28**	**310**	P	**P**	**14 35 31.9**	**+0.9**
	comp=Z,9.7nm,1.0s							
CHTO	**Chiang Mai**	**36.28**	**310**	P	**P**	**14 35 31.6**	**+0.6**
CHTO				IAmb	IAmb	14 35 32.1		
	comp=Z,5.8nm,0.7s							
CHTO	**Chiang Mai**	**36.28**	**310**	P	**P**	**14 35 31.9**	**+0.9**
	comp=Z,5.4nm,1.0s							
NJ2	**Nanjing**	**36.88**	**348**	*eP*	**P**	**14 35 36.5**	**+0.6**
NJ2				pmax	pmax			
	comp=Z,22nm,0.6s							
JWT	**Wachi**	**39.82**	**10**	P	**P**	**14 36 01.2**	**+0.9**
KSRS	**Korea Array**	**41.31**	**0**	P	**P**	**14 36 13.5**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=177,slow=9.2,SNR=4.2							
KS19	**Wonju Array Si**	**41.36**	**0**	P	**P**	**14 36 13.4**	**+0.6**
KS19				IAmb	IAmb	14 36 14.2		
	comp=Z,13nm,0.9s							
MJAR	**Matsushiro Arr**	**41.59**	**13**	P	**P**	**14 36 14.2**	**-0.5**
	comp=Z,4.3nm,0.8s,baz=172,slow=9.3,SNR=13							
MJAR	**Matsushiro Arr**	**41.59**	**13**	P	**P**	**14 36 14.1**	**-0.7**
MAT	**Matsushiro**	**41.59**	**13**	P	**P**	**14 36 14.2**	**-0.5**
DZM	**Mont Dzumac**	**41.63**	**119**	P	**P**	**14 36 16.9**	**+1.5**
	comp=Z,2.9nm,0.7s,baz=276,slow=10,SNR=6.2							
JSD	**Sado**	**43.04**	**12**	P	**P**	**14 36 26.4**	**+0.1**
JSD				IAmb	IAmb	14 36 27.2		
	comp=Z,11nm,0.5s							
BJI	**Beijing**	**45.15**	**348**	P	**P**	**14 36 43.0**	**0.0**
BJI				sP	**sP**	**14 37 56.8**	**+1.1**	
BJI				PcP	**PcP**	**14 38 18.5**	**-0.8**	
BJI				PP	**PP**	**14 38 33.8**	**+0.4**	
BJI				ScP	**ScP**	**14 41 49.8**	**-0.4**	
BJI				pmax	pmax			
	comp=Z,14nm,0.7s							
LZH	**Lanzhou**	**45.74**	**333**	*eP*	**P**	**14 36 49.3**	**+1.4**
LZH				pP	pP	14 37 26.5	-10	
LZH				pmax	pmax			
	comp=Z,12nm,1.1s							
HHC	**Hu-ho-hao-te**	**47.07**	**343**	*eP*	**P**	**14 37 01.3**	**+3.2**
HHC				pmax	pmax			
	comp=Z,10.0nm,1.0s							
HHC				pmax	pmax			
	comp=Z,110nm,5.2s							
USA0B	**Ussuriysk Arra**	**48.21**	**4**	P	**P**	**14 37 07.5**	**+0.9**
USA0B				IAmb	IAmb	14 37 08.2		
	comp=Z,10nm,0.7s							
USRK	**Ussuriysk Ar.**	**48.21**	**4**	P	**P**	**14 37 07.4**	**+0.8**
	comp=Z,10nm,0.6s,baz=187,slow=7.0,SNR=25							
ODAN	**Odare**	**49.58**	**311**	*eP*	**P**	**14 37 16.9**	**-0.8**
	comp=Z,8.0nm,0.5s							
TAPN	**Taplejung**	**49.60**	**311**	*eP*	**P**	**14 37 17.7**	**-0.2**
RAMN	**Ramite**	**50.23**	**310**	*eP*	**P**	**14 37 22.7**	**+0.2**
	comp=Z,17nm,0.4s							
GTA	**Gaotai**	**50.30**	**332**	⇑P	**P**	**14 37 22.8**	**+0.1**
GTA				pmax	pmax			
	comp=Z,6.0nm,1.0s							
JIRN	**Jiri**	**50.91**	**311**	*eP*	**P**	**14 37 27.3**	**-0.5**
PKI	**Pulchoki**	**51.45**	**310**	*eP*	**P**	**14 37 30.9**	**-0.9**
PKIN	**Phulchoki**	**51.47**	**310**	*eP*	**P**	**14 37 30.9**	**-0.9**
DMN	**Daman**	**51.70**	**310**	*eP*	**P**	**14 37 33.1**	**-0.4**
GKN	**Gorkha**	**52.26**	**310**	*eP*	**P**	**14 37 37.0**	**-0.5**
	comp=Z,15nm,0.3s							
KOLN	**Koldanda**	**52.94**	**309**	*eP*	**P**	**14 37 42.2**	**-0.3**
	comp=Z,8.7nm,0.3s							
DANN	**Dangsing**	**53.11**	**310**	*eP*	**P**	**14 37 43.0**	**-0.8**
PYUN	**Piuthan**	**53.57**	**309**	*eP*	**P**	**14 37 47.0**	**-0.1**
	comp=Z,12nm,0.4s							
ULN	**Ulaanbaatar**	**54.79**	**343**	P	**P**	**14 37 56.0**	**+0.5**
	comp=Z,45nm,0.8s							
SONM	**Songino Array**	**54.95**	**343**	P	**P**	**14 37 56.8**	**+0.2**
	comp=Z,1.5nm,0.4s,baz=162,slow=8.4,SNR=10							
WMQ	**Urumqi**	**59.68**	**327**	*eP*	**P**	**14 38 29.0**	**-0.6**
WMQ				pmax	pmax			
	comp=Z,100nm,4.3s							
PETK	**Petropavlovsk-**	**62.34**	**20**	P	**P**	**14 38 48.1**	**+0.9**
	comp=Z,3.2nm,0.6s,baz=184,slow=2.5,SNR=20							
PETK	**Petropavlovsk-**	**62.34**	**20**	P	**P**	**14 38 47.4**	**+0.2**
KSH	**Kashi**	**64.29**	**318**	P	**P**	**14 39 01.8**	**+1.4**
MK31	**Makanchi Array**	**64.51**	**327**	P	**P**	**14 39 01.4**	**-0.2**
MKAR	**Makanchi Array**	**64.51**	**327**	P	**P**	**14 39 01.3**	**-0.3**
	comp=Z,21nm,0.3s,baz=113,slow=7.9,SNR=49							
MKAR	**Makanchi Array**	**64.51**	**327**	P	**P**	**14 39 01.5**	**-0.1**
MAKZ	**Makanchi**	**64.69**	**327**	P	**P**	**14 39 02.4**	**-0.4**
MAKZ				IAmb	IAmb	14 39 02.7		
	comp=Z,3.1nm,0.5s							
YAK	**Yakutsk**	**65.94**	**1**	P	**P**	**14 39 11.2**	**+0.9**
ZALV	**Zalesovo Beam**	**67.94**	**334**	P	**P**	**14 39 22.2**	**-0.9**
	comp=Z,2.5nm,0.6s,baz=114,slow=4.5,SNR=11							
ZALV	**Zalesovo Beam**	**67.94**	**334**	P	**P**	**14 39 21.6**	**-1.5**
SOCY	**Socotra**	**74.95**	**284**	P	**P**	**14 40 04.3**	**-1.6**
SOCY				IAmb	IAmb	14 40 19.1		
	comp=Z,12nm,0.9s							
VNDA	**Vanda**	**75.62**	**173**	P	**P**	**14 40 08.2**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=312,slow=6.4,SNR=17							
VNDA	**Vanda**	**75.62**	**173**	P	**P**	**14 40 08.0**	**-0.4**
MAW	**Mawson**	**76.82**	**201**	P	**P**	**14 40 15.0**	**-0.2**
	comp=Z,3.3nm,0.6s,baz=88,slow=3.6,SNR=7.1							
MAW	**Mawson**	**76.82**	**201**	P	**P**	**14 40 15.2**	**-0.1**
NRIK	**Noril'sk**	**78.18**	**346**	P	**P**	**14 40 23.4**	**+0.7**
	comp=Z,1.5nm,0.3s,baz=141,slow=7.0,SNR=3.6							
ABKAR	**Akbulak array**	**78.77**	**322**	P	**P**	**14 40 26.6**	**+0.2**
ABKAR	**Akbulak array**	**78.77**	**322**	P	**P**	**14 40 26.8**	**+0.4**
ABKAR				IAmb	IAmb	14 40 34.7		
	comp=Z,1.4nm,0.8s							
QSPA	**South Pole Qui**	**85.89**	**180**	P	**P**	**14 41 02.6**	**-0.4**
QSPA				IAmb	IAmb	14 41 03.5		
	comp=Z,9.8nm,1.0s							
ARCES	**ARCESS Array B**	**98.04**	**340**	P	**P**	**14 41 57.1**	**-1.9**
	comp=Z,3.7nm,1.1s,baz=54,slow=4.6,SNR=3.6							
VNA2	**Neumayer--Watz**	**99.52**	**194**	Pdiff	**Pdif**	**14 42 08.3**	**+2.6**
TORD	**Torodi Ar. Bea**	**125.90**	**283**	PKP	**PKPdf**	**14 47 24.6**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=50,slow=2.3,SNR=3.7							
PLCA	**Paso Flores**	**132.40**	**161**	PKP	**PKiKP**	**14 47 38.2**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=225,slow=5.7,SNR=3.3							
CPUP	**Villa Florida**	**149.40**	**171**	PKPbc	**PKPbc**	**14 48 12.0**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=262,slow=7.1,SNR=5.9							

*INET **26** 14:44:58.7, 9.91N×83.56W, h16km, ML3.2, MW3.7*
*IDC **26** 14:45:00.7±1.1, 10.00N×83.40W, h0km, mb3.7/4, mb1 4.1/5, mb1mx3.7/27, mbtmp3.8/5, ML3.5/1, MS3.1/6, Ms1 3.1/6, ms1mx2.8/30, Error ellipse: s-maj=31.7km s-min=14.4km az=12.0*
*NEIC **26** 14:45:02.4±1.9, 9.96N±0.02×83.50W±0.04, h18km±7km, mb4.2/4, Error ellipse: s-maj=5.9km s-min=2.7km az=65.0*
*UPA **26** 14:45:03.8±0.8, 9.97N×83.45W, h14km±4km, MW4.4*
ISC 26 14:45:02.4±1.2, 9.94N±0.03×83.43W±0.03, h13km±8km, n70, σ1°49/77, mb3.9/6, MS3.2/4, 1C-7D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op	ISC	h m s		ISC
BATAN	**Batan**	**0.17**	**17**	⇓*iP*	**Pb**	**14 45 08.0**	**+0.6**	
BATAN				*eS*	**Sb**	**14 45 10.7**	**-0.1**	
BATAN	**Batan**	**0.17**	**17**		**Pb**	**14 45 08.0**	**+0.6**	
CVTR	**Volcan Turrial**	**0.34**	**284**		**Pg**	**14 45 09.3**	**-0.2**	
RIMA	**Rio Macho**	**0.46**	**249**		**Pg**	**14 45 10.8**	**-0.8**	
PEZE	**Perez Zeledon,**	**0.60**	**204**		**Pg**	**14 45 13.6**	**-0.6**	
SRBA	**San Rafael, Bu**	**0.70**	**175**		**Pg**	**14 45 15.5**	**-0.6**	
RGM0	**Gandoca**	**0.88**	**113**	*eP*	**Pn**	**14 45 20.9**	**+0.4**	
RGM0				*eS*	**Sn**	**14 45 32.9**	**-0.2**	
RGM0	**Gandoca**	**0.88**	**113**		**Pg**	**14 45 19.9**	**+0.6**	
CNI2	**El Empalme, Bo**	**1.07**	**118**	⇓*iP*	**Pb**	**14 45 22.5**	**-0.3**	
CNI2				*eS*	**Sb**	**14 45 37.5**	**+0.8**	
RIOS	**Rincon, Osa**	**1.23**	**184**		**Pn**	**14 45 24.3**	**-1.0**	
COVE	**Coope Vega, Sa**	**1.24**	**309**		**Pn**	**14 45 23.4**	**-2.0**	
JACO	**JACO, Garabito**	**1.25**	**257**		**Pn**	**14 45 23.9**	**-1.6**	
BRU2	**Volcan**	**1.35**	**147**	⇓*iP*	**Pb**	**14 45 27.8**	**+0.2**	
BRU2				⇓*eS*	**Sg**	**14 45 47.4**	**+1.5**	
BRU2	**Volcan**	**1.35**	**147**		**Pn**	**14 45 27.4**	**+0.3**	
BRU2	**Volcan**	**1.35**	**147**	⇓*eP*	**Pb**	**14 45 27.7**	**+0.1**	
PTJ1	**Puerto Jimnez**	**1.40**	**175**	⇓*iP*	**Pn**	**14 45 28.0**	**+0.4**	
PTJ1				*eS*	**Sb**	**14 45 47.4**	**+1.3**	
CDITO	**Canoas**	**1.46**	**158**	*eP*	**Pn**	**14 45 29.1**	**+0.6**	
JTS	**Las Juntas de**	**1.54**	**283**	Pg	**Pn**	**14 45 28.9**	**-0.8**	
	616nm,0.3s,baz=313,slow=19,SNR=933							
JTS				Lg	Lg	14 45 49.4		
	562nm,0.3s,baz=40,slow=22,SNR=10							
JTS				LR	LR	14 46 05.4		
	comp=Z,405nm,19.9s,baz=265,slow=42							
JTS	**Las Juntas de**	**1.54**	**283**	*eP*	**Pn**	**14 45 29.4**	**-0.3**	
JTS				*eS*	**Sb**	**14 45 49.5**	**-0.8**	
JTS	**Las Juntas de**	**1.54**	**283**		**Pn**	**14 45 28.4**	**-1.3**	
JTS	**Las Juntas de**	**1.54**	**283**	⇓*iP*	**Pn**	**14 45 28.9**	**-0.8**	
CHGR2	**Aguacate**	**1.61**	**128**	*eP*	**Pn**	**14 45 31.1**	**+0.5**	
CHGR2				*eS*	**Sb**	**14 45 52.7**	**+0.5**	
DVD	**David**	**1.77**	**147**	*eP*	**Pb**	**14 45 34.2**	**-0.7**	
DVD				*eS*	**Sb**	**14 45 56.6**	**-0.4**	
DUNO	**Dulce Nombre,**	**2.04**	**274**		**Pn**	**14 45 37.0**	**+0.5**	
ORTG	**Ortega, Santa**	**2.04**	**282**		**Pn**	**14 45 36.8**	**+0.2**	
HZTE	**Horizontes, Gu**	**2.27**	**290**		**Pn**	**14 45 39.5**	**-0.1**	
ACON	**Acoyapa**	**2.65**	**320**		**Pn**	**14 45 43.4**	**-1.4**	
GMAL	**Guarumal, Vera**	**3.06**	**135**	*eP*	**Pn**	**14 45 51.9**	**+1.4**	
GMAL				*eS*	**Sb**	**14 46 32.1**	**-2.0**	
GMAL	**Guarumal, Vera**	**3.06**	**135**	*eP*	**Pn**	**14 45 52.9**	**+2.4**	
PNME	**Penonome**	**3.38**	**115**	*eP*	**Pn**	**14 45 54.7**	**-0.2**	
PNME	**Penonome**	**3.38**	**115**	*eP*	**Pb**	**14 46 00.8**	**-1.5**	
CACAO	**El Cacao, Vera**	**3.61**	**135**	*eP*	**Pn**	**14 46 01.9**	**+3.8**	
CACAO				*eS*	**Sb**	**14 46 47.8**	**-2.2**	
CACAO	**El Cacao, Vera**	**3.61**	**135**	*eP*	**Pn**	**14 46 01.7**	**+3.6**	
BCIP	**Isla Barro Col**	**3.62**	**102**	⇑*iP*	**Pn**	**14 45 58.7**	**+0.4**	
BCIP				*eS*	**Sn**	**14 46 39.0**	**-1.9**	
BCIP	**Isla Barro Col**	**3.62**	**102**		**Pn**	**14 45 58.4**	**+0.2**	
BCIP	**Isla Barro Col**	**3.62**	**102**	*eP*	**Pn**	**14 45 58.0**	**-0.3**	
AZU	**Azuero**	**3.77**	**124**	*eP*	**Pn**	**14 46 00.8**	**+0.5**	
AZU				*eS*	**Sb**	**14 46 54.8**	**+0.2**	
AZU	**Azuero**	**3.77**	**124**	*eP*	**Pn**	**14 46 00.8**	**+0.5**	
MATN	**Matagalpa**	**3.85**	**321**		**Pn**	**14 45 59.6**	**-1.9**	
UPA	**Univ. de Panam**	**3.96**	**104**	*eP*	**Pn**	**14 46 01.2**	**-1.7**	
PRVC	**Isla de Provid**	**3.97**	**30**	Pn	**Pn**	**14 46 03.9**	**+0.9**	
PRVC	**Isla de Provid**	**3.97**	**30**	*eP*	**Pn**	**14 46 04.6**	**+1.6**	
CRIN	**San Cristobal**	**4.19**	**308**		**Pn**	**14 46 09.2**	**-1.1**	
CAP2	**Capurgana**	**6.12**	**102**	Pn	**Pn**	**14 46 34.0**	**+1.4**	
CAPC	**Capurgana**	**6.13**	**102**	*eP*	**Pn**	**14 46 37.3**	**+4.5**	
SJCC	**San Jacinto, C**	**8.12**	**90**		**Pn**	**14 47 02.0**	**+1.7**	
SJCC	**San Jacinto, C**	**8.12**	**90**	*eP*	**Pn**	**14 47 02.0**	**+1.7**	
SMLC	**San Martn de**	**9.30**	**96**	*eP*	**Pn**	**14 47 16.4**	**+0.1**	
CRJC	**Cerrejon, Guaj**	**10.43**	**83**	*eP*	**Pn**	**14 47 31.0**	**-0.9**	
PAYG	**Puerto Ayora**	**12.56**	**213**	Pn	**Pn**	**14 47 58.5**	**-2.5**	
SOR	**Soroa**	**12.79**	**2**	Pn	**Pn**	**14 48 02.7**	**-1.4**	
CMIG	**Matias Romero**	**13.21**	**304**	Pn	**Pn**	**14 48 11.6**	**+1.7**	
	0.3nm,0.3s,baz=136,slow=11,SNR=2.3							
CMIG				LR	LR	14 53 35.9		
	comp=Z,57nm,19.4s,baz=118,slow=39							
SJG	**San Juan**	**18.61**	**62**	LR	LR	14 55 09.9		
	comp=Z,46nm,19.4s,baz=256,slow=33							
CUPR	**Culebra, Puert**	**19.45**	**63**	P	**P**	**14 49 27.4**	**-1.5**	
STVI	**Saint Thomas**	**19.75**	**63**	P	**P**	**14 49 30.9**	**-1.3**	
STVI				IAmb	IAmb	14 49 37.7		
	comp=Z,12nm,1.0s							
NNA	**Nana**	**22.74**	**163**	LR	LR	14 58 22.9		
	comp=Z,21nm,20.6s,baz=334,slow=35							
TKL	**Tuckaleechee C**	**25.61**	**359**	LR	LR	15 00 02.0		
	comp=Z,46nm,18.1s,baz=176,slow=35							
LCAR	**Lake Charles**	**26.95**	**346**	P	**P**	**14 50 42.8**	**-0.9**	
TXAR	**Lajitas Array**	**27.04**	**318**	P	**P**	**14 50 49.6**	**+4.9**	
	comp=Z,2nm,0.6s,baz=122,slow=6.9,SNR=3.0							
MGMO	**Mountain Grove**	**28.25**	**345**	P	**P**	**14 50 55.4**	**0.0**	
MGMO				IAmb	IAmb	14 50 56.5		
	comp=Z,5.6nm,0.9s							
NVAR	**Mina Array Bea**	**42.19**	**318**	P	**P**	**14 52 57.3**	**+1.9**	
	comp=Z,0.2nm,0.5s,baz=119,slow=7.4,SNR=2.1							
SCHQ	**Schefferville**	**46.68**	**13**	LR	LR	15 12 49.1		
	comp=Z,35nm,19.1s,baz=104,slow=36							
PLCA	**Paso Flores**	**51.80**	**168**	P	**P**	**14 54 10.9**	**+0.8**	
	comp=Z,1.9nm,0.8s,baz=336,slow=10.0,SNR=5.3							
ILAR	**Eielson Array**	**69.91**	**336**	P	**P**	**14 56 12.0**	**-1.0**	
	comp=Z,0.9nm,0.8s,baz=120,slow=4.9,SNR=11							
ILAR	**Eielson Array**	**69.91**	**336**	P	**P**	**14 56 11.2**	**-1.8**	
ESDC	**Sonseca Array**	**75.64**	**52**	P	**P**	**14 56 47.8**	**+0.2**	
	comp=Z,1.0nm,0.9s,baz=270,slow=4.9,SNR=6.3							
DAVOX	**Davos/Dischmat**	**85.10**	**44**	LR	LR	15 33 17.6		
	comp=Z,15nm,18.9s,baz=267,slow=34							
ASAR	**Alice Springs**	**141.88**	**244**	PKhKP	PKPpre	15 04 29.4		
	comp=Z,0.3nm,0.8s,baz=106,slow=3.0,SNR=2.3							
ASAR				PKP	**PKPdf**	**15 04 34.0**	**-0.9**	
	comp=Z,0.7nm,0.7s,baz=107,slow=2.3,SNR=13							
WRA	**Warramunga Arr**	**142.26**	**250**	PKhKP	PKPpre	15 04 31.1		
	comp=Z,1.4nm,0.9s,baz=94,slow=2.4,SNR=2.6							
WRA				PKP	**PKPdf**	**15 04 35.9**	**+0.2**	
	comp=Z,1.3nm,0.9s,baz=94,slow=2.0,SNR=7.7							
FITZ	**Fitzroy Crossi**	**150.69**	**251**	PKPbc	**PKiKP**	**15 04 55.9**	**-0.1**	
	comp=Z,1.5nm,0.8s,baz=124,slow=3.6,SNR=2.7							

IDC 26 14:54:38.2±3.5, 2.70N×127.61E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/31, mbtmp3.4/4, Error ellipse: s-maj=98.7km s-min=58.3km az=82.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op	ISC	h m s		ISC
FITZ	**Fitzroy Crossi**	**20.76**	**185**	P	P	14 59 19.9	-0.9	
	1.0nm,0.8s,baz=355,slow=11,SNR=1.9							
WRA	**Warramunga Arr**	**23.45**	**164**	P	P	14 59 49.0	-0.5	
	0.5nm,0.4s,baz=345,slow=11,SNR=15							
ASAR	**Alice Springs**	**26.91**	**167**	P	P	15 00 21.9	+0.5	
	0.2nm,0.7s,baz=346,slow=7.8,SNR=7.1							
ASAR				PcP	PcP	15 03 43.4	-0.4	
	0.3nm,0.9s,baz=353,slow=2.3,SNR=2.4							
STKA	**Stephens Creek**	**36.87**	**160**	P	P	15 01 48.9	+0.3	
	1.4nm,0.7s,baz=349,slow=11,SNR=4.5							

*IDC **26** 15:01:16.3±1.9, 8.39S×106.73E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/34, mbtmp3.5/4, MS3.0/1, Ms1 3.0/1, ms1mx2.4/27, Error ellipse: s-maj=52.3km s-min=24.6km az=66.0*
*DJA **26** 15:01:25.8±0.7, 8°S±4′×107°7E±′, h27km±5km, M4.0/18, mb4.3/3, mB5.2/1, MLv3.9/18, Mw(mB)4.6/1*
ISC 26 15:01:25.4±1.5, 8.1S±0.1×107.37E±0.06, h53km±15km, n31, σ1°17/33, mb3.3/4, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op	ISC	h m s		ISC
CISI	**Cisompet, Garu**	**0.70**	**39**	P	**Pn**	**15 01 39.0**	**-0.4**	
CISI				S	**Sn**	**15 01 48.7**	**-0.9**	
CNJI	**Cibinong**	**0.83**	**343**	P	**Pn**	**15 01 40.9**	**-0.1**	
CNJI				S	**Sn**	**15 01 51.3**	**-1.1**	
CMJI	**Cimerak**	**1.11**	**73**	P	**Pn**	**15 01 44.4**	**-0.3**	
CMJI				S	**Sn**	**15 01 58.4**	**-0.7**	
LEM	**Lembang**	**1.30**	**11**	Pn	**Pn**	**15 01 48.9**	**+1.5**	
	188nm,0.3s,baz=227,slow=3.7,SNR=49							
LEM				Sn	**Sn**	**15 02 07.1**	**+3.3**	
	214nm,0.3s,baz=324,slow=22,SNR=20							
LEM	**Lembang**	**1.30**	**11**	P	**Pn**	**15 01 48.7**	**+1.3**	
LEM				S	**Sn**	**15 02 02.6**	**-1.2**	
SKJI	**Sukabumi**	**1.36**	**324**	P	**Pn**	**15 01 48.6**	**+0.5**	
SKJI				S	**Sn**	**15 02 05.7**	**+0.6**	
DBJI	**Dramaga**	**1.67**	**338**	P	**Pn**	**15 01 52.6**	**+0.4**	
KPJI	**Karang Pucung**	**1.73**	**64**	P	**Pn**	**15 01 53.8**	**+0.8**	
SCJI	**Gunung Srandil**	**1.83**	**77**	P	**Pn**	**15 01 54.9**	**+0.5**	
CTJI	**Waduk Cacaban**	**2.10**	**59**	P	**Pn**	**15 01 59.4**	**+1.2**	

UGM	**Wanagama**	**3.13**	**87**	P	**Pn**	**15 02 13.0**	**+0.8**	
SMRI	**Semarang**	**3.22**	**71**	P	**Pn**	**15 02 13.9**	**+0.4**	
PCJI	**Pacitan**	**3.77**	**92**	P	**Pn**	**15 02 21.4**	**+0.4**	
KASI	**Kota Agung**	**3.84**	**312**	P	**Pn**	**15 02 22.7**	**+0.7**	
SJI	**Sawahan**	**4.37**	**85**	P	**Pn**	**15 02 30.5**	**+1.2**	
PWJI	**Pagerwojo**	**4.39**	**89**	P	**Pn**	**15 02 30.6**	**+1.1**	
LWLI	**Liwa**	**4.50**	**313**	P	**Pn**	**15 02 30.9**	**-0.3**	
MDSI	**Maura Dua**	**4.80**	**318**	P	**Pn**	**15 02 35.0**	**-0.2**	
TPI	**Tanjungpandan**	**5.33**	**3**	P	**Pn**	**15 02 42.3**	**-0.1**	
	0.1nm17nm,0.6s							
LHSI	**Lahat**	**5.72**	**318**	P	**Pn**	**15 02 48.7**	**+0.8**	
	0.2nm15nm,1.1s							
EGSI	**Enggano, Bengk**	**5.75**	**298**	P	**Pn**	**15 02 48.8**	**+0.5**	
MTKI	**Muara Teweh, K**	**10.34**	**47**	P	**Pn**	**15 03 48.8**	**-2.3**	
SIJI	**Sorong**	**24.87**	**74**	P	P	15 06 33.6	-10	
WRA	**Warramunga Arr**	**28.63**	**117**	P	**P**	**15 07 17.8**	**+0.6**	
	0.5nm,0.9s,baz=290,slow=9.9,SNR=2.1							
ASAR	**Alice Springs**	**29.75**	**124**	P	**P**	**15 07 28.1**	**+1.0**	
	0.1nm,0.2s,baz=298,slow=8.3,SNR=1.6							
H08S2	**Diego Garcia H**	**34.55**	**268**	T	T	15 43 45.1		
	baz=91							
H08S3	**Diego Garcia H**	**34.56**	**268**	T	T	15 43 53.4		
	baz=91							
H08S1	**Diego Carcia H**	**34.57**	**268**	T	T	15 43 53.5		
	baz=91							
STKA	**Stephens Creek**	**39.63**	**131**	P	**P**	**15 08 53.3**	**+1.2**	
	0.8nm,0.4s,baz=294,slow=10.0,SNR=4.9							
STKA				LR	LR	15 25 50.6		
	comp=Z,23nm,20.6s,baz=260,slow=37							
MKAR	**Makanchi Array**	**59.05**	**340**	P	**P**	**15 11 18.5**	**-1.5**	
	0.2nm,0.5s,baz=145,slow=8.8,SNR=4.4							
TXAR	**Lajitas Array**	**144.00**	**50**	PKP	**PKPdf**	**15 20 54.3**	**-1.6**	
	0.2nm,0.7s,baz=48,slow=1.3,SNR=2.5							

IDC 26 15:07:12.8±1.2, 10.66S×165.80E, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.7/33, mbtmp3.8/7, ML3.7/1, Error ellipse: s-maj=45.7km s-min=24.2km az=137.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op	ISC	h m s		ISC
DZM	**Mont Dzumac**	**11.37**	**177**	P

comp=Z,682nm,26.7s
CPUP Villa Florida 56.14 88 P **P** 15 44 45.5 **+0.3**
3.0nm,0.9s,baz=255,slow=12,SNR=4.2
CPUP LR LR 16 05 00.6
comp=Z,201nm,20.1s,baz=228,slow=32
MAW Mawson 56.80 184 P **P** 15 44 49.7 **+0.3**
3.3nm,0.7s,baz=182,slow=8.9,SNR=7.4
MAW LR LR 16 07 08.8
comp=Z,245nm,21.8s,baz=180,slow=34
LPAZ La Paz 58.19 71 P **P** 15 45 01.5 **+1.0**
4.0nm,1.0s,baz=199,slow=7.5,SNR=7.7
LPAZ LR LR 16 04 11.4
comp=Z,127nm,20.7s,baz=192,slow=30
DZM Mont Dzumac 60.05 274 *e*LR LR 16 02 59.8
comp=Z,316nm,25.6s
SIV San Ignacio 62.27 77 P **P** 15 45 28.5 **+0.7**
1.8nm,0.6s,baz=227,slow=6.3,SNR=6.5
STKA Stephens Creek 66.14 248 P **P** 15 45 52.6 **-0.4**
1.4nm,0.7s,baz=132,slow=7.8,SNR=5.8
STKA LR LR 16 10 27.6
comp=Z,94nm,18.5s,baz=194,slow=32
BDFB Brasilia 69.86 88 LR LR 16 13 56.3
comp=Z,263nm,20.9s,baz=197,slow=33
ROSC El Rosal 73.25 54 LR LR 16 15 13.3
comp=Z,106nm,18.9s,baz=240,slow=33
H01W1 Cape Leeuwin H 76.64 226 T T 17 12 21.3
baz=150,slow=76,SNR=2122
H01W2 Cape Leeuwin H 76.64 226 T T 17 12 21.6
baz=150,slow=76,SNR=1827
H01W3 Cape Leeuwin H 76.65 226 T T 17 12 22.6
baz=150,slow=76,SNR=2117
ASAR Alice Springs 76.76 248 P **P** 15 46 56.0 **-1.3**
1.3nm,0.8s,baz=151,slow=6.1,SNR=17
ASAR LR LR 16 15 12.2
comp=Z,185nm,21.9s,baz=152,slow=31
NWAO Narrogin (SRO) 77.03 230 LR LR 16 12 17.9
comp=Z,109nm,22.0s,baz=242,slow=29
SDV Santo Domingo 78.51 55 LR LR 16 17 22.5
comp=Z,92nm,20.4s,baz=214,slow=32
WRA Warramunga Arr 79.59 250 P **P** 15 47 11.8 **-1.1**
2.5nm,0.8s,baz=145,slow=4.9,SNR=20
WRA LR LR 16 18 54.1
comp=Z,142nm,19.4s,baz=165,slow=33
LPIG La Paz 80.52 14 LR LR 16 15 15.5
comp=Z,99nm,18.6s,baz=196,slow=30
FITZ Fitzroy Crossi 85.64 244 P **P** 15 47 43.6 **-0.9**
2.0nm,0.8s,baz=158,slow=8.3,SNR=6.7
FITZ LR LR 16 19 56.2
comp=Z,100nm,21.5s,baz=125,slow=32
TXAR Lajitas Array 86.69 18 P **P** 15 47 47.7 **-1.6**
0.6nm,0.9s,baz=184,slow=8.5,SNR=6.0
PFO Pinyon Flats O 89.32 7 LR LR 16 18 58.1
comp=Z,107nm,19.2s,baz=188,slow=30
JAY Jayapura 90.40 265 LR LR 16 25 07.1
comp=Z,37nm,18.8s,baz=154,slow=33
ANMO Albuquerque 91.73 15 LR LR 16 22 14.3
comp=Z,44nm,18.2s,baz=200,slow=31
BOSA Boshof 92.18 154 LR LR 16 22 38.5
comp=Z,125nm,21.4s,baz=210,slow=31
BATI Baumata 93.31 247 LR LR 16 25 34.7
comp=Z,190nm,20.6s,baz=162,slow=32
NVAR Mina Array Bea 94.00 5 LR LR 16 20 52.7
comp=Z,111nm,21.7s,baz=164,slow=29
PDAR Pinedale Array 99.03 11 LR LR 16 25 14.8
comp=Z,77nm,20.2s,baz=200,slow=30
GERES GERESS Array B 154.10 88 PKPbc **PKPbc** 15 55 03.1 **-1.6**
0.7nm,0.9s,baz=188,slow=2.0,SNR=2.1
BRTR Keskin Array B 158.57 130 PKPab **PKPab** 15 55 36.6 **-1.4**
0.5nm,0.8s,baz=188,slow=5.8,SNR=5.0
MKAR Makanchi Array 160.86 253 PKPab **PKPab** 15 55 46.7 **-0.9**
0.5nm,0.8s,baz=117,slow=5.0,SNR=4.9

IDC 26 15:36:51.2±2.0, 9.30S×115.54E, h0km, mb3.0/3, mb1 3.3/3, mb1mx3.2/29, mbtmp3.1/3, Error ellipse: s-maj=137.2km s-min=27.0km az=48.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.02**	**122**	P	P	15 41 36.3	-0.4
	0.3nm,0.6s,baz=296,slow=12,SNR=1.8						
ASAR	**Alice Springs**	**22.64**	**131**	P	P	15 41 54.0	0.0
	0.4nm,0.8s,baz=309,slow=8.9,SNR=9.8						
ASAR				PcP	PcP	15 45 47.0	-0.3
	0.1nm,0.4s,baz=296,slow=1.7,SNR=5.1						
MKAR	**Makanchi Array**	**63.22**	**335**	P	P	15 47 21.4	0.0
	0.2nm,0.3s,baz=141,slow=6.1,SNR=5.3						

*IDC **26** 15:42:56.5±1.0, 30.76S×71.82W, h0km, mb4.1/5, mb1 4.0/8, mb1mx3.9/23, mbtmp3.9/8, ML3.7/3, Error ellipse: s-maj=43.8km s-min=24.6km az=88.0*
*GUC **26** 15:43:01.3±0.8, 30.69S×71.71W, h29km±4km, ML4.3*
ISC 26 15:43:00.7±1.3, 30.75S±0.04×71.81W±0.09, h27km±8km, n35, σ0.97/29, mb4.3/5, 4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.16**	**64**	↓*iP*	**Pb**	**15 43 06.4**	**+0.3**
CO06				IAML		15 43 11.1	
	comp=E,53μm,0.4s						
CO05	**La Serena**	**0.96**	**31**	↓*iP*	**Pn**	**15 43 18.3**	**-0.2**
CO05				*e*S	**Sb**	**15 43 31.0**	**0.0**
CO03	**El Pedregal**	**0.96**	**96**	↓*iP*	**Pn**	**15 43 18.6**	**0.0**
CO03				*e*S	**Sb**	**15 43 31.6**	**+0.3**
CO03				IAML		15 43 36.0	
	comp=E,10μm,0.3s						
GO04	**Tololo Observa**	**1.04**	**57**	↓*iP*	**Pn**	**15 43 19.9**	**+0.1**
GO04				*e*S	**Sn**	**15 43 34.6**	**+1.1**
VA06	**Catapilco**	**1.86**	**167**	*e*P	**Pn**	**15 43 30.9**	**+0.1**
VA06				*e*S	**Sn**	**15 43 54.5**	**+1.1**
VA06				IAML		15 44 01.0	
	comp=E,5μm,0.4s						
LCO	**Las Campanas**	**1.98**	**29**	*e*P	**Pn**	**15 43 33.1**	**+0.4**
LCO				*e*S	**Sb**	**15 43 60.0**	**-0.5**
VA03	**San Esteban**	**2.28**	**152**	*e*P	**Pn**	**15 43 32.9**	**-3.8**
VA03				IAML		15 44 16.4	
	comp=N,2μm,0.4s						
ROCH	**El Roble**	**2.32**	**163**	*e*P	Pn	15 43 30.3	-7.1
ROCH				IAML		15 44 22.0	
	comp=E,2μm,0.5s						
AC04	**Llanos de Chal**	**2.61**	**14**	*e*P	**Pn**	**15 43 40.8**	**-0.4**
MT05	**Renca**	**2.79**	**161**	*e*P	**Pn**	**15 43 44.7**	**+1.0**
MT05				*e*S	**Sb**	**15 44 23.1**	**-0.6**
MT05				IAML		15 44 28.9	
	comp=E,3μm,0.4s						
VA05	**Santo Domingo**	**2.91**	**177**	IAML		15 44 35.6	
	comp=E,1μm,0.3s						
MT09	**Talagante**	**3.10**	**167**	IAML		15 44 44.9	
	comp=E,1μm,0.4s						
MT01	**Popeta**	**3.15**	**172**	*e*P	**Pn**	**15 43 48.3**	**-0.2**
MT01				IAML		15 44 39.4	
	comp=E,588nm,0.4s						
GO03	**Copiap**	**3.43**	**24**	*e*P	**Pn**	**15 43 52.5**	**+0.1**
GO03				IAML		15 44 58.5	
	comp=E,516nm,0.4s						
BO01	**Tunca**	**3.69**	**171**	*e*P	**Pn**	**15 43 56.2**	**+0.3**
H03N1	**Juan Fernandez**	**6.60**	**244**	T	T	15 51 29.1	
	baz=72,slow=72,SNR=1169						
H03N3	**Juan Fernandez**	**6.62**	**244**	T	T	15 51 26.2	
	baz=72,slow=72,SNR=939						
H03N2	**Juan Fernandez**	**6.62**	**244**	T	T	15 51 27.5	
	baz=72,slow=72,SNR=907						
LVC	**Limon Verde**	**8.51**	**18**	Pn	**Pn**	**15 45 02.6**	**+0.1**
	comp=E,0.4nm,0.3s,baz=165,slow=11,SNR=2.0						
PLCA	**Paso Flores**	**10.02**	**175**	Pn	**Pn**	**15 45 22.6**	**-0.3**
	comp=E,0.3nm,0.3s,baz=334,slow=12,SNR=10						
LPAZ	**La Paz**	**14.78**	**14**	Pn	**Pn**	**15 46 27.3**	**-1.3**
	comp=E,0.1nm,0.3s,baz=211,slow=5.9,SNR=1.9						
TXAR	**Lajitas Array**	**67.01**	**330**	P	**P**	**15 53 52.0**	**+0.6**
	comp=E,0.2nm,0.5s,baz=146,slow=8.3,SNR=2.6						
DBIC	**Dimbokro**	**73.97**	**72**	P	**P**	**15 54 34.1**	**0.0**
	comp=E,2.7nm,0.9s,baz=217,slow=6.0,SNR=1.6						
MAW	**Mawson**	**76.24**	**164**	P	**P**	**15 54 47.0**	**+0.6**
	comp=E,1.5nm,0.4s,baz=216,slow=8.7,SNR=4.8						
BOSA	**Boshof**	**81.41**	**118**	P	**P**	**15 55 15.8**	**+0.1**
	comp=E,3.3nm,1.1s,baz=247,slow=7.7,SNR=3.9						
TORD	**Toro di Ar. Bea**	**82.92**	**70**	P	**P**	**15 55 23.6**	**+0.1**
	comp=E,1.0nm,0.8s,baz=268,slow=4.0,SNR=5.2						
WRA	**Warramunga Arr**	**123.68**	**210**	PKP	**PKPdf**	**16 01 55.2**	**-1.4**
H11S2	**WAKE ISLAND Hyl**	**25.95**	**271**	T	T	18 20 48.1	
	baz=116,slow=75,SNR=36						
H11S1	**WAKE ISLAND Hyl**	**25.97**	**271**	T	T	18 20 45.3	
	baz=116,slow=75,SNR=35						
H11S3	**WAKE ISLAND Hyl**	**25.97**	**271**	T	T	18 20 43.1	
	baz=116,slow=75,SNR=25						
H11N3	**WAKE ISLAND Hyl**	**26.28**	**273**	T	T	18 21 13.8	
	baz=117,slow=74						
H11N1	**WAKE ISLAND Hyl**	**26.30**	**273**	T	T	18 21 15.6	
	baz=117						
H11N2	**WAKE ISLAND Hyl**	**26.30**	**273**	T	T	18 21 16.6	
	baz=117,slow=74						
BVAR	**Borovoye Array**	**144.72**	**40**	PKP	**PKPdf**	**16 02 34.4**	**-0.1**
	comp=E,0.8nm,0.7s,baz=249,slow=4.1,SNR=4.4						
ZALV	**Zalesovo Beam**	**151.34**	**29**	PKPbc	**PKPbc**	**16 02 51.4**	**0.0**
	comp=E,2.0nm,0.6s,baz=282,slow=2.6,SNR=11						

*IDC **26** 15:45:39.4±2.1, 7.78S×124.91E, h0km, mb3.5/1, mb1 3.3/5, mb1mx3.2/39, mbtmp3.1/5, ML2.9/4, Error ellipse: s-maj=61.7km s-min=28.3km az=76.0*
ISC 26 15:45:51.6±3.2, 8.5S±0.2×125.1E±0.1, h35km, n5, σ2.37/7, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**2.28**	**220**	Pn	**Pn**	**15 46 25.1**	**-1.7**
	1.8nm,0.3s,baz=0.0,slow=3.0,SNR=1.2						
BATI				Sn	**Sn**	**15 46 56.3**	**+2.7**
	1.6nm,0.3s,baz=319,slow=20,SNR=1.2						
FITZ	**Fitzroy Crossi**	**9.60**	**177**	Pn	**Pn**	**15 48 07.0**	**-0.4**
	0.1nm,0.3s,baz=2.4,slow=11,SNR=1.1						
FITZ				Sn	**Sn**	**15 49 51.7**	**-2.4**
	0.1nm,0.3s,baz=130,slow=19,SNR=1.4						
WRA	**Warramunga Arr**	**14.48**	**143**	Pn	**Pn**	**15 49 13.1**	**-1.0**
	0.1nm,0.3s,baz=315,slow=13,SNR=5.6						
WRA				Sn	**Sn**	**15 51 55.3**	**+1.7**
	0.0nm,0.3s,baz=316,slow=24,SNR=1.5						
ASAR	**Alice Springs**	**17.30**	**152**	Pn	**P**	**15 49 53.3**	**+1.6**
	0.0nm,0.3s,baz=322,slow=11,SNR=2.5						
MKAR	**Makanchi Array**	**66.91**	**329**	P	P	15 56 29.1	-11
	0.3nm,0.6s,baz=136,slow=5.3,SNR=2.1						

IDC 26 15:56:51.3±10.0, 25.96N×96.17E, h157km±114km, mb2.7/3, mb1 2.8/4, mb1mx2.6/61, mbtmp3.1/4, MS2.8/1, Ms1 2.8/1, ms1mx2.4/6, Error ellipse: s-maj=99.4km s-min=26.7km az=69.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRDH	**Bariadhala**	**5.27**	**233**	P	Pn	15 58 08.2	-0.1
	0.1nm,0.3s,baz=52,slow=20,SNR=1.4						
BRDH				S	Sn	15 59 09.1	+0.5
	0.1nm,0.3s,baz=90,slow=20,SNR=6.6						
MKAR	**Makanchi Array**	**23.53**	**336**	P	P	16 01 47.2	0.0
	0.1nm,0.5s,baz=140,slow=10,SNR=1.7						
AAK	**Ala-Archa**	**24.33**	**319**	LR	LR	16 14 17.3	
	comp=Z,20nm,18.6s,baz=151,slow=43						
WRA	**Warramunga Arr**	**58.79**	**137**	P	P	16 06 33.1	-0.2
	0.4nm,0.7s,baz=323,slow=6.7,SNR=5.1						
ASAR	**Alice Springs**	**61.38**	**140**	P	P	16 06 51.1	+0.1
	0.2nm,0.6s,baz=326,slow=7.5,SNR=4.9						

*NNC **26** 16:00:59.8±4.5, 37.36N×71.26E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=39.3km s-min=33.8km az=60.0*
*IDC **26** 16:01:02.7±7.2, 37.19N×71.65E, h144km±65km, mb3.1/2, mb1 3.2/7, mb1mx2.9/60, mbtmp3.6/7, Error ellipse: s-maj=59.0km s-min=42.7km az=37.0*
ISC 26 16:00:57.7±1.5, 37.0N±0.1×71.4E±0.2, h100km, n17, σ19/30, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.48**	**18**	P	**Pn**	**16 02 18.1**	**+0.9**
	SNR=40						
UCH	**Uchtor**	**5.80**	**24**	P	**Pn**	**16 02 22.9**	**+1.3**
	SNR=7.2						
EKS2	**Erkin-Say**	**6.00**	**17**	P	**Pn**	**16 02 25.6**	**+1.6**
	SNR=18						
AAK	**Ala-Archa**	**6.17**	**22**	P	**Pn**	**16 02 27.9**	**+1.5**
	2.2nm,0.3s,baz=204,slow=8.7,SNR=22						
AAK				S	**Sn**	**16 03 34.5**	**-1.0**
	0.2nm,0.3s,baz=114,slow=20,SNR=1.7						
AAK	**Ala-Archa**	**6.17**	**22**	P	**Pn**	**16 02 28.2**	**+1.9**
	SNR=10						
AAK	**Ala-Archa**	**6.17**	**22**	↑Pn	**Pn**	**16 02 27.8**	**+1.5**
	4.4nm,0.4s						
AAK				↑Sn	**Sn**	**16 03 36.0**	**+0.6**
	4.6nm,0.7s						
KK31	**Karatay Array**	**6.19**	**354**	↓Pn	**Pn**	**16 02 26.7**	**+0.3**
	3.2nm,0.2s,baz=184,slow=13,SNR=157						
KK31				↑Sn	**Sn**	**16 03 34.8**	**-1.0**
	1.2nm,0.2s,baz=185,slow=27,SNR=5.2						
CHMS	**Chumysh**	**6.57**	**22**	P	**Pn**	**16 02 32.6**	**+0.9**
	SNR=13						
USP	**Ospenovka**	**6.75**	**20**	P	**Pn**	**16 02 34.8**	**+0.7**
	SNR=6.6						
TKM2	**Tokmak 2**	**6.79**	**27**	P	**Pn**	**16 02 36.7**	**+1.9**
	SNR=7.7						
TKM2	**Tokmak 2**	**6.79**	**27**	↓Pn	**Pn**	**16 02 36.2**	**+1.4**
	7.1nm,0.7s						
MKAR	**Makanchi Array**	**12.75**	**36**	P	**Pn**	**16 03 54.7**	**-0.5**
	0.1nm,0.3s,baz=225,slow=14,SNR=13						
BVAR	**Borovoye Array**	**16.09**	**358**	P	**Pn**	**16 04 36.1**	**-1.8**
	0.2nm,0.3s,baz=173,slow=14,SNR=3.8						
AKTO	**Aktyubinsk**	**16.56**	**329**	P	**P**	**16 04 45.8**	**+1.4**
	0.3nm,0.3s,baz=136,slow=12,SNR=7.4						
ZALV	**Zalesovo Beam**	**19.38**	**24**	P	**P**	**16 05 14.4**	**-1.0**
	0.1nm,0.3s,baz=216,slow=12,SNR=3.8						
WRA	**Warramunga Arr**	**81.96**	**122**	P	**P**	**16 13 06.1**	**-0.5**
	0.5nm,1.1s,baz=324,slow=4.9,SNR=2.0						
ASAR	**Alice Springs**	**84.25**	**125**	P	**P**	**16 13 18.2**	**-0.1**
	0.2nm,0.5s,baz=310,slow=4.4,SNR=6.3						

*IDC **26** 16:13:23.3±0.8, 14.96N×92.04W, h66km±6km, mb3.9/14, mb1 4.1/15, mb1mx3.9/40, mbtmp4.2/15, MS3.4/9, Ms1 3.4/9, ms1mx3.1/29, Error ellipse: s-maj=26.9km s-min=13.0km az=58.0*
*SNET **26** 16:13:24.9±1.2, 14.82N×92.48W, h34km±999km, ML4.7*
*MEX **26** 16:13:24.7±0.3, 14.53N×92.77W, h42km±6km, MD4.6*
*NEIC **26** 16:13:25.2±2.7, 14.78N±0.07×92.50W±0.07, h74km±6km, mb4.6/66, Md4.6/29(MEX), Error ellipse: s-maj=11.9km s-min=7.7km az=224.0*
*UCR **26** 16:13:25.0±1.3, 14.81N×92.49W, h34km±999km, ML4.3, mb4.6(NEIC)*
*GCG **26** 16:13:33.9±0.6, 14.80N×91.85W, h22km±8km, MD4.5*
ISC 26 16:13:24.1±0.6, 14.72N±0.06×92.57W±0.04, h70km±5km, n223, σ1.977/232, mb4.5/37, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.35**	**58**	*i* P	**Pn**	**16 13 35.0**	**-0.6**
THIG				*i* S	**Sn**	**16 13 44.0**	**+0.1**
THIG		**0.35**	**58**		**Pn**	**16 13 35.0**	**-0.6**
THIG					**Sn**	**16 13 44.0**	**+0.1**
PCIG		**1.16**	**327**	*i* P	**Pn**	**16 13 43.9**	**-0.7**
PCIG				*i* S	**Sn**	**16 13 59.1**	**-0.8**
PCIG		**1.16**	**327**		**Pn**	**16 13 43.9**	**-0.7**
PCIG					**Sn**	**16 13 59.1**	**-0.8**
CCIG	**Comitan**	**1.60**	**15**	*i* P	**Pn**	**16 13 52.5**	**+1.9**
CCIG				*e*S	**Sn**	**16 14 14.1**	**+3.4**
CCIG	**Comitan**	**1.60**	**15**		**Pn**	**16 13 52.1**	**+1.5**
CCIG	**Comitan**	**1.60**	**15**		**Sn**	**16 14 14.1**	**+3.4**
FUG	**Fuego 3**	**1.69**	**99**	*e*P	**Pn**	**16 13 53.0**	**+1.2**
PCG	**Pacaya**	**1.93**	**100**	*i* P	**Pn**	**16 13 56.6**	**+1.6**
TGBT	**Tuxtla Gutierr**	**2.10**	**346**	*e*P	**Pn**	**16 13 58.1**	**+0.9**
TGBT				*e*S	**Sn**	**16 14 21.0**	**-1.3**
TGBT	**Tuxtla Gutierr**	**2.10**	**346**		**Pn**	**16 13 58.1**	**+0.9**
TGBT					**Sn**	**16 14 21.0**	**-1.3**
TGIG		**2.11**	**345**	*e*P	**Pn**	**16 13 57.0**	**-0.3**
TGIG				*e*S	**Sn**	**16 14 16.0**	**-6.6**
TGIG		**2.11**	**345**		**Pn**	**16 13 57.0**	**-0.3**
TGIG					**Sn**	**16 14 16.0**	**-6.6**
NBG	**Las Nubes**	**2.16**	**93**	*e*P	**Pn**	**16 14 00.1**	**+2.0**
NBG				*e*S	**Sn**	**16 14 20.3**	**-3.7**
MRL	**Marmol**	**2.81**	**82**	*i* P	**Pn**	**16 14 08.8**	**+1.8**
MRL				*e*S	**Sn**	**16 14 35.6**	**-4.4**
RTR	**El Retiro**	**2.95**	**106**	*e*P	**Pn**	**16 14 09.6**	**+0.7**
RTR	**El Retiro**	**2.95**	**106**	*e*P	**Pn**	**16 14 09.6**	**+0.7**
CEVE	**Cerro Verde**	**2.99**	**107**	*e*P	**Pn**	**16 14 09.8**	**+0.4**
CEVE				*e*S	**Sn**	**16 14 45.3**	**+0.9**
CEVE				IAML		16 14 54.3	
	comp=Z,4μm,0.4s						
CEVE	**Cerro Verde**	**2.99**	**107**	*e*P	**Pn**	**16 14 09.8**	**+0.4**
CEVE				*e*S	**Sn**	**16 14 45.3**	**+0.9**
CEVE				IAML		16 14 54.3	
	comp=Z,4μm,0.4s						
MTO3	**Montecristo**	**3.12**	**96**	*e*P	**Pn**	**16 14 11.4**	**+0.2**
MTO3	**Montecristo**	**3.12**	**96**	*e*P	**Pn**	**16 14 11.4**	**+0.2**
MTO3	**Montecristo**	**3.12**	**96**		**Pn**	**16 14 11.5**	**+0.3**
CMIG	**Matias Romero**	**3.24**	**317**	P	**Pn**	**16 14 11.7**	**-0.9**
	comp=Z,11nm,0.3s,baz=142,slow=12,SNR=47						
CMIG				S	**Sn**	**16 14 48.5**	**-1.6**
	comp=Z,117nm,0.3s,baz=112,slow=12,SNR=4.1						
CMIG	**Matias Romero**	**3.24**	**317**	*e*P	**Pn**	**16 14 12.3**	**-0.3**
BOQS	**Boqueron**	**3.34**	**107**	*e*P	**Pn**	**16 14 14.7**	**+0.5**
BOQS				*e*S	**Sn**	**16 14 54.8**	**+2.0**
BOQS	**Boqueron**	**3.34**	**107**	*e*P	**Pn**	**16 14 14.7**	**+0.5**
BOQS				*e*S	**Sn**	**16 14 54.8**	**+2.0**
UEES	**Universidad Ev**	**3.38**	**107**	IAML		16 15 05.2	
	comp=Z,1μm,0.2s						
UEES	**Universidad Ev**	**3.38**	**107**	IAML		16 15 05.2	
	comp=Z,1μm,0.2s						
LALI	**Alcalda de L**	**3.38**	**111**	*e*P	**Pn**	**16 14 15.3**	**+0.7**
LALI				*e*S	**Sn**	**16 14 53.2**	**-0.3**
LALI	**Alcalda de L**	**3.38**	**111**	*e*P	**Pn**	**16 14 15.3**	**+0.7**
LALI				*e*S	**Sn**	**16 14 53.2**	**-0.3**
SNET	**Serv Nac Est T**	**3.40**	**107**	IAML		16 15 01.1	
	comp=Z,1μm,0.3s						
SNET	**Serv Nac Est T**	**3.40**	**107**	IAML		16 15 01.1	
	comp=Z,1μm,0.3s						
SNET	**Serv Nac Est T**	**3.40**	**107**		**Pn**	**16 14 15.1**	**+0.3**
OPAM	**Oficina de Pla**	**3.42**	**107**	*e*S	**Sn**	**16 14 55.5**	**+0.9**
OPAM				IAML		16 15 01.1	
	comp=Z,1μm,0.3s						
OPAM	**Oficina de Pla**	**3.42**	**107**	*e*S	**Sn**	**16 14 55.5**	**+0.9**
OPAM				IAML		16 15 01.1	
	comp=Z,1μm,0.3s						
LFRS	**El Faro**	**3.57**	**107**	*e*P	**Pn**	**16 14 18.4**	**+1.1**
LFRS				*e*S	**Sn**	**16 14 58.7**	**+0.3**
LFRS	**El Faro**	**3.57**	**107**	*e*P	**Pn**	**16 14 18.4**	**+1.1**
LFRS				*e*S	**Sn**	**16 14 58.7**	**+0.3**
SJTE	**Alcalda de S**	**3.63**	**107**	*e*P	**Pn**	**16 14 18.9**	**+1.0**
SJTE				*e*S	**Sn**	**16 15 01.0**	**+1.3**
SJTE	**Alcalda de S**	**3.63**	**107**	*e*P	**Pn**	**16 14 18.9**	**+1.0**
SJTE				*e*S	**Sn**	**16 15 01.0**	**+1.3**
COEG	**Centro de Oper**	**3.74**	**107**	*e*P	**Pn**	**16 14 19.7**	**+0.2**
COEG	**Centro de Oper**	**3.74**	**107**	*e*P	**Pn**	**16 14 19.7**	**+0.2**
COEB	**Comit de Eme**	**4.10**	**107**	*e*P	**Pn**	**16 14 26.1**	**+1.6**
COEB				*e*S	**Sn**	**16 15 12.4**	**+1.0**
COEB				IAML		16 15 18.7	
	comp=Z,827nm,0.3s						
COEB	**Comit de Eme**	**4.10**	**107**	*e*P	**Pn**	**16 14 26.1**	**+1.6**
COEB				*e*S	**Sn**	**16 15 12.4**	**+1.0**
COEB				IAML		16 15 18.7	
	comp=Z,827nm,0.3s						
TECA	**Tecapa**	**4.13**	**107**	*e*P	**Pn**	**16 14 25.3**	**+0.4**
TECA	**Tecapa**	**4.13**	**107**	*e*P	**Pn**	**16 14 25.3**	**+0.4**
SCIG	**Sabancuy**	**4.42**	**17**	*e*P	**Pn**	**16 14 27.8**	**-1.0**
SCIG	**Sabancuy**	**4.42**	**17**		**Pn**	**16 14 27.8**	**-1.0**
JUCU	**Jucuarįn**	**4.44**	**109**	*e*P	**Pn**	**16 14 29.8**	**+0.7**
JUCU	**Jucuarįn**	**4.44**	**109**	*e*P	**Pn**	**16 14 29.8**	**+0.7**
PEIG	**Puerto Escondi**	**4.59**	**287**	*e*P	**Pn**	**16 14 29.0**	**-2.1**
PEIG				*i* S	Sn	16 15 13.9	-9.3
VHO	**Vista Hermosa**	**4.64**	**301**	*e*S	**Sn**	**16 15 26.7**	**+2.1**
TGUH	**Tegucigalpa,Un**	**5.17**	**97**	Pn	**Pn**	**16 14 39.8**	**+0.6**
YOIG	**Yosondua**	**5.24**	**295**	*e*P	**Pn**	**16 14 43.2**	**+3.1**
YOIG				*e*S	Sn	16 15 28.7	-11
TOIG	**Toxpalan**	**5.46**	**308**	*e*P	**Pn**	**16 14 44.2**	**+1.1**
TOIG				*e*S	**Sn**	**16 15 37.8**	**-6.9**
CRIN	**San Cristobal**	**5.73**	**110**		**Pn**	**16 14 47.9**	**+1.2**
TPIG	**Tehuac#an**	**5.88**	**309**	*e*P	**Pn**	**16 14 46.5**	**-2.4**
TPIG	**Tehuac#an**	**5.88**	**309**		**Pn**	**16 14 46.5**	**-2.4**
HLIG	**Huajuapan de L**	**5.90**	**302**	*e*P	**Pn**	**16 14 51.1**	**+2.0**
HLIG				*e*S	**Sn**	**16 16 02.1**	**+6.6**
FTIG	**Fresnillo de T**	**6.21**	**301**	*e*P	**Pn**	**16 14 53.6**	**+0.3**
TLIG	**Tlapa**	**6.42**	**297**		**Pn**	**16 14 57.5**	**+1.3**
MATN	**Matagalpa**	**6.70**	**105**		**Pn**	**16 15 00.1**	**+0.2**
ACON	**Acoyapa**	**7.70**	**110**		**Pn**	**16 15 14.1**	**+0.4**
HZTE	**Horizontes, Gu**	**7.88**	**120**		**Pn**	**16 15 17.5**	**+1.3**
ORTG	**Ortega, Santa**	**8.18**	**121**	Pn	**Pn**	**16 15 21.2**	**+0.8**
JTS	**Las Juntas de**	**8.64**	**120**	P	**Pn**	**16 15 27.0**	**+0.4**
	comp=Z,4.5nm,0.3s,baz=359,slow=7.1,SNR=27						
JTS				S	**Sn**	**16 16 56.3**	**-6.3**
	baz=3.8,slow=21,SNR=0.8						
JTS				LR	LR	16 18 21.0	
	comp=Z,73nm,19.4s,baz=9.5,slow=36						
JTS	**Las Juntas de**	**8.64**	**120**	Pn	**Pn**	**16 15 28.1**	**+1.5**
JACO	**JACO, Garabito**	**9.22**	**122**		**Pn**	**16 15 35.6**	**+1.2**
RIMA	**Rio Macho**	**9.83**	**119**	Pn	**Pn**	**16 15 43.9**	**+1.0**
SRBA	**San Rafael, Bu**	**10.53**	**120**		**Pn**	**16 15 53.5**	**+1.0**
SOR	**Soroa**	**12.10**	**47**	Pn	**Pn**	**16 16 12.8**	**-0.8**
LCCY	**Blossom Villag**	**12.90**	**66**	Pn	**Pn**	**16 16 24.7**	**+0.1**
CBCY	**The Bluff, Cay**	**13.21**	**66**	Pn	**Pn**	**16 16 29.0**	**+0.2**
MTDJ	**Mount Denham**	**14.83**	**74**	P	**Pn**	**16 16 53.4**	**+3.2**
833A	**Chaparral WMA,**	**14.94**	**336**	P	**Pn**	**16 16 52.9**	**+1.4**
	baz=153						
061Z	**Ochoppi**	**15.56**	**43**		**Pn**	**16 16 58.2**	**-1.2**
DWPF	**Disney Wild

SDDR					IAmb	IAmb	16 18 23.6	
	comp=Z,38nm,1.2s							
SWET	**Sewanee**	**21.26**	**15**	P	**P**		**16 18 03.8**	**-0.9**
SWET					IAmb	IAmb	16 18 11.3	
	comp=Z,23nm,0.7s							
MSTX	**Muleshoe**	**21.27**	**336**	P	**P**		**16 18 06.4**	**+1.5**
	baz=152							
LCAR	**Lake Charles**	**21.30**	**3**	P	**P**		**16 18 05.3**	**+0.3**
LCAR					IAmb	IAmb	16 18 11.8	
	comp=Z,19nm,0.9s							
TUL1	**Leonard**	**21.30**	**353**	P	**P**		**16 18 09.1**	**+4.0**
	baz=171,SNR=5.7							
NHSC	**New Hope**	**21.49**	**29**	P	**P**		**16 18 13.8**	**+6.7**
	baz=214,SNR=7.8							
HHAR	**Hobbs**	**21.50**	**357**	P	**P**		**16 18 06.5**	**-0.7**
HODGE	**Hodges**	**21.54**	**24**	P	**P**		**16 18 06.6**	**-1.1**
U40A	**Yellville**	**21.55**	**359**	P	**P**		**16 18 08.4**	**+0.7**
	baz=179							
BANI	**BANI**	**21.60**	**77**	P	**P**		**16 18 11.3**	**+2.8**
QUOK	**Quay**	**21.68**	**351**	P	**P**		**16 18 07.9**	**-1.2**
QUOK					IAmb	IAmb	16 18 26.6	
	comp=Z,20nm,0.7s							
AMTX	**Amarillo**	**21.69**	**339**	P	**P**		**16 18 06.9**	**-2.5**
AMTX					IAmb	IAmb	16 18 26.0	
	comp=Z,20nm,0.6s							
AMTX	**Amarillo**	**21.69**	**339**	P	**P**		**16 18 08.8**	**-0.6**
	baz=155							
WVT	**Waverly**	**21.73**	**10**	P	**P**		**16 18 06.5**	**-3.2**
WVT	**Waverly**	**21.73**	**10**	P	**P**		**16 18 09.2**	**-0.5**
	baz=192							
CPCT	**Cooper Cave**	**21.87**	**18**	P	**P**		**16 18 10.3**	**-0.9**
CPCT					IAmb	IAmb	16 18 27.0	
	comp=Z,16nm,0.5s							
PBMO	**Poplar Bluff**	**22.05**	**5**	P	**P**		**16 18 11.9**	**-1.2**
PBMO					IAmb	IAmb	16 18 21.1	
	comp=Z,19nm,0.8s							
V51A	**Loudon**	**22.25**	**18**	P	**P**		**16 18 14.1**	**-1.2**
V51A					IAmb	IAmb	16 18 55.3	
	comp=Z,26nm,1.0s							
T42A	**Van Buren**	**22.25**	**3**	P	**P**		**16 18 13.4**	**-1.9**
TKL	**Tuckaleechee C**	**22.29**	**19**	P	**P**		**16 18 14.2**	**-1.5**
	comp=Z,9.6nm,0.7s,baz=192,slow=11,SNR=11							
TKL	**Tuckaleechee C**	**22.29**	**19**	P	**P**		**16 18 14.3**	**-1.4**
TKL					IAmb	IAmb	16 18 33.0	
	comp=Z,24nm,0.8s							
121A	**Cookes Peak, D**	**22.50**	**325**	P	**P**		**16 18 19.7**	**+1.5**
	baz=138							
U49A	**Red Boiling Sp**	**22.53**	**14**	P	**P**		**16 18 16.3**	**-2.0**
U49A					IAmb	IAmb	16 18 26.3	
	comp=Z,31nm,0.9s							
V53A	**Saluda**	**22.62**	**21**	IAmb	IAmb		16 18 38.2	
	comp=Z,16nm,0.6s							
KMSC	**Kings Mountain**	**22.71**	**24**	P	**P**		**16 18 19.1**	**-1.1**
KMSC					IAmb	IAmb	16 18 19.7	
	comp=Z,16nm,0.8s							
KMSC	**Kings Mountain**	**22.71**	**24**	P	**P**		**16 18 19.0**	**-1.1**
	baz=209							
TZTN	**Tazewell**	**23.18**	**19**	P	**P**		**16 18 23.9**	**-1.0**
	baz=202,SNR=5.8							
CCM	**Cathedral Cave**	**23.27**	**3**	P	**P**		**16 18 22.5**	**-3.2**
	baz=183							
ANMO	**Albuquerque**	**23.70**	**331**	P	**P**		**16 18 30.5**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=131,slow=11,SNR=7.9							
ANMO	**Albuquerque**	**23.70**	**331**	P	**P**		**16 18 30.0**	**+0.1**
ANMO	**Albuquerque**	**23.70**	**331**	P	**P**		**16 18 30.7**	**+0.7**
	baz=144							
WCI	**Wyandotte Cave**	**24.06**	**12**	P	**P**		**16 18 31.4**	**-1.5**
WCI					IAmb	IAmb	16 18 35.1	
	comp=Z,22nm,0.8s							
WCI	**Wyandotte Cave**	**24.06**	**12**	P	**P**		**16 18 31.5**	**-1.4**
	baz=195							
TUC	**Tucson**	**24.13**	**320**	P	**P**		**16 18 39.7**	**+6.0**
	baz=132							
S51A	**Beattyville**	**24.18**	**18**	P	**P**		**16 18 32.3**	**-1.7**
S51A					IAmb	IAmb	16 18 57.8	
	comp=Z,21nm,0.9s							
V58A	**Windy Hill, Pi**	**24.20**	**27**	IAmb	IAmb		16 18 33.4	
	comp=Z,28nm,0.9s							
KSU1	**Kansas State U**	**24.54**	**352**	IAmb	IAmb		16 18 53.4	
	comp=Z,20nm,0.7s							
KSU1	**Kansas State U**	**24.54**	**352**	P	**P**		**16 18 35.8**	**-1.4**
	baz=170							
T25A	**Trinidad**	**24.69**	**337**	P	**P**		**16 18 40.3**	**+1.4**
	baz=151							
P46A	**Rosedale**	**25.24**	**10**	IAmb	IAmb		16 19 18.4	
	comp=Z,19nm,0.8s							
SDCO	**Great Sand Dun**	**25.64**	**336**	P	**P**		**16 18 48.8**	**+1.1**
	baz=150							
Q52A	**Bidwell**	**25.80**	**19**	P	**P**		**16 18 45.5**	**-3.2**
Q52A					IAmb	IAmb	16 19 19.1	
	comp=Z,21nm,0.9s							
T59A	**Double "B" Far**	**25.88**	**28**	P	**P**		**16 18 46.5**	**-3.0**
T59A					IAmb	IAmb	16 18 48.2	
	comp=Z,18nm,0.8s							
S22A	**4UR Ranch, Cre**	**26.19**	**334**	P	**P**		**16 18 53.7**	**+1.1**
	baz=147,SNR=5.8							
MVCO	**Mesa Verde**	**26.50**	**331**	P	**P**		**16 18 56.8**	**+1.4**
	baz=143,SNR=6.6							
ACSO	**Alum Creek Sta**	**26.76**	**16**	P	**P**		**16 18 55.8**	**-1.6**
	baz=201							
PV01	**Paradox Valley**	**27.28**	**332**	P	**P**		**16 19 00.8**	**-1.5**
PDAR	**Pinedale Array**	**31.54**	**336**	P	**P**		**16 19 39.7**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=145,slow=9.5,SNR=3.0							
PDAR					pP	**pP**	**16 19 55.2**	**-1.5**
	comp=Z,1.2nm,1.0s,baz=140,slow=12,SNR=4.4							
PDAR					PcP	**PcP**	**16 22 31.4**	**0.0**
	comp=Z,0.4nm,0.5s,baz=144,slow=5.5,SNR=5.8							
PDAR					pPcP		16 22 49.9	
	comp=Z,1.0nm,1.1s,baz=160,slow=4.7,SNR=4.2							
PDAR	**Pinedale Array**	**31.54**	**336**	P	**P**		**16 19 38.8**	**-1.2**
PDAR					PcP	**PcP**	**16 22 31.5**	**+0.2**
KSCT	**Kent School, K**	**31.58**	**28**	P	P		16 19 37.5	-2.6
SADO	**Sadowa**	**32.04**	**18**	P	P		16 19 41.4	-2.8
	comp=Z,5.8nm,0.8s,baz=213,slow=6.6,SNR=3.9							
HVU	**Hansel Valley**	**32.13**	**331**	P	**P**		**16 19 45.0**	**-0.2**
HVU					IAmb	IAmb	16 20 04.3	
	comp=Z,6.7nm,0.8s							
NVAR	**Mina Array Bea**	**32.76**	**321**	P	**P**		**16 19 52.8**	**+2.0**
	comp=Z,1.8nm,0.6s,baz=135,slow=8.7,SNR=17							
NVAR					PcP	**PcP**	**16 22 35.1**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=114,slow=2.2,SNR=4.0							
NVAR					pPcP		16 22 54.8	
	comp=Z,0.7nm,0.6s,baz=157,slow=2.9,SNR=3.4							
NVAR					LR	LR	16 34 55.8	
	comp=Z,54nm,18.3s,baz=139,slow=39							
NVAR	**Mina Array Bea**	**32.76**	**321**	P	**P**		**16 19 50.0**	**-0.8**
NVAR						**PcP**	**16 22 35.5**	**+0.8**
HLID	**Hailey**	**34.28**	**331**	P	**P**		**16 20 04.1**	**+0.3**
HLID	**Hailey**	**34.28**	**331**	P	**P**		**16 20 05.3**	**+1.5**
	baz=140							
PTGA	**Pitinga**	**35.72**	**113**	P	P		16 20 13.1	-3.3
	comp=Z,1.9nm,0.3s,baz=321,slow=17,SNR=5.1							
PTGA	**Pitinga**	**35.72**	**113**	P	P		16 20 13.4	-3.0
PTGA					IAmb	IAmb	16 20 15.7	
	comp=Z,14nm,1.5s							
PLID	**Pearl Lake**	**36.18**	**331**	IAmb	IAmb		16 20 38.2	
	comp=Z,7.6nm,1.0s							
SAML	**Samuel**	**37.45**	**127**	P	P		16 20 28.9	-2.1
LPAZ	**La Paz**	**39.14**	**141**	P	**P**		**16 20 45.1**	**-0.8**
	comp=Z,2.3nm,0.7s,baz=338,slow=8.4,SNR=10							
LON	**Longmire**	**40.19**	**329**	P	**P**		**16 20 54.7**	**+1.0**
LON					IAmb	IAmb	16 21 15.5	
	comp=Z,6.4nm,0.9s							
SCHQ	**Schefferville**	**44.74**	**21**	P	P		16 21 26.8	-3.7
	comp=Z,2.7nm,0.6s,baz=285,slow=11,SNR=1.6							
SCHQ					LR	LR	16 40 21.8	
	comp=Z,93nm,20.7s,baz=286,slow=36							
YKA	**Yellowknife Ar**	**50.20**	**347**	P	P		16 22 10.6	-2.0
	comp=Z,1.9nm,0.5s,baz=103,slow=16,SNR=4.4							
CPUP	**Villa Florida**	**53.29**	**140**	pP	pP		16 22 52.9	-1.1
	comp=Z,3.6nm,0.9s,baz=304,slow=7.7,SNR=5.1							
BDFB	**Brasilia**	**53.37**	**123**	P	**P**		**16 22 35.6**	**-1.5**
	comp=Z,1.7nm,0.4s,baz=277,slow=4.5,SNR=3.5							
BDFB					LR	LR	16 45 36.7	
	comp=Z,53nm,18.8s,baz=333,slow=36							
BO02	**Sierra Bellavi**	**53.42**	**158**	P	P		16 22 34.9	-2.2
BO02					IAmb	IAmb	16 23 57.9	
	comp=Z,10nm,1.2s							
LC01	**Cunco**	**56.74**	**161**	P	**P**		**16 22 59.4**	**-1.4**
PLCA	**Paso Flores**	**58.84**	**161**	P	**P**		**16 23 15.2**	**-0.4**
	comp=Z,2.1nm,0.6s,baz=343,slow=9.8,SNR=5.1							
L27K	**Beaver Creek,**	**59.17**	**336**	P	**P**		**16 23 18.1**	**+0.5**
	baz=121							
N25K	**Chitina, Valde**	**59.58**	**334**	P	**P**		**16 23 21.0**	**+0.5**
	baz=118							
K27K	**Chicken**	**59.77**	**337**	P	**P**		**16 23 22.0**	**+0.3**
	baz=122							
EGAK	**Eagle**	**59.84**	**338**	P	**P**		**16 23 21.5**	**-0.6**
	baz=123							
PAX	**Paxson**	**60.57**	**335**	P	**P**		**16 23 27.1**	**-0.2**
	baz=118							
J26L	**Joseph Creek**	**60.58**	**337**	P	**P**		**16 23 27.8**	**+0.5**
	baz=120							
RIDG	**Independent Ri**	**60.69**	**336**	P	**P**		**16 23 28.1**	**+0.1**
	baz=118							
J25K	**Salcha River,**	**61.31**	**337**	P	**P**		**16 23 32.5**	**+0.3**
	baz=118							
WAT6	**Susitna Watana**	**61.33**	**334**	P	**P**		**16 23 33.0**	**+0.4**
	baz=115							
HDA	**Harding Lake**	**61.82**	**336**	P	**P**		**16 23 35.6**	**0.0**
	baz=117							
ILAR	**Eielson Array**	**61.96**	**337**	P	**P**		**16 23 35.9**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=132,slow=5.4,SNR=25							
ILAR					pP	**pP**	**16 23 53.0**	**-1.8**
	comp=Z,2.0nm,1.0s,baz=122,slow=4.4,SNR=4.6							
ILAR	**Eielson Array**	**61.96**	**337**	P	**P**		**16 23 37.2**	**+0.7**
RND	**Reindeer**	**62.14**	**335**	P	**P**		**16 23 38.3**	**+0.5**
TRF	**Thorofare Moun**	**62.75**	**335**	P	**P**		**16 23 42.0**	**0.0**
	baz=113							
H24K	**Noodor Dome**	**62.81**	**338**	P	**P**		**16 23 42.2**	**-0.1**
	baz=116							
I23K	**Minto, Yukon-K**	**63.07**	**337**	P	**P**		**16 23 44.1**	**+0.2**
I23K	**Minto, Yukon-K**	**63.07**	**337**	P	**P**		**16 23 44.1**	**+0.2**
	baz=115,SNR=5.5							
BPAW	**Bear Paw Mtn.**	**63.29**	**335**	P	**P**		**16 23 45.2**	**-0.2**
	baz=112							
PPLA	**Purkeypile**	**63.34**	**334**	P	**P**		**16 23 45.7**	**-0.2**
	baz=111							
CAST	**Castle Rocks**	**63.49**	**334**	P	**P**		**16 23 46.0**	**-0.7**
	baz=111							
MLY	**Manley**	**63.56**	**336**	P	**P**		**16 23 47.2**	**0.0**
MLY	**Manley**	**63.56**	**336**	P	**P**		**16 23 47.2**	**0.0**
	baz=113,SNR=7.7							
N19K	**Bonanza Creek**	**63.68**	**331**	P	**P**		**16 23 48.2**	**+0.1**
	baz=108							
L20K	**Farewell, AK**	**63.93**	**333**	P	**P**		**16 23 49.5**	**-0.2**
	baz=109,SNR=5.7							
K20K	**Telida**	**64.30**	**334**	P	**P**		**16 23 51.5**	**-0.5**
	baz=109							
J20K	**Nowinta River**	**64.61**	**335**	P	**P**		**16 23 53.6**	**-0.4**
	baz=110							
TOLK	**Toolik Lake Re**	**64.66**	**340**	P	**P**		**16 23 54.4**	**+0.1**
	baz=116							
ESDC	**Sonseca Array**	**79.70**	**52**	P	P		16 25 20.7	-4.0
	comp=Z,0.3nm,0.4s,baz=284,slow=5.6,SNR=6.0							
NOA	**NORSAR Array B**	**83.78**	**28**	LR	LR		17 01 18.7	
	comp=Z,27nm,21.6s,baz=245,slow=34							
ARCES	**ARCESS Array B**	**85.62**	**18**	P	P		16 25 51.7	-3.0
	comp=Z,1.8nm,0.8s,baz=291,slow=5.1,SNR=7.3							
ARCES					LR	LR	17 04 02.1	
	comp=Z,42nm,19.8s,baz=210,slow=36							
ARCES	**ARCESS Array B**	**85.62**	**18**	P	P		16 25 52.3	-2.4
FINES	**FINESS Array B**	**90.08**	**25**	P	P		16 26 13.0	-3.1
	comp=Z,3.2nm,1.1s,baz=321,slow=4.9,SNR=5.5							
FINES					LR	LR	17 08 41.3	
	comp=Z,46nm,18.8s,baz=308,slow=37							
TORD	**Torodi Ar. Bea**	**90.75**	**76**	LR	LR		17 10 28.3	
	comp=Z,9.8nm,18.5s,baz=215,slow=38							
KSRS	**Korea Array**	**115.64**	**325**	PKP	**PKiKP**		**16 31 57.4**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=3.3,slow=1.5,SNR=2.3							
MKAR	**Makanchi Array**	**118.59**	**4**	PKP	**PKPdf**		**16 32 02.9**	**-1.4**
	comp=Z,0.1nm,0.5s,baz=325,slow=2.3,SNR=1.8							
STKA	**Stephens Creek**	**127.93**	**241**	PKP	**PKPdf**		**16 32 21.8**	**-0.7**
	comp=Z,2.6nm,0.8s,baz=78,slow=4.1,SNR=8.3							
STKA					pPKP	**pPKPdf**	**16 32 42.8**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=18,slow=4.2,SNR=5.4							
STKA	**Stephens Creek**	**127.93**	**241**			**PKPdf**	**16 32 22.0**	**-0.5**
WRA	**Warramunga Arr**	**135.03**	**256**	PKhKP	PKPpre		16 32 26.1	
	comp=Z,0.6nm,1.0s,baz=89,slow=2.5,SNR=5.1							
WRA					PKP	**PKPdf**	**16 32 35.1**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=90,slow=2.4,SNR=15							
ASAR	**Alice Springs**	**135.38**	**251**	PKhKP	PKPpre		16 32 27.0	
	comp=Z,0.3nm,0.9s,baz=97,slow=2.5,SNR=6.8							
ASAR					PKP	**PKPdf**	**16 32 37.0**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=83,slow=1.5,SNR=8.5							
CMAR	**Chiang Mai Arr**	**145.13**	**341**	PKPbc	**PKPbc**		**16 32 53.2**	**-0.9**
	comp=Z,4.0nm,0.9s,baz=342,slow=3.9,SNR=18							
CMAR					pPKPbc	pPKPab	16 33 11.2	-2.5
	comp=Z,2.1nm,0.7s,baz=336,slow=3.4,SNR=6.9							
CMAR	**Chiang Mai Arr**	**145.13**	**341**			**PKPbc**	**16 32 53.9**	**-0.3**
KAPI	**Kappang**	**146.77**	**284**	PKPbc	**PKPdf**		**16 32 59.5**	**+2.0**
	comp=Z,2.8nm,0.7s,baz=13,SNR=3.8							
PSA00	**Pilbara Seismi**	**148.50**	**253**	PKPbc	**PKPdf**		**16 33 02.7**	**+2.5**

IDC 26 16:18:24.4±8.4, 1°30.5S×136°31.6E, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.3/32, mbtmp3.4/4, ML2.9/2, MS3.2/1, Ms1 3.4/1, ms1mx2.6/16, Error ellipse: s-maj=126.7km s-min=36.2km az=161.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.56**	**105**	Pn	Pn		16 19 34.5	-0.2
	0.3nm,0.3s,baz=344,slow=11,SNR=2.4							
JAY				Sn	Sn		16 20 29.4	+1.0
	0.1nm,0.3s,baz=196,slow=23,SNR=2.2							
WRA	**Warramunga Arr**	**18.62**	**186**	P	Pn		16 22 44.0	+0.2
	0.1nm,0.3s,baz=4.6,slow=12,SNR=3.7							
ASAR	**Alice Springs**	**22.35**	**186**	P	P		16 23 24.0	-0.1
	0.3nm,0.5s,baz=7.5,slow=12,SNR=8.1							
STKA	**Stephens Creek**	**30.82**	**171**	P	P		16 24 42.0	-0.1
	0.5nm,0.5s,baz=346,slow=8.3,SNR=3.1							
CMAR	**Chiang Mai Arr**	**41.66**	**300**	LR	LR		16 44 35.4	
	comp=Z,30nm,18.4s,baz=186,slow=38							

*IDC **26** 16:21:45.5±5.3, 19°.36S×178°.28W, h563km±29km, mb2.9/4, mb1 3.0/5, mb1mx2.8/34, mbtmp3.8/5, Error ellipse: s-maj=127.1km s-min=43.6km az=138.0*

ISC 26 16:21:44.2±2.9, 19°.7S±0°.4×178°.1W±0°.4, h550km, n6, σ0.8, 74°, mb3.6/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.12**	**298**	P	P		**16 23 07.2**	**0.0**
	2.6nm,0.3s,baz=124,slow=15,SNR=18							
STKA	**Stephens Creek**	**38.02**	**243**	P	P		**16 28 16.2**	**+0.3**
	0.5nm,0.4s,baz=100,slow=12,SNR=2.2							
ASAR	**Alice Springs**	**44.58**	**256**	P	P		**16 29 07.9**	**-0.1**
	2.0nm,0.8s,baz=84,slow=7.9,SNR=35							
ASAR					PcP	**PcP**	**16 30 37.9**	**-1.1**
	0.1nm,0.5s,baz=101,slow=4.2,SNR=1.5							
WRA	**Warramunga Arr**	**44.59**	**261**	P	P		**16 29 07.6**	**-0.5**
	1.0nm,0.3s,baz=96,slow=7.7,SNR=9.8							
FITZ	**Fitzroy Crossi**	**53.01**	**262**	P	P		**16 30 10.7**	**+0.3**
	0.4nm,0.4s,baz=98,slow=5.0,SNR=0.9							
BRTR	**Keskin Array B**	**146.22**	**313**	PKPbc	**PKPdf**		**16 40 22.2**	**+0.7**
	0.3nm,0.6s,baz=46,slow=4.2,SNR=2.7							

*IDC **26** 16:35:38.0±0.9, 61°.66S×55°.06W, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.8/21, mbtmp3.8/6, ML3.5/1, MS3.0/4, Ms1 3.1/4, ms1mx2.9/19, Error ellipse: s-maj=38.8km s-min=26.2km az=90.0*

*NEIC **26** 16:35:41.0±1.7, 61°.62S±0°.05×55°.6W±0°.3, h10km±1km, mb4.3/8, Error ellipse: s-maj=25.7km s-min=8.6km az=89.0*

ISC 26 16:35:39.8±0.7, 61°.56S±0°.08×55°.3W±0°.1, h10km, n22, σ1.9, 00/21, mb4.0/8, MS3.0/3, South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**5.10**	**227**	Pn	**Pn**		**16 36 55.6**	**-0.6**
	1.6nm,0.3s,baz=60,slow=11,SNR=16							
PMSA				Lg	Lg		16 38 17.4	
	4.5nm,0.3s,baz=151,slow=19,SNR=4.7							
PMSA				LR	LR		16 38 58.4	
	comp=Z,112nm,18.8s,baz=70,slow=39							
PMSA	**Palmer Station**	**5.10**	**227**		**Pn**		**16 36 55.5**	**-0.7**
MG01	**Puerto William**	**9.28**	**310**	Pn	**Pn**		**16 37 53.7**	**+0.2**
MG02	**Cerro Sombrero**	**11.57**	**313**	Pn	**Pn**		**16 38 24.8**	**0.0**
LL02	**Futaleuf**	**20.87**	**324**	P	**P**		**16 40 21.4**	**-0.4**
LL02				IAmb	IAmb		16 40 25.2	
	comp=Z,17nm,0.7s							
SNAA	**Sanae**	**22.31**	**139**	P	**P**		**16 40 38.7**	**+1.6**
SNAA				IAmb	IAmb		16 40 46.9	
	comp=Z,8.8nm,1.1s							
PLCA	**Paso Flores**	**22.83**	**329**	P	**P**		**16 40 44.3**	**+1.5**
	comp=Z,1.6nm,0.8s,baz=164,slow=10,SNR=4.8							
PLCA				LR	LR		16 49 45.9	
	comp=Z,49nm,18.8s,baz=168,slow=37							
PLCA	**Paso Flores**	**22.83**	**329**	P	**P**		**16 40 44.8**	**+2.0**
TRQA	**Tornquist**	**23.90**	**347**	P	**P**		**16 40 53.9**	**+0.4**
TRQA				IAmb	IAmb		16 41 01.1	
	comp=Z,5.4nm,0.9s							
QSPA	**South Pole Qui**	**28.67**	**180**	P	**P**		**16 41 36.6**	**+0.1**
QSPA				IAmb	IAmb		16 41 37.7	
	comp=Z,6.5nm,0.7s							
AC04	**Llanos de Chal**	**34.98**	**335**	P	**P**		**16 42 32.6**	**+0.6**
CPUP	**Villa Florida**	**35.25**	**357**	P	**P**		**16 42 34.6**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=191,slow=5.2,SNR=3.6							
CPUP				LR	LR		16 56 19.3	
	comp=Z,18nm,21.2s,baz=182,slow=35							
SBA	**Scott Base**	**38.48**	**193**	P	**P**		**16 43 02.9**	**+1.6**
LVC	**Limon Verde**	**40.05**	**340**	P	**P**		**16 43 14.8**	**-0.5**
LPAZ	**La Paz**	**46.13**	**343**	LR	LR		17 04 16.9	
	comp=Z,26nm,18.6s,baz=162,slow=37							
TORD	**Torodi Ar. Bea**	**86.82**	**55**	P	**P**		**16 48 23.5**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=207,slow=4.8,SNR=2.5							
ASAR	**Alice Springs**	**94.75**	**188**	P	**P**		**16 49 00.8**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=172,slow=4.5,SNR=6.7							
WRA	**Warramunga Arr**	**98.41**	**189**	P	**P**		**16 49 16.9**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=177,slow=4.2,SNR=5.6							
ARCES	**ARCESS Array B**	**142.66**	**35**	PKhKP	PKPpre		16 55 05.8	
	comp=Z,1.0nm,0.6s,baz=232,slow=1.0,SNR=9.7							
ARCES				PKP	**PKPdf**		**16 55 10.3**	**-1.0**
	comp=Z,3.6nm,0.9s,baz=180,slow=1.8,SNR=5.1							
MKAR	**Makanchi Array**	**151.74**	**102**	PKPbc	**PKPbc**		**16 55 32.5**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=236,slow=0.5,SNR=2.6							
KURBB	**Kurchatov Arra**	**152.63**	**92**	PKPbc	**PKPbc**		**16 55 34.4**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=230,slow=2.6,SNR=2.6							
SONM	**Songino Array**	**162.75**	**135**	PKPab	**PKPab**		**16 56 29.8**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=240,slow=2.8,SNR=2.3							

*IDC **26** 16:39:09.7±8.7, 36°.16N×70°.59E, h165km±102km, mb3.3/2, mb1 3.3/3, mb1mx2.8/29, mbtmp3.8/3, MS2.6/1, Ms1 2.8/1, ms1mx2.3/25, Error ellipse: s-maj=88.1km s-min=31.0km az=136.0*

ISC 26 16:39:05.9±1.4, 36°.1N±0°.1×70°.63E±0°.09, h110km, n7, σ2.8, 89/9, 1C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**7.01**	**359**	Pn	**Pn**		**16 40 48.4**	**+2.5**
	1.1nm,0.4s,baz=176,slow=12,SNR=32							
KK31				Sn	**Sn**		**16 41 59.8**	**-4.2**
	2.4nm,0.4s,baz=184,slow=24,SNR=8.9							
AAK	**Ala-Archa**	**7.19**	**23**	⇓Pn	**Pn**		**16 40 51.9**	**+3.4**
	4.2nm,0.8s							
AAK				⇑Sn	**Sn**		**16 42 08.2**	**-0.5**
	4.6nm,0.5s							
GEYT	**Alibeck**	**10.17**	**284**	P	**Pn**		**16 41 30.9**	**+2.1**
	0.3nm,0.3s,baz=95,slow=18,SNR=3.7							
GEYT				S	**Sn**		**16 43 19.1**	**-1.8**
	0.2nm,0.3s,baz=105,slow=24,SNR=1.7							
MKAR	**Makanchi Array**	**13.80**	**36**	P	**Pn**		**16 42 17.6**	**+0.8**
	0.2nm,0.3s,baz=217,slow=12,SNR=10.0							
ZALV	**Zalesovo Beam**	**20.41**	**25**	P	**P**		**16 43 33.4**	**-0.6**
	1.9nm,0.3s,baz=222,slow=12,SNR=13							
CMAR	**Chiang Mai Arr**	**30.53**	**118**	LR	LR		16 59 11.4	
	comp=Z,11nm,18.8s,baz=225,slow=39							
WRA	**Warramunga Arr**	**82.03**	**122**	P	**P**		**16 51 11.8**	**-2.2**
	0.5nm,0.9s,baz=323,slow=4.7,SNR=2.2							

*NDI **26** 16:54:13.4±2.8, 24°.43N×94°.67E, h100km, ML4.0*

*IDC **26** 16:54:14.2±2.5, 24°.14N×94°.63E, h116km±27km, mb3.6/8, mb1 3.6/9, mb1mx3.2/50, mbtmp3.8/9, MS3.1/1, Ms1 3.1/1, ms1mx2.4/37, Error ellipse: s-maj=25.3km s-min=13.7km az=60.0*

ISC 26 16:54:12.7±0.9, 24°.37N±0°.05×94°.69E±0°.06, h100km±9km, n19, σ1.2, 52/27, mb4.0/8, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KOHI	**KOHIMA**	**1.44**	**339**	*eP*	**Pn**		**16 54 38.2**	**-0.2**
KOHI				*eS*

MwMwp4.9/21,Mwp5.2/21
NEIC ***26*** *17:23:27.2,5°.24N×123°.80E,h515km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.21; $M_{\theta\theta}$-1.23; $M_{\phi\phi}$1.02; $M_{r\theta}$-0.65; $M_{\theta\phi}$-0.44; $M_{r\phi}$-1.49; Fault plane solution: M_o2.03000×10^{17} NP1:ϕ_s213.86000°, δ85.92000°, λ52.59000°. NP2:ϕ_s118.54000°,δ37.60000°, λ173.31000°. Principal axes: T 2.1555, Plg38.0000°, Azm91.0000°; N -0.2768, Plg37.0000°, Azm217.0000°; P -1.8787, Plg31.0000°, Azm334.0000°;*

ISC 26 17:23:26.4±0.2, **5°.24N**±0°.03×**123°.81E**±0°.03, **h526**km±2km, **h526**km:**pP-P,n1062,**σ**1**§**61**/1337,**mb5.2**/278,**73C-177D,**
Fault plane solution: NP1:ϕ_s39.17110°,δ87.82216°, λ-35.46584°. **NP2:**ϕ_s130.72183°,δ54.56363°, λ-177.32669°. **Principal axes:** T Plg22.5264°, Azm90.6003°; N Plg54.4761°, Azm216.1177°; P Plg25.9031°, Azm348.9803°; **Mindanao**

Code	Station Name	Δ° AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**2.17 36**	⇓*i*P		**P**	**S**	**17 24 36.5**	**+1.7**
KCP			*i*S		**S**	**S**	**17 25 33.0**	**+2.7**
SGSI	**Sangihe**	**2.31 132**	P		**P**	**S**	**17 24 35.1**	**-0.4**
SGSI			S		**S**	**S**	**17 25 32.2**	**+0.7**
DAV	**Davao City (W)**	**2.53 44**	P		**P**	**S**	**17 24 38.7**	**+2.1**
	203nm,0.3s,baz=236,slow=2.9,SNR=35							
DAV			S		**S**	**S**	**17 25 35.8**	**+2.1**
	504nm,0.3s,baz=126,slow=23,SNR=36							
DAV	**Davao City (W)**	**2.53 44**	P		**P**	**S**	**17 24 38.3**	**+1.6**
DAV			S		**S**	**S**	**17 25 35.3**	**+1.6**
DAV	**Davao City (W)**	**2.53 44**	P		**P**	**S**	**17 24 38.2**	**+1.6**
DAV			S		**S**	**S**	**17 25 35.8**	**+2.1**
DCPH	**Dipolog City**	**3.35 352**	⇓*e*P		**P**	**S**	**17 24 44.7**	**+2.9**
DCPH			*e*S		**S**	**S**	**17 25 46.4**	**+3.3**
MNI	**Manado**	**3.91 165**	P		**P**	**S**	**17 24 46.5**	**+0.5**
MNI			S		**S**	**S**	**17 25 51.9**	**+1.2**
SNPH	**Sibulan**	**4.11 352**	⇓*i*P		**P**	**S**	**17 24 48.8**	**+1.3**
SNPH			*i*S		**S**	**S**	**17 25 57.1**	**+3.4**
KMSI	**Cibinong**	**4.64 178**	P		**P**	**S**	**17 24 53.2**	**+1.4**
GTOI	**Gorontalo**	**4.64 190**	P		**P**	**S**	**17 24 52.3**	**+0.4**
SCPH	**Surigao**	**4.81 20**	⇓*e*P		**P**	**S**	**17 24 56.9**	**+3.7**
LLP	**Lapu-Lapu**	**5.04 2**	⇓*e*P		**P**	**S**	**17 24 56.5**	**+1.2**
LLP			*e*S		**S**	**S**	**17 26 07.4**	**-0.3**
MRSI	**Marisa**	**5.09 202**	P		**P**	**S**	**17 24 57.5**	**+1.8**
	5.3nm6µm14µm2µm,1.3s							
TOLI2	**Tolitoli**	**5.10 216**	P		**P**	**S**	**17 24 56.7**	**+1.0**
TOLI2			S		**S**	**S**	**17 26 04.4**	**-4.2**
GAMI	**Galela, Maluku**	**5.21 130**	P		**P**	**S**	**17 24 56.6**	**-0.2**
	36nm114µm53µm3µm,0.7s							
TNTI	**Ternate**	**5.69 141**	P		**P**	**S**	**17 25 01.5**	**+0.4**
TNTI			S		**S**	**S**	**17 26 15.8**	**-2.4**
TNTI	**Ternate**	**5.69 141**	P		**P**	**S**	**17 25 01.4**	**+0.4**
	18nm7µm46µm6µm,1.0s							
JAP	**San Jose, Anti**	**5.77 341**	⇓*e*P		**P**	**S**	**17 25 03.6**	**+1.9**
MPSI	**Mapaga**	**6.25 219**	P		**P**	**S**	**17 25 08.2**	**+1.9**
LUWI	**Luwuk**	**6.33 189**	P		**P**	**S**	**17 25 06.7**	**-0.3**
LUWI	**Luwuk**	**6.33 189**	P		**P**	**S**	**17 25 07.1**	**+0.1**
	16nm9µm45µm4µm,1.2s							
RCP	**Roxas**	**6.37 351**	⇓*e*P		**P**	**S**	**17 25 07.0**	**-0.3**
RCP			*e*S		**S**	**S**	**17 26 28.4**	**-1.4**
APSI	**Ampana**	**6.48 200**	P		**P**	**S**	**17 25 10.3**	**+1.8**
	7.3nm4µm20µm2µm,1.0s							
PPR	**Puerto Princes**	**6.76 312**	⇑*i*P		**P**	**S**	**17 25 13.7**	**+2.6**
PPR			*i*S		**S**	**S**	**17 26 38.8**	**+2.0**
SANI	**Sanana**	**7.56 163**	P		**P**	**S**	**17 25 20.0**	**+0.9**
	22nm10µm75µm6µm,0.9s							
PGP	**Puerto Galera**	**8.68 341**	⇓*i*P		**P**	**S**	**17 25 32.6**	**+2.2**
PGP			*e*S		**S**	**S**	**17 27 12.4**	**+0.2**
GQP	**Guinayangan**	**8.71 351**	⇓*e*P		**P**	**S**	**17 25 32.2**	**+1.5**
TTSI	**Tana Toraja**	**9.15 206**	P		**P**	**S**	**17 25 37.5**	**+2.2**
	4µm15µm2µm,1.1s							
KDI	**Kendari**	**9.21 187**	P		**P**	**S**	**17 25 37.8**	**+1.8**
MMSI	**Mamuju**	**9.28 212**	P		**P**	**S**	**17 25 38.5**	**+1.9**
	3µm296nm,1.5s							
BKB	**Balikpapan**	**9.46 227**	P		**P**	**S**	**17 25 40.8**	**+2.3**
BKB	**Balikpapan**	**9.46 227**	P		**P**	**S**	**17 25 39.8**	**+1.3**
	3µm12µm1µm,1.0s							
KKSI	**Kolaka, Sulawe**	**9.60 193**	P		**P**	**S**	**17 25 41.2**	**+1.3**
	10µm682nm,1.4s							
SWI	**Sorong**	**9.60 129**	P		**P**	**S**	**17 25 41.7**	**+1.7**
	3µm9µm807nm,1.3s							
SIJI	**Sorong**	**9.61 129**	P		**P**	**S**	**17 25 41.0**	**+1.0**
	34nm,0.3s,baz=326,slow=7.9,SNR=103							
SIJI			S		**S**	**S**	**17 27 30.6**	**+0.7**
	baz=129,slow=21,SNR=8.4							
SIJI			ScP		**ScP**	**ScP**	**17 33 42.5**	**-1.0**
	baz=41,slow=5.8,SNR=5.0							
SIJI	**Sorong**	**9.61 129**	P		**P**	**S**	**17 25 40.7**	**+0.6**
	5µm419nm,1.2s							
KRAI	**Karang Ratu**	**9.66 152**	P		**P**	**S**	**17 25 43.2**	**+2.6**
	25µm2µm,1.1s							
MSAI	**Masohi**	**9.95 149**	P		**P**	**S**	**17 25 46.4**	**+2.8**
	3µm446nm,0.9s							
PMSI	**Majene**	**9.97 209**	P		**P**	**S**	**17 25 45.1**	**+1.3**
	3µm196nm,1.3s							
BNSI	**Bone**	**10.27 201**	P		**P**	**S**	**17 25 49.2**	**+2.3**
	21µm1µm,1.6s							
MTKI	**Muara Teweh, K**	**10.82 236**	P		**P**	**S**	**17 25 54.6**	**+1.9**
	2µm188nm,1.1s							
KAPI	**Kappang**	**10.96 202**	P		**P**	**S**	**17 25 54.6**	**+0.4**
	19nm,0.3s,baz=45,slow=3.6,SNR=67							
KAPI			S		**S**	**S**	**17 27 56.8**	**+1.1**
	1.5nm,0.3s,baz=183,slow=23,SNR=9.1							
KAPI	**Kappang**	**10.96 202**	P		**P**	**S**	**17 25 53.7**	**-0.5**
KAPI	**Kappang**	**10.96 202**	P		**P**	**S**	**17 25 55.1**	**+0.9**
	6µm700nm,1.1s							
BKSI	**Bulukumba**	**11.12 199**	P		**P**	**S**	**17 25 57.8**	**+2.0**
	2µm3µm268nm,0.8s							
MKS	**Makassar**	**11.26 203**	P		**P**	**S**	**17 26 00.5**	**+3.2**
	6µm310nm,1.4s							
KBKI	**Kotabaru**	**11.41 222**	P		**P**	**S**	**17 26 02.1**	**+3.2**
	2µm155nm,1.2s							
BNDI	**Bandanaira**	**11.45 148**	P		**P**	**S**	**17 26 01.0**	**+1.7**
	6µm29µm3µm,1.0s							
FAKI	**Fak Fak**	**11.70 134**	P		**P**	**S**	**17 26 03.2**	**+1.4**
FAKI	**Fak Fak**	**11.70 134**	P		**P**	**S**	**17 26 03.4**	**+1.5**
	2µm8µm824nm,1.0s							
BSSI	**Bau Bau, Buton**	**11.79 196**	P		**P**	**S**	**17 26 04.9**	**+2.1**
	2µm159nm,1.2s							
PKKI	**Palangkaraya**	**12.32 233**	P		**P**	**S**	**17 26 09.8**	**+1.4**
	5µm553nm,0.9s							
BBKI	**Banjar Baru**	**12.45 226**	P		**P**	**S**	**17 26 13.4**	**+3.6**
	80nm,1.1s							
STKI	**Sintang**	**13.35 248**	P		**P**	**S**	**17 26 21.0**	**+1.9**
	2µm122nm,1.1s							
BAKI	**Biak**	**13.85 117**	P		**P**	**S**	**17 26 26.4**	**+2.0**
	8µm928nm,1.1s							
MMRI	**Maumere**	**13.88 186**	P		**P**	**S**	**17 26 25.1**	**+0.4**
MMRI	**Maumere**	**13.88 186**	P		**P**	**S**	**17 26 25.9**	**+1.3**
	3µm5µm402nm,1.7s							
EDFI	**Ende, Flores**	**14.06 189**	P		**P**	**S**	**17 26 26.1**	**-0.6**
	2µm1µm67nm,0.9s							
LBFI	**Labuhan Bajo,**	**14.18 196**	P		**P**	**S**	**17 26 28.2**	**+0.4**
	1µm3µm251nm,1.1s							
SRPI	**Serui, Papua**	**14.29 119**	P		**P**	**S**	**17 26 30.1**	**+1.2**
	672nm3µm189nm,0.7s							
PBKI	**Pangkalan Bun**	**14.47 237**	P		**P**	**S**	**17 26 32.7**	**+1.8**
	210nm,1.2s							
SOEI	**Soe**	**14.91 178**	P		**P**	**S**	**17 26 35.5**	**-0.1**
SOEI	**Soe**	**14.91 178**	P		**P**	**S**	**17 26 36.3**	**+0.8**
	3µm5µm257nm,0.8s							
SAUI	**Saumlaki**	**15.11 150**	P		**P**	**S**	**17 26 37.6**	**+0.1**
SAUI	**Saumlaki**	**15.11 150**	P		**P**	**S**	**17 26 38.1**	**+0.5**
	485nm,0.9s							
PLAI	**Plampang**	**15.22 203**	P		**P**	**S**	**17 26 40.5**	**+1.9**
	1µm2µm160nm,1.0s							
BATI	**Baumata**	**15.35 181**	P		**P**	**S**	**17 26 40.4**	**+0.3**
	99nm,0.3s,baz=209,slow=0.5,SNR=64							
BATI			S		**S**	**S**	**17 29 18.9**	**-0.5**
	13nm,0.3s,baz=56,slow=23,SNR=11							
BATI			ScP		**ScP**	**ScP**	**17 33 53.0**	**+0.6**
	3.9nm,0.3s,baz=332,slow=1.7,SNR=6.0							
BATI	**Baumata**	**15.35 181**	P		**P**	**S**	**17 26 40.3**	**+0.3**
	6µm763nm,0.9s							
PTKI	**Pontianak**	**15.35 250**	P		**P**	**S**	**17 26 42.0**	**+2.0**
	267nm,0.8s							
WBSI	**Waikabubak, Su**	**15.43 197**	P		**P**	**S**	**17 26 41.4**	**+0.5**
	2µm113nm,0.9s							
TWSI	**Taliwang, Sumb**	**15.51 206**	P		**P**	**S**	**17 26 41.9**	**+0.2**
	550nm824nm74nm,1.2s							
KMMI	**Kalianget**	**15.67 219**	P		**P**	**S**	**17 26 43.1**	**-0.2**
	118nm,0.7s							
SRBI	**Singaraja**	**15.77 213**	P		**P**	**S**	**17 26 45.9**	**+1.5**
	1µm102nm,1.2s							
DNP	**Denpasar**	**16.27 212**	P		**P**	**S**	**17 26 53.0**	**+3.6**
	15µm231nm,0.6s							
BYJI	**Banyuwangi**	**16.36 215**	P		**P**	**S**	**17 26 53.1**	**+2.8**
	9µm148nm,1.0s							
SMPI	**Sarmi**	**16.53 115**	P		**P**	**S**	**17 26 52.8**	**+0.9**
	2µm4µm464nm,1.1s							
JAGI	**Jajag, Banyuwa**	**16.68 215**	P		**P**	**S**	**17 26 53.6**	**+0.2**
JAGI			IAmb		IAmb	IAmb	17 26 56.6	
	comp=Z,79nm,0.8s							
JAGI	**Jajag, Banyuwa**	**16.68 215**	P		**P**	**S**	**17 26 55.0**	**+1.6**
	comp=Z,2µmcomp=Z,115nm,0.9s							
GMJI	**Gumukmas**	**16.95 218**	P		**P**	**S**	**17 26 58.2**	**+2.3**
	comp=Z,33nm,0.8s							
KRKI	**Karangkates**	**17.48 220**	P		**P**	**S**	**17 27 04.0**	**+3.1**
	comp=Z,8µmcomp=Z,169nm,0.7s							
SJI	**Sawahan**	**17.62 223**	P		**P**	**S**	**17 27 04.5**	**+2.2**
	comp=Z,2µmcomp=Z,56nm,0.8s							
TWG	**Pinlang**	**17.68 352**	P		**P**	**S**	**17 27 01.7**	**-0.8**
TWG			S		**S**	**S**	**17 29 58.9**	**+0.1**
GENI	**Genyem**	**18.10 115**	P		**P**	**S**	**17 27 08.2**	**+1.6**
	comp=Z,5µmcomp=Z,21µmcomp=Z,1µm,1.6s							
YULB	**Yu-li**	**18.21 353**	P		**P**	**S**	**17 27 06.9**	**-0.6**
TPUB	**Ta-pu**	**18.21 351**	P		**P**	**S**	**17 27 08.0**	**+0.5**
PCJI	**Pacitan**	**18.36 223**	P		**P**	**S**	**17 27 10.5**	**+1.6**
	comp=Z,40nm,1.5s							
JAY	**Jayapura**	**18.55 114**	P		**P**	**S**	**17 27 11.6**	**+0.8**
	comp=Z,9.1nm,0.3s,baz=246,slow=7.3,SNR=77							
JAY	**Jayapura**	**18.55 114**	P		**P**	**S**	**17 27 12.0**	**+1.2**
	comp=Z,1µmcomp=Z,3µmcomp=Z,206nm,1.5s							
UGM	**Wanagama**	**18.61 226**	P		**P**	**S**	**17 27 10.7**	**-0.6**
SSLB	**Suanglung**	**18.64 352**	P		**P**	**S**	**17 27 11.2**	**-0.3**
NACB	**Ninganchiao**	**18.94 354**	P		**P**	**S**	**17 27 13.9**	**-0.2**
NACB						**S**	**17 30 22.1**	**+2.8**
PPBI	**Pangkal Pinang**	**19.12 248**	P		**P**	**S**	**17 27 18.0**	**+2.1**
	comp=Z,5µmcomp=Z,53nm,0.8s							
YOJ	**Yonaguni jima**	**19.12 358**	P		**P**	**S**	**17 27 17.4**	**+1.6**
YOJ			pmax		pmax	pmax		
	comp=Z,2µm,0.8s							
YOJ	**Yonaguni jima**	**19.12 358**	P		**P**	**S**	**17 27 17.4**	**+1.6**
QIZ	**Qiongzhong**	**19.32 316**	P		**P**	**S**	**17 27 19.0**	**+1.4**
QIZ			S		**S**	**S**	**17 30 28.0**	**+2.4**
QIZ			pmax		pmax	pmax		
	comp=Z,150nm,0.9s							
QIZ			pmax		pmax	pmax		
	comp=Z,970nm,2.9s							
QIZ	**Qiongzhong**	**19.32 316**	P		**P**	**S**	**17 27 18.4**	**+0.8**
MTN	**Manton Dam**	**19.39 158**	P		**P**	**S**	**17 27 18.4**	**+0.2**
	baz=19,SNR=517							
MTN	**Manton Dam**	**19.39 158**	P		**P**	**S**	**17 27 18.1**	**-0.2**
KPJI	**Karang Pucung**	**19.40 230**	P		**P**	**S**	**17 27 20.7**	**+2.3**
	comp=Z,38nm,0.7s							
YHNB	**Yeheng**	**19.46 353**	P		**P**	**S**	**17 27 19.1**	**+0.2**
MCO	**Taipa Grande**	**19.49 330**	P		**P**	**S**	**17 27 21.0**	**+1.8**
TATO	**Taipei**	**19.75 354**	P		**P**	**S**	**17 27 21.6**	**+0.2**
KDU	**Kakadu**	**19.78 154**	P		**P**	**S**	**17 27 22.0**	**+0.1**
	baz=20,SNR=106							
KNMB	**Chin-men Tao**	**19.81 345**	P		**P**	**S**	**17 27 23.0**	**+1.0**
LEM	**Lembang**	**20.12 234**	P		**P**	**S**	**17 27 26.7**	**+1.5**
	comp=Z,42nm,0.9s,baz=350,slow=22,SNR=8.5							
LEM	**Lembang**	**20.12 234**	P		**P**	**S**	**17 27 27.2**	**+2.0**
	comp=Z,28nm,0.9s							
QZH	**Quanzhou**	**20.22 346**	⇓*i*P		**P**	**S**	**17 27 27.0**	**+1.3**
QZH			S		**S**	**S**	**17 30 41.0**	**+1.2**
QZH			pmax		pmax	pmax		
	comp=Z,360nm,1.3s							
QZH			pmax		pmax	pmax		
	comp=Z,860nm,4.5s							
BTDF	**Bukit Timah Da**	**20.37 260**	P		**P**	**S**	**17 27 30.4**	**+3.2**
	comp=Z,24nm,0.8s							
CISI	**Cisompet, Garu**	**20.40 232**	P		**P**	**S**	**17 27 26.9**	**-0.7**
CBJI	**Citeko**	**20.51 236**	P		**P**	**S**	**17 27 32.4**	**+3.9**
	comp=Z,72nm,1.2s							
UBPT	**Khong Chiam**	**20.60 300**	P		**P**	**S**	**17 27 30.6**	**+1.3**
	comp=Z,3µmcomp=Z,318nm,1.2s							
UBPT	**Khng Chiam**	**20.60 300**	P		**P**	**S**	**17 27 30.7**	**+1.3**
	comp=Z,3µmcomp=Z,318nm,1.2s							
UBPT	**Khong Chiam**	**20.60 300**	P		**P**	**S**	**17 27 29.5**	**+0.2**
UBPT	**Khong Chiam**	**20.60 300**	P		**P**	**S**	**17 27 30.6**	**+1.3**
	comp=Z,3µmcomp=Z,304nm,1.2s							
SBJI	**Serang**	**20.95 238**	P		**P**	**S**	**17 27 35.3**	**+2.8**
	comp=Z,86nm,0.6s							
SKJI	**Sukabumi**	**21.08 235**	P		**P**	**S**	**17 27 34.8**	**+1.1**
JMBI	**JAMBI**	**21.27 252**	P		**P**	**S**	**17 27 38.1**	**+2.7**
BLSI	**Bandar Lampung**	**21.32 241**	P		**P**	**S**	**17 27 38.6**	**+2.7**
	comp=Z,61nm,0.4s							
KNRA	**Kununurra**	**21.36 167**	P		**P**	**S**	**17 27 36.7**	**+0.6**
	baz=21,SNR=49							
KNRA	**Kununurra**	**21.36 167**	P		**P**	**S**	**17 27 35.8**	**-0.3**
MDSI	**Maura Dua**	**21.86 244**	P		**P**	**S**	**17 27 42.7**	**+2.0**
	comp=Z,15nm,0.8s							
JOW	**Kunigami**	**21.89 11**	P		**P**	**S**	**17 27 40.9**	**+0.1**
KASI	**Kota Agung**	**22.05 241**	P		**P**	**S**	**17 27 44.0**	**+1.6**
	comp=Z,34nm,1.2s							
LHSI	**Lahat**	**22.18 246**	P		**P**	**S**	**17 27 45.6**	**+2.0**
	comp=Z,969nmcomp=Z,100nm,0.9s							
LWLI	**Liwa**	**22.20 243**	P		**P**	**S**	**17 27 45.8**	**+1.9**
	comp=Z,2µmcomp=Z,135nm,0.9s							
GUMO	**Guam**	**22.35 67**	P		**P**	**S**	**17 27 45.6**	**+0.5**
	comp=Z,308nm,0.8s,baz=192,slow=10,SNR=17							
GUMO	**Guam**	**22.35 67**	P		**P**	**S**	**17 27 44.1**	**-1.0**
GUMO	**Guam**	**22.35 67**	P		**P**	**S**	**17 27 45.2**	**+0.1**
	comp=Z,470nm,0.9s							
KSI	**Kapahiang**	**22.96 248**	P		**P**	**S**	**17 27 52.2**	**+1.5**
MASI	**Maura Aman, Be**	**23.10 249**	P		**P**	**S**	**17 27 53.6**	**+1.7**
	comp=Z,74nm,1.0s							
SKLT	**Songkhla**	**23.13 276**	P		**P**	**S**	**17 27 54.1**	**+2.0**
	comp=Z,1µmcomp=Z,104nm,1.2s							
SKLT	**Songkhla**	**23.13 276**	P		**P**	**S**	**17 27 54.2**	**+2.1**
	comp=Z,1µmcomp=Z,104nm,1.2s							
SRAK	**Srakaew**	**23.14 294**	P		**P**	**S**	**17 27 48.3**	**-3.9**
FITZ	**Fitzroy Crossi**	**23.26 176**	P		**P**	**S**	**17 27 53.4**	**+0.3**
	baz=23,SNR=127							
FITZ	**Fitzroy Crossi**	**23.26 176**	P		**P**	**S**	**17 27 53.6**	**+0.4**
	comp=Z,8.1nm,0.3s,baz=2.1,slow=8.9,SNR=146							
FITZ			ScP		**ScP**	**ScP**	**17 34 09.2**	**-1.3**
	comp=Z,6.2nm,0.5s,baz=348,slow=5.9,SNR=7.7							
FITZ	**Fitzroy Crossi**	**23.26 176**	P		**P**	**S**	**17 27 52.9**	**-0.3**
FITZ			IAmb		IAmb	IAmb	17 27 54.7	
	comp=Z,40nm,1.2s							
UBSI	**University, Be**	**23.30 248**	P		**P**	**S**	**17 27 54.6**	**+1.0**
	comp=Z,117nm,0.8s							
NONG	**Nongkai**	**23.88 304**	P		**P**	**S**	**17 28 00.6**	**+1.9**
	comp=Z,32nm,1.3s							
NONG	**Nongkai**	**23.88 304**	P		**P**	**S**	**17 28 00.6**	**+1.9**
	comp=Z,32nm,1.3s							
CHAI	**Chaiyaphum**	**23.90 298**	P		**P**	**S**	**17 28 00.0**	**+1.1**
	comp=Z,3µmcomp=Z,424nm,0.9s							
CHAI	**Chaiyaphum**	**23.90 298**	P		**P**	**S**	**17 28 00.0**	**+1.1**
	comp=Z,822nmcomp=Z,106nm,0.9s							
TRTT	**Trang**	**24.10 277**	P		**P**	**S**	**17 28 02.4**	**+1.7**
	comp=Z,2µmcomp=Z,68nm,1.2s							
TRTT	**Trang**	**24.10 277**	P		**P**	**S**	**17 28 02.0**	**+1.3**
	comp=Z,2µmcomp=Z,68nm,1.2s							
PDSI	**Pang**	**24.11 256**	P		**P**	**S**	**17 28 02.4**	**+1.6**
	comp=Z,17nm,0.9s							
ANA2	**Anatahan**	**24.14 61**	P		**P**	**S**	**17 28 02.1**	**+1.1**
SRIT	**Nakonsritamara**	**24.26 279**	P		**P**	**S**	**17 28 02.8**	**+0.7**
SURA	**Surathani**	**24.30 281**	P		**P**	**S**	**17 28 04.6**	**+2.1**
	comp=Z,126nm,1.2s							
SURA	**Surathani**	**24.30 281**	P		**P**	**S**	**17 28 04.0**	**+1.5**
	comp=Z,124nm,1.2s							
MNSI	**Mandailing Nat**	**24.59 260**	P		**P**	**S**	**17 28 06.2**	**+1.1**
	comp=Z,20nm,0.9s							
MANU	**Manus Island**	**24.62 107**	P		**P**	**S**	**17 28 06.5**	**+1.1**
PSI	**Prapat**	**24.94 265**	P		**P**	**S**	**17 28 09.2**	**+0.9**
	comp=Z,27nm,0.9s,baz=80,slow=4.4,SNR=24							
PSI			ScP		**ScP**	**ScP**	**17 34 13.6**	**-2.0**
	comp=Z,2.4nm,0.4s,baz=329,slow=23,SNR=5.6							
PSI	**Prapat**	**24.94 265**	P		**P**	**S**	**17 28 09.6**	**+1.3**
	comp=Z,179nmcomp=Z,20nm,1.1s,comp=Z,448nm,1.1s, comp=Z,51nm,1.1s							
PSI			P		**P**	**S**	**17 28 09.6**	**+1.3**
	comp=Z,179nmcomp=Z,20nm,1.1s,comp=Z,448nm,1.1s, comp=Z,51nm,1.1s							
RPSI	**Rantau Prapat**	**24.95 265**	P		**P**	**S**	**17 28 08.8**	**+0.5**
RPSI			IAmb		IAmb	IAmb	17 28 10.5	
	comp=Z,38nm,0.9s							
RPSI			pP		**pP**	**pP**	**17 29 29.0**	**-5.2**
PHET	**Kaeng Krachan**	**25.05 289**	P		**P**	**S**	**17 28 11.0**	**+2.0**
	comp=Z,2µmcomp=Z,194nm,0.9s							
PHET	**Kaeng Krachan**	**25.05 289**	P		**P**	**S**	**17 28 11.1**	**+2.0**
	comp=Z,388nmcomp=Z,50nm,0.9s							
PBKT	**Sadao Pong**	**25.06 298**	P		**P**	**S**	**17 28 11.9**	**+2.8**
	comp=Z,68nm,1.2s							
PBKT	**Sadao Pong**	**25.06 298**	P		**P**	**S**	**17 28 11.0**	**+1.9**
	comp=Z,68nm,1.2s							
PBKT	**Sadao Pong**	**25.06 298**	P		**P**	**S**	**17 28 10.5**	**+1.4**
	comp=Z,50nm,0.9s							
PBKT	**Sadao Pong**	**25.06 298**	P		**P**	**S**	**17 28 11.9**	**+2.8**
	comp=Z,65nm,1.2s							
SLVN	**Son La**	**25.07 311**	P		**P**	**S**	**17 28 10.4**	**+1.2**
SURT	**Suratani**	**25.09 280**	P		**P**	**S**	**17 28 14.0**	**+4.5**
	comp=Z,3.8nm,1.2s							
SURT	**Suratani**	**25.09 280**	P		**P**	**S**	**17 28 14.0**	**+4.5**
	comp=Z,3.8nm,1.2s							
PKDT	**Phuket**	**25.44 277**	P		**P**	**S**	**17 28 14.9**	**+2.3**
	comp=Z,154nm,1.2s							
PKDT	**Phuket**	**25.44 277**	P		**P**	**S**	**17 28 15.0**	**+2.3**
	comp=Z,154nm,1.2s							
PHIT	**Phitsanulok**	**25.80 299**	P		**P**	**S**	**17 28 17.6**	**+2.0**
	comp=Z,8µmcomp=Z,918nm,1.1s							
PHIT	**Phitsanulok**	**25.80 299**	P		**P**	**S**	**17 28 17.7**	**+2.0**
	comp=Z,2µmcomp=Z,228nm,1.1s							
SSE	**Sheshan**	**25.84 355**	P		**P**	**S**	**17 28 17.5**	**+1.7**
SSE			S		**S**	**S**	**17 32 10.5**	**+2.2**
SSE			pmax		pmax	pmax		
	comp=Z,62nm,0.8s							
UTTA	**Uttaradit**	**25.91 301**	P		**P**	**S**	**17 28 18.4**	**+1.7**
	comp=Z,2µmcomp=Z,182nm,1.1s							
UTTA	**Uttaradit**	**25.91 301**	P		**P**	**S**	**17 28 18.4**	**+1.7**
	comp=Z,422nmcomp=Z,46nm,1.1s							
UTTA	**Uttaradit**	**25.91 301**	P		**ScP**	**S**	**17 34 20.1**	**+2.0**
SRDT	**SRDT**	**25.93 292**	P		**P**	**S**	**17 28 19.0**	**+2.1**
	comp=Z,18µmcomp=Z,163nm,1.3s							
SRDT	**SRDT**	**25.93 292**	P		**P**	**S**	**17 28 19.0**	**+2.1**
	comp=Z,18µmcomp=Z,163nm,1.3s							
SRDT	**SRDT**	**25.93 292**	P		**P**	**S**	**17 28 19.0**	**+2.1**
	comp=Z,17µmcomp=Z,155nm,1.3s							
UTHA	**Uthaitani**	**26.03 295**	P		**P**	**S**	**17 28 19.3**	**+1.5**
	comp=Z,2µmcomp=Z,208nm,0.8s							
UTHA	**Uthaitani**	**26.03 295**	P		**P**	**S**	**17 28 19.4**	**+1.6**
	comp=Z,404nmcomp=Z,52nm,0.8s							
NANT	**Nan**	**26.26 303**	P		**P**	**S**	**17 28 21.8**	**+2.0**
	comp=Z,3µmcomp=Z,368nm,0.8s							
NANT	**Nan**	**26.26 303**	P		**P**	**S**	**17 28 21.0**	**+1.2**
	comp=Z,836nmcomp=Z,92nm,0.8s							
GSI	**Gunungsitoli**	**26.48 262**	P		**P**	**S**	**17 28 21.2**	**-0.5**
GSI			IAmb		IAmb	IAmb	17 28 22.8	
	comp=Z,90nm,0.8s							
GSI			pP		**pP**	**pP**	**17 29 42.6**	**-5.7**
GSI	**Gunungsitoli**	**26.48 262**	P		**P**	**S**	**17 28 21.9**	**+0.1**
	comp=Z,1µmcomp=Z,127nm,0.8s							
KHLT	**Khaolaem Dam**	**26.56 293**	P		**P**	**S**	**17 28 24.7**	**+2.3**
	comp=Z,1µmcomp=Z,96nm,1.0s							
KHLT	**Khaolaem Dam**	**26.56 293**	P		**P**	**S**	**17 28 24.7**	**+2.3**
	comp=Z,1µ

comp=Z,954nmcomp=Z,124nm,1.0s
CM13 Chiang Mai Arr 27.62 300 P ScP 17 34 25.2 +2.0
CMMT Chiang Mai 27.75 301 P P 17 28 34.1 +1.2
comp=Z,3µmcomp=Z,263nm,1.1s
CMMT Chiang Mai 27.75 301 P P 17 28 34.0 +1.2
comp=Z,3µmcomp=Z,263nm,1.1s
CMMT Chiang Mai 27.75 301 P ScP 17 34 24.0 +0.3
CMMT Chiang Mai 27.75 301 P P 17 28 34.1 +1.2
comp=Z,3µmcomp=Z,251nm,1.1s
CM33 Chiang Mai Arr 27.75 301 P P 17 28 34.0 +1.1
CM33 Chiang Mai Arr 27.75 301 P ScP 17 34 24.0 +0.3
CHTO Chiang Mai Arr 27.75 301 P P 17 28 34.3 +1.4
CHTO pmax pmax
comp=Z,215nm,1.0s
CHTO Chiang Mai 27.75 301 P P 17 28 34.3 +1.4
comp=Z,3µmcomp=Z,265nm,1.1s
CHTO Chiang Mai 27.75 301 P P 17 28 34.3 +1.4
CHTO Chiang Mai 27.75 301 P P 17 28 34.7 +1.8
CHTO Chiang Mai 27.75 301 P P 17 28 34.3 +1.4
comp=Z,2µmcomp=Z,149nm,1.1s
CM32 Chiang Mai Arr 27.77 301 P P 17 28 35.0 +2.0
JCJ Chichijima 27.91 37 P P 17 28 34.4 +0.2
comp=Z,184nm,0.7s,baz=263,slow=1.4,SNR=6.6
JCJ S S 17 32 36.8 -4.2
comp=Z,584nm,0.7s,baz=312,slow=22,SNR=25
JCJ Chichijima 27.91 37 P P 17 28 34.0 -0.2
KMI Kunming 28.27 317 ⇓P P 17 28 40.3 +2.7
KMI sP sP 17 31 04.3 -1.6
KMI S S 17 32 49.5 +2.5
KMI ScP ScP 17 34 26.0 +0.5
KMI ScS ScS 17 38 21.3 +1.4
KMI pmax pmax
comp=Z,280nm,1.3s
KMI pmax pmax
comp=Z,930nm,3.5s
ENH Enshi 28.32 333 P P 17 28 38.2 +0.5
MHMT Maesarieng 28.36 299 P P 17 28 40.2 +2.0
comp=Z,4µmcomp=Z,383nm,1.2s
MHMT Maesarieng 28.36 299 P P 17 28 40.3 +2.0
JNU Nakatsue 28.51 12 P P 17 28 39.8 +0.4
comp=Z,83nm,0.8s,baz=157,slow=3.1,SNR=31
JNU Nakatsue 28.51 12 P P 17 28 38.6 -0.7
JNU IAmb IAmb 17 28 41.5
comp=Z,77nm,0.8s
GIRL Giralia 29.25 198 P P 17 28 47.4 +1.5
GIRL Giralia 29.25 198 P P 17 28 46.7 +0.8
BOSB Boseong-gun 29.54 6 P P 17 28 48.4 +0.2
SNR=24
JTU Tsushima 29.59 9 P P 17 28 49.1 +0.4
JTU IAmb IAmb 17 28 51.9
comp=Z,64nm,0.9s
RABL Rabaul 29.83 108 P P 17 28 52.3 +1.2
RABL Rabaul 29.83 108 P P 17 28 53.6 +2.5
JMN Monobe 29.85 17 P P 17 28 51.6 +0.6
QIS Mount Isa 29.97 149 P P 17 28 52.8 +0.6
baz=30,SNR=99
AS31 Alice Springs 30.37 161 P P 17 28 55.9 +0.3
AS31 pP pP 17 30 19.6 -3.7
ASAR Alice Springs 30.37 161 P P 17 28 56.4 +0.7
comp=Z,47nm,0.6s,baz=343,slow=7.3,SNR=996
ASAR PcP PcP 17 31 39.8 +0.5
comp=Z,8.5nm,0.6s,baz=345,slow=2.9,SNR=5.5
ASAR S S 17 33 16.9 -2.3
comp=Z,22nm,1.1s,baz=332,slow=21,SNR=8.1
ASAR ScP ScP 17 34 30.9 -1.2
comp=Z,8.4nm,0.4s,baz=340,slow=3.2,SNR=16
ASAR Alice Springs 30.37 161 P P 17 28 55.9 +0.3
ASAR 17 31 39.8
ASAR Alice Springs 30.37 161 P P 17 28 55.9 +0.3
ASAR pP pP 17 30 19.3 -4.0
ASPA Alice Springs 30.37 161 P P 17 28 56.4 +0.8
baz=30
WRKA Warakurna 30.41 172 P P 17 28 56.8 +0.8
baz=30,SNR=368
MTSU Mount Surprise 30.80 139 P P 17 29 00.2 +0.8
baz=31,SNR=29
JHS Saijyo 30.84 15 P P 17 29 00.2 +0.8
TJN Taejon 31.16 6*ce*P P 17 29 02.4 +0.3**
PBA Port Blair 31.36 284 P P 17 29 04.5 +0.3
PBA IAmb IAmb 17 29 18.2
comp=Z,173nm,1.2s
TIA Tai'an 31.43 350 P P 17 29 05.5 +1.0
TIA S S 17 33 35.3 +0.3
TIA pmax pmax
comp=Z,150nm,0.8s
TIA pmax pmax
comp=Z,530nm,3.6s
JHJ Hachijo jima 2 31.48 26 S S 17 33 34.0 -1.9
comp=Z,166nm,0.9s,baz=210,slow=22,SNR=6.1
JHJ2 Mitsune 31.49 26 P P 17 29 05.3 +0.3
KSMGY Mungyeong 31.51 7 P P 17 29 06.0 +0.9
SNR=10.0
CD2 Chengdu 31.74 326 P P 17 29 08.5 +1.2
CD2 S S 17 33 37.0 -3.0
CD2 pmax pmax
comp=Z,530nm,1.2s
JWT Wachi 31.75 18 P P 17 29 08.0 +0.7
JWT IAmb IAmb 17 29 11.4
comp=Z,70nm,0.8s
JWT pP pP 17 30 35.8 -0.4
XAN Xi'an 31.81 336 P P 17 29 08.8 +0.9
XAN S S 17 33 41.3 +0.2
XAN SS SS 17 36 26.5 -25
XAN pmax pmax
comp=Z,450nm,1.3s
MEEK Meekatharra 32.09 189 P P 17 29 10.4 +0.2
baz=32,SNR=75
JSG Sagara 32.17 23 P P 17 29 11.8 +1.0
JSG IAmb IAmb 17 29 12.8
comp=Z,114nm,0.8s
INCN Inchon 32.19 4 P P 17 29 11.3 +0.3
INCN pmax pmax
comp=Z,37nm,0.9s
INCN Inchon 32.19 4 P P 17 29 11.3 +0.3
INCN IAmb IAmb 17 29 14.5
comp=Z,37nm,0.9s
KSAR Wonju Array Be 32.27 6 P P 17 29 12.7 +1.1
KSAR pP pP 17 30 38.4 -2.4
KSRS Korea Array 32.28 6 P P 17 29 12.8 +1.2
comp=Z,28nm,0.9s,baz=186,slow=9.9,SNR=107
KSRS PcP PcP 17 31 45.4 +1.2
comp=Z,1.1nm,0.5s,baz=183,slow=2.6,SNR=5.4
KSRS ScP ScP 17 34 38.1 -0.1
comp=Z,5.4nm,0.9s,baz=184,slow=4.1,SNR=7.2
KS19 Wonju Array Si 32.32 6 P P 17 29 12.2 +0.1
KS19 IAmb IAmb 17 29 14.3
comp=Z,238nm,1.9s
KS19 pP pP 17 30 39.5 -1.7
INU Inuyama 32.34 20 P P 17 29 12.2 -0.1
INU IAmb IAmb 17 29 13.9
comp=Z,72nm,0.9s
DACB Daecheong-do R 32.45 1 P P 17 29 14.6 +1.5
SNR=19
KSCHC Chuncheon 32.59 6 P P 17 29 16.0 +1.7
SNR=8.6
KSBAR Backryungdo 32.59 1 P P 17 29 16.4 +2.1
SNR=18
JGF Kuroka 32.69 21 P P 17 29 15.1 -0.2
JGF IAmb IAmb 17 29 19.5
comp=Z,43nm,1.2s
JGF pP pP 17 30 41.5 -3.2
CTA Charters Tower 33.47 139 P P 17 29 23.4 +1.3
comp=Z,94nm,1.0s,baz=322,slow=11,SNR=54
CTA ScP ScP 17 34 44.2 +1.4
comp=Z,11nm,0.8s,baz=286,slow=4.1,SNR=5.6
CTAO Charters Tower 33.47 139 P P 17 29 23.2 +1.1
CTAO pmax pmax
comp=Z,120nm,1.0s
CTAO Charters Tower 33.47 139 P P 17 29 23.2 +1.1
CTAO IAmb IAmb 17 29 24.8
comp=Z,120nm,0.9s
DL2 Dalian 33.57 357 P P 17 29 23.3 +0.7
DL2 pP pP 17 30 57.3 +4.9
DL2 S S 17 34 06.5 -1.0
DL2 pmax pmax
comp=Z,330nm,0.9s
DL2 pmax pmax
comp=Z,190nm,4.7s
MAJO Matsushiro 33.84 21*d i*P P 17 29 24.5 -0.5**
MAJO Matsushiro 33.84 21 P P 17 29 23.7 -1.2
MAJO IAmb IAmb 17 29 25.8
comp=Z,72nm,0.9s
MAT Matsushiro 33.84 21 P P 17 29 24.3 -0.7
MAT S S 17 34 07.1 -4.6

MJAR Matsushiro Arr 33.84 21 P P 17 29 23.9 -1.0
comp=Z,61nm,1.0s,baz=187,slow=9.2,SNR=166
MJAR S S 17 34 07.7 -4.0
comp=Z,21nm,1.2s,baz=174,slow=14,SNR=10
MJAR ScP ScP 17 34 43.9 +0.1
comp=Z,20nm,1.1s,baz=212,slow=5.7,SNR=7.2
MJAR Matsushiro Arr 33.84 21 P P 17 29 23.4 -1.5
MJAR IAmb IAmb 17 29 25.8
comp=Z,59nm,0.9s
MJB9 Matsu-Tunnel 33.84 21 P P 17 29 25.1 +0.1
TIY Taiyuan 33.95 344 ⇓P P 17 29 27.3 +1.4
TIY PP PP 17 31 06.0 -2.9
TIY sP PcP 17 31 51.0 +1.8
TIY S S 17 34 14.3 +0.9
TIY pmax pmax
comp=Z,860nm,0.9s
JYT Yasato 34.32 24 P P 17 29 27.2 -1.7
JYT pP pP 17 30 58.0 -1.2
PATS Pohnpei 34.34 86 P P 17 29 31.7 +2.2
baz=34,SNR=6.3
PATS Pohnpei 34.34 86 P P 17 29 30.5 +1.0
MORW Morawa 34.92 192 P P 17 29 34.6 +0.5
baz=35,SNR=75
MORW Morawa 34.92 192 P P 17 29 33.3 -0.8
MORW IAmb IAmb 17 29 35.4
comp=Z,38nm,0.4s
MORW pP pP 17 31 00.6 -3.5
JSD Sado 35.20 20 P P 17 29 35.6 -0.6
JSD IAmb IAmb 17 29 39.0
comp=Z,95nm,1.0s
JSD pP pP 17 31 07.0 0.0
BJT Baijiatuau 35.30 350 P P 17 29 37.8 +0.7
BJT *PP pP 17 31 09.0 +1.2
BJT pmax pmax
comp=Z,281nm,1.1s
BJT Baijiatuau 35.30 350 P P 17 29 37.8 +0.7
BJT pP 17 31 09.0 +1.2
BJI Beijing 35.32 350 P P 17 29 38.3 +1.1
BJI PP PP 17 31 15.3 -1.6
BJI PcP PcP 17 31 55.3 +2.3
BJI S S 17 34 33.3 -0.6
BJI pmax pmax
comp=Z,310nm,1.1s
BJI pmax pmax
comp=Z,920nm,3.5s
LZH Lanzhou 35.77 332 ⇓P P 17 29 43.5 +2.2
LZH S S 17 34 43.0 +1.9
LZH PcS PcS 17 35 43.5 +0.4
LZH pmax pmax
comp=Z,200nm,1.4s
LZH pmax pmax
comp=Z,350nm,5.4s
JMM Marumori 35.97 23 P P 17 29 43.2 +0.5
FORT Forrest 36.05 174 P P 17 29 44.5 +1.1
baz=36,SNR=28
FORT Forrest 36.05 174 P P 17 29 44.1 +0.6
FORT pwP 17 31 18.2 +0.1
BLDU Ballidu 36.30 190 P P 17 29 45.8 +0.3
baz=36,SNR=20
SNY Shenyang 36.43 360 ⇓P P 17 29 47.0 +0.6
SNY S S 17 34 50.0 -0.4
SNY pmax pmax
comp=Z,78nm,1.1s
SNY pmax pmax
comp=Z,580nm,2.8s
SHL Shillong 36.64 307 P P 17 29 49.5 +0.8
SHL pmax pmax
comp=Z,482nm,0.9s
SHL Shillong 36.64 307 P P 17 29 49.5 +0.8
SHL Shillong 36.64 307 P P 17 29 50.0 +1.3
SNR=131
HHC Hu-ho-hao-te 37.12 345 *e*P P 17 29 54.0 +1.8
HHC PP PP 17 31 33.5 -0.1
HHC S S 17 35 03.5 +2.6
HHC pmax pmax
comp=Z,200nm,0.9s
HHC pmax pmax
comp=Z,310nm,6.2s
QLP Quilpie 37.31 149 P P 17 29 54.8 +0.9
baz=37,SNR=46
BTO Baotou 37.33 343 *e*P P 17 29 55.8 +1.8
BTO S S 17 35 09.8 +5.8
MUN Mundaring 37.72 191 P P 17 29 57.8 +0.7
baz=38,SNR=13
MSHR Mys Shultsa 37.75 9*ce*P P 17 29 58.6 +1.4**
MSHR pmax pmax
comp=Z,98nm,0.9s
VLA Vladivostok 38.39 10*d i*P P 17 30 03.3 +0.8**
VLA pmax pmax
comp=Z,63nm,1.0s
CN2 Changchun 38.43 2 *e*P P 17 30 02.5 -0.3
CN2 PP PP 17 31 44.8 -2.5
CN2 ScP ScP 17 35 00.8 +0.1
CN2 S S 17 35 24.5 +4.5
CN2 SS SS 17 38 31.3 -8.0
CN2 pmax pmax
comp=Z,300nm,5.0s
NWAO Narrogin (SRO) 38.47 189 P P 17 30 04.2 +0.9
baz=39,SNR=40
NWAO Narrogin (SRO) 38.47 189 P P 17 30 04.2 +0.9
comp=Z,20nm,0.3s,baz=29,slow=8.2,SNR=64
NWAO Narrogin (SRO) 38.47 189 P P 17 30 03.9 +0.6
NWAO IAmb IAmb 17 30 05.0
comp=Z,35nm,0.8s
JTM Tenmabayashi 38.63 21 P P 17 30 02.6 -1.8
HNR Honiara 38.85 112 P P 17 30 06.9 +0.3
comp=Z,101nm,0.7s,baz=198,slow=2.7,SNR=7.9
HNR Honiara 38.85 112 P P 17 30 06.3 -0.3
HNR Honiara 38.85 112 P P 17 30 07.5 +0.8
LSA Lhasa 39.27 312 P P 17 30 12.8 +2.4
LSA S S 17 35 34.5 +0.8
LSA Lhasa 39.27 312 *i* P P 17 30 12.7 +2.4**
SNR=79
LSA Lhasa 39.27 312 P P 17 30 11.9 +1.5
LSA pmax pmax
comp=Z,944nm,1.8s
LSA Lhasa 39.27 312 P P 17 30 11.8 +1.5
LSA Lhasa 39.27 312 P P 17 30 12.7 +2.4
USA0B Ussuriysk Arra 39.46 9*d i*P P 17 30 12.1 +1.0**
USA0B Ussuriysk Arra 39.46 9 P P 17 30 11.6 +0.5
USA0B IAmb IAmb 17 30 14.6
comp=Z,89nm,0.9s
USA0B pP pP 17 31 44.3 0.0
USRK Ussuriysk Ar. 39.46 9 P P 17 30 12.0 +0.9
comp=Z,86nm,0.9s,baz=194,slow=7.5,SNR=100
USRK Ussuriysk Ar. 39.46 9 P P 17 30 11.6 +0.5
MDJ Mudanjiang 39.54 6 P P 17 30 12.8 +1.0
MDJ sP sP 17 32 43.0 -1.8
MDJ S S 17 35 34.0 -2.3
MDJ pmax pmax
comp=Z,96nm,0.8s
MDJ pmax pmax
comp=Z,420nm,4.4s
MDJ Mudanjiang 39.54 6 P P 17 30 12.5 +0.7
MDJ IAmb IAmb 17 30 15.2
comp=Z,86nm,0.9s
BBOO Buckleboo 39.59 164 P P 17 30 13.2 +0.9
baz=40,SNR=100
BBOO Buckleboo 39.59 164 P P 17 30 12.8 +0.5
BBOO IAmb IAmb 17 30 14.6
comp=Z,110nm,0.9s
BBOO pP pP 17 31 44.3 -0.6
RMQ Roma 39.74 144 P P 17 30 14.9 +1.3
baz=40,SNR=34
GTA Gaotai 40.34 331 ⇓P P 17 30 20.0 +1.6
GTA ScP ScP 17 35 07.8 -0.7
GTA S S 17 35 49.5 +1.1
GTA SS SS 17 39 09.3 -2.3
GTA pmax pmax
comp=Z,250nm,0.8s
GTA pmax pmax
comp=Z,670nm,4.2s
EIDS Eidsvold 40.35 140 P P 17 30 19.1 +0.5
baz=40,SNR=57
EIDS Eidsvold 40.35 140 P P 17 30 18.8 +0.3
ERM Erimo 40.47 22 P P 17 30 20.0 +0.8
ERM pmax pmax
comp=Z,44nm,1.1s
ERM Erimo 40.47 22 P P 17 30 20.0 +0.8
ERM IAmb IAmb 17 30 29.4
comp=Z,44nm,1.1s
JEW Eniwo 40.58 20 P P 17 30 21.4 +1.3
STKA Stephens Creek 40.62 156 P P 17 30 21.8 +1.2
baz=41,SNR=109

STKA Stephens Creek 40.62 156 P P 17 30 21.8 +1.2
comp=Z,90nm,0.7s,baz=329,slow=8.4,SNR=259
STKA PcP PP 17 32 08.6 -0.9
comp=Z,33nm,1.1s,baz=324,slow=10,SNR=5.8
STKA ScP ScP 17 35 08.8 -0.7
comp=Z,14nm,0.9s,baz=329,slow=6.6,SNR=4.3
STKA S S 17 35 53.1 +0.8
comp=Z,34nm,1.2s,baz=159,slow=16,SNR=8.1
STKA Stephens Creek 40.62 156 P P 17 30 21.3 +0.7
STKA pmax pmax
comp=Z,25nm,0.9s
STKA Stephens Creek 40.62 156 P P 17 30 21.3 +0.7
STKA pP 17 31 53.6 -0.4
TAPN Taplejung 40.78 307 *e*P P 17 30 23.8 +1.4
ODAN Odare 40.83 306 *e*P P 17 30 24.0 +1.3
HTT Hallett 41.04 161 P P 17 30 25.4 +1.4
baz=41,SNR=87
TEY Ternei 41.19 14*ce*P P 17 30 23.9 -1.0**
TEY *e* 17 35 59.5
TEY pmax pmax
comp=N,100nm,3.3s
TEY pmax pmax
comp=Z,100nm,3.3s
TEY pmax pmax
comp=N,200nm,3.1s
TEY pmax pmax
comp=Z,100nm,4.3s
RAMN Ramite 41.51 305 *e*P P 17 30 29.7 +1.6**
comp=Z,303nm,0.9s
ASAJ Asahikawa 42.09 20 P P 17 30 33.6 +1.5
comp=Z,50nm,0.8s,baz=225,slow=9.2,SNR=87
ASAJ S S 17 36 13.7 +0.3
comp=Z,16nm,1.0s,baz=84,slow=24,SNR=7.9
JKA Kamikawa-asahi 42.10 20 P P 17 30 33.2 +1.1
JKA IAmb IAmb 17 30 34.5
comp=Z,59nm,0.8s
CMSA Cobar Meteorol 42.11 152 P P 17 30 34.4 +2.0
baz=42,SNR=105
JIRN Jiri 42.13 306 *e*P P 17 30 34.7 +1.5**
PKI Pulchoki 42.73 306 *e*P P 17 30 38.6 +0.8**
PKIN Phulchoki 42.74 306 *e*P P 17 30 38.6 +0.8**
PALK Pallekele 42.89 275 P P 17 30 40.4 +1.5
comp=Z,23nm,0.9s,baz=158,slow=3.7,SNR=6.3
PALK Pallekele 42.89 275 P P 17 30 38.3 -0.6
PALK IAmb IAmb 17 30 41.3
comp=Z,101nm,1.4s
PALK Pallekele 42.89 275 P P 17 30 39.4 +0.5
PALK Pallekele 42.89 275 P P 17 30 41.7 +2.8
comp=Z,52nm,1.4s
KKN Kakani 42.92 306 *e*P P 17 30 40.1 +0.9**
comp=Z,510nm,1.0s
DMN Daman 42.99 306 *e*P P 17 30 40.8 +1.1**
comp=Z,777nm,1.0s
GKN Gorkha 43.53 306 *e*P P 17 30 44.8 +1.0**
comp=Z,466nm,0.9s
KWAJ Kwajalein Atol 43.60 83 P P 17 30 44.4 0.0
KWAJ pmax pmax
comp=Z,440nm,1.1s
KWAJ Kwajalein Atol 43.60 83 P P 17 30 44.4 0.0
HIA Hailar 44.01 356 P P 17 30 47.5 +0.5
HIA pmax pmax
comp=Z,168nm,1.1s
HIA Hailar 44.01 356 P P 17 30 47.5 +0.5
HIA IAmb IAmb 17 30 49.3
comp=Z,168nm,1.1s
KOLN Koldanda 44.28 305 *e*P P 17 30 51.2 +1.5**
ARMA Armidale 44.35 145 P P 17 30 52.3 +2.3
baz=44,SNR=21
ARMA Armidale 44.35 145 P P 17 30 51.7 +1.7
ARMA IAmb IAmb 17 30 53.7
comp=Z,117nm,1.1s
ARMA pwP 17 32 27.6 -0.1
KLR Kul'dur 44.35 7 P P 17 30 50.0 +0.4
comp=Z,35nm,0.8s,baz=207,slow=5.6,SNR=97
KLR S S 17 36 43.6 -1.7
comp=Z,3.3nm,0.9s,baz=283,slow=22,SNR=11
KLR Kul'dur 44.35 7 P P 17 30 50.0 +0.4
DANN Dangsing 44.38 306 *e*P P 17 30 51.8 +1.3**
comp=Z,1µm,0.8s
YSS Yuzh-Sakhalins 44.65 18*ce*P P 17 30 52.9 +0.9**
YSS pmax pmax
comp=Z,44nm,1.0s
YSS Yuzh-Sakhalins 44.65 18 P P 17 30 51.5 -0.5
YSS IAmb IAmb 17 30 56.2
comp=Z,41nm,1.0s
ULN Ulaanbaatar 44.83 344 P P 17 30 54.3 +0.8
ULN 17 32 25.0
ULN pmax pmax
comp=Z,215nm,1.1s
ULN Ulaanbaatar 44.83 344 P P 17 30 54.3 +0.8
ULN PcP PcP 17 32 25.0 +0.8
ULN Ulaanbaatar 44.83 344 P P 17 30 54.9 +1.3
ULN Ulaanbaatar 44.83 344 P P 17 30 54.4 +0.9
comp=Z,4µmcomp=Z,8µmcomp=Z,785nm,1.0s
PYUN Piuthan 44.90 305 *e*P P 17 30 56.1 +1.6**
comp=Z,2µm,1.0s
SONM Songino Array 44.99 343 P P 17 30 55.8 +1.1
comp=Z,117nm,0.9s,baz=157,slow=7.9,SNR=397
SONM PP PP 17 32 52.3 +3.1
comp=Z,15nm,1.0s,baz=158,slow=9.3,SNR=4.0
SONM ScP ScP 17 35 26.5 -0.7
comp=Z,11nm,1.1s,baz=171,slow=5.2,SNR=6.2
SONM Songino Array 44.99 343 P P 17 30 55.4 +0.6
SONM IAmb IAmb 17 30 57.1
comp=Z,163nm,1.0s
KUR Kuril'sk 45.03 24 *e*P P 17 30 52.7 -2.1**
KUR *e*S S 17 36 54.6 -0.4
KUR *e*SS SS 17 40 21.2 -5.8
KUR pmax pmax
comp=Z,96nm,1.7s
ARPS Mount Arapiles 45.07 159 P P 17 30 56.2 +0.9
baz=45,SNR=84
YNG Young 45.67 151 P P 17 31 02.2 +2.2
baz=46,SNR=5.3
HYB Hyderabad 45.87 289 *i* P P 17 31 02.0 +0.1**
HYB *ep*P pwP 17 32 42.0 -0.5
HYB *e*S S 17 37 09.0 +1.2
MGCD Mangrove Creek 46.18 148 P P 17 31 06.8 +2.9
baz=46,SNR=8.3
UGL Uglegorsk 46.35 17 *e*P P 17 31 05.8 +0.9**
UGL pmax pmax
comp=Z,140nm,1.1s
GRNR Gornyy 46.59 11⇓*i*P P 17 31 08.0 +1.3**
GRNR pmax pmax
comp=E,5.0nm,0.8s
GRNR pmax pmax
comp=N,20nm,1.1s
GRNR pmax pmax
comp=Z,30nm,0.9s
GRNR MLR MLR
comp=E,130nm,17.0s
GRNR MLR MLR
comp=N,80nm,13.0s
GRNR MLR MLR
comp=Z,100nm,20.0s
CNB Canberra Magne 46.96 151 P P 17 31 11.9 +2.1
baz=47,SNR=41
TOO Toolangi 47.14 156 P P 17 31 13.0 +1.9
baz=47,SNR=47
TOO Toolangi 47.14 156 P P 17 31 12.0 +0.9
TOO IAmb IAmb 17 31 14.4
comp=Z,109nm,1.1s
TOO pwP 17 32 49.7 -1.2
KOUNC Koumac, New Ca 47.29 124 P P 17 31 14.3 +1.8
CIT Chita 47.40 351 *e*P P 17 31 14.2 +1.4**
CIT *e* 17 32 56.5
CIT *e* 17 33 12.2
CIT *e*S S 17 37 30.2 +2.2
CIT *e* 17 40 08.0
CIT pmax pmax
comp=Z,367nm,1.4s
ZAK Zakamensk 48.18 342 *e*P P 17 31 19.2 +0.4**
ZAK *e* 17 33 04.7
ZAK pmax pmax
comp=Z,67nm,1.2s
ZAK pmax pmax
comp=Z,18nm,1.4s
ZEA Zeya 48.43 3 *e*P P 17 31 20.8 +0.4**
ZEA *e* 17 33 25.3
ZEA *e* 17 37 39.6
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=Z,30nm,0.8s
TARA Tarawa 49.17 93 P P 17 31 27.1 +0.4

DVP	**Devils Point**	**49.39**	**119**	P		**P**	**17 31 30.9**	**+2.8**
	comp=Z,175µm,1.0s							
IRK	**Irkutsk**	**49.56**	**344**	*e*P		**P**	**17 31 28.4**	**-0.5**
IRK				*e*			17 38 02.4	
IRK					pmax	pmax		
	comp=Z,157nm,2.2s							
DZM	**Mont Dzumac**	**49.78**	**125**	*e*P		**P**	**17 31 32.8**	**+1.7**
	comp=Z,338nm,1.2s							
DZM	**Mont Dzumac**	**49.78**	**125**	P		**P**	**17 31 31.4**	**+0.3**
DZM				IAmb		IAmb	17 31 34.0	
	comp=Z,163nm,1.1s							
DZM				PcP		**PcP**	**17 32 46.1**	**+3.6**
DZM	**Mont Dzumac**	**49.78**	**125**	P		**P**	**17 31 33.4**	**+2.3**
WMQ	**Urumqi**	**49.84**	**326**	⇓*i*P		**P**	**17 31 32.8**	**+1.6**
WMQ				S		**S**	**17 38 03.0**	**+1.2**
WMQ				pmax	pmax			
	comp=Z,270nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,290nm,3.7s							
LIFNC	**LIFOU**	**49.85**	**123**	P		**P**	**17 31 31.7**	**+0.2**
LIFNC	**LIFOU**	**49.85**	**123**	P		**P**	**17 31 33.4**	**+1.9**
ONTNC	**Ouen Toro**	**49.90**	**125**	P		**P**	**17 31 32.0**	**+0.2**
ONTNC				IAmb		IAmb	17 31 34.5	
	comp=Z,162nm,1.1s							
ONTNC				pP		**pwP**	**17 33 13.1**	**-0.5**
ONTNC	**Ouen Toro**	**49.90**	**125**	P		**P**	**17 31 34.4**	**+2.5**
MOY	**Mondy**	**50.01**	**342**	*e*P		**P**	**17 31 33.7**	**+1.4**
MOY				pmax	pmax			
	comp=Z,277nm,2.8s							
YATNC	**Mamie plateau,**	**50.14**	**124**	P		**P**	**17 31 36.3**	**+2.6**
OUENC	**Ouen Island, N**	**50.27**	**125**	P		**P**	**17 31 35.6**	**+1.0**
OUENC				IAmb		IAmb	17 31 37.7	
	comp=Z,110nm,1.0s							
OUENC				PcP		**PcP**	**17 32 43.9**	**-0.3**
OUENC	**Ouen Island, N**	**50.27**	**125**	P		**P**	**17 31 37.0**	**+2.4**
POO	**Poona**	**50.47**	**290**	*e*P		**P**	**17 31 34.0**	**-2.2**
MARNC	**Mare, Loyalty**	**50.83**	**123**	P		**P**	**17 31 39.6**	**+1.0**
MARNC	**Mare, Loyalty**	**50.83**	**123**	P		**P**	**17 31 41.3**	**+2.6**
PINNC	**Pines Island,**	**50.85**	**125**	P		**P**	**17 31 39.6**	**+0.7**
PINNC				IAmb		IAmb	17 31 42.2	
	comp=Z,208nm,1.0s							
BHK	**Bhakra**	**51.43**	**306**	*ex*		P	17 31 47.8	+4.8
TAU	**Tasmania Unive**	**52.46**	**158**	P		**P**	**17 31 51.0**	**+0.9**
TAU				PcP		**PcP**	**17 32 52.1**	**+0.1**
BOD	**Bodaibo**	**53.00**	**353**	*e*P		**P**	**17 31 54.1**	**+0.4**
BOD				pmax	pmax			
	comp=Z,170nm,1.4s							
ZSN	**Zaisan**	**53.68**	**328**	*i* P		**P**	**17 31 59.4**	**+0.7**
	baz=328							
ZSN				*e*S		**S**	**17 38 52.8**	**-0.2**
	baz=328							
ZSN	**Zaisan**	**53.68**	**328**	*i* P		**P**	**17 31 59.4**	**+0.7**
ZSN				*e*S		**S**	**17 38 52.7**	**-0.2**
DGZ	**Jazzator, Alta**	**53.87**	**332**	*d* iP		**P**	**17 32 01.3**	**+1.1**
DGZ				pmax	pmax			
	comp=Z,164nm,1.5s							
SHLS	**Shalkode**	**54.34**	**321**	⇓*i*P		**P**	**17 32 03.0**	**-0.6**
	comp=Z,126nm,1.1s,baz=321							
SHLS				*e*S		**S**	**17 39 00.5**	**-1.5**
	comp=Z,95nm,2.1s,baz=321							
SHLS	**Shalkode**	**54.34**	**321**	*d* iP		**P**	**17 32 03.0**	**-0.6**
SHLS				*e*S		**S**	**17 39 00.5**	**-1.5**
SHLS				pmax	pmax			
	comp=Z,126nm,1.1s							
SHLS				smax	smax			
	comp=N,95nm,2.1s							
PDGK	**Podgornoye**	**54.41**	**321**	P		**P**	**17 32 04.4**	**+0.2**
MK31	**Makanchi Array**	**54.67**	**326**	P		**P**	**17 32 06.7**	**+0.9**
MK31	**Makanchi Array**	**54.67**	**326**	P		**P**	**17 32 06.7**	**+0.9**
MK31				IAmb		IAmb	17 32 08.1	
	comp=Z,388nm,1.7s							
MK31				PcP		**PcP**	**17 32 59.4**	**-1.2**
MKAR	**Makanchi Array**	**54.67**	**326**	P		**P**	**17 32 06.8**	**+1.1**
	comp=Z,65nm,0.3s,baz=117,slow=7.0,SNR=1576							
MKAR				PcP		**PcP**	**17 33 00.7**	**+0.1**
	comp=Z,8.6nm,0.4s,baz=163,slow=3.4,SNR=6.6							
MKAR				ScP		**ScP**	**17 36 07.6**	**-1.1**
	comp=Z,10nm,0.7s,baz=116,slow=5.5,SNR=6.0							
MKAR				S		**S**	**17 39 07.6**	**+1.5**
	comp=Z,8.0nm,1.0s,baz=125,slow=15,SNR=10							
MKAR				PKPPKP			18 01 57.2	
	comp=Z,0.8nm,1.0s,baz=332,slow=4.1,SNR=4.2							
MKAR				P4KPbc			18 09 19.2	
	comp=Z,0.9nm,0.8s,baz=116,slow=5.5,SNR=7.2							
MKAR	**Makanchi Array**	**54.67**	**326**	P		**P**	**17 32 06.7**	**+0.9**
MKAR						**PcP**	**17 32 59.4**	**-1.2**
MKAR						**S**	**17 39 07.4**	**+1.3**
MKAR				ScS		**ScS**	**17 40 56.3**	**-4.0**
PRZ	**Przheval'sk**	**54.67**	**320**	P		**P**	**17 32 08.6**	**+2.5**
PRZ				*PP		**pwP**	**17 33 52.3**	**+0.2**
PRZ				pmax	pmax			
	comp=Z,744nm,1.7s							
PRZ	**Przheval'sk**	**54.67**	**320**	P		**P**	**17 32 08.6**	**+2.5**
PRZ				pP		**pwP**	**17 33 52.3**	**+0.2**
TARG	**Taragay, Kyrgy**	**54.69**	**319**	P		**P**	**17 32 07.4**	**+0.9**
TARG				IAmb		IAmb	17 32 19.8	
	comp=Z,116nm,1.2s							
NIL	**Nilore**	**54.70**	**308**	P		**P**	**17 32 06.7**	**+0.5**
NIL				IAmb		IAmb	17 32 08.7	
	comp=Z,306nm,1.4s							
NIL				pP		**pwP**	**17 33 50.6**	**-2.0**
NIL	**Nilore**	**54.70**	**308**	P		**P**	**17 32 07.8**	**+1.5**
MAKZ	**Makanchi**	**54.85**	**326**	P		**P**	**17 32 07.8**	**+0.7**
MAKZ	**Makanchi**	**54.85**	**326**	P		**P**	**17 32 07.8**	**+0.7**
MAKZ				PcP		**PcP**	**17 33 01.2**	**-0.1**
KSH	**Kashi**	**54.93**	**316**	P		**P**	**17 32 10.5**	**+2.6**
KSH				pP		pP	17 33 50.0	+1.4
KSH				S		**S**	**17 39 13.0**	**+3.1**
KSH				SS		**SS**	**17 43 05.3**	**+1.4**
KSH				pmax	pmax			
	comp=Z,97nm,1.3s							
KSH				pmax	pmax			
	comp=Z,560nm,2.8s							
SATY	**Saty**	**54.95**	**320**	⇓*i*P		**P**	**17 32 09.4**	**+1.3**
	comp=Z,65nm,0.7s,baz=320							
SATY				*e*S		**S**	**17 39 10.7**	**+0.5**
	comp=Z,58nm,2.1s,baz=320							
SATY	**Saty**	**54.95**	**320**	*d* iP		**P**	**17 32 09.3**	**+1.3**
SATY				*e*S		**S**	**17 39 10.6**	**+0.5**
SATY				pmax	pmax			
	comp=Z,65nm,0.7s							
SATY				smax	smax			
	comp=E,58nm,2.1s							
KPKS	**Kokpek**	**54.98**	**321**	⇓*i*P		**P**	**17 32 09.2**	**+1.0**
	comp=E,111nm,0.8s,baz=321							
KPKS				*e*S		**S**	**17 39 12.9**	**+2.5**
	baz=321							
KPKS	**Kokpek**	**54.98**	**321**	*d* iP		**P**	**17 32 09.1**	**+1.0**
KPKS				*e*S		**S**	**17 39 12.9**	**+2.5**
KPKS				pmax	pmax			
	comp=Z,111nm,0.8s							
PEA0B	**Petropavlovsk-**	**55.19**	**24**	P		**P**	**17 32 10.8**	**+1.5**
PEA0B							17 33 02.7	
PEA0B				pmax	pmax			
	comp=Z,35nm,1.0s							
PEA0B	**Petropavlovsk-**	**55.19**	**24**	P		**P**	**17 32 10.8**	**+1.5**
PEA0B				PcP		**PcP**	**17 33 02.7**	**+0.3**
PETK	**Petropavlovsk-**	**55.19**	**24**	P		**P**	**17 32 10.5**	**+1.2**
	comp=Z,17nm,0.8s,baz=206,slow=4.4,SNR=55							
PETK				PcP		**PcP**	**17 33 02.5**	**+0.1**
	comp=Z,2.1nm,0.5s,baz=222,slow=2.0,SNR=5.0							
PETK				ScP		**ScP**	**17 36 10.0**	**-0.7**
	comp=Z,7.1nm,0.9s,baz=93,slow=3.0,SNR=3.8							
PETK				S		**S**	**17 39 17.8**	**+5.3**
	comp=Z,3.2nm,0.9s,baz=286,slow=17,SNR=4.0							
PETK	**Petropavlovsk-**	**55.19**	**24**	P		**P**	**17 32 10.7**	**+1.4**
PETK				PcP		**PcP**	**17 33 02.8**	**+0.4**
PET	**Petropavlovsk**	**55.52**	**25**	*e*P		**P**	**17 32 13.0**	**+1.5**
PET				*e*S		**S**	**17 39 17.3**	**+0.5**
PET				pmax	pmax			
	comp=Z,49nm,0.8s							
PET				MLR		MLR		
	comp=Z,100nm,18.0s							
PET	**Petropavlovsk**	**55.52**	**25**	P		**P**	**17 32 12.7**	**+1.2**
MDOK	**Medeo**	**55.87**	**320**	*i* P		**P**	**17 32 15.6**	**+1.2**
	baz=320							
MDOK				*i* S		**S**	**17 39 24.9**	**+2.8**
	baz=320							
MDOK	**Medeo**	**55.87**	**320**	*i* P		**P**	**17 32 15.6**	**+1.2**
MDOK				*i* S		**S**	**17 39 24.9**	**+2.8**
TNSS	**Tian-Shan**	**55.88**	**320**	*i* P		**P**	**17 32 16.3**	**+1.6**
	baz=319							
TDK	**Taldyqorghan**	**55.94**	**322**	*i* P		**P**	**17 32 15.8**	**+1.1**
	comp=Z,147nm,0.8s,baz=322							
TDK				*e*S		**S**	**17 39 23.8**	**+1.2**
	baz=322							
TDK	**Taldyqorghan**	**55.94**	**322**	*i* P		**P**	**17 32 15.7**	**+1.1**
TDK				*e*S		**S**	**17 39 23.8**	**+1.2**
TDK				pmax	pmax			
	comp=Z,147nm,0.8s							
ULHL	**Ulahol**	**55.96**	**319**	P		**P**	**17 32 17.2**	**+2.1**
	SNR=11							
AAA	**Alma-Ata**	**55.98**	**320**	*e*P		**P**	**17 32 14.8**	**-0.3**
	baz=320							
AAA				*e*S		**S**	**17 39 24.7**	**+1.3**
	baz=320							
AAA	**Alma-Ata**	**55.98**	**320**	*e*P		**P**	**17 32 14.7**	**-0.3**
AAA				*e*S		**S**	**17 39 24.6**	**+1.3**
CHKK	**Chushkaly**	**56.24**	**321**	⇓*i*P		**P**	**17 32 17.5**	**+0.7**
	baz=320							
MTBS	**Maitube**	**56.26**	**320**	⇓*i*P		**P**	**17 32 18.2**	**+1.2**
	baz=319							
MTBS				*e*S		**S**	**17 39 27.1**	**+0.2**
	baz=319							
BOOM	**Boomskoye usch**	**56.27**	**319**	P		**P**	**17 32 18.0**	**+0.8**
BOOM							17 33 07.2	
BOOM				pmax	pmax			
	comp=Z,192nm,1.6s							
BOOM	**Boomskoye usch**	**56.27**	**319**	P		**P**	**17 32 18.0**	**+0.8**
BOOM				IAmb		IAmb	17 32 20.0	
	comp=Z,192nm,1.6s							
BOOM				PcP		**PcP**	**17 33 07.2**	**0.0**
KZA	**Kyzart**	**56.55**	**318**	P		**P**	**17 32 21.4**	**+2.1**
	SNR=37							
KUU	**Kurty**	**56.67**	**320**	⇓*i*P		**P**	**17 32 20.8**	**+1.0**
	comp=Z,262nm,0.9s,baz=320							
KUU				*i* S		**S**	**17 39 32.4**	**+0.3**
	comp=Z,183nm,3.1s,baz=320							
KUU	**Kurty**	**56.67**	**320**	*d* iP		**P**	**17 32 20.7**	**+1.0**
KUU				*i* S		**S**	**17 39 32.4**	**+0.3**
KUU				pmax	pmax			
	comp=Z,262nm,0.9s							
KUU				smax	smax			
	comp=E,183nm,3.1s							
TKM2	**Tokmak 2**	**56.70**	**319**	P		**P**	**17 32 21.5**	**+1.3**
	SNR=113							
YAK	**Yakutsk**	**56.83**	**3**	P		**P**	**17 32 21.0**	**+0.6**
	comp=E,95nm,0.7s,baz=350,slow=0.8,SNR=124							
YAK				S		**S**	**17 39 32.5**	**-0.9**
	comp=E,2.9nm,0.5s,baz=305,slow=23,SNR=24							
YAK	**Yakutsk**	**56.83**	**3**	*de*P		**P**	**17 32 20.8**	**+0.4**
YAK				pmax	pmax			
	comp=Z,228nm,0.8s							
YAK	**Yakutsk**	**56.83**	**3**	P		**P**	**17 32 21.2**	**+0.8**
YAK				IAmb		IAmb	17 32 22.5	
	comp=Z,204nm,0.8s							
FUNA	**Funafuti**	**56.90**	**104**	P		**P**	**17 32 22.9**	**+1.1**
KBK	**Karagaybulak**	**57.00**	**319**	P		**P**	**17 32 23.9**	**+1.7**
	SNR=40							
UCH	**Uchtor**	**57.10**	**318**	P		**P**	**17 32 25.1**	**+1.9**
	SNR=133							
FRU1	**Bishkek**	**57.28**	**319**	P		**P**	**17 32 24.8**	**+0.8**
FRU1				pmax	pmax			
	comp=Z,37nm,0.6s							
FRU1	**Bishkek**	**57.28**	**319**	P		**P**	**17 32 24.8**	**+0.8**
FRU1				IAmb		IAmb	17 32 26.0	
	comp=Z,37nm,0.6s							
CHMS	**Chumysh**	**57.29**	**319**	P		**P**	**17 32 25.4**	**+1.4**
	SNR=6.0							
AAK	**Ala-Archa**	**57.30**	**318**	P		**P**	**17 32 25.7**	**+1.5**
	comp=Z,16nm,0.4s,baz=135,slow=5.9,SNR=71							
AAK	**Ala-Archa**	**57.30**	**318**	P		**P**	**17 32 26.1**	**+1.8**
	SNR=5.7							
AAK	**Ala-Archa**	**57.30**	**318**	*i* P		**P**	**17 32 25.2**	**+1.0**
	SNR=43							
AAK	**Ala-Archa**	**57.30**	**318**	P		**P**	**17 32 25.1**	**+0.9**
AAK							17 33 11.8	
AAK				pmax	pmax			
	comp=Z,45nm,0.9s							
AAK	**Ala-Archa**	**57.30**	**318**	P		**P**	**17 32 25.1**	**+0.9**
AAK				PcP		**PcP**	**17 33 11.8**	**+0.6**
AAK	**Ala-Archa**	**57.30**	**318**	P		**P**	**17 32 26.0**	**+1.8**
SGDS	**Sogindy**	**57.57**	**319**	⇓*i*P		**P**	**17 32 26.5**	**+0.6**
	baz=319							
SGDS				*e*S		**S**	**17 39 44.9**	**+1.1**
	baz=319							
USP	**Ospenovka**	**57.57**	**319**	P		**P**	**17 32 27.1**	**+1.2**
	SNR=115							
AML	**Almayashu**	**57.61**	**317**	P		**P**	**17 32 28.7**	**+2.0**
	SNR=15							
AML	**Almayashu**	**57.61**	**317**	*i* P		**P**	**17 32 28.2**	**+1.5**
	SNR=86							
AML	**Almayashu**	**57.61**	**317**	P		**P**	**17 32 28.5**	**+1.8**
EKS2	**Erkin-Say**	**57.78**	**318**	P		**P**	**17 32 29.3**	**+1.8**
	SNR=30							
DRK	**Karamyk**	**57.87**	**314**	P		**P**	**17 32 28.9**	**+0.5**
DRK				IAmb		IAmb	17 32 30.9	
	comp=Z,107nm,0.8s							
SEM	**Semipalatinsk**	**57.89**	**329**	⇓*i*P		**P**	**17 32 27.9**	**-0.3**
	baz=328							
SEM				*i* S		**S**	**17 39 45.7**	**-2.2**
	baz=328							
SEM	**Semipalatinsk**	**57.89**	**329**	*d* iP		**P**	**17 32 27.8**	**-0.3**
SEM				*i* S		**S**	**17 39 45.6**	**-2.2**
ZAA0	**Zalesovo Array**	**57.94**	**334**	P		**P**	**17 32 27.7**	**-0.5**
ZAA0				IAmb		IAmb	17 32 29.3	
	comp=Z,114nm,1.1s							
ZALV	**Zalesovo Beam**	**57.94**	**334**	P		**P**	**17 32 28.0**	**-0.1**
	comp=Z,46nm,0.6s,baz=116,slow=6.8,SNR=246							
ZALV				PcP		**PcP**	**17 33 12.8**	**-0.5**
	comp=Z,3.7nm,0.3s,baz=142,slow=4.2,SNR=4.9							
ZALV				PP		**PP**	**17 34 46.0**	**+1.4**
	comp=Z,25nm,1.1s,baz=111,slow=8.1,SNR=4.3							
ZALV				S		**S**	**17 39 46.4**	**-1.5**
	comp=Z,8.5nm,1.1s,baz=133,slow=10,SNR=8.7							
ZALV				PKPPKP		P'P'df	18 02 11.4	+9.4
	comp=Z,2.3nm,0.8s,baz=310,slow=9.2,SNR=8.3							
ZALV	**Zalesovo Beam**	**57.94**	**334**	P		**P**	**17 32 28.1**	**-0.1**
ZALV							17 33 12.3	
ZALV	**Zalesovo Beam**	**57.94**	**334**	P		**P**	**17 32 28.1**	**0.0**
ZALV				PcP		**PcP**	**17 33 12.3**	**-0.9**
MA2	**Magadan**	**58.00**	**16**	P		**P**	**17 32 30.0**	**+1.5**
	comp=Z,52nm,0.7s,baz=212,slow=7.2,SNR=35							
MA2	**Magadan**	**58.00**	**16**	*ce*P		**P**	**17 32 30.4**	**+1.9**
MA2				pmax	pmax			
	comp=Z,40nm,0.8s							
MA2	**Magadan**	**58.00**	**16**	P		**P**	**17 32 29.9**	**+1.5**
MA2				IAmb		IAmb	17 32 31.1	
	comp=Z,55nm,0.8s							
MSVF	**Nonsavu**	**58.18**	**114**	*c* iP		**P**	**17 32 32.7**	**+2.2**
MSVF				pmax	pmax			
	comp=Z,28nm,0.8s							
MSVF	**Nonsavu**	**58.18**	**114**	P		**P**	**17 32 32.5**	**+1.9**
MSVF				IAmb		IAmb	17 32 34.0	
	comp=Z,153nm,0.9s							
MSVF	**Nonsavu**	**58.18**	**114**	P		**P**	**17 32 32.7**	**+2.2**
KBL	**Kabul**	**58.30**	**308**	P		**P**	**17 32 31.4**	**+0.1**
KBL				pmax	pmax			
	comp=Z,64nm,0.8s							
KBL	**Kabul**	**58.30**	**308**	P		**P**	**17 32 31.4**	**+0.1**
KBL				IAmb		IAmb	17 32 33.1	
	comp=Z,64nm,0.8s							
KBL	**Kabul**	**58.30**	**308**	P		**P**	**17 32 32.1**	**+0.9**
	SNR=47							
BTLS	**Baital**	**58.66**	**321**	⇓*i*P		**P**	**17 32 33.6**	**+0.4**
	comp=Z,33nm,0.8s,baz=320							
BTLS				*i* S		**S**	**17 39 56.3**	**-1.2**
	comp=Z,20nm,1.4s,baz=320							
BTLS	**Baital**	**58.66**	**321**	*d* iP		**P**	**17 32 33.6**	**+0.4**
BTLS				*i* S		**S**	**17 39 56.2**	**-1.2**
BTLS				pmax	pmax			
	comp=Z,33nm,0.8s							
BTLS				smax	smax			
	comp=E,20nm,1.4s							
GAR	**Garm**	**58.77**	**313**	P		**P**	**17 32 34.8**	**+0.6**
BTK	**Batken**	**58.78**	**314**	P		**P**	**17 32 34.8**	**+0.5**
BTK				pmax	pmax			
	comp=Z,410nm,1.7s							
BTK	**Batken**	**58.78**	**314**	P		**P**	**17 32 34.8**	**+0.5**
BTK				IAmb		IAmb	17 32 36.7	
	comp=Z,410nm,1.6s							
KURBB	**Kurchatov Arra**	**58.91**	**328**	P		**P**	**17 32 35.4**	**+0.7**
	comp=Z,225nm,0.8s,baz=127,slow=6.2,SNR=1123							
KURBB				PP		**PP**	**17 34 54.5**	**+1.3**
	comp=Z,13nm,1.1s,baz=131,slow=8.8,SNR=6.9							
KURBB				ScP		**ScP**	**17 36 25.2**	**-2.0**
	comp=Z,3.2nm,0.9s,baz=129,slow=4.7,SNR=4.4							
KURBB				S		**S**	**17 39 58.8**	**-1.5**
	comp=Z,6.1nm,1.2s,baz=136,slow=11,SNR=10							
KURBB				PKPPKP		P'P'df	18 01 43.4	-17
	comp=Z,0.9nm,1.0s,baz=309,slow=4.9,SNR=4.5							
KURBB	**Kurchatov Arra**	**58.91**	**328**	P		**P**	**17 32 35.3**	**+0.5**
KURK	**Kurchatov**	**58.92**	**328**	P		**P**	**17 32 35.4**	**+0.6**
KURK							17 36 25.3	
CHGR	**Chuyangaron**	**59.50**	**312**	P		**P**	**17 32 39.2**	**+0.1**
CHGR				IAmb		IAmb	17 32 41.2	
	comp=Z,211nm,1.0s							
DZA	**Taraz**	**59.52**	**317**	*e*P		**P**	**17 32 38.4**	**-0.6**
	baz=317							
DZA				*e*S		**S**	**17 40 07.6**	**-0.7**
	baz=317							
DZA	**Taraz**	**59.52**	**317**	*e*P		**P**	**17 32 38.4**	**-0.6**
DZA				*e*S		**S**	**17 40 07.6**	**-0.7**
KK31	**Karatay Array**	**60.15**	**317**	*i* P		**P**	**17 32 43.8**	**+0.6**
KK31	**Karatay Array**	**60.15**	**317**	P		**P**	**17 32 43.8**	**+0.6**
KK31				IAmb		IAmb	17 32 45.3	
	comp=Z,110nm,0.9s							
KKAR	**Karatay Array**	**60.15**	**317**	P		**P**	**17 32 43.8**	**+0.6**
KKAR	**Karatay Array**	**60.15**	**317**	P		**P**	**17 32 43.8**	**+0.6**
KKAR	**Karatay Array**	**60.15**	**317**	P		**P**	**17 32 43.5**	**+0.3**
KKAR				IAmb		IAmb	17 32 45.3	
	comp=Z,110nm,0.9s							
OTUK	**Ortayu**	**61.17**	**323**	P		**P**	**17 32 50.5**	**+0.6**
SEY	**Seymchan**	**61.26**	**14**	P		**P**	**17 32 51.6**	**+1.5**
	comp=Z,9.9nm,0.8s,baz=230,slow=6.7,SNR=13							
OUZ	**Omahuta**	**61.68**	**135**	P		**P**	**17 32 55.6**	**+2.2**
OUZ				IAmb		IAmb	17 32 56.9	
	comp=Z,43nm,1.0s							
BRZS	**Berezniki**	**61.79**	**325**	⇓*i*P		**P**	**17 32 54.4**	**+0.5**
	comp=Z,70nm,0.8s,baz=325							
BRZS				*e*S		**S**	**17 40 35.9**	**-0.3**
	baz=325							
BRZS	**Berezniki**	**61.79**	**325**	*d* iP		**P**	**17 32 54.4**	**+0.5**
BRZS				*e*S		**S**	**17 40 35.8**	**-0.4**
BRZS				pmax	pmax			
	comp=Z,70nm,0.8s							
HRA	**Herat**	**63.69**	**306**	P		**P**	**17 33 07.5**	**+0.8**
HRA				IAmb		IAmb	17 33 08.5	
	comp=Z,44nm,0.9s							
FOZ	**Fox Glacier**	**63.85**	**144**	P		**P**	**17 33 08.4**	**+1.3**
FOZ				IAmb		IAmb	17 35 01.5	
	comp=Z,163nm,1.5s							
QRZ	**Quartz Range**	**63.93**	**141**	P		**P**	**17 33 09.5**	**+1.7**
QRZ				IAmb		IAmb	17 33 10.6	
	comp=Z,130nm,1.1s							
MLZ	**Mavora Lakes**	**64.02**	**147**	P		**P**	**17 33 09.1**	**+0.8**
MLZ				IAmb		IAmb	17 33 10.0	
	comp=Z,143nm,1.7s							
WKZ	**Wanaka**	**64.18**	**146**	P		**P**	**17 33 10.2**	**+0.8**
WKZ				IAmb		IAmb	17 33 46.2	
	comp=Z,136nm,1.5s							
HIZ	**Hauiti**	**64.22**	**137**	P		**P**	**17 33 11.3**	**+1.7**
WHZ	**Wether Hill Ro**	**64.27**	**147**	P		**P**	**17 33 10.5**	**+0.7**
WHZ				IAmb		IAmb	17 33 10.8	
	comp=Z,38nm,1.0s							
JLN	**Jalan Bani Buh**	**64.34**	**292**	P		**P**	**17 33 10.9**	**+0.1**
BVAR	**Borovoye Array**	**64.48**	**327**	P		**P**	**17 33 11.5**	**+0.4**
	comp=Z,141nm,0.9s,baz=153,slow=8.0,SNR=454							
BVAR				S		**S**	**17 41 08.8**	**0.0**
	comp=Z,15nm,1.1s,baz=141,slow=14,SNR=19							
BRVK	**Borovoye**	**64.55**	**327**	P		**P**	**17 33 12.0**	**+0.4**
BRVK				S		**S**	**17 41 09.1**	**-0.6**
BRVK				pmax	pmax			
	comp=Z,206nm,1.0s							
BRVK	**Borovoye**	**64.55**	**327**	P		**P**	**17 33 12.0**	**+0.4**
BRVK						**S**	**17 41 09.1**	**-0.6**
BRVK	**Borovoye**	**64.55**	**327**	P		**P**	**17 33 12.4**	**+0.8**
LBZ	**Lake Benmore**	**64.57**	**145**	P		**P**	**17 33 12.7**	**+0.8**
LBZ				IAmb		IAmb	17 33 13.8	
	comp=Z,135nm,1.1s							
RPZ	**Rata Peaks**	**64.68**	**144**	P		**P**	**17 33 13.2**	**+0.7**
RPZ				IAmb		IAmb	17 33 14.4	
	comp=Z,63nm,0.9s							
NNZ	**Nelson**	**64.68**	**141**	P		**P**	**17 33 13.1**	**+0.5**
NNZ				IAmb		IAmb	17 33 14.9	
	comp=Z,74nm,1.1s							
THZ	**Tophouse**	**64.68**	**141**	P		**P**	**17 33 13.0**	**+0.4**
THZ				IAmb		IAmb	17 33 14.0	
	comp=Z,55nm,0.8s							
WBK	**Wadi Bani Khal**	**64.79**	**292**	P		**P**	**17 33 13.8**	**+0.1**
LTZ	**Lake Taylor**	**64.86**	**143**	P		**P**	**17 33 14.2**	**+0.4**
LTZ				IAmb		IAmb	17 33 15.6	
	comp=Z,69nm,1.0s							
AMKA	**Amchitka**	**64.89**	**35**	P		**P**	**17 33 14.5**	**+0.8**
OXZ	**Oxford**	**65.03**	**143**	P		**P**	**17 33 15.1**	**+0.3**
OXZ				IAmb		IAmb	17 33 15.8	
	comp=Z,45nm,0.9s							
TUWZ	**Tuamarina**	**65.15**	**141**	P		**P**	**17 33 14.9**	**-0.6**
WSAR	**Wadi Sarin**	**65.16**	**293**	P		**P**	**17 33 16.2**	**+0.2**
	SNR=6.3							
ODZ	**Otahua Downs**	**65.23**	**145**	P		**P**	**17 33 14.9**	**-1.1**
ODZ				IAmb		IAmb	17 33 25.2	
	comp=Z,102nm,1.7s							
BSWZ	**Blackbirch Sta**	**65.26**	**141**	P		**P**	**17 33 15.9**	**-0.3**
KHZ	**Kahutara**	**65.44**	**142**	P		**P**	**17 33 17.3**	**0.0**

SNR=9.6
ASHO Ashiyiah 67.62 294 P **P** **17 33 31.6 +0.3**
SHAO Shalim 67.66 287 *i* P **P** **17 33 32.0 +0.4**
SNR=8.3
SHME Shamm 67.66 296 P **P** **17 33 31.3 -0.1**
SHME Shamm 67.66 296 P **P** **17 33 32.0 +0.5**
GSTR Great Sitkin T 67.83 35 P **P** **17 33 32.6 +0.6**
ALNE Al Ain 67.86 294 *i* P **P** **17 33 33.0 +0.4**
SNR=7.3
ALNE Al Ain 67.86 294 P **P** **17 33 33.2 +0.5**
SNR=17
NAZ Nazwa, Dubai 68.01 295 P **P** **17 33 33.1 -0.5**
FAQ Al Faqa, Dubai 68.05 294 P **P** **17 33 33.5 -0.3**
FAQ Al Faqa, Dubai 68.05 294 P **P** **17 33 34.0 +0.2**
ASUD Al Ashush, Dub 68.28 294 *i* P **P** **17 33 35.7 +0.5**
SNR=8.3
ASUD Al Ashush, Dub 68.28 294 P **P** **17 33 36.1 +0.8**
NRIK Noril'sk 68.29 347 P **P** **17 33 35.0 +0.6**
comp=Z,52nm,0.8s,baz=132,slow=6.1,SNR=56
NRIK PP **sP** **17 36 16.4 -1.9**
comp=Z,16nm,0.8s,baz=149,slow=3.2,SNR=6.8
NRIK S **S** **17 41 51.7 -1.5**
comp=Z,5.4nm,0.7s,baz=334,slow=21,SNR=25
NRIK Noril'sk 68.29 347 P **P** **17 33 35.0 +0.6**
NRIK Noril'sk 68.29 347 P **P** **17 33 34.2 -0.2**
DMTO DMTO 68.30 287 P **P** **17 33 36.1 +0.6**
UMZA Um Al Zommool 68.31 292 P **P** **17 33 35.8 +0.4**
BILL Bilibino 68.87 16 *e*P **P** **17 33 37.0 -0.9**
BILL pmax pmax
comp=Z,26nm,1.8s
RBK Rabkut 69.00 287 P **P** **17 33 40.1 +0.4**
RBK P **P** **17 33 40.2 +0.4**
DOK Doka 69.10 288 P **P** **17 33 40.5 +0.2**
SNR=5.3
AB31 Akbulak array 69.15 321 P **P** **17 33 40.1 +0.1**
ABKAR Akbulak array 69.15 321 P **P** **17 33 40.5 +0.6**
ABKAR Akbulak array 69.15 321 P **P** **17 33 40.6 +0.6**
ABKAR IAmb IAmb 17 33 41.6
comp=Z,100nm,0.8s
SOCY Socotra 69.21 281 P **P** **17 33 40.0 -1.2**
SOCY IAmb IAmb 17 33 41.8
comp=Z,55nm,0.8s
WHFO Wadi Hawf 69.42 287 P **P** **17 33 41.8 -0.6**
NIUE Niue 69.53 112 P **P** **17 33 44.5 +1.7**
baz=70,SNR=5.1
MZWR Madinat Zayed 69.54 293 P **P** **17 33 43.2 +0.4**
ABTO Aybut 69.87 286 P **P** **17 33 44.7 -0.3**
GHWR Ruwais 70.47 293 P **P** **17 33 48.8 +0.5**
JRN Qarnain Island 70.55 294 P **P** **17 33 50.1 +1.3**
SNR=10
AKTO Aktyubinsk 70.68 322 P **P** **17 33 49.5 +0.4**
comp=Z,43nm,0.4s,baz=102,slow=6.8,SNR=237
AKTO S **S** **17 42 19.6 -1.7**
comp=Z,2.2nm,0.8s,baz=336,slow=22,SNR=27
SVE Sverdlovsk 71.16 329 *c*eP **P** **17 33 52.1 +0.3**
SVE *e*S **S** **17 42 23.8 -2.7**
SVE pmax pmax
comp=Z,204nm,1.1s
SLWR Sila 71.56 294 P **P** **17 33 55.5 +0.7**
CASY Casey 71.99 186 P **P** **17 33 56.8 +0.4**
CASY **pwP** **17 35 51.5 -0.1**
TRNA Turayna 72.03 294 P **P** **17 33 57.7 +0.3**
ARU Arti 72.11 328 S **S** **17 42 33.5 -3.7**
comp=Z,0.3nm,0.4s,baz=353,slow=23,SNR=26
ARU Arti 72.11 328 *d* iP **P** **17 33 56.9 -0.4**
ARU 17 34 13.3
ARU 17 36 44.7
ARU S **S** **17 42 37.4 +0.2**
ARU 17 43 05.6
ARU pmax pmax
comp=Z,159nm,1.2s
ARU Arti 72.11 328 P **P** **17 33 57.2 -0.1**
ARU IAmb IAmb 17 33 58.2
comp=Z,114nm,1.0s
SHMA Al-Shehemyia 72.30 295 P **P** **17 33 59.7 +0.6**
SAKB Bahrain 72.69 295 P **P** **17 34 01.9 +0.6**
UNV Unalaska Valle 73.86 35 IAmb IAmb 17 34 09.0
comp=Z,56nm,1.0s
UNV Unalaska Valle 73.86 35 P **P** **17 34 08.3 +0.9**
baz=256
QRN Al-Qurain 75.13 298 *e*P **P** **17 34 14.9 -0.2**
UMR Umm Al-Rimmam 75.34 299 *e*P **P** **17 34 15.6 -0.7**
KBD Kabd 75.34 299 *e*P **P** **17 34 16.1 -0.2**
RDF Al-Radifah 75.46 298 *e*P **P** **17 34 16.5 -0.5**
MIB Mutribah 75.68 299 *e*P **P** **17 34 17.4 -0.7**
RST Umm Al-Ruwaisa 75.96 299 *e*P **P** **17 34 18.8 -0.9**
AKT Akhty 76.12 311 *e*P **P** **17 34 21.0 +0.5**
AKT *e* 17 34 29.2
AKT *e**PP **pP** **17 36 15.0 +3.0**
AKT *e* 17 37 21.4
AKT *e* 17 43 14.9
AKT pmax pmax
comp=Z,58nm,1.1s
KIRV Kirov 77.43 329 S **S** **17 43 29.7 -5.0**
comp=Z,2.7nm,0.5s,baz=316,slow=22,SNR=17
BELG Belogornoye 77.44 322 S **S** **17 43 31.4 -3.7**
comp=Z,17nm,0.9s,baz=81,slow=22,SNR=16
BELG Belogornoye 77.44 322 *i* P **P** **17 34 27.1 -0.2**
BELG pmax pmax
comp=Z,34nm,1.2s
SDPT Sand Point 77.59 35 IAmb IAmb 17 34 29.5
comp=Z,74nm,0.9s
SDPT Sand Point 77.59 35 P **P** **17 34 28.7 +0.6**
baz=261
GROC Groznyy 77.69 313 *e*P **P** **17 34 29.1 +0.2**
GROC *e* 17 37 34.6
GROC *e*PPP PPP 17 39 25.6
GROC *e*S **S** **17 43 36.5 -1.6**
GROC pmax pmax
comp=Z,115nm,1.2s
GNI Garni 78.28 310 P **P** **17 34 33.6 +1.3**
XMAS Kiritimati 78.61 89 P **P** **17 34 34.2 -0.2**
XMAS IAmb IAmb 17 34 38.1
comp=Z,99nm,1.1s
CHGN Chignik 78.88 34 P **P** **17 34 35.6 +0.7**
baz=263
ZEI Tsey 79.05 312 *e*P **P** **17 34 34.7 -1.8**
ZEI pmax pmax
comp=Z,22nm,1.4s
AKH Akhalkalaki 79.29 311 ⇑P **P** **17 34 39.6 +1.9**
NCK Nalchik 79.31 313 *i* P **P** **17 34 37.8 +0.2**
NCK pmax pmax
comp=Z,26nm,1.1s
ONI Oni 79.38 312 P **P** **17 34 39.0 +1.0**
ONI pmax pmax
comp=Z,47nm,1.3s
ONI Oni 79.38 312 P **P** **17 34 39.0 +1.0**
MLOA Mauna Loa Obse 79.44 71 P **P** **17 34 38.6 -0.6**
AIN Ainahou 79.55 71 P **P** **17 34 40.9 +1.4**
KARS Kars 79.58 310 P **P** **17 34 39.5 +0.3**
KARS pmax pmax
comp=Z,286nm,1.1s
KARS Kars 79.58 310 P **P** **17 34 39.5 +0.3**
GOF Gofitskoye 79.79 315 ⇑*e*P **P** **17 34 40.7 +0.7**
GOF pmax pmax
comp=Z,41nm,0.8s
PRGR Permogore 79.80 332 *e*P **P** **17 34 38.0 -1.7**
PRGR *e*S **S** **17 43 53.2 -6.0**
PRGR pmax pmax
comp=Z,98nm,1.1s
KBZ Khabaz 79.83 313 P **P** **17 34 40.6 +0.3**
comp=Z,19nm,1.1s,baz=91,slow=2.3,SNR=25
KBZ pP **pP** **17 36 35.1 +1.9**
comp=Z,6.7nm,1.2s,baz=68,slow=7.0,SNR=1.9
NEY Neytrino 79.94 313 *i* P **P** **17 34 42.3 +1.2**
NEY pmax pmax
comp=Z,10.0nm,1.2s
SIRT Sirnak 79.99 307 P **P** **17 34 41.1 -0.3**
SIRT pP **pP** **17 36 31.7 -2.6**
KIV Kislovodsk 79.99 314 *i* P **P** **17 34 41.5 +0.2**
SNR=5.5
KIV Kislovodsk 79.99 314 *e*P **P** **17 34 41.2 -0.1**
KIV *e*S **S** **17 44 02.6 +0.4**
KIV pmax pmax
comp=Z,27nm,1.1s
KIV MLR MLR
comp=Z,69nm,19.0s
KIV Kislovodsk 79.99 314 P **P** **17 34 41.1 -0.1**
GURO Guroymak-BITLI 80.33 308 P **P** **17 34 43.4 +0.2**
GURO IAmb IAmb 17 34 45.8
comp=Z,96nm,1.1s
GURO **pP** **17 36 39.1 +2.8**
CHVG Ch'k'valeri 80.39 312 ⇑P **P** **17 34 44.4 +1.1**
CHVG Ch'k'valeri 80.39 312 ⇑P **P** **17 34 44.4 +1.1**

BCA Borcka 80.70 311 ⇑P **P** **17 34 45.7 +0.8**
N18K Kilae Creek 80.70 29 P **P** **17 34 45.9 +1.4**
baz=264
O18K Koktuh Hills 80.96 30 IAmb IAmb 17 34 48.6
comp=Z,62nm,0.9s
O18K Koktuh Hills 80.96 30 P **P** **17 34 47.7 +1.9**
baz=265
VRH Novokhopyorsk 80.98 321 *e*P **P** **17 34 45.5 -0.6**
VRH *e*S **S** **17 44 07.6 -4.1**
VRH pmax pmax
comp=Z,60nm,0.8s
VRH smax smax
comp=N,230nm,1.7s
L19K White Mountain 81.34 28 P **P** **17 34 48.5 +0.8**
L19K IAmb IAmb 17 34 51.3
comp=Z,51nm,1.1s
L19K White Mountain 81.34 28 P **P** **17 34 49.1 +1.3**
baz=265,SNR=18
N19K Bonanza Creek 81.40 29 P **P** **17 34 48.9 +0.7**
N19K IAmb IAmb 17 34 51.1
comp=Z,72nm,1.0s
N19K Bonanza Creek 81.40 29 P **P** **17 34 50.2 +2.0**
baz=265,SNR=20
O19K Port Alsworth 81.43 30 P **P** **17 34 47.4 -0.8**
O19K Port Alsworth 81.43 30 P **P** **17 34 49.7 +1.5**
baz=266
M19K Big River Lodg 81.53 28 P **P** **17 34 50.9 +2.2**
baz=265,SNR=9.9
Q19K Cape Douglas, 81.69 31 IAmb IAmb 17 34 51.2
comp=Z,75nm,0.8s
Q19K Cape Douglas, 81.69 31 P **P** **17 34 50.4 +0.8**
baz=266
OHAK Old Harbor 81.77 33 IAmb IAmb 17 34 52.3
comp=Z,70nm,0.9s
OHAK Old Harbor 81.77 33 P **P** **17 34 51.5 +1.5**
baz=267
K20K Telida 81.80 27 P **P** **17 34 51.3 +1.2**
K20K IAmb IAmb 17 34 53.2
comp=Z,45nm,1.0s
K20K Telida 81.80 27 P **P** **17 34 52.1 +2.0**
baz=265,SNR=21
L20K Farewell, AK 81.82 28 P **P** **17 34 52.3 +2.0**
baz=266,SNR=15
J20K Nowinta River 81.84 26 P **P** **17 34 51.5 +1.3**
J20K IAmb IAmb 17 34 53.4
comp=Z,51nm,1.0s
J20K Nowinta River 81.84 26 P **P** **17 34 52.2 +2.0**
baz=265,SNR=22
SOC Sochi 82.14 313 *e*P **P** **17 34 50.3 -1.9**
SOC *e*PPP PPP 17 40 04.3
SOC *e*S **S** **17 44 19.9 -3.8**
SOC *e*SSS SSS 17 53 28.2
SOC pmax pmax
comp=Z,30nm,0.9s
IMAR Indian Mountai 82.16 24 P **P** **17 34 53.1 +1.3**
KDAK Kodiak Island 82.18 33 P **P** **17 34 53.6 +1.6**
comp=Z,46nm,0.9s,baz=142,slow=3.0,SNR=23
KDAK Kodiak Island 82.18 33 P **P** **17 34 52.9 +0.8**
KDAK IAmb IAmb 17 34 54.4
comp=Z,67nm,0.9s
KDAK Kodiak Island 82.18 33 P **P** **17 34 53.2 +1.1**
baz=267
VORD Divnogorie 82.50 321 *e*P **P** **17 34 53.2 -0.6**
VORD pmax pmax
comp=Z,130nm,1.6s
H21K Melozitna Rive 82.52 25 P **P** **17 34 55.7 +2.0**
baz=266,SNR=25
VORR Voronezh 82.57 321 *e*P **P** **17 34 53.0 -1.2**
VORR pmax pmax
comp=Z,300nm,1.4s
VSR Storozhevoye 82.59 321 *e*P **P** **17 34 53.8 -0.5**
VSR *e*S **S** **17 44 22.8 -5.0**
VSR pmax pmax
comp=Z,80nm,1.1s
VSR smax smax
comp=N,80nm,1.1s
CHUM Lake Minchumin 82.62 26 P **P** **17 34 56.2 +2.0**
baz=267,SNR=13
PPLA Purkeypile 82.63 27 P **P** **17 34 55.5 +1.1**
PPLA IAmb IAmb 17 34 57.4
comp=Z,79nm,1.8s
PPLA pP **pP** **17 36 46.9 -1.6**
PPLA Purkeypile 82.63 27 P **P** **17 34 55.7 +1.3**
baz=267
KLMR Klimovskoe 82.67 331 *e*P **P** **17 34 51.3 -3.2**
KLMR *e* 17 38 09.5
KLMR pmax pmax
comp=Z,165nm,1.3s
KLMR Klimovskoe 82.67 331 *e*P **P** **17 34 51.3 -3.2**
KLMR AMP 17 34 55.5
comp=Z,165nm,1.3s
KLMR *e*PP **PP** **17 38 09.5 -4.1**
CAST Castle Rocks 82.70 27 P **P** **17 34 55.9 +1.3**
baz=267,SNR=8.2
CAST S **S** **17 44 28.1 -0.4**
baz=267
LPSR Galich'ya Gora 82.75 322 *e*P **P** **17 34 54.6 -0.5**
LPSR *e*S **S** **17 44 21.9 -7.5**
LPSR pmax pmax
comp=Z,90nm,1.0s
LPSR smax smax
comp=E,90nm,1.5s
I21K Tanana 82.84 25 P **P** **17 34 56.9 +1.6**
baz=267,SNR=18
SKT Skwentna 82.89 28 P **P** **17 34 55.6 -0.1**
baz=268,SNR=6.6
CNPM China Poot 82.95 31 P **P** **17 34 56.5 +0.5**
CNPM IAmb IAmb 17 34 57.4
comp=Z,70nm,1.2s
BRLK Bradley Lake 83.13 31 IAmb IAmb 17 34 58.7
comp=Z,36nm,0.9s
BRSE Bradley Lake S 83.21 31 P **P** **17 34 58.2 +0.9**
baz=269
BPAW Bear Paw Mtn. 83.22 26 P **P** **17 34 58.5 +1.3**
baz=268,SNR=15
BPAW S **S** **17 44 33.4 -0.3**
baz=268
SUA Susitna One 83.25 29 P **P** **17 34 58.2 +0.7**
baz=269
MLY Manley 83.36 25 P **P** **17 34 59.1 +1.2**
baz=268,SNR=21
MLY S **S** **17 44 35.6 +0.6**
baz=268
TRF Thorofare Moun 83.51 27 P **P** **17 34 59.9 +1.0**
baz=269
TRF S **S** **17 44 35.8 -1.0**
baz=269
MOS Moscow 83.55 325 *e*P **P** **17 34 56.5 -2.5**
MOS *e**PP **pP** **17 36 52.8 -0.4**
MOS *e* 17 38 17.2
MOS *e*S **SKSac** **17 44 25.8 -5.4**
MOS pmax pmax
comp=Z,110nm,1.4s
MOS pmax pmax
comp=Z,200nm,1.5s
COLD Coldfoot 83.64 23 P **P** **17 35 01.3 +2.0**
COLD Coldfoot 83.64 23 P **P** **17 35 01.6 +2.3**
baz=268
COLD S **S** **17 44 39.4 +1.7**
baz=268
RC01 Rabbit Creek A 83.73 29 P **P** **17 35 00.4 +0.6**
baz=270
RC01 S **S** **17 44 36.4 -2.3**
baz=270
O22K Cooper Landing 83.73 30 P **P** **17 35 00.3 +0.6**
baz=270
ANN Anapa 83.77 314 *d* iP **P** **17 34 59.6 -0.7**
ANN *e*S **SKSac** **17 44 32.2 -0.8**
ANN pmax pmax
comp=Z,137nm,0.9s
SEW Seward 83.86 30 P **P** **17 35 01.4 +1.0**
baz=270
SEW S **S** **17 44 38.9 -1.1**
baz=270
TOLK Toolik Lake Re 83.92 22 P **P** **17 35 02.5 +1.8**
baz=269
I23K Minto, Yukon-K 83.94 25 P **P** **17 35 01.6 +0.8**
I23K **pP** **17 36 57.1 +1.9**
I23K Minto, Yukon-K 83.94 25 P **P** **17 35 02.2 +1.5**
baz=269,SNR=15
I23K S **S** **17 44 40.7 +0.1**
baz=269
PMR Palmer 84.02 29 P **P** **17 35 01.8 +0.6**
PMR pmax pmax
comp=Z,15nm,1.1s
PMR Palmer 84.02 29 P **P** **17 35 01.8 +0.6**
baz=270
NEA2 Nenana 84.06 26 P **P** **17 35 01.9 +0.5**
baz=270
NEA2 S **S** **17 44 41.8 0.0**
baz=270
MCK McKinley 84.12 27 P **P** **17 35 02.4 +0.7**
baz=270
MCK S **S** **17 44 41.1 -1.4**
baz=270
OBN Obninsk 84.16 325 *d* iP **P** **17 35 01.8 -0.2**
OBN *i* *PP **pP** **17 36 58.1 +1.7**
OBN *i* 17 38 25.6
OBN *i* S **SKSac** **17 44 31.2 -3.8**
OBN pmax pmax
comp=Z,138nm,1.2s
OBN Obninsk 84.16 325 P **P** **17 35 01.8 -0.2**
OBN IAmb IAmb 17 35 03.0
comp=Z,72nm,0.8s
GAZ Gaziantep 84.16 307 P **P** **17 35 00.9 -1.6**
GAZ IAmb IAmb 17 35 03.4
comp=Z,63nm,1.2s
GAZ **pP** **17 36 55.4 -1.7**
MAW Mawson 84.17 200 P **P** **17 35 02.5 +0.7**
comp=Z,7.4nm,0.8s,baz=48,slow=8.4,SNR=7.0
KNK Knik Glacier 84.34 29 P **P** **17 35 03.8 +0.9**
baz=271
KNK S **S** **17 44 43.7 -1.1**
baz=271
SML Sawmill 84.40 28 P **P** **17 35 03.6 +0.4**
baz=271,SNR=5.1
SML S **S** **17 44 44.9 -0.5**
baz=271
PWL Port Wells 84.41 29 P **P** **17 35 02.2 -1.0**
WRH Wood River Hil 84.48 26 P **P** **17 35 02.0 -1.4**
H24K Noodor Dome 84.56 24 P **P** **17 35 05.2 +1.4**
baz=271,SNR=18
H24K S **S** **17 44 48.4 +1.6**
baz=271
TCOL CIGO, UAF Yank 84.58 25 S **S** **17 44 45.4 -1.4**
baz=271
ASF Jabal al Asfar 84.63 302 P **P** **17 35 06.2 +1.2**
comp=Z,30nm,0.9s,baz=314,slow=1.6,SNR=49
ASF pP **pP** **17 37 02.8 +3.1**
comp=Z,13nm,1.2s,baz=258,slow=1.3,SNR=4.8
ASF PP **PP** **17 38 33.0 +2.7**
comp=Z,7.4nm,1.1s,baz=285,slow=3.4,SNR=4.0
WAT6 Susitna Watana 84.67 28 P **P** **17 35 05.0 +0.3**
baz=271,SNR=5.9
WAT6 S **S** **17 44 46.6 -1.6**
baz=271
DHY Denali Highway 84.83 27 P **P** **17 35 06.1 +0.7**
baz=271
DHY S **S** **17 44 48.0 -1.6**
baz=271
LVZ Lovozero 84.86 338 P **P** **17 35 04.0 -1.3**
LVZ *PP **pP** **17 36 58.2 -1.8**
LVZ pmax pmax
comp=Z,19nm,0.9s
LVZ Lovozero 84.86 338 P **P** **17 35 04.0 -1.3**
LVZ pP **pP** **17 36 58.2 -1.8**
HDA Harding Lake 84.98 26 P **P** **17 35 05.3 -0.6**
baz=272,SNR=11
HDA S **S** **17 44 47.8 -2.9**
baz=272
HDA S **S** **17 44 47.8 -2.9**
baz=272
ILAR Eielson Array 85.00 25 P **P** **17 35 05.8 -0.2**
comp=Z,2.0nm,0.6s,baz=231,slow=5.5,SNR=9.4
GLI Glacier Island 85.02 29 P **P** **17 35 06.9 +0.7**
baz=272
GLI S **S** **17 44 50.0 -1.3**
baz=272
BNN Bunyan 85.16 308 P **P** **17 35 06.5 -1.0**
BNN IAmb IAmb 17 35 09.2
comp=Z,140nm,1.3s
BNN pP **pP** **17 37 01.4 -1.0**
VNDA Vanda 85.30 172 P **P** **17 35 07.5 +0.4**
comp=Z,20nm,0.9s,baz=311,slow=5.9,SNR=91
VNDA Vanda 85.30 172 IAmb IAmb 17 35 08.7
comp=Z,30nm,1.1s
M24K Tolsona, Glenn 85.41 28 IAmb IAmb 17 35 10.1
comp=Z,42nm,1.1s
M24K Tolsona, Glenn 85.41 28 P **P** **17 35 09.3 +1.2**
baz=272
M24K S **S** **17 44 56.8 +1.6**
baz=272
SNOP Sinop 85.49 312 P **P** **17 35 07.3 -1.5**
SNOP IAmb IAmb 17 35 10.8
comp=Z,58nm,1.4s
KLU Klutina 85.56 29 IAmb IAmb 17 37 53.9
comp=Z,58nm,1.9s
KLU Klutina 85.56 29 P **P** **17 35 09.5 +0.7**
baz=273
KLU S **S** **17 44 57.0 +0.4**
baz=273
J25K Salcha River, 85.66 26 P **P** **17 35 08.8 -0.5**
baz=273,SNR=6.9
J25K S **S** **17 44 55.0 -2.4**
baz=273
EYAK Cordova Ski Ar 85.69 30 S **S** **17 44 57.3 -0.4**
baz=273
PAX Paxson 85.70 27 P **P** **17 35 09.9 +0.4**
baz=273,SNR=7.6
PAX S **S** **17 44 56.5 -1.4**
baz=273
GHAJ Ghor Haditha 85.81 301 P **P** **17 35 10.9 +0.3**
GHAJ IAmb IAmb 17 35 12.6
comp=Z,54nm,1.1s
GHAJ pP **pP** **17 37 05.1 -0.5**
HARP HAARP 85.87 28 P **P** **17 35 11.5 +1.3**
baz=273
RIDG Independent Ri 85.94 26 P **P** **17 35 11.0 +0.4**
baz=274,SNR=7.5
RIDG S **S** **17 44 59.4 -0.7**
baz=274
N25K Chitina, Valde 86.19 29 P **P** **17 35 12.9 +1.0**
baz=274
N25K S **S** **17 45 02.6 +0.1**
baz=274
BMRM Bremner River 86.23 29 P **P** **17 35 13.0 +1.0**
baz=274
BMRM S **S** **17 45 03.2 +0.3**
baz=274
SBA Scott Base 86.23 172 P **P** **17 35 12.7 +1.1**
SBA pmax pmax
comp=Z,66nm,1.6s
SBA Scott Base 86.23 172 P **P** **17 35 12.7 +1.1**
SBA IAmb IAmb 17 35 14.4
comp=Z,66nm,1.6s
SCRK Sand Creek 86.30 26 P **P** **17 35 13.0 +0.6**
baz=274
SCRK S **S** **17 45 01.1 -2.6**
baz=274
J26L Joseph Creek 86.44 26 P **P** **17 35 13.6 +0.5**
baz=275,SNR=8.5
GLB Gilahina Butte 86.58 29 P **P** **17 35 13.9 +0.2**
L26K Log Cabin Wild 86.66 27 P **P** **17 35 15.4 +1.4**
baz=275
KMBO Kilima Mbogo 86.67 269 P **P** **17 35 16.6 +1.3**
comp=Z,1.9nm,0.6s,baz=78,slow=5.9,SNR=6.5
KMBO Kilima Mbogo 86.67 269 P **P** **17 35 15.3 -0.1**
KMBO Kilima Mbogo 86.67 269 P **P** **17 35 15.3 -0.1**
KMBO **pP** **17 37 07.8 -1.4**
BR131 Keskin Array S 86.82 309 P **P** **17 35 14.4 -1.0**
BR131 **pP** **17 37 10.6 -0.3**
BR131 Keskin Array S 86.82 309 P **P** **17 35 14.9 -0.5**
SNR=11
BRTR Keskin Array B 86.82 309 P **P** **17 35 14.9 -0.5**
comp=Z,8.2nm,0.9s,baz=120,slow=5.4,SNR=62
BRTR pP **pP** **17 37 10.8 -0.1**
comp=Z,1.6nm,1.0s,baz=113,slow=3.3,SNR=2.9
BRTR PP **PP** **17 38 48.5 +1.0**
comp=Z,4.0nm,0.9s,baz=111,slow=6.8,SNR=6.6
M26K Nabesna, AK 86.88 28 P **P** **17 35 16.0 +1.0**
baz=275
M26K S **S** **17 45 10.5 +1.5**
baz=275
K27K Chicken 87.13 26 P **P** **17 35 17.9 +1.8**
baz=276
PUL Pulkovo 87.27 330 *i* P **P** **17 35 17.4 +0.6**
PUL pmax pmax
comp=Z,32nm,0.8s
L27K Beaver Creek, 87.35 27 P **P** **17 35 18.6 +1.4**
baz=276,SNR=12
BCAR Beaver Creek A 87.36 27 P **P** **17 35 17.3 0.0**
M27K Edge Creek, AK 87.40 28 P **P** **17 35 18.5 +0.9**

baz=276
EGAK Eagle 87.44 25 P P 17 35 17.0 -0.6
baz=277
GRNC Granite Creek 87.64 29 IAmb IAmb 17 35 21.4
comp=Z,23nm,1.0s
BARN Barnard Glacie 87.65 29 IAmb IAmb 17 35 21.6
comp=Z,21nm,0.8s
CTG Chitna Glacier 87.81 29 P P 17 35 20.9 +1.3
baz=277,SNR=7.1
CTGM Chitina Glacie 87.82 29 IAmb IAmb 17 35 22.4
comp=Z,31nm,1.0s
BVCY Beaver Creek 87.86 28 P P 17 35 21.8 +2.2
baz=277
ARA0 ARCESS Array S 88.03 340 *e*P P 17 35 20.0 -0.3
ARCES ARCESS Array B 88.03 340 P P 17 35 19.8 -0.4
comp=Z,15nm,0.9s,baz=89,slow=3.6,SNR=26
ARCES PKKP **PKKPbc** 17 53 02.1 -3.4
comp=Z,2.2nm,0.9s,baz=277,slow=3.3,SNR=3.8
ARCES ARCESS Array B 88.03 340 P P 17 35 19.2 -1.1
ARCES IAmb IAmb 17 35 20.7
comp=Z,23nm,1.0s
DAWY Dawson 88.30 26 P P 17 35 22.4 +0.8
baz=278
PPT Papeete 88.34 108 P P 17 35 25.5 +2.7
comp=Z,39nm,0.9s,baz=289,slow=8.1,SNR=6.4
PPT2 Papeete2 88.35 108 *e*P P 17 35 24.7 +1.8
comp=Z,102nm,1.4s
PAE Paea 88.35 108 *e*P P 17 35 24.4 +1.6
comp=Z,14nm,1.2s
SPB2 Spitsbergen Ar 88.44 349 IAmb IAmb 17 35 22.7
comp=Z,30nm,0.8s
SPA0 Spitsbergen Ar 88.44 349 *e*P P 17 35 22.2 +0.2
HAMF Hammerfest 88.44 341 *e*P P 17 35 21.5 -0.6
TIAR Tiarei 88.56 108 *e*P P 17 35 25.5 +1.7
comp=Z,8.4nm,1.1s
MDUB Mudurnu 88.62 310 IAmb IAmb 17 35 24.9
comp=Z,55nm,1.0s
AKASG Malin Array Be 88.89 321 P P 17 35 23.6 -1.0
comp=Z,2.7nm,0.4s,baz=68,slow=4.4,SNR=23
AKASG PP **PP** 17 39 04.7 +1.3
comp=Z,0.5nm,0.3s,baz=68,slow=7.7,SNR=6.1
AKASG S **SKSac** 17 45 00.3 -3.6
comp=Z,0.6nm,0.6s,baz=76,slow=6.5,SNR=4.3
AKASG Malin Array Be 88.89 321 P P 17 35 23.1 -1.5
KTK1 Kautokeino 88.92 339 *e*P P 17 35 23.7 -0.7
HSPB Hornsund (broa 88.98 348 *e*P P 17 35 24.4 -0.2
KBS Kingsbay 89.01 350 *e*P P 17 35 24.5 -0.1
EPYK Eagle Plains 89.03 23 IAmb IAmb 17 35 27.8
comp=Z,29nm,1.3s
EPYK Eagle Plains 89.03 23 P P 17 35 25.8 +0.8
baz=281
FIA1 FINESS Array S 89.13 332 IAmb IAmb 17 35 28.6
comp=Z,49nm,1.6s
FINES FINESS Array B 89.13 332 P P 17 35 24.9 -0.5
comp=Z,9.6nm,0.7s,baz=86,slow=4.5,SNR=54
FINES FINESS Array B 89.13 332 P P 17 35 25.0 -0.5
MNK Minsk 89.21 325 *i* P P 17 35 24.1 -1.9
MNK *i* PPP PPP 17 41 05.2
MNK *i* S **SKSac** 17 45 03.4 -2.2
MNK *i* 17 45 31.8
MNK *i* SP **SP** 17 46 38.5 -0.7
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=Z,29nm,0.9s
MNK pmax pmax
comp=N,6.0nm,0.9s
MNK Minsk 89.21 325 *i* P P 17 35 24.1 -1.9
comp=E,3.0nm,0.9s
MNK *i* P P 17 35 24.1 -1.9
comp=N,6.0nm,0.9s
MNK *i* P P 17 35 24.1 -1.9
comp=Z,29nm,0.9s,baz=82
MNK *i* pP **pP** 17 37 19.0 -2.7
MNK *i* sP sP 17 37 51.3 -23
MNK *i* PP PP 17 38 46.0 -20
MNK *i* PPP PPP 17 41 05.2
MNK *i* SKS SKiKP 17 43 28.1 +23
MNK *i* S **SKSac** 17 45 03.5 -2.1
MNK *i* sS sS 17 48 41.0 -17
MNK *i* SS SS 17 50 42.8 -57
MNK *i* SSS SSS 17 54 19.1
VSU Vasula 89.27 329 *e*P P 17 35 26.0 -0.1
ISP Isparta 89.42 308 P P 17 35 26.1 -1.5
ISP *PP **pP** 17 37 22.9 -0.9
ISP Isparta 89.42 308 P P 17 35 26.1 -1.5
ISP pP **pP** 17 37 22.9 -0.9
HYT Haines Junctio 89.69 29 IAmb IAmb 17 35 31.8
comp=Z,14nm,0.9s
HYT Haines Junctio 89.69 29 P P 17 35 29.2 +0.8
baz=280
PMOR Pomariorio Ree 89.70 105 *e*P P 17 35 30.8 +1.7
comp=Z,101nm,1.2s
SORM Soroca 89.78 318 ⇑P P 17 35 28.1 -0.7
SORM Soroca 89.78 318 ⇑P P 17 35 28.1 -0.7
JETT Jettan, Norway 89.78 340 *e*P P 17 35 29.0 +0.6
NACGM Naroch 89.79 325 *i* P P 17 35 28.5 -0.2
INK Inuvik 89.82 21 P P 17 35 30.9 +2.3
comp=Z,5.0nm,0.8s,baz=225,slow=11,SNR=3.0
VAH Vaihoa 89.98 105 *e*P P 17 35 32.0 +1.6
comp=Z,51nm,1.2s
MEF Metsahovi 90.15 330 *e*P P 17 35 30.3 +0.1
TIRR Tirgusor 90.21 315 ⇓P P 17 35 29.5 -1.4
TIRR Tirgusor 90.21 315 ⇓P P 17 35 29.5 -1.4
TRO Tromso 90.26 340 *e*P P 17 35 29.7 -0.8
VLDR Vladesti 90.26 316 ⇓P P 17 35 31.4 +0.3
CFR Carcaliu 90.31 315 ⇑P P 17 35 31.1 -0.2
CFR Carcaliu 90.31 315 ⇑P P 17 35 31.1 -0.2
TESR Tescani 91.15 317 ⇑P P 17 35 35.4 +0.2
VRI Vrincioaia 91.20 316 ⇑P P 17 35 35.9 +0.4
VRI Vrincioaia 91.20 316 ⇑P P 17 35 35.9 +0.4
PLOR Plostina 91.25 316 ⇓P P 17 35 35.8 0.0
PLOR Plostina 91.25 316 ⇓P P 17 35 35.8 0.0
RAF Rauma 91.26 332 *e*P P 17 35 34.9 -0.5
NOR Nord 91.33 355 *i* P P 17 35 34.9 -0.4
NOR Nord 91.33 355 *i* P P 17 35 34.9 -0.4
FARO Faro, Yukon 91.35 27 P P 17 35 37.0 +1.1
baz=284
MLR Muntele Rosu 91.80 316 ⇑P P 17 35 38.1 -0.3
MLR Muntele Rosu 91.80 316 ⇑P P 17 35 38.1 -0.3
MLR Muntele Rosu 91.80 316 IAmb IAmb 17 35 41.1
comp=Z,38nm,1.6s
BURAR Bucovina Array 91.94 318 ⇑P P 17 35 39.7 +0.8
BURAR Bucovina Array 91.94 318 ⇑P P 17 35 39.7 +0.8
BURAR Bucovina Array 91.94 318 IAmb IAmb 17 35 40.5
comp=Z,15nm,0.9s
BUR08 Bucovina Ar. S 91.94 318 IAmb IAmb 17 35 40.2
comp=Z,15nm,1.0s
SUW Suwalki 92.01 325 *e*P P 17 35 38.4 -0.5
SUW *epP **pP** 17 37 36.2 +1.2
SUW Suwalki 92.01 325 *e*P P 17 35 39.4 +0.4
SUW Suwalki 92.01 325 P P 17 35 38.6 -0.4
SUW *PP **pP** 17 37 35.2 +0.2
SUW pmax pmax
comp=Z,57nm,0.9s
SUW Suwalki 92.01 325 P P 17 35 38.6 -0.4
SUW **pP** 17 37 35.2 +0.2
STEI Steigen 92.05 339 *e*P P 17 35 37.4 -1.5
DOPR Dopca 92.10 316 ⇑P P 17 35 39.6 0.0
FAUS Fauske 92.22 338 *e*P P 17 35 38.7 -0.9
LVV L'vov 92.32 320 *e*P P 17 35 38.0 -2.5
VOIR 92.43 316 ⇓P P 17 35 40.0 -1.2
VOIR 92.43 316 ⇓P P 17 35 40.0 -1.2
LOF Lofoten 92.58 339 *e*P P 17 35 40.2 -1.1
ARCR ARCALIA 92.61 318 ⇑P P 17 35 42.6 +0.7
MOR8 Moi Rana 92.94 337 *e*P P 17 35 40.8 -2.2
CJR Cluj-Napoca 93.19 317 ⇑P P 17 35 45.7 +1.1
CJR Cluj-Napoca 93.19 317 ⇑P P 17 35 45.7 +1.1
CBBR Cluj-Babes-Bol 93.21 317 ⇑P P 17 35 45.4 +0.7
KONS Konsvik 93.32 338 *e*P P 17 35 44.2 -0.5
TRPA Tarpa 93.61 319 ⇑P P 17 35 46.7 +0.2
UZH Uzhgorod 93.67 319*i* P P 17 35 46.8 +0.1
DRGR 93.77 317 ⇑P P 17 35 46.6 -0.7
DRGR 93.77 317 ⇑P P 17 35 46.6 -0.7
TGTN Hyland Airport 93.85 27 P P 17 35 48.7 +1.4
baz=288
DLBC Dease Lake 93.94 30 P P 17 35 48.5 +0.7
comp=Z,5.1nm,0.2s,baz=77,slow=23,SNR=7.8
DLBC Dease Lake 93.94 30 IAmb IAmb 17 35 50.3
comp=Z,12nm,0.9s
GZR Gura Zlata 94.01 316 ⇑P P 17 35 48.6 +0.2
GZR Gura Zlata 94.01 316 ⇑P P 17 35 48.6 +0.2
CRVS Cervenica-Dubn 94.15 320 *e*P P 17 35 49.7 +0.8
CRVS pmax pmax
comp=Z,49nm,1.2s
CRVS Cervenica-Dubn 94.15 320 *e*P P 17 35 49.7 +0.8
VTS Vitosha 94.22 313 ⇑P P 17 35 49.3 -0.3
VTS Vitosha 94.22 313 ⇑P P 17 35 49.3 -0.3
NSS Namsos 94.50 336 *e*P P 17 35 48.7 -1.4
SIRR Siria 94.59 317 ⇑P P 17 35 51.3 +0.3
BZS Buzias 94.76 316 ⇓P P 17 35 50.8 -1.0
BZS Buzias 94.76 316 ⇓P P 17 35 50.8 -1.0
NIE Niedzica 94.77 320 *e*P P 17 35 52.6 +0.8
OJC Ojcow 94.89 321 *e*P P 17 35 52.5 +0.3
OJC *ePP **PP** 17 39 49.9 +0.1
QSPA South Pole Qui 95.14 180 P P 17 35 52.9 -0.2
QSPA IAmb IAmb 17 35 54.8
comp=Z,17nm,1.2s
QSPA pP **pP** 17 37 48.5 +0.2
DAG Danmarks Havn 95.37 352 *i* P P 17 35 52.0 -1.8
DAG IAmb IAmb 17 35 53.8
comp=Z,8.2nm,0.8s
DAG Danmarks Havn 95.37 352 *i* P P 17 35 52.0 -1.8
DAG pmax pmax
comp=Z,8.0nm,0.8s
PSZ Piszkesteto 95.39 319 *e*P P 17 35 55.4 +0.7
PSZ Piszkesteto 95.39 319 IAmb IAmb 17 35 55.5
comp=Z,19nm,1.4s
NC602 NORSAR Array S 96.11 333 *e*P P 17 35 55.8 -1.7
NB2 NORSAR Subarra 96.14 333 P P 17 35 56.1 -1.6
comp=Z,4.3nm,0.8s,baz=72,slow=4.8
NB2 NORSAR Subarra 96.14 333 P P 17 35 56.1 -1.6
baz=72,slow=4.8
NOA NORSAR Array B 96.14 333 P P 17 35 56.6 -1.1
comp=Z,4.2nm,0.9s,baz=69,slow=4.6,SNR=8.3
NOA PP **PP** 17 39 57.6 -1.4
comp=Z,2.5nm,0.9s,baz=71,slow=7.2,SNR=4.7
MORC Moravsky Berou 96.42 321 ⇓P P 17 35 57.4 -1.8
MORC Moravsky Berou 96.42 321 ⇓P P 17 35 57.4 -1.8
MORC Moravsky Berou 96.42 321 *e*PDIFF P 17 35 59.5 +0.3
MORC *ePP **PP** 17 40 05.8 +4.3
JAVC Velka Javorina 96.58 320 *e*PDIFF P 17 36 01.3 +1.3
JAVC *ePP **PP** 17 40 06.3 +3.5
MORH Mrgy, Hungar 96.64 318 ⇑P P 17 35 60.0 -0.2
DOMB Dombas 96.69 334 *e*P P 17 35 59.8 -0.3
KRLC Kraliky 96.81 322 *e*PP **PP** 17 40 05.1 +0.7
KSP Ksiaz 96.88 322 *e*P P 17 36 01.8 +0.6
KSP *ePP **PP** 17 40 09.3 +4.3
DPC Dobruska-Polom 97.01 322 *e*PP **PP** 17 40 08.3 +2.3
DPC *eSKS **SKSac** 17 45 45.2 -3.0
CHVC Chvalec 97.10 322 *e*PP **PP** 17 40 11.1 +4.5
VRAC Vranov 97.14 321 ⇑P Pdif 17 36 03.3 +0.9
VRAC Vranov 97.14 321 ⇑P Pdif 17 36 03.3 +0.9
VRAC Vranov 97.14 321 *e*PDIFF Pdif 17 36 03.0 +0.6
VRAC *ePP **PP** 17 40 07.8 +0.8
UPC Upice 97.15 322 *e*PP **PP** 17 40 11.3 +4.3
LNIZ Loecknitz 97.29 325 *e*Pdiff P 17 36 03.5 +0.7
baz=68,slow=4.3
KRUC Moravsky 97.33 321 *e*PDIFF P 17 36 03.7 +0.4
KRUC *ePP **PP** 17 40 07.8 -0.6
NEEM North Greenlan 97.38 359 *i* P Pdif 17 36 01.8 -1.5
KONO Kongsberg 97.42 332 *e*Pdif P 17 36 04.1 +0.7
AKN Aaknes 97.50 335 *e*Pdif P 17 36 04.6 +0.9
SKAR Skarslia 97.59 333 *e*Pdif P 17 36 04.9 +0.7
RUE Ruedersdorf 97.86 325 *e*P P 17 36 06.4 +0.9
RUE Ruedersdorf 97.86 325 *e*Pdiff P 17 36 06.2 +0.7
baz=68,slow=4.3
CONA Conrad Observa 98.00 320 *i* P P 17 36 06.6 +0.2
comp=Z,6.2nm,1.5s
CONA *eP **PP** 17 40 14.1 +0.5
comp=Z,19nm,1.3s
PRU Pruhonice 98.21 322 *e*PP **PP** 17 40 18.4 +3.4
PRU *eSKS **SKSac** 17 45 49.8 -4.3
BRG Berggiesshubel 98.29 323 *e*Pdiff P 17 36 07.8 +0.3
BRG Berggiesshubel 98.29 323 *e*P P 17 36 08.0 +0.5
BRG Amp 17 36 08.9
comp=Z,9.5nm,1.0s
BRG PP **PP** 17 40 18.7 +3.2
BRG Amp 17 40 22.1
comp=Z,33nm,1.7s
BRG Berggiesshubel 98.29 323 SP SP 17 48 18.0 -0.3
BRG Berggiesshubel 98.29 323 sS sS 17 50 26.0 +6.1
ARSA Arzberg 98.42 319 *i* P P 17 36 08.2 0.0
comp=Z,3.5nm,1.1s
ARSA *eP **PP** 17 40 17.0 +0.3
comp=Z,8.4nm,1.9s
FBE Freiberg 98.63 323 *e*Pdiff P 17 36 09.6 +0.6
baz=68,slow=4.3
FBE *ePP **PP** 17 40 22.8 +4.8
baz=70,slow=7.3
CLL Collm 98.71 324 *e*Pdif Pdif 17 36 09.0 -0.3
comp=Z,31nm,2.2s
CLL *ePP **PP** 17 40 17.0 -1.6
comp=Z,20nm,1.3s
CLL *ePKiKP **PKiKP** 17 40 36.0 -1.3
CLL *ePPP PPP 17 42 29.0
CLL *eSKSac **SKSac** 17 45 52.0 -4.5
CLL *eSdif **S** 17 46 54.0 +0.9
CLL *eSP SP 17 48 17.0 -5.7
CLL *ePS PS 17 49 31.0 -0.1
CLL *e* 17 50 17.0
CLL *e* 17 50 34.0
CLL *eSS 17 56 51.0
CLL *eSSS SSS 17 57 33.0
CLL *eSSSS 18 01 06.0
CLL *eSSSS 18 03 48.0
CLL *e* 18 09 30.0
CLL Collm 98.71 324 *e*P Pdif 17 36 09.0 -0.3
CLL *e* 17 40 17.0
CLL *e* 17 45 47.0
CLL *eS **S** 17 46 54.0 +0.9
CLL pmax pmax
comp=Z,31nm,2.2s
CLL pmax pmax
comp=Z,20nm,1.3s
CLL Collm 98.71 324 *e*Pdiff P 17 36 09.4 0.0
baz=68,slow=4.3
CKRC Cesky Krumlov 98.72 321 *e*PP **PP** 17 40 23.0 +4.1
CKRC *eSKS **SKSac** 17 45 56.0 -0.8
SOKA Soboth 98.91 319 *i* P Pdif 17 36 10.2 -0.3
comp=Z,5.4nm,1.0s
SOKA *eP **PP** 17 40 20.3 -0.2
comp=Z,20nm,1.4s
BLS5 Blasjo 98.97 333 *e*Pdif Pdif 17 36 09.8 -0.5
MOA Molln 99.05 320 *e*P **Pdif** 17 36 11.5 +0.5
comp=Z,6.3nm,1.0s
KHC Kasperske Hory 99.08 321 *e*PP **PP** 17 40 24.9 +3.3
KHC *eSKS 17 45 56.1
GEC2 GERESS Array S 99.09 321 *e*Pdiff **Pdif** 17 36 11.5 +0.2
baz=68,slow=4.3
GEC2 *ePP **PP** 17 40 25.4 +3.7
baz=70,slow=7.3
GERES GERESS Array B 99.09 321 P **Pdif** 17 36 10.8 -0.4
comp=Z,1.7nm,0.9s,baz=67,slow=4.5,SNR=13
GERES pP **pP** 17 38 08.1 +0.3
comp=Z,0.2nm,0.5s,baz=162,slow=40,SNR=1.6
GERES PP **PP** 17 40 22.7 +0.9
comp=Z,7.3nm,1.0s,baz=72,slow=8.6,SNR=15
GERES PKKPbc **PKKPbc** 17 52 35.1 -1.1
comp=Z,1.1nm,1.0s,baz=204,slow=2.9,SNR=5.6
OBKA Obir 99.28 319 *e*P **PP** 17 40 23.9 +0.7
comp=Z,15nm,1.4s
TANN Tannenbergstha 99.33 323 *e*Pdiff **Pdif** 17 36 12.7 +0.5
baz=68,slow=4.3
FLTG Flechtingen 99.38 325 *e*Pdiff **Pdif** 17 36 11.9 -0.3
baz=68,slow=4.3
WERD Werda 99.42 323 *e*PP **PP** 17 40 28.0 +4.0
baz=70,slow=7.3
WERN Wernitzgruen 99.43 323 *e*PP **PP** 17 40 28.1 +3.9
baz=70,slow=7.3
GUNZ Gunzen 99.43 323 *e*Pdiff **Pdif** 17 36 13.1 +0.5
baz=68,slow=4.3
GUNZ *ePP **PP** 17 40 27.9 +3.7
baz=70,slow=7.3
WET Wettzell 99.51 322 *e*Pdiff **Pdif** 17 36 13.3 +0.3
baz=68,slow=4.3
WET *ePP **PP** 17 40 28.9 +4.1
baz=70,slow=7.3
MANZ Manzenberg 99.69 323 *e*Pdiff **Pdif** 17 36 14.5 +0.8
baz=68,slow=4.3
MANZ *ePP **PP** 17 40 29.7 +3.6
baz=70,slow=7.3
ROTZ Rotzenmuhle 99.71 322 *e*Pdiff **Pdif** 17 36 14.5 +0.7
baz=68,slow=4.3
ROTZ *ePP **PP** 17 40 30.6 +4.4
baz=70,slow=7.3
NRDL Niedersach Rie 99.96 325 *e*Pdiff **Pdif** 17 36 14.8 +0.1
baz=68,slow=4.3
RJOB Jochberg 100.03 320 *e*Pdiff **Pdif** 17 36 15.1 -0.3
baz=68,slow=4.3
RJOB *ePP **PP** 17 40 32.1 +3.4
baz=70,slow=7.3
CLZ Clausthal 100.05 325 *e*Pdiff **Pdif** 17 36 15.8 +0.4
baz=68,slow=4.3
GRF Grafenberg Arr 100.33 322 *e*PP **PKiKP** 17 40 36.7 -3.6
baz=70,slow=7.3
ABTA Abfaltersbach 100.53 319 *e*P **PP** 17 40 31.5 -1.1
comp=Z,6.9nm,1.6s
FUR Furstenfeldbru 100.84 321 *e*PP **PKiKP** 17 40 39.0 -2.3
baz=70,slow=7.3
WTTA Wattenberg 100.92 320 *e*P **Pdif** 17 36 18.6 -0.9
comp=Z,7.9nm,1.2s
WTTA *eP **PP** 17 40 35.6 0.0
comp=Z,25nm,1.2s
WATA Walderalm 100.94 320 *e*P **Pdif** 17 36 19.1 -0.4
comp=Z,4.9nm,1.1s
WATA *eP **PP** 17 40 35.6 0.0
comp=Z,26nm,1.2s
SQTA Sankt Quirin 101.21 320 *i* P **Pdif** 17 36 20.7 0.0
comp=Z,3.5nm,0.8s
SQTA *eP **PP** 17 40 37.3 -0.4
comp=Z,18nm,1.3s
MOTA Moosalm 101.24 320 *e*P **Pdif** 17 36 20.5 -0.4
comp=Z,4.6nm,0.9s
MOTA *i* P **PP** 17 40 38.6 +0.8
comp=Z,28nm,1.1s
RETA Reutte 101.40 320 *e*PP **PKiKP** 17 40 38.7 -3.7
comp=Z,23nm,1.1s
FETA Feichten 101.59 320 *i* P **Pdif** 17 36 22.5 +0.1
comp=Z,2.8nm,1.0s
FETA *eP **PP** 17 40 38.4 -2.1
comp=Z,8.6nm,1.1s
UBR Ueberruh 101.75 321 *e*Pdiff **Pdif** 17 36 23.1 0.0
baz=68,slow=4.3
UBR *ePP **PKiKP** 17 40 44.7 +1.6
baz=70,slow=7.3
DAVA Damuels 102.03 320 *e*P **PKiKP** 17 40 45.9 +2.3
comp=Z,20nm,1.5s
KEST Kesra 106.43 309 PP **PP** 17 41 10.6 -5.6
comp=Z,9.8nm,1.0s,baz=59,slow=5.9,SNR=7.9
NVAR Mina Array Bea 108.04 47 Pdiff **Pdif** 17 36 52.4 +1.0
comp=Z,0.5nm,0.7s,baz=272,slow=6.4,SNR=4.1
NVAR PKiKP **PKiKP** 17 40 53.6 -1.5
comp=Z,1.4nm,0.9s,baz=272,slow=3.0,SNR=4.7
NVAR PP **PP** 17 41 28.4 +0.6
comp=Z,2.1nm,1.0s,baz=276,slow=8.1,SNR=4.9
NVAR PKKPbc **PKKPbc** 17 52 10.0 +0.2
comp=Z,0.6nm,0.7s,baz=126,slow=4.3,SNR=5.0
BELC Belle Mtn. Jos 111.44 50 PKiKP **PKiKP** 17 41 03.6 +2.0
baz=292
MONP2 Monument Peak 111.53 52 PKiKP **PKiKP** 17 41 03.0 +1.1
baz=292
LAO LASA Array 112.00 35 PKiKP **PKiKP** 17 41 04.0 +1.8
baz=305
PDAR Pinedale Array 112.10 40 PKiKP **PKiKP** 17 41 01.7 -1.0
comp=Z,0.4nm,0.7s,baz=48,slow=2.2,SNR=4.1
PDAR PP **PP** 17 41 53.0 -3.4
comp=Z,0.3nm,0.5s,baz=316,slow=4.1,SNR=3.5
PDAR PKKPbc **PKKPab** 17 52 04.1 -3.4
comp=Z,0.9nm,0.8s,baz=109,slow=6.9,SNR=7.3
O20A White River Ci 114.28 42 P **PKiKP** 17 41 07.7 +0.8
baz=301
ESDC Sonseca Array 114.40 318 PP PP 17 42 09.1 -3.3
comp=Z,2.6nm,0.9s,baz=52,slow=7.9,SNR=9.6
ESDC PKKPbc **PKKPab** 17 51 56.0 -1.0
comp=Z,0.3nm,0.8s,baz=197,slow=4.6,SNR=4.2
RSSD Black Hills 114.73 36 P **PKiKP** 17 41 07.9 +0.2
baz=306
ANMO Albuquerque 118.11 46 P **PKiKP** 17 41 16.0 +1.5
baz=300
121A Cookes Peak, D 118.30 49 P **PKiKP** 17 41 16.3 +1.5
baz=298
T25A Trinidad 118.40 43 P **PKiKP** 17 41 16.3 +1.3
baz=303
ECSD EROS Data Cent 119.14 33 P **PKiKP** 17 41 16.3 +0.3
baz=312
TORD Torodi Ar. Bea 119.68 288 PKP **PKPdf** 17 41 17.5 -0.2
comp=Z,1.2nm,0.3s,baz=72,slow=1.7,SNR=18
TORD PP **PP** 17 42 53.4 +3.8
comp=Z,2.6nm,1.1s,baz=57,slow=8.5,SNR=5.1
TORD Torodi Ar. Bea 119.68 288 **PKPdf** 17 41 17.1 -0.5
MNTX Cornudas Mount 120.48 48 P **PKiKP** 17 41 19.9 +0.9
baz=299
MSTX Muleshoe 121.22 45 P **PKiKP** 17 41 20.8 +0.3
baz=302
R32A Long Quarter, 121.36 38 **PKiKP** 17 41 20.7 +0.1
KSU1 Kansas State U 122.20 37 P **PKiKP** 17 41 22.6 +0.5
baz=310
TXAR Lajitas Array 122.92 50 PKP **PKiKP** 17 41 24.4 +0.5
comp=Z,3.7nm,1.1s,baz=282,slow=0.6,SNR=18
TXAR SKPbc SKPbc 17 43 44.4
comp=Z,0.2nm,0.5s,baz=231,slow=1.5,SNR=4.0
TXAR PKKPab **PKKPab** 17 51 19.6 0.0
comp=Z,0.3nm,0.7s,baz=119,slow=7.3,SNR=3.8
TXAR Lajitas Array 122.92 50 PKPdf **PKiKP** 17 41 23.9 0.0
JFWS Jewell Farm 122.99 29 P **PKiKP** 17 41 23.6 +0.1
baz=318
WMOK Wichita Mounta 123.53 42 PKiKP **PKPdf** 17 41 23.6 -1.0
WMOK Wichita Mounta 123.53 42 **PKPdf** 17 41 23.6 -1.0
S39A Bolivar 125.07 36 **PKPdf** 17 41 27.0 -0.5
JCT Junction City 125.22 47 PKiKP **PKPdf** 17 41 27.0 -1.0
JCT Junction City 125.22 47 PKPdf **PKPdf** 17 41 27.0 -1.0
JCT PP **PP** 17 43 19.7 -6.0
JCT Junction City 125.22 47 P **PKiKP** 17 41 28.7 +0.3
baz=303
CCM Cathedral Cave 126.00 34 PKiKP **PKPdf** 17 41 28.6 -0.6
CCM Cathedral Cave 126.00 34 **PKPdf** 17 41 28.6 -0.6
CCM Cathedral Cave 126.00 34 P **PKiKP** 17 41 29.5 -0.1
baz=315
WHTX Lake Whitney, 126.03 44 P **PKiKP** 17 41 30.6 +0.7
baz=306
U40A Yellville 126.25 37 P **PKiKP** 17 41 30.2 -0.1
baz=313
MIAR Mount Ida 127.01 39 PKiKP **PKPdf** 17 41 31.1 -0.1
MIAR Mount Ida 127.01 39 PKPdf **PKPdf** 17 41 31.1 -0.1
MIAR Mount Ida 127.01 39 P **PKiKP** 17 41 32.6 +0.8
baz=311
KIC Kosan Boka 127.36 282 *e*PKiKP **PKPdf** 17 41 32.1 -0.4
comp=Z,3.7nm,0.5s
DBIC Dimbokro 127.41 282 PP PP 17 43 42.5 +1.5
comp=Z,4.3nm,1.0s,baz=26,slow=4.3,SNR=4.0
TIC Toumodi 127.58 282 *e*PKiKP **PKPdf** 17 41 32.5 -0.4
LIC Lamto 127.67 282 *e*PKiKP **PKPdf** 17 41 32.4 -0.6
comp=Z,19nm,1.2s
WVT Waverly 129.28 33 PKiKP **PKPdf** 17 41 35.0 -0.5
WVT Waverly 129.28 33 PKPdf **PKPdf** 17 41 35.0 -0.5
WVT Waverly 129.28 33 P **PKiKP** 17 41 36.8 +0.5
baz=318
PLCA Paso Flores 142.39 162 PKP **PKPdf** 17 41 58.4 -1.3
comp=Z,11nm,1.0s,baz=196,slow=3.8,SNR=14
PLCA Paso Flores 142.39 162 PKPdf **PKPdf** 17 41 57.4 -2.2
LC01 Cuneo 143.60 159 PKPdf PKPab 17 42 00.0 -0.3
TGUH Tegucigalpa,Un 143.68 58 *e*P PKPab 17 41 58.8 -2.6
LCCY Blossom Villag 145.86 43 **PKPdf** 17 42 04.8 -1.3
ACON Acoyapa 146.49 59 **PKPdf** 17 42 06.7 -0.7
ML02 Panímavida 146.54 157 **PKPdf** 17 42 06.5 -0.4
ML02 PKPbc **PKPbc** 17 42 09.8 +0.5
TRQA Tornquist 146.91 172 PKiKP **PKPdf** 17 42 07.0 -0.5
TRQA 17 42 10.3
TRQA 17 44 08.3
TRQA Tornquist 146.91 172 PKPdf **PKPdf** 17 42 07.0 -0.5
TRQA PKPbc **PKPbc** 17 42 10.3 0.0
TRQA **pPKPdf** 17 44 08.3 -1.6
ORTG Ortega, Santa 146.99 62 **PKPdf** 17 42 08.9 +0.6
JTS Las Juntas de 147.46 62 PKiKP **PKPdf** 17 42 09.1 +0.1
JTS 17 42 12.8
JTS Las Juntas de 147.46 62 PKPdf **PKPdf** 17 42 09.1 +0.1
JTS **PKPbc** 17 42 12.8 +0.4
JTS Las Juntas de 147.46 62 *e*P **PKPdf** 17 42 10.3 +1.3
CAO2 Cobano, Puntar 147.59 63 **PKPdf** 17 42 08.5 -0.7
CAO2 PKPbc **PKiKP** 17 42 14.0 -0.3
BO02 Sierra Bellavi 147.64 157 **PKPbc** 17 42 12.3 -0.1
BO01 Tunca 147.88 156 pPKPab 17 44 11.5 -3.0
MT01 Popeta 148.27 156 **PKPbc** 17 42 13.6 -0.3
MTDJ Mount Denham 148.58 42 *e*P **PKPab** 17 42 19.8 -0.8
GTBY Guantanamo Bay 148.83 36 *e*P **PKPbc** 17 42 15.0 -0.6
MT05 Renca 148.89 156 **PKPdf** 17 42 11.7 +0.8
MT05 PKPbc **PKPbc** 17 42 15.8 +0.3
VA03 San Esteban 149.51 156 **PKPdf** 17 42 10.4 -1.6
VA03 PKPbc **PKPbc** 17 42 17.5 +0.4
GMAL Guarumal, Vera 151.87 63 *e*P **PKPbc** 17 42 22.7 -0.2
LCO Las Campanas 152.65 151 PKiKP **PKPdf** 17 42 16.5 -0.5
LCO 17 42 37.8

LCO	**Las Campanas**	**152.65**	**151**			**PKPdf**	17 42 16.5	-0.5
LCO				PKPbc		**PKiKP**	17 42 25.2	+0.5
LCO				PKPab		**PKPab**	17 42 37.8	+0.1
ITQB	**Itaqui**	**155.70**	**179**	PKPdf		**PKPdf**	17 42 19.6	-1.2
ITQB						**PKPab**	17 42 50.7	+0.5
MOTC	**Monteria, Cord**	**156.10**	**54**	*eP*		**PKPdf**	17 42 21.7	-0.1
ARGC	**Ariguani, Magd**	**156.58**	**50**	*eP*		PKPab	17 43 04.6	+10
UREC	**San Jos de Ur**	**156.78**	**56**	*eP*		**PKPdf**	17 42 23.6	+0.9
OTAV	**Otavalo**	**157.11**	**77**	*eP*		**PKPdf**	17 42 24.6	+0.9
ZARC	**Zaragoza, Cauc**	**157.48**	**56**	*eP*		**PKPdf**	17 42 23.6	+0.1
HELC	**Santa Helena**	**157.60**	**60**	*eP*		**PKPab**	17 42 58.9	-0.7
BBAC	**Balboa, Cauca**	**157.76**	**72**	*eP*		**PKPab**	17 43 00.8	+0.7
YOTC	**Yotoco, Valle**	**157.88**	**66**	*eP*		**PKPdf**	17 42 24.6	+0.4
GCUF	**Volcan Galeras**	**157.91**	**74**	*eP*		**PKPab**	17 43 02.7	+1.5
GUY2C	**Guyana, Caldas**	**158.21**	**62**	*eP*		**PKPab**	17 43 00.8	-1.6
LVC	**Limon Verde**	**158.80**	**146**	PKPab		**PKPab**	17 43 05.5	+1.1
	comp=Z,2.7nm,0.4s,baz=273,slow=3.9,SNR=3.5							
ORTC	**Ortega, Tolima**	**158.91**	**65**	*eP*		**PKPdf**	17 42 24.6	-0.7
CPUP	**Villa Florida**	**159.00**	**177**	PKP		**PKPdf**	17 42 25.0	0.0
	comp=Z,6.8nm,1.8s,baz=179,slow=1.9,SNR=6.3							
CPUP				PKPab		**PKPab**	17 43 05.5	+0.8
	comp=Z,10nm,1.0s,baz=181,slow=4.9,SNR=11							
CPUP	**Villa Florida**	**159.00**	**177**	PKPdf		**PKPdf**	17 42 24.4	-0.6
CPUP				PKPab		**PKPab**	17 43 04.7	+0.1
SPBC	**San Pablo de B**	**159.12**	**59**	*eP*		**PKPdf**	17 42 24.6	-1.0
ROSC	**El Rosal**	**159.31**	**61**	PKP		**PKPdf**	17 42 26.4	+0.2
	comp=Z,12nm,0.3s,baz=109,slow=7.7,SNR=6.4							
ROSC	**El Rosal**	**159.31**	**61**	*eP*		**PKPdf**	17 42 23.6	-2.6
BARC	**Barichara**	**159.36**	**55**	*eP*		**PKPab**	17 43 07.5	+0.4
FLOC	**Florencia**	**159.41**	**71**	*eP*		**PKPab**	17 43 06.5	-0.6
RUSC	**La Rusia**	**159.83**	**57**	PKPdf		**PKPdf**	17 42 25.1	-1.8
RUSC				PKPab		**PKPab**	17 43 08.7	-0.7
SDV	**Santo Domingo**	**159.89**	**46**	PKP		**PKPdf**	17 42 27.2	+0.6
	comp=Z,5.7nm,0.4s,baz=272,slow=1.6,SNR=15							
SDV				PKPab		**PKPab**	17 43 09.6	+0.3
	comp=Z,10nm,0.8s,baz=324,slow=5.2,SNR=6.6							
SDV	**Santo Domingo**	**159.89**	**46**	PKPdf		**PKPdf**	17 42 26.3	-0.3
SDV				PKPab		**PKPab**	17 43 08.2	-1.0
SDV	**Santo Domingo**	**159.89**	**46**	*eP*		**PKPdf**	17 42 26.5	-0.1
LPAZ	**La Paz**	**163.95**	**134**	PKP		**PKPdf**	17 42 32.2	+1.1
	comp=Z,9.0nm,1.0s,baz=41,slow=2.0,SNR=22							
LPAZ				PKPab		**PKPab**	17 43 29.0	+1.5
	comp=Z,5.0nm,0.9s,baz=250,slow=3.4,SNR=7.7							
BDFB	**Brasilia**	**166.91**	**217**	PKP		**PKPdf**	17 42 31.8	-1.1
	comp=Z,5.1nm,1.0s,baz=238,slow=9.2,SNR=4.4							
SIV	**San Ignacio**	**168.29**	**156**	PKP		**PKPdf**	17 42 33.6	-0.1
	comp=Z,9.0nm,1.1s,baz=178,slow=0.7,SNR=14							
SIV				PKPab		**PKPab**	17 43 45.6	-0.2
	comp=Z,7.1nm,1.1s,baz=225,slow=4.0,SNR=11							
MDP	**Montagnes des**	**169.13**	**341**	PKP		**PKPdf**	17 42 33.7	-0.6
	comp=Z,4.3nm,1.0s,baz=220,slow=1.9,SNR=3.7							
SAML	**Samuel**	**172.15**	**118**	PKIKP		**PKPdf**	17 42 35.2	-0.7
SAML							17 44 03.1	
SAML	**Samuel**	**172.15**	**118**			**PKPdf**	17 42 35.2	-0.7
SAML				PKPab		**PKPab**	17 44 03.1	-0.2
PTGA	**Pitinga**	**174.14**	**40**	PKP		**PKPdf**	17 42 35.8	-0.9
	comp=Z,1.4nm,0.3s,baz=121,slow=1.4,SNR=5.2							
PTGA				PKPab		**PKPab**	17 44 11.3	-0.6
	comp=Z,1.3nm,0.5s,baz=346,slow=7.5,SNR=7.5							
PTGA	**Pitinga**	**174.14**	**40**	PKPdf		**PKPdf**	17 42 34.6	-2.1
PTGA						**PKPab**	17 44 11.2	-0.7

*IDC **26** 17:27:01.7±0.9,67.80N×163.47W,h0km,mb3.8/9, mb1 4.1/11,mb1mx3.8/59,mbtmp3.8/11,ML3.7/2,MS3.3/6, Ms1 3.3/6,ms1mx2.9/58 Error ellipse: s-maj=30.6km s-min=17.2km az=21.0*

*AEIC **26** 17:27:01±2.4,67.72N±0.06×163.4W±0.1,h23km±6km, ML3.7,ML3.9/16(NEIC),Error ellipse: s-maj=9.1km s-min=5.0km az=157.0*

*NEIC **26** 17:27:02.5±2.4,67.73N±0.04×163.4W±0.2,h33km±6km, Error ellipse: s-maj=8.7km s-min=6.0km az=81.0*

ISC 26 17:27:02.0±0.6,67.69N±0.06×163.36W±0.05,h10km, n142,σ1$77/139,mb3.8/9,MS3.8/3,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNA	**Tin City**	**2.81**	**223**		**Pn**	17 27 45.5	-1.4
TNA	**Tin City**	**2.81**	**223**	P	**Pn**	17 27 46.8	0.0
	baz=38						
ANM	**Nome**	**3.25**	**196**	Pn	**Pn**	17 27 50.5	-2.4
ANM	**Nome**	**3.25**	**196**		**Sn**	17 28 32.5	+1.0
ANM	**Nome**	**3.25**	**196**	P	**Pn**	17 27 53.5	+0.6
	baz=13						
ANM				S	**Sn**	17 28 32.5	+1.0
	baz=13						
IM03		**4.17**	**110**		**Pn**	17 28 05.8	+0.4
IMAR	**Indian Mountai**	**4.17**	**110**		**Pn**	17 28 05.0	-0.5
A21K	**Barrow**	**4.35**	**30**	Pn	**Pn**	17 28 05.7	-2.2
A21K	**Barrow**	**4.35**	**30**	P	**Pn**	17 28 08.2	+0.3
	baz=216						
H21K	**Melozitna Rive**	**4.67**	**111**		**Pn**	17 28 10.1	-2.3
H21K				IAML		17 29 35.5	
	comp=E,79nm,0.9s						
H21K				IAML		17 29 36.4	
	comp=N,77nm,0.9s						
H21K	**Melozitna Rive**	**4.67**	**111**	P	**Pn**	17 28 12.8	+0.5
	baz=300						
COLD	**Coldfoot**	**5.08**	**89**		**Pn**	17 28 14.7	-3.4
COLD	**Coldfoot**	**5.08**	**89**		**Sn**	17 29 20.5	+3.7
COLD	**Coldfoot**	**5.08**	**89**	P	**Pn**	17 28 19.4	+1.3
	baz=281						
COLD				S	**Sn**	17 29 20.5	+3.7
	baz=281						
J20K	**Nowinta River**	**5.16**	**129**	Pn	**Pn**	17 28 17.9	-1.2
J20K	**Nowinta River**	**5.16**	**129**		**Sn**	17 29 22.2	+3.5
J20K	**Nowinta River**	**5.16**	**129**	P	**Pn**	17 28 19.7	+0.6
	baz=317						
J20K				S	**Sn**	17 29 22.2	+3.5
	baz=317						
I21K	**Tanana**	**5.21**	**114**		**Pn**	17 28 18.5	-1.4
I21K				IAML		17 29 55.7	
	comp=N,73nm,1.1s						
I21K				IAML		17 29 59.8	
	comp=E,91nm,0.8s						
I21K	**Tanana**	**5.21**	**114**	P	**Pn**	17 28 20.6	+0.7
	baz=304						
GAMB	**Gambell**	**5.22**	**225**		**Pn**	17 28 19.8	-0.2
GAMB	**Gambell**	**5.22**	**225**	IAML		17 29 56.0	
	comp=E,62nm,1.0s						
GAMB				IAML		17 30 11.5	
	comp=N,58nm,1.3s						
GAMB	**Gambell**	**5.22**	**225**	P	**Pn**	17 28 19.8	-0.2
	baz=37						
TOLK	**Toolik Lake Re**	**5.23**	**73**	Pn	**Pn**	17 28 18.3	-1.9
TOLK				IAML		17 30 02.7	
	comp=N,124nm,0.9s						
TOLK				IAML		17 30 12.6	
	comp=E,106nm,1.2s						
TOLK	**Toolik Lake Re**	**5.23**	**73**	P	**Pn**	17 28 21.3	+1.1
	baz=266						
TT01	**Tatalina**	**5.70**	**144**		**Pn**	17 28 28.0	+1.4
MLY	**Manley**	**5.73**	**112**	Pn	Pn	17 28 23.1	-3.9
MLY	**Manley**	**5.73**	**112**	P	**Pn**	17 28 27.9	+0.8
	baz=303						
K20K	**Telida**	**5.81**	**134**	Pn	**Pn**	17 28 25.2	-3.0
K20K	**Telida**	**5.81**	**134**	P	**Pn**	17 28 29.6	+1.4
	baz=322						
CHUM	**Lake Minchumin**	**5.93**	**125**		**Pn**	17 28 30.7	+0.9
CHUM	**Lake Minchumin**	**5.93**	**125**	P	**Pn**	17 28 30.7	+0.9
	baz=315						
I23K	**Minto, Yukon-K**	**6.17**	**108**		**Pn**	17 28 31.9	-1.0
I23K	**Minto, Yukon-K**	**6.17**	**108**	P	**Pn**	17 28 34.2	+1.3
	baz=301						
BPAW	**Bear Paw Mtn.**	**6.21**	**120**		**Pn**	17 28 31.5	-2.1
BPAW	**Bear Paw Mtn.**	**6.21**	**120**	P	**Pn**	17 28 34.8	+1.2
	baz=311						
CAST	**Castle Rocks**	**6.34**	**127**		**Pn**	17 28 33.6	-1.8
CAST	**Castle Rocks**	**6.34**	**127**	P	**Pn**	17 28 36.8	+1.4
	baz=317						
H24K	**Noodor Dome**	**6.40**	**100**		**Pn**	17 28 34.1	-2.0
H24K	**Noodor Dome**	**6.40**	**100**	P	**Pn**	17 28 36.3	+0.1
	baz=294						
NEA2	**Nenana**	**6.57**	**112**		**Pn**	17 28 37.3	-1.2
NEA2	**Nenana**	**6.57**	**112**	P	**Pn**	17 28 39.9	+1.4
	baz=304						
L20K	**Farewell, AK**	**6.58**	**138**		**Pn**	17 28 39.9	+1.2
L20K	**Farewell, AK**	**6.58**	**138**	P	**Pn**	17 28 39.9	+1.2
	baz=326						
L19K	**White Mountain**	**6.60**	**143**	Pn	**Pn**	17 28 38.1	-0.9
L19K	**White Mountain**	**6.60**	**143**	P	**Pn**	17 28 40.0	+1.0
	baz=330						
KTH	**Kantishna Hill**	**6.61**	**123**		**Pn**	17 28 37.9	-1.2
MDM	**Murphy Dome**	**6.67**	**107**		**Pn**	17 28 38.1	-1.8
BWN	**Browne**	**6.68**	**115**		**Pn**	17 28 39.1	-0.9
PPLA	**Purkeypile**	**6.71**	**131**		**Pn**	17 28 37.6	-2.9
PPLA	**Purkeypile**	**6.71**	**131**	P	**Pn**	17 28 41.9	+1.4
	baz=320						
TCOL	**CIGO, UAF Yank**	**6.85**	**107**		**Pn**	17 28 42.8	+0.4
TCOL	**CIGO, UAF Yank**	**6.85**	**107**	P	**Pn**	17 28 43.2	+0.8
	baz=301						
COLA	**College**	**6.86**	**107**		**Pn**	17 28 41.3	-1.1
POKR	**Poker Flat Res**	**6.89**	**105**		**Pn**	17 28 40.4	-2.5
POKR	**Poker Flat Res**	**6.89**	**105**	P	**Pn**	17 28 44.1	+1.2
	baz=299						
M19K	**Big River Lodg**	**6.95**	**142**	Pn	**Pn**	17 28 41.4	-2.3
M19K	**Big River Lodg**	**6.95**	**142**	P	**Pn**	17 28 44.9	+1.2
	baz=330						
WRH	**Wood River Hil**	**6.99**	**110**	Pn	**Pn**	17 28 44.1	-0.1
CCB	**Clear Creek Bu**	**7.00**	**109**		**Pn**	17 28 43.6	-0.7
MCK	**McKinley**	**7.14**	**117**		**Pn**	17 28 44.0	-2.4
FYU	**Fort Yukon**	**7.15**	**91**	Pn	**Pn**	17 28 47.5	+1.1
BM03	**Burnt Mountain**	**7.18**	**83**		**Pn**	17 28 47.2	+0.4
BMAR	**Burnt Mountain**	**7.19**	**83**	Pn	**Pn**	17 28 45.8	-1.2
BM01	**Burnt Mountain**	**7.20**	**83**		**Pn**	17 28 47.6	+0.4
IL31		**7.26**	**106**		**Pn**	17 28 47.9	-0.1
ILAR	**Eielson Array**	**7.26**	**106**	Pn	**Pn**	17 28 48.5	+0.6
	comp=E,4.4nm,0.3s,baz=303,slow=14,SNR=100						
ILAR				Sn	**Sn**	17 30 08.2	-2.2
	comp=E,0.2nm,0.3s,baz=310,slow=28,SNR=0.8						
ILAR				Lg	Lg	17 30 47.7	
	baz=303,slow=30,SNR=2.3						
ILAR	**Eielson Array**	**7.26**	**106**		**Pn**	17 28 46.9	-1.1
RND	**Reindeer**	**7.39**	**119**		**Pn**	17 28 47.8	-2.0
PS08	**TAPS Pump Stn8**	**7.41**	**107**		**Pn**	17 28 50.6	+0.6
SVW2	**Sparrevohn**	**7.42**	**149**		**Pn**	17 28 49.1	-1.1
HDA	**Harding Lake**	**7.44**	**109**		**Pn**	17 28 48.7	-1.6
SKT	**Skwentna**	**7.62**	**133**	Pn	**Pn**	17 28 52.3	-0.6
SKT	**Skwentna**	**7.62**	**133**	P	**Pn**	17 28 54.4	+1.5
	baz=324						
WAT7	**Susitna Watana**	**7.78**	**122**		**Pn**	17 28 56.3	+1.1
N19K	**Bonanza Creek**	**7.90**	**147**		**Pn**	17 28 55.5	-1.3
N19K	**Bonanza Creek**	**7.90**	**147**	P	**Pn**	17 28 57.6	+0.7
	baz=334						
J25K	**Salcha River,**	**7.90**	**105**		**Pn**	17 28 57.9	+1.0
J25K	**Salcha River,**	**7.90**	**105**	P	**Pn**	17 28 57.9	+1.0
	baz=301						
STLK	**Strandline Lak**	**7.94**	**136**		**Pn**	17 28 58.0	+0.7
DHY	**Denali Highway**	**8.11**	**117**		**Pn**	17 29 01.1	+1.4
DHY	**Denali Highway**	**8.11**	**117**	P	**Pn**	17 29 00.9	+1.2
	baz=312						
SUA	**Susitna One**	**8.26**	**133**	Pn	**Pn**	17 29 02.2	+0.4
WAT6	**Susitna Watana**	**8.32**	**121**		**Pn**	17 29 03.2	+0.5
WAT6	**Susitna Watana**	**8.32**	**121**	P	**Pn**	17 29 03.2	+0.5
	baz=315						
O19K	**Port Alsworth**	**8.50**	**148**		**Pn**	17 29 04.9	0.0
RIDG	**Independent Ri**	**8.58**	**109**	Pn	**Pn**	17 29 04.3	-1.7
RSO	**Redoubt South**	**8.60**	**142**	Pn	**Pn**	17 29 04.3	-2.2
SML	**Sawmill**	**8.70**	**126**	Pn	**Pn**	17 29 05.9	-1.9
SCRK	**Sand Creek**	**8.76**	**106**	Pn	**Pn**	17 29 08.3	-0.2
SCRK	**Sand Creek**	**8.76**	**106**	P	**Pn**	17 29 09.6	+1.0
	baz=304						
PAX	**Paxson**	**8.83**	**114**		**Pn**	17 29 07.6	-2.0
RC01	**Rabbit Creek A**	**8.85**	**132**	Pn	**Pn**	17 29 10.8	+1.1
DOT	**Dot Lake**	**8.91**	**108**		**Pn**	17 29 09.0	-1.7
KNK	**Knik Glacier**	**8.97**	**127**	Pn	**Pn**	17 29 10.5	-0.8
SCM	**Sheep Creek Mo**	**9.00**	**123**	Pn	**Pn**	17 29 09.8	-2.1
M24K	**Tolsona, Glenn**	**9.18**	**119**	Pn	**Pn**	17 29 12.4	-1.9
EGAK	**Eagle**	**9.40**	**98**	Pn	**Pn**	17 29 15.6	-1.6
PWL	**Port Wells**	**9.44**	**129**	Pn	**Pn**	17 29 20.1	+2.3
BRLK	**Bradley Lake**	**9.66**	**139**	Pn	**Pn**	17 29 19.6	-1.3
KLU	**Klutina**	**9.71**	**121**		**Pn**	17 29 18.3	-3.2
CNPM	**China Poot**	**9.79**	**141**	Pn	**Pn**	17 29 21.0	-1.6
GLI	**Glacier Island**	**9.80**	**126**	Pn	**Pn**	17 29 20.5	-2.2
Q19K	**Cape Douglas,**	**9.80**	**149**	Pn	**Pn**	17 29 20.7	-2.1
N25K	**Chitina, Valde**	**10.06**	**118**	Pn	**Pn**	17 29 25.7	-0.7
M26K	**Nabesna, AK**	**10.07**	**112**	Pn	**Pn**	17 29 28.6	+2.1
L27K	**Beaver Creek,**	**10.08**	**107**		**Pn**	17 29 25.8	-0.8
BC03		**10.09**	**107**		**Pn**	17 29 26.7	+0.1
BCAR	**Beaver Creek A**	**10.09**	**107**	Pn	**Pn**	17 29 26.3	-0.4
FID	**Port Fidalgo**	**10.09**	**126**	Pn	**Pn**	17 29 23.8	-2.9
HIN	**Hinchinbrook I**	**10.36**	**127**	Pn	**Pn**	17 29 31.8	+1.4
DAWY	**Dawson**	**10.42**	**99**	Pn	**Pn**	17 29 32.5	+1.2
GLB	**Gillahina Butte**	**10.44**	**118**	Pn	**Pn**	17 29 29.2	-2.4
M27K	**Edge Creek, AK**	**10.50**	**110**	Pn	**Pn**	17 29 30.4	-2.0
BMRM	**Bremner River**	**10.52**	**121**	Pn	**Pn**	17 29 31.3	-1.4
VRDI	**Verde Repeater**	**10.72**	**118**	Pn	Pn	17 29 30.7	-4.8
KDAK	**Kodiak Island**	**11.08**	**149**	LR	LR	17 33 48.9	
	comp=E,22nm,21.6s,baz=15,slow=36						
KDAK	**Kodiak Island**	**11.08**	**149**	Pn	**Pn**	17 29 38.6	-1.6
HMT	**Hamilton**	**11.11**	**122**	Pn	**Pn**	17 29 37.1	-3.6
INK	**Inuvik**	**11.15**	**73**	Pn	**Pn**	17 29 38.9	-2.2
	comp=E,0.5nm,0.3s,baz=296,slow=10,SNR=9.7						
INK				Sn	**Sn**	17 31 38.1	-7.4
	comp=E,0.3nm,0.3s,baz=71,slow=8.3,SNR=2.6						
INK				LR	LR	17 34 38.7	
	comp=E,117nm,19.6s,baz=98,slow=41						
INK	**Inuvik**	**11.15**	**73**	Pn	**Pn**	17 29 38.5	-2.5
CRQM	**Cirque**	**11.17**	**119**	Pn	**Pn**	17 29 38.9	-2.6
BERG	**Berg Lake**	**11.25**	**121**	Pn	**Pn**	17 29 41.6	-1.0
LOGN	**Logan Glacier**	**11.85**	**115**	Pn	**Pn**	17 29 49.9	-0.9
YAH	**Yahtse**	**11.92**	**118**	Pn	**Pn**	17 29 51.0	-1.0
A36M	**Sachs Harbour**	**13.63**	**55**	Pn	**Pn**	17 30 12.1	-2.8
GSTR	**Great Sitkin T**	**16.83**	**208**	Pn	**Pn**	17 30 54.2	-3.2
DLBC	**Dease Lake**	**17.47**	**106**	LR	LR	17 37 22.2	
	comp=E,60nm,19.1s,baz=346,slow=35						
SEY	**Seymchan**	**18.75**	**277**	P	**Pn**	17 31 21.8	+0.9
	comp=E,0.1nm,0.3s,baz=102,slow=6.3,SNR=6.4						
EUNU	**Eureka**	**22.30**	**27**		**P**	17 31 58.7	-0.3
NEW	**Newport**	**30.22**	**107**	LR	LR	17 46 47.5	
	comp=E,42nm,19.5s,baz=335,slow=39						
PDAR	**Pinedale Array**	**37.69**	**104**	P	**P**	17 34 18.9	+1.6
	comp=E,0.6nm,0.6s,baz=1.1,slow=7.4,SNR=7.4						
NVAR	**Mina Array Bea**	**38.38**	**116**	P	**P**	17 34 25.8	+2.6
	comp=E,0.9nm,0.6s,baz=323,slow=6.4,SNR=9.4						
KSRS	**Korea Array**	**47.94**	**267**	P	**P**	17 35 41.3	+1.1
	comp=E,0.9nm,0.9s,baz=39,slow=7.9,SNR=2.5						
FINES	**FINESS Array B**	**50.98**	**354**	P	**P**	17 36 03.5	+0.4
	comp=E,1.5nm,0.4s,baz=24,slow=6.0,SNR=6.5						
TXAR	**Lajitas Array**	**51.78**	**106**	P	**P**	17 36 10.8	+1.3
	comp=E,1.0nm,0.8s,baz=334,slow=6.0,SNR=11						
AKTO	**Aktyubinsk**	**58.17**	**330**	LR	LR	18 06 27.9	
	comp=E,164nm,18.1s,baz=121,slow=41						
AKASG	**Malin Array Be**	**61.55**	**351**	P	**P**	17 37 18.5	0.0
	comp=E,1.7nm,0.6s,baz=4.2,slow=6.5,SNR=3.7						
AKASG	**Malin Array Be**	**61.55**	**351**		**P**	17 37 18.6	0.0
GERES	**GERESS Array B**	**63.77**	**2**	P	**P**	17 37 34.2	+0.6
	comp=E,0.5nm,0.7s,baz=353,slow=7.0,SNR=3.1						
GNI	**Garni**	**70.40**	**337**	LR	LR	18 16 03.3	
	comp=E,44nm,18.3s,baz=84,slow=42						
ESDC	**Sonseca Array**	**71.83**	**17**	P	**P**	17 38 26.7	+2.3
	comp=E,0.4nm,0.6s,baz=333,slow=5.9,SNR=2.5						
CMAR	**Chiang Mai Arr**	**75.98**	**284**	P	**P**	17 38 49.3	+0.4
	comp=E,1.0nm,0.7s,baz=358,slow=6.3,SNR=8.3						

WEL 26 17:28:17.7±1.4,46°S±10°×16°6E±°,h12km,M3.5/7, ML3.8/11,MLv3.5/7,Error ellipse: s-maj=0.0km s-min=0.0km az=38.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.30**	**90**	P	Pb	17 28 25.7	+0.7
PYZ				S	Sb	17 28 31.2	+1.3
WHZ	**Wether Hill Ro**	**1.22**	**78**	P	Pn	17 28 39.6	-0.9
WHZ				S	Sb	17 28 55.5	-0.8
APZ	**The Paps**	**1.38**	**120**	P	Pn	17 28 41.8	-0.9
MLZ	**Mavora Lakes**	**1.54**	**59**	P	Pb	17 28 45.8	-0.2
MSZ	**Milford Sound**	**1.91**	**39**	P	Pn	17 28 48.4	-1.5
SYZ	**Scrubby Hill**	**2.04**	**102**	P	Pn	17 28 51.8	0.0
SYZ				S	Sn	17 29 16.9	-0.2
EAZ	**Earnscleugh**	**2.34**	**68**	P	Pn	17 28 57.0	+1.0
WKZ	**Wanaka**	**2.37**	**57**	P	Pn	17 28 57.2	+0.9
TUZ	**Tuapeka**	**2.37**	**86**	P	Pn	17 28 56.8	+0.5
JCZ	**Jackson Bay**	**2.76**	**42**	P	Pn	17 29 02.0	+0.2
ODZ	**Otahua Downs**	**3.29**	**72**	P	Pn	17 29 08.0	-1.0
LBZ	**Lake Benmore**	**3.30**	**59**	P	Pn	17 29 08.9	-0.3
FOZ	**Fox Glacier**	**3.66**	**45**	P	Pn	17 29 13.5	-0.5
TMZ	**Timaru**	**3.80**	**64**	P	Pn	17 29 15.4	-0.7
GCSZ	**Gaunt Creek Bo**	**4.07**	**47**	P	Pn	17 29 20.8	+1.1
ARCZ	**Arundel**	**4.14**	**59**	P	Pn	17 29 19.5	-1.2
RPZ	**Rata Peaks**	**4.20**	**56**	P	Pn	17 29 20.4	-1.2
RPZ				S	Sn	17 30 08.3	-2.2
OXZ	**Oxford**	**5.01**	**58**	P	Pn	17 29 30.8	-1.8
OXZ				S	Sn	17 30 26.5	-3.9
INZ	**Inchbonnie**	**5.07**	**49**	P	Pn	17 29 32.3	-1.1
LTZ	**Lake Taylor**	**5.48**	**54**	P	Pn	17 29 37.3	-1.9
LTZ				S	Sn	17 30 37.4	-4.7

MEX 26 17:38:09.4±0.9,19.38N×104.22W,h10km,MD3.7,Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R15V		**0.31**	**133**	*eP*	Pg	17 38 15.3	-0.3
R15V				*eS*	Sg	17 38 19.1	-0.6
COIG	**Colima**	**0.54**	**112**	*eP*	Pg	17 38 19.4	-0.5
COIG				*eS*	Sg	17 38 27.0	-0.1
EZ5V		**0.59**	**80**	*eP*	Pg	17 38 19.7	-1.3
EZ5V				*eS*	Sg	17 38 27.4	-1.4
EZ5V				*eS*	Sb	17 38 28.2	-2.4
CJM	**Chamela**	**0.79**	**279**	*eP*	Pb	17 38 25.6	+0.5
CJM				*eS*	Sn	17 38 39.8	+1.4
MMIG	**Aquila**	**1.37**	**143**	*eP*	Pn	17 38 34.0	-0.5
MMIG				*eS*	Sb	17 38 51.3	-1.3

*NEIC **26** 17:48:10.7±2.5,20.2S±0.1×177.5W±0.1,h502km±10km, mb4.3/25,Error ellipse: s-maj=19.7km s-min=18.4km az=133.0*

*NOU **26** 17:48:10.6,20.23S×177.30W,h529km,mb4.0/22,Fiji Islands Region*

*IDC **26** 17:48:12.7±2.1,20.27S×177.66W,h516km±22km,mb3.1/7, mb1 3.4/10,mb1mx3.2/23,mbtmp4.1/10,Error ellipse: s-maj=23.9km s-min=18.5km az=102.0*

ISC 26 17:48:10.4±0.5,20.17S±0.09×177.49W±0.08,h500km, n55,σ1$61/53,mb4.1/18,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.86**	**299**	P	**P**	17 49 39.2	+2.9
	1.0nm,0.3s,baz=250,slow=22,SNR=6.6						
MSVF	**Nonsavu**	**4.86**	**299**	P	**P**	17 49 39.7	+3.4
NIUE	**Niue**	**7.21**	**83**	P	**P**	17 50 00.2	+1.5
AFI	**Afiamalu**	**8.28**	**42**	P	**P**	17 50 08.8	-1.1
	3.2nm,0.3s,baz=358,slow=6.9,SNR=5.7						
AFI				S	**S**	17 51 42.8	-5.0
	8.3nm,0.3s,baz=24,slow=22,SNR=3.3						
AFI	**Afiamalu**	**8.28**	**42**	P	**P**	17 50 09.6	-0.3
AFI	**Afiamalu**	**8.28**	**42**	P	**P**	17 50 10.0	+0.1
MARNC	**Mare, Loyalty**	**13.60**	**262**	P	**P**	17 51 06.0	+0.1
PINNC	**Pines Island,**	**14.24**	**257**	P	**P**	17 51 13.4	+0.7
LIFNC	**LIFOU**	**14.32**	**265**	P	**P**	17 51 12.2	-1.3
YATNC	**Mamie plateau,**	**14.70**	**260**	P	**P**	17 51 18.8	+1.3
OUENC	**Ouen Island, N**	**14.77**	**258**	P	**P**	17 51 17.7	-0.6
DZM	**Mont Dzumac**	**15.11**	**260**	P	**P**	17 51 23.2	+1.3
	0.8nm,0.3s,baz=96,slow=23,SNR=9.3						
DZM	**Mont Dzumac**	**15.11**	**260**	IAmb	IAmb	17 51 25.5	
	comp=Z,9.3nm,1.0s	

CO06					*e*S		**Sg**	**18 07 53.7**	**-0.3**
CO06					IAML			18 07 57.0	
	comp=N,14μm,0.2s								
CO06	**Fray Jorge**	**0.57**	**125**				**Pb**	**18 07 47.7**	**+0.1**
CO06					Sg		**Sg**	**18 07 51.3**	**-2.7**
CO05	**La Serena**	**0.91**	**63**	⇓	*i* P		**Pn**	**18 07 54.4**	**+0.1**
CO05					IAML			18 08 07.6	
	comp=E,7μm,0.3s								
CO05	**La Serena**	**0.91**	**63**				**Pn**	**18 07 54.3**	**0.0**
CO05					Sg		**Sg**	**18 08 01.6**	**-3.4**
GO04	**Tololo Observa**	**1.20**	**82**	⇓	*i* P		**Pg**	**18 07 58.5**	**-0.1**
GO04					*e*S		**Sb**	**18 08 13.6**	**-0.6**
GO04	**Tololo Observa**	**1.20**	**82**				**Pg**	**18 07 58.2**	**-0.3**
CO02	**Combarbal**	**1.32**	**131**				**Pg**	**18 08 00.0**	**-0.9**
CO03	**El Pedregal**	**1.37**	**111**		*e*P		**Pn**	**18 07 59.8**	**-0.9**
CO03					*e*S		**Sb**	**18 08 17.8**	**-1.2**
CO03					IAML			18 08 20.3	
	comp=N,5μm,0.2s								
CO03	**El Pedregal**	**1.37**	**111**				**Pn**	**18 08 00.1**	**-0.7**
CO03					Sn		**Sb**	**18 08 17.7**	**-1.2**
CO03	**El Pedregal**	**1.37**	**111**	*i*	P		**Pg**	**18 08 01.0**	**-0.8**
LCO	**Las Campanas**	**1.84**	**44**	*e*	P		**Pb**	**18 08 09.2**	**-0.2**
LCO	**Las Campanas**	**1.84**	**44**				**Pb**	**18 08 09.2**	**-0.2**
LCO					Sn		**Sb**	**18 08 32.2**	**-0.5**
LCO	**Las Campanas**	**1.84**	**44**	*i*	P		**Pb**	**18 08 09.0**	**-0.5**
VA06	**Catapilco**	**2.33**	**162**	*e*	P		**Pn**	**18 08 14.8**	**+0.9**
VA06					*e*S		**Sg**	**18 08 48.5**	**-2.0**
VA06					IAML			18 08 57.6	
	comp=E,1μm,0.3s								
AC04	**Llanos de Chal**	**2.34**	**24**				**Pb**	**18 08 15.4**	**-2.3**
AC04	**Llanos de Chal**	**2.34**	**24**	*i*	P		**Pb**	**18 08 16.0**	**-1.7**
AROD	**Rodeo**	**2.34**	**86**	*i*	P		**Pb**	**18 08 18.0**	**0.0**
ACCO	**Cerro Coronel**	**2.69**	**96**	*i*	P		**Pb**	**18 08 24.0**	**0.0**
VA01	**Torpederas**	**2.71**	**171**				**Pb**	**18 08 21.7**	**-2.3**
VA03	**San Esteban**	**2.78**	**151**	*e*	P		**Pb**	**18 08 22.5**	**-2.9**
VA03	**San Esteban**	**2.78**	**151**				**Pb**	**18 08 22.4**	**-2.9**
ROCH	**El Roble**	**2.80**	**160**	*e*	P		**Pn**	**18 08 21.7**	**+1.2**
ROCH					IAML			18 09 10.3	
	comp=E,611nm,0.5s								
RTLS	**Leoncito**	**2.86**	**121**	*i*	P		**Pb**	**18 08 26.0**	**-0.8**
AUSP	**Uspallata**	**3.03**	**129**	*i*	P		**Pb**	**18 08 28.0**	**-1.7**
GO03	**Copiap**	**3.22**	**32**	*e*	S		**Sb**	**18 09 09.1**	**-3.1**
GO03					IAML			18 09 26.2	
	comp=E,298nm,0.4s								
GO03	**Copiap**	**3.22**	**32**				**Pn**	**18 08 27.3**	**+1.0**
ZON	**Zonda**	**3.23**	**113**				**Pn**	**18 08 28.4**	**+2.1**
ZON	**Zonda**	**3.23**	**113**	*i*	P		**Pb**	**18 08 32.0**	**-1.0**
MT05	**Renca**	**3.27**	**158**	*e*	P		**Pn**	**18 08 28.8**	**+1.9**
MT05	**Renca**	**3.27**	**158**				**Pn**	**18 08 29.3**	**+2.4**
AGUA	**GUANDACOL**	**3.31**	**76**	*i*	P		**Pb**	**18 08 33.0**	**-1.3**
VA05	**Santo Domingo**	**3.34**	**172**				**Pn**	**18 08 28.9**	**+1.2**
RTCV	**Cerro Valdivia**	**3.46**	**117**	*i*	P		**Pb**	**18 08 34.0**	**-2.9**
MT09	**Talagante**	**3.57**	**164**	*i*	P		**Pn**	**18 08 32.7**	**+1.7**
MT09				*i*	S		**Sn**	**18 09 14.0**	**+0.7**
MT09	**Talagante**	**3.57**	**164**				**Pn**	**18 08 32.9**	**+1.9**
MT01	**Popeta**	**3.59**	**168**	*i*	P		**Pn**	**18 08 32.3**	**+1.1**
MT01					IAML			18 09 39.5	
	comp=N,162nm,0.5s								
MT01	**Popeta**	**3.59**	**168**				**Pn**	**18 08 32.6**	**+1.3**
MT01	**Popeta**	**3.59**	**168**	*i*	P		**Pn**	**18 08 33.0**	**+1.7**
ARCO	**CERRO ARCO**	**3.72**	**133**	*i*	P		**Pb**	**18 08 39.0**	**-2.4**
VCA	**Vinchina**	**3.81**	**66**	*i*	P		**Pb**	**18 08 40.0**	**-2.9**
LMEL	**Las Melosas**	**3.87**	**155**	*i*	P		**Pn**	**18 08 37.8**	**+2.6**
LMEL					*e*S		**Sn**	**18 09 21.5**	**+0.6**
LMEL					IAML			18 09 41.3	
	comp=N,202nm,0.5s								
AVFE	**Valle Fertil**	**4.08**	**96**	*i*	P		**Pn**	**18 08 42.0**	**+3.9**
BO01	**Tunca**	**4.14**	**167**				**Pn**	**18 08 40.7**	**+2.0**
BO01	**Tunca**	**4.14**	**167**	*i*	P		**Pn**	**18 08 41.0**	**+2.3**
ACO2	**Maricunga**	**4.40**	**38**				**Pn**	**18 08 44.4**	**+1.6**
BO02	**Sierra Bellavi**	**4.59**	**166**	*i*	P		**Pn**	**18 08 46.4**	**+1.4**
BO02				*i*	S		**Sn**	**18 09 38.7**	**+0.3**
BO02	**Sierra Bellavi**	**4.59**	**166**				**Pn**	**18 08 46.3**	**+1.3**
BO02	**Sierra Bellavi**	**4.59**	**166**	*i*	P		**Pn**	**18 08 47.0**	**+2.0**
ACLC	**CERRO LA CRUZ**	**4.62**	**80**	*i*	P		**Pn**	**18 08 49.0**	**+3.4**
GO05	**Huala**	**4.66**	**178**		Pn		**Pn**	**18 08 46.1**	**+0.1**
GO05	**Huala**	**4.66**	**178**	*i*	P		**Pn**	**18 08 46.0**	**+0.1**
ACHE	**Chepes**	**4.81**	**101**	*i*	P		**Pn**	**18 08 51.0**	**+2.9**
APLL	**PUNTA DE LOS L**	**4.88**	**92**	*i*	P		**Pn**	**18 08 53.0**	**+4.0**
RFA	**San Rafael**	**5.41**	**146**	*i*	P		Pn	18 09 01.0	+4.7
ML02	**Panimavida**	**5.44**	**174**				**Pn**	**18 08 56.4**	**-0.3**
CYA	**Choya**	**5.87**	**73**	*i*	P		**Pn**	**18 09 06.0**	**+3.4**
MRA	**San Martin**	**5.89**	**112**	*i*	P		**Pn**	**18 09 05.0**	**+2.0**
PB14	**IPOC Station P**	**5.91**	**16**			Pn	**Pn**	**18 09 03.7**	**+0.3**
H03N1	**Juan Fernandez**	**6.51**	**240**		T		T	18 16 20.5	
	baz=70,slow=72,SNR=1596								
H03N2	**Juan Fernandez**	**6.52**	**240**		T		T	18 16 21.2	
	baz=70,slow=72,SNR=1456								
H03N3	**Juan Fernandez**	**6.53**	**240**		T		T	18 16 16.1	
	baz=70,slow=72,SNR=1595								
PB15	**IPOC Station P**	**7.51**	**19**		Pn		**Pn**	**18 09 27.2**	**+2.0**
PB06	**IPOC Station P**	**7.96**	**18**		Pn		**Pn**	**18 09 33.3**	**+2.0**
PB04	**IPOC Station P**	**8.18**	**13**		Pn		**Pn**	**18 09 35.6**	**+1.2**
LVC	**Limon Verde**	**8.24**	**22**		Pn		**Pn**	**18 09 35.1**	**-0.3**
LC01	**Cunco**	**8.54**	**178**		Pn		**Pn**	**18 09 38.3**	**-0.9**
PB07	**IPOC Station P**	**8.82**	**14**		Pn		**Pn**	**18 09 43.5**	**+0.2**
PB09	**IPOC Station P**	**8.91**	**18**		Pn		**Pn**	**18 09 44.2**	**-0.3**
PB01	**IPOC Station P**	**9.57**	**15**		Pn		**Pn**	**18 09 53.9**	**+0.4**
PLCA	**Paso Flores**	**10.45**	**173**		Pn		**Pn**	**18 10 06.5**	**+1.0**
TRQA	**Tornquist**	**11.41**	**135**				**Pn**	**18 10 19.3**	**+0.8**
LPAZ	**La Paz**	**14.47**	**16**		Pn		P	18 11 15.3	+7.4
	comp=N,0.1nm,0.3s,baz=190,slow=6.1,SNR=8.4								
LPAZ					LR		LR	18 17 00.1	
	comp=N,47nm,20.4s,baz=63,slow=37								
LPAZ	**La Paz**	**14.47**	**16**		Pn		**Pn**	**18 11 02.9**	**+1.9**
PLTB	**Pedras Altas**	**15.98**	**100**		Pn		**Pn**	**18 11 21.8**	**-2.2**
PLTB					IAmb		IAmb	18 11 25.2	
	comp=Z,6.5nm,1.0s								
SNAA	**Sanae**	**55.01**	**159**		P		**P**	**18 17 07.1**	**+0.3**
SNAA					IAmb		IAmb	18 17 15.0	
	comp=Z,4.8nm,1.4s								
QSPA	**South Pole Qui**	**59.88**	**180**		P		**P**	**18 17 43.0**	**+1.8**
QSPA					IAmb		IAmb	18 18 07.0	
	comp=Z,4.1nm,1.4s								
TXAR	**Lajitas Array**	**66.51**	**330**		P		P	18 18 39.3	+14
	comp=Z,0.2nm,0.6s,baz=130,slow=8.3,SNR=2.1								
DBIC	**Dimbokro**	**74.15**	**72**		P		**P**	**18 19 12.8**	**+0.2**
TORD	**Torodi Ar. Bea**	**83.09**	**70**		P		**P**	**18 20 02.6**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=243,slow=6.1,SNR=4.1								
H11S2	**WAKE ISLAND Hyl**	**25.63**	**272**		T		T	20 45 26.2	
	baz=114,slow=74,SNR=26								
H11S1	**WAKE ISLAND Hyl**	**25.64**	**272**		T		T	20 45 24.1	
	baz=114,slow=74,SNR=31								
H11S3	**WAKE ISLAND Hyl**	**25.64**	**272**		T		T	20 45 25.9	
	baz=114,slow=74,SNR=18								
ZALV	**Zalesovo Beam**	**151.14**	**29**		PKPbc		**PKiKP**	**18 27 31.4**	**+2.5**
	comp=Z,1.5nm,0.5s,baz=320,slow=3.9,SNR=5.2								

*BJI **26** 18:15:29.5±0.0,39.˚38N×71.˚26E,h11km,mB4.1/2, mb3.9/8,ML3.9/2*
*MOS **26** 18:15:29.6±1.6,39.˚02N×71.˚41E,h11km,mb4.2/6,Error ellipse: s-maj=13.1km s-min=7.5km az=76.2*
MOS Felt (III) at Kara-Teyit.
*IDC **26** 18:15:29.8±1.2,38.˚98N×71.˚63E,h0km,mb3.7/7, mb1 3.8/14,mb1mx3.6/55,mbtmp3.7/14,ML2.9/6,MS3.0/2, Ms1 3.0/2,ms1mx2.5/52,Error ellipse: s-maj=22.7km s-min=12.0km az=144.0*
*SOME **26** 18:15:30.9,39.˚38N×71.˚28E,h10km*
*KRNET **26** 18:15:31.0±0.1,39.˚17N×71.˚51E,h12km,mb4.4*
*ISU **26** 18:15:36,39.˚43N×71.˚51E,h5km*
*NNC **26** 18:15:36.3±1.6,39.˚31N×71.˚60E,h0km,mb4.5,mpv4.1, Error ellipse: s-maj=12.4km s-min=7.7km az=6.0*

ISC 26 18:15:31.3±1.3,39.˚07N±0.˚04×71.˚44E±0.˚02,h2km±8km, n96,σ2≥26/133,mb3.8/12,37C-21D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.49**	**34**	⇑ *i* P		**Pg**	**18 15 38.6**	**-2.2**
	baz=36							
DRK				⇑ *i* S		**Sg**	**18 15 44.4**	**-2.8**
	baz=36							
BTK	**Batken**	**1.09**	**334**	⇑ *i* P		**Pg**	**18 15 50.9**	**-1.3**
	baz=29							
BTK				⇑ *i* S		**Sg**	**18 16 05.3**	**-1.2**
	baz=29							
BTK	**Batken**	**1.09**	**334**	*e* P		**Pg**	**18 15 51.0**	**-1.3**
BTK				*e*S		**Sg**	**18 16 05.0**	**-1.5**
CHMI	**Chimion**	**1.20**	**3**	*e* P		**Pg**	**18 15 53.0**	**-1.2**
CHMI				*e*S		**Sg**	**18 16 06.0**	**-3.7**
FRG	**Fergana**	**1.33**	**11**	*e* P		Pn	18 15 56.0	-5.7
FRG				*e*S		Sn	18 16 12.0	-12
OHH	**Osh**	**1.78**	**35**	⇑ *i* P		**Pn**	**18 16 02.3**	**-0.9**
	baz=36							
OHH				⇑ *i* S		**Sn**	**18 16 25.2**	**-1.2**
	baz=36							
OHH	**Osh**	**1.78**	**35**	*e* P		**Pn**	**18 16 03.0**	**-0.2**
OHH				*e*S		**Sn**	**18 16 25.0**	**-1.4**
ANR	**Andizhan**	**1.82**	**23**	*e* P		**Pb**	**18 16 06.0**	**+0.6**
ANR				*e*S		**Sn**	**18 16 28.0**	**+0.7**
SFK	**Sufi-Kurgan**	**1.85**	**59**	⇑ *i* P		**Pn**	**18 16 04.0**	**-0.2**
	baz=61							
SFK				⇑ *i* S		**Sn**	**18 16 28.0**	**-0.3**
	baz=61							
SFK	**Sufi-Kurgan**	**1.85**	**59**	*e* P		**Pg**	**18 16 08.0**	**+1.2**
SFK				*e*S		**Sg**	**18 16 36.0**	**+5.2**
TRKS	**Terek-Say**	**2.46**	**355**	⇓ *i* P		**Pn**	**18 16 12.2**	**-0.4**
	baz=54							
TRKS				⇓ *i* S		**Sn**	**18 16 42.8**	**-0.6**
	baz=54							
YNGY	**Yangiyul**	**2.74**	**319**	*e* P		**Pb**	**18 16 22.0**	**+1.0**
YNGY				*e*S		**Sg**	**18 17 01.0**	**+1.6**
TGS	**TashGRES**	**2.77**	**329**	*e* P		**Pb**	**18 16 22.0**	**+0.5**
TGS				*e*S		**Sb**	**18 17 00.0**	**+4.2**
TAS	**Tashkent**	**2.78**	**325**	*e* P		**Pb**	**18 16 22.0**	**+0.2**
TAS				*e*S		**Sb**	**18 16 59.0**	**+2.7**
CHRV	**Charvak**	**2.81**	**337**	*e* P		**Pb**	**18 16 22.0**	**-0.1**
CHRV				*e*S		**Sb**	**18 17 00.0**	**+3.0**
KRSA	**Karasay**	**3.04**	**291**	*e* P		**Pb**	**18 16 26.0**	**-0.1**
KRSA				*e*S		**Sg**	**18 17 08.0**	**-1.0**
SAM	**Samarkand**	**3.50**	**281**	*e* P		**Pg**	**18 16 37.0**	**-1.4**
SAM				*e*S		**Sg**	**18 17 29.0**	**+5.3**
AML	**Almayashu**	**3.50**	**29**	⇑ *e* P		**Pn**	**18 16 27.5**	**+0.4**
	baz=29							
AML				⇑ *i* S		**Sn**	**18 17 08.6**	**-0.7**
	baz=29							
AML	**Almayashu**	**3.50**	**29**	P		**Pn**	**18 16 30.2**	**+3.1**
	SNR=104							
MNAS	**Manas**	**3.50**	**13**	⇑ *i* P		**Pn**	**18 16 27.7**	**+0.8**
	baz=13							
MNAS				⇑ *i* S		**Sn**	**18 17 08.9**	**-0.1**
	baz=13							
MNAS	**Manas**	**3.50**	**13**	*e* PN		**Pn**	**18 16 27.7**	**+0.8**
KSH	**Kashi**	**3.54**	**81**	Pn		**Pn**	**18 16 26.3**	**-1.1**
KSH				Sn		**Sn**	**18 17 04.5**	**-5.5**
KSH				smax		smax		
	comp=N,420nm,0.8s							
KSH				smax		smax		
	comp=E,190nm,0.8s							
DZA	**Taraz**	**3.82**	**359**	*e* P		**Pb**	**18 16 39.1**	**-0.2**
	89nm,0.4s							
DZA				*e*S		**Sb**	**18 17 28.5**	**+2.5**
	351nm,0.6s							
MRKS	**Merke**	**3.91**	**20**	*e* P		**Pb**	**18 16 40.9**	**0.0**
	34nm,0.6s							
MRKS				*e*S		**Sb**	**18 17 33.2**	**+4.5**
	97nm,0.7s							
UCH	**Uchtor**	**3.92**	**36**	⇑ *i* P		**Pn**	**18 16 33.4**	**+0.5**
	baz=36							
UCH				⇑ *i* S		**Sn**	**18 17 18.8**	**-1.0**
	baz=36							
UCH	**Uchtor**	**3.92**	**36**	P		**Pn**	**18 16 35.7**	**+2.7**
	SNR=69							
EKS2	**Erkin-Say**	**4.00**	**26**	⇓ *i* P		**Pn**	**18 16 34.5**	**+0.8**
	baz=26							
EKS2				⇓ *i* S		**Sn**	**18 17 20.5**	**-0.7**
	baz=26							
EKS2	**Erkin-Say**	**4.00**	**26**	P		**Pn**	**18 16 36.7**	**+3.0**
	SNR=36							
KK31	**Karatay Array**	**4.09**	**350**	⇓	Pn	**Pn**	**18 16 36.7**	**+1.9**
	55nm,0.7s,baz=167,slow=12,SNR=459							
KK31				⇑	Sn	**Sn**	**18 17 25.7**	**+2.6**
	62nm,0.7s,baz=162,slow=24,SNR=4.2							
KK31				⇑	Lg	Lg	18 17 38.0	
	103nm,0.6s,baz=172,slow=30,SNR=8.3							
KZA	**Kyzart**	**4.17**	**43**	⇑ *i* P		**Pn**	**18 16 37.2**	**+0.9**
	baz=43							
KZA				⇑ *i* S		**Sn**	**18 17 25.4**	**-0.5**
	baz=43							
KZA	**Kyzart**	**4.17**	**43**	P		**Pn**	**18 16 39.8**	**+3.5**
	SNR=34							
AAK	**Ala-Archa**	**4.25**	**32**	Pn		**Pn**	**18 16 40.2**	**+3.1**
	12nm,0.3s,baz=205,slow=6.8,SNR=104							
AAK				Sn		**Sn**	**18 17 30.3**	**+3.0**
	4.5nm,0.3s,baz=202,slow=24,SNR=5.6							
AAK				Lg		Lg	18 17 41.6	
	11nm,0.3s,baz=29,slow=18,SNR=11							
AAK				LR		LR	18 18 02.2	
	comp=Z,50nm,18.7s,baz=218,slow=36							
AAK	**Ala-Archa**	**4.25**	**32**	⇓ *i* P		**Pn**	**18 16 38.0**	**+0.9**
	baz=32							
AAK				⇓ *i* S		**Sn**	**18 17 26.4**	**-0.9**
	baz=32							
AAK	**Ala-Archa**	**4.25**	**32**	P		**Pn**	**18 16 40.4**	**+3.2**
	SNR=40							
AAK	**Ala-Archa**	**4.25**	**32**	⇓	Pn	**Pn**	**18 16 40.1**	**+3.0**
	65nm,0.9s							
AAK				⇓	Lg	Lg	18 17 44.2	
	86nm,0.6s							
FRU1	**Bishkek**	**4.45**	**32**	⇑ *i* P		**Pn**	**18 16 40.6**	**+0.8**
	baz=32							
FRU1				⇑ *i* S		**Sn**	**18 17 31.7**	**-0.4**
	baz=32							
KBK	**Karagaybulak**	**4.46**	**35**	⇑ *i* P		**Pn**	**18 16 41.0**	**+1.0**
	baz=36							
KBK				⇑ *i* S		**Sn**	**18 17 31.5**	**-1.1**
	baz=36							
KBK	**Karagaybulak**	**4.46**	**35**	P		**Pn**	**18 16 43.0**	**+2.9**
	SNR=63							
CHMS	**Chumysh**	**4.65**	**32**	⇓ *i* P		**Pn**	**18 16 43.6**	**+1.0**
	baz=32							
CHMS				⇓ *i* S		**Sn**	**18 17 36.3**	**-0.8**
	baz=32							
CHMS	**Chumysh**	**4.65**	**32**	P		**Pn**	**18 16 45.4**	**+2.8**
	SNR=89							
CHMS	**Chumysh**	**4.65**	**32**	*e* PN		**Pn**	**18 16 43.6**	**+1.0**
USP	**Ospenovka**	**4.78**	**28**	⇓ *i* P		**Pn**	**18 16 45.3**	**+0.9**
	baz=28							
USP				⇓ *i* S		**Sn**	**18 17 39.5**	**-0.9**
	baz=28							
USP	**Ospenovka**	**4.78**	**28**	P		**Pn**	**18 16 46.9**	**+2.5**
	SNR=46							
BOOM	**Boomskoye usch**	**4.83**	**44**	⇑ *i* P		**Pn**	**18 16 46.2**	**+1.1**
	baz=44							
BOOM				⇑ *i* S		**Sn**	**18 17 40.9**	**-0.8**
	baz=44							
ULHL	**Ulahol**	**4.83**	**48**	⇑ *i* P		**Pn**	**18 16 46.0**	**+0.8**
	baz=48							
ULHL				⇑ *i* S		**Sn**	**18 17 40.9**	**-1.0**
	baz=48							
ULHL	**Ulahol**	**4.83**	**48**	P		**Pn**	**18 16 47.4**	**+2.1**
	SNR=11							
TKM2	**Tokmak 2**	**4.97**	**38**	⇑ *i* P		**Pn**	**18 16 47.9**	**+0.9**
	baz=38							
TKM2				⇑ *i* S		**Sn**	**18 17 43.9**	**-1.2**
	baz=38							
TKM2	**Tokmak 2**	**4.97**	**38**	P		**Pn**	**18 16 50.0**	**+3.0**
	SNR=11							
TKM2	**Tokmak 2**	**4.97**	**38**	⇑	Pn	**Pn**	**18 16 49.5**	**+2.4**
	36nm,0.8s							
TKM2				⇓	Pg	Pg	18 17 01.6	-4.8
	49nm,1.1s							
TKM2				⇓	Sn	**Sn**	**18 17 46.7**	**+1.6**
	35nm,0.7s							
TKM2				⇓	Lg	Lg	18 18 08.1	
	75nm,0.8s							
TKM2	**Tokmak 2**	**4.97**	**38**	*e* PN		**Pn**	**18 16 47.9**	**+0.9**
SGDS	**Sogindy**	**4.99**	**28**	Pg		**Pb**	**18 17 00.6**	**+1.2**
	19nm,0.7s							
SGDS				Lg		Lg	18 18 03.1	
	175nm,0.9s							
DGS	**Degeres**	**5.29**	**37**	*e* P		**Pb**	**18 17 06.6**	**+2.0**
	40nm,0.7s							
DGS				*e*S		**Sg**	**18 18 16.6**	**-4.7**
	50nm,0.6s							
DGS	**Degeres**	**5.29**	**37**	Pg		**Pb**	**18 17 07.9**	**+3.3**
	40nm,0.7s							
DGS				Lg		Lg	18 18 15.4	
	50nm,0.6s							
MTBS	**Maitube**	**5.53**	**41**	Pg		**Pb**	**18 17 11.9**	**+3.3**
MTBS				Lg		Lg	18 18 22.5	
	35nm,0.6s							
KRBS	**Karabastau**	**5.61**	**33**	*e* P		**Pb**	**18 17 10.3**	**+0.4**
	17nm,0.8s							
KRBS				*e*S		**Sb**	**18 18 24.0**	**+6.4**
	23nm,0.7s							
KRBS	**Karabastau**	**5.61**	**33**	Pg		**Pb**	**18 17 11.2**	**+1.3**
	17nm,0.6s							
KRBS				Lg		Lg	18 18 21.6	
	23nm,0.7s							
TNSS	**Tian-Shan**	**5.75**	**45**	Pg		**Pb**	**18 17 15.9**	**+3.5**
	18nm,0.7s							
TNSS				Lg		Lg	18 18 30.2	
	19nm,0.9s							
KNDC	**Almaty**	**5.88**	**43**	⇑	Pg	**Pg**	**18 17 22.1**	**-1.7**
	45nm,0.8s							
KNDC				⇓	Lg	Lg	18 18 36.8	
	200nm,1.1s							
MDOK	**Medeo**	**5.88**	**44**	⇑	Pn	**Pn**	**18 17 02.3**	**+2.7**
	36nm,1.2s							
MDOK				⇑	Lg	Lg	18 18 37.8	
	47nm,0.8s							
MDOK	**Medeo**	**5.88**	**44**		Pg	**Pb**	**18 17 18.1**	**+3.5**
	10nm,0.6s							
MDOK					Lg	Lg	18 18 33.0	
	44nm,1.1s							
KUU	**Kurty**	**6.06**	**36**		Pg	**Pb**	**18 17 18.9**	**+1.3**
	13nm,1.0s							
KUU					Lg	Lg	18 18 36.5	
	60nm,1.0s							
KTBS	**Karatobe**	**6.08**	**39**		Pg	**Pb**	**18 17 21.6**	**+3.6**
	4.8nm,0.5s							
KTBS					Lg	Lg	18 18 38.9	
	75nm,0.8s							
CHKK	**Chushkaly**	**6.34**	**39**		Pg	**Pb**	**18 17 25.5**	**+3.2**
	7.6nm,0.7s							
CHKK					Lg	Lg	18 18 46.5	
	33nm,1.0s							
SATY	**Saty**	**6.60**	**51**		Pg	**Pb**	**18 17 31.1**	**+4.3**
	17nm,0.7s							
SATY					Lg	Lg	18 18 55.1	
	41nm,1.4s							
PDGK	**Podgornoye**	**7.41**	**52**		Pg	Pg	18 17 47.8	-5.4
	4.4nm,0.9s							
PDGK					Lg	Lg	18 19 23.4	
	12nm,1.1s							
PDGK	**Podgornoye**	**7.41**	**52**	⇑	Pn	**Pn**	**18 17 22.8**	**+2.2**
	7.1nm,0.8s							
PDGK				⇓	Pg	Pg	18 17 47.8	-5.4
	18nm,1.2s							
PDGK				⇓	Lg	Lg	18 19 27.0	
	37nm,1.0s							
DJR	**Jarkent**	**8.16**	**47**		Pg	Pb	18 17 59.0	+5.6
	3.0nm,0.6s							
DJR					Lg	Lg	18 19 43.2	
	15nm,0.9s							
OTUK	**Ortayu**	**9.19**	**4**	⇑	Pn	**Pn**	**18 17 45.4**	**+0.5**
	3.0nm,0.8s							
OTUK				⇓	Lg	Lg	18 20 23.4	
	32nm,0.9s							
MKAR	**Makanchi Array**	**11.07**	**42**		Pn	**Pn**	**18 18 11.8**	**+1.2**
	0.1nm,0.3s,baz=235,slow=13,SNR=11							
KURBB	**Kurchatov Arra**	**12.59**	**21**		Pn	**Pn**	**18 18 29.1**	**-2.1**
	0.0nm,0.3s,baz=211,slow=13,SNR=12							
KURBB					Lg	Lg	18 22 12.7	
	0.1nm,0.3s,baz=208,slow=30,SNR=9.8							
KURK	**Kurchatov**	**12.70**	**21**		P	**Pn**	**18 18 29.2**	**-3.5**
AB31	**Akbulak array**	**13.09**	**325**		Pn	**Pn**	**18 18 39.9**	**+1.8**
	5.4nm,0.9s,baz=129,slow=14,SNR=25							
AB31				⇑	Sn	**Sn**	**18 21 06.0**	**+1.9**
	22nm,1.1s,baz=142,slow=21,SNR=12							
BVAR	**Borovoye Array**	**13.97**	**357**		Pn	**Pn**	**18 18 49.0**	**-1.2**
	0.4nm,0.3s,baz=175,slow=18,SNR=10							
BRVK	**Borovoye**	**14.01**	**357**	*i*	P	**Pn**	**18 18 49.2**	**-1.5**
AKTO	**Aktyubinsk**	**14.80**	**324**		Pn	**Pn**	**18 19 00.2**	**-1.3**
	0.3nm,0.3s,baz=141,slow=12,SNR=5.0							
AKTO					Sn	**Sn**	**18 21 40.5**	**-5.5**
	0.2nm,0.3s,baz=181,slow=23,SNR=2.4							
AKTO					LR	LR	18 25 21.9	
	comp=Z,58nm,20.7s,baz=141,slow=40							
AKTO	**Aktyubinsk**	**14.80**	**324**	⇓	Pn	**Pn**	**18 19 04.4**	**+2.9**
	6.4nm,0.7s							
AKTO				⇑	Sn	**Sn**	**18 21 50.1**	**+4.1**
	9.2nm,0.9s							
DGZ	**Jazzator, Alta**	**15.57**	**42**	*i*	P	**Pn**	**18 19 09.1**	**-2.

Plg79.8129°, Azm243.4098°; **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.14**	**12**		**Pn**	**18 18 01.5**	**-0.7**
RABL				Sn	**Sn**	**18 18 28.1**	**+0.4**
PMG	**Port Moresby**	**5.46**	**235**	P	**Pn**	**18 18 49.0**	**+1.2**
PMG						18 19 50.0	
PMG	**Port Moresby**	**5.46**	**235**	Pn	**Pn**	**18 18 49.0**	**+1.2**
PMG				Sn	**Sn**	**18 19 50.0**	**+0.5**
PMG	**Port Moresby**	**5.46**	**235**	P	**Pn**	**18 18 49.7**	**+1.9**
	11nm5µm8µm734nm,0.8s						
PMG	**Port Moresby**	**5.46**	**235**	P	**Pn**	**18 18 50.8**	**+3.0**
PMG	**Port Moresby**	**5.46**	**235**	P	**Pn**	**18 18 50.7**	**+3.0**
MANU	**Manus Island**	**6.05**	**314**		**Pn**	**18 18 59.0**	**+3.0**
HNR	**Honiara**	**8.73**	**111**	Pn	**Pn**	**18 19 35.2**	**+2.4**
	69nm,0.3s,baz=250,slow=3.5,SNR=13						
HNR				LR	LR	18 22 36.7	
	comp=Z,4µm,20.6s,baz=278,slow=35						
HNR	**Honiara**	**8.73**	**111**	P	**Pn**	**18 19 32.4**	**-0.3**
HNR	**Honiara**	**8.73**	**111**		**Pn**	**18 19 32.4**	**-0.3**
COEN	**Coen**	**11.33**	**227**	P	**Pn**	**18 20 08.5**	**+0.1**
	baz=11						
COEN	**Coen**	**11.33**	**227**	Pn	**Pn**	**18 20 08.2**	**-0.2**
JAY	**Jayapura**	**11.60**	**288**	Pn	**Pn**	**18 20 10.7**	**-1.4**
	0.3nm,0.3s,baz=118,slow=6.1,SNR=2.6						
JAY				LR	LR	18 24 24.5	
	comp=Z,5µm,19.2s,baz=91,slow=37						
JAY	**Jayapura**	**11.60**	**288**	P	**Pn**	**18 20 13.2**	**+1.2**
	566nm17nm,1.3s						
GENI	**Genyem**	**12.08**	**287**	P	**Pn**	**18 20 21.1**	**+2.5**
	5µm3µm56nm,1.3s						
SMPI	**Sarmi**	**13.65**	**288**	P	**Pn**	**18 20 42.2**	**+2.1**
	2µm26nm,1.5s						
MTSU	**Mount Surprise**	**13.80**	**211**	P	**Pn**	**18 20 42.8**	**+0.7**
	baz=14,SNR=16						
PATS	**Pohnpei**	**14.62**	**27**	Pn	**Pn**	**18 20 52.6**	**-0.7**
CTA	**Charters Tower**	**14.69**	**201**	Pn	**Pn**	**18 20 55.1**	**+0.8**
	0.8nm,0.3s,baz=25,slow=14,SNR=7.1						
CTA				LR	LR	18 25 53.0	
	comp=Z,2µm,21.0s,baz=18,slow=34						
CTAO	**Charters Tower**	**14.69**	**201**	P	**Pn**	**18 20 55.1**	**+0.8**
CTAO	**Charters Tower**	**14.69**	**201**		**Pn**	**18 20 55.1**	**+0.8**
QIS	**Mount Isa**	**18.40**	**218**	P	**Pn**	**18 21 42.1**	**+0.7**
	baz=18,SNR=34						
EIDS	**Eidsvold**	**18.97**	**182**	P	**Pn**	**18 21 48.6**	**+0.4**
	baz=19,SNR=8.8						
EIDS	**Eidsvold**	**18.97**	**182**	P	**P**	**18 21 47.2**	**-0.1**
FAKI	**Fak Fak**	**19.68**	**279**	P	**P**	**18 21 54.5**	**-0.7**
FAKI	**Fak Fak**	**19.68**	**279**	P	**P**	**18 21 54.6**	**-0.7**
	57nm,1.6s						
KDU	**Kakadu**	**20.00**	**250**	P	**P**	**18 21 58.6**	**-0.1**
	baz=20,SNR=36						
RMQ	**Roma**	**20.27**	**188**	P	Pn	18 22 03.3	-0.4
	baz=20,SNR=94						
SAUI	**Saumlaki**	**20.32**	**264**	P	**P**	**18 22 01.7**	**-0.5**
SAUI	**Saumlaki**	**20.32**	**264**	P	**P**	**18 22 01.7**	**-0.5**
	9µm386nm,0.7s						
GUMO	**Guam**	**20.89**	**341**	P	**P**	**18 22 08.6**	**+0.3**
	269nm,1.1s,baz=152,slow=1.1,SNR=8.4						
GUMO				LR	LR	18 29 30.7	
	comp=Z,512nm,18.1s,baz=146,slow=35						
GUMO	**Guam**	**20.89**	**341**	P	**P**	**18 22 09.0**	**+0.6**
GUMO				pmax	pmax		
	comp=Z,865nm,1.5s						
GUMO	**Guam**	**20.89**	**341**	P	**P**	**18 22 09.0**	**+0.6**
GUMO	**Guam**	**20.89**	**341**	P	Pn	18 22 10.5	-0.5
SIJI	**Sorong**	**21.10**	**284**	P	**P**	**18 22 09.4**	**-1.2**
	comp=Z,12nm,0.6s,baz=71,slow=10,SNR=4.2						
SIJI	**Sorong**	**21.10**	**284**	P	**P**	**18 22 12.1**	**+1.5**
	comp=Z,28nm,1.1s						
SWI	**Sorong**	**21.11**	**284**	P	**P**	**18 22 12.5**	**+1.8**
	comp=Z,902nmcomp=Z,62nm,1.0s						
DZM	**Mont Dzumac**	**21.18**	**139**	P	**P**	**18 22 12.3**	**+0.8**
	comp=Z,11nm,0.6s,baz=334,slow=9.6,SNR=12						
DZM				LR	LR	18 29 30.7	
	comp=Z,3µm,19.8s,baz=321,slow=34						
DZM	**Mont Dzumac**	**21.18**	**139**	*e*P	**P**	**18 22 10.9**	**-0.6**
	comp=Z,110nm,1.3s						
DZM				*e*S	**S**	**18 26 01.4**	**-4.1**
	comp=Z,2µm,23.9s						
DZM				*e*LQ	LQ	18 26 19.0	
	comp=Z,2µm,28.4s						
DZM				*e*LR	LR	18 27 13.8	
	comp=Z,6µm,24.0s,baz=311						
DZM	**Mont Dzumac**	**21.18**	**139**	P	**P**	**18 22 10.8**	**-0.7**
DZM	**Mont Dzumac**	**21.18**	**139**	P	**P**	**18 22 13.6**	**+2.1**
MTN	**Manton Dam**	**21.30**	**251**	P	**P**	**18 22 12.7**	**0.0**
	baz=21,SNR=44						
MTN	**Manton Dam**	**21.30**	**251**	P	**P**	**18 22 11.9**	**-0.8**
MTN				IAmb	IAmb	18 22 19.2	
	comp=Z,370nm,1.6s						
ONTNC	**Ouen Toro**	**21.35**	**140**	P	**P**	**18 22 11.6**	**-1.6**
QLP	**Quilpie**	**21.39**	**199**	P	**P**	**18 22 14.6**	**+1.0**
	baz=22,SNR=90						
YATNC	**Mamie plateau,**	**21.46**	**138**	P	**P**	**18 22 20.5**	**+6.1**
WC3	**Warramunga Arr**	**21.63**	**230**	P	**P**	**18 22 16.0**	**-0.3**
	baz=22						
WRAB	**Tennant Creek**	**21.63**	**230**	*de*P	**P**	**18 22 16.0**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,154nm,1.7s						
WRAB	**Tennant Creek**	**21.63**	**230**	P	**P**	**18 22 15.5**	**-0.8**
WRA	**Warramunga Arr**	**21.65**	**230**	P	**P**	**18 22 16.3**	**-0.2**
	baz=54,slow=9.8						
OUENC	**Ouen Island, N**	**21.68**	**139**	P	**P**	**18 22 18.4**	**+1.6**
BNDI	**Bandanaira**	**21.78**	**274**	P	**P**	**18 22 19.0**	**+1.1**
	comp=Z,6µmcomp=Z,402nm,1.4s						
KWAJ	**Kwajalein Atol**	**21.83**	**47**	IAMs_20	IAMs_20	18 30 32.3	
	comp=Z,3µm,18.0s						
MSAI	**Masohi**	**22.89**	**276**	P	**P**	**18 22 30.6**	**+0.8**
	comp=Z,145nmcomp=Z,12nm,0.8s						
ARMA	**Armidale**	**23.99**	**180**	P	**P**	**18 22 40.7**	**+0.1**
ARMA				IAMs_20	IAMs_20	18 32 05.2	
	comp=Z,4µm,18.0s						
AS31	**Alice Springs**	**24.32**	**223**	P	**P**	**18 22 43.2**	**-0.4**
AS31				IAmb	IAmb	18 22 45.4	
	comp=Z,45nm,0.6s						
ASAR	**Alice Springs**	**24.32**	**223**	P	**P**	**18 22 43.5**	**0.0**
	comp=Z,153nm,0.8s,baz=57,slow=9.1,SNR=634						
ASAR				S	**S**	**18 27 07.4**	**+6.6**
	comp=Z,13nm,1.1s,baz=33,slow=24,SNR=7.4						
ASAR				ScP	**ScP**	**18 30 09.3**	**+10**
	comp=Z,10nm,1.1s,baz=50,slow=3.1,SNR=14						
ASAR				LR	LR	18 32 03.5	
	comp=Z,894nm,20.6s,baz=52,slow=36						
ASPA	**Alice Springs**	**24.32**	**223**	P	**P**	**18 22 43.8**	**+0.3**
	baz=24						
KNRA	**Kununurra**	**24.35**	**246**	P	**P**	**18 22 43.6**	**-0.2**
	baz=24,SNR=21						
KNRA	**Kununurra**	**24.35**	**246**	P	**P**	**18 22 43.0**	**-0.8**
CMSA	**Cobar Meteorol**	**25.73**	**192**	P	**P**	**18 22 56.4**	**+0.2**
	baz=26,SNR=13						
SANI	**Sanana**	**25.99**	**278**	P	**P**	**18 22 58.6**	**-0.2**
	comp=Z,947nmcomp=Z,51nm,1.0s						
LHI	**Lord Howe Isla**	**26.02**	**166**	P	**P**	**18 23 00.0**	**+1.2**
	baz=26,SNR=3.4						
LHI	**Lord Howe Isla**	**26.02**	**166**	P	**P**	**18 22 58.2**	**-0.6**
LHI				IAmb	IAmb	18 23 12.9	
	comp=Z,193nm,1.2s						
STKA	**Stephens Creek**	**27.14**	**199**	P	**P**	**18 23 10.0**	**+1.0**
	baz=27,SNR=18						
STKA	**Stephens Creek**	**27.14**	**199**	P	**P**	**18 23 08.0**	**-1.0**
	comp=Z,46nm,0.9s,baz=6.1,slow=9.1,SNR=30						
STKA				S	**S**	**18 27 52.0**	**+6.5**
	comp=Z,2.1nm,0.7s,baz=153,slow=8.9,SNR=1.9						
STKA				ScP	ScP	18 30 19.5	+12
	comp=Z,4.3nm,1.0s,baz=0.0,slow=5.1,SNR=3.5						
STKA				LR	LR	18 33 24.2	
	comp=Z,1µm,20.0s,baz=1.7,slow=35						
STKA	**Stephens Creek**	**27.14**	**199**	*i* P	**P**	**18 23 08.1**	**-0.9**
STKA	**Stephens Creek**	**27.14**	**199**	P	**P**	**18 23 08.0**	**-1.0**
SOEI	**Soe**	**27.38**	**261**	P	**P**	**18 23 11.6**	**+0.2**
SOEI	**Soe**	**27.38**	**261**	P	**P**	**18 23 11.3**	**-0.2**
	comp=Z,3µmcomp=Z,186nm,1.3s						
FITZ	**Fitzroy Crossi**	**28.00**	**243**	P	**P**	**18 23 16.5**	**-0.3**
	baz=28,SNR=63						
FITZ	**Fitzroy Crossi**	**28.00**	**243**	P	**P**	**18 23 16.5**	**-0.3**
	comp=Z,26nm,0.4s,baz=59,slow=7.5,SNR=310						
FITZ				S	**S**	**18 27 53.9**	**-5.3**
	comp=Z,10nm,1.2s,baz=186,slow=6.6,SNR=1.5						
FITZ	**Fitzroy Crossi**	**28.00**	**243**	P	**P**	**18 23 16.5**	**-0.3**
FITZ				IAmb	IAmb	18 23 24.5	
	comp=Z,84nm,0.9s						
BATI	**Baumata**	**28.02**	**260**	P	**P**	**18 23 17.4**	**+0.4**
	comp=Z,59nm,0.7s,baz=144,slow=3.4,SNR=14						
BATI				S	**S**	**18 27 57.5**	**-2.2**
	comp=Z,17nm,0.8s,baz=301,slow=18,SNR=2.1						
BATI				LR	LR	18 36 09.4	
	comp=Z,1µm,22.0s,baz=88,slow=40						
BATI	**Baumata**	**28.02**	**260**	P	**P**	**18 23 17.4**	**+0.4**
	comp=Z,1µmcomp=Z,92nm,0.8s						
WRKA	**Warakurna**	**29.15**	**228**	P	**P**	**18 23 26.1**	**-0.9**
	baz=29,SNR=112						
DAV	**Davao City (W)**	**29.26**	**297**	LR	LR	18 34 35.3	
	comp=Z,658nm,18.5s,baz=107,slow=35						
MMRI	**Maumere**	**29.31**	**264**	P	**P**	**18 23 27.5**	**-1.0**
MMRI					**S**	**18 28 18.9**	**-1.0**
MMRI	**Maumere**	**29.31**	**264**	P	**P**	**18 23 29.1**	**+0.6**
	comp=Z,2µmcomp=Z,223nm,1.2s						
LUWI	**Luwuk**	**29.34**	**279**	P	**P**	**18 23 25.8**	**-3.0**
LUWI				IAmb	IAmb	18 23 42.1	
	comp=Z,153nm,1.5s						
LUWI	**Luwuk**	**29.34**	**279**	P	**P**	**18 23 25.1**	**-3.6**
HTT	**Hallett**	**29.49**	**202**	P	**P**	**18 23 29.7**	**-0.3**
	baz=30,SNR=19						
EDFI	**Ende, Flores**	**29.86**	**263**	P	**P**	**18 23 32.8**	**-0.7**
	comp=Z,1µmcomp=Z,102nm,1.4s						
KKSI	**Kolaka, Sulawe**	**30.00**	**273**	P	**P**	**18 23 34.7**	**0.0**
	comp=Z,41nm,1.0s						
BBOO	**Buckleboo**	**30.13**	**207**	P	**P**	**18 23 35.6**	**0.0**
	baz=30,SNR=11						
BBOO	**Buckleboo**	**30.13**	**207**	P	**P**	**18 23 33.8**	**-1.8**
BSSI	**Bau Bau, Buton**	**31.03**	**269**	P	**P**	**18 23 45.1**	**+1.3**
	comp=Z,2µmcomp=Z,94nm,1.0s						
BASI	**Baing, Sumba**	**31.04**	**261**	P	**P**	**18 23 45.1**	**+1.3**
	comp=Z,3µmcomp=Z,273nm,1.3s						
BKSI	**Bukumba**	**31.44**	**270**	P	**P**	**18 23 46.8**	**-0.5**
	comp=Z,465nmcomp=Z,26nm,1.0s						
BNSI	**Bone**	**31.52**	**272**	P	**P**	**18 23 48.5**	**+0.5**
	comp=Z,35nm,1.3s						
LBFI	**Labuhan Bajo,**	**31.62**	**264**	P	**P**	**18 23 48.2**	**-0.8**
	comp=Z,649nmcomp=Z,66nm,1.1s						
TOO	**Toolangi**	**31.64**	**189**	P	**P**	**18 23 48.0**	**-0.8**
TOO				pmax	pmax		
	comp=Z,43nm,1.7s						
TOO				MLR	MLR		
	comp=Z,2µm,18.0s						
TOO	**Toolangi**	**31.64**	**189**	P	**P**	**18 23 48.0**	**-0.8**
ARPS	**Mount Arapiles**	**31.64**	**195**	P	**P**	**18 23 48.9**	**+0.1**
	baz=32,SNR=16						
TOLI2	**Tolitoli**	**31.74**	**282**	P	**P**	**18 23 46.2**	**-3.8**
KAPI	**Kappang**	**31.82**	**271**	P	**P**	**18 23 50.2**	**-0.5**
KAPI				pmax	pmax		
	comp=Z,46nm,1.2s						
KAPI	**Kappang**	**31.82**	**271**	P	**P**	**18 23 50.2**	**-0.5**
KAPI				IAmb	IAmb	18 23 52.1	
	comp=Z,46nm,1.1s						
KAPI	**Kappang**	**31.82**	**271**	P	**P**	**18 23 51.4**	**+0.7**
KAPI				P	**P**	**18 23 51.4**	**+0.7**
KAPI	**Kappang**	**31.82**	**271**	P	**P**	**18 23 51.6**	**+0.9**
	comp=Z,520nmcomp=Z,38nm,1.1s						
TTSI	**Tana Toraja**	**31.94**	**274**	P	**P**	**18 23 52.8**	**+1.0**
	comp=Z,29nm,1.4s						
MKS	**Makassar**	**32.09**	**270**	P	**P**	**18 23 52.5**	**-0.6**
	comp=Z,1µmcomp=Z,42nm,1.1s						
WBSI	**Waikabubak, Su**	**32.17**	**262**	P	**P**	**18 23 54.3**	**+0.5**
	comp=Z,3µmcomp=Z,183nm,0.8s						
MPSI	**Mapaga**	**32.43**	**281**	P	**P**	**18 23 54.4**	**-1.6**
	comp=Z,19nm,1.2s						
FORT	**Forrest**	**32.95**	**219**	P	**P**	**18 24 00.1**	**-0.3**
	baz=33,SNR=14						
FORT	**Forrest**	**32.95**	**219**	P	**P**	**18 23 59.5**	**-0.8**
PLAI	**Plampang**	**33.72**	**264**	P	**P**	**18 24 05.9**	**-1.5**
	comp=Z,2µmcomp=Z,185nm,0.9s						
PSA00	**Pilbara Seismi**	**34.34**	**241**	P	**P**	**18 24 11.7**	**-1.0**
PSA00				IAmb	IAmb	18 24 20.7	
	comp=Z,55nm,0.8s						
PSA00	**Pilbara Seismi**	**34.34**	**241**	P	**P**	**18 24 11.7**	**-1.0**
PSA00				IAmb	IAmb	18 24 13.5	
	comp=Z,79nm,1.5s						
TWSI	**Taliwang, Sumb**	**34.60**	**264**	P	**P**	**18 24 13.5**	**-1.5**
	comp=Z,690nmcomp=Z,63nm,1.7s						
OUZ	**Omahuta**	**35.13**	**148**	P	**P**	**18 24 19.2**	**-0.1**
SRBI	**Singaraja**	**36.24**	**265**	P	**P**	**18 24 27.8**	**-1.3**
	comp=Z,1µmcomp=Z,90nm,1.3s						
DNP	**Denpasar**	**36.26**	**264**	P	**P**	**18 24 28.9**	**-0.3**
	comp=Z,485nm,0.9s						
TAU	**Tasmania Unive**	**36.66**	**185**	P	**P**	**18 24 32.7**	**+0.4**
TAU				pmax	pmax		
	comp=Z,66nm,1.4s						
TAU	**Tasmania Unive**	**36.66**	**185**	P	**P**	**18 24 32.6**	**+0.4**
AFI	**Afiamalu**	**36.69**	**105**	LR	LR	18 37 25.1	
	comp=Z,305nm,18.9s,baz=269,slow=33						
BBKI	**Banjar Baru**	**36.84**	**273**	P	**P**	**18 24 33.9**	**-0.3**
	comp=Z,2µmcomp=Z,53nm,1.3s						
BYJI	**Banyuwangi**	**37.09**	**265**	P	**P**	**18 24 35.8**	**-0.6**
	comp=Z,6µmcomp=Z,337nm,1.3s						
JAGI	**Jajag, Banyuwa**	**37.30**	**264**	P	**P**	**18 24 35.9**	**-2.3**
JAGI					**S**	**18 30 22.2**	**-1.6**
JAGI	**Jajag, Banyuwa**	**37.30**	**264**	P	**P**	**18 24 35.8**	**-2.3**
	comp=Z,2µmcomp=Z,255nm,0.9s						
MEEK	**Meekatharra**	**37.44**	**234**	P	**P**	**18 24 39.1**	**-0.1**
	baz=38,SNR=33						
KMMI	**Kalianget**	**37.49**	**267**	P	**P**	**18 24 39.5**	**-0.2**
	comp=Z,124nm,1.4s						
PKKI	**Palangkaraya**	**37.84**	**274**	P	**P**	**18 24 43.2**	**+0.5**
	comp=Z,76nm,1.2s						
GMJI	**Guukmas**	**38.00**	**265**	P	**P**	**18 24 44.0**	**0.0**
	comp=Z,1µmcomp=Z,51nm,1.2s						
KRKI	**Karangkates**	**38.98**	**265**	P	**P**	**18 24 52.6**	**+0.3**
	comp=Z,184nm,0.8s						
QRZ	**Quartz Range**	**39.10**	**155**	IAMs_20	IAMs_20	18 41 14.6	
	comp=Z,2µm,18.0s						
URZ	**Urewera**	**39.27**	**148**	PcP	**PcP**	**18 27 01.4**	**-1.5**
	comp=Z,13nm,0.7s,baz=12,slow=7.2,SNR=4.5						
URZ	**Urewera**	**39.27**	**148**	IAMs_20	IAMs_20	18 40 14.4	
	comp=Z,1µm,19.0s						
MXZ	**Matakaoa Point**	**39.42**	**146**	IAMs_20	IAMs_20	18 40 26.3	
	comp=Z,2µm,18.0s						
GIRL	**Giralia**	**39.60**	**242**	P	**P**	**18 24 57.6**	**+0.3**
	baz=40,SNR=15						
GIRL	**Giralia**	**39.60**	**242**	P	**P**	**18 24 56.9**	**-0.5**
PWJI	**Pagerwojo**	**39.62**	**265**	P	**P**	**18 24 56.5**	**-1.1**
	comp=Z,1µmcomp=Z,129nm,1.1s						
SJI	**Sawahan**	**39.66**	**266**	P	**P**	**18 24 57.6**	**-0.5**
	comp=Z,3µmcomp=Z,138nm,2.0s						
NNZ	**Nelson**	**39.78**	**154**	IAMs_20	IAMs_20	18 42 10.8	
	comp=Z,2µm,18.0s						
THZ	**Tophouse**	**40.03**	**155**	P	**P**	**18 25 01.1**	**+0.4**
THZ				IAMs_20	IAMs_20	18 42 10.3	
	comp=Z,2µm,18.0s						
PBKI	**Pangkalan Bun**	**40.06**	**273**	P	**P**	**18 25 03.0**	**+1.7**
	comp=Z,3µmcomp=Z,344nm,1.2s						
TUWZ	**Tuamarina**	**40.20**	**154**	P	**P**	**18 25 00.4**	**-1.7**
PCJI	**Pacitan**	**40.24**	**265**	P	**P**	**18 25 02.4**	**-0.4**
	comp=Z,5µmcomp=Z,422nm,1.3s						
FOZ	**Fox Glacier**	**40.36**	**160**	P	**P**	**18 25 03.3**	**0.0**
FOZ				IAmb	IAmb	18 25 26.1	
	comp=Z,225nm,1.7s						
BSWZ	**Blackbirch Sta**	**40.41**	**154**	P	**P**	**18 25 03.7**	**-0.1**
SNZO	**South Karori**	**40.44**	**153**	P	**P**	**18 25 04.4**	**+0.4**
SNZO	**South Karori**	**40.44**	**153**	IAMs_20	IAMs_20	18 42 26.2	
	comp=Z,2µm,18.0s						
MORW	**Morawa**	**40.57**	**232**	P	**P**	**18 25 04.5**	**-0.8**
	baz=41,SNR=9.8						
MORW	**Morawa**	**40.57**	**232**	P	**P**	**18 25 04.3**	**-1.0**
MORW				IAmb	IAmb	18 25 06.0	
	comp=Z,116nm,1.2s						
BHW	**Baring Head**	**40.60**	**153**	P	**P**	**18 25 04.3**	**-1.0**
LTZ	**Lake Taylor**	**40.62**	**157**	P	**P**	**18 25 05.8**	**+0.2**
STKI	**Sintang**	**40.65**	**277**	P	**P**	**18 25 08.1**	**+2.0**
	comp=Z,2µmcomp=Z,33nm,1.3s						
BFZ	**Birch Farm**	**40.67**	**151**	P	**P**	**18 25 05.6**	**-0.4**
BFZ				IAmb	IAmb	18 25 31.6	
	comp=Z,136nm,1.5s						
MSWZ	**Moikau Station**	**40.78**	**153**	P	**P**	**18 25 06.9**	**0.0**
BLDU	**Ballidu**	**40.78**	**229**	P	**P**	**18 25 06.1**	**-1.0**
	baz=41,SNR=6.2						
KHZ	**Kahutara**	**40.84**	**155**	P	**P**	**18 25 07.6**	**+0.4**
KHZ				IAmb	IAmb	18 26 19.1	
	comp=Z,95nm,1.4s						
KHZ				IAMs_20	IAMs_20	18 42 47.6	
	comp=Z,2µm,18.0s						
UGM	**Wanagama**	**40.89**	**265**	P	**P**	**18 25 07.5**	**-0.7**
UGM	**Wanagama**	**40.89**	**265**	P	**P**	**18 25 08.5**	**+0.3**
	comp=Z,172nm,2.0s						
PLWZ	**Palliser**	**40.90**	**153**	P	**P**	**18 25 07.8**	**-0.1**
RPZ	**Rata Peaks**	**40.96**	**159**	P	**P**	**18 25 08.6**	**+0.3**
RPZ				IAmb	IAmb	18 25 25.1	
	comp=Z,134nm,2.0s						
SMRI	**Semarang**	**40.99**	**267**	P	**P**	**18 25 09.0**	**0.0**
	comp=Z,3µmcomp=Z,147nm,1.4s						
OXZ	**Oxford**	**40.99**	**157**	P	**P**	**18 25 07.3**	**-1.3**
YOGI	**Yogyakarta**	**41.12**	**265**	P	**P**	**18 25 09.4**	**-0.6**
	comp=Z,3µmcomp=Z,197nm,1.9s						
LBZ	**Lake Benmore**	**41.24**	**160**		**P**	**18 25 13.0**	**+2.4**
LBZ				IAMs_20	IAMs_20	18 38 21.1	
	comp=Z,2µm,22.0s						
WKZ	**Wanaka**	**41.24**	**161**	P	**P**	**18 25 11.5**	**+0.9**
WKZ				IAmb	IAmb	18 25 36.3	
	comp=Z,104nm,1.5s						
MLZ	**Mavora Lakes**	**41.45**	**162**	P	**P**	**18 25 12.7**	**+0.3**
MLZ				IAmb	IAmb	18 25 14.5	
	comp=Z,91nm,1.5s						
MQZ	**McQueen's Vall**	**41.55**	**157**	P	**P**	**18 25 13.0**	**-0.2**
NWAO	**Narrogin (SRO)**	**41.57**	**226**	P	**P**	**18 25 12.2**	**-1.3**
NWAO				pmax	pmax		
	comp=Z,70nm,1.5s						
NWAO				MLR	MLR		
	comp=Z,2µm,18.0s						
NWAO	**Narrogin (SRO)**	**41.57**	**226**	P	**P**	**18 25 12.2**	**-1.3**
NWAO				IAMs_20	IAMs_20	18 44 44.0	
	comp=Z,2µm,18.0s						
MUN	**Mundaring**	**41.82**	**228**	P	**P**	**18 25 15.3**	**-0.3**
	baz=42,SNR=4.0						
YULB	**Yu-li**	**41.88**	**316**	P	**P**	**18 25 15.7**	**-0.4**
YULB				IAmb	IAmb	18 25 30.1	
	comp=Z,136nm,1.5s						
WHZ	**Wether Hill Ro**	**41.88**	**163**	P	**P**	**18 25 15.2**	**-0.6**
NACB	**Ninganchiao**	**42.19**	**317**	P	**P**	**18 25 17.8**	**-0.8**
NACB				IAmb	IAmb	18 25 19.8	
	comp=Z,266nm,1.9s						
SCJI	**Gunung Srandil**	**42.23**	**266**	P	**P**	**18 25 17.6**	**-1.6**
	comp=Z,3µmcomp=Z,166nm,0.9s						
CTJI	**Waduk Cacaban**	**42.23**	**267**	P	**P**	**18 25 18.0**	**-1.2**
	comp=Z,2µmcomp=Z,50nm,1.7s						
TPUB	**Ta-pu**	**42.28**	**315**	P	**P**	**18 25 18.1**	**-1.3**
TPUB				IAmb	IAmb	18 26 47.5	
	comp=Z,103nm,1.4s						
SSLB	**Suanglung**	**42.37**	**316**	P	**P**	**18 25 18.6**	**-1.5**
SSLB				IAmb	IAmb	18 25 32.8	
	comp=Z,156nm,1.8s						
SSLB					**PcP**	**18 27 12.9**	**-0.4**
KPJI	**Karang Pucung**	**42.48**	**266**	P	**P**	**18 25 22.3**	**+1.2**
	comp=Z,2µmcomp=Z,194nm,0.9s						
YHNB	**Yeheng**	**42.67**	**317**	P	**P**	**18 25 22.6**	**+0.1**
YHNB				IAmb	IAmb	18 25 37.0	
	comp=Z,216nm,1.4s						
CMJI	**Cimerak**	**42.95**	**265**	P	**P**	**18 25 25.1**	**+0.1**
	comp=Z,2µmcomp=Z,204nm,1.2s						
CISI	**Cisompet, Garu**	**43.58**	**266**	P	**P**	**18 25 28.9**	**-1.2**
CISI	**Cisompet, Garu**	**43.58**	**266**	P	**P**	**18 25 29.2**	**-0.9**
	comp=Z,2µmcomp=Z,189nm,1.5s						
LEM	**Lembang**	**43.80**	**267**	P	**P**	**18 25 33.2**	**+1.2**
	comp=Z,887nmcomp=Z,1µmcomp=Z,55nm,1.7s						
JNU	**Nakatsue**	**43.91**	**335**	P	**P**	**18 25 30.9**	**-1.6**
CNJI	**Cibinong**	**44.26**	**266**	P	**P**	**18 25 35.5**	**-0.1**
	comp=Z,6µmcomp=Z,482nm,1.9s						
MJAR	**Matsushiro Arr**	**44.46**	**344**	P	**P**	**18 25 33.4**	**-3.3**
	comp=Z,2.7nm,0.7s,baz=158,slow=9.4,SNR=14						
MJAR				PcP	**PcP**	**18 27 20.2**	**+0.2**
	comp=Z,4.5nm,0.7s,baz=148,slow=5.9,SNR=14						
MJAR				ScP	**ScP**	**18 31 13.3**	**+3.4**
	comp=Z,5.3nm,1.1s,baz=164,slow=5.2,SNR=12						
MJAR				LR	LR	18 41 17.2	
	comp=Z,487nm,21.8s,baz=180,slow=32						
MJAR	**Matsushiro Arr**	**44.46**	**344**	P	**P**	**18 25 35.3**	**-1.5**
MJAR						18 27 19.0	
MJAR				pmax	pmax		
	comp=Z,5.0nm,1.4s						
MJAR	**Matsushiro Arr**	**44.46**	**344**	P	**P**	**18 25 35.3**	**-1.5**
MJAR					**PcP**	**18 27 19.0**	**-1.0**
MJAR				ScP	**ScP**	**18 31 13.9**	**+4.0**
MAJO	**Matsushiro**	**44.46**	**344**	P	**P**	**18 25 36.4**	**-0.4**
MAJO						18 27 20.0	
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MAJO				MLR	MLR		
	comp=Z,800nm,22.0s						
MAJO	**Matsushiro**	**44.46**	**344**	P

INCN	**Inchon**	**49.45**	**334**	P	**P**	**18**	**26**	**15.3**	**-0.4**
INCN				pmax	pmax				
	comp=Z,34nm,1.2s								
INCN				MLR	MLR				
	comp=Z,500nm,18.0s								
INCN	**Inchon**	**49.45**	**334**	P	**P**	**18**	**26**	**15.3**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**50.38**	**355**	*e*P	**P**	**18**	**26**	**18.0**	**-4.6**
YUK				pmax	pmax				
	comp=Z,270nm,1.2s								
YUK				pmax	pmax				
	comp=N,220nm,0.8s								
YUK				pmax	pmax				
	comp=E,243nm,0.9s								
YUK				MLR	MLR				
	comp=Z,294nm,19.0s								
YUK				MLR	MLR				
	comp=N,300nm,21.0s								
YUK				MLR	MLR				
	comp=E,400nm,16.0s								
JKA	**Kamikawa-asahi**	**50.85**	**352**	IAmb	IAmb	18	26	28.6	
	comp=Z,93nm,1.8s								
ASAJ	**Asahikawa**	**50.85**	**352**	P	**P**	**18**	**26**	**25.2**	**-1.1**
	comp=Z,14nm,0.6s,baz=205,slow=11,SNR=16								
ASAJ				LR	LR	18	47	57.2	
	comp=Z,217nm,18.4s,baz=196,slow=36								
WHN	**Wuhan**	**51.21**	**318**	⇑P	**P**	**18**	**26**	**29.8**	**+0.7**
WHN				pP	**sP**	**18**	**26**	**41.5**	**+1.7**
WHN				pmax	pmax				
	comp=Z,200nm,1.6s								
PDSI	**Padang**	**51.40**	**274**	P	**P**	**18**	**26**	**29.7**	**-1.3**
	comp=Z,664nmcomp=Z,33nm,0.7s								
PPSI	**Pulau Pagai**	**51.64**	**271**	P	**P**	**18**	**26**	**31.8**	**-0.9**
	comp=Z,142nm,0.9s								
MSHR	**Mys Shultsa**	**52.12**	**341**	*i* P	**P**	**18**	**26**	**35.8**	**0.0**
MNSI	**Mandailing Nat**	**52.51**	**276**	P	**P**	**18**	**26**	**38.3**	**-0.9**
	comp=Z,902nmcomp=Z,93nm,1.1s								
SKNT	**Sakolnakorn**	**52.54**	**297**	P	**P**	**18**	**26**	**39.2**	**-0.1**
	comp=Z,17nm,0.7s								
TRSI	**Tarutung**	**53.31**	**277**	P	P	18	26	52.8	+7.5
USA0B	**Ussuriysk Arra**	**53.32**	**342**	*i* P	**P**	**18**	**26**	**43.9**	**-0.7**
USRK	**Ussuriysk Ar.**	**53.32**	**342**	P	**P**	**18**	**26**	**43.4**	**-1.2**
	comp=Z,8.7nm,0.8s,baz=176,slow=6.9,SNR=12								
USRK				ScP	**ScP**	**18**	**31**	**51.1**	**+3.7**
	comp=Z,2.1nm,0.8s,baz=151,slow=4.4,SNR=6.3								
USRK				LR	LR	18	49	38.8	
	comp=Z,326nm,18.1s,baz=150,slow=36								
RPSI	**Rantau Prapat**	**53.45**	**278**	P	**P**	**18**	**26**	**44.8**	**-1.4**
RPSI				IAmb	IAmb	18	26	46.4	
	comp=Z,92nm,1.7s								
PSI	**Prapat**	**53.47**	**278**	LR	LR	18	55	04.2	
	comp=Z,170nm,18.9s,baz=122,slow=42								
PSI	**Prapat**	**53.47**	**278**	P	**P**	**18**	**26**	**44.8**	**-1.7**
PSI				pmax	pmax				
	comp=Z,92nm,1.7s								
PSI	**Prapat**	**53.47**	**278**	P	**P**	**18**	**26**	**46.0**	**-0.4**
	comp=Z,231nmcomp=Z,12nm,1.3s,comp=Z,577nm,1.3s, comp=Z,33nm,1.3s								
PSI				P	**P**	**18**	**26**	**46.1**	**-0.4**
	comp=Z,231nmcomp=Z,12nm,1.3s,comp=Z,577nm,1.3s, comp=Z,33nm,1.3s								
YSS	**Yuzh-Sakhalins**	**53.61**	**352**	*i* P	**P**	**18**	**26**	**46.6**	**-0.1**
YSS				pmax	pmax				
	comp=Z,13nm,1.1s								
CHAI	**Chaiyaphum**	**53.94**	**295**	P	**P**	**18**	**26**	**49.4**	**-0.2**
	comp=Z,16nm,0.6s								
CHAI	**Chaiyaphum**	**53.94**	**295**	P	**P**	**18**	**26**	**49.4**	**-0.2**
	comp=Z,4.0nm,0.6s								
SURA	**Surathani**	**54.13**	**286**	P	**P**	**18**	**26**	**54.5**	**+3.4**
	comp=Z,26nm,1.2s								
ENH	**Enshi**	**54.40**	**314**	P	**P**	**18**	**26**	**51.9**	**-0.9**
ENH				PcP	**PcP**	**18**	**27**	**57.3**	**+0.9**
MDJ	**Mudanjiang**	**54.45**	**341**	P	**P**	**18**	**26**	**52.5**	**-0.4**
MDJ				PcP	**PcP**	**18**	**27**	**55.3**	**-0.9**
MDJ				S	**S**	**18**	**34**	**32.0**	**+2.5**
MDJ				pmax	pmax				
	comp=Z,12nm,1.2s								
MDJ				pmax	pmax				
	comp=Z,280nm,7.1s								
MDJ				LR	LR				
	comp=Z,380nm,19.2s								
MDJ				LR	LR				
	comp=Z,320nm,19.2s								
MDJ				LR	LR				
	comp=Z,1μm,24.5s								
GYA	**Guiyang**	**54.46**	**309**	⇑P	**P**	**18**	**26**	**53.8**	**+0.4**
GYA				pP	pwP	18	27	07.0	-3.5
GYA				PcP	**PcP**	**18**	**27**	**57.5**	**+0.7**
GYA				S	**S**	**18**	**34**	**32.0**	**+1.6**
GYA				pmax	pmax				
	comp=Z,14nm,1.3s								
GYA				LR	LR				
	comp=Z,420nm,18.4s								
GYA				LR	LR				
	comp=Z,510nm,17.0s								
GYA				LR	LR				
	comp=Z,670nm,17.9s								
GSI	**Gunungsitoli**	**54.56**	**276**	P	**P**	**18**	**26**	**52.6**	**-1.7**
GSI	**Gunungsitoli**	**54.56**	**276**	P	**P**	**18**	**26**	**53.4**	**-0.9**
	comp=Z,121nm,1.4s								
CN2	**Changchun**	**55.23**	**337**	*e*P	**P**	**18**	**26**	**57.5**	**-1.0**
CN2				PcP	**PcP**	**18**	**27**	**59.0**	**-0.2**
CN2				*e*S	**S**	**18**	**34**	**38.0**	**-1.9**
CN2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
CN2				pmax	pmax				
	comp=Z,200nm,4.0s								
CN2				LR	LR				
	comp=Z,400nm,19.0s								
CN2				LR	LR				
	comp=Z,300nm,19.0s								
CN2				LR	LR				
	comp=Z,600nm,18.0s								
TPTI		**55.27**	**278**	P	**P**	**18**	**26**	**57.7**	**-1.7**
	comp=Z,6.2nm,0.7s								
PHIT	**Phitsanulok**	**55.79**	**296**	P	**P**	**18**	**27**	**05.3**	**+2.3**
	comp=Z,549nmcomp=Z,33nm,0.8s								
PHIT	**Phitsanulok**	**55.79**	**296**	P	**P**	**18**	**27**	**05.3**	**+2.3**
	comp=Z,136nmcomp=Z,8.2nm,0.8s								
UTTA	**Uttaradit**	**55.86**	**296**	P	**P**	**18**	**27**	**04.0**	**+0.5**
	comp=Z,204nmcomp=Z,19nm,0.7s								
UTTA	**Uttaradit**	**55.86**	**296**	P	**P**	**18**	**27**	**04.0**	**+0.5**
	comp=Z,51nmcomp=Z,4.7nm,0.7s								
NANT	**Nan**	**56.11**	**298**	P	**P**	**18**	**27**	**05.5**	**+0.2**
	comp=Z,25nm,0.7s								
NANT	**Nan**	**56.11**	**298**	P	**P**	**18**	**27**	**05.5**	**+0.2**
	comp=Z,6.3nm,0.7s								
BJI	**Beijing**	**56.55**	**328**	P	**P**	**18**	**27**	**11.8**	**+3.7**
BJI				PcP	**PcP**	**18**	**28**	**05.3**	**+0.9**
BJI				pmax	pmax				
	comp=Z,14nm,0.7s								
BJI				LR	LR				
	comp=Z,480nm,16.5s								
BJI				LR	LR				
	comp=Z,570nm,17.6s								
UMPA	**Umpang Tak**	**56.87**	**294**	P	P	18	27	16.6	+5.8
UMPA	**Umpang Tak**	**56.87**	**294**	P	P	18	27	16.7	+5.9
	comp=Z,81nmcomp=Z,4.1nm,1.2s								
SKR	**Severo-Kuril's**	**56.88**	**3**	*e*P	**P**	**18**	**27**	**11.6**	**+1.5**
SKR				*e*S	**S**	**18**	**35**	**04.9**	**+3.3**
SKR				pmax	pmax				
	comp=Z,28nm,1.3s								
SKR				pmax	pmax				
	comp=Z,100nm,4.1s								
SKR				MLR	MLR				
	comp=Z,400nm,17.0s								
SKR				MLR	MLR				
	comp=Z,400nm,17.0s								
KMI	**Kunming**	**56.94**	**305**	⇓P	**P**	**18**	**27**	**11.5**	**+0.1**
KMI				pP	sP	18	27	24.0	+2.0
KMI				sP	pwP	18	27	30.3	+1.8
KMI				PP	**PP**	**18**	**29**	**16.0**	**-2.3**
KMI				S	**S**	**18**	**35**	**02.8**	**-1.0**
KMI				pmax	pmax				
	comp=Z,15nm,0.9s								
KMI				pmax	pmax				
	comp=Z,210nm,5.3s								
KMI				LR	LR				
	comp=Z,270nm,18.1s								
KMI				LR	LR				
	comp=Z,450nm,19.9s								
KMI				LR	LR				
	comp=Z,830nm,30.2s								
LAMP	**Lampang**	**56.96**	**297**	P	**P**	**18**	**27**	**13.8**	**+2.5**
	comp=Z,18nm,0.7s								
LAMP	**Lampang**	**56.96**	**297**	P	**P**	**18**	**27**	**13.9**	**+2.5**
	comp=Z,4.4nm,0.7s								
XAN	**Xi'an**	**56.97**	**318**	P	**P**	**18**	**27**	**10.0**	**-1.3**
XAN				pP	sP	18	27	22.3	+0.3
XAN				S	**S**	**18**	**35**	**02.3**	**-1.3**
XAN				pmax	pmax				
	comp=Z,32nm,1.3s								
XAN				pmax	pmax				
	comp=Z,360nm,6.7s								
XAN				LR	LR				
	comp=Z,180nm,12.4s								
XAN				LR	LR				
	comp=Z,290nm,13.1s								
XAN				LR	LR				
	comp=Z,390nm,16.2s								
PAYA	**Payao**	**57.05**	**298**	P	**P**	**18**	**27**	**12.3**	**+0.3**
	comp=Z,590nmcomp=Z,23nm,0.7s								
PAYA	**Payao**	**57.05**	**298**	P	**P**	**18**	**27**	**12.4**	**+0.3**
	comp=Z,147nmcomp=Z,5.7nm,0.7s								
TYV	**Tymovskoe**	**57.47**	**353**	*e*P	**P**				
TYV				pmax	pmax				
	comp=Z,300nm,2.8s								
TYV				pmax	pmax				
	comp=Z,21nm,1.6s								
CM04	**Chiang Mai Arr**	**57.50**	**296**	P	**P**	**18**	**27**	**15.8**	**+0.6**
	comp=Z,112nmcomp=Z,7.0nm,0.8s								
CM09	**Chiang Mai Arr**	**57.50**	**296**	P	**P**	**18**	**27**	**19.8**	**+4.6**
	comp=Z,130nmcomp=Z,10.0nm,0.9s								
CM01	**Chiang Mai Arr**	**57.52**	**296**	P	**P**	**18**	**27**	**16.0**	**+0.7**
	comp=Z,91nmcomp=Z,8.8nm,0.8s								
CM05	**Chiang Mai Arr**	**57.53**	**296**	P	**P**	**18**	**27**	**16.8**	**+1.4**
	comp=Z,96nmcomp=Z,7.5nm,0.9s								
CM02	**Chiang Mai Arr**	**57.54**	**296**	P	**P**	**18**	**27**	**15.9**	**+0.5**
	comp=Z,97nmcomp=Z,8.7nm,0.9s								
CM02	**Chiang Mai Arr**	**57.54**	**296**	P	**P**	**18**	**27**	**16.0**	**+0.5**
	comp=Z,97nmcomp=Z,8.7nm,0.9s								
CM31	**Chiang Mai Arr**	**57.55**	**296**	P	**P**	**18**	**27**	**16.8**	**+1.2**
	comp=Z,252nm,1.0s								
CM31	**Chiang Mai Arr**	**57.55**	**296**	P	**P**	**18**	**27**	**14.9**	**-0.7**
	SNR=5.1								
CM31				P	**P**	**18**	**27**	**14.9**	**-0.7**
	SNR=5.1								
CMAR	**Chiang Mai Arr**	**57.55**	**296**	P	**P**	**18**	**27**	**15.2**	**-0.3**
	comp=Z,3.3nm,0.7s,baz=122,slow=5.9,SNR=32								
CMAR				PcP	**PcP**	**18**	**28**	**08.9**	**+0.1**
	comp=Z,7.8nm,1.0s,baz=113,slow=2.7,SNR=9.1								
CMAR				ScP	**ScP**	**18**	**32**	**09.0**	**+2.4**
	comp=Z,1.6nm,1.1s,baz=111,slow=2.5,SNR=4.8								
CMAR				LR	LR	18	53	04.4	
	comp=Z,160nm,18.2s,baz=144,slow=37								
CMAR				PKPPKP	P'P'df	18	57	15.1	+12
	comp=Z,2.0nm,1.0s,baz=271,slow=3.4,SNR=9.0								
CMAR	**Chiang Mai Arr**	**57.55**	**296**	*i* P	**P**	**18**	**27**	**15.1**	**-0.4**
CMAR				pmax	pmax				
	comp=Z,3.0nm,0.7s								
CMAR	**Chiang Mai Arr**	**57.55**	**296**		**ScP**	**18**	**32**	**10.2**	**+3.6**
CM15	**Chiang Mai Arr**	**57.56**	**296**	P	**P**	**18**	**27**	**16.1**	**+0.5**
	comp=Z,78nmcomp=Z,9.0nm,0.9s								
CM13	**Chiang Mai Arr**	**57.57**	**296**	P	**P**	**18**	**27**	**16.2**	**+0.5**
	comp=Z,103nmcomp=Z,7.6nm,0.8s								
CMMT	**Chiang Mai**	**57.67**	**297**	P	**P**	**18**	**27**	**16.2**	**-0.2**
	comp=Z,423nmcomp=Z,8.2nm,1.2s								
CMMT	**Chiang Mai**	**57.67**	**297**	P	**P**	**18**	**27**	**16.2**	**-0.2**
	comp=Z,423nmcomp=Z,8.2nm,1.2s								
CMMT	**Chiang Mai**	**57.67**	**297**	P	**P**	**18**	**27**	**16.2**	**-0.2**
	comp=Z,403nmcomp=Z,7.9nm,1.2s								
CHTO	**Chiang Mai**	**57.67**	**297**	P	**P**	**18**	**27**	**15.4**	**-1.0**
CHTO				pmax	pmax				
	comp=Z,12nm,0.9s								
CHTO				MLR	MLR				
	comp=Z,300nm,20.0s								
CHTO	**Chiang Mai**	**57.67**	**297**	P	**P**	**18**	**27**	**16.4**	**0.0**
	comp=Z,360nmcomp=Z,8.5nm,1.2s								
CHTO	**Chiang Mai**	**57.67**	**297**	P	**P**	**18**	**27**	**15.3**	**-1.0**
CHTO	**Chiang Mai**	**57.67**	**297**	P	**P**	**18**	**27**	**15.9**	**-0.5**
CHTO	**Chiang Mai**	**57.67**	**297**	P	**P**	**18**	**27**	**16.4**	**0.0**
	comp=Z,202nmcomp=Z,4.8nm,1.2s								
KLR	**Kul'dur**	**57.98**	**345**	P	**P**	**18**	**27**	**15.9**	**-2.1**
	comp=Z,8.9nm,0.9s,baz=165,slow=4.5,SNR=24								
KLR				PcP	**PcP**	**18**	**28**	**10.0**	**+0.2**
	comp=Z,6.0nm,0.6s,baz=163,slow=2.9,SNR=7.2								
KLR				LR	LR	18	51	56.8	
	comp=Z,221nm,18.0s,baz=168,slow=36								
KLR	**Kul'dur**	**57.98**	**345**	*ce*P	**P**	**18**	**27**	**17.4**	**-0.6**
KLR				pmax	pmax				
	comp=Z,13nm,0.9s								
PPT2	**Papeete2**	**58.32**	**107**	*e*S	**S**	**18**	**35**	**21.8**	**-0.1**
	comp=Z,342nm,26.5s								
PPT2				*e*LQ	LQ	18	41	53.2	
	comp=Z,1μm,29.2s								
PPT2				*e*LR	LR	18	44	26.0	
	comp=Z,462nm,27.8s								
TIAR	**Tiarei**	**58.54**	**107**	*e*P	**P**	**18**	**27**	**21.9**	**-0.6**
	comp=Z,5.5nm,1.1s								
CD2	**Chengdu**	**58.90**	**312**	P	**P**	**18**	**27**	**24.8**	**-0.1**
CD2				S	**S**	**18**	**35**	**29.0**	**+0.1**
CD2				pmax	pmax				
	comp=Z,50nm,1.7s								
CD2				pmax	pmax				
	comp=Z,550nm,5.9s								
CD2				LR	LR				
	comp=Z,640nm,13.7s								
CD2				LR	LR				
	comp=Z,740nm,19.4s								
CD2				LR	LR				
	comp=Z,1μm,26.6s								
PET	**Petropavlovsk**	**59.39**	**5**	*e*P	**P**	**18**	**27**	**28.4**	**+0.7**
PET				*e*S	**S**	**18**	**35**	**33.8**	**-0.5**
PET				*e*SS	**SS**	**18**	**39**	**36.7**	**+6.9**
PET						18	42	02.3	
PET				pmax	pmax				
	comp=Z,24nm,1.0s								
PET				pmax	pmax				
	comp=Z,200nm,11.1s								
PET				MLR	MLR				
	comp=Z,400nm,21.0s								
PEA0B	**Petropavlovsk-**	**59.40**	**4**	*i* P	**P**	**18**	**27**	**28.8**	**+1.0**
PETK	**Petropavlovsk-**	**59.40**	**4**	P	**P**	**18**	**27**	**26.9**	**-0.9**
	comp=Z,8.6nm,0.7s,baz=170,slow=7.5,SNR=58								
PETK				LR	LR	18	55	30.1	
	comp=Z,247nm,18.0s,baz=186,slow=39								
PETK	**Petropavlovsk-**	**59.40**	**4**	P	**P**	**18**	**27**	**27.1**	**-0.7**
PETK	**Petropavlovsk-**	**59.40**	**4**	P	**P**	**18**	**27**	**27.1**	**-0.7**
HHC	**Hu-ho-hao-te**	**59.64**	**325**	*e*P	P	18	27	39.0	+9.1
HHC	**Hu-ho-hao-te**	**59.64**	**325**	*e*P	**P**	**18**	**27**	**33.5**	**+3.6**
HHC				pmax	pmax				
	comp=Z,16nm,1.0s								
HHC				pmax	pmax				
	comp=Z,140nm,5.7s								
BTO	**Baotou**	**60.36**	**324**	*e*P	**P**	**18**	**27**	**37.3**	**+2.5**
BTO				S	**S**	**18**	**35**	**52.0**	**+4.4**
BTO				LR	LR				
	comp=Z,2μm,20.9s								
BTO				LR	LR				
	comp=Z,1μm,16.5s								
LZH	**Lanzhou**	**61.56**	**317**	*e*P	**P**	**18**	**27**	**43.5**	**+0.4**
LZH				pP	pwP	18	27	56.5	-3.7
LZH				sP	sP	18	28	02.8	+9.1
LZH				PcP	**PcP**	**18**	**28**	**26.0**	**+1.3**
LZH				pmax	pmax				
	comp=Z,37nm,1.3s								
LZH				pmax	pmax				
	comp=Z,160nm,4.3s								
LZH				LR	LR				
	comp=Z,370nm,17.4s								
LZH				LR	LR				
	comp=Z,530nm,18.4s								
LZH				LR	LR				
	comp=Z,440nm,17.3s								
HIA	**Hailar**	**61.96**	**337**	IAmb	IAmb	18	27	48.2	
	comp=Z,22nm,0.9s								
ZEA	**Zeya**	**63.27**	**344**	*e*P	**P**	**18**	**27**	**53.6**	**-0.3**
ZEA				pmax	pmax				
	comp=N,10.0nm,0.8s								
ZEA				pmax	pmax				
	comp=Z,20nm,0.8s								
ZEA				MLR	MLR				
	comp=E,100nm,16.0s								
ZEA				MLR	MLR				
	comp=N,200nm,17.0s								
ZEA				MLR	MLR				
	comp=Z,200nm,16.0s								
LKP	**Lekhapani**	**63.48**	**305**	*e*P	**P**	**18**	**27**	**54.3**	**-1.6**
KIWB	**Kanaga Island**	**63.76**	**21**	P	**P**	**18**	**27**	**58.5**	**+1.3**
KOHI	**KOHIMA**	**64.32**	**302**	*e*P	**P**	**18**	**28**	**00.2**	**-1.4**
SILR	**SILCHAR**	**65.09**	**301**	*e*P	**P**	**18**	**28**	**06.3**	**-0.1**
ITAN	**ITANAGAR**	**65.16**	**304**	*e*P	**P**	**18**	**28**	**06.5**	**-0.4**
MA2	**Magadan**	**65.67**	**359**	P	**P**	**18**	**28**	**08.4**	**-1.1**
	comp=Z,14nm,0.7s,baz=132,slow=4.0,SNR=7.7								
MA2				PcP	**PcP**	**18**	**28**	**41.0**	**+0.3**
	comp=Z,8.5nm,0.7s,baz=141,slow=5.5,SNR=5.3								
MA2				LR	LR	18	57	37.5	
	comp=Z,245nm,18.7s,baz=175,slow=37								
MA2	**Magadan**	**65.67**	**359**	*ce*P	**P**	**18**	**28**	**10.0**	**+0.5**
MA2				pmax	pmax				
	comp=Z,12nm,0.9s								
GTA	**Gaotai**	**66.03**	**318**	⇓P	**P**	**18**	**28**	**12.3**	**-0.1**
GTA				pP	pwP	18	28	26.0	-3.6
GTA				sP	sP	18	28	30.5	+7.1
GTA				PcP	**PcP**	**18**	**28**	**43.5**	**+0.6**
GTA				PP	**PP**	**18**	**30**	**35.5**	**-2.7**
GTA				pmax	pmax				
	comp=Z,11nm,1.7s								
GTA				pmax	pmax				
	comp=Z,240nm,7.6s								
GTA				LR	LR				
	comp=Z,270nm,21.8s								
GTA				LR	LR				
	comp=Z,260nm,19.3s								
GTA				LR	LR				
	comp=Z,260nm,18.2s								
SHL	**Shillong**	**66.14**	**301**	P	**P**	**18**	**28**	**12.3**	**-1.2**
SHL				IAmb	IAmb	18	28	27.9	
	comp=Z,31nm,0.9s								
SHL				PcP	**PcP**	**18**	**28**	**43.4**	**-0.3**
SHL	**Shillong**	**66.14**	**301**	*e*P	**P**	**18**	**28**	**12.2**	**-1.2**
SHL				IAmb	IAmb	18	28	16.6	
	comp=Z,46nm,1.2s								
SHL	**Shillong**	**66.14**	**301**	P	**P**	**18**	**28**	**12.9**	**-0.6**
CASY	**Casey**	**66.27**	**197**	P	**P**	**18**	**28**	**13.2**	**-0.2**
CASY				IAmb	IAmb	18	28	14.5	
	comp=Z,21nm,1.1s								
CASY	**Casey**	**66.27**	**197**	IAMs_20	IAMs_20	18	54	02.3	
	comp=Z,669nm,20.0s								
ULN	**Ulaanbaatar**	**66.70**	**329**	*ce*P	**P**	**18**	**28**	**16.6**	**0.0**
ULN				pmax	pmax				
	comp=Z,34nm,2.5s								
ULN	**Ulaanbaatar**	**66.70**	**329**	P	**P**	**18**	**28**	**16.0**	**-0.6**
ULN	**Ulaanbaatar**	**66.70**	**329**	P	**P**	**18**	**28**	**17.0**	**+0.4**
ULN				P	**P**	**18**	**28**	**17.0**	**+0.4**
ULN	**Ulaanbaatar**	**66.70**	**329**	P	**P**	**18**	**28**	**16.8**	**+0.2**
	comp=Z,65nm,2.0s								
SONM	**Songino Array**	**67.02**	**329**	P	**P**	**18**	**28**	**18.7**	**+0.1**
	comp=Z,9.6nm,0.6s,baz=150,slow=4.9,SNR=11								
SONM				PcP	**PcP**	**18**	**28**	**46.9**	**+0.1**
	comp=Z,5.7nm,0.5s,baz=151,slow=4.1,SNR=6.4								
SONM				PKPPKP		18	56	48.7	
	comp=Z,2.9nm,1.0s,baz=304,slow=1.6,SNR=8.2								
SONM				LR	LR	18	57	19.0	
	comp=Z,306nm,19.8s,baz=126,slow=36								
SONM	**Songino Array**	**67.02**	**329**	P	**P**	**18**	**28**	**18.1**	**-0.5**
SONM				pmax	pmax				
	comp=Z,33nm,1.4s								
SONM	**Songino Array**	**67.02**	**329**	P	**P**	**18**	**28**	**18.1**	**-0.5**
SONM				IAmb	IAmb	18	28	20.0	
	comp=Z,33nm,1.4s								
LSA	**Lhasa**	**68.20**	**305**	*i* P	**P**	**18**	**28**	**26.7**	**-0.1**
	SNR=8.0								
LSA	**Lhasa**	**68.20**	**305**	IAmb	IAmb	18	28	28.3	
	comp=Z,73nm,1.7s								
SEY	**Seymchan**	**69.04**	**0**	P	**P**	**18**	**28**	**29.7**	**-1.0**
	comp=Z,3.2nm,0.6s,baz=206,slow=2.7,SNR=9.9								
SEY				PcP	**PcP**	**18**	**28**	**55.4**	**+0.6**
	comp=Z,7.1nm,0.6s,baz=182,slow=3.0,SNR=9.1								
SEY				LR	LR	18	57	31.3	
	comp=Z,115nm,19.6s,baz=150,slow=35								
UNV	**Unalaska Valle**	**69.43**	**25**	P	**P**	**18**	**28**	**33.8**	**+0.4**
	baz=225								
ZAK	**Zakamensk**	**70.21**	**329**	*e*P	**P**	**18**	**28**	**37.9**	**-0.5**
ZAK				pmax	pmax				
	comp=Z,31nm,1.3s								
YAK	**Yakutsk**	**70.23**	**349**	P	**P**	**18**	**28**	**37.2**	**-0.9**
	comp=Z,7.6nm,0.6s,baz=84,slow=1.7,SNR=7.6								
YAK	**Yakutsk**	**70.23**	**349**	*e*P	**P**	**18**	**28**	**36.9**	**-1.2**
YAK				*e*		18	28	58.2	
YAK				*e*S	**S**	**18**	**37**	**46.1**	**-1.3**
YAK				*e*		18	38	38.3	
YAK				*e*SS	**SS**	**18**	**42**	**16.3**	**-1.9**
YAK				*e*SSS	SSS	18	45	19.3	
YAK				pmax	pmax				
	comp=Z,21nm,0.8s								
YAK				pmax	pmax				
	comp=N,8.0nm,1.1s								
YAK				pmax	pmax				
	comp=E,6.0nm,1.1s								
YAK				pmax	pmax				
	comp=Z,22nm,2.1s								
YAK				pmax	pmax				
	comp=N,33nm,2.5s								
YAK				pmax	pmax				
	comp=E,31nm,2.3s								
YAK				smax	smax				
	comp=N,45nm,2.0s								
YAK				smax	smax				
	comp=E,11nm,2.0s								
YAK	**Yakutsk**	**70.23**	**349**	P	**P**	**18**	**28**	**36.8**	**-1.3**
YAK				IAmb	IAmb	18	28	42.6	
	comp=Z,25nm,0.8s								
TAPN	**Taplejung**	**70.26**	**302**	*e*P	**P**	**18**	**28**	**38.4**	**-1.1**
ODAN	**Odare**	**70.38**	**301**	*e*P	**P**	**18**	**28**	**39.6**	**-0.5**
	comp=Z,44nm,0.7s								
SPIA	**Saint Paul Isl**	**70.43**	**21**	P	**P**	**18**	**28**	**41.0**	**+1.5**
	baz=221								
BOD	**Bodaibo**	**70.81**	**340**	*e*P	**P**	**18**	**28**	**40.1**	**-1.6**
BOD				pmax	pmax				
	comp=Z,16nm,1.5s								
RAMN	**Ramite**	**71.08**	**301**	*e*P	**P**	**18**	**28**	**43.6**	**-0.8**
	comp=Z,9.0nm,0.5s								
VNDA	**Vanda**	**71.38**	**178**	P	**P**	**18**	**28**	**45.8**	**+0.8**
	comp=Z,13nm,0.8s,baz=

WMQ LR LR
comp=Z,310nm,15.1s

WMQ LR LR
comp=Z,390nm,17.3s

SII Sitkinak Islan 76.59 27 P **P** **18 29 17.3 +1.5**
baz=236, comp=Z,200nm,21.7s

OHAK Old Harbor 77.37 27 IAmb IAmb 18 29 22.9
comp=Z,51nm,0.8s

OHAK Old Harbor 77.37 27 P **P** **18 29 21.4 +1.3**
baz=237

ANM Nome 77.52 18 P **P** **18 29 23.3 +2.5**
baz=224

TNA Tin City 77.53 16 IAMs_20 IAMs_20 19 04 33.8
comp=Z,543nm,19.0s

KDAK Kodiak Island 78.00 27 P **P** **18 29 25.4 +1.8**
comp=Z,44nm,1.1s,baz=237,slow=1.4,SNR=14

KDAK Kodiak Island 78.00 27 P **P** **18 29 24.5 +1.0**
KDAK pmax pmax
comp=Z,119nm,1.4s

KDAK Kodiak Island 78.00 27 P **P** **18 29 24.5 +1.0**

KDAK Kodiak Island 78.00 27 P **P** **18 29 24.6 +1.0**
baz=237

O18K Koktuh Hills 78.04 24 IAmb IAmb 18 29 26.0
comp=Z,27nm,0.9s

O18K Koktuh Hills 78.04 24 P **P** **18 29 24.5 +0.7**
baz=234

Q19K Cape Douglas, 78.17 26 P **P** **18 29 25.5 +0.9**
baz=236

BHPL Bhopal 78.18 295 *eP* **P** **18 29 23.6 -1.9**
BHPL IAmb IAmb 18 29 26.1
comp=Z,20nm,0.8s

N18K Kilae Creek 78.25 23 P **P** **18 29 27.2 +2.2**
baz=234

SVW2 Sparrevohn 78.62 23 IAmb IAmb 18 29 31.7
comp=Z,56nm,0.9s

SVW2 IAMs_20 IAMs_20 18 59 13.8
comp=Z,449nm,20.0s

DGZ Jazzator, Alta 78.63 323 *i* P **P** **18 29 27.0 -0.5**
DGZ pmax pmax
comp=Z,15nm,0.7s

P19K Oil Pt 78.75 25 P **P** **18 29 28.2 +0.5**

P19K Oil Pt 78.75 25 P **P** **18 29 28.5 +0.8**
baz=236,SNR=15

N19K Bonanza Creek 78.89 24 IAmb IAmb 18 29 31.4
comp=Z,33nm,0.8s

N19K IAMs_20 IAMs_20 19 00 34.2
comp=Z,581nm,21.0s

N19K Bonanza Creek 78.89 24 P **P** **18 29 30.1 +1.5**
baz=235,SNR=13

TIXI Tiksi 79.24 353 *i* P **P** **18 29 30.8 +0.7**

O20K Slope Mountain 79.24 25 P **P** **18 29 31.2 +0.7**
baz=237

ZSN Zaisan 79.33 321 *eP* **P** **18 29 29.9 -1.3**
baz=321

ZSN Zaisan 79.33 321 *eP* **P** **18 29 29.9 -1.3**

HOM Homer 79.42 26 P **P** **18 29 33.1 +1.7**
baz=238

L19K White Mountain 79.54 23 P **P** **18 29 33.4 +1.4**
L19K IAmb IAmb 18 29 35.4
comp=Z,71nm,0.8s

L19K IAMs_20 IAMs_20 18 59 55.3
comp=Z,519nm,21.0s

L19K White Mountain 79.54 23 P **P** **18 29 33.7 +1.7**
baz=234,SNR=48

M19K Big River Lodg 79.56 23 IAmb IAmb 18 29 37.9
comp=Z,41nm,1.0s

M19K IAMs_20 IAMs_20 18 59 11.8
comp=Z,498nm,21.0s

M19K Big River Lodg 79.56 23 P **P** **18 29 34.0 +1.9**
baz=235,SNR=18

BRLK Bradley Lake 79.81 26 IAmb IAmb 18 29 36.0
comp=Z,52nm,0.8s

BRSE Bradley Lake S 79.86 26 P **P** **18 29 35.4 +1.6**
baz=238,SNR=6.3

GOA Goa 80.08 287 *eP* **P** **18 29 34.7 -1.2**

L20K Farewell, AK 80.08 23 P **P** **18 29 36.6 +1.6**
baz=235,SNR=18

SMLA Simla 80.15 303 *eP* **P** **18 29 35.2 -0.8**
SMLA IAmb IAmb 18 29 38.2
comp=Z,132nm,1.6s

K20K Telida 80.52 22 IAmb IAmb 18 29 40.6
comp=Z,54nm,0.8s

K20K Telida 80.52 22 P **P** **18 29 38.9 +1.6**
baz=235,SNR=37

POO Poona 80.57 290 *eP* **P** **18 29 36.7 -1.8**

POO Poona 80.57 290 *eP* **P** **18 29 36.0 -2.5**

SEW Seward 80.60 26 IAmb IAmb 18 29 43.9
comp=Z,86nm,1.1s

SEW Seward 80.60 26 P **P** **18 29 39.0 +1.3**
baz=240,SNR=11

O22K Cooper Landing 80.68 25 P **P** **18 29 39.1 +1.0**

O22K Cooper Landing 80.68 25 P **P** **18 29 39.4 +1.3**
baz=239,SNR=10

SKT Skwentna 80.72 24 IAMs_20 IAMs_20 19 02 10.6
comp=Z,535nm,20.0s

SKT Skwentna 80.72 24 P **P** **18 29 38.1 -0.3**
baz=237,SNR=9.8

MKAR Makanchi Array 80.74 319 P **P** **18 29 38.4 -0.5**
comp=Z,5.1nm,0.7s,baz=96,slow=7.4,SNR=19

MKAR PKKPbc **PKKPbc 18 48 18.6 -1.5**
comp=Z,0.6nm,0.7s,baz=298,slow=2.6,SNR=6.9

MKAR PKPPKP **P'P'df 18 56 22.6 +0.8**
comp=Z,0.8nm,0.8s,baz=192,slow=4.8,SNR=4.1

MKAR LR LR 19 06 39.3
comp=Z,232nm,18.3s,baz=96,slow=37

MKAR Makanchi Array 80.74 319 P **P** **18 29 38.6 -0.3**

MKAR Makanchi Array 80.74 319 P **P** **18 29 38.6 -0.3**

SUA Susitna One 80.76 24 P **P** **18 29 39.5 +0.7**
baz=238,SNR=7.2

MAKZ Makanchi 80.95 319 P **P** **18 29 39.0 -1.0**
MAKZ pmax pmax
comp=Z,41nm,1.5s

MAKZ Makanchi 80.95 319 P **P** **18 29 39.0 -1.0**

PPLA Purkeypile 80.97 23 IAMs_20 IAMs_20 19 00 40.0
comp=Z,479nm,21.0s

PPLA Purkeypile 80.97 23 P **P** **18 29 40.9 +1.0**
baz=237

J20K Nowinta River 80.97 21 IAmb IAmb 18 29 42.9
comp=Z,60nm,0.8s

J20K Nowinta River 80.97 21 P **P** **18 29 41.3 +1.6**
baz=235,SNR=40

RC01 Rabbit Creek A 80.98 25 IAmb IAmb 18 29 46.9
comp=Z,111nm,1.4s

RC01 Rabbit Creek A 80.98 25 P **P** **18 29 40.7 +0.9**
baz=239,SNR=12

DHRM DHARAMSHALA 81.12 304 *eP* **P** **18 29 40.4 -1.0**
DHRM IAmb IAmb 18 29 49.4
comp=Z,78nm,1.2s

CAST Castle Rocks 81.29 22 IAmb IAmb 18 29 43.5
comp=Z,55nm,0.9s

CAST Castle Rocks 81.29 22 P **P** **18 29 41.9 +0.4**
baz=237,SNR=43

CUT Chulitna 81.45 24 IAmb IAmb 18 29 43.8
comp=Z,57nm,1.0s

CUT IAMs_20 IAMs_20 19 02 55.9
comp=Z,461nm,21.0s

CUT Chulitna 81.45 24 P **P** **18 29 43.0 +0.8**
baz=238

PWL Port Wells 81.46 25 P **P** **18 29 43.0 +0.7**

CHUM Lake Minchumin 81.47 22 P **P** **18 29 43.7 +1.5**
baz=236,SNR=36

PMR Palmer 81.49 25 IAmb IAmb 18 29 44.6
comp=Z,27nm,0.9s

PMR Palmer 81.49 25 P **P** **18 29 43.0 +0.6**
baz=240

SHLS Shalkode 81.52 315 *eP* **P** **18 29 40.4 -2.9**
baz=315

SHLS Shalkode 81.52 315 *eP* **P** **18 29 40.3 -2.9**

GHO Glory Hole Cre 81.67 24 IAmb IAmb 18 29 45.8
comp=Z,38nm,0.8s

KNK Knik Glacier 81.68 25 IAmb IAmb 18 29 50.2
comp=Z,68nm,1.3s

KNK Knik Glacier 81.68 25 P **P** **18 29 44.3 +0.8**
baz=240,SNR=10

ZAA0 Zalesovo Array 81.80 327 P **P** **18 29 42.6 -1.6**

ZALV Zalesovo Beam 81.80 327 P **P** **18 29 42.9 -1.3**
comp=Z,16nm,0.6s,baz=113,slow=5.6,SNR=64

ZALV PKKPbc **PKKPbc 18 48 16.2 -1.8**
comp=Z,0.4nm,0.3s,baz=293,slow=1.1,SNR=4.4

ZALV PKPPKP **P'P'df 18 56 26.8 +7.5**
comp=Z,0.9nm,0.9s,baz=317,slow=8.3,SNR=3.6

ZALV LR LR 19 06 38.5
comp=Z,221nm,20.1s,baz=114,slow=36

SML Sawmill 81.93 25 P **P** **18 29 45.4 +0.5**

SML Sawmill 81.93 25 P **P** **18 29 45.9 +1.0**
baz=240,SNR=35

TRF Thorofare Moun 81.99 23 IAmb IAmb 18 29 51.2
comp=Z,26nm,0.8s

TRF IAMs_20 IAMs_20 19 03 17.1
comp=Z,579nm,19.0s

TRF Thorofare Moun 81.99 23 P **P** **18 29 45.3 0.0**
baz=238

GLI Glacier Island 82.00 26 IAmb IAmb 18 30 02.9
comp=Z,39nm,0.7s

GLI Glacier Island 82.00 26 P **P** **18 29 46.1 +1.0**
baz=242,SNR=13

HIN Hinchinbrook I 82.03 26 IAmb IAmb 18 29 52.9
comp=Z,68nm,1.1s

HIN IAMs_20 IAMs_20 19 10 40.2
comp=Z,400nm,18.0s

BPAW Bear Paw Mtn. 82.08 22 IAmb IAmb 18 29 47.3
comp=Z,24nm,0.9s

BPAW Bear Paw Mtn. 82.08 22 P **P** **18 29 45.6 +0.1**
baz=238,SNR=17

KPKS Kokpek 82.15 315 *eP* **P** **18 29 45.5 -1.1**
baz=315

KPKS Kokpek 82.15 315 *eP* **P** **18 29 45.4 -1.1**

FID Port Fidalgo 82.20 26 P **P** **18 29 46.9 +0.6**
FID IAmb IAmb 18 29 49.3
comp=Z,28nm,0.8s

H21K Melozitna Rive 82.28 20 IAmb IAmb 18 29 48.4
comp=Z,106nm,1.9s

H21K Melozitna Rive 82.28 20 P **P** **18 29 47.8 +1.2**
baz=236,SNR=18

I21K Tanana 82.30 21 IAmb IAmb 18 29 49.8
comp=Z,44nm,0.9s

I21K IAMs_20 IAMs_20 19 09 57.3
comp=Z,438nm,18.0s

I21K Tanana 82.30 21 P **P** **18 29 48.0 +1.3**
baz=237,SNR=23

SCM Sheep Creek Mo 82.36 25 IAmb IAmb 18 29 49.9
comp=Z,50nm,1.0s

EYAK Cordova Ski Ar 82.43 26 IAmb IAmb 18 30 19.5
comp=Z,46nm,1.3s

EYAK Cordova Ski Ar 82.43 26 P **P** **18 29 48.5 +1.1**
baz=243

RND Reindeer 82.52 23 P **P** **18 29 47.8 -0.2**
RND pmax pmax
comp=Z,68nm,0.8s

RND MLR MLR
comp=Z,500nm,20.0s

RND Reindeer 82.52 23 P **P** **18 29 47.8 -0.2**
RND IAMs_20 IAMs_20 19 01 06.1
comp=Z,467nm,20.0s

WAT6 Susitna Watana 82.55 24 P **P** **18 29 48.9 +0.6**
baz=241,SNR=19

MCK McKinley 82.66 23 IAMs_20 IAMs_20 19 01 10.7
comp=Z,601nm,21.0s

MCK McKinley 82.66 23 P **P** **18 29 48.6 0.0**
baz=240,SNR=51

MLY Manley 82.67 21 IAMs_20 IAMs_20 19 07 07.8
comp=Z,454nm,20.0s

MLY Manley 82.67 21 P **P** **18 29 49.3 +0.7**
baz=238,SNR=116

DIV Divide 82.69 26 IAmb IAmb 18 30 06.8
comp=Z,26nm,0.8s

KAIM Kayak Island 82.75 27 IAMs_20 IAMs_20 18 56 09.3
comp=Z,700nm,19.0s

KAIM Kayak Island 82.75 27 P **P** **18 29 51.3 +2.2**
baz=244

TDK Taldyqorghan 82.77 317 *eP* **P** **18 29 48.0 -1.7**
baz=317

TDK Taldyqorghan 82.77 317 *eP* **P** **18 29 47.9 -1.7**

KLU Klutina 82.79 25 P **P** **18 29 50.4 +1.0**

KLU Klutina 82.79 25 P **P** **18 29 50.8 +1.4**
baz=243,SNR=22

DHY Denali Highway 82.94 24 IAmb IAmb 18 29 53.8
comp=Z,39nm,0.8s

DHY Denali Highway 82.94 24 P **P** **18 29 50.9 +0.7**
baz=241,SNR=28

M24K Tolsona, Glenn 82.97 25 P **P** **18 29 51.7 +1.5**
baz=242,SNR=12

HMT Hamilton 83.00 27 IAMs_20 IAMs_20 18 59 26.8
comp=Z,483nm,20.0s

NEA2 Nenana 83.05 22 P **P** **18 29 50.2 -0.3**

NEA2 Nenana 83.05 22 P **P** **18 29 50.4 -0.1**
baz=239,SNR=54

KSH Kashi 83.09 311 P **P** **18 29 53.0 +1.5**
KSH pP pwP 18 30 05.5 -3.2
KSH sP sP 18 30 10.0 +7.5
KSH SKS **S** **18 40 09.0 -0.2**
KSH pmax pmax
comp=Z,22nm,1.4s

KSH pmax pmax
comp=Z,420nm,5.0s

KSH LR LR
comp=Z,170nm,15.6s

KSH LR LR
comp=Z,390nm,15.4s

KSH LR LR
comp=Z,340nm,16.6s

BMRM Bremner River 83.12 26 IAmb IAmb 18 29 58.1
comp=Z,52nm,1.1s

BMRM Bremner River 83.12 26 P **P** **18 29 52.4 +1.3**
baz=244

SEM Semipalatinsk 83.20 322 *eP* **P** **18 29 49.6 -2.3**
baz=322

SEM Semipalatinsk 83.20 322 *eP* **P** **18 29 49.6 -2.3**

MDOK Medeo 83.22 315 *eP* **P** **18 29 51.4 -0.8**
baz=315

MDOK Medeo 83.22 315 *eP* **P** **18 29 51.3 -0.8**

I23K Minto, Yukon-K 83.22 21 IAmb IAmb 18 29 54.9
comp=Z,20nm,0.8s

I23K Minto, Yukon-K 83.22 21 P **P** **18 29 52.1 +0.7**
baz=239,SNR=21

TNSS Tian-Shan 83.26 315 *eP* **P** **18 29 52.5 -0.1**
baz=315

WRH Wood River Hil 83.35 22 IAmb IAmb 18 29 53.7
comp=Z,38nm,0.8s

N25K Chitina, Valde 83.41 26 IAmb IAmb 18 30 00.5
comp=Z,92nm,1.8s

N25K Chitina, Valde 83.41 26 P **P** **18 29 53.9 +1.4**
baz=244

HARP HAARP 83.53 25 P **P** **18 29 54.0 +0.9**
baz=243,SNR=9.0

MDM Murphy Dome 83.54 22 P **P** **18 29 52.5 -0.6**
MDM IAmb IAmb 18 29 57.4
comp=Z,25nm,1.0s

TCOL CIGO, UAF Yank 83.64 22 P **P** **18 29 53.7 +0.2**
baz=240,SNR=21

COLA College 83.64 22 P **P** **18 29 53.5 0.0**
COLA pmax pmax
comp=Z,86nm,0.7s

COLA MLR MLR
comp=Z,300nm,19.0s

COLA College 83.64 22 P **P** **18 29 53.5 0.0**

MTBS Maitube 83.65 315 *eP* **P** **18 29 53.0 -1.3**
baz=315

PAX Paxson 83.66 24 IAmb IAmb 18 29 57.4
comp=Z,14nm,0.8s

PAX Paxson 83.66 24 P **P** **18 29 54.7 +0.8**
baz=243,SNR=15

QSPA South Pole Qui 83.67 180 P **P** **18 29 54.0 +0.1**

GLB Gilahina Butte 83.67 26 IAmb IAmb 18 30 01.6
comp=Z,52nm,1.2s

WAX Waxell Ridge 83.68 27 IAMs_20 IAMs_20 19 03 47.9
comp=Z,420nm,19.0s

CRQE Cirque 83.70 27 P **P** **18 29 55.5 +1.4**
baz=245,SNR=11

VRDI Verde Repeater 83.74 26 IAmb IAmb 18 30 02.0
comp=Z,66nm,1.4s

HDA Harding Lake 83.75 23 P **P** **18 29 53.9 -0.3**
HDA IAMs_20 IAMs_20 19 03 40.6
comp=Z,505nm,20.0s

HDA Harding Lake 83.75 23 P **P** **18 29 54.0 -0.2**
baz=241,SNR=22

MAW Mawson 83.78 203 P **P** **18 29 54.7 +0.4**
baz=84,SNR=12

MAW Mawson 83.78 203 P **P** **18 29 54.7 +0.4**
comp=Z,6.3nm,0.5s,baz=115,slow=4.6,SNR=23

MAW LR LR 19 04 03.2
comp=Z,350nm,21.7s,baz=74,slow=33

MAW Mawson 83.78 203 P **P** **18 29 54.2 -0.1**
MAW pmax pmax
comp=Z,8.0nm,1.4s

MAW Mawson 83.78 203 P **P** **18 29 54.2 -0.1**

BOOM Boomskoye usch 83.84 314 IAmb IAmb 18 29 57.8
comp=Z,14nm,0.7s

KUU Kurty 83.90 315 *eP* **P** **18 29 54.7 -0.8**
baz=315

KUU Kurty 83.90 315 *eP* **P** **18 29 54.7 -0.8**

POKR Poker Flat Res 83.91 22 IAmb IAmb 18 29 56.3
comp=Z,24nm,0.8s

POKR IAMs_20 IAMs_20 19 09 06.8
comp=Z,393nm,20.0s

POKR Poker Flat Res 83.91 22 P **P** **18 29 55.2 +0.2**
baz=241,SNR=5.2

NIL Nilore 83.93 305 P **P** **18 29 55.6 -0.2**
NIL pmax pmax
comp=Z,59nm,0.8s

NIL MLR MLR
comp=Z,400nm,22.0s

NIL Nilore 83.93 305 P **P** **18 29 55.6 -0.2**

NIL Nilore 83.93 305 P **P** **18 29 56.0 +0.2**

ILAR Eielson Array 83.95 22 P **P** **18 29 54.7 -0.5**
comp=Z,46nm,0.7s,baz=248,slow=5.3,SNR=233

MCARA McCarthy VSAT 83.99 26 IAmb IAmb 18 30 02.6
comp=Z,54nm,1.3s

MCARA McCarthy VSAT 83.99 26 P **P** **18 29 56.8 +1.3**
baz=245

COLD Coldfoot 84.02 19 P **P** **18 29 57.0 +1.4**
baz=238,SNR=12

H24K Noodor Dome 84.11 21 P **P** **18 29 56.2 +0.2**
H24K IAmb IAmb 18 29 59.1
comp=Z,23nm,0.8s

H24K Noodor Dome 84.11 21 P **P** **18 29 56.3 +0.2**
baz=240,SNR=25

TKM2 Tokmak 2 84.19 314 P **P** **18 29 56.9 -0.3**
SNR=18

KZA Kyzart 84.23 313 P **P** **18 29 58.6 +0.9**
SNR=10

RIDG Independent Ri 84.26 24 IAMs_20 IAMs_20 19 11 57.7
comp=Z,406nm,18.0s

RIDG Independent Ri 84.26 24 P **P** **18 29 57.6 +0.7**
baz=243,SNR=17

KURK Kurchatov 84.28 322 P **P** **18 29 56.6 -0.6**

KURK Kurchatov 84.28 322 P **P** **18 29 56.5 -0.6**

GRNC Granite Creek 84.29 27 IAmb IAmb 18 30 13.5
comp=Z,19nm,0.9s

KURBB Kurchatov Arra 84.31 322 P **P** **18 29 56.5 -0.7**
comp=Z,5.6nm,0.6s,baz=110,slow=4.1,SNR=27

KURBB PKKPbc **PKKPbc 18 48 11.4 -0.6**
comp=Z,0.2nm,0.4s,baz=283,slow=2.9,SNR=5.1

KURBB PKPPKP **P'P'df 18 56 18.8 +3.8**
comp=Z,0.3nm,0.3s,baz=281,slow=2.7,SNR=5.4

MENT Mentasta 84.36 25 IAmb IAmb 18 30 06.6
comp=Z,24nm,0.7s

M26K Nabesna, AK 84.43 25 P **P** **18 29 59.4 +1.6**
baz=245

BARN Barnard Glacie 84.46 27 P **P** **18 29 59.4 +1.3**
BARN IAmb IAmb 18 30 02.2
comp=Z,32nm,0.6s

L26K Log Cabin Wild 84.55 25 IAmb IAmb 18 30 01.2
comp=Z,23nm,0.8s

L26K Log Cabin Wild 84.55 25 P **P** **18 29 59.5 +1.2**
baz=245,SNR=21

CTG Chitna Glacier 84.57 27 P **P** **18 30 00.2 +1.6**
baz=247,SNR=12

CTGM Chitina Glacie 84.57 27 IAmb IAmb 18 30 02.5
comp=Z,30nm,0.7s

KBK Karagaybulak 84.59 314 P **P** **18 29 59.5 +0.4**
SNR=7.8

LOGN Logan Glacier 84.66 27 IAmb IAmb 18 30 06.3
comp=Z,30nm,1.0s

SCRK Sand Creek 84.70 24 P **P** **18 29 59.5 +0.3**
SCRK IAmb IAmb 18 30 01.7
comp=Z,28nm,0.8s

SCRK Sand Creek 84.70 24 P **P** **18 30 00.0 +0.8**
baz=244,SNR=25

PINM Pinnacle 84.72 28 P **P** **18 30 00.9 +1.5**
baz=248

UCH Uchtor 84.80 313 P **P** **18 30 01.4 +0.8**
SNR=16

CHMS Chumysh 84.81 314 P **P** **18 29 59.9 -0.2**
SNR=13

M27K Edge Creek, AK 84.89 25 P **P** **18 30 01.9 +1.7**
baz=246,SNR=37

AAK Ala-Archa 84.91 314 P **P** **18 30 01.2 +0.5**
comp=Z,14nm,0.7s,baz=149,slow=4.2,SNR=30

AAK Ala-Archa 84.91 314 P **P** **18 30 01.2 +0.5**
SNR=13

AAK Ala-Archa 84.91 314 *i* P **P** **18 30 01.0 +0.3**
SNR=15

AAK Ala-Archa 84.91 314 *ce* P **P** **18 30 00.3 -0.5**
AAK pmax pmax
comp=Z,59nm,0.8s

AAK Ala-Archa 84.91 314 P **P** **18 30 00.9 +0.2**
AAK IAmb IAmb 18 30 03.0
comp=Z,17nm,0.8s

AAK Ala-Archa 84.91 314 P **P** **18 30 01.3 +0.5**
AAK P **P** **18 30 01.3 +0.5**

TOLK Toolik Lake Re 84.97 18 IAmb IAmb 18 30 03.2
comp=Z,24nm,0.8s

TOLK IAMs_20 IAMs_20 19 06 43.6
comp=Z,472nm,20.0s

TOLK Toolik Lake Re 84.97 18 P **P** **18 30 01.9 +1.5**
baz=238

SGDS Sogindy 85.00 315 *eP* **P** **18 29 59.6 -1.5**
comp=Z,46nm,2.8s,baz=315

USP Ospenovka 85.05 314 P **P** **18 30 01.7 +0.4**
SNR=11

J26L Joseph Creek 85.10 23 P **P** **18 30 02.3 +1.2**
baz=244,SNR=27

L27K Beaver Creek, 85.20 25 IAmb IAmb 18 30 04.8
comp=Z,20nm,0.9s

L27K Beaver Creek, 85.20 25 P **P** **18 30 02.9 +1.3**
baz=246,SNR=17

BHUJ Bhuj 85.21 294 *eP* **P** **18 30 02.8 +0.4**
BHUJ IAmb IAmb 18 30 04.8
comp=Z,35nm,0.8s

BCAR Beaver Creek A 85.22 25 P **P** **18 30 02.4 +0.7**

YUK3 Moose Creek 85.27 26 P **P** **18 30 03.9 +1.6**
baz=248,SNR=13

BVCY Beaver Creek 85.35 26 P **P** **18 30 04.3 +2.0**
baz=247,SNR=6.6

AML Almayashu 85.37 313 P **P** **18 30 04.1 +0.7**
SNR=18

AML Almayashu 85.37 313 *i* P **P** **18 30 03.9 +0.5**
SNR=16

FYU Fort Yukon 85.40 21 IAmb IAmb 18 30 05.3
comp=Z,42nm,0.8s

EKS2 Erkin-Say 85.43 314 P **P** **18 30 04.0 +0.6**
SNR=20

K27K Chicken 85.49 24 IAmb IAmb 18 30 19.8
comp=Z,21nm,0.9s

K27K Chicken 85.49 24 P **P** **18 30 04.8 +1.8**
baz=246

BTLS Baital 85.77 316 ⇓ *i* P **P** **18 30 04.8 -0.1**
comp=Z,42nm,1.5s,baz=316

BTLS Baital 85.77 316 *d i* P **P** **18 30 04.7 -0.1**
BTLS pmax pmax
comp=Z,42nm,1.5s

YUK6 Outpost Mounta 85.91 27 P **P** **18 30 07.4 +2.0**
baz=249

YUK4 Talbot Arm 85.92 27 P **P** **18 30 07.9 +2.5**
baz=249,SNR=11

BMAR Burnt Mountain 86.02 20 P **P** **18 30 06.8 +1.2**

SIT Sitka 86.11 32 IAMs_20 IAMs_20 19 00 32.6
comp=Z,574nm,21.0s

EGAK Eagle 86.16 23 IAmb IAmb 18 30 13.2
comp=Z,49nm,0.8s

EGAK IAMs_20 IAMs_20 19 03 19.3
comp=Z,491nm,20.0s

EGAK Eagle 86.16 23 P **P** **18 30 07.4 +1.2**
baz=247,SNR=37

DRK Karamyk 86.23 310 IAmb IAmb 18 30 22.2
comp=Z,58nm,1.5s

HYT Haines Junctio 86.26 28 IAmb IAmb 18 30 11.4
comp=Z,37nm,0.8s

HYT Haines Junctio 86.26 28 P **P** **18 30 08.9 +1.9**
baz=250,SNR=24

DIB Dawson Inlet, 86.59 36 P **P** **18 30 09.2 +0.6**
DIB IAmb IAmb 18 30 15.8
comp=Z,62nm,1.2s

DAWY Dawson 86.59 24 IAmb IAmb 18 30 16.6
comp=Z,35nm,1.1s

DAWY Dawson 86.59 24 P **P** **18 30 10.0 +1.6**
baz=248,SNR=19

BESE Bessie Mountai 86.81 30 IAMs_20 IAMs_20 19 01 30.0
comp=Z,495nm,20.0s

JIS Juneau Island 86.96 31 IAmb IAmb 18 30 17.3
comp=Z,26nm,0.9s

JIS IAMs_20 IAMs_20 19 06 38.9
comp=Z,534nm,20.0s

NRIK Noril'sk 87.03 341 P **P** **18 30 09.1 -1.3**
comp=Z,19nm,0.7s,baz=110,slow=4.8,SNR=14

NRIK LR LR 19 07 33.7
comp=Z,196nm,21.9s,baz=109,slow=35

NRIK Noril'sk 87.03 341 *ce* P **P** **18 30 09.5 -0.9**
NRIK pmax pmax

	comp=Z,19nm,0.7s								
NRIK	**Noril'sk**	**87.03**	**341**		IAmb	IAmb	18 30 11.7		
	comp=Z,20nm,0.7s								
NRIK					IAMs_20	IAMs_20	19 11 15.4		
	comp=Z,357nm,18.0s								
HG4B	**Hotspring**	**87.11**	**37**		IAMs_20	IAMs_20	19 16 50.4		
	comp=Z,402nm,19.0s								
DZA	**Taraz**	**87.24**	**313**	*eP*	**P**		**18 30 10.8**	**-1.3**	
	baz=314								
DZA	**Taraz**	**87.24**	**313**	*eP*	**P**		**18 30 10.8**	**-1.3**	
GAR	**Garm**	**87.27**	**310**		IAmb	IAmb	18 30 13.5		
	comp=Z,52nm,1.3s								
GAR					IAMs_20	IAMs_20	19 14 26.9		
	comp=Z,800nm,19.0s								
WRAK	**Wrangell Islan**	**87.51**	**33**		IAMs_20	IAMs_20	19 06 02.5		
	comp=Z,526nm,18.0s								
KBL	**Kabul**	**87.52**	**305**		P	**P**	**18 30 12.3**	**-1.6**	
KBL					pmax	pmax			
	comp=Z,51nm,1.8s								
KBL					MLR	MLR			
	comp=Z,200nm,20.0s								
KBL	**Kabul**	**87.52**	**305**		P	**P**	**18 30 12.3**	**-1.6**	
KBL					IAmb	IAmb	18 30 13.8		
	comp=Z,51nm,1.8s								
KBL	**Kabul**	**87.52**	**305**		P	**P**	**18 30 12.5**	**-1.4**	
	SNR=12								
BRZS	**Berezniki**	**87.77**	**321**	*eP*		**P**	**18 30 11.4**	**-3.1**	
	baz=321								
BRZS	**Berezniki**	**87.77**	**321**	*eP*		**P**	**18 30 11.3**	**-3.1**	
KK31	**Karatay Array**	**87.87**	**314**		IAmb	IAmb	18 30 16.5		
	comp=Z,29nm,1.1s								
KKAR	**Karatay Array**	**87.87**	**314**		P	**P**	**18 30 14.7**	**-0.4**	
KKAR					pmax	pmax			
	comp=Z,29nm,1.2s								
KKAR	**Karatay Array**	**87.87**	**314**		P	**P**	**18 30 14.7**	**-0.4**	
KKAR					IAmb	IAmb	18 30 16.5		
	comp=Z,29nm,1.1s								
CHGR	**Chuyangaron**	**88.11**	**309**		IAMs_20	IAMs_20	19 14 35.2		
	comp=Z,588nm,18.0s								
RUBB	**Prince Rupert**	**88.15**	**35**		P	**P**	**18 30 17.3**	**+1.2**	
RUBB					IAmb	IAmb	18 30 19.1		
	comp=Z,36nm,0.9s								
RUBB					IAMs_20	IAMs_20	19 10 42.6		
	comp=Z,584nm,19.0s								
EPYK	**Eagle Plains**	**88.46**	**22**		P	**P**	**18 30 18.5**	**+1.1**	
	baz=251								
FARO	**Faro, Yukon**	**88.59**	**27**		P	**P**	**18 30 19.2**	**+1.2**	
	baz=254,SNR=22								
DLBC	**Dease Lake**	**89.22**	**31**		IAmb	IAmb	18 30 29.1		
	comp=Z,32nm,1.1s								
DLBC					IAMs_20	IAMs_20	19 03 13.7		
	comp=Z,646nm,21.0s								
MMPY	**Sheldon Lake,**	**89.63**	**27**		P	**P**	**18 30 23.9**	**+0.9**	
	baz=256								
BVAR	**Borovoye Array**	**89.79**	**323**		P	**P**	**18 30 22.8**	**-1.1**	
	comp=Z,4.3nm,0.6s,baz=143,slow=5.4,SNR=8.3								
BVAR					PKKPbc	**PKKPbc**	**18 47 57.8**	**-1.0**	
	comp=Z,0.4nm,0.6s,baz=305,slow=5.2,SNR=3.6								
BRVK	**Borovoye**	**89.86**	**323**	*ceP*		**P**	**18 30 23.7**	**-0.5**	
BRVK					pmax	pmax			
	comp=Z,22nm,2.5s								
KRMB	**Red Mountain**	**89.94**	**48**		IAMs_20	IAMs_20	19 06 43.0		
	comp=Z,758nm,20.0s								
OZB	**Mount Ozzard**	**89.99**	**41**		IAMs_20	IAMs_20	19 07 42.8		
	comp=Z,356nm,20.0s								
J01E	**Myrtle Point**	**90.16**	**47**		P	**P**	**18 30 27.6**	**+1.8**	
	baz=262								
INK	**Inuvik**	**90.23**	**21**		P	**P**	**18 30 25.9**	**+0.3**	
	comp=Z,10.0nm,0.9s,baz=208,slow=5.0,SNR=5.9								
INK	**Inuvik**	**90.23**	**21**		IAmb	IAmb	18 30 31.9		
	comp=Z,29nm,1.2s								
INK	**Inuvik**	**90.23**	**21**		P	**P**	**18 30 26.1**	**+0.5**	
	baz=254								
O02D	**Mt. Diablo Mer**	**90.59**	**50**		P	**P**	**18 30 30.0**	**+1.9**	
	baz=262,SNR=6.8								
DBO	**Dodson Butte**	**90.65**	**47**		P	**P**	**18 30 28.0**	**-0.3**	
DBO					IAmb	IAmb	18 30 31.8		
	comp=Z,61nm,1.9s								
DBO					IAMs_20	IAMs_20	19 07 22.8		
	comp=Z,695nm,20.0s								
I03D	**Drain, OR**	**90.66**	**46**		P	**P**	**18 30 29.6**	**+1.5**	
	baz=262								
M02C	**Callahan**	**90.70**	**49**		P	**P**	**18 30 30.2**	**+1.7**	
	baz=262,SNR=5.5								
TGTN	**Hyland Airport**	**90.75**	**28**		P	**P**	**18 30 30.3**	**+2.0**	
	baz=258,SNR=6.7								
N02D	**Trinity Center**	**90.76**	**49**		P	**P**	**18 30 30.9**	**+2.1**	
	baz=262,SNR=7.6								
HUMO	**Hull Mountain**	**90.79**	**47**		P	**P**	**18 30 29.4**	**+0.6**	
HUMO					IAmb	IAmb	18 30 31.7		
	comp=Z,17nm,1.1s								
HUMO					IAMs_20	IAMs_20	19 07 20.6		
	comp=Z,497nm,20.0s								
WDC	**Whiskeytown Da**	**90.83**	**49**		IAMs_20	IAMs_20	19 06 40.8		
	comp=Z,760nm,20.0s								
YBH	**Yreka Blue Hor**	**90.86**	**48**		LR	LR	19 06 56.2		
	comp=Z,591nm,19.0s,baz=272,slow=33								
YBH	**Yreka Blue Hor**	**90.86**	**48**		IAMs_20	IAMs_20	19 07 42.3		
	comp=Z,702nm,19.0s								
E03A	**Lebam**	**90.91**	**43**		IAMs_20	IAMs_20	19 06 49.3		
	comp=Z,597nm,20.0s								
H04D	**Lebanon**	**91.21**	**46**		P	**P**	**18 30 32.1**	**+1.4**	
	baz=262								
L04D	**Klamath Falls**	**91.22**	**48**		P	**P**	**18 30 31.9**	**+0.9**	
	baz=263								
PGC	**Sidney**	**91.28**	**41**		IAMs_20	IAMs_20	19 07 29.9		
	comp=Z,598nm,19.0s								
I04A	**Tendick Farm,**	**91.34**	**46**		P	**P**	**18 30 32.4**	**+1.0**	
	baz=263,SNR=6.2								
O03E	**Paynes Creek**	**91.36**	**50**		P	**P**	**18 30 32.7**	**+1.2**	
	baz=263								
J04D	**Umpqua Nationa**	**91.49**	**47**		P	**P**	**18 30 34.0**	**+1.7**	
	baz=263,SNR=6.9								
ORV	**Oroville**	**91.50**	**51**		IAMs_20	IAMs_20	19 07 36.4		
	comp=Z,461nm,19.0s								
M04C	**Macdoel**	**91.51**	**48**		P	**P**	**18 30 33.7**	**+1.3**	
	baz=263,SNR=7.0								
F04A	**Amboy**	**91.61**	**44**		IAmb	IAmb	18 30 34.9		
	comp=Z,33nm,1.6s								
F04A					IAMs_20	IAMs_20	19 07 40.0		
	comp=Z,625nm,20.0s								
H04A	**Detroit Lake**	**91.62**	**45**		IAMs_20	IAMs_20	19 06 39.2		
	comp=Z,635nm,20.0s								
SYO	**Syowa Base**	**91.90**	**200**	‖*eX*		**P**	**18 30 32.0**	**-1.4**	
SYO	**Syowa Base**	**91.90**	**200**	‖*ep*	P	**P**	**18 30 37.0**	**+3.6**	
J05D	**Fort Rock, OR**	**92.13**	**47**	P		**P**	**18 30 36.6**	**+1.4**	
	baz=263,SNR=13								
LON	**Longmire**	**92.13**	**43**		IAMs_20	IAMs_20	19 07 12.7		
	comp=Z,376nm,19.0s								
A05A	**Maple Falls**	**92.22**	**41**		IAMs_20	IAMs_20	19 07 38.8		
	comp=Z,455nm,19.0s								
G05D	**Wamic, OR**	**92.30**	**45**		P	**P**	**18 30 37.2**	**+1.4**	
	baz=264								
PKM	**Mcpherson Peak**	**92.31**	**55**		P	**P**	**18 30 38.8**	**+2.5**	
	baz=264								
K05A	**Summer Lake**	**92.32**	**47**		IAMs_20	IAMs_20	19 08 22.9		
	comp=Z,609nm,20.0s								
PINE	**Pine Mountain**	**92.40**	**46**		P	**P**	**18 30 37.0**	**+0.5**	
PINE					IAmb	IAmb	18 30 38.6		
	comp=Z,16nm,0.8s								
PINE					IAMs_20	IAMs_20	19 09 27.0		
	comp=Z,557nm,19.0s								
RUBR	**Rubicon Trail**	**92.48**	**51**		IAMs_20	IAMs_20	19 06 46.4		
	comp=Z,715nm,20.0s								
B06A	**Marblemount**	**92.56**	**42**		IAMs_20	IAMs_20	19 08 28.8		
	comp=Z,463nm,20.0s								
PNTR	**Pine Nut**	**92.91**	**51**		IAmb	IAmb	18 30 41.9		
	comp=Z,20nm,0.8s								
PNTR					IAMs_20	IAMs_20	19 07 39.9		
	comp=Z,749nm,20.0s								
LTY	**Liberty**	**92.96**	**43**		P	**P**	**18 30 38.9**	**+0.1**	
LTY					IAmb	IAmb	18 30 41.1		
	comp=Z,29nm,1.9s								
HRA	**Herat**	**93.07**	**304**		IAmb	IAmb	18 30 40.3		
	comp=Z,27nm,0.9s								
MDPB	**Devils Postpil**	**93.18**	**53**		IAmb	IAmb	18 31 01.3		
	comp=Z,15nm,1.1s								
MDPB					IAMs_20	IAMs_20	19 06 49.1		
	comp=Z,586nm,20.0s								
OSI	**Osito Audit: C**	**93.18**	**56**		IAMs_20	IAMs_20	19 19 42.3		
	comp=Z,313nm,18.0s								
YERR	**Yerington**	**93.18**	**51**		P	**P**	**18 30 41.2**	**+1.0**	
YERR					IAMs_20	IAMs_20	19 08 17.0		
	comp=Z,702nm,20.0s								
I07A	**Izee**	**93.46**	**46**		P	**P**	**18 30 41.2**	**-0.1**	
I07A					IAMs_20	IAMs_20	19 10 40.1		
	comp=Z,741nm,20.0s								
ISA	**Isabella, Lake**	**93.48**	**55**		P	**P**	**18 30 42.6**	**+1.1**	
	baz=265								
HAWA	**Hanford**	**93.66**	**44**		IAmb	IAmb	18 30 45.4		
	comp=Z,45nm,1.9s								
LHV	**Little Huntoon**	**93.69**	**52**		IAmb	IAmb	18 30 45.5		
	comp=Z,20nm,0.9s								
MWC	**Mount Wilson**	**93.69**	**56**		P	**P**	**18 30 42.9**	**+0.2**	
MWC					pmax	pmax			
	comp=Z,122nm,2.0s								
MWC	**Mount Wilson**	**93.69**	**56**		P	**P**	**18 30 42.9**	**+0.2**	
RYN	**Ryan**	**93.70**	**52**		IAMs_20	IAMs_20	19 08 23.0		
	comp=Z,716nm,19.0s								
TIN	**Tinemaha, Big**	**93.80**	**53**		P	**P**	**18 30 45.2**	**+2.2**	
	baz=265								
EDW2	**Edwards Air Fo**	**93.80**	**55**		P	**P**	**18 30 45.2**	**+2.2**	
	baz=265,SNR=6.4								
NVAR	**Mina Array Bea**	**93.86**	**52**		P	**P**	**18 30 45.2**	**+1.9**	
	comp=Z,9.3nm,0.7s,baz=255,slow=6.5,SNR=48								
NVAR					LR	LR	19 08 15.9		
	comp=Z,643nm,19.4s,baz=272,slow=32								
CWC	**Cottonwood Cre**	**93.87**	**54**		P	**P**	**18 30 44.9**	**+1.6**	
	baz=265								
G08A	**Pilot Rock**	**93.96**	**45**		P	**P**	**18 30 44.2**	**+0.7**	
G08A					IAmb	IAmb	18 30 45.8		
	comp=Z,40nm,1.7s								
B08A	**Colville Reser**	**93.97**	**42**		IAMs_20	IAMs_20	19 11 40.1		
	comp=Z,456nm,19.0s								
NV11	**Mina Array Sit**	**93.98**	**52**		IAmb	IAmb	18 30 46.5		
	comp=Z,16nm,0.9s								
BFSC	**Mount Baldy Ra**	**94.02**	**56**		P	**P**	**18 30 46.0**	**+1.9**	
	baz=265								
KVN	**Kaiserville**	**94.07**	**51**		P	**P**	**18 30 44.0**	**-0.3**	
KVN					pmax	pmax			
	comp=Z,11nm,1.0s								
KVN					MLR	MLR			
	comp=Z,600nm,19.0s								
KVN	**Kaiserville**	**94.07**	**51**		P	**P**	**18 30 44.0**	**-0.3**	
KVN					IAMs_20	IAMs_20	19 10 01.6		
	comp=Z,566nm,19.0s								
LRMC	**Laurel Mtn Rad**	**94.11**	**55**		P	**P**	**18 30 46.7**	**+2.2**	
	baz=265								
D08A	**Wollman Farm,**	**94.13**	**43**		IAMs_20	IAMs_20	19 04 56.6		
	comp=Z,539nm,22.0s								
J08A	**Circle Bar Ran**	**94.14**	**47**		IAMs_20	IAMs_20	19 10 27.2		
	comp=Z,447nm,20.0s								
MPMC	**Manual Prospec**	**94.31**	**54**		P	**P**	**18 30 47.2**	**+1.7**	
	baz=265,SNR=11								
109C	**Camp Elliot, M**	**94.37**	**58**		IAMs_20	IAMs_20	19 11 17.1		
	comp=Z,511nm,18.0s								
C09A	**Chrisman Ranch**	**94.63**	**43**		IAMs_20	IAMs_20	19 04 50.7		
	comp=Z,363nm,21.0s								
TPH	**Tonopah**	**94.68**	**52**		P	**P**	**18 30 46.3**	**-0.8**	
TPH					pmax	pmax			
	comp=Z,41nm,0.9s								
TPH	**Tonopah**	**94.68**	**52**		P	**P**	**18 30 46.3**	**-0.8**	
BAR	**Barrett**	**94.72**	**58**		IAMs_20	IAMs_20	19 11 10.3		
	comp=Z,556nm,19.0s								
QSM	**Queen of Sheba**	**94.81**	**54**		IAmb	IAmb	18 30 50.4		
	comp=Z,14nm,1.1s								
QSM					IAMs_20	IAMs_20	19 11 14.3		
	comp=Z,292nm,18.0s								
GSC	**Goldstone, Bar**	**94.81**	**55**		IAmb	IAmb	18 30 50.7		
	comp=Z,38nm,1.9s								
GSC	**Goldstone, Bar**	**94.81**	**55**		P	**P**	**18 30 49.5**	**+1.9**	
	baz=266,SNR=5.7								
FURC	**Furnace Creek,**	**94.85**	**54**		P	**P**	**18 30 49.6**	**+2.0**	
	baz=266,SNR=10								
BMN	**Battle Mountai**	**94.85**	**50**		IAmb	IAmb	18 30 50.5		
	comp=Z,32nm,1.9s								
WBK	**Wadi Bani Khal**	**94.91**	**292**		P	**P**	**18 30 47.8**	**-0.5**	
MONP2	**Monument Peak**	**94.94**	**58**		P	**P**	**18 30 51.0**	**+2.5**	
	baz=266,SNR=8.0								
PFO	**Pinyon Flats O**	**94.97**	**57**		P	**P**	**18 30 49.0**	**+0.5**	
PFO					pmax	pmax			
	comp=Z,6.0nm,0.8s								
PFO					MLR	MLR			
	comp=Z,400nm,19.0s								
PFO	**Pinyon Flats O**	**94.97**	**57**		P	**P**	**18 30 49.0**	**+0.5**	
PFO					IAMs_20	IAMs_20	19 09 55.9		
	comp=Z,368nm,19.0s								
PFO	**Pinyon Flats O**	**94.97**	**57**		P	**P**	**18 30 50.6**	**+2.1**	
	baz=266								
GWY	**Greenwater Val**	**94.98**	**54**		IAmb	IAmb	18 30 52.2		
	comp=Z,20nm,1.5s								
BMO	**Blue Mountains**	**95.09**	**46**		IAmb	IAmb	18 30 50.9		
	comp=Z,48nm,1.9s								
BMO					IAMs_20	IAMs_20	19 09 18.2		
	comp=Z,546nm,20.0s								
RMX	**La Rumorosa**	**95.21**	**58**		IAMs_20	IAMs_20	19 12 29.4		
	comp=Z,585nm,21.0s								
WSAR	**Wadi Sarin**	**95.27**	**293**		P	**P**	**18 30 49.5**	**-0.4**	
	comp=Z,7.0nm,0.8s,baz=131,slow=5.1,SNR=8.6								
WSAR	**Wadi Sarin**	**95.27**	**293**		P	**P**	**18 30 49.3**	**-0.6**	
	SNR=5.7								
TPNV	**Topopah Spring**	**95.37**	**54**		IAmb	IAmb	18 30 56.1		
	comp=Z,14nm,1.1s								
TPNV					IAMs_20	IAMs_20	19 09 51.2		
	comp=Z,339nm,19.0s								
TPNV	**Topopah Spring**	**95.37**	**54**		P	**P**	**18 30 51.8**	**+1.5**	
	baz=266,SNR=9.3								
BELC	**Belle Mtn. Jos**	**95.38**	**56**		P	**P**	**18 30 52.4**	**+2.1**	
	baz=266,SNR=8.1								
NEW	**Newport**	**95.43**	**42**		IAMs_20	IAMs_20	19 11 32.9		
	comp=Z,397nm,20.0s								
BIDO	**Bidwell**	**95.75**	**293**		P	**P**	**18 30 53.0**	**+0.9**	
	SNR=6.9								
BC3	**Big Chuckawall**	**95.81**	**57**		P	**P**	**18 30 54.4**	**+2.2**	
	baz=266,SNR=6.1								
CPBX	**Cerro Prieto**	**95.85**	**58**		IAMs_20	IAMs_20	19 06 50.3		
	comp=Z,401nm,21.0s								
R11A	**Troy Canyon, C**	**95.98**	**52**		P	**P**	**18 30 53.4**	**+0.3**	
R11A					IAMs_20	IAMs_20	19 08 32.3		
	comp=Z,675nm,20.0s								
R11A	**Troy Canyon, C**	**95.98**	**52**		P	**P**	**18 30 54.8**	**+1.7**	
	baz=267,SNR=10								
GUVIX	**Guadalupe Vict**	**96.04**	**58**		IAMs_20	IAMs_20	19 05 56.2		
	comp=Z,381nm,20.0s								
MFID	**Camas Ranch**	**96.07**	**47**		IAMs_20	IAMs_20	19 08 50.3		
	comp=Z,362nm,20.0s								
IRM	**Iron Mountain**	**96.09**	**56**		P	**P**	**18 30 55.7**	**+2.3**	
	baz=267,SNR=6.5								
GLA	**Glamis**	**96.29**	**58**		IAMs_20	IAMs_20	19 12 51.9		
	comp=Z,456nm,18.0s								
PRN	**Pahroc Range**	**96.36**	**53**		IAmb	IAmb	18 30 57.8		
	comp=Z,13nm,1.1s								
PRN					IAMs_20	IAMs_20	19 08 09.2		
	comp=Z,419nm,20.0s								
ELK	**Elko**	**96.38**	**50**		LR	LR	19 10 26.2		
	comp=Z,604nm,19.1s,baz=263,slow=33								
HOQ	**Hoqain**	**96.51**	**293**		P	**P**	**18 30 54.8**	**-0.7**	
	SNR=5.8								
ARU	**Arti**	**96.95**	**326**		P	**P**	**18 30 54.9**	**-1.8**	
	comp=Z,1.7nm,0.7s,baz=188,slow=3.3,SNR=8.0								
ARU	**Arti**	**96.95**	**326**	*d i*	P	**P**	**18 30 54.5**	**-2.2**	
ARU							18 34 49.7		
ARU					S	**SKSac**	**18 41 26.8**	**-4.5**	
ARU					pmax	pmax			
	comp=Z,7.0nm,0.9s								
ARU	**Arti**	**96.95**	**326**		P	**P**	**18 30 54.4**	**-2.4**	
ARU					IAMs_20	IAMs_20	19 12 23.2		
	comp=Z,415nm,21.0s								
SPR3	**Spring Creek 3**	**97.00**	**52**		IAmb	IAmb	18 31 00.6		
	comp=Z,24nm,1.5s								
HLID	**Hailey**	**97.11**	**47**		P	Pdif	18 30 58.6	+0.4	
HLID					IAMs_20	IAMs_20	19 09 50.6		
	comp=Z,377nm,20.0s								
HLID	**Hailey**	**97.11**	**47**		P	Pdif	18 30 59.1	+0.9	
	baz=268,SNR=5.4								
113A	**Mohawk Valley,**	**97.17**	**58**		IAMs_20	IAMs_20	19 12 45.1		
	comp=Z,486nm,19.0s								
YKA	**Yellowknife Ar**	**97.25**	**28**		P	Pdif	18 30 58.8	+0.7	
	comp=Z,2.7nm,0.6s,baz=332,slow=4.3,SNR=7.3								
YKA					LR	LR	19 11 58.4		
	comp=Z,354nm,21.1s,baz=0.0,slow=34								
YKA	**Yellowknife Ar**	**97.25**	**28**	*i*	P	Pdif	18 31 00.8	+2.8	
YKA					pmax	pmax			
	comp=Z,3.0nm,0.6s								
SOHO	**SOHO**	**97.25**	**293**	*i*	P	**P**	**18 30 57.2**	**-1.6**	
	SNR=6.3								
SOHO	**SOHO**	**97.25**	**293**		P	**P**	**18 30 57.6**	**-1.2**	
JTMT	**Jette**	**97.32**	**43**		IAMs_20	IAMs_20	19 11 01.8		
	comp=Z,525nm,20.0s								
MSO	**Missoula**	**97.53**	**44**		IAMs_20	IAMs_20	19 11 25.5		
	comp=Z,661nm,19.0s								
MDH	**Madha**	**97.54**	**295**		P	**P**	**18 30 59.3**	**-0.8**	
BANOM	**Banah**	**97.57**	**295**	*i*	P	**P**	**18 30 59.6**	**-0.7**	
	SNR=11								
BANOM	**Banah**	**97.57**	**295**		P	**P**	**18 30 59.8**	**-0.6**	
BANOM					P	**P**	**18 30 59.8**	**-0.6**	
UOSS	**Minazif**	**97.60**	**294**		P	**P**	**18 30 58.8**	**-1.6**	
UOSS	**Minazif**	**97.60**	**294**		P	**P**	**18 30 58.9**	**-1.5**	
HATD	**Hatta, Dubai**	**97.66**	**294**		P	**P**	**18 30 59.4**	**-1.3**	
HATD	**Hatta, Dubai**	**97.66**	**294**		P	**P**	**18 30 59.8**	**-0.9**	
MSFE	**Esma-Masafi**	**97.67**	**295**	*i*	P	**P**	**18 30 59.8**	**-1.0**	
	SNR=8.7								
MASF	**Masafi**	**97.67**	**295**		P	**P**	**18 31 00.1**	**-0.7**	
	SNR=6.8								
MASF					P	**P**	**18 31 00.1**	**-0.7**	
	SNR=6.8								
ASHO	**Ashiyiah**	**97.72**	**294**		P	**P**	**18 30 59.8**	**-1.3**	
ASHO	**Ashiyiah**	**97.72**	**294**		P	**P**	**18 30 60.0**	**-1.0**	
LCMT	**Little Creek M**	**97.78**	**54**		IAmb	IAmb	18 31 04.6		
	comp=Z,31nm,2.0s								
SZCU	**Shurtz Canyon**	**97.92**	**53**		IAmb	IAmb	18 31 05.9		
	comp=Z,8.1nm,1.2s								
214A	**Organ Pipe Nat**	**97.94**	**59**		IAMs_20	IAMs_20	19 10 13.6		
	comp=Z,479nm,19.0s								
ALNE	**Al Ain**	**97.96**	**293**		P	**P**	**18 31 01.6**	**-0.5**	
EDM	**Edmonton**	**97.97**	**37**		P	**P**	**18 31 01.3**	**-0.2**	
EDM					pmax	pmax			
	comp=Z,32nm,0.3s								
EDM					MLR	MLR			
	comp=Z,700nm,20.0s								
EDM	**Edmonton**	**97.97**	**37**		P	**P**	**18 31 01.3**	**-0.2**	
NAZ	**Nazwa, Dubai**	**98.10**	**294**		P	**P**	**18 31 01.1**	**-1.6**	
KNB	**Kanab**	**98.12**	**54**		P	Pdif	18 31 03.1	+0.3	
KNB					pmax	pmax			
	comp=Z,53nm,1.9s								
KNB	**Kanab**	**98.12**	**54**		P	Pdif	18 31 03.1	+0.4	
FAQ	**Al Faqa, Dubai**	**98.15**	**294**		P	**P**	**18 31 01.9**	**-1.0**	
DUG	**Dugway, Tooele**	**98.21**	**50**		IAMs_20	IAMs_20	19 12 27.0		
	comp=Z,466nm,20.0s								
SRIG	**Santa Rosalia**	**98.22**	**63**		IAMs_20	IAMs_20	19 15 56.4		
	comp=Z,505nm,19.0s								
HVU	**Hansel Valley**	**98.27**	**49**		P	Pdif	18 31 03.9	+0.6	
HVU					pmax	pmax			
	comp=Z,6.0nm,0.8s								
HVU	**Hansel Valley**	**98.27**	**49**		P	Pdif	18 31 03.9	+0.6	
HVU					IAmb	IAmb	18 31 05.4		
	comp=Z,5.7nm,0.8s								
ASUD	**Al Ashush, Dub**	**98.38**	**294**	*i*	P	Pdif	18 31 04.0	0.0	
	SNR=7.4								
ASUD	**Al Ashush, Dub**	**98.38**	**294**		P	**P**	**18 31 03.3**	**-0.6**	
DLMT	**Dillon**	**98.44**	**45**		IAMs_20	IAMs_20	19 14 24.9		
	comp=Z,399nm,18.0s								
BOZ	**Bozeman (W)**	**99.12**	**45**		IAMs_20	IAMs_20	19 14 17.8		
	comp=Z,579nm,20.0s								
BOZ	**Bozeman (W)**	**99.12**	**45**		Pdiff	**Pdif**	**18 31 08.0**	**+1.0**	
	baz=270,SNR=7.6								
DOK	**Doka**	**99.15**	**288**		P	**Pdif**	**18 31 06.3**	**-1.2**	
X16A	**Lo Mia Camp, P**	**99.17**	**56**		IAMs_20	IAMs_20	19 15 23.0		
	comp=Z,296nm,19.0s								
HWUT	**Hardware Ranch**	**99.17**	**49**		IAMs_20	IAMs_20	19 13 40.5		
	comp=Z,534nm,19.0s								
WUAZ	**Wupatki**	**99.25**	**55**		IAMs_20	IAMs_20	19 14 12.0		
	comp=Z,306nm,20.0s								
HSIG		**99.43**	**62**		IAMs_20	IAMs_20	19 12 49.3		
	comp=Z,425nm,19.0s								
TMUT	**Trail Mountain**	**99.43**	**51**		P	**Pdif**	**18 31 09.1**	**+0.4**	
TMUT					IAmb	IAmb	18 31 10.8		
	comp=Z,11nm,1.2s								
WHFO	**Wadi Hawf**	**99.44**	**287**		P	**Pdif**	**18 31 07.4**	**-1.5**	
WHFO					P	pP	18 31 07.5	-9.4	
Q16A	**Castle Valley**	**99.46**	**52**		IAmb	IAmb	18 31 21.8		
	comp=Z,24nm,2.0s								
FXWY	**Fox Creek**	**99.57**	**47**		IAMs_20	IAMs_20	19 11 10.7		
	comp=Z,583nm,22.0s								
TPAW	**Teton Pass**	**99.62**	**47**		IAMs_20	IAMs_20	19 10 25.2		
	comp=Z,626nm,20.0s								
TUC	**Tucson**	**99.67**	**58**		IAMs_20	IAMs_20	19 11 34.4		
	comp=Z,520nm,20.0s								
REDW	**Red Top Meadow**	**99.70**	**47**		IAMs_20	IAMs_20	19 13 04.2		
	comp=Z,646nm,19.0s								
SNOW	**Snow King Moun**	**99.77

WVT	**Waverly**	**118.16**	**52**	IAMs_20	IAMs_20	19 24 34.4			
	comp=Z,480nm,20.0s								
PLAL	**Pickwick Lake**	**118.23**	**54**	IAMs_20	IAMs_20	19 26 55.3			
	comp=Z,483nm,19.0s								
BIZ	**Bicaz**	**118.42**	**321**	⇓P	**PKiKP**	**18 36 13.5**	**+0.3**		
T47A	**Sharon Grove**	**118.52**	**51**	IAMs_20	IAMs_20	19 21 23.8			
	comp=Z,429nm,21.0s								
PGOR	**Pogoanele**	**118.62**	**318**	⇑P	PKiKP	18 36 24.7	+11		
BURR1	**Bucovina Ar. S**	**118.70**	**322**	⇑P	**PKiKP**	**18 36 14.9**	**+1.1**		
BURAR	**Bucovina Array**	**118.70**	**322**	⇑P	**PKPdf**	**18 36 13.3**	**-0.5**		
MLR	**Muntele Rosu**	**119.09**	**319**	⇑P	**PKPdf**	**18 36 14.1**	**-0.5**		
MLR	**Muntele Rosu**	**119.09**	**319**	⇑PKiKP	**PKPdf**	**18 36 14.1**	**-0.5**		
MLR	**Muntele Rosu**	**119.09**	**319**	PKPdf	**PKPdf**	**18 36 13.3**	**-1.3**		
PLCA	**Paso Flores**	**119.22**	**144**	PKP	**PKiKP**	**18 36 15.6**	**+0.6**		
	comp=Z,2.5nm,0.6s,baz=278,slow=0.7,SNR=10.0								
DOPR	**Dopca**	**119.26**	**320**	⇓P	**PKPdf**	**18 36 07.9**	**-6.8**		
KWP	**Kalwaria Pacla**	**119.31**	**325**	*e*PKPdf	**PKPdf**	**18 36 14.6**	**-0.2**		
KWP				*e*SS	SS	18 54 39.6	+44		
VOIR		**119.69**	**319**	⇑P	**PKiKP**	**18 36 18.1**	**+2.4**		
VOIR		**119.69**	**319**	⇑PKiKP	**PKiKP**	**18 36 18.1**	**+2.4**		
KOLS	**Kolonicke sedl**	**119.89**	**324**	*e*PKiKP	**PKiKP**	**18 36 16.8**	**+0.9**		
KOLS	**Kolonicke sedl**	**119.89**	**324**	*e*PKP	**PKiKP**	**18 36 16.8**	**+0.9**		
ARR	**Arges**	**119.98**	**320**	⇑P	**PKiKP**	**18 36 17.0**	**+0.7**		
TRPA	**Tarpa**	**120.10**	**323**	⇑P	**PKiKP**	**18 36 16.3**	**0.0**		
R50A	**Paris**	**120.28**	**49**	IAMs_20	IAMs_20	19 21 11.3			
	comp=Z,402nm,22.0s								
DRGR		**120.60**	**322**	⇑P	**PKPdf**	**18 36 16.7**	**-0.7**		
DRGR		**120.60**	**322**	⇑PKiKP	**PKPdf**	**18 36 16.7**	**-0.7**		
OJC	**Ojcow**	**120.67**	**326**	*e*PKPdf	**PKPdf**	**18 36 17.2**	**-0.1**		
OJC				*e*SS	SS	18 54 18.6	+5.9		
OJC	**Ojcow**	**120.67**	**326**	IAMs_20	IAMs_20	19 31 20.6			
	comp=Z,240nm,20.0s								
NIE	**Niedzica**	**120.79**	**325**	*e*PKPdf	**PKiKP**	**18 36 19.2**	**+1.5**		
GZR	**Gura Zlata**	**121.17**	**320**	⇑P	**PKPdf**	**18 36 18.3**	**-0.2**		
GZR	**Gura Zlata**	**121.17**	**320**	⇑PKiKP	**PKPdf**	**18 36 18.3**	**-0.2**		
LANS	**Liptovska Anna**	**121.40**	**325**	*e*PKiKP	**PKiKP**	**18 36 19.9**	**+1.0**		
LANS	**Liptovska Anna**	**121.40**	**325**	*e*PKP	**PKiKP**	**18 36 19.9**	**+1.0**		
SIRR	**Siria**	**121.48**	**321**	⇑P	**PKPdf**	**18 36 19.0**	**0.0**		
V52A	**Sevierville**	**121.55**	**52**	IAMs_20	IAMs_20	19 21 55.1			
	comp=Z,345nm,20.0s								
TGUH	**Tegucigalpa,Un**	**121.56**	**77**	IAMs_20	IAMs_20	19 27 48.6			
	comp=Z,388nm,18.0s								
HERR	**Herculane**	**121.62**	**320**	⇑P	**PKPdf**	**18 36 18.6**	**-0.7**		
LNIZ	**Loecknitz**	**121.69**	**332**	*e*PKPdf	**PKiKP**	**18 36 19.6**	**+0.3**		
	baz=51,slow=1.9								
PSZ	**Piszkesteto**	**121.77**	**324**	⇑P	**PKPdf**	**18 36 19.2**	**-0.4**		
PSZ	**Piszkesteto**	**121.77**	**324**	⇑PKiKP	**PKPdf**	**18 36 19.2**	**-0.4**		
PSZ	**Piszkesteto**	**121.77**	**324**	IAMs_20	IAMs_20	19 27 22.8			
	comp=Z,238nm,22.0s								
OKC	**Ostrava-Krasne**	**121.78**	**327**	AMS	AMS	19 42 50.0			
	comp=Z,200nm,16.1s								
BZS	**Buzias**	**121.80**	**321**	⇑P	**PKPdf**	**18 36 19.2**	**-0.4**		
BZS	**Buzias**	**121.80**	**321**	⇑PKiKP	**PKPdf**	**18 36 19.2**	**-0.4**		
VTS	**Vitosha**	**122.01**	**317**	⇓P	**PKPdf**	**18 36 19.9**	**-0.4**		
VTS	**Vitosha**	**122.01**	**317**	⇓PKiKP	**PKPdf**	**18 36 19.9**	**-0.4**		
MDVR	**Moldovita**	**122.11**	**320**	⇑P	**PKPdf**	**18 36 19.6**	**-0.7**		
MORC	**Moravsky Berou**	**122.14**	**327**	⇓P	**PKiKP**	**18 36 20.7**	**+0.3**		
MORC	**Moravsky Berou**	**122.14**	**327**	⇓PKiKP	**PKiKP**	**18 36 20.7**	**+0.3**		
MORC	**Moravsky Berou**	**122.14**	**327**	IAMs_20	IAMs_20	19 30 18.5			
	comp=Z,238nm,21.0s								
MORC	**Moravsky Berou**	**122.14**	**327**	*e*PKP	**PKiKP**	**18 36 20.7**	**+0.3**		
KSP	**Ksiaz**	**122.22**	**328**	*e*PKPdf	**PKiKP**	**18 36 20.6**	**+0.2**		
KSP				*e*SS	SS	18 54 42.4	+10		
KRLC	**Kraliky**	**122.39**	**327**	*e*PKiKP	**PKiKP**	**18 36 21.0**	**+0.1**		
KRLC	**Kraliky**	**122.39**	**327**	*e*PKPDF	**PKiKP**	**18 36 21.0**	**+0.1**		
KRLC				*ep*PKP	**sPKPdf**	**18 36 35.4**	**+3.5**		
OSTC	**Ostas**	**122.42**	**328**	*e*PKPDF	**PKiKP**	**18 36 20.8**	**-0.1**		
OSTC				*ex*	x	18 36 36.0			
OSTC				AMS	AMS	19 29 00.0			
	comp=Z,200nm,17.8s								
DPC	**Dobruska-Polom**	**122.48**	**328**	*e*PKPDF	PKiKP	18 36 35.9	+15		
DPC				AMS	AMS	19 33 20.0			
	comp=Z,200nm,23.3s								
CHVC	**Chvalec**	**122.49**	**328**	*e*PKPDF	**PKiKP**	**18 36 21.2**	**+0.2**		
RUE	**Ruedersdorf**	**122.52**	**331**	*e*PKPdf	**PKPdf**	**18 36 20.7**	**0.0**		
	baz=51,slow=1.9								
UPC	**Upice**	**122.56**	**328**	AMS	AMS	19 28 50.0			
	comp=Z,200nm,18.2s								
JAVC	**Velka Javorina**	**122.56**	**326**	*e*PKP	**PKiKP**	**18 36 22.2**	**+0.9**		
BOVS	**Bovan**	**122.61**	**319**	⇓P	**PKPdf**	**18 36 20.5**	**-0.7**		
VRAC	**Vranov**	**122.92**	**327**	⇑P	**PKiKP**	**18 36 22.6**	**+0.7**		
VRAC	**Vranov**	**122.92**	**327**	⇑PKiKP	**PKiKP**	**18 36 22.6**	**+0.7**		
VRAC	**Vranov**	**122.92**	**327**	*e*PKP	**PKiKP**	**18 36 22.1**	**+0.2**		
MODS	**Modra-Piesok**	**123.04**	**325**	*e*PKiKP	**PKPdf**	**18 36 21.8**	**-0.1**		
MODS	**Modra-Piesok**	**123.04**	**325**	*e*PKP	**PKPdf**	**18 36 21.8**	**-0.1**		
MCWV	**Mont Chateau**	**123.12**	**46**	IAMs_20	IAMs_20	19 23 28.0			
	comp=Z,347nm,20.0s								
FRGS	**Fruska Gora**	**123.14**	**321**	⇑P	**PKPdf**	**18 36 20.5**	**-1.8**		
KRUC	**Moravsky**	**123.16**	**326**	*e*PKP	**PKPdf**	**18 36 22.1**	**0.0**		
BSEG	**Bad Segeberg**	**123.18**	**334**	*e*PKPdf	**PKiKP**	**18 36 22.1**	**0.0**		
	baz=51,slow=1.9								
ZST	**Bratislava**	**123.23**	**325**	*e*PKiKP	**PKiKP**	**18 36 22.6**	**+0.1**		
ZST	**Bratislava**	**123.23**	**325**	*e*PKP	**PKiKP**	**18 36 22.6**	**+0.1**		
PVCC	**Panska Ves**	**123.30**	**329**	*e*PKiKP	**PKiKP**	**18 36 23.3**	**+0.7**		
PVCC				MLR	MLR				
	comp=Z,200nm,20.0s								
PVCC	**Panska Ves**	**123.30**	**329**	*e*PKPDF	**PKiKP**	**18 36 23.3**	**+0.7**		
PVCC				AMS	AMS	19 27 40.0			
	comp=Z,200nm,20.0s								
MORH	**Mrgy, Hungar**	**123.35**	**323**	⇓P	**PKPdf**	**18 36 22.4**	**-0.2**		
BRG	**Berggiesshubel**	**123.41**	**329**	*e*PKPdf	**PKPdf**	**18 36 22.5**	**-0.1**		
	baz=51,slow=1.9								
BRG	**Berggiesshubel**	**123.41**	**329**	*e*PKP	**PKiKP**	**18 36 23.1**	**+0.4**		
BRG				Amp		18 36 24.8			
	comp=Z,30nm,1.6s								
CLL	**Collm**	**123.62**	**330**	*i* PKPdf	**PKPdf**	**18 36 21.9**	**-1.0**		
	comp=Z,36nm,1.7s								
CLL				*e*		18 36 35.0			
CLL				*e*PP	**PP**	**18 38 05.0**	**+0.3**		
CLL				*e*PS	**PS**	**18 48 00.0**	**-2.7**		
CLL				*e*PPS	PPS	18 49 23.0			
CLL				*e*		18 50 36.0			
CLL				*e*SS	SS	18 54 48.0	-1.9		
CLL				*e*		18 58 48.0			
CLL				*e*SSSS		19 03 06.0			
CLL	**Collm**	**123.62**	**330**	*i* PKiKP	**PKPdf**	**18 36 21.9**	**-1.0**		
CLL				pmax	pmax				
	comp=Z,36nm,1.7s								
CLL	**Collm**	**123.62**	**330**	IAMs_20	IAMs_20	19 32 26.2			
	comp=Z,308nm,22.0s								
CLL	**Collm**	**123.62**	**330**	*e*PKPdf	**PKPdf**	**18 36 22.6**	**-0.3**		
	baz=51,slow=1.9								
PRU	**Pruhonice**	**123.63**	**328**	*e*PKiKP	**PKPdf**	**18 36 23.0**	**0.0**		
PRU				MLR	MLR				
	comp=Z,200nm,19.2s								
PRU	**Pruhonice**	**123.63**	**328**	*e*PKPDF	**PKPdf**	**18 36 23.0**	**0.0**		
PRU				*ex*	x	18 55 28.3			
PRU				AMS	AMS	19 29 30.0			
	comp=Z,200nm,19.2s								
FBE	**Freiberg**	**123.68**	**330**	*e*PKPdf	**PKiKP**	**18 36 23.2**	**-0.1**		
	baz=51,slow=1.9								
FLTG	**Flechtingen**	**123.82**	**332**	*e*PKPdf	**PKPdf**	**18 36 23.2**	**-0.1**		
	baz=51,slow=1.9								
FNA	**Florina**	**124.02**	**316**	PKiKP	**PKPdf**	**18 36 23.6**	**-0.5**		
FNA	**Florina**	**124.02**	**316**		**PKPdf**	**18 36 23.6**	**-0.5**		
CONA	**Conrad Observa**	**124.08**	**326**	*i* P	**PKPdf**	**18 36 23.8**	**-0.2**		
	comp=Z,5.5nm,0.7s,SNR=7.6								
PBCC	**Pribram**	**124.09**	**328**	*e*PKPDF	**PKiKP**	**18 36 24.1**	**-0.1**		
ASSE	**Asse, Remlinge**	**124.22**	**332**	*e*PKPdf	**PKiKP**	**18 36 24.1**	**-0.1**		
	baz=51,slow=1.9								
NRDL	**Niedersach Rie**	**124.23**	**333**	*e*PKPdf	**PKiKP**	**18 36 24.4**	**+0.2**		
	baz=51,slow=1.9								
NEUB	**Neuenburg**	**124.28**	**331**	*e*PKPdf	**PKPdf**	**18 36 24.0**	**-0.2**		
	baz=51,slow=1.9								
BIRD	**Birdtown, Kers**	**124.36**	**52**	IAMs_20	IAMs_20	19 24 12.4			
	comp=Z,356nm,20.0s								
CKRC	**Cesky Krumlov**	**124.43**	**327**	*e*PKPDF	**PKiKP**	**18 36 24.8**	**-0.1**		
CKRC				*ex*	x	18 36 37.7			
CKRC				*ex*	x	18 55 48.6			
CKRC				AMS	AMS	19 29 20.0			
	comp=Z,200nm,20.6s								
TANN	**Tannenbergstha**	**124.44**	**330**	*e*PKPdf	**PKPdf**	**18 36 24.5**	**-0.1**		
	baz=51,slow=1.9								
WERD	**Werda**	**124.50**	**330**	*e*PKPdf	**PKPdf**	**18 36 24.6**	**-0.1**		
	baz=51,slow=1.9								
GUNZ	**Gunzen**	**124.54**	**330**	*e*PKPdf	**PKPdf**	**18 36 24.8**	**0.0**		
	baz=51,slow=1.9								
CLZ	**Clausthal**	**124.54**	**332**	*e*PKPdf	**PKiKP**	**18 36 25.0**	**-0.1**		
	baz=51,slow=1.9								
PLN	**Plauen**	**124.55**	**330**	*e*PKPdf	**PKPdf**	**18 36 24.7**	**-0.1**		
	baz=51,slow=1.9								
NKC	**Novy Kostel**	**124.56**	**329**	AMS	AMS	19 36 50.0			
	comp=Z,300nm,18.2s								
WERN	**Wernitzgruen**	**124.56**	**329**	*e*PKPdf	**PKPdf**	**18 36 24.9**	**+0.1**		
	baz=51,slow=1.9								
KHC	**Kasperske Hory**	**124.64**	**328**	*e*PKiKP	**PKiKP**	**18 36 25.3**	**0.0**		
KHC				MLR	MLR				
	comp=Z,300nm,17.4s								
KHC	**Kasperske Hory**	**124.64**	**328**	*e*PKPDF	**PKiKP**	**18 36 25.3**	**0.0**		
KHC				*ep*PKP	**sPKPdf**	**18 36 34.6**	**-1.6**		
KHC				AMS	AMS	19 28 00.0			
	comp=Z,300nm,17.4s								
ARSA	**Arzberg**	**124.64**	**325**	*e*P	**PKPdf**	**18 36 24.4**	**-0.7**		
	comp=Z,8.2nm,1.4s								
MOX	**Moxa**	**124.72**	**330**	*e*PKPdf	**PKPdf**	**18 36 25.0**	**0.0**		
	baz=51,slow=1.9								
MOX				*e*L	L	19 33 09.5			
	comp=Z,162nm,19.3s								
GEC2	**GERESS Array S**	**124.74**	**327**	PKPdf	**PKPdf**	**18 36 24.2**	**-1.1**		
GEC2				IAMs_20	IAMs_20	19 30 45.2			
	comp=Z,270nm,21.0s								
GEC2	**GERESS Array S**	**124.74**	**327**	*e*PKPdf	**PKPdf**	**18 36 25.0**	**-0.3**		
	baz=51,slow=1.9								
GERES	**GERESS Array B**	**124.74**	**327**	PKP	**PKPdf**	**18 36 25.4**	**+0.1**		
	comp=Z,3.3nm,0.6s,baz=70,slow=1.6,SNR=22								
MANZ	**Manzenberg**	**124.88**	**329**	*e*PKPdf	**PKPdf**	**18 36 25.4**	**0.0**		
	baz=51,slow=1.9								
GTTG	**Gottingen**	**124.93**	**332**	*e*PKPdf	**PKiKP**	**18 36 25.6**	**-0.1**		
	baz=51,slow=1.9								
ROTZ	**Rotzenmuhle**	**124.97**	**329**	*e*PKPdf	**PKPdf**	**18 36 25.5**	**-0.1**		
	baz=51,slow=1.9								
WET	**Wettzell**	**125.00**	**328**	*e*PKPdf	**PKPdf**	**18 36 25.7**	**0.0**		
	baz=51,slow=1.9								
MOA	**Molln**	**125.01**	**326**	*i* P	**PKPdf**	**18 36 25.2**	**-0.6**		
	comp=Z,8.1nm,1.6s								
SOKA	**Soboth**	**125.24**	**325**	*e*P	**PKPdf**	**18 36 25.8**	**-0.5**		
	comp=Z,14nm,1.5s,SNR=7.7								
GCIS	**Gornji Cirnik**	**125.33**	**324**	*e*PKPdf	**PKPdf**	**18 36 26.2**	**-0.2**		
SDMD	**Soldier's Deli**	**125.36**	**45**	IAMs_20	IAMs_20	19 26 56.1			
	comp=Z,236nm,21.0s								
UBBA	**Unterbreizbach**	**125.39**	**331**	*e*PKPdf	**PKiKP**	**18 36 26.4**	**-0.1**		
	baz=51,slow=1.9								
SRBA	**San Rafael, Bu**	**125.40**	**83**	IAMs_20	IAMs_20	19 25 13.6			
	comp=Z,200nm,20.0s								
IBBN	**Ibbenburen**	**125.42**	**334**	*e*PKPdf	**PKPdf**	**18 36 26.5**	**+0.2**		
	baz=51,slow=1.9								
LEGS	**Legarje**	**125.47**	**324**	*e*PKPdf	**PKPdf**	**18 36 26.2**	**-0.4**		
GRA1	**Grafenberg Arr**	**125.52**	**329**	IAMs_20	IAMs_20	19 40 32.5			
	comp=Z,273nm,18.0s								
GRF	**Grafenberg Arr**	**125.52**	**329**	*e*PKPdf	**PKPdf**	**18 36 26.6**	**0.0**		
	baz=51,slow=1.9								
GRF				*e*L	L	19 31 32.6			
	comp=Z,221nm,19.6s								
GRFO	**Grafenberg**	**125.52**	**329**	IAMs_20	IAMs_20	19 31 31.5			
	comp=Z,266nm,19.0s								
BOJS	**Bojanci**	**125.75**	**323**	*e*PKPdf	**PKPdf**	**18 36 25.9**	**-1.3**		
TRQA	**Tornquist**	**125.87**	**147**	PKiKP	**PKPdf**	**18 36 27.0**	**-0.7**		
TRQA	**Tornquist**	**125.87**	**147**		**PKPdf**	**18 36 27.0**	**-0.7**		
KASTN	**Kahler Asten**	**125.88**	**332**	*e*PKPdf	**PKPdf**	**18 36 27.4**	**+0.1**		
	baz=51,slow=1.9								
RJOB	**Jochberg**	**125.89**	**327**	*e*PKPdf	**PKPdf**	**18 36 26.7**	**-0.7**		
	baz=51,slow=1.9								
MYKA	**Terra Mystica**	**126.06**	**325**	*e*P	**PKiKP**	**18 36 28.2**	**0.0**		
	comp=Z,4.2nm,0.9s								
BUG	**Bochum--Univer**	**126.24**	**333**	*e*PKPdf	**PKPdf**	**18 36 28.0**	**+0.1**		
	baz=51,slow=1.9								
MILB	**Miltenberg**	**126.39**	**331**	*e*PKPdf	**PKPdf**	**18 36 28.2**	**-0.1**		
	baz=51,slow=1.9								
FUR	**Furstenfeldbru**	**126.44**	**328**	*e*PKPdf	**PKPdf**	**18 36 28.3**	**-0.1**		
	baz=51,slow=1.9								
TNS	**Taunus Mts**	**126.53**	**331**	*e*PKPdf	**PKPdf**	**18 36 28.6**	**0.0**		
	baz=51,slow=1.9								
ABTA	**Abfaltersbach**	**126.62**	**326**	*i* P	**PKPdf**	**18 36 27.7**	**-1.3**		
	comp=Z,20nm,1.7s,SNR=7.7								
WATA	**Walderalm**	**126.79**	**327**	*i* P	**PKPdf**	**18 36 28.9**	**-0.4**		
	comp=Z,18nm,1.3s								
STAL	**STALIGIAL**	**126.80**	**325**	IAMs_20	IAMs_20	19 31 37.8			
	comp=Z,289nm,22.0s								
WTTA	**Wattenberg**	**126.80**	**327**	*i* P	**PKPdf**	**18 36 29.3**	**-0.1**		
	comp=Z,34nm,1.6s,SNR=10								
AHRW	**Bad Neuenahr-A**	**126.95**	**332**	*e*PKPdf	**PKPdf**	**18 36 29.5**	**+0.2**		
	baz=51,slow=1.9								
MOTA	**Moosalm**	**127.04**	**327**	*i* P	**PKPdf**	**18 36 29.1**	**-0.7**		
	comp=Z,28nm,1.5s,SNR=9.6								
SQTA	**Sankt Quirin**	**127.06**	**327**	*e*P	**PKPdf**	**18 36 29.6**	**-0.2**		
	comp=Z,23nm,1.5s,SNR=7.5								
STU	**Stuttgart**	**127.13**	**330**	IAMs_20	IAMs_20	19 41 21.1			
	comp=Z,248nm,18.0s								
STU	**Stuttgart**	**127.13**	**330**	*e*PKPdf	**PKPdf**	**18 36 29.6**	**-0.2**		
	baz=51,slow=1.9								
RETA	**Reutte**	**127.13**	**328**	*i* P	**PKPdf**	**18 36 29.5**	**-0.4**		
	comp=Z,7.0nm,1.2s								
BTNL	**Ternell**	**127.35**	**333**	*d*PKiKP	**PKiKP**	**18 36 30.6**	**-0.1**		
UBR	**Ueberruh**	**127.36**	**328**	*e*PKPdf	**PKPdf**	**18 36 29.8**	**-0.5**		
	baz=51,slow=1.9								
MEM	**Membach**	**127.39**	**333**	*d*PKiKP	**PKPdf**	**18 36 30.2**	**+0.1**		
FETA	**Feichten**	**127.44**	**327**	*i* P	**PKPdf**	**18 36 30.5**	**-0.1**		
	comp=Z,21nm,1.4s,SNR=8.9								
CTI	**Castel Tesino**	**127.52**	**326**	IAMs_20	IAMs_20	19 30 59.8			
	comp=Z,250nm,20.0s								
BHOU	**Houvegnez**	**127.57**	**333**	*d*PKiKP	**PKiKP**	**18 36 31.6**	**+0.4**		
BSTI	**Sart Tilman**	**127.61**	**333**	*d*PKiKP	**PKiKP**	**18 36 31.3**	**+0.1**		
DAVA	**Damuels**	**127.73**	**328**	*i* P	**PKPdf**	**18 36 31.0**	**-0.1**		
	comp=Z,6.8nm,0.9s								
BCLA	**Clavier**	**127.84**	**333**	*d*PKiKP	**PKPdf**	**18 36 31.1**	**+0.1**		
BFO	**Black Forest**	**127.85**	**330**	PKiKP	**PKPdf**	**18 36 29.7**	**-1.5**		
BFO				MLR	MLR				
	comp=Z,300nm,18.0s								
BFO	**Black Forest**	**127.85**	**330**		**PKPdf**	**18 36 29.7**	**-1.5**		
BFO				IAMs_20	IAMs_20	19 41 33.2			
	comp=Z,270nm,18.0s								
BFO	**Black Forest**	**127.85**	**330**	*e*PKPdf	**PKPdf**	**18 36 30.8**	**-0.4**		
	baz=51,slow=1.9								
TIP	**Timpagrande**	**127.91**	**316**	⇓P	**PKPdf**	**18 36 31.5**	**-0.1**		
BGES	**Gesves**	**127.96**	**333**	*d*PKiKP	**PKiKP**	**18 36 31.8**	**-0.1**		
WLF	**Walferdange**	**127.99**	**332**	*d*PKiKP	**PKiKP**	**18 36 31.8**	**-0.1**		
WLF	**Walferdange**	**127.99**	**332**	PKiKP	**PKiKP**	**18 36 31.8**	**-0.1**		
WLF	**Walferdange**	**127.99**	**332**	PKPdf	**PKiKP**	**18 36 31.8**	**-0.1**		
WLF	**Walferdange**	**127.99**	**332**	*e*PKPdf	**PKiKP**	**18 36 32.1**	**+0.1**		
	baz=51,slow=1.9								
BMRD	**Maredsous**	**128.16**	**334**	*d*PKiKP	**PKiKP**	**18 36 32.2**	**-0.1**		
SNF	**Seneffe**	**128.23**	**334**	*d*PKiKP	**PKiKP**	**18 36 32.7**	**+0.3**		
DOU	**Dourbes**	**128.39**	**334**	*d*PKiKP	**PKiKP**	**18 36 32.6**	**-0.1**		
VLC	**Villacollemand**	**129.36**	**324**	IAMs_20	IAMs_20	19 31 02.7			
	comp=Z,202nm,21.0s								
SENIN	**Lac Senin/Sane**	**129.68**	**328**	PKPdf	**PKPdf**	**18 36 34.1**	**-0.8**		
CLTB	**Caltabellotta**	**131.12**	**316**	IAMs_20	IAMs_20	19 18 38.2			
	comp=Z,288nm,20.0s								
POPC	**Popayan, Colom**	**131.63**	**92**	*e*P	**PKPdf**	**18 36 37.2**	**-2.4**		
SOTA	**Rioblanco**	**131.65**	**93**	*e*P	PKPpre	18 36 28.6			
YOTC	**Yotoco, Valle**	**132.10**	**90**	*e*P	**PKPdf**	**18 36 39.1**	**-1.2**		
UREC	**San Jos de Ur**	**133.11**	**85**	*e*P	PKPpre	18 36 32.5			
GUY2C	**Guyana, Caldas**	**133.16**	**89**	*e*P	**PKPdf**	**18 36 43.0**	**+0.2**		
ORTC	**Ortega, Tolima**	**133.18**	**91**	*e*P	**PKiKP**	**18 36 43.0**	**-0.5**		
PTLC	**Puerto Leguiza**	**133.20**	**96**	*e*P	**PKPdf**	**18 36 41.0**	**-1.2**		
ZARC	**Zaragoza, Cauc**	**133.77**	**86**	*e*P	**PKPdf**	**18 36 43.0**	**-0.4**		
PTBC	**PUERTO BERRIO**	**134.14**	**87**	*e*P	**PKPdf**	**18 36 41.0**	**-3.0**		
ROSC	**El Rosal**	**134.18**	**89**	PKP	**PKiKP**	**18 36 45.5**	**-0.5**		
	comp=Z,14nm,0.5s,baz=181,slow=21,SNR=4.4								
ROSC	**El Rosal**	**134.18**	**89**	IAMs_20	IAMs_20	19 40 56.3			
	comp=Z,287nm,20.0s								
SMRC	**Santa Marta, M**	**134.38**	**81**	*e*P	**PKiKP**	**18 36 45.8**	**0.0**		
SPBC	**San Pablo de B**	**134.47**	**88**	*e*P	**PKPdf**	**18 36 41.0**	**-3.7**		
LPAZ	**La Paz**	**134.64**	**120**	PKhKP	PKPpre	18 36 35.3			
	comp=Z,0.9nm,0.5s,baz=194,slow=1.1,SNR=3.7								
LPAZ				PKP	**PKPdf**	**18 36 45.8**	**+0.1**		
	comp=Z,4.0nm,0.8s,baz=306,slow=4.6,SNR=6.3								
LPAZ	**La Paz**	**134.64**	**120**	PKHKP	PKPpre	18 36 33.7			
LPAZ						18 36 46.5			
LPAZ	**La Paz**	**134.64**	**120**		PKPpre	18 36 33.7			
LPAZ				PKPdf	**PKiKP**	**18 36 46.5**	**-0.6**		
OCAC	**Ocana**	**135.31**	**85**	*e*P	**PKiKP**	**18 36 48.7**	**+0.8**		
RUSC	**La Rusia**	**135.47**	**88**	*e*P	**PKPdf**	**18 36 45.8**	**-1.3**		
SDDR	**Presa de Saban**	**136.32**	**69**	IAMs_20	IAMs_20	19 41 47.2			
	comp=Z,363nm,19.0s								
SDDR	**Presa de Saban**	**136.32**	**69**	*e*P	**PKPdf**	**18 36 46.8**	**-1.2**		
URIC	**Uribia, Colomb**	**136.54**	**80**	*e*P	**PKPdf**	**18 36 48.7**	**+0.2**		
CPUP	**Villa Florida**	**137.04**	**140**	PKP	**PKPdf**	**18 36 50.0**	**+0.9**		
	comp=Z,5.5nm,0.9s,baz=274,slow=1.2,SNR=6.4								
CPUP	**Villa Florida**	**137.04**	**140**	PKiKP	**PKPdf**	**18 36 47.3**	**-1.8**		
CPUP	**Villa Florida**	**137.04**	**140**	PKPdf	**PKPdf**	**18 36 47.3**	**-1.8**		
SDV	**Santo Domingo**	**137.97**	**84**	PKPdf	**PKPdf**	**18 36 51.6**	**+0.2**		
SDV	**Santo Domingo**	**137.97**	**84**	*e*P	**PKPdf**	**18 36 49.6**	**-1.7**		
CART	**Cartagena**	**140.17**	**325**	IAMs_20	IAMs_20	19 26 34.8			
	comp=Z,166nm,20.0s								
ES08	**SONSECA Array**	**140.18**	**330**	IAMs_20	IAMs_20	19 52 35.4			
	comp=Z,213nm,20.0s								
ES02	**SONSECA Array**	**140.19**	**330**	IAMs_20	IAMs_20	19 42 01.8			
	comp=Z,231nm,21.0s								
ES17	**SONSECA Array**	**140.19**	**330**	IAMs_20	IAMs_20	19 41 51.8			
	comp=Z,217nm,20.0s								
ESDC	**Sonseca Array**	**140.21**	**330**	PKhKP	PKPpre	18 36 46.5			
	comp=Z,1.1nm,1.0s,baz=17,slow=3.3,SNR=8.3								
ESDC				PP	**PP**	**18 39 53.2**	**+1.7**		
	comp=Z,1.0nm,0.8s,baz=23,slow=7.2,SNR=7.1								
ESDC	**Sonseca Array**	**140.21**	**330**		PKPpre	18 36 44.6			
ESDC				PKPdf	**PKPdf**	**18 36 54.2**	**-0.4**		
POLO	**Lamas de Olo**	**140.58**	**335**	*e*PKP	**PKPdf**	**18 36 55.4**	**+0.1**		
MTE	**Manteigas**	**141.29**	**334**	*e*PKP	**PKiKP**	**18 36 58.3**	**-1.0**		
PDPR	**Patillas Dam,**	**141.41**	**69**	PKPdf	**PKPdf**	**18 36 56.3**	**-0.9**		
PCAS	**Casmilo, Conde**	**141.98**	**335**	*e*PKP	**PKPdf**	**18 36 58.6**	**+0.9**		
PMRV	**Marv??o**	**142.02**	**333**	*e*PKP	**PKPdf**	**18 36 53.4**	**-4.4**		
SAML	**Samuel**	**142.06**	**113**	IAMs_20	IAMs_20	19 50 55.9			
	comp=Z,259nm,22.0s								
SAML	**Samuel**	**142.06**	**113**

KSH	comp=N,150nm,0.4s				smax	smax			
KSH	comp=E,160nm,0.7s				smax	smax			
DZA	**Taraz** comp=E,72nm,0.2s	**3.61**	**357**	*eP*	**Pb**		**18 22 43.2**	**-2.4**
DZA	comp=E,430nm,0.6s			*eS*	**Sb**		**18 23 27.8**	**-1.6**
MRKS	**Merke** comp=E,29nm,0.5s	**3.68**	**19**	*eP*	**Pb**		**18 22 47.8**	**+1.0**
MRKS	comp=E,45nm,0.6s			*eS*	**Sg**		**18 23 36.7**	**-3.1**
UCH	**Uchtor** baz=36	**3.70**	**36**	⇓*iP*	**Pn**		**18 22 41.5**	**+2.3**
UCH	baz=36			⇓*iS*	**Sn**		**18 23 27.0**	**+3.9**
UCH	**Uchtor** SNR=48	**3.70**	**36**	P	**Pb**		**18 22 43.7**	**-3.5**
EKS2	**Erkin-Say** baz=26	**3.77**	**26**	⇑*eP*	**Pn**		**18 22 42.4**	**+2.5**
EKS2	baz=26			⇑*iS*	**Sn**		**18 23 28.8**	**+4.4**
EKS2	**Erkin-Say** SNR=30	**3.77**	**26**	P	**Pb**		**18 22 44.6**	**-3.7**
KK31	**Karatay Array** comp=E,9.4nm,0.3s,baz=173,slow=12,SNR=399	**3.90**	**349**	⇓Pn	Pb		18 22 45.0	-5.5
KK31	comp=E,45nm,0.6s,baz=159,slow=22,SNR=3.8			⇑Sn	**Sb**		**18 23 32.9**	**-4.9**
KK31	comp=E,79nm,0.6s,baz=174,slow=30,SNR=5.7			⇑Lg	Lg		18 23 48.2	
KZA	**Kyzart** baz=43	**3.96**	**44**	⇑*iP*	**Pn**		**18 22 45.1**	**+2.4**
KZA	baz=43			⇑*iS*	**Sn**		**18 23 33.4**	**+4.0**
KZA	**Kyzart** SNR=34	**3.96**	**44**	P	**Pb**		**18 22 48.0**	**-3.6**
AAK	**Ala-Archa** comp=E,21nm,0.3s,baz=197,slow=5.8,SNR=114	**4.02**	**33**	Pn	**Pb**		**18 22 48.3**	**-4.3**
AAK	comp=E,3.1nm,0.3s,baz=185,slow=7.5,SNR=3.9			Sn	**Sn**		**18 23 36.3**	**+5.7**
AAK	**Ala-Archa** baz=32	**4.02**	**33**	⇑*iP*	**Pn**		**18 22 46.0**	**+2.7**
AAK	baz=32			⇑*iS*	**Sn**		**18 23 34.4**	**+3.8**
AAK	**Ala-Archa** SNR=20	**4.02**	**33**	P	**Pb**		**18 22 48.7**	**-3.9**
AAK	**Ala-Archa** comp=E,24nm,0.3s	**4.02**	**33**	⇑Pn	**Pb**		**18 22 48.1**	**-4.5**
AAK	comp=E,79nm,0.8s			⇑Sn	**Sb**		**18 23 40.6**	**-0.7**
FRU1	**Bishkek** baz=32	**4.22**	**32**	⇑*iP*	**Pn**		**18 22 48.9**	**+2.9**
FRU1	baz=32			⇑*iS*	**Sn**		**18 23 39.6**	**+4.2**
KBK	**Karagaybulak** baz=36	**4.24**	**36**	⇑*iP*	**Pn**		**18 22 49.1**	**+2.8**
KBK	baz=36			⇑*iS*	**Sn**		**18 23 39.6**	**+3.7**
KBK	**Karagaybulak** SNR=37	**4.24**	**36**	P	**Pb**		**18 22 51.8**	**-4.5**
CHMS	**Chumysh** baz=32	**4.43**	**32**	⇑*iP*	**Pn**		**18 22 51.6**	**+2.8**
CHMS	baz=32			⇑*iS*	**Sn**		**18 23 44.2**	**+3.8**
CHMS	**Chumysh** SNR=24	**4.43**	**32**	P	Pb		18 22 53.6	-5.8
USP	**Ospenovka** baz=28	**4.56**	**28**	⇑*iP*	**Pn**		**18 22 53.3**	**+2.7**
USP	baz=28			⇑*iS*	**Sn**		**18 23 47.5**	**+3.9**
USP	**Ospenovka** SNR=20	**4.56**	**28**	P	Pn		18 22 55.1	+4.5
BOOM	**Boomskoye usch** baz=44	**4.61**	**45**	⇓*iP*	**Pn**		**18 22 54.2**	**+2.7**
BOOM	baz=44			⇓*iS*	**Sn**		**18 23 48.8**	**+3.6**
ULHL	**Ulahol** baz=48	**4.62**	**49**	⇓*iP*	**Pn**		**18 22 54.4**	**+2.7**
ULHL	baz=48			⇓*iS*	**Sn**		**18 23 48.9**	**+3.4**
ULHL	**Ulahol** SNR=10	**4.62**	**49**	P	Pn		18 22 55.5	+3.9
TKM2	**Tokmak 2** baz=38	**4.74**	**39**	⇑*iP*	**Pn**		**18 22 55.9**	**+2.6**
TKM2	baz=38			⇑*iS*	**Sn**		**18 23 52.0**	**+3.5**
TKM2	**Tokmak 2** SNR=11	**4.74**	**39**	P	Pn		18 22 57.9	+4.6
TKM2	**Tokmak 2** comp=E,19nm,0.6s	**4.74**	**39**	⇓Pn	Pn		18 22 57.7	+4.4
TKM2	comp=E,43nm,0.8s			⇑Lg	Lg		18 24 14.9	
DGS	**Degeres** comp=E,19nm,0.8s	**5.07**	**37**	*eP*	**Pg**		**18 23 15.1**	**-3.5**
DGS	comp=E,31nm,0.7s			*eS*	**Sg**		**18 24 24.6**	**+0.3**
MTBS	**Maitube** comp=E,12nm,1.0s	**5.32**	**42**	*eP*	**Pg**		**18 23 18.7**	**-4.6**
MTBS	comp=E,20nm,0.5s			*eS*	**Sg**		**18 24 31.0**	**-1.2**
KRBS	**Karabastau** comp=E,7.5nm,0.5s	**5.38**	**34**	*eP*	**Pb**		**18 23 18.4**	**+2.6**
KRBS	comp=E,28nm,0.8s			*eS*	**Sg**		**18 24 31.9**	**-2.5**
TNSS	**Tian-Shan** comp=E,5.2nm,0.5s	**5.53**	**46**	*eP*	**Pb**		**18 23 21.9**	**+3.4**
TNSS	comp=E,12nm,0.7s			*eS*	**Sg**		**18 24 36.1**	**-3.0**
MDOK	**Medeo** comp=E,11nm,0.7s	**5.67**	**45**	*eP*	**Pb**		**18 23 24.1**	**+3.4**
MDOK	comp=E,29nm,0.9s			*eS*	**Sg**		**18 24 40.7**	**-2.8**
MDOK	**Medeo** comp=E,16nm,0.8s	**5.67**	**45**	Pn	Pn		18 23 10.4	+4.4
MDOK	comp=E,28nm,0.8s			⇑Lg	Lg		18 24 44.5	
KUU	**Kurty** comp=E,8.4nm,0.8s	**5.83**	**36**	*eP*	**Pb**		**18 23 26.8**	**+3.4**
KUU	comp=E,28nm,0.9s			*eS*	**Sg**		**18 24 44.8**	**-4.0**
CHKK	**Chushkaly** comp=E,2.7nm,0.7s	**6.12**	**40**	*eP*	**Pb**		**18 23 31.4**	**+3.2**
CHKK	comp=E,21nm,0.7s			*eS*	**Sg**		**18 24 51.6**	**-6.2**
PDGK	**Podgornoye** comp=E,7.4nm,1.1s	**7.21**	**53**	⇑Pn	**Pn**		**18 23 30.6**	**+3.6**
PDGK	comp=E,17nm,0.8s			⇑Lg	Lg		18 25 30.5	
MKAR	**Makanchi Array** comp=E,0.1nm,0.3s,baz=244,slow=11,SNR=3.9	**10.86**	**43**	Pn	Pn		18 24 20.9	+4.0
MKAR	comp=E,0.1nm,0.3s,baz=243,slow=29,SNR=2.2			Lg	Lg		18 27 19.7	
KURBB	**Kurchatov Arra** comp=E,0.1nm,0.3s,baz=216,slow=13,SNR=5.3	**12.36**	**21**	Pn	**Pn**		**18 24 37.3**	**-0.2**
KURBB	comp=E,0.0nm,0.3s,baz=228,slow=31,SNR=5.2			Lg	Lg		18 28 10.4	
KURK	**Kurchatov**	**12.47**	**21**	P	**Pn**		**18 24 37.3**	**-1.6**
AB31	**Akbulak array** comp=E,0.8nm,0.3s,baz=135,slow=13,SNR=59	**12.98**	**324**	Pn	**Pn**		**18 24 44.3**	**-1.6**
AB31	comp=E,10nm,0.8s,baz=154,slow=21,SNR=9.6			⇑Sn	**Sn**		**18 27 11.8**	**+1.5**
BVAR	**Borovoye Array** comp=E,0.6nm,0.3s,baz=168,slow=13,SNR=9.2	**13.77**	**357**	Pn	**Pn**		**18 24 57.4**	**+0.7**
BVAR	comp=E,0.2nm,0.3s,baz=176,slow=27,SNR=6.3			Sn	**Sn**		**18 27 27.5**	**-2.2**
BVAR	comp=E,0.2nm,0.3s,baz=163,slow=26,SNR=4.4			Lg	Lg		18 28 57.2	
BRVK	**Borovoye**	**13.81**	**357**	*i* P	**Pn**		**18 24 59.1**	**+1.9**
AKTO	**Aktyubinsk** comp=E,0.5nm,0.3s,baz=110,slow=12,SNR=5.8	**14.69**	**324**	Pn	**Pn**		**18 25 07.5**	**-1.9**
AKTO	comp=E,0.4nm,0.3s,baz=19,slow=23,SNR=3.8			Sn	**Sn**		**18 27 50.0**	**-2.2**
AKTO	**Aktyubinsk** comp=E,8.0nm,1.1s	**14.69**	**324**	⇑Pn	**Pn**		**18 25 08.9**	**-0.4**
AKTO	comp=E,6.7nm,0.7s			⇓Sn	**Sn**		**18 27 56.2**	**+4.0**
DGZ	**Jazzator, Alta** comp=E,6.0nm,1.6s	**15.35**	**42**	*i* P	**P**		**18 25 20.1**	**-3.0**
DGZ				pmax	pmax			
ZALV	**Zalesovo Beam** comp=E,0.2nm,0.3s,baz=205,slow=11,SNR=5.5	**17.22**	**27**	P	**P**		**18 25 44.4**	**+0.8**
ZALV	**Zalesovo Beam**	**17.22**	**27**	*eP*	**P**		**18 25 45.2**	**+1.6**
ARU	**Arti** comp=Z,10.0nm,1.9s	**19.19**	**338**	*iP*	**Pn**		**18 26 05.4**	**-0.7**
ARU				pmax	pmax			
NCK	**Nalchik** comp=Z,7.0nm,0.4s	**21.36**	**290**	*i* P	**P**		**18 26 29.0**	**+0.1**
NCK				pmax	pmax			

GTA	**Gaotai**	**21.82**	**81**	*eP*	**P**		**18 26 35.3**	**+1.3**
GTA				pP	sP		18 26 42.0	+2.7
GTA				sP	pP		18 26 44.8	+7.2
GTA	comp=Z,3.0nm,1.2s			pmax	pmax			
KBZ	**Khabaz**	**21.87**	**291**	*i* P	**P**		**18 26 34.0**	**-0.4**
KBZ	comp=Z,3.0nm,0.9s			pmax	pmax			
KIV	**Kislovodsk**	**22.03**	**292**	*eP*	**P**		**18 26 38.4**	**+2.2**
KIV	comp=Z,7.0nm,1.0s			pmax	pmax			
KIV	comp=Z,25nm,14.0s			MLR	MLR			
OBN	**Obninsk**	**28.19**	**316**	*eP*	**P**		**18 27 34.4**	**+0.4**
OBN	comp=Z,4.0nm,1.0s			pmax	pmax			
BRTR	**Keskin Array B** comp=Z,0.3nm,0.7s,baz=101,slow=6.4,SNR=3.6	**29.13**	**283**	P	**P**		**18 27 42.9**	**+0.1**
CHTO	**Chiang Mai** comp=Z,20nm,1.4s	**31.24**	**123**	P	P		18 28 09.6	+8.2
CMMT	**Chiang Mai** comp=Z,20nm,1.4s	**31.25**	**123**	P	P		18 28 09.4	+7.9
NRIK	**Noril'sk**	**31.32**	**11**	*i* P	**P**		**18 28 01.9**	**+0.3**
NRIK	comp=Z,2.0nm,1.1s			pmax	pmax			
CM13	**Chiang Mai Arr**	**31.50**	**123**	P	P		18 28 11.0	+7.3
HIA	**Hailar**	**35.37**	**57**	*i* P	**P**		**18 28 38.4**	**+1.3**
HIA	comp=Z,5.0nm,1.0s			pmax	pmax			
FINES	**FINESS Array B** comp=Z,0.8nm,0.7s,baz=120,slow=7.5,SNR=6.7	**35.47**	**324**	P	**P**		**18 28 38.0**	**+0.2**
FINES	**FINESS Array B**	**35.47**	**324**	P	**P**		**18 28 38.0**	**+0.2**
ARCES	**ARCESS Array B** comp=Z,1.8nm,0.8s,baz=112,slow=8.0,SNR=5.3	**38.77**	**336**	P	**P**		**18 29 06.6**	**+0.8**
ARCES	**ARCESS Array B**	**38.77**	**336**	*eP*	**P**		**18 29 08.1**	**+2.3**
ARCES	comp=Z,2.0nm,0.8s			pmax	pmax			
GERES	**GERESS Array B** comp=Z,0.3nm,0.5s,baz=85,slow=11,SNR=1.9	**41.74**	**303**	P	**P**		**18 29 30.6**	**-0.2**
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.5s,baz=48,slow=4.9,SNR=5.6	**66.25**	**268**	P	**P**		**18 32 27.9**	**-2.2**

MEX 26 18:21:49.8±1.4, 15°.84N×98°.31W, h10km, MD3.6, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.57**	**18**	*i* P	Pg		18 21 59.0	-2.0
PNIG				*i* S	Sg		18 22 07.0	-1.5
YOIG	**Yosondua**	**1.25**	**36**	*eP*	Pn		18 22 10.2	-3.4
YOIG				*eS*	Sb		18 22 28.7	-1.1
MGIG	**Malinaltepec**	**1.42**	**347**	*eP*	Pn		18 22 10.5	-5.3
MGIG				*eS*	Sn		18 22 30.0	-4.7
TXIG	**Tlaxiaco**	**1.50**	**20**	*eP*	Pn		18 22 13.8	-3.2
TXIG				*eS*	Sn		18 22 32.4	-4.4
HLIG	**Huajuapan de L**	**2.03**	**14**	*eP*	Pn		18 22 23.3	-1.0
HLIG				*eS*	Sn		18 22 47.0	-2.9
FTIG	**Fresnillo de T**	**2.06**	**5**	*eP*	Pn		18 22 21.5	-3.1
FTIG				*eS*	Sn		18 22 48.9	-1.6

MEX 26 18:31:35.8±1.0, 16°.37N×98°.57W, h8km±10km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.43**	**87**	*i* P	Pg		18 31 43.6	-0.6
PNIG				*i* S	Sg		18 31 49.5	-0.4
MGIG	**Malinaltepec**	**0.86**	**356**	*i* P	Pg		18 31 49.1	-3.3
MGIG				*i* S	Sg		18 31 59.1	-4.5
YOIG	**Yosondua**	**1.10**	**64**	*eP*	Pg		18 31 54.1	-2.8
YOIG				*eS*	Sg		18 32 07.8	-3.4
TXIG	**Tlaxiaco**	**1.17**	**41**	*eP*	Pg		18 31 54.9	-3.4
TXIG				*eS*	Sg		18 32 09.7	-3.8
TLIG	**Tlapa**	**1.19**	**0**	*eP*	Pg		18 31 54.5	-4.0
TLIG				*eS*	Sg		18 32 08.5	-5.5
DAIG	**Los Arroyos**	**1.22**	**302**	*eP*	Pb		18 31 55.2	-3.9
DAIG				*eS*	Sb		18 32 10.4	-4.6
FTIG	**Fresnillo de T**	**1.58**	**15**	*eP*	Pn		18 32 01.1	-3.2
FTIG				*eS*	Sn		18 32 20.3	-4.8
HLIG	**Huajuapan de L**	**1.63**	**27**	*eP*	Pn		18 32 01.7	-3.2
HLIG				*eS*	Sn		18 32 21.3	-4.9
MEIG	**Mezcala**	**1.84**	**327**	*eP*	Pn		18 32 05.8	-2.0
MEIG				*eS*	Sn		18 32 28.1	-3.2

MEX 26 18:33:31.0±0.5, 17°.23N×100°.49W, h28km±33km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DAIG	**Los Arroyos**	**0.83**	**105**	*eP*	Pn		18 33 44.1	-2.8
DAIG				*eS*	Sb		18 33 54.9	-2.8
ARIG	**Puente Sto Nin**	**1.05**	**7**	*eP*	Pn		18 33 47.5	-2.4
ARIG				*eS*	Sn		18 34 00.4	-3.3
MEIG	**Mezcala**	**1.08**	**50**	*eP*	Pn		18 33 47.7	-2.6
MEIG				*eS*	Sn		18 34 00.6	-3.8
PLIG	**Platanillo**	**1.49**	**39**	*eP*	Pn		18 33 53.7	-2.2
PLIG				*eS*	Sn		18 34 14.0	-0.5
MGIG	**Malinaltepec**	**1.77**	**90**	*eP*	Pn		18 33 59.9	-0.1
MGIG				*eS*	Sn		18 34 19.1	-2.6

NEIC ***26*** *18:39:38.4±1.9, 19°.74S×0°.05×68°.68W±0°.09, h126km±4km, mb4.1/9, ML4.1(GUC), Error ellipse: s-maj=12.1km s-min=7.3km az=83.0*

GUC ***26*** *18:39:39.7±0.6, 19°.79S×68°.74W, h128km±4km, ML3.9*

IDC ***26*** *18:39:42.0±2.4, 19°.68S×68°.57W, h166km±27km, mb3.6/3, mb1 3.5/5, mb1mx3.2/28, mbtmp4.0/5, MS4.0/2, Ms1 4.0/2, ms1mx3.1/32, Error ellipse: s-maj=54.0km s-min=24.0km az=108.0*

ISC 26 18:39:39.2±0.7, 19°.81S±0°.04×68°.84W±0°.08, h135km±7km, n51, σ1°.902/62, mb4.1/4, 5C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.45**	**222**	⇑*iP*	**Pn**		**18 39 58.7**	**-0.3**
PB08				*eS*	**Sn**		**18 40 13.7**	**-0.3**
PB08	**IPOC Station P**	**0.45**	**222**		**Pn**		**18 39 57.9**	**-1.0**
PB08				Sn	**Sn**		**18 40 13.8**	**-0.1**
PB11	**IPOC Station P**	**0.77**	**273**	⇑*iP*	**Pn**		**18 40 00.5**	**-0.2**
PB11				*eS*	**Sn**		**18 40 17.3**	**+0.2**
PB11	comp=E,3μm,0.2s			IAML			18 40 17.9	
PB11	**IPOC Station P**	**0.77**	**273**		**Pn**		**18 40 00.5**	**-0.2**
PB11				Sn	**Sn**		**18 40 17.2**	**+0.1**
HMBC	**Humberstone**	**1.09**	**245**	⇑*iP*	**Pn**		**18 40 03.4**	**-0.1**
HMBC				*eS*	**Sn**		**18 40 21.9**	**-0.1**
HMBC	comp=N,2μm,0.4s			IAML			18 40 26.0	
PSGC	**Pisagua**	**1.23**	**280**	⇑*iP*	**Pn**		**18 40 04.8**	**-0.1**
PSGC				*eS*	**Sn**		**18 40 24.0**	**-0.3**
PSGC	comp=N,1μm,0.3s			IAML			18 40 25.4	
PSGCX	**Pisagua**	**1.23**	**280**		**Pn**		**18 40 04.1**	**-0.7**
PSGCX				Sn	**Sn**		**18 40 24.1**	**-0.2**
TA02	**Huaiquique**	**1.30**	**249**	*eP*	**Pn**		**18 40 05.7**	**+0.3**
TA02	**Huaiquique**	**1.30**	**249**		**Pn**		**18 40 05.4**	**0.0**
PB01	**IPOC Station P**	**1.37**	**206**	⇑*iP*	**Pn**		**18 40 06.4**	**+0.1**
PB01				*eS*	**Sn**		**18 40 26.9**	**-0.1**
PB01	comp=E,2μm,0.3s			IAML			18 40 28.4	
PB01	**IPOC Station P**	**1.37**	**206**		**Pn**		**18 40 06.3**	**0.0**
PB01				Sn	**Sn**		**18 40 27.0**	**0.0**
TA01	**Diego Aracena**	**1.47**	**239**	*i* P	**Pn**		**18 40 07.1**	**-0.2**
TA01	**Diego Aracena**	**1.47**	**239**		**Pn**		**18 40 07.3**	**0.0**
TA01				Sn	**Sn**		**18 40 28.3**	**-0.4**
PB02	**IPOC Station P**	**1.80**	**213**	*i* P	**Pn**		**18 40 11.6**	**+0.4**
PB02				*eS*	**Sn**		**18 40 35.7**	**+0.1**
PB02	comp=E,1μm,0.2s			IAML			18 40 38.9	
PB09	**IPOC Station P**	**2.02**	**191**	*eP*	**Pn**		**18 40 14.3**	**+0.5**
PB09	**IPOC Station P**	**2.02**	**191**		**Pn**		**18 40 14.4**	**+0.7**
PB09				Sn	**Sn**		**18 40 40.7**	**+0.4**
AP01	**Chacalluta**	**2.02**	**315**	Pn	**Pn**		**18 40 13.1**	**-0.5**
AP01				Sn	**Sn**		**18 40 39.6**	**-0.4**
PB07	**IPOC Station P**	**2.15**	**207**	*eP*	**Pn**		**18 40 15.2**	**-0.2**
PB07	comp=E,542nm,0.2s			IAML			18 40 51.8	
PB07	**IPOC Station P**	**2.15**	**207**		**Pn**		**18 40 15.4**	**0.0**
PB07				Sn	**Sn**		**18 40 42.0**	**-1.1**
LVC	**Limon Verde**	**2.79**	**181**		**Pn**		**18 40 24.3**	**+0.8**

LVC				Sn	**Sn**		**18 40 57.6**	**-0.2**
PB04	**IPOC Station P**	**2.80**	**206**	*eP*	**Pn**		**18 40 23.9**	**+0.4**
PB04	comp=E,255nm,0.2s			IAML			18 41 06.8	
PB04	**IPOC Station P**	**2.80**	**206**		**Pn**		**18 40 23.9**	**+0.4**
PB06	**IPOC Station P**	**2.96**	**193**	*eP*	**Pn**		**18 40 26.1**	**+0.5**
PB06	comp=E,192nm,0.2s			IAML			18 41 07.3	
PB06	**IPOC Station P**	**2.96**	**193**		**Pn**		**18 40 26.2**	**+0.6**
PB05	**IPOC Station P** comp=E,154nm,0.7s	**3.29**	**203**	IAML			18 41 20.5	
PB15	**IPOC Station P**	**3.44**	**190**		**Pn**		**18 40 32.5**	**+0.7**
LPAZ	**La Paz** comp=E,4.5nm,0.3s,baz=225,slow=1.1,SNR=106	**3.56**	**11**	P	**Pn**		**18 40 35.3**	**+1.4**
LPAZ	comp=E,0.8nm,0.3s,baz=282,slow=24,SNR=1.7			S	**Sn**		**18 41 17.8**	**+1.6**
LPAZ	**La Paz**	**3.56**	**11**		**Pn**		**18 40 34.7**	**+0.7**
PB10	**IPOC Station P**	**4.02**	**203**	Pn	**Pn**		**18 40 38.4**	**-0.9**
PB14	**IPOC Station P**	**5.01**	**197**		**Pn**		**18 40 52.0**	**-0.7**
AC02	**Maricunga**	**7.00**	**182**	Pn	**Pn**		**18 41 17.8**	**-1.8**
GO03	**Copiap**	**7.86**	**189**	Pn	**Pn**		**18 41 29.0**	**-1.7**
GO04	**Tololo Observa**	**10.47**	**189**		**Pn**		**18 42 06.8**	**+0.8**
MT09	**Talagante**	**14.04**	**187**	Pn	**Pn**		**18 42 53.9**	**+1.5**
MT01	**Popeta**	**14.16**	**188**	P	**P**		**18 42 59.1**	**+2.0**
BO01	**Tunca**	**14.66**	**187**	P	**P**		**18 43 04.8**	**+2.1**
TRQA	**Tornquist**	**19.14**	**163**	P	**Pn**		**18 43 54.1**	**-0.1**
BDFB	**Brasilia** comp=E,0.5nm,0.3s,baz=217,slow=7.6,SNR=3.7	**20.26**	**82**	P	**P**		**18 44 01.9**	**-2.3**
BDFB	**Brasilia** comp=Z,21nm,1.5s	**20.26**	**82**	IAmb	IAmb		18 44 25.5	
PLCA	**Paso Flores** comp=Z,0.9nm,0.7s,baz=19,slow=18,SNR=2.9	**20.91**	**184**	P	**P**		**18 44 13.2**	**+2.2**
PLCA	**Paso Flores** comp=Z,12nm,1.5s	**20.91**	**184**	IAmb	IAmb		18 44 46.4	
RUSC	**La Rusia**	**25.88**	**350**	P	**P**		**18 44 59.3**	**+0.2**
RUSC	comp=Z,6.1nm,0.8s			IAmb	IAmb		18 45 02.3	
SJCC	**San Jacinto, C**	**30.17**	**347**	P	**P**		**18 45 36.5**	**-0.3**
RPN	**Rapa Nui** comp=Z,92nm,19.1s,baz=3.5,slow=29	**37.73**	**251**	LR	LR		18 58 15.5	
DBIC	**Dimbokro** comp=Z,2.5nm,0.4s,baz=244,slow=9.0,SNR=8.6	**68.20**	**74**	P	**P**		**18 50 23.7**	**-1.9**
DBIC	**Dimbokro**	**68.20**	**74**	P	**P**		**18 50 23.8**	**-1.8**
QSPA	**South Pole Qui**	**70.38**	**180**	P	**P**		**18 50 40.4**	**+2.1**
QSPA	comp=Z,3.4nm,1.4s			IAmb	IAmb		18 51 08.1	
SCHQ	**Schefferville** comp=Z,237nm,19.7s,baz=282,slow=38	**74.36**	**1**	LR	LR		19 26 41.2	
TORD	**Torodi Ar. Bea** comp=Z,1.6nm,0.5s,baz=254,slow=5.2,SNR=16	**76.73**	**71**	P	**P**		**18 51 13.8**	**-2.3**
TORD	**Torodi Ar. Bea** comp=Z,1.7nm,0.9s	**76.73**	**71**	P	**P**		**18 51 14.6**	**-1.5**
TORD				IAmb	IAmb		18 51 15.7	
MKAR	**Makanchi Array** comp=Z,0.2nm,0.5s,baz=336,slow=3.2,SNR=2.9	**144.22**	**35**	PKP	**PKPab**		**18 58 57.1**	**-0.1**

MEX 26 18:39:52.8±0.5, 14°.49N×92°.71W, h37km±24km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PCIG		**1.30**	**338**	*eP*	Pn		18 40 13.1	-1.3
PCIG				*eS*	Sn		18 40 28.2	-2.4
CCIG	**Comitan**	**1.86**	**17**	*eP*	Pn		18 40 22.1	-0.2
CCIG				*eS*	Sn		18 40 44.1	-0.6
TGIG		**2.31**	**350**	*eP*	Pn		18 40 33.1	+4.8
TGIG				*eS*	Sn		18 40 52.2	-3.3

OTT 26 18:39:52.6±0.5, 42°.21N×55°.32W, h18km, ML3.5/6, Atlantic Ocean. 545km south from Grand Bank, NI, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GBN	**Guysborough**	**5.51**	**308**	PN	Pn		18 41 12.9	-0.8
GBN				SN	Sn		18 42 12.6	-3.8
GBN	comp=Z,2.0nm,0.1s			Trac			18 42 15.2	
SJNN	**Saint John's**	**5.70**	**18**	PN	Pn		18 41 14.9	-1.5
SJNN				SN	Sn		18 42 16.7	-4.6
SJNN	comp=Z,31nm,0.5s			Trac			18 42 56.4	
CHEG	**Cheticamp, Nov**	**5.98**	**322**	PN	Pn		18 41 18.9	-1.3
CHEG				SN	Sn		18 42 23.3	-5.0
CHEG	comp=Z,1.3nm,0.1s			Trac			18 42 33.0	
DRLN	**Deer Lake**	**7.21**	**349**	PN	Pn		18 41 35.4	-1.6
DRLN				SN	Sn		18 42 52.7	-5.8
DRLN	comp=Z,3.0nm,0.4s			Trac			18 42 59.7	
LMN	**Caledonia Moun**	**7.75**	**301**	PN	Pn		18 41 42.9	-1.5
LMN				SN	Sn		18 43 05.2	-6.5
LMN	comp=Z,28nm,0.8s			Trac			18 43 12.6	
ELNB	**Elgin, New Bru**	**7.97**	**301**	SN	Sn		18 43 10.7	-6.4
WCNB	**Wards Creek**	**8.12**	**298**	SN	Sn		18 43 13.3	-7.4
HKNB	**Havelock Quarr**	**8.16**	**301**	PN	Pn		18 43 14.0	-2.2
HKNB				SN	Sn		18 43 14.5	-7.4
HKNB	comp=Z,5.5nm,0.2s			Trac			18 43 20.1	
SRNB	**Snider Mountai**	**8.27**	**299**	PN	Pn		18 41 48.6	-3.0
SRNB	comp=Z,0.3nm,0.1s			Trac			18 43 19.9	
BATG	**Bathurst New B**	**9.17**	**307**	PN	Pn		18 42 02.3	-1.6
BATG				SN	Sn		18 43 39.0	-7.6
BATG	comp=Z,0.4nm,0.0s			Trac			18 43 42.8	

KRSC 26 18:42:08.8±1.1, 55°.97N×164°.11E, h15km±14km, ML3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.76**	**289**	*eP*	Pg		18 42 22.8	-0.8
KBTR				*eS*	Sg		18 42 33.2	-0.4
KBG	**Krutoberegovo**	**0.83**	**290**	*eP*	Pg		18 42 24.1	-0.9
KBG				*eS*	Sb		18 42 35.5	-0.5
BKI	**Bering**	**1.31**	**125**	*eP*	Pn		18 42 32.1	-0.4
BKI				*eS*	Sn		18 42 50.0	+0.4
SMKR	**Semkarok**	**1.59**	**294**	*eP*	Pn		18 42 36.3	-0.2
SMKR				*eS*	Sb		18 42 57.4	-0.5
BDR	**Baidarnaya**	**1.72**	**291**	*eP*	Pn		18 42 38.3	0.0
SRKR	**Sorokina**	**1.77**	**294**	*eP*	Pn		18 42 38.8	-0.2
SRKR				*eS*	Sb		18 43 02.9	-0.2
ZLN	**Zelenaya**	**1.86**	**273**	*eP*	Pb		18 42 41.9	-0.5
CIRR	**Tsirk**	**1.89**	**276**	*eP*	Pb		18 42 42

GRL	**Gorelyy**	**4.92**	**228**	*e*P	Pn	18 43 26.8 +4.5
MTVR	**Mutnovka**	**4.93**	**227**	*e*P	Pn	18 43 27.6 +5.2
ASAK	**Asacha**	**5.12**	**228**	*e*P	Pn	18 43 30.1 +5.2
KDTR	**Khodutka, Kamc**	**5.49**	**223**	P	Pn	18 43 34.4 +4.5

*PGC **26** 18:48:40.2±1.0,50°.54N×130°.31W, h10km,MLSn3.2/45, Mw3.9/45, Mw3.8/45, 205km west of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **26** 18:48:43.7±1.3,50°.69N×129°.71W, h0km, mb3.6/3, mb1 4.0/10,mb1mx3.7/46,mbtmp3.7/10,ML3.8/7,MS3.1/1, Ms1 3.1/1,ms1mx2.4/37, Error ellipse: s-maj=20.7km s-min=10.5km az=72.0*
ISC 26 18:48:40.8±0.9, 50°.56N±0°.05×130°.21W±0°.05, h10km, n106,σ1s89/119, mb3.5/3, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.32**	**86**	P	**Pn**	**18 49 03.7**	**-1.6**
HOLB				S	**Sb**	**18 49 19.6**	**-3.1**
BPBC	**Brooks Peninsu**	**1.61**	**104**	Pn	**Pn**	**18 49 06.8**	**-2.5**
PACB	**Port Alice, BC**	**1.74**	**93**	Pn	**Pn**	**18 49 09.2**	**-1.8**
PHC	**Port Hardy**	**1.77**	**84**	Pn	**Pn**	**18 49 10.2**	**-1.2**
PHC				Sn	**Sn**	**18 49 30.9**	**-3.1**
HG4B	**Hotspring**	**1.84**	**341**	Pn	**Pn**	**18 49 09.6**	**-2.8**
HG4B				Sn	**Sn**	**18 49 31.8**	**-3.9**
MAYB	**Maynard**	**1.94**	**94**	Pn	**Pn**	**18 49 12.3**	**-1.6**
BBB	**Bella Bella**	**2.09**	**38**	Pn	**Pn**	**18 49 14.7**	**-1.1**
	29nm,0.3s,baz=227,slow=6.3,SNR=1065						
BBB				Sn	**Sn**	**18 49 38.8**	**-3.0**
	72nm,0.3s,baz=147,slow=22,SNR=6.4						
BBB	**Bella Bella**	**2.09**	**38**	Pn	**Pn**	**18 49 14.7**	**-1.1**
BBB				Sn	**Sn**	**18 49 38.2**	**-3.6**
EDB	**Eliza Dome**	**2.10**	**108**	Pn	**Pn**	**18 49 13.5**	**-2.4**
TLCB	**Telegraph Cove**	**2.15**	**89**	Pn	**Pn**	**18 49 15.8**	**-0.8**
TLCB				Sn	**Sn**	**18 49 40.8**	**-2.5**
BNB	**Barry Inlet**	**2.23**	**335**	Pn	**Pn**	**18 49 15.0**	**-2.9**
WOSB	**Woss**	**2.36**	**98**	Pn	**Pn**	**18 49 18.6**	**-1.1**
ETB	**Estevan Point**	**2.65**	**115**	Pn	**Pn**	**18 49 21.6**	**-1.9**
NCRB	**Newcastle Ridg**	**2.66**	**92**	Pn	**Pn**	**18 49 22.6**	**-1.1**
HG1B	**Mitchell Dam**	**2.66**	**334**	Pn	**Pn**	**18 49 21.2**	**-2.4**
HG1B				Sn	**Sn**	**18 49 52.8**	**-3.1**
BUTB	**Butedale**	**2.73**	**23**	Pn	**Pn**	**18 49 23.8**	**-0.9**
BUTB				Sn	**Sn**	**18 49 55.0**	**-2.7**
BNKB	**Banks Island**	**2.78**	**4**	Pn	**Pn**	**18 49 23.7**	**-1.6**
BNKB				Sn	**Sn**	**18 49 54.8**	**-4.1**
GDR	**Gold River**	**2.79**	**105**	Pn	**Pn**	**18 49 23.8**	**-1.7**
MOBC	**Moresby Island**	**2.81**	**338**	Pn	**Pn**	**18 49 23.2**	**-2.6**
BNAB	**Bonilla**	**2.95**	**355**	Pn	**Pn**	**18 49 25.7**	**-1.9**
BNAB				Sn	**Sn**	**18 49 59.5**	**-3.4**
DIB	**Dawson Inlet,**	**2.99**	**333**	Pn	**Pn**	**18 49 25.8**	**-2.4**
H02S1	**DAWSON INLET T**	**2.99**	**333**	Pn	**Pn**	**18 49 25.9**	**-2.4**
H02S1				Sn	**Sn**	**18 50 01.1**	**-3.0**
	SNR=675						
SPLB	**Strathcona Par**	**3.00**	**101**	Pn	**Pn**	**18 49 27.5**	**-0.9**
SPLB				Sn	**Sn**	**18 49 57.5**	**-6.8**
H02N1	**VAN INLET T-PH**	**3.06**	**333**	Pn	**Pn**	**18 49 26.7**	**-2.5**
H02N1				Sn	**Sn**	**18 50 02.8**	**-3.1**
	SNR=283						
VIB	**Van Inlet**	**3.06**	**333**	Pn	**Pn**	**18 49 26.7**	**-2.5**
HWKB	**Hawksbury Isla**	**3.11**	**12**	Pn	**Pn**	**18 49 28.5**	**-1.4**
HWKB				Sn	**Sn**	**18 50 04.5**	**-2.5**
TOFB	**Tofino**	**3.12**	**115**	Pn	**Pn**	**18 49 28.0**	**-1.9**
CBB	**Campbell River**	**3.15**	**98**	Pn	**Pn**	**18 49 29.6**	**-0.8**
BTB	**Buttle Lake**	**3.21**	**108**	Pn	**Pn**	**18 49 29.9**	**-1.5**
MWAB	**Mount Washingt**	**3.26**	**103**	Pn	**Pn**	**18 49 30.8**	**-1.2**
GRNB	**Grenville Isla**	**3.29**	**3**	Pn	**Pn**	**18 49 31.1**	**-1.3**
GRNB				Sn	**Sn**	**18 50 08.2**	**-3.3**
B012	**Ucluelet**	**3.44**	**117**	Pn	**Pn**	**18 49 32.6**	**-1.7**
OZB	**Mount Ozzard**	**3.45**	**116**	Pn	**Pn**	**18 49 32.4**	**-2.2**
KITB	**Kitimat**	**3.65**	**15**	Pn	**Pn**	**18 49 36.5**	**-0.7**
KITB				Sn	**Sn**	**18 50 18.1**	**-2.1**
BFSB	**Bamfield**	**3.72**	**116**	Pn	**Pn**	**18 49 37.1**	**-1.0**
B928	**Bamfield**	**3.72**	**116**	Pn	**Pn**	**18 49 36.6**	**-1.6**
B927	**Port Alberni**	**3.74**	**109**	Pn	**Pn**	**18 49 37.2**	**-1.2**
RUBB	**Prince Rupert**	**3.77**	**360**	Pn	**Pn**	**18 49 37.8**	**-1.1**
RUBB				Sn	**Sn**	**18 50 20.3**	**-2.9**
NDB	**Naden**	**3.79**	**335**	Pn	**Pn**	**18 49 37.4**	**-1.9**
TXB	**Texada**	**3.81**	**101**	Pn	**Pn**	**18 49 38.7**	**-0.8**
MGB	**Mount Grey**	**3.90**	**112**	Pn	**Pn**	**18 49 39.3**	**-1.6**
GHNB	**Nanoose**	**4.06**	**106**	Pn	**Pn**	**18 49 42.0**	**-0.8**
SHB	**Sechelt**	**4.19**	**101**	Pn	**Pn**	**18 49 44.1**	**-0.7**
NLLB	**Nanaimo Lost L**	**4.24**	**106**	Pn	**Pn**	**18 49 44.0**	**-1.3**
PFB	**Port Renfrew**	**4.25**	**116**	Pn	**Pn**	**18 49 44.2**	**-1.3**
OCP	**Olym-Cheeka Pk**	**4.29**	**120**	Pn	**Pn**	**18 49 45.6**	**-0.5**
B926	**Mesachie Lake**	**4.31**	**112**	Pn	**Pn**	**18 49 45.7**	**-0.7**
UBRB	**Upper Baezaeko**	**4.46**	**56**	Pn	**Pn**	**18 49 49.8**	**+1.2**
UBRB				Sn	**Sn**	**18 50 40.3**	**-0.3**
WPB	**Watts Point**	**4.59**	**99**	Pn	**Pn**	**18 49 50.1**	**-0.1**
BIB	**Bowen Island**	**4.60**	**102**	Pn	**Pn**	**18 49 49.7**	**-0.6**
GOBB	**Galiano Island**	**4.63**	**108**	Pn	**Pn**	**18 49 51.5**	**+0.8**
WSLR	**Whistler**	**4.69**	**93**	Pn	**Pn**	**18 49 51.8**	**+0.2**
OBC	**Olympics--Boni**	**4.74**	**120**	Pn	**Pn**	**18 49 52.8**	**+0.5**
B010	**North Saanich**	**4.79**	**111**	Pn	**Pn**	**18 49 52.6**	**-0.3**
PGC	**Sidney**	**4.79**	**111**	Pn	**Pn**	**18 49 51.9**	**-1.0**
B009	**North Saanich**	**4.79**	**111**	Pn	**Pn**	**18 49 52.6**	**-0.3**
PA02	**PA02 Ocean**	**4.79**	**111**	Pn	**Pn**	**18 49 52.2**	**-0.7**
B011	**North Saanich**	**4.79**	**111**	Pn	**Pn**	**18 49 52.6**	**-0.4**
SNB	**Saturna Island**	**4.91**	**105**	Pn	**Pn**	**18 49 55.2**	**+0.7**
STW	**Striped Peak**	**4.91**	**117**	Pn	**Pn**	**18 49 54.3**	**-0.2**
VGZ	**Gonzales**	**4.97**	**113**	Pn	**Pn**	**18 49 54.7**	**-0.7**
OSD	**Olympics--Snow**	**5.07**	**120**	Pn	**Pn**	**18 49 56.6**	**-0.4**
HNBB	**Haney**	**5.09**	**102**	Pn	**Pn**	**18 49 57.2**	**+0.1**
MCW	**Mount Constitu**	**5.15**	**109**	Pn	**Pn**	**18 49 58.5**	**+0.6**
LLLB	**Lillooet**	**5.30**	**86**	Pn	**Pn**	**18 50 00.3**	**+0.2**
FSB	**Fort Saint Jam**	**5.31**	**40**	Pn	**Pn**	**18 50 00.7**	**+0.5**
FSB				Sn	**Sn**	**18 51 00.4**	**-1.0**
VDB	**Vedder Mountai**	**5.47**	**103**	Pn	**Pn**	**18 50 03.4**	**+1.1**
WISH	**Wishkah**	**5.47**	**127**	Pn	**Pn**	**18 50 03.1**	**+0.9**
A05A	**Maple Falls**	**5.49**	**103**	Pn	**Pn**	**18 50 03.9**	**+1.4**
HDW	**Hoodsport**	**5.53**	**119**	Pn	**Pn**	**18 50 03.8**	**+0.7**
MBW	**Mount Baker**	**5.68**	**105**	Pn	**Pn**	**18 50 06.0**	**+0.7**
CMW	**Cultus Mountai**	**5.69**	**109**	Pn	**Pn**	**18 50 06.3**	**+1.0**
GNW	**Green Mountain**	**5.70**	**119**	Pn	**Pn**	**18 50 05.7**	**+0.2**
HOPB	**Hope**	**5.79**	**98**	Pn	**Pn**	**18 50 06.7**	**0.0**
JCW	**Jim Creek**	**5.90**	**111**	Pn	**Pn**	**18 50 09.0**	**+0.8**
B06A	**Marblemount**	**6.03**	**106**	Pn	**Pn**	**18 50 11.1**	**+1.1**
B06A				Sn	Sn	18 50 59.2	-20
RPW	**Rockport**	**6.04**	**107**	Pn	**Pn**	**18 50 10.8**	**+0.6**
D05A	**Enumclaw**	**6.38**	**119**	Pn	**Pn**	**18 50 16.0**	**+1.1**
GPW	**Glacier Peak**	**6.41**	**109**	Pn	**Pn**	**18 50 16.2**	**+0.8**
FMW	**Mount Fremont**	**6.71**	**120**	Pn	**Pn**	**18 50 20.7**	**+1.2**
LON	**Longmire**	**6.74**	**121**	Pn	**Pn**	**18 50 20.9**	**+1.0**
PNT	**Penticton**	**6.95**	**96**	Pn	**Pn**	**18 50 23.4**	**+0.8**
LTY	**Liberty**	**7.10**	**114**	Pn	**Pn**	**18 50 26.1**	**+1.3**
BMBC	**Bull Mountain**	**7.31**	**38**	Pn	**Pn**	**18 50 27.2**	**-0.4**
BMBC				Sn	**Sn**	**18 51 50.6**	**-0.1**
B08A	**Colville Reser**	**7.42**	**103**	Pn	**Pn**	**18 50 29.9**	**+0.8**
DLBC	**Dease Lake**	**7.89**	**1**	Pn	**Pn**	**18 50 37.1**	**+1.6**
	1.6nm,0.3s,baz=133,slow=22,SNR=7.9						
NBC5	**NorthernBC 5**	**8.26**	**29**	P	**Pn**	**18 50 41.9**	**+1.4**
NEW	**Newport**	**8.84**	**100**	Pn	**Pn**	**18 50 48.7**	**+0.2**
	1.2nm,0.3s,baz=297,slow=11,SNR=11						
NEW				LR	LR	18 54 10.9	
	comp=Z,124nm,18.7s,baz=236,slow=38						
YBH	**Yreka Blue Hor**	**10.24**	**147**	Pn	**Pn**	**18 51 12.2**	**+4.3**
	0.1nm,0.3s,baz=336,slow=18,SNR=1.9						
BHMT	**Big Hole Peak**	**10.39**	**101**	P	**Pn**	**18 51 11.1**	**+1.2**
BSMT	**Bassoo Peak**	**10.45**	**99**	P	**Pn**	**18 51 11.9**	**+1.2**
JTMT	**Jette**	**10.80**	**99**	P	**Pn**	**18 51 16.2**	**+0.6**
SWMT	**Swartz Lake**	**11.07**	**100**	P	**Pn**	**18 51 19.3**	**+0.1**
NVAR	**Mina Array Bea**	**14.78**	**141**	Pn	**P**	**18 52 14.7**	**-1.3**
	0.1nm,0.3s,baz=289,slow=5.6,SNR=1.5						
PDAR	**Pinedale Array**	**16.14**	**111**	Pn	**P**	**18 52 30.9**	**-0.2**
	0.1nm,0.3s,baz=316,slow=12,SNR=18						
ILAR	**Eielson Array**	**16.72**	**335**	Pn	**P**	**18 52 41.2**	**+4.1**
	0.1nm,0.3s,baz=149,slow=11,SNR=14						
PFO	**Pinyon Flats O**	**19.72**	**144**	P	**Pn**	**18 53 14.6**	**+2.7**
	0.1nm,0.3s,baz=328,slow=9.5,SNR=3.6						
ANMO	**Albuquerque**	**23.25**	**123**	P	**P**	**18 53 49.7**	**+1.3**
	1.6nm,1.0s,baz=312,slow=16,SNR=2.7						
TXAR	**Lajitas Array**	**29.12**	**127**	P	**P**	**18 54 43.8**	**+2.0**
	1.1nm,1.0s,baz=322,slow=9.6,SNR=7.2						
H11N2	**WAKE ISLAND Hy**	**57.85**	**262**	T	T	20 01 04.4	
	baz=42,slow=76,SNR=1505						
H11N3	**WAKE ISLAND Hy**	**57.85**	**262**	T	T	20 01 03.2	
	baz=42,slow=76,SNR=2612						
H11N1	**WAKE ISLAND Hy**	**57.86**	**262**	T	T	20 01 05.7	
	baz=42,slow=76,SNR=1226						
H11S1	**WAKE ISLAND Hy**	**58.88**	**261**	T	T	20 02 28.6	
	baz=41,slow=76,SNR=30						
H11S2	**WAKE ISLAND Hy**	**58.89**	**261**	T	T	20 02 17.6	
	baz=41,slow=76,SNR=30						
H11S3	**WAKE ISLAND Hy**	**58.90**	**261**	T	T	20 02 16.7	
	baz=41,slow=76,SNR=18						
MKAR	**Makanchi Array**	**79.04**	**338**	P	P	19 00 50.9	+6.0
	0.3nm,0.7s,baz=26,slow=7.0,SNR=2.1						

*IDC **26** 18:49:51.5±1.1,31°.67S×71°.53W, h0km, mb4.2/6, mb1 4.1/10,mb1mx3.9/28,mbtmp4.0/10,ML3.8/4,MS3.0/2, Ms1 3.0/2,ms1mx2.8/30, Error ellipse: s-maj=37.4km s-min=22.2km az=109.0*
*SJA **26** 18:49:53.0,31°.63S×72°.25W, h10km, ML4.5*
*NEIC **26** 18:49:54.1±1.6,31°.61S±0°.03×71°.93W±0°.06, h20km±5km, mb4.2/10,ML4.0(GUC), Error ellipse: s-maj=8.1km s-min=4.2km az=79.0*
*GUC **26** 18:49:54.8±0.7,31°.64S×71°.82W, h36km±3km, ML4.0*
ISC 26 18:49:52.6±2.7, 31°.60S±0°.03×71°.93W±0°.06, h14km±17km, n117,σ1s36/111, mb4.3/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.96**	**15**	*i* P	**Pn**	**18 50 11.9**	**+0.2**
CO06	**Fray Jorge**	**0.96**	**15**		**Pn**	**18 50 11.9**	**+0.2**
CO06					**Sn**	**18 50 24.9**	**-0.3**
VA06	**Catapilco**	**1.09**	**151**	*e*P	**Pn**	**18 50 13.2**	**-0.4**
VA06				*e*S	**Sb**	**18 50 27.0**	**-0.6**
VA06				IAML		18 50 28.5	
	comp=N,6μm,0.3s						
CO03	**El Pedregal**	**1.31**	**55**	*e*P	**Pn**	**18 50 16.8**	**+0.1**
CO03				*e*S	**Sn**	**18 50 33.4**	**-0.6**
CO03				IAML		18 50 40.4	
	comp=E,8μm,0.5s						
CO03	**El Pedregal**	**1.31**	**55**	Pn	**Pn**	**18 50 16.7**	**+0.1**
CO03					**Sn**	**18 50 33.3**	**-0.6**
VA01	**Torpederas**	**1.44**	**170**	Pn	**Pn**	**18 50 18.2**	**-0.1**
VA01	**Torpederas**	**1.44**	**170**	*i* P	**Pn**	**18 50 18.0**	**-0.3**
ROCH	**El Roble**	**1.57**	**151**	*e*P	**Pn**	**18 50 20.7**	**+0.3**
ROCH				IAML		18 50 45.9	
	comp=N,3μm,0.7s						
VA03	**San Esteban**	**1.65**	**135**	*i* P	**Pn**	**18 50 21.5**	**+0.2**
VA03				IAML		18 50 49.0	
	comp=E,5μm,0.5s						
VA03	**San Esteban**	**1.65**	**135**		**Pn**	**18 50 21.8**	**+0.5**
VA03				Sn	**Sn**	**18 50 42.3**	**0.0**
VA03	**San Esteban**	**1.65**	**135**	*i* P	**Pn**	**18 50 22.0**	**+0.7**
GO04	**Tololo Observa**	**1.73**	**35**	*e*P	**Pn**	**18 50 23.3**	**+0.8**
GO04	**Tololo Observa**	**1.73**	**35**		**Pn**	**18 50 23.3**	**+0.8**
GO04	**Tololo Observa**	**1.73**	**35**	*i* P	**Pn**	**18 50 23.0**	**+0.5**
CO05	**La Serena**	**1.78**	**20**	*e*P	**Pb**	**18 50 25.6**	**+0.5**
CO05				IAML		18 50 53.0	
	comp=N,5μm,0.6s						
CO05	**La Serena**	**1.78**	**20**	Pn	**Pn**	**18 50 24.1**	**+1.1**
MT05	**Renca**	**2.05**	**151**	*e*P	**Pn**	**18 50 27.4**	**+0.6**
MT05				IAML		18 51 10.7	
	comp=E,2μm,0.2s						
MT05	**Renca**	**2.05**	**151**	Pn	**Pn**	**18 50 27.2**	**+0.4**
MT05	**Renca**	**2.05**	**151**	*i* P	**Pn**	**18 50 28.0**	**+1.2**
VA05	**Santo Domingo**	**2.06**	**173**	IAML		18 51 06.9	
	comp=E,1μm,0.4s						
VA05	**Santo Domingo**	**2.06**	**173**		**Pn**	**18 50 26.9**	**0.0**
AUSP	**Uspallata**	**2.25**	**107**	*i* P	**Pb**	**18 50 33.0**	**-0.2**
RTLS	**Leoncito**	**2.25**	**96**	*i* P	**Pb**	**18 50 33.0**	**-0.3**
MT09	**Talagante**	**2.31**	**160**	*e*P	**Pn**	**18 50 31.5**	**+1.1**
MT09				IAML		18 51 16.8	
	comp=E,702nm,0.3s						
MT09	**Talagante**	**2.31**	**160**	Pn	**Pn**	**18 50 31.4**	**+1.0**
MT01	**Popeta**	**2.33**	**166**	*e*P	**Pn**	**18 50 30.7**	**+0.2**
MT01	**Popeta**	**2.33**	**166**		**Pn**	**18 50 30.7**	**+0.2**
AROD	**Rodeo**	**2.55**	**56**	*i* P	**Pb**	**18 50 38.0**	**-0.4**
ACCO	**Cerro Coronel**	**2.66**	**68**	*i* P	**Pb**	**18 50 39.0**	**-1.2**
LMEL	**Las Melosas**	**2.67**	**147**	*i* P	**Pn**	**18 50 36.8**	**+1.4**
LMEL				*i* S	**Sn**	**18 51 08.0**	**+0.3**
LMEL				IAML		18 51 20.2	
	comp=N,1μm,0.1s						
ZON	**Zonda**	**2.78**	**90**		**Pn**	**18 50 39.7**	**+3.0**
ZON	**Zonda**	**2.78**	**90**	*i* P	**Pb**	**18 50 41.0**	**-1.1**
LCO	**Las Campanas**	**2.79**	**23**	*i* P	**Pn**	**18 50 37.9**	**+0.7**
LCO	**Las Campanas**	**2.79**	**23**	Pn	**Pn**	**18 50 38.3**	**+1.1**
LCO	**Las Campanas**	**2.79**	**23**	*i* P	**Pn**	**18 50 38.0**	**+0.7**
ASAL	**Salagasta**	**2.81**	**111**	*i* P	**Pb**	**18 50 42.0**	**-0.6**
ACDV	**Cuesta del Vie**	**2.81**	**60**	*i* P	**Pb**	**18 50 41.0**	**-1.7**
ARCO	**CERRO ARCO**	**2.83**	**117**	*i* P	**Pb**	**18 50 43.0**	**0.0**
BO01	**Tunca**	**2.87**	**166**	*i* P	**Pn**	**18 50 38.6**	**+0.6**
BO01	**Tunca**	**2.87**	**166**	Pn	**Pn**	**18 50 38.4**	**+0.4**
BO01	**Tunca**	**2.87**	**166**	*i* P	**Pn**	**18 50 38.0**	**0.0**
RTCV	**Cerro Valdivia**	**2.90**	**96**	*i* P	**Pb**	**18 50 43.0**	**-1.2**
AAGR	**Agrelo**	**3.01**	**120**	*i* P	**Pb**	**18 50 45.0**	**-1.1**
BO02	**Sierra Bellavi**	**3.32**	**163**	*i* P	**Pn**	**18 50 45.2**	**+0.9**
BO02				*i* S	**Sn**	**18 51 24.2**	**+0.5**
BO02				IAML		18 51 39.8	
	comp=N,476nm,0.2s						
BO02	**Sierra Bellavi**	**3.32**	**163**		**Pn**	**18 50 45.4**	**+1.1**
BO02	**Sierra Bellavi**	**3.32**	**163**	*i* P	**Pn**	**18 50 46.0**	**+1.7**
GO05	**Huala**	**3.40**	**180**	*i* P	**Pn**	**18 50 44.7**	**-0.6**
GO05				IAML		18 52 02.9	
	comp=N,117nm,0.4s						
GO05	**Huala**	**3.40**	**180**		**Pn**	**18 50 44.6**	**-0.7**
GO05	**Huala**	**3.40**	**180**	*i* P	**Pn**	**18 50 45.0**	**-0.3**
AC04	**Llanos de Chal**	**3.47**	**13**		**Pn**	**18 50 46.9**	**+0.6**
AGUA	**GUANDACOL**	**3.64**	**54**	*i* P	**Pn**	**18 50 53.0**	**+4.3**
ML02	**Panimavida**	**4.17**	**174**		**Pn**	**18 50 56.1**	**+0.3**
GO03	**Copiap**	**4.26**	**21**		**Pn**	**18 50 58.3**	**+1.1**
GO03	**Copiap**	**4.26**	**21**	*i* P	**Pn**	**18 51 00.0**	**+2.8**
RFA	**San Rafael**	**4.29**	**138**	*i* P	**Pn**	**18 51 00.0**	**+2.4**
VCA	**Vinchina**	**4.31**	**49**	*i* P	Pn	18 51 03.0	+5.0
APLL	**PUNTA DE LOS L**	**4.79**	**77**	*i* P	**Pn**	**18 51 08.0**	**+3.5**
ACLC	**CERRO LA CRUZ**	**4.81**	**64**	*i* P	**Pn**	**18 51 08.0**	**+3.1**
MRA	**San Martin**	**5.34**	**100**	*i* P	**Pn**	**18 51 14.0**	**+1.9**
AC02	**Maricunga**	**5.34**	**28**		**Pn**	**18 51 12.0**	**-0.5**
VA04	**Juan Fernndez**	**6.17**	**249**	Pn	**Pn**	**18 51 23.8**	**+0.5**
H03N1	**Juan Fernandez**	**6.17**	**251**	Pn	**Pn**	**18 51 24.8**	**+1.6**
	baz=117,slow=19,SNR=12						
H03N1				T	T	18 58 06.8	
	baz=78,slow=72,SNR=2644						
CYA	**Choya**	**6.18**	**61**	*i* P	**Pn**	**18 51 26.0**	**+2.5**
H03N3	**Juan Fernandez**	**6.19**	**251**	Pn	**Pn**	**18 51 24.6**	**+1.1**
	baz=117,slow=19,SNR=13						
H03N3				T	T	18 58 05.7	
	baz=78,slow=72,SNR=2408						
H03N2	**Juan Fernandez**	**6.19**	**251**	Pn	**Pn**	**18 51 24.8**	**+1.4**
	baz=117,slow=19,SNR=12						
H03N2				T	T	18 58 12.4	
	baz=78,slow=72,SNR=2741						
H03S3	**Juan Fernandez**	**6.29**	**248**	T	T	18 58 16.2	
	baz=83,slow=74,SNR=6.0						
H03S1	**Juan Fernandez**	**6.29**	**247**	T	T	18 58 14.9	
	baz=83,slow=74,SNR=4.7						
H03S2	**Juan Fernandez**	**6.30**	**247**	T	T	18 58 22.1	
	baz=83,slow=74,SNR=8.8						
PB14	**IPOC Station P**	**7.08**	**11**	Pn	**Pn**	**18 51 35.2**	**-1.0**
LC01	**Cunco**	**7.28**	**180**	Pn	**Pn**	**18 51 37.5**	**-1.1**
LC01	**Cunco**	**7.28**	**180**	*i* P	**Pn**	**18 51 40.0**	**+1.4**
FSA	**Cafayete**	**7.56**	**45**	*i* P	**Pn**	**18 51 47.0**	**+4.3**
PB10	**IPOC Station P**	**8.15**	**9**	Pn	**Pn**	**18 51 51.1**	**+0.5**
PB15	**IPOC Station P**	**8.64**	**15**	Pn	**Pn**	**18 51 57.9**	**+0.3**
PB06	**IPOC Station P**	**9.11**	**14**	Pn	**Pn**	**18 52 03.6**	**-0.3**
PLCA	**Paso Flores**	**9.18**	**173**	Pn	**Pn**	**18 52 05.5**	**+0.8**
	comp=N,0.2nm,0.3s,baz=337,slow=11,SNR=7.7						
PLCA				LR	LR	18 56 09.2	
	comp=N,115nm,18.8s,baz=332,slow=42						
PLCA	**Paso Flores**	**9.18**	**173**	Pn	**Pn**	**18 52 05.6**	**+0.9**
PLCA	**Paso Flores**	**9.18**	**173**	*i* P	**Pn**	**18 52 06.0**	**+1.3**
LVC	**Limon Verde**	**9.35**	**17**	Pn	**Pn**	**18 52 11.1**	**+3.7**
	comp=N,0.4nm,0.3s,baz=217,slow=10,SNR=1.3						
LVC	**Limon Verde**	**9.35**	**17**	Pn	**Pn**	**18 52 07.7**	**+0.2**
PB04	**IPOC Station P**	**9.37**	**10**	Pn	**Pn**	**18 52 09.6**	**+2.1**
PB07	**IPOC Station P**	**10.01**	**11**	Pn	**Pn**	**18 52 17.6**	**+1.4**
PB09	**IPOC Station P**	**10.06**	**14**	Pn	**Pn**	**18 52 19.1**	**+2.1**
TRQA	**Tornquist**	**10.40**	**131**		**Pn**	**18 52 22.2**	**+0.8**
PB01	**IPOC Station P**	**10.74**	**12**	Pn	**Pn**	**18 52 26.2**	**0.0**
TA01	**Diego Aracena**	**11.10**	**9**	Pn	**Pn**	**18 52 31.1**	**0.0**
PB08	**IPOC Station P**	**11.69**	**13**	Pn	**Pn**	**18 52 40.4**	**+1.0**
PB11	**IPOC Station P**	**11.97**	**10**	Pn	**Pn**	**18 52 41.5**	**-1.5**
PSGCX	**Pisagua**	**12.07**	**8**	Pn	**Pn**	**18 52 43.3**	**-1.0**
ITQB	**Itaqui**	**13.32**	**86**	Pn	**Pn**	**18 53 03.4**	**+2.0**
CPUP	**Villa Florida**	**13.82**	**71**	Pn	**Pn**	**18 53 05.9**	**-2.2**
	comp=N,0.1nm,0.3s,baz=248,slow=15,SNR=1.5						
CPUP				LR	LR	18 57 37.7	
	comp=N,45nm,20.1s,baz=297,slow=34						
PLTB	**Pedras Altas**	**15.61**	**95**	Pn	**Pn**	**18 53 32.3**	**0.0**
PLTB				IAmb	IAmb	18 53 33.1	
	comp=Z,22nm,1.5s						
LPAZ	**La Paz**	**15.63**	**14**	Pn	**Pn**	**18 53 34.6**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=197,slow=8.7,SNR=4.5						
LPAZ	**La Paz**	**15.63**	**14**		**Pn**	**18 53 34.0**	**+0.8**
SIV	**San Ignacio**	**18.43**	**35**	P	**P**	**18 54 07.9**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=227,slow=12,SNR=7.4						
SAML	**Samuel**	**23.97**	**22**	P	**P**	**18 55 05.7**	**-1.0**
BDFB	**Brasilia**	**26.98**	**59**	P	**P**	**18 55 31.9**	**-2.3**
	comp=Z,5.1nm,0.8s,baz=247,slow=7.5,SNR=6.1						
BDFB	**Brasilia**	**26.98**	**59**		**P**	**18 55 32.4**	**-1.8**
BDFB				IAmb	IAmb	18 55 35.2	
	comp=Z,10.0nm,1.2s						
PTGA	**Pitinga**	**32.73**	**23**	P	**P**	**18 56 24.7**	**-0.3**
PTGA				IAmb	IAmb	18 56 56.6	
	comp=Z,3.0nm,0.9s						
SNAA	**Sanae**	**53.77**	**159**	P	**P**	**18 59 14.7**	**+0.4**
QSPA	**South Pole Qui**	**58.63**	**180**	P	**P**	**18 59 50.0**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=157,slow=1.8,SNR=7.6						
DBIC	**Dimbokro**	**74.34**	**72**	P	**P**	**19 01 30.0**	**-0.2**
	comp=Z,5.3nm,0.8s,baz=222,slow=8.8,SNR=5.1						
DBIC	**Dimbokro**	**74.34**	**72**	IAmb	IAmb	19 01 30.8	
	comp=Z,7.1nm,0.9s						
BOSA	**Boshof**	**81.11**	**118**	P	**P**	**19 02 06.0**	**-2.0**
	comp=Z,2.6nm,0.9s,baz=140,slow=2.0,SNR=3.6						
BOSA	**Boshof**	**81.11**	**118**	IAmb	IAmb	19 02 27.4	
	comp=Z,4.0nm,1.1s						
NVAR	**Mina Array Bea**	**81.98**	**325**	P	**P**	**19 02 14.7**	**+2.4**
	comp=Z,0.5nm,0.8s,baz=166,slow=8.0,SNR=2.8						
TORD	**Torodi Ar. Bea**	**83.31**	**70**	P	**P**	**19 02 19.5**	**0.0**
	comp=Z,3.6nm,0.8s,baz=261,slow=5.0,SNR=20						
TORD	**Torodi Ar. Bea**	**83.31**

baz=87,SNR=66
M04C Sb **Sg** **19 09 23.2 +0.8**
baz=87
J08A **Circle Bar Ran** **1.69 30** Pn **Pn** **19 08 59.9 0.0**
J08A IAML 19 09 33.7
comp=E,166nm,0.9s
J08A IAML 19 09 35.8
comp=N,162nm,0.7s
K04D **Chiloquin, OR** **1.74 296** Pb **Pb** **19 09 01.9 0.0**
baz=115,SNR=21
K04D Sb **Sg** **19 09 25.5 +0.4**
baz=115
J05D **Fort Rock, OR** **1.83 320** Pb **Pb** **19 09 03.7 +0.2**
baz=139,SNR=115
L04D **Klamath Falls** **2.02 280** P **Pn** **19 09 04.2 -0.2**
baz=99,SNR=68
L04D Sb **Sg** **19 09 34.6 +0.6**
baz=99
BEKR **Beckworth** **2.10 196** **Pn** **19 09 05.5 -0.1**
BEKR IAML 19 09 39.9
comp=N,98nm,0.3s
I07A **Izee** **2.19 2** Pn **Pb** **19 09 09.0 -0.6**
I07A IAML 19 09 41.0
comp=N,83nm,0.8s
I07A IAML 19 09 49.8
comp=E,79nm,1.3s
PAHR **Pah Rah Range** **2.19 175** **Pn** **19 09 06.4 -0.4**
LCMM **Colby Mountain** **2.26 220** **Pn** **19 09 08.3 +0.5**
O03E **Paynes Creek** **2.29 227** Pn **Pn** **19 09 08.3 +0.2**
baz=46
O03E Pb **Pb** **19 09 11.2 -0.1**
baz=46
O03E Sb **Sg** **19 09 42.1 -0.7**
baz=46
YBH **Yreka Blue Hor** **2.31 267** **Pn** **19 09 08.1 -0.3**
BMN **Battle Mountai** **2.33 128** Pn **Pn** **19 09 08.4 -0.3**
BMN IAML 19 09 45.2
comp=N,68nm,0.9s
M02C **Callahan** **2.47 259** Pb **Pb** **19 09 13.8 -0.6**
baz=78,SNR=12
M02C Sb **Sg** **19 09 47.5 -1.0**
baz=78
N02D **Trinity Center** **2.49 249** Pb **Pb** **19 09 14.6 -0.1**
baz=68,SNR=8.7
N02D Sb **Sg** **19 09 48.0 -1.1**
baz=68
WDC **Whiskeytown Da** **2.56 240** Pn **Pn** **19 09 11.5 -0.2**
WDC IAML 19 09 52.3
comp=N,70nm,0.7s
HUMO **Hull Mountain** **2.57 287** Pn **Pn** **19 09 11.7 -0.3**
HUMO IAML 19 09 52.9
comp=N,62nm,1.1s
ORV **Oroville** **2.73 212** **Pn** **19 09 14.6 +0.5**
PNTR **Pine Nut** **2.80 180** **Pn** **19 09 18.2 -1.8**
PNTR IAML 19 10 04.6
comp=N,99nm,0.9s
PNTR IAML 19 10 05.0
comp=E,83nm,1.0s
YERR **Yerington** **2.92 174** **Pn** **19 09 18.6 +1.7**
YERR IAML 19 10 05.3
comp=N,87nm,0.6s
DBO **Dodson Butte** **2.94 296** **Pn** **19 09 17.9 +0.9**
DBO IAML 19 10 05.3
comp=N,48nm,1.2s
DBO IAML 19 10 19.5
comp=E,36nm,1.6s
O02D **Mt. Diablo Mer** **2.94 235** Pb **Pb** **19 09 22.0 -0.4**
baz=54,SNR=6.4
O02D Sb **Sg** **19 10 01.4 -2.3**
baz=54
L02E **Cave Junction** **2.98 276** Sb **Sb** **19 10 02.1 +2.4**
baz=94
KVN **Kaiserville** **3.07 157** **Pn** **19 09 19.0 +0.1**
KVN IAML 19 10 11.6
comp=E,39nm,0.6s
KVN IAML 19 10 18.1
comp=N,34nm,0.7s
K02D **Willamette Mer** **3.10 286** P **Pn** **19 09 20.4 +1.2**
baz=104,SNR=98
MFID **Camas Ranch** **3.19 60** **Pn** **19 09 20.8 +0.3**
KRMB **Red Mountain** **3.23 265** Pn **Pn** **19 09 20.7 -0.3**
KRMB IAML 19 10 19.7
comp=E,31nm,3.0s
KRMB IAML 19 10 33.6
comp=N,30nm,1.6s
KHMM **Horse Mountain** **3.25 253** **Pn** **19 09 22.9 +1.6**
KHMM IAML 19 10 28.1
comp=E,46nm,2.2s
KHMM IAML 19 10 28.2
comp=N,50nm,1.6s
RYN **Ryan** **3.37 165** **Pn** **19 09 22.9 -0.1**
RYN IAML 19 10 20.1
comp=N,30nm,0.8s
RYN IAML 19 10 22.3
comp=E,45nm,1.0s
G08A **Pilot Rock** **3.43 8** **Pb** **19 09 27.6 -3.1**
H04D **Lebanon** **3.48 320** Pg **Pg** **19 09 35.4 -0.4**
baz=138
ELK **Elko** **3.50 108** **Pn** **19 09 25.2 +0.4**
NVAR **Mina Array Bea** **3.60 163** **Pn** **19 09 27.8 +1.5**
LHV **Little Huntoon** **3.74 166** **Pn** **19 09 28.0 +0.1**
LHV IAML 19 10 34.0
comp=N,51nm,0.7s
CMB **Columbia Colle** **3.90 189** **Pn** **19 09 30.3 +0.1**
TPH **Tonopah** **4.24 153** **Pn** **19 09 36.9 +2.0**
R11A **Troy Canyon, C** **4.70 137** **Pn** **19 09 40.3 -1.0**
R11A IAML 19 11 01.2
comp=E,12nm,1.0s
R11A IAML 19 11 01.7
comp=N,9.9nm,0.8s
SPR3 **Spring Creek 3** **4.97 124** **Pn** **19 09 45.5 +0.4**
BGU **Big Grassy Mou** **5.05 99** **Pn** **19 09 47.2 +1.0**
BGU IAML 19 11 15.9
comp=N,16nm,1.1s
HVU **Hansel Valley** **5.12 89** Pn **Pn** **19 09 46.9 -0.1**
BCYI **Bear Canyon** **5.16 60** **Pn** **19 09 48.1 +0.5**
DUG **Dugway, Tooele** **5.42 106** Pn **Pn** **19 09 52.9 +1.7**
PRN **Pahroc Range** **5.70 140** **Pn** **19 09 56.7 +1.6**
MVU **Marysvale** **6.61 118** Pn **Pn** **19 10 07.2 -0.4**

MEX 26 19:26:12.3±0.5, 18°.34N×103°.04W, h34km±20km, MD3.5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.29**	**259**	*e*P	Pn	19 26 18.6	-1.5
MMIG				*e*S	Sn	19 26 23.4	-1.0
COIG	**Colima**	**1.03**	**324**	*e*P	Pn	19 26 28.8	-1.7
COIG				*e*S	Sn	19 26 41.2	-2.7
R15V		**1.21**	**313**	*e*P	Pn	19 26 30.7	-2.3
R15V				*e*S	Sn	19 26 45.9	-2.3

*REN **26** 19:27:40.1±1.8,41°.86N±0°.03×119°.60W±0°.03,h8km±7km, ML3.1/5,ML2.8/56(NEIC),Error ellipse: s-maj=5.0km s-min=2.9km az=165.0*
*NEIC **26** 19:27:41.8±2.1,41°.95N±0°.04×119°.63W±0°.03,h9km±7km, Error ellipse: s-maj=5.6km s-min=2.8km az=156.0*
*ANF **26** 19:27:41.1±1.0,41°.88N×119°.64W,h10km,ML3.1/11, Error ellipse: s-maj=9.9km s-min=6.3km az=141.0*

ISC 26 19:27:41.6±0.8, 41°.91N±0°.03×119°.62W±0°.03, h10km, n45, σ1§20/50, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOD	**Modoc Plateau**	**0.51**	**269**		**Pg**	**19 27 50.7**	**-0.8**
MOD					**Sg**	**19 27 58.1**	**-0.1**
MOD	**Modoc Plateau**	**0.51**	**269**	IAML		19 27 58.6	
MOD	comp=N,780nm,0.6s			IAML		19 28 03.7	
	comp=E,754nm,0.5s						
WVOR	**Wild Horse Val**	**0.90**	**54**		**Pg**	**19 27 57.8**	**-1.1**
WVOR					**Sg**	**19 28 10.4**	**-0.2**
WVOR	**Wild Horse Val**	**0.90**	**54**	IAML		19 28 13.9	
WVOR	comp=E,429nm,0.8s			IAML		19 28 14.1	
	comp=E,438nm,0.7s						
K05A	**Summer Lake**	**1.24**	**311**	Pn	**Pb**	**19 28 04.6**	**-0.7**
M04C	**Macdoel**	**1.66**	**266**	P	**Pn**	**19 28 10.1**	**-0.8**
M04C	baz=86,SNR=75			Sb	**Sb**	**19 28 33.7**	**+0.3**
	baz=86						
J08A	**Circle Bar Ran**	**1.67**	**30**		**Pn**	**19 28 11.2**	**+0.1**
J08A				IAML		19 28 42.6	

comp=E,147nm,0.6s
K04D **Chiloquin, OR** **1.73 295** Pb **Pb** **19 28 12.7 -0.9**
baz=115,SNR=35
J05D **Fort Rock, OR** **1.82 320** Pb **Pb** **19 28 14.6 -0.4**
baz=139,SNR=412
WVA **Winnemucca Val** **1.97 185** **Pn** **19 28 16.5 +1.3**
L04D **Klamath Falls** **2.02 280** Pn **Pn** **19 28 14.9 -0.9**
baz=99,SNR=29
L04D Pb **Pb** **19 28 17.1 -1.3**
baz=99
PINE **Pine Mountain** **2.11 333** Pg **Pb** **19 28 19.7 -0.4**
PINE IAML 19 28 51.3
comp=E,73nm,0.6s
PINE IAML 19 28 57.1
comp=N,61nm,0.9s
BEKR **Beckworth** **2.12 196** **Pn** **19 28 16.9 -0.3**
BEKR IAML 19 28 57.9
comp=N,52nm,0.7s
I07A **Izee** **2.17 2** **Pb** **19 28 20.7 -0.3**
I07A IAML 19 28 51.7
comp=N,76nm,0.6s
I07A IAML 19 28 59.4
comp=E,45nm,0.8s
PAHR **Pah Rah Range** **2.21 175** **Pn** **19 28 18.3 -0.1**
LCMM **Colby Mountain** **2.28 220** **Pb** **19 28 21.9 -1.0**
LOY **Loyalton** **2.30 192** **Pn** **19 28 22.0 +2.3**
O03E **Paynes Creek** **2.31 226** Pb **Pn** **19 28 21.7 +1.9**
baz=46,SNR=16
YBH **Yreka Blue Hor** **2.31 267** **Pn** **19 28 18.9 -1.0**
PEAR **Peavine Mounta** **2.32 186** **Pb** **19 28 23.6 0.0**
BMN **Battle Mountai** **2.34 128** Pn **Pn** **19 28 19.4 -0.9**
BMN IAML 19 28 54.6
comp=E,52nm,0.6s
BMN IAML 19 29 01.5
comp=N,41nm,0.6s
N02D **Trinity Center** **2.50 249** Pb **Pn** **19 28 24.4 +2.1**
baz=68,SNR=18
N02D Sb **Sb** **19 28 59.6 +2.1**
baz=68
HUMO **Hull Mountain** **2.57 287** **Pn** **19 28 22.1 -1.1**
HUMO IAML 19 29 04.6
comp=N,33nm,0.8s
HUMO IAML 19 29 05.3
comp=E,32nm,0.7s
WDC **Whiskeytown Da** **2.57 240** **Pn** **19 28 22.8 -0.5**
WDC IAML 19 29 02.6
comp=N,46nm,0.6s
VCNR **Virginia City** **2.62 180** **Pn** **19 28 25.1 +1.0**
VCNR IAML 19 29 03.5
comp=N,54nm,0.9s
ORV **Oroville** **2.75 212** **Pn** **19 28 28.6 +2.8**
I04A **Tendick Farm,** **2.78 313** Pb **Pb** **19 28 31.4 0.0**
baz=132,SNR=8.2
PNTR **Pine Nut** **2.82 180** **Pn** **19 28 25.7 -1.2**
PNTR IAML 19 29 26.3
comp=E,52nm,0.9s
DBO **Dodson Butte** **2.94 295** **Pn** **19 28 28.9 +0.5**
DBO IAML 19 29 02.0
comp=E,23nm,2.7s
DBO IAML 19 29 15.6
comp=N,24nm,1.1s
YERR **Yerington** **2.94 174** **Pn** **19 28 28.3 -0.2**
O02D **Mt. Diablo Mer** **2.96 235** Pb **Pb** **19 28 32.8 -1.6**
baz=54,SNR=5.5
O02D Sb **Sb** **19 29 12.1 +1.5**
baz=54
L02E **Cave Junction** **2.98 276** P **Pn** **19 28 30.3 +1.5**
baz=94,SNR=9.8
L02E Sb **Sb** **19 29 12.2 +1.1**
baz=94
KVN **Kaiserville** **3.09 157** **Pn** **19 28 30.0 -0.6**
KVN IAML 19 29 22.0
comp=E,26nm,0.8s
KVN IAML 19 29 28.7
comp=N,27nm,0.7s
K02D **Willamette Mer** **3.10 286** P **Pn** **19 28 32.2 +1.6**
baz=104,SNR=5.4
MFID **Camas Ranch** **3.17 61** Pn **Pn** **19 28 31.6 -0.1**
KRMB **Red Mountain** **3.23 264** Pn **Pn** **19 28 32.2 -0.2**
KRMB IAML 19 29 23.6
comp=E,25nm,2.3s
KRMB IAML 19 29 52.7
comp=N,24nm,2.7s
H04A **Detroit Lake** **3.34 327** Pn **Pn** **19 28 34.5 +0.6**
RYN **Ryan** **3.39 165** **Pb** **19 28 39.9 -1.9**
RYN IAML 19 29 32.5
comp=N,21nm,0.7s
RYN IAML 19 29 32.9
comp=E,32nm,0.7s
BMO **Blue Mountains** **3.39 29** **Pn** **19 28 34.7 +0.1**
BMO IAML 19 29 16.9
comp=E,20nm,0.1s
ELK **Elko** **3.50 108** Pn **Pn** **19 28 36.4 +0.1**
ELK IAML 19 29 28.3
comp=E,14nm,0.4s
NVAR **Mina Array Bea** **3.62 163** **Pn** **19 28 38.9 +1.0**
PLID **Pearl Lake** **4.12 38** **Pn** **19 28 45.0 +0.2**
HLID **Hailey** **4.17 65** Sb **Sb** **19 29 48.6 +2.8**
baz=248
BGU **Big Grassy Mou** **5.05 99** Pn **Pn** **19 28 58.7 +1.1**
BGU IAML 19 30 26.6
comp=N,8.5nm,1.1s
DUG **Dugway, Tooele** **5.43 106** **Pn** **19 29 03.7 +1.1**

*NEIC **26** 19:50:04.4±1.5,55°.7S±0°.1×30°.2W±0°.2,h10km±1km, mb4.8/21,Error ellipse: s-maj=24.4km s-min=15.6km az=211.0*
*IDC **26** 19:50:11.3±0.5,55°.71S×29°.82W,h72km±4km,mb3.6/8, mb1 3.7/9,mb1mx3.6/24,mbtmp3.8/9,MS3.8/9,Ms1 3.8/9, ms1mx3.7/15,Error ellipse: s-maj=20.5km s-min=12.4km az=60.0*
*GCMT **26** 19:50:20.4±0.4,55°.86S±0°.03×29°.92W±0°.05,h21km±1km, MW4.8/74,Moment Tensor Solution. s12,c13; s74,c93; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-1.69±.22; $M_{\theta\theta}$0.88±.15; $M_{\phi\phi}$0.81±.13; $M_{r\theta}$0.53±.23; $M_{\theta\phi}$1.54±.07; $M_{r\phi}$-0.32±.21; Best double couple: M_o2.18300×10^16^ NP1:ϕ±22.00000°,δ48.00000°,λ-125.00000°. NP2: ϕ±248.00000°,δ52.00000°,λ-58.00000°. Principal axes: T 2.3920, Plg2.0000°, Azm316.0000°; N -0.4170, Plg25.0000°, Azm47.0000°; P -1.9750, Plg65.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 19:50:09.7±0.5, 55°.74S±0°.09×30°.1W±0°.1, h50km, n46, σ1§72/43, mb4.5/14, MS3.9/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**3.97**	**289**	Pn	Pn	19 51 03.8	-4.2
VNA1	**Neumayer--Stat**	**17.72**	**156**	P	**P**	**19 54 14.1**	**+1.5**
VNA3	**Neumayer Olymp**	**17.85**	**158**	P	**Pn**	**19 54 15.2**	**+1.1**
VNA2	**Neumayer--Watz**	**18.11**	**156**	P	**Pn**	**19 54 19.9**	**+2.7**
SNAA	**Sanae**	**19.70**	**155**	P	**Pn**	**19 54 36.8**	**+0.5**
SNAA	**Sanae**	**19.70**	**155**	P	**P**	**19 54 32.2**	**-2.3**
	0.0nm,0.3s,baz=347,slow=8.6,SNR=3.2						
SNAA				pP	**pwP**	**19 54 50.6**	**+1.5**
	0.2nm,0.3s,baz=320,slow=9.0,SNR=5.5						
SNAA				LR	LR	20 00 52.5	
	comp=Z,222nm,19.0s,baz=312,slow=33						
SNAA	**Sanae**	**19.70**	**155**	P	**P**	**19 54 32.1**	**-2.4**
TRQA	**Tornquist**	**27.72**	**296**	P	**P**	**19 55 51.9**	**-1.2**
PLCA	**Paso Flores**	**30.35**	**282**	LR	LR	20 08 14.9	
	comp=Z,340nm,20.8s,baz=130,slow=36						
QSPA	**South Pole Qui**	**34.51**	**180**	P	**P**	**19 56 52.3**	**-0.4**
	3.3nm,1.1s,baz=220,slow=2.1,SNR=5.2						
QSPA				pP	**pwP**	**19 57 10.7**	**+2.1**
	5.1nm,0.8s,baz=223,slow=1.7,SNR=8.1						
QSPA	**South Pole Qui**	**34.51**	**180**	P	**P**	**19 56 51.9**	**-0.8**
QSPA				IAmb	IAmb	19 57 12.1	
	comp=Z,7.0nm,0.9s						
CPUP	**Villa Florida**	**35.41**	**315**	P	**P**	**19 57 00.3**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=135,slow=11,SNR=2.1						
CPUP				pP	**pwP**	**19 57 18.2**	**+1.1**
	comp=Z,8.7nm,1.1s,baz=150,slow=9.7,SNR=6.7						
CPUP				LR	LR	20 10 20.2	
	comp=Z,132nm,21.7s,baz=136,slow=34						
MAW	**Mawson**	**41.35**	**145**	P	**P**	**19 57 48.3**	**-1.8**
	comp=Z,1.4nm,0.8s,baz=211,slow=13,SNR=2.4						
MAW				pP	**pwP**	**19 58 06.5**	**+0.1**
	comp=Z,7.0nm,0.8s,baz=236,slow=6.0,SNR=10.0						
MAW				LR	LR	20 13 24.0	

comp=Z,140nm,18.2s,baz=241,slow=34
BDFB **Brasilia** **42.33 334** pP pP 19 58 16.4 +5.5
comp=Z,3.0nm,0.8s,baz=191,slow=16,SNR=2.8
LVC **Limon Verde** **43.75 303** pP pP 19 58 28.5 +5.8
comp=Z,4.0nm,0.6s,baz=172,slow=4.7,SNR=3.6
LVC **Limon Verde** **43.75 303** P **P** **19 58 09.2 -1.3**
LVC IAmb IAmb 19 58 32.8
comp=Z,19nm,1.3s
SIV **San Ignacio** **46.21 317** P **P** **19 58 29.0 -0.6**
comp=Z,0.6nm,0.7s,baz=143,slow=10,SNR=1.7
SIV pP **pwP** **19 58 47.8 +1.4**
comp=Z,1.2nm,0.7s,baz=167,slow=6.5,SNR=4.1
SBA **Scott Base** **46.26 185** P **P** **19 58 28.9 -0.4**
VNDA **Vanda** **46.79 184** P **P** **19 58 33.4 -0.1**
comp=Z,0.9nm,0.8s,baz=196,slow=5.5,SNR=6.2
VNDA **Vanda** **46.79 184** P **P** **19 58 33.4 -0.1**
BOSA **Boshof** **47.49 79** LR LR 20 14 19.1
comp=Z,90nm,21.7s,baz=249,slow=31
BOSA **Boshof** **47.49 79** P **P** **19 58 40.1 +0.4**
BOSA IAmb IAmb 19 59 04.3
comp=Z,12nm,1.4s
H10S2 **ASCENSION HYDR** **48.23 21** T T 20 51 03.4
baz=29,slow=74,SNR=6.6
H10S3 **ASCENSION HYDR** **48.23 21** T T 20 51 02.4
baz=191,slow=74,SNR=18
LPAZ **La Paz** **48.89 308** P **P** **19 58 51.1 0.0**
comp=Z,1.5nm,0.7s,baz=155,slow=5.7,SNR=5.4
LPAZ pP **pwP** **19 59 09.5 +1.4**
comp=Z,3.5nm,0.5s,baz=165,slow=3.0,SNR=6.7
LPAZ LR LR 20 20 05.0
comp=Z,64nm,21.4s,baz=128,slow=37
LPAZ **La Paz** **48.89 308** P **P** **19 58 51.0 0.0**
LPAZ IAmb IAmb 19 59 24.7
comp=Z,8.9nm,0.9s
H10N1 **ASCENSION HYDR** **49.34 21** T T 20 52 29.7
baz=191,slow=75,SNR=18
H10N3 **ASCENSION HYDR** **49.34 21** T T 20 52 28.4
baz=191,slow=75,SNR=39
H10N2 **ASCENSION HYDR** **49.36 21** T T 20 52 27.5
baz=191,slow=75,SNR=40
LBTB **Lobatse** **50.49 76** P **P** **19 59 00.9 -1.7**
comp=Z,1.4nm,0.6s,baz=207,slow=9.0,SNR=1.9
LBTB pP **pwP** **19 59 18.8 -1.0**
comp=Z,5.3nm,0.7s,baz=229,slow=9.3,SNR=6.0
LBTB **Lobatse** **50.49 76** P **P** **19 59 01.1 -1.5**
LBTB IAmb IAmb 19 59 28.2
comp=Z,9.0nm,0.8s
SAML **Samuel** **53.45 318** P **P** **19 59 23.7 -0.9**
VOI **Vohitsoka** **64.83 92** P **P** **20 00 43.0 -0.4**
OTAV **Otavalo** **68.15 306** P **P** **20 01 04.5 -0.5**
OTAV IAmb IAmb 20 01 31.2
comp=Z,13nm,1.4s
ROSC **El Rosal** **70.45 312** LR LR 20 35 12.4
comp=Z,92nm,19.5s,baz=62,slow=38
RUSC **La Rusia** **70.90 314** P **P** **20 01 21.8 -0.2**
RUSC IAmb IAmb 20 01 47.0
comp=Z,9.6nm,1.0s
SDV **Santo Domingo** **72.66 318** P **P** **20 01 30.8 -1.4**
SDV IAmb IAmb 20 02 08.6
comp=Z,6.1nm,0.8s
KOWA **Kowa** **73.33 26** LR LR 20 29 33.8
comp=Z,108nm,18.0s,baz=188,slow=32
KOWA **Kowa** **73.33 26** P **P** **20 01 35.3 -0.5**
TORD **Torodi Ar. Bea** **73.62 32** P **P** **20 01 36.8 -0.8**
comp=Z,0.8nm,0.6s,baz=195,slow=6.2,SNR=5.4
TORD pP **sP** **20 01 56.5 +0.8**
comp=Z,6.2nm,1.0s,baz=201,slow=5.7,SNR=6.0
TORD sP **pwP** **20 02 02.4 +6.6**
comp=Z,6.2nm,0.9s,baz=201,slow=6.4,SNR=10
TORD LR LR 20 27 53.4
comp=Z,52nm,19.6s,baz=250,slow=31
TORD **Torodi Ar. Bea** **73.62 32** P **P** **20 01 37.0 -0.6**
TORD IAmb IAmb 20 02 04.9
comp=Z,6.0nm,1.0s
ASAR **Alice Springs** **99.74 165** PP PP 20 08 05.9 +14
comp=Z,0.5nm,0.9s,baz=190,slow=8.3,SNR=3.3
FINES **FINESS Array B** **124.89 29** PKP **PKPdf** **20 09 00.6 -1.9**
comp=Z,2.3nm,0.9s,baz=183,slow=11,SNR=2.6
INK **Inuvik** **144.54 321** PKP **PKPab** **20 09 36.1 -1.3**
comp=Z,9.5nm,1.0s,baz=330,slow=5.8,SNR=3.8
ILAR **Eielson Array** **148.70 313** PKPbc **PKPdf** **20 09 48.6 +2.7**
comp=Z,2.4nm,0.9s,baz=128,slow=1.6,SNR=17
ILAR pPKPbc **sPKPdf** **20 10 07.5 +2.8**
comp=Z,2.3nm,0.8s,baz=120,slow=1.7,SNR=4.5
SONM **Songino Array** **152.34 88** PKPbc **PKPbc** **20 09 57.6 -1.5**
comp=Z,1.2nm,0.7s,baz=248,slow=3.0,SNR=7.3

MEX 26 19:51:17.1±0.5, 15°.00N×93°.58W, h16km±12km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.78**	**27**	*i* P	Pb	19 51 29.5	-2.8
PCIG				*e*S	Sg	19 51 39.0	-3.7
CCIG	**Comitan**	**1.89**	**47**	*e*P	Pn	19 51 46.6	-2.2
CCIG				*e*S	Sn	19 52 05.1	-7.3
CMIG	**Matias Romero**	**2.42**	**329**	*e*P	Pn	19 51 53.0	-3.2
CMIG				*e*S	Sn	19 52 18.2	-7.3

IDC 26 19:54:28.9±43.0, 17°.74S×179°.31W, h579km±119km, mb3.0/3, mb1 3.1/4, mb1mx2.7/34, mbtmp3.9/4, Error ellipse: s-maj=872.3km s-min=119.5km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.52**	**270**	P	P	19 55 43.7	0.0
	0.9nm,0.3s,baz=124,slow=24,SNR=1.8						
STKA	**Stephens Creek**	**37.96**	**241**	P	P	20 00 58.3	0.0
	0.7nm,0.4s,baz=94,slow=13,SNR=4.0						
WRA	**Warramunga Arr**	**43.82**	**259**	P	P	20 01 44.7	-0.2
	0.5nm,0.4s,baz=95,slow=7.2,SNR=22						
ASAR	**Alice Springs**	**44.01**	**254**	P	P	20 01 46.0	-0.3
	5.8nm,0.6s,baz=88,slow=8.4,SNR=137						

*THR **26** 19:55:53.2±0.5,23°.97N×61°.65E,h29km±8km,ML3.4*
*DSN **26** 19:55:56.6±2.2,24°.05N×61°.47E,h10km,ML3.4/11,Error ellipse: s-maj=50.2km s-min=20.4km az=4.0*
*OMAN **26** 19:55:56.0±0.3,23°.59N×61°.62E,h34km±12km,mb5.5/4, ml3.9/17,Error ellipse: s-maj=15.1km s-min=3.2km az=262.0*

ISC 26 19:55:53.0±2.2, 23°.69N±0°.06×61°.8E±0°.1, h35km, n40, σ1§50/48, Off coast of Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHBR	**Chabahar**	**2.25**	**328**	*e*Pg	**Pn**	**19 56 27.6**	**-0.1**
CHBR				*e*Sg	**Sn**	**19 56 52.8**	**-1.5**
CHBR				IAML		19 57 03.3	
	comp=N,277nm,1.1s						
JLN	**Jalan Bani Buh**	**2.68**	**236**	P	**Pn**	**19 56 34.1**	**+0.3**
	SNR=8.5						
JLN				S	**Sn**	**19 57 02.9**	**-2.2**
WBK	**Wadi Bani Khal**	**2.82**	**248**	P	**Pn**	**19 56 36.0**	**+0.3**
	SNR=18						
WBK				S	**Sn**	**19 57 06.1**	**-2.3**
WSAR	**Wadi Sarin**	**2.95**	**262**	P	**Pn**	**19 56 37.4**	**0.0**
	SNR=24						
BIDO	**Bidbid**	**3.38**	**268**	P	**Pn**	**19 56 43.7**	**+0.5**
	SNR=35						
SMDO	**Samad**	**3.51**	**260**	P	**Pn**	**19 56 45.4**	**+0.3**
	SNR=109						
SMDO				S	**Sn**	**19 57 23.4**	**-2.1**
JMDO	**Jabal Madar**	**3.65**	**250**	P	**Pn**	**19 56 48.7**	**+1.6**
	SNR=72						
JMDO				S	**Sn**	**19 57 28.6**	**-0.4**
HOQ	**Hoqain**	**4.12**	**269**	P	**Pn**	**19 56 53.5**	**-0.1**
	SNR=15						
BSY	**Bisya**	**4.34**	**258**	P	**Pn**	**19 56 58.1**	**+1.6**
	SNR=47						
BSY				S	**Sn**	**19 57 45.0**	**-0.9**
MHTO	**MHTO**	**4.45**	**234**	P	**Pn**	**19 56 58.8**	**+0.7**
	SNR=18						
MHTO				S	**Sn**	**19 57 46.3**	**-2.4**
SOHO	**SOHO**	**4.84**	**276**	P	**Pn**	**19 57 03.1**	**-0.3**
SOHO	**SOHO**	**4.84**	**276**	P	**Pn**	**19 57 03.2**	**-0.3**
ARQ	**Araqi**	**4.86**	**267**	P	**Pn**	**19 57 06.2**	**+2.5**
ARQ				S	**Sn**	**19 57 57.9**	**-0.9**
UOSS	**Minazif**	**5.26**	**285**	*i* P	**Pn**	**19 57 08.7**	**-0.5**
	SNR=14						
UOSS	**Minazif**	**5.26**	**285**	P	**Pn**	**19 57 08.4**	**-0.8**
MDH	**Madha**	**5.26**	**289**	*i* P	**Pn**	**19 57 08.7**	**-0.6**
	SNR=34						

MDH	**Madha**	**5.26**	**289**	P	**Pn**	**19 57 09.0**	**-0.2**
	SNR=34							
HATD	**Hatta, Dubai**	**5.30**	**283**	*i* P	**Pn**	**19 57 10.2**	**+0.5**
	SNR=10.0							
HATD	**Hatta, Dubai**	**5.30**	**283**	P	**Pn**	**19 57 10.2**	**+0.5**
	SNR=10							
ASHO	**Ashiyiah**	**5.34**	**282**	*i* P	**Pn**	**19 57 10.5**	**+0.1**
	SNR=93							
ASHO				S	**Sn**	**19 58 09.8**	**-0.9**
ASHO	**Ashiyiah**	**5.34**	**282**	P	**Pn**	**19 57 10.8**	**+0.4**
	SNR=93							
ASHO				S	**Sn**	**19 58 12.0**	**+1.3**
MSFE	**Esma-Masafi**	**5.40**	**289**	*i* P	**Pn**	**19 57 10.7**	**-0.5**
	SNR=9.5							
MASF	**Masafi**	**5.41**	**289**	P	**Pn**	**19 57 10.8**	**-0.4**
	SNR=9.3							
BANOM	**Banah**	**5.47**	**295**	*i* P	**Pn**	**19 57 11.7**	**-0.4**
	SNR=12							
BANOM	**Banah**	**5.47**	**295**	P	**Pn**	**19 57 12.6**	**+0.4**
	SNR=12							
ALNE	**Al Ain**	**5.55**	**275**	*i* P	**Pn**	**19 57 16.1**	**+2.8**
	SNR=13							
ALNE	**Al Ain**	**5.55**	**275**	P	**Pn**	**19 57 15.5**	**+2.2**
SHME	**Shamm**	**5.65**	**296**	*i* P	**Pn**	**19 57 15.2**	**+0.6**
	SNR=19							
SHME	**Shamm**	**5.65**	**296**	P	**Pn**	**19 57 15.4**	**+0.8**
	SNR=19							
NAZ	**Nazwa, Dubai**	**5.75**	**284**	P	**Pn**	**19 57 18.6**	**+2.7**
NAZ	**Nazwa, Dubai**	**5.75**	**284**	P	**Pn**	**19 57 18.8**	**+2.9**
FAQ	**Al Faqa, Dubai**	**5.77**	**282**	*i* P	**Pn**	**19 57 18.4**	**+2.3**
	SNR=10							
FAQ	**Al Faqa, Dubai**	**5.77**	**282**	P	**Pn**	**19 57 19.0**	**+2.9**
	SNR=10							
ZHSF	**Zahedan**	**5.97**	**351**	*e*Pn	Pn	19 57 18.1	-1.0	
ASUD	**Al Ashush, Dub**	**5.99**	**280**	*i* P	**Pn**	**19 57 21.6**	**+2.4**
	SNR=50							
ASUD	**Al Ashush, Dub**	**5.99**	**280**	P	**Pn**	**19 57 22.0**	**+2.8**
	SNR=50							
BNDS	**Bandar-Abbas**	**6.29**	**307**	*e*P	**Pn**	**19 57 22.9**	**-0.6**
BSRN	**Basiran**	**8.58**	**345**	*e*Pn	Pn	19 57 53.6	-1.3	
DOK	**Doka**	**8.76**	**236**	P	**Pn**	**19 57 58.2**	**+1.0**
	SNR=5.2							
MRVT	**Maraveh tapeh**	**14.76**	**342**	*e*P	**Pn**	**19 59 19.9**	**+0.6**

*LDG **26** 20:00:57.0±0.1,43°.35N×1°.17W,h5km,Ml1.8/20,Error ellipse: s-maj=1.1km s-min=0.8km az=61.0*
MDD 26 20:00:57.1±0.4,43°.35N×1°.19W,h11km,mbLg1.8/6, Error ellipse: s-maj=4.1km s-min=3.2km az=109.0, PRXIMO,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.23**	**186**	*e*Pg	Pg	20 01 01.9	-0.1
SJPF				*e*Sg	Sg	20 01 04.9	-0.4
	59nm,0.2s						
SJPF	**Ste Jean**	**0.23**	**186**	Pg	Pg	20 01 01.9	-0.1
SJPF				Lg	Lg	20 01 04.9	
	30nm,0.2s						
EARA	**Aranguren**	**0.64**	**207**	Pg	Pg	20 01 09.2	-0.4
	1.9nm,0.1s,SNR=7.9						
EARA				Lg	Lg	20 01 16.3	
	3.9nm,0.1s,SNR=7.0						
ETSF	**Etsaut**	**0.64**	**134**	*e*Pg	Pb	20 01 10.1	-0.3
ETSF	**Etsaut**	**0.64**	**134**	Pg	Pb	20 01 10.1	-0.3
EPF	**Esparros**	**1.16**	**105**	*e*Pg	Pb	20 01 18.9	-0.4
EPF				*e*Sg	Sb	20 01 33.5	-0.9
	1.8nm,0.2s						
EPF	**Esparros**	**1.16**	**105**	Pg	Pb	20 01 18.9	-0.4
EPF				Lg	Lg	20 01 33.5	
	0.9nm,0.2s						
ECHI	**Chisagues Biel**	**1.22**	**123**	Pg	Pn	20 01 19.0	-1.3
	0.2nm,0.1s,SNR=7.9						
ECHI				Lg	Lg	20 01 36.0	
	2.8nm,0.0s,SNR=7.9						
ELAN	**Lanestosa**	**1.64**	**267**	Pg	Pb	20 01 27.6	+0.2
	0.0nm,0.1s,SNR=7.9						
ELAN				Lg	Lg	20 01 49.4	
	0.6nm,0.2s,SNR=7.9						
CSOR	**Sort**	**1.96**	**119**	Pg	Pb	20 01 33.0	0.0
	0.0nm,0.0s,SNR=7.9						
CSOR				Lg	Lg	20 01 58.5	
	1.2nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.11**	**40**	*e*Pn	Pn	20 01 31.0	-1.4
LFF				*e*Sn	Sn	20 01 56.2	-2.5
LFF				*e*Sg	Sg	20 02 03.4	-1.6
	1.2nm,0.2s						
LFF	**La Frestale**	**2.11**	**40**	Pn	Pn	20 01 31.0	-1.4
LFF				Sn	Sn	20 01 56.2	-2.5
LFF				Lg	Lg	20 02 03.4	
	0.6nm,0.2s						
CLLI	**Llivia**	**2.48**	**109**	Pn	Pn	20 01 38.0	+0.3
	SNR=7.9						
CLLI				Sn	Sn	20 02 06.0	-2.0
	SNR=7.9						
CLLI				Lg	Lg	20 02 14.4	
	0.2nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**2.48**	**89**	*e*Pn	Pn	20 01 36.4	-1.2
MTLF	**Montolieu**	**2.48**	**89**	*e*Pg	Pb	20 01 42.9	+1.1
MTLF				*e*Sn	Sn	20 02 04.3	-3.6
MTLF				*e*Sg	Sg	20 02 15.1	-1.8
	0.7nm,0.2s						
MTLF	**Montolieu**	**2.48**	**89**	Pn	Pn	20 01 36.4	-1.2
MTLF				Pg	Pb	20 01 42.9	+1.1
MTLF				Sn	Sn	20 02 04.3	-3.6
MTLF				Lg	Lg	20 02 15.1	
	0.3nm,0.2s						
ETOR	**Torete**	**2.61**	**195**	Pn	Pn	20 01 36.3	-3.0
	0.5nm,0.2s,SNR=7.9						
ETOR				Lg	Lg	20 02 17.1	
	2.4nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**2.61**	**139**	Lg	Lg	20 02 18.3	
	1.1nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**2.64**	**154**	Lg	Lg	20 02 20.4	
	0.6nm,0.1s,SNR=7.9						
RJF	**Les Rejaudoux**	**2.76**	**44**	*e*Pg	Pb	20 01 47.7	+1.3
RJF				*e*Sn	Sn	20 02 11.5	-3.1
	1.0nm,0.2s						
RJF				*e*Sg	Sg	20 02 23.2	-2.4
	0.5nm,0.1s						
RJF	**Les Rejaudoux**	**2.76**	**44**	Pg	Pb	20 01 47.7	+1.3
RJF				Sn	Sn	20 02 11.5	-3.1
	0.5nm,0.2s						
RJF				Lg	Lg	20 02 23.2	
	0.2nm,0.1s						
CAF	**Calviac**	**2.83**	**55**	*e*Pn	Pn	20 01 40.5	-1.7
CAF	**Calviac**	**2.83**	**55**	*e*Pg	Pb	20 01 49.2	+1.6
CAF				*e*Sn	Sn	20 02 13.2	-3.1
	0.7nm,0.2s						
CAF				*e*Sg	Sg	20 02 25.4	-2.4
	0.8nm,0.2s						
CAF	**Calviac**	**2.83**	**55**	Pn	Pn	20 01 40.5	-1.7
CAF				Pg	Pb	20 01 49.2	+1.6
CAF				Sn	Sn	20 02 13.2	-3.1
	0.3nm,0.2s						
CAF				Lg	Lg	20 02 25.4	
	0.4nm,0.2s						
EMOS	**Mosqueruela**	**3.03**	**170**	Sn	Sb	20 02 25.3	-2.9
	0.3nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**3.11**	**119**	Sn	Sb	20 02 30.6	+0.1
	0.4nm,0.1s,SNR=7.9						
MFF	**Saint Martin d**	**3.34**	**12**	*e*Pn	Pn	20 01 47.8	-1.5
MFF	**Saint Martin d**	**3.34**	**12**	*e*Pg	Pg	20 01 58.7	-2.3
MFF				*e*Sn	Sn	20 02 25.4	-3.5
MFF				*e*Sg	Sg	20 02 41.6	-2.7
	0.2nm,0.1s						
MFF	**Saint Martin d**	**3.34**	**12**	Pn	Pn	20 01 47.8	-1.5
MFF				Pg	Pg	20 01 58.7	-2.3
MFF				Sn	Sn	20 02 25.4	-3.5
MFF				Lg	Lg	20 02 41.6	
	0.1nm,0.1s						
LASF	**Ste Croix**	**3.73**	**77**	*e*Pn	Pn	20 01 53.2	-1.5
LASF	**Ste Croix**	**3.73**	**77**	*e*Pg	Pg	20 02 05.9	-2.6
LASF				*e*Sn	Sn	20 02 34.8	-3.8
LASF				*e*Sg	Sg	20 02 53.5	-3.4
	0.2nm,0.2s						
LASF	**Ste Croix**	**3.73**	**77**	Pn	Pn	20 01 53.2	-1.5
LASF				Pg	Pg	20 02 05.9	-2.6
LASF				Sn	Sn	20 02 34.8	-3.8
LASF				Lg	Lg	20 02 53.5	
	0.1nm,0.2s						
TCF	**Toulx Ste Croi**	**3.81**	**38**	*e*Pn	Pn	20 01 54.0	-1.7
TCF	**Toulx Ste Croi**	**3.81**	**38**	Pn	Pn	20 01 54.0	-1.7
TCF				Pg	Pg	20 02 07.5	-2.5
TCF				Sn	Sn	20 02 36.1	-4.4
	0.2nm,0.2s						
VIVF	**Saint-Julien-l**	**4.48**	**68**	*e*Pn	Pn	20 02 03.4	-1.6
VIVF				*e*Sg	Sg	20 03 17.0	-4.0
	0.1nm,0.1s						
VIVF	**Saint-Julien-l**	**4.48**	**68**	Pn	Pn	20 02 03.4	-1.6
VIVF				Lg	Lg	20 03 17.0	
	0.1nm,0.1s						
AVF	**Avril sur Loir**	**4.71**	**41**	*e*Sn	Sn	20 02 57.9	-4.9
AVF	**Avril sur Loir**	**4.71**	**41**	Sn	Sn	20 02 57.9	-4.9
QUIF	**Quistinic**	**4.78**	**344**	*e*Pn	Pn	20 02 07.8	-1.2
QUIF				*e*Sn	Sn	20 02 59.9	-4.4
	0.3nm,0.2s						
QUIF				*e*Sg	Sg	20 03 26.1	-4.2
	0.2nm,0.2s						
QUIF	**Quistinic**	**4.78**	**344**	Pn	Pn	20 02 07.8	-1.2
QUIF				Sn	Sn	20 02 59.9	-4.4
	0.2nm,0.2s						
QUIF				Lg	Lg	20 03 26.1	
	0.1nm,0.2s						
SMF	**Signal de Mont**	**4.86**	**46**	*e*Sn	Sn	20 03 01.5	-4.9
SMF				*e*Sg	Sg	20 03 28.1	-4.9
	0.5nm,0.2s						
SMF	**Signal de Mont**	**4.86**	**46**	Sn	Sn	20 03 01.5	-4.9
SMF				Lg	Lg	20 03 28.1	
	0.2nm,0.2s						
SSF	**Saint Saulge**	**4.98**	**40**	*e*Pn	Pn	20 02 10.0	-1.8
SSF	**Saint Saulge**	**4.98**	**40**	Pn	Pn	20 02 10.0	-1.8
SSF				Pg	Pg	20 02 28.9	-3.5
SSF				Sn	Sn	20 03 03.1	-6.3
	0.2nm,0.3s						
GRR	**Gorron**	**5.05**	**3**	*e*Sn	Sn	20 03 06.3	-4.7
	0.1nm,0.1s						
GRR	**Gorron**	**5.05**	**3**	Sn	Sn	20 03 06.3	-4.7
	0.1nm,0.1s						
ROSF	**Rostrenen**	**5.20**	**344**	*e*Pn	Pn	20 02 13.4	-1.4
ROSF				*e*Sn	Sn	20 03 09.7	-5.0
ROSF				*e*Sg	Sg	20 03 39.6	-4.3
ROSF	**Rostrenen**	**5.20**	**344**	Pn	Pn	20 02 13.4	-1.4
ROSF				Sn	Sn	20 03 09.7	-5.0
ROSF				Lg	Lg	20 03 39.6	
LOR	**Lormes**	**5.30**	**40**	*e*Pn	Pn	20 02 14.3	-1.9
LOR	**Lormes**	**5.30**	**40**	Pn	Pn	20 02 14.3	-1.9
LDF	**La Druitiere**	**5.30**	**8**	*e*Sn	Sn	20 03 12.6	-4.7
	0.1nm,0.2s						
FLN	**La Foliniere**	**5.44**	**5**	*e*Pn	Pn	20 02 16.6	-1.5
FLN				*e*Sn	Sn	20 03 15.1	-5.6
	0.5nm,0.3s						
FLN	**La Foliniere**	**5.44**	**5**	Pn	Pn	20 02 16.6	-1.5
FLN				Sn	Sn	20 03 15.1	-5.6
	0.2nm,0.3s						

*IDC **26** 20:17:21.1±1.4,30°.65N×83°.86E,h0km,mb3.4/4, mb1 3.6/5,mb1mx3.2/49,mbtmp3.4/5,ML3.4/1,MS3.1/2, Ms1 3.2/2,ms1mx2.7/26,Error ellipse: s-maj=50.6km s-min=26.3km az=60.0*
ISC 26 20:17:22.7±1.2,30.7N±0.2×83.9E±0.3,h10km,n8,σ1$33/5, mb3.5/3,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**16.12**	**356**	Pn	**P**	**20 21 11.9**	**-0.8**
	0.1nm,0.3s,baz=185,slow=9.4,SNR=6.6						
CMAR	**Chiang Mai Arr**	**18.30**	**128**	P	**P**	**20 21 37.9**	**+0.9**
	0.1nm,0.3s,baz=306,slow=11,SNR=4.9						
KURBB	**Kurchatov Arra**	**20.30**	**350**	P	Pn	20 21 58.7	-1.9
	2.0nm,0.8s,baz=173,slow=10.0,SNR=16						
ZALV	**Zalesovo Beam**	**23.25**	**1**	P	**P**	**20 22 30.9**	**+0.9**
	0.2nm,0.3s,baz=181,slow=12,SNR=2.3						
MA2	**Magadan**	**52.45**	**36**	LR	LR	20 47 51.7	
	comp=Z,26nm,21.5s,baz=26,slow=35						
NOA	**NORSAR Array B**	**55.35**	**326**	LR	LR	20 51 49.5	
	comp=Z,13nm,18.5s,baz=225,slow=37						
WRA	**Warramunga Arr**	**69.89**	**129**	P	**P**	**20 28 33.1**	**-1.0**
	0.5nm,0.9s,baz=327,slow=6.2,SNR=3.2						
TORD	**Torodi Ar. Bea**	**76.77**	**278**	P	**P**	**20 29 15.2**	**+0.3**
	0.3nm,0.7s,baz=50,slow=2.9,SNR=2.2						

*IDC **26** 20:19:44.6±1.6,31°.34S×71°.97W,h0km,mb3.9/4, mb1 3.9/6,mb1mx3.7/21,mbtmp3.8/6,ML3.6/2,Error ellipse: s-maj=43.7km s-min=36.0km az=78.0*
*NEIC **26** 20:19:45.2±1.6,31°.34S±0.04×72°.26W±0.06,h10km±1km, mb4.1/7,ML3.8(GUC),Error ellipse: s-maj=9.9km s-min=4.7km az=298.0*
*GUC **26** 20:19:46.5±0.9,31°.38S×72°.11W,h33km±4km,ML3.8*
ISC 26 20:19:45.0±1.9,31°.38S±0.04×72°.12W±0.06,h6km±12km, n55,σ0$79/66,mb4.1/6,8C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.81**	**31**	*e*P	**Pg**	**20 20 00.7**	**+0.1**
CO06				*e*S	**Sb**	**20 20 12.7**	**0.0**
CO06				IAML		20 20 18.7	
	comp=E,2μm,0.4s						
CO06	**Fray Jorge**	**0.81**	**31**		**Pg**	**20 20 00.6**	**0.0**
CO06				Sg	**Sb**	**20 20 12.8**	**0.0**
CO03	**El Pedregal**	**1.34**	**67**	*e*P	**Pn**	**20 20 09.7**	**-0.7**
CO03				*e*S	**Sb**	**20 20 26.9**	**-1.1**
CO03				IAML		20 20 29.0	
	comp=E,3μm,0.4s						
CO03	**El Pedregal**	**1.34**	**67**	Pn	**Pn**	**20 20 09.6**	**-0.7**
CO03				Sn	**Sb**	**20 20 26.7**	**-1.3**
VA06	**Catapilco**	**1.37**	**150**	*e*P	**Pn**	**20 20 10.6**	**-0.1**
VA06				*e*S	**Sn**	**20 20 28.2**	**-1.0**
VA06				IAML		20 20 35.7	
	comp=E,3μm,0.6s						
CO05	**La Serena**	**1.64**	**28**	*e*P	**Pn**	**20 20 14.3**	**0.0**
CO05				*e*S	**Sb**	**20 20 36.6**	**0.0**
CO05				IAML		20 20 43.1	
	comp=E,1μm,0.3s						
CO05	**La Serena**	**1.64**	**28**		**Pn**	**20 20 13.9**	**-0.5**
CO05				Sn	**Sb**	**20 20 36.6**	**0.0**
GO04	**Tololo Observa**	**1.65**	**44**	*e*P	**Pn**	**20 20 14.8**	**0.0**
GO04				*e*S	**Sb**	**20 20 36.9**	**-0.3**
GO04				IAML		20 20 47.6	
	comp=N,6μm,0.4s						
GO04	**Tololo Observa**	**1.65**	**44**	Pn	**Pn**	**20 20 14.9**	**+0.1**
VA01	**Torpederas**	**1.69**	**166**		**Pn**	**20 20 14.8**	**-0.3**
ROCH	**El Roble**	**1.85**	**150**	*e*P	**Pn**	**20 20 18.3**	**+0.8**
ROCH				*e*S	**Sn**	**20 20 41.7**	**+0.5**
ROCH				IAML		20 20 50.0	
	comp=N,873nm,0.4s						
VA03	**San Esteban**	**1.92**	**137**	*e*P	**Pn**	**20 20 19.0**	**+0.7**
VA03				*e*S	**Sn**	**20 20 43.3**	**+0.4**
VA03				IAML		20 20 48.1	
	comp=E,2μm,0.4s						
VA03	**San Esteban**	**1.92**	**137**		**Pn**	**20 20 19.4**	**+1.1**
VA05	**Santo Domingo**	**2.31**	**170**	*e*S	**Sn**	**20 20 52.5**	**0.0**
VA05				IAML		20 21 05.5	
	comp=E,848nm,0.3s						
VA05	**Santo Domingo**	**2.31**	**170**		**Pn**	**20 20 23.9**	**+0.3**
MT05	**Renca**	**2.32**	**150**	*e*P	**Pn**	**20 20 24.6**	**+0.7**
MT05				*e*S	**Sn**	**20 20 53.3**	**+0.5**
MT05				IAML		20 21 08.9	
	comp=E,1μm,0.3s						
MT05	**Renca**	**2.32**	**150**		**Pn**	**20 20 24.6**	**+0.7**
MT09	**Talagante**	**2.58**	**159**		**Pn**	**20 20 28.5**	**+1.1**
MT01	**Popeta**	**2.59**	**164**	*e*P	**Pn**	**20 20 27.8**	**+0.3**
MT01				*e*S	**Sn**	**20 20 59.3**	**0.0**
MT01				IAML		20 21 13.5	
	comp=E,241nm,0.5s						
MT01	**Popeta**	**2.59**	**164**		**Pn**	**20 20 27.5**	**+0.1**
LCO	**Las Campanas**	**2.66**	**28**	*e*P	**Pn**	**20 20 27.8**	**-0.8**
LCO				*i* S	**Sn**	**20 21 02.4**	**+1.1**
LCO				*e*S	**Sn**	**20 21 02.4**	**+1.1**
LCO	**Las Campanas**	**2.66**	**28**		**Pn**	**20 20 28.8**	**+0.1**
ZON	**Zonda**	**2.94**	**94**		**Pn**	**20 20 34.5**	**+2.1**
BO01	**Tunca**	**3.13**	**164**		**Pn**	**20 20 36.0**	**+1.1**
AC04	**Llanos de Chal**	**3.29**	**16**		**Pn**	**20 20 36.1**	**-1.0**
BO02	**Sierra Bellavi**	**3.59**	**162**		**Pn**	**20 20 41.8**	**+0.5**
GO05	**Huala**	**3.63**	**178**		**Pn**	**20 20 41.4**	**-0.3**
GO03	**Copiap**	**4.11**	**24**		**Pn**	**20 20 47.7**	**-0.7**
ML02	**Panimavida**	**4.41**	**173**		**Pn**	**20 20 52.7**	**+0.2**
AC02	**Maricunga**	**5.23**	**31**		**Pn**	**20 21 03.4**	**-0.8**
H03N1	**Juan Fernandez**	**6.10**	**249**	Pn	**Pn**	**20 21 14.9**	**-0.6**
	baz=291,slow=76,SNR=9.9						
H03N1				T	T	20 28 04.5	
	baz=76,slow=72,SNR=414						
VA04	**Juan Fernndez**	**6.10**	**247**	Pn	**Pn**	**20 21 14.2**	**-1.6**
H03N3	**Juan Fernandez**	**6.12**	**248**	Pn	**Pn**	**20 21 15.0**	**-0.7**
	baz=291,slow=76,SNR=9.1						
H03N3				T	T	20 27 58.9	
	baz=76,slow=72,SNR=410						
H03N2	**Juan Fernandez**	**6.12**	**249**	Pn	**Pn**	**20 21 15.4**	**-0.3**
	baz=291,slow=76,SNR=8.9						
H03N2				T	T	20 27 54.3	
	baz=76,slow=72,SNR=394						
PB14	**IPOC Station P**	**6.89**	**13**	Pn	**Pn**	**20 21 24.2**	**-2.7**
LC01	**Cunco**	**7.51**	**179**	Pn	**Pn**	**20 21 34.8**	**-0.3**
PB15	**IPOC Station P**	**8.47**	**17**	Pn	**Pn**	**20 21 48.4**	**-0.1**
PLCA	**Paso Flores**	**9.42**	**173**	Pn	**Pn**	**20 22 02.2**	**+0.8**
	comp=E,0.2nm,0.3s,baz=348,slow=15,SNR=1.4						
TRQA	**Tornquist**	**10.67**	**131**	Pn	**Pn**	**20 22 19.5**	**+1.0**
LPAZ	**La Paz**	**15.46**	**15**	Pn	**Pn**	**20 23 24.6**	**+0.4**
	comp=E,0.1nm,0.3s,baz=204,slow=2.6,SNR=2.7						
LPAZ	**La Paz**	**15.46**	**15**	Pn	**Pn**	**20 23 24.4**	**+0.2**
BDFB	**Brasilia**	**27.00**	**60**	P	**P**	**20 25 27.0**	**-1.0**
	comp=E,1.9nm,0.5s,baz=186,slow=8.7,SNR=3.7						
BDFB	**Brasilia**	**27.00**	**60**	P	**P**	**20 25 26.7**	**-1.3**
BDFB				IAmb	IAmb	20 25 35.3	
	comp=Z,5.3nm,1.2s						
SNAA	**Sanae**	**54.04**	**159**	P	**P**	**20 29 10.3**	**+0.5**
SNAA				IAmb	IAmb	20 29 25.9	
	comp=Z,3.0nm,1.3s						
TXAR	**Lajitas Array**	**67.42**	**330**	P	**P**	**20 30 42.4**	**+0.8**
	comp=Z,0.1nm,0.6s,baz=146,slow=6.6,SNR=1.9						
DBIC	**Dimbokro**	**74.42**	**72**	P	**P**	**20 31 24.8**	**+0.5**
	comp=Z,3.2nm,1.0s,baz=216,slow=8.9,SNR=1.3						
DBIC	**Dimbokro**	**74.42**	**72**	P	**P**	**20 31 23.7**	**-0.6**
KOWA	**Kowa**	**79.62**	**66**	P	**P**	**20 31 53.0**	**-0.6**
KOWA				IAmb	IAmb	20 32 18.6	
	comp=Z,5.9nm,1.3s						
TORD	**Torodi Ar. Bea**	**83.39**	**70**	P	**P**	**20 32 13.3**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=275,slow=4.4,SNR=8.7						
TORD	**Torodi Ar. Bea**	**83.39**	**70**	P	**P**	**20 32 13.6**	**0.0**
TORD				IAmb	IAmb	20 32 19.9	
	comp=Z,0.5nm,0.9s						
H11S2	**WAKE ISLAND Hyl**	**25.70**	**271**	T	T	22 57 34.5	
	baz=114,SNR=5.6						
H11S1	**WAKE ISLAND Hyl**	**25.71**	**271**	T	T	22 57 38.0	
	baz=114						
H11S3	**WAKE ISLAND Hyl**	**25.72**	**271**	T	T	22 57 35.9	
	baz=114						
ZALV	**Zalesovo Beam**	**152.01**	**30**	PKPbc	**PKiKP**	**20 39 40.5**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=303,slow=4.3,SNR=4.1						
ZALV	**Zalesovo Beam**	**152.01**	**30**		**PKiKP**	**20 39 40.8**	**-0.2**

*ARE **26** 20:19:39.3±3.2, 16°.82S±0°.07×70°.6W±0°.1,h11km±9km, Error ellipse: s-maj=0.0km s-min=0.0km az=200.0*
NEIC 26 20:19:44.5±2.4,17°.00S±0°.03×70°.69W±0°.10,h10km±2km, mb4.3/3,ML3.9(ARE),Error ellipse: s-maj=15.6km s-min=4.6km az=259.0,Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**1.41**	**167**	Pn	Pn	20 20 08.7	-1.6
AP01				Sn	Sb	20 20 29.3	+0.4
LPAZ	**La Paz**	**2.55**	**74**		Pn	20 20 25.7	-0.8
PSGCX	**Pisagua**	**2.64**	**168**		Pn	20 20 27.9	+0.6
PB11	**IPOC Station P**	**2.92**	**161**	Pn	Pn	20 20 31.9	+0.7
TA02	**Huaiquique**	**3.30**	**171**	Pn	Pn	20 20 36.7	+0.4
PB08	**IPOC Station P**	**3.45**	**155**	Pn	Pn	20 20 37.5	-1.1
TA01	**Diego Aracena**	**3.58**	**172**	Pn	Pn	20 20 40.3	+0.1
PB01	**IPOC Station P**	**4.18**	**164**	Pn	Pn	20 20 49.3	+0.8
PB07	**IPOC Station P**	**4.77**	**171**	Pn	Pn	20 20 55.9	-0.7
PB04	**IPOC Station P**	**5.33**	**175**	Pn	Pn	20 21 03.9	-0.5
LVC	**Limon Verde**	**5.83**	**164**	Pn	Pn	20 21 10.2	-1.2
PB14	**IPOC Station P**	**7.60**	**178**	Pn	Pn	20 21 37.4	+1.8
CPUP	**Villa Florida**	**15.49**	**129**	Pn	Pn	20 23 22.4	-0.8
CPUP				IAmb	IAmb	20 23 25.7	
	comp=Z,8.6nm,1.4s						
VA03	**San Esteban**	**15.70**	**180**	Pn	Pn	20 23 26.5	+0.5
VA03				IAmb	IAmb	20 23 31.6	
	comp=Z,18nm,0.7s						
MT05	**Renca**	**16.33**	**180**	Pn	Pn	20 23 31.2	-2.8
MT05				IAmb	IAmb	20 23 33.3	
	comp=Z,72nm,1.5s						

*IDC **26** 20:37:43.4±2.5,30°.60S×72°.81W,h0km,mb3.7/1, mb1 3.8/2,mb1mx3.5/16,mbtmp3.6/2,ML4.0/1,Error ellipse: s-maj=117.1km s-min=48.2km az=90.0*
*NEIC **26** 20:37:43.9±1.8,30°.57S±0.02×72°.76W±0.06,h10km±1km, mb4.2/3,Error ellipse: s-maj=9.5km s-min=2.9km az=285.0*
*GUC **26** 20:37:48.0±0.7,30°.47S×72°.46W,h32km±5km,ML3.5*
ISC 26 20:37:42.7±2.1,30.52S±0.07×72.76W±0.06,h3km±12km, n41,σ1$62/46,4C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.98**	**99**	*e*P	**Pg**	**20 38 02.0**	**+0.5**
CO06				*e*S	**Sg**	**20 38 12.8**	**-1.4**
CO06				IAML		20 38 16.3	
	comp=E,1μm,0.3s						
CO06	**Fray Jorge**	**0.98**	**99**		**Pg**	**20 38 02.0**	**+0.5**
CO05	**La Serena**	**1.45**	**66**	*e*P	**Pn**	**20 38 08.9**	**-0.9**
CO05				*e*S	**Sn**	**20 38 24.7**	**-4.6**
CO05				IAML		20 38 27.9	
	comp=E,3μm,0.3s						
CO05	**La Serena**	**1.45**	**66**		**Pn**	**20 38 09.9**	**+0.1**

comp=Z,0.2nm,0.7s,baz=329,slow=1.7,SNR=2.6

*IDC **26** 20:52:27.0±0.8,30.°88S×71.°44W,h0km,mb4.3/7, mb1 4.3/11,mb1mx4.2/24,mbtmp4.2/11,ML3.9/4,MS3.3/3, Ms1 3.3/3,ms1mx3.0/21,Error ellipse: s-maj=26.5km s-min=22.5km az=86.0*

*SJA **26** 20:52:32.0,30.°77S×71.°68W,h10km,ML4.5*

*NEIC **26** 20:52:33.3±2.3,30.°79S±0.°03×71.°54W±0.°06,h35km±4km, mb4.5/25,Mwr4.1/21,ML4.4(GUC),Error ellipse: s-maj=7.3km s-min=4.9km az=86.0*

*NEIC **26** 20:52:33.8,30.°77S×71.°49W,h48km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.88; Mθθ-0.26; Mφφ-1.61; Mrθ0.19; Mrφ-0.08; Mθφ-0.74; Fault plane solution: M₀1.92000×10¹⁵ NP1:φ₁177.28000°, δ56.61000°,λ83.79000°. NP2:φ₂8.47000°,δ33.89000°, λ99.32000°. Principal axes: T 2.0435, Plg77.0000°, Azm67.0000°; N -0.2783, Plg5.0000°, Azm181.0000°; P -1.7652, Plg11.0000°, Azm272.0000°;*

*GUC **26** 20:52:33.7±0.7,30.°74S×71.°42W,h47km±2km,ML4.5*

ISC 26 20:52:33.4±0.7,30.°73S±0.°03×71.°51W±0.°04,h43km±6km, n144,σ1°34/150,mb4.5/19,6C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
CO06	**Fray Jorge**	**0.12**	**298**	*eP*		**Pn**	**20 52 41.5**	**+1.0**
CO06				*eS*		**Sn**	**20 52 46.7**	**+1.3**
CO06				IAML			20 52 47.9	
	comp=E,67μm,0.4s							
CO06	**Fray Jorge**	**0.12**	**298**			**Pn**	**20 52 41.4**	**+1.0**
CO06				Sn		**Sn**	**20 52 47.2**	**+1.7**
CO02	**Combarbal**	**0.64**	**137**			**Pn**	**20 52 45.9**	**-0.4**
CO03	**El Pedregal**	**0.71**	**99**	*eP*		**Pn**	**20 52 46.9**	**-0.3**
CO03				*eS*		**Sn**	**20 52 56.0**	**-1.1**
CO03	**El Pedregal**	**0.71**	**99**			**Pn**	**20 52 46.9**	**-0.3**
CO03				Sn		**Sn**	**20 52 55.8**	**-1.3**
CO03	**El Pedregal**	**0.71**	**99**	*iP*		**Pn**	**20 52 46.0**	**-1.2**
GO04	**Tololo Observa**	**0.83**	**48**	*eP*		**Pn**	**20 52 49.1**	**+0.2**
GO04				*eS*		**Sn**	**20 52 59.9**	**-0.2**
GO04				IAML			20 53 03.0	
	comp=E,34μm,0.5s							
GO04	**Tololo Observa**	**0.83**	**48**			**Pn**	**20 52 49.1**	**+0.2**
GO04	**Tololo Observa**	**0.83**	**48**	*iP*		**Pn**	**20 52 49.0**	**+0.1**
CO05	**La Serena**	**0.84**	**16**	*eP*		**Pn**	**20 52 49.2**	**+0.3**
CO05				*iS*		**Sn**	**20 53 00.8**	**+0.7**
CO05	**La Serena**	**0.84**	**16**	Pn		**Pn**	**20 52 49.6**	**+0.7**
CO05				Sn		**Sn**	**20 53 00.7**	**+0.6**
VA06	**Catapilco**	**1.83**	**174**	*eP*		**Pn**	**20 53 02.9**	**+0.5**
VA06				*iS*		**Sn**	**20 53 26.5**	**+2.1**
AROD	**Rodeo**	**1.85**	**73**	*iP*		**Pn**	**20 53 05.0**	**+2.1**
LCO	**Las Campanas**	**1.85**	**22**	*eP*		**Pn**	**20 53 04.0**	**+1.1**
LCO				*eS*		**Sn**	**20 53 27.7**	**+2.4**
LCO	**Las Campanas**	**1.85**	**22**			**Pn**	**20 53 04.1**	**+1.1**
LCO	**Las Campanas**	**1.85**	**22**	*iP*		**Pn**	**20 53 04.0**	**+1.0**
ACCO	**Cerro Coronel**	**2.11**	**87**	*iP*		**Pn**	**20 53 09.0**	**+2.5**
ACDV	**Cuesta del Vie**	**2.14**	**75**	*iP*		**Pn**	**20 53 10.0**	**+3.2**
RTLS	**Leoncito**	**2.17**	**120**	*iP*		**Pn**	**20 53 10.0**	**+2.6**
VA03	**San Esteban**	**2.18**	**158**	*eP*		**Pn**	**20 53 08.2**	**+0.8**
VA03				*eS*		**Sn**	**20 53 35.3**	**+2.1**
VA03				IAML			20 53 42.9	
	comp=E,4μm,0.4s							
VA03	**San Esteban**	**2.18**	**158**			**Pn**	**20 53 08.4**	**+1.1**
VA03	**San Esteban**	**2.18**	**158**	*iP*		**Pn**	**20 53 08.0**	**+0.7**
ROCH	**El Roble**	**2.27**	**169**	*eP*		**Pn**	**20 53 09.4**	**+0.7**
ROCH				*eS*		**Sn**	**20 53 37.4**	**+1.8**
ROCH				IAML			20 53 44.4	
	comp=N,3μm,0.4s							
VA01	**Torpederas**	**2.29**	**183**			**Pn**	**20 53 08.6**	**-0.1**
VA01	**Torpederas**	**2.29**	**183**	*iP*		**Pn**	**20 53 09.0**	**+0.4**
AUSP	**Uspallata**	**2.34**	**130**	*iP*		**Pn**	**20 53 12.0**	**+2.3**
AC04	**Llanos de Chal**	**2.55**	**9**	*iP*		**Pn**	**20 53 13.4**	**+1.2**
AC04				IAML			20 53 58.1	
	comp=E,1μm,0.7s							
AC04	**Llanos de Chal**	**2.55**	**9**			**Pn**	**20 53 13.5**	**+1.2**
AC04	**Llanos de Chal**	**2.55**	**9**	*iP*		**Pn**	**20 53 14.0**	**+1.7**
ZON	**Zonda**	**2.56**	**109**	Pn		**Pn**	**20 53 15.1**	**+2.6**
ZON	**Zonda**	**2.56**	**109**	*iP*		**Pn**	**20 53 15.0**	**+2.5**
MT05	**Renca**	**2.73**	**166**	*iP*		**Pn**	**20 53 15.7**	**+0.9**
MT05				*iS*		**Sn**	**20 53 48.4**	**+1.8**
MT05	**Renca**	**2.73**	**166**			**Pn**	**20 53 15.7**	**+0.9**
MT05	**Renca**	**2.73**	**166**	*iP*		**Pn**	**20 53 16.0**	**+1.2**
RTCV	**Cerro Valdivia**	**2.78**	**115**	*iP*		**Pn**	**20 53 18.0**	**+2.5**
AGUA	**GUANDACOL**	**2.89**	**65**	*iP*		Pn	20 53 22.0	+4.9
VA05	**Santo Domingo**	**2.92**	**182**	IAML			20 54 09.8	
	comp=N,2μm,0.1s							
VA05	**Santo Domingo**	**2.92**	**182**			**Pn**	**20 53 16.9**	**-0.4**
ASAL	**Salagasta**	**2.94**	**130**	*iP*		**Pn**	**20 53 21.0**	**+3.3**
ARCO	**CERRO ARCO**	**3.04**	**134**	*iP*		**Pn**	**20 53 23.0**	**+3.9**
MT09	**Talagante**	**3.07**	**172**	*iP*		**Pn**	**20 53 20.3**	**+0.8**
MT09				*iS*		**Sn**	**20 53 56.4**	**+1.4**
MT09				IAML			20 54 12.6	
	comp=E,1μm,0.1s							
MT09	**Talagante**	**3.07**	**172**			**Pn**	**20 53 20.4**	**+0.8**
MT01	**Popeta**	**3.13**	**176**	*iP*		**Pn**	**20 53 20.4**	**+0.1**
MT01				IAML			20 54 10.5	
	comp=E,911nm,0.3s							
MT01	**Popeta**	**3.13**	**176**			**Pn**	**20 53 20.6**	**+0.3**
MT01	**Popeta**	**3.13**	**176**	*iP*		**Pn**	**20 53 20.0**	**-0.3**
AAGR	**Agrelo**	**3.27**	**137**	*iP*		**Pn**	**20 53 26.0**	**+3.7**
LMEL	**Las Melosas**	**3.30**	**161**	*iP*		**Pn**	**20 53 24.6**	**+1.9**
LMEL				IAML			20 54 16.4	
	comp=N,1μm,0.3s							
GO03	**Copiap**	**3.32**	**20**	*iP*		**Pn**	**20 53 23.9**	**+1.0**
GO03				*iS*		**Sn**	**20 54 02.7**	**+1.5**
GO03				IAML			20 54 19.3	
	comp=N,962nm,0.3s							
GO03	**Copiap**	**3.32**	**20**	Pn		**Pn**	**20 53 24.3**	**+1.4**
GO03	**Copiap**	**3.32**	**20**	*iP*		**Pn**	**20 53 26.0**	**+3.1**
AVFE	**Valle Fertil**	**3.49**	**90**	*iP*		**Pn**	**20 53 27.0**	**+1.7**
VCA	**Vinchina**	**3.49**	**56**	*iP*		Pn	20 53 30.0	+4.6
BO01	**Tunca**	**3.67**	**175**	*iP*		**Pn**	**20 53 27.8**	**+0.1**
BO01				*iS*		**Sn**	**20 54 10.8**	**+1.2**
BO01				IAML			20 54 25.4	
	comp=E,365nm,0.3s							
BO01	**Tunca**	**3.67**	**175**	Pn		**Pn**	**20 53 27.7**	**+0.1**
BO01	**Tunca**	**3.67**	**175**	*iP*		**Pn**	**20 53 28.0**	**+0.4**
BO02	**Sierra Bellavi**	**4.09**	**172**	*iP*		**Pn**	**20 53 34.1**	**+0.5**
BO02				*iS*		**Sn**	**20 54 21.2**	**+1.0**
BO02	**Sierra Bellavi**	**4.09**	**172**			**Pn**	**20 53 34.0**	**+0.5**
BO02	**Sierra Bellavi**	**4.09**	**172**	*iP*		**Pn**	**20 53 34.0**	**+0.5**
ACLC	**CERRO LA CRUZ**	**4.16**	**73**	*iP*		**Pn**	**20 53 37.0**	**+2.4**
ACHE	**Chepes**	**4.18**	**97**	*iP*		**Pn**	**20 53 36.0**	**+1.1**
GO05	**Huala**	**4.28**	**185**	*iP*		**Pn**	**20 53 34.7**	**-1.3**
GO05	**Huala**	**4.28**	**185**	Pn		**Pn**	**20 53 35.0**	**-1.1**
GO05	**Huala**	**4.28**	**185**	*iP*		**Pn**	**20 53 35.0**	**-1.1**
APLL	**PUNTA DE LOS L**	**4.31**	**87**	*iP*		**Pn**	**20 53 38.0**	**+1.5**
AC02	**Maricunga**	**4.41**	**29**	Pn		**Pn**	**20 53 40.1**	**+1.8**
AC02	**Maricunga**	**4.41**	**29**	*iP*		**Pn**	**20 53 40.0**	**+1.7**
RFA	**San Rafael**	**4.77**	**148**	*iP*		**Pn**	**20 53 44.0**	**+1.1**
ML02	**Panimavida**	**5.02**	**179**	Pn		**Pn**	**20 53 45.4**	**-0.8**
MRA	**San Martin**	**5.22**	**110**	*iP*		**Pn**	**20 53 50.0**	**+0.9**
PB14	**IPOC Station P**	**6.16**	**9**			**Pn**	**20 54 01.7**	**-0.5**
AHML	**Horco Molle**	**6.70**	**56**	*iP*		**Pn**	**20 54 11.0**	**+1.7**
FSA	**Cafayete**	**6.70**	**48**	*iP*		**Pn**	**20 54 12.0**	**+2.5**
H03N1	**Juan Fernandez**	**6.84**	**245**	Pn		**Pn**	**20 54 10.9**	**0.0**
	baz=115,slow=19,SNR=226							
H03N1				T		T	21 01 01.1	
	baz=74,slow=72,SNR=75							
VA04	**Juan Fernndez**	**6.85**	**243**	Pn		**Pn**	**20 54 10.1**	**-1.2**
H03N3	**Juan Fernandez**	**6.85**	**245**	Pn		**Pn**	**20 54 10.9**	**-0.2**
	baz=115,slow=19,SNR=202							
H03N3				T		T	21 01 01.9	
	baz=74,slow=72,SNR=68							
H03N2	**Juan Fernandez**	**6.85**	**245**	Pn		**Pn**	**20 54 11.2**	**+0.1**
	baz=115,slow=19,SNR=212							
H03N2				T		T	21 01 03.7	
	baz=74,slow=72,SNR=302							
H03S3	**Juan Fernandez**	**6.98**	**242**	Pn		**Pn**	**20 54 11.6**	**-1.3**
	baz=36,slow=19,SNR=26							
H03S3				T		T	21 01 32.0	
	baz=98,slow=75,SNR=13							
H03S1	**Juan Fernandez**	**6.99**	**242**	Pn		**Pn**	**20 54 11.8**	**-1.2**
	baz=36,slow=19,SNR=24							
H03S1				T		T	21 01 28.6	
	baz=98,slow=75,SNR=5.9							
H03S2	**Juan Fernandez**	**7.00**	**242**	Pn		**Pn**	**20 54 11.9**	**-1.3**
	baz=36,slow=19,SNR=25							
H03S2				T		T	21 01 32.5	
	baz=98,slow=75,SNR=15							
PB15	**IPOC Station P**	**7.71**	**14**	Pn		**Pn**	**20 54 22.9**	**-0.5**
LC01	**Cunco**	**8.15**	**182**	Pn		**Pn**	**20 54 28.1**	**-1.1**
LC01	**Cunco**	**8.15**	**182**	*i* P		**Pn**	**20 54 29.0**	**-0.2**
LVC	**Limon Verde**	**8.42**	**17**	Pn		**Pn**	**20 54 32.0**	**-1.2**
	comp=E,0.7nm,0.3s,baz=190,slow=6.1,SNR=1.8							
PB01	**IPOC Station P**	**9.82**	**11**	Pn		**Pn**	**20 54 49.4**	**-2.8**
PLCA	**Paso Flores**	**10.01**	**176**	Pn		**Pn**	**20 54 53.6**	**-1.0**
	comp=E,0.2nm,0.3s,baz=352,slow=18,SNR=1.7							
PLCA				LR		LR	20 59 06.2	
	comp=E,107nm,18.5s,baz=343,slow=40							
LL04	**Puerto Octay**	**10.18**	**184**	Pn		**Pn**	**20 54 56.0**	**-0.9**
TRQA	**Tornquist**	**10.73**	**135**	Pn		**Pn**	**20 55 04.2**	**-0.3**
TRQA	**Tornquist**	**10.73**	**135**	*i* P		**Pn**	**20 55 05.0**	**+0.4**
ITQB	**Itaqui**	**12.92**	**89**	Pn		**Pn**	**20 55 32.3**	**-2.1**
CPUP	**Villa Florida**	**13.21**	**74**	Pn		**Pn**	**20 55 37.2**	**-1.2**
	comp=E,0.3nm,0.3s,baz=188,slow=11,SNR=2.4							
CPUP				LR		LR	21 01 13.0	
	comp=E,125nm,19.3s,baz=218,slow=40							
LPAZ	**La Paz**	**14.71**	**13**	Pn		**Pn**	**20 56 00.5**	**+1.2**
	comp=E,0.1nm,0.3s,baz=189,slow=6.7,SNR=15							
LPAZ	**La Paz**	**14.71**	**13**	Pn		**Pn**	**20 56 00.1**	**+0.8**
PLTB	**Pedras Altas**	**15.35**	**98**	Pn		**Pn**	**20 56 04.5**	**-2.6**
SIV	**San Ignacio**	**17.51**	**35**	P		**P**	**20 56 35.1**	**-0.1**
	comp=E,0.5nm,0.3s,baz=233,slow=11,SNR=16							
SAML	**Samuel**	**23.02**	**21**	P		**P**	**20 57 33.3**	**-1.6**
BDFB	**Brasilia**	**26.23**	**60**	P		**P**	**20 58 03.5**	**-1.1**
	comp=E,6.2nm,0.6s,baz=225,slow=9.5,SNR=9.8							
BDFB				LR		LR	21 08 43.4	
	comp=E,111nm,21.4s,baz=174,slow=37							
BDFB	**Brasilia**	**26.23**	**60**	P		**P**	**20 58 03.2**	**-1.4**
RUSC	**La Rusia**	**36.45**	**357**	P		**P**	**20 59 34.1**	**-0.8**
RUSC				IAmb		IAmb	20 59 39.6	
	comp=Z,9.1nm,1.0s							
MLPR	**Magueyes Islan**	**48.61**	**6**	P		**P**	**21 01 12.2**	**-0.7**
CRPR	**Cabo Rojo, PR**	**48.64**	**6**	P		**P**	**21 01 12.5**	**-0.7**
VNA3	**Neumayer Olymp**	**52.22**	**159**	P		**P**	**21 01 39.7**	**0.0**
VNA2	**Neumayer--Watz**	**52.86**	**158**	P		**P**	**21 01 44.2**	**-0.2**
	baz=289,slow=8.1							
SNAA	**Sanae**	**54.45**	**159**	P		**P**	**21 01 55.9**	**-0.3**
SNAA	**Sanae**	**54.45**	**159**	P		**P**	**21 01 55.8**	**-0.3**
SNAA				IAmb		IAmb	21 01 56.7	
	comp=Z,5.1nm,1.0s							
QSPA	**South Pole Qui**	**59.49**	**180**	P		**P**	**21 02 32.4**	**+0.4**
QSPA				IAmb		IAmb	21 02 33.3	
	comp=Z,4.0nm,1.1s							
H06E1	**SOCORRO T-PHAS**	**62.13**	**317**	T		T	22 10 18.4	
	SNR=6.6							
V58A	**Windy Hill, Pi**	**66.56**	**353**	P		**P**	**21 03 19.1**	**+0.2**
CPCT	**Cooper Cave**	**66.96**	**348**	P		**P**	**21 03 22.5**	**+1.0**
TXAR	**Lajitas Array**	**67.13**	**330**	P		**P**	**21 03 24.4**	**+1.5**
	comp=Z,0.6nm,0.7s,baz=153,slow=8.1,SNR=9.4							
TX31	**Lajitas Ar. Si**	**67.13**	**330**	P		**P**	**21 03 23.9**	**+1.0**
TX31				IAmb		IAmb	21 03 33.4	
	comp=Z,8.5nm,1.2s							
LCAR	**Lake Charles**	**68.97**	**343**	P		**P**	**21 03 34.7**	**+0.6**
LCAR				IAmb		IAmb	21 03 35.0	
	comp=Z,3.7nm,0.7s							
CCM	**Cathedral Cave**	**70.87**	**344**	P		**P**	**21 03 46.9**	**+1.2**
CCM				IAmb		IAmb	21 03 47.3	
	comp=Z,4.8nm,0.8s							
R40A	**Maddies Statio**	**71.35**	**343**	P		**P**	**21 03 49.2**	**+0.6**
R40A				IAmb		IAmb	21 03 50.5	
	comp=Z,7.0nm,0.8s							
LIC	**Lamto**	**73.33**	**72**	*eP*		**P**	**21 04 00.5**	**-0.5**
	comp=Z,23nm,0.9s							
TIC	**Toumodi**	**73.57**	**72**	*eP*		**P**	**21 04 00.5**	**-2.0**
KIC	**Kosan Boka**	**73.64**	**72**	*eP*		**P**	**21 04 02.5**	**-0.4**
	comp=Z,12nm,0.8s							
DBIC	**Dimbokro**	**73.72**	**72**	P		**P**	**21 04 03.3**	**0.0**
	comp=Z,7.0nm,0.5s,baz=227,slow=4.5,SNR=14							
DBIC	**Dimbokro**	**73.72**	**72**	P		**P**	**21 04 03.1**	**-0.2**
MAW	**Mawson**	**76.18**	**164**	P		**P**	**21 04 16.7**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=202,slow=4.7,SNR=6.9							
E62A	**Clayton Lake**	**77.01**	**1**	P		**P**	**21 04 23.1**	**+1.6**
ECSD	**EROS Data Cent**	**77.59**	**342**	P		**P**	**21 04 25.6**	**+0.8**
ECSD				IAmb		IAmb	21 04 26.3	
	comp=Z,5.7nm,0.8s							
KOWA	**Kowa**	**78.89**	**66**	P		**P**	**21 04 32.7**	**+0.1**
KOWA				IAmb		IAmb	21 04 33.3	
	comp=Z,3.6nm,0.7s							
PDAR	**Pinedale Array**	**81.07**	**333**	P		**P**	**21 04 44.4**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=134,slow=3.9,SNR=2.5							
BOSA	**Boshof**	**81.19**	**118**	P		**P**	**21 04 45.0**	**-0.1**
	comp=Z,2.7nm,0.8s,baz=194,slow=10,SNR=4.0							
BOSA	**Boshof**	**81.19**	**118**	P		**P**	**21 04 45.2**	**0.0**
BOSA				IAmb		IAmb	21 04 45.4	
	comp=Z,7.2nm,1.1s							
TORD	**Torodi Ar. Bea**	**82.68**	**70**	P		**P**	**21 04 52.2**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=277,slow=6.4,SNR=65							
TORD	**Torodi Ar. Bea**	**82.68**	**70**	P		**P**	**21 04 52.9**	**0.0**
TORD				IAmb		IAmb	21 05 10.8	
	comp=Z,5.1nm,1.3s							
LBTB	**Lobatse**	**83.27**	**115**	P		**P**	**21 04 55.8**	**-0.2**
LBTB				IAmb		IAmb	21 05 03.4	
	comp=Z,5.4nm,1.4s							
WRA	**Warramunga Arr**	**123.82**	**210**	PKP		**PKPdf**	**21 11 26.2**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=152,slow=1.8,SNR=4.8							
H11S2	**WAKE ISLAND Hyd**	**126.21**	**271**	T		T	23 30 16.7	
	baz=115,slow=75,SNR=97							
H11S1	**WAKE ISLAND Hyd**	**126.22**	**271**	T		T	23 30 17.6	
	baz=115,slow=75,SNR=120							
H11S3	**WAKE ISLAND Hyd**	**126.23**	**271**	T		T	23 30 18.0	
	baz=115,slow=75,SNR=79							
H11N3	**WAKE ISLAND Hyd**	**126.54**	**273**	T		T	23 30 44.8	
	baz=111,slow=76,SNR=21							
H11N1	**WAKE ISLAND Hyd**	**126.55**	**273**	T		T	23 30 17.0	
	baz=111,slow=76,SNR=13							
H11N2	**WAKE ISLAND Hyd**	**126.56**	**273**	T		T	23 30 45.7	
	baz=111,slow=76,SNR=22							
YAK	**Yakutsk**	**145.79**	**342**	PKPdf		**PKPdf**	**21 12 06.9**	**+0.4**
KKAR	**Karatay Array**	**147.49**	**57**			**PKPdf**	**21 12 11.3**	**+1.2**
ZAA0	**Zalesovo Array**	**151.20**	**30**	PKPbc		**PKPbc**	**21 12 21.6**	**0.0**
ZALV	**Zalesovo Beam**	**151.20**	**30**	PKPbc		**PKPbc**	**21 12 21.5**	**0.0**
	comp=Z,6.8nm,0.7s,baz=293,slow=3.0,SNR=29							
ZALV	**Zalesovo Beam**	**151.20**	**30**			**PKPbc**	**21 12 21.8**	**+0.3**
MKAR	**Makanchi Array**	**154.20**	**44**	PKPbc		**PKPbc**	**21 12 27.5**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=5.7,slow=3.7,SNR=3.8							
MKAR	**Makanchi Array**	**154.20**	**44**			**PKPbc**	**21 12 28.3**	**-0.3**
SONM	**Songino Array**	**162.84**	**5**	PKPab		**PKPab**	**21 13 21.0**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=51,slow=4.6,SNR=1.9							
CMAR	**Chiang Mai Arr**	**165.02**	**142**	PKPab		**PKPab**	**21 13 29.1**	**-1.0**
	comp=Z,0.9nm,0.9s,baz=227,slow=6.9,SNR=6.1							

MEX 26 21:01:34.7±0.3,14.°30N×92.°84W,h14km,MD3.9,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PCIG		**1.44**	**345**	*eP*		Pn	21 01 58.5	-1.8
PCIG				*eS*		Sn	21 02 14.0	-5.1
CCIG	**Comitan**	**2.08**	**19**	*eP*		Pn	21 02 09.4	0.0
CCIG				*eS*		Sn	21 02 34.8	-0.4
TGIG		**2.48**	**354**	*eP*		Pn	21 02 14.2	-0.5
TGIG				*eS*		Sn	21 02 44.0	-0.7

*IDC **26** 21:17:58.6±1.3,31.°23S×71.°85W,h0km,mb4.4/3, mb1 4.1/8,mb1mx3.9/28,mbtmp4.0/8,ML3.8/5,MS3.0/3, Ms1 3.0/3,ms1mx2.8/20,Error ellipse: s-maj=44.1km s-min=26.5km az=118.0*

*NEIC **26** 21:18:03.9±1.6,31.°25S±0.°04×71.°83W±0.°06,h29km±5km, mb4.1/8,Mwr3.9/20,ML4.2(GUC),Error ellipse: s-maj=7.7km s-min=5.1km az=85.0*

*GUC **26** 21:18:03.4±0.8,31.°26S×71.°74W,h28km±6km,ML4.2*

*SJA **26** 21:18:04.0,31.°22S×71.°75W,h10km,ML4.6*

*NEIC **26** 21:18:04,31.°26S×71.°80W,h31km,Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr6.36; Mθθ0.49; Mφφ-6.85; Mrθ0.35; Mrφ0.28; Mθφ-3.84; Fault plane solution: M₀7.66000×10¹⁴ NP1:φ₁176.19000°, δ60.12000°,λ88.28000°. NP2:φ₂359.65000°,δ29.92000°, λ93.00000°. Principal axes: T 7.4045, Plg75.0000°, Azm82.0000°; N 0.4937, Plg1.0000°, Azm177.0000°; P -7.8981, Plg15.0000°, Azm267.0000°;*

ISC 26 21:18:02.6±0.6,31.°27S±0.°03×71.°79W±0.°05,h21km±3km, n98,σ1°25/99,mb4.4/4,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
CO06	**Fray Jorge**	**0.61**	**12**	*eP*		**Pb**	**21 18 15.1**	**+0.4**
CO06				*eS*		**Sb**	**21 18 23.2**	**+0.4**
CO06				IAML			21 18 25.4	
	comp=N,24μm,0.4s							
CO06	**Fray Jorge**	**0.61**	**12**			**Pb**	**21 18 15.0**	**+0.4**
CO06						**Sb**	**21 18 21.4**	**-1.4**
CO02	**Combarbal**	**0.68**	**84**	Pn		**Pb**	**21 18 16.2**	**+0.3**
CO03	**El Pedregal**	**1.04**	**66**	*eP*		**Pn**	**21 18 21.5**	**-0.4**
CO03				*eS*		**Sb**	**21 18 34.9**	**-0.2**
CO03				IAML			21 18 36.7	
	comp=E,9μm,0.2s							
CO03	**El Pedregal**	**1.04**	**66**	Pn		**Pn**	**21 18 21.4**	**-0.5**
CO03				Sn		**Sb**	**21 18 35.6**	**+0.6**
CO03	**El Pedregal**	**1.04**	**66**	*iP*		Pn	21 18 15.0	-6.9
VA06	**Catapilco**	**1.35**	**162**	*eP*		**Pb**	**21 18 27.2**	**0.0**
VA06				*eS*		**Sn**	**21 18 44.0**	**+0.6**
VA06				IAML			21 18 47.6	
	comp=N,10μm,0.4s							
GO04	**Tololo Observa**	**1.39**	**38**	*eP*		**Pn**	**21 18 27.2**	**+0.4**
GO04				*eS*		**Sn**	**21 18 44.9**	**+0.2**
GO04	**Tololo Observa**	**1.39**	**38**	Pn		**Pn**	**21 18 27.3**	**+0.4**
GO04				Sn		**Sb**	**21 18 45.3**	**+0.1**
CO05	**La Serena**	**1.43**	**19**	*eP*		**Pn**	**21 18 27.6**	**+0.4**
CO05				*eS*		**Sn**	**21 18 45.4**	**0.0**
CO05				IAML			21 18 51.4	
	comp=E,5μm,0.2s							
CO05	**La Serena**	**1.43**	**19**			**Pn**	**21 18 27.6**	**+0.4**
CO05				Sn		**Sn**	**21 18 45.7**	**+0.3**
VA01	**Torpederas**	**1.75**	**176**			**Pn**	**21 18 31.9**	**+0.2**
VA01	**Torpederas**	**1.75**	**176**	*iP*		**Pb**	**21 18 34.0**	**0.0**
ROCH	**El Roble**	**1.82**	**159**	*eP*		**Pn**	**21 18 34.1**	**+1.3**
ROCH				IAML			21 19 04.7	
	comp=N,3μm,0.5s							
VA03	**San Esteban**	**1.82**	**145**	*eP*		**Pb**	**21 18 34.5**	**-0.7**
VA03				*eS*		**Sb**	**21 18 57.7**	**0.0**
VA03				IAML			21 19 02.1	
	comp=E,7μm,0.3s							
VA03	**San Esteban**	**1.82**	**145**			**Pb**	**21 18 34.5**	**-0.7**
AROD	**Rodeo**	**2.28**	**62**	*iP*		**Pb**	**21 18 42.0**	**-1.1**
MT05	**Renca**	**2.29**	**158**	*eP*		**Pn**	**21 18 41.1**	**+1.8**
MT05				*eS*		**Sb**	**21 19 11.4**	**+0.1**
MT05				IAML			21 19 21.1	
	comp=E,3μm,0.3s							
MT05	**Renca**	**2.29**	**158**			**Pn**	**21 18 40.7**	**+1.5**
MT05	**Renca**	**2.29**	**158**	*iP*		**Pn**	**21 18 41.0**	**+1.8**
VA05	**Santo Domingo**	**2.38**	**177**	IAML			21 19 24.1	
	comp=N,2μm,0.5s							
VA05	**Santo Domingo**	**2.38**	**177**			**Pn**	**21 18 41.2**	**+0.8**
LCO	**Las Campanas**	**2.44**	**23**	*eP*		**Pn**	**21 18 41.6**	**+0.2**
LCO	**Las Campanas**	**2.44**	**23**			**Pn**	**21 18 42.0**	**+0.6**
MT09	**Talagante**	**2.59**	**165**	*eP*		**Pn**	**21 18 45.2**	**+1.9**
MT09				IAML			21 19 28.8	
	comp=E,1μm,0.5s							
MT09	**Talagante**	**2.59**	**165**			**Pn**	**21 18 45.0**	**+1.7**
MT01	**Popeta**	**2.62**	**170**	*eP*		**Pn**	**21 18 45.1**	**+1.4**
MT01				IAML			21 19 28.2	
	comp=E,1μm,0.7s							
MT01	**Popeta**	**2.62**	**170**			**Pn**	**21 18 44.9**	**+1.2**
ZON	**Zonda**	**2.67**	**97**			**Pb**	**21 18 48.5**	**-1.2**
ZON	**Zonda**	**2.67**	**97**	*iP*		**Pb**	**21 18 49.0**	**-0.7**
RTCV	**Cerro Valdivia**	**2.83**	**103**	*iP*		**Pb

MKAR	**Makanchi Array**	**154.75**	**45**	PKPbc	**PKPbc**	**21 38 00.7**	**-1.1**
	comp=Z,0.7nm,0.9s,baz=267,slow=2.4,SNR=4.6						
MKAR	**Makanchi Array**	**154.75**	**45**		**PKPbc**	**21 38 01.2**	**-0.6**

IDC 26 21:25:17.1±46.0, 17.74S×178.22W, h593km±64km, mb2.8/3,mb1 3.0/4,mb1mx2.7/29,mbtmp3.8/4, Error ellipse: s-maj=872.3km s-min=129.1km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**3.55**	**269**	P		P	21 26 39.2	0.0
	2.1nm,0.3s,baz=66,slow=3.0,SNR=13							
STKA	**Stephens Creek**	**38.87**	**241**	P		P	21 31 53.0	0.0
	0.7nm,0.5s,baz=87,slow=17,SNR=3.4							
WRA	**Warramunga Arr**	**44.84**	**259**	P		P	21 32 39.4	-0.6
	0.2nm,0.4s,baz=97,slow=7.1,SNR=9.6							
ASAR	**Alice Springs**	**45.01**	**254**	P		P	21 32 41.4	+0.1
	2.4nm,0.6s,baz=89,slow=8.3,SNR=59							

*JMA **26** 21:29:43.1±0.1,24.35N×122.99E,h48km±1km,M3.2*
*TAP **26** 21:29:43.7,24.37N×122.89E,h41km,ML3.6,C*
ISC 26 21:29:43.2±1.2, 24.36N±0.03×122.97E±0.02, h48km±6km, n110,σ0.76/217, 2C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.09**	**345**	P		**Pn**	**21 29 50.7**	**0.0**
JYNG				*i*	S	**Sn**	**21 29 56.0**	**-0.1**
YOJ	**Yonaguni jima**	**0.11**	**20**	P		**Pn**	**21 29 50.9**	**+0.1**
YOJ					S	**Sn**	**21 29 56.2**	**+0.1**
YOJ	**Yonaguni jima**	**0.11**	**20**	⇑*i*	P	**Pn**	**21 29 50.9**	**+0.1**
	baz=45							
YOJ				*i*	S	**Sn**	**21 29 56.3**	**+0.1**
	baz=45							
IRIF	**Iriomote-Funau**	**0.69**	**92**	P		**Pn**	**21 29 56.5**	**-0.3**
IRIF					S	**Sn**	**21 30 06.2**	**-0.4**
HATJ	**Hateruma jima**	**0.82**	**112**	P		**Pn**	**21 29 58.2**	**-0.2**
JKRS	**Kuro-shima**	**0.96**	**97**	P		**Pn**	**21 30 00.6**	**+0.3**
JKRS					S	**Sn**	**21 30 13.3**	**+0.5**
TWC	**Suao**	**1.05**	**284**	P		**Pn**	**21 30 01.1**	**-0.5**
	baz=284							
TWC					S	**Sn**	**21 30 14.1**	**-1.0**
	baz=284							
JIJ	**Ishigaki jima**	**1.07**	**90**	P		**Pn**	**21 30 01.5**	**-0.3**
JIJ					S	**Sn**	**21 30 14.9**	**-0.7**
EWUT	**Wuta**	**1.09**	**275**	P		**Pn**	**21 30 02.0**	**-0.1**
	baz=274							
EWUT					S	**Sn**	**21 30 15.9**	**-0.2**
	baz=274							
TWB1	**Santiao Chiao**	**1.10**	**306**	P		**Pn**	**21 30 02.5**	**+0.3**
	baz=308							
TWB1					S	**Sn**	**21 30 15.6**	**-0.8**
	baz=308							
ENA	**Nanau**	**1.12**	**274**	⇓P		**Pn**	**21 30 02.7**	**+0.2**
	baz=273							
ENA					S	**Sn**	**21 30 15.7**	**-1.2**
	baz=273							
NTC	**Toucheng**	**1.15**	**296**	P		**Pn**	**21 30 04.0**	**+1.2**
	baz=296							
NTC					S	**Sn**	**21 30 18.4**	**+0.9**
	baz=296							
NDS	**Dongshan**	**1.18**	**284**	P		**Pn**	**21 30 03.7**	**+0.5**
	baz=284							
NDS				*i*	S	**Sn**	**21 30 17.4**	**-0.7**
	baz=284							
ILA	**Ilan**	**1.18**	**290**	*e*P		**Pn**	**21 30 03.7**	**+0.4**
	baz=291							
ILA					S	**Sn**	**21 30 18.1**	**-0.3**
	baz=291							
TIPB	**Shuangxi**	**1.21**	**300**	⇑P		**Pn**	**21 30 04.0**	**+0.3**
	baz=302							
TIPB					S	**Sn**	**21 30 18.5**	**-0.4**
	baz=302							
TWE	**Neicheng**	**1.24**	**287**	P		**Pn**	**21 30 04.5**	**+0.4**
	baz=287							
TWE					S	**Sn**	**21 30 19.5**	**-0.2**
	baz=287							
JISG	**Ishigakijimahi**	**1.24**	**79**	P		**Pn**	**21 30 04.0**	**-0.1**
JISG					S	**Sn**	**21 30 19.2**	**-0.5**
ETL	**Fush Village**	**1.25**	**261**	P		**Pn**	**21 30 04.6**	**+0.4**
	baz=259							
ETL					eS	**Sn**	**21 30 20.5**	**+0.6**
	baz=259							
NACB	**Ninganchiao**	**1.27**	**262**	P		**Pn**	**21 30 04.2**	**-0.3**
	baz=260							
NACB					S	**Sn**	**21 30 20.5**	**0.0**
	baz=260							
TWD	**Chiawan**	**1.29**	**258**	*e*P		**Pn**	**21 30 04.8**	**+0.1**
	baz=256							
TWD					S	**Sn**	**21 30 20.7**	**-0.2**
	baz=256							
NWF	**Wu-fen Shan**	**1.29**	**303**	*e*P		**Pn**	**21 30 05.3**	**+0.4**
	baz=304							
NWF					S	**Sn**	**21 30 21.2**	**+0.1**
	baz=304							
HWA	**Hwalien**	**1.30**	**253**	*e*P		**Pn**	**21 30 05.5**	**+0.5**
	baz=251							
HWA					S	**Sn**	**21 30 21.0**	**-0.3**
	baz=251							
ENTT	**Nioudou**	**1.31**	**283**	P		**Pn**	**21 30 06.1**	**+1.0**
	baz=282							
ENTT					S	**Sn**	**21 30 22.6**	**+1.2**
	baz=282							
NDT	**Datong Townshi**	**1.35**	**281**	P		**Pn**	**21 30 06.6**	**+1.0**
	baz=280							
NDT					S	**Sn**	**21 30 23.2**	**+0.8**
	baz=280							
ETLH	**Xiulin Townshi**	**1.37**	**264**	P		**Pn**	**21 30 06.4**	**+0.4**
	baz=263							
ETLH					S	**Sn**	**21 30 22.6**	**-0.3**
	baz=263							
NWLT	**Wulai**	**1.40**	**288**	*e*P		**Pn**	**21 30 07.5**	**+1.1**
	baz=288							
NWLT					eS	**Sn**	**21 30 24.6**	**+0.9**
	baz=288							
TWA	**Mucha**	**1.40**	**296**	*e*P		**Pn**	**21 30 06.9**	**+0.5**
	baz=297							
TWA					eS	**Sn**	**21 30 23.7**	**-0.1**
	baz=297							
NHDH	**Xindian Distri**	**1.45**	**295**	*e*P		**Pn**	**21 30 07.6**	**+0.7**
	baz=295							
NHDH					S	**Sn**	**21 30 24.6**	**-0.1**
	baz=295							
NNSB	**Datong**	**1.45**	**273**	*e*P		**Pn**	**21 30 07.7**	**+0.6**
	baz=272							
NNSB					S	**Sn**	**21 30 25.2**	**+0.1**
	baz=272							
NNS	**Nan Shan**	**1.46**	**273**	*e*P		**Pn**	**21 30 07.4**	**+0.2**
	baz=273							
NNS					S	**Sn**	**21 30 25.0**	**-0.3**
	baz=273							
YHNB	**Yeheng**	**1.48**	**282**	*e*P		**Pn**	**21 30 07.8**	**+0.2**
	baz=282							
YHNB					S	**Sn**	**21 30 25.7**	**-0.2**
	baz=282							
NSK	**Sanguang**	**1.50**	**282**	*e*P		**Pn**	**21 30 08.4**	**+0.6**
	baz=282							
NSK					eS	**Sn**	**21 30 25.7**	**-0.5**
	baz=282							
ESL	**Shilin**	**1.51**	**249**	*e*P		**Pn**	**21 30 08.4**	**+0.6**
	baz=247							
ESL					eS	**Sn**	**21 30 26.5**	**+0.2**
	baz=247							
TWY	**Chenhua**	**1.54**	**306**	*e*P		**Pn**	**21 30 08.7**	**+0.4**
	baz=307							
TWY					eS	**Sn**	**21 30 27.4**	**+0.3**
	baz=307							
EGFH	**Guangfu**	**1.57**	**244**	*e*P		**Pn**	**21 30 09.3**	**+0.7**
	baz=242							
EGFH					eS	**Sn**	**21 30 27.7**	**-0.1**
	baz=242							
WHF	**Hehuan Shan**	**1.57**	**262**	*e*P		**Pn**	**21 30 09.1**	**+0.1**
	baz=261							
WHF					eS	**Sn**	**21 30 27.4**	**-1.0**
	baz=261							
FUSS	**Fushou**	**1.58**	**266**	*e*P		**Pn**	**21 30 09.6**	**+0.6**
	baz=265							
FUSS					eS	**Sn**	**21 30 28.2**	**-0.2**
	baz=265							
TWS1	**Kuangyinshan**	**1.59**	**298**	*e*P		**Pn**	**21 30 09.3**	**+0.4**
	baz=298							
TWS1					eS	**Sn**	**21 30 28.2**	**-0.1**
	baz=298							
NTST	**Danshui**	**1.60**	**300**	*e*P		**Pn**	**21 30 09.3**	**+0.3**
	baz=301							
NTST					*e*S	**Sn**	**21 30 28.4**	**-0.1**
	baz=301							
JTJ	**Tarama**	**1.60**	**80**	P		**Pn**	**21 30 09.5**	**+0.4**
JTJ					S	**Sn**	**21 30 28.9**	**+0.3**
TWT	**Tachien**	**1.64**	**267**	*e*P		**Pn**	**21 30 09.8**	**+0.1**
	baz=265							
TWT					*e*S	**Sn**	**21 30 29.8**	**0.0**
	baz=265							
TDCB	**Techi**	**1.66**	**267**	*e*P		**Pn**	**21 30 10.2**	**+0.3**
	baz=265							
TDCB					eS	**Sn**	**21 30 30.0**	**-0.2**
	baz=265							
HGSD	**Ruisui**	**1.66**	**239**	*e*P		**Pn**	**21 30 08.9**	**-0.9**
	baz=237							
HGSD					eS	**Sn**	**21 30 29.5**	**-0.5**
	baz=237							
CHGB	**Renai**	**1.67**	**260**	P		**Pn**	**21 30 10.6**	**+0.4**
	baz=259							
CHGB					S	**Sn**	**21 30 29.9**	**-0.6**
	baz=259							
OWD	**Renai**	**1.69**	**256**	P		**Pn**	**21 30 10.6**	**+0.2**
	baz=255							
OWD					S	**Sn**	**21 30 30.6**	**-0.3**
	baz=255							
EHY	**Hungye**	**1.73**	**241**	*e*P		**Pn**	**21 30 11.4**	**+0.6**
	baz=238							
EHY					eS	**Sn**	**21 30 31.6**	**-0.3**
	baz=238							
LIOB	**Emei**	**1.80**	**279**	*e*P		**Pn**	**21 30 13.0**	**+1.1**
	baz=279							
LIOB					eS	**Sn**	**21 30 32.8**	**-0.8**
	baz=279							
YULB	**Yu-li**	**1.81**	**238**	*e*P		**Pn**	**21 30 11.1**	**-0.8**
	baz=236							
YULB					eS	**Sn**	**21 30 31.7**	**-2.0**
	baz=236							
NSTT	**Nanjuang**	**1.81**	**279**	*e*P		**Pn**	**21 30 13.6**	**+1.6**
	baz=278							
NSTT					eS	**Sn**	**21 30 33.6**	**-0.3**
	baz=278							
EYUL	**Yuli**	**1.82**	**237**	*e*P		**Pn**	**21 30 13.5**	**+1.5**
	baz=234							
EYUL					eS	**Sn**	**21 30 33.8**	**-0.1**
	baz=234							
WHP	**Taichung City**	**1.85**	**268**	*e*P		**Pn**	**21 30 13.7**	**+1.2**
	baz=267							
WHP					eS	**Sn**	**21 30 34.6**	**-0.2**
	baz=267							
FULB	**Fuli**	**1.92**	**233**	*e*P		**Pn**	**21 30 14.3**	**+0.8**
	baz=231							
FULB					eS	**Sn**	**21 30 36.8**	**+0.2**
	baz=231							
SSLB	**Suanglung**	**1.93**	**253**	P		**Pn**	**21 30 13.9**	**+0.3**
	baz=251							
SSLB					S	**Sn**	**21 30 36.5**	**-0.3**
	baz=251							
CHKT	**Chengkung**	**1.94**	**230**	*e*P		**Pn**	**21 30 14.4**	**+0.7**
	baz=227							
CHKT					eS	**Sn**	**21 30 36.7**	**-0.1**
	baz=227							
SMLT	**Sun Moon Lake**	**1.95**	**256**	P		**Pn**	**21 30 14.4**	**+0.4**
	baz=255							
SMLT					S	**Sn**	**21 30 36.7**	**-0.6**
	baz=255							
TYC	**Yuchr**	**1.98**	**257**	P		**Pn**	**21 30 14.8**	**+0.5**
	baz=256							
TYC					S	**Sn**	**21 30 37.4**	**-0.5**
	baz=256							
NMLH	**Miaoli**	**1.99**	**275**	*e*P		**Pn**	**21 30 15.2**	**+0.7**
	baz=275							
NMLH					eS	**Sn**	**21 30 38.1**	**-0.2**
	baz=275							
TWQ1	**Liyutan**	**2.00**	**270**	*e*P		**Pn**	**21 30 15.5**	**+0.9**
	baz=269							
TWQ1					eS	**Sn**	**21 30 38.7**	**+0.2**
	baz=269							
NSY	**Sanyi**	**2.02**	**272**	*e*P		**Pn**	**21 30 15.6**	**+0.9**
	baz=271							
NSY					eS	**Sn**	**21 30 38.4**	**-0.4**
	baz=271							
WHYT	**Xinyi Township**	**2.05**	**252**	*e*P		**Pn**	**21 30 15.8**	**+0.6**
	baz=250							
WHYT					S	**Sn**	**21 30 39.4**	**-0.2**
	baz=250							
JIRB	**Irabujima**	**2.06**	**76**	*e*S		**Sn**	**21 30 40.0**	**+0.2**
EDH	**Donghe**	**2.06**	**228**	*e*P		**Pn**	**21 30 16.2**	**+0.9**
	baz=226							
EDH					eS	**Sn**	**21 30 39.5**	**-0.4**
	baz=226							
TCU	**Taichung**	**2.10**	**265**	*e*P		**Pn**	**21 30 16.6**	**+0.6**
	baz=263							
TCU					eS	**Sn**	**21 30 40.8**	**-0.1**
	baz=263							
WJS	**Zhushan**	**2.12**	**256**	*e*P		**Pn**	**21 30 17.1**	**+0.9**
	baz=254							
WJS					eS	**Sn**	**21 30 40.5**	**-0.8**
	baz=254							
WDJ	**Dajia District**	**2.12**	**270**	P		**Pn**	**21 30 16.8**	**+0.5**
	baz=269							
WDJ					eS	**Sn**	**21 30 40.6**	**-0.8**
	baz=269							
ELDTW	**Lidau**	**2.14**	**237**	*e*P		**Pn**	**21 30 17.0**	**+0.5**
	baz=235							
ELDTW					eS	**Sn**	**21 30 41.3**	**-0.6**
	baz=235							
WNT	**Mingjian**	**2.14**	**257**	*e*P		**Pn**	**21 30 17.7**	**+1.2**
	baz=256							
WNT					eS	**Sn**	**21 30 41.4**	**-0.6**
	baz=256							
ALS	**Alishan**	**2.15**	**247**	P		**Pn**	**21 30 17.2**	**+0.3**
	baz=245							
ALS					S	**Sn**	**21 30 41.5**	**-1.2**
	baz=245							
LDUT	**Ludao**	**2.17**	**220**	*e*P		**Pn**	**21 30 17.8**	**+0.8**
	baz=217							
LDUT					eS	**Sn**	**21 30 43.1**	**+0.5**
	baz=217							
WCHH	**Zhanghua**	**2.22**	**263**	P		**Pn**	**21 30 17.7**	**+0.2**
	baz=262							
WCHH					S	**Sn**	**21 30 43.7**	**-0.1**
	baz=262							
LONT	**Longtian**	**2.22**	**230**	*e*P		**Pn**	**21 30 17.9**	**+0.3**
	baz=227							
LONT					eS	**Sn**	**21 30 43.2**	**-0.7**
	baz=227							
CHN5	**Tsauling**	**2.23**	**251**	P		**Pn**	**21 30 18.4**	**+0.6**
	baz=249							
CHN5					S	**Sn**	**21 30 43.2**	**-1.0**
	baz=249							
TTN	**Taitung**	**2.31**	**227**	*e*P		**Pn**	**21 30 20.0**	**+1.1**
	baz=224							
TTN					eS	**Sn**	**21 30 46.1**	**0.0**
	baz=224							
TWGBT	**Beinan**	**2.32**	**229**	*e*P		**Pn**	**21 30 18.6**	**-0.3**
	baz=227							
TWGBT					eS	**Sn**	**21 30 45.6**	**-0.6**
	baz=227							
TWG	**Pinlang**	**2.32**	**229**	*e*P		**Pn**	**21 30 19.5**	**+0.6**
	baz=227							
TWG					eS	**Sn**	**21 30 46.0**	**-0.3**
	baz=227							
WDLH	**Douliu**	**2.32**	**254**	*e*P		**Pn**	**21 30 20.0**	**+1.1**
	baz=252							
WDLH					eS	**Sn**	**21 30 46.4**	**+0.1**
	baz=252							
STYH	**Taoyuan**	**2.33**	**240**	*e*P		**Pn**	**21 30 19.7**	**+0.6**
	baz=238							
STYH					S	**Sn**	**21 30 46.9**	**+0.3**
	baz=238							
TPUB	**Ta-pu**	**2.39**	**244**	P		**Pn**	**21 30 21.0**	**+1.1**
	baz=242							
TPUB					S	**Sn**	**21 30 47.9**	**-0.2**
	baz=242							
CHN4	**Tsaushan**	**2.40**	**246**	P		**Pn**	**21 30 21.3**	**+1.3**
	baz=244							
CHN4					S	**Sn**	**21 30 48.1**	**-0.1**
	baz=244							
WRL	**Guolierlin Hig**	**2.41**	**260**	P		**Pn**	**21 30 21.3**	**+1.1**
	baz=258							
WRL					S	**Sn**	**21 30 48.4**	**-0.2**
	baz=258							
WTP	**Ta-pu**	**2.43**	**243**	P		**Pn**	**21 30 21.3**	**+0.8**
	baz=241							
WTP					S	**Sn**	**21 30 48.7**	**-0.3**
	baz=241							
WTK	**Tuku**	**2.45**	**255**	P		**Pn**	**21 30 21.1**	**+0.4**
	baz=253							
WTK					S	**Sn**	**21 30 49.0**	**-0.5**
	baz=253							
CHY	**Chiayi**	**2.48**	**250**	P		**Pn**	**21 30 22.2**	**+1.1**
	baz=248							
CHY					S	**Sn**	**21 30 49.2**	**-1.1**
	baz=248							
TWK	**Hsinying**	**2.52**	**245**	*e*P		**Pn**	**21 30 22.9**	**+1.2**
	baz=243							
TWK					eS	**Sn**	**21 30 51.0**	**-0.3**
	baz=243							
CHN1	**Nanshi**	**2.53**	**243**	P		**Pn**	**21 30 22.2**	**+0.5**
	baz=241							
CHN1					S	**Sn**	**21 30 50.6**	**-0.7**
	baz=241							
SLGT	**Liugui**	**2.53**	**238**	*e*P		**Pn**	**21 30 22.6**	**+0.8**
	baz=236							
SLGT					eS	**Sn**	**21 30 51.9**	**+0.5**
	baz=236							
SGST	**Jiashian**	**2.53**	**240**	P		**Pn**	**21 30 22.6**	**+0.7**
	baz=238							
SGST					S	**Sn**	**21 30 51.1**	**-0.4**
	baz=238							
SNST	**Tainan City**	**2.54**	**244**	P		**Pn**	**21 30 23.2**	**+1.4**
	baz=242							
SNST					S	**Sn**	**21 30 51.0**	**-0.6**
	baz=242							
ECL	**Taimali**	**2.55**	**227**	*e*P		**Pn**	**21 30 23.1**	**+1.0**
	baz=225							
ECL					eS	**Sn**	**21 30 50.8**	**-1.1**
	baz=225							
WSF	**Szhu**	**2.62**	**255**	*e*P		**Pn**	**21 30 24.0**	**+1.1**
	baz=253							
WSF					eS	**Sn**	**21 30 52.4**	**-1.1**
	baz=253							
LAY	**Lan-yu**	**2.66**	**210**	*e*P		**Pn**	**21 30 25.0**	**+1.4**
	baz=207							
LAY					eS	**Sn**	**21 30 53.3**	**-1.3**
	baz=207							
TSMG	**Majia**	**2.70**	**233**	*e*P		**Pn**	**21 30 25.3**	**+1.2**
	baz=231							
TSMG					eS	**Sn**	**21 30 54.5**	**-1.0**
	baz=231							
CHN8	**Yiju**	**2.72**	**249**	*e*P		**Pn**	**21 30 25.3**	**+0.9**
	baz=247							
CHN8					eS	**Sn**	**21 30 56.0**	**-0.1**
	baz=247							
MASBT	**Mashibuluo**	**2.76**	**231**	P		**Pn**	**21 30 24.8**	**-0.2**
	baz=229							
MASBT					S	**Sn**	**21 30 57.1**	**-0.1**
	baz=229							
EAST	**Anshuo**	**2.77**	**225**	P		**Pn**	**21 30 26.0**	**+0.8**
	baz=223							
EAST					eS	**Sn**	**21 30 56.8**	**-0.7**
	baz=223							
SSPT	**Xinbi**	**2.89**	**230**	*e*P		**Pn**	**21 30 28.1**	**+1.3**
	baz=228							
SSPT					S	**Sn**	**21 31 00.2**	**-0.2**
	baz=228							
SLIU	**Shizi**	**2.92**	**224**	*e*P		**Pn**	**21 30 27.9**	**+0.7**
	baz=221							
SLIU					S	**Sn**	**21 31 00.3**	**-0.8**
	baz=221							
SCZT	**Fangliau**	**2.93**	**228**	*e*P		**Pn**	**21 30 28.7**	**+1.4**
	baz=226							
SCZT					eS	**Sn**	**21 31 01.1**	**-0.1**
	baz=226							
HEN	**Hengchun**	**3.12**	**222**	*e*P		**Pn**	**21 30 31.4**	**+1.6**
	baz=219							
HEN					eS	**Sn**	**21 31 05.2**	**-0.7**
	baz=219							
TWKBT	**Hengchun**	**3.12**	**220**	*e*P		**Pn**	**21 30 30.5**	**+0.5**
	baz=218							
TWKBT					S	**Sn**	**21 31 04.8**	**-1.2**
	baz=218							
TWK1	**Hengchun**	**3.12**	**220**	*e*P		**Pn**	**21 30 31.0**	**+1.0**
	baz=218							
TWK1					eS	**Sn**	**21 31 05.3**	**-0.7**
	baz=218							
PHUB	**P'eng-hu**	**3.22**	**256**	*e*P		**Pn**	**21 30 32.4**	**+1.1**
	baz=254							
PHUB					S	**Sn**	**21 31 06.6**	**-1.8**
	baz=254							
PNG	**Penghu**	**3.22**	**256**	P		**Pn**	**21 30 31.4**	**+0.2**
	baz=255							
PNG					S	**Sn**	**21 31 07.1**	**-1.4**
	baz=255							
VWUC	**VWUC**	**3.26**	**282**	P		**Pn**	**21 30 32.7**	**+0.9**
	baz=281							
VWUC					S	**Sn**	**21 31 08.1**	**-1.4**
	baz=281							
PTMZ	**Houxiangcun**	**3.57**	**282**	P		**Pn**	**21 30 36.8**	**+0.8**
	baz=281							
PTMZ					S	**Sn**	**21 31 15.6**	**-1.3**
	baz=281							
XPSS	**Dashiqiu**	**3.58**	**316**	*e*P		**Pn**	**21 30 37.1**	**+0.9**
	baz=316							
XPSS					eS	**Sn**	**21 31 16.6**	**-0.7**
	baz=316							
LYJJ	**Jianjiangzhen**	**3.63**	**308**	*e*S		**Sn**	**21 31 17.4**	**-1.0**
	baz=307							
KNMB	**Chin-men Tao**	**4.18**	**272**	P		**Pn**	**21 30 45.0**	**+0.6**
	baz=271							
KNMB					S	**Sn**	**21 31 30.1**	**-1.8**
	baz=271							
AXDP	**Jialang**	**4.58**	**278**	P		**Pn**	**21 30 50.6**	**+0.7**
	baz=276							
AXDP					S	**Sn**	**21 31 39.8**	**-2.1**
	baz=276							
ZPLA	**Ao Xicun**	**4.79**	**266**	*e*P		**Pn**	**21 30 52.9**	**+0.1**
	baz=264							
ZPLA					eS	**Sn**	**21 31 44.4**	**-2.7**
	baz=264							

MEX 26 21:30:59.0±1.5, 14.76N×92.57W, h80km±19km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
THIG		**0.33**	**63**	*e*P		Pn	21 31 09.3	-2.1
THIG				*e*S		Sn	21 31 18.5	-2.1
PCIG		**1.13**	**326**	*i* P		Pn	21 31 18.5	-1.1
PCIG				*i* S		Sn	21 31 33.6	-1.5
CCIG	**Comitan**	**1.57**	**15**	*e*P		Pn	21 31 27.1	+1.7
CCIG				*e*S		Sn	21 31 47.4	+2.1
TGIG		**2.08**	**345**	*e*P		Pn	21 31 32.4	+0.4
TGIG				*e*S		Sn	21 31 55.6	-1.5
CMIG	**Matias Romero**	**3.22**	**316**	*e*P		Pn	21 31 47.1	-0.2
CMIG				*e*S		Sn	21 32 27.8	+3.3

*NEIC **26** 21:36:33.7±2.9, 45.3N±0.1×151.6E±0.1, h10km±1km, mb4.4/19, Error ellipse: s-maj=20.1km s-min=16.5km az=163.0*
*IDC **26** 21:36:39.4±1.4, 46.62N×150.78E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.7/48, mbtmp3.8/10, ML3.5/1, MS2.9/4, Ms1 2.9/4, ms1mx2.6/48, Error ellipse: s-maj=50.4km s-min=22.8km az=86.0*
ISC 26 21:36:37.0±1.1, 45.3N±0.2×151.5E±0.2, h35km, n50, σ0.71/34, mb4.2/20, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JKA	**Kamikawa-asahi**	**6.45**	**262**			Pn	21 38 12.0	+2.6
ASAJ	**Asahikawa**	**6.45**	**262**	Pn		Pn	21 38 12.7	+3.3
	0.9nm,0.3s,baz=76,slow=17,SNR=9.2							
ASAJ					LR	LR	21 40 53.8	
	comp=Z,97nm,18.3s,baz=71,slow=40							
ERM	**Erimo**	**6.90**	**244**	Pn		**Pn**	**21 38 16.7**	**+1.2**
JTM	**Tenmabayashi**	**8.88**	**243**	Pn		**Pn**	**21 38 42.5**	**-0.2**
JSD	**Sado**	**12.28**	**238**	Pn		**Pn**	**21 39 27.6**	**-1.7**
KLR	**Kul'dur**	**13.95**	**293**	LR		LR	21 44 08.2	
	comp=Z,25nm,19.1s,baz=86,slow=34							
JWT	**Wachi**	**15.84**	**236**			**P**	**21 40 21.2**	**+0.7**
KSRS	**Korea Array**	**19.31**	**254**	P		**Pn**	**21 41 00.8**	**+0.7**
	0.1nm,0.3s,baz=69,slow=10,SNR=2.1							
KSRS					LR	LR	21 48 29.6	
	comp=Z,38nm,18.5s,baz=35,slow=37							
YAK	**Yakutsk**	**20.95**	**331**	LR		LR	21 49 52.6	
	comp=Z,46nm,19.7s,baz=104,slow=40							
H11N2	**WAKE ISLAND Hy**	**28.55**	**148**	T		T	22 13 49.9	
	baz=337							
H11N1	**WAKE ISLAND Hy**	**28.57**	**148**	T		T	22 13 51.1	
	baz=337							
H11N3	**WAKE ISLAND Hy**	**28.57**	**148**	T		T	22 13

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	baz=339,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.61**	**150**	T	T	22 15 11.2	
	baz=339						
H11S2	**WAKE ISLAND Hy**	**29.62**	**150**	T	T	22 15 17.3	
	baz=339,slow=76						
SML	**Sawmill**	**37.77**	**42**	P	**P**	**21 43 49.7**	**+0.4**
SML				IAmb	IAmb	21 43 57.4	
	comp=Z,13nm,1.3s						
M26K	**Nabesna, AK**	**40.22**	**41**	P	P	21 44 11.5	+1.7
M26K				IAmb	IAmb	21 44 12.2	
	comp=Z,5.2nm,1.1s						
L27K	**Beaver Creek,**	**40.68**	**40**	P	**P**	**21 44 14.3**	**+0.7**
BCAR	**Beaver Creek A**	**40.70**	**40**	P	**P**	**21 44 14.9**	**+1.1**
CTGM	**Chitina Glacie**	**41.21**	**43**	P	P	21 44 19.7	+1.7
CTGM				IAmb	IAmb	21 44 20.1	
	comp=Z,7.6nm,0.9s						
MK31	**Makanchi Array**	**46.59**	**298**	P	**P**	**21 45 01.4**	**+0.1**
MKAR	**Makanchi Array**	**46.59**	**298**	P	**P**	**21 45 01.3**	**0.0**
	comp=Z,0.3nm,0.6s,baz=73,slow=9.0,SNR=3.8						
MKAR	**Makanchi Array**	**46.59**	**298**	P	**P**	**21 45 01.9**	**+0.6**
MAKZ	**Makanchi**	**46.78**	**298**	P	**P**	**21 45 03.0**	**+0.2**
MAKZ				IAmb	IAmb	21 45 06.3	
	comp=Z,3.2nm,1.4s						
SHL	**Shillong**	**51.20**	**268**	P	**P**	**21 45 37.3**	**+0.2**
SHL				IAmb	IAmb	21 45 39.6	
	comp=Z,6.3nm,1.1s						
KKAR	**Karatay Array**	**55.69**	**299**	P	**P**	**21 46 08.8**	**-0.8**
ABKAR	**Akbulak array**	**58.46**	**310**	P	**P**	**21 46 29.1**	**+0.1**
ABKAR	**Akbulak array**	**58.46**	**310**	P	**P**	**21 46 28.8**	**-0.3**
CHGR	**Chuyangaron**	**59.02**	**295**	P	**P**	**21 46 33.3**	**+0.1**
NIL	**Nilore**	**59.27**	**288**	P	**P**	**21 46 35.8**	**+0.8**
NIL				IAmb	IAmb	21 46 37.1	
	comp=Z,5.4nm,0.9s						
KBL	**Kabul**	**61.53**	**291**	P	**P**	**21 46 50.3**	**-0.3**
KBL				IAmb	IAmb	21 46 51.0	
	comp=Z,2.4nm,0.8s						
SUMG	**Summit**	**62.17**	**3**	P	P	21 46 56.6	+2.1
FIA1	**FINESS Array S**	**64.82**	**334**	P	**P**	**21 47 11.3**	**-0.4**
FINES	**FINESS Array B**	**64.82**	**334**	P	**P**	**21 47 10.8**	**-0.9**
	comp=Z,1.6nm,0.9s,baz=12,slow=9.8,SNR=5.1						
FINES	**FINESS Array B**	**64.82**	**334**	P	**P**	**21 47 11.0**	**-0.7**
WR0	**Warramunga Arr**	**66.80**	**197**	P	**P**	**21 47 24.9**	**+0.1**
WR0				IAmb	IAmb	21 47 29.4	
	comp=Z,3.7nm,1.1s						
WRA	**Warramunga Arr**	**66.82**	**198**	P	P	21 47 38.7	+14
	comp=Z,0.8nm,0.8s,baz=13,slow=6.5,SNR=4.9						
ANGG	**Ammassalik, Gr**	**69.15**	**4**	P	**P**	**21 47 37.9**	**-1.2**
NB201	**NORSAR Array S**	**69.16**	**341**	P	**P**	**21 47 38.9**	**-0.4**
NB2	**NORSAR Subarra**	**69.19**	**341**	P	**P**	**21 47 38.3**	**-1.2**
	comp=Z,0.9nm,0.9s,baz=30,slow=6.2						
NOA	**NORSAR Array B**	**69.19**	**341**	P	**P**	**21 47 39.3**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=29,slow=6.3,SNR=3.7						
ASAR	**Alice Springs**	**70.53**	**197**	P	P	21 48 03.3	+15
	comp=Z,0.5nm,0.7s,baz=12,slow=5.0,SNR=6.8						
KBZ	**Khabaz**	**71.01**	**313**	P	**P**	**21 47 51.7**	**+0.8**
	comp=Z,3.5nm,0.9s,baz=307,slow=2.1,SNR=8.3						
AKASG	**Malin Array Be**	**72.08**	**326**	P	**P**	**21 47 56.6**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=37,slow=5.8,SNR=4.6						
BUR08	**Bucovina Ar. S**	**76.11**	**326**	P	**P**	**21 48 21.4**	**+0.4**
BUR08				IAmb	IAmb	21 48 22.0	
	comp=Z,2.7nm,0.7s						
BURAR	**Bucovina Array**	**76.13**	**326**	P	**P**	**21 48 21.1**	**0.0**
BURAR				IAmb	IAmb	21 48 22.3	
	comp=Z,2.2nm,0.7s						
CLL	**Collm**	**77.27**	**335**	*i* P	**P**	**21 48 26.7**	**-0.6**
	comp=Z,5.0nm,1.2s						
BRTR	**Keskin Array B**	**78.63**	**316**	P	**P**	**21 48 35.7**	**+0.5**
	comp=Z,0.6nm,0.9s,baz=87,slow=6.1,SNR=4.0						
KHC	**Kasperske Hory**	**79.00**	**333**	*e*P	P	21 48 31.0	-6.0
GERES	**GERESS Array B**	**79.21**	**333**	P	**P**	**21 48 37.8**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=357,slow=4.9,SNR=3.6						

NEIC ***26*** *21:37:11.2±2.1, 45.4N±0.2×151.5E±0.2, h10km±2km, mb4.5/18, Error ellipse: s-maj=27.6km s-min=16.9km az=154.0*

SKHL ***26*** *21:37:12.3±0.4, 44.90N×151.90E, h54km±5km, mb4.7/3*

JMA ***26*** *21:37:12.3±0.6, 45.62N×151.54E, h30km, M4.3*

IDC ***26*** *21:37:16.9±1.0, 46.59N×150.72E, h0km, mb3.8/9, mb1 4.0/11, mb1mx3.7/48, mbtmp3.8/11, ML3.3/2, Error ellipse: s-maj=30.9km s-min=23.2km az=90.0*

MOS ***26*** *21:37:19.4±1.7, 46.33N×150.32E, h30km, mb4.7/7, Error ellipse: s-maj=16.2km s-min=10.3km az=135.9*

ISC 26 21:37:12.9±1.2, 44.9N±0.1×151.8E±0.1, h50km, n92, σ1s74/70, mb4.2/19, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.81**	**279**	*e*PN	**Pn**	**21 37 54.7**	**-0.6**
KUR				pmax	pmax		
	comp=Z,199nm,0.4s						
KUR	**Kuril'sk**	**2.81**	**279**	*e*P	**Pn**	**21 37 54.7**	**-0.6**
KUR				AMB	AMB	21 37 56.6	
	comp=Z,110nm,0.4s						
KUR				*e*S	**Sn**	**21 38 26.2**	**-1.7**
KUR				A	A	21 38 32.0	
	comp=Z,390nm,0.5s						
KUR				A	A	21 38 32.0	
	comp=Z,300nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**4.33**	**261**	*e*PN	**Pn**	**21 38 17.5**	**+1.4**
YUK				*e*S	**Sn**	**21 39 04.8**	**-0.4**
YUK				pmax	pmax		
	comp=Z,171nm,0.3s						
YUK				smax	smax		
	comp=N,54nm,0.5s						
YUK				smax	smax		
	comp=E,146nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**4.33**	**261**	*e*P	**Pn**	**21 38 16.9**	**+0.8**
YUK				AMB	AMB	21 38 21.1	
	comp=E,150nm,0.7s						
YUK				*e*S	**Sn**	**21 39 04.9**	**-0.3**
YUK				A	A	21 39 11.4	
	comp=E,170nm,0.5s						
YUK				A	A	21 39 11.4	
	comp=E,180nm,0.5s						
GRPR	**Tuman**	**4.40**	**261**	*e*PN	**Pn**	**21 38 18.1**	**+1.0**
GRPR				*e*S	**Sn**	**21 39 07.6**	**+0.6**
GRPR				pmax	pmax		
	comp=Z,83nm,0.2s						
GRPR				smax	smax		
	comp=E,79nm,0.2s						
GRPR				smax	smax		
	comp=N,112nm,0.6s						
GRPR	**Tuman**	**4.40**	**261**	*e*P	**Pn**	**21 38 18.1**	**+1.0**
GRPR				AMB	AMB	21 38 22.0	
	comp=N,40nm,0.4s						
GRPR				*e*S	**Sn**	**21 39 07.6**	**+0.6**
GRPR				A	A	21 39 12.0	
	comp=N,112nm,0.5s						
GRPR				A	A	21 39 12.0	
	comp=N,180nm,0.5s						
NEM2	**Nemuro 2**	**4.61**	**253**	P	**Pn**	**21 38 20.5**	**+0.6**
NEM2				*e*S	**Sn**	**21 39 11.5**	**-0.6**
NMR	**Nemuro--Hokkai**	**4.61**	**253**	*e*PN	**Pn**	**21 38 20.5**	**+0.5**
NMR	**Nemuro--Hokkai**	**4.61**	**253**	*e*P	**Pn**	**21 38 20.7**	**+0.7**
NMR				*e*S	**Sn**	**21 39 12.3**	**0.0**
RUSJ	**Misakicho**	**4.75**	**263**	*e*PN	**Pn**	**21 38 23.8**	**+2.0**
RUSJ				S	**Sn**	**21 39 19.2**	**+3.7**
JRA	**Rausu**	**4.87**	**262**	P	**Pn**	**21 38 25.5**	**+2.0**
JNK	**Nakash**	**5.24**	**258**	P	**Pn**	**21 38 30.3**	**+1.6**
AKK	**Akkeshi**	**5.35**	**252**	*e*P	**Pn**	**21 38 31.2**	**+1.1**
JAK	**Akkeshi**	**5.45**	**253**	P	**Pn**	**21 38 32.3**	**+0.8**
JAK				*e*S	**Sn**	**21 39 31.9**	**-1.0**
JTKR	**Abashiri--Toko**	**5.72**	**264**	P	**Pn**	**21 38 37.0**	**+1.8**
JAR	**Ashorobuto**	**5.99**	**258**	P	**Pn**	**21 38 41.2**	**+2.3**
JOB	**Onbets**	**6.08**	**254**	P	**Pn**	**21 38 41.8**	**+1.7**
JMP	**Maruseppu**	**6.10**	**265**	P	Pn	21 38 42.6	+2.1
JCH	**Churui**	**6.51**	**253**	P	**Pn**	**21 38 47.0**	**+1.0**
JKK2	**Kamakawa 2**	**6.56**	**265**	P	Pn	21 38 48.8	+2.1
JKA	**Kamikawa-asahi**	**6.62**	**267**	Pn	**Pn**	**21 38 48.2**	**+0.7**
JKA	**Kamikawa-asahi**	**6.62**	**267**	*e*P	Pn	21 38 49.0	+1.4
ASAJ	**Asahikawa**	**6.62**	**267**	Pn	**Pn**	**21 38 49.0**	**+1.4**
	comp=N,1.7nm,0.3s,baz=66,slow=24,SNR=6.3						
ASAJ	**Asahikawa**	**6.62**	**267**	P	Pn	21 38 49.7	+2.1
ASAJ	**Asahikawa**	**6.62**	**267**	PN	Pn	21 38 49.0	+1.4
YSS	**Yuzh-Sakhalins**	**6.65**	**292**	*e*PN	Pn	21 38 31.1	-17
YSS				MLR	MLR		
	comp=Z,400nm,18.0s						
YSS				MLR	MLR		
	comp=Z,500nm,17.0s						
YSS	**Yuzh-Sakhalins**	**6.65**	**292**	*e*rx	rx	21 38 31.1	
ERM	**Erimo**	**6.90**	**249**	PN	**Pn**	**21 38 54.9**	**+3.6**
ERM	**Erimo**	**6.90**	**249**	Pn	**Pn**	**21 38 54.9**	**+3.6**
JEW	**Eniwo**	**7.75**	**259**	Pn	**Pn**	**21 39 04.8**	**+1.8**
JNB	**Noboribetsu**	**8.15**	**257**	P	**Pn**	**21 39 10.1**	**+1.5**
JNB				*e*S	**Sn**	**21 40 37.2**	**-2.1**
JKB	**Kayabe**	**8.38**	**253**	P	**Pn**	**21 39 12.3**	**+0.6**
JKB				*e*S	**Sn**	**21 40 40.6**	**-4.3**
JYM2	**Yakumo 2**	**8.74**	**256**	P	**Pn**	**21 39 18.0**	**+1.3**
JANG	**Nango**	**8.80**	**243**	*e*S	**Sn**	**21 40 50.2**	**-5.0**
JTM	**Tenmabayashi**	**8.87**	**246**	P	**Pn**	**21 39 19.2**	**+0.9**
JTM				*e*S	**Sn**	**21 40 51.5**	**-5.3**
JTM	**Tenmabayashi**	**8.87**	**246**	Pn	**Pn**	**21 39 19.8**	**+1.4**
JOSM	**Okushiri--Mats**	**9.38**	**257**	P	**Pn**	**21 39 26.6**	**+1.3**
JSD	**Sado**	**12.22**	**241**	Pn	**Pn**	**21 40 05.1**	**+0.9**
MJAR	**Matsushiro Arr**	**13.22**	**236**	Pn	**P**	**21 40 25.9**	**-0.5**
	comp=Z,0.0nm,0.3s,baz=39,slow=12,SNR=4.4						
USRK	**Ussuriysk Ar.**	**14.15**	**274**	Pn	P	21 40 29.5	-7.1
	baz=86,slow=13,SNR=1.3						
JWT	**Wachi**	**15.75**	**238**		**P**	**21 40 58.9**	**+4.4**
KSRS	**Korea Array**	**19.39**	**256**	P	**Pn**	**21 41 37.1**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=65,slow=10.0,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**28.02**	**149**	T	T	22 14 53.1	
	baz=340						
H11N1	**WAKE ISLAND Hy**	**28.03**	**149**	T	T	22 14 55.1	
	baz=340,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.04**	**148**	T	T	22 14 55.3	
	baz=340,slow=74						
H11S1	**WAKE ISLAND Hy**	**29.07**	**150**	T	T	22 16 10.9	
	baz=339,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.08**	**150**	T	T	22 16 11.4	
	baz=339,slow=76						
H11S2	**WAKE ISLAND Hy**	**29.09**	**150**	T	T	22 16 12.1	
	baz=339,slow=76						
SML	**Sawmill**	**37.99**	**42**	P	P	21 44 27.7	+2.0
SML				IAmb	IAmb	21 44 33.9	
	comp=Z,18nm,1.4s						
M26K	**Nabesna, AK**	**40.45**	**41**	P	P	21 44 49.0	+2.8
L27K	**Beaver Creek,**	**40.92**	**40**	P	P	21 44 52.7	+2.7
BCAR	**Beaver Creek A**	**40.94**	**40**	P	P	21 44 52.9	+2.7
CTGM	**Chitina Glacie**	**41.42**	**43**	P	P	21 44 56.7	+2.4
CTGM				IAmb	IAmb	21 45 11.9	
	comp=Z,11nm,1.3s						
MK31	**Makanchi Array**	**47.01**	**298**	P	**P**	**21 45 38.5**	**-0.5**
MK31				pmax	pmax		
	comp=Z,2.0nm,1.3s						
MK31	**Makanchi Array**	**47.01**	**298**	P	**P**	**21 45 38.5**	**-0.5**
MKAR	**Makanchi Array**	**47.01**	**298**	P	**P**	**21 45 38.6**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=67,slow=6.8,SNR=6.1						
MKAR	**Makanchi Array**	**47.01**	**298**	P	P	21 45 39.0	0.0
MKAR	**Makanchi Array**	**47.01**	**298**	P	**P**	**21 45 39.0**	**-0.1**
MKAR	**Makanchi Array**	**47.01**	**298**	*e*P	P	21 45 39.0	0.0
MAKZ	**Makanchi**	**47.20**	**299**	P	**P**	**21 45 40.4**	**-0.1**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,1.5s						
MAKZ	**Makanchi**	**47.20**	**299**	P	**P**	**21 45 40.4**	**-0.1**
MAKZ				IAmb	IAmb	21 45 56.3	
	comp=Z,4.1nm,1.4s						
SHL	**Shillong**	**51.41**	**269**	P	**P**	**21 46 14.6**	**+1.6**
SHL				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SHL	**Shillong**	**51.41**	**269**	P	**P**	**21 46 14.6**	**+1.6**
SHL				IAmb	IAmb	21 46 15.4	
	comp=Z,4.0nm,0.7s						
KKAR	**Karatay Array**	**56.12**	**299**	P	**P**	**21 46 46.8**	**-0.2**
KKAR	**Karatay Array**	**56.12**	**299**	P	**P**	**21 46 46.8**	**-0.2**
ABKAR	**Akbulak array**	**58.94**	**310**	P	**P**	**21 47 06.2**	**-0.6**
ABKAR				IAmb	IAmb	21 47 06.7	
	comp=Z,1.4nm,0.5s						
ABKAR	**Akbulak array**	**58.94**	**310**	P	**P**	**21 47 06.3**	**-0.4**
CHGR	**Chuyangaron**	**59.43**	**296**	P	P	21 47 11.0	+0.5
NIL	**Nilore**	**59.63**	**289**	P	P	21 47 13.5	+1.7
NIL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NIL	**Nilore**	**59.63**	**289**		P	21 47 13.5	+1.6
NIL				IAmb	IAmb	21 47 14.4	
	comp=Z,5.4nm,0.8s						
KBL	**Kabul**	**61.91**	**292**	P	**P**	**21 47 27.8**	**+0.3**
KBL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KBL	**Kabul**	**61.91**	**292**	P	**P**	**21 47 27.8**	**+0.3**
KBL				IAmb	IAmb	21 47 29.2	
	comp=Z,2.7nm,0.9s						
SUMG	**Summit**	**62.65**	**3**	P	P	21 47 32.0	-0.1
SUMG				pmax	pmax		
	comp=Z,21nm,1.5s						
SUMG	**Summit**	**62.65**	**3**	P	P	21 47 32.0	-0.1
FIA1	**FINESS Array S**	**65.36**	**335**	P	**P**	**21 47 48.5**	**-1.1**
FINES	**FINESS Array B**	**65.36**	**335**	P	**P**	**21 47 48.2**	**-1.3**
	comp=Z,1.6nm,0.7s,baz=41,slow=7.4,SNR=5.5						
FINES	**FINESS Array B**	**65.36**	**335**	P	**P**	**21 47 48.4**	**-1.1**
FINES	**FINESS Array B**	**65.36**	**335**	P	P	21 48 16.5	+20
WRA	**Warramunga Arr**	**66.42**	**198**	P	P	21 48 16.5	+20
	comp=Z,0.7nm,0.7s,baz=18,slow=6.9,SNR=4.6						
NB201	**NORSAR Array S**	**69.69**	**341**	P	**P**	**21 48 16.3**	**-0.6**
NB2	**NORSAR Subarra**	**69.72**	**341**	P	**P**	**21 48 16.4**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=28,slow=6.2						
NOA	**NORSAR Array B**	**69.72**	**341**	P	**P**	**21 48 15.9**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=30,slow=6.6,SNR=5.7						
ASAR	**Alice Springs**	**70.12**	**197**	P	P	21 48 39.9	+20
	comp=Z,0.6nm,0.7s,baz=14,slow=6.1,SNR=5.5						
KBZ	**Khabaz**	**71.51**	**314**	P	P	21 48 29.4	+1.2
	comp=Z,3.9nm,0.9s,baz=193,slow=9.2,SNR=6.3						
AKASG	**Malin Array Be**	**72.61**	**326**	P	**P**	**21 48 33.9**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=37,slow=6.1,SNR=5.4						
BUR08	**Bucovina Ar. S**	**76.64**	**326**	P	P	21 48 58.8	+0.5
BUR08				IAmb	IAmb	21 48 59.3	
	comp=Z,3.1nm,0.6s						
BURAR	**Bucovina Array**	**76.66**	**326**	P	P	21 48 58.6	+0.3
BURAR				IAmb	IAmb	21 48 59.2	
	comp=Z,2.6nm,0.6s						
CLL	**Collm**	**77.80**	**335**	*i* P	**P**	**21 49 04.4**	**-0.1**
TXAR	**Lajitas Array**	**79.24**	**59**	P	P	21 49 23.4	+10
	comp=Z,0.1nm,0.6s,baz=318,slow=4.9,SNR=1.8						
GERES	**GERESS Array B**	**79.75**	**333**	P	**P**	**21 49 15.4**	**0.0**
	comp=Z,0.2nm,0.4s,baz=43,slow=7.4,SNR=2.2						
GERES	**GERESS Array B**	**79.75**	**333**	P	P	21 49 15.8	+0.4
GERES	**GERESS Array B**	**79.75**	**333**	P	P	21 49 15.8	+0.4

IDC ***26*** *21:40:33.9±0.5, 56.68S×143.39W, h0km, mb4.3/12, mb1 4.5/12, mb1mx4.4/29, mbtmp4.3/12, MS5.2/23, Ms1 5.2/23, ms1mx5.1/28, Error ellipse: s-maj=24.8km s-min=16.5km az=2.0*

BJI ***26*** *21:40:35.0±0.0, 57.00S×142.50W, h10km, mB5.6/14, Ms5.6/20, Ms7 5.5/20*

NEIC ***26*** *21:40:35.4±2.8, 57.1S±0.1×142.4W±0.2, h10km±1km, mb5.3/50, Ms_20 5.7/265, Mwb5.9/41, Mwc6.0(GCMT), Error ellipse: s-maj=22.0km s-min=16.5km az=0.0*

NEIC ***26*** *21:40:35.2, 57.06S×142.29W, h13km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr=0.29; Mθθ=7.45; Mφφ=-7.16; Mrθ=0.95; Mθφ=4.58; Mφr=-0.54; Fault plane solution: M=8.69000×10^17 NP1:φs=28.97000°, δ=82.78000°, λ=-179.54000°. NP2:φs=298.91000°, δ=89.54000°, λ=-7.22000°. Principal axes: T 8.8297, Plg=5.0000°, Azm=344.0000°; N -0.2826, Plg=83.0000°, Azm=115.0000°; P -8.5471, Plg=5.0000°, Azm=254.0000°;*

GCMT ***26*** *21:40:40.4±0.1, 56.68S×142.49W, h24km, MW6.0/156, Moment Tensor Solution. s156,c335; s155,c553; Duration: 2≥4 Moment tensor: Scale 10^18 Nm; Mrr=-0.06±.01; Mθθ=1.03±.01; Mφφ=-0.96±.01; Mrθ=-0.06±.01; Mθφ=0.74±.01; Mφr=0.06±.01; Best double couple: M=1.24400×10^18 NP1:φs=297.00000°, δ=86.00000°, λ=1.00000°. NP2:φs=207.00000°, δ=89.00000°, λ=176.00000°. Principal axes: T 1.2780, Plg=3.0000°, Azm=162.0000°; N -0.0640, Plg=86.0000°, Azm=14.0000°; P -1.2100, Plg=2.0000°, Azm=252.0000°; nsta=1 refers to body waves, cutoff=40s. nsta=2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***26*** *21:40:41, 56.67S×142.48W, h24km, Moment Tensor Solution. Moment tensor: Scale 10^18 Nm; Mrr=-0.01; Mθθ=1.01; Mφφ=-1.00; Mrθ=0.04; Mθφ=0.74; Mφr=0.04; Fault plane solution: M=1.25000×10^18 NP1:φs=117.00000°, δ=88.00000°, λ=1.00000°. NP2:φs=27.00000°, δ=89.00000°, λ=178.00000°. Principal axes: T 1.2556, Plg=2.0000°, Azm=342.0000°; N -0.0102, Plg=87.0000°, Azm=189.0000°; P -1.2454, Plg=1.0000°, Azm=72.0000°;*

ISC 26 21:40:35.3±0.3, 57.01S±0.08×142.46W±0.07, h10km, n344, σ1s97/151, mb5.1/29, MS5.6/158, 3C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**26.96**	**201**	P	**P**	**21 46 15.0**	**-1.4**
SBA				IAmb	IAmb	21 47 11.0	
	comp=Z,84nm,1.8s						
VNDA	**Vanda**	**27.86**	**203**	P	**P**	**21 46 27.3**	**+2.9**
	comp=Z,1.3nm,1.2s,baz=76,slow=8.6,SNR=3.4						
VNDA				LR	LR	21 53 59.3	
	comp=Z,1μm,18.2s,baz=76,slow=29						
VNDA	**Vanda**	**27.86**	**203**	P	**P**	**21 46 26.1**	**+1.6**
MQZ	**McQueen's Vall**	**30.97**	**276**	IAMs_20	IAMs_20	21 55 04.3	
	comp=Z,15μm,22.0s						
BFZ	**Birch Farm**	**31.12**	**284**	IAMs_20	IAMs_20	21 55 54.2	
	comp=Z,16μm,19.0s						
ODZ	**Otahua Downs**	**31.20**	**272**	IAMs_20	IAMs_20	21 56 01.9	
	comp=Z,18μm,19.0s						
KHZ	**Kahutara**	**31.36**	**279**	IAMs_20	IAMs_20	21 55 26.5	
	comp=Z,16μm,20.0s						
SNZO	**South Karori**	**31.49**	**281**	IAMs_20	IAMs_20	21 56 05.2	
	comp=Z,17μm,20.0s						
OXZ	**Oxford**	**31.56**	**276**	IAMs_20	IAMs_20	21 56 50.8	
	comp=Z,11μm,21.0s						
BSWZ	**Blackbirch Sta**	**31.66**	**280**	P	**P**	**21 46 58.4**	**0.0**
LTZ	**Lake Taylor**	**31.80**	**277**	IAMs_20	IAMs_20	21 56 28.2	
	comp=Z,11μm,18.0s						
RPZ	**Rata Peaks**	**31.84**	**274**	IAMs_20	IAMs_20	21 56 21.2	
	comp=Z,16μm,19.0s						
LBZ	**Lake Benmore**	**31.87**	**273**	IAMs_20	IAMs_20	21 56 22.2	
	comp=Z,17μm,21.0s						
BKZ	**Black Stump Fm**	**32.09**	**286**	P	**P**	**21 47 02.9**	**+0.6**
BKZ				IAMs_20	IAMs_20	21 56 15.8	
	comp=Z,20μm,22.0s						
WHZ	**Wether Hill Ro**	**32.14**	**269**	IAMs_20	IAMs_20	21 56 28.7	
	comp=Z,11μm,22.0s						
THZ	**Tophouse**	**32.15**	**279**	IAMs_20	IAMs_20	21 56 15.5	
	comp=Z,12μm,22.0s						
WKZ	**Wanaka**	**32.23**	**271**	IAMs_20	IAMs_20	21 56 25.0	
	comp=Z,14μm,21.0s						
NNZ	**Nelson**	**32.27**	**280**	IAMs_20	IAMs_20	21 56 18.7	
	comp=Z,13μm,22.0s						
MXZ	**Matakaoa Point**	**32.34**	**290**	IAMs_20	IAMs_20	21 56 08.6	
	comp=Z,11μm,20.0s						
MLZ	**Mavora Lakes**	**32.38**	**270**	P	**P**	**21 47 05.0**	**+0.2**
URZ	**Urewera**	**32.44**	**288**	LR	LR	21 56 58.3	
	comp=Z,14μm,21.9s,baz=138,slow=31						
URZ	**Urewera**	**32.44**	**288**	IAMs_20	IAMs_20	21 56 47.1	
	comp=Z,14μm,19.0s						
QRZ	**Quartz Range**	**33.01**	**280**	IAMs_20	IAMs_20	21 56 41.1	
	comp=Z,11μm,22.0s						
QSPA	**South Pole Qui**	**33.15**	**180**	P	**P**	**21 47 13.4**	**+2.0**
	comp=Z,18nm,1.1s,baz=80,slow=2.6,SNR=4.3						
QSPA	**South Pole Qui**	**33.15**	**180**	P	**P**	**21 47 11.5**	**0.0**
QSPA				IAmb	IAmb	21 47 23.3	
	comp=Z,39nm,1.1s						
HIZ	**Hauiti**	**33.43**	**285**	IAMs_20	IAMs_20	21 57 32.4	
	comp=Z,11μm,19.0s						
RKT	**Rikitea**	**34.29**	**12**	*e*T	T	22 22 32.2	
	comp=Z,34nm,0.2s						
OUZ	**Omahuta**	**36.57**	**288**	IAMs_20	IAMs_20	21 59 30.6	
	comp=Z,15μm,18.0s						
RAR	**Rarotonga**	**37.96**	**333**	LR	LR	21 58 56.0	
	comp=Z,7μm,21.7s,baz=172,slow=29						
RAR	**Rarotonga**	**37.96**	**333**	IAMs_20	IAMs_20	21 58 35.6	
	comp=Z,11μm,19.0s						
MEH	**Mehetia**	**39.30**	**352**	*e*T	T	22 28 46.3	
	comp=Z,150nm,0.2s						
PAE	**Paea**	**39.65**	**349**	*e*T	T	22 29 04.2	
	comp=Z,13nm,0.2s						
PPT2	**Papeete2**	**39.72**	**349**	*e*S	**S**	**21 54 12.6**	**+1.2**
	comp=Z,4μm,26.0s						
PPT2				*e*LQ	LQ	21 57 21.8	
	comp=Z,3μm,26.5s						
PPT2				*e*LR	LR	21 58 29.5	
	comp=Z,35μm,28.0s,baz=179						
PPT2	**Papeete2**	**39.72**	**349**	*e*T	T	22 29 08.8	
	comp=Z,30nm,0.3s						
TIAR	**Tiarei**	**39.73**	**350**	*e*T	T	22 29 07.7	
	comp=Z,5.5nm,0.3s						
PPT	**Papeete**	**39.74**	**349**	LR	LR	22 00 16.0	
	comp=Z,7μm,19.3s,baz=188,slow=30						
VAH	**Vaihoa**	**41.88**	**353**	*e*T	T	22 32 00.1	
	comp=Z,181nm,0.3s						
PMOR	**Pomariorio Ree**	**42.13**	**352**	*e*T	T	22 32 13.4	
	comp=Z,16nm,0.3s						
TAU	**Tasmania Unive**	**45.26**	**257**	IAMs_20	IAMs_20	22 02 49.5	
	comp=Z,7μm,21.0s						
CASY	**Casey**	**45.51**	**213**	P	**P**	**21 48 55.8**	**+1.5**
CASY				IAmb	IAmb	21 49 14.1	
	comp=Z,54nm,1.6s						
PLCA	**Paso Flores**	**47.68**	**102**	P	P	21 49 17.6	+5.8
	comp=Z,3.6nm,0.9s,baz=187,slow=9

CPUP Villa Florida 65.73 101 P **P** **21 51 22.8 +2.7**
comp=Z,4.1nm,0.9s,baz=181,slow=3.3,SNR=3.5
CPUP LR LR 22 16 05.3
comp=Z,435nm,20.0s,baz=215,slow=32
CPUP Villa Florida 65.73 101 P **P** **21 51 18.8 -1.3**
CPUP IAmb IAmb 21 51 38.9
comp=Z,19nm,1.2s
AS31 Alice Springs 67.06 262 P **P** **21 51 25.9 -2.8**
ASAR Alice Springs 67.06 262 P **P** **21 51 25.2 -3.5**
comp=Z,4.0nm,0.8s,baz=142,slow=6.3,SNR=28
ASAR LR LR 22 16 23.5
comp=Z,5µm,21.5s,baz=146,slow=32
LPAZ La Paz 67.96 86 P **P** **21 51 37.0 +1.9**
comp=Z,3.2nm,0.9s,baz=222,slow=5.1,SNR=7.6
LPAZ La Paz 67.96 86 P **P** **21 51 34.0 -1.1**
H01W1 Cape Leeuwin H 68.13 240 T T 23 06 46.3
baz=144,slow=76,SNR=1433
H01W2 Cape Leeuwin H 68.13 239 T T 23 06 46.7
baz=144,slow=76,SNR=1624
H01W3 Cape Leeuwin H 68.14 240 T T 23 06 47.5
baz=144,slow=76,SNR=940
NWAO Narrogin (SRO) 68.25 243 IAMs_20 IAMs_20 22 14 21.3
comp=Z,3µm,20.0s
TARA Tarawa 68.31 311 IAMs_20 IAMs_20 22 13 04.9
comp=Z,3µm,21.0s
WR0 Warramunga Arr 69.71 265 P **P** **21 51 42.2 -3.0**
WB2 Warramunga Arr 69.83 264 P **P** **21 51 42.2 -3.8**
WB2 IAmb IAmb 21 51 55.1
comp=Z,20nm,1.1s
WRA Warramunga Arr 69.84 264 P **P** **21 51 42.4 -3.7**
comp=Z,6.2nm,0.9s,baz=148,slow=5.3,SNR=14
WRA LR LR 22 18 06.9
comp=Z,3µm,21.0s,baz=145,slow=32
WRA Warramunga Arr 69.84 264 P **P** **21 51 42.9 -3.2**
WRAB Tennant Creek 69.84 264 IAMs_20 IAMs_20 22 18 06.5
comp=Z,3µm,20.0s
WB0 Warramunga Arr 69.95 265 P **P** **21 51 43.6 -3.1**
PMG Port Moresby 71.51 281 IAMs_20 IAMs_20 22 17 37.1
comp=Z,4µm,21.0s
MORW Morawa 72.00 244 P **P** **21 51 58.0 -1.0**
FITZ Fitzroy Crossi 76.04 258 P **P** **21 52 22.5 -0.3**
PSA00 Pilbara Seismi 76.24 252 P **P** **21 52 21.6 -2.3**
PSA00 IAmb IAmb 21 52 46.9
comp=Z,75nm,2.5s
OTAV Otavalo 76.33 68 P **P** **21 52 23.2 -1.8**
KNRA Kununurra 76.35 262 P **P** **21 52 23.7 -0.9**
KNRA IAmb IAmb 21 52 34.6
comp=Z,25nm,1.1s
SAML Samuel 76.70 86 P **P** **21 52 24.8 -1.8**
SAML IAmb IAmb 21 52 42.9
comp=Z,35nm,1.7s
JOHN Johnston Islan 76.87 333 IAMs_20 IAMs_20 22 19 13.7
comp=Z,4µm,20.0s
MTN Manton Dam 77.39 266 P **P** **21 52 29.5 -1.0**
FLOC Florencia 78.91 69 P **P** **21 52 36.9 -1.9**
FLOC IAmb IAmb 21 52 55.8
comp=Z,30nm,1.5s
BDFB Brasilia 79.43 102 P **P** **21 52 44.0 +2.1**
comp=Z,1.8nm,0.5s,baz=242,slow=11,SNR=2.1
BDFB LR LR 22 24 21.9
comp=Z,475nm,20.8s,baz=208,slow=33
H06S1 SOCORRO T 79.93 30 T T 23 20 11.4
SNR=29
ROSC El Rosal 82.36 69 LR LR 22 23 22.3
comp=Z,243nm,21.2s,baz=216,slow=31
ROSC El Rosal 82.36 69 P **P** **21 52 55.8 -2.0**
ROSC IAmb IAmb 21 53 18.5
comp=Z,17nm,1.0s
CMIG Matias Romero 83.77 45 LR LR 22 21 53.5
comp=Z,625nm,20.6s,baz=210,slow=30
MATN Matagalpa 83.80 55 P **P** **21 53 04.4 -0.4**
RUSC La Rusia 83.89 69 P **P** **21 53 04.4 -1.4**
RUSC IAmb IAmb 21 53 40.5
comp=Z,18nm,1.4s
FAKI Fak Fak 85.00 272 IAMs_20 IAMs_20 22 29 18.9
comp=Z,4µm,22.0s
LPIG La Paz 85.22 29 LR LR 22 22 11.2
comp=Z,1µm,19.6s,baz=274,slow=29
PTGA Pitinga 85.29 84 P **P** **21 53 11.5 -0.8**
PTGA IAmb IAmb 21 53 29.0
comp=Z,51nm,2.4s
MMRI Maumere 85.71 261 IAMs_20 IAMs_20 22 29 15.0
comp=Z,3µm,20.0s
ZAIG Zacatecas 86.25 36 P **P** **21 53 17.7 +0.6**
SJCC San Jacinto, C 86.26 66 P **P** **21 53 16.0 -1.1**
SJCC IAmb IAmb 21 53 37.4
comp=Z,31nm,1.4s
HSIG 89.74 27 P **P** **21 53 33.4 +0.1**
HSIG IAmb IAmb 21 53 49.2
comp=Z,33nm,1.9s
SUR Sutherland 89.84 166 LR LR 22 27 30.7
comp=Z,487nm,21.5s,baz=174,slow=31
KAPI Kapang 90.07 261 LR LR 22 31 09.3
comp=Z,3µm,20.6s,baz=175,slow=34
TXAR Lajitas Array 92.04 33 P **P** **21 53 46.0 +1.9**
comp=Z,0.2nm,0.7s,baz=195,slow=6.5,SNR=4.0
TXAR LR LR 22 25 25.3
comp=Z,710nm,21.3s,baz=0.0,slow=29
TXAR Lajitas Array 92.04 33 P **P** **21 53 43.2 -1.0**
109C Camp Elliot, M 92.09 21 IAMs_20 IAMs_20 22 25 26.8
comp=Z,2µm,20.0s
UGM Wanaggama 92.53 251 IAMs_20 IAMs_20 22 28 57.1
comp=Z,2µm,22.0s
PFO Pinyon Flats O 92.92 21 LR LR 22 25 16.6
comp=Z,3µm,21.3s,baz=212,slow=29
PFO Pinyon Flats O 92.92 21 IAMs_20 IAMs_20 22 24 51.8
comp=Z,3µm,21.0s
TUC Tucson 92.92 26 P **P** **21 53 46.8 -1.3**
TUC Tucson 92.92 26 IAMs_20 IAMs_20 22 26 15.9
comp=Z,2µm,20.0s
PASC Pasadena Art C 93.12 20 IAMs_20 IAMs_20 22 24 45.3
comp=Z,3µm,22.0s
BOSA Boshof 94.08 169 LR LR 22 32 54.4
comp=Z,517nm,19.4s,baz=187,slow=33
BKB Balikpapan 94.75 260 IAMs_20 IAMs_20 22 35 49.8
comp=Z,3µm,18.0s
LEM Lembang 94.95 250 LR LR 22 31 22.3
comp=Z,634nm,21.1s,baz=136,slow=32
SAO San Andreas Ge 95.09 17 IAMs_20 IAMs_20 22 25 45.0
comp=Z,2µm,22.0s
WUAZ Wupatki 95.85 25 IAMs_20 IAMs_20 22 27 23.4
comp=Z,2µm,21.0s
TPNV Topopah Spring 96.19 21 IAMs_20 IAMs_20 22 27 18.4
comp=Z,2µm,20.0s
MCCM Marconi Confer 96.23 15 IAMs_20 IAMs_20 22 28 20.1
comp=Z,2µm,19.0s
CMB Columbia Colle 96.50 17 IAMs_20 IAMs_20 22 26 41.4
comp=Z,2µm,21.0s
ANMO Albuquerque 96.53 29 IAMs_20 IAMs_20 22 27 19.0
comp=Z,2µm,22.0s
HOPS Hopland Field 97.03 15 IAMs_20 IAMs_20 22 26 40.4
comp=Z,3µm,22.0s
NVAR Mina Array Bea 97.24 19 LR LR 22 27 51.0
comp=Z,2µm,21.1s,baz=192,slow=29
ORV Oroville 97.81 16 IAMs_20 IAMs_20 22 28 54.1
comp=Z,1µm,20.0s
AMTX Amarillo 97.82 33 IAMs_20 IAMs_20 22 28 37.0
comp=Z,2µm,22.0s
WDC Whiskeytown Da 98.67 15 IAMs_20 IAMs_20 22 27 42.7
comp=Z,3µm,21.0s
JCC Jacoby Creek, 98.69 14 IAMs_20 IAMs_20 22 27 25.4
comp=Z,3µm,22.0s
SDCO Great Sand Dun 99.42 29 IAMs_20 IAMs_20 22 30 39.6
comp=Z,2µm,19.0s
YBH Yreka Blue Hor 99.77 15 LR LR 22 28 50.0
comp=Z,3µm,21.1s,baz=178,slow=29
YBH Yreka Blue Hor 99.77 15 IAMs_20 IAMs_20 22 28 17.0
comp=Z,3µm,22.0s
DUG Dugway, Tooele 100.02 23 IAMs_20 IAMs_20 22 29 23.7
comp=Z,2µm,22.0s
ELK Elko 100.06 21 IAMs_20 IAMs_20 22 29 00.8
comp=Z,2µm,22.0s
MOD Modoc Plateau 100.30 17 IAMs_20 IAMs_20 22 30 45.8
comp=Z,2µm,19.0s
HUMO Hull Mountain 100.60 15 IAMs_20 IAMs_20 22 29 33.8
comp=Z,2µm,21.0s
VOI Vohitsoka 101.01 189 IAMs_20 IAMs_20 22 33 14.1
comp=Z,2µm,22.0s
WVOR Wild Horse Val 101.08 18 IAMs_20 IAMs_20 22 30 30.6
comp=Z,2µm,20.0s
ISCO Idaho Springs 101.33 28 IAMs_20 IAMs_20 22 32 06.3
comp=Z,2µm,19.0s
CBKS Cedar Bluff 102.04 33 IAMs_20 IAMs_20 22 32 14.7
comp=Z,2µm,20.0s
COR Corvallis 102.49 14 IAMs_20 IAMs_20 22 30 24.0
comp=Z,2µm,21.0s
MFID Camas Ranch 102.53 20 IAMs_20 IAMs_20 22 30 36.8
comp=Z,2µm,22.0s
H10N3 ASCENSION HYDR 102.70 127 T T 23 50 49.6
baz=206,slow=75,SNR=155
H10N1 ASCENSION HYDR 102.71 127 T T 23 50 55.9
baz=206,slow=75,SNR=171
RWWY Rawlins 102.71 26 IAMs_20 IAMs_20 22 31 36.9
comp=Z,2µm,21.0s
H10N2 ASCENSION HYDR 102.72 127 T T 23 50 35.3
baz=206,slow=75,SNR=261
AHID Auburn Hatcher 102.84 23 IAMs_20 IAMs_20 22 31 36.5
comp=Z,1µm,20.0s
BW06 Boulder Array 103.18 24 IAMs_20 IAMs_20 22 31 37.5
comp=Z,2µm,20.0s
BMO Blue Mountains 103.66 18 IAMs_20 IAMs_20 22 32 42.8
comp=Z,2µm,20.0s
LOHW Long Hollow 103.76 23 IAMs_20 IAMs_20 22 32 56.8
comp=Z,1µm,20.0s
MOOW Moose Ponds 103.86 23 IAMs_20 IAMs_20 22 32 58.4
comp=Z,1µm,20.0s
IMW Indian Meadow 103.96 23 IAMs_20 IAMs_20 22 33 37.1
comp=Z,1µm,19.0s
FLWY Flagg Ranch 104.19 23 IAMs_20 IAMs_20 22 33 08.1
comp=Z,1µm,20.0s
HAWA Hanford 104.80 16 IAMs_20 IAMs_20 22 31 54.0
comp=Z,2µm,21.0s
NLWA Neilton Lookou 105.18 13 IAMs_20 IAMs_20 22 32 41.1
comp=Z,3µm,20.0s
MSO Missoula 106.17 20 IAMs_20 IAMs_20 22 33 47.7
comp=Z,3µm,20.0s
NEW Newport 107.00 17 IAMs_20 IAMs_20 22 33 17.2
comp=Z,2µm,21.0s
ECSD EROS Data Cent 107.48 33 IAMs_20 IAMs_20 22 35 35.8
comp=Z,2µm,21.0s
LAO LASA Array 107.66 25 IAMs_20 IAMs_20 22 34 42.0
comp=Z,2µm,20.0s
DGMT Dagmar 109.81 26 IAMs_20 IAMs_20 22 37 19.9
comp=Z,2µm,19.0s
AGMN Agassiz Nation 111.84 32 IAMs_20 IAMs_20 22 38 37.3
comp=Z,2µm,20.0s
ADK Adak 112.12 338 IAMs_20 IAMs_20 22 34 57.0
comp=Z,3µm,21.0s
CNBA Chernabura Isl 112.34 349 IAMs_20 IAMs_20 22 39 31.9
comp=Z,2µm,19.0s
EYMN Ely 112.83 35 IAMs_20 IAMs_20 22 38 54.3
comp=Z,2µm,20.0s
WRAK Wrangell Islan 113.37 6 IAMs_20 IAMs_20 22 35 53.8
comp=Z,2µm,21.0s
INU Inuyama 114.11 298 IAMs_20 IAMs_20 22 37 06.9
comp=Z,1µm,22.0s
QIZ Qiongzhong 115.38 266 PKP **PKPdf** **21 59 17.0 0.0**
QIZ PP **PP** **22 00 21.3 +3.0**
QIZ SS SS 22 16 19.5 +2.9
QIZ LR LR
comp=Z,480nm,22.9s
QIZ LR LR
comp=Z,450nm,22.4s
QIZ LR LR
comp=Z,790nm,26.0s
FFC Flin Flon 116.13 25 IAMs_20 IAMs_20 22 43 39.1
comp=Z,2µm,18.0s
Q23K Middleton Isla 116.14 358 IAMs_20 IAMs_20 22 36 13.9
comp=Z,2µm,22.0s
ERM Erimo 116.65 307 IAMs_20 IAMs_20 22 38 55.9
comp=Z,2µm,21.0s
SUCK Suckling Hills 116.74 359 IAMs_20 IAMs_20 22 37 19.0
comp=Z,3µm,22.0s
HMT Hamilton 117.01 359 IAMs_20 IAMs_20 22 41 00.1
comp=Z,2µm,19.0s
BERG Berg Lake 117.06 359 IAMs_20 IAMs_20 22 37 40.5
comp=Z,2µm,21.0s
WAX Waxell Ridge 117.12 360 IAMs_20 IAMs_20 22 39 40.9
comp=Z,3µm,20.0s
ISLE Juniper Island 117.27 0 IAMs_20 IAMs_20 22 39 28.9
comp=Z,2µm,20.0s
GRNC Granite Creek 117.40 0 IAMs_20 IAMs_20 22 39 23.4
comp=Z,2µm,20.0s
TGL Tana Glacier 117.42 360 IAMs_20 IAMs_20 22 45 40.0
comp=Z,2µm,18.0s
CTGM Chitina Glacie 117.64 1 IAMs_20 IAMs_20 22 37 40.6
comp=Z,2µm,22.0s
BMRM Bremner River 117.65 359 IAMs_20 IAMs_20 22 37 05.0
comp=Z,3µm,22.0s
BARN Barnard Glacie 117.73 0 IAMs_20 IAMs_20 22 45 18.1
comp=Z,2µm,18.0s
VRDI Verde Repeater 117.90 359 IAMs_20 IAMs_20 22 38 16.6
comp=Z,2µm,21.0s
MCARA McCarthy VSAT 118.06 360 IAMs_20 IAMs_20 22 38 33.7
comp=Z,2µm,22.0s
GLB Gilahina Butte 118.12 359 IAMs_20 IAMs_20 22 37 19.3
comp=Z,1µm,22.0s
KLU Klutina 118.20 358 IAMs_20 IAMs_20 22 41 06.4
comp=Z,2µm,20.0s
N25K Chitina, Valde 118.29 359 IAMs_20 IAMs_20 22 39 43.9
comp=Z,2µm,20.0s
SCM Sheep Creek Mo 118.57 357 IAMs_20 IAMs_20 22 38 26.2
comp=Z,3µm,22.0s
M26K Nabesna, AK 119.08 360 IAMs_20 IAMs_20 22 47 49.7
comp=Z,2µm,18.0s
L26K Log Cabin Wild 119.70 360 IAMs_20 IAMs_20 22 48 02.3
comp=Z,2µm,18.0s
DHY Denali Highway 119.81 357 IAMs_20 IAMs_20 22 42 43.2
comp=Z,2µm,20.0s
PALK Pallekele 120.08 232 IAMs_20 IAMs_20 22 38 57.8
comp=Z,2µm,22.0s
SCRK Sand Creek 120.66 359 IAMs_20 IAMs_20 22 39 13.6
comp=Z,2µm,22.0s
K27K Chicken 120.71 0 IAMs_20 IAMs_20 22 40 00.9
comp=Z,2µm,22.0s
YSS Yuzh-Sakhalins 120.76 310 IAMs_20 IAMs_20 22 40 30.9
comp=Z,2µm,22.0s
CMAR Chiang Mai Arr 120.80 256 PKP **PKiKP** **21 59 27.6 +0.1**
comp=Z,0.3nm,0.4s,baz=89,slow=13,SNR=2.4
CMAR Chiang Mai Arr 120.80 256 **PKPdf** **21 59 26.9 -0.5**
NJ2 Nanjing 120.82 282 *e*PKP **PKiKP** **21 59 27.8 +0.6**
NJ2 LR LR
comp=Z,820nm,22.3s
NJ2 LR LR
comp=Z,780nm,23.2s
NJ2 LR LR
comp=Z,1µm,24.2s
KIBK Kibwezi 120.84 181 IAMs_20 IAMs_20 22 46 44.0
comp=Z,1µm,20.0s
BWN Browne 120.97 356 IAMs_20 IAMs_20 22 40 11.7
comp=Z,2µm,21.0s
WRH Wood River Hil 121.23 357 IAMs_20 IAMs_20 22 41 41.7
comp=Z,2µm,20.0s
NEA2 Nenana 121.38 357 IAMs_20 IAMs_20 22 42 23.6
comp=Z,2µm,20.0s
CCB Clear Creek Bu 121.40 357 **PKPdf** **21 59 26.8 -0.3**
EGAK Eagle 121.47 1 IAMs_20 IAMs_20 22 45 57.8
comp=Z,2µm,18.0s
IL31 121.50 358 **PKPdf** **21 59 26.3 -0.9**
ILAR Eielson Array 121.50 358 PKP **PKPdf** **21 59 25.4 -1.9**
comp=Z,4.8nm,1.0s,baz=228,slow=1.6,SNR=18
ILAR Eielson Array 121.50 358 **PKPdf** **21 59 25.3 -2.0**
MDM Murphy Dome 121.72 357 IAMs_20 IAMs_20 22 44 12.7
comp=Z,2µm,20.0s
I23K Minto, Yukon-K 121.95 357 IAMs_20 IAMs_20 22 47 51.6
comp=Z,2µm,18.0s
KMBO Kilima Mbogo 122.05 180 IAMs_20 IAMs_20 22 46 24.0
comp=Z,1µm,22.0s
PRP Porcupine Dome 122.23 358 IAMs_20 IAMs_20 22 40 11.0
comp=Z,2µm,22.0s
ANM Nome 122.51 348 IAMs_20 IAMs_20 22 40 34.4
comp=Z,2µm,22.0s
GAMB Gambell 122.54 345 IAMs_20 IAMs_20 22 43 16.5
comp=Z,2µm,21.0s
FYU Fort Yukon 123.28 359 IAMs_20 IAMs_20 22 40 54.7
comp=Z,2µm,22.0s
KMI Kunming 124.16 264 ⇑PKP **PKiKP** **21 59 38.8 +4.5**
KMI SKKS 22 08 19.0
KMI LR LR
comp=Z,420nm,25.5s
KMI LR LR
comp=Z,560nm,22.8s
KMI LR LR
comp=Z,960nm,22.8s
MDJ Mudanjiang 124.89 300 PKP **PKiKP** **21 59 36.0 +1.2**
MDJ AMB AMB
comp=Z,150nm,8.7s
CD2 Chengdu 128.14 269 PKP **PKPdf** **21 59 41.5 +0.3**
TORD Torodi Ar. Bea 128.40 133 PKP **PKiKP** **21 59 44.6 +1.9**
comp=Z,1.4nm,0.9s,baz=222,slow=1.9,SNR=5.9
TORD Torodi Ar. Bea 128.40 133 **PKiKP** **21 59 44.2 +1.4**
A36M Sachs Harbour 129.27 7 IAMs_20 IAMs_20 22 46 15.0
comp=Z,2µm,21.0s
BILL Bilibino 130.31 337 IAMs_20 IAMs_20 22 44 41.4
comp=Z,1µm,22.0s
HHC Hu-ho-hao-te 131.27 284 *e*PKP **PKPdf** **21 59 44.5 -2.4**
LZH Lanzhou 131.99 274 *e*PKP **PKPdf** **21 59 47.8 -0.7**
LZH SS SS 22 19 53.5 +6.4
LZH LR LR
comp=Z,520nm,21.1s
LZH LR LR
comp=Z,500nm,20.6s
LZH LR LR
comp=Z,540nm,21.1s
HIA Hailar 132.93 298 IAMs_20 IAMs_20 22 48 31.2
comp=Z,1µm,22.0s
SOCY Socotra 133.52 202 IAMs_20 IAMs_20 22 48 18.6
comp=Z,1µm,22.0s
YAK Yakutsk 136.77 317 IAMs_20 IAMs_20 22 49 29.4
comp=Z,1µm,21.0s
SONM Songino Array 138.73 288 PKP **PKPdf** **22 00 00.3 -0.4**
comp=Z,0.2nm,0.3s,baz=90,slow=1.4,SNR=1.7
SONM Songino Array 138.73 288 **PKPdf** **22 00 01.1 +0.4**
TIXI Tiksi 142.18 329 IAMs_20 IAMs_20 22 54 33.7
comp=Z,1µm,21.0s
SMLA Simla 142.37 244 *i* x **PKPdf** **22 00 05.6 -2.0**
PFVI Vila Bisbo 143.59 103 *e*SS SS 22 22 22.2 +18
DHRM DHARAMSHALA 143.71 244 *i* x **PKPdf** **22 00 07.9 -2.4**
PBDV Barranco-do-Ve 144.15 104 *e*PKPab **PKiKP** **22 00 13.9 -0.2**
PBDV Barranco-do-Ve 144.15 104 *e*SS SS 22 22 23.9 +13
PCVE Castro Verde 144.38 103 *e*PKPdf **PKPdf** **22 00 10.8 -0.1**
PCVE Castro Verde 144.38 103 *e*SS SS 22 22 20.8 +7.6
PVAQ Vaqueiros 144.39 104 *e*PKPab **PKiKP** **22 00 16.8 +2.2**
PVAQ Vaqueiros 144.39 104 *e*SS SS 22 22 19.1 +5.9
PVAQ Vaqueiros 144.39 104 *e*LQ LQ 22 41 17.8
PVAQ Vaqueiros 144.39 104 A A 23 22 34.9
comp=Z,539nm,22.0s
MESJ Messejana 144.44 103 *e*PKPab **PKiKP** **22 00 13.6 -1.1**
PNCL Nicolau / Gran 144.48 102 *e*SS SS 22 22 24.7 +10
PBEJ Beja 144.77 103 *e*PKPab **PKiKP** **22 00 14.5 -0.8**
UOSS Minazif 145.25 211 **PKPbc** **22 00 11.8 -0.7**
PBAR Barrancos 145.32 104 *e*SS SS 22 22 41.8 +18
PMTG Montargil 145.34 101 *e*PKPdf **PKPbc** **22 00 11.7 -0.7**
PMTG Montargil 145.34 101 *e*PKPab **PKiKP** **22 00 20.1 +3.6**
PMTG Montargil 145.34 101 *e*SS SS 22 22 31.2 +7.1
PSBE So Bento 145.35 100 *e*SS SS 22 22 29.5 +5.2
PESTR Estremoz 145.53 102 *e*SS SS 22 22 31.7 +5.4
PESTR Estremoz 145.53 102 PKPdf **PKPdf** **22 00 12.4 -0.5**
PCAS Casmilo, Conde 145.90 100 *e*SS SS 22 22 47.3 +17
PMRV Marv??o 146.04 102 *e*SS SS 22 22 41.4 +9.2
PMRV Marv??o 146.04 102 *e*LQ LQ 22 42 01.4
PMRV Marv??o 146.04 102 A A 23 22 22.6
comp=Z,583nm,20.0s
COI Coimbra 146.05 100 PKPdf **PKPdf** **22 00 12.9 -0.8**
WMQ Urumqi 146.23 269 *e*PKPbc **PKPbc** **22 00 14.8 -0.3**
WMQ AMB AMB
comp=Z,170nm,6.1s
WMQ LR LR
comp=Z,460nm,18.7s
WMQ LR LR
comp=Z,570nm,20.7s
WMQ LR LR
comp=Z,700nm,19.7s
PCBR Castelo Branco 146.29 101 *e*PKPdf **PKPdf** **22 00 14.3 +0.2**
NIL Nilore 146.33 241 PKPdf **PKPdf** **22 00 13.1 -1.3**
MTE Manteigas 146.66 100 *e*PKPdf **PKPdf** **22 00 15.1 +0.3**
MTE Manteigas 146.66 100 *e*LQ LQ 22 41 48.9
MTE Manteigas 146.66 100 A A 23 28 25.3
comp=Z,406nm,18.0s
MTE Manteigas 146.66 100 PKPdf **PKPdf** **22 00 14.9 0.0**
PVRL Vila Real 147.18 99 *e*PKPdf **PKPdf** **22 00 16.1 +0.4**
PCAB Cabril 147.31 98 *e*PKPab **PKiKP** **22 00 20.8 +0.3**
PGAV Gavieira, Arco 147.35 98 *e*SS SS 22 22 50.4 +3.1
PGAV Gavieira, Arco 147.35 98 *e*LQ LQ 22 42 18.6
PGAV A A 23 19 34.0
comp=Z,635nm,22.0s
MVO Moncorvo 147.47 100 *e*PKPab **PKPbc** **22 00 19.6 +0.8**
MVO Moncorvo 147.47 100 *e*SS SS 22 23 03.4 +15
MVO Moncorvo 147.47 100 *e*LQ LQ 22 42 19.8
MVO Moncorvo 147.47 100 A A 23 34 35.4
comp=Z,338nm,20.0s
PAB San Pablo 147.75 105 PKPdf **PKPdf** **22 00 16.8 +0.1**
CART Cartagena 148.03 111 PKPdf **PKPdf** **22 00 16.4 -0.7**
ESDC Sonseca Array 148.05 105 PKPbc **PKPbc** **22 00 20.5 +0.2**
comp=Z,2.7nm,0.9s,baz=247,slow=2.7,SNR=14
ESDC Sonseca Array 148.05 105 PKPdf **PKPdf** **22 00 14.9 -2.2**
ESBB Sonseca Array 148.05 105 **PKPdf** **22 00 16.4 -0.7**
PBRG Braganca 148.07 99 *e*PKPab **PKPdf** **22 00 14.7 -2.4**
PBRG Braganca 148.07 99 *e*SS SS 22 23 05.3 +10
KBL Kabul 149.04 237 **PKPab** **22 00 26.1 -1.4**
KSH Kashi 149.54 252 PKPbc **PKPdf** **22 00 20.0 +0.3**
KSH PP **PP** **22 00 00.5 +3.0**
KSH SKKS 22 10 49.3
KSH SS **SS** **22 23 13.5 +1.7**
KSH AMB AMB
comp=Z,360nm,7.3s
KSH LR LR
comp=Z,310nm,20.1s
KSH LR LR
comp=Z,480nm,18.2s
KSH LR LR
comp=Z,1µm,23.0s
MK31 Makanchi Array 151.07 269 **PKPdf** **22 00 22.4 +0.7**
MKAR Makanchi Array 151.07 269 PKPbc **PKPbc** **22 00 25.9 -1.6**
comp=Z,4.8nm,0.8s,baz=112,slow=3.3,SNR=28
MKAR Makanchi Array 151.07 269 PKPdf **PKPdf** **22 00 21.1 -0.6**
MAKZ Makanchi 151.25 268 PKPdf **PKPdf** **22 00 22.0 +0.1**
KEST Kesra 151.52 126 PKPbc **PKiKP** **22 00 32.4 +3.0**
comp=Z,3.0nm,0.7s,baz=0.0,slow=4.1,SNR=5.3
DRK Karamyk 151.65 247 **PKPdf** **22 00 24.4 +1.2**
HRA Herat 151.84 227 PKPbc **PKiKP** **22 00 32.5 +2.2**
GAR Garm 152.02 244 **PKiKP** **22 00 30.9 +0.5**
CHGR Chuyangaron 152.31 242 **PKPdf** **22 00 24.3 +0.4**
AAK Ala-Archa 152.57 254 **PKPbc** **22 00 30.3 -0.9**
BTK Batken 152.58 246 **PKiKP** **22 00 31.4 -0.1**
FRU1 Bishkek 152.62 255 PKPbc **PKPbc** **22 00 30.9 -0.3**
ZAA0 Zalesovo Array 153.46 284 **PKPdf** **22 00 25.5 +0.6**
ZALV Zalesovo Beam 153.46 284 PKPbc **PKPbc** **22 00 30.2 -2.4**
comp=Z,1.5nm,0.9s,baz=145,slow=5.3,SNR=3.2
ZALV Zalesovo Beam 153.46 284 **PKPdf** **22 00 24.5 -0.5**
KK31 Karatay Array 154.97 250 **PKPdf** **22 00 27.5 0.0**
KKAR Karatay Array 154.97 250 PKPdf **PKPdf** **22 00 27.0 -0.5**
KKAR Karatay Array 154.97 250 **PKPdf** **22 00 26.5 -1.0**
NRIK Noril'sk 155.14 320 PKPab **PKPab** **22 00 49.8 -2.0**
comp=Z,1.9nm,0.5s,baz=100,slow=9.9,SNR=2.1
KBS Kingsbay 156.44 12 IAMs_20 IAMs_20 23 03 49.2
comp=Z,1µm,20.0s
GYA0B ALIBECK ARRAY 156.55 224 PKPdf **PKPdf** **22 00 29.2 -0.6**
ESK Eskdalemuir 157.48 77 IAMs_20 IAMs_20 23 14 18.7
comp=Z,783nm,20.0s
SANT Santorini 157.82 153 IAMs_20 IAMs_20 23 27 44.9
comp=Z,910nm,22.0s
SENIN Lac Senin/Sane 158.62 107 IAMs_20 IAMs_20 23 17 04.6
comp=Z,926nm,22.0s
VLC Villacollemand 158.67 115 IAMs_20 IAMs_20 23 24 40.8
comp=Z,888nm,22.0s
ECH Echery 159.71 103 IAMs_20 IAMs_20 23 21 40.6
comp=Z,807nm,22.0s
WLF Walferdange 160.01 98 IAMs_20 IAMs_20 23 15 35.5
comp=Z,912nm,22.0s
DAVA Damuels 160.56 108 *e*P **PKPdf** **22 00 34.6 +0.1**
comp=Z,13nm,1.7s
SQTA Sankt Quirin 161.21 110 *e*P **PKPdf** **22 00 33.8 -1.2**
comp=Z,5.8nm,1.3s
WTTA Wattenberg 161.46 111 *e*P **PKPdf** **22 00 34.6 -0.8**
comp=Z,13nm,1.6s
WATA Walderalm 161.47 110 *e*P **PKPdf** **22 00 36.4 +1.0**
comp=Z,7.4nm,1.6s
BRTR Keskin Array B 162.51 170 PKP **PKPdf** **22 00 39.0 +2.3**
comp=Z,1.3nm,1.1s,baz=202,slow=2.3,SNR=6.4
BRTR PKPab **sPKPab** **22 01 27.3 -0.3**
comp=Z,0.3nm,0.6s,baz=288,slow=32,SNR=3.0
BRTR Keskin Array B 162.51 170 **PKPdf** **22 00 35.1 -1.6**
SOKA Soboth 162.75 117 *e*P **PKPdf** **22 00 38.0 +1.3**
comp=Z,6.5nm,1.3s
GERES GERESS Array B 163.53 110 PKP **PKPdf** **22 00 39.5 +2.2**
comp=Z,0.1nm,0.3s,baz=90,slow=6.9,SNR=2.3
KHC Kasperske Hory 163.65 109 *e*PKPDF **PKPdf** **22 00 44.5 +7.2**
KHC *e*PKPAB **pPKPab** **22 01 31.5 -0.1**
KHC *e*SS SS 22 25 44.6 +1.5
KHC AMS AMS 23 27 30.0
comp=Z,1µm,22.4s
NKC Novy Kostel 163.70 104 *e*SS SS 22 25 48.2 +4.5
NKC AMS AMS 23 21 40.0
comp=Z,700nm,20.9s
CKRC Cesky Krumlov 163.83 111 AMS AMS 23 28 40.0
comp=Z,900nm,19.5s
ABKAR Akbulak array 164.53 249 **PKPab** **22 01 32.7 -0.5**
CLL Collm 164.58 101 *e*PKPdf **PKPdf** **22 00 39.0 +1.0**

CLL				*e*PKPdiff	sPKPdf	22 01 05.0	+24	
CLL				*e*PKPab	**PKPab**	**22 01 32.0**	**-1.4**	
CLL				*e*PP	**PP**	**22 05 25.0**	**+4.7**	
CLL				*e*PPrev		22 07 48.0		
CLL				*e*PPP	PPP	22 09 06.0		
CLL				*e*SKKSac	SKKSac	22 12 08.0	+1.0	
CLL				*e*PSKS		22 15 51.0		
CLL				*e*		22 18 06.0		
CLL				*e*PPS	PPS	22 19 06.0		
CLL				*e*SS	**SS**	**22 25 46.0**	**-6.6**	
CLL				*e*SSrev		22 30 37.0		
CLL				*e*SSS	SSS	22 32 20.0		
CLL				*e*SSSS		22 36 36.0		
CLL				LmV		23 33 00.0		
	comp=Z,800nm,19.1s							
PRA	**Prague**	**164.66**	**107**	*e*SS	SS	22 25 55.9	+2.6	
PRA				AMS	AMS	23 26 30.0		
	comp=Z,1μm,22.1s							
PRU	**Pruhonice**	**164.66**	**107**	*e*SS	SS	22 25 55.5	+2.1	
PRU				AMS	AMS	23 29 10.0		
	comp=Z,1μm,20.1s							
TREC	**Trest**	**164.73**	**111**	AMS	AMS	23 20 10.0		
	comp=Z,1μm,20.6s							
BRG	**Berggiesshubel**	**164.85**	**104**	*e*P	**PKPab**	**22 01 42.0**	**+7.4**	
BRG				Amp		22 01 48.0		
	comp=Z,16nm,2.0s							
PVCC	**Panska Ves**	**164.99**	**106**	AMS	AMS	23 26 20.0		
	comp=Z,1μm,20.7s							
UPC	**Upice**	**165.73**	**108**	*e*SS	SS	22 26 06.7	+2.3	
UPC				AMS	AMS	23 21 30.0		
	comp=Z,1μm,22.5s							
CHVC	**Chvalec**	**165.80**	**108**	AMS	AMS	23 21 30.0		
	comp=Z,1μm,22.8s							
DPC	**Dobruska-Polom**	**165.80**	**109**	*e*SS	SS	22 26 05.1	-0.1	
OSTC	**Ostas**	**165.87**	**108**	AMS	AMS	23 20 20.0		
	comp=Z,1μm,22.5s							
KRLC	**Kraliky**	**165.88**	**111**	AMS	AMS	23 21 10.0		
	comp=Z,900nm,21.8s							
OKC	**Ostrava-Krasne**	**166.42**	**114**	AMS	AMS	23 24 20.0		
	comp=Z,700nm,17.4s							
BURAR	**Bucovina Array**	**167.96**	**136**		**PKPab**	**22 01 50.1**	**+1.6**	
AKASG	**Malin Array Be**	**172.00**	**139**	PKPab	**PKPab**	**22 02 09.3**	**+3.1**	
	comp=Z,0.6nm,0.5s,baz=222,slow=4.4,SNR=2.5							

NEIC ***26*** *21:42:49.2±2.5, 18.°6S±0.°1×168.°9E±0.°1, h133*$^{km}_{\pm}$*10*^{km}*, mb4.3/10, Error ellipse: s-maj=20.1km s-min=15.8km az=123.0*

IDC ***26*** *21:42:54.0±8.0, 18.°72S×168.°33E, h142*$^{km}_{\pm}$*60*^{km}*, mb3.5/3, mb1 3.6/4, mb1mx3.2/25, mbtmp3.8/4, Error ellipse: s-maj=130.6km s-min=66.6km az=111.0*

NOU ***26*** *21:42:54.2, 19.°145S×168.°73E, h*0^{km}*, MLv4.1/10, Vanuatu Islands*

ISC 26 21:42:51.8±1.7, 18.°9S±0.°1×168.°9E±0.°1, h150^{km}**, n29, σ1°37/30, mb4.3/9, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTV	**Rentapao**	**1.19**	**340**	P	Pn	21 43 20.1	+1.8
DVP	**Devils Point**	**1.35**	**332**	P	Pn	21 43 21.3	+1.5
LIFNC	**LIFOU**	**2.38**	**219**		**Pn**	**21 43 30.8**	**-0.7**
LIFNC				Sn	**Sn**	**21 44 00.3**	**-1.8**
LIFNC	**LIFOU**	**2.38**	**219**	P	**Pn**	**21 43 30.8**	**-0.7**
MARNC	**Mare, Loyalty**	**2.66**	**197**		**Pn**	**21 43 34.5**	**-0.3**
MARNC				Sn	**Sn**	**21 44 07.1**	**-1.0**
MARNC	**Mare, Loyalty**	**2.66**	**197**	P	**Pn**	**21 43 34.8**	**0.0**
YATNC	**Mamie plateau,**	**3.62**	**210**	P	**Pn**	**21 43 47.5**	**+0.4**
DZM	**Mont Dzumac**	**3.86**	**215**	P	**Pn**	**21 43 51.3**	**+1.1**
	1.9nm,0.3s,baz=32,slow=10.0,SNR=69						
DZM				S	**Sn**	**21 44 35.7**	**0.0**
	3.0nm,0.3s,baz=320,slow=22,SNR=6.8						
DZM	**Mont Dzumac**	**3.86**	**215**	P	**Pn**	**21 43 51.5**	**+1.2**
PINNC	**Pines Island,**	**3.90**	**199**	Pn	**Pn**	**21 43 52.6**	**+1.9**
OUENC	**Ouen Island, N**	**3.95**	**208**	Pn	**Pn**	**21 43 53.2**	**+1.8**
OUENC	**Ouen Island, N**	**3.95**	**208**	P	**Pn**	**21 43 53.6**	**+2.2**
ONTNC	**Ouen Toro**	**4.04**	**213**	Pn	**Pn**	**21 43 54.4**	**+1.8**
ONTNC	**Ouen Toro**	**4.04**	**213**	P	**Pn**	**21 43 54.0**	**+1.4**
KOUNC	**Koumac, New Ca**	**4.59**	**249**	P	**Pn**	**21 44 02.6**	**+2.8**
BKZ	**Black Stump Fm**	**21.23**	**163**	P	**P**	**21 47 27.9**	**+2.0**
STKA	**Stephens Creek**	**27.70**	**237**	P	**P**	**21 48 26.8**	**+0.8**
	0.9nm,0.7s,baz=60,slow=12,SNR=4.2						
STKA	**Stephens Creek**	**27.70**	**237**	P	**P**	**21 48 26.8**	**+0.8**
WR0	**Warramunga Arr**	**32.34**	**262**	P	**P**	**21 49 05.1**	**-1.9**
WR0				IAmb	IAmb	21 49 22.9	
	comp=Z,4.8nm,1.3s						
BBOO	**Buckleboo**	**32.43**	**238**	P	**P**	**21 49 07.4**	**-0.4**
BBOO				IAmb	IAmb	21 49 26.0	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**32.53**	**262**	P	**P**	**21 49 06.8**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=94,slow=8.1,SNR=5.3						
WRA	**Warramunga Arr**	**32.53**	**262**	P	**P**	**21 49 07.3**	**-1.3**
AS31	**Alice Springs**	**32.84**	**256**	P	**P**	**21 49 10.7**	**-0.7**
AS31				IAmb	IAmb	21 49 11.4	
	comp=Z,2.7nm,0.3s						
ASAR	**Alice Springs**	**32.84**	**256**	P	**P**	**21 49 10.8**	**-0.7**
	comp=Z,2.6nm,0.4s,baz=82,slow=8.4,SNR=81						
ASAR	**Alice Springs**	**32.84**	**256**	P	**P**	**21 49 10.7**	**-0.8**
MTN	**Manton Dam**	**36.72**	**274**	P	**P**	**21 49 44.5**	**-0.2**
KNRA	**Kununurra**	**38.35**	**268**	P	**P**	**21 49 57.1**	**-1.4**
KNRA				IAmb	IAmb	21 50 05.9	
	comp=Z,9.3nm,1.1s						
FITZ	**Fitzroy Crossi**	**40.91**	**264**	P	**P**	**21 50 19.4**	**-0.2**
FITZ				IAmb	IAmb	21 50 47.5	
	comp=Z,2.7nm,1.1s						
CASY	**Casey**	**60.27**	**203**	P	**P**	**21 52 43.8**	**-0.2**
CASY				IAmb	IAmb	21 52 47.5	
	comp=Z,6.3nm,1.2s						

NEIC ***26*** *21:48:31.2±2.0, 30.°43S±0.°03×72.°15W±0.°05, h10*$^{km}_{\pm}$*1*^{km}*, mb4.2/4, ML3.6(GUC), Error ellipse: s-maj=6.9km s-min=4.8km az=268.0*

GUC ***26*** *21:48:31.2±0.8, 30.°43S×72.°08W, h41*$^{km}_{\pm}$*7*^{km}*, ML3.6*

ISC 26 21:48:30.8±1.9, 30.°39S±0.°05×72.°18W±0.°08, h9$^{km}_{\pm}$**11**^{km}**, n33, σ0°98/34, 1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.55**	**121**	*i*P	**Pg**	**21 48 41.6**	**+0.1**
CO06	**Fray Jorge**	**0.55**	**121**		**Pg**	**21 48 41.6**	**+0.1**
CO05	**La Serena**	**0.94**	**60**	*i*P	**Pg**	**21 48 48.6**	**-0.2**
CO05				*i*S	**Sg**	**21 49 01.6**	**+0.5**
CO05				IAML		21 49 04.0	
	comp=N,2μm,0.5s						
CO05	**La Serena**	**0.94**	**60**	Pg	**Pg**	**21 48 48.7**	**-0.2**
CO05				Sg	**Sg**	**21 49 02.1**	**+1.0**
GO04	**Tololo Observa**	**1.21**	**80**	*e*P	**Pn**	**21 48 52.7**	**-1.4**
GO04				*e*S	**Sb**	**21 49 09.2**	**-0.7**
GO04	**Tololo Observa**	**1.21**	**80**	Pn	**Pn**	**21 48 52.5**	**-1.7**
CO02	**Combarbal**	**1.30**	**129**		**Pn**	**21 48 54.0**	**-1.2**
CO02				Sn	**Sb**	**21 49 10.2**	**-2.1**
CO03	**El Pedregal**	**1.36**	**110**	*e*P	**Pn**	**21 48 54.6**	**-1.4**
CO03	**El Pedregal**	**1.36**	**110**	Pn	**Pn**	**21 48 54.8**	**-1.3**
CO03				Sn	**Sb**	**21 49 12.9**	**-1.1**
LCO	**Las Campanas**	**1.88**	**44**	*i*P	**Pn**	**21 49 03.0**	**-0.3**
LCO	**Las Campanas**	**1.88**	**44**	Pn	**Pn**	**21 49 03.4**	**+0.1**
VA06	**Catapilco**	**2.29**	**161**	*e*P	**Pn**	**21 49 08.2**	**-0.5**
VA06				IAML		21 49 51.0	
	comp=E,457nm,0.5s						
AC04	**Llanos de Chal**	**2.38**	**24**	Pn	**Pn**	**21 49 09.0**	**-0.9**
VA03	**San Esteban**	**2.75**	**150**	*e*P	**Pn**	**21 49 15.6**	**+0.5**
VA03				IAML		21 49 58.4	
	comp=N,395nm,0.4s						
VA03	**San Esteban**	**2.75**	**150**	Pn	**Pn**	**21 49 15.1**	**0.0**
ROCH	**El Roble**	**2.76**	**159**	*e*P	**Pn**	**21 49 15.2**	**-0.3**
ROCH				IAML		21 50 05.1	
	comp=E,239nm,0.6s						
MT05	**Renca**	**3.24**	**158**	IAML		21 50 16.1	
	comp=N,217nm,0.3s						
GO03	**Copiap**	**3.26**	**32**	Pn	**Pn**	**21 49 22.4**	**+0.2**
MT09	**Talagante**	**3.53**	**164**	IAML		21 50 08.5	
	comp=E,109nm,0.5s						
MT09	**Talagante**	**3.53**	**164**	Pn	**Pn**	**21 49 26.1**	**+0.2**
MT01	**Popeta**	**3.56**	**167**	IAML		21 50 25.5	
	comp=E,60nm,0.7s						
MT01	**Popeta**	**3.56**	**167**		**Pn**	**21 49 25.6**	**-0.5**
LMEL	**Las Melosas**	**3.84**	**155**	IAML		21 50 38.9	
	comp=E,74nm,0.7s						
BO01	**Tunca**	**4.10**	**167**	Pn	**Pn**	**21 49 32.5**	**-1.1**
AC02	**Maricunga**	**4.44**	**38**		**Pn**	**21 49 39.7**	**+0.9**
BO02	**Sierra Bellavi**	**4.55**	**165**	Pn	**Pn**	**21 49 39.9**	**+0.1**
GO05	**Huala**	**4.61**	**177**		**Pn**	**21 49 38.9**	**-1.8**
VA04	**Juan Fernndez**	**6.51**	**238**	Pn	**Pn**	**21 50 05.3**	**-1.5**
LC01	**Cunco**	**8.49**	**178**	Pn	**Pn**	**21 50 34.1**	**+0.2**
TRQA	**Tornquist**	**11.39**	**135**	Pn	**Pn**	**21 51 13.1**	**-0.5**
SNAA	**Sanae**	**54.98**	**159**	P	**P**	**21 58 03.0**	**+1.1**
QSPA	**South Pole Qui**	**59.84**	**180**	P	**P**	**21 58 36.8**	**+0.4**
QSPA				IAmb	IAmb	21 58 53.7	
	comp=Z,3.7nm,1.4s						
TORD	**Torodi Ar. Bea**	**83.11**	**70**	P	**P**	**22 00 58.0**	**+0.6**

IDC 26 21:56:37.0±1.8, 1.°45N×126.°87E, h0^{km}**, mb3.2/3, mb1 3.4/3, mb1mx3.2/40, mbtmp3.3/3, MS3.8/1, Ms1 3.8/1, ms1mx2.7/22, Error ellipse: s-maj=172.7km s-min=22.5km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**14.38**	**106**	LR	LR	22 04 45.1	
	comp=Z,371nm,20.4s,baz=254,slow=34						
WRA	**Warramunga Arr**	**22.48**	**161**	P	P	22 01 37.1	-1.1
	0.2nm,0.2s,baz=340,slow=11,SNR=6.5						
ASAR	**Alice Springs**	**25.88**	**165**	P	P	22 02 11.9	+1.2
	0.1nm,0.5s,baz=344,slow=11,SNR=1.6						
MKAR	**Makanchi Array**	**59.50**	**326**	P	P	22 06 42.5	+0.4
	0.3nm,0.3s,baz=122,slow=8.6,SNR=6.3						
KURBB	**Kurchatov Arra**	**63.73**	**328**	P	P	22 07 10.0	-0.5
	baz=127,slow=6.1						

IDC 26 21:57:18.1±3.6, 4.°07S×152.°45E, h0^{km}**, mb3.7/3, mb1 4.0/3, mb1mx3.4/45, mbtmp3.8/3, Error ellipse: s-maj=129.4km s-min=51.0km az=121.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.67**	**227**	P	P	22 02 32.0	+0.4
	2.8nm,0.8s,baz=52,slow=9.7,SNR=18						
ASAR	**Alice Springs**	**26.46**	**221**	P	P	22 02 56.9	-0.2
	0.2nm,0.4s,baz=54,slow=9.5,SNR=7.9						
FITZ	**Fitzroy Crossi**	**29.70**	**240**	P	P	22 03 26.5	+0.3
	1.6nm,0.8s,baz=51,slow=6.5,SNR=2.2						
TORD	**Torodi Ar. Bea**	**149.74**	**289**	PKPbc	PKPbc	22 17 10.1	-1.0
	0.3nm,0.8s,baz=88,slow=3.0,SNR=1.7						

NEIC ***26*** *21:57:40.8±2.2, 27.°16S±0.°05×175.°8W±0.°1, h10*$^{km}_{\pm}$*1*^{km}*, mb4.4/13, Error ellipse: s-maj=18.0km s-min=6.8km az=110.0*

IDC ***26*** *21:57:42.2±1.2, 27.°11S×176.°26W, h0*^{km}*, mb4.0/6, mb1 4.2/7, mb1mx3.9/38, mbtmp4.0/7, ML4.9/1, Error ellipse: s-maj=39.2km s-min=24.8km az=124.0*

ISC 26 21:57:41.4±0.6, 27.°15S±0.°08×175.°82W±0.°10, h10^{km}**, n36, σ1°56/37, mb4.2/11, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.79**	**221**	Pn	**Pn**	**21 58 27.1**	**+0.9**
	238nm,0.3s,baz=83,slow=7.2,SNR=16						
RAO				Sn	**Sn**	**21 58 59.5**	**-0.3**
	252nm,0.3s,baz=76,slow=22,SNR=6.6						
RAO	**Raoul Island**	**2.79**	**221**		**Pn**	**21 58 26.6**	**+0.5**
RAO				Sn	**Sn**	**21 58 59.0**	**-0.8**
NIUE	**Niue**	**9.70**	**35**	Pn	**Pn**	**21 59 58.9**	**-2.1**
MSVF	**Nonsavu**	**10.95**	**328**	Pn	**Pn**	**22 00 18.0**	**-0.3**
URZ	**Urewera**	**12.57**	**206**	Sn	Sn	22 02 50.6	-10
	1.6nm,0.3s,baz=19,slow=23,SNR=9.9						
AFI	**Afiamalu**	**13.71**	**17**	Pn	**Pn**	**22 00 55.2**	**-0.8**
RAR	**Rarotonga**	**15.79**	**71**	Pn	**Pn**	**22 01 23.1**	**-0.8**
RAR				IAmb	IAmb	22 01 23.8	
	comp=Z,42nm,1.1s						
TUWZ	**Tuamarina**	**16.54**	**208**	Pn	**Pn**	**22 01 31.6**	**-1.9**
DZM	**Mont Dzumac**	**16.89**	**284**		**P**	**22 01 39.9**	**-0.3**
KHZ	**Kahutara**	**17.53**	**207**	Pn	**Pn**	**22 01 44.3**	**-1.5**
KHZ				IAmb	IAmb	22 01 53.8	
	comp=Z,42nm,1.3s						
TAU	**Tasmania Unive**	**33.72**	**233**	P	**P**	**22 04 22.0**	**-0.8**
TOO	**Toolangi**	**34.08**	**242**	P	**P**	**22 04 25.8**	**-0.3**
TOO				IAmb	IAmb	22 04 32.9	
	comp=Z,2.2nm,0.8s						
CTA	**Charters Tower**	**35.35**	**273**	P	**P**	**22 04 36.8**	**-0.5**
	comp=Z,2.7nm,0.4s,baz=103,slow=11,SNR=2.6						
CTAO	**Charters Tower**	**35.35**	**273**	P	**P**	**22 04 36.9**	**-0.3**
AS31	**Alice Springs**	**45.30**	**263**	P	**P**	**22 05 58.1**	**-1.6**
ASAR	**Alice Springs**	**45.30**	**263**	P	**P**	**22 05 58.0**	**-1.8**
	comp=Z,0.5nm,0.4s,baz=105,slow=7.1,SNR=11						
ASAR	**Alice Springs**	**45.30**	**263**	P	**P**	**22 05 57.7**	**-2.0**
WR0	**Warramunga Arr**	**45.82**	**268**	P	**P**	**22 06 02.0**	**-1.8**
WR0				IAmb	IAmb	22 06 14.4	
	comp=Z,3.5nm,1.2s						
WRA	**Warramunga Arr**	**46.01**	**268**	P	**P**	**22 06 03.5**	**-1.8**
	comp=Z,1.0nm,0.7s,baz=107,slow=7.6,SNR=8.8						
WRA	**Warramunga Arr**	**46.01**	**268**	P	**P**	**22 06 03.2**	**-2.1**
KNRA	**Kununurra**	**52.47**	**271**	P	**P**	**22 06 53.4**	**-1.4**
KNRA				IAmb	IAmb	22 07 02.0	
	comp=Z,6.5nm,0.8s						
CASY	**Casey**	**58.89**	**207**	P	**P**	**22 07 41.2**	**+1.0**
CASY				IAmb	IAmb	22 07 42.9	
	comp=Z,3.0nm,0.7s						
QSPA	**South Pole Qui**	**62.95**	**180**	P	**P**	**22 08 10.3**	**+2.4**
MJAR	**Matsushiro Arr**	**76.72**	**323**	P	**P**	**22 09 33.8**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=89,slow=20,SNR=2.3						
SNAA	**Sanae**	**81.33**	**178**	P	**P**	**22 09 55.0**	**-2.7**
SNAA				IAmb	IAmb	22 09 58.0	
	comp=Z,5.8nm,0.9s						
KSRS	**Korea Array**	**83.16**	**318**	P	**P**	**22 10 10.4**	**+2.8**
	comp=Z,0.6nm,0.7s,baz=136,slow=6.3,SNR=4.0						
CMAR	**Chiang Mai Arr**	**94.16**	**288**	P	**P**	**22 11 03.2**	**+2.3**
	comp=Z,0.3nm,0.2s,baz=157,slow=2.9,SNR=4.1						
MKAR	**Makanchi Array**	**117.12**	**311**	PKP	**PKiKP**	**22 16 27.2**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=91,slow=5.9,SNR=2.6						
KURBB	**Kurchatov Arra**	**120.20**	**315**	PKP	**PKiKP**	**22 16 32.9**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=92,slow=1.7,SNR=2.8						
BVAR	**Borovoye Array**	**125.37**	**317**	PKP	**PKiKP**	**22 16 43.9**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=126,slow=43,SNR=2.1						
NB2	**NORSAR Subarra**	**145.78**	**354**	PKP	**PKiKP**	**22 17 22.5**	**-1.3**
	comp=Z,3.8nm,1.0s,baz=13,slow=3.1						
NOA	**NORSAR Array B**	**145.78**	**354**	PKPbc	**PKiKP**	**22 17 21.9**	**-1.9**
	comp=Z,1.6nm,0.9s,baz=9.6,slow=2.8,SNR=4.8						
AKASG	**Malin Array Be**	**149.73**	**328**	PKPbc	**PKiKP**	**22 17 32.5**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=44,slow=3.4,SNR=4.8						
BRTR	**Keskin Array B**	**152.53**	**305**	PKPbc	**PKiKP**	**22 17 39.8**	**+1.3**
	comp=Z,0.1nm,0.4s,baz=32,slow=31,SNR=2.6						
CLL	**Collm**	**154.96**	**347**	*e*PKPab	**PKPab**	**22 18 00.0**	**+1.7**
TORD	**Torodi Ar. Bea**	**165.87**	**170**	PKPab	**PKPab**	**22 18 48.9**	**+2.3**
	comp=Z,0.5nm,0.7s,baz=202,slow=3.8,SNR=3.3						

IDC ***26*** *22:00:58.5±2.3, 23.°68S×179.°95W, h505*$^{km}_{\pm}$*23*^{km}*, mb3.5/10, mb1 3.7/10, mb1mx3.4/37, mbtmp4.3/10, Error ellipse: s-maj=25.5km s-min=16.9km az=167.0*

NEIC ***26*** *22:01:01.8±1.1, 23.°7S±0.°1×180.°0E±0.°1, h539*$^{km}_{\pm}$*9*^{km}*, mb4.2/30, Error ellipse: s-maj=18.4km s-min=14.2km az=122.0*

ISC 26 22:01:01.0±0.5, 23.°71S±0.°09×179.°97E±0.°09, h535^{km}**, n57, σ1°01/59, mb4.2/25, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.21**	**343**	P	**P**	**22 02 40.2**	**-0.9**
NIUE	**Niue**	**10.48**	**66**	P	**P**	**22 03 24.0**	**+0.3**
MARNC	**Mare, Loyalty**	**11.25**	**279**	P	**P**	**22 03 32.2**	**+0.4**
PINNC	**Pines Island,**	**11.58**	**273**	P	**P**	**22 03 36.7**	**+1.5**
LIFNC	**LIFOU**	**12.15**	**281**	P	**P**	**22 03 40.3**	**-0.8**
DZM	**Mont Dzumac**	**12.58**	**275**	P	**P**	**22 03 46.1**	**+0.4**
QRZ	**Quartz Range**	**18.18**	**198**	P	**P**	**22 04 41.1**	**+0.1**
LTZ	**Lake Taylor**	**20.06**	**197**	P	**P**	**22 04 58.0**	**-0.3**
LTZ				IAmb	IAmb	22 05 03.5	
	comp=Z,15nm,1.4s						
RPZ	**Rata Peaks**	**21.26**	**198**	P	**P**	**22 05 09.0**	**0.0**
WHZ	**Wether Hill Ro**	**24.18**	**201**	P	**P**	**22 05 35.0**	**0.0**
WHZ				IAmb	IAmb	22 05 41.9	
	comp=Z,14nm,1.2s						
ARMA	**Armidale**	**26.07**	**249**	P	**P**	**22 05 53.1**	**+1.0**
ARMA				IAmb	IAmb	22 05 54.1	
	comp=Z,9.2nm,0.8s						
EIDS	**Eidsvold**	**26.31**	**260**	P	**P**	**22 05 55.0**	**+0.8**
EIDS				IAmb	IAmb	22 05 55.5	
	comp=Z,6.4nm,0.6s						
CTA	**Charters Tower**	**31.45**	**270**	P	**P**	**22 06 39.7**	**+0.7**
	comp=Z,18nm,0.4s,baz=94,slow=11,SNR=25						
CTAO	**Charters Tower**	**31.45**	**270**	P	**P**	**22 06 39.6**	**+0.7**
TOO	**Toolangi**	**32.53**	**237**	P	**P**	**22 06 48.1**	**+0.2**
TOO				IAmb	IAmb	22 07 02.1	
	comp=Z,5.6nm,1.2s						
STKA	**Stephens Creek**	**34.77**	**248**	P	**P**	**22 07 06.8**	**0.0**
	comp=Z,1.4nm,0.5s,baz=94,slow=11,SNR=6.0						
STKA	**Stephens Creek**	**34.77**	**248**	P	**P**	**22 07 06.8**	**0.0**
COEN	**Coen**	**36.06**	**279**	P	**P**	**22 07 18.8**	**+1.0**
BBOO	**Buckleboo**	**39.49**	**247**	P	**P**	**22 07 44.9**	**-0.7**
BBOO				IAmb	IAmb	22 07 45.2	
	comp=Z,3.3nm,0.6s						
AS31	**Alice Springs**	**42.04**	**260**	P	**P**	**22 08 06.0**	**0.0**
ASAR	**Alice Springs**	**42.04**	**260**	P	**P**	**22 08 05.9**	**-0.1**
	comp=Z,6.5nm,0.8s,baz=98,slow=7.5,SNR=36						
ASAR				ScP	**ScP**	**22 12 51.8**	**+3.6**
	comp=Z,2.0nm,0.7s,baz=106,slow=4.4,SNR=19						
ASAR	**Alice Springs**	**42.04**	**260**	P	**P**	**22 08 05.7**	**-0.3**
WR0	**Warramunga Arr**	**42.21**	**266**	P	**P**	**22 08 06.8**	**-0.5**
WR0				IAmb	IAmb	22 08 07.1	
	comp=Z,3.7nm,0.5s						
WB2	**Warramunga Arr**	**42.38**	**266**	P	**P**	**22 08 08.2**	**-0.5**
WB0	**Warramunga Arr**	**42.39**	**266**	P	**P**	**22 08 08.1**	**-0.6**
WRA	**Warramunga Arr**	**42.40**	**266**	P	**P**	**22 08 08.2**	**-0.6**
	comp=Z,9.4nm,0.6s,baz=101,slow=8.6,SNR=58						
WRA				ScP	**ScP**	**22 12 53.4**	**+3.8**
	comp=Z,1.3nm,0.9s,baz=104,slow=3.7,SNR=7.3						
WRA	**Warramunga Arr**	**42.40**	**266**	P	**P**	**22 08 07.8**	**-1.0**
JAY	**Jayapura**	**43.42**	**293**	P	**P**	**22 08 16.6**	**-0.3**
	comp=Z,7.5nm,0.8s,baz=163,slow=2.3,SNR=8.0						
FORT	**Forrest**	**46.35**	**249**	P	**P**	**22 08 38.1**	**-1.1**
MTN	**Manton Dam**	**47.42**	**274**	P	**P**	**22 08 46.9**	**-0.5**
MTN				IAmb	IAmb	22 09 15.4	
	comp=Z,12nm,1.1s						
KNRA	**Kununurra**	**48.66**	**270**	P	**P**	**22 08 56.4**	**-0.3**
KNRA				IAmb	IAmb	22 08 57.5	
	comp=Z,9.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**50.82**	**265**	P	**P**	**22 09 12.7**	**+0.2**
	comp=Z,3.0nm,0.6s,baz=118,slow=7.4,SNR=14						
FITZ	**Fitzroy Crossi**	**50.82**	**265**	P	**P**	**22 09 12.9**	**+0.4**
SBA	**Scott Base**	**54.56**	**183**	P	**P**	**22 09 39.9**	**+1.6**
SBA				IAmb	IAmb	22 09 41.5	
	comp=Z,11nm,1.3s						
VNDA	**Vanda**	**54.56**	**185**	P	**P**	**22 09 38.7**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=352,slow=7.4,SNR=4.2						
VNDA	**Vanda**	**54.56**	**185**	P	**P**	**22 09 38.3**	**0.0**
MORW	**Morawa**	**56.92**	**250**	P	**P**	**22 09 55.0**	**-0.4**
MORW				IAmb	IAmb	22 10 19.2	
	comp=Z,21nm,1.4s						
CASY	**Casey**	**60.27**	**206**	P	**P**	**22 10 16.4**	**-0.9**
QSPA	**South Pole Qui**	**66.37**	**180**	P	**P**	**22 10 57.0**	**+0.4**
QSPA				IAmb	IAmb	22 10 57.9	
	comp=Z,6.2nm,0.8s						
NVAR	**Mina Array Bea**	**84.63**	**44**	P	**P**	**22 12 38.8**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=202,slow=3.9,SNR=1.3						
NVAR	**Mina Array Bea**	**84.63**	**44**	P	**P**	**22 12 39.1**	**+0.6**
SNAA	**Sanae**	**84.85**	**179**	P	**P**	**22 12 37.5**	**-1.4**
SNAA	**Sanae**	**84.85**	**179**	P	**P**	**22 12 37.8**	**-1.1**
SNAA				IAmb	IAmb	22 12 40.6	
	comp=Z,6.4nm,1.5s						
I07A	**Izee**	**87.26**	**39**	P	**P**	**22 12 51.5**	**+0.7**
L19K	**White Mountain**	**87.94**	**12**	P	**P**	**22 12 53.7**	**+0.3**
L19K				IAmb	IAmb	22 13 02.5	
	comp=Z,8.2nm,1.3s						
G08A	**Pilot Rock**	**88.29**	**38**	P	**P**	**22 12 56.4**	**+0.8**
G08A				IAmb	IAmb	22 12 58.0	
	comp=Z,2.4nm,0.8s						
TX31	**Lajitas Ar. Si**	**90.35**	**58**	P	**P**	**22 13 05.8**	**+0.4**
TX31				IAmb	IAmb	22 13 30.0	
	comp=Z,3.8nm,1.1s						
TXAR	**Lajitas Array**	**90.35**	**58**	P	**P**	**22 13 06.3**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=213,slow=6.5,SNR=17						
TXAR	**Lajitas Array**	**90.35**	**58**	P	**P**	**22 13 06.1**	**+0.6**

0.7nm,0.7s,baz=306,slow=5.6,SNR=4.5
GERES GERESS Array B 82.57 326 P **P 22 17 18.9 -0.5**
0.3nm,0.6s,baz=344,slow=3.3,SNR=2.4
PFO Pinyon Flats O 84.12 53 P **P 22 17 26.6 -0.9**
1.9nm,0.7s,baz=316,slow=5.9,SNR=4.3
TXAR Lajitas Array 95.17 49 P **P 22 18 20.3 +1.0**
0.3nm,0.5s,baz=271,slow=2.8,SNR=5.9

MEX 26 22:19:17.0±1.4, 15°52N×96°98W, h5km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PEIG	**Puerto Escondi**	**0.51**	**341**	*eP*		**Pg**		22 19 25.7	-1.1
PEIG				*eS*		Sg		22 19 32.9	-0.5
PANG	**Puerto Angel**	**0.51**	**73**	*eP*		**Pg**		22 19 22.4	-4.4
PANG				*eS*		Sg		22 19 27.6	-5.8
PNIG	**Pinotepa**	**1.41**	**308**	*eP*		Pn		22 19 39.0	-4.3
PNIG				*eS*		Sb		22 19 57.8	-4.3
YOIG	**Yosondua**	**1.44**	**338**	*eP*		Pn		22 19 40.7	-3.3
YOIG				*eS*		Sb		22 19 59.0	-4.3
VHO	**Vista Hermosa**	**1.56**	**9**	*eP*		Pn		22 19 41.6	-4.0
VHO				*eS*		Sn		22 20 01.2	-5.2
TXIG	**Tlaxiaco**	**1.89**	**336**	*eP*		Pn		22 19 47.7	-2.5
TXIG				*eS*		Sn		22 20 10.5	-4.0
HLIG	**Huajuapan de L**	**2.43**	**341**	*eP*		Pn		22 19 58.2	+0.5
HLIG				*eS*		Sn		22 20 24.2	-3.7
TLIG	**Tlapa**	**2.54**	**323**	*eP*		Pb		22 20 02.1	-1.1
TLIG				*eS*		Sb		22 20 35.2	+0.3
CMIG	**Matias Romero**	**2.55**	**52**	*eP*		Pn		22 19 52.7	-6.3
CMIG				*eS*		Sn		22 20 26.8	-3.7
TOIG	**Toxpalan**	**2.57**	**358**	*eP*		Pn		22 19 58.4	-1.0
TOIG				*eS*		Sn		22 20 27.4	-3.6
FTIG	**Fresnillo de T**	**2.62**	**335**	*eP*		Pn		22 20 01.5	+1.3

IDC 26 22:19:34.3±1.3, 0°62S×131°39E, h0km, mb3.2/3, mb1 3.3/4, mb1mx3.2/33, mbtmp3.2/4, ML3.1/1, Error ellipse: s-maj=25.7km s-min=7.9km az=111.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**0.28**	**207**		Pg		Pg	22 19 39.5	-0.1
	290nm,0.3s,baz=30,slow=20,SNR=223								
SIJI					Lg		Lg	22 19 43.5	
	416nm,0.3s,baz=214,slow=22,SNR=29								
WRA	**Warramunga Arr**	**19.42**	**172**		P		P	22 24 02.0	-0.3
	0.1nm,0.3s,baz=350,slow=13,SNR=2.4								
WRA					S		Sn	22 27 25.4	-17
	0.1nm,0.3s,baz=359,slow=23,SNR=1.8								
ASAR	**Alice Springs**	**23.04**	**174**		P		P	22 24 42.0	+0.6
	0.3nm,0.6s,baz=351,slow=11,SNR=5.9								
MKAR	**Makanchi Array**	**63.77**	**325**		P		P	22 30 08.7	+0.5
	0.2nm,0.7s,baz=122,slow=8.4,SNR=1.4								
KURBB	**Kurchatov Arra**	**67.90**	**327**		P		P	22 30 34.2	-0.4
	0.3nm,0.6s,baz=126,slow=6.0,SNR=4.8								

MEX 26 22:22:43.0±0.3, 17°21N×100°07W, h25km±22km, MD3.7, Guerrero

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MEX 26 22:28:09.1±1.1, 17°87N×100°37W, h53km±14km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.72**	**85**	*eP*			Pn	22 28 21.7	-1.6
MEIG				*eS*			Sn	22 28 32.1	-1.6
CAIG	**El Cayaco**	**0.82**	**173**	*eP*			Pn	22 28 22.3	-2.2
CAIG				*eS*			Sn	22 28 33.7	-2.1
PLIG	**Platanillo**	**0.98**	**58**	*i* P			Pn	22 28 25.3	-1.5
PLIG				*eS*			Sn	22 28 37.7	-2.0
DAIG	**Los Arroyos**	**1.09**	**140**	*eP*			Pn	22 28 26.3	-1.8
DAIG				*eS*			Sn	22 28 40.3	-1.9
MAVM	**Malinalco, Edo**	**1.37**	**37**	*eP*			Pn	22 28 30.1	-2.1
MAVM				*eS*			Sn	22 28 46.9	-2.4
TLIG	**Tlapa**	**1.75**	**100**	*eP*			Pn	22 28 36.3	-0.9
TLIG				*eS*			Sn	22 28 56.1	-2.3
FTIG	**Fresnillo de T**	**2.13**	**89**	*eP*			Pn	22 28 41.6	-0.9
FTIG				*eS*			Sn	22 29 04.9	-2.9
HLIG	**Huajuapan de L**	**2.45**	**90**	*eP*			Pn	22 28 46.2	-0.6
HLIG				*eS*			Sn	22 29 12.5	-3.2
YOIG	**Yosondua**	**2.88**	**110**	*eP*			Pn	22 28 52.2	-0.6

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*IDC **26** 22:30:04.8±8.0, 7°16S×129°14E, h185km±84km, mb2.9/1, mb1 3.3/5, mb1mx3.0/32, mbtmp3.8/5, Error ellipse: s-maj=78.9km s-min=25.9km az=40.0*

ISC 26 22:30:06.4±1.6, 7°4S±0°1×129°1E±0°1, h200km, n5, σ1s94/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.09**	**242**	P			**Pn**	**22 31 35.5**	**+0.6**
	9.1nm,0.3s,baz=12,slow=1.3,SNR=10								
BATI					S		**Sn**	**22 32 45.7**	**+0.7**
	3.8nm,0.3s,baz=73,slow=15,SNR=2.1								
FITZ	**Fitzroy Crossi**	**11.17**	**197**	P			**Pn**	**22 32 41.1**	**+0.3**
	0.2nm,0.3s,baz=22,slow=12,SNR=9.3								
FITZ					S		**Sn**	**22 34 42.3**	**-3.1**
	0.5nm,0.3s,baz=219,slow=22,SNR=8.3								
WRA	**Warramunga Arr**	**13.45**	**159**	P			**Pn**	**22 33 10.6**	**+0.9**
	0.2nm,0.3s,baz=341,slow=12,SNR=9.2								
WRA					S			22 35 32.9	-6.7
	0.5nm,0.3s,baz=334,slow=22,SNR=8.2								
ASAR	**Alice Springs**	**16.81**	**165**	P			**Pn**	**22 33 52.9**	**+2.3**
	0.4nm,0.3s,baz=344,slow=11,SNR=44								
ASAR					S		**S**	**22 36 55.1**	**+0.3**
	0.1nm,0.3s,baz=345,slow=25,SNR=2.5								
MKAR	**Makanchi Array**	**68.09**	**327**	P			**P**	**22 40 43.2**	**-1.4**
	0.2nm,0.5s,baz=118,slow=7.0,SNR=2.8								

IDC 26 22:30:06.8±7.3, 30°95S×179°10W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/33, mbtmp3.5/2, Error ellipse: s-maj=300.7km s-min=62.8km az=156.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.14**	**268**	P			P	22 38 00.5	-0.7
	0.2nm,0.4s,baz=100,slow=7.9,SNR=1.8								
WRA	**Warramunga Arr**	**43.18**	**273**	P			P	22 38 09.9	+0.4
	0.4nm,0.3s,baz=114,slow=8.0,SNR=2.8								
FINES	**FINESS Array B**	**145.32**	**339**	PKPbc			PKPbc	22 49 44.8	-0.8
	1.4nm,1.0s,baz=23,slow=4.5,SNR=4.9								

SJA 26 22:38:34.0, 21°47S×68°51W, h151km, ML4.9, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.75**	**244**	*i* P			Pn	22 38 58.0	+0.8
PB01	**IPOC Station P**	**1.01**	**295**	*i* P			Pn	22 38 59.0	0.0
LVC	**Limon Verde**	**1.19**	**198**	*i* P			Pn	22 39 01.0	0.0
PB02	**IPOC Station P**	**1.30**	**276**	*i* P			Pn	22 39 02.0	+0.3
PB07	**IPOC Station P**	**1.31**	**258**	*i* P			Pn	22 39 02.0	+0.1
PB08	**IPOC Station P**	**1.45**	**335**	*i* P			Pn	22 39 04.0	+0.4
PB06	**IPOC Station P**	**1.58**	**218**	*i* P			Pn	22 39 06.0	+1.4
TA01	**Diego Aracena**	**1.80**	**300**	*i* P			Pn	22 39 08.0	+1.1
PB11	**IPOC Station P**	**2.01**	**328**	*i* P			Pn	22 39 10.0	+0.5
AC02	**Maricunga**	**5.37**	**186**	*i* P			Pn	22 39 54.0	+1.2
AGUA	**GUANDACOL**	**7.98**	**180**	*i* P			Pn	22 40 26.7	-0.5

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*NEIC **26** 22:39:21.6±2.1, 31°62S±0°03×72°06W±0°06, h2km±5km, Error ellipse: s-maj=7.3km s-min=3.9km az=112.0*
*IDC **26** 22:39:23.0±3.1, 31°64S×71°76W, h0km, mb3.7/1, mb1 3.7/2, mb1mx3.4/29, mbtmp3.6/2, ML3.8/1, Error ellipse: s-maj=140.9km s-min=46.3km az=96.0*
*GUC **26** 22:39:24.7±0.9, 31°67S×71°94W, h26km±7km, ML3.7*

ISC 26 22:39:22.2±1.6, 31°67S±0°03×72°02W±0°06, h3km±10km, n51, σ1s00/55, mb4.3/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.99**	**62**	Pn			**Pg**	**22 39 39.9**	**-1.3**
CO02							**Sg**	**22 39 54.1**	**+0.1**
CO06	**Fray Jorge**	**1.05**	**19**	*eP*			**Pg**	**22 39 42.5**	**+0.2**
CO06	**Fray Jorge**	**1.05**	**19**	Pn			**Pg**	**22 39 42.6**	**+0.3**
CO06							**Sg**	**22 39 57.1**	**+1.2**
VA06	**Catapilco**	**1.08**	**145**	*eP*			**Pg**	**22 39 43.2**	**+0.3**
VA06				*eS*			**Sg**	**22 39 56.6**	**-0.2**
VA06				IAML				22 40 02.5	
	comp=E,5μm,0.3s								
VA01	**Torpederas**	**1.38**	**167**	Pn			**Pn**	**22 39 47.8**	**-0.7**
CO03	**El Pedregal**	**1.41**	**54**	*eP*			**Pn**	**22 39 48.3**	**-0.7**
CO03				*eS*			**Sb**	**22 40 05.8**	**-1.9**
CO03				IAML				22 40 06.9	
	comp=E,2μm,0.4s								
CO03	**El Pedregal**	**1.41**	**54**	Pn			**Pn**	**22 39 48.3**	**-0.7**
ROCH	**El Roble**	**1.55**	**147**	*eP*			**Pn**	**22 39 51.2**	**+0.2**
ROCH				*eS*			**Sn**	**22 40 11.0**	**-0.8**
ROCH				IAML				22 40 17.3	
	comp=N,1μm,0.6s								
VA03	**San Esteban**	**1.66**	**132**	*eP*			**Pn**	**22 39 52.7**	**+0.4**
VA03				*eS*			**Sn**	**22 40 14.0**	**-0.1**
VA03				IAML				22 40 19.8	
	comp=E,2μm,0.5s								
VA03	**San Esteban**	**1.66**	**132**				**Pn**	**22 39 52.4**	**+0.2**
GO04	**Tololo Observa**	**1.83**	**35**	*eP*			**Pn**	**22 39 55.3**	**+0.5**
GO04				*eS*			**Sn**	**22 40 18.7**	**+0.1**
GO04	**Tololo Observa**	**1.83**	**35**	Pn			**Pn**	**22 39 55.2**	**+0.5**
CO05	**La Serena**	**1.87**	**21**	*eP*			**Pn**	**22 39 55.5**	**+0.4**
CO05				*eS*			**Sn**	**22 40 20.2**	**+0.9**
CO05				IAML				22 40 28.5	
	comp=E,754nm,0.3s								
CO05	**La Serena**	**1.87**	**21**	Pn			**Pn**	**22 39 53.7**	**-1.5**
VA05	**Santo Domingo**	**2.01**	**170**	*eP*			**Pn**	**22 39 57.4**	**+0.4**
VA05				IAML				22 40 34.7	
	comp=E,838nm,0.4s								
VA05	**Santo Domingo**	**2.01**	**170**				**Pn**	**22 39 55.8**	**-1.2**
MT05	**Renca**	**2.03**	**148**	*eP*			**Pn**	**22 39 58.6**	**+1.2**
MT05				*eS*			**Sn**	**22 40 24.2**	**+0.9**
MT05				IAML				22 40 30.2	
	comp=E,1μm,0.3s								
MT05	**Renca**	**2.03**	**148**	Pn			**Pn**	**22 39 56.4**	**-1.0**
MT09	**Talagante**	**2.27**	**158**	*eP*			**Pn**	**22 40 02.8**	**+2.0**
MT09				*eS*			**Sn**	**22 40 30.8**	**+1.4**
MT09				IAML				22 40 41.0	
	comp=E,356nm,0.5s								
MT01	**Popeta**	**2.28**	**164**	*eP*			**Pn**	**22 40 01.7**	**+0.9**
MT01	**Popeta**	**2.28**	**164**				**Pn**	**22 40 01.6**	**+0.9**
LMEL	**Las Melosas**	**2.66**	**145**	*eP*			**Pn**	**22 40 08.2**	**+2.1**
LMEL				IAML				22 40 49.4	
	comp=N,379nm,0.4s								
BO01	**Tunca**	**2.82**	**164**	Pn			**Pn**	**22 40 09.2**	**+0.9**
ZON	**Zonda**	**2.85**	**88**	Pn			**Pn**	**22 40 08.6**	**-0.2**
LCO	**Las Campanas**	**2.89**	**24**	Pn			**Pn**	**22 40 10.4**	**+1.0**
BO02	**Sierra Bellavi**	**3.28**	**162**				**Pn**	**22 40 15.1**	**+0.4**
GO05	**Huala**	**3.33**	**179**	Pn			**Pn**	**22 40 15.3**	**0.0**
AC04	**Llanos de Chal**	**3.55**	**14**	Pn			**Pn**	**22 40 16.2**	**-2.0**
ML02	**Panimavida**	**4.11**	**173**	Pn			**Pn**	**22 40 25.1**	**-0.8**
GO03	**Copiap**	**4.35**	**21**	Pn			**Pn**	**22 40 29.4**	**+0.1**
AC02	**Maricunga**	**5.44**	**28**	Pn			**Pn**	**22 40 44.4**	**-0.3**
VA04	**Juan Fernndez**	**6.07**	**249**	Pn			**Pn**	**22 40 52.0**	**-0.9**
H03N1	**Juan Fernandez**	**6.08**	**251**	T			T	22 47 36.3	
	baz=79,slow=72,SNR=130								
H03N3	**Juan Fernandez**	**6.09**	**251**	T			T	22 47 30.3	
	baz=79,slow=72,SNR=135								
H03N2	**Juan Fernandez**	**6.09**	**251**	T			T	22 47 38.8	
	baz=79,slow=72,SNR=123								
PB14	**IPOC Station P**	**7.16**	**12**	Pn			**Pn**	**22 41 06.6**	**-1.6**
LC01	**Cunco**	**7.21**	**179**	Pn			**Pn**	**22 41 06.7**	**-1.9**
PLCA	**Paso Flores**	**9.12**	**173**	Pn			**Pn**	**22 41 36.1**	**+1.3**
	comp=N,0.2nm,0.3s,baz=344,slow=13,SNR=6.8								
PLCA	**Paso Flores**	**9.12**	**173**				**Pn**	**22 41 35.4**	**+0.6**
TRQA	**Tornquist**	**10.42**	**130**	Pn			**Pn**	**22 41 54.2**	**+1.7**
PLTB	**Pedras Altas**	**15.68**	**95**				**Pn**	**22 43 04.7**	**+0.5**
PLTB					IAmb		IAmb	22 43 19.3	
	comp=Z,13nm,1.3s								
LPAZ	**La Paz**	**15.72**	**14**				**Pn**	**22 43 06.2**	**+0.9**
EFI	**East Falkland**	**22.47**	**157**	P			**P**	**22 44 21.6**	**-0.8**
SNAA	**Sanae**	**53.73**	**158**	P			**P**	**22 48 44.9**	**-0.4**
SNAA					IAmb		IAmb	22 49 08.4	
	comp=Z,4.8nm,1.3s								
QSPA	**South Pole Qui**	**58.56**	**180**	P			**P**	**22 49 20.3**	**+0.3**
QSPA					IAmb		IAmb	22 49 35.1	
	comp=Z,4.0nm,1.4s								
TORD	**Torodi Ar. Bea**	**83.41**	**70**	P			**P**	**22 51 51.4**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=255,slow=4.8,SNR=2.7								
TORD	**Torodi Ar. Bea**	**83.41**	**70**	P			**P**	**22 51 50.6**	**-0.8**
TORD					IAmb		IAmb	22 52 18.6	
	comp=Z,3.5nm,1.5s								
H11N3	**WAKE ISLAND Hyl**	**26.14**	**272**	T			T	01 17 42.0	
	baz=119								
H11N1	**WAKE ISLAND Hyl**	**26.16**	**272**	T			T	01 17 57.2	
	baz=119								
H11N2	**WAKE ISLAND Hyl**	**26.16**	**272**	T			T	01 17 45.7	
	baz=119								
ZALV	**Zalesovo Beam**	**152.23**	**30**	PKPbc			**PKiKP**	**22 59 19.8**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=330,slow=3.4,SNR=4.3								

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*IDC **26** 22:42:19.6±1.1, 21°59N×143°09E, h300km±9km, mb3.9/34, mb1 4.1/38, mb1mx4.0/59, mbtmp4.6/38, Error ellipse: s-maj=11.1km s-min=6.8km az=88.0*
*NEIC **26** 22:42:20.5±1.4, 21°59N±0°06×143°1E±0°1, h303km±6km, mb4.5/136, Error ellipse: s-maj=14.8km s-min=8.3km az=69.0*

ISC 26 22:42:19.7±0.8, 21°58N±0°04×143°11E±0°07, h302km±7km, n385, σ0s94/402, mb4.4/134, 1C, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**5.47**	**152**	P			**Pn**	**22 43 44.0**	**+1.1**
CBIJ	**Chichi jima**	**5.56**	**351**	P			**Pn**	**22 43 42.8**	**-1.0**
JCJ	**Chichijima**	**5.56**	**351**	P			**Pn**	**22 43 42.9**	**-1.0**
	98nm,0.3s,baz=242,slow=7.2,SNR=15								
JCJ					S		**S**	**22 44 49.4**	**-2.1**
	119nm,0.3s,baz=265,slow=22,SNR=11								
JCJ	**Chichijima**	**5.56**	**351**				**Pn**	**22 43 43.0**	**-0.9**
ANA2	**Anatahan**	**5.76**	**154**				**Pn**	**22 43 47.4**	**+1.1**
ANA2	**Anatahan**	**5.76**	**154**	P			**Pn**	**22 43 47.9**	**+1.5**
GUMO	**Guam**	**8.12**	**168**	P			**Pn**	**22 44 16.3**	**+1.4**
	34nm,0.3s,baz=153,slow=3.9,SNR=18								
GUMO	**Guam**	**8.12**	**168**				**Pn**	**22 44 16.7**	**+1.8**
GUMO	**Guam**	**8.12**	**168**	P			**P**	**22 44 18.1**	**-2.0**
JHJ2	**Mitsune**	**11.86**	**346**	Pn			**Pn**	**22 44 58.9**	**-1.5**
JHJ	**Hachijo jima 2**	**11.87**	**346**	P			**Pn**	**22 44 59.0**	**-1.6**
	60nm,0.3s,baz=72,slow=21,SNR=14								
JHJ					S		**S**	**22 47 15.0**	**+2.2**
	18nm,0.3s,baz=269,slow=23,SNR=1.9								
JSG	**Sagara**	**13.75**	**343**	P			**P**	**22 45 23.0**	**+0.2**
JIE	**Ise**	**13.95**	**338**	P			**P**	**22 45 24.6**	**-0.5**
JOD2	**Odawara 2**	**14.09**	**346**	P			**P**	**22 45 26.7**	**+0.1**
JMN	**Monobe**	**14.60**	**328**	P			**Pn**	**22 45 34.8**	**+1.5**
JMN	**Monobe**	**14.60**	**328**	P			**Pn**	**22 45 34.2**	**+0.8**
INU	**Inuyama**	**14.72**	**340**				**P**	**22 45 33.1**	**-0.5**
JYT	**Yasato**	**14.82**	**351**	P			**P**	**22 45 35.0**	**+0.4**
JRY	**Ryogami san**	**14.85**	**347**	P			**P**	**22 45 34.6**	**-0.4**
JGF	**Kuroka**	**14.85**	**341**				**P**	**22 45 34.8**	**-0.3**
JSU	**Suzuyama**	**15.02**	**314**	P			**Pn**	**22 45 38.1**	**-0.2**
JWT	**Wachi**	**15.24**	**335**	P			**P**	**22 45 39.7**	**+0.5**
JWT	**Wachi**	**15.24**	**335**	P			**P**	**22 45 39.6**	**+0.5**
JGN	**Niukaw**	**15.45**	**342**	P			**P**	**22 45 42.1**	**+0.5**
JAD	**Aida**	**15.46**	**331**	P			**Pn**	**22 45 42.8**	**-0.6**
MJAR	**Matsushiro Arr**	**15.51**	**345**	P			**P**	**22 45 40.6**	**-1.6**
	1.0nm,0.3s,baz=157,slow=7.7,SNR=55								
MJAR	**Matsushiro Arr**	**15.51**	**345**				**P**	**22 45 41.1**	**-1.2**
MJAR					IAmb		IAmb	22 45 43.2	
	comp=Z,22nm,0.9s								
MAJO	**Matsushiro**	**15.51**	**345**	P			**P**	**22 45 41.7**	**-0.5**
MAT	**Matsushiro**	**15.51**	**345**	P			**P**	**22 45 41.3**	**-0.9**
MAT					S		**S**	**22 48 26.3**	**-4.0**
MAT	**Matsushiro**	**15.51**	**345**	P			**P**	**22 45 41.6**	**-0.6**
JNU	**Nakatsue**	**15.80**	**319**	P			**P**	**22 45 46.3**	**+0.8**
	comp=Z,2.9nm,0.3s,baz=83,slow=2.9,SNR=11								
JNU	**Nakatsue**	**15.80**	**319**	P			**Pn**	**22 45 47.0**	**-0.5**
JNU	**Nakatsue**	**15.80**	**319**	P			**Pn**	**22 45 46.6**	**-0.9**
JHS	**Saijyo**	**15.99**	**329**	P			**Pn**	**22 45 48.9**	**-0.8**
JHS	**Saijyo**	**15.99**	**329**	P			**P**	**22 45 48.5**	**+1.0**
JMM	**Marumori**	**16.36**	**353**	P			**P**	**22 45 52.4**	**+1.0**
JSD	**Sado**	**16.93**	**347**	P			**P**	**22 45 57.0**	**-0.7**
JSD	**Sado**	**16.93**	**347**				**P**	**22 45 56.9**	**-0.7**
JYA	**Atsumi**	**17.21**	**351**	P			**P**	**22 46 01.9**	**+1.2**
JTU	**Tsushima**	**17.66**	**320**	P			**P**	**22 46 06.8**	**+1.3**
JOM	**Ohasama**	**17.91**	**355**	P			**P**	**22 46 09.2**	**+1.1**
JTM	**Tenmabayashi**	**19.23**	**355**	P			**P**	**22 46 22.5**	**+0.2**
YHNB	**Yeheng**	**20.22**	**283**	P			**P**	**22 46 33.0**	**+0.1**
ERM	**Erimo**	**20.38**	**0**	P			**P**	**22 46 35.6**	**+1.4**
SSLB	**Suanglung**	**20.56**	**280**	P			**P**	**22 46 36.7**	**+0.4**
SSLB					IAmb		IAmb	22 46 39.8	
	comp=Z,22nm,0.9s								
KSRS	**Korea Array**	**20.57**	**324**	P			**P**	**22 46 35.2**	**-1.0**
	comp=Z,6.9nm,0.6s,baz=144,slow=8.8,SNR=59								
KSRS					ScP		**ScP**	**22 53 41.3**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=157,slow=4.0,SNR=5.2								
KSAR	**Wonju Array Be**	**20.58**	**324**	P			**P**	**22 46 36.1**	**-0.2**
KS19	**Wonju Array Si**	**20.64**	**324**	P			**P**	**22 46 36.5**	**-0.4**
KS19					IAmb		IAmb	22 46 37.2	
	comp=Z,9.0nm,0.7s								
JEW	**Eniwo**	**21.25**	**357**	P			**P**	**22 46 43.0**	**+0.4**
ASAJ	**Asahikawa**	**22.48**	**359**	P			**P**	**22 46 54.5**	**+0.7**
	comp=Z,5.8nm,0.5s,baz=163,slow=6.5,SNR=11								
JKA	**Kamikawa-asahi**	**22.48**	**359**	P			**P**	**22 46 54.6**	**+0.8**
JKA					IAmb		IAmb	22 47 17.2	
	comp=Z,21nm,1.1s								
NJ2	**Nanjing**	**23.98**	**301**	*eP*			**P**	**22 47 07.8**	**+0.3**
NJ2					pmax		pmax		
	comp=Z,10.0nm,0.6s								
USA0B	**Ussuriysk Arra**	**24.37**	**340**	P			**P**	**22 47 10.6**	**-0.3**
USA0B					IAmb		IAmb	22 47 12.6	
	comp=Z,7.1nm,0.7s								
USRK	**Ussuriysk Ar.**	**24.37**	**340**	P			**P**	**22 47 11.1**	**+0.2**
	comp=Z,5.8nm,0.6s,baz=160,slow=8.8,SNR=26								
USRK	**Ussuriysk Ar.**	**24.37**	**340**	P			**P**	**22 47 10.7**	**-0.2**
MDJ	**Mudanjiang**	**25.55**	**337**	P			**P**	**22 47 21.9**	**+0.4**
MDJ					IAmb		IAmb	22 47 23.8	
	comp=Z,8.0nm,0.8s								
FAKI	**Fak Fak**	**26.56**	**205**	P			**P**	**22 47 29.5**	**-1.3**
KLR	**Kul'dur**	**29.04**	**345**	P			**P**	**22 47 52.4**	**0.0**
	comp=Z,29nm,0.5s,baz=159,slow=7.7,SNR=138								
KLR					PcP		**PcP**	**22 50 53.0**	**+0.8**
	comp=Z,3.7nm,0.5s,baz=214,slow=1.9,SNR=7.2								
KLR					ScP		**ScP**	**22 54 04.5**	**-0.2**
	comp=Z,3.1nm,0.8s,baz=143,slow=0.5,SNR=7.4								
TOLI2	**Tolitoli**	**29.79**	**230**	P			**P**	**22 47 59.5**	**+0.1**
TOLI2					IAmb		IAmb	22 48 01.5	
	comp=Z,16nm,1.1s								
KAPI	**Kappang**	**34.96**	**224**	P			**P**	**22 48 44.5**	**+0.4**
KAPI					IAmb		IAmb	22 48 50.6	
	comp=Z,29nm,1.5s								
COEN	**Coen**	**35.31**	**180**	P			**P**	**22 48 47.4**	**+0.4**
COEN					IAmb		IAmb	22 48 54.7	
	comp=Z,15nm,1.1s								
MTKI	**Muara Teweh, K**	**35.50**	**234**	P			**P**	**22 48 49.0**	**+0.3**
	comp=Z,34nm,0.8s								
MTN	**Manton Dam**	**36.17**	**200**	P			**P**	**22 48 53.6**	**-0.7**
MTN					IAmb		IAmb	22 48 54.2	
	comp=Z,12nm,0.8s								
MMRI	**Maumere**	**36.35**	**216**	P			**P**	**22 48 55.7**	**-0.1**
	comp=Z,2μmcomp=Z,27nm,1.1s								
SLVN	**Son La**	**36.42**	**277**	P			**P**	**22 48 57.1**	**+0.6**
EDFI	**Ende, Flores**	**36.75**	**217**	P			**P**	**22 48 59.2**	**-0.1**
	comp=Z,6.0nm,0.6s								
KMI	**Kunming**	**37.14**	**283**	⇑P			**P**	**22 49 05.8**	**+3.2**
KMI					pmax		pmax		
	comp=Z,6.0nm,0.8s								
SKNT	**Sakolnakorn**	**37.15**	**270**	P			**P**	**22 49 04.8**	**+2.2**
	comp=Z,10nm,0.8s								
BBKI	**Banjar Baru**	**37.22**	**231**	P			**P**	**22 49 03.5**	**+0.4**
	comp=Z,27nm,1.4s								
STKI	**Sintang**	**37.54**	**239**	P			**P**	**22 49 05.7**	**-0.2**
	comp=Z,12μmcomp=Z,38nm,0.8s								
LBFI	**Labuhan Bajo,**	**37.57**	**220**	P			**P**	**22 49 05.5**	**-0.5**
	comp=Z,17nm,0.8s								
WBSI	**Waikabubak, Su**	**38.79**	**219**	P			**P**	**22 49 14.4**	**-1.8**
	comp=Z,32nm,1.2s								
ULN	**Ulaanbaatar**	**39.02**	**321**	P			**P**	**22 49 18.8**	**+1.0**
	comp=Z,14nm,1.3s								
PLAI	**Plampang**	**39.13**	**222**	P			**P**	**22 49 18.8**	**-0.2**
	comp=Z,38nm,0.8s		

MDSI **Maura Dua** 46.09 240 P P 22 50 14.9 +0.3
CGJI **Cibinong** 46.17 237 P P 22 50 12.8 -2.4
LHSI **Lahat** 46.25 242 P P 22 50 15.5 -0.3
comp=Z,2µmcomp=Z,52nm,0.9s
PSI **Prapat** 46.81 253 P P 22 50 20.9 +0.6
comp=Z,11nm,0.9s,comp=Z,28nm,0.9s
PSI P P 22 50 20.9 +0.6
comp=Z,11nm,0.9s,comp=Z,28nm,0.9s
RPSI **Rantau Prapat** 46.86 253 P P 22 50 21.0 +0.4
RPSI IAmb IAmb 22 50 22.1
comp=Z,28nm,1.1s
SHL **Shillong** 46.89 285 P P 22 50 20.4 -0.5
KSI **Kapahiang** 46.92 243 P P 22 50 20.0 -1.1
comp=Z,4µmcomp=Z,62nm,0.8s
MASI **Maura Aman, Be** 46.93 243 P P 22 50 21.7 +0.6
comp=Z,131nm,1.1s
MNSI **Mandailing Nat** 47.17 250 P P 22 50 23.8 +0.8
comp=Z,45nm,0.7s
PDSI **Padang** 47.25 247 P P 22 50 22.7 -0.9
comp=Z,485nmcomp=Z,30nm,0.8s
LHMI **Lhok Sumawe** 47.54 257 P P 22 50 26.8 +1.0
LHMI **Lhok Sumawe** 47.54 257 P P 22 50 27.0 +1.3
comp=Z,81nm,0.9s
TPTI 48.16 254 P P 22 50 29.4 -1.1
comp=Z,6.7nm,1.1s
PSA00 **Pilbara Seismi** 48.53 209 P P 22 50 32.7 -0.4
PSA00 **Pilbara Seismi** 48.53 209 P P 22 50 33.1 0.0
PSA00 IAmb IAmb 22 50 33.8
comp=Z,9.4nm,0.9s
GSI **Gunungsitoli** 48.69 252 P P 22 50 34.6 +0.1
GSI **Gunungsitoli** 48.69 252 P P 22 50 35.4 +0.8
comp=Z,66nm,0.6s
UNV **Unalaska Valle** 49.75 37 P P 22 50 41.9 0.0
WMQ **Urumqi** 50.60 310 eP P 22 50 50.8 +2.3
GIRL **Giralia** 52.19 214 P P 22 51 01.0 +0.7
STKA **Stephens Creek** 53.17 182 P P 22 51 07.3 +0.1
comp=Z,6.6nm,0.6s,baz=351,slow=7.6,SNR=21
STKA **Stephens Creek** 53.17 182 P P 22 51 07.1 -0.2
SDPT **Sand Point** 53.55 36 P P 22 51 09.5 -0.3
SDPT **Sand Point** 53.55 36 P P 22 51 09.8 +0.1
baz=255
CNBA **Chernabura Isl** 53.90 37 P P 22 51 12.2 -0.2
CHNA **Chernabura Isl** 53.91 37 P P 22 51 12.8 +0.5
baz=256
FORT **Forrest** 54.02 196 P P 22 51 13.3 -0.2
ZAA0 **Zalesovo Array** 54.26 322 P P 22 51 14.6 -0.4
ZAA0 PcP PcP 22 52 14.0 -0.9
ZALV **Zalesovo Beam** 54.26 322 P P 22 51 14.8 -0.2
comp=Z,2.1nm,0.6s,baz=102,slow=8.1,SNR=10.0
ZALV PcP PcP 22 52 14.2 -0.7
comp=Z,7.4nm,0.5s,baz=121,slow=4.2,SNR=21
ZALV **Zalesovo Beam** 54.26 322 P P 22 51 14.4 -0.5
ZALV PcP PcP 22 52 14.1 -0.8
BBOO **Buckleboo** 54.50 187 P P 22 51 16.6 -0.3
MK31 **Makanchi Array** 54.73 313 P P 22 51 18.7 +0.2
MK31 PcP PcP 22 52 17.1 +0.1
MKAR **Makanchi Array** 54.73 313 P P 22 51 18.8 +0.3
comp=Z,1.2nm,0.6s,baz=83,slow=9.6,SNR=13
MKAR PcP PcP 22 52 16.9 -0.1
comp=Z,3.8nm,0.6s,baz=64,slow=5.8,SNR=12
MKAR ScP ScP 22 55 45.9 -0.1
comp=Z,0.4nm,0.6s,baz=74,slow=6.2,SNR=3.8
CHGN **Chignik** 54.91 35 P P 22 51 19.2 -0.3
CHGN **Chignik** 54.91 35 P P 22 51 19.4 -0.2
baz=256
MAKZ **Makanchi** 54.94 313 P P 22 51 20.0 0.0
MORW **Morawa** 56.71 208 P P 22 51 32.1 -0.4
MORW IAmb IAmb 22 51 51.8
comp=Z,21nm,1.4s
N18K **Kilae Creek** 57.29 31 P P 22 51 37.3 +1.1
N18K **Kilae Creek** 57.29 31 P P 22 51 37.6 +1.3
baz=255
O18K **Koktuh Hills** 57.42 32 P P 22 51 38.5 +1.3
O18K IAmb IAmb 22 51 39.1
comp=Z,12nm,0.8s
O18K **Koktuh Hills** 57.42 32 P P 22 51 38.5 +1.3
baz=256
KURK **Kurchatov** 57.52 317 P P 22 51 38.1 +0.2
SVW2 **Sparrevohn** 57.55 30 P P 22 51 38.9 +0.9
KURBB **Kurchatov Arra** 57.56 317 P P 22 51 38.1 -0.2
comp=Z,5.4nm,0.6s,baz=94,slow=7.6,SNR=48
KURBB PcP PcP 22 52 27.3 -0.6
comp=Z,2.1nm,0.8s,baz=92,slow=4.8,SNR=5.7
OHAK **Old Harbor** 57.87 35 P P 22 51 41.0 +0.8
OHAK IAmb IAmb 22 51 54.8
comp=Z,16nm,1.1s
N19K **Bonanza Creek** 57.99 31 P P 22 51 42.2 +1.0
N19K IAmb IAmb 22 51 43.1
comp=Z,8.2nm,0.8s
N19K **Bonanza Creek** 57.99 31 P P 22 51 42.4 +1.2
baz=257
NRIK **Noril'sk** 58.09 340 P P 22 51 42.7 +1.2
comp=Z,3.4nm,0.7s,baz=104,slow=10,SNR=4.7
NRIK **Noril'sk** 58.09 340 P P 22 51 43.6 +2.1
L19K **White Mountain** 58.16 29 P P 22 51 42.6 +0.4
KDAK **Kodiak Island** 58.34 35 P P 22 51 43.7 +0.2
comp=Z,3.0nm,0.5s,baz=280,slow=1.5,SNR=9.5
KDAK **Kodiak Island** 58.34 35 P P 22 51 43.7 +0.2
KDAK IAmb IAmb 22 52 10.0
comp=Z,25nm,1.2s
L20K **Farewell, AK** 58.67 29 P P 22 51 46.7 +0.9
baz=256
K20K **Telida** 58.80 28 P P 22 51 47.8 +1.2
K20K **Telida** 58.80 28 P P 22 51 47.5 +0.9
baz=256
TOO **Toolangi** 58.87 178 IAmb IAmb 22 51 47.2
comp=Z,13nm,1.4s
TOO P P 22 51 47.6 +0.2
J20K **Nowinta River** 58.98 27 P P 22 51 49.1 +1.3
J20K IAmb IAmb 22 51 50.3
comp=Z,19nm,1.5s
J20K **Nowinta River** 58.98 27 P P 22 51 49.2 +1.4
baz=255
BOOM **Boomskoye usch** 59.12 307 P P 22 51 49.9 +0.5
KSH **Kashi** 59.24 304 P P 22 51 53.8 +3.6
KSH pmax pmax
comp=Z,3.0nm,0.8s
KSH LR LR
comp=N,310nm,17.3s
KSH LR LR
comp=E,440nm,17.1s
KSH LR LR
comp=Z,530nm,17.1s
CNPM **China Poot** 59.33 33 P P 22 51 49.8 -0.5
CNPM IAmb IAmb 22 52 16.4
comp=Z,40nm,1.5s
PPLA **Purkeypile** 59.52 29 P P 22 51 52.5 +0.8
baz=258
BRLK **Bradley Lake** 59.54 32 P P 22 51 51.0 -0.8
BRLK IAmb IAmb 22 51 51.9
comp=Z,14nm,0.8s
NWAO **Narrogin (SRO)** 59.57 205 P P 22 52 52.0 -0.1
comp=Z,6.1nm,0.7s,baz=66,slow=6.6,SNR=2.1
NWAO **Narrogin (SRO)** 59.57 205 P P 22 51 52.0 -0.1
NWAO IAmb IAmb 22 52 05.1
comp=Z,31nm,1.4s
IMAR **Indian Mountai** 59.62 25 P P 22 51 52.6 +0.5
SKT **Skwentna** 59.63 30 P P 22 51 52.3 0.0
SKT **Skwentna** 59.63 30 P P 22 51 52.4 0.0
baz=259
CAST **Castle Rocks** 59.69 28 P P 22 51 53.4 +0.8
CAST IAmb IAmb 22 51 54.3
comp=Z,8.0nm,0.9s
CAST **Castle Rocks** 59.69 28 P P 22 51 53.6 +0.9
baz=257,SNR=8.2
SUA **Susitna One** 59.90 31 P P 22 51 54.7 +0.4
baz=260
H21K **Melozitna Rive** 59.91 26 P P 22 51 55.3 +1.2
H21K **Melozitna Rive** 59.91 26 P P 22 51 55.5 +1.4
baz=255,SNR=5.8
I21K **Tanana** 60.13 26 P P 22 51 56.7 +1.2
I21K **Tanana** 60.13 26 P P 22 51 57.0 +1.5
baz=256,SNR=5.5
O22K **Cooper Landing** 60.23 32 P P 22 51 56.5 +0.2
O22K **Cooper Landing** 60.23 32 P P 22 51 56.4 +0.2
baz=261
BPAW **Bear Paw Mtn.** 60.31 27 P P 22 51 57.6 +0.8
BPAW IAmb IAmb 22 51 58.3
comp=Z,7.4nm,0.8s
BPAW **Bear Paw Mtn.** 60.31 27 P P 22 51 57.7 +0.9
baz=258,SNR=8.7
RC01 **Rabbit Creek A** 60.32 31 P P 22 51 57.1 +0.2
baz=261
TRF **Thorofare Moun** 60.48 28 P P 22 51 58.3 +0.2
baz=259
MLY **Manley** 60.61 26 P P 22 51 59.6 +0.7
MLY **Manley** 60.61 26 P P 22 51 59.8 +0.9
baz=258,SNR=6.2
KNK **Knik Glacier** 60.98 31 P P 22 52 01.5 +0.2
baz=262
SML **Sawmill** 61.10 30 P P 22 52 02.4 +0.2
baz=262
MCK **McKinley** 61.13 28 P P 22 52 02.6 +0.3
baz=260
I23K **Minto, Yukon-K** 61.20 26 P P 22 52 03.5 +0.9
I23K IAmb IAmb 22 52 04.9
comp=Z,5.4nm,0.6s
I23K **Minto, Yukon-K** 61.20 26 P P 22 52 03.6 +0.9
baz=259,SNR=7.2
NEA2 **Nenana** 61.22 27 P P 22 52 03.6 +0.6
baz=260
WAT6 **Susitna Watana** 61.48 29 P P 22 52 04.9 0.0
baz=262
GLI **Glacier Island** 61.57 31 P P 22 52 05.2 0.0
baz=263
MDM **Murphy Dome** 61.64 27 P P 22 52 05.7 -0.1
DHY **Denali Highway** 61.72 29 P P 22 52 06.3 -0.1
baz=262
TOLK **Toolik Lake Re** 61.86 23 P P 22 52 08.4 +1.3
baz=257
H24K **Noodor Dome** 61.94 26 P P 22 52 08.6 +0.9
H24K **Noodor Dome** 61.94 26 P P 22 52 08.7 +0.9
baz=260,SNR=5.5
NIL **Nilore** 62.03 298 P P 22 52 09.1 +0.2
NIL IAmb IAmb 22 52 10.4
comp=Z,8.0nm,1.1s
HDA **Harding Lake** 62.10 27 P P 22 52 08.2 -0.6
baz=262
IL31 62.18 27 P P 22 52 08.5 -0.6
IL31 IAmb IAmb 22 52 09.2
comp=Z,4.4nm,0.7s
ILAR **Eielson Array** 62.18 27 P P 22 52 08.4 -0.8
comp=Z,3.6nm,0.7s,baz=258,slow=5.4,SNR=25
KLU **Klutina** 62.20 31 P P 22 52 10.3 +0.8
KLU IAmb IAmb 22 52 10.8
comp=Z,8.3nm,0.5s
KLU **Klutina** 62.20 31 P P 22 52 10.1 +0.6
baz=264,SNR=5.3
PAX **Paxson** 62.57 29 P P 22 52 12.5 +0.5
baz=264
HARP **HAARP** 62.65 30 P P 22 52 13.4 +0.9
baz=264
BRVK **Borovoye** 62.78 320 P P 22 52 13.4 0.0
BRVK IAmb IAmb 22 52 14.4
comp=Z,6.6nm,0.8s
BMRM **Bremner River** 62.79 32 P P 22 52 13.9 +0.5
baz=266
N25K **Chitina, Valde** 62.84 31 P P 22 52 14.5 +0.7
baz=265
RIDG **Independent Ri** 62.93 28 P P 22 52 14.3 0.0
RIDG IAmb IAmb 22 52 15.0
comp=Z,6.7nm,0.8s
RIDG **Independent Ri** 62.93 28 P P 22 52 14.4 +0.1
baz=264,SNR=5.9
KK31 **Karatay Array** 63.08 308 P P 22 52 15.7 +0.1
KKAR **Karatay Array** 63.08 308 P P 22 52 15.8 +0.2
KKAR **Karatay Array** 63.08 308 P P 22 52 15.9 +0.2
KKAR IAmb IAmb 22 52 16.7
comp=Z,5.2nm,0.8s
SCRK **Sand Creek** 63.33 28 P P 22 52 17.1 +0.1
SCRK IAmb IAmb 22 52 17.9
comp=Z,6.2nm,0.6s
SCRK **Sand Creek** 63.33 28 P P 22 52 17.1 +0.1
baz=265,SNR=9.6
BMAR **Burnt Mountain** 63.48 24 P P 22 52 19.3 +1.5
CRQE **Cirque** 63.51 32 P P 22 52 18.8 +0.6
baz=267
J26L **Joseph Creek** 63.57 28 P P 22 52 18.5 0.0
baz=265,SNR=7.0
GAR **Garm** 63.66 304 P P 22 52 19.4 -0.2
GAR IAmb IAmb 22 52 27.6
comp=Z,4.8nm,0.6s
K27K **Chicken** 64.18 28 P P 22 52 23.2 +0.9
baz=266
L27K **Beaver Creek,** 64.23 29 P P 22 52 23.3 +0.5
baz=267
BCAR **Beaver Creek A** 64.25 29 P P 22 52 23.3 +0.4
CHGR **Chuyangaron** 64.60 304 P P 22 52 25.7 0.0
CHGR IAmb IAmb 22 52 26.6
comp=Z,12nm,0.7s
YUK3 **Moose Creek** 64.82 31 P P 22 52 27.5 +0.8
baz=269
KBL **Kabul** 65.34 299 P P 22 52 30.4 -0.1
KBL IAmb IAmb 22 52 31.3
comp=Z,4.6nm,0.7s
DAWY **Dawson** 65.36 28 P P 22 52 30.5 +0.6
baz=269
YUK4 **Talbot Arm** 65.69 31 P P 22 52 33.5 +1.2
baz=271
YUK6 **Outpost Mounta** 65.83 32 P P 22 52 34.7 +1.5
baz=271
HYT **Haines Junctio** 66.25 32 P P 22 52 37.0 +1.2
HYT IAmb IAmb 22 52 38.0
comp=Z,8.0nm,1.1s
HYT **Haines Junctio** 66.25 32 P P 22 52 37.0 +1.2
baz=272
URZ **Urewera** 67.54 152 P P 22 52 43.6 -0.3
comp=Z,5.8nm,0.6s,baz=73,slow=7.3,SNR=1.9
URZ **Urewera** 67.54 152 P P 22 52 43.8 -0.2
INK **Inuvik** 67.70 24 P P 22 52 44.0 -0.5
comp=Z,2.8nm,0.6s,baz=306,slow=7.0,SNR=6.5
SNZO **South Karori** 69.10 155 P P 22 52 53.0 -0.4
BFZ **Birch Farm** 69.19 154 P P 22 52 54.1 +0.1
ARU **Arti** 69.32 324 P P 22 52 54.3 -0.4
ARU IAmb IAmb 22 52 55.2
comp=Z,6.6nm,0.9s
PLWZ **Palliser** 69.53 155 P P 22 52 55.7 -0.5
ABKAR **Akbulak array** 69.59 316 P P 22 52 56.2 -0.3
ABKAR **Akbulak array** 69.59 316 P P 22 52 56.2 -0.3
ABKAR IAmb IAmb 22 52 57.0
comp=Z,8.9nm,0.7s
DIB **Dawson Inlet,** 69.72 40 P P 22 52 57.3 +0.1
TGTN **Hyland Airport** 70.63 31 P P 22 53 04.0 +1.4
baz=280
BBB **Bella Bella** 72.52 40 P P 22 53 14.0 +0.1
comp=Z,4.1nm,0.8s,baz=323,slow=5.7,SNR=4.0
BBB **Bella Bella** 72.52 40 P P 22 53 14.2 +0.3
GEYT **Ailbeck** 73.26 305 P P 22 53 18.6 0.0
comp=Z,97nm,0.8s,baz=116,slow=6.8,SNR=4.5
OZB **Mount Ozzard** 74.93 43 P P 22 53 28.9 +1.0
CLRS **Cowichan Lake** 75.83 43 P P 22 53 33.8 +0.8
CLRS IAmb IAmb 22 53 42.7
comp=Z,16nm,1.3s
SPITS **Spitsbergen Ar** 75.94 350 P P 22 53 33.7 +0.5
comp=Z,9.3nm,1.0s,baz=80,slow=6.9,SNR=4.9
NLWA **Neilton Lookou** 76.41 44 P P 22 53 37.9 +1.6
NLWA IAmb IAmb 22 53 38.3
comp=Z,8.2nm,0.7s
YKA **Yellowknife Ar** 76.59 28 P P 22 53 37.0 +0.1
comp=Z,6.8nm,0.7s,baz=296,slow=4.9,SNR=9.9
YKA **Yellowknife Ar** 76.59 28 P P 22 53 36.7 -0.3
E03A **Lebam** 76.86 45 P P 22 53 39.9 +1.1
E03A IAmb IAmb 22 53 40.9
comp=Z,11nm,0.7s
B05A **Bryant** 77.29 43 P P 22 53 42.4 +1.3
baz=288
I02D **Swisshome** 77.41 47 P P 22 53 43.3 +1.4
baz=288
E04D **Cinebar** 77.52 45 P P 22 53 43.8 +1.4
baz=288
J01E **Myrtle Point** 77.64 48 P P 22 53 44.6 +1.4
baz=288
BJO1 **Bjornoya** 77.77 347 eP P 22 53 43.8 +0.5
I03D **Drain, OR** 77.88 48 P P 22 53 45.9 +1.5
baz=288
K02D **Willamette Mer** 77.97 49 P P 22 53 46.1 +0.9
baz=288
DBO **Dodson Butte** 78.13 48 P P 22 53 47.0 +1.0
DBO IAmb IAmb 22 53 47.7
comp=Z,5.7nm,0.8s
H04A **Detroit Lake** 78.36 47 P P 22 53 47.7 +0.5
H04A IAmb IAmb 22 53 48.8
comp=Z,6.8nm,0.8s
KEV **Kevo** 78.45 341 P P 22 53 47.1 +0.1
KEV IAmb IAmb 22 53 47.8
comp=Z,11nm,0.7s
I04A **Tendick Farm,** 78.49 47 P P 22 53 48.6 +0.7
baz=289
G05D **Wamic, OR** 78.76 46 P P 22 53 50.1 +0.8
baz=289
J04D **Umpqua Nationa** 78.88 48 P P 22 53 51.1 +0.9
baz=289
M02C **Callahan** 78.96 50 P P 22 53 51.9 +1.4
baz=289
ARA0 **ARCESS Array S** 79.01 341 eP P 22 53 50.5 +0.4
ARCES **ARCESS Array B** 79.01 341 P P 22 53 50.3 +0.2
comp=Z,7.3nm,0.5s,baz=75,slow=8.8,SNR=50
ARCES **ARCESS Array B** 79.01 341 P P 22 53 50.4 +0.2
L04D **Klamath Falls** 79.08 49 P P 22 53 52.0 +0.8
baz=289
N02D **Trinity Center** 79.20 50 P P 22 53 52.9 +1.0
baz=289
O02D **Mt. Diablo Mer** 79.40 51 P P 22 53 54.4 +1.4
baz=289
J05D **Fort Rock, OR** 79.47 48 P P 22 53 54.4 +1.1
baz=290
M04C **Macdoel** 79.55 49 P P 22 53 54.6 +0.8
baz=290
KTK1 **Kautokeino** 79.98 342 eP P 22 53 55.5 +0.1
O03E **Paynes Creek** 80.07 51 P P 22 53 56.8 +0.3
baz=290
NEW **Newport** 80.42 42 P P 22 53 58.9 +0.8
comp=Z,11nm,0.8s,baz=288,slow=5.1,SNR=15
NEW **Newport** 80.42 42 P P 22 53 58.6 +0.5
baz=292,SNR=7.7
JETT **Jettan, Norway** 80.47 343 eP P 22 53 58.6 +0.6
TRO **Tromso** 80.83 343 eP P 22 53 59.7 -0.1
BEKR **Beckworth** 81.26 51 P P 22 53 03.2 +0.3
BEKR IAmb IAmb 22 54 04.1
comp=Z,8.9nm,0.9s
BMO **Blue Mountains** 81.56 45 P P 22 54 04.9 +0.6
BMO IAmb IAmb 22 54 05.7
comp=Z,7.7nm,0.8s
CMB **Columbia Colle** 81.89 52 P P 22 54 06.8 +0.7
CMB IAmb IAmb 22 54 07.5
comp=Z,11nm,0.8s
PNTR **Pine Nut** 82.09 51 P P 22 54 08.4 +1.1
PNTR IAmb IAmb 22 54 09.0
comp=Z,9.9nm,0.9s
KBZ **Khabaz** 82.40 314 P P 22 54 08.9 +0.5
comp=Z,13nm,0.8s,baz=127,slow=2.5,SNR=28
KIV **Kislovodsk** 82.46 314 P P 22 54 09.7 +0.8
KIV IAmb IAmb 22 54 12.1
comp=Z,20nm,1.5s
ONI **Oni** 82.46 313 P P 22 54 09.2 +0.2
ONI IAmb IAmb 22 54 11.5
comp=Z,13nm,1.0s
STEI **Steigen** 82.96 343 eP P 22 54 10.6 -0.3
FIA1 **FINESS Array S** 83.26 334 P P 22 54 11.4 -1.0
FIA1 IAmb IAmb 22 54 12.3
comp=Z,7.9nm,0.6s
FINES **FINESS Array B** 83.26 334 P P 22 54 11.3 -1.1
comp=Z,7.8nm,0.5s,baz=64,slow=4.8,SNR=114
FINES **FINESS Array B** 83.26 334 P P 22 54 11.5 -1.0
NVAR **Mina Array Bea** 83.27 51 P P 22 54 14.1 +0.7
comp=Z,8.1nm,0.7s,baz=274,slow=5.5,SNR=65
FAUS **Fauske** 83.32 342 eP P 22 54 12.8 +0.1
NV11 **Mina Array Sit** 83.38 51 P P 22 54 13.9 +0.1
NV11 IAmb IAmb 22 54 15.3
comp=Z,5.5nm,0.9s
HLID **Hailey** 83.98 46 P P 22 54 17.5 +0.7
baz=294,SNR=8.1
MOR8 **Moi Rana** 84.39 341 eP P 22 54 16.7 -1.4
GRAC **Grapevine Rang** 84.50 52 P P 22 54 20.1 +0.7
baz=293
ELK **Elko** 84.56 48 P P 22 54 20.2 +0.4
ELK IAmb IAmb 22 54 21.3
comp=Z,14nm,1.1s
MPMC **Manual Prospec** 84.78 53 P P 22 54 21.5 +0.5
baz=293,SNR=11
EDW2 **Edwards Air Fo** 84.85 55 P P 22 54 21.8 +0.7
baz=293
LRMC **Laurel Mtn Rad** 84.86 54 P P 22 54 21.8 +0.6
baz=293,SNR=6.1
BOZ **Bozeman (W)** 84.93 43 P P 22 54 21.7 +0.3
BOZ IAmb IAmb 22 54 22.7
comp=Z,6.6nm,0.7s
BOZ **Bozeman (W)** 84.93 43 P P 22 54 21.9 +0.4
baz=296,SNR=8.8
EGMT **Eagleton** 85.02 40 P P 22 54 22.1 +0.3
baz=297
FURC **Furnace Creek,** 85.08 53 P P 22 54 22.8 +0.6
baz=293
R11A **Troy Canyon, C** 85.27 51 P P 22 54 23.7 +0.3
R11A IAmb IAmb 22 54 24.8
comp=Z,4.1nm,0.8s
R11A **Troy Canyon, C** 85.27 51 P P 22 54 24.0 +0.7
baz=294,SNR=12
TPNV **Topopah Spring** 85.35 52 P P 22 54 24.3 +0.6
baz=294,SNR=15
GSC **Goldstone, Bar** 85.58 54 P P 22 54 25.2 +0.4
baz=293,SNR=7.4
SHOC **Shoshone, Teco** 85.74 53 P P 22 54 26.1 +0.7
baz=294
PRN **Pahroc Range** 86.04 51 P P 22 54 27.8 +0.7
PRN IAmb IAmb 22 54 28.6
comp=Z,10nm,1.1s
TUQ **Turquoise Moun** 86.19 53 P P 22 54 28.8 +1.0
baz=294
NSS **Namsos** 86.28 341 eP P 22 54 27.1 -0.3
DUG **Dugway, Tooele** 86.47 48 P P 22 54 29.4 +0.3
DUG IAmb IAmb 22 54 30.4
comp=Z,6.6nm,0.7s
DUG **Dugway, Tooele** 86.47 48 P P 22 54 29.8 +0.7
baz=295,SNR=10
PFO **Pinyon Flats O** 86.51 55 P P 22 54 29.4 0.0
PFO IAmb IAmb 22 54 30.5
comp=Z,6.9nm,0.8s
PFO **Pinyon Flats O** 86.51 55 P P 22 54 29.7 +0.3
baz=294,SNR=5.9
TPFO **Pinon Flats** 86.52 55 P P 22 54 29.7 +0.3
baz=294,SNR=5.8
RLMT **Red Lodge** 86.64 43 P P 22 54 31.6 +1.8
baz=297,SNR=5.2
BELC **Belle Mtn. Jos** 86.71 55 P P 22 54 30.7 +0.4
baz=294,SNR=5.0
MONP2 **Monument Peak** 86.83 56 P P 22 54 31.2 +0.2
baz=294,SNR=5.8
IKP **In-Ko-Pah, Jac** 87.17 56 P P 22 54 32.8 +0.4
baz=294
FCC **Fort Churchill** 87.18 26 P P 22 54 31.3 -0.5
BC3 **Big Chuckawall** 87.27 55 P P 22 54 33.6 +0.6
baz=294,SNR=10.0
IRM **Iron Mountain** 87.29 54 P P 22 54 33.6 +0.6
baz=294,SNR=6.1
PDAR **Pinedale Array** 87.53 45 P P 22 54 34.0 -0.2
comp=Z,0.8nm,0.5s,baz=171,slow=1.7,SNR=14
AKASG **Malin Array Be** 87.56 324 P P 22 54 32.2 -1.6
comp=Z,1.6nm,0.5s,baz=53,slow=4.7,SNR=6.7
AKASG **Malin Array Be** 87.56 324 P P 22 54 32.6 -1.3
GLA **Glamis** 87.99 55 P P 22 54 36.7 +0.4
GLA **Glamis** 87.99 55 P P 22 54 37.0 +0.7
baz=294,SNR=5.4
PDMCI **Parker Dam,Lak** 87.99 54 P P 22 54 37.3 +1.1
baz=295
SUW **Suwalki** 88.79 329 P P 22 54 38.6 -0.9
NB2 **NORSAR Subarra** 89.03 339 P P 22 54 38.2 -2.4
comp=Z,2.7nm,0.8s,baz=43,slow=5.1
NB2 **NORSAR Subarra** 89.03 339 P P 22 54 38.2 -2.4
baz=43,slow=5.1
NOA **NORSAR Array B** 89.03 339 P P 22 54 39.1 -1.5
comp=Z,0.1nm,0.4s,baz=55,slow=6.5,SNR=4.5
WUAZ **Wupatki** 89.52 52 P P 22 54 44.4 +0.8
baz=296
AKN **Aaknes** 89.53 341 eP P 22 54 42.6 -0.3
O20A **White River Ci** 89.62 47 P P 22 54 44.2 +0.2
baz=298
214A **Organ Pipe Nat** 90.00 56 P P 22 54 46.6 +0.9
baz=296
BR131 **Keskin Array S** 90.37 313 P P 22 54 45.9 -1.5
BR131 IAmb IAmb 22 54 47.0
comp=Z,3.3nm,0.8s
BRTR **Keskin Array B** 90.37 313 P P 22 54 46.2 -1.2
comp=Z,1.6nm,0.7s,baz=97,slow=3.8,SNR=17
RSSD **Black Hills** 90.39 42 P P 22 54 47.4 -0.1
RSSD **Black Hills** 90.39 42 P P 22 54 47.3 -0.2
baz=301
N23A **Red Feather La** 90.79 45 P P 22 54 50.4 +0.9
baz=300
SMCO **Snowmass** 90.94 47 P P 22 54 50.7 +0.3
SMCO IAmb IAmb 22 54 51.8
comp=Z,5.2nm,0.9s
TUC **Tucson** 91.39 54 P P 22 54 52.6 +0.5
TUC IAmb IAmb 22 54 53.9
comp=Z,6.8nm,1.4s
TUC **Tucson** 91.39 54 P P 22 54 53.1 +0.9
baz=297
BUR08 **Bucovina Ar. S** 91.45 323 P P 22 54 51.3 -0.8

ISCO	**Idaho Springs**	**91.55**	**46**	P		**P**		22 54 53.4 +0.3
ISCO				IAmb		IAmb		22 54 54.7
	comp=Z,3.3nm,0.8s							
ISCO	**Idaho Springs**	**91.55**	**46**	P		**P**		22 54 53.8 +0.7
	baz=300							
S22A	**4UR Ranch, Cre**	**91.73**	**48**	P		**P**		22 54 54.7 +0.8
	baz=299							
HOMB	**Homborsund**	**92.01**	**338**	*e*P		**P**		22 54 54.8 +0.5
SDCO	**Great Sand Dun**	**92.65**	**48**	P		**P**		22 54 58.6 +0.4
	baz=300							
CLL	**Collm**	**95.27**	**331**	*e*P		**P**		22 55 08.0 -1.4
GERES	**GERESS Array B**	**96.65**	**329**	P		**P**		22 55 14.6 -1.3
	comp=Z,0.5nm,0.6s,baz=20,slow=4.3,SNR=4.0							
TXAR	**Lajitas Array**	**98.18**	**54**	P		Pdif		22 55 23.8 +0.6
	comp=Z,0.2nm,0.5s,baz=343,slow=2.6,SNR=6.0							
TXAR				PKKPbc		**PKKPbc**		**23 11 53.3 -0.7**
	comp=Z,0.3nm,0.5s,baz=137,slow=4.3,SNR=5.6							
BOSA	**Boshof**	**123.81**	**249**	PKP		**PKPdf**		**23 00 41.7 -0.8**
	comp=Z,2.0nm,0.8s,baz=184,slow=8.2,SNR=3.3							
SNAA	**Sanae**	**126.21**	**193**	PKPdf		**PKPdf**		**23 00 45.9 +0.2**
VNA2	**Neumayer--Watz**	**127.71**	**192**	PKPdf		**PKPdf**		**23 00 48.5 -0.1**
TORD	**Torodi Ar. Bea**	**128.76**	**309**	PKP		**PKPdf**		**23 00 51.5 -0.6**
	comp=Z,0.8nm,0.5s,baz=30,slow=1.2,SNR=19							
PLCA	**Paso Flores**	**145.73**	**132**	PKPbc		**PKPab**		**23 01 24.2 -0.3**
	comp=Z,28nm,0.7s,baz=240,slow=3.4,SNR=109							
PLCA	**Paso Flores**	**145.73**	**132**			**PKPab**		**23 01 24.4 -0.1**
LPAZ	**La Paz**	**150.02**	**85**	PKPbc		**PKiKP**		**23 01 37.0 0.0**
	comp=Z,16nm,0.6s,baz=330,slow=2.3,SNR=75							
LPAZ	**La Paz**	**150.02**	**85**	PKPdf		**PKPdf**		**23 01 31.3 +0.4**
LPAZ						**PKiKP**		**23 01 37.1 +0.2**

*HLW **26** 22:43:16.8,36°.46N×26°.61E,h27km±39km,Md4.5*
*ATH **26** 22:43:17.9,36°.34N×26°.35E,h121km±47km,ML3.2/6,*
Error ellipse: s-maj=48.8km s-min=4.7km az=65.0
*ISK **26** 22:43:18.4,36°.46N×26°.52E,h145km±1km,ML2.8/15*
*NIC **26** 22:43:19.5±0.0,36°.42N×26°.62E,h136km±1km,Ml3.5/2*
*THE **26** 22:43:20.6,36°.43N×26°.54E,h165km±2km,ML3.3/18,*
Error ellipse: s-maj=2.5km s-min=0.7km az=39.0
*DDA **26** 22:43:20.0,36°.53N×26°.62E,h132km±13km,ML2.8*
*IDC **26** 22:43:21.2±2.7,36°.62N×26°.43E,h167km±26km,mb3.2/7,*
mb1 3.3/7,mb1mx3.1/52,mbtmp3.7/7,Error ellipse:
s-maj=52.5km s-min=14.4km az=150.0

ISC 26 22:43:18.2±0.7,**36°.42N**±0°.04×**26°.53E**±0°.03,**h150**km±6km,
n127,σ1°50/180,**mb3.5**/7,**2C-2D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KOSK	**Kos Island**	**0.49**	**47**	P		**Pn**	**22 43 39.6**	**+0.2**
KOSK				S		**Sn**	**22 43 54.9**	**-0.8**
	375nm,0.7s							
NISR	**Nisiros**	**0.52**	**68**	P		**Pn**	**22 43 39.6**	**0.0**
NISR	**Nisiros**	**0.52**	**68**	P		**Pn**	**22 43 39.5**	**0.0**
NIS1	**Nisyros Isl.**	**0.55**	**71**	P		**Pn**	**22 43 40.0**	**+0.2**
NIS1	**Nisyros Isl.**	**0.55**	**71**	P		**Pn**	**22 43 39.3**	**-0.5**
THR8	**Santorini-Mono**	**0.85**	**269**	P		**Pn**	**22 43 42.0**	**+0.3**
SANT	**Santorini**	**0.86**	**267**	P		**Pn**	**22 43 42.2**	**+0.3**
SANT				S		**Sn**	**22 43 58.9**	**-1.1**
SANT	**Santorini**	**0.86**	**267**	PG		**Pn**	**22 43 41.9**	**0.0**
SFIR	**Foira Santorin**	**0.89**	**270**	P		**Pn**	**22 43 42.6**	**+0.6**
THR7	**Fira-Santorini**	**0.89**	**270**	P		**Pn**	**22 43 42.6**	**+0.6**
THT2	**Imerovigli**	**0.89**	**271**	P		**Pn**	**22 43 42.7**	**+0.6**
THT2	**Imerovigli**	**0.89**	**271**	PG		**Pn**	**22 43 42.2**	**+0.1**
BODT	**Bodrum**	**0.90**	**44**	P		**Pn**	**22 43 42.2**	**+0.1**
BODT				S		**Sn**	**22 43 59.5**	**-1.0**
CMBO	**Columbo, Santo**	**0.91**	**274**	P		**Pn**	**22 43 42.6**	**+0.4**
CMBO				S		**Sn**	**22 44 00.0**	**-0.5**
	305nm,0.5s							
THR3	**Thira Island,**	**0.91**	**270**	P		**Pn**	**22 43 42.6**	**+0.4**
SNT5	**Nea Kammeni, S**	**0.92**	**269**	P		**Pn**	**22 43 42.8**	**+0.6**
THR6	**Thira Island,**	**0.92**	**266**	P		**Pn**	**22 43 42.8**	**+0.6**
SAP4	**Santorini-Oia**	**0.93**	**274**	P		**Pn**	**22 43 42.9**	**+0.5**
THR9	**Santorini-Faro**	**0.95**	**267**	P		**Pn**	**22 43 43.1**	**+0.6**
THR5	**Thira Island,**	**0.95**	**270**	P		**Pn**	**22 43 43.1**	**+0.6**
BDRM	**Kayabasi**	**0.98**	**49**	*i* P		**Pn**	**22 43 42.6**	**-0.1**
APE	**Apeiranthos**	**1.03**	**309**	P		**Pn**	**22 43 44.2**	**+1.0**
APE				S		**Sn**	**22 44 01.8**	**-0.7**
	150nm,0.6s							
APE	**Apeiranthos**	**1.03**	**309**	P		**Pn**	**22 43 44.3**	**+1.0**
APE				AML		AML	22 44 02.6	
	comp=N,310μm,0.7s							
APE				AML		AML	22 44 02.6	
	comp=E,298μm,0.6s							
APE	**Apeiranthos**	**1.03**	**309**	PG		**Pn**	**22 43 43.2**	**-0.1**
APE				SG		**Sn**	**22 44 02.0**	**-0.5**
APE	**Apeiranthos**	**1.03**	**309**	P		**Pn**	**22 43 44.3**	**+1.0**
DIDI	**Didim-Aydin**	**1.11**	**31**	PN		**Pn**	**22 43 43.8**	**-0.1**
DDIM	**Aydin, Didim**	**1.18**	**29**	*i* P		**Pn**	**22 43 44.7**	**+0.2**
STIA	**Sitia Lasithi**	**1.27**	**196**	P		**Pn**	**22 43 46.0**	**+0.6**
STIA				S		**Sn**	**22 44 05.8**	**-0.4**
ARG	**Arkhangelos**	**1.31**	**99**	P		**Pn**	**22 43 46.5**	**+0.7**
ARG				S		**Sn**	**22 44 06.0**	**-0.8**
	comp=E,522nm,0.2s							
ARG	**Arkhangelos**	**1.31**	**99**	PN		**Pn**	**22 43 46.2**	**+0.5**
ARG				SN		**Sn**	**22 44 06.5**	**-0.3**
ARG	**Arkhangelos**	**1.31**	**99**	P		**Pn**	**22 43 46.5**	**+0.7**
ARG				S		**Sn**	**22 44 06.1**	**-0.7**
SMG	**Samos**	**1.31**	**11**	P		**Pn**	**22 43 45.7**	**-0.1**
SMG				S		**Sn**	**22 44 05.6**	**-1.4**
ZKR	**Zakros**	**1.33**	**191**	P		**Pn**	**22 43 47.0**	**+0.9**
ZKR				S		**Sn**	**22 44 08.0**	**+0.7**
	comp=E,418nm,0.3s							
ZKR	**Zakros**	**1.33**	**191**	P		**Pn**	**22 43 46.9**	**+0.9**
ZKR				AML		AML	22 44 09.5	
	comp=E,1292μm,0.3s							
ZKR				AML		AML	22 44 10.4	
	comp=N,372μm,0.4s							
ZKR	**Zakros**	**1.33**	**191**	PN		**Pn**	**22 43 46.7**	**+0.7**
ZKR	**Zakros**	**1.33**	**191**	P		**Pn**	**22 43 46.9**	**+0.8**
ZKR				S		**Sn**	**22 44 08.0**	**+0.7**
ZKR				AML		AML	22 44 08.3	
	comp=N,0.3nm,0.3s							
ZKR				AML		AML	22 44 08.3	
	comp=N,1.1nm,0.3s							
ZKR				AML		AML	22 44 08.3	
	comp=N,0.3nm,0.3s							
ZKR				AML		AML	22 44 08.3	
	comp=N,1.1nm,0.3s							
MLSB	**Milas**	**1.33**	**49**	PN		**Pn**	**22 43 46.1**	**+0.1**
MLSB				SN		**Sn**	**22 44 06.2**	**-1.2**
NPS	**Neapolis**	**1.38**	**213**	P		**Pn**	**22 43 46.8**	**+0.3**
NPS				S		**Sn**	**22 44 07.7**	**-0.4**
	comp=N,608nm,0.2s							
NPS	**Neapolis**	**1.38**	**213**	P		**Pn**	**22 43 46.8**	**+0.3**
NPS				AML		AML	22 44 08.2	
	comp=E,1484μm,0.3s							
NPS				AML		AML	22 44 09.9	
	comp=N,936μm,0.2s							
GCAM	**G?zelcaml?**	**1.40**	**24**	*i* P		**Pn**	**22 43 46.4**	**-0.2**
GCAM	**G?zelcaml?**	**1.40**	**24**	PN		**Pn**	**22 43 46.8**	**+0.2**
TURN	**Turunc**	**1.43**	**75**	*i* P		**Pn**	**22 43 46.4**	**-0.5**
TURN				*i* S		**Sn**	**22 44 06.3**	**-2.7**
TURN				IAML			22 44 08.0	
	comp=N,79nm,0.4s							
TURN				IAML			22 44 09.0	
	comp=E,156nm,0.4s							
TURN	**Turunc**	**1.43**	**75**	PN		**Pn**	**22 43 47.3**	**+0.4**
FRMA	**Ierapetra Chan**	**1.54**	**205**	P		**Pn**	**22 43 49.2**	**+1.0**
FRMA				S		**Sn**	**22 44 11.2**	**0.0**
	comp=E,150nm,0.3s							
YER	**Yerkesik**	**1.58**	**63**	P		**Pn**	**22 43 49.5**	**+0.9**
YER				S		**Sn**	**22 44 11.8**	**-0.2**
YER	**Yerkesik**	**1.58**	**63**	PN		**Pn**	**22 43 48.9**	**+0.3**
HRKL	**Herakleio**	**1.60**	**227**	P		**Pn**	**22 43 50.1**	**+1.3**
HRKL	**Herakleio**	**1.60**	**227**	PN		**Pn**	**22 43 49.7**	**+0.9**
HRKL				SN		**Sn**	**22 44 12.0**	**-0.3**
KSTL	**Kastelli Herak**	**1.63**	**227**	P		**Pn**	**22 43 48.9**	**-0.2**
KSTL				S		**Sn**	**22 44 10.7**	**-2.0**
AYDN	**Tasoluk**	**1.64**	**41**	*i* P		**Pn**	**22 43 49.8**	**+0.5**
DGB	**zmir**	**1.65**	**10**	*i* P		**Pn**	**22 43 49.1**	**-0.3**
MULA	**Mugla, Merkez-**	**1.66**	**59**	*i* P		**Pn**	**22 43 49.5**	**-0.1**
MULA				*i* S		**Sn**	**22 44 11.6**	**-2.0**
MULA				IAML			22 44 15.0	
	comp=E,53nm,0.3s							
IDI	**Anoyia**	**1.75**	**230**	P		**Pn**	**22 43 50.7**	**+0.2**
IDI				S		**Sn**	**22 44 14.1**	**-1.2**
	comp=E,365nm,0.2s							
IDI	**Anoyia**	**1.75**	**230**	P		**Pn**	**22 43 50.8**	**+0.2**
IDI				AML		AML	22 44 14.9	
	comp=N,771μm,0.1s							
IDI				AML		AML	22 44 15.7	
	comp=E,650μm,0.2s							

DALY	**Dalyan (Mula)**	**1.75**	**76**	PN		**Pn**	**22 43 51.1**	**+0.7**
ZEYE	**Izmir, Urla-Ze**	**1.81**	**359**	*i* P		**Pn**	**22 43 49.8**	**-1.4**
AYDB	**Zeytinkoy-Aydi**	**1.87**	**35**	PN		**Pn**	**22 43 52.1**	**+0.2**
URLA	**Izmir**	**1.94**	**2**	*i* P		**Pn**	**22 43 51.4**	**-1.2**
URLA	**Izmir**	**1.94**	**2**	PN		**Pn**	**22 43 52.3**	**-0.3**
FETY	**Fethiye**	**2.07**	**83**	P		**Pn**	**22 43 54.3**	**+0.2**
FETY				S		**Sn**	**22 44 20.6**	**-1.1**
FETY	**Fethiye**	**2.07**	**83**	PN		**Pn**	**22 43 54.4**	**+0.3**
VAM	**Vamos**	**2.14**	**243**	P		**Pn**	**22 43 55.2**	**+0.2**
VAM				S		**Sn**	**22 44 21.9**	**-1.4**
	comp=E,538nm,0.1s							
VAM	**Vamos**	**2.14**	**243**	P		**Pn**	**22 43 55.2**	**+0.2**
VAM				AML		AML	22 44 23.5	
	comp=E,790μm,0.1s							
VAM				AML		AML	22 44 25.2	
	comp=N,1325μm,0.2s							
TAVA	**DENIZLI_Tavas**	**2.18**	**61**	*i* P		**Pn**	**22 43 56.0**	**+0.5**
TAVA				*i* S		**Sn**	**22 44 21.8**	**-2.4**
IMMV	**Iera Moni Meta**	**2.28**	**246**	P		**Pn**	**22 43 57.2**	**+0.6**
IMMV				S		**Sn**	**22 44 24.9**	**-1.3**
	comp=N,562nm,0.3s							
IMMV	**Iera Moni Meta**	**2.28**	**246**	P		**Pn**	**22 43 57.1**	**+0.6**
IMMV				AML		AML	22 44 29.4	
	comp=E,832μm,0.3s							
IMMV				AML		AML	22 44 29.9	
	comp=N,1399μm,0.3s							
CAME	**Cameli-Denizli**	**2.29**	**76**	PN		**Pn**	**22 43 57.3**	**+0.4**
CAEL	**Denizli, Camel**	**2.35**	**72**	*i* P		**Pn**	**22 43 58.7**	**+1.1**
CAEL				*i* S		**Sn**	**22 44 24.7**	**-3.2**
KSL	**Kastellorizon**	**2.48**	**95**	P		**Pn**	**22 43 59.9**	**+0.9**
KSL				S		**Sn**	**22 44 29.6**	**-0.9**
	comp=N,400nm,0.3s							
KSL	**Kastellorizon**	**2.48**	**95**	⇑P		**Pn**	**22 43 59.6**	**+0.6**
KSL				S		**Sn**	**22 44 31.1**	**+0.6**
KSL				AML		AML	22 44 31.6	
	comp=N,1.1nm,0.4s							
KSL				AML		AML	22 44 31.6	
	comp=N,1.1nm,0.4s							
KSL				AML		AML	22 44 32.5	
	comp=N,0.5nm,0.3s							
KSL				AML		AML	22 44 32.5	
	comp=N,0.5nm,0.3s							
AKAS	**Kas**	**2.49**	**93**	*i* P		**Pn**	**22 43 59.5**	**+0.2**
AKAS				*i* S		**Sn**	**22 44 27.9**	**-3.0**
AKAS				IAML			22 44 33.0	
	comp=N,111nm,0.4s							
AKAS				IAML			22 44 33.0	
	comp=E,117nm,0.2s							
AKAS	**Kas**	**2.49**	**93**	PN		**Pn**	**22 43 59.7**	**+0.4**
GVD	**Gavdhos**	**2.54**	**232**	P		**Pn**	**22 44 00.9**	**+1.1**
GVD				S		**Sn**	**22 44 32.1**	**+0.3**
	comp=E,320nm,0.2s							
GOLH	**Golhisar**	**2.56**	**71**	*i* P		**Pn**	**22 43 57.1**	**-3.0**
GOLH				*i* S		**Sn**	**22 44 25.6**	**-6.9**
ZEDA	**zmir-Bergama**	**2.58**	**10**	*i* P		**Pn**	**22 43 59.1**	**-1.1**
KNDR	**Palaiochora Ch**	**2.60**	**244**	P		**Pn**	**22 44 02.5**	**+2.1**
KNDR				S		**Sn**	**22 44 34.2**	**+1.2**
	comp=E,140nm,0.6s							
DION	**Dionisos Attik**	**2.65**	**309**	P		**Pn**	**22 44 02.1**	**+1.0**
ANKY	**Antikythira Is**	**2.67**	**259**	P		**Pn**	**22 44 01.7**	**+0.3**
ANKY				S		**Sn**	**22 44 33.0**	**-1.7**
PTL	**Penteli**	**2.68**	**308**	P		**Pn**	**22 44 02.5**	**+1.0**
ELL	**Elmali**	**2.74**	**82**	PN		**Pn**	**22 44 03.3**	**+0.9**
ELL	**Elmali**	**2.74**	**82**	P		**Pn**	**22 44 03.2**	**+0.9**
ELL				S		**Sn**	**22 44 36.4**	**-0.1**
PRK	**Paraskevi**	**2.83**	**356**	P		**Pn**	**22 44 04.4**	**+1.1**
SIGR	**SIGRI**	**2.84**	**349**	P		**Pn**	**22 44 03.4**	**0.0**
KRND	**KRANIDI**	**2.87**	**291**	P		**Pn**	**22 44 04.8**	**+0.9**
KRND				S		**Sn**	**22 44 39.3**	**0.0**
	comp=E,105nm,0.6s							
VLI	**Velial**	**2.91**	**277**	P		**Pn**	**22 44 04.4**	**+0.1**
VLI				S		**Sn**	**22 44 37.3**	**-2.7**
	comp=E,300nm,0.3s							
USAK	**Uak-Merkez**	**3.02**	**40**	*i* P		**Pn**	**22 44 05.8**	**-0.1**
AKUM	**Antalya-Kumluc**	**3.08**	**91**	*i* P		**Pn**	**22 44 07.8**	**+1.3**
AKUM				*i* S		**Sn**	**22 44 42.7**	**-1.1**
AKUM				IAML			22 44 47.0	
	comp=E,132nm,0.5s							
AKUM				IAML			22 44 47.0	
	comp=N,58nm,0.6s							
BRDR	**BURDUR-Merkez**	**3.10**	**65**	*i* P		**Pn**	**22 44 06.9**	**+0.1**
BRDR				*i* S		**Sn**	**22 44 43.2**	**-1.4**
BRDR				IAML			22 44 45.0	
	comp=N,12nm,0.4s							
KORT	**Korkueli**	**3.12**	**78**	*i* P		**Pn**	**22 44 08.6**	**+1.3**
KORT				*i* S		**Sn**	**22 44 44.8**	**-0.3**
KZIL	**AFYON_Kizioren**	**3.41**	**56**	*i* P		**Pn**	**22 44 10.2**	**-0.7**
GDZ	**Gediz**	**3.54**	**40**	*i* P		**Pn**	**22 44 12.0**	**-0.6**
ITM	**Ithomi**	**3.77**	**283**	P		**Pn**	**22 44 16.6**	**+1.2**
ITM				S		**Sn**	**22 44 58.9**	**-1.0**
	comp=N,98nm,0.3s							
KLV	**Kalavryta, Ach**	**3.85**	**296**	P		**Pn**	**22 44 18.1**	**+1.6**
KLV				S		**Sn**	**22 45 00.6**	**-1.2**
	comp=N,40nm,0.3s							
DRO	**Drossia**	**4.14**	**293**	P		**Pn**	**22 44 19.7**	**-0.5**
LTHK	**Lithakia**	**4.73**	**287**	P		**Pn**	**22 44 28.4**	**+0.5**
LTHK				S		**Sn**	**22 45 18.5**	**-3.9**
OSC1	**CSNet OBS 1**	**4.87**	**125**	P		**Pn**	**22 44 30.8**	**+1.1**
AKMS	**Akamas**	**4.93**	**105**	⇓P		**Pn**	**22 44 32.5**	**+1.9**
SLUM	**Salum**	**5.04**	**193**	P		**Pn**	**22 44 32.5**	**+0.4**
	baz=194							
SLUM				S		**Sn**	**22 45 25.5**	**-4.2**
	baz=194							
VLS	**Valsamata**	**5.05**	**292**	P		**Pn**	**22 44 32.6**	**+0.4**
VLS				S		**Sn**	**22 45 26.3**	**-3.7**
	comp=N,100nm,0.2s							
MATC	**Matruh**	**5.09**	**173**	P		**Pn**	**22 44 33.4**	**+0.6**
	baz=174							
EVGI	**Lefkada island**	**5.16**	**297**	P		**Pn**	**22 44 34.2**	**+0.6**
EVGI				S		**Sn**	**22 45 29.0**	**-3.6**
NYDR	**Nydri-Lefkada**	**5.17**	**298**	P		**Pn**	**22 44 34.1**	**+0.4**
NATA	**Nata**	**5.19**	**107**	⇓P		**Pn**	**22 44 35.9**	**+1.8**
DMLN	**Damoulianata-K**	**5.23**	**292**	P		**Pn**	**22 44 34.8**	**+0.2**
DMLN				S		**Sn**	**22 45 31.3**	**-3.0**
DRAG	**Dragano-Lefkad**	**5.24**	**297**	P		**Pn**	**22 44 34.9**	**+0.1**
DRAG				S		**Sn**	**22 45 32.3**	**-2.3**
SZAC	**Souni**	**5.44**	**106**	⇑P		**Pn**	**22 44 39.6**	**+2.2**
BRTR	**Keskin Array B**	**6.51**	**57**	P		**Pn**	**22 44 55.0**	**+3.3**
	comp=N,0.1nm,0.3s,baz=230,slow=18,SNR=2.9							
BRTR				S		**Sn**	**22 46 07.3**	**+2.4**
	comp=N,0.0nm,0.3s,baz=244,slow=24,SNR=2.7							
SWA2		**7.21**	**187**	P		**Pn**	**22 45 01.0**	**-0.1**
	baz=188							
SWA2				S		**Sn**	**22 46 17.3**	**-4.5**
	baz=188							
RYAN	**Fayoum**	**7.97**	**156**	P		**Pn**	**22 45 11.2**	**+0.1**
	baz=156							
RYAN				S		**Sn**	**22 46 36.4**	**-3.6**
	baz=156							
GLL	**Jalalah**	**8.09**	**146**	P		**Pn**	**22 45 12.4**	**-0.4**
	baz=146							
SUZ	**Suez**	**8.42**	**139**	P		**Pn**	**22 45 17.4**	**+0.2**
	baz=140							
ZNM	**Zenema**	**8.82**	**141**	P		**Pn**	**22 45 22.5**	**0.0**
	baz=141							
ZNM				S		**Sn**	**22 46 55.9**	**-4.6**
	baz=141							
HFRF	**Wahat Farafira**	**9.37**	**170**	P		**Pn**	**22 45 29.7**	**-0.1**
	baz=170							
HFRF				S		**Sn**	**22 47 08.6**	**-5.1**
	baz=170							
STON	**Ston**	**9.37**	**316**	*e*Pn		**Pn**	**22 45 27.0**	**-2.7**
HKAT	**Jabal Katrina**	**10.08**	**139**	P		**Pn**	**22 45 39.3**	**-0.2**
	baz=139							
RICI	**Ricice**	**10.09**	**317**	*e*Pn		**Pn**	**22 45 37.4**	**-1.9**
HVAR	**Hvar**	**10.28**	**314**	*e*Pn		**Pn**	**22 45 38.8**	**-2.9**
KIJV	**Kijevo**	**10.82**	**318**	*e*Pn		**Pn**	**22 45 47.6**	**-1.4**
MORI	**Morici**	**11.12**	**315**	*e*Pn		**Pn**	**22 45 52.1**	**-0.8**
DUGI	**Dugi Otok**	**11.57**	**314**	*e*Pn		**Pn**	**22 45 56.7**	**-2.0**
ESDC	**Sonseca Array**	**24.18**	**287**	P		**P**	**22 48 20.9**	**+0.3**
	comp=N,0.3nm,0.9s,baz=80,slow=9.2,SNR=1.7							
TORD	**Torodi Ar. Bea**	**32.15**	**230**	P		**P**	**22 49 33.5**	**+1.9**
	comp=N,0.9nm,0.3s,baz=32,slow=8.7,SNR=40							
KURBB	**Kurchatov Arra**	**39.47**	**52**	P		**P**	**22 50 34.5**	**+0.9**
	comp=N,1.0nm,0.5s,baz=275,slow=8.6,SNR=10.0							
MKAR	**Makanchi Array**	**42.16**	**58**	P		**P**	**22 50 56.8**	**+1.1**
	comp=N,0.9nm,0.4s,baz=265,slow=8.6,SNR=17							
ZALV	**Zalesovo Beam**	**43.33**	**47**	P		**P**	**22 51 05.4**	**+0.4**
	comp=N,0.7nm,0.5s,baz=264,slow=8.5,SNR=5.1							
SONM	**Songino Array**	**57.83**	**52**	P		**P**	**22 52 54.5**	**+0.6**
	comp=N,0.2nm,0.4s,baz=295,slow=8.6,SNR=2.3							
KSRS	**Korea Array**	**76.64**	**53**	P		**P**	**22 54 53.1**	**+0.8**
	comp=N,0.5nm,0.6s,baz=330,slow=4.3,SNR=2.5							

MEX 26 22:56:12.7±1.6,**14°.37N**×**93°.93W**,**h16**km±999km,**MD4.0,**
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCIG		**1.49**	**27**	*e*P		Pn	22 56 34.9	-4.0
PCIG				*e*S		Sn	22 56 53.2	-4.8
TGIG		**2.52**	**18**	*e*P		Pn	22 56 51.7	-1.3
TGIG				*e*S		Sn	22 57 23.5	+0.1
CCIG	**Comitan**	**2.57**	**42**	*e*P		Pn	22 56 52.6	-1.2
CCIG				*e*S		Sn	22 57 24.5	-0.4

*IDC **26** 22:56:13.9±1.2,0°.64S×130°.99E,h0km,mb3.4/3,*
mb1 3.5/5,mb1mx3.3/45,mbtmp3.4/5,ML3.1/2,Error
ellipse: s-maj=35.9km s-min=8.4km az=40.0

ISC 26 22:56:15.0±1.5,**0°.6S**±0°.2×**131°.1E**±0°.3,**h10**km,**n9,σ0°66**/6,
mb3.8/3,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**0.29**	**148**	Pg		**Pg**	**22 56 21.1**	**+0.2**
	136nm,0.3s,baz=171,slow=23,SNR=75							
SIJI				Lg		Lg	22 56 25.2	
	260nm,0.3s,baz=242,slow=23,SNR=160							
FITZ	**Fitzroy Crossi**	**18.18**	**197**	P		**P**	**23 00 27.8**	**-0.2**
	0.0nm,0.3s,baz=28,slow=11,SNR=1.6							
WRA	**Warramunga Arr**	**19.46**	**171**	P		**P**	**23 00 41.1**	**-1.0**
	0.1nm,0.3s,baz=353,slow=11,SNR=2.2							
ASAR	**Alice Springs**	**23.07**	**173**	P		**P**	**23 01 21.3**	**+0.4**
	0.5nm,0.7s,baz=355,slow=10,SNR=11							
H11N1	**WAKE ISLAND Hy**	**40.48**	**58**	T		T	23 46 40.7	
	baz=245,slow=75,SNR=5.3							
H11N2	**WAKE ISLAND Hy**	**40.49**	**58**	T		T	23 46 49.0	
	baz=245,slow=75,SNR=4.9							
H11N3	**WAKE ISLAND Hy**	**40.50**	**58**	T		T	23 46 51.4	
	baz=245,slow=75,SNR=6.2							
MKAR	**Makanchi Array**	**63.51**	**325**	P		**P**	**23 06 46.6**	**+0.3**
	0.4nm,0.6s,baz=119,slow=8.3,SNR=4.3							
KURBB	**Kurchatov Arra**	**67.75**	**327**	P		**P**	**23 07 12.5**	**-0.3**
	0.8nm,1.0s,baz=124,slow=6.1,SNR=4.4							

*DJA **26** 22:59:10.1±0.7,6°.5S±4°×10°.2E±°,h22km±4km,M3.9/10,*
MLv3.9/10
*IDC **26** 22:59:12.2±2.8,5°.12S×101°.96E,h0km,mb3.5/7,*
mb1 3.7/7,mb1mx3.4/48,mbtmp3.5/7,Error ellipse:
s-maj=115.3km s-min=20.9km az=54.0

ISC 26 22:59:10.8±2.6,**5°.8S**±0°.1×**102°.37E**±0°.07,**h27**km±15km,
n23,σ0°87/22,**mb3.7**/7,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EGSI	**Enggano, Bengk**	**0.44**	**348**	P		**Pn**	**22 59 21.1**	**-0.3**
EGSI				S		**Sb**	**22 59 27.0**	**+0.5**
LWLI	**Liwa**	**1.85**	**66**	P		**Pn**	**22 59 40.3**	**-0.6**
LWLI				S		**Sn**	**23 00 03.6**	**+0.1**
UBSI	**University, Be**	**2.01**	**357**	P		**Pn**	**22 59 42.6**	**-0.4**
UBSI				S		**Sn**	**23 00 07.8**	**+0.5**
KSI	**Kapahiang**	**2.13**	**6**	P		**Pn**	**22 59 44.4**	**-0.3**
KSI				S		**Sn**	**23 00 10.7**	**+0.3**
MDSI	**Maura Dua**	**2.22**	**55**	P		**Pn**	**22 59 46.1**	**+0.2**
MDSI				S		**Sn**	**23 00 11.4**	**-1.0**
LHSI	**Lahat**	**2.26**	**31**	P		**Pn**	**22 59 44.9**	**-1.6**
LHSI				S		**Sn**	**23 00 14.2**	**+0.7**
MASI	**Maura Aman, Be**	**2.63**	**357**	P		**Pn**	**22 59 49.4**	**-2.2**
MASI				S		**Sn**	**23 00 23.5**	**+0.9**
KLI	**Kotabumi

	comp=N,2µm,0.6s								
PSGCX	**Pisagua**		**1.70**	**315**			**Pn**	**23 06 34.8**	**+0.5**
LVC	**Limon Verde**		**1.79**	**182**	P		**Pn**	**23 06 36.8**	**+1.0**
	comp=N,29nm,0.3s,baz=18,slow=10,SNR=135								
LVC					S		**Sn**	**23 07 01.0**	**+2.0**
	comp=N,92nm,0.3s,baz=152,slow=22,SNR=44								
LVC	**Limon Verde**		**1.79**	**182**	*e*P		**Pn**	**23 06 36.5**	**+0.7**
LVC					*e*S		**Sn**	**23 06 59.9**	**+0.9**
LVC	**Limon Verde**		**1.79**	**182**	*e*P		**Pn**	**23 06 36.2**	**+0.5**
PB04	**IPOC Station P**		**1.94**	**218**	*e*P		**Pn**	**23 06 37.8**	**+0.3**
PB04					*e*S		**Sn**	**23 07 02.5**	**+0.4**
PB04					IAML			23 07 10.4	
	comp=N,2µm,0.5s								
PB04	**IPOC Station P**		**1.94**	**218**			**Pn**	**23 06 38.2**	**+0.8**
PB06	**IPOC Station P**		**2.01**	**200**	*e*P		**Pn**	**23 06 38.2**	**0.0**
PB06					*e*S		**Sn**	**23 07 03.7**	**+0.3**
PB06					IAML			23 07 12.7	
	comp=E,1µm,0.7s								
PB06	**IPOC Station P**		**2.01**	**200**			**Pn**	**23 06 38.6**	**+0.4**
AF01	**San Pedro de A**		**2.22**	**164**			**Pn**	**23 06 42.8**	**+1.6**
PB05	**IPOC Station P**		**2.40**	**212**	*e*P		**Pn**	**23 06 43.5**	**+0.3**
PB05					*e*S		**Sn**	**23 07 13.3**	**+1.0**
PB05					IAML			23 07 21.4	
	comp=E,1µm,0.4s								
PB15	**IPOC Station P**		**2.46**	**194**			**Pn**	**23 06 44.9**	**+0.8**
AP01	**Chacalluta**		**2.81**	**329**	Pn		**Pn**	**23 06 49.5**	**+1.0**
PB10	**IPOC Station P**		**3.12**	**210**	Pn		**Pn**	**23 06 52.8**	**+0.1**
PB14	**IPOC Station P**		**4.06**	**200**	Pn		**Pn**	**23 07 05.8**	**+0.1**
LPAZ	**La Paz**		**4.55**	**9**	P		**Pn**	**23 07 15.7**	**+3.2**
	comp=E,2.5nm,0.3s,baz=177,slow=8.6,SNR=55								
LPAZ					S		**Sn**	**23 08 04.8**	**+0.2**
	comp=E,0.7nm,0.3s,baz=225,slow=17,SNR=2.2								
LPAZ	**La Paz**		**4.55**	**9**	Pn		**Pn**	**23 07 15.4**	**+2.9**
LPAZ	**La Paz**		**4.55**	**9**	*e*P		**Pn**	**23 07 15.3**	**+2.8**
AC02	**Maricunga**		**6.00**	**182**	Pn		**Pn**	**23 07 31.3**	**-0.8**
SIV	**San Ignacio**		**8.79**	**58**	P		**Pn**	**23 08 08.1**	**-1.5**
	comp=E,2.3nm,0.3s,baz=267,slow=11,SNR=39								
SIV					S		**Sn**	**23 09 43.4**	**-3.6**
	baz=342,slow=21,SNR=1.2								
ETMB	**Extrema**		**11.22**	**13**	*e*P		**Pn**	**23 08 43.7**	**+1.3**
TRCB	**Terra Rica**		**15.18**	**100**	P		**P**	**23 09 37.0**	**+0.2**
TRCB					IAmb		IAmb	23 09 38.3	
	comp=Z,24nm,0.7s								
TRCB	**Terra Rica**		**15.18**	**100**	*e*P		**Pn**	**23 09 34.7**	**+0.5**
H03N1	**Juan Fernandez**		**15.44**	**213**	T		T	23 25 11.1	
	baz=34,slow=72,SNR=6.4								
H03N2	**Juan Fernandez**		**15.45**	**213**	T		T	23 25 16.4	
	baz=34,slow=72,SNR=4.6								
H03N3	**Juan Fernandez**		**15.45**	**213**	T		T	23 25 07.6	
	baz=34,slow=72,SNR=5.1								
PCMB	**Pacaembu**		**16.41**	**96**	*e*P		**Pn**	**23 09 49.5**	**0.0**
CPSB	**Cacapava Do Su**		**16.84**	**128**	*e*P		**Pn**	**23 09 53.2**	**-1.5**
TRQA	**Tornquist**		**18.19**	**162**	P		**Pn**	**23 10 11.1**	**+0.2**
SNDB	**Serra Nova Dou**		**18.97**	**65**	*e*P		**P**	**23 10 18.3**	**-0.3**
MACA	**Manacapuru-AM**		**19.26**	**25**	*e*P		**P**	**23 10 21.7**	**+0.1**
TER01	**Tubaro-SC**		**19.48**	**117**	*e*P		**P**	**23 10 23.2**	**-0.8**
IPMB	**Ipameri, GO**		**19.66**	**85**	*e*P		**P**	**23 10 25.9**	**-0.2**
RCLB	**Rio Claro- Sao**		**19.88**	**99**	*e*P		**P**	**23 10 27.2**	**-1.2**
PLCA	**Paso Flores**		**19.91**	**184**	*e*P		**P**	**23 10 26.6**	**-2.0**
VAO	**Valinhos**		**20.41**	**100**	*e*P		**P**	**23 10 32.4**	**-1.8**
PEXB	**Peixe**		**21.50**	**69**	*e*P		**P**	**23 10 46.1**	**+0.2**
BSCB	**Bom Sucesso**		**22.48**	**95**	*e*P		**P**	**23 10 55.4**	**-0.9**
SMTB	**Santa Maria do**		**23.69**	**63**	*e*P		**P**	**23 11 06.7**	**-1.0**
JANB	**Januaria**		**24.02**	**80**	*e*P		**P**	**23 11 10.1**	**-0.6**
BOAV	**Boa Vista**		**24.46**	**20**	*e*P		**P**	**23 11 14.8**	**+0.3**
CAM01	**Campos-RJ**		**25.34**	**97**	*e*P		**P**	**23 11 21.2**	**-1.4**
MCPB	**Macapa, AP**		**26.12**	**41**	*e*P		**P**	**23 11 29.7**	**+0.1**
RUSC	**La Rusia**		**26.86**	**351**	P		**P**	**23 11 36.5**	**-0.3**
NBPV	**Pedro Velho**		**35.50**	**71**	*e*P		**P**	**23 12 52.6**	**+0.4**
OBIP	**Obispado Ponce**		**38.67**	**3**	P		**P**	**23 13 17.9**	**-1.0**
OBIP					IAmb		IAmb	23 13 18.6	
	comp=Z,7.8nm,0.7s								
GCPR	**Guaynabo City**		**38.97**	**4**	P		**P**	**23 13 19.9**	**-1.5**
GCPR					IAmb		IAmb	23 13 30.2	
	comp=Z,18nm,1.4s								
BIRD	**Birdtown, Kers**		**56.24**	**348**	P		**P**	**23 15 35.6**	**+0.9**
WVT	**Waverly**		**59.41**	**342**	P		**P**	**23 15 56.6**	**-0.2**
WVT					IAmb		IAmb	23 15 57.1	
	comp=Z,5.2nm,0.8s								
S54A	**Dingess, Beckl**		**59.47**	**349**	P		**P**	**23 15 57.6**	**+0.4**
MIAR	**Mount Ida**		**59.86**	**336**	P		**P**	**23 16 00.6**	**+0.7**
MIAR					IAmb		IAmb	23 16 17.1	
	comp=Z,6.6nm,1.4s								
TXAR	**Lajitas Array**		**60.10**	**325**	P		**P**	**23 16 02.5**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=151,slow=11,SNR=2.5								
PBMO	**Poplar Bluff**		**60.80**	**340**	P		**P**	**23 16 06.5**	**+0.2**
PBMO					IAmb		IAmb	23 16 08.1	
	comp=Z,11nm,1.4s								
S39A	**Bolivar**		**62.59**	**338**	P		**P**	**23 16 18.8**	**+0.5**
S39A					IAmb		IAmb	23 16 19.3	
	comp=Z,3.9nm,0.6s								
M55A	**Ridgway**		**62.64**	**352**	P		**P**	**23 16 19.1**	**+0.5**
M55A					IAmb		IAmb	23 16 24.8	
	comp=Z,12nm,1.4s								
M54A	**Oil Creek Stat**		**62.81**	**351**	P		**P**	**23 16 20.5**	**+0.9**
F64A	**Sherman**		**66.35**	**0**	P		**P**	**23 16 43.0**	**+0.4**
F64A					IAmb		IAmb	23 16 43.7	
	comp=Z,12nm,1.1s								
TRQ	**Mont Tremblant**		**66.91**	**356**	P		**P**	**23 16 46.8**	**+0.5**
TRQ					IAmb		IAmb	23 16 47.6	
	comp=Z,8.5nm,1.0s								
D62A	**Allapoint, All**		**67.57**	**360**	P		**P**	**23 16 51.0**	**+0.7**
BATG	**Bathurst New B**		**67.81**	**2**	P		**P**	**23 16 52.6**	**+0.8**
BATG					IAmb		IAmb	23 16 53.4	
	comp=Z,8.4nm,1.2s								
DBIC	**Dimbokro**		**68.48**	**74**	P		**P**	**23 16 55.6**	**-1.2**
	comp=Z,2.8nm,0.6s,baz=270,slow=6.1,SNR=4.8								
DBIC	**Dimbokro**		**68.48**	**74**	P		**P**	**23 16 56.0**	**-0.7**
QSPA	**South Pole Qui**		**69.38**	**180**	P		**P**	**23 17 03.1**	**+1.5**
QSPA					IAmb		IAmb	23 17 13.9	
	comp=Z,8.5nm,1.5s								
KOWA	**Kowa**		**72.69**	**67**	P		**P**	**23 17 21.6**	**-0.6**
TORD	**Torodi Ar. Bea**		**77.06**	**70**	P		**P**	**23 17 46.9**	**-0.6**
	comp=Z,2.8nm,0.7s,baz=254,slow=5.6,SNR=23								
TORD					pP		**pP**	**23 18 15.7**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=257,slow=4.7,SNR=4.8								
TORD	**Torodi Ar. Bea**		**77.06**	**70**	P		**P**	**23 17 46.8**	**-0.6**
LBTB	**Lobatse**		**85.25**	**115**	P		**P**	**23 18 31.3**	**+0.4**
LBTB					IAmb		IAmb	23 18 47.7	
	comp=Z,9.3nm,1.4s								
H11S2	**WAKE ISLAND Hy**		**27.85**	**278**	T		T	01 45 06.4	
	baz=101,slow=74,SNR=27								
H11S1	**WAKE ISLAND Hy**		**27.86**	**278**	T		T	01 45 04.5	
	baz=101,slow=74,SNR=21								
H11S3	**WAKE ISLAND Hy**		**27.87**	**278**	T		T	01 45 07.7	
	baz=101,slow=74,SNR=17								
H11N3	**WAKE ISLAND Hy**		**27.91**	**279**	T		T	01 45 09.2	
	baz=101,slow=74,SNR=8.7								
H11N2	**WAKE ISLAND Hy**		**27.93**	**279**	T		T	01 45 08.5	
	baz=101,slow=74,SNR=10								
H11N1	**WAKE ISLAND Hy**		**27.93**	**279**	T		T	01 45 09.0	
	baz=101,slow=74,SNR=6.5								
ZALV	**Zalesovo Beam**		**141.30**	**25**	PKP		**PKiKP**	**23 25 24.9**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=264,slow=4.3,SNR=3.9								
MKAR	**Makanchi Array**		**145.04**	**35**	PKP		**PKPdf**	**23 25 31.0**	**+0.7**
	comp=Z,4.4nm,0.7s,baz=321,slow=4.4,SNR=33								
MKAR					pPKP		pPKPab	23 26 01.1	+1.9
	comp=Z,1.0nm,0.8s,baz=325,slow=1.8,SNR=2.5								
MKAR	**Makanchi Array**		**145.04**	**35**	PKPdf		**PKPdf**	**23 25 31.0**	**+0.7**
SONM	**Songino Array**		**152.76**	**7**	PKPbc		**PKiKP**	**23 25 51.1**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=338,slow=0.8,SNR=3.9								
SONM					pPKPbc		**pPKPbc**	**23 26 20.9**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=75,slow=1.6,SNR=3.3								

*IDC **26** 23:14:05.6±1.0, 35.°90N×112.°06W, h0km, mb1 3.1/6, mb1mx3.0/39, mbtmp2.7/6, ML3.1/6, Error ellipse: s-maj=13.0km s-min=11.1km az=99.0*

*NEIC **26** 23:14:06.2±2.3, 35.°70N±0.°04×111.°93W±0.°04, h5km±2km, ML3.3/71, Error ellipse: s-maj=7.3km s-min=5.5km az=32.0*

*ANF **26** 23:14:06.5±0.3, 35.°69N×111.°88W, h5km, ML3.4/26, Error ellipse: s-maj=5.1km s-min=2.5km az=5.0*

ISC 26 23:14:06.5±0.7, 35.°68N±0.°03×111.°93W±0.°02, h10km, n86, σ1s64/106, Eastern Arizona

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WUAZ	**Wupatki**	**0.48**	**109**	Pg	**Pg**	**23 14 14.3**	**-1.6**
WUAZ				Sg	**Sg**	**23 14 20.8**	**-1.5**
WUAZ				IAML		23 14 22.8	
	5µm,0.3s						
WUAZ				IAML		23 14 24.3	
	3µm,0.4s						
WUAZ	**Wupatki**	**0.48**	**109**	P	**Pg**	**23 14 14.3**	**-1.6**
	baz=293						
WUAZ				S	**Sg**	**23 14 20.9**	**-1.5**
	baz=293						
U15A	**North Rim**	**0.81**	**339**		**Pg**	**23 14 19.0**	**-3.0**
X16A	**Lo Mia Camp, P**	**1.32**	**162**		**Pn**	**23 14 30.6**	**-0.5**
KNB	**Kanab**	**1.52**	**332**	Pn	**Pn**	**23 14 32.1**	**-1.8**
KNB				IAML		23 14 57.0	
	comp=N,314nm,0.7s						
W13A	**Hualapai Mount**	**1.70**	**251**		**Pn**	**23 14 36.5**	**+0.1**
LCMT	**Little Creek M**	**1.70**	**322**		**Pn**	**23 14 35.5**	**-0.9**
LCMT				IAML		23 15 01.0	
	comp=E,475nm,0.6s						
LCMT				IAML		23 15 01.9	
	comp=N,358nm,0.5s						
PKCU	**Pink Cliffs**	**1.79**	**350**		**Pn**	**23 14 36.9**	**-0.9**
PKCU				IAML		23 15 03.0	
	comp=N,301nm,0.4s						
PKCU				IAML		23 15 08.3	
	comp=E,497nm,0.4s						
W18A	**Petrified Fore**	**1.88**	**107**		**Pn**	**23 14 39.4**	**+0.6**
W18A				IAML		23 15 04.2	
	comp=N,594nm,0.5s						
W18A				IAML		23 15 06.9	
	comp=E,592nm,0.6s						
W18A	**Petrified Fore**	**1.88**	**107**	P	**Pn**	**23 14 39.5**	**+0.6**
	baz=289,SNR=80						
W18A				S	**Sb**	**23 15 03.5**	**-1.1**
	baz=289						
Y14A	**Wickenburg**	**1.95**	**207**		**Pn**	**23 14 40.2**	**+0.6**
X18A	**Snowflake**	**1.99**	**125**		**Pb**	**23 14 41.7**	**-1.2**
X18A				IAML		23 15 09.3	
	comp=N,346nm,0.5s						
SZCU	**Shurtz Canyon**	**2.13**	**334**		**Pn**	**23 14 41.9**	**-0.5**
MTPU	**Mount Pierson**	**2.37**	**355**	Pn	**Pn**	**23 14 46.1**	**+0.3**
MTPU				IAML		23 15 17.0	
	comp=E,177nm,0.4s						
MTPU				IAML		23 15 21.1	
	comp=N,142nm,0.4s						
NEE2	**Needles Airpor**	**2.38**	**248**	P	**Pn**	**23 14 45.6**	**+0.1**
	baz=66						
NEE2				Sb	**Sg**	**23 15 22.6**	**-0.3**
	baz=66						
MSU	**Marysvale**	**2.84**	**356**	Pn	**Pn**	**23 14 52.5**	**+0.4**
IRM	**Iron Mountain**	**3.04**	**241**	P	**Pn**	**23 14 55.0**	**+0.2**
	baz=58						
IRM				Sb	**Sg**	**23 15 43.3**	**-1.0**
	baz=58						
PRN	**Pahroc Range**	**3.05**	**305**		**Pn**	**23 14 55.2**	**+0.3**
PRN				IAML		23 15 44.5	
	comp=E,126nm,0.6s						
PRN				IAML		23 15 46.1	
	comp=N,125nm,0.5s						
MVCO	**Mesa Verde**	**3.16**	**60**	Pn	**Pn**	**23 14 56.4**	**-0.1**
MVCO	**Mesa Verde**	**3.16**	**60**	P	**Pn**	**23 14 57.5**	**+1.0**
	baz=243,SNR=69						
MVCO				S	**Sb**	**23 15 38.2**	**-3.4**
	baz=243						
TUQ	**Turquoise Moun**	**3.26**	**267**	Pn	**Pn**	**23 14 58.1**	**+0.2**
	baz=84,SNR=7.1						
TUQ				Pb	**Pg**	**23 15 06.7**	**-2.3**
	baz=84						
Q16A	**Castle Valley**	**3.29**	**10**		**Pn**	**23 14 59.1**	**+0.8**
Q16A				IAML		23 15 45.6	
	comp=E,120nm,0.8s						
Q16A				IAML		23 15 46.6	
	comp=N,118nm,0.6s						
PV05	**Paradox Valley**	**3.30**	**43**		**Pn**	**23 15 00.7**	**+2.2**
TUC	**Tucson**	**3.49**	**164**	Pn	**Pn**	**23 15 02.2**	**+1.3**
TUC	**Tucson**	**3.49**	**164**	P	**Pn**	**23 15 02.4**	**+1.5**
	baz=344						
TUC				Sb	**Sg**	**23 15 55.5**	**-3.1**
	baz=344						
BC3	**Big Chuckawall**	**3.54**	**236**	Sb	**Sg**	**23 15 59.5**	**-0.5**
	baz=54						
SHOC	**Shoshone, Teco**	**3.54**	**275**	Pb	**Pb**	**23 15 11.0**	**+1.8**
	baz=92						
SHOC				Sb	**Sg**	**23 15 57.0**	**-3.1**
	baz=92						
GLA	**Glamis**	**3.55**	**223**		**Pn**	**23 15 02.8**	**+1.1**
GLA				IAML		23 16 07.8	
	comp=N,30nm,0.6s						
GLA				IAML		23 16 08.2	
	comp=E,67nm,0.8s						
GLA	**Glamis**	**3.55**	**223**	Sb	**Sg**	**23 15 59.8**	**-0.7**
	baz=41						
PV10	**Paradox Valley**	**3.55**	**40**		**Pn**	**23 15 01.6**	**-0.3**
PV20	**West Nyswonger**	**3.56**	**41**		**Pn**	**23 15 02.9**	**+0.9**
PV16	**Nyswonger Mesa**	**3.57**	**42**		**Pn**	**23 15 02.9**	**+0.8**
SRU	**San Rafael Swe**	**3.61**	**18**		**Pn**	**23 15 02.8**	**+0.2**
SRU				IAML		23 15 54.4	
	comp=E,131nm,0.5s						
SRU				IAML		23 15 56.0	
	comp=N,91nm,0.7s						
PV23	**Carpenter Ridg**	**3.62**	**39**		**Pn**	**23 15 03.8**	**+0.9**
PV01	**Paradox Valley**	**3.64**	**47**		**Pn**	**23 15 03.4**	**+0.2**
PV01				IAML		23 15 58.2	
	comp=E,118nm,0.6s						
TMUT	**Trail Mountain**	**3.66**	**9**		**Pn**	**23 15 04.1**	**+0.6**
TPNV	**Topopah Spring**	**3.71**	**291**		**Pn**	**23 15 04.5**	**+0.5**
TPNV				IAML		23 16 08.5	
	comp=E,26nm,0.6s						
TPNV				IAML		23 16 15.3	
	comp=E,28nm,1.2s						
TPNV	**Topopah Spring**	**3.71**	**291**	Pn	**Pn**	**23 15 04.8**	**+0.7**
	baz=108,SNR=10						
TPNV				Pb	**Pb**	**23 15 12.8**	**+0.6**
	baz=108						
TPNV				Sb	**Sb**	**23 16 00.3**	**+3.0**
	baz=108						
BELC	**Belle Mtn. Jos**	**3.74**	**245**	Pn	**Pn**	**23 15 06.2**	**+1.8**
	baz=62,SNR=9.4						
BELC				Pb	**Pg**	**23 15 16.1**	**-2.0**
	baz=62						
214A	**Organ Pipe Nat**	**3.78**	**191**		**Pn**	**23 15 06.9**	**+2.0**
214A				IAML		23 16 11.2	
	comp=E,22nm,0.9s						
214A	**Organ Pipe Nat**	**3.78**	**191**	Pb	**Pb**	**23 15 15.2**	**+1.8**
	baz=11,SNR=10.0						
214A				Sb	**Sg**	**23 16 05.5**	**-2.5**
	baz=11						
SPR3	**Spring Creek 3**	**3.83**	**331**	Pn	**Pn**	**23 15 05.0**	**-0.7**
P17A	**Butcher Ranch,**	**3.91**	**14**		**Pn**	**23 15 07.5**	**+0.8**
P17A				IAML		23 16 06.9	
	comp=E,62nm,0.8s						
P17A				IAML		23 16 08.1	
	comp=N,65nm,0.6s						
R11A	**Troy Canyon, C**	**3.96**	**313**	Pb	**Pb**	**23 15 15.9**	**-0.5**
	baz=131,SNR=16						
R11A				Sb	**Sb**	**23 16 04.9**	**+0.5**
	baz=131						
GSC	**Goldstone, Bar**	**4.00**	**266**		**Pn**	**23 15 08.2**	**+0.4**
GSC				IAML		23 16 20.2	
	comp=E,26nm,0.6s						
GSC				IAML		23 16 24.4	
	comp=N,21nm,1.0s						
GSC	**Goldstone, Bar**	**4.00**	**266**	P	**Pn**	**23 15 08.3**	**+0.4**
	baz=83,SNR=11						
QSM	**Queen of Sheba**	**4.02**	**276**		**Pn**	**23 15 09.1**	**+0.9**
QSM				IAML		23 16 19.1	
	comp=E,19nm,1.4s						
QSM				IAML		23 16 22.6	
	comp=N,19nm,1.1s						
FURC	**Furnace Creek,**	**4.07**	**283**	Pb	**Pb**	**23 15 19.5**	**+1.2**
	baz=99,SNR=13						
PFO	**Pinyon Flats O**	**4.26**	**242**	Pn	**Pn**	**23 15 12.4**	**+0.9**
	comp=N,1.5nm,0.3s,baz=47,slow=12,SNR=18						
PFO				Lg	Lg	23 16 23.0	
	comp=N,0.7nm,0.3s,baz=232,slow=20,SNR=4.4						
PFO	**Pinyon Flats O**	**4.26**	**242**		**Pn**	**23 15 12.2**	**+0.6**
PFO	**Pinyon Flats O**	**4.26**	**242**	P	**Pn**	**23 15 12.4**	**+0.9**
	baz=59						
MPU	**Maple Canyon**	**4.34**	**3**		**Pn**	**23 15 13.5**	**+0.8**
LENM	**Lemitar**	**4.34**	**109**		**Pn**	**23 15 13.2**	**+0.4**
MPMC	**Manual Prospec**	**4.53**	**276**	Pn	**Pn**	**23 15 17.5**	**+2.2**
	baz=93,SNR=8.7						
MPMC				Pb	**Pb**	**23 15 29.1**	**+2.9**
	baz=93						
ANMO	**Albuquerque**	**4.54**	**98**	Pn	**Pn**	**23 15 15.7**	**+0.4**
ANMO				Lg	Lg	23 16 23.9	
	comp=N,0.4nm,0.3s,baz=278,slow=11,SNR=7.3						
ANMO	**Albuquerque**	**4.54**	**98**	Pn	**Pn**	**23 15 15.8**	**+0.4**
ANMO				IAML		23 16 26.5	
	comp=N,29nm,0.7s						
ANMO				IAML		23 16 26.9	
	comp=N,26nm,0.8s						
ANMO	**Albuquerque**	**4.54**	**98**	P	**Pn**	**23 15 16.2**	**+0.9**
	baz=281						
ANMO				Sb	**Sb**	**23 16 24.2**	**+3.1**
	baz=281						
DUG	**Dugway, Tooele**	**4.56**	**351**	Pb	**Pb**	**23 15 26.9**	**+0.2**
	baz=171,SNR=7.2						
DUG				Sb	**Sb**	**23 16 24.3**	**+2.5**
	baz=171						
S22A	**4UR Ranch, Cre**	**4.59**	**62**	P	**Pn**	**23 15 18.7**	**+2.5**
	baz=245,SNR=28						
S22A				Pb	**Pb**	**23 15 28.3**	**+1.0**
	baz=245						
IKP	**In-Ko-Pah, Jac**	**4.59**	**230**	P	**Pn**	**23 15 17.6**	**+1.5**
	baz=47						
BNM	**Barren Site**	**4.62**	**108**		**Pn**	**23 15 16.5**	**0.0**
MONP2	**Monument Peak**	**4.64**	**235**	P	**Pn**	**23 15 18.4**	**+1.6**
	baz=51						
121A	**Cookes Peak, D**	**4.65**	**131**	Pb	**Pb**	**23 15 27.8**	**-0.5**
	baz=314						
121A				Sb	**Sg**	**23 16 30.7**	**-5.3**
	baz=314						
LRMC	**Laurel Mtn Rad**	**4.69**	**269**	P	**Pn**	**23 15 18.1**	**+0.6**
	baz=86						
MURC	**Murrieta**	**4.81**	**246**	P	**Pn**	**23 15 20.1**	**+1.1**
	baz=62						
319A	**Douglas**	**4.83**	**152**		**Pn**	**23 15 20.2**	**+0.8**
BAR	**Barrett**	**4.94**	**234**	Pn	**Pn**	**23 15 22.3**	**+1.5**
CBX	**Cerro Bola**	**5.17**	**231**	Pn	**Pn**	**23 15 26.1**	**+2.1**
RDMU	**Red Mountain**	**5.23**	**20**		**Pn**	**23 15 25.1**	**+0.2**
SMCO	**Snowmass**	**5.27**	**47**		**Pn**	**23 15 26.6**	**+1.0**
SMCO				IAML		23 16 50.3	
	comp=N,34nm,0.5s						
O20A	**White River Ci**	**5.32**	**32**		**Pn**	**23 15 26.8**	**+0.6**
O20A	**White River Ci**	**5.32**	**32**	P	**Pn**	**23 15 27.5**	**+1.3**
	baz=215						
O20A				Sb	**Sb**	**23 16 45.1**	**+1.4**
	baz=215						
ISA	**Isabella, Lake**	**5.33**	**272**		**Pn**	**23 15 26.3**	**+0.2**
ISA				IAML		23 17 56.9	
	comp=N,11nm,0.1s						
ISA				IAML		23 17 57.0	
	comp=E,7.5nm,0.1s						
SDCO	**Great Sand Dun**	**5.56**	**66**		**Pn**	**23 15 30.0**	**+0.4**
SDCO	**Great Sand Dun**	**5.56**	**66**	Pb	**Pb**	**23 15 44.3**	**+0.4**
	baz=250,SNR=14						
ELK	**Elko**	**5.69**	**334**	Pn	**Pn**	**23 15 31.0**	**-0.3**
	comp=E,0.1nm,0.3s,baz=139,slow=19,SNR=1.9						
ELK				Lg	Lg	23 16 57.7	
	comp=E,0.3nm,0.3s,baz=19,slow=8.8,SNR=9.1						
ELK	**Elko**	**5.69**	**334**		**Pn**	**23 15 32.5**	**+1.2**
NVAR	**Mina Array Bea**	**5.79**	**300**	Pn	**Pn**	**23 15 33.1**	**+0.5**
	comp=E,0.2nm,0.3s,baz=119,slow=16,SNR=5.2						
NVAR				Lg	Lg	23 17 04.4	
	comp=E,0.4nm,0.3s,baz=98,slow=33,SNR=2.1						
NVAR	**Mina Array Bea**	**5.79**	**300**		**Pn**	**23 15 33.7**	**+1.1**
RYN	**Ryan**	**6.03**	**301**		**Pn**	**23 15 36.8**	**+0.9**
T25A	**Trinidad**	**6.24**	**74**	Pn	**Pn**	**23 15 39.7**	**+0.9**
T25A	**Trinidad**	**6.24**	**74**	Pn	**Pn**	**23 15 39.9**	**+1.1**
	baz=259,SNR=6.0						
T25A				Pb	**Pb**	**23 15 59.0**	**+3.6**
	baz=259						
T25A				Sb	**Sb**	**23 17 15.2**	**+5.1**
	baz=259						
N23A	**Red Feather La**	**7.02**	**40**	Sb	**Sb**	**23 17 37.6**	**+5.0**
	baz=224						
PDAR	**Pinedale Array**	**7.32**	**14**	Pn	**Pn**	**23 15 52.7**	**-0.9**
	comp=E,0.1nm,0.3s,baz=184,slow=11,SNR=3.6						
PDAR				Lg	Lg	23 17 49.2	
	comp=E,0.5nm,0.3s,baz=194,slow=25,SNR=7.5						
MSTX	**Muleshoe**	**7.72**	**100**	Sb	Sb	23 18 01.9	+9.2
	baz=286						
TXAR	**Lajitas Array**	**9.41**	**130**	Pn	Pn	23 16 30.3	+8.0
	comp=E,0.0nm,0.3s,baz=310,slow=13,SNR=1.9						
TXAR				Lg	Lg	23 19 00.5	
	comp=E,0.1nm,0.3s,baz=309,slow=29,SNR=5.5						

MEX 26 23:25:54.8±0.8, 15.°04N×92.°25W, h112km±7km, MD3.6, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.13**	**188**	*i* P	Pn	23 26 08.8	-1.4
THIG				*i* S	Sn	23 26 20.2	-1.5
PCIG		**1.15**	**305**	*e*P	Pn	23 26 16.6	-1.1
PCIG				*e*S	Sn	23 26 33.2	-1.8
CCIG	**Comitan**	**1.24**	**5**	*e*P	Pn	23 26 19.4	+0.4
CCIG				*e*S	Sn	23 26 36.2	-1.0

*HEL **26** 23:28:38.5±0.0, 67.°82N×20.°20E, h0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOIG	**Yosondua**	**1.05**	**266**	*e*P	Pn	23 42 44.2	-1.1
YOIG				*e*S	Sn	23 42 57.5	-1.9
PEIG	**Puerto Escondi**	**1.15**	**215**	*e*P	Pn	23 42 44.5	-1.8
PEIG				*e*S	Sn	23 43 01.6	+0.2
TOIG	**Toxpalan**	**1.29**	**333**	*e*P	Pn	23 42 47.3	-1.0
TOIG				*e*S	Sn	23 43 02.1	-2.6
TXIG	**Tlaxiaco**	**1.29**	**284**	*e*P	Pn	23 42 47.2	-1.3
TXIG				*e*S	Sn	23 43 03.2	-1.9
CMIG	**Matias Romero**	**1.51**	**84**	*e*P	Pn	23 42 40.5	-11
CMIG				*e*S	Sn	23 43 07.2	-2.6

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*IDC **26** 23:59:24.7±0.6, 31°.76S×72°.78W, h0km, mb4.4/13, mb1 4.5/17, mb1mx4.4/29, mbtmp4.4/17, ML4.4/4, MS3.6/9, Ms1 3.6/9, ms1mx3.4/21, Error ellipse: s-maj=22.2km s-min=14.7km az=96.0*

*NEIC **26** 23:59:25.6±3.0, 31°.77S±0°.04×72°.98W±0°.07, h10km±1km, mb4.7/42, Mwr4.3/42, ML4.5(GUC), Error ellipse: s-maj=9.6km s-min=6.3km az=276.0*

*NEIC **26** 23:59:25.2, 31°.78S×72°.95W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-2.80; $M_{\theta\theta}$0.46; $M_{\phi\phi}$2.33; $M_{r\theta}$0.96; $M_{\theta\phi}$0.64; $M_{\phi r}$1.21; Fault plane solution: $M_0$3.09000×10^{15} NP1:ϕ_s206.87000°, δ59.92000°, λ-81.03000°. NP2:ϕ_s9.39000°, δ31.27000°, λ-105.07000°. Principal axes: T 2.9049, Plg14.0000°, Azm290.0000°; N 0.3435, Plg8.0000°, Azm22.0000°; P -3.2483, Plg73.0000°, Azm140.0000°;*

*VAO **26** 23:59:26.9±0.7, 31°.79S×72°.78W, h10km, mb4.6*

*GUC **26** 23:59:26.7±0.7, 31°.79S×72°.78W, h32km±5km, ML4.5*

ISC 26 23:59:24.2±3.4**, 31°.76S**±0°.04×**72°.93W**±0°.06**, h2**km±21km**, n168, σ1s29**/172**, mb4.6**/26**, MS3.9**/6**, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**1.55**	**46**	*i* P	**Pn**	**23 59 51.8**	**-1.1**
CO06				*e*S	**Sn**	**00 00 10.4**	**-3.2**
CO06	**Fray Jorge**	**1.55**	**46**		**Pn**	**23 59 51.7**	**-1.1**
CO06				Sn	**Sn**	**00 00 10.9**	**-2.7**
VA06	**Catapilco**	**1.60**	**120**	*i* P	**Pn**	**23 59 52.3**	**-1.2**
VA06				*e*S	**Sn**	**00 00 11.0**	**-3.7**
VA06				IAML		00 00 13.7	
	comp=N,20μm,0.4s						
VA01	**Torpederas**	**1.66**	**140**		**Pn**	**23 59 53.3**	**-1.1**
VA01				Sn	**Sn**	**00 00 12.7**	**-3.6**
CO02	**Combarbal**	**1.74**	**72**	*e*P	**Pn**	**23 59 54.8**	**-0.8**
CO02				*e*S	**Sn**	**00 00 15.7**	**-2.8**
CO02				IAML		00 00 19.0	
	comp=N,17μm,0.3s						
CO02	**Combarbal**	**1.74**	**72**		**Pn**	**23 59 54.9**	**-0.7**
CO02				Sn	**Sn**	**00 00 16.1**	**-2.4**
ROCH	**El Roble**	**2.02**	**127**	*i* P	**Pn**	**23 59 58.8**	**-0.8**
ROCH				*e*S	**Sn**	**00 00 22.1**	**-3.5**
ROCH				IAML		00 00 24.3	
	comp=N,3μm,0.5s						
CO03	**El Pedregal**	**2.13**	**65**	*e*P	**Pn**	**00 00 00.9**	**0.0**
CO03				*e*S	**Sn**	**00 00 26.3**	**-1.7**
CO03	**El Pedregal**	**2.13**	**65**		**Pn**	**00 00 00.7**	**-0.2**
VA05	**Santo Domingo**	**2.19**	**150**	*e*P	**Pn**	**00 00 00.5**	**-1.1**
VA05				IAML		00 00 32.0	
	comp=E,5μm,0.2s						
VA05	**Santo Domingo**	**2.19**	**150**		**Pn**	**00 00 00.6**	**-1.1**
VA03	**San Esteban**	**2.25**	**117**	*e*P	**Pn**	**00 00 02.4**	**-0.3**
VA03				IAML		00 00 31.7	
	comp=N,5μm,0.8s						
VA03	**San Esteban**	**2.25**	**117**		**Pn**	**00 00 02.3**	**-0.3**
CO05	**La Serena**	**2.34**	**39**	*i* P	**Pn**	**00 00 03.0**	**-0.8**
CO05				IAML		00 00 33.9	
	comp=N,6μm,0.4s						
CO05	**La Serena**	**2.34**	**39**		**Pn**	**00 00 03.0**	**-0.8**
GO04	**Tololo Observa**	**2.42**	**50**	*i* P	**Pn**	**00 00 04.7**	**-0.3**
GO04	**Tololo Observa**	**2.42**	**50**		**Pn**	**00 00 04.8**	**-0.3**
MT05	**Renca**	**2.46**	**132**		**Pn**	**00 00 05.5**	**0.0**
MT01	**Popeta**	**2.53**	**146**	*e*P	**Pn**	**00 00 05.2**	**-1.1**
MT01				IAML		00 00 35.3	
	comp=E,2μm,0.4s						
MT01	**Popeta**	**2.53**	**146**		**Pn**	**00 00 05.2**	**-1.1**
MT09	**Talagante**	**2.59**	**141**	*e*P	**Pn**	**00 00 07.2**	**-0.2**
MT09				IAML		00 00 40.5	
	comp=N,3μm,0.4s						
MT09	**Talagante**	**2.59**	**141**		**Pn**	**00 00 06.9**	**-0.4**
BO03	**Pichilemu**	**2.84**	**164**	*e*P	**Pn**	**00 00 09.4**	**-1.3**
BO01	**Tunca**	**3.04**	**150**		**Pn**	**00 00 12.5**	**-0.9**
LMEL	**Las Melosas**	**3.10**	**133**	*e*P	**Pn**	**00 00 15.0**	**+0.7**
LMEL				IAML		00 00 54.4	
	comp=N,918nm,0.5s						
GO05	**Huala**	**3.34**	**166**	Pn	**Pn**	**00 00 16.2**	**-1.4**
LCO	**Las Campanas**	**3.35**	**36**		**Pn**	**00 00 17.3**	**-0.6**
BO02	**Sierra Bellavi**	**3.52**	**150**		**Pn**	**00 00 19.8**	**-0.2**
ZON	**Zonda**	**3.63**	**88**		**Pn**	**00 00 23.8**	**+2.3**
AC04	**Llanos de Chal**	**3.89**	**25**		**Pn**	**00 00 23.7**	**-1.5**
ML02	**Panimavida**	**4.18**	**163**	Pn	**Pn**	**00 00 28.6**	**-0.6**
GO03	**Copiap**	**4.77**	**30**	Pn	**Pn**	**00 00 36.2**	**-1.0**
VA04	**Juan Fernndez**	**5.32**	**248**	Pn	**Pn**	**00 00 42.8**	**-1.8**
H03N1	**Juan Fernandez**	**5.32**	**250**	T	T	00 06 15.5	
	baz=80,slow=71,SNR=43						
H03N3	**Juan Fernandez**	**5.33**	**250**	T	T	00 06 14.7	
	baz=80,slow=71,SNR=20						
H03N2	**Juan Fernandez**	**5.33**	**250**	T	T	00 06 11.1	
	baz=80,slow=71,SNR=15						
AC02	**Maricunga**	**5.93**	**35**	Pn	**Pn**	**00 00 53.2**	**-0.3**
LC01	**Cunco**	**7.17**	**173**	Pn	**Pn**	**00 01 09.1**	**-1.1**
LR03	**Panguipulli**	**7.87**	**177**		**Pn**	**00 01 19.3**	**-0.4**
PB10	**IPOC Station P**	**8.48**	**15**	Pn	**Pn**	**00 01 28.3**	**+0.1**
PB15	**IPOC Station P**	**9.06**	**21**		**Pn**	**00 01 33.5**	**-2.8**
LL04	**Puerto Octay**	**9.14**	**178**	Pn	**Pn**	**00 01 35.8**	**-1.4**
PLCA	**Paso Flores**	**9.15**	**169**	Pn	**Pn**	**00 01 37.4**	**-0.1**
	comp=N,1.9nm,0.3s,baz=333,slow=12,SNR=49						
PLCA				LR	LR	00 05 03.8	
	comp=N,178nm,21.7s,baz=3.5,slow=37						
LL05	**Los Muermos**	**9.63**	**182**	Pn	**Pn**	**00 01 41.7**	**-2.2**
PB04	**IPOC Station P**	**9.71**	**15**	Pn	**Pn**	**00 01 43.3**	**-2.0**
LVC	**Limon Verde**	**9.79**	**22**	Pn	**Pn**	**00 01 43.4**	**-3.1**
	comp=N,1.5nm,0.3s,baz=189,slow=9.2,SNR=11						
LVC				Sn	**Sn**	**00 03 31.4**	**-5.9**
	comp=N,1.5nm,0.3s,baz=238,slow=23,SNR=7.0						
LVC				LR	LR	00 05 42.6	
	comp=N,134nm,21.3s,baz=34,slow=39						
LVC	**Limon Verde**	**9.79**	**22**	Pn	**Pn**	**00 01 43.3**	**-3.2**
PB09	**IPOC Station P**	**10.46**	**19**	Pn	**Pn**	**00 01 53.0**	**-2.4**
TRQA	**Tornquist**	**10.96**	**128**	Pn	**Pn**	**00 02 01.7**	**-0.4**
TRQA	**Tornquist**	**10.96**	**128**	*e*P	**Pn**	**00 02 01.4**	**-0.7**
PB11	**IPOC Station P**	**12.31**	**15**	Pn	**Pn**	**00 02 18.3**	**-2.5**
PSGCX	**Pisagua**	**12.38**	**12**	Pn	**Pn**	**00 02 18.7**	**-3.0**
ITQB	**Itaqui**	**14.18**	**86**		**Pn**	**00 02 45.3**	**-0.8**
CPUP	**Villa Florida**	**14.67**	**72**	Pn	**Pn**	**00 02 52.5**	**-0.4**
	comp=N,0.1nm,0.3s,baz=267,slow=9.7,SNR=3.0						
CPUP				LR	LR	00 08 58.1	
	comp=N,291nm,18.6s,baz=274,slow=39						
CPUP	**Villa Florida**	**14.67**	**72**	Pn	**Pn**	**00 02 52.7**	**-0.2**
CPUP	**Villa Florida**	**14.67**	**72**	*e*P	**Pn**	**00 02 51.5**	**-1.4**
LPAZ	**La Paz**	**16.01**	**17**	Pn	**Pn**	**00 03 12.3**	**+1.1**
	comp=N,0.9nm,0.3s,baz=190,slow=7.5,SNR=31						
LPAZ	**La Paz**	**16.01**	**17**	P	**Pn**	**00 03 13.3**	**+2.0**
LPAZ	**La Paz**	**16.01**	**17**	*e*P	**Pn**	**00 03 13.5**	**+2.2**
PLTB	**Pedras Altas**	**16.44**	**95**	P	**P**	**00 03 19.5**	**+0.5**
CPSB	**Cacapava Do Su**	**16.75**	**90**	*e*P	**Pn**	**00 03 19.6**	**-0.5**
SIV	**San Ignacio**	**19.05**	**37**	P	**P**	**00 03 47.3**	**-0.6**
	comp=N,2.8nm,0.3s,baz=215,slow=8.1,SNR=74						
AQDB	**Aquidauana**	**19.09**	**58**		**P**	**00 03 48.3**	**0.0**
AQDB				IAmb	IAmb	00 03 56.2	
	comp=Z,19nm,0.8s						
AQDB	**Aquidauana**	**19.09**	**58**	*e*P	**P**	**00 03 48.0**	**-0.3**
PTGB	**Pitanga**	**19.66**	**74**	*e*P	**P**	**00 03 54.6**	**0.0**
NNA	**Nana**	**20.01**	**349**	LR	LR	00 09 51.0	
	comp=Z,101nm,19.2s,baz=64,slow=31						
TRCB	**Terra Rica**	**20.10**	**69**	P	**P**	**00 03 59.6**	**+0.2**
TRCB				IAmb	IAmb	00 04 05.2	
	comp=Z,20nm,0.6s						
TRCB	**Terra Rica**	**20.10**	**69**	*e*P	**P**	**00 04 00.1**	**+0.7**
PTLB	**Pontes e Lacer**	**20.54**	**41**	*e*P	**P**	**00 04 05.5**	**+1.4**
TER01	**Tubaro-SC**	**20.82**	**87**	*e*P	**P**	**00 04 07.8**	**+0.6**
PP1B	**Ponte de Pedra**	**21.58**	**53**	*e*P	**P**	**00 04 16.0**	**+0.6**
PCMB	**Pacaembu**	**21.81**	**68**	*e*P	**P**	**00 04 17.9**	**+0.1**
VILB	**Vilhena**	**22.08**	**35**	*e*P	**P**	**00 04 21.9**	**+1.2**
SALV	**Santo Antonio**	**22.26**	**49**	*e*P	**P**	**00 04 22.1**	**-0.6**
FRTB	**Fartura**	**22.32**	**74**	*e*P	**P**	**00 04 23.2**	**-0.1**
EFI	**East Falkland**	**22.70**	**156**	P	**P**	**00 04 29.7**	**+2.6**
EFI				IAmb	IAmb	00 04 50.3	
	comp=Z,61nm,1.3s						
ETMB	**Extrema**	**22.71**	**17**	*e*P	**P**	**00 04 28.9**	**+1.5**
ITRB	**Iturama**	**23.56**	**65**	*e*P	**P**	**00 04 35.5**	**-0.8**
PET01	**Itanhaem-SP**	**23.80**	**78**	*e*P	**P**	**00 04 38.9**	**+0.3**
CZSB	**Cruzeiro do Su**	**23.91**	**1**	*e*P	**P**	**00 04 40.7**	**+1.0**
SPB	**Sao Paulo**	**23.96**	**77**	*e*P	**P**	**00 04 40.7**	**+0.6**
SAML	**Samuel**	**24.44**	**24**	P	**P**	**00 04 45.1**	**+0.6**
SAML				IAmb	IAmb	00 04 47.4	
	comp=Z,14nm,0.9s						
SAML	**Samuel**	**24.44**	**24**	*e*P	**P**	**00 04 45.7**	**+1.1**
VAO	**Valinhos**	**24.60**	**76**	*e*P	**P**	**00 04 46.6**	**+0.5**
CLDB	**Colider**	**26.13**	**41**	*e*P	**P**	**00 05 01.0**	**+1.0**
TBTG	**Tabatinga, AM**	**27.58**	**7**	*e*P	**P**	**00 05 14.6**	**+1.7**
BDFB	**Brasilia**	**27.79**	**61**	P	**P**	**00 05 14.7**	**-0.3**
	comp=Z,6.8nm,0.7s,baz=240,slow=8.2,SNR=11						
BDFB	**Brasilia**	**27.79**	**61**	P	**P**	**00 05 14.5**	**-0.5**
BDFB				IAmb	IAmb	00 05 31.7	
	comp=Z,12nm,0.9s						
SNDB	**Serra Nova Dou**	**28.02**	**50**	*e*P	**P**	**00 05 17.4**	**+0.5**
NPGB	**Novo Progresso**	**29.56**	**37**	*e*P	**P**	**00 05 30.6**	**0.0**
PEXB	**Peixe**	**29.95**	**55**	*e*P	**P**	**00 05 35.0**	**+1.0**
MACA	**Manacapuru-AM**	**30.70**	**25**	*e*P	**P**	**00 05 41.8**	**+1.1**
JANB	**Januaria**	**30.95**	**64**	*e*P	**P**	**00 05 42.6**	**-0.3**
ITTB	**Itaituba**	**31.68**	**34**	*e*P	**P**	**00 05 49.4**	**+0.1**
SDBA	**SAO DESIDERIO**	**32.17**	**60**	*e*P	**P**	**00 05 54.6**	**+0.9**
SMTB	**Santa Maria do**	**32.76**	**51**	*e*P	**P**	**00 05 59.8**	**+1.0**
PTGA	**Pitinga**	**33.21**	**24**	P	**P**	**00 06 02.3**	**-0.4**
PRPB	**Parauapebas**	**33.39**	**45**	*e*P	**P**	**00 06 04.6**	**+0.2**
CMC01	**Camacan, BA**	**34.53**	**70**	*e*P	**P**	**00 06 14.7**	**+0.5**
NBIT	**Itapeh - BA**	**34.83**	**69**	*e*P	**P**	**00 06 17.7**	**+0.8**
GDU01	**Guandu, BA**	**35.42**	**67**	*e*P	**P**	**00 06 21.6**	**-0.3**
BOAV	**Boa Vista**	**35.96**	**21**	*e*P	**P**	**00 06 26.9**	**+0.4**
NBPN	**Ponto Novo - B**	**36.69**	**63**	*e*P	**P**	**00 06 32.8**	**-0.1**
MCPB	**Macapa, AP**	**36.95**	**36**	*e*P	**P**	**00 06 35.5**	**+0.5**
RUSC	**La Rusia**	**37.45**	**360**	P	**P**	**00 06 40.5**	**+0.8**
RUSC				IAmb	IAmb	00 06 59.6	
	comp=Z,24nm,1.5s						
NBLA	**Lagarto - SE**	**38.45**	**65**	*e*P	**P**	**00 06 47.2**	**-0.5**
NBMA	**Muriti-CE**	**40.02**	**60**	*e*P	**P**	**00 07 01.5**	**+0.5**
NBPS	**Pedro II - PI**	**40.17**	**54**	*e*P	**P**	**00 07 02.5**	**+0.4**
NBAN	**Anadia - AL**	**40.43**	**65**	*e*P	**P**	**00 07 04.2**	**-0.1**
SDV	**Santo Domingo**	**40.48**	**3**	P	**P**	**00 07 04.3**	**-0.5**
	comp=Z,2.9nm,0.3s,baz=328,slow=3.4,SNR=2.1						
NBPB	**Pedra_Branca-C**	**40.66**	**57**	*e*P	**P**	**00 07 07.1**	**+0.9**
MDP	**Montagnes des**	**41.45**	**31**	P	**P**	**00 07 12.8**	**+0.3**
	comp=Z,8.7nm,0.7s,baz=204,slow=9.8,SNR=12						
NBPV	**Pedro Velho**	**43.24**	**62**	*e*P	**P**	**00 07 28.4**	**+1.2**
VNA3	**Neumayer Olymp**	**51.71**	**158**	P	**P**	**00 08 33.4**	**+0.9**
VNA1	**Neumayer--Stat**	**52.02**	**158**	P	**P**	**00 08 34.2**	**-0.6**
VNA2	**Neumayer--Watz**	**52.36**	**158**	P	**P**	**00 08 36.5**	**-0.8**
SNAA	**Sanae**	**53.93**	**158**	P	**P**	**00 08 49.3**	**+0.3**
QSPA	**South Pole Qui**	**58.47**	**180**	P	**P**	**00 09 22.5**	**+0.9**
	comp=Z,4.3nm,0.8s,baz=160,slow=1.9,SNR=23						
QSPA	**South Pole Qui**	**58.47**	**180**	P	**P**	**00 09 22.5**	**+0.9**
QSPA				IAmb	IAmb	00 09 23.6	
	comp=Z,5.9nm,0.9s						
VNDA	**Vanda**	**66.14**	**191**	P	**P**	**00 10 14.4**	**+1.8**
	comp=Z,0.8nm,0.7s,baz=129,slow=4.5,SNR=6.0						
VNDA	**Vanda**	**66.14**	**191**		**P**	**00 10 13.9**	**+1.3**
TX31	**Lajitas Ar. Si**	**67.42**	**331**	P	**P**	**00 10 21.1**	**-0.3**
TX31				IAmb	IAmb	00 10 24.8	
	comp=Z,12nm,1.2s						
TXAR	**Lajitas Array**	**67.42**	**331**	P	**P**	**00 10 22.7**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=152,slow=7.5,SNR=13						
TXAR				LR	LR	00 34 40.7	
	comp=Z,69nm,20.1s,baz=0.0,slow=31						
TXAR	**Lajitas Array**	**67.42**	**331**	P	**P**	**00 10 21.2**	**-0.2**
WVT	**Waverly**	**68.97**	**347**	P	**P**	**00 10 30.7**	**-0.1**
WVT				IAmb	IAmb	00 10 34.3	
	comp=Z,9.9nm,1.2s						
CCM	**Cathedral Cave**	**71.53**	**345**	P	**P**	**00 10 46.5**	**0.0**
CCM				IAmb	IAmb	00 10 47.7	
	comp=Z,6.5nm,1.0s						
ANMO	**Albuquerque**	**73.46**	**332**	P	**P**	**00 10 58.2**	**-0.2**
ANMO				IAmb	IAmb	00 11 00.6	
	comp=Z,7.0nm,1.5s						
DBIC	**Dimbokro**	**75.19**	**72**	P	**P**	**00 11 09.0**	**+0.3**
	comp=Z,3.8nm,0.6s,baz=224,slow=6.5,SNR=9.6						
DBIC				LR	LR	00 40 57.1	
	comp=Z,63nm,21.1s,baz=190,slow=33						
DBIC	**Dimbokro**	**75.19**	**72**	P	**P**	**00 11 08.5**	**-0.3**
DBIC				IAmb	IAmb	00 11 26.3	
	comp=Z,22nm,1.3s						
MAW	**Mawson**	**75.53**	**164**	P	**P**	**00 11 10.2**	**+0.4**
	comp=Z,3.8nm,0.8s,baz=209,slow=8.2,SNR=7.8						
MAW	**Mawson**	**75.53**	**164**	P	**P**	**00 11 10.0**	**+0.2**
HAL	**Halifax**	**76.51**	**7**	P	**P**	**00 11 13.8**	**-1.7**
SUR	**Sutherland**	**76.58**	**120**	P	**P**	**00 11 17.2**	**+0.5**
G62A	**West of Eustis**	**76.65**	**2**	P	**P**	**00 11 16.1**	**-0.2**
PKME	**Peaks-Kenny Pk**	**76.73**	**3**	P	**P**	**00 11 18.0**	**+1.2**
G65A	**Princeton**	**76.75**	**4**	P	**P**	**00 11 18.5**	**+1.6**
LMN	**Caledonia Moun**	**77.60**	**6**	P	**P**	**00 11 21.7**	**+0.1**
ECSD	**EROS Data Cent**	**78.20**	**343**	P	**P**	**00 11 24.2**	**-0.8**
ECSD				IAmb	IAmb	00 11 26.6	
	comp=Z,7.7nm,1.1s						
D62A	**Allapoint, All**	**78.56**	**3**	P	**P**	**00 11 27.4**	**+0.5**
NLU	**North Lily Min**	**80.06**	**330**	P	**P**	**00 11 33.4**	**-2.1**
K22A	**Casper**	**80.22**	**336**	P	**P**	**00 11 36.2**	**-0.2**
K22A				IAmb	IAmb	00 11 38.7	
	comp=Z,6.9nm,0.8s						
KOWA	**Kowa**	**80.41**	**66**	P	**P**	**00 11 37.8**	**0.0**
KOWA				IAmb	IAmb	00 11 39.7	
	comp=Z,7.7nm,1.2s						
TSUM	**Tsumeb**	**80.56**	**107**		**P**	**00 11 38.8**	**0.0**
TSUM				IAmb	IAmb	00 11 42.3	
	comp=Z,4.4nm,0.8s						
PD31	**Pinedale Array**	**81.43**	**334**	P	**P**	**00 11 42.5**	**-0.4**
PDAR	**Pinedale Array**	**81.43**	**334**	P	**P**	**00 11 43.6**	**+0.7**
	comp=Z,1.1nm,0.9s,baz=149,slow=5.6,SNR=7.0						
PDAR				LR	LR	00 44 08.7	
	comp=Z,49nm,19.3s,baz=74,slow=33						
PDAR	**Pinedale Array**	**81.43**	**334**	P	**P**	**00 11 42.8**	**-0.1**
NVAR	**Mina Array Bea**	**81.62**	**326**	P	**P**	**00 11 45.9**	**+1.9**
	comp=Z,1.5nm,0.7s,baz=153,slow=5.7,SNR=14						
NVAR	**Mina Array Bea**	**81.62**	**326**	P	**P**	**00 11 44.0**	**0.0**
BOSA	**Boshof**	**81.78**	**118**	P	**P**	**00 11 45.3**	**+0.1**
	comp=Z,4.0nm,0.8s,baz=233,slow=3.1,SNR=6.8						
BOSA				LR	LR	00 45 46.0	
	comp=Z,76nm,18.1s,baz=226,slow=34						
BOSA	**Boshof**	**81.78**	**118**	P	**P**	**00 11 45.2**	**0.0**
BOSA				IAmb	IAmb	00 11 54.5	
	comp=Z,14nm,1.4s						
CASY	**Casey**	**82.23**	**181**	P	**P**	**00 11 47.5**	**+0.9**
CASY				IAmb	IAmb	00 11 48.9	
	comp=Z,6.1nm,0.9s						
IMW	**Indian Meadow**	**82.92**	**333**	P	**P**	**00 11 51.1**	**+0.3**
IMW				IAmb	IAmb	00 11 52.1	
	comp=Z,4.2nm,1.1s						
LBTB	**Lobatse**	**83.93**	**116**	P	**P**	**00 11 56.4**	**0.0**
TORD	**Torodi Ar. Bea**	**84.17**	**71**	P	**P**	**00 11 57.8**	**+0.3**
	comp=Z,2.8nm,0.6s,baz=285,slow=5.8,SNR=41						
TORD				LR	LR	00 47 11.9	
	comp=Z,52nm,19.7s,baz=145,slow=34						
TORD	**Torodi Ar. Bea**	**84.17**	**71**	P	**P**	**00 11 57.4**	**0.0**
TORD				IAmb	IAmb	00 11 58.3	
	comp=Z,2.4nm,0.6s						
SCHQ	**Schefferville**	**86.40**	**4**	P	**P**	**00 12 08.1**	**+0.4**
	comp=Z,3.1nm,0.7s,baz=256,slow=14,SNR=1.7						
ASAR	**Alice Springs**	**119.20**	**208**	PKP	**PKPdf**	**00 18 15.2**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=131,slow=1.5,SNR=7.6						
ASAR	**Alice Springs**	**119.20**	**208**		**PKPdf**	**00 18 15.1**	**-0.5**
BRTR	**Keskin Array B**	**121.39**	**60**	PKP	**PKPdf**	**00 18 19.2**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=222,slow=1.9,SNR=3.9						
WRA	**Warramunga Arr**	**122.32**	**211**	PKP	**PKPdf**	**00 18 21.4**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=169,slow=1.6,SNR=17						
KKAR	**Karatay Array**	**149.07**	**58**	PKPdf	**PKPdf**	**00 19 09.3**	**-0.6**
DRK	**Karamyk**	**150.45**	**65**	PKPdf	**PKPdf**	**00 19 11.3**	**-1.3**
ZAA0	**Zalesovo Array**	**152.69**	**29**		**PKPdf**	**00 19 15.3**	**+0.2**
ZALV	**Zalesovo Beam**	**152.69**	**29**	PKPbc	**PKiKP**	**00 19 22.5**	**+0.1**
	comp=Z,5.1nm,0.6s,baz=300,slow=3.2,SNR=26						
ZALV	**Zalesovo Beam**	**152.69**	**29**	PKPbc	**PKPbc**	**00 19 22.1**	**0.0**
MKAR	**Makanchi Array**	**155.78**	**45**	PKPbc	PKPbc	00 19 29.6	
	comp=Z,1.0nm,0.9s,baz=318,slow=1.9,SNR=4.8						
MKAR	**Makanchi Array**	**155.78**	**45**	PKPab	**PKPab**	**00 19 46.9**	**+0.7**
SONM	**Songino Array**	**163.94**	**2**	PKPab	**PKPab**	**00 20 22.3**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=322,slow=4.0,SNR=6.8						

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*IDC **27** 00:06:08.0±3.0, 31°.76S×73°.30W, h0km, mb4.1/2, mb1 3.8/5, mb1mx3.6/20, mbtmp3.7/5, ML3.6/3, Error ellipse: s-maj=98.8km s-min=34.2km az=97.0*

*NEIC **27** 00:06:10.5±1.8, 31°.79S±0°.02×72°.9W±0°.1, h10km±2km, mb4.2/2, Error ellipse: s-maj=14.4km s-min=3.0km az=272.0*

*GUC **27** 00:06:12.6±0.7, 31°.77S×72°.73W, h28km±3km, ML3.6*

ISC 27 00:06:12.9±0.9**, 31°.78S**±0°.03×**73°.00W**±0°.07**, h35km, n68, σ1s81**/97**, mb4.3**/3**, 6C-1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**1.61**	**47**	*i* P	**Pn**	**00 06 37.0**	**-1.8**
CO06				*i* S	**Sn**	**00 06 55.9**	**-2.4**
CO06				IAML		00 06 56.8	
	comp=E,794nm,0.2s						
CO06	**Fray Jorge**	**1.61**	**47**		**Pn**	**00 06 37.0**	**-1.8**
CO06				Sn	**Sn**	**00 06 56.0**	**-2.4**
CO06	**Fray Jorge**	**1.61**	**47**⇓	*i*P	**Pn**	**00 06 37.1**	**-1.8**
CO06				*i* S	**Sn**	**00 06 56.0**	**-2.4**
VA06	**Catapilco**	**1.65**	**119**⇑	*i*P	**Pn**	**00 06 37.7**	**-1.6**
VA06				*i* S	**Sn**	**00 06 56.2**	**-3.0**
VA06				IAML		00 06 58.9	
	comp=N,2μm,0.4s						
VA06	**Catapilco**	**1.65**	**119**⇑	*i*P	**Pn**	**00 06 37.7**	**-1.6**
VA06				*i* S	**Sn**	**00 06 56.1**	**-3.2**
VA06				IAML		00 06 58.9	
	comp=N,2μm,0.4s						
VA01	**Torpederas**	**1.69**	**138**		**Pn**	**00 06 38.6**	**-1.4**
VA01				Sn	**Sn**	**00 06 57.9**	**-2.5**
VA01	**Torpederas**	**1.69**	**138**	*i* P	**Pn**	**00 06 38.5**	**-1.5**
CO02	**Combarbal**	**1.80**	**72**	*i* P	**Pn**	**00 06 40.0**	**-1.6**
CO02				*i* S	**Sn**	**00 07 00.8**	**-2.6**
CO02				IAML		00 07 04.2	
	comp=N,2μm,0.2s						
CO02	**Combarbal**	**1.80**	**72**		**Pn**	**00 06 40.2**	**-1.4**
CO02				Sn	**Sn**	**00 07 01.0**	**-2.4**
CO02	**Combarbal**	**1.80**	**72**	*e*P	**Pn**	**00 06 40.0**	**-1.6**
CO02				*i* S	**Sn**	**00 07 01.2**	**-2.1**
CO02				IAML		00 07 04.2	
	comp=N,2μm,0.2s						
ROCH	**El Roble**	**2.06**	**126**	*i* P	**Pn**	**00 06 44.3**	**-1.1**
ROCH				IAML		00 07 09.2	
	comp=N,452nm,0.4s						
ROCH	**El Roble**	**2.06**	**126**	*i* P	**Pn**	**00 06 44.3**	**-1.1**
ROCH				*i* S	**Sn**	**00 07 08.1**	**-1.9**
ROCH				IAML		00 07 09.2	
	comp=N,449nm,0.4s						
CO03	**El Pedregal**	**2.19**	**65**⇑	*i*P	**Pn**	**00 06 46.0**	**-1.0**
CO03				*i* S	**Sn**	**00 07 11.1**	**-1.7**
CO03				IAML		00 07 12.4	
	comp=N,848nm,0.1s						
CO03	**El Pedregal**	**2.19**	**65**		**Pn**	**00 06 46.0**	**-1.0**
CO03	**El Pedregal**	**2.19**	**65**⇑	*i*P	**Pn**	**00 06 46.0**	**-1.0**
CO03				*i* S	**Sn**	**00 07 11.1**	**-1.7**
CO03				IAML		00 07 12.4	
	comp=N,967nm,0.1s						
VA05	**Santo Domingo**	**2.21**	**148**	*i* P	**Pn**	**00 06 46.2**	**-1.0**
VA05				IAML		00 07 12.7	
	comp=E,725nm,0.3s						
VA05	**Santo Domingo**	**2.21**	**148**		**Pn**	**00 06 46.3**	**-0.8**
VA05	**Santo Domingo**	**2.21**	**148**	*e*P	**Pn**	**00 06 46.1**	**-1.0**
VA05				*i* S	**Sn**	**00 07 11.0**	**-2.3**
VA05				IAML		00 07 12.7	
	comp=E,727nm,0.6s						
VA03	**San Esteban**	**2.30**	**116**⇑	*i*P	**Pn**	**00 06 47.6**	**-0.8**
VA03				*i* S	**Sn**	**00 07 14.0**	**-1.6**
VA03				IAML		00 07 17.0	
	comp=E,645nm,0.2s						
VA03	**San Esteban**	**2.30**	**116**		**Pn**	**00 06 47.6**	**-0.8**
VA03	**San Esteban**	**2.30**	**116**⇑	*i*P	**Pn**	**00 06 47.6**	**-0.8**
VA03				*i* S	**Sn**	**00 07 13.2**	**-2.3**
VA03				IAML		00 07 17.1	
	comp=E,636nm,0.3s						
CO05	**La Serena**	**2.39**	**40**	*i* S	**Sn**	**00 07 15.6**	**-2.2**
CO05				IAML		00 07 18.8	
	comp=E,354nm,0.3s						
CO05	**La Serena**	**2.39**	**40**		**Pn**	**00 06 48.2**	**-1.5**
CO05	**La Serena**	**2.39**	**40**	*e*P	**Pn**	**00 06 48.1**	**-1.5**
CO05				*i* S	**Sn**	**00 07 15.6**	**-2.2**
GO04	**Tololo Observa**	**2.48**	**50**	*e*P	**Pn**	**00 06 49.8**	**-1.3**
GO04				*e*S	**Sn**	**00 07 18.1**	**-2.1**
GO04				IAML		00 07 22.1	
	comp=Z,597nm,0.5s						
GO04	**Tololo Observa**	**2.48**	**50**		**Pn**	**00 06 49.9**	**-1.1**
GO04	**Tololo Observa**	**2.48**	**50**	*i* P	**Pn**	**00 06 49.7**	**-1.3**
GO04				*i* S	**Sn**	**00 07 18.5**	**-1.6**
GO04				IAML		00 07 22.4	
	comp=N,489nm,0.5s						
MT05	**Renca**	**2.50**	**131**	*e*P	**Pn**	**00 06 50.9**	**-0.3**
MT05				*e*S	**Sn**	**00 07 17.1**	**-3.4**
MT05				IAML		00 07 23.7	
	comp=E,418nm,0.2s						
MT05	**Renca**	**2.50**	**131**		**Pn**	**00 06 50.8**	**-0.3**
MT05	**Renca**	**2.50**	**131**	*i* P	**Pn**	**00 06 50.9**	**-0.3**
MT05				IAML		00 07 23.7	
	comp=E,439nm,0.3s						
MT01	**Popeta**	**2.55**	**145**	*i* P	**Pn**	**00 06 50.7**	**-1.1**
MT01				*i* S	**Sn**	**00 07 17.9**	**-3.8**
MT01	**Popeta**	**2.55**	**145**		**Pn**	**00 06 51.0**	**-0.8**
MT01	**Popeta**	**2.55**	**145**	*i* P	**Pn**	**00 06 50.8**	**-1.1**
MT01				*i* S	**Sn**	**00 07 17.9**	**-3.8**
MT01				IAML		00 07 21.3	
	comp=N,236nm,0.3s						
MT09	**Talagante**	**2.62**	**140**	*i* P	**Pn**	**00 06 52.5**	**-0.4**
MT09				IAML		00 07 23.6	
	comp=N,338nm,0.3s						
MT09	**Talagante**	**2.62**	**140**		**Pn**	**00 06 52.8**	**-0.1**
MT09	**Talagante**	**2.62**	**140**	*i* P	**Pn**	**00 06 52.5**	**-0.4**
MT09				*i* S	**Sn**	**00 07 21.1**	**-2.4**
MT09				IAML		00 07 23.6	
	comp=N,333nm,0.3s						
BO03	**Pichilemu**	**2.85**	**162**	*i* P	**Pn**	**00 06 54.8**	**-1.1**
BO03				*i* S	**Sn**	**00 07 24.8**	**-4.2**
BO03				IAML		00 07 27.4	
	comp=E,173nm,0.3s						
BO03	**Pichilemu**	**2.85**	**162**	*i* P	**Pn**	**00 06 54.8**	**-1.1**
BO03				*i* S	**Sn**	**00 07 24.7**	**-4.2**
BO03				IAML		00 07 27.4	
	comp=E,171nm,0.3s						
BO01	**Tunca**	**3.07**	**149**	*i* P	**Pn**	**00 06 58.8**	**-0.1**
BO01				*e*S	**Sn**	**00 07 31.8**	**-2.6**
BO01				IAML		00 07 35.3	
	comp=E,62nm,0.2s						
BO01	**Tunca**	**3.07**	**149**		**Pn**	**00 06 58.5**	**-0.3**
BO01	**Tunca**	**3.07**	**149**	*i* P	**Pn**	**00 06 58.8**	**-0.1**
BO01				*i* S	**Sn**	**00 07 31.8**	**-2.6**
LMEL	**Las Melosas**	**3.13**	**132**	*i* P	**Pn**	**00 07 00.5**	**+0.5**
LMEL				*i* S	**Sn**	**00 07 35.7**	**-0.6**
LMEL				IAML		00 07 37.7	
	comp=N,229nm,0.1s						
LMEL	**Las Melosas**	**3.13**	**132**	*i* P	**Pn**	**00 07 00.5**	**+0.5**
LMEL				*i* S	**Sn**	**00 07 35.6**	**-0.6**
LMEL				IAML		00 07 37.7	
	comp=N,226nm,0.2s						
GO05	**Huala**	**3.35**	**165**	*i* P	**Pn**	**00 07 02.1**	**-0.7**
GO05	**Huala**	**3.35**	**165**	Pn	**Pn**	**00 07 01.9**	**-0.9**
GO05	**Huala**	**3.35**	**165**	*i* P	**Pn**	**00 07 02.0**	**-0.7**
GO05				*i* S	**Sn**	**00 07 37.2**	**-4.2**
GO05				IAML		00 07 44.1	
	comp=N,49nm,0.4s						
LCO	**Las Campanas**	**3.40**	**36**		**Pn**	**00 07 02.7**	**-1.0**
BO02	**Sierra Bellavi**	**3.54**	**149**	*i* P	**Pn**	**00 07 05.5**	**+0.1**
BO02				*e*S	**Sn**	**00 07 43.8**	**-2.3**
BO02				IAML		00 07 48.1	
	comp=E,171nm,0.4s						
BO02	**Sierra Bellavi**	**3.54**	**149**		**Pn**	**00 07 05.4**	**0.0**
BO02	**Sierra Bellavi**	**3.54**	**149**	*i* P	**Pn**	**00 07 05.6**	**+0.1**
BO02				*i* S	**Sn**	**00 07 44.7**	**-1.4**
BO02				IAML		00 07 48.1	
	comp=E,172nm,0.3s						
ZON	**Zonda**	**3.69**	**88**		**Pn**	**00 07 09.7**	**+2.1**
AC04	**Llanos de Chal**	**3.93**	**26**	*e*P	**Pn**	**00 07 09.0**	**-1.8**
AC04				*e*S	**Sn**	**00 07 53.0**	**-2.8**
AC04	**Llanos de Chal**	**3.93**	**26**	Pn	**Pn**	**00 07 09.0**	**-1.8**
AC04	**Llanos de Chal**	**3.93**	**26**	*i* P	**Pn**	**00 07 09.2**	**-1.6**
GO03	**Copiap**	**4.81**	**31**	Pn	**Pn**	**00 07 21.9**	**-1.1**
H03N1	**Juan Fernandez**	**5.25**	**250**	T	T	00 12 53.5	
	baz=71						
H03N3	**Juan Fernandez**	**5.27**	**250**	T	T	00 12 56.4	
	baz=71						
H03N2	**Juan Fernandez**	**5.27**	**250**	T	T	00 12 54.3	
	baz=71						
AC02	**Maricunga**	**5.97**	**35**	Pn	**Pn**	**00 07 38.5**	**-0.8**
LC01	**Cunco**	**7.17**	**173**	Pn	**Pn**	**00 07 54.9**	**-0.3**
PLCA	**Paso Flores**	**9.15**	**168**	Pn	**Pn**	**00 08 23.1**	**+0.6**
	comp=E,0.3nm,0.3s,baz=336,slow=12,SNR=8.7						
LPAZ	**La Paz**	**16.04**	**17**	Pn	**Pn**	**00 09 57.0**	**+0.4**
	comp=E,0.0nm,0.3s,baz=180,slow=9.1,SNR=1.6						
SIV	**San Ignacio**	**19.10**	**37**	P	**Pn**	**00 10 34.7**	**+0.9**

comp=E,0.2nm,0.3s,baz=214,slow=11,SNR=5.4
QSPA South Pole Qui 58.45 180 P **P** **00 16 06.6 +1.5**
QSPA IAmb IAmb 00 16 35.4
comp=Z,4.3nm,1.4s
DBIC Dimbokro 75.26 72 P **P** **00 17 54.5 +1.8**
comp=Z,7.6nm,1.1s,baz=225,slow=4.3,SNR=4.1
TORD Torodi Ar. Bea 84.23 71 P **P** **00 18 42.3 +1.0**
comp=Z,0.2nm,0.6s,baz=238,slow=3.6,SNR=4.2
TORD Torodi Ar. Bea 84.23 71 P **P** **00 18 42.7 +1.5**
TORD IAmb IAmb 00 18 53.6
comp=Z,1.3nm,1.2s
ZALV Zalesovo Beam 152.73 29 PKPbc **PKiKP** **00 26 06.5 +0.8**
comp=Z,0.6nm,0.6s,baz=297,slow=1.3,SNR=3.9

TAP 27 00:13:18.6, 24.02N×121.55E, h40km, ML1.7, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HWA	**Hwalien**	**0.07**	**128**	*e*P		Pn	00 13 25.4	+0.4
	baz=124							
HWA				S		Sn	00 13 29.5	+0.1
	baz=124							
ETM	**Tongmen**	**0.07**	**225**	*e*P		Pn	00 13 25.1	+0.1
	baz=225							
ETM				*e*S		Sn	00 13 30.0	+0.5
	baz=225							
TWD	**Chiawan**	**0.08**	**34**	P		Pn	00 13 24.9	-0.1
	baz=38							
TWD				*i* S		Sn	00 13 30.5	+0.9
	baz=38							
NACB	**Ninganchiao**	**0.16**	**15**	P		Pn	00 13 25.8	-0.3
	baz=15							
NACB				S		Sn	00 13 30.6	-1.0
	baz=15							
ETLH	**Xiulin Townshi**	**0.20**	**342**	*e*P		Pn	00 13 26.3	0.0
	baz=342							
ETLH				*e*S		Sn	00 13 31.7	-0.2
	baz=342							
ESL	**Shilin**	**0.23**	**208**	*i* P		Pn	00 13 26.3	0.0
	baz=205							
ESL				*i* S		Sn	00 13 32.5	+0.6
	baz=205							
WHF	**Hehuan Shan**	**0.29**	**296**	*i* P		Pn	00 13 27.0	-0.2
	baz=296							
WHF				*i* S		Sn	00 13 33.3	-0.1
	baz=296							
EHP	**Heping Village**	**0.34**	**31**	*e*P		Pn	00 13 28.0	+0.8
	baz=32							
EHP				*e*S		Sn	00 13 34.3	+0.8
	baz=32							
CHGB	**Renai**	**0.35**	**277**	P		Pn	00 13 27.6	+0.1
	baz=277							
CHGB				S		Sn	00 13 34.4	+0.4
	baz=277							
OWD	**Renai**	**0.35**	**260**	*e*P		Pn	00 13 27.6	+0.2
	baz=259							
FUSS	**Fushou**	**0.36**	**310**	*e*P		Pn	00 13 27.6	-0.2
	baz=309							
FUSS				*e*S		Sn	00 13 35.0	+0.7
	baz=309							
EGFH	**Guangfu**	**0.36**	**198**	*e*P		Pn	00 13 27.9	+0.4
	baz=197							
EGFH				*e*S		Sn	00 13 35.2	+1.3
	baz=197							
TWT	**Tachien**	**0.41**	**305**	*e*P		Pn	00 13 28.9	+0.5
	baz=303							
TWT				*e*S		Sn	00 13 36.1	+0.9
	baz=303							
TDCB	**Techi**	**0.43**	**303**	*e*S		Sn	00 13 36.4	+1.0
	baz=303							
NNSB	**Datong**	**0.44**	**340**	P		Pn	00 13 28.8	+0.2
	baz=339							
NNSB				S		Sn	00 13 36.4	+0.8
	baz=339							
ENA	**Nanau**	**0.45**	**23**	*e*P		Pn	00 13 28.9	+0.4
	baz=24							
ENA				*e*S		Sn	00 13 36.9	+1.3
	baz=24							
NNS	**Nan Shan**	**0.45**	**339**	*e*P		Pn	00 13 29.1	+0.3
	baz=339							
EWUT	**Wuta**	**0.47**	**26**	*e*P		Pn	00 13 29.8	+0.8
	baz=26							
EWUT				*e*S		Sn	00 13 37.6	+1.4
	baz=26							
HGSD	**Ruisui**	**0.54**	**192**	*e*P		Pn	00 13 29.7	-0.1
	baz=192							
HGSD				*e*S		Sn	00 13 38.5	+0.8
	baz=192							
EHY	**Hungye**	**0.55**	**202**	*e*P		Pn	00 13 30.8	+0.8
	baz=201							
SSLB	**Suanglung**	**0.59**	**247**	*e*P		Pn	00 13 31.5	+0.9
	baz=247							
SSLB				*e*S		Sn	00 13 40.5	+1.4
	baz=247							
WHP	**Taichung City**	**0.61**	**295**	*e*P		Pn	00 13 31.1	+0.3
	baz=295							
WHP				*e*S		Sn	00 13 40.5	+0.9
	baz=295							
NDS	**Dongshan**	**0.63**	**14**	*e*P		Pn	00 13 31.5	+0.4
	baz=13							
NDS				*e*S		Sn	00 13 41.8	+1.7
	baz=13							
YULB	**Yu-li**	**0.66**	**200**	*e*P		Pn	00 13 32.0	+0.5
	baz=200							
YULB				*e*S		Sn	00 13 41.2	+0.4
	baz=200							
EYUL	**Yuli**	**0.70**	**198**	*e*S		Sn	00 13 43.2	+1.6
	baz=197							

JMA 27 00:25:02.6±0.8, 31.81N×142.33E, h0km, M3.9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**3.05**	**339**	P		Pn	00 25 53.9	+2.3
BSO3	**Boso 3**	**3.35**	**333**	P		Pn	00 25 57.4	+1.4
JHU	**Hanno**	**4.76**	**329**	P		Pn	00 26 17.7	+2.1
JHO	**Hitachi**	**5.01**	**344**	P		Pn	00 26 20.3	+1.3
JRY	**Ryogami san**	**5.07**	**327**	P		Pn	00 26 23.0	+3.1
JAG	**Ashikaga**	**5.18**	**333**	P		Pn	00 26 23.7	+2.3
JAG				*e*S		Sn	00 27 24.8	+2.8

*NEIC **27** 00:40:34.9±1.9, 18.93N×107.67W±0.03, h28km±4km, Error ellipse: s-maj=9.7km s-min=3.9km az=182.0*
*OSPL **27** 00:40:34.3±0.3, 19.08N×67.59W, h48km±14km, ML3.8*
*RSPR **27** 00:40:35.1, 19.04N×67.72W, h45km±10km, MD3.6/17*

ISC 27 00:40:32.6±1.5, 19.01N±0.06×67.65W±0.03, h11km±10km, n76, σ0s74/88, 12C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.74**	**136**	⇑*e*P		**Pb**	**00 40 47.9**	**+0.3**
AGPR	**Aguadilla, PR**	**0.74**	**136**	*e*S		**Sb**	**00 40 58.0**	**+0.2**
AGPR	**Aguadilla, PR**	**0.74**	**136**			**Pb**	**00 40 47.8**	**+0.3**
AGPR				Sn		**Sb**	**00 40 57.6**	**-0.1**
AGPR				IAML			00 40 58.3	
	comp=E,5μm,0.5s							
AGPR				IAML			00 40 59.9	
	comp=N,5μm,0.2s							
AGPR	**Aguadilla, PR**	**0.74**	**136**	*i* P		**Pb**	**00 40 47.9**	**+0.3**
AGPR				*e*S		**Sb**	**00 40 57.9**	**+0.2**
AGPR				IAML			00 41 02.2	
	comp=Z,3μm,0.2s							
PCDR	**Punta Cana, DR**	**0.85**	**235**	⇑*e*P		**Pb**	**00 40 50.3**	**+0.9**
PCDR	**Punta Cana, DR**	**0.85**	**235**	*e*S		**Sg**	**00 41 00.2**	**+0.2**
PCDR	**Punta Cana, DR**	**0.85**	**235**			**Pb**	**00 40 50.0**	**+0.8**
PCDR				Sn		**Sg**	**00 41 00.7**	**+0.7**
PCDR				IAML			00 41 05.2	
	comp=N,3μm,0.3s							
PCDR	**Punta Cana, DR**	**0.85**	**235**	*i* P		**Pb**	**00 40 50.2**	**+0.9**
PCDR				IAML			00 41 04.1	
	comp=Z,2μm,0.2s							
PRSN	**Puerto Rico Se**	**0.92**	**148**	⇑*e*P		**Pg**	**00 40 50.4**	**0.0**
PRSN	**Puerto Rico Se**	**0.92**	**148**	*e*S		**Sg**	**00 41 02.3**	**-0.2**
PRSN	**Puerto Rico Se**	**0.92**	**148**			**Pg**	**00 40 50.4**	**0.0**
PRSN						**Sg**	**00 41 02.3**	**-0.2**
LSP	**Las Mesas**	**0.99**	**147**	⇑*e*P		**Pb**	**00 40 51.7**	**-0.1**
LSP	**Las Mesas**	**0.99**	**147**	*e*S		**Sg**	**00 41 03.6**	**-0.9**
AOPR	**Arecibo Observ**	**1.08**	**128**	⇓*e*P		**Pb**	**00 40 53.3**	**0.0**
AOPR	**Arecibo Observ**	**1.08**	**128**	*e*S		**Sb**	**00 41 06.5**	**-0.8**
AOPR	**Arecibo Observ**	**1.08**	**128**			**Pb**	**00 40 52.8**	**-0.4**
AOPR						**Sb**	**00 41 06.2**	**-1.1**
AOPR				IAML			00 41 16.0	
	comp=N,3μm,0.3s							
CRPR	**Cabo Rojo, PR**	**1.12**	**153**	⇑*e*P		**Pb**	**00 40 53.9**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.12**	**153**			**Pb**	**00 40 53.2**	**-0.8**
CRPR						**Sn**	**00 41 09.2**	**-0.4**
CRPR				IAML			00 41 13.8	
	comp=E,2μm,0.3s							
CRPR				IAML			00 41 14.3	
	comp=N,3μm,0.4s							
CRPR	**Cabo Rojo, PR**	**1.12**	**153**	*i* P		**Pb**	**00 40 53.2**	**-0.8**
CRPR				IAML			00 41 13.4	
	comp=Z,2μm,0.2s							
MLPR	**Magueyes Islan**	**1.19**	**151**	⇑*e*P		**Pb**	**00 40 54.8**	**-0.3**
MLPR	**Magueyes Islan**	**1.19**	**151**	*e*S		**Sn**	**00 41 11.3**	**+0.2**
MLPR	**Magueyes Islan**	**1.19**	**151**			**Pb**	**00 40 54.2**	**-0.9**
MLPR						**Sn**	**00 41 11.3**	**+0.2**
MLPR				IAML			00 41 14.1	
	comp=N,2μm,0.4s							
MLPR				IAML			00 41 16.4	
	comp=E,1μm,0.3s							
EMPR	**Esperanza - Ma**	**1.19**	**116**	⇑*e*P		**Pb**	**00 40 55.1**	**0.0**
EMPR	**Esperanza - Ma**	**1.19**	**116**	*e*S		**Sn**	**00 41 11.2**	**-0.1**
EMPR	**Esperanza - Ma**	**1.19**	**116**			**Pb**	**00 40 54.9**	**-0.3**
EMPR						**Sn**	**00 41 11.2**	**-0.1**
GBPR	**Guanica, Bosqu**	**1.26**	**144**	⇑*e*P		**Pb**	**00 40 56.0**	**-0.2**
GBPR				*e*S		**Sg**	**00 41 13.3**	**0.0**
CELP	**Cerrillos**	**1.38**	**132**	⇑*e*P		**Pn**	**00 40 57.7**	**-0.1**
CELP	**Cerrillos**	**1.38**	**132**	*e*S		**Sb**	**00 41 14.7**	**-1.3**
CELP	**Cerrillos**	**1.38**	**132**			**Pn**	**00 40 57.7**	**-0.1**
CELP						**Sb**	**00 41 14.7**	**-1.3**
OBIP	**Obispado Ponce**	**1.38**	**134**	⇑*e*P		**Pn**	**00 40 56.7**	**-1.0**
OBIP	**Obispado Ponce**	**1.38**	**134**	*e*S		**Sn**	**00 41 15.9**	**-0.1**
OBIP	**Obispado Ponce**	**1.38**	**134**			**Pn**	**00 40 56.1**	**-1.7**
OBIP				IAML			00 41 20.1	
	comp=E,2μm,0.4s							
OBIP				IAML			00 41 20.0	
	comp=N,2μm,0.7s							
OBIP	**Obispado Ponce**	**1.38**	**134**			**Sn**	**00 41 15.9**	**-0.1**
GCPR	**Guaynabo City**	**1.64**	**115**	⇓*e*P		**Pn**	**00 41 01.6**	**+0.2**
GCPR	**Guaynabo City**	**1.64**	**115**	*e*S		**Sn**	**00 41 22.0**	**-0.5**
GCPR	**Guaynabo City**	**1.64**	**115**			**Sn**	**00 41 01.1**	**-0.3**
GCPR	**Guaynabo City**	**1.64**	**115**			**Sn**	**00 41 22.0**	**-0.5**
DR12	**Loma Pena Alta**	**1.65**	**263**			**Pn**	**00 41 02.7**	**+1.2**
SJG	**San Juan**	**1.68**	**122**			**Pn**	**00 41 02.1**	**+0.2**
SJG				IAML			00 41 28.1	
	comp=N,1μm,0.3s							
SJG				IAML			00 41 28.8	
	comp=N,1μm,0.3s							
SJG	**San Juan**	**1.68**	**122**	*e*P		**Pn**	**00 41 01.7**	**-0.2**
IGPR	**InterUniversit**	**1.80**	**125**	⇓*e*P		**Pn**	**00 41 04.0**	**+0.5**
IGPR	**InterUniversit**	**1.80**	**125**	*e*S		**Sn**	**00 41 26.5**	**+0.2**
IGPR	**InterUniversit**	**1.80**	**125**			**Sn**	**00 41 26.5**	**+0.2**
PDPR	**Patillas Dam,**	**1.83**	**122**			**Pn**	**00 41 04.4**	**+0.4**
PDPR				IAML			00 41 35.2	
	comp=E,601nm,0.5s							
CBYP	**Canovanas**	**1.85**	**113**	⇑*e*P		**Pn**	**00 41 04.8**	**+0.4**
CBYP	**Canovanas**	**1.85**	**113**	*e*S		**Sn**	**00 41 27.2**	**-0.7**
CBYP	**Canovanas**	**1.85**	**113**			**Pn**	**00 41 04.8**	**+0.4**
CBYP						**Sn**	**00 41 27.2**	**-0.7**
HUMP	**Col San Antoni**	**1.92**	**116**	⇓*e*P		**Pn**	**00 41 05.6**	**+0.5**
HUMP	**Col San Antoni**	**1.92**	**116**	*e*S		**Sn**	**00 41 28.7**	**-0.6**
HUMP	**Col San Antoni**	**1.92**	**116**			**Pn**	**00 41 05.6**	**+0.5**
HUMP						**Sn**	**00 41 28.7**	**-0.6**
HUMP	**Col San Antoni**	**1.92**	**116**	IAML			00 41 34.4	
	comp=E,812nm,0.2s							
HUMP				IAML			00 41 41.2	
	comp=N,609nm,0.4s							
MTP	**Monte Pirata**	**2.19**	**114**	⇓*e*P		**Pn**	**00 41 09.2**	**+0.3**
MTP	**Monte Pirata**	**2.19**	**114**	*e*S		**Sn**	**00 41 35.9**	**-0.1**
MTP	**Monte Pirata**	**2.19**	**114**			**Pn**	**00 41 09.2**	**+0.3**
MTP						**Sn**	**00 41 35.9**	**-0.1**
MTP	**Monte Pirata**	**2.19**	**114**	IAML			00 41 50.1	
	comp=E,386nm,0.3s							
CUPR	**Culebra, Puert**	**2.35**	**107**	⇑*e*P		**Pn**	**00 41 11.6**	**+0.5**
CUPR	**Culebra, Puert**	**2.35**	**107**	*e*S		**Sn**	**00 41 39.5**	**-0.6**
CUPR	**Culebra, Puert**	**2.35**	**107**			**Pn**	**00 41 11.6**	**+0.5**
CUPR						**Sn**	**00 41 39.5**	**-0.6**
BANI	**BANI**	**2.64**	**257**	Pn		**Pn**	**00 41 13.3**	**-1.8**
STVI	**Saint Thomas**	**2.64**	**104**	⇓*e*P		**Pn**	**00 41 16.2**	**+1.1**
STVI	**Saint Thomas**	**2.64**	**104**	*e*S		**Sn**	**00 41 47.3**	**+0.2**
STVI	**Saint Thomas**	**2.64**	**104**			**Pn**	**00 41 16.1**	**+1.0**
STVI	**Saint Thomas**	**2.64**	**104**			**Sn**	**00 41 47.3**	**+0.2**
SC01	**Santiago de lo**	**2.93**	**279**			**Pn**	**00 41 19.5**	**+0.4**
SC01				IAML			00 42 19.0	
	comp=E,480nm,0.6s							
SC01				IAML			00 42 23.0	
	comp=N,452nm,1.1s							
CDVI	**St. Croix**	**3.01**	**114**			**Pn**	**00 41 21.4**	**+1.2**
ABVI	**Anegada Island**	**3.16**	**95**	Pn		**Pn**	**00 41 23.4**	**+1.2**
SDDR	**Presa de Saban**	**3.44**	**270**	*e*P		**Pb**	**00 41 31.3**	**-2.3**
GRTK	**Grand Turk**	**4.11**	**308**	Pn		**Pn**	**00 41 34.9**	**-0.4**
GRTK				IAML			00 43 43.5	
	comp=N,128nm,0.1s							
GRTK				IAML			00 43 53.5	
	comp=N,170nm,0.1s							
SMRT	**St. Maarten**	**4.45**	**102**	Pn		**Pn**	**00 41 41.8**	**+1.8**
SMRT				IAML			00 42 39.9	
	comp=N,106nm,0.3s							
SMRT				IAML			00 42 47.1	
	comp=E,84nm,0.3s							
BIM	**Bigot**	**7.73**	**124**	Pn		**Pn**	**00 42 26.3**	**+1.2**
URIC	**Uribia, Colomb**	**8.38**	**211**	Pn		**Pn**	**00 42 33.5**	**-0.5**
URIC	**Uribia, Colomb**	**8.38**	**211**	*e*P		**Pn**	**00 42 33.8**	**-0.3**
CRJC	**Cerrejon, Guaj**	**9.41**	**213**	*e*P		**Pn**	**00 42 46.7**	**-1.5**
SOCV	**Socops**	**11.11**	**197**	*e*P		**Pn**	**00 43 12.8**	**+1.4**
RUSC	**La Rusia**	**14.07**	**203**	Pn		**Pn**	**00 43 53.3**	**+0.9**
BCIP	**Isla Barro Col**	**15.33**	**232**			**Pn**	**00 44 08.8**	**-0.3**

MEX 27 01:01:01.8±1.1, 16.51N×96.00W, h69km±19km, MD3.9, Oaxaca

*IDC **27** 01:13:28.6±3.6, 36.43N×70.88E, h91km±31km, mb3.5/9, mb1 3.5/15, mb1mx3.3/48, mbtmp3.8/15, MS3.0/1, Ms1 3.0/1, ms1mx2.1/36, Error ellipse: s-maj=28.8km s-min=22.5km az=171.0*
*MOS **27** 01:13:29.6±0.7, 36.47N×71.09E, h127km, mb4.3/5, Error ellipse: s-maj=13.5km s-min=6.2km az=87.8*
*NEIC **27** 01:13:30.8±1.5, 36.49N±0.03×71.08E±0.08, h122km±7km, mb4.0/12, Error ellipse: s-maj=10.2km s-min=2.1km az=69.0*
*NNC **27** 01:13:32.2±1.8, 36.71N×70.92E, h105km±21km, mb3.5, mpv4.1, Error ellipse: s-maj=15.7km s-min=8.5km az=158.0*

ISC 27 01:13:30.8±0.5, 36.45N±0.05×71.21E±0.05, h150km, n92, σ2s41/97, mb3.8/10, 9C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBL	**Kabul**	**2.60**	**223**	PN		**Pn**	**01 14 11.8**	**-1.6**
KBL	**Kabul**	**2.60**	**223**	Pn		**Pn**	**01 14 11.8**	**-1.6**
GAR	**Garm**	**2.64**	**345**			**Pn**	**01 14 12.3**	**-1.4**
CHGR	**Chuyangaron**	**2.74**	**324**			**Pn**	**01 14 12.6**	**-2.3**
DRK	**Karamyk**	**3.06**	**9**			**Pn**	**01 14 17.9**	**-1.2**
DRK						**Sn**	**01 14 52.5**	**-4.1**
NIL	**Nilore**	**3.26**	**148**	PN		**Pn**	**01 14 21.2**	**-0.3**
NIL	**Nilore**	**3.26**	**148**	Pn		**Pn**	**01 14 21.2**	**-0.3**
BTK	**Batken**	**3.61**	**355**	PN		**Pn**	**01 14 25.4**	**-0.6**
BTK	**Batken**	**3.61**	**355**	Pn		**Pn**	**01 14 25.4**	**-0.6**
DHRM	**DHARAMSHALA**	**5.94**	**133**	*e*PG		**Pn**	**01 14 55.9**	**-1.0**
DHRM				*e*SG		**Sn**	**01 15 57.8**	**-6.4**
DHRM				IAML			01 16 02.4	
	comp=E,175nm,0.2s							
DHRM				IAML			01 16 03.7	
	comp=N,150nm,0.7s							
AML	**Almayashu**	**5.99**	**18**	P		**Pn**	**01 14 57.2**	**-0.4**
	SNR=13							
UCH	**Uchtor**	**6.31**	**23**	P		**Pn**	**01 15 01.6**	**-0.4**
	SNR=8.4							
EKS2	**Erkin-Say**	**6.51**	**17**	P		**Pn**	**01 15 05.0**	**+0.6**
	SNR=11							
KK31	**Karatay Array**	**6.66**	**356**	⇑P		**Pn**	**01 15 05.2**	**-1.1**
KK31	comp=N,10nm,0.3s,baz=178,slow=12,SNR=174			⇓S		**Sn**	**01 16 16.1**	**-5.0**
	comp=N,6.7nm,0.3s,baz=190,slow=24,SNR=7.2							
KK31	**Karatay Array**	**6.66**	**356**	PN		**Pn**	**01 15 05.3**	**-1.0**
KK31	**Karatay Array**	**6.66**	**356**	Pn		**Pn**	**01 15 05.3**	**-1.0**
KKAR	**Karatay Array**	**6.66**	**356**	PN		**Pn**	**01 15 05.0**	**-1.3**
KKAR	**Karatay Array**	**6.66**	**356**			**Pn**	**01 15 05.0**	**-1.3**
KKAR	**Karatay Array**	**6.66**	**356**	Pn		**Pn**	**01 15 05.0**	**-1.3**
AAK	**Ala-Archa**	**6.68**	**21**	P		**Pn**	**01 15 06.7**	**+0.1**
AAK	comp=N,3.3nm,0.3s,baz=188,slow=6.4,SNR=29			S		**Sn**	**01 16 17.8**	**-3.9**
	comp=N,2.8nm,0.3s,baz=350,slow=21,SNR=12							
AAK	**Ala-Archa**	**6.68**	**21**	P		**Pn**	**01 15 07.2**	**+0.6**
	SNR=10							
AAK	**Ala-Archa**	**6.68**	**21**	⇑P		**Pn**	**01 15 06.8**	**+0.1**
	comp=N,3.7nm,0.3s							
AAK				⇑S		**Sn**	**01 16 18.1**	**-3.5**
	comp=N,46nm,1.1s							
FRU1	**Bishkek**	**6.87**	**22**	PN		**Pn**	**01 15 09.8**	**+0.7**
FRU1	**Bishkek**	**6.87**	**22**	Pn		**Pn**	**01 15 09.8**	**+0.7**
USP	**Ospenovka**	**7.26**	**19**	P		**Pn**	**01 15 14.3**	**0.0**
	SNR=5.3							
SMLA	**Simla**	**7.26**	**135**	*e*P		**Pn**	**01 15 11.9**	**-2.5**
SMLA				*e*PG		**Pn**	**01 15 12.6**	**-1.8**
SMLA				*e*S		**Sn**	**01 16 27.1**	**-8.5**
SMLA				IAML			01 16 35.9	
	comp=N,43nm,0.4s							
TKM2	**Tokmak 2**	**7.29**	**26**	P		**Pn**	**01 15 15.0**	**+0.2**
	SNR=6.0							
TKM2	**Tokmak 2**	**7.29**	**26**	⇑P		**Pn**	**01 15 13.9**	**-0.9**
	comp=N,4.5nm,0.6s							
TKM2				⇑S		**Sn**	**01 16 35.4**	**-1.0**
	comp=N,7.2nm,0.8s							
HRA	**Herat**	**7.60**	**257**	Pn		**Pn**	**01 15 15.6**	**-3.5**
KUDL	**Kundal**	**9.41**	**150**	*e*PG		**Pn**	**01 15 39.8**	**-3.1**
KUDL				*i* x		x	01 15 41.2	
KUDL				*e*SG		Sn	01 17 15.6	-12
GEYT	**Alibeck**	**10.55**	**282**	P		**Pn**	**01 15 54.4**	**-3.7**
	baz=102,slow=14,SNR=0.4							
GEYT				S		Sn	01 17 43.3	-11
	comp=N,6.1nm,0.3s,baz=110,slow=21,SNR=2.1							
GYA0B	**ALIBECK ARRAY**	**10.55**	**282**	⇑P		**Pn**	**01 15 55.4**	**-2.7**
GYA0B				⇑S		**Sn**	**01 17 49.7**	**-5.0**
GYA0B	**ALIBECK ARRAY**	**10.55**	**282**	Pn		**Pn**	**01 15 57.1**	**-0.9**
PYUN	**Piuthan**	**12.98**	**127**	*e*P		**Pn**	**01 16 27.2**	**-2.8**
	comp=N,22nm,0.3s							
MAKZ	**Makanchi**	**13.10**	**34**	⇓P		**Pn**	**01 16 32.6**	**+1.5**
	comp=N,2.5nm,1.1s							
MK31	**Makanchi Array**	**13.23**	**35**	⇓P		**Pn**	**01 16 34.1**	**+1.3**
	comp=N,2.1nm,0.9s,baz=195,slow=18,SNR=8.6							
MKAR	**Makanchi Array**	**13.23**	**35**	P		**Pn**	**01 16 33.3**	**+0.5**
	comp=N,0.0nm,0.3s,baz=222,slow=12,SNR=2.5							
MKAR	**Makanchi Array**	**13.23**	**35**	Pn		**Pn**	**01 16 33.5**	**+0.7**
DANN	**Dangsing**	**13.32**	**124**	*e*P		**Pn**	**01 16 31.7**	**-2.7**
	comp=N,30nm,0.3s							
KOLN	**Koldanda**	**13.60**	**126**	*e*P		**Pn**	**01 16 35.6**	**-2.3**
	comp=N,8.1nm,0.3s							
GKN	**Gorkha**	**14.14**	**123**	*e*P		**Pn**	**01 16 42.6**	**-2.0**
	comp=N,27nm,0.4s							
DMN	**Daman**	**14.71**	**123**	*e*P		**Pn**	**01 16 50.6**	**-1.2**
	comp=N,15nm,0.4s							
KKN	**Kakani**	**14.71**	**122**	*e*P		**Pn**	**01 16 49.8**	**-2.0**
	comp=N,26nm,0.5s							
PKIN	**Phulchoki**	**14.93**	**122**	*e*P		**Pn**	**01 16 53.5**	**-1.1**
	comp=N,23nm,0.4s							
PKI	**Pulchoki**	**14.94**	**122**	*e*P		**Pn**	**01 16 53.3**	**-1.5**
	comp=N,20nm,0.4s							
KURBB	**Kurchatov Arra**	**15.11**	**18**	P		**P**	**01 16 58.5**	**+0.5**
	comp=N,0.1nm,0.3s,baz=208,slow=9.4,SNR=5.4							
AB31	**Akbulak array**	**15.21**	**331**	P		**Pn**	**01 16 57.1**	**-0.5**
	comp=N,3.7nm,0.3s,baz=138,slow=13,SNR=220							
AB31				S		**Sn**	**01 19 39.2**	**-7.2**
	comp=N,0.9nm,0.4s,baz=150,slow=22,SNR=5.1							
ABKAR	**Akbulak array**	**15.21**	**331**	Pn		**Pn**	**01 16 57.0**	**-0.6**
KURK	**Kurchatov**	**15.22**	**18**	P		**P**	**01 16 58.5**	**-0.7**
KURK	**Kurchatov**	**15.22**	**18**	P		**P**	**01 16 58.5**	**-0.7**
JIRN	**Jiri**	**15.42**	**120**	*e*P		**Pn**	**01 16 59.8**	**-1.0**
	comp=N,33nm,0.3s							
RAMN	**Ramite**	**16.15**	**122**	*e*P		**P**	**01 17 08.6**	**-1.4**
	comp=N,15nm,0.3s							
BVAR	**Borovoye Array**	**16.58**	**358**	P		**Pn**	**01 17 14.9**	**+0.5**
	comp=N,0.4nm,0.3s,baz=172,slow=12,SNR=12							
BRVK	**Borovoye**	**16.62**	**358**	⇑P		**Pn**	**01 17 17.5**	**+2.7**
	comp=N,1.6nm,0.5s							
BRVK	**Borovoye**	**16.62**	**358**	P		**Pn**	**01 17 15.4**	**+0.6**
BRVK				pmax		pmax		
	comp=Z,3.0nm,0.5s							
BRVK	**Borovoye**	**16.62**	**358**			**Pn**	**01 17 15.4**	**+0.6**
BRVK				IAmb		IAmb	01 17 20.7	
	comp=Z,2.8nm,0.5s							
TAPN	**Taplejung**	**16.68**	**118**	*e*P		**Pn**	**01 17 16.3**	**+0.2**
	comp=Z,39nm,0.5s							
ODAN	**Odare**	**16.75**	**120**	*e*P		**Pn**	**01 17 16.4**	**-0.5**
	comp=Z,13nm,0.4s							
AKTO	**Aktyubinsk**	**16.90**	**330**	P		**Pn**	**01 17 17.8**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=138,slow=7.4,SNR=17							
AKTO	**Aktyubinsk**	**16.90**	**330**	⇓P		**Pn**	**01 17 19.7**	**+1.4**
	comp=Z,5.2nm,0.8s							
AKTO				⇓S		**S**	**01 20 22.5**	**-3.5**
	comp=Z,1.8nm,0.6s							
WSAR	**Wadi Sarin**	**17.08**	**223**	LR		LR	01 24 35.7

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVX	**San Vicente**	**0.50**	**294**	*eP*	**Pb**	**01 14 23.2**	**+0.6**
SVX				*eS*	**Sb**	**01 14 29.7**	**+0.1**
SFX	**San Felipe**	**0.75**	**96**⇑	*eP*	**Pn**	**01 14 27.4**	**+0.2**
SFX				*eS*	**Sb**	**01 14 37.0**	**+0.4**
SFX				IAML		01 14 38.6	
	comp=N,2μm,0.3s						
SFX				*e*		01 14 38.6	
SFX				IAML		01 14 39.0	
	comp=E,718nm,0.2s						
CCX	**Cicese**	**1.10**	**313**	*eP*	**Pb**	**01 14 32.3**	**-0.4**
CCX				*eS*	**Sb**	**01 14 46.3**	**-0.3**
CPBX	**Cerro Prieto**	**1.34**	**15**⇑	*e*	Sg	01 14 56.1	
CPBX				IAML		01 14 56.1	
	comp=E,3μm,0.5s						
MBIG	**Mexicali**	**1.35**	**19**	*eP*	**Pn**	**01 14 35.9**	**+0.3**
MBIG				*eP*	**Pb**	**01 14 36.7**	**-0.3**
MBIG				*eS*	**Sn**	**01 14 52.4**	**-0.2**
MBIG				*eS*	**Sb**	**01 14 53.2**	**-0.7**
CBX	**Cerro Bola**	**1.43**	**326**	*eP*	**Pn**	**01 14 37.2**	**+0.4**
CBX				*eS*	**Sn**	**01 14 54.1**	**-0.8**
CBX	**Cerro Bola**	**1.43**	**326**	*eP*	**Pn**	**01 14 37.5**	**+0.6**
CBX				*eS*	**Sn**	**01 14 55.3**	**+0.4**
CBX				⇓*e*		01 14 57.8	
CBX				IAML		01 14 57.8	
	comp=N,493nm,0.3s						
RMX	**La Rumorosa**	**1.50**	**348**	*eP*	**Pn**	**01 14 37.1**	**-0.7**
RMX				*eS*	**Sn**	**01 14 54.5**	**-2.2**
YUH2	**Yuha Desert**	**1.53**	**353**	*eP*	**Pn**	**01 14 38.4**	**+0.5**
YUH2				*eS*	**Sn**	**01 14 56.7**	**-0.3**
TJIG	**Tijuana**	**1.54**	**328**	*i* P	**Pn**	**01 14 39.0**	**+0.9**
TJIG				*eS*	**Sn**	**01 14 57.0**	**-0.3**
TJIG	**Tijuana**	**1.54**	**328**	*eP*	**Pn**	**01 14 39.1**	**+0.9**
IKP	**In-Ko-Pah, Jac**	**1.56**	**348**	*i* S	**Sn**	**01 14 57.6**	**-0.3**
IKP	**In-Ko-Pah, Jac**	**1.56**	**348**	P	**Pb**	**01 14 39.6**	**-1.0**
	baz=168,SNR=60						
IKP				S	**Sn**	**01 14 57.4**	**-0.4**
	baz=168						
WESC	**Westside Schoo**	**1.63**	**360**	*eP*	**Pn**	**01 14 39.9**	**+0.5**
BAR	**Barrett**	**1.75**	**333**	*eP*	**Pb**	**01 14 42.5**	**-1.4**
BAR				*eS*	**Sb**	**01 15 03.7**	**-1.7**
SWSC	**Sam W. Stewart**	**1.82**	**358**	P	**Pb**	**01 14 44.2**	**-0.7**
	baz=178,SNR=20						
SWSC				S	**Sb**	**01 15 06.4**	**-0.9**
	baz=178						
MONP2	**Monument Peak**	**1.86**	**341**	P	**Pb**	**01 14 44.9**	**-1.0**
	baz=161,SNR=72						
MONP2				S	**Sn**	**01 15 06.8**	**+1.3**
	baz=161						
EML	**El Monte Cty P**	**2.00**	**332**	*eP*	**Pb**	**01 14 46.6**	**-1.6**
GLA	**Glamis**	**2.06**	**21**	P	**Pn**	**01 14 44.9**	**-0.5**
	baz=203,SNR=11						
GLA				S	**Sb**	**01 15 13.5**	**-0.9**
	baz=203						
109C	**Camp Elliot, M**	**2.12**	**326**	P	**Pb**	**01 14 48.8**	**-1.3**
	baz=145,SNR=11						
109C				S	**Sb**	**01 15 14.4**	**-1.5**
	baz=145						
BC3	**Big Chuckawall**	**2.53**	**5**	P	**Pn**	**01 14 53.2**	**+1.3**
	baz=186,SNR=11						
PFO	**Pinyon Flats O**	**2.56**	**346**	Pb	**Pb**	**01 14 58.0**	**+0.3**
	baz=166,SNR=13						
PFO				Sb	**Sb**	**01 15 28.2**	**-0.5**
	baz=166						
214A	**Organ Pipe Nat**	**2.61**	**71**	*eP*	**Pn**	**01 14 53.1**	**+0.2**
214A				*eS*	**Sn**	**01 15 23.2**	**-0.7**
214A	**Organ Pipe Nat**	**2.61**	**71**	P	**Pn**	**01 14 53.2**	**+0.2**
	baz=254						
MURC	**Murrieta**	**2.77**	**333**	P	**Pb**	**01 14 59.2**	**-2.0**
	baz=152,SNR=8.6						
MURC				Sb	**Sb**	**01 15 33.3**	**-1.3**
	baz=152						
BFSC	**Mount Baldy Ra**	**3.51**	**333**	Pb	**Pb**	**01 15 12.3**	**-1.6**
	baz=151						
BFSC				Sb	**Sb**	**01 15 54.8**	**-1.3**
	baz=151						
EDW2	**Edwards Air Fo**	**4.21**	**334**	Sb	**Sb**	**01 16 16.7**	**+0.7**
	baz=152						
GSC	**Goldstone, Bar**	**4.26**	**348**	Pb	**Pb**	**01 15 29.0**	**+2.3**
	baz=167,SNR=9.3						
GSC				Sb	**Sb**	**01 16 21.3**	**+3.5**
	baz=167						
MPMC	**Manual Prospec**	**5.14**	**344**	Pg	Pb	01 15 47.2	+5.5
	baz=163						
MPMC				Sb	**Sb**	**01 16 49.8**	**+6.8**
	baz=163						

*KRNET **27** 01:27:34.7±0.1, 42°.80N×79°.33E, h15km, mb3.2*
*NNC **27** 01:27:35.2±0.3, 42°.83N×79°.34E, h0km, mb3.5, mpv3.3,*
Error ellipse: s-maj=2.0km s-min=0.8km az=145.0
*SOME **27** 01:27:35.1, 42°.77N×79°.33E, h15km*
ISC 27 01:27:36.0±0.9, **42°.82N**±0°.03×**79°.30E**±0°.02, **h10**km, **n72,**
σ1$43/122, 32C-17D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.36**	**19**⇓	*eP*	**Pb**	**01 27 45.6**	**+1.0**
	baz=48						
SHLS				⇓*e*S	**Sb**	**01 27 52.9**	**+2.5**
	baz=48						
SHLS	**Shalkode**	**0.36**	**19**⇓	*e*P	**Pb**	**01 27 45.6**	**+1.0**
	79nm,0.2s						
SHLS				*e*S	**Sb**	**01 27 52.9**	**+2.5**
	227nm,0.2s						
SHLS	**Shalkode**	**0.36**	**19**	P	**Pb**	**01 27 45.6**	**+1.0**
	79nm,0.2s						
SHLS				S	**Sb**	**01 27 52.9**	**+2.5**
	227nm,0.2s						
PDGK	**Podgornoye**	**0.53**	**15**	P	**Pg**	**01 27 45.3**	**-1.1**
	9.1nm,0.2s						
PDGK				S	**Sg**	**01 27 52.5**	**-0.9**
	82nm,0.3s						
PDGK	**Podgornoye**	**0.53**	**15**	⇓P	**Pg**	**01 27 45.1**	**-1.3**
	15nm,0.6s						
PDGK				⇓S	**Sg**	**01 27 52.6**	**-0.9**
	67nm,0.3s						
SATY	**Saty**	**0.70**	**291**⇑	*i*P	**Pg**	**01 27 49.2**	**-0.4**
	baz=91						
SATY				⇓*i*S	**Sb**	**01 27 59.3**	**-0.8**
	baz=91						
SATY	**Saty**	**0.70**	**291**⇑	*i*P	**Pg**	**01 27 49.2**	**-0.4**
	5.7nm,0.1s						
SATY				⇓*i*S	**Sb**	**01 27 59.3**	**-0.8**
	76nm,0.2s						
SATY	**Saty**	**0.70**	**291**	P	**Pg**	**01 27 49.2**	**-0.4**
	19nm,0.3s						
SATY				S	**Sb**	**01 27 59.3**	**-0.8**
	83nm,0.1s						
PRZ	**Przheval'sk**	**0.74**	**244**⇑	*i*P	**Pg**	**01 27 49.2**	**-1.1**
	baz=47						
PRZ				⇑*i*S	**Sg**	**01 27 59.2**	**-0.9**
	baz=47						
KPKS	**Kokpek**	**0.79**	**326**	*eP*	**Pg**	**01 27 50.6**	**-0.7**
	baz=25						
KPKS				*eS*	**Sb**	**01 28 01.9**	**-0.9**
	baz=25						
KPKS	**Kokpek**	**0.79**	**326**	*eP*	**Pg**	**01 27 50.6**	**-0.7**
	44nm,0.1s						
KPKS				*eS*	**Sb**	**01 28 01.8**	**-0.9**
	212nm,0.2s						
KTMS	**Ketmen**	**1.00**	**50**	*eP*	**Pg**	**01 27 53.4**	**-1.8**
	baz=49						
KTMS				*eS*	**Sg**	**01 28 06.5**	**-1.6**
	baz=49						
KTMS	**Ketmen**	**1.00**	**50**	*eP*	**Pg**	**01 27 53.4**	**-1.8**
	0.2nm,0.0s						
KTMS				*eS*	**Sg**	**01 28 06.5**	**-1.6**
	16nm,0.2s						
KTMS	**Ketmen**	**1.00**	**50**	P	**Pg**	**01 27 53.4**	**-1.8**
	0.2nm,0.0s						
KTMS				S	**Sg**	**01 28 06.5**	**-1.6**
	16nm,0.2s						
KURS	**Kuram**	**1.07**	**310**	*eP*	**Pg**	**01 27 55.8**	**-0.7**
	baz=9.0						
KURS				*eS*	**Sn**	**01 28 10.5**	**-1.4**
	baz=9.0						
KURS	**Kuram**	**1.07**	**310**	*eP*	**Pg**	**01 27 55.8**	**-0.7**
	4.7nm,0.3s						
KURS				*eS*	**Sn**	**01 28 10.6**	**-1.4**
	9.8nm,0.3s						
KURS	**Kuram**	**1.07**	**310**	P	**Pg**	**01 27 55.8**	**-0.7**
	4.7nm,0.3s						
KURS				S	**Sn**	**01 28 10.6**	**-1.4**
	9.8nm,0.3s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANVS	**Anan'yevo**	**1.20**	**269**⇑	*i*P	**Pb**	**01 27 58.5**	**-0.5**
	baz=70						
ANVS				⇑*i*S	**Sn**	**01 28 15.3**	**-0.2**
	baz=70						
TARG	**Taragay, Kyrgy**	**1.55**	**226**⇑	*i*P	**Pn**	**01 28 03.6**	**-0.5**
	baz=27						
TARG				⇑*i*S	**Sn**	**01 28 24.0**	**-0.5**
	baz=27						
DJR	**Jarkent**	**1.56**	**13**	*eP*	**Pn**	**01 28 03.8**	**-0.1**
	16nm,0.1s						
DJR				*eS*	**Sb**	**01 28 24.3**	**-0.5**
	60nm,0.2s						
DJR	**Jarkent**	**1.56**	**13**	P	**Pn**	**01 28 03.7**	**-0.1**
	16nm,0.1s						
DJR				S	**Sb**	**01 28 24.3**	**-0.5**
	60nm,0.2s						
KOTS	**Kotyrbulak**	**1.66**	**285**	*eP*	**Pb**	**01 28 06.4**	**-0.3**
	baz=86						
KOTS				*eS*	**Sg**	**01 28 28.9**	**-0.4**
	baz=86						
KOTS	**Kotyrbulak**	**1.66**	**285**	*eP*	**Pb**	**01 28 06.4**	**-0.3**
	17nm,0.2s						
KOTS				*eS*	**Sg**	**01 28 28.9**	**-0.4**
	54nm,0.3s						
KOTS	**Kotyrbulak**	**1.66**	**285**	P	**Pb**	**01 28 06.4**	**-0.3**
	17nm,0.2s						
KOTS				S	**Sg**	**01 28 28.9**	**-0.4**
	54nm,0.3s						
MDOK	**Medeo**	**1.69**	**283**	*eP*	**Pb**	**01 28 06.7**	**-0.5**
	baz=83						
MDOK				*eS*	**Sg**	**01 28 29.4**	**-0.9**
	baz=83						
MDOK	**Medeo**	**1.69**	**283**	*eP*	**Pb**	**01 28 06.7**	**-0.5**
	10nm,0.2s						
MDOK				*eS*	**Sg**	**01 28 29.4**	**-0.9**
	20nm,0.2s						
MDOK	**Medeo**	**1.69**	**283**	P	**Pb**	**01 28 06.4**	**-0.8**
	5.9nm,0.4s						
MDOK				⇑S	**Sg**	**01 28 29.6**	**-0.7**
	12nm,0.4s						
MDOK	**Medeo**	**1.69**	**283**	Pg	**Pb**	**01 28 06.7**	**-0.5**
	10nm,0.2s						
MDOK				Lg	Lg	01 28 29.4	
	20nm,0.2s						
KDJ	**Kajisay**	**1.71**	**247**⇑	*i*P	**Pn**	**01 28 06.9**	**+0.9**
	baz=48						
KDJ				⇑*i*S	**Sb**	**01 28 29.8**	**+0.5**
	baz=48						
TNSS	**Tian-Shan**	**1.74**	**278**⇓	*i*P	**Pb**	**01 28 08.1**	**-0.2**
	baz=79						
TNSS				⇓*e*S	**Sg**	**01 28 31.9**	**-0.2**
	baz=79						
TNSS	**Tian-Shan**	**1.74**	**278**⇓	*i*P	**Pb**	**01 28 08.1**	**-0.2**
	6.3nm,0.2s						
TNSS				*eS*	**Sg**	**01 28 31.9**	**-0.2**
	7.9nm,0.2s						
TNSS	**Tian-Shan**	**1.74**	**278**	P	**Pb**	**01 28 08.1**	**-0.2**
	6.3nm,0.2s						
TNSS				S	**Sg**	**01 28 31.9**	**-0.2**
	7.9nm,0.2s						
CHKK	**Chushkaly**	**1.98**	**302**⇑	*i*P	**Pb**	**01 28 11.9**	**-0.3**
	baz=3.0						
CHKK				⇑*e*S	**Sg**	**01 28 38.3**	**-1.4**
	baz=3.0						
CHKK	**Chushkaly**	**1.98**	**302**⇑	*i*P	**Pb**	**01 28 11.9**	**-0.3**
	11nm,0.2s						
CHKK				*eS*	**Sg**	**01 28 38.3**	**-1.4**
	38nm,0.2s						
CHKK	**Chushkaly**	**1.98**	**302**	Pg	**Pb**	**01 28 11.9**	**-0.3**
	11nm,0.2s						
CHKK				Lg	Lg	01 28 38.3	
	38nm,0.2s						
IZV	**Izvestkoviy**	**1.99**	**277**	*eP*	**Pb**	**01 28 12.4**	**+0.1**
	baz=78						
IZV				*eS*	**Sg**	**01 28 39.1**	**-0.7**
	baz=78						
IZV	**Izvestkoviy**	**1.99**	**277**	*eP*	**Pb**	**01 28 12.4**	**+0.1**
	14nm,0.2s						
IZV				*eS*	**Sg**	**01 28 39.1**	**-0.7**
	46nm,0.3s						
IZV	**Izvestkoviy**	**1.99**	**277**	Pg	**Pb**	**01 28 12.4**	**+0.1**
	14nm,0.2s						
IZV				Lg	Lg	01 28 39.2	
	46nm,0.3s						
KTBS	**Karatobe**	**2.11**	**296**	*eP*	**Pb**	**01 28 14.3**	**-0.1**
	16nm,0.2s						
KTBS				*eS*	**Sg**	**01 28 42.7**	**-1.2**
	34nm,0.3s						
KTBS	**Karatobe**	**2.11**	**296**	Pg	**Pb**	**01 28 14.3**	**-0.1**
	16nm,0.2s						
KTBS				Lg	Lg	01 28 42.7	
	34nm,0.3s						
MTBS	**Maitube**	**2.13**	**279**	*eP*	**Pb**	**01 28 15.1**	**+0.4**
	14nm,0.3s						
MTBS				*eS*	**Sg**	**01 28 43.8**	**-0.6**
	31nm,0.3s						
MTBS	**Maitube**	**2.13**	**279**	Pg	**Pb**	**01 28 15.1**	**+0.4**
	14nm,0.3s						
MTBS				Lg	Lg	01 28 43.8	
	31nm,0.3s						
TDK	**Taldyqorghan**	**2.28**	**344**	*eP*	**Pb**	**01 28 16.8**	**-0.5**
	50nm,0.3s						
TDK				*eS*	**Sg**	**01 28 46.7**	**-2.5**
	63nm,0.3s						
TDK	**Taldyqorghan**	**2.28**	**344**	Pg	**Pb**	**01 28 16.8**	**-0.5**
	50nm,0.3s						
TDK				Lg	Lg	01 28 46.7	
	63nm,0.3s						
ULHL	**Ulahol**	**2.33**	**257**⇑	*i*P	**Pb**	**01 28 17.1**	**-1.1**
	baz=58						
ULHL				⇑*i*S	**Sb**	**01 28 47.3**	**+0.2**
	baz=58						
KUU	**Kurty**	**2.41**	**298**	*eP*	**Pb**	**01 28 19.6**	**+0.1**
	2.7nm,0.2s						
KUU				*eS*	**Sg**	**01 28 51.6**	**-1.9**
	21nm,0.3s						
KUU	**Kurty**	**2.41**	**298**	Pg	**Pb**	**01 28 19.6**	**+0.1**
	2.7nm,0.2s						
KUU				Lg	Lg	01 28 51.6	
	21nm,0.3s						
KST	**Kastek**	**2.46**	**276**	*eP*	**Pb**	**01 28 20.5**	**+0.1**
	34nm,0.4s						
KST				*eS*	**Sg**	**01 28 53.0**	**-2.0**
	22nm,0.4s						
KST	**Kastek**	**2.46**	**276**	Pg	**Pb**	**01 28 20.5**	**+0.1**
	34nm,0.4s						
KST				Lg	Lg	01 28 53.0	
	22nm,0.4s						
KAPS	**Kapalarasan**	**2.47**	**1**	*eP*	**Pb**	**01 28 20.1**	**-0.4**
	7.0nm,0.4s						
KAPS				*eS*	**Sg**	**01 28 52.6**	**-2.7**
	20nm,0.3s						
KAPS	**Kapalarasan**	**2.47**	**1**	Pg	**Pb**	**01 28 20.1**	**-0.4**
	7.0nm,0.4s						
KAPS				Lg	Lg	01 28 52.6	
	20nm,0.3s						
BOOM	**Boomskoye usch**	**2.50**	**264**⇑	*eP*	**Pb**	**01 28 19.5**	**-1.6**
	baz=64						
BOOM				⇑*i*S	**Sb**	**01 28 51.5**	**-0.5**
	baz=64						
DGS	**Degeres**	**2.62**	**281**	*eP*	**Pb**	**01 28 23.8**	**+0.7**
	9.1nm,0.3s						
DGS				*eS*	**Sg**	**01 28 58.9**	**-1.3**
	34nm,0.3s						
DGS	**Degeres**	**2.62**	**281**	Pg	**Pb**	**01 28 23.8**	**+0.7**
	9.1nm,0.3s						
DGS				Lg	Lg	01 28 58.9	
	34nm,0.3s						
TKM2	**Tokmak 2**	**2.72**	**273**⇑	*eP*	**Pb**	**01 28 22.9**	**-2.0**
	baz=74						
TKM2				⇑*i*S	**Sb**	**01 28 57.6**	**-0.9**
	baz=74						
TKM2	**Tokmak 2**	**2.72**	**273**	⇑Pn	**Pn**	**01 28 22.0**	**+2.0**
	6.5nm,0.8s						
TKM2				⇓Lg	Lg	01 29 02.4	
	17nm,0.6s						
KRBS	**Karabastau**	**2.79**	**290**	*eP*	**Pb**	**01 28 26.2**	**+0.3**
	3.5nm,0.1s						
KRBS				*eS*	**Sg**	**01 29 02.8**	**-2.8**
	18nm,0.3s						
KRBS	**Karabastau**	**2.79**	**290**	Pg	**Pb**	**01 28 26.2**	**+0.3**
	3.5nm,0.1s						
KRBS				Lg	Lg	01 29 02.8	
	18nm,0.3s						
CHMS	**Chumysh**	**3.35**	**275**⇓	*eP*	**Pn**	**01 28 31.5**	**+3.1**
	baz=75						
CHMS				⇓*i*S	**Sb**	**01 29 12.2**	**-4.0**
	baz=75						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGDS	**Sogindy**	**3.48**	**282**	Pg	**Pb**	**01 28 38.6**	**+1.0**
	2.0nm,0.3s						
SGDS				Lg	Lg	01 29 24.5	
	4.6nm,0.3s						
AAK	**Ala-Archa**	**3.54**	**269**	⇑Pg	**Pb**	**01 28 39.0**	**+0.1**
	1.5nm,0.4s						
AAK				⇓Lg	Lg	01 29 27.3	
	8.0nm,0.8s						
USP	**Ospenovka**	**3.55**	**279**⇑	*eP*	**Pn**	**01 28 34.2**	**+3.0**
	baz=79						
USP				⇑*i*S	**Sn**	**01 29 17.0**	**+3.8**
	baz=79						
UCH	**Uchtor**	**3.59**	**262**⇑	*eP*	**Pn**	**01 28 34.8**	**+2.7**
	baz=63						
UCH				⇑*i*S	**Sn**	**01 29 17.9**	**+3.2**
	baz=63						
BTLS	**Baital**	**4.40**	**302**	*eP*	**Pb**	**01 28 56.2**	**+2.9**
	1.8nm,0.3s						
BTLS				*eS*	**Sg**	**01 29 54.3**	**-2.9**
	1.5nm,0.4s						
BTLS	**Baital**	**4.40**	**302**	Pg	**Pb**	**01 28 56.2**	**+2.9**
	1.8nm,0.3s						
BTLS				Lg	Lg	01 29 54.3	
	1.5nm,0.4s						
MAKZ	**Makanchi**	**4.42**	**25**	⇓Pn	**Pn**	**01 28 43.8**	**+0.7**
	0.8nm,0.5s						
MAKZ				⇑Sn	**Sn**	**01 29 37.1**	**+2.4**
	1.6nm,0.8s						
MAKZ				⇑Lg	Lg	01 29 53.5	
	1.3nm,0.4s						
MRKS	**Merke**	**4.47**	**271**	*eP*	**Pb**	**01 28 57.8**	**+3.1**
	3.0nm,0.6s						
MRKS				*eS*	**Sg**	**01 29 57.2**	**-2.3**
	5.5nm,0.2s						
MRKS	**Merke**	**4.47**	**271**	Pg	**Pb**	**01 28 57.7**	**+3.1**
	3.0nm,0.6s						
MRKS				Lg	Lg	01 29 57.2	
	5.5nm,0.2s						
MK31	**Makanchi Array**	**4.51**	**27**	Pn	**Pn**	**01 28 45.4**	**+1.0**
	0.2nm,0.3s,baz=201,slow=14,SNR=29						
MK31				⇓Pg	**Pb**	**01 28 56.6**	**+1.4**
	0.3nm,0.3s,baz=206,slow=14,SNR=4.3						
MK31				⇓Lg	Lg	01 29 56.7	
	4.0nm,0.7s,baz=149,slow=42,SNR=4.6						
KK31	**Karatay Array**	**6.46**	**276**	⇑Pg	Pb	01 29 33.4	+5.0
	0.5nm,0.7s,baz=80,slow=16,SNR=4.4						
KK31				⇑Lg	Lg	01 31 00.3	
	0.6nm,0.5s,baz=95,slow=29,SNR=3.5						
OTUK	**Ortayu**	**7.30**	**320**	⇑Lg	Lg	01 31 27.1	
	2.4nm,0.7s						
KURBB	**Kurchatov Arra**	**7.83**	**356**	⇑Lg	Lg	01 31 42.7	
	6.6nm,0.7s						

*NIC **27** 01:34:45.6±0.0, 36°.56N×31°.09E, h33km±26km, Ml2.6/2*
*ISK **27** 01:34:45.6, 35°.97N×30°.96E, h8km, ML2.2/16*
*DDA **27** 01:34:47.7, 36°.02N×31°.03E, h22km±2km, ML2.0*
ISC 27 01:34:48.0±1.2, **36°.04N**±0°.03×**31°.00E**±0°.02, **h22**km±6km,
n40, σ1$29/57, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.60**	**299**	*i* P	**Pb**	**01 35 00.4**	**+0.5**
AKUM				*i* S	**Sn**	**01 35 09.9**	**-0.4**
AKUM				IAML		01 35 12.0	
	comp=N,138nm,0.3s						
AKUM				IAML		01 35 12.0	
	comp=E,109nm,0.3s						
ANTB	**Antalya**	**0.91**	**342**	PG	**Pb**	**01 35 04.6**	**-0.4**
ANTB				SG	**Sn**	**01 35 18.1**	**+0.3**
KEPZ	**Antalya-Kepez**	**0.99**	**29**	*i* P	**Pn**	**01 35 06.8**	**+0.1**
KEPZ				*i* S	**Sn**	**01 35 20.4**	**+0.3**
GAZI	**Gazipasa**	**1.09**	**79**	*i* P	**Pb**	**01 35 08.1**	**0.0**
GAZI				*i* S	**Sb**	**01 35 20.7**	**-1.1**
GAZI				IAML		01 35 26.0	
	comp=E,47nm,0.3s						
GAZI	**Gazipasa**	**1.09**	**79**	PN	**Pb**	**01 35 07.8**	**-0.3**
GAZI				SN	**Sn**	**01 35 22.9**	**+0.6**
KORT	**Korkueli**	**1.09**	**332**	*i* P	**Pb**	**01 35 09.8**	**+1.6**
KORT				*i* S	**Sn**	**01 35 25.3**	**+2.6**
KORT				IAML		01 35 29.0	
	comp=E,34nm,0.5s						
KORT				IAML		01 35 30.0	
	comp=N,27nm,0.6s						
KORT	**Korkueli**	**1.09**	**332**	PN	**Pn**	**01 35 08.0**	**-0.2**
ELL	**Elmali**	**1.13**	**309**	PN	**Pn**	**01 35 08.3**	**-0.3**
ELL				SN	**Sn**	**01 35 24.5**	**+1.0**
AKAS	**Kas**	**1.14**	**280**	*i* P	**Pn**	**01 35 08.8**	**0.0**
AKAS	**Kas**	**1.14**	**280**	PN	**Pn**	**01 35 07.8**	**-1.0**
AKAS				SN	**Sb**	**01 35 22.9**	**-0.6**
KSL	**Kastellorizon**	**1.15**	**276**	P	**Pn**	**01 35 07.9**	**-0.8**
KSL				S	**Sn**	**01 35 24.0**	**+0.1**
BCK	**Bucak**	**1.46**	**347**	PN	**Pn**	**01 35 13.4**	**+0.3**
AKMS	**Akamas**	**1.49**	**133**	P	**Pb**	**01 35 15.7**	**+0.1**
AKMS				S	**Sb**	**01 35 37.7**	**+4.2**
AKMS				AML	AML	01 35 44.2	
	comp=N,0.3nm,0.5s						
AKMS				AML	AML	01 35 44.2	
	comp=N,0.3nm,0.5s						
AKMS				AML	AML	01 35 44.8	
	comp=N,0.2nm,0.4s						
AKMS				AML	AML	01 35 44.8	
	comp=N,0.2nm,0.4s						
SEDI	**Konya, Seydise**	**1.54**	**23**	*i* P	**Pb**	**01 35 16.5**	**+0.6**
SEDI				*i* S	**Sn**	**01 35 33.8**	**+0.1**
SEDI				IAML		01 35 40.0	
	comp=E,25nm,0.7s						
SEDI				IAML		01 35 44.0	
	comp=N,16nm,0.5s						
ALFC	**Alefka**	**1.57**	**123**	P	**Pb**	**01 35 15.5**	**-0.9**
ALFC				AML	AML	01 35 41.9	
	comp=N,0.2nm,0.3s						
ALFC				AML	AML	01 35 44.4	
	comp=N,0.2nm,0.3s						
CAME	**Cameli-Denizli**	**1.64**	**304**	PN	**Pn**	**01 35 15.9**	**+0.3**
CAME				SN	**Sn**	**01 35 37.4**	**+1.3**
FETY	**Fethiye**	**1.66**	**292**	PN	**Pn**	**01 35 15.6**	**-0.2**
ERMK	**Ermenek**	**1.66**	**68**	*i* P	**Pb**	**01 35 17.6**	**-0.4**
GOLH	**Golhisar**	**1.66**	**317**	*i* P	**Pn**	**01 35 13.2**	**-2.7**
TEKE	**Tekeli-Mersin**	**1.72**	**86**	PN	**Pb**	**01 35 17.1**	**-1.7**
TEKE				SN	**Sb**	**01 35 40.2**	**+0.2**
NATA	**Nata**	**1.80**	**134**	S	**Sb**	**01 35 43.9**	**+1.7**
BRDR	**BURDUR-Merkez**	**1.82**	**336**	*i* P	**Pn**	**01 35 19.1**	**+1.0**
BERE	**Bereket-Mersin**	**1.83**	**80**	PN	**Pn**	**01 35 18.8**	**+0.5**
BAGO	**Egridir - ISPA**	**1.96**	**355**	*i* P	**Pb**	**01 35 24.2**	**+1.3**
KKBE	**Karaman, Kazim**	**1.96**	**52**	*i* P	**Pb**	**01 35 22.7**	**-0.3**
KKBE				*i* S	**Sb**	**01 35 45.1**	**-2.0**
KKBE				IAML		01 35 51.0	
	comp=N,8.6nm,0.7s						
KKBE				IAML		01 35 51.0	
	comp=E,11nm,0.6s						
DALY	**Dalyan (Mula)**	**2.04**	**293**	PN	**Pn**	**01 35 20.9**	**-0.1**
DOGA	**KONYA_Doganhis**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.71**	**230**	P	P	01 45 21.1	+0.3
	0.7nm,1.0s,baz=55,slow=10,SNR=3.7						
ASAR	**Alice Springs**	**24.38**	**223**	P	P	01 45 48.0	-0.1
	0.6nm,0.6s,baz=58,slow=8.9,SNR=10						
FITZ	**Fitzroy Crossi**	**28.06**	**243**	P	P	01 46 21.3	0.0
	1.4nm,1.0s,baz=68,slow=11,SNR=1.8						
TORD	**Torodi Ar. Bea**	**149.73**	**285**	PKPbc	PKPbc	02 00 20.5	-0.5
	0.3nm,0.6s,baz=99,slow=1.9,SNR=1.8						

NEIC ***27*** *01:46:26.8±1.8, 19°.8S×178°.0W±0°.1, h587km±6km, mb4.4/61, Error ellipse: s-maj=18.6km s-min=16.1km az=124.0*

IDC ***27*** *01:46:26.8±1.3, 19°.68S×178°.12W, h585km±14km, mb3.6/14, mb1 3.7/17, mb1mx3.7/25, mbtmp4.5/17, Error ellipse: s-maj=16.1km s-min=9.7km az=150.0*

BGR ***27*** *01:46:28.7±0.0, 19°.52S×177°.63W, h600km*

ISC 27 01:46:27.3±0.4, 19°.80S±0°.08×178°.04W±0°.07, h600km, n202, σ0°80/203, mb4.3/47, 28C-16D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.24**	**298**	P	P	01 47 54.5	-0.2
NIUE	**Niue**	**7.69**	**86**	P	P	01 48 22.6	-1.1
AFI	**Afiamalu**	**8.38**	**47**	P	P	01 48 27.4	-3.1
	6.6nm,0.3s,baz=49,slow=1.4,SNR=10						
AFI				S	S	01 50 02.7	-8.6
	4.6nm,0.3s,baz=42,slow=21,SNR=9.1						
DZM	**Mont Dzumac**	**14.67**	**258**	P	P	01 49 32.0	-0.6
	0.6nm,0.3s,baz=86,slow=19,SNR=9.7						
RAR	**Rarotonga**	**17.17**	**98**	P	P	01 49 55.1	-0.3
	1.1nm,0.3s,baz=347,slow=18,SNR=1.7						
URZ	**Urewera**	**18.87**	**192**	P	P	01 50 08.0	-2.7
	2.9nm,0.3s,baz=12,slow=2.7,SNR=13						
URZ	**Urewera**	**18.87**	**192**	P	P	01 50 09.0	-1.7
WHZ	**Wether Hill Ro**	**28.47**	**201**	P	P	01 51 35.4	-0.3
CTA	**Charters Tower**	**33.53**	**263**	P	P	01 52 19.8	+0.6
	9.8nm,0.4s,baz=92,slow=11						
CTAO	**Charters Tower**	**33.53**	**263**	P	P	01 52 18.8	-0.3
PMG	**Port Moresby**	**35.16**	**282**	P	P	01 52 32.6	-0.1
COEN	**Coen**	**37.51**	**273**	P	P	01 52 51.0	-1.0
STKA	**Stephens Creek**	**38.06**	**243**	P	P	01 52 56.9	+0.6
	1.1nm,0.5s,baz=86,slow=10,SNR=5.6						
WR0	**Warramunga Arr**	**44.47**	**261**	P	P	01 53 46.3	-0.7
WR0				IAmb	IAmb	01 53 48.3	
	comp=Z,8.4nm,1.0s						
WB0	**Warramunga Arr**	**44.64**	**262**	P	P	01 53 48.0	-0.3
WB0				IAmb	IAmb	01 53 48.8	
	comp=Z,29nm,1.4s						
AS31	**Alice Springs**	**44.65**	**256**	P	P	01 53 48.4	+0.1
ASAR	**Alice Springs**	**44.65**	**256**	P	P	01 53 48.5	+0.2
	comp=Z,14nm,0.8s,baz=93,slow=7.6,SNR=162						
ASAR				PcP	**PcP**	01 55 17.9	+0.2
	comp=Z,1.3nm,0.7s,baz=105,slow=3.8,SNR=6.6						
ASAR				ScP	**ScP**	01 58 16.8	+3.3
	comp=Z,0.6nm,0.8s,baz=88,slow=4.7,SNR=3.5						
ASAR				S	**S**	01 59 41.6	-0.6
	comp=Z,3.5nm,0.9s,baz=92,slow=16,SNR=21						
ASAR	**Alice Springs**	**44.65**	**256**	P	P	01 53 47.9	-0.4
WB2	**Warramunga Arr**	**44.65**	**261**	P	P	01 53 48.0	-0.4
WB2				IAmb	IAmb	01 53 49.0	
	comp=Z,24nm,1.2s						
WRA	**Warramunga Arr**	**44.66**	**261**	P	P	01 53 48.1	-0.4
	comp=Z,4.0nm,0.5s,baz=97,slow=7.7,SNR=67						
WRA				S	S	01 59 41.4	-1.1
	comp=Z,0.6nm,0.9s,baz=90,slow=14,SNR=2.7						
FITZ	**Fitzroy Crossi**	**53.09**	**262**	P	P	01 54 50.5	0.0
SOEI	**Soe**	**56.44**	**271**	P	P	01 55 13.7	-0.4
PSA00	**Pilbara Seismi**	**57.79**	**256**	P	P	01 55 22.9	-0.1
PSA00				IAmb	IAmb	01 55 23.6	
	comp=Z,16nm,0.8s						
SBA	**Scott Base**	**58.56**	**184**	P	P	01 55 29.2	+2.0
SBA				IAmb	IAmb	01 55 30.7	
	comp=Z,15nm,1.1s						
VNDA	**Vanda**	**58.60**	**185**	P	P	01 55 29.0	+1.6
	comp=Z,1.8nm,0.6s,baz=358,slow=8.2,SNR=30						
VNDA	**Vanda**	**58.60**	**185**	P	P	01 55 28.4	+1.0
MMRI	**Maumere**	**58.69**	**272**	P	P	01 55 28.4	-0.7
TOLI2	**Tolitoli**	**63.42**	**282**	P	P	01 55 59.9	-0.1
TOLI2				IAmb	IAmb	01 56 01.1	
	comp=Z,12nm,0.9s						
CASY	**Casey**	**64.58**	**205**	P	P	01 56 06.5	+0.1
MJAR	**Matsushiro Arr**	**69.62**	**324**	P	P	01 56 36.6	-1.1
	comp=Z,7.2nm,0.7s,baz=156,slow=5.9,SNR=26						
MJAR	**Matsushiro Arr**	**69.62**	**324**	P	P	01 56 37.2	-0.5
MJAR				IAmb	IAmb	01 56 38.5	
	comp=Z,4.8nm,0.7s						
MAJO	**Matsushiro**	**69.63**	**324**	P	P	01 56 37.8	0.0
MAJO				IAmb	IAmb	01 56 38.8	
	comp=Z,9.5nm,0.7s						
QSPA	**South Pole Qui**	**70.27**	**180**	P	P	01 56 41.8	+0.5
QSPA				IAmb	IAmb	01 56 43.1	
	comp=Z,16nm,0.8s						
YSS	**Yuzh-Sakhalins**	**75.25**	**333**	P	P	01 57 10.4	+0.6
PETK	**Petropavlovsk-**	**75.59**	**345**	P	P	01 57 11.2	-0.3
	comp=Z,8.5nm,0.8s,baz=145,slow=8.2,SNR=15						
PETK	**Petropavlovsk-**	**75.59**	**345**	P	P	01 57 11.5	0.0
KSRS	**Korea Array**	**76.34**	**318**	P	P	01 57 17.1	+1.2
	comp=Z,2.5nm,1.0s,baz=140,slow=6.2,SNR=7.3						
KSAR	**Wonju Array Be**	**76.36**	**318**	P	P	01 57 16.9	+0.9
USA0B	**Ussuriysk Arra**	**78.37**	**326**	IAmb	IAmb	01 57 29.2	
	comp=Z,12nm,0.9s						
USRK	**Ussuriysk Ar.**	**78.37**	**326**	P	P	01 57 28.3	+1.6
	comp=Z,7.9nm,0.8s,baz=124,slow=3.5,SNR=14						
USRK	**Ussuriysk Ar.**	**78.37**	**326**	P	P	01 57 27.8	+1.1
MDJ	**Mudanjiang**	**79.92**	**325**	P	P	01 57 36.1	+1.1
MDJ				IAmb	IAmb	01 57 37.4	
	comp=Z,13nm,0.8s						
NVAR	**Mina Array Bea**	**80.54**	**43**	P	P	01 57 39.8	+1.2
	comp=Z,1.9nm,0.9s,baz=221,slow=9.2,SNR=13						
NVAR	**Mina Array Bea**	**80.54**	**43**	P	P	01 57 40.1	+1.5
KVN	**Kaiserville**	**81.03**	**43**	P	P	01 57 41.8	+0.7
O18K	**Koktuh Hills**	**81.53**	**11**	IAmb	IAmb	01 57 43.9	
	comp=Z,20nm,1.1s						
PRN	**Pahroc Range**	**82.13**	**46**	P	P	01 57 46.9	+0.2
I07A	**Izee**	**83.06**	**38**	P	P	01 57 52.4	+1.2
WUAZ	**Wupatki**	**83.71**	**49**	P	P	01 57 54.8	+0.2
L19K	**White Mountain**	**83.76**	**11**	P	P	01 57 55.0	+1.0
L19K				IAmb	IAmb	01 57 56.0	
	comp=Z,5.6nm,0.8s						
G08A	**Pilot Rock**	**84.08**	**38**	IAmb	IAmb	01 57 58.3	
	comp=Z,9.9nm,1.4s						
GLI	**Glacier Island**	**84.18**	**15**	IAmb	IAmb	01 57 56.8	
	comp=Z,11nm,0.7s						
K20K	**Telida**	**84.99**	**11**	P	P	01 58 00.4	+0.4
K20K				IAmb	IAmb	01 58 01.2	
	comp=Z,6.7nm,1.0s						
CAST	**Castle Rocks**	**85.40**	**11**	IAmb	IAmb	01 58 01.7	
	comp=Z,6.3nm,0.8s						
F10A	**Beach Ranch, E**	**85.47**	**38**	IAmb	IAmb	01 58 04.4	
	comp=Z,4.7nm,0.8s						
ENH	**Enshi**	**85.62**	**304**	P	P	01 58 04.2	+0.4
KTH	**Kantishna Hill**	**85.74**	**12**	IAmb	IAmb	01 59 58.1	
	comp=Z,18nm,1.6s						
TRF	**Thorofare Moun**	**85.77**	**12**	IAmb	IAmb	01 58 04.3	
	comp=Z,11nm,0.9s						
HLID	**Hailey**	**85.82**	**41**	P	P	01 58 05.0	+0.4
MCK	**McKinley**	**86.30**	**13**	IAmb	IAmb	01 58 07.9	
	comp=Z,9.1nm,0.9s						
TXAR	**Lajitas Array**	**86.71**	**57**	P	P	01 58 10.8	+1.8
	comp=Z,0.3nm,0.5s,baz=231,slow=5.4,SNR=1.1						
I21K	**Tanana**	**87.03**	**11**	IAmb	IAmb	01 58 10.5	
	comp=Z,7.8nm,0.8s						
NEA2	**Nenana**	**87.04**	**12**	IAmb	IAmb	01 58 10.4	
	comp=Z,3.4nm,0.7s						
MLY	**Manley**	**87.12**	**11**	IAmb	IAmb	01 58 09.8	
	comp=Z,4.0nm,0.7s						
WRH	**Wood River Hil**	**87.13**	**13**	IAmb	IAmb	01 58 10.7	
	comp=Z,12nm,0.9s						
H21K	**Melozitna Rive**	**87.33**	**10**	IAmb	IAmb	01 58 11.8	
	comp=Z,4.2nm,0.8s						
BCAR	**Beaver Creek A**	**87.36**	**16**	P	P	01 58 11.0	-0.3
IMAR	**Indian Mountai**	**87.47**	**10**	P	P	01 58 12.0	+0.4
MDM	**Murphy Dome**	**87.53**	**12**	IAmb	IAmb	01 58 12.4	
	comp=Z,8.2nm,0.8s						
COLA	**College**	**87.53**	**12**	P	P	01 58 11.9	0.0
IL31		**87.64**	**13**	IAmb	IAmb	01 58 13.1	
	comp=Z,5.5nm,1.1s						
ILAR	**Eielson Array**	**87.64**	**13**	P	P	01 58 11.9	-0.5
	comp=Z,4.2nm,0.9s,baz=218,slow=5.7,SNR=26						
XAN	**Xi'an**	**87.68**	**307**	P	P	01 58 15.0	+1.6
XAN				pmax	pmax		
	comp=Z,14nm,1.0s						
XAN				pmax	pmax		
	comp=Z,210nm,7.1s						
K27K	**Chicken**	**88.09**	**15**	IAmb	IAmb	01 58 17.0	
	comp=Z,4.6nm,1.0s						
PDAR	**Pinedale Array**	**88.48**	**43**	P	P	01 58 17.5	+0.3
	comp=Z,1.0nm,0.6s,baz=207,slow=3.0,SNR=7.9						
PDAR	**Pinedale Array**	**88.48**	**43**	P	P	01 58 16.9	-0.3
SNAA	**Sanae**	**88.71**	**178**	P	P	01 58 17.2	-0.4
DAWY	**Dawson**	**88.80**	**16**	IAmb	IAmb	01 58 19.4	
	comp=Z,6.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**88.84**	**314**	*e*P	P	01 58 18.8	0.0
HHC				pmax	pmax		
	comp=Z,11nm,1.1s						
HHC				pmax	pmax		
	comp=Z,140nm,4.6s						
VNA3	**Neumayer Olymp**	**88.84**	**176**	P	P	01 58 18.1	-0.1
EGAK	**Eagle**	**88.94**	**15**	IAmb	IAmb	01 58 19.8	
	comp=Z,6.0nm,0.8s						
KMI	**Kunming**	**89.00**	**297**	⇑P	P	01 58 22.3	+2.3
KMI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VNA2	**Neumayer--Watz**	**89.28**	**177**	P	P	01 58 20.4	+0.2
VNA1	**Neumayer--Stat**	**89.51**	**177**	P	P	01 58 21.3	+0.1
CM31	**Chiang Mai Arr**	**89.84**	**290**	P	P	01 58 24.6	+0.8
CMAR	**Chiang Mai Arr**	**89.84**	**290**	P	P	01 58 24.9	+1.2
	comp=Z,4.3nm,0.9s,baz=120,slow=2.8,SNR=18						
CMAR	**Chiang Mai Arr**	**89.84**	**290**	P	P	01 58 24.4	+0.6
BMAR	**Burnt Mountain**	**90.42**	**12**	P	P	01 58 25.7	+0.3
MKAR	**Makanchi Array**	**110.69**	**314**	PKiKP	**PKiKP**	02 03 52.1	-0.8
	comp=Z,0.3nm,0.6s,baz=95,slow=1.7,SNR=3.1						
ARCES	**ARCESS Array B**	**128.23**	**350**	PKP	**PKPdf**	02 04 25.1	-0.6
	comp=Z,2.9nm,0.8s,baz=333,slow=1.4,SNR=8.8						
FINES	**FINESS Array B**	**135.09**	**344**	PKhKP	PKPpre	02 04 34.6	
	comp=Z,0.7nm,0.7s,baz=27,slow=1.6,SNR=1.2						
FINES				PKP	**PKPdf**	02 04 39.1	+0.2
	comp=Z,0.9nm,0.6s,baz=62,slow=3.3,SNR=5.4						
FINES				SKPbc	**SKPbc**	02 07 14.9	+0.8
	comp=Z,2.6nm,0.9s,baz=57,slow=5.1,SNR=4.1						
NOA	**NORSAR Array B**	**138.28**	**353**	PKhKP	PKPpre	02 04 37.9	
	comp=Z,1.3nm,0.9s,baz=23,slow=3.9,SNR=3.8						
NOA				PKP	**PKPdf**	02 04 45.8	+0.9
	comp=Z,0.5nm,0.8s,baz=31,slow=2.0,SNR=3.7						
HFS	**Hagfors**	**138.84**	**351**	PKhKP	PKPpre	02 04 36.3	
	comp=Z,2.0nm,0.8s,baz=63,slow=4.0,SNR=5.5						
GURO	**Guroymak-BITLI**	**140.71**	**307**	PKPdf	**PKPdf**	02 04 47.0	-3.2
AKASG	**Malin Array Be**	**142.38**	**331**	PKhKP	PKPpre	02 04 48.2	
	comp=Z,3.9nm,0.5s,baz=44,slow=4.7,SNR=20						
AKASG				SKPbc	**SKiKP**	02 07 36.0	+0.3
	comp=Z,1.4nm,0.6s,baz=40,slow=2.6,SNR=7.2						
AKASG	**Malin Array Be**	**142.38**	**331**	PKPdf	**PKPdf**	02 04 49.4	-3.1
LODK	**Lodwar**	**143.58**	**248**		**PKPdf**	02 04 55.5	-0.3
SHEL	**Horse Pasture**	**143.67**	**167**	PKPdf	**PKPdf**	02 04 55.5	-0.4
EKA	**Eskdalemuir Ar**	**144.31**	**5**	PKP	**PKPdf**	02 04 55.0	-0.7
	comp=Z,1.9nm,0.6s,baz=326,slow=3.0,SNR=13						
SORM	**Soroca**	**144.59**	**329**	⇓P	**PKPdf**	02 04 56.5	+0.1
GAZ	**Gaziantep**	**144.76**	**307**	PKPdf	**PKPdf**	02 04 57.3	+0.1
BNN	**Bunyan**	**145.16**	**310**	PKPbc	**PKPbc**	02 04 59.0	0.0
MILM	**Milestii Mici**	**145.19**	**327**	⇑P	**PKPbc**	02 04 58.6	0.0
VASR	**Vaslui**	**145.89**	**328**	⇑P	**PKPbc**	02 05 01.2	+0.5
KWP	**Kalwaria Pacla**	**145.93**	**336**	PKPbc	**PKPbc**	02 05 01.4	+0.7
VLDR	**Vladesti**	**146.28**	**326**	⇑P	**PKPbc**	02 05 02.5	+0.8
BR131	**Keskin Array S**	**146.34**	**313**		**PKPdf**	02 05 01.0	+1.1
BRTR	**Keskin Array B**	**146.34**	**313**	PKPbc	**PKPbc**	02 05 02.0	-0.4
	comp=Z,3.5nm,0.7s,baz=132,slow=4.3,SNR=32						
BRTR	**Keskin Array B**	**146.34**	**313**		**PKPbc**	02 05 01.9	-0.4
BURAR	**Bucovina Array**	**146.43**	**331**		**PKPbc**	02 05 02.7	+0.5
SCTR	**Scanteiesti**	**146.44**	**326**	⇑P	**PKPbc**	02 05 03.1	+0.9
BIZ	**Bicaz**	**146.51**	**329**	⇓P	**PKPbc**	02 05 03.2	+0.9
JURR	**Jurilovca**	**146.55**	**324**	⇓P	**PKPbc**	02 05 02.4	-0.1
KOLS	**Kolonicke sedl**	**146.66**	**335**	*e*PKP	**PKPab**	02 05 06.9	+1.2
CFR	**Carcaliu**	**146.69**	**325**	⇑P	**PKPbc**	02 05 03.4	+0.6
FLTG	**Flechtingen**	**146.73**	**350**	*e*PKPbc	**PKPbc**	02 05 02.7	0.0
	baz=16,slow=2.5						
TPGR	**Topolog**	**146.75**	**325**	⇑P	**PKPbc**	02 05 03.7	+0.7
ANTO	**Ankara**	**146.85**	**314**		**PKPbc**	02 05 03.7	+0.1
VRI	**Vrincioaia**	**146.96**	**328**	⇑P	**PKPbc**	02 05 04.0	+0.4
CRVS	**Cervenica-Dubn**	**147.00**	**336**	*e*PKP	**PKPbc**	02 05 04.1	+0.5
CRVS				*e*		02 05 08.1	
PLOR	**Plostina**	**147.01**	**328**	⇑P	**PKPbc**	02 05 03.9	+0.1
PLOR				⇑P	**PKiKP**	02 05 04.0	-1.5
HARR	**Harsova**	**147.12**	**325**	⇓P	**PKPbc**	02 05 04.6	+0.6
COVR	**Voineasa-Covas**	**147.24**	**328**	⇓P	**PKPbc**	02 05 04.3	0.0
IBBN	**Ibbenburen**	**147.24**	**353**	*e*PKPab	**PKPab**	02 05 07.9	+0.1
OZUR		**147.27**	**329**	⇑P	**PKiKP**	02 05 05.4	-0.7
OSTC	**Ostas**	**147.29**	**343**	⇑*e*PKP	**PKiKP**	02 05 05.2	-0.8
CLZ	**Clausthal**	**147.35**	**350**	*e*PKPbc	**PKPbc**	02 05 04.9	+0.4
	baz=16,slow=2.5						
CLL	**Collm**	**147.37**	**347**	⇓*i*PKPbc	**PKPbc**	02 05 04.8	+0.3
	comp=Z,15nm,0.9s						
CLL				⇑*i*PKPab	**PKPab**	02 05 08.5	0.0
	comp=Z,9.0nm,0.9s						
CLL	**Collm**	**147.37**	**347**	PKPbc	**PKiKP**	02 05 05.3	-0.7
CLL	**Collm**	**147.37**	**347**	*e*PKPbc	**PKPbc**	02 05 04.8	+0.3
	baz=16,slow=2.5						
CLL				*e*PKPab	**PKPab**	02 05 08.7	+0.2
DPC	**Dobruska-Polom**	**147.45**	**343**	⇑*e*PKP	**PKPbc**	02 05 05.5	+0.7
DPC				*e*PKPAB	**PKPab**	02 05 09.9	+1.0
DOPR	**Dopca**	**147.55**	**329**	⇓P	**PKiKP**	02 05 06.2	-0.5
KRLC	**Kraliky**	**147.56**	**342**	⇑*e*PKP	**PKPbc**	02 05 05.8	+0.7
KRLC				*e*PKPAB	**PKPab**	02 05 10.1	+0.7
ISR	**Istrita**	**147.57**	**327**	⇓P	**PKiKP**	02 05 06.2	-0.5
BRG	**Berggiesshubel**	**147.57**	**346**	*e*PKPbc	**PKPbc**	02 05 05.5	+0.5
	baz=16,slow=2.5						
BRG				*e*PKPab	**PKPab**	02 05 09.2	-0.1
BRG	**Berggiesshubel**	**147.57**	**346**	*i* PKP	**PKPbc**	02 05 05.7	+0.7
BRG				Amp		02 05 06.5	
	comp=Z,5.7nm,0.7s						
MORC	**Moravsky Berou**	**147.60**	**341**	⇓P	**PKPbc**	02 05 05.7	+0.5
MORC	**Moravsky Berou**	**147.60**	**341**	*e*PKP	**PKPbc**	02 05 05.5	+0.3
MLR	**Muntele Rosu**	**147.62**	**328**	⇓P	**PKPbc**	02 05 05.8	+0.3
MLR	**Muntele Rosu**	**147.62**	**328**	PKPbc	**PKPbc**	02 05 04.4	-1.0
MDUB	**Mudurnu**	**147.62**	**316**		**PKPbc**	02 05 05.2	-0.4
FBE	**Freiberg**	**147.66**	**346**	*e*PKPbc	**PKiKP**	02 05 06.0	-0.6
	baz=16,slow=2.5						
GHAJ	**Ghor Haditha**	**147.71**	**298**	PKPbc	**PKPbc**	02 05 06.2	+0.3
NEUB	**Neuenburg**	**147.71**	**348**	*e*PKPbc	**PKiKP**	02 05 06.0	-0.7
	baz=16,slow=2.5						
PVCC	**Panska Ves**	**147.75**	**345**	⇑*e*PKP	**PKiKP**	02 05 06.6	-0.2
VOIR		**148.10**	**328**	⇑P	**PKPbc**	02 05 06.8	+0.1
KASTN	**Kahler Asten**	**148.25**	**352**	*e*PKPbc	**PKPbc**	02 05 06.6	-0.1
	baz=16,slow=2.5						
PRU	**Pruhonice**	**148.25**	**345**	⇑*e*PKP	**PKPbc**	02 05 07.1	+0.4
PRU				*e*PKPAB	**PKPab**	02 05 12.8	+0.7
MOX	**Moxa**	**148.28**	**348**	*e*PKPbc	**PKPbc**	02 05 07.3	+0.5
	baz=16,slow=2.5						
VYHS	**Vyhne**	**148.30**	**338**	*e*PKP	**PKPbc**	02 05 07.4	+0.5
VYHS				*e*		02 05 13.3	
VRAC	**Vranov**	**148.31**	**342**	⇑P	**PKiKP**	02 05 07.6	-0.5
VRAC	**Vranov**	**148.31**	**342**	*e*PKP	**PKPbc**	02 05 07.3	+0.4
VRAC				*e*		02 05 13.3	
PLN	**Plauen**	**148.33**	**348**	*e*PKPbc	**PKiKP**	02 05 07.7	-0.4
	baz=16,slow=2.5						
TANN	**Tannenbergstha**	**148.33**	**347**	*e*PKPbc	**PKPbc**	02 05 07.5	+0.5
	baz=16,slow=2.5						
WERD	**Werda**	**148.33**	**347**	*e*PKPbc	**PKPbc**	02 05 07.1	+0.2
	baz=16,slow=2.5						
ARR	**Arges**	**148.35**	**329**	⇑P	**PKiKP**	02 05 08.5	+0.2
JAVC	**Velka Javorina**	**148.37**	**340**	*e*PKP	**PKiKP**	02 05 08.4	+0.1
PSZ	**Piszkesteto**	**148.40**	**337**	⇑P	**PKiKP**	02 05 08.3	-0.1
PSZ	**Piszkesteto**	**148.40**	**337**		**PKPbc**	02 05 07.3	0.0
GUNZ	**Gunzen**	**148.41**	**347**	*e*PKPbc	**PKPbc**	02 05 07.6	+0.5
	baz=16,slow=2.5						
GUNZ				*e*PKPab	**PKPab**	02 05 13.0	+0.2
WERN	**Wernitzgruen**	**148.47**	**347**	*e*PKPbc	**PKiKP**	02 05 08.2	-0.2
	baz=16,slow=2.5						
WERN				*e*PKPab	**PKPab**	02 05 13.4	+0.3
NKC	**Novy Kostel**	**148.51**	**347**	⇑*e*PKP	**PKiKP**	02 05 08.3	-0.2
KRUC	**Moravsky**	**148.58**	**342**	*e*PKP	**PKPbc**	02 05 07.8	+0.2
KRUC				*e*		02 05 14.3	
TREC	**Trest**	**148.63**	**343**	⇑*e*PKP	**PKPbc**	02 05 08.2	+0.5
PBCC	**Pribram**	**148.67**	**345**	⇑*e*PKP	**PKPbc**	02 05 08.2	+0.4
LOT	**Lotru**	**148.71**	**330**	⇑P	**PKPbc**	02 05 07.7	-0.4
MANZ	**Manzenberg**	**148.81**	**347**	*e*PKPbc	**PKiKP**	02 05 08.8	-0.3
	baz=16,slow=2.5						
MODS	**Modra-Piesok**	**148.92**	**340**	*e*PKP	**PKPbc**	02 05 08.7	+0.2
ROTZ	**Rotzenmuhle**	**149.00**	**347**	*e*PKPbc	**PKiKP**	02 05 09.1	-0.4
	baz=16,slow=2.5						
MEM	**Membach**	**149.09**	**355**	*d*PKiKP	**PKPbc**	02 05 08.9	+0.2
BTNL	**Ternell**	**149.10**	**355**	*d*PKiKP	**PKPbc**	02 05 09.1	+0.3
BSTI	**Sart Tilman**	**149.15**	**356**	*d*PKiKP	**PKiKP**	02 05 09.3	-0.4
TNS	**Taunus Mts**	**149.21**	**352**	*e*PKPbc	**PKiKP**	02 05 09.6	-0.3
	baz=16,slow=2.5						
GRF	**Grafenberg Arr**	**149.27**	**348**	*e*PKPbc	**PKiKP**	02 05 09.9	-0.1
	baz=16,slow=2.5						
GRF				*e*PKPab	**PKPab**	02 05 16.8	+0.4
GRFO	**Grafenberg**	**149.27**	**348**	PKPbc	**PKiKP**	02 05 10.0	0.0
KHC	**Kasperske Hory**	**149.28**	**345**	⇑*e*PKP	**PKiKP**	02 05 09.9	-0.2
KHC				*e*PKPAB	**PKPab**	02 05 17.0	+0.5
ISP	**Isparta**	**149.38**	**312**	PKPbc	**PKPbc**	02 05 08.3	-1.7
CKRC	**Cesky Krumlov**	**149.39**	**344**	⇑*e*PKP	**PKiKP**	02 05 10.0	-0.3
CKRC				*e*PKPAB	**PKPab**	02 05 17.1	+0.2
WET	**Wettzell**	**149.44**	**346**	*e*PKPab	**PKPab**	02 05 17.1	0.0
MILB	**Miltenberg**	**149.47**	**351**	*e*PKPbc	**PKiKP**	02 05 10.1	-0.3
	baz=16,slow=2.5						
BMRD	**Maredsous**	**149.48**	**356**	*d*PKiKP	**PKPbc**	02 05 09.9	+0.2
BMRD				*d*PKPab	**PKPab**	02 05 17.0	-0.1
GEC2	**GERESS Array S**	**149.52**	**345**	*e*PKPbc	**PKPbc**	02 05 10.3	+0.3
	baz=16,slow=2.5						
GEC2				*e*PKPab	**PKPab**	02 05 17.7	+0.2
GERES	**GERESS Array B**	**149.52**	**345**	PKPbc	**PKPbc**	02 05 10.2	+0.3
	comp=Z,4.7nm,0.8s,baz=29,slow=3.0,SNR=34						
GERES	**GERESS Array B**	**149.52**	**345**	PKPbc	**PKPbc**	02 05 09.6	-0.4
CONA	**Conrad Observa**	**149.76**	**341**	*e*P	**PKiKP**	02 05 11.1	-0.2
	comp=Z,2.5nm,0.6s						
WLF	**Walferdange**	**150.01**	**355**	*d*PKiKP	**PKiKP**	02 05 11.9	+0.4
WLF	**Walferdange**	**150.01**	**355**	*e*PKPbc	**PKiKP**	02 05 12.2	+0.6
	baz=16,slow=2.5						
BALB	**Balikesir**	**150.21**	**317**		**PKPbc**	02 05 11.2	-0.5
MOA	**Molln**	**150.29**	**343**	*i* P	**PKPbc**	02 05 11.8	+0.1
	comp=Z,2.1nm,0.6s						
STU	**Stuttgart**	**150.51**	**350**	*e*PKPbc	**PKiKP**	02 05 12.7	+0.1
	baz=16,slow=2.5						
FUR	**Furstenfeldbru**	**150.71**	**347**	*e*PKPbc	**PKiKP**	02 05 13.2	+0.1
	baz=16,slow=2.5						
FUR				*e*PKPab	**PKPab**	02 05 22.8	+0.4
RJOB	**Jochberg**	**150.77**	**345**	*e*PKPab	**PKPab**	02 05 23.5	+0.7
VTS	**Vitosha**	**151.03**	**326**	⇑P	**PKPbc**	02 05 13.2	-0.5
VTS	**Vitosha**	**151.03**	**326**		**PKPbc**	02 05 12.7	-1.0
BFO	**Black Forest**	**151.07**	**351**	*e*PKPbc	**PKiKP**	02 05 13.8	0.0
	baz=16,slow=2.5						
BF

mb4.1(NEIC)
*NEIC **27** 02:24:53.2±2.0,28°.4N±0°.1×69°.5E±0°.1, h17^{km}±4^{km}, mb4.1/13, Error ellipse: s-maj=17.4km s-min=12.4km az=203.0*

ISC 27 02:24:51.8±0.6, 28°.37N±0°.06×69°.58E±0°.06, h10^{km}, n57, σ1°63/58, mb4.0/18, MS3.0/6, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BHUJ	**Bhuj**	**5.09**	**179**	*eP*		**Pn**	**02 26 08.8**	**+0.6**
BHUJ				*eS*		**Sn**	**02 27 07.8**	**+0.8**
BHUJ				IAML			02 27 57.6	
	comp=E,164nm,0.5s							
BHUJ				IAML			02 28 10.3	
	comp=N,136nm,0.1s							
NIL	**Nilore**	**6.14**	**30**	Pn		**Pn**	**02 26 24.7**	**+2.1**
KBL	**Kabul**	**6.17**	**356**	Pn		**Pn**	**02 26 24.2**	**+1.0**
BHK	**Bhakra**	**6.67**	**61**	*ex*		**Pg**	**02 27 02.2**	**+2.6**
DHRM	**DHARAMSHALA**	**6.98**	**55**	*eP*		**Pn**	**02 26 36.6**	**+2.2**
DHRM				*eS*		**Sn**	**02 27 50.5**	**-3.5**
DHRM				IAML			02 27 57.4	
	comp=E,100nm,0.5s							
SMLA	**Simla**	**7.15**	**66**	*eP*		**Pn**	**02 26 38.4**	**+2.0**
SMLA				*eS*		**Sn**	**02 27 57.6**	**-0.1**
SMLA				IAML			02 27 58.7	
	comp=N,98nm,0.5s							
BHPL	**Bhopal**	**8.72**	**124**	*eP*		**Pn**	**02 26 59.5**	**+1.4**
BHPL				*eS*		**Sn**	**02 28 34.8**	**-1.8**
CHGR	**Chuyangaron**	**10.27**	**358**			**Pn**	**02 27 20.4**	**+1.0**
GAR	**Garm**	**10.62**	**3**			**Pn**	**02 27 24.8**	**+0.6**
BTK	**Batken**	**11.71**	**5**	Pn		**Pn**	**02 27 38.9**	**-0.1**
PYUN	**Piuthan**	**11.83**	**88**	*eP*		**Pn**	**02 27 40.3**	**-0.6**
	comp=N,12nm,0.3s							
PYUN				*eS*		**Sn**	**02 29 47.5**	**-5.6**
KOLN	**Koldanda**	**12.40**	**89**	*eP*		**Pn**	**02 27 47.5**	**-1.1**
	comp=N,6.4nm,0.4s							
DANN	**Dangsing**	**12.49**	**87**	*eP*		**Pn**	**02 27 49.7**	**-0.3**
	comp=N,20nm,0.5s							
ARSB	**Arslanbob**	**13.23**	**11**	Pn		**Pn**	**02 28 00.1**	**+0.3**
GKN	**Gorkha**	**13.29**	**88**	*eP*		**Pn**	**02 27 59.1**	**-1.7**
	comp=N,8.1nm,0.3s							
GEYT	**Alibeck**	**13.52**	**318**	LR		LR	02 34 08.4	
	comp=N,42nm,18.1s,baz=260,slow=42							
KKN	**Kakani**	**13.88**	**89**	*eP*		**Pn**	**02 28 07.2**	**-1.6**
PKIN	**Phulchoki**	**14.01**	**89**	*eP*		**Pn**	**02 28 08.3**	**-2.3**
	comp=N,9.0nm,0.4s							
PKI	**Pulchoki**	**14.02**	**90**	*eP*		**Pn**	**02 28 08.4**	**-2.4**
KK31	**Karatay Array**	**14.73**	**3**	Pn		**Pn**	**02 28 18.9**	**-1.3**
KKAR	**Karatay Array**	**14.73**	**3**	Pn		**Pn**	**02 28 19.1**	**-1.0**
AAK	**Ala-Archa**	**14.79**	**14**	Pn		**Pn**	**02 28 19.8**	**-1.3**
	comp=N,1.1nm,0.3s,baz=206,slow=7.2,SNR=8.0							
AAK				LR		LR	02 34 53.8	
	comp=N,41nm,20.8s,baz=196,slow=41							
AAK	**Ala-Archa**	**14.79**	**14**			**Pn**	**02 28 20.6**	**-0.5**
BOOM	**Boomskoye usch**	**15.01**	**18**	Pn		**Pn**	**02 28 22.4**	**-1.7**
BOOM				IAmb		IAmb	02 28 30.0	
	comp=Z,7.9nm,0.9s							
RAMN	**Ramite**	**15.15**	**91**	*eP*		**Pn**	**02 28 22.5**	**-3.7**
	comp=Z,7.0nm,0.3s							
SHL	**Shillong**	**20.07**	**93**	P		**P**	**02 29 25.4**	**-0.3**
SHL				IAmb		IAmb	02 29 28.2	
	comp=Z,14nm,0.8s							
MAKZ	**Makanchi**	**20.82**	**25**	P		**P**	**02 29 34.7**	**+1.3**
MAKZ				IAmb		IAmb	02 29 41.8	
	comp=Z,3.4nm,0.8s							
MK31	**Makanchi Array**	**20.93**	**25**	P		**P**	**02 29 34.8**	**+0.2**
MKAR	**Makanchi Array**	**20.93**	**25**	P		**P**	**02 29 34.7**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=208,slow=11,SNR=14							
MKAR	**Makanchi Array**	**20.93**	**25**	P		**P**	**02 29 36.1**	**+1.5**
ABKAR	**Akbulak array**	**22.13**	**343**	P		**P**	**02 29 46.0**	**-1.5**
KURBB	**Kurchatov Arra**	**23.24**	**15**	P		**P**	**02 29 58.4**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=208,slow=9.2,SNR=6.2							
KURK	**Kurchatov**	**23.35**	**15**	P		**P**	**02 29 58.4**	**-1.8**
PALK	**Pallekele**	**23.47**	**151**	LR		LR	02 39 47.2	
	comp=Z,44nm,21.2s,baz=59,slow=38							
AKTO	**Aktyubinsk**	**23.73**	**341**	LR		LR	02 40 59.8	
	comp=Z,34nm,18.2s,baz=163,slow=41							
BVAR	**Borovoye Array**	**24.64**	**1**	P		**P**	**02 30 13.6**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=228,slow=3.7,SNR=4.5							
BRVK	**Borovoye**	**24.67**	**1**	P		**P**	**02 30 13.7**	**+0.9**
BRVK				IAmb		IAmb	02 30 19.1	
	comp=Z,4.0nm,0.9s							
ZALV	**Zalesovo Beam**	**27.89**	**19**	P		**P**	**02 30 42.7**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=231,slow=9.0,SNR=4.6							
CMAR	**Chiang Mai Arr**	**28.63**	**104**	LR		LR	02 42 42.9	
	comp=Z,17nm,19.7s,baz=50,slow=37							
CMAR	**Chiang Mai Arr**	**28.63**	**104**	P		**P**	**02 30 50.4**	**+1.7**
SONM	**Songino Array**	**34.46**	**46**	P		**P**	**02 31 42.3**	**+2.5**
	comp=Z,1.1nm,0.8s,baz=242,slow=8.0,SNR=6.0							
SONM	**Songino Array**	**34.46**	**46**	P		**P**	**02 31 39.6**	**-0.2**
AKASG	**Malin Array Be**	**37.64**	**318**	P		**P**	**02 32 06.2**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=103,slow=6.9,SNR=4.1							
AKBB	**Malin Array Si**	**37.64**	**318**	P		**P**	**02 32 08.5**	**+1.6**
MLR	**Muntele Rosu**	**38.32**	**308**	P		**P**	**02 32 11.8**	**-0.9**
MLR				IAmb		IAmb	02 32 15.5	
	comp=Z,5.6nm,1.2s							
FINES	**FINESS Array B**	**43.81**	**331**	P		**P**	**02 32 56.7**	**-0.9**
	comp=Z,2.8nm,0.9s,baz=116,slow=16,SNR=4.6							
FINES				LR		LR	02 54 46.5	
	comp=Z,47nm,18.6s,baz=51,slow=41							
ARCES	**ARCESS Array B**	**48.31**	**341**	P		**P**	**02 33 32.2**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=126,slow=6.3,SNR=4.6							
ARCES				LR		LR	02 56 55.4	
	comp=Z,29nm,19.0s,baz=260,slow=40							
KSRS	**Korea Array**	**49.14**	**64**	P		**P**	**02 33 40.2**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=274,slow=8.3,SNR=5.8							
NOA	**NORSAR Array B**	**50.37**	**327**	P		**P**	**02 33 47.4**	**-1.5**
	comp=Z,0.6nm,0.8s,baz=106,slow=7.3,SNR=4.1							
NOA				LR		LR	02 59 33.4	
	comp=Z,14nm,19.1s,baz=295,slow=41							
KLR	**Kul'dur**	**51.20**	**48**	P		**P**	**02 33 56.2**	**+0.9**
	comp=Z,1.5nm,0.7s,baz=294,slow=6.7,SNR=5.3							
ESDC	**Sonseca Array**	**60.45**	**302**	P		**P**	**02 35 01.4**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=66,slow=7.6,SNR=8.1							
TORD	**Torodi Ar. Bea**	**64.53**	**272**	P		**P**	**02 35 28.6**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=57,slow=6.1,SNR=6.4							
WRA	**Warramunga Arr**	**78.86**	**120**	P		**P**	**02 36 55.9**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=320,slow=5.0,SNR=19							
AS31	**Alice Springs**	**80.71**	**123**	P		**P**	**02 37 05.5**	**-0.1**
AS31				IAmb		IAmb	02 39 59.9	
	comp=Z,5.5nm,2.0s							
ASAR	**Alice Springs**	**80.71**	**123**	P		**P**	**02 37 06.1**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=306,slow=5.5,SNR=29							
BMAR	**Burnt Mountain**	**81.11**	**13**	P		**P**	**02 37 07.0**	**0.0**
ILAR	**Eielson Array**	**82.92**	**15**	P		**P**	**02 37 15.8**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=314,slow=5.6,SNR=4.2							

*IDC **27** 02:42:00.1±3.9, 8°.18S×149°.75E, h42^{km}±35^{km}, mb3.9/15, mb1 4.1/18, mb1mx4.0/43, mbtmp4.2/18, ML4.4/3, MS3.5/2, Ms1 3.5/2, ms1mx2.9/46, Error ellipse: s-maj=25.0km s-min=14.1km az=82.0*
*DJA **27** 02:42:00.9±0.4, 8°.S±3°×15°.0E±°, h51^{km}±4^{km}, M4.9/18, mB5.2/6, mb4.7/18, MLv5.3/3, Mw(mB)4.6/6*
*NEIC **27** 02:42:00.7±1.8, 8°.13S±0°.05×149°.80E±0°.08, h45^{km}±7^{km}, mb4.4/31, Error ellipse: s-maj=12.9km s-min=4.2km az=121.0*

ISC 27 02:42:01.0±0.5, 8°.13S±0°.06×149°.72E±0°.08, h50^{km}, n86, σ1°31/87, mb4.5/34, MS4.7/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**2.83**	**243**	Pn		**Pn**	**02 42 45.5**	**+1.8**
PMG	**Port Moresby**	**2.83**	**243**	P		**Pn**	**02 42 45.9**	**+2.1**
PMG	**Port Moresby**	**2.83**	**243**	P		**Pn**	**02 42 46.6**	**+2.8**
PMG	**Port Moresby**	**2.83**	**243**	P		**Pn**	**02 42 46.6**	**+2.8**
RABL	**Rabaul**	**4.60**	**32**			**Pn**	**02 43 06.5**	**-1.6**
MANU	**Manus Island**	**6.49**	**339**			**Pn**	**02 43 34.3**	**+0.3**
COEN	**Coen**	**8.65**	**227**	Pn		**Pn**	**02 44 03.4**	**-0.3**
HNR	**Honiara**	**10.19**	**98**	LR		LR	02 47 24.4	
	comp=Z,287nm,19.6s,baz=332,slow=32							
JAY	**Jayapura**	**10.57**	**301**	P		**Pn**	**02 44 28.6**	**-1.3**
	1.3nm,0.3s,baz=178,slow=11,SNR=5.7							
JAY				LR		LR	02 49 31.0	
	comp=Z,215nm,20.4s,baz=2.0,slow=42							
CTA	**Charters Tower**	**12.35**	**195**	P		**Pn**	**02 44 55.2**	**+0.9**
	0.8nm,0.3s,baz=23,slow=15,SNR=9.6							
CTAO	**Charters Tower**	**12.35**	**195**	Pn		**Pn**	**02 44 54.7**	**+0.4**
SMPI	**Sarmi**	**12.55**	**299**	P		**Pn**	**02 44 54.4**	**-2.5**
	1µm24nm,1.2s							
EIDS	**Eidsvold**	**17.19**	**176**	Pn		**Pn**	**02 45 56.2**	**-1.5**
EIDS				IAmb		IAmb	02 46 02.4	
	comp=Z,37nm,1.0s							
FAKI	**Fak Fak**	**18.14**	**286**	P		**Pn**	**02 46 10.1**	**+0.6**
	comp=Z,72nm,1.4s							
WB0	**Warramunga Arr**	**18.82**	**230**	P		**P**	**02 46 16.1**	**-0.7**
WB0				IAmb		IAmb	02 46 39.8	
	comp=Z,19nm,1.1s							
WR0	**Warramunga Arr**	**18.83**	**230**	P		**P**	**02 46 16.4**	**-0.4**
WR0				IAmb		IAmb	02 46 36.3	
	comp=Z,28nm,1.4s							
WRAB	**Tennant Creek**	**18.95**	**230**	P		**P**	**02 46 18.0**	**-0.2**
WB2	**Warramunga Arr**	**18.96**	**230**	P		**P**	**02 46 18.3**	**+0.1**
WB2				IAmb		IAmb	02 46 25.7	
	comp=Z,9.8nm,0.7s							
WRA	**Warramunga Arr**	**18.97**	**230**	P		**P**	**02 46 17.7**	**-0.7**
	comp=Z,1.3nm,0.3s,baz=50,slow=10,SNR=50							
WRA	**Warramunga Arr**	**18.97**	**230**	P		**P**	**02 46 18.8**	**+0.4**
SIJI	**Sorong**	**19.75**	**290**	P		**P**	**02 46 26.3**	**-0.7**
	comp=Z,3.0nm,0.3s,baz=81,slow=11,SNR=11							
SIJI	**Sorong**	**19.75**	**290**	P		**P**	**02 46 26.5**	**-0.5**
	comp=Z,41nm,1.0s							
SIJI				pP		**pP**	**02 46 37.0**	**-0.3**
	comp=Z,41nm,1.0s							
DZM	**Mont Dzumac**	**21.25**	**133**	P		**P**	**02 46 43.4**	**+0.3**
	comp=Z,6.0nm,0.9s,baz=86,slow=16,SNR=3.8							
DZM	**Mont Dzumac**	**21.25**	**133**	*eP*		**P**	**02 46 47.9**	**+4.7**
	comp=Z,31nm,1.3s							
DZM				*e*LR		LR	02 51 52.4	
	comp=Z,269nm,23.6s							
DZM	**Mont Dzumac**	**21.25**	**133**	P		**P**	**02 46 43.8**	**+0.6**
AS31	**Alice Springs**	**21.64**	**223**	P		**P**	**02 46 46.3**	**-1.0**
ASAR	**Alice Springs**	**21.64**	**223**	P		**P**	**02 46 47.1**	**-0.2**
	comp=Z,2.9nm,0.5s,baz=56,slow=9.4,SNR=66							
KNRA	**Kununurra**	**21.82**	**248**	P		**P**	**02 46 48.2**	**-1.1**
KNRA				IAmb		IAmb	02 47 10.8	
	comp=Z,20nm,0.8s							
GAMI	**Galela, Maluku**	**24.01**	**293**	P		**P**	**02 47 12.0**	**+0.6**
	comp=Z,2µmcomp=Z,80nm,0.9s							
STKA	**Stephens Creek**	**24.81**	**197**	P		**P**	**02 47 17.5**	**-1.0**
	comp=Z,7.6nm,0.7s,baz=19,slow=12,SNR=24							
STKA	**Stephens Creek**	**24.81**	**197**	P		**P**	**02 47 17.6**	**-0.9**
SOEI	**Soe**	**25.20**	**264**	P		**P**	**02 47 22.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**25.43**	**245**	P		**P**	**02 47 24.1**	**-0.2**
	comp=Z,16nm,0.5s,baz=57,slow=9.2,SNR=96							
FITZ	**Fitzroy Crossi**	**25.43**	**245**	P		**P**	**02 47 23.4**	**-0.9**
FITZ				IAmb		IAmb	02 47 25.8	
	comp=Z,18nm,0.8s							
MMRI	**Maumere**	**27.19**	**267**	P		**P**	**02 47 41.0**	**+0.7**
EDFI	**Ende, Flores**	**27.73**	**267**	P		**P**	**02 47 44.4**	**-0.8**
	comp=Z,395nmcomp=Z,22nm,1.0s							
TOLI2	**Tolitoli**	**30.28**	**286**	P		**P**	**02 48 05.8**	**-1.9**
TOLI2				IAmb		IAmb	02 48 07.4	
	comp=Z,12nm,0.9s							
PSA00	**Pilbara Seismi**	**31.74**	**242**	P		**P**	**02 48 20.4**	**-0.2**
PSA00				IAmb		IAmb	02 48 28.3	
	comp=Z,8.0nm,1.4s							
MJAR	**Matsushiro Arr**	**45.73**	**347**	P		**P**	**02 50 17.0**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=162,slow=7.7,SNR=5.4							
MJAR	**Matsushiro Arr**	**45.73**	**347**	P		**P**	**02 50 17.2**	**-0.2**
MJAR				IAmb		IAmb	02 50 33.0	
	comp=Z,3.6nm,0.8s							
MAJO	**Matsushiro**	**45.73**	**347**	P		**P**	**02 50 17.8**	**+0.4**
MAT	**Matsushiro**	**45.73**	**347**	P		**P**	**02 50 17.2**	**-0.2**
KSRS	**Korea Array**	**49.72**	**337**	P		**P**	**02 50 48.4**	**+0.2**
	comp=Z,2.6nm,1.1s,baz=164,slow=8.9,SNR=7.4							
KSAR	**Wonju Array Be**	**49.73**	**337**	P		**P**	**02 50 49.2**	**+0.9**
KS19	**Wonju Array Si**	**49.78**	**337**	P		**P**	**02 50 50.0**	**+1.3**
CHAI	**Chaiyaphum**	**52.95**	**297**	P		**P**	**02 51 13.3**	**+0.4**
	comp=Z,549nmcomp=Z,20nm,0.6s							
USA0B	**Ussuriysk Arra**	**54.50**	**344**	P		**P**	**02 51 25.2**	**+1.6**
USA0B				IAmb		IAmb	02 51 50.5	
	comp=Z,7.2nm,1.1s							
USRK	**Ussuriysk Ar.**	**54.50**	**344**	P		**P**	**02 51 25.3**	**+1.6**
	comp=Z,0.9nm,0.5s,baz=174,slow=7.9,SNR=5.7							
USRK	**Ussuriysk Ar.**	**54.50**	**344**	P		**P**	**02 51 25.0**	**+1.3**
PHIT	**Phitsanulok**	**54.84**	**298**	P		**P**	**02 51 28.2**	**+1.6**
	comp=Z,33nm,0.8s							
UMPA	**Umpang Tak**	**55.84**	**296**	P		**P**	**02 51 37.1**	**+3.2**
	comp=Z,5µmcomp=Z,18nm,0.8s							
PAYA	**Payao**	**56.19**	**300**	P		**P**	**02 51 38.2**	**+1.8**
	comp=Z,956nmcomp=Z,65nm,0.7s							
CM05	**Chiang Mai Arr**	**56.61**	**298**	P		**P**	**02 51 40.5**	**+1.2**
	comp=Z,5.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**56.63**	**298**	P		**P**	**02 51 40.5**	**+1.0**
	comp=Z,3.4nm,0.4s,baz=118,slow=5.4,SNR=9.0							
CMAR	**Chiang Mai Arr**	**56.63**	**298**	P		**P**	**02 51 39.7**	**+0.2**
CHTO	**Chiang Mai**	**56.77**	**299**	P		**P**	**02 51 39.9**	**-0.5**
CHTO				IAmb		IAmb	02 51 41.8	
	comp=Z,5.0nm,0.9s							
CD2	**Chengdu**	**58.69**	**314**	P		**P**	**02 51 54.0**	**+0.2**
CD2				pmax		pmax		
	comp=Z,20nm,0.9s							
CD2				LR		LR		
	comp=N,1µm,16.1s							
CD2				LR		LR		
	comp=E,2µm,23.1s							
CD2				LR		LR		
	comp=Z,1µm,27.1s							
HHC	**Hu-ho-hao-te**	**60.06**	**327**	*eP*		**P**	**02 52 06.8**	**+3.7**
HHC				pmax		pmax		
	comp=Z,18nm,1.1s							
HHC				pmax		pmax		
	comp=Z,120nm,5.9s							
LZH	**Lanzhou**	**61.58**	**319**	*eP*		**P**	**02 52 15.5**	**+1.9**
LZH				pP		pwP	02 52 31.0	+0.2
LZH				sP		sP	02 52 37.5	+5.7
LZH				pmax		pmax		
	comp=Z,19nm,1.3s							
SHL	**Shillong**	**65.44**	**303**	P		**P**	**02 52 39.8**	**+0.5**
SHL				IAmb		IAmb	02 52 40.5	
	comp=Z,7.1nm,0.9s							
SONM	**Songino Array**	**67.58**	**330**	P		**P**	**02 52 53.3**	**+0.8**
	comp=Z,1.2nm,0.5s,baz=156,slow=3.6,SNR=8.4							
SONM				pP		**pP**	**02 53 02.7**	**-2.9**
	comp=Z,1.8nm,0.7s,baz=146,slow=4.4,SNR=7.7							
SONM	**Songino Array**	**67.58**	**330**	P		**P**	**02 52 52.9**	**+0.4**
SONM				IAmb		IAmb	02 53 12.8	
	comp=Z,2.8nm,1.0s							
VNDA	**Vanda**	**69.65**	**177**	P		**P**	**02 53 04.4**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=326,slow=6.0,SNR=9.4							
VNDA	**Vanda**	**69.65**	**177**	P		**P**	**02 53 04.7**	**-0.1**
WMQ	**Urumqi**	**76.16**	**319**	*eP*		**P**	**02 53 45.8**	**+1.8**
WMQ				LR		LR		
	comp=N,650nm,16.5s							
WMQ				LR		LR		
	comp=E,490nm,15.1s							
WMQ				LR		LR		
	comp=Z,120nm,20.9s							
MK31	**Makanchi Array**	**80.85**	**320**	P		**P**	**02 54 09.7**	**-0.1**
MK31				IAmb		IAmb	02 54 26.4	
	comp=Z,3.0nm,1.1s							
MKAR	**Makanchi Array**	**80.85**	**320**	P		**P**	**02 54 09.3**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=106,slow=4.3,SNR=4.1							
MAW	**Mawson**	**81.34**	**203**	P		**P**	**02 54 11.4**	**-0.5**
	comp=Z,2.5nm,0.6s,baz=130,slow=2.1,SNR=4.4							
MAW	**Mawson**	**81.34**	**203**	P		**P**	**02 54 11.2**	**-0.7**
ZALV	**Zalesovo Beam**	**82.25**	**327**	P		**P**	**02 54 16.7**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=104,slow=6.1,SNR=2.9							
ZALV	**Zalesovo Beam**	**82.25**	**327**	P		**P**	**02 54 16.4**	**-0.4**
NIL	**Nilore**	**83.35**	**305**	P		**P**	**02 54 23.3**	**+0.1**
KURK	**Kurchatov**	**84.53**	**323**	P		**P**	**02 54 28.2**	**-0.4**
KURBB	**Kurchatov Arra**	**84.55**	**323**	P		**P**	**02 54 28.2**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=114,slow=4.0,SNR=4.1							
RND	**Reindeer**	**84.97**	**23**	P		**P**	**02 54 30.7**	**-0.1**
IL31		**86.38**	**23**	P		**P**	**02 54 38.0**	**+0.4**
IL31				IAmb		IAmb	02 54 55.5	
	comp=Z,2.9nm,0.8s							
ILAR	**Eielson Array**	**86.38**	**23**	P		**P**	**02 54 36.3**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=246,slow=4.9,SNR=10							
GAR	**Garm**	**86.92**	**310**	P		**P**	**02 54 41.6**	**+0.6**
KK31	**Karatay Array**	**87.70**	**314**	P		**P**	**02 54 46.0**	**+1.4**
KK31				IAmb		IAmb	02 55 04.8	
	comp=Z,1.7nm,0.9s							
KKAR	**Karatay Array**	**87.70**	**314**	P		**P**	**02 54 44.4**	**-0.2**
SNAA	**Sanae**	**98.32**	**188**	P		**P**	**02 55 31.3**	**-1.8**
VNA1	**Neumayer--Stat**	**99.99**	**187**	P		**Pdif**	**02 55 38.6**	**-1.8**
GERES	**GERESS Array B**	**125.18**	**326**	PKP		**PKiKP**	**03 00 57.2**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=28,slow=2.3,SNR=2.0							
GERES	**GERESS Array B**	**125.18**	**326**			**PKPdf**	**03 00 56.0**	**-0.2**
TORD	**Torodi Ar. Bea**	**148.20**	**282**	PKPbc		**PKPbc**	**03 01 41.8**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=66,slow=2.1,SNR=18							
TORD	**Torodi Ar. Bea**	**148.20**	**282**			**PKPbc**	**03 01 42.0**	**-0.6**

*IDC **27** 02:43:59.5±0.6, 41°.65N×119°.63W, h0^{km}, mb4.0/14, mb1 4.1/18, mb1mx4.0/54, mbtmp4.0/18, ML3.6/4, MS3.3/13, Ms1 3.3/13, ms1mx3.2/55, Error ellipse: s-maj=14.2km s-min=5.4km az=7.0*

*NEIC **27** 02:44:00.5±1.9, 41°.88N±0°.03×119°.60W±0°.06, h4^{km}±4^{km}, Error ellipse: s-maj=6.3km s-min=4.5km az=81.0*
*NEIC **27** 02:44:00.6, 41°.87N×119°.61W, h5^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-1.55; $M_{\theta\theta}$0.11; $M_{\phi\phi}$1.44; $M_{r\theta}$-0.28; $M_{r\phi}$0.70; $M_{\theta\phi}$0.72; Fault plane solution: $M_0$1.83000×10^{15} NP1:ϕ_s185.59000°, δ56.90000°, λ-111.20000°. NP2:ϕ_s40.98000°, δ38.65000°, λ-60.98000°. Principal axes: T 1.8347, Plg10.0000°, Azm291.0000°; N -0.0196, Plg18.0000°, Azm198.0000°; P -1.8152, Plg70.0000°, Azm48.0000°;*
*REN **27** 02:44:00.6±1.7, 41°.87N±0°.04×119°.61W±0°.06, h10^{km}±5^{km}, ML4.2/7, mb4.3/36(NEIC), ML4.0/124(NEIC), Mwr4.1/123(NEIC) Error ellipse: s-maj=6.5km s-min=5.8km az=88.0*
*ANF **27** 02:44:01.5±0.3, 41°.88N×119°.66W, h10^{km}, ML4.4/20, Error ellipse: s-maj=2.8km s-min=2.7km az=112.0*

ISC 27 02:44:00.5±1.3, 41°.87N±0°.03×119°.58W±0°.02, h0^{km}±9^{km}, n232, σ1°30/244, mb4.3/29, MS3.4/4, Nevada

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MOD	**Modoc Plateau**	**0.54**	**274**	Pg		**Pg**	**02 44 11.1**	**+0.2**
MOD				Sg		**Sg**	**02 44 18.6**	**+0.7**
WVOR	**Wild Horse Val**	**0.90**	**51**			**Pg**	**02 44 17.8**	**0.0**
WVOR	**Wild Horse Val**	**0.90**	**51**			**Sb**	**02 44 31.1**	**-0.6**
WVOR	**Wild Horse Val**	**0.90**	**51**	IAML			02 44 35.0	
	5µm,1.2s							
WVOR				IAML			02 44 38.5	
	3µm,0.9s							
K05A	**Summer Lake**	**1.30**	**312**	Pn		**Pn**	**02 44 24.9**	**-1.2**
M04C	**Macdoel**	**1.69**	**268**	Pn		**Pn**	**02 44 30.4**	**-1.0**
	baz=86,SNR=275							
M04C				Pb		**Pb**	**02 44 31.6**	**-1.0**
	baz=86							
M04C				Sb		**Sb**	**02 44 54.1**	**-0.3**
	baz=86							
J08A	**Circle Bar Ran**	**1.70**	**28**			**Pn**	**02 44 31.3**	**-0.2**
J08A				IAML			02 45 05.0	
	comp=E,1µm,1.0s							
J08A				IAML			02 45 09.2	
	comp=N,2µm,0.9s							
K04D	**Chiloquin, OR**	**1.78**	**296**	Pn		**Pn**	**02 44 31.6**	**-1.0**
	baz=115,SNR=347							
K04D				Pb		**Pb**	**02 44 33.2**	**-0.9**
	baz=115							
K04D				Sb		**Sb**	**02 44 56.8**	**-0.2**
	baz=115							
J05D	**Fort Rock, OR**	**1.87**	**320**	Pn		**Pn**	**02 44 33.1**	**-0.8**
	baz=139							
J05D				Pb		**Pb**	**02 44 34.9**	**-0.7**
	baz=139							
J05D				Sg		**Sg**	**02 45 02.2**	**+1.5**
	baz=139							
L04D	**Klamath Falls**	**2.06**	**281**	Pn		**Pn**	**02 44 35.2**	**-1.3**
	baz=99,SNR=126							
L04D				Pb		**Pb**	**02 44 37.5**	**-1.3**
	baz=99							
L04D				Sb		**Sb**	**02 45 05.5**	**+0.5**
	baz=99							
BEKR	**Beckworth**	**2.08**	**197**	Pn		**Pn**	**02 44 37.4**	**+0.6**
BEKR				IAML			02 45 17.3	
	comp=E,1µm,0.7s							
BEKR				IAML			02 45 18.3	
	comp=N,1µm,0.6s							
PAHR	**Pah Rah Range**	**2.16**	**176**			**Pn**	**02

KRMB				IAML		02 45 52.4		
	comp=N,262nm,1.9s							
KRMB				IAML		02 45 58.8		
	comp=E,230nm,1.9s							
KHMM	**Horse Mountain**	**3.28**	**254**	Pn	**Pn**	**02 44 52.3**	**-0.9**	
KHMM				IAML		02 46 00.1		
	comp=E,470nm,1.6s							
RYN	**Ryan**	**3.33**	**166**		**Pn**	**02 44 53.5**	**-0.5**	
RYN				IAML		02 45 53.0		
	comp=N,443nm,0.6s							
H04A	**Detroit Lake**	**3.40**	**327**	Pn	**Pn**	**02 44 53.5**	**-1.3**	
BMO	**Blue Mountains**	**3.41**	**28**	Pn	**Pn**	**02 44 54.1**	**-1.0**	
BUCK	**Buck Mountain**	**3.42**	**314**	Pn	**Pn**	**02 44 54.5**	**-0.6**	
BUCK				IAML		02 46 06.2		
	comp=N,270nm,1.3s							
BUCK				IAML		02 46 09.3		
	comp=E,332nm,1.6s							
G08A	**Pilot Rock**	**3.45**	**7**	Pn	**Pn**	**02 44 54.7**	**-0.9**	
ELK	**Elko**	**3.46**	**107**	Pn	**Pn**	**02 44 55.5**	**-0.2**	
	comp=E,1.8nm,0.3s,baz=294,slow=12,SNR=54							
ELK				Pg	**Pb**	**02 45 00.9**	**-1.8**	
	comp=E,35nm,0.3s,baz=294,slow=16,SNR=117							
ELK				Sn	**Sn**	**02 45 36.6**	**-1.0**	
	comp=E,9.4nm,0.3s,baz=253,slow=19,SNR=5.4							
ELK				Lg	Lg	02 45 48.7		
	comp=E,47nm,0.3s,baz=209,slow=22,SNR=9.5							
ELK				LR	LR	02 46 27.4		
	comp=E,574nm,21.5s,baz=212,slow=43							
ELK	**Elko**	**3.46**	**107**	Pn	**Pn**	**02 44 54.9**	**-0.9**	
ELK				IAML		02 45 51.5		
	comp=E,168nm,0.5s							
J01E	**Myrtle Point**	**3.47**	**293**	P	**Pn**	**02 44 57.0**	**+1.3**	
	baz=111,SNR=6.4							
JCC	**Jacoby Creek,**	**3.51**	**254**	Pn	**Pn**	**02 44 55.2**	**-1.0**	
JCC				IAML		02 45 57.3		
	comp=N,351nm,1.4s							
JCC				IAML		02 46 00.9		
	comp=E,384nm,1.4s							
H04D	**Lebanon**	**3.52**	**320**	Pb	**Pb**	**02 45 03.2**	**-0.4**	
	baz=138,SNR=73							
KMRM	**Mail Ridge**	**3.53**	**244**	Pn	**Pn**	**02 44 55.1**	**-1.5**	
KMRM				IAML		02 45 57.5		
	comp=N,405nm,1.1s							
NVAR	**Mina Array Bea**	**3.57**	**164**	Pn	**Pn**	**02 44 58.2**	**+0.9**	
	comp=N,2.9nm,0.3s,baz=344,slow=13,SNR=54							
NVAR				Lg	Lg	02 45 54.3		
	comp=N,53nm,0.3s,baz=348,slow=30,SNR=12							
NVAR	**Mina Array Bea**	**3.57**	**164**		**Pn**	**02 44 56.8**	**-0.5**	
NV11	**Mina Array Sit**	**3.60**	**162**		**Pn**	**02 44 57.5**	**-0.2**	
NV11				IAML		02 46 09.2		
	comp=N,241nm,1.1s							
NV11				IAML		02 46 10.0		
	comp=E,266nm,1.2s							
G05D	**Wamic, OR**	**3.60**	**340**	Pb	**Pb**	**02 45 04.7**	**-0.4**	
	baz=159,SNR=20							
LHV	**Little Huntoon**	**3.71**	**167**		**Pn**	**02 44 58.9**	**-0.1**	
KCPM	**Cahto Peak**	**3.74**	**236**	Pn	**Pn**	**02 44 58.4**	**-1.1**	
KCPM				IAML		02 46 08.7		
	comp=E,264nm,1.2s							
KCPM				IAML		02 46 08.9		
	comp=N,284nm,1.1s							
COR	**Corvallis**	**3.84**	**316**		**Pn**	**02 44 59.6**	**-1.2**	
COR				IAML		02 46 17.4		
	comp=N,190nm,1.4s							
COR				IAML		02 46 22.5		
	comp=N,207nm,1.8s							
I02D	**Swisshome**	**3.85**	**307**	Pb	**Pb**	**02 45 08.0**	**-1.3**	
	baz=124,SNR=5.4							
CMB	**Columbia Colle**	**3.88**	**189**		**Pn**	**02 45 00.3**	**-1.1**	
CMB				IAML		02 46 06.6		
	comp=N,146nm,0.9s							
HOPS	**Hopland Field**	**3.92**	**224**	Pn	**Pn**	**02 45 01.2**	**-0.7**	
GDXM	**Geysers**	**3.92**	**220**	Pn	**Pn**	**02 45 00.5**	**-1.5**	
F07A	**Phinny Hill Vi**	**4.04**	**357**	Pn	**Pn**	**02 45 03.0**	**-0.5**	
F07A				IAML		02 46 22.6		
	comp=N,121nm,1.1s							
F07A				IAML		02 46 31.8		
	comp=E,126nm,1.3s							
PLID	**Pearl Lake**	**4.14**	**38**		**Pn**	**02 45 05.6**	**+0.4**	
HLID	**Hailey**	**4.17**	**64**	Pn	**Pn**	**02 45 05.7**	**+0.2**	
HLID				IAML		02 46 27.1		
	comp=E,206nm,1.4s							
HLID	**Hailey**	**4.17**	**64**	Pn	**Pn**	**02 45 06.1**	**+0.6**	
	baz=248							
HLID				Pb	**Pb**	**02 45 14.7**	**-0.1**	
	baz=248							
HLID				Sb	**Sb**	**02 46 08.7**	**+3.0**	
	baz=248							
TPH	**Tonopah**	**4.20**	**154**		**Pn**	**02 45 06.3**	**+0.3**	
BENR	**Benton**	**4.22**	**169**		**Pn**	**02 45 09.4**	**+3.1**	
MDPB	**Devils Postpil**	**4.25**	**175**		**Pn**	**02 45 06.0**	**-0.6**	
G03D	**McMinnville, O**	**4.28**	**323**	Pg	**Pg**	**02 45 23.5**	**+0.9**	
	baz=140							
F10A	**Beach Ranch, E**	**4.44**	**22**		**Pn**	**02 45 09.0**	**-0.2**	
HAWA	**Hanford**	**4.53**	**0**		**Pn**	**02 45 09.4**	**-0.8**	
HAWA				IAML		02 46 37.6		
	comp=E,70nm,1.3s							
F04A	**Amboy**	**4.55**	**334**	Pn	**Pn**	**02 45 08.6**	**-2.0**	
E08A	**Dider Farm, El**	**4.64**	**4**	Pn	**Pn**	**02 45 10.5**	**-1.3**	
E08A				IAML		02 46 38.9		
	comp=E,65nm,1.1s							
R11A	**Troy Canyon, C**	**4.66**	**138**		**Pn**	**02 45 11.9**	**-0.4**	
R11A				IAML		02 46 32.3		
	comp=E,114nm,1.2s							
R11A				IAML		02 46 39.0		
	comp=N,100nm,0.8s							
R11A	**Troy Canyon, C**	**4.66**	**138**	P	**Pn**	**02 45 14.7**	**+2.4**	
	baz=320							
R11A				Sb	**Sg**	**02 46 27.1**	**-3.1**	
	baz=320							
E07A	**Sunnyside**	**4.70**	**358**	Pn	**Pn**	**02 45 11.5**	**-1.1**	
E07A				IAML		02 46 44.3		
	comp=E,80nm,1.5s							
E07A				IAML		02 47 08.8		
	comp=N,64nm,1.4s							
E09A	**Wood Farm, Sta**	**4.76**	**12**	Pn	**Pn**	**02 45 12.7**	**-0.7**	
LCH	**Last Change Ra**	**4.86**	**161**	Pn	**Pn**	**02 45 14.6**	**-0.5**	
LCH				IAML		02 46 50.7		
	comp=E,112nm,1.5s							
LCH				IAML		02 46 51.5		
	comp=N,68nm,0.8s							
SPR3	**Spring Creek 3**	**4.92**	**124**	Pn	**Pn**	**02 45 16.1**	**+0.1**	
BGU	**Big Grassy Mou**	**5.01**	**99**		**Pn**	**02 45 17.2**	**+0.1**	
BGU				IAML		02 46 48.9		
	comp=N,133nm,1.4s							
HVU	**Hansel Valley**	**5.08**	**89**		**Pn**	**02 45 18.2**	**+0.2**	
LON	**Longmire**	**5.14**	**343**	Pn	**Pn**	**02 45 17.5**	**-1.2**	
D08A	**Wollman Farm,**	**5.21**	**5**	Pn	**Pn**	**02 45 17.6**	**-2.1**	
SAO	**San Andreas Ge**	**5.30**	**196**	Pn	**Pn**	**02 45 20.1**	**-0.8**	
SPUT	**South Promonto**	**5.38**	**94**		**Pn**	**02 45 21.4**	**-0.7**	
DUG	**Dugway, Tooele**	**5.38**	**106**		**Pn**	**02 45 22.1**	**0.0**	
DUG	**Dugway, Tooele**	**5.38**	**106**	P	**Pn**	**02 45 24.1**	**+2.0**	
	baz=290							
LTY	**Liberty**	**5.45**	**352**	Pn	**Pn**	**02 45 22.0**	**-0.9**	
RADR	**Rader Ridge**	**5.47**	**328**	Pn	**Pn**	**02 45 21.2**	**-2.0**	
E03A	**Lebam**	**5.48**	**330**	Pn	**Pn**	**02 45 23.2**	**-0.1**	
PSUT	**Pine Spring**	**5.50**	**125**		**Pn**	**02 45 24.0**	**+0.2**	
TPNV	**Topopah Spring**	**5.55**	**151**		**Pn**	**02 45 25.1**	**+0.6**	
TPNV	**Topopah Spring**	**5.55**	**151**	P	**Pn**	**02 45 27.1**	**+2.7**	
	baz=333							
D05A	**Enumclaw**	**5.59**	**343**	Pn	**Pn**	**02 45 24.5**	**-0.3**	
PRN	**Pahroc Range**	**5.66**	**140**		**Pn**	**02 45 25.6**	**-0.4**	
MCMT	**McKenzie Canyo**	**5.73**	**57**		**Pn**	**02 45 27.8**	**+0.8**	
NLU	**North Lily Min**	**6.00**	**106**		**Pn**	**02 45 30.6**	**-0.1**	
CTU	**Camp Tracy**	**6.01**	**99**	Pn	**Pn**	**02 45 30.0**	**-0.8**	
GWY	**Greenwater Val**	**6.11**	**157**		**Pn**	**02 45 32.2**	**0.0**	
PAGB	**Antelope Grade**	**6.15**	**185**	Pn	**Pn**	**02 45 32.9**	**+0.3**	
DLMT	**Dillon**	**6.16**	**53**	Pn	**Pn**	**02 45 31.9**	**-0.9**	
TCUT	**Toone Canyon**	**6.18**	**94**	Pn	**Pn**	**02 45 32.1**	**-1.2**	
ISA	**Isabella, Lake**	**6.25**	**172**	Pn	**Pn**	**02 45 33.9**	**-0.2**	
JLU	**Jordanelle**	**6.26**	**99**		**Pn**	**02 45 33.9**	**-0.4**	
QSM	**Queen of Sheba**	**6.26**	**159**	Pn	**Pn**	**02 45 34.0**	**-0.1**	
MPU	**Maple Canyon**	**6.29**	**104**		**Pn**	**02 45 34.9**	**+0.2**	
AHID	**Auburn Hatcher**	**6.35**	**79**	Pn	**Pn**	**02 45 34.4**	**-1.1**	
TCRU	**Three Creeks R**	**6.35**	**118**	Pn	**Pn**	**02 45 34.7**	**-0.9**	
MSO	**Missoula**	**6.40**	**37**	Pn	**Pn**	**02 45 35.6**	**-0.4**	
MSO	**Missoula**	**6.40**	**37**	P	**Pn**	**02 45 38.6**	**+2.5**	
	baz=221							
ICU	**Indian Springs**	**6.43**	**135**		**Pn**	**02 45 39.7**	**+3.2**	
CCUT	**Cedar City**	**6.45**	**130**	Pn	**Pn**	**02 45 37.5**	**+0.7**	
B08A	**Colville Reser**	**6.49**	**1**	Pn	**Pn**	**02 45 35.7**	**-1.6**	
LRM	**Limekiln Ridge**	**6.50**	**50**	Pn	**Pn**	**02 45 36.5**	**-1.0**	
FXWY	**Fox Creek**	**6.54**	**71**	Pn	**Pn**	**02 45 37.7**	**-0.4**	
TPAW	**Teton Pass**	**6.56**	**73**	Pn	**Pn**	**02 45 37.8**	**-0.7**	
MVU	**Marysvale**	**6.56**	**118**	Pn	**Pn**	**02 45 38.9**	**+0.4**	
SZCU	**Shurtz Canyon**	**6.57**	**128**	Pn	**Pn**	**02 45 39.0**	**+0.4**	
MSU	**Marysvale**	**6.58**	**118**	Pn	**Pn**	**02 45 38.6**	**-0.1**	
NEW	**Newport**	**6.63**	**14**	Pn	**Pn**	**02 45 41.9**	**+2.7**	
	comp=N,0.1nm,0.3s,baz=230,slow=18,SNR=2.4							
NEW				Lg	Lg	02 47 33.4		
	comp=N,0.3nm,0.3s,baz=138,slow=12,SNR=4.0							
NEW	**Newport**	**6.63**	**14**	Pn	**Pn**	**02 45 38.4**	**-0.7**	
QLMT	**Earthquake Lak**	**6.64**	**61**	Pn	**Pn**	**02 45 39.0**	**-0.4**	
IMW	**Indian Meadow**	**6.66**	**69**	Pn	**Pn**	**02 45 39.2**	**-0.7**	
SNOW	**Snow King Moun**	**6.70**	**73**	Pn	**Pn**	**02 45 39.1**	**-1.2**	
YHB	**Horse Butte**	**6.76**	**62**	Pn	**Pn**	**02 45 41.3**	**+0.1**	
MOOW	**Moose Ponds**	**6.76**	**71**	Pn	**Pn**	**02 45 40.0**	**-1.2**	
YHL	**Hebgen Lake**	**6.81**	**61**	Pn	**Pn**	**02 45 40.9**	**-1.0**	
LOHW	**Long Hollow**	**6.83**	**72**	Pn	**Pn**	**02 45 41.5**	**-0.6**	
MTPU	**Mount Pierson**	**6.84**	**121**	Pn	**Pn**	**02 45 40.4**	**-2.1**	
BOZ	**Bozeman (W)**	**6.86**	**54**	Pn	**Pn**	**02 45 42.1**	**-0.4**	
BOZ	**Bozeman (W)**	**6.86**	**54**	P	**Pn**	**02 45 45.7**	**+3.3**	
	baz=240							
YPP	**Pitchstone Pla**	**6.86**	**67**	Pn	**Pn**	**02 45 41.8**	**-0.8**	
TMUT	**Trail Mountain**	**6.87**	**109**	Pn	**Pn**	**02 45 41.8**	**-1.0**	
FLWY	**Flagg Ranch**	**6.88**	**68**	Pn	**Pn**	**02 45 41.9**	**-0.9**	
LCMT	**Little Creek M**	**6.89**	**133**	Pn	**Pn**	**02 45 41.8**	**-1.1**	
JTMT	**Jette**	**6.98**	**31**	Pn	**Pn**	**02 45 42.6**	**-1.5**	
YHH	**Holmes Hill**	**7.00**	**62**	Pn	**Pn**	**02 45 43.0**	**-1.5**	
Q16A	**Castle Valley**	**7.06**	**112**	Pn	**Pn**	**02 45 44.4**	**-0.9**	
YNR	**Norris Junctio**	**7.09**	**63**	Pn	**Pn**	**02 45 45.0**	**-0.7**	
KNB	**Kanab**	**7.13**	**131**	Pn	**Pn**	**02 45 45.0**	**-1.2**	
P17A	**Butcher Ranch,**	**7.13**	**107**	Pn	**Pn**	**02 45 46.2**	**0.0**	
PKCU	**Pink Cliffs**	**7.14**	**126**	Pn	**Pn**	**02 45 45.9**	**-0.5**	
BW06	**Boulder Array**	**7.48**	**80**	Pn	**Pn**	**02 45 49.9**	**-1.2**	
PD31	**Pinedale Array**	**7.48**	**80**	Pn	**Pn**	**02 45 50.4**	**-0.6**	
PDAR	**Pinedale Array**	**7.48**	**80**	Pn	**Pn**	**02 45 55.0**	**+3.9**	
	comp=N,0.3nm,0.3s,baz=263,slow=12,SNR=15							
PDAR				LR	LR	02 48 48.3		
	comp=N,170nm,21.1s,baz=261,slow=38							
RDMU	**Red Mountain**	**7.66**	**96**	Pn	**Pn**	**02 45 53.1**	**-0.3**	
U15A	**North Rim**	**7.84**	**131**	Pn	**Pn**	**02 45 58.0**	**+1.9**	
GCMT	**Greycliff**	**8.17**	**58**	Pn	**Pn**	**02 46 00.3**	**-0.1**	
GCMT					LR	02 48 24.1		
RLMT	**Red Lodge**	**8.17**	**63**	Pn	**Pn**	**02 45 59.6**	**-0.9**	
IRM	**Iron Mountain**	**8.45**	**154**	P	**Pn**	**02 46 07.7**	**+3.5**	
	baz=337							
PFO	**Pinyon Flats O**	**8.60**	**162**	LR	LR	02 49 46.9		
	comp=N,135nm,19.6s,baz=336,slow=41							
O20A	**White River Ci**	**8.75**	**98**	Pn	**Pn**	**02 46 07.0**	**-1.4**	
PV21	**Cone Mtn., Par**	**8.76**	**109**	Pn	**Pn**	**02 46 09.0**	**+0.4**	
PV23	**Carpenter Ridg**	**8.78**	**109**	Pn	**Pn**	**02 46 11.4**	**+2.5**	
PV14	**Lion Creek, Pa**	**8.81**	**110**	Pn	**Pn**	**02 46 11.8**	**+2.5**	
SMCO	**Snowmass**	**9.97**	**101**		**Pn**	**02 46 27.3**	**+2.0**	
N23A	**Red Feather La**	**10.30**	**91**	P	**Pn**	**02 46 33.3**	**+3.7**	
	baz=280							
PHWY	**Pilot Hill**	**10.60**	**88**		**Pn**	**02 46 35.2**	**+1.4**	
ISCO	**Idaho Springs**	**10.78**	**96**		**Pn**	**02 46 35.4**	**-1.0**	
SDCO	**Great Sand Dun**	**11.58**	**106**		**Pn**	**02 46 46.5**	**-0.8**	
BBB	**Bella Bella**	**11.84**	**334**	LR	LR	02 51 24.5		
	comp=N,201nm,18.2s,baz=172,slow=37							
ANMO	**Albuquerque**	**12.39**	**120**	Pn	**Pn**	**02 47 02.1**	**+3.9**	
	comp=N,0.0nm,0.3s,baz=322,slow=15,SNR=4.0							
ANMO				LR	LR	02 52 17.7		
	comp=N,269nm,18.5s,baz=295,slow=40							
R32A	**Long Quarter,**	**16.32**	**95**	Pn	**Pn**	**02 47 49.0**	**-2.0**	
ECSD	**EROS Data Cent**	**16.95**	**76**	Pn	**Pn**	**02 47 56.9**	**-2.0**	
DLBC	**Dease Lake**	**17.85**	**342**	LR	LR	02 55 54.8		
	comp=N,101nm,18.1s,baz=34,slow=40							
TXAR	**Lajitas Array**	**17.96**	**129**	Pn	**P**	**02 48 15.3**	**+3.0**	
	comp=N,0.0nm,0.3s,baz=324,slow=7.8,SNR=8.3							
TXAR				LR	LR	02 55 58.7		
	comp=N,100nm,20.1s,baz=0.0,slow=40							
ULM	**Lac du Bonnet**	**18.40**	**55**	LR	LR	02 56 32.1		
	comp=N,15nm,19.4s,baz=13,slow=41							
LPIG	**La Paz**	**19.32**	**154**	LR	LR	02 55 27.8		
	comp=N,72nm,18.6s,baz=6.0,slow=36							
K38A	**Parkersburg**	**19.84**	**79**	P	**Pn**	**02 48 33.5**	**-0.8**	
K38A				IAmb	IAmb	02 48 38.9		
	comp=E,19nm,0.8s							
P38A	**Dawn**	**19.84**	**88**	P	**Pn**	**02 48 34.3**	**0.0**	
U38A	**Gravette**	**20.24**	**97**	P	**P**	**02 48 37.9**	**+0.7**	
S39A	**Bolivar**	**20.57**	**93**	P	**P**	**02 48 38.3**	**-2.5**	
S39A				IAmb	IAmb	02 48 48.9		
	comp=E,10nm,0.9s							
HHAR	**Hobbs**	**20.64**	**97**	P	**P**	**02 48 41.6**	**+0.1**	
HHAR				IAmb	IAmb	02 48 49.7		
	comp=E,8.1nm,0.8s							
YKA	**Yellowknife Ar**	**20.87**	**6**	P	Pn	02 48 44.8	-1.4	
	comp=Z,4.6nm,1.0s,baz=187,slow=9.8,SNR=3.3							
P40A	**Paris**	**20.97**	**87**	P	**P**	**02 48 44.8**	**-0.3**	
L40A	**Anamosa**	**21.05**	**80**	P	**P**	**02 48 44.9**	**-1.0**	
L40A				IAmb	IAmb	02 48 52.9		
	comp=E,14nm,0.9s							
R40A	**Maddies Statio**	**21.17**	**91**	P	**P**	**02 48 47.9**	**+0.7**	
W39A	**Magazine**	**21.20**	**100**	P	**P**	**02 48 46.4**	**-1.2**	
I40A	**Norwalk**	**21.28**	**75**	P	**P**	**02 48 46.8**	**-1.6**	
I40A				IAmb	IAmb	02 48 54.1		
	comp=E,14nm,0.8s							
U40A	**Yellville**	**21.41**	**96**	P	**P**	**02 48 47.4**	**-2.5**	
G40A	**Rib Lake**	**21.50**	**71**	P	**P**	**02 48 47.5**	**-3.3**	
G40A				IAmb	IAmb	02 48 55.0		
	comp=E,11nm,1.1s							
JFWS	**Jewell Farm**	**21.64**	**77**	P	**P**	**02 48 53.3**	**+1.0**	
JFWS				IAmb	IAmb	02 48 56.6		
	comp=E,9.4nm,0.8s							
CCM	**Cathedral Cave**	**22.01**	**91**	P	**P**	**02 48 54.9**	**-1.3**	
L42A	**Oliver, Polo**	**22.20**	**80**	P	**P**	**02 48 57.1**	**-1.2**	
T42A	**Van Buren**	**22.47**	**93**	P	**P**	**02 49 02.1**	**+0.9**	
T42A				IAmb	IAmb	02 49 09.9		
	comp=E,8.6nm,1.1s							
HKT	**Hockley**	**22.53**	**114**	P	**P**	**02 49 02.7**	**+0.8**	
HKT				IAmb	IAmb	02 49 07.4		
	comp=E,12nm,1.2s							
LCAR	**Lake Charles**	**22.79**	**95**	P	**P**	**02 49 04.4**	**-0.1**	
LCAR				IAmb	IAmb	02 49 19.5		
	comp=E,7.4nm,1.1s							
P43A	**Skaggs, Pawnee**	**22.83**	**86**	P	**P**	**02 49 05.3**	**+0.4**	
P43A				IAmb	IAmb	02 49 19.6		
	comp=E,18nm,1.1s							
PBMO	**Poplar Bluff**	**23.06**	**93**	P	**P**	**02 49 07.8**	**+0.4**	
PBMO				IAmb	IAmb	02 49 11.7		
	comp=E,9.7nm,1.2s							
O44A	**Mansfield**	**23.48**	**84**	P	**P**	**02 49 10.1**	**-1.5**	
O44A				IAmb	IAmb	02 49 15.5		
	comp=E,19nm,1.0s							
SIUC	**Southern Illin**	**23.63**	**90**	P	**P**	**02 49 11.2**	**-2.0**	
SIUC				IAmb	IAmb	02 49 16.8		
	comp=E,16nm,0.9s							
PEBM	**Pemiscott Bayo**	**23.73**	**94**	P	**P**	**02 49 14.1**	**-0.1**	
W45A	**Hickory Valley**	**24.62**	**96**	P	**P**	**02 49 23.3**	**+0.8**	
L46A	**Eue Claire**	**24.68**	**78**	P	**P**	**02 49 22.1**	**-0.8**	
USIN	**University of**	**24.71**	**88**	P	**P**	**02 49 21.6**	**-1.6**	
OXF	**Oxford**	**24.74**	**97**	P	**P**	**02 49 24.0**	**+0.5**	
BLO	**Bloomington**	**25.19**	**85**	P	**P**	**02 49 27.6**	**0.0**	
WVT	**Waverly**	**25.24**	**93**	P	**P**	**02 49 27.1**	**-1.0**	
WVT				IAmb	IAmb	02 49 37.6		
	comp=E,5.6nm,0.8s							
PLAL	**Pickwick Lake**	**25.52**	**95**	P	**P**	**02 49 30.2**	**-0.4**	
PLAL				IAmb	IAmb	02 49 34.7		
	comp=E,12nm,1.4s							
WCI	**Wyandotte Cave**	**25.65**	**87**	P	**P**	**02 49 30.7**	**-1.0**	
WCI				IAmb	IAmb	02 49 38.2		
	comp=E,11nm,0.9s							
P48A	**Milroy**	**25.92**	**84**	P	**P**	**02 49 33.2**	**-1.0**	
P48A				IAmb	IAmb	02 49 53.3		
	comp=E,11nm,1.1s							
IL31		**27.73**	**335**	P	**P**	**02 49 50.4**	**+0.2**	
ILAR	**Eielson Array**	**27.73**	**335**	P	**P**	**02 49 52.1**	**+1.9**	
	comp=Z,1.4nm,0.8s,baz=154,slow=8.5,SNR=19							
ILAR				LR	LR	03 01 11.7		
	comp=Z,57nm,18.2s,baz=144,slow=37							
ILAR	**Eielson Array**	**27.73**	**335**	P	**P**	**02 49 48.5**	**-1.7**	
CPCT	**Cooper Cave**	**27.98**	**92**	P	**P**	**02 49 51.5**	**-1.3**	
TKL	**Tuckaleechee C**	**28.45**	**91**	LR	LR	03 01 52.1		
	comp=Z,104nm,18.6s,baz=294,slow=38							
SADO	**Sadowa**	**29.35**	**70**	LR	LR	03 01 04.3		
	comp=Z,81nm,19.7s,baz=234,slow=35							
IMAR	**Indian Mountai**	**30.73**	**333**	P	**P**	**02 50 17.1**	**+0.2**	
NB2	**NORSAR Subarra**	**69.92**	**23**	P	**P**	**02 55 13.1**	**+0.1**	
	comp=Z,0.7nm,0.7s,baz=323,slow=6.5							
NOA	**NORSAR Array B**	**69.92**	**23**	P	**P**	**02 55 13.5**	**+0.5**	
	comp=Z,0.9nm,0.8s,baz=323,slow=6.1,SNR=4.4							
FINES	**FINESS Array B**	**73.33**	**16**	P	**P**	**02 55 33.7**	**+0.3**	
	comp=Z,3.3nm,0.9s,baz=333,slow=7.2,SNR=5.4							
CLL	**Collm**	**78.44**	**28**	*eP*	**P**	**02 56 03.0**	**+0.1**	
BRG	**Berggiesshubel**	**79.13**	**28**	*eP*	**P**	**02 56 07.3**	**+0.7**	
BRG				Amp		02 56 08.7		
	comp=E,5.5nm,1.1s							
ESDC	**Sonseca Array**	**80.00**	**45**	P	**P**	**02 56 12.3**	**+0.6**	
	comp=Z,0.7nm,0.8s,baz=336,slow=6.5,SNR=5.8							
GERES	**GERESS Array B**	**80.74**	**29**	P	**P**	**02 56 16.0**	**+0.5**	
	comp=Z,0.2nm,0.4s,baz=352,slow=8.1,SNR=4.4							
SONM	**Songino Array**	**81.86**	**331**	P	**P**	**02 56 22.6**	**+1.0**	
	comp=Z,1.0nm,0.9s,baz=32,slow=5.9,SNR=4.1							
ARU	**Arti**	**82.06**	**1**	P	**P**	**02 56 22.2**	**0.0**	
	comp=Z,0.4nm,0.2s,baz=341,slow=9.5,SNR=3.2							
ZALV	**Zalesovo Beam**	**82.28**	**346**	P	**P**	**02 56 23.9**	**+0.4**	
	comp=Z,1.5nm,0.7s,baz=359,slow=6.2,SNR=2.0							
AKASG	**Malin Array Be**	**83.87**	**19**	P	**P**	**02 56 31.6**	**-0.1**	
	comp=Z,1.5nm,0.7s,baz=342,slow=4.6,SNR=8.0							
BVAR	**Borovoye Array**	**85.09**	**354**	P	**P**	**02 56 38.1**	**+0.1**	
	comp=Z,1.7nm,0.8s,baz=11,slow=3.0,SNR=5.4							
HHC	**Hu-ho-hao-te**	**85.54**	**324**	*eP*	**P**	**02 56 37.3**	**-3.2**	
HHC				pmax	pmax			
	comp=Z,11nm,1.0s							
HHC				pmax	pmax			
	comp=Z,150nm,5.5s							
KURBB	**Kurchatov Arra**	**86.54**	**349**	P	**P**	**02 56 44.8**	**-0.4**	
	comp=Z,1.5nm,0.7s,baz=11,slow=5.1,SNR=8.5							
AKTO	**Aktyubinsk**	**88.05**	**2**	P	**P**	**02 56 52.6**	**+0.1**	
	comp=Z,0.7nm,0.5s,baz=326,slow=7.3,SNR=3.5							
MKAR	**Makanchi Array**	**89.61**	**345**	P	**P**	**02 56 59.7**	**-0.2**	
	comp=Z,1.0nm,0.9s,baz=8.6,slow=9.0,SNR=3.6							
WMQ	**Urumqi**	**91.25**	**341**	*eP*	**P**	**02 57 07.5**	**-0.1**	
WMQ				LR	LR			
	comp=N,160nm,18.3s							
WMQ				LR	LR			
	comp=E,380nm,21.3s							
WMQ				LR	LR			
	comp=Z,470nm,21.5s							
KSH	**Kashi**	**97.77**	**348**	P	Pdif	02 57 37.3	-0.4	

MEX 27 02:46:38.4±1.4, 15°.52N×92°.36W, h174km±15km, MD3.8, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.79**	**16**	*eP*	Pn	02 47 03.4	-0.8
CCIG				*eS*	Sn	02 47 22.0	-2.3
PCIG		**0.84**	**283**	*eP*	Pn	02 47 03.7	-0.7
PCIG				*eS*	Sn	02 47 20.6	-3.8
TGIG		**1.45**	**330**	*eP*	Pn	02 47 05.8	-3.7
TGIG				*eS*	Sn	02 47 30.6	-2.9
CMIG	**Matias Romero**	**2.88**	**303**	*eP*	Pn	02 47 25.8	+0.5
CMIG				*eS*	Sn	02 47 59.4	-2.4

BJI ***27*** *02:56:11.5±0.0, 7°.35S×129°.75E, h132km, mB5.6/61, mb5.5/82*

MOS ***27*** *02:56:12.4±1.1, 7°.09S×129°.52E, h111km, mb5.8/58, MS4.5/7, Error ellipse: s-maj=7.7km s-min=4.3km az=113.0*

NEIC ***27*** *02:56:13.7±2.0, 7°.18S±0°.06×129°.61E±0°.06, h107km±1km, mb5.7/227, Mwb5.6/32, Mww5.5, Mwc5.6(GCMT), Error ellipse: s-maj=9.7km s-min=9.3km az=112.0*

DJA ***27*** *02:56

EDFI Ende, Flores 7.99 259 P Pn 02 58 06.4 -0.5
3µm4µm360nm,0.8s
TNTI Ternate 8.28 344 Pn 02 58 11.3 +0.6
TNTI Ternate 8.28 344 P Pn 02 58 13.0 +2.4
3µm7µm870nm,0.7s
KNRA Kununurra 8.42 186 S Sn 02 59 35.0 -11
baz=8.5
KNRA Kununurra 8.42 186 Pn Pn 02 58 10.9 -1.7
SRPI Serui, Papua 8.49 51 P Pn 02 58 12.2 -1.3
6µm374nm,0.5s
KKSI Kolaka, Sulawe 8.50 291 P Pn 02 58 16.8 +3.2
204nm,1.3s
BSSI Bau Bau, Buton 9.13 276 P Pn 02 58 17.3 -5.0
LUWI Luwuk 9.20 312 Pn Pn 02 58 22.8 -0.3
LUWI Luwuk 9.20 312 P Pn 02 58 27.3 +4.2
8µm12µm1µm,1.1s
GAMI Galela, Maluku 9.21 348 P Pn 02 58 25.5 +2.2
6µm485nm,0.8s
BASI Baing, Sumba 9.41 251 P Pn 02 58 25.3 -0.7
18µm1µm,0.8s
KMSI Cibinong 9.59 324 P Pn 02 58 32.1 +3.7
555nm14µm1µm,1.1s
BKSI Bulukumba 9.63 281 P Pn 02 58 31.6 +2.6
4µm4µm247nm,0.6s
WAMI Wamena 9.64 70 P Pn 02 58 29.5 +0.3
21µm2µm,0.9s
LBFI Labuhan Bajo, 9.72 262 P Pn 02 58 31.3 +1.1
4µm424nm,0.6s
MNI Manado 9.86 331 P Pn 02 58 35.9 +3.8
1µm,0.7s
BNSI Bone 9.88 286 P Pn 02 58 35.2 +2.9
6µm597nm,0.9s
KAPI Kappang 10.06 282 P Pn 02 58 37.4 +2.6
4.9nm,0.3s,baz=131,slow=8.0,SNR=26
KAPI S Sn 03 00 31.0 +5.2
baz=44,slow=14,SNR=1.3
KAPI LR LR 03 02 39.4
comp=Z,1µm,18.5s,baz=130,slow=38
KAPI ScP ScP 03 07 57.1 +0.4
baz=75,slow=3.2,SNR=3.8
KAPI Kappang 10.06 282 Pn Pn 02 58 32.8 -1.9
KAPI Kappang 10.06 282 P Pn 02 58 38.3 +3.5
3µm252nm,0.8s
GTOI Gorontalo 10.23 320 P Pn 02 58 44.2 +7.0
5µm489nm,1.2s
MKS Makassar 10.29 281 P Pn 02 58 39.9 +2.0
3µm364nm,0.8s
WBSI Waikabubak, Su 10.39 256 P Pn 02 58 37.9 -1.5
15µm2µm,0.8s
SMPI Sarmi 10.46 60 P Pn 02 58 40.8 +0.7
2µm2µm227nm,0.9s
TTSI Tana Toraja 10.61 293 P Pn 02 58 45.5 +3.2
7µm7µm689nm,0.8s
MMPI Merauke 10.73 97 P Pn 02 58 40.5 -3.4
27µm2µm,0.5s
MRSI Marisa 10.84 315 P Pn 02 58 49.7 +4.4
8µm14µm893nm,0.8s
PMSI Majene 11.29 289 P Pn 02 58 53.0 +1.6
3µm4µm548nm,0.8s
FITZ Fitzroy Crossi 11.46 199 S Sn 03 00 47.5 -12
baz=12
FITZ Fitzroy Crossi 11.46 199 P Pn 02 58 49.5 -4.1
38nm,0.3s,baz=33,slow=10,SNR=334
FITZ S Sn 03 00 47.9 -12
179nm,0.3s,baz=33,slow=7.6,SNR=5.0
FITZ Fitzroy Crossi 11.46 199 Pn Pn 02 58 50.4 -3.3
GENI Genyem 11.48 67 P Pn 02 58 53.0 -0.9
7µm392nm,1.1s
MMSI Mamuju 11.59 292 P Pn 02 58 57.7 +2.4
3µm11µm1µm,0.8s
SGSI Sangihe 11.60 339 P Pn 02 58 58.3 +2.8
10µm1µm,0.7s
PLAI Plampang 11.83 262 P Pn 02 58 58.0 -0.6
3µm9µm926nm,0.8s
JAY Jayapura 12.00 67 P Pn 02 59 00.1 -0.7
7.4nm,0.3s,baz=251,slow=6.0,SNR=30
JAY S Sn 03 01 09.2 -3.8
2.5nm,0.3s,baz=180,slow=20,SNR=2.7
JAY Jayapura 12.00 67 P Pn 02 59 00.3 -0.5
997nm86nm,1.0s
TOLI2 Tolitoli 12.11 313 Pn Pn 02 59 02.9 +0.6
MPSI Mapaga 12.28 307 P P 02 59 08.4 -3.5
7µm15µm193nm,0.7s
TWSI Taliwang, Sumb 12.70 262 P Pn 02 59 09.2 -0.8
2µm2µm299nm,0.9s
WB0 Warramunga Arr 13.28 160 Pn 02 59 13.1 -4.4
WRAB Tennant Creek 13.42 160 *d iP* Pn 02 59 15.0 -4.3
WRAB Tennant Creek 13.42 160 Pn 02 59 14.8 -4.5
WRA Warramunga Arr 13.43 161 P Pn 02 59 14.6 -4.8
95nm,0.3s,baz=335,slow=14,SNR=488
WRA S Sn 03 01 31.7 -16
108nm,0.3s,baz=333,slow=23,SNR=16
WRA LR LR 03 05 16.2
comp=Z,2µm,19.1s,baz=335,slow=40
WB2 Warramunga Arr 13.43 160 Pn Pn 02 59 14.9 -4.5
WR0 Warramunga Arr 13.51 160 Pn Pn 02 59 15.6 -4.9
KBKI Kotabaru 13.96 286 P P 02 59 28.6 -1.9
5µm453nm,0.7s
BKB Balikpapan 14.01 295 Pn Pn 02 59 28.8 +1.9
BKB Balikpapan 14.01 295 P P 02 59 31.8 +0.7
10µm11µm1µm,0.8s
SRBI Singaraja 14.30 266 P Pn 02 59 31.8 +1.1
2µm166nm,0.9s
DNP Denpasar 14.34 263 P P 02 59 37.5 +2.7
DAV Davao City (W) 14.78 344 P P 02 59 39.2 -0.5
36nm,0.3s,baz=103,slow=3.9,SNR=8.5
DAV Davao City (W) 14.78 344 Pn Pn 02 59 35.3 -1.5
DAV Davao City (W) 14.78 344 P P 02 59 43.2 +3.5
9µm14µm2µm,0.8s
COEN Coen 14.89 118 Pn Pn 02 59 36.3 -1.9
BYJI Banyuwangi 15.16 265 P P 02 59 45.7 +1.8
11µm270nm,0.7s
BBKI Banjar Baru 15.18 284 P P 02 59 45.6 +1.4
20µm3µm,0.9s
ABJI Asem Bagus 15.26 267 P P 02 59 44.8 -0.2
4µm3µm344nm,0.9s
JAGI Jajag, Banyuwa 15.37 264 Pn Pn 02 59 43.9 -0.3
JAGI IAmb IAmb 02 59 48.5
comp=Z,237nm,0.4s
JAGI Jajag, Banyuwa 15.37 264 P Pn 02 59 42.9 -1.3
comp=Z,5µmcomp=Z,276nm,0.5s
KMMI Kalianget 15.53 270 P P 02 59 47.5 -0.5
comp=Z,5µmcomp=Z,4µmcomp=Z,547nm,0.8s
MTKI Muara Teweh, K 15.96 292 P P 02 59 55.4 +2.6
comp=Z,4µmcomp=Z,1µm,0.7s
GMJI Gumukmas 16.06 265 P Pn 02 59 49.5 -3.2
comp=Z,3µmcomp=Z,228nm,0.9s
PKKI Palangkaraya 16.36 287 P P 02 59 59.3 +2.1
comp=Z,25µmcomp=Z,4µm,0.9s
AS31 Alice Springs 16.84 166 Pn Pn 03 00 01.0 -1.2
ASAR Alice Springs 16.84 166 P Pn 02 59 59.6 -2.7
comp=Z,55nm,0.3s,baz=335,slow=9.6,SNR=1141
ASAR S Sn 03 02 50.6 -19
comp=Z,27nm,0.3s,baz=331,slow=18,SNR=9.3
ASAR P3KPbc 03 34 51.2
comp=Z,0.0nm,0.3s,baz=142,slow=3.3,SNR=5.1
ASAR Alice Springs 16.84 166 P Pn 03 00 01.6 -0.7
ASAR Alice Springs 16.84 166 Pn Pn 03 00 01.6 -0.7
GRJI Gresik 17.01 270 P P 03 00 03.7 -0.7
comp=Z,4µmcomp=Z,534nm,0.8s
KRKI Karangkates 17.04 266 P P 03 00 03.4 -1.3
comp=Z,598nm,0.4s
PSA00 Pilbara Seismi 17.09 213 P P 03 00 03.9 -1.3
PSA00 IAmb IAmb 03 00 09.6
comp=Z,429nm,0.8s
PMG Port Moresby 17.49 98 P Pn 03 00 11.5 +1.3
PMG pmax pmax
comp=Z,440nm,0.9s
PMG Port Moresby 17.49 98 P Pn 03 00 11.5 +1.3
PMG IAmb IAmb 03 00 14.6
comp=Z,440nm,0.9s
PMG Port Moresby 17.49 98 P Pn 03 00 11.1 +0.9
comp=Z,7µmcomp=Z,13µmcomp=Z,630nm,1.5s
TBJI Tambak Boyo 17.64 270 P Pn 03 00 13.4 +1.3
comp=Z,4µmcomp=Z,451nm,0.8s
PWJI Pagerwojo 17.68 266 P P 03 00 10.5 -1.2
comp=Z,4µmcomp=Z,408nm,0.8s
SPMM Sapulut 17.70 312 P Pn 03 00 15.0 +2.2
SJI Sawahan 17.71 267 P P 03 00 11.7 -0.5
comp=Z,7µmcomp=Z,410nm,1.0s
MTSU Mount Surprise 17.95 128 P Pn 03 00 15.6 -0.1
baz=18,SNR=340
PCJI Pacitan 18.30 266 P P 03 00 17.6 -1.0
comp=Z,5µmcomp=Z,460nm,0.5s
MANU Manus Island 18.42 75 P Pn 03 00 22.5 +1.1
MANU IAmb IAmb 03 00 25.4
comp=Z,382nm,0.8s

PBKI Pangkalan Bun 18.44 283 P Pn 03 00 22.8 +1.2
comp=Z,40µmcomp=Z,5µm,0.9s
UGM Wanagama 18.94 267 P Pn 03 00 27.8 +0.2
UGM IAmb IAmb 03 00 35.5
comp=Z,274nm,1.0s
UGM Wanagama 18.94 267 P Pn 03 00 27.9 +0.4
comp=Z,261nm,0.9s
SMRI Semarang 19.03 269 P Pn 03 00 27.9 -0.6
SMRI IAmb IAmb 03 00 33.1
comp=Z,317nm,0.8s
SMRI Semarang 19.03 269 P Pn 03 00 31.1 +2.5
comp=Z,5µmcomp=Z,423nm,0.9s
YOGI Yogyakarta 19.17 267 P P 03 00 28.1 0.0
comp=Z,245nm,0.8s
SBUM Sibu 19.86 298 P Pn 03 00 38.0 -0.2
CTJI Waduk Cacaban 20.28 269 P P 03 00 40.5 +0.4
comp=Z,128nm,0.8s
SCJI Gunung Srandil 20.28 267 P P 03 00 41.1 +1.0
comp=Z,3µmcomp=Z,199nm,0.8s
CTA Charters Tower 20.57 130 P Pn 03 00 45.0 -1.4
comp=Z,165nm,0.7s,baz=301,slow=12,SNR=50
CTA S S 03 04 28.4 +1.4
comp=Z,51nm,0.7s,baz=41,slow=20,SNR=2.6
CTAO Charters Tower 20.57 130 P P 03 00 44.1 +0.9
CTAO pmax pmax
comp=Z,227nm,0.8s
CTAO Charters Tower 20.57 130 P P 03 00 44.1 +0.9
CTAO IAmb IAmb 03 00 49.8
comp=Z,228nm,0.8s
KSM Kuching 21.12 293 P P 03 00 49.0 -0.2
GIRL Giralia 21.30 222 P P 03 00 52.8 +1.8
baz=21,SNR=68
GIRL Giralia 21.30 222 P P 03 00 51.9 +0.9
PTKI Pontianak 21.36 288 P P 03 00 55.4 +3.7
comp=Z,1µm,0.5s
CISI Cisompet, Garu 21.62 268 P P 03 00 52.9 -1.7
LEM Lembang 21.84 270 P P 03 00 57.0 +0.1
comp=Z,203nm,0.6s,baz=36,slow=9.9,SNR=17
LEM ScP ScP 03 08 18.9 -0.5
comp=Z,32nm,0.6s,baz=307,slow=23,SNR=2.8
MEEK Meekatharra 21.95 207 P P 03 00 57.7 -0.1
baz=22,SNR=42
RABL Rabaul 22.63 84 P P 03 01 05.5 +0.5
RABL IAmb IAmb 03 01 08.5
comp=Z,148nm,0.6s
FORT Forrest 23.46 183 P P 03 01 13.0 +0.4
baz=24,SNR=396
FORT Forrest 23.46 183 P P 03 01 12.7 +0.2
QLP Quilpie 23.73 146 P P 03 01 16.1 +1.1
baz=24,SNR=130
KLI Kotabumi 24.74 274 P P 03 01 29.4 +5.1
comp=Z,197nm,0.7s
PMBI Palembang 25.11 279 P P 03 01 29.8 +2.0
PMBI Palembang 25.11 279 P P 03 01 31.3 +3.6
comp=Z,898nm,0.9s
MORW Morawa 25.20 209 P P 03 01 28.9 +0.5
baz=25,SNR=42
MORW Morawa 25.20 209 P P 03 01 28.5 +0.1
MORW IAmb IAmb 03 01 32.8
comp=Z,416nm,1.4s
GUMO Guam 25.65 36 P P 03 01 32.4 -0.1
comp=Z,110nm,0.6s,baz=187,slow=14,SNR=6.5
GUMO Guam 25.65 36 P P 03 01 33.9 +1.4
GUMO pmax pmax
comp=Z,506nm,1.5s
GUMO Guam 25.65 36 P P 03 01 33.9 +1.4
GUMO IAmb IAmb 03 01 38.7
comp=Z,506nm,1.5s
DSRI Dabo 25.86 284 P P 03 01 36.9 +2.4
comp=Z,141nm,0.8s
BBOO Buckleboo 26.13 168 P P 03 01 37.0 +0.3
baz=26,SNR=400
BBOO Buckleboo 26.13 168 P P 03 01 36.3 -0.4
LHSI Lahat 26.19 276 P P 03 01 39.7 +2.2
comp=Z,3µmcomp=Z,234nm,0.9s
BLDU Ballidu 26.21 206 P P 03 01 38.0 +0.6
baz=26,SNR=38
RMQ Roma 26.41 139 P P 03 01 40.5 +1.2
baz=26,SNR=30
JMBI JAMBI 26.48 281 P P 03 01 45.5 +5.4
comp=Z,217nm,0.8s
STKA Stephens Creek 26.93 157 P P 03 01 44.7 +0.8
baz=27,SNR=230
STKA Stephens Creek 26.93 157 P P 03 01 44.7 +0.8
comp=Z,274nm,0.7s,baz=324,slow=10
STKA P3KPbc 03 34 18.9
comp=Z,1.6nm,0.8s,baz=181,slow=3.2,SNR=4.5
STKA Stephens Creek 26.93 157 P P 03 01 44.1 +0.2
BTDF Bukit Timah Da 27.17 287 P P 03 01 50.2 +3.9
comp=Z,652nmcomp=Z,92nm,0.8s
EIDS Eidsvold 27.29 134 P P 03 01 47.2 0.0
baz=27,SNR=12
EIDS Eidsvold 27.29 134 P P 03 01 46.8 -0.4
HTT Hallett 27.45 163 P P 03 01 49.2 +0.6
baz=28,SNR=88
MASI Maura Aman, Be 27.56 277 P P 03 01 55.0 +5.2
comp=Z,3µmcomp=Z,420nm,0.9s
MUN Mundaring 27.60 205 P P 03 01 50.6 +0.7
baz=28,SNR=15
NWAO Narrogin (SRO) 28.02 203 P P 03 01 54.6 +0.9
baz=28,SNR=26
NWAO Narrogin (SRO) 28.02 203 P P 03 01 54.5 +0.9
comp=Z,48nm,0.8s,baz=38,slow=7.6,SNR=27
NWAO LR LR 03 13 39.3
comp=Z,982nm,19.6s,baz=126,slow=37
NWAO Narrogin (SRO) 28.02 203 P P 03 01 54.0 +0.4
NWAO IAmb IAmb 03 01 55.9
comp=Z,186nm,1.4s
CMSA Cobar Meteorol 28.45 150 P P 03 01 58.6 +1.2
baz=28,SNR=428
JRMM Jerantut 29.26 291 P P 03 02 06.0 +1.2
HNR Honiara 30.08 96 LR LR 03 14 03.1
comp=Z,801nm,21.4s,baz=266,slow=36
IPM Ipoh 30.82 291 P P 03 02 19.0 +0.3
ARMA Armidale 30.94 141 P P 03 02 21.2 +1.5
baz=31,SNR=78
ARMA Armidale 30.94 141 P P 03 02 19.5 -0.2
ARMA IAmb IAmb 03 02 23.6
comp=Z,86nm,0.8s
ARPS Mount Arapiles 31.43 161 P P 03 02 25.3 +1.6
baz=32,SNR=62
KULM Kulim 31.48 293 P P 03 02 26.0 +1.6
TPUB Ta-pu 31.61 344 IAmb IAmb 03 02 26.7
comp=Z,58nm,0.4s
SSLB Suanglung 31.98 345 P P 03 02 27.9 -0.9
YNG Young 32.02 150 P P 03 02 30.6 +1.7
baz=32,SNR=75
RPSI Rantau Prapat 32.19 287 P P 03 02 30.6 -0.1
RPSI IAmb IAmb 03 02 33.6
comp=Z,150nm,0.8s
PSI Prapat 32.22 287 P P 03 02 29.5 -1.6
comp=Z,123nm,0.8s,baz=91,slow=10
PSI ScP ScP 03 08 48.4 -2.1
comp=Z,12nm,0.9s,baz=194,slow=3.2,SNR=6.1
PSI LR LR 03 16 32.7
comp=Z,717nm,19.1s,baz=92,slow=38
PSI Prapat 32.22 287 P P 03 02 30.6 -0.5
PSI pmax pmax
comp=Z,150nm,0.8s
SKLT Songkhla 32.27 296 P P 03 02 31.6 +0.2
QIZ Qiongzhong 32.58 324 P P 03 02 32.8 -1.2
QIZ PcS PcS 03 09 00.5 -2.9
QIZ pmax pmax
comp=Z,21nm,1.1s
QIZ pmax pmax
comp=Z,430nm,4.2s
QIZ LR LR
comp=Z,860nm,20.6s
QIZ LR LR
comp=Z,880nm,14.2s
QIZ LR LR
comp=Z,940nm,32.4s
MGCD Mangrove Creek 32.62 145 P P 03 02 34.3 +0.1
baz=33,SNR=27
YHNB Yeheng 32.72 346 IAmb IAmb 03 02 40.7
comp=Z,98nm,1.1s
UBPT Khong Chiam 32.77 313 P P 03 02 35.7 +0.1
UBPT Khong Chiam 32.77 313 P P 03 02 35.5 -0.1
UBPT IAmb IAmb 03 02 36.9
comp=Z,72nm,0.8s
TSI Tuntungan 32.78 288 P P 03 02 38.8 +3.0
comp=Z,100nm,1.2s
GSI Gunungsitoli 33.08 284 P P 03 02 37.7 -0.8
GSI IAmb IAmb 03 02 40.4
comp=Z,165nm,0.9s
GSI PcP PcP 03 05 21.2 +1.8
CAN Canberra 33.13 150 P P 03 02 40.0 +1.3

CAN pmax pmax
comp=Z,204nm,0.7s
CAN Canberra 33.13 150 P P 03 02 40.0 +1.3
CNB Canberra Magne 33.30 150 P P 03 02 41.9 +1.7
baz=33,SNR=41
KNMB Chin-men Tao 33.37 341 P P 03 02 40.3 -0.4
TRTT Trang 33.39 296 P P 03 02 41.0 -0.2
TOO Toolangi 33.45 157 P P 03 02 43.9 +2.4
baz=34,SNR=303
TOO Toolangi 33.45 157 P P 03 02 43.3 +1.9
TOO pmax pmax
comp=Z,159nm,0.7s
TOO Toolangi 33.45 157 P P 03 02 43.3 +1.9
QZH Quanzhou 33.75 342 P P 03 02 43.3 -0.7
QZH S S 03 08 01.8 +2.6
QZH pmax pmax
comp=Z,210nm,0.7s
QZH pmax pmax
comp=Z,380nm,3.6s
SRIT Nakonsritamara 33.81 297 P P 03 02 46.7 +1.9
JOW Kunigami 33.90 358 P P 03 02 45.0 -0.3
KRAB Krabi 34.00 296 P P 03 02 48.6 +2.2
KRAB Krabi 34.00 296 P P 03 02 48.1 +1.7
SURA Surathani 34.04 298 P P 03 02 46.5 -0.3
MILA Mila 34.60 152 P P 03 02 53.4 +2.0
baz=35,SNR=13
PKDT Phuket 34.63 295 P P 03 02 53.7 +1.9
PKDT Phuket 34.63 295 P P 03 02 52.5 +0.7
SURT Suratani 34.68 297 P P 03 02 46.1 -6.1
LHMI Lhok Sumawe 34.88 290 P P 03 02 54.0 0.0
PATY Pattaya 34.90 305 P P 03 02 54.8 +0.7
SKNT Sakolnakorn 34.95 314 P P 03 02 54.5 -0.1
CHAI Chaiyaphum 35.74 310 P P 03 03 01.6 +0.3
PHET Kaeng Krachan 35.90 304 P P 03 03 03.2 +0.5
JCJ Chichijima 36.24 19 P P 03 03 05.8 +0.3
comp=Z,114nm,0.4s,baz=263,slow=13,SNR=4.6
NONG Nongkai 36.27 314 P P 03 03 05.0 -0.8
UTHA Uthaitani 37.51 307 P P 03 03 16.7 +0.3
SANVU Saraoutou 37.69 106 P P 03 03 18.8 +1.0
PHIT Phitsanulok 37.72 310 P P 03 03 18.6 +0.5
KHLT Khaolaem Dam 37.77 305 P P 03 03 18.9 +0.4
MOO Moorlands 38.34 159 P P 03 03 25.4 +2.4
baz=38,SNR=8.4
UMPA Umpang Tak 38.34 308 P P 03 03 23.3 -0.1
DZM Mont Dzumac 38.42 117 P P 03 03 25.3 +1.3
comp=Z,56nm,0.7s,baz=275,slow=8.8,SNR=94
DZM Mont Dzumac 38.42 117 *eP* P 03 03 25.4 +1.3
comp=Z,80nm,0.7s
DZM Mont Dzumac 38.42 117 P P 03 03 24.7 +0.6
DZM IAmb IAmb 03 03 27.0
comp=Z,56nm,0.6s
ONTNC Ouen Toro 38.50 117 P P 03 03 25.2 +0.6
ONTNC IAmb IAmb 03 03 27.2
comp=Z,63nm,0.7s
NANT Nan 38.51 313 P P 03 03 26.3 +1.5
JSU Suzuyama 38.54 1 P P 03 03 24.2 -0.6
JSU IAmb IAmb 03 03 25.9
comp=Z,108nm,0.8s
PHRA Phrae 38.67 312 P P 03 03 27.0 +1.0
TAU Tasmania Unive 38.80 159 P P 03 03 28.0 +1.2
TAU pmax pmax
comp=Z,72nm,1.1s
TAU Tasmania Unive 38.80 159 P P 03 03 28.0 +1.2
OUENC Ouen Island, N 38.87 117 P P 03 03 27.8 +0.1
OUENC IAmb IAmb 03 03 30.9
comp=Z,61nm,0.6s
SSE Sheshan 38.97 348 P P 03 03 28.5 +0.2
SSE S S 03 09 26.3 +7.8
SSE pmax pmax
comp=Z,28nm,0.7s
SSE pmax pmax
comp=Z,110nm,4.9s
SSE LR LR
comp=Z,250nm,15.8s
SSE LR LR
comp=Z,410nm,16.3s
LAMP Lampang 39.12 311 P P 03 03 30.7 +0.8
PINNC Pines Island, 39.47 117 P P 03 03 33.3 +0.6
PINNC IAmb IAmb 03 03 36.3
comp=Z,93nm,0.7s
PAYA Payao 39.47 313 P P 03 03 32.6 -0.2
CM04 Chiang Mai Arr 39.54 311 P P 03 03 33.8 +0.5
CM05 Chiang Mai Arr 39.56 310 P P 03 03 34.3 +0.8
CM31 Chiang Mai Arr 39.60 311 P P 03 03 33.7 -0.1
CM31 IAmb IAmb 03 03 35.5
comp=Z,94nm,0.8s
CMAR Chiang Mai Arr 39.60 311 P P 03 03 34.4 +0.5
comp=Z,68nm,0.8s,baz=142,slow=7.6,SNR=206
CMAR PcP PcP 03 05 40.6 +1.7
comp=Z,12nm,0.7s,baz=159,slow=3.1,SNR=6.0
CMAR ScP ScP 03 09 17.4 +0.1
comp=Z,12nm,0.8s,baz=156,slow=3.2,SNR=12
CMAR PKiKP PKiKP 03 12 51.5 +0.9
comp=Z,1.6nm,0.4s,baz=189,slow=1.9,SNR=4.4
CMAR LR LR 03 20 58.8
comp=Z,572nm,19.0s,baz=162,slow=38
CM13 Chiang Mai Arr 39.61 310 P P 03 03 34.3 +0.4
CRAI Chiangrai 39.66 314 P P 03 03 34.4 +0.1
CMMT Chiang Mai 39.81 311 P P 03 03 35.7 +0.1
CHTO Chiang Mai 39.82 311 P P 03 03 35.6 0.0
CHTO pmax pmax
comp=Z,136nm,0.8s
CHTO Chiang Mai 39.82 311 P P 03 03 35.6 0.0
CHTO IAmb IAmb 03 03 37.1
comp=Z,136nm,0.8s
JNU Nakatsue 40.16 2 P P 03 03 37.9 -0.3
comp=Z,62nm,0.7s,baz=201,slow=5.0,SNR=29
JNU Nakatsue 40.16 2 IAmb IAmb 03 03 39.0
comp=Z,75nm,0.8s
MHMT Maesarieng 40.20 309 P P 03 03 39.5 +0.7
GYA Guiyang 40.23 327 ⇓P P 03 03 39.5 +0.4
GYA pP pP 03 04 05.5 +0.8
GYA PcP PcP 03 05 42.0 +1.1
GYA ScP ScP 03 09 20.0 +0.3
GYA S S 03 09 41.0 +3.1
GYA pmax pmax
comp=Z,33nm,0.9s
WHN Wuhan 40.33 339 ⇑P P 03 03 40.0 +0.4
WHN pmax pmax
comp=Z,370nm,0.9s
WHN LR LR
comp=Z,770nm,3.7s
WHN LR LR
comp=Z,2µm,7.8s
WHN LR LR
comp=Z,6µm,47.1s
NJ2 Nanjing 40.41 346 ⇑P P 03 03 40.5 +0.3
NJ2 pP pP 03 04 05.5 -0.4
NJ2 ScP ScP 03 09 20.0 0.0
NJ2 S S 03 09 37.5 -2.5
NJ2 SS SS 03 12 34.0 -10
NJ2 pmax pmax
comp=Z,57nm,0.9s
NJ2 pmax pmax
comp=Z,930nm,3.5s
JMN Monobe 40.95 5 IAmb IAmb 03 03 46.3
comp=Z,116nm,0.7s
KMI Kunming 41.47 322 ⇑P P 03 03 50.0 +0.6
KMI S S 03 10 03.0 +6.5
KMI pmax pmax
comp=Z,38nm,1.4s
KMI pmax pmax
comp=Z,500nm,6.7s
KMI LR LR
comp=Z,320nm,16.9s
KMI LR LR
comp=Z,380nm,13.2s
KMI LR LR
comp=Z,1µm,21.7s
ENH Enshi 42.01 334 P P 03 03 53.0 -0.4
JHS Saijyo 42.15 4 IAmb IAmb 03 03 56.0
comp=Z,79nm,0.7s
INU Inuyama 42.94 9 P P 03 04 00.6 -0.2
JGF Kuroka 43.23 9 P P 03 04 02.8 -0.5
TJN Taejon 43.44 357 *ceP* P 03 04 05.2 +0.3
MJAR Matsushiro Arr 44.30 10 P P 03 04 09.9 -1.8
comp=Z,60nm,0.8s,baz=187,slow=9.4,SNR=173
MJAR ScP ScP 03 09 35.2 -0.4
comp=Z,3.3nm,0.7s,baz=167,slow=5.3,SNR=6.0
MAJO Matsushiro 44.30 10 *c iP* P 03 04 10.7 -1.0
MAJO pmax pmax
comp=Z,92nm,0.9s
MAJO Matsushiro 44.30 10 P P 03 04 10.7 -1.0
MAJO IAmb IAmb 03 04 11.8
comp=Z,101nm,0.8s

MAT	**Matsushiro**	**44.30**	**10**	P	**P**		**03 04 10.6**	**-1.1**
MAT				S	**S**		**03 10 36.2**	**-0.9**
JYT	**Yasato**	**44.37**	**12**	IAmb	IAmb		03 04 15.4	
	comp=Z,94nm,0.6s							
KSAR	**Wonju Array Be**	**44.48**	**358**	P	**P**		**03 04 13.0**	**-0.2**
KSAR	**Wonju Array Be**	**44.48**	**358**	P	**P**		**03 04 13.0**	**-0.2**
KSRS	**Korea Array**	**44.49**	**358**	P	**P**		**03 04 13.8**	**+0.5**
	comp=Z,15nm,0.5s,baz=173,slow=9.1,SNR=141							
KSRS				PcP	**PcP**		**03 05 55.9**	**+1.2**
	comp=Z,7.9nm,0.7s,baz=182,slow=3.5,SNR=6.7							
KSRS				ScP	**ScP**		**03 09 36.5**	**+0.1**
	comp=Z,6.2nm,0.8s,baz=180,slow=4.1,SNR=10							
INCN	**Inchon**	**44.58**	**357**	P	**P**		**03 04 14.2**	**+0.2**
INCN				pmax	pmax			
	comp=Z,48nm,1.0s							
INCN	**Inchon**	**44.58**	**357**	P	**P**		**03 04 14.2**	**+0.2**
INCN	**Inchon**	**44.58**	**357**	P	**P**		**03 04 14.7**	**+0.7**
TIA	**Tai'an**	**44.79**	**346**	⇑P	**P**		**03 04 14.5**	**-1.2**
TIA				pmax	pmax			
	comp=Z,41nm,0.9s							
TIA				LR	LR			
	comp=Z,380nm,18.1s							
TIA				LR	LR			
	comp=Z,330nm,12.7s							
CD2	**Chengdu**	**45.31**	**328**	⇑*iP*	**P**		**03 04 19.0**	**-0.9**
CD2				PP	**PP**		**03 06 08.8**	**+0.5**
CD2				S	**S**		**03 10 53.3**	**+1.3**
CD2				pmax	pmax			
	comp=Z,50nm,1.3s							
CD2				pmax	pmax			
	comp=Z,540nm,12.4s							
CD2				LR	LR			
	comp=Z,1μm,16.5s							
CD2				LR	LR			
	comp=Z,2μm,22.2s							
CD2				LR	LR			
	comp=Z,1μm,26.3s							
XAN	**Xi'an**	**45.50**	**336**	P	**P**		**03 04 20.3**	**-1.1**
XAN				ScP	**ScP**		**03 09 39.8**	**-0.9**
XAN				S	**S**		**03 10 59.5**	**+4.8**
XAN				ScS	**ScS**		**03 14 04.0**	**-2.3**
XAN				pmax	pmax			
	comp=Z,120nm,0.8s							
XAN				pmax	pmax			
	comp=Z,650nm,6.7s							
XAN				LR	LR			
	comp=Z,320nm,14.2s							
XAN				LR	LR			
	comp=Z,590nm,15.2s							
XAN				LR	LR			
	comp=Z,1μm,31.9s							
DL2	**Dalian**	**46.51**	**351**	P	**P**		**03 04 29.3**	**+0.2**
DL2				PcP	**PcP**		**03 06 02.0**	**+0.3**
DL2				S	**S**		**03 11 04.8**	**-4.0**
DL2				pmax	pmax			
	comp=Z,49nm,0.9s							
DL2				pmax	pmax			
	comp=Z,520nm,6.0s							
IMP	**Imphal**	**47.16**	**314**	*e*P	**P**		**03 04 33.7**	**-0.9**
TIY	**Taiyuan**	**47.52**	**341**	*e*P	**P**		**03 04 36.8**	**-0.3**
TIY				pmax	pmax			
	comp=Z,100nm,0.7s							
KOHI	**KOHIMA**	**47.59**	**315**	*e*P	**P**		**03 04 36.9**	**-1.1**
BRDH	**Bariadhala**	**47.60**	**310**	P	**P**		**03 04 38.6**	**+0.8**
	comp=Z,64nm,0.5s,baz=80,slow=8.5,SNR=13							
MOKO	**MOKOCHONG**	**47.68**	**316**	*e*P	**P**		**03 04 38.6**	**-0.1**
SILR	**SILCHAR**	**47.95**	**313**	*e*P	**P**		**03 04 40.4**	**-0.2**
BJT	**Baijiatuau**	**48.64**	**346**	P	**P**		**03 04 45.2**	**-0.4**
BJT				pmax	pmax			
	comp=Z,124nm,0.7s							
BJT	**Baijiatuau**	**48.64**	**346**	P	**P**		**03 04 45.2**	**-0.4**
BJI	**Beijing**	**48.66**	**346**	P	**P**		**03 04 45.5**	**-0.2**
BJI				pP	**pP**		**03 05 12.8**	**+0.2**
BJI				PcP	**PcP**		**03 06 10.8**	**+1.4**
BJI				ScP	**ScP**		**03 09 53.3**	**-0.4**
BJI				S	**S**		**03 11 33.3**	**-5.9**
BJI				pmax	pmax			
	comp=Z,200nm,0.7s							
BJI				pmax	pmax			
	comp=Z,690nm,7.2s							
ITAN	**ITANAGAR**	**48.75**	**316**	*e*P	**P**		**03 04 46.3**	**-0.4**
JTM	**Tenmabayashi**	**48.94**	**12**	IAmb	IAmb		03 04 49.4	
	comp=Z,99nm,0.9s							
SHL	**Shillong**	**49.09**	**313**	P	**P**		**03 04 48.9**	**-0.6**
SHL				pmax	pmax			
	comp=Z,220nm,1.0s							
SHL	**Shillong**	**49.09**	**313**	P	**P**		**03 04 48.9**	**-0.6**
SHL	**Shillong**	**49.09**	**313**	*e*P	**P**		**03 04 47.9**	**-1.6**
SHL				IAmb	IAmb		03 04 50.6	
	comp=Z,787nm,1.9s							
SNY	**Shenyang**	**49.15**	**354**	⇑P	**P**		**03 04 49.0**	**-0.4**
SNY				S	**S**		**03 11 44.3**	**-1.6**
SNY				pmax	pmax			
	comp=Z,56nm,0.8s							
SNY				pmax	pmax			
	comp=Z,370nm,9.4s							
SNY				LR	LR			
	comp=Z,270nm,15.2s							
SNY				LR	LR			
	comp=Z,860nm,18.1s							
SNY				LR	LR			
	comp=Z,820nm,37.3s							
LZH	**Lanzhou**	**49.44**	**332**	⇑P	**P**		**03 04 52.0**	**0.0**
LZH				S	**S**		**03 11 41.8**	**-8.9**
LZH				pmax	pmax			
	comp=Z,100nm,1.3s							
LZH				pmax	pmax			
	comp=Z,210nm,4.9s							
LZH				LR	LR			
	comp=Z,600nm,15.4s							
LZH				LR	LR			
	comp=Z,510nm,16.0s							
LZH				LR	LR			
	comp=Z,570nm,16.6s							
MSHR	**Mys Shultsa**	**49.60**	**1***c**e*P		**P**		**03 04 53.3**	**+0.4**
MSHR				pmax	pmax			
	comp=Z,53nm,0.6s							
VLA	**Vladivostok**	**50.17**	**2***c iP*		**P**		**03 04 57.2**	**+0.1**
VLA				pmax	pmax			
	comp=Z,104nm,0.8s							
HHC	**Hu-ho-hao-te**	**50.66**	**342**	*e*P	**P**		**03 05 01.5**	**+0.5**
HHC				sP	sP		03 05 45.0	+4.3
HHC				PP	**PP**		**03 06 58.5**	**+0.3**
HHC				S	**S**		**03 12 04.0**	**-3.3**
HHC				pmax	pmax			
	comp=Z,73nm,1.3s							
HHC				pmax	pmax			
	comp=Z,460nm,6.3s							
WHZ	**Wether Hill Ro**	**50.71**	**146**	IAmb	IAmb		03 05 02.8	
	comp=Z,67nm,0.7s							
PALK	**Pallekele**	**50.87**	**285**	P	**P**		**03 05 03.5**	**+0.4**
	comp=Z,23nm,0.8s,baz=205,slow=7.1,SNR=9.5							
PALK				PcP	**PcP**		**03 06 19.7**	**+1.6**
	comp=Z,16nm,0.5s,baz=219,slow=2.8,SNR=8.0							
PALK				ScP	**ScP**		**03 10 03.5**	**-0.4**
	comp=Z,12nm,0.8s,baz=214,slow=3.3,SNR=4.9							
PALK	**Pallekele**	**50.87**	**285**	P	**P**		**03 05 03.1**	**+0.1**
PALK	**Pallekele**	**50.87**	**285**	P	**P**		**03 05 03.4**	**+0.4**
PALK	**Pallekele**	**50.87**	**285**	P	**P**		**03 05 05.8**	**+2.8**
	comp=Z,1μmcomp=Z,41nm,1.3s							
BTO	**Baotou**	**50.92**	**341**	*e*P	**P**		**03 05 03.5**	**+0.5**
BTO				S	**S**		**03 12 13.8**	**+2.9**
BTO				LR	LR			
	comp=Z,2μm,12.3s							
BTO				LR	LR			
	comp=Z,1μm,12.5s							
CN2	**Changchun**	**50.95**	**356**	*e*P	**P**		**03 05 02.3**	**-0.7**
CN2				*e*S	**S**		**03 12 09.8**	**-1.1**
CN2				pmax	pmax			
	comp=Z,40nm,0.8s							
CN2				pmax	pmax			
	comp=Z,500nm,10.3s							
CN2				LR	LR			
	comp=Z,400nm,16.0s							
CN2				LR	LR			
	comp=Z,300nm,16.0s							
CN2				LR	LR			
	comp=Z,400nm,19.2s							
LBZ	**Lake Benmore**	**51.12**	**143**	P	**P**		**03 05 04.8**	**+0.5**
LBZ				IAmb	IAmb		03 05 06.0	
	comp=Z,50nm,0.9s							
USRK	**Ussuriysk Ar.**	**51.25**	**2**	P	**P**		**03 05 05.5**	**+0.3**
	comp=Z,65nm,0.6s,baz=183,slow=7.1,SNR=192							
USRK				ScP	**ScP**		**03 10 04.1**	**-0.6**
	comp=Z,2.0nm,0.6s,baz=196,slow=4.7,SNR=5.0							
USA0B	**Ussuriysk Arra**	**51.25**	**2**	P	**P**		**03 05 05.3**	**+0.1**
USA0B				pmax	pmax			
	comp=Z,70nm,0.7s							
USA0B	**Ussuriysk Arra**	**51.25**	**2**	P	**P**		**03 05 05.3**	**+0.1**
USA0B				IAmb	IAmb		03 05 06.6	
	comp=Z,70nm,0.7s							
MDJ	**Mudanjiang**	**51.62**	**360**	P	**P**		**03 05 08.5**	**+0.5**
MDJ				pP	pP		03 05 35.5	+0.7
MDJ				S	**S**		**03 12 26.5**	**+6.3**
MDJ				pmax	pmax			
	comp=Z,100nm,0.8s							
MDJ				pmax	pmax			
	comp=Z,650nm,7.2s							
MDJ	**Mudanjiang**	**51.62**	**360**	P	**P**		**03 05 08.1**	**+0.1**
MDJ				IAmb	IAmb		03 05 09.2	
	comp=Z,67nm,0.8s							
VIS	**Vishakhapatnam**	**52.01**	**299**	*e*P	**P**		**03 05 11.0**	**-0.3**
VIS				IAmb	IAmb		03 05 13.6	
	comp=Z,115nm,1.1s							
LSA	**Lhasa**	**52.12**	**317**	P	**P**		**03 05 12.9**	**+0.3**
LSA	**Lhasa**	**52.12**	**317**	P	**P**		**03 05 12.7**	**+0.2**
LSA				pmax	pmax			
	comp=Z,79nm,0.7s							
LSA	**Lhasa**	**52.12**	**317**	P	**P**		**03 05 12.7**	**+0.2**
LSA				IAmb	IAmb		03 05 20.6	
	comp=Z,79nm,0.7s							
TEY	**Ternei**	**52.42**	**6**⇑	*e*P	**P**		**03 05 14.2**	**+0.3**
TEY				pmax	pmax			
	comp=E,10.0nm,0.8s							
TEY				pmax	pmax			
	comp=N,100nm,2.3s							
TEY				pmax	pmax			
	comp=Z,100nm,2.3s							
TEY				pmax	pmax			
	comp=N,50nm,0.8s							
TEY				pmax	pmax			
	comp=Z,70nm,0.8s							
ASAJ	**Asahikawa**	**52.45**	**12**	P	**P**		**03 05 14.7**	**+0.5**
	comp=Z,34nm,0.6s,baz=223,slow=9.9,SNR=40							
ASAJ				LR	LR		03 26 52.5	
	comp=Z,278nm,21.2s,baz=212,slow=35							
JKA	**Kamikawa-asahi**	**52.45**	**12**	IAmb	IAmb		03 05 15.2	
	comp=Z,58nm,0.9s							
BHW	**Baring Head**	**52.56**	**138**	P	**P**		**03 05 15.0**	**0.0**
BKZ	**Black Stump Fm**	**52.70**	**134**	IAmb	IAmb		03 05 17.9	
	comp=Z,44nm,0.7s							
URZ	**Urewera**	**52.77**	**133**	P	**P**		**03 05 17.1**	**+0.5**
	comp=Z,15nm,0.6s,baz=152,slow=0.3,SNR=16							
URZ				ScP	**ScP**		**03 10 10.0**	**-1.7**
	comp=Z,15nm,0.8s,baz=59,slow=9.6,SNR=3.7							
PLWZ	**Palliser**	**52.89**	**138**	P	**P**		**03 05 17.5**	**-0.1**
MDRS	**Chennai**	**53.03**	**292**	*e*P	**P**		**03 05 17.9**	**-1.1**
MDRS				IAmb	IAmb		03 05 22.5	
	comp=Z,51nm,1.1s							
YUK	**Yuzh-Kuril'sk**	**53.11**	**15**	*e*P	P		03 05 09.3	-10
YUK				*e*			03 07 26.7	
YUK				*e*S	S		03 12 31.3	-9.2
YUK				*e*			03 14 57.7	
YUK				*e*SSS	SSS		03 18 19.6	
YUK				pmax	pmax			
	comp=Z,413nm,1.0s							
YUK				pmax	pmax			
	comp=N,215nm,0.7s							
YUK				pmax	pmax			
	comp=E,165nm,0.6s							
ODAN	**Odare**	**53.13**	**311**	*e*P	**P**		**03 05 19.7**	**-0.1**
	comp=E,269nm,0.5s							
TAPN	**Taplejung**	**53.17**	**312**	*e*P	**P**		**03 05 20.0**	**-0.1**
	comp=E,398nm,0.4s							
RAMN	**Ramite**	**53.77**	**311**	*e*P	**P**		**03 05 24.7**	**+0.2**
	comp=E,764nm,0.4s							
GTA	**Gaotai**	**54.01**	**332**	⇑P	**P**		**03 05 25.8**	**0.0**
GTA				S	**S**		**03 12 51.3**	**-1.8**
GTA				pmax	pmax			
	comp=E,23nm,1.1s							
GTA				pmax	pmax			
	comp=E,510nm,7.6s							
GTA				LR	LR			
	comp=E,440nm,18.2s							
GTA				LR	LR			
	comp=E,320nm,19.3s							
GTA				LR	LR			
	comp=E,720nm,18.5s							
JIRN	**Jiri**	**54.46**	**311**	*e*P	**P**		**03 05 29.5**	**-0.1**
	comp=E,140nm,0.3s							
PKI	**Pulchoki**	**55.00**	**311**	*e*P	**P**		**03 05 32.9**	**-0.6**
	comp=E,130nm,0.5s							
PKIN	**Phulchoki**	**55.01**	**311**	*e*P	**P**		**03 05 33.0**	**-0.5**
	comp=E,189nm,0.4s							
YSS	**Yuzh-Sakhalins**	**55.21**	**11**	*e*P	**P**		**03 05 33.9**	**-0.2**
YSS				*e**PP	**pwP**		**03 06 03.7**	**+0.3**
YSS				*e**SP	**sP**		**03 06 16.8**	**+3.0**
YSS				*e*			03 06 37.5	
YSS				*e*			03 07 36.5	
YSS				*e*S	**S**		**03 13 03.6**	**-5.0**
YSS				*e*SSS	SSS		03 19 00.2	
YSS				pmax	pmax			
	comp=Z,50nm,0.8s							
YSS				pmax	pmax			
	comp=Z,500nm,7.2s							
YSS				pmax	pmax			
	comp=N,300nm,6.7s							
YSS				MLR	MLR			
	comp=Z,400nm,16.0s							
YSS	**Yuzh-Sakhalins**	**55.21**	**11**	P	**P**		**03 05 34.0**	**-0.2**
YSS				IAmb	IAmb		03 05 35.0	
	comp=Z,43nm,0.8s							
KKN	**Kakani**	**55.21**	**311**	*e*P	**P**		**03 05 34.6**	**-0.3**
	comp=Z,202nm,0.4s							
DMN	**Daman**	**55.25**	**311**	*e*P	**P**		**03 05 35.0**	**-0.2**
	comp=Z,250nm,0.7s							
GKN	**Gorkha**	**55.81**	**311**	*e*P	**P**		**03 05 38.9**	**-0.1**
	comp=Z,350nm,0.3s							
HYB	**Hyderabad**	**56.09**	**297**	*i* P	**P**		**03 05 38.0**	**-3.0**
KLR	**Kul'dur**	**56.27**	**2**	P	**P**		**03 05 42.0**	**+0.3**
	comp=Z,45nm,0.8s,baz=205,slow=6.8,SNR=6.6							
KLR				ScP	**ScP**		**03 10 26.4**	**-0.2**
	comp=Z,9.8nm,0.9s,baz=197,slow=3.7,SNR=7.3							
KOLN	**Koldanda**	**56.47**	**310**	*e*P	**P**		**03 05 43.8**	**0.0**
	comp=Z,430nm,0.5s							
DANN	**Dangsing**	**56.65**	**311**	*e*P	**P**		**03 05 44.9**	**-0.3**
	comp=Z,286nm,0.7s							
HIA	**Hailar**	**56.94**	**352**	*c iP*	**P**		**03 05 46.8**	**+0.3**
HIA				pmax	pmax			
	comp=Z,16nm,0.9s							
HIA	**Hailar**	**56.94**	**352**	P	**P**		**03 05 46.5**	**0.0**
PYUN	**Piuthan**	**57.10**	**310**	*e*P	**P**		**03 05 48.3**	**0.0**
	comp=Z,841nm,0.8s							
UGL	**Uglegorsk**	**57.14**	**10**	*e*P	**P**		**03 05 47.7**	**-0.1**
UGL				pmax	pmax			
	comp=Z,200nm,0.9s							
GRNR	**Gornyy**	**58.08**	**5**⇑	*iP*	**P**		**03 05 55.3**	**+0.9**
GRNR				*e*S	**S**		**03 13 50.9**	**+4.6**
GRNR				pmax	pmax			
	comp=N,10.0nm,0.6s							
GRNR				pmax	pmax			
	comp=Z,30nm,0.6s							
GRNR				smax	smax			
	comp=N,7.0nm,0.6s							
ULN	**Ulaanbaatar**	**58.38**	**342**	*c**e*P	**P**		**03 05 57.5**	**+0.7**
ULN				pmax	pmax			
	comp=Z,87nm,0.8s							
ULN	**Ulaanbaatar**	**58.38**	**342**	P	**P**		**03 05 57.1**	**+0.3**
ULN				IAmb	IAmb		03 06 00.2	
	comp=Z,79nm,0.8s							
ULN	**Ulaanbaatar**	**58.38**	**342**	P	**P**		**03 05 57.7**	**+1.0**
SONM	**Songino Array**	**58.55**	**342**	P	**P**		**03 05 58.6**	**+0.7**
	comp=Z,26nm,0.7s,baz=155,slow=6.9,SNR=107							
SONM				pP	**pP**		**03 06 27.9**	**+2.2**
	comp=Z,11nm,0.7s,baz=141,slow=5.9,SNR=2.3							
SONM				PcP	**PcP**		**03 06 47.7**	**+0.6**
	comp=Z,15nm,0.7s,baz=166,slow=7.2,SNR=4.2							
SONM				ScP	**ScP**		**03 10 37.0**	**+0.1**
	comp=Z,8.0nm,0.9s,baz=159,slow=4.7,SNR=6.2							
SONM				PKPPKP	**P'P'df**		**03 35 35.1**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=318,slow=2.0,SNR=4.0							
SONM	**Songino Array**	**58.55**	**342**	P	**P**		**03 05 58.1**	**+0.2**
SONM				IAmb	IAmb		03 06 01.4	
	comp=Z,65nm,1.1s							
TYV	**Tymovskoe**	**58.96**	**10**	*e*P	**P**		**03 06 01.7**	**+1.2**
TYV				*e*S	**S**		**03 14 01.4**	**+3.7**
TYV				pmax	pmax			
	comp=Z,33nm,0.8s							
TYV				pmax	pmax			
	comp=Z,400nm,2.2s							
TYV				smax	smax			
	comp=N,200nm,2.2s							
TYV				smax	smax			
	comp=E,300nm,2.2s							
BHPL	**Bhopal**	**59.32**	**302**	*e*P	**P**		**03 06 01.8**	**-1.8**
BHPL				IAmb	IAmb		03 06 04.2	
	comp=Z,43nm,1.1s							
GOA	**Goa**	**59.70**	**293**	*e*P	**P**		**03 06 05.5**	**-0.8**
GOA				IAmb	IAmb		03 06 10.1	
	comp=Z,47nm,1.1s							
CASY	**Casey**	**60.40**	**189**	P	**P**		**03 06 11.1**	**+0.9**
POO	**Poona**	**60.66**	**296**	*e*P	**P**		**03 06 12.4**	**-0.5**
POO				IAmb	IAmb		03 06 16.2	
	comp=Z,29nm,0.8s							
POO	**Poona**	**60.66**	**296**	*e*P	**P**		**03 06 09.0**	**-3.9**
ZEA	**Zeya**	**60.78**	**358**	*e*P	**P**		**03 06 13.3**	**+0.4**
ZEA				pmax	pmax			
	comp=E,10.0nm,0.5s							
ZEA				pmax	pmax			
	comp=N,50nm,0.7s							
ZEA				pmax	pmax			
	comp=Z,160nm,0.8s							
ZEA				MLR	MLR			
	comp=Z,200nm,16.0s							
ZAK	**Zakamensk**	**61.77**	**341**	*e*P	**P**		**03 06 19.7**	**-0.1**
ZAK				pmax	pmax			
	comp=Z,62nm,1.3s							
NDI	**New Delhi**	**61.84**	**308**	*e*P	**P**		**03 06 20.0**	**-0.6**
SMLA	**Simla**	**63.00**	**310**	*e*P	**P**		**03 06 28.1**	**-0.1**
SMLA				IAmb	IAmb		03 06 30.1	
	comp=Z,382nm,0.4s							
SMLA				*e*S	**S**		**03 14 46.6**	**-3.1**
IRK	**Irkutsk**	**63.10**	**343**	*e*P	**P**		**03 06 28.4**	**-0.1**
IRK				pmax	pmax			
	comp=Z,240nm,1.9s							
WMQ	**Urumqi**	**63.39**	**327**	P	**P**		**03 06 31.5**	**+0.8**
WMQ				pP	pwP		03 07 00.0	-1.3
WMQ				sP	sP		03 07 12.8	+2.2
WMQ				S	**S**		**03 14 51.0**	**-3.4**
WMQ				ScS	**SKSac**		**03 16 09.3**	**-3.7**
WMQ				pmax	pmax			
	comp=Z,140nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,710nm,4.3s							
WMQ				LR	LR			
	comp=Z,550nm,20.5s							
WMQ				LR	LR			
	comp=Z,470nm,20.5s							
WMQ				LR	LR			
	comp=Z,390nm,20.5s							
MOY	**Mondy**	**63.62**	**341**	*e*P	**P**		**03 06 33.2**	**+1.1**
MOY				pmax	pmax			
	comp=Z,223nm,3.0s							
DHRM	**DHARAMSHALA**	**64.17**	**311**	*e*P	**P**		**03 06 35.8**	**-0.5**
DHRM				IAmb	IAmb		03 06 38.6	
	comp=Z,458nm,1.1s							
PEA0B	**Petropavlovsk-**	**64.67**	**18**	*c**e*P	**P**		**03 06 39.3**	**+0.5**
PEA0B	**Petropavlovsk-**	**64.67**	**18**	IAmb	IAmb		03 06 40.5	
	comp=Z,56nm,0.8s							
PETK	**Petropavlovsk-**	**64.67**	**18**	P	**P**		**03 06 39.1**	**+0.3**
	comp=Z,30nm,0.7s,baz=189,slow=5.9,SNR=84							
PETK				PcP	**PcP**		**03 07 11.8**	**+0.2**
	comp=Z,30nm,0.6s,baz=184,slow=3.4,SNR=9.8							
PETK				LR	LR		03 33 55.0	
	comp=Z,71nm,20.7s,baz=220,slow=35							
PETK	**Petropavlovsk-**	**64.67**	**18**	P	**P**		**03 06 39.0**	**+0.2**
PET	**Petropavlovsk**	**64.90**	**19**	*e*P	**P**		**03 06 40.7**	**+0.5**
PET				*e*			03 07 12.6	
PET				*e*S	**S**		**03 15 12.4**	**0.0**
PET				pmax	pmax			
	comp=Z,800nm,5.9s							
PET				pmax	pmax			
	comp=Z,300nm,8.7s							
PET				MLR	MLR			
	comp=Z,200nm,18.0s							
PET				MLR	MLR			
	comp=Z,300nm,19.0s							
BOD	**Bodaibo**	**66.08**	**351**	*e*P	**P**		**03 06 48.0**	**+0.3**
BOD				pmax	pmax			
	comp=Z,116nm,1.8s							
NIL	**Nilore**	**67.09**	**311**	P	**P**		**03 06 54.5**	**-0.3**
NIL				pmax	pmax			
	comp=Z,99nm,0.5s							
NIL	**Nilore**	**67.09**	**311**	P	**P**		**03 06 54.5**	**-0.3**
ZSN	**Zaisan**	**67.28**	**329**	*e*P	**P**		**03 06 55.5**	**-0.1**
	comp=Z,65nm,1.9s,baz=329							
ZSN	**Zaisan**	**67.28**	**329**	*e*P	**P**		**03 06 55.5**	**-0.1**
ZSN				pmax	pmax			
	comp=Z,65nm,1.9s							
DGZ	**Jazzator, Alta**	**67.54**	**332**	*c iP*	**P**		**03 06 57.9**	**+0.5**
DGZ				pmax	pmax			
	comp=Z,120nm,0.9s							
SHLS	**Shalkode**	**67.68**	**323**	⇑*iP*	**P**		**03 06 57.1**	**-1.3**
	comp=Z,28nm,0.7s,baz=323							
SHLS	**Shalkode**	**67.68**	**323**	*c iP*	**P**		**03 06 57.1**	**-1.3**
SHLS				pmax	pmax			
	comp=Z,28nm,0.7s							
PDGK	**Podgornoye**	**67.76**	**323**	P	**P**		**03 06 58.6**	**-0.3**
KSH	**Kashi**	**67.94**	**318**	P	**P**		**03 07 01.0**	**+0.9**
KSH				PcP	**pP**		**03 07 27.3**	**-0.6**
KSH				pP	pwP		03 07 30.0	-1.2
KSH				S	**S**		**03 15 47.0**	**-3.0**
KSH				ScS	**SKiKP**		**03 16 42.5**	**-2.5**
KSH				SS	**SS**		**03 20 15.3**	**+0.8**
KSH				pmax	pmax			
	comp=Z,54nm,0.7s							
KSH				pmax	pmax			
	comp=Z,410nm,3.0s							
KSH				LR	LR			
	comp=Z,370nm,15.9s							
KSH				LR	LR			
	comp=Z,380nm,14.9s							
KSH				LR	LR			
	comp=Z,510nm,22.3s							
MK31	**Makanchi Array**	**68.22**	**327**	P	**P**		**03 07 01.6**	**0.0**
MK31				pmax	pmax			
	comp=Z,94nm,0.7s							
MK31	**Makanchi Array**	**68.22**	**327**	P	**P**		**03 07 01.6**	**0.0**
MK31				IAmb	IAmb		03 07 04.0	
	comp=Z,94nm,0.7s							
MKAR	**Makanchi Array**	**68.22**	**327**	P	**P**		**03 07 01.9**	**+0.3**
	comp=Z,181nm,0.6s,baz=118,slow=7.1,SNR=629							
MKAR				PKPPKP	**P'P'df**		**03 35 14.3**	**-4.1**
	comp=Z,0.3nm,0.6s,baz=283,slow=11,SNR=3.7							
MKAR				LR	LR		03 39 52.1	
	comp=Z,120nm,19.8s,baz=114,slow=38							
MKAR				P4KPbc			03 43 48.9	
	comp=Z,0.9nm,0.7s,baz=103,slow=5.4,SNR=7.3							
MKAR	**Makanchi Array**	**68.22**	**327**	P	**P**		**03 07 01.6**	**0.0**
SATY	**Saty**	**68.27**	**322**	⇑*iP*	**P**		**03 07 02.5**	**+0.4**
	comp=Z,27nm,0.7s,baz=322							
SATY				*e*S	**S**		**03 15 52.0**	**-1.8**
	baz=322							
SATY	**Saty**	**68.27**	**322**	*c iP*	**P**		**03 07 02.4**	**+0.4**
SATY				*e*S	**S**		**03 15 51.9**	**-1.8**
SATY				pmax	pmax			
	comp=Z,27nm,0.7s							
KPKS	**Kokpek**	**68.33**	**323**	⇑*iP*	**P**		**03 07 02.5**	**+0.1**
	comp=Z,69nm,1.0s,baz=322							
KPKS				*e*S	**S**		**03 15 52.6**	**-1.8**
	baz=322							
KPKS	**Kokpek**	**68.33**	**323**	*c iP*	**P**		**03 07 02.5**	**+0.1**
KPKS				*e*S	**S**		**03 15 52.5**	**-1.8**

YAK e 03 16 41.4
YAK e*SS ScS 03 16 57.1 +1.1
YAK pmax pmax
comp=Z,221nm,0.6s
YAK pmax pmax
comp=N,24nm,0.7s
YAK pmax pmax
comp=E,10.0nm,0.6s
YAK pmax pmax
comp=Z,106nm,2.3s
YAK smax smax
comp=N,110nm,1.1s
YAK smax smax
comp=E,86nm,1.3s
YAK Yakutsk 69.07 0 P P 03 07 06.6 +0.2
TNSS Tian-Shan 69.15 321 eP P 03 07 08.5 +0.6
baz=321
MDOK Medeo 69.16 322 i P P 03 07 07.9 +0.3
MDOK eS S 03 16 02.6 -1.7
baz=322
MDOK Medeo 69.16 322 i P P 03 07 07.9 +0.3
MDOK eS S 03 16 02.6 -1.7
AAA Alma-Ata 69.26 322 eP P 03 07 07.2 -0.9
baz=322
AAA Alma-Ata 69.26 322 eP P 03 07 07.2 -0.9
TDK Taldyqorghan 69.35 324 eP P 03 07 08.3 -0.3
comp=E,218nm,1.8s,baz=324
TDK Taldyqorghan 69.35 324 eP P 03 07 08.3 -0.3
TDK pmax pmax
comp=Z,218nm,1.8s
BOOM Boomskoye usch 69.49 320 P P 03 07 10.3 +0.6
BOOM pmax pmax
comp=Z,46nm,0.8s
BOOM Boomskoye usch 69.49 320 P P 03 07 10.3 +0.6
MTBS Maitube 69.52 321⇑ iP P 03 07 09.7 -0.1
baz=321
CHKK Chushkaly 69.57 322⇑ eP P 03 07 09.2 -0.7
baz=322
KZA Kyzart 69.72 320 P P 03 07 12.6 +1.2
SNR=22
TKM2 Tokmak 2 69.93 321 P P 03 07 13.0 +0.5
SNR=57
TKM2 Tokmak 2 69.93 321 P P 03 07 12.5 0.0
KUU Kurty 69.98 322⇑ iP P 03 07 12.7 +0.1
comp=Z,348nm,2.1s,baz=322
KUU Kurty 69.98 322c iP P 03 07 12.6 +0.1
KUU pmax pmax
comp=Z,348nm,2.1s
KBK Karagaybulak 70.21 320 P P 03 07 16.8 +2.7
SNR=18
UCH Uchtor 70.27 320 P P 03 07 15.7 +0.9
SNR=47
AAK Ala-Archa 70.48 320 P P 03 07 16.7 +0.9
comp=Z,32nm,0.7s,baz=139,slow=4.8,SNR=72
AAK Ala-Archa 70.48 320 P P 03 07 16.7 +0.9
SNR=32
AAK Ala-Archa 70.48 320 i P P 03 07 16.2 +0.4
SNR=37
AAK Ala-Archa 70.48 320 P P 03 07 16.2 +0.4
AAK Ala-Archa 70.48 320 P P 03 07 16.9 +1.1
CHMS Chumysh 70.50 320 P P 03 07 16.2 +0.5
SNR=8.5
KBL Kabul 70.63 310 P P 03 07 16.5 -0.4
KBL pmax pmax
comp=Z,47nm,1.0s
KBL Kabul 70.63 310 P P 03 07 16.5 -0.4
AML Almayashu 70.75 319 P P 03 07 18.6 +1.0
SNR=62
AML Almayashu 70.75 319 i P P 03 07 17.3 -0.4
SNR=62
AML Almayashu 70.75 319 P P 03 07 18.8 +1.1
DRK Karamyk 70.75 316 IAmb IAmb 03 07 24.2
comp=Z,47nm,0.5s
USP Ospenovka 70.80 321 P P 03 07 18.1 +0.6
SNR=44
SGDS Sogindy 70.81 321⇑ iP P 03 07 17.4 -0.2
comp=Z,57nm,2.1s,baz=321
EKS2 Erkin-Say 70.95 320 P P 03 07 19.5 +0.9
SNR=43
SEM Semipalatinsk 71.51 329⇑ iP P 03 07 21.2 -0.7
comp=Z,45nm,0.9s,baz=329
SEM Semipalatinsk 71.51 329c iP P 03 07 21.1 -0.7
SEM pmax pmax
comp=Z,45nm,0.9s
ZAA0 Zalesovo Array 71.64 334 P P 03 07 21.8 -0.4
ZAA0 IAmb IAmb 03 07 23.0
comp=Z,103nm,0.8s
ZALV Zalesovo Beam 71.64 334 P P 03 07 21.8 -0.5
comp=Z,91nm,0.7s,baz=118,slow=4.5,SNR=292
ZALV S S 03 16 28.6 -3.7
comp=Z,1.9nm,0.7s,baz=141,slow=5.5,SNR=2.5
BTLS Baital 71.98 322⇑ iP P 03 07 24.6 +0.1
comp=Z,61nm,2.0s,baz=322
BTLS Baital 71.98 322c iP P 03 07 24.6 +0.1
BTLS pmax pmax
comp=Z,61nm,2.0s
SEY Seymchan 72.11 11 P P 03 07 26.2 +1.3
comp=Z,110nm,0.7s,baz=198,slow=4.1,SNR=17
SEY LR LR 03 38 42.1
comp=Z,107nm,20.1s,baz=194,slow=35
VNDA Vanda 72.25 173 P P 03 07 26.5 +0.9
comp=Z,14nm,0.7s,baz=320,slow=6.8,SNR=100
VNDA Vanda 72.25 173 P P 03 07 26.3 +0.7
KURBB Kurchatov Arra 72.52 329 P P 03 07 27.7 +0.2
comp=Z,72nm,0.7s,baz=130,slow=4.9,SNR=483
KURBB S S 03 16 37.0 -5.6
comp=Z,0.4nm,0.5s,baz=131,slow=13,SNR=5.2
KURBB Kurchatov Arra 72.52 329 P P 03 07 26.7 -0.9
KURK Kurchatov 72.53 329 P P 03 07 27.7 +0.1
DZA Taraz 72.64 319 eP P 03 07 28.1 -0.4
baz=319
DZA Taraz 72.64 319 eP P 03 07 28.1 -0.4
SBA Scott Base 73.14 172 P P 03 07 31.9 +1.1
SBA pmax pmax
comp=Z,17nm,0.9s
SBA Scott Base 73.14 172 P P 03 07 31.9 +1.1
KK31 Karatay Array 73.28 319 P P 03 07 32.2 0.0
KK31 pmax pmax
comp=Z,36nm,0.7s
KK31 Karatay Array 73.28 319 P P 03 07 32.2 0.0
KKAR Karatay Array 73.28 319 P P 03 07 32.3 0.0
KKAR Karatay Array 73.28 319 P P 03 07 32.3 0.0
MAW Mawson 74.59 201 P P 03 07 41.1 +1.7
baz=75,SNR=31
MAW Mawson 74.59 201 P P 03 07 41.1 +1.7
comp=Z,33nm,0.9s,baz=76,slow=6.5,SNR=44
MAW LR LR 03 37 02.9
comp=Z,188nm,21.6s,baz=68,slow=33
MAW Mawson 74.59 201 P P 03 07 41.0 +1.6
ADK Adak 74.59 31 P P 03 07 40.6 +1.0
ADK pmax pmax
comp=Z,65nm,0.8s
ADK Adak 74.59 31 P P 03 07 40.6 +1.0
ADK IAmb IAmb 03 07 42.6
comp=Z,65nm,0.8s
OTUK Ortayu 74.62 324 P P 03 07 40.4 +0.4
JLN Jalan Bani Buh 74.67 295 P P 03 07 40.5 -0.2
WBK Wadi Bani Khal 75.17 296 P P 03 07 43.6 -0.1
SNR=5.0
BRZS Berezniki 75.30 326⇑ iP P 03 07 44.0 +0.2
comp=Z,37nm,0.9s,baz=326
BRZS Berezniki 75.30 326c iP P 03 07 44.0 +0.2
BRZS pmax pmax
comp=Z,37nm,0.9s
WSAR Wadi Sarin 75.63 296 P P 03 07 46.6 +0.3
comp=Z,63nm,0.7s,baz=146,slow=6.9,SNR=48
MHTO MHTO 75.69 294 P P 03 07 46.2 -0.4
SNR=14
JMDO Jabal Madar 75.89 295 P P 03 07 48.1 +0.3
SMDO Samad 76.11 296 P P 03 07 49.1 0.0
SNR=12
BIDO Bidbid 76.15 296 P P 03 07 49.3 +0.1
SNR=15
BSY Bisya 76.79 295 P P 03 07 52.5 -0.4
SNR=5.6
HOQ Hoqain 76.89 296 P P 03 07 53.4 0.0
SNR=14
SHAO Shalim 77.19 290 i P P 03 07 55.0 -0.2
SNR=12
SHAO Shalim 77.19 290 P P 03 07 55.5 +0.3
SNR=12
ARQ Aragi 77.54 296 P P 03 07 56.8 -0.2
SNR=6.4
SOCY Socotra 77.62 284 IAmb IAmb 03 08 02.2
comp=Z,56nm,0.6s

SOHO SOHO 77.72 297 i P P 03 07 57.8 -0.2
SNR=31
DMTO DMTO 77.76 290 P P 03 07 58.2 -0.1
SNR=6.7
BVAR Borovoye Array 78.07 328 P P 03 07 59.4 +0.1
comp=Z,95nm,0.8s,baz=156,slow=7.6,SNR=280
BRVK Borovoye 78.14 328 P P 03 07 59.8 +0.1
BRVK pmax pmax
comp=Z,92nm,0.8s
BRVK Borovoye 78.14 328 P P 03 07 59.8 +0.1
BRVK IAmb IAmb 03 08 02.2
comp=Z,92nm,0.8s
UOSS Minazif 78.20 297 i P P 03 07 59.7 -0.9
SNR=20
UOSS Minazif 78.20 297 P P 03 08 00.2 -0.5
UOSS Minazif 78.20 297 P P 03 08 00.2 -0.5
MDH Madha 78.20 298 i P P 03 07 59.9 -0.7
SNR=6.7
HATD Hatta, Dubai 78.23 297 i P P 03 07 59.0 -1.8
SNR=27
HATD Hatta, Dubai 78.23 297 P P 03 08 00.9 0.0
SNR=13
ASHO Ashiyiah 78.27 297 i P P 03 08 00.7 -0.4
SNR=37
ASHO Ashiyiah 78.27 297 P P 03 08 01.1 0.0
SNR=8.3
MSFE Esma-Masafi 78.34 298 i P P 03 08 01.6 +0.1
SNR=51
MASF Masafi 78.34 298 P P 03 08 01.6 +0.2
SNR=14
BANOM Banah 78.35 298 i P P 03 08 01.7 +0.2
SNR=37
BANOM Banah 78.35 298 P P 03 08 01.9 +0.4
SNR=9.9
ALNE Al Ain 78.39 296 i P P 03 08 02.1 +0.3
SNR=8.8
ALNE Al Ain 78.39 296 P P 03 08 01.9 +0.1
SNR=15
RBK Rabkut 78.41 289 P P 03 08 02.1 +0.1
SHME Shamm 78.52 298 i P P 03 08 02.6 +0.2
SNR=42
NAZ Nazwa, Dubai 78.69 297 i P P 03 08 03.2 -0.2
SNR=14
NAZ Nazwa, Dubai 78.69 297 P P 03 08 02.8 -0.5
SNR=5.1
FAQ Al Faqa, Dubai 78.69 297 i P P 03 08 03.0 -0.3
SNR=49
FAQ Al Faqa, Dubai 78.69 297 P P 03 08 03.3 -0.1
SNR=11
DOK Doka 78.70 291 P P 03 08 03.0 -0.5
SNR=24
TIXI Tiksi 78.73 360 P P 03 08 01.8 -0.7
comp=Z,38nm,0.5s,baz=164,slow=4.0,SNR=30
TIXI Tiksi 78.73 360ce eP P 03 08 02.5 0.0
TIXI Tiksi 78.73 360 P P 03 08 01.9 -0.7
TIXI IAmb IAmb 03 08 03.6
comp=Z,63nm,0.8s
WHFO Wadi Hawf 78.89 290 P P 03 08 03.2 -1.4
SNR=14
ASUD Al Ashush, Dub 78.90 297 i P P 03 08 04.9 +0.4
SNR=14
ASUD Al Ashush, Dub 78.90 297 P P 03 08 04.4 0.0
SNR=14
PAE Paea 79.11 107 eP P 03 08 08.6 +2.9
comp=Z,4.0nm,0.7s
PPT2 Papeete2 79.11 106 eP P 03 08 08.8 +2.9
comp=Z,30nm,1.0s
PPT Papeete 79.11 106 LR LR 03 38 22.1
comp=Z,111nm,21.5s,baz=249,slow=32
AJN Ajban 79.19 297 i P P 03 08 10.2 +4.1
SNR=5.6
AJN Ajban 79.19 297 P P 03 08 06.5 +0.4
SNR=6.9
ABTO Aybut 79.23 289 P P 03 08 05.9 -0.6
NIKH Nikolski High 79.26 33 IAmb IAmb 03 08 08.0
baz=242
NIKH Nikolski High 79.26 33 P P 03 08 06.5 +0.7
baz=242
BILL Bilibino 79.44 13d iP P 03 08 07.0 +0.5
BILL e 03 08 14.4
BILL e*PP pP 03 08 35.0 +0.3
BILL e*SP sP 03 08 47.1 +0.8
BILL e 03 11 08.1
BILL ePPP PPP 03 12 57.3
BILL eS S 03 17 59.4 +1.6
BILL pmax pmax
comp=Z,17nm,1.5s
BILL Bilibino 79.44 13 P P 03 08 07.2 +0.7
GEYT Alibeck 80.08 310 P P 03 08 11.2 +0.4
comp=Z,18nm,0.9s,baz=206,slow=9.9,SNR=24
GEYT LR LR 03 47 05.1
comp=Z,105nm,21.9s,baz=205,slow=38
GYA0 ALIBECK ARRAY 80.08 310 P P 03 08 10.6 -0.1
SPIA Saint Paul Isl 80.56 29 P P 03 08 14.3 +1.6
baz=241
OPO Ambohidratompo 80.58 252 P P 03 08 15.0 +1.0
comp=Z,22nm,0.8s,baz=75,slow=5.6,SNR=18
VOI Vohitsoka 80.70 249 P P 03 08 15.0 +0.5
VOI Vohitsoka 80.70 249 P P 03 08 15.9 +1.4
UNV Unalaska Valle 80.91 33 IAmb IAmb 03 08 17.4
comp=Z,62nm,0.6s
UNV Unalaska Valle 80.91 33 P P 03 08 15.4 +0.7
baz=244,SNR=6.6
PMOR Pomariorio Ree 80.93 104 eP P 03 08 18.4 +2.8
comp=Z,26nm,0.9s
GHWR Ruwais 80.94 296 P P 03 08 15.2 -0.3
JRN Qarnain Island 81.17 297 P P 03 08 16.2 -0.5
SNR=9.6
NRIK Noril'sk 81.70 346 P P 03 08 19.1 +0.6
comp=Z,41nm,0.7s,baz=136,slow=6.0,SNR=36
NRIK LR LR 03 47 34.1
comp=Z,173nm,19.3s,baz=143,slow=38
AB31 Akbulak array 82.47 322 i P P 03 08 22.5 -0.5
TRNA Turayna 82.58 296 P P 03 08 23.9 -0.2
QSPA South Pole Qui 82.73 180 P P 03 08 24.5 +0.3
comp=Z,44nm,0.7s,baz=311,slow=0.9,SNR=286
QSPA S S 03 18 28.6 -3.9
comp=Z,3.7nm,0.8s,baz=113,slow=23,SNR=13
QSPA South Pole Qui 82.73 180 P P 03 08 24.5 +0.3
SHMA Al-Shehemyia 83.02 297 P P 03 08 26.4 0.0
GAMB Gambell 83.29 22 P P 03 08 28.2 +1.4
baz=238
SYO Syowa Base 83.30 201⇓ eP P 03 08 27.2 +0.3
SYO Syowa Base 83.30 201⇑ ePcP PcP 03 08 30.4 -0.7
SYO Syowa Base 83.30 201⇑ epP pP 03 08 58.2 +2.8
SAKB Bahrain 83.42 297 P P 03 08 28.4 0.0
AKTO Aktyubinsk 84.03 322 S S 03 18 39.8 -6.0
comp=Z,1.0nm,0.8s,baz=86,slow=23,SNR=1.8
AKTO Aktyubinsk 84.03 322 P P 03 08 30.9 -0.1
SDPT Sand Point 84.73 33 P P 03 08 34.9 +0.6
baz=249,SNR=16
SVE Sverdlovsk 84.78 329de eP P 03 08 34.6 0.0
SVE eS S 03 18 47.9 -5.0
SVE pmax pmax
comp=Z,152nm,0.8s
CNBA Chernabura Isl 85.02 33 IAmb IAmb 03 08 38.1
comp=Z,97nm,0.7s
CHNA Chernabura Isl 85.03 33 P P 03 08 36.5 +0.6
baz=250,SNR=6.5
TNA Tin City 85.59 22 P P 03 08 39.1 +0.7
baz=242
ARU Arti 85.71 328 P P 03 08 38.4 -0.8
comp=Z,54nm,0.8s,baz=136,slow=1.3,SNR=160
ARU Arti 85.71 328c iP P 03 08 38.2 -1.1
ARU *PP pP 03 09 04.2 -3.5
ARU *SP sP 03 09 16.9 -2.6
ARU 03 11 54.6
ARU S S 03 18 53.3 -8.8
ARU SS SS 03 24 33.5 -7.9
ARU pmax pmax
comp=Z,101nm,0.7s
ARU Arti 85.71 328 P P 03 08 38.8 -0.5
ARU IAmb IAmb 03 08 40.2
comp=Z,108nm,0.8s
ANM Nome 86.10 23 P P 03 08 42.9 +1.9
baz=244
CHGN Chignik 86.15 32 IAmb IAmb 03 08 42.2
comp=Z,51nm,0.9s
CHGN Chignik 86.15 32 P P 03 08 41.7 +0.3
baz=251,SNR=5.0
KBD Kabd 86.50 300 eP P 03 08 42.9 -0.8
UMR Umm Al-Rimmam 86.55 300 eP P 03 08 42.6 -1.3
RDF Al-Radifah 86.58 300 eP P 03 08 42.8 -1.3
MIB Mutribah 86.91 300 eP P 03 08 44.8 -0.9
RST Umm Al-Ruwaisa 87.15 300 eP P 03 08 45.5 -1.4
CHIR Chirikof Islan 87.49 33 P P 03 08 49.6 +1.6
baz=253
ATD Arta Tunnel 88.29 282 P P 03 08 54.0 +1.3
comp=Z,23nm,0.8s,baz=340,slow=3.6,SNR=10
SII Sitkinak Islan 88.47 33 IAmb IAmb 03 08 54.4
comp=Z,82nm,0.8s
SII Sitkinak Islan 88.47 33 P P 03 08 53.9 +1.3
baz=254
AKT Akhty 88.71 312 eP P 03 08 54.3 +0.1
AKT e*PP pP 03 09 20.8 -2.2
AKT e*SP sP 03 09 34.9 +0.1
AKT e 03 12 23.9
AKT pmax pmax
comp=Z,25nm,0.8s
O18K Koktuh Hills 88.85 29 P P 03 08 54.8 +0.5
baz=254
SVW2 Sparrevohn 89.03 28 IAmb IAmb 03 08 57.8
comp=Z,31nm,0.8s
OHAK Old Harbor 89.12 32 IAmb IAmb 03 08 57.6
comp=Z,47nm,0.8s
OHAK Old Harbor 89.12 32 P P 03 08 56.4 +0.9
baz=255
MAK Makhachkala 89.15 313 eP P 03 08 52.4 -3.6
MAK e*PP pP 03 09 24.2 -0.7
MAK e*SP sP 03 09 37.6 +0.9
MAK e 03 12 22.1
MAK ePPP PPP 03 14 21.5
MAK e 03 19 10.1
MAK eSS SS 03 25 25.7 -6.4
MAK eSSS SSS 03 29 08.3
MAK pmax pmax
comp=Z,128nm,0.9s
Q19K Cape Douglas, 89.37 30 IAmb IAmb 03 08 59.7
comp=Z,42nm,0.8s
Q19K Cape Douglas, 89.37 30 P P 03 08 57.5 +0.7
baz=255,SNR=5.5
N19K Bonanza Creek 89.47 28 IAmb IAmb 03 08 59.8
comp=Z,41nm,0.8s
N19K Bonanza Creek 89.47 28 P P 03 08 58.2 +0.9
baz=254,SNR=17
KDAK Kodiak Island 89.62 32 LR LR 03 44 27.6
comp=Z,104nm,21.4s,baz=234,slow=32
KDAK Kodiak Island 89.62 32 P P 03 08 58.9 +1.0
KDAK pmax pmax
comp=Z,45nm,0.9s
KDAK Kodiak Island 89.62 32 P P 03 08 58.9 +1.0
KDAK IAmb IAmb 03 09 00.2
comp=Z,45nm,0.9s
KDAK Kodiak Island 89.62 32 P P 03 08 58.7 +0.8
baz=256
L19K White Mountain 89.67 27 IAmb IAmb 03 09 01.5
comp=Z,44nm,0.8s
L19K White Mountain 89.67 27 P P 03 08 59.1 +1.0
baz=254,SNR=38
P19K Oil Pt 89.76 30 P P 03 08 58.7 +0.1
baz=255
M19K Big River Lodg 89.81 27 IAmb IAmb 03 09 01.8
comp=Z,32nm,0.7s
M19K Big River Lodg 89.81 27 P P 03 08 60.0 +1.2
baz=254,SNR=24
L20K Farewell, AK 90.19 27 P P 03 09 01.5 +1.0
baz=255,SNR=52
K20K Telida 90.34 26 IAmb IAmb 03 09 03.9
comp=Z,57nm,0.7s
K20K Telida 90.34 26 P P 03 09 02.2 +1.0
baz=254,SNR=64
GROC Groznyy 90.42 313 eP P 03 09 01.7 -0.3
GROC e*PP pwP 03 09 34.4 -1.0
GROC e 03 12 38.6
GROC eS SKSac 03 19 20.9 -1.9
GROC pmax pmax
comp=Z,32nm,0.9s
J20K Nowinta River 90.53 25 P P 03 09 03.0 +1.0
baz=254,SNR=107
HOM Homer 90.55 30 P P 03 09 02.8 +0.6
baz=257
CNPM China Poot 90.72 30 IAmb IAmb 03 09 03.9
comp=Z,63nm,1.4s
GNI Garni 90.72 310 P P 03 09 04.4 +0.7
comp=Z,5.8nm,0.5s,baz=80,slow=0.5,SNR=6.1
GNI Garni 90.72 310 P P 03 09 03.8 +0.1
GNI Garni 90.72 310 P P 03 09 04.8 +1.1
GNI pmax pmax
comp=Z,16nm,0.9s
GNI Garni 90.72 310 P P 03 09 04.8 +1.1
BELG Belogornoye 90.82 323 P P 03 09 02.4 -1.2
comp=Z,33nm,0.7s,baz=71,slow=0.5,SNR=30
BELG S SKSac 03 19 22.0 -2.6
comp=Z,16nm,0.8s,baz=144,slow=23,SNR=14
BRSE Bradley Lake S 91.01 30 P P 03 09 07.2 +2.8
baz=257
KIRV Kirov 91.05 329 P P 03 09 03.2 -1.3
comp=Z,36nm,0.7s,baz=82,slow=6.0,SNR=14
KIRV Kirov 91.05 329ce eP P 03 09 03.4 -1.1
PPLA Purkeypile 91.05 27 IAmb IAmb 03 09 11.4
comp=Z,35nm,1.0s
PPLA Purkeypile 91.05 27 P P 03 09 05.0 +0.3
baz=256,SNR=12
SKT Skwentna 91.14 28 IAmb IAmb 03 09 05.8
comp=Z,31nm,0.6s
SKT Skwentna 91.14 28 P P 03 09 04.4 -0.5
baz=257,SNR=22
CAST Castle Rocks 91.22 26 P P 03 09 05.6 +0.3
baz=256,SNR=20
CHUM Lake Minchumin 91.23 26 P P 03 09 06.2 +0.9
baz=256,SNR=99
KIBK Kibwezi 91.27 267 P P 03 09 06.7 0.0
SUA Susitna One 91.39 28 P P 03 09 06.2 0.0
baz=257,SNR=10
H21K Melozitna Rive 91.46 24 P P 03 09 06.9 +0.6
baz=256,SNR=22
O22K Cooper Landing 91.67 29 P P 03 09 07.8 +0.4
baz=258
I21K Tanana 91.68 24 IAmb IAmb 03 09 09.6
comp=Z,25nm,0.7s
I21K Tanana 91.68 24 P P 03 09 08.1 +0.7
baz=256,SNR=29
SEW Seward 91.72 30 IAmb IAmb 03 09 09.6
comp=Z,24nm,0.8s
SEW Seward 91.72 30 P P 03 09 07.9 +0.3
baz=258
ZEI Tsey 91.73 313 eP P 03 09 07.7 -0.7
ZEI pmax pmax
comp=Z,15nm,1.4s
RC01 Rabbit Creek A 91.78 29 IAmb IAmb 03 09 11.0
comp=Z,29nm,0.7s
RC01 Rabbit Creek A 91.78 29 P P 03 09 07.6 -0.3
baz=258
CUT Chulitna 91.81 27 IAmb IAmb 03 09 09.8
comp=Z,30nm,0.6s
CUT Chulitna 91.81 27 P P 03 09 07.3 -0.7
baz=258,SNR=9.8
AKH Akhalkalaki 91.84 311⇓ P P 03 09 09.8 +0.9
BPAW Bear Paw Mtn. 91.85 26 IAmb IAmb 03 09 11.5
comp=Z,31nm,0.7s
BPAW Bear Paw Mtn. 91.85 26 P P 03 09 08.1 -0.1
baz=257,SNR=46
TRF Thorofare Moun 92.02 26 P P 03 09 08.6 -0.5
baz=258
KARS Kars 92.05 311 P P 03 09 10.6 +0.8
KARS pmax pmax
comp=Z,120nm,1.1s
KARS Kars 92.05 311 P P 03 09 10.6 +0.8
MLY Manley 92.16 25 P P 03 09 09.9 +0.3
baz=258,SNR=123
PMR Palmer 92.17 28 IAmb IAmb 03 09 11.7
comp=Z,26nm,1.0s
PMR Palmer 92.17 28 P P 03 09 09.4 -0.2
baz=259,SNR=14
KMBO Kilima Mbogo 92.21 269 P P 03 09 12.4 +1.2
comp=Z,12nm,0.9s,baz=54,slow=6.5,SNR=27
KMBO Kilima Mbogo 92.21 269 i P P 03 09 11.3 0.0
SNR=12
KMBO Kilima Mbogo 92.21 269ce eP P 03 09 12.6 +1.3
KMBO pmax pmax
comp=Z,12nm,0.9s
KMBO Kilima Mbogo 92.21 269 P P 03 09 11.8 +0.6
KNK Knik Glacier 92.45 28 IAmb IAmb 03 09 15.2
comp=Z,32nm,0.7s
KNK Knik Glacier 92.45 28 P P 03 09 11.4 +0.3
baz=259,SNR=12
GURO Guroymak-BITLI 92.58 308 IAmb IAmb 03 09 14.9
comp=Z,24nm,0.9s
SML Sawmill 92.58 28 P P 03 09 11.8 +0.1
baz=260,SNR=22
KBZ Khabaz 92.59 314 P P 03 09 11.7 -0.3
comp=Z,8.6nm,0.8s,baz=112,slow=3.8,SNR=16
NEY Neytrino 92.65 313 i P P 03 09 12.5 -0.1

NEY pmax pmax
comp=Z,5.0nm,0.9s
MCK McKinley 92.67 26 P P 03 09 11.5 -0.4
baz=259,SNR=42
I23K Minto, Yukon-K 92.76 25 P P 03 09 12.8 +0.5
baz=259,SNR=125
SHA1 Shidzhatmaz 92.76 314 *i* P **P 03 09 13.0 -0.1**
KIV Kislovodsk 92.77 314 *e*P **P 03 09 12.6 -0.4**
KIV *e* 03 19 35.7
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,104nm,20.0s
NEA2 Nenana 92.77 25 P **P 03 09 12.4 -0.1**
NEA2 IAmb IAmb 03 09 14.6
comp=Z,35nm,0.7s
NEA2 Nenana 92.77 25 P **P 03 09 11.7 -0.7**
baz=259,SNR=56
COLD Coldfoot 92.84 23 P **P 03 09 13.4 +0.8**
baz=258,SNR=57
WAT6 Susitna Watana 92.99 27 P **P 03 09 13.7 0.0**
baz=260,SNR=18
GLI Glacier Island 93.01 29 IAmb IAmb 03 09 15.8
comp=Z,32nm,0.7s
GLI Glacier Island 93.01 29 P **P 03 09 13.7 +0.1**
baz=260,SNR=20
MDM Murphy Dome 93.19 25 IAmb IAmb 03 09 15.8
comp=Z,36nm,0.9s
HIN Hinchinbrook I 93.22 30 IAmb IAmb 03 09 16.0
comp=Z,37nm,0.8s
DHY Denali Highway 93.24 27 P **P 03 09 15.0 +0.2**
baz=260,SNR=66
BCA Borcka 93.24 311 ⇑P **P 03 09 13.8 -1.4**
FID Port Fidalgo 93.29 29 IAmb IAmb 03 09 17.2
comp=Z,27nm,0.8s
TCOL CIGO, UAF Yank 93.33 25 P **P 03 09 14.6 -0.3**
baz=260
COLA College 93.34 25 P **P 03 09 14.7 -0.3**
COLA pmax pmax
comp=Z,51nm,0.7s
COLA College 93.34 25 P **P 03 09 14.7 -0.3**
TOLK Toolik Lake Re 93.36 21 IAmb IAmb 03 09 18.0
comp=Z,45nm,1.1s
TOLK Toolik Lake Re 93.36 21 P **P 03 09 15.6 +0.6**
baz=259,SNR=12
PRGR Permogore 93.47 332 *e*P **P 03 09 14.1 -1.5**
PRGR pmax pmax
comp=Z,40nm,1.1s
H24K Noodor Dome 93.49 24 P **P 03 09 16.3 +0.6**
baz=260,SNR=100
POKR Poker Plat Res 93.55 25 IAmb IAmb 03 09 18.1
comp=Z,18nm,0.7s
POKR Poker Plat Res 93.55 25 P **P 03 09 14.7 -1.3**
baz=260,SNR=19
EYAK Cordova Ski Ar 93.61 30 P **P 03 09 17.1 +0.8**
baz=262
M24K Tolsona, Glenn 93.64 28 P **P 03 09 17.4 +0.9**
baz=261,SNR=13
HDA Harding Lake 93.64 26 P **P 03 09 15.6 -0.9**
baz=261,SNR=94
KLU Klutina 93.67 29 P **P 03 09 17.1 +0.4**
KLU Klutina 93.67 29 P **P 03 09 17.1 +0.4**
baz=262,SNR=12
IL31 93.73 25 P **P 03 09 15.3 -1.4**
IL31 IAmb IAmb 03 09 16.5
comp=Z,37nm,0.8s
ILAR Eielson Array 93.73 25 P **P 03 09 15.2 -1.6**
comp=Z,32nm,0.7s,baz=272,slow=4.0,SNR=391
ILAR PKiKP **PKiKP 03 14 03.1 +1.7**
comp=Z,0.7nm,0.7s,baz=238,slow=3.6,SNR=1.9
ILAR PKKP **PKKPdf 03 26 21.6 -0.6**
comp=Z,1.4nm,0.7s,baz=3.0,slow=1.4,SNR=13
ILAR LR LR 03 47 29.9
comp=Z,56nm,22.0s,baz=284,slow=33
PAX Paxson 94.08 27 P **P 03 09 18.8 +0.2**
baz=262,SNR=40
RAGM Ragged Mountai 94.12 30 IAmb IAmb 03 09 24.3
comp=Z,43nm,1.4s
HARP HAARP 94.15 28 P **P 03 09 19.6 +0.7**
baz=262,SNR=5.6
KAIM Kayak Island 94.19 30 P **P 03 09 20.4 +1.4**
baz=263,SNR=5.0
BMRM Bremner River 94.23 29 IAmb IAmb 03 09 20.7
comp=Z,38nm,0.8s
BMRM Bremner River 94.23 29 P **P 03 09 19.9 +0.7**
baz=263,SNR=22
VRH Novokhopyorsk 94.27 321 *e*P **P 03 09 17.6 -2.0**
VRH *e* 03 19 40.0
VRH pmax pmax
comp=Z,30nm,0.6s
N25K Chitina, Valde 94.31 29 IAmb IAmb 03 09 22.3
comp=Z,22nm,0.7s
N25K Chitina, Valde 94.31 29 P **P 03 09 20.4 +0.8**
baz=263,SNR=17
HMT Hamilton 94.32 30 P **P 03 09 20.1 +0.5**
HMT IAmb IAmb 03 09 21.3
comp=Z,27nm,0.7s
PRP Porcupine Dome 94.41 25 IAmb IAmb 03 09 21.0
comp=Z,15nm,0.7s
PRP Porcupine Dome 94.41 25 P **P 03 09 18.7 -1.4**
baz=262,SNR=19
RIDG Independent Ri 94.46 26 P **P 03 09 20.4 +0.1**
baz=263,SNR=62
GLB Gilahina Butte 94.67 29 IAmb IAmb 03 09 22.8
comp=Z,26nm,0.8s
SOC Sochi 94.87 313 *e*P **P 03 09 21.0 -1.5**
SOC *e* 03 13 11.3
SOC *e*PPP PPP 03 15 12.3
SOC *e*S **SKSac 03 19 46.1 -1.4**
SOC *e*SSS SSS 03 30 35.6
SCRK Sand Creek 94.87 26 IAmb IAmb 03 09 23.4
comp=Z,20nm,0.8s
SCRK Sand Creek 94.87 26 P **P 03 09 22.3 +0.1**
baz=264,SNR=45
MENT Mentasta 94.88 27 IAmb IAmb 03 09 23.7
comp=Z,28nm,0.8s
CRQE Cirque 94.94 29 P **P 03 09 23.0 +0.4**
baz=264,SNR=8.2
BMAR Burnt Mountain 95.02 23 P **P 03 09 23.7 +1.0**
WAX Waxell Ridge 95.03 30 IAmb IAmb 03 09 24.9
comp=Z,26nm,0.7s
MCARA McCarthy VSAT 95.04 29 IAmb IAmb 03 09 35.5
comp=Z,21nm,0.8s
MCARA McCarthy VSAT 95.04 29 P **P 03 09 23.6 +0.7**
baz=264
L26K Log Cabin Wild 95.05 27 IAmb IAmb 03 09 24.6
comp=Z,22nm,0.8s
L26K Log Cabin Wild 95.05 27 P **P 03 09 23.4 +0.5**
baz=264,SNR=17
TGL Tana Glacier 95.07 30 IAmb IAmb 03 09 24.9
comp=Z,32nm,0.8s
J26L Joseph Creek 95.11 26 P **P 03 09 23.6 +0.4**
baz=264,SNR=150
M26K Nabesna, AK 95.15 28 P **P 03 09 23.8 +0.3**
baz=264,SNR=13
ISLE Juniper Island 95.29 30 IAmb IAmb 03 09 25.4
comp=Z,20nm,0.8s
SNAA Sanae 95.34 194 P **P 03 09 25.5 +1.3**
SNAA Sanae 95.34 194 P **P 03 09 25.2 +1.0**
SNAA pmax pmax
comp=Z,19nm,0.8s
SNAA Sanae 95.34 194 P **P 03 09 25.2 +1.0**
SNAA IAmb IAmb 03 09 26.7
comp=Z,19nm,0.8s
MESA MESA 95.45 30 P **P 03 09 25.9 +0.9**
baz=265
YAH Yahtse 95.56 30 IAmb IAmb 03 09 27.2
comp=Z,19nm,0.9s
GRNC Granite Creek 95.59 30 IAmb IAmb 03 09 27.5
comp=Z,23nm,0.7s
BARN Barnard Glacie 95.66 29 IAmb IAmb 03 09 28.0
comp=Z,22nm,0.7s
M27K Edge Creek, AK 95.67 28 IAmb IAmb 03 09 28.9
comp=Z,20nm,0.8s
M27K Edge Creek, AK 95.67 28 P **P 03 09 26.6 +0.7**
baz=265,SNR=18
K27K Chicken 95.71 26 P **P 03 09 27.3 +1.4**
baz=265
L27K Beaver Creek, 95.75 27 P **P 03 09 26.9 +0.8**
baz=265,SNR=55
VORD Divnogorie 95.78 321 *e*P **P 03 09 24.9 -1.5**
VORD pmax pmax
comp=Z,30nm,0.5s
CTG Chitna Glacier 95.81 29 P **P 03 09 27.6 +1.0**
baz=266,SNR=7.2
CTGM Chitina Glacie 95.81 29 IAmb IAmb 03 09 28.2
comp=Z,16nm,0.8s

TABL Table Mountain 95.87 30 P **P 03 09 27.5 +0.6**
TABL IAmb IAmb 03 09 29.7
comp=Z,22nm,0.7s
VSR Storozhevoye 95.87 321 *e*P **P 03 09 25.1 -1.8**
VSR *e* 03 19 49.0
VSR pmax pmax
comp=Z,30nm,0.9s
LOGN Logan Glacier 95.97 30 IAmb IAmb 03 09 29.7
comp=Z,12nm,0.8s
ASF Jabal al Asfar 96.11 302 P **P 03 09 29.3 +0.7**
comp=Z,11nm,0.9s,baz=283,slow=2.0,SNR=20
LPSR Galich'ya Gora 96.12 322 *e*P **P 03 09 25.9 -2.1**
LPSR 03 19 51.3
LPSR pmax pmax
comp=Z,10.0nm,0.7s
BVCY Beaver Creek 96.14 28 P **P 03 09 28.8 +0.9**
baz=266,SNR=11
EGAK Eagle 96.17 26 P **P 03 09 28.1 +0.2**
baz=266
GAZ Gaziantep 96.24 307 IAmb IAmb 03 09 31.2
comp=Z,15nm,0.9s
PINM Pinnacle 96.29 30 P **P 03 09 29.8 +1.2**
baz=266
YUK3 Moose Creek 96.29 29 P **P 03 09 29.3 +0.5**
baz=266,SNR=6.9
KLMR Klimovskoe 96.32 330 *e*P **P 03 09 24.5 -4.1**
KLMR *e* 03 13 18.1
KLMR pmax pmax
comp=Z,45nm,1.1s
KLMR Klimovskoe 96.32 330 *e*P **P 03 09 24.6 -4.1**
KLMR AMP 03 09 29.8
comp=Z,45nm,1.1s
KLMR *e*PP **PP 03 13 18.2 -5.4**
ANN Anapa 96.60 314 *e*P **P 03 09 28.3 -2.0**
ANN pmax pmax
comp=Z,26nm,0.6s
DAWY Dawson 96.89 26 P **P 03 09 32.1 +0.7**
baz=268,SNR=54
VNA2 Neumayer--Watz 96.91 193 P **P 03 09 32.8 +1.5**
MOS Moscow 97.06 325 *e*P **P 03 09 28.8 -3.3**
MOS *e* 03 13 28.8
MOS pmax pmax
comp=Z,43nm,0.6s
YUK4 Talbot Arm 97.14 29 P Pdif 03 09 33.7 +0.9
baz=268,SNR=11
VNA3 Neumayer Olymp 97.17 192 P Pdif 03 09 33.6 +1.1
GHAJ Ghor Haditha 97.17 301 IAmb IAmb 03 09 36.6
comp=Z,18nm,1.0s
YUK6 Outpost Mounta 97.26 29 P Pdif 03 09 34.4 +1.1
baz=268
VNA1 Neumayer--Stat 97.31 193 P Pdif 03 09 35.0 +1.9
OBN Obninsk 97.64 325 ⇓P **P 03 09 32.6 -2.1**
OBN Obninsk 97.64 325 P **P 03 09 33.5 -1.3**
comp=Z,8.8nm,0.6s,baz=37,slow=4.4,SNR=10
OBN Obninsk 97.64 325 *ce*P **P 03 09 33.2 -1.5**
OBN *e**PP **pP 03 10 02.8 -0.8**
OBN *e**SP **sP 03 10 14.6 -0.7**
OBN *e* 03 13 31.7
OBN *e*PPP PPP 03 15 37.2
OBN *e*S **SKSac 03 20 00.7 -0.7**
OBN *e*SS SS 03 27 44.5 +12
OBN pmax pmax
comp=Z,42nm,0.7s
OBN Obninsk 97.64 325 P **P 03 09 33.4 -1.3**
HYT Haines Junctio 97.68 30 IAmb IAmb 03 09 36.8
comp=Z,13nm,0.8s
HYT Haines Junctio 97.68 30 P Pdif 03 09 35.8 +0.7
baz=269,SNR=7.8
MATP Matopo 97.82 248 P Pdif 03 09 36.9 +0.3
comp=Z,2.9nm,0.8s,baz=122,slow=7.2,SNR=4.0
MAYO Mayo, Yukon 98.44 27 Pdiff Pdif 03 09 39.7 +1.4
baz=271
LVZ Lovozero 98.54 338 *ce*P **P 03 09 37.6 -1.0**
LVZ pmax pmax
comp=Z,53nm,2.9s
LVZ Lovozero 98.54 338 P **P 03 09 38.4 -0.2**
LVZ IAmb IAmb 03 09 38.5
comp=Z,13nm,0.8s
MBAR Mbarara 98.73 268 *i* P **P 03 09 39.8 -1.1**
SKAG Skagway 98.76 31 IAmb IAmb 03 09 41.8
comp=Z,20nm,0.8s
SKAG Skagway 98.76 31 Pdiff Pdif 03 09 41.2 +1.4
baz=271,SNR=9.5
BOSA Boshof 99.02 240 P **Pdif 03 09 42.6 +0.8**
comp=Z,13nm,1.1s,baz=121,slow=4.2,SNR=9.7
BOSA LR LR 03 48 01.5
comp=Z,82nm,21.8s,baz=121,slow=31
BOSA Boshof 99.02 240 P **Pdif 03 09 42.7 +0.8**
BOSA pmax pmax
comp=Z,10.0nm,0.9s
BOSA Boshof 99.02 240 P **Pdif 03 09 42.6 +0.8**
APA Apatity 99.03 337 *i* P **Pdif 03 09 37.1 -3.6**
APA *i* *PP **pP 03 10 06.5 -3.3**
APA pmax pmax
comp=Z,5.0nm,1.1s
APA MLR MLR
comp=Z,300nm,17.0s
LSZ Lusaka 99.03 253 P **Pdif 03 09 42.1 0.0**
LSZ Lusaka 99.03 253 **Pdif 03 09 42.1 0.0**
BRTR Keskin Array B 99.18 309 P **Pdif 03 09 40.9 -1.4**
comp=Z,2.9nm,0.7s,baz=132,slow=5.5,SNR=30
BRTR LR LR 04 01 17.6
comp=Z,79nm,20.4s,baz=88,slow=39
BRTR Keskin Array B 99.18 309 *ce*P **Pdif 03 09 41.2 -1.1**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
INK Inuvik 99.23 22 IAmb IAmb 03 09 41.9
comp=Z,14nm,0.9s
INK Inuvik 99.23 22 Pdiff **Pdif 03 09 41.3 -0.3**
baz=274,SNR=5.1
CSS Mathiatis 99.25 304 **Pdif 03 09 43.6 +1.1**
CSS IAmb IAmb 03 09 44.8
comp=Z,14nm,0.9s
JIS Juneau Island 99.27 32 IAmb IAmb 03 09 44.1
comp=Z,14nm,0.8s
LBTB Lobatse 99.52 243 P **Pdif 03 09 44.7 +0.6**
LBTB pmax pmax
comp=Z,10.0nm,0.8s
LBTB Lobatse 99.52 243 Pdif **Pdif 03 09 44.7 +0.6**
LBTB IAmb IAmb 03 09 46.0
comp=Z,10nm,0.8s
FARO Faro, Yukon 99.65 28 Pdiff **Pdif 03 09 44.3 +0.6**
baz=273
ANTO Ankara 99.83 309 ⇓P **Pdif 03 09 57.1 +12**
ANTO Ankara 99.83 309 ⇓P **Pdif 03 09 57.1 +12**
ARCES ARCESS Array B 101.67 340 P **Pdif 03 09 51.6 -0.9**
comp=Z,7.4nm,0.6s,baz=85,slow=6.7,SNR=41
ARCES PKiKP **PKiKP 03 14 16.3 +0.9**
comp=Z,1.2nm,0.3s,baz=108,slow=1.3,SNR=36
ARCES PKKPbc **PKKPbc 03 25 59.1 -2.8**
comp=Z,4.0nm,0.9s,baz=256,slow=2.7,SNR=8.6
SPA0 Spitsbergen Ar 101.73 349 *e*Pdif **Pdif 03 09 52.9 +0.3**
PURM Purcari 101.92 316 ⇓P **Pdif 03 09 53.9 -0.2**
HAMF Hammerfest 102.06 341 *e*Pdif **Pdif 03 09 54.0 -0.2**
AKASG Malin Array Be 102.15 320 P **Pdif 03 09 53.8 -1.3**
comp=Z,6.6nm,0.7s,baz=72,slow=4.5,SNR=43
AKASG PKiKP **PKiKP 03 14 15.7 -1.1**
comp=Z,1.1nm,0.4s,baz=80,slow=5.8,SNR=5.4
AKASG Malin Array Be 102.15 320 Pdif **Pdif 03 09 54.2 -0.8**
KTK1 Kautokeino 102.57 339 *e*Pdif **Pdif 03 09 55.6 -0.9**
MNK Minsk 102.68 324 *i* P **Pdif 03 09 55.7 -1.6**
MNK *i* 03 14 10.5
MNK *i* PPP PPP 03 16 21.2
MNK *i* S **SKSac 03 20 24.8 -1.3**
MNK *i* *SS SKKSac 03 21 17.4 +11
MNK *i* SP SP 03 23 07.1 0.0
MNK *i* PS PS 03 23 20.9 -1.0
MNK *i* SS **SS 03 28 43.1 +0.4**
MNK pmax pmax
comp=Z,26nm,0.8s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=N,9.0nm,0.8s
MNK MLR MLR
comp=Z,387nm,21.0s
MNK MLR MLR
comp=N,441nm,22.0s
MNK MLR MLR
comp=E,47nm,22.0s
MNK Minsk 102.68 324 *i* P **Pdif 03 09 55.7 -1.5**
comp=E,2.0nm,0.8s
MNK *i* P **Pdif 03 09 55.7 -1.5**
comp=N,9.0nm,0.8s
MNK *i* P **Pdif 03 09 55.7 -1.5**

comp=Z,26nm,0.8s,baz=265
MNK *i* pP **pPdif 03 10 24.5 -1.5**
MNK *i* sP **sPdif 03 10 36.4 -1.3**
MNK *i* PP **PP 03 14 10.6 -1.4**
MNK *i* PPP PPP 03 16 21.3
MNK *i* S **SKSac 03 20 24.9 -1.2**
MNK *i* SP SP 03 23 07.1 0.0
MNK *i* PS PS 03 23 21.0 -0.9
MNK *i* SS **SS 03 28 43.2 +0.5**
MNK *i* SSS SSS 03 32 11.5
MNK *i* LRM MLR 03 56 06.1
comp=Z,387nm,21.0s
MNK *i* LRM MLR 03 56 26.4
comp=N,441nm,22.4s
MNK *i* LRM MLR 03 56 40.2
comp=E,47nm,21.7s
JURR Jurilovca 102.69 314 ⇑P **Pdif 03 09 56.8 -0.7**
FINES FINESS Array B 102.80 331 P **Pdif 03 09 56.9 -0.7**
comp=E,2.5nm,0.6s,baz=55,slow=4.9,SNR=13
FINES PKiKP **PKiKP 03 14 18.1 +0.5**
comp=E,2.8nm,0.5s,baz=37,slow=1.7,SNR=18
SORM Soroca 102.88 318 ⇑P **Pdif 03 09 57.4 -0.9**
SORM Soroca 102.88 318 ⇑P **PKiKP 03 14 16.5 -1.6**
SORM Soroca 102.88 318 ⇑P **Pdif 03 09 57.4 -0.9**
TPGR Topolog 103.01 314 ⇑P **Pdif 03 09 58.9 -0.2**
CFR Carcaliu 103.19 315 ⇑P **Pdif 03 09 59.1 -0.7**
CFR Carcaliu 103.19 315 ⇑P **Pdif 03 09 59.1 -0.7**
NACGM Naroch 103.27 325 *i* P **Pdif 03 09 59.3 -0.6**
HARR Harsova 103.37 314 ⇑P **Pdif 03 10 00.1 -0.4**
HARR Harsova 103.37 314 ⇑P **Pdif 03 10 00.1 -0.4**
JETT Jettan, Norway 103.42 340 *e*Pdif **Pdif 03 10 00.7 +0.4**
TRO Tromso 103.89 340 *e*Pdif **Pdif 03 10 02.1 -0.2**
VRI Vrincioaia 104.14 315 ⇓P **Pdif 03 10 05.1 +1.1**
VRI Vrincioaia 104.14 315 ⇑P **PKiKP 03 14 27.7 +7.1**
VRI Vrincioaia 104.14 315 ⇓P **Pdif 03 10 05.1 +1.1**
TESR Tescani 104.15 316 ⇑P **Pdif 03 10 04.2 +0.2**
BISRR Bisoca 104.18 315 ⇑P **PKiKP 03 14 22.4 +1.7**
PLOR Plostina 104.20 315 ⇑P **Pdif 03 10 04.7 +0.4**
PLOR Plostina 104.20 315 ⇓P **PKiKP 03 14 18.1 -2.6**
PLOR Plostina 104.20 315 ⇑P **Pdif 03 10 04.7 +0.4**
PRAR RASCA 104.36 317 ⇑P **Pdif 03 10 04.5 -0.5**
NEHR Nehoiu 104.48 315 ⇓P **Pdif 03 10 06.1 +0.6**
NEHR Nehoiu 104.48 315 ⇑P **PKiKP 03 14 22.6 +1.4**
BIZ Bicaz 104.48 317 ⇓P **Pdif 03 10 05.0 -0.6**
BIZ Bicaz 104.48 317 ⇑P **PKiKP 03 14 22.6 +1.4**
COVR Voineasa-Covas 104.51 315 ⇓P **PKiKP 03 14 24.3 +3.0**
MLR Muntele Rosu 104.72 315 ⇓P **Pdif 03 10 06.3 -0.4**
MLR Muntele Rosu 104.72 315 ⇑P **PKiKP 03 14 29.4 +7.6**
MLR Muntele Rosu 104.72 315 P **Pdif 03 10 06.3 -0.4**
MLR Muntele Rosu 104.72 315 Pdif **Pdif 03 10 06.3 -0.4**
OZUR 104.78 316 ⇓P **PKiKP 03 14 24.5 +2.8**
BURAR Bucovina Array 105.02 317 ⇑P **Pdif 03 10 08.5 +0.5**
BURAR Bucovina Array 105.02 317 ⇑P **PKiKP 03 14 25.5 +3.3**
BURAR Bucovina Array 105.02 317 ⇑P **Pdif 03 10 08.5 +0.5**
BUR08 Bucovina Ar. S 105.03 317 Pdif **Pdif 03 10 08.3 +0.2**
DOPR Dopca 105.06 316 ⇓P **Pdif 03 10 08.4 +0.2**
SUW Suwalki 105.48 324 *e*Pdif **Pdif 03 10 09.2 -0.5**
SUW *e*PP **PP 03 14 38.8 +6.0**
APE Apeiranthos 105.57 306 ⇓P **PKiKP 03 14 25.7 +2.2**
ARR Arges 105.65 315 ⇑P **PKiKP 03 14 25.1 +1.7**
STEI Steigen 105.71 339 *e*Pdif **Pdif 03 10 09.9 -0.5**
FAUS Fauske 105.88 339 *e*Pdif **Pdif 03 10 10.9 -0.3**
LOF Lofoten 106.23 339 *e*PP **PP 03 14 38.5 +0.6**
LOT Lotru 106.24 315 ⇓P **Pdif 03 10 13.8 +0.3**
KWP Kalwaria Pacla 106.43 320 *e*Pdif **Pdif 03 10 11.7 -2.4**
KWP *e*PP **PP 03 14 38.9 -1.1**
KWP Kalwaria Pacla 106.43 320 P **Pdif 03 10 14.8 +0.7**
KWP Kalwaria Pacla 106.43 320 Pdif **Pdif 03 10 14.8 +0.7**
MOR8 Moi Rana 106.62 337 *e*Pdif **Pdif 03 10 13.0 -1.5**
TRPA Tarpa 106.75 318 ⇓P **Pdif 03 10 15.9 +0.4**
DRGR 106.82 317 ⇑P **Pdif 03 10 16.1 +0.1**
DRGR 106.82 317 ⇑P **PKiKP 03 14 24.7 -0.8**
DRGR 106.82 317 ⇑P **Pdif 03 10 16.1 +0.1**
VTS Vitosha 106.92 312 ⇑P **Pdif 03 10 15.3 -1.4**
VTS Vitosha 106.92 312 ⇓P **PKiKP 03 14 26.3 +0.3**
VTS Vitosha 106.92 312 ⇑P **Pdif 03 10 15.3 -1.4**
CRVS Cervenica-Dubn 107.35 319 *e*P **Pdif 03 10 19.5 +1.2**
CRVS Cervenica-Dubn 107.35 319 *e*PDIFF **Pdif 03 10 19.4 +1.2**
B05A Bryant 107.53 42 PKiKP **PKiKP 03 14 28.4 +1.7**
baz=279,SNR=6.7
H04D Lebanon 107.62 46 PKiKP **PKiKP 03 14 28.1 +1.1**
baz=277
BZS Buzias 107.72 316 ⇑P **PKiKP 03 14 27.1 0.0**
M02C Callahan 107.90 49 PKiKP **PKiKP 03 14 29.8 +2.1**
baz=276
BOVS Bovan 107.92 313 ⇑P **Pdif 03 10 19.9 -0.9**
BOVS Bovan 107.92 313 ⇓P **PKiKP 03 14 28.8 +1.2**
I04A Tendick Farm, 107.94 46 PKiKP **PKiKP 03 14 28.7 +1.0**
baz=277
NIE Niedzica 108.01 320 *e*Pdif **Pdif 03 10 22.9 +1.7**
NIE *e*PP **PP 03 14 57.0 +5.4**
YKA Yellowknife Ar 108.14 26 PKiKP **PKiKP 03 14 27.9 +0.5**
comp=E,6.3nm,0.7s,baz=347,slow=0.5,SNR=12
NSS Namsos 108.18 336 *e*Pdif **Pdif 03 10 21.1 -0.5**
OJC Ojcow 108.19 320 *e*Pdif **Pdif 03 10 21.9 0.0**
OJC *e*PP **PP 03 14 55.4 +2.6**
L04D Klamath Falls 108.21 48 PKiKP **PKiKP 03 14 29.8 +1.4**
baz=277
J04D Umpqua Nationa 108.23 47 PKiKP **PKiKP 03 14 30.2 +1.7**
baz=277,SNR=8.4
I05D Terrebonne, OR 108.63 46 PKiKP **PKiKP 03 14 30.4 +1.4**
baz=278
O03E Paynes Creek 108.81 50 PKiKP **PKiKP 03 14 30.2 +0.7**
baz=276
J05D Fort Rock, OR 108.86 47 PKiKP **PKiKP 03 14 31.3 +1.7**
baz=278,SNR=6.7
FRGS Fruska Gora 109.05 315 ⇑P **PKiKP 03 14 30.6 +0.9**
MORC Moravsky Berou 109.70 320 ⇓P **PKiKP 03 14 31.8 +0.9**
MORC Moravsky Berou 109.70 320 *e*PKP **PKiKP 03 14 31.7 +0.9**
NC602 NORSAR Array S 109.79 333 *e*Pdif **Pdif 03 10 28.3 -0.5**
JAVC Velka Javorina 109.81 319 *e*PKP **PKiKP 03 14 32.6 +1.5**
NB2 NORSAR Subarra 109.83 333 P **Pdif 03 10 28.6 -0.4**
comp=Z,3.6nm,0.9s,baz=68,slow=4.6
NB2 NORSAR Subarra 109.83 333 P **Pdif 03 10 28.6 -0.4**
baz=68,slow=4.6
NOA NORSAR Array B 109.83 333 Pdiff **Pdif 03 10 27.4 -1.6**
comp=Z,1.5nm,0.7s,baz=67,slow=4.6,SNR=11
NOA PKiKP **PKiKP 03 14 31.0 +0.3**
comp=Z,3.2nm,0.8s,baz=262,slow=3.2,SNR=7.5
NEEM North Greenlan 109.83 0 *i* P **PKiKP 03 14 31.2 +0.6**
NEEM IAmb IAmb 03 14 32.6
comp=Z,11nm,0.5s
KRLC Kraliky 110.12 321 *e*PKP **PKiKP 03 14 32.4 +0.8**
MODS Modra-Piesok 110.17 319 *e*P **Pdif 03 10 30.4 -0.4**
MODS Modra-Piesok 110.17 319 *e*PDIFF **Pdif 03 10 30.4 -0.4**
KSP Ksiaz 110.24 322 *e*Pdif **Pdif 03 10 32.9 +1.9**
KSP *e*PP **PP 03 15 10.2 +2.6**
DPC Dobruska-Polom 110.34 321 *e*PKiKP **PKiKP 03 14 32.9 +0.9**
DPC Dobruska-Polom 110.34 321 *e*PKP **PKiKP 03 14 32.9 +0.9**
OSTC Ostas 110.36 321 *e*PKP **PKiKP 03 14 33.2 +1.2**
DOMB Dombas 110.38 334 *e*PP **PP 03 15 04.8 -3.4**
VRAC Vranov 110.41 320 ⇓P **PKiKP 03 14 33.2 +1.1**
VRAC Vranov 110.41 320 ⇓PKiKP **PKiKP 03 14 33.2 +1.1**
VRAC Vranov 110.41 320 *e*PKP **PKiKP 03 14 33.1 +1.1**
CHVC Chvalec 110.45 321 *e*PKP **PKiKP 03 14 33.2 +1.0**
KRUC Moravsky 110.59 320 *e*PKP **PKiKP 03 14 32.9 +0.5**
NEW Newport 110.79 41 PKiKP **PKiKP 03 14 33.9 +1.0**
comp=Z,7.2nm,0.7s,baz=302,slow=1.1,SNR=17
NEW Newport 110.79 41 PKiKP **PKiKP 03 14 33.9 +1.0**
baz=283,SNR=8.2
PKM Mcpherson Peak 110.97 56 PKiKP **PKiKP 03 14 36.1 +2.3**
baz=276
KONO Kongsberg 111.10 332 *e*Pdif **Pdif 03 10 33.6 -1.0**
TREC Trest 111.12 320 *e*PKiKP **PKiKP 03 14 34.4 +0.9**
TREC Trest 111.12 320 *e*PKP **PKiKP 03 14 34.4 +0.9**
CONA Conrad Observa 111.19 319 *e*P **PKiKP 03 14 34.2 +0.4**
comp=Z,3.6nm,0.8s
AKN Aaknes 111.20 335 *e*Pdif **Pdif 03 10 35.0 -0.1**
SKAR Skarslia 111.28 333 *e*Pdif **Pdif 03 10 29.7 -5.7**
PVCC Panska Ves 111.38 322 *e*PKiKP **PKiKP 03 14 35.1 +1.2**
PVCC Panska Ves 111.38 322 *e*PKP **PKiKP 03 14 35.1 +1.2**
PRU Pruhonice 111.54 321 *e*PKiKP **PKiKP 03 14 34.8 +0.6**
PRU *e*SP SP 03 24 43.9 +7.4
PRU MLR MLR
comp=Z,200nm,21.5s
PRU Pruhonice 111.54 321 *e*PKP **PKiKP 03 14 34.8 +0.6**
PRU *e*SP SP 03 24 43.9 +7.4
PRU AMS AMS 04 03 20.0
comp=Z,200nm,21.5s
ARSA Arzberg 111.57 318 *i* P **PKiKP 03 14 34.8 +0.4**
comp=Z,3.1nm,0.7s
BRG Berggiesshubel 111.67 322 *e*PKiKP **PKiKP 03 14 35.2 +0.7**

baz=74,slow=1.8
NVAR Mina Array Bea 111.74 52 Pdiff **Pdif 03 10 41.6 +3.3**
comp=Z,0.3nm,0.8s,baz=243,slow=2.9,SNR=2.4
NVAR PKiKP **PKiKP 03 14 37.1 +1.9**
comp=Z,3.4nm,0.3s,baz=33,slow=5.3,SNR=78
NVAR PKKPbc **PKKPbc 03 25 30.8 +0.9**
comp=Z,1.5nm,0.7s,baz=107,slow=3.7,SNR=14
NVAR PKKPab **PKKPab 03 25 40.1 +2.0**
comp=Z,3.4nm,0.8s,baz=120,slow=5.6,SNR=14
NVAR SKKPbc SKKPbc 03 29 03.4 -0.9
comp=Z,0.2nm,0.6s,baz=139,slow=3.1,SNR=3.6
ARVC Arvin 111.75 55 PKiKP **PKiKP 03 14 37.4 +2.4**
baz=276
PBCC Pribram 111.96 321 *e*PKP **PKiKP 03 14 35.1 +0.1**
CKRC Cesky Krumlov 111.98 320 *e*PKP **PKiKP 03 14 35.6 +0.5**
CKRC *e*SP SP 03 24 49.8 +9.0
CLL Collm 112.12 323 *e*Pdif **Pdif 03 10 37.0 -2.3**
CLL *es*Pdif **sPdif 03 11 18.0 -1.8**
CLL *i* PKiKP **PKiKP 03 14 36.0 +0.8**
comp=Z,6.0nm,0.8s
CLL *e* 03 14 45.0
CLL *e* 03 14 52.0
CLL *e*PP **PP 03 15 16.0 -5.0**
CLL *es*PP 03 16 00.0
CLL *e*PPP PPP 03 17 45.0
CLL *e*(PKSdf) 03 18 06.0
CLL *e* 03 19 18.0
CLL *e*SKSac **SKSac 03 21 06.0 -1.3**
CLL *e* 03 24 18.0
CLL *e*PS **PS 03 25 00.0 +3.9**
CLL *es*PS 03 25 29.0
CLL *e*PPS PPS 03 26 05.0
CLL *es*PPS 03 26 36.0
CLL *e* 03 30 12.0
CLL *e*SS SS 03 31 12.0 +22
CLL *e* 03 36 48.0
CLL *e*SSSS 03 39 06.0
CLL *e* 03 42 24.0
CLL Collm 112.12 323 *e*P **Pdif 03 10 37.0 -2.3**
CLL *i* 03 14 36.0
CLL *e* 03 15 16.0
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL Collm 112.12 323 *e*PKiKP **PKiKP 03 14 35.7 +0.4**
baz=74,slow=1.8
CWC Cottonwood Cre 112.19 54 PKiKP **PKiKP 03 14 37.8 +1.7**
baz=278
MOA Molln 112.26 319 *e*P **PKiKP 03 14 35.7 0.0**
comp=Z,1.7nm,0.6s
CIS Catalina Islan 112.28 57 PKiKP **PKiKP 03 14 37.8 +1.7**
baz=276
FOO Floro 112.29 335 *e*Pdif **Pdif 03 10 39.4 -0.4**
GEC2 GERESS Array S 112.37 320 *e*PKiKP **PKiKP 03 14 36.2 +0.2**
baz=74,slow=1.8
GERES GERESS Array B 112.37 320 Pdiff **Pdif 03 10 40.9 +0.2**
comp=Z,0.3nm,0.7s,baz=81,slow=6.1,SNR=2.2
GERES PKiKP **PKiKP 03 14 36.0 0.0**
comp=Z,7.9nm,0.5s,baz=68,slow=2.1,SNR=68
GERES PKKP **PKKPdf 03 25 47.7 +0.2**
comp=Z,0.5nm,0.7s,baz=130,slow=7.2,SNR=3.6
GERES GERESS Array B 112.37 320 *i* PKiKP **PKiKP 03 14 36.0 0.0**
KHC Kasperske Hory 112.37 320 *e*PKiKP **PKiKP 03 14 36.6 +0.7**
KHC MLR MLR
comp=Z,200nm,20.9s
KHC Kasperske Hory 112.37 320 *e*PKP **PKiKP 03 14 36.6 +0.7**
KHC AMS AMS 04 02 30.0
comp=Z,200nm,20.9s
EDW2 Edwards Air Fo 112.46 55 PKiKP **PKiKP 03 14 38.7 +2.2**
baz=277,SNR=6.9
LRMC Laurel Mtn Rad 112.63 55 PKiKP **PKiKP 03 14 39.3 +2.4**
baz=277
GRAC Grapevine Rang 112.68 53 PKiKP **PKiKP 03 14 39.1 +2.3**
baz=278
MPMC Manual Prospec 112.71 54 PKiKP **PKiKP 03 14 39.0 +1.8**
baz=278,SNR=11
BFSC Mount Baldy Ra 112.81 56 PKiKP **PKiKP 03 14 38.5 +1.2**
baz=277
WET Wettzell 112.81 320 *e*PKiKP **PKiKP 03 14 36.9 +0.2**
baz=74,slow=1.8
BSEG Bad Segeberg 112.84 326 *e*PKiKP **PKiKP 03 14 37.6 +1.1**
baz=74,slow=1.8
FLTG Flechtingen 112.85 324 *e*PKiKP **PKiKP 03 14 36.9 +0.3**
baz=74,slow=1.8
NEUB Neuenburg 112.89 323 *e*PKiKP **PKiKP 03 14 37.9 +1.2**
baz=74,slow=1.8
MYKA Terra Mystica 112.97 318 *i* P **PKiKP 03 14 37.0 -0.1**
comp=Z,2.4nm,0.5s
MANZ Manzenberg 113.05 322 *e*PKiKP **PKiKP 03 14 37.6 +0.5**
baz=74,slow=1.8
KBA Koelnbreinsper 113.06 318 *e*P **PKiKP 03 14 37.0 -0.4**
comp=Z,9.0nm,0.8s
FURC Furnace Creek, 113.16 54 PKiKP **PKiKP 03 14 40.1 +2.4**
baz=278,SNR=5.6
MSO Missoula 113.23 42 PKiKP **PKiKP 03 14 38.3 +0.6**
baz=285,SNR=15
RJOB Jochberg 113.24 319 *e*PKiKP **PKiKP 03 14 37.5 -0.2**
baz=74,slow=1.8
GSC Goldstone, Bar 113.37 55 PKiKP **PKiKP 03 14 40.4 +2.2**
baz=278,SNR=7.8
CLZ Clausthal 113.52 324 *e*PKiKP **PKiKP 03 14 38.7 +0.7**
baz=74,slow=1.8
TPNV Topopah Spring 113.57 53 PKiKP **PKiKP 03 14 40.3 +1.6**
baz=279,SNR=6.1
GRF Grafenberg Arr 113.68 321 *e*PKiKP **PKiKP 03 14 38.9 +0.6**
baz=74,slow=1.8
ELK Elko 113.69 49 PKiKP **PKiKP 03 14 40.3 +1.4**
comp=Z,5.0nm,0.7s,baz=288,slow=5.0,SNR=28
ELK PP **PP 03 15 31.8 -1.1**
comp=Z,1.1nm,0.7s,baz=264,slow=6.9,SNR=5.9
ELK SKP **SKPdf 03 18 04.8 +0.9**
comp=Z,1.8nm,0.9s,baz=338,slow=2.9,SNR=3.3
ELK PKKPbc **PKKPbc 03 25 23.7 +0.2**
comp=Z,1.6nm,0.9s,baz=82,slow=3.0,SNR=7.1
ELK PKKPab **PKKPab 03 25 31.0 +1.5**
comp=Z,3.9nm,0.8s,baz=74,slow=4.1,SNR=13
HLID Hailey 113.69 46 P **PKiKP 03 14 40.8 +2.0**
baz=283,SNR=35
ABTA Abfaltersbach 113.69 318 *e*P **PKiKP 03 14 38.2 -0.4**
comp=Z,8.0nm,0.8s
ABTA *e*S **SKiKP 03 18 02.0 -1.7**
comp=Z,4.3nm,0.9s
SHOC Shoshone, Teco 113.71 54 P **PKiKP 03 14 40.9 +2.1**
baz=278,SNR=6.0
HEC Hector,Ludlow 113.81 55 P **PKiKP 03 14 41.4 +2.2**
baz=278,SNR=5.9
GTTG Gottingen 113.85 324 *e*PKiKP **PKiKP 03 14 39.4 +0.8**
baz=74,slow=1.8
R11A Troy Canyon, C 113.86 51 P **PKiKP 03 14 41.0 +1.8**
baz=280,SNR=8.9
PFO Pinyon Flats O 113.88 57 PKiKP **PKiKP 03 14 41.1 +1.8**
comp=Z,7.5nm,0.7s,baz=274,slow=0.9,SNR=11
PFO SKP **SKPdf 03 18 05.4 +1.0**
comp=Z,3.4nm,0.7s,baz=263,slow=2.7,SNR=6.2
PFO Pinyon Flats O 113.88 57 P **PKiKP 03 14 41.2 +1.8**
baz=277,SNR=9.8
TPFO Pinon Flats 113.88 57 P **PKiKP 03 14 41.2 +1.8**
baz=277,SNR=7.7
MONP2 Monument Peak 114.00 57 P **PKiKP 03 14 41.7 +2.0**
baz=277
TUQ Turquoise Moun 114.06 54 P **PKiKP 03 14 42.0 +2.4**
baz=278
FUR Furstenfeldbru 114.10 320 *e*PKiKP **PKiKP 03 14 39.6 +0.4**
baz=74,slow=1.8
WTTA Wattenberg 114.13 319 *e*P PKPdf 03 14 39.4 -0.1
comp=Z,36nm,0.4s,SNR=21
WTTA *e*S **SKiKP 03 18 03.0 -1.5**
comp=Z,5.5nm,0.7s
WATA Walderalm 114.15 319 *e*P PKPdf 03 14 39.0 -0.5
comp=Z,7.2nm,0.5s,SNR=11
BELC Belle Mtn. Jos 114.20 56 P **PKiKP 03 14 42.1 +2.1**
baz=278,SNR=17
IKP In-Ko-Pah, Jac 114.29 58 P **PKiKP 03 14 42.1 +2.0**
baz=277
SUMG Summit 114.33 356 *i* P **PKiKP 03 14 40.5 +1.0**
SUMG Summit 114.33 356 *i* PKiKP **PKiKP 03 14 40.4 +1.0**
SQTA Sankt Quirin 114.42 319 *e*P PKPdf 03 14 39.5 -0.5
comp=Z,7.5nm,0.7s
SQTA *e*S **SKiKP 03 18 04.7 -0.4**
comp=Z,3.5nm,0.8s
MOTA Moosalm 114.45 319 *e*P PKPdf 03 14 40.0 -0.1
comp=Z,18nm,0.8s,SNR=8.2
MOTA *e*S **SKiKP 03 18 05.0 -0.2**
comp=Z,5.1nm,1.4s
RETA Reutte 114.63 319 *e*P PKPdf 03 14 40.2 -0.1
comp=Z,3.3nm,0.5s
BC3 Big Chuckawall 114.70 56 P **PKiKP 03 14 43.0 +2.1**
baz=278,SNR=9.7

FETA Feichten 114.79 319 *e*P PKPdf 03 14 40.9 +0.2
comp=Z,6.0nm,0.9s
FETA *e*S **SKiKP 03 18 05.8 0.0**
comp=Z,5.6nm,1.0s
MILB Miltenberg 114.83 322 *e*PKiKP PKPdf 03 14 40.8 +0.3
baz=74,slow=1.8
IBBN Ibbenburen 114.86 325 *e*PKiKP PKPdf 03 14 41.2 +0.7
baz=74,slow=1.8
IRM Iron Mountain 114.88 56 P **PKiKP 03 14 43.4 +2.3**
baz=278,SNR=13
UBR Ueberruh 115.00 320 *e*PKiKP PKPdf 03 14 41.1 +0.1
baz=74,slow=1.8
BOZ Bozeman (W) 115.10 43 P **PKPdf 03 14 42.8 +1.4**
baz=286,SNR=8.4
STU Stuttgart 115.23 321 *i* PKiKP **PKPdf 03 14 41.7 +0.4**
STU Stuttgart 115.23 321 PKiKP **PKPdf 03 14 41.7 +0.4**
STU Stuttgart 115.23 321 *e*PKiKP **PKPdf 03 14 41.9 +0.5**
baz=74,slow=1.8
DAVA Damuels 115.27 319 *e*P **PKPdf 03 14 41.6 0.0**
comp=Z,14nm,0.4s,SNR=11
DAVA *e*S **SKiKP 03 18 05.2 -1.6**
comp=Z,13nm,1.1s
BGU Big Grassy Mou 115.29 48 **PKPdf 03 14 42.5 +0.6**
GLA Glamis 115.30 57 P **PKPdf 03 14 43.4 +1.4**
baz=278
SFX San Felipe 115.55 59 PKPdf **PKiKP 03 14 42.7 +0.3**
EGMT Eagleton 115.60 40 P **PKPdf 03 14 43.4 +1.2**
baz=289,SNR=17
DUG Duguay, Tooele 115.61 49 P **PKiKP 03 14 44.2 +1.6**
baz=283,SNR=27
LRW Lerwick 115.65 335 *e*P **PKPdf 03 14 41.8 0.0**
PDMCI Parker Dam,Lak 115.68 55 P **PKiKP 03 14 44.5 +1.9**
baz=279
AHRW Bad Neuenahr-A 115.91 323 *e*PKiKP **PKiKP 03 14 42.6 0.0**
baz=74,slow=1.8
BFO Black Forest 115.92 321 PKiKP **PKPdf 03 14 42.4 -0.3**
BFO Black Forest 115.92 321 **PKPdf 03 14 42.4 -0.3**
BFO Black Forest 115.92 321 *e*PKiKP **PKPdf 03 14 42.5 -0.3**
baz=74,slow=1.8
YPP Pitchstone Pla 116.04 44 PKPdf **PKiKP 03 14 45.2 +1.8**
H17A Grant Village 116.16 44 P **PKiKP 03 14 46.7 +3.1**
baz=286,SNR=6.3
AHID Auburn Hatcher 116.24 46 **PKiKP 03 14 44.6 +0.8**
BTNL Ternell 116.46 324 *d*PKiKP **PKiKP 03 14 44.3 +0.7**
MEM Membach 116.52 324 *d*PKiKP **PKiKP 03 14 44.0 +0.2**
BHOU Houvegnez 116.62 323 *d*PKiKP **PKiKP 03 14 44.9 +1.0**
ECH Echery 116.70 321 PKiKP **PKPdf 03 14 43.9 -0.3**
ECH Echery 116.70 321 **PKPdf 03 14 43.9 -0.3**
RLMT Red Lodge 116.83 43 P **PKiKP 03 14 46.3 +1.5**
baz=288
BCLA Clavier 117.01 324 *d*PKiKP **PKiKP 03 14 45.5 +0.8**
BGES Gesves 117.15 324 *d*PKiKP **PKiKP 03 14 45.9 +0.9**
214A Organ Pipe Nat 117.15 58 P **PKiKP 03 14 47.4 +1.9**
baz=279
SENIN Lac Senin/Sane 117.24 319 PKPdf **PKiKP 03 14 45.7 +0.1**
BW06 Boulder Array 117.33 45 P **PKiKP 03 14 46.8 +0.9**
baz=286
PDAR Pinedale Array 117.33 45 PKP **PKiKP 03 14 46.7 +0.8**
comp=Z,13nm,0.7s,baz=236,slow=1.0,SNR=114
PDAR SKP **SKPdf 03 18 10.7 -0.2**
comp=Z,2.4nm,0.7s,baz=234,slow=0.6,SNR=7.1
PDAR PKKPbc **PKKPbc 03 25 09.9 -1.0**
comp=Z,3.1nm,0.8s,baz=106,slow=4.4,SNR=11
PDAR PKKPab **PKKPab 03 25 14.8 +1.4**
comp=Z,2.6nm,0.7s,baz=110,slow=6.3,SNR=12
FFC Flin Flon 117.36 31 PKiKP **PKiKP 03 14 45.6 +0.3**
FFC Flin Flon 117.36 31 PKPdf **PKiKP 03 14 45.6 +0.3**
BMRD Maredsous 117.37 324 *d*PKiKP **PKiKP 03 14 45.9 +0.5**
DOU Dourbes 117.55 323 *d*PKiKP **PKiKP 03 14 46.7 +0.9**
SNF Seneffe 117.57 324 *d*PKiKP **PKiKP 03 14 46.1 +0.3**
WUAZ Wupatki 117.70 54 P **PKiKP 03 14 48.4 +1.7**
baz=281,SNR=27
MCD Coleburn Disti 117.98 333 *e*P **PKiKP 03 14 46.6 +0.2**
LAO LASA Array 118.32 40 P **PKiKP 03 14 49.1 +1.6**
baz=291,SNR=8.4
LINV Loch Inver, As 118.49 335 *e*P **PKiKP 03 14 47.6 +0.4**
MDO Dochfour 118.55 334 *e*P **PKiKP 03 14 47.7 +0.2**
ESY Stoneypath 118.62 332 *e*P **PKiKP 03 14 47.7 +0.1**
KEST Kesra 118.67 307 PKP **PKiKP 03 14 49.7 +1.2**
comp=Z,18nm,0.8s,baz=146,slow=0.3,SNR=33
KEST PP **PP 03 16 04.8 -2.9**
comp=Z,21nm,0.8s,baz=336,slow=0.6,SNR=11
KEST Kesra 118.67 307 **PKiKP 03 14 49.4 +1.0**
TUC Tucson 118.79 57 P **PKiKP 03 14 50.4 +1.6**
baz=280
EDMD Edmundbyers 118.89 330 *e*P **PKiKP 03 14 48.6 +0.4**
EBL Broad Law 118.90 332 *e*P **PKiKP 03 14 48.9 +0.6**
DGMT Dagmar 118.90 38 P **PKiKP 03 14 49.3 +0.8**
baz=294
KAC Achnashellach 118.92 334 *e*P **PKiKP 03 14 48.6 +0.4**
INVG Invergeldie, C 119.00 333 *e*P **PKiKP 03 14 48.6 +0.3**
O20A White River Ci 119.02 48 P **PKiKP 03 14 50.8 +1.6**
baz=286,SNR=64
PV22 Blue Mesa, Par 119.04 50 PKPdf **PKiKP 03 14 50.1 +0.8**
ELSH Elham, Standar 119.09 326 *e*P **PKiKP 03 14 49.7 +1.1**
W18A Petrified Fore 119.10 54 P **PKiKP 03 14 51.2 +1.7**
baz=282
HSIG 119.17 61 PKPdf **PKiKP 03 14 50.3 +0.8**
KPL Plockton 119.17 334 *e*P **PKPdf 03 14 48.3 -0.2**
HPK Haverah Park 119.18 329 *e*P **PKiKP 03 14 49.1 +0.4**
ESK Eskdalemuir 119.23 331 *e*P **PKiKP 03 14 49.7 +0.8**
ESK Eskdalemuir 119.23 331 PKiKP **PKiKP 03 14 50.0 +1.2**
ESK Eskdalemuir 119.23 331 PKPdf **PKiKP 03 14 50.0 +1.2**
K22A Casper 119.50 45 P **PKiKP 03 14 50.5 +0.5**
baz=289,SNR=17
LBWR Ladybower, Pea 119.52 329 *e*P **PKiKP 03 14 49.6 +0.1**
KESW Keswick, Cumbr 119.58 331 *e*P **PKiKP 03 14 50.0 +0.4**
KESW IAmb IAmb 03 14 51.3
comp=Z,28nm,0.7s
MVCO Mesa Verde 119.59 51 P **PKiKP 03 14 52.2 +1.8**
baz=284,SNR=38
CWF Charnwood Fore 119.65 328 *e*P **PKPdf 03 14 49.5 -0.2**
STNC Stoke 119.93 329 *e*P **PKiKP 03 14 51.2 +0.9**
GAL1 Galloway 120.20 331 *e*P **PKPdf 03 14 50.4 -0.2**
SMCO Snowmass 120.22 49 PKPdf **PKiKP 03 14 52.8 +1.0**
SFJD Kangerlussuaq 120.34 0 *i* P **PKPdf 03 14 50.6 0.0**
SFJD IAmb IAmb 03 14 51.7
comp=Z,8.9nm,0.6s
SFJD Kangerlussuaq 120.34 0 *i* PKiKP **PKPdf 03 14 50.5 0.0**
SFJD pmax pmax
comp=Z,9.0nm,0.6s
N23A Red Feather La 120.47 47 P **PKiKP 03 14 53.3 +1.2**
baz=288,SNR=12
SWN1 Swindon 120.53 327 *e*P **PKiKP 03 14 51.6 +0.1**
SWN1 IAmb IAmb 03 14 52.9
comp=Z,61nm,0.6s
FOEL Foel Wylfa 120.55 329 *e*P **PKiKP 03 14 51.6 +0.1**
HLM1 Long Mynd 120.58 328 *e*P **PKiKP 03 14 51.9 +0.3**
WIM Isle of Man 120.59 331 *e*P **PKiKP 03 14 52.2 +0.6**
RSSD Black Hills 120.69 42 PKiKP **PKiKP 03 14 52.4 0.0**
RSSD Black Hills 120.69 42 PKPdf **PKiKP 03 14 52.4 0.0**
RSSD Black Hills 120.69 42 P **PKiKP 03 14 52.6 +0.2**
baz=292
S22A 4UR Ranch, Cre 120.73 50 P **PKiKP 03 14 54.8 +2.1**
baz=286,SNR=43
DY2G Dye2 120.80 358 *i* P **PKPdf 03 14 51.8 0.0**
DY2G IAmb IAmb 03 14 53.5
comp=Z,34nm,0.6s
WME Myndd Eilian 120.83 330 *e*P **PKiKP 03 14 53.2 +1.2**
WPS Cemaes, Angles 120.92 330 *e*P **PKiKP 03 14 53.2 +1.0**
ISCO Idaho Springs 121.05 48 P **PKiKP 03 14 54.7 +1.4**
baz=288,SNR=12
YRC Rhoscolyn 121.05 330 *e*P **PKiKP 03 14 53.0 +0.6**
121A Cookes Peak, D 121.23 56 P **PKiKP 03 14 55.7 +1.9**
baz=282,SNR=27
Y22D TRIPLE PASSCAL I 121.59 54 P **PKiKP 03 14 56.4 +2.1**
baz=284
Q24A Divide 121.64 48 P **PKiKP 03 14 55.8 +1.3**
baz=288,SNR=5.8
SDCO Great Sand Dun 121.74 50 P **PKiKP 03 14 56.4 +1.6**
baz=287,SNR=28
ANMO Albuquerque 121.75 53 PKP **PKiKP 03 14 56.3 +1.6**
comp=Z,14nm,0.7s,baz=194,slow=2.0,SNR=77
ANMO SKP **SKPdf 03 18 20.9 +1.3**
comp=Z,1.6nm,0.8s,baz=90,slow=1.6,SNR=4.3
ANMO PKKPbc **PKKPbc 03 24 55.0 +0.6**
comp=Z,1.9nm,0.8s,baz=96,slow=5.9,SNR=8.2
ANMO Albuquerque 121.75 53 P **PKiKP 03 14 56.3 +1.6**
baz=284
RSBS Rosebush, Pemb 121.85 329 *e*P **PKPdf 03 14 53.6 -0.3**
MDND Maddock 121.94 37 P **PKiKP 03 14 55.2 +0.7**
baz=298,SNR=5.0
HTL Hartland 122.24 328 *e*P **PKiKP 03 14 55.2 +0.3**
T25A Trinidad 122.75 50 P **PKiKP 03 14 58.2 +1.6**
baz=287,SNR=25

ULM Lac du Bonnet 122.86 33 PKP **PKPdf 03 14 55.9 -0.1**
comp=Z,42nm,0.6s,baz=306,slow=2.3,SNR=35
OGNE Ogallala 123.23 45 P **PKiKP 03 14 58.0 +0.7**
baz=292,SNR=10
MNTX Cornudas Mount 123.41 57 P **PKiKP 03 14 59.2 +1.3**
baz=283,SNR=56
KSCO Kaye Shedlock' 123.49 48 P **PKiKP 03 14 59.1 +1.2**
baz=290
SUSD Miller 123.89 40 P **PKiKP 03 14 59.0 +0.6**
baz=296
AGMN Agassiz Nation 123.90 35 P **PKiKP 03 14 58.2 -0.1**
baz=302,SNR=6.8
MSTX Muleshoe 124.95 53 P **PKiKP 03 15 01.8 +0.9**
baz=286,SNR=22
TX31 Lajitas Ar. Si 125.38 59 **PKiKP 03 15 02.1 +0.2**
TXAR Lajitas Array 125.38 59 PKP **PKiKP 03 15 02.4 +0.5**
comp=Z,6.1nm,0.7s,baz=293,slow=0.4,SNR=5.6
TXAR PKKPbc **PKKPbc 03 24 40.5 +0.5**
comp=Z,1.2nm,0.7s,baz=127,slow=6.5,SNR=11
TXAR SKKPbc SKKPbc 03 28 24.2 +3.6
comp=Z,0.7nm,0.9s,baz=104,slow=3.0,SNR=3.7
AMTX Amarillo 125.54 52 P **PKiKP 03 15 03.3 +1.2**
baz=288
CBKS Cedar Bluff 125.67 47 P **PKiKP 03 15 03.0 +0.8**
baz=292,SNR=14
ECSD EROS Data Cent 125.72 40 P **PKiKP 03 15 02.3 +0.2**
baz=298,SNR=23
BGNE Belgrade 125.74 43 P **PKiKP 03 15 02.4 +0.2**
baz=295,SNR=15
EYMN Ely 126.53 33 PKPdf **PKPdf 03 15 02.9 -0.2**
EYMN Ely 126.53 33 P **PKiKP 03 15 03.7 +0.2**
baz=306,SNR=18
SPMN Marine on St. 127.32 37 P **PKiKP 03 15 05.8 +0.6**
baz=303,SNR=12
ESDC Sonseca Array 127.41 315 PKhKP PKPpre 03 14 54.1
comp=Z,0.3nm,0.7s,baz=53,slow=2.3,SNR=5.2
ESDC PKP **PKiKP 03 15 05.7 +0.1**
comp=Z,2.5nm,0.8s,baz=15,slow=3.2,SNR=18
ESDC PP **PP 03 17 06.2 -0.1**
comp=Z,3.5nm,0.8s,baz=62,slow=7.1,SNR=14
ZAIG Zacatecas 127.56 67 PKPdf **PKiKP 03 15 07.4 +0.7**
PAB San Pablo 127.74 315 PKiKP **PKiKP 03 15 06.2 -0.1**
PAB San Pablo 127.74 315 PKPdf **PKiKP 03 15 06.2 -0.1**
PAB San Pablo 127.74 315 P **PKiKP 03 15 07.2 +0.9**
PAB San Pablo 127.74 315 P **PKiKP 03 15 07.2 +0.9**
KSU1 Kansas State U 127.79 45 P **PKiKP 03 15 06.9 +0.6**
baz=295,SNR=12
WMOK Wichita Mounta 127.84 51 P **PKPdf 03 15 04.6 -1.4**
baz=290,SNR=9.1
ABTX Abilene, Hawle 127.85 54 P **PKiKP 03 15 07.9 +1.3**
baz=288,SNR=12
FIGM Figuig 128.11 305 P **PKiKP 03 15 08.2 +0.9**
FIGM Figuig 128.11 305 P **PKiKP 03 15 10.0 +2.6**
FIGM Figuig 128.11 305 P **PKiKP 03 15 08.2 +0.9**
FIGM Figuig 128.11 305 P **PKiKP 03 15 10.0 +2.6**
TAF Taforalt 128.15 309 P **PKiKP 03 15 09.1 +1.8**
TAF Taforalt 128.15 309 P **PKiKP 03 15 09.1 +1.8**
PBRG Braganca 128.32 319 *e*PKP **PKiKP 03 15 08.0 +0.7**
JCT Junction City 128.34 57 P **PKiKP 03 15 08.6 +0.8**
baz=286,SNR=61
JBK JBK 128.44 308 P **PKiKP 03 15 09.2 +1.1**
JBK JBK 128.44 308 P **PKiKP 03 15 11.0 +3.0**
JBK JBK 128.44 308 P **PKiKP 03 15 09.2 +1.1**
JBK JBK 128.44 308 P **PKiKP 03 15 11.0 +3.0**
TDRA Tendrara 128.45 307 P **PKiKP 03 15 09.2 +1.1**
TDRA Tendrara 128.45 307 P **PKiKP 03 15 09.2 +1.1**
TORD Torodi Ar. Bea 128.49 281 PKhKP PKPpre 03 14 51.3
comp=Z,0.4nm,0.5s,baz=86,slow=3.1,SNR=4.0
TORD PKP **PKPdf 03 15 07.8 +0.1**
comp=Z,47nm,0.7s,baz=46,slow=1.4,SNR=109
TORD SKPbc SKPbc 03 18 16.7
comp=Z,20nm,0.8s,baz=73,slow=3.9,SNR=19
TORD SKKPbc **SKKPbc 03 28 06.2 -2.9**
comp=Z,1.9nm,0.8s,baz=248,slow=4.6,SNR=14
TORD Torodi Ar. Bea 128.49 281 PKPdf **PKPdf 03 15 07.6 -0.1**
PLCA Paso Flores 128.78 160 PKP **PKiKP 03 15 08.9 +0.5**
comp=Z,7.4nm,0.7s,baz=289,slow=0.9,SNR=15
PLCA SKPbc SKPbc 03 18 17.8
comp=Z,11nm,1.1s,baz=213,slow=10,SNR=5.2
SCIA State Center 128.79 41 P **PKiKP 03 15 08.8 +0.6**
baz=300,SNR=7.0
MVO Moncorvo 128.82 318 *e*PKP **PKiKP 03 15 09.5 +1.1**
PALE Palemas 129.18 310 P **PKiKP 03 15 10.0 +0.7**
PALE Palemas 129.18 310 P **PKiKP 03 15 10.0 +0.7**
PCAB Cabril 129.20 319 *e*PKP **PKiKP 03 15 10.1 +1.0**
PVRL Vila Real 129.21 319 *e*PKP **PKiKP 03 15 10.4 +1.2**
POLO Lamas de Olo 129.22 319 *e*PKP **PKiKP 03 15 10.1 +0.9**
PGAV Gavieira, Arco 129.22 320 *e*PKP **PKiKP 03 15 10.5 +1.3**
833A Chaparral WMA, 129.26 59 P **PKiKP 03 15 10.4 +0.8**
baz=285
MTE Manteigas 129.53 318 *e*PKP **PKiKP 03 15 11.2 +1.4**
PVIS Viseu 129.61 318 *e*PKP **PKiKP 03 15 11.2 +1.2**
TUL1 Leonard 129.68 49 P **PKiKP 03 15 11.1 +0.9**
baz=293,SNR=16
PCBR Castelo Branco 129.75 317 *e*PKP **PKiKP 03 15 11.3 +1.1**
WHTX Lake Whitney, 129.81 54 P **PKiKP 03 15 12.0 +1.4**
baz=289
PMRV Marv??o 129.89 317 *e*PKP **PKiKP 03 15 11.5 +1.0**
LC01 Cunco 129.94 158 PKPdf **PKiKP 03 15 10.5 -0.2**
435B Jarrell 130.08 56 P **PKiKP 03 15 12.0 +0.8**
baz=288,SNR=6.5
SMIR Smir Dam 130.08 311 P **PKiKP 03 15 12.0 +1.0**
SMIR Smir Dam 130.08 311 P **PKiKP 03 15 12.0 +1.0**
JFWS Jewell Farm 130.12 38 P **PKiKP 03 15 10.6 -0.3**
baz=304,SNR=21
COI Coimbra 130.20 318 *e*PKP **PKiKP 03 15 11.9 +0.8**
PBAR Barrancos 130.22 315 *e*PKP **PKiKP 03 15 12.3 +1.1**
CHEFC Chefchaouen 130.28 310 P **PKiKP 03 15 13.0 +1.4**
CHEFC Chefchaouen 130.28 310 P **PKiKP 03 15 13.0 +1.4**
PESTR Estremoz 130.29 316 *e*PKP **PKiKP 03 15 12.3 +0.9**
PCAS Casmilo, Conde 130.34 318 *e*PKP **PKiKP 03 15 12.3 +0.9**
LCRM LCR 130.45 309 P **PKiKP 03 15 14.0 +2.0**
LCRM LCR 130.45 309 P **PKiKP 03 15 14.0 +2.0**
MDT Midelt 130.56 307 P **PKiKP 03 15 13.5 +1.3**
MDT Midelt 130.56 307 P **PKiKP 03 15 13.5 +1.3**
PMTG Montargil 130.63 316 *e*PKP **PKiKP 03 15 12.4 +0.4**
H43A Windswept, Lux 130.68 35 **PKPdf 03 15 11.0 0.0**
RSA Sarsar 130.73 310 P **PKiKP 03 15 13.0 +0.6**
RSA Sarsar 130.73 310 P **PKiKP 03 15 13.0 +0.6**
EVO Evora 130.74 316 *e*PKP **PKiKP 03 15 12.8 +0.6**
SCHQ Schefferville 130.74 12 PKP **PKiKP 03 15 12.4 +0.6**
comp=Z,9.6nm,0.7s,baz=54,slow=2.7,SNR=7.0
SCHQ SKPbc **SKPbc 03 18 23.6 -0.8**
comp=Z,28nm,0.8s,baz=350,slow=3.2,SNR=12
PSBE So Bento 130.80 317 *e*PKP **PKiKP 03 15 13.4 +1.0**
CZD Col de Zad 130.83 308 P **PKiKP 03 15 15.0 +2.0**
CZD Col de Zad 130.83 308 P **PKiKP 03 15 15.0 +2.0**
PBEJ Beja 130.87 315 *e*PKP **PKPdf 03 15 11.8 +0.2**
PVAQ Vaqueiros 131.05 314 *e*PKP **PKiKP 03 15 14.8 +1.9**
PCVE Castro Verde 131.18 315 *e*PKP **PKiKP 03 15 14.3 +1.1**
MESJ Messejana 131.21 315 *e*PKPdf **PKiKP 03 15 12.8 -0.4**
MESJ *e*PP **PP 03 17 32.3 +1.4**
MESJ Messejana 131.21 315 *e*PKP **PKiKP 03 15 14.4 +1.2**
PNCL Nicolau / Gran 131.30 316 *e*PKP **PKiKP 03 15 15.3 +1.9**
W39A Magazine 131.47 49 P **PKiKP 03 15 13.8 0.0**
baz=294,SNR=14
G45A Suttons Bay 131.50 33 **PKPdf 03 15 12.8 +0.2**
U40A Yellville 131.66 47 P **PKiKP 03 15 13.8 -0.4**
baz=296,SNR=23
MORF Marmelete 131.76 315 *e*PKPdf **PKPdf 03 15 13.8 +0.4**
MORF *e*PP **PP 03 17 35.8 +1.3**
MORF Marmelete 131.76 315 *e*PKP **PKiKP 03 15 15.5 +1.1**
MIAR Mount Ida 131.89 49 P **PKiKP 03 15 16.1 +1.4**
baz=294,SNR=16
ZHG ZHG 131.92 309 P **PKiKP 03 15 16.0 +1.1**
ZHG ZHG 131.92 309 P **PKiKP 03 15 16.0 +1.1**
L44A Lake County Fo 131.96 38 P **PKiKP 03 15 15.0 +0.4**
baz=306,SNR=5.7
PFVI Vila Bisbo 131.96 315 *e*PKP **PKiKP 03 15 15.0 +0.2**
CCM Cathedral Cave 132.01 44 P **PKiKP 03 15 14.5 -0.3**
baz=299
HDIL Hopedale 132.01 40 P **PKiKP 03 15 14.7 -0.1**
baz=303,SNR=18
TZRR Tazzarine 132.03 305 P **PKiKP 03 15 16.0 +0.8**
TZRR Tazzarine 132.03 305 P **PKiKP 03 15 16.0 +0.8**
NATX Nacogdoches 132.12 53 P **PKiKP 03 15 16.3 +1.1**
baz=291,SNR=6.9
GLMI Grayling 132.20 33 P **PKiKP 03 15 15.3 +0.3**
baz=311,SNR=10
X40A Basin Creek Fa 132.47 49 P **PKiKP 03 15 17.3 +1.5**
baz=295
AVE Averroes 132.57 309 P **PKiKP 03 15 18.4 +2.3**
AVE Averroes 132.57 309 P **PKiKP 03 15 18.4 +2.3**
FVM French Village 132.60 44 PKIKP **PKPdf 03 15 14.8 -0.1**

FVM	French Village	132.60	44			PKPdf	03 15 14.8	-0.1
W41B	Gary Mavity, V	132.62	48	P		PKiKP	03 15 16.7	+0.6
	baz=296,SNR=7.7							
Z41A	Richland Creek	133.00	51	P		PKiKP	03 15 17.9	+1.0
	baz=294,SNR=7.9							
SFIN	Lafayette	133.50	39	P		PKiKP	03 15 18.3	+0.6
	baz=305							
TRQA	Tornquist	133.65	167	PKIKP		PKiKP	03 15 18.2	0.0
TRQA	Tornquist	133.65	167	PKPdf		PKiKP	03 15 18.2	0.0
OUK	Oukaimeden	133.72	307	P		PKiKP	03 15 21.0	+2.0
OUK	Oukaimeden	133.72	307	P		PKiKP	03 15 21.0	+2.0
KOWA	Kowa	133.97	283	PKPdf		PKPdf	03 15 17.7	-0.4
KOWA	Kowa	133.97	283	P		PKiKP	03 15 20.0	+0.7
KOWA	Kowa	133.97	283	P		PKiKP	03 15 20.0	+0.7
KOWA	Kowa	133.97	283	P			03 18 35.6	
AAM	Ann Arbor	134.37	35	P		PKiKP	03 15 19.9	+0.4
	baz=310,SNR=6.7							
KIC	Kosan Boka	134.69	272	*e*PKIKP		PKiKP	03 15 20.5	-0.4
	comp=Z,93nm,0.7s							
KIC	Kosan Boka	134.69	272	*e*P		PKPpre	03 15 07.7	
	comp=Z,9.9nm,0.8s							
DBIC	Dimbokro	134.82	272	PKhKP		PKPpre	03 15 06.4	
	comp=Z,7.5nm,0.6s,baz=60,slow=1.1,SNR=11							
DBIC				PKP		PKiKP	03 15 20.9	-0.3
	comp=Z,44nm,0.6s,baz=116,slow=1.9,SNR=33							
DBIC				SKPbc		SKPbc	03 18 38.4	-1.3
	comp=Z,37nm,0.8s,baz=95,slow=2.9,SNR=21							
DBIC	Dimbokro	134.82	272	PKPdf		PKPdf	03 15 20.1	+0.4
LIC	Lamto	134.96	272	*e*PKIKP		PKPdf	03 15 20.2	+0.2
	comp=Z,247nm,0.8s							
LIC	Lamto	134.96	272	*e*P		PKPpre	03 15 05.5	
	comp=Z,31nm,0.7s							
TIC	Toumodi	134.98	272	*e*PKIKP		PKiKP	03 15 20.8	-0.7
TIC	Toumodi	134.98	272	*e*P		PKPpre	03 15 06.2	
OXF	Oxford	135.00	47	P		PKiKP	03 15 21.1	+0.1
	baz=298							
WCI	Wyandotte Cave	135.24	41	PKHKP		PKPpre	03 15 11.3	
WCI	Wyandotte Cave	135.24	41			PKPpre	03 15 11.3	
WCI	Wyandotte Cave	135.24	41	P		PKiKP	03 15 20.6	-0.7
	baz=304							
O49A	Covington	135.31	37	PKPdf		PKPdf	03 15 20.7	+0.8
WVT	Waverly	135.33	44	PKHKP		PKPpre	03 15 10.6	
WVT	Waverly	135.33	44			PKPpre	03 15 10.6	
WVT	Waverly	135.33	44	P		PKPdf	03 15 20.7	+0.6
	baz=301							
P49A	Miami Univ. Ec	135.48	38	P		PKiKP	03 15 21.5	-0.3
	baz=307,SNR=7.8							
ACSO	Alum Creek Sta	136.09	36	PKPdf		PKiKP	03 15 22.2	-0.8
ACSO	Alum Creek Sta	136.09	36	P		PKiKP	03 15 22.5	-0.5
	baz=310,SNR=13							
ERPA	Erie	136.51	32	P		PKiKP	03 15 23.0	-0.8
	baz=315							
M53A	WI Miller and	136.61	34	P		PKiKP	03 15 24.3	+0.2
	baz=313							
PECO	Prince Edward	136.67	28			PKPdf	03 15 22.4	+0.1
P52A	Corning	136.98	37	P		PKPdf	03 15 23.9	+0.8
	baz=310,SNR=9.3							
M54A	Oil Creek Stat	137.11	33	P		PKPdf	03 15 23.8	+0.6
	baz=314,SNR=15							
O53A	New Philadelph	137.11	35	P		PKPdf	03 15 24.2	+0.9
	baz=312							
LONY	Lake Ozonia	137.22	26	PKPdf		PKPdf	03 15 23.6	+0.3
N54A	Moraine State	137.31	33	P		PKPdf	03 15 24.2	+0.6
	baz=314,SNR=6.1							
LRAL	Lakeview Retre	137.47	48	P		PKPdf	03 15 25.0	+0.9
	baz=299,SNR=13							
P53A	Whipple	137.51	36			PKPdf	03 15 24.6	+0.5
PQI	Presque Isle	137.90	18	PKPdf		PKPdf	03 15 23.8	-0.7
TZTN	Tazewell	137.99	41	P		PKiKP	03 15 26.6	-0.5
	baz=306,SNR=6.6							
MCWV	Mont Chateau	138.28	35	P		PKPdf	03 15 26.4	+0.9
	baz=313							
TKL	Tuckaleechee C	138.35	42	PKP		PKPdf	03 15 26.7	+1.0
	comp=Z,72nm,0.7s,baz=160,slow=2.6							
TKL				SKPbc		SKPbc	03 18 49.9	+0.2
	comp=Z,26nm,0.8s,baz=220,slow=1.0,SNR=10.0							
I60A	Shoreham	138.39	25	P		PKiKP	03 15 27.8	+0.2
	baz=324							
BINY	Binghamton	138.47	29	P		PKPdf	03 15 26.8	+1.0
	baz=320,SNR=6.7							
O56A	Blue Knob Stat	138.57	33	P		PKPdf	03 15 26.6	+0.6
	baz=315,SNR=7.4							
LBNH	Lisbon	138.62	24	P		PKiKP	03 15 27.4	-0.7
	baz=326							
SSPA	Standing Stone	138.67	32	PKPdf		PKPdf	03 15 26.5	+0.4
SSPA	Standing Stone	138.67	32	P		PKPdf	03 15 27.2	+1.0
	baz=316							
PKME	Peaks-Kenny Pk	138.72	20	P		PKiKP	03 15 28.9	+0.7
	baz=331							
BG3	Lake Jocassee	139.30	43	PKPdf		PKPdf	03 15 25.9	-1.6
N59A	State Game Lan	139.55	30	P		PKPdf	03 15 28.9	+1.1
	baz=319							
BLA	Blacksburg	139.56	38	P		PKPdf	03 15 28.6	+0.7
	baz=310							
L61B	Northampton	139.78	26	P		PKPdf	03 15 29.0	+0.9
	baz=324							
GOGA	Godfrey	139.81	45	P		PKPdf	03 15 29.4	+1.0
	baz=303							
PMAR	Madeira	139.91	314	*e*PKP		PKPdf	03 15 29.0	+0.1
S57A	Dark Hollow, R	140.08	36	PKPdf		PKPdf	03 15 27.4	-1.3
KMSC	Kings Mountain	140.27	41	PKPdf		PKPdf	03 15 27.8	-1.4
KMSC	Kings Mountain	140.27	41	P		PKPdf	03 15 30.4	+1.2
	baz=307							
P60A	Greenville	140.45	31	P		PKiKP	03 15 32.7	+0.8
	baz=318							
CBN	Corbin Frederi	140.68	34	P		PKPdf	03 15 30.7	+0.9
	baz=315							
TIGA	Tifton	140.76	48	PKPdf		PKiKP	03 15 31.7	-1.1
TIGA	Tifton	140.76	48	P		PKiKP	03 15 32.1	-0.7
	baz=301							
MTO3	Montecristo	141.10	76	PKPdf		PKPdf	03 15 31.7	+0.2
ITQB	Itaqui	142.81	171	PKPdf		PKPdf	03 15 31.7	-2.2
TGUH	Tegucigalpa,Un	143.15	76	*e*P		PKPbc	03 15 33.5	+1.2
DWPF	Disney Wildern	144.05	51			PKPbc	03 15 35.0	+0.7
DWPF	Disney Wildern	144.05	51	P		PKPdf	03 15 35.4	-0.7
	baz=299							
PB15	IPOC Station P	144.44	149	PKPdf		PKPdf	03 15 38.3	+1.1
ORTG	Ortega, Santa	145.21	82	PKPbc		PKiKP	03 15 41.0	-1.5
CPUP	Villa Florida	145.95	169	PKPbc		PKPab	03 15 41.4	+0.5
	comp=Z,37nm,0.7s,baz=195,slow=1.9,SNR=80							
CPUP				SKPbc		SKPbc	03 19 08.9	-0.1
	comp=Z,27nm,0.9s,baz=212,slow=2.0,SNR=8.9							
TA02	Huaiquique	146.46	145	PKPbc		PKPab	03 15 43.6	+0.6
NNA	Nana	147.48	126*c*	*i*PKP2		PKPab	03 15 48.1	+0.8
NNA				pmax		pmax		
	comp=Z,60nm,0.7s							
NNA	Nana	147.48	126	PKPbc		PKiKP	03 15 46.1	-1.0
BRU2	Volcan	147.97	85	*e*P		PKPbc	03 15 45.8	-0.8
CBCY	The Bluff, Cay	148.92	64			PKiKP	03 15 49.4	-0.5
PRVC	Isla de Provid	148.94	76	*e*P		PKiKP	03 15 50.9	+0.8
GMAL	Guarumal, Vera	149.41	87	*e*P		PKPdf	03 15 46.8	+1.3
CACAO	El Cacao, Vera	149.77	88	*e*P		PKiKP	03 15 52.5	+0.7
AZU	Azuero	150.36	87	*e*P		PKiKP	03 15 53.5	+0.5
LPAZ	La Paz	150.75	143	PKP		PKPdf	03 15 50.3	+2.0
	comp=Z,8.3nm,0.9s,baz=26,slow=1.6,SNR=22							
LPAZ				PKPbc		PKiKP	03 15 55.9	+1.4
	comp=Z,19nm,0.4s,baz=34,slow=3.5,SNR=46							
LPAZ	La Paz	150.75	143			PKiKP	03 15 54.6	0.0
LPAZ	La Paz	150.75	143	*e*P		PKPdf	03 15 50.8	+2.5
BCIP	Isla Barro Col	150.79	84	*e*P		PKiKP	03 15 54.1	+0.2
PAC1	Pacto, Paraso	150.83	103	*e*P		PKiKP	03 15 55.1	+0.9
UPA	Univ. de Panam	151.09	85	*e*P		PKiKP	03 15 54.8	+0.3
OTAV	Otavalo	151.16	103	PKIKP		PKPbc	03 15 52.2	-2.6
OTAV	Otavalo	151.16	103			PKPbc	03 15 52.1	-2.6
OTAV	Otavalo	151.16	103	*e*P		PKPdf	03 15 50.4	+1.6
MTDJ	Mount Denham	151.40	65	*e*P		PKPbc	03 15 54.8	0.0
GCUF	Volcan Galeras	152.47	101	*e*P		PKPdf	03 15 53.0	+2.1
UPD2	Meteti	152.60	85	*e*P		PKiKP	03 15 58.8	+1.2
BBAC	Balboa, Cauca	152.73	100	*e*P		PKPdf	03 15 51.9	+1.0
PTAC	Punta Ardita,	152.79	88	*e*P		PKiKP	03 15 58.9	+0.8
GTBY	Guantanamo Bay	152.91	60	*e*P		PKiKP	03 15 58.4	+0.3
MALC	Bahia Malaga	152.99	95	*e*P		PKiKP	03 16 00.8	+2.3
POPC	Popayan, Colom	153.39	99	*e*P		PKPdf	03 15 52.5	+0.6
YOTC	Yotoco, Vale	153.96	96	*e*P		PKPdf	03 15 53.0	+0.5
DBBC	Dabeiba	154.37	89	*e*P		PKPdf	03 15 54.7	+1.6
GARC	Garzon, Huila	154.48	100	*e*P		PKiKP	03 16 03.4	+1.5
CBOC	Ciudad Bolivar	154.50	92	*e*P		PKPdf	03 15 54.5	+1.1
MOTC	Monteria, Cord	154.92	85	*e*P		PKPdf	03 15 54.7	+1.0
ANIL	Santa Ana	154.96	95	*e*P		PKPdf	03 15 55.2	+1.1
HELC	Santa Helena	155.00	91	*e*P		PKPdf	03 15 55.0	+0.7
ORTC	Ortega, Tolima	155.03	96	*e*P		PKPdf	03 15 54.5	+0.6
GUY2C	Guyana, Caldas	155.08	93	*e*P		PKPdf	03 15 55.5	+1.0
SJCC	San Jacinto, C	155.34	82	*e*P		PKPdf	03 15 56.0	+1.7
ZARC	Zaragoza, Cauc	155.72	88	*e*P		PKPdf	03 15 55.6	+0.8
ROSC	El Rosal	156.08	94	PKP		PKPdf	03 15 56.9	+1.2
	comp=Z,14nm,0.8s,baz=80,slow=3.9,SNR=7.6							
ROSC				PKPab		pPKPdf	03 16 28.2	+2.5
	comp=Z,23nm,0.6s,baz=351,slow=6.4,SNR=8.2							
ROSC	El Rosal	156.08	94	*e*P		PKPdf	03 15 58.0	+2.2
MACC	Macarena, Meta	156.08	101	*e*P		PKPdf	03 15 56.3	+1.0
PTBC	PUERTO BERRIO	156.09	90	*e*P		PKPdf	03 15 55.3	0.0
SPBC	San Pablo de B	156.41	92	*e*P		PKPdf	03 15 56.6	+0.8
SMLC	San Martn de	156.49	85	*e*P		PKPdf	03 15 56.8	+1.0
VILC	Villavicencio,	156.60	96	*e*P		PKPdf	03 15 58.5	+2.4
CHIC	Chingaza	156.63	95	*e*P		PKPdf	03 15 57.1	+0.6
BRRC	Barranca, Sant	156.85	89	*e*P		PKPdf	03 15 57.0	+0.7
BDFB	Brasilia	157.14	186	PKP		PKPdf	03 15 57.8	+1.1
	comp=Z,8.5nm,0.8s,baz=136,slow=1.9,SNR=14							
BDFB				PKPab		PKPab	03 16 28.9	+1.4
	comp=Z,5.9nm,0.7s,baz=161,slow=12,SNR=3.5							
OCAC	Ocana	157.25	86	*e*P		PKPdf	03 15 57.9	+1.0
RUSC	La Rusia	157.41	92	*e*P		PKPdf	03 15 58.1	+0.5
CRJC	Cerrejon, Guaj	157.47	79	*e*P		PKPdf	03 15 58.0	+0.9
SOCV	Socops	159.69	86	*e*P		PKPdf	03 15 59.3	-0.4
SDV	Santo Domingo	159.88	84	*e*P		PKPdf	03 16 00.8	+0.7
MLPR	Magueyes Islan	160.58	55	PKPdf		PKPdf	03 16 01.2	+0.7
MLPR				PKPab		PKPab	03 16 43.1	+0.7
OBIP	Obispado Ponce	160.89	54	PKPdf		PKPdf	03 15 59.8	-1.0
ELOV	Elorza	161.04	90	*e*P		PKPdf	03 16 02.5	+1.3
SJG	San Juan	161.22	53	*e*P		PKPdf	03 16 01.3	+0.1
STVI	Saint Thomas	162.02	51	PKPdf		PKPdf	03 16 01.3	-0.7
STVI				PKPab		PKPab	03 16 48.8	0.0
CDVI	St. Croix	162.51	52			PKPdf	03 16 01.7	-0.8
PTGA	Pitinga	167.58	129	*e*P		PKPdf	03 16 07.7	+0.6

IDC ***27*** *03:08:09.4±1.1,31.˚36S×178.˚50W,h0km,mb4.5/4, mb1 4.6/4,mb1mx4.0/37,mbtmp4.5/4 Error ellipse: s-maj=39.6km s-min=29.7km az=71.0*
NEIC ***27*** *03:08:12.5±1.4,31.˚6S±0.˚1×178.˚6W±0.˚2,h10km±1km, mb4.4/3,Error ellipse: s-maj=24.0km s-min=20.6km az=90.0*

ISC 27 03:08:11.1±0.9,31.˚4S±0.˚2×178.˚6W±0.˚2,h10km,n20, σ1ˢ25/21,mb4.5/5,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OUZ	Omahuta	7.53	238	Pn	Pn	03 11 00.3	-0.6
ASAR	Alice Springs	42.52	268	P	P	03 16 07.8	+0.7
	4.4nm,0.8s,baz=106,slow=7.3,SNR=5.2						
WB2	Warramunga Arr	43.60	274	P	P	03 16 16.1	+0.5
WB2				IAmb	IAmb	03 16 17.8	
	comp=Z,11nm,1.1s						
WRA	Warramunga Arr	43.61	274	P	P	03 16 16.6	+0.8
	comp=Z,4.1nm,0.7s,baz=113,slow=8.0,SNR=13						
WRA	Warramunga Arr	43.61	274	IAmb	IAmb	03 16 18.0	
	comp=Z,0.5nm,1.1s						
QSPA	South Pole Qui	58.70	180	P	P	03 18 09.6	+0.9
	comp=Z,8.6nm,0.7s,baz=36,slow=0.7,SNR=23						
QSPA	South Pole Qui	58.70	180	P	P	03 18 09.4	+0.8
QSPA				IAmb	IAmb	03 18 11.6	
	comp=Z,10.0nm,0.8s						
MAW	Mawson	71.17	201	P	P	03 19 29.6	0.0
	comp=Z,2.6nm,0.7s,baz=167,slow=6.1,SNR=4.5						
KURK	Kurchatov	121.35	313		PKPdf	03 27 02.3	-1.7
KURBB	Kurchatov Arra	121.39	313	PKP	PKPdf	03 27 02.3	-1.8
	comp=Z,0.8nm,0.9s,baz=113,slow=1.8,SNR=6.1						
CHGR	Chuyangaron	125.15	298	PKPdf	PKiKP	03 27 12.2	-0.1
GNI	Garni	144.04	296	PKPdf	PKPdf	03 27 45.7	-1.4
ONI	Oni	144.92	301	PKPbc	PKPdf	03 27 48.5	+0.1
KBZ	Khabaz	145.21	303	PKPbc	PKPdf	03 27 49.3	+0.6
	comp=Z,2.8nm,0.8s,baz=43,slow=5.6,SNR=5.8						
FINES	FINESS Array B	145.90	339	PKPbc	PKPab	03 27 50.3	-0.2
	comp=Z,3.3nm,0.8s,baz=75,slow=2.2,SNR=13						
NOA	NORSAR Array B	149.66	351	PKPbc	PKPbc	03 27 59.9	-0.4
	comp=Z,0.6nm,0.7s,baz=14,slow=4.1,SNR=4.0						
AKASG	Malin Array Be	151.76	321	PKPbc	PKiKP	03 28 05.6	-0.3
	comp=Z,0.4nm,0.5s,baz=80,slow=2.7,SNR=6.2						
AKASG				pPKPbc	pPKPab	03 28 16.5	-0.8
	comp=Z,1.4nm,0.6s,baz=54,slow=4.6,SNR=5.4						
BRTR	Keskin Array B	152.59	297	PKPbc	PKPbc	03 28 07.0	-1.0
	comp=Z,0.5nm,1.0s,baz=160,slow=3.9,SNR=4.5						
BRTR				pPKPbc	PKPab	03 28 19.1	+0.6
	comp=Z,0.9nm,0.8s,baz=104,slow=4.0,SNR=4.8						
GERES	GERESS Array B	160.24	335	PKPab	PKPab	03 28 54.7	+3.7
	comp=Z,0.6nm,0.9s,baz=158,slow=1.4,SNR=4.1						
GERES	GERESS Array B	160.24	335		PKPab	03 28 51.3	+0.3

LDG 27 03:13:51.8±0.2,42.˚89N×0.˚17E,h7km,Md1.2/2,MI0.6/2, Error ellipse: s-maj=6.0km s-min=1.9km az=170.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EPF	Esparros	0.19	42	*e*Pg	Pg	03 13 56.2	+0.5
EPF				*e*Sg	Sg	03 13 58.7	+0.3
	11nm,0.2s						
ETSF	Etsaut	0.53	272	*e*Pg	Pg	03 14 02.0	-0.1
ETSF				*e*Sg	Sg	03 14 09.0	0.0
	2.7nm,0.3s						
SJPF	Ste Jean	1.04	283	*e*P	Pn	03 14 12.9	0.0
SJPF				*e*Sg	Sg	03 14 24.8	-0.6
	0.1nm,0.2s						
MTLF	Montolieu	1.57	72	*e*Pg	Pb	03 14 20.7	-0.5
MTLF				*e*Sg	Sb	03 14 41.4	+0.2

IDC 27 03:33:43.7±3.8,56.˚76S×30.˚02W,h0km,mb3.9/1, mb1 3.9/1,mb1mx3.4/23,mbtmp3.9/1,Error ellipse: s-maj=228.8km s-min=72.1km az=146.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10S3	ASCENSION HYDR	49.18	20	T	T	04 35 01.1	
	SNR=5.7						
H10N1	ASCENSION HYDR	50.30	20	T	T	04 36 27.0	
	baz=191,slow=75,SNR=4.9						
H10N3	ASCENSION HYDR	50.30	20	T	T	04 36 23.4	
	baz=191,slow=75,SNR=7.9						
H10N2	ASCENSION HYDR	50.31	20	T	T	04 36 21.8	
	baz=191,slow=75,SNR=7.1						
TORD	Torodi Ar. Bea	74.48	32	P	P	03 45 23.7	0.0
	0.9nm,0.7s,baz=202,slow=6.1,SNR=7.3						
ZALV	Zalesovo Beam	144.10	66	PKP	PKPdf	03 53 19.4	-0.6
	1.1nm,0.5s,baz=241,slow=1.1,SNR=4.6						
ILAR	Eielson Array	149.41	311	PKPbc	PKPbc	03 53 32.5	-0.5
	0.9nm,0.6s,baz=128,slow=1.2,SNR=12						

NEIC 27 03:46:18.8±1.0,36.˚55N±0.˚04×98.˚87W±0.˚05,h11km±7km, mb_Lg2.9/60,Error ellipse: s-maj=6.6km s-min=5.4km az=142.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	Winter Ranch,	0.20	212	Pg	Pg	03 46 20.2	-2.7
OK032	Salt Plains WL	0.59	64		Pg	03 46 29.9	-0.4
CROK	Carrier	0.72	93		Pg	03 46 32.6	0.0
KAN14	Manchester OK	0.84	60		Pg	03 46 34.3	-0.6
KAN10	Anthony SW Sta	0.85	47		Pg	03 46 34.9	-0.2
GC02	Grant County #	0.87	69		Pg	03 46 35.3	-0.2
KAN16	Harper SW Stat	0.94	43		Pg	03 46 36.0	-0.8
KAN05	Bluff City Nor	0.98	55		Pg	03 46 37.4	-0.2
KAN08	Anthony NE Sta	0.99	46		Pg	03 46 36.7	-1.1
KAN17	Caldwell West	1.02	60		Pg	03 46 37.5	-0.8
KAN12	Harper NE Stat	1.02	43		Pg	03 46 38.0	-0.4
KAN06	Argonia West S	1.07	49		Pb	03 46 39.0	-0.4
KAN09	Caldwell North	1.16	59		Pb	03 46 40.8	-0.1
KAN13	South Haven SW	1.21	67		Pn	03 46 40.7	-1.0
KS20	Mayfield South	1.26	57		Pn	03 46 41.3	-1.0
BLOK	Blackwell	1.35	80		Pn	03 46 43.5	-0.1
BCOK	Bluff Creek, N	1.35	131		Pn	03 46 43.1	-0.6
OK029	Liberty Lake	1.37	123		Pn	03 46 43.9	+0.1
OK025	Westminster Rd	1.57	127		Pn	03 46 46.6	-0.1
OKCFA	Oklahoma City	1.61	134		Pn	03 46 47.2	0.0
OKCSW	OKLAHOMA CITY	1.63	134		Pn	03 46 47.5	+0.1
OK031	S. Brethren Rd	1.75	109		Pn	03 46 49.2	+0.2
FNO	Franklin	1.75	137		Pn	03 46 49.3	+0.1
QUOK	Quay	1.79	101		Pn	03 46 50.3	+0.7
OK030	Cody Creek RV	1.80	109		Pn	03 46 50.0	+0.2
WMOK	Wichita Mounta	1.81	178		Pn	03 46 48.2	-1.7
R32A	Long Quarter,	1.88	4		Pn	03 46 50.8	-0.1
T35A	Sooner Cattle	1.93	78		Pn	03 46 52.6	+1.0
T35A				IAmb_Lg		03 47 24.5	
	comp=Z,45nm,0.8s						
X34A	Smith Ranch, M	2.12	156		Pn	03 46 55.1	+0.9
CBKS	Cedar Bluff	2.37	343		Pn	03 46 57.6	0.0
CBKS				IAmb_Lg		03 47 33.1	
	comp=Z,45nm,0.8s						
TUL1	Leonard	2.57	103		Pn	03 47 00.5	+0.2
AMTX	Amarillo	2.83	235		Pn	03 47 04.4	+0.4
AMTX				IAmb_Lg		03 47 55.1	
	comp=Z,49nm,0.9s						
LOOK	Love County	2.90	151	Pn	Pn	03 47 04.8	-0.1
LOOK				IAmb_Lg		03 47 57.9	
	comp=Z,25nm,0.9s						
KSU1	Kansas State U	3.12	34		Pn	03 47 08.1	+0.2
X37A	Clayton	3.46	123		Pn	03 47 12.8	+0.2
X37A				IAmb_Lg		03 48 16.7	
	comp=Z,26nm,0.8s						
Z35A	Perchaven, San	3.47	157	Pn	Pn	03 47 13.2	+0.4
U38A	Gravette	3.62	90	Pn	Pn	03 47 14.6	-0.2
KSCO	Kaye Shedlock'	3.86	311	Pn	Pn	03 47 18.3	0.0
KSCO				IAmb_Lg		03 48 19.8	
	comp=Z,26nm,0.8s						
ABTX	Abilene, Hawle	3.96	189		Pn	03 47 18.9	-0.7
HHAR	Hobbs	3.99	92	Pn	Pn	03 47 19.9	+0.1
HHAR				IAmb_Lg		03 48 31.0	
	comp=Z,22nm,0.8s						
MSTX	Muleshoe	4.10	232		Pn	03 47 20.5	-1.0
W39A	Magazine	4.34	107	Pn	Pn	03 47 25.8	+1.0
W39A					LR	03 48 36.4	
W39A				IAmb_Lg		03 48 44.0	
	comp=Z,22nm,0.7s						
T25A	Trinidad	4.48	279	Pn	Pn	03 47 26.5	-0.4
T25A				IAmb_Lg		03 48 39.9	
	comp=Z,17nm,0.9s						
Z38A	Mt. Pleasant	4.58	135	IAmb_Lg		03 48 50.7	
	comp=Z,16nm,0.7s						
S39A	Bolivar	4.58	74	Pn	Pn	03 47 27.4	-0.6
S39A				IAmb_Lg		03 48 47.2	
	comp=Z,20nm,0.8s						
MIAR	Mount Ida	4.76	113	Pn	Pn	03 47 30.4	0.0
U40A	Yellville	4.85	90	Pn	Pn	03 47 31.6	-0.2
U40A				IAmb_Lg		03 48 56.2	
	comp=Z,18nm,0.7s						
BGNE	Belgrade	4.89	6	IAmb_Lg		03 48 54.5	
	comp=Z,28nm,0.8s						
N35A	Tabor	4.99	29	Pn	Pn	03 47 33.9	+0.2
N35A					Lg	03 49 00.7	
237A	Washetta, Mont	5.19	150	IAmb_Lg		03 49 15.8	
	comp=Z,19nm,0.9s						
P38A	Dawn	5.21	52	Pn	Pn	03 47 36.8	+0.1
MGMO	Mountain Grove	5.33	82	Pn	Pn	03 47 37.2	-1.1
MGMO				IAmb_Lg		03 49 09.2	
	comp=Z,21nm,0.8s						
X40A	Basin Creek Fa	5.33	111	Pn	Pn	03 47 39.1	+0.8
SDCO	Great Sand Dun	5.43	285		Pn	03 47 40.5	+0.6
WHAR	Wooly Hollow	5.49	101	Pn	Pn	03 47 42.5	+2.0
WHAR					LR	03 49 13.3	
FCAR	Ozark Folk Cen	5.49	95	Pn	Pn	03 47 40.9	+0.4
FCAR				IAmb_Lg		03 49 15.9	
	comp=Z,13nm,0.9s						
R40A	Maddies Statio	5.54	70	Pn	Pn	03 47 41.3	+0.2
R40A				IAmb_Lg		03 49 17.3	
	comp=Z,23nm,0.9s						
L34A	Svendsen Farm,	5.75	19	IAmb_Lg		03 49 30.6	
	comp=Z,29nm,0.7s						
435B	Jarrell	5.85	169	IAmb_Lg		03 49 32.4	
	comp=Z,14nm,0.7s						
K31A	O'Neill	6.07	1	IAmb_Lg		03 49 38.4	
	comp=Z,17nm,0.8s						
JCT	Junction City	6.10	188	IAmb_Lg		03 49 34.8	
	comp=Z,12nm,0.7s						
P40A	Paris	6

ASAR	**Alice Springs**	**42.98**	**269**	P	P	04 12 06.3	0.0
	1.2nm,0.6s,baz=106,slow=7.3,SNR=19						
WRA	**Warramunga Arr**	**44.18**	**275**	P	P	04 12 15.9	0.0
	2.0nm,0.7s,baz=113,slow=7.7,SNR=22						
FINES	**FINESS Array B**	**147.29**	**339**	PKPbc	PKPbc	04 23 49.1	-0.7
	0.7nm,0.5s,baz=32,slow=2.2,SNR=10.0						

*KRSC **27** 04:09:00.8±0.9, 54.1°N×162.7°E, h40km±15km, ML3.9*
*IDC **27** 04:09:02.8±1.6, 54.7°N×162.1°E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.4/42, mbtmp3.5/7, ML2.7/1, Error ellipse: s-maj=43.9km s-min=23.2km az=134.0*
ISC 27 04:09:01.6±1.8, 54°24'N±0'.04×162°.75E±0°.05, h10km±10km, n51, σ1s26/68, mb3.7/6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.68**	**299**	*i* P	**Pg**	**04 09 14.2**	**-0.5**
MKZ				*e*S	**Sg**	**04 09 23.9**	**+0.4**
TUMD	**Tumrok D**	**1.67**	**306**	*e*P	**Pn**	**04 09 29.3**	**-1.6**
TUMD				*e*S	**Sn**	**04 09 49.4**	**-3.0**
KZV	**Kizimen**	**1.67**	**303**	*i* P	**Pn**	**04 09 29.9**	**-1.2**
KZV				*e*S	**Sn**	**04 09 50.7**	**-1.9**
TUMR	**Tumrok**	**1.84**	**306**	*e*P	**Pn**	**04 09 32.8**	**-0.5**
KII	**Karymskiy**	**1.95**	**265**	*e*P	**Pn**	**04 09 33.7**	**-1.1**
KBTR	**Krutoberegovo**	**1.98**	**1**	*e*P	**Pn**	**04 09 33.4**	**-1.7**
KBTR				*e*S	**Sn**	**04 09 59.7**	**-0.1**
SPN	**Mys Shipunski**	**1.98**	**236**	*e*P	**Pn**	**04 09 33.9**	**-1.3**
SPN				*e*S	**Sn**	**04 09 58.1**	**-1.9**
KBG	**Krutoberegovo**	**2.02**	**359**	*e*P	**Pn**	**04 09 35.1**	**-0.6**
BZGR	**Bezymyannyi-Gr**	**2.08**	**326**	*e*P	**Pn**	**04 09 36.4**	**-0.1**
BZGR				*e*S	**Sn**	**04 10 02.8**	**+0.3**
KMNR	**Kamenistaya**	**2.10**	**317**	*e*P	**Pn**	**04 09 36.7**	**-0.2**
KMNR				*e*S	**Sn**	**04 10 03.1**	**0.0**
ZLN	**Zelenaya**	**2.10**	**329**	*e*P	**Pn**	**04 09 37.3**	**+0.4**
BKI	**Bering**	**2.10**	**61**	*e*P	**Pn**	**04 09 36.3**	**-0.5**
BKI				*e*S	**Sn**	**04 10 00.6**	**-2.4**
BZWR	**Bezymyannyi-We**	**2.16**	**324**	*e*P	**Pn**	**04 09 38.2**	**+0.4**
CIRR	**Tsirk**	**2.20**	**329**	*e*P	**Pn**	**04 09 38.8**	**+0.5**
KIRR	**Kirishev**	**2.21**	**322**	*e*P	**Pn**	**04 09 38.3**	**-0.1**
KPT	**Kopyto**	**2.26**	**321**	*e*P	**Pn**	**04 09 39.4**	**+0.3**
NLC	**Nalytchevo**	**2.29**	**244**	*e*P	**Pn**	**04 09 38.8**	**-0.5**
NLC				*e*S	**Sn**	**04 10 06.2**	**-1.5**
KRSR	**Krestovskiy**	**2.34**	**329**	*e*P	**Pn**	**04 09 40.4**	**+0.1**
KLY	**Klyuchi**	**2.40**	**331**	*e*P	**Pn**	**04 09 40.4**	**-0.5**
KLY				*e*S	**Sn**	**04 10 09.2**	**-1.1**
KOZ	**Kozyrevsk**	**2.46**	**319**	*e*P	**Pn**	**04 09 42.3**	**+0.6**
SMKR	**Semkarok**	**2.46**	**343**	*e*P	**Pn**	**04 09 41.6**	**-0.2**
SDLR	**Sedlovina**	**2.49**	**249**	*e*P	**Pn**	**04 09 41.8**	**-0.4**
SDLR				*e*S	**Sn**	**04 10 11.8**	**-0.9**
BDR	**Baidarnaya**	**2.50**	**340**	*e*P	**Pn**	**04 09 42.9**	**+0.6**
BDR				*e*S	**Sn**	**04 10 13.1**	**+0.3**
SMAR	**Somma**	**2.54**	**249**	*e*P	**Pn**	**04 09 43.1**	**+0.1**
UGLR	**Uglovaya**	**2.55**	**248**	*e*P	**Pn**	**04 09 43.0**	**-0.1**
KRER	**Koryakskii**	**2.55**	**250**	*e*P	**Pn**	**04 09 43.2**	**0.0**
AVH	**Avacha**	**2.57**	**249**	*e*P	**Pn**	**04 09 43.6**	**+0.2**
SRKR	**Sorokina**	**2.58**	**340**	*e*P	**Pn**	**04 09 43.4**	**-0.1**
KRX	**Arik**	**2.59**	**252**	*e*P	**Pn**	**04 09 43.4**	**-0.2**
KOK	**Koryaka**	**2.62**	**250**	*e*P	**Pn**	**04 09 43.8**	**-0.2**
DALK	**Dalny**	**2.67**	**245**	*e*P	**Pn**	**04 09 43.6**	**-1.0**
DALK				*e*S	**Sn**	**04 10 14.1**	**-2.8**
PET	**Petropavlovsk**	**2.73**	**245**	*e*P	**Pn**	**04 09 44.5**	**-0.8**
PET				*e*S	**Sn**	**04 10 16.6**	**-1.7**
ESO	**Esso**	**2.88**	**308**	*e*P	**Pn**	**04 09 49.1**	**+1.6**
GNL	**Ganaly**	**2.89**	**261**	*e*P	**Pn**	**04 09 47.9**	**+0.1**
KRMR	**Karymshinskiy**	**3.10**	**245**	*e*P	**Pn**	**04 09 51.8**	**+1.4**
KRMR				*e*S	**Sn**	**04 10 27.9**	**+0.5**
RUS	**Russkaya**	**3.12**	**236**	*e*P	**Pn**	**04 09 50.7**	**0.0**
RUS				*e*S	**Sn**	**04 10 26.8**	**-1.2**
PETK	**Petropavlovsk-**	**3.21**	**251**	Pn	**Pn**	**04 09 51.8**	**-0.2**
	4.4nm,0.3s,baz=79,slow=14,SNR=24						
PETK				Sn	**Sn**	**04 10 32.1**	**+1.8**
	3.7nm,0.3s,baz=169,slow=16,SNR=7.8						
MTVR	**Mutnovka**	**3.25**	**239**	*e*P	**Pn**	**04 09 53.0**	**+0.3**
MTVR				*e*S	**Sn**	**04 10 30.3**	**-1.2**
GRL	**Gorelyy**	**3.27**	**241**	*e*P	**Pn**	**04 09 53.5**	**+0.5**
ASAK	**Asacha**	**3.45**	**239**	*e*P	**Pn**	**04 09 56.2**	**+0.8**
ASAK				*e*S	**Sn**	**04 10 36.0**	**-0.3**
KDTR	**Khodutka, Kamc**	**3.73**	**231**	*e*P	**Pn**	**04 09 58.7**	**-0.4**
KDTR				*e*S	**Sn**	**04 10 40.8**	**-2.1**
MIPR	**Malaya Ipel'ka**	**4.10**	**244**	*e*P	**Pn**	**04 10 05.1**	**+0.8**
MJAR	**Matsushiro Arr**	**24.50**	**234**	P	**P**	**04 14 24.3**	**+3.4**
	0.4nm,0.3s,baz=25,slow=11,SNR=2.1						
H11N2	**WAKE ISLAND Hy**	**34.59**	**173**	T	T	04 53 16.4	
	baz=355,slow=75,SNR=2.7						
H11N3	**WAKE ISLAND Hy**	**34.61**	**173**	T	T	04 53 16.5	
	baz=355,slow=75,SNR=3.6						
H11N1	**WAKE ISLAND Hy**	**34.61**	**173**	T	T	04 53 18.5	
	baz=355,slow=75,SNR=4.3						
FINES	**FINESS Array B**	**59.68**	**338**	P	**P**	**04 19 04.3**	**-1.2**
	0.7nm,0.5s,baz=36,slow=7.7,SNR=11						
NOA	**NORSAR Array B**	**62.87**	**345**	P	**P**	**04 19 25.9**	**-1.2**
	0.4nm,0.8s,baz=24,slow=6.5,SNR=4.2						
AKASG	**Malin Array Be**	**68.42**	**330**	P	**P**	**04 20 01.3**	**-1.8**
	0.3nm,0.3s,baz=31,slow=6.4,SNR=4.2						
TXAR	**Lajitas Array**	**68.74**	**69**	P	**P**	**04 20 09.3**	**+3.7**
	0.2nm,0.7s,baz=302,slow=4.1,SNR=3.0						
GERES	**GERESS Array B**	**74.03**	**339**	P	**P**	**04 20 36.7**	**-0.5**
	0.3nm,0.4s,baz=46,slow=5.6,SNR=2.3						

*PRU **27** 04:09:44.3±0.0, 51.4°N×16.0°E, h0km*
*VIE **27** 04:09:44.6±1.0, 51.4°N×15.9°E, h0km, mb2.3/3, ml2.6/4, Error ellipse: s-maj=10.7km s-min=7.3km az=50.0 79 km WNW of Wroclaw Suspected Mining induced.*
ISC 27 04:09:42.2±0.8, 51°57'N±0'.03×16°.11E±0°.03, h0km, n28, σ1s07/60, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.73**	**171**	*e*Pg	**Pg**	**04 09 56.7**	**+0.4**
KSP				*e*Sg	**Sg**	**04 10 05.7**	**0.0**
CHVC	**Chvalec**	**0.98**	**182**	*e*PG	**Pg**	**04 10 01.3**	**+0.3**
CHVC				*e*SG	**Sg**	**04 10 13.8**	**+0.2**
OSTC	**Ostas**	**1.01**	**176**	*e*PG	**Pg**	**04 10 01.9**	**+0.3**
OSTC				*e*SG	**Sg**	**04 10 14.6**	**-0.1**
	comp=Z,33nm,0.3s						
UPC	**Upice**	**1.06**	**183**	*e*PG	**Pg**	**04 10 02.6**	**+0.1**
UPC				*e*SG	**Sg**	**04 10 16.2**	**-0.1**
	comp=Z,54nm,0.3s						
DPC	**Dobruska-Polom**	**1.22**	**174**	*e*PG	**Pg**	**04 10 05.3**	**-0.4**
DPC				*e*SG	**Sg**	**04 10 20.4**	**-1.1**
	comp=Z,25nm,0.6s						
PVCC	**Panska Ves**	**1.42**	**224**	*e*PG	**Pb**	**04 10 09.8**	**+0.2**
PVCC				*e*SG	**Sg**	**04 10 28.0**	**+0.1**
	comp=Z,76nm,0.4s						
BRG	**Berggiesshubel**	**1.53**	**244**	Pn	**Pn**	**04 10 09.6**	**-1.2**
BRG				Pg	**Pg**	**04 10 12.3**	**+0.8**
BRG				Sg	**Sb**	**04 10 32.2**	**+0.9**
BRG				Amp		04 10 33.0	
	comp=Z,55nm,0.4s						
KRLC	**Kraliky**	**1.55**	**164**	*e*PG	**Pn**	**04 10 10.4**	**-0.7**
KRLC				*e*SG	**Sg**	**04 10 31.2**	**-0.8**
	comp=Z,20nm,0.4s						
PRU	**Pruhonice**	**1.87**	**213**	*e*PN	**Pn**	**04 10 15.0**	**-0.4**
PRU				*e*PG	**Pb**	**04 10 17.1**	**-0.1**
PRU				*e*SG	**Sb**	**04 10 40.7**	**-0.4**
	comp=Z,23nm,0.3s						
CLL	**Collm**	**1.96**	**264**	*e*Pn	**Pn**	**04 10 17.0**	**+0.3**
CLL				*e*Pg	**Pg**	**04 10 20.0**	**+0.2**
CLL				*i* Sg	**Sg**	**04 10 45.7**	**+0.4**
	comp=Z,15nm,0.8s						
MORC	**Moravsky Berou**	**2.01**	**153**	*e*PN	**Pn**	**04 10 17.1**	**-0.3**
MORC				*e*SG	**Sb**	**04 10 45.2**	**0.0**
OKC	**Ostrava-Krasne**	**2.16**	**142**	*e*PG	**Pg**	**04 10 23.0**	**-0.6**
OKC				*e*SG	**Sg**	**04 10 50.5**	**-1.1**
	comp=Z,18nm,0.6s						
VRAC	**Vranov**	**2.28**	**172**	*e*PN	**Pn**	**04 10 20.4**	**-0.7**
VRAC				*e*SG	**Sb**	**04 10 53.7**	**+0.7**
PBCC	**Pribram**	**2.31**	**216**	*e*SG	**Sb**	**04 10 54.6**	**+0.6**
	comp=Z,4.6nm,0.3s						
KRUC	**Moravsky**	**2.51**	**176**	*e*SG	**Sb**	**04 11 01.1**	**+1.4**
NKC	**Novy Kostel**	**2.68**	**242**	*e*PN	**Pn**	**04 10 27.3**	**+0.7**
NKC				*e*PG	**Pg**	**04 10 33.5**	**0.0**
NKC				*e*SG	**Sg**	**04 11 08.6**	**+0.4**
	comp=Z,34nm,0.3s						
OJC	**Ojcow**	**2.69**	**119**	*e*Pg	**Pg**	**04 10 34.1**	**+0.2**
OJC				*e*Sg	**Sg**	**04 11 10.0**	**+1.3**
KHC	**Kasperske Hory**	**2.93**	**215**	*e*PN	**Pn**	**04 10 29.9**	**-0.2**
KHC				*e*PG	**Pb**	**04 10 35.8**	**+0.5**
KHC				*e*SN	**Sn**	**04 11 05.0**	**-0.9**
KHC				*e*SG	**Sb**	**04 11 14.1**	**+2.5**
	comp=Z,8.2nm,0.5s						
CKRC	**Cesky Krumlov**	**2.98**	**204**	*e*PN	**Pn**	**04 10 31.6**	**+0.8**
CKRC				*e*PG	**Pb**	**04 10 37.4**	**+1.2**
CKRC				*e*SG	**Sg**	**04 11 16.1**	**-1.9**
	comp=Z,7.8nm,0.4s						
LANS	**Liptovska Anna**	**3.23**	**137**	*e*PG	**Pg**	**04 10 46.4**	**+2.2**
LANS				*e*SG	**Sg**	**04 11 27.3**	**+1.2**
MODS	**Modra-Piesok**	**3.28**	**166**	*e*PG	**Pg**	**04 10 44.0**	**-1.1**
MODS				*e*SG	**Sg**	**04 11 26.9**	**-0.7**
CONA	**Conrad Observa**	**3.65**	**183**	*e*Pn	**Pn**	**04 10 40.9**	**+0.9**
	comp=Z,0.8nm,0.4s						
CONA				Sg	**Sg**	**04 11 37.9**	**-1.4**
	comp=Z,8.9nm,0.6s						
MOA	**Molln**	**3.91**	**199**	*e*Pn	**Pn**	**04 10 43.5**	**0.0**
	comp=Z,1.6nm,0.3s						
MOA				Sg	**Sg**	**04 11 48.6**	**+0.9**
	comp=Z,3.6nm,0.3s						
ARSA	**Arzberg**	**4.34**	**185**	*e*Pn	**Pn**	**04 10 50.1**	**+0.7**
	comp=Z,1.0nm,0.3s						
LUNU	**Lund**	**4.37**	**340**	*i* P	**Pn**	**04 10 50.5**	**+0.7**
LUNU				*i* S	**Sn**	**04 11 40.0**	**-1.4**
BLEU	**Blekinge**	**4.75**	**358**	*e*P	**Pn**	**04 10 57.0**	**+1.9**
BLEU				*i* S	**Sn**	**04 11 48.2**	**-2.5**
BJUU	**Bjuv**	**4.87**	**339**	*i* P	**Pn**	**04 10 56.5**	**-0.1**
BJUU				*e*S	**Sn**	**04 11 50.9**	**-2.8**
DEL	**Delary**	**5.09**	**346**	*i* P	**Pn**	**04 11 00.3**	**+0.7**
DEL				*i* S	**Sn**	**04 11 56.9**	**-2.2**
DEL				IAML		04 11 59.4	
	comp=Z,1.0nm,0.3s						

MEX 27 04:10:43.1±0.8, 13.96N×93.24W, h16km±482km, MD4.1, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.73**	**1**	*e*P	Pn	04 11 09.2	-3.4

*NEIC **27** 04:14:40.7±2.2, 19.1°N±0.1°×67.97W±0.05, h41km±41km, Error ellipse: s-maj=22.1km s-min=2.4km az=196.0*
*RSPR **27** 04:14:42.7, 19.02N×67.98W, h40km±26km, MD3.0/4*
ISC 27 04:14:41.1±1.6, 19°1'N±0'.1×67°.96W±0°.05, h35km, n27, σ0s87/27, 4C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCDR	**Punta Cana, DR**	**0.68**	**216**	Pn	**Pn**	**04 14 55.3**	**+1.1**
PCDR				IAML		04 15 17.6	
	comp=N,119nm,1.8s						
IDE	**Isla Desecheo**	**0.82**	**145**	*e*P	**Pn**	**04 14 56.2**	**+0.1**
IDE	**Isla Desecheo**	**0.82**	**145**	*e*S	**Sn**	**04 15 04.7**	**-2.3**
AGPR	**Aguadilla, PR**	**1.00**	**126**	*e*P	**Pn**	**04 14 58.1**	**-0.5**
AGPR	**Aguadilla, PR**	**1.00**	**126**		**Pn**	**04 14 58.1**	**-0.5**
AGPR	**Aguadilla, PR**	**1.00**	**126**	IAML		04 15 08.2	
	comp=N,96nm,1.8s						
AGPR				IAML		04 15 08.7	
	comp=E,99nm,0.4s						
LSP	**Las Mesas**	**1.21**	**137**	*e*S	**Sn**	**04 15 16.5**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.33**	**142**	Pn	**Pn**	**04 15 04.3**	**+1.2**
CRPR				IAML		04 15 24.2	
	comp=N,51nm,0.8s						
AOPR	**Arecibo Observ**	**1.35**	**122**	*e*S	**Sn**	**04 15 19.3**	**-0.9**
AOPR	**Arecibo Observ**	**1.35**	**122**		**Sn**	**04 15 19.3**	**-0.9**
MLPR	**Magueyes Islan**	**1.39**	**141**	Pn	**Pn**	**04 15 04.3**	**+0.2**
MLPR				IAML		04 15 23.6	
	comp=N,36nm,0.5s						
EMPR	**Esperanza - Ma**	**1.48**	**113**	*e*S	**Sn**	**04 15 22.8**	**-0.6**
EMPR	**Esperanza - Ma**	**1.48**	**113**		**Sn**	**04 15 22.8**	**-0.6**
EMPR	**Esperanza - Ma**	**1.48**	**113**	Pn	**Pn**	**04 15 05.5**	**+0.3**
EMPR				IAML		04 15 39.0	
	comp=E,115nm,0.5s						
OBIP	**Obispado Ponce**	**1.64**	**128**	*e*P	**Pn**	**04 15 07.5**	**+0.1**
OBIP	**Obispado Ponce**	**1.64**	**128**	*e*S	**Sn**	**04 15 26.4**	**-0.8**
OBIP	**Obispado Ponce**	**1.64**	**128**		**Pn**	**04 15 07.5**	**+0.1**
OBIP					**Sn**	**04 15 26.4**	**-0.8**
OBIP	**Obispado Ponce**	**1.64**	**128**	IAML		04 15 29.3	
	comp=E,26nm,0.5s						
CELP	**Cerrillos**	**1.64**	**127**	*e*P	**Pn**	**04 15 08.4**	**+0.9**
CELP	**Cerrillos**	**1.64**	**127**	*e*S	**Sn**	**04 15 27.2**	**-0.1**
CELP	**Cerrillos**	**1.64**	**127**		**Pn**	**04 15 08.4**	**+0.9**
CELP					**Sn**	**04 15 27.2**	**-0.1**
CBYP	**Canovanas**	**2.15**	**111**	*e*S	**Sn**	**04 15 40.9**	**+1.0**
CBYP	**Canovanas**	**2.15**	**111**		**Sn**	**04 15 40.9**	**+1.0**
HUMP	**Col San Antoni**	**2.20**	**114**	*e*S	**Sn**	**04 15 41.9**	**+0.7**
HUMP	**Col San Antoni**	**2.20**	**114**		**Sn**	**04 15 41.9**	**+0.7**
SC01	**Santiago de lo**	**2.64**	**278**		**Pn**	**04 15 20.3**	**-0.9**
SDDR	**Presa de Saban**	**3.15**	**269**	Pn	**Pn**	**04 15 29.0**	**+0.7**
SDDR				IAML		04 16 00.0	
	comp=E,19nm,0.6s						

*IDC **27** 04:34:36.0±2.9, 6.63S×68.68E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/43, mbtmp3.6/4, MS3.2/2, Ms1 3.2/2, ms1mx2.7/32, Error ellipse: s-maj=89.2km s-min=30.1km az=55.0*
ISC 27 04:34:37.3±2.7, 6°.6S±0°.4×68°.7E±0°.4, h10km, n13, σ0s77/8, mb3.8/4, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**3.92**	**105**	Pn	**Pn**	**04 35 37.4**	**0.0**
	baz=120,slow=76,SNR=20						
H08S3	**Diego Garcia H**	**3.93**	**105**	Pn	**Pn**	**04 35 37.4**	**-0.1**
	baz=120,slow=76,SNR=12						
H08S2	**Diego Garcia H**	**3.94**	**105**	Pn	**Pn**	**04 35 37.6**	**-0.1**
	baz=120,slow=76,SNR=13						
GEYT	**Alibeck**	**45.41**	**348**	LR	LR	04 59 46.8	
	comp=Z,35nm,21.2s,baz=185,slow=33						
H01W3	**Cape Leeuwin H**	**50.37**	**130**	T	T	05 37 31.4	
	baz=294,slow=75,SNR=45						
H01W2	**Cape Leeuwin H**	**50.37**	**130**	T	T	05 37 30.9	
	baz=294,slow=75,SNR=48						
H01W1	**Cape Leeuwin H**	**50.38**	**130**	T	T	05 37 52.5	
	baz=294,slow=75,SNR=48						
MKAR	**Makanchi Array**	**54.55**	**11**	P	**P**	**04 44 04.4**	**-1.2**
	0.6nm,0.8s,baz=217,slow=7.6,SNR=3.6						
ZALV	**Zalesovo Beam**	**61.87**	**11**	LR	LR	05 10 29.9	
	comp=Z,18nm,20.2s,baz=332,slow=35						
SONM	**Songino Array**	**63.61**	**27**	P	**P**	**04 45 09.8**	**+1.2**
	0.4nm,0.4s,baz=228,slow=3.7,SNR=4.2						
ASAR	**Alice Springs**	**64.72**	**113**	P	**P**	**04 45 16.1**	**-0.2**
	0.3nm,0.7s,baz=288,slow=6.6,SNR=6.4						
WRA	**Warramunga Arr**	**64.93**	**109**	P	**P**	**04 45 17.7**	**0.0**
	0.7nm,0.8s,baz=280,slow=6.4,SNR=7.2						
NVAR	**Mina Array Bea**	**147.72**	**10**	PKPbc	**PKPbc**	**04 54 23.4**	**+0.3**
	0.3nm,0.7s,baz=343,slow=1.9,SNR=2.9						

*HLW **27** 04:59:22.2, 34.35N×26.17E, h10km±18km, Md3.9*
*THE **27** 04:59:25.9, 34.13N×26.20E, h40km±31km, ML2.5/3, Error ellipse: s-maj=31.5km s-min=2.0km az=18.0*
*ATH **27** 04:59:26.9, 34.75N×26.04E, h87km±3km, ML2.5/4, Error ellipse: s-maj=7.1km s-min=2.6km az=158.0*
*IDC **27** 04:59:31.5±11.0, 34.46N×25.94E, h85km±121km, mb3.1/4, mb1 3.2/5, mb1mx3.0/32, mbtmp3.4/5, ML4.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/12, Error ellipse: s-maj=49.4km s-min=23.5km az=142.0*
ISC 27 04:59:25.7±1.4, 34°21'N±0'.04×26°.17E±0°.05, h38km±2km, n42, σ1s25/52, mb3.2/4, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.91**	**3**	P	**Pn**	**04 59 42.4**	**+0.4**
ZKR				S	**Sn**	**04 59 56.0**	**+2.1**
	450nm,0.5s						
ZKR	**Zakros**	**0.91**	**3**	P	**Pn**	**04 59 42.4**	**+0.4**
ZKR				S	**Sn**	**04 59 52.7**	**-1.2**
ZKR				AML	AML	05 00 00.8	
	comp=N,468µm,0.4s						
ZKR				AML	AML	05 00 04.9	
	comp=E,1262µm,0.6s						
STIA	**Sitia Lasithi**	**1.00**	**356**	P	**Pn**	**04 59 43.9**	**+0.7**
STIA				S	**Sn**	**04 59 57.2**	**+1.2**
NPS	**Neapolis**	**1.15**	**337**	P	**Pn**	**04 59 46.1**	**+0.8**
NPS				S	**Sn**	**05 00 02.5**	**+2.7**
	comp=E,200nm,0.6s						
NPS	**Neapolis**	**1.15**	**337**	P	**Pn**	**04 59 45.6**	**+0.3**
NPS				AML	AML	05 00 17.6	
	comp=N,346µm,0.6s						
NPS				AML	AML	05 00 18.8	
	comp=E,503µm,0.5s						
SIVA	**Sivas**	**1.38**	**306**	P	**Pn**	**04 59 49.2**	**+0.8**
SIVA				AML	AML	05 00 15.0	
	comp=E,720µm,0.7s						
SIVA				AML	AML	05 00 23.0	
	comp=N,580µm,0.9s						
HRKL	**Herakleio**	**1.41**	**322**	P	**Pn**	**04 59 49.9**	**+1.1**
KSTL	**Kastelli Herak**	**1.42**	**321**	P	**Pn**	**04 59 46.6**	**-2.4**
KSTL				S	**Sn**	**05 00 03.2**	**-3.2**
IDI	**Anoyia**	**1.51**	**316**	P	**Pn**	**04 59 51.0**	**+0.8**
IDI				S	**Sn**	**05 00 09.8**	**+1.1**
	comp=N,85nm,0.7s						
IDI	**Anoyia**	**1.51**	**316**	P	**Pn**	**04 59 50.7**	**+0.5**
IDI				AML	AML	05 00 16.3	
	comp=E,170µm,0.6s						
IDI				AML	AML	05 00 22.7	
	comp=N,167µm,0.9s						
GVD	**Gavdhos**	**1.83**	**291**	P	**Pn**	**04 59 55.0**	**+0.4**
VAM	**Vamos**	**2.01**	**307**	P	**Pn**	**04 59 57.5**	**+0.3**
IMMV	**Iera Moni Meta**	**2.19**	**305**	P	**Pn**	**05 00 00.4**	**+0.8**
SANT	**Santorini**	**2.24**	**345**	P	**Pn**	**04 59 59.5**	**-0.8**
SNT5	**Nea Kammeni, S**	**2.28**	**344**	P	**Pn**	**04 59 59.8**	**-1.1**
THR3	**Thira Island,**	**2.29**	**344**	P	**Pn**	**04 59 59.8**	**-1.1**
THR5	**Thira Island,**	**2.31**	**343**	P	**Pn**	**05 00 00.6**	**-0.6**
ARG	**Arkhangelos**	**2.57**	**38**	P	**Pn**	**05 00 06.7**	**+2.0**
SLUM	**Salum**	**2.82**	**197**	P	**Pn**	**05 00 09.7**	**+1.4**
	baz=197						
SLUM				S	**Sn**	**05 00 41.6**	**+0.6**
	baz=197						
MHLO	**Agia Marina, M**	**2.87**	**330**	P	**Pn**	**05 00 08.4**	**-0.5**
APE	**Apeiranthos**	**2.91**	**350**	P	**Pn**	**05 00 08.9**	**-0.6**
MATC	**Matruh**	**2.99**	**162**	P	**Pn**	**05 00 12.3**	**+1.7**
	baz=163						
FETY	**Fethiye**	**3.40**	**44**	P	**Pn**	**05 00 17.7**	**+1.5**
SWA2		**4.98**	**187**	P	**Pn**	**05 00 39.0**	**+1.1**
	baz=187						
SWA2				S	**Sn**	**05 01 33.6**	**-0.7**
	baz=187						
HNAT	**Natroun**	**5.92**	**139**	P	**Pn**	**05 00 52.1**	**+1.2**
	baz=140						
HNAT				S	**Sn**	**05 01 56.8**	**-0.7**
	baz=140						
RYAN	**Fayoum**	**6.19**	**144**	P	**Pn**	**05 00 55.7**	**+1.1**
	baz=145						
RYAN				S	**Sn**	**05 02 03.4**	**-0.7**
	baz=145						
KOT	**Kottamia**	**6.42**	**130**	P	**Pn**	**05 00 57.5**	**-0.4**
	baz=131						
KOT				S	**Sn**	**05 02 08.2**	**-1.7**
	baz=131						
HSAF	**As Saff**	**6.47**	**133**	P	**Pn**	**05 00 58.7**	**+0.3**
	baz=134						
GLL	**Jalalah**	**6.59**	**133**	P	**Pn**	**05 01 00.2**	**+0.1**
	baz=133						
NBNS	**Bani Suef**	**7.08**	**140**	P	**Pn**	**05 01 07.2**	**+0.4**
	baz=141						
SUZ	**Suez**	**7.14**	**126**	P	**Pn**	**05 01 07.8**	**+0.3**
	baz=126						
HFRF	**Wahat Farafira**	**7.27**	**165**	P	**Pn**	**05 01 10.3**	**+0.9**
	baz=165						
ASUT		**8.22**	**144**	P	**Pn**	**05 01 23.4**	**+1.0**
	baz=144						
TR2	**Tor 2**	**8.68**	**130**	P	**Pn**	**05 01 28.5**	**-0.3**
	baz=130						
HKAT	**Jabal Katrina**	**8.76**	**128**	P	**Pn**	**05 01 29.3**	**-0.7**
	baz=128						
HHRG	**Al Ghardaqah**	**9.43**	**136**	P	**Pn**	**05 01 41.2**	**+2.1**
	baz=136						
AKASG	**Malin Array Be**	**16.64**	**7**	P	**P**	**05 03 16.7**	**-1.2**
	comp=N,0.6nm,0.3s,baz=194,slow=11,SNR=5.5						
ESDC	**Sonseca Array**	**24.63**	**292**	P	**P**	**05 04 42.3**	**-0.3**
	comp=N,0.3nm,0.7s,baz=76,slow=9.7,SNR=5.7						
FINES	**FINESS Array B**	**27.26**	**360**	P	**P**	**05 05 04.2**	**-1.8**
	comp=N,0.9nm,0.7s,baz=157,slow=15,SNR=1.6						
TORD	**Torodi Ar. Bea**	**30.54**	**233**	P	**P**	**05 05 36.6**	**+1.0**
	comp=N,0.1nm,0.4s,baz=36,slow=8.6,SNR=6.4						
ARCES	**ARCESS Array B**	**35.38**	**360**	LR	LR	05 20 18.1	
	comp=N,28nm,18.8s,baz=255,slow=36						
MKAR	**Makanchi Array**	**43.62**	**56**	P	**P**	**05 07 27.8**	**+1.5**
	comp=N,0.4nm,0.5s,baz=269,slow=6.1,SNR=4.4					

MGIG	**Malinaltepec**	**1.26**	**3**	*eP*		Pn	05 06 43.1	-3.6
MGIG				*eS*		Sb	05 06 58.2	-5.0
YOIG	**Yosondua**	**1.41**	**51**	*eP*		Pn	05 06 44.2	-4.6
YOIG				*eS*		Sn	05 07 05.5	-1.7
TXIG	**Tlaxiaco**	**1.56**	**35**	*eP*		Pn	05 06 48.5	-2.3
TXIG				*eS*		Sn	05 07 09.0	-1.8
TLIG	**Tlapa**	**1.59**	**4**	*eP*		Pn	05 06 48.6	-2.5
TLIG				*eS*		Sn	05 07 09.2	-2.3
FTIG	**Fresnillo de T**	**2.00**	**15**	*eP*		Pn	05 06 55.4	-1.5
FTIG				*eS*		Sn	05 07 21.1	-0.6
HLIG	**Huajuapan de L**	**2.04**	**25**	*eP*		Pn	05 06 58.2	+0.8
HLIG				*eS*		Sn	05 07 20.0	-2.6

MEX 27 05:31:34.1±0.6,**16.74N**×**99.62W**,**h5**km,**MD3.6**,**Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAIG	**Los Arroyos**	**0.28**	**355**	*i* P	Pg	05 31 38.9	-0.7
DAIG				*i* S	Sg	05 31 43.2	-0.1
MGIG	**Malinaltepec**	**1.07**	**62**	*eP*	Pg	05 31 52.6	-2.0
MGIG				*eS*	Sg	05 32 05.6	-2.9
MEIG	**Mezcala**	**1.18**	**0**	*eP*	Pg	05 31 53.8	-2.9
MEIG				*eS*	Sg	05 32 09.2	-2.9
TLIG	**Tlapa**	**1.30**	**51**	*eP*	Pn	05 31 55.4	-3.7
TLIG				*eS*	Sg	05 32 11.1	-4.8

RSPR ***27*** *05:35:16.7,19°.12N×68°.76W,h97*km*±4*km*, MD3.6/15*
OSPL ***27*** *05:35:20.2±0.3,17°.90N×68°.81W,h47*km*±25*km*, Mc3.3, ML2.8*

ISC 27 05:35:15.6±1.5,**19°.28N**±0°.09×**68°.62W**±0°.04,**h10**km,**n54,** σ1§**29**/55,**11C-4D**,**North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.80**	**163**	⇑*eP*	**Pn**	**05 35 33.6**	**+0.7**
PCDR	**Punta Cana, DR**	**0.80**	**163**	*eS*	**Sn**	**05 35 46.2**	**+1.5**
PCDR	**Punta Cana, DR**	**0.80**	**163**		**Pn**	**05 35 33.4**	**+0.6**
PCDR				Sn	**Sn**	**05 35 47.2**	**+2.5**
PCDR				IAML		05 35 52.2	
	comp=E,324nm,0.5s						
PCDR				IAML		05 35 52.3	
	comp=N,656nm,0.6s						
PCDR	**Punta Cana, DR**	**0.80**	**163**	*i* P	**Pn**	**05 35 33.5**	**+0.7**
PCDR				IAML		05 35 49.1	
	comp=Z,372nm,0.5s						
DR12	**Loma Pena Alta**	**0.87**	**236**		**Pn**	**05 35 35.4**	**+1.5**
IDE	**Isla Desecheo**	**1.40**	**129**	⇑*eP*	**Pn**	**05 35 40.9**	**-0.3**
IDE	**Isla Desecheo**	**1.40**	**129**	*eS*	**Sn**	**05 36 00.1**	**+0.3**
SDD	**Santo Domingo**	**1.47**	**236**	Pn	**Pn**	**05 35 39.0**	**-3.1**
SDD				IAML		05 36 00.1	
	comp=N,254nm,0.3s						
SDD				IAML		05 36 05.3	
	comp=E,217nm,0.9s						
LSP	**Las Mesas**	**1.82**	**127**	⇑*eP*	**Pn**	**05 35 47.2**	**+0.2**
LSP	**Las Mesas**	**1.82**	**127**	*eS*	**Sn**	**05 36 09.8**	**-0.4**
BANI	**BANI**	**1.87**	**242**	Pn	**Pn**	**05 35 47.0**	**-0.7**
CRPR	**Cabo Rojo, PR**	**1.91**	**131**	⇑*eP*	**Pn**	**05 35 45.5**	**-2.7**
CRPR	**Cabo Rojo, PR**	**1.91**	**131**	*eS*	**Sn**	**05 36 11.6**	**-0.7**
CRPR	**Cabo Rojo, PR**	**1.91**	**131**		**Pn**	**05 35 45.4**	**-2.7**
CRPR	**Cabo Rojo, PR**	**1.91**	**131**	*i* P	**Pn**	**05 35 45.5**	**-2.7**
CRPR				IAML		05 36 22.3	
	comp=Z,94nm,0.5s						
MLPR	**Magueyes Islan**	**1.98**	**131**	Pn	**Pn**	**05 35 46.0**	**-3.2**
AOPR	**Arecibo Observ**	**2.00**	**117**	⇓*eP*	**Pn**	**05 35 49.1**	**-0.3**
AOPR	**Arecibo Observ**	**2.00**	**117**	*eS*	**Sn**	**05 36 15.8**	**+1.4**
AOPR	**Arecibo Observ**	**2.00**	**117**		**Pn**	**05 35 49.9**	**+0.5**
EMPR	**Esperanza - Ma**	**2.13**	**112**	⇑*eP*	**Pn**	**05 35 52.4**	**+1.1**
EMPR	**Esperanza - Ma**	**2.13**	**112**	*eS*	**Sn**	**05 36 18.6**	**+0.8**
EMPR	**Esperanza - Ma**	**2.13**	**112**		**Pn**	**05 35 52.4**	**+1.1**
EMPR				IAML		05 36 23.8	
	comp=N,226nm,0.4s						
OBIP	**Obispado Ponce**	**2.27**	**122**	⇑*eP*	**Pn**	**05 35 52.5**	**-0.7**
OBIP	**Obispado Ponce**	**2.27**	**122**	*eS*	**Sn**	**05 36 21.5**	**+0.3**
OBIP	**Obispado Ponce**	**2.27**	**122**		**Pn**	**05 35 52.6**	**-0.7**
OBIP				IAML		05 36 21.5	
	comp=E,73nm,0.5s						
CELP	**Cerrillos**	**2.28**	**121**	⇓*eP*	**Pn**	**05 35 53.0**	**-0.2**
CELP	**Cerrillos**	**2.28**	**121**	*eS*	**Sn**	**05 36 21.8**	**+0.5**
CELP	**Cerrillos**	**2.28**	**121**		**Pn**	**05 35 53.0**	**-0.2**
CELP					**Sn**	**05 36 21.8**	**+0.5**
SDDR	**Presa de Saban**	**2.54**	**264**	*i* P	**Pn**	**05 35 58.6**	**+1.7**
GCPR	**Guaynabo City**	**2.59**	**111**	⇑*eP*	**Pn**	**05 35 57.4**	**-0.1**
GCPR	**Guaynabo City**	**2.59**	**111**	*eS*	**Sn**	**05 36 29.3**	**+0.2**
GCPR	**Guaynabo City**	**2.59**	**111**		**Pn**	**05 35 57.4**	**-0.1**
GCPR				IAML		05 36 32.1	
	comp=E,53nm,0.5s						
GCPR				IAML		05 36 32.3	
	comp=N,49nm,0.4s						
SJG	**San Juan**	**2.61**	**116**		**Pn**	**05 35 57.8**	**-0.1**
SJG				IAML		05 36 30.4	
	comp=N,92nm,0.3s						
SJG				IAML		05 36 32.7	
	comp=N,104nm,0.5s						
LOBA2	**Hotel Casa Bon**	**2.63**	**243**	*i* P	Pn	05 35 53.1	-5.0
IGPR	**InterUniversit**	**2.72**	**118**	⇑*eP*	**Pn**	**05 35 59.4**	**+0.1**
IGPR	**InterUniversit**	**2.72**	**118**	*eS*	**Sn**	**05 36 31.6**	**-0.6**
PDPR	**Patillas Dam,**	**2.77**	**117**		**Pn**	**05 35 59.6**	**-0.3**
PDPR				IAML		05 36 43.2	
	comp=E,73nm,2.5s						
LONE2	**Loma La Sidra**	**2.80**	**255**	*i* P	**Pn**	**05 35 58.9**	**-1.6**
CBYP	**Canovanas**	**2.80**	**111**	⇓*eP*	**Pn**	**05 36 00.7**	**+0.1**
CBYP	**Canovanas**	**2.80**	**111**	*eS*	**Sn**	**05 36 34.7**	**+0.3**
CBYP	**Canovanas**	**2.80**	**111**		**Pn**	**05 36 00.6**	**0.0**
HUMP	**Col San Antoni**	**2.86**	**113**	⇑*eP*	**Pn**	**05 36 01.5**	**+0.3**
HUMP	**Col San Antoni**	**2.86**	**113**	*eS*	**Sn**	**05 36 35.8**	**0.0**
MTP	**Monte Pirata**	**3.14**	**112**	⇑*eP*	**Pn**	**05 36 04.6**	**-0.5**
MTP	**Monte Pirata**	**3.14**	**112**	*eS*	**Sn**	**05 36 42.3**	**-0.3**
MTP	**Monte Pirata**	**3.14**	**112**		**Pn**	**05 36 05.0**	**-0.1**
MTP				IAML		05 36 48.7	
	comp=N,39nm,0.3s						
MTP				IAML		05 36 51.3	
	comp=E,32nm,0.5s						
CUPR	**Culebra, Puert**	**3.31**	**106**	⇓*eP*	**Pn**	**05 36 07.9**	**+0.5**
CUPR	**Culebra, Puert**	**3.31**	**106**	*eS*	**Sn**	**05 36 48.4**	**+1.6**
CUPR	**Culebra, Puert**	**3.31**	**106**	Pn	**Pn**	**05 36 08.3**	**+0.9**
STVI	**Saint Thomas**	**3.59**	**104**	⇑*eP*	**Pn**	**05 36 12.4**	**+1.1**
STVI	**Saint Thomas**	**3.59**	**104**	*eS*	**Sn**	**05 36 51.9**	**-2.0**
STVI	**Saint Thomas**	**3.59**	**104**	Pn	**Pn**	**05 36 11.8**	**+0.5**
STVI				IAML		05 37 00.5	
	comp=E,31nm,0.3s						
STVI				IAML		05 37 05.3	
	comp=N,32nm,0.3s						
CDVI	**St. Croix**	**3.96**	**112**	Pn	**Pn**	**05 36 17.1**	**+0.7**
CDVI				IAML		05 37 14.7	
	comp=N,52nm,0.6s						
VGBI	**Virgin Gorda,**	**4.07**	**100**	*eS*	**Sn**	**05 37 02.9**	**-2.8**

MEX 27 05:37:36.5±1.1,**15.51N**×**94.56W**,**h16**km±21km,**MD3.9, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.30**	**81**	*eP*	Pn	05 37 56.5	-3.6
PCIG				*eS*	Sb	05 38 11.8	-5.3
CMIG	**Matias Romero**	**1.60**	**349**	*eP*	Pn	05 38 00.2	-4.0
CMIG				*eS*	Sn	05 38 19.3	-5.3
TGIG		**1.87**	**47**	*eP*	Pn	05 38 05.3	-2.6
TGIG				*eS*	Sn	05 38 29.4	-1.8
CCIG	**Comitan**	**2.45**	**71**	*eP*	Pn	05 38 15.4	-0.6
PEIG	**Puerto Escondi**	**2.54**	**281**	*eP*	Pn	05 38 11.8	-5.3
PEIG				*eS*	Sn	05 38 36.9	-11

KRSC ***27*** *05:47:13.4±1.0,54°.20N×162°.79E,h37*km*±16*km*, ML3.9*
IDC ***27*** *05:47:15.9±8.2,54°.81N×161°.91E,h0*km*,mb3.6/3, mb1 3.7/4,mb1mx3.3/50,mbtmp3.5/4,ML2.7/1,MS2.6/1, Ms1 2.6/1,ms1mx2.0/40,Error ellipse: s-maj=191.5km s-min=28.9km az=129.0*

ISC 27 05:47:16.4±1.6,**54.24N**±0°.04×**162.79E**±0°.05,**h38**km,**n47,** σ1§**01**/60,**mb3.7**/3,**Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.69**	**297**	*i* P	**Pn**	**05 47 26.6**	**-3.1**
MKZ				*eS*	**Sn**	**05 47 36.3**	**-2.9**
TUMD	**Tumrok D**	**1.69**	**306**	*eP*	**Pn**	**05 47 42.1**	**-1.2**
KZV	**Kizimen**	**1.69**	**302**	*i* P	**Pn**	**05 47 42.5**	**-1.0**
KZV				*eS*	**Sn**	**05 48 03.9**	**0.0**
TUMR	**Tumrok**	**1.85**	**305**	*eP*	**Pn**	**05 47 45.2**	**-0.5**
TUMR				*eS*	**Sn**	**05 48 08.5**	**+0.6**
KBTR	**Krutoberegovo**	**1.97**	**1**	*eP*	**Pn**	**05 47 45.8**	**-1.4**
KII	**Karymskiy**	**1.97**	**265**	*eP*	**Pn**	**05 47 47.7**	**+0.4**
KII				*eS*	**Sn**	**05 48 11.8**	**+1.0**
SPN	**Mys Shipunski**	**2.00**	**236**	*eP*	**Pn**	**05 47 46.4**	**-1.2**
SPN				*eS*	**Sn**	**05 48 10.4**	**-1.0**
BZGR	**Bezymyannyi-Gr**	**2.08**	**326**	*eP*	**Pn**	**05 47 48.9**	**+0.1**
BZGR				*eS*	**Sn**	**05 48 14.0**	**+0.5**
BKI	**Bering**	**2.08**	**61**	*eP*	**Pn**	**05 47 48.9**	**+0.2**
BKI				*eS*	**Sn**	**05 48 13.0**	**-0.4**
KMNR	**Kamenistaya**	**2.11**	**317**	*eP*	**Pn**	**05 47 49.3**	**+0.1**
KMNR				*eS*	**Sn**	**05 48 15.8**	**+1.6**
ZLN	**Zelenaya**	**2.11**	**328**	*eP*	**Pn**	**05 47 50.0**	**+0.8**
BZWR	**Bezymyannyi-We**	**2.17**	**324**	*eP*	**Pn**	**05 47 50.7**	**+0.6**
CIRR	**Tsirk**	**2.21**	**329**	*eP*	**Pn**	**05 47 51.4**	**+0.8**
KIRR	**Kirishev**	**2.22**	**322**	*eP*	**Pn**	**05 47 51.3**	**+0.6**
KPT	**Kopyto**	**2.27**	**321**	*eP*	**Pn**	**05 47 52.0**	**+0.6**
NLC	**Nalytchevo**	**2.31**	**244**	*eP*	**Pn**	**05 47 51.7**	**-0.1**
NLC				*eS*	**Sn**	**05 48 19.2**	**+0.3**
KRSR	**Krestovskiy**	**2.35**	**328**	*eP*	**Pn**	**05 47 52.7**	**+0.2**
KLY	**Klyuchi**	**2.41**	**330**	*eP*	**Pn**	**05 47 53.0**	**-0.2**
KLY				*eS*	**Sn**	**05 48 21.5**	**+0.1**
SMKR	**Semkarok**	**2.46**	**343**	*eP*	**Pn**	**05 47 54.3**	**+0.3**
KOZ	**Kozyrevsk**	**2.47**	**319**	*eP*	**Pn**	**05 47 55.0**	**+0.9**
BDR	**Baidarnaya**	**2.50**	**340**	*eP*	**Pn**	**05 47 55.5**	**+1.0**
SDLR	**Sedlovina**	**2.51**	**249**	*eP*	**Pn**	**05 47 54.5**	**-0.2**
SDLR				*eS*	**Sn**	**05 48 24.2**	**+0.1**
SMAR	**Somma**	**2.56**	**249**	*eP*	**Pn**	**05 47 55.8**	**+0.3**
UGLR	**Uglovaya**	**2.57**	**248**	*eP*	**Pn**	**05 47 55.9**	**+0.4**
UGLR				*eS*	**Sn**	**05 48 26.7**	**+1.1**
KRER	**Koryakskii**	**2.57**	**250**	*eP*	**Pn**	**05 47 55.8**	**+0.1**
SRKR	**Sorokina**	**2.59**	**340**	*eP*	**Pn**	**05 47 56.5**	**+0.8**
AVH	**Avacha**	**2.59**	**249**	*eP*	**Pn**	**05 47 56.5**	**+0.7**
KRX	**Arik**	**2.61**	**252**	*eP*	**Pn**	**05 47 56.0**	**-0.1**
KRX				*eS*	**Sn**	**05 48 25.6**	**-0.9**
KOK	**Koryaka**	**2.64**	**251**	*eP*	**Pn**	**05 47 56.8**	**+0.3**
DALK	**Dalny**	**2.69**	**245**	*eP*	**Pn**	**05 47 57.0**	**0.0**
DALK				*eS*	**Sn**	**05 48 28.2**	**-0.1**
PET	**Petropavlovsk**	**2.75**	**245**	*eP*	**Pn**	**05 47 58.1**	**+0.3**
ESO	**Esso**	**2.89**	**307**	*eP*	**Pn**	**05 48 01.9**	**+2.1**
GNL	**Ganaly**	**2.91**	**261**	*eP*	**Pn**	**05 48 01.1**	**+0.9**
KRMR	**Karymshinskiy**	**3.12**	**245**	*eP*	Pn	05 48 05.6	+2.7
KRMR				*eS*	**Sn**	**05 48 41.1**	**+2.2**
RUS	**Russkaya**	**3.14**	**236**	*eP*	**Pn**	**05 48 03.5**	**+0.3**
PETK	**Petropavlovsk-**	**3.23**	**251**	Pn	**Pn**	**05 48 04.6**	**+0.1**
	5.0nm,0.3s,baz=76,slow=15,SNR=35						
PETK				Sn	**Sn**	**05 48 44.1**	**+2.4**
	3.8nm,0.3s,baz=158,slow=13,SNR=7.8						
MTVR	**Mutnovka**	**3.27**	**239**	*eP*	**Pn**	**05 48 05.7**	**+0.5**
MTVR				*eS*	**Sn**	**05 48 42.6**	**-0.3**
GRL	**Gorelyy**	**3.29**	**241**	*eP*	**Pn**	**05 48 06.3**	**+0.9**
ASAK	**Asacha**	**3.47**	**240**	*eP*	**Pn**	**05 48 08.9**	**+1.0**
KDTR	**Khodutka, Kamc**	**3.75**	**231**	*eP*	**Pn**	**05 48 11.2**	**-0.3**
KDTR				*eS*	**Sn**	**05 48 53.4**	**-0.9**
JHJ	**Hachijo jima 2**	**26.66**	**227**	LR	LR	06 04 14.8	
	comp=Z,13nm,20.9s,baz=164,slow=38						
H11N2	**WAKE ISLAND Hy**	**34.59**	**173**	T	T	06 31 29.9	
	baz=354,slow=74,SNR=14						
H11N3	**WAKE ISLAND Hy**	**34.61**	**173**	T	T	06 31 32.2	
	baz=354,slow=74,SNR=15						
H11N1	**WAKE ISLAND Hy**	**34.61**	**173**	T	T	06 31 31.8	
	baz=354						
MKAR	**Makanchi Array**	**49.09**	**296**	P	**P**	**05 55 58.6**	**-1.0**
	0.2nm,0.7s,baz=44,slow=11,SNR=1.6						
FINES	**FINESS Array B**	**59.69**	**338**	P	**P**	**05 57 16.8**	**+0.6**
	0.8nm,0.5s,baz=42,slow=5.9,SNR=9.0						
NOA	**NORSAR Array B**	**62.87**	**345**	P	**P**	**05 57 38.3**	**+0.5**
	0.4nm,0.7s,baz=19,slow=6.9,SNR=4.1						

SJA ***27*** *05:48:00.0,30°.52S×71°.99W,h10*km*, ML4.8*
NEIC ***27*** *05:48:01.5,30°.62S×71°.79W,h31*km*, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr2.87; Mθθ0.49; Mϕϕ-3.37; Mrθ0.61; Mrϕ-0.18; Mθϕ-2.10; Fault plane solution: M₀3.84000×10¹⁵ NP1:φs170.95000°, δ62.83000°,λ77.76000°. NP2:φs16.35000°,δ29.61000°, λ112.43000°. Principal axes: T 3.6426, Plg70.0000°, Azm55.0000°; N 0.3656, Plg11.0000°, Azm177.0000°; P -4.0083, Plg17.0000°, Azm270.0000°;*
NEIC ***27*** *05:48:01.3±1.9,30°.64S±0°.04×71°.79W±0°.07,h25*km*±4*km*, mb4.7/28,Mwr4.3/60,ML4.9(GUC) Error ellipse: s-maj=9.1km s-min=6.1km az=93.0*
GUC ***27*** *05:48:01.9±0.9,30°.64S×71°.72W,h32*km*±2*km*, ML4.9*
VAO ***27*** *05:48:02.1±0.3,30°.59S×71°.68W,h31*km*,mb4.6*
IDC ***27*** *05:48:02.2±0.8,30°.71S×71°.58W,h28*km*±3*km*, mb4.1/8, mb1 4.2/12,mb1mx4.1/23,mbtmp4.2/12,ML4.2/4,MS3.7/14, Ms1 3.7/14,ms1mx3.5/25,Error ellipse: s-maj=21.5km s-min=19.3km az=52.0*

ISC 27 05:48:01.4±0.5,**30.64S**±0°.03×**71.77W**±0°.05,**h28**km±3km, **n214,** σ1§**37**/222,**mb4.7**/20,**MS3.8**/9,**3C-8D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.12**	**105**	⇓*iP*	**Pb**	**05 48 06.9**	**+0.4**
CO06				*i* S	**Sb**	**05 48 10.2**	**+0.1**
CO06				IAML		05 48 11.0	
	comp=E,269µm,0.3s						
CO06	**Fray Jorge**	**0.12**	**105**		**Pb**	**05 48 06.7**	**+0.2**
CO05	**La Serena**	**0.86**	**33**	⇓*iP*	**Pn**	**05 48 17.2**	**-0.4**
CO05				*i* S	**Sb**	**05 48 27.6**	**-1.2**
CO05	**La Serena**	**0.86**	**33**		**Pn**	**05 48 17.2**	**-0.4**
CO02	**Combarbal**	**0.87**	**130**	⇓*iP*	**Pn**	**05 48 17.4**	**-0.5**
CO02				*i* S	**Sb**	**05 48 28.3**	**-1.0**
CO02				IAML		05 48 33.1	
	comp=N,70µm,0.4s						
CO02	**Combarbal**	**0.87**	**130**		**Pn**	**05 48 17.4**	**-0.5**
CO02	**Combarbal**	**0.87**	**130**	*i* P	**Pn**	**05 48 17.0**	**-0.9**
CO03	**El Pedregal**	**0.95**	**102**	⇓*iP*	**Pn**	**05 48 18.6**	**-0.5**
CO03				*i* S	**Sb**	**05 48 31.1**	**-0.5**
CO03	**El Pedregal**	**0.95**	**102**		**Pn**	**05 48 18.5**	**-0.5**
CO03	**El Pedregal**	**0.95**	**102**	*i* P	**Pn**	**05 48 18.0**	**-1.0**
GO04	**Tololo Observa**	**0.96**	**61**	⇓*iP*	**Pn**	**05 48 19.0**	**-0.3**
GO04				*i* S	**Sb**	**05 48 31.6**	**-0.4**
GO04				IAML		05 48 41.4	
	comp=N,82µm,0.5s						
GO04	**Tololo Observa**	**0.96**	**61**		**Pn**	**05 48 19.0**	**-0.3**
GO04	**Tololo Observa**	**0.96**	**61**	*i* P	**Pn**	**05 48 19.0**	**-0.3**
LCO	**Las Campanas**	**1.87**	**30**	Pn	**Pn**	**05 48 32.4**	**+0.5**
LCO	**Las Campanas**	**1.87**	**30**	*i* P	**Pn**	**05 48 32.0**	**+0.2**
VA06	**Catapilco**	**1.96**	**168**	*eP*	**Pn**	**05 48 34.4**	**+1.7**
VA06				*i* S	**Sb**	**05 48 59.3**	**-1.0**
VA06				IAML		05 49 05.1	
	comp=E,16µm,0.3s						
AROD	**Rodeo**	**2.04**	**77**	*i* P	**Pb**	**05 48 37.0**	**-1.0**
ACCO	**Cerro Coronel**	**2.33**	**89**	*i* P	**Pb**	**05 48 42.0**	**-1.0**
ACDV	**Cuesta del Vie**	**2.34**	**79**	*i* P	**Pb**	**05 48 42.0**	**-1.0**
VA03	**San Esteban**	**2.36**	**154**	⇑*iP*	**Pn**	**05 48 39.8**	**+1.4**
VA03				*i* S	**Sb**	**05 49 09.7**	**-2.2**
VA03				IAML		05 49 21.0	
	comp=N,7µm,0.4s						
VA03	**San Esteban**	**2.36**	**154**		**Pn**	**05 48 39.5**	**+1.1**
VA03	**San Esteban**	**2.36**	**154**	*i* P	**Pn**	**05 48 41.0**	**+2.6**
VA01	**Torpederas**	**2.38**	**177**	*eP*	**Pn**	**05 48 38.7**	**+0.2**
VA01				*i* S	**Sb**	**05 49 10.6**	**-1.8**
VA01	**Torpederas**	**2.38**	**177**	Pn	**Pn**	**05 48 38.6**	**+0.2**
ROCH	**El Roble**	**2.41**	**165**	*eP*	**Pn**	**05 48 40.3**	**+1.0**
ROCH				*i* S	**Sb**	**05 49 11.5**	**-2.1**
ROCH				IAML		05 49 18.3	
	comp=N,7µm,0.5s						
RTLS	**Leoncito**	**2.41**	**119**	*i* P	**Pb**	**05 48 43.0**	**-1.3**
AC04	**Llanos de Chal**	**2.50**	**14**	Pn	**Pn**	**05 48 39.8**	**-0.5**
AC04	**Llanos de Chal**	**2.50**	**14**	*i* P	**Pn**	**05 48 40.0**	**-0.3**
AUSP	**Uspallata**	**2.58**	**128**	*i* P	**Pb**	**05 48 45.0**	**-2.1**
ZON	**Zonda**	**2.80**	**110**	*i* P	**Pb**	**05 48 48.0**	**-2.8**
MT05	**Renca**	**2.88**	**163**	⇑*iP*	**Pn**	**05 48 47.3**	**+1.8**
MT05				*i* S	**Sn**	**05 49 21.7**	**+2.5**
MT05				IAML		05 49 34.7	
	comp=E,7µm,0.4s						
MT05	**Renca**	**2.88**	**163**	Pn	**Pn**	**05 48 46.2**	**+0.8**
MT05	**Renca**	**2.88**	**163**	*i* P	**Pn**	**05 48 48.0**	**+2.5**
VA05	**Santo Domingo**	**3.01**	**177**		**Pn**	**05 48 47.1**	**-0.1**
RTCV	**Cerro Valdivia**	**3.02**	**115**	*i* P	**Pb**	**05 48 52.0**	**-2.5**
ASAL	**Salagasta**	**3.17**	**129**	*i* P	**Pb**	**05 48 54.0**	**-3.1**
MT09	**Talagante**	**3.19**	**168**	⇓*iP*	**Pn**	**05 48 51.2**	**+1.3**
MT09				*i* S	**Sn**	**05 49 30.1**	**+2.9**
MT09				IAML		05 49 41.9	
	comp=E,3µm,0.3s						
MT09	**Talagante**	**3.19**	**168**	Pn	**Pn**	**05 48 51.2**	**+1.3**
MT01	**Popeta**	**3.24**	**172**	⇓*iP*	**Pn**	**05 48 51.0**	**+0.6**
MT01				*i* S	**Sb**	**05 49 38.4**	**+1.0**
MT01				IAML		05 49 44.5	
	comp=E,2µm,0.4s						
MT01	**Popeta**	**3.24**	**172**		**Pn**	**05 48 51.0**	**+0.6**
GO03	**Copiap**	**3.32**	**24**	⇓*iP*	**Pn**	**05 48 51.9**	**+0.4**
GO03				*i* S	**Sn**	**05 49 32.6**	**+2.5**
GO03				IAML		05 49 47.0	
	comp=E,2µm,0.7s						
GO03	**Copiap**	**3.32**	**24**	Pn	**Pn**	**05 48 52.1**	**+0.5**
GO03	**Copiap**	**3.32**	**24**	*i* P	**Pn**	**05 48 52.0**	**+0.4**
LMEL	**Las Melosas**	**3.46**	**158**	⇑*iP*	**Pn**	**05 48 55.6**	**+2.0**
LMEL				*i* S	**Sn**	**05 49 36.6**	**+2.8**
LMEL				IAML		05 49 53.4	
	comp=N,2µm,0.7s						
AAGR	**Agrelo**	**3.49**	**135**	*i* P	**Pb**	**05 48 59.0**	**-3.6**
VCA	**Vinchina**	**3.64**	**59**	*i* P	**Pb**	**05 49 01.0**	**-4.1**
AVFE	**Valle Fertil**	**3.72**	**91**	*i* P	**Pn**	**05 49 00.0**	**+2.9**
BO01	**Tunca**	**3.78**	**171**	Pn	**Pn**	**05 48 58.5**	**+0.6**
BO02	**Sierra Bellavi**	**4.22**	**169**	*i* P	**Pn**	**05 49 07.0**	**+3.0**
ACLC	**CERRO LA CRUZ**	**4.35**	**75**	*i* P	**Pn**	**05 49 09.0**	**+3.1**
GO05	**Huala**	**4.36**	**182**	Pn	**Pn**	**05 49 05.0**	**-0.8**
ACHE	**Chepes**	**4.42**	**98**	*i* P	**Pn**	**05 49 09.0**	**+2.2**
AC02	**Maricunga**	**4.45**	**32**	Pn	**Pn**	**05 49 08.3**	**+0.9**
APLL	**PUNTA DE LOS L**	**4.53**	**88**	*i* P	**Pn**	**05 49 11.0**	**+2.8**
LAMA	**Las Malvinas**	**4.79**	**154**	*i* P	**Pn**	**05 49 16.0**	**+4.2**
COIS	**El Sosneado**	**4.82**	**158**	*i* P	Pn	05 49 17.0	+4.9
RFA	**San Rafael**	**4.97**	**147**	*i* P	**Pn**	**05 49 17.0**	**+2.7**
ML02	**Panimavida**	**5.12**	**177**	Pn	**Pn**	**05 49 16.2**	**0.0**
MRA	**San Martin**	**5.46**	**110**	*i* P	**Pn**	**05 49 23.0**	**+1.9**
CYA	**Choya**	**5.64**	**69**	*i* P	**Pn**	**05 49 26.0**	**+2.5**
PB14	**IPOC Station P**	**6.11**	**12**	*i* P	**Pn**	**05 49 28.0**	**-2.2**
H03N1	**Juan Fernandez**	**6.67**	**243**	Pn	**Pn**	**05 49 36.3**	**-1.0**
	baz=105,slow=19,SNR=287						
H03N1				T	T	05 56 32.1	
	baz=72,slow=72,SNR=7870						
H03N2	**Juan Fernandez**	**6.69**	**243**	Pn	**Pn**	**05 49 36.6**	**-0.9**
	baz=105,slow=19,SNR=287						
H03N2				T	T	05 56 33.8	
	baz=72,slow=72,SNR=7854						
H03N3	**Juan Fernandez**	**6.69**	**243**	Pn	**Pn**	**05 49 36.4**	**-1.2**
H03N3				T	T	05 56 31.6	
	baz=72,slow=72,SNR=6554						
VA04	**Juan Fernndez**	**6.69**	**242**		**Pn**	**05 49 36.0**	**-1.8**
FSA	**Cafayete**	**6.81**	**50**	*i* P	**Pn**	**05 49 42.0**	**+2.3**
H03S3	**Juan Fernandez**	**6.83**	**240**	Pn	**Pn**	**05 49 37.3**	**-2.1**
	baz=38,slow=18,SNR=85						
H03S1	**Juan Fernandez**	**6.83**	**240**	Pn	**Pn**	**05 49 37.1**	**-2.4**
	baz=38,slow=18,SNR=50						
AHML	**Horco Molle**	**6.83**	**57**	*i* P	**Pn**	**05 49 41.0**	**+1.1**
H03S2	**Juan Fernandez**	**6.85**	**240**	Pn	**Pn**	**05 49 37.3**	**-2.4**
	baz=38,slow=18,SNR=56						
PB10	**IPOC Station P**	**7.18**	**9**	Pn	**Pn**	**05 49 44.9**	**+0.3**
PB15	**IPOC Station P**	**7.68**	**16**		**Pn**	**05 49 51.0**

CBOC	Ciudad Bolivar	36.52	353	*e*P		P		05 55 06.8	+2.0
HELC	Santa Helena	36.80	354	*e*P		P		05 55 08.4	+1.1
PTBC	PUERTO BERRIO,	37.06	356	*e*P		P		05 55 09.1	-0.1
DBBC	Dabeiba	37.69	353	*e*P		P		05 55 17.4	+2.8
ZARC	Zaragoza, Cauc	38.03	355	*e*P		P		05 55 18.1	+0.7
NBMA	Muriti-CE	38.61	60	*e*P		P		05 55 22.0	-0.4
NBPS	Pedro II - PI	38.71	54	*e*P		P		05 55 22.2	-1.0
SMLC	San Martn de	39.28	356	*e*P		P		05 55 27.5	-0.4
MLPR	Magueyes Islan	48.54	6	P		P		05 56 40.4	-1.8
CRPR	Cabo Rojo, PR	48.58	6	P		P		05 56 42.3	-0.1
OBIP	Obispado Ponce	48.66	7	P		P		05 56 41.5	-1.5
PDPR	Patillas Dam,	48.69	7	P		P		05 56 42.6	-0.7
PDPR				IAmb		IAmb		05 56 43.4	
	comp=Z,10nm,0.8s								
SJG	San Juan	48.77	7	P		P		05 56 42.8	-1.1
SJG	San Juan	48.77	7	*e*P		P		05 56 43.0	-0.9
GCPR	Guaynabo City	48.98	7	P		P		05 56 44.2	-1.3
GCPR				IAmb		IAmb		05 56 46.1	
	comp=Z,8.7nm,0.8s								
VNA3	Neumayer Olymp	52.39	159	P		P		05 57 11.3	+0.6
VNA1	Neumayer--Stat	52.68	158	P		P		05 57 13.1	+0.3
VNA2	Neumayer--Watz	53.02	158	P		P		05 57 16.5	+1.1
SNAA	Sanae	54.61	159	P		P		05 57 27.6	+0.5
SNAA	Sanae	54.61	159	P		P		05 57 27.3	+0.2
SNAA				IAmb		IAmb		05 57 35.8	
	comp=Z,5.4nm,0.7s								
H06E1	SOCORRO T-PHAS	61.91	317	T		T		07 05 37.9	
	SNR=74								
TXAR	Lajitas Array	66.94	330	P		P		05 58 53.1	+1.7
	comp=Z,0.4nm,0.6s,baz=152,slow=6.9,SNR=6.0								
TXAR				pP		sP		05 59 03.0	0.0
	comp=Z,1.1nm,0.9s,baz=152,slow=8.1,SNR=6.2								
TXAR				LR		LR		06 23 01.0	
	comp=Z,48nm,18.6s,baz=0.0,slow=31								
LCAR	Lake Charles	68.81	343	P		P		05 59 03.7	+0.8
LCAR				IAmb		IAmb		05 59 04.6	
	comp=Z,3.6nm,1.0s								
CCM	Cathedral Cave	70.72	344	P		P		05 59 15.1	+0.4
CCM				IAmb		IAmb		05 59 16.6	
	comp=Z,4.7nm,0.9s								
M54A	Oil Creek Stat	72.16	354	P		P		05 59 23.7	+0.4
ANMO	Albuquerque	72.96	331	LR		LR		06 26 39.4	
	comp=Z,45nm,19.4s,baz=155,slow=32								
MMNY	Mt. Morris Dam	73.23	355	P		P		05 59 29.5	-0.1
MMNY				IAmb		IAmb		05 59 50.2	
	comp=Z,15nm,1.3s								
LIC	Lamto	73.52	72	*e*P		P		05 59 32.3	+0.3
	comp=Z,118nm,2.0s								
TIC	Toumodi	73.76	72	*e*P		P		05 59 33.9	+0.4
KIC	Kosan Boka	73.83	72	*e*P		P		05 59 34.3	+0.4
	comp=Z,27nm,0.8s								
DBIC	Dimbokro	73.91	72	P		P		05 59 34.5	+0.2
	comp=Z,4.1nm,0.4s,baz=233,slow=6.6,SNR=22								
DBIC				pP		pP		05 59 43.0	0.0
	comp=Z,11nm,0.7s,baz=263,slow=4.0,SNR=6.8								
DBIC				sP		sP		05 59 46.8	+0.5
	comp=Z,7.8nm,0.5s,baz=225,slow=6.4,SNR=6.3								
DBIC				LR		LR		06 29 40.2	
	comp=Z,102nm,19.5s,baz=198,slow=34								
MAW	Mawson	76.33	164	P		P		05 59 48.2	+0.8
	comp=Z,4.6nm,0.4s,baz=204,slow=7.0,SNR=9.9								
MAW				LR		LR		06 36 43.0	
	comp=Z,70nm,18.0s,baz=238,slow=38								
MAW	Mawson	76.33	164	P		P		05 59 48.0	+0.7
K31A	O'Neill	77.01	340	P		P		05 59 51.7	+0.2
ECSD	EROS Data Cent	77.43	342	P		P		05 59 53.6	-0.2
ECSD				IAmb		IAmb		05 59 55.8	
	comp=Z,4.9nm,0.9s								
PDAR	Pinedale Array	80.88	333	P		P		06 00 13.7	+0.8
	comp=Z,0.2nm,0.7s,baz=172,slow=4.5,SNR=3.7								
PDAR				LR		LR		06 33 21.1	
	comp=Z,22nm,18.8s,baz=54,slow=34								
NVAR	Mina Array Bea	81.27	325	P		P		06 00 16.8	+1.6
	comp=Z,0.2nm,0.6s,baz=169,slow=6.7,SNR=4.2								
BOSA	Boshof	81.44	118	P		P		06 00 16.5	+0.2
	comp=Z,3.2nm,0.8s,baz=201,slow=9.6,SNR=4.5								
BOSA				LR		LR		06 32 54.2	
	comp=Z,38nm,18.3s,baz=186,slow=33								
TORD	Torodi Ar. Bea	82.86	70	P		P		06 00 23.8	0.0
	comp=Z,3.1nm,0.5s,baz=281,slow=6.0,SNR=77								
TORD				pP		pP		06 00 32.2	-0.3
	comp=Z,8.0nm,1.0s,baz=264,slow=4.7,SNR=10.0								
TORD				LR		LR		06 35 33.8	
	comp=Z,91nm,19.1s,baz=250,slow=34								
TORD	Torodi Ar. Bea	82.86	70	P		P		06 00 23.4	-0.3
TORD				IAmb		IAmb		06 00 37.2	
	comp=Z,6.9nm,0.9s								
CASY	Casey	83.37	181	P		P		06 00 26.8	+1.3
CASY				IAmb		IAmb		06 00 27.1	
	comp=Z,4.2nm,0.8s								
ESDC	Sonseca Array	94.08	46	LR		LR		06 44 01.2	
	comp=Z,44nm,18.0s,baz=235,slow=36								
ASAR	Alice Springs	120.65	208	PKP		PKPdf		06 06 50.1	-1.1
	comp=Z,0.3nm,0.5s,baz=142,slow=1.3,SNR=4.8								
WRA	Warramunga Arr	123.79	210	PKP		PKPdf		06 06 56.8	-0.6
	comp=Z,0.7nm,0.6s,baz=162,slow=1.4,SNR=10								
WRA	Warramunga Arr	123.79	210			PKPdf		06 06 56.5	-0.8
H11S2	WAKE ISLAND Hyl	25.98	271	T		T		08 25 41.1	
	baz=116,slow=74,SNR=498								
H11S1	WAKE ISLAND Hyl	25.99	271	T		T		08 25 42.0	
	baz=116,slow=74,SNR=419								
H11S3	WAKE ISLAND Hyl	26.00	271	T		T		08 25 42.3	
	baz=116,slow=74,SNR=413								
H11N3	WAKE ISLAND Hyl	26.31	273	T		T		08 26 11.7	
	baz=117,slow=75,SNR=20								
H11N1	WAKE ISLAND Hyl	26.32	273	T		T		08 26 15.3	
	baz=117,slow=75,SNR=15								
H11N2	WAKE ISLAND Hyl	26.33	273	T		T		08 26 15.0	
	baz=117,slow=75,SNR=77								
ZALV	Zalesovo Beam	151.23	29	PKPbc		PKPbc		06 07 51.8	+0.1
	comp=Z,11nm,0.8s,baz=295,slow=3.4,SNR=25								
MKAR	Makanchi Array	154.29	44	PKPbc		PKPbc		06 07 58.1	-0.6
	comp=Z,1.2nm,0.9s,baz=331,slow=4.7,SNR=7.1								
MKAR				PKPab		PKPab		06 08 14.0	+1.2
	comp=Z,1.4nm,0.7s,baz=316,slow=3.3,SNR=8.3								
MKAR	Makanchi Array	154.29	44			PKPdf		06 07 50.9	+0.4
MKAR				PKPab		PKPab		06 08 14.4	+1.6
SONM	Songino Array	162.77	4	PKPab		PKPab		06 08 50.7	+1.2
	comp=Z,1.3nm,0.8s,baz=335,slow=6.4,SNR=3.6								
SONM	Songino Array	162.77	4	PKPdf		PKPdf		06 08 01.6	+0.8
SONM						PKPab		06 08 50.7	+1.2

NEIC ***27*** *06:16:46.5±1.1,57.10N±0.04×156.20W±0.07,h84km±8km, Error ellipse: s-maj=6.0km s-min=5.1km az=127.0*
AEIC ***27*** *06:16:47.4±1.1,57.09N±0.04×156.18W±0.07,h80km±6km, ML3.2/99,ML3.2/32(NEIC),Error ellipse: s-maj=5.8km s-min=5.0km az=120.0*
IDC ***27*** *06:16:48.9±5.6,57.57N×156.15W,h79km±44km,mb3.6/2, mb1 3.7/4,mb1mx3.1/45,mbtmp3.7/4,ML3.6/2,Error ellipse: s-maj=49.8km s-min=32.0km az=55.0*

ISC 27 06:16:46.3±0.9,57.13N±0.04×156.12W±0.04,h87km±9km, n132,σ1§11/148,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLK3	Peulik 3	0.56	352		Pn	06 17 01.4	+0.1
PLK3					Sn	06 17 12.1	-0.4
PLK2	Peulik 2	0.64	350		Pn	06 17 02.2	+0.2
PLBL	Peulik Blue Cr	0.68	327		Pn	06 17 02.2	-0.2
PLK1	Peulik 1	0.72	339		Pn	06 17 02.5	-0.3
PLK5	Peulik 5	0.96	335		Pn	06 17 05.6	+0.3
KJL	Kejulik	0.97	17		Pn	06 17 05.7	+0.2
CAHL	Cahill	1.02	25		Pn	06 17 06.4	+0.3
ANNE	Aniakchak Nort	1.08	259		Pn	06 17 06.0	-0.8
ANCK	Angle Creek	1.12	17		Pn	06 17 07.6	+0.3
ANCK					Sn	06 17 25.1	+2.1
MGLS	Mageik Landsli	1.13	27		Pn	06 17 07.8	+0.4
MGLS					Sn	06 17 25.4	+2.3
ANPK	Aniakchak Peak	1.14	256		Pn	06 17 07.0	-0.5
AZAC	Aniakchak	1.18	259		Pn	06 17 07.5	-0.4
KABR	Katmai Barrier	1.18	31		Pn	06 17 08.4	+0.5
SII	Sitkinak Islan	1.21	117		Pn	06 17 08.9	+0.6
SII					Sn	06 17 25.3	+0.5
SII	Sitkinak Islan	1.21	117	P	Pn	06 17 08.7	+0.5
	baz=297						
SII				S	Sn	06 17 25.4	+0.6
	baz=297						
KCE	Katmai Mt Cerb	1.22	24		Pn	06 17 09.4	+0.9
ANPB	Aniakchak Plen	1.23	255		Pn	06 17 08.1	-0.4
KABU	Katmai Buttres	1.23	21		Pn	06 17 09.1	+0.5
KABU					Sn	06 17 26.5	+1.1
KAKN	Katmai Knife C	1.30	26		Pn	06 17 10.0	+0.5
KVTA	Katmai Vly 10	1.33	19		Pn	06 17 10.2	+0.4
CHIR	Chirikof Islan	1.34	168		Pn	06 17 09.4	-0.4
CHIR					Sn	06 17 27.2	-0.4
CHIR				IAML		06 17 41.0	
	comp=E,175nm,0.7s						
CHIR	Chirikof Islan	1.34	168	P	Pn	06 17 09.6	-0.3
	baz=346						
CHIR				S	Sn	06 17 27.2	-0.4
	baz=346						
CHGN	Chignik	1.51	238		Pn	06 17 11.4	-0.6
CHGN					Sn	06 17 29.7	-1.7
CHGN	Chignik	1.51	238	P	Pn	06 17 11.5	-0.5
	baz=56						
CHGN				S	Sn	06 17 29.6	-1.8
	baz=56						
OHAK	Old Harbor	1.55	85		Pn	06 17 13.2	+0.8
OHAK					Sn	06 17 32.3	0.0
OHAK				IAML		06 17 32.7	
	comp=E,128nm,0.5s						
OHAK				IAML		06 17 33.0	
	comp=N,160nm,0.4s						
OHAK	Old Harbor	1.55	85	P	Pn	06 17 13.1	+0.6
	baz=266						
OHAK				S	Sn	06 17 32.2	0.0
	baz=266						
KAHC	Katmai Hardscr	1.63	21		Pn	06 17 14.2	+0.4
KAHC	Katmai Hardscr	1.63	21	P	Pn	06 17 14.2	+0.4
	baz=202						
VNHG	Veniaminof 1	1.91	243		Pn	06 17 17.6	+0.3
VNSG	Veniaminof 6	1.92	240		Pn	06 17 17.4	0.0
VNSG					Sn	06 17 40.5	-0.6
KDAK	Kodiak Island	2.02	70	P	Pn	06 17 19.3	+0.7
	comp=N,20nm,0.3s,baz=271,slow=8.5,SNR=2158						
KDAK				S	Sn	06 17 43.5	+0.2
	comp=N,7.6nm,0.3s,baz=238,slow=5.3,SNR=5.1						
KDAK	Kodiak Island	2.02	70		Pn	06 17 19.5	+0.9
KDAK	Kodiak Island	2.02	70	IAML		06 17 52.3	
	comp=N,96nm,0.5s						
Q19K	Cape Douglas,	2.23	35		Pn	06 17 22.6	+1.1
Q19K				IAML		06 17 60.0	
	comp=E,192nm,0.7s						
Q19K	Cape Douglas,	2.23	35	P	Pn	06 17 22.4	+0.9
	baz=217						
Q19K				S	Sn	06 17 49.8	+1.5
	baz=217						
O18K	Koktuh Hills	2.77	10		Pn	06 17 29.2	+0.5
O18K	Koktuh Hills	2.77	10	P	Pn	06 17 29.5	+0.8
	baz=191						
O18K				S	Sn	06 18 01.1	-0.1
	baz=191						
OPT	Oil Point	2.95	30		Pn	06 17 32.5	+1.4
OPT	Oil Point	2.95	30	P	Pn	06 17 32.5	+1.4
	baz=212						
P19K	Oil Pt	2.95	30		Pn	06 17 32.6	+1.6
P19K				IAML		06 18 11.9	
	comp=N,62nm,0.6s						
P19K				IAML		06 18 12.2	
	comp=E,67nm,0.6s						
P19K	Oil Pt	2.95	30	P	Pn	06 17 32.1	+1.1
	baz=212						
SDPT	Sand Point	3.02	236		Pn	06 17 32.1	+0.2
SDPT				IAML		06 18 09.3	
	comp=N,99nm,1.9s						
SDPT				IAML		06 18 12.6	
	comp=E,90nm,1.3s						
SDPT	Sand Point	3.02	236	P	Pn	06 17 31.8	-0.1
	baz=52						
CHNA	Chernabura Isl	3.02	222	S	Sn	06 18 05.0	-2.1
	baz=39						
ILSW	Iliamna Southw	3.26	27		Pn	06 17 36.8	+1.5
HOM	Homer	3.46	41		Pn	06 17 39.9	+2.0
HOM	Homer	3.46	41	P	Pn	06 17 39.8	+1.9
	baz=225						
O20K	Slope Mountain	3.48	30		Pn	06 17 40.0	+1.7
O20K	Slope Mountain	3.48	30	P	Pn	06 17 40.0	+1.7
	baz=213						
CNPM	China Poot	3.52	45		Pn	06 17 40.0	+1.2
CNPM				IAML		06 18 19.6	
	comp=N,45nm,0.8s						
CNPM				IAML		06 18 31.3	
	comp=E,34nm,0.8s						
RSO	Redoubt South	3.77	26		Pn	06 17 44.3	+2.0
N19K	Bonanza Creek	3.79	12		Pn	06 17 43.8	+1.4
N19K	Bonanza Creek	3.79	12	P	Pn	06 17 43.7	+1.3
	baz=194						
BRLK	Bradley Lake	3.81	44		Pn	06 17 43.2	+0.5
BRLK				IAML		06 18 25.2	
	comp=E,40nm,0.5s						
BRLK				IAML		06 18 26.2	
	comp=N,41nm,0.3s						
BRSE	Bradley Lake S	3.85	45		Pn	06 17 43.9	+0.6
BRSE	Bradley Lake S	3.85	45	P	Pn	06 17 43.9	+0.6
	baz=229						
SVW2	Sparrevohn	3.99	4		Pn	06 17 45.6	+0.6
DT1	Dutch Mountain	4.00	242		Pn	06 17 45.1	-0.1
SLKM	Skilak Lake	4.57	40		Pn	06 17 53.6	+0.6
SEW	Seward	4.59	47		Pn	06 17 53.1	0.0
SEW	Seward	4.59	47	P	Pn	06 17 53.2	+0.1
	baz=232						
M19K	Big River Lodg	4.87	10		Pn	06 17 58.5	+1.5
M19K				IAML		06 19 23.5	
	comp=E,13nm,3.4s						
M19K				IAML		06 20 44.3	
	comp=N,12nm,3.2s						
M19K	Big River Lodg	4.87	10	P	Pn	06 17 57.8	+0.8
	baz=192						
L19K	White Mountain	5.11	7		Pn	06 18 01.6	+1.3
L19K				IAML		06 19 43.9	
	comp=E,13nm,3.0s						
L19K	White Mountain	5.11	7	P	Pn	06 18 01.5	+1.3
	baz=188						
L20K	Farewell, AK	5.48	11		Pn	06 18 07.1	+1.7
L20K	Farewell, AK	5.48	11	P	Pn	06 18 07.1	+1.7
	baz=193						
PWL	Port Wells	5.49	44		Pn	06 18 05.5	0.0
TT01	Tatalina	5.79	0		Pn	06 18 10.4	+0.8
HIN	Hinchinbrook I	5.98	53		Pn	06 18 12.6	+0.5
GLI	Glacier Island	5.99	47		Pn	06 18 11.4	-0.8
GLI	Glacier Island	5.99	47	P	Pn	06 18 11.6	-0.7
	baz=235						
FID	Port Fidalgo	6.17	50		Pn	06 18 14.0	-0.7
JPK	Jack Peak	6.29	47		Pn	06 18 16.9	+0.5
EYAK	Cordova Ski Ar	6.38	53		Pn	06 18 17.8	+0.3
EYAK	Cordova Ski Ar	6.38	53	P	Pn	06 18 17.9	+0.4
	baz=242						
KAIM	Kayak Island	6.74	61		Pn	06 18 23.4	+0.9
KAIM	Kayak Island	6.74	61	P	Pn	06 18 22.9	+0.4
	baz=250						
UNV	Unalaska Valle	6.75	245	Pn	Pn	06 18 22.6	-0.1
RAGM	Ragged Mountai	6.79	56		Pn	06 18 23.6	+0.5
KLU	Klutina	6.81	46		Pn	06 18 23.9	+0.5
KLU	Klutina	6.81	46	P	Pn	06 18 23.9	+0.5
	baz=234						
GOAT	Goat Mountain	6.85	55		Pn	06 18 24.5	+0.5
MSW	Makushin Switc	6.86	246		Pn	06 18 23.4	-0.7
BMRM	Bremner River	7.07	52		Pn	06 18 27.0	0.0
BMRM	Bremner River	7.07	52	P	Pn	06 18 27.1	0.0
	baz=242						
SUCK	Suckling Hills	7.09	60		Pn	06 18 28.2	+0.9
M24K	Tolsona, Glenn	7.09	41	Pn	Pn	06 18 28.5	+1.2
BERG	Berg Lake	7.24	58		Pn	06 18 29.8	+0.5
GRIN	Grindle Hills	7.38	59		Pn	06 18 31.6	+0.4
N25K	Chitina, Valde	7.40	48		Pn	06 18 32.1	+0.6
N25K	Chitina, Valde	7.40	48	P	Pn	06 18 31.8	+0.3
	baz=238						
KHIT	Khitrov Hills	7.46	58		Pn	06 18 32.7	+0.3
SNH	Sunshine Point	7.57	61		Pn	06 18 35.1	+1.3
CRQM	Cirque	7.63	56		Pn	06 18 35.5	+0.7
GLB	Gilahina Butte	7.64	50		Pn	06 18 35.3	+0.5
KULT	Kultieth River	7.65	60		Pn	06 18 35.2	+0.3
CRQE	Cirque	7.65	56	P	Pn	06 18 35.2	+0.2
	baz=247						
WAX	Waxell Ridge	7.65	59		Pn	06 18 35.4	+0.5
VRDI	Verde Repeater	7.69	52		Pn	06 18 36.3	+0.7
TGL	Tana Glacier	7.77	57		Pn	06 18 37.5	+0.9
BARK	Barkley Ridge	7.80	59		Pn	06 18 37.4	+0.3
PAX	Paxson	7.91	38	Pn	Pn	06 18 39.6	+1.1
MCARA	McCarthy VSAT	7.95	52	Pn	Pn	06 18 39.8	+0.9
MESA	MESA	7.99	62	Pn	Pn	06 18 41.2	+1.5
BAGL	Bagley Icefiel	8.02	59		Pn	06 18 41.2	+1.3
KIAG	Kiagna River	8.05	56		Pn	06 18 40.5	+0.1
BALM	Baldy	8.10	55		Pn	06 18 41.6	+0.5
GRNC	Granite Creek	8.26	58		Pn	06 18 44.4	+1.0
I21K	Tanana	8.32	12	P	Pn	06 18 43.3	-0.6
	baz=196						
BARN	Barnard Glacie	8.42	56	Pn	Pn	06 18 46.4	+0.9
TABL	Table Mountain	8.45	61		Pn	06 18 47.2	+1.2
M26K	Nabesna, AK	8.46	46	Pn	Pn	06 18 47.5	+1.5
CTGM	Chitina Glacie	8.53	57	Pn	Pn	06 18 48.2	+1.2
LOGN	Logan Glacier	8.64	58		Pn	06 18 49.3	+0.8
I23K	Minto, Yukon-K	8.68	19	P	Pn	06 18 48.2	-0.6
	baz=205						
H21K	Melozitna Rive	8.70	9	Pn	Pn	06 18 50.7	+1.5
PCA	Pinnacle	8.79	64	Pn	Pn	06 18 51.5	+0.9
ILAR	Eielson Array	8.87	26	P	Pn	06 18 49.9	-1.6
	comp=E,0.3nm,0.3s,baz=221,slow=12,SNR=16						
ILAR				S	Sn	06 20 23.1	-6.5
	comp=E,0.3nm,0.3s,baz=198,slow=19,SNR=7.3						
ILAR	Eielson Array	8.87	26	Pn	Pn	06 18 52.7	+1.2
M27K	Edge Creek, AK	8.89	48	Pn	Pn	06 18 53.3	+1.5
IMAR	Indian Mountai	8.96	6	Pn	Pn	06 18 53.6	+1.0
PNL	Peninsula	9.14	67		Pn	06 18 54.3	-0.9
L27K	Beaver Creek,	9.28	44	Pn	Pn	06 18 57.9	+0.9
BC03		9.29	44		Pn	06 18 56.3	-0.9
BCAR	Beaver Creek A	9.29	44	Pn	Pn	06 18 58.0	+0.7
H24K	Noodor Dome	9.57	21	Pn	Pn	06 19 00.2	-0.9
DAWY	Dawson	10.74	43	Pn	Pn	06 19 18.2	+1.2
SKAG	Skagway	11.18	69	Pn	Pn	06 19 25.1	+2.3
DLBC	Dease Lake	13.95	74	P	P	06 20 03.3	-1.9
	comp=E,0.2nm,0.3s,baz=242,slow=12,SNR=4.7						
FINES	FINESS Array B	61.75	359	P	P	06 26 54.9	-0.1
	comp=E,2.3nm,0.9s,baz=2.5,slow=9.7,SNR=4.4						
GERES	GERESS Array B	74.05	7	P	P	06 28 13.7	+1.3
	comp=E,0.4nm,0.6s,baz=345,slow=7.1,SNR=3.9						

NEIC ***27*** *06:27:57.1,30.22S×72.12W,h15km,Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr1.32; Mθθ0.04; Mφφ-1.36; Mrθ0.11; Mrφ0.05; Mθφ-0.34; Fault plane solution: M₀1.39000×10¹⁴ NP1:ϕ₁173.81000°, δ52.41000°,λ84.67000°. NP2:ϕ₂2.51000°,δ37.91000°, λ96.88000°. Principal axes: T 1.3688, Plg82.0000°, Azm57.0000°; N 0.0323, Plg4.0000°, Azm177.0000°; P -1.4011, Plg7.0000°, Azm268.0000°;*

NEIC 27 06:27:56.7±1.8,30.22S±0.03×72.15W±0.05,h12km±4km, mb4.0/4,Mwr3.4/18 Error ellipse: s-maj=6.4km s-min=3.4km az=103.0,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.64	136		Pb	06 28 09.5	-0.2
CO06				Sg	Sg	06 28 17.4	-0.1
CO05	La Serena	0.84	70		Pg	06 28 12.7	-0.4
CO05				Sg	Sb	06 28 24.5	-0.2
GO04	Tololo Observa	1.17	88		Pb	06 28 18.2	-0.8
GO04				Sg	Sb	06 28 34.2	-0.1
CO02	Combarbal	1.40	135		Pn	06 28 22.4	+0.3
CO03	El Pedregal	1.41	116	Pn	Pn	06 28 21.8	-0.4
LCO	Las Campanas	1.74	47		Pn	06 28 26.4	-0.6
AC04	Llanos de Chal	2.22	25		Pn	06 28 31.8	-1.5
VA01	Torpederas	2.83	171	Pn	Pn	06 28 42.5	+0.9
VA03	San Esteban	2.88	152		Pn	06 28 44.0	+1.4
VA05	Santo Domingo	3.46	173	Pn	Pn	06 28 49.0	-1.4
MT09	Talagante	3.68	165	Pn	Pn	06 28 54.1	+0.5
MT01	Popeta	3.71	168		Pn	06 28 54.8	+0.9
BO01	Tunca	4.26	168	Pn	Pn	06 29 01.9	+0.5
AC02	Maricunga	4.29	39		Pn	06 29 01.2	-1.1
BO02	Sierra Bellavi	4.71	166		Pn	06 29 08.8	+1.2
GO05	Huala	4.78	178	Pn	Pn	06 29 06.2	-2.4
TRQA	Tornquist	11.49	136	Pn	Pn	06 39 39.8	-0.8
OTAV	Otavalo	30.88	348	P	P	06 34 12.7	-1.0
TORD	Torodi Ar. Bea	83.03	70	P	P	06 40 22.8	+0.4
TORD				IAmb	IAmb	06 40 25.6	
	comp=Z,2.2nm,1.4s						

SOME ***27*** *06:34:59.5,39.08N×75.90E,h10km*
NNC ***27*** *06:35:02.5±1.1,39.21N×75.91E,h11km±7km,mb3.7, mpv3.4,Error ellipse: s-maj=7.7km s-min=6.9km az=8.0*
KRNET ***27*** *06:35:08.6±0.1,39.11N×75.55E,mb3.1*

ISC 27 06:35:06.7±1.7,39.39N±0.07×75.73E±0.04,h10km,n46, σ1§54/74,24C-14D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.83	290	⇑*i*P	Pg	06 35 41.5	-0.3
	baz=1.0						
SFK				⇑*i*S	Sg	06 36 05.7	+0.2
	baz=1.0						
OHH	Osh	2.53	297	⇑*i*P	Pb	06 35 51.8	-0.5
	baz=5.0						
OHH				⇑*i*S	Sb	06 36 23.2	-0.3
	baz=5.0						
ARLS	Aral	2.69	337	⇓*i*P	Pg	06 35 56.2	-2.0
	baz=42						
ARLS				⇓*i*S	Sg	06 36 31.7	-1.4
	baz=42						
KZA	Kyzart	2.71	352	⇑*i*P	Pg	06 35 57.3	-1.3
	baz=56						
KZA				⇑*i*S	Sg	06 36 33.4	-0.3
	baz=56						
TARG	Taragay, Kyrgy	2.82	33	⇑*e*P	Pg

	4.5nm,0.3s								
TNSS					Lg		Lg	06 37 06.8	
	3.0nm,0.4s								
MTBS	**Maitube**	**3.77**	**8**	*e*P		**Pb**		**06 36 13.4**	**0.0**
	4.2nm,0.3s								
MTBS				*e*S		**Sg**		**06 37 06.8**	**-1.0**
	4.6nm,0.3s								
MTBS	**Maitube**	**3.77**	**8**	Pg		**Pb**		**06 36 13.4**	**0.0**
	4.2nm,0.3s								
MTBS				Lg		Lg		06 37 06.8	
	4.6nm,0.3s								
DGS	**Degeres**	**3.84**	**0**	*e*P		**Pb**		**06 36 17.5**	**-2.9**
	4.1nm,0.4s								
DGS				*e*S		**Sg**		**06 37 13.6**	**+3.4**
	6.1nm,0.5s								
DGS	**Degeres**	**3.84**	**0**	Pg		**Pb**		**06 36 17.5**	**-2.9**
	4.1nm,0.4s								
DGS				Lg		Lg		06 37 13.6	
	6.1nm,0.5s								
MRKS	**Merke**	**3.85**	**331**	*e*P		**Pg**		**06 36 17.1**	**-3.3**
	4.1nm,0.3s								
MRKS				*e*S		**Sg**		**06 37 13.2**	**+3.0**
	6.4nm,0.6s								
MRKS	**Merke**	**3.85**	**331**	Pg		**Pg**		**06 36 17.1**	**-3.3**
	4.1nm,0.3s								
MRKS				Lg		Lg		06 37 13.2	
	6.4nm,0.6s								
MDOK	**Medeo**	**3.90**	**14**	*e*P		**Pb**		**06 36 15.3**	**-0.3**
	2.8nm,0.9s								
MDOK				*e*S		**Sg**		**06 37 10.3**	**-1.5**
	6.4nm,1.1s								
MDOK	**Medeo**	**3.90**	**14**	Pg		**Pb**		**06 36 15.3**	**-0.3**
	2.8nm,0.9s								
MDOK				Lg		Lg		06 37 10.3	
	6.4nm,1.1s								
SGDS	**Sogindy**	**4.14**	**349**	Pg		**Pb**		**06 36 22.0**	**+2.4**
	4.0nm,0.5s								
SGDS				Lg		Lg		06 37 21.8	
	2.7nm,0.5s								
SATY	**Saty**	**4.18**	**28**	*e*P		**Pb**		**06 36 20.5**	**+0.1**
	3.7nm,0.2s								
SATY				*e*S		**Sg**		**06 37 19.0**	**-1.9**
	14nm,0.3s								
SATY	**Saty**	**4.18**	**28**	Pg		**Pb**		**06 36 20.5**	**+0.1**
	3.7nm,0.2s								
SATY				Lg		Lg		06 37 19.0	
	14nm,0.3s								
KRBS	**Karabastau**	**4.30**	**359**	*e*P		**Pb**		**06 36 24.3**	**+1.9**
	4.2nm,0.3s								
KRBS				*e*S		**Sg**		**06 37 25.9**	**+1.2**
	3.7nm,0.4s								
KRBS	**Karabastau**	**4.30**	**359**	Pg		**Pb**		**06 36 24.3**	**+1.9**
	4.2nm,0.3s								
KRBS				Lg		Lg		06 37 25.9	
	3.7nm,0.4s								
KTBS	**Karatobe**	**4.37**	**9**	*e*P		**Pb**		**06 36 24.9**	**+1.2**
	2.1nm,0.4s								
KTBS				*e*S		**Sg**		**06 37 26.6**	**-0.5**
	9.6nm,0.5s								
KTBS	**Karatobe**	**4.37**	**9**	Pg		**Pb**		**06 36 24.9**	**+1.2**
	2.1nm,0.4s								
KTBS				Lg		Lg		06 37 26.6	
	9.6nm,0.5s								
KURS	**Kuram**	**4.48**	**23**	*e*P		**Pb**		**06 36 25.9**	**+0.3**
	5.9nm,0.7s								
KURS				*e*S		**Sg**		**06 37 28.2**	**-2.4**
	4.4nm,0.7s								
KURS	**Kuram**	**4.48**	**23**	Pg		**Pb**		**06 36 25.9**	**+0.3**
	5.9nm,0.7s								
KURS				Lg		Lg		06 37 28.2	
	4.4nm,0.7s								
KUU	**Kurty**	**4.52**	**6**	*e*P		**Pb**		**06 36 27.5**	**+1.4**
	2.4nm,0.4s								
KUU				⇓*i*S		**Sg**		**06 37 31.2**	**-0.6**
	3.3nm,0.3s								
KUU	**Kurty**	**4.52**	**6**	Pg		**Pb**		**06 36 27.5**	**+1.4**
	2.4nm,0.4s								
KUU				Lg		Lg		06 37 31.2	
	3.3nm,0.3s								
PDGK	**Podgornoye**	**4.84**	**35**	Pg		**Pb**		**06 36 31.2**	**-0.5**
	0.9nm,0.4s								
PDGK				Lg		Lg		06 37 37.5	
	3.3nm,0.4s								
PDGK	**Podgornoye**	**4.84**	**35**	⇑Pg		**Pb**		**06 36 33.1**	**+1.4**
	1.8nm,0.8s								
PDGK				⇑Lg		Lg		06 37 40.1	
	8.1nm,0.8s								
KTMS	**Ketmen**	**5.33**	**39**	*e*P		**Pb**		**06 36 42.1**	**+2.1**
	0.2nm,0.0s								
KTMS				*e*S		**Sg**		**06 37 56.3**	**-1.6**
	4.8nm,0.7s								
KTMS	**Ketmen**	**5.33**	**39**	Pg		**Pb**		**06 36 42.1**	**+2.1**
	0.2nm,0.0s								
KTMS				Lg		Lg		06 37 56.3	
	4.8nm,0.7s								
KK31	**Karatay Array**	**5.41**	**315**	⇓Pn		**Pn**		**06 36 28.0**	**+0.6**
	0.2nm,0.3s,baz=131,slow=12,SNR=5.1								
KK31				⇑Sn		**Sn**		**06 37 31.1**	**+1.5**
	0.8nm,0.5s,baz=137,slow=24,SNR=2.7								
KK31				⇑Lg		Lg		06 38 02.3	
	1.4nm,0.6s								

MEX 27 06:48:02.5±2.0, 18°01N×99°69W, h10km, MD3.8, 1D, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.10**	**138**	*e*P	Pg	06 48 00.4	-4.8
MEIG				*e*S	Sg	06 48 01.3	-6.0
PLIG	**Platanillo**	**0.43**	**25**	*e*P	Pg	06 48 09.2	-1.7
PLIG				*e*S	Sg	06 48 17.3	+0.7
ARIG	**Puente Sto Nin**	**0.68**	**294**	*e*P	Pg	06 48 13.7	-2.0
ARIG				*e*S	Sg	06 48 23.9	-0.7
DAIG	**Los Arroyos**	**0.98**	**178**	*e*P	Pg	06 48 16.0	-5.4
DAIG				*e*S	Sg	06 48 28.5	-5.6
TLIG	**Tlapa**	**1.16**	**112**	*e*P	Pb	06 48 20.6	-4.1
TLIG				*e*S	Sb	06 48 36.4	-3.5
MGIG	**Malinaltepec**	**1.27**	**127**	*e*P	Pn	06 48 22.4	-4.0
MGIG				*e*S	Sb	06 48 39.1	-4.0
FTIG	**Fresnillo de T**	**1.49**	**93**	*e*P	Pn	06 48 26.9	-2.5
FTIG				*e*S	Sn	06 48 46.3	-2.7
TXIG	**Tlaxiaco**	**1.98**	**112**	*e*P	Pn	06 48 34.8	-1.6
YOIG	**Yosondua**	**2.35**	**119**	*e*P	Pn	06 48 41.5	+0.1
YOIG				⇓*e*S	Sn	06 49 11.3	+0.8

*UPP **27** 06:55:55.4±2.8, 67°55N×33°87E, h0km, ML2.4, Suspected explosion*
*KOLA **27** 06:55:56.3, 67°67N×33°78E, h0km, ML2.6, Khibiny, mines Kirovsk, Yukspor*
*IDC **27** 06:55:56.8±1.1, 67°72N×33°84E, h0km, mb3.4/3, mb1 3.5/8, mb1mx3.2/54, mbtmp3.5/8, ML2.6/4, MS2.6/1, Ms1 2.6/1, ms1mx2.0/38, Error ellipse: s-maj=16.4km s-min=11.3km az=71.0*
*NAO **27** 06:55:56.5±1.0, 67°70N×33°66E, ML3.1*
*HEL **27** 06:55:57.0±0.4, 67°67N×33°54E, h0km, ML2.6, Explosion*
ISC 27 06:55:55.8±1.0, 67°63N±0°05×33°66E±0°05, h0km, n62, σ1§56/91, mb3.4/3, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.12**	**238**	P	**Pg**	**06 55 59.5**	**+1.5**
APA				S	**Sg**	**06 56 01.8**	**+2.2**
APZ9	**Apatity**	**0.12**	**238**	Pg	**Pg**	**06 55 59.5**	**+1.5**
APZ9				Lg	Lg	06 56 01.8	
APZ9				Rg	Rg	06 56 02.7	
APZ9	**Apatity**	**0.12**	**238**	Pg	**Pg**	**06 55 59.5**	**+1.5**
APZ9				Sg	**Sg**	**06 56 01.8**	**+2.3**
APA0	**Apatity Array**	**0.26**	**265**	Pg	**Pg**	**06 56 01.9**	**+1.1**
	baz=84,slow=22						
APA0				Lg	Lg	06 56 05.9	
	baz=83,slow=18						
APA0				Rg	Rg	06 56 07.0	
	baz=79,slow=37						
APA0	**Apatity Array**	**0.26**	**265**	Pg	**Pg**	**06 56 01.9**	**+1.1**
	baz=84,slow=22						
APA0				Sg	**Sg**	**06 56 05.9**	**+1.8**
	baz=83,slow=18						
APA0	**Apatity Array**	**0.26**	**265**	P	**Pg**	**06 56 01.9**	**+1.1**
APA0				S	**Sg**	**06 56 05.9**	**+1.8**
VRF	**Varrio**	**1.55**	**276**	PN	**Pn**	**06 56 24.6**	**-0.1**
VRF				MSG		06 56 42.1	
	comp=Z,50nm,0.2s						
VRF				SN	**Sn**	**06 56 45.3**	**-0.2**
KU6	**Riekki**	**2.20**	**225**	PB	**Pb**	**06 56 35.1**	**-1.3**
	baz=38						
KU6				MSG		06 57 02.0	
	comp=Z,29nm,0.2s						
MSF	**Maaselka**	**2.52**	**229**	PG	**Pb**	**06 56 40.8**	**-1.1**
SGF	**Sodankyl**	**2.75**	**269**	PN	**Pn**	**06 56 41.7**	**+0.6**
SGF				SG	**Sb**	**06 57 20.6**	**+0.7**
RNF	**Rovaniemi**	**3.16**	**255**	PN	**Pn**	**06 56 47.3**	**+0.6**
	baz=67						
KEV	**Kevo**	**3.23**	**314**	Pn	**Pn**	**06 56 48.8**	**+1.0**
KEV				Sn	**Sn**	**06 57 26.7**	**-0.2**
KEV	**Kevo**	**3.23**	**314**	*e*P	**Pn**	**06 56 48.8**	**+1.0**
KEV				*e*S	**Sn**	**06 57 26.9**	**0.0**
KEV	**Kevo**	**3.23**	**314**	PN	**Pn**	**06 56 48.6**	**+0.9**
	baz=130						
KEV				SB	**Sn**	**06 57 27.7**	**+0.8**
KEV				MSG		06 57 30.3	
	comp=Z,25nm,0.2s						
ARA0	**ARCESS Array S**	**3.55**	**306**	Pn	**Pn**	**06 56 52.7**	**+0.5**
	baz=122,slow=16						
ARA0				Sn	**Sn**	**06 57 34.1**	**-0.6**
	baz=119,slow=28						
ARA0				Lg	Lg	06 57 47.7	
	baz=108,slow=28						
ARA0	**ARCESS Array S**	**3.55**	**306**	Pn	**Pn**	**06 56 52.7**	**+0.5**
	baz=122,slow=16						
ARA0				Sn	**Sn**	**06 57 34.1**	**-0.6**
	baz=119,slow=28						
ARA0				IAML		06 57 50.0	
	comp=Z,35nm,0.6s						
ARA0	**ARCESS Array S**	**3.55**	**306**	PN	**Pn**	**06 56 52.5**	**+0.4**
	baz=120						
ARA0				SB	**Sn**	**06 57 38.2**	**+3.4**
ARCES	**ARCESS Array B**	**3.55**	**306**	Pn	**Pn**	**06 56 52.6**	**+0.5**
	baz=122,slow=14,SNR=508						
ARCES				Sn	**Sn**	**06 57 34.1**	**-0.7**
	baz=115,slow=23,SNR=12						
KLF	**Kolari**	**3.76**	**268**	PN	**Pn**	**06 56 55.1**	**+0.1**
HEF	**Hetta**	**3.84**	**286**	Pn	**Pn**	**06 56 56.4**	**+0.3**
HEF				Sn	**Sn**	**06 57 41.9**	**0.0**
HEF				Lg	Lg	06 57 53.7	
HEF	**Hetta**	**3.84**	**286**	*e*P	**Pn**	**06 56 56.5**	**+0.4**
HEF				*e*S	**Sn**	**06 57 41.9**	**0.0**
HEF	**Hetta**	**3.84**	**286**	PN	**Pn**	**06 56 56.4**	**+0.3**
	baz=98						
TOF	**Tornio**	**4.00**	**251**	PN	**Pn**	**06 56 58.2**	**0.0**
	baz=64						
KTK1	**Kautokeino**	**4.11**	**295**	Pn	**Pn**	**06 57 00.0**	**+0.2**
KTK1				Sn	**Sn**	**06 57 47.5**	**-1.0**
KTK1				Lg	Lg	06 58 03.2	
KTK1	**Kautokeino**	**4.11**	**295**	*e*P	**Pn**	**06 56 60.0**	**+0.2**
KTK1				*e*S	**Sn**	**06 57 47.4**	**-1.0**
KTK1				IAML		06 58 09.3	
	comp=Z,38nm,0.6s						
PAJU	**Pajala**	**4.13**	**266**	P	**Pn**	**06 57 00.1**	**0.0**
PAJU				S	**Sn**	**06 57 49.4**	**+0.3**
PAJU	**Pajala**	**4.13**	**266**	PN	**Pn**	**06 56 60.0**	**-0.1**
	baz=73						
LANU	**Lannavaara**	**4.44**	**281**	P	**Pn**	**06 57 03.9**	**-0.4**
LANU	**Lannavaara**	**4.44**	**281**	PN	**Pn**	**06 57 03.8**	**-0.6**
KALU	**Kalix**	**4.46**	**251**	P	**Pn**	**06 57 04.5**	**0.0**
KALU	**Kalix**	**4.46**	**251**	PN	**Pn**	**06 57 04.6**	**0.0**
ERTU	**Ertsjaerv**	**4.61**	**262**	P	**Pn**	**06 57 06.8**	**+0.1**
ERTU				S	**Sn**	**06 58 00.9**	**0.0**
ERTU	**Ertsjaerv**	**4.61**	**262**	PN	**Pn**	**06 57 06.8**	**+0.1**
ERTU				SN	**Sn**	**06 58 01.7**	**+0.8**
HAMF	**Hammerfest**	**4.67**	**315**	*e*P	**Pn**	**06 57 07.6**	**+0.1**
HAMF				*e*S	**Sn**	**06 58 00.7**	**-1.6**
HAMF				IAML		06 58 21.9	
	comp=Z,39nm,0.5s						
KIF	**Kilpisjarvi**	**4.96**	**292**	Pn	**Pn**	**06 57 11.6**	**+0.1**
KIF				Sn	**Sn**	**06 58 06.6**	**-2.9**
KIF				Lg	Lg	06 58 26.8	
KIF	**Kilpisjarvi**	**4.96**	**292**	*e*P	**Pn**	**06 57 11.6**	**+0.1**
KIF				*e*S	**Sn**	**06 58 08.9**	**-0.5**
KUA	**Kurravaara**	**5.07**	**280**	P	**Pn**	**06 57 12.8**	**-0.1**
KUA				S	**Sn**	**06 58 12.0**	**0.0**
KOVU	**Salmi**	**5.13**	**283**	P	**Pn**	**06 57 14.1**	**+0.3**
HARU	**Harads**	**5.21**	**259**	P	**Pn**	**06 57 13.6**	**-1.2**
JETT	**Jettan, Norway**	**5.22**	**298**	Pn	**Pn**	**06 57 17.3**	**+2.2**
JETT				Sn	**Sn**	**06 58 16.4**	**+0.4**
RATU	**Laukkuluspa**	**5.36**	**279**	P	**Pn**	**06 57 16.8**	**-0.1**
NIKU	**Nikkaluokta**	**5.56**	**279**	P	**Pn**	**06 57 20.1**	**+0.3**
TRO	**Tromso**	**5.75**	**297**	*e*P	**Pn**	**06 57 22.4**	**+0.2**
TRO				*e*S	**Sn**	**06 58 25.7**	**-3.0**
TRO				IAML		06 58 34.0	
	comp=Z,8.8nm,0.5s						
STEI	**Steigen**	**6.99**	**281**	*e*P	**Pn**	**06 57 37.8**	**-1.4**
STEI				*e*S	**Sn**	**06 58 55.5**	**-3.7**
STEI				IAML		06 59 00.6	
	comp=Z,3.2nm,0.6s						
FIA0	**FINESS Array S**	**7.01**	**211**	Pn	**Pn**	**06 57 39.1**	**-0.6**
	baz=35,slow=12						
FIA0				Sn	**Sn**	**06 58 55.7**	**-4.3**
	baz=21,slow=22						
FIA0				Lg	Lg	06 59 31.1	
	baz=30,slow=22						
FIA0	**FINESS Array S**	**7.01**	**211**	Pn	**Pn**	**06 57 39.1**	**-0.6**
	baz=35,slow=12						
FIA0				Sn	**Sn**	**06 58 55.7**	**-4.3**
	baz=21,slow=22						
FINES	**FINESS Array B**	**7.01**	**211**	Pn	**Pn**	**06 57 39.5**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=19,slow=12,SNR=9.2						
FINES				Lg	Lg	06 59 30.8	
	comp=Z,0.9nm,0.3s,baz=34,slow=25,SNR=9.4						
FAUS	**Fauske**	**7.05**	**276**	*e*S	**Sn**	**06 58 56.8**	**-4.0**
FAUS				IAML		06 59 03.9	
	comp=Z,5.3nm,0.7s						
LOF	**Lofoten**	**7.60**	**283**	*e*P	**Pn**	**06 57 45.2**	**-2.5**
MOR8	**Moi Rana**	**7.69**	**268**	*e*P	Pn	06 57 43.9	-5.0
KONS	**Konsvik**	**8.09**	**272**	*e*P	**Pn**	**06 57 51.3**	**-3.1**
HFS	**Hagfors**	**11.52**	**239**	Pn	**Pn**	**06 58 40.0**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=44,slow=11,SNR=5.0						
HFS				Sn	**Sn**	**07 00 47.7**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=51,slow=21,SNR=4.5						
HFS				Lg	Lg	07 01 55.7	
	comp=Z,0.4nm,0.3s,baz=64,slow=26,SNR=2.2						
HFS				LR	LR	07 03 07.4	
	comp=Z,29nm,18.9s,baz=354,slow=37						
SPA0	**Spitsbergen Ar**	**11.66**	**342**	Pn	**Pn**	**06 58 40.3**	**-3.0**
	baz=141,slow=18						
SPA0	**Spitsbergen Ar**	**11.66**	**342**	*e*P	Pn	06 58 38.5	-4.7
SPA0				Pn	Pn	06 58 40.3	-3.0
	baz=141,slow=18						
SPITS	**Spitsbergen Ar**	**11.66**	**342**	Pn	**Pn**	**06 58 40.2**	**-3.0**
	baz=141,slow=16,SNR=16						
NOA	**NORSAR Array B**	**11.70**	**246**	Pn	**Pn**	**06 58 43.0**	**-0.8**
	comp=Z,0.0nm,0.3s,baz=45,slow=11,SNR=2.6						
NOA				Lg	Lg	07 01 58.6	
	comp=Z,0.0nm,0.3s,baz=56,slow=7.6,SNR=6.5						
NRA0	**NORESS Array S**	**11.80**	**245**	Pn	**Pn**	**06 58 42.6**	**-2.5**
	baz=58,slow=14						
NRA0				Sn	**Sn**	**07 00 55.1**	**-2.3**
	baz=45,slow=28						
NRA0	**NORESS Array S**	**11.80**	**245**	Pn	**Pn**	**06 58 42.6**	**-2.5**
	baz=58,slow=14						
AKASG	**Malin Array Be**	**17.12**	**190**	P	**Pn**	**06 59 56.0**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=8.5,slow=12,SNR=5.2						
AKTO	**Aktyubinsk**	**21.05**	**133**	P	**P**	**07 00 41.9**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=329,slow=11,SNR=3.7						
KURBB	**Kurchatov Arra**	**27.75**	**105**	P	**P**	**07 01 46.6**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=326,slow=8.0,SNR=2.8						
TORD	**Torodi Ar. Bea**	**58.32**	**217**	P	**P**	**07 05 53.7**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=9.6,slow=8.0,SNR=2.1						

*BJI **27** 07:04:53.3±0.0, 10°38S×107°83E, h25km, mB5.1/11, mb4.5/23*
*DJA **27** 07:04:54.6±0.4, 10°S±4°×10°8E±°, h10km, M4.5/19, mb4.8/3, mB5.1/2, MLv4.4/19, Mw(mB)4.5/2*
*IDC **27** 07:04:55.0±0.9, 9°57S×108°20E, h0km, mb4.0/11, mb1 4.2/13, mb1mx4.0/34, mbtmp4.1/13, ML3.7/2, MS3.2/5, Ms1 3.3/5, ms1mx2.8/34, Error ellipse: s-maj=39.1km s-min=14.0km az=54.0*
*NEIC **27** 07:04:56.4±1.4, 9°77S±0°06×107°96E±0°06, h10km±1km, mb4.5/30, Error ellipse: s-maj=11.3km s-min=9.8km az=142.0*
ISC 27 07:04:55.7±0.5, 9°77S±0°05×107°96E±0°05, h10km, n82, σ1§15/79, mb4.4/26, MS3.3/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**2.03**	**14**	P	**Pn**	**07 05 28.6**	**-1.4**
CISI	**Cisompet, Garu**	**2.21**	**356**		**Pn**	**07 05 31.4**	**-1.0**
CISI	**Cisompet, Garu**	**2.21**	**356**	P	**Pn**	**07 05 31.5**	**-1.0**
XMIS	**Christmas Isla**	**2.38**	**253**		**Pn**	**07 05 34.3**	**-0.5**
SCJI	**Gunung Srandil**	**2.40**	**30**	P	**Pn**	**07 05 34.5**	**-0.5**
SCJI				S	**Sn**	**07 06 02.0**	**-2.5**
CNJI	**Cibinong**	**2.58**	**341**	P	**Pn**	**07 05 37.1**	**-0.4**
KPJI	**Karang Pucung**	**2.61**	**22**	P	**Pn**	**07 05 38.5**	**+0.6**
LEM	**Lembang**	**2.95**	**353**	Pn	**Pn**	**07 05 42.6**	**-0.1**
	14nm,0.3s,baz=156,slow=11,SNR=17						
LEM				LR	LR	07 06 52.2	
	comp=Z,332nm,18.8s,baz=180,slow=42						
LEM	**Lembang**	**2.95**	**353**	P	**Pn**	**07 05 43.2**	**+0.5**
CTJI	**Waduk Cacaban**	**3.00**	**24**	P	**Pn**	**07 05 43.6**	**+0.3**
YOGI	**Yogyakarta**	**3.02**	**50**	P	**Pn**	**07 05 44.0**	**+0.5**
SKJI	**Sukabumi**	**3.08**	**333**	P	**Pn**	**07 05 43.8**	**-0.6**
UGM	**Wanagama**	**3.14**	**54**		**Pn**	**07 05 43.8**	**-1.5**
UGM	**Wanagama**	**3.14**	**54**	P	**Pn**	**07 05 45.4**	**+0.2**
DBJI	**Dramaga**	**3.42**	**339**	P	**Pn**	**07 05 46.3**	**-2.7**
PCJI	**Pacitan**	**3.54**	**64**	P	**Pn**	**07 05 47.5**	**-3.3**
SMRI	**Semarang**	**3.65**	**42**	Pn	**Pn**	**07 05 52.1**	**-0.2**
SMRI	**Semarang**	**3.65**	**42**	P	**Pn**	**07 05 53.5**	**+1.2**
SBJI	**Serang**	**4.06**	**333**	P	**Pn**	**07 05 57.5**	**-0.3**
PWJI	**Pagerwojo**	**4.18**	**66**	P	**Pn**	**07 05 59.2**	**-0.3**
SJI	**Sawahan**	**4.27**	**62**	P	**Pn**	**07 06 01.4**	**+0.5**
KRKI	**Karangkates**	**4.72**	**70**	P	**Pn**	**07 06 06.9**	**-0.1**
GMJI	**Gumukmas**	**5.62**	**75**	P	**Pn**	**07 06 18.8**	**-0.5**
	0.5nm2µm118nm,0.8s						
JAGI	**Jajag, Banyuwa**	**6.25**	**79**		**Pn**	**07 06 27.0**	**-1.0**
JAGI	**Jajag, Banyuwa**	**6.25**	**79**	P	**Pn**	**07 06 27.1**	**-1.0**
	0.6nm2µm103nm,0.6s						
MDSI	**Maura Dua**	**6.45**	**324**	P	**Pn**	**07 06 29.5**	**-1.3**
KAPI	**Kappang**	**12.61**	**69**	LR	LR	07 13 18.1	
	comp=Z,58nm,18.6s,baz=179,slow=41						
GIRL	**Giralia**	**14.14**	**156**	Pn	**Pn**	**07 08 13.5**	**-2.6**
PSA00	**Pilbara Seismi**	**16.38**	**137**	P	**Pn**	**07 08 47.5**	**+1.7**
TOLI2	**Tolitoli**	**16.73**	**50**	Pn	**Pn**	**07 08 50.0**	**-0.3**
TOLI2				IAmb	IAmb	07 09 04.6	
	comp=Z,42nm,1.6s						
FITZ	**Fitzroy Crossi**	**19.04**	**118**	P	**Pn**	**07 09 18.9**	**0.0**
	comp=Z,0.1nm,0.3s,baz=276,slow=8.1,SNR=8.7						
FITZ	**Fitzroy Crossi**	**19.04**	**118**	P	**Pn**	**07 09 19.1**	**+0.3**
KNRA	**Kununurra**	**21.11**	**108**	P	**P**	**07 09 41.0**	**+0.2**
KNRA				IAmb	IAmb	07 09 48.1	
	comp=Z,23nm,1.1s						
MTN	**Manton Dam**	**22.92**	**100**	P	**P**	**07 10 01.6**	**+1.5**
MTN				IAmb	IAmb	07 10 32.8	
	comp=Z,24nm,1.4s						
NWAO	**Narrogin (SRO)**	**24.58**	**161**	LR	LR	07 18 23.7	
	comp=Z,70nm,21.4s,baz=3.0,slow=33						
WRA	**Warramunga Arr**	**27.39**	**115**	P	**P**	**07 10 41.3**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=284,slow=12,SNR=9.1						
WB2	**Warramunga Arr**	**27.40**	**115**	P	**P**	**07 10 41.6**	**0.0**
WR0	**Warramunga Arr**	**27.57**	**115**	P	**P**	**07 10 43.8**	**+0.5**
AS31	**Alice Springs**	**28.36**	**122**	P	**P**	**07 10 49.8**	**-0.4**
ASAR	**Alice Springs**	**28.36**	**122**	P	**P**	**07 10 50.5**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=300,slow=9.0,SNR=20						
ASAR				PcP	**PcP**	**07 14 03.8**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=303,slow=2.0,SNR=4.5						
QIZ	**Qiongzhong**	**28.68**	**4**	P	**P**	**07 10 53.2**	**+0.2**
QIZ				IAmb	IAmb	07 11 29.4	
	comp=Z,17nm,1.4s						
CM31	**Chiang Mai Arr**	**29.43**	**342**	P	**P**	**07 10 59.4**	**-0.2**
CM31				IAmb	IAmb	07 11 01.7	
	comp=Z,11nm,0.8s						
CMAR	**Chiang Mai Arr**	**29.43**	**342**	P	**P**	**07 11 00.0**	**+0.4**
	comp=Z,3.6nm,0.5s,baz=175,slow=9.1,SNR=21						
CMAR				LR	LR	07 24 55.1	
	comp=Z,63nm,18.4s,baz=220,slow=41						
CMAR	**Chiang Mai Arr**	**29.43**	**342**	P	**P**	**07 10 59.5**	**-0.2**
CHTO	**Chiang Mai**	**29.77**	**343**	P	**P**	**07 11 02.4**	**-0.2**
CHTO				IAmb	IAmb	07 11 04.4	
	comp=Z,15nm,1.1s						
H08S2	**Diego Garcia H**	**35.11**	**271**	T	T	07 49 22.8	
	baz=95,slow=74,SNR=24						
H08S3	**Diego Garcia H**	**35.12**	**271**	T	T	07 49 20.9	
	baz=95,slow=74,SNR=19						
H08S1	**Diego Garcia H**	**35.13**	**271**	T	T	07 49 21.6	
	baz=95,slow=74,SNR=6.4						
STKA	**Stephens Creek**	**38.11**	**130**	P	**P**	**07 12 15.8**	**+0.7**
	comp=Z,3.4nm,0.7s,baz=297,slow=9.7,SNR=11						
STKA	**Stephens Creek**	**38.11**	**130**	P	**P**	**07 12 15.5**	**+0.5**
CTAO	**Charters Tower**	**38.31**	**110**	P	**P**	**07 12 17.8**	**+0.9**
CTAO				IAmb	IAmb	07 13 25.7	
	comp=Z,15nm,1.4s						
SHL	**Shillong**	**38.46**	**336**	P	**P**	**07 12 17.5**	**-0.6**
SHL				IAmb	IAmb	07 12 19.9	
	comp=Z,7.7nm,0.6s						
ENH	**Enshi**	**39.84**	**2**	P	**P**	**07 12 29.4**	**-0.1**
ENH				IAmb	IAmb	07 12 46.6	
	comp=Z,27nm,1.7s						
JMZ	**Minamidaito 2**	**42.00**	**32**	P	**P**	**07 12 47.4**	**+0.1**
LSA	**Lhasa**	**42.45**	**338**	P	**P**	**07 12 52.4**	**+0.9**
LSA				IAmb	IAmb	07 13 06.8	
	comp=Z,7.6nm,0.8s						
NJ2	**Nanjing**	**42.87**	**14**	*

NNC ***27*** *07:37:07.2±0.3,50°.02N×78°.69E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=5.3km s-min=1.7km az=80.0, Suspected Mining explosion.*
IDC ***27*** *07:37:07.4±1.0,50°.04N×78°.70E,h0km,mb1 2.9/2, mb1mx2.8/33,mbtmp2.9/2,ML2.4/2,Error ellipse: s-maj=10.3km s-min=6.6km az=63.0*

ISC 27 07:37:08.4±0.8,50°.13N±0°.04×78°.80E±0°.04,h0km,n39, σ1§42/52,19C-10D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.49**	**339**	⇑P	**Pg**	**07 37 18.0**	**+0.1**
KUR07				⇑S	**Sb**	**07 37 27.1**	**-0.7**
KUR14	**Kurchatov Arra**	**0.51**	**345**	⇑P	**Pg**	**07 37 18.3**	**+0.1**
KUR14				⇑S	**Sb**	**07 37 27.4**	**-0.8**
KUR06	**Kurchatov Arra**	**0.51**	**340**	⇑P	**Pg**	**07 37 18.4**	**+0.2**
KUR06				⇑S	**Sb**	**07 37 27.2**	**-1.1**
KUR15	**Kurchatov Arra**	**0.52**	**343**	⇓P	**Pg**	**07 37 18.5**	**+0.1**
KUR15				⇓S	**Sb**	**07 37 28.0**	**-0.5**
KURBB	**Kurchatov Arra** 2.1nm,0.3s,baz=165,slow=19,SNR=83	**0.53**	**341**	Pg	**Pg**	**07 37 18.8**	**+0.2**
KURBB				Lg	Lg	07 37 27.9	
KURBB	**Kurchatov Arra** 3.4nm,0.3s,baz=170,slow=32,SNR=22	**0.53**	**341**	⇑P	**Pg**	**07 37 18.6**	**0.0**
KURBB	15nm,0.3s			⇑S	**Sb**	**07 37 28.2**	**-0.5**
KUR16	**Kurchatov Arra** 57nm,0.5s	**0.54**	**339**	⇑P	**Pg**	**07 37 18.8**	**+0.1**
KUR16				⇑S	**Sb**	**07 37 28.1**	**-1.0**
KUR05	**Kurchatov Arra**	**0.55**	**342**	⇑P	**Pg**	**07 37 18.8**	**0.0**
KUR05				⇑S	**Sb**	**07 37 28.2**	**-1.0**
KUR17	**Kurchatov Arra**	**0.55**	**338**	⇓P	**Pg**	**07 37 19.0**	**+0.1**
KUR17				⇓S	**Sb**	**07 37 28.9**	**-0.5**
KUR04	**Kurchatov Arra**	**0.56**	**343**	⇓P	**Pg**	**07 37 19.2**	**0.0**
KUR04				⇓S	**Sb**	**07 37 28.8**	**-1.0**
SEM	**Semipalatinsk** 3.7nm,0.1s	**0.97**	**73**	P	Pn	07 37 41.7	+12
SEM				S	Sn	07 38 03.5	+19
MK31	**Makanchi Array** 59nm,0.3s	**4.06**	**144**	⇑Pn	**Pn**	**07 38 10.7**	**-1.1**
MK31	0.1nm,0.2s,baz=322,slow=10,SNR=29			Pg	**Pb**	**07 38 20.5**	**-0.3**
MK31	0.4nm,0.3s,baz=317,slow=14,SNR=13			⇓Sn	**Sn**	**07 38 59.1**	**-1.0**
MK31	2.4nm,0.6s			⇑Lg	Lg	07 39 15.1	
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=323,slow=10,SNR=26	**4.06**	**144**	Pn	**Pn**	**07 38 11.0**	**-0.9**
MKAR	0.6nm,0.3s,baz=324,slow=14,SNR=16			Pg	**Pb**	**07 38 17.5**	**-3.3**
MKAR	0.9nm,0.3s,baz=331,slow=23,SNR=5.2			Lg	Lg	07 39 11.8	
MKAR	**Makanchi Array**	**4.06**	**144**	P	**Pn**	**07 38 10.7**	**-1.1**
MKAR				S	**Sn**	**07 39 00.6**	**+0.5**
OTUK	**Ortayu** 1.2nm,0.5s	**4.64**	**249**	⇓Pn	**Pn**	**07 38 18.1**	**-1.6**
OTUK	1.0nm,0.5s			⇓Sn	**Sn**	**07 39 11.7**	**-2.5**
OTUK	4.5nm,0.5s			⇑Lg	Lg	07 39 32.7	
ZSN	**Zaisan** 2.9nm,0.3s	**4.82**	**121**	Pg	**Pg**	**07 38 39.4**	**-1.4**
ZSN	6.7nm,0.2s			Lg	Lg	07 39 42.6	
KAPS	**Kapalarasan** 2.3nm,0.7s	**4.86**	**175**	Pg	**Pb**	**07 38 35.5**	**+1.1**
KAPS	7.6nm,0.3s			Lg	Lg	07 39 35.7	
I46RU	**ZALESOVO INFRA** baz=225,slow=331,SNR=3.2	**5.33**	**42**	*i*		08 10 20.0	
ZALV	**Zalesovo Beam** 0.6nm,0.3s,baz=234,slow=15,SNR=4.0	**5.33**	**42**	Pn	**Pn**	**07 38 31.3**	**+2.0**
CHBI	**Chibit, Altay**	**5.59**	**85**	S	**Sn**	**07 39 39.3**	**+1.4**
DGZ	**Jazzator, Alta**	**5.59**	**91**	S	**Sn**	**07 39 40.2**	**+2.2**
ARTR	**Artybash**	**5.62**	**69**	S	**Sn**	**07 39 38.9**	**+0.5**
AKAR	**Aktash**	**5.67**	**85**	P	**Pn**	**07 38 35.0**	**+1.1**
AKAR				S	**Sn**	**07 39 40.8**	**+1.0**
DJR	**Jarkent** 1.5nm,0.3s	**5.83**	**173**	Pg	**Pb**	**07 38 53.6**	**+2.6**
DJR	4.4nm,0.3s			Lg	Lg	07 40 06.8	
ULGR	**Ulagan, Altay**	**5.88**	**82**	S	**Sn**	**07 39 45.8**	**+0.8**
CUR	**Chagan-Uzun**	**6.15**	**87**	S	**Sn**	**07 39 53.5**	**+1.9**
CHKK	**Chushkaly** 1.7nm,0.2s	**6.39**	**192**	Pg	**Pb**	**07 39 01.5**	**+0.9**
CHKK	12nm,0.3s			Lg	Lg	07 40 20.4	
KUU	**Kurty** 2.7nm,0.1s	**6.46**	**196**	Pg	**Pb**	**07 39 02.5**	**+0.9**
KUU	7.9nm,0.2s			Lg	Lg	07 40 22.6	
KTBS	**Karatobe** 0.9nm,0.4s	**6.58**	**194**	Pg	**Pb**	**07 39 05.2**	**+1.5**
KTBS	10nm,0.3s			Lg	Lg	07 40 27.1	
KRBS	**Karabastau** 0.7nm,0.4s	**6.78**	**200**	Pg	**Pb**	**07 39 09.4**	**+2.3**
KRBS	5.7nm,0.3s			Lg	Lg	07 40 34.3	
PDGK	**Podgornoye** 0.5nm,0.3s	**6.81**	**176**	Pg	**Pb**	**07 39 11.8**	**+4.0**
PDGK	1.7nm,0.4s			Lg	Lg	07 40 38.5	
PDGK	**Podgornoye** 3.2nm,0.5s	**6.81**	**176**	⇓Lg	Lg	07 40 42.3	
KOTS	**Kotyrbulak** 2.0nm,0.2s	**6.99**	**190**	Pg	**Pb**	**07 39 12.7**	**+1.9**
KOTS	12nm,0.4s			Lg	Lg	07 40 40.1	
DGS	**Degeres** 2.1nm,0.3s	**7.19**	**198**	Pg	**Pb**	**07 39 16.4**	**+2.2**
DGS	7.8nm,0.3s			Lg	Lg	07 40 46.2	
KST	**Kastek** 3.2nm,0.6s	**7.35**	**196**	Pg	**Pb**	**07 39 19.0**	**+2.2**
KST	4.7nm,0.5s			Lg	Lg	07 40 51.9	
TKM2	**Tokmak 2** 2.1nm,0.5s	**7.54**	**198**	⇑Lg	Lg	07 41 05.3	

ATH ***27*** *07:51:58.9,40°.97N×19°.93E,h8km±6km,ML2.1/4,Error ellipse: s-maj=7.1km s-min=1.7km az=332.0*
SKO ***27*** *07:51:59.0,40°.96N×19°.83E,h0km*
TIR ***27*** *07:51:59.3,41°.05N×20°.03E,h12km±1km,Md2.5,Ml2.1*

ISC 27 07:51:58.8±1.2,40°.99N±0°.03×19°.91E±0°.04,h8km±10km, n24,σ1§04/37,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.36**	**354**	P	**Pg**	**07 52 06.2**	**+0.4**
TIR				AML	AML	07 52 19.5	
TIR	comp=N,917μm,0.4s			AML	AML	07 52 20.0	
TIR	**Tirane** baz=338	**0.36**	**354**	P	**Pg**	**07 52 06.2**	**+0.4**
TIR	baz=338			S	**Sg**	**07 52 11.4**	**+0.8**
TIR	comp=N,0.7nm,0.4s,baz=338			AMP			
TIR	**Tirane**	**0.36**	**354**	*i* Pg	**Pg**	**07 52 06.3**	**+0.4**
OHR	**Ohrid**	**0.68**	**79**	*i* Pg	**Pg**	**07 52 12.0**	**+0.1**
OHR				*i* Sg	**Sb**	**07 52 22.6**	**+0.1**
KBN	**Korca** baz=126	**0.76**	**119**	P	**Pg**	**07 52 13.2**	**-0.1**
KBN	baz=126			S	**Sb**	**07 52 24.5**	**-0.1**
PHP	**Peshkopia** baz=26	**0.80**	**30**	P	**Pg**	**07 52 13.2**	**-1.0**
PHP				S	**Sg**	**07 52 24.3**	**-0.3**
PHP	baz=26			AMP			
PHP	comp=N,0.3nm,0.3s,baz=26			AMP			
NEST	**Nestorio**	**1.04**	**123**	P	**Pg**	**07 52 17.6**	**-1.1**
NEST				AML	AML	07 52 41.5	
NEST	comp=N,77μm,0.3s			AML	AML	07 52 42.1	
SRN	**Sarande** baz=181	**1.11**	**177**	P	**Pn**	**07 52 22.6**	**+2.1**
SRN				S	**Sn**	**07 52 39.0**	**+3.1**
SRN	comp=E,0.2nm,0.4s,baz=181			AMP			
FNA	**Florina**	**1.13**	**100**	P	**Pg**	**07 52 20.0**	**-0.4**
FNA				S	**Sb**	**07 52 35.4**	**+0.1**
FNA	comp=N,209μm,0.4s			AML	AML	07 52 40.1	
FNA	comp=E,214μm,0.4s			AML	AML	07 52 42.4	
FNA	**Florina** baz=104	**1.13**	**100**	P	**Pg**	**07 52 20.0**	**-0.4**
FNA	baz=104			S	**Sn**	**07 52 36.3**	**-0.3**
FNA	**Florina**	**1.13**	**100**	*i* Pg	**Pg**	**07 52 20.1**	**-0.3**
FNA				*i* Sg	**Sn**	**07 52 37.6**	**+1.1**
KEK	**Kerkira**	**1.28**	**184**	P	**Pg**	**07 52 23.3**	**0.0**
BCI	**Bajram Curri** baz=1.0	**1.38**	**5**	P	**Pb**	**07 52 25.5**	**+0.7**
BCI	baz=1.0			S	**Sb**	**07 52 43.3**	**+0.7**
BCI	comp=N,0.2nm,0.6s,baz=1.0			AMP			
SCTE	**Santa Cesarea**	**1.43**	**231**	P	**Pn**	**07 52 25.3**	**+0.4**
KPRO	**Kipourio**	**1.51**	**133**	P	**Pn**	**07 52 26.4**	**+0.2**
KPRO				AML	AML	07 53 02.7	
KPRO	comp=N,69μm,0.6s			AML	AML	07 53 03.0	
STIP	**Stip**	**1.85**	**67**	*i* Pn	**Pg**	**07 52 34.4**	**+0.2**
LKD2	**Lefkada island**	**2.27**	**165**	P	**Pn**	**07 52 38.0**	**+1.4**
EVGI	**Lefkada island**	**2.43**	**166**	P	**Pb**	**07 52 41.2**	**-1.5**
AGG	**Agios Georgios**	**2.70**	**136**	P	**Pb**	**07 52 46.3**	**-1.0**
ANX	**Ano Chora**	**2.85**	**146**	P	**Pb**	**07 52 47.9**	**-2.0**
MAKA	**Makarska**	**3.15**	**318**	*e*Pn	**Pn**	**07 52 48.3**	**-0.2**
MAKA				S	**Sn**	**07 53 24.4**	**-1.8**
RICI	**Ricice**	**3.24**	**321**	*e*Pn	**Pn**	**07 52 50.6**	**+0.7**
RICI				S	**Sn**	**07 53 29.1**	**+0.4**
MORI	**Morici**	**4.24**	**314**	*e*Pn	**Pn**	**07 53 03.6**	**+0.1**
MORI				S	**Sn**	**07 53 52.1**	**-1.0**
DUGI	**Dugi Otok**	**4.68**	**311**	*e*Pn	**Pn**	**07 53 09.2**	**-0.4**
DUGI				S	**Sn**	**07 54 02.9**	**-1.1**

IDC ***27*** *08:12:14.9±4.3,23°.46N×93°.97E,h82km±40km,mb3.6/6, mb1 3.8/7,mb1mx3.3/49,mbtmp3.9/7,MS2.7/2,Ms1 2.7/2, ms1mx2.4/36,Error ellipse: s-maj=59.0km s-min=15.2km az=60.0*

ISC 27 08:12:14.1±1.3,23°.5N±0°.2×93°.9E±0°.3,h73km,n8,σ0§39/7, mb3.9/6,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr** 0.5nm,0.3s,baz=309,slow=14,SNR=6.1	**6.84**	**136**	P	**Pn**	**08 13 52.2**	**+0.4**
CMAR	comp=Z,15nm,20.3s,baz=35,slow=46			LR	LR	08 17 25.9	
MKAR	**Makanchi Array** 3.6nm,0.7s,baz=146,slow=8.8,SNR=30	**25.09**	**341**	P	**P**	**08 17 32.0**	**+0.2**
SONM	**Songino Array** 0.5nm,0.5s,baz=202,slow=9.6,SNR=3.4	**26.27**	**19**	P	**P**	**08 17 42.6**	**0.0**
KURBB	**Kurchatov Arra** 1.1nm,0.5s,baz=155,slow=7.8,SNR=10	**29.64**	**340**	P	**P**	**08 18 12.4**	**0.0**
MJAR	**Matsushiro Arr** comp=Z,35nm,19.0s,baz=165,slow=39	**40.17**	**61**	LR	LR	08 38 19.2	
WRA	**Warramunga Arr** 0.9nm,0.7s,baz=322,slow=7.4,SNR=12	**58.44**	**134**	P	**P**	**08 22 02.0**	**-0.6**
ASAR	**Alice Springs** 0.9nm,0.5s,baz=320,slow=6.8,SNR=20	**60.85**	**138**	P	**P**	**08 22 18.9**	**-0.2**
GERES	**GERESS Array B** 0.8nm,0.6s,baz=72,slow=8.7,SNR=4.8	**66.40**	**315**	P	**P**	**08 22 55.6**	**+0.1**

SJA 27 08:14:43.0,22°.73S×70°.28W,h29km,ML4.9,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB05	**IPOC Station P**	**0.14**	**150**	*i* P		08 14 50.0	+0.6
PB04	**IPOC Station P**	**0.41**	**17**	*i* P		08 14 54.0	+0.8
PB10	**IPOC Station P**	**0.82**	**198**	*i* P		08 14 59.0	+0.3
PB07	**IPOC Station P**	**1.06**	**20**	*i* P		08 15 01.0	-1.1
PB02	**IPOC Station P**	**1.45**	**14**	*i* P		08 15 07.0	-0.4
PB01	**IPOC Station P**	**1.83**	**24**	*i* P		08 15 12.0	-0.6
PB14	**IPOC Station P**	**1.89**	**183**	*i* P		08 15 14.0	+0.3
TA01	**Diego Aracena**	**2.16**	**2**	*i* P		08 15 18.0	+1.0
PB08	**IPOC Station P**	**2.78**	**22**	*i* P		08 15 27.0	+1.0
PSGCX	**Pisagua**	**3.12**		*i* P		08 15 31.0	+0.6
AC02	**Maricunga**	**4.22**	**166**	*i* P		08 15 46.0	+0.2
ACDV	**Cuesta del Vie**	**7.48**	**172**	*i* P		08 16 29.0	-1.4

GUC ***27*** *08:21:08.3±0.4,31°.73S×72°.61W,h27km±2km,ML4.0*
IDC ***27*** *08:21:11.5±3.9,31°.81S×72°.60W,h44km±38km,mb3.5/3, mb1 3.8/6,mb1mx3.5/24,mbtmp3.8/6,ML4.0/3,Error ellipse: s-maj=44.4km s-min=28.6km az=108.0*

ISC 27 08:21:09.7±3.0,31°.74S±0°.05×72°.74W±0°.07,h32km±24km, n37,σ0§94/50,mb3.9/3,3C-4D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**1.42**	**42**	*e*P	Pn	08 21 30.5	-2.9
VA06	**Catapilco**	**1.47**	**124**	⇑*i*P	**Pn**	**08 21 33.1**	**-0.9**
VA06				*i* S	**Sn**	**08 21 51.5**	**-0.7**
VA06	comp=E,6μm,0.1s			IAML		08 21 53.0	
VA06	**Catapilco**	**1.47**	**124**	⇑*i*P	**Pn**	**08 21 33.1**	**-0.9**
VA06				*i* S	**Sn**	**08 21 51.6**	**-0.7**
VA06	comp=E,6μm,0.4s			IAML		08 21 54.3	
CO02	**Combarbal**	**1.58**	**71**	*e*P	Pn	08 21 33.6	-2.0
CO02				*i* S	**Sn**	**08 21 52.8**	**-2.2**
CO02	comp=N,2μm,0.5s			IAML		08 21 56.7	
CO02	**Combarbal**	**1.58**	**71**	*i* P	Pn	08 21 34.1	-1.5
CO02				IAML		08 21 56.7	
VA01	**Torpederas**	**1.58**	**144**	*e*P	**Pn**	**08 21 34.5**	**-1.0**
VA01				*i* S	**Sn**	**08 21 54.1**	**-0.7**
VA01	**Torpederas**	**1.58**	**144**	*i* P	**Pn**	**08 21 34.3**	**-1.2**
VA01				*i* S	**Sn**	**08 21 53.3**	**-1.6**
ROCH	**El Roble**	**1.91**	**131**	*e*P	**Pn**	**08 21 39.6**	**-0.6**
ROCH				*i* S	**Sn**	**08 22 03.3**	**-0.1**
ROCH	comp=N,1μm,0.5s			IAML		08 22 05.7	
ROCH	**El Roble**	**1.91**	**131**	*e*P	**Pn**	**08 21 39.7**	**-0.6**
ROCH				*e*S	**Sn**	**08 22 03.7**	**+0.3**
ROCH	comp=N,1μm,0.3s			IAML		08 22 05.6	
CO03	**El Pedregal**	**1.97**	**63**	⇓*i*P	**Pn**	**08 21 39.9**	**-1.1**
CO03				*i* S	**Sn**	**08 22 04.4**	**-0.3**
VA03	**San Esteban**	**2.12**	**119**	*e*P	**Pn**	**08 21 42.6**	**-0.4**
VA03				*i* S	**Sn**	**08 22 08.6**	**+0.3**
VA03	comp=N,2μm,0.5s			IAML		08 22 13.6	
VA03	**San Esteban**	**2.12**	**119**	⇑*i*P	**Pn**	**08 21 42.9**	**-0.1**
VA03				*i* S	**Sn**	**08 22 09.1**	**+0.8**
VA03	comp=N,2μm,0.5s			IAML		08 22 13.6	
VA05	**Santo Domingo**	**2.14**	**154**	*e*P	**Pn**	**08 21 42.3**	**-0.9**
VA05				IAML		08 22 10.9	
VA05	comp=E,2μm,0.2s						
VA05	**Santo Domingo**	**2.14**	**154**	*i* P	**Pn**	**08 21 42.3**	**-0.9**
VA05				*i* S	**Sn**	**08 22 06.8**	**-1.7**
VA05	comp=E,2μm,0.3s			IAML		08 22 11.0	
CO05	**La Serena**	**2.23**	**36**	*i* P	Pn	08 21 41.7	-2.7
GO04	**Tololo Observa**	**2.28**	**47**	*i* P	**Pn**	**08 21 43.4**	**-2.0**
MT05	**Renca**	**2.36**	**135**	*e*P	**Pn**	**08 21 46.0**	**-0.3**
MT05				*i* S	**Sn**	**08 22 14.8**	**+0.5**
MT05	comp=E,2μm,0.5s			IAML		08 22 18.9	
MT05	**Renca**	**2.36**	**135**	*i* P	**Pn**	**08 21 46.1**	**-0.3**
MT05				*e*S	**Sn**	**08 22 14.1**	**-0.1**
MT05				IAML		08 22 18.9	
MT01	**Popeta**	**2.46**	**150**	*e*P	**Pn**	**08 21 47.0**	**-0.7**
MT01	comp=E,821nm,0.3s			IAML		08 22 17.3	
MT01	**Popeta**	**2.46**	**150**	*i* P	**Pn**	**08 21 46.7**	**-1.0**
MT01				*i* S	**Sn**	**08 22 15.1**	**-1.6**
MT01	comp=E,802nm,0.3s			IAML		08 22 17.3	
MT09	**Talagante**	**2.51**	**144**	*i* P	**Pn**	**08 21 48.5**	**0.0**
MT09				*i* S	**Sn**	**08 22 17.8**	**-0.4**
MT09	comp=N,946nm,0.3s			IAML		08 22 23.1	
MT09	**Talagante**	**2.51**	**144**	*i* P	**Pn**	**08 21 48.6**	**0.0**
MT09				*e*S	**Sn**	**08 22 17.7**	**-0.4**
MT09	comp=N,941nm,0.4s			IAML		08 22 23.1	
BO03	**Pichilemu**	**2.83**	**167**	⇓*i*P	**Pn**	**08 21 51.3**	**-1.3**
BO03	comp=E,696nm,0.5s			IAML		08 22 25.0	
BO03	**Pichilemu**	**2.83**	**167**	⇓*i*P	**Pn**	**08 21 51.4**	**-1.3**
BO03	comp=E,699nm,0.3s			IAML		08 22 25.1	
BO01	**Tunca**	**2.99**	**153**	*e*P	**Pn**	**08 21 54.1**	**-0.8**
BO01	comp=N,207nm,0.2s			IAML		08 22 30.9	
BO01	**Tunca**	**2.99**	**153**	⇓*e*P	**Pn**	**08 21 54.1**	**-0.8**
LMEL	**Las Melosas**	**3.00**	**135**	*i* P	**Pn**	**08 21 56.1**	**+0.9**
LMEL				*i* S	**Sn**	**08 22 31.0**	**+0.9**
LMEL	comp=N,712nm,0.2s			IAML		08 22 34.8	
LMEL	**Las Melosas**	**3.00**	**135**	*e*P	**Pn**	**08 21 56.1**	**+0.9**
GO05	**Huala**	**3.33**	**168**	*e*P	Pn	08 21 57.5	-2.2
BO02	**Sierra Bellavi**	**3.46**	**152**	*i* P	**Pn**	**08 22 01.7**	**+0.2**
BO02				*i* S	**Sn**	**08 22 41.0**	**-0.4**
PLCA	**Paso Flores** comp=N,0.9nm,0.3s,baz=330,slow=12,SNR=36	**9.15**	**169**	P	**Pn**	**08 23 19.7**	**+0.1**
LPAZ	**La Paz** comp=N,0.1nm,0.3s,baz=190,slow=6.1,SNR=6.6	**15.94**	**16**	P	**Pn**	**08 24 53.7**	**+1.4**
SIV	**San Ignacio** comp=N,0.3nm,0.3s,baz=223,slow=8.7,SNR=11	**18.94**	**37**	P	**P**	**08 25 28.6**	**+0.4**
BDFB	**Brasilia** comp=N,3.6nm,0.9s,baz=221,slow=9.3,SNR=3.4	**27.64**	**60**	P	**P**	**08 26 54.6**	**-0.2**
TXAR	**Lajitas Array** comp=N,0.2nm,0.6s,baz=153,slow=8.1,SNR=2.0	**67.48**	**331**	P	**P**	**08 32 03.8**	**+1.2**
TORD	**Torodi Ar. Bea** comp=N,0.9nm,1.0s,baz=257,slow=5.7,SNR=4.3	**84.01**	**71**	P	**P**	**08 33 37.3**	**0.0**
WRA	**Warramunga Arr** comp=N,0.3nm,0.7s,baz=155,slow=1.8,SNR=2.0	**122.43**	**210**	PKP	**PKPdf**	**08 40 02.1**	**-0.3**

TRN ***27*** *08:25:22.8,13°.82N×58°.44W,h65km,MD3.8*

ISC 27 08:25:22.5±2.9,13°.87N±0°.05×58°.5W±0°.2,h10km,n28, σ1§04/40,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBSP	**Saint Philip**	**1.19**	**230**	*e*P	**Pn**	**08 25 44.7**	**-0.4**
BBSP				*e*S	**Sn**	**08 26 02.8**	**+1.4**
BBGH	**Gun Hill**	**1.24**	**235**	*e*P	**Pn**	**08 25 46.2**	**+0.3**
BBGH				*e*S	**Sb**	**08 26 02.7**	**+0.6**
MPOM	**Morne Pois Mar**	**2.34**	**284**	*e*P	**Pn**	**08 26 01.1**	**+0.1**
MPOM				*e*S	**Sn**	**08 26 30.0**	**+0.2**
MCLT	**Moule a Chique**	**2.36**	**266**	*e*P	**Pn**	**08 26 00.6**	**-0.7**
MCLT				*e*S	**Sn**	**08 26 30.2**	**-0.1**
SLBI	**Saint Lucia, B**	**2.39**	**274**	*e*P	**Pn**	**08 26 01.2**	**-0.1**
SLBI				*e*S	**Sn**	**08 26 30.5**	**-0.5**
SLCP	**Castries, St.**	**2.40**	**274**	*e*S	**Sn**	**08 26 30.8**	**-0.6**
MVM	**Montagne Vaucl**	**2.40**	**287**	*e*P	**Pn**	**08 26 03.1**	**+1.1**
ILAM	**Ilet Lapin Mar**	**2.45**	**292**	*e*P	**Pn**	**08 26 01.9**	**-0.7**
ILAM				*e*S	**Sn**	**08 26 31.6**	**-1.1**
LPMF	**Morne Lapointe**	**2.47**	**287**	*e*P	**Pn**	**08 26 03.8**	**+0.9**
ZAM	**Aeronautique**	**2.53**	**286**	*e*P	**Pn**	**08 26 04.6**	**+0.9**
BIM	**Bigot**	**2.56**	**285**	*e*P	**Pn**	**08 26 04.7**	**+0.6**
BIM				*e*S	**Sn**	**08 26 35.1**	**-0.2**
FDF	**Fort de France**	**2.69**	**289**	*e*P	**Pn**	**08 26 07.2**	**+1.3**
BAMF	**Morne Balai**	**2.72**	**291**	*e*P	**Pn**	**08 26 07.4**	**+1.1**
SVB	**Belmont**	**2.72**	**258**	*e*P	**Pn**	**08 26 08.1**	**+1.8**
SVB				*e*S	**Sn**	**08 26 38.4**	**-0.9**
SVOC	**Richmond Hill,**	**2.72**	**255**	*e*S	**Sn**	**08 26 38.2**	**-1.1**
CXM	**Morne La Croix**	**2.73**	**290**	*e*P	**Pn**	**08 26 08.3**	**+1.7**
SVN	**Savane Anatole**	**2.74**	**291**	*e*P	**Pn**	**08 26 08.3**	**+1.7**
PCM	**Pelee Case Pet**	**2.77**	**290**	*e*P	**Pn**	**08 26 08.5**	**+1.5**
GCMP	**Grenada, Carri**	**3.15**	**244**	*e*S	**Sn**	**08 26 49.4**	**-0.4**
DSLB	**Salisbury**	**3.21**	**299**	*e*P	**Pn**	**08 26 12.6**	**-0.5**
DSLB				*e*S	**Sn**	**08 26 50.8**	**-0.7**
MAGL	**Barre de l'ile**	**3.38**	**308**	*e*P	**Pn**	**08 26 16.3**	**+1.0**
MAGL				*e*S	**Sn**	**08 26 55.6**	**0.0**
GRGR	**Grenville**	**3.51**	**241**	*e*P	**Pn**	**08 26 16.5**	**-0.6**
GRGR				*e*S	**Sn**	**08 26 57.0**	**-1.7**
TDBA	**Terre de Bas,**	**3.60**	**304**	*e*S	**Sn**	**08 27 00.7**	**-0.3**
CBE	**Ff, Capester**	**3.70**	**307**	*e*P	**Pn**	**08 26 20.5**	**+0.7**
CBE				*e*S	**Sn**	**08 27 02.2**	**-1.3**
ANBD	**Bethesda, Anti**	**4.45**	**316**	*e*P	**Pn**	**08 26 30.9**	**+0.9**
ANBD	**Bethesda, Anti**	**4.45**	**316**	*e*S	**Sn**	**08 27 21.4**	**-0.5**
ANOC	**Antigua Open C**	**4.54**	**316**	*e*S	**Sn**	**08 27 22.4**	**-1.8**
ANWB	**Willy Bob**	**4.92**	**321**	*e*S	**Sn**	**08 27 31.7**	**-1.7**

VAO ***27*** *08:28:34.2±0.5,30°.66S×71°.26W,h10km,mb4.6*
SJA ***27*** *08:28:34.0,30°.69S×71°.73W,h10km,ML4.9*
IDC ***27*** *08:28:36.5±0.6,30°.76S×71°.38W,h39km±4km,mb4.2/10, mb1 4.3/15,mb1mx4.2/27,mbtmp4.4/15,ML4.2/5,MS3.3/6, Ms1 3.3/6,ms1mx3.0/24,Error ellipse: s-maj=18.6km s-min=16.0km az=85.0*
GUC ***27*** *08:28:36.7±0.6,30°.73S×71°.46W,h45km±2km,ML4.8*
NEIC ***27*** *08:28:36.8,30°.72S×71°.51W,h47km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr2.58; Mθθ0.04; Mϕϕ-2.62; Mrθ0.91; Mrϕ0.27; Mθϕ-1.45; Fault plane solution: M₀3.13000×10¹⁵ NP1:φs160.50000°, δ61.66000°,λ76.44000°. NP2:φs7.43000°,δ31.17000°, λ113.49000°. Principal axes: T 3.1729, Plg70.0000°, Azm41.0000°; N -0.0918, Plg12.0000°, Azm167.0000°; P -3.0810, Plg16.0000°, Azm260.0000°;*
NEIC ***27*** *08:28:37.0±1.5,30°.73S±0°.05×71°.51W±0°.08,h38km±4km, mb4.6/81,Mwr4.3/40,ML4.6(GUC) Error ellipse: s-maj=10.1km s-min=6.8km az=92.0*

ISC 27 08:28:34.9±0.5,30°.74S±0°.02×71°.48W±0°.04,h27km±3km, n259,σ1§30/257,mb4.7/45,10C-9D,Fault plane solution: NP1:φs178.49504°,δ73.37504°,λ97.84724°. NP2: φs332.77399°,δ18.33653°,λ65.42723°. Principal axes: T Plg60.8692°, Azm99.9338°; N Plg7.5173°, Azm356.2369°; P Plg27.9627°, Azm262.2198°; Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.15**	**296**	⇑*i*P	**Pn**	**08 28 43.8**	**+2.4**
CO06				IAML		08 28 50.3	
CO06	comp=N,62μm,0.4s						
CO06	**Fray Jorge**	**0.15**	**296**		**Pn**	**08 28 43.8**	**+2.4**
CO02	**Combarbal**	**0.62**	**139**	⇓*i*P	**Pn**	**08 28 49.3**	**+1.3**
CO02				*i* S	**Sn**	**08 28 58.5**	**+1.3**
CO02	**Combarbal**	**0.62**	**139**		**Pn**	**08 28 49.4**	**+1.3**
CO02	**Combarbal**	**0.62**	**139**	*i* P	**Pn**	**08 28 49.0**	**+0.9**
CO03	**El Pedregal**	**0.69**	**99**	⇓*i*P	**Pn**	**08 28 50.1**	**+1.2**
CO03				*i* S	**Sn**	**08 28 59.9**	**+1.1**
CO03	**El Pedregal**	**0.69**	**99**		**Pn**	**08 28 49.8

VA03	**San Esteban**	**2.17**	**159**	*e*P		**Pn**	**08 29 11.3**	**+2.0**
VA03				*i* S		**Sb**	**08 29 38.9**	**-1.2**
VA03				IAML			08 29 48.6	
	comp=E,8μm,0.6s							
VA03	**San Esteban**	**2.17**	**159**			**Pn**	**08 29 11.5**	**+2.2**
VA03	**San Esteban**	**2.17**	**159**	*i* P		**Pb**	**08 29 12.0**	**-1.5**
ROCH	**El Roble**	**2.26**	**170**	*e*P		**Pn**	**08 29 13.0**	**+2.3**
ROCH				*i* S		**Sb**	**08 29 41.0**	**-1.8**
ROCH				IAML			08 29 53.0	
	comp=N,8μm,0.7s							
VA01	**Torpederas**	**2.28**	**184**	Pn		**Pn**	**08 29 11.7**	**+1.0**
VA01	**Torpederas**	**2.28**	**184**	*i* P		**Pn**	**08 29 12.0**	**+1.2**
AUSP	**Uspallata**	**2.32**	**130**	*i* P		**Pb**	**08 29 16.0**	**-0.2**
ZON	**Zonda**	**2.53**	**109**	*i* P		**Pb**	**08 29 18.0**	**-1.7**
AC04	**Llanos de Chal**	**2.55**	**8**	⇑*i* P		**Pn**	**08 29 16.1**	**+1.5**
AC04				IAML			08 30 01.4	
	comp=N,3μm,0.3s							
AC04	**Llanos de Chal**	**2.55**	**8**	Pn		**Pn**	**08 29 16.2**	**+1.7**
AC04	**Llanos de Chal**	**2.55**	**8**	*i* P		**Pn**	**08 29 16.0**	**+1.5**
MT05	**Renca**	**2.72**	**167**	*e*P		**Pn**	**08 29 19.2**	**+2.4**
MT05				*i* S		**Sn**	**08 29 52.3**	**+3.4**
MT05	**Renca**	**2.72**	**167**	Pn		**Pn**	**08 29 19.1**	**+2.2**
MT05	**Renca**	**2.72**	**167**	*i* P		**Pn**	**08 29 20.0**	**+3.1**
RTCV	**Cerro Valdivia**	**2.75**	**115**	*i* P		**Pb**	**08 29 22.0**	**-1.5**
AGUA	**GUANDACOL**	**2.87**	**65**	*i* P		**Pb**	**08 29 25.0**	**-0.6**
VA05	**Santo Domingo**	**2.91**	**182**	*e*P		**Pn**	**08 29 19.9**	**+0.5**
VA05				IAML			08 30 12.7	
	comp=E,4μm,0.4s							
VA05	**Santo Domingo**	**2.91**	**182**			**Pn**	**08 29 20.2**	**+0.8**
ASAL	**Salagasta**	**2.91**	**130**	*i* P		**Pb**	**08 29 24.0**	**-2.2**
ARCO	**CERRO ARCO**	**3.02**	**135**	*i* P		**Pb**	**08 29 26.0**	**-2.0**
MT09	**Talagante**	**3.06**	**172**	⇑*i* P		**Pn**	**08 29 23.6**	**+2.0**
MT09				*i* S		**Sn**	**08 29 59.8**	**+2.5**
MT09				IAML			08 30 14.2	
	comp=E,3μm,0.4s							
MT09	**Talagante**	**3.06**	**172**	Pn		**Pn**	**08 29 23.5**	**+2.0**
MT01	**Popeta**	**3.12**	**177**	*e*P		**Pn**	**08 29 24.0**	**+1.7**
MT01				IAML			08 30 10.3	
	comp=E,2μm,0.5s							
MT01	**Popeta**	**3.12**	**177**			**Pn**	**08 29 24.0**	**+1.7**
MT01	**Popeta**	**3.12**	**177**	*i* P		**Pn**	**08 29 25.0**	**+2.6**
AAGR	**Agrelo**	**3.25**	**137**	*i* P		**Pb**	**08 29 29.0**	**-2.9**
LMEL	**Las Melosas**	**3.28**	**161**	⇑*i* P		**Pn**	**08 29 27.1**	**+2.4**
LMEL				*e*S		**Sn**	**08 30 05.7**	**+2.7**
LMEL				IAML			08 30 21.1	
	comp=N,2μm,0.3s							
GO03	**Copiap**	**3.32**	**19**	⇑*i* P		**Pn**	**08 29 26.9**	**+1.9**
GO03				*e*S		**Sn**	**08 30 06.2**	**+2.5**
GO03				IAML			08 30 27.0	
	comp=N,3μm,0.3s							
GO03	**Copiap**	**3.32**	**19**			**Pn**	**08 29 26.8**	**+1.7**
GO03	**Copiap**	**3.32**	**19**	*i* P		**Pn**	**08 29 27.0**	**+1.9**
AVFE	**Valle Fertil**	**3.47**	**90**	*i* P		**Pb**	**08 29 30.0**	**+2.8**
VCA	**Vinchina**	**3.48**	**56**	*i* P		**Pb**	**08 29 33.0**	**-2.9**
BO01	**Tunca**	**3.66**	**175**	*e*P		**Pn**	**08 29 31.3**	**+1.6**
BO01	**Tunca**	**3.66**	**175**	Pn		**Pn**	**08 29 31.5**	**+1.8**
BO01	**Tunca**	**3.66**	**175**	*i* P		**Pn**	**08 29 32.0**	**+2.3**
BO02	**Sierra Bellavi**	**4.08**	**172**			**Pn**	**08 29 37.5**	**+1.8**
ACLC	**CERRO LA CRUZ**	**4.14**	**73**	*i* P		**Pn**	**08 29 40.0**	**+3.5**
ACHE	**Chepes**	**4.16**	**97**	*i* P		**Pn**	**08 29 39.0**	**+2.3**
GO05	**Huala**	**4.28**	**185**	*e*P		**Pn**	**08 29 38.1**	**-0.2**
GO05	**Huala**	**4.28**	**185**			**Pn**	**08 29 38.5**	**+0.3**
GO05	**Huala**	**4.28**	**185**	*i* P		**Pn**	**08 29 38.0**	**-0.2**
APLL	**PUNTA DE LOS L**	**4.28**	**87**	*i* P		**Pn**	**08 29 41.0**	**+2.6**
TINO	**Tinogasta**	**4.33**	**53**	*i* P		Pn	08 29 44.0	+4.9
AC02	**Maricunga**	**4.40**	**29**	⇑*i* P		**Pn**	**08 29 42.9**	**+2.4**
AC02	**Maricunga**	**4.40**	**29**			**Pn**	**08 29 42.8**	**+2.4**
AC02	**Maricunga**	**4.40**	**29**	*i* P		**Pn**	**08 29 43.0**	**+2.6**
LAMA	**Las Malvinas**	**4.60**	**156**	*i* P		Pn	08 29 48.0	+5.3
COIS	**El Sosneado**	**4.64**	**161**	*i* P		Pn	08 29 48.0	+4.8
RFA	**San Rafael**	**4.75**	**149**	*i* P		**Pn**	**08 29 48.0**	**+3.1**
ML02	**Panimavida**	**5.01**	**179**			**Pn**	**08 29 49.6**	**+1.3**
MRA	**San Martin**	**5.19**	**110**	*i* P		**Pn**	**08 29 53.0**	**+2.1**
CYA	**Choya**	**5.45**	**67**	*i* P		**Pn**	**08 29 57.0**	**+2.6**
PB14	**IPOC Station P**	**6.16**	**9**			**Pn**	**08 30 03.9**	**-0.5**
PB14	**IPOC Station P**	**6.16**	**9**	*i* P		**Pn**	**08 30 04.0**	**-0.5**
AHML	**Horco Molle**	**6.68**	**55**	*i* P		**Pn**	**08 30 13.0**	**+1.7**
FSA	**Cafayete**	**6.69**	**48**	*i* P		**Pn**	**08 30 14.0**	**+2.5**
H03N1	**Juan Fernandez**	**6.86**	**245**	T		T	08 37 04.3	
	baz=73,slow=72,SNR=1636							
VA04	**Juan Fernndez**	**6.87**	**243**	Pn		**Pn**	**08 30 12.9**	**-1.0**
H03N3	**Juan Fernandez**	**6.87**	**245**	T		T	08 37 08.9	
	baz=73,slow=72,SNR=1670							
H03N2	**Juan Fernandez**	**6.87**	**245**	T		T	08 37 05.5	
	baz=73,slow=72,SNR=1990							
H03S3	**Juan Fernandez**	**7.00**	**242**	T		T	08 37 25.4	
	baz=71,slow=79,SNR=18							
H03S1	**Juan Fernandez**	**7.01**	**242**	T		T	08 37 31.6	
	baz=71,slow=79,SNR=16							
H03S2	**Juan Fernandez**	**7.02**	**242**	T		T	08 37 39.8	
	baz=71,slow=79,SNR=25							
PB15	**IPOC Station P**	**7.71**	**14**			**Pn**	**08 30 24.4**	**-1.2**
SLA	**San Lorenzo**	**8.00**	**43**	*i* P		**Pn**	**08 30 33.0**	**+3.5**
LC01	**Cunco**	**8.15**	**182**	Pn		**Pn**	**08 30 30.1**	**-0.7**
LC01	**Cunco**	**8.15**	**182**	*i* P		**Pn**	**08 30 31.0**	**-0.4**
PB06	**IPOC Station P**	**8.18**	**12**			**Pn**	**08 30 30.6**	**-1.4**
AF01	**San Pedro de A**	**8.30**	**22**	Pn		**Pn**	**08 30 34.1**	**+0.4**
LVC	**Limon Verde**	**8.41**	**16**	Pn		**Pn**	**08 30 33.8**	**-1.7**
	comp=N,1.8nm,0.3s,baz=152,slow=12,SNR=13							
LVC				LR		LR	08 34 17.2	
	comp=N,108nm,20.1s,baz=212,slow=40							
LVC	**Limon Verde**	**8.41**	**16**	*e*P		**Pn**	**08 30 33.6**	**-1.8**
LVC	**Limon Verde**	**8.41**	**16**	*i* P		**Pn**	**08 30 34.0**	**-1.4**
PLCA	**Paso Flores**	**10.00**	**176**	Pn		**Pn**	**08 30 57.7**	**+0.9**
	comp=N,0.4nm,0.3s,baz=346,slow=10,SNR=14							
PLCA				LR		LR	08 34 44.7	
	comp=N,141nm,20.9s,baz=346,slow=37							
PLCA	**Paso Flores**	**10.00**	**176**			**Pn**	**08 30 57.8**	**+1.0**
LL04	**Puerto Octay**	**10.18**	**184**			**Pn**	**08 30 58.3**	**-0.9**
TRQA	**Tornquist**	**10.71**	**135**			**Pn**	**08 31 07.8**	**+1.3**
TRQA	**Tornquist**	**10.71**	**135**	*e*P		**Pn**	**08 31 06.9**	**+0.3**
LL01	**San Ignacio de**	**11.64**	**183**			**Pn**	**08 31 17.6**	**-1.6**
ITQB	**Itaqui**	**12.89**	**89**			**Pn**	**08 31 35.5**	**-0.9**
ITQB	**Itaqui**	**12.89**	**89**	*e*P		**Pn**	**08 31 35.9**	**-0.5**
CPUP	**Villa Florida**	**13.19**	**74**	Pn		**Pn**	**08 31 39.8**	**-0.7**
	comp=N,0.6nm,0.3s,baz=257,slow=11,SNR=9.8							
CPUP				LR		LR	08 37 16.4	
	comp=N,188nm,18.4s,baz=238,slow=40							
CPUP	**Villa Florida**	**13.19**	**74**			**Pn**	**08 31 39.3**	**-1.1**
LPAZ	**La Paz**	**14.71**	**13**	Pn		**Pn**	**08 32 03.6**	**+1.8**
	comp=N,0.4nm,0.3s,baz=184,slow=7.5,SNR=34							
SIV	**San Ignacio**	**17.50**	**35**	P		**P**	**08 32 38.0**	**-0.1**
	comp=N,1.3nm,0.3s,baz=223,slow=9.6,SNR=57							
SIV				LR		LR	08 40 31.6	
	comp=N,102nm,21.9s,baz=282,slow=41							
AQDB	**Aquidauana**	**17.50**	**58**			**Pn**	**08 32 36.5**	**-0.6**
AQDB	**Aquidauana**	**17.50**	**58**	*e*P		**Pn**	**08 32 35.6**	**-1.4**
PTGB	**Pitanga**	**18.20**	**75**	*e*P		**Pn**	**08 32 45.5**	**-0.2**
TRCB	**Terra Rica**	**18.58**	**69**	P		**Pn**	**08 32 50.7**	**+0.4**
TRCB				IAmb		IAmb	08 32 58.3	
	comp=Z,21nm,0.6s							
TRCB	**Terra Rica**	**18.58**	**69**	*e*P		**Pn**	**08 32 51.1**	**+0.7**
PTLB	**Pontes e Lacer**	**18.96**	**39**	*e*P		**P**	**08 32 54.4**	**+0.3**
NNA	**Nana**	**19.31**	**344**	LR		LR	08 38 57.7	
	comp=Z,52nm,19.1s,baz=175,slow=32							
TER01	**Tubaro-SC**	**19.55**	**89**	*e*P		**Pn**	**08 33 01.7**	**-0.3**
VILB	**Vilhena**	**20.54**	**33**	*e*P		**P**	**08 33 11.7**	**+0.3**
SALV	**Santo Antonio**	**20.66**	**48**	*e*P		**P**	**08 33 12.7**	**+0.1**
ETMB	**Extrema**	**21.39**	**14**	*e*P		**P**	**08 33 21.6**	**+1.1**
ITRB	**Iturama**	**22.00**	**65**	*e*P		**P**	**08 33 26.6**	**-0.5**
CZSB	**Cruzeiro do Su**	**22.92**	**357**	*e*P		**P**	**08 33 38.1**	**+1.3**
SAML	**Samuel**	**23.02**	**21**	P		**P**	**08 33 38.1**	**+0.2**
VAO	**Valinhos**	**23.15**	**76**	*e*P		**P**	**08 33 38.0**	**-1.4**
CLDB	**Colider**	**24.55**	**40**	*e*P		**P**	**08 33 51.6**	**-0.9**
IPMB	**Ipameri, GO**	**24.65**	**64**	*e*P		**P**	**08 33 52.8**	**-0.7**
BDFB	**Brasilia**	**26.21**	**60**	P		**P**	**08 34 07.1**	**-0.6**
	comp=Z,12nm,0.6s,baz=230,slow=8.2,SNR=26							
BDFB	**Brasilia**	**26.21**	**60**	P		**P**	**08 34 07.1**	**-0.6**
BDFB				IAmb		IAmb	08 34 07.8	
	comp=Z,14nm,0.7s							
SNDB	**Serra Nova Dou**	**26.41**	**49**	*e*P		**P**	**08 34 09.0**	**-0.4**
JANB	**Januaria**	**29.38**	**64**	*e*P		**P**	**08 34 35.4**	**-0.6**
SJMB	**Sao Joao De Ma**	**29.91**	**73**	*e*P		**P**	**08 34 39.9**	**-0.8**
BSFB	**Barra de Sao F**	**30.13**	**74**	*e*P		**P**	**08 34 41.8**	**-0.8**
SDBA	**SAO DESIDERIO**	**30.59**	**59**	*e*P		**P**	**08 34 46.8**	**+0.1**
SMTB	**Santa Maria do**	**31.15**	**51**	*e*P		**P**	**08 34 51.9**	**+0.3**
NAN01	**Guarapari, ES**	**31.21**	**73**	*e*P		**P**	**08 34 51.7**	**-0.4**
PTGA	**Pitinga**	**31.78**	**22**	P		**P**	**08 34 56.3**	**-0.8**
PTGA				IAmb		IAmb	08 34 57.6	
	comp=Z,6.3nm,0.9s							
PTGA	**Pitinga**	**31.78**	**22**	*e*P		**P**	**08 34 56.4**	**-0.7**
GUA01	**Guaratinga, BA**	**32.12**	**71**	*e*P		**P**	**08 35 01.0**	**+0.9**
CMC01	**Camacan, BA**	**33.01**	**70**	*e*P		**P**	**08 35 07.7**	**-0.2**
BBAC	**Balboa, Cauca**	**33.04**	**349**	*e*P		**P**	**08 35 09.7**	**+1.3**
NBIT	**Itapeh - BA**	**33.31**	**69**	*e*P		**P**	**08 35 10.9**	**+0.4**
BOAV	**Boa Vista**	**34.57**	**20**	*e*P		**P**	**08 35 21.5**	**+0.1**
ORTC	**Ortega, Tolima**	**34.64**	**353**	*e*P		**P**	**08 35 24.4**	**+2.3**
YOTC	**Yotoco, Valle**	**34.84**	**351**	*e*P		**P**	**08 35 25.1**	**+1.2**
NBPN	**Ponto Novo - B**	**35.12**	**62**	*e*P		**P**	**08 35 25.8**	**-0.5**
CHIC	**Chingaza**	**35.23**	**356**	*e*P		**P**	**08 35 28.8**	**+1.1**
MCPB	**Macapa, AP**	**35.40**	**35**	*e*P		**P**	**08 35 28.3**	**-0.3**
GUY2C	**Guyana, Caldas**	**35.95**	**353**	*e*P		**P**	**08 35 35.9**	**+2.0**
SPBC	**San Pablo de B**	**36.27**	**356**	*e*P		**P**	**08 35 36.5**	**+0.4**
RUSC	**La Rusia**	**36.46**	**357**	P		**P**	**08 35 39.6**	**+1.4**
RUSC				IAmb		IAmb	08 35 40.7	
	comp=Z,13nm,0.7s							
RUSC	**La Rusia**	**36.46**	**357**	*e*P		**P**	**08 35 39.6**	**+1.4**
CBOC	**Ciudad Bolivar**	**36.65**	**352**	*e*P		**P**	**08 35 40.1**	**+0.6**
NBLA	**Lagarto - SE**	**36.89**	**65**	*e*P		**P**	**08 35 40.3**	**-1.1**
HELC	**Santa Helena**	**36.92**	**353**	*e*P		**P**	**08 35 42.9**	**+0.9**
PTBC	**PUERTO BERRIO,**	**37.18**	**355**	*e*P		**P**	**08 35 43.4**	**-0.4**
ZARC	**Zaragoza, Cauc**	**38.15**	**355**	*e*P		**P**	**08 35 51.8**	**-0.2**
NBPS	**Pedro II - PI**	**38.56**	**53**	*e*P		**P**	**08 35 55.7**	**+0.1**
NBAN	**Anadia - AL**	**38.87**	**65**	*e*P		**P**	**08 35 57.5**	**-0.7**
SMLC	**San Martn de**	**39.39**	**356**	*e*P		**P**	**08 36 01.5**	**-0.9**
SDV	**Santo Domingo**	**39.41**	**1**	*e*P		**P**	**08 36 03.2**	**+0.5**
URIC	**Uribia, Colomb**	**42.20**	**359**	P		**P**	**08 36 24.2**	**-1.3**
URIC				IAmb		IAmb	08 36 45.8	
	comp=Z,8.5nm,1.0s							
CVTR	**Volcan Turrial**	**42.21**	**342**	P		**P**	**08 36 24.7**	**-1.4**
MPOM	**Morne Pois Mar**	**46.07**	**14**	P		**P**	**08 36 55.4**	**-1.1**
BIM	**Bigot**	**46.09**	**14**	P		**P**	**08 36 56.6**	**-0.2**
FDF	**Fort de France**	**46.29**	**14**	P		**P**	**08 36 56.7**	**-1.6**
MLPR	**Magueyes Islan**	**48.61**	**6**	P		**P**	**08 37 16.2**	**-0.1**
CRPR	**Cabo Rojo, PR**	**48.65**	**6**	P		**P**	**08 37 16.3**	**-0.2**
OBIP	**Obispado Ponce**	**48.73**	**6**	P		**P**	**08 37 15.7**	**-1.5**
SJG	**San Juan**	**48.84**	**7**	P		**P**	**08 37 17.4**	**-0.6**
GCPR	**Guaynabo City**	**49.04**	**7**	P		**P**	**08 37 18.8**	**-0.8**
VNA3	**Neumayer Olymp**	**52.21**	**159**	P		**P**	**08 37 43.3**	**+0.3**
VNA1	**Neumayer--Stat**	**52.49**	**158**	P		**P**	**08 37 46.0**	**+0.9**
SNAA	**Sanae**	**54.43**	**159**	P		**P**	**08 37 59.5**	**+0.1**
H06E1	**SOCORRO T-PHAS**	**52.15**	**317**	T		T	09 46 22.6	
	SNR=7.9							
HPIG		**66.00**	**327**	P		**P**	**08 39 19.8**	**+0.5**
HPIG				IAmb		IAmb	08 39 21.7	
	comp=Z,3.0nm,0.6s							
435B	**Jarrell**	**66.02**	**336**	P		**P**	**08 39 19.6**	**+0.6**
435B				IAmb		IAmb	08 39 21.6	
	comp=Z,6.0nm,0.8s							
KMSC	**Kings Mountain**	**66.19**	**351**	P		**P**	**08 39 19.6**	**-0.4**
X48A	**Hartselle**	**66.48**	**346**	P		**P**	**08 39 22.3**	**+0.4**
X48A				IAmb		IAmb	08 39 23.3	
	comp=Z,8.6nm,1.0s							
237A	**Washetta, Mont**	**66.53**	**338**	P		**P**	**08 39 23.3**	**+1.1**
JCT	**Junction City**	**66.57**	**333**	P		**P**	**08 39 22.5**	**-0.2**
JCT				IAmb		IAmb	08 39 24.3	
	comp=Z,5.6nm,0.6s							
W50A	**Signal Mountai**	**66.87**	**348**	P		**P**	**08 39 25.0**	**+0.6**
W50A				IAmb		IAmb	08 39 26.2	
	comp=Z,6.6nm,0.9s							
TKL	**Tuckaleechee C**	**67.05**	**349**	P		**P**	**08 39 25.5**	**0.0**
TKL				IAmb		IAmb	08 39 26.5	
	comp=Z,10nm,1.0s							
WHTX	**Lake Whitney,**	**67.07**	**336**	P		**P**	**08 39 26.5**	**+0.8**
WHTX				IAmb		IAmb	08 39 26.9	
	comp=Z,7.1nm,0.8s							
TXAR	**Lajitas Array**	**67.15**	**330**	P		**P**	**08 39 27.2**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=156,slow=8.5,SNR=27							
TX31	**Lajitas Ar. Si**	**67.15**	**330**	P		**P**	**08 39 27.4**	**+1.0**
TX31				IAmb		IAmb	08 39 27.8	
	comp=Z,5.2nm,0.7s							
V52A	**Sevierville**	**67.20**	**349**	P		**P**	**08 39 26.3**	**-0.2**
V52A				IAmb		IAmb	08 39 27.0	
	comp=Z,11nm,0.9s							
PLAL	**Pickwick Lake**	**67.22**	**345**	P		**P**	**08 39 26.4**	**-0.2**
PLAL				IAmb		IAmb	08 39 42.8	
	comp=Z,8.4nm,1.4s							
VNDA	**Vanda**	**67.38**	**191**	P		**P**	**08 39 28.4**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=55,slow=4.2,SNR=6.0							
VNDA	**Vanda**	**67.38**	**191**	P		**P**	**08 39 28.6**	**+1.4**
T59A	**Double "B" Far**	**67.60**	**355**	P		**P**	**08 39 29.7**	**+0.8**
U54A	**Nelsons Funny**	**67.61**	**351**	P		**P**	**08 39 29.4**	**+0.3**
TZTN	**Tazewell**	**67.88**	**350**	P		**P**	**08 39 30.6**	**-0.2**
CLTN	**Cedars of Leba**	**67.93**	**347**	P		**P**	**08 39 31.0**	**0.0**
CLTN				IAmb		IAmb	08 39 32.6	
	comp=Z,5.7nm,1.0s							
U49A	**Red Boiling Sp**	**68.23**	**348**	P		**P**	**08 39 32.9**	**0.0**
U49A				IAmb		IAmb	08 39 33.5	
	comp=Z,5.7nm,1.1s							
WVT	**Waverly**	**68.27**	**346**	P		**P**	**08 39 32.9**	**-0.3**
WVT				IAmb		IAmb	08 39 34.0	
	comp=Z,4.5nm,0.8s							
HALT	**Halls**	**68.39**	**344**	P		**P**	**08 39 34.5**	**+0.5**
LCAR	**Lake Charles**	**68.98**	**343**	P		**P**	**08 39 37.4**	**-0.2**
LCAR				IAmb		IAmb	08 39 38.4	
	comp=Z,6.7nm,0.8s							
LIC	**Lamto**	**73.31**	**72**	*e*P		**P**	**08 40 03.7**	**-0.7**
	comp=Z,58nm,1.2s							
TIC	**Toumodi**	**73.55**	**72**	*e*P		**P**	**08 40 05.2**	**-0.7**
KIC	**Kosan Boka**	**73.62**	**72**	*e*P		**P**	**08 40 05.4**	**-0.8**
	comp=Z,24nm,0.7s							
DBIC	**Dimbokro**	**73.70**	**72**	P		**P**	**08 40 06.7**	**0.0**
	comp=Z,13nm,0.6s,baz=230,slow=5.5,SNR=26							
DBIC	**Dimbokro**	**73.70**	**72**	IAmb		IAmb	08 40 07.2	
	comp=Z,16nm,0.7s							
SUR	**Sutherland**	**76.00**	**119**	LR		LR	09 13 51.2	
	comp=Z,35nm,19.1s,baz=296,slow=36							
MAW	**Mawson**	**76.17**	**164**	P		**P**	**08 40 19.8**	**-0.2**
	comp=Z,3.8nm,0.5s,baz=202,slow=7.9,SNR=7.6							
ISCO	**Idaho Springs**	**77.01**	**334**	P		**P**	**08 40 25.4**	**-0.1**
K31A	**O'Neill**	**77.19**	**340**	P		**P**	**08 40 26.6**	**+0.5**
LCMT	**Little Creek M**	**77.92**	**327**	P		**P**	**08 40 31.0**	**+0.6**
E43A	**Lone Tree Farm**	**78.03**	**349**	P		**P**	**08 40 30.8**	**+0.1**
E43A				IAmb		IAmb	08 40 33.2	
	comp=Z,9.4nm,1.0s							
SPMN	**Marine on St.**	**78.05**	**345**	P		**P**	**08 40 30.4**	**-0.5**
SPMN				IAmb		IAmb	08 40 31.5	
	comp=Z,12nm,1.1s							
GSC	**Goldstone, Bar**	**78.31**	**324**	P		**P**	**08 40 33.9**	**+1.3**
CCUT	**Cedar City**	**78.42**	**327**	P		**P**	**08 40 34.3**	**+1.0**
CCUT				IAmb		IAmb	08 40 36.2	
	comp=Z,3.7nm,0.9s							
SRU	**San Rafael Swe**	**78.42**	**330**	P		**P**	**08 40 33.8**	**+0.5**
SRU				IAmb		IAmb	08 40 35.4	
	comp=Z,3.7nm,0.8s							
Q16A	**Castle Valley**	**78.54**	**329**	P		**P**	**08 40 33.9**	**0.0**
MVU	**Marysvale**	**78.66**	**329**	P		**P**	**08 40 35.4**	**+0.7**
MVU				IAmb		IAmb	08 40 37.1	
	comp=Z,14nm,1.1s							
P17A	**Butcher Ranch,**	**78.81**	**330**	P		**P**	**08 40 36.1**	**+0.7**
P17A				IAmb		IAmb	08 40 37.2	
	comp=Z,4.3nm,1.0s							
KOWA	**Kowa**	**78.86**	**66**	P		**P**	**08 40 35.6**	**-0.4**
KOWA				IAmb		IAmb	08 40 36.6	
	comp=Z,6.7nm,0.7s							
GWY	**Greenwater Val**	**78.93**	**324**	P		**P**	**08 40 36.2**	**+0.1**
D41A	**Chassel**	**78.96**	**348**	P		**P**	**08 40 36.2**	**+0.4**
PRN	**Pahroc Range**	**79.10**	**326**	P		**P**	**08 40 37.9**	**+1.0**
PRN				IAmb		IAmb	08 40 40.1	
	comp=Z,5.4nm,1.0s							
RWWY	**Rawlins**	**79.25**	**334**	P		**P**	**08 40 38.6**	**+0.8**
RWWY				IAmb		IAmb	08 40 39.8	
	comp=Z,9.4nm,1.2s							
TPNV	**Topopah Spring**	**79.32**	**325**	P		**P**	**08 40 39.0**	**+0.8**
PSUT	**Pine Spring**	**79.44**	**327**	P		**P**	**08 40 40.0**	**+1.2**
ISA	**Isabella, Lake**	**79.45**	**323**	P		**P**	**08 40 39.1**	**+0.2**
ISA				IAmb		IAmb	08 40 42.2	
	comp=Z,5.1nm,1.1s							
MPU	**Maple Canyon**	**79.65**	**330**	P		**P**	**08 40 40.0**	**0.0**
TSUM	**Tsumeb**	**79.65**	**106**	P		**P**	**08 40 40.5**	**0.0**
TSUM				IAmb		IAmb	08 40 41.6	
	comp=Z,6.7nm,0.7s							
JLU	**Jordanelle**	**80.06**	**330**	P		**P**	**08 40 42.6**	**+0.4**
R11A	**Troy Canyon, C**	**80.10**	**326**	P		**P**	**08 40 43.0**	**+0.5**
RSSD	**Black Hills**	**80.22**	**337**	P		**P**	**08 40 42.5**	**-0.5**
PDAR	**Pinedale Array**	**81.08**	**333**	P		**P**	**08 40 47.4**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=137,slow=7.4,SNR=4.5							
BOSA	**Boshof**	**81.17**	**118**	P		**P**	**08 40 48.2**	**-0.3**
	comp=Z,5.6nm,0.8s,baz=227,slow=4.3,SNR=7.6							
NVAR	**Mina Array Bea**	**81.50**	**325**	P		**P**	**08 40 50.8**	**+0.8**
	comp=Z,1.5nm,0.9s,baz=164,slow=5.8,SNR=11							
NVAR				pP		**sP**	**08 41 02.9**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=156,slow=6.6,SNR=6.3							
ELK	**Elko**	**81.85**	**328**	P		**P**	**08 40 52.3**	**+0.5**
TORD	**Torodi Ar. Bea**	**82.66**	**70**	P		**P**	**08 40 55.8**	**-0.5**
	comp=Z,3.3nm,0.5s,baz=278,slow=6.4,SNR=75							
TORD				pP		**sP**	**08 41 08.3**	**+0.1**
	comp=Z,3.4nm,0.7s,baz=281,slow=5.9,SNR=9.4							
TORD	**Torodi Ar. Bea**	**82.66**	**70**	P		**P**	**08 40 56.3**	**0.0**
TORD				IAmb		IAmb	08 40 56.7	
	comp=Z,3.1nm,0.8s							
PAHR	**Pah Rah Range**	**83.01**	**325**	P		**P**	**08 40 59.6**	**+1.9**
PAHR				IAmb		IAmb	08 40 59.9	
	comp=Z,5.1nm,1.1s							
LBTB	**Lobatse**	**83.24**	**115**	P		**P**	**08 40 59.1**	**-0.3**
CASY	**Casey**	**83.28**	**181**	P		**P**	**08 40 59.3**	**+0.6**
CASY				IAmb		IAmb	08 40 60.0	
	comp=Z,6.1nm,1.0s							
YHH	**Holmes Hill**	**83.29**	**333**	P		**P**	**08 41 00.2**	**+0.9**
ULM	**Lac du Bonnet**	**83.49**	**345**	P		**P**	**08 40 59.5**	**-0.2**
	comp=Z,3.6nm,0.7s,baz=162,slow=5.0,SNR=2.9							
ULM	**Lac du Bonnet**	**83.49**	**345**	P		**P**	**08 40 59.7**	**0.0**
ULM				IAmb		IAmb	08 41 25.2	
	comp=Z,18nm,1.4s							
DGMT	**Dagmar**	**84.12**	**339**	P		**P**	**08 41 03.9**	**+0.8**
MCMT	**McKenzie Canyo**	**84.12**	**332**	P		**P**	**08 41 04.8**	**+1.4**
MFID	**Camas Ranch**	**84.24**	**329**	P		**P**	**08 41 04.4**	**+0.4**
J08A	**Circle Bar Ran**	**85.39**	**328**	P		**P**	**08 41 11.1**	**+1.4**
J08A				IAmb		IAmb	08 41 11.4	
	comp=Z,4.4nm,1.2s							
PLID	**Pearl Lake**	**85.65**	**330**	P		**P**	**08 41 11.7**	**+0.6**
PLID				IAmb		IAmb

	224nm,0.2s							
KOTS	**Kotyrbulak**	**3.00**	**249**	*eP*		**Pb**	**08 36 17.1**	**+0.9**
	24nm,0.1s							
KOTS				*eS*		**Sb**	**08 36 54.1**	**+1.1**
	203nm,0.3s							
KOTS	**Kotyrbulak**	**3.00**	**249**	Pg		**Pb**	**08 36 16.0**	**-0.2**
	24nm,0.1s							
KOTS				Lg		Lg	08 36 53.1	
	203nm,0.3s							
MDOK	**Medeo**	**3.07**	**248**	*eP*		**Pb**	**08 36 17.9**	**+0.5**
	11nm,0.2s							
MDOK				*eS*		**Sb**	**08 36 55.6**	**+0.6**
	49nm,0.1s							
MDOK	**Medeo**	**3.07**	**248**	⇑Pn		**Pn**	**08 36 11.7**	**+0.3**
MDOK				⇓Pg		**Pb**	**08 36 15.9**	**-1.5**
	8.2nm,0.4s							
MDOK				⇓Lg		Lg	08 36 55.1	
	41nm,0.5s							
MDOK	**Medeo**	**3.07**	**248**	Pg		**Pb**	**08 36 16.5**	**-0.9**
	8.8nm,0.2s							
MDOK				Lg		Lg	08 36 54.7	
	49nm,0.1s							
KNDC	**Almaty**	**3.10**	**250**	⇓Pg		**Pb**	**08 36 16.5**	**-1.4**
	30nm,0.5s							
KNDC				⇓Lg		Lg	08 36 56.0	
	51nm,0.3s							
AAA	**Alma-Ata**	**3.14**	**250**	*eP*		**Pb**	**08 36 19.5**	**+0.9**
	58nm,0.1s							
AAA				*eS*		**Sb**	**08 36 58.2**	**+1.3**
	100nm,0.2s							
AAA	**Alma-Ata**	**3.14**	**250**	Pg		**Pb**	**08 36 18.6**	**0.0**
	58nm,0.1s							
AAA				Lg		Lg	08 36 58.2	
	100nm,0.2s							
KTBS	**Karatobe**	**3.14**	**259**	*eP*		**Pb**	**08 36 18.2**	**-0.4**
	14nm,0.2s							
KTBS				*eS*		**Sb**	**08 36 56.4**	**-0.7**
	111nm,0.4s							
KTBS	**Karatobe**	**3.14**	**259**	Pg		**Pb**	**08 36 16.8**	**-1.8**
	14nm,0.2s							
KTBS				Lg		Lg	08 36 55.4	
	111nm,0.4s							
TNSS	**Tian-Shan**	**3.19**	**247**	*eP*		**Pb**	**08 36 20.0**	**+0.4**
	7.0nm,0.2s							
TNSS				*eS*		**Sb**	**08 36 59.1**	**+0.4**
	17nm,0.2s							
TNSS	**Tian-Shan**	**3.19**	**247**	Pg		**Pb**	**08 36 18.2**	**-1.4**
	5.1nm,0.2s							
TNSS				Lg		Lg	08 36 57.1	
	17nm,0.2s							
KUU	**Kurty**	**3.35**	**263**	*eP*		**Pb**	**08 36 21.6**	**-0.5**
	16nm,0.2s							
KUU				*eS*		**Sb**	**08 37 02.2**	**-0.8**
	52nm,0.2s							
KUU	**Kurty**	**3.35**	**263**	Pg		**Pb**	**08 36 20.2**	**-1.9**
	16nm,0.2s							
KUU				Lg		Lg	08 37 01.0	
	52nm,0.2s							
IZV	**Izvestkoviy**	**3.41**	**249**	*eP*		**Pb**	**08 36 24.3**	**+1.0**
	34nm,0.7s							
IZV				*eS*		**Sb**	**08 37 06.4**	**+1.5**
	42nm,0.3s							
MTBS	**Maitube**	**3.50**	**251**	*eP*		**Pb**	**08 36 25.0**	**+0.3**
	32nm,0.1s							
MTBS				*eS*		**Sb**	**08 37 07.7**	**+0.4**
	73nm,0.2s							
MTBS	**Maitube**	**3.50**	**251**	Pg		**Pb**	**08 36 24.8**	**+0.1**
	32nm,0.1s							
MTBS				Lg		Lg	08 37 07.4	
	73nm,0.2s							
KST	**Kastek**	**3.85**	**252**	*eP*		**Pb**	**08 36 31.4**	**+0.8**
	5.5nm,0.3s							
KST				*eS*		**Sb**	**08 37 18.7**	**+1.2**
	20nm,0.4s							
KST	**Kastek**	**3.85**	**252**	Pg		**Pb**	**08 36 30.9**	**+0.3**
	5.5nm,0.3s							
KST				Lg		Lg	08 37 18.8	
	20nm,0.4s							
KRBS	**Karabastau**	**3.86**	**262**	*eP*		**Pb**	**08 36 31.0**	**+0.2**
	7.3nm,0.2s							
KRBS				*eS*		**Sb**	**08 37 18.0**	**+0.3**
	28nm,0.2s							
KRBS	**Karabastau**	**3.86**	**262**	Pg		**Pb**	**08 36 30.6**	**-0.2**
	7.3nm,0.2s							
KRBS				Lg		Lg	08 37 17.9	
	28nm,0.2s							
DGS	**Degeres**	**3.91**	**255**	*eP*		**Pb**	**08 36 31.5**	**-0.2**
	18nm,0.2s							
DGS				*eS*		**Sb**	**08 37 19.1**	**-0.1**
	33nm,0.3s							
DGS	**Degeres**	**3.91**	**255**	Pg		**Pb**	**08 36 31.1**	**-0.6**
	18nm,0.2s							
DGS				Lg		Lg	08 37 19.2	
	33nm,0.3s							
ZSN	**Zaisan**	**4.12**	**40**	Pg		**Pb**	**08 36 35.5**	**+0.1**
	1.9nm,0.1s							
ZSN				Lg		Lg	08 37 25.0	
	4.5nm,0.3s							
TKM2	**Tokmak 2**	**4.14**	**251**	⇑Pg		**Pb**	**08 36 35.9**	**+0.2**
	8.8nm,0.5s							
TKM2				⇑Lg		Lg	08 37 27.9	
	16nm,0.3s							
SGDS	**Sogindy**	**4.65**	**261**	Pg		**Pb**	**08 36 45.0**	**+0.6**
	4.2nm,0.4s							
SGDS				Lg		Lg	08 37 42.3	
	8.7nm,0.6s							
BTLS	**Baital**	**4.96**	**280**	Pg		**Pb**	**08 36 51.8**	**+2.2**
	2.8nm,0.1s							
BTLS				Lg		Lg	08 37 52.8	
	1.7nm,0.4s							
AAK	**Ala-Archa**	**5.00**	**252**	⇑Pg		**Pb**	**08 36 51.6**	**+1.2**
	4.4nm,0.7s							
AAK				⇓Lg		Lg	08 37 55.3	
	12nm,0.7s							
KURBB	**Kurchatov Arra**	**6.47**	**346**	⇓Lg		Lg	08 38 43.8	
	16nm,0.5s							
OTUK	**Ortayu**	**7.11**	**306**	⇓Lg		Lg	08 38 59.5	
	9.6nm,0.6s							
KK31	**Karatay Array**	**7.66**	**264**	⇑Pg		**Pb**	**08 37 39.4**	**+3.9**
	0.6nm,0.5s,baz=80,slow=18,SNR=8.1							
KK31				⇓Lg		Lg	08 39 18.4	
	1.1nm,0.4s,baz=78,slow=29,SNR=5.3							

TRN ***27*** *08:50:15.1, 13.˙78N×58.˚45W, h98km, MD4.0*
ISC 27 08:50:12.0±2.2, 13°83N±0.˚04×58°3W±0.˚1, h10km, n45, σ2s01/63, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.33**	**237**	*eP*	**Pb**	**08 50 37.7**	**+0.5**
BBSP				*eS*	**Sn**	**08 50 55.8**	**+1.2**
BBGH	**Gun Hill**	**1.40**	**241**	*eP*	**Pg**	**08 50 39.2**	**+0.3**
BBGH				*eS*	**Sn**	**08 50 57.6**	**+1.4**
BCHC	**Barbados, Cave**	**1.46**	**242**	*eP*	**Pg**	**08 50 40.1**	**0.0**
BCHC				*eS*	**Sg**	**08 51 01.7**	**+2.5**
MPOM	**Morne Pois Mar**	**2.55**	**284**	*eP*	**Pn**	**08 50 53.2**	**-0.3**
MPOM	**Morne Pois Mar**	**2.55**	**284**	*e*	**Pg**	**08 51 03.5**	**+2.5**
MPOM				*eS*	**Sn**	**08 51 22.8**	**-1.9**
MCLT	**Moule a Chique**	**2.57**	**268**	*eP*	**Pn**	**08 50 53.6**	**-0.2**
MCLT				*eS*	**Sn**	**08 51 23.0**	**-2.0**
SLBI	**Saint Lucia, B**	**2.60**	**275**	*eP*	**Pn**	**08 50 53.6**	**-0.5**
SLBI				*eS*	**Sn**	**08 51 22.8**	**-3.1**
SLCP	**Castries, St.**	**2.62**	**274**	*eP*	**Pn**	**08 50 53.9**	**-0.5**
SLCP				*eS*	**Sn**	**08 51 23.5**	**-2.7**
MVM	**Montagne Vaucl**	**2.62**	**286**	*eP*	**Pn**	**08 50 55.0**	**+0.6**
ILAM	**Ilet Lapin Mar**	**2.66**	**291**	*eP*	**Pn**	**08 50 55.6**	**+0.5**
ILAM				*eS*	**Sn**	**08 51 26.3**	**-1.1**
LPMF	**Morne Lapointe**	**2.69**	**286**	*eP*	**Pn**	**08 50 55.6**	**+0.2**
ZAM	**Aeronautique**	**2.75**	**286**	*eP*	**Pn**	**08 50 56.5**	**+0.3**
BIM	**Bigot**	**2.77**	**285**	*eP*	**Pn**	**08 50 56.8**	**+0.2**
BIM	**Bigot**	**2.77**	**285**	*e*	**Pg**	**08 51 06.6**	**+1.4**
BIM				*eS*	**Sn**	**08 51 27.2**	**-2.9**
FDF	**Fort de France**	**2.90**	**288**	*eP*	**Pn**	**08 50 59.1**	**+0.7**
SVOC	**Richmond Hill,**	**2.92**	**257**	*eP*	**Pn**	**08 50 59.3**	**+0.8**
SVOC				*eS*	**Sn**	**08 51 31.2**	**-2.4**
SVB	**Belmont**	**2.92**	**259**	*eP*	**Pn**	**08 50 58.5**	**-0.1**
SVB				*eS*	**Sn**	**08 51 31.9**	**-1.9**
BAMF	**Morne Balai**	**2.93**	**290**	*eP*	**Pn**	**08 50 59.7**	**+1.0**
CXM	**Morne La Croix**	**2.94**	**290**	*eP*	**Pn**	**08 51 00.1**	**+1.1**
PML	**Morne Lenard**	**2.95**	**289**	*eP*	**Pn**	**08 51 00.2**	**+1.2**
SVN	**Savane Anatole**	**2.95**	**290**	*eP*	**Pn**	**08 51 00.5**	**+1.4**
PCM	**Pelee Case Pet**	**2.98**	**290**	*eP*	**Pn**	**08 51 00.8**	**+1.3**
GCMP	**Grenada, Carri**	**3.32**	**247**	*eP*	**Pn**	**08 51 04.1**	**0.0**
GCMP				*eS*	**Sn**	**08 51 40.1**	**-3.6**
TOSP	**Speyside**	**3.33**	**221**	*eP*	**Pn**	**08 51 04.8**	**+0.7**
TOSP				*eS*	**Sn**	**08 51 40.9**	**-2.9**
DSLB	**Salisbury**	**3.42**	**298**	*eP*	**Pn**	**08 51 06.3**	**+0.9**
DSLB				*eS*	**Sn**	**08 51 43.3**	**-2.7**
MDCT	**Cottage Hill,**	**3.54**	**301**	*eS*	**Sn**	**08 51 46.6**	**-2.3**
MAGL	**Barre de l'ile**	**3.57**	**307**	*eP*	**Pn**	**08 51 08.8**	**+1.3**
MAGL				*eS*	**Sn**	**08 51 48.3**	**-1.5**
GRGR	**Grenville**	**3.67**	**243**	*eP*	**Pn**	**08 51 09.1**	**+0.1**
GRGR				*eS*	**Sn**	**08 51 49.5**	**-2.9**
GRFF	**Grenada Fort F**	**3.79**	**243**	*eS*	**Sn**	**08 51 50.9**	**-4.3**
TDBA	**Terre de Bas,**	**3.80**	**302**	*eP*	**Pn**	**08 51 12.3**	**+1.6**
TDBA				*eS*	**Sn**	**08 51 53.2**	**-2.2**
TBG	**Guadaloupe-3**	**3.81**	**302**	*eP*	**Pn**	**08 51 12.1**	**+1.3**
TBG				*eS*	**Sn**	**08 51 52.8**	**-2.9**
CBE	**Ff, Capester**	**3.89**	**305**	*eP*	**Pn**	**08 51 13.1**	**+1.1**
CBE				*eS*	**Sn**	**08 51 55.3**	**-2.6**
TRN	**Trinidad (W)**	**4.38**	**224**	*eP*	**Pn**	**08 51 19.7**	**+1.1**
TRN	**Trinidad (W)**	**4.38**	**224**	*eS*	**Sn**	**08 52 04.7**	**-5.0**
ANBD	**Bethesda, Anti**	**4.62**	**314**	*eP*	**Pn**	**08 51 23.4**	**+1.3**
ANBD	**Bethesda, Anti**	**4.62**	**314**	*eS*	**Sn**	**08 52 13.5**	**-2.3**
ANDO	**Antigua, Disas**	**4.71**	**314**	*eS*	**Sn**	**08 52 15.0**	**-3.0**
ANOC	**Antigua Open C**	**4.72**	**314**	*eP*	**Pn**	**08 51 24.0**	**+0.7**
ANOC	**Antigua Open C**	**4.72**	**314**	*eS*	**Sn**	**08 52 15.6**	**-2.6**
ANWB	**Willy Bob**	**5.08**	**319**	*eP*	**Pn**	**08 51 29.0**	**+0.7**
ANWB	**Willy Bob**	**5.08**	**319**	*eS*	**Sn**	**08 52 24.0**	**-3.1**
SMRT	**St. Maarten**	**6.22**	**313**	*eP*	**Pn**	**08 51 44.3**	**+0.3**
SMRT	**St. Maarten**	**6.22**	**313**	*eS*	**Sn**	**08 52 51.0**	**-4.2**
BAUV	**El Baul**	**10.71**	**244**	*eP*	**Pn**	**08 52 44.9**	**-0.7**
BAUV	**El Baul**	**10.71**	**244**	*eS*	Sn	08 54 34.1	-12

TRN ***27*** *08:55:53.5, 13.˙78N×58.˚49W, h115km, MD4.0*
ISC 27 08:55:53.0±2.7, 13°89N±0.˚05×58°5W±0.˚1, h10km, n27, σ1s57/38, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.23**	**231**	*eP*	**Pn**	**08 56 17.1**	**+0.7**
BBGH	**Gun Hill**	**1.29**	**235**	*eP*	**Pg**	**08 56 17.3**	**-0.5**
BBGH				*eS*	**Sn**	**08 56 37.5**	**+3.1**
BCHC	**Barbados, Cave**	**1.35**	**237**	*eS*	**Sg**	**08 56 40.3**	**+3.7**
MPOM	**Morne Pois Mar**	**2.38**	**284**	*eP*	**Pn**	**08 56 31.8**	**-0.3**
MPOM				*eS*	**Sn**	**08 56 59.7**	**-1.7**
MCLT	**Moule a Chique**	**2.41**	**266**	*eP*	**Pn**	**08 56 33.2**	**+0.7**
MCLT				*eS*	**Sn**	**08 56 59.6**	**-2.5**
SLBI	**Saint Lucia, B**	**2.43**	**274**	*eP*	**Pn**	**08 56 31.4**	**-1.4**
SLBI				*eS*	**Sn**	**08 57 00.8**	**-1.9**
ILAM	**Ilet Lapin Mar**	**2.49**	**291**	*eP*	**Pn**	**08 56 34.8**	**+1.1**
ILAM				*eS*	**Sn**	**08 57 04.9**	**+0.8**
LPMF	**Morne Lapointe**	**2.52**	**286**	*eP*	**Pn**	**08 56 34.0**	**0.0**
ZAM	**Aeronautique**	**2.57**	**286**	*eP*	**Pn**	**08 56 34.7**	**0.0**
BIM	**Bigot**	**2.60**	**284**	*eP*	**Pn**	**08 56 34.5**	**-0.6**
BIM				*eS*	**Sn**	**08 57 06.8**	**0.0**
FDF	**Fort de France**	**2.73**	**288**	*eP*	**Pn**	**08 56 37.4**	**+0.4**
BAMF	**Morne Balai**	**2.75**	**290**	*eP*	**Pn**	**08 56 38.4**	**+1.1**
CXM	**Morne La Croix**	**2.77**	**290**	*eP*	**Pn**	**08 56 38.6**	**+1.0**
SVB	**Belmont**	**2.77**	**258**	*eP*	**Pn**	**08 56 36.5**	**-1.0**
SVB				*eS*	**Sn**	**08 57 10.0**	**-1.1**
SVOC	**Richmond Hill,**	**2.77**	**255**	*eS*	**Sn**	**08 57 09.9**	**-1.2**
PCM	**Pelee Case Pet**	**2.81**	**290**	*eP*	**Pn**	**08 56 39.2**	**+1.1**
GCMP	**Grenada, Carri**	**3.20**	**245**	*eP*	**Pn**	**08 56 41.8**	**-1.5**
GCMP				*eS*	**Sn**	**08 57 18.7**	**-2.8**
DSLB	**Salisbury**	**3.25**	**299**	*eP*	**Pn**	**08 56 45.4**	**+1.3**
MAGL	**Barre de l'ile**	**3.41**	**307**	*eP*	**Pn**	**08 56 48.0**	**+1.8**
MAGL				*eS*	**Sn**	**08 57 25.9**	**-0.9**
GRGR	**Grenville**	**3.56**	**241**	*eP*	**Pn**	**08 56 47.7**	**-0.7**
GRGR				*eS*	**Sn**	**08 57 28.0**	**-2.5**
CBE	**Ff, Capester**	**3.73**	**306**	*eP*	**Pn**	**08 56 51.9**	**+1.2**
CBE				*eS*	**Sn**	**08 57 34.2**	**-0.6**
ANBD	**Bethesda, Anti**	**4.47**	**315**	*eP*	**Pn**	**08 57 01.8**	**+1.0**
ANBD	**Bethesda, Anti**	**4.47**	**315**	*eS*	**Sn**	**08 57 50.8**	**-2.2**
ANOC	**Antigua Open C**	**4.56**	**315**	*eP*	**Pn**	**08 57 02.8**	**+0.6**
ANOC	**Antigua Open C**	**4.56**	**315**	*eS*	**Sn**	**08 57 53.4**	**-1.9**
ANWB	**Willy Bob**	**4.93**	**320**	*eP*	**Pn**	**08 57 06.8**	**-0.4**
ANWB	**Willy Bob**	**4.93**	**320**	*eS*	**Sn**	**08 58 02.6**	**-1.8**

TRN ***27*** *08:58:39.5, 13.˙80N×58.˚42W, h95km, MD3.9*
ISC 27 08:58:38.3±2.3, 13°87N±0.˚04×58°4W±0.˚1, h10km, n36, σ1s38/53, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.28**	**233**	*eP*	**Pn**	**08 59 02.5**	**+0.3**
BBSP				*eS*	**Sn**	**08 59 21.8**	**+2.4**
BBGH	**Gun Hill**	**1.33**	**237**	*eP*	**Pb**	**08 59 03.7**	**+0.3**
BBGH				*eS*	**Sg**	**08 59 22.5**	**+1.3**
BCHC	**Barbados, Cave**	**1.40**	**238**	*eP*	**Pb**	**08 59 05.1**	**+0.6**
BCHC				*eS*	**Sg**	**08 59 23.8**	**+0.5**
MPOM	**Morne Pois Mar**	**2.45**	**284**	*eP*	**Pn**	**08 59 19.6**	**+1.4**
MPOM				*eS*	**Sn**	**08 59 49.0**	**+0.8**
MCLT	**Moule a Chique**	**2.47**	**267**	*eP*	**Pn**	**08 59 20.0**	**+1.5**
MCLT				*eS*	**Sn**	**08 59 49.2**	**+0.3**
SLBI	**Saint Lucia, B**	**2.50**	**274**	*eP*	**Pn**	**08 59 19.6**	**+0.6**
SLBI				*eS*	**Sn**	**08 59 47.4**	**-2.1**
MVM	**Montagne Vaucl**	**2.51**	**286**	*eP*	**Pn**	**08 59 19.5**	**+0.4**
SLCP	**Castries, St.**	**2.51**	**273**	*eS*	**Sn**	**08 59 48.5**	**-1.4**
ILAM	**Ilet Lapin Mar**	**2.55**	**291**	*eP*	**Pn**	**08 59 19.3**	**-0.4**
ILAM				*eS*	**Sn**	**08 59 48.9**	**-2.0**
LPMF	**Morne Lapointe**	**2.58**	**286**	*eP*	**Pn**	**08 59 20.2**	**+0.1**
ZAM	**Aeronautique**	**2.64**	**286**	*eP*	**Pn**	**08 59 21.4**	**+0.5**
BIM	**Bigot**	**2.66**	**284**	*eP*	**Pn**	**08 59 20.9**	**-0.4**
BIM				*eS*	**Sn**	**08 59 50.0**	**-3.7**
FDF	**Fort de France**	**2.79**	**288**	*eP*	**Pn**	**08 59 23.4**	**+0.3**
BAMF	**Morne Balai**	**2.82**	**290**	*eP*	**Pn**	**08 59 24.6**	**+1.1**
SVOC	**Richmond Hill,**	**2.83**	**256**	*eP*	**Pn**	**08 59 23.4**	**-0.2**
SVOC				*eS*	**Sn**	**08 59 56.2**	**-1.5**
SVB	**Belmont**	**2.83**	**258**	*eP*	**Pn**	**08 59 23.9**	**+0.3**
SVB				*eS*	**Sn**	**08 59 56.0**	**-1.8**
CXM	**Morne La Croix**	**2.83**	**290**	*eP*	**Pn**	**08 59 25.1**	**+1.3**
PML	**Morne Lenard**	**2.84**	**289**	*eP*	**Pn**	**08 59 24.8**	**+1.1**
SVN	**Savane Anatole**	**2.84**	**290**	*eP*	**Pn**	**08 59 25.2**	**+1.4**
PCM	**Pelee Case Pet**	**2.88**	**289**	*eP*	**Pn**	**08 59 24.9**	**+0.7**
DLPL	**La Plaine**	**3.11**	**298**	*eP*	**Pn**	**08 59 29.9**	**+2.5**
DLPL				*eS*	**Sn**	**09 00 03.9**	**-0.8**
GCMP	**Grenada, Carri**	**3.25**	**245**	*eP*	**Pn**	**08 59 28.9**	**-0.4**
GCMP				*eS*	**Sn**	**09 00 05.7**	**-2.3**
TOSP	**Speyside**	**3.30**	**219**	*eP*	**Pn**	**08 59 29.7**	**-0.2**
DSLB	**Salisbury**	**3.31**	**298**	*eP*	**Pn**	**08 59 31.2**	**+1.0**
DSLB				*eS*	**Sn**	**09 00 09.1**	**-0.4**
MDCT	**Cottage Hill,**	**3.43**	**301**	*eS*	**Sn**	**09 00 11.3**	**-1.2**
MAGL	**Barre de l'ile**	**3.46**	**307**	*eP*	**Pn**	**08 59 34.2**	**+1.9**
MAGL				*eS*	**Sn**	**09 00 11.6**	**-1.8**
GRGR	**Grenville**	**3.61**	**242**	*eP*	**Pn**	**08 59 34.1**	**-0.1**
GRGR				*eS*	**Sn**	**09 00 14.8**	**-2.2**
TDBA	**Terre de Bas,**	**3.69**	**303**	*eP*	**Pn**	**08 59 37.2**	**+1.8**
TDBA				*eS*	**Sn**	**09 00 19.0**	**+0.1**
CBE	**Ff, Capester**	**3.79**	**306**	*eP*	**Pn**	**08 59 37.4**	**+0.7**
CBE				*eS*	**Sn**	**09 00 20.2**	**-1.2**
TRN	**Trinidad (W)**	**4.34**	**223**	*eP*	**Pn**	**08 59 44.0**	**-0.3**
ANBD	**Bethesda, Anti**	**4.52**	**315**	*eP*	**Pn**	**08 59 46.9**	**0.0**
ANBD	**Bethesda, Anti**	**4.52**	**315**	*eS*	**Sn**	**09 00 37.5**	**-2.0**
ANOC	**Antigua Open C**	**4.62**	**315**	*eP*	**Pn**	**08 59 49.4**	**+1.2**
ANOC	**Antigua Open C**	**4.62**	**315**	*eS*	**Sn**	**09 00 40.1**	**-1.8**
ANWB	**Willy Bob**	**4.98**	**320**	*eP*	**Pn**	**08 59 53.0**	**-0.2**
ANWB	**Willy Bob**	**4.98**	**320**	*eS*	**Sn**	**09 00 48.9**	**-2.0**

TRN ***27*** *09:00:33.1, 13.˙76N×58.˚42W, h103km, MD4.1*
ISC 27 09:00:30.3±2.3, 13°82N±0.˚04×58°3W±0.˚1, h10km, n48, σ1s83/70, 2C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.32**	**238**	⇑*iP*	**Pg**	**09 00 57.3**	**+1.6**
BBSP				*eS*	**Sn**	**09 01 15.0**	**+2.4**
BBGH	**Gun Hill**	**1.39**	**241**	⇑*iP*	**Pg**	**09 00 57.7**	**+0.7**
BBGH				*eS*	**Sn**	**09 01 16.3**	**+2.1**
BCHC	**Barbados, Cave**	**1.45**	**242**	*eP*	**Pg**	**09 00 58.8**	**+0.5**
BCHC				*eS*	**Sg**	**09 01 17.9**	**+0.8**
MPOM	**Morne Pois Mar**	**2.55**	**284**	*eP*	**Pn**	**09 01 11.5**	**-0.2**
MPOM				*eS*	**Sn**	**09 01 41.3**	**-1.5**
MCLT	**Moule a Chique**	**2.56**	**268**	*eP*	**Pn**	**09 01 11.9**	**0.0**
MCLT				*eS*	**Sn**	**09 01 41.6**	**-1.4**
SLBI	**Saint Lucia, B**	**2.59**	**275**	*eP*	**Pn**	**09 01 11.9**	**-0.5**
SLBI				*eS*	**Sn**	**09 01 43.0**	**-0.6**
SLCP	**Castries, St.**	**2.61**	**274**	*eP*	**Pn**	**09 01 13.4**	**+0.9**
SLCP				*eS*	**Sn**	**09 01 43.0**	**-1.2**
MVM	**Montagne Vaucl**	**2.61**	**287**	*eP*	**Pn**	**09 01 13.1**	**+0.5**
ILAM	**Ilet Lapin Mar**	**2.66**	**291**	*eP*	**Pn**	**09 01 14.0**	**+0.8**
ILAM				*eS*	**Sn**	**09 01 44.9**	**-0.7**
LPMF	**Morne Lapointe**	**2.68**	**287**	*eP*	**Pn**	**09 01 13.9**	**+0.3**
ZAM	**Aeronautique**	**2.74**	**286**	*eP*	**Pn**	**09 01 14.8**	**+0.5**
TRMF	**Trois Ilets**	**2.75**	**285**	*eP*	**Pn**	**09 01 14.8**	**+0.3**
BIM	**Bigot**	**2.76**	**285**	*eP*	**Pn**	**09 01 15.2**	**+0.5**
BIM				*eS*	**Sn**	**09 01 46.9**	**-1.3**
FDF	**Fort de France**	**2.90**	**289**	*eP*	**Pn**	**09 01 17.5**	**+0.9**
SVOC	**Richmond Hill,**	**2.91**	**257**	*eP*	**Pn**	**09 01 17.5**	**+0.8**
SVOC				*eS*	**Sn**	**09 01 49.8**	**-1.9**
SVB	**Belmont**	**2.91**	**260**	*eP*	**Pn**	**09 01 17.2**	**+0.5**
SVB				*eS*	**Sn**	**09 01 50.3**	**-1.5**
BAMF	**Morne Balai**	**2.92**	**290**	*eP*	**Pn**	**09 01 18.1**	**+1.2**
CXM	**Morne La Croix**	**2.94**	**290**	*eP*	**Pn**	**09 01 18.6**	**+1.4**
PML	**Morne Lenard**	**2.94**	**289**	*eP*	**Pn**	**09 01 18.6**	**+1.4**
SVN	**Savane Anatole**	**2.95**	**290**	*eP*	**Pn**	**09 01 18.9**	**+1.6**
PCM	**Pelee Case Pet**	**2.98**	**290**	*eP*	**Pn**	**09 01 19.2**	**+1.5**
DLPL	**La Plaine**	**3.21**	**298**	*eS*	**Sn**	**09 01 58.4**	**-0.9**
GCMP	**Grenada, Carri**	**3.31**	**247**	*eP*	**Pn**	**09 01 22.7**	**+0.5**
GCMP				*eS*	**Sn**	**09 01 58.9**	**-2.7**
TOSP	**Speyside**	**3.32**	**221**	*eP*	**Pn**	**09 01 22.9**	**+0.7**
TOSP				*eS*	**Sn**	**09 01 58.0**	**-3.7**
DSLB	**Salisbury**	**3.41**	**299**	*eP*	**Pn**	**09 01 24.8**	**+1.2**
DSLB				*eS*	**Sn**	**09 02 02.7**	**-1.5**
MDVC	**Dominica, Viel**	**3.48**	**301**	*eP*	**Pn**	**09 01 27.4**	**+2.8**
MDVC				*eS*	**Sn**	**09 02 03.9**	**-2.1**
MDPV	**Dominica, Penn**	**3.50**	**301**	*eS*	**Sn**	**09 02 05.6**	**-0.9**
MDCT	**Cottage Hill,**	**3.53**	**301**	*eP*	**Pn**	**09 01 26.5**	**+1.2**
MDCT				*eS*	**Sn**	**09 02 05.4**	**-1.8**
GRSS	**Sisters**	**3.55**	**245**	*eS*	**Sn**	**09 02 05.7**	**-1.9**
MAGL	**Barre de l'ile**	**3.57**	**307**	*eP*	**Pn**	**09 01 27.5**	**+1.7**
MAGL				*eS*	**Sn**	**09 02 07.2**	**-0.9**
GRGR	**Grenville**	**3.66**	**243**	*eP*	**Pn**	**09 01 27.6**	**+0.5**
GRGR				*eS*	**Sn**	**09 02 07.5**	**-3.2**
GRFF	**Grenada Fort F**	**3.77**	**243**	*eP*	**Pn**	**09 01 29.4**	**+0.7**
GRFF				*eS*	**Sn**	**09 02 09.7**	**-3.4**
TDBA	**Terre de Bas,**	**3.79**	**303**	*eP*	**Pn**	**09 01 30.4**	**+1.5**
TDBA				*eS*	**Sn**	**09 02 11.5**	**-2.1**
TBG	**Guadaloupe-3**	**3.80**	**302**	*eP*	**Pn**	**09 01 30.6**	**+1.6**
CBE	**Ff, Capester**	**3.89**	**305**	*eP*	**Pn**	**09 01 31.8**	**+1.5**
CBE				*eS*	**Sn**	**09 02 14.2**	**-1.8**
TRN	**Trinidad (W)**	**4.37**	**224**	*eP*	**Pn**	**09 01 38.0**	**+1.2**
TRN				*eS*	**Sn**	**09 02 22.5**	**-5.2**
ANBD	**Bethesda, Anti**	**4.62**	**314**	*eP*	**Pn**	**09 01 41.5**	**+1.2**
ANBD	**Bethesda, Anti**	**4.62**	**314**	*eS*	**Sn**	**09 02 32.0**	**-2.0**
ANDO	**Antigua, Disas**	**4.71**	**314**	*eP*	**Pn**	**09 01 43.5**	**+2.0**
ANDO	**Antigua, Disas**	**4.71**	**314**	*eS*	**Sn**	**09 02 34.0**	**-2.3**
ANOC	**Antigua Open C**	**4.72**	**314**	*eP*	**Pn**	**09 01 43.0**	**+1.4**
ANOC	**Antigua Open C**	**4.72**	**314**	*eS*	**Sn**	**09 02 34.5**	**-1.9**
ANWB	**Willy Bob**	**5.08**	**319**	*eP*	**Pn**	**09 01 47.0**	**+0.4**
**

SONM PKPab **sPKPdf** **09 23 40.4 +1.3**

*IDC **27** 09:09:52.0±9.9,5°.59S×154°.27E,h112^{km}×91^{km},mb3.5/8, mb1 3.7/8,mb1mx3.5/23,mbtmp3.9/8,Error ellipse: s-maj=34.9km s-min=25.8km az=51.0*
*NEIC **27** 09:09:54.2±1.0,5°.6S±0°.1×154°.4E±0°.1,h135^{km},7^{km}, mb4.3/16,Error ellipse: s-maj=20.0km s-min=16.0km az=222.0*
ISC 27 09:09:52.3±0.8,**5°.60S**±0°.10×**154°.4E**±0°.1,**h118**^{km},**n29,** σ**0**s**70**/**29,mb4.0**/13**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RABL	**Rabaul**	**2.63**	**302**	Pn		**Pn**	**09 10 35.1**	**+1.4**
PMG	**Port Moresby**	**8.11**	**242**			**Pn**	**09 11 48.5**	**+1.2**
DZM	**Mont Dzumac**	**20.09**	**146**	P		**P**	**09 14 18.2**	**+1.4**
	2.9nm,0.5s,baz=322,slow=17,SNR=7.5							
DZM	**Mont Dzumac**	**20.09**	**146**	P		**P**	**09 14 17.5**	**+0.6**
DZM				IAmb		IAmb	09 14 52.4	
	comp=Z,45nm,1.7s							
WR0	**Warramunga Arr**	**24.01**	**232**	P		**P**	**09 14 55.8**	**-0.6**
WB0	**Warramunga Arr**	**24.02**	**232**	P		**P**	**09 14 56.3**	**-0.2**
MTN	**Manton Dam**	**24.05**	**251**	P		**P**	**09 14 57.0**	**+0.2**
MTN				IAmb		IAmb	09 15 43.0	
	comp=Z,20nm,1.4s							
WRAB	**Tennant Creek**	**24.15**	**232**	P		**P**	**09 14 57.6**	**0.0**
WRAB				IAmb		IAmb	09 14 58.4	
	comp=Z,4.7nm,0.7s							
WB2	**Warramunga Arr**	**24.15**	**232**	P		**P**	**09 14 57.5**	**-0.2**
WB2				IAmb		IAmb	09 14 58.2	
	comp=Z,3.9nm,0.6s							
WRA	**Warramunga Arr**	**24.16**	**232**	P		**P**	**09 14 57.5**	**-0.2**
	comp=Z,3.5nm,0.6s,baz=56,slow=10,SNR=57							
AS31	**Alice Springs**	**26.68**	**226**	P		**P**	**09 15 20.4**	**-0.1**
ASAR	**Alice Springs**	**26.68**	**226**	P		**P**	**09 15 19.9**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=57,slow=8.9,SNR=9.3							
ASAR	**Alice Springs**	**26.68**	**226**	P		**P**	**09 15 20.2**	**-0.4**
STKA	**Stephens Creek**	**28.76**	**203**	P		**P**	**09 15 38.4**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=42,slow=13,SNR=5.2							
STKA	**Stephens Creek**	**28.76**	**203**	P		**P**	**09 15 38.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**30.70**	**244**	P		**P**	**09 15 55.4**	**-0.8**
FITZ				IAmb		IAmb	09 15 55.8	
	comp=Z,2.8nm,0.7s							
BBOO	**Buckleboo**	**32.02**	**210**	P		**P**	**09 16 06.9**	**-0.7**
FORT	**Forrest**	**35.21**	**221**	P		**P**	**09 16 34.4**	**-0.9**
BKZ	**Black Stump Fm**	**38.93**	**152**	P		**P**	**09 17 06.3**	**-0.4**
TUWZ	**Tuamarina**	**39.71**	**157**	P		**P**	**09 17 13.2**	**+0.1**
LTZ	**Lake Taylor**	**40.27**	**160**	P		**P**	**09 17 18.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**59.66**	**295**	P		**P**	**09 19 45.1**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=108,slow=6.0,SNR=4.1							
SONM	**Songino Array**	**67.85**	**327**	P		**P**	**09 20 37.5**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=139,slow=7.5,SNR=2.6							
VNDA	**Vanda**	**71.98**	**178**	P		**P**	**09 21 03.4**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=346,slow=8.3,SNR=8.1							
VNDA	**Vanda**	**71.98**	**178**	P		**P**	**09 21 03.0**	**+0.4**
VNDA				IAmb		IAmb	09 23 34.7	
	comp=Z,14nm,2.0s							
MKAR	**Makanchi Array**	**81.97**	**319**	P		**P**	**09 21 58.9**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=69,slow=7.9,SNR=3.7							
MKAR	**Makanchi Array**	**81.97**	**319**	P		**P**	**09 21 58.0**	**-1.2**
CTGM	**Chitina Glacie**	**82.75**	**26**	P		**P**	**09 22 03.2**	**+0.1**
CTGM				IAmb		IAmb	09 24 27.0	
	comp=Z,8.2nm,1.1s							
QSPA	**South Pole Qui**	**84.36**	**180**	P		**P**	**09 22 10.9**	**-0.3**
QSPA				IAmb		IAmb	09 23 56.3	
	comp=Z,12nm,1.7s							

*GUC **27** 09:23:58.3±0.7,31°.24S×71°.86W,h31^{km}±3^{km},ML4.0*
*IDC **27** 09:23:59.4±7.9,31°.29S×71°.63W,h31^{km}±54^{km},mb4.1/2, mb1 3.8/5,mb1mx3.5/32,mbtmp3.8/5,ML3.6/3,MS3.4/2, Ms1 3.4/2,ms1mx2.8/26,Error ellipse: s-maj=65.5km s-min=27.7km az=115.0*
ISC 27 09:23:57.0±1.0,**31°.28S**±0°.03×**71°.82W**±0°.06,**h20**^{km}±3^{km}, **n39,** σ**1**s**25**/**40,3C-3D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**0.62**	**15**	⇓*iP*		**Pg**	**09 24 09.7**	**+0.3**
CO06				*i* S		**Sn**	**09 24 18.7**	**-1.4**
CO02	**Combarbal**	**0.70**	**84**	⇓*iP*		**Pn**	**09 24 12.4**	**+0.5**
CO02				*i* S		**Sn**	**09 24 22.7**	**+0.3**
CO02				IAML			09 24 24.1	
	comp=E,12μm,0.4s							
CO03	**El Pedregal**	**1.06**	**66**	⇓*iP*		**Pg**	**09 24 17.6**	**-0.1**
CO03				*i* S		**Sg**	**09 24 31.5**	**-0.1**
VA06	**Catapilco**	**1.35**	**161**	⇑*iP*		**Pg**	**09 24 22.7**	**-0.5**
VA06				*i* S		**Sg**	**09 24 40.8**	**-0.1**
VA06				IAML			09 24 47.4	
	comp=E,4μm,0.5s							
GO04	**Tololo Observa**	**1.41**	**39**	*eP*		**Pb**	**09 24 22.7**	**-0.1**
GO04				*i* S		**Sb**	**09 24 41.2**	**+0.8**
GO04				IAML			09 24 53.5	
	comp=N,2μm,0.4s							
CO05	**La Serena**	**1.44**	**20**	*eP*		**Pn**	**09 24 22.4**	**+0.4**
CO05				*i* S		**Sb**	**09 24 41.3**	**+0.1**
ROCH	**El Roble**	**1.82**	**158**	*eP*		**Pb**	**09 24 29.7**	**-0.1**
ROCH				*i* S		**Sg**	**09 24 55.7**	**-0.2**
ROCH				IAML			09 25 01.2	
	comp=N,3μm,0.5s							
VA03	**San Esteban**	**1.83**	**144**	⇑*iP*		**Pb**	**09 24 30.5**	**+0.6**
VA03				*i* S		**Sg**	**09 24 54.7**	**-1.4**
VA03				IAML			09 24 59.1	
	comp=N,3μm,0.3s							
MT05	**Renca**	**2.30**	**157**	*eP*		**Pb**	**09 24 36.8**	**-1.0**
MT05				IAML			09 25 13.8	
	comp=E,2μm,0.6s							
VA05	**Santo Domingo**	**2.38**	**176**	IAML			09 25 21.2	
	comp=E,1μm,0.4s							
LCO	**Las Campanas**	**2.46**	**23**	*i* P		**Pn**	**09 24 36.6**	**+0.4**
LCO				*i* S		**Sb**	**09 25 08.7**	**-1.9**
MT09	**Talagante**	**2.59**	**165**	*i* P		**Pb**	**09 24 40.6**	**-2.3**
MT09				IAML			09 25 20.8	
	comp=E,730nm,0.3s							
MT01	**Popeta**	**2.62**	**170**	⇑*iP*		**Pn**	**09 24 40.0**	**+1.7**
MT01				IAML			09 25 24.3	
	comp=E,509nm,0.3s							
LMEL	**Las Melosas**	**2.90**	**152**	*i* P		**Pb**	**09 24 45.6**	**-2.6**
LMEL				*i* S		**Sb**	**09 25 21.5**	**-1.8**
LMEL				IAML			09 25 29.1	
	comp=N,548nm,0.1s							
AC04	**Llanos de Chal**	**3.13**	**12**	*eP*		**Pn**	**09 24 44.9**	**-0.4**
BO01	**Tunca**	**3.17**	**169**	*eP*		**Pn**	**09 24 47.5**	**+1.8**
BO01				IAML			09 25 50.6	
	comp=E,171nm,0.6s							
BO03	**Pichilemu**	**3.21**	**182**	*eP*		**Pn**	**09 24 47.0**	**+0.6**
BO02	**Sierra Bellavi**	**3.61**	**166**	*eP*		**Pn**	**09 24 53.5**	**+1.6**
BO02				*eS*		**Sn**	**09 25 37.5**	**+3.5**
GO05	**Huala**	**3.72**	**181**	*i* P		**Pn**	**09 24 53.8**	**+0.4**
H03N1	**Juan Fernandez**	**6.38**	**248**	T		T	09 32 07.5	
	baz=76,slow=72,SNR=2767							
H03N3	**Juan Fernandez**	**6.39**	**248**	T		T	09 32 09.0	
	baz=76,slow=72,SNR=3331							
H03N2	**Juan Fernandez**	**6.39**	**248**	T		T	09 32 20.2	
	baz=76,slow=72,SNR=2847							
PLCA	**Paso Flores**	**9.49**	**174**	Pn		**Pn**	**09 26 14.5**	**+1.9**
	comp=E,0.2nm,0.3s,baz=335,slow=12,SNR=9.3							
CPUP	**Villa Florida**	**13.62**	**72**	LR		LR	09 32 14.7	
	comp=E,39nm,18.3s,baz=220,slow=37							
LPAZ	**La Paz**	**15.30**	**14**	Pn		**Pn**	**09 27 33.5**	**+1.1**
	comp=E,0.1nm,0.3s,baz=193,slow=8.4,SNR=7.3							
SIV	**San Ignacio**	**18.10**	**35**	P		**P**	**09 28 07.7**	**0.0**
	comp=E,0.2nm,0.3s,baz=226,slow=12,SNR=5.3							
BDFB	**Brasilia**	**26.73**	**60**	P		**P**	**09 29 33.8**	**-1.7**
	comp=E,2.7nm,0.7s,baz=270,slow=2.2,SNR=5.1							
DBIC	**Dimbokro**	**74.14**	**72**	LR		LR	10 03 27.3	
	comp=E,91nm,20.6s,baz=224,slow=32							
TORD	**Torodi Ar. Bea**	**83.11**	**70**	P		**P**	**09 36 22.3**	**+0.5**
	comp=E,2.0nm,0.7s,baz=266,slow=4.7,SNR=11							
ASAR	**Alice Springs**	**120.07**	**207**	PKP		**PKPdf**	**09 42 46.5**	**-0.4**
	comp=E,0.2nm,0.9s,baz=106,slow=2.0,SNR=2.1							
WRA	**Warramunga Arr**	**123.22**	**210**	PKP		**PKPdf**	**09 42 52.9**	**-0.1**
	comp=E,0.1nm,0.4s,baz=161,slow=1.3,SNR=7.8							
H11S2	**WAKE ISLAND Hyd**	**25.95**	**271**	T		T	12 01 43.3	
	baz=116,slow=75,SNR=31							
H11S1	**WAKE ISLAND Hyd**	**25.97**	**271**	T		T	12 01 46.9	
	baz=116,slow=75,SNR=19							
H11S3	**WAKE ISLAND Hyd**	**25.97**	**271**	T		T	12 01 42.7	
	baz=116,slow=75,SNR=18							
H11N3	**WAKE ISLAND Hyd**	**26.30**	**272**	T		T	12 02 09.0	
	baz=154,slow=74,SNR=8.2							
H11N2	**WAKE ISLAND Hyd**	**26.32**	**272**	T		T	12 02 15.1	
	baz=120,slow=74,SNR=14							
BVAR	**Borovoye Array**	**145.13**	**40**	PKPbc		**PKPdf**	**09 43 33.5**	**+0.9**
	comp=E,0.6nm,0.7s,baz=236,slow=11,SNR=3.8							
ZALV	**Zalesovo Beam**	**151.80**	**30**	PKPbc		**PKiKP**	**09 43 50.4**	**+0.3**
	comp=E,1.9nm,0.6s,baz=316,slow=4.1,SNR=6.3							
ZALV				pPKPbc		**sPKPbc**	**09 43 58.0**	**-0.3**
	comp=E,0.7nm,0.3s,baz=277,slow=3.7,SNR=2.6							
MKAR	**Makanchi Array**	**154.77**	**45**	PKPbc		**PKPbc**	**09 43 56.3**	**-0.3**
	comp=E,0.2nm,0.4s,baz=318,slow=3.9,SNR=2.8							

*IDC **27** 09:28:02.8±1.2,13°.84N×58°.33W,h0^{km},mb4.0/13, mb1 4.2/15,mb1mx4.0/43,mbtmp4.1/15,ML4.3/2,MS3.2/6, Ms1 3.2/6,ms1mx2.8/39,Error ellipse: s-maj=36.6km s-min=16.0km az=4.0*
*NEIC **27** 09:28:03.8±1.6,13°.76N±0°.05×58°.30W±0°.09,h15^{km}±5^{km}, mb4.5/16,Error ellipse: s-maj=13.2km s-min=7.9km az=90.0*
*TRN **27** 09:28:05.9,13°.77N×58°.49W,h90^{km},MD4.3*
ISC 27 09:28:04.0±1.6,**13°.76N**±0°.04×**58°.37W**±0°.05,**h16**^{km}±10^{km}, **n133,** σ**1**s**70**/**143,mb4.4**/**19,MS3.0**/**5,6C-1D,North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BBSP	**Saint Philip**	**1.25**	**239**	*eP*		**Pg**	**09 28 29.3**	**+1.3**
BBSP				*eS*		**Sg**	**09 28 45.2**	**+1.0**
BBGH	**Gun Hill**	**1.31**	**242**	⇓*iP*		**Pg**	**09 28 29.8**	**+0.6**
BBGH				*eS*		**Sg**	**09 28 45.9**	**-0.5**
BBGH	**Gun Hill**	**1.31**	**242**			**Pb**	**09 28 48.4**	**+0.2**
BCHC	**Barbados, Cave**	**1.38**	**243**	*eP*		**Pg**	**09 28 30.9**	**+0.4**
BCHC				*eS*		**Sg**	**09 28 48.5**	**0.0**
H05S1	**Guadeloupe/Mar**	**2.49**	**286**	Pn		**Pn**	**09 28 43.7**	**-0.1**
H05S1				Sn		**Sn**	**09 29 12.3**	**-1.6**
MCLT	**Moule a Chique**	**2.50**	**269**	⇑*eP*		**Pn**	**09 28 43.9**	**-0.1**
MCLT				*eS*		**Sn**	**09 29 13.8**	**-0.5**
MCLT	**Moule a Chique**	**2.50**	**269**			Pn	09 28 38.6	-5.5
MPOM	**Morne Pois Mar**	**2.51**	**286**	*eP*		**Pn**	**09 28 44.0**	**-0.2**
MPOM				*eS*		**Sn**	**09 29 13.0**	**-1.5**
MPOM	**Morne Pois Mar**	**2.51**	**286**	Pn		**Pn**	**09 28 44.1**	**0.0**
SLBI	**Saint Lucia, B**	**2.55**	**276**	⇑*eP*		**Pn**	**09 28 44.3**	**-0.3**
SLBI				*eS*		**Sn**	**09 29 14.0**	**-1.3**
SLCP	**Castries, St.**	**2.56**	**276**	*eP*		**Pn**	**09 28 45.3**	**+0.5**
SLCP				*eS*		**Sn**	**09 29 14.8**	**-0.9**
MVM	**Montagne Vaucl**	**2.58**	**288**	*eP*		**Pn**	**09 28 45.6**	**+0.5**
ILAM	**Ilet Lapin Mar**	**2.63**	**293**	⇑*iP*		**Pn**	**09 28 45.9**	**+0.1**
ILAM				*eS*		**Sn**	**09 29 16.2**	**-1.2**
ILAM	**Ilet Lapin Mar**	**2.63**	**293**	Pn		**Pn**	**09 28 45.9**	**+0.1**
LPMF	**Morne Lapointe**	**2.65**	**288**	*eP*		**Pn**	**09 28 46.4**	**+0.3**
ZAM	**Aeronautique**	**2.71**	**288**	*eP*		**Pn**	**09 28 47.1**	**+0.2**
TRMF	**Trois Ilets**	**2.72**	**287**	*eP*		**Pn**	**09 28 47.2**	**+0.2**
BIM	**Bigot**	**2.73**	**286**	*eP*		**Pn**	**09 28 47.4**	**+0.1**
BIM				*eS*		**Sn**	**09 29 18.3**	**-1.7**
BIM	**Bigot**	**2.73**	**286**			**Pn**	**09 28 47.3**	**+0.1**
SVOC	**Richmond Hill,**	**2.84**	**258**	*e*		**Pn**	**09 28 49.3**	**+0.6**
SVOC				*eS*		**Sn**	**09 29 21.5**	**-1.1**
SVB	**Belmont**	**2.85**	**261**	*eP*		**Pn**	**09 28 49.4**	**+0.5**
SVB				*eS*		**Sn**	**09 29 20.7**	**-2.1**
SVB	**Belmont**	**2.85**	**261**			**Pn**	**09 28 49.0**	**+0.2**
FDF	**Fort de France**	**2.87**	**290**	*eP*		**Pn**	**09 28 49.7**	**+0.6**
FDF	**Fort de France**	**2.87**	**290**			**Pn**	**09 28 49.5**	**+0.4**
BAMF	**Morne Balai**	**2.90**	**292**	*eP*		**Pn**	**09 28 50.4**	**+0.9**
PML	**Morne Lenard**	**2.92**	**291**	*eP*		**Pn**	**09 28 50.7**	**+1.0**
SVN	**Savane Anatole**	**2.92**	**292**	*eP*		**Pn**	**09 28 50.9**	**+1.0**
SVN	**Savane Anatole**	**2.92**	**292**			**Pn**	**09 28 50.5**	**+0.6**
PCM	**Pelee Case Pet**	**2.95**	**291**	*eP*		**Pn**	**09 28 50.8**	**+0.5**
PCM	**Pelee Case Pet**	**2.95**	**291**	*eP*		**Pn**	**09 28 51.3**	**+1.1**
DLPL	**La Plaine**	**3.20**	**300**	⇑*iP*		**Pn**	**09 28 54.0**	**+0.3**
DLPL				*eS*		**Sn**	**09 29 29.8**	**-1.7**
DLPL	**La Plaine**	**3.20**	**300**			**Pn**	**09 28 53.9**	**+0.3**
TOSP	**Speyside**	**3.23**	**221**	⇑*iP*		**Pn**	**09 28 55.1**	**+1.1**
TOSP				*eS*		**Sn**	**09 29 30.8**	**-1.5**
TOSP	**Speyside**	**3.23**	**221**			**Pn**	**09 28 55.3**	**+1.2**
GCMP	**Grenada, Carri**	**3.24**	**247**	*eP*		**Pn**	**09 28 54.0**	**-0.1**
GCMP				*eS*		**Sn**	**09 29 30.2**	**-2.2**
DSLB	**Salisbury**	**3.40**	**300**	⇑*iP*		**Pn**	**09 28 56.8**	**+0.4**
DSLB				*eS*		**Sn**	**09 29 34.3**	**-2.1**
GRSS	**Sisters**	**3.48**	**246**	*eP*		**Pn**	**09 28 59.2**	**+1.7**
MDPV	**Dominica, Penn**	**3.49**	**303**	*eS*		**Sn**	**09 29 37.2**	**-1.6**
MDCT	**Cottage Hill,**	**3.52**	**302**	*eP*		**Pn**	**09 28 58.4**	**+0.3**
MDCT				*eS*		**Sn**	**09 29 37.2**	**-2.2**
GRHS	**Sauteurs**	**3.54**	**245**	*eP*		**Pn**	**09 28 59.7**	**+1.5**
MAGI	**Barre de l'ile**	**3.56**	**308**	*eP*		**Pn**	**09 28 59.2**	**+0.6**
GRGR	**Grenville**	**3.59**	**244**	*eP*		**Pn**	**09 28 59.5**	**+0.5**
GRGR				*eS*		**Sn**	**09 29 39.0**	**-2.1**
GRGR	**Grenville**	**3.59**	**244**			**Pn**	**09 28 59.8**	**+0.8**
H05N1	**Guadeloupe/Mar**	**3.64**	**315**	Pn		**Pn**	**09 28 59.2**	**-0.5**
H05N1				Sn		**Sn**	**09 29 39.3**	**-3.0**
GRFF	**Grenada Fort F**	**3.70**	**243**	*eP*		**Pn**	**09 29 01.2**	**+0.7**
GRFF				*eS*		**Sn**	**09 29 40.8**	**-3.1**
TDBA	**Terre de Bas,**	**3.79**	**304**	*eP*		**Pn**	**09 29 02.7**	**+1.0**
CBE	**Ff, Capester**	**3.89**	**307**	*eP*		**Pn**	**09 29 04.0**	**+0.9**
TRN	**Trinidad (W)**	**4.29**	**224**	*eP*		**Pn**	**09 29 09.9**	**+1.4**
TRN	**Trinidad (W)**	**4.29**	**224**	*eS*		**Sn**	**09 29 55.3**	**-3.0**
ANBD	**Bethesda, Anti**	**4.63**	**315**	*eP*		**Pn**	**09 29 14.0**	**+0.7**
ANBD	**Bethesda, Anti**	**4.63**	**315**	*eS*		**Sn**	**09 30 02.9**	**-3.9**
ANDO	**Antigua, Disas**	**4.72**	**315**	*eP*		**Pn**	**09 29 14.5**	**-0.1**
ANDO	**Antigua, Disas**	**4.72**	**315**	*eS*		**Sn**	**09 30 04.8**	**-4.2**
ANOC	**Antigua Open C**	**4.73**	**315**	*eP*		**Pn**	**09 29 14.9**	**+0.2**
ANOC	**Antigua Open C**	**4.73**	**315**	*eS*		**Sn**	**09 30 05.4**	**-3.8**
ANWB	**Willy Bob**	**5.10**	**320**	*eP*		**Pn**	**09 29 19.2**	**-0.2**
ANWB	**Willy Bob**	**5.10**	**320**	*eS*		**Sn**	**09 30 14.3**	**-4.0**
ANWB	**Willy Bob**	**5.10**	**320**	Pn		**Pn**	**09 29 19.8**	**+0.1**
SEUS	**St. Eustatius**	**5.79**	**310**	*eP*		**Pn**	**09 29 30.0**	**+0.7**
SEUS	**St. Eustatius**	**5.79**	**310**	*eS*		**Sn**	**09 30 31.7**	**-3.8**
SEUS	**St. Eustatius**	**5.79**	**310**			**Pn**	**09 29 29.7**	**+0.4**
SMRT	**St. Maarten**	**6.22**	**314**	Pn		**Pn**	**09 29 35.0**	**-0.3**
PCRV	**Puerto La Cruz**	**7.09**	**241**	Pn		**Pn**	**09 29 49.5**	**+2.3**
	6.9nm,0.3s,baz=34,slow=6.6,SNR=36							
PCRV						Sn	**09 31 06.3**	**-1.3**
	2.4nm,0.3s,baz=262,slow=12,SNR=5.2							
CDVI	**St. Croix**	**7.33**	**304**	Pn		**Pn**	**09 29 50.7**	**+0.3**
ABVI	**Anegada Island**	**7.57**	**312**	Pn		**Pn**	**09 29 53.6**	**0.0**
STVI	**Saint Thomas**	**7.81**	**307**	Pn		**Pn**	**09 29 57.3**	**+0.3**
CUPR	**Culebra, Puert**	**8.04**	**305**	Pn		**Pn**	**09 29 59.0**	**-0.2**
MTP	**Monte Pirata**	**8.15**	**303**	Pn		**Pn**	**09 30 03.1**	**+1.4**
HUMP	**Col San Antoni**	**8.42**	**302**			**Pn**	**09 30 05.5**	**+0.2**
CBYP	**Canovanas**	**8.49**	**303**			**Pn**	**09 30 08.1**	**+1.8**
PDPR	**Patillas Dam,**	**8.50**	**301**	Pn		**Pn**	**09 30 06.6**	**+0.2**
SJG	**San Juan**	**8.65**	**301**	Pn		**Pn**	**09 30 08.6**	**+0.1**
	2.9nm,0.3s,baz=116,slow=2.4,SNR=17							
SJG	**San Juan**	**8.65**	**301**			**Pn**	**09 30 09.6**	**+1.0**
GCPR	**Guaynabo City**	**8.69**	**302**			**Pn**	**09 30 09.9**	**+0.8**
OBIP	**Obispado Ponce**	**9.00**	**299**			**Pn**	**09 30 13.8**	**+0.4**
AOPR	**Arecibo Observ**	**9.27**	**301**			**Pn**	**09 30 17.8**	**+0.8**
MLPR	**Magueyes Islan**	**9.34**	**298**			**Pn**	**09 30 18.4**	**+0.4**
CRPR	**Cabo Rojo, PR**	**9.41**	**298**	Pn		**Pn**	**09 30 19.7**	**+0.7**
MDP	**Montagnes des**	**10.29**	**146**	Pn		**Pn**	**09 30 26.2**	**-4.8**
	1.9nm,0.3s,baz=332,slow=19,SNR=36							
MDP						LR	LR	09 34 59.4
	comp=Z,225nm,19.8s,baz=324,slow=40							
BAUV	**El Baul**	**10.62**	**244**	*eP*		**Pn**	**09 30 35.2**	**-0.4**
BAUV	**El Baul**	**10.62**	**244**	*eS*		Sn	09 32 24.7	-10
BOAV	**Boa Vista**	**11.49**	**191**	*eP*		**Pn**	**09 30 44.5**	**-2.9**
DR12	**Loma Pena Alta**	**11.70**	**297**			**Pn**	**09 30 51.3**	**+0.9**
SDDR	**Presa de Saban**	**13.44**	**294**			**Pn**	**09 31 13.3**	**-0.9**
PTGA	**Pitinga**	**14.48**	**186**	Pn		**Pn**	**09 31 23.8**	**-4.6**
	1.4nm,0.3s,baz=358,slow=21,SNR=20							
PTGA	**Pitinga**	**14.48**	**186**	Pn		**Pn**	**09 31 24.5**	**-3.9**
MCPB	**Macapa, AP**	**15.35**	**155**	*eP*		**Pn**	**09 31 33.0**	**-7.2**
RUSC	**La Rusia**	**16.46**	**243**	Pn		**Pn**	**09 31 55.9**	**+0.9**
SJCC	**San Jacinto, C**	**16.90**	**259**			**Pn**	**09 31 60.0**	**0.0**
MACA	**Manacapuru-AM**	**16.96**	**188**	*eP*		**Pn**	**09 31 58.0**	**-2.8**
ITTB	**Itatiuba**	**18.19**	**172**	*eP*		Pn	09 32 08.7	-7.4
NPGB	**Novo Progresso**	**20.88**	**172**	*eP*		**P**	**09 32 45.8**	**+0.2**
PRPB	**Parauapebas**	**21.54**	**156**	*eP*		**P**	**09 32 55.5**	**+2.7**
SAML	**Samuel**	**23.06**	**192**	P		**P**	**09 33 07.8**	**-1.1**
CLDB	**Colider**	**24.60**	**174**	*eP*		**P**	**09 33 29.9**	**+6.2**
SMTB	**Santa Maria do**	**24.89**	**154**	*eP*		P	09 33 34.8	+8.5
SRBA	**San Rafael, Bu**	**24.89**	**262**	P		**P**	**09 33 26.1**	**-0.4**
CVTR	**Volcan Turrial**	**25.12**	**264**	P		**P**	**09 33 28.2**	**-0.7**
SNDB	**Serra Nova Dou**	**26.51**	**164**	*eP*		P	09 33 50.4	+9.4
LPAZ	**La Paz**	**31.37**	**198**	LR		LR	09 49 06.1	
	comp=Z,33nm,21.1s,baz=326,slow=40							
TXAR	**Lajitas Array**	**44.61**	**298**	P		**P**	**09 36 17.9**	**+2.0**
	0.2nm,0.5s,baz=129,slow=7.1,SNR=3.1							
TXAR						LR	LR	09 57 47.2
	comp=Z,19nm,21.4s,baz=0.0,slow=40							
TXAR	**Lajitas Array**	**44.61**	**298**	P		**P**	**09 36 16.2**	**+0.3**
MNTX	**Cornudas Mount**	**46.51**	**301**	P		**P**	**09 36 29.9**	**-1.0**
MNTX				IAmb		IAmb	09 36 43.0	
	comp=Z,4.6nm,1.2s							
ULM	**Lac du Bonnet**	**47.47**	**328**	LR		LR	09 57 12.7	
	comp=Z,27nm,21.1s,baz=87,slow=37							
H10N3	**ASCENSION HYDR**	**48.54**	**114**	T		T	10 28 38.6	
	baz=300							
H10N2	**ASCENSION HYDR**	**48.55**	**114**	T		T	10 28 39.2	
	baz=300,slow=74,SNR=3.6							
H10N1	**ASCENSION HYDR**	**48.56**	**114**	T		T	10 28 48.0	
	baz=300,slow=74,SNR=3.0							
PDAR	**Pinedale Array**	**52.53**	**314**	P		**P**	**09 37 18.4**	**+1.5**
	comp=Z,1.2nm,1.0s,baz=112,slow=9.8,SNR=6.2							
PDAR				LR		LR	10 00 57.2	
	comp=Z,10nm,20.7s,baz=82,slow=38							
PDAR	**Pinedale Array**	**52.53**	**314**	P		**P**	**09 37 17.6**	**+0.6**
DBIC	**Dimbokro**	**53.04**	**92**	P		**P**	**09 37 21.7**	**+0.9**
	comp=Z,3.5nm,0.7s,baz=297,slow=9.0,SNR=4.8							
DBIC	**Dimbokro**	**53.04**	**92**	P		**P**	**09 37 19.1**	**-1.7**
ESDC	**Sonseca Array**	**54.07**	**51**	P		**P**	**09 37 29.5**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=264,slow=8.9,SNR=6.1							
YHL	**Hebgen Lake**	**54.28**	**316**	P		**P**	**09 37 30.2**	**+0.4**
YHL				IAmb		IAmb	09 37 33.8	
	comp=Z,5.5nm,1.1s							
TORD	**Torodi Ar. Bea**	**58.28**	**83**	P		**P**	**09 37 58.9**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=282,slow=6.3,SNR=6.8							
CLL	**Collm**	**67.74**	**40**	*eP*		**P**	**09 39 02.0**	**+1.2**
GERES	**GERESS Array B**	**67.97**	**43**	P		**P**	**09 39 03.0**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=262,slow=3.8,SNR=6.7							
NB2	**NORSAR Subarra**	**68.20**	**29**	P		**P**	**09 39 04.7**	**+1.2**
	comp=Z,6.2nm,1.1s,baz=260,slow=6.9							
NOA	**NORSAR Array B**	**68.20**	**29**	P		**P**	**09 39 04.8**	**+1.3**
	comp=

MAGL			*e*S	**Sn**	**09 56 09.4**	**-0.7**
GRGR	**Grenville**	**3.53**	**241**	*e*P	**Pn**	**09 55 32.0**	**+0.9**
GRGR				*e*S	**Sn**	**09 56 11.8**	**-1.1**
TDBA	**Terre de Bas,**	**3.63**	**304**	*e*P	**Pn**	**09 55 34.1**	**+1.6**
TDBA				*e*S	**Sn**	**09 56 13.7**	**-1.8**
CBE	**Ff, Capester**	**3.73**	**307**	*e*P	**Pn**	**09 55 35.4**	**+1.4**
CBE				*e*S	**Sn**	**09 56 17.3**	**-0.7**
ANBD	**Bethesda, Anti**	**4.48**	**316**	*e*P	**Pn**	**09 55 45.1**	**+0.9**
ANBD	**Bethesda, Anti**	**4.48**	**316**	*e*S	**Sn**	**09 56 33.6**	**-2.8**
ANOC	**Antigua Open C**	**4.57**	**316**	*e*P	**Pn**	**09 55 46.0**	**+0.5**
ANOC	**Antigua Open C**	**4.57**	**316**	*e*S	**Sn**	**09 56 36.4**	**-2.3**

OTT 27 10:03:38.8±0.4, 43°04N×60°33W, h18km, ML3.6/9, Atlantic Ocean. 298km south from Port Hawkesbury, Ns, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GBN	**Guysborough**	**2.51**	**341**	PN		Pn	10 04 19.0	+0.3
GBN				SN		Sn	10 04 48.2	-0.6
GBN				Trac			10 04 53.4	
	comp=Z,2.3nm,0.1s							
HAL	**Halifax**	**2.85**	**305**	PN		Pn	10 04 24.7	+1.4
HAL				SN		Sn	10 04 56.5	-0.6
HAL				Trac			10 05 08.5	
	comp=Z,4.9nm,0.1s							
CHEG	**Cheticamp, Nov**	**3.77**	**356**	PN		Pn	10 04 35.2	-0.9
CHEG				SN		Sn	10 05 18.2	-1.9
CHEG				Trac			10 05 20.0	
	comp=Z,4.9nm,0.1s							
LMN	**Caledonia Moun**	**4.26**	**313**	PN		Pn	10 04 42.4	-0.3
LMN				SN		Sn	10 05 29.0	-3.0
LMN				Trac			10 05 35.2	
	comp=Z,4.1nm,0.1s							
ELNB	**Elgin, New Bru**	**4.45**	**311**	PN		Pn	10 04 45.0	-0.3
ELNB				SN		Sn	10 05 34.2	-2.4
ELNB				Trac			10 05 41.5	
	comp=Z,0.9nm,0.1s							
WCNB	**Wards Creek**	**4.54**	**307**	PN		Pn	10 04 46.5	0.0
WCNB				SN		Sn	10 05 35.5	-3.2
WCNB				Trac			10 05 42.4	
	comp=Z,1.9nm,0.1s							
HKNB	**Havelock Quarr**	**4.65**	**311**	PN		Pn	10 04 48.2	+0.1
HKNB				SN		Sn	10 05 38.5	-3.2
HKNB				Trac			10 05 45.3	
	comp=Z,5.3nm,0.2s							
SRNB	**Snider Mountai**	**4.71**	**308**	PN		Pn	10 04 48.7	-0.2
SRNB				SN		Sn	10 05 40.1	-3.0
SRNB				Trac			10 05 44.3	
	comp=Z,0.6nm,0.1s							
BATG	**Bathurst New B**	**5.86**	**318**	PN		Pn	10 05 04.2	-0.5
BATG				SN		Sn	10 06 04.9	-6.4
BATG				Trac			10 06 09.1	
	comp=Z,1.2nm,0.0s							
DRLN	**Deer Lake**	**6.52**	**17**	PN		Pn	10 05 11.7	-2.1
DRLN				SN		Sn	10 06 22.9	-4.7
DRLN				Trac			10 06 32.0	
	comp=Z,102nm,1.1s							
PKME	**Peaks-Kenny Pk**	**6.82**	**292**	PN		Pn	10 05 16.7	-1.1
PKME				SN		Sn	10 06 28.1	-6.8
PKME				Trac			10 06 35.4	
	comp=Z,62nm,1.2s							
NATG	**Natashquan Que**	**7.45**	**348**	PN		Pn	10 05 26.2	-0.3
NATG				SN		Sn	10 06 45.2	-5.1
NATG				SN		Sn	10 06 45.2	-5.1
NATG				Trac			10 06 54.9	
	comp=Z,4.2nm,0.2s							
ICQ	**Pointe Anglais**	**8.07**	**326**	PN		Pn	10 05 34.3	-0.6
ICQ				SN		Sn	10 06 59.4	-6.2
ICQ				Trac			10 07 01.7	
	comp=Z,174nm,1.4s							
A21	**Saint Andre**	**8.07**	**309**	PN		Pn	10 05 34.3	-0.7
A21				SN		Sn	10 06 59.9	-5.8
CNQ	**Baie Comeau**	**8.25**	**322**	PN		Pn	10 05 35.7	-1.7
CNQ				SN		Sn	10 07 00.8	-9.3

*REN **27** 10:10:03.8±1.6, 39°.65N±0°.02×119°.15W±0°.02, h7km±6km, ML3.0/27, ML2.8/104(NEIC), Error ellipse: s-maj=3.7km s-min=1.9km az=205.0*

NEIC 27 10:10:03.6±1.4, 39°.65N±0°.03×119°.13W±0°.02, h8km±6km, Error ellipse: s-maj=4.1km s-min=2.0km az=204.0, Nevada

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PAHR	**Pah Rah Range**	**0.20**	**286**			Pg	10 10 08.1	+0.2
PAHR				Sg		Sg	10 10 11.2	+0.5
PAHR				IAML			10 10 11.6	
	comp=N,3μm,0.4s							
PAHR				IAML			10 10 11.7	
	comp=E,2μm,0.4s							
VCNR	**Virginia City**	**0.53**	**229**			Pg	10 10 13.9	-0.1
VCNR				Sg		Sg	10 10 21.3	+0.3
VCNR				IAML			10 10 21.7	
	comp=N,908nm,0.3s							
VCNR				IAML			10 10 22.1	
	comp=E,695nm,0.4s							
WVA	**Winnemucca Val**	**0.61**	**299**			Pg	10 10 15.3	-0.2
PEAR	**Peavine Mounta**	**0.64**	**267**			Pg	10 10 16.0	-0.1
PNTR	**Pine Nut**	**0.67**	**213**			Pg	10 10 16.2	-0.3
PNTR				Sg		Sg	10 10 25.8	+0.5
YERR	**Yerington**	**0.67**	**187**			Pg	10 10 16.4	-0.1
YERR				Sg		Sg	10 10 25.8	+0.5
VPK	**Verdi Peak**	**0.72**	**256**			Pg	10 10 17.6	0.0
KBF	**Kyburz Flat**	**0.85**	**261**			Pg	10 10 19.6	-0.3
LOY	**Loyalton**	**0.85**	**271**			Pg	10 10 19.6	-0.5
IND	**Independence**	**0.92**	**257**			Pg	10 10 21.1	-0.3
BEKR	**Beckworth**	**0.97**	**283**	Pg		Pg	10 10 21.4	-0.9
BEKR				Sg		Sg	10 10 34.3	-0.6
RUBR	**Rubicon Trail**	**0.99**	**233**			Pg	10 10 22.4	-0.3
RUBR				Sg		Sg	10 10 35.8	+0.1
KVN	**Kaiserville**	**1.00**	**126**			Pg	10 10 22.3	-0.5
KVN				Sg		Sg	10 10 36.0	+0.2
EMB	**Emerald Bay**	**1.01**	**228**			Pg	10 10 22.6	-0.5
EMB				Sg		Sg	10 10 36.2	0.0
RYN	**Ryan**	**1.12**	**155**			Pg	10 10 24.4	-0.8
RYN				Sg		Sb	10 10 40.1	-0.1
RYN				IAML			10 10 41.0	
	comp=E,260nm,0.2s							
NVAR	**Mina Array Bea**	**1.38**	**152**			Pn	10 10 28.6	-0.7
NV11	**Mina Array Sit**	**1.43**	**148**			Pn	10 10 29.1	-0.9
LHV	**Little Huntoon**	**1.48**	**160**			Pn	10 10 30.3	-0.1
LUL	**Lundy Lake**	**1.59**	**181**			Pn	10 10 32.7	+0.4
BMN	**Battle Mountai**	**1.66**	**61**	Pn		Pn	10 10 31.5	-1.6
BMN				IAML			10 10 56.8	
	comp=E,106nm,0.7s							
BMN				IAML			10 10 57.4	
	comp=N,96nm,0.6s							
ORV	**Oroville**	**1.83**	**268**	Pn		Pn	10 10 34.8	-0.5
ORV				IAML			10 11 02.2	
	comp=N,86nm,0.6s							
CMB	**Columbia Colle**	**1.89**	**212**			Pn	10 10 35.7	-0.5
CMB	**Columbia Colle**	**1.89**	**212**			Pb	10 10 37.9	-0.4
CMB				IAML			10 11 04.3	
	comp=E,34nm,0.2s							
CMB				IAML			10 11 04.4	
	comp=N,32nm,0.4s							
LCMM	**Colby Mountain**	**1.90**	**286**			Pb	10 10 38.4	-0.3
MDPB	**Devils Postpil**	**2.01**	**179**			Pn	10 10 37.9	-0.2
TPH	**Tonopah**	**2.17**	**136**			Pn	10 10 40.1	-0.1
MOD	**Modoc Plateau**	**2.42**	**339**			Pb	10 10 45.8	-1.6
MOD				IAML			10 11 24.9	
	comp=E,49nm,0.7s							
MOD				IAML			10 11 26.9	
	comp=N,52nm,0.8s							
LCH	**Last Change Ra**	**2.68**	**154**			Pn	10 10 48.4	+1.2
LCH				IAML			10 11 30.9	
	comp=E,41nm,0.4s							
WDC	**Whiskeytown Da**	**2.77**	**291**			Pn	10 10 48.6	+0.4
WDC	**Whiskeytown Da**	**2.77**	**291**			Pn	10 10 48.0	-0.2
WVOR	**Wild Horse Val**	**2.81**	**8**			Pn	10 10 47.6	-1.3
WVOR				IAML			10 11 35.4	
	comp=E,28nm,0.5s							
R11A	**Troy Canyon, C**	**3.05**	**114**			Pn	10 10 52.3	0.0
ELK	**Elko**	**3.18**	**69**			Pn	10 10 53.3	-0.7
ELK				IAML			10 11 45.6	
	comp=E,23nm,0.4s							
ELK				IAML			10 11 46.1	
	comp=E,17nm,0.3s							
MCCM	**Marconi Confer**	**3.29**	**244**	Pn		Pn	10 10 54.6	-0.7
K05A	**Summer Lake**	**3.35**	**337**			Pn	10 10 55.6	-0.8
K05A				IAML			10 11 52.7	
	comp=E,22nm,0.5s							
K05A				IAML			10 11 53.7	
	comp=N,20nm,1.1s							
SAO	**San Andreas Ge**	**3.41**	**213**	Pn		Pn	10 10 56.1	-0.9
YBH	**Yreka Blue Hor**	**3.42**	**309**			Pn	10 10 57.0	-0.3
TPNV	**Topopah Spring**	**3.52**	**139**			Pn	10 10 58.7	0.0
TPNV				IAML			10 11 59.5	
	comp=N,16nm,0.5s							
TPNV				IAML			10 12 00.6	
	comp=N,20nm,0.8s							
KMRM	**Mail Ridge**	**3.56**	**281**	Pn		Pn	10 10 58.8	-0.4
PMPB	**Monarch Peak**	**3.67**	**202**	Pn		Pn	10 10 59.1	-1.6
J08A	**Circle Bar Ran**	**3.74**	**7**			Pn	10 11 02.8	+1.1
J08A				IAML			10 12 08.6	
	comp=N,18nm,0.9s							
J08A				IAML			10 12 10.0	
	comp=E,16nm,0.8s							
SPR3	**Spring Creek 3**	**3.78**	**98**			Pn	10 11 03.8	+1.4
SPR3				IAML			10 12 05.3	
	comp=E,16nm,1.1s							
SPR3				IAML			10 12 09.3	
	comp=N,17nm,0.6s							
PRN	**Pahroc Range**	**3.91**	**124**			Pn	10 11 05.5	+1.5
PRN				IAML			10 12 11.2	
	comp=N,19nm,0.7s							
PRN				IAML			10 12 13.4	
	comp=E,16nm,0.6s							
GWY	**Greenwater Val**	**3.97**	**150**			Pn	10 11 04.4	-0.5
GWY				IAML			10 12 12.7	
	comp=E,14nm,0.8s							
GWY				IAML			10 12 14.6	
	comp=N,10nm,0.5s							
PAGB	**Antelope Grade**	**4.01**	**193**	Pn		Pn	10 11 05.9	+0.6
ISA	**Isabella, Lake**	**4.01**	**172**	Pn		Pn	10 11 05.4	-0.1
ISA				IAML			10 12 12.9	
	comp=E,16nm,0.8s							
QSM	**Queen of Sheba**	**4.09**	**153**			Pn	10 11 06.3	-0.2
HUMO	**Hull Mountain**	**4.13**	**317**	Pn		Pn	10 11 07.2	+0.2
HUMO				IAML			10 11 38.9	
	comp=E,11nm,3.7s							
HUMO				IAML			10 12 33.9	
	comp=N,13nm,3.5s							
PSUT	**Pine Spring**	**4.25**	**104**			Pn	10 11 09.7	+0.9
PINE	**Pine Mountain**	**4.36**	**342**			Pn	10 11 10.1	-0.1
PINE				IAML			10 13 40.8	
	comp=E,13nm,3.8s							
I07A	**Izee**	**4.44**	**357**			Pn	10 11 13.0	+1.7
I07A				IAML			10 12 43.0	
	comp=E,6.4nm,4.3s							
I07A				IAML			10 12 50.0	
	comp=N,7.8nm,4.4s							
GSC	**Goldstone, Bar**	**4.72**	**156**			Pn	10 11 16.6	+1.5
GSC				IAML			10 13 33.7	
	comp=E,11nm,4.8s							
BGU	**Big Grassy Mou**	**4.84**	**73**	Pn		Pn	10 11 16.9	+0.1
BGU				IAML			10 12 37.5	
	comp=N,8.7nm,0.6s							
DUG	**Dugway, Tooele**	**4.89**	**82**	Pn		Pn	10 11 18.0	+0.5
DUG				IAML			10 12 39.6	
	comp=N,8.5nm,0.8s							
CCUT	**Cedar City**	**4.98**	**113**			Pn	10 11 19.5	+0.6
CCUT				IAML			10 12 41.3	
	comp=N,7.0nm,0.7s							
CCUT				IAML			10 13 03.0	
	comp=E,5.8nm,5.0s							
SZCU	**Shurtz Canyon**	**5.16**	**112**	Pn		Pn	10 11 20.2	-1.1
SZCU				IAML			10 12 48.6	
	comp=N,5.6nm,1.8s							
SZCU				IAML			10 12 51.3	
	comp=E,5.7nm,1.1s							
HLID	**Hailey**	**5.27**	**41**	Pn		Pn	10 11 24.6	+1.8
HLID				IAML			10 12 07.6	
	comp=E,4.0nm,4.8s							
HLID				IAML			10 13 09.3	
	comp=E,4.4nm,3.2s							
TCRU	**Three Creeks R**	**5.30**	**99**	Pn		Pn	10 11 25.8	+2.5
TCRU				IAML			10 13 27.5	
	comp=E,6.9nm,3.4s							
TCRU				IAML			10 14 33.9	
	comp=N,6.2nm,4.5s							
BMO	**Blue Mountains**	**5.37**	**14**	Pn		Pn	10 11 23.5	-0.6
BMO				IAML			10 14 41.4	
	comp=N,4.7nm,4.0s							
BMO				IAML			10 14 46.5	
	comp=N,6.0nm,3.4s							
MVU	**Marysvale**	**5.50**	**100**			Pn	10 11 27.8	+1.7
MSU	**Marysvale**	**5.53**	**100**	Pn		Pn	10 11 28.5	+2.1
KNB	**Kanab**	**5.61**	**116**			Pn	10 11 29.2	+1.7
MTPU	**Mount Pierson**	**5.66**	**104**	Pn		Pn	10 11 28.1	-0.1
PKCU	**Pink Cliffs**	**5.78**	**110**	Pn		Pn	10 11 32.4	+2.5
SRU	**San Rafael Swe**	**6.69**	**92**	Pn		Pn	10 11 42.3	0.0

*NEIC **27** 10:21:50.7±2.2, 23°.85S±0°.08×178°.9W±0°.1, h388km±5km, mb4.5/98, Error ellipse: s-maj=16.1km s-min=12.3km az=89.0*

*NOU **27** 10:21:52.4, 23°.96S×178°.60W, h449km, mb4.9/71, South of Fiji Islands*

*IDC **27** 10:21:54.6±0.8, 23°.86S×179°.16W, h426km±8km, mb3.8/24, mb1 4.0/24, mb1mx3.9/41, mbtmp4.6/24, Error ellipse: s-maj=11.5km s-min=8.9km az=166.0*

*BGR **27** 10:21:57.9±0.0, 23°.46S×179°.60W, h454km*

ISC 27 10:21:52.1±0.5, 23°.93S±0°.05×178°.91W±0°.05, h412km±5km, h413km; pP-P, n361, σ1s66/413, mb4.6/119, 22C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**5.37**	**171**			**P**	**10 23 17.0**	**-1.3**
RAO	**Raoul Island**	**5.37**	**171**	P		**P**	**10 23 17.3**	**-0.9**
GLKZ	**Green Lake**	**5.38**	**171**	P		**P**	**10 23 17.1**	**-1.2**
GLKZ				S		S	10 24 18.2	-11
MSVF	**Nonsavu**	**6.79**	**335**			**P**	**10 23 34.0**	**-0.4**
NIUE	**Niue**	**9.66**	**62**	P		**P**	**10 24 03.7**	**-2.1**
	baz=9.5,SNR=7.8							
NIUE				S		**S**	**10 25 50.5**	**-5.6**
	baz=9.5							
NIUE	**Niue**	**9.66**	**62**	P		**P**	**10 24 03.1**	**-2.7**
NIUE	**Niue**	**9.66**	**62**	P		**P**	**10 24 03.8**	**-2.0**
AFI	**Afiamalu**	**12.04**	**35**	P		**P**	**10 24 28.7**	**-3.4**
	8.3nm,0.3s,baz=250,slow=16,SNR=13							
AFI				S		S	10 26 33.7	-11
	38nm,0.3s,baz=229,slow=20,SNR=12							
AFI	**Afiamalu**	**12.04**	**35**	P		**P**	**10 24 28.3**	**-3.8**
MARNC	**Mare, Loyalty**	**12.30**	**279**	P		**P**	**10 24 35.5**	**+0.6**
MARNC	**Mare, Loyalty**	**12.30**	**279**	P		**P**	**10 24 39.3**	**+4.4**
PINNC	**Pines Island,**	**12.61**	**273**	P		**P**	**10 24 39.2**	**+0.9**
PINNC	**Pines Island,**	**12.61**	**273**	P		**P**	**10 24 40.7**	**+2.4**
OUZ	**Omahuta**	**12.99**	**208**	P		**P**	**10 24 45.0**	**+2.7**
OUZ	**Omahuta**	**12.99**	**208**	P		**P**	**10 24 45.1**	**+2.8**
OUENC	**Ouen Island, N**	**13.19**	**274**	P		**P**	**10 24 43.8**	**-0.8**
OUENC	**Ouen Island, N**	**13.19**	**274**	P		**P**	**10 24 47.5**	**+2.9**
LIFNC	**LIFOU**	**13.19**	**281**	P		**P**	**10 24 45.6**	**+1.0**
LIFNC	**LIFOU**	**13.19**	**281**	P		**P**	**10 24 47.0**	**+2.3**
YATNC	**Mamie plateau,**	**13.21**	**275**	P		**P**	**10 24 47.6**	**+2.7**
WCZ	**Waipu Caves**	**13.31**	**204**	P		**P**	**10 24 47.9**	**+2.1**
DVP	**Devils Point**	**13.55**	**295**	P		**P**	**10 24 52.8**	**+4.2**
	154μm,1.0s							
ONTNC	**Ouen Toro**	**13.56**	**274**	P		**P**	**10 24 48.0**	**-0.7**
DZM	**Mont Dzumac**	**13.62**	**275**	P		**P**	**10 24 51.3**	**+1.9**
	1.2nm,0.3s,baz=96,slow=18,SNR=16							
DZM				S		**S**	**10 27 12.9**	**-3.1**
	baz=90,slow=20,SNR=2.5							
DZM	**Mont Dzumac**	**13.62**	**275**	*e*P		**P**	**10 24 49.9**	**+0.5**
	79nm,1.1s							
DZM	**Mont Dzumac**	**13.62**	**275**	P		**P**	**10 24 51.0**	**+1.6**
DZM	**Mont Dzumac**	**13.62**	**275**	P		**P**	**10 24 51.7**	**+2.3**
MXZ	**Matakaoa Point**	**13.79**	**189**	P		**P**	**10 24 47.9**	**-3.1**
WIAZ	**Waiheke Island**	**13.80**	**200**	P		**P**	**10 24 52.4**	**+1.2**
MKAZ	**Moumakai**	**14.08**	**200**	P		**P**	**10 24 56.1**	**+2.0**
URZ	**Urewera**	**14.68**	**192**	P		**P**	**10 24 59.4**	**-1.1**
	16nm,0.3s,baz=63,slow=14,SNR=71							
URZ				S		**S**	**10 27 33.0**	**-3.5**
	12nm,0.3s,baz=90,slow=20,SNR=14							
HIZ	**Hauiti**	**15.47**	**199**	P		**P**	**10 25 10.5**	**+1.3**
SANVU	**Saraoutou**	**15.55**	**300**	P		**P**	**10 25 10.0**	**-0.3**
WNVZ	**Wahianoa**	**16.04**	**196**	P		**P**	**10 25 10.9**	**-4.5**
WNVZ				S		**S**	**10 28 06.3**	**+2.8**
MTVZ	**Mangateitei**	**16.12**	**196**	P		**P**	**10 25 15.1**	**-1.1**
MTVZ				S		**S**	**10 28 10.5**	**+5.4**
PNHZ	**Pukenui**	**16.46**	**193**	P		**P**	**10 25 16.6**	**-3.1**
PNHZ				S		**S**	**10 28 12.0**	**+0.5**
WPHZ	**Waipukurau**	**16.56**	**193**	P		**P**	**10 25 18.4**	**-2.4**
WPHZ				S		**S**	**10 28 12.5**	**-0.8**
TSZ	**Takapari Road**	**16.65**	**194**	P		**P**	**10 25 21.1**	**-0.7**
TSZ				S		**S**	**10 28 15.6**	**+0.4**
DVHZ	**Dannevirke**	**16.84**	**193**	P		**P**	**10 25 21.5**	**-2.2**
DVHZ				S		**S**	**10 28 16.9**	**-1.9**
ANWZ	**Angora Road**	**16.93**	**192**	P		**P**	**10 25 22.9**	**-1.8**
ANWZ				S		**S**	**10 28 19.6**	**-1.0**
POWZ	**Post Office Ro**	**17.01**	**194**	P		**P**	**10 25 22.5**	**-3.1**
POWZ				S		**S**	**10 28 20.9**	**-1.2**
PRWZ	**Pori Road**	**17.12**	**193**	P		**P**	**10 25 26.5**	**-0.2**
PRWZ				S		**S**	**10 28 23.2**	**-1.1**
BFZ	**Birch Farm**	**17.19**	**193**	P		**P**	**10 25 25.0**	**-2.5**
BFZ				S		**S**	**10 28 22.1**	**-3.5**
MRZ	**Mangatainoka R**	**17.31**	**194**	P		**P**	**10 25 25.0**	**-3.7**
MRZ				S		**S**	**10 28 24.3**	**-3.6**
HOWZ	**Holdsworth Sta**	**17.55**	**194**	P		**P**	**10 25 28.2**	**-3.1**
HOWZ				S		**S**	**10 28 25.7**	**-6.9**
OGWZ	**Otaki Gorge**	**17.55**	**195**	P		**P**	**10 25 28.1**	**-3.2**
OGWZ				S		**S**	**10 28 29.6**	**-3.0**
KIW	**Kapiti Island**	**17.66**	**196**	P		**P**	**10 25 28.4**	**-4.1**
KIW				S		**S**	**10 28 32.4**	**-2.2**
TMWZ	**Te Maipa**	**17.67**	**193**	P		**P**	**10 25 31.7**	**-0.9**
TMWZ				S		**S**	**10 28 40.5**	**+5.6**
MTW	**Mount Morrison**	**17.80**	**194**	P		**P**	**10 25 29.9**	**-4.0**
MTW				S		**S**	**10 28 37.0**	**-0.3**
CAW	**Cannon Point**	**17.85**	**195**	P		**P**	**10 25 31.2**	**-3.3**
CAW				S		**S**	**10 28 32.7**	**-5.6**
TRWZ	**Traveller**	**17.99**	**193**	P		**P**	**10 25 35.1**	**-0.9**
TRWZ				S		**S**	**10 28 43.5**	**+2.7**
PAWZ	**Paruwai Farm**	**18.03**	**194**	P		**P**	**10 25 35.4**	**-1.1**
PAWZ				S		**S**	**10 28 37.7**	**-3.0**
MSWZ	**Moikau Station**	**18.11**	**194**	P		**P**	**10 25 34.1**	**-3.0**
MSWZ				S		**S**	**10 28 39.1**	**-3.8**
SNZO	**South Karori**	**18.13**	**196**	P		**P**	**10 25 37.0**	**-0.4**
SNZO				IAmb		IAmb	10 25 48.3	
	comp=Z,30nm,0.8s							
TCW	**Tory Channel**	**18.15**	**197**	P		**P**	**10 25 35.0**	**-2.6**
TCW				S		**S**	**10 28 39.5**	**-4.1**
PLWZ	**Palliser**	**18.25**	**194**			**P**	**10 25 38.8**	**0.0**
NNZ	**Nelson**	**18.41**	**199**	P		**P**	**10 25 38.9**	**-1.3**
NNZ				IAmb		IAmb	10 26 05.4	
	comp=Z,27nm,1.0s							
TUWZ	**Tuamarina**	**18.44**	**197**	P		**P**	**10 25 37.6**	**-3.0**
TUWZ				S		**S**	**10 28 44.3**	**-4.4**
DSZ	**Denniston Nort**	**19.38**	**201**	P		**P**	**10 25 48.1**	**-1.4**
DSZ				S		**S**	**10 29 03.5**	**-0.9**
LHI	**Lord Howe Isla**	**20.89**	**244**	P		**P**	**10 26 04.8**	**+1.0**
	baz=21,SNR=5.8							
ARMA	**Armidale**	**26.94**	**250**	P		**P**	**10 26 59.3**	**+0.9**
	baz=27,SNR=13							
ARMA	**Armidale**	**26.94**	**250**	P		**P**	**10 26 58.5**	**+0.2**
EIDS	**Eidsvold**	**27.29**	**261**	P		**P**	**10 27 01.3**	**0.0**
	baz=27,SNR=18							
EIDS	**Eidsvold**	**27.29**	**261**	P		**P**	**10 27 01.3**	**0.0**
MGCD	**Mangrove Creek**	**27.82**	**244**	P		**P**	**10 27 07.2**	**+1.3**
	baz=28,SNR=25							
PAE	**Paea**	**28.09**	**83**	*e*P		**P**	**10 27 08.6**	**+0.2**
	comp=Z,6.0nm,1.1s							
PPT2	**Papeete2**	**28.11**	**83**	*e*P		**P**	**10 27 09.6**	**+0.9**
	comp=Z,25nm,1.1s							
PPT	**Papeete**	**28.12**	**83**	P		**P**	**10 27 11.8**	**+3.1**
	comp=Z,21nm,0.9s,baz=253,slow=19,SNR=3.5							
TIAR	**Tiarei**	**28.33**	**83**	*e*P		**P**	**10 27 11.0**	**+0.4**
	comp=Z,4.5nm,0.9s							
RMQ	**Roma**	**29.32**	**258**	P		**P**	**10 27 20.2**	**+1.0**
	baz=29,SNR=19							
CNB	**Canberra Magne**	**29.70**	**240**	P		**P**	**10 27 23.4**	**+0.9**
	baz=30,SNR=25							
CAN	**Canberra**	**29.99**	**240**	P		**P**	**10 27 25.0**	**0.0**
CAN				IAmb		IAmb	10 27 26.7	
	comp=Z,66nm,1.3s							
YNG	**Young**	**30.26**	**243**	P		**P**	**10 27 28.0**	**+0.7**
	baz=30,SNR=11							
MILA	**Mila**	**30.31**	**237**	P		**P**	**10 27 28.4**	**+0.6**
	baz=30,SNR=8.5							
CMSA	**Cobar Meteorol**	**32.13**	**248**	P		**P**	**10 27 43.4**	**-0.1**
	baz=32,SNR=14							
CTA	**Charters Tower**	**32.47**	**270**	P		**P**	**10 27 46.7**	**+0.2**
	comp=Z,78nm,0.4s,baz=95,slow=11,SNR=16							
CTA				S		**S**	**10 32 30.5**	**-0.5**
	comp=Z,4.1nm,0.9s,baz=20,slow=22,SNR=2.3							
CTAO	**Charters Tower**	**32.47**	**270**	P		**P**	**10 27 46.8**	**+0.2**
TOO	**Toolangi**	**33.27**	**237**	P		**P**	**10 27 53.4**	**+0.2**
	baz=33,SNR=22							
TOO	**Toolangi**	**33.27**	**237**	P		**P**	**10 27 53.2**	**-0.1**
TOO				IAmb		IAmb	10 27 54.3	
	comp=Z,50nm,1.2s							
QLP	**Quilpie**	**33.36**	**258**	P		**P**	**10 27 53.9**	**-0.2**
	baz=34,SNR=33							
TAU	**Tasmania Unive**	**33.64**	**227**	P		**P**	**10 27 56.0**	**-0.3**
TAU				IAmb		IAmb	10 27 57.2	
	comp=Z,44nm,1.2s							
MTSU	**Mount Surprise**	**34.73**	**272**	P		**P**	**10 28 05.9**	**0.0**
	baz=35,SNR=73							
PMG	**Port Moresby**	**35.45**	**288**	P		**P**	**10 28 11.2**	**-0.6**
PMG	**Port Moresby**	**35.45**	**288**	P		**P**	**10 28 10.1**	**-1.8**
	comp=Z,1μmcomp=Z,190nm,1.0s							
**P

KNRA Kununurra 49.68 269 P P 10 30 04.1 -0.5
FITZ Fitzroy Crossi 51.82 265 P P 10 30 20.0 -0.3
baz=52,SNR=53
FITZ Fitzroy Crossi 51.82 265 P P 10 30 20.1 -0.3
SIJI Sorong 53.39 288 P P 10 30 30.3 -1.5
comp=Z,100nm,0.8s,baz=58,slow=6.5,SNR=17
SIJI Sorong 53.39 288 P P 10 30 30.1 -1.7
comp=Z,1µmcomp=Z,78nm,1.0s
SWI Sorong 53.40 288 P P 10 30 31.6 -0.2
comp=Z,1µmcomp=Z,144nm,1.0s
SBA Scott Base 54.41 184 P P 10 30 41.4 +3.4
VNDA Vanda 54.43 185 P P 10 30 40.5 +2.2
comp=Z,1.7nm,0.5s,baz=2.2,slow=7.6,SNR=23
VNDA Vanda 54.43 185 P P 10 30 40.4 +2.2
SOEI Soe 55.84 274 P P 10 30 50.1 +0.9
SOEI Soe 55.84 274 P P 10 30 50.3 +1.0
comp=Z,2µmcomp=Z,186nm,1.1s
MEEK Meekatharra 56.06 253 P P 10 30 49.0 -1.5
baz=56,SNR=6.5
NWAO Narrogin (SRO) 56.13 245 P P 10 30 50.1 -0.8
baz=56,SNR=6.5
NWAO Narrogin (SRO) 56.13 245 P P 10 30 50.0 -0.9
NWAO IAmb IAmb 10 30 51.5
comp=Z,31nm,1.2s
PSA00 Pilbara Seismi 56.14 259 P P 10 30 50.1 -1.1
PSA00 IAmb IAmb 10 30 51.5
comp=Z,43nm,1.2s
BATI Baumata 56.22 274 P P 10 30 52.9 +1.0
comp=Z,51nm,0.5s,baz=134,slow=3.2,SNR=6.6
BLDU Ballidu 56.94 248 P P 10 30 55.5 -1.1
baz=57,SNR=36
MUN Mundaring 57.13 246 P P 10 30 57.4 -0.5
baz=57,SNR=5.8
SANI Sanana 57.49 284 P P 10 31 00.9 +0.3
comp=Z,43nm,1.0s
MORW Morawa 57.80 250 P P 10 31 01.6 -0.9
baz=58,SNR=16
MORW Morawa 57.80 250 P P 10 31 01.8 -0.8
EDFI Ende, Flores 58.57 274 P P 10 31 07.1 -1.0
comp=Z,495nmcomp=Z,63nm,1.0s
BASI Baing, Sumba 59.04 272 P P 10 31 11.1 -0.1
comp=Z,1µmcomp=Z,99nm,1.1s
LBFI Labuhan Bajo, 60.32 274 P P 10 31 20.1 +0.3
comp=Z,904nmcomp=Z,90nm,0.9s
WBSI Waikabubak, Su 60.34 272 P P 10 31 20.1 +0.1
comp=Z,1µmcomp=Z,97nm,1.1s
CASY Casey 60.52 206 P P 10 31 20.1 -0.1
CASY IAmb IAmb 10 31 20.7
comp=Z,18nm,1.4s
GIRL Giralia 60.88 257 P P 10 31 22.8 -0.6
baz=61,SNR=3.9
GIRL Giralia 60.88 257 P P 10 31 23.7 +0.3
BKSI Bulukumba 61.36 277 P P 10 31 26.0 -0.7
comp=Z,680nmcomp=Z,57nm,0.9s
GTOI Gorontalo 61.36 285 P P 10 31 25.5 -1.2
comp=Z,43nm,1.0s
GTOI pP pP 10 32 50.6 -1.7
comp=Z,43nm,1.0s
BNSI Bone 61.75 278 P P 10 31 29.8 +0.5
comp=Z,53nm,1.1s
KAPI Kappang 61.82 277 P P 10 31 29.3 -0.5
comp=Z,10nm,0.3s,baz=111,slow=15,SNR=3.0
KAPI Kappang 61.82 277 P P 10 31 28.2 -1.6
KAPI IAmb IAmb 10 31 46.2
comp=Z,48nm,1.4s
APSI Ampana 61.87 282 P P 10 31 31.1 +1.1
comp=Z,523nmcomp=Z,47nm,1.0s
PLAI Plampang 62.12 271 P P 10 31 31.5 -0.2
comp=Z,1µmcomp=Z,135nm,1.1s
TTSI Tana Toraja 62.58 279 P P 10 31 35.3 +0.6
comp=Z,30nm,1.1s
TWSI Taliwang, Sumb 62.97 272 P P 10 31 37.2 -0.1
comp=Z,590nmcomp=Z,45nm,1.2s
TOLI2 Tolitoli 63.55 284 P P 10 31 39.8 -1.2
MMSI Mamuju 63.55 279 P P 10 31 41.7 +0.6
comp=Z,21nm,0.9s
KLNI Mataram 63.81 272 P P 10 31 42.0 -0.7
comp=Z,44nm,1.1s
MPSI Mapaga 63.99 283 P P 10 31 42.8 -1.0
comp=Z,1µmcomp=Z,66nm,0.9s
QSPA South Pole Qui 66.15 180 P P 10 31 58.4 +1.5
comp=Z,11nm,1.0s,baz=59,slow=9.7,SNR=24
QSPA South Pole Qui 66.15 180 P P 10 31 58.7 +1.8
QSPA IAmb IAmb 10 32 02.1
comp=Z,11nm,0.9s
BBKI Banjar Baru 66.92 277 P P 10 32 03.6 +1.2
comp=Z,34nm,1.0s
GRJI Gresik 67.69 272 P P 10 32 08.7 +1.5
comp=Z,1µmcomp=Z,132nm,1.1s
PWJI Pagerwojo 67.89 271 P P 10 32 08.8 +0.5
comp=Z,38nm,1.3s
SJI Sawahan 68.03 271 P P 10 32 09.7 +0.4
comp=Z,48nm,1.0s
PKKI Palangkaraya 68.21 278 P P 10 32 11.8 +1.4
comp=Z,165nm,1.1s
PCJI Pacitan 68.39 270 P P 10 32 12.5 +1.0
comp=Z,114nm,1.0s
PBKI Pangkalan Bun 70.11 276 P P 10 32 22.8 +0.9
comp=Z,7µmcomp=Z,219nm,1.1s
CTJI Waduk Cacaban 70.67 271 P P 10 32 26.6 +1.4
comp=Z,32nm,1.1s
KPJI Karang Pucung 70.78 270 P P 10 32 27.0 +1.1
comp=Z,32nm,1.1s
STKI Sintang 71.44 279 P P 10 32 31.2 +1.4
MJAR Matsushiro Arr 72.49 325 P P 10 32 35.2 -0.2
comp=Z,1.5nm,0.8s,baz=105,slow=11,SNR=5.6
MAJO Matsushiro 72.49 325 P P 10 32 34.9 -0.6
MAJO IAmb IAmb 10 32 46.5
comp=Z,11nm,1.4s
DBJI Dramaga 73.07 270 P P 10 32 40.7 +1.3
JHS Saijyo 74.18 321 P P 10 32 45.6 +0.3
JHS IAmb IAmb 10 33 01.8
comp=Z,25nm,1.4s
ADK Adak 75.51 1 P P 10 32 51.9 -0.4
KASI Kota Agung 75.54 270 P P 10 32 54.2 +0.8
comp=Z,71nm,1.1s
MDSI Maura Dua 76.23 271 P P 10 32 56.7 -0.6
comp=Z,1µmcomp=Z,16nm,1.0s
ASAJ Asahikawa 76.35 333 P P 10 32 57.9 +0.7
comp=Z,4.1nm,0.8s,baz=229,slow=11,SNR=2.0
KSI Kapahiang 78.02 271 P P 10 33 08.1 +1.0
MAW Mawson 78.06 200 P P 10 33 07.4 +1.1
comp=Z,5.9nm,0.6s,baz=174,slow=10,SNR=5.2
UNV Unalaska Valle 78.19 7 P P 10 33 07.4 +0.4
MASI Maura Aman, Be 78.54 272 P P 10 33 11.1 +1.1
comp=Z,84nm,1.1s
KSRS Korea Array 78.92 320 P P 10 33 11.8 +0.6
comp=Z,0.4nm,0.5s,baz=146,slow=18,SNR=3.3
KSRS PKKPbc PKKPbc 10 52 01.4 -1.0
comp=Z,0.5nm,0.6s,baz=135,slow=14,SNR=4.4
PEA0B Petropavlovsk- 79.37 346 P P 10 33 13.5 +0.1
PETK Petropavlovsk- 79.37 346 P P 10 33 13.0 -0.4
comp=Z,3.3nm,0.7s,baz=123,slow=5.5,SNR=6.6
PETK Petropavlovsk- 79.37 346 P P 10 33 14.1 +0.8
USRK Ussuriysk Ar. 81.34 327 P P 10 33 24.5 +0.6
comp=Z,2.8nm,0.8s,baz=135,slow=4.9,SNR=7.8
USRK Ussuriysk Ar. 81.34 327 P P 10 33 25.0 +1.1
NJ2 Nanjing 81.44 311 eP P 10 33 26.5 +1.8
NJ2 pmax pmax
comp=Z,12nm,0.5s
ISA Isabella, Lake 82.33 46 P P 10 33 30.3 +1.0
CMB Columbia Colle 82.54 43 P P 10 33 31.0 +0.6
MNSI Mandailing Nat 82.56 274 P P 10 33 31.7 +0.8
comp=Z,12nm,0.4s
YBH Yreka Blue Hor 83.48 39 P P 10 33 38.0 +2.9
comp=Z,2.0nm,0.8s,baz=142,slow=5.4,SNR=4.3
YBH pP pwP 10 35 13.8 +2.5
comp=Z,3.6nm,1.1s,baz=179,slow=5.9,SNR=4.0
YBH Yreka Blue Hor 83.48 39 P P 10 33 36.7 +1.6
RPSI Rantau Prapat 83.93 276 P P 10 33 36.4 -1.4
RPSI IAmb IAmb 10 33 39.6
comp=Z,15nm,1.2s
PSI Prapat 83.97 276 P P 10 33 38.2 0.0
comp=Z,6.7nm,1.0s,baz=172,slow=8.2,SNR=4.9
PSI Prapat 83.97 276 P P 10 33 38.9 +0.7
comp=Z,13nm,1.2s,comp=Z,5.0nm,1.2s
PSI P P 10 33 38.9 +0.7
comp=Z,13nm,1.2s,comp=Z,5.0nm,1.2s
NVAR Mina Array Bea 84.09 43 P P 10 33 39.9 +1.6
comp=Z,0.7nm,0.6s,baz=219,slow=8.3,SNR=9.2
NVAR pP pwP 10 35 16.0 +1.6
comp=Z,1.1nm,0.9s,baz=226,slow=6.2,SNR=3.9
CN2 Changchun 84.51 323 eP P 10 33 41.3 +1.3
CN2 pmax pmax
comp=Z,10.0nm,1.4s
TPH Tonopah 84.56 44 P P 10 33 42.5 +1.8
TPH IAmb IAmb 10 33 44.8
comp=Z,9.6nm,1.0s
KVN Kaiserville 84.58 43 P P 10 33 41.8 +1.0
SNAA Sanae 84.61 179 P P 10 33 40.4 +0.1
VNA3 Neumayer Olymp 84.78 177 P P 10 33 41.2 +0.2
MOD Modoc Plateau 84.99 40 P P 10 33 44.8 +2.2
Y14A Wickenburg 85.04 50 P P 10 33 43.9 +0.9
KLR Kul'dur 85.05 330 P P 10 33 44.0 +1.5
comp=Z,2.5nm,1.0s,baz=336,slow=6.5,SNR=3.2
VNA1 Neumayer--Stat 85.45 177 P P 10 33 46.3 +2.0
SKNT Sakolnakorn 85.51 291 P P 10 33 46.8 +1.3
comp=Z,40nm,1.1s
H04A Detroit Lake 85.67 37 P P 10 33 46.8 +1.1
H04A IAmb IAmb 10 33 52.4
comp=Z,7.0nm,1.0s
O18K Koktuh Hills 85.72 12 P P 10 33 45.8 +0.3
O18K IAmb IAmb 10 33 47.2
comp=Z,15nm,0.9s
TUC Tucson 85.75 52 P P 10 33 47.0 +0.5
O19K Port Alsworth 86.20 12 P P 10 33 48.3 +0.5
X16A Lo Mia Camp, P 86.39 50 P P 10 33 50.9 +1.2
LCMT Little Creek M 86.56 47 P P 10 33 51.4 +1.1
CCUT Cedar City 86.78 46 P P 10 33 52.0 +0.6
I07A Izee 86.79 38 P P 10 33 51.0 -0.3
KNB Kanab 86.84 47 P P 10 33 53.2 +1.5
KNB IAmb IAmb 10 34 03.2
comp=Z,4.6nm,1.1s
MA2 Magadan 86.86 345 P P 10 33 51.8 +0.8
comp=Z,6.7nm,0.8s,baz=330,slow=20,SNR=2.5
U15A North Rim 86.88 48 P P 10 33 52.8 +0.7
U15A IAmb IAmb 10 33 56.1
comp=Z,4.5nm,0.9s
J08A Circle Bar Ran 86.94 39 P P 10 33 52.9 +0.9
ENH Enshi 87.28 305 P P 10 33 53.0 -0.8
ENH IAmb IAmb 10 33 57.5
comp=Z,9.8nm,0.9s
D05A Enumclaw 87.39 35 P P 10 33 53.8 0.0
D05A IAmb IAmb 10 33 58.5
comp=Z,19nm,1.1s
PLCA Paso Flores 87.53 134 P P 10 33 57.6 +2.7
comp=Z,1.5nm,0.8s,baz=239,slow=5.9,SNR=1.9
G08A Pilot Rock 87.84 38 P P 10 33 57.5 +1.3
G08A IAmb IAmb 10 33 59.6
comp=Z,10nm,1.1s
L19K White Mountain 87.95 11 P P 10 33 56.5 +0.3
L19K IAmb IAmb 10 33 58.5
comp=Z,7.8nm,0.9s
MVU Marysvale 88.06 46 P P 10 33 57.8 +0.2
MVU IAmb IAmb 10 34 01.6
comp=Z,14nm,1.1s
SUA Susitna One 88.08 13 P P 10 33 56.9 +0.1
LTY Liberty 88.12 35 P P 10 33 56.7 -0.7
LTY IAmb IAmb 10 33 60.0
comp=Z,4.1nm,0.7s
HAWA Hanford 88.20 37 P P 10 33 58.9 +1.3
HAWA IAmb IAmb 10 34 01.3
comp=Z,9.5nm,0.9s
BMO Blue Mountains 88.51 39 P P 10 34 00.4 +1.1
E08A Dider Farm, El 88.52 37 P P 10 33 59.5 +0.4
E08A IAmb IAmb 10 34 02.6
comp=Z,4.8nm,0.9s
MFID Camas Ranch 88.53 41 P P 10 33 60.0 +0.5
MFID IAmb IAmb 10 34 02.9
comp=Z,6.0nm,1.1s
UTHA Uthaitani 88.82 287 P P 10 34 05.3 +4.1
comp=Z,14nm,1.0s
D08A Wollman Farm, 88.94 36 P P 10 34 01.3 +0.2
D08A IAmb IAmb 10 34 04.6
comp=Z,9.4nm,1.0s
CUT Chulitna 89.03 13 P P 10 34 01.9 +0.8
E09A Wood Farm, Sta 89.03 37 P P 10 34 02.2 +0.6
E09A IAmb IAmb 10 34 04.6
comp=Z,6.4nm,0.9s
TMUT Trail Mountain 89.14 46 P P 10 34 03.3 +0.7
TMUT IAmb IAmb 10 34 06.6
comp=Z,7.7nm,1.3s
F10A Beach Ranch, E 89.22 38 P P 10 34 02.9 +0.3
F10A IAmb IAmb 10 34 05.3
comp=Z,6.7nm,0.8s
PLID Pearl Lake 89.40 39 P P 10 34 04.4 +0.8
PLID IAmb IAmb 10 34 06.5
comp=Z,12nm,1.4s
MNTX Cornudas Mount 89.41 55 P P 10 34 04.0 +0.3
HLID Hailey 89.46 41 P P 10 34 04.9 +1.0
HVU Hansel Valley 89.48 43 P P 10 34 05.1 +1.1
HVU IAmb IAmb 10 34 08.1
comp=Z,4.6nm,1.2s
SRU San Rafael Swe 89.50 46 P P 10 34 03.4 -0.7
SRU IAmb IAmb 10 34 08.1
comp=Z,5.9nm,1.2s
B08A Colville Reser 89.52 35 P P 10 34 03.1 -0.6
B08A IAmb IAmb 10 34 06.4
comp=Z,4.9nm,0.9s
SEY Seymchan 89.52 347 P P 10 34 04.5 +1.1
comp=Z,3.0nm,0.7s,baz=126,slow=3.9,SNR=5.5
CAST Castle Rocks 89.59 12 P P 10 34 03.0 -0.7
CAST IAmb IAmb 10 34 04.8
comp=Z,8.7nm,0.9s
TX31 Lajitas Ar. Si 89.60 58 P P 10 34 04.6 -0.1
TX31 IAmb IAmb 10 34 08.6
comp=Z,6.9nm,1.1s
TX32 Lajitas Array 89.60 58 P P 10 34 05.7 +0.9
TXAR Lajitas Array 89.61 58 P P 10 34 06.9 +2.1
comp=Z,1.0nm,0.8s,baz=212,slow=6.1,SNR=15
JLU Jordanelle 89.68 45 P P 10 34 04.5 -0.5
TRF Thorofare Moun 89.97 12 P P 10 34 05.4 -0.3
TRF IAmb IAmb 10 34 07.6
comp=Z,6.9nm,1.0s
TCUT Toone Canyon 89.98 44 P P 10 34 07.2 +0.8
TCUT IAmb IAmb 10 34 10.0
comp=Z,8.3nm,1.1s
ANMO Albuquerque 90.19 52 P P 10 34 04.3 -3.2
RND Reindeer 90.22 13 P P 10 34 06.6 -0.1
RND IAmb IAmb 10 34 08.4
comp=Z,7.9nm,1.0s
CM04 Chiang Mai Arr 90.42 290 P P 10 34 11.6 +3.0
comp=Z,7.0nm,0.9s
CM09 Chiang Mai Arr 90.43 290 P P 10 34 12.6 +3.9
comp=Z,5.5nm,1.1s
CM01 Chiang Mai Arr 90.44 290 P P 10 34 12.1 +3.4
comp=Z,6.3nm,1.0s
CM05 Chiang Mai Arr 90.45 290 P P 10 34 12.2 +3.4
comp=Z,4.0nm,1.1s
CMAR Chiang Mai Arr 90.47 290 P P 10 34 10.4 +1.5
comp=Z,4.1nm,0.9s,baz=141,slow=3.5,SNR=14
CMAR PP PP 10 37 52.0 +1.3
comp=Z,0.6nm,0.3s,baz=129,slow=7.1,SNR=6.2
CMAR Chiang Mai Arr 90.47 290 P P 10 34 07.3 -1.6
CM15 Chiang Mai Arr 90.49 290 P P 10 34 12.8 +3.9
CMMT Chiang Mai 90.62 290 P P 10 34 11.6 +2.0
comp=Z,8.4nm,1.6s
CMMT Chiang Mai 90.62 290 P P 10 34 10.1 +0.5
comp=Z,8.1nm,1.0s
CHTO Chiang Mai 90.62 290 P P 10 34 11.8 +2.2
comp=Z,8.7nm,1.0s
CHTO Chiang Mai 90.62 290 P P 10 34 06.3 -3.2
CHTO IAmb IAmb 10 34 13.9
comp=Z,9.7nm,1.1s
CHTO Chiang Mai 90.62 290 P P 10 34 09.7 +0.1
MCMT McKenzie Canyo 91.10 41 P P 10 34 10.2 -1.3
HHC Hu-ho-hao-te 91.15 315 eP P 10 34 13.8 +2.2
HHC pmax pmax
comp=Z,12nm,0.9s
HHC pmax pmax
comp=Z,190nm,6.4s
DOT Dot Lake 91.48 15 P P 10 34 13.2 +0.7
DOT IAmb IAmb 10 34 16.7
comp=Z,7.6nm,1.3s
REDW Red Top Meadow 91.53 43 P P 10 34 12.4 -1.1
SNOW Snow King Moun 91.64 43 P P 10 34 13.1 -1.0
SNOW IAmb IAmb 10 34 22.1
comp=Z,6.4nm,1.3s
IMW Indian Meadow 91.75 42 P P 10 34 13.6 -1.0
IMW IAmb IAmb 10 34 18.0
comp=Z,3.3nm,1.0s
ILAR Eielson Array 91.83 13 P P 10 34 14.3 +0.3
comp=Z,1.1nm,0.9s,baz=218,slow=4.6,SNR=6.3
ILAR Eielson Array 91.83 13 P P 10 34 13.6 -0.4
PDAR Pinedale Array 92.02 44 P P 10 34 16.4 +0.7
comp=Z,1.2nm,1.0s,baz=225,slow=1.9,SNR=8.1
PDAR pP pwP 10 35 53.8 +0.3
comp=Z,0.7nm,0.9s,baz=220,slow=5.4,SNR=3.4
BOZ Bozeman (W) 92.24 40 P P 10 34 16.0 -0.6
YHH Holmes Hill 92.28 41 P P 10 34 18.4 +1.4
YHH IAmb IAmb 10 34 22.0
comp=Z,4.7nm,1.5s
KKAR Karatay Array 120.68 307 PKPdf 10 39 54.6 -1.3
BRVK Borovoye 121.19 319 PKiKP 10 39 56.9 +0.2
ARCES ARCESS Array B 142.26 349 PKP PKiKP 10 40 17.8 -0.3
comp=Z,3.2nm,0.8s,baz=35,slow=3.3,SNR=4.4
NB2 NORSAR Subarra 142.26 352 PKP PKPdf 10 40 31.4 -4.5
comp=Z,0.5nm,0.5s,baz=16,slow=3.2
NOA NORSAR Array B 142.26 352 PKhKP PKPpre 10 40 31.2
comp=Z,1.7nm,0.8s,baz=16,slow=4.8,SNR=8.8
NACGM Naroch 143.66 335 i PKP PKPbc 10 40 37.6 +0.8
AKASG Malin Array Be 145.53 328 PKPbc PKPdf 10 40 42.0 +0.2
comp=Z,6.3nm,0.6s,baz=42,slow=4.1,SNR=20
AKASG Malin Array Be 145.53 328 PKPdf 10 40 41.5 -0.3
AKBB Malin Array Si 145.53 328 PKPdf PKPdf 10 40 41.7 -0.1
GAZ Gaziantep 146.42 302 PKPdf 10 40 43.5 -0.4
BNN Bunyan 147.04 305 PKPdf 10 40 46.0 +1.1
SORM Soroca 147.60 325 ⇑P PKPdf 10 40 46.2 +0.9
BR131 Keskin Array S 148.39 308 PKPdf 10 40 46.1 -1.0
BR131 PKPbc PKPbc 10 40 50.7 -0.5
BRTR Keskin Array B 148.39 308 PKP PKPdf 10 40 46.9 -0.2
comp=Z,1.7nm,0.5s,baz=92,slow=4.3,SNR=11
BRTR PKPbc PKPbc 10 40 50.5 -0.6
comp=Z,2.2nm,0.6s,baz=138,slow=4.1,SNR=12
BRTR Keskin Array B 148.39 308 PKPdf 10 40 46.5 -0.7
ANTO Ankara 148.95 308 PKPbc 10 40 52.4 -0.1
BR231 Keskin MP Arra 148.97 308 PKPbc 10 40 52.3 -0.3
BSEG Bad Segeberg 149.25 349 ePKPbc PKPbc 10 40 52.5 -0.1
baz=20,slow=2.5
KWP Kalwaria Pacla 149.27 332 epPKPbc pPKPbc 10 42 37.2 +5.3
CFR Carcaliu 149.49 321 ⇑P PKPbc 10 40 53.0 -0.5
TPGR Topolog 149.51 320 ⇑P PKPbc 10 40 52.3 -1.3
BUR08 Bucovina Ar. S 149.54 327 PKPbc 10 40 54.1 +0.4
BIZ Bicaz 149.54 325 ⇑P PKPdf 10 40 48.6 0.0
BURAR Bucovina Array 149.55 327 ⇑P PKPbc 10 40 52.7 -1.0
BURAR Bucovina Array 149.55 327 PKPdf PKPdf 10 40 49.0 +0.3
BURAR PKPbc 10 40 54.1 +0.4
MDUB Mudurnu 149.85 310 PKPbc 10 40 54.6 0.0
VRI Vrincioaia 149.88 323 ⇑P PKPbc 10 40 53.4 -1.1
HARR Harsova 149.89 320 ⇑P PKPbc 10 40 54.1 -0.3
RUE Ruedersdorf 149.90 344 ePKPbc PKPbc 10 40 54.1 -0.1
baz=20,slow=2.5
PLOR Plostina 149.93 323 ⇑P PKPbc 10 40 54.1 -0.5
CSS Mathiatis 149.97 299 PKPdf PKPdf 10 40 49.1 -0.6
CSS PKPbc 10 40 54.8 -0.2
KOLS Kolonicke sedl 149.98 332 ePKP PKiKP 10 40 55.9 +0.6
OJC Ojcow 149.99 336 ePKPbc PKPbc 10 40 54.3 -0.2
OJC Ojcow 149.99 336 PKPbc 10 40 54.3 -0.2
LEF Lefka 150.29 299 ⇑P PKPbc 10 40 55.0 -0.8
CRVS Cervenica-Dubn 150.36 332 ePKP PKiKP 10 40 55.8 -0.3
CRVS e 10 41 03.5
NIE Niedzica 150.43 334 ePKPbc PKiKP 10 40 56.7 +0.5
DOPR Dopca 150.54 324 ⇑P PKPdf 10 40 53.0 +2.9
MLR Muntele Rosu 150.54 323 ⇑P PKPbc 10 40 55.4 -0.8
FLTG Flechtingen 150.60 347 ePKPbc PKPbc 10 40 55.7 -0.1
baz=20,slow=2.5
NRDL Niedersach Rie 150.66 349 ePKPbc PKPbc 10 40 55.9 0.0
baz=20,slow=2.5
KSP Ksiaz 150.67 340 ePKPbc PKiKP 10 40 56.4 -0.2
ASSE Asse, Remlinge 150.91 348 ePKPbc PKPbc 10 40 56.5 0.0
baz=20,slow=2.5
OSTC Ostas 150.94 340⇑ePKP PKiKP 10 40 57.4 +0.2
CHVC Chvalec 150.96 340⇑ePKP PKiKP 10 40 57.1 -0.2
LANS Liptovska Anna 150.97 335 ePKP PKiKP 10 40 58.4 +1.0
VOIR 151.07 324 ⇑P PKPbc 10 40 56.6 -0.7
DPC Dobruska-Polom 151.09 340⇑ePKP PKiKP 10 40 57.4 -0.2
CLL Collm 151.16 344 iPKPbc PKPbc 10 40 57.0 -0.2
comp=Z,18nm,0.9s
CLL i PKPab PKPab 10 41 07.3 +0.5
comp=Z,7.0nm,0.9s
CLL e 10 41 11.0
CLL epPKPab pPKPab 10 42 40.0 -2.4
CLL e 10 42 45.0
CLL Collm 151.16 344 PKPbc 10 40 57.0 -0.2
CLL PKPab PKPab 10 41 07.5 +0.8
CLL Collm 151.16 344 ePKPbc PKPbc 10 40 56.9 -0.3
baz=20,slow=2.5
CLL epPKPbc pPKPab 10 42 45.3 +2.9
MORC Moravsky Berou 151.17 338 ⇑P PKPbc 10 40 56.0 -1.3
MORC Moravsky Berou 151.17 338 PKPdf PKPdf 10 40 51.6 +0.6
MORC PKPbc 10 40 57.1 -0.3
MORC Moravsky Berou 151.17 338 ePKP PKPbc 10 40 56.7 -0.7
KRLC Kraliky 151.17 339⇑ePKP PKPbc 10 40 57.1 -0.3
IBBN Ibbenburen 151.21 351 ePKPbc PKiKP 10 40 57.5 -0.2
baz=20,slow=2.5
CLZ Clausthal 151.24 348 ePKPbc PKPbc 10 40 57.2 -0.2
baz=20,slow=2.5
BRG Berggiesshubel 151.32 343 ePKPbc PKPbc 10 40 57.5 -0.1
baz=20,slow=2.5
BRG Berggiesshubel 151.32 343 i PKP PKiKP 10 40 57.9 -0.1
BRG Amp 10 40 59.7
comp=Z,15nm,1.1s
ISP Isparta 151.33 306 PKPdf PKPdf 10 40 52.8 +1.1
ISP PKPbc 10 40 56.8 -1.4
ISP PKPab PKPab 10 41 06.5 -1.7
ARR Arges 151.34 324 ⇑P PKPdf 10 40 52.4 +0.9
DRGR 151.35 328 ⇑P PKPbc 10 40 56.8 -1.1
FBE Freiberg 151.43 344 ePKPbc PKPbc 10 40 57.8 0.0
baz=20,slow=2.5
GTTG Gottingen 151.60 348 ePKPbc PKPbc 10 40 57.9 -0.2
baz=20,slow=2.5
JAVC Velka Javorina 151.89 336 ePKP PKiKP 10 41 00.0 +0.7
VRAC Vranov 151.90 338 ePKP PKiKP 10 40 59.2 -0.0
PRU Pruhonice 151.95 341⇑PKP PKPbc 10 40 58.8 -0.2
MOX Moxa 152.11 346 ePKPbc PKPbc 10 40 59.2 -0.2
baz=20,slow=2.5
TANN Tannenbergstha 152.12 344 ePKPbc PKPbc 10 40 59.5 0.0
baz=20,slow=2.5
BUG Bochum--Univer 152.13 352 ePKPbc PKiKP 10 40 59.9 +0.3
baz=20,slow=2.5
WERD Werda 152.13 345 ePKPbc PKPbc 10 40 59.5 0.0
baz=20,slow=2.5
PLN Plauen 152.13 345 ePKPbc PKPbc 10 40 59.3 -0.1
baz=20,slow=2.5
KRUC Moravsky 152.17 338 ePKP PKPbc 10 40 59.4 -0.2
KASTN Kahler Asten 152.19 350 ePKPbc PKiKP 10 40 59.7 -0.1
baz=20,slow=2.5
GZR Gura Zlata 152.29 326 ⇑P PKPbc 10 40 58.6 -1.4
MODS Modra-Piesok 152.44 336 ePKP PKiKP 10 41 01.3 +0.9
MANZ Manzenberg 152.60 344 ePKPbc PKiKP 10 41 01.3 +0.6
baz=20,slow=2.5
KHC Kasperske Hory 153.00 342⇑ePKP PKiKP 10 41 01.5 0.0
KHC ePKPAB PKPab 10 41 14.8 +0.2
GERES GERESS Array B 153.22 341 PKPbc PKPbc 10 41 00.7 -1.3
comp=Z,1.4nm,0.8s,baz=5.7,slow=3.9,SNR=7.0
GERES PKPab PKPab 10 41 18.1 +2.4
comp=Z,0.2nm,0.3s,baz=57,slow=3.6,SNR=4.2
GERES GERESS Array B 153.22 341 PKPdf PKPdf 10 40 52.8 -1.3
GERES PKPbc PKPbc 10 41 01.6 -0.4
GERES PKPab 10 41 17.6 +2.0
CONA Conrad Observa 153.33 338 eP PKiKP 10 41 03.4 +1.1
comp=Z,3.7nm,0.9s
WTTA Wattenberg 155.24 343 eP PKPab 10 41 25.6 +1.1
comp=Z,4.1nm,0.7s
MOTA Moosalm 155.30 344 eP PKPab 10 41 25.6 +0.9
comp=Z,5.2nm,1.1s
DAVA Damuels 155.66 345 eP PKPab 10 41 26.5 +0.3
comp=Z,7.2nm,1.5s
ESDC Sonseca Array 163.73 14 PKPab PKPab 10 42 01.9 +0.4
comp=Z,0.5nm,0.9s,baz=324,slow=4.5,SNR=4.7
TORD Torodi Ar. Bea 169.26 183 PKP PKPdf 10 41 10.8 -0.8
comp=Z,3.6nm,1.0s,baz=147,slow=0.3,SNR=11
TORD PKPab PKPab 10 42 26.3 0.0
comp=Z,1.2nm,0.6s,baz=172,slow=3.4,SNR=11

IDC 27 11:03:46.4±1.5, 10°.22S×123°.57E, h49km±18km, mb3.4/3, mb1 3.5/6, mb1mx3.3/39, mbtmp3.6/6, ML3.4/3, MS2.6/2, Ms1 2.6/2, ms1mx2.3/22, Error ellipse: s-maj=43.1km s-min=23.8km az=96.0

ISC 27 11:03:45.8±1.0, 10.17S±0.08×123.89E±0.09, h36km, n8, σ1§52/1, mb3.7/3, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	Baumata	0.22	260	P			Pn	11 03 54.8	+0.6
	429nm,0.3s,baz=296,slow=2.5,SNR=165					S			
BATI							Sn	11 04 01.2	-0.6
	567nm,0.3s,baz=190,slow=22,SNR=13								
KAPI	Kappang	6.56	321	LR		LR		11 08 00.0	
	comp=Z,38nm,18.1s,baz=54,slow=40								
FITZ	Fitzroy Crossi	8.06	168	P			Pn	11 05 42.5	+2.2
	0.4nm,0.3s,baz=354,slow=11,SNR=40					S			
FITZ							Sn	11 07 08.9	-1.4
	4.3nm,0.3s,baz=270,slow=20,SNR=15								
FITZ						LR	LR	11 08 31.2	

comp=Z,41nm,19.8s,baz=40,slow=35
WRA Warramunga Arr 14.00 135 P Pn 11 07 03.6 +1.9
0.2nm,0.3s,baz=306,slow=14,SNR=17
WRA S Sn 11 09 35.6 -0.4
0.4nm,0.3s,baz=305,slow=24,SNR=7.7
ASAR Alice Springs 16.48 146 P P 11 07 36.1 -0.6
0.1nm,0.3s,baz=322,slow=12,SNR=14
ASAR S Sn 11 10 34.0 -2.3
0.2nm,0.3s,baz=321,slow=23,SNR=5.4
MJAR Matsushiro Arr 48.38 15 P P 11 12 24.2 0.0
0.4nm,0.5s,baz=193,slow=8.4,SNR=1.7
USRK Ussuriysk Ar. 54.61 7 P P 11 13 10.8 +0.2
0.7nm,0.5s,baz=181,slow=8.0,SNR=1.7
MKAR Makanchi Array 67.77 330 P P 11 14 38.6 -1.3
0.2nm,0.5s,baz=150,slow=6.8,SNR=3.2

MEX 27 11:04:19.7±0.8,**16°33N**×**97°98W,h6**km±6km,**MD3.6, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.16**	**293**	*i* P	Pg	11 04 22.4	-0.5
PNIG				*i* S	Sg	11 04 25.3	+0.3
YOIG	**Yosondua**	**0.67**	**38**	*i* P	Pg	11 04 31.5	-1.0
YOIG				*i* S	Sg	11 04 41.3	0.0
PEIG	**Puerto Escondi**	**0.86**	**112**	*eP*	Pg	11 04 34.3	-2.0
PEIG				*eS*	Sg	11 04 46.2	-1.3
TXIG	**Tlaxiaco**	**0.94**	**12**	*eP*	Pg	11 04 35.8	-2.0
TXIG				*eS*	Sg	11 04 48.0	-1.9
MGIG	**Malinaltepec**	**1.10**	**325**	*eP*	Pg	11 04 37.5	-3.3
MGIG				*eS*	Sg	11 04 51.8	-3.3
TLIG	**Tlapa**	**1.35**	**335**	*eP*	Pn	11 04 41.8	-3.5
TLIG				*eS*	Sg	11 04 58.9	-4.3
HLIG	**Huajuapan de L**	**1.50**	**6**	*eP*	Pn	11 04 44.9	-2.6
FTIG	**Fresnillo de T**	**1.57**	**355**	*eP*	Pn	11 04 45.4	-3.0
FTIG				*eS*	Sn	11 05 05.6	-3.6

NNC 27 11:13:30.6±0.8, 50°.85N×73°.77E, h0km, mb3.4, mpv3.2, Error ellipse: s-maj=6.9km s-min=5.2km az=143.0, Suspected Mining explosion.
IDC 27 11:13:31.4±1.5, 51°.02N×73°.76E, h0km, mb3.2/1, mb1 3.1/4, mb1mx3.0/43, mbtmp2.9/4, ML2.0/3, Error ellipse: s-maj=32.7km s-min=8.7km az=31.0
ISC 27 11:13:30.5±0.8,**50°98N**±0°.06×**73°71E**±0°.06,**h0**km,**n24,** σ2°37/15,**7C-8D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRZS	**Berezniki**	**1.19**	**214**	P	**Pg**	**11 13 50.1**	**-3.2**
	1.8nm,0.1s						
BRZS				S	**Sg**	**11 14 08.7**	**-0.1**
	19nm,0.5s						
OTUK	**Ortayu**	**2.88**	**199**	⇓Pn	**Pn**	**11 14 15.7**	**-1.9**
	6.7nm,0.8s						
OTUK				⇑Lg	Lg	11 14 56.8	
	43nm,0.8s						
BVAR	**Borovoye Array**	**2.90**	**316**	Pg	**Pb**	**11 14 22.5**	**-0.7**
	0.6nm,0.3s,baz=135,slow=16,SNR=16						
BVAR				Lg	Lg	11 15 03.3	
	3.3nm,0.3s,baz=130,slow=29,SNR=16						
BRVK	**Borovoye**	**2.97**	**316**	⇑Pn	**Pn**	**11 14 21.3**	**+2.4**
	6.6nm,1.1s						
BRVK				⇓Lg	Lg	11 15 08.0	
	135nm,0.9s						
KURBB	**Kurchatov Arra**	**3.08**	**95**	Pn	**Pn**	**11 14 21.1**	**+0.7**
	0.1nm,0.3s,baz=278,slow=14,SNR=41						
KURBB				Lg	Lg	11 15 05.9	
	0.3nm,0.3s,baz=279,slow=29,SNR=10						
KURBB	**Kurchatov Arra**	**3.08**	**95**	⇓Pn	**Pn**	**11 14 20.9**	**+0.6**
	12nm,0.6s						
KURBB				⇑Lg	Lg	11 15 07.1	
	102nm,0.8s						
KAPS	**Kapalarasan**	**6.83**	**144**	Pg	**Pb**	**11 15 32.2**	**+2.2**
	0.1nm,0.2s						
KAPS				Lg	Lg	11 17 03.6	
	1.7nm,0.8s						
MAKZ	**Makanchi**	**6.86**	**124**	⇓Lg	Lg	11 17 05.6	
	16nm,1.1s						
MK31	**Makanchi Array**	**7.03**	**123**	⇓Lg	Lg	11 17 11.0	
	14nm,0.9s,baz=324,slow=20,SNR=8.3						
MKAR	**Makanchi Array**	**7.03**	**123**	Pn	**Pn**	**11 15 14.4**	**-0.2**
	0.0nm,0.3s,baz=306,slow=20,SNR=2.4						
MKAR				Lg	Lg	11 17 08.0	
	0.2nm,0.3s,baz=316,slow=26,SNR=5.2						
KRBS	**Karabastau**	**7.40**	**169**	Pg	**Pb**	**11 15 42.2**	**+2.3**
	1.1nm,0.3s						
KRBS				Lg	Lg	11 17 20.9	
	9.6nm,0.7s						
ZALV	**Zalesovo Beam**	**7.41**	**62**	Pn	**Pn**	**11 15 20.8**	**+1.0**
	0.2nm,0.3s,baz=256,slow=16,SNR=2.1						
ZALV				Sn	**Sn**	**11 16 41.4**	**-3.0**
	0.2nm,0.3s,baz=238,slow=41,SNR=3.1						
ZALV				Lg	Lg	11 17 24.1	
	0.3nm,0.3s,baz=243,slow=22,SNR=3.2						
I46RU	**ZALESOVO INFRA**	**7.41**	**62**	*i*		11 58 40.0	
	baz=249,slow=326,SNR=1.8						
KTBS	**Karatobe**	**7.54**	**163**	Pg	**Pb**	**11 15 44.8**	**+2.6**
	1.3nm,0.6s						
KTBS				Lg	Lg	11 17 24.2	
	13nm,0.7s						
TKM2	**Tokmak 2**	**8.16**	**170**	⇓Lg	Lg	11 17 45.4	
	21nm,1.0s						
KK31	**Karatay Array**	**8.17**	**197**	⇓Pg	**Pb**	**11 15 57.2**	**+4.3**
	0.2nm,0.4s,baz=179,slow=12,SNR=5.2						
KK31				⇑Lg	Lg	11 17 45.9	
	2.9nm,0.6s,baz=10,slow=26,SNR=4.0						
AAK	**Ala-Archa**	**8.36**	**176**	Lg	Lg	11 17 50.4	
	0.2nm,0.3s,baz=9.5,slow=18,SNR=7.7						
AAK	**Ala-Archa**	**8.36**	**176**	⇑Lg	Lg	11 17 51.7	
	21nm,0.9s						
PDGK	**Podgornoye**	**8.60**	**151**	⇑Lg	Lg	11 18 01.6	
	18nm,1.4s						
AB31	**Akbulak array**	**9.02**	**264**	⇑Lg	Lg	11 18 18.1	
	3.1nm,0.8s						
AKTO	**Aktyubinsk**	**9.98**	**273**	Lg	Lg	11 18 45.3	
	0.1nm,0.3s,baz=34,slow=18,SNR=2.1						
AKTO	**Aktyubinsk**	**9.98**	**273**	⇓Lg	Lg	11 18 49.0	
	5.9nm,1.1s						
ARU	**Arti**	**10.50**	**307**	Lg	Lg	11 19 02.6	
	0.0nm,0.3s,baz=90,slow=20,SNR=2.0						
ILAR	**Eielson Array**	**60.38**	**19**	P	**P**	**11 23 41.0**	**+0.2**
	0.3nm,0.8s,baz=329,slow=5.4,SNR=5.0						

IDC 27 11:29:00.5±3.1, 1°.64N×126°.42E, h118km±28km, mb3.5/11, mb1 3.6/12, mb1mx3.4/39, mbtmp3.9/12, Error ellipse: s-maj=38.8km s-min=10.4km az=81.0
ISC 27 11:28:58.5±0.7,**1°66N**±0°.09×**126°5E**±0°.3,**h100**km,**n13,** σ0°91/17,**mb3.8**/11,**1D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**5.49**	**346**	⇓*eP*	**Pn**	**11 30 18.1**	**+0.2**
FITZ	**Fitzroy Crossi**	**19.65**	**182**	P	**P**	**11 33 19.5**	**+0.1**
	0.4nm,0.3s,baz=357,slow=6.9,SNR=20						
WRA	**Warramunga Arr**	**22.82**	**161**	P	**P**	**11 33 52.7**	**-0.4**
	2.3nm,0.3s,baz=337,slow=11,SNR=61						
WRA				PcP	**PcP**	**11 37 42.0**	**+0.7**
	0.3nm,0.4s,baz=338,slow=2.2,SNR=2.5						
WRA				S	**S**	**11 37 52.9**	**-2.0**
	0.5nm,0.6s,baz=335,slow=19,SNR=3.5						
ASAR	**Alice Springs**	**26.19**	**164**	P	**P**	**11 34 24.2**	**+0.3**
	1.0nm,0.6s,baz=346,slow=8.0,SNR=27						
ASAR				PcP	**PcP**	**11 37 49.5**	**+0.9**
	0.6nm,0.4s,baz=351,slow=2.2,SNR=11						
ASAR				S	**S**	**11 38 48.2**	**-0.6**
	0.1nm,0.7s,baz=348,slow=12,SNR=2.6						
STKA	**Stephens Creek**	**36.31**	**158**	P	**P**	**11 35 52.8**	**+0.2**
	0.4nm,0.3s,baz=2.1,slow=10.0,SNR=3.9						
MJAR	**Matsushiro Arr**	**36.37**	**16**	P	**P**	**11 35 52.0**	**-1.1**
	0.8nm,0.7s,baz=179,slow=9.8,SNR=2.2						
USRK	**Ussuriysk Ar.**	**42.64**	**6**	P	**P**	**11 36 45.5**	**+0.5**
	1.1nm,0.7s,baz=161,slow=9.2,SNR=2.5						
ASAJ	**Asahikawa**	**44.64**	**17**	P	**P**	**11 37 02.2**	**+1.2**
	5.6nm,0.9s,baz=170,slow=14,SNR=2.5						
KLR	**Kul'dur**	**47.61**	**5**	P	**P**	**11 37 23.5**	**-0.7**
	1.0nm,0.7s,baz=215,slow=13,SNR=1.8						
SONM	**Songino Array**	**49.17**	**342**	P	**P**	**11 37 36.3**	**-0.1**
	0.4nm,0.7s,baz=142,slow=4.9,SNR=1.5						
PETK	**Petropavlovsk-**	**57.44**	**22**	P	**P**	**11 38 37.3**	**+0.6**
	1.0nm,0.6s,baz=189,slow=6.4,SNR=6.5						
MKAR	**Makanchi Array**	**59.10**	**326**	P	**P**	**11 38 47.6**	**-0.8**
	0.7nm,0.3s,baz=118,slow=7.7,SNR=17						
VNDA	**Vanda**	**81.42**	**173**	P	**P**	**11 41 04.8**	**+0.9**
	0.5nm,0.4s,baz=313,slow=7.2,SNR=7.8						

INET 27 11:29:45.3, 12°.90N×86°.56W, h20km, ML2.2, MW3.5
SNET 27 11:29:51.3±1.0,**12°85N×86°73W,h22**km±10km,**ML2.6, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.16**	**291**	*eP*	Pn	11 30 12.2	-0.1
LCND	**La Caada**	**1.22**	**292**	*eP*	Pn	11 30 13.2	+0.2
LCND				IAML		11 30 18.3	
	comp=Z,209nm,0.3s						
LCND				*eS*	Sb	11 30 30.1	+1.1
TGUH	**Tegucigalpa,Un**	**1.31**	**336**	*eP*	Pn	11 30 13.9	-0.5
TGUH				*eS*	Sb	11 30 31.9	+0.2
FAGO	**Alcalda de S**	**1.58**	**302**	*eP*	Pn	11 30 17.9	-0.1
FAGO				*eS*	Sn	11 30 38.0	+0.2
FAGO				IAML		11 30 44.7	
	comp=Z,32nm,0.4s						
LCY	**Lacayo**	**1.63**	**291**	*eP*	Pn	11 30 18.4	-0.3

IDC 27 11:33:35.5±1.4, 31°.23S×72°.63W, h0km, mb3.3/1, mb1 4.0/4, mb1mx3.7/20, mbtmp3.8/4, ML3.9/3, MS2.8/2, Ms1 2.8/2, ms1mx2.5/8, Error ellipse: s-maj=61.4km s-min=31.1km az=96.0
ISC 27 11:33:40.6±1.1,**31°2S**±0°.1×**72°5W**±0°.3,**h35**km,**n11,** σ0°39/6,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N1	**Juan Fernandez**	**5.89**	**246**	T	T	11 40 52.2	
	baz=73,slow=72,SNR=6.1						
H03N3	**Juan Fernandez**	**5.90**	**246**	T	T	11 40 54.5	
	baz=73,slow=72,SNR=7.6						
H03N2	**Juan Fernandez**	**5.91**	**246**	T	T	11 40 53.9	
	baz=73,slow=72,SNR=6.3						
PLCA	**Paso Flores**	**9.60**	**171**	Pn	**Pn**	**11 35 56.4**	**+0.1**
	0.2nm,0.3s,baz=330,slow=15,SNR=7.4						
CPUP	**Villa Florida**	**14.13**	**74**	LR	LR	11 43 07.6	
	comp=Z,40nm,18.8s,baz=224,slow=40						
LPAZ	**La Paz**	**15.39**	**16**	Pn	**Pn**	**11 37 15.7**	**0.0**
	0.2nm,0.3s,baz=197,slow=4.8,SNR=14						
SIV	**San Ignacio**	**18.39**	**37**	P	**P**	**11 37 52.6**	**0.0**
	0.4nm,0.3s,baz=221,slow=12,SNR=17						
NNA	**Nana**	**19.58**	**347**	LR	LR	11 43 49.2	
	comp=Z,22nm,19.4s,baz=212,slow=31						
TXAR	**Lajitas Array**	**67.16**	**331**	P	**P**	**11 44 31.1**	**+0.1**
	0.1nm,0.5s,baz=142,slow=8.0,SNR=2.2						
WRA	**Warramunga Arr**	**122.98**	**210**	PKP	**PKPdf**	**11 52 33.2**	**-0.6**
	0.1nm,0.5s,baz=174,slow=1.9,SNR=1.4						
ZALV	**Zalesovo Beam**	**152.03**	**29**	PKPbc	**PKiKP**	**11 53 32.2**	**+0.3**
	0.7nm,0.3s,baz=298,slow=3.1,SNR=3.7						

IDC 27 12:11:31.2±2.4,**12°30N**×**141°58E,h0**km,**mb3.5**/5, **mb1 3.7**/5,**mb1mx3.5**/36,**mbtmp3.5**/5,**MS3.6**/3,**Ms1 3.6**/3, **ms1mx2.7**/27,**Error ellipse: s-maj=78.9km s-min=27.6km az=76.0,South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.51**	**172**	LR	LR	12 33 09.5	
	comp=Z,219nm,19.3s,baz=76,slow=40						
WRA	**Warramunga Arr**	**32.82**	**193**	P	P	12 18 05.4	-1.3
	0.3nm,1.0s,baz=24,slow=10.0,SNR=1.5						
ASAR	**Alice Springs**	**36.52**	**192**	P	P	12 18 40.0	+1.3
	0.2nm,0.6s,baz=15,slow=12,SNR=5.3						
CMAR	**Chiang Mai Arr**	**41.49**	**284**	P	P	12 19 18.7	-1.8
	0.4nm,0.4s,baz=81,slow=7.4,SNR=4.9						
STKA	**Stephens Creek**	**43.92**	**180**	LR	LR	12 39 22.6	
	comp=Z,30nm,18.1s,baz=20,slow=38						
MKAR	**Makanchi Array**	**60.21**	**317**	P	P	12 21 42.1	+0.9
	0.4nm,0.7s,baz=93,slow=7.8,SNR=2.9						
RAR	**Rarotonga**	**66.53**	**120**	LR	LR	12 45 29.7	
	comp=Z,54nm,19.6s,baz=229,slow=31						
FINES	**FINESS Array B**	**90.95**	**334**	P	P	12 24 37.2	+0.2
	0.9nm,0.7s,baz=67,slow=4.7,SNR=4.2						

NOU 27 12:15:49.2, 45°.31S×166°.76E, h0km, mb4.2/6, Off W. Coast of S. Island, N.Z.
WEL 27 12:15:50.1±0.9,**45°S**±4°×**167°E**±°,**h6**km±5km,**M4.1**/25, **mB5.1/1,ML4.3**/27,**MLv4.1**/25,**Mw(mB)4.5/1,Error ellipse: s-maj=0.0km s-min=0.0km az=94.2,Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.88**	**184**	P	Pg	12 16 07.3	+0.3
MLZ	**Mavora Lakes**	**0.95**	**95**	P	Pb	12 16 09.0	0.0
MLZ				S	Sg	12 16 20.8	+0.2
MSZ	**Milford Sound**	**1.02**	**54**	P	Pg	12 16 08.7	-0.9
MSZ				S	Sn	12 16 24.8	-0.7
WHZ	**Wether Hill Ro**	**1.02**	**127**	P	Pb	12 16 10.1	-0.1
WHZ				S	Sg	12 16 23.4	+0.5
WKZ	**Wanaka**	**1.65**	**75**	P	Pn	12 16 20.2	+0.5
APZ	**The Paps**	**1.76**	**152**	P	Pb	12 16 22.6	-0.2
EAZ	**Earnscleugh**	**1.79**	**89**	P	Pn	12 16 22.3	+0.7
EAZ				S	Sn	12 16 44.1	-0.4
JCZ	**Jackson Bay**	**1.88**	**50**	P	Pn	12 16 22.7	-0.1
JCZ				S	Sg	12 16 50.9	+0.5
SYZ	**Scrubby Hill**	**2.07**	**128**	P	Pn	12 16 25.8	+0.5
SYZ				S	Sn	12 16 51.6	+0.1
TUZ	**Tuapeka**	**2.11**	**109**	P	Pn	12 16 27.3	+1.3
LBZ	**Lake Benmore**	**2.58**	**71**	P	Pn	12 16 32.5	0.0
ODZ	**Otahua Downs**	**2.75**	**86**	P	Pn	12 16 34.5	-0.2
HHSZ	**Highcliff Hill**	**2.75**	**104**	P	Pn	12 16 35.2	+0.5
FOZ	**Fox Glacier**	**2.79**	**52**	P	Pn	12 16 35.0	-0.3
TMZ	**Timaru**	**3.14**	**75**	P	Pn	12 16 39.4	-0.7
GCSZ	**Gaunt Creek Bo**	**3.22**	**54**	P	Pn	12 16 40.6	-0.6
ARCZ	**Arundel**	**3.41**	**68**	P	Pn	12 16 42.9	-0.9
RPZ	**Rata Peaks**	**3.44**	**64**	P	Pn	12 16 43.7	-0.5
WVZ	**Waitaha Valley**	**3.60**	**54**	P	Pn	12 16 46.4	0.0
MHCZ	**Mount Hutt**	**3.85**	**65**	P	Pn	12 16 49.8	-0.1
WACZ	**Wakanui South**	**3.86**	**71**	P	Pn	12 16 49.0	-0.9
RACZ	**Rakaia**	**4.14**	**70**	P	Pn	12 16 54.3	+0.5
INZ	**Inchbonnie**	**4.23**	**54**	P	Pn	12 16 54.7	-0.3
OXZ	**Oxford**	**4.25**	**64**	P	Pn	12 16 54.7	-0.7
MQZ	**McQueen's Vall**	**4.49**	**71**	P	Pn	12 16 57.3	-1.4
AKCZ	**Akaroa Harbour**	**4.60**	**74**	P	Pn	12 17 00.4	+0.2
LTZ	**Lake Taylor**	**4.69**	**60**	P	Pn	12 17 00.7	-0.7
AMCZ	**Amberley**	**4.72**	**66**	P	Pn	12 17 01.6	-0.2
OKCZ	**Okains Bay**	**4.76**	**73**	P	Pn	12 17 01.7	-0.6
GVZ	**Greta Valley S**	**5.07**	**65**	P	Pn	12 17 05.5	-1.0
DSZ	**Denniston Nort**	**5.09**	**48**	P	Pn	12 17 05.7	-1.2
KHZ	**Kahutara**	**5.67**	**62**	P	Pn	12 17 15.4	+0.6
THZ	**Tophouse**	**5.68**	**54**	P	Pn	12 17 14.8	-0.2
QRZ	**Quartz Range**	**6.13**	**45**	P	Pn	12 17 20.6	-0.6
NNZ	**Nelson**	**6.30**	**52**	P	Pn	12 17 24.2	+0.6
TUWZ	**Tuamarina**	**6.49**	**56**	P	Pn	12 17 28.4	+2.3
TCW	**Tory Channel**	**6.82**	**56**	P	Pn	12 17 33.2	+2.6
DUWZ	**D'Urville Isla**	**6.89**	**52**	P	Pn	12 17 32.5	+0.9
CAW	**Cannon Point**	**7.36**	**58**	P	Pn	12 17 37.8	-0.2
MRZ	**Mangatainoka R**	**7.94**	**57**	P	Pn	12 17 46.0	0.0
NBEZ	**Newall Road No**	**7.98**	**44**	P	Pn	12 17 46.8	+0.2
KHEZ	**Kahui Hut**	**8.04**	**44**	P	Pn	12 17 48.1	+0.7
PREZ	**Palmer Road**	**8.07**	**45**	P	Pn	12 17 49.1	+1.3
NEZ	**North Egmont**	**8.09**	**45**	P	Pn	12 17 48.8	+0.6
PKE	**Pukeiti**	**8.10**	**44**	P	Pn	12 17 48.6	+0.4
VRZ	**Vera Road**	**8.54**	**47**	P	Pn	12 17 56.2	+2.0
PKVZ	**Pokaka**	**8.73**	**50**	P	Pn	12 17 59.2	+2.3
WNVZ	**Wahianoa**	**8.84**	**51**	P	Pn	12 18 02.7	+4.2
FWVZ	**Far West T-bar**	**8.86**	**50**	P	Pn	12 18 00.7	+1.8
NNVZ	**North Ngauruho**	**8.99**	**50**	P	Pn	12 18 02.8	+2.3
HIZ	**Hauiti**	**9.05**	**44**	P	Pn	12 18 02.3	+1.0
KWHZ	**Kaweka Forest**	**9.23**	**54**	P	Pn	12 18 05.9	+2.2
TLZ	**Tolley Road**	**9.54**	**46**	P	Pn	12 18 06.0	-2.0
WTAZ	**Waiatarua**	**10.20**	**38**	P	Pn	12 18 18.0	+1.0
WIAZ	**Waiheke Island**	**10.57**	**40**	P	Pn	12 18 22.5	+0.5

IDC 27 12:20:40.1±4.7, 31°.81S×71°.82W, h0km, mb3.6/1, mb1 3.7/2, mb1mx3.4/18, mbtmp3.5/2, ML3.6/1, Error ellipse: s-maj=194.7km s-min=45.0km az=96.0
GUC 27 12:20:41.2±0.7, 31°.84S×72°.17W, h24km±8km, ML3.5
ISC 27 12:20:40.7±2.1,**31°82S**±0°.03×**72°0W**±0°.1,**h9**km±14km,**n22,** σ1°01/28,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.95**	**141**	*i* P	**Pb**	**12 20 59.5**	**+0.2**
VA06				IAML		12 21 22.2	
	comp=E,2μm,0.5s						
CO06	**Fray Jorge**	**1.19**	**16**	*eP*	**Pb**	**12 21 03.0**	**-0.4**
CO06				*eS*	**Sb**	**12 21 18.3**	**-0.6**
VA01	**Torpederas**	**1.24**	**166**	*eP*	**Pn**	**12 21 03.8**	**-0.3**
VA01				*i* S	**Sb**	**12 21 19.2**	**-1.1**
VA01				IAML		12 21 28.9	
ROCH	**El Roble**	**1.43**	**144**	*eP*	**Pb**	**12 21 07.3**	**-0.2**
ROCH				*i* S	**Sg**	**12 21 27.2**	**+0.6**
ROCH				IAML		12 21 34.7	
	comp=E,916nm,0.4s						
CO03	**El Pedregal**	**1.50**	**49**	*eP*	**Pg**	**12 21 09.2**	**-0.2**
CO03				*i* S	**Sg**	**12 21 29.6**	**+0.7**
CO03				IAML		12 21 34.8	
	comp=E,1μm,0.3s						
VA03	**San Esteban**	**1.55**	**128**	*eP*	**Pb**	**12 21 09.6**	**-0.1**
VA03				*i* S	**Sg**	**12 21 30.6**	**-0.1**
VA03				IAML		12 21 32.0	
	comp=E,2μm,0.2s						
VA05	**Santo Domingo**	**1.86**	**170**	*eP*	**Pn**	**12 21 12.6**	**-0.1**
VA05				*eS*	**Sg**	**12 21 43.5**	**+3.0**
VA05				IAML		12 21 50.3	
	comp=N,807nm,0.4s						
MT05	**Renca**	**1.90**	**146**	*eP*	**Pb**	**12 21 14.8**	**-0.7**
MT05				*eS*	**Sg**	**12 21 40.6**	**-1.1**
MT05				IAML		12 21 51.4	
	comp=E,946nm,0.4s						
GO04	**Tololo Observa**	**1.95**	**33**	*eP*	**Pn**	**12 21 14.9**	**+0.8**
CO05	**La Serena**	**2.01**	**20**	*eP*	**Pb**	**12 21 16.6**	**-0.8**
CO05				IAML		12 21 52.1	
	comp=N,527nm,0.4s						
MT09	**Talagante**	**2.13**	**156**	*eP*	**Pn**	**12 21 17.8**	**+1.3**
MT09				IAML		12 21 55.4	
	comp=N,356nm,0.3s						
MT01	**Popeta**	**2.13**	**163**	*eP*	**Pn**	**12 21 16.7**	**+0.2**
MT01				IAML		12 21 55.7	
	comp=N,229nm,0.3s						
LMEL	**Las Melosas**	**2.53**	**143**	*eP*	**Pn**	**12 21 23.6**	**+1.5**
LMEL				*i* S	**Sb**	**12 21 56.6**	**-1.1**
LMEL				IAML		12 22 09.6	
	comp=N,211nm,0.3s						
BO01	**Tunca**	**2.68**	**163**	*eP*	**Pn**	**12 21 24.6**	**+0.7**
BO01				IAML		12 22 10.8	
LCO	**Las Campanas**	**3.02**	**22**	*eP*	**Pn**	**12 21 29.5**	**+0.5**
BO02	**Sierra Bellavi**	**3.14**	**161**	*eP*	**Pn**	**12 21 31.4**	**+1.1**
BO02				*i* S	**Sg**	**12 22 19.8**	**-1.6**
BO02				IAML		12 22 30.2	
	comp=N,178nm,0.3s						
H03N1	**Juan Fernandez**	**6.04**	**253**	T	T	12 28 55.6	
	baz=82,slow=74,SNR=168						
H03N3	**Juan Fernandez**	**6.05**	**253**	T	T	12 28 53.7	
	baz=82,slow=74,SNR=187						
H03N2	**Juan Fernandez**	**6.06**	**253**	T	T	12 28 50.2	
	baz=82						
PLCA	**Paso Flores**	**8.97**	**173**	Pn	**Pn**	**12 22 50.9**	**+0.5**
	comp=N,0.2nm,0.3s,baz=338,slow=9.7,SNR=4.6						
TORD	**Torodi Ar. Bea**	**83.45**	**70**	P	**P**	**12 33 09.2**	**+0.2**
	comp=N,0.4nm,0.8s,baz=219,slow=4.5,SNR=2.0						
ZALV	**Zalesovo Beam**	**152.36**	**30**	PKPab	**PKPab**	**12 40 46.8**	**+0.2**
	comp=N,0.4nm,0.3s,baz=308,slow=5.1,SNR=2.3						

IDC 27 12:35:57.8±1.8, 13°.72N×58°.23W, h0km, mb3.3/3, mb1 3.9/6, mb1mx3.6/29, mbtmp3.7/6, ML4.0/3, MS3.0/2, Ms1 3.0/2, ms1mx2.5/20, Error ellipse: s-maj=41.7km s-min=26.0km az=58.0
TRN 27 12:36:02.6, 13°.77N×58°.49W, h77km, MD4.2
ISC 27 12:36:01.8±2.1,**13°78N**±0°.04×**58°40W**±0°.09,**h23**km±14km, **n41,** σ1°29/59,**mb3.1**/3,**North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.22**	**237**	*eP*	**Pb**	**12 36 24.8**	**+0.6**
BBSP				*eS*	**Sb**	**12 36 40.1**	**+0.4**
BBGH	**Gun Hill**	**1.29**	**241**	*eP*	**Pb**	**12 36 26.0**	**+0.6**
BBGH				*eS*	**Sb**	**12 36 41.6**	**+0.1**
BCHC	**Barbados, Cave**	**1.35**	**242**	*eP*	**Pb**	**12 36 26.6**	**+0.1**
BCHC	**Barbados, Cave**	**1.35**	**242**	*e*	**Sn**	**12 36 42.7**	**+0.2**
H05S1	**Guadeloupe/Mar**	**2.45**	**286**	Pn	**Pn**	**12 36 39.8**	**-0.5**
H05S1				Sn	**Sn**	**12 37 08.5**	**-1.0**
H05S1				T	T	12 39 23.0	
	SNR=16						
MCLT	**Moule a Chique**	**2.47**	**269**	*eP*	**Pn**	**12 36 40.4**	**-0.2**
MCLT				*eS*	**Sn**	**12 37 09.8**	**-0.3**
MPOM	**Morne Pois Mar**	**2.47**	**286**	*eP*	**Pn**	**12 36 40.3**	**-0.3**
MPOM				*eS*	**Sn**	**12 37 08.5**	**-1.7**
SLBI	**Saint Lucia, B**	**2.51**	**276**	*eP*	**Pn**	**12 36 40.8**	**-0.4**
SLBI				*eS*	**Sn**	**12 37 10.3**	**-0.7**
SLCP	**Castries, St.**	**2.52**	**276**	*eP*	**Pn**	**12 36 42.0**	**+0.7**
SLCP				*eS*	**Sn**	**12 37 10.2**	**-1.1**
MVM	**Montagne Vaucl**	**2.54**	**288**	*eP*	**Pn**	**12 36 41.9**	**+0.3**
ILAM	**Ilet Lap

CBX				*e*S	**Sg**	**12 36 38.9**	**+0.7**
CBX				⇓*e*		12 36 40.0	
CBX				IAML		12 36 40.0	
	comp=N,269nm,0.4s						
TJIG	**Tijuana**	**0.61**	**320**	*e*P	**Pg**	**12 36 32.9**	**-0.1**
TJIG				*e*S	**Sg**	**12 36 41.5**	**+0.5**
TJIG	**Tijuana**	**0.61**	**320⇑**	*e*P	**Pg**	**12 36 32.9**	**-0.1**
TJIG				*e*S	**Sg**	**12 36 41.6**	**+0.5**
RMX	**La Rumorosa**	**0.64**	**10⇑**	*i*P	**Pg**	**12 36 33.5**	**-0.2**
RMX				*i* S	**Sg**	**12 36 41.8**	**-0.4**
IKP	**In-Ko-Pah, Jac**	**0.69**	**7⇓**	*i*P	**Pb**	**12 36 34.9**	**+0.1**
IKP				*e*S	**Sb**	**12 36 43.9**	**-0.2**
YUH2	**Yuha Desert**	**0.72**	**20⇓**	*e*P	**Pb**	**12 36 35.3**	**0.0**
YUH2				*e*S	**Sb**	**12 36 45.3**	**+0.4**
SGL	**Mount Signal**	**0.80**	**31⇓**	*i*P	**Pb**	**12 36 36.8**	**+0.2**
SGL				*i* S	**Sb**	**12 36 47.0**	**-0.1**
BAR	**Barrett**	**0.81**	**331**	*e*P	**Pg**	**12 36 36.4**	**-0.4**
BAR				*e*S	**Sg**	**12 36 47.3**	**-0.2**
BAR				IAML		12 36 48.5	
	comp=E,103nm,0.2s						
BAR				⇑*e*		12 36 48.5	
CPBX	**Cerro Prieto**	**0.89**	**59⇓**	*e*	Pn	12 36 52.9	**+14**
CPBX				IAML		12 36 52.9	
	comp=N,580nm,0.2s						
CPBX				IAML		12 36 54.0	
	comp=E,958nm,0.2s						
CPBX				⇑*e*		12 36 54.0	
MONP2	**Monument Peak**	**0.94**	**349**	*e*P	**Pb**	**12 36 39.0**	**-0.1**
MONP2				*e*S	**Sb**	**12 36 51.7**	**+0.2**
MBIG	**Mexicali**	**0.96**	**63**	*e*P	**Pg**	**12 36 39.6**	**-0.1**
MBIG				*e*S	**Sb**	**12 36 51.1**	**-0.8**
EML	**El Monte Cty P**	**1.07**	**330**	*e*P	**Pb**	**12 36 40.4**	**-0.7**
SLH	**Sleepy Hollow**	**1.22**	**358**	*e*P	**Pb**	**12 36 44.1**	**+0.3**
MATG	**Mataguay Scout**	**1.28**	**343**	*e*P	**Pn**	**12 36 44.5**	**0.0**
SFX	**San Felipe**	**1.49**	**128**	*e*P	**Pn**	**12 36 47.6**	**+0.4**
SFX				IAML		12 37 06.8	
	comp=N,40nm,0.4s						

DJA ***27*** *12:43:47.9±0.3,1˚S±3˚×12˚7E±˚, h10km,M4.3/11,mb4.5/5, mB5.2/2,MLv4.2/11,Mw(mB)4.5/2*

IDC ***27*** *12:43:49.2±1.9,0.73S×127.51E,h98km±19km,mb3.4/7, mb1 3.5/10,mb1mx3.4/36,mbtmp3.7/10,Error ellipse: s-maj=18.9km s-min=12.1km az=61.0*

ISC 27 12:43:49.1±0.7,0.77S±0.06×127.47E±0.06,h100km,n25, σ1§48/31,mb3.8/6,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.53**	**356**	P	**Pn**	**12 44 16.5**	**+0.7**
SANI	**Sanana**	**1.95**	**229**	P	**Pn**	**12 44 20.1**	**-1.0**
SANI				S	**Sn**	**12 44 42.6**	**-2.8**
GAMI	**Galela, Maluku**	**2.61**	**7**	P	**Pn**	**12 44 29.3**	**-0.4**
KRAI	**Karang Ratu**	**2.70**	**160**	P	**Pn**	**12 44 31.4**	**+0.5**
MSAI	**Masohi**	**2.95**	**150**	P	**Pn**	**12 44 35.0**	**+0.8**
MSAI				S	**Sn**	**12 45 08.7**	**-0.3**
MNI	**Manado**	**3.42**	**310**	P	**Pn**	**12 44 41.5**	**+1.0**
KMSI	**Cibinong**	**3.73**	**291**	P	**Pn**	**12 44 45.5**	**+0.8**
SWI	**Sorong**	**3.79**	**91**	P	**Pn**	**12 44 46.2**	**+0.7**
SIJI	**Sorong**	**3.80**	**92**	P	**Pn**	**12 44 45.1**	**-0.5**
	6.4nm,0.3s,baz=285,slow=17,SNR=6.5						
SIJI				S	**Sn**	**12 45 29.6**	**+0.1**
	1.2nm,0.3s,baz=247,slow=23,SNR=1.9						
GTOI	**Gorontalo**	**4.67**	**287**	P	**Pn**	**12 45 01.0**	**+3.7**
LUWI	**Luwuk**	**4.70**	**267**	P	**Pn**	**12 44 58.4**	**+0.6**
APSI	**Ampana**	**5.82**	**269**	P	**Pn**	**12 45 13.7**	**+0.8**
BKSI	**Bulukumba**	**8.62**	**238**	P	**Pn**	**12 45 52.7**	**+1.7**
	497nm39nm,0.5s						
BSSI	**Bau Bau, Buton**	**8.77**	**232**	P	**Pn**	**12 45 54.9**	**+1.7**
	30nm,1.0s						
KAPI	**Kappang**	**8.78**	**241**	P	**Pn**	**12 45 55.6**	**+2.3**
	1.6nm,0.3s,baz=127,slow=16,SNR=1.6						
KAPI				S	**Sn**	**12 47 29.2**	**-1.4**
	baz=3.2,slow=23,SNR=1.2						
PMSI	**Majene**	**8.97**	**252**	P	**Pn**	**12 45 57.0**	**+1.2**
	30nm,0.7s						
EDFI	**Ende, Flores**	**9.80**	**216**	P	**Pn**	**12 46 09.3**	**+2.1**
FITZ	**Fitzroy Crossi**	**17.32**	**186**	P	**P**	**12 47 43.3**	**-1.3**
	0.1nm,0.3s,baz=14,slow=12,SNR=1.5						
WRA	**Warramunga Arr**	**20.21**	**161**	P	**P**	**12 48 15.2**	**-1.0**
	1.0nm,0.7s,baz=341,slow=12,SNR=20						
ASAR	**Alice Springs**	**23.61**	**165**	P	**P**	**12 48 51.4**	**+0.2**
	1.0nm,0.6s,baz=332,slow=7.4,SNR=8.4						
ASAR				pP	**pP**	**12 49 10.0**	**-2.0**
	2.2nm,0.7s,baz=344,slow=10.0,SNR=8.8						
ASAR				S	**S**	**12 53 00.7**	**+2.5**
	0.2nm,0.2s,baz=339,slow=20,SNR=4.1						
STKA	**Stephens Creek**	**33.70**	**158**	P	**P**	**12 50 21.6**	**+0.8**
	0.8nm,0.3s,baz=328,slow=9.5,SNR=3.5						
CMAR	**Chiang Mai Arr**	**33.93**	**306**	P	**P**	**12 50 23.6**	**+0.6**
	0.4nm,0.5s,baz=143,slow=7.9,SNR=4.2						
MJAR	**Matsushiro Arr**	**38.44**	**14**	P	**P**	**12 51 00.2**	**-1.0**
	0.6nm,0.4s,baz=185,slow=9.8,SNR=5.4						
SONM	**Songino Array**	**51.77**	**342**	P	**P**	**12 52 46.4**	**-0.2**
	0.2nm,0.5s,baz=140,slow=7.6,SNR=2.0						
MKAR	**Makanchi Array**	**61.66**	**326**	P	**P**	**12 53 57.0**	**+0.5**
	0.9nm,0.3s,baz=113,slow=7.6,SNR=17						

TRN ***27*** *12:49:32.8,11.02N×62.11W,h53km, MD3.7*

FUNV ***27*** *12:49:34.0,11.02N×62.01W,h31km, MW4.0*

ISC 27 12:49:31.9±1.2,11.01N±0.03×62.07W±0.04,h77km±15km, n56,σ1§57/85,1C-1D,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.74**	**119**	*e*P	**Pn**	**12 49 48.2**	**+0.5**
TRN				*e*S	**Sn**	**12 49 58.9**	**-0.7**
TRN	**Trinidad (W)**	**0.74**	**119⇑**	*e*P	**Pn**	**12 49 48.2**	**+0.5**
TRN				*e*S	**Sn**	**12 49 58.8**	**-0.8**
TPP	**Pointe-a-Pierr**	**0.92**	**139**	*e*P	**Pn**	**12 49 51.0**	**+1.3**
TPP				*e*S	**Sn**	**12 50 03.4**	**+0.4**
GRFF	**Grenada Fort F**	**1.08**	**17**	*e*P	**Pn**	**12 49 51.5**	**-0.3**
GRFF				*e*S	**Sn**	**12 50 05.4**	**-1.3**
GRGR	**Grenville**	**1.19**	**20**	*e*P	**Pn**	**12 49 53.2**	**+0.1**
GRGR				*e*S	**Sn**	**12 50 08.5**	**-0.5**
GRGR	**Grenville**	**1.19**	**20**	*e*P	**Pn**	**12 49 53.2**	**+0.1**
GRGR				*e*S	**Sn**	**12 50 08.5**	**-0.5**
CRUV	**Carupano**	**1.20**	**254**	*e*P	**Pn**	**12 49 54.4**	**+1.3**
CRUV				*e*S	**Sn**	**12 50 10.1**	**+1.0**
GRHS	**Sauteurs**	**1.28**	**19**	*e*P	**Pn**	**12 49 55.3**	**+1.1**
GRHS				*e*S	**Sn**	**12 50 11.3**	**+0.3**
TOSP	**Speyside**	**1.53**	**79**	*e*P	**Pn**	**12 49 57.9**	**+0.4**
TOSP				*e*S	**Sn**	**12 50 17.2**	**+0.4**
TOSP	**Speyside**	**1.53**	**79**	*e*P	**Pn**	**12 49 57.9**	**+0.4**
TOSP				*e*S	**Sn**	**12 50 15.8**	**-1.0**
GCMP	**Grenada, Carri**	**1.60**	**23**	*e*P	**Pn**	**12 49 58.7**	**+0.3**
GCMP				*e*S	**Sn**	**12 50 17.9**	**-0.5**
CUMV	**Cumana_UDO**	**2.17**	**255**	*e*P	**Pn**	**12 50 08.3**	**+2.4**
CUMV				*e*S	**Sn**	**12 50 33.1**	**+1.1**
SVOC	**Richmond Hill,**	**2.29**	**21**	*e*P	**Pn**	**12 50 08.4**	**+0.9**
SVOC				*e*S	**Sn**	**12 50 35.5**	**+0.6**
SVB	**Belmont**	**2.39**	**19**	*e*P	**Pn**	**12 50 09.7**	**+0.7**
SVB				*e*S	**Sn**	**12 50 37.9**	**+0.6**
PCRV	**Puerto La Cruz**	**2.66**	**252**	*e*P	**Pn**	**12 50 14.4**	**+1.8**
PCRV				*e*S	**Sn**	**12 50 43.4**	**-0.5**
MCLT	**Moule a Chique**	**2.90**	**22**	*e*P	**Pn**	**12 50 17.0**	**+1.1**
MCLT				*e*S	**Sn**	**12 50 50.7**	**+1.0**
RIOV	**Rio Grande**	**2.93**	**175**	*e*P	**Pn**	**12 50 17.8**	**+1.5**
RIOV				*e*S	**Sn**	**12 50 49.4**	**-1.1**
SLBI	**Saint Lucia, B**	**3.18**	**19**	*e*P	**Pn**	**12 50 20.2**	**+0.6**
SLBI				*e*S	**Sn**	**12 50 56.0**	**-0.5**
PRGV	**PARIAGUAN**	**3.38**	**229**	*e*P	**Pn**	**12 50 23.7**	**+1.3**
PRGV				*e*S	**Sn**	**12 51 02.0**	**+0.6**
MPOM	**Morne Pois Mar**	**3.61**	**19**	*e*P	**Pn**	**12 50 27.2**	**+1.7**
MPOM				*e*S	**Sn**	**12 51 06.3**	**-0.8**
BIM	**Bigot**	**3.62**	**15**	*e*P	**Pn**	**12 50 26.5**	**+0.9**
BIM				*e*S	**Sn**	**12 51 05.8**	**-1.5**
TRMF	**Trois Ilets**	**3.65**	**16**	*e*P	**Pn**	**12 50 27.3**	**+1.3**
ZAM	**Aeronautique**	**3.69**	**16**	*e*P	**Pn**	**12 50 27.9**	**+1.4**
LPMF	**Morne Lapointe**	**3.70**	**17**	*e*P	**Pn**	**12 50 28.1**	**+1.3**
MVM	**Montagne Vaucl**	**3.71**	**18**	*e*P	**Pn**	**12 50 28.2**	**+1.4**
FDF	**Fort de France**	**3.81**	**13**	*e*P	**Pn**	**12 50 29.2**	**+1.0**
PML	**Morne Lenard**	**3.85**	**13**	*e*P	**Pn**	**12 50 29.9**	**+1.1**
PCM	**Pelee Case Pet**	**3.88**	**12**	*e*P	**Pn**	**12 50 29.9**	**+0.8**
CXM	**Morne La Croix**	**3.88**	**13**	*e*P	**Pn**	**12 50 30.4**	**+1.0**
BAMF	**Morne Balai**	**3.89**	**13**	*e*P	**Pn**	**12 50 30.1**	**+0.7**
SVN	**Savane Anatole**	**3.91**	**13**	*e*P	**Pn**	**12 50 30.1**	**+0.5**
BIRV	**Birongo**	**4.16**	**263⇓**	*e*P	**Pn**	**12 50 35.4**	**+2.3**
BIRV				*e*S	**Sn**	**12 51 20.9**	**+0.4**
DSLB	**Salisbury**	**4.45**	**8**	*e*P	**Pn**	**12 50 37.2**	**+0.2**
DSLB	**Salisbury**	**4.45**	**8**	*e*S	**Sn**	**12 51 27.6**	**+0.1**
MERV	**Las Mercedes**	**4.52**	**248**	*e*P	**Pn**	**12 50 39.5**	**+1.6**
MERV				*e*S	**Sn**	**12 51 28.9**	**-0.3**
TDBA	**Terre de Bas,**	**4.83**	**5**	*e*P	**Pn**	**12 50 44.5**	**+2.4**
TDBA	**Terre de Bas,**	**4.83**	**5**	*e*S	**Sn**	**12 51 34.7**	**-2.1**
TBG	**Guadaloupe-3**	**4.83**	**5**	*e*P	**Pn**	**12 50 43.9**	**+1.7**
TBG	**Guadaloupe-3**	**4.83**	**5**	*e*S	**Sn**	**12 51 36.5**	**-0.4**
TACV	**Tcata**	**4.95**	**260**	*e*P	**Pn**	**12 50 45.6**	**+1.8**
TACV				*e*S	**Sn**	**12 51 38.9**	**-1.0**
MAGL	**Barre de l'ile**	**4.97**	**9**	*e*P	**Pn**	**12 50 45.8**	**+1.8**
MAGL	**Barre de l'ile**	**4.97**	**9**	*e*S	**Sn**	**12 51 39.7**	**-0.5**
CBE	**Ff, Capester**	**5.05**	**5**	*e*P	**Pn**	**12 50 47.0**	**+1.8**
CBE	**Ff, Capester**	**5.05**	**5**	*e*S	**Sn**	**12 51 40.0**	**-2.2**
LUEV	**Luepa**	**5.17**	**173**	*e*P	**Pn**	**12 50 46.6**	**-0.3**
BENV	**Beln**	**5.54**	**260**	*e*P	**Pn**	**12 50 53.7**	**+1.8**
BENV				*e*S	**Sn**	**12 51 52.4**	**-1.9**
CACV	**CAICARA DEL OR**	**5.58**	**233**	*e*P	Pn	12 50 48.5	-4.0
CACV				*e*S	Sn	12 51 44.3	-11
TURV	**Turiamo**	**5.70**	**265**	*e*P	**Pn**	**12 50 55.6**	**+1.6**
TURV				*e*S	**Sn**	**12 51 55.9**	**-2.3**
ANBD	**Bethesda, Anti**	**6.01**	**3**	*e*P	**Pn**	**12 50 59.8**	**+1.6**
ANBD	**Bethesda, Anti**	**6.01**	**3**	*e*S	**Sn**	**12 52 04.4**	**-1.3**
BAUV	**El Baul**	**6.23**	**251**	*e*P	**Pn**	**12 51 02.1**	**+0.8**
BAUV				*e*S	**Sn**	**12 52 08.1**	**-3.1**
MAPV	**Macapo**	**6.39**	**260**	*e*P	**Pn**	**12 51 04.5**	**+1.0**
MAPV				*e*S	**Sn**	**12 52 12.2**	**-3.0**
SIQV	**Siquisique**	**7.61**	**268**	*e*P	**Pn**	**12 51 21.3**	**+1.1**
MONV	**Montecano**	**7.80**	**278**	*e*P	**Pn**	**12 51 24.0**	**+1.2**
MONV				*e*S	**Sn**	**12 52 45.1**	**-4.6**
PAYV	**Puerto Ayacuch**	**7.84**	**225**	*e*P	**Pn**	**12 51 23.8**	**+0.6**
PAYV				*e*S	**Sn**	**12 52 46.6**	**-3.9**
SOCV	**Socops**	**9.08**	**253**	*e*S	**Sn**	**12 53 15.0**	**-5.9**

IDC ***27*** *12:57:35.5±3.2,30.48S×72.58W,h0km,mb3.8/1, mb1 3.8/2,mb1mx3.4/25,mbtmp3.7/2,ML3.7/1,MS2.5/1, Ms1 2.5/1,ms1mx2.1/20,Error ellipse: s-maj=138.2km s-min=48.1km az=93.0*

GUC ***27*** *12:57:38.2±0.5,30.59S×72.43W,h41km±3km,ML3.4*

ISC 27 12:57:36.4±2.9,30.54S±0.04×72.53W±0.09,h14km±15km, n20,σ1§62/29,3C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.78**	**100**	*e*P	**Pb**	**12 57 51.3**	**-0.5**
CO06				*e*S	**Sg**	**12 58 01.4**	**-0.5**
CO05	**La Serena**	**1.27**	**61⇑**	*e*P	**Pn**	**12 57 59.6**	**-0.3**
CO05				*e*S	**Sb**	**12 58 15.8**	**-0.7**
CO05				IAML		12 58 16.5	
	comp=E,725nm,0.5s						
GO04	**Tololo Observa**	**1.54**	**77⇑**	*e*P	**Pn**	**12 58 03.9**	**+0.2**
GO04				*e*S	**Sn**	**12 58 23.2**	**-0.5**
CO03	**El Pedregal**	**1.61**	**101⇑**	*e*P	**Pn**	**12 58 04.4**	**-0.2**
CO03				*e*S	**Sn**	**12 58 24.3**	**-1.0**
CO03				IAML		12 58 27.5	
	comp=N,693nm,0.2s						
LCO	**Las Campanas**	**2.20**	**47**	*e*P	**Pn**	**12 58 13.5**	**+0.7**
LCO				*e*S	**Sn**	**12 58 40.9**	**+0.8**
VA06	**Catapilco**	**2.27**	**153**	*e*P	**Pn**	**12 58 14.1**	**+0.5**
VA06				*e*S	**Sn**	**12 58 40.4**	**-1.1**
VA06				IAML		12 58 41.9	
	comp=N,493nm,0.3s						
AC04	**Llanos de Chal**	**2.65**	**29**	*e*P	**Pn**	**12 58 17.7**	**-1.1**
AC04				*i* S	**Sn**	**12 58 47.1**	**-3.6**
ROCH	**El Roble**	**2.75**	**152**	*e*P	**Pn**	**12 58 21.7**	**+1.3**
ROCH				*i* S	**Sn**	**12 58 52.1**	**-1.4**
ROCH				IAML		12 58 55.1	
	comp=E,113nm,0.1s						
VA03	**San Esteban**	**2.79**	**143**	*e*P	**Pn**	**12 58 22.6**	**+1.8**
VA03				*i* S	**Sn**	**12 58 52.3**	**-2.0**
VA03				IAML		12 58 56.0	
	comp=E,224nm,0.2s						
VA05	**Santo Domingo**	**3.21**	**166**	*e*P	**Pn**	**12 58 26.6**	**+0.1**
VA05				*i* S	**Sn**	**12 59 01.1**	**-3.4**
VA05				IAML		12 59 05.1	
	comp=N,172nm,0.2s						
MT09	**Talagante**	**3.48**	**158**	*e*P	**Pn**	**12 58 32.0**	**+1.6**
MT09				*i* S	**Sn**	**12 59 10.1**	**-1.4**
MT09				IAML		12 59 14.4	
	comp=N,92nm,0.3s						
MT01	**Popeta**	**3.49**	**162**	*e*P	**Pn**	**12 58 30.8**	**+0.5**
MT01				*i* S	**Sn**	**12 59 08.3**	**-3.2**
MT01				IAML		12 59 16.0	
	comp=E,41nm,0.1s						
LMEL	**Las Melosas**	**3.84**	**150**	*e*P	**Pn**	**12 58 37.3**	**+1.9**
LMEL				*i* S	**Sn**	**12 59 20.2**	**-0.2**
LMEL				IAML		12 59 25.8	
H03N1	**Juan Fernandez**	**6.15**	**240**	T	T	13 06 26.6	
	baz=71,slow=72,SNR=11						
H03N2	**Juan Fernandez**	**6.16**	**240**	T	T	13 06 19.8	
	baz=71,slow=72,SNR=14						
H03N3	**Juan Fernandez**	**6.16**	**240**	T	T	13 06 22.6	
	baz=71,slow=72,SNR=11						
PLCA	**Paso Flores**	**10.30**	**172**	Pn	**Pn**	**13 00 05.5**	**+1.6**
	comp=E,0.1nm,0.3s,baz=331,slow=10,SNR=4.7						
CPUP	**Villa Florida**	**14.01**	**76**	LR	LR	13 06 25.5	
	comp=E,17nm,19.3s,baz=342,slow=38						
TORD	**Torodi Ar. Bea**	**83.44**	**71**	P	**P**	**13 10 05.5**	**+1.5**
	comp=E,0.3nm,0.6s,baz=249,slow=4.4,SNR=3.6						
ZALV	**Zalesovo Beam**	**151.45**	**28**	PKPbc	**PKiKP**	**13 17 30.7**	**+0.7**
	comp=E,0.2nm,0.2s,baz=312,slow=2.4,SNR=4.4						

IDC ***27*** *12:58:05.3±5.0,8.67S×74.97W,h125km±46km,mb3.4/1, mb1 3.2/5,mb1mx3.0/31,mbtmp3.7/5,Error ellipse: s-maj=65.8km s-min=25.8km az=154.0*

ISC 27 12:58:05.7±1.5,8.75S±0.2×74.9W±0.2,h136km,n7,σ1§29/8, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.77**	**210**	P	**Pn**	**12 59 03.4**	**+0.7**
	3.4nm,0.3s,baz=5.2,slow=11,SNR=8.1						
NNA				S	**Sn**	**12 59 46.2**	**-0.7**
	19nm,0.3s,baz=317,slow=19,SNR=23						
LPAZ	**La Paz**	**10.03**	**139**	P	**Pn**	**13 00 27.4**	**+0.3**
	0.1nm,0.3s,baz=315,slow=9.2,SNR=3.7						
SIV	**San Ignacio**	**15.34**	**120**	P	**P**	**13 01 36.0**	**-0.8**
	0.3nm,0.3s,baz=296,slow=12,SNR=5.0						
PTGA	**Pitinga**	**16.86**	**63**	P	**P**	**13 01 52.5**	**-1.2**
	0.7nm,0.3s,baz=250,slow=14,SNR=5.4						
TORD	**Torodi Ar. Bea**	**79.10**	**75**	P	**P**	**13 09 57.6**	**+1.8**
	0.2nm,0.3s,baz=267,slow=5.4,SNR=5.7						
ASAR	**Alice Springs**	**137.24**	**221**	PKP	**PKPdf**	**13 17 12.8**	**-1.1**
	0.1nm,0.4s,baz=132,slow=1.8,SNR=1.7						
WRA	**Warramunga Arr**	**139.51**	**225**	PKP	**PKPdf**	**13 17 17.2**	**-0.9**
	0.1nm,0.4s,baz=132,slow=1.8,SNR=1.2						

MEX 27 13:10:49.8±0.9,14.74N×93.30W,h16km±160km,MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.96**	**4**	*e*P	Pb	13 11 04.9	-3.3
PCIG				*e*S	Sb	13 11 15.8	-4.9

MEX 27 13:13:04.2±0.9,17.98N×99.53W,h51km±5km,MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.11**	**237**	*i* P	Pn	13 13 10.5	-1.9
MEIG				*e*S	Sn	13 13 16.4	-1.7
PLIG	**Platanillo**	**0.41**	**3**	*i* P	Pn	13 13 12.9	-1.8
PLIG				*e*S	Sn	13 13 20.4	-1.7
ARIG	**Puente Sto Nin**	**0.83**	**291**	*e*P	Pn	13 13 18.5	-1.3
ARIG				*e*S	Sn	13 13 29.9	-1.3
DAIG	**Los Arroyos**	**0.96**	**187**	*e*P	Pn	13 13 19.4	-2.1
DAIG				*e*S	Sn	13 13 32.7	-1.6
MAVM	**Malinalco, Edo**	**0.97**	**2**	*e*P	Pn	13 13 20.0	-1.8
MAVM				*e*S	Sn	13 13 32.8	-1.9
TLIG	**Tlapa**	**1.01**	**114**	*e*P	Pn	13 13 20.7	-1.5
TLIG				*e*S	Sn	13 13 33.8	-1.6
MGIG	**Malinaltepec**	**1.13**	**131**	*e*P	Pn	13 13 22.4	-1.5
MGIG				*e*S	Sn	13 13 37.1	-1.4
FTIG	**Fresnillo de T**	**1.33**	**93**	*e*P	Pn	13 13 25.1	-1.4
FTIG				*e*S	Sn	13 13 41.6	-1.6
AMVM	**AMECAMECA**	**1.34**	**31**	*e*P	Pn	13 13 25.2	-1.7
AMVM				*e*S	Sn	13 13 42.0	-1.8
PBVM	**Pinon**	**1.51**	**16**	*e*P	Pn	13 13 27.8	-1.0
PBVM				*e*S	Sn	13 13 44.0	-3.4
HLIG	**Huajuapan de L**	**1.65**	**95**	*e*P	Pn	13 13 29.7	-1.2
HLIG				*e*S	Sn	13 13 49.4	-1.7
TXIG	**Tlaxiaco**	**1.83**	**113**	*e*P	Pn	13 13 32.4	-1.1
TXIG				*e*S	Sn	13 13 56.7	+1.1
PNIG	**Pinotepa**	**2.07**	**140**	*e*P	Pn	13 13 36.0	-0.6
PNIG				*e*S	Sn	13 14 01.0	-0.2
TOIG	**Toxpalan**	**2.34**	**87**	*e*P	Pn	13 13 39.5	-0.9
TOIG				*e*S	Sn	13 14 11.4	+3.4

NEIC ***27*** *13:18:35.5±1.1,12.28S±0.1×167.1E±0.2,h197km±9km, mb4.7/18,Error ellipse: s-maj=24.8km s-min=16.7km az=97.0*

IDC ***27*** *13:18:37.5±8.9,12.89S×167.01E,h220km±98km,mb3.3/5, mb1 3.5/6,mb1mx3.2/35,mbtmp3.8/6,MS4.1/1,Ms1 4.1/1, ms1mx2.8/12,Error ellipse: s-maj=81.3km s-min=27.8km az=150.0*

ISC 27 13:18:35.4±0.9,12.80S±0.09×167.1E±0.2,h200km,n34, σ1§19/32,mb4.6/15,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**2.63**	**177**	Pn	**Pn**	**13 19 20.9**	**+0.1**
LIFNC	**LIFOU**	**7.93**	**179**	Pn	**Pn**	**13 20 26.8**	**-1.0**
MARNC	**Mare, Loyalty**	**8.68**	**174**	Pn	**Pn**	**13 20 37.0**	**-0.6**
DZM	**Mont Dzumac**	**9.23**	**183**	P	**Pn**	**13 20 46.6**	**+1.7**
	1.0nm,0.3s,baz=314,slow=20,SNR=17						
DZM				S	**Sn**	**13 22 26.9**	**-1.5**
	0.1nm,0.3s,baz=302,slow=18,SNR=2.0						
OUENC	**Ouen Island, N**	**9.56**	**181**	Pn	**Pn**	**13 20 52.7**	**+3.7**
PINNC	**Pines Island,**	**9.76**	**178**	Pn	**Pn**	**13 20 54.9**	**+3.3**
EIDS	**Eidsvold**	**19.57**	**228**	P	**P**	**13 22 49.3**	**+1.0**
LHI	**Lord Howe Isla**	**20.03**	**200**	P	**P**	**13 22 53.2**	**+0.1**
BKZ	**Black Stump Fm**	**27.56**	**164**	P	**P**	**13 24 03.7**	**-0.2**
BKZ				IAmb	IAmb	13 24 06.3	
	comp=Z,18nm,1.2s						
NNZ	**Nelson**	**28.84**	**170**	P	**P**	**13 24 16.6**	**+1.5**
BFZ	**Birch Farm**	**28.92**	**165**	P	**P**	**13 24 15.4**	**-0.4**
TUWZ	**Tuamarina**	**29.15**	**169**	P	**P**	**13 24 17.1**	**-0.7**
THZ	**Tophouse**	**29.30**	**171**	P	**P**	**13 24 19.0**	**-0.2**
THZ				IAmb	IAmb	13 24 26.1	
	comp=Z,20nm,1.2s						
MSWZ	**Moikau Station**	**29.39**	**167**	P	**P**	**13 24 18.9**	**-1.1**
STKA	**Stephens Creek**	**30.11**	**227**	P	**P**	**13 24 26.9**	**+0.4**
	comp=Z,1.4nm,0.4s,baz=54,slow=9.6,SNR=6.0						
STKA	**Stephens Creek**	**30.11**	**227**	IAmb	IAmb	13 24 27.1	
	comp=Z,1.9nm,1.4s						
LTZ	**Lake Taylor**	**30.21**	**172**	P	**P**	**13 24 27.4**	**+0.1**
FOZ	**Fox Glacier**	**30.71**	**176**	P	**P**	**13 24 32.1**	**+0.6**
FOZ				IAmb	IAmb	13 24 32.9	
	comp=Z,25nm,1.2s						
OXZ	**Oxford**	**30.72**	**173**	P	**P**	**13 24 32.0**	**+0.3**
OXZ				IAmb	IAmb	13 24 42.0	
	comp=Z,36nm,1.4s						
RPZ	**Rata Peaks**	**31.00**	**174**	P	**P**	**13 24 34.2**	**+0.1**
RPZ				IAmb	IAmb	13 24 34.5	
	comp=Z,20nm,1.3s						
LBZ	**Lake Benmore**	**31.59**	**176**	P	**P**	**13 24 39.2**	**0.0**
LBZ				IAmb	IAmb	13 25 08.1	
	comp=Z,32nm,1.5s						
WRA	**Warramunga Arr**	**32.13**	**253**	P	**P**	**13 24 43.8**	**-0.6**
	comp=Z,0.1nm,0.4s,baz=85,slow=9.1,SNR=1.3						
ASAR	**Alice Springs**	**33.20**	**246**	P	**P**	**13 24 52.7**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=77,slow=8.8,SNR=7.6						
BBOO	**Buckleboo**	**34.62**	**230**	P	**P**	**13 25 05.6**	**-0.1**
BBOO				IAmb	IAmb	13 25 15.2	
	comp=Z,11nm,1.4s						
FORT	**Forrest**	**40.12**	**237**	P	**P**	**13 25 52.0**	**0.0**
FORT				IAmb	IAmb	13 25 55.0	

OKCFA				S	Sg	13 43 36.4	+0.5
	baz=346						
OKCSW	**OKLAHOMA CITY**	1.52	165		Pn	13 43 15.4	+0.2
R32A	**Long Quarter,**	1.66	338		Pn	13 43 17.4	+0.3
R32A				IAmb_Lg		13 43 42.8	
	comp=Z,71nm,0.7s						
R32A	**Long Quarter,**	**1.66**	**338**	P	**Pn**	**13 43 17.4**	**+0.3**
	baz=157,SNR=130						
FNO	**Franklin**	**1.68**	**166**	Pn	**Pn**	**13 43 17.5**	**+0.3**
TUL1	**Leonard**	**1.96**	**119**		**Pn**	**13 43 21.5**	**+0.3**
TUL1				IAmb_Lg		13 43 50.4	
	comp=Z,78nm,0.9s						
TUL1	**Leonard**	**1.96**	**119**	P	**Pn**	**13 43 21.8**	**+0.6**
	baz=301,SNR=48						
TUL1				S	**Sb**	**13 43 47.1**	**-1.1**
	baz=301						
WMOK	**Wichita Mounta**	**2.26**	**199**		**Pn**	**13 43 25.6**	**+0.3**
WMOK	**Wichita Mounta**	**2.26**	**199**	P	**Pn**	**13 43 25.8**	**+0.5**
	baz=18,SNR=55						
CBKS	**Cedar Bluff**	**2.41**	**324**	Pn	**Pn**	**13 43 28.2**	**+0.8**
CBKS				IAmb_Lg		13 44 05.2	
	comp=Z,52nm,0.7s						
CBKS	**Cedar Bluff**	**2.41**	**324**	S	**Sb**	**13 44 01.2**	**0.0**
	baz=142						
KSU1	**Kansas State U**	**2.44**	**24**		**Pn**	**13 43 28.0**	**+0.3**
KSU1				IAmb_Lg		13 44 04.5	
	comp=Z,48nm,0.7s						
KSU1	**Kansas State U**	**2.44**	**24**	P	**Pn**	**13 43 28.4**	**+0.7**
	baz=205,SNR=9.7						
KSU1				S	**Sb**	**13 44 01.8**	**-0.1**
	baz=205						
U38A	**Gravette**	**2.87**	**98**		**Pn**	**13 43 33.4**	**-0.2**
U38A	**Gravette**	**2.87**	**98**	P	**Pn**	**13 43 34.4**	**+0.8**
	baz=280,SNR=24						
LOOK	**Love County**	**2.95**	**168**	Pn	**Pn**	**13 43 34.7**	**0.0**
X37A	**Clayton**	**3.08**	**137**		**Pn**	**13 43 37.3**	**+0.7**
X37A				IAmb_Lg		13 44 29.9	
	comp=Z,31nm,0.8s						
X37A	**Clayton**	**3.08**	**137**	P	**Pn**	**13 43 37.6**	**+1.0**
	baz=319,SNR=32						
HHAR	**Hobbs**	**3.25**	**100**		**Pn**	**13 43 39.1**	**+0.2**
HHAR	**Hobbs**	**3.25**	**100**	P	**Pn**	**13 43 39.6**	**+0.7**
	baz=282						
Z35A	**Perchaven, San**	**3.59**	**171**	Pn	**Pn**	**13 43 43.7**	**+0.2**
Z35A	**Perchaven, San**	**3.59**	**171**	P	**Pn**	**13 43 44.4**	**+0.8**
	baz=352,SNR=6.3						
Z35A				S	**Sn**	**13 44 27.3**	**+1.1**
	baz=352						
W39A	**Magazine**	**3.74**	**116**	IAmb_Lg		13 44 56.5	
	comp=Z,39nm,0.9s						
W39A	**Magazine**	**3.74**	**116**	S	**Sn**	**13 44 31.2**	**+1.1**
	baz=298						
S39A	**Bolivar**	**3.74**	**76**		**Pn**	**13 43 45.6**	**-0.1**
S39A	**Bolivar**	**3.74**	**76**	P	**Pn**	**13 43 45.9**	**+0.2**
	baz=259,SNR=15						
S39A				S	**Sn**	**13 44 30.8**	**+0.7**
	baz=259						
U40A	**Yellville**	**4.10**	**96**		**Pn**	**13 43 50.4**	**-0.1**
U40A	**Yellville**	**4.10**	**96**	P	**Pn**	**13 43 51.0**	**+0.4**
	baz=279,SNR=7.0						
MIAR	**Mount Ida**	**4.23**	**122**	IAmb_Lg		13 45 13.5	
	comp=Z,21nm,0.8s						
MIAR	**Mount Ida**	**4.23**	**122**	S	**Sn**	**13 44 43.0**	**+0.9**
	baz=305						
Z38A	**Mt. Pleasant**	**4.34**	**146**	Pn	**Pn**	**13 43 53.1**	**-0.7**
Z38A				IAmb_Lg		13 45 08.8	
	comp=Z,26nm,0.7s						
N35A	**Tabor**	**4.34**	**23**	Pn	**Pn**	**13 43 53.6**	**-0.3**
P38A	**Dawn**	**4.40**	**50**	Pn	**Pn**	**13 43 53.9**	**-0.8**
P38A				IAmb_Lg		13 45 14.0	
	comp=Z,17nm,0.8s						
ABTX	**Abilene, Hawle**	**4.49**	**199**	Pn	**Pn**	**13 43 55.5**	**-0.4**
MGMO	**Mountain Grove**	**4.52**	**85**	Pn	**Pn**	**13 43 55.9**	**-0.5**
MGMO				IAmb_Lg		13 45 09.9	
	comp=Z,20nm,0.8s						
R40A	**Maddies Statio**	**4.69**	**71**		**Pn**	**13 43 58.6**	**-0.1**
FCAR	**Ozark Folk Cen**	**4.77**	**100**	Pn	**Pn**	**13 43 59.5**	**-0.3**
FCAR				IAmb_Lg		13 45 22.8	
	comp=Z,22nm,0.7s						
X40A	**Basin Creek Fa**	**4.77**	**119**	Pn	**Pn**	**13 43 59.2**	**-0.6**
X40A				IAmb_Lg		13 45 29.6	
	comp=Z,18nm,0.7s						
WHAR	**Wooly Hollow**	**4.82**	**108**	Pn	**Pn**	**13 43 59.0**	**-1.5**
WHAR				IAmb_Lg		13 45 26.4	
	comp=Z,24nm,1.0s						
WHTX	**Lake Whitney,**	**4.90**	**176**	Pn	**Pn**	**13 44 01.3**	**-0.2**
MSTX	**Muleshoe**	**4.92**	**235**	Pn	**Pn**	**13 44 01.5**	**-0.5**
WLAR	**White Oak Lake**	**5.05**	**128**	Pn	**Pn**	**13 44 03.4**	**-0.3**
OGNE	**Ogallala**	**5.18**	**323**	IAmb_Lg		13 45 39.2	
	comp=Z,20nm,0.8s						
L34A	**Svendsen Farm,**	**5.21**	**13**	IAmb_Lg		13 45 40.2	
	comp=Z,27nm,0.7s						
T25A	**Trinidad**	**5.21**	**275**	IAmb_Lg		13 45 42.5	
	comp=Z,21nm,0.8s						
P40A	**Paris**	**5.31**	**58**	Pn	**Pn**	**13 44 07.8**	**+0.6**
P40A				IAmb_Lg		13 45 40.4	
	comp=Z,18nm,0.8s						
N38A	**Joes South For**	**5.34**	**42**	Pn	**Pn**	**13 44 07.4**	**-0.2**
N38A				IAmb_Lg		13 45 44.0	
	comp=Z,24nm,0.7s						
CCM	**Cathedral Cave**	**5.42**	**76**	Pn	**Pn**	**13 44 08.8**	**0.0**
CCM				IAmb_Lg		13 45 45.6	
	comp=Z,18nm,0.8s						
T42A	**Van Buren**	**5.46**	**86**	Pn	**Pn**	**13 44 09.0**	**-0.2**
LCAR	**Lake Charles**	**5.50**	**97**	IAmb_Lg		13 45 47.8	
	comp=Z,17nm,0.9s						
CCAR	**Cane Creek**	**5.82**	**119**	IAmb_Lg		13 46 00.4	
	comp=Z,21nm,0.8s						
PBMO	**Poplar Bluff**	**6.00**	**89**	Pn	**Pn**	**13 44 17.0**	**+0.4**
FVM	**French Village**	**6.05**	**77**	Pn	**Pn**	**13 44 17.6**	**+0.2**
FVM				IAmb_Lg		13 46 01.1	
	comp=Z,17nm,0.8s						
435B	**Jarrell**	**6.09**	**177**	IAmb_Lg		13 46 11.7	
	comp=Z,20nm,0.9s						
SCIA	**State Center**	**6.19**	**34**	Pn	**Pn**	**13 44 19.4**	**+0.1**
SLM	**Saint Louis**	**6.32**	**72**	IAmb_Lg		13 46 10.8	
	comp=Z,12nm,0.7s						
ISCO	**Idaho Springs**	**6.72**	**298**	Pn	**Pn**	**13 44 26.6**	**-0.2**
ISCO				IAmb_Lg		13 46 36.5	
	comp=Z,9.5nm,1.1s						
143A	**Socs Landing,**	**6.78**	**126**	IAmb_Lg		13 46 42.0	
	comp=Z,16nm,0.8s						
ECSD	**EROS Data Cent**	**6.91**	**8**	Pn	**Pn**	**13 44 28.8**	**-0.4**
S44A	**Carbondale**	**6.94**	**81**	Pn	**Pn**	**13 44 29.4**	**-0.2**
S44A				IAmb_Lg		13 46 43.6	
	comp=Z,15nm,0.8s						
P43A	**Skaggs, Pawnee**	**7.15**	**65**	IAmb_Lg		13 46 46.0	
	comp=Z,17nm,0.8s						
L40A	**Anamosa**	**7.31**	**43**	Pn	**Pn**	**13 44 34.2**	**-0.5**
L40A				IAmb_Lg		13 46 52.2	
	comp=Z,13nm,0.8s						
PHWY	**Pilot Hill**	**7.34**	**309**	IAmb_Lg		13 46 45.3	
	comp=Z,8.7nm,0.8s						
HDIL	**Hopedale**	**7.66**	**59**	Pn	**Pn**	**13 44 40.1**	**+0.6**
O44A	**Mansfield**	**8.09**	**63**	IAmb_Lg		13 47 21.0	
	comp=Z,14nm,0.8s						
L42A	**Oliver, Polo**	**8.17**	**49**	IAmb_Lg		13 47 12.3	
	comp=Z,14nm,0.9s						
JFWS	**Jewell Farm**	**8.42**	**42**	IAmb_Lg		13 47 16.2	
	comp=Z,12nm,0.8s						
RWWY	**Rawlins**	**8.66**	**306**	IAmb_Lg		13 47 32.5	
	comp=Z,9.2nm,1.1s						
K22A	**Casper**	**8.78**	**314**	IAmb_Lg		13 47 31.8	
	comp=Z,7.6nm,0.8s						
SPMN	**Marine on St.**	**9.18**	**23**	IAmb_Lg		13 47 41.8	
	comp=Z,6.9nm,0.9s						

*IDC **27** 13:43:50.8±0.5,60°.40S×45°.20W,h0km,mb4.3/12, mb1 4.4/13,mb1mx4.2/28,mbtmp4.3/13,ML4.0/1,MS2.9/4, Ms1 2.9/4,ms1mx2.7/24,Error ellipse: s-maj=22.9km s-min=15.9km az=73.0*

*NEIC **27** 13:43:53.6±1.5,60°.41S±0°.09×45°.0W±0°.2,h17km±3km, mb4.7/35,Error ellipse: s-maj=13.2km s-min=11.2km az=136.0*

ISC 27 13:43:52.4±0.4,60°.41S±0°.07×45°.22W±0°.07,h10km,n74, σ1§17/75,**mb4.7**/27,**MS2.9**/4,**Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**7.74**	**41**	Pn	**Pn**	**13 45 43.3**	**-1.6**
PMSA	**Palmer Station**	**9.70**	**235**	Pn	**Pn**	**13 46 11.9**	**+0.1**
	1.4nm,0.3s,baz=53,slow=11,SNR=12						
PMSA					Sn	**Sn**	**13 47 56.1**	**-4.6**
	baz=37,slow=20,SNR=1.6						

PMSA	**Palmer Station**	**9.70**	**235**	Pn	**Pn**	**13 46 12.2**	**+0.4**
EFI	**East Falkland**	**11.30**	**315**	Pn	**Pn**	**13 46 35.4**	**+1.6**
MG02	**Cerro Sombrero**	**15.20**	**289**	Pn	**Pn**	**13 47 28.8**	**+2.0**
GO10	**Punta Arenas**	**15.83**	**286**	Pn	**Pn**	**13 47 36.2**	**+1.1**
GO10				IAmb	IAmb	13 47 48.6	
	comp=Z,123nm,1.5s						
VNA3	**Neumayer Olymp**	**17.80**	**142**	P	**P**	**13 48 00.9**	**+0.2**
VNA1	**Neumayer--Stat**	**18.07**	**140**	P	**P**	**13 48 03.7**	**+0.3**
VNA2	**Neumayer--Watz**	**18.42**	**140**	P	**P**	**13 48 08.2**	**+0.8**
SNAA	**Sanae**	**20.02**	**141**	P	**Pn**	**13 48 26.1**	**-0.7**
SNAA	**Sanae**	**20.02**	**141**	P	**Pn**	**13 48 25.9**	**-0.8**
LL02	**Futaleuf**	**23.58**	**305**	P	**P**	**13 49 03.4**	**+0.5**
LL02				IAmb	IAmb	13 49 08.4	
	comp=Z,23nm,0.8s						
TRQA	**Tornquist**	**24.76**	**327**	P	**P**	**13 49 14.1**	**+0.1**
TRQA				IAmb	IAmb	13 49 16.7	
	comp=Z,26nm,0.9s						
PLCA	**Paso Flores**	**25.15**	**310**	P	**P**	**13 49 17.3**	**-0.2**
	comp=Z,5.7nm,0.9s,baz=162,slow=10,SNR=9.1						
PLCA				LR	LR	13 59 06.6	
	comp=Z,19nm,18.5s,baz=180,slow=36						
PLCA	**Paso Flores**	**25.15**	**310**	P	**P**	**13 49 17.3**	**-0.2**
LC01	**Cunco**	**27.25**	**310**	P	**P**	**13 49 36.3**	**-0.1**
LC01				IAmb	IAmb	13 49 55.8	
	comp=Z,18nm,1.3s						
QSPA	**South Pole Qui**	**29.83**	**180**	P	**P**	**13 50 00.7**	**+1.4**
	comp=Z,5.6nm,0.9s,baz=168,slow=2.4,SNR=24						
QSPA				PcP	**PcP**	**13 53 01.3**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=222,slow=2.8,SNR=3.3						
QSPA				LR	LR	14 01 08.6	
	comp=Z,25nm,18.2s,baz=182,slow=35						
QSPA	**South Pole Qui**	**29.83**	**180**	P	**P**	**13 50 00.8**	**+1.4**
QSPA				IAmb	IAmb	13 50 02.4	
	comp=Z,12nm,1.2s						
MT09	**Talagante**	**31.50**	**316**	P	**P**	**13 50 13.3**	**-1.0**
MT05	**Renca**	**31.76**	**317**	P	**P**	**13 50 16.5**	**0.0**
MT05				IAmb	IAmb	13 50 22.0	
	comp=Z,16nm,1.0s						
VA03	**San Esteban**	**32.27**	**318**	P	**P**	**13 50 20.2**	**-0.8**
VA03				IAmb	IAmb	13 50 22.5	
	comp=Z,17nm,0.9s						
AC04	**Llanos de Chal**	**36.65**	**320**	P	**P**	**13 50 58.8**	**-0.1**
GO03	**Copiap**	**36.95**	**321**	P	**P**	**13 51 01.2**	**-0.3**
GO03				IAmb	IAmb	13 51 02.6	
	comp=Z,24nm,0.9s						
AC02	**Maricunga**	**37.33**	**323**	P	**P**	**13 51 05.0**	**-0.2**
AC02				IAmb	IAmb	13 51 07.0	
	comp=Z,17nm,0.9s						
SBA	**Scott Base**	**40.60**	**190**	P	**P**	**13 51 33.3**	**+1.8**
LVC	**Limon Verde**	**41.25**	**326**	P	**P**	**13 51 38.8**	**+1.0**
	comp=Z,5.7nm,0.8s,baz=187,slow=16,SNR=2.8						
LVC				PcP	**PcP**	**13 53 36.6**	**0.0**
	comp=Z,2.1nm,0.5s,baz=205,slow=16,SNR=1.5						
LVC	**Limon Verde**	**41.25**	**326**	P	**P**	**13 51 38.2**	**+0.4**
LVC				IAmb	IAmb	13 51 46.5	
	comp=Z,14nm,1.1s						
VNDA	**Vanda**	**41.30**	**189**	P	**P**	**13 51 38.8**	**+1.5**
	comp=Z,1.0nm,1.0s,baz=268,slow=4.9,SNR=3.9						
VNDA				LR	LR	14 09 01.3	
	comp=Z,18nm,18.9s,baz=179,slow=37						
VNDA	**Vanda**	**41.30**	**189**	P	**P**	**13 51 40.2**	**+3.0**
PB06	**IPOC Station P**	**41.35**	**325**	P	**P**	**13 51 39.0**	**+0.5**
PB06				IAmb	IAmb	13 51 39.6	
	comp=Z,14nm,0.8s						
PB04	**IPOC Station P**	**41.87**	**324**	P	**P**	**13 51 42.8**	**+0.1**
PB07	**IPOC Station P**	**42.37**	**325**	P	**P**	**13 51 47.1**	**+0.4**
PB07				IAmb	IAmb	13 51 47.6	
	comp=Z,15nm,0.9s						
PB01	**IPOC Station P**	**42.90**	**326**	P	**P**	**13 51 51.5**	**+0.5**
TA01	**Diego Aracena**	**43.55**	**325**	P	**P**	**13 51 56.5**	**+0.4**
PB11	**IPOC Station P**	**44.17**	**326**	P	**P**	**13 52 01.7**	**+0.4**
PB11				IAmb	IAmb	13 52 03.9	
	comp=Z,20nm,1.0s						
PSGCX	**Pisagua**	**44.45**	**325**	P	**P**	**13 52 03.7**	**+0.1**
PSGCX				IAmb	IAmb	13 52 16.6	
	comp=Z,26nm,1.3s						
BDFB	**Brasilia**	**44.75**	**356**	P	**P**	**13 52 06.1**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=135,slow=7.1,SNR=2.5						
SIV	**San Ignacio**	**45.83**	**339**	P	**P**	**13 52 14.2**	**-0.2**
	comp=Z,3.3nm,0.7s,baz=162,slow=7.9,SNR=13						
SIV				PcP	**PcP**	**13 53 51.6**	**-0.1**
	comp=Z,2.6nm,1.0s,baz=218,slow=2.0,SNR=4.1						
SIV				LR	LR	14 14 09.7	
	comp=Z,13nm,18.1s,baz=104,slow=40						
LPAZ	**La Paz**	**47.08**	**329**	P	**P**	**13 52 24.6**	**-0.2**
	comp=Z,2.7nm,0.8s,baz=133,slow=8.3,SNR=9.2						
LPAZ				PcP	**PcP**	**13 53 56.3**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=168,slow=5.1,SNR=3.9						
LPAZ	**La Paz**	**47.08**	**329**	P	**P**	**13 52 24.7**	**-0.2**
SAML	**Samuel**	**53.09**	**338**	P	**P**	**13 53 09.1**	**-0.7**
SAML				IAmb	IAmb	13 53 10.7	
	comp=Z,5.1nm,0.9s						
CRZF	**Crozet Islands**	**54.22**	**122**	P	**P**	**13 53 19.3**	**+1.5**
BOSA	**Boshof**	**55.98**	**89**	P	**P**	**13 53 30.5**	**-0.4**
LBTB	**Lobatse**	**59.13**	**87**	P	**P**	**13 53 53.4**	**+0.3**
	comp=Z,3.2nm,0.7s,baz=216,slow=8.1,SNR=4.2						
LBTB	**Lobatse**	**59.13**	**87**	P	**P**	**13 53 53.3**	**+0.2**
OTAV	**Otavalo**	**65.70**	**323**	P	**P**	**13 54 38.2**	**+0.7**
OTAV				IAmb	IAmb	13 54 39.2	
	comp=Z,4.4nm,0.9s						
LSZ	**Lusaka**	**68.65**	**83**	P	**P**	**13 54 55.5**	**-0.4**
LSZ				IAmb	IAmb	13 54 58.0	
	comp=Z,7.7nm,1.0s						
PLWZ	**Palliser**	**73.11**	**211**	P	**P**	**13 55 24.6**	**+2.1**
LIC	**Lamto**	**73.53**	**42**	*e*P	**P**	**13 55 26.5**	**+1.3**
	comp=Z,22nm,0.8s						
KIC	**Kosan Boka**	**73.76**	**42**	*e*P	**P**	**13 55 27.7**	**+1.2**
	comp=Z,8.7nm,0.8s						
TIC	**Toumodi**	**73.93**	**42**	*e*P	**P**	**13 55 28.7**	**+1.1**
DBIC	**Dimbokro**	**74.01**	**42**	P	**P**	**13 55 28.3**	**+0.3**
	comp=Z,4.4nm,0.9s,baz=201,slow=9.9,SNR=3.6						
DBIC	**Dimbokro**	**74.01**	**42**	P	**P**	**13 55 28.1**	**+0.1**
TORD	**Torodi Ar. Bea**	**82.30**	**46**	P	**P**	**13 56 15.2**	**+1.3**
	comp=Z,3.7nm,0.9s,baz=222,slow=5.2,SNR=13						
TORD	**Torodi Ar. Bea**	**82.30**	**46**	P	**P**	**13 56 14.0**	**+0.1**
TORD				IAmb	IAmb	13 56 16.1	
	comp=Z,3.9nm,1.0s						
ASAR	**Alice Springs**	**96.23**	**179**	P	**P**	**13 57 18.9**	**-1.9**
	comp=Z,1.3nm,1.0s,baz=164,slow=4.4,SNR=6.6						
ASAR				PKKP	**PKKPbc**	**14 14 03.5**	**-0.4**
	comp=Z,0.2nm,1.0s,baz=12,slow=2.2,SNR=4.3						
H08S1	**Diego Carcia H**	**96.54**	**118**	T	T	15 46 18.8	
	baz=209,slow=75						
H08S2	**Diego Garcia H**	**96.55**	**118**	T	T	15 46 33.2	
	baz=209,slow=75						
H08S3	**Diego Garcia H**	**96.56**	**118**	T	T	15 46 20.3	
	baz=209,slow=75						
WRA	**Warramunga Arr**	**99.94**	**180**	P	**Pdif**	**13 57 36.1**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=181,slow=4.2,SNR=5.8						
AKASG	**Malin Array Be**	**125.83**	**49**	PKP	**PKPdf**	**14 02 51.1**	**-1.9**
	comp=Z,0.6nm,0.5s,baz=214,slow=2.3,SNR=2.1						
NOA	**NORSAR Array B**	**128.67**	**31**	PKP	**PKPdf**	**14 02 57.2**	**-1.0**
	comp=Z,0.8nm,0.9s,baz=230,slow=4.2,SNR=2.9						
CMAR	**Chiang Mai Arr**	**130.93**	**133**	PKP	**PKPdf**	**14 03 02.4**	**-1.3**
	comp=Z,0.9nm,0.6s,baz=204,slow=4.6,SNR=6.1						
ARCES	**ARCESS Array B**	**139.03**	**30**	PKhKP	PKPpre	14 03 06.5	
	comp=Z,3.0nm,0.9s,baz=223,slow=2.7,SNR=5.2						
INK	**Inuvik**	**143.18**	**322**	PKhKP	PKPpre	14 03 20.8	
	comp=Z,1.4nm,0.5s,baz=146,slow=4.1,SNR=8.2						
ILAR	**Eielson Array**	**145.83**	**312**	PKPbc	**PKPdf**	**14 03 29.6**	**+0.1**
	comp=Z,7.2nm,0.9s,baz=153,slow=2.8,SNR=41						
MKAR	**Makanchi Array**	**146.97**	**90**	PKPbc	**PKPbc**	**14 03 33.7**	**-0.4**
	comp=Z,7.0nm,0.7s,baz=237,slow=3.3,SNR=55						
WMQ	**Urumqi**	**147.52**	**99**	*e*PKPbc	**PKPbc**	**14 03 35.3**	**-0.5**
XAN	**Xi'an**	**148.71**	**136**	PKPbc	**PKPbc**	**14 03 38.5**	**-0.7**
XAN				pPKP	PKPab	14 03 42.8	-0.1
XAN				AMB	AMB		
	comp=Z,200nm,6.6s						
NJ2	**Nanjing**	**149.74**	**152**	*e*PKPbc	**PKPdf**	**14 03 38.3**	**+1.3**
GTA	**Gaotai**	**149.77**	**118**	PKPbc	**PKPbc**	**14 03 41.8**	**0.0**
ZALV	**Zalesovo Beam**	**152.74**	**81**	PKPbc	**PKPbc**	**14 03 46.8**	**-1.2**
	comp=Z,0.9nm,0.6s,baz=242,slow=3.2,SNR=5.0						
HHC	**Hu-ho-hao-te**	**155.73**	**133**	*e*PKP	**PKPdf**	**14 03 42.3**	**-3.4**
SONM	**Songino Array**	**159.34**	**115**	PKPab	**PKPab**	**14 04 27.4**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=222,slow=3.5,SNR=4.9						

*IDC **27** 13:45:21.5±1.9,67°.69N×164°.06W,h0km,mb3.6/5, mb1 4.0/8,mb1mx3.5/53,mbtmp3.7/8,ML3.6/3,Error ellipse: s-maj=51.2km s-min=20.0km az=52.0*

*AEIC **27** 13:45:23.8±1.2,67°.72N±0°.05×163°.3W±0°.1,h20km±4km, ML3.5/55,ML3.8/14(NEIC),Error ellipse: s-maj=7.4km s-min=5.9km az=176.0*

*NEIC **27** 13:45:26.5±1.3,67°.70N±0°.04×163°.3W±0°.2,h36km±7km,*

Error ellipse: s-maj=10.2km s-min=5.4km az=100.0

ISC 27 13:45:23.7±0.8,67°.73N±0°.05×163°.19W±0°.05,h10km,n97, σ0§99/113,**mb3.5**/5,**Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNA	**Tin City**	**2.88**	**223**		**Pn**	**13 46 09.3**	**-0.2**
TNA					Sn	**13 46 44.0**	**-0.2**
TNA	**Tin City**	**2.88**	**223**	P	**Pn**	**13 46 09.3**	**-0.2**
	baz=38						
TNA				S	Sn	**13 46 44.0**	**-0.2**
	baz=38						
ANM	**Nome**	**3.30**	**197**		**Pn**	**13 46 15.0**	**-0.3**
ANM					Sn	**13 46 53.3**	**-1.3**
ANM	**Nome**	**3.30**	**197**	P	**Pn**	**13 46 15.0**	**-0.3**
	baz=14						
ANM				S	Sn	**13 46 53.3**	**-1.3**
	baz=14						
IM03		**4.12**	**111**		**Pn**	**13 46 26.9**	**+0.4**
IMAR	**Indian Mountai**	**4.12**	**111**		**Pn**	**13 46 26.6**	**0.0**
A21K	**Barrow**	**4.28**	**30**		**Pn**	**13 46 28.7**	**-0.1**
A21K					Sn	**13 47 19.2**	**+0.6**
A21K	**Barrow**	**4.28**	**30**	P	**Pn**	**13 46 28.7**	**-0.1**
	baz=216						
A21K				S	Sn	**13 47 19.2**	**+0.6**
	baz=216						
H21K	**Melozitna Rive**	**4.62**	**112**		**Pn**	**13 46 33.7**	**+0.3**
H21K					Sn	**13 47 28.0**	**+0.9**
H21K	**Melozitna Rive**	**4.62**	**112**	IAML		13 47 55.9	
	comp=E,50nm,1.3s						
H21K				IAML		13 47 59.3	
	comp=N,62nm,1.0s						
H21K	**Melozitna Rive**	**4.62**	**112**	P	**Pn**	**13 46 33.7**	**+0.3**
	baz=301						
H21K				S	Sn	**13 47 28.0**	**+0.9**
	baz=301						
COLD	**Coldfoot**	**5.02**	**90**		**Pn**	**13 46 39.6**	**+0.6**
COLD	**Coldfoot**	**5.02**	**90**	P	**Pn**	**13 46 39.6**	**+0.6**
	baz=282						
J20K	**Nowinta River**	**5.14**	**130**		**Pn**	**13 46 41.2**	**+0.6**
J20K					Sn	**13 47 39.9**	**+0.1**
J20K	**Nowinta River**	**5.14**	**130**	IAML		13 48 17.0	
	comp=N,28nm,1.5s						
J20K	**Nowinta River**	**5.14**	**130**	P	**Pn**	**13 46 41.2**	**+0.6**
	baz=318						
J20K				S	Sn	**13 47 39.9**	**+0.1**
	baz=318						
TOLK	**Toolik Lake Re**	**5.16**	**74**		**Pn**	**13 46 41.4**	**+0.4**
TOLK	**Toolik Lake Re**	**5.16**	**74**	IAML		13 48 33.0	
	comp=E,64nm,1.0s						
TOLK				IAML		13 48 42.2	
	comp=N,69nm,1.3s						
TOLK	**Toolik Lake Re**	**5.16**	**74**	P	**Pn**	**13 46 41.4**	**+0.4**
	baz=266						
I21K	**Tanana**	**5.17**	**114**		**Pn**	**13 46 41.3**	**+0.3**
I21K	**Tanana**	**5.17**	**114**	IAML		13 48 13.9	
	comp=E,47nm,1.5s						
I21K				IAML		13 48 16.6	
	comp=N,53nm,1.1s						
I21K	**Tanana**	**5.17**	**114**	P	**Pn**	**13 46 41.3**	**+0.4**
	baz=304						
MLY	**Manley**	**5.69**	**113**		**Pn**	**13 46 48.6**	**+0.4**
MLY	**Manley**	**5.69**	**113**	P	**Pn**	**13 46 48.6**	**+0.4**
	baz=304						
TT01	**Tatalina**	**5.70**	**145**		**Pn**	**13 46 48.6**	**+0.4**
K20K	**Telida**	**5.79**	**135**		**Pn**	**13 46 50.4**	**+0.8**
K20K					Sn	**13 47 57.6**	**+1.5**
K20K	**Telida**	**5.79**	**135**	P	**Pn**	**13 46 50.4**	**+0.8**
	baz=323						
K20K				S	Sn	**13 47 57.6**	**+1.5**
	baz=323						
I23K	**Minto, Yukon-K**	**6.12**	**109**		**Pn**	**13 46 55.4**	**+1.4**
I23K	**Minto, Yukon-K**	**6.12**	**109**	P	**Pn**	**13 46 55.4**	**+1.4**
	baz=301						
BPAW	**Bear Paw Mtn.**	**6.18**	**120**		**Pn**	**13 46 55.9**	**+1.0**
BPAW					Sn	**13 48 04.9**	**-0.6**
BPAW	**Bear Paw Mtn.**	**6.18**	**120**	P	**Pn**	**13 46 55.9**	**+1.0**
	baz=311						
BPAW				S	Sn	**13 48 04.9**	**-0.6**
	baz=311						
H24K	**Noodor Dome**	**6.34**	**100**		**Pn**	**13 46 57.7**	**+0.5**
H24K	**Noodor Dome**	**6.34**	**100**	P	**Pn**	**13 46 57.7**	**+0.5**
	baz=294						
NEA2	**Nenana**	**6.53**	**112**		**Pn**	**13 47 00.4**	**+0.8**
NEA2	**Nenana**	**6.53**	**112**	P	**Pn**	**13 47 00.4**	**+0.8**

comp=N,0.2nm,0.3s,baz=45,slow=20,SNR=3.0
INK Inuvik 11.08 73 Pn Pn 13 48 00.4 -1.4
KDAK Kodiak Island 11.08 149 Pn **Pn 13 47 58.6 -3.4**
comp=N,0.2nm,0.3s,baz=342,slow=14,SNR=2.0
KAIM Kayak Island 11.35 125 Pn **Pn 13 48 06.6 +1.0**
A36M Sachs Harbour 13.55 55 Pn **Pn 13 48 34.3 -1.3**
PDAR Pinedale Array 37.64 104 P **P 13 52 40.5 +1.9**
comp=N,0.5nm,0.8s,baz=342,slow=5.7,SNR=3.8
NVAR Mina Array Bea 38.34 117 P **P 13 52 46.0 +1.4**
comp=N,0.5nm,0.7s,baz=316,slow=6.3,SNR=5.3
FINES FINESS Array B 50.95 354 P **P 13 54 23.8 -0.7**
comp=N,0.6nm,0.4s,baz=9.3,slow=8.2,SNR=7.9
TXAR Lajitas Array 51.73 107 P **P 13 54 31.9 +0.9**
comp=N,0.4nm,0.6s,baz=325,slow=6.1,SNR=6.7
AKASG Malin Array Be 61.52 351 P **P 13 55 40.0 -0.2**
comp=N,0.5nm,0.5s,baz=9.7,slow=6.6,SNR=2.7

*TRN **27** 13:46:25.5, 11˚.20N×61˚.86W, h30km, MD3.5*
*FUNV **27** 13:46:26.4, 11˚.19N×61˚.82W, h34km, MW4.0*
ISC 27 13:46:24.3±1.1, 11˚.17N±0˚.02×61˚.95W±0˚.03, h32km±12km, n39, σ1°66/68, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.74**	**134**	*eP*		**Pn**		**13 46 40.4**	**+1.8**
TRN				*eS*		**Sn**		**13 46 50.1**	**+1.3**
TRN	**Trinidad (W)**	**0.74**	**134**	*eP*		**Pn**		**13 46 39.9**	**+1.3**
TRN				*eS*		**Sn**		**13 46 49.8**	**+1.0**
GRFF	**Grenada Fort F**	**0.90**	**13**	*eP*		**Pn**		**13 46 41.5**	**+0.8**
GRFF				*eS*		**Sn**		**13 46 53.8**	**+1.1**
TPP	**Pointe-a-Pierr**	**0.98**	**150**	*eP*		**Pb**		**13 46 43.2**	**+0.4**
TPP				*eS*		**Sn**		**13 46 55.2**	**+0.7**
GRGR	**Grenville**	**1.00**	**17**	*eP*		**Pb**		**13 46 42.5**	**-0.7**
GRGR				*eS*		**Sn**		**13 46 55.6**	**+0.5**
GRGR	**Grenville**	**1.00**	**17**	*eP*		**Pb**		**13 46 42.4**	**-0.8**
GRGR				*eS*		**Sn**		**13 46 55.5**	**+0.5**
GRHS	**Sauteurs**	**1.09**	**16**	*eP*		**Pn**		**13 46 43.6**	**+0.3**
GRHS				*eS*		**Sb**		**13 46 57.4**	**-1.2**
GRSS	**Sisters**	**1.17**	**16**	*eP*		**Pb**		**13 46 45.2**	**-0.8**
GRSS				*eS*		**Sb**		**13 47 00.0**	**-0.9**
CRUV	**Carupano**	**1.36**	**249**	*eP*		**Pb**		**13 46 49.3**	**+0.1**
CRUV				*eS*		**Sb**		**13 47 07.5**	**+1.3**
TOSP	**Speyside**	**1.39**	**85**	*eP*		**Pn**		**13 46 48.1**	**+0.6**
TOSP	**Speyside**	**1.39**	**85**	*e*		**Pb**		**13 46 50.2**	**+0.4**
TOSP				*eS*		**Sn**		**13 47 04.6**	**-0.1**
TOSP	**Speyside**	**1.39**	**85**	*eP*		**Pn**		**13 46 47.1**	**-0.4**
TOSP				*eS*		**Sn**		**13 47 03.1**	**-1.7**
GCMP	**Grenada, Carri**	**1.40**	**21**	*eP*		**Pn**		**13 46 47.6**	**-0.1**
GCMP				*eS*		**Sn**		**13 47 04.4**	**-0.7**
SVOC	**Richmond Hill,**	**2.10**	**20**	*eP*		**Pn**		**13 46 59.0**	**+1.8**
SVOC				*eS*		**Sn**		**13 47 22.9**	**+0.7**
SVB	**Belmont**	**2.20**	**18**	*eP*		**Pn**		**13 47 00.7**	**+2.0**
SVB				*eS*		**Sn**		**13 47 24.2**	**-0.6**
SVV	**Soufriere Volc**	**2.25**	**18**	*eS*		**Sn**		**13 47 26.4**	**+0.3**
SSV	**Crater Summit**	**2.27**	**19**	*eS*		**Sn**		**13 47 26.8**	**+0.2**
MCLT	**Moule a Chique**	**2.71**	**21**	*eP*		**Pn**		**13 47 06.3**	**+0.7**
MCLT				*eS*		**Sn**		**13 47 37.1**	**-0.3**
PCRV	**Puerto La Cruz**	**2.82**	**250**	*eP*		**Pn**		**13 47 09.8**	**+2.6**
PCRV				*eS*		**Sn**		**13 47 40.2**	**0.0**
SLBI	**Saint Lucia, B**	**2.99**	**18**	*eP*		**Pn**		**13 47 10.8**	**+1.3**
SLBI				*eS*		**Sn**		**13 47 42.6**	**-1.6**
RIOV	**Rio Grande**	**3.08**	**178**	*eP*		**Pn**		**13 47 12.4**	**+1.6**
RIOV				*eS*		**Sn**		**13 47 45.1**	**-1.5**
MPOM	**Morne Pois Mar**	**3.42**	**18**	*eP*		**Pn**		**13 47 15.5**	**0.0**
MPOM				*eS*		**Sn**		**13 47 53.7**	**-1.3**
BIM	**Bigot**	**3.44**	**14**	*eP*		**Pn**		**13 47 15.7**	**0.0**
BIM				*eS*		**Sn**		**13 47 54.0**	**-1.3**
ZAM	**Aeronautique**	**3.50**	**15**	*eP*		**Pn**		**13 47 15.8**	**-0.7**
PRGV	**PARIAGUAN**	**3.58**	**228**	*eP*		**Pn**		**13 47 19.4**	**+1.8**
PRGV				*eS*		**Sn**		**13 47 59.5**	**+0.7**
PML	**Morne Lenard**	**3.67**	**12**	*eP*		**Pn**		**13 47 20.0**	**+1.2**
PCM	**Pelee Case Pet**	**3.69**	**11**	*eP*		**Pn**		**13 47 20.3**	**+1.1**
BAMF	**Morne Balai**	**3.71**	**12**	*eP*		**Pn**		**13 47 19.5**	**0.0**
BIRV	**Birongo**	**4.30**	**261**	*eP*		**Pn**		**13 47 30.0**	**+2.4**
BIRV				*eS*		**Sn**		**13 48 17.2**	**+0.5**
MERV	**Las Mercedes**	**4.69**	**246**	*eP*		**Pn**		**13 47 35.3**	**+2.4**
MERV				*eS*		**Sn**		**13 48 26.1**	**0.0**
CBE	**Ff, Capester**	**4.88**	**4**	*eP*		**Pn**		**13 47 37.5**	**+1.9**
CBE	**Ff, Capester**	**4.88**	**4**	*eS*		**Sn**		**13 48 30.8**	**-0.2**
TACV	**Tcata**	**5.10**	**259**	*eP*		**Pn**		**13 47 41.3**	**+2.7**
TACV				*eS*		**Sn**		**13 48 35.1**	**-1.3**
LUEV	**Luepa**	**5.32**	**175**	*eP*		**Pn**		**13 47 40.8**	**-0.8**
LUEV				*eS*		**Sn**		**13 48 36.7**	**-5.2**
BENV	**Beln**	**5.68**	**258**	*eP*		**Pn**		**13 47 48.1**	**+1.5**
BENV				*eS*		**Sn**		**13 48 48.9**	**-2.0**
CACV	**CAICARA DEL OR**	**5.78**	**232**	*eP*		**Pn**		**13 47 44.1**	**-3.7**
CACV				*eS*		Sn		13 48 42.1	-11
TURV	**Turiamo**	**5.83**	**264**	*eP*		**Pn**		**13 47 50.2**	**+1.6**
TURV				*eS*		**Sn**		**13 48 51.0**	**-3.4**
BAUV	**El Baul**	**6.40**	**250**	*eP*		**Pn**		**13 47 58.0**	**+1.6**
BAUV				*eS*		**Sn**		**13 49 05.6**	**-2.7**
PAYV	**Puerto Ayacuch**	**8.03**	**225**	*eP*		**Pn**		**13 48 19.3**	**+0.5**
PAYV				*eS*		**Sn**		**13 49 43.6**	**-5.1**

*NIC **27** 13:55:16.7±0.0, 35˚.12N×33˚.22E, h52km±2km, MI2.7/7*
*ISK **27** 13:55:17.5, 35˚.31N×33˚.25E, h4km, ML2.8/12*
*DDA **27** 13:55:18.8, 35˚.42N×33˚.15E, h48km, ML2.5*
*GII **27** 13:55:20.9±0.5, 34˚.80N×33˚.50E, h46km, Mm2.5/1*
ISC 27 13:55:16.0±1.2, 35˚.05N±0˚.02×33˚.25E±0˚.03, h59km±5km, n50, σ1°37/79, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CSS	**Mathiatis**	**0.11**	**143**	PG		**Pn**		**13 55 25.1**	**0.0**
CSS				SG		**Sn**		**13 55 30.6**	**-0.9**
CSS	**Mathiatis**	**0.11**	**143**	P		**Pn**		**13 55 25.0**	**0.0**
CSS				S		**Sn**		**13 55 32.5**	**+0.9**
ATHAL	**Athalassa**	**0.15**	**54**	P		**Pn**		**13 55 24.9**	**-0.3**
ATHAL				S		**Sn**		**13 55 32.0**	**+0.2**
ATHAL				AML	AML			13 55 32.9	
	4.9nm,0.3s								
ATHAL				AML	AML			13 55 32.9	
	4.9nm,0.3s								
ATHAL				AML	AML			13 55 33.1	
	7.1nm,0.5s								
ATHAL				AML	AML			13 55 33.1	
	7.1nm,0.5s								
AKIN	**Akıncılar- Kıb**	**0.18**	**102**	PG		**Pn**		**13 55 25.2**	**-0.1**
AKIN				SG		**Sn**		**13 55 30.4**	**-1.6**
ASGA	**Asgata**	**0.27**	**180**	P		**Pn**		**13 55 25.7**	**-0.1**
ASGA				S		**Sn**		**13 55 33.6**	**+0.7**
ASGA				AML	AML			13 55 33.9	
	1.4nm,0.3s								
ASGA				AML	AML			13 55 33.9	
	1.4nm,0.3s								
ASGA				AML	AML			13 55 34.0	
	1.7nm,0.6s								
ASGA				AML	AML			13 55 34.0	
	1.7nm,0.6s								
ASGA				AML	AML			13 55 37.7	
	1.5nm,0.2s								
ASGA				AML	AML			13 55 37.7	
	1.5nm,0.2s								
LEF	**Lefka**	**0.30**	**283**	PG		**Pn**		**13 55 25.6**	**-0.5**
LEF				SG		**Sn**		**13 55 31.6**	**-1.7**
MVOU	**Mavrovouni**	**0.32**	**96**	P		**Pn**		**13 55 26.0**	**-0.2**
MVOU				S		**Sn**		**13 55 33.5**	**-0.1**
MVOU				AML	AML			13 55 34.0	
	1.4nm,0.2s								
MVOU				AML	AML			13 55 34.0	
	1.4nm,0.2s								
MVOU				AML	AML			13 55 34.7	
	0.7nm,0.2s								
MVOU				AML	AML			13 55 34.7	
	0.7nm,0.2s								
SZAC	**Souni**	**0.42**	**226**	P		**Pn**		**13 55 27.5**	**+0.3**
SZAC				S		**Sn**		**13 55 36.9**	**+1.6**
SZAC				AML	AML			13 55 37.5	
	6.1nm,0.3s								
SZAC				AML	AML			13 55 37.5	
	6.1nm,0.3s								
SZAC				AML	AML			13 55 38.4	
	3.5nm,0.2s								
SZAC				AML	AML			13 55 38.4	
	3.5nm,0.2s								
ALFC	**Alefka**	**0.54**	**281**	P		**Pn**		**13 55 27.8**	**-0.7**
ALFC				S		**Sn**		**13 55 37.1**	**-0.4**
ALFC				AML	AML			13 55 37.9	
	5.4nm,0.2s								
ALFC				AML	AML			13 55 37.9	
	5.4nm,0.2s								
ALFC				AML	AML			13 55 39.1	
	1.8nm,0.3s								
ALFC				AML	AML			13 55 39.1	
	1.8nm,0.3s								
NATA	**Nata**	**0.62**	**244**	P		**Pn**		**13 55 30.1**	**+0.7**
PARAL	**Paralimni**	**0.65**	**95**	P		**Pn**		**13 55 30.9**	**+1.3**
PARAL				S		**Sn**		**13 55 42.1**	**+2.5**
PARAL				AML	AML			13 55 44.0	
	0.9nm,0.6s								
PARAL				AML	AML			13 55 44.0	
	0.9nm,0.6s								
PARAL				AML	AML			13 55 45.4	
	0.8nm,0.7s								
PARAL				AML	AML			13 55 45.4	
	0.8nm,0.7s								
AKMS	**Akamas**	**0.75**	**268**	P		**Pn**		**13 55 31.2**	**+0.3**
AKMS				S		**Sn**		**13 55 42.9**	**+1.1**
AKMS				AML	AML			13 55 49.1	
	1.2nm,0.4s								
AKMS				AML	AML			13 55 49.1	
	1.2nm,0.4s								
AKMS				AML	AML			13 55 49.2	
	1.2nm,0.3s								
AKMS				AML	AML			13 55 49.2	
	1.2nm,0.3s								
EREN	**Erenkoy**	**0.89**	**57**	PG		**Pn**		**13 55 33.3**	**+0.7**
EREN				SG		**Sn**		**13 55 44.8**	**-0.1**
TEKE	**Tekeli-Mersin**	**1.09**	**354**	PG		**Pn**		**13 55 34.8**	**-0.5**
AKK2	**Akkuyu-Mersin**	**1.11**	**13**	PG		**Pn**		**13 55 34.6**	**-0.9**
AKK2				SG		**Sn**		**13 55 47.3**	**-2.6**
AKK1	**Akkuyu-Mersin**	**1.11**	**12**	PG		**Pn**		**13 55 34.8**	**-0.7**
AKKU	**Akkuyu-Mersin**	**1.13**	**12**	PG		**Pn**		**13 55 35.3**	**-0.5**
GULN	**MERSIN_Gulnar**	**1.15**	**12**	*i* P		**Pn**		**13 55 35.4**	**-0.6**
GULN				*i* S		**Sn**		**13 55 48.5**	**-2.5**
TISA	**Tisan-Mersin**	**1.16**	**17**	PG		**Pn**		**13 55 35.6**	**-0.6**
YESI	**Yesilovacik-Me**	**1.19**	**16**	PG		**Pn**		**13 55 35.6**	**-0.9**
KARG	**Kargicak-Mersi**	**1.21**	**18**	PG		**Pn**		**13 55 36.8**	**0.0**
IKL	**Isikli**	**1.24**	**17**	PG		**Pn**		**13 55 36.8**	**-0.4**
BERE	**Bereket-Mersin**	**1.29**	**359**	PG		**Pn**		**13 55 37.9**	**-0.2**
GAZI	**Gazipasa**	**1.40**	**327**	*i* P		**Pn**		**13 55 38.7**	**-0.7**
GAZI				*i* S		**Sn**		**13 55 54.5**	**-2.5**
GAZI				IAML				13 55 56.0	
	comp=E,77nm,0.6s								
SILI	**Silifke-Mersin**	**1.42**	**23**	PN		**Pn**		**13 55 40.1**	**+0.4**
KEBE	**Keben-Mersin**	**1.44**	**15**	PN		**Pn**		**13 55 40.4**	**+0.4**
KIZK	**Mersin**	**1.60**	**27**	*i* P		**Pn**		**13 55 42.1**	**0.0**
KIZK				*i* S		**Sn**		**13 56 02.5**	**-1.2**
ERMK	**Ermenek**	**1.61**	**350**	*i* P		**Pn**		**13 55 43.0**	**+0.7**
ERMK				*i* S		**Sn**		**13 56 02.0**	**-0.3**
MERS	**Mersin**	**2.09**	**29**	PN		**Pn**		**13 55 49.9**	**+1.2**
OSC2	**CSNet OBS 4**	**2.13**	**203**	P		Pn		13 55 46.9	-2.4
OSC2				S		**Sn**		**13 56 14.9**	**+0.2**
KKBE	**Karaman, Kazim**	**2.18**	**354**	*i* P		**Pn**		**13 55 51.6**	**+1.6**
KKBE				*i* S		**Sn**		**13 56 16.6**	**+0.7**
KKBE				IAML				13 56 18.0	
	comp=E,36nm,1.1s								
KEPZ	**Antalya-Kepez**	**2.28**	**325**	*i* P		**Pn**		**13 55 51.9**	**+0.6**
KEPZ				*i* S		**Sn**		**13 56 16.8**	**-1.5**
KERG	**Konya-Eregli**	**2.46**	**16**	*i* P		**Pn**		**13 55 55.4**	**+1.5**
KERG				*i* S		**Sn**		**13 56 23.9**	**+1.0**
KERG				IAML				13 56 27.0	
	comp=N,44nm,0.3s								
YAYL	**Yayladag**	**2.53**	**66**	*i* P		**Pn**		**13 55 56.5**	**+1.6**
YAYL				*i* S		**Sn**		**13 56 21.5**	**-3.0**
YAYL				IAML				13 56 33.0	
	comp=N,24nm,0.6s								
YAYL				IAML				13 56 33.0	
	comp=E,23nm,0.6s								
HNTI	**Hanita**	**2.53**	**140**	Pn		**Pn**		**13 55 55.6**	**+0.8**
GULE	**Gulek**	**2.55**	**29**	*i* P		**Pn**		**13 55 56.5**	**+1.4**
GULE				*i* S		**Sn**		**13 56 24.7**	**-0.3**
GULE				IAML				13 56 30.0	
	comp=E,31nm,0.5s								
GULE				IAML				13 56 31.0	
	comp=N,21nm,0.7s								
SEDI	**Konya, Seydise**	**2.68**	**334**	*i* P		**Pn**		**13 55 59.6**	**+2.7**
SEDI				*i* S		**Sn**		**13 56 29.0**	**+0.7**
AKUM	**Antalya-Kumluc**	**2.68**	**299**	*i* P		Pn		13 56 05.0	+8.2
AKUM				*i* S		**Sn**		**13 56 26.3**	**-1.8**
MMA0	**Mount Meron ar**	**2.71**	**138**	Pn		**Pn**		**13 55 57.4**	**+0.2**
GEM	**Giv'at Ha'Em**	**2.72**	**132**	Pn		**Pn**		**13 55 57.4**	**+0.1**
GEM				Sn		**Sn**		**13 56 25.9**	**-3.1**
NATI	**Neve Ativ**	**2.73**	**130**	Pn		**Pn**		**13 55 58.2**	**+0.8**
NATI				Sn		**Sn**		**13 56 27.5**	**-1.7**
TAHT	**Tahtakopru-Hat**	**2.73**	**60**	PN		**Pn**		**13 56 00.5**	**+3.1**
OFRI	**`Ofer**	**2.82**	**149**	Pn		**Pn**		**13 55 58.7**	**-0.1**
MMLI	**Mount Malkishu**	**3.17**	**145**	Pn		**Pn**		**13 56 04.2**	**+0.6**
SLTI	**Sal'it**	**3.18**	**151**	Pn		**Pn**		**13 56 03.0**	**-0.6**
SLTI				Sn		**Sn**		**13 56 37.4**	**-2.9**
HMDT	**Nahal Hemdat**	**3.38**	**145**	Pn		**Pn**		**13 56 07.4**	**+1.1**
HMDT				Sn		**Sn**		**13 56 41.9**	**-3.2**
YTIR	**Yattir**	**4.00**	**156**	Pn		**Pn**		**13 56 16.2**	**+1.3**
YTIR				Sn		**Sn**		**13 56 58.3**	**-2.2**
KZIT	**Kziot**	**4.25**	**167**	Pn		**Pn**		**13 56 19.8**	**+1.6**
PRNI	**Paran**	**4.92**	**162**	Pn		**Pn**		**13 56 28.5**	**+1.1**
HRFI	**Mount Harif**	**5.22**	**163**	Pn		**Pn**		**13 56 33.1**	**+1.5**
HRFI				Sn		**Sn**		**13 57 29.5**	**-1.1**

*IDC **27** 13:59:56.6±1.1, 30˚.75S×72˚.66W, h0km, mb3.7/2, mb1 4.0/5, mb1mx3.7/29, mbtmp3.8/5, ML3.6/3, MS3.2/2, Ms1 3.2/2, ms1mx2.6/21, Error ellipse: s-maj=49.7km s-min=31.7km az=95.0*
*NEIC **27** 13:59:57.6±1.8, 30˚.70S±0˚.05×72˚.56W±0˚.06, h10km±1km, mb4.1/1, Error ellipse: s-maj=8.4km s-min=7.6km az=114.0*
*GUC **27** 13:59:58.0±0.6, 30˚.67S×72˚.60W, h41km, ML3.5*
ISC 27 13:59:57.0±1.5, 30˚.74S±0˚.04×72˚.60W±0˚.06, h10km±9km, n52, σ1°22/62, 4C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.83**	**86**	*eP*		**Pn**	**Pb**	**14 00 13.6**	**0.0**
CO06				*i* S			**Sb**	**14 00 25.0**	**+0.2**
CO06	**Fray Jorge**	**0.83**	**86**			**Pn**		**14 00 14.1**	**-0.7**
CO06					Sg	**Sg**		**14 00 23.0**	**-0.9**
CO05	**La Serena**	**1.43**	**56**	*eP*		**Pn**		**14 00 22.5**	**-0.6**
CO05				*eS*		**Sn**		**14 00 40.0**	**-2.0**
CO05	**La Serena**	**1.43**	**56**	Pn		**Pn**		**14 00 22.5**	**-0.6**
CO02	**Combarbal**	**1.45**	**109**	*eP*		**Pn**		**14 00 23.5**	**+0.1**
CO02				*i* S		**Sb**		**14 00 42.6**	**-0.2**
CO02				IAML				14 00 44.4	
	comp=N,2μm,0.3s								
CO02	**Combarbal**	**1.45**	**109**			**Pn**		**14 00 23.6**	**+0.1**
CO03	**El Pedregal**	**1.65**	**94**	*eP*		**Pn**		**14 00 26.2**	**+0.1**
CO03				*eS*		**Sn**		**14 00 46.4**	**-1.1**
CO03				IAML				14 00 49.2	
	comp=N,455nm,0.3s								
CO03				IAML				14 00 51.8	
	comp=E,501nm,0.7s								
CO03	**El Pedregal**	**1.65**	**94**			**Pn**		**14 00 26.4**	**+0.2**
GO04	**Tololo Observa**	**1.65**	**71**	*eP*		**Pn**		**14 00 26.6**	**+0.1**
GO04				*eS*		**Sn**		**14 00 46.6**	**-1.2**
GO04	**Tololo Observa**	**1.65**	**71**	Pn		**Pn**		**14 00 26.5**	**+0.1**
VA06	**Catapilco**	**2.13**	**149**	*eP*		**Pn**		**14 00 33.2**	**+0.5**
VA06				*i* S		**Sn**		**14 00 57.0**	**-2.3**
VA06				IAML				14 01 00.7	
	comp=N,267nm,0.4s								
LCO	**Las Campanas**	**2.38**	**44**	*eP*		**Pn**		**14 00 35.7**	**-0.7**
LCO				*eS*		**Sn**		**14 01 04.2**	**-1.6**
LCO	**Las Campanas**	**2.38**	**44**			**Pn**		**14 00 35.9**	**-0.5**
VA01	**Torpederas**	**2.42**	**161**	*eP*		**Pn**		**14 00 35.7**	**-1.0**
VA01	**Torpederas**	**2.42**	**161**			**Pn**		**14 00 36.0**	**-0.6**
VA03	**San Esteban**	**2.67**	**140**	*eP*		**Pn**		**14 00 41.6**	**+1.4**
VA03				*i* S		**Sn**		**14 01 12.8**	**+0.1**
VA03				IAML				14 01 17.2	
	comp=E,429nm,0.5s								
VA03	**San Esteban**	**2.67**	**140**			**Pn**		**14 00 41.3**	**+1.1**
AC04	**Llanos de Chal**	**2.85**	**28**	*eP*		**Pn**		**14 00 41.0**	**-1.7**
AC04				IAML				14 01 16.3	
	comp=E,135nm,0.2s								
AC04	**Llanos de Chal**	**2.85**	**28**	Pn		**Pn**		**14 00 40.8**	**-1.9**
VA05	**Santo Domingo**	**3.03**	**164**	*eP*		**Pn**		**14 00 45.0**	**-0.1**
VA05				*i* S		**Sn**		**14 01 17.4**	**-4.0**
VA05	**Santo Domingo**	**3.03**	**164**			**Pn**		**14 00 45.0**	**-0.1**
MT05	**Renca**	**3.08**	**150**	Pn		**Pn**		**14 00 46.8**	**+0.9**
MT01	**Popeta**	**3.32**	**160**	*eP*		**Pn**		**14 00 49.3**	**+0.2**
MT01				*i* S		**Sn**		**14 01 25.6**	**-3.1**
MT01	**Popeta**	**3.32**	**160**			**Pn**		**14 00 49.3**	**+0.2**
MT09	**Talagante**	**3.32**	**156**	*eP*		**Pn**		**14 00 51.0**	**+1.7**
MT09				*i* S		**Sn**		**14 01 28.5**	**-0.4**
MT09				IAML				14 01 31.1	
	comp=N,122nm,0.4s								
MT09	**Talagante**	**3.32**	**156**	Pn		**Pn**		**14 00 50.2**	**+0.9**
ZON	**Zonda**	**3.46**	**104**			**Pn**		**14 00 50.9**	**-0.2**
GO03	**Copiap**	**3.75**	**34**	Pn		**Pn**		**14 00 54.3**	**-0.9**
BO01	**Tunca**	**3.86**	**161**	Pn		**Pn**		**14 00 56.6**	**0.0**
GO05	**Huala**	**4.30**	**173**	Pn		**Pn**		**14 01 02.0**	**-0.5**
BO02	**Sierra Bellavi**	**4.32**	**160**			**Pn**		**14 01 04.0**	**+1.1**
AC02	**Maricunga**	**4.94**	**39**	*eP*		**Pn**		**14 01 12.1**	**+0.3**
AC02	**Maricunga**	**4.94**	**39**	Pn		**Pn**		**14 01 11.8**	**0.0**
PB15	**IPOC Station P**	**8.00**	**21**	Pn		**Pn**		**14 01 51.6**	**-2.0**
LC01	**Cunco**	**8.16**	**176**	Pn		**Pn**		**14 01 55.4**	**-0.2**
LVC	**Limon Verde**	**8.74**	**23**	Pn		**Pn**		**14 02 00.9**	**-3.0**
	comp=N,0.3nm,0.3s,baz=135,slow=10.0,SNR=1.6								
PLCA	**Paso Flores**	**10.11**	**171**	Pn		**Pn**		**14 02 24.0**	**+1.6**
	comp=N,0.1nm,0.3s,baz=348,slow=18,SNR=3.7								
PLCA	**Paso Flores**	**10.11**	**171**	Pn		**Pn**		**14 02 24.1**	**+1.6**
TRQA	**Tornquist**	**11.40**	**133**	Pn		**Pn**		**14 02 41.5**	**+1.5**
CPUP	**Villa Florida**	**14.12**	**76**	LR		LR		14 09 16.4	
	comp=N,50nm,18.8s,baz=241,slow=40								
LPAZ	**La Paz**	**14.95**	**17**	Pn		**Pn**		**14 03 30.1**	**+0.9**
	comp=N,0.1nm,0.3s,baz=202,slow=9.2,SNR=5.1								
LPAZ	**La Paz**	**14.95**	**17**	Pn		**Pn**		**14 03 28.6**	**-0.5**
SIV	**San Ignacio**	**18.07**	**38**	P		**Pn**		**14 04 09.6**	**+0.8**
	comp=N,0.2nm,0.3s,baz=237,slow=12,SNR=22								
TXAR	**Lajitas Array**	**66.67**	**331**	P		**P**		**14 10 49.2**	**+1.0**
	comp=N,0.3nm,0.7s,baz=158,slow=9.7,SNR=3.8								
TORD	**Torodi Ar. Bea**	**83.56**	**71**	P		**P**		**14 12 26.4**	**+0.6**
	comp=N,0.6nm,0.7s,baz=245,slow=3.9,SNR=3.5								
TORD	**Torodi Ar. Bea**	**83.56**	**71**	IAmb		IAmb		14 12 27.7	
	comp=Z,1.5nm,1.1s								
YKA	**Yellowknife Ar**	**98.82**	**342**	LR		LR		14 57 50.4	
	comp=Z,19nm,18.7s,baz=0.0,slow=35								
WRA	**Warramunga Arr**	**123.35**	**211**	PKP		**PKPdf**		**14 18 54.9**	**-0.1**
	comp=Z,0.7nm,1.1s,baz=182,slow=4.9,SNR=2.4								
BVAR	**Borovoye Array**	**145.15**	**40**	PKPbc		**PKPdf**		**14 19 35.4**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=232,slow=7.3,SNR=5.6								
KURBB	**Kurchatov Arra**	**150.73**	**39**	PKPbc		**PKiKP**		**14 19 50.3**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=302,slow=3.1,SNR=12								
ZALV	**Zalesovo Beam**	**151.66**	**29**	PKPbc		**PKiKP**		**14 19 52.1**	**+0.5**
	comp=Z,2.6nm,0.7s,baz=301,slow=3.6,SNR=10.0								
ZALV				PKPab		**pPKPab**		**14 20 01.7**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=12,slow=2.1,SNR=4.0								
ZALV	**Zalesovo Beam**	**151.66**	**29**			**PKiKP**		**14 19 51.8**	**+0.2**

IDC 27 14:09:18.8±3.9, 19˚.26S×175˚.97W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.3/26, mbtmp3.3/2, Error ellipse: s-maj=274.2km s-min=80.3km az=163.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.67**	**255**	P		P		14 17 49.4	-0.2
	0.3nm,0.7s,baz=94,slow=7.5,SNR=8.7								
ASAR				PcP		PcP		14 19 22.5	-1.0
	0.4nm,0.9s,baz=98,slow=3.8,SNR=5.8								
WRA	**Warramunga Arr**	**46.68**	**260**	P		P		14 17 49.8	+0.2
	0.2nm,0.3s,baz=96,slow=7.6,SNR=9.8								
AKASG	**Malin Array Be**	**142.81**	**333**	PKP		PKPdf		14 28 55.1	+1.0
	0.4nm,0.5s,baz=47,slow=4.1,SNR=4.2								

STLK	Strandline Lak	1.72	23			Pn	14 16 14.8	+0.5
O22K	Cooper Landing	1.83	71			Pn	14 16 15.6	0.0
O22K	Cooper Landing baz=254	1.83	71	P		Pn	14 16 15.6	0.0
KAKN	Katmai Knife C	1.89	211			Pn	14 16 16.7	+0.3
SEW	Seward	1.90	83			Pn	14 16 15.8	-0.5
SEW	Seward baz=266	1.90	83	P		Pn	14 16 15.8	-0.5
FIS	Fire Island	1.92	49	Pn		Pn	14 16 17.6	+0.9
FIS	comp=N,468nm,1.0s			IAML			14 16 53.4	
SUA	Susitna One	1.97	37			Pn	14 16 17.9	+0.5
SUA	Susitna One comp=E,318nm,0.6s	1.97	37	IAML			14 16 43.8	
SUA	comp=N,338nm,0.4s			IAML			14 16 44.5	
SUA	Susitna One baz=219	1.97	37	P		Pn	14 16 17.8	+0.5
KABU	Katmai Buttres	1.97	214			Pn	14 16 18.0	+0.6
M19K	Big River Lodg	2.07	344			Pn	14 16 18.6	0.0
M19K	Big River Lodg baz=163	2.07	344	P		Pn	14 16 18.6	0.0
RC01	Rabbit Creek A	2.08	54			Pn	14 16 18.5	-0.2
RC01	Rabbit Creek A baz=237	2.08	54	P		Pn	14 16 18.5	-0.2
ANCK	Angle Creek	2.09	215			Pn	14 16 19.7	+0.8
CAHL	Cahill	2.16	211			Pn	14 16 20.6	+0.8
KDAK	Kodiak Island	2.17	171			Pn	14 16 18.8	-1.0
KDAK	Kodiak Island comp=N,137nm,0.4s	2.17	171	IAML			14 16 47.2	
KDAK	comp=N,177nm,0.4s			IAML			14 16 47.8	
SKT	Skwentna	2.22	21			Pn	14 16 20.7	+0.2
SKT	Skwentna baz=202	2.22	21	P		Pn	14 16 20.7	+0.2
L19K	White Mountain	2.41	341			Pn	14 16 22.6	-0.2
L19K	White Mountain baz=160	2.41	341	P		Pn	14 16 22.6	-0.2
L20K	Farewell, AK	2.59	353			Pn	14 16 25.5	+0.4
L20K	Farewell, AK baz=172	2.59	353	P		Pn	14 16 25.5	+0.4
PWL	Port Wells	2.60	67			Pn	14 16 24.5	-0.8
PMR	Palmer	2.61	48			Pn	14 16 24.6	-0.8
PMR	Palmer comp=N,167nm,0.2s	2.61	48	IAML			14 16 56.0	
PMR	comp=E,152nm,0.4s			IAML			14 16 57.0	
PMR	Palmer baz=232	2.61	48	P		Pn	14 16 24.6	-0.8
OHAK	Old Harbor	2.71	181			Pn	14 16 25.3	-1.3
OHAK	Old Harbor comp=E,67nm,0.3s	2.71	181	IAML			14 16 58.3	
OHAK	comp=N,67nm,0.4s			IAML			14 16 59.0	
OHAK	Old Harbor baz=1.0	2.71	181	P		Pn	14 16 25.3	-1.3
KNK	Knik Glacier	2.78	55			Pn	14 16 26.6	-1.0
KNK	Knik Glacier baz=239	2.78	55	P		Pn	14 16 26.6	-1.0
GHO	Glory Hole Cre	2.80	47			Pn	14 16 27.4	-0.6
GHO	Glory Hole Cre comp=N,205nm,0.3s	2.80	47	IAML			14 17 02.0	
GHO	comp=E,208nm,0.6s			IAML			14 17 02.0	
CUT	Chulitna	2.87	28			Pn	14 16 28.9	+0.2
CUT	Chulitna comp=N,153nm,0.3s	2.87	28	IAML			14 17 07.2	
CUT	comp=E,212nm,0.4s			IAML			14 17 07.8	
CUT	Chulitna baz=211	2.87	28	P		Pn	14 16 28.9	+0.2
PPLA	Purkeypile	3.03	9			Pn	14 16 32.1	+1.2
PPLA	Purkeypile baz=190	3.03	9	P		Pn	14 16 32.1	+1.2
SML	Sawmill	3.05	49			Pn	14 16 30.1	-1.0
SML	Sawmill comp=N,109nm,0.7s	3.05	49	IAML			14 17 11.0	
SML	comp=E,116nm,0.8s			IAML			14 17 14.4	
SML	Sawmill baz=234	3.05	49	P		Pn	14 16 30.1	-1.0
GLI	Glacier Island	3.18	70			Pn	14 16 31.4	-1.5
GLI	Glacier Island comp=E,140nm,0.6s	3.18	70	IAML			14 17 09.8	
GLI	comp=N,82nm,0.5s			IAML			14 17 10.1	
GLI	Glacier Island baz=255	3.18	70	P		Pn	14 16 31.4	-1.5
HIN	Hinchinbrook I	3.39	79	Pn		Pn	14 16 34.7	-0.9
HIN	comp=E,125nm,0.5s			IAML			14 17 15.8	
HIN	comp=N,128nm,0.5s			IAML			14 17 16.2	
SII	Sitkinak Islan	3.41	189			Pn	14 16 34.7	-1.2
SII	Sitkinak Islan comp=E,78nm,0.8s	3.41	189	IAML			14 17 16.1	
SII	comp=N,75nm,2.5s			IAML			14 17 23.0	
SII	Sitkinak Islan baz=8.4	3.41	189	P		Pn	14 16 34.7	-1.2
FID	Port Fidalgo	3.45	73			Pn	14 16 34.6	-1.7
FID	Port Fidalgo comp=E,137nm,0.2s	3.45	73	IAML			14 17 14.3	
FID	comp=N,135nm,0.3s			IAML			14 17 15.5	
SCM	Sheep Creek Mo	3.46	54			Pn	14 16 35.8	-0.8
SCM	Sheep Creek Mo comp=E,122nm,0.2s	3.46	54	IAML			14 17 17.5	
JPK	Jack Peak	3.46	68			Pn	14 16 35.8	-0.8
K20K	Telida	3.47	354			Pn	14 16 37.2	+0.5
K20K	Telida baz=173	3.47	354	P		Pn	14 16 37.2	+0.5
Q23K	Middleton Isla	3.51	95			Pn	14 16 37.1	-0.1
Q23K	Middleton Isla comp=N,122nm,1.8s	3.51	95	IAML			14 17 19.5	
Q23K	comp=E,137nm,1.8s			IAML			14 17 35.1	
Q23K	Middleton Isla baz=281	3.51	95	P		Pn	14 16 37.1	-0.1
MID	Middleton Isla	3.52	95			Pn	14 16 37.1	-0.1
MID	Middleton Isla comp=E,133nm,1.8s	3.52	95	IAML			14 17 35.1	
MID	comp=N,98nm,1.7s			IAML			14 18 04.8	
CAST	Castle Rocks	3.55	8			Pn	14 16 37.9	+0.2
CAST	comp=E,112nm,1.4s			IAML			14 17 27.9	
CAST	comp=N,95nm,1.2s			IAML			14 17 29.6	
WAT7	Susitna Watana	3.60	34			Pn	14 16 38.1	-0.4
WAT6	Susitna Watana	3.75	42			Pn	14 16 39.9	-0.7
WAT6	Susitna Watana baz=227	3.75	42	P		Pn	14 16 39.9	-0.7
EYAK	Cordova Ski Ar	3.77	77			Pn	14 16 39.8	-0.9
EYAK	Cordova Ski Ar baz=264	3.77	77	P		Pn	14 16 39.8	-0.9
KTH	Kantishna Hill	3.80	16			Pn	14 16 41.0	-0.1
TRF	Thorofare Moun	3.81	20			Pn	14 16 41.2	-0.1
TRF	Thorofare Moun comp=N,42nm,0.6s	3.81	20	IAML			14 17 25.2	
TRF	Thorofare Moun baz=203	3.81	20	P		Pn	14 16 41.2	-0.1
DIV	Divide	3.87	69			Pn	14 16 41.5	-0.5
KLU	Klutina	3.91	63			Pn	14 16 41.5	-1.1
KLU	Klutina baz=249	3.91	63	P		Pn	14 16 41.5	-1.1
CHUM	Lake Minchumin	4.00	6			Pn	14 16 44.2	+0.5
CHUM	Lake Minchumin baz=186	4.00	6	P		Pn	14 16 44.2	+0.5
M24K	Tolsona, Glenn	4.07	54			Pn	14 16 44.3	-0.4
M24K	Tolsona, Glenn baz=240	4.07	54	P		Pn	14 16 44.3	-0.4
RND	Reindeer	4.07	29			Pn	14 16 44.1	-0.6
DHY	Denali Highway	4.22	39			Pn	14 16 46.2	-0.6
DHY	Denali Highway comp=E,34nm,0.4s	4.22	39	IAML			14 17 36.4	
DHY	comp=N,42nm,0.6s			IAML			14 17 37.1	
DHY	Denali Highway baz=224	4.22	39	P		Pn	14 16 46.2	-0.6
GOAT	Goat Mountain	4.28	77			Pn	14 16 47.3	-0.2
J20K	Nowinta River	4.29	355			Pn	14 16 47.9	+0.2
J20K	Nowinta River baz=174	4.29	355	P		Pn	14 16 47.9	+0.2
CHIR	Chirikof Islan	4.31	198	Pn		Pn	14 16 46.6	-1.2
BPAW	Bear Paw Mtn.	4.32	13			Pn	14 16 47.5	-0.5
BPAW	Bear Paw Mtn. baz=195	4.32	13	P		Pn	14 16 47.5	-0.5
MCK	McKinley	4.33	26			Pn	14 16 48.2	+0.2
MCK	McKinley baz=210	4.33	26	P		Pn	14 16 48.2	+0.2
BMRM	Bremner River	4.39	72			Pn	14 16 48.6	-0.4
BMRM	comp=N,52nm,0.9s			IAML			14 17 39.9	
BMRM	comp=E,44nm,0.4s			IAML			14 17 43.0	
BMRM	Bremner River baz=260	4.39	72	P		Pn	14 16 48.0	-1.0
KAIM	Kayak Island	4.42	86	Pn		Pn	14 16 50.0	+0.6
HMT	Hamilton	4.50	81	Pn		Pn	14 16 51.6	+1.3
N25K	Chitina, Valde	4.55	64			Pn	14 16 50.2	-0.9
N25K	Chitina, Valde comp=E,44nm,0.4s	4.55	64	IAML			14 17 40.9	
N25K	comp=N,62nm,0.5s			IAML			14 17 42.5	
N25K	Chitina, Valde baz=252	4.55	64	P		Pn	14 16 50.2	-0.9
CHGN	Chignik	4.56	219	Pn		Pn	14 16 51.1	-0.1
CHGN	comp=N,28nm,0.1s			IAML			14 17 43.2	
CHGN	comp=E,47nm,0.2s			IAML			14 17 46.8	
BWN	Browne	4.62	21			Pn	14 16 52.4	+0.5
BWN	Browne comp=N,22nm,2.3s	4.62	21	IAML			14 18 05.7	
BWN	comp=E,27nm,3.5s			IAML			14 18 56.8	
NICHA	Nichawak Mount	4.64	82			Pn	14 16 52.2	-0.1
BERG	Berg Lake	4.78	80			Pn	14 16 54.0	-0.1
PAX	Paxson	4.81	47			Pn	14 16 54.1	-0.5
PAX	Paxson baz=234	4.81	47	P		Pn	14 16 54.1	-0.5
GLB	Gilahina Butte	4.87	68			Pn	14 16 54.6	-0.8
GLB	Gilahina Butte comp=N,27nm,0.6s	4.87	68	IAML			14 17 50.6	
GLB	comp=E,22nm,0.7s			IAML			14 17 51.0	
GRIN	Grindle Hills	4.96	82			Pn	14 16 56.9	+0.2
VRDI	Verde Repeater	4.99	71			Pn	14 16 56.8	-0.3
VRDI	Verde Repeater comp=N,24nm,0.4s	4.99	71	IAML			14 17 54.2	
VRDI	comp=E,14nm,0.6s			IAML			14 17 57.0	
KHIT	Khitrov Hills	5.00	80			Pn	14 16 56.8	-0.4
NEA2	Nenana	5.07	21			Pn	14 16 57.5	-0.6
NEA2	Nenana baz=204	5.07	21	P		Pn	14 16 57.5	-0.6
CRQM	Cirque	5.07	76			Pn	14 16 58.7	+0.4
CRQE	Cirque baz=265	5.10	76	P		Pn	14 16 58.7	+0.2
WRH	Wood River Hil	5.16	25			Pn	14 16 58.6	-0.6
WAX	Waxell Ridge	5.20	80			Pn	14 16 59.6	-0.3
SNH	Sunshine Point	5.21	83	Pn		Pn	14 17 00.4	+0.5
SNH	comp=E,41nm,3.1s			IAML			14 20 28.9	
MCARA	McCarthy VSAT	5.22	69			Pn	14 17 00.4	+0.3
MCARA	McCarthy VSAT comp=E,36nm,0.6s	5.22	69	IAML			14 18 12.1	
MCARA	McCarthy VSAT baz=258	5.22	69	P		Pn	14 17 00.4	+0.3
TGL	Tana Glacier	5.22	76			Pn	14 17 00.6	+0.4
TGL	Tana Glacier comp=E,27nm,0.5s	5.22	76	IAML			14 17 59.6	
TGL	comp=N,21nm,0.7s			IAML			14 18 03.9	
MLY	Manley	5.25	12			Pn	14 17 00.6	0.0
MLY	Manley baz=194	5.25	12	P		Pn	14 17 00.6	0.0
KULT	Kultieth River	5.26	82			Pn	14 17 01.0	+0.3
I21K	Tanana	5.31	6			Pn	14 17 01.2	0.0
I21K	comp=E,11nm,3.7s			IAML			14 17 45.1	
I21K	comp=N,12nm,3.6s			IAML			14 18 30.3	
CCB	Clear Creek Bu	5.37	26			Pn	14 17 01.1	-1.0
HDA	Harding Lake	5.37	30			Pn	14 17 01.6	-0.5
HDA	Harding Lake baz=216	5.37	30	P		Pn	14 17 01.6	-0.5
BARK	Barkley Ridge	5.38	80			Pn	14 17 02.8	+0.5
PTPK	Patty Peak	5.45	72			Pn	14 17 03.8	+0.4
ISLE	Juniper Island	5.46	78			Pn	14 17 03.5	+0.2
MENT	Mentasta	5.47	52	Pn		Pn	14 17 03.1	-0.3
KIAG	Kiagnia River	5.47	75			Pn	14 17 03.9	+0.3
BALM	Baldy	5.49	74			Pn	14 17 04.0	+0.3
RIDG	Independent Ri	5.51	42			Pn	14 17 03.8	-0.2
RIDG	Independent Ri baz=230	5.51	42	P		Pn	14 17 03.8	-0.2
PS08	TAPS Pump Stn8	5.51	30			Pn	14 17 03.2	-0.8
M26K	Nabesna, AK	5.53	59			Pn	14 17 04.6	+0.3
M26K	Nabesna, AK baz=248	5.53	59	P		Pn	14 17 04.6	+0.3
I23K	Minto, Yukon-K	5.54	17			Pn	14 17 04.3	+0.1
I23K	Minto, Yukon-K baz=200	5.54	17	P		Pn	14 17 04.3	+0.1
TCOL	CIGO, UAF Yank	5.56	24			Pn	14 17 04.1	-0.4
TCOL	CIGO, UAF Yank baz=209	5.56	24	P		Pn	14 17 04.1	-0.4
COLA	College	5.56	24			Pn	14 17 04.0	-0.6
MDM	Murphy Dome	5.56	22			Pn	14 17 04.0	-0.6
BAGL	Bagley Icefiel	5.58	79			Pn	14 17 05.5	+0.6
MESA	MESA	5.65	83			Pn	14 17 06.6	+0.6
MESA	MESA baz=272	5.65	83	P		Pn	14 17 06.6	+0.6
L26K	Log Cabin Wild	5.66	52	Pn		Pn	14 17 05.3	-0.7
IL31		5.69	28			Pn	14 17 05.3	-0.9
ILAR	Eielson Array	5.69	28			Pn	14 17 05.5	-0.8
DOT	Dot Lake	5.73	45	Pn		Pn	14 17 06.0	-0.9
YAH	Yahtse	5.75	81			Pn	14 17 08.0	+0.6
GRNC	Granite Creek	5.75	77	Pn		Pn	14 17 07.8	+0.4
H21K	Melozitna Rive	5.76	2			Pn	14 17 07.4	+0.1
H21K	Melozitna Rive baz=182	5.76	2	P		Pn	14 17 07.4	+0.1
BARN	Barnard Glacie	5.82	74			Pn	14 17 08.7	+0.3
POKR	Poker Plat Res	5.86	25			Pn	14 17 08.1	-0.5
POKR	Poker Plat Res baz=210	5.86	25	P		Pn	14 17 08.1	-0.5
RKAV	Rock Avalanche	5.95	81			Pn	14 17 11.0	+1.0
SCRK	Sand Creek	5.96	43			Pn	14 17 08.8	-1.2
SCRK	Sand Creek baz=231	5.96	43	P		Pn	14 17 08.8	-1.2
CTG	Chitina Glacier baz=265	5.97	75	P		Pn	14 17 11.0	+0.7
CTGM	Chitina Glacie	5.97	75			Pn	14 17 11.0	+0.7
M27K	Edge Creek, AK	6.01	61	Pn		Pn	14 17 11.3	+0.5
TABL	Table Mountain	6.05	80			Pn	14 17 11.8	+0.5
CHX	Chaix Hills	6.07	83			Pn	14 17 10.9	-0.7
IM03		6.09	358			Pn	14 17 12.2	+0.5
IMAR	Indian Mountai	6.09	358			Pn	14 17 12.1	+0.4
LOGN	Logan Glacier	6.12	76			Pn	14 17 12.6	+0.2
PS06	TAPS Pump Stn6	6.16	13			Pn	14 17 13.2	+0.5
SAMH	Samovar Hills	6.24	83			Pn	14 17 14.3	+0.5
BC03		6.31	55			Pn	14 17 14.3	-0.4
YUK2	White River	6.33	67			Pn	14 17 15.4	+0.3
H24K	Noodor Dome	6.42	20			Pn	14 17 15.7	-0.5
H24K	Noodor Dome baz=205	6.42	20	P		Pn	14 17 15.7	-0.5
J26L	Joseph Creek	6.43	40			Pn	14 17 15.8	-0.7
J26L	Joseph Creek baz=229	6.43	40	P		Pn	14 17 15.8	-0.7
PCA	Pinnacle	6.50	83			Pn	14 17 18.2	+0.8
PINM	Pinnacle baz=274	6.50	83	P		Pn	14 17 18.2	+0.8
YUK3	Moose Creek	6.50	68			Pn	14 17 17.5	0.0
YUK3	Moose Creek baz=259	6.50	68	P		Pn	14 17 17.5	0.0
PRP	Porcupine Dome	6.63	29			Pn	14 17 18.7	-0.5
PRP	Porcupine Dome baz=216	6.63	29	P		Pn	14 17 18.7	-0.5
K27K	Chicken	6.67	47			Pn	14 17 18.8	-0.7
K27K	Chicken baz=237	6.67	47	P		Pn	14 17 18.8	-0.7
BCPM	Bancas Point	6.82	84			Pn	14 17 22.2	+0.5
PNL	Peninsula	6.98	86			Pn	14 17 23.8	0.0
EGAK	Eagle	7.42	44			Pn	14 17 28.3	-1.4
COLD	Coldfoot	7.46	9			Pn	14 17 30.4	+0.2
COLD	Coldfoot baz=192	7.46	9	P		Pn	14 17 30.4	+0.2
FYU	Fort Yukon	7.57	25	Pn		Pn	14 17 30.8	-0.9
DAWY	Dawson	7.71	52	Pn		Pn	14 17 32.8	-0.9
HYT	Haines Junctio	7.84	77	Pn		Pn	14 17 35.9	+0.4
BM03	Burnt Mountain	8.43	23			Pn	14 17 41.6	-1.8
BMAR	Burnt Mountain	8.45	23	Pn		Pn	14 17 42.2	-1.3
BM01	Burnt Mountain	8.47	23			Pn	14 17 42.1	-1.8
TOLK	Toolik Lake Re	8.89	9			Pn	14 17 49.4	-0.2
TOLK	Toolik Lake Re baz=192	8.89	9	P		Pn	14 17 49.4	-0.2
SKAG	Skagway	9.05	85	Pn		Pn	14 17 53.5	+1.7
BESE	Bessie Mountai	9.50	90	Pn		Pn	14 17 59.3	+1.5
SIT	Sitka	9.79	99	Pn		Pn	14 18 02.2	+0.5
JIS	Juneau Island	9.82	91	Pn		Pn	14 18 04.0	+1.9
EPYK	Eagle Plains	9.85	42	Pn		Pn	14 18 04.1	+1.6
CRAG	Craig	11.62	104	Pn		Pn	14 18 27.1	+1.0
INK	Inuvik	11.96	37	Pn		Pn	14 18 32.2	+1.6
DLBC	Dease Lake	11.97	87	Pn		Pn	14 18 34.1	+3.3
PGC	Sidney	20.52	110	P		P	14 20 13.1	+0.4

IDC 27 14:16:50.4±4.5, 29°20'N×90°40'E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.2/42, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=349.4km s-min=22.2km az=62.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	18.68	342	P	Pn	14 21 10.8	+0.6
	0.2nm,0.3s,baz=163,slow=13,SNR=11						
KURBB	Kurchatov Arra	23.20	341	P	P	14 21 58.3	-0.4
	1.2nm,0.6s,baz=164,slow=8.7,SNR=12						
WRA	Warramunga Arr	64.67	134	P	P	14 27 30.6	+0.3
	0.3nm,0.5s,baz=326,slow=6.4,SNR=16						
ASAR	Alice Springs	67.18	137	P	P	14 27 46.1	-0.3
	0.5nm,0.7s,baz=317,slow=6.2,SNR=12						

NEIC 27 14:18:06.4±1.2, 10°39S±0°.08×161°56E±0°.06, h82km±5km, mb4.3/17, Error ellipse: s-maj=11.4km s-min=8.9km az=167.0

IDC 27 14:18:08.2±2.6, 10°.37S×161°.39E, h99km±19km, mb3.5/5, mb1 3.7/6, mb1mx3.4/33, mbtmp3.9/6, MS2.9/2, Ms1 2.9/2, ms1mx2.6/17, Error ellipse: s-maj=30.3km s-min=22.1km az=76.0

ISC 27 14:18:07.6±0.6, 10°.37S±0°.07×161°.55E±0°.08, h100km, n29, σ1s59/29, mb4.1/13, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.83	300	P	Pn	14 18 37.1	-0.9
	25nm,0.3s,baz=198,slow=19,SNR=14						
HNR				S	Sn	14 18 58.7	-2.5
	48nm,0.3s,baz=298,slow=23,SNR=6.5						
HNR	Honiara	1.83	300	P	Pn	14 18 36.5	-1.5
HNR				Sn	Sn	14 18 57.5	-3.8
SANVU	Saraoutou	7.47	133	Pn	Pn	14 19 52.3	-1.6
DZM	Mont Dzumac	12.55	159	P	Pn	14 21 04.1	+1.4
	0.4nm,0.3s,baz=21,slow=7.3,SNR=11						
DZM				S	Sn	14 23 17.8	-2.9
	0.4nm,0.3s,baz=171,slow=22,SNR=1.8						
TARA	Tarawa	16.24	45	Pn	Pn	14 21 48.7	-1.2
TARA				IAmb	IAmb	14 22 07.3	
	comp=Z,91nm,0.9s						
PATS	Pohnpei	17.39	349	Pn	Pn	14 22 05.7	+1.6
CTA	Charters Tower	17.63	235	P	Pn	14 22 08.3	+1.4
	comp=Z,0.2nm,0.3s,baz=68,slow=9.8,SNR=4.2						
CTAO	Charters Tower	17.63	235	P	P	14 22 07.9	+1.4
WB0	Warramunga Arr	27.80	247	P	P	14 23 47.1	-0.4
WB0				IAmb	IAmb	14 23 53.4	
	comp=Z,7.3nm,1.4s						
WRAB	Tennant Creek	27.89	247	P	P	14 23 47.6	-0.7
WRAB				IAmb	IAmb	14 24 07.7	
	comp=Z,10.0nm,1.4s						
WB2	Warramunga Arr	27.89	247	P	P	14 23 48.0	-0.2
WB2				IAmb	IAmb	14 24 09.4	
	comp=Z,6.3nm,1.4s						
WRA	Warramunga Arr	27.90	247	P	P	14 23 47.7	-0.7
	comp=Z,0.8nm,0.7s,baz=74,slow=8.9,SNR=7.9						
STKA	Stephens Creek	28.27	218	LR	LR	14 34 08.4	
	comp=Z,50nm,18.9s,baz=28,slow=34						
STKA	Stephens Creek	28.27	218	P	P	14 23 49.9	-1.6
ASAR	Alice Springs	29.49	240	P	P	14 24 01.8	-0.7
	comp=Z,0.4nm,0.8s,baz=65,slow=10,SNR=6.5						
ASAR	Alice Springs	29.49	240	P	P	14 24 00.4	-2.1
KNRA	Kununurra	32.35	257	P	P	14 24 28.4	+0.6
KNRA				IAmb	IAmb	14 24 48.2	
	comp=Z,11nm,1.3s						
BBOO	Buckleboo	32.40	223	P	P	14 24 29.6	+1.6
BBOO				IAmb	IAmb	14 24 32.7	
	comp=Z,12nm,1.4s						
FITZ	Fitzroy Crossi	35.59	253	P	P	14 24 55.8	0.0
FITZ				IAmb	IAmb	14 25 08.9	
	comp=Z,3.6nm,1.2s						
KIP	Kipapa	50.74	51	P	P	14 26 57.1	-0.6
KSRS	Korea Array	57.06	328	LR	LR	14 50 02.4	
	comp=Z,5.9nm,21.2s,baz=185,slow=34						
LHMI	Lhok Sumawe	66.17	280	P	P	14 28 46.3	+1.2
SONM	Songino Array	75.72	325	P	P	14 29 43.2	+0.9
	comp=Z,1.3nm,0.6s,baz=136,slow=6.4,SNR=5.6						
SONM	Songino Array	75.72	325	IAmb	IAmb	14 29 44.1	
	comp=Z,1.4nm,0.9s						
CNPM	China Poot	79.23	22	P	P	14 30 02.3	+0.8
QSPA	South Pole Qui	79.63	180	P	P	14 30 04.6	+0.7
QSPA				IAmb	IAmb	14 30 18.4	
	comp=Z,4.6nm,1.4s						
M19K	Big River Lodg	79.79	20	P	P	14 30 06.8	+2.3
M19K				IAmb	IAmb	14 30 32.4	
	comp=Z,8.8nm,1.4s						
ILAR	Eielson Array	84.23	20	P	P	14 30 28.0	+0.3
	comp=Z,0.7nm,1.0s,baz=241,slow=5.3,SNR=4.2						
MKAR	Makanchi Array	90.23	318	P	P	14 30 57.3	+0.3
	comp=Z,0.4nm,0.5s,baz=95,slow=5.6,SNR=6.1						

MEX 27 14:20:07.1±0.7, 16°.36N×98°.28W, h3km±9km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.14	78	*i* P	Pg	14 20 09.6	-0.4
PNIG				*e*S	Sg	14 20 11.8	-0.1
YOIG	Yosondua	0.85	55	*e*P	Pg	14 20 22.3	-1.3
YOIG				*e*S	Sg	14 20 33.7	-0.9
MGIG	Malinaltepec	0.93	338	*e*P	Pg	14 20 23.1	-1.9
MGIG				*e*S	Sg	14 20 35.4	-1.7
TXIG	Tlaxiaco	1.01	29	*e*P	Pg	14 20 25.0	-1.6
TXIG				*e*S	Sg	14 20 38.1	-1.5
TLIG	Tlapa	1.23	347	*e*P	Pg	14 20 27.5	-3.2
TLIG				*e*S	Sg	14 20 44.3	-2.3
DAIG	Los Arroyos	1.47	297	*e*P	Pn	14 20 29.4	-5.2
DAIG				*e*S	Sb	14 20 48.3	-6.0
HLIG	Huajuapan de L	1.53	17	*e*P	Pn	14 20 32.3	-3.3
HLIG				*e*S	Sn	14 20 53.7	-2.4
FTIG	Fresnillo de T	1.54	5	*e*P	Pn	14 20 32.7	-3.0
FTIG				*e*S	Sn	14 20 53.5	-2.8

IDC 27 14:31:22.9±3.5, 36°.95N×71°.91E, h119km±30km, mb3.4/11, mb1 3.6/15, mb1mx3.3/50, mbtmp3.9/15, MS2.5/1, Ms1 2.5/1, ms1mx2.0/42, Error ellipse: s-maj=27.6km s-min=16.6km az=1.0

SOME 27 14:31:26.2, 37°.52N×71°.82E, h5km

*MOS 27 14:31:26.0±

NIL	**Nilore**	**3.73**	**161**	PN	**Pn**	**14 32 24.6**	**+2.6**
NIL	**Nilore**	**3.73**	**161**	Pn	**Pn**	**14 32 24.6**	**+2.6**
KSH	**Kashi**	**3.99**	**53**	P	**Pn**	**14 32 22.5**	**-3.0**
KSH				S	Sn	14 32 58.8	-13
KSH				smax	smax		
	comp=N,2μm,0.8s						
KSH				smax	smax		
	comp=E,470nm,0.5s						
AML	**Almayashu**	**5.13**	**16**	P	**Pn**	**14 32 41.8**	**+1.0**
	SNR=110						
UCH	**Uchtor**	**5.43**	**22**	P	**Pn**	**14 32 45.8**	**+1.0**
	SNR=160						
KZA	**Kyzart**	**5.54**	**27**	P	**Pn**	**14 32 46.7**	**+0.4**
	SNR=44						
MRKS	**Merke**	**5.64**	**11**	*e*P	**Pn**	**14 32 48.1**	**+0.8**
	78nm,0.3s						
MRKS				*e*S	**Sn**	**14 33 48.2**	**-3.0**
	152nm,0.8s						
EKS2	**Erkin-Say**	**5.66**	**15**	P	**Pn**	**14 32 48.5**	**+1.0**
	SNR=57						
DZA	**Taraz**	**5.70**	**356**	*e*P	**Pn**	**14 32 49.0**	**+1.0**
	589nm,0.5s						
DZA				*e*S	**Sn**	**14 33 49.2**	**-3.3**
	592nm,0.4s						
AAK	**Ala-Archa**	**5.80**	**20**	P	**Pn**	**14 32 50.8**	**+1.3**
	14nm,0.3s,baz=198,slow=6.8,SNR=180						
AAK				S	**Sn**	**14 33 52.6**	**-2.6**
	5.4nm,0.3s,baz=328,slow=19,SNR=8.5						
AAK				LR	LR	14 35 12.6	
	comp=Z,38nm,18.6s,baz=174,slow=38						
AAK	**Ala-Archa**	**5.80**	**20**	P	**Pn**	**14 32 50.8**	**+1.3**
	SNR=27						
AAK	**Ala-Archa**	**5.80**	**20**	⇑P	**Pn**	**14 32 50.7**	**+1.2**
	57nm,0.6s						
AAK	**Ala-Archa**	**5.80**	**20**	PN	**Pn**	**14 32 50.5**	**+0.9**
AAK	**Ala-Archa**	**5.80**	**20**	Pn	**Pn**	**14 32 50.5**	**+0.9**
KBK	**Karagaybulak**	**5.95**	**23**	P	**Pn**	**14 32 52.9**	**+1.3**
	SNR=26						
KK31	**Karatay Array**	**5.98**	**351**	⇓P	**Pn**	**14 32 51.7**	**-0.1**
	75nm,0.7s,baz=176,slow=15,SNR=621						
KK31				S	**Sn**	**14 33 56.5**	**-2.8**
	139nm,0.6s,baz=165,slow=19,SNR=24						
KK31	**Karatay Array**	**5.98**	**351**	PN	**Pn**	**14 32 52.4**	**+0.6**
KK31	**Karatay Array**	**5.98**	**351**	Pn	**Pn**	**14 32 52.4**	**+0.6**
KKAR	**Karatay Array**	**5.98**	**351**	PN	**Pn**	**14 32 52.4**	**+0.6**
KKAR	**Karatay Array**	**5.98**	**351**	Pn	**Pn**	**14 32 52.3**	**+0.6**
KKAR	**Karatay Array**	**5.98**	**351**		**Pn**	**14 32 52.4**	**+0.6**
FRU1	**Bishkek**	**6.00**	**20**	PN	**Pn**	**14 32 53.4**	**+1.3**
FRU1	**Bishkek**	**6.00**	**20**		**Pn**	**14 32 53.4**	**+1.3**
ULHL	**Ulahol**	**6.08**	**33**	P	**Pn**	**14 32 53.9**	**+0.6**
	SNR=29						
DHRM	**DHARAMSHALA**	**6.16**	**142**	*e*P	**Pn**	**14 32 55.6**	**+1.2**
DHRM				*e*S	**Sn**	**14 34 01.6**	**-2.3**
DHRM				IAML		14 34 06.9	
	comp=N,930nm,0.2s						
DHRM				IAML		14 34 07.2	
	comp=E,1μm,0.4s						
CHMS	**Chumysh**	**6.21**	**20**	P	**Pn**	**14 32 55.8**	**+1.0**
	SNR=38						
USP	**Ospenovka**	**6.39**	**18**	P	**Pn**	**14 32 57.6**	**+0.3**
	SNR=22						
TKM2	**Tokmak 2**	**6.40**	**26**	P	**Pn**	**14 32 58.3**	**+0.7**
	SNR=41						
TKM2	**Tokmak 2**	**6.40**	**26**	⇓P	**Pn**	**14 32 58.2**	**+0.7**
	comp=E,62nm,0.8s						
TKM2				⇑S	**Sn**	**14 34 09.9**	**+0.3**
	comp=E,22nm,0.8s						
KST	**Kastek**	**6.64**	**27**	*e*P	**Pn**	**14 33 01.6**	**+0.9**
	comp=E,22nm,0.5s						
KST				*e*S	**Sn**	**14 34 11.6**	**-3.6**
	comp=E,3.8nm,1.1s						
MTBS	**Maitube**	**6.89**	**29**	*e*P	**Pn**	**14 33 05.1**	**+1.1**
	comp=E,66nm,0.7s						
MTBS				*e*S	**Sn**	**14 34 17.5**	**-3.6**
	comp=E,10nm,0.8s						
BHK	**Bhakra**	**6.90**	**145**	*e*S	**Sn**	**14 34 16.4**	**-5.1**
MDOK	**Medeo**	**7.17**	**32**	P	**Pn**	**14 33 08.5**	**+0.6**
	comp=E,26nm,0.7s						
SMLA	**Simla**	**7.50**	**142**	*e*P	**Pn**	**14 33 12.6**	**+0.5**
SMLA				*e*S	**Sn**	**14 34 29.7**	**-6.1**
SMLA				IAML		14 34 36.1	
	comp=E,359nm,0.3s						
SMLA				IAML		14 34 36.1	
	comp=N,215nm,0.3s						
HRA	**Herat**	**8.28**	**253**		**Pn**	**14 33 23.1**	**+0.3**
PDGK	**Podgornoye**	**8.47**	**41**	⇓P	**Pn**	**14 33 25.7**	**+0.6**
	comp=N,17nm,0.8s						
AYAN	**Aya Nagar**	**9.77**	**151**	*e*P	**Pn**	**14 33 42.0**	**-0.4**
KUDL	**Kundal**	**9.84**	**155**	*e*P	**Pn**	**14 33 42.8**	**-0.8**
KUDL				*e*S	**Sn**	**14 35 24.1**	**-8.3**
GEYT	**Alibeck**	**10.91**	**278**	P	**Pn**	**14 33 56.7**	**-1.0**
	comp=N,1.0nm,0.3s,baz=147,slow=10,SNR=12						
GEYT				S	Sn	14 35 51.1	-7.1
	comp=N,1.8nm,0.3s,baz=68,slow=27,SNR=5.6						
GYA0B	**ALIBECK ARRAY**	**10.91**	**278**	⇓P	**Pn**	**14 33 56.9**	**-0.7**
GYA0B				⇑S	**Sn**	**14 35 53.6**	**-4.5**
GYA0B	**ALIBECK ARRAY**	**10.91**	**278**	Pn	**Pn**	**14 33 57.4**	**-0.2**
OTUK	**Ortayu**	**11.04**	**2**	⇓P	**Pn**	**14 33 57.9**	**-1.5**
	comp=N,6.5nm,0.7s						
MAKZ	**Makanchi**	**12.20**	**35**	⇓P	**Pn**	**14 34 13.0**	**-1.5**
	comp=N,18nm,1.1s						
MAKZ	**Makanchi**	**12.20**	**35**	P	**Pn**	**14 34 13.7**	**-0.8**
MAKZ	**Makanchi**	**12.20**	**35**	Pn	**Pn**	**14 34 13.7**	**-0.8**
MK31	**Makanchi Array**	**12.33**	**36**	P	**Pn**	**14 34 15.6**	**-0.7**
	comp=N,5.9nm,1.0s,baz=206,slow=22,SNR=18						
MK31	**Makanchi Array**	**12.33**	**36**	P	**Pn**	**14 34 15.8**	**-0.4**
MK31	**Makanchi Array**	**12.33**	**36**		**Pn**	**14 34 15.8**	**-0.4**
MKAR	**Makanchi Array**	**12.33**	**36**	P	**Pn**	**14 34 15.4**	**-0.8**
	comp=N,0.3nm,0.3s,baz=224,slow=13,SNR=19						
MKAR	**Makanchi Array**	**12.33**	**36**	P	**Pn**	**14 34 16.2**	**0.0**
MKAR	**Makanchi Array**	**12.33**	**36**	Pn	**Pn**	**14 34 16.2**	**0.0**
PYUN	**Piuthan**	**13.06**	**131**	*e*P	**Pn**	**14 34 24.9**	**-1.0**
	comp=N,27nm,0.2s						
DANN	**Dangsing**	**13.35**	**128**	*e*P	**Pn**	**14 34 29.3**	**-0.5**
	comp=N,18nm,0.3s						
KOLN	**Koldanda**	**13.67**	**130**	*e*P	**Pn**	**14 34 33.0**	**-0.7**
	comp=N,9.5nm,0.3s						
WMQ	**Urumqi**	**13.75**	**56**	*e*P	**Pn**	**14 34 34.0**	**-0.5**
WMQ				pmax	pmax		
	comp=N,16nm,0.9s						
WMQ				pmax	pmax		
	comp=N,90nm,5.9s						
GKN	**Gorkha**	**14.15**	**127**	*e*P	**Pn**	**14 34 39.5**	**-0.3**
	comp=N,16nm,0.2s						
KURBB	**Kurchatov Arra**	**14.25**	**18**	P	**Pn**	**14 34 37.9**	**-2.7**
	comp=N,0.1nm,0.3s,baz=208,slow=12,SNR=12						
KURBB	**Kurchatov Arra**	**14.25**	**18**	⇑P	**Pn**	**14 34 40.6**	**-0.1**
	comp=N,5.2nm,0.7s						
KURK	**Kurchatov**	**14.36**	**18**	P	**Pn**	**14 34 37.9**	**-4.1**
KURK	**Kurchatov**	**14.36**	**18**	P	**Pn**	**14 34 37.9**	**-4.1**
KKN	**Kakani**	**14.71**	**126**	*e*P	**Pn**	**14 34 46.3**	**-0.6**
BHPL	**Bhopal**	**14.72**	**159**	*e*P	**P**	**14 34 48.8**	**-0.5**
BHPL				*i* x	x	14 34 51.6	
BHPL				*e*S	Sn	14 37 17.7	-12
DMN	**Daman**	**14.72**	**127**	*e*P	**Pn**	**14 34 47.1**	**0.0**
AB31	**Akbulak array**	**14.82**	**328**	⇑P	**Pn**	**14 34 46.0**	**-1.8**
	comp=N,1.1nm,0.3s,baz=139,slow=13,SNR=123						
AB31				⇑S	**Sn**	**14 37 24.5**	**-7.5**
	comp=N,5.1nm,0.5s,baz=9.6,slow=54,SNR=4.3						
ABKAR	**Akbulak array**	**14.82**	**328**	Pn	**Pn**	**14 34 48.3**	**+0.5**
ABKAR	**Akbulak array**	**14.82**	**328**		**Pn**	**14 34 48.2**	**+0.5**
PKIN	**Phulchoki**	**14.93**	**126**	*e*P	**Pn**	**14 34 49.4**	**-0.3**
	comp=N,10nm,0.3s						
PKI	**Pulchoki**	**14.94**	**126**	*e*P	**Pn**	**14 34 49.8**	**-0.1**
	comp=N,13nm,0.3s						
JIRN	**Jiri**	**15.39**	**124**	*e*P	**Pn**	**14 34 55.0**	**-0.5**
	comp=N,27nm,0.4s						
BVAR	**Borovoye Array**	**15.86**	**357**	P	**Pn**	**14 34 58.2**	**-2.4**
	comp=N,0.5nm,0.3s,baz=174,slow=15,SNR=16						
BVAR				S	Sn	14 37 45.4	-12
	comp=N,0.4nm,0.3s,baz=175,slow=25,SNR=5.3						
BRVK	**Borovoye**	**15.89**	**357**	⇑P	**Pn**	**14 35 01.0**	**-0.1**
	comp=N,6.7nm,0.9s						
BRVK	**Borovoye**	**15.89**	**357**	*ce*P	**Pn**	**14 35 01.2**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BRVK	**Borovoye**	**15.89**	**357**	Pn	**Pn**	**14 34 59.5**	**-1.6**
BRVK				IAmb	IAmb	14 35 02.4	
	comp=Z,7.4nm,0.9s						
RAMN	**Ramite**	**16.14**	**125**	*e*P	**Pn**	**14 35 03.9**	**-0.7**
	comp=Z,12nm,0.3s						
AKTO	**Aktyubinsk**	**16.53**	**328**	P	**Pn**	**14 35 08.6**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=134,slow=12,SNR=16						
AKTO				S	S	14 37 59.9	-13
	comp=Z,0.2nm,0.3s,baz=336,slow=20,SNR=4.4						
AKTO	**Aktyubinsk**	**16.53**	**328**	⇑P	**Pn**	**14 35 06.7**	**-2.2**
	comp=Z,5.7nm,0.8s						
AKTO				⇑S	**S**	**14 38 05.6**	**-7.4**
	comp=Z,14nm,0.8s						
TAPN	**Taplejung**	**16.62**	**122**	*e*P	**P**	**14 35 10.4**	**0.0**
ODAN	**Odare**	**16.72**	**124**	*e*P	**Pn**	**14 35 12.5**	**+0.9**
DGZ	**Jazzator, Alta**	**16.82**	**37**	*c i*P	**Pn**	**14 35 12.1**	**-0.5**
ZAA0	**Zalesovo Array**	**19.00**	**24**	⇑P	**P**	**14 35 35.9**	**-0.1**
	comp=Z,1.8nm,0.9s						
ZAA0	**Zalesovo Array**	**19.00**	**24**		**P**	**14 35 36.7**	**+0.7**
ZAA0				IAmb	IAmb	14 35 37.6	
	comp=Z,8.7nm,0.8s						
ZALV	**Zalesovo Beam**	**19.00**	**24**	P	**P**	**14 35 36.6**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=224,slow=10,SNR=34						
ZALV	**Zalesovo Beam**	**19.00**	**24**	*i* P	**Pn**	**14 35 37.0**	**-1.2**
ZALV				pmax	pmax		
	comp=Z,6.0nm,0.5s						
SVE	**Sverdlovsk**	**21.01**	**343**	*e*P	**P**	**14 35 58.6**	**+1.1**
ARU	**Arti**	**21.20**	**339**	P	**P**	**14 36 00.8**	**+1.2**
	comp=Z,0.9nm,0.4s,baz=172,slow=11,SNR=5.2						
ARU	**Arti**	**21.20**	**339**	*c i*P	**P**	**14 36 00.6**	**+1.0**
ARU						14 36 34.5	
ARU				S	**S**	**14 39 49.3**	**+2.5**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ARU	**Arti**	**21.20**	**339**	P	**P**	**14 36 00.4**	**+0.9**
ARU				IAmb	IAmb	14 36 01.5	
	comp=Z,3.5nm,0.7s						
GTA	**Gaotai**	**22.04**	**76**	⇑P	**P**	**14 36 12.0**	**+3.3**
GTA				pP	pP	14 36 38.0	+2.2
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BELG	**Belogornoye**	**22.78**	**320**	*i* P	**P**	**14 36 16.2**	**+0.7**
BELG				pmax	pmax		
	comp=Z,3.0nm,1.4s						
SHA1	**Shidzhatmaz**	**23.06**	**296**	*i* P	**P**	**14 36 20.2**	**+1.6**
SONM	**Songino Array**	**27.39**	**56**	P	**P**	**14 36 59.1**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=251,slow=8.7,SNR=4.0						
OBN	**Obninsk**	**29.85**	**318**	*e*P	**P**	**14 37 20.4**	**+1.3**
OBN				*e*		14 38 23.3	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRTR	**Keskin Array B**	**29.86**	**287**	P	**P**	**14 37 21.1**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=95,slow=8.1,SNR=5.2						
BRTR	**Keskin Array B**	**29.86**	**287**	*ce*P	**P**	**14 37 22.6**	**+3.0**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**30.90**	**71**	*e*P	**P**	**14 37 31.3**	**+2.6**
HHC				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC				pmax	pmax		
	comp=Z,180nm,5.2s						
AKASG	**Malin Array Be**	**33.03**	**308**	P	**P**	**14 37 49.0**	**+1.9**
	comp=Z,1.0nm,0.6s,baz=102,slow=9.6,SNR=5.3						
AKASG	**Malin Array Be**	**33.03**	**308**	*ce*P	**P**	**14 37 49.5**	**+2.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**33.03**	**308**	IAmb	IAmb	14 37 50.3	
	comp=Z,0.6nm,0.7s						
AKBB	**Malin Array Si**	**33.03**	**308**	P	**P**	**14 37 47.6**	**+0.5**
AKBB				pmax	pmax		
	comp=Z,2.0nm,1.0s						
AKBB	**Malin Array Si**	**33.03**	**308**	P	**P**	**14 37 47.6**	**+0.5**
AKBB				IAmb	IAmb	14 37 49.5	
	comp=Z,2.3nm,0.9s						
BURAR	**Bucovina Array**	**35.47**	**302**	P	**P**	**14 38 09.9**	**+1.7**
FINES	**FINESS Array B**	**37.28**	**325**	P	**P**	**14 38 25.0**	**+1.8**
	comp=Z,1.3nm,1.0s,baz=111,slow=10,SNR=3.4						
FINES	**FINESS Array B**	**37.28**	**325**	*i* P	**P**	**14 38 25.5**	**+2.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KEV	**Kevo**	**40.40**	**338**	P	**P**	**14 38 50.6**	**+1.5**
KEV				pmax	pmax		
	comp=Z,32nm,1.3s						
KEV	**Kevo**	**40.40**	**338**	P	**P**	**14 38 50.6**	**+1.5**
ARCES	**ARCESS Array B**	**40.76**	**337**	P	**P**	**14 38 53.6**	**+1.6**
	comp=Z,1.5nm,0.8s,baz=92,slow=6.6,SNR=4.0						
GSI	**Gunungsitoli**	**42.89**	**140**	P	**P**	**14 39 12.2**	**+2.2**
NB2	**NORSAR Subarra**	**44.23**	**323**	P	**P**	**14 39 21.4**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=92,slow=7.9						
NOA	**NORSAR Array B**	**44.23**	**323**	P	**P**	**14 39 21.4**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=92,slow=7.7,SNR=6.0						
NC204	**NORSAR Array S**	**44.46**	**323**	P	**P**	**14 39 23.3**	**+1.2**
NC204				IAmb	IAmb	14 39 44.4	
	comp=Z,13nm,1.2s						
KMBO	**Kilima Mbogo**	**49.79**	**228**	*i* P	**P**	**14 40 05.5**	**+1.3**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BILL	**Bilibino**	**57.69**	**26**	*e*P	**P**	**14 41 03.5**	**+2.9**
BILL				*e*		14 43 17.2	
BILL				*e*PPP	PPP	14 44 32.3	
BILL				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ESDC	**Sonseca Array**	**57.72**	**298**	P	**P**	**14 41 02.7**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=59,slow=6.5,SNR=6.4						
ESDC	**Sonseca Array**	**57.72**	**298**	IAmb	IAmb	14 41 10.2	
	comp=Z,2.1nm,1.4s						
TORD	**Torodi Ar. Bea**	**66.40**	**269**	P	**P**	**14 41 59.5**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=48,slow=5.5,SNR=4.6						
TORD	**Torodi Ar. Bea**	**66.40**	**269**	P	**P**	**14 41 59.7**	**+0.2**
WRA	**Warramunga Arr**	**81.80**	**123**	P	**P**	**14 43 28.1**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=322,slow=5.2,SNR=1.2						
STKA	**Stephens Creek**	**94.67**	**127**	P	**P**	**14 44 28.2**	**-2.2**
	comp=Z,1.2nm,0.6s,baz=332,slow=17,SNR=3.9						

*NEIC **27** 14:32:56.7±2.4, 30.°727S×0.°010×72.°68W±0.°05, h10km±1km, mb4.4/10, Mwr3.8/47, ML3.7(GUC), Error ellipse: s-maj=7.2km s-min=2.9km az=89.0*
*IDC **27** 14:32:56.5±0.9, 30.°76S×72.°62W, h0km, mb4.1/3, mb1 4.3/6, mb1mx3.9/26, mbtmp4.1/6, ML4.0/3, MS3.0/5, Ms1 3.0/5, ms1mx2.8/19, Error ellipse: s-maj=34.1km s-min=28.9km az=104.0*
*NEIC **27** 14:32:57.5, 30.°68S×72.°68W, h3km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=6.76; $M_{\theta\theta}$0.42; $M_{\phi\phi}$6.34; $M_{r\theta}$0.06; $M_{\theta\phi}$1.11; $M_{\phi r}$0.65; Fault plane solution: M_o6.69000×10^{14} NP1:φs189.84000°, δ47.78000°, λ-90.60000°. NP2:φs10.73000°, δ42.23000°, λ-89.34000°. Principal axes: T 6.5737, Plg3.0000°, Azm280.0000°; N 0.2210, Plg0.0000°, Azm190.0000°; P -6.7947, Plg87.0000°, Azm91.0000°;*
*GUC **27** 14:32:59.3±0.7, 30.°67S×72.°53W, h40km±5km, ML3.7*
ISC 27 14:32:57.2±3.0, **30.°68S**±0.°04×**72.°64W**±0.°06, **h13**km±19km, **n82**, σ1°**60**/92, **mb4.3**/6, **4C**, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.86**	**90**	⇑*i*P	**Pb**	**14 33 14.2**	**+0.1**
CO06				*e*S	**Sb**	**14 33 24.7**	**-0.9**
CO06				IAML		14 33 26.6	
	comp=N,3μm,0.6s						
CO06	**Fray Jorge**	**0.86**	**90**		**Pb**	**14 33 14.2**	**+0.1**
CO06				Sg	**Sb**	**14 33 24.9**	**-0.7**
CO05	**La Serena**	**1.42**	**58**	*e*P	**Pn**	**14 33 22.6**	**-0.2**
CO05				*e*S	**Sn**	**14 33 40.1**	**-1.3**
CO05				IAML		14 33 41.4	
	comp=N,2μm,0.3s						
CO05	**La Serena**	**1.42**	**58**	Pn	**Pn**	**14 33 22.5**	**-0.2**
CO05				Sn	**Sn**	**14 33 40.2**	**-1.2**
CO02	**Combarbal**	**1.50**	**111**	⇑*i*P	**Pn**	**14 33 23.8**	**-0.2**
CO02				*e*S	**Sn**	**14 33 42.6**	**-0.9**
CO02				IAML		14 33 45.0	
	comp=N,3μm,0.2s						
CO02	**Combarbal**	**1.50**	**111**		**Pn**	**14 33 23.8**	**-0.2**
CO02				Sn	**Sn**	**14 33 42.6**	**-0.9**
GO04	**Tololo Observa**	**1.66**	**73**	*i* P	**Pn**	**14 33 26.7**	**+0.3**
GO04				*i* S	**Sn**	**14 33 46.6**	**-1.1**
GO04	**Tololo Observa**	**1.66**	**73**		**Pn**	**14 33 26.5**	**+0.2**
CO03	**El Pedregal**	**1.68**	**96**	*e*P	**Pn**	**14 33 26.7**	**+0.2**
CO03				*i* S	**Sn**	**14 33 47.6**	**-0.4**
CO03				IAML		14 33 52.1	
	comp=E,909nm,0.5s						
CO03	**El Pedregal**	**1.68**	**96**	Pn	**Pn**	**14 33 26.4**	**0.0**
VA06	**Catapilco**	**2.20**	**149**	⇑*i*P	**Pn**	**14 33 32.8**	**-0.7**
VA06				IAML		14 34 04.1	
	comp=N,459nm,0.6s						
LCO	**Las Campanas**	**2.36**	**46**	*e*P	**Pn**	**14 33 35.8**	**-0.1**
LCO	**Las Campanas**	**2.36**	**46**	Pn	**Pn**	**14 33 36.1**	**+0.2**
VA01	**Torpederas**	**2.49**	**161**	*e*P	**Pn**	**14 33 36.0**	**-1.4**
VA01				*i* S	**Sn**	**14 34 03.9**	**-3.8**
VA01	**Torpederas**	**2.49**	**161**	Pn	**Pn**	**14 33 36.2**	**-1.2**
ROCH	**El Roble**	**2.67**	**149**	*e*P	**Pn**	**14 33 39.7**	**-0.5**
ROCH				IAML		14 34 14.6	
	comp=E,203nm,0.6s						
VA03	**San Esteban**	**2.74**	**140**	⇑*i*P	**Pn**	**14 33 41.4**	**+0.4**
VA03				IAML		14 34 17.0	
	comp=E,442nm,0.3s						
VA03	**San Esteban**	**2.74**	**140**		**Pn**	**14 33 40.4**	**-0.6**
AC04	**Llanos de Chal**	**2.81**	**29**	*e*P	**Pn**	**14 33 41.0**	**-1.0**
AC04				*i* S	**Sn**	**14 34 13.1**	**-2.6**
AC04				IAML		14 34 15.0	
	comp=N,238nm,0.4s						
AC04	**Llanos de Chal**	**2.81**	**29**	Pn	**Pn**	**14 33 40.9**	**-1.0**
VA05	**Santo Domingo**	**3.10**	**164**	*e*P	**Pn**	**14 33 44.8**	**-1.0**
VA05				IAML		14 34 20.6	
	comp=E,416nm,0.3s						
VA05	**Santo Domingo**	**3.10**	**164**		**Pn**	**14 33 44.6**	**-1.2**
MT05	**Renca**	**3.15**	**150**	IAML		**14 34 29.2**	
	comp=E,298nm,0.5s						
MT05	**Renca**	**3.15**	**150**	Pn	**Pn**	**14 33 46.4**	**-0.3**
MT01	**Popeta**	**3.39**	**160**	*e*P	**Pn**	**14 33 49.0**	**-0.9**
MT01				IAML		14 34 27.3	
	comp=N,114nm,0.8s						
MT01	**Popeta**	**3.39**	**160**		**Pn**	**14 33 48.8**	**-1.0**
MT09	**Talagante**	**3.39**	**156**	*e*P	**Pn**	**14 33 50.1**	**+0.1**
MT09				IAML		14 34 31.4	
	comp=N,188nm,0.2s						
MT09	**Talagante**	**3.39**	**156**	Pn	**Pn**	**14 33 49.4**	**-0.6**
ZON	**Zonda**	**3.50**	**105**	Pn	**Pn**	**14 33 54.3**	**+2.8**
GO03	**Copiap**	**3.72**	**35**	*e*P	**Pn**	**14 33 54.3**	**-0.1**
GO03	**Copiap**	**3.72**	**35**	Pn	**Pn**	**14 33 54.1**	**-0.3**
BO03	**Pichilemu**	**3.85**	**172**	*e*P	**Pn**	**14 33 54.9**	**-1.3**
BO03				*i* S	**Sn**	**14 34 34.4**	**-6.9**
BO01	**Tunca**	**3.93**	**161**	*e*P	**Pn**	**14 33 57.4**	**+0.1**
BO01				*i* S	**Sn**	**14 34 39.5**	**-3.8**
BO01	**Tunca**	**3.93**	**161**	Pn	**Pn**	**14 33 55.7**	**-1.6**
GO05	**Huala**	**4.36**	**172**		**Pn**	**14 34 01.8**	**-1.5**
BO02	**Sierra Bellavi**	**4.39**	**160**		**Pn**	**14 34 03.3**	**-0.4**
AC02	**Maricunga**	**4.91**	**40**		**Pn**	**14 34 12.1**	**+0.9**
PB14	**IPOC Station P**	**6.34**	**19**	Pn	**Pn**	**14 34 27.6**	**-3.1**
PB15	**IPOC Station P**	**7.95**	**22**	Pn	**Pn**	**14 34 51.0**	**-1.8**
LC01	**Cunco**	**8.23**	**176**	Pn	**Pn**	**14 34 54.4**	**-2.0**
LVC	**Limon Verde**	**8.70**	**23**	Pn	**Pn**	**14 35 00.8**	**-2.3**
	comp=N,0.4nm,0.3s,baz=154,slow=6.0,SNR=9.3						
LVC				Sn	**Sn**	**14 36 37.2**	**-4.0**
	comp=N,0.9nm,0.3s,baz=18,slow=19,SNR=2.0						
LVC				LR	LR	14 38 05.2	
	comp=N,69nm,19.2s,baz=179,slow=35						
LVC	**Limon Verde**	**8.70**	**23**	Pn	**Pn**	**14 35 01.3**	**-1.8**
LVC	**Limon Verde**	**8.70**	**23**		**Sn**	**14 36 37.2**	**-4.0**
LR03	**Panguipulli**	**8.94**	**179**	Pn	**Pn**	**14 35 04.2**	**-1.9**
PB07	**IPOC Station P**	**9.25**	**16**	Pn	**Pn**	**14 35 09.1**	**-1.4**
PB09	**IPOC Station P**	**9.35**	**20**	Pn	**Pn**	**14 35 11.7**	**-0.3**
PLCA	**Paso Flores**	**10.18**	**171**	Pn	**Pn**	**14 35 23.4**	**+0.3**
	comp=N,0.3nm,0.3s,baz=340,slow=13,SNR=10						
PLCA				LR	LR	14 38 39.7	
	comp=N,28nm,18.4s,baz=348,slow=34						
PLCA	**Paso Flores**	**10.18**	**171**	Pn	**Pn**	**14 35 23.4**	**+0.3**
TRQA	**Tornquist**	**11.47**	**133**	Pn	**Pn**	**14 35 41.3**	**+0.5**
CPUP	**Villa Florida**	**14.13**	**76**	LR	LR	14 42 07.2	
	comp=N,151nm,19.9s,baz=244,slow=39						
CPUP	**Villa Florida**	**14.13**	**76**	P	**P**	**14 36 25.6**	**+0.7**
LPAZ	**La Paz**	**14.90**	**17**	Pn	**Pn**	**14 36 30.4**	**+2.1**
	comp=N,0.4nm,0.3s,baz=189,slow=8.0,SNR=25						
LPAZ	**La Paz**	**14.90**	**17**	Pn	**Pn**	**14 36 30.6**	**+2.3**
SIV	**San Ignacio**	**18.04**	**38**	P	**Pn**	**14 37 08.8**	**+0.9**
	comp=N,0.3nm,0.3s,baz=236,slow=12,SNR=23						
SIV	**San Ignacio**	**18.04**	**38**	P	**Pn**	**14 37 08.8**	**+0.9**
AQDB	**Aquidauana**	**18.32**	**60**	P	**P**	**14 37 12.1**	**+0.8**
NNA	**Nana**	**19.00**	**347**	LR	LR	14 42 20.8	
	comp=N,34nm,21.1s,baz=188,slow=30						
SAML	**Samuel**	**23.35**	**24**	P	**P**	**14

POKR	Poker Plat Res	6.99	106			Pn	14 45 43.5	+0.6
TRF	Thorofare Moun	7.03	123	Pn		Pn	14 45 45.3	+1.5
CCB	Clear Creek Bu	7.11	110			Pn	14 45 45.6	+1.0
WRH	Wood River Hil	7.11	112	Pn		Pn	14 45 45.7	+1.1
M19K	Big River Lodg	7.14	143	Pn		Pn	14 45 45.7	+0.5
FYU	Fort Yukon	7.20	92	Pn		Pn	14 45 45.9	+0.1
BMAR	Burnt Mountain	7.21	85	Pn		Pn	14 45 47.5	+1.5
MCK	McKinley	7.28	118	Pn		Pn	14 45 48.2	+1.2
IL31		7.37	107			Pn	14 45 49.2	+1.1
ILAR	Eielson Array	7.37	107	Pn		Pn	14 45 48.9	+0.7
	comp=N,1.1nm,0.3s,baz=304,slow=14,SNR=62							
ILAR				Sn		Sn	14 47 08.4	-3.3
	baz=306,slow=24,SNR=3.4							
ILAR				Lg		Lg	14 47 48.0	
	baz=307,slow=32,SNR=3.2							
ILAR	Eielson Array	7.37	107			Pn	14 45 49.2	+1.0
PRP	Porcupine Dome	7.50	100	Pn		Pn	14 45 50.9	+0.8
RND	Reindeer	7.53	120	Pn		Pn	14 45 50.7	+0.2
HDA	Harding Lake	7.55	110			Pn	14 45 51.6	+0.9
SVW2	Sparrevohn	7.62	150	Pn		Pn	14 45 52.1	+0.4
SKT	Skwentna	7.80	134	Pn		Pn	14 45 55.5	+1.4
N19K	Bonanza Creek	8.10	147	Pn		Pn	14 45 59.1	+0.8
DHY	Denali Highway	8.24	118			Pn	14 46 02.9	+2.5
SUA	Susitna One	8.44	134	Pn		Pn	14 46 05.7	+2.7
RIDG	Independent Ri	8.69	110	Pn		Pn	14 46 07.3	+1.0
0I8K	Koktuh Hills	8.85	152	Pn		Pn	14 46 09.2	+0.6
SCRK	Sand Creek	8.86	107			Pn	14 46 10.8	+2.1
SML	Sawmill	8.86	126	Pn		Pn	14 46 10.7	+2.0
DOT	Dot Lake	9.02	109	Pn		Pn	14 46 11.8	+0.9
SCM	Sheep Creek Mo	9.15	124	Pn		Pn	14 46 13.5	+0.8
K27K	Chicken	9.53	104			Pn	14 46 19.4	+1.7
L27K	Beaver Creek,	10.18	108	Pn		Pn	14 46 27.8	+1.1
BCAR	Beaver Creek A	10.20	108	Pn		Pn	14 46 28.8	+1.8
EPYK	Eagle Plains	10.48	86	Pn		Pn	14 46 32.1	+1.2
INK	Inuvik	11.13	74	Pn		Pn	14 46 40.3	+0.7
	comp=N,0.1nm,0.3s,baz=270,slow=6.1,SNR=1.5							
INK				Sn		Sn	14 48 38.2	-5.6
	comp=N,0.0nm,0.3s,baz=147,slow=17,SNR=1.5							
INK	Inuvik	11.13	74			Pn	14 46 40.0	+0.4
LOGN	Logan Glacier	11.97	115	Pn		Pn	14 46 52.8	+1.4
YAH	Yahtse	12.06	118	Pn		Pn	14 46 55.1	+2.5
FINES	FINESS Array B	50.77	354	P		P	14 53 03.6	+3.4
	comp=N,1.5nm,0.9s,baz=1.1,slow=7.0,SNR=4.2							
HHC	Hu-ho-hao-te	51.07	284	*eP*		P	14 52 59.0	-4.0
TXAR	Lajitas Array	51.88	106	P		P	14 53 11.5	+2.4
	comp=N,0.4nm,0.9s,baz=329,slow=6.3,SNR=3.4							

IDC ***27*** *14:46:20.5±0.5, 13°.07N×51°.15E, h0km, mb4.2/29, mb1 4.3/32, mb1mx4.2/59, mbtmp4.2/32, ML3.9/3, MS3.8/28, Ms1 3.8/28, ms1mx3.8/40, Error ellipse: s-maj=13.8km s-min=11.7km az=127.0*

OMAN ***27*** *14:46:21.5±0.3, 13°.23N×51°.19E, h10km, ml4.1/3, ms4.2/8, Error ellipse: s-maj=18.8km s-min=7.9km az=321.0*

GCMT ***27*** *14:46:22.7±0.3, 13°.27N±0°.02×50°.85E±0°.03, h14km±1km, MW4.8/75, Moment Tensor Solution. s19,c22; s75,c98; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.65±.13; Mθθ 1.17±.09; Mϕϕ 0.47±.09; Mrθ 0.44±.22; Mrϕ -1.30±.07; Mθϕ 1.12±.27; Best double couple: M=2.29600×10^16 NP1:ϕs=280.00000°, δ48.00000°, λ-134.00000°. NP2: ϕs=156.00000°, δ58.00000°, λ-52.00000°. Principal axes: T 2.2020, Plg6.0000°, Azm220.0000°; N 0.1850, Plg31.0000°, Azm313.0000°; P -2.3900, Plg58.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***27*** *14:46:22.7±1.5, 13°.0N±0°.1×51°.23E±0°.07, h10km±1km, mb4.7/57 Error ellipse: s-maj=17.6km s-min=11.0km az=175.0*

ISC 27 14:46:23.0±0.4, 13°.11N±0°.06×51°.20E±0°.06, h16km, n210, σ1ş29/194, mb4.7/97, MS3.8/28, 8C-1D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SOCY	Socotra	2.87	108			Pn	14 47 05.5	-2.6
ABTO	Aybut	4.68	25	P		Pn	14 47 30.3	-2.8
	SNR=16							
DMTO	DMTO	5.83	38	P		Pn	14 47 47.8	-1.1
	SNR=18							
DOK	Doka	6.16	27	S		Sn	14 48 58.2	-5.3
ATD	Arta Tunnel	8.31	260	Pn		Pn	14 48 21.2	-1.8
	11nm,0.3s,baz=340,slow=5.3,SNR=23							
ATD				LR		LR	14 50 47.1	
	comp=Z,2μm,19.6s,baz=83,slow=32							
ATD	Arta Tunnel	8.31	260			Pn	14 48 21.5	-1.6
BSY	Bisya	11.15	30	P		Pn	14 48 60.0	-1.9
JMDO	Jabal Madar	11.31	35	P		Pn	14 49 03.8	-0.3
ALNE	Al Ain	11.71	21	Pn		Pn	14 49 08.7	-0.8
HOQ	Hoqain	11.92	28	P		Pn	14 49 13.2	+0.8
ASUD	Al Ashush, Dub	12.10	18	Pn		Pn	14 49 11.4	-3.4
FAQ	Al Faqa, Dubai	12.30	19	Pn		Pn	14 49 13.6	-3.9
WSAR	Wadi Sarin	12.30	34	Pn		Pn	14 49 16.1	-1.5
	0.4nm,0.3s,baz=236,slow=13,SNR=6.0							
WSAR				Sn		Sn	14 51 23.8	-11
	0.1nm,0.3s,baz=196,slow=19,SNR=1.1							
WSAR				LR		LR	14 53 42.1	
	comp=Z,2μm,20.5s,baz=237,slow=36							
ASHO	Ashiyiah	12.39	21	Pn		Pn	14 49 17.4	-1.5
UOSS	Minazif	12.69	21	Pn		Pn	14 49 18.3	-4.5
UOSS	Minazif	12.69	21	Pn		Pn	14 49 21.5	-1.4
MSFE	Esma-Masafi	13.05	20	Pn		Pn	14 49 26.1	-1.8
BANOM	Banah	13.62	20	Pn		Pn	14 49 33.3	-2.4
SHME	Shamm	13.69	19	Pn		Pn	14 49 33.9	-2.6
SHME	Shamm	13.69	19	P		Pn	14 49 34.0	-2.6
	SNR=16							
LODK	Lodwar	18.38	240	P		P	14 50 36.8	-0.6
LODK	Lodwar	18.38	240	P		Pn	14 50 37.8	+0.3
	SNR=13							
KMBO	Kilima Mbogo	19.79	225	P		P	14 50 51.3	-1.7
	0.1nm,0.3s,baz=38,slow=14,SNR=5.3							
KMBO				LR		LR	14 58 23.3	
	comp=Z,806nm,19.2s,baz=90,slow=37							
KMBO	Kilima Mbogo	19.79	225	P		P	14 50 51.9	-1.1
KIBK	Kibwezi	20.15	221			P	14 50 56.4	-0.5
KIBK				IAmb		IAmb	14 51 03.9	
	comp=Z,28nm,1.3s							
ASF	Jabal al Asfar	23.07	328	P		P	14 51 28.3	+0.3
	comp=Z,3.7nm,0.8s,baz=151,slow=2.1,SNR=6.4							
HRA	Herat	23.44	23	P		P	14 51 32.4	+0.5
HRA				IAmb		IAmb	14 51 40.8	
	comp=Z,52nm,1.5s							
GEYT	Alibeck	25.48	13	P		P	14 51 52.1	+1.6
	comp=Z,265nm,0.7s,baz=202,slow=21,SNR=11							
GEYT				LR		LR	15 03 41.8	
	comp=Z,982nm,18.9s,baz=150,slow=41							
GYA0B	ALIBECK ARRAY	25.48	13	P		P	14 51 51.4	+0.9
HYB	Hyderabad	26.72	77	*i* PKP		P	14 52 03.0	+1.1
KBL	Kabul	26.78	34	P		P	14 52 03.7	+1.2
KBL				IAmb		IAmb	14 52 15.2	
	comp=Z,18nm,1.1s							
CSS	Mathiatis	27.11	326	P		P	14 52 06.5	+1.2
CSS				IAmb		IAmb	14 52 29.8	
	comp=Z,11nm,1.0s							
GNI	Garni	27.53	349	P		P	14 52 10.1	+0.9
	comp=Z,5.6nm,0.5s,baz=207,slow=9.0,SNR=1.6							
GNI	Garni	27.53	349	P		P	14 52 10.4	+1.3
GNI				IAmb		IAmb	14 52 17.4	
	comp=Z,20nm,1.0s							
BNN	Bunyan	29.03	335	P		P	14 52 24.0	+1.5
CHGR	Chuyangaron	30.02	29	P		P	14 52 30.2	-1.1
CHGR				IAmb		IAmb	14 52 39.4	
	comp=Z,15nm,0.8s							
ONI	Oni	30.14	349	P		P	14 52 31.1	-1.0
ONI				IAmb		IAmb	14 52 40.0	
	comp=Z,9.9nm,1.5s							
ELL	Elmali	30.31	325	P		P	14 52 34.8	+1.0
BRTR	Keskin Array B	30.71	333	P		P	14 52 37.9	+0.5
	comp=Z,1.3nm,1.0s,baz=153,slow=8.3,SNR=6.8							
BRTR				LR		LR	15 05 13.8	
	comp=Z,97nm,20.1s,baz=145,slow=37							
BRTR	Keskin Array B	30.71	333	P		P	14 52 37.3	-0.1
BR131	Keskin Array S	30.71	333	P		P	14 52 37.0	-0.4
BR131				IAmb		IAmb	14 52 45.0	
	comp=Z,8.2nm,1.1s							
ISP	Isparta	30.75	327	P		P	14 52 38.6	+0.9
ISP				IAmb		IAmb	14 52 43.9	
	comp=Z,12nm,1.1s							
BR231	Keskin MP Arra	31.19	332	P		P	14 52 42.2	+0.6
ANTO	Ankara	31.20	332	P		P	14 52 42.2	+0.6
KBZ	Khabaz	31.34	348	P		P	14 52 42.9	+0.2
	comp=Z,1.4nm,0.4s,baz=156,slow=11,SNR=5.1							
KBZ				LR		LR	15 07 35.1	
	comp=Z,379nm,20.0s,baz=158,slow=41							
KIV	Kislovodsk	31.60	348	P		P	14 52 46.1	+1.0
KIV				IAmb		IAmb	14 52 56.2	
	comp=Z,8.3nm,1.0s							
PYUN	Piuthan	33.15	58	*eP*		P	14 53 00.7	+1.6
	comp=Z,38nm,0.8s							
KOLN	Koldanda	33.55	59	*eP*		P	14 53 03.8	+1.2
	comp=Z,31nm,1.0s							
DANN	Dangsing	33.88	58	*eP*		P	14 53 06.8	+1.3
	comp=Z,34nm,0.8s							
KSH	Kashi	34.20	35	P		P	14 53 06.3	-1.6
KSH				pP		pP	14 53 10.3	-1.7
KSH				sP		sP	14 53 13.3	-0.3
KSH				pmax		pmax		
	comp=Z,4.0nm,1.0s							
KK31	Karatay Array	34.22	26	P		P	14 53 08.7	+0.7
KKAR	Karatay Array	34.22	26	P		P	14 53 07.9	-0.1
KKAR	Karatay Array	34.22	26	P		P	14 53 08.4	+0.4
KKAR				IAmb		IAmb	14 53 16.9	
	comp=Z,4.5nm,0.9s							
GKN	Gorkha	34.49	59	*eP*		P	14 53 11.4	+0.7
DMN	Daman	34.77	60	*eP*		P	14 53 14.2	+1.0
KKN	Kakani	34.97	60	*eP*		P	14 53 15.9	+1.0
	comp=Z,29nm,0.7s							
PKIN	Phulchoki	35.00	60	*eP*		P	14 53 16.0	+0.8
PKI	Pulchoki	35.01	60	*eP*		P	14 53 15.8	+0.4
VOI	Vohitsoka	35.06	187	P		P	14 53 14.8	-0.7
ALN	Alexandroupoli	35.37	326	P		P	14 53 19.5	+1.7
ALN				IAmb		IAmb	14 53 29.0	
	comp=Z,11nm,1.2s							
AAK	Ala-Archa	35.67	30	P		P	14 53 21.0	+0.4
	comp=Z,2.4nm,0.8s,baz=216,slow=8.7,SNR=2.8							
AAK	Ala-Archa	35.67	30	IAmb		IAmb	14 53 29.5	
	comp=Z,6.0nm,1.0s							
JIRN	Jiri	35.70	61	*eP*		P	14 53 22.0	+0.6
LSZ	Lusaka	36.25	220	P		P	14 53 25.6	-0.2
AGG	Agios Georgios	36.30	321	P		P	14 53 28.0	+2.0
AGG				IAmb		IAmb	14 53 44.6	
	comp=Z,22nm,1.3s							
ABKAR	Akbulak array	36.76	10	P		P	14 53 30.2	+0.5
ABKAR	Akbulak array	36.76	10	P		P	14 53 30.1	+0.5
ABKAR				IAmb		IAmb	14 53 37.4	
	comp=Z,18nm,1.1s							
VTS	Vitosha	38.08	326	⇑P		P	14 53 42.3	+1.2
VTS	Vitosha	38.08	326	P		P	14 53 42.1	+1.0
VRI	Vrincioaia	38.67	332	⇑P		P	14 53 48.5	+2.6
MLR	Muntele Rosu	38.74	331	P		P	14 53 48.5	+1.8
ARR	Arges	39.28	330	⇓P		P	14 53 51.8	+0.7
BIZ	Bicaz	39.77	333	⇑P		P	14 53 57.3	+2.2
MATP	Matopo	40.11	214	P		P	14 53 57.1	-1.2
	comp=Z,1.1nm,0.3s,baz=15,slow=4.9,SNR=2.8							
SHL	Shillong	40.18	66	P		P	14 53 58.5	-0.5
GZR	Gura Zlata	40.22	329	⇑P		P	14 54 00.2	+1.3
BURAR	Bucovina Array	40.67	333	P		P	14 54 04.6	+2.0
DRGR		41.23	330	⇑P		P	14 54 08.5	+1.2
AKASG	Malin Array Be	41.55	339	P		P	14 54 09.2	-0.4
	comp=Z,1.0nm,0.7s,baz=150,slow=7.4,SNR=16							
AKASG				LR		LR	15 12 45.9	
	comp=Z,74nm,21.8s,baz=160,slow=38							
AKBB	Malin Array Si	41.55	339	P		P	14 54 09.4	-0.3
AKBB				IAmb		IAmb	14 54 15.7	
	comp=Z,10nm,1.1s							
MAKZ	Makanchi	42.38	31	P		P	14 54 16.9	+0.4
MAKZ				IAmb		IAmb	14 54 24.0	
	comp=Z,13nm,1.1s							
MK31	Makanchi Array	42.52	32	P		P	14 54 18.3	+0.5
MKAR	Makanchi Array	42.52	32	P		P	14 54 18.1	+0.3
	comp=Z,1.4nm,0.5s,baz=219,slow=9.1,SNR=16							
MKAR				LR		LR	15 14 10.4	
	comp=Z,187nm,21.1s,baz=231,slow=39							
BRVK	Borovoye	42.66	17	P		P	14 54 19.1	+0.4
BVAR	Borovoye Array	42.66	17	P		P	14 54 19.1	+0.4
	comp=Z,1.2nm,0.6s,baz=202,slow=11,SNR=10							
MORH	Mrgy, Hungar	42.92	327	⇑P		P	14 54 22.5	+1.6
MORH	Mrgy, Hungar	42.92	327	*eP*		P	14 54 26.0	+5.1
KOVH	Kovagotottos	43.13	326	*eP*		P	14 54 28.6	+5.9
CRVS	Cervenica-Dubn	43.32	332	*eP*		P	14 54 29.1	+4.9
KURBB	Kurchatov Arra	43.53	25	P		P	14 54 26.3	+0.5
	comp=Z,1.7nm,0.8s,baz=228,slow=8.0,SNR=15							
KURBB				PcP		PcP	14 56 14.0	+0.5
	comp=Z,0.2nm,0.3s,baz=224,slow=5.2,SNR=2.1							
ARU	Arti	43.60	6	P		P	14 54 26.5	+0.2
	comp=Z,0.4nm,0.3s,baz=58,slow=13,SNR=3.0							
WMQ	Urumqi	43.74	39	*eP*		P	14 54 29.8	+2.0
WMQ				pP		pwP	14 54 35.0	-0.8
WMQ				pmax		pmax		
	comp=Z,22nm,1.1s							
WMQ				pmax		pmax		
	comp=Z,87nm,3.9s							
WMQ				LR		LR		
	comp=Z,130nm,22.1s							
KEST	Kesra	43.83	308	P		P	14 54 28.5	-0.1
	comp=Z,1.3nm,0.5s,baz=162,slow=3.2,SNR=2.1							
MPLH	Magyarpolny	44.11	327	*eP*		P	14 54 42.6	+12
MHMT	Maesarieng	45.19	77	P		P	14 54 41.9	+2.4
	comp=Z,15nm,0.8s							
VSL	Villasalto	45.21	313	P		P	14 54 41.0	+1.5
ARSA	Arzberg	45.24	326	*eP*		P	14 54 40.2	+0.6
	comp=Z,6.1nm,1.4s							
LBTB	Lobatse	45.38	213	P		P	14 54 40.9	-0.2
	comp=Z,5.7nm,1.0s,baz=348,slow=5.3,SNR=4.5							
CONA	Conrad Observa	45.47	327	*eP*		P	14 54 40.5	-1.0
	comp=Z,6.2nm,0.9s							
MORC	Moravsky Berou	45.79	330	P		P	14 54 45.1	+1.1
NACGM	Naroch	45.87	341	*i* P		P	14 54 46.5	+2.1
MYKA	Terra Mystica	45.93	324	*eP*		P	14 54 46.6	+1.5
	comp=Z,8.4nm,1.1s							
CM13	Chiang Mai Arr	46.11	77	P		P	14 54 47.8	+0.9
	comp=Z,131nmcomp=Z,22nm,0.8s							
TSUM	Tsumeb	46.13	227	P		P	14 54 47.0	-0.1
	comp=Z,2.0nm,0.6s,baz=90,slow=10,SNR=2.3							
CM15	Chiang Mai Arr	46.13	77	P		P	14 54 48.0	+1.0
	comp=Z,170nmcomp=Z,26nm,0.9s							
CHTO	Chiang Mai	46.14	76	P		P	14 54 48.0	+0.9
	comp=Z,8.3nm,0.9s							
CHTO	Chiang Mai	46.14	76	P		P	14 54 47.3	+0.1
CHTO				IAmb		IAmb	14 54 49.5	
	comp=Z,6.1nm,0.8s							
CHTO	Chiang Mai	46.14	76	P		P	14 54 47.3	+0.1
	comp=Z,4.6nm,0.9s							
CM31	Chiang Mai Arr	46.15	77	P		P	14 54 47.7	+0.5
CMAR	Chiang Mai Arr	46.15	77	P		P	14 54 48.0	+0.8
	comp=Z,21nm,0.8s,baz=276,slow=8.8,SNR=108							
CMAR				PcP		PcP	14 56 24.2	+1.0
	comp=Z,1.4nm,0.8s,baz=275,slow=6.0,SNR=2.4							
CMAR				LR		LR	15 11 56.2	
	comp=Z,54nm,21.9s,baz=324,slow=33							
CMAR	Chiang Mai Arr	46.15	77	P		P	14 54 47.6	+0.4
CMMT	Chiang Mai	46.15	76	P		P	14 54 47.8	+0.6
	comp=Z,8.1nm,0.8s							
CMMT	Chiang Mai	46.15	76	P		P	14 54 46.2	-1.0
CM05	Chiang Mai Arr	46.15	77	P		P	14 54 48.1	+0.9
	comp=Z,189nmcomp=Z,29nm,0.9s							
CM02	Chiang Mai Arr	46.15	77	P		P	14 54 48.1	+0.9
	comp=Z,237nmcomp=Z,38nm,0.8s							
CM01	Chiang Mai Arr	46.16	77	P		P	14 54 48.3	+1.0
	comp=Z,205nmcomp=Z,31nm,0.9s							
CM04	Chiang Mai Arr	46.18	77	P		P	14 54 48.4	+1.0
	comp=Z,248nmcomp=Z,41nm,0.8s							
CM09	Chiang Mai Arr	46.19	77	P		P	14 54 48.5	+1.0
	comp=Z,179nmcomp=Z,30nm,0.9s							
MOA	Molln	46.28	326	*eP*		P	14 54 47.8	-0.1
	comp=Z,5.7nm,1.2s							
KRLC	Kraliky	46.36	330	*eP*		P	14 54 49.5	+1.1
DPC	Dobruska-Polom	46.76	330	*eP*		P	14 54 51.5	-0.1
LAMP	Lampang	46.80	77	P		P	14 54 53.9	+1.6
OSTC	Ostas	46.95	330	*eP*		P	14 54 52.9	-0.1
PAYA	Payao	47.02	76	P		P	14 54 55.3	+1.3
	comp=Z,20nm,0.9s							
CHVC	Chvalec	47.05	330	*eP*		P	14 54 53.3	-0.5
GERES	GERESS Array B	47.17	327	P		P	14 54 55.0	+0.1
	comp=Z,0.4nm,0.5s,baz=123,slow=7.2,SNR=4.0							
GERES				LR		LR	15 17 20.5	
	comp=Z,44nm,18.2s,baz=114,slow=39							
GERES	GERESS Array B	47.17	327	P		P	14 54 55.2	+0.3
KHC	Kasperske Hory	47.41	327	*eP*		P	14 54 55.1	-1.5
WTTA	Wattenberg	47.43	324	*eP*		P	14 54 58.2	+1.2
	comp=Z,6.2nm,1.0s							
WATA	Walderalm	47.50	324	*eP*		P	14 54 57.8	+0.3
	comp=Z,2.5nm,0.6s							
PHIT	Phitsanulok	47.58	79	P		P	14 55 00.0	+1.6
	comp=Z,28nm,0.9s							
UTTA	Uttaradit	47.69	78	P		P	14 55 00.9	+1.7
	comp=Z,468nmcomp=Z,13nm,0.9s							
MOTA	Moosalm	47.78	324	*eP*		P	14 54 59.3	-0.3
	comp=Z,9.8nm,1.0s							
TORD	Torodi Ar. Bea	48.15	276	P		P	14 55 02.7	-0.1
	comp=Z,4.2nm,0.8s,baz=88,slow=7.4,SNR=21							
TORD				LR		LR	15 16 21.3	
	comp=Z,60nm,19.3s,baz=55,slow=37							
TORD	Torodi Ar. Bea	48.15	276	P		P	14 55 02.6	-0.2
TORD				IAmb		IAmb	14 55 10.8	
	comp=Z,8.6nm,0.9s							
KLMR	Klimovskoe	48.43	352	*eP*		P	14 55 05.5	+1.2
KLMR				AMP			14 55 17.2	
	comp=Z,26nm,1.3s							
BOSA	Boshof	48.48	211	P		P	14 55 04.9	-0.3
	comp=Z,3.6nm,0.9s,baz=33,slow=12,SNR=2.3							
BOSA	Boshof	48.48	211	P		P	14 55 05.5	+0.3
ZAA0	Zalesovo Array	48.60	26	P		P	14 55 03.7	-1.9
ZAA0				IAmb		IAmb	14 55 11.6	
	comp=Z,5.1nm,0.8s							
ZALV	Zalesovo Beam	48.60	26	P		P	14 55 05.5	-0.1
	comp=Z,2.2nm,0.7s,baz=237,slow=8.8,SNR=11							
ZALV				LR		LR	15 18 23.7	
	comp=Z,150nm,18.0s,baz=242,slow=40							
ZALV	Zalesovo Beam	48.60	26	P		P	14 55 03.5	-2.1
CLL	Collm	49.01	329	*eP*		P	14 55 09.0	+0.1
CLL				*i*			14 55 16.1	
	comp=Z,16nm,1.7s							
KMI	Kunming	49.87	68	⇑P		P	14 55 16.5	+0.3
KMI				pmax		pmax		
	comp=Z,13nm,0.9s							
KMI				LR		LR		
	comp=Z,220nm,15.3s							
KMI				LR		LR		
	comp=Z,200nm,18.0s							
KMI				LR		LR		
	comp=Z,340nm,22.5s							
BFO	Black Forest	49.89	324	P		P	14 55 16.0	+0.3
BFO				IAmb		IAmb	14 55 25.5	
	comp=Z,13nm,1.2s							
CD2	Chengdu	51.37	61	P		P	14 55 26.5	-0.7
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
FIA1	FINESS Array S	51.58	345	P		P	14 55 29.7	+1.5
FIA1				IAmb		IAmb	14 55 42.7	
	comp=Z,7.3nm,1.0s							
FINES	FINESS Array B	51.58	345	P		P	14 55 27.5	-0.6
	comp=Z,1.8nm,0.6s,baz=118,slow=11,SNR=7.1							
FINES				LR		LR	15 20 55.4	
	comp=Z,84nm,18.8s,baz=156,slow=40							
FINES	FINESS Array B	51.58	345	P		P	14 55 29.7	+1.5
LZH	Lanzhou	52.34	54	*eP*		P	14 55 36.0	+1.5
LZH				pP		sP	14 55 40.5	+0.3
LZH				pmax		pmax		
	comp=Z,11nm,1.1s							
LZH				pmax		pmax		
	comp=Z,240nm,4.9s							
LZH				LR		LR		
	comp=Z,270nm,16.8s							
LZH				LR		LR		
	comp=Z,350nm,16.8s							
LZH				LR		LR		
	comp=Z,230nm,16.8s							
GYA	Guiyang	53.48	67	⇑P		P	14 55 40.8	-2.3
GYA				pP		pP	14 55 48.0	+0.7
GYA				pmax		pmax		
	comp=Z,8.0nm,0.9s							
KOWA	Kowa	53.53	278	P		P	14 55 43.1	-0.3
KOWA				IAmb		IAmb	14 55 50.2	
	comp=Z,9.8nm,1.2s							
ESBB	Sonseca Array	55.05	309	P		P	14 55 54.0	-0.2
ESDC	Sonseca Array	55.06	309	P		P	14 55 53.6	-0.7
	comp=Z,5.8nm,1.1s,baz=102,slow=6.8,SNR=18							
ESDC				LR		LR	15 21 01.6	
	comp=Z,41nm,18.9s,baz=240,slow=38							
ESDC	Sonseca Array	55.06	309	P		P	14 55 54.0	-0.3
PAB	San Pablo	55.32	309	P		P	14 55 55.8	-0.4
PAB				IAmb		IAmb	14 56 03.0	
	comp=Z,21nm,1.4s							
NB2	NORSAR Subarra	55.93	338	P		P	14 55 59.4	-0.8
	comp=Z,4.3nm,1.0s,baz=128,slow=7.9							
NOA	NORSAR Array B	55.93	338	P		P	14 55 59.2	-0.9
	comp=Z,0.2nm,0.5s,baz=129,slow=6.3,SNR=2.0							
NOA				LR		LR	15 23 48.1	
	comp=Z,67nm,18.1s,baz=130,slow=40							
PBAR	Barrancos	57.12	307	*eP*		P	14 56 09.1	+0.1
	comp=Z,15nm,1.6s							
SONM	Songino Array	57.23	41	P		P	14 56 10.9	+1.1
	comp=Z,4.3nm,0.9s,baz=242,slow=7.5,SNR=16							

comp=Z,63nm,19.1s,baz=285,slow=38
NEEM North Greenlan 79.95 347 *i* P **P 14 58 31.9 +0.6**
NEEM IAmb IAmb 14 58 32.8
comp=Z,7.0nm,0.8s
MAW Mawson 80.94 175 LR LR 15 28 30.3
comp=Z,59nm,21.9s,baz=45,slow=31
SFJD Kangerlussuaq 82.60 337 LR LR 15 37 18.1
comp=Z,30nm,18.1s,baz=44,slow=37
SEY Seynchan 83.46 27 P **P 14 58 50.6 +1.0**
comp=Z,5.9nm,1.0s,baz=288,slow=7.0,SNR=5.9
WRA Warramunga Arr 88.10 111 P **P 14 59 13.4 -0.1**
comp=Z,12nm,0.8s,baz=297,slow=4.0,SNR=60
ASAR Alice Springs 88.65 115 P **P 14 59 16.6 +0.6**
comp=Z,4.9nm,0.9s,baz=286,slow=4.9,SNR=59
ASAR LR LR 15 36 22.9
comp=Z,27nm,18.5s,baz=7.5,slow=34
ASAR Alice Springs 88.65 115 P **P 14 59 16.3 +0.3**
AS31 Alice Springs 88.65 115 P **P 14 59 16.3 +0.3**
PETK Petropavlovsk- 89.25 35 LR LR 15 42 45.6
comp=Z,88nm,21.2s,baz=280,slow=38
GUMO Guam 90.45 76 LR LR 15 41 10.1
comp=Z,8.6nm,19.0s,baz=78,slow=36
STKA Stephens Creek 97.13 121 LR LR 15 37 46.5
comp=Z,39nm,19.1s,baz=207,slow=32
PDAR Pinedale Array 121.66 343 PKP **PKPdf 15 05 16.5 -0.2**
comp=Z,0.6nm,0.9s,baz=35,slow=3.3,SNR=3.7
NVAR Mina Array Bea 127.80 350 PKP **PKiKP 15 05 29.1 -0.1**
comp=Z,1.1nm,0.9s,baz=46,slow=2.6,SNR=6.5
TXAR Lajitas Array 131.33 330 PKP **PKPdf 15 05 35.3 -0.1**
comp=Z,0.5nm,0.8s,baz=72,slow=1.6,SNR=5.1

*NEIC **27** 14:46:53.5±0.8,56.97N±0.02×155.78W±0.05, h89km±9km, Error ellipse: s-maj=5.3km s-min=1.5km az=129.0*
AEIC 27 14:46:54.8±1.2,**56.98N**±0.04×**155.82W**±0.06,**h79**km±7km, **ML3.0**/72,**ML3.1**/40(NEIC),**Error ellipse: s-maj=5.8km s-min=5.0km az=182.0,Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLK3	**Peulik 3**	**0.75**	**341**		Pn	14 47 10.0	-0.9
PLK3					Sn	14 47 24.0	+1.1
PLK2	**Peulik 2**	**0.83**	**341**		Pn	14 47 11.0	-0.8
PLK1	**Peulik 1**	**0.93**	**333**		Pn	14 47 12.0	-0.9
SII	**Sitkinak Islan**	**0.99**	**115**		Pn	14 47 13.0	-0.7
SII					Sn	14 47 27.4	-0.4
SII	**Sitkinak Islan** comp=N,324nm,0.4s	**0.99**	**115**	IAML		14 47 29.4	
SII				IAML		14 47 29.4	
	comp=E,330nm,0.6s						
SII	**Sitkinak Islan** baz=296	**0.99**	**115**	P		14 47 13.0	
SII				S		14 47 27.4	
	baz=296						
PLK5	**Peulik 5**	**1.17**	**331**		Pn	14 47 15.0	-0.8
CHIR	**Chirikof Islan**	**1.17**	**175**		Pn	14 47 15.1	-0.8
CHIR					Sn	14 47 30.9	-0.6
CHIR	**Chirikof Islan** comp=E,300nm,0.7s	**1.17**	**175**	IAML		14 47 31.8	
CHIR	**Chirikof Islan** baz=355	**1.17**	**175**	P		14 47 15.0	
CHIR				S		14 47 30.9	
	baz=355						
ANNE	**Aniakchak Nort**	**1.23**	**268**		Pn	14 47 15.9	-0.8
ANCK	**Angle Creek**	**1.23**	**8**		Pn	14 47 15.8	-0.9
KABR	**Katmai Barrier**	**1.24**	**21**		Pn	14 47 15.9	-0.9
ANPK	**Aniakchak Peak**	**1.27**	**265**		Pn	14 47 16.5	-0.8
ANPK					Sn	14 47 33.7	-0.4
KABU	**Katmai Buttres**	**1.32**	**12**		Pn	14 47 17.2	-0.6
KABU					Sn	14 47 34.8	-0.4
ANPB	**Aniakchak Plen**	**1.36**	**263**		Pn	14 47 17.7	-0.6
OHAK	**Old Harbor**	**1.40**	**79**		Pn	14 47 17.7	-1.0
OHAK					Sn	14 47 34.7	-2.0
OHAK	**Old Harbor** comp=N,322nm,0.5s	**1.40**	**79**	IAML		14 47 35.6	
OHAK	**Old Harbor** baz=261	**1.40**	**79**	P		14 47 17.7	
OHAK				S		14 47 34.7	
	baz=261						
CHGN	**Chignik**	**1.59**	**246**		Pn	14 47 20.4	-0.8
CHGN					Sn	14 47 39.6	-1.5
CHGN	**Chignik** comp=N,262nm,0.2s	**1.59**	**246**	IAML		14 47 41.2	
CHGN	**Chignik** baz=63	**1.59**	**246**	P		14 47 20.4	
CHGN				S		14 47 39.6	
	baz=63						
KDAK	**Kodiak Island**	**1.93**	**64**		Pn	14 47 24.3	-1.3
KDAK					Sn	14 47 47.0	-2.0
KDAK	**Kodiak Island** comp=N,175nm,0.3s	**1.93**	**64**	IAML		14 47 47.7	
KDAK	**Kodiak Island** baz=247	**1.93**	**64**	S		14 47 47.0	
VNSG	**Veniaminof 6**	**2.00**	**246**		Pn	14 47 26.5	-0.3
Q19K	**Cape Douglas,**	**2.27**	**30**		Pn	14 47 29.3	-1.0
Q19K	**Cape Douglas,** comp=E,113nm,1.4s	**2.27**	**30**	IAML		14 48 07.7	
Q19K	**Cape Douglas,** baz=212	**2.27**	**30**	P		14 47 29.3	
O18K	**Koktuh Hills**	**2.90**	**6**		Pn	14 47 37.8	-1.0
O18K	**Koktuh Hills** baz=187	**2.90**	**6**	P		14 47 37.8	
P19K	**Oil Pt**	**3.00**	**26**		Pn	14 47 39.5	-0.7
P19K	**Oil Pt** comp=N,52nm,1.7s	**3.00**	**26**	IAML		14 49 04.4	
P19K				IAML		14 49 32.3	
	comp=E,47nm,1.7s						
P19K	**Oil Pt** baz=208	**3.00**	**26**	P		14 47 39.4	
CHNA	**Chernabura Isl** baz=43	**3.03**	**226**	P		14 47 39.2	
CNBA	**Chernabura Isl**	**3.04**	**226**		Pn	14 47 39.2	-1.3
CNBA	**Chernabura Isl** comp=N,41nm,2.5s	**3.04**	**226**	IAML		14 49 40.8	
SDPT	**Sand Point**	**3.08**	**240**		Sn	14 48 14.6	-2.2
SDPT	**Sand Point**	**3.08**	**240**	Pn	Pn	14 47 41.5	+0.4
SDPT				IAML		14 48 21.5	
	comp=N,72nm,1.7s						
SDPT	**Sand Point** baz=56	**3.08**	**240**	S		14 48 14.6	
O19K	**Port Alsworth**	**3.32**	**13**	Pn	Pn	14 47 43.2	-1.1
O19K				IAML		14 48 37.1	
	comp=N,44nm,0.4s						
O19K				IAML		14 48 51.2	
	comp=E,45nm,0.5s						
ILSW	**Iliamna Southw**	**3.32**	**24**		Pn	14 47 43.8	-0.7
HOM	**Homer**	**3.47**	**38**		Pn	14 47 45.9	-0.5
HOM	**Homer** baz=221	**3.47**	**38**	P		14 47 45.9	
CNPM	**China Poot**	**3.52**	**42**		Pn	14 47 46.2	-0.9
CNPM	**China Poot** comp=N,28nm,2.2s	**3.52**	**42**	IAML		14 49 29.7	
CNPM				IAML		14 49 39.8	
	comp=E,28nm,2.2s						
O20K	**Slope Mountain**	**3.53**	**27**		Pn	14 47 47.0	-0.4
O20K	**Slope Mountain** baz=210	**3.53**	**27**	P		14 47 47.0	
BRLK	**Bradley Lake**	**3.81**	**41**		Pn	14 47 49.6	-1.5
BRLK	**Bradley Lake** comp=E,24nm,2.1s	**3.81**	**41**	IAML		14 48 41.2	
BRSE	**Bradley Lake S**	**3.85**	**42**		Pn	14 47 50.2	-1.4
BRSE	**Bradley Lake S** baz=226	**3.85**	**42**	P		14 47 50.2	
N19K	**Bonanza Creek**	**3.90**	**10**		Pn	14 47 51.3	-1.1
N19K	**Bonanza Creek** baz=191	**3.90**	**10**	P		14 47 51.3	
SEW	**Seward**	**4.57**	**44**	Pn	Pn	14 47 59.2	-2.2
SLKM	**Skilak Lake**	**4.58**	**37**		Pn	14 48 00.1	-1.5
CKL	**Chakachamna La**	**4.59**	**22**		Pn	14 48 01.6	-0.2
O22K	**Cooper Landing**	**4.73**	**40**		Pn	14 48 02.9	-0.7
O22K	**Cooper Landing** baz=225	**4.73**	**40**	P		14 48 02.9	
STLK	**Strandline Lak**	**4.97**	**23**		Pn	14 48 05.9	-1.0
M19K	**Big River Lodg**	**4.99**	**8**		Pn	14 48 06.4	-0.8
M19K	**Big River Lodg** comp=E,10nm,3.2s	**4.99**	**8**	IAML		14 49 11.1	
M19K				IAML		14 50 06.3	
	comp=N,9.8nm,3.5s						
M19K	**Big River Lodg** baz=189	**4.99**	**8**	P		14 48 06.4	
RC01	**Rabbit Creek A**	**5.18**	**35**		Pn	14 48 08.6	-1.0
RC01	**Rabbit Creek A** baz=220	**5.18**	**35**	P		14 48 08.6	
SUA	**Susitna One**	**5.19**	**28**		Pn	14 48 09.3	-0.6
SUA	**Susitna One**	**5.19**	**28**	P		14 48 09.3	
	baz=212						
L19K	**White Mountain**	**5.24**	**5**		Pn	14 48 09.7	-0.9
L19K	**White Mountain** comp=N,13nm,2.3s	**5.24**	**5**	IAML		14 49 08.4	
L19K				IAML		14 49 09.2	
	comp=E,11nm,2.5s						
L19K	**White Mountain** baz=186	**5.24**	**5**	P		14 48 09.6	
SKT	**Skwentna**	**5.47**	**22**		Pn	14 48 12.7	-0.9
SKT	**Skwentna** baz=205	**5.47**	**22**	P		14 48 12.7	
PWL	**Port Wells**	**5.49**	**42**		Pn	14 48 11.9	-2.0
L20K	**Farewell, AK**	**5.60**	**9**		Pn	14 48 14.8	-0.7
L20K	**Farewell, AK** baz=191	**5.60**	**9**	P		14 48 14.8	
PMR	**Palmer**	**5.75**	**34**	Pn	Pn	14 48 15.8	-1.6
KNK	**Knik Glacier**	**5.83**	**37**		Pn	14 48 16.9	-1.7
KNK	**Knik Glacier** baz=224	**5.83**	**37**	P		14 48 16.9	
HIN	**Hinchinbrook I**	**5.94**	**51**	Pn	Pn	14 48 18.7	-1.4
GHO	**Glory Hole Cre**	**5.95**	**33**		Pn	14 48 18.5	-1.8
GLI	**Glacier Island**	**5.97**	**45**		Pn	14 48 17.9	-2.6
GLI	**Glacier Island** baz=233	**5.97**	**45**	P		14 48 17.9	
FID	**Port Fidalgo**	**6.14**	**48**		Pn	14 48 20.2	-2.6
SML	**Sawmill**	**6.16**	**35**		Pn	14 48 21.6	-1.6
SML	**Sawmill** baz=222	**6.16**	**35**	P		14 48 21.6	
EYAK	**Cordova Ski Ar**	**6.34**	**51**		Pn	14 48 23.9	-1.6
EYAK	**Cordova Ski Ar** baz=240	**6.34**	**51**	P		14 48 23.9	
SCM	**Sheep Creek Mo**	**6.51**	**38**		Pn	14 48 26.4	-1.6
RAGM	**Ragged Mountai**	**6.74**	**55**	Pn	Pn	14 48 29.4	-1.6
KLU	**Klutina**	**6.79**	**44**		Pn	14 48 30.4	-1.4
KLU	**Klutina** baz=233	**6.79**	**44**	P		14 48 30.4	
WAT7	**Susitna Watana**	**6.83**	**28**		Pn	14 48 30.0	-2.3
WAT6	**Susitna Watana**	**6.93**	**33**		Pn	14 48 31.6	-2.2
WAT6	**Susitna Watana** baz=220	**6.93**	**33**	P		14 48 31.6	
BMRM	**Bremner River**	**7.04**	**51**		Pn	14 48 33.6	-1.5
BMRM	**Bremner River** baz=240	**7.04**	**51**	P		14 48 33.6	
TRF	**Thorofare Moun**	**7.04**	**21**		Pn	14 48 33.9	-1.4
TRF	**Thorofare Moun** baz=205	**7.04**	**21**	P		14 48 33.9	
BERG	**Berg Lake**	**7.18**	**57**	Pn	Pn	14 48 35.5	-1.5
RND	**Reindeer**	**7.31**	**25**		Pn	14 48 37.0	-1.8
N25K	**Chitina, Valde**	**7.38**	**46**		Pn	14 48 38.3	-1.4
N25K	**Chitina, Valde** baz=236	**7.38**	**46**	P		14 48 38.3	
KHIT	**Khitrov Hills**	**7.40**	**57**		Pn	14 48 38.5	-1.6
DHY	**Denali Highway**	**7.42**	**31**		Pn	14 48 38.5	-1.9
DHY	**Denali Highway** baz=218	**7.42**	**31**	P		14 48 38.5	
SNH	**Sunshine Point**	**7.50**	**59**	Pn	Pn	14 48 40.5	-0.9
BPAW	**Bear Paw Mtn.**	**7.52**	**16**	Pn	Pn	14 48 39.8	-1.9
CRQM	**Cirque**	**7.58**	**55**	Pn	Pn	14 48 41.0	-1.6
WAX	**Waxell Ridge**	**7.59**	**57**		Pn	14 48 41.1	-1.5
GLB	**Gilahina Butte**	**7.61**	**49**		Pn	14 48 41.2	-1.6
HARP	**HAARP**	**7.65**	**40**		Pn	14 48 42.1	-1.3
HARP	**HAARP** baz=230	**7.65**	**40**	P		14 48 42.1	
VRDI	**Verde Repeater**	**7.65**	**51**	Pn	Pn	14 48 42.0	-1.5
TGL	**Tana Glacier**	**7.72**	**55**		Pn	14 48 43.0	-1.4
ISLE	**Juniper Island**	**7.88**	**57**		Pn	14 48 45.2	-1.5
MCARA	**McCarthy VSAT**	**7.91**	**51**	Pn	Pn	14 48 46.0	-0.9
PAX	**Paxson**	**7.93**	**37**	Pn	Pn	14 48 45.4	-1.8
BALM	**Baldy**	**8.05**	**54**		Pn	14 48 47.6	-1.3
GRNC	**Granite Creek**	**8.20**	**57**	Pn	Pn	14 48 50.3	-0.7
M26K	**Nabesna, AK**	**8.45**	**45**		Pn	14 48 53.5	-0.8
M26K	**Nabesna, AK** baz=236	**8.45**	**45**	P		14 48 53.5	
CTG	**Chitna Glacier** baz=248	**8.47**	**56**	P		14 48 53.6	
CTGM	**Chitina Glacie**	**8.47**	**56**		Pn	14 48 53.6	-1.2

*TEH **27** 14:51:55.9, 30.53N×49.48E, h20km, ML3.3*
*KISR **27** 14:52:01.9±0.8, 31.07N×49.82E, h46km±409km, ML3.5*
*THR **27** 14:52:01.6±0.3, 30.84N×49.99E, h15km, ML3.2*
ISC 27 14:52:01.9±1.1,**30.89N**±0.04×**49.91E**±0.04,**h10**km,**n32,** σ1§**37**/33,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABEH	**Behbahan**	**0.42**	**134**	*e*Pg	**Pg**	**14 52 09.4**	**-0.8**
AMIS	**Naft Sefid**	**0.93**	**326**	*e*Pg	**Pg**	**14 52 17.2**	**-2.7**
AMIS				*e*		14 52 50.1	
	comp=Z,9μm,0.6s						
AHWZ	**Ahwaz**	**1.17**	**292**	*e*Pg	Pn	14 52 16.4	-7.9
KLNJ	**Kolanjah**	**1.45**	**85**	*e*Pn	**Pn**	**14 52 27.6**	**-1.0**
KLNJ				*e*		14 52 58.0	
	comp=Z,3μm,0.8s						
SHK1	**Shahrekord**	**1.66**	**30**	*e*Pn	**Pn**	**14 52 31.6**	**+0.3**
SHK1				*e*		14 52 57.2	
	comp=Z,2μm,0.4s						
IPIR	**Pirpir**	**1.97**	**25**	*e*Pn	**Pn**	**14 52 36.7**	**+1.0**
IPIR				*e*		14 53 05.9	
	comp=Z,1μm,0.4s						
IRAM	**Ramesheh**	**2.31**	**66**	*e*Pn	**Pn**	**14 52 41.7**	**+1.5**
IRAM				*e*		14 52 46.1	
	comp=Z,646nm,0.3s						
IGAR	**Gharneh**	**2.36**	**50**	*e*Pn	**Pn**	**14 52 42.8**	**+1.8**
IGAR				*e*		14 52 45.2	
	comp=Z,514nm,0.3s						
MIB	**Mutribah**	**2.47**	**245**	*e*P	**Pn**	**14 52 42.3**	**+0.1**
MIB				*e*S	**Sn**	**14 53 12.4**	**-0.1**
MIB				IAML		14 53 17.8	
	comp=Z,260nm,0.6s						
KBD	**Kabd**	**2.57**	**229**	*e*P	**Pn**	**14 52 44.8**	**+1.1**
KBD				*e*S	**Sn**	**14 53 16.1**	**+1.2**
KBD				IAML		14 53 20.3	
	comp=Z,158nm,0.3s						
QRN	**Al-Qurain**	**2.75**	**219**	*e*P	**Pn**	**14 52 46.7**	**+0.6**
IKLH	**Kolahrood**	**2.80**	**30**	*e*Pn	**Pn**	**14 52 48.4**	**+1.3**
IKLH				*e*		14 53 40.3	
	comp=Z,708nm,0.6s						
RDF	**Al-Radifah**	**2.83**	**227**	*e*P	**Pn**	**14 52 48.7**	**+1.4**
KHMZ	**Khomeyn**	**2.84**	**1**	*e*Pn	**Pn**	**14 52 49.4**	**+1.9**
KHMZ	**Khomeyn**	**2.84**	**1**	*e*Pn	**Pn**	**14 52 49.4**	**+1.9**
IZEF	**Zefreh**	**2.87**	**45**	*e*Pn	**Pn**	**14 52 48.5**	**+0.5**
RST	**Umm Al-Ruwaisa**	**2.88**	**242**	*e*P	**Pn**	**14 52 48.0**	**+0.2**
QAMS	**Qamsar**	**3.10**	**24**	*e*Pn	**Pn**	**14 52 52.4**	**+1.2**
QAMS				*e*		14 53 38.8	
	comp=Z,774nm,0.5s						
NASN	**Na'in**	**3.12**	**52**	*e*Pn	**Pn**	**14 52 52.3**	**+0.9**
NASN				IAML		14 53 44.8	
	comp=N,32nm,0.7s						
NASN				IAML		14 53 46.4	
	comp=E,62nm,0.6s						
NASN	**Na'in**	**3.12**	**52**	*e*Pn	**Pn**	**14 52 52.3**	**+0.9**
HSAM	**Samen**	**3.49**	**342**	*e*Pn	**Pn**	**14 52 56.1**	**-0.4**
HSAM				*e*		14 53 51.0	
	comp=Z,245nm,0.9s						
KRSH	**Karshahi**	**3.60**	**31**	*e*Pn	**Pn**	**14 52 58.9**	**+0.9**
KRSH				*e*		14 53 47.5	
	comp=Z,405nm,0.4s						
ASAO	**Ashtian**	**3.65**	**2**	*e*Pn	**Pn**	**14 53 00.5**	**+1.8**
ASAO	**Ashtian**	**3.65**	**2**	*e*Pn	**Pn**	**14 53 00.5**	**+1.8**
GHVR	**GHOM**	**3.76**	**18**	*e*Pn	**Pn**	**14 53 01.4**	**+1.3**
GHVR	**GHOM**	**3.76**	**18**	*e*Pn	**Pn**	**14 53 01.4**	**+1.3**
ISFB	**Sefidab**	**3.97**	**29**	*e*Pn	**Pn**	**14 53 03.2**	**+0.2**
ANAR	**Anarak**	**3.97**	**54**	*e*Pn	**Pn**	**14 53 03.9**	**+0.9**
YZKH	**Yazd**	**4.27**	**68**	*e*Pn	**Pn**	**14 53 07.6**	**+0.5**
YZKH				IAML		14 54 03.0	
	comp=E,30nm,0.7s						
YZKH	**Yazd**	**4.27**	**68**	*e*Pn	**Pn**	**14 53 07.6**	**+0.5**
SNGE	**Sanandaj**	**4.71**	**334**	*e*Pn	**Pn**	**14 53 15.6**	**+2.4**
SNGE	**Sanandaj**	**4.71**	**334**	*e*Pn	**Pn**	**14 53 15.6**	**+2.4**

*IDC **27** 14:56:11.8±2.1, 7.14S×129.41E, h132km±21km, mb3.4/10, mb1 3.7/15, mb1mx3.6/29, mbtmp4.0/15, MS3.2/1, Ms1 3.2/1, ms1mx2.3/21, Error ellipse: s-maj=28.6km s-min=13.7km az=87.0*
*DJA **27** 14:56:12.8±0.5, 7.3S×12.9E, h208km±11km, M4.2/9, mb4.2/7, mB4.8/5, MLv4.3/9, Mw(mB)4.0/5*
*NEIC **27** 14:56:14.3±1.8, 7.10S±0.08×129.28E±0.06, h154km±8km, mb4.4/13, Error ellipse: s-maj=11.4km s-min=8.0km az=159.0*
ISC 27 14:56:12.8±0.5,**7.13S**±0.05×**129.24E**±0.06,**h150**km,**n49,** σ1§**81**/50,**mb3.7**/14,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.21**	**113**	Pn	**Pn**	**14 56 52.8**	**+2.3**
SAUI	**Saumlaki**	**2.21**	**113**	P	**Pn**	**14 56 52.8**	**+2.3**
SAUI				S	**Sn**	**14 57 23.1**	**+3.6**
MSAI	**Masohi**	**3.77**	**355**	P	**Pn**	**14 57 13.6**	**+3.4**
FAKI	**Fak Fak**	**5.15**	**36**		**Pn**	**14 57 28.3**	**0.0**
FAKI	**Fak Fak** 0.4nm2μm47nm,0.5s	**5.15**	**36**	P	**Pn**	**14 57 28.5**	**+0.2**
SOEI	**Soe**	**5.56**	**242**		**Pn**	**14 57 35.3**	**+1.4**
SOEI	**Soe** 0.5nm865nm66nm,0.8s	**5.56**	**242**	P	**Pn**	**14 57 35.9**	**+2.0**
MTN	**Manton Dam**	**5.97**	**162**		**Pn**	**14 57 39.5**	**+0.3**
SANI	**Sanana** 0.1nm17nm,1.3s	**6.00**	**327**	P	**Pn**	**14 57 41.7**	**+2.1**
BATI	**Baumata** 16nm,0.3s,baz=93,slow=5.8,SNR=12	**6.30**	**241**	P	**Pn**	**14 57 45.2**	**+1.6**
BATI				S	**Sn**	**14 58 53.8**	**-0.9**
	18nm,0.3s,baz=127,slow=4.2,SNR=17						
BATI	**Baumata** 0.2nm38nm,0.7s	**6.30**	**241**	P	**Pn**	**14 57 45.6**	**+2.0**
SIJI	**Sorong** 2.5nm,0.3s,baz=27,slow=21,SNR=15	**6.54**	**18**	P	**Pn**	**14 57 45.8**	**-1.1**
SIJI				S	**Sn**	**14 58 55.6**	**-5.0**
	6.2nm,0.3s,baz=200,slow=23,SNR=13						
SIJI	**Sorong** 0.3nm975nm7.0nm,0.6s	**6.54**	**18**	P	**Pn**	**14 57 46.6**	**-0.3**
SWI	**Sorong**	**6.55**	**18**	P	**Sn**	**14 59 01.4**	**+0.8**
EDFI	**Ende, Flores** 0.0nm7.2nm,1.5s	**7.64**	**257**	P	**Pn**	**14 58 03.6**	**+1.9**
KNRA	**Kununurra**	**8.50**	**183**		**Pn**	**14 58 11.9**	**-1.1**
LUWI	**Luwuk**	**8.84**	**313**	Pn	**Pn**	**14 58 17.9**	**+0.4**
WBSI	**Waikabubak, Su**	**10.05**	**255**	P	**Pn**	**14 58 34.9**	**+1.2**
FITZ	**Fitzroy Crossi** 0.5nm,0.3s,baz=11,slow=9.6,SNR=28	**11.45**	**197**	P	**Pn**	**14 58 50.5**	**-1.5**
FITZ				S	Sn	15 00 46.9	-12
	4.6nm,0.3s,baz=160,slow=20,SNR=12						
FITZ	**Fitzroy Crossi**	**11.45**	**197**		**Pn**	**14 58 50.6**	**-1.4**
WB0	**Warramunga Arr**	**13.52**	**159**	Pn	**Pn**	**14 59 14.3**	**-4.4**
WRA	**Warramunga Arr** 2.7nm,0.3s,baz=337,slow=11,SNR=29	**13.66**	**159**	P	**Pn**	**14 59 17.6**	**-2.9**
WRA				S	Sn	15 01 41.5	-10
	4.0nm,0.3s,baz=332,slow=22,SNR=8.6						
WRA	**Warramunga Arr**	**13.66**	**159**		Pn	14 59 14.1	-6.5
WB2	**Warramunga Arr**	**13.67**	**159**		Pn	14 59 14.2	-6.4
COEN	**Coen**	**15.28**	**117**	P	**Pn**	**14 59 40.5**	**-0.4**
COEN				IAmb	IAmb	14 59 50.9	
	comp=Z,30nm,1.3s						
PSA00	**Pilbara Seismi**	**16.98**	**211**	P	**P**	**14 59 59.5**	**-1.5**
PSA00				IAmb	IAmb	15 00 06.9	
	comp=Z,21nm,1.5s						
AS31	**Alice Springs**	**17.04**	**165**	P	**P**	**14 59 59.2**	**-2.4**
AS31				IAmb	IAmb	15 00 20.5	
	comp=Z,3.3nm,0.5s						
ASAR	**Alice Springs** comp=Z,1.5nm,0.3s,baz=341,slow=8.9,SNR=146	**17.04**	**165**	P	**P**	**15 00 01.4**	**-0.3**
ASAR				S	S	15 02 57.0	-15
	comp=Z,0.4nm,0.3s,baz=328,slow=17,SNR=4.4						
ASAR				LR	LR	15 06 35.4	
	comp=Z,82nm,20.3s,baz=316,slow=37						
ASAR	**Alice Springs**	**17.04**	**165**	P	**P**	**14 59 59.4**	**-2.3**
SMRI	**Semarang**	**18.65**	**269**	P	**P**	**15 00 19.9**	**+0.4**
BBOO	**Buckleboo**	**26.32**	**167**	P	**P**	**15 01 36.0**	**+1.3**
BBOO				IAmb	IAmb	15 01 41.8	
	comp=Z,22nm,1.5s						
STKA	**Stephens Creek** comp=Z,0.7nm,0.4s,baz=323,slow=7.8,SNR=5.4	**27.18**	**157**	P	**P**	**15 01 43.5**	**+1.0**
JWT	**Wachi**	**42.59**	**7**	P	**P**	**15 03 54.8**	**+0.7**
JWT				IAmb	IAmb	15 04 10.5	
	comp=Z,27nm,1.5s						
MJAR	**Matsushiro Arr** comp=Z,0.9nm,0.5s,baz=177,slow=8.9,SNR=5.6	**44.25**	**10**	P	**P**	**15 04 07.3**	**-0.1**
KSRS	**Korea Array** comp=Z,0.6nm,0.6s,baz=174,slow=7.6,SNR=4.6	**44.37**	**359**	P	**P**	**15 04 09.0**	**+0.7**
JSD	**Sado**	**45.72**	**10**	P	**P**	**15 04 19.4**	**+0.5**
JSD				IAmb	IAmb	15 04 19.8	
	comp=Z,22nm,1.3s						
USRK	**Ussuriysk Ar.** comp=Z,0.6nm,0.4s,baz=182,slow=6.1,SNR=4.2	**51.15**	**3**	P	**P**	**15 05 01.8**	**+1.3**
USRK	**Ussuriysk Ar.**	**51.15**	**3**	P	**P**	**15 05 01.2**	**+0.7**
SONM	**Songino Array** comp=Z,0.3nm,0.4s,baz=142,slow=7.3,SNR=1.6	**58.33**	**342**	P	**P**	**15 05 54.2**	**+2.0**
PETK	**Petropavlovsk-** comp=Z,2.4nm,0.8s,baz=205,slow=2.4,SNR=4.0	**64.69**	**19**	P	**P**	**15 06 35.1**	**+0.5**
MK31	**Makanchi Array**	**67.92**	**327**	P	**P**	**15 06 56.4**	**+1.0**
MK31				IAmb	IAmb	15 07 19.3	
	comp=Z,3.8nm,1.4s						
MKAR	**Makanchi Array** comp=Z,0.5nm,0.3s,baz=114,slow=8.3,SNR=10	**67.92**	**327**	P	**P**	**15 06 56.9**	**+1.5**
MKAR	**Makanchi Array**	**67.92**	**327**	P	**P**	**15 06 55.8**	**+0.4**
ZALV	**Zalesovo Beam** comp=Z,0.5nm,0.5s,baz=107,slow=5.0,SNR=2.4	**71.37**	**334**	P	**P**	**15 07 16.9**	**+0.7**
VNDA	**Vanda** comp=Z,1.6nm,1.2s,baz=315,slow=6.4,SNR=2.4	**72.41**	**173**	P	**P**	**15 07 23.5**	**+1.3**
VNDA	**Vanda**	**72.41**	**173**	P	**P**	**15 07 23.4**	**+1.3**
XMAS	**Kiritimati**	**73.72**	**86**	P	**P**	**15 07 29.1**	**-1.9**
CRZF	**Crozet Islands**	**76.17**	**224**	P	**P**	**15 07 44.6**	**+0.2**
ILAR	**Eielson Array** comp=Z,0.2nm,0.5s,baz=260,slow=3.6,SNR=1.8	**93.79**	**25**	P	**P**	**15 09 12.2**	**-0.4**

MEX 27 15:09:52.2±0.7,**14.71N×93.30W**,**h16**km±132km,**MD3.5,**
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.99**	**5**	*e*P	Pb	15 10 08.0	-3.1
PCIG				*e*S	Sb	15 10 19.5	-4.4

*TRN **27** 15:19:30.9, 13.71N×58.45W, h114km, MD3.9*
ISC 27 15:19:32.2±2.6,**13.89N**±0.05×**58.5W**±0.1,**h10**km,**n33,** σ1§**02**/48,**North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.19**	**229**	*e*P	**Pn**	**15 19 55.3**	**+0.4**
BBSP				*e*S	**Sn**	**15 20 13.0**	**+1.8**
BBGH	**Gun Hill**	**1.24**	**

ANWB	**Willy Bob**	**4.89**	**321**	*eS*		**Sn**	**15 21 40.4**	**-2.2**

GUC 27 15:19:45.6±0.7, 31°45S×71°65W, h31km±4km, ML3.3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.61**	**66**	*i*	P		Pb	15 19 57.5	-0.5
CO02					IAML			15 20 11.6	
	comp=E,3µm,0.2s								
CO06	**Fray Jorge**	**0.78**	**1**	*eP*			Pn	15 19 59.8	-0.7
CO06				*eS*			Sb	15 20 10.7	-0.2
CO06					IAML			15 20 13.0	
	comp=N,1µm,0.3s								
CO03	**El Pedregal**	**1.02**	**54**	*eP*			Pn	15 20 04.0	+0.1
CO03				*eS*			Sn	15 20 17.4	+0.1
VA06	**Catapilco**	**1.15**	**165**	*eP*			Pn	15 20 05.9	+0.4
VA06				*eS*			Sn	15 20 20.6	+0.4
VA06					IAML			15 20 25.8	
	comp=E,1µm,0.4s								
GO04	**Tololo Observa**	**1.47**	**30**	*eP*			Pn	15 20 11.1	+0.9
CO05	**La Serena**	**1.57**	**13**	IAML				15 20 51.6	
	comp=N,1µm,0.3s								
VA03	**San Esteban**	**1.61**	**145**	*eP*			Pb	15 20 13.7	-1.0
VA03				*eS*			Sb	15 20 34.4	-0.2
ROCH	**El Roble**	**1.61**	**161**	*eP*			Pn	15 20 13.5	+1.3
ROCH				*eS*			Sb	15 20 34.4	-0.5
ROCH					IAML			15 20 40.2	
	comp=E,460nm,0.4s								
MT05	**Renca**	**2.08**	**159**	*eP*			Pn	15 20 20.5	+2.0
MT05				*eS*			Sb	15 20 47.0	-1.3
MT05					IAML			15 20 49.5	
	comp=E,539nm,0.4s								
VA05	**Santo Domingo**	**2.20**	**179**	IAML				15 20 56.6	
	comp=E,284nm,0.4s								
MT09	**Talagante**	**2.38**	**167**	*eP*			Pn	15 20 24.2	+1.5
MT09					IAML			15 21 04.4	
	comp=E,253nm,0.5s								
MT01	**Popeta**	**2.43**	**172**	*eP*			Pn	15 20 24.3	+1.1
MT01					IAML			15 21 05.0	
	comp=E,168nm,0.4s								
LMEL	**Las Melosas**	**2.68**	**153**	*eP*			Pn	15 20 29.5	+2.6

IDC ***27*** *15:20:13.8±2.0, 30°20S×72°41W, h0km, mb3.9/2, mb1 3.8/4, mb1mx3.6/19, mbtmp3.7/4, ML3.6/2, MS3.0/1, Ms1 3.0/1, ms1mx2.7/16, Error ellipse: s-maj=72.0km s-min=38.0km az=100.0*

NEIC ***27*** *15:20:13.1±0.9, 30°03S±0°05×72°47W±0°09, h10km±2km, mb4.2/2, Error ellipse: s-maj=13.7km s-min=6.8km az=247.0*

ISC 27 15:20:15.9±1.1, 30°06S±0°08×72°4W±0°1, h27km, n28, σ1s95/28, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.90**	**133**		IAML			15 20 47.7	
	comp=N,835nm,0.2s								
CO06	**Fray Jorge**	**0.90**	**133**		Pn		**Pb**	**15 20 32.7**	**-0.1**
CO06					Sg		**Sb**	**15 20 44.1**	**-0.4**
CO06	**Fray Jorge**	**0.90**	**133**	*eP*			**Pb**	**15 20 32.8**	**0.0**
CO06	**Fray Jorge**	**0.90**	**133**	*i*	S		**Sn**	**15 20 45.6**	**+0.7**
CO05	**La Serena**	**1.01**	**82**		Pn		**Pn**	**15 20 33.3**	**-1.0**
CO02	**Combarbal**	**1.66**	**134**		Pn		**Pb**	**15 20 44.7**	**-1.1**
CO03	**El Pedregal**	**1.67**	**118**	*i*	S		**Sb**	**15 21 06.6**	**+0.1**
AC04	**Llanos de Chal**	**2.18**	**32**				**Pn**	**15 20 49.9**	**-0.6**
GO03	**Copiap**	**3.11**	**38**				**Pn**	**15 21 02.1**	**-1.1**
PB14	**IPOC Station P**	**5.70**	**19**		Pn		**Pn**	**15 21 36.7**	**-2.4**
PB10	**IPOC Station P**	**6.73**	**15**		Pn		**Pn**	**15 21 52.3**	**-0.6**
PB15	**IPOC Station P**	**7.31**	**22**		Pn		**Pn**	**15 22 00.1**	**-1.0**
LVC	**Limon Verde**	**8.05**	**24**		Pn		**Pn**	**15 22 10.2**	**-1.3**
PB07	**IPOC Station P**	**8.60**	**16**		Pn		**Pn**	**15 22 15.8**	**-3.1**
PB09	**IPOC Station P**	**8.71**	**20**		Pn		**Pn**	**15 22 17.1**	**-3.2**
LC01	**Cunco**	**8.82**	**177**		Pn		**Pn**	**15 22 20.2**	**-1.5**
PB01	**IPOC Station P**	**9.36**	**17**		Pn		**Pn**	**15 22 25.1**	**-4.0**
PSGCX	**Pisagua**	**10.62**	**12**		Pn		**Pn**	**15 22 42.7**	**-3.7**
PLCA	**Paso Flores**	**10.75**	**172**		Pn		**Pn**	**15 22 47.5**	**-0.6**
	comp=N,0.1nm,0.3s,baz=344,slow=14,SNR=3.2								
PLCA	**Paso Flores**	**10.75**	**172**				**Pn**	**15 22 47.2**	**-1.0**
CPUP	**Villa Florida**	**13.80**	**78**	LR			LR	15 29 18.2	
	comp=N,56nm,18.5s,baz=236,slow=39								
LPAZ	**La Paz**	**14.26**	**17**		Pn		**Pn**	**15 23 39.6**	**+3.0**
	comp=N,0.2nm,0.3s,baz=195,slow=8.6,SNR=2.5								
LPAZ	**La Paz**	**14.26**	**17**				**Pn**	**15 23 38.0**	**+1.4**
BDFB	**Brasilia**	**26.58**	**63**	P			**P**	**15 25 54.5**	**+2.4**
	comp=N,0.6nm,0.4s,baz=228,slow=13,SNR=1.4								
BDFB	**Brasilia**	**26.58**	**63**	P			**P**	**15 25 51.4**	**-0.7**
BDFB					IAmb		IAmb	15 26 15.2	
	comp=E,11nm,1.5s								
TORD	**Torodi Ar. Bea**	**83.18**	**71**	P			**P**	**15 32 42.5**	**+2.5**
	comp=E,0.6nm,0.6s,baz=260,slow=4.4,SNR=3.7								
TORD	**Torodi Ar. Bea**	**83.18**	**71**	P			**P**	**15 32 41.9**	**+1.9**
TORD					IAmb		IAmb	15 32 52.5	
	comp=E,1.7nm,1.2s								
ZALV	**Zalesovo Beam**	**150.98**	**28**	PKPbc			**PKiKP**	**15 40 07.9**	**+1.6**
	comp=E,1.8nm,0.5s,baz=310,slow=2.5,SNR=11								
ZALV				PKPab			**sPKPbc**	**15 40 15.9**	**+0.7**
	comp=E,1.3nm,0.6s,baz=324,slow=2.4,SNR=5.0								

GUC 27 15:20:55.5±0.5, 32°14S×72°89W, h35km±5km, ML3.4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**1.37**	**131**	*eP*			Pb	15 21 20.7	+0.1
VA01				*i*	S		Sb	15 21 39.6	+1.9
VA06	**Catapilco**	**1.41**	**108**	*eP*			Pn	15 21 19.6	+0.9
VA06				*i*	S		Sb	15 21 38.5	-0.5
VA06					IAML			15 21 41.1	
	comp=N,1µm,0.1s								
ROCH	**El Roble**	**1.79**	**118**	*eP*			Pb	15 21 26.4	-1.5
ROCH				*i*	S		Sb	15 21 49.2	-0.8
ROCH					IAML			15 21 51.5	
	comp=E,451nm,0.6s								
VA05	**Santo Domingo**	**1.85**	**145**	*eP*			Pb	15 21 28.6	-0.2
VA05					IAML			15 21 55.4	
	comp=E,440nm,0.3s								
VA03	**San Esteban**	**2.07**	**108**	*eP*			Pn	15 21 29.8	+1.9
VA03					IAML			15 21 59.6	
	comp=E,419nm,0.2s								
MT01	**Popeta**	**2.20**	**142**	*i*	S		Sb	15 21 59.1	-2.6
MT01					IAML			15 22 03.3	
	comp=N,175nm,0.6s								

IDC ***27*** *15:27:04.3±4.1, 82°72N×0°25E, h0km, mb3.5/3, mb1 3.9/5, mb1mx3.4/47, mbtmp3.8/5, ML4.4/2, MS3.1/15, Ms1 3.1/15, ms1mx3.0/37, Error ellipse: s-maj=178.8km s-min=23.6km az=42.0*

DNK ***27*** *15:27:06.6±3.7, 81°80N×4°53W, h0km±42km, ML2.4*

BER ***27*** *15:27:09.7±1.9, 81°88N×4°28W, h15km±23km, ML2.6, ML2.4(DNK), Confirmed Earthquake*

ISC 27 15:27:06.3±1.0, 81°76N±0°09×4°77W±0°05, h10km, n35, σ2s30/32, mb3.6/3, MS3.0/14, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NOR	**Nord**	**1.74**	**271**	*e*			**Pn**	**15 27 36.5**	**0.0**
	baz=79,slow=16								
NOR				*i*	P		**Pb**	**15 27 37.0**	**-1.2**
NOR				*i*	P		**Pb**	**15 27 37.6**	**-0.6**
NOR					IAML			15 28 00.6	
	comp=Z,92nm,0.3s								
NOR				*i*	S		**Sb**	**15 28 00.8**	**+0.7**
NOR	**Nord**	**1.74**	**271**	*e*			**Pn**	**15 27 36.5**	**0.0**
	baz=79,slow=16								
NOR				*i*	P		**Pb**	**15 27 37.6**	**-0.6**
NOR					IAML			15 28 00.6	
	comp=Z,92nm,0.3s								
NOR				*i*	S		**Sb**	**15 28 00.8**	**+0.7**
KBS	**Kingsbay**	**3.98**	**127**	*i*	P		**Pn**	**15 28 08.1**	**+0.9**
KBS	**Kingsbay**	**3.98**	**127**	*eP*			**Pn**	**15 28 07.9**	**+0.7**
KBS				*eS*			**Sn**	**15 28 50.3**	**-3.5**
KBS					IAML			15 28 55.2	
	comp=Z,17nm,0.5s								
BRBA	**Barentsburg A**	**4.96**	**128**	*eP*			**Pn**	**15 28 22.2**	**+1.7**
SPA0	**Spitsbergen Ar**	**5.11**	**123**	*eP*			**Pn**	**15 28 23.6**	**+0.9**
SPA0				*eS*			**Sn**	**15 29 17.0**	**-4.7**
SPA0					IAML			15 29 17.8	
	comp=Z,7.5nm,0.4s								
SPA0	**Spitsbergen Ar**	**5.11**	**123**	*eS*			Sg	15 29 17.6	0.0
	comp=Z,7.5nm,0.4s								
SPA0	**Spitsbergen Ar**	**5.11**	**123**	IAML				15 29 17.9	
	comp=Z,7.5nm,0.4s								
SPITS	**Spitsbergen Ar**	**5.11**	**123**	Pn			**Pn**	**15 28 23.2**	**+0.5**
	baz=355,slow=9.2,SNR=681								
SPITS					Sn		Sn	15 29 10.0	-12
	baz=356,slow=12,SNR=5.5								
DAG	**Danmarks Havn**	**5.62**	**214**	*i*	P		**Pn**	**15 28 30.8**	**+1.2**
DAG				*i*	S		**Sn**	**15 29 33.8**	**-0.3**
DAG					IAML			15 29 34.2	
	comp=Z,20nm,0.3s								
DAG	**Danmarks Havn**	**5.62**	**214**	*i*	P		**Pn**	**15 28 30.8**	**+1.2**
DAG				*i*	S		**Sn**	**15 29 33.8**	**-0.3**
DAG					IAML			15 29 34.2	
	comp=Z,20nm,0.3s								
HSPB	**Hornsund (broa**	**6.02**	**132**	*eP*			**Pn**	**15 28 36.5**	**+1.4**
HSPB					IAML			15 29 38.3	
	comp=Z,3.8nm,0.4s								
HOPEN	**Hopen**	**7.57**	**118**	*eP*			**Pn**	**15 28 57.0**	**+0.6**
HOPEN				*eS*			Sn	15 30 14.2	-7.9
HOPEN					IAML			15 30 19.6	
	comp=Z,6.6nm,0.9s								
DBG	**Daneborg**	**8.10**	**211**	*i*	P		**Pn**	**15 29 04.2**	**+0.6**
DBG				*i*	S		**Sn**	**15 30 30.9**	**-4.0**
DBG					IAML			15 30 34.1	
	comp=Z,9.0nm,0.4s								
DBG	**Daneborg**	**8.10**	**211**	*i*	P		**Pn**	**15 29 04.2**	**+0.6**
DBG				*i*	S		**Sn**	**15 30 30.9**	**-4.0**
DBG					IAML			15 30 34.1	
	comp=Z,9.0nm,0.4s								
BJO1	**Bjornoya**	**8.66**	**134**	*eP*			**Pn**	**15 29 11.7**	**+0.4**
BJO1				*eS*			Sn	15 30 37.7	-11
BJO1					IAML			15 30 48.6	
	comp=Z,7.4nm,0.7s								
NEEM	**North Greenlan**	**9.11**	**267**	*i*	P		**Pn**	**15 29 15.8**	**-2.0**
NEEM				*eS*			Sn	15 30 51.5	-8.9
NEEM					IAML			15 30 57.4	
	comp=Z,8.4nm,0.3s								
TULEG	**Thule**	**12.37**	**280**	*i*	P		**Pn**	**15 29 59.7**	**-2.3**
TULEG				*eS*			Sn	15 32 10.6	-9.0
TULEG					IAML			15 32 35.5	
	comp=Z,3.6nm,0.4s								
TULEG	**Thule**	**12.37**	**280**	*i*	P		**Pn**	**15 29 59.7**	**-2.3**
TULEG				*eS*			Sn	15 32 10.6	-9.0
TULEG					IAML			15 32 35.5	
	comp=Z,3.6nm,0.4s								
ARCES	**ARCESS Array B**	**14.04**	**133**	Pn			**Pn**	**15 30 24.6**	**-0.1**
	baz=347,slow=12,SNR=18								
ARCES					LR		LR	15 35 47.3	
	comp=Z,56nm,19.2s,baz=350,slow=37								
NOA	**NORSAR Array B**	**21.26**	**158**	LR			LR	15 38 55.4	
	comp=Z,12nm,18.4s,baz=60,slow=32								
FINES	**FINESS Array B**	**21.98**	**139**	P			**P**	**15 32 01.1**	**+1.4**
	comp=Z,4.2nm,1.0s,baz=336,slow=9.8,SNR=6.7								
FINES					LR		LR	15 40 11.5	
	comp=Z,61nm,18.4s,baz=342,slow=35								
HFS	**Hagfors**	**22.30**	**155**	P			**P**	**15 32 10.3**	**+7.0**
	comp=Z,1.1nm,0.8s,baz=308,slow=15,SNR=1.4								
HFS					LR		LR	15 40 13.0	
	comp=Z,18nm,20.2s,baz=341,slow=34								
NRIK	**Noril'sk**	**22.63**	**67**	LR			LR	15 40 46.6	
	comp=Z,60nm,18.8s,baz=344,slow=38								
FRB	**Frobisher Bay**	**23.84**	**261**	LR			LR	15 42 14.0	
	comp=Z,72nm,18.3s,baz=72,slow=37								
SCHQ	**Schefferville**	**32.20**	**254**	LR			LR	15 46 02.7	
	comp=Z,67nm,19.3s,baz=281,slow=34								
ZALV	**Zalesovo Beam**	**36.99**	**79**	LR			LR	15 52 24.0	
	comp=Z,27nm,19.2s,baz=30,slow=42								
ULM	**Lac du Bonnet**	**40.81**	**281**	LR			LR	15 51 41.3	
	comp=Z,57nm,21.8s,baz=14,slow=36								
MKAR	**Makanchi Array**	**43.61**	**84**	LR			LR	15 57 06.5	
	comp=Z,27nm,18.7s,baz=330,slow=42								
BRTR	**Keskin Array B**	**44.18**	**137**	LR			LR	15 55 36.2	
	comp=Z,19nm,18.4s,baz=322,slow=38								
SONM	**Songino Array**	**45.88**	**61**	LR			LR	15 54 11.3	
	comp=Z,23nm,18.1s,baz=14,slow=36								
GEYT	**Alibeck**	**48.87**	**111**	LR			LR	15 59 49.5	
	comp=Z,16nm,18.7s,baz=215,slow=40								
PDAR	**Pinedale Array**	**50.03**	**292**	LR			LR	15 57 35.7	
	comp=Z,58nm,19.2s,baz=20,slow=36								
TXAR	**Lajitas Array**	**62.43**	**283**	P			**P**	**15 37 31.6**	**+2.4**
	comp=Z,0.3nm,0.7s,baz=20,slow=6.1,SNR=4.0								
CMAR	**Chiang Mai Arr**	**73.80**	**74**	LR			LR	16 12 02.3	
	comp=Z,8.4nm,20.2s,baz=185,slow=37								

BER 27 15:28:55.5±1.9, 78°72N×14°38E, h15km, ML1.2, Confirmed Earthquake, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**0.52**	**295**	*eP*			Pg	15 29 05.3	-0.4
KBS					IAML			15 29 13.9	
	5.5nm,0.6s								
BRBA	**Barentsburg A**	**0.67**	**183**	*eP*			Pg	15 29 08.2	-0.2
BRBA					IAML			15 29 15.8	
	comp=Z,11nm,0.5s								
BRBA				*eS*			Sg	15 29 15.9	-1.3
SPA0	**Spitsbergen Ar**	**0.68**	**143**	*eP*			Pg	15 29 08.7	0.0
HSPB	**Hornsund (broa**	**1.75**	**171**	*eP*			Pn	15 29 22.3	-2.9
HOPEN	**Hopen**	**3.19**	**129**	*eP*			Pn	15 29 43.5	-1.5
HOPEN				*eS*			Sn	15 30 17.8	-4.7
BJO1	**Bjornoya**	**4.37**	**164**	*eP*			Pn	15 29 58.7	-2.5

IDC ***27*** *15:32:42.5±2.0, 22°26N×142°94E, h191km±18km, mb3.5/16, mb1 3.6/19, mb1mx3.4/44, mbtmp4.0/19, Error ellipse: s-maj=21.9km s-min=11.2km az=96.0*

NEIC ***27*** *15:32:43.3±1.0, 22°26N±0°09×142°9E±0°2, h193km±7km, mb4.4/57, Error ellipse: s-maj=21.5km s-min=12.7km az=79.0*

ISC 27 15:32:43.5±0.6, 22°28N±0°07×142°9E±0°1, h200km, n86, σ0s71/84, mb4.2/42, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.84**	**352**	P			**Pn**	**15 33 54.8**	**-1.1**
	52nm,0.3s,baz=275,slow=16,SNR=14								
JCJ					S		**Sn**	**15 34 51.8**	**-1.1**
	9.6nm,0.3s,baz=308,slow=20,SNR=1.3								
JCJ	**Chichijima**	**4.84**	**352**				**Pn**	**15 33 55.6**	**-0.3**
JMN	**Monobe**	**13.91**	**327**	Pn			**Pn**	**15 35 52.4**	**0.0**
INU	**Inuyama**	**14.01**	**340**	Pn			**Pn**	**15 35 53.7**	**+0.3**
MJAR	**Matsushiro Arr**	**14.79**	**345**	P			**Pn**	**15 36 01.6**	**-1.5**
	0.1nm,0.3s,baz=165,slow=13,SNR=3.1								
MJAR	**Matsushiro Arr**	**14.79**	**345**	Pn			**Pn**	**15 36 02.0**	**-1.1**
MAJO	**Matsushiro**	**14.79**	**345**	Pn			**Pn**	**15 36 01.8**	**-1.3**
JMM	**Marumori**	**15.64**	**354**	P			**P**	**15 36 13.5**	**+0.1**
JMM					IAmb		IAmb	15 36 17.4	
	comp=Z,18nm,0.9s								
JSD	**Sado**	**16.21**	**347**	P			**P**	**15 36 19.1**	**-0.5**
JSD					IAmb		IAmb	15 36 29.9	
	comp=Z,12nm,1.1s								
JTU	**Tsushima**	**17.02**	**319**	P			**P**	**15 36 28.2**	**-0.3**
ERM	**Erimo**	**19.68**	**1**	P			**P**	**15 36 58.3**	**+1.0**
KSRS	**Korea Array**	**19.90**	**323**	P			**P**	**15 37 00.4**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=143,slow=8.6,SNR=12								
JEW	**Eniwo**	**20.54**	**357**	P			**P**	**15 37 07.3**	**+0.8**
ASAJ	**Asahikawa**	**21.78**	**359**	P			**P**	**15 37 20.2**	**+0.8**
	comp=Z,2.3nm,0.5s,baz=233,slow=4.1,SNR=7.9								
JKA	**Kamikawa-asahi**	**21.78**	**359**	P			**P**	**15 37 20.2**	**+0.8**
JKA	**Kamikawa-asahi**	**21.78**	**359**	IAmb			IAmb	15 37 32.5	
	comp=Z,32nm,1.5s								
KLR	**Kul'dur**	**28.32**	**344**	P			**P**	**15 38 18.6**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=187,slow=4.9,SNR=5.7								
SEY	**Seymchan**	**41.13**	**7**	P			**P**	**15 40 08.2**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=107,slow=19,SNR=4.3								
WB0	**Warramunga Arr**	**42.61**	**192**	P			**P**	**15 40 20.1**	**-0.1**
WR0	**Warramunga Arr**	**42.77**	**192**	P			**P**	**15 40 20.7**	**-0.8**
WRAB	**Tennant Creek**	**42.78**	**192**	P			**P**	**15 40 20.9**	**-0.7**
WB2	**Warramunga Arr**	**42.79**	**192**	P			**P**	**15 40 20.8**	**-0.9**
WRA	**Warramunga Arr**	**42.80**	**192**	P			**P**	**15 40 20.9**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=16,slow=9.4,SNR=12								
WRA	**Warramunga Arr**	**42.80**	**192**	IAmb			IAmb	15 40 27.4	
	comp=Z,0.5nm,1.5s								
FITZ	**Fitzroy Crossi**	**43.55**	**204**	P			**P**	**15 40 27.8**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=13,slow=5.6,SNR=1.1								
ASAR	**Alice Springs**	**46.51**	**191**	P			**P**	**15 40 50.0**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=18,slow=5.4,SNR=2.1								
DZM	**Mont Dzumac**	**49.69**	**151**	P			**P**	**15 41 14.9**	**-0.5**
DZM					IAmb		IAmb	15 41 33.4	
	comp=Z,18nm,1.4s								
ZALV	**Zalesovo Beam**	**53.60**	**321**	P			**P**	**15 41 43.8**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=118,slow=8.2,SNR=4.1								
STKA	**Stephens Creek**	**53.87**	**181**	P			**P**	**15 41 46.3**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=331,slow=9.4,SNR=3.5								
STKA	**Stephens Creek**	**53.87**	**181**	IAmb			IAmb	15 41 53.1	
	comp=Z,1.1nm,1.4s								
MK31	**Makanchi Array**	**54.13**	**312**	P			**P**	**15 41 48.4**	**+0.5**
MKAR	**Makanchi Array**	**54.13**	**312**	P			**P**	**15 41 48.2**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=84,slow=8.3,SNR=6.9								
MAKZ	**Makanchi**	**54.34**	**312**	P			**P**	**15 41 49.6**	**+0.1**
CHGN	**Chignik**	**54.45**	**36**	P			**P**	**15 41 49.6**	**-0.4**
SVW2	**Sparrevohn**	**57.03**	**31**	P			**P**	**15 42 09.6**	**+1.3**
SVW2					IAmb		IAmb	15 42 32.3	
	comp=Z,9.1nm,1.0s								
N19K	**Bonanza Creek**	**57.48**	**31**	P			**P**	**15 42 12.9**	**+1.3**
N19K					IAmb		IAmb	15 42 27.1	
	comp=Z,8.6nm,1.2s								
Q19K	**Cape Douglas,**	**57.51**	**33**	P			**P**	**15 42 10.9**	**-0.8**
KDAK	**Kodiak Island**	**57.86**	**35**	P			**P**	**15 42 13.4**	**-0.7**
CNPM	**China Poot**	**58.83**	**33**	P			**P**	**15 42 20.1**	**-0.7**
PPLA	**Purkeypile**	**58.99**	**29**	P			**P**	**15 42 23.0**	**+1.0**
PPLA					IAmb		IAmb	15 42 36.3	
	comp=Z,15nm,1.4s								
BRLK	**Bradley Lake**	**59.05**	**33**	P			**P**	**15 42 22.6**	**+0.3**
IMAR	**Indian Mountai**	**59.06**	**25**	P			**P**	**15 42 23.0**	**+0.7**
SKT	**Skwentna**	**59.11**	**30**	P			**P**	**15 42 22.9**	**+0.2**
SKT					IAmb		IAmb	15 42 24.6	
	comp=Z,5.9nm,1.2s								
H21K	**Melozitna Rive**	**59.35**	**26**	P			**P**	**15 42 25.4**	**+1.0**
H21K					IAmb		IAmb	15 42 26.8	
	comp=Z,3.2nm,0.8s								
KTH	**Kantishna Hill**	**59.69**	**28**	P			**P**	**15 42 26.2**	**-0.5**
KTH					IAmb		IAmb	15 42 32.2	
	comp=Z,7.3nm,1.3s								
PWL	**Port Wells**	**60.46**	**32**	P			**P**	**15 42 32.0**	**+0.1**
PWL					IAmb		IAmb	15 42 38.3	
	comp=Z,11nm,1.1s								
I23K	**Minto, Yukon-K**	**60.66**	**27**	P			**P**	**15 42 34.1**	**+1.0**
TOLK	**Toolik Lake Re**	**61.28**	**23**	P			**P**	**15 42 38.8**	**+1.4**
TOLK					IAmb		IAmb	15 42 39.3	
	comp=Z,10nm,1.2s								
ILAR	**Eielson Array**	**61.63**	**27**	P			**P**	**15 42 39.1**	**-0.6**
	comp=Z,1.4nm,0.4s,baz=260,slow=5.5,SNR=15								
KLU	**Klutina**	**61.69**	**31**	P			**P**	**15 42 40.8**	**+0.6**
KLU					IAmb		IAmb	15 42 49.9	
	comp=Z,12nm,1.3s								
EYAK	**Cordova Ski Ar**	**61.69**	**32**	P			**P**	**15 42 40.9**	**+0.8**
PAX	**Paxson**	**62.04**	**29**	P			**P**	**15 42 42.8**	**+0.2**
PAX					IAmb		IAmb	15 42 43.6	
	comp=Z,2.1nm,0.8s								
BRVK	**Borovoye**	**62.13**	**319**	P			**P**	**15 42 43.4**	**+0.1**
BMRM	**Bremner River**	**62.28**	**32**	P			**P**	**15 42 44.7**	**+0.5**
N25K	**Chitina, Valde**	**62.33**	**31**	P			**P**	**15 42 44.7**	**+0.2**
N25K					IAmb		IAmb	15 43 09.6	
	comp=Z,11nm,1.4s								
RIDG	**Independent Ri**	**62.40**	**29**	P			**P**	**15 42 45.0**	**+0.1**
RIDG					IAmb		IAmb	15 42 46.0	
	comp=Z,5.7nm,1.0s								
KK31	**Karatay Array**	**62.50**	**308**	P			**P**	**15 42 46.3**	**+0.4**
KKAR	**Karatay Array**	**62.50**	**308**	P			**P**	**15 42 46.5**	**+0.6**
GLB	**Gilahina Butte**	**62.70**	**31**	P			**P**	**15 42 46.8**	**-0.1**
GLB					IAmb		IAmb	15 42 54.5	
	comp=Z,8.5nm,1.4s								
DOT	**Dot Lake**	**62.74**	**29**	P			**P**	**15 42 47.1**	**0.0**
DOT					IAmb		IAmb	15 42 48.2	
	comp=Z,2.5nm,0.9s								
SCRK	**Sand Creek**	**62.80**	**28**	P			**P**	**15 42 47.7**	**+0.1**
SCRK					IAmb		IAmb	15 42 48.4	
	comp=Z,3.7nm,0.7s								
BMAR	**Burnt Mountain**	**62.92**	**24**	P			**P**	**15 42 49.7**	**+1.4**
CRQM	**Cirque**	**62.98**	**32**	P			**P**	**15 42 49.4**	**+0.4**
WAX	**Waxell Ridge**	**63.11**	**32**	P			**P**	**15 42 50.3**	**+0.6**
TGL	**Tana Glacier**	**63.14**	**32**	P			**P**	**15 42 50.3**	**+0.4**
TGL					IAmb		IAmb	15 43 16.4	
	comp=Z,12nm,1.3s								
ISLE	**Juniper Island**	**63.37**	**32**	P			**P**	**15 42 52.0**	**+0.5**
GRNC	**Granite Creek**	**63.66**	**32**	P			**P**	**15 42 54.2**	**+0.7**
GRNC					IAmb		IA

SVB				eS		Sn	16 06 01.9 -1.8
GCMP	Grenada, Carri	3.22	245	eP		Pn	16 05 34.9 -0.5
GCMP				eS		Sn	16 06 10.9 -3.0
DSLB	Salisbury	3.28	299	eP		Pn	16 05 37.0 +0.7
DSLB				eS		Sn	16 06 15.4 -0.1
MDCT	Cottage Hill,	3.41	301	eP		Pn	16 05 39.4 +1.4
MDCT				eS		Sn	16 06 17.0 -1.5
MAGL	Barre de l'île	3.44	307	eP		Pn	16 05 39.5 +1.0
MAGL				eS		Sn	16 06 19.6 +0.3
GRGR	Grenville	3.58	242	eP		Pn	16 05 40.7 +0.3
GRGR				eS		Sn	16 06 19.8 -3.0
TDBA	Terre de Bas,	3.67	303	eP		Pn	16 05 43.7 +2.1
TDBA				eS		Sn	16 06 23.0 -1.9
TBG	Guadaloupe-3	3.68	303	eP		Pn	16 05 43.1 +1.4
TBG				eS		Sn	16 06 24.1 -1.1
CBE	Ff, Capester	3.77	306	eP		Pn	16 05 43.6 +0.7
CBE				eS		Sn	16 06 26.5 -0.9
ANBD	Bethesda, Anti	4.50	315	eP		Pn	16 05 54.1 +1.0
ANBD	Bethesda, Anti	4.50	315	eS		Sn	16 06 43.1 -2.5
ANWB	Willy Bob	4.97	320	eP		Pn	16 05 59.2 -0.2
ANWB	Willy Bob	4.97	320	eS		Sn	16 06 54.8 -2.1

NEIC ***27*** *16:18:02.2±1.4, 15°.67S±0°.08×74°.9W±0°.1, h42km±7km, mb4.2/6, Error ellipse: s-maj=14.3km s-min=10.7km az=75.0*

IDC ***27*** *16:18:04.1±2.4, 15°.45S×74°.70W, h65km±19km, mb3.5/3, mb1 3.7/7, mb1mx3.4/36, mbtmp3.8/7, MS2.9/6, Ms1 2.9/6, ms1mx2.8/19, Error ellipse: s-maj=35.9km s-min=11.9km az=38.0*

ISC 27 16:18:00.8±0.7, **15°.69S**±0°.08×**74°.88W**±0°.09, **h35**km, **n35,** σ1§**72**/30, **mb4.0**/5, **MS2.9**/4, **Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.14**	**332**	P	**Pn**	**16 19 01.8**	**+0.1**
	14nm,0.3s,baz=152,slow=11,SNR=18						
NNA				S	**Sn**	**16 19 50.6**	**+1.7**
	63nm,0.3s,baz=204,slow=12,SNR=6.0						
NNA	**Nana**	**4.14**	**332**		**Pn**	16 19 02.0	+0.3
AP01	**Chacalluta**	**5.10**	**122**	Pn	**Pn**	16 19 17.2	+2.5
PSGCX	**Pisagua**	**5.98**	**131**		**Pn**	16 19 28.2	+1.2
PB11	**IPOC Station P**	**6.42**	**130**		**Pn**	16 19 34.5	+1.4
LPAZ	**La Paz**	**6.52**	**96**	P	**Pn**	**16 19 36.8**	**+1.9**
	0.9nm,0.3s,baz=294,slow=8.7,SNR=19						
LPAZ				S	**Sn**	**16 20 49.7**	**+1.3**
	0.1nm,0.3s,baz=324,slow=8.1,SNR=1.9						
LPAZ				LR	LR	16 22 13.7	
	comp=Z,38nm,19.1s,baz=276,slow=39						
LPAZ	**La Paz**	**6.52**	**96**		**Pn**	**16 19 36.5**	**+1.6**
TA01	**Diego Aracena**	**6.60**	**138**	Pn	**Pn**	**16 19 37.3**	**+1.9**
PB08	**IPOC Station P**	**7.03**	**130**	Pn	**Pn**	16 19 43.2	+1.6
PB01	**IPOC Station P**	**7.39**	**137**	Pn	**Pn**	16 19 48.0	+1.6
PB07	**IPOC Station P**	**7.65**	**143**	Pn	**Pn**	16 19 51.9	+1.9
PB09	**IPOC Station P**	**8.09**	**140**	Pn	**Pn**	**16 19 58.1**	**+2.0**
LVC	**Limon Verde**	**8.90**	**142**	P	**Pn**	**16 20 11.1**	**+3.7**
	0.6nm,0.3s,baz=26,slow=4.7,SNR=2.7						
LVC				S	**Sn**	**16 21 45.5**	**-1.1**
	1.2nm,0.3s,baz=56,slow=12,SNR=6.6						
PB14	**IPOC Station P**	**9.84**	**155**	Pn	**Pn**	**16 20 22.3**	**+2.1**
SAML	**Samuel**	**13.24**	**61**	Pn	Pn	16 21 01.0	-5.5
SIV	**San Ignacio**	**13.29**	**93**	P	**Pn**	**16 21 06.1**	**-1.1**
	0.2nm,0.3s,baz=294,slow=13,SNR=2.1						
SIV				LR	LR	16 27 04.8	
	comp=Z,34nm,20.0s,baz=307,slow=41						
H03N1	**Juan Fernandez**	**18.05**	**191**	T	T	16 40 56.8	
	baz=13,slow=74,SNR=739						
H03N2	**Juan Fernandez**	**18.05**	**191**	T	T	16 41 05.0	
	baz=13,slow=74,SNR=573						
H03N3	**Juan Fernandez**	**18.07**	**191**	T	T	16 40 55.0	
	baz=13,slow=74,SNR=641						
ROSC	**El Rosal**	**20.40**	**2**	LR	LR	16 31 09.9	
	comp=Z,80nm,19.2s,baz=222,slow=39						
PTGA	**Pitinga**	**20.91**	**46**	P	**P**	**16 22 38.0**	**-2.6**
	1.2nm,0.3s,baz=294,slow=19,SNR=1.2						
PTGA				LR	LR	16 31 26.3	
	comp=Z,37nm,18.4s,baz=25,slow=39						
RUSC	**La Rusia**	**21.51**	**5**	P	**P**	**16 22 49.1**	**+1.7**
RUSC				IAmb	IAmb	16 23 00.4	
	comp=Z,8.3nm,0.8s						
PLCA	**Paso Flores**	**25.24**	**172**	LR	LR	16 31 35.8	
	comp=Z,28nm,18.1s,baz=356,slow=32						
MDP	**Montagnes des**	**30.19**	**49**	LR	LR	16 36 02.7	
	comp=Z,37nm,18.4s,baz=229,slow=36						
PMSA	**Palmer Station**	**49.60**	**174**	P	**P**	**16 26 47.2**	**-1.1**
TX32	**Lajitas Array**	**52.69**	**328**	P	**P**	**16 27 11.2**	**-0.8**
TX32				IAmb	IAmb	16 27 14.4	
	comp=Z,2.0nm,1.5s						
TXAR	**Lajitas Array**	**52.69**	**328**	P	**P**	**16 27 11.3**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=147,slow=8.8,SNR=10						
TX31	**Lajitas Ar. Si**	**52.69**	**328**	P	**P**	**16 27 11.1**	**-1.0**
TX31				IAmb	IAmb	16 27 14.4	
	comp=Z,5.7nm,1.5s						
TORD	**Torodi Ar. Bea**	**80.96**	**74**	P	**P**	**16 30 10.3**	**-2.1**
	comp=Z,0.9nm,0.7s,baz=261,slow=5.0,SNR=5.1						
TORD	**Torodi Ar. Bea**	**80.96**	**74**	IAmb	IAmb	16 30 18.1	
	comp=Z,3.8nm,1.4s						
ASAR	**Alice Springs**	**131.82**	**216**	PKP	**PKPdf**	**16 37 11.3**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=127,slow=1.9,SNR=7.1						
ASAR	**Alice Springs**	**131.82**	**216**		**PKPdf**	**16 37 10.4**	**-0.9**
WRA	**Warramunga Arr**	**134.41**	**220**	PKP	**PKPdf**	**16 37 16.1**	**0.0**
	comp=Z,0.7nm,0.7s,baz=132,slow=2.2,SNR=7.7						
ZALV	**Zalesovo Beam**	**138.65**	**18**	PKP	**PKPdf**	**16 37 22.4**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=242,slow=3.2,SNR=4.6						
SONM	**Songino Array**	**147.92**	**358**	PKPbc	**PKPdf**	**16 37 41.3**	**+1.8**
	comp=Z,0.9nm,1.0s,baz=31,slow=1.0,SNR=5.6						

DJA ***27*** *16:23:51.6±0.3, 10°.3S×10°.8E±°, h10km, M4.0/13, mb4.4/5, mB4.8/1, MLv3.9/13, Mw(mB)4.0/1*

IDC ***27*** *16:23:54.7±2.5, 9°.56S×108°.10E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.6/32, mbtmp3.7/6, ML3.3/2, Error ellipse: s-maj=93.4km s-min=18.5km az=54.0*

ISC 27 16:23:53.2±0.9, **9°.79S**±0°.08×**107°.93E**±0°.07, **h10**km, **n26,** σ1§**65**/28, **mb3.6**/4, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**2.06**	**15**	P	**Pn**	**16 24 26.2**	**-1.6**
CMJI				S	**Sn**	**16 24 51.4**	**-2.1**
CISI	**Cisompet, Garu**	**2.22**	**357**	P	**Pn**	**16 24 29.1**	**-1.0**
XMI	**Christmas Isla**	**2.30**	**253**	P	**Pb**	**16 24 33.9**	**-0.9**
XMIS	**Christmas Isla**	**2.34**	**253**	P	**Pb**	**16 24 32.4**	**-3.1**
SCJI	**Gunung Srandil**	**2.42**	**31**	P	**Pn**	**16 24 31.7**	**-1.2**
CNJI	**Cibinong**	**2.58**	**342**	P	**Pn**	**16 24 34.8**	**-0.3**
CNJI				S	**Sn**	**16 25 05.3**	**-1.3**
KPJI	**Karang Pucung**	**2.63**	**22**	P	**Pn**	**16 24 34.6**	**-1.1**
LEM	**Lembang**	**2.96**	**354**	Pn	**Pn**	**16 24 41.2**	**+0.9**
	6.9nm,0.3s,baz=126,slow=21,SNR=3.2						
LEM				Sn	**Sn**	**16 25 15.8**	**-0.2**
	3.3nm,0.3s,baz=217,slow=20,SNR=4.5						
LEM	**Lembang**	**2.96**	**354**	P	**Pn**	**16 24 40.0**	**-0.3**
CTJI	**Waduk Cacaban**	**3.03**	**24**	P	**Pn**	**16 24 40.6**	**-0.6**
YOGI	**Yogyakarta**	**3.05**	**50**	P	**Pn**	**16 24 40.4**	**-1.1**
SKJI	**Sukabumi**	**3.08**	**334**	P	**Pn**	**16 24 41.7**	**-0.2**
UGM	**Wanagama**	**3.17**	**54**	P	**Pn**	**16 24 41.5**	**-1.7**
PCJI	**Pacitan**	**3.58**	**64**	P	**Pn**	**16 24 47.4**	**-1.4**
PWJI	**Pagerwojo**	**4.21**	**66**	P	**Pn**	**16 24 56.0**	**-1.5**
SJI	**Sawahan**	**4.31**	**62**	P	**Pn**	**16 24 57.5**	**-1.4**
GMJI	**Gumukmas**	**5.65**	**75**	P	**Pn**	**16 25 15.7**	**-1.6**
	0.1nm27nm,0.9s						
JAGI	**Jajag, Banyuwa**	**6.29**	**78**	P	**Pn**	**16 25 24.3**	**-1.7**
	0.2nm26nm,0.7s						
KLNI	**Mataram**	**8.18**	**81**	P	**Pn**	**16 25 50.4**	**-1.6**
	13nm,1.1s						
TWSI	**Taliwang, Sumb**	**8.90**	**84**	P	**Pn**	**16 26 00.5**	**-1.4**
	439nm14nm,0.7s						
PLAI	**Plampang**	**9.77**	**85**	P	**Pn**	**16 26 11.1**	**-2.7**
FITZ	**Fitzroy Crossi**	**19.06**	**118**	P	**Pn**	**16 28 19.2**	**+2.6**
	0.1nm,0.3s,baz=348,slow=5.2,SNR=3.2						
FITZ				S	Sn	16 31 31.9	-18
	0.0nm,0.3s,baz=323,slow=19,SNR=2.5						
WRA	**Warramunga Arr**	**27.41**	**115**	P	**P**	**16 29 40.7**	**+1.4**
	0.5nm,0.3s,baz=285,slow=11,SNR=1.8						
ASAR	**Alice Springs**	**28.38**	**122**	P	P	16 29 51.2	+3.2
	0.3nm,0.6s,baz=301,slow=9.5,SNR=6.4						
CMAR	**Chiang Mai Arr**	**29.43**	**342**	P	**P**	**16 29 57.9**	**+0.8**
	0.6nm,0.7s,baz=180,slow=9.2,SNR=6.7						
MKAR	**Makanchi Array**	**60.80**	**340**	P	**P**	**16 34 08.0**	**+2.5**
	0.2nm,0.4s,baz=155,slow=8.2,SNR=7.6						

GUC ***27*** *16:25:57.4±0.5, 30°.76S×71°.40W, h52km±1km, ML3.9*

NEIC ***27*** *16:25:58.4±1.3, 30°.78S±0°.03×71°.38W±0°.09, h34km±7km, mb4.5/6, Error ellipse: s-maj=11.2km s-min=2.2km az=73.0*

ISC 27 16:25:58.3±0.8, **30°.75S**±0°.03×**71°.44W**±0°.08, **h34**km±1km, **n51,** σ1§**14**/58, **1C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.19**	**295**	⇑*iP*	**Pb**	**16 26 05.7**	**+0.7**
CO06				*eS*	**Sb**	**16 26 11.5**	**+2.0**
CO06				IAML		16 26 12.5	
	comp=E,16μm,0.3s						
CO06	**Fray Jorge**	**0.19**	**295**		**Pb**	**16 26 05.6**	**+0.7**
CO02	**Combarbal**	**0.59**	**140**	⇓*iP*	**Pn**	**16 26 09.7**	**-0.6**
CO02				*i S*	**Sn**	**16 26 18.6**	**-0.2**
CO02	**Combarbal**	**0.59**	**140**		**Pn**	**16 26 09.6**	**-0.7**
CO03	**El Pedregal**	**0.65**	**98**	⇓*iP*	**Pn**	**16 26 10.4**	**-0.8**
CO03				*i S*	**Sn**	**16 26 19.8**	**-0.6**
CO03				IAML		16 26 20.4	
	comp=N,6μm,0.1s						
CO03	**El Pedregal**	**0.65**	**98**		**Pn**	**16 26 10.3**	**-0.8**
GO04	**Tololo Observa**	**0.80**	**44**	⇓*iP*	**Pn**	**16 26 12.8**	**-0.6**
GO04				*eS*	**Sn**	**16 26 24.1**	**-0.1**
GO04	**Tololo Observa**	**0.80**	**44**		**Pn**	**16 26 12.6**	**-0.8**
CO05	**La Serena**	**0.85**	**12**	*iP*	**Pn**	**16 26 13.4**	**-0.4**
CO05				*eS*	**Sn**	**16 26 24.9**	**-0.2**
CO05				IAML		16 26 30.3	
	comp=E,3μm,0.2s						
CO05	**La Serena**	**0.85**	**12**		**Pn**	**16 26 13.2**	**-0.6**
VA06	**Catapilco**	**1.81**	**176**	*iP*	**Pn**	**16 26 26.7**	**-0.3**
VA06				IAML		16 27 05.4	
	comp=E,2μm,0.5s						
LCO	**Las Campanas**	**1.85**	**20**	⇓*iP*	**Pn**	**16 26 27.6**	**-0.3**
LCO				*i S*	**Sn**	**16 26 50.4**	**+0.2**
LCO	**Las Campanas**	**1.85**	**20**	Pn	**Pn**	**16 26 27.4**	**-0.5**
VA03	**San Esteban**	**2.14**	**160**	*eP*	**Pn**	**16 26 32.4**	**+0.6**
VA03				*eS*	**Sn**	**16 26 58.2**	**+1.0**
VA03				IAML		16 27 08.2	
	comp=N,1μm,0.3s						
VA03	**San Esteban**	**2.14**	**160**		**Pn**	**16 26 31.4**	**-0.3**
ROCH	**El Roble**	**2.24**	**171**	*eP*	**Pn**	**16 26 33.1**	**-0.2**
ROCH				IAML		16 27 20.0	
	comp=E,649nm,0.6s						
VA01	**Torpederas**	**2.27**	**184**		**Pn**	**16 26 32.1**	**-1.2**
ZON	**Zonda**	**2.50**	**109**	Pn	**Pn**	**16 26 38.4**	**+1.8**
AC04	**Llanos de Chal**	**2.56**	**7**	*eP*	**Pn**	**16 26 37.2**	**-0.2**
AC04				IAML		16 27 20.3	
	comp=N,570nm,0.2s						
AC04	**Llanos de Chal**	**2.56**	**7**	Pn	**Pn**	**16 26 37.4**	**0.0**
MT05	**Renca**	**2.70**	**167**	*eP*	**Pn**	**16 26 39.2**	**-0.1**
MT05				IAML		16 27 25.1	
	comp=E,834nm,0.1s						
MT05	**Renca**	**2.70**	**167**	Pn	**Pn**	**16 26 39.0**	**-0.4**
VA05	**Santo Domingo**	**2.90**	**183**	IAML		16 27 26.6	
	comp=E,468nm,0.3s						
VA05	**Santo Domingo**	**2.90**	**183**		**Pn**	**16 26 40.9**	**-1.1**
MT09	**Talagante**	**3.04**	**173**	*eP*	**Pn**	**16 26 44.0**	**-0.1**
MT09				IAML		16 27 28.1	
	comp=E,499nm,0.3s						
MT09	**Talagante**	**3.04**	**173**	Pn	**Pn**	**16 26 43.8**	**-0.3**
MT01	**Popeta**	**3.11**	**177**	*iP*	**Pn**	**16 26 44.1**	**-0.8**
MT01				IAML		16 27 31.3	
	comp=E,257nm,0.6s						
MT01	**Popeta**	**3.11**	**177**		**Pn**	**16 26 44.3**	**-0.6**
LMEL	**Las Melosas**	**3.26**	**162**	*eP*	**Pn**	**16 26 48.4**	**+1.2**
LMEL				*i S*	**Sn**	**16 27 26.9**	**+2.1**
LMEL				IAML		16 27 38.9	
	comp=N,356nm,0.6s						
GO03	**Copiap**	**3.32**	**19**	Pn	**Pn**	**16 26 48.1**	**+0.2**
BO01	**Tunca**	**3.64**	**175**	Pn	**Pn**	**16 26 51.8**	**-0.5**
BO02	**Sierra Bellavi**	**4.07**	**172**	*eP*	**Pn**	**16 26 58.3**	**+0.1**
BO02	**Sierra Bellavi**	**4.07**	**172**		**Pn**	**16 26 57.8**	**-0.4**
GO05	**Huala**	**4.26**	**185**	Pn	**Pn**	**16 26 58.7**	**-2.1**
AC02	**Maricunga**	**4.40**	**28**	Pn	**Pn**	**16 27 03.6**	**+0.5**
ML02	**Panimavida**	**5.00**	**180**		**Pn**	**16 27 07.5**	**-3.3**
PB14	**IPOC Station P**	**6.17**	**9**	Pn	**Pn**	**16 27 25.8**	**-1.6**
PB15	**IPOC Station P**	**7.72**	**14**	Pn	**Pn**	**16 27 46.3**	**-2.2**
LC01	**Cunco**	**8.13**	**182**	Pn	**Pn**	**16 27 51.3**	**-2.7**
PB01	**IPOC Station P**	**9.83**	**11**	Pn	**Pn**	**16 28 16.4**	**-0.9**
TRQA	**Tornquist**	**10.68**	**136**	Pn	**Pn**	**16 28 28.0**	**-0.8**
PB08	**IPOC Station P**	**10.77**	**12**	Pn	**Pn**	**16 28 29.8**	**-0.6**
PSGCX	**Pisagua**	**11.17**	**6**	Pn	**Pn**	**16 28 36.5**	**+0.8**
ITQB	**Itaqui**	**12.86**	**89**	Pn	**Pn**	**16 28 57.8**	**-0.9**
LPAZ	**La Paz**	**14.71**	**13**	P	**P**	**16 29 30.2**	**-0.2**
PLTB	**Pedras Altas**	**15.29**	**98**	Pn	**Pn**	**16 29 29.7**	**-2.0**
PLTB				IAmb	IAmb	16 29 32.0	
	comp=Z,16nm,1.3s						
OTAV	**Otavalo**	**31.53**	**347**	P	**P**	**16 32 17.3**	**-0.7**
FLOC	**Florencia**	**32.41**	**352**	P	**P**	**16 32 25.3**	**+0.2**
FLOC				IAmb	IAmb	16 32 38.8	
	comp=Z,4.7nm,0.7s						
CCIG	**Comitan**	**50.83**	**334**	P	**P**	**16 34 55.7**	**-0.1**
DBIC	**Dimbokro**	**73.67**	**72**	P	**P**	**16 37 26.6**	**-2.3**
JFWS	**Jewell Farm**	**75.32**	**346**	P	**P**	**16 37 38.9**	**+1.2**
JFWS				IAmb	IAmb	16 37 39.3	
	comp=Z,4.3nm,0.5s						

IDC ***27*** *16:27:38.9±1.0, 29°.50S×178°.45W, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/24, mbtmp3.8/5, ML3.3/1, Error ellipse: s-maj=43.7km s-min=11.3km az=156.0*

NEIC ***27*** *16:27:44.5±1.3, 29°.5S±0°.3×178°.3W±0°.2, h54km±22km, mb4.2/9, Error ellipse: s-maj=38.8km s-min=24.0km az=189.0*

ISC 27 16:27:43.1±0.8, **29°.5S**±0°.1×**178°.5W**±0°.1, **h35**km, **n24,** σ1§**29**/21, **mb4.1**/8, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.54**	**60**	LR	LR	16 27 38.2	
	comp=Z,50nm,20.2s,baz=130,slow=1.3						
RAO				Pn	**Pn**	**16 27 54.3**	**0.0**
	1μm,0.3s,baz=288,slow=20,SNR=56						
RAO				Sn	**Sn**	**16 28 02.8**	**+0.7**
	1μm,0.3s,baz=198,slow=19,SNR=12						
RAO	**Raoul Island**	**0.54**	**60**	Sn	**Sn**	**16 28 03.2**	**+1.0**
URZ	**Urewera**	**9.46**	**202**	Pn	**Pn**	**16 29 55.1**	**-1.7**
	0.3nm,0.3s,baz=321,slow=21,SNR=1.8						
URZ				Sn	**Sn**	**16 31 44.9**	**+3.0**
	0.4nm,0.3s,baz=114,slow=21,SNR=2.0						
BKZ	**Black Stump Fm**	**10.48**	**202**	Pn	**Pn**	**16 30 10.7**	**-0.3**
QRZ	**Quartz Range**	**13.46**	**211**		Pn	16 30 45.0	-6.6
CMWZ	**Cape Campbell**	**13.57**	**204**		Pn	16 30 46.5	-6.6
KHZ	**Kahutara**	**14.40**	**205**	P	**P**	**16 31 10.1**	**-0.6**
STKA	**Stephens Creek**	**34.30**	**256**	P	**P**	**16 34 29.0**	**+2.8**
	1.3nm,0.6s,baz=111,slow=15,SNR=4.8						
ASAR	**Alice Springs**	**42.77**	**266**	P	**P**	**16 35 38.3**	**+0.8**
	0.3nm,0.5s,baz=99,slow=6.4,SNR=17						
WR0	**Warramunga Arr**	**43.49**	**272**	P	**P**	**16 35 42.7**	**-0.6**
WR0				IAmb	IAmb	16 36 04.4	
	comp=Z,6.8nm,1.4s						
WB2	**Warramunga Arr**	**43.66**	**271**	P	**P**	**16 35 44.4**	**-0.3**
WB2				IAmb	IAmb	16 35 56.6	
	comp=Z,5.9nm,1.5s						
WRAB	**Tennant Creek**	**43.67**	**271**	P	**P**	**16 35 44.0**	**-0.7**
WRAB				IAmb	IAmb	16 35 59.4	
	comp=Z,7.3nm,1.4s						
WRA	**Warramunga Arr**	**43.68**	**271**	P	**P**	**16 35 44.7**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=109,slow=6.1,SNR=24						
WRA	**Warramunga Arr**	**43.68**	**271**	P	**P**	**16 35 44.4**	**-0.4**
WB0	**Warramunga Arr**	**43.70**	**272**	P	**P**	**16 35 44.8**	**-0.1**
SBA	**Scott Base**	**48.88**	**184**	P	**P**	**16 36 25.7**	**+0.9**
VNDA	**Vanda**	**48.93**	**186**	P	**P**	**16 36 25.1**	**-0.2**
VNDA				IAmb	IAmb	16 36 42.3	
	comp=Z,2.8nm,1.4s						
FITZ	**Fitzroy Crossi**	**51.97**	**269**	P	**P**	**16 36 49.3**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=130,slow=7.9,SNR=1.4						
MORW	**Morawa**	**56.41**	**253**	P	**P**	**16 37 19.9**	**-1.3**
GIRL	**Giralia**	**60.12**	**259**	P	**P**	**16 37 46.2**	**-1.1**
QSPA	**South Pole Qui**	**60.59**	**180**	P	**P**	**16 37 48.3**	**-1.7**
H03S2	**Juan Fernandez**	**81.28**	**124**	T	T	18 09 16.0	
	baz=239,slow=74,SNR=18						
H03S1	**Juan Fernandez**	**81.29**	**124**	T	T	18 09 17.5	
	baz=239,slow=74,SNR=18						
H03S3	**Juan Fernandez**	**81.30**	**124**	T	T	18 09 15.6	
	baz=239,slow=74,SNR=16						

IDC ***27*** *16:44:27.2±1.2, 30°.65S×71°.91W, h0km, mb3.8/3, mb1 3.9/8, mb1mx3.7/27, mbtmp3.8/8, ML3.6/5, MS3.5/3, Ms1 3.5/3, ms1mx3.0/18, Error ellipse: s-maj=36.7km s-min=27.6km az=113.0*

NEIC ***27*** *16:44:29.2, 30°.66S×72°.02W, h22km, Moment Tensor Solution. Moment tensor: Scale 10^14 Nm; Mrr6.38; Mθθ0.04; Mφφ-6.42; Mrθ0.37; Mrφ-0.23; Mθφ-2.59; Fault plane solution: Mw6.92000×10^14 NP1:φ1178.26000°, δ56.07000°, λ85.72000°. NP2:φ25.89000°, δ34.17000°, λ96.33000°. Principal axes: T 6.9102, Plg78.0000°, Azm73.0000°; N 0.0155, Plg4.0000°, Azm181.0000°; P -6.9257, Plg11.0000°, Azm271.0000°*

GUC ***27*** *16:44:29.5±0.8, 30°.67S×71°.89W, h34km±2km, ML3.9*

NEIC ***27*** *16:44:30.7±1.7, 30°.64S±0°.03×71°.88W±0°.06, h19km±4km, mb4.2/4, Mwr3.8/30, ML3.9(GUC), Error ellipse: s-maj=7.4km s-min=3.7km az=70.0*

ISC 27 16:44:30.0±0.8, **30°.63S**±0°.04×**71°.97W**±0°.07, **h22**km±4km, **n62,** σ1§**18**/67, **mb4.1**/3, **5C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.30**	**99**	*eP*	**Pb**	**16 44 36.8**	**+0.1**
CO06				*eS*	**Sb**	**16 44 42.0**	**+0.6**
CO06	**Fray Jorge**	**0.30**	**99**		**Pb**	**16 44 36.7**	**0.0**
CO06				Sg	**Sb**	**16 44 41.1**	**-0.2**
CO05	**La Serena**	**0.95**	**42**	⇑*eP*	**Pn**	**16 44 47.5**	**-0.5**
CO05				*eS*	**Sn**	**16 45 00.5**	**-0.4**
CO05				IAML		16 45 04.1	
	comp=N,6μm,0.2s						
CO05	**La Serena**	**0.95**	**42**		**Pn**	**16 44 47.6**	**-0.5**
CO05				Sg	**Sb**	**16 44 59.5**	**-0.4**
CO02	**Combarbal**	**1.01**	**125**	⇑*eP*	**Pb**	**16 44 47.7**	**-1.2**
CO02				*eS*	**Sb**	**16 45 01.4**	**-0.5**
CO02				IAML		16 45 05.3	
	comp=E,11μm,0.4s						
CO02	**Combarbal**	**1.01**	**125**		**Pb**	**16 44 47.9**	**-1.0**
CO02				Sg	**Sb**	**16 45 00.8**	**-1.1**
GO04	**Tololo Observa**	**1.11**	**66**	⇑*eP*	**Pb**	**16 44 50.0**	**-0.7**
GO04				*eS*	**Sn**	**16 45 06.1**	**+0.9**
GO04				IAML		16 45 12.4	
	comp=E,11μm,0.4s						
GO04	**Tololo Observa**	**1.11**	**66**		**Pb**	**16 44 50.1**	**-0.5**
CO03	**El Pedregal**	**1.13**	**101**	⇑*eP*	**Pn**	**16 44 49.6**	**-0.9**
CO03				*eS*	**Sb**	**16 45 04.2**	**-0.9**
CO03				IAML		16 45 07.1	
	comp=N,3μm,0.3s						
CO03	**El Pedregal**	**1.13**	**101**		**Pn**	**16 44 49.6**	**-0.9**
CO03					**Sb**	**16 45 04.2**	**-0.9**
LCO	**Las Campanas**	**1.96**	**35**	⇑*eP*	**Pn**	**16 45 02.6**	**+0.5**
LCO				*eS*	**Sb**	**16 45 29.1**	**0.0**
LCO	**Las Campanas**	**1.96**	**35**	Pn	**Pn**	**16 45 02.4**	**+0.4**
VA06	**Catapilco**	**2.01**	**163**	*eP*	**Pn**	**16 45 02.4**	**-0.2**
VA06				*eS*	**Sn**	**16 45 26.8**	**-0.2**
VA06				IAML		16 45 38.0	
	comp=N,2μm,0.8s						
VA01	**Torpederas**	**2.40**	**173**	*eP*	**Pb**	**16 45 11.5**	**-1.0**
VA01	**Torpederas**	**2.40**	**173**		**Pn**	**16 45 08.6**	**+0.7**
VA03	**San Esteban**	**2.45**	**151**	*eP*	**Pn**	**16 45 09.6**	**+0.8**
VA03				*i* S	**Sn**	**16 45 40.0**	**+1.9**
VA03				IAML		16 45 51.2	
	comp=N,2μm,0.7s						
VA03	**San Esteban**	**2.45**	**151**		**Pn**	**16 45 09.5**	**+0.8**
AC04	**Llanos de Chal**	**2.54**	**18**	*eP*	**Pn**	**16 45 09.5**	**-0.4**
AC04				IAML		16 46 05.2	
	comp=E,294nm,0.6s						
AC04	**Llanos de Chal**	**2.54**	**18**	Pn	**Pn**	**16 45 09.5**	**-0.4**
MT05	**Renca**	**2.95**	**159**	*eP*	**Pb**	**16 45 19.8**	**-2.0**
MT05	**Renca**	**2.95**	**159**		**Pn**	**16 45 17.0**	**+1.4**
ZON	**Ponda**	**2.97**	**109**	Pn	**Pn**	**16 45 14.3**	**-1.6**
VA05	**Santo Domingo**	**3.04**	**174**	Pn	**Pn**	**16 45 16.7**	**0.0**
MT09	**Talagante**	**3.25**	**165**	Pn	**Pn**	**16 45 20.2**	**+0.5**
MT01	**Popeta**	**3.28**	**169**		**Pn**	**16 45 19.4**	**-0.7**
GO03	**Copiap**	**3.38**	**27**	Pn	**Pn**	**16 45

Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAIG	**Los Arroyos**	**0.83**	**81**	*eP*	Pn	16 57 02.8	-1.7
DAIG				*eS*	Sn	16 57 13.5	-2.2
ARIG	**Puente Sto Nin**	**1.39**	**7**	*eP*	Pn	16 57 10.4	-1.6
UON	**La Union**	**1.64**	**311**	*eP*	Pn	16 57 04.6	-11
UON				*eS*	Sn	16 57 36.2	+0.8

*IDC **27** 16:57:25.8±0.9, 13°.56N×57°.46E, h0km, mb3.7/13, mb1 3.8/14, mb1mx3.6/41, mbtmp3.7/14, ML3.2/1, MS3.3/19, Ms1 3.3/19, ms1mx3.1/38, Error ellipse: s-maj=22.8km s-min=20.9km az=17.0*

ISC 27 16:57:27.6±0.9, 13°.6N±0°.1×57°.5E±0°.1, h10km, n30, σ1$30/15, mb3.7/13, MS3.3/17, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**9.68**	**6**	Pn	**Pn**	**16 59 46.0**	**-1.0**
	0.2nm,0.3s,baz=221,slow=8.6,SNR=2.3						
WSAR				LR	LR	17 03 19.5	
	comp=Z,246nm,18.2s,baz=173,slow=36						
ATD	**Arta Tunnel**	**14.40**	**264**	LR	LR	17 04 47.7	
	comp=Z,113nm,21.7s,baz=135,slow=31						
PALK	**Pallekele**	**23.70**	**103**	LR	LR	17 10 05.3	
	comp=Z,54nm,20.7s,baz=37,slow=32						
GEYT	**Alibeck**	**24.27**	**1**	LR	LR	17 12 49.4	
	comp=Z,38nm,19.5s,baz=95,slow=38						
KMBO	**Kilima Mbogo**	**24.78**	**235**	P	**P**	**17 02 51.1**	**+0.9**
	0.9nm,0.5s,baz=54,slow=19,SNR=1.9						
EIL	**Elat**	**26.27**	**311**	LR	LR	17 13 58.7	
	comp=Z,79nm,18.4s,baz=302,slow=38						
ASF	**Jabal al Asfar**	**26.40**	**318**	P	**P**	**17 03 06.5**	**+2.0**
	2.7nm,0.9s,baz=124,slow=3.6,SNR=2.9						
ASF				LR	LR	17 13 56.1	
	comp=Z,170nm,18.9s,baz=276,slow=37						
MMAI	**Mount Meron Ar**	**27.90**	**318**	LR	LR	17 14 39.3	
	comp=Z,38nm,19.2s,baz=170,slow=37						
GNI	**Garni**	**28.73**	**339**	LR	LR	17 16 13.0	
	comp=Z,20nm,18.5s,baz=150,slow=39						
MBAR	**Mbarara**	**29.98**	**244**	LR	LR	17 14 18.8	
	comp=Z,84nm,21.3s,baz=34,slow=34						
KBZ	**Khabaz**	**32.55**	**340**	LR	LR	17 18 45.3	
	comp=Z,36nm,18.1s,baz=164,slow=39						
BRTR	**Keskin Array B**	**33.43**	**326**	LR	LR	17 19 24.1	
	comp=Z,58nm,19.2s,baz=131,slow=39						
MKAR	**Makanchi Array**	**39.13**	**27**	P	**P**	**17 04 56.4**	**+1.1**
	0.4nm,0.5s,baz=209,slow=11,SNR=6.1						
MKAR				LR	LR	17 23 12.0	
	comp=Z,38nm,18.2s,baz=200,slow=40						
CMAR	**Chiang Mai Arr**	**40.11**	**77**	P	**P**	**17 05 05.5**	**+1.6**
	0.4nm,0.3s,baz=273,slow=6.0,SNR=2.7						
CMAR				LR	LR	17 21 24.9	
	comp=Z,21nm,18.1s,baz=330,slow=36						
KURBB	**Kurchatov Arra**	**40.74**	**21**	P	**P**	**17 05 10.7**	**+2.1**
	0.3nm,0.7s,baz=219,slow=8.4,SNR=2.4						
AKASG	**Malin Array Be**	**43.55**	**334**	P	**P**	**17 05 31.4**	**-0.1**
	0.3nm,0.4s,baz=140,slow=8.2,SNR=6.1						
ZALV	**Zalesovo Beam**	**45.69**	**22**	P	**P**	**17 05 47.8**	**-0.8**
	0.3nm,0.4s,baz=209,slow=5.6,SNR=1.8						
ZALV				LR	LR	17 27 09.7	
	comp=Z,34nm,19.2s,baz=183,slow=39						
FINES	**FINESS Array B**	**52.88**	**342**	P	**P**	**17 06 43.0**	**-0.4**
	0.9nm,0.6s,baz=134,slow=8.2,SNR=6.3						
SONM	**Songino Array**	**52.94**	**40**	LR	LR	17 29 45.2	
	comp=Z,29nm,20.1s,baz=189,slow=37						
TORD	**Torodi Ar. Bea**	**54.15**	**277**	P	**P**	**17 06 52.9**	**-0.6**
	0.5nm,0.7s,baz=77,slow=5.6,SNR=3.6						
NOA	**NORSAR Array B**	**57.92**	**335**	LR	LR	17 35 00.1	
	comp=Z,16nm,19.1s,baz=315,slow=39						
ARCES	**ARCESS Array B**	**59.44**	**348**	P	**P**	**17 07 29.0**	**-1.2**
	3.1nm,1.0s,baz=129,slow=9.6,SNR=4.4						
ARCES				LR	LR	17 36 05.6	
	comp=Z,18nm,18.7s,baz=10.0,slow=39						
KOWA	**Kowa**	**59.48**	**279**	LR	LR	17 33 09.9	
	comp=Z,37nm,19.3s,baz=75,slow=36						
KSRS	**Korea Array**	**66.43**	**55**	P	**P**	**17 08 17.3**	**0.0**
	0.5nm,0.7s,baz=270,slow=7.3,SNR=2.7						
KSRS				LR	LR	17 39 10.1	
	comp=Z,19nm,18.1s,baz=345,slow=38						
H01W3	**Cape Leeuwin H**	**72.16**	**134**	T	T	18 27 32.4	
	baz=302,slow=75,SNR=18						
H01W2	**Cape Leeuwin H**	**72.17**	**134**	T	T	18 27 29.6	
	baz=302,slow=75,SNR=19						
H01W1	**Cape Leeuwin H**	**72.18**	**134**	T	T	18 27 33.8	
	baz=302,slow=75,SNR=19						
WRA	**Warramunga Arr**	**82.62**	**112**	P	**P**	**17 09 50.4**	**-1.3**
	0.6nm,1.0s,baz=298,slow=4.1,SNR=2.7						
ASAR	**Alice Springs**	**83.35**	**116**	P	**P**	**17 09 54.2**	**-1.2**
	0.5nm,0.7s,baz=287,slow=4.5,SNR=10						
NVAR	**Mina Array Bea**	**128.12**	**356**	PKP	**PKiKP**	**17 16 34.9**	**-0.6**
	0.3nm,0.7s,baz=260,slow=5.1,SNR=2.5						

*IDC **27** 17:21:18.3±1.4, 31°.39S×71°.77W, h0km, mb4.3/3, mb1 4.0/6, mb1mx3.7/36, mbtmp4.0/6, ML3.7/3, MS2.9/3, Ms1 2.9/3, ms1mx2.7/22, Error ellipse: s-maj=58.3km s-min=33.8km az=122.0*

*GUC **27** 17:21:23.2±0.7, 31°.51S×71°.67W, h39km±2km, ML4.0*

ISC 27 17:21:22.4±1.4, 31°.50S±0°.03×71°.67W±0°.07, h23km±11km, n38, σ1°11/43, mb4.2/3, 9C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Cambarbal**	**0.64**	**63**	⇑*eP*	**Pn**	**17 21 35.7**	**-0.5**
CO02				*eS*	**Sn**	**17 21 45.3**	**-0.4**
CO02				IAML		17 21 49.1	
	comp=N,19μm,0.2s						
CO06	**Fray Jorge**	**0.82**	**2**	⇓*eP*	**Pn**	**17 21 39.0**	**+0.4**
CO06				*eS*	**Sn**	**17 21 49.8**	**-0.2**
CO06				IAML		17 21 51.7	
	comp=N,6μm,0.4s						
CO03	**El Pedregal**	**1.06**	**52**	⇑*eP*	**Pn**	**17 21 42.6**	**+0.6**
CO03				*eS*	**Sn**	**17 21 57.0**	**+0.9**
CO03				IAML		17 21 59.4	
	comp=E,3μm,0.5s						
VA06	**Catapilco**	**1.11**	**164**	⇑*eP*	**Pn**	**17 21 42.8**	**+0.3**
VA06				*eS*	**Sb**	**17 21 57.1**	**+0.3**
VA06				IAML		17 22 05.4	
	comp=E,11μm,0.6s						
GO04	**Tololo Observa**	**1.52**	**30**	⇑*eP*	**Pb**	**17 21 49.8**	**-0.2**
GO04				*eS*	**Sb**	**17 22 09.9**	**+1.0**
GO04				IAML		17 22 15.9	
	comp=N,10μm,0.5s						
VA01	**Torpederas**	**1.52**	**179**	⇑*eP*	**Pn**	**17 21 49.1**	**+0.9**
VA01				⇓*eS*	**Sn**	**17 22 08.9**	**+1.6**
VA01				IAML		17 22 16.2	
	comp=N,1μm,0.3s						
ROCH	**El Roble**	**1.57**	**160**	⇑*eP*	**Pn**	**17 21 50.1**	**+1.0**
ROCH				*eS*	**Sb**	**17 22 11.2**	**+0.7**
ROCH				IAML		17 22 19.0	
	comp=E,3μm,0.4s						
VA03	**San Esteban**	**1.58**	**143**	⇑*eP*	**Pb**	**17 21 50.7**	**-0.3**
VA03				*eS*	**Sb**	**17 22 10.9**	**+0.4**
CO05	**La Serena**	**1.62**	**13**	⇑*eP*	**Pb**	**17 21 51.1**	**-0.4**
CO05				*eS*	**Sb**	**17 22 11.9**	**+0.4**
CO05				IAML		17 22 20.3	
	comp=N,2μm,0.4s						
MT05	**Renca**	**2.05**	**158**	*eP*	**Pn**	**17 21 57.1**	**+1.6**
MT05				*eS*	**Sn**	**17 22 22.3**	**+1.9**
MT05				IAML		17 22 31.5	
	comp=E,4μm,0.3s						
VA05	**Santo Domingo**	**2.15**	**179**	⇑*eP*	**Pn**	**17 21 57.5**	**+0.5**
VA05				*eS*	**Sn**	**17 22 24.8**	**+1.8**
VA05				IAML		17 22 37.8	
	comp=E,3μm,0.5s						
MT09	**Talagante**	**2.34**	**166**	*eP*	**Pn**	**17 22 01.3**	**+1.6**
MT09				*i* S	**Sn**	**17 22 28.5**	**+0.7**
MT09				IAML		17 22 41.8	
	comp=N,2μm,0.1s						
MT01	**Popeta**	**2.39**	**172**	*eP*	**Pn**	**17 22 01.1**	**+0.9**
MT01				IAML		17 22 41.0	
	comp=E,1μm,0.5s						
LCO	**Las Campanas**	**2.61**	**19**	*eP*	**Pn**	**17 22 04.7**	**+1.2**
LCO				*i* S	**Sn**	**17 22 36.7**	**+2.0**
BO01	**Tunca**	**2.93**	**171**	*eP*	**Pn**	**17 22 08.6**	**+1.0**
BO01				IAML		17 22 57.2	
	comp=E,352nm,0.5s						
BO03	**Pichilemu**	**3.00**	**185**	*eP*	**Pn**	**17 22 08.2**	**-0.4**
BO03				IAML		17 23 08.6	
	comp=N,248nm,0.7s						
BO02	**Sierra Bellavi**	**3.37**	**168**	*eP*	**Pn**	**17 22 15.2**	**+1.4**
BO02				*i* S	**Sb**	**17 22 59.4**	**-2.7**
BO02				IAML		17 23 11.5	
GO05	**Huala**	**3.51**	**184**	*eP*	**Pn**	**17 22 15.6**	**-0.1**
GO05				IAML		17 23 22.6	
	comp=N,270nm,0.1s						
GO03	**Copiap**	**4.08**	**18**	*eP*	**Pn**	**17 22 24.8**	**+1.3**
GO03				*i* S	**Sn**	**17 23 12.5**	**+1.8**
H03N1	**Juan Fernandez**	**6.42**	**251**	T	T	17 29 35.2	
	baz=79,slow=72,SNR=88						
H03N3	**Juan Fernandez**	**6.44**	**250**	T	T	17 29 37.1	
	baz=79,slow=72,SNR=143						
H03N2	**Juan Fernandez**	**6.44**	**251**	T	T	17 29 38.4	
	baz=79,slow=72,SNR=132						
LVC	**Limon Verde**	**9.19**	**16**	LR	LR	17 27 28.7	
	comp=N,54nm,20.3s,baz=206,slow=41						
PLCA	**Paso Flores**	**9.26**	**175**	Pn	**Pn**	**17 23 35.5**	**+0.9**
	comp=N,0.1nm,0.3s,baz=347,slow=13,SNR=1.8						
PLCA				LR	LR	17 27 35.7	
	comp=N,53nm,19.9s,baz=344,slow=40						
CPUP	**Villa Florida**	**13.57**	**71**	Pn	**Pn**	**17 24 33.1**	**-0.4**
	comp=N,0.2nm,0.3s,baz=252,slow=18,SNR=6.9						
CPUP				LR	LR	17 30 25.3	
	comp=N,89nm,18.6s,baz=219,slow=40						
SIV	**San Ignacio**	**18.21**	**34**	P	**Pn**	**17 25 32.2**	**-1.6**
	comp=N,0.1nm,0.3s,baz=215,slow=16,SNR=3.5						
DBIC	**Dimbokro**	**74.09**	**72**	P	**P**	**17 32 56.7**	**-0.4**
	comp=N,1.3nm,0.5s,baz=243,slow=6.7,SNR=3.5						
KOWA	**Kowa**	**79.32**	**66**	P	**P**	**17 33 26.8**	**+0.2**
	comp=N,0.5nm,0.5s,baz=243,slow=4.5,SNR=4.0						
TORD	**Torodi Ar. Bea**	**83.06**	**70**	P	**P**	**17 33 46.2**	**-0.3**
	comp=N,2.2nm,0.8s,baz=255,slow=4.3,SNR=12						
WRA	**Warramunga Arr**	**123.09**	**209**	PKP	**PKPdf**	**17 40 16.7**	**-1.0**
	comp=N,0.2nm,0.8s,baz=155,slow=1.8,SNR=1.4						
H11S2	**WAKE ISLAND Hyl**	**126.09**	**271**	T	T	19 59 21.1	
	baz=117,slow=75,SNR=38						
H11S1	**WAKE ISLAND Hyl**	**126.10**	**271**	T	T	19 59 13.8	
	baz=117,slow=75,SNR=31						
H11S3	**WAKE ISLAND Hyl**	**126.11**	**271**	T	T	19 59 14.1	
	baz=117,slow=75,SNR=32						
H11N3	**WAKE ISLAND Hyl**	**126.44**	**272**	T	T	19 59 47.9	
	baz=116,slow=74						
H11N1	**WAKE ISLAND Hyl**	**126.45**	**272**	T	T	19 59 52.7	
	baz=116						
H11N2	**WAKE ISLAND Hyl**	**126.45**	**272**	T	T	19 59 46.9	
	baz=116,slow=74						
ZALV	**Zalesovo Beam**	**151.93**	**30**	PKPbc	**PKPbc**	**17 41 15.0**	**0.0**
	comp=N,5.3nm,0.4s,baz=309,slow=2.9,SNR=32						
MKAR	**Makanchi Array**	**154.83**	**45**	PKPbc	**PKPbc**	**17 41 21.4**	**-0.2**
	comp=N,0.4nm,0.7s,baz=318,slow=1.9,SNR=3.1						

IDC 27 17:31:54.5±50.0, 15°.36S×178°.86W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/32, mbtmp3.7/3, Error ellipse: s-maj=910.8km s-min=164.3km az=75.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.54**	**238**	P	P	17 39 26.4	-0.9
	0.6nm,0.4s,baz=79,slow=10,SNR=2.8						
WRA	**Warramunga Arr**	**44.73**	**257**	P	P	17 40 10.4	+0.5
	0.2nm,0.2s,baz=89,slow=8.2,SNR=11						
ASAR	**Alice Springs**	**45.12**	**252**	P	P	17 40 12.8	-0.3
	1.0nm,0.5s,baz=89,slow=8.0,SNR=33						

*IDC **27** 18:02:15.5±1.0, 7°.49N×91°.54E, h0km, mb3.9/8, mb1 4.0/10, mb1mx3.7/40, mbtmp3.9/10, ML3.8/2, MS3.1/1, Ms1 3.1/1, ms1mx2.3/42, Error ellipse: s-maj=33.3km s-min=17.6km az=54.0*

*NDI **27** 18:02:17.8±3.3, 7°.26N×92°.31E, h49km±50km, ML3.2, mb4.3(NEIC)*

*NEIC **27** 18:02:20.2±1.8, 7°.5N±0°.1×91°.52E±0°.08, h30km±6km, mb4.3/13, Error ellipse: s-maj=16.2km s-min=11.6km az=172.0*

ISC 27 18:02:16.9±0.8, 7°.57N±0°.09×91°.63E±0°.10, h10km, n36, σ1$22/31, mb4.1/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**4.21**	**15**	Pn	Pn	18 03 21.5	+0.3
PBA	**Port Blair**	**4.21**	**15**	*eP*	Pn	18 03 20.7	-0.5
PBA				*eS*	Sn	18 04 08.6	-1.7
PBA				IAML		18 04 23.3	
	comp=E,86nm,0.3s						
DGPR	**DIGLIPUR**	**5.72**	**13**	*eP*	**Pn**	**18 03 43.4**	**+1.5**
DGPR				*eS*	**Sn**	**18 04 43.8**	**-3.8**
DGPR				IAML		18 04 53.5	
	comp=E,25nm,0.4s						
DGPR				IAML		18 04 54.6	
	comp=N,30nm,0.8s						
PALK	**Pallekele**	**10.84**	**269**	Pn	**Pn**	**18 04 51.9**	**-0.4**
	comp=N,1.3nm,0.3s,baz=196,slow=12,SNR=21						
PALK				Sn	Sn	18 06 39.2	-15
	comp=N,2.0nm,0.3s,baz=295,slow=21,SNR=7.3						
PALK	**Pallekele**	**10.84**	**269**		**Pn**	**18 04 51.1**	**-1.3**
CMAR	**Chiang Mai Arr**	**12.95**	**33**	Pn	**Pn**	**18 05 22.9**	**+1.7**
	comp=N,0.1nm,0.3s,baz=231,slow=14,SNR=12						
KOHI	**KOHIMA**	**18.20**	**7**	*eP*	**Pn**	**18 06 29.8**	**-0.2**
MOKO	**MOKOCHONG**	**18.85**	**8**	*eP*	**P**	**18 06 36.4**	**-1.0**
LSA	**Lhasa**	**22.02**	**359**	P	**P**	**18 07 14.4**	**+2.3**
LSA				IAmb	IAmb	18 07 16.7	
	comp=Z,10.0nm,0.7s						
H08S3	**Diego Garcia H**	**24.34**	**232**	T	T	18 34 15.4	
	baz=52,slow=75,SNR=6.4						
H08S2	**Diego Garcia H**	**24.34**	**232**	T	T	18 34 17.2	
	baz=52,slow=75,SNR=6.6						
H08S1	**Diego Carcia H**	**24.36**	**232**	T	T	18 34 07.3	
	baz=52,slow=75,SNR=5.0						
TOLI2	**Tolitoli**	**29.75**	**101**	P	**P**	**18 08 22.7**	**-1.3**
TOLI2				IAmb	IAmb	18 08 25.5	
	comp=Z,6.3nm,1.0s						
BTK	**Batken**	**37.33**	**333**	P	**P**	**18 09 29.3**	**-0.3**
BTK				IAmb	IAmb	18 09 33.3	
	comp=Z,6.2nm,1.1s						
MK31	**Makanchi Array**	**39.89**	**350**	P	**P**	**18 09 51.5**	**+0.5**
MKAR	**Makanchi Array**	**39.89**	**350**	P	**P**	**18 09 51.8**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=170,slow=7.4,SNR=15						
MKAR	**Makanchi Array**	**39.89**	**350**	P	**P**	**18 09 51.3**	**+0.3**
KKAR	**Karatay Array**	**39.96**	**336**	P	**P**	**18 09 52.5**	**+0.8**
SONM	**Songino Array**	**42.05**	**15**	P	**P**	**18 10 09.7**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=196,slow=9.3,SNR=16						
SONM	**Songino Array**	**42.05**	**15**	P	**P**	**18 10 09.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**42.16**	**128**	P	**P**	**18 10 10.3**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=316,slow=8.9,SNR=2.8						
FITZ	**Fitzroy Crossi**	**42.16**	**128**	P	**P**	**18 10 09.7**	**-0.4**
FITZ				IAmb	IAmb	18 10 28.5	
	comp=Z,5.1nm,1.3s						
ZAA0	**Zalesovo Array**	**46.57**	**354**	P	**P**	**18 10 45.8**	**+1.0**
ZALV	**Zalesovo Beam**	**46.57**	**354**	P	**P**	**18 10 45.8**	**+0.9**
	comp=Z,2.2nm,0.5s,baz=176,slow=7.6,SNR=15						
ZALV	**Zalesovo Beam**	**46.57**	**354**	P	**P**	**18 10 45.6**	**+0.8**
ABKAR	**Akbulak array**	**49.34**	**333**	P	**P**	**18 11 07.3**	**+1.0**
ABKAR				IAmb	IAmb	18 11 07.8	
	comp=Z,1.5nm,0.7s						
ABKAR	**Akbulak array**	**49.34**	**333**	P	**P**	**18 11 07.1**	**+0.7**
WB0	**Warramunga Arr**	**50.10**	**124**	P	**P**	**18 11 12.2**	**-0.4**
WRA	**Warramunga Arr**	**50.14**	**124**	P	**P**	**18 11 13.3**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=301,slow=6.8,SNR=6.7						
WR0	**Warramunga Arr**	**50.31**	**124**	P	**P**	**18 11 14.7**	**+0.5**
WR0				IAmb	IAmb	18 11 18.4	
	comp=Z,5.1nm,1.4s						
MJAR	**Matsushiro Arr**	**51.22**	**49**	LR	LR	18 37 27.7	
	comp=Z,18nm,18.0s,baz=260,slow=41						
AS31	**Alice Springs**	**51.66**	**128**	P	**P**	**18 11 22.9**	**-1.5**
ASAR	**Alice Springs**	**51.66**	**128**	P	**P**	**18 11 24.4**	**0.0**
	comp=Z,0.6nm,0.8s,baz=298,slow=7.8,SNR=12						
FINES	**FINESS Array B**	**71.82**	**333**	P	**P**	**18 13 39.3**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=102,slow=8.0,SNR=7.3						
FINES	**FINESS Array B**	**71.82**	**333**	P	**P**	**18 13 38.1**	**-1.6**
GERES	**GERESS Array B**	**76.39**	**318**	P	**P**	**18 14 07.0**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=107,slow=4.5,SNR=5.5						

*TRN **27** 18:27:40.4, 10°.81N×62°.33W, h56km, MD3.5*

*FUNV **27** 18:27:41.4, 10°.80N×62°.24W, h28km, MW4.1*

ISC 27 18:27:39.6±1.2, 10°.79N±0°.03×62°.27W±0°.03, h83km±13km, n28, σ1°19/50, 1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.87**	**99**	*eP*	**Pn**	**18 27 58.4**	**+1.0**
TRN				*eS*	**Sn**	**18 28 10.2**	**-0.4**
TRN	**Trinidad (W)**	**0.87**	**99**	*eP*	**Pn**	**18 27 58.0**	**+0.7**
TRN				*eS*	**Sn**	**18 28 09.8**	**-0.8**
CRUV	**Carupano**	**0.95**	**263**	⇓*iP*	**Pn**	**18 27 59.0**	**+0.8**
CRUV				*eS*	**Sn**	**18 28 11.2**	**-1.0**
GRFF	**Grenada Fort F**	**1.36**	**23**	*eP*	**Pn**	**18 28 04.0**	**+0.6**
GRFF				*eS*	**Sn**	**18 28 19.7**	**-1.5**
GRGR	**Grenville**	**1.47**	**24**	*eP*	**Pn**	**18 28 04.7**	**-0.1**
GRGR				*eS*	**Sn**	**18 28 22.6**	**-1.0**
GRGR	**Grenville**	**1.47**	**24**	*eP*	**Pn**	**18 28 04.6**	**-0.1**
GRGR				*eS*	**Sn**	**18 28 22.7**	**-1.0**
GRHS	**Sauteurs**	**1.56**	**23**	*eP*	**Pn**	**18 28 07.0**	**+1.2**
GRHS				*eS*	**Sn**	**18 28 25.1**	**-0.5**
TOSP	**Speyside**	**1.78**	**73**	*eP*	**Pn**	**18 28 09.3**	**+0.6**
TOSP				*eS*	**Sn**	**18 28 31.1**	**+0.2**
TOSP	**Speyside**	**1.78**	**73**	*eP*	**Pn**	**18 28 09.0**	**+0.3**
TOSP				*eS*	**Sn**	**18 28 30.4**	**-0.5**
GCMP	**Grenada, Carri**	**1.88**	**26**	*eP*	**Pn**	**18 28 10.2**	**+0.1**
GCMP				*eS*	**Sn**	**18 28 32.2**	**-1.1**
PCRV	**Puerto La Cruz**	**2.40**	**256**	*eP*	**Sn**	**18 28 18.7**	**+1.7**
PCRV				*eS*	**Sn**	**18 28 45.4**	**-0.2**
SVB	**Belmont**	**2.67**	**22**	*eP*	**Sn**	**18 28 21.8**	**+1.3**
SVB				*eS*	**Sn**	**18 28 51.8**	**-0.2**
SVV	**Soufriere Volc**	**2.72**	**22**	*eP*	**Pn**	**18 28 21.6**	**+0.3**
SSV	**Crater Summit**	**2.74**	**23**	*eP*	**Pn**	**18 28 21.7**	**+0.1**
RIOV	**Rio Grande**	**2.74**	**170**	*eP*	**Pn**	**18 28 23.5**	**+1.9**
RIOV				*eS*	**Sn**	**18 28 53.1**	**-0.6**
PRGV	**PARIAGUAN**	**3.08**	**229**	*eP*	**Pn**	**18 28 27.6**	**+1.4**
PRGV				*eS*	**Sn**	**18 29 02.3**	**+0.2**
MCLT	**Moule a Chique**	**3.18**	**24**	*eP*	**Pn**	**18 28 29.0**	**+1.4**
MCLT				*eS*	**Sn**	**18 29 04.7**	**+0.2**
SLBI	**Saint Lucia, B**	**3.46**	**21**	*eP*	**Pn**	**18 28 33.0**	**+1.7**
SLBI				*eS*	**Sn**	**18 29 10.3**	**-0.8**
BIM	**Bigot**	**3.89**	**17**	*eP*	**Pn**	**18 28 37.6**	**+0.5**
BIM				*eS*	**Sn**	**18 29 21.8**	**+0.1**
MPOM	**Morne Pois Mar**	**3.89**	**21**	*eP*	**Pn**	**18 28 37.5**	**+0.4**
MPOM				*eS*	**Sn**	**18 29 20.8**	**-0.9**
BIRV	**Birongo**	**3.94**	**266**	*eP*	**Pn**	**18 28 39.8**	**+2.0**
BIRV				*eS*	**Sn**	**18 29 22.1**	**-0.8**
TACV	**Tcata**	**4.72**	**263**	*eP*	**Pn**	**18 28 49.9**	**+1.5**
TACV				*eS*	**Sn**	**18 29 40.6**	**-1.4**
LUEV	**Luepa**	**4.98**	**171**	*eP*	**Pn**	**18 28 52.6**	**+0.5**
LUEV				*eS*	**Sn**	**18 29 45.3**	**-3.2**
CACV	**CAICARA DEL OR**	**5.29**	**233**	*eP*	Pn	18 28 51.4	-4.8
CACV				*eS*	Sn	18 29 44.2	-12
BENV	**Beln**	**5.30**	**262**	*eP*	**Pn**	**18 28 57.2**	**+0.8**
BENV				*eS*	**Sn**	**18 29 53.9**	**-2.4**
BAUV	**El Baul**	**5.97**	**253**	*eP*	**Pn**	**18 29 06.7**	**+1.2**
BAUV				*eS*	**Sn**	**18 30 09.7**	**-2.8**
MAPV	**Macapo**	**6.16**	**262**	*eP*	**Pn**	**18 29 08.7**	**+0.6**
PAYV	**Puerto Ayacuch**	**7.54**	**225**	*eP*	**Pn**	**18 29 27.4**	**+0.5**

*IDC **27** 18:29:47.5±1.9, 7°.76S×127°.56E, h164km±20km, mb3.3/2, mb1 3.8/7, mb1mx3.3/29, mbtmp4.2/7, MS2.7/1, Ms1 2.7/1, ms1mx2.2/20, Error ellipse: s-maj=23.1km s-min=19.0km az=125.0*

ISC 27 18:29:46.5±0.9, 7°.90S±0°.07×127°.73E±0°.09, h150km, n8, σ2$19/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.63**	**240**	P	**Pn**	**18 30 56.5**	**+1.5**
	8.4nm,0.3s,baz=112,slow=5.9,SNR=19						
BATI				S	**Sn**	**18 31 48.8**	**+0.3**
	18nm,0.3s,baz=201,slow=21,SNR=10						
SIJI	**Sorong**	**7.82**	**27**	P	**Pn**	**18 31 38.1**	**+0.5**
	3.3nm,0.3s,baz=221,slow=10,SNR=10.0						
FITZ	**Fitzroy Crossi**	**10.34**	**191**	P	**Pn**	**18 32 11.4**	**+0.3**
	1.6nm,0.3s,baz=9.0,slow=10,SNR=87						
FITZ				S	**Sn**	**18 34 02.4**	**-3.2**
	1.9nm,0.3s,baz=323,slow=13,SNR=7.3						
FITZ				LR	LR	18 36 22.6	
	comp=Z,37nm,19.7s,baz=42,slow=38						
WRA	**Warramunga Arr**	**13.58**	**153**	P	**Pn**	**18 32 55.4**	**+2.2**
	1.8nm,0.3s,baz=330,slow=13,SNR=75						
WRA				S	**Sn**	**18 35 21.6**	**-2.1**
	1.3nm,0.3s,baz=326,slow=22,SNR=8.6						
ASAR	**Alice Springs**	**16.76**	**160**	P	**Pn**	**18 33 36.0**	**+3.4**
	1.1nm,0.3s,baz=336,slow=11,SNR=130						
ASAR				S	**S**	**18 36 39.4**	**+0.3**
	0.3nm,0.3s,baz=333,slow=19,SNR=5.5						
MKAR	**Makanchi Array**	**67.77**	**328**	P	**P**	**18 40 26.0**	**-2.1**
	0.6nm,0.6s,baz=120,slow=7.2,SNR=5.9						
ZALV	**Zalesovo Beam**	**71.41**	**335**	P	**P**	**18 40

TRN 27 19:24:55.8, 13.87N×58.67W, h3km, MD3.7, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.08**	**225**	*eP*	Pn	19 25 19.3	+1.6
BBGH	**Gun Hill**	**1.12**	**230**	*eP*	Pn	19 25 20.6	+2.2
BBGH				*eS*	Sn	19 25 37.5	+3.1
MPOM	**Morne Pois Mar**	**2.19**	**285**	*eP*	Pb	19 25 35.5	-0.6
MPOM	**Morne Pois Mar**	**2.19**	**285**	*e*	Pg	19 25 44.3	+6.4
MPOM				*eS*	Sb	19 26 03.9	+0.2
MCLT	**Moule a Chique**	**2.21**	**266**	*eP*	Pb	19 25 36.5	+0.1
MCLT				*eS*	Sb	19 26 05.2	+1.1
SLBI	**Saint Lucia, B**	**2.24**	**274**	*eP*	Pb	19 25 35.7	-1.2
SLBI				*eS*	Sb	19 26 04.2	-0.8
SLB	**Belfond**	**2.30**	**269**	*eP*	Pb	19 25 37.0	-1.0
SLB				*eS*	Sg	19 26 09.1	-0.6
ILAM	**Ilet Lapin Mar**	**2.31**	**293**	*eS*	Sb	19 26 08.1	+0.9
BIM	**Bigot**	**2.41**	**286**	*eP*	Pb	19 25 38.1	-1.8
BIM				*eS*	Sn	19 26 05.1	-1.1
FDF	**Fort de France**	**2.55**	**290**	*eP*	Pb	19 25 40.6	-1.6
FDF				*eS*	Sn	19 26 09.6	0.0
SVB	**Belmont**	**2.58**	**257**	*eP*	Pn	19 25 40.1	+1.7
SVB				*eS*	Sb	19 26 13.6	-1.1
DSLB	**Salisbury**	**3.08**	**301**	*eP*	Pn	19 25 47.8	+2.4
DSLB				*eS*	Sb	19 26 26.1	-3.2
MAGL	**Barre de l'ile**	**3.26**	**310**	*eS*	Sn	19 26 29.9	+2.7
GRGR	**Grenville**	**3.38**	**240**	*e*	Pn	19 25 47.4	-2.1
GRGR	**Grenville**	**3.38**	**240**	*eS*	Sn	19 26 33.4	+3.3
TDBA	**Terre de Bas,**	**3.48**	**305**	*eP*	Pn	19 25 53.3	+2.6
TDBA				*eS*	Sn	19 26 35.9	+3.5
CBE	**Ff, Capester**	**3.58**	**308**	*eP*	Pn	19 25 54.8	+2.6
CBE				*eS*	Sn	19 26 36.8	+1.7
ANBD	**Bethesda, Anti**	**4.34**	**317**	*eP*	Pn	19 26 05.5	+2.8
ANBD	**Bethesda, Anti**	**4.34**	**317**	*eS*	Sn	19 26 56.2	+2.3

MEX 27 19:38:43.6±0.6, 18.09N×103.29W, h10km, MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.21**	**344**	*i* P	Pg	19 38 47.1	-0.8
MMIG				*i* S	Sg	19 38 50.6	-0.3
COIG	**Colima**	**1.15**	**341**	*eP*	Pb	19 39 01.7	-4.0
COIG				*eS*	Sb	19 39 16.1	-4.7
R15V		**1.26**	**329**	*eP*	Pn	19 39 03.6	-3.8
R15V				*eS*	Sb	19 39 19.8	-4.2
EZ5V		**1.42**	**348**	*eP*	Pn	19 39 06.3	-3.4
EZ5V				*eS*	Sb	19 39 23.6	-5.0

*IDC **27** 19:42:37.4±1.6, 0.64S×131.03E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.4/28, mbtmp3.5/4, ML3.4/2, MS2.6/1, Ms1 2.6/1, ms1mx2.1/23, Error ellipse: s-maj=41.0km s-min=9.3km az=39.0*
*DJA **27** 19:42:37.1±0.9, 1.5±6°×13°1E±°, h11km±4km, M4.0/6, mb4.2/2, MLv3.9/6*
ISC 27 19:42:38.7±1.2, 0.67S±0.10×131.1E±0.1, h10km, n14, σ1§65/15, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**0.23**	**149**	P	**Pg**	**19 42 44.4**	**+1.0**
SWI				S	**Sg**	**19 42 48.6**	**+2.0**
SIJI	**Sorong**	**0.24**	**148**	Pg	**Pg**	**19 42 43.9**	**+0.3**
	3µm,0.3s,baz=139,slow=22,SNR=8315						
SIJI				Lg	Lg	19 42 47.9	
	15µm,0.3s,baz=271,slow=24,SNR=217						
SIJI	**Sorong**	**0.24**	**148**	P	**Pg**	**19 42 43.6**	**0.0**
FAKI	**Fak Fak**	**2.50**	**154**	P	**Pn**	**19 43 18.9**	**-0.5**
MSAI	**Masohi**	**3.46**	**220**	P	**Pn**	**19 43 34.2**	**+1.5**
KRAI	**Karang Ratu**	**3.80**	**226**	P	**Pn**	**19 43 36.8**	**-0.6**
GAMI	**Galela, Maluku**	**4.18**	**307**	P	**Pn**	**19 43 43.2**	**+0.7**
SANI	**Sanana**	**5.33**	**255**	P	**Pn**	**19 43 58.9**	**+0.5**
	0.1nm12nm,0.8s						
APSI	**Ampana**	**9.49**	**268**	P	**Pn**	**19 44 56.9**	**+1.3**
KAPI	**Kappang**	**12.16**	**249**	LR	LR	19 51 26.2	
	comp=Z,26nm,20.3s,baz=60,slow=44						
FITZ	**Fitzroy Crossi**	**18.14**	**197**	P	**P**	**19 46 50.6**	**-0.7**
	0.1nm,0.3s,baz=25,slow=14,SNR=3.1						
FITZ				S	Sn	19 49 58.5	-15
	0.1nm,0.3s,baz=152,slow=17,SNR=1.6						
WRA	**Warramunga Arr**	**19.41**	**171**	P	**P**	**19 47 04.6**	**-0.6**
	0.1nm,0.3s,baz=352,slow=11,SNR=12						
WRA				S	Sn	19 50 29.6	-15
	0.2nm,0.3s,baz=359,slow=23,SNR=5.2						
ASAR	**Alice Springs**	**23.02**	**174**	P	**P**	**19 47 45.5**	**+1.4**
	1.2nm,0.7s,baz=351,slow=12,SNR=19						
ASAR				S	**S**	**19 51 50.6**	**-4.4**
	0.3nm,0.9s,baz=355,slow=21,SNR=2.0						
MKAR	**Makanchi Array**	**63.66**	**325**	P	**P**	**19 53 09.7**	**-0.6**
	0.3nm,0.6s,baz=114,slow=7.1,SNR=2.2						

*IDC **27** 19:56:51.4±0.9, 13.32N×125.47E, h0km, mb3.9/11, mb1 4.0/11, mb1mx3.8/39, mbtmp3.9/11, MS3.5/1, Ms1 3.5/1, ms1mx2.4/32, Error ellipse: s-maj=41.2km s-min=15.1km az=70.0*
ISC 27 19:56:55.0±0.9, 13.4N±0.1×125.5E±0.2, h24km, n14, σ0§83/13, mb3.8/11, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCP	**Roxas**	**3.25**	**236**	⇑*eP*	**Pn**	**19 57 45.7**	**+1.2**
LQP	**Lukban**	**3.92**	**281**	⇓*eP*	**Pn**	**19 57 52.8**	**-1.2**
JCJ	**Chichijima**	**20.73**	**46**	LR	LR	20 08 01.6	
	comp=Z,131nm,19.7s,baz=124,slow=32						
BATI	**Baumata**	**23.51**	**185**	P	**P**	**20 02 02.8**	**-0.6**
	13nm,0.4s,baz=315,slow=19,SNR=3.5						
KSRS	**Korea Array**	**24.07**	**5**	P	**P**	**20 02 08.9**	**+0.4**
	1.4nm,1.0s,baz=186,slow=11,SNR=5.9						
CMAR	**Chiang Mai Arr**	**26.02**	**285**	P	**P**	**20 02 26.4**	**-0.1**
	1.4nm,0.6s,baz=97,slow=7.4,SNR=17						
WRA	**Warramunga Arr**	**34.24**	**165**	P	**P**	**20 03 37.9**	**-1.4**
	0.9nm,0.8s,baz=343,slow=9.7,SNR=7.0						
ASAR	**Alice Springs**	**37.73**	**167**	P	**P**	**20 04 08.8**	**-0.3**
	1.4nm,0.6s,baz=349,slow=7.3,SNR=27						
SONM	**Songino Array**	**37.86**	**339**	P	**P**	**20 04 11.2**	**+1.1**
	0.4nm,0.5s,baz=160,slow=8.8,SNR=2.8						
STKA	**Stephens Creek**	**47.57**	**161**	P	**P**	**20 05 29.0**	**+0.1**
	1.8nm,0.9s,baz=329,slow=7.7,SNR=3.7						
MKAR	**Makanchi Array**	**49.12**	**322**	P	**P**	**20 05 41.0**	**+0.2**
	0.5nm,0.5s,baz=114,slow=9.3,SNR=9.5						
ZALV	**Zalesovo Beam**	**51.56**	**331**	P	**P**	**20 05 59.2**	**+0.2**
	0.5nm,0.5s,baz=106,slow=9.1,SNR=2.5						
FINES	**FINESS Array B**	**82.81**	**331**	P	**P**	**20 09 17.3**	**+0.2**
	2.2nm,0.9s,baz=64,slow=6.3,SNR=5.3						
BRTR	**Keskin Array B**	**82.99**	**309**	P	**P**	**20 09 18.3**	**-0.4**
	0.4nm,0.8s,baz=159,slow=4.5,SNR=3.6						

*IDC **27** 20:09:07.2±8.4, 7.05S×129.15E, h156km±88km, mb2.8/1, mb1 3.3/4, mb1mx3.0/24, mbtmp3.8/4, Error ellipse: s-maj=77.7km s-min=28.3km az=35.0*
ISC 27 20:09:07.4±1.6, 7.2S±0.1×129.2E±0.1, h156km, n4, σ2§69/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.26**	**241**	P	**Pn**	**20 10 37.7**	**0.0**
	4.7nm,0.3s,baz=72,slow=6.4,SNR=4.7						
BATI				S	**Sn**	**20 11 48.8**	**+0.3**
	5.1nm,0.3s,baz=32,slow=24,SNR=7.7						
WRA	**Warramunga Arr**	**13.62**	**159**	P	**Pn**	**20 12 15.6**	**+1.3**
	0.2nm,0.3s,baz=341,slow=12,SNR=15						
WRA				S	Sn	20 14 36.6	-8.9
	0.5nm,0.3s,baz=336,slow=22,SNR=10						
ASAR	**Alice Springs**	**17.00**	**165**	P	**P**	**20 12 57.1**	**+1.8**
	0.3nm,0.3s,baz=346,slow=11,SNR=12						
ASAR				S	**S**	**20 16 00.6**	**-4.0**
	0.1nm,0.3s,baz=349,slow=24,SNR=4.2						
MKAR	**Makanchi Array**	**67.96**	**327**	P	**P**	**20 19 48.4**	**-1.1**
	0.2nm,0.7s,baz=124,slow=6.6,SNR=1.4						

MEX 27 20:17:59.8±0.9, 16.29N×97.96W, h5km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.19**	**302**	*i* P	Pg	20 18 03.0	-0.6
PNIG				*i* S	Sg	20 18 06.2	+0.1
YOIG	**Yosondua**	**0.69**	**35**	*eP*	Pg	20 18 12.0	-1.1
YOIG				*eS*	Sg	20 18 21.6	-0.4
TXIG	**Tlaxiaco**	**0.97**	**11**	*eP*	Pg	20 18 16.4	-2.1
TXIG				*eS*	Sg	20 18 29.3	-1.9
MGIG	**Malinaltepec**	**1.14**	**326**	*eP*	Pg	20 18 18.6	-3.0
MGIG				*eS*	Sg	20 18 33.8	-2.6
TLIG	**Tlapa**	**1.39**	**335**	*eP*	Pn	20 18 22.2	-3.8
TLIG				*eS*	Sb	20 18 40.9	-3.6
VHO	**Vista Hermosa**	**1.41**	**56**	*eP*	Pn	20 18 24.3	-2.0
VHO				*eS*	Sb	20 18 42.1	-3.0
HLIG	**Huajuapan de L**	**1.54**	**6**	*eP*	Pn	20 18 24.9	-3.2
HLIG				*eS*	Sn	20 18 45.9	-2.6
FTIG	**Fresnillo de T**	**1.61**	**354**	*eP*	Pn	20 18 25.8	-3.3
FTIG				*eS*	Sn	20 18 46.8	-3.6
DAIG	**Los Arroyos**	**1.77**	**294**	*eP*	Pn	20 18 28.7	-2.5
DAIG				*eS*	Sn	20 18 45.3	-8.9

*IDC **27** 20:24:32.8±0.8, 0.84S×131.03E, h0km, mb3.9/5, mb1 4.1/7, mb1mx3.8/30, mbtmp3.9/7, ML3.7/2, MS3.0/1, Ms1 3.0/1, ms1mx2.3/41, Error ellipse: s-maj=14.9km s-min=5.5km az=6.0*
*NEIC **27** 20:24:33.4±1.7, 0.83S±0.10×131.18E±0.09, h10km±2km, mb3.8/14, Error ellipse: s-maj=20.5km s-min=9.0km az=40.0*
*DJA **27** 20:24:34.8±0.4, 1°S±3°×13°1E±°, h10km, M4.3/10, mb4.6/4, mB4.5/1, MLv4.2/10, Mw(mB)3.7/1*
ISC 27 20:24:33.6±1.3, 0.70S±0.06×131.36E±0.07, h11km±7km, n46, σ1§53/41, mb4.0/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**0.19**	**212**	P	**Pg**	**20 24 38.3**	**+0.7**
SWI				S	**Sg**	**20 24 41.2**	**+0.8**
SIJI	**Sorong**	**0.19**	**210**	Pg	**Pg**	**20 24 37.5**	**-0.2**
	14µm,0.3s,baz=294,slow=20,SNR=5534						
SIJI				Lg	Lg	20 24 40.6	
	14µm,0.3s,baz=90,slow=24,SNR=230						
SIJI	**Sorong**	**0.19**	**210**	P	**Pg**	**20 24 37.3**	**-0.4**
FAKI	**Fak Fak**	**2.37**	**158**	Pn	**Pn**	**20 25 11.9**	**-0.6**
FAKI	**Fak Fak**	**2.37**	**158**	P	**Pn**	**20 25 12.2**	**-0.3**
FAKI				S	Sn	20 25 22.8	-19
MSAI	**Masohi**	**3.58**	**223**	P	**Pn**	**20 25 30.8**	**+1.7**
MSAI				S	**Sn**	**20 26 13.5**	**+2.1**
KRAI	**Karang Ratu**	**3.94**	**229**	P	**Pn**	**20 25 35.9**	**+1.8**
BNDI	**Bandanaira**	**4.06**	**201**	P	**Pn**	**20 25 36.5**	**+0.7**
TNTI	**Ternate**	**4.25**	**290**		**Pn**	**20 25 35.9**	**-2.5**
TNTI	**Ternate**	**4.25**	**290**	P	**Pn**	**20 25 38.8**	**+0.4**
GAMI	**Galela, Maluku**	**4.37**	**305**	P	**Pn**	**20 25 41.0**	**+0.9**
BAKI	**Biak**	**4.77**	**96**	P	**Pn**	**20 25 48.4**	**+2.9**
SANI	**Sanana**	**5.53**	**256**	P	**Pn**	**20 25 56.4**	**+0.4**
	0.1nm442nm15nm,0.9s						
GTOI	**Gorontalo**	**8.45**	**279**	P	**Pn**	**20 26 39.2**	**+3.1**
	11nm,0.6s						
JAY	**Jayapura**	**9.51**	**101**	LR	LR	20 31 12.2	
	comp=Z,87nm,21.1s,baz=154,slow=41						
APSI	**Ampana**	**9.71**	**269**	P	**Pn**	**20 26 54.3**	**+0.9**
TOLI2	**Tolitoli**	**10.73**	**280**	Pn	Pn	20 27 03.7	-3.7
MTN	**Manton Dam**	**12.06**	**181**	Pn	Pn	20 27 21.8	-3.8
KNRA	**Kununurra**	**15.10**	**190**	Pn	**Pn**	**20 28 03.1**	**-3.9**
COEN	**Coen**	**17.61**	**139**		**Pn**	**20 28 40.1**	**+0.8**
COEN				IAmb	IAmb	20 28 41.4	
	comp=Z,7.3nm,1.1s						
FITZ	**Fitzroy Crossi**	**18.18**	**198**	P	**Pn**	**20 28 44.1**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=38,slow=10,SNR=7.6						
FITZ				S	Sn	20 31 55.4	-14
	comp=Z,0.1nm,0.3s,baz=86,slow=16,SNR=4.1						
FITZ	**Fitzroy Crossi**	**18.18**	**198**		**Pn**	**20 28 43.7**	**-2.4**
WB0	**Warramunga Arr**	**19.18**	**171**	P	**P**	**20 28 55.5**	**-2.0**
WB0				IAmb	IAmb	20 29 04.0	
	comp=Z,3.8nm,0.8s						
WRA	**Warramunga Arr**	**19.34**	**172**	P	**P**	**20 28 58.4**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=353,slow=12,SNR=21						
WRA				S	Sn	20 32 21.3	-16
	comp=Z,0.2nm,0.3s,baz=350,slow=25,SNR=5.9						
WRA	**Warramunga Arr**	**19.34**	**172**		**P**	**20 28 57.1**	**-2.2**
WB2	**Warramunga Arr**	**19.34**	**171**		**P**	**20 28 57.5**	**-1.8**
WB2				IAmb	IAmb	20 29 01.2	
	comp=Z,5.5nm,0.9s						
WR0	**Warramunga Arr**	**19.39**	**171**		**P**	**20 28 59.5**	**-0.3**
WR0				IAmb	IAmb	20 29 10.8	
	comp=Z,5.2nm,1.1s						
RABL	**Rabaul**	**21.07**	**100**	P	**P**	**20 29 18.5**	**+0.4**
AS31	**Alice Springs**	**22.96**	**174**		**P**	**20 29 37.0**	**-1.3**
AS31				IAmb	IAmb	20 29 52.4	
	comp=Z,3.5nm,0.6s						
ASAR	**Alice Springs**	**22.96**	**174**	P	**P**	**20 29 38.2**	**-0.1**
	comp=Z,2.7nm,0.6s,baz=353,slow=11,SNR=27						
ASAR				S	**S**	**20 33 50.2**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=349,slow=19,SNR=4.6						
ASAR	**Alice Springs**	**22.96**	**174**		**P**	**20 29 37.8**	**-0.5**
PSA00	**Pilbara Seismi**	**23.59**	**208**	P	**P**	**20 29 42.9**	**-1.7**
PSA00				IAmb	IAmb	20 29 56.0	
	comp=Z,2.1nm,0.9s						
PATS	**Pohnpei**	**27.92**	**74**	P	**P**	**20 30 24.4**	**+0.3**
STKA	**Stephens Creek**	**32.48**	**164**	P	**P**	**20 31 05.0**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=359,slow=9.2,SNR=1.7						
STKA	**Stephens Creek**	**32.48**	**164**	P	P	20 31 01.2	-3.1
JNU	**Nakatsue**	**33.65**	**359**	P	**P**	**20 31 14.7**	**+0.2**
ARMA	**Armidale**	**35.27**	**149**	P	P	20 31 26.0	-2.8
CMAR	**Chiang Mai Arr**	**37.12**	**303**	P	**P**	**20 31 43.9**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=132,slow=8.0,SNR=7.7						
CHTO	**Chiang Mai**	**37.28**	**303**	P	**P**	**20 31 46.3**	**+0.3**
CHTO				IAmb	IAmb	20 31 48.7	
	comp=Z,1.9nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**40.31**	**58**	T	T	21 15 09.9	
	baz=245,slow=75,SNR=24						
H11N2	**WAKE ISLAND Hy**	**40.32**	**58**	T	T	21 15 10.1	
	baz=245,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy**	**40.33**	**58**	T	T	21 15 11.3	
	baz=245,slow=75,SNR=25						
MK31	**Makanchi Array**	**63.82**	**325**	P	**P**	**20 35 05.9**	**-0.2**
MK31				IAmb	IAmb	20 35 09.5	
	comp=Z,1.4nm,0.8s						
MKAR	**Makanchi Array**	**63.82**	**325**	P	**P**	**20 35 06.3**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=111,slow=8.6,SNR=15						
MKAR	**Makanchi Array**	**63.82**	**325**	P	**P**	**20 35 06.1**	**0.0**
ZALV	**Zalesovo Beam**	**66.63**	**332**	P	**P**	**20 35 24.8**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=111,slow=7.9,SNR=5.3						

MEX 27 20:40:17.5±0.4, 17.02N×101.31W, h16km±127km, MD4.2, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAIG	**Los Arroyos**	**1.59**	**90**	*eP*	Pn	20 40 41.5	-3.6
DAIG				*eS*	Sn	20 41 00.1	-5.2
MEIG	**Mezcala**	**1.85**	**61**	*eP*	Pn	20 40 45.3	-3.4
MEIG				*eS*	Sn	20 41 06.8	-4.9
PLIG	**Platanillo**	**2.20**	**51**	*eP*	Pn	20 40 50.0	-3.5
PLIG				*eS*	Sn	20 41 15.7	-4.7
MGIG	**Malinaltepec**	**2.57**	**85**	*eP*	Pn	20 40 55.8	-2.8
MGIG				*eS*	Sn	20 41 24.6	-5.1
MAVM	**Malinalco, Edo**	**2.59**	**42**	*i* P	Pn	20 40 59.1	+0.1
MAVM				*i* S	Sn	20 41 32.1	+1.9
TLIG	**Tlapa**	**2.68**	**78**	*eP*	Pn	20 40 57.1	-3.0
TLIG				*eS*	Sn	20 41 27.1	-5.2
PNIG	**Pinotepa**	**3.12**	**101**	*eP*	Pn	20 41 04.1	-1.9
PNIG				*eS*	Sn	20 41 38.4	-4.6
FTIG	**Fresnillo de T**	**3.16**	**73**	*eP*	Pn	20 41 03.8	-2.9
FTIG				*eS*	Sn	20 41 39.9	-4.3
TXIG	**Tlaxiaco**	**3.40**	**86**	*eP*	Pn	20 41 07.2	-3.0
TXIG				*eS*	Sn	20 41 45.9	-4.4
HLIG	**Huajuapan de L**	**3.44**	**76**	*eP*	Pn	20 41 07.0	-3.7
HLIG				*eS*	Sn	20 41 45.9	-5.4
TPIG	**Tehuac#an**	**4.01**	**69**	*eP*	Pn	20 41 15.0	-3.5
TPIG				*eS*	Sn	20 42 03.1	-2.3
TOIG	**Toxpalan**	**4.19**	**75**	*eP*	Pn	20 41 16.6	-4.3
TOIG				*eS*	Sn	20 42 06.3	-3.3

IDC 27 20:48:29.7±48.0, 16.40S×173.19W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/35, mbtmp4.0/3, Error ellipse: s-maj=914.8km s-min=175.6km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.72**	**241**	P	P	20 56 37.2	+0.4
	0.7nm,0.6s,baz=72,slow=9.6,SNR=4.8						
WRA	**Warramunga Arr**	**49.82**	**258**	P	P	20 57 24.4	-0.4
	0.5nm,0.5s,baz=96,slow=6.9,SNR=17						
ASAR	**Alice Springs**	**50.00**	**253**	P	P	20 57 26.1	-0.1
	3.4nm,0.6s,baz=88,slow=8.6,SNR=43						

*NNC **27** 20:57:56.1±1.1, 44.47N×82.92E, h14km±8km, mb3.5, mpv3.5, Error ellipse: s-maj=10.4km s-min=3.8km az=125.0*
*SOME **27** 20:57:56.2, 44.43N×82.88E, h10km*
ISC 27 20:57:51.2±1.5, 44.40N±0.05×83.07E±0.06, h17km, n27, σ1§41/36, 10C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.19**	**245**	*eP*	**Pg**	**20 58 35.1**	**+2.0**
	4.2nm,0.1s						
KTMS				*eS*	**Sg**	**20 59 03.2**	**+1.7**
	198nm,0.2s						
KTMS	**Ketmen**	**2.19**	**245**	Pg	**Pg**	**20 58 35.1**	**+2.0**
	4.2nm,0.1s						
KTMS				Lg	Lg	20 59 03.2	
	198nm,0.2s						
DJR	**Jarkent**	**2.35**	**269**	*eP*	**Pg**	**20 58 38.4**	**+2.1**
	1.7nm,0.2s						
DJR				*eS*	**Sg**	**20 59 08.6**	**+1.7**
	4.2nm,0.2s						
DJR	**Jarkent**	**2.35**	**269**	Pg	**Pg**	**20 58 38.4**	**+2.1**
	1.7nm,0.2s						
DJR				Lg	Lg	20 59 08.6	
	4.2nm,0.2s						
MK31	**Makanchi Array**	**2.45**	**347**	Pn	**Pb**	**20 58 34.9**	**+0.1**
	0.2nm,0.2s,baz=158,slow=14,SNR=234						
MK31				⇑Pg	**Pg**	**20 58 38.7**	**+0.5**
	1.0nm,0.2s,baz=162,slow=15,SNR=10						
MK31				⇑Lg	Lg	20 59 10.1	
	7.4nm,0.2s,baz=164,slow=28,SNR=12						
MAKZ	**Makanchi**	**2.52**	**343**	⇑Pn	**Pb**	**20 58 34.8**	**-1.2**
	0.3nm,0.2s						
MAKZ				⇑Pg	**Pg**	**20 58 39.4**	**-0.2**
	2.7nm,0.2s						
MAKZ				⇑Lg	Lg	20 59 12.2	
	10.0nm,0.3s						
KAPS	**Kapalarasan**	**2.79**	**290**	*eP*	**Pg**	**20 58 46.5**	**+1.9**
	0.8nm,0.1s						
KAPS				*eS*	**Sg**	**20 59 22.8**	**+2.1**
	3.4nm,0.4s						
KAPS	**Kapalarasan**	**2.79**	**290**	Pg	**Pg**	**20 58 46.3**	**+1.7**
	0.8nm,0.1s						
KAPS				Lg	Lg	20 59 22.8	
	3.4nm,0.4s						
PDGK	**Podgornoye**	**2.80**	**249**	Pg	**Pg**	**20 58 45.7**	**+0.8**
	1.9nm,0.1s						
PDGK				Lg	Lg	20 59 22.1	
	23nm,0.3s						
PDGK	**Podgornoye**	**2.80**	**249**	⇓Lg	Lg	20 59 21.8	
	31nm,0.5s						
SHLS	**Shalkode**	**2.90**	**246**	*eP*	**Pb**	**20 58 42.8**	**+0.3**
	22nm,0.4s						
SHLS				*eS*	**Sb**	**20 59 16.0**	**-1.6**
	175nm,0.3s						
SHLS	**Shalkode**	**2.90**	**246**	Pg	**Pb**	**20 58 42.1**	**-0.3**
	12nm,0.2s						
SHLS				Lg	Lg	20 59 16.0	
	175nm,0.3s						
ZSN	**Zaisan**	**3.29**	**22**	⇑*eP*	**Pg**	**20 58 55.1**	**+0.8**
	24nm,0.2s						
ZSN				*eS*	**Sg**	**20 59 37.4**	**+0.4**
	34nm,0.3s						
ZSN	**Zaisan**	**3.29**	**22**	Pg	**Pg**	**20 58 55.1**	**+0.8**
	24nm,0.2s						
ZSN				Lg	Lg	20 59 37.0	
	34nm,0.3s						
KPKS	**Kokpek**	**3.30**	**255**	*eP*	**Pg**	**20 58 54.1**	**-0.4**
	10nm,0.1s						
KPKS				*eS*	**Sg**	**20 59 35.8**	**-1.5**
	61nm,0.2s						
TDK	**Taldyqorghan**	**3.38**	**282**	*eP*	**Pg**	**20 58 56.4**	**+0.5**
	38nm,0.4s						
TDK				*eS*	**Sg**	**20 59 39.5**	**-0.2**
	25nm,0.4s						
TDK	**Taldyqorghan**	**3.38**	**282**	Pg	**Pg**	**20 58 56.4**	**+0.5**
	38nm,0.4s						
TDK				Lg	Lg	20 59 39.6	
	25nm,0.4s						
SATY	**Saty**	**3.64**	**250**	*eP*	**Pg**	**20 59 01.1**	**+0.2**
	5.6nm,0.1s						
SATY				*eS*	**Sg**	**20 59 47.5**	**-0.5**
	41nm,0.1s						
SATY	**Saty**	**3.64**	**250**	Pg	**Pg**	**20 59 01.1**	**+0.2**
	5.6nm,0.1s						
SATY				Lg	Lg	20 59 47.5	
	41nm,0.1s						
CHKK	**Chushkaly**	**4.41**	**265**	*eP*	**Pg**	**20 59 13.9**	**-1.8**
	8.8nm,0.3s						
CHKK				*eS*	**Sg**	**21 00 09.3**	**-3.5**
	10.0nm,0.2s						
CHKK	**Chushkaly**	**4.41**	**265**	Pg	**Pg**	**20 59 13.9**	**-1.8**
	8.8nm,0.3s						
CHKK				Lg	Lg	21 00 09.3	
	10.0nm,0.2s						
MDOK	**Medeo**	**4.53**	**256**	⇑Pg	**Pg**	**20 59 17.9**	**-0.1**
	11nm,1.0s						
MDOK				⇓Lg	Lg	21 00 19.4	
	22nm,1.0s						
KTBS	**Karatobe**	**4.66**	**264**	*eP*	**Pg**	**20 59 21.0**	**+0.7**
	2.5nm,0.3s						
KTBS				*eS*	**Sg**	**21 00 22.1**	**+1.4**
	20nm,0.3s						
KTBS	**Karatobe**	**4.66**	**264**	Pg	**Pg**	**20 59 21.0**	**+0.7**
	2.

CO05					IAML			21 01 37.4	
	comp=N,9μm,0.3s								
CO05	**La Serena**	**0.95**	**66**		Pg		**Pb**	**21 01 22.5**	**-0.3**
CO05					Sn		**Sb**	**21 01 35.4**	**-0.4**
GO04	**Tololo Observa**	**1.25**	**84**	⇑	*e*P		**Pn**	**21 01 27.3**	**-1.0**
GO04					*e*S		**Sb**	**21 01 43.7**	**-1.0**
GO04					IAML			21 01 49.6	
	comp=E,16μm,0.5s								
GO04	**Tololo Observa**	**1.25**	**84**				**Pn**	**21 01 27.4**	**-1.0**
GO04	**Tololo Observa**	**1.25**	**84**		*i* P		**Pn**	**21 01 27.0**	**-1.3**
CO02	**Combarbal**	**1.39**	**130**	⇓	*e*P		**Pn**	**21 01 29.4**	**-0.6**
CO02					*e*S		**Sn**	**21 01 47.4**	**-1.6**
CO02					IAML			21 01 52.2	
	comp=N,9μm,0.5s								
CO02	**Combarbal**	**1.39**	**130**		Pn		**Pn**	**21 01 29.5**	**-0.6**
CO02					Sn		**Sn**	**21 01 46.5**	**-2.6**
CO02	**Combarbal**	**1.39**	**130**		*i* P		**Pn**	**21 01 29.0**	**-1.1**
CO03	**El Pedregal**	**1.44**	**112**	⇑	*e*P		**Pn**	**21 01 30.0**	**-0.7**
CO03					*e*S		**Sn**	**21 01 48.5**	**-1.7**
CO03					IAML			21 01 53.1	
	comp=E,5μm,0.2s								
CO03	**El Pedregal**	**1.44**	**112**		Pn		**Pn**	**21 01 29.4**	**-1.3**
CO03					Sg		**Sn**	**21 01 47.5**	**-2.6**
CO03	**El Pedregal**	**1.44**	**112**		*i* P		**Pn**	**21 01 29.0**	**-1.7**
LCO	**Las Campanas**	**1.86**	**46**		*e*P		**Pn**	**21 01 36.5**	**-0.2**
LCO					*i* S		**Sn**	**21 02 00.2**	**-0.7**
LCO	**Las Campanas**	**1.86**	**46**				**Pn**	**21 01 36.7**	**0.0**
LCO	**Las Campanas**	**1.86**	**46**		*i* P		**Pn**	**21 01 36.0**	**-0.7**
AC04	**Llanos de Chal**	**2.33**	**26**		*e*P		**Pn**	**21 01 42.2**	**-0.7**
AC04	**Llanos de Chal**	**2.33**	**26**		Pn		**Pn**	**21 01 42.2**	**-0.7**
AC04	**Llanos de Chal**	**2.33**	**26**		*i* P		**Pn**	**21 01 42.0**	**-0.9**
VA06	**Catapilco**	**2.38**	**160**		IAML			21 02 30.2	
	comp=N,2μm,0.3s								
AROD	**Rodeo**	**2.40**	**87**		*i* P		**Pb**	**21 01 46.0**	**-1.7**
ACDV	**Cuesta del Vie**	**2.70**	**88**		*i* P		**Pb**	**21 01 52.0**	**-0.8**
VA01	**Torpederas**	**2.75**	**170**				**Pn**	**21 01 48.7**	**0.0**
VA01	**Torpederas**	**2.75**	**170**		*i* P		**Pn**	**21 01 49.0**	**+0.3**
ACCO	**Cerro Coronel**	**2.75**	**97**		*i* P		**Pb**	**21 01 52.0**	**-1.8**
VA03	**San Esteban**	**2.84**	**150**				**Pn**	**21 01 50.7**	**+0.7**
VA03	**San Esteban**	**2.84**	**150**				**Pn**	**21 01 51.0**	**+1.0**
RTLS	**Leoncito**	**2.93**	**121**		*i* P		**Pb**	**21 01 54.7**	**-2.0**
AUSP	**Uspallata**	**3.10**	**129**		*i* P		**Pb**	**21 01 57.0**	**-2.6**
GO03	**Copiap**	**3.23**	**33**		*e*P		**Pn**	**21 01 55.3**	**0.0**
GO03	**Copiap**	**3.23**	**33**				**Pn**	**21 01 55.3**	**0.0**
GO03	**Copiap**	**3.23**	**33**		*i* P		**Pn**	**21 01 55.0**	**-0.3**
ZON	**Zonda**	**3.30**	**113**		*i* P		**Pb**	**21 02 01.0**	**-1.9**
MT05	**Renca**	**3.33**	**158**				**Pn**	**21 01 57.3**	**+0.6**
MT05	**Renca**	**3.33**	**158**		*i* P		**Pn**	**21 01 58.0**	**+1.3**
VA05	**Santo Domingo**	**3.38**	**171**				**Pn**	**21 01 56.6**	**-0.7**
RTCV	**Cerro Valdivia**	**3.53**	**117**		*i* P		**Pn**	**21 02 03.0**	**+3.5**
MT09	**Talagante**	**3.62**	**163**				**Pn**	**21 02 01.1**	**+0.4**
MT01	**Popeta**	**3.64**	**167**				**Pn**	**21 02 00.7**	**-0.2**
MT01	**Popeta**	**3.64**	**167**		*i* P		**Pn**	**21 02 01.0**	**+0.1**
ASAL	**Salagasta**	**3.69**	**129**		*i* P		**Pn**	**21 02 05.0**	**+3.3**
ARCO	**CERRO ARCO**	**3.79**	**133**		*i* P		**Pn**	**21 02 07.0**	**+3.9**
VCA	**Vinchina**	**3.85**	**67**		*i* P		**Pb**	**21 02 08.0**	**-4.3**
AAGR	**Agrelo**	**4.01**	**134**		*i* P		**Pn**	**21 02 10.0**	**+3.8**
AVFE	**Valle Fertil**	**4.14**	**96**		*i* P		**Pn**	**21 02 10.0**	**+2.1**
BO01	**Tunca**	**4.19**	**167**		Pn		**Pn**	**21 02 08.5**	**0.0**
BO01	**Tunca**	**4.19**	**167**		*i* P		**Pn**	**21 02 09.0**	**+0.6**
AC02	**Maricunga**	**4.41**	**39**		Pn		**Pn**	**21 02 12.6**	**+0.6**
AC02	**Maricunga**	**4.41**	**39**		*i* P		**Pn**	**21 02 13.0**	**+1.0**
BO02	**Sierra Bellavi**	**4.64**	**165**				**Pn**	**21 02 15.0**	**+0.3**
BO02	**Sierra Bellavi**	**4.64**	**165**		*i* P		**Pn**	**21 02 15.0**	**+0.3**
ACLC	**CERRO LA CRUZ**	**4.68**	**80**		*i* P		**Pn**	**21 02 17.0**	**+1.7**
GO05	**Huala**	**4.69**	**177**		Pn		**Pn**	**21 02 14.2**	**-1.2**
GO05	**Huala**	**4.69**	**177**		*i* P		**Pn**	**21 02 14.0**	**-1.4**
ACHE	**Chepes**	**4.88**	**101**		*i* P		**Pn**	**21 02 20.0**	**+2.0**
APLL	**PUNTA DE LOS L**	**4.94**	**92**		*i* P		**Pn**	**21 02 21.0**	**+2.2**
RFA	**San Rafael**	**5.47**	**145**		*i* P		**Pn**	**21 02 28.0**	**+1.8**
PB14	**IPOC Station P**	**5.89**	**16**				**Pn**	**21 02 29.6**	**-2.5**
CYA	**Choya**	**5.92**	**73**		*i* P		**Pn**	**21 02 34.0**	**+1.7**
MRA	**San Martin**	**5.96**	**112**		*i* P		**Pn**	**21 02 34.0**	**+1.1**
H03N1	**Juan Fernandez**	**6.48**	**239**		T		T	21 09 53.3	
	baz=70,slow=72,SNR=709								
H03N2	**Juan Fernandez**	**6.49**	**240**		T		T	21 09 47.0	
	baz=70,slow=72,SNR=659								
H03N3	**Juan Fernandez**	**6.49**	**239**		T		T	21 09 57.7	
	baz=70,slow=72,SNR=599								
VA04	**Juan Fernndez**	**6.51**	**238**		Pn		**Pn**	**21 02 39.5**	**-0.8**
LVC	**Limon Verde**	**8.23**	**22**		Pn		**Pn**	**21 03 04.6**	**+0.3**
	comp=N,0.9nm,0.3s,baz=210,slow=9.5,SNR=2.9								
LVC	**Limon Verde**	**8.23**	**22**		*e*P		**Pn**	**21 03 03.2**	**-1.1**
LC01	**Cunco**	**8.57**	**178**		*i* P		**Pn**	**21 03 09.0**	**+0.3**
PLCA	**Paso Flores**	**10.49**	**173**		Pn		**Pn**	**21 03 35.0**	**-0.1**
	comp=N,0.4nm,0.3s,baz=337,slow=13,SNR=13								
PLCA	**Paso Flores**	**10.49**	**173**				**Pn**	**21 03 33.5**	**-1.6**
PLCA	**Paso Flores**	**10.49**	**173**		*e*P		**Pn**	**21 03 36.4**	**+1.3**
TRQA	**Tornquist**	**11.48**	**135**		Pn		**Pn**	**21 03 46.8**	**-1.7**
TRQA	**Tornquist**	**11.48**	**135**		*e*P		**Pn**	**21 03 50.3**	**+1.8**
ITQB	**Itaqui**	**13.55**	**91**		*e*P		**Pn**	**21 04 18.3**	**+1.5**
CPUP	**Villa Florida**	**13.72**	**77**		Pn		**Pn**	**21 04 17.5**	**-1.6**
	baz=239,slow=12,SNR=1.3								
CPUP	**Villa Florida**	**13.72**	**77**		*e*P		**Pn**	**21 04 20.5**	**+1.4**
LPAZ	**La Paz**	**14.46**	**16**		Pn		**Pn**	**21 04 31.5**	**+1.7**
	comp=N,0.3nm,0.3s,baz=194,slow=7.9,SNR=18								
LPAZ	**La Paz**	**14.46**	**16**		Pn		**Pn**	**21 04 28.7**	**-1.2**
LPAZ	**La Paz**	**14.46**	**16**		*e*P		**Pn**	**21 04 29.9**	**+0.1**
SIV	**San Ignacio**	**17.55**	**38**		P		**P**	**21 05 09.5**	**-1.1**
	comp=N,0.5nm,0.3s,baz=232,slow=11,SNR=41								
AQDB	**Aquidauana**	**17.85**	**61**		*e*P		**P**	**21 05 14.0**	**+0.2**
PTGB	**Pitanga**	**18.73**	**78**		*e*P		**Pn**	**21 05 24.0**	**0.0**
PTLB	**Pontes e Lacer**	**19.07**	**42**		*e*P		**Pn**	**21 05 28.0**	**0.0**
TER01	**Tubaro-SC**	**20.21**	**91**		*e*P		**P**	**21 05 39.2**	**-0.5**
PP1B	**Ponte de Pedra**	**20.26**	**55**		*e*P		**P**	**21 05 40.4**	**0.0**
VILB	**Vilhena**	**20.55**	**35**		*e*P		Pn	21 05 43.8	-1.9
PCMB	**Pacaembu**	**20.73**	**70**		*e*P		**P**	**21 05 45.5**	**0.0**
SALV	**Santo Antonio**	**20.87**	**50**		*e*P		**P**	**21 05 47.0**	**0.0**
TIJ01	**Guaruva-PR**	**21.13**	**82**		*e*P		**P**	**21 05 49.7**	**-0.1**
ETMB	**Extrema**	**21.15**	**17**		*e*P		**P**	**21 05 51.0**	**+1.0**
FRTB	**Fartura**	**21.37**	**76**		*e*P		**P**	**21 05 52.4**	**0.0**
SAML	**Samuel**	**22.88**	**24**		P		**P**	**21 06 09.0**	**+0.5**
SAML	**Samuel**	**22.88**	**24**		*e*P		**P**	**21 06 09.0**	**+0.5**
PET01	**Itanhaem-SP**	**22.96**	**81**		*e*P		**P**	**21 06 09.1**	**-0.2**
SPB	**Sao Paulo**	**23.08**	**79**		*e*P		**P**	**21 06 10.4**	**-0.2**
BB19B	**Bebedouro**	**23.23**	**72**		*e*P		**P**	**21 06 12.2**	**0.0**
RCLB	**Rio Claro- Sao**	**23.46**	**76**		*e*P		**P**	**21 06 14.5**	**0.0**
VAO	**Valinhos**	**23.70**	**78**		*e*P		**P**	**21 06 15.6**	**-1.3**
CLDB	**Colider**	**24.66**	**42**		*e*P		**P**	**21 06 25.3**	**-0.4**
IPMB	**Ipameri, GO**	**25.07**	**66**		*e*P		**P**	**21 06 29.3**	**-0.2**
BSCB	**Bom Sucesso**	**26.38**	**76**		*e*P		**P**	**21 06 41.2**	**-0.3**
BDFB	**Brasilia**	**26.58**	**62**		P		**P**	**21 06 43.1**	**-0.2**
	comp=N,3.5nm,0.6s,baz=236,slow=9.2,SNR=6.2								
BDFB	**Brasilia**	**26.58**	**62**		P		**P**	**21 06 41.3**	**-2.0**
BDFB					IAmb		IAmb	21 06 58.3	
	comp=Z,12nm,1.3s								
SNDB	**Serra Nova Dou**	**26.64**	**51**		*e*P		**P**	**21 06 43.9**	**+0.1**
VAS01	**Vassouras-RJ**	**26.97**	**80**		*e*P		**P**	**21 06 46.4**	**-0.3**
DUB01	**Friburgo-RJ**	**27.96**	**80**		*e*P		**P**	**21 06 55.5**	**-0.1**
NPGB	**Novo Progresso**	**28.05**	**38**		*e*P		**P**	**21 06 56.1**	**-0.3**
DIAM	**Diamantina, MG**	**28.57**	**72**		*e*P		**P**	**21 07 00.9**	**-0.3**
PEXB	**Peixe**	**28.64**	**56**		*e*P		**P**	**21 07 01.5**	**-0.1**
CAM01	**Campos-RJ**	**28.67**	**80**		*e*P		**P**	**21 07 01.9**	**0.0**
MC01	**Montes Claros**	**29.17**	**69**		*e*P		**P**	**21 07 06.2**	**-0.2**
JANB	**Januaria**	**29.80**	**66**		*e*P		**P**	**21 07 11.5**	**-0.5**
ALF01	**Guarapari-ES**	**29.96**	**79**		*e*P		**P**	**21 07 13.5**	**+0.2**
ITTB	**Itaituba**	**30.14**	**34**		*e*P		**P**	**21 07 14.7**	**-0.3**
SJMB	**Sao Joao De Ma**	**30.43**	**75**		*e*P		**P**	**21 07 17.2**	**-0.3**
BSFB	**Barra de Sao F**	**30.65**	**75**		*e*P		**P**	**21 07 19.7**	**+0.2**
RIB01	**Linhares ES**	**30.81**	**77**		*e*P		**P**	**21 07 20.8**	**-0.1**
SDBA	**SAO DESIDERIO**	**30.94**	**61**		*e*P		**P**	**21 07 22.0**	**-0.1**
SMTB	**Santa Maria do**	**31.40**	**52**		*e*P		**P**	**21 07 26.3**	**+0.2**
PRPB	**Parauapebas**	**31.96**	**46**		*e*P		**P**	**21 07 30.5**	**-0.5**
MALB	**Monte Alegre**	**33.04**	**34**		*e*P		**P**	**21 07 40.3**	**-0.2**
BOAV	**Boa Vista**	**34.39**	**21**		*e*P		**P**	**21 07 51.9**	**-0.3**
PMSA	**Palmer Station**	**34.86**	**174**		*e*P		**P**	**21 07 56.1**	**+0.3**
NBPN	**Ponto Novo - B**	**35.51**	**64**		*e*P		**P**	**21 08 01.6**	**-0.4**
RUSC	**La Rusia**	**36.01**	**359**		P		**P**	**21 08 05.1**	**-1.5**
NBMA	**Muriti-CE**	**38.79**	**61**		*e*P		**P**	**21 08 30.0**	**+0.1**
VNA3	**Neumayer Olymp**	**52.84**	**159**		P		**P**	**21 10 21.2**	**+1.1**
VNA1	**Neumayer--Stat**	**53.14**	**158**		P		**P**	**21 10 23.4**	**+1.1**
VNA2	**Neumayer--Watz**	**53.48**	**158**		P		**P**	**21 10 25.8**	**+0.9**
SNAA	**Sanae**	**55.07**	**159**		P		**P**	**21 10 37.4**	**+0.9**
SNAA	**Sanae**	**55.07**	**159**		P		**P**	**21 10 35.5**	**-1.0**
SNAA					IAmb		IAmb	21 10 38.3	
	comp=Z,9.1nm,0.9s								
QSPA	**South Pole Qui**	**59.91**	**180**		P		**P**	**21 11 12.0**	**+1.2**
	comp=Z,4.4nm,1.1s,baz=224,slow=2.2,SNR=8.7								
QSPA	**South Pole Qui**	**59.91**	**180**		P		**P**	**21 11 10.8**	**-0.1**
QSPA					IAmb		IAmb	21 11 21.0	
	comp=Z,4.6nm,0.8s								

TX31	**Lajitas Ar. Si**	**66.45**	**330**		P		**P**	**21 11 54.2**	**-0.3**
TX31					IAmb		IAmb	21 12 05.7	
	comp=Z,6.4nm,0.8s								
TXAR	**Lajitas Array**	**66.45**	**330**		P		**P**	**21 11 57.2**	**+2.7**
	comp=Z,0.6nm,0.6s,baz=152,slow=8.7,SNR=8.9								
TXAR	**Lajitas Array**	**66.45**	**330**		P		**P**	**21 11 55.3**	**+0.8**
R40A	**Maddies Statio**	**70.76**	**343**		P		**P**	**21 12 20.4**	**-0.8**
P40A	**Paris**	**71.89**	**344**		P		**P**	**21 12 26.8**	**-1.1**
PDAR	**Pinedale Array**	**80.40**	**333**		P		**P**	**21 13 19.4**	**+2.8**
	comp=Z,0.2nm,0.5s,baz=129,slow=7.1,SNR=2.6								
NVAR	**Mina Array Bea**	**80.77**	**325**		P		**P**	**21 13 21.8**	**+3.1**
	comp=Z,0.5nm,0.9s,baz=150,slow=5.7,SNR=2.3								
TORD	**Torodi Ar. Bea**	**83.13**	**71**		P		**P**	**21 13 31.8**	**+0.4**
	comp=Z,5.0nm,1.0s,baz=266,slow=4.8,SNR=20								
TORD	**Torodi Ar. Bea**	**83.13**	**71**		P		**P**	**21 13 31.7**	**+0.3**
TORD					IAmb		IAmb	21 13 32.9	
	comp=Z,4.9nm,0.9s								
WRA	**Warramunga Arr**	**123.87**	**210**		PKP		**PKiKP**	**21 20 04.4**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=159,slow=1.8,SNR=7.0								
WRA	**Warramunga Arr**	**123.87**	**210**				**PKiKP**	**21 20 03.3**	**-0.8**
H11S2	**WAKE ISLAND Hyd**	**125.58**	**272**		T		T	23 38 52.9	
	baz=115,slow=75,SNR=21								
H11S1	**WAKE ISLAND Hyd**	**125.58**	**272**		T		T	23 38 56.5	
	baz=115,slow=75,SNR=31								
H11S3	**WAKE ISLAND Hyd**	**125.58**	**272**		T		T	23 38 50.6	
	baz=115,slow=75,SNR=29								
ZALV	**Zalesovo Beam**	**151.14**	**29**		PKPbc		**PKiKP**	**21 20 59.0**	**+0.6**
	comp=Z,6.8nm,0.8s,baz=298,slow=3.2,SNR=27								
ZALV	**Zalesovo Beam**	**151.14**	**29**				**PKiKP**	**21 20 57.8**	**-0.5**
MKAR	**Makanchi Array**	**154.33**	**43**		PKPbc		**PKiKP**	**21 21 06.0**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=7.8,slow=2.7,SNR=4.6								
MKAR	**Makanchi Array**	**154.33**	**43**				**PKiKP**	**21 21 04.7**	**-0.5**

ROM 27 21:02:00.5±0.3, 43°601N±0°004×12°294E±0°007, h5km±2km, Md1.3/4, 3D, Error ellipse: s-maj=0.5km s-min=0.4km az=293.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PARC	**Parchiule**	**0.06**	**320**	P	Pg	21 02 02.3	+0.2
PARC				S	Sg	21 02 03.5	+0.3
PARC				END			
BADI	**Badiali**	**0.10**	**201**	P	Pg	21 02 02.9	+0.3
BADI				S	Sg	21 02 04.7	+0.7
BADI				END			
APEC	**Apecchio**	**0.10**	**115**	P	Pg	21 02 05.4	+2.8
APEC				S	Sg	21 02 21.0	+17
PE3	**Peglio**	**0.17**	**57**	P	Pg	21 02 03.3	-0.7
PIEI	**Pieia**	**0.19**	**110**	P	Pg	21 02 05.0	+0.8
PIEI				S	Sg	21 02 07.8	+1.1
PIEI				END			
NARO	**Abbazia di Nar**	**0.21**	**87**	P	Pg	21 02 05.0	+0.4
NARO				S	Sg	21 02 09.0	+1.6
NARO				END			
MAIM	**Mastiano**	**1.34**	**284**	S	Sb	21 02 20.0	-24
AQU	**L'Aquila**	**1.49**	**146**	⇓P	Pn	21 02 24.1	-3.8
AQU				AML	AML		
	comp=E,68μm,1.5s						
AQU				AML	AML		
	comp=N,81μm,1.6s						
RDP	**Rocca di Papa**	**1.87**	**170**	P	Pg	21 02 40.4	+4.1
VIVA	**Pratoni del Vi**	**1.88**	**169**	S	Sg	21 03 12.0	+11
IST3	**Stromboli F**	**5.28**	**154**	⇓P	Pb	21 03 31.3	-2.0
ERC	**Erice**	**5.56**	**178**	P	Pb	21 03 38.4	+0.3
CORL	**Corleone**	**5.75**	**172**	⇓P	Pn	21 03 22.2	-4.3

*VAO **27** 21:04:43.2±0.3, 31°61S×71°43W, h10km, mb5.3*

*MOS **27** 21:04:44.4±1.3, 31°57S×71°65W, h33km, mb5.2/9, Error ellipse: s-maj=12.7km s-min=6.3km az=95.9*

*NEIC **27** 21:04:44.9, 31°685S×71°66W, h37km, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr2.02; Mθθ0.31; Mϕϕ-2.33; Mrθ0.12; Mrϕ0.67; Mθϕ-1.42; Fault plane solution: M0 2.70000×10^16^ NP1:ϕs339.46000°, δ29.40000°, λ78.92000°. NP2:ϕs172.13000°, δ61.20000°, λ96.18000°. Principal axes: T 2.4464, Plg73.0000°, Azm97.0000°; N 0.4493, Plg5.0000°, Azm349.0000°; P -2.8957, Plg16.0000°, Azm258.0000°;*

*SJA **27** 21:04:44.7±1.1, 31°65S×71°62W, h34km±4km, ML5.1, MW5.1*

*NEIC **27** 21:04:44.4±1.0, 31°66S±0°02×71°71W±0°04, h30km±3km, Error ellipse: s-maj=5.6km s-min=3.5km az=78.0*

*GUC **27** 21:04:45.4±0.8, 31°66S×71°65W, h38km±4km, ML5.4, MW5.4*

*IDC **27** 21:04:47.3±2.3, 31°60S×71°48W, h42km±19km, mb4.9/18, mb1 4.9/23, mb1mx4.8/28, mbtmp5.0/23, ML4.7/5, MS4.4/10, Ms1 4.4/10, ms1mx4.1/30, Error ellipse: s-maj=18.1km s-min=10.7km az=92.0*

*GCMT **27** 21:04:51.0±0.3, 31°79S±0°02×71°73W±0°03, h38km, MW5.1/82, Moment Tensor Solution. s56,c68; s82,c107; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr5.46±.21; Mθθ-0.76±.15; Mϕϕ-4.70±.15; Mrθ0.31±.14; Mrϕ1.51±.09; Mθϕ-2.96±.16; Best double couple: Mo6.10800×10^16^ NP1:ϕs336.00000°, δ31.00000°, λ80.00000°. NP2: ϕs167.00000°, δ60.00000°, λ96.00000°. Principal axes: T 6.2610, Plg75.0000°, Azm93.0000°; N -0.3090, Plg5.0000°, Azm344.0000°; P -5.9560, Plg14.0000°, Azm253.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 21:04:45.5±0.3, 31°63S±0°03×71°72W±0°04, h37km±1km, n840, σ1°843/721, mb5.2/261, MS4.6/12, 15C-10D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO02	**Combarbal**	**0.75**	**56**	*i* P		**Pn**	**21 04 59.5**	**0.0**
CO02				*i* S		**Sn**	**21 05 09.2**	**-0.5**
CO02	**Combarbal**	**0.75**	**56**			**Pn**	**21 04 59.6**	**0.0**
CO02					Sn	**Sn**	**21 05 08.9**	**-0.9**
CO02	**Combarbal**	**0.75**	**56**	*i* P		**Pn**	**21 04 59.6**	**0.0**
CO02				*i* S		**Sn**	**21 05 09.3**	**-0.5**
CO06	**Fray Jorge**	**0.96**	**4**	⇓*i*P		**Pn**	**21 05 03.5**	**+1.2**
CO06				*i* S		**Sn**	**21 05 16.3**	**+1.6**
CO06	**Fray Jorge**	**0.96**	**4**			**Pn**	**21 05 03.8**	**+1.4**
CO06					Sn	**Sn**	**21 05 16.3**	**+1.6**
VA06	**Catapilco**	**0.99**	**159**	*e*P		**Pn**	**21 05 02.8**	**-0.1**
VA06				*i* S		**Sn**	**21 05 15.3**	**-0.4**
VA06				IAML			21 05 17.4	
	comp=E,375μm,0.3s							
CO03	**El Pedregal**	**1.19**	**48**	⇓*i*P		**Pn**	**21 05 06.3**	**+0.7**
CO03				*i* S		**Sn**	**21 05 21.4**	**+0.9**
CO03	**El Pedregal**	**1.19**	**48**			**Pn**	**21 05 06.5**	**+0.9**
CO03					Sn	**Sn**	**21 05 20.8**	**+0.3**
CO03	**El Pedregal**	**1.19**	**48**	*i* P		**Pn**	**21 05 06.5**	**+0.9**
CO03				*i* S		**Sn**	**21 05 21.4**	**+0.9**
VA01	**Torpederas**	**1.39**	**177**	⇓*i*P		**Pn**	**21 05 08.7**	**+0.5**
VA01	**Torpederas**	**1.39**	**177**			**Pn**	**21 05 08.9**	**+0.6**
VA01					Sn	**Sn**	**21 05 25.0**	**-0.4**
VA01	**Torpederas**	**1.39**	**177**	*i* P		**Pn**	**21 05 09.0**	**+0.7**
ROCH	**El Roble**	**1.47**	**156**	⇓*i*P		**Pn**	**21 05 09.8**	**+0.3**
ROCH				*i* S		**Sn**	**21 05 28.9**	**+1.3**
ROC1	**El Roble**	**1.47**	**156**	*i* P		**Pn**	**21 05 10.2**	**+0.6**
ROC1				*i* S		**Sn**	**21 05 29.1**	**+1.4**
VA03	**San Esteban**	**1.50**	**139**	⇓*i*P		**Pn**	**21 05 10.8**	**+0.9**
VA03				*i* S		**Sn**	**21 05 29.5**	**+1.1**
VA03				IAML			21 05 32.2	
	comp=N,114μm,0.4s							
VA03	**San Esteban**	**1.50**	**139**			**Pn**	**21 05 10.9**	**+0.9**
VA03						**Sn**	**21 05 29.2**	**+0.8**
VA03	**San Esteban**	**1.50**	**139**	*i* P		**Pn**	**21 05 11.0**	**+1.1**
VA03				*i* S		**Sn**	**21 05 29.6**	**+1.3**
GO04	**Tololo Observa**	**1.66**	**29**	⇑*i*P		**Pn**	**21 05 13.7**	**+1.5**
GO04	**Tololo Observa**	**1.66**	**29**			**Pn**	**21 05 14.2**	**+2.0**
GO04	**Tololo Observa**	**1.66**	**29**	*i* P		**Pn**	**21 05 14.0**	**+1.8**
CO05	**La Serena**	**1.76**	**14**	⇑*i*P		**Pn**	**21 05 14.8**	**+1.5**
CO05	**La Serena**	**1.76**	**14**	Pn		**Pn**	**21 05 15.0**	**+1.7**
MT05	**Renca**	**1.94**	**155**	⇑*i*P		**Pn**	**21 05 17.1**	**+1.2**
MT05	**Renca**	**1.94**	**155**			**Pn**	**21 05 17.3**	**+1.3**
MT05	**Renca**	**1.94**	**155**	*i* P		**Pn**	**21 05 17.0**	**+1.0**
VA05	**Santo Domingo**	**2.02**	**177**	⇓*i*P		**Pn**	**21 05 17.4**	**+0.4**
VA05				IAML			21 05 50.9	
	comp=E,59μm,0.5s							
VA05	**Santo Domingo**	**2.02**	**177**			**Pn**	**21 05 17.6**	**+0.6**
AUSP	**Uspallata**	**2.07**	**107**	*i* P		**Pn**	**21 05 21.0**	**+3.1**
RTLS	**Leoncito**	**2.07**	**95**	*i* P		**Pn**	**21 05 21.2**	**+3.3**
RTLS				IAML			21 05 51.9	

	comp=Z,12μm,1.0s								
FSR	**Penalolen**	**2.10**	**152**		*e*P		**Pn**	**21 05 20.0**	**+1.9**
FSR					*i* S		**Sn**	**21 05 46.0**	**+2.9**
MT09	**Talagante**	**2.23**	**164**	⇑	*i*P		**Pn**	**21 05 21.0**	**+1.1**
MT09					IAML			21 05 59.2	
	comp=N,30μm,0.4s								
MT09	**Talagante**	**2.23**	**164**				**Pn**	**21 05 21.5**	**+1.6**
MT01	**Popeta**	**2.26**	**170**	⇓	*i*P		**Pn**	**21 05 21.2**	**+0.9**
MT01					IAML			21 05 56.0	
	comp=E,18μm,0.6s								
MT01	**Popeta**	**2.26**	**170**				**Pn**	**21 05 21.3**	**+1.0**
MT01	**Popeta**	**2.26**	**170**		*i* P		**Pn**	**21 05 21.5**	**+1.2**
MT01					*i* S		**Sn**	**21 05 50.8**	**+3.8**
AROD	**Rodeo**	**2.42**	**54**		*i* P		**Pn**	**21 05 27.0**	**+4.2**
AROD					IAML			21 06 10.8	
	comp=Z,2μm,0.4s								
ACCO	**Cerro Coronel**	**2.50**	**66**		*i* P		**Pn**	**21 05 28.1**	**+4.2**
ACCO					IAML			21 06 27.8	
	comp=Z,2μm,1.5s								
LMEL	**Las Melosas**	**2.55**	**150**	⇑	*i*P		**Pn**	**21 05 26.3**	**+1.8**
LMEL					*i* S		**Sn**	**21 05 55.3**	**+0.9**
ZON	**Zonda**	**2.60**	**89**		*i* P		Pn	21 05 29.2	+4.2
ZON					IAML			21 06 16.2	
	comp=Z,11μm,1.3s								
ASAL	**Salagasta**	**2.63**	**112**		*i* P		Pn	21 05 30.0	+4.6
ASAL					IAML			21 06 17.2	
	comp=Z,2μm,1.4s								
ARCO	**CERRO ARCO**	**2.65**	**118**		*i* P		Pn	21 05 30.4	+4.5
ARCO					IAML			21 06 16.4	
	comp=Z,15μm,0.7s								
ACDV	**Cuesta del Vie**	**2.67**	**58**		*i* P		**Pn**	**21 05 30.4**	**+4.4**
ACDV					IAML			21 06 15

SALV	Santo Antonio	21.41	47	*eP*		P		21 09 29.4	-0.7
GO10	Punta Arenas	21.52	179	P		P		21 09 30.0	-1.0
GO10				IAmb		IAmb		21 09 40.5	
	comp=Z,161nm,0.9s								
ETMB	Extrema	22.30	14	*eP*		P		21 09 41.1	+1.4
EFI	East Falkland	22.41	157	P		P		21 09 39.8	-0.8
EFI				pmax		pmax			
	comp=Z,94nm,0.8s								
EFI	East Falkland	22.41	157	P		P		21 09 39.8	-0.8
EFI				IAmb		IAmb		21 09 47.9	
	comp=Z,94nm,0.8s								
PET01	Itanhaem-SP	22.77	77	*eP*		P		21 09 43.1	-1.6
SPB	Sao Paulo	22.93	76	P		P		21 09 45.3	-1.0
SPB	Sao Paulo	22.93	76	*eP*		P		21 09 46.0	-0.4
BB19B	Bebedouro	23.25	69	*eP*		P		21 09 48.3	-1.4
RCLB	Rio Claro- Sao	23.38	73	*eP*		P		21 09 49.6	-1.3
MG01	Puerto William	23.47	174	P		P		21 09 51.1	-0.3
MG01				IAmb		IAmb		21 10 07.2	
	comp=Z,165nm,1.1s								
VAO	Valinhos	23.57	75	*eP*		P		21 09 51.8	-1.1
CZSB	Cruzeiro do Su	23.80	358	*eP*		P		21 09 57.1	+2.3
SAML	Samuel	23.93	21	*ceP*		P		21 09 56.7	+0.7
SAML				pmax		pmax			
	comp=Z,24nm,1.3s								
SAML	Samuel	23.93	21	P		P		21 09 55.4	-0.7
SAML	Samuel	23.93	21	*eP*		P		21 09 56.3	+0.3
PARB	Paraibuna	24.54	77	*eP*		P		21 10 00.4	-1.3
IPMB	Ipameri, GO	25.23	63	*eP*		P		21 10 06.4	-1.6
CLDB	Colider	25.37	39	*eP*		P		21 10 09.4	+0.1
ESAR	Angra dos Reis	25.66	77	*eP*		P		21 10 11.4	-0.4
BSCB	Bom Sucesso	26.31	73	*eP*		P		21 10 17.0	-0.9
VAS01	Vassouras-RJ	26.81	77	*eP*		P		21 10 21.9	-0.3
BDFB	Brasilia	26.84	59	P		P		21 10 22.0	-0.6
	comp=Z,105nm,0.9s,baz=231,slow=8.0,SNR=79								
BDFB				LR		LR		21 22 09.6	
	comp=Z,4µm,18.1s,baz=194,slow=39								
BDFB	Brasilia	26.84	59	P		P		21 10 21.4	-1.3
SNDB	Serra Nova Dou	27.15	48	*eP*		P		21 10 24.7	-0.6
TBTG	Tabatinga, AM	27.35	4	*eP*		P		21 10 23.7	-3.5
TBTG	Tabatinga, AM	27.35	4	*eP*		P		21 10 28.3	+1.2
DUB01	Friburgo-RJ	27.78	77	*eP*		P		21 10 30.9	-0.1
CAM01	Campos-RJ	28.49	77	*eP*		P		21 10 37.1	-0.2
DIAM	Diamantina, MG	28.59	69	*eP*		P		21 10 37.9	-0.5
NPGB	Novo Progresso	28.84	35	*eP*		P		21 10 39.5	-1.0
PEXB	Peixe	29.04	53	*eP*		P		21 10 41.9	-0.3
MC01	Montes Claros	29.27	66	*eP*		P		21 10 43.7	-0.6
ALF01	Guarapari-ES	29.82	76	*eP*		P		21 10 48.6	-0.4
JANB	Januaria	29.97	63	*eP*		P		21 10 49.2	-1.2
MACA	Manacapuru-AM	30.17	22	*eP*		P		21 10 52.2	0.0
SJMB	Sao Joao De Ma	30.38	72	*eP*		P		21 10 53.6	-0.4
BSFB	Barra de Sao F	30.58	73	*eP*		P		21 10 55.1	-0.8
RIB01	Linhares ES	30.71	74	*eP*		P		21 10 56.5	-0.5
ITTB	Itaituba	31.00	32	*eP*		P		21 10 58.6	-1.0
SDBA	SAO DESIDERIO	31.22	58	*eP*		P		21 11 01.1	-0.5
SMTB	Santa Maria do	31.88	50	*eP*		P		21 11 07.3	0.0
OTAV	Otavalo	32.33	347	*ceP*		P		21 11 15.9	+4.2
OTAV				pmax		pmax			
	comp=Z,8.0nm,1.0s								
OTAV	Otavalo	32.33	347	P		P		21 11 10.3	-1.5
OTAV	Otavalo	32.33	347	*eP*		P		21 11 17.1	+5.4
OTAV	Otavalo	32.33	347	*eP*		P		21 11 15.5	+3.8
PRPB	Paraupebas	32.58	44	*eP*		P		21 11 12.5	-0.9
GUA01	Guaratinga, BA	32.61	70	*eP*		P		21 11 13.0	-0.7
PTGA	Pitinga	32.68	22	P		P		21 11 14.4	+0.1
	comp=Z,47nm,0.9s,baz=201,slow=10.0,SNR=45								
PTGA				PcP		PcP			
	comp=Z,15nm,0.8s,baz=226,slow=5.0,SNR=4.9								
PTGA	Pitinga	32.68	22	P		P		21 11 13.5	-0.8
PTGA				IAmb		IAmb		21 11 15.8	
	comp=Z,46nm,0.9s								
PTGA						PcP		21 13 59.0	-0.6
PTGA	Pitinga	32.68	22	*eP*		P		21 11 11.4	-2.9
PMSA	Palmer Station	33.51	174	P		P		21 11 22.7	+1.8
	comp=Z,9.5nm,0.8s,baz=23,slow=4.3,SNR=6.3								
PMSA				LR		LR		21 25 00.3	
	comp=Z,878nm,19.4s,baz=263,slow=36								
PMSA	Palmer Station	33.51	174	P		P		21 11 21.0	+0.1
PMSA				IAmb		IAmb		21 11 33.8	
	comp=Z,43nm,1.2s								
PMSA	Palmer Station	33.51	174	*eP*		P		21 11 23.2	+2.2
CMC01	Camacan, BA	33.52	69	*eP*		P		21 11 20.9	-0.7
NBIT	Itapeh - BA	33.83	68	*eP*		P		21 11 24.3	-0.1
BBAC	Balboa, Cauca	33.88	350	*eP*		P		21 11 25.7	+0.8
MALB	Monte Alegre	33.89	33	*eP*		P		21 11 24.1	-0.8
SOTA	Rioblanco	33.90	351	*eP*		P		21 11 32.4	+6.9
GDU01	Guandu, BA	34.42	66	*eP*		P		21 11 28.5	-1.0
BOAV	Boa Vista	35.47	20	*eP*		P		21 11 38.7	+0.2
ORTC	Ortega, Tolima	35.50	354	*eP*		P		21 11 41.0	+2.2
VILC	Villavicencio,	35.59	357	*eP*		P		21 11 40.0	+0.4
YOTC	Yotoco, Valle	35.69	352	*eP*		P		21 11 41.0	+0.5
NBPN	Ponto Novo - B	35.72	62	*eP*		P		21 11 39.7	-1.0
MCPB	Macapa, AP	36.24	35	*eP*		P		21 11 44.8	-0.3
ROSC	El Rosal	36.35	356	P		P		21 11 51.1	+4.7
	comp=Z,4.5nm,0.3s,baz=311,slow=20,SNR=2.1								
TMAB	Tom-Au,PA,Br	36.65	42	*eP*		P		21 11 48.6	0.0
GUY2C	Guyana, Caldas	36.81	354	*eP*		P		21 11 53.4	+2.9
NORC	Norcasia	37.11	355	*eP*		P		21 11 53.4	+0.9
RUSC	La Rusia	37.34	358	P		P		21 11 54.3	-0.6
RUSC	La Rusia	37.34	358	*eP*		P		21 11 57.2	+2.3
NBLA	Lagarto - SE	37.46	64	*eP*		P		21 11 54.3	-1.2
CBOC	Ciudad Bolivar	37.51	353	*eP*		P		21 11 56.3	+0.2
HELC	Santa Helena	37.78	354	*eP*		P		21 12 00.1	+1.5
BARC	Barichara	38.03	358	*eP*		P		21 12 01.1	+0.5
PTBC	PUERTO BERRIO,	38.05	356	*eP*		P		21 11 58.2	-2.2
ROSB	Rosrio	38.63	48	*eP*		P		21 12 05.0	-0.3
DBBC	Dabeiba	38.67	353	*eP*		P		21 12 08.7	+3.0
ZARC	Zaragoza, Cauc	39.02	355	*eP*		P		21 12 09.7	+1.1
NBMA	Muriti-CE	39.07	59	*eP*		P		21 12 08.8	-0.3
NBPS	Pedro II - PI	39.26	53	*eP*		P		21 12 10.3	-0.4
NBAN	Anadia - AL	39.44	64	*eP*		P		21 12 11.1	-1.1
NBPB	Pedra Branca-C	39.73	56	*eP*		P		21 12 14.2	-0.4
SMLC	San Martn de	40.27	356	*eP*		P		21 12 20.1	+1.2
SDV	Santo Domingo	40.30	2	P		P		21 12 18.9	-0.5
SDV	Santo Domingo	40.30	2	*eP*		P		21 12 20.8	+1.3
NBLV	Livramento - P	40.43	61	*eP*		P		21 12 19.6	-0.9
MDP	Montagnes des	40.81	30	P		P		21 12 23.3	-0.1
	comp=Z,59nm,0.8s,baz=200,slow=9.2,SNR=53								
NBRF	Rio Formoso -	40.94	64	*eP*		P		21 12 24.4	-0.2
BCIP	Isla Barro Col	41.30	348	P		P		21 12 26.4	-1.1
BCIP				pmax		pmax			
	comp=Z,23nm,1.0s								
BCIP	Isla Barro Col	41.30	348	P		P		21 12 26.4	-1.1
SJCC	San Jacinto, C	41.42	355	P		P		21 12 28.1	-0.5
SJCC	San Jacinto, C	41.42	355	*eP*		P		21 12 30.6	+2.1
NBCL	Cascavel-CE	41.57	56	*eP*		P		21 12 29.6	-0.1
PCRV	Puerto La Cruz	42.12	10	P		P		21 12 34.6	+0.4
	comp=Z,18nm,0.8s,baz=254,slow=2.1,SNR=4.9								
PCRV				LR		LR		21 32 10.0	
	comp=Z,584nm,20.2s,slow=39								
SRBA	San Rafael, Bu	42.13	343	P		P		21 12 33.8	-0.6
RCBR	Riachuelo	42.20	60	*eP*		P		21 12 35.9	+0.9
NBPV	Pedro Velho	42.27	61	*eP*		P		21 12 35.5	+0.1
ORTG	Ortega, Santa	43.78	340	P		P		21 12 47.7	0.0
COVE	Coope Vega, Sa	43.83	342	IAmb		IAmb		21 12 53.2	
	comp=Z,38nm,1.1s								
SVB	Belmont	45.76	14	IAmb		IAmb		21 13 04.3	
	comp=Z,36nm,0.7s								
MCLT	Moule a Chique	46.25	15	P		P		21 13 06.2	-1.1
MPOM	Morne Pois Mar	46.98	14	P		P		21 13 11.7	-1.2
BIM	Bigot	47.01	14	P		P		21 13 12.2	-0.9
ILAM	Ilet Lapin Mar	47.30	14	IAmb		IAmb		21 13 25.5	
	comp=Z,42nm,0.9s								
MTO3	Montecristo	48.80	337	IAmb		IAmb		21 13 39.7	
	comp=Z,18nm,1.2s								
MLPR	Magueyes Islan	49.52	6	P		P		21 13 32.2	-0.3
CDVI	St. Croix	49.55	9	P		P		21 13 31.8	-0.9
OBIP	Obispado Ponce	49.63	6	P		P		21 13 31.9	-1.4
PDPR	Patillas Dam,	49.67	7	IAmb		IAmb		21 13 35.6	
	comp=Z,36nm,0.9s								
SJG	San Juan	49.75	7	P		P		21 13 33.9	-0.3
SJG				pmax		pmax			
	comp=Z,46nm,0.9s								
SJG	San Juan	49.75	7	P		P		21 13 33.9	-0.3
SJG	San Juan	49.75	7	*eP*		P		21 13 32.7	-1.5
CBYP	Canovanas	49.94	7	IAmb		IAmb		21 13 36.2	
	comp=Z,33nm,0.8s								
GCPR	Guaynabo City	49.95	7	P		P		21 13 35.0	-0.7
GCPR				IAmb		IAmb		21 13 36.0	
	comp=Z,22nm,0.8s								
SDDR	Presa de Saban	50.33	1	IAmb		IAmb		21 13 43.9	
	comp=Z,21nm,1.1s								
SC01	Santiago de lo	50.77	1	P		P		21 13 41.0	-1.0

PETF	Flores	51.32	338	P		P		21 13 45.7	-0.4
PETF				IAmb		IAmb		21 13 58.1	
	comp=Z,24nm,0.9s								
GTBY	Guantanamo Bay	51.37	356	P		P		21 13 45.8	-0.6
GTBY				IAmb		IAmb		21 13 49.8	
	comp=Z,29nm,0.9s								
VNA3	Neumayer Olymp	51.45	159	P		P		21 13 47.8	+1.2
VNA1	Neumayer--Stat	51.75	158	P		P		21 13 50.3	+1.6
VNA2	Neumayer--Watz	52.09	158	P		P		21 13 52.6	+1.2
SNAA	Sanae	53.68	159	P		P		21 14 04.0	+0.9
SNAA	Sanae	53.68	159	P		P		21 14 02.6	-0.5
SNAA				pmax		pmax			
	comp=Z,60nm,0.8s								
SNAA	Sanae	53.68	159	P		P		21 14 02.6	-0.5
QSPA	South Pole Qui	58.60	180	P		P		21 14 40.0	+1.6
	comp=Z,37nm,0.8s,baz=149,slow=1.7,SNR=104								
QSPA	South Pole Qui	58.60	180	P		P		21 14 37.3	-1.1
TIGA	Tifton	63.73	349	P		P		21 15 13.1	-0.2
TIGA	Tifton	63.73	349	P		P		21 15 14.2	+1.0
	baz=169								
NHSC	New Hope	64.88	352	P		P		21 15 22.6	+1.8
	baz=172,SNR=5.1								
152A	Waverly Hall	65.12	348	P		P		21 15 20.8	-1.6
152A				IAmb		IAmb		21 15 24.3	
	comp=Z,25nm,0.9s								
833A	Chaparral WMA,	65.19	333	P		P		21 15 25.3	+2.5
	baz=154,SNR=10.0								
344A	Westbrook Farm	65.28	342	P		P		21 15 21.5	-1.9
344A				IAmb		IAmb		21 15 28.1	
	comp=Z,29nm,0.9s								
HKT	Hockley	65.39	337	*i* P		P		21 15 25.1	+1.1
HKT				pmax		pmax			
	comp=Z,7.0nm,1.1s								
SACV	Santiago Islan	65.39	52	P		P		21 15 23.5	-1.0
342A	Flagon Creek P	65.64	341	IAmb		IAmb		21 15 33.7	
	comp=Z,30nm,0.8s								
GOGA	Godfrey	65.64	349	IAmb		IAmb		21 15 28.7	
	comp=Z,20nm,1.0s								
GOGA	Godfrey	65.64	349	P		P		21 15 26.5	+0.9
	baz=169,SNR=8.2								
LRAL	Lakeview Retre	65.92	346	P		P		21 15 28.2	+0.7
	baz=166								
VBMS	Vicksburg	65.95	343	P		P		21 15 29.4	+1.8
	baz=162								
JSC	Jenkinsville	66.17	351	IAmb		IAmb		21 15 31.9	
	comp=Z,27nm,1.0s								
Z47A	Carrollton	66.31	345	IAmb		IAmb		21 15 32.5	
	comp=Z,29nm,0.8s								
VNDA	Vanda	66.47	191	P		P		21 15 32.7	+2.2
	comp=Z,2.3nm,0.7s,baz=127,slow=6.3,SNR=15								
VNDA				LR		LR		21 41 49.2	
	comp=Z,57nm,18.3s,baz=136,slow=33								
VNDA				PKPPKP		P'P'df		21 43 60.0	-7.9
	comp=Z,1.3nm,0.9s,baz=296,slow=5.3,SNR=5.9								
VNDA	Vanda	66.47	191	P		P		21 15 31.0	+0.4
Y49A	Blount Mountai	66.60	347	IAmb		IAmb		21 15 36.5	
	comp=Z,18nm,1.0s								
CNNC	Cliffs of the	66.77	355	P		P		21 15 34.6	+1.7
	baz=174								
PAULI	Pauline	66.78	351	IAmb		IAmb		21 15 35.0	
	comp=Z,25nm,1.0s								
W57A	Gilead	66.89	353	IAmb		IAmb		21 15 35.9	
	comp=Z,29nm,0.8s								
KMSC	Kings Mountain	67.03	351	IAmb		IAmb		21 15 37.0	
	comp=Z,20nm,0.8s								
KMSC	Kings Mountain	67.03	351	P		P		21 15 35.9	+1.4
	baz=171,SNR=8.1								
BG3	Lake Jocassee	67.11	350	IAmb		IAmb		21 15 37.2	
	comp=Z,33nm,0.9s								
FPAL	Fort Paine	67.11	348	IAmb		IAmb		21 15 36.9	
	comp=Z,21nm,1.0s								
237A	Washetta, Mont	67.27	338	IAmb		IAmb		21 15 39.5	
	comp=Z,31nm,0.9s								
JCT	Junction City	67.28	334	P		P		21 15 36.2	-0.1
JCT				pmax		pmax			
	comp=Z,25nm,1.0s								
JCT	Junction City	67.28	334	P		P		21 15 36.1	-0.1
JCT				IAmb		IAmb		21 15 39.3	
	comp=Z,25nm,0.9s								
JCT	Junction City	67.28	334	P		P		21 15 38.5	+2.3
	baz=154,SNR=7.3								
W52A	Murphy	67.36	349	IAmb		IAmb		21 15 39.2	
	comp=Z,29nm,0.8s								
V58A	Windy Hill, Pi	67.43	353	IAmb		IAmb		21 15 39.8	
	comp=Z,42nm,1.1s								
V53A	Saluda	67.75	350	IAmb		IAmb		21 15 41.0	
	comp=Z,33nm,0.9s								
CPCT	Cooper Cave	67.80	349	P		P		21 15 39.3	-0.1
WHTX	Lake Whitney,	67.81	337	IAmb		IAmb		21 15 42.3	
	comp=Z,18nm,0.9s								
WHTX	Lake Whitney,	67.81	337	P		P		21 15 41.5	+2.0
	baz=156								
TXAR	Lajitas Array	67.81	330	P		P		21 15 41.7	+2.0
	comp=Z,5.0nm,0.8s,baz=146,slow=7.9,SNR=19								
TXAR				PKP2bc				21 44 02.3	
	comp=Z,0.3nm,0.9s,baz=358,slow=2.8,SNR=2.4								
TXAR	Lajitas Array	67.81	330	P		P		21 15 39.0	-0.7
OXF	Oxford	67.87	344	P		P		21 15 40.8	+1.0
	baz=164,SNR=16								
U59A	Littleton	67.87	355	P		P		21 15 39.4	-0.4
U59A				IAmb		IAmb		21 15 42.4	
	comp=Z,28nm,0.9s								
TKL	Tuckaleechee C	67.89	349	P		P		21 15 39.4	-0.6
TKL				pmax		pmax			
	comp=Z,36nm,0.9s								
TKL	Tuckaleechee C	67.89	349	P		P		21 15 39.4	-0.6
SYO	Syowa Base	67.97	159	*i*	*eX*	P		21 15 40.6	+0.5
SYO	Syowa Base	67.97	159	*i*	*epP*	pP		21 15 47.4	-3.8
U56A	King	68.11	352	IAmb		IAmb		21 15 43.6	
	comp=Z,36nm,0.9s								
U54A	Nelsons Funny	68.45	351	P		P		21 15 43.3	-0.2
T59A	Double "B" Far	68.46	355	IAmb		IAmb		21 15 46.1	
	comp=Z,37nm,1.0s								
T57A	Hurt	68.64	354	IAmb		IAmb		21 15 46.7	
	comp=Z,20nm,0.9s								
TZTN	Tazewell	68.72	350	IAmb		IAmb		21 15 46.9	
	comp=Z,17nm,0.9s								
TZTN	Tazewell	68.72	350	P		P		21 15 45.7	+0.5
	baz=169								
BLA	Blacksburg	68.97	353	P		P		21 15 46.0	-0.7
BLA				pmax		pmax			
	comp=Z,23nm,1.0s								
BLA	Blacksburg	68.97	353	P		P		21 15 46.0	-0.7
BLA				IAmb		IAmb		21 15 58.5	
	comp=Z,23nm,1.0s								
BLA	Blacksburg	68.97	353	P		P		21 15 48.0	+1.3
	baz=172								
MIAR	Mount Ida	68.97	341	P		P		21 15 46.6	-0.1
MIAR				pmax		pmax			
	comp=Z,10.0nm,1.1s								
MIAR	Mount Ida	68.97	341	P		P		21 15 46.6	-0.1
MIAR	Mount Ida	68.97	341	P		P		21 15 48.0	+1.3
	baz=160								
U49A	Red Boiling Sp	69.06	348	P		P		21 15 47.2	-0.1
U49A				IAmb		IAmb		21 15 49.1	
	comp=Z,20nm,0.9s								
WVT	Waverly	69.08	346	P		P		21 15 47.7	+0.3
WVT				pmax		pmax			
	comp=Z,68nm,0.8s								
WVT	Waverly	69.08	346	P		P		21 15 47.7	+0.3
WVT	Waverly	69.08	346	P		P		21 15 48.4	+1.0
	baz=165								
ABTX	Abilene, Hawle	69.14	335	IAmb		IAmb		21 15 50.7	
	comp=Z,26nm,0.8s								
ABTX	Abilene, Hawle	69.14	335	P		P		21 15 49.6	+1.7
	baz=155,SNR=11								
W41B	Gary Mavity, V	69.20	342	P		P		21 15 49.5	+1.3
	baz=161								
S57A	Dark Hollow, R	69.36	354	IAmb		IAmb		21 15 51.5	
	comp=Z,31nm,0.9s								
GNAR	Gosnell	69.40	344	P		P		21 15 49.4	0.0
R58B	Mineral	69.47	355	IAmb		IAmb		21 15 53.1	
	comp=Z,27nm,0.9s								
UTMT	University of	69.50	345	P		P		21 15 49.2	-0.7
LOOK	Love County	69.55	338	IAmb		IAmb		21 15 53.0	
	comp=Z,24nm,1.1s								
W39A	Magazine	69.64	341	IAmb		IAmb		21 15 53.8	
	comp=Z,38nm,0.9s								
W39A	Magazine	69.64	341	P		P		21 15 52.9	+2.0
	baz=160,SNR=15								
S54A	Dingess, Beckl	69.65	352	P		P		21 15 50.9	0.0
S54A				IAmb		IAmb		21 15 53.1	
	comp=Z,28nm,0.9s								
T47A	Sharon Grove	69.77	347	P		P		21 15 51.6	0.0
LCAR	Lake Charles	69.77	343	P		P		21 15 51.2	-0.4
LCAR				IAmb		IAmb		21 15 54.0	

	comp=Z,28nm,0.9s								
PENMO	Penman	69.77	345	P		P		21 15 52.0	+0.4
S51A	Beattyville	69.80	350	IAmb		IAmb		21 15 54.0	
	comp=Z,27nm,0.8s								
R55A	Marlinton	70.00	353	P		P		21 15 53.1	0.0
PARMO	Parma	70.01	345	P		P		21 15 52.5	-0.6
R53A	Hurricane	70.25	351	P		P		21 15 54.1	-0.5
R53A				IAmb		IAmb		21 15 57.1	
	comp=Z,20nm,0.8s								
PBMO	Poplar Bluff	70.27	344	IAmb		IAmb		21 15 56.7	
	comp=Z,27nm,1.0s								
X34A	Smith Ranch, M	70.32	337	IAmb		IAmb		21 15 57.8	
	comp=Z,31nm,0.9s								
U40A	Yellville	70.47	342	P		P		21 15 55.9	-0.1
U40A				IAmb		IAmb		21 15 58.2	
	comp=Z,25nm,1.0s								
U40A	Yellville	70.47	342	P		P		21 15 57.4	+1.4
	baz=161,SNR=11								
R50A	Paris	70.54	350	IAmb		IAmb		21 15 57.9	
	comp=Z,16nm,0.9s								
MNTX	Cornudas Mount	70.59	330	IAmb		IAmb		21 15 59.1	
	comp=Z,14nm,0.8s								
MNTX	Cornudas Mount	70.59	330	P		P		21 15 58.0	+1.1
	baz=150,SNR=32								
Q56A	Snyder Ridge,	70.66	354	IAmb		IAmb		21 15 59.9	
	comp=Z,22nm,0.8s								
R49A	Shelbyville	70.69	349	IAmb		IAmb		21 15 60.0	
	comp=Z,25nm,1.0s								
HHAR	Hobbs	70.70	341	IAmb		IAmb		21 15 59.5	
	comp=Z,24nm,1.0s								
WMOK	Wichita Mounta	70.76	337	P		P		21 15 57.6	-0.2
WMOK				pmax		pmax			
	comp=Z,7.0nm,1.0s								
WMOK	Wichita Mounta	70.76	337	P		P		21 15 57.6	-0.2
WMOK	Wichita Mounta	70.76	337	P		P		21 15 59.2	+1.4
	baz=156,SNR=7.2								
Q54A	Coxs Mills	70.77	352	IAmb		IAmb		21 15 59.1	
	comp=Z,19nm,0.8s								
WCI	Wyandotte Cave	70.82	348	P		P		21 15 57.8	-0.2
WCI				pmax		pmax			
	comp=Z,26nm,0.8s								
WCI	Wyandotte Cave	70.82	348	P		P		21 15 57.8	-0.2
WCI				IAmb		IAmb		21 15 59.8	
	comp=Z,26nm,0.8s								
WCI	Wyandotte Cave	70.82	348	P		P		21 15 58.6	+0.6
	baz=167								
PPT2	Papeete2	70.86	261	*e*	S	S		21 25 22.4	+11
	comp=Z,154nm,27.5s								
PPT2	Papeete2	70.86	261	*e*	LR	LR		21 37 36.0	
	comp=Z,199nm,24.2s,baz=96								
TUL1	Leonard	70.88	339	IAmb		IAmb		21 16 00.6	
	comp=Z,22nm,0.9s								
TUL1	Leonard	70.88	339	P		P		21 15 59.9	+1.4
	baz=158,SNR=7.7								
Q52A	Bidwell	70.92	351	IAmb		IAmb		21 16 00.4	
	comp=Z,41nm,0.9s								
P57A	Homestead Farm	71.00	355	IAmb		IAmb		21 16 02.6	
	comp=Z,39nm,0.9s								
Q51A	Peebles	71.12	350	IAmb		IAmb		21 16 02.1	
	comp=Z,34nm,0.8s								
P60A	Greenville	71.17	357	IAmb		IAmb		21 16 03.6	
	comp=Z,21nm,0.9s								
P60A	Greenville	71.17	357	P		P		21 16 01.9	+1.8
	baz=176								
OK030	Cody Creek RV	71.20	339	IAmb		IAmb		21 16 02.5	
	comp=Z,24nm,1.0s								
BCOK	Bluff Creek, N	71.21	338	IAmb		IAmb		21 16 02.6	
	comp=Z,18nm,0.8s								
OK031	S. Brethren Rd	71.24	339	IAmb		IAmb		21 16 02.8	
	comp=Z,26nm,1.0s								
OK029	Liberty Lake	71.29	338	IAmb		IAmb		21 16 03.1	
	comp=Z,21nm,0.8s								
WUPA	West Chester U	71.29	357	IAmb		IAmb		21 16 05.2	
	comp=Z,20nm,0.9s								
P53A	Whipple	71.33	352	IAmb		IAmb		21 16 03.9	
	comp=Z,21nm

KAN09 **Caldwell North** 72.57 339 IAmb IAmb 21 16 11.2
comp=Z,31nm,1.0s
N54A **Moraine State** 72.63 353 IAmb IAmb 21 16 11.2
comp=Z,33nm,0.9s
N54A **Moraine State** 72.63 353 P **P** **21 16 10.2 +1.3**
baz=173,SNR=7.4
KS20 **Mayfield South** 72.64 339 IAmb IAmb 21 16 11.6
comp=Z,27nm,0.9s
KAN08 **Anthony NE Sta** 72.77 338 IAmb IAmb 21 16 12.5
comp=Z,32nm,0.8s
M57A **Sunshine Farm,** 72.78 356 IAmb IAmb 21 16 13.4
comp=Z,24nm,1.0s
KAN16 **Harper SW Stat** 72.80 338 P **P** **21 16 09.6 -0.3**
KAN16 IAmb IAmb 21 16 12.7
comp=Z,40nm,1.0s
KAN12 **Harper NE Stat** 72.84 338 IAmb IAmb 21 16 12.9
comp=Z,38nm,1.0s
N51A **Ashland** 72.86 352 IAmb IAmb 21 16 11.9
comp=Z,44nm,1.0s
SFIN **Lafayette** 73.05 348 IAmb IAmb 21 16 12.4
comp=Z,19nm,0.9s
SFIN **Lafayette** 73.05 348 P **P** **21 16 11.7 +0.3**
baz=166
N49A **Columbus Grove** 73.11 350 P **P** **21 16 11.3 -0.3**
M54A **Oil Creek Stat** 73.14 354 IAmb IAmb 21 16 13.9
comp=Z,24nm,0.9s
M54A **Oil Creek Stat** 73.14 354 P **P** **21 16 12.9 +0.9**
baz=173
M53A **WI Miller and** 73.18 353 IAmb IAmb 21 16 14.5
comp=Z,41nm,0.9s
M53A **WI Miller and** 73.18 353 P **P** **21 16 13.3 +1.2**
baz=172,SNR=6.5
ALLY **Alegheny Colle** 73.33 353 IAmb IAmb 21 16 16.3
comp=Z,34nm,0.9s
M52A **Chesterland** 73.35 352 P **P** **21 16 12.7 -0.4**
TUC **Tucson** 73.55 326 P **P** **21 16 14.2 -0.4**
TUC pmax pmax
comp=Z,6.0nm,1.2s
TUC **Tucson** 73.55 326 P **P** **21 16 14.2 -0.4**
TUC **Tucson** 73.55 326 P **P** **21 16 17.1 +2.5**
baz=146
QUA2 **Belchertown** 73.55 360 IAmb IAmb 21 16 26.7
comp=Z,31nm,1.0s
BINY **Binghamton** 73.57 357 IAmb IAmb 21 16 17.0
comp=Z,24nm,0.9s
BINY **Binghamton** 73.57 357 P **P** **21 16 16.3 +1.8**
baz=176,SNR=5.4
L56A **Greenwood** 73.60 355 P **P** **21 16 14.1 -0.5**
HDIL **Hopedale** 73.64 346 P **P** **21 16 16.1 +1.2**
baz=164
L61B **Northampton** 73.72 359 P **P** **21 16 17.3 +2.0**
baz=179,SNR=8.9
P38A **Dawn** 73.73 343 IAmb IAmb 21 16 17.3
comp=Z,26nm,0.9s
HRV **Adam Dziewonsk** 73.77 0 P **P** **21 16 17.9 +2.3**
baz=180
LIC **Lamto** 73.78 72 *e*P **P** **21 16 15.8 -0.5**
comp=Z,194nm,0.8s
ERPA **Erie** 73.78 354 P **P** **21 16 16.9 +1.3**
baz=173,SNR=6.9
ANMO **Albuquerque** 73.84 331 *c i*P **P** **21 16 17.8 +1.4**
ANMO pmax pmax
comp=Z,10.0nm,1.2s
ANMO **Albuquerque** 73.84 331 P **P** **21 16 15.8 -0.6**
ANMO **Albuquerque** 73.84 331 P **P** **21 16 19.0 +2.6**
baz=150
TRY **Troy** 74.02 359 IAmb IAmb 21 16 21.0
comp=Z,42nm,1.0s
TIC **Toumodi** 74.03 72 *e*P **P** **21 16 17.8 0.0**
KSU1 **Kansas State U** 74.08 340 P **P** **21 16 19.1 +1.6**
baz=158
KIC **Kosan Boka** 74.09 72 *e*P **P** **21 16 18.0 -0.1**
comp=Z,172nm,0.8s
R32A **Long Quarter,** 74.09 338 P **P** **21 16 17.3 -0.3**
R32A IAmb IAmb 21 16 20.3
comp=Z,20nm,0.9s
K57A **Scipio Center** 74.13 356 IAmb IAmb 21 16 19.7
comp=Z,21nm,0.8s
DBIC **Dimbokro** 74.17 72 P **P** **21 16 19.0 +0.4**
comp=Z,100nm,0.8s,baz=230,slow=5.3,SNR=118
DBIC **Dimbokro** 74.17 72 P **P** **21 16 19.0 +0.4**
DBIC **Dimbokro** 74.17 72 P **P** **21 16 17.9 -0.7**
214A **Organ Pipe Nat** 74.24 325 P **P** **21 16 18.2 -0.5**
214A IAmb IAmb 21 16 32.0
comp=Z,21nm,1.2s
214A **Organ Pipe Nat** 74.24 325 P **P** **21 16 21.4 +2.7**
baz=144,SNR=6.5
L46A **Eue Claire** 74.50 349 IAmb IAmb 21 16 21.4
comp=Z,36nm,0.9s
J61A **Chester** 74.62 359 IAmb IAmb 21 16 23.7
comp=Z,20nm,0.9s
ACCN **Adirondack Com** 74.67 359 IAmb IAmb 21 16 23.6
comp=Z,18nm,0.8s
MEDO **Medina** 74.69 355 IAmb IAmb 21 16 22.0
comp=Z,28nm,0.9s
J56A **Wolcott** 74.69 356 IAmb IAmb 21 16 23.3
comp=Z,37nm,0.8s
K50A **Casco** 74.72 352 P **P** **21 16 20.2 -0.8**
FFD **Franklin Falls** 74.74 0 IAmb IAmb 21 16 24.9
comp=Z,32nm,0.8s
J55A **Hilton** 74.74 355 IAmb IAmb 21 16 33.6
comp=Z,33nm,1.2s
J59A **Piesco** 74.78 358 IAmb IAmb 21 16 23.9
comp=Z,29nm,1.1s
CBKS **Cedar Bluff** 74.78 338 IAmb IAmb 21 16 24.4
comp=Z,27nm,0.9s
CBKS **Cedar Bluff** 74.78 338 P **P** **21 16 23.8 +2.2**
baz=156
J57A **Williamstown** 74.78 357 IAmb IAmb 21 16 23.7
comp=Z,36nm,0.9s
J54A **Appleton** 74.81 355 P **P** **21 16 21.5 -0.1**
J54A IAmb IAmb 21 16 23.7
comp=Z,36nm,0.8s
T25A **Trinidad** 74.93 333 P **P** **21 16 22.3 -0.5**
T25A IAmb IAmb 21 16 26.4
comp=Z,32nm,0.9s
T25A **Trinidad** 74.93 333 P **P** **21 16 25.4 +2.7**
baz=152,SNR=26
L44A **Lake County Fo** 74.94 348 IAmb IAmb 21 16 24.1
comp=Z,35nm,0.9s
L44A **Lake County Fo** 74.94 348 P **P** **21 16 23.7 +1.4**
baz=166
HNH **Hanover** 74.97 360 P **P** **21 16 21.9 -0.6**
HNH IAmb IAmb 21 16 25.8
comp=Z,27nm,0.9s
L42A **Oliver, Polo** 75.11 346 P **P** **21 16 23.4 0.0**
L42A IAmb IAmb 21 16 25.6
comp=Z,31nm,0.9s
I63A **Otisfield** 75.33 1 P **P** **21 16 25.6 +1.1**
I63A IAmb IAmb 21 16 28.5
comp=Z,32nm,0.9s
PECO **Prince Edward** 75.36 356 P **P** **21 16 24.7 +0.1**
PECO IAmb IAmb 21 16 26.9
comp=Z,34nm,0.8s
MAW **Mawson** 75.37 164 P **P** **21 16 25.9 +1.3**
comp=Z,27nm,0.8s,baz=217,slow=7.4,SNR=23
MAW LR LR 21 52 38.1
comp=Z,326nm,18.3s,baz=226,slow=38
MAW **Mawson** 75.37 164 P **P** **21 16 24.3 -0.4**
N35A **Tabor** 75.45 341 P **P** **21 16 24.9 -0.4**
J47A **Sunmer** 75.47 350 P **P** **21 16 24.9 -0.5**
J47A IAmb IAmb 21 16 26.8
comp=Z,40nm,1.0s
L40A **Anamosa** 75.50 345 P **P** **21 16 25.2 -0.4**
LBNH **Lisbon** 75.51 360 IAmb IAmb 21 16 29.0
comp=Z,26nm,0.8s
LBNH **Lisbon** 75.51 360 P **P** **21 16 27.8 +2.2**
baz=180,SNR=10.0
K43A **Burlington** 75.53 347 IAmb IAmb 21 16 27.6
comp=Z,32nm,0.9s
X16A **Lo Mia Camp, P** 75.60 327 P **P** **21 16 26.4 -0.2**
SCIA **State Center** 75.81 344 P **P** **21 16 27.4 0.0**
SCIA IAmb IAmb 21 16 31.0
comp=Z,30nm,0.8s
SCIA **State Center** 75.81 344 P **P** **21 16 29.5 +2.2**
baz=161
H62A **Milan** 75.84 0 IAmb IAmb 21 16 31.0
comp=Z,25nm,1.2s
SDCO **Great Sand Dun** 75.88 333 P **P** **21 16 27.6 -0.6**
SDCO **Great Sand Dun** 75.88 333 P **P** **21 16 30.5 +2.2**
baz=151,SNR=12
LONY **Lake Ozonia** 75.93 358 P **P** **21 16 26.9 -1.1**
LONY IAmb IAmb 21 16 31.4
comp=Z,28nm,0.9s
LONY **Lake Ozonia** 75.93 358 P **P** **21 16 29.8 +1.8**
baz=177,SNR=13
Y14A **Wickenburg** 75.94 326 P **P** **21 16 28.0 -0.4**

DELO **Deloro Mine** 75.98 356 P **P** **21 16 28.4 +0.2**
DELO IAmb IAmb 21 16 30.4
comp=Z,18nm,1.0s
JFWS **Jewell Farm** 76.11 346 P **P** **21 16 29.1 +0.1**
JFWS pmax pmax
comp=Z,30nm,0.9s
JFWS **Jewell Farm** 76.11 346 P **P** **21 16 29.1 +0.1**
JFWS IAmb IAmb 21 16 31.1
comp=Z,30nm,0.8s
JFWS **Jewell Farm** 76.11 346 P **P** **21 16 30.2 +1.1**
baz=164,SNR=6.9
FRNY **Flat Rock** 76.12 359 IAmb IAmb 21 16 32.0
comp=Z,34nm,0.9s
SADO **Sadowa** 76.34 355 P **P** **21 16 30.3 0.0**
SADO IAmb IAmb 21 16 32.2
comp=Z,39nm,0.8s
K38A **Parkersburg** 76.41 344 IAmb IAmb 21 16 32.4
comp=Z,23nm,0.8s
S22A **4UR Ranch, Cre** 76.41 332 P **P** **21 16 33.6 +2.4**
baz=150,SNR=7.6
RMX **La Rumorosa** 76.41 323 P **P** **21 16 30.5 -0.7**
PLVO **Plevna** 76.46 356 P **P** **21 16 30.1 -0.9**
PLVO IAmb IAmb 21 16 33.3
comp=Z,25nm,0.9s
IKP **In-Ko-Pah, Jac** 76.47 323 P **P** **21 16 34.2 +2.8**
baz=142
WUAZ **Wupatki** 76.47 328 P **P** **21 16 34.2 +2.6**
baz=146,SNR=9.4
CBX **Cerro Bola** 76.49 322 P **P** **21 16 31.0 -0.7**
G62A **West of Eustis** 76.49 1 P **P** **21 16 30.7 -0.5**
G62A IAmb IAmb 21 16 34.8
comp=Z,38nm,0.9s
SWSC **Sam W. Stewart** 76.54 323 P **P** **21 16 34.5 +2.8**
baz=142
PKME **Peaks-Kenny Pk** 76.56 2 P **P** **21 16 32.0 +0.5**
PKME IAmb IAmb 21 16 34.4
comp=Z,27nm,1.1s
PKME **Peaks-Kenny Pk** 76.56 2 P **P** **21 16 33.2 +1.7**
baz=182
MVCO **Mesa Verde** 76.63 331 P **P** **21 16 31.2 -1.2**
MVCO **Mesa Verde** 76.63 331 P **P** **21 16 34.8 +2.3**
baz=148,SNR=6.6
L34A **Svendsen Farm,** 76.68 341 P **P** **21 16 31.3 -1.0**
BAR **Barrett** 76.78 322 P **P** **21 16 32.1 -1.1**
I42A **Draeger Farm,** 76.79 347 P **P** **21 16 33.0 +0.2**
I42A IAmb IAmb 21 16 34.9
comp=Z,28nm,0.9s
MNTQ **Montreal, Queb** 76.79 359 P **P** **21 16 32.1 -0.7**
MNTQ IAmb IAmb 21 16 45.8
comp=Z,18nm,1.1s
Q24A **Divide** 76.81 334 P **P** **21 16 36.1 +2.6**
baz=151,SNR=12
MONP2 **Monument Peak** 76.82 323 P **P** **21 16 36.1 +2.6**
baz=142
BC3 **Big Chuckawall** 76.93 324 P **P** **21 16 36.8 +2.8**
baz=143,SNR=8.1
F63A **Nahmakanta, Br** 77.01 2 P **P** **21 16 35.2 +1.2**
F63A IAmb IAmb 21 16 46.9
comp=Z,33nm,1.2s
I40A **Norwalk** 77.12 346 P **P** **21 16 34.7 -0.1**
I40A IAmb IAmb 21 16 36.6
comp=Z,28nm,1.0s
IRM **Iron Mountain** 77.17 324 P **P** **21 16 38.2 +2.8**
baz=143,SNR=6.8
F62A **Pittston Farm,** 77.18 1 IAmb IAmb 21 16 47.8
comp=Z,47nm,1.1s
F64A **Sherman** 77.19 2 P **P** **21 16 35.3 +0.2**
F64A IAmb IAmb 21 16 38.2
comp=Z,24nm,0.9s
TPFO **Pinon Flats** 77.40 323 P **P** **21 16 39.9 +3.2**
baz=142,SNR=11
PFO **Pinyon Flats O** 77.40 323 *ce*P **P** **21 16 39.9 +3.2**
PFO **Pinyon Flats O** 77.40 323 P **P** **21 16 36.5 -0.3**
PFO **Pinyon Flats O** 77.40 323 P **P** **21 16 39.9 +3.2**
baz=142,SNR=9.9
BELC **Belle Mtn. Jos** 77.47 324 P **P** **21 16 40.1 +2.9**
baz=142,SNR=5.9
SMCO **Snowmass** 77.70 333 P **P** **21 16 37.5 -1.2**
SMCO IAmb IAmb 21 16 42.4
comp=Z,19nm,1.0s
ISCO **Idaho Springs** 77.72 334 P **P** **21 16 38.1 -0.5**
ISCO pmax pmax
comp=Z,8.0nm,1.0s
ISCO **Idaho Springs** 77.72 334 P **P** **21 16 38.1 -0.5**
ISCO **Idaho Springs** 77.72 334 P **P** **21 16 41.1 +2.6**
baz=151,SNR=9.1
MURC **Murrieta** 77.77 322 P **P** **21 16 41.9 +3.2**
baz=142
I37A **Lemond, Waseca** 77.85 344 P **P** **21 16 38.7 -0.1**
I37A IAmb IAmb 21 16 40.8
comp=Z,38nm,0.9s
E62A **Clayton Lake** 77.91 2 P **P** **21 16 39.1 0.0**
E62A IAmb IAmb 21 16 42.2
comp=Z,34nm,0.9s
PQI **Presque Isle** 78.01 3 IAmb IAmb 21 16 43.4
comp=Z,28nm,1.0s
HEC **Hector,Ludlow** 78.30 324 P **P** **21 16 44.9 +3.3**
baz=142,SNR=15
G40A **Rib Lake** 78.36 347 P **P** **21 16 42.1 +0.5**
G40A IAmb IAmb 21 16 44.5
comp=Z,15nm,0.8s
KNB **Kanab** 78.37 328 P **P** **21 16 42.0 -0.1**
KNB pmax pmax
comp=Z,22nm,1.3s
KNB **Kanab** 78.37 328 P **P** **21 16 42.0 -0.1**
KNB IAmb IAmb 21 16 56.4
comp=Z,22nm,1.3s
ECSD **EROS Data Cent** 78.38 342 IAmb IAmb 21 16 44.1
comp=Z,36nm,0.8s
ECSD **EROS Data Cent** 78.38 342 P **P** **21 16 43.1 +1.3**
baz=158,SNR=35
D62A **Allapoint, All** 78.39 2 P **P** **21 16 42.4 +0.7**
D62A IAmb IAmb 21 16 44.9
comp=Z,36nm,0.9s
E46A **Sault Ste Mari** 78.47 351 IAmb IAmb 21 16 44.0
comp=Z,38nm,0.8s
BFSC **Mount Baldy Ra** 78.51 323 P **P** **21 16 45.7 +2.8**
baz=141
LCMT **Little Creek M** 78.56 327 P **P** **21 16 43.6 +0.5**
TUQ **Turquoise Moun** 78.57 324 P **P** **21 16 46.5 +3.3**
baz=143,SNR=6.3
MWC **Mount Wilson** 78.71 322 P **P** **21 16 42.0 -2.1**
MWC pmax pmax
comp=Z,12nm,0.9s
MWC **Mount Wilson** 78.71 322 P **P** **21 16 42.0 -2.1**
N23A **Red Feather La** 78.80 334 P **P** **21 16 47.0 +2.5**
baz=151,SNR=5.5
LMQ **La Malbaie** 78.83 1 P **P** **21 16 44.2 +0.1**
LMQ IAmb IAmb 21 16 46.6
comp=Z,40nm,1.0s
SPMN **Marine on St.** 78.86 345 P **P** **21 16 42.6 -1.7**
SPMN IAmb IAmb 21 16 45.9
comp=Z,14nm,0.8s
SPMN **Marine on St.** 78.86 345 P **P** **21 16 45.1 +0.8**
baz=162
E43A **Lone Tree Farm** 78.86 349 IAmb IAmb 21 16 46.9
comp=Z,36nm,0.8s
GSC **Goldstone, Bar** 78.91 324 P **P** **21 16 47.8 +2.8**
baz=142,SNR=9.7
COWI **Conover** 78.96 348 P **P** **21 16 44.3 -0.7**
PHWY **Pilot Hill** 78.97 335 P **P** **21 16 44.7 -0.8**
O20A **White River Ci** 79.02 332 P **P** **21 16 48.1 +2.5**
baz=149,SNR=6.3
CCUT **Cedar City** 79.05 327 P **P** **21 16 46.3 +0.3**
EDW2 **Edwards Air Fo** 79.19 323 P **P** **21 16 49.1 +2.6**
baz=141,SNR=13
Q16A **Castle Valley** 79.20 330 P **P** **21 16 46.6 -0.1**
MSU **Marysvale** 79.31 329 P **P** **21 16 47.0 -0.3**
MSU **Marysvale** 79.31 329 P **P** **21 16 47.0 -0.3**
MVU **Marysvale** 79.32 329 P **P** **21 16 46.5 -0.9**
MVU IAmb IAmb 21 16 51.1
comp=Z,32nm,1.0s
OSI **Osito Audit: C** 79.36 322 P **P** **21 16 47.0 -0.5**
OSI IAmb IAmb 21 16 51.4
comp=Z,21nm,0.9s
OSI **Osito Audit: C** 79.36 322 P **P** **21 16 50.2 +2.8**
baz=141
KOWA **Kowa** 79.42 66 P **P** **21 16 47.5 -0.6**
KOWA **Kowa** 79.42 66 P **P** **21 16 48.7 +0.5**
TMUT **Trail Mountain** 79.54 330 P **P** **21 16 48.3 -0.3**
TSUM **Tsumeb** 79.61 106 P **P** **21 16 48.1 -1.3**
TSUM IAmb IAmb 21 16 51.0
comp=Z,24nm,0.8s
F36A **Milaca** 79.62 345 P **P** **21 16 48.1 -0.4**
F36A IAmb IAmb 21 16 50.6
comp=Z,22nm,0.8s

PRN **Pahroc Range** 79.72 326 P **P** **21 16 49.7 +0.3**
PRN IAmb IAmb 21 16 54.0
comp=Z,17nm,0.9s
MPMC **Manual Prospec** 79.84 324 P **P** **21 16 52.6 +2.4**
baz=142,SNR=9.9
FURC **Furnace Creek,** 79.85 325 P **P** **21 16 52.8 +2.9**
baz=142
RDMU **Red Mountain** 79.92 332 IAmb IAmb 21 16 53.5
comp=Z,15nm,0.8s
TPNV **Topopah Spring** 79.93 325 P **P** **21 16 53.8 +3.1**
baz=143,SNR=14
RWWY **Rawlins** 79.96 334 P **P** **21 16 49.5 -1.3**
RWWY IAmb IAmb 21 16 53.8
comp=Z,15nm,0.8s
ISA **Isabella, Lake** 80.04 323 P **P** **21 16 51.9 +0.7**
ISA pmax pmax
comp=Z,17nm,0.9s
ISA **Isabella, Lake** 80.04 323 P **P** **21 16 51.9 +0.7**
ISA IAmb IAmb 21 16 55.4
comp=Z,17nm,0.8s
ISA **Isabella, Lake** 80.04 323 P **P** **21 16 54.2 +3.1**
baz=141,SNR=17
PKM **Mcpherson Peak** 80.14 322 P **P** **21 16 54.9 +3.0**
baz=140,SNR=8.6
CWC **Cottonwood Cre** 80.44 324 P **P** **21 16 56.3 +2.9**
baz=141
VES **Vestal, Richgr** 80.49 323 P **P** **21 16 56.2 +2.8**
baz=141
K22A **Casper** 80.54 335 P **P** **21 16 56.0 +2.3**
baz=150
SMMC **Simmler** 80.56 322 P **P** **21 16 57.3 +3.3**
baz=140,SNR=5.1
R11A **Troy Canyon, C** 80.73 326 P **P** **21 16 57.8 +2.9**
baz=143,SNR=21
BOSA **Boshof** 80.94 118 P **P** **21 16 56.9 +0.5**
comp=Z,37nm,0.8s,baz=240,slow=5.1,SNR=38
BOSA **Boshof** 80.94 118 P **P** **21 16 55.2 -1.2**
BOSA IAmb IAmb 21 16 58.0
comp=Z,38nm,0.8s
RSSD **Black Hills** 80.96 337 P **P** **21 16 55.8 -0.3**
RSSD pmax pmax
comp=Z,11nm,0.9s
RSSD **Black Hills** 80.96 337 P **P** **21 16 55.8 -0.3**
RSSD **Black Hills** 80.96 337 P **P** **21 16 58.1 +2.0**
baz=152
DUG **Dugway, Tooele** 80.97 329 P **P** **21 16 56.0 -0.1**
DUG pmax pmax
comp=Z,8.0nm,1.0s
DUG **Dugway, Tooele** 80.97 329 P **P** **21 16 56.0 -0.1**
DUG **Dugway, Tooele** 80.97 329 P **P** **21 16 58.1 +2.0**
baz=145,SNR=7.9
TIN **Tinemaha, Big** 81.00 324 P **P** **21 16 59.5 +3.2**
baz=141
EYMN **Ely** 81.18 347 P **P** **21 16 56.3 -0.6**
EYMN IAmb IAmb 21 17 00.0
comp=Z,32nm,1.4s
EYMN **Ely** 81.18 347 P **P** **21 16 57.7 +0.9**
baz=163,SNR=6.3
TPH **Tonopah** 81.30 325 P **P** **21 16 57.1 -0.9**
TPH pmax pmax
comp=Z,60nm,0.9s
TPH **Tonopah** 81.30 325 P **P** **21 16 57.1 -0.9**
MLAC **Mammoth, Mammo** 81.75 324 P **P** **21 17 03.4 +3.0**
baz=141
BW06 **Boulder Array** 81.78 333 P **P** **21 17 02.6 +2.1**
baz=148
PDAR **Pinedale Array** 81.78 333 P **P** **21 17 02.0 +1.5**
comp=Z,2.0nm,0.7s,baz=141,slow=4.6,SNR=18
B35A **Bob, Littlefor** 82.03 345 IAmb IAmb 21 17 03.1
comp=Z,19nm,0.8s
LHV **Little Huntoon** 82.06 325 P **P** **21 17 01.7 0.0**
LHV IAmb IAmb 21 17 06.1
comp=Z,17nm,0.8s
NVAR **Mina Array Bea** 82.10 325 P **P** **21 17 04.6 +2.4**
comp=Z,9.7nm,0.8s,baz=155,slow=6.1,SNR=69
NVAR PKKPbc **PKKPbc** **21 35 32.5 +0.1**
comp=Z,1.3nm,0.8s,baz=270,slow=1.8,SNR=8.7
E28A **Huff** 82.13 340 P **P** **21 17 02.3 +0.4**
E28A IAmb IAmb 21 17 04.0
comp=Z,23nm,0.8s
HVU **Hansel Valley** 82.26 330 P **P** **21 17 02.6 -0.3**
HVU pmax pmax
comp=Z,9.0nm,0.8s
HVU **Hansel Valley** 82.26 330 P **P** **21 17 02.6 -0.3**
RYN **Ryan** 82.36 325 P **P** **21 17 03.1 -0.4**
CASY **Casey** 82.39 181 P **P** **21 17 02.7 -0.4**
CASY IAmb IAmb 21 17 05.9
comp=Z,25nm,1.0s
AGMN **Agassiz Nation** 82.46 344 IAmb IAmb 21 17 05.1
comp=Z,11nm,0.7s
AGMN **Agassiz Nation** 82.46 344 P **P** **21 17 04.7 +1.2**
baz=159
KVN **Kaiserville** 82.49 325 P **P** **21 17 04.0 -0.2**
KVN pmax pmax
comp=Z,12nm,0.9s
KVN **Kaiserville** 82.49 325 P **P** **21 17 04.0 -0.2**
KVN IAmb IAmb 21 17 07.2
comp=Z,12nm,0.9s
CMB **Columbia Colle** 82.84 323 P **P** **21 17 05.3 -0.6**
CMB pmax pmax
comp=Z,6.0nm,1.0s
CMB **Columbia Colle** 82.84 323 P **P** **21 17 05.3 -0.6**
LOHW **Long Hollow** 82.90 333 P **P** **21 17 05.6 -0.7**
MDND **Maddock** 82.99 341 P **P** **21 17 06.1 -0.2**
MDND **Maddock** 82.99 341 P **P** **21 17 08.1 +1.8**
baz=156,SNR=7.4
YERR **Yerington** 83.00 325 P **P** **21 17 06.1 -0.8**
YERR IAmb IAmb 21 17 13.5
comp=Z,17nm,0.9s
LBTB **Lobatse** 83.06 115 P **P** **21 17 06.5 -1.1**
LBTB pmax pmax
comp=Z,42nm,0.8s
LBTB **Lobatse** 83.06 115 P **P** **21 17 06.5 -1.1**
BMN **Battle Mountai** 83.15 327 P **P** **21 17 06.9 -0.7**
BMN pmax pmax
comp=Z,6.0nm,1.3s
BMN **Battle Mountai** 83.15 327 P **P** **21 17 06.9 -0.7**
TORD **Torodi Ar. Bea** 83.15 70 P **P** **21 17 08.3 +0.3**
comp=Z,55nm,0.8s,baz=258,slow=4.6,SNR=186
TORD **Torodi Ar. Bea** 83.15 70 P **P** **21 17 06.9 -1.1**
TORD pP **pP** **21 17 17.7 -1.8**
PNTR **Pine Nut** 83.25 324 P **P** **21 17 07.5 -0.8**
PNTR IAmb IAmb 21 17 12.3
comp=Z,26nm,0.8s
IMW **Indian Meadow** 83.27 333 P **P** **21 17 06.5 -1.8**
VCNR **Virginia City** 83.44 325 P **P** **21 17 08.2 -1.0**
PAHR **Pah Rah Range** 83.62 325 P **P** **21 17 08.9 -1.1**
PAHR IAmb IAmb 21 17 13.6
comp=Z,15nm,0.9s
RLMT **Red Lodge** 83.67 334 P **P** **21 17 12.0 +1.8**
baz=148,SNR=6.6
LAO **LASA Array** 83.95 337 IAmb IAmb 21 17 13.8
comp=Z,12nm,0.9s
LAO **LASA Array** 83.95 337 P **P** **21 17 12.9 +1.5**
baz=151,SNR=8.2
YHH **Holmes Hill** 83.99 333 P **P** **21 17 10.1 -1.9**
YHH IAmb IAmb 21 17 16.1
comp=Z,10nm,0.8s
BEKR **Beckworth** 84.22 325 P **P** **21 17 11.9 -1.2**
ULM **Lac du Bonnet** 84.29 345 P **P** **21 17 13.8 +0.8**
comp=Z,14nm,0.8s,baz=156,slow=3.2,SNR=10
ULM **Lac du Bonnet** 84.29 345 P **P** **21 17 12.2 -0.8**
ULM IAmb IAmb 21 17 14.6
comp=Z,16nm,0.8s
HLID **Hailey** 84.41 330 P **P** **21 17 13.7 -0.2**
HLID **Hailey** 84.41 330 P **P** **21 17 16.1 +2.1**
baz=144,SNR=18
ORV **Oroville** 84.56 324 P **P** **21 17 14.1 -0.5**
ORV **Oroville** 84.56 324 P **P** **21 17 14.1 -0.5**
ORV IAmb IAmb 21 17 18.1
comp=Z,12nm,1.0s
MCMT **McKenzie Canyo** 84.81 332 P **P** **21 17 15.9 -0.1**
DGMT **Dagmar** 84.87 339 P **P** **21 17 15.2 -0.8**
DGMT **Dagmar** 84.87 339 P **P** **21 17 17.8 +1.9**
baz=153,SNR=8.8
BOZ **Bozeman (W)** 84.97 333 P **P** **21 17 16.3 -0.4**
BOZ pmax pmax
comp=Z,7.0nm,1.3s
BOZ **Bozeman (W)** 84.97 333 P **P** **21 17 16.3 -0.4**
BOZ **Bozeman (W)** 84.97 333 P **P** **21 17 18.4 +1.7**
baz=147,SNR=7.0
O03E **Paynes Creek** 85.27 324 P **P** **21 17 19.1 +0.9**
baz=139
LTZ **Lake Taylor** 85.54 222 P **P** **21 17 19.0 -0.8**
RPZ **Rata Peaks** 85.62 220 P **P** **21 17 18.7 -1.4**
RPZ IAmb IAmb 21 17 23.7

comp=Z,25nm,0.9s
MOD Modoc Plateau 85.76 326 IAmb IAmb 21 17 25.2
comp=Z,10nm,0.8s
THZ Tophouse 85.82 223 P **P** **21 17 24.8 +3.5**
TTIG Tnine Tigouga, 86.16 51 P **P** **21 17 25.0 +2.0**
SCHQ Schefferville 86.21 3 P **P** **21 17 23.5 +1.0**
comp=Z,14nm,1.0s,baz=194,slow=2.3,SNR=4.8
SCHQ Schefferville 86.21 3 IAmb IAmb 21 17 24.2
comp=Z,28nm,1.1s
PLID Pearl Lake 86.32 330 IAmb IAmb 21 17 26.2
comp=Z,10.0nm,0.8s
EGMT Eagleton 86.32 336 IAmb IAmb 21 17 25.1
comp=Z,8.8nm,0.9s
EGMT Eagleton 86.32 336 P **P** **21 17 23.5 +0.2**
baz=148
M04C Macdoel 86.41 325 P **P** **21 17 26.0 +2.0**
baz=139,SNR=5.5
M02C Callahan 86.62 324 P **P** **21 17 26.9 +2.0**
baz=138
K05A Summer Lake 86.67 326 IAmb IAmb 21 17 28.7
comp=Z,17nm,0.8s
YBH Yreka Blue Hor 86.80 324 IAmb IAmb 21 17 27.7
comp=Z,9.4nm,0.9s
MSO Missoula 86.89 332 P **P** **21 17 28.1 +2.0**
baz=145
OUK Oukaimeden 86.96 50 P **P** **21 17 29.0 +1.8**
L04D Klamath Falls 86.97 325 P **P** **21 17 28.4 +1.8**
baz=139
I07A Izee 87.06 328 IAmb IAmb 21 17 30.2
comp=Z,12nm,0.9s
J05D Fort Rock, OR 87.26 326 P **P** **21 17 30.2 +2.1**
baz=140,SNR=10
L02E Cave Junction 87.56 324 P **P** **21 17 31.6 +2.2**
baz=138
J04D Umpqua Nationa 87.64 326 P **P** **21 17 32.4 +2.5**
baz=139
K02D Willamette Mer 87.99 324 P **P** **21 17 33.5 +2.0**
baz=138
I05D Terrebonne, OR 88.11 327 P **P** **21 17 34.5 +2.6**
baz=140,SNR=9.3
TZRR Tazzarine 88.22 52 P **P** **21 17 35.0 +2.1**
WALA Waterton Lakes 88.70 334 IAmb IAmb 21 17 37.2
comp=Z,12nm,0.9s
H04A Detroit Lake 88.76 327 IAmb IAmb 21 17 37.4
comp=Z,11nm,0.9s
HAWA Hanford 88.86 329 IAmb IAmb 21 17 38.4
comp=Z,10nm,0.9s
D08A Wollman Farm, 89.12 330 IAmb IAmb 21 17 39.1
comp=Z,8.7nm,0.9s
E07A Sunnyside 89.14 329 IAmb IAmb 21 17 39.9
comp=Z,8.3nm,0.9s
NEW Newport 89.32 332 P **P** **21 17 38.4 +0.8**
baz=143
F05D White Salmon 89.34 328 P **P** **21 17 39.9 +2.2**
baz=139
C09A Chrisman Ranch 89.43 331 IAmb IAmb 21 17 40.4
comp=Z,13nm,0.8s
F04A Amboy 89.81 327 IAmb IAmb 21 17 42.6
comp=Z,11nm,0.7s
CZD Col de Zad 89.97 50 P **P** **21 17 44.1 +2.8**
MDT Midelt 90.12 51 P **P** **21 17 43.6 +1.8**
PFVI Vila Bisbo 90.18 45 *eP* **P** **21 17 42.4 +0.6**
LSZ Lusaka 90.29 108 P **P** **21 17 42.0 -1.1**
LSZ pmax pmax
comp=Z,26nm,0.9s
LSZ Lusaka 90.29 108 P **P** **21 17 42.0 -1.1**
MORF Marmelete 90.40 45 *eP* **P** **21 17 44.0 +1.1**
MORF IAMs_20 IAMs_20 21 37 46.1
comp=Z,750nm,11.7s
MORF Marmelete 90.40 45 *eP* **P** **21 17 44.0 +1.1**
MORF Marmelete 90.40 45 *eP* **P** **21 17 43.8 +0.9**
comp=Z,38nm,1.5s
PTEO Sao Teotonio 90.51 45 *eP* **P** **21 17 44.9 +1.6**
D05A Enumclaw 90.56 328 IAmb IAmb 21 17 46.2
comp=Z,14nm,0.8s
PBDV Barranco-do-Ve 90.79 46 *eP* **P** **21 17 46.0 +1.3**
comp=Z,60nm,1.6s
PCVE Castro Verde 90.98 45 *eP* **P** **21 17 46.7 +1.2**
comp=Z,31nm,1.9s
PNCL Nicolau / Gran 90.99 45 *eP* **P** **21 17 46.9 +1.4**
comp=Z,29nm,2.0s
MESJ Messejana 91.00 45 *eP* **P** **21 17 46.9 +1.3**
MESJ IAMs_20 IAMs_20 21 37 52.7
comp=Z,733nm,20.8s
MESJ Messejana 91.00 45 *eP* **P** **21 17 46.9 +1.3**
MESJ Messejana 91.00 45 *eP* **P** **21 17 46.6 +1.0**
comp=Z,27nm,1.5s
PVAQ Vaqueiros 91.03 46 *eP* **P** **21 17 46.5 +0.8**
EVO Evora 91.57 45 *eP* **P** **21 17 48.6 +0.4**
comp=Z,16nm,1.5s
PSBE So Bento 91.74 44 *eP* **P** **21 17 50.0 +1.0**
comp=Z,39nm,1.1s
PMTG Montargil 91.79 44 *eP* **P** **21 17 50.2 +1.0**
comp=Z,26nm,1.2s
PBAR Barrancos 91.93 45 *eP* **P** **21 17 50.8 +0.9**
comp=Z,16nm,1.8s
FIGM Figuig 91.96 53 P **P** **21 17 53.0 +2.6**
TDRA Tendrara 91.98 52 P **P** **21 17 53.0 +2.5**
PESTR Estremoz 92.04 45 *eP* **P** **21 17 51.5 +1.1**
PCAS Casmilo, Conde 92.27 43 *eP* **P** **21 17 52.5 +1.1**
comp=Z,27nm,1.7s
PMRV Marv??o 92.52 44 *eP* **P** **21 17 53.2 +0.6**
comp=Z,17nm,1.6s
PCBR Castelo Branco 92.73 44 *eP* **P** **21 17 54.1 +0.6**
comp=Z,16nm,1.2s
MTE Manteigas 93.05 44 *eP* **P** **21 17 55.8 +0.7**
MTE Manteigas 93.05 44 IAmb IAmb 21 17 56.3
comp=Z,9.3nm,0.9s
POLO Lamas de Olo 93.53 43 *eP* **P** **21 17 58.6 +1.3**
comp=Z,11nm,1.6s
PGAV Gavieira, Arco 93.63 42 *eP* **P** **21 17 56.8 -1.0**
comp=Z,26nm,1.5s
MVO Moncorvo 93.84 43 *eP* **P** **21 17 59.1 +0.4**
comp=Z,19nm,1.0s
PAB San Pablo 94.43 46 P **P** **21 18 00.9 -0.6**
PAB pmax pmax
comp=Z,5.0nm,1.0s
PAB San Pablo 94.43 46 P **P** **21 18 00.9 -0.6**
ESDC Sonseca Array 94.74 46 P **P** **21 18 03.5 +0.6**
comp=Z,3.6nm,0.9s,baz=246,slow=4.0,SNR=20
ESDC Sonseca Array 94.74 46 P **P** **21 18 02.8 -0.1**
ESBB Sonseca Array 94.74 46 IAmb IAmb 21 18 04.4
comp=Z,6.4nm,1.0s
DZM Mont Dzumac 102.85 234 *e*SS SS 21 37 39.0 +7.4
comp=Z,74nm,27.6s
DZM Mont Dzumac 102.85 234 *e*LR LR 21 52 24.8
comp=Z,328nm,27.6s
GERES GERESS Array B 110.29 45 PKiKP **PKiKP** **21 23 13.6 +0.4**
comp=Z,1.1nm,0.9s,baz=191,slow=2.2,SNR=6.9
ILAR Eielson Array 112.21 333 PKiKP **PKiKP** **21 23 17.3 +1.1**
comp=Z,0.4nm,0.6s,baz=192,slow=2.0,SNR=4.2
NOA NORSAR Array B 113.88 32 PKiKP **PKiKP** **21 23 20.3 +0.8**
comp=Z,0.8nm,1.0s,baz=254,slow=2.0,SNR=3.5
ASAR Alice Springs 119.79 207 PKP **PKiKP** **21 23 32.2 -0.1**
comp=Z,4.6nm,0.8s,baz=148,slow=2.3,SNR=44
ASAR PKKPbc **PKKPbc** **21 33 41.5 0.0**
comp=Z,2.0nm,0.8s,baz=345,slow=3.4,SNR=19
ASAR Alice Springs 119.79 207 PKPdf **PKPdf** **21 23 31.2 -1.0**
NACGM Naroch 119.93 41 *i* PKP **PKPdf** **21 23 28.3 -3.0**
AKASG Malin Array Be 120.38 46 PKP **PKiKP** **21 23 32.3 -0.1**
comp=Z,4.7nm,0.8s,baz=268,slow=2.2,SNR=12
AKBB Malin Array Si 120.38 46 *i* PKiKP **PKPdf** **21 23 30.5 -1.8**
BR131 Keskin Array S 120.43 60 *i* PKiKP **PKiKP** **21 23 33.1 0.0**
BRTR Keskin Array B 120.43 60 PKP **PKiKP** **21 23 33.4 +0.3**
comp=Z,4.3nm,0.8s,baz=209,slow=2.6,SNR=35
BRTR Keskin Array B 120.43 60 PKPdf **PKPdf** **21 23 31.8 -1.1**
VSU Vasula 120.66 37 *i* PKiKP **PKiKP** **21 23 32.8 +0.1**
FINES FINESS Array B 120.88 34 PKP **PKiKP** **21 23 33.7 +0.7**
comp=Z,2.9nm,0.8s,baz=0.0,slow=0.6,SNR=5.2
FINES FINESS Array B 120.88 34 **PKiKP** **21 23 33.4 +0.3**
ARCES ARCESS Array B 121.75 24 PKP **PKiKP** **21 23 35.4 +0.8**
comp=Z,2.5nm,0.8s,baz=34,slow=8.8,SNR=4.4
ARCES PKKPbc **PKKPbc** **21 33 33.5 -1.4**
comp=Z,7.4nm,0.9s,baz=95,slow=2.7,SNR=7.1
ARCES ARCESS Array B 121.75 24 **PKiKP** **21 23 34.6 0.0**
WRA Warramunga Arr 122.95 210 PKP **PKiKP** **21 23 38.9 +0.3**
comp=Z,11nm,0.8s,baz=167,slow=1.6,SNR=78
WRA PKKPbc **PKKPbc** **21 33 29.1 -0.4**
comp=Z,1.3nm,0.8s,baz=343,slow=4.4,SNR=11
WRA Warramunga Arr 122.95 210 **PKPdf** **21 23 37.4 -1.0**
WRAB Tennant Creek 122.96 210 *i* PKiKP **PKPdf** **21 23 37.9 -0.4**
OBN Obninsk 125.52 42 *e*PKiKP **PKPdf** **21 23 41.4 -0.6**
OBN *e* 21 23 52.6
OBN *e* 21 25 33.7
OBN pmax pmax
comp=Z,13nm,1.0s

H11S2 WAKE ISLAND Hyl 26.04 271 T T 23 42 46.0
baz=117,slow=75,SNR=443
H11S1 WAKE ISLAND Hyl 26.06 271 T T 23 42 43.2
baz=117,slow=75,SNR=347
H11S3 WAKE ISLAND Hyl 26.06 271 T T 23 42 39.4
baz=117,slow=75,SNR=405
H11N3 WAKE ISLAND Hyl 26.40 272 T T 23 43 05.8
baz=116,slow=75,SNR=204
H11N1 WAKE ISLAND Hyl 26.41 272 T T 23 42 59.4
baz=116,slow=75,SNR=63
H11N2 WAKE ISLAND Hyl 26.41 272 T T 23 43 07.2
baz=116,slow=75,SNR=625
VSR Storozhevoye 126.66 47 *e*PKIKP **PKPdf** **21 23 43.9 -0.4**
VSR pmax pmax
comp=Z,10.0nm,1.0s
LPSR Galich'ya Gora 126.66 45 *e*PKIKP **PKPdf** **21 23 43.9 -0.4**
LPSR pmax pmax
comp=Z,40nm,1.4s
VORD Divnogorie 126.71 47 *e*PKIKP **PKPdf** **21 23 44.2 -0.2**
VORD pmax pmax
comp=Z,9.0nm,0.8s
SHA1 Shidzhatmaz 127.93 57 *i* PKIKP **PKiKP** **21 23 47.5 -0.4**
KIV Kislovodsk 127.99 57 *i* PKIKP **PKPdf** **21 23 46.5 -0.8**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,63nm,23.0s
KBZ Khabaz 128.10 57 PKP **PKiKP** **21 23 48.4 +0.5**
comp=Z,6.1nm,0.9s,baz=203,slow=2.9,SNR=13
VRH Novokhopyorsk 128.25 47 *e*PKIKP **PKPdf** **21 23 47.4 +0.1**
VRH pmax pmax
comp=Z,10.0nm,1.2s
ZEI Tsey 128.66 58 *i* PKIKP **PKPdf** **21 23 48.2 -0.5**
ZEI pmax pmax
comp=Z,2.0nm,1.1s
PRGR Permogore 130.22 34 *e*PKIKP **PKPdf** **21 23 50.1 -0.7**
PRGR pmax pmax
comp=Z,23nm,0.9s
BILL Bilibino 130.82 335 *e*PKIKP **PKiKP** **21 23 52.7 0.0**
BILL *e* 21 26 08.4
BILL *e*PPP PPP 21 28 56.4
BILL pmax pmax
comp=Z,10.0nm,1.0s
AKT Akhty 131.26 61 *e*PKIKP **PKiKP** **21 23 55.2 +0.7**
AKT *e* 21 26 14.8
AKT pmax pmax
comp=Z,12nm,1.0s
BELG Belogornoye 131.96 46 PKP **PKiKP** **21 23 55.0 -0.4**
comp=Z,21nm,0.9s,baz=246,slow=2.3,SNR=8.1
BELG Belogornoye 131.96 46 *i* PKIKP **PKiKP** **21 23 55.8 +0.4**
KIRV Kirov 132.50 37 *i* PKIKP **PKiKP** **21 23 55.9 -0.4**
FAQ Al Faqa, Dubai 133.42 85 *i* PKPdf **PKiKP** **21 23 58.5 -0.7**
SNR=7.4
HATD Hatta, Dubai 133.91 85 PKPdf **PKPdf** **21 23 59.2 +0.3**
SOHO SOHO 134.00 86 *i* PKPdf **PKPdf** **21 23 59.3 +0.2**
SNR=9.5
UOSS Minazif 134.01 85 PKPdf **PKPdf** **21 23 59.3 +0.2**
MSFE Esma-Masafi 134.12 84 PKPdf **PKiKP** **21 24 00.0 -0.7**
ARU Arti 137.76 39 *i* PKIKP **PKiKP** **21 24 06.1 -1.0**
TIXI Tiksi 138.41 350 *i* PKIKP **PKPdf** **21 24 06.7 +0.8**
PETK Petropavlovsk- 138.67 316 PKP **PKiKP** **21 24 08.1 -1.0**
comp=Z,9.9nm,1.0s,baz=258,slow=2.8,SNR=4.9
GEYT Alibeck 138.73 67 PKP **PKPdf** **21 24 08.4 +0.9**
comp=Z,6.2nm,0.8s,baz=214,slow=12,SNR=6.5
SVE Sverdlovsk 138.75 38 *e*PKIKP **PKiKP** **21 24 08.4 -0.7**
TWSI Taliwang, Sumb 139.02 193 PKP **PKPdf** **21 24 08.2 -0.6**
NRIK Noril'sk 140.45 11 PKP **PKiKP** **21 24 11.1 -1.1**
comp=Z,4.4nm,0.8s,baz=112,slow=1.3,SNR=3.8
BKSI Bulukumba 141.56 199 PKP **PKPdf** **21 24 11.7 -1.7**
LEM Lembang 141.75 179 PKP **PKPdf** **21 24 10.0 -3.9**
KAPI Kappang 141.95 199 *c i* PKIKP **PKiKP** **21 24 16.5 -0.5**
KAPI Kappang 141.95 199 PKP **PKPdf** **21 24 13.4 -0.7**
BNSI Bone 142.44 200 PKP **PKPdf** **21 24 14.2 -0.7**
TTSI Tana Toraja 143.81 200 PKP **PKPdf** **21 24 16.6 -0.8**
MDSI Maura Dua 143.87 173 PKP PKPbc 21 24 15.5 +0.4
MMSI Mamuju 144.40 198 PKP **PKPab** **21 24 15.3 -1.2**
LHSI Lahat 144.45 172 PKP **PKPab** **21 24 15.6 -1.1**
LHSI PKP **PKPdf** **21 24 18.3 -0.2**
KSI Kapahiang 144.50 170 PKP **PKPab** **21 24 15.8 -1.1**
KSI PKP **PKPdf** **21 24 18.4 -0.3**
LUWI Luwuk 144.72 206 PKP **PKPab** **21 24 16.3 -1.4**
MASI Maura Aman, Be 144.95 169 PKP **PKPab** **21 24 18.0 -0.6**
APSI Ampana 145.24 204 PKP **PKPbc** **21 24 18.8 -0.7**
BRVK Borovoye 145.27 41 *c i* PKIKP **PKPdf** **21 24 19.0 +0.4**
KMSI Cibinong 145.72 209 PKP **PKPdf** **21 24 19.8 -0.9**
GTOI Gorontalo 146.17 207 PKP **PKPdf** **21 24 20.9 -0.5**
POO Poona 146.35 105 ⇑ *i* P **PKPdf** **21 24 20.0 -1.6**
YAK Yakutsk 146.58 342 PKPbc **PKPab** **21 24 22.8 -0.5**
comp=Z,87nm,0.7s,baz=185,slow=0.4,SNR=52
YAK Yakutsk 146.58 342 *i* PKP2 **PKPbc** **21 24 22.3 +0.2**
YAK Yakutsk 146.58 342 **PKPdf** **21 24 20.5 -0.1**
PDSI Padang 146.80 166 PKP **PKPdf** **21 24 21.8 -0.7**
GSI Gunungsitoli 148.18 159 PKP **PKPdf** **21 24 24.0 -0.8**
MNSI Mandailing Nat 148.25 163 PKP **PKPdf** **21 24 25.4 +0.5**
MNSI PKP **PKPbc** **21 24 28.6 +0.4**
PTKI Pontianak 148.38 182 PKP **PKPdf** **21 24 24.3 -0.8**
PTKI PKP **PKPbc** **21 24 25.7 -2.9**
SBSI Sibolga 148.79 162 PKP **PKPdf** **21 24 25.0 -0.8**
TRSI Tarutung 149.27 162 PKP **PKPab** **21 24 34.0 -1.4**
YSS Yuzh-Sakhalins 149.53 310 *e*PKP2 **PKiKP** **21 24 31.3 -0.2**
BTDF Bukit Timah Da 149.59 171 PKP **PKPdf** **21 24 26.8 -0.3**
HYB Hyderabad 149.60 111 *i* PKP **PKPdf** **21 24 28.0 +1.0**
TPTI 149.91 157 PKP **PKPdf** **21 24 26.8 -0.8**
PSI Prapat 150.00 161 PKP **PKPdf** **21 24 26.7 -1.2**
TSI Tuntungan 150.56 160 PKP **PKPdf** **21 24 27.8 -0.8**
EKS2 Erkin-Say 150.56 58 P **PKiKP** **21 24 34.8 +0.8**
SNR=15
AML Almayashu 150.60 59 P **PKiKP** **21 24 34.9 +0.5**
SNR=10
AML Almayashu 150.60 59 *i* PKPbc **PKiKP** **21 24 34.9 +0.5**
SNR=11
USP Ospenovka 150.97 57 P **PKiKP** **21 24 35.5 +0.8**
SNR=16
AAK Ala-Archa 151.09 58 P **PKiKP** **21 24 36.2 +1.1**
SNR=20
AAK Ala-Archa 151.09 58 *i* PKiKP **PKiKP** **21 24 36.3 +1.1**
SNR=21
UCH Uchor 151.18 59 P **PKiKP** **21 24 36.9 +1.2**
SNR=24
CHMS Chumysh 151.20 57 P **PKiKP** **21 24 36.0 +0.8**
SNR=15
KBK Karagaybulak 151.41 58 P **PKiKP** **21 24 36.8 +0.9**
SNR=8.2
TKM2 Tokmak 2 151.82 57 P **PKiKP** **21 24 37.4 +0.6**
SNR=9.6
ZALV Zalesovo Beam 152.07 30 PKP **PKPdf** **21 24 30.5 +0.9**
comp=Z,5.0nm,0.8s,baz=282,slow=2.7,SNR=12
ZALV PKPbc **PKiKP** **21 24 37.4 +0.8**
comp=Z,108nm,0.7s,baz=308,slow=2.9,SNR=154
ZALV PKPab **sPKPdf** **21 24 47.2 +1.4**
comp=Z,104nm,0.7s,baz=292,slow=3.2,SNR=14
ZALV Zalesovo Beam 152.07 30 **PKPdf** **21 24 29.4 -0.2**
KSH Kashi 152.68 64 PKPbc **PKPdf** **21 24 32.5 +1.3**
KSH pPKP pPKPdf 21 24 42.8 -0.3
KSH PP **PP** **21 28 18.5 -3.9**
KSH SS SS 21 47 47.5 -3.8
KSH AMB AMB
comp=Z,220nm,8.1s
KSH LR LR
comp=Z,390nm,17.0s
KSH LR LR
comp=Z,300nm,13.7s
BOD Bodaibo 153.52 353 *e*PKIKP **PKiKP** **21 24 39.4 0.0**
BOD pmax pmax
comp=Z,41nm,0.8s
MJAR Matsushiro Arr 154.79 289 PKP **PKPdf** **21 24 34.5 +0.3**
comp=Z,3.5nm,1.0s,baz=151,slow=1.6,SNR=9.6
MJAR PKPbc **PKiKP** **21 24 44.3 +1.5**
comp=Z,2.3nm,1.1s,baz=95,slow=0.9,SNR=5.5
MJAR Matsushiro Arr 154.79 289 PKPdf **PKPdf** **21 24 33.3 -0.9**
MAT Matsushiro 154.79 289 *e*PKP **PKPdf** **21 24 33.8 -0.3**
MKAR Makanchi Array 154.96 45 PKP **PKPdf** **21 24 34.4 +0.4**
comp=Z,2.3nm,0.8s,baz=338,slow=2.6,SNR=13
MKAR PKPbc **PKiKP** **21 24 43.7 +0.9**
comp=Z,12nm,0.9s,baz=5.2,slow=2.7,SNR=7.7
MKAR PKPab **sPKPbc** **21 24 58.9 0.0**
comp=Z,18nm,0.8s,baz=297,slow=4.0,SNR=19
MKAR Makanchi Array 154.96 45 PKPdf **PKPdf** **21 24 33.7 -0.4**
KLR Kul'dur 155.10 322 PKP **PKPdf** **21 24 34.5 +0.4**
comp=Z,5.7nm,0.9s,baz=0.9,slow=3.0,SNR=11
WMQ Urumqi 159.74 47 *e*PKP **PKPdf** **21 24 41.5 +1.3**
ZAK Zakamensk 160.90 10 *e*PKP2 **PKPab** **21 25 22.6 -1.3**
ZAK pmax pmax
comp=Z,7.0nm,1.4s

UTHA Uthaitani 162.08 151 PKP **PKPdf** **21 24 45.9 +2.5**
KSRS Korea Array 162.82 295 PKP **PKPdf** **21 24 44.2 +0.7**
comp=Z,3.1nm,0.9s,baz=120,slow=0.7,SNR=14
UBPT Khong Chiam 163.52 170 PKP PKPdf 21 24 57.8 +13
MHMT Maesarieng 163.66 143 PKP **PKPdf** **21 24 48.8 +3.9**
SONM Songino Array 163.75 5 PKP **PKPdf** **21 24 44.9 +0.6**
comp=Z,1.4nm,0.9s,baz=336,slow=0.9,SNR=6.3
SONM PKPab **PKPab** **21 25 37.3 +0.7**
comp=Z,4.3nm,0.9s,baz=330,slow=5.1,SNR=8.0
SONM PP **PP** **21 29 23.3 +1.9**
comp=Z,1.9nm,0.9s,baz=356,slow=5.1,SNR=5.6
PHIT Phitsanulok 163.95 152 PKP **PKPdf** **21 24 47.0 +1.8**
CM05 Chiang Mai Arr 164.36 145 PKP **PKPdf** **21 24 47.8 +2.2**
CMAR Chiang Mai Arr 164.40 145 PKP **PKPdf** **21 24 46.5 +0.9**
comp=Z,3.0nm,0.9s,baz=244,slow=2.8,SNR=19
CMAR PKPab **PKPab** **21 25 40.3 +0.3**
comp=Z,5.7nm,1.0s,baz=225,slow=5.8,SNR=14
UTTA Uttaradit 164.50 151 PKP **PKPdf** **21 24 47.2 +1.5**
CHTO Chiang Mai 164.71 144 PKP PKPdf 21 24 57.8 +12
CHTO Chiang Mai 164.71 144 PKP **PKPdf** **21 24 44.9 -1.0**
CHTO PKP **PKPdf** **21 24 46.7 +0.8**
CMMT Chiang Mai 164.71 144 PKP **PKPdf** **21 24 47.6 +1.7**
CMMT Chiang Mai 164.71 144 PKP **PKPdf** **21 24 44.9 -1.0**
CMMT PKP **PKPdf** **21 24 46.2 +0.3**
SKNT Sakolnakorn 164.89 164 PKP **PKPdf** **21 24 48.0 +1.9**
HHC Hu-ho-hao-te 170.43 345 *e*PKP **PKPdf** **21 24 49.5 +0.1**
NJ2 Nanjing 170.99 275 *e*PKP **PKPdf** **21 24 51.8 +2.0**
KMI Kunming 171.89 142 ⇑ PKP **PKPdf** **21 24 51.5 +0.7**
CD2 Chengdu 176.06 99 PKP **PKPdf** **21 24 53.3 +1.4**

INET ***27*** *21:16:17.3, 13°.13N±89°.03W, h48km, MW3.9*
SNET ***27*** *21:16:20.0±1.4, 12°.92N±89°.17W, h21km, ML4.3*
UCR ***27*** *21:16:20.2±1.4, 12°.93N±89°.17W, h21km, ML4.3*
NEIC ***27*** *21:16:22.6±1.9, 13°.07N±0°.08×89°.1W±0°.1, h38km±46km,*
Error ellipse: s-maj=18.0km s-min=6.8km az=52.0
GCG ***27*** *21:16:22.3±0.3, 12°.53N×89°.92W, h50km, MD4.0*
ISC 27 21:16:22.0±1.4, 12°.99N±0°.05×89°.13W±0°.04, h35km±3km,
n57, σ0.96/93, 2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.53**	**340**	*e*P	**Pb**	**21 16 32.0**	**-1.2**
LALI				*e*S	**Sb**	**21 16 40.0**	**-0.8**
LALI				IAML		21 16 40.7	
	comp=Z,5μm,0.3s						
LALI	**Alcalda de L**	**0.53**	**340**	*e*P	**Pb**	**21 16 32.0**	**-1.2**
LALI				*e*S	**Sb**	**21 16 40.0**	**-0.8**
LALI				IAML		21 16 40.7	
	comp=Z,5μm,0.3s						
SJTE	**Alcalda de S**	**0.63**	**11**	*e*P	**Pn**	**21 16 33.5**	**-1.0**
SJTE				*e*S	**Sb**	**21 16 43.5**	**-0.1**
SJTE				IAML		21 16 46.5	
	comp=Z,2μm,0.3s						
SJTE	**Alcalda de S**	**0.63**	**11**	*e*P	**Pn**	**21 16 33.5**	**-1.0**
SJTE				*e*S	**Sb**	**21 16 43.5**	**-0.1**
SJTE				IAML		21 16 46.5	
	comp=Z,2μm,0.3s						
LFRS	**El Faro**	**0.63**	**6**	⇓ *i* P	**Pn**	**21 16 33.5**	**-1.1**
LFRS	**El Faro**	**0.63**	**6**	⇓ *i* P	**Pn**	**21 16 33.5**	**-1.1**
ALJI	**Alcalda de J**	**0.64**	**58**	*e*P	**Pn**	**21 16 34.3**	**-0.2**
ALJI				*e*S	**Sn**	**21 16 44.7**	**+1.1**
ALJI	**Alcalda de J**	**0.64**	**58**	*e*P	**Pn**	**21 16 34.3**	**-0.2**
ALJI				*e*S	**Sn**	**21 16 44.7**	**+1.1**
COEG	**Centro de Oper**	**0.67**	**21**	*e*P	**Pn**	**21 16 34.1**	**-1.0**
COEG				*e*S	**Sb**	**21 16 44.7**	**0.0**
COEG				IAML		21 16 46.1	
	comp=Z,7μm,0.3s						
COEG	**Centro de Oper**	**0.67**	**21**	*e*P	**Pn**	**21 16 34.1**	**-1.0**
COEG				*e*S	**Sb**	**21 16 44.7**	**0.0**
COEG				IAML		21 16 46.1	
	comp=Z,7μm,0.3s						
SNET	**Serv Nac Est T**	**0.70**	**352**	*e*P	**Pn**	**21 16 34.5**	**-1.0**
SNET				*e*S	**Sb**	**21 16 45.0**	**-0.4**
SNET				IAML		21 16 45.6	
	comp=Z,7μm,0.3s						
SNET	**Serv Nac Est T**	**0.70**	**352**	*e*P	**Pn**	**21 16 34.5**	**-1.0**
SNET				*e*S	**Sb**	**21 16 45.0**	**-0.4**
SNET				IAML		21 16 45.6	
	comp=Z,7μm,0.3s						
SNET	**Serv Nac Est T**	**0.70**	**352**		**Pn**	**21 16 33.9**	**-1.6**
SNET				Sn	**Sb**	**21 16 45.1**	**-0.4**
AEIL	**Aeropuerto Ilo**	**0.70**	**1**	*e*P	**Pn**	**21 16 35.1**	**-0.5**
AEIL				*e*S	**Sb**	**21 16 47.1**	**+1.6**
AEIL				IAML		21 16 56.0	
	comp=Z,6μm,0.3s						
AEIL	**Aeropuerto Ilo**	**0.70**	**1**	*e*P	**Pn**	**21 16 35.1**	**-0.5**
AEIL				*e*S	**Sb**	**21 16 47.1**	**+1.6**
AEIL				IAML		21 16 56.0	
	comp=Z,6μm,0.3s						
IGN	**Direccin Gen**	**0.72**	**357**	*e*P	**Pn**	**21 16 34.7**	**-1.1**
IGN				*e*S	**Sn**	**21 16 45.9**	**+0.2**
IGN				IAML		21 16 47.7	
	comp=Z,9939μm,0.1s						
IGN	**Direccin Gen**	**0.72**	**357**	*e*P	**Pn**	**21 16 34.7**	**-1.1**
IGN				*e*S	**Sn**	**21 16 45.9**	**+0.2**
IGN				IAML		21 16 47.7	
	comp=Z,9939μm,0.1s						
OPAM	**Oficina de Pla**	**0.72**	**355**	*e*P	**Pn**	**21 16 34.9**	**-0.9**
OPAM				*e*S	**Sn**	**21 16 45.7**	**0.0**
OPAM				IAML		21 16 48.8	
	comp=Z,4μm,0.3s						
OPAM	**Oficina de Pla**	**0.72**	**355**	*e*P	**Pn**	**21 16 34.9**	**-0.9**
OPAM				*e*S	**Sn**	**21 16 45.7**	**0.0**
OPAM				IAML		21 16 48.8	
	comp=Z,4μm,0.3s						
UEES	**Universidad Ev**	**0.73**	**352**	*e*P	**Pn**	**21 16 34.9**	**-1.1**
UEES				*e*S	**Sn**	**21 16 46.1**	**+0.2**
UEES				IAML		21 16 48.1	
	comp=Z,7μm,0.4s						
UEES	**Universidad Ev**	**0.73**	**352**	*e*P	**Pn**	**21 16 34.9**	**-1.1**
UEES				*e*S	**Sn**	**21 16 46.1**	**+0.2**
UEES				IAML		21 16 48.1	
	comp=Z,7μm,0.4s						
LBRS	**Las Brisas**	**0.75**	**7**	*e*P	**Pn**	**21 16 35.3**	**-0.9**
LBRS	**Las Brisas**	**0.75**	**7**	*e*P	**Pn**	**21 16 35.3**	**-0.9**
LFU	**La Fuente**	**0.75**	**1**	*e*P	**Pn**	**21 16 35.4**	**-0.9**
LFU				*e*S	**Sn**	**21 16 46.9**	**+0.3**
LFU	**La Fuente**	**0.75**	**1**	*e*P	**Pn**	**21 16 35.4**	**-0.9**
LFU				*e*S	**Sn**	**21 16 46.9**	**+0.3**
BOQS	**Boqueron**	**0.75**	**349**	*i* P	**Pn**	**21 16 35.4**	**-1.0**
BOQS	**Boqueron**	**0.75**	**349**	*i* P	**Pn**	**21 16 35.4**	**-1.0**
COEB	**Comit de Eme**	**0.77**	**49**	*e*P	**Pn**	**21 16 35.7**	**-0.9**
COEB				*e*S	**Sb**	**21 16 48.1**	**+0.5**
COEB	**Comit de Eme**	**0.77**	**49**	*e*P	**Pn**	**21 16 35.7**	**-0.9**
COEB				*e*S	**Sb**	**21 16 48.1**	**+0.5**
TECA	**Tecapa**	**0.79**	**51**	*e*P	**Pn**	**21 16 36.3**	**-0.6**
TECA	**Tecapa**	**0.79**	**51**	*e*P	**Pn**	**21 16 36.3**	**-0.6**
PQSS	**Presa 15 de Se**	**0.84**	**41**	*e*P	**Pn**	**21 16 36.8**	**-0.5**
PQSS				*e*S	**Sb**	**21 16 49.6**	**+0.3**
PQSS				IAML		21 16 50.0	
	comp=Z,6μm,0.2s						
JUCU	**Jucuarn**	**0.90**	**73**	*e*P	**Pn**	**21 16 37.4**	**-0.9**
JUCU				*e*S	**Sn**	**21 16 49.9**	**-0.2**
JUCU				IAML		21 16 53.0	
	comp=Z,4μm,0.3s						
JUCU	**Jucuarn**	**0.90**	**73**	*e*P	**Pn**	**21 16 37.4**	**-0.9**
JUCU				*e*S	**Sn**	**21 16 49.9**	**-0.2**
JUCU				IAML		21 16 53.0	
	comp=Z,4μm,0.3s						
PACA	**Pacayal**	**0.92**	**59**	*e*P	**Pn**	**21 16 38.5**	**-0.1**
PACA				*e*S	**Sb**	**21 16 52.0**	**+0.4**
PACA	**Pacayal**	**0.92**	**59**	*e*P	**Pn**	**21 16 38.5**	**-0.1**
PACA				*e*S	**Sb**	**21 16 52.0**	**+0.4**
LCY	**Lacayo**	**0.92**	**62**	*e*P	**Pn**	**21 16 38.2**	**-0.4**
LCY	**Lacayo**	**0.92**	**62**	*e*P	**Pn**	**21 16 38.2**	**-0.4**
CEVE	**Cerro Verde**	**0.96**	**330**	*e*P	**Pn**	**21 16 38.0**	**-1.3**
CEVE				*e*S	**Sb**	**21 16 54.8**	**+1.9**
CEVE				IAML		21 16 57.7	
	comp=

NBG	**Las Nubes**	**1.98**	**323**	*eP*		**Pn**	**21 16 54.4**	**+1.1**
CRIN	**San Cristobal**	**2.05**	**98**	Pn		**Pn**	**21 16 52.7**	**-1.4**
CRIN				Sn		**Sn**	**21 17 17.7**	**-0.8**
TGUH	**Tegucigalpa,Un**	**2.10**	**59**			**Pn**	**21 16 53.9**	**-0.8**
TGUH				Sn		**Sn**	**21 17 17.0**	**-2.7**
MRL	**Marmol**	**2.15**	**346**	*eP*		**Pb**	**21 17 02.2**	**+1.8**
FUG	**Fuego 3**	**2.21**	**311**	*eP*		**Pn**	**21 16 55.9**	**-0.4**
FUG				*eS*		**Sn**	**21 17 22.1**	**-0.4**
CNGN	**Cerro Negro**	**2.42**	**101**	Pn		**Pn**	**21 16 58.6**	**-0.6**
CNGN				Sn		**Sn**	**21 17 27.0**	**-0.7**
MATN	**Matagalpa**	**3.12**	**91**			**Pn**	**21 17 07.6**	**-1.3**
ORTG	**Ortega, Santa**	**4.45**	**126**			**Pn**	**21 17 27.2**	**+0.1**
JTS	**Las Juntas de**	**4.89**	**123**			**Pn**	**21 17 32.3**	**-0.9**
RIMA	**Rio Macho**	**6.08**	**121**			**Pn**	**21 17 49.8**	**+0.2**
SJCC	**San Jacinto, C**	**14.02**	**101**	Pn		**Pn**	**21 19 39.7**	**+1.4**

IDC 27 21:18:07.7±1.4, 20°08N×45°59W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/50, mbtmp3.9/4, Error ellipse: s-maj=43.9km s-min=32.8km az=112.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**38.94**	**204**	P	P	21 25 34.0	-1.7
	0.5nm,0.4s,baz=35,slow=12,SNR=2.3						
H10N3	**ASCENSION HYDR**	**41.30**	**129**	T	T	22 09 52.2	
	baz=314						
H10N2	**ASCENSION HYDR**	**41.30**	**129**	T	T	22 09 51.6	
	baz=314						
H10N1	**ASCENSION HYDR**	**41.32**	**129**	T	T	22 09 54.3	
	baz=314						
TORD	**Torodi Ar. Bea**	**45.71**	**91**	P	P	21 26 30.7	-0.3
	0.7nm,0.9s,baz=292,slow=9.7,SNR=3.8						
CPUP	**Villa Florida**	**47.52**	**194**	P	P	21 26 46.2	+1.4
	3.4nm,0.9s,baz=16,slow=9.9,SNR=4.0						
ILAR	**Eielson Array**	**76.73**	**334**	P	P	21 30 00.8	+0.1
	0.4nm,0.3s,baz=75,slow=4.9,SNR=4.2						

*BGR **27** 21:19:34.0±0.0, 19°.44N×45°.98W, h10km, mb4.9*
*IDC **27** 21:19:38.5±0.5, 20°.30N×45°.59W, h0km, mb4.3/26, mb1 4.4/27, mb1mx4.3/50, mbtmp4.3/27, ML4.0/1, MS4.5/6, Ms1 4.4/6, ms1mx4.0/16, Error ellipse: s-maj=17.2km s-min=10.7km az=140.0*
*MOS **27** 21:19:38.1±0.9, 20°.31N×45°.64W, h13km, mb5.0/19, MS4.3/10, Error ellipse: s-maj=10.4km s-min=6.0km az=45.1*
*NEIC **27** 21:19:40.0±1.3, 20°.3N±0°.1×45°.65W±0°.09, h10km±1km, mb5.0/93, Error ellipse: s-maj=18.4km s-min=13.3km az=155.0*
*GCMT **27** 21:19:41.0±0.2, 20°.38N±0°.02×45°.59W±0°.01, h12km, MW5.1/136, Moment Tensor Solution. s57,c67; s136,c221; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=5.06±.10; Mθθ 0.21±.10; Mφφ 4.84±.08; Mrθ -0.30±.40; Mθφ 0.49±.08; Mφr-0.01±.28; Best double couple: Mo 4.98400×10^16 NP1: φs 183.00000°, δ 45.00000°, λ -95.00000°. NP2: φs 9.00000°, δ 45.00000°, λ -85.00000°. Principal axes: T 4.8920, Plg 0.0000°, Azm 96.0000°; N 0.1780, Plg 3.0000°, Azm 186.0000°; P -5.0770, Plg 87.0000°, Azm 1.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 21:19:39.4±0.4, 20°.25N±0°.07×45°.71W±0°.06, h10km, n322, σ1 48/319, mb4.9/125, MS4.4/21, 11C-21D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAGL	**Barre de l'ile**	**15.41**	**256**	*eP*	**Pn**	**21 23 19.4**	**+2.5**
ANWB	**Willy Bob**	**15.42**	**263**	*eP*	**Pn**	**21 23 13.0**	**-4.2**
ILAM	**Ilet Lapin Mar**	**15.45**	**252**	*eP*	Pn	21 23 09.6	-7.9
H05S1	**Guadeloupe/Mar**	**15.55**	**251**	T	T	21 39 30.2	
	SNR=21						
MPOM	**Morne Pois Mar**	**15.56**	**251**	*eP*	**Pn**	**21 23 16.3**	**-2.7**
DLPL	**La Plaine**	**15.58**	**254**	*eP*	**P**	**21 23 24.6**	**+1.1**
CBE	**Ff, Capester**	**15.67**	**257**	*eP*	**Pn**	**21 23 15.2**	**-5.1**
DSLB	**Salisbury**	**15.70**	**255**	*eP*	**Pn**	**21 23 22.5**	**+1.7**
FDF	**Fort de France**	**15.71**	**252**	P	**P**	**21 23 23.4**	**-1.6**
FDF				pmax	pmax		
	comp=Z,89nm,1.3s						
FDF	**Fort de France**	**15.71**	**252**	*eP*	**Pn**	**21 23 15.9**	**-5.0**
FDF	**Fort de France**	**15.71**	**252**	Pn	**P**	**21 23 23.4**	**-1.6**
FDF				IAmb	IAmb	21 23 34.6	
	comp=Z,89nm,1.3s						
BIM	**Bigot**	**15.72**	**251**	*eP*	**Pn**	**21 23 18.1**	**-3.1**
TDBA	**Terre de Bas,**	**15.76**	**256**	*eP*	**Pn**	**21 23 19.4**	**-2.2**
SLBI	**Saint Lucia, B**	**15.84**	**249**	*eP*	**Pn**	**21 23 20.7**	**-1.9**
MCLT	**Moule a Chique**	**15.95**	**248**	*eP*	**Pn**	**21 23 23.1**	**-0.9**
SKI	**Saint Kitts**	**16.38**	**263**	*eP*	**Pn**	**21 23 27.1**	**-2.5**
SVB	**Belmont**	**16.41**	**247**	*eP*	**Pn**	**21 23 30.3**	**+0.3**
SEUS	**St. Eustatius**	**16.57**	**263**	*eP*	**Pn**	**21 23 32.1**	**+0.2**
TOSP	**Speyside**	**16.80**	**240**	*eP*	**Pn**	**21 23 33.9**	**-1.0**
GCMP	**Grenada, Carri**	**16.93**	**245**	*eP*	**P**	**21 23 37.8**	**-0.7**
GRGR	**Grenville**	**17.30**	**245**	*eP*	**Pn**	**21 23 41.4**	**+0.3**
TRN	**Trinidad (W)**	**17.87**	**240**	*eP*	**Pn**	**21 23 47.8**	**-0.4**
HUMP	**Col San Antoni**	**19.14**	**267**	P	**Pn**	**21 24 04.1**	**+0.4**
HUMP				IAmb	IAmb	21 24 12.4	
	comp=Z,111nm,1.8s						
SJG	**San Juan**	**19.42**	**267**	P	**Pn**	**21 24 08.7**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=84,slow=7.8,SNR=8.0						
SJG				LR	LR	21 30 13.3	
	comp=Z,1μm,21.4s,baz=94,slow=32						
SJG	**San Juan**	**19.42**	**267**	P	**Pn**	**21 24 08.2**	**+1.1**
SJG				pmax	pmax		
	comp=Z,138nm,1.8s						
SJG	**San Juan**	**19.42**	**267**	P	**Pn**	**21 24 08.2**	**+1.1**
SJG				IAmb	IAmb	21 24 16.7	
	comp=Z,138nm,1.8s						
OBIP	**Obispado Ponce**	**19.86**	**267**	P	**Pn**	**21 24 12.9**	**+0.6**
OBIP				IAmb	IAmb	21 24 23.5	
	comp=Z,108nm,1.6s						
PLCV	**Puerto La Cruz**	**20.77**	**244**		Pn	21 24 23.7	+0.6
PCRV	**Puerto La Cruz**	**20.80**	**244**	P	Pn	21 24 23.7	+0.2
	comp=Z,24nm,1.0s,baz=61,slow=13,SNR=3.8						
SDDR	**Presa de Saban**	**24.12**	**271**	P	**P**	**21 24 56.7**	**+1.1**
SDDR				IAmb	IAmb	21 25 05.4	
	comp=Z,60nm,1.4s						
PTGA	**Pitinga**	**25.09**	**215**	P	**P**	**21 25 05.8**	**+1.4**
	comp=Z,3.7nm,0.8s,baz=38,slow=9.3,SNR=4.4						
PTGA				LR	LR	21 33 48.7	
	comp=Z,794nm,20.6s,baz=32,slow=34						
PTGA	**Pitinga**	**25.09**	**215**	P	**P**	**21 25 03.4**	**-1.0**
SDV	**Santo Domingo**	**26.59**	**248**	P	**P**	**21 25 20.6**	**+2.4**
	comp=Z,4.4nm,0.2s,baz=84,slow=5.3,SNR=6.7						
SDV	**Santo Domingo**	**26.59**	**248**	P	**P**	**21 25 18.0**	**-0.3**
SDV				IAmb	IAmb	21 25 31.6	
	comp=Z,74nm,1.9s						
RUSC	**La Rusia**	**30.17**	**246**	P	**P**	**21 25 49.4**	**-1.1**
ROSC	**El Rosal**	**31.76**	**245**	LR	LR	21 40 30.8	
	comp=Z,700nm,19.4s,baz=53,slow=39						
FRNY	**Flat Rock**	**33.67**	**323**	P	**P**	**21 26 22.5**	**+2.1**
OTAV	**Otavalo**	**37.70**	**242**	P	**P**	**21 26 56.6**	**+0.7**
OTAV				pmax	pmax		
	comp=Z,27nm,1.8s						
OTAV	**Otavalo**	**37.70**	**242**	P	**P**	**21 26 56.6**	**+0.7**
SCHQ	**Schefferville**	**38.06**	**340**	LR	LR	21 41 06.5	
	comp=Z,437nm,19.6s,baz=121,slow=34						
MTE	**Manteigas**	**38.20**	**50**	P	**P**	**21 26 58.1**	**-1.3**
MDT	**Midelt**	**38.62**	**63**	P	**P**	**21 27 02.7**	**-0.3**
	comp=Z,2.7nm,1.1s,baz=270,slow=7.1,SNR=4.0						
AAM	**Ann Arbor**	**38.74**	**313**	P	**P**	**21 27 04.4**	**+0.6**
AAM				pmax	pmax		
	comp=Z,54nm,1.5s						
AAM	**Ann Arbor**	**38.74**	**313**	P	**P**	**21 27 04.4**	**+0.6**
AAM				IAmb	IAmb	21 27 12.9	
	comp=Z,54nm,1.4s						
SIV	**San Ignacio**	**39.05**	**204**	P	**P**	**21 27 08.1**	**+1.5**
	comp=Z,2.3nm,0.7s,baz=28,slow=8.5,SNR=7.2						
MATN	**Matagalpa**	**39.15**	**266**	P	**P**	**21 27 05.5**	**-2.2**
PLAL	**Pickwick Lake**	**40.00**	**301**	P	**P**	**21 27 15.6**	**+1.1**
WVT	**Waverly**	**40.02**	**302**	P	**P**	**21 27 14.4**	**-0.2**
WVT				pmax	pmax		
	comp=Z,21nm,1.4s						
WVT	**Waverly**	**40.02**	**302**	P	**P**	**21 27 14.4**	**-0.2**
KOWA	**Kowa**	**40.12**	**91**	P	**P**	**21 27 15.6**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=309,slow=6.5,SNR=3.7						
KOWA	**Kowa**	**40.12**	**91**	P	**P**	**21 27 14.3**	**-1.4**
PAB	**San Pablo**	**40.27**	**52**	P	**P**	**21 27 15.3**	**-1.4**
PAB				pmax	pmax		
	comp=Z,16nm,1.5s						
PAB	**San Pablo**	**40.27**	**52**	P	**P**	**21 27 15.3**	**-1.4**
ESDC	**Sonseca Array**	**40.59**	**52**	P	**P**	**21 27 18.8**	**-0.6**
	comp=Z,2.1nm,1.1s,baz=243,slow=8.6,SNR=8.8						
ESDC	**Sonseca Array**	**40.59**	**52**	P	**P**	**21 27 19.0**	**-0.3**
W45A	**Hickory Valley**	**40.93**	**301**	P	**P**	**21 27 22.2**	**+0.1**
W45A				IAmb	IAmb	21 27 25.6	
	comp=Z,39nm,1.1s						
H10N3	**ASCENSION HYDR**	**41.49**	**129**	T	T	22 11 24.8	
	baz=312,slow=75,SNR=473						
H10N2	**ASCENSION HYDR**	**41.49**	**129**	T	T	22 11 28.2	
	baz=312,slow=75,SNR=374						
H10N1	**ASCENSION HYDR**	**41.51**	**129**	T	T	22 11 27.6	
	baz=312,slow=75,SNR=27						
H10S3	**ASCENSION HYDR**	**42.13**	**131**	T	T	22 12 07.7	
	baz=311,slow=74,SNR=49						
H10S2	**ASCENSION HYDR**	**42.15**	**131**	T	T	22 12 13.2	
	baz=269,slow=74,SNR=34						
FVM	**French Village**	**42.43**	**305**	P	**P**	**21 27 34.3**	**-0.1**
FVM				pmax	pmax		
	comp=Z,35nm,1.6s						
FVM	**French Village**	**42.43**	**305**	P	**P**	**21 27 34.3**	**-0.1**
FVM				IAmb	IAmb	21 27 43.2	
	comp=Z,34nm,1.6s						
LPAZ	**La Paz**	**42.46**	**213**	P	**P**	**21 27 36.8**	**+1.3**
	comp=Z,2.8nm,0.8s,baz=16,slow=8.9,SNR=8.1						
LPAZ	**La Paz**	**42.46**	**213**	P	**P**	**21 27 35.9**	**+0.4**
LPAZ				pmax	pmax		
	comp=Z,9.0nm,1.2s						
LPAZ	**La Paz**	**42.46**	**213**	P	**P**	**21 27 35.9**	**+0.4**
CCM	**Cathedral Cave**	**43.08**	**304**	P	**P**	**21 27 39.9**	**+0.2**
CCM				pmax	pmax		
	comp=Z,32nm,1.4s						
CCM	**Cathedral Cave**	**43.08**	**304**	P	**P**	**21 27 39.9**	**+0.2**
CCM				IAmb	IAmb	21 27 48.3	
	comp=Z,32nm,1.4s						
FCAR	**Ozark Folk Cen**	**43.41**	**301**	P	**P**	**21 27 42.5**	**+0.2**
FCAR				IAmb	IAmb	21 27 50.3	
	comp=Z,31nm,1.7s						
R40A	**Maddies Statio**	**43.92**	**305**	P	**P**	**21 27 47.5**	**+1.0**
P40A	**Paris**	**43.99**	**306**	P	**P**	**21 27 47.2**	**+0.2**
P40A				IAmb	IAmb	21 27 54.4	
	comp=Z,26nm,1.6s						
W39A	**Magazine**	**44.67**	**300**	P	**P**	**21 27 53.2**	**+0.8**
W39A				IAmb	IAmb	21 28 01.1	
	comp=Z,35nm,1.4s						
TORD	**Torodi Ar. Bea**	**45.83**	**91**	P	**P**	**21 28 01.1**	**-0.8**
	comp=Z,4.1nm,1.1s,baz=297,slow=7.4,SNR=15						
TORD				LR	LR	21 45 11.8	
	comp=Z,1μm,19.3s,baz=285,slow=34						
TORD	**Torodi Ar. Bea**	**45.83**	**91**	P	**P**	**21 28 00.7**	**-1.3**
TORD				IAmb	IAmb	21 28 02.3	
	comp=Z,27nm,1.6s						
PB11	**IPOC Station P**	**46.16**	**212**	P	**P**	**21 28 04.3**	**-0.3**
ESK	**Eskdalemuir**	**47.32**	**32**	P	**P**	**21 28 11.7**	**-1.3**
ESK				pmax	pmax		
	comp=Z,43nm,1.4s						
ESK	**Eskdalemuir**	**47.32**	**32**	P	**P**	**21 28 11.7**	**-1.3**
CLF	**Chambon-Foret**	**47.39**	**43**	P	**P**	**21 28 13.2**	**-0.6**
WHTX	**Lake Whitney,**	**47.52**	**295**	P	**P**	**21 28 15.3**	**+0.3**
CPUP	**Villa Florida**	**47.65**	**194**	P	**P**	**21 28 16.7**	**+0.8**
	comp=Z,11nm,0.8s,baz=20,slow=8.2,SNR=17						
CPUP	**Villa Florida**	**47.65**	**194**	P	**P**	**21 28 15.1**	**-0.8**
CPUP				pmax	pmax		
	comp=Z,17nm,1.0s						
CPUP	**Villa Florida**	**47.65**	**194**	P	**P**	**21 28 15.1**	**-0.8**
CPUP				IAmb	IAmb	21 28 17.7	
	comp=Z,17nm,1.0s						
LVC	**Limon Verde**	**48.24**	**209**	P	**P**	**21 28 21.8**	**+0.8**
	comp=Z,4.8nm,0.8s,baz=32,slow=9.2,SNR=4.5						
LVC	**Limon Verde**	**48.24**	**209**	P	**P**	**21 28 20.5**	**-0.5**
LVC				pmax	pmax		
	comp=Z,30nm,1.4s						
LVC	**Limon Verde**	**48.24**	**209**	P	**P**	**21 28 20.4**	**-0.5**
WMOK	**Wichita Mounta**	**48.72**	**299**	P	**P**	**21 28 21.4**	**-2.9**
WMOK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
WMOK	**Wichita Mounta**	**48.72**	**299**	P	**P**	**21 28 21.4**	**-2.9**
ABTX	**Abilene, Hawle**	**49.38**	**296**	P	**P**	**21 28 27.8**	**-1.6**
ABTX				IAmb	IAmb	21 28 37.1	
	comp=Z,22nm,1.5s						
WLF	**Walferdange**	**50.34**	**42**	*eP*	**P**	**21 28 36.5**	**+0.2**
	comp=Z,37nm,1.6s,baz=258,slow=7.3						
KEST	**Kesra**	**50.39**	**60**	P	**P**	**21 28 36.9**	**-0.2**
	comp=Z,13nm,1.1s,baz=225,slow=7.1,SNR=8.4						
KEST	**Kesra**	**50.39**	**60**	P	**P**	**21 28 36.7**	**-0.4**
KEST				IAmb	IAmb	21 28 38.9	
	comp=Z,27nm,1.2s						
ITQB	**Itaqui**	**50.73**	**192**	P	**P**	**21 28 40.2**	**+0.8**
AHRW	**Bad Neuenahr-A**	**51.15**	**41**	*eP*	**P**	**21 28 42.7**	**+0.3**
	comp=Z,8.1nm,1.0s,baz=258,slow=7.3						
BFO	**Black Forest**	**51.38**	**44**	P	**P**	**21 28 43.1**	**-1.2**
BFO				pmax	pmax		
	comp=Z,18nm,1.3s						
BFO	**Black Forest**	**51.38**	**44**	P	**P**	**21 28 43.1**	**-1.2**
BFO				IAmb	IAmb	21 28 45.2	
	comp=Z,18nm,1.3s						
BFO	**Black Forest**	**51.38**	**44**	*eP*	**P**	**21 28 44.2**	**-0.1**
	comp=Z,25nm,1.5s,baz=258,slow=7.3						
BUG	**Bochum--Univer**	**51.53**	**40**	*eP*	**P**	**21 28 45.2**	**-0.1**
	comp=Z,7.5nm,1.1s,baz=258,slow=7.3						
TNS	**Taunus Mts**	**51.91**	**41**	*eP*	**P**	**21 28 48.8**	**+0.5**
	comp=Z,15nm,1.3s,baz=258,slow=7.3						
STU	**Stuttgart**	**52.04**	**43**	*eP*	**P**	**21 28 49.0**	**-0.2**
	comp=Z,26nm,0.9s,baz=258,slow=7.3						
IBBN	**Ibbenburen**	**52.07**	**39**	*eP*	**P**	**21 28 49.5**	**+0.2**
	comp=Z,17nm,1.4s,baz=258,slow=7.3						
KASTN	**Kahler Asten**	**52.15**	**40**	*eP*	**P**	**21 28 50.3**	**+0.3**
	comp=Z,12nm,1.4s,baz=258,slow=7.3						
DAVA	**Damuels**	**52.18**	**45**	*eP*	**P**	**21 28 50.6**	**+0.2**
	comp=Z,8.5nm,1.0s						
DAVA	**Damuels**	**52.18**	**45**	*eP*	**P**	**21 28 50.9**	**+0.5**
	comp=Z,27nm,1.4s,baz=258,slow=7.3						
MILB	**Miltenberg**	**52.35**	**42**	*eP*	**P**	**21 28 51.1**	**-0.3**
	comp=Z,15nm,1.6s,baz=258,slow=7.3						
UBR	**Ueberruh**	**52.41**	**45**	*eP*	**P**	**21 28 52.3**	**+0.3**
	comp=Z,22nm,1.4s,baz=258,slow=7.3						
FETA	**Feichten**	**52.70**	**46**	*eP*	**P**	**21 28 54.2**	**-0.1**
	comp=Z,24nm,1.2s,SNR=9.2						
RETA	**Reutte**	**52.80**	**45**	*eP*	**P**	**21 28 54.6**	**-0.3**
	comp=Z,8.0nm,1.2s						
TXAR	**Lajitas Array**	**52.94**	**292**	P	**P**	**21 28 57.2**	**+0.9**
	comp=Z,1.8nm,1.0s,baz=96,slow=6.4,SNR=10.0						
TXAR	**Lajitas Array**	**52.94**	**292**	P	**P**	**21 28 56.0**	**-0.3**
TXAR	**Lajitas Array**	**52.94**	**292**	P	**P**	**21 28 56.0**	**-0.3**
TX31	**Lajitas Ar. Si**	**52.94**	**292**	P	**P**	**21 28 56.1**	**-0.2**
TX31				IAmb	IAmb	21 29 06.9	
	comp=Z,41nm,1.9s						
TX32	**Lajitas Array**	**52.94**	**292**	P	**P**	**21 28 56.4**	**+0.1**
MOTA	**Moosalm**	**53.01**	**45**	*eP*	**P**	**21 28 56.2**	**-0.4**
	comp=Z,16nm,1.2s,SNR=6.8						
UBBA	**Unterbreizbach**	**53.02**	**41**	*eP*	**P**	**21 28 56.5**	**+0.2**
	comp=Z,14nm,1.5s,baz=258,slow=7.3						
SQTA	**Sankt Quirin**	**53.05**	**46**	*eP*	**P**	**21 28 56.7**	**-0.2**
	comp=Z,20nm,1.0s,SNR=7.8						
CTI	**Castel Tesino**	**53.16**	**47**	P	**P**	**21 28 55.1**	**-2.6**
CTI				pmax	pmax		
	comp=Z,27nm,1.2s						
CTI	**Castel Tesino**	**53.16**	**47**	P	**P**	**21 28 55.1**	**-2.6**
CTI				IAmb	IAmb	21 28 58.3	
	comp=Z,27nm,1.2s						
WATA	**Walderalm**	**53.32**	**46**	*eP*	**P**	**21 28 58.1**	**-0.8**
	comp=Z,15nm,1.3s,SNR=6.8						
WTTA	**Wattenberg**	**53.35**	**46**	*eP*	**P**	**21 28 58.7**	**-0.5**
	comp=Z,19nm,1.1s,SNR=6.1						
WTTA	**Wattenberg**	**53.35**	**46**	*eP*	**P**	**21 28 59.0**	**-0.1**
	comp=Z,29nm,1.3s,baz=258,slow=7.3						
CLZ	**Clausthal**	**53.50**	**40**	*eP*	**P**	**21 29 00.0**	**+0.1**
	comp=Z,13nm,1.4s,baz=258,slow=7.3						
NRDL	**Niedersach Rie**	**53.50**	**39**	*eP*	**P**	**21 29 00.2**	**+0.4**
	comp=Z,29nm,1.5s,baz=258,slow=7.3						
GRF	**Grafenberg Arr**	**53.54**	**43**	*eP*	**P**	**21 29 00.2**	**-0.1**
	comp=Z,8.8nm,1.2s,baz=258,slow=7.3						
CLTB	**Caltabellotta**	**53.56**	**58**	P	**P**	**21 29 00.4**	**-0.3**
ASSE	**Asse, Remlinge**	**53.75**	**40**	*eP*	**P**	**21 29 02.1**	**+0.5**
	comp=Z,14nm,1.3s,baz=258,slow=7.3						
ABTA	**Abfaltersbach**	**53.86**	**46**	*eP*	**P**	**21 29 02.1**	**-0.6**
	comp=Z,13nm,1.3s						
MOX	**Moxa**	**53.98**	**41**	*eP*	**P**	**21 29 03.5**	**0.0**
	comp=Z,6.9nm,1.2s,baz=258,slow=7.3						
BSEG	**Bad Segeberg**	**54.01**	**37**	*eP*	**P**	**21 29 03.5**	**-0.1**
	comp=Z,43nm,1.4s,baz=258,slow=7.3						
FLTG	**Flechtingen**	**54.13**	**39**	*eP*	**P**	**21 29 04.4**	**-0.1**
	comp=Z,21nm,1.5s,baz=258,slow=7.3						
MANZ	**Manzenberg**	**54.16**	**42**	*eP*	**P**	**21 29 05.0**	**+0.2**
	comp=Z,32nm,2.1s,baz=258,slow=7.3						
ROTZ	**Rotzenmuhle**	**54.18**	**43**	*eP*	**P**	**21 29 04.9**	**-0.1**
	comp=Z,6.2nm,1.4s,baz=258,slow=7.3						
RJOB	**Jochberg**	**54.20**	**45**	*eP*	**P**	**21 29 04.8**	**-0.4**
	comp=Z,63nm,1.4s,baz=258,slow=7.3						
NEUB	**Neuenburg**	**54.20**	**41**	*eP*	**P**	**21 29 05.3**	**+0.2**
	comp=Z,18nm,1.5s,baz=258,slow=7.3						
MNTX	**Cornudas Mount**	**54.27**	**295**	P	**P**	**21 29 06.6**	**+0.7**
MNTX				IAmb	IAmb	21 29 13.0	
	comp=Z,20nm,1.9s						
PLN	**Plauen**	**54.29**	**42**	*eP*	**P**	**21 29 06.0**	**+0.3**
	comp=Z,22nm,1.8s,baz=258,slow=7.3						
GUNZ	**Gunzen**	**54.37**	**42**	*eP*	**P**	**21 29 06.7**	**+0.3**
	comp=Z,27nm,1.7s,baz=258,slow=7.3						
WERD	**Werda**	**54.37**	**42**	*eP*	**P**	**21 29 06.5**	**+0.1**
	comp=Z,10.0nm,1.4s,baz=258,slow=7.3						
WERN	**Wernitzgruen**	**54.39**	**42**	*eP*	**P**	**21 29 06.8**	**+0.3**
	comp=Z,35nm,1.5s,baz=258,slow=7.3						
ISCO	**Idaho Springs**	**54.40**	**305**	P	**P**	**21 29 06.3**	**-0.9**
ISCO				pmax	pmax		
	comp=Z,17nm,1.7s						
ISCO	**Idaho Springs**	**54.40**	**305**	P	**P**	**21 29 06.3**	**-0.9**
NKC	**Novy Kostel**	**54.42**	**42**	*eP*	**P**	**21 29 07.2**	**+0.5**
NKC				MLR	MLR		
	comp=Z,300nm,17.5s						
NKC	**Novy Kostel**	**54.42**	**42**	*eP*	**P**	**21 29 07.2**	**+0.5**
NKC				AMS	AMS	21 49 20.0	
	comp=Z,300nm,17.5s						
TANN	**Tannenbergstha**	**54.47**	**42**	*eP*	**P**	**21 29 07.5**	**+0.4**
	comp=Z,29nm,1.9s,baz=258,slow=7.3						
WET	**Wettzell**	**54.49**	**44**	*eP*	**P**	**21 29 07.1**	**-0.2**
	comp=Z,16nm,1.6s,baz=258,slow=7.3						
MYKA	**Terra Mystica**	**54.61**	**47**	*eP*	**P**	**21 29 07.8**	**-0.5**
	comp=Z,11nm,1.1s						
KHC	**Kasperske Hory**	**54.94**	**44**	*eP*	**P**	**21 29 10.4**	**-0.2**
KHC				*eS*	**S**	**21 36 57.0**	**+4.7**
KHC				MLR	MLR		
	comp=Z,300nm,19.2s						
KHC	**Kasperske Hory**	**54.94**	**44**	*eP*	**P**	**21 29 10.4**	**-0.2**
KHC				*eS*	**S**	**21 36 57.0**	**+4.7**
KHC				AMS	AMS	21 50 30.0	
	comp=Z,300nm,19.2s						
GEC2	**GERESS Array S**	**54.98**	**44**	P	**P**	**21 29 10.1**	**-0.7**
GEC2				IAmb	IAmb	21 29 11.5	
	comp=Z,16nm,1.4s						
GEC2	**GERESS Array S**	**54.98**	**44**	*eP*	**P**	**21 29 09.9**	**-1.0**
	comp=Z,17nm,1.4s,baz=258,slow=7.3						
GERES	**GERESS Array B**	**54.98**	**44**	P	**P**	**21 29 10.4**	**-0.5**
	comp=Z,2.4nm,1.0s,baz=255,slow=4.0,SNR=15						
GERES	**GERESS Array B**	**54.98**	**44**	P	**P**	**21 29 10.3**	**-0.6**
GERES	**GERESS Array B**	**54.98**	**44**	P	**P**	**21 29 10.3**	**-0.6**
CLL	**Collm**	**54.98**	**41**	*i* P	**P**	**21 29 10.2**	**-0.5**
	comp=Z,10.0nm,1.4s						
CLL				*e*PP	**PP**	**21 31 06.0**	**-7.6**
CLL				*eS*	**S**	**21 37 00.0**	**+7.4**
CLL				*e*SS	**SKiKP**	**21 40 24.0**	**+6.1**
CLL				*e*SSS	SSS	21 42 36.0	
CLL				Lm	MLR	21 49 00.0	
	comp=Z,300nm,20.4s						
CLL	**Collm**	**54.98**	**41**	*i* P	**P**	**21 29 10.2**	**-0.5**
CLL				*eS*	**S**	**21 37 00.0**	**+7.4**
CLL				pmax	pmax		
	comp=Z,10.0nm,1.4s						
CLL				MLR	MLR		
	comp=Z,300nm,20.4s						
CLL	**Collm**	**54.98**	**41**	*eP*	**P**	**21 29 10.5**	**-0.2**
	comp=Z,6.5nm,1.0s,baz=258,slow=7.3						
ANMO	**Albuquerque**	**55.03**	**299**	*ce*P	**P**	**21 29 12.1**	**+0.4**
ANMO				pmax	pmax		
	comp=Z,12nm,2.5s						
ANMO	**Albuquerque**	**55.03**	**299**	P	**P**	**21 29 12.1**	**+0.4**
FBE	**Freiberg**	**55.12**	**41**	*eP*	**P**	**21 29 11.9**	**+0.2**
	comp=Z,35nm,1.6s,baz=258,slow=7.3						
MOA	**Molln**	**55.20**	**45**	*eP*	**P**	**21 29 11.5**	**-0.9**
	comp=Z,12nm,1.6s,SNR=5.8						
MOA	**Molln**	**55.20**	**45**	*eP*	**P**	**21 29 11.7**	**-0.

TUC						IAmb	IAmb	21 29 47.3		
	comp=Z,23nm,2.0s									
QLMT	**Earthquake Lak**	**58.91**	**311**			**S**		**21 37 44.2**	**-1.0**	
WUAZ	**Wupatki**	**59.03**	**300**		P	**P**		**21 29 39.7**	**-0.2**	
OJC	**Ojcow**	**59.09**	**43**		P	**P**		**21 29 40.3**	**+0.4**	
OJC					pmax	pmax				
	comp=Z,18nm,1.3s									
OJC	**Ojcow**	**59.09**	**43**		P	**P**		**21 29 40.2**	**+0.4**	
OJC					IAmb	IAmb		21 29 41.5		
	comp=Z,18nm,1.3s									
X16A	**Lo Mia Camp, P**	**59.16**	**299**		P	**P**		**21 29 40.9**	**0.0**	
X16A					IAmb	IAmb		21 29 49.8		
	comp=Z,15nm,1.5s									
KBN	**Korca**	**59.46**	**54**		P	**P**		**21 29 41.7**	**-1.0**	
KBN					pmax	pmax				
	comp=Z,57nm,1.5s									
KBN	**Korca**	**59.46**	**54**		P	**P**		**21 29 41.7**	**-1.0**	
BZS	**Buzias**	**60.06**	**48**	⇓	P	**P**		**21 29 47.1**	**+0.4**	
BZS	**Buzias**	**60.06**	**48**	⇓	P	**P**		**21 29 47.1**	**+0.4**	
CRVS	**Cervenica-Dubn**	**60.08**	**45**	*eP*		**P**		**21 29 47.5**	**+0.8**	
CRVS					pmax	pmax				
	comp=Z,43nm,1.6s									
CRVS	**Cervenica-Dubn**	**60.08**	**45**	*eP*		**P**		**21 29 47.5**	**+0.8**	
BGU	**Big Grassy Mou**	**60.08**	**306**		P	**P**		**21 29 46.2**	**-0.8**	
CCUT	**Cedar City**	**60.49**	**302**		P	**P**		**21 29 49.8**	**-0.3**	
CCUT					IAmb	IAmb		21 29 58.3		
	comp=Z,19nm,1.6s									
Y14A	**Wickenburg**	**60.50**	**298**		P	**P**		**21 29 49.4**	**-0.5**	
Y14A					IAmb	IAmb		21 29 59.4		
	comp=Z,26nm,1.6s									
214A	**Organ Pipe Nat**	**60.54**	**296**		P	**P**		**21 29 50.7**	**+0.4**	
UZH	**Uzhgorod**	**60.61**	**45**	*c i*	P	**P**		**21 29 49.5**	**-0.8**	
UZH				*e*				21 29 54.0		
HERR	**Herculane**	**60.62**	**49**	⇓	P	**P**		**21 29 50.5**	**0.0**	
TRPA	**Tarpa**	**60.76**	**45**	⇓	P	**P**		**21 29 51.1**	**-0.2**	
PSUT	**Pine Spring**	**60.82**	**304**		P	**P**		**21 29 52.3**	**0.0**	
DRGR		**60.84**	**47**	⇓	P	**P**		**21 29 51.9**	**-0.2**	
DRGR		**60.84**	**47**	⇓	P	**P**		**21 29 51.9**	**-0.2**	
GZR	**Gura Zlata**	**60.87**	**49**	⇓	P	**P**		**21 29 53.2**	**+0.9**	
GZR	**Gura Zlata**	**60.87**	**49**	⇓	P	**P**		**21 29 53.2**	**+0.9**	
W13A	**Hualapai Mount**	**61.11**	**300**		P	**P**		**21 29 53.4**	**-0.9**	
W13A					IAmb	IAmb		21 30 02.8		
	comp=Z,17nm,2.0s									
SPR3	**Spring Creek 3**	**61.16**	**304**		P	**P**		**21 29 54.4**	**-0.3**	
VTS	**Vitosha**	**61.24**	**52**	⇓	P	**P**		**21 29 55.5**	**+0.6**	
VTS	**Vitosha**	**61.24**	**52**	⇓	P	**P**		**21 29 55.5**	**+0.6**	
VTS	**Vitosha**	**61.24**	**52**		P	**P**		**21 29 54.5**	**-0.5**	
ELK	**Elko**	**61.76**	**306**		P	**P**		**21 29 58.5**	**-0.1**	
ELK					pmax	pmax				
	comp=Z,5.0nm,1.1s									
ELK	**Elko**	**61.76**	**306**		P	**P**		**21 29 58.5**	**-0.1**	
LVV	**L'vov**	**61.79**	**44**	*eP*		**P**		**21 29 58.1**	**-0.2**	
LVV				*eS*		**S**		**21 38 16.9**	**-4.7**	
LVV					MLR	MLR				
	comp=Z,300nm,16.0s									
ARR	**Arges**	**62.18**	**49**	⇓	P	**P**		**21 30 01.3**	**+0.1**	
R11A	**Troy Canyon, C**	**62.19**	**303**		P	**P**		**21 30 02.3**	**+0.8**	
R11A					IAmb	IAmb		21 30 10.5		
	comp=Z,12nm,1.6s									
EUNU	**Eureka**	**62.45**	**353**		P	**P**		**21 30 03.0**	**+0.7**	
EUNU					IAmb	IAmb		21 30 10.8		
	comp=Z,19nm,1.4s									
VOIR		**62.48**	**49**	⇓	P	**P**		**21 30 02.7**	**-0.4**	
VOIR		**62.48**	**49**	⇓	P	**P**		**21 30 02.7**	**-0.4**	
BURAR	**Bucovina Array**	**62.55**	**46**	⇓	P	**P**		**21 30 04.9**	**+1.3**	
BURAR	**Bucovina Array**	**62.55**	**46**	⇓	P	**P**		**21 30 04.9**	**+1.3**	
BURAR	**Bucovina Array**	**62.55**	**46**		P	**P**		**21 30 02.9**	**-0.7**	
NEW	**Newport**	**62.88**	**315**		P	**P**		**21 30 05.0**	**-0.7**	
NEW					pmax	pmax				
	comp=Z,27nm,1.7s									
NEW	**Newport**	**62.88**	**315**		P	**P**		**21 30 05.0**	**-0.7**	
MLR	**Muntele Rosu**	**63.10**	**48**	⇓	P	**P**		**21 30 08.2**	**+0.9**	
MLR	**Muntele Rosu**	**63.10**	**48**	⇓	P	**P**		**21 30 08.2**	**+0.9**	
MLR	**Muntele Rosu**	**63.10**	**48**		P	**P**		**21 30 06.9**	**-0.4**	
BIZ	**Bicaz**	**63.17**	**47**	⇓	P	**P**		**21 30 08.1**	**+0.5**	
QSM	**Queen of Sheba**	**63.44**	**301**		P	**P**		**21 30 10.4**	**+0.8**	
E09A	**Wood Farm, Sta**	**63.61**	**313**		P	**P**		**21 30 10.7**	**+0.1**	
E09A					IAmb	IAmb		21 30 17.6		
	comp=Z,13nm,1.3s									
FINES	**FINESS Array B**	**63.72**	**31**		P	**P**		**21 30 11.1**	**+0.1**	
	comp=Z,1.2nm,0.6s,baz=248,slow=7.4,SNR=5.8									
KBS	**Kingsbay**	**64.24**	**10**	*ceP*		**P**		**21 30 13.8**	**-0.3**	
KBS					pmax	pmax				
	comp=Z,51nm,2.5s									
ARCES	**ARCESS Array B**	**64.64**	**22**		P	**P**		**21 30 17.1**	**+0.3**	
	comp=Z,7.5nm,0.8s,baz=267,slow=4.9,SNR=14									
ARCES	**ARCESS Array B**	**64.64**	**22**		P	**P**		**21 30 17.0**	**+0.1**	
ARCES					pmax	pmax				
	comp=Z,10.0nm,1.0s									
ARCES	**ARCESS Array B**	**64.64**	**22**		P	**P**		**21 30 17.0**	**+0.1**	
ARCES					IAmb	IAmb		21 30 19.2		
	comp=Z,9.8nm,0.9s									
SORM	**Soroca**	**64.65**	**45**	⇓	P	**P**		**21 30 14.7**	**-2.6**	
SORM	**Soroca**	**64.65**	**45**	⇓	P	**P**		**21 30 14.7**	**-2.6**	
ISA	**Isabella, Lake**	**64.77**	**301**		P	**P**		**21 30 18.8**	**+0.3**	
ISA					pmax	pmax				
	comp=Z,38nm,2.0s									
ISA	**Isabella, Lake**	**64.77**	**301**		P	**P**		**21 30 18.8**	**+0.3**	
BALB	**Balikesir**	**64.95**	**55**		P	**P**		**21 30 18.9**	**-0.5**	
AKASG	**Malin Array Be**	**65.12**	**43**		P	**P**		**21 30 20.1**	**-0.2**	
	comp=Z,2.3nm,0.7s,baz=276,slow=5.8,SNR=7.4									
AKASG	**Malin Array Be**	**65.12**	**43**	*ceP*		**P**		**21 30 20.1**	**-0.2**	
AKASG					pmax	pmax				
	comp=Z,1.0nm,0.5s									
KEV	**Kevo**	**65.19**	**21**		P	**P**		**21 30 20.9**	**+0.5**	
KEV					pmax	pmax				
	comp=Z,45nm,1.2s									
KEV	**Kevo**	**65.19**	**21**		P	**P**		**21 30 20.9**	**+0.5**	
ELL	**Elmali**	**66.91**	**58**		P	**P**		**21 30 31.4**	**-0.9**	
ELL					pmax	pmax				
	comp=Z,146nm,1.2s									
ELL	**Elmali**	**66.91**	**58**		P	**P**		**21 30 31.4**	**-0.9**	
MDUB	**Mudurnu**	**67.38**	**54**		P	**P**		**21 30 33.6**	**-1.6**	
OBN	**Obninsk**	**69.27**	**37**	*eP*		**P**		**21 30 45.9**	**-0.6**	
OBN				*e*				21 31 06.6		
OBN				*e*				21 33 15.1		
OBN				*eP*	PPP	PPP		21 34 56.6		
OBN					pmax	pmax				
	comp=Z,26nm,1.7s									
BR131	**Keskin Array S**	**69.34**	**54**	*i*	P	**P**		**21 30 47.0**	**-0.5**	
BR131	**Keskin Array S**	**69.34**	**54**		P	**P**		**21 30 46.6**	**-0.9**	
BR131					IAmb	IAmb		21 30 50.2		
	comp=Z,24nm,1.7s									
BRTR	**Keskin Array B**	**69.34**	**54**		P	**P**		**21 30 47.5**	**0.0**	
	comp=Z,3.0nm,0.8s,baz=263,slow=5.0,SNR=17									
BRTR	**Keskin Array B**	**69.34**	**54**	*ceP*		**P**		**21 30 47.9**	**+0.4**	
BRTR					pmax	pmax				
	comp=Z,3.0nm,0.9s									
BRTR	**Keskin Array B**	**69.34**	**54**		P	**P**		**21 30 47.1**	**-0.5**	
MOS	**Moscow**	**69.80**	**37**	*eP*		**P**		**21 30 48.6**	**-1.2**	
MOS				*e*				21 31 06.3		
KLMR	**Klimovskoe**	**70.23**	**31**	*eP*		**P**		**21 30 48.2**	**-4.1**	
KLMR					pmax	pmax				
	comp=Z,20nm,1.1s									
KLMR	**Klimovskoe**	**70.23**	**31**	*eP*		**P**		**21 30 48.3**	**-4.1**	
KLMR					AMP			21 30 53.2		
	comp=Z,20nm,1.1s									
INK	**Inuvik**	**70.57**	**337**		P	**P**		**21 30 54.6**	**+0.3**	
	comp=Z,3.8nm,0.8s,baz=43,slow=10.0,SNR=5.6									
INK	**Inuvik**	**70.57**	**337**		P	**P**		**21 30 55.0**	**+0.7**	
INK					pmax	pmax				
	comp=Z,29nm,1.9s									
INK	**Inuvik**	**70.57**	**337**		P	**P**		**21 30 55.0**	**+0.7**	
INK					IAmb	IAmb		21 31 13.0		
	comp=Z,29nm,1.9s									
ANN	**Anapa**	**71.25**	**48**	*eP*		**P**		**21 30 55.8**	**-3.1**	
ANN				*eS*		**S**		**21 40 13.8**	**-2.6**	
ANN					pmax	pmax				
	comp=Z,9.0nm,0.8s									
PRGR	**Permogore**	**73.03**	**30**	*eP*		**P**		**21 31 08.0**	**-1.3**	
PRGR					pmax	pmax				
	comp=Z,40nm,1.4s									
SOC	**Sochi**	**73.10**	**49**	*eP*		**P**		**21 31 08.7**	**-1.3**	
SOC				*e*				21 33 47.0		
SOC				*eP*	PPP	PPP		21 35 39.1		
SOC				*eS*		**S**		**21 40 36.6**	**-1.1**	
SOC				*eSS*		SSS		21 48 34.6		
SOC					pmax	pmax				
	comp=Z,9.0nm,0.7s									
SOC					MLR	MLR				
	comp=Z,62nm,18.0s									
BCAR	**Beaver Creek A**	**74.87**	**332**		P	**P**		**21 31 20.2**	**+0.1**	
KIV	**Kislovodsk**	**75.11**	**48**	*eP*		**P**		**21 31 21.9**	**0.0**	
KIV					pmax	pmax				
	comp=Z,8.0nm,1.1s									
KIV					MLR	MLR				
	comp=Z,61nm,18.0s									
NEY	**Neytrino**	**75.31**	**49**	*i*	P	**P**		**21 31 24.0**	**+0.8**	
NEY					pmax	pmax				
	comp=Z,2.0nm,0.8s									
KBZ	**Khabaz**	**75.31**	**49**	P		**P**		**21 31 23.5**	**+0.6**	
	comp=Z,4.1nm,1.0s,baz=300,slow=5.1,SNR=7.3									
KBZ	**Khabaz**	**75.31**	**49**	*ceP*		**P**		**21 31 22.5**	**-0.4**	
KBZ					pmax	pmax				
	comp=Z,5.0nm,1.0s									
KIRV	**Kirov**	**75.58**	**33**	*ceP*		**P**		**21 31 23.1**	**-1.0**	
ONI	**Oni**	**75.99**	**50**	P		**P**		**21 31 27.0**	**+0.1**	
ONI					pmax	pmax				
	comp=Z,6.0nm,1.0s									
ONI	**Oni**	**75.99**	**50**	P		**P**		**21 31 27.0**	**+0.1**	
BELG	**Belogornoye**	**76.21**	**39**	*i*	P	**P**		**21 31 25.9**	**-1.9**	
BELG					pmax	pmax				
	comp=Z,6.0nm,1.1s									
ILAR	**Eielson Array**	**76.54**	**334**		P	**P**		**21 31 30.3**	**+0.8**	
	comp=Z,3.8nm,0.9s,baz=74,slow=4.7,SNR=15									
MDM	**Murphy Dome**	**77.02**	**335**		P	**P**		**21 31 33.0**	**+0.7**	
MDM					IAmb	IAmb		21 31 33.6		
	comp=Z,15nm,1.4s									
MBAR	**Mbarara**	**77.50**	**95**	*ceP*		**P**		**21 31 38.5**	**+2.4**	
GNI	**Garni**	**77.57**	**52**	*ceP*		**P**		**21 31 35.6**	**-0.4**	
GNI					pmax	pmax				
	comp=Z,22nm,1.3s									
KTH	**Kantishna Hill**	**78.62**	**334**		P	**P**		**21 31 41.6**	**+0.3**	
KTH					IAmb	IAmb		21 31 43.9		
	comp=Z,17nm,1.2s									
IMAR	**Indian Mountai**	**78.76**	**337**		P	**P**		**21 31 42.7**	**+0.8**	
AKT	**Akhty**	**79.36**	**50**	*eP*		**P**		**21 31 45.8**	**0.0**	
AKT				*e*				21 31 53.1		
AKT				*e*				21 34 44.5		
AKT					pmax	pmax				
	comp=Z,12nm,1.5s									
LODK	**Lodwar**	**80.45**	**90**		P	**P**		**21 31 51.2**	**-0.9**	
LODK					IAmb	IAmb		21 31 55.4		
	comp=Z,23nm,1.7s									
LSZ	**Lusaka**	**80.72**	**110**		P	**P**		**21 31 54.3**	**+0.8**	
LSZ					pmax	pmax				
	comp=Z,15nm,1.4s									
LSZ	**Lusaka**	**80.72**	**110**		P	**P**		**21 31 54.3**	**+0.8**	
LSZ					IAmb	IAmb		21 31 56.0		
	comp=Z,15nm,1.4s									
ARU	**Arti**	**80.94**	**33**	*c i*	P	**P**		**21 31 53.6**	**-0.3**	
ARU					S	**S**		**21 42 02.9**	**+0.2**	
ARU					SS	**SS**		**21 47 15.8**	**-0.1**	
ARU					pmax	pmax				
	comp=Z,20nm,1.6s									
ARU					MLR	MLR				
	comp=Z,272nm,21.0s									
ARU	**Arti**	**80.94**	**33**		P	**P**		**21 31 54.9**	**+1.0**	
ARU					IAmb	IAmb		21 31 55.9		
	comp=Z,25nm,1.5s									
SVE	**Sverdlovsk**	**81.83**	**32**	*eP*		**P**		**21 31 59.2**	**+0.6**	
SVE					pmax	pmax				
	comp=Z,23nm,1.8s									
KMBO	**Kilima Mbogo**	**83.78**	**93**		P	**P**		**21 32 11.2**	**+1.3**	
	comp=Z,0.4nm,0.3s,baz=23,slow=6.0,SNR=4.2									
KMBO	**Kilima Mbogo**	**83.78**	**93**	*i*	P	**P**		**21 32 12.8**	**+2.9**	
KMBO	**Kilima Mbogo**	**83.78**	**93**		P	**P**		**21 32 08.3**	**-1.6**	
KMBO					IAmb	IAmb		21 32 12.8		
	comp=Z,13nm,1.6s									
BOSA	**Boshof**	**83.95**	**123**		P	**P**		**21 32 11.0**	**+0.8**	
	comp=Z,2.8nm,0.8s,baz=0.0,slow=4.0,SNR=3.6									
ABKAR	**Akbulak array**	**84.61**	**39**		P	**P**		**21 32 13.5**	**+0.4**	
ABKAR	**Akbulak array**	**84.61**	**39**		P	**P**		**21 32 13.6**	**+0.4**	
ABKAR					IAmb	IAmb		21 32 32.9		
	comp=Z,13nm,1.7s									
NRIK	**Noril'sk**	**84.65**	**15**		P	**P**		**21 32 13.5**	**+0.6**	
	comp=Z,1.4nm,0.4s,baz=337,slow=4.9,SNR=5.8									
NRIK	**Noril'sk**	**84.65**	**15**		P	**P**		**21 32 12.9**	**0.0**	
NRIK					pmax	pmax				
	comp=Z,13nm,1.3s									
NRIK	**Noril'sk**	**84.65**	**15**		P	**P**		**21 32 12.9**	**0.0**	
NRIK					IAmb	IAmb		21 32 16.6		
	comp=Z,12nm,1.3s									
BRVK	**Borovoye**	**88.52**	**33**	*ceP*		**P**		**21 32 32.9**	**+0.7**	
BRVK					pmax	pmax				
	comp=Z,2.0nm,0.7s									
BILL	**Bilibino**	**88.90**	**349**	*eP*		**P**		**21 32 33.1**	**-0.6**	
BILL					pmax	pmax				
	comp=Z,13nm,1.2s									
YAK	**Yakutsk**	**97.92**	**2**	*i*	P	Pdif		21 33 15.4	+0.1	
YAK					pmax	pmax				
	comp=Z,6.0nm,1.0s									
MKAR	**Makanchi Array**	**98.47**	**33**		LR	LR		22 14 39.1		
	comp=Z,157nm,21.8s,baz=302,slow=34									
VNDA	**Vanda**	**121.12**	**187**		PKP	**PKiKP**		**21 38 32.4**	**+0.7**	
	comp=Z,0.6nm,0.9s,baz=101,slow=3.7,SNR=3.9									
VNDA	**Vanda**	**121.12**	**187**		PKIKP	**PKiKP**		**21 38 32.1**	**+0.4**	
VNDA	**Vanda**	**121.12**	**187**		PKPdf	**PKiKP**		**21 38 32.0**	**+0.4**	
CMAR	**Chiang Mai Arr**	**128.22**	**44**		PKP	**PKPdf**		**21 38 47.0**	**+0.1**	
	comp=Z,2.3nm,1.1s,baz=286,slow=3.0,SNR=9.3									

*IDC **27** 21:22:54.3±0.5,20˚.25N×45˚.60W,h0km,mb4.3/24, mb1 4.4/26,mb1mx4.3/50,mbtmp4.2/26,ML3.3/2,Error ellipse: s-maj=16.9km s-min=11.1km az=140.0*

*NEIC **27** 21:22:56.1±1.8,20˚.29N±0˚.04×45˚.6W±0˚.1,h10km±1km, mb4.9/77,Error ellipse: s-maj=16.8km s-min=5.8km az=105.0*

*GCMT **27** 21:22:56.1±0.4,20˚.51N±0˚.04×45˚.51W±0˚.03,h29km, MW5.1/100,Moment Tensor Solution. s100,c118; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.81±.39; $M_{\theta\theta}$1.01±.23; $M_{\phi\phi}$4.80±.25; $M_{r\theta}$0.44±.36; $M_{\phi\phi}$0.84±.12; $M_{\theta r}$-0.80±.29; Best double couple: $M_0$5.46500×10^{16} NP1:ϕ_s197.00000°,δ42.00000°,λ-82.00000°. NP2: ϕ_s7.00000°,δ49.00000°,λ-97.00000°. Principal axes: T 5.0230, Plg4.0000°, Azm101.0000°; N 0.8850, Plg5.0000°, Azm11.0000°; P -5.9080, Plg84.0000°, Azm228.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 21:22:55.8±0.3,20˚.37N±0˚.06×45˚.62W±0˚.06,h10km,n215, σ1**8**03/203,**mb4.8**/83,**Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
ANWB	**Willy Bob**	**15.52**	**263**	*e*		**P**	**21 26 40.3**	**+1.0**
ILAM	**Ilet Lapin Mar**	**15.57**	**251**	*e*		**Pn**	**21 26 34.3**	**-1.2**
ANBD	**Bethesda, Anti**	**15.65**	**260**	*e*		P	21 26 48.2	+7.5
H05S1	**Guadeloupe/Mar**	**15.67**	**250**	T		T	21 42 26.5	
	SNR=31							
MPOM	**Morne Pois Mar**	**15.69**	**250**	*e*		Pn	21 26 28.0	-9.1
MPOM	**Morne Pois Mar**	**15.69**	**250**	Pn		**Pn**	**21 26 38.5**	**+1.4**
MPOM					IAmb	IAmb	21 26 49.7	
	comp=Z,65nm,1.1s							
CBE	**Ff, Capester**	**15.78**	**257**	*e*		**Pn**	**21 26 34.3**	**-4.0**
DSLB	**Salisbury**	**15.81**	**254**	*e*		Pn	21 26 29.1	-10
BIM	**Bigot**	**15.84**	**251**	Pn		**Pn**	**21 26 40.2**	**+1.0**
BIM					IAmb	IAmb	21 26 47.3	
	comp=Z,64nm,1.0s							
TDBA	**Terre de Bas,**	**15.87**	**256**	*e*		**Pn**	**21 26 39.5**	**0.0**
SLBI	**Saint Lucia, B**	**15.96**	**249**	*e*		Pn	21 26 32.3	-8.4
MCLT	**Moule a Chique**	**16.07**	**248**	*e*		Pn	21 26 34.3	-7.8
SVB	**Belmont**	**16.54**	**247**	*e*		Pn	21 26 39.4	-8.6
MDP	**Montagnes des**	**16.64**	**205**	Pn		**Pn**	**21 26 48.1**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=32,slow=18,SNR=1.7							
TOSP	**Speyside**	**16.93**	**240**	*e*		**P**	**21 26 55.9**	**+0.8**
GCMP	**Grenada, Carri**	**17.06**	**245**	*e*		Pn	21 26 46.4	-8.2
GRGR	**Grenville**	**17.43**	**244**	*e*		**Pn**	**21 26 58.6**	**-0.6**
SJG	**San Juan**	**19.51**	**267**	P		**Pn**	**21 27 24.5**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=60,slow=11,SNR=3.7							
SJG	**San Juan**		**19.51**	**267**	P	**P**	**21 27 21.7**	**-1.7**
OBIP	**Obispado Ponce**	**19.95**	**267**	P		**P**	**21 27 26.8**	**-1.4**
OBIP					IAmb	IAmb	21 27 36.0	
	comp=Z,100nm,1.6s							
PLCV	**Puerto La Cruz**	**20.90**	**244**	P		**P**	**21 27 38.4**	**-0.2**
PCRV	**Puerto La Cruz**	**20.93**	**244**	P		**P**	**21 27 38.4**	**-0.6**
	comp=Z,9.8nm,1.0s,baz=57,slow=12,SNR=1.8							
DR12	**Loma Pena Alta**	**22.44**	**270**	P		**P**	**21 27 55.6**	**+0.5**
BOAV	**Boa Vista**	**23.04**	**221**	*eP*		**P**	**21 28 01.4**	**0.0**
ROSB	**Rosrio**	**23.17**	**176**	*eP*		**P**	**21 28 04.9**	**+2.2**
MALB	**Monte Alegre**	**23.66**	**202**	*eP*		**P**	**21 28 07.5**	**-0.1**
NBPS	**Pedro II - PI**	**24.95**	**170**	*eP*		**P**	**21 28 18.9**	**-0.7**
PTGA	**Pitinga**	**25.24**	**216**	P		**P**	**21 28 21.6**	**-0.6**
	comp=Z,2.0nm,0.3s,baz=18,slow=12,SNR=6.6							
PTGA	**Pitinga**	**25.24**	**216**	P		**P**	**21 28 20.1**	**-2.1**
NBCL	**Cascavel-CE**	**25.48**	**163**	*eP*		**P**	**21 28 25.3**	**+0.9**
NBPB	**Pedra_Branca-C**	**26.43**	**166**	*eP*		**P**	**21 28 34.5**	**+1.6**
ITTB	**Itaituba**	**26.51**	**203**	*eP*		**P**	**21 28 33.8**	**0.0**
PRPB	**Parauapebas**	**26.70**	**189**	*eP*		**P**	**21 28 35.3**	**-0.1**
SDV	**Santo Domingo**	**26.71**	**248**	P		**P**	**21 28 35.7**	**-0.1**
	comp=Z,5.1nm,0.3s,baz=52,slow=8.2,SNR=3.9							
SDV	**Santo Domingo**	**26.71**	**248**	*eP*		**P**	**21 28 36.5**	**+0.7**
NBPV	**Pedro Velho**	**28.49**	**158**	*eP*		**P**	**21 28 53.1**	**+1.6**
RUSC	**La Rusia**	**30.29**	**245**	P		**P**	**21 29 07.8**	**-0.3**
NBAN	**Anadia - AL**	**31.23**	**162**	*eP*		**P**	**21 29 16.2**	**+0.4**
CLDB	**Colider**	**32.62**	**199**	*eP*		**P**	**21 29 27.4**	**-0.5**
SNDB	**Serra Nova Dou**	**32.62**	**190**	*eP*		**P**	**21 29 29.6**	**+1.7**
NCB	**Newcomb**	**33.47**	**321**	P		**P**	**21 29 36.5**	**+1.3**
FRNY	**Flat Rock**	**33.62**	**323**	P		**P**	**21 29 38.0**	**+1.5**
SAML	**Samuel**	**33.87**	**212**	P		**P**	**21 29 37.3**	**-1.6**
BDFB	**Brasilia**	**35.86**	**184**	P		**P**	**21 29 55.4**	**-0.8**
	comp=Z,3.4nm,0.9s,baz=15,slow=12,SNR=3.8							
BDFB	**Brasilia**	**35.86**	**184**	P		**P**	**21 29 55.8**	**-0.4**
BDFB					IAmb	IAmb	21 29 57.4	
	comp=Z,16nm,1.4s							
CMC01	**Camacan, BA**	**36.01**	**170**	*eP*		**P**	**21 29 57.5**	**+0.2**
VILB	**Vilhena**	**36.09**	**205**	*eP*		**P**	**21 29 58.2**	**+0.2**
ETMB	**Extrema**	**36.20**	**216**	*eP*		**P**	**21 29 58.6**	**-0.3**
SALV	**Santo Antonio**	**37.38**	**196**	*eP*		**P**	**21 30 08.9**	**-0.1**
OTAV	**Otavalo**	**37.83**	**242**	P		**P**	**21 30 13.3**	**-0.1**
OTAV	**Otavalo**	**37.83**	**242**	*eP*		**P**	**21 30 13.8**	**+0.3**
PTLB	**Pontes e Lacer**	**37.99**	**201**	*eP*		**P**	**21 30 14.4**	**+0.3**
MDT	**Middelt**	**38.48**	**63**	P		**P**	**21 30 19.3**	**+0.9**
	comp=Z,2.8nm,1.0s,baz=272,slow=7.5,SNR=3.7							
CZSB	**Cruzeiro do Su**	**38.59**	**226**	*eP*		**P**	**21 30 19.2**	**-0.2**
PP1B	**Ponte de Pedra**	**38.81**	**194**	*eP*		**P**	**21 30 21.7**	**+0.6**
SIV	**San Ignacio**	**39.19**	**204**	P		**P**	**21 30 23.6**	**-0.8**
	comp=Z,3.4nm,1.0s,baz=64,slow=8.8,SNR=4.9							
PLAL	**Pickwick Lake**	**40.01**	**300**	P		**P**	**21 30 31.6**	**+0.5**
WVT	**Waverly**	**40.03**	**302**	P		**P**	**21 30 32.1**	**+0.9**
KOWA	**Kowa**	**40.04**	**92**	P		**P**	**21 30 31.1**	**-0.4**
	comp=Z,2.8nm,1.0s,baz=323,slow=5.1,SNR=3.1							
ESDC	**Sonseca Array**	**40.45**	**52**	P		**P**	**21 30 35.4**	**+0.7**
	comp=Z,3.0nm,1.3s,baz=254,slow=8.3,SNR=6.1							
ESDC	**Sonseca Array**	**40.45**	**52**	P		**P**	**21 30 34.3**	**-0.4**
H10N3	**ASCENSION HYDR**	**41.51**	**129**	T		T	22 14 38.1	
	baz=312,slow=75,SNR=19							
H10N2	**ASCENSION HYDR**	**41.51**	**129**	T		T	22 14 42.2	
	baz=312,slow=75,SNR=17							
H10N1	**ASCENSION HYDR**	**41.52**	**129**	T		T	22 14 40.7	
	baz=312,slow=75,SNR=18							
AQDB	**Aquidauana**	**41.77**	**194**	P		**P**	**21 30 45.5**	**-0.1**
AQDB	**Aquidauana**	**41.77**	**194**	*eP*		**P**	**21 30 46.8**	**+1.2**
PCMB	**Pacaembu**	**42.08**	**188**	*eP*		**P**	**21 30 49.4**	**+1.3**
H10S3	**ASCENSION HYDR**	**42.15**	**131**	T		T	22 15 27.4	
	baz=310,slow=74,SNR=17

comp=Z,13nm,1.6s,baz=257,slow=7.1
GEC2 GERESS Array S 54.83 44 P **P** **21 32 26.2 -0.1**
GEC2 IAmb IAmb 21 32 29.7
comp=Z,14nm,1.4s
GEC2 GERESS Array S 54.83 44 *eP* **P** **21 32 25.6 -0.7**
comp=Z,14nm,1.5s,baz=257,slow=7.1
GERES GERESS Array B 54.83 44 P **P** **21 32 26.4 +0.1**
comp=Z,2.6nm,1.0s,baz=262,slow=6.6,SNR=12
GERES GERESS Array B 54.83 44 P **P** **21 32 26.9 +0.6**
FBE Freiberg 54.97 41 *eP* **P** **21 32 27.4 +0.2**
comp=Z,11nm,1.4s,baz=257,slow=7.1
ANMO Albuquerque 55.05 299 P **P** **21 32 28.7 +0.4**
MOA Molln 55.05 45 *eP* **P** **21 32 27.9 +0.1**
comp=Z,11nm,1.4s
MOA Molln 55.05 45 *eP* **P** **21 32 28.0 +0.1**
comp=Z,13nm,1.4s,baz=257,slow=7.1
OBKA Obir 55.07 47 *eP* **P** **21 32 28.2 +0.1**
comp=Z,42nm,1.9s,baz=257,slow=7.1
CKRC Cesky Krumlov 55.22 44 *eP* **P** **21 32 30.0 +0.9**
BRG Berggiesshubel 55.33 42 *eP* **P** **21 32 30.7 +1.0**
comp=Z,9.1nm,1.5s,baz=257,slow=7.1
BRG Berggiesshubel 55.33 42 *eP* **P** **21 32 30.8 +1.0**
BRG Amp 21 32 32.9
comp=Z,9.2nm,1.5s
BRG Amp 21 50 15.0
comp=E,0.1nm,15.0s
BRG Amp 21 50 18.0
comp=N,0.1nm,18.7s
BRG Amp 21 50 20.0
comp=Z,0.3nm,18.7s
RUE Ruedersdorf 55.54 40 *eP* **P** **21 32 33.0 +1.8**
comp=Z,15nm,0.7s,baz=257,slow=7.1
PRU Pruhonice 55.56 43 *eP* **P** **21 32 33.2 +1.8**
ARSA Arzberg 55.82 46 *eP* **P** **21 32 33.4 0.0**
comp=Z,3.8nm,0.8s
ARSA Arzberg 55.82 46 *eP* **P** **21 32 33.4 0.0**
comp=Z,14nm,1.5s,baz=257,slow=7.1
CONA Conrad Observa 56.13 45 *eP* **P** **21 32 35.8 +0.1**
comp=Z,6.8nm,1.4s
NC204 NORSAR Array S 56.37 29 P **P** **21 32 38.0 +1.0**
NOA NORSAR Array B 56.49 29 P **P** **21 32 39.0 +1.0**
comp=Z,8.3nm,1.3s,baz=250,slow=7.1,SNR=3.7
CHVC Chvalec 56.61 42 *eP* **P** **21 32 40.2 +1.3**
KRUC Moravsky 56.62 44 *eP* **P** **21 32 39.4 +0.4**
OSTC Ostas 56.70 42 *eP* **P** **21 32 40.7 +1.1**
DPC Dobruska-Polom 56.74 43 *eP* **P** **21 32 40.8 +0.9**
DPC *ex* x 21 32 49.5
VRAC Vranov 56.78 44 *eP* **P** **21 32 40.7 +0.5**
ZST Bratislava 56.99 45 *eP* **P** **21 32 43.1 +1.5**
KRLC Kraliky 57.00 43 *eP* **P** **21 32 42.7 +0.9**
MODS Modra-Piesok 57.12 45 *eP* **P** **21 32 43.6 +1.0**
MPLH Magyarpolny 57.18 46 *eP* **P** **21 32 44.2 +1.2**
MORC Moravsky Berou 57.45 43 *eP* **P** **21 32 45.9 +1.0**
PDAR Pinedale Array 57.48 308 P **P** **21 32 46.1 +0.6**
comp=Z,0.6nm,0.8s,baz=72,slow=6.6,SNR=5.1
PDAR Pinedale Array 57.48 308 P **P** **21 32 45.6 +0.1**
BW06 Boulder Array 57.48 308 P **P** **21 32 44.8 -0.7**
KOVH Kovagotottos 57.48 48 *eP* **P** **21 32 46.3 +1.1**
MORH Mrgy, Hungar 57.87 48 *eP* **P** **21 32 48.6 +0.8**
IMW Indian Meadow 58.51 310 P **P** **21 32 53.7 +0.9**
OJC Ojcow 58.94 43 P **P** **21 32 56.8 +1.4**
OJC IAmb IAmb 21 32 58.2
comp=Z,14nm,1.3s
WUAZ Wupatki 59.04 300 P **P** **21 32 55.7 -0.8**
WUAZ IAmb IAmb 21 32 59.6
comp=Z,15nm,1.4s
X16A Lo Mia Camp, P 59.18 299 P **P** **21 32 58.0 +0.5**
X16A IAmb IAmb 21 33 00.8
comp=Z,20nm,1.9s
AMBH Ambrzfalva 59.32 48 *eP* **P** **21 32 59.4 +1.4**
KBN Korca 59.32 54 P **P** **21 32 59.8 +1.6**
MVU Marysvale 59.54 303 P **P** **21 32 59.6 -0.4**
CRVS Cervenica-Dubn 59.93 45 *eP* **P** **21 33 04.0 +1.8**
CCUT Cedar City 60.50 302 P **P** **21 33 06.2 -0.4**
Y14A Wickenburg 60.51 298 P **P** **21 33 06.6 +0.1**
Y14A IAmb IAmb 21 33 09.5
comp=Z,24nm,1.9s
214A Organ Pipe Nat 60.56 296 P **P** **21 33 05.9 -1.0**
TRPA Tarpa 60.61 46 *eP* **P** **21 33 08.4 +1.6**
VTS Vitosha 61.10 52 P **P** **21 33 09.3 -1.2**
SPR3 Spring Creek 3 61.16 304 P **P** **21 33 11.3 +0.1**
SPR3 IAmb IAmb 21 33 14.1
comp=Z,14nm,1.4s
ELK Elko 61.76 306 P **P** **21 33 14.9 -0.2**
ELK IAmb IAmb 21 33 17.1
comp=Z,14nm,1.7s
MFID Camas Ranch 62.06 309 P **P** **21 33 16.1 -0.9**
MFID IAmb IAmb 21 33 19.0
comp=Z,15nm,1.6s
R11A Troy Canyon, C 62.19 303 P **P** **21 33 17.6 -0.3**
R11A IAmb IAmb 21 33 19.6
comp=Z,9.8nm,1.6s
EUNU Eureka 62.34 353 P **P** **21 33 18.9 +0.8**
BURAR Bucovina Array 62.41 46 P **P** **21 33 20.1 +1.0**
NEW Newport 62.85 315 P **P** **21 33 22.4 +0.4**
NEW IAmb IAmb 21 33 33.1
comp=Z,8.4nm,1.2s
MLR Muntele Rosu 62.96 49 P **P** **21 33 22.6 -0.3**
E09A Wood Farm, Sta 63.59 313 P **P** **21 33 26.5 -0.4**
NVAR Mina Array Bea 64.31 304 P **P** **21 33 33.2 +1.2**
comp=Z,0.5nm,0.8s,baz=90,slow=5.4,SNR=2.0
NVAR Mina Array Bea 64.31 304 P **P** **21 33 30.9 -1.2**
ISA Isabella, Lake 64.78 301 P **P** **21 33 35.0 0.0**
ISA IAmb IAmb 21 33 38.2
comp=Z,18nm,1.6s
BALB Balikesir 64.81 55 P **P** **21 33 35.1 +0.1**
AKASG Malin Array Be 64.97 43 P **P** **21 33 36.1 +0.3**
comp=Z,0.2nm,0.3s,baz=274,slow=5.8,SNR=9.8
LLLB Lillooet 65.88 317 P **P** **21 33 41.5 -0.3**
LLLB IAmb IAmb 21 33 48.6
comp=Z,19nm,1.5s
ELL Elmali 66.77 58 P **P** **21 33 48.0 +0.1**
BR131 Keskin Array S 69.20 54 P **P** **21 34 02.6 -0.6**
BR131 IAmb IAmb 21 34 05.0
comp=Z,19nm,1.5s
BRTR Keskin Array B 69.20 54 P **P** **21 34 03.5 +0.4**
comp=Z,3.0nm,1.1s,baz=266,slow=3.6,SNR=11
BRTR Keskin Array B 69.20 54 P **P** **21 34 02.8 -0.3**
KLMR Klimovskoe 70.08 31 *eP* **P** **21 34 05.9 -2.1**
KLMR AMP 21 34 10.0
comp=Z,27nm,1.4s
INK Inuvik 70.49 337 P **P** **21 34 10.6 +0.3**
comp=Z,7.7nm,1.2s,baz=85,slow=14,SNR=3.8
INK Inuvik 70.49 337 P **P** **21 34 10.4 +0.1**
INK IAmb IAmb 21 34 12.1
comp=Z,15nm,1.4s
DAWY Dawson 73.52 333 P **P** **21 34 28.4 -0.3**
DAWY IAmb IAmb 21 34 31.4
comp=Z,16nm,1.6s
BCAR Beaver Creek A 74.80 332 P **P** **21 34 36.0 -0.2**
L27K Beaver Creek, 74.82 332 P **P** **21 34 36.9 +0.6**
L27K IAmb IAmb 21 34 37.7
comp=Z,20nm,1.7s
PRP Porcupine Dome 75.68 335 P **P** **21 34 39.9 -1.5**
PRP IAmb IAmb 21 34 44.6
comp=Z,9.6nm,1.2s
ONI Oni 75.85 50 P **P** **21 34 41.8 -0.8**
ILAR Eielson Array 76.46 334 P **P** **21 34 46.3 +0.7**
comp=Z,3.1nm,1.0s,baz=75,slow=4.5,SNR=13
ILAR Eielson Array 76.46 334 P **P** **21 34 45.8 +0.2**
CCB Clear Creek Bu 76.88 334 P **P** **21 34 47.8 -0.1**
CCB IAmb IAmb 21 34 50.0
comp=Z,17nm,1.4s
MDM Murphy Dome 76.94 335 P **P** **21 34 47.7 -0.7**
MDM IAmb IAmb 21 34 56.4
comp=Z,15nm,1.4s
I23K Minto, Yukon-K 77.32 335 P **P** **21 34 51.3 +0.9**
I23K IAmb IAmb 21 34 53.6
comp=Z,15nm,1.4s
TRF Thorofare Moun 78.33 334 P **P** **21 34 55.8 -0.5**
H21K Melozitna Rive 78.46 336 P **P** **21 34 56.7 -0.1**
H21K IAmb IAmb 21 34 59.6
comp=Z,24nm,1.5s
KTH Kantishna Hill 78.55 334 P **P** **21 34 57.5 +0.2**
IMAR Indian Mountai 78.68 337 P **P** **21 34 57.9 -0.1**
LODK Lodwar 80.37 90 P **P** **21 35 08.4 +0.2**
LODK IAmb IAmb 21 35 13.4
comp=Z,17nm,1.8s
LSZ Lusaka 80.68 110 P **P** **21 35 09.0 -0.9**
ARU Arti 80.79 33 P **P** **21 35 09.8 +0.2**
ARU IAmb IAmb 21 35 12.6
comp=Z,20nm,1.4s
KMBO Kilima Mbogo 83.71 94 P **P** **21 35 26.4 +0.4**
comp=Z,1.1nm,0.8s,baz=310,slow=7.9,SNR=3.3
BOSA Boshof 83.95 123 P **P** **21 35 26.6 -0.1**
comp=Z,12nm,1.1s,baz=301,slow=5.9,SNR=5.7
BOSA Boshof 83.95 123 P **P** **21 35 23.2 -3.5**
ABKAR Akbulak array 84.47 39 P **P** **21 35 28.7 -0.2**
PMSA Palmer Station 86.06 188 *eP* **P** **21 35 37.4 +1.2**
CMAR Chiang Mai Arr 128.08 44 PKP **PKPdf** **21 42 03.3 +0.2**
comp=Z,1.0nm,1.0s,baz=298,slow=2.9,SNR=8.7

*IDC **27** 21:31:37.4±0.9, 20°.15N×45°.62W, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/46, mbtmp3.8/8, MS3.7/2, Ms1 3.7/2, ms1mx3.1/41, Error ellipse: s-maj=30.4km s-min=25.0km az=135.0*
*NEIC **27** 21:31:38.2±1.9, 20°.0N±0°.1×45°.40W±0°.07, h10km±1km, mb4.6/11, Error ellipse: s-maj=26.1km s-min=8.8km az=160.0*
ISC 27 21:31:37.9±0.6, **20°.0N**±0°.1×**45°.50W**±0°.10, **h9**km, **n36, σ1s26/27, mb4.5/13, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBGH	**Gun Hill**	**15.11**	**245**	Pn	**Pn**	**21 35 13.0**	**+1.4**
H05S1	**Guadeloupe/Mar**	**15.67**	**252**	T	T	21 51 10.6	
	SNR=22						
TOSP	**Speyside**	**16.86**	**241**		**P**	**21 35 36.8**	**+0.3**
TOSP				IAmb	IAmb	21 35 53.6	
	comp=Z,43nm,1.6s						
SDDR	**Presa de Saban**	**24.32**	**272**	P	**P**	**21 36 54.4**	**-1.8**
SDDR				IAmb	IAmb	21 36 59.9	
	comp=Z,45nm,1.6s						
SDV	**Santo Domingo**	**26.69**	**249**	LR	LR	21 47 08.0	
	comp=Z,116nm,20.7s,baz=22,slow=35						
RUSC	**La Rusia**	**30.25**	**246**	P	**P**	**21 37 50.2**	**+0.3**
RUSC				IAmb	IAmb	21 37 55.6	
	comp=Z,12nm,1.4s						
G65A	**Princeton**	**31.03**	**329**	P	**P**	**21 37 55.7**	**-0.2**
G65A				IAmb	IAmb	21 37 57.1	
	comp=Z,33nm,1.4s						
MOQ	**Mont Orford**	**33.52**	**325**	P	**P**	**21 38 16.0**	**-1.9**
H10N3	**ASCENSION HYDR**	**41.20**	**129**	T	T	22 23 18.3	
	baz=312,slow=75,SNR=99						
H10N2	**ASCENSION HYDR**	**41.20**	**129**	T	T	22 23 30.7	
	baz=312,slow=75,SNR=64						
H10N1	**ASCENSION HYDR**	**41.22**	**129**	T	T	22 23 26.3	
	baz=312,slow=75,SNR=78						
H10S3	**ASCENSION HYDR**	**41.84**	**131**	T	T	22 24 05.8	
	baz=311,slow=74,SNR=56						
H10S2	**ASCENSION HYDR**	**41.86**	**131**	T	T	22 24 07.1	
	baz=269,slow=74,SNR=20						
TORD	**Torodi Ar. Bea**	**45.63**	**91**	P	**P**	**21 40 00.3**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=302,slow=7.3,SNR=4.5						
TORD	**Torodi Ar. Bea**	**45.63**	**91**	P	**P**	**21 39 58.2**	**-0.9**
CPUP	**Villa Florida**	**47.49**	**194**	P	**P**	**21 40 15.0**	**+1.6**
	comp=Z,6.0nm,0.9s,baz=20,slow=8.7,SNR=9.2						
AMTX	**Amarillo**	**51.38**	**299**	P	**P**	**21 40 44.1**	**+0.8**
AMTX				IAmb	IAmb	21 40 55.4	
	comp=Z,11nm,1.1s						
TXAR	**Lajitas Array**	**53.20**	**292**	P	**P**	**21 40 56.9**	**0.0**
	comp=Z,0.2nm,0.7s,baz=106,slow=4.0,SNR=3.8						
TXAR	**Lajitas Array**	**53.20**	**292**	P	**P**	**21 40 57.4**	**+0.4**
GERES	**GERESS Array B**	**55.00**	**44**	P	**P**	**21 41 10.6**	**+0.9**
	comp=Z,0.1nm,0.2s,baz=232,slow=7.4,SNR=4.3						
BNM	**Barren Site**	**55.47**	**298**	P	**P**	**21 41 13.3**	**-0.3**
LENM	**Lemitar**	**55.76**	**298**	P	**P**	**21 41 15.2**	**-0.4**
NOA	**NORSAR Array B**	**56.73**	**29**	P	**P**	**21 41 23.0**	**+1.0**
	comp=Z,0.1nm,0.4s,baz=248,slow=7.7,SNR=1.5						
RES	**Resolute Bay**	**60.61**	**347**	LR	LR	22 04 37.6	
	comp=Z,96nm,21.5s,baz=163,slow=33						
ARCES	**ARCESS Array B**	**64.77**	**22**	P	**P**	**21 42 17.3**	**+0.8**
	comp=Z,3.5nm,1.0s,baz=254,slow=3.1,SNR=4.4						
BR131	**Keskin Array S**	**69.31**	**54**	P	**P**	**21 42 46.3**	**+0.2**
BR131				IAmb	IAmb	21 42 47.5	
	comp=Z,2.5nm,0.9s						
BRTR	**Keskin Array B**	**69.31**	**54**	P	**P**	**21 42 46.9**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=274,slow=6.1,SNR=7.4						
BRTR	**Keskin Array B**	**69.31**	**54**	P	**P**	**21 42 46.4**	**+0.2**
ILAR	**Eielson Array**	**76.82**	**334**	P	**P**	**21 43 29.3**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=78,slow=4.1,SNR=6.8						
ILAR	**Eielson Array**	**76.82**	**334**	P	**P**	**21 43 29.8**	**-0.1**
IMAR	**Indian Mountai**	**79.04**	**337**	P	**P**	**21 43 42.1**	**-0.1**
KMBO	**Kilima Mbogo**	**83.58**	**94**	P	P	21 44 01.9	-5.7
KMBO				IAmb	IAmb	21 44 08.3	
	comp=Z,7.6nm,1.5s						
BOSA	**Boshof**	**83.67**	**123**	P	**P**	**21 44 03.9**	**-3.6**
ABKAR	**Akbulak array**	**84.66**	**39**	P	**P**	**21 44 13.2**	**+1.1**
CMAR	**Chiang Mai Arr**	**128.24**	**45**	PKP	**PKiKP**	**21 50 46.7**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=268,slow=3.2,SNR=4.2						
CMAR	**Chiang Mai Arr**	**128.24**	**45**	PKPdf	**PKPdf**	**21 50 43.5**	**-2.2**

*IDC **27** 21:46:42.3±3.2, 14°.45N×93°.73W, h0km, mb3.7/4, mb1 4.0/6, mb1mx3.7/42, mbtmp3.6/6, ML2.9/2, Error ellipse: s-maj=108.8km s-min=44.5km az=43.0*
*MEX **27** 21:46:44.1±1.1, 14°.34N×93°.94W, h10km, MD4.1*
*NEIC **27** 21:46:45.3±1.9, 14°.54N±0°.04×93°.83W±0°.06, h14km±4km, mb4.3/7, Md4.1/16(MEX), Error ellipse: s-maj=8.5km s-min=5.3km az=61.0*
ISC 27 21:46:44.4±2.2, **14°.58N**±0°.07×**93°.74W**±0°.07, **h10**km±13km, **n32, σ1s34/42, mb4.0/7, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.22**	**24**	*eP*	**Pg**	**21 47 08.0**	**+0.1**
PCIG				*eS*	**Sg**	**21 47 26.3**	**+2.5**
PCIG		**1.22**	**24**		**Pg**	**21 47 08.0**	**+0.1**
PCIG					**Sg**	**21 47 26.3**	**+2.5**
THIG		**1.46**	**77**	*eP*	**Pn**	**21 47 09.8**	**-1.0**
THIG				*eS*	**Sg**	**21 47 31.2**	**-0.3**
THIG		**1.46**	**77**		**Pn**	**21 47 09.8**	**-1.0**
THIG					**Sg**	**21 47 31.2**	**-0.3**
RTAL	**Retalhuleu**	**1.98**	**91**		**Pb**	**21 47 19.0**	**-1.5**
TGIG		**2.26**	**15**	*eP*	**Pb**	**21 47 24.5**	**-0.9**
TGIG				*eS*	**Sg**	**21 47 55.0**	**-2.2**
TGIG		**2.26**	**15**		**Pb**	**21 47 24.5**	**-0.9**
TGIG					**Sg**	**21 47 55.0**	**-2.2**
HUEH	**Huehuetenango**	**2.28**	**71**		**Pb**	**21 47 24.3**	**-1.4**
CCIG	**Comitan**	**2.29**	**42**	*eP*	**Pb**	**21 47 24.8**	**-1.1**
CCIG				*eS*	**Sb**	**21 47 53.6**	**-0.7**
CCIG	**Comitan**	**2.29**	**42**	Pn	**Pb**	**21 47 25.7**	**-0.2**
CMIG	**Matias Romero**	**2.73**	**336**	Pn	**Pn**	**21 47 27.9**	**-0.3**
	3.4nm,0.3s,baz=162,slow=13,SNR=37						
CMIG				Sn	**Sn**	**21 48 01.1**	**-0.2**
	5.4nm,0.3s,baz=94,slow=4.8,SNR=4.6						
CMIG	**Matias Romero**	**2.73**	**336**	*eP*	**Pn**	**21 47 27.4**	**-0.8**
CMIG				*eS*	**Sn**	**21 47 59.5**	**-1.8**
CMIG	**Matias Romero**	**2.73**	**336**		**Pn**	**21 47 27.4**	**-0.8**
CMIG					**Sn**	**21 47 59.5**	**-1.8**
MTG3	**Montecristo**	**4.24**	**92**	Pn	**Pn**	**21 47 51.1**	**+1.9**
PETF	**Flores**	**4.39**	**58**		**Pn**	**21 47 53.4**	**+2.3**
TLIG	**Tlapa**	**5.51**	**303**	Pn	**Pn**	**21 48 06.8**	**+0.2**
ORTG	**Ortega, Santa**	**9.11**	**116**	Pn	**Pn**	**21 48 56.8**	**+0.8**
RIMA	**Rio Macho**	**10.77**	**115**	Pn	**Pn**	**21 49 19.3**	**+0.3**
TX31	**Lajitas Ar. Si**	**17.32**	**330**		**P**	**21 50 47.7**	**-0.1**
TXAR	**Lajitas Array**	**17.32**	**330**	P	**P**	**21 50 48.5**	**+0.8**
	0.0nm,0.3s,baz=155,slow=12,SNR=6.7						
TXAR	**Lajitas Array**	**17.32**	**330**		**P**	**21 50 48.8**	**+1.0**
FNO	**Franklin**	**20.85**	**352**	P	**P**	**21 51 26.3**	**-0.1**
FNO				IAmb	IAmb	21 51 32.3	
	comp=Z,16nm,0.9s						
MSTX	**Muleshoe**	**20.96**	**339**	P	**P**	**21 51 28.2**	**+0.5**
MSTX				IAmb	IAmb	21 51 35.2	
	comp=Z,9.0nm,0.9s						
FCAR	**Ozark Folk Cen**	**21.27**	**4**	P	**P**	**21 51 34.1**	**+3.3**
FCAR				IAmb	IAmb	21 51 35.0	
	comp=Z,8.4nm,0.9s						
AMTX	**Amarillo**	**21.45**	**342**	P	**P**	**21 51 32.2**	**-0.7**
AMTX				IAmb	IAmb	21 51 51.5	
	comp=Z,24nm,1.4s						
HHAR	**Hobbs**	**21.61**	**360**	P	**P**	**21 51 36.6**	**+2.0**
HHAR				IAmb	IAmb	21 51 37.1	
	comp=Z,7.2nm,0.7s						
S39A	**Bolivar**	**23.02**	**1**	P	**P**	**21 51 49.8**	**+0.2**
PDAR	**Pinedale Array**	**31.21**	**337**	P	**P**	**21 53 05.2**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=138,slow=9.8,SNR=2.8						
NVAR	**Mina Array Bea**	**32.17**	**322**	P	**P**	**21 53 13.1**	**+0.5**
	comp=Z,0.9nm,0.9s,baz=141,slow=10,SNR=6.2						
ILAR	**Eielson Array**	**61.65**	**337**	P	**P**	**21 57 02.4**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=120,slow=5.3,SNR=1.6						
NOA	**NORSAR Array B**	**84.44**	**28**	P	**P**	**21 59 17.4**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=291,slow=4.9,SNR=4.1						
CMAR	**Chiang Mai Arr**	**144.87**	**339**	PKPbc	**PKPab**	**22 06 20.9**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=356,slow=3.6,SNR=2.5						

*NEIC **27** 21:59:43.2±0.8, 35°.99N±0°.02×96°.81W±0°.04, h4km±4km, Error ellipse: s-maj=5.4km s-min=1.2km az=116.0*
*ANF **27** 21:59:43.5±0.2, 36°.00N×96°.81W, h3km, ML3.5/13, Error ellipse: s-maj=2.4km s-min=1.8km az=155.0*
*TUL **27** 21:59:43.3±1.0, 35°.99N±0°.02×96°.80W±0°.04, h5km±4km, ML3.6, mb_Lg3.2/92(NEIC), Error ellipse: s-maj=5.0km s-min=2.4km az=115.0*
ISC 27 21:59:43.5±0.8, **36°.00N**±0°.02×**96°.83W**±0°.02, **h7**km±5km, **n112, σ0s81/93, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OK031	**S. Brethren Rd**	**0.05**	**192**	Pg	**Pg**	**21 59 44.9**	**-0.2**
OK031				Sg	**Sg**	**21 59 45.9**	**-0.3**
OK030	**Cody Creek RV**	**0.08**	**154**		**Pg**	**21 59 45.1**	**-0.4**
OK030				Sg	**Sg**	**21 59 46.4**	**-0.5**
QUOK	**Quay**	**0.20**	**29**		**Pg**	**21 59 47.6**	**+0.1**
QUOK				Sg	**Sg**	**21 59 50.6**	**+0.4**
OK005	**Luther M Schoo**	**0.45**	**221**		**Pg**	**21 59 52.5**	**+0.3**
OK005				Sg	**Sg**	**21 59 59.1**	**+0.8**
OK011	**Prague**	**0.53**	**167**	Pg	**Pg**	**21 59 53.3**	**-0.3**
OK029	**Liberty Lake**	**0.55**	**248**		**Pg**	**21 59 54.5**	**+0.4**
OK001	**Jones High Sch**	**0.58**	**221**	Pg	**Pg**	**21 59 54.6**	**0.0**
OK025	**Westminster Rd**	**0.59**	**225**		**Pg**	**21 59 54.9**	**0.0**
OK009	**Oakdale Elemen**	**0.64**	**229**	Pg	**Pg**	**21 59 55.6**	**-0.2**
BCOK	**Bluff Creek, N**	**0.72**	**242**		**Pg**	**21 59 56.8**	**-0.5**
OKCFA	**Oklahoma City**	**0.77**	**221**		**Pg**	**21 59 57.9**	**-0.4**
OKCFA	**Oklahoma City**	**0.77**	**221**	P	**Pg**	**21 59 57.9**	**-0.4**
	baz=42,SNR=24						
OKCFA				S	**Sg**	**22 00 09.0**	**+0.6**
	baz=42						
OKCSW	**OKLAHOMA CITY**	**0.77**	**220**		**Pg**	**21 59 57.9**	**-0.5**
BLOK	**Blackwell**	**0.82**	**338**		**Pg**	**21 59 59.4**	**+0.1**
TUL1	**Leonard**	**0.84**	**96**		**Pg**	**21 59 58.8**	**-0.9**
TUL1	**Leonard**	**0.84**	**96**	P	**Pg**	**21 59 58.8**	**-0.9**
	baz=276						
TUL1				S	**Sg**	**22 00 09.8**	**-0.9**
	baz=276						
TUL1	**Leonard**	**0.84**	**96**	P	**Pg**	**21 59 58.8**	**-0.9**
	baz=276						
TUL1				S	**Sg**	**22 00 09.9**	**-0.8**
	baz=276						
FNO	**Franklin**	**0.88**	**212**		**Pg**	**21 59 59.7**	**-0.6**
T35A	**Sooner Cattle**	**0.95**	**15**		**Pg**	**22 00 01.4**	**-0.3**
T35B	**Sooner Cattle**	**0.95**	**15**	P	**Pg**	**22 00 01.4**	**-0.3**
	baz=194						
T35B				S	**Sg**	**22 00 14.3**	**+0.3**
	baz=194						
CROK	**Carrier**	**1.06**	**299**		**Pg**	**22 00 03.9**	**0.0**
KAN13	**South Haven SW**	**1.14**	**333**		**Pg**	**22 00 05.2**	**-0.2**
GC02	**Grant County #**	**1.19**	**316**		**Pg**	**22 00 06.1**	**-0.2**
KAN17	**Caldwell West**	**1.29**	**324**		**Pn**	**22 00 07.7**	**-0.2**
KAN09	**Caldwell North**	**1.30**	**331**		**Pn**	**22 00 07.9**	**-0.2**
KAN14	**Manchester OK**	**1.32**	**317**		**Pn**	**22 00 08.2**	**-0.2**
KS20	**Mayfield South**	**1.36**	**335**		**Pn**	**22 00 08.9**	**0.0**
OK032	**Salt Plains WL**	**1.37**	**306**		**Pn**	**22 00 08.9**	**-0.2**
KAN05	**Bluff City Nor**	**1.39**	**323**		**Pn**	**22 00 09.6**	**+0.3**
KAN06	**Argonia West S**	**1.50**	**327**		**Pn**	**22 00 10.9**	**+0.1**
KAN10	**Anthony SW Sta**	**1.52**	**318**		**Pn**	**22 00 11.5**	**+0.4**
KAN08	**Anthony NE Sta**	**1.53**	**323**		**Pn**	**22 00 11.5**	**+0.3**
KAN16	**Harper SW Stat**	**1.58**	**321**		**Pn**	**22 00 12.4**	**+0.6**
KAN12	**Harper NE Stat**	**1.60**	**324**		**Pn**	**22 00 12.1**	**-0.1**
X34A	**Smith Ranch, M**	**1.62**	**211**		**Pn**	**22 00 12.6**	**+0.1**
U32A	**Winter Ranch,**	**1.80**	**283**		**Pn**	**22 00 15.2**	**+0.3**
U32A				lAmb_Lg		22 00 42.8	
	comp=Z,144nm,0.8s						
U32A	**Winter Ranch,**	**1.80**	**283**	P	**Pn**	**22 00 15.8**	**+0.8**
	baz=102,SNR=34						
U32A				S	**Sg**	**22 00 41.1**	**-0.2**
	baz=102						
X37A	**Clayton**	**1.84**	**139**	Pn	**Pn**	**22 00 15.1**	**-0.5**
X37A	**Clayton**	**1.84**	**139**	P	**Pn**	**22 00 15.9**	**+0.4**
	baz=320,SNR=95						
X37A				S	**Sb**	**22 00 41.0**	**+0.3**
	baz=320						
U38A	**Gravette**	**2.02**	**77**		**Pn**	**22 00 17.9**	**-0.1**
U38A	**Gravette**	**2.02**	**77**	P	**Pn**	**22 00 18.8**	**+0.8**
	baz=258,SNR=99						
U38A				S	**Sb**	**22 00 46.4**	**+0.4**
	baz=258						
LOOK	**Love County**	**2.02**	**188**		**Pn**	**22 00 17.9**	**-0.1**
LOOK				lAmb_Lg		22 00 49.6	
	comp=Z,74nm,0.8s						
WMOK	**Wichita Mounta**	**2.03**	**232**		**Pn**	**22 00 18.2**	**0.0**
WMOK	**Wichita Mounta**	**2.03**	**232**	P	**Pn**	**22 00 19.0**	**+0.9**
	baz=52,SNR=139						
WMOK				S	**Sb**	**22 00 45.6**	**-0.6**
	baz=52						
WMOK	**Wichita Mounta**	**2.03**	**232**	P	**Pn**	**22 00 19.0**	**+0.9**
	baz=52						
WMOK				S	**Sb**	**22 00 46.7**	**+0.4**
	baz=52						
HHAR	**Hobbs**	**2.35**	**82**		**Pn**	**22 00 22.6**	**0.0**
W39A	**Magazine**	**2.61**	**107**		**Pn**	**22 00 25.6**	**-0.4**
W39A				lAmb_Lg		22 01 11.7	
	comp=Z,60nm,0.8s						
W39A	**Magazine**	**2.61**	**107**	P	**Pn**	**22 00 26.3**	**+0.3**
	baz=289,SNR=12						
W39A	**Magazine**	**2.61**	**107**	P	**Pn**	**22 00 26.8**	**+0.8**
	baz=289						
W39A				S	**Sn**	**22 00 59.4**	**+1.5**
	baz=289						
Z35A	**Perchaven, San**	**2.69**	**188**		**Pn**	**22 00 26.8**	**-0.3**
Z35A	**Perchaven, San**	**2.69**	**188**	P	**Pn**	**22 00 27.8**	**+0.7**
	baz=7.8,SNR=17						
R32A	**Long Quarter,**	**2.85**	**329**	Pn	**Pn**	**22 00 29.8**	**+0.4**
R32A	**Long Quarter,**	**2.85**	**329**	P	**Pn**	**22 00 30.2**	**+0.8**
	baz=148						
MIAR	**Mount Ida**	**3.03**	**118**	Pn	**Pn**	**22 00 32.1**	**+0.2**
MIAR	**Mount Ida**	**3.03**	**118**	P	**Pn**	**22 00 32.3**	**+0.4**
	baz=300,SNR=30						
MIAR	**Mount Ida**	**3.03**	**118**	P	**Pn**	**22 00 32.6**	**+0.7**
	baz=300						
KSU1	**Kansas State U**	**3.10**	**3**	Pn	**Pn**	**22 00 33.0**	**+0.

LCAR	Lake Charles	4.60	87	lAmb_Lg			22 02 17.4			
	comp=Z,29nm,0.8s									
CCAR	Cane Creek	4.64	115	lAmb_Lg			22 02 16.4			
	comp=Z,39nm,0.9s									
T42A	Van Buren	4.73	76	lAmb_Lg			22 02 12.1			
	comp=Z,62nm,0.8s									
CCM	Cathedral Cave	4.92	64	lAmb_Lg			22 02 28.7			
	comp=Z,63nm,0.8s									
N35A	Tabor	4.94	10	lAmb_Lg			22 02 28.5			
	comp=Z,55nm,0.8s									
HBAR	Harrisburg	5.04	93	lAmb_Lg			22 02 32.4			
	comp=Z,58nm,0.8s									
P40A	Paris	5.17	46	lAmb_Lg			22 02 26.7			
	comp=Z,59nm,0.8s									
MSTX	Muleshoe	5.28	249	Pn		Pn	22 01 02.9	-0.1		
FVM	French Village	5.49	67	lAmb_Lg			22 02 36.9			
	comp=Z,67nm,1.1s									
BGNE	Belgrade	5.50	350	lAmb_Lg			22 02 52.5			
	comp=Z,64nm,0.9s									
KSCO	Kaye Shedlock'	5.50	305	lAmb_Lg			22 02 50.3			
	comp=Z,59nm,0.9s									
N38A	Joes South For	5.55	29	lAmb_Lg			22 02 45.8			
	comp=Z,47nm,0.8s									
PEBM	Pemiscott Bayo	5.64	87	lAmb_Lg			22 02 48.1			
	comp=Z,63nm,0.7s									
JCT	Junction City	6.04	205	lAmb_Lg			22 03 10.6			
	comp=Z,24nm,0.8s									
T25A	Trinidad	6.21	283	lAmb_Lg			22 03 06.2			
	comp=Z,22nm,0.7s									
OXF	Oxford	6.25	102	lAmb_Lg			22 03 06.2			
	comp=Z,39nm,1.2s									
W45A	Hickory Valley	6.28	95	lAmb_Lg			22 03 08.5			
	comp=Z,35nm,0.8s									
Y45A	Yeager Farm, C	6.35	107	lAmb_Lg			22 03 06.4			
	comp=Z,26nm,1.0s									
OGNE	Ogallala	6.41	322	lAmb_Lg			22 03 25.0			
	comp=Z,54nm,0.8s									
SCIA	State Center	6.54	24	lAmb_Lg			22 03 29.5			
	comp=Z,29nm,0.8s									
735A	Kenedy	7.17	187	lAmb_Lg			22 03 46.2			
	comp=Z,26nm,0.8s									
K38A	Parkersburg	7.34	24	lAmb_Lg			22 03 48.2			
	comp=Z,36nm,0.9s									
L40A	Anamosa	7.46	34	lAmb_Lg			22 03 37.0			
	comp=Z,33nm,1.0s									
O44A	Mansfield	7.79	55	lAmb_Lg			22 04 09.0			
	comp=Z,32nm,0.7s									
ISCO	Idaho Springs	7.91	301	lAmb_Lg			22 04 05.6			
	comp=Z,15nm,1.0s									
L42A	Oliver, Polo	8.18	41	lAmb_Lg			22 04 06.9			
	comp=Z,27nm,0.8s									
I37A	Lemond, Waseca	8.43	17	lAmb_Lg			22 04 24.2			
	comp=Z,17nm,0.9s									
JFWS	Jewell Farm	8.57	34	lAmb_Lg			22 04 19.3			
	comp=Z,28nm,0.7s									
SUSD	Miller	8.59	350	lAmb_Lg			22 04 24.2			
	comp=Z,15nm,0.8s									
HQIL	Hanson Quary C	9.08	48	lAmb_Lg			22 04 40.5			
	comp=Z,32nm,0.9s									
I40A	Norwalk	9.21	29	lAmb_Lg			22 04 35.7			
	comp=Z,18nm,1.0s									
K43A	Burlington	9.38	42	lAmb_Lg			22 04 56.2			
	comp=Z,34nm,0.9s									
RSSD	Black Hills	9.81	328	lAmb_Lg			22 05 11.4			
	comp=Z,19nm,1.0s									
I42A	Draeger Farm,	9.95	35	lAmb_Lg			22 04 57.2			
	comp=Z,16nm,0.9s									

BGR ***27*** *22:00:19.6±0.0, 19˚.15N×45˚.71W, h10km, mb4.8*
IDC ***27*** *22:00:24.1±0.4, 20˚.36N×45˚.59W, h0km, mb4.5/31, mb1 4.6/33, mb1mx4.5/51, mbtmp4.5/33, ML3.7/2, MS4.1/28, Ms1 4.1/28, ms1mx4.0/35, Error ellipse: s-maj=14.4km s-min=9.7km az=133.0*
MOS ***27*** *22:00:24.4±0.9, 20˚.28N×45˚.61W, h13km, mb5.1/15, Error ellipse: s-maj=10.7km s-min=5.5km az=46.0*
NEIC ***27*** *22:00:26.6±1.3, 20˚.28N±0˚.08×45˚.59W±0˚.10, h10km±1km, mb5.0/133, Error ellipse: s-maj=15.5km s-min=12.8km az=107.0*
GCMT ***27*** *22:00:27.6±0.2, 20˚.55N±0˚.03×45˚.55W±0˚.01, h12km, MW4.9/119, Moment Tensor Solution. s24,c24; s119,c162; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.80±.08; $M_{\theta\theta}$0.07±.09; $M_{\phi\phi}$2.73±.06; $M_{r\theta}$0.68±.41; $M_{\theta\phi}$0.25±.07; $M_{\phi r}$-0.26±.28; Best double couple: M_o2.86600×10^{16} NP1:ϕ_s198.00000°, δ44.00000°, λ-71.00000°. NP2:ϕ_s352.00000°, δ49.00000°, λ-108.00000°. Principal axes: T 2.7610, Plg2.0000°, Azm95.0000°; N 0.2080, Plg13.0000°, Azm4.0000°; P -2.9710, Plg77.0000°, Azm194.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 22:00:25.8±0.3, 20˚.29N±0˚.06×45˚.60W±0˚.05, h10km, n397, σ0 83/387, mb4.9/141, MS4.1/33, 4C-31D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
H05N1	Guadeloupe/Mar	15.20	257	T		T		22 18 06.9	
	SNR=11								
MPOM	Morne Pois Mar	15.68	251	Pn		Pn		22 04 06.3	-0.8
MPOM				lAmb		lAmb		22 04 20.8	
	comp=Z,138nm,1.2s								
DLPL	La Plaine	15.70	254	Pn		Pn		22 04 08.8	+1.6
DLPL				lAmb		lAmb		22 04 20.2	
	comp=Z,169nm,1.1s								
SVN	Savane Anatole	15.80	252	Pn		Pn		22 04 08.9	+0.3
SVN				lAmb		lAmb		22 04 21.1	
	comp=Z,89nm,1.0s								
FDF	Fort de France	15.83	252	P		Pn		22 04 09.3	+0.3
FDF				pmax		pmax			
	comp=Z,199nm,1.3s								
FDF	Fort de France	15.83	252	Pn		Pn		22 04 09.3	+0.3
FDF				lAmb		lAmb		22 04 22.2	
	comp=Z,198nm,1.3s								
BIM	Bigot	15.84	251	Pn		Pn		22 04 08.8	-0.3
BIM				lAmb		lAmb		22 04 22.5	
	comp=Z,210nm,1.4s								
MCLT	Moule a Chique	16.06	248	Pn		Pn		22 04 09.0	-3.0
MCLT				lAmb		lAmb		22 04 22.7	
	comp=Z,122nm,1.2s								
MDP	Montagnes des	16.58	205	Pn		Pn		22 04 18.7	+0.1
	comp=Z,0.1nm,0.3s,baz=36,slow=11,SNR=2.7								
MDP				LR		LR		22 09 18.9	
	comp=Z,359nm,20.9s,baz=5.0,slow=32								
SMRT	St. Maarten	16.66	265	Pn		Pn		22 04 18.9	-0.8
TOSP	Speyside	16.92	240			P		22 04 25.0	+0.2
TOSP				lAmb		lAmb		22 04 34.4	
	comp=Z,66nm,0.5s								
GRGR	Grenville	17.41	245			P		22 04 30.2	-0.1
HUMP	Col San Antoni	19.25	267	P		Pn		22 04 52.2	+0.8
PDPR	Patillas Dam,	19.43	267	P		Pn		22 04 54.3	+0.6
SJG	San Juan	19.53	267	P		P		22 04 54.2	+0.5
	comp=Z,0.6nm,0.3s,baz=90,slow=6.9,SNR=9.6								
SJG				LR		LR		22 10 48.8	
	comp=Z,659nm,21.9s,baz=88,slow=32								
SJG	San Juan	19.53	267	P		Pn		22 04 55.0	+0.1
SJG				pmax		pmax			
	comp=Z,81nm,1.4s								
SJG	San Juan	19.53	267	P		Pn		22 04 55.0	+0.1
SJG				lAmb		lAmb		22 04 56.5	
	comp=Z,81nm,1.4s								
OBIP	Obispado Ponce	19.97	267	P		P		22 04 58.3	-0.2
OBIP				lAmb		lAmb		22 05 07.0	
	comp=Z,67nm,1.1s								
PCRV	Puerto La Cruz	20.92	244	P		P		22 05 09.0	+0.1
	comp=Z,31nm,1.0s,baz=50,slow=5.7,SNR=5.0								
MCPB	Macapa, AP	21.48	198	*e*P		P		22 05 14.4	-0.3
DR12	Loma Pena Alta	22.46	270	P		P		22 05 26.4	+0.9
BOAV	Boa Vista	22.99	221	*e*P		P		22 05 30.3	-0.7
ROSB	Rosrio	23.09	176	*e*P		P		22 05 32.3	+0.4
MALB	Monte Alegre	23.59	202	*e*P		P		22 05 37.0	+0.1
SDDR	Presa de Saban	24.23	271	P		P		22 05 44.2	+1.1
SDDR				lAmb		lAmb		22 05 56.1	
	comp=Z,48nm,1.1s								
NBPS	Pedro II - PI	24.87	170	*e*P		P		22 05 49.4	+0.5
PTGA	Pitinga	25.19	216	P		P		22 05 51.3	-0.5
	comp=Z,1.2nm,0.4s,baz=24,slow=13,SNR=6.6								
PTGA				LR		LR		22 14 55.2	
	comp=Z,383nm,19.0s,baz=30,slow=34								
PTGA	Pitinga	25.19	216	P		P		22 05 52.4	+0.6
NBCL	Cascavel-CE	25.39	163	*e*P		P		22 05 54.4	+0.8
LGNH	Logne	25.53	271	P		P		22 05 55.1	+0.2
NBPB	Pedra_Branca-C	26.34	166	*e*P		P		22 06 03.0	+0.7
ITTB	Itaituba	26.45	203	*e*P		P		22 06 03.6	+0.5
PRPB	Parauapebas	26.62	189	*e*P		P		22 06 05.2	+0.5
SDV	Santo Domingo	26.71	249	P		P		22 06 06.6	+0.8
	comp=Z,6.7nm,0.5s,baz=64,slow=12,SNR=6.2								
SDV				LR		LR		22 15 30.9	
	comp=Z,321nm,21.8s,baz=62,slow=34								
SDV	Santo Domingo	26.71	249	*e*P		P		22 06 07.3	+1.6
MACA	Manacapuru-AM	27.61	214	*e*P		P		22 06 14.6	+0.9
RCBR	Riachuelo	27.65	159	*e*P		P		22 06 14.3	+0.3
NBMA	Muriti-CE	28.29	166	*e*P		P		22 06 19.5	-0.2
NPGB	Novo Progresso	28.81	200	*e*P		P		22 06 24.6	+0.3
SMTB	Santa Maria do	29.03	184	*e*P		P		22 06 26.8	+0.5
RUSC	La Rusia	30.28	246	P		P		22 06 33.9	-4.2
SJCC	San Jacinto, C	30.32	254	P		P		22 06 36.8	-1.1
SJCC				lAmb		lAmb		22 06 52.0	
	comp=Z,43nm,1.5s								
NBAN	Anadia - AL	31.15	162	*e*P		P		22 06 45.4	+0.3
ROSC	El Rosal	31.88	245	LR		LR		22 21 26.1	
	comp=Z,277nm,19.2s,baz=74,slow=40								
J61A	Chester	32.20	322	P		P		22 06 54.8	+0.7
HNH	Hanover	32.27	322	P		P		22 06 55.6	+1.0
HNH				lAmb		lAmb		22 06 58.6	
	comp=Z,22nm,1.1s								
PEXB	Peixe	32.30	185	*e*P		P		22 06 55.7	+0.5
SNDB	Serra Nova Dou	32.55	190	*e*P		P		22 06 58.1	+0.8
CLDB	Colider	32.55	199	*e*P		P		22 06 57.9	+0.5
NCB	Newcomb	33.55	321	P		P		22 07 05.9	0.0
BINY	Binghamton	33.66	317	P		P		22 07 06.2	-0.7
BINY				lAmb		lAmb		22 07 10.0	
	comp=Z,24nm,1.2s								
FRNY	Flat Rock	33.70	323	P		P		22 07 08.9	+1.8
FRNY				lAmb		lAmb		22 07 15.2	
	comp=Z,37nm,1.4s								
SAML	Samuel	33.82	212	P		P		22 07 08.2	-0.2
SAML				pmax		pmax			
	comp=Z,8.0nm,1.3s								
SAML	Samuel	33.82	212	P		P		22 07 08.2	-0.2
SAML	Samuel	33.82	212	*e*P		P		22 07 08.8	+0.4
GDU01	Guandu, BA	34.31	170	*e*P		P		22 07 12.6	-0.1
JANB	Januaria	35.15	178	*e*P		P		22 07 19.8	-0.2
NBIT	Itapeh - BA	35.52	170	*e*P		P		22 07 23.4	+0.3
BDFB	Brasilia	35.78	184	P		P		22 07 25.6	+0.1
	comp=Z,5.6nm,0.9s,baz=4.6,slow=11,SNR=5.8								
BDFB				LR		LR		22 20 40.7	
	comp=Z,188nm,22.0s,baz=346,slow=34								
CMC01	Camacan, BA	35.93	170	*e*P		P		22 07 23.2	-3.4
VILB	Vilhena	36.02	205	*e*P		P		22 07 28.0	+0.5
ETMB	Extrema	36.15	216	*e*P		P		22 07 28.3	-0.3
TKL	Tuckaleechee C	36.78	303	P		P		22 07 33.1	-0.7
	comp=Z,6.7nm,1.0s,baz=145,slow=12,SNR=2.7								
MC01	Montes Claros	36.80	177	*e*P		P		22 07 34.1	0.0
SALV	Santo Antonio	37.31	196	*e*P		P		22 07 39.0	+0.6
OTAV	Otavalo	37.82	242	P		P		22 07 41.7	-1.7
OTAV				pmax		pmax			
	comp=Z,20nm,1.4s								
OTAV	Otavalo	37.82	242	P		P		22 07 41.6	-1.7
OTAV	Otavalo	37.82	242	*e*P		P		22 07 44.2	+0.8
PTLB	Pontes e Lacer	37.93	202	*e*P		P		22 07 44.5	+0.9
SCHQ	Schefferville	38.06	340	LR		LR		22 22 02.2	
	comp=Z,214nm,19.2s,baz=113,slow=34								
IPMB	Ipameri, GO	38.12	184	*e*P		P		22 07 45.5	+0.2
DIAM	Diamantina, MG	38.39	177	*e*P		P		22 07 47.9	+0.2
MDT	Midelt	38.50	63	P		P		22 07 48.3	-0.2
	comp=Z,4.6nm,1.1s,baz=279,slow=8.6								
CZSB	Cruzeiro do Su	38.55	226	*e*P		P		22 07 48.9	-0.1
PP1B	Ponte de Pedra	38.74	194	*e*P		P		22 07 51.3	+0.8
SIV	San Ignacio	39.13	204	P		P		22 07 53.9	+0.1
	comp=Z,3.6nm,0.8s,baz=48,slow=6.9,SNR=16								
BSFB	Barra de Sao F	39.16	173	*e*P		P		22 07 54.1	+0.2
V48A	Smith Brothers	39.21	302	P		P		22 07 54.1	-0.2
RIB01	Linhares ES	39.69	172	*e*P		P		22 07 58.4	0.0
KOWA	Kowa	40.02	91	P		P		22 07 58.2	-3.1
PLAL	Pickwick Lake	40.07	301	P		P		22 08 02.4	+0.9
PLAL				lAmb		lAmb		22 08 10.0	
	comp=Z,42nm,1.4s								
WVT	Waverly	40.09	302	P		P		22 08 01.7	0.0
WVT				pmax		pmax			
	comp=Z,17nm,1.2s								
WVT	Waverly	40.09	302	P		P		22 08 01.7	0.0
PAB	San Pablo	40.15	52	P		P		22 08 01.7	-0.6
PAB				pmax		pmax			
	comp=Z,11nm,1.3s								
PAB	San Pablo	40.15	52	P		P		22 08 01.6	-0.6
ESDC	Sonseca Array	40.47	52	P		P		22 08 03.7	-1.2
	comp=Z,1.4nm,1.0s,baz=251,slow=8.9,SNR=6.0								
ESDC				PcP		PcP		22 10 08.4	+0.8
	comp=Z,1.0nm,1.0s,baz=294,slow=2.7,SNR=4.4								
ESDC				LR		LR		22 22 21.4	
	comp=Z,264nm,18.9s,baz=260,slow=33								
ESDC	Sonseca Array	40.47	52	P		P		22 08 04.5	-0.4
ESDC						PcP		22 10 08.7	+1.1
ALF01	Guarapari-ES	40.93	173	*e*P		P		22 08 08.8	+0.1
BSCB	Bom Sucesso	41.04	179	*e*P		P		22 08 09.9	+0.2
H10N3	ASCENSION HYDR	41.44	129	T		T		22 52 18.4	
	baz=312,slow=75,SNR=27								
H10N2	ASCENSION HYDR	41.44	129	T		T		22 52 14.8	
	baz=312,slow=75,SNR=26								
H10N1	ASCENSION HYDR	41.45	129	T		T		22 52 17.7	
	baz=312,slow=75,SNR=29								
S44A	Carbondale	41.53	304	P		P		22 08 14.8	+1.2
S44A				lAmb		lAmb		22 08 22.8	
	comp=Z,32nm,1.4s								
AQDB	Aquidauana	41.70	194	*e*P		P		22 08 15.7	+0.7
DBIC	Dimbokro	41.73	103	P		P		22 08 15.3	-0.1
	comp=Z,6.2nm,0.9s,baz=287,slow=4.9,SNR=5.1								
DBIC				LR		LR		22 22 17.1	
	comp=Z,553nm,20.8s,baz=294,slow=32								
PCMB	Pacaembu	42.01	188	*e*P		P		22 08 18.9	+1.4
H10S3	ASCENSION HYDR	42.08	131	T		T		22 53 13.6	
	baz=269,slow=74,SNR=27								
H10S2	ASCENSION HYDR	42.10	131	T		T		22 52 56.1	
	baz=311,slow=74,SNR=27								
FVM	French Village	42.50	304	P		P		22 08 22.4	+0.9
FVM				pmax		pmax			
	comp=Z,15nm,1.1s								
FVM	French Village	42.50	304	P		P		22 08 22.4	+0.9
LPAZ	La Paz	42.56	213	P		P		22 08 23.0	+0.2
	comp=Z,4.4nm,0.9s,baz=25,slow=8.6,SNR=13								
LPAZ				LR		LR		22 25 26.0	
	comp=Z,215nm,21.4s,baz=24,slow=35								
LPAZ	La Paz	42.56	213	P		P		22 08 22.7	-0.1
LPAZ				pmax		pmax			
	comp=Z,12nm,1.2s								
LPAZ	La Paz	42.56	213	P		P		22 08 22.7	-0.1
LPAZ	La Paz	42.56	213	*e*P		P		22 08 23.3	+0.5
VAO	Valinhos	43.05	182	*e*P		P		22 08 26.5	+0.4
CCM	Cathedral Cave	43.15	304	P		P		22 08 26.7	0.0
CCM				pmax		pmax			
	comp=Z,52nm,1.6s								
CCM	Cathedral Cave	43.15	304	P		P		22 08 26.7	0.0
CCM				lAmb		lAmb		22 08 34.8	
	comp=Z,52nm,1.6s								
TRCB	Terra Rica	43.37	189	*e*P		P		22 08 29.4	+0.8
FCAR	Ozark Folk Cen	43.48	301	P		P		22 08 29.8	+0.3
FCAR				lAmb		lAmb		22 08 36.8	
	comp=Z,39nm,1.7s								
FRTB	Fartura	43.54	185	*e*P		P		22 08 30.2	+0.3
SPB	Sao Paulo	43.65	182	*e*P		P		22 08 31.0	+0.2
R40A	Maddies Statio	43.98	304	P		P		22 08 32.8	-0.7
R40A				lAmb		lAmb		22 08 41.0	
	comp=Z,35nm,1.6s								
P40A	Paris	44.05	306	P		P		22 08 33.4	-0.6
P40A				lAmb		lAmb		22 08 41.7	
	comp=Z,26nm,1.4s								
PTGB	Pitanga	45.18	188	*e*P		P		22 08 43.7	+0.6
P38A	Dawn	45.20	306	P		P		22 08 42.9	-0.2
P38A				lAmb		lAmb		22 08 50.9	
	comp=Z,32nm,1.5s								
TORD	Torodi Ar. Bea	45.72	91	P		P		22 08 47.4	-0.2
	comp=Z,6.8nm,1.1s,baz=290,slow=7.3,SNR=24								
TORD				LR		LR		22 25 58.3	
	comp=Z,614nm,19.4s,baz=280,slow=34								
TORD	Torodi Ar. Bea	45.72	91	P		P		22 08 47.2	-0.4
TORD				lAmb		lAmb		22 08 48.8	
	comp=Z,15nm,1.2s								
PB11	IPOC Station P	46.26	212	P		P		22 08 50.4	-1.4
PB11				lAmb		lAmb		22 08 51.6	
	comp=Z,19nm,0.8s								
CLF	Chambon-Foret	47.29	43	P		P		22 09 00.2	+0.8
WHTX	Lake Whitney,	47.60	295	P		P		22 09 00.9	-1.2
CPUP	Villa Florida	47.72	194	P		P		22 09 02.9	0.0
	comp=Z,20nm,0.9s,baz=14,slow=8.5,SNR=30								
CPUP				LR		LR		22 29 33.2	
	comp=Z,104nm,18.4s,baz=7.0,slow=37								
CPUP	Villa Florida	47.72	194	P		P		22 09 03.3	+0.3
CPUP				pmax		pmax			
	comp=Z,27nm,1.0s								
CPUP	Villa Florida	47.72	194	P		P		22 09 03.3	+0.3
CPUP	Villa Florida	47.72	194	*e*P		P		22 09 03.4	+0.5
LVC	Limon Verde	48.33	209	P		P		22 09 06.4	-1.8
LVC				pmax		pmax			
	comp=Z,31nm,1.4s								
LVC	Limon Verde	48.33	209	P		P		22 09 06.4	-1.8
LVC	Limon Verde	48.33	209	*e*P		P		22 09 08.4	+0.2
WMOK	Wichita Mounta	48.79	299	P		P		22 09 11.2	-0.2
WMOK				pmax		pmax			
	comp=Z,14nm,1.3s								
WMOK	Wichita Mounta	48.79	299	P		P		22 09 11.2	-0.2
WMOK				lAmb		lAmb		22 09 18.6	
	comp=Z,14nm,1.3s								
AGMN	Agassiz Nation	48.91	317	P		P		22 09 12.4	+0.4
AGMN				lAmb		lAmb		22 09 14.4	
	comp=Z,29nm,1.6s								
ABTX	Abilene, Hawle	49.46	296	P		P		22 09 16.3	-0.2
ABTX				lAmb		lAmb		22 09 23.6	
	comp=Z,21nm,1.4s								
ULM	Lac du Bonnet	49.50	320	LR		LR		22 28 12.1	
	comp=Z,291nm,19.1s,baz=101,slow=34								
CNLB	Canela	49.58	186	*e*P		P		22 09 17.5	+0.2
TLIG	Tlapa	50.01	276	P		P		22 09 19.9	-1.1
SUSD	Miller	50.07	311	P		P		22 09 21.3	+0.4
KEST	Kesra	50.27	60	P		P		22 09 21.7	-1.0
	comp=Z,17nm,1.0s,baz=218,slow=5.8,SNR=19								
KEST				LR		LR		22 29 00.4	
	comp=Z,248nm,19.8s,baz=272,slow=34								
KEST	Kesra	50.27	60	P		P		22 09 23.4	+0.7
KEST				lAmb		lAmb		22 09 25.2	
	comp=Z,25nm,1.1s								
ITQB	Itaqui	50.80	192	*e*P		P		22 09 26.6	+0.2
CPSB	Cacapava Do Su	50.97	189	*e*P		P		22 09 28.2	+0.5
AMTX	Amarillo	51.18	299	P		P		22 09 29.6	+0.1
AMTX				lAmb		lAmb		22 09 32.6	
	comp=Z,17nm,1.0s								
BFO	Black Forest	51.27	44	P		P		22 09 29.0	-1.0
BFO				pmax		pmax			
	comp=Z,8.0nm,1.0s								
BFO	Black Forest	51.27	44	P		P		22 09 29.0	-1.0
BFO	Black Forest	51.27	44	*e*P		P		22 09 30.5	+0.5
	comp=Z,10nm,1.1s,baz=256,slow=7.3								
TNS	Taunus Mts	51.81	41	*e*P		P		22 09 34.6	+0.6
	comp=Z,12nm,1.1s,baz=256,slow=7.3								
IBBN	Ibbenburen	51.97	39	*e*P		P		22 09 35.9	+0.9
	comp=Z,12nm,0.9s,baz=256,slow=7.3								
DAVA	Damuels	52.07	45	*e*P		P		22 09 36.8	+0.7
	comp=Z,12nm,1.1s,SNR=5.2								
UBR	Ueberruh	52.30	45	*e*P		P		22 09 37.8	+0.1
	comp=Z,17nm,1.0s,baz=256,slow=7.3								
PLTB	Pedras Altas	52.32	189	*e*P		P		22 09 38.6	+0.7
FETA	Feichten	52.59	46	*e*P		P		22 09 40.7	+0.7
	comp=Z,18nm,1.1s,SNR=15								
MOTA	Moosalm	52.90	45	*e*P		P		22 09 42.7	+0.5
	comp=Z,16nm,1.0s,SNR=5.2								
UBBA	Unterbreizbach	52.92	41	*e*P		P		22 09 43.0	+1.0
	comp=Z,9.4nm,1.4s,baz=256,slow=7.3								
SQTA	Sankt Quirin	52.95	46	*e*P		P		22 09 43.1	+0.5
	comp=Z,27nm,1.0s,SNR=15								
TXAR	Lajitas Array	53.02	292	P		P		22 09 43.1	-0.3
	comp=Z,2.9nm,1.0s,baz=92,slow=7.8,SNR=11								
TXAR				PP		PP		22 11 43.9	+0.8
	comp=Z,0.5nm,1.0s,baz=89,slow=7.3,SNR=1.7								
TXAR				LR		LR		22 31 58.2	
	comp=Z,175nm,20.2s,baz=0.0,slow=36								
TXAR	Lajitas Array	53.02	292	P		P		22 09 43.5	+0.1
TXAR	Lajitas Array	53.02	292	P		P		22 09 43.5	+0.1
TX31	Lajitas Ar. Si	53.02	292	P		P		22 09 41.9	-1.5
TX31				lAmb		lAmb		22 09 45.7	
	comp=Z,21nm,1.2s								
TX32	Lajitas Array	53.02	292	P		P		22 09 42.0	-1.4
CTI	Castel Tesino	53.05	47	P		P		22 09 43.0	-0.4
CTI				pmax		pmax			
	comp=Z,25nm,1.0s								
CTI	Castel Tesino	53.05	47	P		P		22 09 43.0	-0.4
CTI				lAmb		lAmb		22 09 44.6	
	comp=Z,25nm,1.0s								
WATA	Walderalm	53.21	46	*e*P		P		22 09 44.7	+0.1
	comp=Z,12nm,0.9s,SNR=7.7								
WTTA	Wattenberg	53.24	46	*e*P		P		22 09 44.9	+0.1
	comp=Z

HPIG IAmb IAmb 22 10 06.3
comp=Z,35nm,1.6s
FBE Freiberg 55.02 41 *e*P **P 22 09 58.5 +1.0**
comp=Z,20nm,1.3s,baz=256,slow=7.3
MOA Molln 55.09 45 *e*P **P 22 09 58.1 0.0**
comp=Z,6.3nm,1.1s
ANMO Albuquerque 55.11 299 P **P 22 09 59.0 +0.3**
ANMO pmax pmax
comp=Z,17nm,1.7s
ANMO Albuquerque 55.11 299 P **P 22 09 59.0 +0.3**
CKRC Cesky Krumlov 55.26 44 *e*P **P 22 09 59.4 +0.1**
BNM Barren Site 55.27 298 P **P 22 09 59.6 -0.3**
BRG Berggiesshubel 55.37 42 *e*P **P 22 10 00.4 +0.3**
comp=Z,9.5nm,1.2s,baz=256,slow=7.3
BRG Berggiesshubel 55.37 42 *e*P **P 22 10 00.9 +0.9**
BRG Amp 22 10 01.8
comp=Z,9.5nm,1.2s
BRG Amp 22 31 15.0
comp=Z,0.2nm,18.2s
RUE Ruedersdorf 55.58 40 *e*P **P 22 10 02.4 +0.9**
comp=Z,19nm,1.1s,baz=256,slow=7.3
PRU Pruhonice 55.60 43 *e*P P 22 09 51.4 -10
PRU AMS AMS 22 32 30.0
comp=Z,200nm,17.5s
PVCC Panska Ves 55.70 42 AMS AMS 22 32 00.0
comp=Z,100nm,17.3s
ARSA Arzberg 55.86 46 *e*P **P 22 10 03.2 -0.5**
comp=Z,8.2nm,0.9s
ZON Zonda 56.10 204 P **P 22 10 05.4 0.0**
ZON pmax pmax
comp=Z,19nm,0.5s
ZON Zonda 56.10 204 P **P 22 10 05.4 0.0**
CONA Conrad Observa 56.17 45 *e*P **P 22 10 05.5 -0.5**
comp=Z,4.4nm,1.1s,SNR=5.5
121A Cookes Peak, D 56.33 296 P **P 22 10 07.6 +0.1**
121A IAmb IAmb 22 10 11.0
comp=Z,12nm,1.1s
NC204 NORSAR Array S 56.42 29 P **P 22 10 08.1 +0.6**
NB2 NORSAR Subarra 56.55 29 P **P 22 10 08.7 +0.4**
comp=Z,20nm,1.4s,baz=250,slow=7.4
NOA NORSAR Array B 56.55 29 P **P 22 10 08.3 0.0**
comp=Z,4.4nm,1.0s,baz=249,slow=7.4,SNR=9.3
NOA LR LR 22 30 36.1
comp=Z,150nm,19.0s,baz=250,slow=32
UPC Upice 56.61 42 AMS AMS 22 32 30.0
comp=Z,100nm,16.6s
KRUC Moravsky 56.66 44 *e*P **P 22 10 09.6 +0.3**
NC303 NORSAR Array S 56.68 29 P **P 22 10 08.9 -0.4**
MVCO Mesa Verde 56.71 302 P **P 22 10 09.9 -0.2**
OSTC Ostas 56.75 42 *e*P **P 22 10 10.7 +0.8**
OSTC *ex* x 22 10 18.4
DPC Dobruska-Polom 56.78 42 *e*P **P 22 10 11.0 +0.8**
DPC *e* 22 10 18.5
DPC Dobruska-Polom 56.78 42 *e*P **P 22 10 11.0 +0.8**
DPC *ex* x 22 10 18.5
VRAC Vranov 56.82 44 *e*P **P 22 10 10.9 +0.5**
ZST Bratislava 57.02 45 *e*P **P 22 10 12.3 +0.4**
ZST Bratislava 57.02 45 *e*P **P 22 10 12.3 +0.4**
KRLC Kraliky 57.04 43 *e*P **P 22 10 12.9 +0.9**
KRLC Kraliky 57.04 43 *e*P **P 22 10 12.9 +0.9**
MODS Modra-Piesok 57.16 45 *e*P **P 22 10 12.2 -0.7**
MODS pmax pmax
comp=Z,49nm,2.1s
MODS Modra-Piesok 57.16 45 *e*P **P 22 10 12.2 -0.7**
MORC Moravsky Berou 57.49 43 P **P 22 10 15.3 +0.1**
MORC pmax pmax
comp=Z,5.0nm,1.0s
MORC Moravsky Berou 57.49 43 P **P 22 10 15.3 +0.1**
MORC Moravsky Berou 57.49 43 *e*P **P 22 10 15.9 +0.7**
BW06 Boulder Array 57.54 308 P **P 22 10 15.1 -0.9**
PD31 Pinedale Array 57.54 308 P **P 22 10 15.8 -0.2**
PDAR Pinedale Array 57.54 308 P **P 22 10 15.4 -0.5**
comp=Z,2.1nm,1.0s,baz=101,slow=6.2,SNR=5.4
PDAR LR LR 22 31 59.5
comp=Z,240nm,21.8s,baz=106,slow=33
PDAR Pinedale Array 57.54 308 P **P 22 10 15.7 -0.2**
SRO2 Moca 57.85 46 *e*P **P 22 10 17.0 -0.7**
SRO2 Moca 57.85 46 *e*P **P 22 10 17.0 -0.7**
LOHW Long Hollow 58.33 309 P **P 22 10 21.5 0.0**
LOHW IAmb IAmb 22 10 29.1
comp=Z,25nm,1.9s
REDW Red Top Meadow 58.51 309 P **P 22 10 23.7 +1.0**
REDW IAmb IAmb 22 10 33.5
comp=Z,22nm,1.8s
MT05 Renca 58.53 205 P **P 22 10 22.8 +0.2**
FXWY Fox Creek 58.64 309 P **P 22 10 23.9 +0.3**
Q16A Castle Valley 58.77 304 P **P 22 10 24.2 -0.4**
Q16A IAmb IAmb 22 10 32.7
comp=Z,20nm,1.6s
TMUT Trail Mountain 58.79 304 P **P 22 10 24.4 -0.5**
TMUT IAmb IAmb 22 10 28.9
comp=Z,17nm,1.6s
TUC Tucson 58.88 296 P **P 22 10 23.6 -1.7**
TUC pmax pmax
comp=Z,24nm,1.7s
TUC Tucson 58.88 296 P **P 22 10 23.6 -1.7**
TUC IAmb IAmb 22 10 33.7
comp=Z,24nm,1.7s
OJC Ojcow 58.98 43 P **P 22 10 26.4 +0.8**
OJC pmax pmax
comp=Z,12nm,1.2s
OJC Ojcow 58.98 43 P **P 22 10 26.4 +0.8**
OJC IAmb IAmb 22 10 27.8
comp=Z,12nm,1.2s
WUAZ Wupatki 59.10 300 P **P 22 10 26.8 -0.1**
WUAZ IAmb IAmb 22 10 31.4
comp=Z,15nm,1.1s
X16A Lo Mia Camp, P 59.24 299 P **P 22 10 27.1 -0.8**
X16A IAmb IAmb 22 10 37.0
comp=Z,18nm,1.6s
KBN Korca 59.35 54 P **P 22 10 28.3 -0.1**
KBN pmax pmax
comp=Z,41nm,1.4s
KBN Korca 59.35 54 P **P 22 10 28.3 -0.1**
MTPU Mount Pierson 59.60 303 P **P 22 10 30.7 +0.1**
MTPU IAmb IAmb 22 10 39.2
comp=Z,18nm,1.8s
MVU Marysvale 59.60 303 P **P 22 10 29.9 -0.5**
U15A North Rim 59.78 301 P **P 22 10 31.8 +0.1**
U15A IAmb IAmb 22 10 40.9
comp=Z,20nm,1.6s
BZS Buzias 59.95 48 ||P **P 22 10 32.9 +0.5**
BZS Buzias 59.95 48 ||P **P 22 10 32.9 +0.5**
CRVS Cervenica-Dubn 59.97 45 *e*P **P 22 10 33.8 +1.3**
CRVS pmax pmax
comp=Z,23nm,1.3s
CRVS Cervenica-Dubn 59.97 45 *e*P **P 22 10 33.8 +1.3**
DUG Dugway, Tooele 60.00 305 P **P 22 10 33.2 +0.2**
DUG pmax pmax
comp=Z,17nm,1.6s
DUG Dugway, Tooele 60.00 305 P **P 22 10 33.2 +0.2**
DUG IAmb IAmb 22 10 40.2
comp=Z,17nm,1.6s
TRQA Tornquist 60.05 195 *e*P **P 22 10 34.0 +1.0**
BGU Big Grassy Mou 60.14 306 P **P 22 10 33.7 -0.3**
BGU IAmb IAmb 22 10 41.7
comp=Z,28nm,1.8s
RES Resolute Bay 60.33 347 P **P 22 10 34.2 -0.3**
comp=Z,14nm,0.8s,baz=34,slow=4.2,SNR=2.9
ITM Ithomi 60.39 58 P **P 22 10 36.7 +1.2**
UZH Uzhgorod 60.51 45*c i*P **P 22 10 36.0 -0.1**
HERR Herculane 60.51 49 ||P **P 22 10 36.3 +0.1**
CCUT Cedar City 60.56 302 P **P 22 10 36.2 -0.8**
CCUT IAmb IAmb 22 10 44.8
comp=Z,16nm,1.5s
Y14A Wickenburg 60.57 298 P **P 22 10 36.9 0.0**
Y14A IAmb IAmb 22 10 45.8
comp=Z,33nm,1.7s
214A Organ Pipe Nat 60.62 296 P **P 22 10 37.5 +0.2**
TRPA Tarpa 60.65 46 ||P **P 22 10 36.5 -0.6**
DRGR 60.73 47 ||P **P 22 10 38.3 +0.5**
DRGR 60.73 47 ||P **P 22 10 38.3 +0.5**
GZR Gura Zlata 60.76 49 ||P **P 22 10 39.1 +1.1**
GZR Gura Zlata 60.76 49 ||P **P 22 10 39.1 +1.1**
DEV Deva 60.85 48 ||P **P 22 10 39.3 +0.7**
DEV Deva 60.85 48 ||P **P 22 10 39.3 +0.7**
VTS Vitosha 61.13 52 ||P **P 22 10 42.0 +1.3**
VTS Vitosha 61.13 52 ||P **P 22 10 42.0 +1.3**
VTS Vitosha 61.13 52 P **P 22 10 41.1 +0.5**
SPR3 Spring Creek 3 61.23 304 P **P 22 10 40.8 -0.8**
SPR3 IAmb IAmb 22 10 49.5
comp=Z,23nm,1.5s
LVV L'vov 61.69 44 *e*P **P 22 10 44.6 +0.5**
LVV *e*S **S 22 19 03.5 -3.2**
LVV MLR MLR
comp=Z,200nm,15.0s
ELK Elko 61.82 306 P **P 22 10 43.9 -1.6**
ELK pmax pmax
comp=Z,14nm,1.6s
ELK Elko 61.82 306 P **P 22 10 43.9 -1.6**
ELK IAmb IAmb 22 10 53.3
comp=Z,14nm,1.6s
ARCR ARCALIA 61.86 47 ||P **P 22 10 45.8 +0.4**
PRN Pahroc Range 61.91 302 P **P 22 10 45.3 -0.8**
ARR Arges 62.07 49 ||P **P 22 10 47.4 +0.5**
R11A Troy Canyon, C 62.25 303 P **P 22 10 47.9 -0.5**
VOIR 62.37 49 ||P **P 22 10 49.0 +0.1**
VOIR 62.37 49 ||P **P 22 10 49.0 +0.1**
BUR08 Bucovina Ar. S 62.43 46 P **P 22 10 49.9 +0.6**
BUR08 IAmb IAmb 22 11 01.0
comp=Z,31nm,2.0s
BURAR Bucovina Array 62.45 46 ||P **P 22 10 50.5 +1.1**
BURAR Bucovina Array 62.45 46 ||P **P 22 10 50.5 +1.1**
YKA Yellowknife Ar 62.52 331 LR LR 22 37 39.2
comp=Z,144nm,18.2s,baz=0.0,slow=36
DOPR Dopca 62.59 48 ||P **P 22 10 50.8 +0.5**
MLR Muntele Rosu 62.99 48 ||P **P 22 10 54.5 +1.4**
MLR Muntele Rosu 62.99 48 P **P 22 10 54.7 +1.6**
MLR pmax pmax
comp=Z,29nm,1.0s
MLR Muntele Rosu 62.99 48 P **P 22 10 54.7 +1.6**
BIZ Bicaz 63.06 47 ||P **P 22 10 52.4 -1.0**
PRAR RASCA 63.13 46 ||P **P 22 10 55.1 +1.3**
COVR Voineasa-Covas 63.16 48 ||P **P 22 10 54.6 +0.5**
PLOR Plostina 63.47 48 ||P **P 22 10 58.2 +2.0**
PLOR Plostina 63.47 48 ||P **P 22 10 58.2 +2.0**
VRI Vrincioaia 63.53 48 ||P **P 22 10 56.3 -0.2**
VRI Vrincioaia 63.53 48 ||P **P 22 10 56.3 -0.2**
NACGM Naroch 63.54 38 *i* P P 22 10 49.7 -6.7
FINES FINESS Array B 63.63 31 P **P 22 10 55.9 -1.0**
comp=Z,2.8nm,0.8s,baz=226,slow=10,SNR=5.1
FINES LR LR 22 33 59.6
comp=Z,148nm,20.0s,baz=258,slow=32
E09A Wood Farm, Sta 63.66 313 P **P 22 10 57.5 +0.2**
NVAR Mina Array Bea 64.37 304 LR LR 22 38 03.2
comp=Z,127nm,19.2s,baz=96,slow=35
SORM Soroca 64.54 45 ||P **P 22 11 02.0 -1.1**
SORM Soroca 64.54 45 ||P **P 22 11 02.0 -1.1**
ARCES ARCESS Array B 64.56 22 P **P 22 11 02.7 -0.2**
comp=Z,15nm,0.8s,baz=258,slow=6.1,SNR=26
ARCES LR LR 22 34 36.8
comp=Z,52nm,21.4s,baz=225,slow=32
ARCES ARCESS Array B 64.56 22 P **P 22 11 03.3 +0.4**
ARCES pmax pmax
comp=Z,19nm,1.0s
ARCES ARCESS Array B 64.56 22 P **P 22 11 03.3 +0.4**
SPITS Spitsbergen Ar 64.64 12 P **P 22 11 01.9 -1.4**
comp=Z,22nm,1.1s,baz=210,slow=8.3,SNR=4.7
SPITS Spitsbergen Ar 64.64 12 P **P 22 11 04.6 +1.3**
SPITS pmax pmax
comp=Z,26nm,1.1s
BALB Balikesir 64.84 55 P **P 22 11 04.9 -0.3**
MILM Milestii Mici 64.92 47 ||P **P 22 11 04.9 -0.6**
PLCA Paso Flores 65.00 201 P **P 22 11 06.6 +0.4**
comp=Z,2.6nm,1.1s,baz=59,slow=6.2,SNR=4.0
PLCA Paso Flores 65.00 201 P **P 22 11 06.5 +0.4**
PLCA pmax pmax
comp=Z,29nm,1.8s
PLCA Paso Flores 65.00 201 P **P 22 11 06.5 +0.4**
PLCA IAmb IAmb 22 11 25.6
comp=Z,29nm,1.8s
AKASG Malin Array Be 65.02 43 P **P 22 11 05.6 -0.4**
comp=Z,4.9nm,0.8s,baz=274,slow=5.7,SNR=18
AKASG LR LR 22 36 02.9
comp=Z,35nm,21.9s,baz=280,slow=33
AKASG Malin Array Be 65.02 43 P **P 22 11 05.7 -0.4**
AKASG pmax pmax
comp=Z,6.0nm,1.7s
AKASG Malin Array Be 65.02 43 P **P 22 11 05.7 -0.4**
AKBB Malin Array Si 65.02 43 P **P 22 11 05.5 -0.6**
AKBB pmax pmax
comp=Z,6.0nm,0.9s
AKBB Malin Array Si 65.02 43 P **P 22 11 05.5 -0.6**
KEV Kevo 65.11 21 P **P 22 11 07.2 +0.8**
KEV pmax pmax
comp=Z,24nm,0.8s
KEV Kevo 65.11 21 P **P 22 11 07.2 +0.8**
LLLB Lillooet 65.95 317 P **P 22 11 12.4 +0.1**
LLLB IAmb IAmb 22 11 23.3
comp=Z,9.0nm,1.2s
ELL Elmali 66.79 58 P **P 22 11 18.9 +0.9**
ELL pmax pmax
comp=Z,117nm,1.0s
ELL Elmali 66.79 58 P **P 22 11 18.9 +0.9**
MDUB Mudurnu 67.26 54 P **P 22 11 21.2 +0.3**
OBN Obninsk 69.17 38 *e*P **P 22 11 31.4 -1.0**
OBN *e* 22 11 56.6
OBN *e*PPP PPP 22 15 43.6
OBN pmax pmax
comp=Z,34nm,1.7s
BR131 Keskin Array S 69.23 54 P **P 22 11 33.9 +0.6**
BR131 pmax pmax
comp=Z,12nm,1.0s
BR131 Keskin Array S 69.23 54 P **P 22 11 33.9 +0.6**
BR131 IAmb IAmb 22 11 35.3
comp=Z,12nm,0.9s
BRTR Keskin Array B 69.23 54 P **P 22 11 33.5 +0.2**
comp=Z,5.2nm,0.9s,baz=259,slow=4.5,SNR=32
BRTR LR LR 22 38 58.3
comp=Z,69nm,21.0s,baz=304,slow=34
BRTR Keskin Array B 69.23 54 P **P 22 11 34.0 +0.6**
BRTR Keskin Array B 69.23 54 P **P 22 11 34.0 +0.6**
MOS Moscow 69.70 37 *e*P **P 22 11 35.8 +0.1**
MOS *e* 22 11 53.3
KLMR Klimovskoe 70.14 31 *e*P **P 22 11 36.4 -1.9**
KLMR pmax pmax
comp=Z,24nm,1.1s
KLMR Klimovskoe 70.14 31 *e*P **P 22 11 36.5 -1.9**
KLMR AMP 22 11 39.4
comp=Z,24nm,1.1s
INK Inuvik 70.57 337 P **P 22 11 39.7 -1.1**
comp=Z,4.1nm,0.9s,baz=56,slow=8.2,SNR=5.8
LPSR Galich'ya Gora 70.86 40 *e*P **P 22 11 43.0 +0.1**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
BNN Bunyan 71.07 55 P **P 22 11 43.4 -1.2**
VSR Storozhevoye 71.22 41 *e*P **P 22 11 44.8 -0.3**
VSR pmax pmax
comp=Z,10.0nm,1.0s
GAZ Gaziantep 72.47 56 P **P 22 11 52.6 -0.3**
GAZ IAmb IAmb 22 11 55.5
comp=Z,9.8nm,1.0s
VRH Novokhopyorsk 72.81 41 *e*P **P 22 11 54.5 -0.1**
VRH pmax pmax
comp=Z,10.0nm,0.9s
PRGR Permogore 72.94 30 *e*P **P 22 11 55.1 -0.1**
PRGR pmax pmax
comp=Z,82nm,1.4s
BCAR Beaver Creek A 74.88 332 P **P 22 12 06.1 -0.5**
KIV Kislovodsk 75.00 48 *e*P **P 22 12 06.3 -1.5**
KIV pmax pmax
comp=Z,15nm,1.0s
KIV Kislovodsk 75.00 48 P **P 22 12 08.2 +0.4**
KIV IAmb IAmb 22 12 10.3
comp=Z,15nm,1.0s
SHA1 Shidzhatmaz 75.03 49 *i* P **P 22 12 09.3 +1.2**
KBZ Khabaz 75.20 49 P **P 22 12 08.8 +0.1**
comp=Z,4.3nm,0.8s,baz=258,slow=6.8,SNR=11
KBZ LR LR 22 44 30.2
comp=Z,41nm,19.7s,baz=256,slow=35
KIRV Kirov 75.48 33*c e*P **P 22 12 08.9 -1.1**
NCK Nalchik 75.75 49 *i* P **P 22 12 12.9 +0.9**
NCK pmax pmax
comp=Z,11nm,1.0s
ONI Oni 75.88 50 P **P 22 12 12.4 -0.4**
ONI pmax pmax
comp=Z,9.0nm,1.0s
ONI Oni 75.88 50 P **P 22 12 12.4 -0.4**
KARS Kars 76.11 52 P **P 22 12 14.4 +0.1**
KARS pmax pmax
comp=Z,32nm,1.0s
KARS Kars 76.11 52 P **P 22 12 14.3 +0.1**
BELG Belogornoye 76.11 39 *i* P **P 22 12 13.5 -0.2**
BELG pmax pmax
comp=Z,7.0nm,1.0s
ZEI Tsey 76.15 49 *e*P P 22 12 09.5 -5.0
ZEI pmax pmax
comp=Z,3.0nm,1.1s
ILAR Eielson Array 76.55 334 P **P 22 12 15.5 -0.6**
comp=Z,5.2nm,1.0s,baz=71,slow=4.5,SNR=23
ILAR LR LR 22 45 16.8
comp=Z,155nm,19.4s,baz=96,slow=35
ILAR Eielson Array 76.55 334 P **P 22 12 16.7 +0.6**
ILAR Eielson Array 76.55 334 P **P 22 12 16.7 +0.6**
CCB Clear Creek Bu 76.96 334 P **P 22 12 19.1 +0.7**
CCB IAmb IAmb 22 12 25.1
comp=Z,22nm,1.7s
MBAR Mbarara 77.40 95*c e*P **P 22 12 25.0 +3.0**
I23K Minto, Yukon-K 77.41 335 P **P 22 12 21.6 +0.7**
I23K IAmb IAmb 22 12 22.4
comp=Z,11nm,1.1s
GNI Garni 77.46 52*c e*P **P 22 12 22.6 +0.7**
GNI pmax pmax
comp=Z,27nm,1.7s
H21K Melozitna Rive 78.55 336 P **P 22 12 26.9 -0.4**
AKT Akhty 79.25 50 *e*P **P 22 12 32.9 +1.2**
AKT *e* 22 12 41.4
AKT pmax pmax
comp=Z,8.0nm,1.0s
LODK Lodwar 80.34 90 P **P 22 12 37.5 -0.6**
LODK IAmb IAmb 22 12 41.7
comp=Z,18nm,1.6s
LSZ Lusaka 80.63 110 P **P 22 12 39.3 -0.2**
LSZ pmax pmax
comp=Z,8.0nm,1.0s
LSZ Lusaka 80.63 110 P **P 22 12 39.3 -0.2**
ARU Arti 80.85 33*d i*P **P 22 12 40.2 +0.3**
ARU 22 15 40.2
ARU S **S 22 22 49.4 +1.2**
ARU pmax pmax
comp=Z,19nm,1.5s
ARU Arti 80.85 33 P **P 22 12 40.4 +0.5**
ARU IAmb IAmb 22 12 42.1
comp=Z,23nm,1.4s
SVE Sverdlovsk 81.74 32 *e*P **P 22 12 45.6 +1.0**
SVE pmax pmax
comp=Z,24nm,1.2s
KMBO Kilima Mbogo 83.68 94 P **P 22 12 56.5 +0.7**
comp=Z,3.5nm,1.0s,baz=324,slow=1.8,SNR=6.1
KMBO LR LR 22 47 34.3
comp=Z,181nm,21.3s,baz=276,slow=34
BOSA Boshof 83.89 123 P **P 22 12 56.4 0.0**
comp=Z,8.1nm,0.8s,baz=355,slow=7.0,SNR=7.8
BOSA LR LR 22 43 14.1
comp=Z,310nm,19.9s,baz=328,slow=31
BOSA Boshof 83.89 123 P **P 22 12 57.3 +0.9**
BOSA pmax pmax
comp=Z,53nm,1.9s
BOSA Boshof 83.89 123 P **P 22 12 57.3 +0.9**
ABKAR Akbulak array 84.51 39 P **P 22 12 59.5 +0.4**
ABKAR Akbulak array 84.51 39 P **P 22 12 59.9 +0.8**
ABKAR IAmb IAmb 22 13 01.2
comp=Z,6.9nm,0.9s
NRIK Noril'sk 84.58 15 P **P 22 13 00.0 +1.0**
comp=Z,2.3nm,0.4s,baz=134,slow=2.7,SNR=3.7
NRIK Noril'sk 84.58 15 P **P 22 12 59.7 +0.6**
NRIK pmax pmax
comp=Z,9.0nm,1.1s
NRIK Noril'sk 84.58 15 P **P 22 12 59.7 +0.6**
NRIK IAmb IAmb 22 13 01.7
comp=Z,8.9nm,1.1s
BRVK Borovoye 88.42 33 P **P 22 13 18.0 -0.2**
BRVK pmax pmax
comp=Z,7.0nm,1.1s
BRVK Borovoye 88.42 33 P **P 22 13 18.0 -0.2**
BRVK IAmb IAmb 22 13 20.2
comp=Z,7.3nm,1.1s
BILL Bilibino 88.88 349 *e*P **P 22 13 19.3 -0.8**
BILL pmax pmax
comp=Z,10.0nm,1.0s
ZALV Zalesovo Beam 94.69 27 P **P 22 13 46.0 -1.2**
comp=Z,1.5nm,0.8s,baz=316,slow=6.2,SNR=6.7
ZALV Zalesovo Beam 94.69 27 P **P 22 13 47.2 -0.1**
ZALV Zalesovo Beam 94.69 27 P **P 22 13 47.1 -0.1**
MKAR Makanchi Array 98.37 33 LR LR 22 57 18.7
comp=Z,83nm,18.2s,baz=288,slow=35
VNDA Vanda 121.18 187 PKP **PKPdf 22 19 17.9 -0.2**
comp=Z,0.5nm,0.9s,baz=233,slow=2.7,SNR=4.1
CMAR Chiang Mai Arr 128.12 44 PKP **PKiKP 22 19 33.3 -0.5**
comp=Z,1.5nm,0.3s,baz=302,slow=3.8,SNR=11
STKA Stephens Creek 166.78 208 PKPab **PKPab 22 21 34.5 -0.5**
comp=Z,1.3nm,0.8s,baz=127,slow=9.0,SNR=3.1
ASAR Alice Springs 176.61 172 PKP **PKPdf 22 20 36.0 -1.2**
comp=Z,0.9nm,1.0s,baz=129,slow=1.3,SNR=4.9

IDC ***27*** *22:01:33.9±6.1,53°.33N×161°.12E,h0km,mb3.3/2,*
mb1 3.6/3,mb1mx3.3/45,mbtmp3.5/3,ML3.5/1,Error
ellipse: s-maj=94.3km s-min=56.4km az=100.0
KRSC ***27*** *22:01:45.3±1.2,52°.91N×160°.04E,h50km±10km,ML3.9*
ISC 27 22:01:46.7±1.1,52°.91N±0°.05×160°.01E±0°.04,h47km±8km,
n47,σ1°45/57,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	Az°	Phase	Op	ID	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.19**	**3**	*i* P		**Pn**		**22 01 55.2**	**+0.5**
SPN				*e*S		**Sn**		**22 02 01.1**	**+0.7**
NLC	**Nalytchevo**	**0.48**	**303**	*i* P		**Pn**		**22 01 57.5**	**0.0**
NLC				*e*S		**Sn**		**22 02 05.1**	**-0.1**
DALK	**Dalny**	**0.77**	**280**	*e*P		**Pn**		**22 02 01.0**	**-0.2**
DALK				*e*S		**Sn**		**22 02 11.3**	**-0.5**
SDLR	**Sedlovina**	**0.77**	**299**	*e*P		**Pn**		**22 02 01.4**	**0.0**
UGLR	**Uglovaya**	**0.77**	**293**	*e*P		**Pn**		**22 02 01.5**	**0.0**
SMAR	**Somma**	**0.81**	**296**	*e*P		**Pn**		**22 02 01.8**	**-0.2**
PET	**Petropavlovsk**	**0.83**	**278**	*e*P		**Pn**		**22 02 01.9**	**-0.1**
PET				*e*S		**Sn**		**22 02 12.6**	**-0.6**
AVH	**Avacha**	**0.84**	**295**	*e*P		**Pn**		**22 02 02.3**	**-0.1**
AVH				*e*S		**Sn**		**22 02 13.9**	**+0.2**
KRER	**Koryakskii**	**0.85**	**298**	*e*P		**Pn**		**22 02 02.8**	**+0.2**
KRER				*e*S		**Sn**		**22 02 14.5**	**+0.3**
KOK	**Koryaka**	**0.91**	**295**	*e*P		**Pn**		**22 02 03.4**	**+0.1**
KRX	**Arik**	**0.93**	**299**	*e*P		**Pn**		**22 02 03.5**	**-0.1**
KRX				*e*S		**Sn**		**22 02 15.3**	**-0.7**
RUS	**Russkaya**	**1.03**	**243**	*e*P		**Pn**		**22 02 04.8**	**+0.1**
RUS				*e*S		**Sn**		**22 02 17.8**	**-0.2**
KRMR	**Karymshinskiy**	**1.14**	**267**	*e*P		**Pn**		**22 02 07.4**	**+1.1**
KRMR				*e*S		**Sn**		**22 02 22.0**	**+1.3**
KII	**Karymskiy**	**1.18**	**344**	*e*P		**Pn**		**22 02 07.1**	**+0.2**
KII				*e*S		**Sn**		**22 02 21.7**	**-0.1**
MTVR	**Mutnovka**	**1.19**	**250**	*e*P		**Pn**		**22 02 07.4**	**+0.3**
MTVR				*e*S		**Sn**		**22 02 22.6**	**+0.4**
GRL	**Gorelyy**	**1.23**	**254**	*e*P		**Pn**		**22 02 08.2**	**+0.6**
GRL				*e*S		**Sn**		**22 02 23.6**	**+0.5**
ASAK	**Asacha**	**1.39**	**248**	*e*P		**Pn**		**22 02 10.6**	**+0.9**
ASAK				*e*S		**Sn**		**22 02 28.0**	**+1.1**
PETK	**Petropavlovsk-** 82nm,0.3s,baz=83,slow=18,SNR=593	**1.41**	**279**	Pn		**Pn**		**22 02 09.7**	**-0.2**
PETK	44nm,0.3s,baz=103,slow=5.2,SNR=6.5				Sn	**Sn**		**22 02 28.0**	**+0.7**
KDTR	**Khodutka, Kamc**	**1.62**	**228**	*e*P		**Pn**		**22 02 13.5**	**+0.7**
KDTR				*e*S		**Sn**		**22 02 33.3**	**+0.9**
APC	**Apacha**	**1.72**	**272**	*e*P		**Pn**		**22 02 15.5**	**+1.3**
APC				*e*S		**Sn**		**22 02 37.6**	**+2.6**
MKZ	**Mys Kozlova**	**1.94**	**31**	*e*P		**Pn**		**22 02 19.0**	**+1.8**
MIPR	**Malaya Ipel'ka**	**2.08**	**254**	*e*P		**Pn**		**22 02 21.9**	**+2.8**
KZV	**Kizimen**	**2.21**	**4**	*e*P		**Pn**		**22 02 22.3**	**+1.2**
TUMD	**Tumrok D**	**2.31**	**6**	*e*P		**Pn**		**22 02 23.5**	**+1.2**
TUMD				*e*S		**Sn**		**22 02 50.7**	**+1.2**
TUMR	**Tumrok**	**2.38**	**2**	*e*P		**Pn**		**22 02 24.8**	**+1.5**
PAU	**Pauzhetka**	**2.44**	**235**	*e*P		**Pn**		**22 02 25.6**	**+1.5**
KMNR	**Kamenistaya**	**2.85**	**3**	*e*P		**Pn**		**22 02 31.9**	**+2.1**
KIRR	**Kirishev**	**3.06**	**4**	*e*P		**Pn**		**22 02 33.6**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**3.06**	**7**	*e*P		**Pn**		**22 02 34.7**	**+2.0**
BZWR	**Bezymyannyi-We**	**3.07**	**5**	*e*P		**Pn**		**22 02 35.1**	**+2.2**
ESO	**Esso**	**3.12**	**346**	*e*P		**Pn**		**22 02 36.2**	**+2.9**
ZLN	**Zelenaya**	**3.15**	**8**	*e*P		**Pn**		**22 02 37.4**	**+3.5**
CIRR	**Tsirk**	**3.24**	**7**	*e*P		**Pn**		**22 02 38.0**	**+2.8**
KRSR	**Krestovskiy**	**3.33**	**5**	*e*P		**Pn**		**22 02 37.8**	**+1.5**
KBTR	**Krutoberegovo**	**3.69**	**25**	*e*P		**Pn**		**22 02 43.4**	**+2.3**
BDR	**Baidarnaya**	**3.73**	**10**	*e*P		**Pn**		**22 02 43.7**	**+1.9**
SMKR	**Semkarok**	**3.78**	**12**	*e*P		**Pn**		**22 02 45.0**	**+2.6**
SRKR	**Sorokina**	**3.81**	**10**	*e*P		Pn		22 02 46.3	+3.4
BKI	**Bering**	**4.20**	**54**	*e*P		**Pn**		**22 02 48.9**	**+0.8**
BKI				*e*S		**Sn**		**22 03 32.2**	**-3.7**
MJAR	**Matsushiro Arr** 0.6nm,0.4s,baz=42,slow=9.7,SNR=4.1	**22.39**	**232**	P		**P**		**22 06 41.9**	**+1.0**
H11N2	**WAKE ISLAND Hy** baz=352,slow=76,SNR=43	**33.55**	**168**	T		T		22 44 12.3	
H11N3	**WAKE ISLAND Hy** baz=352,slow=76,SNR=34	**33.56**	**168**	T		T		22 44 21.5	
H11N1	**WAKE ISLAND Hy**	**33.56**	**168**	T		T		22 44 18.5	

	baz=352,slow=76,SNR=47								
H11S1	**WAKE ISLAND Hy**	**34.73**	**169**	T	T	22 45 45.5			
	baz=352,slow=76,SNR=5.2								
H11S3	**WAKE ISLAND Hy**	**34.74**	**169**	T	T	22 45 33.9			
	baz=352,slow=76,SNR=13								
H11S2	**WAKE ISLAND Hy**	**34.75**	**169**	T	T	22 45 37.9			
	baz=352,slow=76,SNR=3.6								
MKAR	**Makanchi Array**	**48.19**	**296**	P	**P**	**22 10 18.8**	**-3.3**		
	0.2nm,0.5s,baz=42,slow=8.1,SNR=1.7								

IDC ***27*** *22:05:49.7±0.5, 20°.32N×45°.65W, h0km, mb4.1/18, mb1 4.2/19, mb1mx4.0/43, mbtmp4.1/19, ML3.3/1, Error ellipse: s-maj=21.9km s-min=12.4km az=133.0*

NEIC ***27*** *22:05:52.3±1.6, 20°.4N±0°.1×45°.7W±0°.1, h10km±1km, mb4.6/22, Error ellipse: s-maj=24.5km s-min=16.8km az=151.0*

ISC 27 22:05:51.4±0.5, 20°.3N±0°.1×45°.65W±0°.09, h10km, n55, σ0°.75/50, mb4.4/23, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H05S1	**Guadeloupe/Mar**	**15.64**	**250**	T	T	22 25 22.6	
	SNR=18						
FDF	**Fort de France**	**15.80**	**252**	Pn	**P**	**22 09 36.2**	**-1.7**
FDF				IAmb	IAmb	22 09 43.2	
	comp=Z,39nm,1.1s						
BIM	**Bigot**	**15.81**	**251**	Pn	**Pn**	**22 09 36.0**	**+1.8**
BIM				IAmb	IAmb	22 09 53.3	
	comp=Z,56nm,0.9s						
MDP	**Montagnes des**	**16.60**	**205**	Pn	**Pn**	**22 09 45.8**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=22,slow=19,SNR=1.8						
PCRV	**Puerto La Cruz**	**20.90**	**244**	P	**P**	**22 10 34.1**	**0.0**
	comp=Z,10.0nm,1.0s,baz=32,slow=9.5,SNR=1.2						
SDDR	**Presa de Saban**	**24.18**	**271**	P	**P**	**22 11 07.3**	**-0.9**
SDDR				IAmb	IAmb	22 11 13.0	
	comp=Z,18nm,1.1s						
PTGA	**Pitinga**	**25.20**	**216**	P	**P**	**22 11 17.1**	**-0.3**
	comp=Z,1.6nm,0.3s,baz=31,slow=11,SNR=5.7						
PTGA	**Pitinga**	**25.20**	**216**	P	**P**	**22 11 17.8**	**+0.4**
PTGA				IAmb	IAmb	22 11 20.6	
	comp=Z,21nm,1.8s						
SDV	**Santo Domingo**	**26.68**	**248**	P	**P**	**22 11 32.3**	**+1.3**
	comp=Z,5.5nm,0.3s,baz=63,slow=11,SNR=3.4						
RUSC	**La Rusia**	**30.26**	**245**	P	**P**	**22 12 03.7**	**+0.4**
RUSC				IAmb	IAmb	22 12 12.3	
	comp=Z,15nm,1.2s						
SIV	**San Ignacio**	**39.15**	**204**	P	**P**	**22 13 18.5**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=72,slow=6.2,SNR=3.6						
ESDC	**Sonseca Array**	**40.48**	**52**	P	**P**	**22 13 30.7**	**+0.1**
	comp=Z,0.8nm,1.1s,baz=260,slow=7.7,SNR=4.1						
ESDC	**Sonseca Array**	**40.48**	**52**	P	**P**	**22 13 30.6**	**+0.1**
H10N3	**ASCENSION HYDR**	**41.50**	**129**	T	T	22 57 50.4	
	baz=312,slow=75,SNR=70						
H10N2	**ASCENSION HYDR**	**41.50**	**129**	T	T	22 57 41.4	
	baz=312,slow=75,SNR=86						
H10N1	**ASCENSION HYDR**	**41.52**	**129**	T	T	22 57 51.2	
	baz=312,slow=75,SNR=69						
H10S3	**ASCENSION HYDR**	**42.14**	**131**	T	T	22 58 31.0	
	baz=312,slow=74,SNR=48						
H10S2	**ASCENSION HYDR**	**42.16**	**131**	T	T	22 58 32.4	
	baz=268,slow=74,SNR=26						
LPAZ	**La Paz**	**42.57**	**213**	P	**P**	**22 13 48.0**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=3,3,slow=7.2,SNR=9.3						
LPAZ	**La Paz**	**42.57**	**213**	P	**P**	**22 13 47.6**	**-0.8**
TORD	**Torodi Ar. Bea**	**45.77**	**91**	P	**P**	**22 14 13.0**	**-0.5**
	comp=Z,2.5nm,1.1s,baz=296,slow=8.0,SNR=8.1						
TORD	**Torodi Ar. Bea**	**45.77**	**91**	P	**P**	**22 14 13.6**	**+0.1**
CPUP	**Villa Florida**	**47.75**	**194**	P	**P**	**22 14 27.9**	**-0.8**
	comp=Z,12nm,0.9s,baz=24,slow=7.8,SNR=16						
CPUP	**Villa Florida**	**47.75**	**194**	P	**P**	**22 14 28.9**	**+0.2**
KEST	**Kesra**	**50.29**	**60**	P	**P**	**22 14 48.0**	**-0.3**
	comp=Z,3.9nm,0.8s,baz=246,slow=7.2,SNR=5.5						
KEST	**Kesra**	**50.29**	**60**	P	**P**	**22 14 48.0**	**-0.3**
KEST				IAmb	IAmb	22 15 01.5	
	comp=Z,14nm,1.2s						
AMTX	**Amarillo**	**51.12**	**299**	P	**P**	**22 14 53.6**	**-1.1**
AMTX				IAmb	IAmb	22 14 56.1	
	comp=Z,8.3nm,0.8s						
TXAR	**Lajitas Array**	**52.96**	**292**	P	**P**	**22 15 07.9**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=96,slow=8.9,SNR=4.7						
TXAR	**Lajitas Array**	**52.96**	**292**	P	**P**	**22 15 08.8**	**+0.4**
GEC2	**GERESS Array S**	**54.87**	**44**	P	**P**	**22 15 21.5**	**-0.6**
GEC2				IAmb	IAmb	22 15 23.4	
	comp=Z,5.3nm,1.2s						
GERES	**GERESS Array B**	**54.87**	**44**	P	**P**	**22 15 22.0**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=264,slow=5.4,SNR=7.8						
GERES	**GERESS Array B**	**54.87**	**44**	P	**P**	**22 15 21.9**	**-0.2**
CLL	**Collm**	**54.87**	**41**	*e*P	**P**	**22 15 23.0**	**+1.1**
	comp=Z,9.0nm,1.5s						
CLL				*es*P	**pwP**	**22 15 29.0**	**+0.5**
CLL				Lm	MLR	23 44 00.0	
	comp=Z,100nm,19.2s						
NOA	**NORSAR Array B**	**56.53**	**29**	P	**P**	**22 15 33.9**	**+0.1**
	comp=Z,2.0nm,1.1s,baz=249,slow=7.2,SNR=5.2						
PDAR	**Pinedale Array**	**57.48**	**308**	P	**P**	**22 15 41.3**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=99,slow=5.6,SNR=2.5						
TMUT	**Trail Mountain**	**58.73**	**304**	P	**P**	**22 15 48.7**	**-1.2**
BGU	**Big Grassy Mou**	**60.08**	**306**	P	**P**	**22 15 59.3**	**+0.3**
BGU				IAmb	IAmb	22 16 00.8	
	comp=Z,6.8nm,1.4s						
SPR3	**Spring Creek 3**	**61.16**	**304**	P	**P**	**22 16 07.5**	**+0.8**
SPR3				IAmb	IAmb	22 16 09.2	
	comp=Z,4.2nm,1.2s						
MLR	**Muntele Rosu**	**63.00**	**49**	P	**P**	**22 16 19.1**	**+0.4**
ARCES	**ARCESS Array B**	**64.53**	**22**	P	**P**	**22 16 28.7**	**+0.5**
	comp=Z,5.8nm,0.8s,baz=285,slow=7.3,SNR=8.4						
AKASG	**Malin Array Be**	**65.02**	**43**	P	**P**	**22 16 31.8**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=270,slow=5.2,SNR=7.6						
AKASG	**Malin Array Be**	**65.02**	**43**	P	**P**	**22 16 31.0**	**-0.6**
ELL	**Elmali**	**66.81**	**58**	P	**P**	**22 16 44.3**	**+0.7**
OBN	**Obninsk**	**69.16**	**38**	P	**P**	**22 16 58.8**	**+0.9**
BR131	**Keskin Array S**	**69.24**	**54**	P	**P**	**22 16 59.3**	**+0.4**
BR131				IAmb	IAmb	22 17 00.9	
	comp=Z,8.4nm,1.4s						
BRTR	**Keskin Array B**	**69.24**	**54**	P	**P**	**22 16 59.7**	**+0.8**
	comp=Z,1.3nm,0.9s,baz=258,slow=6.2,SNR=8.9						
BRTR	**Keskin Array B**	**69.24**	**54**	P	**P**	**22 16 58.6**	**-0.3**
KLMR	**Klimovskoe**	**70.12**	**31**	*e*	**P**	**22 17 02.7**	**-1.0**
KLMR				AMP		22 17 05.8	
	comp=Z,18nm,1.5s						
INK	**Inuvik**	**70.51**	**337**	P	**P**	**22 17 05.5**	**-0.4**
	comp=Z,1.5nm,1.0s,baz=74,slow=10,SNR=3.5						
ILAR	**Eielson Array**	**76.48**	**334**	P	**P**	**22 17 40.6**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=92,slow=5.1,SNR=7.4						
ILAR	**Eielson Array**	**76.48**	**334**	P	**P**	**22 17 41.9**	**+0.7**
IMAR	**Indian Mountai**	**78.71**	**337**	P	**P**	**22 17 54.2**	**+0.6**
ABKAR	**Akbulak array**	**84.50**	**39**	P	**P**	**22 18 24.4**	**-0.3**
VNDA	**Vanda**	**121.22**	**187**	PKP	**PKPdf**	**22 24 43.0**	**-0.8**
	comp=Z,0.7nm,0.9s,baz=219,slow=6.5,SNR=2.7						
CMAR	**Chiang Mai Arr**	**128.12**	**44**	PKP	**PKPdf**	**22 24 59.0**	**+0.3**
	comp=Z,2.9nm,0.3s,baz=314,slow=4.1,SNR=5.4						

MEX 27 22:36:28.3±1.0, 16°.23N×98°.34W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.26**	**52**	*e*P	Pg	22 36 32.5	-0.9
PNIG				*e*S	Sg	22 36 36.8	0.0
YOIG	**Yosondua**	**0.98**	**51**	*e*P	Pg	22 36 45.6	-1.6
YOIG				*e*S	Sg	22 36 58.3	-1.7
MGIG	**Malinaltepec**	**1.03**	**344**	*e*P	Pg	22 36 45.5	-2.7
MGIG				*e*S	Sg	22 36 59.7	-2.0
TXIG	**Tlaxiaco**	**1.15**	**28**	*e*P	Pg	22 36 47.8	-2.7
TXIG				*e*S	Sg	22 37 03.3	-2.2
TLIG	**Tlapa**	**1.34**	**351**	*e*P	Pn	22 36 49.8	-4.1
TLIG				*e*S	Sg	22 37 07.6	-3.9
FTIG	**Fresnillo de T**	**1.68**	**7**	*e*P	Pn	22 36 54.7	-3.8
FTIG				*e*S	Sn	22 37 16.5	-3.9

IDC ***27*** *22:39:54.1±0.5, 31°.22S×71°.73W, h0km, mb4.6/9, mb1 4.7/14, mb1mx4.5/24, mbtmp4.5/14, ML4.4/5, MS4.3/10, Ms1 4.3/10, ms1mx3.9/32, Error ellipse: s-maj=19.6km s-min=16.1km az=122.0*

VAO ***27*** *22:39:57.4±0.3, 31°.22S×71°.78W, h20km, mb4.8*

SJA ***27*** *22:39:57.5±0.9, 31°.18S×71°.82W, h24km±3km, ML4.7, MW4.8*

NEIC ***27*** *22:39:57.9, 31°.24S×71°.82W, h27km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr=0.75; Mθθ=0.04; Mϕϕ=-0.79; Mrθ=0.06; Mθϕ=0.08; Mϕr=-0.86; Fault plane solution: M0=1.16000×10^16 NP1:ϕs=175.38000°, δ=69.02000°, λ=90.77000°. NP2:ϕs=353.23000°, δ=20.99000°, λ=87.99000°. Principal axes: T 1.1375, Plg66.0000°, Azm87.0000°; N 0.0453, Plg1.0000°, Azm355.0000°; P -1.1828, Plg24.0000°, Azm265.0000°;*

GUC ***27*** *22:39:58.3±0.8, 31°.27S×71°.81W, h27km±4km, ML4.8*

NEIC ***27*** *22:39:58.2±1.4, 31°.22S±0°.03×71°.79W±0°.05, h24km±4km, mb5.0/18, Mwr4.6/57, ML4.8(GUC), Error ellipse: s-maj=6.4km s-min=4.3km az=105.0*

ISC 27 22:39:55.2±0.9, 31°.27S±0°.02×71°.95W±0°.03, h11km±5km, n233, σ1s59/258, mb5.0/15, MS4.4/7, 10C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.65**	**24**	⇓*e*P	**Pb**	**22 40 09.6**	**+1.1**
CO06				*e*S	**Sn**	**22 40 18.8**	**-1.8**
CO06				IAML		22 40 21.5	
	comp=E,92μm,0.3s						
CO06	**Fray Jorge**	**0.65**	**24**		**Pb**	**22 40 09.6**	**+1.1**
CO06				Sg	**Sb**	**22 40 17.6**	**+0.1**
CO02	**Combarbal**	**0.81**	**86**	*e*P	**Pn**	**22 40 11.7**	**-1.1**
CO02				*e*S	**Sb**	**22 40 20.8**	**-1.7**
CO02				IAML		22 40 24.6	
	comp=E,91μm,0.4s						
CO02	**Combarbal**	**0.81**	**86**		**Pn**	**22 40 11.9**	**-0.8**
CO02					**Sn**	**22 40 22.3**	**-2.5**
CO02	**Combarbal**	**0.81**	**86**	*i* P	**Pn**	**22 40 12.2**	**-0.5**
CO02				*i* S	**Sn**	**22 40 22.4**	**-2.5**
CO03	**El Pedregal**	**1.16**	**69**	⇑*e*P	**Pg**	**22 40 17.1**	**-0.4**
CO03				*e*S	**Sn**	**22 40 31.3**	**-2.0**
CO03	**El Pedregal**	**1.16**	**69**		**Pg**	**22 40 17.4**	**-0.1**
CO03				Sn	**Sg**	**22 40 30.7**	**-1.9**
CO03	**El Pedregal**	**1.16**	**69**	*i* P	**Pg**	**22 40 17.4**	**-0.1**
CO03				*i* S	**Sn**	**22 40 31.5**	**-1.9**
VA06	**Catapilco**	**1.41**	**157**	⇑*e*P	**Pg**	**22 40 22.3**	**+0.1**
VA06				*e*S	**Sb**	**22 40 39.4**	**0.0**
VA06				IAML		22 40 47.7	
	comp=E,26μm,0.4s						
GO04	**Tololo Observa**	**1.47**	**42**	⇑*e*P	**Pb**	**22 40 22.5**	**-0.2**
GO04				*e*S	**Sb**	**22 40 40.8**	**-0.7**
GO04	**Tololo Observa**	**1.47**	**42**	Pn	**Pb**	**22 40 21.4**	**-0.5**
GO04	**Tololo Observa**	**1.47**	**42**	*i* P	**Pb**	**22 40 23.0**	**+0.3**
GO04				*i* S	**Sg**	**22 40 41.5**	**-1.0**
CO05	**La Serena**	**1.48**	**25**	⇑*e*P	**Pb**	**22 40 22.8**	**+0.2**
CO05				*e*S	**Sb**	**22 40 41.9**	**+0.5**
CO05				IAML		22 40 47.0	
	comp=E,26μm,0.3s						
CO05	**La Serena**	**1.48**	**25**	Pn	**Pn**	**22 40 22.0**	**+0.3**
CO05				Sn	**Sn**	**22 40 39.4**	**-1.5**
VA01	**Torpederas**	**1.77**	**172**	⇑*e*P	**Pb**	**22 40 27.9**	**+0.2**
VA01				⇓*e*S	**Sb**	**22 40 50.9**	**+1.0**
VA01	**Torpederas**	**1.77**	**172**	Pn	**Pb**	**22 40 27.7**	**0.0**
VA01				Sn	**Sb**	**22 40 49.4**	**-0.5**
VA01	**Torpederas**	**1.77**	**172**	*i* P	**Pb**	**22 40 27.7**	**0.0**
ROCH	**El Roble**	**1.88**	**155**	⇑*e*P	**Pb**	**22 40 29.5**	**-0.2**
ROCH				*e*S	**Sb**	**22 40 53.0**	**-0.2**
ROC1	**El Roble**	**1.88**	**155**	*i* P	**Pb**	**22 40 29.6**	**0.0**
ROC1				*i* S	**Sb**	**22 40 52.4**	**-0.9**
VA03	**San Esteban**	**1.91**	**142**	⇑*e*P	**Pb**	**22 40 29.6**	**-0.5**
VA03				*e*S	**Sb**	**22 40 53.1**	**-0.9**
VA03				IAML		22 40 58.7	
	comp=N,16μm,0.5s						
VA03	**San Esteban**	**1.91**	**142**	Pn	**Pb**	**22 40 29.6**	**-0.5**
VA03	**San Esteban**	**1.91**	**142**	*i* P	**Pb**	**22 40 30.4**	**+0.3**
VA03				*i* S	**Sg**	**22 40 55.5**	**-1.0**
RTLS	**Leoncito**	**2.32**	**104**	*e*P	**Pg**	**22 40 38.1**	**-1.7**
RTLS				*i* S	**Sg**	**22 41 08.2**	**-1.7**
RTLS				IAML		22 41 10.2	
	comp=Z,4μm,0.6s						
MT05	**Renca**	**2.35**	**155**	*e*P	**Pb**	**22 40 36.6**	**-1.1**
MT05				*e*S	**Sb**	**22 41 05.9**	**-0.8**
MT05				IAML		22 41 18.9	
	comp=E,8μm,0.3s						
MT05	**Renca**	**2.35**	**155**	Pn	**Pn**	**22 40 35.7**	**+1.8**
AUSP	**Uspallata**	**2.38**	**114**	*i* P	**Pg**	**22 40 39.0**	**-1.8**
AROD	**Rodeo**	**2.40**	**63**	*i* P	**Pb**	**22 40 38.6**	**+0.1**
AROD				*i* S	**Sb**	**22 41 08.1**	**-0.1**
AROD				IAML		22 41 16.6	
	comp=Z,1μm,1.9s						
VA05	**Santo Domingo**	**2.40**	**173**	⇑*e*P	**Pn**	**22 40 36.9**	**+2.4**
VA05				*e*S	**Sb**	**22 41 07.2**	**-0.9**
VA05				IAML		22 41 18.3	
	comp=E,6μm,0.5s						
VA05	**Santo Domingo**	**2.40**	**173**	Pn	**Pn**	**22 40 36.3**	**+1.9**
LCO	**Las Campanas**	**2.49**	**26**	*e*P	**Pn**	**22 40 36.9**	**+0.9**
LCO				*i* S	**Sn**	**22 41 07.1**	**+0.6**
LCO	**Las Campanas**	**2.49**	**26**		**Pn**	**22 40 36.4**	**+0.4**
LCO	**Las Campanas**	**2.49**	**26**	*i* P	**Pn**	**22 40 36.4**	**+0.4**
ACCO	**Cerro Coronel**	**2.57**	**75**	*i* P	**Pb**	**22 40 41.2**	**-0.3**
ACCO				IAML		22 41 26.5	
	comp=Z,1μm,0.9s						
MT09	**Talagante**	**2.63**	**162**	⇑*e*P	**Pn**	**22 40 40.1**	**+2.4**
MT09				*i* S	**Sb**	**22 41 12.3**	**-2.5**
MT09				IAML		22 41 21.8	
	comp=E,6μm,0.2s						
MT09	**Talagante**	**2.63**	**162**	Pn	**Pn**	**22 40 40.2**	**+2.4**
MT01	**Popeta**	**2.66**	**167**	*e*P	**Pn**	**22 40 40.1**	**+2.0**
MT01	**Popeta**	**2.66**	**167**		**Pn**	**22 40 40.0**	**+2.0**
MT01	**Popeta**	**2.66**	**167**	*i* P	**Pn**	**22 40 40.0**	**+2.0**
ACDV	**Cuesta del Vie**	**2.67**	**67**	*i* P	**Pb**	**22 40 42.8**	**-0.3**
ACDV				IAML		22 41 21.6	
	comp=Z,4μm,1.0s						
ZON	**Zonda**	**2.81**	**97**	*i* P	**Pb**	**22 40 44.9**	**-0.5**
ZON				*i* S	**Sb**	**22 41 20.1**	**+0.3**
ZON				IAML		22 41 30.0	
	comp=Z,3μm,1.3s						
ASAL	**Salagasta**	**2.96**	**117**	*i* P	**Pb**	**22 40 48.0**	**0.0**
ASAL				*i* S	**Sg**	**22 41 27.5**	**-2.7**
ASAL				IAML		22 41 34.8	
	comp=Z,2μm,1.1s						
LMEL	**Las Melosas**	**2.97**	**151**	*e*P	**Pb**	**22 40 45.4**	**-2.8**
LMEL				IAML		22 41 34.8	
	comp=N,3μm,0.5s						
RTCV	**Cerro Valdivia**	**2.97**	**102**	*i* P	**Pb**	**22 40 46.9**	**-1.2**
RTCV				IAML		22 41 32.1	
	comp=Z,1μm,2.5s						
RTLL	**Cerro Villicun**	**2.97**	**92**	*e*P	**Pb**	**22 40 46.0**	**-2.2**
ARCO	**CERRO ARCO**	**3.00**	**122**	*i* P	**Pb**	**22 40 48.7**	**-0.1**
ARCO				IAML		22 41 39.6	
	comp=Z,5μm,1.0s						
AC04	**Llanos de Chal**	**3.14**	**14**	*e*P	**Pn**	**22 40 44.7**	**0.0**
AC04				IAML		22 41 43.4	
	comp=N,3μm,0.1s						
AC04	**Llanos de Chal**	**3.14**	**14**	Pn	**Pn**	**22 40 45.0**	**+0.3**
AC04	**Llanos de Chal**	**3.14**	**14**	*i* P	**Pn**	**22 40 44.9**	**+0.2**
BO01	**Tunca**	**3.20**	**167**	*e*P	**Pn**	**22 40 47.6**	**+2.2**
BO01				IAML		22 41 47.8	
BO01	**Tunca**	**3.20**	**167**	Pn	**Pn**	**22 40 47.5**	**+2.1**
BO01	**Tunca**	**3.20**	**167**	*i* P	**Pn**	**22 40 47.8**	**+2.3**
AAGR	**Agrelo**	**3.21**	**125**	*i* P	**Pb**	**22 40 51.2**	**-1.1**
AAGR				IAML		22 41 39.2	
	comp=Z,2μm,2.7s						
BO03	**Pichilemu**	**3.22**	**180**	*e*P	**Pn**	**22 40 46.9**	**+1.1**
BO02	**Sierra Bellavi**	**3.65**	**165**	*e*P	**Pn**	**22 40 54.3**	**+2.6**
BO02	**Sierra Bellavi**	**3.65**	**165**	Pn	**Pn**	**22 40 53.9**	**+2.2**
BO02	**Sierra Bellavi**	**3.65**	**165**	*i* P	**Pn**	**22 40 54.6**	**+2.9**
GO05	**Huala**	**3.73**	**180**	*e*P	**Pn**	**22 40 53.9**	**+1.1**
GO05	**Huala**	**3.73**	**180**	Pn	**Pn**	**22 40 53.9**	**+1.1**
GO05	**Huala**	**3.73**	**180**	*i* P	**Pn**	**22 40 54.0**	**+1.1**
GO03	**Copiap**	**3.95**	**23**	*e*P	**Pn**	**22 40 56.3**	**+0.4**
GO03				*i* S	**Sb**	**22 41 48.4**	**-4.4**
GO03	**Copiap**	**3.95**	**23**	Pn	**Pn**	**22 40 56.1**	**+0.3**
GO03	**Copiap**	**3.95**	**23**	*i* P	**Pn**	**22 40 56.4**	**+0.6**
GO03				*i* S	**Sb**	**22 41 48.2**	**-4.6**
VCA	**Vinchina**	**4.11**	**53**	*i* P	Pb	22 41 02.5	-5.2
COIS	**El Sosneado**	**4.31**	**153**	*i* P	Pb	22 41 05.9	-5.1
LAMA	**Las Malvinas**	**4.32**	**149**	*i* P	**Pn**	**22 41 05.4**	**+4.6**
ML02	**Panimavida**	**4.51**	**175**	Pn	**Pn**	**22 41 05.3**	**+1.9**
RFA	**San Rafael**	**4.56**	**141**	*i* P	**Pn**	**22 41 07.8**	**+3.7**
RFA				IAML		22 42 24.2	
	comp=Z,1μm,1.2s						
ACLC	**CERRO LA CRUZ**	**4.69**	**68**	*i* P	**Pn**	**22 41 09.2**	**+3.1**
APLL	**PUNTA DE LOS L**	**4.74**	**81**	*i* P	**Pn**	**22 41 09.4**	**+2.8**
AC02	**Maricunga**	**5.06**	**30**	⇑*e*P	**Pn**	**22 41 12.6**	**+1.2**
AC02	**Maricunga**	**5.06**	**30**	Pn	**Pn**	**22 41 11.3**	**-0.1**
AC02	**Maricunga**	**5.06**	**30**	*i* P	**Pn**	**22 41 12.5**	**+1.1**
MRA	**San Martin**	**5.42**	**104**	*e*P	**Pn**	**22 41 18.4**	**+2.2**
MRA				IAML		22 42 52.4	
	comp=Z,580nm,0.8s						
CYA	**Choya**	**6.03**	**64**	*i* P	**Pn**	**22 41 26.0**	**+1.6**
CYA				IAML		22 42 44.3	
	comp=Z,806nm,0.7s						
H03N1	**Juan Fernandez**	**6.28**	**248**	Pn	**Pn**	**22 41 29.5**	**+2.0**
	baz=112,slow=18,SNR=168						
H03N1				Sn	Sn	22 42 32.9	-6.3
	baz=6.3						
H03N1				T	T	22 48 15.8	
	baz=76,slow=72,SNR=2350						
VA04	**Juan Fernndez**	**6.28**	**246**	*e*P	**Pn**	**22 41 28.9**	**+1.2**
VA04				*i* S	Sn	22 42 32.5	-7.0
VA04	**Juan Fernndez**	**6.28**	**246**	Pn	**Pn**	**22 41 29.0**	**+1.2**
H03N3	**Juan Fernandez**	**6.29**	**248**	Pn	**Pn**	**22 41 30.1**	**+2.3**
	baz=112,slow=18,SNR=154						
H03N3				Sn	**Sn**	**22 42 33.8**	**-5.7**
	baz=6.3						
H03N3				T	T	22 48 18.3	
	baz=76,slow=72,SNR=2015						
H03N2	**Juan Fernandez**	**6.30**	**248**	Pn	**Pn**	**22 41 29.6**	**+1.9**
	baz=112,slow=18,SNR=132						
H03N2				Sn	**Sn**	**22 42 34.0**	**-5.5**
	baz=6.3						
H03N2				T	T	22 48 15.8	
	baz=76,slow=72,SNR=1982						
H03S3	**Juan Fernandez**	**6.41**	**245**	Pn	**Pn**	**22 41 30.4**	**+1.1**
	baz=27,slow=19,SNR=42						
H03S3				Sn	**Sn**	**22 42 38.8**	**-3.5**
	baz=161,slow=74						
H03S1	**Juan Fernandez**	**6.41**	**245**	Pn	**Pn**	**22 41 29.7**	**+0.4**
	baz=27,slow=19,SNR=34						
H03S1				Sn	**Sn**	**22 42 37.5**	**-4.9**
	baz=161,slow=74						
H03S2	**Juan Fernandez**	**6.43**	**245**	Pn	**Pn**	**22 41 30.4**	**+0.8**
	baz=27,slow=19,SNR=48						
H03S2				Sn	Sn	22 42 35.8	-6.9
	baz=161						
PB14	**IPOC Station P**	**6.75**	**12**	Pn	**Pn**	**22 41 32.6**	**-2.0**
AHML	**Horco Molle**	**7.31**	**54**	*i* P	**Pn**	**22 41 43.0**	**+1.0**
AHML				IAML		22 43 37.4	
	comp=Z,498nm,0.9s						
LC01	**Cunco**	**7.62**	**180**	Pn	**Pn**	**22 41 47.5**	**+1.4**
LC01	**Cunco**	**7.62**	**180**	*i* P	**Pn**	**22 41 47.5**	**+1.4**
PB15	**IPOC Station P**	**8.32**	**16**	Pn	**Pn**	**22 41 55.5**	**-0.5**
LVC	**Limon Verde**	**9.04**	**18**	Pn	**Pn**	**22 42 03.5**	**-2.5**
	comp=Z,1.7nm,0.3s,baz=180,slow=9.9,SNR=11						
LVC	**Limon Verde**	**9.04**	**18**	Pn	**Pn**	**22 42 03.8**	**-2.2**
LVC	**Limon Verde**	**9.04**	**18**	*e*P	**Pn**	**22 42 05.5**	**-0.5**
LVC	**Limon Verde**	**9.04**	**18**	*i* P	**Pn**	**22 42 04.3**	**-1.7**
PLCA	**Paso Flores**	**9.52**	**174**	Pn	**Pn**	**22 42 13.9**	**+1.7**
	comp=Z,1.4nm,0.3s,baz=332,slow=12,SNR=31						
PLCA				LR	LR	22 46 04.7	
	comp=Z,1μm,20.6s,baz=348,slow=39						
PLCA	**Paso Flores**	**9.52**	**174**	Pn	**Pn**	**22 42 14.6**	**+2.3**
PLCA	**Paso Flores**	**9.52**	**174**	*e*P	**Pn**	**22 42 13.1**	**+0.9**
PB09	**IPOC Station P**	**9.74**	**15**	Pn	**Pn**	**22 42 14.3**	**-1.1**
PB01	**IPOC Station P**	**10.42**	**13**		**Pn**	**22 42 20.6**	**-4.1**
TRQA	**Tornquist**	**10.64**	**132**	Pn	**Pn**	**22 42 28.5**	**+0.9**
TRQA	**Tornquist**	**10.64**	**132**	*e*P	**Pn**	**22 42 29.2**	**+1.7**
CPUP	**Villa Florida**	**13.72**	**73**	Pn	**Pn**	**22 43 05.7**	**-4.1**
	comp=Z,0.2nm,0.3s,baz=246,slow=14,SNR=2.9						
CPUP				Sn	Sn	22 45 32.4	-10
	comp=Z,0.5nm,0.3s,baz=261,slow=17,SNR=1.3						
CPUP				Lg	Lg	22 46 59.1	
	comp=Z,0.9nm,0.3s,baz=164,slow=15,SNR=2.1						
CPUP				LR	LR	22 48 52.1	
	comp=Z,2μm,18.2s,baz=248,slow=40						
CPUP	**Villa Florida**	**13.72**	**73**	Pn	**Pn**	**22 43 06.7**	**-3.1**
CPUP	**Villa Florida**	**13.72**	**73**	*e*P	**Pn**	**22 43 10.1**	**+0.4**
LPAZ	**La Paz**	**15.31**	**14**	Pn	**Pn**	**22 43

comp=Z,18nm,1.1s
QSPA South Pole Qui 58.96 180 P **P** **22 49 56.1 +1.7**
QSPA IAmb IAmb 22 49 57.8
comp=Z,16nm,1.0s
VNDA Vanda 66.79 191 P **P** **22 50 48.5 +2.2**
comp=Z,0.9nm,0.8s,baz=130,slow=5.6,SNR=5.8
VNDA Vanda 66.79 191 P **P** **22 50 48.1 +1.9**
TXAR Lajitas Array 67.40 330 P **P** **22 50 52.3 +1.5**
comp=Z,1.5nm,0.7s,baz=152,slow=7.8,SNR=20
TXAR Lajitas Array 67.40 330 P **P** **22 50 50.9 +0.2**
LIC Lamto 73.85 72 *eP* **P** **22 51 30.1 -0.3**
comp=Z,76nm,1.0s
TIC Toumodi 74.10 72 *eP* **P** **22 51 31.3 -0.5**
KIC Kosan Boka 74.16 72 *eP* **P** **22 51 31.8 -0.4**
comp=Z,49nm,0.8s
DBIC Dimbokro 74.25 72 P **P** **22 51 32.7 +0.1**
comp=Z,30nm,0.9s,baz=223,slow=5.1,SNR=22
DBIC LR LR 23 21 31.8
comp=Z,270nm,20.3s,baz=220,slow=34
MAW Mawson 75.77 164 P **P** **22 51 41.5 +0.9**
comp=Z,9.4nm,0.9s,baz=213,slow=8.4,SNR=6.5
MAW LR LR 23 23 56.3
comp=Z,199nm,21.8s,baz=222,slow=35
BOSA Boshof 81.28 118 P **P** **22 52 11.7 -0.2**
comp=Z,7.0nm,0.9s,baz=237,slow=3.9,SNR=7.0
BOSA LR LR 23 26 16.3
comp=Z,163nm,18.3s,baz=194,slow=34
BOSA Boshof 81.28 118 P **P** **22 52 11.8 -0.1**
BOSA IAmb IAmb 22 52 13.3
comp=Z,7.6nm,0.9s
PDAR Pinedale Array 81.37 333 P **P** **22 52 12.4 +0.4**
comp=Z,0.9nm,0.9s,baz=134,slow=4.3,SNR=5.0
PDAR Pinedale Array 81.37 333 P **P** **22 52 11.7 -0.2**
NVAR Mina Array Bea 81.69 325 P **P** **22 52 15.8 +2.0**
comp=Z,1.5nm,0.9s,baz=164,slow=6.3,SNR=9.5
HVU Hansel Valley 81.85 330 P **P** **22 52 15.1 +0.7**
TORD Torodi Ar. Bea 83.21 70 P **P** **22 52 22.0 0.0**
comp=Z,24nm,0.8s,baz=260,slow=4.7,SNR=126
TORD Torodi Ar. Bea 83.21 70 P **P** **22 52 22.2 +0.2**
URZ Urewera 85.55 228 LR LR 23 20 40.2
comp=Z,113nm,19.8s,baz=212,slow=28
ESDC Sonseca Array 94.63 46 LR LR 23 35 25.0
comp=Z,127nm,18.7s,baz=250,slow=35
GERES GERESS Array B 110.17 45 PKiKP **PKiKP** **22 58 26.7 -0.1**
comp=Z,0.6nm,0.8s,baz=208,slow=1.9,SNR=5.3
ASAR Alice Springs 120.03 208 PKP **PKPdf** **22 58 45.6 -0.9**
comp=Z,0.4nm,0.5s,baz=136,slow=1.8,SNR=5.5
AKASG Malin Array Be 120.27 46 PKP **PKPdf** **22 58 45.8 -0.2**
comp=Z,2.2nm,0.7s,baz=268,slow=2.6,SNR=12
BRTR Keskin Array B 120.41 59 PKP **PKiKP** **22 58 47.2 +0.3**
comp=Z,1.5nm,0.8s,baz=185,slow=3.3,SNR=14
BRTR PP **PP** **23 00 17.8 +4.0**
comp=Z,0.4nm,0.6s,baz=222,slow=6.6,SNR=4.3
WRA Warramunga Arr 123.17 210 PKP **PKPdf** **22 58 52.9 +0.3**
comp=Z,1.1nm,0.5s,baz=161,slow=1.8,SNR=19
WRA Warramunga Arr 123.17 210 PKPdf **PKPdf** **22 58 52.7 +0.1**
H11S2 WAKE ISLAND Hyl 25.84 271 T T 01 17 44.8
baz=116,slow=75,SNR=207
H11S1 WAKE ISLAND Hyl 25.86 271 T T 01 17 33.4
baz=116,slow=75,SNR=170
H11S3 WAKE ISLAND Hyl 25.86 271 T T 01 17 32.0
baz=116,slow=75,SNR=177
H11N3 WAKE ISLAND Hyl 26.19 273 T T 01 17 56.2
baz=117,slow=76,SNR=156
H11N1 WAKE ISLAND Hyl 26.20 273 T T 01 17 57.2
baz=117,slow=76,SNR=52
H11N2 WAKE ISLAND Hyl 26.20 273 T T 01 17 57.6
baz=117,slow=76,SNR=220
KBZ Khabaz 128.06 57 PKP **PKPdf** **22 59 01.0 -0.1**
comp=Z,3.0nm,1.0s,baz=3.8,slow=7.8,SNR=4.5
HYB Hyderabad 149.91 110 *i* PKP **PKPbc** **22 59 46.0 -0.2**
EKS2 Erkin-Say 150.53 58 P **PKiKP** **22 59 48.8 +1.0**
SNR=7.0
USP Ospenovka 150.93 56 P **PKiKP** **22 59 49.4 +0.9**
SNR=11
AAK Ala-Archa 151.06 57 P **PKiKP** **22 59 49.7 +0.8**
SNR=11
UCH Uchtor 151.16 58 P **PKiKP** **22 59 50.9 +1.4**
SNR=13
CHMS Chumysh 151.16 57 P **PKiKP** **22 59 50.0 +1.0**
SNR=5.2
KBK Karagaybulak 151.38 57 P **PKiKP** **22 59 50.8 +1.2**
SNR=5.2
TKM2 Tokmak 2 151.79 57 P **PKiKP** **22 59 51.4 +0.9**
SNR=8.0
ZALV Zalesovo Beam 151.85 30 PKP **PKPdf** **22 59 43.6 +0.5**
comp=Z,35nm,0.8s,baz=286,slow=2.6,SNR=13
ZALV PKPbc **sPKPdf** **22 59 50.6 +3.4**
comp=Z,28nm,0.7s,baz=295,slow=3.2,SNR=86
ZALV Zalesovo Beam 151.85 30 PKPdf **PKPdf** **22 59 43.9 +0.8**
KSH Kashi 152.69 64 PKPbc **PKPdf** **22 59 43.5 -1.6**
MKAR Makanchi Array 154.84 45 PKP **PKPdf** **22 59 48.2 +0.5**
comp=Z,1.7nm,0.8s,baz=357,slow=2.4,SNR=10.0
MKAR PKPbc **PKPbc** **22 59 56.4 -0.1**
comp=Z,3.7nm,0.8s,baz=336,slow=2.7,SNR=20
MKAR Makanchi Array 154.84 45 PKPdf **PKPdf** **22 59 48.6 +0.8**
WMQ Urumqi 159.63 46 ePKP **PKPdf** **22 59 55.0 +1.0**
CM15 Chiang Mai Arr 164.80 145 PKP **PKPdf** **22 59 53.1 -6.7**
CMAR Chiang Mai Arr 164.81 145 PKP **PKPdf** **23 00 00.1 +0.3**
comp=Z,1.3nm,0.3s,baz=262,slow=2.8,SNR=6.3
CMAR PKPab **PKPab** **23 00 55.8 +0.2**
comp=Z,1.1nm,0.4s,baz=228,slow=5.6,SNR=5.0
GTA Gaotai 169.46 37 *e*PKP **PKPdf** **23 00 04.8 +2.0**
GTA pPKP sPKPdf 23 00 12.3 +5.4
NJ2 Nanjing 170.76 278 *e*PKP **PKPdf** **23 00 05.0 +1.4**

*IDC **27** 22:52:57.5±1.0, 30°.84S×71°.89W, h0km, mb4.2/5, mb1 4.0/10, mb1mx3.9/28, mbtmp3.9/10, ML3.7/5, MS3.0/2, Ms1 3.0/2, ms1mx2.7/29, Error ellipse: s-maj=32.5km s-min=23.1km az=108.0*
*GUC **27** 22:53:05.8±0.7, 30°.92S×71°.45W, h46km±2km, ML4.3*
*NEIC **27** 22:53:06.3±1.5, 30°.94S±0°.03×71°.45W±0°.06, h39km±5km, mb4.4/5, ML4.4(GUC), Error ellipse: s-maj=7.3km s-min=4.9km az=83.0*
ISC 27 22:53:05.0±0.7, 30°.93S±0°.03×71°.45W±0°.05, h37km±1km, n71, σ1§64/77, mb4.2/7, 1C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.30**	**328**	⇑*iP*	**Pn**	**22 53 14.5**	**+1.3**
CO06				*eS*	**Sn**	**22 53 19.7**	**-0.6**
CO06				IAML		22 53 22.6	
	comp=E,33μm,0.1s						
CO06	**Fray Jorge**	**0.30**	**328**		**Pn**	**22 53 14.3**	**+1.1**
CO06					**Sn**	**22 53 20.8**	**+0.5**
CO02	**Combarbal**	**0.48**	**125**	⇓*iP*	**Pn**	**22 53 16.4**	**+1.1**
CO02				*eS*	**Sn**	**22 53 24.1**	**+1.5**
CO02	**Combarbal**	**0.48**	**125**		**Pn**	**22 53 16.1**	**+0.8**
CO02				Sn	**Sn**	**22 53 23.9**	**+1.3**
CO03	**El Pedregal**	**0.66**	**82**	⇓*iP*	**Pn**	**22 53 19.1**	**+1.0**
CO03				*eS*	**Sn**	**22 53 28.8**	**+1.6**
CO03				IAML		22 53 29.2	
	comp=N,38μm,0.1s						
CO03	**El Pedregal**	**0.66**	**82**		**Pn**	**22 53 18.7**	**+0.7**
CO03				Sn	**Sn**	**22 53 28.9**	**+1.6**
GO04	**Tololo Observa**	**0.94**	**37**	⇓*iP*	**Pn**	**22 53 23.2**	**+1.2**
GO04				*eS*	**Sn**	**22 53 36.2**	**+1.9**
GO04	**Tololo Observa**	**0.94**	**37**		**Pn**	**22 53 23.1**	**+1.2**
GO04				Sn	**Sn**	**22 53 36.4**	**+2.1**
CO05	**La Serena**	**1.02**	**11**	*eP*	**Pn**	**22 53 24.1**	**+1.3**
CO05				*eS*	**Sn**	**22 53 37.5**	**+1.7**
CO05	**La Serena**	**1.02**	**11**		**Pn**	**22 53 24.1**	**+1.3**
CO05				Sn	**Sn**	**22 53 37.8**	**+2.0**
VA06	**Catapilco**	**1.63**	**175**	*eP*	**Pn**	**22 53 32.3**	**+1.1**
VA06				*eS*	**Sn**	**22 53 54.0**	**+3.1**
VA06				IAML		22 53 59.1	
	comp=E,6μm,0.4s						
VA03	**San Esteban**	**1.98**	**157**	⇓*iP*	**Pn**	**22 53 37.7**	**+1.6**
VA03				*i* S	**Sn**	**22 54 03.0**	**+3.3**
VA03				IAML		22 54 08.0	
	comp=N,3μm,0.4s						
VA03	**San Esteban**	**1.98**	**157**		**Pn**	**22 53 37.5**	**+1.4**
VA03				Sn	**Sn**	**22 54 02.3**	**+2.6**
LCO	**Las Campanas**	**2.02**	**19**	*eP*	**Pn**	**22 53 38.6**	**+1.9**
LCO				*i* S	**Sn**	**22 54 02.5**	**+1.7**
LCO	**Las Campanas**	**2.02**	**19**		**Pn**	**22 53 38.7**	**+1.9**
LCO				Sn	**Sn**	**22 54 03.4**	**+2.5**
ROCH	**El Roble**	**2.07**	**170**	*eP*	**Pn**	**22 53 38.8**	**+1.4**
ROCH				*i* S	**Sn**	**22 54 06.9**	**+4.8**
ROCH				IAML		22 54 16.5	
	comp=E,2μm,0.4s						
VA01	**Torpederas**	**2.09**	**184**	Pn	**Pn**	**22 53 37.9**	**+0.4**
MT05	**Renca**	**2.53**	**166**	*eP*	**Pn**	**22 53 45.7**	**+2.1**
MT05	**Renca**	**2.53**	**166**	Pn	**Pn**	**22 53 45.0**	**+1.4**
VA05	**Santo Domingo**	**2.72**	**183**	IAML		22 54 28.1	
	comp=E,2μm,0.4s						
VA05	**Santo Domingo**	**2.72**	**183**		**Pn**	**22 53 46.4**	**+0.3**
AC04	**Llanos de Chal**	**2.73**	**7**	*eP*	**Pn**	**22 53 48.0**	**+1.7**
AC04				IAML		22 54 31.8	
	comp=E,1μm,0.4s						
AC04	**Llanos de Chal**	**2.73**	**7**	Pn	**Pn**	**22 53 48.0**	**+1.7**
MT09	**Talagante**	**2.87**	**172**	*eP*	**Pn**	**22 53 49.8**	**+1.5**
MT09				IAML		22 54 40.2	
	comp=N,1μm,0.2s						
MT09	**Talagante**	**2.87**	**172**		**Pn**	**22 53 49.3**	**+1.0**
MT01	**Popeta**	**2.93**	**177**	*eP*	**Pn**	**22 53 49.8**	**+0.7**
MT01				IAML		22 54 34.7	
	comp=E,759nm,0.5s						
MT01	**Popeta**	**2.93**	**177**		**Pn**	**22 53 49.9**	**+0.8**
LMEL	**Las Melosas**	**3.10**	**160**	*eP*	**Pn**	**22 53 54.1**	**+2.6**
LMEL				IAML		22 54 38.0	
	comp=E,984nm,0.5s						
BO01	**Tunca**	**3.47**	**175**	*eP*	**Pn**	**22 53 57.3**	**+0.8**
BO01				IAML		22 54 59.6	
	comp=E,308nm,0.6s						
BO01	**Tunca**	**3.47**	**175**	Pn	**Pn**	**22 53 57.1**	**+0.7**
GO03	**Copiap**	**3.49**	**18**	*eP*	**Pn**	**22 53 58.8**	**+2.0**
GO03				IAML		22 54 54.6	
	comp=E,869nm,0.3s						
GO03	**Copiap**	**3.49**	**18**	Pn	**Pn**	**22 53 58.9**	**+2.0**
BO02	**Sierra Bellavi**	**3.89**	**172**	*eP*	**Pn**	**22 54 03.6**	**+1.3**
BO02	**Sierra Bellavi**	**3.89**	**172**		**Pn**	**22 54 03.4**	**+1.1**
GO05	**Huala**	**4.09**	**185**	*eP*	**Pn**	**22 54 04.4**	**-0.5**
GO05	**Huala**	**4.09**	**185**	Pn	**Pn**	**22 54 04.5**	**-0.5**
AC02	**Maricunga**	**4.56**	**27**	Pn	**Pn**	**22 54 13.6**	**+1.7**
ML02	**Panimavida**	**4.82**	**180**	Pn	**Pn**	**22 54 16.4**	**+1.4**
H03N1	**Juan Fernandez**	**6.80**	**246**	T	T	23 01 23.9	
	baz=76,slow=72,SNR=1333						
H03N3	**Juan Fernandez**	**6.81**	**246**	T	T	23 01 23.4	
	baz=76,slow=72,SNR=1681						
H03N2	**Juan Fernandez**	**6.82**	**246**	T	T	23 01 24.8	
	baz=76,slow=72,SNR=2003						
LVC	**Limon Verde**	**8.59**	**16**	Pn	**Pn**	**22 55 05.1**	**-2.0**
	comp=E,0.3nm,0.3s,baz=239,slow=6.6,SNR=2.0						
LVC				LR	LR	22 58 31.7	
	comp=E,72nm,19.8s,baz=238,slow=39						
LVC	**Limon Verde**	**8.59**	**16**		**Pn**	**22 55 05.5**	**-1.7**
PLCA	**Paso Flores**	**9.81**	**176**	Pn	**Pn**	**22 55 21.7**	**-1.8**
	comp=E,0.2nm,0.3s,baz=346,slow=12,SNR=5.1						
PLCA	**Paso Flores**	**9.81**	**176**		**Pn**	**22 55 24.4**	**+0.9**
TRQA	**Tornquist**	**10.56**	**135**	Pn	**Pn**	**22 55 34.0**	**+0.2**
CPUP	**Villa Florida**	**13.22**	**73**	Pn	**Pn**	**22 56 11.2**	**+1.0**
	comp=E,0.1nm,0.3s,baz=41,slow=5.0,SNR=1.9						
CPUP				Sn	**Sn**	**22 58 33.4**	**-2.6**
	comp=E,0.2nm,0.3s,baz=183,slow=13,SNR=2.3						
CPUP				LR	LR	23 01 47.0	
	comp=E,85nm,18.9s,baz=208,slow=39						
CPUP	**Villa Florida**	**13.22**	**73**	Pn	**Pn**	**22 56 11.6**	**+1.4**
LPAZ	**La Paz**	**14.89**	**13**	Pn	**Pn**	**22 56 29.6**	**-3.9**
	comp=E,0.1nm,0.3s,baz=208,slow=9.1,SNR=1.2						
LPAZ	**La Paz**	**14.89**	**13**		**Pn**	**22 56 34.5**	**+1.1**
SIV	**San Ignacio**	**17.64**	**35**	P	**Pn**	**22 57 07.6**	**-0.4**
	comp=E,0.9nm,0.3s,baz=214,slow=9.2,SNR=24						
BDFB	**Brasilia**	**26.28**	**60**	P	**P**	**22 58 36.5**	**-0.7**
	comp=E,4.7nm,0.8s,baz=256,slow=14,SNR=3.5						
RUSC	**La Rusia**	**36.65**	**357**	P	**P**	**23 00 08.3**	**-0.3**
RUSC				IAmb	IAmb	23 00 24.3	
	comp=Z,10nm,1.0s						
SNAA	**Sanae**	**54.25**	**159**	P	**P**	**23 02 26.7**	**-0.1**
SNAA				IAmb	IAmb	23 02 27.5	
	comp=Z,1.8nm,0.6s						
QSPA	**South Pole Qui**	**59.30**	**180**	P	**P**	**23 03 02.8**	**0.0**
TXAR	**Lajitas Array**	**67.32**	**330**	P	P	23 03 51.6	-4.7
	comp=Z,0.1nm,0.4s,baz=163,slow=7.5,SNR=4.5						
TXAR	**Lajitas Array**	**67.32**	**330**	P	**P**	**23 03 57.7**	**+1.5**
DBIC	**Dimbokro**	**73.74**	**72**	P	**P**	**23 04 35.6**	**-0.1**
	comp=Z,3.7nm,0.5s,baz=229,slow=5.6,SNR=16						
DBIC	**Dimbokro**	**73.74**	**72**	P	**P**	**23 04 35.7**	**0.0**
MAW	**Mawson**	**75.98**	**164**	P	**P**	**23 04 47.0**	**-0.8**
	comp=Z,1.7nm,0.7s,baz=194,slow=16,SNR=1.5						
TORD	**Torodi Ar. Bea**	**82.70**	**70**	P	**P**	**23 05 24.8**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=278,slow=5.8,SNR=26						
WRA	**Warramunga Arr**	**123.67**	**209**	PKP	**PKPdf**	**23 11 57.6**	**-1.7**
	comp=Z,1.0nm,0.6s,baz=159,slow=1.6,SNR=14						
WRA	**Warramunga Arr**	**123.67**	**209**		**PKPdf**	**23 11 58.2**	**-1.1**
H11S2	**WAKE ISLAND Hyl**	**26.26**	**271**	T	T	01 30 49.6	
	baz=116,slow=75,SNR=42						
H11S1	**WAKE ISLAND Hyl**	**26.27**	**271**	T	T	01 30 58.2	
	baz=116,slow=75,SNR=51						
H11S3	**WAKE ISLAND Hyl**	**26.28**	**271**	T	T	01 30 53.6	
	baz=116,slow=75,SNR=49						
H11N3	**WAKE ISLAND Hyl**	**26.59**	**273**	T	T	01 31 18.3	
	baz=116,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hyl**	**26.61**	**273**	T	T	01 31 44.3	
	baz=116,slow=75,SNR=13						
H11N2	**WAKE ISLAND Hyl**	**26.61**	**273**	T	T	01 31 19.5	
	baz=116,slow=75,SNR=25						
ZALV	**Zalesovo Beam**	**151.35**	**30**	PKPbc	**PKPbc**	**23 12 53.9**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=302,slow=3.5,SNR=13						
MKAR	**Makanchi Array**	**154.30**	**45**	PKPab	**PKPab**	**23 13 14.8**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=315,slow=3.5,SNR=2.8						

*IDC **27** 22:54:51.0±1.2, 7°.39N×91°.53E, h0km, mb3.7/8, mb1 3.9/10, mb1mx3.7/40, mbtmp3.8/10, ML3.7/1, Error ellipse: s-maj=33.5km s-min=22.8km az=47.0*
*NDI **27** 22:54:52.9±3.0, 7°.33N×92°.38E, h16km±92km, ML3.3, mb4.3(NEIC)*
*NEIC **27** 22:54:54.9±1.9, 7°.4N±0°.1×91°.7E±0°.1, h30km±6km, mb4.3/9, Error ellipse: s-maj=18.8km s-min=14.7km az=127.0*
ISC 27 22:54:56.3±0.9, 7°.5N±0°.1×91°.6E±0°.1, h35km, n33, σ1§37/25, mb4.0/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**4.24**	**15**	Pn	Pn	22 55 58.3	-0.2
PBA				Sn	Sn	22 56 47.9	+1.2
PBA	**Port Blair**	**4.24**	**15**	*eP*	Pn	22 55 57.7	-0.7
PBA				*eS*	Sn	22 56 45.8	-0.9
PBA				IAML		22 56 55.2	
	comp=E,93nm,0.3s						
DGPR	**DIGLIPUR**	**5.75**	**13**	*eP*	**Pn**	**22 56 18.7**	**-0.6**
DGPR				*eS*	**Sn**	**22 57 20.5**	**-3.5**
DGPR				IAML		22 57 38.0	
	comp=N,34nm,0.7s						
DGPR				IAML		22 57 40.0	
	comp=E,45nm,1.1s						
PALK	**Pallekele**	**10.83**	**269**	Pn	**Pn**	**22 57 28.2**	**-0.8**
	comp=E,0.5nm,0.3s,baz=308,slow=14,SNR=1.8						
PALK	**Pallekele**	**10.83**	**269**		**Pn**	**22 57 27.7**	**-1.3**
VIS	**Vishakhapatnam**	**12.95**	**322**	IAML		22 56 59.9	
	comp=Z,5.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**12.98**	**33**	Pn	**Pn**	**22 57 58.7**	**+0.3**
	baz=230,slow=14,SNR=10						
MOKO	**MOKOCHONG**	**18.88**	**8**	*eP*	**P**	**22 59 14.2**	**+0.2**
GTK	**Tadong**	**19.88**	**352**	*eP*	**Pn**	**22 59 27.3**	**+0.7**
GTK				IVmBBB		22 59 33.2	
	comp=Z,55nm,0.3s						
LSA	**Lhasa**	**22.05**	**359**	P	**P**	**22 59 50.5**	**+1.9**
LSA				IAmb	IAmb	22 59 53.4	
	comp=Z,8.8nm,0.7s						
H08S3	**Diego Garcia H**	**24.31**	**232**	T	T	23 26 52.3	
	baz=52,slow=75,SNR=7.2						
H08S2	**Diego Garcia H**	**24.32**	**232**	T	T	23 26 43.3	
	baz=52,slow=75,SNR=8.8						
H08S1	**Diego Carcia H**	**24.33**	**232**	T	T	23 26 47.0	
	baz=52,slow=75,SNR=7.9						
MK31	**Makanchi Array**	**39.92**	**350**	P	**P**	**23 02 27.4**	**+0.3**
MKAR	**Makanchi Array**	**39.92**	**350**	P	**P**	**23 02 28.4**	**+1.3**
	comp=Z,1.8nm,0.7s,baz=171,slow=8.1,SNR=9.2						
MKAR	**Makanchi Array**	**39.92**	**350**	P	**P**	**23 02 27.3**	**+0.2**
SONM	**Songino Array**	**42.08**	**15**	P	**P**	**23 02 46.4**	**+1.5**
	comp=Z,1.6nm,0.7s,baz=198,slow=7.4,SNR=6.9						
SONM	**Songino Array**	**42.08**	**15**	P	**P**	**23 02 46.3**	**+1.3**
ZAA0	**Zalesovo Array**	**46.60**	**354**	P	**P**	**23 03 20.2**	**-0.6**
ZAA0				IAmb	IAmb	23 03 23.9	
	comp=Z,2.9nm,0.8s						
ZALV	**Zalesovo Beam**	**46.60**	**354**	P	**P**	**23 03 22.5**	**+1.7**
	comp=Z,2.1nm,0.5s,baz=178,slow=8.2,SNR=7.4						
ZALV	**Zalesovo Beam**	**46.60**	**354**	P	**P**	**23 03 22.1**	**+1.3**
H01W3	**Cape Leeuwin H**	**47.25**	**155**	T	T	23 54 59.0	
	baz=331,slow=74						
H01W2	**Cape Leeuwin H**	**47.26**	**155**	T	T	23 54 53.5	
	baz=331						
H01W1	**Cape Leeuwin H**	**47.27**	**155**	T	T	23 54 57.7	
	baz=331,slow=74						
HIA	**Hailar**	**47.84**	**25**	P	**P**	**23 03 31.5**	**+0.9**
ABKAR	**Akbulak array**	**49.36**	**333**	P	**P**	**23 03 43.0**	**+0.8**
ABKAR				IAmb	IAmb	23 03 44.2	
	comp=Z,1.9nm,0.6s						
WRA	**Warramunga Arr**	**50.13**	**124**	P	**P**	**23 03 48.5**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=304,slow=8.9,SNR=1.4						
WR0	**Warramunga Arr**	**50.30**	**124**	P	**P**	**23 03 46.9**	**-3.0**
WR0				IAmb	IAmb	23 03 56.6	
	comp=Z,5.6nm,1.2s						
ASAR	**Alice Springs**	**51.65**	**128**	P	**P**	**23 03 59.8**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=310,slow=7.2,SNR=3.1						
BRTR	**Keskin Array B**	**60.77**	**311**	P	**P**	**23 05 04.9**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=116,slow=8.6,SNR=3.7						
FINES	**FINESS Array B**	**71.85**	**333**	P	**P**	**23 06 14.6**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=98,slow=8.6,SNR=5.4						
FINES	**FINESS Array B**	**71.85**	**333**	P	**P**	**23 06 14.9**	**-0.5**
GERES	**GERESS Array B**	**76.41**	**318**	P	**P**	**23 06 43.0**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=79,slow=8.4,SNR=4.4						

IDC 27 23:06:04.1±68.0, 22°.96S×179°.98E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/41, mbtmp3.6/3, Error ellipse: s-maj=1211.0km s-min=176.3km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**35.06**	**247**	P	P	23 12 58.4	-0.5
	1.8nm,0.8s,baz=95,slow=11,SNR=2.5						
ASAR	**Alice Springs**	**42.18**	**260**	P	P	23 13 57.8	-1.1
	0.5nm,0.7s,baz=95,slow=9.5,SNR=6.6						
WRA	**Warramunga Arr**	**42.46**	**265**	P	P	23 14 02.8	+1.6
	0.2nm,0.4s,baz=99,slow=8.3,SNR=2.2						

*SSNC **27** 23:09:16.0±0.3, 20°.80N×73°.28W, h15km, MD2.8, ML2.4*
*OSPL **27** 23:09:18.0±0.9, 19°.82N×73°.36W, h14km±21km, ML2.6*
ISC 27 23:09:16.1±1.1, 19°.8N±0°.2×73°.36W±0°.07, h10km, n10, σ1§59/16, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASC	**Masc**	**0.92**	**297**	*i* P	**Pg**	**23 09 34.1**	**+0.3**
MASC				*i* S	**Sg**	**23 09 47.3**	**+1.5**
MASC				IAML		23 09 47.9	
	comp=N,163nm,0.2s						
MASC				IAML		23 09 49.6	
	comp=E,91nm,0.1s						
PAPH	**Port-au-Prince**	**1.58**	**141**	*i* P	**Pn**	**23 09 44.3**	**+0.1**
PAPH				IAML		23 10 14.2	
	comp=Z,61nm,0.5s						
GTBY	**Guantanamo Bay**	**1.66**	**276**	*i* P	**Pn**	**23 09 45.0**	**-0.3**
GTBY				IAML		23 10 11.4	
	comp=Z,29nm,0.1s						
GTMO	**Guantanamo**	**1.71**	**281**	*eP*	**Pn**	**23 09 45.2**	**-0.7**
GTMO				*eS*	**Sn**	**23 10 06.9**	**-0.9**
MOAC	**Moa**	**1.75**	**301**	*eP*	**Pn**	**23 09 47.2**	**+0.7**
MOAC				*i* S	**Sb**	**23 10 11.7**	**+1.3**
MOAC				IAML		23 10 13.0	
	comp=N,50nm,0.2s						
MOAC				IAML		23 10 13.8	
	comp=E,41nm,0.1s						
SDDR	**Presa de Saban**	**2.10**	**111**	*i* P	**Pn**	**23 09 51.1**	**-0.3**
SDDR				*eS*	**Sn**	**23 10 16.2**	**-1.4**
SDDR				IAML		23 10 27.3	
	comp=Z,64nm,1.1s						
LONE2	**Loma La Sidra**	**2.15**	**124**	*i* P	**Pn**	**23 09 52.9**	**+0.9**
LONE2				IAML		23 10 26.6	
	comp=Z,88nm,0.5s						
RCC	**Rio Carpintero**	**2.21**	**277**	*eP*	**Pn**	**23 09 53.4**	**+0.6**
RCC				*eS*	**Sn**	**23 10 19.9**	**-0.4**
RCC				IAML		23 10 23.2	
	comp=N,14nm,0.2s						
RCC				IAML		23 10 24.6	
	comp=E,22nm,0.3s						
LMGC	**Las Mercedes**	**3.45**	**276**	*eP*	**Pn**	**23 10 12.1**	**+2.3**
LMGC				*eS*	**Sn**	**23 10 47.6**	**-3.1**
CCCC	**Cccc**	**4.38**	**290**	*eP*	**Pn**	**23 10 19.7**	**-2.9**
CCCC				*eS*	Sn	23 11 05.1	-8.6

MEX 27 23:13:07.7±1.0, 21°.43N×99°.39W, h22km, MD4.1, Central Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPIG	**Rio Verde**	**0.71**	**309**	*eP*	Pb	23 13 17.3	-4.2
RPIG				*eS*	Sb	23 13 28.3	-2.6
DEIG	**Demacu**	**1.18**	**164**	*eP*	Pn	23 13 25.6	-3.5
ACIG	**Acambay**	**1.52**	**198**	*eP*	Pn	23 13 31.3	-2.5
VTVM	**Tizayuca**	**1.75**	**161**	*eP*	Pn	23 13 36.3	-0.8
PBVM	**Pinon**	**2.00**	**172**	*eP*	Pn	23 13 31.3	-9.0
PPM	**Popocatepetl**	**2.46**	**163**	*eP*	Pb	23 13 49.7	-1.9
LVIG	**Laguna Verde**	**3.26**	**121**	*eP*	Pn	23 13 56.0	-1.6

RSNC 27 23:14:23.9±1.3, 6°.82N×73°.13W, h141km±4km, ML3.4, Mw3.6, 4C-2D, Fault plane solution: NP1: ϕs 0.00000°, δ25.00000°, λ16.00000°., Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.23**	**193**	⇑*iP*	Pn	23 14 43.5	0.0
BARC				*eS*	Sn	23 14 57.8	-0.5
BARC				*i*		23 14 59.4	
	comp=Z,349nm,0.3s						
BRRC

LL2C	**La Loma 2 Cana**	**2.73**	**354**	*e*P		Pn	23 15 06.6	-1.0
LL2C				*e*S		Sn	23 15 40.6	-0.7
LL2C				*i*			23 15 46.7	
	comp=Z,160nm,0.3s							
LL1C	**La Loma 1 Cana**	**2.74**	**351**	*e*P		Pn	23 15 07.8	+0.2
LL1C				*e*S		Sn	23 15 40.9	-0.4
LL1C				*i*			23 15 49.0	
	comp=Z,299nm,0.5s							
VILC	**Villavicencio,**	**2.75**	**192**	*e*P		Pn	23 15 07.5	-0.4
VILC				*e*S		Sn	23 15 41.5	-0.2
VILC				*i*			23 15 52.4	
	comp=Z,125nm,0.4s							
PTGC	**Puerto Gaitan,**	**2.79**	**159**	*e*P		Pn	23 15 06.8	-1.5
PTGC				*e*S		Sn	23 15 39.0	-3.5
PTGC				*i*			23 15 48.6	
	comp=Z,51nm,0.6s							
CBOC	**Ciudad Bolivar**	**3.02**	**252**	*e*P		Pn	23 15 11.4	0.0
CBOC				*e*S		Sn	23 15 47.3	-0.6
CBOC				*i*			23 16 04.3	
	comp=Z,28nm,0.4s							
DBBC	**Dabeiba**	**3.06**	**274**	*e*P		Pn	23 15 11.1	-0.8
DBBC				*e*S		Sn	23 15 46.9	-2.0
DBBC				*i*			23 15 57.8	
	comp=Z,212nm,0.5s							
ARGC	**Ariguani, Magd**	**3.21**	**340**	*e*P		Pn	23 15 13.9	+0.2
ARGC				*e*S		Sn	23 15 51.0	-1.3
ARGC				*i*			23 16 08.3	
	comp=Z,37nm,0.3s							
SDV	**Santo Domingo**	**3.21**	**50**	*e*P		Pn	23 15 12.9	-1.0
SDV				*e*S		Sn	23 15 48.9	-3.6
SDV				*i*			23 15 52.2	
	comp=Z,34nm,0.5s							
ANIL	**Santa Ana**	**3.24**	**224**	*e*P		Pn	23 15 15.0	+0.7
ANIL				*e*S		Sn	23 15 53.4	+0.3
ANIL				*i*			23 16 00.5	
	comp=Z,144nm,0.3s							
ORTC	**Ortega, Tolima**	**3.58**	**216**	*e*P		Pn	23 15 18.2	-0.3
ORTC				*e*S		Sn	23 16 00.6	-0.2
ORTC				*i*			23 16 05.2	
	comp=Z,43nm,0.5s							
SJCC	**San Jacinto, C**	**3.67**	**327**	*e*P		Pn	23 15 17.1	-2.5
SJCC				*e*S		Sn	23 15 58.6	-4.3
SJCC				*i*			23 16 02.6	
	comp=Z,66nm,0.5s							
CRJC	**Cerrejon, Guaj**	**4.18**	**3**	*e*P		Pn	23 15 23.6	-2.8
CRJC				*e*S		Sn	23 16 07.3	-7.7
CRJC				*i*			23 16 23.8	
	comp=Z,32nm,0.2s							
YOTC	**Yotoco, Valle**	**4.26**	**229**	*e*P		Pn	23 15 26.7	-0.9
YOTC				*e*S		Sn	23 16 16.3	-0.7
SMRC	**Santa Marta, M**	**4.45**	**346**	*e*P		Pn	23 15 27.9	-2.0
SMRC				*e*S		Sn	23 16 16.4	-4.8

MEX 27 23:14:37.4±1.1, 18°44N×103°38W, h57km±8km, MD3.7, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.15**	**169**	*i* P	Pn	23 14 44.8	-1.5
MMIG				*i* S	Sn	23 14 50.8	-1.7
COIG	**Colima**	**0.80**	**338**	*e*P	Pn	23 14 50.6	-2.2
COIG				*e*S	Sn	23 15 00.8	-3.3
R15V		**0.93**	**322**	*e*P	Pn	23 14 53.4	-1.1
R15V				*e*S	Sn	23 15 05.5	-1.5
EZ5V		**1.06**	**348**	*e*P	Pn	23 14 54.9	-1.5
EZ5V				*e*S	Sn	23 15 08.5	-1.9

*IDC **27** 23:21:37.6±0.6, 1°.77N×126°.13E, h0km, mb4.1/12, mb1 4.2/14, mb1mx4.0/44, mbtmp4.1/14, ML3.8/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/43, Error ellipse: s-maj=36.6km s-min=13.0km az=71.0*
*DJA **27** 23:21:43.2±2.5, 2°N±4°×12°6E±°, h18km±23km, M4.4/10, mb4.6/5, mB5.2/2, MLv4.2/10, Mw(mB)4.6/2*
*NEIC **27** 23:21:44.6±0.9, 1°.9N±0°.1×126°.52E±0°.07, h51km±9km, mb4.5/14, Error ellipse: s-maj=17.0km s-min=8.9km az=201.0*

ISC 27 23:21:44.5±0.5, 1°.82N±0°.06×126°.37E±0°.06, h47km, n50, σ1°30/48, mb4.4/19, 1D, Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMI	**Galela, Maluku**	**1.42**	**89**	P	**Pn**	**23 22 07.8**	**0.0**
GAMI				S	**Sn**	**23 22 27.1**	**+1.8**
TNTI	**Ternate**	**1.44**	**136**		**Pn**	**23 22 07.5**	**-0.6**
TNTI	**Ternate**	**1.44**	**136**	P	**Pn**	**23 22 07.6**	**-0.6**
MNI	**Manado**	**1.58**	**256**	P	**Pn**	**23 22 11.1**	**+1.1**
SGSI	**Sangihe**	**2.04**	**336**	P	**Pn**	**23 22 15.9**	**-0.5**
KMSI	**Cibinong**	**2.69**	**243**	P	**Pn**	**23 22 26.9**	**+1.6**
GTOI	**Gorontalo**	**3.56**	**251**	P	**Pn**	**23 22 39.0**	**+1.7**
SANI	**Sanana**	**3.86**	**186**	P	**Pn**	**23 22 42.6**	**+1.2**
LUWI	**Luwuk**	**4.58**	**232**	Pn	**Pn**	**23 22 53.4**	**+2.1**
LUWI	**Luwuk**	**4.58**	**232**	P	**Pn**	**23 22 52.5**	**+1.1**
MRSI	**Marisa**	**4.63**	**253**	P	Pn	23 22 56.9	+5.0
KCP	**Kidapawan**	**5.32**	**346**	*e*P	**Pn**	**23 23 05.4**	**+3.9**
APSI	**Ampana**	**5.45**	**240**	P	**Pn**	**23 23 05.3**	**+2.1**
	0.3nm1µm88nm,0.7s						
SIJI	**Sorong**	**5.57**	**119**	LR	LR	23 25 29.3	
	comp=Z,232nm,21.7s,baz=51,slow=40						
TOLI2	**Tolitoli**	**5.63**	**263**		**Pn**	**23 23 07.8**	**+2.0**
MPSI	**Mapaga**	**6.64**	**257**	P	Pn	23 23 30.3	+11
TTSI	**Tana Toraja**	**8.14**	**234**	P	Pn	23 23 50.3	+10
BNSI	**Bone**	**8.79**	**225**	P	**Pn**	**23 23 50.9**	**+1.8**
	22nm,1.0s						
BSSI	**Bau Bau, Buton**	**9.85**	**217**	P	**Pn**	**23 24 03.8**	**+0.2**
	2µm29nm,0.7s						
JAY	**Jayapura**	**14.96**	**107**	Pn	**Pn**	**23 25 14.6**	**+1.5**
	0.2nm,0.3s,baz=284,slow=17,SNR=2.5						
KNRA	**Kununurra**	**17.54**	**172**	P	**Pn**	**23 25 45.8**	**0.0**
KNRA				IAmb	IAmb	23 25 50.5	
	comp=Z,14nm,0.7s						
FITZ	**Fitzroy Crossi**	**19.80**	**182**	P	**P**	**23 26 09.6**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=15,slow=9.6,SNR=12						
FITZ	**Fitzroy Crossi**	**19.80**	**182**	P	**P**	**23 26 11.3**	**+0.1**
WB0	**Warramunga Arr**	**22.85**	**160**	P	**P**	**23 26 42.2**	**-1.8**
WB0				IAmb	IAmb	23 26 45.9	
	comp=Z,13nm,0.7s						
WRAB	**Tennant Creek**	**22.99**	**160**	P	**P**	**23 26 44.4**	**-1.0**
WRAB				IAmb	IAmb	23 26 47.4	
	comp=Z,10nm,0.7s						
WRA	**Warramunga Arr**	**22.99**	**161**	P	**P**	**23 26 44.5**	**-0.9**
	comp=Z,10.0nm,0.6s,baz=339,slow=11,SNR=62						
WRA	**Warramunga Arr**	**22.99**	**161**	P	**P**	**23 26 44.2**	**-1.2**
WB2	**Warramunga Arr**	**23.00**	**160**	P	**P**	**23 26 43.9**	**-1.6**
WB2				IAmb	IAmb	23 26 47.2	
	comp=Z,12nm,0.7s						
WR0	**Warramunga Arr**	**23.08**	**160**	P	**P**	**23 26 45.0**	**-1.2**
WR0				IAmb	IAmb	23 26 49.9	
	comp=Z,23nm,1.4s						
AS31	**Alice Springs**	**26.37**	**164**	P	**P**	**23 27 15.1**	**-1.4**
ASAR	**Alice Springs**	**26.37**	**164**	P	**P**	**23 27 15.6**	**-0.9**
	comp=Z,1.8nm,0.6s,baz=337,slow=8.4,SNR=29						
ASAR				PcP	**PcP**	**23 30 41.6**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=341,slow=2.3,SNR=5.7						
CTA	**Charters Tower**	**29.23**	**139**	P	**P**	**23 27 42.3**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=309,slow=6.5,SNR=2.0						
CMAR	**Chiang Mai Arr**	**31.57**	**303**	P	**P**	**23 28 00.9**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=117,slow=44,SNR=0.9						
CMAR	**Chiang Mai Arr**	**31.57**	**303**	P	**P**	**23 28 02.0**	**-0.9**
JWT	**Wachi**	**34.34**	**13**	P	**P**	**23 28 27.6**	**+0.8**
JWT				IAmb	IAmb	23 28 29.7	
	comp=Z,12nm,1.3s						
KSRS	**Korea Array**	**35.49**	**2**	P	**P**	**23 28 36.6**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=185,slow=10,SNR=5.6						
BBOO	**Buckleboo**	**35.64**	**166**	P	**P**	**23 28 38.6**	**+0.6**
MJAR	**Matsushiro Arr**	**36.25**	**16**	P	**P**	**23 28 43.5**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=198,slow=7.7,SNR=3.0						
STKA	**Stephens Creek**	**36.49**	**158**	P	**P**	**23 28 45.1**	**-0.3**
	comp=Z,1.1nm,0.4s,baz=333,slow=12,SNR=1.9						
ARMA	**Armidale**	**40.09**	**145**	P	**P**	**23 29 16.8**	**+1.0**
SONM	**Songino Array**	**48.99**	**342**	P	**P**	**23 30 26.2**	**-0.4**
	comp=Z,1.5nm,1.0s,baz=165,slow=8.5,SNR=4.3						
MK31	**Makanchi Array**	**58.92**	**326**	P	**P**	**23 31 38.4**	**-0.6**
MK31				IAmb	IAmb	23 31 41.2	
	comp=Z,5.6nm,1.4s						
MKAR	**Makanchi Array**	**58.92**	**326**	P	**P**	**23 31 38.3**	**-0.7**
	comp=Z,2.1nm,0.5s,baz=116,slow=7.3,SNR=28						
MKAR	**Makanchi Array**	**58.92**	**326**		**P**	**23 31 38.4**	**-0.6**
MAKZ	**Makanchi**	**59.11**	**326**	P	**P**	**23 31 39.6**	**-0.6**
MAKZ				IAmb	IAmb	23 31 45.2	
	comp=Z,4.0nm,0.9s						
LBZ	**Lake Benmore**	**60.32**	**145**	P	**P**	**23 31 48.7**	**+0.2**
ZALV	**Zalesovo Beam**	**62.13**	**334**	P	**P**	**23 31 59.1**	**-1.6**
	comp=Z,0.7nm,0.6s,baz=112,slow=7.8,SNR=2.4						
NRIK	**Noril'sk**	**72.19**	**346**	P	**P**	**23 33 03.3**	**-0.9**
	comp=Z,2.0nm,0.3s,baz=153,slow=5.2,SNR=5.2						
VNDA	**Vanda**	**81.59**	**173**	P	**P**	**23 33 57.2**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=320,slow=7.1,SNR=18						
TORD	**Torodi Ar. Bea**	**123.15**	**287**	PKP	**PKPdf**	**23 40 36.5**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=82,slow=1.3,SNR=5.8						

*IDC **27** 23:23:16.4±1.3, 30°.13N×138°.97E, h406km±14km, mb3.3/12, mb1 3.4/17, mb1mx3.2/59, mbtmp4.0/17, Error ellipse: s-maj=27.5km s-min=10.2km az=82.0*
*NEIC **27** 23:23:16.5±1.4, 30°.11N±0°.10×139°.06E±0°.09, h400km±8km, mb4.0/18, Error ellipse: s-maj=15.6km s-min=8.9km az=151.0*

ISC 27 23:23:17.6±0.6, 30°.24N±0°.07×139°.1E±0°.1, h421km, n49, σ1°50/54, mb3.8/20, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.93**	**12**	Pn	**P**	**23 24 20.1**	**-1.6**
JHJ2				Sn	**S**	**23 25 11.2**	**-2.6**
JHJ	**Hachijo jima 2**	**2.93**	**11**	P	**P**	**23 24 21.0**	**-0.7**
	58nm,0.3s,baz=62,slow=22,SNR=15						
JHJ				S	**S**	**23 25 08.5**	**-5.3**
	40nm,0.3s,baz=67,slow=24,SNR=6.8						
JMN	**Monobe**	**5.63**	**310**	Pn	**P**	**23 24 46.3**	**-0.5**
JWT	**Wachi**	**5.91**	**329**	Pn	**P**	**23 24 50.7**	**+1.1**
MJAR	**Matsushiro Arr**	**6.33**	**354**	P	**P**	**23 24 52.3**	**-1.8**
	0.5nm,0.3s,baz=173,slow=10,SNR=20						
MAT	**Matsushiro**	**6.33**	**354**	P	**P**	**23 24 53.2**	**-0.9**
MAT				S	**S**	**23 26 08.6**	**-4.8**
JHS	**Saijyo**	**6.92**	**315**	Pn	**P**	**23 25 01.0**	**-0.1**
JMM	**Marumori**	**7.74**	**10**	P	**P**	**23 25 09.7**	**-0.2**
JMM				Sn	**S**	**23 26 39.8**	**-1.8**
JSD	**Sado**	**7.81**	**355**	P	**P**	**23 25 09.4**	**-1.2**
JTU	**Tsushima**	**9.24**	**300**	P	**P**	**23 25 26.8**	**+0.4**
JTM	**Tenmabayashi**	**10.65**	**8**	P	**P**	**23 25 43.5**	**+1.8**
KSRS	**Korea Array**	**11.74**	**311**	P	**P**	**23 25 53.4**	**-0.4**
	0.2nm,0.3s,baz=124,slow=10,SNR=5.3						
ERM	**Erimo**	**12.20**	**14**	P	**P**	**23 26 01.3**	**+2.5**
USRK	**Ussuriysk Ar.**	**15.03**	**340**	P	**P**	**23 26 29.9**	**+0.4**
	baz=156,slow=15,SNR=5.6						
KLR	**Kul'dur**	**19.77**	**346**	P	**P**	**23 27 19.1**	**+0.7**
	0.4nm,0.3s,baz=154,slow=7.9,SNR=15						
MKAR	**Makanchi Array**	**46.40**	**307**	P	**P**	**23 31 04.1**	**-0.1**
	0.6nm,0.7s,baz=73,slow=12,SNR=5.3						
KNRA	**Kununurra**	**46.72**	**194**	P	**P**	**23 31 06.1**	**-0.8**
KNRA				IAmb	IAmb	23 31 06.7	
	comp=Z,6.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**49.77**	**197**	P	**P**	**23 31 28.1**	**-1.8**
	comp=Z,2.0nm,0.8s,baz=10,slow=8.3,SNR=4.5						
FITZ	**Fitzroy Crossi**	**49.77**	**197**	P	**P**	**23 31 28.7**	**-1.2**
FITZ				IAmb	IAmb	23 32 23.5	
	comp=Z,18nm,1.9s						
WB0	**Warramunga Arr**	**49.92**	**186**	P	**P**	**23 31 30.3**	**-0.7**
WB0				IAmb	IAmb	23 31 30.6	
	comp=Z,5.4nm,0.8s						
WB2	**Warramunga Arr**	**50.10**	**186**	P	**P**	**23 31 31.6**	**-0.7**
WB2				IAmb	IAmb	23 31 32.3	
	comp=Z,4.5nm,0.6s						
WR0	**Warramunga Arr**	**50.10**	**186**	P	**P**	**23 31 31.6**	**-0.7**
WR0				IAmb	IAmb	23 31 32.0	
	comp=Z,4.4nm,0.8s						
WRA	**Warramunga Arr**	**50.10**	**186**	P	**P**	**23 31 31.2**	**-1.1**
	comp=Z,3.2nm,0.6s,baz=3.9,slow=7.8,SNR=32						
WRA				PcP	**PcP**	**23 32 45.4**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=358,slow=4.0,SNR=1.7						
WRA	**Warramunga Arr**	**50.10**	**186**	P	**P**	**23 31 31.5**	**-0.8**
AS31	**Alice Springs**	**53.83**	**186**	P	**P**	**23 31 58.7**	**-0.6**
AS31				IAmb	IAmb	23 31 59.9	
	comp=Z,1.8nm,0.6s						
ASAR	**Alice Springs**	**53.83**	**186**	P	**P**	**23 31 58.5**	**-0.9**
	comp=Z,2.1nm,0.5s,baz=2.1,slow=6.3,SNR=23						
H21K	**Melozitna Rive**	**53.86**	**28**	P	**P**	**23 32 01.5**	**+2.5**
H21K				IAmb	IAmb	23 33 47.8	
	comp=Z,8.3nm,1.5s						
KK31	**Karatay Array**	**55.06**	**304**	P	**P**	**23 32 08.6**	**+0.6**
KKAR	**Karatay Array**	**55.06**	**304**	P	**P**	**23 32 08.5**	**+0.5**
KKAR	**Karatay Array**	**55.06**	**304**	P	**P**	**23 32 08.8**	**+0.8**
KKAR				IAmb	IAmb	23 32 09.0	
	comp=Z,2.7nm,0.8s						
NIL	**Nilore**	**55.12**	**292**	P	**P**	**23 32 09.3**	**+0.8**
NIL				IAmb	IAmb	23 32 10.5	
	comp=Z,2.5nm,0.6s						
ILAR	**Eielson Array**	**56.30**	**30**	P	**P**	**23 32 16.7**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=286,slow=6.5,SNR=4.3						
CHGR	**Chuyangaron**	**57.03**	**299**	P	**P**	**23 32 22.1**	**+0.3**
EPYK	**Eagle Plains**	**60.40**	**27**	P	**P**	**23 32 47.1**	**+2.9**
ABKAR	**Akbulak array**	**60.97**	**313**	P	**P**	**23 32 48.7**	**+0.5**
ABKAR				IAmb	IAmb	23 32 49.5	
	comp=Z,10nm,1.8s						
ABKAR	**Akbulak array**	**60.97**	**313**	P	**P**	**23 32 48.6**	**+0.5**
FORT	**Forrest**	**61.58**	**191**	P	**P**	**23 32 52.1**	**-0.3**
STKA	**Stephens Creek**	**61.82**	**178**	P	**P**	**23 32 53.7**	**-0.2**
	comp=Z,2.1nm,0.5s,baz=351,slow=6.7,SNR=3.5						
MORW	**Morawa**	**62.94**	**203**	P	**P**	**23 33 00.3**	**-1.0**
ARCES	**ARCESS Array B**	**69.68**	**340**	P	**P**	**23 33 44.3**	**+1.4**
	comp=Z,1.6nm,0.7s,baz=74,slow=9.6,SNR=1.4						
KBZ	**Khabaz**	**73.89**	**311**	P	**P**	**23 34 08.8**	**+0.8**
	comp=Z,2.2nm,0.9s,baz=42,slow=5.1,SNR=5.1						
FINES	**FINESS Array B**	**73.92**	**333**	P	**P**	**23 34 08.6**	**+0.7**
	comp=Z,1.4nm,0.5s,baz=62,slow=4.3,SNR=12						
FINES	**FINESS Array B**	**73.92**	**333**	P	**P**	**23 34 08.7**	**+0.8**
AKASG	**Malin Array Be**	**78.48**	**322**	P	**P**	**23 34 33.8**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=52,slow=5.3,SNR=3.3						
NB2	**NORSAR Subarra**	**79.68**	**337**	P	**P**	**23 34 40.5**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=47,slow=5.1						
NOA	**NORSAR Array B**	**79.68**	**337**	P	**P**	**23 34 39.8**	**0.0**
	comp=Z,0.6nm,0.6s,baz=45,slow=5.3,SNR=4.8						
BRTR	**Keskin Array B**	**81.89**	**311**	P	**P**	**23 34 51.1**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=95,slow=3.7,SNR=11						
TORD	**Torodi Ar. Bea**	**120.48**	**310**	PKP	**PKPdf**	**23 41 20.8**	**0.0**
	comp=Z,0.2nm,0.5s,baz=33,slow=2.0,SNR=1.6						
LPAZ	**La Paz**	**151.49**	**67**	PKPbc	**PKiKP**	**23 42 25.1**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=345,slow=15,SNR=3.7						

JMA 27 23:24:45.4, 35°.45N×138°.76E, h12km±1km, M2.1, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYN	**Shimob**	**0.18**	**285**	P	Pg	23 24 49.6	+0.1
JYN				S	Sg	23 24 52.8	+0.4
JFNN	**Fujinakano**	**0.26**	**193**	P	Pg	23 24 50.7	-0.2
JFNN				S	Sg	23 24 54.7	+0.2
JOD2	**Odawara 2**	**0.33**	**125**	P	Pg	23 24 51.9	-0.1
JOD2				S	Sg	23 24 56.5	+0.1
KTJ3	**Kamata3**	**0.57**	**154**	P	Pg	23 24 55.9	-0.7
KTJ3				S	Sg	23 25 03.2	-1.0
JRY	**Ryogami san**	**0.58**	**11**	P	Pg	23 24 56.7	0.0
JRY				S	Sg	23 25 04.5	+0.1
SHZ3	**Shizuoka 3**	**0.59**	**230**	P	Pg	23 24 56.6	-0.3
SHZ3				S	Sg	23 25 05.0	+0.2
JIZS	**Izushimoda**	**0.74**	**172**	P	Pg	23 24 58.7	-1.0
MAT	**Matsushiro**	**1.18**	**338**	S	Sb	23 25 22.7	-0.3
MAT	**Matsushiro**	**1.18**	**338**	P	Pb	23 25 07.2	-0.5

*IDC **27** 23:34:48.9±1.0, 31°.59N×40°.52W, h0km, mb3.8/12, mb1 4.1/12, mb1mx3.8/41, mbtmp3.8/12, MS3.4/15, Ms1 3.4/15, ms1mx3.2/45, Error ellipse: s-maj=32.7km s-min=18.4km az=173.0*

ISC 27 23:34:50.4±0.9, 31°.6N±0°.2×40°.5W±0°.1, h10km, n35, σ0°69/19, mb4.0/19, MS3.5/15, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H05N1	**Guadeloupe/Mar**	**24.07**	**236**	T	T	00 04 52.7	
SCHQ	**Schefferville**	**29.82**	**329**	LR	LR	23 51 59.4	
	comp=Z,107nm,19.5s,baz=272,slow=35						
ESDC	**Sonseca Array**	**30.64**	**64**	LR	LR	23 50 49.5	
	comp=Z,12nm,21.7s,baz=280,slow=31						
DAVOX	**Davos/Dischmat**	**41.21**	**53**	P	**P**	**23 42 35.5**	**0.0**
	1.4nm,0.7s,baz=303,slow=12,SNR=4.9						
DAVA	**Damuels**	**41.24**	**53**	*e*P	**P**	**23 42 35.6**	**0.0**
	8.9nm,1.3s						
DBIC	**Dimbokro**	**41.50**	**119**	LR	LR	23 57 40.3	
	comp=Z,63nm,20.1s,baz=338,slow=33						
RETA	**Reutte**	**41.85**	**52**	*e*P	**P**	**23 42 40.5**	**0.0**
	2.8nm,1.2s						
MOTA	**Moosalm**	**42.07**	**53**	*e*P	**P**	**23 42 43.4**	**+0.9**
	4.5nm,1.0s						
SQTA	**Sankt Quirin**	**42.14**	**53**	*e*P	**P**	**23 42 43.2**	**+0.2**
	5.5nm,1.0s						
WATA	**Walderalm**	**42.39**	**53**	*e*P	**P**	**23 42 45.7**	**+0.6**
	3.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**42.82**	**106**	P	**P**	**23 42 49.1**	**+0.4**
	1.0nm,0.8s,baz=294,slow=5.5,SNR=5.2						
TORD				LR	LR	23 59 22.9	
	comp=Z,27nm,19.5s,baz=315,slow=34						
ABTA	**Abfaltersbach**	**43.02**	**54**	*e*P	**P**	**23 42 51.1**	**+1.0**
	2.8nm,0.9s						
GERES	**GERESS Array B**	**43.88**	**51**	P	**P**	**23 42 56.9**	**-0.2**
	1.2nm,0.9s,baz=256,slow=5.4,SNR=7.1						
OBKA	**Obir**	**44.42**	**54**	*e*P	**P**	**23 43 01.5**	**+0.2**
	2.2nm,0.6s						
ULM	**Lac du Bonnet**	**44.68**	**311**	LR	LR	00 01 49.1	
	comp=Z,41nm,19.3s,baz=73,slow=36						
JTS	**Las Juntas de**	**46.18**	**253**	LR	LR	00 00 56.8	
	comp=Z,20nm,18.9s,baz=82,slow=34						
H10N2	**ASCENSION HYDR**	**46.42**	**143**	T	T	00 32 41.8	
	baz=328,slow=76,SNR=3010						
H10N3	**ASCENSION HYDR**	**46.42**	**143**	T	T	00 32 42.1	
	baz=328,slow=76,SNR=2380						
H10N1	**ASCENSION HYDR**	**46.44**	**143**	T	T	00 32 43.3	
	baz=328,slow=76,SNR=2807						
H10S3	**ASCENSION HYDR**	**47.29**	**144**	T	T	00 33 47.6	
	baz=328,slow=74,SNR=348						
H10S2	**ASCENSION HYDR**	**47.30**	**144**	T	T	00 33 48.7	
	baz=252,slow=74,SNR=122						
SIV	**San Ignacio**	**51.24**	**206**	LR	LR	00 02 26.8	
	comp=Z,23nm,19.8s,baz=112,slow=32						
ARCES	**ARCESS Array B**	**52.44**	**24**	LR	LR	00 01 49.9	
	comp=Z,26nm,19.2s,baz=160,slow=31						
TXAR	**Lajitas Array**	**53.80**	**285**	P	**P**	**23 44 13.6**	**+0.1**
	0.3nm,0.8s,baz=92,slow=6.6,SNR=1.2						
TXAR				LR	LR	00 06 02.9	
	comp=Z,36nm,18.9s,baz=0.0,slow=35						
AKASG	**Malin Array Be**	**53.85**	**48**	P	**P**	**23 44 11.5**	**-1.9**
	0.7nm,0.5s,baz=279,slow=6.4,SNR=6.2						
LPAZ	**La Paz**	**54.46**	**213**	P	**P**	**23 44 18.5**	**-0.4**
	1.1nm,1.1s,baz=71,slow=16,SNR=1.7						
PDAR	**Pinedale Array**	**54.73**	**303**	P	**P**	**23 44 20.9**	**+0.6**
	1.9nm,1.0s,baz=69,slow=8.1,SNR=8.6						
PDAR				LR	LR	00 07 11.3	
	comp=Z,54nm,18.4s,baz=107,slow=36						
YKA	**Yellowknife Ar**	**55.24**	**327**	LR	LR	00 07 10.2	
	comp=Z,52nm,18.5s,baz=0.0,slow=35						
BRTR	**Keskin Array B**	**59.25**	**60**	P	**P**	**23 44 52.5**	**+0.2**
	0.7nm,1.0s,baz=289,slow=7.7,SNR=3.9						
LVC	**Limon Verde**	**60.34**	**210**	LR	LR	00 09 02.9	
	comp=Z,22nm,21.7s,baz=344,slow=34						
NVAR	**Mina Array Bea**	**62.33**	**300**	P	**P**	**23 45 13.1**	**-0.2**
	0.3nm,0.6s,baz=84,slow=8.3,SNR=2.3						
NVAR				LR	LR	00 12 09.5	
	comp=Z,87nm,18.1s,baz=90,slow=36						
KBZ	**Khabaz**	**64.55**	**53**	P	**P**	**23 45 28.5**	**+0.9**
	2.4nm,1.0s,baz=251,slow=2.3,SNR=4.8						
ILAR	**Eielson Array**	**68.43**	**334**	P	**P**	**23 45 52.1**	**0.0**
	0.8nm,1.0s,baz=73,slow=5.1,SNR=4.8						
ILAR				LR	LR	00 15 18.7	
	comp=Z,37nm,19.6s,baz=100,slow=36						
KMBO	**Kilima Mbogo**	**80.18**	**97**	LR	LR	00 21 43.9	
	comp=Z,29nm,20.6s,baz=252,slow=35						
ZALV	**Zalesovo Beam**	**82.63**	**29**	P	**P**	**23 47 13.9**	**+0.2**
	0.7nm,0.5s,baz=316,slow=6.2,SNR=4.1						

*DDA **27** 23:37:37.9, 35°.07N×33°.86E, h32km±1km, ML2.7*
*NIC **27** 23:37:38.6±0.0, 34°.85N×33°.81E, h19km, MI3.2/9*
*ISK **27** 23:37:38.2, 34°.99N×33°.84E, h25km, ML3.0/17*

ISC 27 23:37:38.4±1.0, 34°.97N±0°.04×33°.88E±0°.03, h30km±6km, n49, σ1°44/86, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARAL	**Paralimni**	**0.14**	**79**	P	**Pb**	**23 37 44.0**	**0.0**
PARAL				S	**Sb**	**23 37 49.0**	**+1.2**
PARAL				AML	AML	23 37 49.1	
	13nm,0.3s						

AKMS	**Akamas**	**1.27**	**273**	P		**Pn**	**23 38 01.1**	**+0.9**
AKMS				AML		AML	23 38 24.2	
	1.9nm,0.5s							
AKMS				AML		AML	23 38 26.5	
	1.8nm,0.6s							
IKL	**Isikli**	**1.28**	**353**	PN		**Pn**	**23 38 00.2**	**-0.1**
IKL				SN		**Sb**	**23 38 17.0**	**-0.9**
OREN	**Orenkoy-Mersin**	**1.28**	**345**	PN		**Pn**	**23 38 00.9**	**+0.6**
TEKE	**Tekeli-Mersin**	**1.33**	**332**	PN		**Pn**	**23 38 01.5**	**+0.6**
TEKE				SN		**Sb**	**23 38 18.1**	**-1.3**
SILI	**Silifke-Mersin**	**1.40**	**1**	PN		**Pn**	**23 38 02.6**	**+0.7**
SILI				SN		**Sb**	**23 38 20.2**	**-1.1**
BERE	**Bereket-Mersin**	**1.48**	**339**	PN		**Pn**	**23 38 03.5**	**+0.4**
KEBE	**Keben-Mersin**	**1.48**	**355**	PN		**Pn**	**23 38 03.5**	**+0.4**
TEVE	**Tevekalti-Mers**	**1.51**	**347**	PN		**Pn**	**23 38 03.8**	**+0.3**
KIZK	**Mersin**	**1.52**	**8**	*i* P		**Pn**	**23 38 03.4**	**-0.2**
KIZK				*i* S		**Sb**	**23 38 23.2**	**-1.8**
KIZK	**Mersin**	**1.52**	**8**	PN		**Pn**	**23 38 04.3**	**+0.6**
GAZI	**Gazipasa**	**1.79**	**315**	*i* P		**Pn**	**23 38 07.5**	**+0.1**
GAZI				*i* S		**Sn**	**23 38 27.3**	**-1.9**
GAZI	**Gazipasa**	**1.79**	**315**	PN		**Pn**	**23 38 08.2**	**+0.8**
GAZI				SN		**Sn**	**23 38 30.3**	**+1.1**
ERMK	**Ermenek**	**1.84**	**335**	*i* P		**Pn**	**23 38 09.7**	**+1.4**
ERMK				*i* S		**Sn**	**23 38 31.5**	**+0.8**
ERMK				IAML			23 38 35.0	
	comp=N,122nm,0.5s							
ERMK				IAML			23 38 35.0	
	comp=E,134nm,0.6s							
MERS	**Mersin**	**1.97**	**15**	PN		**Pn**	**23 38 10.5**	**+0.7**
YAYL	**Yayladag**	**2.11**	**59**	*i* P		**Pn**	**23 38 12.8**	**+1.1**
YAYL				*i* S		**Sn**	**23 38 35.5**	**-1.5**
YAYL				IAML			23 38 44.0	
	comp=N,65nm,0.7s							
KRMN	**Karaman**	**2.26**	**347**	PN		**Pn**	**23 38 14.6**	**+0.8**
KKBE	**Karaman, Kazim**	**2.37**	**342**	*i* P		**Pn**	**23 38 17.6**	**+2.2**
KKBE				*i* S		**Sn**	**23 38 45.1**	**+1.6**
GULE	**Gulek**	**2.42**	**17**	*i* P		**Pn**	**23 38 17.9**	**+1.8**
GULE				*i* S		**Sn**	**23 38 46.2**	**+1.3**
GULE				IAML			23 38 50.0	
	comp=E,44nm,0.5s							
KERG	**Konya-Eregli**	**2.45**	**5**	*i* P		**Pn**	**23 38 18.7**	**+2.2**
KERG				*i* S		**Sn**	**23 38 46.3**	**+0.8**
KEPZ	**Antalya-Kepez**	**2.67**	**317**	*i* P		**Pn**	**23 38 21.1**	**+1.6**
KEPZ				*i* S		**Sn**	**23 38 52.8**	**+1.9**
SEDI	**Konya, Seydise**	**3.01**	**326**	*i* P		**Pn**	**23 38 27.3**	**+3.0**
SEDI				*i* S		**Sn**	**23 39 00.2**	**+0.7**
NIDE	**Nigde/Merkez-G**	**3.11**	**13**	*i* P		**Pn**	**23 38 28.5**	**+2.9**
NIDE				*i* S		**Sn**	**23 39 03.2**	**+1.4**
KUZU	**Kuzuini**	**3.16**	**54**	*i* P		**Pn**	**23 38 26.9**	**+0.8**
KUZU				*i* S		**Sn**	**23 39 03.1**	**+0.2**
KUZU				IAML			23 39 17.0	
	comp=N,24nm,0.5s							
KUZU				IAML			23 39 26.0	
	comp=E,29nm,0.7s							
AKUM	**Antalya-Kumluc**	**3.18**	**296**	*i* P		**Pn**	**23 38 30.4**	**+3.9**
AKUM				*i* S		**Sb**	**23 39 13.4**	**+0.9**
AKUM				IAML			23 39 19.0	
	comp=N,26nm,0.8s							
ANDN	**Andirin**	**3.28**	**37**	*i* P		**Pn**	**23 38 29.2**	**+1.3**
ANDN				*i* S		**Sn**	**23 39 05.5**	**-0.5**
YAHY	**KAYSERI_Yahyal**	**3.34**	**21**	*i* P		**Pn**	**23 38 30.7**	**+2.0**
YAHY				*i* S		**Sn**	**23 39 09.0**	**+1.5**
HCB	**Kahramanmara**	**3.41**	**45**	*i* P		**Pn**	**23 38 29.6**	**0.0**
HCB				*i* S		**Sn**	**23 39 06.9**	**-2.2**
ALIN	**Konya, Altinte**	**3.42**	**347**	*i* P		**Pn**	**23 38 27.5**	**-2.3**
ALIN				*i* S		**Sn**	**23 39 04.7**	**-4.7**
DOGA	**KONYA_Doganhis**	**3.60**	**331**	*i* P		**Pn**	**23 38 33.1**	**+0.7**
DOGA				*i* S		**Sn**	**23 39 17.0**	**+3.0**
GOLH	**Golhisar**	**4.17**	**304**	*i* P		**Pn**	**23 38 40.2**	**+0.2**
GOLH				*i* S		**Sn**	**23 39 23.7**	**-4.1**
GOLH				IAML			23 39 43.0	
	comp=N,12nm,1.3s							

*IDC **27** 23:44:35.9±5.2,37.˚98N×74.˚60E,h108^{km}±42^{km},mb3.5/4, mb1 3.5/6,mb1mx3.1/46,mbtmp3.8/6,Error ellipse: s-maj=65.4km s-min=29.7km az=135.0*

*NEIC **27** 23:44:40.4±2.6,38.˚28N±0.˚06×74.˚59E±0.˚09,h147^{km}±8^{km}, mb4.1/8,Error ellipse: s-maj=10.6km s-min=9.2km az=109.0*

*NNC **27** 23:44:44.6±2.7,38.˚53N×74.˚21E,h128^{km}±65^{km},mb2.6, mpv3.4,Error ellipse: s-maj=28.1km s-min=18.2km az=15.0*

ISC 27 23:44:39.1±0.6,38.˚22N±0.˚05×74.˚57E±0.˚06,h150^{km},n49, σ2^{s}05/57,mb3.8/7,3C-2D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**2.50**	**301**		**Pn**	**23 45 21.4**	**+0.9**
DRK				Sn	**Sn**	**23 45 52.2**	**-0.2**
GAR	**Garm**	**3.42**	**285**		**Pn**	**23 45 32.2**	**+0.3**
BTK	**Batken**	**3.45**	**303**		**Pn**	**23 45 33.5**	**+1.3**
KZA	**Kyzart**	**3.89**	**8**	P	**Pn**	**23 45 39.0**	**+0.7**
	SNR=26						
AML	**Almayashu**	**3.97**	**351**	P	**Pn**	**23 45 40.1**	**+0.9**
	SNR=7.8						
UCH	**Uchtor**	**4.01**	**359**	P	**Pn**	**23 45 40.8**	**+1.0**
	SNR=11						
ULHL	**Ulahol**	**4.22**	**17**	P	**Pn**	**23 45 43.5**	**+1.0**
	SNR=8.0						
CHGR	**Chuyangaron**	**4.27**	**278**		**Pn**	**23 45 42.8**	**-0.2**
TARG	**Taragay, Kyrgy**	**4.30**	**34**	Pn	**Pn**	**23 45 44.5**	**+0.9**
AAK	**Ala-Archa**	**4.42**	**359**	P	**Pn**	**23 45 46.0**	**+1.2**
	4.2nm,0.8s						
AAK				⇓S	**Sn**	**23 46 33.2**	**-2.9**
	8.1nm,0.8s						
AAK	**Ala-Archa**	**4.42**	**359**		**Pn**	**23 45 46.1**	**+1.2**
NIL	**Nilore**	**4.68**	**194**		**Pn**	**23 45 51.5**	**+3.2**
TKM2	**Tokmak 2**	**4.76**	**9**	P	**Pn**	**23 45 50.7**	**+1.2**
	SNR=11						
TKM2	**Tokmak 2**	**4.76**	**9**	⇑P	**Pn**	**23 45 50.5**	**+1.0**
	5.7nm,0.4s						
TKM2				⇑S	**Sn**	**23 46 44.0**	**-0.4**
	20nm,0.8s						
CHMS	**Chumysh**	**4.78**	**2**	P	**Pn**	**23 45 51.0**	**+1.5**
	SNR=6.4						
KK31	**Karatay Array**	**5.78**	**329**	⇑P	**Pn**	**23 46 02.6**	**-0.1**
	1.2nm,0.4s,baz=175,slow=18,SNR=5.8						
KK31				S	**Sn**	**23 47 03.8**	**-4.3**
	16nm,0.6s,baz=144,slow=20,SNR=17						
KK31	**Karatay Array**	**5.78**	**329**		**Pn**	**23 46 02.9**	**+0.2**
KKAR	**Karatay Array**	**5.78**	**329**		**Pn**	**23 46 03.0**	**+0.3**
KKAR				Sn	**Sn**	**23 47 04.7**	**-3.4**
KKAR	**Karatay Array**	**5.78**	**329**		**Pn**	**23 46 03.3**	**+0.6**
DHRM	**DHARAMSHALA**	**6.12**	**166**	*eP*	**Pn**	**23 46 11.0**	**+3.4**
DHRM				*eS*	**Sn**	**23 47 13.8**	**-2.9**
DHRM				IAML		23 47 18.9	
	comp=N,72nm,0.1s						
DHRM				IAML		23 47 20.7	
	comp=E,65nm,0.4s						
SMLA	**Simla**	**7.39**	**162**	*eP*	**Pn**	**23 46 26.1**	**+1.8**
SMLA				*eS*	**Sn**	**23 47 40.9**	**-5.9**
SMLA				IAML		23 47 50.0	
	comp=E,40nm,0.3s						
SMLA				IAML		23 47 50.4	
	comp=N,48nm,0.4s						
MKAR	**Makanchi Array**	**10.29**	**31**	P	**Pn**	**23 47 03.3**	**+0.5**
	comp=N,0.1nm,0.3s,baz=220,slow=17,SNR=2.7						
PYUN	**Piuthan**	**12.30**	**143**	*eP*	**Pn**	**23 47 28.4**	**-1.1**
	comp=N,12nm,0.3s						
DANN	**Dangsing**	**12.48**	**139**	*eP*	**Pn**	**23 47 30.4**	**-1.4**
	comp=N,9.2nm,0.3s						
KOLN	**Koldanda**	**12.87**	**141**	*eP*	**Pn**	**23 47 36.3**	**-0.5**
	comp=N,6.2nm,0.3s						
GEYT	**Alibeck**	**12.97**	**274**	P	**Pn**	**23 47 36.5**	**-1.3**
	comp=N,1.1nm,0.3s,baz=97,slow=12,SNR=9.3						
GKN	**Gorkha**	**13.22**	**137**	*eP*	**Pn**	**23 47 40.1**	**-1.1**
	comp=N,7.5nm,0.3s						
DMN	**Daman**	**13.78**	**137**	*eP*	**Pn**	**23 47 47.4**	**-1.0**
	comp=N,4.0nm,0.3s						
PKIN	**Phulchoki**	**13.96**	**136**	*eP*	**Pn**	**23 47 50.0**	**-0.8**
PKI	**Pulchoki**	**13.97**	**136**	*eP*	**Pn**	**23 47 50.6**	**-0.4**
	comp=N,3.7nm,0.3s						
JIRN	**Jiri**	**14.34**	**134**	*eP*	**Pn**	**23 47 54.9**	**-0.7**
	comp=N,12nm,0.3s						
RAMN	**Ramite**	**15.12**	**134**	*eP*	**Pn**	**23 48 04.1**	**-1.1**
	comp=N,7.1nm,0.4s						
BRVK	**Borovoye**	**15.14**	**350**		**Pn**	**23 48 06.3**	**+1.3**
BRVK				IAmb	IAmb	23 48 14.1	
	comp=Z,4.1nm,0.8s						
AB31	**Akbulak array**	**15.25**	**321**	P	**P**	**23 48 08.5**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=126,slow=12,SNR=7.8						
AB31				⇓S	**Sn**	**23 50 48.8**	**-7.0**
	comp=Z,0.9nm,0.7s,baz=126,slow=26,SNR=4.6						
ABKAR	**Akbulak array**	**15.25**	**321**	Pn	**Pn**	**23 48 06.9**	**+0.5**
ABKAR	**Akbulak array**	**15.25**	**321**		**P**	**23 48 07.9**	**0.0**
ZAA0	**Zalesovo Array**	**17.24**	**21**	P	**Pn**	**23 48 31.3**	**+0.8**
ZALV	**Zalesovo Beam**	**17.24**	**21**	P	**Pn**	**23 48 31.4**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=211,slow=11,SNR=12						
ZALV	**Zalesovo Beam**	**17.24**	**21**	P	**Pn**	**23 48 31.3**	**+0.8**
BZK	**Bozkurt**	**31.05**	**290**	P	**P**	**23 50 43.2**	**+0.6**
FIA1	**FINESS Array S**	**37.71**	**324**	P	**P**	**23 51 42.0**	**+2.4**
FIA1				IAmb	IAmb	23 51 50.3	
	comp=Z,9.0nm,1.1s						
FINES	**FINESS Array B**	**37.71**	**324**	P	**P**	**23 51 42.4**	**+2.8**
	comp=Z,0.7nm,0.3s,baz=110,slow=11,SNR=14						
LHMI	**Lhok Sumawe**	**38.63**	**143**	P	**P**	**23 51 47.9**	**0.0**
ARCES	**ARCESS Array B**	**40.69**	**336**	P	**P**	**23 52 07.1**	**+2.7**
	comp=Z,2.5nm,0.8s,baz=108,slow=7.7,SNR=5.6						
NB2	**NORSAR Subarra**	**44.76**	**322**	P	**P**	**23 52 39.3**	**+2.1**
	comp=Z,0.4nm,0.5s,baz=90,slow=7.9						
NOA	**NORSAR Array B**	**44.76**	**322**	P	**P**	**23 52 39.6**	**+2.4**
	comp=Z,0.5nm,0.5s,baz=91,slow=7.8,SNR=4.6						
NBO00	**NORSAR Array S**	**44.97**	**322**	P	**P**	**23 52 39.4**	**+0.5**
NBO00				IAmb	IAmb	23 52 49.1	
	comp=Z,10.0nm,1.1s						
NC204	**NORSAR Array S**	**44.98**	**322**	P	**P**	**23 52 41.4**	**+2.4**
NC204				IAmb	IAmb	23 52 50.8	
	comp=Z,1.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**68.58**	**270**	P	**P**	**23 55 27.6**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=49,slow=6.0,SNR=16						

*IDC **27** 23:50:43.4±0.7,31.˚24N×141.˚90E,h0^{km},mb3.9/11, mb1 4.0/15,mb1mx3.9/41,mbtmp3.8/15,ML2.9/3,MS3.5/2, Ms1 3.5/2,ms1mx2.6/43,Error ellipse: s-maj=26.0km s-min=15.5km az=73.0*

ISC 27 23:50:48.5±0.7,31.˚22N±0.˚07×141.˚7E±0.˚1,h35^{km},n17, σ1^{s}16/19,mb3.9/11,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**2.50**	**320**	Pn	**Pn**	**23 51 25.6**	**-1.2**
	3.8nm,0.3s,baz=270,slow=23,SNR=1.2						
JHJ				Sn	**Sn**	**23 51 53.0**	**-3.1**
	15nm,0.3s,baz=235,slow=23,SNR=1.9						
JCJ	**Chichijima**	**4.13**	**174**	Pn	**Pn**	**23 51 48.2**	**-0.8**
	28nm,0.3s,baz=245,slow=20,SNR=6.0						
JCJ				Sn	**Sn**	**23 52 34.9**	**-1.2**
	13nm,0.3s,baz=287,slow=21,SNR=1.6						
MJAR	**Matsushiro Arr**	**6.06**	**332**	Pn	**Pn**	**23 52 15.2**	**-0.3**
	0.3nm,0.3s,baz=150,slow=12,SNR=14						
MJAR				LR	LR	23 55 04.6	
	comp=Z,69nm,19.2s,baz=135,slow=43						
MAT	**Matsushiro**	**6.06**	**332**	P	**Pn**	**23 52 15.6**	**0.0**
MAT				S	**Sn**	**23 53 23.3**	**-0.4**
KSRS	**Korea Array**	**12.97**	**302**	Pn	**Pn**	**23 53 50.9**	**+0.5**
	0.1nm,0.3s,baz=112,slow=12,SNR=1.8						
SONM	**Songino Array**	**31.56**	**312**	P	**P**	**23 57 09.2**	**+1.5**
	1.7nm,0.9s,baz=100,slow=7.7,SNR=5.5						
ZALV	**Zalesovo Beam**	**46.16**	**317**	P	**P**	**23 59 10.3**	**+0.8**
	0.5nm,0.5s,baz=114,slow=9.5,SNR=3.5						
MKAR	**Makanchi Array**	**47.61**	**307**	P	**P**	**23 59 21.7**	**+0.7**
	1.0nm,0.6s,baz=83,slow=9.5,SNR=9.1						
WRA	**Warramunga Arr**	**51.35**	**189**	P	**P**	**23 59 50.0**	**+0.4**
	0.8nm,0.4s,baz=5.5,slow=7.5,SNR=21						
ILAR	**Eielson Array**	**54.34**	**30**	P	**P**	**00 00 09.9**	**-1.3**
	0.4nm,0.8s,baz=262,slow=7.0,SNR=4.7						
ASAR	**Alice Springs**	**55.08**	**189**	P	**P**	**00 00 17.4**	**+0.3**
	0.9nm,0.8s,baz=10.0,slow=6.7,SNR=10.0						
STKA	**Stephens Creek**	**62.75**	**180**	P	**P**	**00 01 10.2**	**+0.2**
	1.0nm,0.6s,baz=350,slow=11,SNR=3.0						
FINES	**FINESS Array B**	**74.09**	**333**	P	**P**	**00 02 20.8**	**+0.1**
	3.6nm,1.0s,baz=98,slow=8.6,SNR=2.2						
NVAR	**Mina Array Bea**	**78.32**	**52**	P	**P**	**00 02 45.2**	**-0.3**
	0.6nm,0.7s,baz=281,slow=4.2,SNR=4.8						
BRTR	**Keskin Array B**	**82.92**	**312**	P	**P**	**00 03 11.5**	**+1.5**
	0.3nm,0.6s,baz=92,slow=4.3,SNR=2.6						
LPIG	**La Paz**	**91.85**	**60**	LR	LR	00 39 57.0	
	comp=Z,104nm,19.3s,baz=301,slow=32						
TXAR	**Lajitas Array**	**93.46**	**53**	P	**P**	**00 04 01.2**	**+0.4**
	0.8nm,0.7s,baz=308,slow=2.9,SNR=12						

*IDC **28** 00:18:58.4±0.9,20.˚19N×45.˚51W,h0^{km},mb3.9/10, mb1 4.1/10,mb1mx3.8/45,mbtmp3.9/10,Error ellipse: s-maj=25.5km s-min=23.9km az=132.0*

ISC 28 00:18:59.9±0.8,20.˚2N±0.˚1×45.˚5W±0.˚1,h10^{km},n13, σ1^{s}04/10,mb3.8/10,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H10N3	**ASCENSION HYDR**	**41.30**	**129**	T	T	01 10 52.4	
	baz=312,slow=75,SNR=12						
H10N2	**ASCENSION HYDR**	**41.30**	**129**	T	T	01 10 57.2	
	baz=312,slow=75,SNR=9.3						
H10N1	**ASCENSION HYDR**	**41.32**	**129**	T	T	01 10 57.9	
	baz=312,slow=75,SNR=77						
LPAZ	**La Paz**	**42.51**	**213**	P	**P**	**00 26 56.4**	**-0.1**
	1.4nm,0.8s,baz=18,slow=6.4,SNR=2.5						
TORD	**Torodi Ar. Bea**	**45.64**	**91**	P	**P**	**00 27 21.5**	**+0.5**
	0.9nm,1.0s,baz=294,slow=8.8,SNR=3.6						
FRB	**Frobisher Bay**	**46.25**	**346**	P	**P**	**00 27 25.7**	**+0.6**
	17nm,1.0s,baz=97,slow=8.1,SNR=2.3						
CPUP	**Villa Florida**	**47.63**	**194**	P	**P**	**00 27 36.3**	**-0.1**
	2.7nm,0.7s,baz=23,slow=9.2,SNR=4.6						
TXAR	**Lajitas Array**	**53.14**	**292**	P	**P**	**00 28 19.6**	**+1.2**
	0.3nm,1.0s,baz=88,slow=7.3,SNR=1.6						
PDAR	**Pinedale Array**	**57.68**	**308**	P	**P**	**00 28 49.1**	**-1.9**
	0.6nm,0.9s,baz=108,slow=8.0,SNR=2.3						
AKASG	**Malin Array Be**	**65.05**	**43**	P	**P**	**00 29 40.7**	**+0.2**
	0.3nm,0.2s,baz=256,slow=6.4,SNR=4.3						
BRTR	**Keskin Array B**	**69.23**	**54**	P	**P**	**00 30 06.7**	**-0.8**
	0.4nm,0.8s,baz=274,slow=4.8,SNR=4.1						
BBB	**Bella Bella**	**69.84**	**319**	P	**P**	**00 30 11.7**	**+1.0**
	12nm,1.0s,baz=45,slow=8.6,SNR=2.8						
ILAR	**Eielson Array**	**76.68**	**334**	P	**P**	**00 30 50.3**	**-0.6**
	0.9nm,0.8s,baz=90,slow=5.3,SNR=5.0						

MEX 28 00:29:09.6±0.8,14.˚39N×92.˚92W,h10^{km}±187^{km},MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.82**	**51**	*eP*	Pg	00 29 18.4	-7.1
THIG				*eS*	Sg	00 29 33.0	-3.1
PCIG		**1.34**	**348**	*eP*	Pn	00 29 33.6	-0.7
PCIG				*eS*	Sb	00 29 49.2	-2.8

*MOS **28** 00:32:31.6±0.9,20.˚29N×45.˚62W,h10^{km},mb5.1/74, MS4.6/9,Error ellipse: s-maj=7.0km s-min=5.0km az=137.7*

*IDC **28** 00:32:31.6±0.4,20.˚26N×45.˚56W,h0^{km},mb4.6/33, mb1 4.8/35,mb1mx4.6/54,mbtmp4.7/35,ML3.7/2,MS4.7/13, Ms1 4.7/13,ms1mx4.4/43,Error ellipse: s-maj=14.6km s-min=9.5km az=138.0*

*GCMT **28** 00:32:34.5±0.1,20.˚36N±0.˚01×45.˚58W±0.˚01,h12^{km}, MW5.3/148,Moment Tensor Solution. s81,c109; s148,c301; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M$_{rr}$-1.33±.02; M$_{\theta\theta}$0.04±.02; M$_{\phi\phi}$1.28±.02; M$_{r\theta}$-0.10±.06; M$_{r\phi}$0.19±.02; M$_{\theta\phi}$0.01±.05; Best double couple: M$_0$1.32200×10^{17} NP1:ϕ$_s$184.00000°,δ45.00000°, λ-96.00000°. NP2:ϕ$_s$12.00000°,δ45.00000°,λ-84.00000°. Principal axes: T 1.3070, Plg0.0000°, Azm98.0000°; N 0.0250, Plg4.0000°, Azm188.0000°; P -1.3370, Plg86.0000°, Azm6.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **28** 00:32:34.5±1.3,20.˚28N±0.˚07×45.˚66W±0.˚08,h10^{km}±1^{km}, mb5.0/358,Mwc5.4(GCMT) Error ellipse: s-maj=15.7km s-min=8.4km az=309.0*

*NEIC **28** 00:32:35,20.˚36N×45.˚60W,h12^{km},Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M$_{rr}$-1.33; M$_{\theta\theta}$0.02; M$_{\phi\phi}$1.32; M$_{r\theta}$-0.20; M$_{\phi\phi}$0.20; M$_{\theta r}$-0.01; Fault plane solution: M$_0$1.35000×10^{17} NP1:ϕ$_s$180.00000°, δ45.00000°,λ-102.00000°. NP2:ϕ$_s$16.00000°,δ46.00000°, λ-79.00000°. Principal axes: T 1.3468, Plg1.0000°, Azm99.0000°; N 0.0145, Plg8.0000°, Azm189.0000°; P -1.3613, Plg82.0000°, Azm2.0000°;*

*BGR **28** 00:32:39.6±0.0,20.˚84N×45.˚12W,h10^{km},mb4.9*

ISC 28 00:32:32.6±0.8,20.˚24N±0.˚05×45.˚69W±0.˚05,h4^{km}±4^{km}, n883,σ1^{s}35/859,mb5.0/280,MS4.8/33,35C-13D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAGL	**Barre de l'ile**	**15.43**	**256**	*eP*	**Pn**	**00 36 08.7**	**-2.5**
ANWB	**Willy Bob**	**15.44**	**263**	*eP*	**Pn**	**00 36 08.0**	**-3.4**
ANWB	**Willy Bob**	**15.44**	**263**	Pn	**Pn**	**00 36 12.6**	**+1.2**
ILAM	**Ilet Lapin Mar**	**15.47**	**252**	*eP*	**Pn**	**00 36 08.7**	**-3.0**
ILAM	**Ilet Lapin Mar**	**15.47**	**252**	Pn	**Pn**	**00 36 11.6**	**-0.1**
ANBD	**Bethesda, Anti**	**15.56**	**261**	*eP*	Pn	00 36 06.6	-6.4
H05S1	**Guadeloupe/Mar**	**15.57**	**251**	T	T	00 52 01.4	
	SNR=166						
MPOM	**Morne Pois Mar**	**15.58**	**251**	*eP*	**Pn**	**00 36 10.8**	**-2.5**
MPOM	**Morne Pois Mar**	**15.58**	**251**		**Pn**	**00 36 14.4**	**+1.2**
DLPL	**La Plaine**	**15.60**	**254**	Pn	**Pn**	**00 36 15.0**	**+1.5**
DLPL				IAmb	IAmb	00 36 26.6	
	comp=Z,93nm,0.8s						
ANOC	**Antigua Open C**	**15.61**	**261**	*eP*	Pn	00 36 06.6	-7.0
CBE	**Ff, Capester**	**15.69**	**257**	*eP*	**Pn**	**00 36 12.8**	**-1.8**
SVN	**Savane Anatole**	**15.71**	**252**	Pn	**Pn**	**00 36 14.6**	**-0.3**
SVN				IAmb	IAmb	00 36 33.0	
	comp=Z,124nm,1.1s						
DSLB	**Salisbury**	**15.72**	**255**	*eP*	Pn	00 36 07.3	-7.7
FDF	**Fort de France**	**15.73**	**252**	P	**Pn**	**00 36 16.0**	**+0.8**
FDF				pmax	pmax		
	comp=Z,176nm,1.3s						
FDF	**Fort de France**	**15.73**	**252**	*eP*	Pn	00 36 06.2	-9.0
FDF	**Fort de France**	**15.73**	**252**		**Pn**	**00 36 16.0**	**+0.8**
FDF				IAmb	IAmb	00 36 23.2	
	comp=Z,176nm,1.3s						
BIM	**Bigot**	**15.74**	**251**	*eP*	Pn	00 36 09.4	-6.0
BIM	**Bigot**	**15.74**	**251**	P	**Pn**	**00 36 17.3**	**+1.9**
BIM				IAmb	IAmb	00 36 28.1	
	comp=Z,180nm,1.2s						
TDBA	**Terre de Bas,**	**15.78**	**257**	*eP*	**Pn**	**00 36 12.8**	**-3.0**
SLBI	**Saint Lucia, B**	**15.86**	**249**	*eP*	**Pn**	**00 36 13.2**	**-3.7**
MCLT	**Moule a Chique**	**15.96**	**248**	*eP*	**Pn**	**00 36 14.1**	**-4.1**
MCLT	**Moule a Chique**	**15.96**	**248**		**Pn**	**00 36 14.6**	**-3.7**
SKI	**Saint Kitts**	**16.40**	**263**	*eP*	**Pn**	**00 36 21.8**	**-2.1**
SVB	**Belmont**	**16.43**	**247**	*eP*	**Pn**	**00 36 22.0**	**-2.2**
MDP	**Montagnes des**	**16.50**	**205**	Pn	**Pn**	**00 36 25.6**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=20,slow=13,SNR=9.3						
MDP				LR	LR	00 41 25.1	
	comp=Z,2μm,20.8s,baz=26,slow=32						
SMRT	**St. Maarten**	**16.57**	**265**	*eP*	**Pn**	**00 36 20.5**	**-5.5**
SMRT	**St. Maarten**	**16.57**	**265**		**Pn**	**00 36 27.2**	**+1.2**
SEUS	**St. Eustatius**	**16.59**	**263**	*eP*	**Pn**	**00 36 23.2**	**-3.0**
TOSP	**Speyside**	**16.82**	**240**	*eP*	**Pn**	**00 36 30.0**	**+0.9**
TOSP	**Speyside**	**16.82**	**240**		**Pn**	**00 36 30.3**	**+1.2**
GRHS	**Sauteurs**	**17.26**	**245**	*eP*	**Pn**	**00 36 35.4**	**+0.8**
GRHS	**Sauteurs**	**17.26**	**245**	*eP*	**Pn**	**00 36 35.7**	**+1.0**
GRGR	**Grenville**	**17.31**	**245**	*eP*	**Pn**	**00 36 34.4**	**-0.9**
GRGR	**Grenville**	**17.31**	**245**	Pn	**Pn**	**00 36 36.0**	**+0.7**
GRGR				IAmb	IAmb	00 36 38.4	
	comp=Z,173nm,1.2s						
ABVI	**Anegada Island**	**17.64**	**268**		**Pn**	**00 36 41.0**	**+1.6**
ABVI				IAmb	IAmb	00 36 44.5	
	comp=Z,182nm,1.8s						
TRN	**Trinidad (W)**	**17.89**	**240**	*eP*	**Pn**	**00 36 42.1**	**-0.3**
CDVI	**St. Croix**	**18.21**	**265**	Pn	**Pn**	**00 36 45.4**	**-1.1**
STVI	**Saint Thomas**	**18.28**	**267**	P	**Pn**	**00 36 47.4**	**+0.1**
CUPR	**Culebra, Puert**	**18.60**	**267**		**Pn**	**00 36 52.6**	**+1.4**
MTP	**Monte Pirata**	**18.89**	**267**	P	**P**	**00 36 55.7**	**+1.5**
CBYP	**Canovanas**	**19.14**	**268**	P	**P**	**00 36 57.3**	**+0.2**
HUMP	**Col San Antoni**	**19.16**	**267**	P	**P**	**00 36 58.1**	**+0.9**
PDPR	**Patillas Dam,**	**19.34**	**267**	P	**P**	**00 37 01.1**	**+1.9**
PDPR				IAmb	IAmb	00 37 13.4	
	comp=Z

DWPF Disney Wildern 33.45 291 P P 00 39 13.5 +0.7
DWPF Disney Wildern 33.45 291 P P 00 39 13.7 +0.9
baz=96
NCB Newcomb 33.53 321 P P 00 39 14.7 +1.3
NCB IAmb IAmb 00 39 28.5
comp=Z,21nm,1.0s
BINY Binghamton 33.63 317 P P 00 39 14.7 +0.4
baz=121
SAML Samuel 33.73 212 P P 00 39 14.8 -0.5
SAML IAmb IAmb 00 39 16.4
comp=Z,32nm,1.6s
SAML PcP 00 41 55.0 -0.1
BIRD Birdtown, Kers 33.85 302 P P 00 39 16.7 +0.4
BIRD IAmb IAmb 00 39 18.9
comp=Z,25nm,1.4s
YOTC Yotoco, Valle 33.95 246 eP P 00 39 15.5 -1.9
MNTQ Montreal, Queb 34.11 324 P P 00 39 19.3 +0.9
MNTQ IAmb IAmb 00 39 26.9
comp=Z,22nm,1.1s
LONY Lake Ozonia 34.12 322 P P 00 39 20.1 +1.5
LONY IAmb IAmb 00 39 31.4
comp=Z,18nm,1.2s
SSPA Standing Stone 34.13 314 P P 00 39 18.9 +0.3
baz=117
GDU01 Guandu, BA 34.28 169 eP P 00 39 20.1 0.0
Q56A Snyder Ridge, 34.36 310 P P 00 39 21.2 +0.6
BLA Blacksburg 34.59 307 P P 00 39 22.9 +0.1
baz=110
KMSC Kings Mountain 34.67 303 P P 00 39 23.4 0.0
baz=106
J56A Wolcott 34.74 318 P P 00 39 23.8 0.0
JANB Januaria 35.10 178 eP P 00 39 27.9 +0.7
NBIT Itapeh - BA 35.49 170 eP P 00 39 31.7 +1.2
BDFB Brasilia 35.73 184 P P 00 39 32.4 -0.4
comp=Z,14nm,1.1s,baz=1.2,slow=15,SNR=9.3
BDFB LR LR 00 53 07.2
comp=Z,888nm,20.0s,baz=356,slow=35
BDFB Brasilia 35.73 184 P P 00 39 33.0 +0.3
BDFB pmax pmax
comp=Z,24nm,1.3s
BDFB Brasilia 35.73 184 P P 00 39 33.0 +0.3
BDFB IAmb IAmb 00 39 34.9
comp=Z,24nm,1.3s
VILB Vilhena 35.94 205 eP P 00 39 35.2 +0.7
GOGA Godfrey 35.98 299 P P 00 39 35.5 +0.9
baz=102
ETMB Extrema 36.06 216 eP P 00 39 34.8 -0.7
ERPA Erie 36.20 315 P P 00 39 36.8 +0.3
baz=116
O53A New Philadelph 36.27 311 P P 00 39 37.6 +0.6
baz=113
AVE Averroes 36.36 61 P P 00 39 37.1 -0.9
AVE S S 00 45 25.4 +5.6
MORF Marmelete 36.37 54 eP P 00 39 38.9 +0.8
MORF eS S 00 45 21.1 +1.1
MORF IAMs_20 IAMs_20 00 49 29.0
comp=E,4µm,30.8s
MORF Marmelete 36.37 54 eP P 00 39 38.8 +0.8
MORF eS S 00 45 21.0 +1.1
LIS Lisbon 36.45 52 eP P 00 39 39.4 +0.8
LIS IAMs_20 IAMs_20 00 51 32.6
comp=Z,2µm,25.2s
LIS Lisbon 36.45 52 eP P 00 39 39.3 +0.8
P52A Corning 36.70 310 P P 00 39 41.3 +0.5
baz=111
PNCL Nicolau / Gran 36.71 53 eP P 00 39 41.6 +0.8
comp=Z,26nm,1.7s
TKL Tuckaleechee C 36.73 303 LR LR 00 52 02.7
comp=Z,2µm,20.9s,baz=145,slow=32
TKL Tuckaleechee C 36.73 303 P P 00 39 41.6 +0.5
TKL pmax pmax
comp=Z,27nm,1.5s
TKL Tuckaleechee C 36.73 303 P P 00 39 41.6 +0.5
TKL IAmb IAmb 00 40 21.1
comp=Z,27nm,1.4s
MC01 Montes Claros 36.76 177 eP P 00 39 41.4 0.0
TZTN Tazewell 36.78 304 P P 00 39 42.6 +1.1
TZTN IAmb IAmb 00 39 44.4
comp=Z,34nm,1.2s
TZTN Tazewell 36.78 304 P P 00 39 42.4 +0.9
baz=106
MESJ Messejana 36.86 53 eP P 00 39 42.9 +0.7
MESJ eS S 00 45 28.5 +1.2
MESJ IAMs_20 IAMs_20 00 50 03.2
comp=Z,2µm,24.2s
MESJ Messejana 36.86 53 eP P 00 39 42.8 +0.7
MESJ eS S 00 45 28.4 +1.2
152A Waverly Hall 36.87 298 P P 00 39 43.5 +1.2
152A IAmb IAmb 00 39 45.5
comp=Z,27nm,1.4s
PBDV Barranco-do-Ve 36.90 54 eP P 00 39 44.1 +1.6
SADO Sadowa 36.92 319 LR LR 00 52 27.4
comp=Z,2µm,19.0s,baz=194,slow=32
PVAQ Vaqueiros 37.11 54 eP P 00 39 44.4 +0.1
EVO Evora 37.23 52 P P 00 39 46.1 +0.8
EVO S S 00 45 42.0 +9.1
EVO Evora 37.23 52 eP P 00 39 45.8 +0.6
comp=Z,22nm,1.7s
EVO Evora 37.23 52 eP P 00 39 46.3 +1.1
comp=Z,22nm,1.7s
SALV Santo Antonio 37.24 196 eP P 00 39 44.9 -0.5
PMTG Montargil 37.24 51 eP P 00 39 45.8 +0.4
comp=Z,31nm,1.5s
PMTG Montargil 37.24 51 eP P 00 39 45.9 +0.5
comp=Z,31nm,1.5s
BRU2 Volcan 37.49 258 P P 00 39 49.3 +1.3
BRU2 IAmb IAmb 00 39 52.7
comp=Z,38nm,1.3s
COI Coimbra 37.50 50 P P 00 39 47.5 0.0
COI pmax pmax
comp=Z,39nm,1.4s
COI Coimbra 37.50 50 P P 00 39 47.5 0.0
COI IAmb IAmb 00 40 06.8
comp=Z,39nm,1.4s
ACSO Alum Creek Sta 37.52 310 P P 00 39 48.1 +0.4
baz=111
PESTR Estremoz 37.65 52 eP P 00 39 49.0 +0.2
OTAV Otavalo 37.72 242 P P 00 39 50.7 +0.5
OTAV pmax pmax
comp=Z,24nm,1.4s
OTAV Otavalo 37.72 242 P P 00 39 50.7 +0.5
OTAV Otavalo 37.72 242 eP P 00 39 49.5 -0.7
OTAV Otavalo 37.72 242 eP P 00 39 51.1 +0.9
ARNO Arenosillo 37.78 55 P P 00 39 50.7 +0.8
ARNO S S 00 45 49.7 +8.4
W50A Signal Mountai 37.84 302 P P 00 39 51.9 +1.3
W50A IAmb IAmb 00 39 53.3
comp=Z,27nm,1.4s
PBAR Barrancos 37.85 53 eP P 00 39 51.1 +0.6
comp=Z,23nm,1.7s
PBAR Barrancos 37.85 53 eP P 00 39 51.3 +0.8
comp=Z,23nm,1.7s
PTLB Pontes e Lacer 37.85 201 eP P 00 39 51.3 +0.7
PMRV Marv??o 37.97 51 eP P 00 39 51.7 +0.1
comp=Z,22nm,1.6s
PMRV Marv??o 37.97 51 eP P 00 39 52.0 +0.4
comp=Z,22nm,1.6s
CVTR Volcan Turrial 38.04 260 IAmb IAmb 00 39 51.9
comp=Z,16nm,0.6s
250A Grady 38.06 296 P P 00 39 53.3 +0.9
250A IAmb IAmb 00 39 55.1
comp=Z,35nm,1.2s
MTE Manteigas 38.19 50 eP P 00 39 50.8 -2.6
comp=Z,27nm,1.4s
MTE Manteigas 38.19 50 eP P 00 39 53.0 -0.4
comp=Z,27nm,1.4s
MTE Manteigas 38.19 50 P P 00 39 52.5 -0.9
RIMA Rio Macho 38.23 260 P P 00 39 55.9 +1.7
RIMA IAmb IAmb 00 40 15.3
comp=Z,43nm,1.5s
IFR Ifrane 38.28 61 P P 00 39 53.4 -1.1
IFR S S 00 45 53.2 +3.8
POLO Lamas de Olo 38.36 48 eP P 00 39 53.9 -1.0
comp=Z,10nm,1.9s
POLO Lamas de Olo 38.36 48 eP P 00 39 55.3 +0.4
comp=Z,10nm,1.9s
COVE Coope Vega, Sa 38.41 262 P P 00 39 56.4 +0.9
COVE IAmb IAmb 00 40 49.8
comp=Z,35nm,0.9s
R49A Shelbyville 38.51 307 P P 00 39 57.5 +1.3
U49A Red Boiling Sp 38.51 304 P P 00 39 57.6 +1.5
P49A Miami Univ. Ec 38.54 309 P P 00 39 57.2 +0.8
P49A Miami Univ. Ec 38.54 309 P P 00 39 57.2 +0.8
baz=108
CEU Ceuta 38.55 57 P P 00 39 57.5 +1.0
CEU S S 00 45 58.8 +5.8
MDT Midelt 38.60 62 LR LR 00 53 51.4
comp=Z,1µm,18.9s,baz=288,slow=33
BRAL Brewton 38.63 295 P P 00 39 57.0 -0.1
baz=96
PP1B Ponte de Pedra 38.67 194 eP P 00 39 58.2 +0.6
ACON Acoyapa 38.74 264 P P 00 39 58.9 +0.6
ACON IAmb IAmb 00 40 00.7
comp=Z,45nm,1.8s
AAM Ann Arbor 38.76 313 P P 00 39 59.5 +1.3
baz=113
LRAL Lakeview Retre 38.82 298 P P 00 39 59.6 +0.8
LRAL Lakeview Retre 38.82 298 P P 00 39 59.7 +0.9
baz=99
CLTN Cedars of Leba 38.85 303 P P 00 39 59.2 +0.2
SIV San Ignacio 39.05 204 LR LR 00 55 21.4
comp=Z,622nm,19.0s,baz=29,slow=35
X48A Hartselle 39.09 300 P P 00 40 01.6 +0.5
BSFB Barra de Sao F 39.12 173 eP P 00 40 01.5 +0.2
L48A N Adams 39.16 312 P P 00 40 01.3 -0.3
V48A Smith Brothers 39.16 302 P P 00 40 02.5 +0.9
MATN Matagalpa 39.17 266 P P 00 40 03.3 +1.3
PVLZ Peæn de 39.25 59 P P 00 39 59.5 -2.9
PVLZ S S 00 46 11.3 +7.8
WCI Wyandotte Cave 39.34 306 P P 00 40 04.6 +1.5
WCI pmax pmax
comp=Z,9.0nm,0.8s
WCI Wyandotte Cave 39.34 306 P P 00 40 04.5 +1.5
WCI Wyandotte Cave 39.34 306 P P 00 40 03.6 +0.5
baz=105
EMAL Malaga-Limoner 39.48 56 P P 00 40 06.3 +2.1
EMAL S S 00 46 15.3 +8.3
RIB01 Linhares ES 39.65 172 eP P 00 40 05.0 -0.7
Z47A Carrollton 39.74 298 P P 00 40 07.5 +1.0
Z47A IAmb IAmb 00 40 09.3
comp=Z,42nm,1.3s
BLO Bloomington 39.77 307 P P 00 40 07.9 +1.2
BLO pmax pmax
comp=Z,13nm,1.1s
BLO Bloomington 39.77 307 P P 00 40 07.8 +1.2
ITRB Iturama 39.96 187 eP P 00 40 08.5 +0.2
CNGN Cerro Negro 40.01 265 P P 00 40 09.7 +0.8
CNGN IAmb IAmb 00 40 13.4
comp=Z,64nm,1.5s
PLAL Pickwick Lake 40.02 301 P P 00 40 10.1 +1.3
WVT Waverly 40.04 302 P P 00 40 09.9 +0.9
WVT pmax pmax
comp=Z,19nm,1.2s
WVT Waverly 40.04 302 P P 00 40 09.9 +0.9
WVT Waverly 40.04 302 P P 00 40 09.3 +0.3
baz=102
KOWA Kowa 40.10 91 LR LR 00 54 41.3
comp=Z,3µm,19.1s,baz=274,slow=33
KOWA Kowa 40.10 91 P P 00 40 09.3 -0.3
TGUH Tegucigalpa,Un 40.13 268 P P 00 40 11.2 +1.1
PAB San Pablo 40.25 52 P P 00 40 10.7 0.0
PAB pmax pmax
comp=Z,19nm,1.4s
PAB San Pablo 40.25 52 P P 00 40 10.7 0.0
MELI Melilla 40.37 59 P P 00 40 16.4 +4.7
P46A Rosedale 40.41 308 P P 00 40 13.1 +1.2
GLMI Grayling 40.41 316 P P 00 40 13.0 +1.1
baz=114
L46A Eue Claire 40.48 312 P P 00 40 13.5 +0.9
146A Union 40.49 297 P P 00 40 13.4 +0.7
ESDC Sonseca Array 40.57 52 P P 00 40 11.6 -1.7
comp=Z,5.0nm,1.2s,baz=256,slow=8.9,SNR=13
ESDC PcP PcP 00 42 16.1 +0.4
comp=Z,2.6nm,1.1s,baz=267,slow=4.4,SNR=5.8
ESDC Sonseca Array 40.57 52 P 00 40 12.8 -0.5
ESDC PcP 00 42 16.5 +0.9
346A Big Creek Wild 40.71 295 P P 00 40 14.9 +0.5
346A IAmb IAmb 00 40 24.2
comp=Z,50nm,1.1s
OLIL Olney 40.84 306 P P 00 40 16.4 +0.9
OLIL IAmb IAmb 00 40 21.7
comp=Z,30nm,1.3s
W45A Hickory Valley 40.95 301 P P 00 40 17.5 +1.0
W45A IAmb IAmb 00 40 24.9
comp=Z,50nm,1.1s
OXF Oxford 41.03 300 P P 00 40 17.7 +0.5
baz=99
HICK Hickman 41.23 303 P P 00 40 20.2 +1.4
UCM Universidad Co 41.28 51 P P 00 40 19.3 +0.1
UCM S S 00 46 38.7 +4.8
SIUC Southern Illin 41.46 304 P P 00 40 21.5 +0.9
SIUC IAmb IAmb 00 40 23.6
comp=Z,36nm,1.4s
H10N3 ASCENSION HYDR 41.47 129 T T 01 24 26.8
baz=312,slow=75,SNR=685
H10N2 ASCENSION HYDR 41.47 129 T T 01 24 26.9
baz=312,slow=75,SNR=541
O44A Mansfield 41.48 308 P P 00 40 21.2 +0.4
S44A Carbondale 41.49 304 P P 00 40 21.8 +0.9
S44A IAmb IAmb 00 40 23.6
comp=Z,43nm,1.4s
H10N1 ASCENSION HYDR 41.49 129 T T 01 24 39.1
baz=312,slow=75,SNR=451
Q44A Meyer Farm, Va 41.58 306 P P 00 40 22.3 +0.7
Q44A IAmb IAmb 00 40 24.2
comp=Z,25nm,1.1s
AQDB Aquidauana 41.64 194 P P 00 40 22.6 +0.4
AQDB IAmb IAmb 00 40 25.5
comp=Z,37nm,1.2s
AQDB Aquidauana 41.64 194 eP P 00 40 22.8 +0.7
L44A Lake County Fo 41.68 311 P P 00 40 22.7 +0.3
baz=108
GNAR Gosnell 41.76 302 P P 00 40 24.0 +0.9
344A Westbrook Farm 41.79 295 P P 00 40 25.2 +1.8
DBIC Dimbokro 41.80 103 P P 00 40 23.4 -0.3
comp=Z,5.2nm,0.8s,baz=236,slow=3.4,SNR=4.0
PETF Flores 41.92 273 P P 00 40 25.6 +1.0
ESQI Esquipulas 41.95 269 P P 00 40 26.6 +1.6
ESQI IAmb IAmb 00 41 08.8
comp=Z,16nm,0.7s
MTO3 Montecristo 42.01 269 P P 00 40 26.3 +0.7
H10S3 ASCENSION HYDR 42.11 131 T T 01 25 15.9
baz=313,slow=74,SNR=706
H10S2 ASCENSION HYDR 42.13 131 T T 01 25 17.4
baz=267,slow=74,SNR=261
P43A Skaggs, Pawnee 42.14 307 P P 00 40 26.6 +0.4
HDIL Hopedale 42.20 309 P P 00 40 27.4 +0.8
HDIL Hopedale 42.20 309 P P 00 40 27.6 +0.9
baz=105
CART Cartagena 42.33 56 P P 00 40 29.6 +1.8
CART S S 00 46 53.4 +3.9
FVM French Village 42.45 305 P P 00 40 29.3 +0.5
FVM pmax pmax
comp=Z,29nm,1.4s
FVM French Village 42.45 305 P P 00 40 29.3 +0.5
FVM IAmb IAmb 00 40 31.3
comp=Z,29nm,1.4s
LPAZ La Paz 42.47 213 P P 00 40 29.5 -0.2
comp=Z,24nm,1.2s,baz=32,slow=9.0,SNR=27
LPAZ LR LR 00 57 32.2
comp=Z,894nm,21.1s,baz=18,slow=35
LPAZ La Paz 42.47 213 P P 00 40 29.5 -0.2
LPAZ pmax pmax
comp=Z,31nm,1.3s
LPAZ La Paz 42.47 213 P P 00 40 29.5 -0.2
LPAZ IAmb IAmb 00 40 31.9
comp=Z,31nm,1.2s
LPAZ La Paz 42.47 213 eP P 00 40 29.3 -0.5
LCAR Lake Charles 42.68 302 P P 00 40 30.5 -0.1
T42A Van Buren 42.79 303 P P 00 40 31.5 0.0
CCM Cathedral Cave 43.10 304 P P 00 40 33.9 -0.1
CCM pmax pmax
comp=Z,32nm,1.3s
CCM Cathedral Cave 43.10 304 P P 00 40 33.9 -0.1
CCM IAmb IAmb 00 40 36.4
comp=Z,32nm,1.3s
CCM Cathedral Cave 43.10 304 P P 00 40 34.8 +0.8
baz=101
TRCB Terra Rica 43.31 189 P P 00 40 36.3 +0.5
TRCB Terra Rica 43.31 189 eP P 00 40 36.3 +0.5
N41A Harden Midland 43.39 308 P P 00 40 36.1 -0.2
N41A IAmb IAmb 00 40 41.7
comp=Z,31nm,1.2s
FCAR Ozark Folk Cen 43.43 301 P P 00 40 36.2 -0.5
FCAR IAmb IAmb 00 40 49.7
comp=Z,39nm,1.7s
W41B Gary Mavity, V 43.44 300 P P 00 40 36.9 +0.1
baz=97,SNR=7.6
WHAR Wooly Hollow 43.48 300 P P 00 40 37.3 +0.2
WHAR IAmb IAmb 00 40 38.9
comp=Z,40nm,1.3s
FRTB Fartura 43.48 185 eP P 00 40 38.0 +0.8
JFWS Jewell Farm 43.54 312 P P 00 40 37.9 +0.4
JFWS pmax pmax
comp=Z,33nm,1.6s
JFWS Jewell Farm 43.54 312 P P 00 40 37.9 +0.4
JFWS IAmb IAmb 00 40 46.0
comp=Z,33nm,1.6s
JFWS Jewell Farm 43.54 312 P P 00 40 38.4 +0.8
baz=107
Z41A Richland Creek 43.69 297 P P 00 40 39.7 +0.9
baz=95
MGMO Mountain Grove 43.74 303 P P 00 40 39.8 +0.5
X40A Basin Creek Fa 43.83 299 P P 00 40 40.1 +0.1
X40A Basin Creek Fa 43.83 299 P P 00 40 40.5 +0.6
baz=96
R40A Maddies Statio 43.94 305 P P 00 40 40.4 -0.4
WLAR White Oak Lake 43.98 298 P P 00 40 41.9 +0.7
WLAR IAmb IAmb 00 40 44.0
comp=Z,39nm,1.2s
L40A Anamosa 44.00 310 P P 00 40 41.5 +0.3
L40A IAmb IAmb 00 40 47.5
comp=Z,23nm,1.3s
P40A Paris 44.01 306 P P 00 40 41.8 +0.5
U40A Yellville 44.08 302 P P 00 40 41.6 -0.4
U40A Yellville 44.08 302 P P 00 40 41.9 -0.1
baz=98
I40A Norwalk 44.09 313 P P 00 40 43.0 +1.0
I40A IAmb IAmb 00 40 55.4
comp=Z,40nm,1.9s
NNA Nana 44.33 226 ceP P 00 40 45.8 +1.6
NNA pmax pmax
comp=Z,63nm,1.7s
NNA Nana 44.33 226 P P 00 40 43.8 -0.4
MIAR Mount Ida 44.45 299 P P 00 40 45.2 +0.3
MIAR pmax pmax
comp=Z,14nm,1.2s
MIAR Mount Ida 44.45 299 P P 00 40 45.2 +0.3
MIAR Mount Ida 44.45 299 P P 00 40 45.5 +0.5
baz=96
S39A Bolivar 44.66 303 P P 00 40 46.6 0.0
W39A Magazine 44.69 300 P P 00 40 47.6 +0.8
W39A IAmb IAmb 00 40 53.8
comp=Z,20nm,1.1s
W39A Magazine 44.69 300 P P 00 40 47.3 +0.4
baz=96
NATX Nacogdoches 45.16 295 P P 00 40 51.9 +1.3
NATX Nacogdoches 45.16 295 P P 00 40 51.7 +1.1
baz=92
P38A Dawn 45.16 306 P P 00 40 50.2 -0.3
P38A IAmb IAmb 00 40 51.7
comp=Z,33nm,1.5s
N38A Joes South For 45.17 308 P P 00 40 50.4 -0.1
N38A IAmb IAmb 00 41 02.7
comp=Z,16nm,0.8s
K38A Parkersburg 45.26 310 P P 00 40 51.8 +0.6
K38A IAmb IAmb 00 40 56.0
comp=Z,15nm,1.0s
SCIA State Center 45.40 309 P P 00 40 52.4 0.0
SCIA IAmb IAmb 00 40 58.2
comp=Z,11nm,0.8s
SCIA State Center 45.40 309 P P 00 40 53.1 +0.7
baz=103
Z38A Mt. Pleasant 45.51 297 P P 00 40 54.1 +0.8
TORD Torodi Ar. Bea 45.81 91 P P 00 40 53.1 -2.8
comp=Z,14nm,1.2s,baz=296,slow=3.7,SNR=26
TORD Torodi Ar. Bea 45.81 91 IAmb IAmb 00 40 56.1
comp=Z,21nm,1.2s
SPMN Marine on St. 45.98 314 P P 00 40 57.5 +0.6
baz=107
PB11 IPOC Station P 46.17 212 P P 00 40 58.1 -0.7
PB08 IPOC Station P 46.24 211 IAmb IAmb 00 41 16.9
comp=Z,28nm,1.4s
TUL1 Leonard 46.39 301 P P 00 41 00.8 +0.5
baz=96
F36A Milaca 46.65 315 P P 00 41 02.5 +0.3
ESK Eskdalemuir 47.31 32 P P 00 41 07.7 +0.5
ESK pmax pmax
comp=Z,45nm,1.6s
ESK Eskdalemuir 47.31 32 P P 00 41 07.7 +0.5
CLF Chambon-Foret 47.38 43 P P 00 41 07.6 -0.3
Z35A Perchaven, San 47.41 297 P P 00 41 09.4 +1.1
Z35A IAmb IAmb 00 41 11.8
comp=Z,26nm,1.3s
KSU1 Kansas State U 47.42 305 P P 00 41 07.9 -0.4
KSU1 IAmb IAmb 00 41 15.3
comp=Z,15nm,1.1s
KSU1 Kansas State U 47.42 305 P P 00 41 07.6 -0.7
baz=98
WHTX Lake Whitney, 47.54 295 P P 00 41 09.4 0.0
WHTX Lake Whitney, 47.54 295 P P 00 41 09.0 -0.3
baz=91
OK025 Westminster Rd 47.61 300 P P 00 41 10.1 +0.2
OK025 IAmb IAmb 00 41 11.7
comp=Z,25nm,1.2s
BLOK Blackwell 47.62 302 P P 00 41 10.4 +0.5
BLOK IAmb IAmb 00 41 11.7
comp=Z,26nm,1.2s
435B Jarrell 47.64 294 P P 00 41 10.3 +0.1
435B Jarrell 47.64 294 P P 00 41 10.1 0.0
baz=90
FNO Franklin 47.64 300 P P 00 41 10.4 +0.3
CPUP Villa Florida 47.65 194 P P 00 41 08.3 -1.8
comp=Z,45nm,1.1s,baz=17,slow=7.8,SNR=26
CPUP LR LR 01 01 29.5
comp=Z,512nm,18.7s,baz=6.5,slow=36
CPUP Villa Florida 47.65 194 P P 00 41 09.4 -0.7
CPUP pmax pmax
comp=Z,66nm,1.1s
CPUP Villa Florida 47.65 194 P P 00 41 09.4 -0.7
OKCFA Oklahoma City 47.69 300 P P 00 41 10.6 0.0
OK029 Liberty Lake 47.73 300 P P 00 41 11.3 +0.6
BCOK Bluff Creek, N 47.84 300 P P 00 41 12.0 +0.3
KAN13 South Haven SW 47.85 302 P P 00 41 12.2 +0.5
KAN13 IAmb IAmb 00 41 13.6
comp=Z,25nm,1.3s
X34A Smith Ranch, M 47.95 299 P P 00 41 13.1 +0.6
KAN05 Bluff City Nor 48.17 302 P P 00 41 14.4 +0.2
KAN06 Argonia West S 48.18 302 P P 00 41 14.5 +0.2
KAN06 IAmb IAmb 00 41 15.4
comp=Z,20nm,0.9s
CROK Carrier 48.21 301 P P 00 41 14.4 -0.1
KAN14 Manchester OK 48.23 302 P P 00 41 14.5 -0.2
ECSD EROS Data Cent 48.24 311 P P 00 41 14.6 -0.1
baz=102
LVC Limon Verde 48.25 209 P P 00 41 14.8 -0.4
LVC pmax pmax
comp=Z,63nm,1.3s
LVC Limon Verde 48.25 209 P P 00 41 14.8 -0.4
LVC Limon Verde 48.25 209 eP P 00 41 14.2 -1.0
KAN12 Harper NE Stat 48.29 302 P P 00 41 14.9 -0.2
KAN16 Harper SW Stat 48.34 302 P P 00 41 15.0 -0.5
KAN10 Anthony SW Sta 48.35 302 P P 00 41 16.2 +0.6
WMOK Wichita Mounta 48.74 299 P P 00 41 18.3 -0.4
WMOK pmax pmax
comp=Z,11nm,1.2s
WMOK Wichita Mounta 48.74 299 P P 00 41 18.3 -0.4
WMOK Wichita Mounta 48.74 299 P P 00 41 17.9 -0.7
baz=93,SNR=11
AGMN Agassiz Nation 48.88 317 P P 00 41 19.7 +0.2
AGMN IAmb IAmb 00 41 22.0
comp=Z,14nm,1.1s
AGMN Agassiz Nation 48.88 317 P P 00 41 19.3 -0.2
baz=107
R32A Long Quarter, 48.97 304 P P 00 41 20.7 +0.3
R32A IAmb IAmb 00 41 35.0
comp=Z,11nm,0.9s
U32A Winter Ranch, 49.02 301 P P 00 41 21.5 +0.7
U32A IAmb IAmb 00 41 22.8
comp=Z,21nm,1.2s
833A Chaparral WMA, 49.28 290 P P 00 41 22.5 -0.4
baz=87
ABTX Abilene, Hawle 49.40 296 P P 00 41 23.4 -0.3
ABTX IAmb IAmb 00 41 25.2
comp=Z,24nm,1.2s
ABTX Abilene, Hawle 49.40 296 P P 00 41 23.2 -0.5
baz=90
JCT Junction City 49.55 293 IAmb IAmb 00 41 25.4
comp=Z,14nm,1.1s
JCT Junction City 49.55 293 P P 00 41 24.1 -0.9
baz=88
UCC Uccle 49.58 40 IAmb IAmb 00 41 25.2
comp=Z,26nm,1.3s
BMRD Maredsous 49.66 40 dP P 00 41 25.9 +0.5

comp=Z,4.4nm,1.2s
CBKS Cedar Bluff 49.81 304 P P 00 41 26.8 0.0
CBKS pmax pmax
comp=Z,20nm,1.2s
CBKS Cedar Bluff 49.81 304 P P 00 41 26.8 0.0
CBKS IAmb IAmb 00 41 27.6
comp=Z,20nm,1.2s
CBKS Cedar Bluff 49.81 304 P P 00 41 26.4 -0.4
baz=96
BGES Gesves 49.88 40 *dP* **P 00 41 26.4 -0.7**
comp=Z,9.6nm,1.3s
TLIG Tlapa 49.93 276 P P 00 41 29.0 +0.9
TLIG IAmb IAmb 00 41 30.9
comp=Z,46nm,1.7s
BCLA Clavier 50.03 40 *dP* **P 00 41 28.2 0.0**
comp=Z,6.5nm,1.2s
SUSD Miller 50.04 312 P P 00 41 28.7 +0.3
SUSD IAmb IAmb 00 41 33.6
comp=Z,19nm,0.8s
SUSD Miller 50.04 312 P P 00 41 28.3 -0.1
baz=101
SENIN Lac Senin/Sane 50.24 46 P P 00 41 30.1 0.0
SENIN IAmb IAmb 00 41 33.5
comp=Z,24nm,1.6s
WLF Walferdange 50.33 42 *dP* **P 00 41 29.3 -1.2**
WLF Walferdange 50.33 42 P P 00 41 30.1 -0.4
WLF pmax pmax
comp=Z,29nm,1.5s
WLF Walferdange 50.33 42 P P 00 41 30.1 -0.4
WLF IAmb IAmb 00 41 31.3
comp=Z,29nm,1.5s
WLF Walferdange 50.33 42 *eP* **P 00 41 29.9 -0.6**
comp=Z,38nm,1.6s,baz=257,slow=7.4
BEBN Eben Emael 50.37 40 *dP* **P 00 41 30.6 -0.2**
comp=Z,12nm,0.4s
KEST Kesra 50.37 60 P P 00 41 30.0 -1.1
comp=Z,23nm,1.1s,baz=233,slow=5.1,SNR=14
BHOU Houvegnez 50.44 41 *dP* **P 00 41 31.6 +0.3**
comp=Z,8.1nm,1.4s
MEM Membach 50.51 40 *dP* **P 00 41 31.1 -0.8**
comp=Z,9.9nm,1.5s
BTNL Ternell 50.58 40 *dP* **P 00 41 32.7 +0.3**
comp=Z,9.5nm,1.3s
ECH Echery 50.58 44 IAmb IAmb 00 41 32.9
comp=Z,21nm,1.5s
PB14 IPOC Station P 50.67 209 P P 00 41 32.6 -1.1
ITQB Itaqui 50.73 192 P P 00 41 33.0 -0.6
AMTX Amarillo 51.13 299 P P 00 41 37.0 0.0
AMTX Amarillo 51.13 299 P P 00 41 36.9 0.0
baz=91
AHRW Bad Neuenahr-A 51.15 41 *eP* **P 00 41 35.7 -0.9**
comp=Z,28nm,1.5s,baz=257,slow=7.4
BFO Black Forest 51.37 44 P P 00 41 37.6 -0.8
BFO pmax pmax
comp=Z,21nm,1.3s
BFO Black Forest 51.37 44 P P 00 41 37.6 -0.8
BFO IAmb IAmb 00 41 39.1
comp=Z,21nm,1.3s
BFO Black Forest 51.37 44 *eP* **P 00 41 38.0 -0.4**
comp=Z,24nm,1.4s,baz=257,slow=7.4
BUG Bochum-Univer 51.52 40 *eP* **P 00 41 38.5 -0.9**
comp=Z,8.3nm,1.1s,baz=257,slow=7.4
OGNE Ogallala 51.78 307 P P 00 41 41.4 -0.3
baz=96
TNS Taunus Mts 51.91 41 *eP* **P 00 41 42.3 -0.1**
comp=Z,23nm,1.4s,baz=257,slow=7.4
PRMA PARMA 52.02 49 P P 00 41 43.4 +0.1
AC02 Maricunga 52.02 207 P P 00 41 43.9 -0.1
AC02 IAmb IAmb 00 41 53.3
comp=Z,29nm,1.4s
MSTX Muleshoe 52.02 298 P P 00 41 43.6 0.0
MSTX IAmb IAmb 00 41 44.4
comp=Z,15nm,1.1s
MSTX Muleshoe 52.02 298 P P 00 41 43.5 -0.2
baz=90
STU Stuttgart 52.03 43 P P 00 41 42.8 -0.5
STU pmax pmax
comp=Z,59nm,1.8s
STU Stuttgart 52.03 43 P P 00 41 42.8 -0.5
STU Stuttgart 52.03 43 *eP* **P 00 41 42.5 -0.8**
comp=Z,57nm,1.4s,baz=257,slow=7.4
IBBN Ibbenburen 52.06 39 *eP* **P 00 41 43.4 0.0**
comp=Z,32nm,1.4s,baz=257,slow=7.4
KSCO Kaye Shedlock' 52.07 304 P P 00 41 44.4 +0.5
KASTN Kahler Asten 52.14 40 *eP* **P 00 41 43.9 -0.2**
comp=Z,20nm,1.7s,baz=257,slow=7.4
DAVA Damuels 52.17 45 *i P* **P 00 41 43.6 -0.9**
comp=Z,26nm,1.2s,SNR=9.1
PLTB Pedras Altas 52.26 189 IAmb IAmb 00 41 46.7
comp=Z,35nm,1.3s
SALO Salr 52.30 47 P P 00 41 45.9 +0.5
SALO IAmb IAmb 00 41 57.8
comp=Z,29nm,1.2s
MILB Miltenberg 52.34 42 *eP* **P 00 41 44.9 -0.7**
comp=Z,10.0nm,1.1s,baz=257,slow=7.4
UBR Ueberruh 52.40 45 *eP* **P 00 41 46.1 0.0**
comp=Z,37nm,1.3s,baz=257,slow=7.4
SUMG Summit 52.51 3 IAmb IAmb 00 42 55.9
comp=Z,61nm,2.0s
FETA Feichten 52.69 46 *i P* **P 00 41 47.8 -0.6**
comp=Z,38nm,1.1s,SNR=14
ZAIG Zacatecas 52.71 284 P P 00 41 48.8 -0.2
ZAIG IAmb IAmb 00 41 52.2
comp=Z,34nm,1.7s
RETA Reutte 52.79 45 *eP* **P 00 41 48.3 -0.8**
comp=Z,17nm,1.8s
TX31 Lajitas Ar. Si 52.96 292 IAmb IAmb 00 41 52.3
comp=Z,26nm,1.2s
TXAR Lajitas Array 52.96 292 P P 00 41 50.4 -0.3
comp=Z,3.7nm,1.1s,baz=96,slow=6.3,SNR=18
MOTA Moosalm 52.99 45 *i P* **P 00 41 49.5 -1.2**
comp=Z,35nm,1.3s,SNR=11
UBBA Unterbreizbach 53.01 41 *eP* **P 00 41 50.5 +0.1**
comp=Z,18nm,1.4s,baz=257,slow=7.4
SQTA Sankt Quirin 53.04 46 *i P* **P 00 41 50.1 -0.9**
comp=Z,43nm,1.1s,SNR=13
GTTG Gottingen 53.17 40 *eP* **P 00 41 51.4 -0.3**
comp=Z,14nm,1.2s,baz=257,slow=7.4
FUR Furstenfeldbru 53.26 44 *eP* **P 00 41 52.5 0.0**
comp=Z,26nm,1.3s,baz=257,slow=7.4
WATA Walderalm 53.31 46 *i P* **P 00 41 52.4 -0.6**
comp=Z,36nm,1.3s,SNR=11
WTTA Wattenberg 53.34 46 *i P* **P 00 41 51.8 -1.4**
comp=Z,32nm,1.3s,SNR=8.8
T25A Trinidad 53.39 302 P P 00 41 53.8 0.0
T25A Trinidad 53.39 302 P P 00 41 53.7 -0.2
baz=91
MURB Monte Urbino 53.40 51 P P 00 41 53.5 -0.1
CLZ Clausthal 53.49 40 *eP* **P 00 41 53.9 -0.2**
comp=Z,17nm,1.4s,baz=257,slow=7.4
NRDL Niedersach Rie 53.49 39 *eP* **P 00 41 54.3 +0.4**
comp=Z,35nm,1.4s,baz=257,slow=7.4
GRFO Grafenberg 53.52 43 P P 00 41 53.9 -0.4
GRFO pmax pmax
comp=Z,18nm,1.1s
GRFO Grafenberg 53.52 43 P P 00 41 53.9 -0.4
GRFO IAmb IAmb 00 41 55.0
comp=Z,18nm,1.1s
GRA1 Grafenberg Arr 53.53 43 IAmb IAmb 00 41 55.1
comp=Z,18nm,1.1s
GRF Grafenberg Arr 53.53 43 *eP* **P 00 41 54.0 -0.4**
comp=Z,22nm,1.2s,baz=257,slow=7.4
CORL Corleone 53.62 57 P P 00 41 55.4 +0.1
ASSE Asse, Remlinge 53.74 40 *eP* **P 00 41 55.6 -0.2**
comp=Z,22nm,1.5s,baz=257,slow=7.4
ABTA Abfaltersbach 53.85 46 *eP* **P 00 41 56.3 -0.5**
comp=Z,12nm,1.1s
MOX Moxa 53.97 41 *eP* **P 00 41 57.1 -0.5**
comp=Z,15nm,1.4s,baz=257,slow=7.4
BSEG Bad Segeberg 54.00 37 *eP* **P 00 41 57.7 0.0**
comp=Z,35nm,1.2s,baz=257,slow=7.4
Q24A Divide 54.03 304 P P 00 41 57.9 -0.8
baz=92
FLTG Flechtingen 54.12 39 *eP* **P 00 41 58.3 -0.4**
comp=Z,21nm,1.3s,baz=257,slow=7.4
ZOU Zoufplan 54.13 47 IAmb IAmb 00 42 08.0
comp=Z,23nm,1.1s
MANZ Manzenberg 54.15 42 *eP* **P 00 41 59.0 0.0**
comp=Z,36nm,2.2s,baz=257,slow=7.4
ROTZ Rotzenmuhle 54.17 43 *eP* **P 00 41 58.6 -0.4**
comp=Z,10nm,1.6s,baz=257,slow=7.4
RJOB Jochberg 54.19 45 *eP* **P 00 41 58.5 -0.8**
comp=Z,67nm,1.2s,baz=257,slow=7.4
SDCO Great Sand Dun 54.27 302 P P 00 42 00.1 -0.3
SDCO Great Sand Dun 54.27 302 P P 00 42 00.8 +0.4
baz=91
PLN Plauen 54.28 42 *eP* **P 00 41 59.7 -0.1**
comp=Z,20nm,1.8s,baz=257,slow=7.4
MNTX Cornudas Mount 54.29 295 P P 00 41 59.6 -0.7
baz=87,SNR=7.0
DGMT Dagmar 54.33 316 P P 00 42 00.1 -0.1
baz=100
GUNZ Gunzen 54.36 42 *eP* **P 00 42 00.4 -0.1**
comp=Z,25nm,1.7s,baz=257,slow=7.4
WERD Werda 54.36 42 *eP* **P 00 42 00.1 -0.4**
comp=Z,18nm,1.6s,baz=257,slow=7.4
WERN Wernitzgruen 54.38 42 *eP* **P 00 42 00.6 0.0**
comp=Z,30nm,1.3s,baz=257,slow=7.4
PHWY Pilot Hill 54.39 307 P P 00 42 00.7 -0.4
NKC Novy Kostel 54.41 42 *eP* **P 00 42 00.0 -0.8**
NKC MLR MLR
comp=Z,500nm,17.1s
NKC Novy Kostel 54.41 42 *eP* **P 00 42 00.0 -0.8**
NKC AMS AMS 01 02 20.0
comp=Z,500nm,17.1s
ISCO Idaho Springs 54.42 305 P P 00 42 01.5 0.0
ISCO pmax pmax
comp=Z,20nm,1.7s
ISCO Idaho Springs 54.42 305 P P 00 42 01.5 0.0
ISCO IAmb IAmb 00 42 03.5
comp=Z,20nm,1.7s
ISCO Idaho Springs 54.42 305 P P 00 42 01.6 +0.2
baz=92
RAFF Raffo Rosso 54.45 58 P P 00 42 01.7 +0.3
TANN Tannenbergstha 54.45 42 *eP* **P 00 42 01.0 -0.2**
comp=Z,21nm,1.8s,baz=257,slow=7.4
WET Wettzell 54.48 44 *eP* **P 00 42 00.9 -0.5**
comp=Z,19nm,1.5s,baz=257,slow=7.4
MYKA Terra Mystica 54.60 47 *eP* **P 00 42 01.0 -1.3**
comp=Z,22nm,1.1s
N23A Red Feather La 54.73 306 P P 00 42 03.8 +0.2
baz=93
PAOL Paolisi 54.73 54 P P 00 42 03.6 +0.2
KHC Kasperske Hory 54.93 44 *eP* **P 00 42 02.6 -2.1**
KHC *eS* **S 00 49 48.1 +1.1**
KHC MLR MLR
comp=Z,700nm,19.6s
KHC Kasperske Hory 54.93 44 *eP* **P 00 42 02.6 -2.1**
KHC *eS* **S 00 49 48.1 +1.1**
KHC AMS AMS 01 03 40.0
comp=Z,700nm,19.6s
HPIG 54.94 289 P P 00 42 05.6 +0.3
HPIG IAmb IAmb 00 42 19.1
comp=Z,13nm,1.0s
GEC2 GERESS Array S 54.97 44 IAmb IAmb 00 42 05.4
comp=Z,18nm,1.3s
GEC2 GERESS Array S 54.97 44 *eP* **P 00 42 04.4 -0.6**
comp=Z,20nm,1.3s,baz=257,slow=7.4
GERES GERESS Array B 54.97 44 P P 00 42 03.2 -1.8
comp=Z,9.8nm,1.2s,baz=242,slow=5.6,SNR=26
CLL Collm 54.97 41 *i P* **P 00 42 03.1 -1.7**
comp=Z,11nm,1.2s
CLL *i* sP **sP 00 42 08.5 +3.1**
CLL *e*(PcP) **PcP 00 43 04.0 -2.6**
CLL *e* 00 43 55.0
CLL *e*S **S 00 49 51.0 +3.7**
CLL *e*SS **SS 00 53 31.0 +0.4**
CLL *e*SSS SSS 00 55 30.0
CLL Lm MLR 01 02 00.0
comp=N,300nm,19.6s
CLL Lm MLR 01 02 00.0
comp=E,500nm,19.5s
CLL Lm MLR 01 02 00.0
comp=Z,700nm,19.4s
CLL Collm 54.97 41 *i P* **P 00 42 03.1 -1.7**
CLL *eS* **S 00 49 51.0 +3.7**
CLL pmax pmax
comp=Z,11nm,1.2s
CLL MLR MLR
comp=Z,700nm,19.4s
CLL Collm 54.97 41 *eP* **P 00 42 04.6 -0.2**
comp=Z,11nm,1.2s,baz=257,slow=7.4
ANMO Albuquerque 55.05 299 P P 00 42 06.8 +0.8
ANMO pmax pmax
comp=Z,6.0nm,1.1s
ANMO Albuquerque 55.05 299 P P 00 42 06.8 +0.8
ANMO Albuquerque 55.05 299 P P 00 42 06.0 0.0
baz=88
FBE Freiberg 55.11 41 *eP* **P 00 42 05.9 0.0**
comp=Z,27nm,1.4s,baz=257,slow=7.4
MOA Molln 55.19 45 *i P* **P 00 42 05.5 -1.0**
comp=Z,17nm,1.3s,SNR=5.8
OBKA Obir 55.20 47 *eP* **P 00 42 05.4 -1.3**
comp=Z,28nm,1.4s
K22A Casper 55.27 308 P P 00 42 07.2 -0.2
baz=94
PBCC Pribram 55.29 43 *eP* **P 00 42 07.3 +0.1**
S22A 4UR Ranch, Cre 55.33 302 P P 00 42 08.6 +0.6
baz=90,SNR=9.9
CKRC Cesky Krumlov 55.36 44 *eP* **P 00 42 06.7 -1.0**
CKRC AMS AMS 01 03 20.0
comp=Z,800nm,20.6s
KONO Kongsberg 55.40 30*c eP* **P 00 42 05.9 -1.9**
KONO pmax pmax
comp=Z,9.0nm,1.3s
SMCO Snowmass 55.46 304 P P 00 42 09.3 +0.3
SMCO IAmb IAmb 00 43 10.6
comp=Z,20nm,1.8s
BRG Berggiesshubel 55.47 42 *eP* **P 00 42 08.3 -0.1**
comp=Z,11nm,1.4s,baz=257,slow=7.4
BRG Berggiesshubel 55.47 42 *eP* **P 00 42 07.1 -1.3**
BRG Amp 00 42 10.1
comp=Z,11nm,1.4s
BRG Berggiesshubel 55.47 42 S **S 00 50 01.0 +7.0**
LENM Lemitar 55.51 298 P **P 00 42 10.6 +1.3**
PRA Prague 55.64 43 *eS* **S 00 50 01.0 +4.8**
PRA AMS AMS 01 04 00.0
comp=Z,700nm,19.4s
RUE Ruedersdorf 55.68 40 *eP* **P 00 42 09.6 -0.3**
comp=Z,128nm,2.4s,baz=257,slow=7.4
PRU Pruhonice 55.69 43 *eP* **P 00 42 10.0 -0.1**
PRU *eS* **S 00 50 03.1 +6.1**
PRU MLR MLR
comp=Z,600nm,17.5s
PRU Pruhonice 55.69 43 *eP* **P 00 42 10.0 -0.1**
PRU *eS* **S 00 50 03.1 +6.1**
PRU AMS AMS 01 04 10.0
comp=Z,600nm,17.5s
PVCC Panska Ves 55.80 42 AMS AMS 01 03 50.0
comp=Z,400nm,16.4s
ARSA Arzberg 55.96 46 *i P* **P 00 42 10.9 -1.1**
comp=Z,17nm,1.1s,SNR=5.7
LNIZ Loecknitz 56.14 38 *eP* **P 00 42 12.9 -0.3**
comp=Z,23nm,0.7s,baz=257,slow=7.4
CONA Conrad Observa 56.26 45 *i P* **P 00 42 13.4 -0.9**
comp=Z,12nm,1.2s,SNR=5.6
121A Cookes Peak, D 56.27 296 P P 00 42 15.1 +0.4
121A IAmb IAmb 00 42 16.9
comp=Z,17nm,1.2s
121A Cookes Peak, D 56.27 296 P P 00 42 15.1 +0.4
baz=86,SNR=5.6
O20A White River Ci 56.45 305 P P 00 42 15.7 -0.3
baz=91
NC204 NORSAR Array S 56.51 29 P P 00 42 15.4 -0.4
NB2 NORSAR Subarra 56.63 29 P P 00 42 16.3 -0.4
comp=Z,134nm,3.3s,baz=250,slow=7.4
NB2 NORSAR Subarra 56.63 29 P P 00 42 16.3 -0.4
baz=250,slow=7.4
NOA NORSAR Array B 56.63 29 P P 00 42 15.2 -1.5
comp=Z,6.9nm,1.2s,baz=249,slow=7.3,SNR=6.9
MVCO Mesa Verde 56.66 302 P P 00 42 18.0 +0.4
MVCO IAmb IAmb 00 42 19.6
comp=Z,17nm,1.4s
MVCO Mesa Verde 56.66 302 P P 00 42 17.9 +0.4
baz=89,SNR=6.3
UPC Upice 56.71 42 *eS* **S 00 50 15.6 +5.1**
UPC AMS AMS 01 04 50.0
comp=Z,700nm,17.9s
CHVC Chvalec 56.74 42 *eP* **P 00 42 16.4 -1.2**
CHVC AMS AMS 01 04 50.0
comp=Z,700nm,18.6s
KRUC Moravsky 56.76 44 *eP* **P 00 42 17.0 -0.7**
NC303 NORSAR Array S 56.77 29 P P 00 42 16.8 -0.7
NC303 IAmb IAmb 00 42 19.6
comp=Z,29nm,1.4s
NC300 NORSAR Array S 56.80 29 P P 00 42 16.7 -1.1
OSTC Ostas 56.84 42 *eP* **P 00 42 17.4 -0.9**
OSTC AMS AMS 01 05 00.0
comp=Z,700nm,17.9s
DPC Dobruska-Polom 56.88 42 *eP* **P 00 42 17.8 -0.8**
DPC *eS* **S 00 50 20.0 +7.1**
DPC MLR MLR
comp=Z,600nm,19.9s
DPC Dobruska-Polom 56.88 42 *eP* **P 00 42 17.8 -0.8**
DPC *eS* **S 00 50 20.0 +7.1**
DPC AMS AMS 01 04 50.0
comp=Z,600nm,19.9s
VRAC Vranov 56.91 44 ⇑P **P 00 42 18.4 -0.4**
VRAC Vranov 56.91 44 ⇑P **P 00 42 18.4 -0.4**
VRAC Vranov 56.91 44 *eP* **P 00 42 17.1 -1.7**
KSP Ksiaz 56.93 42 *eP* **P 00 42 19.1 +0.2**
KRLC Kraliky 57.13 43 *eP* **P 00 42 20.0 -0.4**
KRLC MLR MLR
comp=Z,400nm,18.2s
KRLC Kraliky 57.13 43 *eP* **P 00 42 20.0 -0.4**
KRLC AMS AMS 01 05 20.0
comp=Z,400nm,18.2s
MODS Modra-Piesok 57.26 45 *eP* **P 00 42 19.7 -1.6**
MODS pmax pmax
comp=Z,26nm,1.4s
MODS Modra-Piesok 57.26 45 *eP* **P 00 42 19.7 -1.6**
MPLH Magyarpolny 57.31 46 *eP* **P 00 42 21.5 -0.1**
RLMT Red Lodge 57.41 311 P P 00 42 23.2 +0.6
RLMT IAmb IAmb 00 42 24.2
comp=Z,18nm,1.5s
RLMT Red Lodge 57.41 311 P P 00 42 22.5 -0.1
baz=94
RDMU Red Mountain 57.47 306 P P 00 42 23.3 +0.1
RDMU IAmb IAmb 00 42 24.4
comp=Z,15nm,1.2s
PDAR Pinedale Array 57.51 308 P P 00 42 23.1 -0.4
comp=Z,3.7nm,1.1s,baz=86,slow=7.6,SNR=18
BW06 Boulder Array 57.51 308 P P 00 42 22.7 -0.8
baz=92,SNR=8.4
MORC Moravsky Berou 57.59 43 ⇓P **P 00 42 24.3 +0.7**
MORC Moravsky Berou 57.59 43 ⇓P **P 00 42 24.3 +0.7**
MORC Moravsky Berou 57.59 43 *eP* **P 00 42 23.1 -0.5**
KOVH Kovagotttos 57.61 48 *eP* **P 00 42 23.8 0.0**
SRO2 Moca 57.94 46 *eP* **P 00 42 24.4 -1.7**
SRO2 Moca 57.94 46 *eP* **P 00 42 24.4 -1.7**
EGMT Eagleton 57.96 315 P P 00 42 26.6 +0.3
baz=95
SRU San Rafael Swe 58.22 304 P P 00 42 28.0 -0.4
SRU pmax pmax
comp=Z,10.0nm,1.3s
SRU San Rafael Swe 58.22 304 P P 00 42 28.0 -0.4
PDG Podgorica 58.29 52 ⇑P **P 00 42 29.3 +0.7**
BUD Budapest 58.35 46 *eP* **P 00 42 30.1 +1.2**
P17A Butcher Ranch, 58.38 304 P P 00 42 29.8 +0.3
REDW Red Top Meadow 58.47 309 P P 00 42 30.4 +0.3
REDW IAmb IAmb 00 42 42.8
comp=Z,34nm,1.9s
TPAW Teton Pass 58.55 309 P P 00 42 30.8 +0.1
TPAW IAmb IAmb 00 43 00.5
comp=Z,18nm,1.4s
IMW Indian Meadow 58.55 310 P P 00 42 30.0 -0.7
IMW IAmb IAmb 00 42 31.8
comp=Z,14nm,1.4s
TMUT Trail Mountain 58.74 304 P P 00 42 32.5 +0.3
TUC Tucson 58.82 296 P P 00 42 33.7 +1.1
TUC pmax pmax
comp=Z,8.0nm,1.1s
TUC Tucson 58.82 296 P P 00 42 33.7 +1.1
TUC Tucson 58.82 296 P P 00 42 32.5 -0.1
baz=84
DIVS Divibare 58.86 50 IAmb IAmb 00 42 36.3
comp=Z,17nm,1.3s
JLU Jordanelle 58.91 306 P P 00 42 32.9 -0.3
JLU IAmb IAmb 00 42 34.6
comp=Z,20nm,1.5s
WUAZ Wupatki 59.05 300 P P 00 42 34.5 +0.3
WUAZ Wupatki 59.05 300 P P 00 42 33.9 -0.3
baz=86,SNR=9.6
OJC Ojcow 59.08 43 *eP* **P 00 42 33.9 -0.1**
OJC Ojcow 59.08 43 IAmb IAmb 00 42 35.3
comp=Z,24nm,1.3s
BOZ Bozeman (W) 59.09 312 P P 00 42 34.6 +0.3
baz=92
X16A Lo Mia Camp, P 59.18 299 P P 00 42 36.0 +0.8
X16A IAmb IAmb 00 42 37.8
comp=Z,15nm,1.4s
NIE Niedzica 59.34 44 *eP* **P 00 42 37.2 +1.4**
NIE *eP* **P 00 42 37.3 +1.4**
NIE *eP* **P 00 42 37.7 +1.8**
KECS Kecovo 59.39 45 *eP* **P 00 42 37.0 +0.8**
KECS Kecovo 59.39 45 *eP* **P 00 42 37.0 +0.8**
NLU North Lily Min 59.40 305 P P 00 42 37.3 +0.7
NLU IAmb IAmb 00 42 38.1
comp=Z,14nm,1.3s
OHR Ohrid 59.45 54 *i P* **P 00 42 38.0 +1.2**
AMBH Ambrzfalva 59.45 47 *eP* **P 00 42 38.9 +2.3**
BO01 Tunca 59.46 204 P P 00 42 36.8 0.0
MSU Marysvale 59.53 303 P P 00 42 38.2 +0.6
MSU Marysvale 59.53 303 P P 00 42 38.2 +0.6
MTPU Mount Pierson 59.55 303 P P 00 42 38.3 +0.3
U15A North Rim 59.73 301 P P 00 42 39.2 +0.1
U15A IAmb IAmb 00 42 41.5
comp=Z,13nm,1.3s
FNA Florina 59.89 54 IAmb IAmb 00 42 41.2
comp=Z,22nm,1.4s
SKO Skopje 59.91 53 *i P* **P 00 42 40.7 +0.8**
DUG Dugway, Tooele 59.96 305 P P 00 42 40.6 +0.2
DUG pmax pmax
comp=Z,11nm,1.2s
DUG Dugway, Tooele 59.96 305 P P 00 42 40.6 +0.2
DUG IAmb IAmb 00 42 41.8
comp=Z,11nm,1.2s
DUG Dugway, Tooele 59.96 305 P P 00 42 40.4 0.0
baz=88,SNR=8.6
BZS Buzias 60.05 48 ⇑P **P 00 42 40.2 -0.6**
BZS Buzias 60.05 48 ⇑P **P 00 42 40.2 -0.6**
CRVS Cervenica-Dubn 60.06 45 *eP* **P 00 42 41.4 +0.6**
CRVS pmax pmax
comp=Z,34nm,1.3s
CRVS Cervenica-Dubn 60.06 45 *eP* **P 00 42 41.4 +0.6**
BOVS Bovan 60.09 51 ⇑P **P 00 42 41.2 +0.1**
BGU Big Grassy Mou 60.10 306 IAmb IAmb 00 42 42.5
comp=Z,19nm,1.3s
MDVR Moldovita 60.10 49 ⇑P **P 00 42 41.0 -0.3**
KNB Kanab 60.12 302 P P 00 42 41.6 0.0
KNB pmax pmax
comp=Z,13nm,1.5s
KNB Kanab 60.12 302 P P 00 42 41.6 0.0
KNB IAmb IAmb 00 43 52.8
comp=Z,13nm,1.5s
STIP Stip 60.48 53 *i P* **P 00 42 44.1 +0.4**
ITM Ithomi 60.49 58 P P 00 42 43.9 -0.1
CCUT Cedar City 60.51 302 IAmb IAmb 00 42 46.3
comp=Z,15nm,1.3s
Y14A Wickenburg 60.52 298 P P 00 42 44.5 +0.3
Y14A IAmb IAmb 00 42 46.4
comp=Z,19nm,1.3s
214A Organ Pipe Nat 60.56 296 IAmb IAmb 00 42 47.6
comp=Z,17nm,1.1s
214A Organ Pipe Nat 60.56 296 P P 00 42 45.3 +0.7
baz=83,SNR=7.2
UZH Uzhgorod 60.60 45*c i P* **P 00 42 43.5 -0.9**
UZH *e* 00 42 50.0
HERR Herculane 60.60 49 ⇑P **P 00 42 44.4 -0.1**
AGG Agios Georgios 60.70 56 P P 00 42 45.6 +0.2
AGG pmax pmax
comp=Z,40nm,1.4s
AGG Agios Georgios 60.70 56 P P 00 42 45.6 +0.2
SRIG Santa Rosalia 60.70 291 P P 00 42 45.8 +0.3
SRIG IAmb IAmb 00 42 48.7
comp=Z,14nm,1.0s
EDM Edmonton 60.70 320 P P 00 42 45.3 +0.2
EDM pmax pmax
comp=Z,23nm,1.3s
EDM Edmonton 60.70 320 P P 00 42 45.3 +0.2
EDM IAmb IAmb 00 42 54.1
comp=Z,23nm,1.3s
TRPA Tarpa 60.75 45 ⇑P **P 00 42 44.3 -1.1**
TRPA Tarpa 60.75 45 *eP* **P 00 42 45.0 -0.5**
VAY Valandovo 60.78 53 *i P* **P 00 42 46.4 +0.6**
DRGR 60.83 47 ⇑P **P 00 42 46.0 -0.2**
DRGR 60.83 47 ⇑P **P 00 42 46.0 -0.2**
PSUT Pine Spring 60.84 304 P P 00 42 47.2 +0.6
GZR Gura Zlata 60.86 49 ⇑P **P 00 42 44.3 -2.1**
GZR Gura Zlata 60.86 49 ⇑P **P 00 42 44.3 -2.1**
KWP Kalwaria Pacla 60.91 44 P P 00 42 47.4 +0.8
KWP pmax pmax
comp=Z,206nm,1.3s
KWP Kalwaria Pacla 60.91 44 P P 00 42 47.4 +0.8
HLID Hailey 61.06 309 P P 00 42 48.5 +0.5
baz=89
SPR3 Spring Creek 3 61.18 304 IAmb IAmb 00 42 51.7

comp=Z,16nm,1.2s
VTS Vitosha 61.23 52 ⇑P P 00 42 49.7 +0.6
VTS Vitosha 61.23 52 ⇑P P 00 42 49.7 +0.6
VTS Vitosha 61.23 52 IAmb IAmb 00 42 50.7
comp=Z,20nm,1.4s
PDMCI Parker Dam,Lak 61.42 299 P P 00 42 50.7 +0.5
baz=84
ELK Elko 61.78 306 IAmb IAmb 00 42 54.0
comp=Z,12nm,1.2s
LVV L'vov 61.78 44 eP P 00 42 51.7 -0.8
LVV e 00 45 14.4
LVV eS S 00 51 12.1 -4.1
LVV e 00 51 31.6
LVV MLR MLR
comp=Z,300nm,16.0s
PRN Pahroc Range 61.86 302 P P 00 42 53.9 +0.5
PRN IAmb IAmb 00 42 55.9
comp=Z,15nm,1.4s
MFID Camas Ranch 62.10 309 IAmb IAmb 00 42 55.9
comp=Z,17nm,1.4s
GLA Glamis 62.13 297 P P 00 42 55.7 +0.5
GLA pmax pmax
comp=Z,11nm,1.1s
GLA Glamis 62.13 297 P P 00 42 55.7 +0.5
GLA IAmb IAmb 00 42 57.4
comp=Z,11nm,1.1s
GLA Glamis 62.13 297 P P 00 42 56.1 +0.9
baz=83
ARR Arges 62.17 49 ⇑P P 00 42 54.2 -1.0
R11A Troy Canyon, C 62.21 303 P P 00 42 55.6 -0.1
R11A Troy Canyon, C 62.21 303 P P 00 42 55.3 -0.5
baz=85
IRM Iron Mountain 62.26 299 P P 00 42 56.4 +0.4
baz=83
BUR08 Bucovina Ar. S 62.53 46 P P 00 42 58.0 +0.3
BURAR Bucovina Array 62.54 46 ⇑P P 00 43 03.1 +5.4
BURAR Bucovina Array 62.54 46 ⇑P P 00 43 03.1 +5.4
BURAR Bucovina Array 62.54 46 P P 00 42 57.0 -0.7
BC3 Big Chuckawall 62.58 298 P P 00 42 58.8 +0.5
baz=83
TUQ Turquoise Moun 62.76 300 P P 00 42 59.7 +0.3
baz=84
TPNV Topopah Spring 62.86 302 P P 00 43 00.3 +0.1
TPNV pmax pmax
comp=Z,12nm,1.3s
TPNV Topopah Spring 62.86 302 P P 00 43 00.3 +0.1
TPNV IAmb IAmb 00 43 02.5
comp=Z,12nm,1.2s
TPNV Topopah Spring 62.86 302 P P 00 43 00.6 +0.5
baz=84
NEW Newport 62.90 315 IAmb IAmb 00 43 01.0
comp=Z,20nm,1.4s
NEW Newport 62.90 315 P P 00 42 60.0 -0.1
baz=90,SNR=7.9
SWSC Sam W. Stewart 62.95 297 P P 00 43 01.0 +0.5
baz=82
BELC Belle Mtn. Jos 62.98 299 P P 00 43 01.5 +0.5
baz=83
MLR Muntele Rosu 63.09 48 ⇑P P 00 43 01.5 0.0
MLR Muntele Rosu 63.09 48 ⇑P P 00 43 01.5 0.0
BIZ Bicaz 63.16 47 ⇑P P 00 43 01.7 0.0
IKP In-Ko-Pah, Jac 63.25 297 P P 00 43 03.3 +0.6
baz=82,SNR=5.4
COVR Voineasa-Covas 63.26 48 ⇑P P 00 43 02.6 +0.1
GWY Greenwater Val 63.27 301 P P 00 43 03.8 +0.9
BMN Battle Mountai 63.31 306 P P 00 43 03.2 +0.2
BMN pmax pmax
comp=Z,10.0nm,1.3s
BMN Battle Mountai 63.31 306 P P 00 43 03.2 +0.2
BMN IAmb IAmb 00 43 04.1
comp=Z,10nm,1.3s
FURC Furnace Creek, 63.40 301 P P 00 43 04.1 +0.6
baz=84
TPFO Pinon Flats 63.41 298 P P 00 43 04.0 +0.2
baz=82
PFO Pinyon Flats O 63.41 298 P P 00 43 03.8 +0.1
comp=Z,1.3nm,0.6s,baz=72,slow=7.3,SNR=5.4
PFO Pinyon Flats O 63.41 298 P P 00 43 03.9 +0.1
PFO pmax pmax
comp=Z,16nm,1.6s
PFO Pinyon Flats O 63.41 298 IAmb IAmb 00 43 06.0
comp=Z,16nm,1.6s
PFO Pinyon Flats O 63.41 298 P P 00 43 04.0 +0.2
baz=82
QSM Queen of Sheba 63.46 301 P P 00 43 04.5 +0.6
QSM IAmb IAmb 00 43 06.1
comp=Z,13nm,1.2s
MONP2 Monument Peak 63.48 297 P P 00 43 04.3 -0.1
baz=82
GSC Goldstone, Bar 63.49 300 P P 00 43 04.6 +0.4
GSC pmax pmax
comp=Z,6.0nm,0.9s
GSC Goldstone, Bar 63.49 300 P P 00 43 04.6 +0.4
GSC Goldstone, Bar 63.49 300 P P 00 43 04.2 0.0
baz=83
TPH Tonopah 63.52 303 P P 00 43 03.9 -0.7
TPH pmax pmax
comp=Z,67nm,1.6s
TPH Tonopah 63.52 303 P P 00 43 03.9 -0.7
PLOR Plostina 63.57 48 ⇑P P 00 43 06.6 +2.1
PLOR Plostina 63.57 48 ⇑P P 00 43 06.6 +2.1
VRI Vrincioaia 63.62 48 ⇓P P 00 43 05.2 +0.3
VRI Vrincioaia 63.62 48 ⇓P P 00 43 05.2 +0.3
E09A Wood Farm, Sta 63.63 313 P P 00 43 04.5 -0.4
E09A IAmb IAmb 00 43 05.7
comp=Z,13nm,1.2s
NACGM Naroch 63.63 38 iP P 00 42 57.2 -7.5
C09A Chrisman Ranch 63.67 314 P P 00 43 05.4 +0.2
C09A IAmb IAmb 00 43 05.7
comp=Z,14nm,1.4s
BAR Barrett 63.72 297 P P 00 43 06.4 +0.7
BAR IAmb IAmb 00 43 08.4
comp=Z,10nm,1.1s
FINES FINESS Array B 63.72 31 P P 00 43 03.8 -1.4
comp=Z,7.0nm,1.1s,baz=246,slow=12,SNR=4.5
GRAC Grapevine Rang 63.74 302 P P 00 43 06.0 +0.2
baz=84
LCH Last Change Ra 63.94 302 P P 00 43 07.4 +0.2
MPMC Manual Prospec 63.95 301 P P 00 43 07.4 0.0
baz=83,SNR=6.5
MURC Murrieta 64.02 298 P P 00 43 08.0 +0.3
baz=82
109C Camp Elliot, M 64.05 298 P P 00 43 07.9 +0.1
109C IAmb IAmb 00 43 09.9
comp=Z,21nm,1.4s
109C Camp Elliot, M 64.05 298 P P 00 43 08.5 +0.7
baz=82
D08A Wollman Farm, 64.14 313 IAmb IAmb 00 43 09.3
comp=Z,25nm,1.5s
KBS Kingsbay 64.24 10 P P 00 43 09.0 +0.7
KBS pmax pmax
comp=Z,53nm,1.3s
KBS Kingsbay 64.24 10 P 00 43 09.0 +0.7
G08A Pilot Rock 64.25 311 P P 00 43 09.2 0.0
BFSC Mount Baldy Ra 64.32 299 P P 00 43 09.8 0.0
baz=82
NVAR Mina Array Bea 64.33 304 P P 00 43 09.8 -0.1
comp=Z,2.1nm,1.1s,baz=95,slow=5.3,SNR=6.8
NVAR Mina Array Bea 64.33 304 P P 00 43 10.0 +0.1
CWC Cottonwood Cre 64.38 302 P P 00 43 10.5 +0.3
baz=83
EDW2 Edwards Air Fo 64.51 300 P P 00 43 11.4 +0.5
baz=82
HAWA Hanford 64.59 313 IAmb IAmb 00 43 12.2
comp=Z,15nm,1.4s
ARCES ARCESS Array B 64.63 22 P P 00 43 10.7 -0.4
comp=Z,17nm,1.0s,baz=260,slow=4.8,SNR=17
SORM Soroca 64.64 45 ⇑P P 00 43 10.8 -0.6
SORM Soroca 64.64 45 ⇑P P 00 43 10.8 -0.6
SPITS Spitsbergen Ar 64.71 12 P P 00 43 12.3 +0.9
SPB2 Spitsbergen Ar 64.71 12 P P 00 43 11.9 +0.5
ISA Isabella, Lake 64.79 301 P P 00 43 13.6 +0.8
ISA pmax pmax
comp=Z,17nm,1.3s
ISA Isabella, Lake 64.79 301 P P 00 43 13.6 +0.8
ISA IAmb IAmb 00 43 15.9
comp=Z,17nm,1.2s
ISA Isabella, Lake 64.79 301 P P 00 43 13.0 +0.2
baz=82,SNR=9.1
PLCA Paso Flores 64.92 201 P P 00 43 13.6 +0.3
comp=Z,4.9nm,0.9s,baz=25,slow=8.1,SNR=5.7
PLCA LR LR 01 11 44.9
comp=Z,418nm,21.5s,baz=22,slow=36
PLCA Paso Flores 64.92 201 P P 00 43 14.1 +0.8
PLCA pmax pmax
comp=Z,28nm,1.4s
PLCA Paso Flores 64.92 201 P P 00 43 14.1 +0.8
PLCA Paso Flores 64.92 201 eP P 00 43 14.4 +1.1
MDPB Devils Postpil 65.03 303 P P 00 43 14.9 +0.4
MDPB IAmb IAmb 00 43 22.8
comp=Z,13nm,1.4s
AKASG Malin Array Be 65.11 43 P P 00 43 12.9 -1.5
comp=Z,6.4nm,1.0s,baz=275,slow=5.5,SNR=20
AKBB Malin Array Si 65.11 43 ceP P 00 43 14.1 -0.4
AKBB Malin Array Si 65.11 43 IAmb IAmb 00 43 14.5
comp=Z,16nm,1.4s
KEV Kevo 65.19 21 P P 00 43 14.6 0.0
KEV pmax pmax
comp=Z,33nm,1.0s
KEV Kevo 65.19 21 P P 00 43 14.6 0.0
K05A Summer Lake 65.85 309 P P 00 43 20.0 +0.3
LLLB Lillooet 65.93 317 P P 00 43 19.3 -0.6
LLLB IAmb IAmb 00 43 21.2
comp=Z,18nm,1.3s
F05D White Salmon 65.96 312 P P 00 43 20.7 +0.6
baz=85
PKM Mcpherson Peak 65.99 300 P P 00 43 20.2 -0.5
baz=81
CMB Columbia Colle 66.00 304 P P 00 43 20.5 -0.1
CMB pmax pmax
comp=Z,7.0nm,1.3s
CMB Columbia Colle 66.00 304 P P 00 43 20.4 -0.1
J05D Fort Rock, OR 66.04 309 P P 00 43 21.1 +0.3
baz=84,SNR=5.6
M04C Macdoel 66.65 308 P P 00 43 24.9 +0.2
baz=83
J04D Umpqua Nationa 66.68 309 P P 00 43 25.0 0.0
baz=84
I04A Tendick Farm, 66.84 310 P P 00 43 25.5 -0.3
baz=84
ELL Elmali 66.89 58 P P 00 43 25.1 -1.3
ELL pmax pmax
comp=Z,157nm,1.2s
ELL Elmali 66.89 58 P P 00 43 25.1 -1.3
L04D Klamath Falls 66.94 308 P P 00 43 26.3 -0.3
baz=83
H04D Lebanon 66.99 311 P P 00 43 26.3 -0.4
baz=84
G03D McMinnville, O 67.29 312 P P 00 43 28.4 -0.2
baz=84
APA Apatity 67.31 24 ⇓iP P 00 43 26.9 -1.4
APA pmax pmax
comp=Z,13nm,1.0s
APA MLR MLR
comp=Z,400nm,11.0s
MDUB Mudurnu 67.36 54 P P 00 43 28.4 -0.9
J01E Myrtle Point 68.01 309 P P 00 43 33.3 +0.1
baz=82
CBB Campbell River 68.20 317 P P 00 43 33.4 -0.8
CBB IAmb IAmb 00 43 35.1
comp=Z,20nm,1.2s
ANTO Ankara 68.66 54 P P 00 43 36.7 -0.7
ANTO pmax pmax
comp=Z,19nm,1.2s
ANTO Ankara 68.66 54 P P 00 43 36.7 -0.7
ANTO IAmb IAmb 00 43 38.9
comp=Z,18nm,1.1s
TGTN Hyland Airport 68.90 329 P P 00 43 38.4 -0.1
baz=86
OBN Obninsk 69.26 38 P P 00 43 39.8 -0.8
comp=Z,2.1nm,0.4s,baz=214,slow=2.9,SNR=11
OBN Obninsk 69.26 38 ciP P 00 43 39.3 -1.4
OBN e 00 44 04.6
OBN e 00 46 09.6
OBN iS S 00 52 46.8 -0.6
OBN iSS SS 00 57 06.2 -7.3
OBN pmax pmax
comp=Z,43nm,1.3s
OBN Obninsk 69.26 38 P P 00 43 40.3 -0.3
BR131 Keskin Array S 69.33 54 iP P 00 43 41.1 -0.5
BR131 Keskin Array S 69.33 54 IAmb IAmb 00 43 42.8
comp=Z,22nm,1.2s
BRTR Keskin Array B 69.33 54 P P 00 43 40.6 -1.0
comp=Z,6.5nm,1.0s,baz=268,slow=3.7,SNR=25
BRTR Keskin Array B 69.33 54 iP P 00 43 40.0 -1.6
BRTR pmax pmax
comp=Z,7.0nm,1.0s
MOS Moscow 69.79 37 eP P 00 43 42.2 -1.8
MOS e 00 44 00.2
MOS e 00 46 24.3
MOS pmax pmax
comp=Z,45nm,1.4s
MMPY Sheldon Lake, 70.22 331 P P 00 43 46.7 +0.1
baz=84
KLMR Klimovskoe 70.23 31 eP P 00 43 43.4 -3.1
KLMR e 00 44 04.8
KLMR pmax pmax
comp=Z,38nm,1.3s
KLMR Klimovskoe 70.23 31 eP P 00 43 43.5 -3.1
KLMR AMP 00 43 47.0
comp=Z,38nm,1.3s
KLMR ePcP PcP 00 44 04.9 -3.5
INK Inuvik 70.58 337 LR LR 01 13 15.3
comp=Z,2μm,19.8s,baz=97,slow=35
INK Inuvik 70.58 337 IAmb IAmb 00 43 49.0
comp=Z,16nm,1.1s
INK Inuvik 70.58 337 P P 00 43 47.9 -0.7
baz=84,SNR=5.4
LPSR Galich'ya Gora 70.96 40 eP P 00 43 50.8 -0.4
LPSR pmax pmax
comp=Z,10.0nm,1.1s
BNN Bunyan 71.17 55 P P 00 43 52.9 -0.1
FARO Faro, Yukon 71.23 330 P P 00 43 52.6 -0.1
baz=82,SNR=6.5
ANN Anapa 71.24 48 eP P 00 43 49.0 -4.0
ANN e*PP pP 00 43 52.4 -1.2
ANN eS S 00 53 07.3 -3.8
ANN pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 71.32 41 eP P 00 43 51.4 -2.0
VSR pmax pmax
comp=Z,20nm,1.2s
VORD Divnogorie 71.44 42 eP P 00 43 51.4 -2.7
VORD pmax pmax
comp=Z,8.0nm,0.9s
GHAJ Ghor Haditha 72.54 62 P P 00 44 01.8 +0.7
GAZ Gaziantep 72.56 56 P P 00 44 01.2 0.0
GAZ IAmb IAmb 00 44 03.1
comp=Z,9.4nm,1.0s
VRH Novokhopyorsk 72.90 41 eP P 00 44 00.7 -2.2
VRH pmax pmax
comp=Z,20nm,1.4s
PRGR Permogore 73.03 30 eP P 00 44 02.4 -1.0
PRGR pmax pmax
comp=Z,54nm,1.5s
SOC Sochi 73.09 49 eP P 00 44 03.4 -0.7
SOC ePPP PPP 00 48 28.8
SOC eS S 00 53 33.0 +0.7
SOC eSSS SSS 01 01 27.4
SOC pmax pmax
comp=Z,16nm,0.9s
SOC MLR MLR
comp=Z,134nm,17.0s
TSUM Tsumeb 73.34 118 P P 00 44 06.4 +0.3
TSUM IAmb IAmb 00 44 07.4
comp=Z,24nm,1.4s
HYT Haines Junctio 73.43 329 P P 00 44 06.2 +0.2
HYT IAmb IAmb 00 44 11.9
comp=Z,25nm,1.6s
HYT Haines Junctio 73.43 329 P P 00 44 05.4 -0.6
baz=78,SNR=5.3
DAWY Dawson 73.61 333 IAmb IAmb 00 44 07.7
comp=Z,18nm,1.4s
DAWY Dawson 73.61 333 P P 00 44 06.8 -0.2
baz=78,SNR=6.3
YUK6 Outpost Mounta 73.81 329 P P 00 44 08.4 0.0
baz=78
YUK4 Talbot Arm 73.86 330 P P 00 44 08.1 -0.5
baz=78
YUK3 Moose Creek 74.61 331 P P 00 44 12.1 -0.9
baz=76,SNR=6.1
K27K Chicken 74.77 333 P P 00 44 13.3 -0.3
baz=75
L27K Beaver Creek, 74.90 332 IAmb IAmb 00 44 15.5
comp=Z,17nm,1.4s
L27K Beaver Creek, 74.90 332 P P 00 44 13.7 -0.7
baz=75,SNR=6.6
PINM Pinnacle 74.92 329 P P 00 44 14.3 -0.4
baz=76
KIV Kislovodsk 75.10 48 eP P 00 44 14.4 -1.7
KIV eS S 00 53 52.5 -2.7
KIV pmax pmax
comp=Z,18nm,1.1s
KIV Kislovodsk 75.10 48 P P 00 44 16.2 +0.1
KIV IAmb IAmb 00 44 18.5
comp=Z,18nm,1.1s
M27K Edge Creek, AK 75.11 331 P P 00 44 15.9 +0.1
baz=75
SHA1 Shidzhatmaz 75.13 49 iP P 00 44 15.2 -1.2
CTG Chitna Glacier 75.22 330 P P 00 44 16.5 0.0
baz=75
J26L Joseph Creek 75.27 334 P P 00 44 16.7 +0.1
baz=74
NEY Neytrino 75.30 49 iP P 00 44 16.9 -0.4
NEY pmax pmax
comp=Z,3.0nm,1.2s
KBZ Khabaz 75.30 49 P P 00 44 17.0 0.0
comp=Z,5.9nm,1.0s,baz=296,slow=3.0,SNR=10
KBZ Khabaz 75.30 49 ceP P 00 44 15.2 -1.9
KBZ pmax pmax
comp=Z,11nm,1.3s
PYA1 Pyatigorsk 75.36 48 iP P 00 44 17.3 -0.2
KIRV Kirov 75.57 33 P P 00 44 17.7 -0.6
comp=Z,6.6nm,0.7s,baz=302,slow=22,SNR=5.0
KIRV Kirov 75.57 33 ceP P 00 44 16.6 -1.7
L26K Log Cabin Wild 75.58 332 P P 00 44 18.4 +0.1
baz=74
SCRK Sand Creek 75.59 333 P P 00 44 18.1 -0.4
baz=74
M26K Nabesna, AK 75.60 332 P P 00 44 18.8 +0.2
baz=74
PRP Porcupine Dome 75.77 335 P P 00 44 19.2 -0.3
PRP IAmb IAmb 00 44 20.8
comp=Z,14nm,1.2s
PRP Porcupine Dome 75.77 335 P P 00 44 19.8 +0.3
baz=73
NCK Nalchik 75.85 49 iP P 00 44 18.5 -1.8
NCK pmax pmax
comp=Z,18nm,1.4s
MCARA McCarthy VSAT 75.89 331 P P 00 44 20.1 -0.1
MCARA IAmb IAmb 00 44 21.7
comp=Z,23nm,1.2s
MCARA McCarthy VSAT 75.89 331 P P 00 44 20.0 -0.1
baz=74
GURO Guroymak-BITLI 75.95 54 P P 00 44 20.3 -0.8
GURO IAmb IAmb 00 44 23.4
comp=Z,15nm,1.3s
ONI Oni 75.98 50 P P 00 44 20.9 -0.2
ONI pmax pmax
comp=Z,8.0nm,1.0s
ONI Oni 75.98 50 P P 00 44 20.9 -0.2
BELG Belogornoye 76.20 39 P P 00 44 20.6 -1.4
comp=Z,35nm,1.0s,baz=100,slow=2.0,SNR=18
BELG Belogornoye 76.20 39 iP P 00 44 20.3 -1.7
BELG pmax pmax
comp=Z,9.0nm,1.1s
GLB Gilahina Butte 76.24 331 P P 00 44 21.6 -0.5
GLB IAmb IAmb 00 44 23.3
comp=Z,16nm,1.2s
ZEI Tsey 76.25 49 eP P 00 44 23.1 +0.3
ZEI pmax pmax
comp=Z,3.0nm,1.1s
TOLK Toolik Lake Re 76.26 339 P P 00 44 22.3 +0.1
baz=70
PAX Paxson 76.52 332 P P 00 44 23.3 -0.5
baz=72
IL31 76.55 334 P P 00 44 23.5 -0.2
IL31 IAmb IAmb 00 44 24.7
comp=Z,18nm,1.1s
ILAR Eielson Array 76.55 334 P P 00 44 23.6 -0.2
comp=Z,10nm,1.0s,baz=70,slow=4.4,SNR=37
ILAR Eielson Array 76.55 334 P P 00 44 22.2 -1.6
ILAR Eielson Array 76.55 334 P P 00 44 22.2 -1.6
N25K Chitina, Valde 76.55 331 P P 00 44 23.9 0.0
baz=72
HARP HAARP 76.56 332 P P 00 44 24.1 +0.2
baz=72
H24K Noodor Dome 76.60 336 P P 00 44 24.7 +0.6
H24K IAmb IAmb 00 44 25.7
comp=Z,23nm,1.4s
H24K Noodor Dome 76.60 336 P P 00 44 23.8 -0.3
baz=71,SNR=7.1
HDA Harding Lake 76.69 334 P P 00 44 24.8 +0.2
baz=71
COLA College 76.91 335 P P 00 44 26.1 +0.3
baz=70
TCOL CIGO, UAF Yank 76.91 335 P P 00 44 25.6 -0.2
baz=70
CCB Clear Creek Bu 76.97 334 P P 00 44 25.6 -0.5
CCB IAmb IAmb 00 44 27.0
comp=Z,19nm,1.2s
COLD Coldfoot 76.99 337 P P 00 44 26.7 +0.4
COLD IAmb IAmb 00 44 48.5
comp=Z,32nm,1.9s
COLD Coldfoot 76.99 337 P P 00 44 26.5 +0.2
baz=69
MDM Murphy Dome 77.03 335 IAmb IAmb 00 44 28.2
comp=Z,23nm,1.3s
KLU Klutina 77.19 331 P P 00 44 27.9 +0.3
baz=71
EYAK Cordova Ski Ar 77.41 330 P P 00 44 28.2 -0.5
baz=71
I23K Minto, Yukon-K 77.42 335 P P 00 44 28.5 -0.1
I23K IAmb IAmb 00 44 30.0
comp=Z,20nm,1.2s
I23K Minto, Yukon-K 77.42 335 P P 00 44 28.2 -0.4
baz=69,SNR=8.3
MBAR Mbarara 77.48 95 P P 00 44 29.1 -1.1
MBAR pmax pmax
comp=Z,10.0nm,1.4s
MBAR Mbarara 77.48 95 P P 00 44 29.1 -1.1
NEA2 Nenana 77.50 335 P P 00 44 28.5 -0.6
baz=69
GNI Garni 77.56 52 P P 00 44 30.6 +0.4
GNI pmax pmax
comp=Z,27nm,1.4s
GNI Garni 77.56 52 P P 00 44 30.6 +0.4
GNI IAmb IAmb 00 44 32.0
comp=Z,27nm,1.4s
WAT6 Susitna Watana 77.64 332 P P 00 44 29.5 -0.7
baz=70
MCK McKinley 77.75 334 P P 00 44 30.4 -0.2
MCK pmax pmax
comp=Z,15nm,1.2s
MCK McKinley 77.75 334 P P 00 44 30.4 -0.2
MCK IAmb IAmb 00 44 31.4
comp=Z,15nm,1.2s
MCK McKinley 77.75 334 P P 00 44 29.9 -0.7
baz=69
BWN Browne 77.81 334 P P 00 44 30.9 0.0
WAT1 Susitna Watana 77.90 333 P P 00 44 31.2 -0.3
baz=69
MLY Manley 78.00 335 P P 00 44 31.9 -0.1
MLY IAmb IAmb 00 44 33.0
comp=Z,21nm,1.5s
MLY Manley 78.00 335 P P 00 44 31.9 -0.1
baz=68
TRF Thorofare Moun 78.41 334 P P 00 44 34.4 -0.1
baz=68
I21K Tanana 78.43 336 P P 00 44 34.2 -0.1
baz=67
BPAW Bear Paw Mtn. 78.45 334 P P 00 44 34.1 -0.4
baz=68
H21K Melozitna Rive 78.56 336 IAmb IAmb 00 44 37.2
comp=Z,16nm,1.2s
H21K Melozitna Rive 78.56 336 P P 00 44 34.4 -0.6
baz=66,SNR=6.8
PMR Palmer 78.60 332 P P 00 44 35.0 -0.3
baz=69
CHUM Lake Minchumin 79.08 334 P P 00 44 37.4 -0.5
baz=66
CAST Castle Rocks 79.17 334 P P 00 44 37.7 -0.8
baz=66
AKT Akhty 79.35 50 eP P 00 44 40.0 0.0
AKT e 00 44 47.9
AKT pmax pmax
comp=Z,19nm,1.3s
SKT Skwentna 79.51 332 P P 00 44 39.9 -0.5
baz=67
J20K Nowinta River 79.69 335 P P 00 44 40.7 -0.5
baz=65
K20K Telida 80.01 334 IAmb IAmb 00 44 44.2
comp=Z,22nm,1.3s
K20K Telida 80.01 334 P P 00 44 42.5 -0.5
baz=65,SNR=5.7
L20K Farewell, AK 80.31 333 P P 00 44 43.9 -0.7
baz=65
LODK Lodwar 80.43 90 P P 00 44 46.7 +0.4

LODK					IAmb	IAmb	00 44 49.1	
	comp=Z,29nm,1.6s							
HOM	**Homer**	**80.49**	**330**	P	**P**		**00 44 45.2**	**-0.4**
	baz=66							
LSZ	**Lusaka**	**80.70**	**110**	P	**P**		**00 44 47.6**	**0.0**
LSZ				pmax	pmax			
	comp=Z,19nm,1.2s							
LSZ	**Lusaka**	**80.70**	**110**	P	**P**		**00 44 47.6**	**0.0**
LSZ				IAmb	IAmb		00 44 50.4	
	comp=Z,19nm,1.2s							
O20K	**Slope Mountain**	**80.77**	**331**	P	**P**		**00 44 46.6**	**-0.6**
	baz=65							
M19K	**Big River Lodg**	**80.77**	**333**	P	**P**		**00 44 47.0**	**-0.2**
	baz=64							
L19K	**White Mountain**	**80.85**	**333**	IAmb	IAmb		00 44 48.3	
	comp=Z,21nm,1.3s							
L19K	**White Mountain**	**80.85**	**333**	P	**P**		**00 44 47.0**	**-0.5**
	baz=64							
ARU	**Arti**	**80.93**	**33**	P	**P**		**00 44 47.7**	**-0.4**
	comp=Z,3.4nm,1.0s,baz=290,slow=3.2,SNR=11							
ARU	**Arti**	**80.93**	**33**	*ce*P	**P**		**00 44 47.8**	**-0.3**
ARU				pmax	pmax			
	comp=Z,20nm,1.3s							
ARU	**Arti**	**80.93**	**33**	P	**P**		**00 44 47.4**	**-0.7**
ARU				IAmb	IAmb		00 44 49.6	
	comp=Z,23nm,1.3s							
SVE	**Sverdlovsk**	**81.83**	**32**	*e*P	**P**		**00 44 52.1**	**-0.7**
SVE				pmax	pmax			
	comp=Z,28nm,1.3s							
O18K	**Koktuh Hills**	**82.04**	**331**	P	**P**		**00 44 53.3**	**-0.6**
	baz=63							
OHAK	**Old Harbor**	**82.29**	**328**	P	**P**		**00 44 54.9**	**-0.3**
	baz=64							
LBTB	**Lobatse**	**82.60**	**120**	P	**P**		**00 44 57.5**	**0.0**
LBTB				pmax	pmax			
	comp=Z,15nm,1.1s							
LBTB	**Lobatse**	**82.60**	**120**	P	**P**		**00 44 57.5**	**0.0**
LBTB				IAmb	IAmb		00 44 58.9	
	comp=Z,15nm,1.1s							
AKTO	**Aktyubinsk**	**82.98**	**39**	P	**P**		**00 44 57.8**	**-1.2**
	comp=Z,7.6nm,1.0s,baz=293,slow=6.0,SNR=13							
KMBO	**Kilima Mbogo**	**83.76**	**93**	P	**P**		**00 45 03.9**	**-0.1**
	comp=Z,4.3nm,1.1s,baz=272,slow=8.0,SNR=6.8							
KMBO	**Kilima Mbogo**	**83.76**	**93**	P	**P**		**00 45 03.6**	**-0.4**
KMBO				pmax	pmax			
	comp=Z,18nm,1.4s							
KMBO	**Kilima Mbogo**	**83.76**	**93**	P	**P**		**00 45 03.5**	**-0.4**
KMBO				IAmb	IAmb		00 45 07.4	
	comp=Z,18nm,1.4s							
BOSA	**Boshof**	**83.93**	**123**	P	**P**		**00 45 03.7**	**-0.6**
	comp=Z,22nm,1.1s,baz=305,slow=6.9,SNR=7.4							
BOSA	**Boshof**	**83.93**	**123**	P	**P**		**00 45 03.3**	**-1.0**
BOSA				pmax	pmax			
	comp=Z,45nm,1.3s							
BOSA	**Boshof**	**83.93**	**123**	P	**P**		**00 45 03.3**	**-1.0**
ABKAR	**Akbulak array**	**84.60**	**39**	IAmb	IAmb		00 45 08.8	
	comp=Z,12nm,1.2s							
NRIK	**Noril'sk**	**84.65**	**15**	P	**P**		**00 45 07.5**	**+0.4**
	comp=Z,5.5nm,0.9s,baz=313,slow=5.5,SNR=6.2							
NRIK	**Noril'sk**	**84.65**	**15**	P	**P**		**00 45 07.8**	**+0.7**
NRIK				pmax	pmax			
	comp=Z,13nm,1.2s							
NRIK	**Noril'sk**	**84.65**	**15**	P	**P**		**00 45 07.8**	**+0.7**
NRIK				IAmb	IAmb		00 45 09.2	
	comp=Z,13nm,1.2s							
CHGN	**Chignik**	**85.22**	**329**	P	**P**		**00 45 10.4**	**+0.2**
	baz=60							
PMSA	**Palmer Station**	**85.92**	**188**	*e*P	**P**		**00 45 13.7**	**+0.5**
BRVK	**Borovoye**	**88.51**	**33**	*ce*P	**P**		**00 45 24.5**	**-1.9**
BRVK				pmax	pmax			
	comp=Z,11nm,1.3s							
BRVK	**Borovoye**	**88.51**	**33**	P	**P**		**00 45 26.7**	**+0.4**
BRVK				IAmb	IAmb		00 45 27.7	
	comp=Z,13nm,1.3s							
BVAR	**Borovoye Array**	**88.58**	**33**	P	**P**		**00 45 27.1**	**+0.3**
	comp=Z,3.8nm,1.0s,baz=255,slow=5.8,SNR=15							
UNV	**Unalaska Valle**	**90.46**	**329**	P	**P**		**00 45 35.4**	**0.0**
	baz=54							
UOSS	**Minazif**	**91.80**	**63**	P	**P**		**00 45 41.7**	**-0.6**
VNA1	**Neumayer--Stat**	**94.34**	**168**	P	**P**		**00 45 53.3**	**+0.5**
VNA3	**Neumayer Olymp**	**94.57**	**169**	P	**P**		**00 45 54.3**	**+0.4**
VNA2	**Neumayer--Watz**	**94.73**	**168**	P	**P**		**00 45 56.8**	**+2.1**
ZALV	**Zalesovo Beam**	**94.77**	**27**	P	**P**		**00 45 54.6**	**-0.7**
	comp=Z,1.7nm,0.9s,baz=291,slow=4.5,SNR=7.0							
ZALV	**Zalesovo Beam**	**94.77**	**27**	*i* P	**P**		**00 45 54.5**	**-0.9**
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.9s							
SNAA	**Sanae**	**96.23**	**168**	P	**P**		**00 46 00.4**	**-1.2**
SNAA	**Sanae**	**96.23**	**168**	P	**P**		**00 46 01.4**	**-0.1**
SNAA				pmax	pmax			
	comp=Z,11nm,1.4s							
SNAA	**Sanae**	**96.23**	**168**	P	**P**		**00 46 01.4**	**-0.1**
SNAA				IAmb	IAmb		00 46 02.3	
	comp=Z,11nm,1.4s							
PET	**Petropavlovsk**	**104.05**	**345**	*e*P	**Pdif**		**00 46 29.4**	**-7.6**
PPT2	**Papeete2**	**108.56**	**258**	*e*SS	SS		01 06 45.5	-1.2
	comp=Z,253nm,27.5s							
PPT2	**Papeete2**	**108.56**	**258**	*e*LR	LR		01 22 47.9	
	comp=Z,443nm,29.8s							
BTO	**Baotou**	**115.38**	**20**	PKP	**PKiKP**		**00 51 12.5**	**-3.6**
HHC	**Hu-ho-hao-te**	**115.65**	**19**	*e*PKP	**PKiKP**		**00 51 12.5**	**-4.1**
VNDA	**Vanda**	**121.12**	**187**	PKP	**PKPdf**		**00 51 26.6**	**+0.8**
	comp=Z,1.5nm,1.0s,baz=230,slow=5.3,SNR=5.2							
NJ2	**Nanjing**	**125.94**	**16**	*e*PKP	**PKPdf**		**00 51 36.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**128.21**	**44**	PKP	**PKPdf**		**00 51 41.3**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=293,slow=3.4,SNR=17							
CMAR	**Chiang Mai Arr**	**128.21**	**44**	PKIKP	**PKPdf**		**00 51 39.8**	**-1.4**
CMAR	**Chiang Mai Arr**	**128.21**	**44**		**PKPdf**		**00 51 39.8**	**-1.4**
CM01	**Chiang Mai Arr**	**128.25**	**44**	PKP	**PKiKP**		**00 51 43.1**	**+1.3**
CM05	**Chiang Mai Arr**	**128.25**	**44**	PKP	**PKiKP**		**00 51 43.0**	**+1.2**
CM04	**Chiang Mai Arr**	**128.28**	**44**	PKP	**PKiKP**		**00 51 42.6**	**+0.7**
QIZ	**Qiongzhong**	**134.19**	**33**	PKP	**PKPdf**		**00 51 50.8**	**-1.6**
QIZ				PP	**PP**		**00 54 24.0**	**+1.8**
QIZ				SS	SS		01 12 09.5	-2.1
QIZ				LR	LR			
	comp=Z,320nm,20.6s							
QIZ				LR	LR			
	comp=Z,350nm,21.1s							
DZM	**Mont Dzumac**	**150.01**	**261**	PKPbc	**PKPbc**		**00 52 26.5**	**+1.2**
	comp=Z,11nm,1.0s,baz=66,slow=15,SNR=4.7							
DZM	**Mont Dzumac**	**150.01**	**261**	*e*SS	SS		01 15 21.3	+3.0
	comp=Z,227nm,29.1s							
DZM	**Mont Dzumac**	**150.01**	**261**	*e*LR	LR		01 42 05.9	
	comp=Z,312nm,23.8s							
DZM	**Mont Dzumac**	**150.01**	**261**	PKPdf	**PKPdf**		**00 52 21.2**	**+0.9**
CISI	**Cisompet, Garu**	**151.41**	**68**		**PKPbc**		**00 52 27.7**	**-1.1**
STKA	**Stephens Creek**	**166.70**	**208**	PKPab	**PKPab**		**00 53 42.3**	**-0.1**
	comp=Z,5.8nm,1.1s,baz=65,slow=4.9,SNR=4.3							
ASAR	**Alice Springs**	**176.57**	**174**	PKP	**PKPdf**		**00 52 43.8**	**-1.2**
	comp=Z,1.4nm,1.0s,baz=172,slow=2.3,SNR=6.7							
ASAR	**Alice Springs**	**176.57**	**174**	PKIKP	**PKPdf**		**00 52 43.9**	**-1.1**
ASAR	**Alice Springs**	**176.57**	**174**		**PKPdf**		**00 52 43.9**	**-1.1**

IDC 28 00:35:34.1±7.5, 16°57'S×176°30'W, h0km, mb4.3/4, mb1 4.5/4, mb1mx3.8/35, mbtmp4.3/4, Error ellipse: s-maj=188.2km s-min=49.4km az=27.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.04**	**240**	P	P	00 43 19.8	+0.4
	2.8nm,0.5s,baz=80,slow=7.7,SNR=13						
WRA	**Warramunga Arr**	**46.87**	**258**	P	P	00 44 06.2	-0.2
	1.8nm,0.5s,baz=95,slow=7.2,SNR=49						
ASAR	**Alice Springs**	**47.10**	**253**	P	P	00 44 07.8	-0.5
	7.3nm,0.6s,baz=87,slow=8.9,SNR=76						
QSPA	**South Pole Qui**	**73.47**	**180**	P	P	00 47 08.4	0.0
	0.6nm,0.5s,baz=0.2,slow=5.3,SNR=2.7						

*IDC **28** 00:42:20.7±0.4,20°.26N×45°.65W,h0km,mb4.3/31, mb1 4.4/33,mb1mx4.3/55,mbtmp4.3/33,ML3.7/2,MS4.8/22, Ms1 4.8/22,ms1mx4.7/33,Error ellipse: s-maj=14.6km s-min=10.2km az=144.0*

*MOS **28** 00:42:20.7±1.1,20°.11N×45°.41W,h12km,mb5.1/46, MS4.6/7,Error ellipse: s-maj=8.9km s-min=6.1km az=135.3*

*NEIC **28** 00:42:23.6±1.4,20°.09N±0°.10×45°.46W±0°.09,h10km±1km, mb5.0/279,Mwc5.4(GCMT),Error ellipse: s-maj=17.0km s-min=14.4km az=153.0*

*GCMT **28** 00:42:25.6±0.1,20°.41N±0°.01×45°.60W±0°.01,h12km, MW5.4/144,Moment Tensor Solution. s58,c73; s144,c309; Duration: 1ꢀ2 Moment tensor: Scale 10^17 Nm; Mrr=1.57±.02; Mθθ=0.15±.02; Mϕϕ=1.43±.01; Mrθ=0.21±.07; Mrϕ=0.18±.01; Mθϕ=0.24±.06; Best double couple: M₀=1.54500×10^17 NP1:ϕ₁=2.00000°,δ40.00000°, λ-99.00000°. NP2:ϕ₂=194.00000°,δ50.00000°, λ-83.00000°. Principal axes: T 1.4790, Plg5.0000°, Azm278.0000°; N 0.1380, Plg6.0000°, Azm9.000°; P -1.6110, Plg82.0000°, Azm146.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **28** 00:42:26,20°.41N×45°.59W,h12km,Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=1.57; Mθθ=0.08; Mϕϕ=1.49; Mrθ=0.16; Mθϕ=0.17; Mϕr=0.08; Fault plane solution: M₀=1.55000×10^17 NP1:ϕ₁=193.00000°, δ44.00000°,λ-82.00000°. NP2:ϕ₂=1.00000°,δ46.00000°, λ-98.00000°. Principal axes: T 1.5114, Plg1.0000°, Azm97.0000°; N 0.0777, Plg6.0000°, Azm7.0000°; P -1.5890, Plg84.0000°, Azm198.0000°;*

ISC 28 00:42:22.6±0.3, 20°.18N±0°.05×45°.49W±0°.05, h9km, n506, σ1ꢀ27/461, mb4.9/191, MS4.8/36, 6C-29D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBGH	**Gun Hill**	**15.18**	**245**	Pn	**Pn**	**00 45 57.6**	**+0.3**
ANWB	**Willy Bob**	**15.62**	**264**	Pn	**Pn**	**00 46 04.7**	**+1.6**
ILAM	**Ilet Lapin Mar**	**15.62**	**252**	Pn	**Pn**	**00 46 03.0**	**-0.1**
MPOM	**Morne Pois Mar**	**15.74**	**251**		**Pn**	**00 46 04.8**	**+0.2**
MPOM				IAmb	IAmb	00 46 17.0	
	comp=Z,119nm,1.2s						
SVN	**Savane Anatole**	**15.86**	**253**	Pn	**Pn**	**00 46 07.2**	**+0.9**
SVN				IAmb	IAmb	00 46 25.2	
	comp=Z,267nm,1.6s						
FDF	**Fort de France**	**15.89**	**253**	P	**Pn**	**00 46 06.7**	**+0.1**
FDF				pmax	pmax		
	comp=Z,132nm,1.1s						
FDF	**Fort de France**	**15.89**	**253**	P	**Pn**	**00 46 06.7**	**+0.1**
FDF				IAmb	IAmb	00 46 18.2	
	comp=Z,132nm,1.1s						
BIM	**Bigot**	**15.90**	**252**	P	**Pn**	**00 46 07.4**	**+0.7**
BIM				IAmb	IAmb	00 46 19.2	
	comp=Z,134nm,1.1s						
MCLT	**Moule a Chique**	**16.11**	**249**	P	**Pn**	**00 46 06.2**	**-3.2**
MCLT				IAmb	IAmb	00 46 19.6	
	comp=Z,197nm,1.3s						
MDP	**Montagnes des**	**16.52**	**206**	Pn	**Pn**	**00 46 15.6**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=21,slow=15,SNR=4.7						
MDP				LR	LR	00 51 15.6	
	comp=Z,1μm,20.8s,baz=329,slow=32						
SVB	**Belmont**	**16.58**	**248**	Pn	**Pn**	**00 46 15.2**	**-0.2**
SMRT	**St. Maarten**	**16.75**	**266**		**Pn**	**00 46 18.3**	**+0.6**
SMRT				IAmb	IAmb	00 46 27.1	
	comp=Z,118nm,1.2s						
SEUS	**St. Eustatius**	**16.77**	**264**	Pn	**Pn**	**00 46 18.7**	**+0.8**
SEUS				IAmb	IAmb	00 46 27.2	
	comp=Z,116nm,1.1s						
TOSP	**Speyside**	**16.95**	**241**		**Pn**	**00 46 19.4**	**-0.7**
GCMP	**Grenada, Carri**	**17.09**	**246**	*e*	**Pn**	**00 46 16.6**	**-5.2**
GRGR	**Grenville**	**17.46**	**245**	Pn	**Pn**	**00 46 25.8**	**-0.7**
GRGR				IAmb	IAmb	00 47 01.6	
	comp=Z,182nm,1.4s						
ABVI	**Anegada Island**	**17.83**	**269**		**P**	**00 46 32.1**	**+0.3**
ABVI				IAmb	IAmb	00 46 42.7	
	comp=Z,222nm,1.7s						
CDVI	**St. Croix**	**18.39**	**266**		**Pn**	**00 46 36.9**	**-1.0**
STVI	**Saint Thomas**	**18.47**	**268**	P	**Pn**	**00 46 39.2**	**+0.3**
CUPR	**Culebra, Puert**	**18.78**	**268**	P	**P**	**00 46 41.2**	**-1.1**
MTP	**Monte Pirata**	**19.07**	**267**	P	**P**	**00 46 45.7**	**+0.3**
CBYP	**Canovanas**	**19.33**	**268**	P	**P**	**00 46 48.2**	**-0.1**
HUMP	**Col San Antoni**	**19.34**	**267**	P	**P**	**00 46 48.8**	**+0.4**
PDPR	**Patillas Dam,**	**19.52**	**267**	P	**P**	**00 46 50.7**	**+0.3**
GCPR	**Guaynabo City**	**19.53**	**268**	P	**Pn**	**00 46 51.7**	**-0.1**
SJG	**San Juan**	**19.63**	**267**	P	**P**	**00 46 50.2**	**-1.4**
	comp=Z,1.0nm,0.3s,baz=75,slow=8.7,SNR=8.7						
SJG				LR	LR	00 52 57.6	
	comp=Z,3μm,21.6s,baz=97,slow=33						
SJG	**San Juan**	**19.63**	**267**	P	**P**	**00 46 52.2**	**+0.7**
SJG				pmax	pmax		
	comp=Z,52nm,1.1s						
SJG	**San Juan**	**19.63**	**267**	P	**P**	**00 46 52.2**	**+0.7**
OBIP	**Obispado Ponce**	**20.07**	**267**	P	**P**	**00 46 54.0**	**-2.4**
OBIP				IAmb	IAmb	00 47 03.4	
	comp=Z,130nm,1.3s						
AOPR	**Arecibo Observ**	**20.16**	**268**	P	**P**	**00 46 58.1**	**+0.7**
AOPR				IAmb	IAmb	00 47 04.3	
	comp=Z,93nm,1.2s						
AGPR	**Aguadilla, PR**	**20.48**	**269**	P	Pn	00 47 02.1	-0.8
MLPR	**Magueyes Islan**	**20.49**	**267**	P	**P**	**00 47 01.7**	**+0.8**
CRPR	**Cabo Rojo, PR**	**20.54**	**268**	P	**P**	**00 47 02.2**	**+0.6**
PLCV	**Puerto La Cruz**	**20.93**	**244**	P	**P**	**00 47 05.8**	**+0.1**
PCRV	**Puerto La Cruz**	**20.96**	**244**	P	**P**	**00 47 05.8**	**-0.3**
	comp=Z,21nm,1.0s,baz=14,slow=8.3,SNR=3.7						
MCPB	**Maspa, AP**	**21.40**	**198**	*e*P	**P**	**00 47 09.1**	**-1.8**
TMAB	**Tom-Àu,PA,Br**	**22.56**	**187**	*e*P	**P**	**00 47 23.7**	**+0.5**
DR12	**Loma Pena Alta**	**22.56**	**271**	P	**P**	**00 47 24.5**	**+1.1**
ROSB	**Rosrio**	**22.97**	**177**	*e*P	**P**	**00 47 28.6**	**+1.1**
BOAV	**Boa Vista**	**22.98**	**222**	*e*P	**P**	**00 47 26.7**	**-1.0**
MALB	**Monte Alegre**	**23.53**	**202**	*e*P	**P**	**00 47 33.0**	**-0.2**
SDDR	**Presa de Saban**	**24.33**	**272**	P	**P**	**00 47 42.4**	**+1.4**
SDDR				IAmb	IAmb	00 47 49.2	
	comp=Z,52nm,1.1s						
NBPS	**Pedro II - PI**	**24.74**	**170**	*e*P	**P**	**00 47 44.4**	**-0.3**
PTGA	**Pitinga**	**25.16**	**216**	P	**P**	**00 47 47.3**	**-1.1**
	comp=Z,3.2nm,0.6s,baz=19,slow=11,SNR=6.2						
PTGA				LR	LR	00 56 32.6	
	comp=Z,2μm,21.4s,baz=28,slow=34						
PTGA	**Pitinga**	**25.16**	**216**	P	**P**	**00 47 47.2**	**-1.1**
NBCL	**Cascavel-CE**	**25.26**	**163**	*e*P	**P**	**00 47 50.6**	**+1.3**
NBPB	**Pedra_Branca-C**	**26.21**	**167**	*e*P	**P**	**00 47 59.0**	**+1.0**
ITTB	**Itaituba**	**26.39**	**204**	*e*P	**P**	**00 47 59.5**	**0.0**
PRPB	**Parauapebas**	**26.53**	**190**	*e*P	**P**	**00 48 01.0**	**+0.2**
SDV	**Santo Domingo**	**26.76**	**249**	P	**P**	**00 48 02.2**	**-0.9**
	comp=Z,1.8nm,0.3s,baz=53,slow=14,SNR=5.2						
SDV				LR	LR	00 57 38.5	
	comp=Z,1μm,19.9s,baz=66,slow=34						
SDV	**Santo Domingo**	**26.76**	**249**	P	**P**	**00 48 05.3**	**+2.2**
SDV				IAmb	IAmb	00 48 30.3	
	comp=Z,53nm,1.4s						
SDV	**Santo Domingo**	**26.76**	**249**	*e*P	**P**	**00 48 02.7**	**-0.4**
RCBR	**Riachuelo**	**27.51**	**159**	*e*P	**P**	**00 48 10.7**	**+1.1**
MACA	**Manacapuru-AM**	**27.58**	**214**	*e*P	**P**	**00 48 10.5**	**+0.3**
NBMA	**Muriti-CE**	**28.16**	**166**	*e*P	**P**	**00 48 16.8**	**+1.3**
GBN	**Guysborough**	**28.43**	**336**	P	**P**	**00 48 18.6**	**+1.1**
NBLV	**Livramento - P**	**28.64**	**162**	*e*P	**P**	**00 48 21.9**	**+2.2**
HAL	**Halifax**	**28.65**	**332**	P	**P**	**00 48 20.4**	**+0.9**
HAL				pmax	pmax		
	comp=Z,49nm,1.3s						
HAL	**Halifax**	**28.65**	**332**	P	**P**	**00 48 20.4**	**+0.9**
HAL				IAmb	IAmb	00 48 21.6	
	comp=Z,49nm,1.3s						
NPGB	**Novo Progresso**	**28.74**	**201**	*e*P	**P**	**00 48 19.2**	**-1.4**
RUSC	**La Rusia**	**30.33**	**246**	P	**P**	**00 48 34.8**	**-0.5**
SJCC	**San Jacinto, C**	**30.39**	**255**	P	**P**	**00 48 35.9**	**+0.5**
SJCC				IAmb	IAmb	00 48 48.4	
	comp=Z,35nm,1.4s						
NBRF	**Rio Formoso -**	**30.44**	**159**	*e*P	**P**	**00 48 37.4**	**+1.7**
EMMW	**East Machias**	**30.50**	**328**	P	**P**	**00 48 36.1**	**+0.2**
EMMW				IAmb	IAmb	00 48 40.5	
	comp=Z,38nm,1.3s						
NBAN	**Anadia - AL**	**31.02**	**162**	*e*P	**P**	**00 48 42.4**	**+1.7**
ROSC	**El Rosal**	**31.92**	**245**	LR	LR	01 03 23.5	
	comp=Z,1μm,19.5s,baz=36,slow=40						
PEXB	**Peixe**	**32.20**	**185**	*e*P	**P**	**00 48 52.2**	**+1.0**
J61A	**Chester**	**32.35**	**322**	P	**P**	**00 48 53.1**	**+0.8**
SNDB	**Serra Nova Dou**	**32.46**	**191**	*e*P	**P**	**00 48 54.4**	**+1.0**
CLDB	**Colider**	**32.48**	**199**	*e*P	**P**	**00 48 53.2**	**-0.5**
ACCN	**Adirondack Com**	**33.03**	**321**	P	**P**	**00 48 56.9**	**-1.4**
PAGS	**Pennsylvania G**	**33.33**	**314**	P	**P**	**00 48 59.8**	**-1.0**
PAGS				IAmb	IAmb	00 49 00.8	
	comp=Z,33nm,1.4s						
J59A	**Piesco**	**33.57**	**320**	P	**P**	**00 49 03.5**	**+0.5**
J59A				IAmb	IAmb	00 49 13.7	
	comp=Z,42nm,1.4s						
NCB	**Newcomb**	**33.70**	**321**	P	**P**	**00 49 05.5**	**+1.4**
SAML	**Samuel**	**33.78**	**213**	P	**P**	**00 49 04.0**	**-1.0**
SAML				pmax	pmax		
	comp=Z,16nm,1.5s						
SAML	**Samuel**	**33.78**	**213**	P	**P**	**00 49 04.0**	**-1.0**
SAML	**Samuel**	**33.78**	**213**	*e*P	**P**	**00 49 05.2**	**+0.2**
FRNY	**Flat Rock**	**33.84**	**323**	P	**P**	**00 49 04.0**	**-1.3**
FRNY				IAmb	IAmb	00 49 16.2	
	comp=Z,37nm,1.2s						
HODGE	**Hodges**	**35.37**	**301**	P	**P**	**00 49 20.2**	**+1.6**
HODGE				IAmb	IAmb	00 49 28.1	
	comp=Z,43nm,1.7s						
BDFB	**Brasilia**	**35.68**	**184**	P	**P**	**00 49 22.1**	**+0.6**
	comp=Z,3.3nm,0.9s,baz=34,slow=15,SNR=2.6						
BDFB				LR	LR	01 02 57.7	
	comp=Z,868nm,19.5s,baz=349,slow=35						
BDFB	**Brasilia**	**35.68**	**184**	P	**P**	**00 49 20.3**	**-1.2**
BDFB				pmax	pmax		
	comp=Z,63nm,2.0s						
BDFB	**Brasilia**	**35.68**	**184**	P	**P**	**00 49 20.3**	**-1.2**
BDFB				IAmb	IAmb	00 49 23.7	
	comp=Z,63nm,2.0s						
CMC01	**Camacan, BA**	**35.80**	**170**	*e*P	**P**	**00 49 24.1**	**+1.7**
VILB	**Vilhena**	**35.97**	**205**	*e*P	**P**	**00 49 23.3**	**-0.6**
ETMB	**Extrema**	**36.12**	**216**	*e*P	**P**	**00 49 23.3**	**-1.9**
MC01	**Montes Claros**	**36.69**	**178**	*e*P	**P**	**00 49 31.2**	**+1.1**
TKL	**Tuckaleechee C**	**36.92**	**303**	P	**P**	**00 49 30.5**	**-1.4**
	comp=Z,3.2nm,1.0s,baz=128,slow=8.9,SNR=1.6						
TKL	**Tuckaleechee C**	**36.92**	**303**	P	**P**	**00 49 30.5**	**-1.4**
TKL				pmax	pmax		
	comp=Z,55nm,1.9s						
TKL	**Tuckaleechee C**	**36.92**	**303**	IAmb	IAmb	00 49 41.2	
	comp=Z,55nm,1.9s						
TZTN	**Tazewell**	**36.97**	**304**	P	**P**	**00 49 33.8**	**+1.4**
352A	**Blakely**	**37.06**	**296**	P	**P**	**00 49 34.5**	**+1.4**
SALV	**Santo Antonio**	**37.23**	**196**	*e*P	**P**	**00 49 33.2**	**-1.4**
OTAV	**Otavalo**	**37.85**	**242**	P	**P**	**00 49 39.1**	**-1.5**
OTAV				pmax	pmax		
	comp=Z,37nm,1.5s						
OTAV	**Otavalo**	**37.85**	**242**	P	**P**	**00 49 39.1**	**-1.5**
OTAV				IAmb	IAmb	00 49 49.6	
	comp=Z,37nm,1.5s						
OTAV	**Otavalo**	**37.85**	**242**	*e*P	**P**	**00 49 39.9**	**-0.7**
PTLB	**Pontes e Lacer**	**37.86**	**202**	*e*P	**P**	**00 49 39.7**	**-0.2**
T50A	**Nancy**	**38.09**	**305**	P	**P**	**00 49 41.9**	**+0.1**
T50A				IAmb	IAmb	00 49 44.9	
	comp=Z,60nm,1.9s						
FPAL	**Fort Paine**	**38.14**	**301**	P	**P**	**00 49 43.3**	**+1.0**
SCHQ	**Schefferville**	**38.20**	**340**	LR	LR	01 03 10.6	
	comp=Z,2μm,21.9s,baz=130,slow=33						
MDT	**Midelt**	**38.46**	**62**	P	**P**	**00 49 46.5**	**+1.4**
	comp=Z,2.3nm,0.9s,baz=269,slow=14,SNR=5.5						
SWET	**Sewanee**	**38.53**	**302**	P	**P**	**00 49 45.8**	**+0.1**
CZSB	**Cruzeiro do Su**	**38.55**	**227**	*e*P	**P**	**00 49 45.3**	**-0.6**
R49A	**Shelbyville**	**38.69**	**307**	P	**P**	**00 49 48.0**	**+1.1**
P49A	**Miami Univ. Ec**	**38.73**	**309**	P	**P**	**00 49 48.6**	**+1.5**
P49A				IAmb	IAmb	00 49 57.2	
	comp=Z,78nm,1.9s						
LRAL	**Lakeview Retre**	**39.02**	**298**	P	**P**	**00 49 50.8**	**+1.2**
CLTN	**Cedars of Leba**	**39.04**	**303**	P	**P**	**00 49 51.5**	**+1.7**
CLTN				IAmb	IAmb	00 50 00.6	
	comp=Z,49nm,1.8s						
SIV	**San Ignacio**	**39.07**	**204**	P	**P**	**00 49 48.4**	**-1.8**
	comp=Z,2.5nm,0.8s,baz=54,slow=7.5,SNR=10.0						
P48A	**Milroy**	**39.23**	**308**	P	**P**	**00 49 52.3**	**+1.0**
X48A	**Hartselle**	**39.28**	**300**	P	**P**	**00 49 52.4**	**+0.6**
MATN	**Matagalpa**	**39.35**	**266**	P	**P**	**00 49 52.7**	**0.0**
V48A	**Smith Brothers**	**39.35**	**302**	P	**P**	**00 49 54.1**	**+1.7**
WCI	**Wyandotte Cave**	**39.53**	**306**	P	**P**	**00 49 55.6**	**+1.8**
WCI				pmax	pmax		
	comp=Z,16nm,1.1s						
WCI	**Wyandotte Cave**	**39.53**	**306**	P	**P**	**00 49 55.6**	**+1.8**
T47A	**Sharon Grove**	**39.85**	**304**	P	**P**	**00 49 57.4**	**+0.9**
T47A				IAmb	IAmb	00 50 06.1	
	comp=Z,48nm,1.9s						
KOWA	**Kowa**	**39.91**	**91**	P	**P**	**00 49 58.9**	**+1.6**
	comp=Z,4.2nm,1.1s,baz=314,slow=4.0,SNR=4.3						
KOWA	**Kowa**	**39.91**	**91**	P	**P**	**00 49 57.9**	**+0.5**
KOWA				IAmb	IAmb	00 50 12.3	
	comp=Z,67nm,2.0s						
PLAL	**Pickwick Lake**	**40.21**	**301**	P	**P**	**00 50 01.2**	**+1.6**
WVT	**Waverly**	**40

P40A Paris 44.20 306 P P 00 50 32.8 +0.8
P40A IAmb IAmb 00 50 41.0
comp=Z,27nm,1.3s
U40A Yellville 44.27 302 P P 00 50 32.9 +0.1
MIAR Mount Ida 44.64 299 P P 00 50 36.7 +1.1
MIAR pmax pmax
comp=Z,17nm,1.2s
MIAR Mount Ida 44.64 299 P P 00 50 36.7 +1.1
MIAR Mount Ida 44.64 299 P P 00 50 35.2 -0.5
baz=96
S39A Bolivar 44.84 304 P P 00 50 38.1 +0.8
W39A Magazine 44.88 300 P P 00 50 38.1 +0.5
W39A IAmb IAmb 00 50 45.1
comp=Z,16nm,1.1s
W39A Magazine 44.88 300 P P 00 50 37.1 -0.4
baz=96
HHAR Hobbs 45.13 301 IAmb IAmb 00 50 47.8
comp=Z,26nm,1.6s
P38A Dawn 45.34 306 P P 00 50 40.9 -0.3
P38A IAmb IAmb 00 50 50.2
comp=Z,36nm,1.4s
NATX Nacogdoches 45.35 295 P P 00 50 41.6 +0.3
U38A Gravette 45.51 302 IAmb IAmb 00 50 51.0
comp=Z,23nm,1.6s
TORD Torodi Ar. Bea 45.62 91 P P 00 50 42.9 -0.8
comp=Z,7.0nm,1.1s,baz=295,slow=7.1,SNR=15
TORD LR LR 01 07 47.2
comp=Z,4µm,20.1s,baz=290,slow=33
TORD Torodi Ar. Bea 45.62 91 P P 00 50 42.8 -0.9
TORD IAmb IAmb 00 50 50.6
comp=Z,20nm,1.4s
I37A Lemond, Waseca 46.23 312 P P 00 50 49.1 +0.9
FRB Frobisher Bay 46.25 346 LR LR 01 08 05.7
comp=Z,1µm,21.1s,baz=139,slow=34
SFJD Kangerlussuaq 46.92 357 LR LR 01 07 07.5
comp=Z,670nm,20.6s,baz=113,slow=32
Z35A Perchaven, San 47.60 297 P P 00 50 59.4 +0.3
Z35A IAmb IAmb 00 51 13.1
comp=Z,8.9nm,0.7s
KSU1 Kansas State U 47.61 305 P P 00 50 59.6 +0.6
KSU1 IAmb IAmb 00 51 07.1
comp=Z,19nm,1.0s
CPUP Villa Florida 47.64 194 P P 00 50 58.1 -1.0
comp=Z,21nm,1.2s,baz=8.9,slow=8.3,SNR=11
CPUP Villa Florida 47.64 194 P P 00 50 58.2 -1.0
CPUP pmax pmax
comp=Z,37nm,1.4s
CPUP Villa Florida 47.64 194 P P 00 50 58.1 -1.0
CPUP Villa Florida 47.64 194 eP P 00 50 59.3 +0.1
WHTX Lake Whitney, 47.73 295 P P 00 51 00.8 +0.7
BLOK Blackwell 47.81 302 P P 00 51 01.9 +1.4
L34A Svendsen Farm, 47.90 309 P P 00 51 02.2 +1.0
OK029 Liberty Lake 47.92 300 P P 00 51 00.6 -0.8
BCOK Bluff Creek, N 48.03 300 P P 00 51 03.0 +0.7
LVC Limon Verde 48.28 209 P P 00 51 04.4 -0.3
LVC pmax pmax
comp=Z,96nm,1.7s
LVC Limon Verde 48.28 209 P P 00 51 04.4 -0.3
LVC Limon Verde 48.28 209 eP P 00 51 04.0 -0.7
CROK Carrier 48.40 301 P P 00 51 06.3 +1.1
KAN08 Anthony NE Sta 48.45 302 P P 00 51 06.4 +0.9
KAN16 Harper SW Stat 48.53 302 P P 00 51 06.7 +0.5
KAN10 Anthony SW Sta 48.54 302 P P 00 51 06.3 +0.1
OK032 Salt Plains WL 48.61 302 P P 00 51 06.0 -0.7
WMOK Wichita Mounta 48.93 299 P P 00 51 08.1 -1.2
WMOK pmax pmax
comp=Z,11nm,1.1s
WMOK Wichita Mounta 48.93 299 P P 00 51 08.1 -1.2
WMOK Wichita Mounta 48.93 299 P P 00 51 06.1 -3.2
baz=93
AGMN Agassiz Nation 49.05 317 IAmb IAmb 00 51 14.7
comp=Z,17nm,1.2s
ABTX Abilene, Hawle 49.59 296 P P 00 51 14.3 -0.1
ABTX IAmb IAmb 00 51 20.6
comp=Z,16nm,1.1s
ULM Lac du Bonnet 49.65 320 LR LR 01 10 29.9
comp=Z,2µm,19.2s,baz=112,slow=34
JCT Junction City 49.75 293 P P 00 51 15.7 +0.1
JCT pmax pmax
comp=Z,11nm,0.9s
JCT Junction City 49.75 293 P P 00 51 15.7 +0.1
TLIG Tlapa 50.12 276 P P 00 51 18.9 +0.2
TLIG IAmb IAmb 00 51 22.0
comp=Z,29nm,1.4s
KEST Kesra 50.24 60 P P 00 51 19.6 +0.2
comp=Z,15nm,0.9s,baz=106,slow=1.1,SNR=12
KEST LR LR 01 10 19.4
comp=Z,1µm,21.4s,baz=200,slow=33
KEST Kesra 50.24 60 IAmb IAmb 00 51 31.4
comp=Z,29nm,1.1s
WLF Walferdange 50.25 42 eP P 00 51 21.0 +1.9
comp=Z,23nm,1.7s,baz=258,slow=7.0
VSL Villasalto 50.54 55 P P 00 51 20.9 -0.6
VSL IAmb IAmb 00 51 26.0
comp=Z,39nm,1.3s
ITQB Itaqui 50.71 193 P P 00 51 22.2 -0.4
ITQB Itaqui 50.71 193 eP P 00 51 23.0 +0.3
AHRW Bad Neuenahr-A 51.07 41 eP P 00 51 27.0 +1.8
comp=Z,19nm,1.4s,baz=258,slow=7.0
BFO Black Forest 51.28 44 P P 00 51 26.5 -0.4
BFO pmax pmax
comp=Z,11nm,1.1s
BFO Black Forest 51.28 44 P P 00 51 26.5 -0.4
BFO Black Forest 51.28 44 eP P 00 51 28.4 +1.5
comp=Z,12nm,1.1s,baz=258,slow=7.0
AMTX Amarillo 51.32 299 IAmb IAmb 00 51 34.5
comp=Z,29nm,1.1s
AMTX Amarillo 51.32 299 P P 00 51 25.8 -1.8
baz=91
TNS Taunus Mts 51.83 41 eP P 00 51 31.7 +0.7
comp=Z,14nm,1.2s,baz=258,slow=7.0
DAVOX Davos/Dischmat 51.98 46 P P 00 51 32.7 +0.4
comp=Z,4.7nm,0.8s,baz=290,slow=2.9,SNR=4.5
IBBN Ibbenburen 51.99 39 eP P 00 51 35.0 +3.0
comp=Z,46nm,1.9s,baz=258,slow=7.0
KASTN Kahler Asten 52.07 40 eP P 00 51 34.5 +1.7
comp=Z,44nm,2.1s,baz=258,slow=7.0
DAVA Damuels 52.08 45 eP P 00 51 32.2 -0.9
comp=Z,20nm,1.5s
PLTB Pedras Altas 52.23 189 eP P 00 51 36.2 +2.1
MILB Miltenberg 52.26 42 eP P 00 51 36.5 +2.4
comp=Z,8.7nm,1.2s,baz=258,slow=7.0
UBR Ueberruh 52.31 45 eP P 00 51 34.4 -0.3
comp=Z,20nm,1.1s,baz=258,slow=7.0
SUMG Summit 52.56 3 P P 00 51 38.4 +1.8
SUMG pmax pmax
comp=Z,25nm,1.3s
SUMG Summit 52.56 3 P P 00 51 38.4 +1.8
SUMG IAmb IAmb 00 51 41.6
comp=Z,25nm,1.3s
FETA Feichten 52.59 46 eP P 00 51 36.0 -0.9
comp=Z,9.5nm,1.0s
RETA Reutte 52.70 45 eP P 00 51 36.2 -1.4
comp=Z,11nm,1.5s
MOTA Moosalm 52.91 45 eP P 00 51 38.1 -1.1
comp=Z,19nm,1.3s
UBBA Unterbreizbach 52.94 41 eP P 00 51 41.5 +2.5
comp=Z,25nm,1.7s,baz=258,slow=7.0
SQTA Sankt Quirin 52.95 46 eP P 00 51 38.7 -0.8
comp=Z,21nm,0.9s
TEOL Teolo 52.96 48 P P 00 51 39.7 +0.2
TEOL IAmb IAmb 00 51 42.2
comp=Z,23nm,0.9s
CTI Castel Tesino 53.05 47 P P 00 51 39.0 -1.2
CTI pmax pmax
comp=Z,67nm,1.6s
CTI Castel Tesino 53.05 47 P P 00 51 39.0 -1.2
TXAR Lajitas Array 53.16 292 P P 00 51 39.3 -1.9
comp=Z,1.2nm,0.9s,baz=90,slow=5.6,SNR=7.9
TXAR LR LR 01 14 06.5
comp=Z,1µm,20.0s,baz=0.0,slow=36
TX32 Lajitas Array 53.16 292 IAmb IAmb 00 51 50.1
comp=Z,26nm,1.8s
WATA Walderalm 53.22 45 eP P 00 51 40.5 -1.0
comp=Z,18nm,0.9s
WTTA Wattenberg 53.25 46 eP P 00 51 40.5 -1.2
comp=Z,22nm,1.5s
CLZ Clausthal 53.42 40 eP P 00 51 44.8 +2.1
comp=Z,9.3nm,1.4s,baz=258,slow=7.0
NRDL Niedersach Rie 53.42 39 eP P 00 51 45.5 +2.9
comp=Z,16nm,1.4s,baz=258,slow=7.0
GRF Grafenberg Arr 53.45 43 eP P 00 51 43.9 +0.9
comp=Z,10nm,1.0s,baz=258,slow=7.0
T25A Trinidad 53.58 302 P P 00 51 45.8 +1.3
T25A IAmb IAmb 00 51 54.3
comp=Z,24nm,1.6s

ASSE Asse, Remlinge 53.67 39 eP P 00 51 46.2 +1.7
comp=Z,27nm,1.9s,baz=258,slow=7.0
ABTA Abfaltersbach 53.75 46 eP P 00 51 44.4 -1.0
comp=Z,7.7nm,1.4s
MOX Moxa 53.90 41 eP P 00 51 47.0 +0.7
comp=Z,5.8nm,1.1s,baz=258,slow=7.0
BSEG Bad Segeberg 53.94 37 eP P 00 51 49.0 +2.6
comp=Z,19nm,1.6s,baz=258,slow=7.0
ZOU Zoufplan 54.04 47 IAmb IAmb 00 52 56.0
comp=Z,42nm,1.7s
FLTG Flechtingen 54.05 39 eP P 00 51 48.4 +1.1
comp=Z,15nm,1.4s,baz=258,slow=7.0
RJOB Jochberg 54.10 45 eP P 00 51 47.0 -0.8
comp=Z,32nm,1.1s,baz=258,slow=7.0
PLN Plauen 54.20 42 eP P 00 51 48.5 0.0
comp=Z,20nm,1.8s,baz=258,slow=7.0
WERN Wernitzgrien 54.30 42 eP P 00 51 47.8 -1.4
comp=Z,26nm,1.4s,baz=258,slow=7.0
RAFF Raffo Rosso 54.33 58 P P 00 51 50.2 +0.6
NKC Novy Kostel 54.33 42 eP P 00 51 49.3 -0.1
NKC MLR MLR
comp=Z,600nm,18.4s
NKC Novy Kostel 54.33 42 eP P 00 51 49.3 -0.1
NKC AMS AMS 01 12 30.0
comp=Z,600nm,18.4s
TANN Tannenbergstha 54.38 42 eP P 00 51 48.5 -1.3
comp=Z,20nm,1.7s,baz=258,slow=7.0
WET Wetzell 54.40 43 eP P 00 51 49.1 -0.8
comp=Z,14nm,1.5s,baz=258,slow=7.0
SDCO Great Sand Dun 54.46 302 P P 00 51 51.9 +1.0
MNTX Cornudas Mount 54.48 295 IAmb IAmb 00 52 00.6
comp=Z,24nm,1.8s
MNTX Cornudas Mount 54.48 295 P P 00 51 48.4 -2.4
baz=87
MYKA Terra Mystica 54.51 47 eP P 00 51 51.9 +1.1
comp=Z,8.9nm,1.0s
ISCO Idaho Springs 54.61 305 IAmb IAmb 00 52 03.2
comp=Z,34nm,1.8s
KHC Kasperske Hory 54.85 44 eP P 00 51 51.5 -1.7
KHC MLR MLR
comp=Z,700nm,19.0s
KHC Kasperske Hory 54.85 44 eP P 00 51 51.5 -1.7
KHC AMS AMS 01 12 30.0
comp=Z,700nm,19.0s
GEC2 GERESS Array S 54.88 44 IAmb IAmb 00 51 57.0
comp=Z,19nm,1.4s
GEC2 GERESS Array S 54.88 44 eP P 00 51 52.1 -1.4
comp=Z,20nm,1.5s,baz=258,slow=7.0
GERES GERESS Array B 54.88 44 P P 00 51 52.4 -1.1
comp=Z,1.5nm,0.9s,baz=265,slow=4.8,SNR=9.1
CLL Collm 54.89 41 i P P 00 51 54.5 +1.1
comp=Z,8.0nm,1.1s
CLL e 00 52 50.0
CLL e(PP) 00 53 54.0
comp=Z,10.0nm,1.4s
CLL Lm MLR 01 12 00.0
comp=Z,700nm,19.6s
CLL Collm 54.89 41 i P P 00 51 51.2 -2.2
CLL pmax pmax
comp=Z,8.0nm,1.1s
CLL MLR MLR
comp=Z,700nm,19.6s
CLL Collm 54.89 41 eP P 00 51 53.3 -0.1
comp=Z,7.9nm,1.1s,baz=258,slow=7.0
FBE Freiberg 55.03 41 eP P 00 51 56.4 +1.9
comp=Z,8.0nm,0.4s,baz=258,slow=7.0
MOA Mollin 55.10 45 eP P 00 51 57.3 +2.3
comp=Z,13nm,1.6s
OBKA Obir 55.11 47 eP P 00 51 57.2 +2.0
comp=Z,17nm,1.2s
HPIG 55.14 289 P P 00 51 54.9 -1.0
HPIG IAmb IAmb 00 52 06.7
comp=Z,33nm,1.5s
ANMO Albuquerque 55.25 299 ceP P 00 51 58.7 +2.1
ANMO pmax pmax
comp=Z,11nm,2.5s
ANMO Albuquerque 55.25 299 P P 00 51 56.9 +0.3
ANMO IAmb IAmb 00 52 07.7
comp=Z,21nm,1.7s
CKRC Cesky Krumlov 55.27 44 eP P 00 51 55.0 -1.3
CKRC AMS AMS 01 13 30.0
comp=Z,800nm,18.8s
KONO Kongsberg 55.36 30 P P 00 51 57.6 +0.9
KONO pmax pmax
comp=Z,13nm,1.1s
KONO Kongsberg 55.36 30 P P 00 51 57.6 +0.9
KONO IAmb IAmb 00 51 59.6
comp=Z,13nm,1.1s
BRG Berggiesshubel 55.39 42 eP P 00 51 58.5 +1.5
comp=Z,7.5nm,1.2s,baz=258,slow=7.0
BRG Berggiesshubel 55.39 42 eP P 00 51 60.0 +2.9
BRG Amp 00 52 03.5
comp=Z,7.8nm,1.2s
BRG Amp 01 02 57.0
comp=N,0.3nm,15.4s
BRG Amp 01 03 01.0
comp=E,0.4nm,16.4s
BRG Amp 01 03 06.0
comp=Z,0.6nm,18.3s
BNM Barren Site 55.41 298 P P 00 51 58.3 +0.5
S22A 4UR Ranch, Cre 55.51 302 P P 00 51 57.7 -0.8
baz=90
PRA Prague 55.56 43 AMS AMS 01 13 40.0
comp=Z,700nm,17.1s
PRU Pruhonice 55.61 43 AMS AMS 01 14 10.0
comp=Z,600nm,17.8s
SMCO Snowmass 55.64 304 P P 00 51 01.2 +1.6
PVCC Panska Ves 55.72 42 AMS AMS 01 14 50.0
comp=Z,600nm,19.1s
ARSA Arzberg 55.86 46 eP P 00 51 59.5 -1.1
comp=Z,5.3nm,1.1s
ZON Zonda 56.03 204 P P 00 52 02.1 +0.2
ZON pmax pmax
comp=Z,27nm,1.5s
ZON Zonda 56.03 204 P P 00 52 02.1 +0.2
ZON IAmb IAmb 00 52 13.7
comp=Z,26nm,1.5s
TREC Trest 56.11 44 AMS AMS 01 15 00.0
comp=Z,500nm,18.1s
CONA Conrad Observa 56.17 45 eP P 00 52 02.4 -0.5
comp=Z,5.2nm,1.2s
NBO00 NORSAR Array S 56.39 29 P P 00 52 05.2 +1.1
121A Cookes Peak, D 56.47 296 IAmb IAmb 00 52 08.5
comp=Z,31nm,1.4s
NC204 NORSAR Array S 56.47 29 P P 00 52 04.5 -0.3
NB2 NORSAR Subarra 56.60 29 P P 00 52 03.4 -2.2
comp=Z,41nm,2.0s,baz=251,slow=7.4
NB2 NORSAR Subarra 56.60 29 P P 00 52 03.4 -2.2
baz=251,slow=7.4
NOA NORSAR Array B 56.60 29 P P 00 52 03.7 -1.9
comp=Z,1.4nm,0.8s,baz=247,slow=7.3,SNR=7.1
NOA LR LR 01 12 45.1
comp=Z,818nm,19.6s,baz=250,slow=32
UPC Upice 56.63 42 AMS AMS 01 14 50.0
comp=Z,700nm,18.1s
O20A White River Ci 56.64 305 P P 00 52 05.1 -1.4
O20A IAmb IAmb 00 53 10.7
comp=Z,17nm,1.4s
KRUC Moravsky 56.67 44 eP P 00 52 03.7 -2.6
NC303 NORSAR Array S 56.73 29 P P 00 52 04.7 -1.7
OSTC Ostas 56.76 42 eP P 00 52 09.8 +2.9
OSTC AMS AMS 01 14 50.0
comp=Z,700nm,18.1s
DPC Dobruska-Polom 56.80 42 eP P 00 52 06.2 -1.0
DPC e 00 52 09.3
DPC MLR MLR
comp=Z,600nm,17.5s
DPC Dobruska-Polom 56.80 42 eP P 00 52 06.2 -1.0
DPC AMS AMS 01 15 10.0
comp=Z,600nm,17.5s
VRAC Vranov 56.83 44 eP P 00 52 05.8 -1.6
KRLC Kraliky 57.05 43 eP P 00 52 07.9 -1.1
KRLC MLR MLR
comp=Z,400nm,17.3s
KRLC Kraliky 57.05 43 eP P 00 52 07.9 -1.1
KRLC AMS AMS 01 15 10.0
comp=Z,400nm,17.3s
MODS Modra-Piesok 57.17 45 eP P 00 52 11.0 +1.2
MODS pmax pmax
comp=Z,20nm,1.7s
MODS Modra-Piesok 57.17 45 eP P 00 52 11.0 +1.2
MORC Moravsky Berou 57.50 43 ||P P 00 52 12.7 +0.5
MORC Moravsky Berou 57.50 43 ||P P 00 52 12.7 +0.5
MORC Moravsky Berou 57.50 43 P P 00 52 12.6 +0.5
MORC Moravsky Berou 57.50 43 eP P 00 52 11.4 -0.8
RLMT Red Lodge 57.59 311 P P 00 52 14.1 +1.0

RLMT IAmb IAmb 00 52 27.3
comp=Z,32nm,2.0s
TULEG Thule 57.62 354 P P 00 52 13.8 +1.3
RDMU Red Mountain 57.66 306 P P 00 52 13.9 +0.2
BW06 Boulder Array 57.69 308 P P 00 52 14.9 +1.0
PD31 Pinedale Array 57.69 308 P P 00 52 15.1 +1.2
PDAR Pinedale Array 57.69 308 P P 00 52 12.7 -1.2
comp=Z,0.7nm,0.6s,baz=108,slow=9.5,SNR=7.3
PDAR LR LR 01 13 58.5
comp=Z,1µm,21.2s,baz=110,slow=33
319A Douglas 57.82 295 P P 00 52 14.9 +0.1
319A IAmb IAmb 00 52 26.3
comp=Z,37nm,1.9s
VA03 San Esteban 57.84 205 P P 00 52 15.4 +0.7
OKC Ostrava-Krasne 57.90 43 AMS AMS 01 20 00.0
comp=Z,400nm,14.5s
W18A Petrified Fore 57.93 299 P P 00 52 16.1 +0.5
W18A IAmb IAmb 00 54 22.5
comp=Z,25nm,1.4s
YNE Yellowstone No 58.10 311 P P 00 52 16.8 0.0
EGMT Eagleton 58.13 315 P P 00 52 18.0 +1.3
EGMT IAmb IAmb 00 52 27.4
comp=Z,36nm,1.7s
SRU San Rafael Swe 58.40 304 IAmb IAmb 00 52 28.6
comp=Z,24nm,1.7s
LOHW Long Hollow 58.48 309 P P 00 52 20.3 +0.9
LOHW IAmb IAmb 00 52 49.3
comp=Z,28nm,1.8s
P17A Butcher Ranch, 58.56 305 P P 00 52 20.9 +0.8
REDW Red Top Meadow 58.65 309 P P 00 52 21.5 +0.9
TPAW Teton Pass 58.73 309 P P 00 52 21.9 +0.7
TPAW IAmb IAmb 00 52 36.7
comp=Z,15nm,1.4s
FXWY Fox Creek 58.78 309 IAmb IAmb 00 52 51.2
comp=Z,21nm,1.9s
Q16A Castle Valley 58.91 304 P P 00 52 23.1 +0.7
Q16A IAmb IAmb 00 52 32.2
comp=Z,27nm,1.7s
TMUT Trail Mountain 58.93 304 P P 00 52 22.9 +0.1
TMUT IAmb IAmb 00 54 30.4
comp=Z,14nm,1.4s
OJC Ojcow 59.00 43 P P 00 52 23.7 +1.1
OJC pmax pmax
comp=Z,18nm,1.3s
OJC Ojcow 59.00 43 P P 00 52 23.7 +1.1
OJC IAmb IAmb 00 52 34.3
comp=Z,18nm,1.3s
TUC Tucson 59.01 296 P P 00 52 23.2 +0.1
TUC pmax pmax
comp=Z,30nm,1.8s
TUC Tucson 59.01 296 P P 00 52 23.2 +0.1
WUAZ Wupatki 59.24 300 P P 00 52 23.3 -1.4
baz=86
MPU Maple Canyon 59.24 305 P P 00 52 25.0 +0.3
MPU IAmb IAmb 00 52 34.2
comp=Z,27nm,1.7s
KBN Korca 59.33 54 P P 00 52 25.8 +0.6
KBN pmax pmax
comp=Z,42nm,1.4s
KBN Korca 59.33 54 P P 00 52 25.8 +0.6
BO01 Tunca 59.48 204 P P 00 52 24.9 -1.2
HSIG 59.52 292 P P 00 52 27.0 +0.4
HSIG IAmb IAmb 00 52 36.5
comp=Z,35nm,1.8s
BO02 Sierra Bellavi 59.72 204 P P 00 52 28.8 +1.1
U15A North Rim 59.92 301 IAmb IAmb 00 52 40.1
comp=Z,32nm,1.8s
BZS Buzias 59.95 48 ||P P 00 52 28.9 -0.3
BZS Buzias 59.95 48 ||P P 00 52 28.9 -0.3
CRVS Cervenica-Dubn 59.98 45 eP P 00 52 30.0 +0.6
CRVS pmax pmax
comp=Z,26nm,1.4s
CRVS Cervenica-Dubn 59.98 45 eP P 00 52 30.0 +0.6
MDVR Moldovita 60.00 49 ||P P 00 52 29.2 -0.5
MCMT McKenzie Canyo 60.12 311 P P 00 52 32.1 +1.4
DUG Dugway, Tooele 60.14 305 P P 00 52 29.4 -1.4
baz=88
KNB Kanab 60.31 302 IAmb IAmb 00 53 05.5
comp=Z,20nm,1.8s
RES Resolute Bay 60.46 347 LR LR 01 16 45.8
comp=Z,562nm,21.7s,baz=118,slow=34
SZCU Shurtz Canyon 60.48 302 P P 00 52 33.4 +0.1
SZCU IAmb IAmb 00 52 44.2
comp=Z,23nm,1.8s
HERR Herculane 60.51 49 ||P P 00 52 34.9 +1.9
UZH Uzhgorod 60.51 45 c iP P 00 52 32.0 -1.0
UZH i 00 52 35.7
UZH e 00 52 38.4
CCUT Cedar City 60.70 302 IAmb IAmb 00 52 45.0
comp=Z,32nm,1.6s
DRGR 60.74 47 ||P P 00 52 34.0 -0.7
DRGR 60.74 47 ||P P 00 52 34.0 -0.7
GZR Gura Zlata 60.76 49 ||P P 00 52 35.5 +0.6
GZR Gura Zlata 60.76 49 ||P P 00 52 35.5 +0.6
ML02 Panimavida 60.82 204 P P 00 52 35.5 +0.3
KWP Kalwaria Pacla 60.83 44 P P 00 52 35.1 -0.1
KWP pmax pmax
comp=Z,249nm,1.5s
KWP Kalwaria Pacla 60.83 44 P P 00 52 35.1 -0.1
EDM Edmonton 60.86 320 P P 00 52 36.5 +1.1
EDM pmax pmax
comp=Z,56nm,1.5s
EDM Edmonton 60.86 320 P P 00 52 36.5 +1.1
SRIG Santa Rosalia 60.89 291 P P 00 52 35.0 -1.0
MSO Missoula 60.91 313 P P 00 52 36.4 +0.4
MSO IAmb IAmb 00 52 39.7
comp=Z,15nm,1.6s
PSUT Pine Spring 61.03 304 P P 00 52 37.2 +0.2
VTS Vitosha 61.12 52 ||P P 00 52 40.1 +2.6
VTS Vitosha 61.12 52 ||P P 00 52 40.1 +2.6
VTS Vitosha 61.12 52 P P 00 52 37.0 -0.5
VTS IAmb IAmb 00 52 42.3
comp=Z,23nm,1.6s
HLID Hailey 61.25 309 P P 00 52 38.9 +0.5
W13A Hualapai Mount 61.32 300 P P 00 52 38.5 -0.5
SPR3 Spring Creek 3 61.37 304 P P 00 52 38.5 -0.9
LOT Lotru 61.46 49 ||P P 00 52 46.6 +6.9
113A Mohawk Valley, 61.47 297 P P 00 52 40.6 +0.8
ARCR ARCALIA 61.86 47 ||P P 00 52 41.4 -0.8
PRN Pahroc Range 62.05 302 P P 00 52 43.2 -0.7
ARR Arges 62.07 49 ||P P 00 52 42.2 -1.6
MFID Camas Ranch 62.28 309 P P 00 52 44.9 -0.3
GLA Glamis 62.32 297 P P 00 52 45.9 +0.3
GLA pmax pmax
comp=Z,38nm,1.6s
GLA Glamis 62.32 297 P P 00 52 45.9 +0.3
VOIR 62.36 49 ||P P 00 52 47.8 +2.1
VOIR 62.36 49 ||P P 00 52 47.8 +2.1
R11A Troy Canyon, C 62.40 303 IAmb IAmb 00 52 56.0
comp=Z,13nm,1.4s
BUR08 Bucovina Ar. S 62.44 46 P P 00 52 47.8 +1.5
BUR08 IAmb IAmb 00 53 07.5
comp=Z,10nm,1.2s
BURAR Bucovina Array 62.45 46 ||P P 00 52 47.7 +1.4
BURAR Bucovina Array 62.45 46 ||P P 00 52 47.7 +1.4
BURAR Bucovina Array 62.45 46 P P 00 52 47.9 +1.5
DOPR Dopca 62.59 48 ||P P 00 52 49.3 +2.1
YKA Yellowknife Ar 62.66 331 LR LR 01 17 20.2
comp=Z,1µm,21.9s,baz=0.0,slow=34
MLR Muntele Rosu 62.99 48 ||P P 00 52 48.5 -1.5
MLR Muntele Rosu 62.99 48 ||P P 00 52 48.5 -1.5
MLR Muntele Rosu 62.99 48 P P 00 52 48.1 -1.9
TPNV Topopah Spring 63.05 302 P P 00 52 51.9 +1.3
TPNV pmax pmax
comp=Z,12nm,1.3s
TPNV Topopah Spring 63.05 302 P P 00 52 51.9 +1.3
TPNV IAmb IAmb 00 54 58.9
comp=Z,12nm,1.3s
BIZ Bicaz 63.06 47 ||P P 00 52 53.2 +2.9
NEW Newport 63.07 315 P P 00 52 49.0 -1.4
baz=90
COVR Voineasa-Covas 63.16 48 ||P P 00 52 53.6 +2.6
GWY Greenwater Val 63.47 301 P P 00 52 53.7 +0.4
GWY IAmb IAmb 00 53 37.4
comp=Z,15nm,1.6s
BMN Battle Mountai 63.49 306 P P 00 52 54.1 +0.6
BMN pmax pmax
comp=Z,5.0nm,1.2s
BMN Battle Mountai 63.49 306 P P 00 52 54.0 +0.6
VRI Vrincioaia 63.53 48 ||P P 00 52 54.5 +1.1
VRI Vrincioaia 63.53 48 ||P P 00 52 54.5 +1.1
NACGM Naroch 63.57 38 i P P 00 52 48.5 -4.9
QSM Queen of Sheba 63.65 301 P P 00 52 54.9 +0.5
QSM IAmb IAmb 00 53 04.7

comp=Z,16nm,1.2s
FINES FINESS Array B 63.67 31 P P 00 52 52.9 -1.1
comp=Z,4.7nm,1.0s,baz=294,slow=1.9,SNR=4.5
TPH Tonopah 63.71 303 P P 00 52 55.0 +0.1
TPH pmax pmax
comp=Z,83nm,1.9s
TPH Tonopah 63.71 303 P P 00 52 55.0 +0.1
E09A Wood Farm, Sta 63.81 313 P P 00 52 54.3 -0.9
BAR Barrett 63.91 297 P P 00 52 56.6 +0.4
LCH Last Change Ra 64.13 302 P P 00 52 58.5 +0.8
LCH lAmb lAmb 00 53 07.8
comp=Z,11nm,1.3s
D08A Wollman Farm, 64.32 313 P P 00 52 59.9 +1.3
NV11 Mina Array Sit 64.40 304 lAmb lAmb 00 53 00.7
comp=Z,24nm,2.0s
NVAR Mina Array Bea 64.52 304 P P 00 52 59.4 -0.9
comp=Z,0.7nm,0.8s,baz=67,slow=5.1,SNR=3.6
SORM Soroca 64.55 45 ||P P 00 52 57.9 -2.1
SORM Soroca 64.55 45 ||P P 00 52 57.9 -2.1
ARCES ARCESS Array B 64.62 22 P P 00 53 00.8 +0.6
comp=Z,14nm,0.9s,baz=248,slow=5.1,SNR=8.1
ARCES LR LR 01 15 40.2
comp=Z,538nm,20.8s,baz=265,slow=31
ARCES ARCESS Array B 64.62 22 P P 00 53 01.2 +1.0
ARCES pmax pmax
comp=Z,21nm,1.0s
ARCES ARCESS Array B 64.62 22 P P 00 53 01.2 +1.0
RYN Ryan 64.67 304 P P 00 53 01.3 +0.1
ISA Isabella, Lake 64.98 301 P P 00 53 03.6 +0.4
ISA pmax pmax
comp=Z,15nm,1.2s
ISA Isabella, Lake 64.98 301 P P 00 53 03.6 +0.4
AKASG Malin Array Be 65.03 43 P P 00 53 02.2 -0.9
comp=Z,3.4nm,0.8s,baz=274,slow=5.9,SNR=5.1
AKBB Malin Array Si 65.03 43 P P 00 53 03.5 +0.4
AKBB pmax pmax
comp=Z,11nm,1.4s
AKBB Malin Array Si 65.03 43 P P 00 53 03.5 +0.4
AKBB lAmb lAmb 00 53 30.9
comp=Z,11nm,1.4s
MDPB Devils Postpil 65.22 303 P P 00 53 05.3 +0.4
LTY Liberty 65.50 314 P P 00 53 06.4 0.0
LTY lAmb lAmb 00 53 10.7
comp=Z,20nm,1.6s
LLLB Lillooet 66.10 317 P P 00 53 10.2 0.0
MDUB Mudurnu 67.25 54 P P 00 53 18.0 +0.3
LVZ Lovozero 67.77 24 *i* P P 00 53 20.9 +0.5
LVZ pmax pmax
comp=Z,33nm,1.3s
CBB Campbell River 68.37 317 P P 00 53 25.5 +1.0
OBN Obninsk 69.19 37 P P 00 53 29.5 +0.1
comp=Z,2.6nm,0.5s,baz=236,slow=3.4,SNR=7.1
OBN Obninsk 69.19 37 *eP* P 00 53 27.9 -1.5
OBN *e* 00 53 56.0
OBN *e* 00 55 59.5
OBN *eS* S 01 02 25.8 -10
OBN *eSSS* SSS 01 10 00.9
OBN pmax pmax
comp=Z,34nm,1.6s
OBN Obninsk 69.19 37 lAmb lAmb 00 53 33.3
comp=Z,55nm,1.6s
BR131 Keskin Array S 69.21 54 *i* P P 00 53 28.7 -1.4
BR131 Keskin Array S 69.21 54 lAmb lAmb 00 53 33.7
comp=Z,12nm,1.1s
BRTR Keskin Array B 69.21 54 P P 00 53 30.0 -0.1
comp=Z,2.8nm,0.8s,baz=262,slow=5.2,SNR=11
BRTR LR LR 01 21 08.2
comp=Z,312nm,20.6s,baz=298,slow=34
BRTR Keskin Array B 69.21 54 P P 00 53 28.9 -1.2
BRTR Keskin Array B 69.21 54 P P 00 53 28.9 -1.2
MOS Moscow 69.73 37 *eP* P 00 53 30.9 -1.9
MOS pmax pmax
comp=Z,28nm,1.3s
KLMR Klimovskoe 70.18 31 *eP* P 00 53 32.2 -3.3
KLMR pmax pmax
comp=Z,28nm,1.4s
KLMR Klimovskoe 70.18 31 *eP* P 00 53 32.2 -3.3
KLMR AMP 00 53 40.1
comp=Z,28nm,1.4s
DLBC Dease Lake 70.20 326 P P 00 53 35.6 -0.1
DLBC lAmb lAmb 00 53 41.6
comp=Z,16nm,1.4s
INK Inuvik 70.71 337 P P 00 53 37.3 -1.2
comp=Z,6.4nm,1.1s,baz=37,slow=6.2,SNR=5.8
INK Inuvik 70.71 337 P P 00 53 38.7 +0.1
INK pmax pmax
comp=Z,38nm,1.7s
INK Inuvik 70.71 337 P P 00 53 38.7 +0.1
LPSR Galich'ya Gora 70.88 40 *eP* P 00 53 39.5 -0.4
LPSR pmax pmax
comp=Z,10.0nm,0.8s
ANN Anapa 71.14 48 *eP* P 00 53 39.4 -2.2
ANN *e**PP pP 00 53 41.7 -2.0
ANN *eS* S 01 02 54.8 -3.8
ANN pmax pmax
comp=Z,23nm,1.3s
VSR Storozhevoye 71.24 41 *eP* P 00 53 40.0 -2.1
VSR pmax pmax
comp=Z,10.0nm,1.4s
SOC Sochi 72.98 49 *eP* P 00 53 51.2 -1.5
SOC *e* 00 56 30.7
SOC *e*PPP PPP 00 58 18.2
SOC *eS* S 01 03 18.8 -1.1
SOC pmax pmax
comp=Z,17nm,0.8s
SOC MLR MLR
comp=Z,151nm,17.0s
PRGR Permogore 72.99 30 *eP* P 00 53 51.6 -0.8
PRGR pmax pmax
comp=Z,51nm,1.5s
HYT Haines Junctio 73.57 329 P P 00 53 56.9 +0.9
DAWY Dawson 73.75 333 P P 00 53 55.4 -1.5
baz=78
BMAR Burnt Mountain 74.99 337 P P 00 54 02.6 -1.5
KIV Kislovodsk 75.00 48 *eP* P 00 54 03.3 -1.4
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV Kislovodsk 75.00 48 P P 00 54 04.7 +0.1
SHA1 Shidzhatmaz 75.03 49 *i* P P 00 54 05.2 +0.2
L27K Beaver Creek, 75.04 332 lAmb lAmb 00 54 07.2
comp=Z,27nm,1.7s
L27K Beaver Creek, 75.04 332 P P 00 54 02.7 -1.8
baz=75
KBZ Khabaz 75.20 49 P P 00 54 06.8 +1.1
comp=Z,3.4nm,0.9s,baz=294,slow=7.2,SNR=9.0
KBZ Khabaz 75.20 49 *ce*P P 00 54 04.8 -0.9
KBZ pmax pmax
comp=Z,6.0nm,1.0s
M27K Edge Creek, AK 75.25 331 P P 00 54 06.7 +0.9
M27K lAmb lAmb 00 56 15.7
comp=Z,16nm,1.5s
KIRV Kirov 75.52 33 *i* P P 00 54 08.7 +1.5
PRP Porcupine Dome 75.91 335 P P 00 54 10.2 +0.7
PRP lAmb lAmb 00 56 17.4
comp=Z,30nm,1.6s
BELG Belogornoye 76.13 39 *i* P P 00 54 07.7 -3.1
BELG pmax pmax
comp=Z,6.0nm,1.1s
ILAR Eielson Array 76.69 334 P P 00 54 11.4 -2.3
comp=Z,3.1nm,0.9s,baz=74,slow=4.6,SNR=16
H24K Noodor Dome 76.73 336 lAmb lAmb 00 54 25.2
comp=Z,29nm,1.6s
CCB Clear Creek Bu 77.10 334 lAmb lAmb 00 54 26.5
comp=Z,30nm,1.6s
COLD Coldfoot 77.11 337 P P 00 54 17.0 +0.9
COLD lAmb lAmb 00 54 22.3
comp=Z,14nm,1.3s
MDM Murphy Dome 77.16 335 P P 00 54 17.7 +1.2
MBAR Mbarara 77.29 95 *i* P P 00 54 16.4 -1.9
GNI Garni 77.45 52 *i* P P 00 54 19.2 +0.5
GNI pmax pmax
comp=Z,13nm,1.1s
I23K Minto, Yukon-K 77.55 335 P P 00 54 17.1 -1.5
baz=69
H21K Melozitna Rive 78.69 336 lAmb lAmb 00 54 36.1
comp=Z,38nm,1.7s
AKT Akhty 79.24 50 *eP* P 00 54 30.3 +1.7
AKT *e* 00 54 38.4
AKT pmax pmax
comp=Z,13nm,1.2s
K20K Telida 80.14 334 P P 00 54 34.6 +1.7
K20K lAmb lAmb 00 54 37.9
comp=Z,22nm,1.4s
LSZ Lusaka 80.50 110 P P 00 54 35.5 -0.2
LSZ pmax pmax
comp=Z,17nm,1.4s
LSZ Lusaka 80.50 110 P P 00 54 35.5 -0.2
LSZ lAmb lAmb 00 54 41.1
comp=Z,17nm,1.4s
ARU Arti 80.88 33 *c i*P P 00 54 36.4 -0.6
ARU S S 01 04 47.2 +1.6
ARU pmax pmax
comp=Z,14nm,1.4s
ARU Arti 80.88 33 P P 00 54 38.1 +1.2
ARU lAmb lAmb 00 54 41.2
comp=Z,23nm,1.5s
L19K White Mountain 80.98 333 P P 00 54 39.0 +1.5
L19K lAmb lAmb 00 54 41.8
comp=Z,26nm,1.4s
KMBO Kilima Mbogo 83.57 94 P P 00 54 53.5 +1.3
comp=Z,2.1nm,0.9s,baz=301,slow=4.1,SNR=5.1
BOSA Boshof 83.75 123 P P 00 54 53.9 +1.4
comp=Z,8.7nm,0.9s,baz=318,slow=7.2,SNR=7.1
BRVK Borovoye 88.46 33 P P 00 55 15.3 0.0
BRVK pmax pmax
comp=Z,5.0nm,1.1s
BRVK Borovoye 88.46 33 P P 00 55 15.3 0.0
BILL Bilibino 89.01 349 ||*e*P P 00 55 17.2 -0.4
BILL *e* 00 58 50.7
BILL pmax pmax
comp=Z,19nm,1.3s
BILL MLR MLR
comp=Z,463nm,18.0s
UOSS Minazif 91.66 63 P P 00 55 30.6 -0.2
VNA3 Neumayer Olymp 94.48 169 P P 00 55 42.5 -0.2
VNA2 Neumayer–Watz 94.64 168 P P 00 55 42.5 -0.8
ZALV Zalesovo Beam 94.74 27 P P 00 55 42.5 -1.9
comp=Z,0.4nm,0.3s,baz=286,slow=5.4,SNR=1.9
SNAA Sanae 96.13 168 P P 00 55 51.4 +1.2
DGZ Jazzator, Alta 98.89 29 *i* P P 00 56 03.0 -0.5
DGZ pmax pmax
comp=Z,2.0nm,0.8s
KSH Kashi 99.32 42 P Pdif 00 56 09.0 +3.4
KSH pmax pmax
comp=Z,4.0nm,1.2s
WMQ Urumqi 103.22 33 *e*P Pdif 00 56 24.3 +1.5
WMQ sP sPdif 00 56 26.5 +0.9
WMQ pmax pmax
WMQ comp=Z,16nm,0.9s pmax pmax
WMQ comp=Z,130nm,5.3s pmax pmax
WMQ comp=Z,24nm,0.7s pmax pmax
WMQ comp=Z,130nm,5.3s LR LR
WMQ comp=N,310nm,21.3s LR LR
WMQ comp=E,310nm,19.5s LR LR
WMQ comp=Z,310nm,21.3s LR LR
HHC Hu-ho-hao-te 115.64 19 *e*P PKiKP 01 01 01.5 -4.2
VNDA Vanda 121.08 187 PKP PKPdf 01 01 13.5 -1.4
comp=Z,1.0nm,0.9s,baz=299,slow=4.6,SNR=6.0
CD2 Chengdu 121.23 31 PKP PKPdf 01 01 15.0 -1.7
MJAR Matsushiro Arr 123.48 356 PKP PKPdf 01 01 20.1 -0.7
comp=Z,0.9nm,0.4s,baz=357,slow=2.5,SNR=4.2
NJ2 Nanjing 125.94 16 *e*P PKPdf 01 01 24.8 -0.8
NJ2 pmax pmax
comp=Z,13nm,0.5s
CMAR Chiang Mai Arr 128.12 45 PKP PKPdf 01 01 28.8 -1.3
comp=Z,0.8nm,0.3s,baz=306,slow=4.0,SNR=6.7
CMAR Chiang Mai Arr 128.12 45 *c i*PKIKP PKiKP 01 01 31.1 +0.4
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CMAR Chiang Mai Arr 128.12 45 PKPdf 01 01 28.1 -2.0
CM05 Chiang Mai Arr 128.17 45 PKP PKiKP 01 01 34.0 +3.2

IDC ***28*** *00:42:53.4±1.6, 31.˚73S×177.˚90W, h0km, mb4.0/2, mb1 4.1/3, mb1mx3.8/31, mbtmp4.1/3, ML4.1/1, Error ellipse: s-maj=40.9km s-min=28.5km az=107.0*

ISC 28 00:42:53.5±1.6, 31.˚85S±0.˚10×177.˚8W±0.˚3, h10km, n8, σ1 9 20/10, mb4.0/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.59**	**358**	Pn	**Pn**	**00 43 34.8**	**-0.7**
	41nm,0.3s,baz=146,slow=21,SNR=1.9						
RAO				Sn	**Sn**	**00 44 06.1**	**-1.0**
	131nm,0.3s,baz=83,slow=21,SNR=5.2						
URZ	**Urewera**	**7.62**	**212**	Pn	**Pn**	**00 44 42.7**	**-1.8**
	0.5nm,0.3s,baz=80,slow=20,SNR=1.7						
URZ				Sn	**Sn**	**00 46 10.6**	**-0.3**
	3.4nm,0.3s,baz=132,slow=22,SNR=9.5						
CTA	**Charters Tower**	**34.21**	**281**	P	**P**	**00 49 40.6**	**+1.2**
	1.6nm,0.5s,baz=98,slow=10,SNR=1.2						
ASAR	**Alice Springs**	**43.20**	**268**	P	**P**	**00 50 55.5**	**+0.6**
	0.7nm,0.4s,baz=108,slow=7.4,SNR=14						
WRA	**Warramunga Arr**	**44.32**	**274**	P	**P**	**00 51 04.4**	**+0.5**
	0.7nm,0.3s,baz=111,slow=8.0,SNR=3.2						
FINES	**FINESS Array B**	**146.56**	**339**	PKPbc	**PKPab**	**01 02 35.2**	**-0.1**
	1.7nm,0.6s,baz=57,slow=5.1,SNR=14						
BRTR	**Keskin Array B**	**153.40**	**296**	PKPbc	**PKiKP**	**01 02 52.8**	**+0.5**
	0.3nm,0.5s,baz=136,slow=3.5,SNR=2.6						
TORD	**Torodi Ar. Bea**	**161.38**	**179**	PKPab	**PKPab**	**01 03 40.6**	**+1.7**
	0.2nm,0.6s,baz=183,slow=3.4,SNR=4.3						

MOS ***28*** *00:44:22.9±0.7, 20.˚05N×45.˚42W, h13km, mb5.2/32, Error ellipse: s-maj=9.6km s-min=8.1km az=17.5*

IDC ***28*** *00:44:22.2±0.6, 20.˚14N×45.˚46W, h0km, mb4.1/20, mb1 4.3/22, mb1mx4.1/55, mbtmp4.1/22, ML3.4/2, MS4.6/3, Ms1 4.6/3, ms1mx4.1/33, Error ellipse: s-maj=18.7km s-min=13.3km az=142.0*

NEIC ***28*** *00:44:25.3±1.6, 20.˚04N±0.˚10×45.˚42W±0.˚10, h10km±1km, mb5.0/308, Error ellipse: s-maj=17.1km s-min=14.8km az=148.0*

ISC 28 00:44:24.4±0.4, 20.˚04N±0.˚07×45.˚41W±0.˚06, h9km, n434, σ0 9 93/385, mb5.0/163, MS4.5/3, 1D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBGH	**Gun Hill**	**15.19**	**245**	Pn	**Pn**	**00 47 58.8**	**-0.4**
ILAM	**Ilet Lapin Mar**	**15.65**	**253**	Pn	**Pn**	**00 48 05.0**	**-0.4**
MPOM	**Morne Pois Mar**	**15.76**	**252**		**Pn**	**00 48 07.2**	**+0.4**
MPOM				lAmb	lAmb	00 48 17.4	
	comp=Z,126nm,1.2s						
SVN	**Savane Anatole**	**15.89**	**254**	Pn	**Pn**	**00 48 07.4**	**-1.1**
SVN				lAmb	lAmb	00 48 18.3	
	comp=Z,96nm,1.0s						
FDF	**Fort de France**	**15.92**	**253**	P	**Pn**	**00 48 08.4**	**-0.5**
FDF				pmax	pmax		
	comp=Z,163nm,1.3s						
FDF	**Fort de France**	**15.92**	**253**	P	**Pn**	**00 48 08.4**	**-0.5**
FDF				lAmb	lAmb	00 48 18.6	
	comp=Z,163nm,1.3s						
MCLT	**Moule a Chique**	**16.13**	**249**	Pn	**Pn**	**00 48 08.0**	**-3.6**
MCLT				lAmb	lAmb	00 48 20.0	
	comp=Z,161nm,1.5s						
MDP	**Montagnes des**	**16.43**	**206**	Pn	**Pn**	**00 48 14.9**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=41,slow=11,SNR=1.8						
SMRT	**St. Maarten**	**16.82**	**266**	Pn	**Pn**	**00 48 17.6**	**-2.7**
TOSP	**Speyside**	**16.95**	**241**		**Pn**	**00 48 22.1**	**+0.1**
GRGR	**Grenville**	**17.46**	**246**	Pn	**Pn**	**00 48 28.0**	**-0.5**
GRGR				lAmb	lAmb	00 48 35.5	
	comp=Z,148nm,1.4s						
ABVI	**Anegada Island**	**17.90**	**269**	Pn	**Pn**	**00 48 32.3**	**-1.5**
ABVI				lAmb	lAmb	00 48 39.9	
	comp=Z,241nm,1.9s						
CDVI	**St. Croix**	**18.45**	**266**	P	**P**	**00 48 39.1**	**-1.4**
STVI	**Saint Thomas**	**18.54**	**268**	P	**P**	**00 48 40.9**	**-0.6**
CUPR	**Culebra, Puert**	**18.85**	**268**	P	**P**	**00 48 44.4**	**-0.5**
MTP	**Monte Pirata**	**19.14**	**268**	P	**P**	**00 48 47.9**	**-0.1**
CBYP	**Canovanas**	**19.39**	**268**	P	**P**	**00 48 50.4**	**-0.6**
HUMP	**Col San Antoni**	**19.41**	**268**	P	**P**	**00 48 51.6**	**+0.5**
PDPR	**Patillas Dam,**	**19.59**	**268**	P	**P**	**00 48 53.5**	**+0.5**
PDPR				lAmb	lAmb	00 48 58.1	
	comp=Z,138nm,1.9s						
GCPR	**Guaynabo City**	**19.60**	**268**	P	**P**	**00 48 53.4**	**+0.3**
SJG	**San Juan**	**19.70**	**268**	P	**P**	**00 48 52.2**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=76,slow=7.3,SNR=2.5						
SJG	**San Juan**	**19.70**	**268**	P	**P**	**00 48 53.2**	**-1.0**
SJG				pmax	pmax		
	comp=Z,47nm,1.2s						
SJG	**San Juan**	**19.70**	**268**	P	**P**	**00 48 53.2**	**-1.0**
OBIP	**Obispado Ponce**	**20.13**	**268**	P	**P**	**00 48 58.1**	**-0.8**
OBIP				lAmb	lAmb	00 49 03.8	
	comp=Z,92nm,1.4s						
AOPR	**Arecibo Observ**	**20.23**	**269**	P	**P**	**00 48 59.0**	**-1.0**
AOPR				lAmb	lAmb	00 49 08.3	
	comp=Z,117nm,1.4s						
CRPR	**Cabo Rojo, PR**	**20.61**	**268**	P	**P**	**00 49 03.7**	**-0.5**
CRPR				lAmb	lAmb	00 49 19.0	
	comp=Z,86nm,1.6s						
PCRV	**Puerto La Cruz**	**20.97**	**245**	P	**P**	**00 49 05.9**	**-2.2**
	comp=Z,1.1nm,1.0s,baz=62,slow=11,SNR=2.0						
DR12	**Loma Pena Alta**	**22.64**	**271**	P	**P**	**00 49 26.7**	**+0.6**
SC01	**Santiago de lo**	**23.83**	**273**	P	**P**	**00 49 39.1**	**+1.0**
SDDR	**Presa de Saban**	**24.41**	**272**	P	**P**	**00 49 44.5**	**+0.9**
SDDR				lAmb	lAmb	00 49 52.5	
	comp=Z,63nm,1.4s						
PTGA	**Pitinga**	**25.09**	**216**	P	**P**	**00 49 50.0**	**+0.4**
	comp=Z,2.4nm,0.6s,baz=38,slow=12,SNR=4.5						
PTGA	**Pitinga**	**25.09**	**216**	P	**P**	**00 49 49.4**	**-0.2**
LGNH	**Logne**	**25.71**	**271**	P	**P**	**00 49 56.4**	**+1.2**
SDV	**Santo Domingo**	**26.78**	**249**	P	**P**	**00 50 05.8**	**+0.6**
SDV				lAmb	lAmb	00 50 23.6	
	comp=Z,37nm,1.6s						
RUSC	**La Rusia**	**30.34**	**246**	P	**P**	**00 50 37.5**	**+0.3**
SJCC	**San Jacinto, C**	**30.42**	**255**	P	**P**	**00 50 37.6**	**+0.1**
SJCC				lAmb	lAmb	00 50 48.6	
	comp=Z,45nm,1.6s						
G65A	**Princeton**	**31.07**	**329**	P	**P**	**00 50 44.0**	**+1.1**
G65A				lAmb	lAmb	00 50 47.6	
	comp=Z,38nm,1.3s						
WSPT	**Westport, CT**	**31.73**	**318**	P	**P**	**00 50 49.5**	**+0.8**
I63A	**Otisfield**	**31.84**	**324**	P	**P**	**00 50 51.2**	**+1.6**
I63A				lAmb	lAmb	00 51 47.5	
	comp=Z,47nm,1.6s						
K62A	**Royalston**	**31.91**	**321**	P	**P**	**00 50 52.1**	**+1.7**
K62A				lAmb	lAmb	00 50 56.0	
	comp=Z,50nm,1.6s						
CNNC	**Cliffs of the**	**32.34**	**305**	P	**P**	**00 50 54.3**	**+0.2**
CNNC				lAmb	lAmb	00 52 04.2	
	comp=Z,25nm,1.0s						
J61A	**Chester**	**32.51**	**322**	P	**P**	**00 50 57.4**	**+1.9**
J61A				lAmb	lAmb	00 51 00.8	
	comp=Z,33nm,1.2s						
HNH	**Hanover**	**32.57**	**322**	P	**P**	**00 50 56.8**	**+0.8**
G62A	**West of Eustis**	**32.58**	**326**	P	**P**	**00 50 55.9**	**-0.3**
G62A				lAmb	lAmb	00 51 00.8	
	comp=Z,18nm,1.1s						
LBNH	**Lisbon**	**32.70**	**324**	P	**P**	**00 50 58.0**	**+0.8**
LBNH				pmax	pmax		
	comp=Z,88nm,1.9s						
LBNH	**Lisbon**	**32.70**	**324**	P	**P**	**00 50 58.0**	**+0.8**
Y59A	**Loris**	**32.73**	**302**	P	**P**	**00 50 58.8**	**+1.2**
ACCN	**Adirondack Com**	**33.19**	**321**	P	**P**	**00 51 02.7**	**+1.2**
ACCN				lAmb	lAmb	00 51 06.6	
	comp=Z,20nm,1.1s						
V58A	**Windy Hill, Pi**	**33.47**	**305**	P	**P**	**00 51 05.1**	**+1.1**
V58A				lAmb	lAmb	00 51 08.2	
	comp=Z,27nm,1.1s						
J59A	**Piesco**	**33.73**	**320**	P	**P**	**00 51 07.8**	**+1.6**
J59A				lAmb	lAmb	00 51 11.9	
	comp=Z,33nm,1.4s						
NCB	**Newcomb**	**33.86**	**321**	P	**P**	**00 51 08.4**	**+1.1**
NCB				lAmb	lAmb	00 51 12.6	
	comp=Z,31nm,1.2s						
Y57A	**Sumter**	**33.95**	**301**	P	**P**	**00 51 08.6**	**+0.3**
Y57A				lAmb	lAmb	00 51 12.6	
	comp=Z,19nm,1.1s						
FRNY	**Flat Rock**	**34.00**	**323**	P	**P**	**00 51 08.7**	**+0.2**
LMQ	**La Malbaie**	**34.09**	**329**	P	**P**	**00 51 10.0**	**+0.7**
J58A	**Remsen**	**34.15**	**320**	P	**P**	**00 51 11.4**	**+1.6**
J58A				lAmb	lAmb	00 51 15.1	
	comp=Z,43nm,1.6s						
M57A	**Sunshine Farm,**	**34.27**	**315**	P	**P**	**00 51 11.2**	**+0.2**
MNTQ	**Montreal, Queb**	**34.43**	**324**	P	**P**	**00 51 13.2**	**+1.0**
MNTQ				lAmb	lAmb	00 51 17.0	
	comp=Z,31nm,1.4s						
LONY	**Lake Ozonia**	**34.44**	**322**	P	**P**	**00 51 13.0**	**+0.6**
LONY				lAmb	lAmb	00 51 17.5	
	comp=Z,29nm,1.4s						
SSPA	**Standing Stone**	**34.46**	**314**	P	**P**	**00 51 13.1**	**+0.5**
SSPA				lAmb	lAmb	00 51 17.6	
	comp=Z,32nm,1.5s						
J57A	**Williamstown**	**34.61**	**319**	P	**P**	**00 51 15.2**	**+1.4**
J57A				lAmb	lAmb	00 51 19.8	
	comp=Z,19nm,1.2s						
J55A	**Hilton**	**35.66**	**318**	P	**P**	**00 51 23.2**	**+0.3**
J55A				lAmb	lAmb	00 51 34.2	
	comp=Z,42nm,1.6s						
U54A	**Nelsons Funny**	**35.77**	**305**	P	**P**	**00 51 23.4**	**-0.6**
U54A				lAmb	lAmb	00 51 28.8	
	comp=Z,27nm,1.2s						
154A	**Montrose**	**35.85**	**298**	P	**P**	**00 51 23.4**	**-1.3**
TIGA	**Tifton**	**36.05**	**296**	P	**P**	**00 51 27.7**	**+1.3**
BG3	**Lake Jocassee**	**36.23**	**302**	P	**P**	**00 51 28.4**	**+0.5**
BG3				lAmb	lAmb	00 51 32.9	
	comp=Z,28nm,1.1s						
V53A	**Saluda**	**36.30**	**303**	P	**P**	**00 51 28.3**	**-0.3**
P53A	**Whipple**	**36.44**	**310**	P	**P**	**00 51 30.4**	**+0.7**
P53A				lAmb	lAmb	00 51 34.1	
	comp=Z,26nm,1.2s						
P52A	**Corning**	**37.03**	**310**	P	**P**	**00 51 35.4**	**+0.7**
P52A				lAmb	lAmb	00 51 39.4	
	comp=Z,25nm,1.2s						
TKL	**Tuckaleechee C**	**37.06**	**303**	P	**P**	**00 51 31.8**	**-3.2**
	comp=Z,2.6nm,0.9s,baz=279,slow=13,SNR=1.6						
TKL	**Tuckaleechee C**	**37.06**	**303**	P	**P**	**00 51 31.8**	**-3.2**
TKL				pmax	pmax		
	comp=Z,18nm,1.3s						
TKL	**Tuckaleechee C**	**37.06**	**303**	lAmb	lAmb	00 51 39.4	
	comp=Z,18nm,1.2s						
TZTN	**Tazewell**	**37.11**	**304**	P	**P**	**00 51 36.2**	**+0.8**
TZTN				lAmb	lAmb	00 51 40.9	
	comp=Z,44nm,1.3s						
352A	**Blakely**	**37.19**	**296**	P	**P**	**00 51 37.3**	**+1.2**
152A	**Waverly Hall**	**37.20**	**298**	P	**P**	**00 51 37.9**	**+1.7**
152A				lAmb	lAmb	00 51 41.2	
	comp=Z,29nm,1.2s						
SADO	**Sadowa**	**37.25**	**319**	LR	LR	01 04 39.9	
	comp=Z,786nm,18.5s,baz=198,slow=33						
COI	**Coimbra**	**37.43**	**49**	P	**P**	**00 51 38.8**	**+0.7**
COI				pmax	pmax		
	comp=Z,24nm,1.3s						
COI	**Coimbra**	**37.43**	**49**	P	**P**	**00 51 38.8**	**+0.7**
S51A	**Beattyville**	**37.46**	**306**	P	**P**	**00 51 39.4**	**+1.1**
S51A				lAmb	lAmb	00 51 42.9	
	comp=Z,38nm,1.3s						
X51A	**Calhoun**	**37.67**	**301**	P	**P**	**00 51 40.4**	**+0.2**
X51A				lAmb	lAmb	00 51 44.9	
	comp=Z,27nm,1.1s						
Z51A	**Franklin**	**37.69**	**299**	P	**P**	**00 51 41.0**	**+0.6**
Q51A	**Peebles**	**37.70**	**308**	P	**P**	**00 51 41.7**	**+1.3**
ACSO	**Alum Creek Sta**	**37.85**	**310**	P	**P**	**00 51 41.8**	**+0.2**
ACSO				lAmb	lAmb	00 51 46.0	
	comp=Z,44nm,1.6s						
OTAV	**Otavalo**	**37.85**	**243**	P	**P**	**00 51 42.3**	**-0.2**
OTAV				pmax	pmax		
	comp=Z,18nm,1.3s						
OTAV	**Otavalo**	**37.85**	**243**	P	**P**	**00 51 42.3**	**-0.2**
MTE	**Manteigas**	**38.12**	**49**	P	**P**	**00 51 44.3**	**+0.3**
MTE				lAmb	lAmb	00 51 49.9	
	comp=Z,29nm,1.4s						
W50A	**Signal Mountai**	**38.17**	**302**	P	**P**	**00 51 45.1**	**+0.6**
W50A				lAmb	lAmb	00 51 49.2	
	comp=Z,30nm,1.1s						
T50A	**Nancy**	**38.24**	**305**	P	**P**	**00 51 45.4**	**+0.4**
FPAL	**Fort Paine**	**38.28**	**301**	P	**P**	**00 51 46.1**	**+0.7**
RIMA	**Rio Macho**	**38.45**	**260**	P	**P**	**00 51 48.1**	**+0.9**
MDT	**Midelt**	**38.47**	**62**	P	**P**	**00 51 45.3**	**-1.7**
	comp=Z,1.8nm,0.9s,baz=255,slow=6.1,SNR=3.5						
COVE	**Coope Vega, Sa**	**38.63**	**262**	P	**P**	**00 51 49.0**	**+0.5**
COVE				lAmb	lAmb	00 51 54.0	
	comp=Z,50nm,1.2s						
O49A	**Covington**	**38.81**	**310**	P	**P**	**00 51 51.5**	**+1.8**
R49A	**Shelbyville**	**38.84**	**307**	P	**P**	**00 51 51.7**	**+1.7**
U49A	**Red Boiling Sp**	**38.84**	**304**	P	**P**	**00 51 51.9**	**+1.9**
P49A	**Miami Univ. Ec**	**38.87**	**309**	P	**P**	**00 51 50.6**	**+0.3**
P49A				lAmb	lAmb	00 51 54.4	
	comp=Z,43nm,1.4s						
SIV	**San Ignacio**	**38.97**	**204**	P	**P**	**00 51 49.9**	**-1.3**
	comp=Z,4.0nm,1.1s,baz=32,slow=10,SNR=4.2						
AAM	**Ann Arbor**	**39.09**	**313**	P	**P**	**00 51 54.0**	**+2.0**
AAM				pmax	pmax		
	comp=Z,52nm,1.5s						
AAM	**Ann Arbor**	**39.09**	**313**	P	**P**	**00 51 54.0**	**+2.0**
AAM				lAmb	lAmb	00 51 56.7	
	comp=Z,52nm,1.5s						
CLTN	**Cedars of Leba**	**39.18**	**303**	P	**P**	**00 51 54.2**	**+1.4**

P48A **Milroy** 39.37 308 P P 00 51 55.1 +0.7
MATN **Matagalpa** 39.41 266 P P 00 51 56.1 +1.0
X48A **Hartselle** 39.42 300 P P 00 51 55.3 +0.4
V48A **Smith Brothers** 39.49 302 P P 00 51 56.7 +1.3
N47A **Urbana** 40.01 310 P P 00 52 00.6 +0.9
Z47A **Carrollton** 40.06 298 P P 00 52 02.4 +2.1
Z47A IAmb IAmb 00 52 05.0
comp=Z,57nm,1.2s
PLAL **Pickwick Lake** 40.35 301 IAmb IAmb 00 52 07.4
comp=Z,35nm,1.1s
WVT **Waverly** 40.37 303 P P 00 52 02.6 -0.2
WVT pmax pmax
comp=Z,29nm,1.2s
WVT **Waverly** 40.37 303 P P 00 52 02.6 -0.2
WVT IAmb IAmb 00 52 07.2
comp=Z,30nm,1.1s
WVT **Waverly** 40.37 303 P P 00 52 02.6 -0.2
baz=102
TGUH **Tegucigalpa,Un** 40.38 268 P P 00 52 04.5 +1.2
TGUH IAmb IAmb 00 52 12.3
comp=Z,107nm,1.9s
ESDC **Sonseca Array** 40.49 52 P P 00 52 03.4 -0.4
comp=Z,0.8nm,1.0s,baz=248,slow=8.1,SNR=3.3
USIN **University of** 40.65 305 P P 00 52 04.8 -0.3
USIN IAmb IAmb 00 52 09.7
comp=Z,30nm,1.1s
SFIN **Lafayette** 40.87 309 P P 00 52 06.9 0.0
SFIN IAmb IAmb 00 52 11.3
comp=Z,40nm,1.4s
346A **Big Creek Wild** 41.03 295 P P 00 52 09.6 +1.3
H10N3 **ASCENSION HYDR** 41.14 129 T T 01 36 28.1
baz=312
H10N2 **ASCENSION HYDR** 41.14 129 T T 01 36 26.1
baz=312
H10N1 **ASCENSION HYDR** 41.16 129 T T 01 36 26.5
baz=312
OLIL **Olney** 41.17 306 P P 00 52 10.5 +1.2
OLIL IAmb IAmb 00 52 14.8
comp=Z,40nm,1.2s
W45A **Hickory Valley** 41.28 301 P P 00 52 09.7 -0.6
OXF **Oxford** 41.36 300 P P 00 52 12.1 +1.2
OXF pmax pmax
comp=Z,39nm,1.2s
OXF **Oxford** 41.36 300 P P 00 52 12.1 +1.2
OXF IAmb IAmb 00 52 14.7
comp=Z,39nm,1.1s
HICK **Hickman** 41.56 303 P P 00 52 13.1 +0.5
SIUC **Southern Illin** 41.79 305 P P 00 52 14.2 -0.2
SIUC IAmb IAmb 00 52 19.5
comp=Z,41nm,1.3s
O44A **Mansfield** 41.81 308 P P 00 52 14.9 +0.3
S44A **Carbondale** 41.82 304 P P 00 52 14.4 -0.2
S44A IAmb IAmb 00 52 19.5
comp=Z,40nm,1.2s
HQIL **Hanson Quary C** 41.85 311 P P 00 52 15.3 +0.5
HQIL IAmb IAmb 00 52 19.4
comp=Z,60nm,1.3s
M44A **Midewin, Midew** 41.86 310 P P 00 52 15.2 +0.2
Q44A **Meyer Farm, Va** 41.91 306 P P 00 52 15.8 +0.5
Q44A IAmb IAmb 00 52 20.1
comp=Z,37nm,1.2s
PARMO **Parma** 42.00 303 P P 00 52 16.7 +0.6
344A **Westbrook Farm** 42.11 295 P P 00 52 16.9 -0.2
344A IAmb IAmb 00 52 22.8
comp=Z,29nm,0.9s
ESQI **Esquipulas** 42.20 270 P P 00 52 17.6 -0.7
MTO3 **Montecristo** 42.26 270 P P 00 52 18.4 -0.4
LPAZ **La Paz** 42.44 213 P P 00 52 21.1 +0.5
comp=Z,10nm,1.2s,baz=44,slow=6.0,SNR=5.9
LPAZ **La Paz** 42.44 213 P P 00 52 20.4 -0.2
LPAZ pmax pmax
comp=Z,18nm,1.3s
LPAZ **La Paz** 42.44 213 P P 00 52 20.4 -0.2
P43A **Skaggs, Pawnee** 42.47 307 P P 00 52 20.0 +0.1
K43A **Burlington** 42.47 312 P P 00 52 18.9 -1.0
HDIL **Hopedale** 42.53 309 P P 00 52 20.2 -0.2
H43A **Windswept, Lux** 42.68 315 P P 00 52 19.9 -1.6
SLM **Saint Louis** 42.77 306 P P 00 52 22.1 -0.3
SLM pmax pmax
comp=Z,42nm,1.2s
SLM **Saint Louis** 42.77 306 P P 00 52 22.1 -0.3
SLM IAmb IAmb 00 52 26.9
comp=Z,42nm,1.2s
FVM **French Village** 42.78 305 P P 00 52 21.1 -1.5
FVM pmax pmax
comp=Z,31nm,1.2s
FVM **French Village** 42.78 305 P P 00 52 21.1 -1.5
FVM IAmb IAmb 00 52 27.1
comp=Z,32nm,1.1s
143A **Socs Landing,** 42.79 297 P P 00 52 21.8 -0.8
143A IAmb IAmb 00 52 27.4
comp=Z,62nm,1.4s
L42A **Oliver, Polo** 43.20 311 P P 00 52 25.5 -0.3
L42A IAmb IAmb 00 52 30.4
comp=Z,36nm,1.2s
CCM **Cathedral Cave** 43.43 305 P P 00 52 27.6 -0.2
CCM pmax pmax
comp=Z,46nm,1.4s
CCM **Cathedral Cave** 43.43 305 P P 00 52 27.6 -0.2
CCM IAmb IAmb 00 52 32.9
comp=Z,46nm,1.4s
CCM **Cathedral Cave** 43.43 305 P P 00 52 27.5 -0.2
baz=101
N41A **Harden Midland** 43.72 308 P P 00 52 29.0 -1.0
N41A IAmb IAmb 00 52 34.2
comp=Z,33nm,1.1s
FCAR **Ozark Folk Cen** 43.76 301 IAmb IAmb 00 52 34.3
comp=Z,28nm,1.5s
W41B **Gary Mavity, V** 43.76 300 P P 00 52 29.7 -0.8
baz=98
WHAR **Wooly Hollow** 43.81 300 P P 00 52 30.0 -0.9
WHAR IAmb IAmb 00 52 34.7
comp=Z,32nm,1.2s
JFWS **Jewell Farm** 43.87 312 P P 00 52 31.1 -0.2
JFWS pmax pmax
comp=Z,30nm,1.4s
JFWS **Jewell Farm** 43.87 312 P P 00 52 31.1 -0.2
JFWS IAmb IAmb 00 52 35.8
comp=Z,30nm,1.4s
X40A **Basin Creek Fa** 44.16 299 P P 00 52 33.5 -0.2
X40A **Basin Creek Fa** 44.16 299 P P 00 52 34.3 +0.6
baz=96
COWI **Conover** 44.16 316 P P 00 52 33.0 -0.6
COWI IAmb IAmb 00 52 37.5
comp=Z,40nm,1.6s
R40A **Maddies Statio** 44.27 305 IAmb IAmb 00 52 38.4
comp=Z,26nm,1.2s
WLAR **White Oak Lake** 44.31 298 P P 00 52 34.1 -0.7
L40A **Anamosa** 44.33 310 IAmb IAmb 00 52 39.3
comp=Z,27nm,1.2s
P40A **Paris** 44.34 306 P P 00 52 34.9 -0.2
U40A **Yellville** 44.41 302 P P 00 52 34.3 -1.4
U40A IAmb IAmb 00 52 39.3
comp=Z,31nm,1.4s
U40A **Yellville** 44.41 302 P P 00 52 34.7 -1.0
baz=98
G40A **Rib Lake** 44.57 315 P P 00 52 36.5 -0.4
MIAR **Mount Ida** 44.77 299 IAmb IAmb 00 52 43.0
comp=Z,24nm,1.2s
MIAR **Mount Ida** 44.77 299 P P 00 52 38.4 -0.2
baz=96
S39A **Bolivar** 44.98 304 IAmb IAmb 00 52 44.1
comp=Z,28nm,1.5s
W39A **Magazine** 45.01 300 P P 00 52 40.6 +0.1
W39A IAmb IAmb 00 52 45.0
comp=Z,34nm,1.2s
NATX **Nacogdoches** 45.48 295 P P 00 52 43.5 -0.7
NATX **Nacogdoches** 45.48 295 P P 00 52 44.7 +0.5
baz=92
P38A **Dawn** 45.48 306 P P 00 52 44.1 -0.1
P38A IAmb IAmb 00 52 48.3
comp=Z,15nm,1.1s
N38A **Joes South For** 45.50 308 P P 00 52 44.0 -0.2
TORD **Torodi Ar. Bea** 45.54 91 P P 00 52 44.4 -0.5
comp=Z,2.9nm,1.1s,baz=272,slow=6.4,SNR=3.5
TORD **Torodi Ar. Bea** 45.54 91 P P 00 52 44.3 -0.6
K38A **Parkersburg** 45.59 311 P P 00 52 45.6 +0.6
K38A IAmb IAmb 00 52 49.1
comp=Z,53nm,1.7s
SCIA **State Center** 45.73 309 P P 00 52 46.8 +0.7
Z38A **Mt. Pleasant** 45.83 297 P P 00 52 47.0 -0.1
Z38A IAmb IAmb 00 52 51.5
comp=Z,24nm,0.9s
PB11 **IPOC Station P** 46.13 212 P P 00 52 48.7 -0.9
PSGCX **Pisagua** 46.23 213 P P 00 52 48.8 -1.5

X37A **Clayton** 46.25 299 P P 00 52 49.1 -1.2
X37A IAmb IAmb 00 52 54.0
comp=Z,34nm,1.6s
SPMN **Marine on St.** 46.31 314 P P 00 52 51.4 +0.8
SPMN IAmb IAmb 00 52 55.0
comp=Z,27nm,1.4s
N35A **Tabor** 47.30 308 P P 00 52 58.3 -0.2
N35A IAmb IAmb 00 53 03.4
comp=Z,9.9nm,0.6s
QUOK **Quay** 47.48 301 P P 00 52 58.8 -1.1
CPUP **Villa Florida** 47.52 195 P P 00 52 59.2 -0.9
comp=Z,13nm,1.1s,baz=22,slow=6.6,SNR=5.5
CPUP **Villa Florida** 47.52 195 P P 00 52 59.9 -0.2
CPUP pmax pmax
comp=Z,32nm,1.4s
CPUP **Villa Florida** 47.52 195 P P 00 52 59.9 -0.2
CPUP IAmb IAmb 00 53 02.4
comp=Z,32nm,1.4s
OK030 **Cody Creek RV** 47.52 301 P P 00 53 00.4 +0.1
OK031 **S. Brethren Rd** 47.57 301 P P 00 52 59.8 -0.8
OK031 IAmb IAmb 00 53 04.5
comp=Z,31nm,1.4s
KSU1 **Kansas State U** 47.75 305 P P 00 53 01.5 -0.5
KSU1 IAmb IAmb 00 53 05.1
comp=Z,24nm,1.1s
WHTX **Lake Whitney,** 47.86 295 P P 00 53 02.5 -0.4
baz=91
OK025 **Westminster Rd** 47.94 300 P P 00 53 02.3 -1.2
BLOK **Blackwell** 47.95 302 P P 00 53 02.6 -0.9
435B **Jarrell** 47.96 294 P P 00 53 03.6 -0.1
FNO **Franklin** 47.97 300 P P 00 53 04.8 +1.0
OKCFA **Oklahoma City** 48.02 300 P P 00 53 05.0 +0.9
L34A **Svendsen Farm,** 48.05 309 P P 00 53 04.9 +0.6
BCOK **Bluff Creek, N** 48.17 300 P P 00 53 05.0 -0.3
KAN13 **South Haven SW** 48.18 302 P P 00 53 04.2 -1.1
735A **Kenedy** 48.18 291 P P 00 53 05.7 +0.2
LVC **Limon Verde** 48.20 210 P P 00 53 05.7 -0.2
LVC pmax pmax
comp=Z,26nm,1.2s
LVC **Limon Verde** 48.20 210 P P 00 53 05.7 -0.2
LVC IAmb IAmb 00 53 07.4
comp=Z,26nm,1.2s
X34A **Smith Ranch, M** 48.28 299 P P 00 53 05.9 -0.3
KVTX **Kingsville** 48.31 289 P P 00 53 06.7 +0.2
KAN17 **Caldwell West** 48.41 302 P P 00 53 06.5 -0.7
CROK **Carrier** 48.54 301 P P 00 53 07.6 -0.5
KAN14 **Manchester OK** 48.56 302 P P 00 53 08.0 -0.3
KAN08 **Anthony NE Sta** 48.59 302 P P 00 53 07.5 -1.1
KAN12 **Harper NE Stat** 48.62 302 P P 00 53 07.7 -1.1
KAN16 **Harper SW Stat** 48.67 302 P 00 53 08.3 -0.8
KAN10 **Anthony SW Sta** 48.68 302 P P 00 53 09.2 0.0
OK032 **Salt Plains WL** 48.74 302 P P 00 53 09.8 +0.1
F33A **5 Mile Ranch,** 48.84 314 P P 00 53 10.6 +0.3
F33A IAmb IAmb 00 53 14.2
comp=Z,16nm,1.3s
WMOK **Wichita Mounta** 49.07 299 IAmb IAmb 00 53 15.9
comp=Z,16nm,1.1s
R32A **Long Quarter,** 49.30 304 P P 00 53 12.7 -1.2
U32A **Winter Ranch,** 49.35 301 P P 00 53 13.9 -0.5
833A **Chaparral WMA,** 49.60 291 P P 00 53 16.2 -0.1
baz=87
ABTX **Abilene, Hawle** 49.72 296 P P 00 53 16.4 -0.9
ABTX IAmb IAmb 00 53 21.0
comp=Z,36nm,1.3s
ABTX **Abilene, Hawle** 49.72 296 P P 00 53 16.8 -0.4
baz=91
JCT **Junction City** 49.87 293 P P 00 53 18.3 -0.2
JCT pmax pmax
comp=Z,21nm,1.2s
JCT **Junction City** 49.87 293 P P 00 53 18.3 -0.2
JCT IAmb IAmb 00 53 22.0
comp=Z,21nm,1.1s
JCT **Junction City** 49.87 293 P P 00 53 18.1 -0.4
baz=89
CBKS **Cedar Bluff** 50.14 304 P P 00 53 19.9 -0.5
CBKS pmax pmax
comp=Z,23nm,1.2s
CBKS **Cedar Bluff** 50.14 304 P P 00 53 19.9 -0.5
CBKS IAmb IAmb 00 53 24.9
comp=Z,23nm,1.1s
SUSD **Miller** 50.37 312 P P 00 53 21.2 -0.8
SUSD IAmb IAmb 00 53 26.1
comp=Z,38nm,1.2s
VSL **Villasalto** 50.56 55 P P 00 53 23.6 0.0
VSL IAmb IAmb 00 53 53.3
comp=Z,29nm,1.3s
ITQB **Itaqui** 50.59 193 P P 00 53 23.7 +0.1
ITQB IAmb IAmb 00 53 25.9
comp=Z,34nm,1.2s
AMTX **Amarillo** 51.46 299 P P 00 53 30.4 -0.1
baz=91
DAVOX **Davos/Dischmat** 52.02 46 P P 00 53 33.8 -0.8
comp=Z,1.4nm,0.7s,baz=320,slow=14,SNR=2.2
OGNE **Ogallala** 52.11 307 P 00 53 35.0 -0.2
OGNE IAmb IAmb 00 53 39.3
comp=Z,46nm,1.6s
DAVA **Damuels** 52.13 45 eP P 00 53 34.9 -0.4
comp=Z,15nm,1.8s
FETA **Feichten** 52.64 46 eP P 00 53 38.9 -0.2
comp=Z,14nm,1.4s
RETA **Reutte** 52.75 45 eP P 00 53 40.1 +0.3
comp=Z,12nm,1.9s
MOTA **Moosalm** 52.95 45 eP P 00 53 42.2 +0.8
comp=Z,22nm,1.7s
SQTA **Sankt Quirin** 53.00 45 eP P 00 53 41.6 -0.1
comp=Z,22nm,1.3s
ZAIG **Zacatecas** 53.01 284 P P 00 53 42.2 -0.1
ZAIG IAmb IAmb 00 53 48.8
comp=Z,24nm,1.4s
CTI **Castel Tesino** 53.10 47 P P 00 53 43.1 +0.7
CTI pmax pmax
comp=Z,64nm,1.9s
CTI **Castel Tesino** 53.10 47 P P 00 53 43.1 +0.7
CTI IAmb IAmb 00 53 47.5
comp=Z,64nm,1.9s
WATA **Walderalm** 53.27 45 eP P 00 53 43.1 -0.6
comp=Z,11nm,1.1s
TXAR **Lajitas Array** 53.28 292 P P 00 53 42.8 -1.2
comp=Z,4.1nm,1.1s,baz=83,slow=3.9,SNR=5.1
TX31 **Lajitas Ar. Si** 53.28 292 P P 00 53 42.1 -1.9
TX32 **Lajitas Array** 53.28 292 P P 00 53 42.9 -1.1
TX32 IAmb IAmb 00 53 43.1
comp=Z,25nm,1.8s
WTTA **Wattenberg** 53.30 45 eP P 00 53 44.5 +0.5
comp=Z,19nm,1.6s
ABTA **Abfaltersbach** 53.80 46 eP P 00 53 46.7 -0.9
comp=Z,14nm,1.9s
MYKA **Terra Mystica** 54.55 47 eP P 00 53 52.3 -0.8
comp=Z,20nm,2.0s
MNTX **Cornudas Mount** 54.61 295 P P 00 53 53.4 -0.3
baz=87
DGMT **Dagmar** 54.66 316 P P 00 53 52.4 -1.3
FFC **Flin Flon** 54.70 324 P P 00 53 54.5 +0.6
FFC pmax pmax
comp=Z,20nm,1.3s
FFC **Flin Flon** 54.70 324 P P 00 53 54.5 +0.6
FFC IAmb IAmb 00 53 59.7
comp=Z,20nm,1.2s
PHWY **Pilot Hill** 54.72 307 P P 00 53 54.0 -0.6
PHWY IAmb IAmb 00 53 55.0
comp=Z,26nm,1.7s
ISCO **Idaho Springs** 54.75 305 P P 00 53 54.5 -0.4
ISCO pmax pmax
comp=Z,39nm,2.0s
ISCO **Idaho Springs** 54.75 305 P P 00 53 54.5 -0.4
ISCO IAmb IAmb 00 53 56.0
comp=Z,39nm,1.9s
GERES **GERESS Array B** 54.93 44 P P 00 53 55.1 -0.7
comp=Z,0.4nm,0.6s,baz=265,slow=4.7,SNR=4.0
GERES **GERESS Array B** 54.93 44 P P 00 53 55.4 -0.4
GERES **GERESS Array B** 54.93 44 P P 00 53 55.4 -0.4
CLL **Collm** 54.95 41 eP P 00 53 55.0 -0.8
comp=Z,10.0nm,1.4s
CLL **Collm** 54.95 41 eP P 00 53 55.0 -0.8
CLL pmax pmax
comp=Z,10.0nm,1.4s
CLL **Collm** 54.95 41 P P 00 53 55.0 -0.8
MOA **Molln** 55.15 45 eP P 00 53 56.2 -1.1
comp=Z,9.7nm,1.4s
ANMO **Albuquerque** 55.38 299 P P 00 53 59.2 -0.2
ANMO pmax pmax
comp=Z,8.0nm,1.3s
ANMO **Albuquerque** 55.38 299 P P 00 53 59.2 -0.2
ANMO **Albuquerque** 55.38 299 P P 00 53 59.4 0.0
baz=89

BNM **Barren Site** 55.55 298 P P 00 54 00.5 -0.1
ARSA **Arzberg** 55.91 46 eP P 00 54 01.7 -1.1
comp=Z,6.4nm,1.3s
ZON **Zonda** 55.93 204 P P 00 54 03.5 +0.4
ZON pmax pmax
comp=Z,43nm,1.9s
ZON **Zonda** 55.93 204 P P 00 54 03.5 +0.4
ZON IAmb IAmb 00 54 13.9
comp=Z,43nm,1.9s
RWWY **Rawlins** 56.05 307 P P 00 54 03.6 -0.6
CONA **Conrad Observa** 56.22 45 eP P 00 54 03.0 -2.1
comp=Z,12nm,1.9s
121A **Cookes Peak, D** 56.59 296 P P 00 54 08.4 +0.3
121A IAmb IAmb 00 54 13.4
comp=Z,26nm,1.3s
121A **Cookes Peak, D** 56.59 296 P P 00 54 09.4 +1.3
baz=86
NOA **NORSAR Array B** 56.69 29 P P 00 54 06.3 -1.8
comp=Z,0.7nm,0.8s,baz=252,slow=7.0,SNR=2.8
KRUC **Moravsky** 56.72 44 eP P 00 54 07.1 -1.4
VRAC **Vranov** 56.88 44 eP P 00 54 07.7 -2.0
MVCO **Mesa Verde** 56.99 302 P P 00 54 10.2 -0.7
MVCO IAmb IAmb 00 54 16.1
comp=Z,12nm,1.2s
MVCO **Mesa Verde** 56.99 302 P P 00 54 12.0 +1.1
baz=89
MORC **Moravsky Berou** 57.56 43 eP P 00 54 08.8 -5.7
BW06 **Boulder Array** 57.84 308 P 00 54 15.1 -1.7
PD31 **Pinedale Array** 57.84 308 P P 00 54 15.7 -1.1
PDAR **Pinedale Array** 57.84 308 P P 00 54 15.7 -1.1
comp=Z,2.6nm,0.9s,baz=89,slow=7.9,SNR=6.4
319A **Douglas** 57.95 295 P P 00 54 17.2 -0.5
319A IAmb IAmb 00 54 24.1
comp=Z,35nm,1.9s
GCMT **Greycliff** 58.06 312 P P 00 54 18.5 +0.3
X18A **Snowflake** 58.27 299 P P 00 54 19.5 -0.5
X18A IAmb IAmb 00 54 22.1
comp=Z,28nm,2.0s
LOHW **Long Hollow** 58.63 309 P P 00 54 21.4 -0.9
P17A **Butcher Ranch,** 58.71 305 P P 00 54 22.5 -0.4
SNOW **Snow King Moun** 58.73 309 P P 00 54 22.8 -0.3
REDW **Red Top Meadow** 58.80 309 IAmb IAmb 00 54 28.7
comp=Z,31nm,1.9s
MT09 **Talagante** 58.81 205 P P 00 54 23.4 0.0
MT09 IAmb IAmb 00 54 25.2
comp=Z,45nm,1.3s
YHH **Holmes Hill** 58.84 311 P P 00 54 23.7 -0.1
TPAW **Teton Pass** 58.88 309 P P 00 54 24.6 +0.5
TPAW IAmb IAmb 00 54 28.3
comp=Z,12nm,1.3s
IMW **Indian Meadow** 58.88 310 IAmb IAmb 00 54 28.3
comp=Z,33nm,1.8s
IMW **Indian Meadow** 58.88 310 P P 00 54 24.3 +0.1
YMR **Madison River** 58.92 311 P P 00 54 25.0 +0.6
FXWY **Fox Creek** 58.93 309 P P 00 54 25.5 +0.5
MT01 **Popeta** 58.99 205 P P 00 54 24.5 0.0
OJC **Ojcow** 59.05 43 P P 00 54 24.7 -0.1
OJC pmax pmax
comp=Z,5.0nm,1.1s
OJC **Ojcow** 59.05 43 P P 00 54 24.7 -0.1
Q16A **Castle Valley** 59.06 304 P P 00 54 24.3 -1.0
Q16A IAmb IAmb 00 54 48.3
comp=Z,6.7nm,0.8s
TMUT **Trail Mountain** 59.07 304 P P 00 54 25.6 -0.1
YHL **Hebgen Lake** 59.08 311 P P 00 54 25.5 -0.1
YHL IAmb IAmb 00 54 30.6
comp=Z,16nm,1.3s
YHB **Horse Butte** 59.09 311 P P 00 54 24.2 -1.3
YHB IAmb IAmb 00 54 31.7
comp=Z,13nm,1.1s
TUC **Tucson** 59.14 296 P P 00 54 26.3 +0.4
TUC pmax pmax
comp=Z,30nm,1.8s
TUC **Tucson** 59.14 296 P P 00 54 26.3 +0.4
TUC **Tucson** 59.14 296 P P 00 54 26.1 +0.2
baz=85
TUC **Tucson** 59.14 296 IAmb IAmb 00 54 30.9
comp=Z,30nm,1.8s
TCUT **Toone Canyon** 59.20 307 P P 00 54 25.9 -0.5
TCUT IAmb IAmb 00 56 02.2
comp=Z,10.0nm,0.5s
JLU **Jordanelle** 59.23 306 IAmb IAmb 00 54 31.1
comp=Z,31nm,1.6s
KBN **Korca** 59.36 54 P P 00 54 28.2 +0.9
KBN pmax pmax
comp=Z,31nm,1.4s
KBN **Korca** 59.36 54 P P 00 54 28.1 +0.9
KBN IAmb IAmb 00 54 31.5
comp=Z,31nm,1.4s
WUAZ **Wupatki** 59.38 300 P P 00 54 27.6 0.0
WUAZ **Wupatki** 59.38 300 P P 00 54 28.6 +1.0
baz=86
WUAZ **Wupatki** 59.38 300 IAmb IAmb 00 54 33.1
comp=Z,16nm,1.0s
MPU **Maple Canyon** 59.39 305 P P 00 54 27.0 -0.6
MPU IAmb IAmb 00 54 32.2
comp=Z,15nm,1.3s
BOZ **Bozeman (W)** 59.42 312 P P 00 54 27.4 -0.3
BOZ pmax pmax
comp=Z,18nm,2.0s
BOZ **Bozeman (W)** 59.42 312 P P 00 54 27.4 -0.3
BOZ IAmb IAmb 00 55 20.6
comp=Z,18nm,1.9s
CTU **Camp Tracy** 59.46 306 P P 00 54 27.6 -0.5
X16A **Lo Mia Camp, P** 59.51 299 IAmb IAmb 00 54 34.4
comp=Z,22nm,1.5s
X16A **Lo Mia Camp, P** 59.51 299 P P 00 54 28.1 -0.4
BO02 **Sierra Bellavi** 59.62 204 P P 00 54 30.1 +1.1
HSIG 59.65 293 P P 00 54 29.5 +0.1
NLU **North Lily Min** 59.73 305 P P 00 54 29.6 -0.3
NLU IAmb IAmb 00 54 33.9
comp=Z,9.3nm,1.1s
MSU **Marysvale** 59.86 304 P P 00 54 30.9 0.0
MSU **Marysvale** 59.86 304 P P 00 54 30.9 0.0
MTPU **Mount Pierson** 59.88 303 P P 00 54 30.2 -1.1
MTPU IAmb IAmb 00 54 43.1
comp=Z,17nm,1.7s
SPUT **South Promonto** 59.98 307 IAmb IAmb 00 54 35.9
comp=Z,32nm,1.3s
MCMT **McKenzie Canyo** 60.27 311 P P 00 54 34.2 +0.5
DUG **Dugway, Tooele** 60.29 305 P P 00 54 33.9 +0.2
DUG pmax pmax
comp=Z,16nm,1.3s
DUG **Dugway, Tooele** 60.29 305 IAmb IAmb 00 54 38.3
comp=Z,16nm,1.2s
DUG **Dugway, Tooele** 60.29 305 P P 00 54 33.9 +0.2
ITM **Ithomi** 60.38 58 P P 00 54 34.2 -0.1
BGU **Big Grassy Mou** 60.43 306 IAmb IAmb 00 54 39.0
comp=Z,19nm,1.1s
RES **Resolute Bay** 60.62 347 P P 00 54 36.1 +0.9
RES pmax pmax
comp=Z,50nm,1.4s
RES **Resolute Bay** 60.62 347 P P 00 54 36.1 +0.9
SZCU **Shurtz Canyon** 60.62 303 P P 00 54 35.4 -0.8
SZCU IAmb IAmb 00 54 35.6
comp=Z,19nm,1.9s
CCUT **Cedar City** 60.84 302 P P 00 54 36.9 -0.8
Y14A **Wickenburg** 60.84 298 IAmb IAmb 00 54 43.0
comp=Z,18nm,1.3s
Y14A **Wickenburg** 60.84 298 P P 00 54 37.0 -0.5
214A **Organ Pipe Nat** 60.89 296 P P 00 54 37.7 -0.2
214A **Organ Pipe Nat** 60.89 296 P P 00 54 38.5 +0.6
baz=84
214A **Organ Pipe Nat** 60.89 296 IAmb IAmb 00 54 43.4
comp=Z,26nm,1.2s
EDM **Edmonton** 61.02 320 P P 00 54 38.3 -0.1
EDM pmax pmax
comp=Z,56nm,1.5s
EDM **Edmonton** 61.02 320 P P 00 54 38.3 -0.1
VTS **Vitosha** 61.15 52 P P 00 54 39.8 +0.2
VTS pmax pmax
comp=Z,13nm,1.6s
VTS **Vitosha** 61.15 52 P P 00 54 39.8 +0.2
PSUT **Pine Spring** 61.17 304 IAmb IAmb 00 54 44.4
comp=Z,19nm,1.6s
HLID **Hailey** 61.40 309 P P 00 54 41.4 +0.1
SPR3 **Spring Creek 3** 61.51 304 P P 00 54 41.9 -0.4
SPR3 **Spring Creek 3** 61.51 304 IAmb IAmb 00 54 47.5
comp=Z,17nm,1.2s
113A **Mohawk Valley,** 61.60 297 P P 00 54 42.1 -0.5
ELK **Elko** 62.11 306 P P 00 54 46.1 -0.1
ELK pmax pmax
comp=Z,8.0nm,1.0s
ELK **Elko** 62.11 306 P P 00 54 46.1 -0.1
ELK **Elko** 62.11 306 IAmb IAmb 00 54 50.5

	comp=Z,8.0nm,1.0s						
PRN	**Pahroc Range**	**62.19 302**	P	**P**	**00 54 46.5**	**-0.2**
PRN	**Pahroc Range**	**62.19 302**	IAmb	IAmb	00 54 52.4	
	comp=Z,22nm,1.6s					
MFID	**Camas Ranch**	**62.43 309**	P	**P**	**00 54 48.1**	**-0.1**
MFID			IAmb	IAmb	00 54 52.5	
	comp=Z,27nm,1.5s					
GLA	**Glamis**	**62.45 298**	P	**P**	**00 54 48.1**	**-0.3**
GLA			pmax	pmax		
	comp=Z,38nm,1.6s					
GLA	**Glamis**	**62.45 298**	P	**P**	**00 54 48.1**	**-0.3**
BUR08	**Bucovina Ar. S**	**62.49 46**	P	**P**	**00 54 47.8**	**-0.6**
BUR08			IAmb	IAmb	00 54 55.8	
	comp=Z,17nm,1.6s					
BURAR	**Bucovina Array**	**62.50 46**	P	**P**	**00 54 48.8**	**+0.3**
R11A	**Troy Canyon, C**	**62.54 304**	IAmb	IAmb	00 54 48.8	
	comp=Z,14nm,1.7s					
MLR	**Muntele Rosu**	**63.03 48**	P	**P**	**00 54 52.7**	**+0.5**
MLR			pmax	pmax		
	comp=Z,77nm,1.9s					
MLR	**Muntele Rosu**	**63.03 48**	P	**P**	**00 54 52.7**	**+0.5**
NEW	**Newport**	**63.22 315**	IAmb	IAmb	00 54 57.5	
	comp=Z,14nm,1.1s					
SWSC	**Sam W. Stewart**	**63.28 298**	P	**P**	**00 54 54.6**	**+0.8**
	baz=82					
BELC	**Belle Mtn. Jos**	**63.31 299**	P	**P**	**00 54 55.0**	**+0.8**
	baz=83					
BMN	**Battle Mountai**	**63.64 306**	P	**P**	**00 54 54.7**	**-1.6**
BMN			pmax	pmax		
	comp=Z,4.0nm,1.1s					
BMN	**Battle Mountai**	**63.64 306**	P	**P**	**00 54 54.7**	**-1.6**
QSM	**Queen of Sheba**	**63.79 301**	IAmb	IAmb	00 55 02.6	
	comp=Z,20nm,1.4s					
GSC	**Goldstone, Bar**	**63.81 300**	P	**P**	**00 54 57.4**	**-0.1**
GSC			pmax	pmax		
	comp=Z,8.0nm,1.1s					
GSC	**Goldstone, Bar**	**63.81 300**	P	**P**	**00 54 57.4**	**-0.1**
TPH	**Tonopah**	**63.85 303**	P	**P**	**00 54 56.9**	**-0.9**
TPH			pmax	pmax		
	comp=Z,48nm,1.6s					
TPH	**Tonopah**	**63.85 303**	P	**P**	**00 54 56.9**	**-0.9**
E09A	**Wood Farm, Sta**	**63.96 313**	P	**P**	**00 54 56.6**	**-1.5**
E09A	**Wood Farm, Sta**	**63.96 313**	IAmb	IAmb	00 55 02.1	
	comp=Z,16nm,1.1s					
C09A	**Chrisman Ranch**	**64.00 314**	P	**P**	**00 54 56.7**	**-1.7**
BAR	**Barrett**	**64.04 297**	P	**P**	**00 54 57.4**	**-1.5**
BAR	**Barrett**	**64.04 297**	IAmb	IAmb	00 55 04.2	
	comp=Z,13nm,1.2s					
LCH	**Last Change Ra**	**64.27 302**	P	**P**	**00 54 58.7**	**-1.8**
J08A	**Circle Bar Ran**	**64.36 309**	P	**P**	**00 54 59.9**	**-1.0**
G08A	**Pilot Rock**	**64.58 311**	P	**P**	**00 55 02.8**	**+0.4**
E08A	**Dider Farm, El**	**64.59 313**	P	**P**	**00 55 02.1**	**-0.1**
E08A			IAmb	IAmb	00 55 05.7	
	comp=Z,25nm,1.5s					
NVAR	**Mina Array Bea**	**64.66 304**	P	**P**	**00 55 03.7**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=81,slow=7.7,SNR=4.0					
NVAR	**Mina Array Bea**	**64.66 304**	P	**P**	**00 55 02.4**	**-0.8**
CWC	**Cottonwood Cre**	**64.71 302**	P	**P**	**00 55 04.1**	**+0.7**
	baz=83					
ARCES	**ARCESS Array B**	**64.73 22**	P	**P**	**00 55 03.5**	**+0.8**
ARCES			pmax	pmax		
	comp=Z,72nm,1.8s					
ARCES	**ARCESS Array B**	**64.73 22**	P	**P**	**00 55 03.5**	**+0.8**
EDW2	**Edwards Air Fo**	**64.83 300**	P	**P**	**00 55 05.3**	**+1.2**
	baz=82					
BALB	**Balikesir**	**64.84 55**	P	**P**	**00 55 04.5**	**+0.5**
HAWA	**Hanford**	**64.92 313**	IAmb	IAmb	00 55 08.8	
	comp=Z,24nm,1.4s					
HAWA	**Hanford**	**64.92 313**	P	**P**	**00 55 04.2**	**-0.2**
AKASG	**Malin Array Be**	**65.09 43**	P	**P**	**00 55 03.4**	**-2.0**
	comp=Z,1.3nm,0.8s,baz=269,slow=5.3,SNR=3.3					
ISA	**Isabella, Lake**	**65.12 301**	P	**P**	**00 55 06.8**	**+0.8**
	baz=82					
ISA	**Isabella, Lake**	**65.12 301**	IAmb	IAmb	00 55 11.7	
	comp=Z,15nm,1.1s					
ARVC	**Arvin**	**65.48 300**	P	**P**	**00 55 09.9**	**+1.6**
	baz=82					
LLLB	**Lillooet**	**66.26 317**	P	**P**	**00 55 14.1**	**+1.1**
ELL	**Elmali**	**66.78 58**	P	**P**	**00 55 16.0**	**-0.7**
ELL			pmax	pmax		
	comp=Z,201nm,1.9s					
ELL	**Elmali**	**66.78 58**	P	**P**	**00 55 16.0**	**-0.7**
H04A	**Detroit Lake**	**66.91 311**	P	**P**	**00 55 17.1**	**-0.3**
H04A			IAmb	IAmb	00 55 20.8	
	comp=Z,14nm,1.2s					
APA	**Apatity**	**67.39 24**	⇓P	P	00 55 27.6	+7.8
CBB	**Campbell River**	**68.53 317**	P	**P**	**00 55 26.1**	**-1.3**
CBB	**Campbell River**	**68.53 317**	IAmb	IAmb	00 55 31.5	
	comp=Z,16nm,1.1s					
BRTR	**Keskin Array B**	**69.24 54**	P	**P**	**00 55 31.7**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=264,slow=5.0,SNR=4.0					
BRTR	**Keskin Array B**	**69.24 54**	P	**P**	**00 55 31.9**	**-0.2**
BRTR	**Keskin Array B**	**69.24 54**	P	**P**	**00 55 31.9**	**-0.2**
DLBC	**Dease Lake**	**70.36 326**	P	**P**	**00 55 38.3**	**-0.3**
DLBC			IAmb	IAmb	00 55 44.4	
	comp=Z,26nm,1.6s					
INK	**Inuvik**	**70.87 337**	P	**P**	**00 55 39.9**	**-1.5**
	comp=Z,4.4nm,1.0s,baz=51,slow=4.8,SNR=3.7					
INK	**Inuvik**	**70.87 337**	IAmb	IAmb	00 55 41.3	
	comp=Z,14nm,1.3s					
HYT	**Haines Junctio**	**73.74 329**	P	**P**	**00 55 57.9**	**-1.0**
HYT	**Haines Junctio**	**73.74 329**	IAmb	IAmb	00 56 03.2	
	comp=Z,28nm,1.5s					
DAWY	**Dawson**	**73.91 333**	P	**P**	**00 55 59.7**	**0.0**
	baz=78					
DAWY	**Dawson**	**73.91 333**	IAmb	IAmb	00 56 04.1	
	comp=Z,14nm,1.4s					
L27K	**Beaver Creek,**	**75.21 332**	P	**P**	**00 56 07.2**	**-0.1**
L27K	**Beaver Creek,**	**75.21 332**	P	**P**	**00 56 07.3**	**+0.1**
	baz=75					
MCARA	**McCarthy VSAT**	**76.20 331**	P	**P**	**00 56 13.2**	**+0.3**
MCARA			IAmb	IAmb	00 56 18.0	
	comp=Z,22nm,1.1s					
ILAR	**Eielson Array**	**76.85 334**	P	**P**	**00 56 13.8**	**-2.7**
	comp=Z,3.1nm,1.0s,baz=73,slow=7.1,SNR=5.6					
ILAR	**Eielson Array**	**76.85 334**	P	**P**	**00 56 15.8**	**-0.8**
ILAR	**Eielson Array**	**76.85 334**	P	**P**	**00 56 15.8**	**-0.8**
IL31		**76.85 334**	IAmb	IAmb	00 56 21.1	
	comp=Z,14nm,1.1s					
H24K	**Noodor Dome**	**76.89 336**	IAmb	IAmb	00 56 22.1	
	comp=Z,21nm,1.5s					
CCB	**Clear Creek Bu**	**77.26 334**	IAmb	IAmb	00 56 23.5	
	comp=Z,22nm,1.4s					
COLD	**Coldfoot**	**77.28 337**	P	**P**	**00 56 19.6**	**+0.7**
MDM	**Murphy Dome**	**77.33 335**	IAmb	IAmb	00 56 24.0	
	comp=Z,29nm,1.5s					
I23K	**Minto, Yukon-K**	**77.71 335**	IAmb	IAmb	00 56 26.5	
	comp=Z,14nm,1.2s					
I23K	**Minto, Yukon-K**	**77.71 335**	P	**P**	**00 56 21.7**	**+0.3**
	baz=69					
MCK	**McKinley**	**78.04 334**	P	**P**	**00 56 23.4**	**+0.1**
	baz=69					
H21K	**Melozitna Rive**	**78.85 336**	IAmb	IAmb	00 56 32.4	
	comp=Z,18nm,1.4s					
KTH	**Kantishna Hill**	**78.94 334**	IAmb	IAmb	00 56 32.9	
	comp=Z,17nm,1.1s					
BOSA	**Boshof**	**83.60 123**	P	**P**	**00 56 53.4**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=274,slow=5.6,SNR=4.2					
BOSA	**Boshof**	**83.60 123**	P	**P**	**00 56 53.4**	**-0.3**
BOSA			pmax	pmax		
	comp=Z,71nm,1.9s					
NRIK	**Noril'sk**	**84.78 15**	LR	LR	01 32 37.3	
	comp=Z,182nm,18.6s,baz=316,slow=34					
VNA1	**Neumayer--Stat**	**94.09 168**	P	**P**	**00 57 45.4**	**+2.8**
VNA3	**Neumayer Olymp**	**94.32 169**	P	**P**	**00 57 45.7**	**+1.9**
VNA2	**Neumayer--Watz**	**94.48 168**	P	**P**	**00 57 46.8**	**+2.2**
ZALV	**Zalesovo Beam**	**94.83 27**	LR	LR	01 36 41.7	
	comp=Z,338nm,20.2s,baz=308,slow=33					
SNAA	**Sanae**	**95.97 168**	P	**P**	**00 57 54.5**	**+3.1**
KSH	**Kashi**	**99.38 42**	P	**Pdif**	**00 58 08.5**	**+0.8**
KSH			pmax	pmax		
	comp=Z,4.0nm,1.3s					

*IDC **28** 00:48:19.3±1.2,35˚78N×140˚88E,h0km,mb3.9/5, mb1 3.9/8,mb1mx3.7/42,mbtmp3.9/8,ML3.3/3,MS2.2/1, Ms1 2.2/1,ms1mx2.0/37,Error ellipse: s-maj=39.1km s-min=18.3km az=73.0*

*NEIC **28** 00:48:29.2±0.9,35˚60N±0˚05×140˚26E±0˚09,h61km±6km, mb4.4/12,Error ellipse: s-maj=10.7km s-min=6.7km az=104.0*

*JMA **28** 00:48:29.7±0.2,35˚66N×140˚10E,h67km±2km,M3.6 Broadband fault plane solution: P waves. NP1: φs201.00000°,δ19.00000°,λ104.00000°. NP2:φs6.00000°, δ72.00000°,λ85.00000°. Principal axes: T Plg63.0000°, Azm269.0000°; N Plg4.0000°, Azm8.0000°; P Plg27.0000°, Azm100.0000°;*

JMA Felt I J1.

*NIED **28** 00:48:29.8,35˚66N×140˚10E,h67km,MW3.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr3.99; Mθθ0.05; Mφφ-4.03; Mrθ0.21; Mφφ-0.33; Mφ2.27; Fault plane solution: M₀4.62000×10¹⁴ NP1:φs5.00000°, δ60.00000°,λ90.00000°. NP2:φs184.00000°,δ30.00000°, λ89.00000°.*

ISC 28 00:48:30.3±0.7,35˚60N±0˚03×140˚14E±0˚05,h70km±6km, n63,σ1s03/70,mb4.4/15,3C-7D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCN	**Nagara**	**0.19**	**165**	⇑P	**Pn**	**00 48 40.8**	**-0.1**
JCN				S	**Sn**	**00 48 49.4**	**+0.8**
JSMT	**Sammumatsuo**	**0.25**	**80**	⇑P	**Pn**	**00 48 41.0**	**-0.2**
TOK	**Tokyo**	**0.32**	**286**	P	**Pn**	**00 48 41.5**	**-0.1**
TOK				S	**Sn**	**00 48 50.6**	**+0.7**
JYT	**Yasato**	**0.63**	**4**		**Pn**	**00 48 42.8**	**-1.6**
JYT				Sn	**Sn**	**00 48 52.2**	**-2.5**
BSO3	**Boso 3**	**0.85**	**159**	⇑P	**Pn**	**00 48 46.3**	**-0.4**
BSO3				S	**Sn**	**00 48 59.6**	**+0.7**
JOD2	**Odawara 2**	**0.92**	**249**	⇓P	**Pn**	**00 48 46.8**	**-1.0**
JOD2				S	**Sn**	**00 48 59.1**	**-1.8**
JAG	**Ashikaga**	**0.99**	**326**	⇓P	**Pn**	**00 48 47.6**	**-1.1**
JAG				S	**Sn**	**00 49 01.0**	**-1.4**
JIM2	**Oshima 3**	**1.06**	**214**	P	**Pn**	**00 48 48.1**	**-1.4**
JIM2				S	**Sn**	**00 49 02.1**	**-1.7**
JRY	**Ryogami san**	**1.09**	**293**	⇓P	**Pn**	**00 48 49.4**	**-0.5**
JRY				S	**Sn**	**00 49 04.2**	**-0.4**
BSO1	**Boso 1**	**1.17**	**144**	P	**Pn**	**00 48 49.6**	**-0.7**
JFNN	**Fujinakano**	**1.26**	**252**	⇓P	**Pn**	**00 48 51.3**	**-0.7**
JFNN				S	**Sn**	**00 49 07.4**	**-1.0**
JYN	**Shimob**	**1.31**	**266**	⇓P	**Pn**	**00 48 51.9**	**-0.9**
JYN				S	**Sn**	**00 49 08.4**	**-1.2**
JIZS	**Izushimoda**	**1.36**	**230**	⇓P	**Pn**	**00 48 52.5**	**-0.9**
JIZS				S	**Sn**	**00 49 09.2**	**-1.5**
JKT	**Katashina**	**1.37**	**328**	P	**Pn**	**00 48 52.5**	**-1.1**
MJAR	**Matsushiro Arr**	**1.83**	**302**	Pn	**Pn**	**00 48 58.1**	**-1.5**
	5.9nm,0.3s,baz=130,slow=14,SNR=126						
MJAR	**Matsushiro Arr**	**1.83**	**302**	Pn	**Pn**	**00 48 58.5**	**-1.0**
MAJO	**Matsushiro**	**1.83**	**302**	Pn	**Pn**	**00 48 59.4**	**-0.3**
MAT	**Matsushiro**	**1.83**	**302**	P	**Pn**	**00 48 59.0**	**-0.6**
MAT				S	**Sn**	**00 49 22.4**	**+0.5**
MJB9	**Matsu-Tunnel**	**1.83**	**302**	Pn	**Pn**	**00 49 00.1**	**+0.4**
JSG	**Sagara**	**1.85**	**241**	Pn	**Pn**	**00 49 00.5**	**+0.6**
JGF	**Kuroka**	**2.27**	**271**	Pn	**Pn**	**00 49 06.5**	**+0.9**
JMM	**Marumori**	**2.32**	**13**	Pn	**Pn**	**00 49 06.6**	**+0.4**
JHJ	**Hachijo jima 2**	**2.49**	**187**	Pn	**Pn**	**00 49 06.8**	**-1.8**
	17nm,0.3s,baz=7.7,slow=18,SNR=17						
JHJ				Sn	**Sn**	**00 49 35.8**	**-2.2**
	104nm,0.3s,baz=359,slow=22,SNR=9.5						
JHJ2	**Mitsune**	**2.50**	**186**	Pn	**Pn**	**00 49 07.6**	**-1.0**
INU	**Inuyama**	**2.56**	**265**	Pn	**Pn**	**00 49 09.2**	**-0.3**
JSD	**Sado**	**2.86**	**329**	Pn	**Pn**	**00 49 12.8**	**-0.8**
JWT	**Wachi**	**3.88**	**267**	Pn	**Pn**	**00 49 27.9**	**+0.4**
JMN	**Monobe**	**5.49**	**252**	Pn	**Pn**	**00 49 49.1**	**-0.4**
JHS	**Saijyo**	**5.78**	**266**	Pn	**Pn**	**00 49 55.0**	**+1.6**
ERM	**Erimo**	**6.82**	**19**	Pn	**Pn**	**00 50 05.0**	**-2.6**
KSRS	**Korea Array**	**10.01**	**284**	Pn	**Pn**	**00 50 52.7**	**+1.5**
	0.2nm,0.3s,baz=101,slow=14,SNR=7.7						
KSRS				LR	LR	00 54 57.7	
	comp=Z,14nm,21.6s,baz=170,slow=38						
HHC	**Hu-ho-hao-te**	**23.00**	**292**	*e*P	**P**	**00 53 29.3**	**0.0**
HHC				pmax	pmax		
	comp=Z,7.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,250nm,5.9s						
H11N2	**WAKE ISLAND Hy**	**28.36**	**117**	T	T	01 24 08.7	
	baz=309,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**28.37**	**117**	T	T	01 24 05.3	
	baz=309,slow=75,SNR=33						
H11N3	**WAKE ISLAND Hy**	**28.38**	**117**	T	T	01 24 08.1	
	baz=309,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**29.00**	**119**	T	T	01 24 59.9	
	baz=312,slow=74						
H11S3	**WAKE ISLAND Hy**	**29.00**	**119**	T	T	01 25 01.8	
	baz=312,slow=74						
H11S2	**WAKE ISLAND Hy**	**29.02**	**119**	T	T	01 25 00.6	
	baz=312						
KMI	**Kunming**	**33.74**	**262**	⇓P	**P**	**00 55 08.0**	**+2.6**
KMI				pP	pP	00 55 22.5	+0.2
KMI				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WMQ	**Urumqi**	**40.59**	**298**	*e*P	**P**	**00 56 03.5**	**+0.5**
ZALV	**Zalesovo Beam**	**42.14**	**314**	P	**P**	**00 56 15.4**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=81,slow=7.5,SNR=3.5						
MK31	**Makanchi Array**	**44.03**	**303**	P	**P**	**00 56 31.1**	**+0.2**
MKAR	**Makanchi Array**	**44.03**	**303**	P	**P**	**00 56 31.0**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=73,slow=10,SNR=17						
MKAR	**Makanchi Array**	**44.03**	**303**	P	**P**	**00 56 30.7**	**-0.1**
MAKZ	**Makanchi**	**44.24**	**303**	P	**P**	**00 56 32.9**	**+0.4**
MAKZ				IAmb	IAmb	00 56 33.4	
	comp=Z,4.4nm,1.2s						
KKAR	**Karatay Array**	**52.96**	**301**	P	**P**	**00 57 39.8**	**+0.3**
FITZ	**Fitzroy Crossi**	**55.15**	**197**	P	**P**	**00 57 55.6**	**+0.1**
FITZ				IAmb	IAmb	00 58 14.5	
	comp=Z,6.2nm,1.4s						
WR0	**Warramunga Arr**	**55.51**	**186**	P	**P**	**00 57 57.3**	**-0.8**
WR0				IAmb	IAmb	00 57 59.1	
	comp=Z,3.0nm,0.6s						
WB2	**Warramunga Arr**	**55.51**	**187**	P	**P**	**00 57 57.3**	**-0.8**
WB2				IAmb	IAmb	00 58 18.5	
	comp=Z,5.3nm,1.2s						
WRA	**Warramunga Arr**	**55.51**	**187**	P	**P**	**00 57 57.2**	**-0.9**
	comp=Z,2μm,1.0s,baz=1.8,slow=7.5,SNR=13						
ARU	**Arti**	**56.76**	**319**	P	**P**	**00 58 06.6**	**0.0**
ARU				IAmb	IAmb	00 58 06.9	
	comp=Z,2.4nm,0.6s						
ABKAR	**Akbulak array**	**58.08**	**310**	P	**P**	**00 58 16.2**	**+0.1**
ABKAR				IAmb	IAmb	00 58 27.3	
	comp=Z,4.3nm,1.5s						
ASAR	**Alice Springs**	**59.24**	**187**	P	**P**	**00 58 24.3**	**0.0**
	comp=Z,10.0nm,0.3s,baz=21,slow=11,SNR=5.1						
PSA00	**Pilbara Seismi**	**60.03**	**202**	P	**P**	**00 58 29.3**	**-0.4**
FORT	**Forrest**	**67.00**	**191**	P	**P**	**00 59 15.7**	**+0.2**
FINES	**FINESS Array B**	**69.60**	**332**	P	**P**	**00 59 31.1**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=69,slow=6.3,SNR=11						
FINES	**FINESS Array B**	**69.60**	**332**	P	**P**	**00 59 31.3**	**-0.2**
AKASG	**Malin Array Be**	**74.80**	**322**	P	**P**	**01 00 02.6**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=49,slow=6.0,SNR=8.7						
NC204	**NORSAR Array S**	**75.07**	**337**	P	**P**	**01 00 04.2**	**0.0**
NOA	**NORSAR Array B**	**75.11**	**337**	P	**P**	**01 00 04.1**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=41,slow=6.1,SNR=3.2						
BURAR	**Bucovina Array**	**78.79**	**321**	P	**P**	**01 00 25.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**117.59**	**313**	PKP	**PKPdf**	**01 07 08.0**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=57,slow=0.5,SNR=1.3						
QSPA	**South Pole Qui**	**125.35**	**180**	PKPdf	**PKPdf**	**01 07 22.3**	**+0.3**

*BGR **28** 01:01:45.8±0.0,18˚22N×46˚77W,h10km,mb4.9*

*IDC **28** 01:02:01.8±0.4,20˚22N×45˚62W,h0km,mb4.3/28, mb1 4.5/29,mb1mx4.4/40,mbtmp4.3/29,ML4.3/1,MS4.7/31, Ms1 4.7/31,ms1mx4.7/34,Error ellipse: s-maj=14.4km s-min=10.7km az=140.0*

*MOS **28** 01:02:02.3±1.1,20˚15N×45˚44W,h11km,mb5.2/44, MS4.5/7,Error ellipse: s-maj=9.8km s-min=6.3km az=45.9*

*NEIC **28** 01:02:05.4±2.6,20˚13N±0˚03×45˚50W±0˚09,h10km±1km, mb5.1/358,Error ellipse: s-maj=14.8km s-min=5.5km az=94.0*

*GCMT **28** 01:02:05.4±0.1,20˚34N±0˚01×45˚61W±0˚01,h12km, MW5.3/147,Moment Tensor Solution. s81,c107; s147,c301; Duration: 1s1 Moment tensor: Scale 10¹⁷ Nm; Mrr-1.15±.01; Mθθ0.03±.01; Mφφ1.13±.01; Mrθ-0.12±.05; Mθφ0.14±.01; Mφr0.13±.04; Best double couple: Mo1.16200×10¹⁷ NP1:φs14.00000°,δ42.00000°, λ-80.00000°. NP2:φs181.00000°,δ48.00000°, λ-99.00000°. Principal axes: T 1.1540, Plg3.0000°, Azm277.0000°; N 0.0220, Plg6.0000°, Azm186.0000°; P -1.1710, Plg83.0000°, Azm31.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 01:02:04.2±0.3,20˚15N±0˚05×45˚50W±0˚05,h9km,n569, σ1s36/454,mb5.0/259,MS4.7/42,6C-22D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H05N1	**Guadeloupe/Mar**	**15.27**	**258**	P	T	01 20 59.9	
	SNR=17						
ANWB	**Willy Bob**	**15.61**	**264**	P	**P**	**01 05 49.9**	**+1.1**
ILAM	**Ilet Lapin Mar**	**15.61**	**252**	Pn	**Pn**	**01 05 43.6**	**-0.9**
ILAM				P	**P**	**01 05 49.2**	**+0.5**
ILAM				IAmb	IAmb	01 05 50.7	
	comp=Z,197nm,1.9s						
H05S1	**Guadeloupe/Mar**	**15.71**	**251**	T	T	01 21 34.3	
	SNR=177						
MPOM	**Morne Pois Mar**	**15.72**	**251**	P	**P**	**01 05 49.3**	**-0.8**
MPOM				IAmb	IAmb	01 05 58.4	
	comp=Z,361nm,1.8s						
DLPL	**La Plaine**	**15.75**	**255**	P	**P**	**01 05 49.5**	**-0.8**
SVN	**Savane Anatole**	**15.85**	**253**	Pn	**Pn**	**01 05 47.2**	**-0.5**
FDF	**Fort de France**	**15.87**	**253**	P	**Pn**	**01 05 46.1**	**-1.9**
FDF				pmax	pmax		
	comp=Z,107nm,1.2s						
FDF	**Fort de France**	**15.87**	**253**		**Pn**	**01 05 46.1**	**-1.9**
BIM	**Bigot**	**15.88**	**252**	Pn	**Pn**	**01 05 47.2**	**-1.0**
MCLT	**Moule a Chique**	**16.10**	**249**	Pn	**Pn**	**01 05 46.8**	**-4.1**
MDP	**Montagnes des**	**16.50**	**206**	LR	LR	01 10 55.5	
	comp=Z,1μm,21.1s,baz=27,slow=32						
SVB	**Belmont**	**16.56**	**248**	Pn	**Pn**	**01 05 54.9**	**-1.9**
SMRT	**St. Maarten**	**16.75**	**266**	Pn	**Pn**	**01 05 56.5**	**-2.6**
TOSP	**Speyside**	**16.93**	**241**	Pn	**Pn**	**01 05 59.9**	**-1.6**
GRGR	**Grenville**	**17.44**	**245**	Pn	**Pn**	**01 06 05.8**	**-2.0**
GRGR				IAmb	IAmb	01 06 15.3	
	comp=Z,366nm,1.6s						
ABVI	**Anegada Island**	**17.82**	**269**	Pn	**Pn**	**01 06 09.2**	**-3.3**
ABVI				IAmb	IAmb	01 06 20.9	
	comp=Z,209nm,1.6s						
CDVI	**St. Croix**	**18.38**	**266**	Pn	**Pn**	**01 06 17.4**	**-2.0**
STVI	**Saint Thomas**	**18.46**	**268**	P	**P**	**01 06 17.2**	**-3.2**
CUPR	**Culebra, Puert**	**18.77**	**268**	P	**Pn**	**01 06 24.4**	**-0.2**
MTP	**Monte Pirata**	**19.06**	**267**		**P**	**01 06 24.7**	**-2.3**
CBYP	**Canovanas**	**19.32**	**268**	P	**P**	**01 06 28.6**	**-1.3**
HUMP	**Col San Antoni**	**19.33**	**267**		**P**	**01 06 27.4**	**-2.6**
PDPR	**Patillas Dam,**	**19.51**	**267**	P	**P**	**01 06 31.6**	**-0.4**
PDPR				IAmb	IAmb	01 06 39.9	
	comp=Z,150nm,1.8s						
GCPR	**Guaynabo City**	**19.53**	**268**	P	**P**	**01 06 30.7**	**-1.3**
SJG	**San Juan**	**19.62**	**268**	P	**P**	**01 06 29.8**	**-3.3**
	comp=Z,0.8nm,0.3s,baz=72,slow=9.2,SNR=12						
SJG				LR	LR	01 12 37.9	
	comp=Z,3μm,21.7s,baz=98,slow=33						
SJG	**San Juan**	**19.62**	**268**	P	**P**	**01 06 30.8**	**-2.3**
SJG				pmax	pmax		
	comp=Z,131nm,1.7s						
SJG	**San Juan**	**19.62**	**268**	P	**P**	**01 06 30.8**	**-2.3**
SJG				IAmb	IAmb	01 06 40.9	
	comp=Z,131nm,1.6s						
SJG	**San Juan**	**19.62**	**268**	*e*P	**P**	**01 06 31.7**	**-1.4**
EMPR	**Esperanza - Ma**	**19.92**	**269**	P	**P**	**01 06 34.9**	**-1.5**
OBIP	**Obispado Ponce**	**20.06**	**268**	P	**P**	**01 06 36.0**	**-1.9**
OBIP				IAmb	IAmb	01 06 43.8	
	comp=Z,160nm,1.6s						
AOPR	**Arecibo Observ**	**20.15**	**268**	P	**P**	**01 06 37.2**	**-1.7**
AOPR				IAmb	IAmb	01 06 41.8	
	comp=Z,134nm,1.8s						
PLCV	**Puerto La Cruz**	**20.91**	**244**	P	**P**	**01 06 45.1**	**-2.1**
PCRV	**Puerto La Cruz**	**20.95**	**245**	P	**P**	**01 06 45.1**	**-2.5**
	comp=Z,14nm,1.1s,baz=1.9,slow=9.7,SNR=2.8						
PCRV				LR	LR	01 16 04.7	
	comp=Z,509nm,18.8s,slow=40						
TMAB	**Tom-Au,PA,Br**	**22.53**	**187**	*e*P	**P**	**01 07 04.9**	**+0.4**
DR12	**Loma Pena Alta**	**22.56**	**271**	P	**P**	**01 07 03.3**	**-1.6**
ROSB	**Rosrio**	**22.95**	**176**	*e*P	**P**	**01 07 09.2**	**+0.4**
BOAV	**Boa Vista**	**22.95**	**222**	*e*P	**P**	**01 07 08.7**	**-0.3**
MALB	**Monte Alegre**	**23.50**	**202**	*e*P	**P**	**01 07 14.9**	**+0.4**
SC01	**Santiago de lo**	**23.75**	**273**	P	**P**	**01 07 14.9**	**-2.1**
GRTK	**Grand Turk**	**23.99**	**278**	P	**P**	**01 07 19.4**	**+0.1**
GRTK				IAmb	IAmb	01 07 26.3	
	comp=Z,67nm,1.3s						
SDDR	**Presa de Saban**	**24.32**	**272**	P	**P**	**01 07 22.0**	**-0.4**
SDDR				IAmb	IAmb	01 07 30.8	
	comp=Z,76nm,1.3s						
SDDR	**Presa de Saban**	**24.32**	**272**	*e*P	**P**	**01 07 20.8**	**-1.7**
NBPS	**Pedro II - PI**	**24.71**	**170**	*e*P	**P**	**01 07 26.4**	**+0.4**
PTGA	**Pitinga**	**25.14**	**216**	P	**P**	**01 07 28.2**	**-1.6**
	comp=Z,1.0nm,0.3s,baz=311,slow=19,SNR=1.3						
PTGA				LR	LR	01 16 11.9	
	comp=Z,2μm,21.1s,baz=24,slow=34						
PTGA	**Pitinga**	**25.14**	**216**

TBTG Tabatinga, AM 34.06 227 eP P 01 08 52.0 +3.0
GDU01 Guandu, BA 34.16 170 eP P 01 08 49.9 0.0
MNTQ Montreal, Queb 34.29 324 P P 01 08 52.6 +1.8
LONY Lake Ozonia 34.30 322 P P 01 08 53.5 +2.6
LONY IAmb IAmb 01 08 59.1
comp=Z,54nm,1.6s
LONY Lake Ozonia 34.30 322 P P 01 08 53.9 +3.0
baz=126
BLA Blacksburg 34.79 307 P P 01 08 57.0 +1.7
BLA pmax pmax
comp=Z,56nm,1.4s
BLA Blacksburg 34.79 307 P P 01 08 57.0 +1.7
BLA IAmb IAmb 01 09 03.2
comp=Z,56nm,1.4s
BCIP Isla Barro Col 34.90 257 P P 01 08 57.9 +1.5
BCIP pmax pmax
comp=Z,87nm,1.7s
BCIP Isla Barro Col 34.90 257 P P 01 08 57.9 +1.5
JANB Januaria 35.01 178 eP P 01 08 56.4 -0.9
HODGE Hodges 35.38 301 P P 01 09 02.0 +1.8
HODGE IAmb IAmb 01 09 07.2
comp=Z,29nm,1.3s
BDFB Brasilia 35.66 184 P P 01 09 02.5 -0.4
comp=Z,1.8nm,0.5s,baz=19,slow=8.0,SNR=6.5
BDFB LR LR 01 22 37.2
comp=Z,841nm,20.1s,baz=332,slow=35
S54A Dingess, Beckl 35.66 307 P P 01 09 04.3 +1.6
S54A IAmb IAmb 01 09 10.6
comp=Z,50nm,1.4s
154A Montrose 35.72 298 P P 01 09 03.9 +0.6
154A IAmb IAmb 01 09 11.0
comp=Z,34nm,1.1s
VILB Vilhena 35.94 205 eP P 01 09 07.0 +1.7
DELO Deloro Mine 36.05 320 IAmb IAmb 01 09 10.0
comp=Z,78nm,1.7s
J54A Appleton 36.05 317 P P 01 09 03.9 -2.1
J54A IAmb IAmb 01 09 13.5
comp=Z,58nm,1.8s
BG3 Lake Jocassee 36.10 302 P P 01 09 07.5 +1.0
BG3 IAmb IAmb 01 09 14.5
comp=Z,22nm,1.0s
PNCL Nicolau / Gran 36.62 53 eP P 01 09 12.2 +1.3
MC01 Montes Claros 36.66 178 eP P 01 09 11.6 +0.2
O52A Adamsville 36.85 311 P P 01 09 14.9 +2.1
O52A IAmb IAmb 01 09 20.6
comp=Z,46nm,1.6s
TKL Tuckaleechee C 36.93 303 P P 01 09 12.1 -1.5
comp=Z,4.9nm,0.9s,baz=80,slow=4.4,SNR=3.8
TKL Tuckaleechee C 36.93 303 P P 01 09 14.2 +0.6
TKL pmax pmax
comp=Z,37nm,1.4s
TKL Tuckaleechee C 36.93 303 P P 01 09 14.2 +0.6
TKL IAmb IAmb 01 09 20.3
comp=Z,37nm,1.4s
GUA01 Guaratinga, BA 36.93 171 eP P 01 09 14.1 +0.4
TZTN Tazewell 36.98 304 IAmb IAmb 01 09 21.9
comp=Z,63nm,1.4s
PVAQ Vaqueiros 37.01 54 eP P 01 09 13.0 -1.3
comp=Z,53nm,1.8s
PVAQ Vaqueiros 37.01 54 IAmb IAmb 01 09 22.9
comp=Z,62nm,1.8s
352A Blakely 37.06 296 P P 01 09 17.1 +2.4
152A Waverly Hall 37.07 298 P P 01 09 16.8 +2.0
152A IAmb IAmb 01 09 22.1
comp=Z,57nm,1.6s
EVO Evora 37.14 52 eP P 01 09 16.2 +0.9
comp=Z,28nm,1.7s
PMTG Montargil 37.16 51 eP P 01 09 16.5 +1.0
comp=Z,47nm,1.6s
SALV Santo Antonio 37.20 196 eP P 01 09 16.2 +0.2
P51A Williamsport 37.51 309 P P 01 09 20.9 +2.5
X51A Calhoun 37.54 301 IAmb IAmb 01 09 26.5
comp=Z,29nm,1.1s
Z51A Franklin 37.56 299 P P 01 09 20.1 +1.1
Q51A Peebles 37.57 308 P P 01 09 20.3 +1.4
Q51A IAmb IAmb 01 09 26.4
comp=Z,50nm,1.5s
PBAR Barrancos 37.76 53 eP P 01 09 21.9 +1.4
PTLB Pontes e Lacer 37.83 202 eP P 01 09 22.4 +1.1
IPMB Ipameri, GO 37.99 184 eP P 01 09 24.3 +1.6
W50A Signal Mountai 38.04 302 IAmb IAmb 01 09 30.2
comp=Z,30nm,1.2s
R50A Paris 38.07 307 P P 01 09 24.4 +1.2
T50A Nancy 38.11 305 P P 01 09 22.3 -1.3
MTE Manteigas 38.11 50 eP P 01 09 12.7 -11
comp=Z,41nm,1.5s
MTE Manteigas 38.11 50 P P 01 09 23.8 +0.2
MTE IAmb IAmb 01 09 29.7
comp=Z,46nm,1.6s
FPAL Fort Paine 38.15 301 IAmb IAmb 01 09 31.9
comp=Z,76nm,1.6s
CVTR Volcan Turrial 38.21 260 P P 01 09 25.4 +0.3
SCHQ Schefferville 38.22 340 LR LR 01 23 02.0
comp=Z,1µm,20.6s,baz=126,slow=33
RIMA Rio Macho 38.39 260 P P 01 09 28.9 +2.5
RIMA IAmb IAmb 01 09 33.1
comp=Z,47nm,1.4s
CZSB Cruzeiro do Su 38.53 227 eP P 01 09 26.8 -0.5
SWET Sewanee 38.54 302 P P 01 09 27.6 +0.3
SWET IAmb IAmb 01 09 35.0
comp=Z,44nm,1.5s
COVE Coope Vega, Sa 38.57 262 P P 01 09 28.7 +1.0
COVE IAmb IAmb 01 09 34.9
comp=Z,68nm,1.3s
U49A Red Boiling Sp 38.71 304 P P 01 09 26.9 -1.7
P49A Miami Univ. Ec 38.74 309 P P 01 09 29.2 +0.4
AAM Ann Arbor 38.95 313 P P 01 09 32.5 +2.0
AAM pmax pmax
comp=Z,120nm,1.9s
AAM Ann Arbor 38.95 313 P P 01 09 32.5 +2.0
AAM IAmb IAmb 01 09 34.4
comp=Z,120nm,1.9s
LRAL Lakeview Retre 39.02 298 P P 01 09 30.4 -0.9
baz=99
SIV San Ignacio 39.04 204 P P 01 09 30.6 -1.0
comp=Z,1.3nm,0.7s,baz=83,slow=13,SNR=8.5
CLTN Cedars of Leba 39.05 303 IAmb IAmb 01 09 38.5
comp=Z,47nm,1.5s
WCI Wyandotte Cave 39.54 306 P P 01 09 35.0 -0.5
WCI pmax pmax
comp=Z,15nm,1.0s
WCI Wyandotte Cave 39.54 306 P P 01 09 35.0 -0.5
T47A Sharon Grove 39.86 304 P P 01 09 38.9 +0.7
KOWA Kowa 39.92 91 P P 01 09 39.7 +0.7
PAB San Pablo 40.16 52 P P 01 09 41.3 +0.5
PAB pmax pmax
comp=Z,16nm,1.5s
PAB San Pablo 40.16 52 P P 01 09 41.3 +0.5
CNGN Cerro Negro 40.18 266 P P 01 09 41.1 -0.1
CNGN IAmb IAmb 01 09 55.5
comp=Z,45nm,1.4s
PLAL Pickwick Lake 40.22 301 IAmb IAmb 01 09 49.0
comp=Z,53nm,1.2s
WVT Waverly 40.24 302 P P 01 09 39.5 -1.9
WVT pmax pmax
comp=Z,30nm,1.2s
WVT Waverly 40.24 302 P P 01 09 39.5 -1.9
WVT Waverly 40.24 302 P P 01 09 40.2 -1.2
baz=102
TGUH Tegucigalpa,Un 40.31 268 P P 01 09 43.7 +1.4
TGUH IAmb IAmb 01 09 47.5
comp=Z,52nm,1.3s
ESDC Sonseca Array 40.48 52 P P 01 09 43.7 +0.2
comp=Z,1.9nm,1.0s,baz=248,slow=7.8,SNR=9.9
ESDC LR LR 01 24 01.6
comp=Z,1µm,18.8s,baz=255,slow=33
GLMI Grayling 40.60 316 P P 01 09 45.8 +1.6
GLMI IAmb IAmb 01 09 56.9
comp=Z,59nm,1.4s
146A Union 40.69 297 P P 01 09 46.2 +1.0
146A IAmb IAmb 01 09 48.2
comp=Z,34nm,1.0s
SFIN Lafayette 40.74 309 IAmb IAmb 01 09 53.0
comp=Z,32nm,1.2s
OLIL Olney 41.04 306 IAmb IAmb 01 09 55.8
comp=Z,53nm,1.2s
H10N3 ASCENSION HYDR 41.28 129 T T 01 53 56.2
baz=312,slow=75,SNR=639
H10N2 ASCENSION HYDR 41.28 129 T T 01 53 56.7
baz=312,slow=75,SNR=395
H10N1 ASCENSION HYDR 41.30 129 T T 01 53 57.6
baz=312,slow=75,SNR=542
G45A Suttons Bay 41.36 316 P P 01 09 51.3 +0.8
AQDB Aquidauana 41.59 194 P P 01 09 54.0 +1.4
AQDB Aquidauana 41.59 194 eP P 01 09 55.0 +2.4

DBIC Dimbokro 41.61 103 P P 01 09 53.3 +0.4
comp=Z,7.9nm,1.1s,baz=280,slow=5.6,SNR=4.3
DBIC LR LR 01 23 55.0
comp=Z,3µm,20.9s,baz=292,slow=32
HENM Henderson Moun 41.66 303 P P 01 09 53.6 +0.5
SIUC Southern Illin 41.66 304 IAmb IAmb 01 10 01.0
comp=Z,103nm,1.6s
O44A Mansfield 41.68 308 P P 01 09 54.9 +1.7
O44A IAmb IAmb 01 10 00.0
comp=Z,62nm,1.6s
S44A Carbondale 41.68 304 IAmb IAmb 01 10 01.1
comp=Z,75nm,1.4s
HQIL Hanson Quary C 41.71 311 P P 01 09 54.2 +0.7
HQIL IAmb IAmb 01 10 00.3
comp=Z,51nm,1.3s
MET Memphis--Engin 41.75 300 P P 01 09 55.1 +1.2
Q44A Meyer Farm, Va 41.77 306 P P 01 09 54.3 +0.3
H10S3 ASCENSION HYDR 41.92 131 T T 01 54 30.1
baz=313,slow=74,SNR=596
H10S2 ASCENSION HYDR 41.94 131 T T 01 54 31.3
baz=267,slow=74,SNR=256
344A Westbrook Farm 41.99 295 IAmb IAmb 01 10 04.3
comp=Z,69nm,1.2s
PETF Flores 42.10 273 P P 01 09 56.7 -0.3
PETF IAmb IAmb 01 09 59.6
comp=Z,106nm,2.0s
ESQI Esquipulas 42.13 270 P P 01 09 57.8 +0.5
ESQI IAmb IAmb 01 10 13.3
comp=Z,92nm,1.6s
MTO3 Montecristo 42.18 269 P P 01 09 58.2 +0.3
P43A Skaggs, Pawnee 42.33 307 IAmb IAmb 01 10 01.1
comp=Z,51nm,1.6s
LPAZ La Paz 42.49 213 P P 01 09 59.7 -1.0
comp=Z,2.7nm,0.7s,baz=27,slow=6.0,SNR=7.7
LPAZ LR LR 01 27 02.7
comp=Z,791nm,21.2s,baz=9.0,slow=35
LPAZ La Paz 42.49 213 P P 01 09 59.5 -1.3
LPAZ pmax pmax
comp=Z,19nm,1.3s
LPAZ La Paz 42.49 213 P P 01 09 59.5 -1.3
LPAZ La Paz 42.49 213 eP P 01 09 59.4 -1.3
SLM Saint Louis 42.64 306 P P 01 10 01.6 +0.5
SLM pmax pmax
comp=Z,73nm,1.5s
SLM Saint Louis 42.64 306 P P 01 10 01.6 +0.5
SLM IAmb IAmb 01 10 07.8
comp=Z,73nm,1.4s
FVM French Village 42.65 305 IAmb IAmb 01 10 08.7
comp=Z,32nm,1.1s
143A Socs Landing, 42.66 297 P P 01 10 01.7 +0.4
143A IAmb IAmb 01 10 09.0
comp=Z,74nm,1.2s
LCAR Lake Charles 42.88 302 P P 01 10 03.4 +0.4
VAO Valinhos 42.92 182 eP P 01 10 03.6 +0.1
ESAR Angra dos Reis 42.92 179 eP P 01 10 03.4 0.0
T42A Van Buren 42.99 303 P P 01 10 04.2 +0.2
L42A Oliver, Polo 43.06 310 IAmb IAmb 01 10 12.1
comp=Z,35nm,1.3s
CCAR Cane Creek 43.09 298 P P 01 10 04.6 -0.2
CCAR IAmb IAmb 01 10 12.3
comp=Z,68nm,1.3s
PARB Paraibuna 43.23 180 eP P 01 10 06.3 +0.3
CCM Cathedral Cave 43.30 304 P P 01 10 06.5 +0.1
CCM pmax pmax
comp=Z,65nm,1.4s
CCM Cathedral Cave 43.30 304 P P 01 10 06.5 +0.1
CCM IAmb IAmb 01 10 13.8
comp=Z,65nm,1.4s
FRTB Fartura 43.41 185 eP P 01 10 08.4 +1.0
FCAR Ozark Folk Cen 43.63 301 IAmb IAmb 01 10 15.8
comp=Z,68nm,1.7s
W41B Gary Mavity, V 43.63 300 P P 01 10 07.9 -1.2
baz=97
WHAR Wooly Hollow 43.68 300 IAmb IAmb 01 10 16.4
comp=Z,47nm,1.3s
COWI Conover 44.02 316 P P 01 10 13.2 +1.1
X40A Basin Creek Fa 44.03 299 P P 01 10 11.5 -0.9
X40A IAmb IAmb 01 10 18.8
comp=Z,30nm,1.4s
X40A Basin Creek Fa 44.03 299 P P 01 10 10.2 -2.1
baz=96
R40A Maddies Statio 44.14 305 IAmb IAmb 01 10 20.0
comp=Z,23nm,1.1s
WLAR White Oak Lake 44.18 298 P P 01 10 13.6 +0.1
L40A Anamosa 44.19 310 IAmb IAmb 01 10 20.2
comp=Z,54nm,1.6s
P40A Paris 44.21 306 P P 01 10 13.3 -0.5
P40A IAmb IAmb 01 10 20.0
comp=Z,59nm,1.6s
U40A Yellville 44.28 302 IAmb IAmb 01 10 20.3
comp=Z,38nm,1.4s
MIAR Mount Ida 44.65 299 IAmb IAmb 01 10 24.7
comp=Z,31nm,1.3s
MIAR Mount Ida 44.65 299 P P 01 10 17.6 +0.2
baz=96
S39A Bolivar 44.85 304 IAmb IAmb 01 10 25.7
comp=Z,47nm,1.7s
W39A Magazine 44.89 300 IAmb IAmb 01 10 26.6
comp=Z,37nm,1.2s
W39A Magazine 44.89 300 P P 01 10 18.3 -0.9
baz=96
PTGB Pitanga 45.05 188 eP P 01 10 21.0 +0.4
TIJ01 Guaruva-PR 45.33 184 eP P 01 10 23.4 +0.5
P38A Dawn 45.35 306 IAmb IAmb 01 10 29.2
comp=Z,45nm,1.4s
NATX Nacogdoches 45.35 295 P P 01 10 21.6 -1.3
NATX Nacogdoches 45.35 295 P P 01 10 21.1 -1.9
baz=92
U38A Gravette 45.52 302 IAmb IAmb 01 10 26.5
comp=Z,34nm,1.6s
SCIA State Center 45.60 309 P P 01 10 25.6 +0.9
TORD Torodi Ar. Bea 45.63 91 P P 01 10 24.8 -0.5
comp=Z,6.0nm,1.1s,baz=295,slow=7.4,SNR=23
TORD LR LR 01 27 36.9
comp=Z,3µm,19.2s,baz=280,slow=34
TORD Torodi Ar. Bea 45.63 91 P P 01 10 24.4 -0.9
TORD IAmb IAmb 01 10 26.3
comp=Z,21nm,1.4s
Z38A Mt. Pleasant 45.71 297 P P 01 10 24.7 -1.0
SPMN Marine on St. 46.17 314 P P 01 10 28.8 -0.5
SPMN IAmb IAmb 01 10 36.7
comp=Z,20nm,1.1s
HKT Hockley 46.32 293 i P P 01 10 26.5 -4.1
HKT pmax pmax
comp=Z,27nm,1.5s
T35A Sooner Cattle 47.27 302 P P 01 10 39.2 +1.2
T35A IAmb IAmb 01 10 43.9
comp=Z,21nm,1.3s
QUOK Quay 47.35 301 P P 01 10 39.0 +0.3
QUOK IAmb IAmb 01 10 44.5
comp=Z,18nm,1.0s
CPUP Villa Florida 47.61 194 P P 01 10 38.9 -1.7
comp=Z,8.7nm,0.8s,baz=15,slow=7.2,SNR=9.0
CPUP LR LR 01 31 09.1
comp=Z,445nm,18.9s,baz=360,slow=37
CPUP Villa Florida 47.61 194 P P 01 10 39.9 -0.7
CPUP pmax pmax
comp=Z,30nm,1.3s
CPUP Villa Florida 47.61 194 P P 01 10 39.9 -0.7
CPUP IAmb IAmb 01 10 47.7
comp=Z,30nm,1.3s
CPUP Villa Florida 47.61 194 eP P 01 10 40.6 0.0
OK025 Westminster Rd 47.81 300 P P 01 10 43.0 +0.7
L34A Svendsen Farm, 47.91 309 P P 01 10 43.3 +0.3
BCOK Bluff Creek, N 48.04 300 P P 01 10 42.9 -1.0
KS20 Mayfield South 48.13 302 P P 01 10 45.1 +0.4
X34A Smith Ranch, M 48.15 299 P P 01 10 45.9 +1.0
X34A IAmb IAmb 01 10 52.0
comp=Z,30nm,1.1s
LVC Limon Verde 48.26 209 P P 01 10 46.4 +0.3
LVC pmax pmax
comp=Z,45nm,1.3s
LVC Limon Verde 48.26 209 P P 01 10 46.4 +0.3
LVC Limon Verde 48.26 209 eP P 01 10 44.5 -1.7
KAN05 Bluff City Nor 48.37 302 P P 01 10 45.5 -1.0
KAN06 Argonia West S 48.38 302 P P 01 10 46.0 -0.6
TER01 Tubaro-SC 48.52 184 eP P 01 10 48.6 +1.0
WMOK Wichita Mounta 48.94 299 IAmb IAmb 01 10 57.6
comp=Z,20nm,1.1s
WMOK Wichita Mounta 48.94 299 P P 01 10 49.5 -1.5
baz=93
AGMN Agassiz Nation 49.07 317 IAmb IAmb 01 10 57.8
comp=Z,65nm,2.0s
U32A Winter Ranch, 49.22 301 IAmb IAmb 01 11 00.2
comp=Z,24nm,1.1s

CNLB Canela 49.45 186 eP P 01 10 55.2 +0.4
833A Chaparral WMA, 49.48 290 P P 01 10 55.2 +0.1
baz=87
ABTX Abilene, Hawle 49.60 296 IAmb IAmb 01 11 02.6
comp=Z,33nm,1.1s
ULM Lac du Bonnet 49.67 320 P P 01 10 54.6 -1.7
comp=Z,3.6nm,0.8s,baz=120,slow=8.2,SNR=3.7
ULM LR LR 01 30 00.8
comp=Z,1µm,18.9s,baz=116,slow=34
ULM Lac du Bonnet 49.67 320 i P P 01 10 55.0 -1.2
ULM Lac du Bonnet 49.67 320 IAmb IAmb 01 10 57.6
comp=Z,28nm,1.5s
JCT Junction City 49.75 293 IAmb IAmb 01 11 03.6
comp=Z,26nm,1.2s
BGES Gesves 49.84 40 dP P 01 10 58.2 +0.7
TLIG Tlapa 50.12 276 P P 01 11 01.5 +1.2
KEST Kesra 50.26 60 P P 01 11 01.8 +0.7
comp=Z,13nm,1.1s,baz=173,slow=6.1,SNR=7.8
KEST LR LR 01 30 29.6
comp=Z,1µm,19.6s,baz=199,slow=34
KEST Kesra 50.26 60 IAmb IAmb 01 11 13.2
comp=Z,27nm,1.1s
WLF Walferdange 50.27 41 eP P 01 11 01.3 +0.4
comp=Z,21nm,1.4s,baz=256,slow=7.2
ITQB Itaqui 50.68 193 eP P 01 11 02.1 -2.0
CPSB Cacapava Do Su 50.84 189 eP P 01 11 06.5 +1.2
AHRW Bad Neuenahr-A 51.09 41 eP P 01 11 07.8 +0.8
comp=Z,20nm,1.5s,baz=256,slow=7.2
BFO Black Forest 51.31 44 P P 01 11 07.4 -1.4
BFO pmax pmax
comp=Z,20nm,1.4s
BFO Black Forest 51.31 44 P P 01 11 07.3 -1.4
BFO Black Forest 51.31 44 eP P 01 11 08.2 -0.6
comp=Z,20nm,1.4s,baz=256,slow=7.2
MDND Maddock 51.38 316 P P 01 11 10.5 +1.2
baz=103
TNS Taunus Mts 51.85 41 eP P 01 11 12.8 0.0
comp=Z,21nm,1.5s,baz=256,slow=7.2
IBBN Ibbenburen 52.02 39 eP P 01 11 14.3 +0.4
comp=Z,14nm,1.1s,baz=256,slow=7.2
DAVA Damuels 52.10 45 eP P 01 11 15.2 +0.3
comp=Z,22nm,1.5s
PLTB Pedras Altas 52.20 189 eP P 01 11 16.7 +1.2
MILB Miltenberg 52.28 42 eP P 01 11 15.7 -0.3
comp=Z,8.2nm,1.2s,baz=256,slow=7.2
UBR Ueberruh 52.33 45 eP P 01 11 16.6 +0.1
comp=Z,23nm,1.4s,baz=256,slow=7.2
FETA Feichten 52.62 46 eP P 01 11 19.1 +0.5
comp=Z,11nm,1.2s,SNR=9.2
RETA Reute 52.73 45 eP P 01 11 19.4 0.0
comp=Z,11nm,1.4s
ZAIG Zacatecas 52.90 284 P P 01 11 21.9 +0.6
ZAIG IAmb IAmb 01 11 29.6
comp=Z,28nm,1.4s
MOTA Moosalm 52.93 45 i P P 01 11 20.9 0.0
comp=Z,27nm,1.3s,SNR=8.5
UBBA Unterbreizbach 52.96 41 eP P 01 11 21.2 +0.3
comp=Z,20nm,1.9s,baz=256,slow=7.2
SQTA Sankt Ulrich 52.98 46 i P P 01 11 21.2 -0.1
comp=Z,30nm,1.1s,SNR=8.9
CTI Castel Tesino 53.08 47 IAmb IAmb 01 11 22.6
comp=Z,16nm,0.9s
TXAR Lajitas Array 53.16 292 P P 01 11 22.3 -0.6
comp=Z,5.7nm,1.2s,baz=101,slow=6.5,SNR=11
TXAR LR LR 01 33 47.0
comp=Z,931nm,19.9s,baz=0.0,slow=36
TX31 Lajitas Ar. Si 53.16 292 IAmb IAmb 01 11 29.7
comp=Z,34nm,1.2s
WATA Walderalm 53.24 45 i P P 01 11 23.4 +0.1
comp=Z,28nm,1.3s,SNR=8.1
WTTA Wattenberg 53.27 46 i P P 01 11 23.4 -0.1
comp=Z,20nm,1.1s,SNR=5.6
CLZ Clausthal 53.44 40 eP P 01 11 24.5 0.0
comp=Z,7.9nm,1.2s,baz=256,slow=7.2
NRDL Niedersach Rie 53.45 39 eP P 01 11 24.2 -0.2
comp=Z,32nm,1.7s,baz=256,slow=7.2
GRFO Grafenberg 53.47 43 P P 01 11 23.8 -0.9
GRFO pmax pmax
comp=Z,49nm,1.9s
GRFO Grafenberg 53.47 43 P P 01 11 23.8 -0.9
GRFO IAmb IAmb 01 11 29.6
comp=Z,49nm,1.9s
GRA1 Grafenberg Arr 53.47 43 IAmb IAmb 01 11 29.6
comp=Z,58nm,2.0s
GRF Grafenberg Arr 53.47 43 eP P 01 11 23.5 -1.2
comp=Z,25nm,1.6s,baz=256,slow=7.2
T25A Trinidad 53.59 302 IAmb IAmb 01 11 33.2
comp=Z,32nm,1.6s
ASSE Asse, Remlinge 53.69 39 eP P 01 11 26.7 +0.4
comp=Z,15nm,1.6s,baz=256,slow=7.2
ABTA Abfaltersbach 53.78 46 eP P 01 11 26.9 -0.3
comp=Z,13nm,1.4s
MOX Moxa 53.92 41 eP P 01 11 27.4 -0.6
comp=Z,12nm,1.5s,baz=256,slow=7.2
BSEG Bad Segeberg 53.96 37 eP P 01 11 27.5 -0.7
comp=Z,42nm,1.6s,baz=256,slow=7.2
ZOU Zoufplan 54.06 47 IAmb IAmb 01 11 32.5
comp=Z,23nm,1.2s
FLTG Flechtingen 54.08 39 eP P 01 11 28.5 -0.6
comp=Z,12nm,1.4s,baz=256,slow=7.2
MANZ Manzenberg 54.09 42 eP P 01 11 28.7 -0.6
comp=Z,14nm,1.8s,baz=256,slow=7.2
ROTZ Rotzenmuhle 54.11 43 eP P 01 11 28.6 -0.8
comp=Z,7.2nm,1.4s,baz=256,slow=7.2
RJOB Jochberg 54.13 45 eP P 01 11 29.1 -0.5
comp=Z,45nm,1.3s,baz=256,slow=7.2
GUNZ Gunzen 54.31 42 eP P 01 11 31.3 +0.5
comp=Z,11nm,1.4s,baz=256,slow=7.2
WERN Wernitzgruen 54.32 42 eP P 01 11 31.1 +0.1
comp=Z,27nm,1.5s,baz=256,slow=7.2
NKC Novy Kostel 54.36 42 eP P 01 11 31.5 +0.3
NKC Novy Kostel 54.36 42 eP P 01 11 31.5 +0.3
TANN Tannenbergstha 54.40 42 eP P 01 11 31.5 -0.1
comp=Z,32nm,2.1s,baz=256,slow=7.2
WET Wettzell 54.42 43 eP P 01 11 30.4 -1.4
comp=Z,31nm,1.9s,baz=256,slow=7.2
MNTX Cornudas Mount 54.49 295 IAmb IAmb 01 11 38.5
comp=Z,24nm,1.6s
MNTX Cornudas Mount 54.49 295 P P 01 11 31.1 -1.4
baz=87
MYKA Terra Mystica 54.53 47 eP P 01 11 32.9 +0.3
comp=Z,14nm,1.2s
PHWY Pilot Hill 54.58 307 IAmb IAmb 01 11 40.1
comp=Z,27nm,1.8s
ISCO Idaho Springs 54.62 305 IAmb IAmb 01 11 41.9
comp=Z,43nm,1.8s
KHC Kasperske Hory 54.87 44 eP P 01 11 35.2 +0.2
KHC MLR MLR
comp=Z,600nm,18.1s
KHC Kasperske Hory 54.87 44 eP P 01 11 35.2 +0.2
KHC AMS AMS 01 33 30.0
comp=Z,600nm,18.1s
GEC2 GERESS Array S 54.91 44 eP P 01 11 34.1 -1.3
comp=Z,17nm,1.4s,baz=256,slow=7.2
GERES GERESS Array B 54.91 44 P P 01 11 35.1 -0.3
comp=Z,3.4nm,1.1s,baz=242,slow=2.9,SNR=15
GERES GERESS Array B 54.91 44 P P 01 11 34.7 -0.6
GERES GERESS Array B 54.91 44 P P 01 11 34.7 -0.6
CLL Collm 54.92 41 eP P 01 11 34.0 -1.2
comp=Z,9.0nm,1.4s
CLL eS S 01 19 18.0 +1.1
CLL eSSS SSS 01 25 06.0
CLL Lm MLR 01 32 00.0
comp=N,300nm,19.9s
CLL Lm MLR 01 32 00.0
comp=E,400nm,19.2s
CLL Lm MLR 01 32 00.0
comp=Z,600nm,19.1s
CLL Collm 54.92 41 eP P 01 11 31.0 -4.2
CLL pmax pmax
comp=Z,9.0nm,1.4s
CLL MLR MLR
comp=Z,600nm,19.1s
CLL Collm 54.92 41 eP P 01 11 35.1 -0.1
comp=Z,16nm,1.7s,baz=256,slow=7.2
FBE Freiberg 55.06 41 eP P 01 11 36.6 +0.4
comp=Z,16nm,1.3s,baz=256,slow=7.2
MOA Mollin 55.12 45 eP P 01 11 36.0 -0.8
comp=Z,14nm,1.5s
OBKA Obir 55.13 47 eP P 01 11 36.7 -0.3
comp=Z,13nm,1.1s
ANMO Albuquerque 55.26 299 P P 01 11 38.6 +0.4
ANMO pmax pmax
comp=Z,24nm,1.7s
ANMO Albuquerque 55.26 299 P P 01 11 38.6 +0.4
ANMO IAmb IAmb 01 11 41.4
comp=Z,24nm,1.7s

CKRC Cesky Krumlov 55.30 44 *e*P **P 01 11 37.5 -0.6**
CKRC AMS AMS 01 33 10.0
comp=E,600nm,17.4s
KONO Kongsberg 55.39 30 *i* P **P 01 11 39.3 +0.8**
KONO pmax pmax
comp=E,15nm,1.5s
BRG Berggiesshubel 55.41 42 *e*P **P 01 11 38.8 0.0**
comp=E,10nm,1.6s,baz=256,slow=7.2
BRG Berggiesshubel 55.41 42 *e*P **P 01 11 38.9 0.0**
BRG Amp 01 11 41.2
comp=E,11nm,1.7s
BRG Amp 01 32 55.0
comp=E,0.5nm,15.2s
BRG Amp 01 33 03.0
comp=N,0.2nm,14.9s
BRG Amp 01 33 07.0
comp=E,0.3nm,16.7s
SOKA Soboth 55.48 47 *e*P **P 01 11 41.0 +1.5**
comp=E,0.4nm,0.3s
S22A 4UR Ranch, Cre 55.52 302 P **P 01 11 40.2 0.0**
baz=90
PRA Prague 55.58 43 AMS AMS 01 33 40.0
comp=E,600nm,18.7s
PRU Pruhonice 55.64 43 AMS AMS 01 33 50.0
comp=E,600nm,19.8s
SMCO Snowmass 55.66 304 IAmb IAmb 01 11 49.1
comp=Z,28nm,1.7s
ARSA Arzberg 55.89 46 *e*P **P 01 11 42.8 +0.4**
comp=Z,6.9nm,0.8s
TREC Trest 56.13 44 AMS AMS 01 34 40.0
comp=Z,600nm,19.5s
CONA Conrad Observa 56.20 45 *e*P **P 01 11 44.1 -0.6**
comp=Z,8.8nm,1.2s
121A Cookes Peak, D 56.47 296 IAmb IAmb 01 11 54.4
comp=Z,43nm,1.4s
NB2 NORSAR Subarra 56.62 29 P **P 01 11 46.3 -1.1**
comp=Z,63nm,2.5s,baz=250,slow=7.4
NB2 NORSAR Subarra 56.62 29 P **P 01 11 46.3 -1.1**
baz=250,slow=7.4
NOA NORSAR Array B 56.62 29 P **P 01 11 46.9 -0.4**
comp=Z,2.1nm,1.0s,baz=248,slow=7.2,SNR=4.0
NOA LR LR 01 32 16.3
comp=Z,592nm,18.9s,baz=250,slow=32
O20A White River Ci 56.65 305 IAmb IAmb 01 11 55.3
comp=Z,35nm,1.4s
UPC Upice 56.65 42 AMS AMS 01 34 30.0
comp=Z,500nm,15.7s
KRUC Moravsky 56.69 44 *e*P **P 01 11 47.2 -0.8**
OSTC Ostas 56.79 42 *e*P **P 01 11 49.5 +0.8**
DPC Dobruska-Polom 56.82 42 *e*P **P 01 11 49.1 +0.1**
DPC MLR MLR
comp=Z,500nm,20.1s
DPC Dobruska-Polom 56.82 42 *e*P **P 01 11 49.1 +0.1**
DPC AMS AMS 01 34 30.0
comp=Z,500nm,20.1s
VRAC Vranov 56.85 44 *e*P **P 01 11 48.3 -0.9**
MVCO Mesa Verde 56.86 302 IAmb IAmb 01 11 57.8
comp=Z,29nm,1.4s
KRLC Kraliky 57.08 43 *e*P **P 01 11 51.3 +0.5**
KRLC MLR MLR
comp=Z,400nm,17.7s
KRLC Kraliky 57.08 43 *e*P **P 01 11 51.3 +0.5**
KRLC AMS AMS 01 34 50.0
comp=Z,400nm,17.7s
MODS Modra-Piesok 57.19 45 *e*P **P 01 11 50.0 -1.6**
MODS pmax pmax
comp=Z,13nm,1.2s
MODS Modra-Piesok 57.19 45 *e*P **P 01 11 50.0 -1.6**
JAVC Velka Javorina 57.50 44 *e*P **P 01 11 53.8 -0.1**
MORC Moravsky Berou 57.53 43 *e*P **P 01 11 53.6 -0.4**
RLMT Red Lodge 57.60 311 IAmb IAmb 01 12 02.5
comp=Z,52nm,1.9s
RDMU Red Mountain 57.67 306 IAmb IAmb 01 12 01.9
comp=Z,33nm,1.3s
BW06 Boulder Array 57.70 308 IAmb IAmb 01 12 01.5
comp=Z,18nm,1.2s
BW06 Boulder Array 57.70 308 P **P 01 11 54.2 -1.3**
baz=92
PDAR Pinedale Array 57.70 308 P **P 01 11 53.6 -2.0**
comp=Z,1.3nm,0.7s,baz=115,slow=8.1,SNR=9.4
PDAR LR LR 01 35 17.7
comp=Z,910nm,19.2s,baz=109,slow=35
YNE Yellowstone No 58.12 311 P **P 01 11 58.9 +0.4**
EGMT Eagleton 58.15 315 IAmb IAmb 01 12 05.3
comp=Z,24nm,1.4s
MT05 Renca 58.44 205 P **P 01 12 02.9 +2.4**
LOHW Long Hollow 58.49 309 IAmb IAmb 01 12 07.3
comp=Z,17nm,1.3s
P17A Butcher Ranch, 58.58 305 IAmb IAmb 01 12 08.6
comp=Z,20nm,1.3s
MOOW Moose Ponds 58.60 310 P **P 01 12 03.1 +1.3**
REDW Red Top Meadow 58.66 309 IAmb IAmb 01 12 11.9
comp=Z,26nm,1.6s
YHH Holmes Hill 58.70 311 IAmb IAmb 01 12 13.9
comp=Z,24nm,1.9s
TPAW Teton Pass 58.74 309 IAmb IAmb 01 12 09.3
comp=Z,22nm,1.4s
IMW Indian Meadow 58.74 310 IAmb IAmb 01 12 09.4
comp=Z,17nm,1.1s
AHID Auburn Hatchet 58.84 308 IAmb IAmb 01 12 09.7
comp=Z,28nm,1.6s
PSZ Piszkesteto 58.90 46 P **P 01 12 04.0 +0.3**
PSZ pmax pmax
comp=Z,9.0nm,1.2s
PSZ Piszkesteto 58.90 46 P **P 01 12 04.0 +0.3**
Q16A Castle Valley 58.92 304 IAmb IAmb 01 12 11.8
comp=Z,24nm,1.5s
YHL Hebgen Lake 58.94 311 IAmb IAmb 01 12 11.7
comp=Z,14nm,1.2s
TUC Tucson 59.02 296 P **P 01 12 04.2 -0.5**
TUC pmax pmax
comp=Z,26nm,1.4s
TUC Tucson 59.02 296 P **P 01 12 04.2 -0.5**
TUC IAmb IAmb 01 12 11.9
comp=Z,26nm,1.4s
TUC Tucson 59.02 296 P **P 01 12 05.5 +0.7**
baz=85
OJC Ojcow 59.02 43 *e*P **P 01 12 04.3 0.0**
OJC Ojcow 59.02 43 IAmb IAmb 01 12 05.8
comp=Z,16nm,1.4s
TCUT Toone Canyon 59.06 306 IAmb IAmb 01 12 12.1
comp=Z,26nm,1.2s
JLU Jordanelle 59.10 306 P **P 01 12 06.3 +0.9**
MPU Maple Canyon 59.25 305 P **P 01 12 06.2 -0.2**
MPU IAmb IAmb 01 12 15.8
comp=Z,15nm,1.2s
NIE Niedzica 59.28 44 *e*P **P 01 12 07.5 +1.4**
OHR Ohrid 59.35 54 *i* P P 01 12 15.8 +8.9
X16A Lo Mia Camp, P 59.38 299 IAmb IAmb 01 12 15.3
comp=Z,21nm,1.3s
HRY Holter Researc 59.47 313 P **P 01 12 08.1 +0.4**
HSIG 59.53 292 P **P 01 12 09.5 +1.3**
HSIG IAmb IAmb 01 12 15.1
comp=Z,26nm,1.4s
NLU North Lily Min 59.59 305 P **P 01 12 09.0 +0.2**
NLU IAmb IAmb 01 12 15.6
comp=Z,24nm,1.4s
MTPU Mount Pierson 59.75 303 IAmb IAmb 01 12 17.3
comp=Z,17nm,1.5s
FNA Florina 59.80 54 IAmb IAmb 01 12 16.1
comp=Z,30nm,1.5s
SKO Skopje 59.83 53 *i* P **P 01 12 11.0 +0.9**
U15A North Rim 59.93 301 IAmb IAmb 01 12 19.8
comp=Z,35nm,1.7s
TRQA Tornquist 59.94 195 *e*P **P 01 12 10.0 -0.8**
DLMT Dillon 59.96 311 IAmb IAmb 01 12 13.9
comp=Z,35nm,2.0s
BZS Buzias 59.97 48 ⇓P **P 01 12 09.7 -1.3**
BZS Buzias 59.97 48 ⇓P **P 01 12 09.7 -1.3**
CRVS Cervenica-Dubn 60.00 45 *e*P **P 01 12 11.9 +0.7**
CRVS pmax pmax
comp=Z,36nm,1.5s
CRVS Cervenica-Dubn 60.00 45 *e*P **P 01 12 11.9 +0.7**
MDVR Moldovita 60.03 49 ⇓P **P 01 12 11.7 +0.3**
HVU Hansel Valley 60.08 307 IAmb IAmb 01 12 14.0
comp=Z,24nm,1.8s
DUG Dugway, Tooele 60.15 305 IAmb IAmb 01 12 19.4
comp=Z,22nm,1.2s
DUG Dugway, Tooele 60.15 305 P **P 01 12 14.7 +2.2**
baz=88
KNB Kanab 60.32 302 IAmb IAmb 01 12 20.3
comp=Z,26nm,1.6s
STIP Stip 60.39 53 *i* P **P 01 12 15.3 +1.4**
SZCU Shurtz Canyon 60.49 302 IAmb IAmb 01 12 22.8
comp=Z,21nm,1.6s
HERR Herculane 60.53 49 ⇓P **P 01 12 14.7 -0.1**

UZH Uzhgorod 60.54 45 *e*P **P 01 12 14.6 -0.2**
UZH *e* 01 12 23.4
UZH *e* 01 12 59.4
VAY Valandovo 60.69 53 *i* P **P 01 12 16.8 +0.9**
CCUT Cedar City 60.71 302 IAmb IAmb 01 12 23.9
comp=Z,15nm,1.3s
Y14A Wickenburg 60.72 298 IAmb IAmb 01 12 24.0
comp=Z,27nm,1.3s
DRGR 60.76 47 ⇓P **P 01 12 14.1 -2.4**
DRGR 60.76 47 ⇓P **P 01 12 14.1 -2.4**
214A Organ Pipe Nat 60.77 296 P **P 01 12 18.6 +1.9**
baz=83
GZR Gura Zlata 60.79 49 ⇓P **P 01 12 16.0 -0.7**
GZR Gura Zlata 60.79 49 ⇓P **P 01 12 16.0 -0.7**
EDM Edmonton 60.88 320 P **P 01 12 18.6 +1.4**
EDM pmax pmax
comp=Z,37nm,1.4s
EDM Edmonton 60.88 320 P **P 01 12 18.6 +1.4**
EDM IAmb IAmb 01 12 23.9
comp=Z,37nm,1.4s
WALA Waterton Lakes 60.97 316 IAmb IAmb 01 12 34.2
comp=Z,27nm,1.6s
PSUT Pine Spring 61.04 304 IAmb IAmb 01 12 26.1
comp=Z,39nm,2.0s
VTS Vitosha 61.14 52 ⇓P **P 01 12 19.4 +0.1**
VTS Vitosha 61.14 52 ⇓P **P 01 12 19.4 +0.1**
JTMT Jette 61.17 314 IAmb IAmb 01 12 22.8
comp=Z,21nm,1.6s
W13A Hualapai Mount 61.33 300 P **P 01 12 20.8 0.0**
W13A IAmb IAmb 01 12 28.6
comp=Z,20nm,1.5s
SPR3 Spring Creek 3 61.38 304 P **P 01 12 19.9 -1.3**
SPR3 IAmb IAmb 01 12 28.6
comp=Z,21nm,1.2s
113A Mohawk Valley, 61.48 297 IAmb IAmb 01 12 24.6
comp=Z,30nm,1.6s
PDMCI Parker Dam,Lak 61.62 299 P **P 01 12 24.6 +2.2**
baz=84
LVV L'vov 61.72 44 *e*P **P 01 12 24.0 +1.2**
ELK Elko 61.98 306 IAmb IAmb 01 12 31.6
comp=Z,16nm,1.2s
PRN Pahroc Range 62.06 302 P **P 01 12 24.4 -1.2**
PRN IAmb IAmb 01 12 33.3
comp=Z,22nm,1.4s
ARR Arges 62.09 49 ⇑P **P 01 12 25.8 +0.3**
MFID Camas Ranch 62.29 309 IAmb IAmb 01 12 33.5
comp=Z,31nm,1.5s
GLA Glamis 62.33 297 IAmb IAmb 01 12 34.9
comp=Z,30nm,1.4s
R11A Troy Canyon, C 62.41 303 IAmb IAmb 01 12 34.8
comp=Z,14nm,1.4s
BUR08 Bucovina Ar. S 62.46 46 P **P 01 12 28.5 +0.5**
BUR08 IAmb IAmb 01 12 37.4
comp=Z,36nm,2.0s
BURAR Bucovina Array 62.48 46 ⇓P **P 01 12 29.7 +1.6**
BURAR Bucovina Array 62.48 46 ⇓P **P 01 12 29.7 +1.6**
DOPR Dopca 62.61 48 ⇓P **P 01 12 28.4 -0.5**
YKA Yellowknife Ar 62.69 331 LR LR 01 39 10.2
comp=Z,702nm,18.4s,baz=0.0,slow=36
BC3 Big Chuckawall 62.77 298 P **P 01 12 32.9 +2.5**
baz=83
MLR Muntele Rosu 63.02 48 ⇓P **P 01 12 32.8 +1.0**
MLR Muntele Rosu 63.02 48 ⇓P **P 01 12 32.8 +1.0**
TPNV Topopah Spring 63.06 302 IAmb IAmb 01 12 35.8
comp=Z,32nm,1.8s
NEW Newport 63.08 315 IAmb IAmb 01 12 38.5
comp=Z,21nm,1.2s
NEW Newport 63.08 315 P **P 01 12 29.6 -2.4**
baz=90
GWY Greenwater Val 63.47 301 IAmb IAmb 01 12 43.2
comp=Z,13nm,1.3s
VRI Vrincioaia 63.55 48 ⇓P **P 01 12 34.4 -0.7**
VRI Vrincioaia 63.55 48 ⇓P **P 01 12 34.4 -0.7**
PFO Pinyon Flats O 63.61 298 P **P 01 12 36.3 +0.4**
PFO pmax pmax
comp=Z,34nm,1.7s
PFO Pinyon Flats O 63.61 298 P **P 01 12 36.3 +0.4**
PFO IAmb IAmb 01 12 39.5
comp=Z,34nm,1.6s
QSM Queen of Sheba 63.66 301 IAmb IAmb 01 12 43.6
comp=Z,25nm,1.3s
MONP2 Monument Peak 63.68 297 P **P 01 12 39.0 +2.5**
baz=82
FINES FINESS Array B 63.70 31 P **P 01 12 33.0 -2.9**
comp=Z,4.2nm,1.0s,baz=235,slow=9.0,SNR=7.0
FINES LR LR 01 35 50.6
comp=Z,449nm,20.3s,baz=260,slow=32
E09A Wood Farm, Sta 63.82 313 IAmb IAmb 01 12 43.2
comp=Z,22nm,1.2s
C09A Chrisman Ranch 63.87 314 IAmb IAmb 01 12 42.8
comp=Z,12nm,1.2s
BAR Barrett 63.91 297 P **P 01 12 38.9 +1.0**
BAR IAmb IAmb 01 12 45.2
comp=Z,15nm,1.1s
GRAC Grapevine Rang 63.94 302 P **P 01 12 40.2 +2.2**
baz=84
LCH Last Change Ra 64.14 302 IAmb IAmb 01 12 46.5
comp=Z,14nm,1.5s
D08A Wollman Farm, 64.33 313 IAmb IAmb 01 12 46.8
comp=Z,23nm,1.4s
NV11 Mina Array Sit 64.41 304 IAmb IAmb 01 14 15.1
comp=Z,6.0nm,0.4s
E08A Dider Farm, El 64.45 313 P **P 01 12 40.2 -0.8**
E08A IAmb IAmb 01 12 47.4
comp=Z,26nm,1.5s
NVAR Mina Array Bea 64.53 304 P **P 01 12 39.8 -2.1**
comp=Z,0.6nm,0.7s,baz=80,slow=5.7,SNR=4.2
NVAR LR LR 01 39 32.5
comp=Z,752nm,19.6s,baz=114,slow=35
SORM Soroca 64.57 45 ⇓P **P 01 12 39.8 -2.0**
SORM Soroca 64.57 45 ⇓P **P 01 12 39.8 -2.0**
CWC Cottonwood Cre 64.58 302 P **P 01 12 43.8 +1.5**
baz=83
ARCES ARCESS Array B 64.65 22 P **P 01 12 40.8 -1.1**
comp=Z,9.0nm,1.0s,baz=264,slow=3.5,SNR=7.0
ARCES LR LR 01 35 32.4
comp=Z,327nm,20.8s,baz=270,slow=31
EDW2 Edwards Air Fo 64.70 300 P **P 01 12 45.0 +2.0**
baz=82
HAWA Hanford 64.78 313 IAmb IAmb 01 12 49.8
comp=Z,29nm,1.5s
PLCA Paso Flores 64.90 201 P **P 01 12 42.8 -1.1**
comp=Z,3.4nm,1.0s,baz=10,slow=11,SNR=3.1
PLCA LR LR 01 41 14.8
comp=Z,320nm,21.5s,baz=18,slow=36
PLCA Paso Flores 64.90 201 *e*P **P 01 12 45.2 +1.2**
ISA Isabella, Lake 64.99 301 IAmb IAmb 01 12 52.7
comp=Z,23nm,1.2s
E07A Sunnyside 65.00 313 P **P 01 12 45.0 +0.4**
E07A IAmb IAmb 01 12 51.3
comp=Z,16nm,1.2s
AKASG Malin Array Be 65.06 43 P **P 01 12 43.7 -1.2**
comp=Z,2.6nm,0.8s,baz=273,slow=5.6,SNR=13
AKASG LR LR 01 39 02.5
comp=Z,237nm,18.4s,baz=275,slow=34
AKBB Malin Array Si 65.06 43 *ce*P **P 01 12 42.6 -2.3**
MDPB Devils Postpil 65.23 303 IAmb IAmb 01 12 54.1
comp=Z,10nm,1.1s
LTY Liberty 65.51 314 IAmb IAmb 01 13 42.6
comp=Z,32nm,1.8s
LLLB Lillooet 66.12 317 IAmb IAmb 01 12 58.0
comp=Z,20nm,1.2s
H04A Detroit Lake 66.78 311 P **P 01 12 57.3 +1.1**
H04A IAmb IAmb 01 13 02.5
comp=Z,31nm,1.5s
ELL Elmali 66.79 58 P **P 01 12 56.8 +0.3**
ELL pmax pmax
comp=Z,130nm,1.2s
ELL Elmali 66.79 58 P **P 01 12 56.8 +0.3**
ORV Oroville 66.86 305 IAmb IAmb 01 13 04.3
comp=Z,29nm,1.8s
APA Apatity 67.32 24 ⇓ *i* P **P 01 13 00.1 +1.0**
APA *i* 01 13 23.9
APA pmax pmax
comp=Z,7.0nm,1.1s
APA MLR MLR
comp=Z,300nm,17.0s
CBB Campbell River 68.39 317 P **P 01 13 06.0 -0.2**
OBN Obninsk 69.22 37 *ce*P **P 01 13 10.7 -0.5**
OBN *i* 01 13 35.1
OBN *e* 01 15 47.4
OBN *eS* **SKiKP 01 22 58.3 -3.4**
OBN pmax pmax
comp=Z,33nm,1.7s
BR131 Keskin Array S 69.23 54 *d i* P **P 01 13 11.4 -0.4**
BR131 Keskin Array S 69.23 54 IAmb IAmb 01 13 13.3
comp=Z,32nm,1.6s
BRTR Keskin Array B 69.23 54 P **P 01 13 11.8 -0.1**
comp=Z,2.3nm,0.8s,baz=261,slow=4.6,SNR=20
BRTR LR LR 01 40 27.7
comp=Z,300nm,21.4s,baz=288,slow=33
BRTR Keskin Array B 69.23 54 *ce*P **P 01 13 12.0 +0.2**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
MOS Moscow 69.75 37 *e*P **P 01 13 12.8 -1.7**
MOS pmax pmax
comp=Z,23nm,1.1s
KLMR Klimovskoe 70.21 31 *e*P **P 01 13 14.7 -2.5**
KLMR pmax pmax
comp=Z,22nm,1.3s
KLMR Klimovskoe 70.21 31 *e*P **P 01 13 14.7 -2.5**
KLMR AMP 01 13 18.1
comp=Z,22nm,1.3s
INK Inuvik 70.73 337 P **P 01 13 17.7 -2.6**
comp=Z,3.7nm,0.8s,baz=80,slow=5.8,SNR=7.1
INK Inuvik 70.73 337 P **P 01 13 19.1 -1.2**
baz=84
LPSR Galich'ya Gora 70.91 40 *e*P **P 01 13 19.3 -2.4**
LPSR pmax pmax
comp=Z,8.0nm,0.6s
ANN Anapa 71.17 48 *e*P P 01 13 17.6 -5.8
ANN *e**PP pP 01 13 20.6 -4.8
ANN *eS* **S 01 22 34.3 -6.2**
ANN pmax pmax
comp=Z,23nm,0.9s
ANN MLR MLR
comp=Z,321nm,18.0s
ANN MLR MLR
comp=N,371nm,19.0s
VSR Storozhevoye 71.26 41 *e*P **P 01 13 22.5 -1.3**
VSR pmax pmax
comp=Z,10.0nm,1.4s
FARO Faro, Yukon 71.39 330 P **P 01 13 23.7 -0.8**
baz=82
VRH Novokhopyorsk 72.85 41 *e*P **P 01 13 30.8 -2.5**
VRH pmax pmax
comp=Z,10.0nm,1.5s
SOC Sochi 73.01 49 *e*P **P 01 13 32.5 -2.0**
SOC *e* 01 16 11.4
SOC *eS* **S 01 23 00.9 -0.8**
SOC *eSS* **SS 01 27 42.7 +0.7**
SOC *eSSS* SSS 01 30 59.4
SOC MLR MLR
comp=Z,142nm,18.0s
PRGR Permogore 73.02 30 *e*P **P 01 13 33.4 -0.7**
PRGR pmax pmax
comp=Z,27nm,1.5s
HYT Haines Junctio 73.59 329 P **P 01 13 39.4 +1.6**
DAWY Dawson 73.77 333 IAmb IAmb 01 13 45.9
comp=Z,30nm,1.7s
KIV Kislovodsk 75.03 48 *e*P **P 01 13 46.4 0.0**
KIV pmax pmax
comp=Z,12nm,1.1s
KIV Kislovodsk 75.03 48 P **P 01 13 46.3 -0.1**
SHA1 Shidzhatmaz 75.06 49 *i* P **P 01 13 46.7 0.0**
L27K Beaver Creek, 75.07 332 P **P 01 13 48.4 +2.2**
KBZ Khabaz 75.23 49 P **P 01 13 47.1 -0.3**
comp=Z,2.0nm,1.0s,baz=288,slow=8.8,SNR=4.9
KBZ LR LR 01 46 30.4
comp=Z,204nm,19.4s,baz=284,slow=36
KBZ Khabaz 75.23 49 *ce*P **P 01 13 46.9 -0.5**
KBZ pmax pmax
comp=Z,7.0nm,1.5s
KIRV Kirov 75.55 33 *i* P **P 01 13 47.3 -1.6**
NCK Nalchik 75.78 49 *i* P **P 01 13 50.4 -0.2**
NCK pmax pmax
comp=Z,16nm,1.5s
BELG Belogornoye 76.16 39 *i* P **P 01 13 50.5 -2.0**
BELG pmax pmax
comp=Z,5.0nm,1.1s
ZEI Tsey 76.17 49 *e*P **P 01 13 55.4 +2.3**
ZEI pmax pmax
comp=Z,5.0nm,1.7s
GLB Gilahina Butte 76.41 331 IAmb IAmb 01 14 01.3
comp=Z,15nm,1.2s
ILAR Eielson Array 76.71 334 P **P 01 13 53.8 -1.7**
comp=Z,4.2nm,0.8s,baz=72,slow=4.2,SNR=16
ILAR LR LR 01 47 15.7
comp=Z,694nm,18.9s,baz=82,slow=35
ILAR Eielson Array 76.71 334 P **P 01 13 54.6 -0.9**
ILAR Eielson Array 76.71 334 P **P 01 13 54.6 -0.9**
H24K Noodor Dome 76.75 336 IAmb IAmb 01 13 59.8
comp=Z,28nm,1.8s
H24K Noodor Dome 76.75 336 P **P 01 13 55.9 +0.2**
baz=70
MDM Murphy Dome 77.19 335 IAmb IAmb 01 14 05.7
comp=Z,33nm,1.6s
GNI Garni 77.47 52 *i* P **P 01 14 00.8 +0.3**
GNI pmax pmax
comp=Z,32nm,1.9s
I23K Minto, Yukon-K 77.57 335 IAmb IAmb 01 14 03.2
comp=Z,28nm,1.5s
I23K Minto, Yukon-K 77.57 335 P **P 01 14 00.1 -0.2**
baz=69
BPAW Bear Paw Mtn. 78.61 334 P **P 01 14 05.8 -0.4**
baz=67
H21K Melozitna Rive 78.71 336 IAmb IAmb 01 14 09.9
comp=Z,22nm,1.4s
H21K Melozitna Rive 78.71 336 P **P 01 14 07.2 +0.6**
baz=66
AKT Akhty 79.27 50 *e*P **P 01 14 10.8 +0.5**
AKT *e* 01 14 18.1
AKT pmax pmax
comp=Z,10.0nm,1.1s
LODK Lodwar 80.25 90 P **P 01 14 17.0 +0.9**
LODK IAmb IAmb 01 14 46.8
comp=Z,33nm,2.0s
LSZ Lusaka 80.50 110 P **P 01 14 17.2 -0.1**
LSZ pmax pmax
comp=Z,59nm,1.9s
LSZ Lusaka 80.50 110 P **P 01 14 17.2 -0.1**
LSZ IAmb IAmb 01 14 21.5
comp=Z,59nm,1.9s
ARU Arti 80.91 33 *c i* P **P 01 14 18.3 -0.4**
ARU 01 17 20.7
ARU PPP PPP 01 19 10.6
ARU S **S 01 24 30.2 +2.8**
ARU SS **SS 01 29 45.2 +4.6**
ARU pmax pmax
comp=Z,12nm,1.3s
ARU Arti 80.91 33 P **P 01 14 18.5 -0.2**
ARU IAmb IAmb 01 14 23.7
comp=Z,26nm,1.5s
SVE Sverdlovsk 81.80 32 *e*P **P 01 14 23.3 -0.1**
SVE pmax pmax
comp=Z,18nm,1.5s
KMBO Kilima Mbogo 83.58 94 LR LR 01 49 13.2
comp=Z,852nm,21.4s,baz=288,slow=34
KMBO Kilima Mbogo 83.58 94 *i* P **P 01 14 33.8 0.0**
BOSA Boshof 83.73 123 P **P 01 14 33.8 -0.3**
comp=Z,4.4nm,0.8s,baz=295,slow=3.5,SNR=6.9
BOSA LR LR 01 44 52.6
comp=Z,979nm,19.7s,baz=311,slow=31
BOSA Boshof 83.73 123 P **P 01 14 34.1 0.0**
BOSA pmax pmax
comp=Z,72nm,1.8s
BOSA Boshof 83.73 123 P **P 01 14 34.0 0.0**
ABKAR Akbulak array 84.56 39 IAmb IAmb 01 14 39.4
comp=Z,21nm,1.8s
NRIK Noril'sk 84.69 15 *i* P **P 01 14 38.5 +0.4**
NRIK pmax pmax
comp=Z,12nm,1.3s
PMSA Palmer Station 85.86 188 *e*P **P 01 14 44.7 +1.0**
BRVK Borovoye 88.49 33 *i* P **P 01 14 56.3 -0.7**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
UOSS Minazif 91.68 63 P **P 01 15 12.4 -0.1**
ZALV Zalesovo Beam 94.77 27 P **P 01 15 24.9 -1.2**
comp=Z,1.1nm,0.6s,baz=304,slow=2.6,SNR=4.2
ZALV LR LR 01 54 41.6
comp=Z,246nm,21.6s,baz=307,slow=33
ZALV Zalesovo Beam 94.77 27 *i* P **P 01 15 24.7 -1.4**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
AAK Ala-Archa 96.63 40 *i* P **P 01 15 34.2 -0.9**
AAK pmax pmax
comp=Z,9.0nm,1.2s
MKAR Makanchi Array 98.44 33 LR LR 01 57 16.9
comp=Z,431nm,20.9s,baz=306,slow=34
HHC Hu-ho-hao-te 115.67 19 *eP* **PKiKP 01 20 44.3 -3.1**
VNDA Vanda 121.05 187 PKP **PKPdf 01 20 55.9 -0.6**
comp=Z,0.7nm,0.8s,baz=225,slow=5.7,SNR=2.7

NJ2	**Nanjing**	**125.97**	**16**	*e*P		**PKPdf**	**01 21 07.0**	**-0.2**
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**128.15**	**45**	PKP		**PKPdf**	**01 21 10.9**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=295,slow=2.8,SNR=7.7							
CMAR	**Chiang Mai Arr**	**128.15**	**45**	PKIKP		**PKPdf**	**01 21 10.7**	**-1.1**
CMAR	**Chiang Mai Arr**	**128.15**	**45**	PKPdf		**PKPdf**	**01 21 10.7**	**-1.1**
QIZ	**Qiongzhong**	**134.17**	**33**	PKP		**PKiKP**	**01 21 24.0**	**-0.5**
QIZ				PP		**PP**	**01 23 56.3**	**+3.5**
QIZ	**Qiongzhong**	**134.17**	**33**	SS		SS	01 41 46.3	+4.7
QIZ				LR		LR		
	comp=N,270nm,14.7s							
QIZ				LR		LR		
	comp=E,230nm,24.0s							
QIZ				LR		LR		
	comp=Z,270nm,19.6s							

TRN 28 01:05:07.2, 14.62N×59.14W, h19km, MD3.6, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**1.52**	**196**	*e*S	Sg	01 05 55.5	-0.9
MPOM	**Morne Pois Mar**	**1.67**	**264**	*e*P	Pn	01 05 36.4	+0.9
MPOM	**Morne Pois Mar**	**1.67**	**264**	*e*S	Sb	01 05 59.1	+0.9
MPOM	**Morne Pois Mar**	**1.67**	**264**	*e*	Pg	01 05 47.1	+7.7
ILAM	**Ilet Lapin Mar**	**1.69**	**276**	*e*P	Pn	01 05 36.5	+0.8
MVM	**Montagne Vaucl**	**1.70**	**268**	*e*P	Pb	01 05 37.2	-0.7
LPMF	**Morne Lapointe**	**1.77**	**269**	*e*P	Pn	01 05 37.6	+0.7
ZAM	**Aeronautique**	**1.83**	**269**	*e*P	Pn	01 05 38.7	+1.1
BIM	**Bigot**	**1.87**	**267**	*e*P	Pn	01 05 39.5	+1.2
BIM	**Bigot**	**1.87**	**267**	*e*	Pg	01 05 52.6	+9.4
BIM	**Bigot**	**1.87**	**267**	*e*	Sb	01 06 04.2	+0.3
SLBI	**Saint Lucia, B**	**1.87**	**252**	*e*S	Sb	01 06 03.6	-0.4
SLBI	**Saint Lucia, B**	**1.87**	**252**	*e*P	Pb	01 05 40.6	-0.3
FDF	**Fort de France**	**1.95**	**274**	*e*S	Sn	01 06 03.6	+0.2
FDF	**Fort de France**	**1.95**	**274**	*e*P	Pn	01 05 40.4	+1.0
BAMF	**Morne Balai**	**1.95**	**276**	*e*P	Pn	01 05 40.8	+1.4
MCLT	**Moule a Chique**	**1.97**	**243**	*e*S	Sb	01 06 06.7	0.0
MCLT	**Moule a Chique**	**1.97**	**243**	*e*P	Pn	01 05 40.9	+1.3
CXM	**Morne La Croix**	**1.97**	**276**	*e*P	Pb	01 05 41.3	-1.4
SVN	**Savane Anatole**	**1.98**	**277**	*e*P	Pn	01 05 41.0	+1.3
PML	**Morne Lenard**	**1.98**	**275**	*e*P	Pb	01 05 41.3	-1.5
PCM	**Pelee Case Pet**	**2.01**	**276**	*e*P	Pn	01 05 41.5	+1.3
DSLB	**Salisbury**	**2.35**	**291**	*e*S	Sn	01 06 14.7	+1.5
DSLB	**Salisbury**	**2.35**	**291**	*e*P	Pn	01 05 46.5	+1.6
SVB	**Belmont**	**2.45**	**237**	*e*S	Sn	01 06 17.3	+1.6
SVB	**Belmont**	**2.45**	**237**	*e*P	Pn	01 05 48.4	+2.2
MAGL	**Barre de l'ile**	**2.46**	**303**	*e*S	Sn	01 06 17.2	+1.4
MAGL	**Barre de l'ile**	**2.46**	**303**	*e*P	Pn	01 05 47.0	+0.7
TDBA	**Terre de Bas,**	**2.70**	**297**	*e*P	Pn	01 05 51.4	+1.7
CBE	**Ff, Capester**	**2.78**	**302**	*e*S	Sn	01 06 25.9	+1.9
CBE	**Ff, Capester**	**2.78**	**302**	*e*P	Pn	01 05 52.4	+1.5
GCMP	**Grenada, Carri**	**3.07**	**227**	*e*S	Sn	01 06 31.2	+0.2

IDC 28 01:05:11.4±39.0, 4.17N×95.40W, h0km, mb3.8/3, mb1 4.3/3, mb1mx3.8/31, mbtmp3.8/3, Error ellipse: s-maj=690.4km s-min=223.1km az=145.0, Eastcentral Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**26.23**	**343**	P	P	01 10 48.2	-0.1
	0.7nm,0.9s,baz=155,slow=11,SNR=6.8						
NVAR	**Mina Array Bea**	**39.98**	**332**	P	P	01 12 47.9	-0.2
	2.6nm,1.0s,baz=160,slow=8.2,SNR=12						
PDAR	**Pinedale Array**	**40.45**	**344**	P	P	01 12 52.0	+0.1
	1.5nm,0.9s,baz=152,slow=9.9,SNR=2.1						

MEX 28 01:33:04.6±0.8, 19.23N×105.04W, h31km±5km, MD3.8, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.26**	**360**	*i* P	Pb	01 33 10.3	-1.5
CJM				*i* S	Sb	01 33 14.8	-1.7
R15V		**1.00**	**93**	*e*P	Pn	01 33 20.1	-2.4
R15V				*e*S	Sn	01 33 32.5	-3.2
COIG	**Colima**	**1.28**	**92**	*e*P	Pn	01 33 24.5	-1.9
COIG				*e*S	Sn	01 33 40.0	-2.5
EZ5V		**1.38**	**80**	*e*P	Pn	01 33 26.4	-1.5
EZ5V				*e*S	Sn	01 33 43.1	-2.2

IDC 28 01:37:59.8±1.8, 17.39N×146.04E, h0km, mb4.1/5, mb1 4.4/5, mb1mx3.7/44, mbtmp4.1/5, Error ellipse: s-maj=54.4km s-min=30.3km az=176.0
NEIC 28 01:38:00.9±1.5, 17.03N±0.06×146.1E±0.1, h10km±1km, mb4.6/14, Error ellipse: s-maj=24.5km s-min=2.9km az=295.0

ISC 28 01:38:00.9±0.7, 17.09N±0.09×145.9E±0.1, h10km, n34, σ0.95/28, mb4.4/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**0.77**	**194**	Pg	**Pb**	**01 38 16.0**	**-0.3**
GUMO	**Guam**	**3.62**	**196**	Pn	**Pn**	**01 38 56.6**	**-0.4**
PATS	**Pohnpei**	**15.83**	**129**		**Pn**	**01 41 44.9**	**+0.8**
PATS				IAmb	IAmb	01 41 50.4	
	comp=Z,50nm,1.1s						
H11S3	**WAKE ISLAND Hy**	**19.84**	**83**	T	T	02 02 55.5	
	baz=269,slow=75,SNR=63						
H11S1	**WAKE ISLAND Hy**	**19.85**	**83**	T	T	02 03 02.8	
	baz=269,slow=75,SNR=67						
H11S2	**WAKE ISLAND Hy**	**19.85**	**83**	T	T	02 02 58.9	
	baz=269,slow=75,SNR=77						
H11N1	**WAKE ISLAND Hy**	**20.08**	**79**	T	T	02 03 18.9	
	baz=266,slow=75,SNR=132						
H11N2	**WAKE ISLAND Hy**	**20.09**	**79**	T	T	02 03 19.8	
	baz=266,slow=75,SNR=101						
H11N3	**WAKE ISLAND Hy**	**20.10**	**79**	T	T	02 03 19.9	
	baz=266,slow=75,SNR=124						
MJAR	**Matsushiro Arr**	**20.55**	**342**	P	**P**	**01 42 40.4**	**+0.8**
MAJO	**Matsushiro**	**20.55**	**342**	P	**P**	**01 42 38.6**	**-1.1**
KSRS	**Korea Array**	**25.74**	**326**	P	**P**	**01 43 32.1**	**+0.5**
	comp=Z,1.3nm,0.9s,baz=149,slow=8.8,SNR=5.5						
CMAR	**Chiang Mai Arr**	**44.65**	**279**	P	**P**	**01 46 14.3**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=62,slow=8.0,SNR=6.6						
CMAR	**Chiang Mai Arr**	**44.65**	**279**	P	**P**	**01 46 15.1**	**+1.0**
J20K	**Nowinta River**	**61.82**	**25**	P	**P**	**01 48 19.3**	**-0.5**
J20K				IAmb	IAmb	01 48 29.0	
	comp=Z,7.3nm,1.4s						
IMAR	**Indian Mountai**	**62.60**	**24**	P	**P**	**01 48 24.9**	**-0.2**
H21K	**Melozitna Rive**	**62.86**	**24**	P	**P**	**01 48 26.7**	**-0.1**
H21K				IAmb	IAmb	01 48 54.6	
	comp=Z,3.9nm,1.2s						
BPAW	**Bear Paw Mtn.**	**63.10**	**26**	P	**P**	**01 48 27.8**	**-0.6**
BPAW				IAmb	IAmb	01 48 28.4	
	comp=Z,5.0nm,0.9s						
H24K	**Noodor Dome**	**64.86**	**25**	P	**P**	**01 48 39.2**	**-0.8**
H24K				IAmb	IAmb	01 48 56.6	
	comp=Z,6.6nm,1.4s						
ILAR	**Eielson Array**	**65.00**	**26**	P	**P**	**01 48 38.4**	**-2.5**
	comp=Z,1.3nm,0.8s,baz=264,slow=5.3,SNR=9.5						
TOLK	**Toolik Lake Re**	**65.01**	**21**	P	**P**	**01 48 40.3**	**-0.6**
BMAR	**Burnt Mountain**	**66.51**	**23**	P	**P**	**01 48 50.4**	**-0.2**
BCAR	**Beaver Creek A**	**66.90**	**28**	P	**P**	**01 48 52.2**	**-1.0**
HYT	**Haines Junctio**	**68.70**	**31**	P	**P**	**01 49 05.0**	**+0.3**
INK	**Inuvik**	**70.77**	**23**	P	**P**	**01 49 15.2**	**-1.9**
	comp=Z,2.3nm,0.7s,baz=241,slow=8.6,SNR=6.1						
INK	**Inuvik**	**70.77**	**23**	P	**P**	**01 49 15.8**	**-1.3**
INK				IAmb	IAmb	01 49 16.1	
	comp=Z,3.4nm,0.8s						
B08A	**Colville Reser**	**80.52**	**42**	P	**P**	**01 50 13.0**	**-0.4**
PINE	**Pine Mountain**	**80.60**	**47**	P	**P**	**01 50 15.5**	**+1.4**
NVAR	**Mina Array Bea**	**83.97**	**52**	P	**P**	**01 50 32.0**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=267,slow=6.9,SNR=8.7						
NVAR	**Mina Array Bea**	**83.97**	**52**	P	**P**	**01 50 31.9**	**0.0**
ELK	**Elko**	**85.52**	**49**	P	**P**	**01 50 39.2**	**-0.6**
ELK				IAmb	IAmb	01 50 40.3	
	comp=Z,1.9nm,0.8s						
PSUT	**Pine Spring**	**87.26**	**51**	P	**P**	**01 50 47.6**	**-0.7**
PSUT				IAmb	IAmb	01 50 48.7	
	comp=Z,2.0nm,0.8s						
LPAZ	**La Paz**	**147.41**	**94**	PKPbc	**PKPbc**	**01 57 46.8**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=326,slow=4.3,SNR=3.9						
LPAZ	**La Paz**	**147.41**	**94**		**PKPdf**	**01 57 45.4**	**+1.2**

IDC 28 01:40:03.5±1.9, 1.78N×126.09E, h0km, mb3.9/2, mb1 3.8/3, mb1mx3.4/38, mbtmp3.7/3, ML3.3/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/33, Error ellipse: s-maj=119.6km s-min=25.1km az=68.0
NEIC 28 01:40:09.5±1.4, 1.8N±0.1×126.2E±0.2, h34km±7km, mb4.0/8, Error ellipse: s-maj=32.0km s-min=8.0km az=64.0

ISC 28 01:40:08.8±0.8, 1.7N±0.1×126.2E±0.2, h35km, n18, σ0.71/16, mb4.0/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.55**	**128**	Pn	**Pn**	**01 40 33.2**	**-0.8**
SIJI	**Sorong**	**5.73**	**117**	LR	LR	01 43 50.2	
	comp=Z,66nm,21.6s,baz=240,slow=39						
FITZ	**Fitzroy Crossi**	**19.72**	**181**	P	**P**	**01 44 35.0**	**-0.6**
	0.1nm,0.3s,baz=346,slow=8.3,SNR=1.6						
FITZ	**Fitzroy Crossi**	**19.72**	**181**		**Pn**	**01 44 36.4**	**-0.8**
SSLB	**Suanglung**	**22.49**	**347**	P	**P**	**01 45 05.5**	**+0.1**
WRA	**Warramunga Arr**	**23.00**	**160**	P	**P**	**01 45 10.7**	**-0.1**
	110nm,0.6s,baz=338,slow=11,SNR=1.3						
WB2	**Warramunga Arr**	**23.00**	**160**	P	**P**	**01 45 10.8**	**0.0**
WB2				IAmb	IAmb	01 45 15.8	
	comp=Z,3.6nm,0.7s						
WR0	**Warramunga Arr**	**23.08**	**160**	P	**P**	**01 45 10.6**	**-1.1**
WR0				IAmb	IAmb	01 45 16.5	
	comp=Z,8.9nm,1.4s						
ASAR	**Alice Springs**	**26.36**	**164**	P	**P**	**01 45 42.3**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=344,slow=7.7,SNR=13						
ASAR	**Alice Springs**	**26.36**	**164**	P	**P**	**01 45 42.0**	**0.0**
CTA	**Charters Tower**	**29.32**	**139**	LR	LR	02 00 02.8	
	comp=Z,179nm,21.0s,baz=46,slow=41						
STKA	**Stephens Creek**	**36.50**	**158**	P	**P**	**01 47 12.2**	**+1.2**
USA0B	**Ussuriysk Arra**	**42.59**	**6**	P	**P**	**01 48 01.9**	**+0.4**
MK31	**Makanchi Array**	**58.86**	**326**	P	**P**	**01 50 04.1**	**-0.1**
MK31				IAmb	IAmb	01 50 30.7	
	comp=Z,2.0nm,1.1s						
MKAR	**Makanchi Array**	**58.86**	**326**	P	**P**	**01 50 03.6**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=106,slow=7.4,SNR=5.1						
MKAR	**Makanchi Array**	**58.86**	**326**	P	**P**	**01 50 03.9**	**-0.3**
ABKAR	**Akbulak array**	**73.32**	**321**	P	**P**	**01 51 36.2**	**-0.8**
ABKAR				IAmb	IAmb	01 51 52.3	
	comp=Z,0.8nm,0.8s						
VNDA	**Vanda**	**81.54**	**173**	P	**P**	**01 52 23.4**	**+1.1**

MEX 28 01:50:48.2±0.9, 16.55N×92.34W, h157km±85km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.33**	**143**	*e*P	Sn	01 51 28.5	+2.1
TGIG		**0.79**	**287**	*e*P	Sn	01 51 29.5	-0.8
PCIG		**1.19**	**225**	*e*P	Pn	01 51 13.9	-1.3
PCIG				*e*S	Sn	01 51 33.9	-2.1
CMIG	**Matias Romero**	**2.50**	**283**	*e*P	Pn	01 51 28.4	-1.2
CMIG				*e*S	Sn	01 51 59.8	-1.7

MEX 28 01:53:49.8±1.5, 14.17N×93.98W, h10km, MD4.1
IDC 28 01:53:53.0±5.3, 14.78N×93.36W, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.6/35, mbtmp3.5/5, ML3.2/2, MS2.4/1, Ms1 2.4/1, ms1mx2.3/32, Error ellipse: s-maj=157.8km s-min=45.2km az=31.0

ISC 28 01:53:52.4±2.7, 14.6N±0.1×93.71W±0.08, h4km±14km, n11, σ1.41/17, mb3.7/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.23**	**22**	*e*P	**Pg**	**01 54 16.6**	**+0.5**
PCIG				*e*S	**Sn**	**01 54 36.2**	**+2.6**
THIG		**1.44**	**76**	*e*P	**Pn**	**01 54 17.6**	**-1.6**
THIG				*e*S	**Sg**	**01 54 38.8**	**+0.3**
TGIG		**2.28**	**14**	*e*P	**Pb**	**01 54 32.9**	**-1.3**
TGIG				*e*S	**Sb**	**01 55 02.4**	**-0.4**
CCIG	**Comitan**	**2.29**	**41**	*e*P	**Pb**	**01 54 33.3**	**-1.0**
CCIG				*e*S	**Pb**	**01 54 34.4**	**0.0**
CMIG	**Matias Romero**	**2.76**	**336**	Pn	**Pn**	**01 54 37.4**	**-0.1**
	2.7nm,0.3s,baz=157,slow=11,SNR=22						
CMIG				LR	LR	01 55 08.0	
	comp=Z,69nm,19.6s,baz=290,slow=28						
CMIG				Sn	**Sn**	**01 55 09.9**	**-1.4**
	8.7nm,0.3s,baz=93,slow=18,SNR=9.0						
CMIG	**Matias Romero**	**2.76**	**336**	*e*P	**Pn**	**01 54 37.2**	**-0.3**
CMIG				*e*S	**Sn**	**01 55 08.7**	**-2.7**
TXAR	**Lajitas Array**	**17.35**	**330**	P	**P**	**01 57 58.2**	**+1.1**
	0.0nm,0.3s,baz=153,slow=14,SNR=9.1						
NVAR	**Mina Array Bea**	**32.21**	**322**	P	**P**	**02 00 23.6**	**+1.6**
	0.4nm,0.6s,baz=159,slow=6.4,SNR=4.4						
ILAR	**Eielson Array**	**61.68**	**337**	P	**P**	**02 04 11.6**	**+0.2**
	0.4nm,0.8s,baz=157,slow=5.0,SNR=5.0						
NB2	**NORSAR Subarra**	**84.44**	**28**	P	**P**	**02 06 25.7**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=292,slow=4.8						
NOA	**NORSAR Array B**	**84.44**	**28**	P	**P**	**02 06 25.9**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=292,slow=4.8,SNR=4.6						

IDC 28 02:04:53.6±2.7, 5.75N×126.12E, h0km, mb3.7/2, mb1 3.7/2, mb1mx3.3/24, mbtmp3.7/2, Error ellipse: s-maj=255.7km s-min=24.8km az=65.0
MAN 28 02:05:00.6, 5.08N×126.05E, h1km, mb4.6, ML3.4, MS3.3

ISC 28 02:04:53.5±1.7, 6.3N±0.3×127.3E±0.2, h10km, n4, σ1.904/5, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**2.26**	**289**	*e*P	**Pg**	**02 05 37.2**	**+0.3**
KCP				*e*S	**Sg**	**02 06 06.0**	**-0.3**
WRA	**Warramunga Arr**	**26.98**	**165**	P	**P**	**02 10 34.4**	**-1.3**
	102nm,0.5s,baz=342,slow=10,SNR=2.6						
ASAR	**Alice Springs**	**30.46**	**168**	P	**P**	**02 11 07.3**	**+0.6**
	0.2nm,0.4s,baz=341,slow=7.0,SNR=4.3						
MKAR	**Makanchi Array**	**55.79**	**324**	P	**P**	**02 14 30.8**	**0.0**
	0.7nm,0.3s,baz=112,slow=6.9,SNR=17						

MEX 28 02:17:17.3±0.7, 14.24N×93.30W, h15km±999km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.46**	**3**	*e*P	Pn	02 17 35.8	-7.4
PCIG				*e*S	Sn	02 17 56.3	-5.8

MEX 28 02:17:44.6±2.2, 13.94N×92.98W, h15km±999km, MD3.5, Off coast of Chiapas

ARE 28 02:31:50±2.3, 16.81S±0.08×70.6W±0.2, h13km±9km, ML4.0, mb4.0/1(NEIC), Error ellipse: s-maj=20.9km s-min=12.0km az=93.0
NEIC 28 02:31:55.3±1.4, 16.88S±0.10×71.0W±0.2, h75km±27km, Error ellipse: s-maj=22.7km s-min=12.8km az=105.0

ISC 28 02:31:50.0±5.5, 16.6S±0.3×71.2W±0.4, h50km, n16, σ1.78/16, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**1.91**	**155**	Pn	**Pn**	**02 32 18.5**	**-1.7**
LPAZ	**La Paz**	**2.95**	**84**		**Pn**	**02 32 36.8**	**+1.9**
PSGCX	**Pisagua**	**3.12**	**161**	Pn	**Pn**	**02 32 38.1**	**+1.2**
PB11	**IPOC Station P**	**3.44**	**155**	Pn	**Pn**	**02 32 41.8**	**+0.5**
TA02	**Huaiquique**	**3.76**	**165**	Pn	**Pn**	**02 32 47.2**	**+1.7**
PB08	**IPOC Station P**	**3.99**	**151**	Pn	**Pn**	**02 32 51.0**	**+1.9**
TA01	**Diego Aracena**	**4.04**	**167**		**Pn**	**02 32 51.2**	**+1.9**
PB01	**IPOC Station P**	**4.68**	**160**	Pn	**Pn**	**02 33 00.2**	**+1.9**
PB07	**IPOC Station P**	**5.22**	**167**	Pn	**Pn**	**02 33 07.5**	**+1.7**
PB04	**IPOC Station P**	**5.76**	**170**	Pn	**Pn**	**02 33 14.6**	**+1.4**
PB06	**IPOC Station P**	**6.24**	**166**	Pn	**Pn**	**02 33 21.1**	**+1.4**
LVC	**Limon Verde**	**6.33**	**161**	Pn	**Pn**	**02 33 22.8**	**+1.7**
PB10	**IPOC Station P**	**6.88**	**175**		**Pn**	**02 33 29.5**	**+1.2**
PB14	**IPOC Station P**	**8.00**	**175**	Pn	**Pn**	**02 33 44.8**	**+0.8**
AC02	**Maricunga**	**10.34**	**170**	Pn	**Pn**	**02 34 16.6**	**+0.4**
TRQA	**Tornquist**	**22.84**	**161**	P	**P**	**02 36 46.2**	**-2.7**
TRQA				IAmb	IAmb	02 36 56.0	
	comp=Z,7.5nm,1.4s						

IDC 28 02:47:23.3±10.0, 2.89N×94.78W, h0km, mb3.4/4, mb1 3.8/4, mb1mx3.6/32, mbtmp3.4/4, Error ellipse: s-maj=272.0km s-min=175.0km az=51.0, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**27.62**	**343**	P	P	02 53 13.0	+0.2
	0.2nm,0.6s,baz=160,slow=11,SNR=2.7						
H03N2	**Juan Fernandez**	**39.11**	**159**	T	T	03 36 19.8	
	baz=334						
H03N1	**Juan Fernandez**	**39.12**	**159**	T	T	03 36 19.1	
	baz=334						
H03N3	**Juan Fernandez**	**39.13**	**159**	T	T	03 36 16.4	
	baz=334						
NVAR	**Mina Array Bea**	**41.39**	**332**	P	P	02 55 11.6	-0.1
	0.4nm,0.6s,baz=155,slow=7.0,SNR=3.7						
PDAR	**Pinedale Array**	**41.84**	**344**	P	P	02 55 14.9	-0.4
	0.1nm,0.4s,baz=148,slow=5.3,SNR=2.7						
INK	**Inuvik**	**70.36**	**346**	P	P	02 58 38.7	+0.1
	0.6nm,0.5s,baz=90,slow=5.1,SNR=1.5						

IDC 28 02:50:54.0±5.1, 1.81N×95.86W, h0km, mb3.9/6, mb1 4.3/6, mb1mx3.9/29, mbtmp3.9/6, MS3.9/22, Ms1 3.9/22, ms1mx3.8/32, Error ellipse: s-maj=166.5km s-min=28.7km az=36.0
NEIC 28 02:50:58.1±2.0, 2.09N±0.08×95.6W±0.2, h10km±2km, mb4.2/18, Error ellipse: s-maj=39.7km s-min=7.3km az=252.0
GCMT 28 02:51:03.1±0.4, 2.75N±0.02×94.93W±0.04, h12km, MW4.8/87, Moment Tensor Solution. s14,c16; s87,c123; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr~1.54±.06; Mθθ 1.55±.05; Mφφ 0.00±.06; Mrθ 0.28±.19; Mθφ 0.01±.05; Mφr~1.48±.31; Best double couple: Mo2.02400×10^16 NP1:φ67.00000°, δ45.00000°, λ-135.00000°. NP2: φ302.00000°, δ60.00000°, λ-55.00000°. Principal axes: T 1.5930, Plg9.0000°, Azm8.0000°; N 0.8650, Plg30.0000°, Azm103.0000°; P -2.4560, Plg59.0000°, Azm263.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 28 02:50:57.3±2.8, 2.1N±0.4×95.6W±0.3, h10km, n45, σ0.77/28, mb4.1/15, MS3.8/21, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**Las Juntas de**	**13.34**	**52**	LR	LR	02 57 33.3	
	comp=Z,936nm,19.8s,baz=345,slow=29						
ZAIG	**Zacatecas**	**21.63**	**342**	P	**P**	**02 55 48.5**	**+0.4**
ZAIG				IAmb	IAmb	02 55 55.2	
	comp=Z,15nm,1.3s						
NNA	**Nana**	**23.31**	**127**	LR	LR	03 03 08.9	
	comp=Z,179nm,20.6s,baz=289,slow=32						
SDV	**Santo Domingo**	**25.73**	**74**	LR	LR	03 04 57.6	
	comp=Z,222nm,21.4s,baz=244,slow=32						
TXAR	**Lajitas Array**	**28.15**	**345**	P	**P**	**02 56 49.6**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=165,slow=8.2,SNR=7.1						
TXAR				LR	LR	03 06 48.2	
	comp=Z,430nm,21.6s,baz=0.0,slow=34						
TXAR	**Lajitas Array**	**28.15**	**345**	P	**P**	**02 56 49.0**	**-0.9**
TX31	**Lajitas Ar. Si**	**28.15**	**345**	P	**P**	**02 56 49.2**	**-0.7**
TX32	**Lajitas Array**	**28.15**	**345**	P	**P**	**02 56 48.8**	**-1.1**
TX32				IAmb	IAmb	02 56 50.6	
	comp=Z,5.2nm,1.5s						
LPAZ	**La Paz**	**32.72**	**125**	LR	LR	03 07 38.5	
	comp=Z,60nm,21.7s,baz=312,slow=31						
PTGA	**Pitinga**	**35.74**	**94**	P	**P**	**02 57 57.0**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=281,slow=9.7,SNR=6.2						
PTGA				LR	LR	03 12 46.7	
	comp=Z,99nm,18.5s,baz=283,slow=36						
PTGA	**Pitinga**	**35.74**	**94**	P	**P**	**02 57 56.4**	**-0.2**
PTGA				IAmb	IAmb	02 58 05.3	
	comp=Z,4.8nm,0.9s						
LVC	**Limon Verde**	**35.80**	**135**	LR	LR	03 09 10.9	
	comp=Z,129nm,19.2s,baz=248,slow=31						
R32A	**Long Quarter,**	**36.26**	**356**	P	**P**	**02 58 00.1**	**-0.7**
R32A				IAmb	IAmb	02 58 00.7	
	comp=Z,9.3nm,1.1s						
WCI	**Wyandotte Cave**	**36.95**	**12**	P	**P**	**02 58 07.3**	**+0.7**
SIV	**San Ignacio**	**38.57**	**119**	LR	LR	03 13 42.7	
	comp=Z,118nm,19.6s,baz=298,slow=35						
SPR3	**Spring Creek 3**	**40.51**	**337**	P	**P**	**02 58 37.0**	**+0.1**
SPR3				IAmb	IAmb	02 58 49.5	
	comp=Z,6.1nm,1.5s						
DUG	**Dugway, Tooele**	**41.01**	**340**	P	**P**	**02 58 41.3**	**+0.5**
DUG				IAmb	IAmb	02 58 49.8	
	comp=Z,8.4nm,1.4s						
NV11	**Mina Array Sit**	**41.63**	**333**	P	**P**	**02 58 47.1**	**+1.1**
NV11				IAmb	IAmb	02 58 59.5	
	comp=Z,6.1nm,1.4s						
NVAR	**Mina Array Bea**	**41.70**	**333**	P	**P**	**02 58 46.5**	**-0.1**
	comp=Z,1.9nm,1.0s,baz=152,slow=7.9,SNR=8.2						
NVAR				LR	LR	03 13 51.2	
	comp=Z,137nm,20.8s,baz=178,slow=33						
NVAR	**Mina Array Bea**	**41.70**	**333**	P	**P**	**02 58 47.7**	**+1.1**
BGU	**Big Grassy Mou**	**41.73**	**340**	P	**P**	**02 58 48.6**	**+1.9**
PD31	**Pinedale Array**	**42.37**	**345**	P	**P**	**02 58 51.4**	**-0.6**
PDAR	**Pinedale Array**	**42.37**	**345**	P	**P**	**02 58 52.4**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=155,slow=8.7,SNR=8.0						
PDAR				LR	LR	03 16 02.7	
	comp=Z,584nm,18.4s,baz=192,slow=35						
PDAR	**Pinedale Array**	**42.37**	**345**	P	**P**	**02 58 51.4**	**-0.6**
ELK	**Elko**	**42.37**	**338**	P	**P**	**02 58 52.7**	**+0.6**
MDP	**Montagnes des**	**42.97**	**85**	LR	LR	03 15 46.0	
	comp=Z,131nm,20.2s,baz=226,slow=34						
LOHW	**Long Hollow**	**43.43**	**344**	P	**P**	**02 59 00.7**	**+0.1**
LOHW				IAmb	IAmb	02 59 08.2	
	comp=

PB11				IAML			02 54 48.7		
	comp=N,595nm,0.3s								
PB08	**IPOC Station P**	**1.92**	**104**	⇑*iP*	Pn		02 54 32.2	+0.4	
PB08				*i*S	Sn		02 54 56.4	+1.4	
PB08				IAML			02 55 06.4		
	comp=N,231nm,0.3s								
PB02	**IPOC Station P**	**2.00**	**145**	⇓*iP*	Pn		02 54 33.0	+0.3	
PB02				*i*S	Sn		02 54 56.1	-0.4	
PB02				IAML			02 55 12.2		
	comp=E,337nm,0.5s								
PB01	**IPOC Station P**	**2.06**	**131**	⇑*iP*	Pn		02 54 33.8	+0.4	
PB01				*i*S	Sn		02 54 58.7	+0.8	
PB01				IAML			02 55 09.9		
	comp=N,155nm,0.8s								
PB07	**IPOC Station P**	**2.35**	**150**	⇑*iP*	Pn		02 54 37.8	+0.3	
PB07				IAML			02 55 23.2		
	comp=E,133nm,0.6s								
PB04	**IPOC Station P**	**2.79**	**161**	⇑*iP*	Pn		02 54 43.5	-0.1	
PB04				*i*S	Sn		02 55 13.6	-2.6	
PB04				IAML			02 55 42.4		
	comp=E,79nm,0.1s								
PB05	**IPOC Station P**	**3.27**	**165**	*eP*	Pn		02 54 49.8	-0.4	
PB05				*eS*	Sn		02 55 24.3	-3.6	

*IDC **28** 03:04:39.8±1.4,35°.76N×140°.90E,h0km,mb3.5/3, mb1 3.7/5,mb1mx3.4/34,mbtmp3.5/5,ML3.0/2,Error ellipse: s-maj=34.4km s-min=25.7km az=93.0*
*JMA **28** 03:04:41.9±0.2,35°.80N×140°.88E,h15km±1km,M4.0*
JMA Felt II J1.
*NIED **28** 03:04:41.9,35°.80N×140°.88E,h15km,MW3.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-1.47; Mθθ-2.41; Mϕϕ3.88; Mrθ1.56; Mθϕ1.25; Mϕr0.46; Fault plane solution: M₀3.93000×10¹⁴ NP1: ϕs230.00000°,δ72.00000°,λ-31.00000°. NP2: ϕs331.00000°,δ60.00000°,λ-159.00000°.*

ISC 28 03:04:41.6±0.9,**35°.71N**±0°.04×**140°.67E**±0°.05,**h12**km±6km, **n20**,σ1℘**28**/19,**mb3.4**/3,**6C**,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.15**	**92**	P	**Pg**	**03 04 45.1**	**0.0**
CHOJ				*S*	**Sg**	**03 04 47.3**	**-0.3**
JSMT	**Sammumatsuo**	**0.19**	**250**	⇑P	**Sg**	**03 04 50.2**	**+1.6**
JIHU	**Itakohorinouch**	**0.28**	**336**	⇑P	**Pb**	**03 04 49.4**	**+0.8**
JHYU	**Hitachinakayam**	**0.63**	**354**	⇑P	**Pg**	**03 04 53.6**	**-0.3**
JHYU				*eS*	**Sg**	**03 05 01.6**	**-0.6**
JYT	**Yasato**	**0.65**	**323**	⇑P	**Pb**	**03 04 54.8**	**0.0**
JYT				*S*	**Sb**	**03 05 04.2**	**+0.4**
JHO	**Hitachi**	**0.90**	**355**	⇑P	**Pg**	**03 04 57.1**	**-1.9**
BSO3	**Boso 3**	**0.92**	**188**	⇑P	**Pn**	**03 05 01.2**	**+1.2**
MJAR	**Matsushiro Arr** 2.0nm,0.3s,baz=91,slow=8.9,SNR=59	**2.16**	**293**	Pn	**Pn**	**03 05 17.8**	**+0.4**
MAT	**Matsushiro**	**2.16**	**293**	P	**Pn**	**03 05 18.3**	**+0.9**
MAT				*eS*	**Sg**	**03 05 48.7**	**-2.3**
JHJ	**Hachijo jima 2** 11nm,0.3s,baz=70,slow=21,SNR=7.2	**2.69**	**196**	Pn	**Pb**	**03 05 27.7**	**-1.9**
JHJ				*S*	**Sn**	**03 05 57.6**	**+0.5**
	28nm,0.3s,baz=64,slow=23,SNR=6.7						
H11N2	**WAKE ISLAND Hy 28.03** baz=311,slow=75,SNR=75	**0.118**		T	T	03 39 31.6	
H11N1	**WAKE ISLAND Hy 28.03** baz=311,slow=75,SNR=39	**0.118**		T	T	03 39 38.3	
H11N3	**WAKE ISLAND Hy 28.05** baz=311,slow=75,SNR=48	**0.118**		T	T	03 39 33.0	
H11S3	**WAKE ISLAND Hy 28.68** baz=312,slow=75,SNR=85	**0.120**		T	T	03 40 17.5	
H11S1	**WAKE ISLAND Hy 28.68** baz=312,slow=75,SNR=110	**0.120**		T	T	03 40 19.1	
H11S2	**WAKE ISLAND Hy 28.70** baz=312,slow=75,SNR=88	**0.120**		T	T	03 40 22.8	
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=74,slow=11,SNR=2.4	**44.33**	**303**	P	**P**	**03 12 53.5**	**+2.1**
ILAR	**Eielson Array** 0.4nm,0.8s,baz=266,slow=5.6,SNR=4.4	**50.93**	**32**	P	**P**	**03 13 41.6**	**-0.8**
WRA	**Warramunga Arr** 59nm,0.4s,baz=3.1,slow=7.6,SNR=1.3	**55.67**	**187**	P	**P**	**03 14 16.9**	**-0.8**
NOA	**NORSAR Array B** 0.5nm,0.6s,baz=39,slow=5.8,SNR=2.2	**75.17**	**337**	P	**P**	**03 16 23.6**	**0.0**

*IDC **28** 03:07:14.1±0.9,5°.21S×76°.81W,h100km±8km,mb3.9/12, mb1 4.0/18,mb1mx3.8/35,mbtmp4.2/18,MS4.1/1, Ms1 4.0/1,ms1mx2.8/26,Error ellipse: s-maj=19.5km s-min=13.0km az=54.0*
*NEIC **28** 03:07:16.0±2.0,5°.22S±0°.08×76°.80W±0°.10,h107km±5km, mb4.5/59,Error ellipse: s-maj=15.3km s-min=10.3km az=62.0*
*VAO **28** 03:07:17.1±0.3,5°.35S×76°.52W,h76km,mb4.5*

ISC 28 03:07:14.4±0.4,**5°.30S**±0°.05×**76°.84W**±0°.07,**h100**km,**n163**, σ1℘**64**/161,**mb4.4**/40,**Northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**5.73**	**344**		**Pn**	**03 08 39.2**	**+1.7**
OTAV	**Otavalo**	**5.73**	**344**	*eP*	**Pn**	**03 08 40.5**	**+3.0**
OTAV	**Otavalo**	**5.73**	**344**	*eP*	**Pn**	**03 08 39.8**	**+2.4**
CUSE	**Cuicocha Este**	**5.78**	**344**	*eP*	Pn	03 08 43.8	+5.7
PTLC	**Puerto Leguiza**	**5.80**	**21**	*eP*	**Pn**	**03 08 34.6**	**-3.5**
PAC1	**Pacto, Paraso**	**5.86**	**341**	*eP*	Pn	03 08 44.3	+5.3
TULM	**Tulcn-Chalpat**	**6.05**	**351**	*eP*	**Pn**	**03 08 44.0**	**+2.2**
GCUF	**Volcan Galeras**	**6.50**	**356**	*eP*	**Pn**	**03 08 50.4**	**+2.4**
NNA	**Nana** 2.2nm,0.3s,baz=354,slow=9.2,SNR=2.6	**6.65**	**180**	P	**Pn**	**03 08 50.7**	**+1.1**
NNA				*S*	**Sn**	**03 10 00.6**	**-3.3**
	5.3nm,0.3s,baz=288,slow=21,SNR=6.6						
NNA	**Nana**	**6.65**	**180**	Pn	**Pn**	**03 08 51.7**	**+2.1**
PTGL	**Punta Galera**	**6.83**	**332**	*eP*	**Pn**	**03 08 54.0**	**+2.0**
FLOC	**Florencia**	**6.93**	**10**		**Pn**	**03 08 53.8**	**+0.3**
FLOC	**Florencia**	**6.93**	**10**	*eP*	**Pn**	**03 08 53.7**	**+0.3**
TBTG	**Tabatinga, AM**	**7.00**	**81**	*eP*	**Pn**	**03 08 54.5**	**+0.2**
TBTG	**Tabatinga, AM**	**7.00**	**81**	*eP*	**Pn**	**03 08 54.6**	**+0.3**
BBAC	**Balboa, Cauca**	**7.28**	**357**	*eP*	**Pn**	**03 09 00.3**	**+2.0**
SOTA	**Rioblanco**	**7.38**	**2**	*eP*	**Pn**	**03 09 01.9**	**+1.9**
GARC	**Garzon, Huila**	**7.55**	**10**	*eP*	**Pn**	**03 09 02.6**	**+0.5**
PCON	**Cinco Dias**	**7.59**	**3**	*eP*	**Pn**	**03 09 07.0**	**+4.2**
POPC	**Popayan, Colom**	**7.79**	**1**	⇑P	**Pn**	**03 09 07.2**	**+1.9**
MACC	**Macarena, Meta**	**7.97**	**22**	*eP*	**Pn**	**03 09 07.9**	**+0.3**
MARP	**Paez Belalcaza**	**8.13**	**6**	*eP*	**Pn**	**03 09 12.1**	**+2.1**
ORTC	**Ortega, Tolima**	**9.28**	**10**	*eP*	**Pn**	**03 09 27.2**	**+1.8**
ANIL	**Santa Ana**	**9.83**	**8**	*eP*	Pn	03 09 45.8	+13
VILC	**Villavicencio,**	**9.86**	**19**	*eP*	**Pn**	**03 09 34.9**	**+1.5**
CHIC	**Chingaza**	**10.34**	**18**	*eP*	**Pn**	**03 09 41.3**	**+1.2**
ROSC	**El Rosal**	**10.38**	**14**	*eP*	Pn	03 09 51.9	+11
PTGC	**Puerto Gaitan,**	**10.54**	**27**	*eP*	**Pn**	**03 09 43.2**	**+0.7**
GUY2C	**Guyana, Caldas**	**10.55**	**8**	*eP*	**Pn**	**03 09 46.4**	**+3.3**
NORC	**Norcasia**	**10.96**	**10**	*eP*	Pn	03 09 53.3	+4.9
CBOC	**Ciudad Bolivar**	**11.12**	**4**	*eP*	Pn	03 09 55.4	+4.9
ETMB	**Extrema**	**11.45**	**114**	*eP*	**Pn**	**03 09 51.6**	**-3.2**
RUSC	**La Rusia**	**11.73**	**19**	Pn	**Pn**	**03 09 59.9**	**+0.9**
RUSC	**La Rusia**	**11.73**	**19**	*eP*	**Pn**	**03 10 00.6**	**+1.6**
PTBC	**PUERTO BERRIO,**	**11.99**	**11**	*eP*	**Pn**	**03 10 04.5**	**+2.4**
DBBC	**Dabeiba**	**12.25**	**3**	*eP*	**Pn**	**03 10 09.7**	**+4.1**
BARC	**Barichara**	**12.36**	**17**	*eP*	**Pn**	**03 10 07.2**	**+0.1**
LPAZ	**La Paz** 0.1nm,0.3s,baz=346,slow=8.3,SNR=3.3	**13.87**	**143**	P	**Pn**	**03 10 25.8**	**-1.5**
LPAZ	**La Paz**	**13.87**	**143**	Pn	**Pn**	**03 10 27.6**	**+0.3**
LPAZ	**La Paz**	**13.87**	**143**	*eP*	**Pn**	**03 10 25.4**	**-1.9**
LPAZ	**La Paz**	**13.87**	**143**	*eP*	**Pn**	**03 10 26.5**	**-0.8**
SAML	**Samuel**	**14.03**	**106**	Pn	**Pn**	**03 10 24.8**	**-4.0**
SAML	**Samuel**	**14.03**	**106**	*eP*	**Pn**	**03 10 25.0**	**-3.8**
ELOV	**Elorza**	**14.25**	**31**	*eP*	**Pn**	**03 10 30.8**	**-0.9**
SMLC	**San Martn de**	**14.27**	**11**	*eP*	**Pn**	**03 10 32.7**	**+0.8**
BRU2	**Volcan**	**15.16**	**337**	P	**P**	**03 10 47.2**	**+1.0**
SJCC	**San Jacinto, C**	**15.18**	**6**	P	**P**	**03 10 46.8**	**+0.5**
SDV	**Santo Domingo** 0.8nm,0.3s,baz=240,slow=8.1,SNR=2.3	**15.39**	**24**	P	**Pn**	**03 10 46.4**	**+0.1**
SDV	**Santo Domingo**	**15.39**	**24**	P	**Pn**	**03 10 47.9**	**+1.6**
SDV	**Santo Domingo**	**15.39**	**24**	*eP*	**P**	**03 10 48.4**	**-0.4**
MACA	**Manacapuru-AM**	**16.25**	**83**	*eP*	**P**	**03 10 58.5**	**+0.4**
PTGA	**Pitinga** 1.2nm,0.3s,baz=235,slow=11,SNR=16	**17.45**	**75**	P	**P**	**03 11 08.7**	**-2.6**
PTGA	**Pitinga**	**17.45**	**75**		**P**	**03 11 10.6**	**-0.8**
PTGA				IAmb	IAmb	03 11 36.4	
	comp=Z,20nm,0.8s						
PTGA	**Pitinga**	**17.45**	**75**	*eP*	**P**	**03 11 11.4**	**+0.1**
BOAV	**Boa Vista**	**18.00**	**65**	*eP*	**Pn**	**03 11 19.1**	**+0.8**
VILB	**Vilhena**	**18.10**	**116**	*eP*	**Pn**	**03 11 19.8**	**+0.4**
SIV	**San Ignacio** comp=Z,0.2nm,0.3s,baz=306,slow=13,SNR=8.3	**18.77**	**126**	P	**P**	**03 11 25.6**	**-0.3**
SIV				pP	**pP**	**03 11 42.1**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=323,slow=10,SNR=12						
LVC	**Limon Verde**	**18.84**	**157**	*eP*	**Pn**	**03 11 28.2**	**-0.5**
PCRV	**Puerto La Cruz** comp=Z,0.4nm,0.3s,baz=202,slow=19,SNR=2.4	**19.60**	**38**	P	**P**	**03 11 34.2**	**-0.7**
PTLB	**Pontes e Lacer**	**20.11**	**121**	*eP*	Pn	03 11 41.5	-1.5
ITTB	**Itaituba**	**21.05**	**88**	*eP*	**P**	**03 11 50.6**	**0.0**
NPGB	**Novo Progresso**	**21.43**	**96**	*eP*	**P**	**03 11 54.5**	**-0.2**
CLDB	**Colider**	**21.55**	**106**	*eP*	**P**	**03 11 56.2**	**+0.2**
MALB	**Monte Alegre**	**22.79**	**82**	*eP*	**P**	**03 12 10.4**	**+1.6**
SALV	**Santo Antonio**	**23.28**	**119**	*eP*	**P**	**03 12 16.5**	**+3.0**
PP1B	**Ponte de Pedra**	**24.72**	**121**	*eP*	**P**	**03 12 30.1**	**+3.5**
GTBY	**Guantanamo Bay**	**25.12**	**4**	P	**P**	**03 12 32.2**	**+2.1**
GTBY				IAmb	IAmb	03 12 34.6	
	comp=Z,18nm,0.8s						
MCPB	**Macapa, AP**	**25.23**	**80**	*eP*	**P**	**03 12 33.7**	**+2.4**
SJG	**San Juan** comp=Z,8.2nm,0.7s,baz=274,slow=15,SNR=3.9	**25.54**	**24**	P	**P**	**03 12 32.4**	**-1.5**
HUMP	**Col San Antoni**	**25.69**	**25**	P	**P**	**03 12 36.3**	**+1.0**
SNDB	**Serra Nova Dou**	**26.10**	**106**	*eP*	**P**	**03 12 40.5**	**+1.4**
MDP	**Montagnes des** comp=Z,2.9nm,0.7s,baz=245,slow=15,SNR=2.8	**26.28**	**67**	P	**P**	**03 12 41.4**	**+0.6**
PRPB	**Parauapebas**	**26.90**	**93**	*eP*	**P**	**03 12 46.9**	**+0.5**
CPUP	**Villa Florida**	**28.02**	**140**	*eP*	**P**	**03 12 59.4**	**+3.2**
TMAB	**Tom-Au,PA,Br**	**28.82**	**85**	*eP*	**P**	**03 13 07.0**	**+3.5**
ITRB	**Iturama**	**29.48**	**121**	*eP*	**P**	**03 13 12.1**	**+2.7**
PCMB	**Pacaembu**	**29.61**	**126**	*eP*	**P**	**03 13 12.6**	**+2.2**
BDFB	**Brasilia** comp=Z,2.1nm,0.7s,baz=72,slow=6.4,SNR=3.0	**30.11**	**112**	P	**P**	**03 13 15.7**	**+0.7**
BDFB				LR	LR	03 25 16.4	
	comp=Z,348nm,18.2s,baz=348,slow=36						
PTGB	**Pitanga**	**30.64**	**132**	*eP*	**P**	**03 13 22.6**	**+3.0**
IPMB	**Ipameri, GO**	**30.68**	**117**	*eP*	**P**	**03 13 22.4**	**+2.5**
ML02	**Panimavida**	**30.73**	**171**	P	**P**	**03 13 23.0**	**+3.0**
BB19B	**Bebedouro**	**31.62**	**122**	*eP*	**P**	**03 13 31.7**	**+3.5**
SDBA	**SAO DESIDERIO**	**32.31**	**105**	*eP*	**P**	**03 13 36.9**	**+2.6**
ROSB	**Rosrio**	**32.72**	**87**	*eP*	**P**	**03 13 41.6**	**+3.8**
TIJ01	**Guava-PR**	**33.29**	**130**	*eP*	**P**	**03 13 45.0**	**+2.2**
JANB	**Januaria**	**33.41**	**109**	*eP*	**P**	**03 13 45.9**	**+2.1**
CNLB	**Canela**	**34.27**	**137**	*eP*	**P**	**03 13 53.2**	**+2.0**
PLCA	**Paso Flores**	**35.73**	**172**	*eP*	P	03 14 08.8	+5.2
NBLA	**Lagarto - SE**	**39.04**	**101**	*eP*	**P**	**03 14 33.5**	**+1.6**
LRAL	**Lakeview Retre**	**39.32**	**346**	P	**P**	**03 14 32.9**	**-0.9**
LRAL				IAmb	IAmb	03 14 34.1	
	comp=Z,7.2nm,1.1s						
LRAL				PcP	**PcP**	**03 16 39.8**	**-0.8**
NBLV	**Livramento - P**	**39.72**	**95**	*eP*	**P**	**03 14 38.9**	**+1.3**
Z47A	**Carrollton**	**39.74**	**345**	P	**P**	**03 14 36.2**	**-1.1**
Y49A	**Blount Mountai**	**39.98**	**348**	P	**P**	**03 14 38.1**	**-1.2**
Y49A				IAmb	IAmb	03 14 55.3	
	comp=Z,5.1nm,1.1s						
W57A	**Gilead**	**40.34**	**356**	P	**P**	**03 14 42.2**	**-0.1**
W57A				IAmb	IAmb	03 15 05.2	
	comp=Z,11nm,1.1s						
NBAN	**Anadia - AL**	**40.43**	**99**	*eP*	**P**	**03 14 45.4**	**+2.0**
FPAL	**Fort Paine**	**40.48**	**349**	P	**P**	**03 14 42.4**	**-1.0**
FPAL				IAmb	IAmb	03 15 11.0	
	comp=Z,9.0nm,1.0s						
V53A	**Saluda**	**41.13**	**353**	P	**P**	**03 14 47.8**	**-1.0**
V53A				IAmb	IAmb	03 14 49.8	
	comp=Z,4.8nm,0.9s						
V48A	**Smith Brothers**	**41.88**	**348**	P	**P**	**03 14 53.8**	**-1.1**
V48A				IAmb	IAmb	03 15 22.4	
	comp=Z,10nm,0.9s						
TZTN	**Tazewell**	**42.09**	**352**	P	**P**	**03 14 55.5**	**-1.0**
TZTN				IAmb	IAmb	03 14 55.9	
	comp=Z,7.0nm,0.8s						
TXAR	**Lajitas Array**	**43.01**	**325**	P	**P**	**03 15 04.2**	**0.0**
	comp=Z,1.5nm,0.9s,baz=145,slow=8.9,SNR=7.3						
TXAR	**Lajitas Array**	**43.01**	**325**	P	**P**	**03 15 03.9**	**-0.4**
N59A	**State Game Lan**	**46.00**	**1**	P	**P**	**03 15 29.1**	**+1.4**
N59A				IAmb	IAmb	03 15 55.6	
	comp=Z,5.9nm,1.1s						
M55A	**Ridgway**	**46.57**	**358**	P	**P**	**03 15 31.7**	**-0.6**
M55A				IAmb	IAmb	03 15 41.2	
	comp=Z,5.5nm,1.0s						
M54A	**Oil Creek Stat**	**46.65**	**357**	P	**P**	**03 15 32.6**	**-0.2**
BINY	**Binghamton**	**47.27**	**1**	P	**P**	**03 15 37.6**	**0.0**
R32A	**Long Quarter,**	**48.00**	**337**	P	**P**	**03 15 43.8**	**+0.4**
J59A	**Piesco**	**48.58**	**2**	P	**P**	**03 15 48.5**	**+0.8**
J59A				IAmb	IAmb	03 15 48.7	
	comp=Z,4.4nm,0.8s						
NCB	**Newcomb**	**49.10**	**2**	P	**P**	**03 15 51.7**	**0.0**
NCB				IAmb	IAmb	03 15 58.5	
	comp=Z,3.8nm,1.0s						
LBNH	**Lisbon**	**49.51**	**5**	P	**P**	**03 15 55.2**	**+0.5**
LBNH				IAmb	IAmb	03 15 56.6	
	comp=Z,9.1nm,1.1s						
PLVO	**Plevna**	**50.11**	**360**	P	**P**	**03 15 58.4**	**-0.9**
PLVO				IAmb	IAmb	03 16 21.5	
	comp=Z,8.7nm,1.2s						
G62A	**West of Eustis**	**50.60**	**6**	P	**P**	**03 16 04.1**	**+1.0**
X16A	**Lo Mia Camp, P**	**51.24**	**323**	P	**P**	**03 16 08.9**	**+0.7**
X16A				IAmb	IAmb	03 16 09.4	
	comp=Z,4.4nm,0.8s						
KNB	**Kanab**	**53.84**	**324**	P	**P**	**03 16 28.6**	**+1.2**
P17A	**Butcher Ranch,**	**54.43**	**328**	P	**P**	**03 16 31.4**	**-0.2**
P17A				IAmb	IAmb	03 16 32.0	
	comp=Z,3.6nm,0.7s						
CCUT	**Cedar City**	**54.52**	**324**		**P**	**03 16 33.3**	**+0.9**
RDMU	**Red Mountain**	**54.64**	**330**	P	**P**	**03 16 32.8**	**-0.4**
AGMN	**Agassiz Nation**	**55.92**	**345**	P	**P**	**03 16 40.6**	**-1.3**
SPR3	**Spring Creek 3**	**56.07**	**325**	P	**P**	**03 16 43.3**	**-0.3**
PDAR	**Pinedale Array** comp=Z,0.5nm,0.7s,baz=118,slow=7.3,SNR=5.7	**56.29**	**331**	P	**P**	**03 16 44.0**	**-1.0**
R11A	**Troy Canyon, C**	**56.36**	**324**	P	**P**	**03 16 45.6**	**+0.1**
SPUT	**South Promonto**	**56.66**	**328**	P	**P**	**03 16 47.4**	**-0.1**
SPUT				IAmb	IAmb	03 16 47.9	
	comp=Z,5.1nm,1.0s						
ULM	**Lac du Bonnet**	**57.72**	**346**	P	**P**	**03 16 52.1**	**-2.5**
	comp=Z,5.6nm,0.6s,baz=117,slow=7.4,SNR=5.7						
ULM				pP	**pP**	**03 17 18.6**	**-0.6**
	comp=Z,5.5nm,0.7s,baz=167,slow=8.0,SNR=3.5						
ULM	**Lac du Bonnet**	**57.72**	**346**	P	**P**	**03 16 52.7**	**-1.9**
MDPB	**Devils Postpil**	**58.02**	**321**	P	**P**	**03 16 57.5**	**+0.2**
MDPB				IAmb	IAmb	03 16 58.0	
	comp=Z,2.6nm,0.8s						
NVAR	**Mina Array Bea**	**58.04**	**322**	P	**P**	**03 16 57.1**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=120,slow=7.0,SNR=14						
NVAR	**Mina Array Bea**	**58.04**	**322**	P	**P**	**03 16 57.3**	**-0.1**
YNE	**Yellowstone No**	**58.22**	**333**	P	**P**	**03 16 58.4**	**-0.1**
YHL	**Hebgen Lake**	**58.64**	**332**	P	**P**	**03 17 02.1**	**+0.6**
BOZ	**Bozeman (W)**	**59.41**	**332**	P	**P**	**03 17 06.6**	**0.0**
BOZ				IAmb	IAmb	03 17 07.1	
	comp=Z,4.6nm,1.0s						
MFID	**Camas Ranch**	**59.92**	**328**	P	**P**	**03 17 10.4**	**+0.3**
PMSA	**Palmer Station**	**60.07**	**174**	*eP*	P	03 17 15.8	+5.2
BEKR	**Beckworth**	**60.18**	**322**	P	**P**	**03 17 12.4**	**+0.3**
BEKR				IAmb	IAmb	03 17 12.9	
	comp=Z,3.1nm,0.8s						
I07A	**Izee**	**62.34**	**327**	P	**P**	**03 17 26.8**	**+0.3**
I07A				IAmb	IAmb	03 17 27.8	
	comp=Z,4.7nm,1.1s						
WALA	**Waterton Lakes**	**63.03**	**334**	P	**P**	**03 17 30.9**	**-0.1**
WALA				IAmb	IAmb	03 17 31.3	
	comp=Z,4.8nm,1.0s						
NEW	**Newport**	**63.94**	**331**	P	**P**	**03 17 37.0**	**+0.1**
NEW				IAmb	IAmb	03 17 37.0	
	comp=Z,2.8nm,0.8s						
LTY	**Liberty**	**65.03**	**329**	P	**P**	**03 17 43.8**	**-0.2**
DBIC	**Dimbokro**	**72.82**	**81**	P	**P**	**03 18 33.0**	**+0.1**
	comp=Z,4.6nm,1.0s,baz=231,slow=7.1,SNR=2.4						
KOWA	**Kowa**	**74.81**	**74**	P	**P**	**03 18 44.5**	**0.0**
TORD	**Torodi Ar. Bea** comp=Z,2.5nm,1.1s,baz=274,slow=5.3,SNR=12	**80.09**	**76**	P	**P**	**03 19 13.1**	**-0.8**
TORD				pP	**pP**	**03 19 39.5**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=281,slow=5.5,SNR=2.7						
TORD	**Torodi Ar. Bea**	**80.09**	**76**	P	**P**	**03 19 12.6**	**-1.4**
TABL	**Table Mountain**	**82.27**	**333**	P	**P**	**03 19 24.3**	**-0.5**
INK	**Inuvik**	**83.21**	**342**	P	**P**	**03 19 28.5**	**-0.7**
INK				IAmb	IAmb	03 19 29.3	
	comp=Z,6.8nm,0.8s						
M27K	**Edge Creek, AK**	**83.40**	**335**	P	**P**	**03 19 30.5**	**-0.1**
M27K				IAmb	IAmb	03 19 31.6	
	comp=Z,6.5nm,1.0s						
VRDI	**Verde Repeater**	**83.63**	**333**	P	**P**	**03 19 31.4**	**-0.4**
VRDI				IAmb	IAmb	03 19 32.5	
	comp=Z,7.0nm,0.9s						
BCAR	**Beaver Creek A**	**83.66**	**335**	P	**P**	**03 19 32.1**	**+0.4**
L27K	**Beaver Creek,**	**83.68**	**335**	P	**P**	**03 19 31.9**	**+0.1**
L27K				IAmb	IAmb	03 19 32.5	
	comp=Z,5.1nm,0.8s						
QSPA	**South Pole Qui** comp=Z,8.6nm,1.0s,baz=150,slow=3.1,SNR=14	**84.79**	**180**	P	**P**	**03 19 37.9**	**+0.4**
KLU	**Klutina**	**84.83**	**333**	P	**P**	**03 19 37.1**	**-0.6**
KLU				IAmb	IAmb	03 19 37.5	
	comp=Z,4.3nm,0.8s						
ILAR	**Eielson Array** comp=Z,1.5nm,1.0s,baz=138,slow=3.0,SNR=4.2	**86.40**	**336**	P	**P**	**03 19 44.2**	**-1.1**
VNDA	**Vanda** comp=Z,0.6nm,0.7s,baz=84,slow=2.5,SNR=4.0	**91.32**	**191**	P	**P**	**03 20 08.8**	**+0.4**
VNDA	**Vanda**	**91.32**	**191**	P	**P**	**03 20 08.5**	**+0.1**
ABKAR	**Akbulak array**	**123.01**	**32**	PKPdf	**PKPdf**	**03 25 59.1**	**-0.1**
ZALV	**Zalesovo Beam** comp=Z,2.7nm,0.8s,baz=298,slow=3.2,SNR=6.9	**129.25**	**14**	PKP	**PKPdf**	**03 26 10.1**	**-0.9**
MKAR	**Makanchi Array** comp=Z,1.0nm,0.8s,baz=347,slow=5.0,SNR=5.4	**134.90**	**20**	PKPdf	**PKPdf**	**03 26 21.1**	**-0.8**
MKAR	**Makanchi Array**	**134.90**	**20**	PKPdf	**PKPdf**	**03 26 21.7**	**-0.3**
SONM	**Songino Array** comp=Z,1.1nm,0.8s,baz=309,slow=1.6,SNR=4.1	**137.53**	**357**	PKP	**PKPdf**	**03 26 25.9**	**-1.0**
SONM	**Songino Array**	**137.53**	**357**	PKPdf	**PKPdf**	**03 26 25.4**	**-1.5**
KSH	**Kashi**	**138.01**	**32**	PKP	**PKPdf**	**03 26 28.0**	**-0.1**
ASAR	**Alice Springs** comp=Z,0.7nm,0.7s,baz=92,slow=1.8,SNR=8.2	**138.43**	**225**	PKP	**PKPdf**	**03 26 26.9**	**-2.2**
ASAR	**Alice Springs**	**138.43**	**225**	PKPdf	**PKPdf**	**03 26 27.7**	**-1.5**
KSRS	**Korea Array** comp=Z,1.3nm,0.9s,baz=89,slow=1.6,SNR=5.2	**140.81**	**328**	PKP	**PKPdf**	**03 26 29.9**	**-3.1**
FITZ	**Fitzroy Crossi**	**147.87**	**223**	PKPdf	**PKPdf**	**03 26 44.4**	**-1.5**
FITZ				PKPbc	**PKPbc**	**03 26 47.5**	**-1.4**
FITZ				PKPab	**PKPab**	**03 26 51.2**	**-0.4**
PSA00	**Pilbara Seismi**	**148.69**	**211**	PKPbc	**PKPbc**	**03 26 49.1**	**-1.8**

*IDC **28** 03:07:37.6±1.1,31°.65S×71°.88W,h0km,mb4.3/6, mb1 4.2/9,mb1mx3.9/32,mbtmp4.1/9,ML3.9/3,Error ellipse: s-maj=35.2km s-min=21.4km az=107.0*
*NEIC **28** 03:07:40.0±2.2,31°.70S±0°.04×72°.06W±0°.08,h18km±1km, mb4.5/4,Mwr4.0/44,ML4.1(GUC),Error ellipse: s-maj=9.7km s-min=5.2km az=87.0*
*NEIC **28** 03:07:40.2,31°.71S×72°.06W,h20km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.21; Mθθ0.07; Mϕϕ-1.28; Mrθ0.10; Mθϕ0.10; Mϕr-0.78; Fault plane solution: M₀1.48000×10¹⁵ NP1:ϕs174.34000°, δ61.09000°,λ88.24000°. NP2:ϕs357.68000°,δ28.96000°, λ93.19000°. Principal axes: T 1.4412, Plg74.0000°, Azm80.00000°; N 0.0740, Plg2.0000°, Azm175.00000°; P -1.5152, Plg16.0000°, Azm265.0000°;*
*GUC **28** 03:07:40.4±0.7,31°.71S×72°.04W,h39km±3km,ML4.2*

ISC 28 03:07:40.9±2.1,**31°.69S**±0°.03×**72°.10W**±0°.07,**h26**km±16km, **n71**,σ1℘**01**/75,**mb4.4**/6,**8C-4D**,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Cornbarbal**	**1.05**	**63**	⇓*iP*	**Pn**	**03 07 58.8**	**-1.3**
CO02				*i*S	**Sn**	**03 08 12.6**	**-1.4**
CO02				IAML		03 08 16.2

comp=Z,3.5nm,0.7s
QSPA South Pole Qui 58.54 180 P **P** **03 17 36.1 +1.1**
comp=Z,1.7nm,0.8s,baz=203,slow=2.3,SNR=4.1
DBIC Dimbokro 74.50 72 P **P** **03 19 16.6 -0.9**
comp=Z,7.9nm,0.9s,baz=191,slow=4.4,SNR=5.0
DBIC Dimbokro 74.50 72 P **P** **03 19 16.2 -1.3**
NVAR Mina Array Bea 81.97 325 P **P** **03 20 00.2 +1.6**
comp=Z,0.3nm,0.6s,baz=124,slow=5.6,SNR=3.5
TORD Torodi Ar. Bea 83.47 70 P **P** **03 20 06.6 -0.1**
comp=Z,2.3nm,0.7s,baz=257,slow=4.9,SNR=8.4
WRA Warramunga Arr 122.75 210 PKhKP PKPpre 03 26 31.2
comp=Z,86nm,0.5s,baz=121,slow=1.6,SNR=1.4
H11S2 WAKE ISLAND Hyl 25.72 271 T T 05 45 29.2
baz=117,slow=75,SNR=12
H11S1 WAKE ISLAND Hyl 25.74 271 T T 05 45 33.8
baz=117,slow=75,SNR=5.5
H11S3 WAKE ISLAND Hyl 25.74 271 T T 05 45 30.6
baz=117,slow=75,SNR=7.6
H11N3 WAKE ISLAND Hyl 26.08 272 T T 05 46 02.9
baz=117
H11N1 WAKE ISLAND Hyl 26.09 272 T T 05 46 05.2
baz=117
H11N2 WAKE ISLAND Hyl 26.10 272 T T 05 46 03.9
baz=117,SNR=5.2
ZALV Zalesovo Beam 152.28 30 PKPbc **PKiKP** **03 27 34.9 +0.8**
comp=Z,2.0nm,0.5s,baz=297,slow=6.0,SNR=5.1
ZALV Zalesovo Beam 152.28 30 **PKiKP** **03 27 34.7 +0.6**
MKAR Makanchi Array 155.23 45 PKPab **PKPab** **03 27 55.8 -0.8**
comp=Z,0.5nm,0.7s,baz=300,slow=3.2,SNR=3.1

*MEX **28** 03:08:16.5±0.4, 14.°43N×92.°02W, h81km±6km, MD4.0*
*NEIC **28** 03:08:17.7±1.8, 14.°6N±0.°1×92.°03W±0.°07, h86km±4km, mb3.9/2, Md4.0/12(MEX), Error ellipse: s-maj=19.4km s-min=7.6km az=200.0*
ISC 28 03:08:19.1±1.3, 14.°71N±0.°09×91.°98W±0.°08, h67km, n13, σ1s84/18, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.33**	**123**	Pn	**Pn**	**03 08 30.5**	**+0.3**
THIG		**0.34**	**306**	*e*P	**Pn**	**03 08 30.5**	**+0.3**
THIG				*e*S	**Sn**	**03 08 41.1**	**+2.7**
THIG		**0.34**	**306**		**Pn**	**03 08 30.5**	**+0.3**
THIG					**Sn**	**03 08 41.1**	**+2.7**
HUEH	**Huehuetenango**	**0.76**	**37**	Pn	**Pn**	**03 08 35.0**	**+0.3**
PCIG		**1.55**	**310**	*e*P	**Pn**	**03 08 43.4**	**-1.3**
PCIG				*e*S	**Sn**	**03 09 04.5**	**+0.5**
PCIG		**1.55**	**310**		**Pn**	**03 08 43.4**	**-1.3**
PCIG					**Sn**	**03 09 04.5**	**+0.5**
CCIG	**Comitan**	**1.57**	**355**	*e*P	**Pn**	**03 08 45.2**	**+0.1**
CCIG				*e*S	**Sn**	**03 09 06.2**	**+1.5**
CCIG	**Comitan**	**1.57**	**355**		**Pn**	**03 08 45.0**	**-0.2**
CRIN	**San Cristobal**	**5.19**	**112**	Pn	**Pn**	**03 09 33.8**	**-0.6**
TLIG	**Tlapa**	**6.94**	**295**	Pn	**Pn**	**03 09 57.8**	**-0.4**
ORTG	**Ortega, Santa**	**7.69**	**123**	Pn	**Pn**	**03 10 07.2**	**-1.4**
LRAL	**Lakeview Retre**	**18.80**	**13**	P	**Pn**	**03 12 36.8**	**+2.5**
LRAL				IAmb	IAmb	03 12 52.7	
comp=Z,15nm,1.5s							
SDCO	**Great Sand Dun**	**25.89**	**335**	P	**P**	**03 13 40.6**	**-4.5**
SDCO				IAmb	IAmb	03 13 47.8	
comp=Z,2.4nm,0.8s							

*NEIC **28** 03:12:01.6±0.9, 36.°53N±0.°04×98.°84W±0.°05, h5km±2km, mb_Lg2.6/44, Error ellipse: s-maj=7.3km s-min=6.2km az=302.0*
*ANF **28** 03:12:01.7±0.7, 36.°53N×98.°93W, h5km, ML3.4/10, Error ellipse: s-maj=7.0km s-min=6.0km az=92.0*
ISC 28 03:12:00.6±1.2, 36.°51N±0.°03×98.°89W±0.°03, h3km±12km, n76, σ0s75/70, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.16**	**216**		**Pg**	**03 12 03.7**	**+0.1**
U32A				Sg	**Sg**	**03 12 06.3**	**+0.5**
U32A	**Winter Ranch,**	**0.16**	**216**	P	**Pg**	**03 12 03.8**	**+0.1**
baz=40,SNR=584							
OK032	**Salt Plains WL**	**0.62**	**61**	Pg	**Pg**	**03 12 13.2**	**+0.7**
OK032				Sg	**Sb**	**03 12 22.7**	**-0.6**
CROK	**Carrier**	**0.73**	**90**		**Pb**	**03 12 15.6**	**-0.4**
KAN14	**Manchester OK**	**0.87**	**59**	Pg	**Pg**	**03 12 17.6**	**+0.4**
KAN10	**Anthony SW Sta**	**0.89**	**46**	Pg	**Pg**	**03 12 17.7**	**+0.1**
GC02	**Grant County #**	**0.90**	**67**		**Pg**	**03 12 18.3**	**+0.5**
KAN16	**Harper SW Stat**	**0.97**	**42**	Pg	**Pg**	**03 12 19.3**	**-0.1**
KAN05	**Bluff City Nor**	**1.01**	**53**	Pg	**Pg**	**03 12 20.4**	**+0.4**
KAN08	**Anthony NE Sta**	**1.03**	**45**	Pg	**Pg**	**03 12 20.2**	**-0.1**
KAN17	**Caldwell West**	**1.05**	**59**		**Pg**	**03 12 21.0**	**+0.3**
KAN12	**Harper NE Stat**	**1.06**	**42**	Pg	**Pg**	**03 12 20.9**	**-0.1**
KAN06	**Argonia West S**	**1.11**	**48**	Pg	**Pg**	**03 12 21.8**	**-0.1**
KAN09	**Caldwell North**	**1.20**	**58**		**Pb**	**03 12 23.6**	**-0.4**
KAN13	**South Haven SW**	**1.24**	**65**	Pg	**Pb**	**03 12 24.4**	**-0.3**
KS20	**Mayfield South**	**1.29**	**56**	Pg	**Pb**	**03 12 25.3**	**-0.3**
BCOK	**Bluff Creek, N**	**1.34**	**129**		**Pn**	**03 12 26.2**	**0.0**
OK029	**Liberty Lake**	**1.36**	**121**	Pn	**Pn**	**03 12 26.6**	**+0.1**
BLOK	**Blackwell**	**1.37**	**79**		**Pb**	**03 12 26.6**	**-0.3**
OK025	**Westminster Rd**	**1.56**	**126**	Pn	**Pn**	**03 12 29.7**	**+0.4**
OKCFA	**Oklahoma City**	**1.59**	**133**	Pn	**Pn**	**03 12 30.3**	**+0.5**
OKCFA	**Oklahoma City**	**1.59**	**133**	S	**Sg**	**03 12 53.0**	**+1.2**
baz=315							
OKCSW	**OKLAHOMA CITY**	**1.61**	**133**	Pn	**Pn**	**03 12 29.1**	**-0.8**
FNO	**Franklin**	**1.73**	**135**		**Pn**	**03 12 32.6**	**+0.9**
OK031	**S. Brethren Rd**	**1.75**	**108**	Pn	**Pn**	**03 12 32.3**	**+0.5**
WMOK	**Wichita Mounta**	**1.77**	**177**	Pn	**Pn**	**03 12 31.8**	**-0.3**
WMOK	**Wichita Mounta**	**1.77**	**177**	P	**Pn**	**03 12 32.0**	**-0.2**
baz=358,SNR=113							
QUOK	**Quay**	**1.79**	**100**	Pn	**Pb**	**03 12 33.2**	**-0.9**
OK030	**Cody Creek RV**	**1.80**	**108**	Pn	**Pb**	**03 12 33.4**	**-0.7**
R32A	**Long Quarter,**	**1.92**	**4**	Pn	**Pn**	**03 12 34.3**	**+0.1**
R32A	**Long Quarter,**	**1.92**	**4**	P	**Pn**	**03 12 34.4**	**+0.2**
baz=183							
R32A				S	**Sb**	**03 12 59.8**	**-0.9**
baz=183							
T35A	**Sooner Cattle**	**1.95**	**77**	Pn	**Pn**	**03 12 35.3**	**+0.6**
T35B	**Sooner Cattle**	**1.95**	**77**	P	**Pn**	**03 12 35.3**	**+0.6**
baz=259,SNR=18							
T35B				S	**Sg**	**03 13 03.6**	**+0.3**
baz=259							
X34A	**Smith Ranch, M**	**2.09**	**155**	Pn	**Pn**	**03 12 38.1**	**+1.6**
CBKS	**Cedar Bluff**	**2.40**	**344**	Pn	**Pn**	**03 12 41.6**	**+0.6**
CBKS				IAmb_Lg		03 13 18.7	
comp=Z,19nm,0.8s							
CBKS	**Cedar Bluff**	**2.40**	**344**	P	**Pn**	**03 12 41.5**	**+0.6**
baz=162,SNR=9.8							
CBKS				S	**Sb**	**03 13 13.2**	**-1.3**
baz=162							
TUL1	**Leonard**	**2.57**	**102**	Pn	**Pn**	**03 12 43.3**	**+0.1**
TUL1	**Leonard**	**2.57**	**102**	P	**Pn**	**03 12 43.7**	**+0.5**
baz=285							
TUL1				S	**Sg**	**03 13 21.5**	**-1.8**
baz=285							
AMTX	**Amarillo**	**2.79**	**235**	Pn	**Pn**	**03 12 47.8**	**+1.4**
AMTX				IAmb_Lg		03 13 35.6	
comp=Z,22nm,0.7s							
AMTX	**Amarillo**	**2.79**	**235**	S	**Sb**	**03 13 24.8**	**-1.1**
baz=54							
LOOK	**Love County**	**2.87**	**150**	Pn	**Pn**	**03 12 48.3**	**+1.0**
KSU1	**Kansas State U**	**3.16**	**34**	IAmb_Lg		03 13 43.6	
comp=Z,12nm,0.7s							
KSU1	**Kansas State U**	**3.16**	**34**	S	**Sn**	**03 13 30.5**	**+1.0**
baz=215							
X37A	**Clayton**	**3.45**	**123**	Pn	**Pn**	**03 12 55.9**	**+0.6**
X37A				IAmb_Lg		03 13 59.4	
comp=Z,25nm,1.1s							
X37A	**Clayton**	**3.45**	**123**	P	**Pn**	**03 12 55.8**	**+0.6**
baz=306,SNR=14							
U38A	**Gravette**	**3.63**	**90**	Pn	**Pn**	**03 12 58.7**	**+1.0**
ABTX	**Abilene, Hawle**	**3.92**	**189**	Pn	**Pn**	**03 13 02.2**	**+0.4**
HHAR	**Hobbs**	**4.00**	**92**	Pn	**Pn**	**03 13 04.3**	**+1.5**
MSTX	**Muleshoe**	**4.06**	**233**	Pn	**Pn**	**03 13 04.2**	**+0.3**
MSTX				IAmb_Lg		03 14 19.1	
comp=Z,8.0nm,0.7s							
W39A	**Magazine**	**4.35**	**106**	IAmb_Lg		03 14 27.7	
comp=Z,18nm,0.8s							
T25A	**Trinidad**	**4.48**	**280**	Pn	**Pn**	**03 13 09.9**	**+0.3**
T25A				IAmb_Lg		03 14 34.8	
comp=Z,13nm,0.7s							
S39A	**Bolivar**	**4.60**	**73**	Pn	**Pn**	**03 13 11.4**	**+0.3**
S39A				IAmb_Lg		03 14 28.4	
comp=Z,16nm,0.8s							
S39A	**Bolivar**	**4.60**	**73**	P	**Pn**	**03 13 11.4**	**+0.3**
baz=257,SNR=6.1							
MIAR	**Mount Ida**	**4.75**	**113**	Pn	**Pn**	**03 13 13.9**	**+0.7**
U40A	**Yellville**	**4.87**	**90**	IAmb_Lg		03 14 46.4	
comp=Z,7.0nm,0.8s							
237A	**Washetta, Mont**	**5.17**	**150**	IAmb_Lg		03 14 57.2	
comp=Z,14nm,0.8s							
P38A	**Dawn**	**5.25**	**52**	Pn	**Pn**	**03 13 20.8**	**+0.8**
P38A				IAmb_Lg		03 14 59.9	
comp=Z,8.3nm,0.8s							
X40A	**Basin Creek Fa**	**5.33**	**110**	Pn	**Pn**	**03 13 21.4**	**+0.3**
MGMO	**Mountain Grove**	**5.35**	**81**	Pn	**Pn**	**03 13 21.2**	**-0.2**
MGMO				IAmb_Lg		03 14 52.0	
comp=Z,11nm,0.9s							
SDCO	**Great Sand Dun**	**5.43**	**285**	IAmb_Lg		03 14 57.4	
comp=Z,5.9nm,0.9s							
WHAR	**Wooly Hollow**	**5.49**	**101**	Pn	**Pn**	**03 13 24.4**	**+1.1**
R40A	**Maddies Statio**	**5.56**	**69**	Pn	**Pn**	**03 13 24.8**	**+0.5**
R40A				IAmb_Lg		03 15 04.0	
comp=Z,6.0nm,0.7s							
435B	**Jarrell**	**5.81**	**169**	IAmb_Lg		03 15 17.8	
comp=Z,15nm,1.1s							
JCT	**Junction City**	**6.06**	**188**	IAmb_Lg		03 15 26.0	
comp=Z,8.0nm,0.9s							
K31A	**O'Neill**	**6.11**	**1**	IAmb_Lg		03 15 23.3	
comp=Z,13nm,0.7s							
P40A	**Paris**	**6.18**	**59**	Pn	**Pn**	**03 13 33.1**	**+0.3**
ISCO	**Idaho Springs**	**6.24**	**304**	Pn	**Pn**	**03 13 34.2**	**+0.3**
ISCO				IAmb_Lg		03 15 29.5	
comp=Z,6.5nm,1.1s							
T42A	**Van Buren**	**6.28**	**83**	Pn	**Pn**	**03 13 36.2**	**+2.0**
T42A				IAmb_Lg		03 15 31.3	
comp=Z,5.2nm,0.8s							
CCM	**Cathedral Cave**	**6.29**	**73**	IAmb_Lg		03 15 25.0	
comp=Z,8.4nm,0.9s							
PBMO	**Poplar Bluff**	**6.80**	**85**	IAmb_Lg		03 15 50.0	
comp=Z,8.4nm,1.0s							
FVM	**French Village**	**6.91**	**75**	IAmb_Lg		03 15 40.2	
comp=Z,12nm,0.7s							
PHWY	**Pilot Hill**	**7.01**	**315**	IAmb_Lg		03 15 57.5	
comp=Z,5.0nm,0.8s							
MNTX	**Cornudas Mount**	**7.21**	**230**	Pn	**Pn**	**03 13 47.9**	**+0.9**
TX31	**Lajitas Ar. Si**	**8.20**	**211**	Pn	**Pn**	**03 13 59.7**	**-0.9**
TX32	**Lajitas Array**	**8.20**	**211**	Pn	**Pn**	**03 13 59.7**	**-1.0**
TXAR	**Lajitas Array**	**8.20**	**211**	Pn	**Pn**	**03 13 59.9**	**-0.8**

*TUL **28** 03:16:56.5±1.3, 36.°63N±0.°01×97.°674W±0.°009, h5km±7km, ML2.9, mb_Lg2.7/44(NEIC), Error ellipse: s-maj=1.8km s-min=0.8km az=197.0*
NEIC 28 03:16:56.7±0.8, 36.°61N±0.°01×97.°67W±0.°02, h3km±7km, Error ellipse: s-maj=2.1km s-min=1.6km az=56.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.27**	**248**	Pg	Pg	03 17 02.2	+0.3
CROK				Sg	Sg	03 17 06.3	+0.8
GC02	**Grant County #**	**0.28**	**328**		Pg	03 17 02.2	0.0
GC02				Sg	Sg	03 17 06.3	+0.3
BLOK	**Blackwell**	**0.40**	**68**	Pg	Pg	03 17 04.5	+0.1
BLOK				Sg	Sg	03 17 10.0	+0.5
KAN14	**Manchester OK**	**0.42**	**326**		Pg	03 17 04.6	-0.1
KAN14				Sg	Sg	03 17 10.4	+0.2
KAN13	**South Haven SW**	**0.43**	**21**		Pg	03 17 05.0	0.0
KAN13				Sg	Sg	03 17 10.9	+0.3
KAN17	**Caldwell West**	**0.44**	**350**		Pg	03 17 05.1	-0.1
KAN17				Sg	Sg	03 17 11.1	+0.2
OK032	**Salt Plains WL**	**0.47**	**294**	Pg	Pg	03 17 05.7	-0.1
OK032				Sg	Sg	03 17 12.5	+0.4
KAN05	**Bluff City Nor**	**0.52**	**342**	Pg	Pg	03 17 06.5	-0.3
KAN05				Sg	Sg	03 17 13.7	+0.1
KAN09	**Caldwell North**	**0.53**	**5**		Pg	03 17 06.7	-0.1
KAN09				Sg	Sg	03 17 13.7	0.0
KAN10	**Anthony SW Sta**	**0.62**	**327**	Pg	Pg	03 17 08.2	-0.3
KAN10				Sg	Sg	03 17 16.6	+0.1
KS20	**Mayfield South**	**0.63**	**9**		Pg	03 17 08.5	-0.2
KS20				Sg	Sg	03 17 16.8	0.0
KAN08	**Anthony NE Sta**	**0.66**	**339**	Pg	Pg	03 17 09.1	-0.3
KAN08				Sg	Sg	03 17 18.1	+0.1
KAN16	**Harper SW Stat**	**0.69**	**333**	Pg	Pg	03 17 09.6	-0.4
KAN16				Sg	Sg	03 17 19.0	0.0
KAN12	**Harper NE Stat**	**0.73**	**339**	Pg	Pg	03 17 10.3	-0.5
KAN12				Sg	Sg	03 17 20.2	-0.2
OK029	**Liberty Lake**	**0.83**	**168**	Pg	Pg	03 17 12.2	-0.4
OK029				Sg	Sg	03 17 24.0	+0.6
QUOK	**Quay**	**0.89**	**119**		Pg	03 17 13.5	-0.3
QUOK				Sg	Sg	03 17 25.6	+0.2
OK031	**S. Brethren Rd**	**0.94**	**134**		Pg	03 17 14.5	-0.2
OK031				Sg	Sg	03 17 27.1	+0.2
BCOK	**Bluff Creek, N**	**0.95**	**177**		Pg	03 17 14.7	-0.2
BCOK				Sg	Sg	03 17 27.9	+0.5
T35A	**Sooner Cattle**	**0.98**	**71**		Pg	03 17 15.1	-0.4
T35A				Sg	Sg	03 17 27.8	-0.4
OK030	**Cody Creek RV**	**0.99**	**133**		Pg	03 17 15.4	-0.3
OK025	**Westminster Rd**	**1.06**	**165**	Pg	Pg	03 17 16.9	-0.1
OK025				Sg	Sg	03 17 31.3	+0.5
OKCFA	**Oklahoma City**	**1.21**	**171**	Pg	Pg	03 17 19.2	-0.6
OKCFA				Sg	Sb	03 17 35.9	-0.4
OKCSW	**OKLAHOMA CITY**	**1.22**	**171**		Pg	03 17 19.5	-0.5
FNO	**Franklin**	**1.37**	**171**		Pn	03 17 22.1	-0.7
TUL1	**Leonard**	**1.67**	**114**		Pn	03 17 26.8	-0.2
TUL1				IAmb_Lg		03 17 52.1	
comp=Z,35nm,0.8s							
WMOK	**Wichita Mounta**	**2.08**	**206**	Pn	Pn	03 17 32.5	0.0
WMOK				IAmb_Lg		03 18 03.7	
comp=Z,32nm,0.9s							
LOOK	**Love County**	**2.64**	**171**	IAmb_Lg		03 18 28.1	
comp=Z,22nm,0.8s							
W39A	**Magazine**	**3.46**	**113**	IAmb_Lg		03 18 52.1	
comp=Z,21nm,0.8s							
S39A	**Bolivar**	**3.64**	**71**	Pn	Pn	03 17 55.0	+1.0
AMTX	**Amarillo**	**3.69**	**243**	IAmb_Lg		03 18 54.7	
comp=Z,14nm,0.7s							
MIAR	**Mount Ida**	**3.92**	**120**	Pn	Pn	03 17 58.8	+0.9
MIAR				IAmb_Lg		03 19 03.4	
comp=Z,20nm,1.1s							
Z38A	**Mt. Pleasant**	**4.00**	**146**	IAmb_Lg		03 19 10.1	
comp=Z,24nm,0.9s							
MGMO	**Mountain Grove**	**4.36**	**81**	Pn	Pn	03 18 04.0	0.0
MGMO				IAmb_Lg		03 19 16.3	
comp=Z,17nm,0.8s							
P38A	**Dawn**	**4.44**	**46**	Pn	Pn	03 18 04.0	-1.0
P38A				IAmb_Lg		03 19 15.0	
comp=Z,11nm,1.1s							
X40A	**Basin Creek Fa**	**4.48**	**117**	Pn	Pn	03 18 06.4	+0.9
N35A	**Tabor**	**4.53**	**20**	IAmb_Lg		03 19 24.4	
comp=Z,24nm,0.7s							
WHAR	**Wooly Hollow**	**4.56**	**105**	IAmb_Lg		03 19 20.5	
comp=Z,12nm,0.9s							
R40A	**Maddies Statio**	**4.61**	**67**	Pn	Pn	03 18 08.0	+0.6
R40A				IAmb_Lg		03 19 33.2	
comp=Z,13nm,0.8s							
LCAR	**Lake Charles**	**5.29**	**94**	IAmb_Lg		03 19 47.3	
comp=Z,14nm,0.9s							
P40A	**Paris**	**5.31**	**55**	IAmb_Lg		03 19 51.7	
comp=Z,12nm,0.9s							
CCM	**Cathedral Cave**	**5.32**	**72**	IAmb_Lg		03 19 48.4	
comp=Z,14nm,0.7s							
N38A	**Joes South For**	**5.43**	**38**	IAmb_Lg		03 19 49.4	
comp=Z,11nm,0.7s							
T25A	**Trinidad**	**5.43**	**278**	Pn	Pn	03 18 18.6	-0.2
T25A				IAmb_Lg		03 19 56.8	
comp=Z,10nm,0.8s							
L34A	**Svendsen Farm,**	**5.44**	**10**	IAmb_Lg		03 19 57.9	
comp=Z,16nm,0.7s							
PBMO	**Poplar Bluff**	**5.82**	**86**	IAmb_Lg		03 20 08.1	
comp=Z,14nm,0.8s							
FVM	**French Village**	**5.94**	**74**	IAmb_Lg		03 20 05.5	
comp=Z,15nm,0.9s							
SLM	**Saint Louis**	**6.24**	**69**	IAmb_Lg		03 20 17.4	
comp=Z,12nm,0.8s							
N41A	**Harden Midland**	**6.72**	**50**	IAmb_Lg		03 20 33.0	
comp=Z,14nm,0.9s							

*INET **28** 03:16:32.6, 12.°96N×86.°55W, h14km, MW2.4*
SNET 28 03:17:10.1±0.3, 13.°67N×89.°02W, h4km±5km, ML1.4, 1C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJTE	**Alcalda de S**	**0.06**	**170**	*i* P	Pg	03 17 12.3	+0.8
SJTE				*e*S	Sg	03 17 13.8	+1.3
SJTE				IAML		03 17 14.5	
comp=Z,229nm,0.1s							
LFRS	**El Faro**	**0.07**	**220**	*e*P	Pg	03 17 12.4	+0.8
LBRS	**Las Brisas**	**0.07**	**339**	*e*P	Pg	03 17 12.3	+0.6
COEG	**Centro de Oper**	**0.14**	**112**	*i*P	Pg	03 17 13.8	+0.8
COEG				*e*S	Sg	03 17 16.9	+2.0
COEG				IAML		03 17 18.8	
comp=Z,146nm,0.3s							

*TUL **28** 03:19:19.7±1.3, 36.°63N±0.°01×97.°67W±0.°01, h5km±7km, ML2.5, mb_Lg2.2/12(NEIC), Error ellipse: s-maj=1.7km s-min=1.2km az=207.0*
NEIC 28 03:19:19.8±0.7, 36.°62N±0.°01×97.°66W±0.°01, h7km±7km, Error ellipse: s-maj=1.7km s-min=1.3km az=175.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.28**	**247**	Pg	Pg	03 19 25.4	+0.1
CROK				Sg	Sg	03 19 29.5	+0.4
GC02	**Grant County #**	**0.28**	**326**	Pg	Pg	03 19 25.4	0.0
GC02				Sg	Sg	03 19 29.5	+0.2
BLOK	**Blackwell**	**0.39**	**68**	Pg	Pg	03 19 27.5	+0.1
BLOK				Sg	Sg	03 19 33.0	+0.6
KAN14	**Manchester OK**	**0.42**	**325**	Pg	Pg	03 19 27.8	-0.1
KAN14				Sg	Sg	03 19 33.6	+0.2
KAN13	**South Haven SW**	**0.42**	**20**	Pg	Pg	03 19 28.1	0.0
KAN13				Sg	Sg	03 19 34.0	+0.4
KAN17	**Caldwell West**	**0.44**	**349**	Pg	Pg	03 19 28.2	-0.1
KAN17				Sg	Sg	03 19 34.2	+0.2
OK032	**Salt Plains WL**	**0.48**	**293**	Pg	Pg	03 19 28.9	-0.2
OK032				Sg	Sg	03 19 36.0	+0.6
KAN09	**Caldwell North**	**0.52**	**4**	Pg	Pg	03 19 29.8	-0.2
KAN09				Sg	Sg	03 19 37.0	+0.2
KAN10	**Anthony SW Sta**	**0.61**	**326**	Pg	Pg	03 19 31.4	-0.3
KAN10				Sg	Sg	03 19 39.8	+0.1
KS20	**Mayfield South**	**0.62**	**8**	Pg	Pg	03 19 31.5	-0.3
KS20				Sg	Sg	03 19 39.8	-0.1
KAN16	**Harper SW Stat**	**0.69**	**332**	Pg	Pg	03 19 32.8	-0.3
KAN16				Sg	Sg	03 19 42.1	0.0
KAN12	**Harper NE Stat**	**0.73**	**339**	Pg	Pg	03 19 33.8	-0.1
KAN12				Sg	Sg	03 19 43.4	-0.1
OK029	**Liberty Lake**	**0.83**	**168**	Pg	Pg	03 19 35.5	-0.3
OK029				Sg	Sg	03 19 47.2	+0.5
QUOK	**Quay**	**0.89**	**120**	Pg	Pg	03 19 36.7	-0.1
QUOK				Sg	Sg	03 19 48.5	+0.1
OK031	**S. Brethren Rd**	**0.94**	**135**	Pg	Pg	03 19 37.4	-0.4
OK031				Sg	Sg	03 19 50.1	+0.2
BCOK	**Bluff Creek, N**	**0.96**	**177**	Pg	Pg	03 19 37.8	-0.4
BCOK				Sg	Sg	03 19 51.0	+0.4
T35A	**Sooner Cattle**	**0.97**	**72**	Pg	Pg	03 19 38.2	-0.3
T35A				Sg	Sg	03 19 50.9	-0.2
OK030	**Cody Creek RV**	**0.99**	**134**	Pg	Pg	03 19 38.4	-0.4
OK025	**Westminster Rd**	**1.06**	**166**	Pg	Pg	03 19 40.1	-0.2
OKCSW	**OKLAHOMA CITY**	**1.22**	**171**	Pg	Pb	03 19 42.7	-0.5
FNO	**Franklin**	**1.37**	**171**	Pn	Pn	03 19 45.1	-0.3
TUL1	**Leonard**	**1.67**	**114**	Pn	Pn	03 19 49.8	+0.3
TUL1				IAmb_Lg		03 20 16.2	
comp=Z,18nm,1.0s							
X34A	**Smith Ranch, M**	**2.01**	**184**	Pn	Pn	03 19 55.4	+1.2
X34A				IAmb_Lg		03 20 22.6	
comp=Z,5.4nm,0.9s							
WMOK	**Wichita Mounta**	**2.08**	**206**	Pn	Pn	03 19 55.6	+0.5
WMOK				IAmb_Lg		03 20 25.8	
comp=Z,9.3nm,0.9s							
CBKS	**Cedar Bluff**	**2.74**	**324**	IAmb_Lg		03 20 48.5	
comp=Z,9.6nm,0.8s							
X37A	**Clayton**	**2.75**	**137**	IAmb_Lg		03 20 53.9	
comp=Z,9.0nm,0.9s							
S39A	**Bolivar**	**3.63**	**71**	IAmb_Lg		03 21 16.2	
comp=Z,5.0nm,0.7s							

*MDD **28** 03:33:12.7±1.3, 36.°78N×10.°46W, h0km, mbLg2.3/13, Error ellipse: s-maj=11.4km s-min=8.3km az=39.0, PRXIMO*
*SFS **28** 03:33:12.0, 36.°78N×10.°40W, ML2.5, SW. CABO DE SAN VICENTE*
*INMG **28** 03:33:13.4±1.2, 36.°58N×10.°66W, h31km±13km, ML1.9, Error ellipse: s-maj=12.1km s-min=3.3km az=59.0*
*IGIL **28** 03:33:13.4, 36.°72N×10.°57W, h15km, ML1.8*
*CNRM **28** 03:33:14.3, 36.°49N×10.°36W, h60km, ml2.6*
ISC 28 03:33:11.2±2.2, 36.°72N±0.°05×10.°43W±0.°08, h14km±10km, n69, σ1s53/130, 1C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.35**	**72**	P	**Pg**	**03 33 37.4**	**+0.3**
6.6nm,0.1s,SNR=6.4							
PFVI				S	**Sg**	**03 33 54.9**	**+0.2**
14nm,0.1s,SNR=7.9							
PFVI	**Vila Bisbo**	**1.35**	**72**	*e*P	**Pg**	**03 33 37.4**	**+0.3**
PFVI				*e*S	**Sg**	**03 33 55.0**	**+0.3**
PFVI				A	A	03 33 56.0	
7.9nm,0.5s							
PFVI	**Vila Bisbo**	**1.35**	**72**	P	**Pb**	**03 33 36.8**	**+0.6**
PFVI				S	**Sg**	**03 33 55.3**	**+0.6**
MORF	**Marmelete**	**1.54**	**67**	*e*P	**Pb**	**03 33 40.1**	**+0.6**
M

	comp=N,5.0nm,0.1s							
PMTG	**Montargil**	**2.92**	**36**	P		**Pn**	**03 33 58.5**	**+1.3**
PMTG				S		**Sn**	**03 34 33.1**	**+1.0**
	comp=N,1.7nm,0.4s							
PMTG	**Montargil**	**2.92**	**36**	*eP*		**Pn**	**03 33 58.5**	**+1.3**
PMTG				*eS*		**Sn**	**03 34 33.1**	**+1.0**
PMTG				A		A	03 34 34.6	
	comp=N,1.7nm,0.4s							
PBAR	**Barrancos**	**3.06**	**61**	P		**Pn**	**03 34 01.6**	**+2.4**
PBAR				S		**Sn**	**03 34 36.3**	**+0.6**
PBAR	**Barrancos**	**3.06**	**61**	*eP*		**Pn**	**03 34 01.6**	**+2.4**
PBAR				*eS*		**Sn**	**03 34 36.3**	**+0.6**
PSBE	**So Bento**	**3.07**	**24**	*eP*		**Pn**	**03 34 00.7**	**+1.4**
PSBE				*eS*		**Sn**	**03 34 37.1**	**+1.2**
PESTR	**Estremoz**	**3.10**	**46**	*eP*		**Pn**	**03 34 01.8**	**+2.0**
PESTR				*eS*		**Sn**	**03 34 38.4**	**+1.7**
EMIN	**Mina Concepcio**	**3.17**	**70**	P		**Pn**	**03 34 02.4**	**+1.6**
	comp=N,0.3nm,0.1s,SNR=6.8							
EMIN				S		**Sn**	**03 34 39.6**	**+1.2**
	comp=N,1.2nm,0.2s,SNR=5.9							
EBAD	**Badajoz**	**3.38**	**52**	P		**Pn**	**03 34 05.0**	**+1.4**
	comp=N,0.5nm,0.1s,SNR=9.2							
EBAD				S		**Sn**	**03 34 44.8**	**+1.2**
	comp=N,1.7nm,0.1s,SNR=7.9							
PMRV	**Marv??o**	**3.61**	**41**	P		**Pn**	**03 34 08.0**	**+1.2**
PMRV				S		**Sn**	**03 34 49.3**	**+0.1**
	comp=N,1.8nm,0.4s							
PMRV	**Marv??o**	**3.61**	**41**	*eP*		**Pn**	**03 34 08.0**	**+1.2**
PMRV				*eS*		**Sn**	**03 34 49.3**	**+0.1**
PMRV				A		A	03 34 52.5	
	comp=N,1.8nm,0.4s							
PCAS	**Casmilo, Conde**	**3.65**	**24**	P		**Pn**	**03 34 09.0**	**+1.6**
PCAS				S		**Sn**	**03 34 50.8**	**+0.5**
PCAS	**Casmilo, Conde**	**3.65**	**24**	*eP*		**Pn**	**03 34 09.0**	**+1.6**
PCAS				*eS*		**Sn**	**03 34 50.8**	**+0.5**
ESPR	**Espera**	**3.67**	**86**	P		**Pn**	**03 34 09.6**	**+2.0**
	comp=N,2.3nm,0.1s,SNR=8.5							
ESPR				S		**Sn**	**03 34 51.3**	**+0.6**
	comp=N,7.9nm,0.3s,SNR=7.9							
PCBR	**Castelo Branco**	**3.88**	**36**	P		**Pn**	**03 34 12.5**	**+2.0**
PCBR				S		**Sn**	**03 34 56.5**	**+0.6**
PCBR	**Castelo Branco**	**3.88**	**36**	*eP*		**Pn**	**03 34 12.5**	**+2.0**
PCBR				*eS*		**Sn**	**03 34 56.5**	**+0.6**
ECAB	**El Cabril**	**4.21**	**70**	P		**Pn**	**03 34 17.0**	**+1.9**
	comp=N,0.2nm,0.1s,SNR=12							
ECAB				S		**Sn**	**03 35 04.0**	**-0.1**
	comp=N,0.8nm,0.2s,SNR=7.3							
MTE	**Manteigas**	**4.31**	**31**	P		**Pn**	**03 34 17.5**	**+1.1**
MTE				S		**Sn**	**03 35 05.8**	**-0.8**
MTE	**Manteigas**	**4.31**	**31**	*eP*		**Pn**	**03 34 17.5**	**+1.1**
MTE				*eS*		**Sn**	**03 35 05.8**	**-0.8**
EPLA	**Plasencia**	**4.78**	**44**	P		**Pn**	**03 34 24.4**	**+1.7**
	comp=N,0.2nm,0.1s,SNR=7.9							
EPLA				S		**Sn**	**03 35 18.0**	**0.0**
	comp=N,0.9nm,0.1s,SNR=6.8							
EADA	**Adamuz**	**4.88**	**71**	P		**Pn**	**03 34 26.1**	**+1.9**
	comp=N,0.4nm,0.1s,SNR=7.9							
EADA				S		**Sn**	**03 35 20.8**	**+0.4**
	comp=N,1.1nm,0.1s,SNR=4.0							
POLO	**Lamas de Olo**	**5.08**	**23**	P		**Pn**	**03 34 28.0**	**+1.0**
POLO				S		**Sn**	**03 35 24.4**	**-1.1**
POLO	**Lamas de Olo**	**5.08**	**23**	*eP*		**Pn**	**03 34 28.0**	**+1.0**
POLO				*eS*		**Sn**	**03 35 24.4**	**-1.1**
EAH	**EAH**	**5.11**	**172**	P		Pn	03 34 23.8	-3.5
EAH				S		Sn	03 35 19.3	-6.8
MVO	**Moncorvo**	**5.17**	**30**	P		**Pn**	**03 34 29.5**	**+1.4**
	comp=N,1.0nm,0.1s,SNR=6.1							
MVO				S		**Sn**	**03 35 26.2**	**-1.5**
	comp=N,0.6nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**5.17**	**30**	*eP*		**Pn**	**03 34 29.6**	**+1.4**
MVO				*eS*		**Sn**	**03 35 26.7**	**-0.9**
ELOB	**Lobios**	**5.46**	**19**	P		**Pn**	**03 34 32.6**	**+0.5**
	comp=N,0.1nm,0.0s,SNR=7.9							
ELOB				S		**Sn**	**03 35 32.6**	**-2.2**
	comp=N,0.5nm,0.1s,SNR=7.9							
PGAV	**Gavieira, Arco**	**5.50**	**17**	P		**Pn**	**03 34 33.6**	**+0.9**
PGAV				S		**Sn**	**03 35 34.2**	**-1.6**
PGAV	**Gavieira, Arco**	**5.50**	**17**	*eP*		**Pn**	**03 34 33.6**	**+0.9**
PGAV				*eS*		**Sn**	**03 35 34.2**	**-1.6**
PAB	**San Pablo**	**5.56**	**58**	P		**Pn**	**03 34 35.2**	**+1.5**
	comp=N,0.1nm,0.1s,SNR=7.9							
PAB				S		**Sn**	**03 35 36.1**	**-1.2**
	comp=N,0.3nm,0.1s,SNR=7.9							
EZAM	**Zamans**	**5.58**	**13**	P		**Pn**	**03 34 34.4**	**+0.5**
	comp=N,0.2nm,0.0s,SNR=7.9							
EZAM				S		**Sn**	**03 35 35.9**	**-1.9**
	comp=N,0.5nm,0.1s,SNR=7.9							
CZD	**Col de Zad**	**5.76**	**128**	P		**Pn**	**03 34 35.6**	**-1.0**
CZD				S		**Sn**	**03 35 39.9**	**-2.7**
AKLM	**AKL**	**5.79**	**110**	P		Pn	03 34 31.2	-5.6
AKLM				S		Sn	03 35 33.7	-9.2
PBRG	**Braganca**	**5.83**	**28**	P		**Pn**	**03 34 38.1**	**+0.9**
PBRG	**Braganca**	**5.83**	**28**	*eP*		**Pn**	**03 34 38.1**	**+0.9**
OUK	**Oukaimeden**	**5.90**	**158**	P		**Pn**	**03 34 37.6**	**-0.9**
OUK				S		**Sn**	**03 35 41.7**	**-4.5**
ECAL	**Calabor**	**5.95**	**28**	S		**Sn**	**03 35 45.8**	**-1.1**
	comp=N,0.6nm,0.1s,SNR=7.9							
EQES	**Quesada**	**5.97**	**77**	P		**Pn**	**03 34 39.4**	**+0.1**
	comp=N,0.1nm,0.1s,SNR=7.9							
EQES				S		**Sn**	**03 35 47.1**	**-0.4**
	comp=N,0.4nm,0.2s,SNR=7.9							
MD31	**MD31**	**6.05**	**128**	P		**Pn**	**03 34 39.7**	**-0.6**
MD31				S		**Sn**	**03 35 45.5**	**-3.9**
MDT	**Midelt**	**6.18**	**127**	P		**Pn**	**03 34 41.7**	**-0.4**
MDT				S		**Sn**	**03 35 49.3**	**-3.3**
GUD	**Guadarrama**	**6.28**	**50**	S		**Sn**	**03 35 53.6**	**-1.5**
	comp=N,1.2nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**6.32**	**10**	P		**Pn**	**03 34 43.6**	**-0.4**
	comp=N,0.9nm,0.1s,SNR=7.9							
EMAZ				S		**Sn**	**03 35 51.4**	**-4.5**
	comp=N,0.9nm,0.1s,SNR=7.9							
ETOR	**Torete**	**7.71**	**55**	P		**Pn**	**03 35 05.3**	**+2.1**
	comp=N,0.9nm,0.2s,SNR=4.0							
ETOR				S		**Sn**	**03 36 28.0**	**-2.4**
	comp=N,0.9nm,0.1s,SNR=7.9							

*ISK **28** 03:34:00.7,36°.12N×29°.69E, h5km, ML3.6/16*
*DDA **28** 03:34:00.2,36°.08N×29°.54E, h6km±2km, MW4.0*
*THE **28** 03:34:00.9,36°.01N×29°.94E, h6km±18km, ML3.6/2, Error ellipse: s-maj=26.2km s-min=1.9km az=114.0*
*NIC **28** 03:34:01.3±0.0,36°.17N×29°.67E, h0km, Ml3.4/3*
*IDC **28** 03:34:01.5±1.0,36°.05N×29°.66E, h0km, mb3.7/4, mb1 3.7/11,mb1mx3.6/41,mbtmp3.6/11,ML3.6/7,MS2.9/5, Ms1 2.9/5,ms1mx2.6/50,Error ellipse: s-maj=18.6km s-min=16.2km az=2.0*

ISC 28 03:34:01.8±1.2, 36°.11N±0°.03×29°.69E±0°.02, h3km±8km, n75, σ1§55/110, mb3.6/4, 4C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.09**	**293**	⇑P		**Pg**	**03 34 02.8**	**-0.8**
KSL				S		**Sg**	**03 34 04.3**	**-0.6**
AKAS	**Kas**	**0.14**	**331**	⇓*i*P		**Pg**	**03 34 04.1**	**-0.4**
AKAS				*i* S		**Sg**	**03 34 05.9**	**-0.4**
AKAS	**Kas**	**0.14**	**331**	PG		**Pg**	**03 34 04.1**	**-0.4**
AKAS				SG		**Sg**	**03 34 05.7**	**-0.4**
DEMR	**Demre-Antalya**	**0.22**	**56**	PG		**Pg**	**03 34 05.8**	**-0.2**
AKUM	**Antalya-Kumluc**	**0.57**	**68**	⇓*i*P		**Pg**	**03 34 13.2**	**+0.4**
AKUM				*i* S		**Sn**	**03 34 24.1**	**-2.8**
ELL	**Elmali**	**0.66**	**16**	PG		**Pg**	**03 34 14.0**	**-0.5**
ELL				SG		**Sb**	**03 34 24.9**	**-0.8**
ELL	**Elmali**	**0.66**	**16**	P		**Pg**	**03 34 13.5**	**-1.0**
ELL				S		**Sb**	**03 34 24.0**	**-1.7**
FETY	**Fethiye**	**0.71**	**317**	PG		**Pg**	**03 34 15.3**	**-0.2**
FETY				SG		**Sb**	**03 34 26.6**	**-0.6**
CAME	**Cameli-Denizli**	**0.88**	**340**	PG		**Pg**	**03 34 18.3**	**-0.5**
KORT	**Korkueli**	**1.03**	**31**	*i* P		**Pb**	**03 34 21.4**	**-1.1**
KORT				*i* S		**Sn**	**03 34 40.0**	**+1.4**
KORT	**Korkueli**	**1.03**	**31**	PG		**Pb**	**03 34 21.6**	**-0.9**
CAEL	**Denizli, Camel**	**1.05**	**344**	⇓*i*P		**Pb**	**03 34 20.5**	**-2.2**
CAEL				*i* S		**Sn**	**03 34 40.2**	**+1.3**
DALY	**Dalyan (Mula)**	**1.09**	**310**	PN		**Pb**	**03 34 22.8**	**-0.5**
ANTB	**Antalya**	**1.11**	**45**	PN		**Pg**	**03 34 23.3**	**+0.3**
GOLH	**Golhisar**	**1.12**	**355**	*i* P		**Pb**	**03 34 19.6**	**-4.4**
GOLH				*i* S		**Sn**	**03 34 42.0**	**+1.3**
ARG	**Arkhangelos**	**1.27**	**275**	P		**Pn**	**03 34 25.9**	**-0.6**
ARG				S		**Sg**	**03 34 46.2**	**+3.7**
	2μm,1.2s							
ARG	**Arkhangelos**	**1.27**	**275**	PN		**Pn**	**03 34 25.8**	**-0.7**
ARG	**Arkhangelos**	**1.27**	**275**	⇑P		**Pn**	**03 34 26.4**	**-0.1**
ARG				S		**Sg**	**03 34 44.8**	**+2.3**
TURN	**Turunc**	**1.34**	**300**	*i* P		**Pn**	**03 34 26.9**	**-0.5**
TURN				*i* S		**Sg**	**03 34 47.5**	**+2.7**
TURN	**Turunc**	**1.34**	**300**	PN		**Pn**	**03 34 27.4**	**0.0**
TAVA	**DENIZLI_Tavas**	**1.48**	**336**	⇓*i*P		**Pn**	**03 34 28.7**	**-0.9**
TAVA				*i* S		**Sg**	**03 34 52.1**	**+2.6**
YER	**Yerkesik**	**1.52**	**312**	P		**Pn**	**03 34 30.0**	**0.0**
YER				S		**Sg**	**03 34 52.4**	**+1.7**
YER	**Yerkesik**	**1.52**	**312**	PN		**Pb**	**03 34 30.4**	**-0.3**
BCK	**Bucak**	**1.53**	**28**	PN		**Pb**	**03 34 30.5**	**-0.4**
BRDR	**BURDUR-Merkez**	**1.61**	**11**	⇓*i*P		**Pb**	**03 34 32.2**	**0.0**
BRDR				*i* S		**Sg**	**03 34 57.9**	**+4.4**
KEPZ	**Antalya-Kepez**	**1.73**	**62**	*i* P		**Pb**	**03 34 34.6**	**+0.3**
KEPZ				*i* S		**Sg**	**03 35 02.5**	**+5.0**
BASM	**Basmaki-Afyon**	**1.82**	**9**	PN		**Pn**	**03 34 34.5**	**+0.2**
ISP	**Isparta**	**1.83**	**21**	PN		**Pb**	**03 34 34.8**	**-1.3**
MLSB	**Milas**	**1.94**	**308**	PN		**Pn**	**03 34 36.3**	**+0.6**
BDRM	**Kayabasi**	**2.04**	**298**	*i* P		**Pn**	**03 34 36.9**	**-0.2**
BDRM				*i* S		**Sb**	**03 35 06.1**	**+0.7**
BAGO	**Egridir - ISPA**	**2.07**	**25**	*i* P		**Pb**	**03 34 39.6**	**-0.6**
BAGO				*i* S		**Sg**	**03 35 06.8**	**-1.6**
NIS1	**Nisyros Isl.**	**2.08**	**284**	PN		**Pn**	**03 34 38.2**	**+0.5**
AYDN	**Tasoluk**	**2.12**	**317**	*i* P		**Pb**	**03 34 39.7**	**-1.2**
AYDN				*i* S		**Sb**	**03 35 07.5**	**-0.1**
SEDI	**Konya, Seydise**	**2.13**	**51**	*i* P		**Pg**	**03 34 42.1**	**-0.6**
SEDI				*i* S		**Sg**	**03 35 11.9**	**+1.6**
GAZI	**Gazipasa**	**2.13**	**86**	*i* P		**Pn**	**03 34 37.8**	**-0.7**
GAZI				*i* S		**Sn**	**03 35 02.6**	**-2.8**
GAZI	**Gazipasa**	**2.13**	**86**	PN		**Pn**	**03 34 38.9**	**+0.5**
BODT	**Bodrum**	**2.13**	**297**	P		**Pn**	**03 34 38.2**	**-0.2**
BODT				S		**Sb**	**03 35 07.4**	**-0.7**
SEYD	**Seydisehir-KON**	**2.16**	**53**	PN		**Pn**	**03 34 39.5**	**+0.7**
KZIL	**AFYON_Kizioren**	**2.17**	**10**	*i* P		**Pb**	**03 34 39.4**	**+0.4**
KZIL				*i* S		**Sb**	**03 35 08.0**	**-1.3**
KOSK	**Kos Island**	**2.27**	**287**	PN		**Pn**	**03 34 41.1**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**2.33**	**322**	PN		**Pn**	**03 34 41.8**	**+0.6**
DIDI	**Didim-Aydin**	**2.33**	**303**	PN		**Pn**	**03 34 42.0**	**+0.8**
DDIM	**Aydin, Didim**	**2.38**	**305**	*i* P		**Pn**	**03 34 42.5**	**+0.8**
DDIM				*i* S		**Sn**	**03 35 12.1**	**+0.7**
AKMS	**Akamas**	**2.42**	**116**	P		**Pn**	**03 34 42.9**	**+0.5**
AKMS				AML	AML		03 35 13.8	
	0.4nm,0.8s							
AKMS				AML	AML		03 35 17.7	
	0.5nm,0.7s							
YVAC	**Isparta, Yalva**	**2.48**	**29**	*i* P		**Pb**	**03 34 45.5**	**-1.8**
YVAC				*i* S		**Sb**	**03 35 17.4**	**-0.8**
GCAM	**G?zelcaml?**	**2.52**	**310**	*i* P		**Pn**	**03 34 45.5**	**+1.3**
GCAM				*i* S		**Sn**	**03 35 15.2**	**+0.1**
MANT	**Manisa**	**2.54**	**340**	*i* P		**Pn**	**03 34 44.2**	**0.0**
MANT				*i* S		**Sb**	**03 35 16.6**	**-3.3**
DOGA	**KONYA_Doganhis**	**2.54**	**38**	*i* P		**Pb**	**03 34 47.0**	**-1.2**
DOGA				*i* S		**Sg**	**03 35 20.8**	**-2.7**
ALFC	**Alefka**	**2.56**	**111**	⇑P		**Pn**	**03 34 43.8**	**-0.5**
ALFC				AML	AML		03 35 30.1	
	0.3nm,0.8s							
ALFC				AML	AML		03 35 31.1	
	0.4nm,1.1s							
NATA	**Nata**	**2.71**	**119**	P		**Pn**	**03 34 46.9**	**+0.6**
AFYO	**Afyonkarahisar**	**2.71**	**10**	*i* P		**Pb**	**03 34 48.6**	**-2.5**
AFYO				*i* S		**Sb**	**03 35 23.9**	**-0.9**
SMG	**Samos**	**2.78**	**306**	P		**Pn**	**03 34 47.6**	**+0.2**
SMG				S		**Sn**	**03 35 22.7**	**+1.2**
	558nm,1.8s							
KKBE	**Karaman, Kazim**	**2.84**	**66**	*i* P		**Pb**	**03 34 51.2**	**-2.1**
KKBE				*i* S		**Sn**	**03 35 24.2**	**+1.2**
SZAC	**Souni**	**2.94**	**117**	⇑P		**Pn**	**03 34 50.0**	**+0.5**
SZAC				AML	AML		03 35 35.0	
	0.4nm,1.0s							
SZAC				AML	AML		03 35 37.0	
	0.5nm,1.3s							
ZKR	**Zakros**	**3.00**	**252**	P		**Pn**	**03 34 50.3**	**0.0**
ZKR				S		**Sn**	**03 35 28.6**	**+1.9**
DEMI	**Demirci**	**3.02**	**346**	*i* P		**Pn**	**03 34 50.9**	**+0.1**
KDHN	**Kadinhani**	**3.09**	**38**	*i* P		**Pb**	**03 34 55.3**	**-2.1**
AKHS	**Akhisar**	**3.13**	**332**	*i* P		**Pn**	**03 34 52.3**	**+0.1**
ANDZ	**Kutahya, Merke**	**3.39**	**3**	*i* P		**Pn**	**03 34 56.3**	**+0.5**
DURS	**Dursunbey**	**3.61**	**345**	*i* P		**Pn**	**03 34 59.0**	**+0.2**
STEP	**BALIKESIR_Sava**	**3.61**	**335**	*i* P		**Pn**	**03 34 59.2**	**+0.4**
IDI	**Anoyia**	**3.99**	**259**	Pn		**Pn**	**03 35 04.2**	**+0.2**
	4.3nm,0.3s,baz=89,slow=14,SNR=30							
IDI				Sn		**Sn**	**03 35 51.0**	**-0.3**
	2.4nm,0.3s,baz=338,slow=19,SNR=2.6							
IDI				LR	LR		03 36 58.0	
	comp=Z,153nm,18.6s,baz=50,slow=45							
BRTR	**Keskin Array B**	**4.77**	**40**	Pn		**Pn**	**03 35 17.7**	**+2.9**
	1.2nm,0.3s,baz=215,slow=16,SNR=45							
BRTR				Sn		**Sn**	**03 36 15.3**	**+4.6**
	1.6nm,0.3s,baz=202,slow=25,SNR=14							
BRTR				LR	LR		03 37 07.8	
	comp=Z,73nm,20.9s,baz=209,slow=38							
MMAI	**Mount Meron Ar**	**5.64**	**122**	Pn		**Pn**	**03 35 26.1**	**-0.6**
	2.8nm,0.3s,baz=308,slow=12,SNR=18							
MMAI				Sn		**Sn**	**03 36 32.0**	**0.0**
	3.4nm,0.3s,baz=315,slow=21,SNR=6.1							
MMAI				LR	LR		03 39 23.3	
	comp=Z,68nm,18.6s,baz=290,slow=57							
ASF	**Jabal al Asfar**	**7.15**	**121**	Pn		**Pn**	**03 35 48.5**	**+1.0**
	0.3nm,0.3s,baz=34,slow=8.8,SNR=2.7							
EIL	**Elat**	**7.80**	**144**	Pn		**Pn**	**03 35 56.3**	**0.0**
	0.7nm,0.3s,baz=187,slow=4.3,SNR=7.7							
EIL				Sn		**Sn**	**03 37 21.6**	**-3.7**
	0.4nm,0.3s,baz=83,slow=18,SNR=2.5							
MLR	**Mumtele Rosu**	**9.79**	**344**	Pn		**Pn**	**03 36 26.2**	**+2.6**
	0.3nm,0.3s,baz=234,slow=6.7,SNR=3.2							
GNI	**Garni**	**12.52**	**67**	LR		LR	03 42 59.1	
	comp=Z,52nm,21.2s,baz=274,slow=43							
KEST	**Kesra**	**16.48**	**275**	Pn		**P**	**03 37 57.7**	**+0.7**
	0.1nm,0.3s,baz=151,slow=5.4,SNR=5.1							
GERES	**GERESS Array B**	**17.30**	**322**	P		**P**	**03 38 06.8**	**+0.8**
	0.1nm,0.3s,baz=135,slow=9.8,SNR=2.2							
HFS	**Hagfors**	**26.15**	**342**	P		**P**	**03 39 37.3**	**+0.1**
	1.3nm,0.6s,baz=138,slow=16,SNR=5.0							
ESDC	**Sonseca Array**	**26.70**	**288**	P		**P**	**03 39 41.9**	**-0.5**
	0.3nm,0.8s,baz=74,slow=9.8,SNR=2.1							
TORD	**Torodi Ar. Bea**	**33.99**	**235**	P		**P**	**03 40 46.4**	**-0.6**
	1.8nm,0.9s,baz=40,slow=8.3,SNR=9.2							
MKAR	**Makanchi Array**	**40.16**	**58**	P		**P**	**03 41 39.0**	**-0.1**
	0.7nm,0.8s,baz=256,slow=10,SNR=2.0							
KSRS	**Korea Array**	**74.75**	**55**	LR	LR		04 23 52.0	
	comp=Z,15nm,19.2s,baz=195,slow=40							

*INET **28** 03:44:53.2, 12°.92N×86°.58W, h15km, MW3.6*
SNET 28 03:44:58.2±0.9, 12°.89N×86°.64W, h17km±6km, ML3.1, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.22**	**288**	*eP*		Pn	03 45 20.1	-0.6
CNCH				*eS*		Sg	03 45 37.5	-0.3
LCND	**La Caada**	**1.28**	**289**	*eP*		Pn	03 45 20.9	-0.5
LCND				*eS*		Sb	03 45 38.1	-0.1
LCND				IAML			03 45 44.7	
	comp=Z,665nm,0.3s							
TGUH	**Tegucigalpa,Un**	**1.31**	**332**	*eP*		Pn	03 45 21.7	-0.2
TGUH				*eS*		Sb	03 45 38.8	-0.4
JUCU	**Jucuar¡n**	**1.61**	**283**	*eP*		Pn	03 45 25.7	-0.2
JUCU				*eS*		Sb	03 45 47.7	+0.1
JUCU				IAML			03 45 55.9	
	comp=Z,158nm,0.4s							
COEG	**Centro de Oper**	**2.30**	**289**	*eP*		Pn	03 45 34.9	-0.6
COEG				IAML			03 46 18.2	
	comp=Z,84nm,0.4s							

IDC 28 03:51:52.5±2.1, 49°.44S×127°.07E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/20, mbtmp3.7/3, Error ellipse: s-maj=130.8km s-min=26.8km az=101.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**17.37**	**322**	T		T	04 14 07.0	
	baz=151,slow=75,SNR=8.0							
H01W2	**Cape Leeuwin H**	**17.37**	**322**	T		T	04 14 09.0	
	baz=151,slow=75,SNR=9.4							
H01W3	**Cape Leeuwin H**	**17.38**	**322**	T		T	04 14 08.5	
	baz=151,slow=75,SNR=8.3							
STKA	**Stephens Creek**	**20.65**	**37**	P		P	03 56 33.7	+0.1
	2.0nm,0.9s,baz=203,slow=13,SNR=3.3							
ASAR	**Alice Springs**	**26.28**	**14**	P		P	03 57 29.6	0.0
	1.8nm,1.0s,baz=187,slow=10.0,SNR=8.4							
WRA	**Warramunga Arr**	**30.00**	**14**	P		P	03 58 02.7	-0.1
	111nm,0.5s,Baz=191,slow=7.7,SNR=2.7							
QSPA	**South Pole Qui**	**40.69**	**180**	P		P	03 59 34.3	-0.1
	0.8nm,1.0s,baz=318,slow=3.1,SNR=1.7							

*GUC **28** 04:16:08.9±0.8, 31°.42S×71°.37W, h50km±5km, ML4.0*
*IDC **28** 04:16:09.3±1.0, 31°.37S×71°.39W, h43km±7km, mb3.4/2, mb1 3.6/7, mb1mx3.4/35, mbtmp3.6/7, ML3.5/5, MS2.4/2, Ms1 2.4/2, ms1mx2.2/14, Error ellipse: s-maj=38.2km s-min=25.2km az=107.0*
*NEIC **28** 04:16:09.7±1.6, 31°.37S±0°.03×71°.57W±0°.08, h34km±4km, mb4.1/7, ML4.1(GUC), Error ellipse: s-maj=9.5km s-min=4.6km az=97.0*

ISC 28 04:16:09.1±0.7, 31°.37S±0°.03×71°.52W±0°.06, h40km±7km, n66, σ1§41/75, mb4.0/6, 8C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.48**	**69**	*i* P		**Pn**	**04 16 20.4**	**+0.7**
CO02				*i* S		**Sn**	**04 16 27.8**	**+0.7**
CO02	**Combarbal**	**0.48**	**69**			**Pn**	**04 16 20.4**	**+0.7**
CO02				Sg		**Sn**	**04 16 27.7**	**+0.7**
CO06	**Fray Jorge**	**0.70**	**352**			**Pn**	**04 16 23.6**	**+1.0**
CO03	**El Pedregal**	**0.89**	**53**	⇓*i*P		**Pn**	**04 16 26.0**	**+0.7**
CO03				*i* S		**Sn**	**04 16 38.2**	**+1.2**
CO03	**El Pedregal**	**0.89**	**53**	Pn		**Pn**	**04 16 26.0**	**+0.7**
CO03						**Sn**	**04 16 38.3**	**+1.2**
VA06	**Catapilco**	**1.20**	**171**	⇑*i*P		**Pn**	**04 16 29.9**	**+0.5**
VA06				*i* S		**Sn**	**04 16 44.7**	**+0.2**
GO04	**Tololo Observa**	**1.35**	**28**	⇑*i*P		**Pn**	**04 16 33.1**	**+1.4**
GO04				*i* S		**Sn**	**04 16 50.4**	**+1.9**
GO04				IAML			04 16 56.0	
	comp=N,8μm,0.6s							
GO04	**Tololo Observa**	**1.35**	**28**	Pn		**Pn**	**04 16 32.6**	**+0.9**
GO04				Sn		**Sn**	**04 16 49.6**	**+1.2**
CO05	**La Serena**	**1.47**	**10**	⇑*i*P		**Pn**	**04 16 35.0**	**+1.9**
CO05				*eS*		**Sn**	**04 16 54.7**	**+3.6**
CO05	**La Serena**	**1.47**	**10**	Pn		**Pn**	**04 16 34.4**	**+1.3**
VA03	**San Esteban**	**1.61**	**150**	⇑*i*P		**Pn**	**04 16 35.2**	**0.0**
VA03				*i* S		**Sn**	**04 16 55.7**	**+0.9**
VA03				IAML			04 17 01.7	
	comp=E,3μm,0.5s							
VA03	**San Esteban**	**1.61**	**150**	Pn		**Pn**	**04 16 37.6**	**+2.4**
VA01	**Torpederas**	**1.65**	**184**	*eP*		**Pn**	**04 16 36.1**	**+0.6**
VA01	**Torpederas**	**1.65**	**184**			**Pn**	**04 16 36.0**	**+0.5**
ROCH	**El Roble**	**1.65**	**165**	⇑*i*P		**Pn**	**04 16 37.0**	**+1.1**
ROCH				*eS*		**Sn**	**04 16 58.1**	**+2.2**
MT05	**Renca**	**2.12**	**162**	⇑*i*P		**Pn**	**04 16 43.6**	**+1.5**
MT05				*i* S		**Sn**	**04 17 09.7**	**+2.4**
MT05				IAML			04 17 20.3	
	comp=E,2μm,0.2s							
MT05	**Renca**	**2.12**	**162**			**Pn**	**04 16 43.4**	**+1.3**
VA05	**Santo Domingo**	**2.28**	**182**	⇓*i*P		**Pn**	**04 16 44.2**	**0.0**
VA05				*i* S		**Sn**	**04 17 14.6**	**+3.5**
VA05				IAML			04 17 24.4	
	comp=N,950nm,0.4s							
VA05	**Santo Domingo**	**2.28**	**182**	Pn		**Pn**	**04 16 44.2**	**0.0**
MT09	**Talagante**	**2.44**	**170**	⇑*i*P		**Pn**	**04 16 48.2**	**+1.7**
MT09				*eS*		**Sn**	**04 17 17.7**	**+2.4**
MT09

CMIG	**Matias Romero**	**2.96**	**339**	*eP*	Pn	04 19 43.9 -2.4
CMIG				*eS*	Sn	04 20 11.6 -10

*ARE **28** 04:31:22₀2.0, 16°.7S±0°.1×73°.1W±0°.2, h15km±7km, ML4.3, Error ellipse: s-maj=25.5km s-min=13.5km az=102.0*
NEIC 28 04:31:24.8±1.3, 17°.0S±0°.1×73°.2W±0°.2, h33km±14km, Error ellipse: s-maj=27.5km s-min=14.5km az=101.0, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGCX	**Pisagua**	**3.92**	**132**	Pn	Pn	04 32 21.6	-1.1
PB11	**IPOC Station P**	**4.36**	**129**	Pn	Pn	04 32 28.3	-0.7
TA02	**Huaiquique**	**4.38**	**138**	Pn	Pn	04 32 28.5	-0.5
TA01	**Diego Aracena**	**4.57**	**141**	Pn	Pn	04 32 30.9	-0.7
LPAZ	**La Paz**	**4.94**	**82**	Pn	Pn	04 32 37.9	+0.6
PB08	**IPOC Station P**	**4.97**	**130**	Pn	Pn	04 32 37.3	-0.2
PB01	**IPOC Station P**	**5.35**	**139**	Pn	Pn	04 32 42.2	-0.3
PB07	**IPOC Station P**	**5.66**	**147**	Pn	Pn	04 32 46.2	-0.6
PB04	**IPOC Station P**	**6.04**	**152**	Pn	Pn	04 32 51.6	-0.4
PB09	**IPOC Station P**	**6.07**	**142**	Pn	Pn	04 32 52.7	+0.2
PB06	**IPOC Station P**	**6.63**	**149**	Pn	Pn	04 32 59.8	-0.3
LVC	**Limon Verde**	**6.90**	**145**	Pn	Pn	04 33 04.9	+0.9
PB10	**IPOC Station P**	**6.95**	**159**	Pn	Pn	04 33 03.8	-0.5
PB15	**IPOC Station P**	**7.11**	**151**	Pn	Pn	04 33 07.0	+0.3
AC02	**Maricunga**	**10.49**	**159**	Pn	Pn	04 33 54.8	+1.4
SAML	**Samuel**	**12.64**	**52**	Pn	Pn	04 34 19.4	-3.0

*MEX **28** 04:53:09.9₀2.1, 14°.27N×93°.81W, h10km, MD4.4*
*NEIC **28** 04:53:10.9₀2.3, 14°.44N±0°.07×93°.69W±0°.05, h10km±1km, mb4.5/131, Md4.4/21(MEX), Error ellipse: s-maj=12.0km s-min=7.6km az=204.0*
*IDC **28** 04:53:12.3₀1.2, 14°.28N×93°.56W, h29km±4km, mb4.0/13, mb1 4.2/15, mb1mx4.0/37, mbtmp4.1/15, ML3.4/2, MS3.4/16, Ms1 3.4/16, ms1mx3.2/35, Error ellipse: s-maj=47.0km s-min=12.6km az=43.0*
ISC 28 04:53:11.2±0.6, 14°.39N±0°.05×93°.70W±0°.05, h24km±3km, n288, σ1s08/248, mb4.5/71, MS3.5/13, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.39**	**20**	*eP*	**Pn**	**04 53 34.2**	**-1.0**
PCIG				*eS*	**Sn**	**04 53 52.2**	**-0.6**
PCIG		**1.39**	**20**		**Pn**	**04 53 34.2**	**-1.0**
PCIG					**Sn**	**04 53 52.2**	**-0.6**
THIG		**1.49**	**69**	*eP*	**Pn**	**04 53 35.3**	**-1.2**
THIG				*eS*	**Sb**	**04 53 56.6**	**0.0**
THIG		**1.49**	**69**		**Pn**	**04 53 35.3**	**-1.2**
THIG					**Sb**	**04 53 56.6**	**0.0**
RTAL	**Retalhuleu**	**1.95**	**86**		**Pn**	**04 53 42.0**	**-0.9**
HUEH	**Huehuetenango**	**2.32**	**66**	Pn	**Pn**	**04 53 49.0**	**+0.8**
CCIG	**Comitan**	**2.42**	**39**	*eP*	**Pn**	**04 53 51.1**	**+1.7**
CCIG				*eS*	**Sb**	**04 54 23.0**	**-0.6**
CCIG	**Comitan**	**2.42**	**39**	Pn	**Pn**	**04 53 51.0**	**+1.5**
TGIG		**2.44**	**13**	*eP*	**Pn**	**04 53 50.7**	**+1.0**
TGIG				*eS*	**Sn**	**04 54 20.0**	**+1.1**
TGIG		**2.44**	**13**		**Pn**	**04 53 50.7**	**+1.0**
TGIG					**Sn**	**04 54 20.0**	**+1.1**
CMIG	**Matias Romero**	**2.92**	**337**	Pn	**Pn**	**04 53 55.7**	**-0.6**
	6.2nm,0.3s,baz=159,slow=11,SNR=107						
CMIG				Sn	**Sn**	**04 54 29.5**	**-1.1**
	36nm,0.3s,baz=12,slow=22,SNR=17						
CMIG				LR	LR	04 55 15.7	
	comp=Z,830nm,18.6s,baz=181,slow=40						
CMIG	**Matias Romero**	**2.92**	**337**	*eP*	**Pn**	**04 53 55.0**	**-1.2**
CMIG				*eS*	**Sn**	**04 54 28.1**	**-2.5**
CMIG	**Matias Romero**	**2.92**	**337**		**Pn**	**04 53 55.0**	**-1.2**
CMIG					**Sn**	**04 54 28.1**	**-2.5**
MTO3	**Montecristo**	**4.21**	**89**		**Pn**	**04 54 15.0**	**+0.8**
ESQI	**Esquipulas**	**4.23**	**87**	Pn	**Pn**	**04 54 16.5**	**+2.2**
PNIG	**Pinotepa**	**4.71**	**296**	*eP*	**Pn**	**04 54 18.5**	**-2.4**
PNIG				*eS*	Sn	04 55 05.4	-9.4
PNIG	**Pinotepa**	**4.71**	**296**		**Pn**	**04 54 18.5**	**-2.4**
PNIG					Sn	04 55 05.4	-9.4
SCIG	**Sabancuy**	**5.16**	**28**	*eP*	**Pn**	**04 54 26.9**	**0.0**
SCIG				*eS*	**Pb**	**04 54 38.9**	**-1.9**
SCIG	**Sabancuy**	**5.16**	**28**		**Pn**	**04 54 26.9**	**0.0**
SCIG					**Pb**	**04 54 38.9**	**-1.9**
TLIG	**Tlapa**	**5.64**	**305**		**Pn**	**04 54 33.6**	**-0.2**
CRIN	**San Cristobal**	**6.69**	**104**	Pn	**Pn**	**04 54 48.5**	**+0.4**
CNGN	**Cerro Negro**	**7.07**	**105**	Pn	**Pn**	**04 54 56.0**	**+2.7**
MATN	**Matagalpa**	**7.70**	**100**		**Pn**	**04 55 01.9**	**-0.1**
MOIG	**Morelia**	**8.88**	**307**		**Pn**	**04 55 20.6**	**+2.2**
ORTG	**Ortega, Santa**	**8.99**	**115**	Pn	**Pn**	**04 55 20.4**	**+0.6**
JTS	**Las Juntas de**	**9.47**	**114**	Pn	**Pn**	**04 55 23.6**	**-2.7**
	0.2nm,0.3s,baz=248,slow=19,SNR=1.9						
JTS	**Las Juntas de**	**9.47**	**114**	Pn	**Pn**	**04 55 27.4**	**+1.1**
SRBA	**San Rafael, Bu**	**11.35**	**116**	Pn	**Pn**	**04 55 52.4**	**+0.3**
ZAIG	**Zacatecas**	**11.83**	**316**	Pn	**Pn**	**04 56 02.0**	**+3.2**
SOR	**Soroa**	**13.14**	**49**	Pn	**Pn**	**04 56 16.9**	**+0.5**
833A	**Chaparral WMA,**	**14.84**	**340**	P	**Pn**	**04 56 40.1**	**+0.4**
	baz=158						
MTDJ	**Mount Denham**	**15.98**	**74**		**P**	**04 56 56.9**	**-1.2**
MTDJ				IAmb	IAmb	04 57 18.2	
	comp=Z,37nm,0.9s						
435B	**Jarrell**	**16.70**	**348**		**P**	**04 57 08.5**	**+2.6**
HPIG		**16.75**	**320**		**P**	**04 57 08.3**	**+1.6**
JCT	**Junction City**	**16.97**	**342**	P	**P**	**04 57 09.1**	**+0.2**
JCT	**Junction City**	**16.97**	**342**	P	**P**	**04 57 08.4**	**-0.6**
	baz=159,SNR=9.2						
TXAR	**Lajitas Array**	**17.50**	**330**	P	**P**	**04 57 15.7**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=156,slow=8.3,SNR=21						
TXAR				LR	LR	05 04 00.7	
	comp=Z,50nm,20.9s,baz=0.0,slow=37						
TXAR	**Lajitas Array**	**17.50**	**330**	P	**P**	**04 57 15.0**	**+0.2**
TX31	**Lajitas Ar. Si**	**17.50**	**330**		**P**	**04 57 15.0**	**+0.2**
TX31				IAmb	IAmb	04 57 36.5	
	comp=Z,33nm,1.2s						
TX32	**Lajitas Array**	**17.50**	**330**	P	**P**	**04 57 14.9**	**0.0**
BRAL	**Brewton**	**17.79**	**19**	P	**P**	**04 57 17.8**	**-0.1**
	baz=201						
WHTX	**Lake Whitney,**	**17.86**	**350**	P	**P**	**04 57 18.7**	**0.0**
	baz=168						
LPIG	**La Paz**	**18.40**	**304**	LR	LR	05 04 40.9	
	comp=Z,163nm,18.2s,baz=104,slow=37						
ABTX	**Abilene, Hawle**	**18.95**	**344**	P	**Pn**	**04 57 31.6**	**+0.2**
ABTX	**Abilene, Hawle**	**18.95**	**344**	P	**Pn**	**04 57 31.4**	**0.0**
	baz=162,SNR=5.0						
UREC	**San Jos de Ur**	**19.00**	**108**	*eP*	**P**	**04 57 32.1**	**+0.7**
TIGA	**Tifton**	**19.34**	**27**	P	**P**	**04 57 34.6**	**-0.4**
	baz=211						
CBOC	**Ciudad Bolivar**	**19.35**	**114**	*eP*	**Pn**	**04 57 37.8**	**+1.2**
Z47A	**Carrollton**	**19.42**	**14**	P	**P**	**04 57 35.8**	**0.0**
LRAL	**Lakeview Retre**	**19.54**	**17**	P	**Pn**	**04 57 39.5**	**+0.9**
LRAL	**Lakeview Retre**	**19.54**	**17**	P	**P**	**04 57 36.9**	**-0.3**
	baz=200						
ZARC	**Zaragoza, Cauc**	**19.72**	**108**	*eP*	**P**	**04 57 39.7**	**+0.4**
YOTC	**Yotoco, Valle**	**19.99**	**119**	*eP*	Pn	04 57 43.6	-0.6
SMLC	**San Martn de**	**20.01**	**104**	*eP*	**P**	**04 57 42.8**	**+0.4**
X40A	**Basin Creek Fa**	**20.03**	**2**	P	**P**	**04 57 42.3**	**-0.2**
	baz=182						
MIAR	**Mount Ida**	**20.07**	**0**	P	**P**	**04 57 42.3**	**-0.6**
MIAR				IAmb	IAmb	04 57 48.7	
	comp=Z,18nm,0.9s						
MIAR	**Mount Ida**	**20.07**	**0**	P	**P**	**04 57 42.9**	**-0.1**
	baz=180,SNR=6.0						
X37A	**Clayton**	**20.17**	**356**	IAmb	IAmb	04 58 03.4	
	comp=Z,17nm,0.9s						
GUY2C	**Guyana, Caldas**	**20.22**	**115**	*eP*	Pn	04 57 48.3	+1.1
MNTX	**Cornudas Mount**	**20.28**	**330**	P	**P**	**04 57 45.9**	**+0.7**
MNTX	**Cornudas Mount**	**20.28**	**330**	P	**P**	**04 57 45.8**	**+0.5**
	baz=145,SNR=12						
BBAC	**Balboa, Cauca**	**20.38**	**126**	*eP*	Pn	04 57 50.3	+1.5
OXF	**Oxford**	**20.41**	**10**	P	Pn	04 57 48.7	-0.1
OXF				IAmb	IAmb	04 58 12.4	
	comp=Z,38nm,1.1s						
OXF	**Oxford**	**20.41**	**10**	P	**P**	**04 57 46.7**	**+0.1**
	baz=192						
PTBC	**PUERTO BERRIO,**	**20.46**	**110**	*eP*	**P**	**04 57 47.6**	**+0.3**
X34A	**Smith Ranch, M**	**20.47**	**350**	P	Pn	04 57 48.9	-0.7
X34A				IAmb	IAmb	04 58 17.8	
	comp=Z,30nm,1.0s						
NORC	**Norcasia**	**20.50**	**113**	*eP*	Pn	04 57 50.2	+0.1
POPC	**Popayan, Colom**	**20.52**	**123**	*eP*	Pn	04 57 49.8	-0.7
W39A	**Magazine**	**20.72**	**360**	IAmb	IAmb	04 57 54.8	
	comp=Z,18nm,0.8s						
W39A	**Magazine**	**20.72**	**360**	P	**P**	**04 57 50.5**	**+0.5**
	baz=180,SNR=8.9						
W41B	**Gary Mavity, V**	**20.74**	**3**	P	**P**	**04 57 50.1**	**-0.1**
	baz=184						
WMOK	**Wichita Mounta**	**20.77**	**348**	P	**P**	**04 57 50.8**	**+0.2**
	baz=166,SNR=6.0						
X48A	**Hartselle**	**20.86**	**16**	IAmb	IAmb	04 58 10.4	
	comp=Z,20nm,0.9s						
OCAC	**Ocana**	**20.89**	**105**	*eP*	**P**	**04 57 52.3**	**+0.1**
ORTC	**Ortega, Tolima**	**20.96**	**118**	*eP*	**P**	**04 57 54.3**	**+1.4**
FNO	**Franklin**	**21.05**	**352**	P	**P**	**04 57 56.0**	**+2.5**
GOGA	**Godfrey**	**21.10**	**24**	P	**P**	**04 57 53.7**	**-0.4**
	baz=208						
MSTX	**Muleshoe**	**21.16**	**339**	IAmb	IAmb	04 58 11.6	
	comp=Z,31nm,0.9s						
MSTX	**Muleshoe**	**21.16**	**339**	P	**P**	**04 57 55.1**	**+0.2**
	baz=155,SNR=12						
SPBC	**San Pablo de B**	**21.17**	**112**	*eP*	**P**	**04 57 56.2**	**+1.1**
OKCFA	**Oklahoma City**	**21.21**	**352**	P	**P**	**04 57 56.0**	**+0.7**
ROSC	**El Rosal**	**21.32**	**115**	P	**P**	**04 57 59.4**	**+2.4**
	comp=Z,7.2nm,0.7s,baz=306,slow=13,SNR=6.3						
ROSC	**El Rosal**	**21.32**	**115**	IAmb	IAmb	04 58 13.0	
	comp=Z,37nm,1.2s						
ROSC	**El Rosal**	**21.32**	**115**	*eP*	**P**	**04 57 59.5**	**+2.5**
OK025	**Westminster Rd**	**21.36**	**352**	P	**P**	**04 57 58.8**	**+1.9**
FCAR	**Ozark Folk Cen**	**21.46**	**4**	IAmb	IAmb	04 58 01.5	
	comp=Z,20nm,0.9s						
BCOK	**Bluff Creek, N**	**21.47**	**351**	P	**P**	**04 57 57.7**	**-0.4**
BCOK				IAmb	IAmb	04 58 01.4	
	comp=Z,27nm,0.8s						
TUL1	**Leonard**	**21.52**	**355**	IAmb	IAmb	04 58 18.4	
	comp=Z,17nm,0.8s						
TUL1	**Leonard**	**21.52**	**355**	P	**P**	**04 57 58.7**	**+0.1**
	baz=174,SNR=5.3						
OK029	**Liberty Lake**	**21.58**	**352**	IAmb	IAmb	04 58 02.2	
	comp=Z,19nm,1.0s						
BARC	**Barichara**	**21.60**	**109**	*eP*	**P**	**04 58 01.0**	**+1.2**
OK030	**Cody Creek RV**	**21.63**	**353**	IAmb	IAmb	04 58 02.2	
	comp=Z,18nm,0.9s						
AMTX	**Amarillo**	**21.64**	**342**	P	**P**	**04 58 00.4**	**+0.4**
AMTX	**Amarillo**	**21.64**	**342**	P	**P**	**04 58 00.2**	**+0.2**
	baz=158						
OK031	**S. Brethren Rd**	**21.66**	**353**	IAmb	IAmb	04 58 03.2	
	comp=Z,24nm,1.1s						
HHAR	**Hobbs**	**21.80**	**359**	IAmb	IAmb	04 58 04.0	
	comp=Z,20nm,0.7s						
QUOK	**Quay**	**21.86**	**353**	IAmb	IAmb	04 58 22.2	
	comp=Z,23nm,0.9s						
U40A	**Yellville**	**21.89**	**2**	IAmb	IAmb	04 58 05.0	
	comp=Z,13nm,0.7s						
U40A	**Yellville**	**21.89**	**2**	P	**P**	**04 58 02.4**	**-0.2**
	baz=182,SNR=8.6						
CHIC	**Chingaza**	**21.93**	**114**	*eP*	**P**	**04 58 05.2**	**+1.6**
RUSC	**La Rusia**	**21.97**	**111**	P	**P**	**04 58 03.9**	**-0.2**
RUSC	**La Rusia**	**21.97**	**111**	*eP*	**P**	**04 58 05.2**	**+1.1**
U38A	**Gravette**	**21.97**	**359**	IAmb	IAmb	04 58 05.6	
	comp=Z,17nm,0.8s						
319A	**Douglas**	**22.13**	**322**	P	**P**	**04 58 07.4**	**+2.1**
319A				IAmb	IAmb	04 58 23.0	
	comp=Z,13nm,0.9s						
121A	**Cookes Peak, D**	**22.16**	**327**	P	**P**	**04 58 06.8**	**+1.1**
	baz=141,SNR=13						
WVT	**Waverly**	**22.28**	**13**	P	**P**	**04 58 06.4**	**-0.4**
	baz=195						
PBMO	**Poplar Bluff**	**22.49**	**7**	IAmb	IAmb	04 58 10.6	
	comp=Z,15nm,0.8s						
BLOK	**Blackwell**	**22.50**	**353**	IAmb	IAmb	04 58 10.8	
	comp=Z,19nm,1.0s						
T35A	**Sooner Cattle**	**22.58**	**354**	IAmb	IAmb	04 58 39.3	
	comp=Z,9.8nm,0.8s						
MGMO	**Mountain Grove**	**22.71**	**3**	IAmb	IAmb	04 58 13.2	
	comp=Z,13nm,0.9s						
KAN13	**South Haven SW**	**22.78**	**352**	P	**P**	**04 58 12.8**	**+0.7**
KAN13				IAmb	IAmb	04 58 13.4	
	comp=Z,26nm,1.1s						
KAN09	**Caldwell North**	**22.92**	**352**	P	**P**	**04 58 14.1**	**+0.5**
KAN09				IAmb	IAmb	04 58 15.2	
	comp=Z,21nm,0.8s						
TAMC	**Tame, Arauca**	**22.94**	**108**	*eP*	**P**	**04 58 14.7**	**+0.7**
Y22D	**IRIS PASSCAL I**	**22.96**	**331**	P	**P**	**04 58 14.8**	**+0.6**
	baz=145						
TKL	**Tuckaleechee C**	**22.98**	**21**	LR	LR	05 08 55.0	
	comp=Z,93nm,18.2s,baz=202,slow=41						
KS20	**Mayfield South**	**23.01**	**352**	P	**P**	**04 58 15.0**	**+0.6**
KAN06	**Argonia West S**	**23.07**	**352**	P	**P**	**04 58 15.5**	**+0.4**
KAN06				IAmb	IAmb	04 58 16.8	
	comp=Z,20nm,0.8s						
U49A	**Red Boiling Sp**	**23.15**	**16**	IAmb	IAmb	04 58 44.1	
	comp=Z,14nm,1.1s						
SDV	**Santo Domingo**	**23.24**	**101**	P	**P**	**04 58 18.0**	**+0.8**
	comp=Z,4.7nm,0.7s,baz=298,slow=4.2,SNR=7.8						
SDV	**Santo Domingo**	**23.24**	**101**	P	**P**	**04 58 17.6**	**+0.4**
T47A	**Sharon Grove**	**23.27**	**13**	IAmb	IAmb	04 58 17.2	
	comp=Z,13nm,0.8s						
ANMO	**Albuquerque**	**23.48**	**333**	P	**P**	**04 58 22.1**	**+2.7**
	comp=Z,2.7nm,0.9s,baz=151,slow=11,SNR=8.2						
ANMO				LR	LR	05 07 45.5	
	comp=Z,79nm,18.8s,baz=155,slow=37						
ANMO	**Albuquerque**	**23.48**	**333**	P	**P**	**04 58 21.2**	**+1.8**
ANMO	**Albuquerque**	**23.48**	**333**	P	**P**	**04 58 20.3**	**+0.9**
	baz=147						
KMSC	**Kings Mountain**	**23.48**	**26**	P	**P**	**04 58 19.9**	**+0.8**
	baz=211						
CCM	**Cathedral Cave**	**23.68**	**5**	P	**P**	**04 58 19.5**	**-1.5**
CCM				IAmb	IAmb	04 58 20.8	
	comp=Z,9.2nm,0.8s						
CCM	**Cathedral Cave**	**23.68**	**5**	P	**P**	**04 58 20.9**	**-0.2**
	baz=186						
TUC	**Tucson**	**23.69**	**322**	P	**P**	**04 58 23.4**	**+2.0**
TUC				IAmb	IAmb	04 58 40.8	
	comp=Z,18nm,1.3s						
TUC	**Tucson**	**23.69**	**322**	P	**P**	**04 58 22.9**	**+1.5**
	baz=135						
T25A	**Trinidad**	**24.59**	**339**	IAmb	IAmb	04 58 33.4	
	comp=Z,18nm,1.0s						
T25A	**Trinidad**	**24.59**	**339**	P	**P**	**04 58 30.0**	**+0.2**
	baz=154,SNR=12						
WCI	**Wyandotte Cave**	**24.64**	**14**	P	**P**	**04 58 29.2**	**-0.8**
WCI				IAmb	IAmb	04 58 30.8	
	comp=Z,14nm,0.8s						
WCI	**Wyandotte Cave**	**24.64**	**14**	P	**P**	**04 58 29.2**	**-0.8**
	baz=197						
214A	**Organ Pipe Nat**	**24.72**	**318**	P	**P**	**04 58 31.9**	**+1.1**
214A	**Organ Pipe Nat**	**24.72**	**318**	P	**P**	**04 58 31.1**	**+0.3**
	baz=131						
KSU1	**Kansas State U**	**24.75**	**355**	IAmb	IAmb	04 58 33.0	
	comp=Z,13nm,1.1s						
KSU1	**Kansas State U**	**24.75**	**355**	P	**P**	**04 58 30.5**	**-0.5**
	baz=173						
X18A	**Snowflake**	**24.85**	**327**	P	**P**	**04 58 33.7**	**+1.5**
X18A				IAmb	IAmb	04 58 45.6	
	comp=Z,9.0nm,0.8s						
CBKS	**Cedar Bluff**	**24.91**	**349**	P	**P**	**04 58 32.5**	**+0.1**
	baz=166						
P40A	**Paris**	**25.09**	**3**	IAmb	IAmb	04 58 33.6	
	comp=Z,11nm,0.8s						
P38A	**Dawn**	**25.14**	**0**	IAmb	IAmb	04 58 35.3	
	comp=Z,17nm,0.9s						
W18A	**Petrified Fore**	**25.19**	**328**	P	**P**	**04 58 38.0**	**+2.8**
W18A	**Petrified Fore**	**25.19**	**328**	P	**P**	**04 58 37.5**	**+2.3**
	baz=141						
P43A	**Skaggs, Pawnee**	**25.43**	**8**	IAmb	IAmb	04 58 38.6	
	comp=Z,14nm,1.1s						
SDCO	**Great Sand Dun**	**25.52**	**338**	P	**P**	**04 58 38.7**	**+0.4**
	baz=152,SNR=8.2						
X16A	**Lo Mia Camp, P**	**25.59**	**324**	P	**P**	**04 58 39.8**	**+0.9**
BLA	**Blacksburg**	**25.63**	**25**	P	**P**	**04 58 38.5**	**-0.5**
	baz=211						
KSCO	**Kaye Shedlock'**	**25.76**	**344**	P	**P**	**04 58 40.2**	**-0.1**
KSCO				IAmb	IAmb	04 58 55.3	
	comp=Z,14nm,0.9s						
KSCO	**Kaye Shedlock'**	**25.76**	**344**	P	**P**	**04 58 41.1**	**+0.8**
	baz=160						
S22A	**4UR Ranch, Cre**	**26.02**	**336**	P	**P**	**04 58 44.0**	**+1.1**
	baz=150						
MVCO	**Mesa Verde**	**26.27**	**333**	IAmb	IAmb	04 59 08.7	
	comp=Z,14nm,1.4s						
MVCO	**Mesa Verde**	**26.27**	**333**	P	**P**	**04 58 47.3**	**+2.2**
	baz=146						
HDIL	**Hopedale**	**26.36**	**8**	P	**P**	**04 58 44.8**	**-0.7**
	baz=190						
WUAZ	**Wupatki**	**26.36**	**326**	IAmb	IAmb	04 59 01.3	
	comp=Z,11nm,0.9s						
WUAZ	**Wupatki**	**26.36**	**326**	P	**P**	**04 58 47.1**	**+1.2**
	baz=138						
Q24A	**Divide**	**26.48**	**340**	P	**P**	**04 58 47.2**	**+0.1**
	baz=154						
SFIN	**Lafayette**	**26.53**	**11**	P	**P**	**04 58 46.7**	**-0.4**
	baz=194						
SJG	**San Juan**	**26.70**	**78**	LR	LR	05 10 20.2	
	comp=Z,75nm,18.4s,baz=220,slow=39						
PDMCI	**Parker Dam,Lak**	**27.10**	**321**	P	**P**	**04 58 52.9**	**+0.6**
	baz=132						
BGNE	**Belgrade**	**27.20**	**353**	P	**P**	**04 58 53.5**	**+0.3**
	baz=170						
ISCO	**Idaho Springs**	**27.39**	**340**	IAmb	IAmb	04 59 07.2	
	comp=Z,9.8nm,1.0s						
ISCO	**Idaho Springs**	**27.39**	**340**	P	**P**	**04 58 55.6**	**+0.3**
	baz=154,SNR=14						
W13A	**Hualapai Mount**	**27.48**	**322**	P	**P**	**04 58 57.4**	**+1.3**
BC3	**Big Chuckawall**	**27.51**	**318**	P	**P**	**04 58 57.0**	**+0.9**
	baz=129						
IRM	**Iron Mountain**	**27.63**	**319**	P	**P**	**04 58 58.0**	**+0.9**
	baz=130						
L40A	**Anamosa**	**27.66**	**4**	IAmb	IAmb	04 58 57.6	
	comp=Z,17nm,1.2s						
MONP2	**Monument Peak**	**27.69**	**316**	P	**P**	**04 58 58.5**	**+0.6**
	baz=126						
L42A	**Oliver, Polo**	**27.74**	**6**	IAmb	IAmb	04 58 58.1	
	comp=Z,12nm,0.9s						
BELC	**Belle Mtn. Jos**	**28.08**	**318**	P	**P**	**04 59 01.8**	**+0.5**
	baz=129						
PFO	**Pinyon Flats O**	**28.14**	**317**	LR	LR	05 10 19.2	
	comp=Z,88nm,18.8s,baz=144,slow=36						
PFO	**Pinyon Flats O**	**28.14**	**317**	P	**P**	**04 59 02.3**	**+0.5**
	baz=127						
KNB	**Kanab**	**28.25**	**326**	IAmb	IAmb	04 59 24.2	
	comp=Z,15nm,1.5s						
N23A	**Red Feather La**	**28.49**	**340**	P	**P**	**04 59 05.8**	**+0.9**
	baz=154						
JFWS	**Jewell Farm**	**28.58**	**5**	P	**P**	**04 59 06.1**	**+0.7**
	baz=187						
O20A	**White River Ci**	**28.64**	**336**	P	**P**	**04 59 06.6**	**+0.4**
	baz=149						
HEC	**Hector,Ludlow**	**28.82**	**319**	P	**P**	**04 59 07.9**	**+0.1**
	baz=129						
CCUT	**Cedar City**	**28.94**	**326**	P	**P**	**04 59 10.8**	**+1.9**
ECSD	**EROS Data Cent**	**29.35**	**356**	IAmb	IAmb	04 59 12.3	
	comp=Z,7.8nm,0.9s						
ECSD	**EROS Data Cent**	**29.35**	**356**	P	**P**	**04 59 11.3**	**-1.0**
	baz=174,SNR=6.2						
FURC	**Furnace Creek,**	**30.20**	**321**	P	**P**	**04 59 20.2**	**+0.4**
	baz=131						
K22A	**Casper**	**30.26**	**341**	P	**P**	**04 59 20.6**	**+0.1**
	baz=155						
MPMC	**Manual Prospec**	**30.32**	**320**	P	**P**	**04 59 21.6**	**+0.4**
	baz=129						
R11A	**Troy Canyon, C**	**30.73**	**325**	P	**P**	**04 59 25.5**	**+0.7**
	baz=135						
SPMN	**Marine on St.**	**30.75**	**1**	P	**P**	**04 59 25.0**	**+0.4**
SPMN	**Marine on St.**	**30.75**	**1**	P	**P**	**04 59 24.2**	**-0.4**
	baz=182						
RSSD	**Black Hills**	**30.92**	**345**	P	**P**	**04 59 27.0**	**+0.6**
RSSD	**Black Hills**	**30.92**	**345**	P	**P**	**04 59 26.3**	**-0.1**
	baz=160						
GLMI	**Grayling**	**31.31**	**12**	P	**P**	**04 59 29.3**	**-0.2**
	baz=197						
PDAR	**Pinedale Array**	**31.41**	**337**	P	**P**	**04 59 33.2**	**+2.5**
	comp=Z,1.1nm,0.9s,baz=124,slow=7.9,SNR=7.1						
PDAR				pP	**pwP**	**04 59 41.7**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=133,slow=8.7,SNR=7.5						
PDAR				LR	LR	05 13 13.4	
	comp=Z,50nm,18.1s,baz=116,slow=38						
PDAR	**Pinedale Array**	**31.41**	**337**	P	**P**	**04 59 31.7**	**+0.9**
HVU	**Hansel Valley**	**31.91**	**332**	P	**P**	**04 59 37.2**	**+2.1**
HVU				IAmb	IAmb	04 59 47.2	
	comp=Z,7.4nm,1.2s						
NV11	**Mina Array Sit**	**32.26**	**322**	IAmb	IAmb	04 59 52.4	
	comp=Z,11nm,1.4s						
MDPB	**Devils Postpil**	**32.30**	**320**	P	**P**	**04 59 39.1**	**+0.4**
NVAR	**Mina Array Bea**	**32.34**	**322**	P	**P**	**04 59 41.4**	**+2.4**
	comp=Z,2.7nm,0.9s,baz=146,slow=9.0,SNR=7.6						
NVAR				pP	**pwP**	**04 59 50.5**	**+1.0**
	comp=Z,4.1nm,0.9s,baz=138,slow=8.7,SNR=11						
NVAR				PcP	**PcP**	**05 02 27.9**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=176,slow=3.6,SNR=1.7						
NVAR				LR	LR	05 13 23.7	
	comp=Z,96nm,19.1s,baz=136,slow=37						
REDW	**Red Top Meadow**	**32.41**	**336**	P	**P**	**04 59 41.0**	**+1.5**
LOHW	**Long Hollow**	**32.52**	**337**	IAmb	IAmb	04 59 44.3	
	comp=Z,9.8nm,1.2s					

TABL	**Table Mountain**	**57.36**	**334**	P	**P**	**05 02 59.0**	**+1.5**
MESA	**MESA**	**57.56**	**334**	P	**P**	**05 02 59.1**	**+0.1**
	baz=121						
BVCY	**Beaver Creek**	**58.31**	**336**	P	**P**	**05 03 04.9**	**+0.9**
	baz=123						
MCARA	**McCarthy VSAT**	**58.63**	**335**	P	**P**	**05 03 07.0**	**+0.8**
	baz=121						
BCAR	**Beaver Creek A**	**59.03**	**337**	P	**P**	**05 03 09.1**	**+0.1**
L27K	**Beaver Creek,**	**59.04**	**337**	P	**P**	**05 03 09.0**	**-0.1**
	baz=123						
INK	**Inuvik**	**59.61**	**344**	P	**P**	**05 03 13.3**	**+0.5**
	comp=Z,3.6nm,0.9s,baz=121,slow=11,SNR=5.6						
INK				pP	**pwP**	**05 03 22.9**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=109,slow=7.1,SNR=3.3						
INK	**Inuvik**	**59.61**	**344**	P	**P**	**05 03 13.6**	**+0.8**
INK				IAmb	IAmb	05 03 36.3	
	comp=Z,7.0nm,1.1s						
INK	**Inuvik**	**59.61**	**344**	P	**P**	**05 03 13.3**	**+0.5**
	baz=134						
K27K	**Chicken**	**59.66**	**338**	P	**P**	**05 03 14.2**	**+0.9**
	baz=123						
KLU	**Klutina**	**59.90**	**334**	P	**P**	**05 03 15.1**	**0.0**
	baz=118						
HARP	**HAARP**	**60.02**	**335**	P	**P**	**05 03 16.2**	**+0.4**
	baz=119						
SCRK	**Sand Creek**	**60.35**	**337**	P	**P**	**05 03 17.9**	**-0.3**
	baz=121						
PAX	**Paxson**	**60.42**	**336**	P	**P**	**05 03 18.6**	**0.0**
	baz=119						
J26L	**Joseph Creek**	**60.46**	**338**	P	**P**	**05 03 18.9**	**0.0**
	baz=122						
RIDG	**Independent Ri**	**60.56**	**337**	P	**P**	**05 03 19.3**	**-0.2**
	baz=120						
WAT6	**Susitna Watana**	**61.16**	**335**	P	**P**	**05 03 23.8**	**0.0**
	baz=116						
IL31		**61.84**	**337**	P	**P**	**05 03 28.9**	**+0.8**
ILAR	**Eielson Array**	**61.84**	**337**	P	**P**	**05 03 28.9**	**+0.8**
	comp=Z,2.5nm,0.9s,baz=133,slow=4.5,SNR=19						
ILAR				pP	**pwP**	**05 03 37.9**	**-0.5**
	comp=Z,3.7nm,1.0s,baz=119,slow=5.2,SNR=9.3						
ILAR	**Eielson Array**	**61.84**	**337**	P	**P**	**05 03 28.7**	**+0.6**
MCK	**McKinley**	**62.16**	**336**	P	**P**	**05 03 30.5**	**+0.1**
	baz=116						
COLA	**College**	**62.25**	**337**	P	**P**	**05 03 31.3**	**+0.5**
	baz=117						
TCOL	**CIGO, UAF Yank**	**62.26**	**337**	P	**P**	**05 03 31.2**	**+0.3**
	baz=117						
BMAR	**Burnt Mountain**	**62.37**	**340**	P	**P**	**05 03 31.6**	**0.0**
TRF	**Thorofare Moun**	**62.59**	**335**	P	**P**	**05 03 32.0**	**-1.4**
	baz=114						
NEA2	**Nenana**	**62.59**	**336**	P	**P**	**05 03 33.6**	**+0.4**
	baz=116						
H24K	**Noodor Dome**	**62.71**	**338**	P	**P**	**05 03 33.3**	**-0.7**
	baz=118						
I23K	**Minto, Yukon-K**	**62.95**	**337**	P	**P**	**05 03 35.5**	**0.0**
	baz=116						
BPAW	**Bear Paw Mtn.**	**63.14**	**336**	P	**P**	**05 03 36.6**	**-0.2**
	baz=114						
MLY	**Manley**	**63.42**	**337**	P	**P**	**05 03 39.2**	**+0.4**
	baz=115						
K20K	**Telida**	**64.12**	**334**	P	**P**	**05 03 43.3**	**0.0**
	baz=110						
COLD	**Coldfoot**	**64.17**	**339**	P	**P**	**05 03 43.4**	**-0.2**
	baz=116						
J20K	**Nowinta River**	**64.45**	**335**	P	**P**	**05 03 44.2**	**-1.2**
	baz=111						
H21K	**Melozitna Rive**	**64.47**	**337**	P	**P**	**05 03 43.7**	**-1.9**
	baz=113						
CHNA	**Chernabura Isl**	**64.50**	**324**	P	**P**	**05 03 43.5**	**-2.5**
	baz=101						
TOLK	**Toolik Lake Re**	**64.60**	**340**	P	**P**	**05 03 45.3**	**-1.2**
	baz=117						
SUMG	**Summit**	**66.31**	**16**	*i* P	**P**	**05 03 57.0**	**-0.9**
SUMG				IAmb	IAmb	05 03 58.9	
	comp=Z,5.2nm,0.8s						
NEEM	**North Greenlan**	**66.62**	**9**	*i* P	**P**	**05 04 01.0**	**+1.4**
NEEM				IAmb	IAmb	05 04 04.9	
	comp=Z,22nm,1.2s						
DAG	**Danmarks Havn**	**72.67**	**13**	*i* P	**P**	**05 04 35.0**	**-1.6**
DAG				IAmb	IAmb	05 04 36.9	
	comp=Z,18nm,1.3s						
ESDC	**Sonseca Array**	**80.77**	**51**	P	**P**	**05 05 22.4**	**-0.8**
	comp=Z,1.1nm,0.9s,baz=285,slow=6.6,SNR=6.6						
ESDC				pP	**pwP**	**05 05 32.7**	**+0.2**
	comp=Z,0.5nm,0.9s,baz=125,slow=30,SNR=2.1						
NB2	**NORSAR Subarra**	**84.59**	**28**	P	**P**	**05 05 43.6**	**+1.1**
	comp=Z,15nm,1.2s,baz=291,slow=5.1						
NB2	**NORSAR Subarra**	**84.59**	**28**	P	**P**	**05 05 43.6**	**+1.1**
	baz=291,slow=5.1						
NOA	**NORSAR Array B**	**84.59**	**28**	P	**P**	**05 05 43.8**	**+1.2**
	comp=Z,4.0nm,0.9s,baz=292,slow=4.8,SNR=13						
NOA				LR	LR	05 42 07.9	
	comp=Z,21nm,21.1s,baz=285,slow=35						
ARCES	**ARCESS Array B**	**86.28**	**18**	P	**P**	**05 05 50.8**	**0.0**
	comp=Z,2.7nm,1.0s,baz=345,slow=6.5,SNR=1.8						
ARCES				LR	LR	05 44 35.6	
	comp=Z,32nm,19.8s,baz=275,slow=36						
GERES	**GERESS Array B**	**90.35**	**39**	P	**P**	**05 06 10.8**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=300,slow=6.0,SNR=6.0						
GERES				LR	LR	05 44 32.9	
	comp=Z,19nm,19.2s,baz=315,slow=34						
GERES	**GERESS Array B**	**90.35**	**39**	P	**P**	**05 06 11.0**	**+0.3**
FINES	**FINESS Array B**	**90.84**	**25**	LR	LR	05 48 48.3	
	comp=Z,24nm,18.0s,baz=220,slow=37						
TORD	**Torodi Ar. Bea**	**91.89**	**76**	LR	LR	05 45 57.9	
	comp=Z,18nm,19.3s,baz=205,slow=34						
TIP	**Timpagrande**	**96.20**	**47**	P	**P**	**05 06 37.3**	**-0.5**
CMAR	**Chiang Mai Arr**	**145.06**	**339**	PKPbc	**PKPbc**	**05 12 46.8**	**-0.2**
	comp=Z,2.5nm,0.6s,baz=342,slow=3.4,SNR=15						
CMAR	**Chiang Mai Arr**	**145.06**	**339**		**PKPbc**	**05 12 46.3**	**-0.7**

*NOU **28** 05:01:02.3,29.005×116.96E,h0km,MLv3.6/4, Western Australia*
AUST 28 05:01:04.7±1.0,29.15S×116.86E,h7km±7km, Error ellipse: s-maj=6.6km s-min=3.3km az=119.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORW	**Morawa**	**0.72**	**276**	P	Pg	05 01 18.1	-0.5
	baz=0.7,SNR=52						
MORW				S	Sg	05 01 27.1	-1.1
	baz=0.7,SNR=63						
BLDU	**Ballidu**	**1.47**	**185**	P	Pn	05 01 31.9	+0.2
	baz=1.5,SNR=149						
BLDU				S	Sg	05 01 52.1	+0.2
	baz=1.5						
MUN	**Mundaring**	**2.88**	**191**	P	Pn	05 01 52.0	+1.0
	baz=2.9,SNR=6.0						
MUN				S	Sn	05 02 26.4	+0.6
	baz=2.9						
MEEK	**Meekatharra**	**2.94**	**32**	P	Pn	05 01 53.2	+1.2
	baz=3.0,SNR=5.0						
MEEK				S	Sn	05 02 28.8	+1.2
	baz=3.0						
NWAO	**Narrogin (SRO)**	**3.78**	**175**	P	Pn	05 02 03.4	0.0
	baz=3.8						
NWAO				S	Sn	05 02 50.0	+1.9
	baz=3.8						
KMBL	**Kambalda**	**4.87**	**118**	P	Pn	05 02 19.6	+1.2
	baz=4.9						
KMBL				S	Sn	05 03 14.6	-0.5
	baz=4.9						
FORT	**Forrest**	**9.85**	**102**	P	Pn	05 03 25.8	-1.0
	baz=9.8						
FORT				S	Sn	05 05 11.8	-5.8
	baz=9.8						
WRKA	**Warakurna**	**10.98**	**71**	P	Pn	05 03 42.5	+0.2
	baz=11						
WRKA				S	Sn	05 05 39.5	-5.9
	baz=11						

*IDC **28** 05:01:59.9±1.4, 14.37N×93.56W,h0km,mb3.8/8, mb1 4.1/10,mb1mx3.9/33,mbtmp3.8/10,ML3.3/2,MS3.2/1, Ms1 3.2/1,ms1mx2.6/26, Error ellipse: s-maj=62.1km s-min=19.2km az=46.0*
*MEX **28** 05:01:59.7±0.8, 14.12N×93.89W,h10km,MD4.3*
*NEIC **28** 05:02:03.2±2.2, 14.47N±0.07×93.66W±0.06,h10km±1km, mb4.3/50,Md4.3/10(MEX), Error ellipse: s-maj=12.7km s-min=10.2km az=189.0*
ISC 28 05:02:02.1±0.7,14.43N±0.06×93.69W±0.06,h10km,n85, σ1°21/89,mb4.3/31,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.35**	**20**	*e*P	**Pn**	**05 02 26.1**	**-0.9**
PCIG				*e*S	**Sg**	**05 02 46.5**	**+1.0**
PCIG		**1.35**	**20**		**Pn**	**05 02 26.1**	**-0.9**
PCIG					**Sg**	**05 02 46.5**	**+1.0**
THIG		**1.46**	**71**	*e*P	**Pn**	**05 02 27.0**	**-1.4**
THIG				*e*S	**Sn**	**05 02 46.9**	**-0.6**
THIG		**1.46**	**71**		**Pn**	**05 02 27.0**	**-1.4**
THIG					**Sn**	**05 02 46.9**	**-0.6**
RTAL	**Retalhuleu**	**1.93**	**87**		**Pn**	**05 02 34.0**	**-1.0**
HUEH	**Huehuetenango**	**2.29**	**67**		**Pn**	**05 02 40.8**	**+0.6**
CCIG	**Comitan**	**2.37**	**39**		**Pn**	**05 02 43.0**	**+1.8**
CMIG	**Matias Romero**	**2.89**	**337**	Pn	**Pn**	**05 02 47.0**	**-1.1**
	4.5nm,0.3s,baz=159,slow=10.0,SNR=46						
CMIG				Sn	**Sn**	**05 03 19.2**	**-3.8**
	8.3nm,0.3s,baz=171,slow=12,SNR=8.5						
MTO3	**Montecristo**	**4.19**	**90**	Pn	**Pn**	**05 03 05.3**	**-1.0**
ESQI	**Esquipulas**	**4.21**	**88**	Pn	**Pn**	**05 03 07.3**	**+0.9**
SNET	**Serv Nac Est T**	**4.38**	**99**	Pn	**Pn**	**05 03 09.0**	**+0.2**
TLIG	**Tlapa**	**5.63**	**304**		**Pn**	**05 03 25.2**	**-0.9**
CRIN	**San Cristobal**	**6.68**	**104**	Pn	**Pn**	**05 03 39.3**	**-1.1**
MOIG	**Morelia**	**8.87**	**307**	Pn	**Pn**	**05 04 13.1**	**+2.4**
ORTG	**Ortega, Santa**	**8.99**	**116**	Pn	**Pn**	**05 04 12.3**	**+0.1**
DUNO	**Dulce Nombre,**	**9.10**	**117**	Pn	**Pn**	**05 04 16.3**	**+2.7**
JTS	**Las Juntas de**	**9.47**	**115**	Pn	**Pn**	**05 04 22.0**	**+3.3**
	0.4nm,0.3s,baz=243,slow=4.5,SNR=2.6						
JTS	**Las Juntas de**	**9.47**	**115**		**Pn**	**05 04 21.8**	**+3.1**
SRBA	**San Rafael, Bu**	**11.35**	**116**	Pn	**Pn**	**05 04 45.2**	**+0.7**
JCT	**Junction City**	**16.94**	**342**		**Pn**	**05 06 00.0**	**+0.7**
TXAR	**Lajitas Array**	**17.47**	**330**	P	**P**	**05 06 08.3**	**+1.1**
	0.0nm,0.3s,baz=149,slow=12,SNR=14						
TXAR				LR	LR	05 13 37.8	
	comp=Z,75nm,18.4s,baz=0.0,slow=40						
TXAR	**Lajitas Array**	**17.47**	**330**	P	**P**	**05 06 07.6**	**+0.3**
TX31	**Lajitas Ar. Si**	**17.47**	**330**	P	**P**	**05 06 07.9**	**+0.6**
TX31				IAmb	IAmb	05 06 24.0	
	comp=Z,26nm,1.4s						
TX32	**Lajitas Array**	**17.47**	**330**	P	**P**	**05 06 07.9**	**+0.6**
Z47A	**Carrollton**	**19.37**	**14**	P	**P**	**05 06 27.5**	**-0.5**
Z47A				IAmb	IAmb	05 06 30.1	
	comp=Z,14nm,0.7s						
MIAR	**Mount Ida**	**20.03**	**0**	P	**P**	**05 06 34.7**	**-0.5**
MNTX	**Cornudas Mount**	**20.25**	**330**	P	**P**	**05 06 38.5**	**+0.8**
MSTX	**Muleshoe**	**21.12**	**339**	P	**P**	**05 06 46.6**	**-0.6**
MSTX				IAmb	IAmb	05 07 07.0	
	comp=Z,14nm,1.1s						
OK025	**Westminster Rd**	**21.32**	**352**	P	**P**	**05 06 48.8**	**-0.4**
OK025				IAmb	IAmb	05 06 52.3	
	comp=Z,14nm,0.7s						
ROSC	**El Rosal**	**21.32**	**115**	P	**P**	**05 06 49.2**	**-0.5**
ROSC				IAmb	IAmb	05 07 04.2	
	comp=Z,9.3nm,0.9s						
FCAR	**Ozark Folk Cen**	**21.42**	**3**	P	**P**	**05 06 51.8**	**+1.6**
BCOK	**Bluff Creek, N**	**21.43**	**351**	P	**P**	**05 06 50.7**	**+0.3**
BCOK				IAmb	IAmb	05 07 01.8	
	comp=Z,16nm,1.0s						
TUL1	**Leonard**	**21.48**	**355**	P	**P**	**05 06 51.0**	**+0.2**
TUL1				IAmb	IAmb	05 07 09.4	
	comp=Z,10nm,1.1s						
OK030	**Cody Creek RV**	**21.59**	**353**	P	**P**	**05 06 53.1**	**+1.0**
OK030				IAmb	IAmb	05 06 54.5	
	comp=Z,13nm,1.1s						
HSIG		**21.59**	**315**	P	**P**	**05 06 53.1**	**+0.9**
AMTX	**Amarillo**	**21.61**	**342**	P	**P**	**05 06 51.1**	**-1.3**
AMTX				IAmb	IAmb	05 06 53.3	
	comp=Z,7.3nm,0.7s						
HHAR	**Hobbs**	**21.76**	**359**	P	**P**	**05 06 54.8**	**+0.8**
HHAR				IAmb	IAmb	05 06 55.7	
	comp=Z,7.9nm,0.6s						
U40A	**Yellville**	**21.85**	**2**	P	**P**	**05 06 56.0**	**+1.1**
U38A	**Gravette**	**21.93**	**358**	P	**P**	**05 06 56.6**	**+0.9**
U38A				IAmb	IAmb	05 06 57.2	
	comp=Z,9.1nm,1.0s						
RUSC	**La Rusia**	**21.96**	**111**	P	**P**	**05 06 56.4**	**-0.4**
RUSC				IAmb	IAmb	05 07 06.3	
	comp=Z,17nm,1.2s						
121A	**Cookes Peak, D**	**22.14**	**327**	P	**P**	**05 06 59.8**	**+1.6**
121A				IAmb	IAmb	05 07 01.7	
	comp=Z,12nm,0.8s						
HICK	**Hickman**	**22.38**	**9**	P	**P**	**05 07 00.8**	**+0.3**
PARMO	**Parma**	**22.42**	**8**	P	**P**	**05 07 01.8**	**+0.8**
PBMO	**Poplar Bluff**	**22.45**	**7**	P	**P**	**05 07 01.2**	**-0.1**
PBMO				IAmb	IAmb	05 07 02.3	
	comp=Z,8.2nm,1.0s						
MGMO	**Mountain Grove**	**22.67**	**3**	P	**P**	**05 07 03.1**	**-0.6**
BNM	**Barren Site**	**22.86**	**331**	P	**P**	**05 07 07.3**	**+1.3**
LENM	**Lemitar**	**23.04**	**331**	P	**P**	**05 07 07.0**	**-0.7**
KAN16	**Harper SW Stat**	**23.04**	**351**	P	**P**	**05 07 07.5**	**0.0**
S39A	**Bolivar**	**23.17**	**1**	P	**P**	**05 07 08.1**	**-0.7**
S39A				IAmb	IAmb	05 07 09.4	
	comp=Z,13nm,1.0s						
T47A	**Sharon Grove**	**23.22**	**13**	P	**P**	**05 07 08.5**	**-0.9**
T47A				IAmb	IAmb	05 07 09.3	
	comp=Z,6.0nm,0.7s						
SDV	**Santo Domingo**	**23.23**	**101**	P	**P**	**05 07 08.5**	**-1.4**
	comp=Z,1.9nm,0.7s,baz=277,slow=8.1,SNR=3.8						
ANMO	**Albuquerque**	**23.45**	**333**	P	**P**	**05 07 12.5**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=144,slow=11,SNR=4.8						
ANMO	**Albuquerque**	**23.45**	**333**	IAmb	IAmb	05 07 15.5	
	comp=Z,2.2nm,1.1s						
TUC	**Tucson**	**23.67**	**322**	P	**P**	**05 07 15.3**	**+1.3**
R32A	**Long Quarter,**	**24.31**	**350**	P	**P**	**05 07 19.7**	**-0.2**
T25A	**Trinidad**	**24.55**	**339**	P	**P**	**05 07 24.0**	**+1.6**
T25A				IAmb	IAmb	05 07 34.0	
	comp=Z,9.9nm,1.1s						
OLIL	**Olney**	**24.71**	**10**	P	**P**	**05 07 22.4**	**-1.1**
Q44A	**Meyer Farm, Va**	**24.73**	**9**	P	**P**	**05 07 21.3**	**-2.3**
Q44A				IAmb	IAmb	05 07 23.4	
	comp=Z,9.6nm,0.9s						
X16A	**Lo Mia Camp, P**	**25.56**	**324**	P	**P**	**05 07 31.5**	**0.0**
P46A	**Rosedale**	**25.73**	**12**	P	**P**	**05 07 32.2**	**-0.5**
N38A	**Joes South For**	**26.27**	**1**	P	**P**	**05 07 36.0**	**-1.6**
PDAR	**Pinedale Array**	**31.38**	**337**	P	**P**	**05 08 23.6**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=121,slow=8.8,SNR=2.6						
NVAR	**Mina Array Bea**	**32.32**	**322**	P	**P**	**05 08 32.9**	**+1.2**
	comp=Z,1.7nm,0.8s,baz=148,slow=8.6,SNR=9.7						
NVAR				PcP	**PcP**	**05 11 18.7**	**-1.1**
	comp=Z,0.5nm,0.9s,baz=146,slow=3.9,SNR=3.0						
REDW	**Red Top Meadow**	**32.38**	**336**	P	**P**	**05 08 34.2**	**+2.0**
REDW				IAmb	IAmb	05 08 35.0	
	comp=Z,6.8nm,1.2s						
SNOW	**Snow King Moun**	**32.42**	**337**	P	**P**	**05 08 33.7**	**+1.1**
LOHW	**Long Hollow**	**32.49**	**337**	P	**P**	**05 08 34.4**	**+1.2**
LOHW				IAmb	IAmb	05 09 01.4	
	comp=Z,5.1nm,1.5s						
TPAW	**Teton Pass**	**32.52**	**336**	P	**P**	**05 08 33.8**	**+0.4**
TPAW				IAmb	IAmb	05 08 56.0	
	comp=Z,8.5nm,1.5s						
MOOW	**Moose Ponds**	**32.66**	**337**	P	**P**	**05 08 36.2**	**+1.5**
HRY	**Holter Researc**	**35.59**	**338**	P	**P**	**05 09 01.0**	**+1.1**
F10A	**Beach Ranch, E**	**37.16**	**333**	P	**P**	**05 09 14.2**	**+0.9**
F10A				IAmb	IAmb	05 09 28.3	
	comp=Z,5.6nm,1.4s						
LPAZ	**La Paz**	**39.61**	**139**	P	**P**	**05 09 33.0**	**-1.8**
	comp=Z,0.6nm,0.6s,baz=284,slow=8.3,SNR=2.0						
BCAR	**Beaver Creek A**	**59.00**	**337**	P	**P**	**05 12 02.6**	**+0.8**
INK	**Inuvik**	**59.57**	**344**	P	**P**	**05 12 05.7**	**+0.1**
INK				IAmb	IAmb	05 12 27.8	
	comp=Z,5.0nm,1.1s						
IL31		**61.81**	**337**	P	**P**	**05 12 20.8**	**-0.1**
ILAR	**Eielson Array**	**61.81**	**337**	P	**P**	**05 12 20.6**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=130,slow=4.0,SNR=9.1						
BMAR	**Burnt Mountain**	**62.33**	**340**	P	**P**	**05 12 25.0**	**+0.5**
I23K	**Minto, Yukon-K**	**62.92**	**337**	P	**P**	**05 12 28.5**	**+0.2**
I23K				IAmb	IAmb	05 12 28.8	
	comp=Z,2.5nm,0.8s						
BPAW	**Bear Paw Mtn.**	**63.11**	**336**	P	**P**	**05 12 29.3**	**-0.4**
MLY	**Manley**	**63.39**	**337**	P	**P**	**05 12 31.6**	**0.0**
MLY				IAmb	IAmb	05 12 32.0	
	comp=Z,2.3nm,0.8s						
EUNU	**Eureka**	**65.74**	**1**	P	**P**	**05 12 46.8**	**+0.1**
NB2	**NORSAR Subarra**	**84.55**	**28**	P	**P**	**05 14 35.0**	**-0.4**
	comp=Z,5.9nm,1.2s,baz=290,slow=4.8						
NOA	**NORSAR Array B**	**84.55**	**28**	P	**P**	**05 14 34.2**	**-1.2**
	comp=Z,1.5nm,0.9s,baz=290,slow=4.8,SNR=5.3						
ARCES	**ARCESS Array B**	**86.24**	**18**	P	**P**	**05 14 43.7**	**+0.1**
	comp=Z,2.7nm,1.0s,baz=306,slow=4.1,SNR=4.2						
ARCES	**ARCESS Array B**	**86.24**	**18**	IAmb	IAmb	05 14 52.6	
	comp=Z,21nm,1.4s						
CMAR	**Chiang Mai Arr**	**145.03**	**339**	PKPbc	**PKPbc**	**05 21 38.7**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=337,slow=4.3,SNR=7.7						

*THR **28** 05:29:26.3±0.7,35.02N×49.72E,h14km±4km,ML3.8*
*TEH **28** 05:29:26.2,35.01N×49.81E,h8km,ML3.8*
ISC 28 05:29:26.4±1.2,35.10N±0.03×49.72E±0.03,h8km±11km, n79,σ1°77/85,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRAZ	**Razeghan**	**0.35**	**29**	*e*Pg	**Pb**	**05 29 35.2**	**+0.1**
IRAZ				*e*Sg	**Sb**	**05 29 41.4**	**+0.5**
HAGD	**Aghdareh**	**0.55**	**240**	*e*Pg	**Pb**	**05 29 38.3**	**-0.1**
HAGD				*e*Sg	**Sb**	**05 29 47.2**	**+0.7**
HAGD				*e*		05 29 47.6	
	comp=Z,74μm,0.2s						
QABG	**Abgarm-Qazvin**	**0.62**	**350**	*e*Pg	**Pb**	**05 29 39.8**	**+0.1**
QABG				*e*Sg	**Sn**	**05 29 50.1**	**-1.9**
IMHD	**Mahdasht**	**0.97**	**53**	*e*Pg	**Pg**	**05 29 45.5**	**+0.4**
IMHD				*e*Sg	**Sb**	**05 29 59.2**	**+0.6**
IMHD				*e*		05 29 59.7	
	comp=Z,82μm,0.2s						
IQOM	**Qom**	**1.14**	**102**	*e*Pg	**Pg**	**05 29 46.6**	**-1.7**
IQOM				*e*Sg	**Sg**	**05 30 01.2**	**-1.9**
IQOM				*e*		05 30 02.1	
	comp=Z,45μm,0.2s						
THKV	**Tehran--Karaj**	**1.25**	**49**	IAML		05 30 08.8	
	comp=N,2μm,0.4s						
HSAM	**Samen**	**1.27**	**227**	*e*Pg	**Pn**	**05 29 50.4**	**-0.3**
HSAM				*e*		05 30 14.0	
	comp=Z,15μm,0.4s						
IALM	**Almabolaq**	**1.29**	**260**	*e*Pg	**Pg**	**05 29 51.9**	**+0.6**
IHSB	**Hasanabad**	**1.32**	**75**	*e*Pg	**Pn**	**05 29 51.2**	**0.0**
IHSB				*e*		05 29 53.9	
	comp=Z,10μm,0.3s						
IGZV	**Ghazvin**	**1.35**	**17**	*e*Pn	**Pg**	**05 29 53.6**	**+1.3**
IGZV				*e*		05 30 22.8	
	comp=Z,14μm,0.4s						
KHMZ	**Khomeyn**	**1.37**	**172**	*e*Pg	**Pn**	**05 29 50.0**	**-2.0**
KHMZ	**Khomeyn**	**1.37**	**172**	*e*Pg	**Pn**	**05 29 50.0**	**-2.0**
CHTH	**Charan**	**1.41**	**54**	*e*Pg	**Pn**	**05 29 53.2**	**+0.7**
CHTH				*e*Sg	**Sg**	**05 30 12.7**	**+1.1**
CHTH	**Charan**	**1.41**	**54**	*e*Pg	**Pn**	**05 29 53.2**	**+0.7**
GHVR	**GHOM**	**1.44**	**115**	*e*Pg	**Pn**	**05 29 51.5**	**-1.3**
GHVR				*e*Sg	**Sn**	**05 30 10.0**	**-1.8**
GHVR				IAML		05 30 13.4	
	comp=E,1μm,0.4s						
GHVR	**GHOM**	**1.44**	**115**	*e*Pn	**Pn**	**05 29 51.5**	**-1.3**
QSDN	**Sirdan**	**1.47**	**343**	*e*Pn	**Pg**	**05 29 56.1**	**+1.4**
TEH	**Tehran**	**1.50**	**64**	*e*Pn	**Pn**	**05 29 54.7**	**+1.0**
QALM	**Alamut, Qazvin**	**1.53**	**29**	*e*Pn	**Pg**	**05 29 56.2**	**+0.4**
BMDN	**Meydan**	**1.60**	**208**	*e*Pn	**Pn**	**05 29 56.0**	**+0.8**
BMDN				*e*		05 30 23.3	
	comp=Z,9μm,0.3s						
JIR1	**Jirandeh**	**1.61**	**2**	*e*Pn	**Pg**	**05 29 58.3**	**+1.0**
IVRN	**Varamin**	**1.65**	**93**	*e*Pn	**Pn**	**05 29 55.9**	**+0.2**
IVRN				*e*		05 30 21.9	
	comp=Z,11μm,0.3s						
IBZA	**Bozab**	**1.65**	**248**	*e*Pn	**Pb**	**05 29 57.8**	**+0.6**
IBZA				*e*		05 30 00.4	
	comp=Z,13μm,0.3s						
IDOB	**Doab**	**1.82**	**225**	*e*Pn	**Pb**	**05 30 00.1**	**0.0**
DAMV	**Damavand**	**1.92**	**73**	*e*Pn	**Pn**	**05 30 01.0**	**+1.4**
DAMV	**Damavand**	**1.92**	**73**	*e*Pn	**Pn**	**05 30 01.0**	**+1.4**
QAMS	**Qamsar**	**1.94**	**134**	*e*Pn	**Pn**	**05 30 00.2**	**+0.3**
IDMV	**Damavand**	**1.95**	**75**	*e*Pn	**Pn**	**05 30 01.6**	**+1.5**
IKFM	**Kafar-mosalman**	**2.20**	**225**	*e*		05 30 47.9	
	comp=Z,7μm,0.6s						
IKFM				*e*Pn	**Pb**	**05 30 06.7**	**+0.2**
ISFB	**Sefidab**	**2.21**	**109**	*e*Pn	**Pn**	**05 30 04.5**	**+1.1**
KER	**Kermanshah**	**2.25**	**252**	*e*Pn	**Pg**	**05 30 08.9**	**-0.6**
ILIN	**Lien**	**2.27**	**266**	*e*Pn	**Pb**	**05 30 08.3**	**+0.5**
KRSH	**Karshahi**	**2.29**	**119**	*e*		05 30 39.3	
	comp=Z,8μm,0.6s						
KRSH				*e*Pn	**Pn**	**05 30 05.4**	**+0.8**
IKLH	**Kolahrood**	**2.35**	**138**	*e*		05 30 43.1	
	comp=Z,8μm,0.3s						
IKLH				*e*Pn	**Pn**	**05 30 07.1**	**+1.6**
KCHF	**Cheshme Sefid,**	**2.35**	**250**	*e*		05 30 19.2	
	comp=Z,4μm,0.4s						
KCHF				*e*Pn	**Pb**	**05 30 09.9**	**+0.7**
IFIR	**Firoozkooh**	**2.54**	**77**	*e*Pn	**Pn**	**05 30 09.9**	**+1.8**
IPIR	**Pirpir**	**2.60**	**158**	*e*Pn	**Pn**	**05 30 10.6**	**+1.7**
IPIR				*e*		05 30 16.4	
	comp=Z,4μm,0.4s						
IGHG	**Ghaleghazi**	**2.71**	**254**	*e*Pn	**Pb**	**05 30 13.9**	**-1.3**
IGHG				*e*		05 31 19.3	
	comp=Z,3μm,1.0s						
IDHR	**Dehrash**	**2.77**	**263**	*e*Pn	**Pb**	**05

2.2nm,0.9s,baz=64,slow=6.1,SNR=3.6

*SJA **28** 06:05:41.0,31°.77S×72°.67W,h10km,ML4.8*
*IDC **28** 06:05:42.5±0.6,31°.82S×72°.06W,h0km,mb4.6/12, mb1 4.6/17,mb1mx4.4/28,mbtmp4.5/17,ML4.0/4,MS4.2/11, Ms1 4.1/11,ms1mx3.9/27,Error ellipse: s-maj=22.4km s-min=15.4km az=85.0*
*NEIC **28** 06:05:42.4,31°.77S×72°.30W,h16km,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr1.70; Mθθ0.15; Mϕϕ-1.85; Mrθ0.02; Mrϕ-0.09; Mθϕ-0.31; Fault plane solution: M₀1.81000×10¹⁶ NP1:ϕs181.41000°, δ49.95000°,λ,88.37000°. NP2:ϕs3.94000°,δ40.08000°, λ,91.94000°. Principal axes: T 1.7259, Plg85.0000°, Azm78.0000°; N 0.1552, Plg1.0000°, Azm182.0000°; P -1.8811, Plg5.0000°, Azm273.0000°;*
*NEIC **28** 06:05:43.7±2.2,31°.77S±0°.02×72°.31W±0°.06,h11km±3km, mb4.9/156,Mwr4.8/40,ML4.4(GUC) Error ellipse: s-maj=7.7km s-min=2.1km az=101.0*
*GUC **28** 06:05:44.2±0.8,31°.79S×72°.22W,h45km±8km,ML4.4*
*VAO **28** 06:05:45.7±0.6,31°.64S×71°.91W,h10km,mb4.7*
*GCMT **28** 06:05:47.7±0.3,31°.77S±0°.02×72°.40W±0°.02,h23km±1km, MW4.9/75,Moment Tensor Solution. s23,c25; s75,c102; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.66±.16; Mθθ-0.19±.08; Mϕϕ-2.47±.11; Mrθ-0.15±.12; Mθϕ0.10±.05; Mrϕ-1.60±.14; Best double couple: M₀3.02800×10¹⁶ NP1:ϕs354.00000°,δ29.00000°,λ84.00000°. NP2: ϕs181.00000°,δ61.00000°,λ94.00000°. Principal axes: T 3.1270, Plg74.0000°, Azm101.0000°; N -0.1980, Plg3.0000°, Azm360.0000°; P -2.9290, Plg16.0000°, Azm269.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 06:05:43.1±0.3,31°.78S±0°.02×72°.26W±0°.04,h10km,n382, σ1ᵖ33/390,mb4.9/85,MS4.2/11,15C-2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**1.13**	**134**	*i*	P		**Pb**	**06 06 04.1**	**-0.5**
VA06				*i*	S		**Sb**	**06 06 18.3**	**-1.1**
VA06					IAML			06 06 25.9	
	comp=E,21µm,0.4s								
CO02	**Combarbal**	**1.22**	**62**	↑	P		**Pb**	**06 06 05.4**	**-0.9**
CO02				*i*	S		**Sn**	**06 06 21.6**	**-1.4**
CO02	**Combarbal**	**1.22**	**62**		Pn		**Pb**	**06 06 05.5**	**-0.8**
CO02					Sn		**Sn**	**06 06 22.1**	**-0.9**
CO06	**Fray Jorge**	**1.23**	**26**	↑	P		**Pb**	**06 06 05.2**	**-1.2**
CO06				*e*	S		**Sb**	**06 06 17.8**	**-4.5**
CO06	**Fray Jorge**	**1.23**	**26**				**Pb**	**06 06 05.3**	**-1.1**
CO06					Sn		**Sb**	**06 06 20.2**	**-2.1**
VA01	**Torpederas**	**1.34**	**157**	↑	P		**Pn**	**06 06 07.1**	**-0.7**
VA01				*e*	S		**Sb**	**06 06 24.1**	**-1.5**
VA01	**Torpederas**	**1.34**	**157**		Pn		**Pn**	**06 06 07.1**	**-0.7**
VA01					Sn		**Sb**	**06 06 24.1**	**-1.5**
VA01	**Torpederas**	**1.34**	**157**	*i*	P		**Pn**	**06 06 07.0**	**-0.8**
ROCH	**El Roble**	**1.59**	**139**	↑	P		**Pn**	**06 06 11.2**	**-0.3**
ROCH				*i*	S		**Sn**	**06 06 31.2**	**-0.9**
ROCH					IAML			06 06 42.2	
	comp=E,6µm,0.5s								
CO03	**El Pedregal**	**1.64**	**55**	↑	P		**Pn**	**06 06 11.8**	**-0.2**
CO03				*i*	S		**Sn**	**06 06 32.1**	**-1.2**
CO03					IAML			06 06 41.6	
	comp=E,6µm,0.4s								
CO03	**El Pedregal**	**1.64**	**55**		Pn		**Pn**	**06 06 12.0**	**-0.1**
CO03					Sn		**Sn**	**06 06 32.2**	**-1.0**
CO03	**El Pedregal**	**1.64**	**55**	*i*	P		**Pn**	**06 06 12.0**	**-0.1**
VA03	**San Esteban**	**1.75**	**124**	↑	P		**Pn**	**06 06 13.5**	**0.0**
VA03				*i*	S		**Sn**	**06 06 34.6**	**-1.4**
VA03					IAML			06 06 42.1	
	comp=E,7µm,0.4s								
VA03	**San Esteban**	**1.75**	**124**				**Pn**	**06 06 13.6**	**0.0**
VA03					Sn		**Sn**	**06 06 35.2**	**-0.7**
VA03	**San Esteban**	**1.75**	**124**	*i*	P		**Pn**	**06 06 13.0**	**-0.5**
VA05	**Santo Domingo**	**1.95**	**164**	↑	P		**Pn**	**06 06 15.7**	**-0.4**
VA05				*i*	S		**Sg**	**06 06 45.6**	**-0.1**
VA05					IAML			06 06 55.4	
	comp=E,6µm,0.5s								
VA05	**Santo Domingo**	**1.95**	**164**		Pn		**Pn**	**06 06 15.8**	**-0.4**
VA05					Sn		**Sn**	**06 06 37.9**	**-2.8**
GO04	**Tololo Observa**	**2.04**	**38**	↓	P		**Pn**	**06 06 17.5**	**-0.1**
GO04				*i*	S		**Sn**	**06 06 42.7**	**-0.6**
GO04	**Tololo Observa**	**2.04**	**38**				**Pn**	**06 06 16.9**	**-0.8**
CO05	**La Serena**	**2.06**	**26**	↑	P		**Pn**	**06 06 17.1**	**-0.6**
CO05				*i*	S		**Sb**	**06 06 46.8**	**+0.7**
CO05					IAML			06 06 53.8	
	comp=E,6µm,0.1s								
CO05	**La Serena**	**2.06**	**26**		Pn		**Pn**	**06 06 16.7**	**-0.9**
MT05	**Renca**	**2.06**	**142**	↑	P		**Pn**	**06 06 17.9**	**+0.1**
MT05				*i*	S		**Sb**	**06 06 45.7**	**-0.4**
MT05					IAML			06 06 57.6	
	comp=E,6µm,0.3s								
MT05	**Renca**	**2.06**	**142**		Pn		**Pn**	**06 06 17.9**	**+0.1**
MT05	**Renca**	**2.06**	**142**	*i*	P		**Pn**	**06 06 18.0**	**+0.3**
MT01	**Popeta**	**2.24**	**158**	↑	P		**Pn**	**06 06 20.0**	**-0.2**
MT01				*i*	S		**Sn**	**06 06 46.8**	**-1.2**
MT01					IAML			06 07 04.8	
	comp=E,2µm,0.3s								
MT01	**Popeta**	**2.24**	**158**				**Pn**	**06 06 20.1**	**-0.2**
MT01	**Popeta**	**2.24**	**158**	*i*	P		**Pn**	**06 06 20.0**	**-0.2**
MT09	**Talagante**	**2.26**	**152**	↑	P		**Pn**	**06 06 20.9**	**+0.4**
MT09				*i*	S		**Sn**	**06 06 47.8**	**-0.8**
MT09					IAML			06 07 10.5	
	comp=N,2µm,0.5s								
MT09	**Talagante**	**2.26**	**152**				**Pn**	**06 06 21.0**	**+0.4**
AUSP	**Uspallata**	**2.48**	**101**	*i*	P		**Pb**	**06 06 26.0**	**-1.9**
RTLS	**Leoncito**	**2.52**	**91**	*i*	P		**Pb**	**06 06 27.0**	**-1.6**
LMEL	**Las Melosas**	**2.69**	**140**	↓	P		**Pn**	**06 06 26.9**	**+0.3**
LMEL				*i*	S		**Sn**	**06 07 00.6**	**+1.3**
LMEL					IAML			06 07 13.8	
	comp=N,1µm,0.3s								
BO03	**Pichilemu**	**2.72**	**175**	↑	P		**Pn**	**06 06 26.3**	**-0.5**
BO01	**Tunca**	**2.78**	**160**	*i*	P		**Pn**	**06 06 27.6**	**-0.1**
BO01				*i*	S		**Sg**	**06 07 10.7**	**-1.8**
BO01					IAML			06 07 18.3	
	comp=E,754nm,0.2s								
BO01	**Tunca**	**2.78**	**160**		Pn		**Pn**	**06 06 27.6**	**-0.1**
BO01	**Tunca**	**2.78**	**160**	*i*	P		**Pn**	**06 06 27.0**	**-0.7**
AROD	**Rodeo**	**2.88**	**57**	*i*	P		**Pb**	**06 06 32.0**	**-2.8**
ACCO	**Cerro Coronel**	**2.99**	**67**	*i*	P		**Pb**	**06 06 34.0**	**-2.5**
ARCO	**CERRO ARCO**	**3.01**	**111**	*i*	P		**Pb**	**06 06 35.0**	**-1.8**
ASAL	**Salagasta**	**3.01**	**106**	*i*	P		**Pb**	**06 06 34.0**	**-2.9**
ZON	**Zonda**	**3.06**	**87**		Pn		**Pb**	**06 06 34.5**	**-3.2**
ZON	**Zonda**	**3.06**	**87**	*i*	P		**Pb**	**06 06 36.0**	**-1.7**
LCO	**Las Campanas**	**3.07**	**26**				**Pn**	**06 06 31.5**	**-0.4**
LCO	**Las Campanas**	**3.07**	**26**	*i*	P		**Pn**	**06 06 32.0**	**+0.1**
ACDV	**Cuesta del Vie**	**3.14**	**60**	*i*	P		**Pn**	**06 06 35.0**	**+2.3**
RTCV	**Cerro Valdivia**	**3.17**	**92**	*i*	P		**Pb**	**06 06 36.0**	**-3.5**
AAGR	**Agrelo**	**3.18**	**115**	*i*	P		**Pb**	**06 06 37.0**	**-2.7**
GO05	**Huala**	**3.23**	**175**	↑	P		**Pb**	**06 06 33.2**	**-0.6**
GO05	**Huala**	**3.23**	**175**		Pn		**Pn**	**06 06 33.1**	**-0.8**
GO05	**Huala**	**3.23**	**175**	*i*	P		**Pn**	**06 06 33.0**	**-0.8**
BO02	**Sierra Bellavi**	**3.25**	**158**	*e*	P		**Pn**	**06 06 34.6**	**+0.5**
BO02	**Sierra Bellavi**	**3.25**	**158**				**Pn**	**06 06 34.7**	**+0.5**
BO02	**Sierra Bellavi**	**3.25**	**158**	*i*	P		**Pn**	**06 06 35.0**	**+0.9**
AC04	**Llanos de Chal**	**3.71**	**16**	↑	P		**Pn**	**06 06 39.1**	**-1.3**
AC04	**Llanos de Chal**	**3.71**	**16**		Pn		**Pn**	**06 06 39.5**	**-1.0**
AC04	**Llanos de Chal**	**3.71**	**16**	*i*	P		**Pn**	**06 06 39.0**	**-1.5**
AGUA	**GUANDACOL**	**3.97**	**56**	*i*	P		**Pn**	**06 06 47.0**	**+2.8**
ML02	**Panimavida**	**4.03**	**170**		Pn		**Pn**	**06 06 45.1**	**+0.3**
LAMA	**Las Malvinas**	**4.05**	**142**	*i*	P		**Pn**	**06 06 48.0**	**+2.9**
AVFE	**Valle Fertil**	**4.26**	**76**	*i*	P		**Pn**	**06 06 50.0**	**+1.9**
RFA	**San Rafael**	**4.36**	**134**	*i*	P		**Pn**	**06 06 51.0**	**+1.6**
GO03	**Copiap**	**4.53**	**23**				**Pn**	**06 06 51.0**	**-0.8**
GO03	**Copiap**	**4.53**	**23**	*i*	P		**Pn**	**06 06 52.0**	**+0.2**
VCA	**Vinchina**	**4.64**	**50**	*i*	P		**Pn**	**06 06 57.0**	**+3.6**
ACHE	**Chepes**	**4.82**	**84**	*i*	P		**Pn**	**06 06 58.0**	**+2.1**
APLL	**PUNTA DE LOS L**	**5.11**	**76**	*i*	P		**Pn**	**06 07 02.0**	**+2.3**
ACLC	**CERRO LA CRUZ**	**5.14**	**64**	*i*	P		**Pn**	**06 07 02.0**	**+1.7**
MRA	**San Martin**	**5.59**	**98**	*i*	P		**Pn**	**06 07 07.0**	**+0.6**
AC02	**Maricunga**	**5.64**	**30**				**Pn**	**06 07 06.7**	**-0.7**
AC02	**Maricunga**	**5.64**	**30**	*i*	P		**Pn**	**06 07 07.0**	**-0.4**
VA04	**Juan Fernndez**	**5.84**	**250**		Pn		**Pn**	**06 07 09.3**	**-0.4**
H03N1	**Juan Fernandez**	**5.85**	**252**		T		T	06 13 56.4	
	baz=79,slow=73,SNR=375								
H03N3	**Juan Fernandez**	**5.87**	**252**		T		T	06 14 11.1	
	baz=79,slow=73,SNR=191								
H03N2	**Juan Fernandez**	**5.87**	**252**		T		T	06 13 57.4	
	baz=79,slow=73,SNR=158								
H03S3	**Juan Fernandez**	**5.96**	**248**		T		T	06 14 00.5	
	baz=86,slow=74,SNR=14								
H03S1	**Juan Fernandez**	**5.96**	**248**		T		T	06 14 07.8	
	baz=86,slow=74,SNR=12								
H03S2	**Juan Fernandez**	**5.97**	**248**		T		T	06 14 02.7	
	baz=86,slow=74,SNR=15								
CYA	**Choya**	**6.51**	**61**	*i*	P		**Pn**	**06 07 19.0**	**0.0**
LC01	**Cunco**	**7.11**	**178**		Pn		**Pn**	**06 07 26.5**	**-0.6**
LC01	**Cunco**	**7.11**	**178**	*i*	P		**Pn**	**06 07 27.0**	**-0.1**
PB14	**IPOC Station P**	**7.32**	**13**		Pn		**Pn**	**06 07 29.5**	**-0.8**
LR03	**Panguipulli**	**7.83**	**180**		Pn		**Pn**	**06 07 37.5**	**+0.5**
FSA	**Cafayete**	**7.89**	**46**	*i*	P		**Pn**	**06 07 39.0**	**+1.0**
PB10	**IPOC Station P**	**8.38**	**11**		Pn		**Pn**	**06 07 45.8**	**+1.3**
PB15	**IPOC Station P**	**8.89**	**17**				**Pn**	**06 07 51.9**	**0.0**
PLCA	**Paso Flores**	**9.04**	**172**		Pn		**Pn**	**06 07 54.5**	**+0.9**
	comp=E,0.6nm,0.3s,baz=334,slow=11,SNR=23								
PLCA	**Paso Flores**	**9.04**	**172**		Pn		**Pn**	**06 07 54.8**	**+1.2**
LL04	**Puerto Octay**	**9.11**	**181**		Pn		**Pn**	**06 07 53.8**	**-0.7**
LL03	**Petrohue**	**9.34**	**181**		Pn		**Pn**	**06 07 56.3**	**-1.4**
PB06	**IPOC Station P**	**9.35**	**15**		Pn		**Pn**	**06 07 59.5**	**+1.4**
AF01	**San Pedro de A**	**9.51**	**23**		Pn		**Pn**	**06 07 59.3**	**-1.1**
PB04	**IPOC Station P**	**9.60**	**12**		Pn		**Pn**	**06 07 59.3**	**-2.1**
LVC	**Limon Verde**	**9.61**	**19**		Pn		**Pn**	**06 08 00.8**	**-1.0**
	comp=E,0.5nm,0.3s,baz=207,slow=11,SNR=2.2								
LVC						LR	LR	06 11 36.5	
	comp=E,904nm,21.8s,baz=198,slow=37								
LVC	**Limon Verde**	**9.61**	**19**		Pn		**Pn**	**06 07 59.9**	**-1.9**
LL05	**Los Muermos**	**9.65**	**185**		Pn		**Pn**	**06 08 01.2**	**-0.8**
PB09	**IPOC Station P**	**10.30**	**16**		Pn		**Pn**	**06 08 09.5**	**-1.7**
TRQA	**Tornquist**	**10.50**	**129**				**Pn**	**06 08 13.6**	**-0.1**
TRQA	**Tornquist**	**10.50**	**129**	*e*	P		**Pn**	**06 08 14.9**	**+1.2**
PB01	**IPOC Station P**	**10.98**	**14**		Pn		**Pn**	**06 08 17.5**	**-2.8**
TA01	**Diego Aracena**	**11.33**	**10**		Pn		**Pn**	**06 08 23.4**	**-1.6**
PB08	**IPOC Station P**	**11.92**	**14**		Pn		**Pn**	**06 08 31.0**	**-2.5**
PB11	**IPOC Station P**	**12.20**	**12**		Pn		**Pn**	**06 08 37.4**	**+0.3**
PSGCX	**Pisagua**	**12.29**	**10**		Pn		**Pn**	**06 08 33.9**	**-4.3**
ITQB	**Itaqui**	**13.62**	**85**		Pn		**Pn**	**06 08 57.0**	**+0.8**
COYC	**Coyhaique**	**13.77**	**179**				**Pn**	**06 08 56.6**	**-1.6**
CPUP	**Villa Florida**	**14.14**	**71**		Pn		**Pn**	**06 09 02.1**	**-1.3**
	baz=235,slow=17,SNR=3.4								
CPUP						Sn	**Sn**	**06 11 46.4**	**+6.0**
	comp=E,0.4nm,0.3s,baz=262,slow=10.0,SNR=4.9								
CPUP						LR	LR	06 14 34.0	
	comp=E,560nm,20.9s,baz=250,slow=38								
CPUP	**Villa Florida**	**14.14**	**71**		Pn		**Pn**	**06 09 02.8**	**-0.6**
CPUP	**Villa Florida**	**14.14**	**71**	*e*	P		**Pn**	**06 09 02.2**	**-1.3**
PLTB	**Pedras Altas**	**15.87**	**95**		Pn		**Pn**	**06 09 25.6**	**-0.9**
PLTB	**Pedras Altas**	**15.87**	**95**	*e*	P		**Pn**	**06 09 25.4**	**-1.2**
LPAZ	**La Paz**	**15.88**	**15**		Pn		**Pn**	**06 09 27.9**	**+0.6**
	comp=E,0.2nm,0.3s,baz=190,slow=11,SNR=38								
LPAZ	**La Paz**	**15.88**	**15**		Pn		**Pn**	**06 09 26.9**	**-0.3**
LPAZ	**La Paz**	**15.88**	**15**	*e*	P		**Pn**	**06 09 28.1**	**+0.8**
CPSB	**Cacapava Do Su**	**16.18**	**90**	*e*	P		**Pn**	**06 09 30.7**	**+0.1**
SIV	**San Ignacio**	**18.73**	**36**	*P*			**P**	**06 10 02.1**	**0.0**
	comp=E,0.5nm,0.3s,baz=231,slow=12,SNR=46								
SIV						LR	LR	06 18 44.3	
	comp=E,1µm,19.1s,baz=222,slow=42								
PTGB	**Pitanga**	**19.12**	**73**	*e*	P		**Pn**	**06 10 07.0**	**-0.1**
TRCB	**Terra Rica**	**19.58**	**68**		P		**Pn**	**06 10 11.6**	**-1.1**
NNA	**Nana**	**20.15**	**347**		LR		LR	06 16 44.4	
	comp=E,270nm,18.1s,baz=162,slow=33								
PTLB	**Pontes e Lacer**	**20.19**	**39**	*e*	P		**P**	**06 10 17.0**	**-0.9**
TER01	**Tubaro-SC**	**20.25**	**87**	*e*	P		**P**	**06 10 18.9**	**+0.3**
PP1B	**Ponte de Pedra**	**21.14**	**52**	*e*	P		**P**	**06 10 27.5**	**-0.8**
PCMB	**Pacaembu**	**21.29**	**67**	*e*	P		**P**	**06 10 28.9**	**-1.0**
TIJ01	**Guaruva-PR**	**21.40**	**78**	*e*	P		**P**	**06 10 28.8**	**-2.3**
VILB	**Vilhena**	**21.77**	**33**	*e*	P		**P**	**06 10 34.6**	**-0.5**
FRTB	**Fartura**	**21.78**	**73**	*e*	P		**P**	**06 10 33.9**	**-1.2**
SALV	**Santo Antonio**	**21.85**	**47**	*e*	P		**P**	**06 10 34.6**	**-1.3**
EFI	**East Falkland**	**22.45**	**156**		P		**P**	**06 10 41.9**	**-0.1**
EFI						IAmb	IAmb	06 10 53.3	
	comp=Z,46nm,0.9s								
ETMB	**Extrema**	**22.57**	**16**	*e*	P		**P**	**06 10 45.1**	**+1.5**
ITRB	**Iturama**	**23.05**	**64**	*e*	P		**P**	**06 10 47.1**	**-1.7**
SPB	**Sao Paulo**	**23.41**	**76**		P		**P**	**06 10 50.9**	**-1.4**
SPB	**Sao Paulo**	**23.41**	**76**	*e*	P		**P**	**06 10 52.6**	**+0.3**
BB19B	**Bebedouro**	**23.73**	**69**	*e*	P		**P**	**06 10 54.8**	**-0.8**
CZSB	**Cruzeiro do Su**	**23.94**	**359**	*e*	P		**P**	**06 10 59.5**	**+2.1**
VAO	**Valinhos**	**24.06**	**75**	*e*	P		**P**	**06 10 58.1**	**-0.6**
SAML	**Samuel**	**24.24**	**22**		P		**P**	**06 11 00.4**	**+0.2**
SAML	**Samuel**	**24.24**	**22**	*e*	P		**P**	**06 11 00.5**	**+0.2**
IPMB	**Ipameri, GO**	**25.71**	**63**	*e*	P		**P**	**06 11 12.9**	**-0.7**
CLDB	**Colider**	**25.78**	**40**	*e*	P		**P**	**06 11 14.3**	**0.0**
BDFB	**Brasilia**	**27.31**	**60**		P		**P**	**06 11 27.2**	**-1.0**
BDFB						LR	LR	06 24 03.5	
	comp=Z,610nm,18.6s,baz=229,slow=40								
BDFB	**Brasilia**	**27.31**	**60**		P		**P**	**06 11 27.2**	**-1.0**
TBTG	**Tabatinga, AM**	**27.54**	**5**	*e*	P		**P**	**06 11 31.3**	**+1.2**
TBTG	**Tabatinga, AM**	**27.54**	**5**	*e*	P		**P**	**06 11 31.1**	**+1.0**
SNDB	**Serra Nova Dou**	**27.60**	**49**	*e*	P		**P**	**06 11 30.1**	**-0.6**
DIAM	**Diamantina, MG**	**29.07**	**69**	*e*	P		**P**	**06 11 43.9**	**-0.1**
NPGB	**Novo Progresso**	**29.23**	**36**	*e*	P		**P**	**06 11 44.1**	**-1.1**
MC01	**Montes Claros**	**29.75**	**66**	*e*	P		**P**	**06 11 51.0**	**+1.1**
ALF01	**Guarapari-ES**	**30.30**	**76**	*e*	P		**P**	**06 11 53.9**	**-0.8**
JANB	**Januaria**	**30.45**	**63**	*e*	P		**P**	**06 11 55.0**	**-1.1**
MACA	**Manacapuru-AM**	**30.48**	**23**	*e*	P		**P**	**06 11 56.7**	**+0.4**
SJMB	**Sao Joao De Ma**	**30.86**	**73**	*e*	P		**P**	**06 11 59.0**	**-0.6**
BSFB	**Barra de Sao F**	**31.07**	**73**	*e*	P		**P**	**06 12 00.7**	**-0.8**
ITTB	**Itaituba**	**31.38**	**33**	*e*	P		**P**	**06 12 03.4**	**-0.8**
SDBA	**SAO DESIDERIO**	**31.70**	**59**	*e*	P		**P**	**06 12 06.5**	**-0.6**
NAN01	**Guarapari, ES**	**32.16**	**72**	*e*	P		**P**	**06 12 11.5**	**+0.4**
SMTB	**Santa Maria do**	**32.33**	**50**	*e*	P		**P**	**06 12 12.7**	**+0.1**
OTAV	**Otavalo**	**32.38**	**348**		P		**P**	**06 12 13.1**	**-0.4**
OTAV	**Otavalo**	**32.38**	**348**	*e*	P		**P**	**06 12 15.3**	**+1.8**
RPN	**Rapa Nui**	**32.51**	**269**		LR		LR	06 21 42.4	
	comp=Z,295nm,19.4s,baz=72,slow=29								
PTGA	**Pitinga**	**33.00**	**23**		P		**P**	**06 12 18.1**	**-0.3**
PTGA						IAmb	IAmb	06 12 19.5	
	comp=Z,24nm,1.1s								
PTGA	**Pitinga**	**33.00**	**23**	*e*	P		**P**	**06 12 17.4**	**-1.0**
PRPB	**Parauapebas**	**33.01**	**44**	*e*	P		**P**	**06 12 17.6**	**-0.9**
GUA01	**Guaratinga, BA**	**33.09**	**70**	*e*	P		**P**	**06 12 20.2**	**+0.9**
PMSA	**Palmer Station**	**33.41**	**174**		P		**P**	**06 12 21.1**	**-0.3**
PMSA						IAmb	IAmb	06 12 34.8	
	comp=Z,11nm,1.1s								
MACC	**Macarena, Meta**	**33.77**	**357**	*e*	P		**P**	**06 12 27.0**	**+1.8**
BBAC	**Balboa, Cauca**	**33.95**	**351**	*e*	P		**P**	**06 12 29.8**	**+2.9**
CMC01	**Camacan, BA**	**34.00**	**69**	*e*	P		**P**	**06 12 26.6**	**-0.6**
MALB	**Monte Alegre**	**34.27**	**33**	*e*	P		**P**	**06 12 30.7**	**+1.2**
NBIT	**Itapeh - BA**	**34.31**	**68**	*e*	P		**P**	**06 12 30.1**	**+0.2**
POPC	**Popayan, Colom**	**34.39**	**352**	*e*	P		P	06 12 36.4	+5.6
GDU01	**Guandu, BA**	**34.90**	**67**	*e*	P		**P**	**06 12 33.6**	**-1.4**
ORTC	**Ortega, Tolima**	**35.61**	**355**	*e*	P		**P**	**06 12 44.0**	**+2.9**
VILC	**Villavicencio,**	**35.72**	**358**	*e*	P		**P**	**06 12 45.3**	**+3.2**
BOAV	**Boa Vista**	**35.77**	**20**	*e*	P		**P**	**06 12 42.5**	**+0.1**
YOTC	**Yotoco, Valle**	**35.78**	**353**	*e*	P		**P**	**06 12 44.7**	**+2.0**
NBPN	**Ponto Novo - B**	**36.20**	**62**	*e*	P		**P**	**06 12 45.0**	**-1.2**
CHIC	**Chingaza**	**36.24**	**358**	*e*	P		**P**	**06 12 48.9**	**+2.0**
ROSC	**El Rosal**	**36.47**	**357**		P		**P**	**06 12 51.1**	**+2.3**
	comp=Z,5.1nm,0.5s,baz=306,slow=20,SNR=6.2								
ROSC	**El Rosal**	**36.47**	**357**		P		**P**	**06 12 47.7**	**-1.2**
ROSC						IAmb	IAmb	06 13 05.6	
	comp=Z,39nm,1.4s								
ROSC	**El Rosal**	**36.47**	**357**	*e*	P		**P**	**06 12 53.6**	**+4.8**
MCPB	**Macapa, AP**	**36.63**	**35**	*e*	P		**P**	**06 12 49.5**	**-0.3**
GUY2C	**Guyana, Caldas**	**36.92**	**355**	*e*	P		**P**	**06 12 55.0**	**+2.3**
TMAB	**Tom-Au,PA,Br**	**37.07**	**43**	*e*	P		**P**	**06 12 53.9**	**+0.3**
NORC	**Norcasia**	**37.22**	**356**	*e*	P		**P**	**06 12 57.8**	**+2.9**
SPBC	**San Pablo de B**	**37.27**	**357**	*e*	P		**P**	**06 12 56.4**	**+1.1**
RUSC	**La Rusia**	**37.47**	**359**		P		**P**	**06 12 57.1**	**-0.4**
RUSC	**La Rusia**	**37.47**	**359**	*e*	P		**P**	**06 12 59.5**	**+2.0**
CBOC	**Ciudad Bolivar**	**37.61**	**354**	*e*	P		**P**	**06 13 00.7**	**+2.4**
HELC	**Santa Helena**	**37.89**	**355**	*e*	P		**P**	**06 13 02.3**	**+1.4**
NBLA	**Lagarto - SE**	**37.94**	**65**	*e*	P		**P**	**06 12 59.5**	**-1.4**
PTBC	**PUERTO BERRIO,**	**38.16**	**356**	*e*	P		**P**	**06 13 02.7**	**-0.1**
BARC	**Barichara**	**38.17**	**359**	*e*	P		**P**	**06 13 05.7**	**+2.6**
DBBC	**Dabeiba**	**38.77**	**354**	*e*	P		**P**	**06 13 11.2**	**+3.3**
ROSB	**Rosrio**	**39.07**	**48**	*e*	P		**P**	**06 13 10.6**	**+0.1**
ZARC	**Zaragoza, Cauc**	**39.13**	**356**	*e*	P		**P**	**06 13 11.7**	**+0.4**
NBMA	**Muriti-CE**	**39.54**	**59**	*e*	P		**P**	**06 13 14.0**	**-0.4**
NBPS	**Pedro II - PI**	**39.72**	**53**	*e*	P		**P**	**06 13 15.3**	**-0.7**
SOCV	**Socops**	**39.86**	**2**	*e*	P		**P**	**06 13 15.8**	**-1.2**
NBAN	**Anadia - AL**	**39.92**	**65**	*e*	P		**P**	**06 13 16.3**	**-1.3**
NBPB	**Pedra_Branca-C**	**40.20**	**56**	*e*	P		**P**	**06 13 19.7**	**-0.1**
SMLC	**San Martn de**	**40.39**	**357**	*e*	P		**P**	**06 13 21.0**	**-0.4**
SDV	**Santo Domingo**	**40.47**	**2**		P		**P**	**06 13 22.8**	**+0.6**
NBLV	**Livramento - P**	**40.91**	**61**	*e*	P		**P**	**06 13 25.9**	**0.0**
ARGC	**Ariguani, Magd**	**41.45**	**357**	*e*	P		**P**	**06 13 32.4**	**+2.4**
SJCC	**San Jacinto, C**	**41.54**	**356**		P		**P**	**06 13 31.1**	**+0.3**
SJCC						IAmb	IAmb	06 13 39.2	
	comp=Z,13nm,0.9s								
SJCC	**San Jacinto, C**	**41.54**	**356**	*e*	P		**P**	**06 13 32.0**	**+1.2**
NBPV	**Pedro Velho**	**42.74**	**62**	*e*	P		**P**	**06 13 40.4**	**-0.4**
MPOM	**Morne Pois Mar**	**47.25**	**15**		P		**P**	**06 14 15.1**	**-1.4**
MLPR	**Magueyes Islan**	**49.72**	**7**		P		**P**	**06 14 33.7**	**-1.8**
PDPR	**Patillas Dam,**	**49.88**	**8**		P		**P**	**06 14 35.7**	**-1.0**
PDPR						IAmb	IAmb	06 14 49.8	
	comp=Z,20nm,1.2s								
CBYP	**Canovanas**	**50.15**	**8**		P		**P**	**06 14 38.2**	**-0.6**
CBYP						IAmb	IAmb	06 14 39.3	
	comp=Z,18nm,1.1s								
GCPR	**Guaynabo City**	**50.16**	**8**		P		**P**	**06 14 37.5**	**-1.2**
GCPR						IAmb	IAmb	06 14 50.9	
	comp=Z,11nm,1.0s								
VNA3	**Neumayer Olymp**	**51.48**	**158**		P		**P**	**06 14 49.7**	**+1.4**
VNA1	**Neumayer--Stat**	**51.78**	**158**		P		**P**	**06 14 52.0**	**+1.5**
VNA2	**Neumayer--Watz**	**52.13**	**158**		P		**P**	**06 14 54.1**	**+

MVCO IAmb IAmb 06 17 41.5
comp=Z,10nm,1.1s
RAR Rarotonga 77.11 253 LR LR 06 42 15.1
comp=Z,90nm,20.8s,baz=134,slow=28
W13A Hualapai Mount 77.18 326 P **P** **06 17 36.2 -1.0**
U15A North Rim 77.53 328 P **P** **06 17 38.9 -0.4**
U15A IAmb IAmb 06 17 47.6
comp=Z,8.6nm,0.9s
SMCO Snowmass 77.62 333 P **P** **06 17 40.5 +0.6**
SMCO IAmb IAmb 06 17 55.0
comp=Z,15nm,1.1s
ISCO Idaho Springs 77.65 334 P **P** **06 17 38.3 -1.6**
K31A O'Neill 77.94 340 P **P** **06 17 42.0 +0.9**
KNB Kanab 78.25 328 P **P** **06 17 44.7 +1.5**
KNB IAmb IAmb 06 17 51.1
comp=Z,9.8nm,0.9s
ECSD EROS Data Cent 78.39 342 P **P** **06 17 43.1 -0.4**
ECSD IAmb IAmb 06 17 49.8
comp=Z,8.9nm,0.8s
LCMT Little Creek M 78.44 328 P **P** **06 17 45.4 +1.3**
GSC Goldstone, Bar 78.76 324 P **P** **06 17 44.6 -1.3**
MTPU Mount Pierson 78.81 329 P **P** **06 17 45.9 -0.6**
SZCU Shurtz Canyon 78.85 328 P **P** **06 17 45.5 -1.0**
SZCU IAmb IAmb 06 17 54.2
comp=Z,7.1nm,0.9s
CCUT Cedar City 78.93 328 P **P** **06 17 46.0 -1.0**
CCUT IAmb IAmb 06 17 55.6
comp=Z,14nm,1.0s
O20A White River Ci 78.94 333 P **P** **06 17 46.8 -0.1**
O20A IAmb IAmb 06 17 54.8
comp=Z,13nm,1.1s
SRU San Rafael Swe 78.99 331 P **P** **06 17 46.7 -0.5**
SRU IAmb IAmb 06 18 05.5
comp=Z,8.1nm,1.1s
Q16A Castle Valley 79.11 330 P **P** **06 17 47.7 -0.1**
Q16A IAmb IAmb 06 18 06.2
comp=Z,8.4nm,0.9s
MSU Marysvale 79.20 329 P **P** **06 17 48.4 0.0**
QSM Queen of Sheba 79.32 325 P **P** **06 17 48.5 -0.3**
TMUT Trail Mountain 79.44 330 P **P** **06 17 51.1 +1.3**
PRN Pahroc Range 79.59 327 P **P** **06 17 52.2 +1.7**
F36A Milaca 79.65 345 P **P** **06 17 50.0 -0.4**
RDMU Red Mountain 79.84 332 P **P** **06 17 51.9 0.0**
RDMU IAmb IAmb 06 17 59.3
comp=Z,11nm,0.9s
KOWA Kowa 79.90 66 P **P** **06 17 52.2 -0.2**
KOWA IAmb IAmb 06 17 54.0
comp=Z,17nm,1.2s
PSUT Pine Spring 79.96 328 P **P** **06 17 50.5 -2.1**
MPU Maple Canyon 80.22 330 P **P** **06 17 53.4 -0.5**
NLU North Lily Min 80.35 330 P **P** **06 17 55.8 +1.1**
K22A Casper 80.48 335 P **P** **06 17 55.7 +0.6**
K22A IAmb IAmb 06 18 18.2
comp=Z,14nm,1.1s
SPR3 Spring Creek 3 80.56 328 P **P** **06 17 57.3 +1.4**
SPR3 IAmb IAmb 06 18 10.4
comp=Z,9.5nm,1.0s
JLU Jordanelle 80.63 331 P **P** **06 17 55.9 -0.3**
LCH Last Change Ra 80.70 325 P **P** **06 17 57.8 +1.3**
DUG Dugway, Tooele 80.87 330 P **P** **06 17 58.4 +1.1**
TPH Tonopah 81.16 326 P **P** **06 17 59.6 +0.7**
BOSA Boshof 81.27 118 P **P** **06 18 00.0 +0.1**
comp=Z,6.0nm,0.9s,baz=252,slow=7.1,SNR=5.8
BOSA LR LR 06 51 13.8
comp=Z,172nm,18.5s,baz=238,slow=34
SPUT South Promonto 81.64 331 P **P** **06 18 02.9 +1.5**
SPUT IAmb IAmb 06 18 08.7
comp=Z,8.7nm,0.9s
BW06 Boulder Array 81.70 333 P **P** **06 18 03.1 +1.3**
PD31 Pinedale Array 81.70 333 P **P** **06 18 02.4 +0.6**
PDAR Pinedale Array 81.70 333 P **P** **06 18 03.0 +1.2**
comp=Z,0.8nm,0.8s,baz=157,slow=4.8,SNR=7.1
PDAR Pinedale Array 81.70 333 P **P** **06 18 02.8 +1.0**
NV11 Mina Array Sit 81.89 325 P **P** **06 18 04.3 +1.5**
LHV Little Huntoon 81.92 325 P **P** **06 18 05.2 +2.5**
LHV IAmb IAmb 06 18 11.2
comp=Z,14nm,0.9s
NVAR Mina Array Bea 81.96 325 P **P** **06 18 05.2 +1.9**
comp=Z,2.3nm,0.8s,baz=150,slow=5.6,SNR=17
NVAR Mina Array Bea 81.96 325 P **P** **06 18 04.9 +1.7**
HVU Hansel Valley 82.17 331 P **P** **06 18 04.3 +0.1**
HVU IAmb IAmb 06 18 11.1
comp=Z,9.5nm,0.9s
RYN Ryan 82.22 325 P **P** **06 18 05.8 +1.3**
RYN IAmb IAmb 06 18 12.4
comp=Z,8.6nm,0.9s
CASY Casey 82.23 181 P **P** **06 18 05.4 +1.4**
CASY IAmb IAmb 06 18 16.9
comp=Z,16nm,1.1s
KVN Kaiserville 82.35 326 P **P** **06 18 06.6 +1.4**
KVN IAmb IAmb 06 18 12.8
comp=Z,9.6nm,0.9s
ELK Elko 82.38 328 P **P** **06 18 05.4 0.0**
ELK IAmb IAmb 06 18 12.8
comp=Z,11nm,0.8s
REDW Red Top Meadow 82.71 333 P **P** **06 18 08.2 +1.2**
REDW IAmb IAmb 06 18 24.1
comp=Z,8.6nm,1.1s
SNOW Snow King Moun 82.76 333 P **P** **06 18 08.7 +1.4**
LOHW Long Hollow 82.83 333 P **P** **06 18 09.2 +1.6**
YERR Yerington 82.85 325 P **P** **06 18 08.1 +0.3**
YERR IAmb IAmb 06 18 20.9
comp=Z,9.9nm,1.0s
TPAW Teton Pass 82.86 333 P **P** **06 18 07.2 -0.7**
PNTR Pine Nut 83.11 325 P **P** **06 18 11.1 +1.9**
IMW Indian Meadow 83.20 333 P **P** **06 18 10.5 +0.8**
FLWY Flagg Ranch 83.26 333 P **P** **06 18 10.5 +0.7**
FLWY IAmb IAmb 06 18 28.2
comp=Z,12nm,1.4s
PAHR Pah Rah Range 83.48 325 P **P** **06 18 11.3 +0.3**
PAHR IAmb IAmb 06 18 19.2
comp=Z,12nm,1.0s
RLMT Red Lodge 83.61 335 P **P** **06 18 12.9 +1.2**
RLMT IAmb IAmb 06 18 25.7
comp=Z,15nm,1.4s
TORD Torodi Ar. Bea 83.64 70 P **P** **06 18 12.3 +0.1**
comp=Z,11nm,0.9s,baz=259,slow=4.9,SNR=49
TORD Torodi Ar. Bea 83.64 70 P **P** **06 18 11.7 -0.5**
YNE Yellowstone No 83.78 334 P **P** **06 18 13.2 +0.6**
YNE IAmb IAmb 06 18 14.6
comp=Z,7.1nm,1.4s
YHH Holmes Hill 83.92 333 P **P** **06 18 12.8 -0.5**
YHH IAmb IAmb 06 18 16.0
comp=Z,13nm,1.4s
BEKR Beckworth 84.08 325 P **P** **06 18 16.0 +1.9**
BEKR IAmb IAmb 06 18 27.4
comp=Z,10.0nm,1.2s
HLID Hailey 84.32 331 P **P** **06 18 16.1 +0.9**
HLID IAmb IAmb 06 18 22.5
comp=Z,6.9nm,1.0s
ORV Oroville 84.41 324 P **P** **06 18 16.9 +1.4**
ORV IAmb IAmb 06 18 23.7
comp=Z,10nm,1.1s
MCMT McKenzie Canyo 84.72 332 P **P** **06 18 17.7 +0.4**
MFID Camas Ranch 84.80 330 P **P** **06 18 17.4 -0.2**
MFID IAmb IAmb 06 18 31.2
comp=Z,7.9nm,1.3s
DGMT Dagmar 84.85 339 P **P** **06 18 18.4 +0.7**
WVOR Wild Horse Val 85.26 327 P **P** **06 18 20.4 +0.5**
J08A Circle Bar Ran 85.92 328 P **P** **06 18 25.2 +2.0**
PLID Pearl Lake 86.22 331 P **P** **06 18 25.6 +0.8**
PLID IAmb IAmb 06 18 38.3
comp=Z,12nm,1.3s
I07A Izee 86.95 328 P **P** **06 18 29.3 +1.1**
I07A IAmb IAmb 06 18 36.0
comp=Z,9.6nm,1.0s
F10A Beach Ranch, E 87.45 330 P **P** **06 18 31.3 +0.7**
F10A IAmb IAmb 06 18 54.2
comp=Z,6.4nm,1.1s
C09A Chrisman Ranch 89.33 331 P **P** **06 18 39.0 -0.3**
C09A IAmb IAmb 06 18 46.3
comp=Z,7.7nm,0.8s
AFI Afiamalu 90.66 253 LR LR 06 52 50.5
comp=Z,127nm,18.4s,baz=116,slow=31
ESDC Sonseca Array 95.18 46 P **P** **06 19 07.3 +0.7**
comp=Z,0.9nm,0.9s,baz=231,slow=3.8,SNR=4.2
DZM Mont Dzumac 102.39 234 *e*LR LR 06 53 16.4
comp=Z,112nm,23.9s
ASAR Alice Springs 119.45 208 PKP **PKPdf** **06 24 32.7 -0.8**
comp=Z,0.4nm,0.9s,baz=151,slow=2.1,SNR=3.3
BVAR Borovoye Array 145.76 41 PKPbc **PKPab** **06 25 23.0 +0.8**
comp=Z,5.7nm,0.8s,baz=230,slow=3.7,SNR=15
YAK Yakutsk 146.58 341 PKPbc **PKPbc** **06 25 24.9 +0.9**
comp=Z,18nm,0.3s,baz=49,slow=6.9,SNR=2.9

HYB Hyderabad 149.97 112 *i* PKP **PKPbc** **06 25 34.0 -0.4**
KURBB Kurchatov Arra 151.35 40 PKPbc **PKiKP** **06 25 37.5 +0.5**
comp=Z,4.0nm,0.9s,baz=302,slow=3.0,SNR=18
KURK Kurchatov 151.35 40 **PKiKP** **06 25 37.5 +0.5**
AAK Ala-Archa 151.56 58 PKPbc **PKiKP** **06 25 39.0 +1.0**
comp=Z,4.5nm,0.9s,baz=226,slow=5.5,SNR=7.2
AAK Ala-Archa 151.56 58 **PKiKP** **06 25 38.5 +0.5**
ZALV Zalesovo Beam 152.43 30 PKPbc **PKPbc** **06 25 39.2 +0.3**
comp=Z,2.6nm,0.5s,baz=270,slow=2.3,SNR=9.8
ZALV Zalesovo Beam 152.43 30 **PKPbc** **06 25 38.8 -0.2**
MKAR Makanchi Array 155.39 45 PKPab **PKPab** **06 26 02.6 +0.6**
comp=Z,3.7nm,0.9s,baz=306,slow=4.8,SNR=8.8
MKAR Makanchi Array 155.39 45 PKPdf **PKPdf** **06 25 36.0 -0.6**
MKAR PKPab **PKPab** **06 26 01.7 -0.3**
USRK Ussuriysk Ar. 157.32 310 PKPab **PKPab** **06 26 16.3 +6.0**
comp=Z,1.4nm,0.7s,baz=46,slow=4.2,SNR=3.0
USRK Ussuriysk Ar. 157.32 310 PKPdf **PKPdf** **06 25 36.8 -2.2**
SONM Songino Array 163.94 3 PKPab **PKPab** **06 26 39.9 +0.8**
comp=Z,0.6nm,0.4s,baz=31,slow=3.4,SNR=4.3
CMAR Chiang Mai Arr 164.53 147 PKP **PKPdf** **06 25 48.4 +0.8**
comp=Z,1.4nm,0.3s,baz=291,slow=2.5,SNR=4.4
LZH Lanzhou 174.62 36 *e*PKP **PKPdf** **06 25 47.8 -5.6**
LZH pPKP sPKPdf 06 25 57.5 +1.3

IDC 28 06:17:25.3±2.7, 53°63'N×86°94'E, h0km, mb1 2.8/2, mb1mx2.8/46, mbtmp2.8/2, ML3.0/1, Error ellipse: s-maj=26.1km s-min=15.2km az=69.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.30**	**285**	*i*			06 25 40.0	
	baz=103,slow=327,SNR=1.3							
ZALV	**Zalesovo Beam**	**1.30**	**285**	Pg	Pg		06 17 48.2	-2.0
	1.0nm,0.3s,baz=106,slow=17,SNR=7.9							
ZALV					Lg	Lg	06 18 07.4	
	1.7nm,0.3s,baz=107,slow=29,SNR=12							
KURBB	**Kurchatov Arra**	**5.99**	**243**	Pn		Pn	06 18 56.6	+1.5
	baz=59,slow=14,SNR=2.9							
MKAR	**Makanchi Array**	**7.46**	**205**	Pn		Pn	06 19 16.6	+1.2
	0.2nm,0.3s,baz=23,slow=11,SNR=6.7							

*JMA **28** 06:18:52.3±0.3, 38°.28N×134°.54E, h434km±4km, M3.4*
*IDC **28** 06:18:54.5±0.9, 38°.21N×134°.48E, h419km±10km, mb3.2/15, mb1 3.4/22, mb1mx3.2/56, mbtmp4.0/22, Error ellipse: s-maj=13.2km s-min=11.5km az=63.0*
*NEIC **28** 06:18:54.8±1.9, 38°.23N±0°.10×134°.6E±0°.1, h421km±8km, mb4.0/36, Error ellipse: s-maj=15.6km s-min=9.5km az=144.0*

ISC 28 06:18:53.6±0.4, 38°30'N±0°.05×134°51'E±0°.05, h400km, n100, σ1°$46/105, mb3.9/33, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JHG	**Hegura jima**	**1.95**	**103**	P		**Pn**	**06 19 51.6**	**+2.4**
JOI	**OKI**	**2.24**	**207**	P		**Pn**	**06 19 52.9**	**+1.7**
JKG	**Kaga**	**2.48**	**144**	P		**Pn**	**06 19 54.5**	**+1.6**
JSD	**Sado**	**2.96**	**94**	P		**Pn**	**06 19 58.4**	**+1.9**
JWT	**Wachi**	**3.09**	**166**	P		**Pn**	**06 19 59.2**	**+1.6**
JWT				S		S	**06 20 50.8**	**+1.4**
JWT	**Wachi**	**3.09**	**166**	P		**Pn**	**06 19 59.3**	**+1.6**
MAJO	**Matsushiro**	**3.42**	**120**	P		**Pn**	**06 20 01.6**	**+1.1**
MAT	**Matsushiro**	**3.42**	**120**	P		**Pn**	**06 20 01.3**	**+0.9**
MAT				*e*S		**S**	**06 20 57.0**	**+2.4**
MJAR	**Matsushiro Arr**	**3.42**	**120**	P		**Pn**	**06 20 01.0**	**+0.6**
	0.8nm,0.3s,baz=306,slow=7.3,SNR=28							
MJAR	**Matsushiro Arr**	**3.42**	**120**	P		**Pn**	**06 20 02.1**	**+1.7**
JHS	**Saijyo**	**3.48**	**199**	P		**Pn**	**06 20 02.3**	**+1.3**
JHS	**Saijyo**	**3.48**	**199**	P		**Pn**	**06 20 02.4**	**+1.3**
JGF	**Kuroka**	**3.53**	**139**	P		**Pn**	**06 20 02.4**	**+1.0**
INU	**Inuyama**	**3.56**	**145**	P		**Pn**	**06 20 02.1**	**+0.4**
JGT2	**ShimaneMisato**	**3.61**	**207**	P		**Pn**	**06 20 03.4**	**+1.3**
JHT	**Toyohira**	**4.00**	**206**	P		**Pn**	**06 20 06.6**	**+0.8**
JWY	**Kouya**	**4.16**	**168**	P		**Pn**	**06 20 08.2**	**+0.8**
JRY	**Ryogami san**	**4.18**	**122**	P		**Pn**	**06 20 08.4**	**+0.9**
JRY				S		S	**06 21 08.2**	**+0.8**
JIE	**Ise**	**4.28**	**155**	P		**Pn**	**06 20 09.4**	**+0.9**
JAI	**Aioi**	**4.50**	**181**	P		**Pn**	**06 20 12.0**	**+1.4**
JMN	**Monobe**	**4.59**	**187**	P		**Pn**	**06 20 12.6**	**+1.0**
JMN	**Monobe**	**4.59**	**187**	P		**Pn**	**06 20 13.1**	**+1.5**
JOD2	**Odawara 2**	**4.76**	**128**	P		**Pn**	**06 20 13.9**	**+0.7**
JMM	**Marumori**	**4.97**	**93**	P		**Pn**	**06 20 15.6**	**+0.4**
JYT	**Yasato**	**4.98**	**113**	P		**Pn**	**06 20 14.6**	**-0.8**
KSRS	**Korea Array**	**5.28**	**263**	P		**Pn**	**06 20 21.2**	**+2.7**
	1.6nm,0.3s,baz=76,slow=10,SNR=71							
JMK	**Ichinoseki**	**5.29**	**81**	P		**Pn**	**06 20 19.1**	**+0.5**
JMK				S		S	**06 21 27.3**	**-0.4**
KSAR	**Wonju Array Be**	**5.32**	**263**	P		**Pn**	**06 20 19.8**	**+0.9**
KS19	**Wonju Array Si**	**5.32**	**263**	P		**Pn**	**06 20 21.0**	**+2.1**
JTM	**Tenmabayashi**	**5.64**	**62**	P		**Pn**	**06 20 23.2**	**+1.0**
JNU	**Nakatsue**	**5.95**	**211**	P		**Pn**	**06 20 27.6**	**+1.8**
	0.7nm,0.3s,baz=234,slow=2.8,SNR=4.0							
USA0B	**Ussuriysk Arra**	**6.20**	**343**	P		**Pn**	**06 20 31.2**	**+3.1**
USRK	**Ussuriysk Ar.**	**6.20**	**343**	P		**Pn**	**06 20 31.1**	**+2.9**
	baz=151,slow=10.0,SNR=109							
JHJ	**Hachijo jima 2**	**6.71**	**139**	P		**P**	**06 20 35.9**	**+1.2**
	9.4nm,0.3s,baz=75,slow=20,SNR=1.6							
JHJ				S		**S**	**06 21 53.6**	**-2.5**
	8.2nm,0.3s,baz=90,slow=20,SNR=1.4							
MDJ	**Mudanjiang**	**7.31**	**331**	P		**P**	**06 20 43.4**	**+2.2**
JSU	**Suzuyama**	**7.55**	**207**	P		**Pn**	**06 20 43.4**	**-0.1**
ASAJ	**Asahikawa**	**8.42**	**44**	P		**P**	**06 20 54.5**	**+1.1**
	3.3nm,0.3s,baz=227,slow=17,SNR=9.8							
ASAJ				S		**S**	**06 22 26.8**	**-4.5**
	1.0nm,0.3s,baz=225,slow=33,SNR=7.8							
JKA	**Kamikawa-asahi**	**8.42**	**44**	P		**P**	**06 20 54.5**	**+1.1**
KLR	**Kul'dur**	**11.11**	**351**	P		**Pn**	**06 21 24.4**	**+0.2**
	0.6nm,0.3s,baz=169,slow=11,SNR=8.5							
SONM	**Songino Array**	**22.54**	**304**	P		**P**	**06 23 21.0**	**0.0**
	1.4nm,0.7s,baz=114,slow=9.0,SNR=5.5							
CMAR	**Chiang Mai Arr**	**36.71**	**247**	P		**P**	**06 25 24.7**	**0.0**
	1.0nm,0.3s,baz=41,slow=8.4,SNR=4.0							
MK31	**Makanchi Array**	**38.78**	**300**	P		**P**	**06 25 40.6**	**-0.9**
MKAR	**Makanchi Array**	**38.78**	**300**	P		**P**	**06 25 40.6**	**-0.8**
	1.3nm,0.7s,baz=74,slow=10,SNR=8.5							
MAKZ	**Makanchi**	**38.99**	**300**	P		**P**	**06 25 42.6**	**-0.6**
MAKZ				IAmb		IAmb	06 26 02.6	
	comp=Z,5.7nm,1.0s							
KURK	**Kurchatov**	**40.81**	**306**	P		**P**	**06 25 57.6**	**-0.3**
KURBB	**Kurchatov Arra**	**40.87**	**306**	P		**P**	**06 25 57.6**	**-0.8**
	comp=Z,2.3nm,0.7s,baz=83,slow=8.3,SNR=6.1							
FAKI	**Fak Fak**	**41.06**	**183**	P		**P**	**06 25 60.0**	**-0.3**
L19K	**White Mountain**	**48.13**	**36**	P		**P**	**06 26 56.2**	**+1.5**
L19K				IAmb		IAmb	06 27 23.5	
	comp=Z,5.0nm,1.1s							
J20K	**Nowinta River**	**48.31**	**34**	P		**P**	**06 26 57.8**	**+1.8**
IMAR	**Indian Mountai**	**48.39**	**31**	P		**P**	**06 26 57.8**	**+1.2**
K20K	**Telida**	**48.40**	**35**	P		**P**	**06 26 57.9**	**+1.2**
K20K				IAmb		IAmb	06 27 05.0	
	comp=Z,9.9nm,1.4s							
BPAW	**Bear Paw Mtn.**	**49.70**	**34**	P		**P**	**06 27 08.0**	**+1.5**
TOLK	**Toolik Lake Re**	**49.88**	**28**	P		**P**	**06 27 07.9**	**+0.1**
CHGR	**Chuyangaron**	**50.15**	**292**	P		**P**	**06 27 09.8**	**-0.5**
MCK	**McKinley**	**50.64**	**34**	P		**P**	**06 27 13.8**	**+0.3**
SEW	**Seward**	**51.00**	**39**	P		**P**	**06 27 14.2**	**-1.8**
SML	**Sawmill**	**51.23**	**36**	P		**P**	**06 27 19.0**	**+1.2**
IL31		**51.37**	**33**	P		**P**	**06 27 19.5**	**+0.8**
ILAR	**Eielson Array**	**51.37**	**33**	P		**P**	**06 27 19.1**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=266,slow=5.9,SNR=9.8							
PWL	**Port Wells**	**51.40**	**38**	P		**P**	**06 27 19.2**	**+0.1**
DHY	**Denali Highway**	**51.44**	**35**	P		**P**	**06 27 20.9**	**+1.4**
DHY				IAmb		IAmb	06 27 45.5	
	comp=Z,9.9nm,1.3s							
ARU	**Arti**	**51.74**	**317**	P		**P**	**06 27 21.0**	**-0.6**
	comp=Z,2.0nm,0.2s,baz=121,slow=5.8,SNR=4.0							
BMAR	**Burnt Mountain**	**51.88**	**29**	P		**P**	**06 27 24.2**	**+1.7**
ABKAR	**Akbulak array**	**52.89**	**308**	P		**P**	**06 27 29.2**	**-0.8**
M26K	**Nabesna, AK**	**53.55**	**35**	P		**P**	**06 27 36.4**	**+1.8**
M26K				IAmb		IAmb	06 27 36.5	
	comp=Z,3.8nm,0.5s							
K27K	**Chicken**	**53.57**	**33**	P		**P**	**06 27 36.2**	**+1.5**
K27K				IAmb		IAmb	06 27 39.7	
	comp=Z,8.2nm,1.4s							
AKTO	**Aktyubinsk**	**53.70**	**310**	P		**P**	**06 27 34.5**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=91,slow=12,SNR=2.5							
MCARA	**McCarthy VSAT**	**53.80**	**36**	P		**P**	**06 27 37.6**	**+1.3**
MCARA				IAmb		IAmb	06 27 52.4	
	comp=Z,11nm,1.2s							
L27K	**Beaver Creek,**	**53.91**	**34**	P		**P**	**06 27 39.1**	**+1.9**
L27K				IAmb		IAmb	06 27 39.8	
	comp=Z,3.4nm,0.8s							

BCAR Beaver Creek A 53.93 34 P **P** **06 27 39.5 +2.2**
CTGM Chitina Glacie 54.70 36 P **P** **06 27 44.3 +1.3**
CTGM IAmb IAmb 06 27 49.6
comp=Z,23nm,1.5s
EPYK Eagle Plains 55.13 29 P **P** **06 27 47.2 +1.4**
EPYK IAmb IAmb 06 27 47.5
comp=Z,3.7nm,0.6s
INK Inuvik 55.74 27 P **P** **06 27 50.9 +1.0**
INK IAmb IAmb 06 28 05.0
comp=Z,9.6nm,1.4s
FITZ Fitzroy Crossi 56.71 190 P **P** **06 27 56.2 -1.1**
FITZ IAmb IAmb 06 28 23.4
comp=Z,6.0nm,1.4s
WB0 Warramunga Arr 57.76 180 P **P** **06 28 02.9 -1.7**
WB0 IAmb IAmb 06 28 11.4
comp=Z,7.7nm,1.4s
WRAB Tennant Creek 57.92 180 P **P** **06 28 03.3 -2.4**
WRAB IAmb IAmb 06 28 19.9
comp=Z,5.5nm,1.3s
WRA Warramunga Arr 57.93 180 P **P** **06 28 03.5 -2.3**
comp=Z,99nm,0.5s,baz=354,slow=7.5,SNR=1.2
WR0 Warramunga Arr 57.95 180 P **P** **06 28 04.2 -1.6**
WR0 IAmb IAmb 06 28 04.4
comp=Z,2.6nm,0.5s
EUNU Eureka 59.71 8 P **P** **06 28 17.2 0.0**
EUNU IAmb IAmb 06 28 18.4
comp=Z,9.6nm,1.4s
ARCES ARCESS Array B 60.82 338 P **P** **06 28 24.4 -0.2**
comp=Z,2.1nm,0.9s,baz=60,slow=7.2,SNR=6.0
ARCES ARCESS Array B 60.82 338 IAmb IAmb 06 28 47.0
comp=Z,8.3nm,1.2s
AS31 Alice Springs 61.64 181 P **P** **06 28 28.9 -1.7**
ASAR Alice Springs 61.64 181 P **P** **06 28 29.1 -1.5**
comp=Z,1.1nm,0.7s,baz=7.8,slow=6.6,SNR=12
FIA1 FINESS Array S 65.06 330 P **P** **06 28 51.9 -0.4**
FINES FINESS Array B 65.06 330 P **P** **06 28 51.8 -0.5**
comp=Z,3.1nm,0.7s,baz=90,slow=5.2,SNR=17
FINES PcP **PcP** **06 29 20.0 -1.4**
comp=Z,0.8nm,0.4s,baz=63,slow=5.1,SNR=4.2
SUMG Summit 69.31 358 P **P** **06 29 20.1 +1.0**
AKASG Malin Array Be 69.86 319 P **P** **06 29 21.4 -0.8**
comp=Z,2.3nm,0.5s,baz=50,slow=6.2,SNR=9.2
AKASG Malin Array Be 69.86 319 IAmb IAmb 06 29 22.3
comp=Z,1.3nm,1.0s
AKBB Malin Array Si 69.86 319 P **P** **06 29 21.4 -0.8**
AKBB IAmb IAmb 06 29 21.9
comp=Z,2.9nm,0.7s
NC204 NORSAR Array S 70.78 335 P **P** **06 29 27.4 -0.2**
NB2 NORSAR Subarra 70.80 334 P **P** **06 29 26.6 -1.1**
comp=Z,0.5nm,0.4s,baz=43,slow=5.6
NOA NORSAR Array B 70.80 334 P **P** **06 29 27.0 -0.6**
comp=Z,0.4nm,0.3s,baz=44,slow=6.3,SNR=7.7
NC602 NORSAR Array S 70.91 334 P **P** **06 29 26.9 -1.3**
BRTR Keskin Array B 73.84 308 P **P** **06 29 44.3 -1.7**
NVAR Mina Array Bea 78.49 50 P **P** **06 30 12.8 +0.8**
comp=Z,0.3nm,0.6s,baz=301,slow=5.4,SNR=4.4
NVAR Mina Array Bea 78.49 50 P **P** **06 30 10.4 -1.6**
PDAR Pinedale Array 80.55 42 P **P** **06 30 22.6 -0.2**
comp=Z,0.4nm,0.7s,baz=306,slow=5.3,SNR=4.5
TXAR Lajitas Array 93.52 48 P **P** **06 31 25.4 0.0**
comp=Z,0.1nm,0.6s,baz=268,slow=3.8,SNR=3.8
TXAR Lajitas Array 93.52 48 P **P** **06 31 24.7 -0.7**
LPAZ La Paz 150.39 48 PKPbc **PKPdf** **06 37 57.6 +3.7**
comp=Z,0.3nm,0.4s,baz=0.0,slow=1.0,SNR=2.5

*INET **28** 06:23:37.5, 12°.93N×86°.58W, h15km, MW4.0*
SNET 28 06:23:41.1±0.6, 12°59N×86°79W, h10km±8km, ML3.4, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LCND	**La Caada**	**1.29**	**304**	*e*P		Pb	06 24 05.5	0.0
LCND				*e*S		Sg	06 24 23.9	+1.2
LCND				IAML			06 24 26.7	
	comp=Z,2μm,0.4s							
JUCU	**Jucuarįn**	**1.57**	**295**	*e*P		Pb	06 24 09.8	-0.5
ALJI	**Alcalda de J**	**1.89**	**293**	IAML			06 24 44.9	
	comp=Z,202nm,0.5s							
COEB	**Comit de Eme**	**1.92**	**298**	*e*P		Pn	06 24 15.1	+1.0
COEB				*e*S		Sg	06 24 42.2	-0.8
COEB				IAML			06 24 52.9	
	comp=Z,304nm,0.4s							
PQSS	**Presa 15 de Se**	**2.01**	**301**	*e*P		Pn	06 24 15.9	+0.8
COEG	**Centro de Oper**	**2.28**	**297**	*e*P		Pn	06 24 20.4	+1.4
COEG				IAML			06 25 03.0	
	comp=Z,190nm,0.5s							
SJTE	**Alcalda de S**	**2.39**	**295**	*e*P		Pn	06 24 21.9	+1.5

*IDC **28** 06:40:05.4±0.5, 20°.18N×45°.63W, h0km, mb4.3/25, mb1 4.4/26, mb1mx4.3/54, mbtmp4.3/26, ML3.6/1, MS3.9/15, Ms1 3.9/15, ms1mx3.6/43, Error ellipse: s-maj=15.3km s-min=11.0km az=139.0*
*NEIC **28** 06:40:08.1±1.6, 20°.12N±0°.09×45°.68W±0°.09, h10km±1km, mb4.6/172, Error ellipse: s-maj=15.5km s-min=14.9km az=153.0*
*GCMT **28** 06:40:09.1±0.4, 20°.45N±0°.04×45°.65W±0°.02, h14km±1km, MW4.7/79, Moment Tensor Solution. s10,c11; s79,c108; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.43±.13; $M_{\theta\theta}$0.01±.08; $M_{\phi\phi}$1.42±.09; $M_{r\theta}$0.41±.28; $M_{\theta\phi}$0.20±.05; $M_{\phi r}$-0.12±.18; Best double couple: $M_0$1.49900×10^{16} NP1:ϕ_s353.00000°, δ46.00000°, λ-68.00000°. NP2: ϕ_s353.00000°, δ48.00000°, λ-111.00000°. Principal axes: T 1.4490, Plg1.0000°, Azm98.0000°; N 0.1030, Plg15.0000°, Azm7.0000°; P -1.5490, Plg74.0000°, Azm192.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 06:40:07.1±0.3, 20°15N±0°.06×45°63W±0°.06, h9km, n256, σ0°76/241, mb4.6/102, MS3.7/14, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
H05N1	**Guadeloupe/Mar**	**15.14**	**258**	T	T		06 59 05.0	
	SNR=13							
H05S1	**Guadeloupe/Mar**	**15.59**	**251**	T	T		06 59 41.7	
	SNR=21							
FDF	**Fort de France**	**15.75**	**252**	Pn		**Pn**	**06 43 48.2**	**-1.2**
FDF				IAmb		IAmb	06 43 56.2	
	comp=Z,47nm,1.0s							
BIM	**Bigot**	**15.76**	**252**	Pn		**Pn**	**06 43 48.6**	**-0.9**
BIM				IAmb		IAmb	06 43 56.6	
	comp=Z,44nm,0.9s							
SMRT	**St. Maarten**	**16.62**	**266**			**Pn**	**06 43 59.0**	**-1.4**
CDVI	**St. Croix**	**18.25**	**266**	Pn		**Pn**	**06 44 17.7**	**-3.1**
MTP	**Monte Pirata**	**18.93**	**267**	P		**P**	**06 44 26.5**	**-2.0**
HUMP	**Col San Antoni**	**19.20**	**267**	P		**P**	**06 44 29.6**	**-1.8**
PDPR	**Patillas Dam,**	**19.39**	**267**			**P**	**06 44 33.8**	**+0.3**
GCPR	**Guaynabo City**	**19.40**	**268**	P		**P**	**06 44 31.9**	**-1.7**
SJG	**San Juan**	**19.49**	**267**	P		**Pn**	**06 44 35.2**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=57,slow=8.9,SNR=8.2							

SDV	Santo Domingo	26.62 249	LR	LR	06 54 57.7	
	comp=Z,154nm,21.3s,baz=61,slow=34					
NPGB	Novo Progresso	28.66 200	eP	P	06 46 04.5	+0.1
SMTB	Santa Maria do	28.89 184	eP	P	06 46 06.2	-0.2
NBAN	Anadia - AL	31.03 162	eP	P	06 46 25.7	+0.3
ROSC	El Rosal	31.79 245	LR	LR	07 01 03.7	
	comp=Z,133nm,18.7s,baz=59,slow=40					
SNDB	Serra Nova Dou	32.40 190	eP	P	06 46 37.9	+0.4
CLDB	Colider	32.41 199	eP	P	06 46 37.6	+0.1
SAML	Samuel	33.68 212	P	P	06 46 48.3	-0.4
SAML	Samuel	33.68 212	eP	P	06 46 48.5	-0.1
FRNY	Flat Rock	33.79 323	P	P	06 46 49.8	+0.4
GDU01	Guandu, BA	34.18 169	eP	P	06 46 52.0	-0.9
S54A	Dingess, Beckl	35.56 307	P	P	06 47 05.6	+0.8
154A	Montrose	35.61 298	P	P	06 47 05.3	+0.1
BDFB	Brasilia	35.64 184	P	P	06 47 06.0	+0.3
	comp=Z,2.2nm,0.4s,baz=340,slow=12,SNR=4.3					
BDFB	Brasilia	35.64 184	IAmb	IAmb	06 47 07.2	
	comp=Z,8.3nm,1.2s					
VILB	Vilhena	35.88 205	eP	P	06 47 08.6	+0.9
BG3	Lake Jocassee	35.99 302	P	P	06 47 09.0	+0.5
BG3			IAmb	IAmb	06 47 10.2	
	comp=Z,15nm,1.1s					
ETMB	Extrema	36.01 216	eP	P	06 47 08.4	-0.4
MC01	Montes Claros	36.66 177	eP	P	06 47 14.6	+0.2
TKL	Tuckaleechee C	36.82 303	P	P	06 47 15.8	+0.2
	comp=Z,5.9nm,0.9s,baz=180,slow=5.1,SNR=4.1					
TKL	Tuckaleechee C	36.82 303	IAmb	IAmb	06 47 24.4	
	comp=Z,18nm,1.4s					
TZTN	Tazewell	36.88 304	P	P	06 47 17.0	+0.9
TZTN			IAmb	IAmb	06 47 18.2	
	comp=Z,14nm,1.1s					
152A	Waverly Hall	36.96 298	P	P	06 47 17.5	+0.7
SALV	Santo Antonio	37.16 196	eP	P	06 47 18.6	+0.1
OTAV	Otavalo	37.72 242	P	P	06 47 23.1	-0.8
OTAV	Otavalo	37.72 242	eP	P	06 47 24.9	+0.9
PTLB	Pontes e Lacer	37.78 202	eP	P	06 47 24.4	+0.6
W50A	Signal Mountai	37.94 302	P	P	06 47 25.4	+0.3
W50A			IAmb	IAmb	06 47 27.4	
	comp=Z,12nm,0.9s					
T50A	Nancy	38.00 305	P	P	06 47 25.8	+0.2
FPAL	Fort Paine	38.04 301	P	P	06 47 26.8	+0.8
FPAL			IAmb	IAmb	06 47 28.4	
	comp=Z,14nm,1.0s					
M50A	Fremont	38.09 312	P	P	06 47 26.1	-0.2
M50A			IAmb	IAmb	06 47 27.3	
	comp=Z,18nm,0.9s					
SCHQ	Schefferville	38.18 340	LR	LR	07 01 03.7	
	comp=Z,158nm,21.3s,baz=98,slow=33					
HDC	Heredia	38.41 261	P	P	06 47 30.8	+1.4
CZSB	Cruzeiro do Su	38.43 227	eP	P	06 47 29.1	-0.3
MDT	Midelt	38.60 62	P	P	06 47 30.4	-0.4
	comp=Z,1.9nm,0.8s,baz=298,slow=8.6,SNR=4.8					
R49A	Shelbyville	38.61 307	P	P	06 47 31.3	+0.7
R49A			IAmb	IAmb	06 47 32.5	
	comp=Z,13nm,1.0s					
U49A	Red Boiling Sp	38.61 304	P	P	06 47 31.2	+0.6
P49A	Miami Univ. Ec	38.64 309	P	P	06 47 31.3	+0.3
P49A			IAmb	IAmb	06 47 32.7	
	comp=Z,8.7nm,0.8s					
LRAL	Lakeview Retre	38.91 298	P	P	06 47 34.1	+0.8
LRAL			IAmb	IAmb	06 47 35.1	
	comp=Z,10.0nm,0.9s					
SIV	San Ignacio	38.98 204	P	P	06 47 34.4	+0.4
	comp=Z,3.3nm,0.8s,baz=57,slow=7.8,SNR=16					
SIV			LR	LR	07 02 53.3	
	comp=Z,61nm,20.1s,baz=11,slow=35					
BSFB	Barra de Sao F	39.02 173	eP	P	06 47 34.3	+0.1
P48A	Milroy	39.14 308	P	P	06 47 34.6	-0.5
WCI	Wyandotte Cave	39.44 306	P	P	06 47 37.2	-0.4
T47A	Sharon Grove	39.76 304	P	P	06 47 41.2	+0.9
T47A			IAmb	IAmb	06 47 42.6	
	comp=Z,12nm,1.1s					
Z47A	Carrollton	39.83 298	P	P	06 47 40.5	-0.4
Z47A			IAmb	IAmb	06 47 42.3	
	comp=Z,14nm,1.0s					
PLAL	Pickwick Lake	40.12 301	P	P	06 47 43.9	+0.6
PLAL			IAmb	IAmb	06 47 45.2	
	comp=Z,17nm,1.0s					
WVT	Waverly	40.14 302	P	P	06 47 43.9	+0.4
WVT			IAmb	IAmb	06 47 45.0	
	comp=Z,13nm,0.9s					
TGUH	Tegucigalpa,Un	40.18 268	P	P	06 47 45.5	+1.3
TGUH			IAmb	IAmb	06 47 47.2	
	comp=Z,13nm,1.1s					
CRIN	San Cristobal	40.33 266	P	P	06 47 47.0	+1.6
P46A	Rosedale	40.50 308	P	P	06 47 47.3	+0.8
ESDC	Sonseca Array	40.59 52	P	P	06 47 47.0	-0.2
	comp=Z,0.7nm,0.6s,baz=263,slow=8.9,SNR=4.5					
ESDC			LR	LR	06 59 20.1	
	comp=Z,155nm,21.5s,baz=250,slow=28					
SFIN	Lafayette	40.64 309	P	P	06 47 48.1	+0.6
SFIN			IAmb	IAmb	06 47 49.2	
	comp=Z,10nm,0.9s					
OLIL	Olney	40.94 306	P	P	06 47 51.0	+1.0
OLIL			IAmb	IAmb	06 47 56.3	
	comp=Z,24nm,1.3s					
W45A	Hickory Valley	41.04 301	P	P	06 47 51.7	+0.7
H10N3	ASCENSION HYDR	41.37 129	T	T	07 31 58.9	
	baz=312,slow=75,SNR=1493					
H10N2	ASCENSION HYDR	41.37 129	T	T	07 31 56.4	
	baz=312,slow=75,SNR=1061					
H10N1	ASCENSION HYDR	41.39 129	T	T	07 31 57.7	
	baz=312,slow=75,SNR=1327					
SIUC	Southern Illin	41.56 304	P	P	06 47 56.2	+1.1
SIUC			IAmb	IAmb	06 47 57.3	
	comp=Z,12nm,0.9s					
O44A	Mansfield	41.58 308	P	P	06 47 55.6	+0.3
O44A			IAmb	IAmb	06 47 57.4	
	comp=Z,10.0nm,0.8s					
S44A	Carbondale	41.58 304	P	P	06 47 56.1	+0.8
S44A			IAmb	IAmb	06 47 57.4	
	comp=Z,14nm,1.1s					
Q44A	Meyer Farm, Va	41.67 306	P	P	06 47 56.9	+0.8
Q44A			IAmb	IAmb	06 47 58.0	
	comp=Z,15nm,0.9s					
DBIC	Dimbokro	41.73 103	P	P	06 47 56.1	-0.8
	comp=Z,4.0nm,0.8s,baz=289,slow=5.8,SNR=3.9					
DBIC			LR	LR	07 02 20.5	
	comp=Z,318nm,20.7s,baz=308,slow=32					
DBIC	Dimbokro	41.73 103	IAmb	IAmb	06 48 25.2	
	comp=Z,16nm,1.3s					
344A	Westbrook Farm	41.88 295	P	P	06 47 59.4	+1.5
H10S3	ASCENSION HYDR	42.01 131	T	T	07 32 32.3	
	baz=311,slow=74,SNR=472					
H10S2	ASCENSION HYDR	42.03 131	T	T	07 32 35.0	
	baz=269,slow=74,SNR=115					
HDIL	Hopedale	42.30 309	P	P	06 48 01.6	+0.4
HDIL			IAmb	IAmb	06 48 02.9	
	comp=Z,10nm,0.9s					
LPAZ	La Paz	42.42 213	P	P	06 48 02.5	-0.6
	comp=Z,4.2nm,0.9s,baz=11,slow=8.3,SNR=16					
LPAZ			LR	LR	07 04 50.7	
	comp=Z,101nm,21.3s,baz=18,slow=35					
LPAZ	La Paz	42.42 213	P	P	06 48 02.9	-0.1
LPAZ	La Paz	42.42 213	eP	P	06 48 03.5	+0.4
FVM	French Village	42.55 305	P	P	06 48 03.0	-0.3
FVM			IAmb	IAmb	06 48 04.9	
	comp=Z,15nm,1.1s					
VAO	Valinhos	42.91 182	eP	P	06 48 06.4	+0.1
L42A	Oliver, Polo	42.97 311	P	P	06 48 07.3	+0.7
L42A			IAmb	IAmb	06 48 08.3	
	comp=Z,17nm,1.0s					
CCM	Cathedral Cave	43.20 304	P	P	06 48 08.1	-0.5
CCM			IAmb	IAmb	06 48 10.1	
	comp=Z,12nm,1.1s					
TRCB	Terra Rica	43.22 189	eP	P	06 48 09.4	+0.6
FRTB	Fartura	43.40 185	eP	P	06 48 10.7	+0.5
N41A	Harden Midland	43.49 308	P	P	06 48 11.0	+0.1
N41A			IAmb	IAmb	06 48 13.1	
	comp=Z,22nm,1.1s					
FCAR	Ozark Folk Cen	43.52 301	P	P	06 48 11.5	+0.3
X40A	Basin Creek Fa	43.92 299	P	P	06 48 14.0	-0.4
R40A	Maddies Statio	44.03 305	P	P	06 48 14.1	-1.1
WLAR	White Oak Lake	44.07 298	P	P	06 48 16.3	+0.7
WLAR			IAmb	IAmb	06 48 17.0	
	comp=Z,18nm,1.1s					
L40A	Anamosa	44.10 310	P	P	06 48 15.8	0.0
L40A			IAmb	IAmb	06 48 18.2	
	comp=Z,11nm,1.1s					
P40A	Paris	44.11 306	P	P	06 48 15.3	-0.6
P40A			IAmb	IAmb	06 48 18.6	
	comp=Z,7.0nm,0.8s					
U40A	Yellville	44.18 302	P	P	06 48 16.0	-0.5
U40A			IAmb	IAmb	06 48 17.1	
	comp=Z,13nm,1.2s					
NNA	Nana	44.30 227	LR	LR	07 06 20.5	
	comp=Z,88nm,21.1s,baz=21,slow=36					
MIAR	Mount Ida	44.54 299	P	P	06 48 20.1	+0.7
MIAR			IAmb	IAmb	06 48 22.0	
	comp=Z,15nm,1.3s					
S39A	Bolivar	44.75 304	P	P	06 48 20.5	-0.5
S39A			IAmb	IAmb	06 48 21.8	
	comp=Z,7.3nm,1.1s					
W39A	Magazine	44.78 300	P	P	06 48 20.9	-0.4
W39A			IAmb	IAmb	06 48 23.2	
	comp=Z,12nm,1.1s					
PTGB	Pitanga	45.03 188	eP	P	06 48 23.8	+0.5
NATX	Nacogdoches	45.24 295	P	P	06 48 25.0	0.0
P38A	Dawn	45.25 306	P	P	06 48 24.7	-0.3
P38A			IAmb	IAmb	06 48 25.6	
	comp=Z,11nm,1.2s					
N38A	Joes South For	45.27 308	P	P	06 48 24.6	-0.4
K38A	Parkersburg	45.36 311	P	P	06 48 25.3	-0.5
K38A			IAmb	IAmb	06 48 28.6	
	comp=Z,15nm,1.1s					
TORD	Torodi Ar. Bea	45.75 91	P	P	06 48 28.4	-0.9
	comp=Z,4.1nm,1.0s,baz=297,slow=7.6,SNR=16					
TORD			LR	LR	07 05 32.2	
	comp=Z,310nm,20.1s,baz=265,slow=33					
TORD	Torodi Ar. Bea	45.75 91	P	P	06 48 28.2	-1.0
TORD			IAmb	IAmb	06 48 29.4	
	comp=Z,5.3nm,1.1s					
X37A	Clayton	46.02 299	P	P	06 48 31.4	+0.3
SPMN	Marine on St.	46.08 314	P	P	06 48 32.4	+0.9
SPMN			IAmb	IAmb	06 48 34.5	
	comp=Z,5.4nm,0.8s					
PB11	IPOC Station P	46.12 212	P	P	06 48 30.8	-1.4
KSU1	Kansas State U	47.52 305	P	P	06 48 42.0	-0.8
CPUP	Villa Florida	47.57 194	P	P	06 48 43.0	-0.3
	comp=Z,13nm,0.8s,baz=12,slow=9.4,SNR=25					
CPUP	Villa Florida	47.57 194	P	P	06 48 42.9	-0.3
CPUP	Villa Florida	47.57 194	eP	P	06 48 43.1	-0.1
WHTX	Lake Whitney,	47.62 295	P	P	06 48 44.1	+0.4
OK025	Westminster Rd	47.70 300	P	P	06 48 44.4	+0.1
BLOK	Blackwell	47.71 302	P	P	06 48 43.5	-0.8
435B	Jarrell	47.72 294	P	P	06 48 44.0	-0.5
OK029	Liberty Lake	47.82 300	P	P	06 48 45.2	0.0
BCOK	Bluff Creek, N	47.93 300	P	P	06 48 46.0	0.0
X34A	Smith Ranch, M	48.04 299	P	P	06 48 46.4	-0.6
LVC	Limon Verde	48.19 209	P	P	06 48 47.8	-0.7
	comp=Z,11nm,1.1s,baz=16,slow=5.4,SNR=6.3					
LVC	Limon Verde	48.19 209	eP	P	06 48 48.4	-0.1
CROK	Carrier	48.30 301	P	P	06 48 48.4	-0.6
KAN14	Manchester OK	48.33 302	P	P	06 48 49.0	-0.1
OK032	Salt Plains WL	48.51 302	P	P	06 48 49.9	-0.7
WMOK	Wichita Mounta	48.83 299	P	P	06 48 52.2	-0.9
WMOK			IAmb	IAmb	06 48 53.8	
	comp=Z,8.3nm,1.0s					
AGMN	Agassiz Nation	48.99 317	P	P	06 48 53.6	-0.4
AGMN			IAmb	IAmb	06 48 55.3	
	comp=Z,5.6nm,0.9s					
R32A	Long Quarter,	49.06 304	P	P	06 48 54.4	-0.4
ABTX	Abilene, Hawle	49.49 296	P	P	06 48 57.2	-0.9
ULM	Lac du Bonnet	49.59 320	LR	LR	07 06 56.0	
	comp=Z,170nm,21.9s,baz=118,slow=32					
JCT	Junction City	49.64 293	P	P	06 48 58.6	-0.8
JCT			IAmb	IAmb	06 48 59.7	
	comp=Z,5.5nm,0.9s					
KEST	Kesra	50.38 60	P	P	06 49 05.4	+0.5
	comp=Z,7.3nm,1.1s,baz=230,slow=5.8,SNR=5.3					
KEST			LR	LR	07 07 37.8	
	comp=Z,302nm,19.7s,baz=265,slow=33					
KEST	Kesra	50.38 60	P	P	06 49 05.2	+0.4
KEST			IAmb	IAmb	06 49 06.3	
	comp=Z,7.8nm,1.1s					
ITQB	Itaqui	50.65 192	P	P	06 49 06.5	-0.2
ITQB	Itaqui	50.65 192	eP	P	06 49 06.4	-0.2
CPSB	Cacapava Do Su	50.82 189	eP	P	06 49 07.4	-0.6
AMTX	Amarillo	51.22 299	P	P	06 49 11.0	-0.3
PLTB	Pedras Altas	52.18 189	eP	P	06 49 19.0	+0.8
DAVA	Damuels	52.20 45	eP	P	06 49 21.8	+3.4
	comp=Z,4.9nm,0.8s					
FETA	Feichten	52.71 46	eP	P	06 49 22.7	+0.4
	comp=Z,11nm,1.0s					
MOTA	Moosalm	53.02 45	eP	P	06 49 24.1	-0.5
	comp=Z,8.4nm,1.1s					
TXAR	Lajitas Array	53.04 292	P	P	06 49 24.9	-0.1
	comp=Z,3.0nm,1.1s,baz=99,slow=8.0,SNR=12					
TXAR			PcP	PcP	06 50 33.0	-0.5
	comp=Z,0.8nm,0.9s,baz=69,slow=5.1,SNR=3.9					
TXAR			LR	LR	07 11 48.3	
	comp=Z,65nm,19.6s,baz=0.0,slow=36					
TXAR	Lajitas Array	53.04 292	P	P	06 49 24.6	-0.4
TX31	Lajitas Ar. Si	53.04 292	P	P	06 49 24.5	-0.5
TX31			IAmb	IAmb	06 49 42.2	
	comp=Z,15nm,1.4s					
TX32	Lajitas Array	53.04 292	P	P	06 49 24.6	-0.4
SQTA	Sankt Quirin	53.07 46	eP	P	06 49 24.9	0.0
	comp=Z,8.8nm,0.7s					
GO03	Copiap	53.10 208	P	P	06 49 24.4	-0.8
CTI	Castel Tesino	53.17 47	P	P	06 49 25.3	-0.4
CTI			IAmb	IAmb	06 49 25.9	
	comp=Z,8.8nm,0.8s					
WATA	Walderalm	53.34 45	eP	P	06 49 26.8	-0.1
	comp=Z,4.9nm,0.6s					
WTTA	Wattenberg	53.37 46	eP	P	06 49 27.1	0.0
	comp=Z,13nm,0.9s					
MNTX	Cornudas Mount	54.37 295	P	P	06 49 33.8	-0.8
NKC	Novy Kostel	54.45 42	eP	P	06 49 35.2	+0.4
GERES	GERESS Array B	55.00 44	P	P	06 49 37.7	-1.2
	comp=Z,0.9nm,0.8s,baz=262,slow=6.6,SNR=6.5					
CLL	Collm	55.01 41	eP	P	06 49 39.0	+0.2
	comp=Z,4.0nm,0.7s					
HPIG		55.02 289	P	P	06 49 38.8	-0.8
HPIG			IAmb	IAmb	06 49 40.6	
	comp=Z,5.0nm,1.0s					
ANMO	Albuquerque	55.15 299	P	P	06 49 40.0	-0.3
BNM	Barren Site	55.31 298	P	P	06 49 41.8	+0.2
121A	Cookes Peak, D	56.36 296	P	P	06 49 49.3	+0.2
121A			IAmb	IAmb	06 49 51.2	
	comp=Z,7.6nm,1.0s					
NOA	NORSAR Array B	56.69 29	P	P	06 49 50.8	0.0
	comp=Z,1.1nm,0.8s,baz=246,slow=7.5,SNR=3.4					
MVCO	Mesa Verde	56.75 302	P	P	06 49 52.4	+0.5
MVCO			IAmb	IAmb	06 50 17.0	
	comp=Z,6.0nm,1.1s					
KRUC	Moravsky	56.79 44	eP	P	06 49 51.3	-0.3
VRAC	Vranov	56.95 44	eP	P	06 49 51.5	-1.3
KRLC	Kraliky	57.17 43	eP	P	06 49 54.1	-0.3
RDMU	Red Mountain	57.57 306	P	P	06 49 57.5	-0.1
RDMU			IAmb	IAmb	06 49 58.7	
	comp=Z,5.9nm,1.1s					
BW06	Boulder Array	57.60 308	P	P	06 49 57.1	-0.7
PD31	Pinedale Array	57.60 308	P	P	06 49 56.0	-1.8
PDAR	Pinedale Array	57.60 308	P	P	06 49 56.2	-1.6
	comp=Z,2.5nm,1.0s,baz=100,slow=8.0,SNR=12					
PDAR			LR	LR	07 13 27.8	
	comp=Z,89nm,19.2s,baz=92,slow=35					
PDAR	Pinedale Array	57.60 308	P	P	06 49 56.9	-0.9
GCMT	Greycliff	57.83 312	P	P	06 49 59.2	-0.1
SRU	San Rafael Swe	58.31 304	P	P	06 50 03.1	+0.3
LOHW	Long Hollow	58.40 309	P	P	06 50 02.5	-0.9
P17A	Butcher Ranch,	58.47 305	P	P	06 50 03.9	0.0
TPAW	Teton Pass	58.64 309	P	P	06 50 04.3	-0.9
TPAW			IAmb	IAmb	06 50 12.8	
	comp=Z,3.5nm,0.8s					
IMW	Indian Meadow	58.65 310	P	P	06 50 04.4	-0.8
FXWY	Fox Creek	58.70 309	P	P	06 50 05.1	-0.4
MT09	Talagante	58.82 205	P	P	06 50 05.6	-0.6
YHL	Hebgen Lake	58.85 311	P	P	06 50 06.9	+0.3
TUC	Tucson	58.91 296	P	P	06 50 06.8	-0.1
WUAZ	Wupatki	59.14 300	P	P	06 50 08.7	+0.1
MPU	Maple Canyon	59.15 305	P	P	06 50 08.1	-0.5
MPU			IAmb	IAmb	06 50 09.3	
	comp=Z,4.7nm,1.1s					
X16A	Lo Mia Camp, P	59.27 299	P	P	06 50 09.6	+0.1
MSU	Marysvale	59.62 303	P	P	06 50 12.2	+0.2
MVU	Marysvale	59.65 303	P	P	06 50 12.6	+0.5
SPUT	South Promonto	59.75 307	P	P	06 50 11.9	-0.7
U15A	North Rim	59.82 301	P	P	06 50 14.5	+1.1
U15A			IAmb	IAmb	06 50 15.2	
	comp=Z,3.9nm,1.0s					
HVU	Hansel Valley	59.98 307	P	P	06 50 13.6	-0.7
MCMT	McKenzie Canyo	60.03 311	P	P	06 50 14.2	-0.5
DUG	Dugway, Tooele	60.05 305	P	P	06 50 13.2	-1.6
DUG			IAmb	IAmb	06 50 15.6	
	comp=Z,4.8nm,0.9s					
BGU	Big Grassy Mou	60.20 306	P	P	06 50 15.7	-0.1
BGU			IAmb	IAmb	06 50 16.8	
	comp=Z,6.6nm,0.9s					
ITM	Ithomi	60.50 58	P	P	06 50 17.9	+0.1
Y14A	Wickenburg	60.61 298	P	P	06 50 18.9	+0.3
Y14A			IAmb	IAmb	06 50 20.2	
	comp=Z,6.0nm,1.0s					
CCUT	Cedar City	60.61 302	P	P	06 50 19.3	+0.6
CCUT			IAmb	IAmb	06 50 20.1	
	comp=Z,4.2nm,1.0s					
214A	Organ Pipe Nat	60.65 296	P	P	06 50 17.6	-1.3
214A			IAmb	IAmb	06 50 20.6	
	comp=Z,6.8nm,1.0s					
PSUT	Pine Spring	60.94 304	P	P	06 50 21.6	+0.6
PSUT			IAmb	IAmb	06 50 22.4	
	comp=Z,3.9nm,0.9s					
HLID	Hailey	61.16 309	P	P	06 50 20.4	-1.9
SPR3	Spring Creek 3	61.28 304	P	P	06 50 23.9	+0.5
SPR3			IAmb	IAmb	06 50 24.8	
	comp=Z,6.4nm,1.0s					
ELK	Elko	61.88 306	P	P	06 50 26.9	-0.4
ELK			IAmb	IAmb	06 50 27.8	
	comp=Z,5.5nm,1.0s					
PRN	Pahroc Range	61.96 302	P	P	06 50 28.0	+0.2
PRN			IAmb	IAmb	06 50 29.6	
	comp=Z,3.9nm,1.0s					
MFID	Camas Ranch	62.20 309	P	P	06 50 29.0	-0.2
MFID			IAmb	IAmb	06 50 29.8	
	comp=Z,4.2nm,1.0s					
R11A	Troy Canyon, C	62.30 303	P	P	06 50 30.0	-0.1
R11A			IAmb	IAmb	06 50 38.3	
	comp=Z,4.2nm,1.2s					
TPNV	Topopah Spring	62.95 302	P	P	06 50 35.3	+0.8
TPNV			IAmb	IAmb	06 50 37.3	
	comp=Z,8.0nm,1.4s					
NEW	Newport	63.00 315	P	P	06 50 34.2	-0.2
MLR	Muntele Rosu	63.11 48	P	P	06 50 35.0	-0.4
GWY	Greenwater Val	63.37 301	P	P	06 50 37.2	0.0
QSM	Queen of Sheba	63.55 301	P	P	06 50 38.7	+0.4
QSM			IAmb	IAmb	06 50 39.8	
	comp=Z,6.7nm,1.1s					
GSC	Goldstone, Bar	63.58 300	P	P	06 50 39.0	+0.4
GSC			IAmb	IAmb	06 50 40.3	
	comp=Z,5.2nm,1.1s					
E09A	Wood Farm, Sta	63.73 313	P	P	06 50 38.5	-0.7
BAR	Barrett	63.80 297	P	P	06 50 40.8	+0.7
BAR			IAmb	IAmb	06 50 41.4	
	comp=Z,6.0nm,0.9s					
LCH	Last Change Ra	64.03 302	P	P	06 50 41.6	+0.1
KVN	Kaiserville	64.20 304	P	P	06 50 42.2	-0.5
D08A	Wollman Farm,	64.24 313	P	P	06 50 42.3	-0.3
D08A			IAmb	IAmb	06 50 43.1	
	comp=Z,3.7nm,0.9s					
NVAR	Mina Array Bea	64.42 304	P	P	06 50 43.4	-0.8
	comp=Z,0.7nm,0.8s,baz=85,slow=5.4,SNR=5.0					
RYN	Ryan	64.57 304	P	P	06 50 44.6	-0.5
RYN			IAmb	IAmb	06 50 45.5	
	comp=Z,4.1nm,1.0s					
PLCA	Paso Flores	64.85 201	P	P	06 50 46.4	-0.2
	comp=Z,1.5nm,0.7s,baz=62,slow=8.0,SNR=4.6					
PLCA	Paso Flores	64.85 201	IAmb	IAmb	06 50 47.7	
	comp=Z,16nm,1.4s					
ISA	Isabella, Lake	64.88 301	P	P	06 50 47.0	-0.1
ISA			IAmb	IAmb	06 50 49.4	
	comp=Z,7.0nm,1.1s					
E07A	Sunnyside	64.91 313	P	P	06 50 46.4	-0.6
MDPB	Devils Postpil	65.12 303	P	P	06 50 49.5	+0.7
MDPB			IAmb	IAmb	06 50 50.3	
	comp=Z,4.1nm,0.9s					
PAHR	Pah Rah Range	65.12 305	P	P	06 50 48.9	+0.2
PAHR			IAmb	IAmb	06 50 52.5	
	comp=Z,4.4nm,1.2s					
AKASG	Malin Array Be	65.14 43	P	P	06 50 47.3	-1.1
	comp=Z,0.6nm,0.5s,baz=274,slow=5.7,SNR=5.2					
VCNR	Virginia City	65.37 305	P	P	06 50 49.4	-1.0
K05A	Summer Lake	65.94 309	P	P	06 50 54.6	+0.6
LLLB	Lillooet	66.03 317	P	P	06 50 53.7	-0.6
LLLB			IAmb	IAmb	06 50 54.9	
	comp=Z,6.7nm,0.9s					
ELL	Elmali	66.90 58	P	P	06 50 59.7	-0.4
CBB	Campbell River	68.30 317	P	P	06 51 08.2	-0.3
CBB			IAmb	IAmb	06 51 10.9	
	comp=Z,8.0nm,1.1s					
BR131	Keskin Array S	69.34 54	P	P	06 51 15.3	-0.1
BR131			IAmb	IAmb	06 51 16.3	
	comp=Z,5.0nm,0.9s					
BRTR	Keskin Array B	69.34 54	P	P	06 51 15.9	+0.5
	comp=Z,1.4nm,0.7s,baz=282,slow=5.9,SNR=7.5					
M27K	Edge Creek, AK	75.22 331	P	P	06 51 52.0	+1.8
M27K			IAmb	IAmb	06 51 58.6	
	comp=Z,5.0nm,0.8s					
ILAR	Eielson Array	76.66 334	P	P	06 51 57.6	-0.5
	comp=Z,5.2nm,0.9s,baz=70,slow=4.5,SNR=24					
MDM	Murphy Dome	77.14 335	P	P	06 52 00.6	-0.3
MDM			IAmb	IAmb	06 52 01.5	
	comp=Z,6.9nm,1.1s					
PPLA	Purkeypile	79.53 333	P	P	06 52 15.3	+1.0
AKTO	Aktyubinsk	83.03 39	P	P	06 52 33.1	+0.2
	comp=Z,2.1nm,0.8s,baz=299,slow=5.3,SNR=6.9					
BOSA	Boshof	83.84 123	P	P	06 52 37.4	-0.2
	comp=Z,5.4nm,0.9s,baz=301,slow=5.8,SNR=5.6					
ABKAR	Akbulak array	84.64 39	P	P	06 52 41.5	+0.4
PMSA	Palmer Station	85.83 188	eP	P	06 52 49.7	+3.2
KURK	Kurchatov	94.12 32	P	P	06 53 25.6	-0.5
KURBB	Kurchatov Arra	94.14 32	P	P	06 53 25.6	-0.6
	comp=Z,0.4nm,0.2s,baz=311,slow=5.0,SNR=2.1					
CMAR	Chiang Mai Arr	128.24 44	PKP	PKPdf	06 59 14.0	-0.9
	comp=Z,1.1nm,0.3s,baz=276,slow=2.7,SNR=4.6					
CMAR	Chiang Mai Arr	128.24 44		PKPdf	06 59 14.9	+0.1

IDC 28 06:42:01.0±35.0, 24°.63S×178°.15W, h465km±220km, mb2.9/2, mb1 3.2/3, mb1mx2.9/20, mbtmp4.0/3, Error ellipse: s-maj=454.0km s-min=28.3km az=43.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
URZ	Urewera	14.17	195	P	P

NORC	**Norcasia**	**2.14**	**234**	*eP*	Pn	06 44 00.2	-0.6
NORC				*eS*	Sn	06 44 28.1	-0.6
NORC				*i*		06 44 33.5	
	comp=Z,129nm,0.1s						
SMLC	**San Martn de**	**2.18**	**335**	*eP*	Pn	06 43 59.9	-1.3
SMLC				*eS*	Sn	06 44 28.6	-0.9
SMLC				*i*		06 44 31.3	
	comp=Z,160nm,0.2s						
CHIC	**Chingaza**	**2.26**	**196**	*eP*	Pn	06 44 02.4	-0.3
CHIC				*eS*	Sn	06 44 30.9	-1.1
CHIC				*i*		06 44 34.8	
	comp=Z,40nm,0.5s						
ROSC	**El Rosal**	**2.30**	**211**	*eP*	Pn	06 44 03.5	+0.4
ROSC				*eS*	Sn	06 44 33.4	+0.5
ROSC				*i*		06 44 41.0	
	comp=Z,77nm,0.4s						
HELC	**Santa Helena**	**2.47**	**255**	*eP*	Pn	06 44 04.9	-0.3
HELC				*eS*	Sn	06 44 36.6	+0.2
HELC				*i*		06 44 42.3	
	comp=Z,89nm,0.4s						
UREC	**San Jos de Ur**	**2.56**	**291**	*eP*	Pn	06 44 03.8	-2.1
UREC				*eS*	Sn	06 44 35.4	-2.5
UREC				*i*		06 44 44.2	
	comp=Z,90nm,0.2s						
LL2C	**La Loma 2 Cana**	**2.73**	**353**	*eP*	Pn	06 44 07.2	-0.9
LL2C				*eS*	Sn	06 44 42.9	+1.0
LL2C				*i*		06 44 51.2	
	comp=Z,100nm,0.3s						
LL1C	**La Loma 1 Cana**	**2.73**	**351**	*eP*	Pn	06 44 08.4	+0.3
LL1C				*eS*	Sn	06 44 43.0	+1.1
LL1C				*i*		06 44 50.8	
	comp=Z,158nm,0.5s						
GUY2C	**Guyana, Caldas**	**2.74**	**235**	*eP*	Pn	06 44 08.3	-0.3
GUY2C				*eS*	Sn	06 44 41.8	-0.8
GUY2C				*i*		06 44 49.2	
	comp=Z,55nm,0.6s						
VILC	**Villavicencio,**	**2.75**	**192**	*eP*	Pn	06 44 07.9	-0.6
VILC				*eS*	Sn	06 44 41.4	-1.1
VILC				*i*		06 44 45.6	
	comp=Z,55nm,0.4s						
PTGC	**Puerto Gaitan,**	**2.79**	**159**⇑	*eP*	Pn	06 44 07.0	-1.8
PTGC				*eS*	Sn	06 44 40.3	-2.8
PTGC				*i*		06 44 44.0	
	comp=Z,56nm,0.2s						
CBOC	**Ciudad Bolivar**	**3.02**	**252**	*eP*	Pn	06 44 11.8	-0.1
CBOC				*eS*	Sn	06 44 48.5	-0.2
CBOC				*i*		06 44 51.7	
	comp=Z,24nm,0.5s						
DBBC	**Dabeiba**	**3.07**	**274**	*eP*	Pn	06 44 11.6	-0.9
DBBC				*eS*	Sn	06 44 47.3	-2.2
DBBC				*i*		06 44 52.2	
	comp=Z,159nm,0.2s						
SDV	**Santo Domingo**	**3.21**	**50**	*eP*	Pn	06 44 13.4	-1.0
SDV				*eS*	Sn	06 44 50.5	-2.4
SDV				*i*		06 44 58.5	
	comp=Z,15nm,0.3s						
ARGC	**Ariguani, Magd**	**3.21**	**340**	*eP*	Pn	06 44 14.4	+0.1
ARGC				*eS*	Sn	06 44 52.3	-0.5
ARGC				*i*		06 45 00.4	
	comp=Z,22nm,0.2s						
ANIL	**Santa Ana**	**3.24**	**224**	*eP*	Pn	06 44 15.4	+0.5
ANIL				*eS*	Sn	06 44 54.2	+0.3
ANIL				*i*		06 44 59.3	
	comp=Z,86nm,0.4s						
ORTC	**Ortega, Tolima**	**3.58**	**216**	*eP*	Pn	06 44 18.6	-0.5
ORTC				*eS*	Sn	06 45 01.2	-0.3
ORTC				*i*		06 45 08.5	
	comp=Z,34nm,0.7s						
SJCC	**San Jacinto, C**	**3.67**	**326**⇑	*eP*	Pn	06 44 17.8	-2.4
SJCC				*eS*	Sn	06 44 59.2	-4.3
SJCC				*i*		06 45 03.0	
	comp=Z,42nm,0.4s						
CRJC	**Cerrejon, Guaj**	**4.18**	**3**	*eS*	Sn	06 45 09.9	-5.6
CRJC				*i*		06 45 16.8	
	comp=Z,23nm,0.4s						
YOTC	**Yotoco, Valle**	**4.27**	**229**	*eP*	Pn	06 44 26.9	-1.3
YOTC				*eS*	Sn	06 45 17.4	-0.3
GUVC	**San Jose del G**	**4.28**	**173**	*eS*	Sn	06 45 14.8	-3.0
GUVC				*i*		06 45 20.1	
	comp=Z,55nm,0.2s						
SMRC	**Santa Marta, M**	**4.45**	**346**	*eS*	Sn	06 45 17.3	-4.5
CAPC	**Capurgana**	**4.56**	**294**	*eP*	Pn	06 44 29.2	-2.6
CAPC				*eS*	Sn	06 45 21.3	-3.0
CAPC				*i*		06 45 23.1	
	comp=Z,11nm,0.1s						
MACC	**Macarena, Meta**	**4.70**	**189**	*eP*	Pn	06 44 31.3	-2.5
MACC				*eS*	Sn	06 45 22.6	-5.3
MACC				*i*		06 45 29.6	
	comp=Z,15nm,0.6s						
URIC	**Uribia, Colomb**	**4.97**	**13**	*eP*	Pn	06 44 34.5	-2.9
URIC				*eS*	Sn	06 45 28.8	-5.5
URIC				*i*		06 45 36.7	
	comp=Z,6.5nm,0.6s						
POPC	**Popayan, Colom**	**5.53**	**220**	*eP*	Pn	06 44 44.1	-1.0
BBAC	**Balboa, Cauca**	**6.29**	**221**	*eP*	Pn	06 44 55.1	-0.1
BBAC				*eS*	Sn	06 46 02.6	-3.6
BBAC				*i*		06 46 10.4	
	comp=Z,3.4nm,0.3s						

IDC 28 06:45:05.1±2.5, 54°16N×86°34E, h0km, mb1 3.0/2, mb1mx2.9/39, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=20.0km s-min=13.0km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.92**	**258**	*i*		06 50 40.0	
	baz=75,slow=324,SNR=2.6						
ZALV	**Zalesovo Beam**	**0.92**	**257**	Pg	Pg	06 45 20.8	-1.9
	2.4nm,0.3s,baz=75,slow=17,SNR=16						
ZALV				Lg	Lg	06 45 36.3	
	3.4nm,0.3s,baz=80,slow=32,SNR=15						
KURBB	**Kurchatov Arra**	**5.95**	**237**	Pn	Pn	06 46 35.6	+1.3
	0.1nm,0.3s,baz=53,slow=14,SNR=9.8						
KURBB				Lg	Lg	06 48 14.3	
	0.0nm,0.3s,baz=57,slow=31,SNR=5.1						
MKAR	**Makanchi Array**	**7.81**	**201**	Pn	Pn	06 47 00.8	+0.9
	0.2nm,0.3s,baz=25,slow=16,SNR=7.4						

IDC 28 06:47:10.5±2.6, 53°59N×87°89E, h0km, mb1 3.2/2, mb1mx3.1/38, mbtmp3.2/2, ML3.1/2, 3C-2D, Error ellipse: s-maj=22.7km s-min=15.7km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.86**	**282**	*i*		06 59 20.0	
	baz=99,slow=331,SNR=15						
ZALV	**Zalesovo Beam**	**1.86**	**282**	Pn	Pn	06 47 43.3	-0.2
	4.3nm,0.3s,baz=98,slow=15,SNR=18						
ZALV				Lg	Lg	06 48 08.8	
	6.2nm,0.3s,baz=98,slow=29,SNR=8.1						
KURBB	**Kurchatov Arra**	**6.49**	**246**	Pn	Pn	06 48 47.8	+0.7
	0.3nm,0.3s,baz=61,slow=14,SNR=17						
KURBB				Sn	Sn	06 50 01.1	-0.7
	0.1nm,0.3s,baz=64,slow=10,SNR=5.1						
KURBB				Lg	Lg	06 50 37.5	
	0.1nm,0.3s,baz=65,slow=29,SNR=7.1						
KURBB	**Kurchatov Arra**	**6.49**	**246**	⇓Pn	Pn	06 48 47.4	+0.3
	2.3nm,0.3s						
KURBB				⇑Sn	Sn	06 49 59.8	-1.9
	3.4nm,0.6s						
KURBB				⇑Lg	Lg	06 50 34.3	
	8.2nm,0.6s						
MK31	**Makanchi Array**	**7.69**	**210**	Pn	Pn	06 49 05.2	+1.4
	0.2nm,0.2s,baz=28,slow=14,SNR=12						
MK31				⇓Sn	Sn	06 50 29.6	-1.9
	0.1nm,0.2s						
MK31				⇑Lg	Lg	06 51 10.0	
	0.1nm,0.2s						
MKAR	**Makanchi Array**	**7.69**	**210**	Pn	Pn	06 49 05.0	+1.2
	0.3nm,0.3s,baz=28,slow=13,SNR=11						
MKAR				Sn	Sn	06 50 30.6	-0.9
	0.1nm,0.3s,baz=26,slow=27,SNR=2.4						
MKAR				Lg	Lg	06 51 13.7	
	0.1nm,0.3s,baz=27,slow=29,SNR=2.6						

IDC 28 06:50:25.4±1.3, 55°99S×27°66W, h0km, mb3.8/1, mb1 3.7/2, mb1mx3.4/30, mbtmp3.7/2, ML3.6/1, MS3.3/1, Ms1 3.4/1, ms1mx2.6/26, Error ellipse: s-maj=71.1km s-min=40.2km az=73.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.91**	**156**	P	Pn	06 54 48.2	+0.4
	0.2nm,0.3s,baz=323,slow=18,SNR=4.2						
VNDA	**Vanda**	**46.62**	**183**	LR	LR	07 17 43.9	
	comp=Z,32nm,18.1s,baz=258,slow=35						
TORD	**Torodi Ar. Bea**	**73.13**	**30**	P	P	07 01 58.2	+0.6
	0.2nm,0.4s,baz=209,slow=6.6,SNR=4.2						
INK	**Inuvik**	**145.59**	**321**	PKPbc	PKPdf	07 10 03.7	-0.1
	1.2nm,0.4s,baz=139,slow=7.4,SNR=4.9						
ILAR	**Eielson Array**	**149.88**	**312**	PKPbc	PKPbc	07 10 15.4	-0.5
	1.2nm,0.9s,baz=125,slow=3.8,SNR=9.7						
SONM	**Songino Array**	**150.99**	**87**	PKPbc	PKPbc	07 10 17.4	-1.9
	0.7nm,0.4s,baz=257,slow=2.0,SNR=3.0						

*IDC **28** 06:57:00.5±2.6, 25°90S×64°87W, h0km, mb3.5/2, mb1 3.7/6, mb1mx3.5/30, mbtmp3.5/6, ML3.7/3, MS2.3/1, Ms1 2.3/1, ms1mx2.2/24, Error ellipse: s-maj=59.9km s-min=21.7km az=22.0*

ISC 28 06:57:05.7±1.4, 25°8S±0°1×64°9W±0°1, h35km, n6, σ1s55/7, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**4.86**	**310**	Pn	Pn	**06 58 15.9**	**-0.8**
	0.1nm,0.3s,baz=266,slow=8.4,SNR=2.4						
LVC				LR	LR	07 00 32.1	
	comp=Z,35nm,21.8s,baz=126,slow=43						
CPUP	**Villa Florida**	**6.83**	**96**	Pn	Pn	**06 58 42.2**	**-1.2**
	0.9nm,0.3s,baz=266,slow=14,SNR=7.2						
CPUP				Lg	Lg	07 00 34.4	
	6.6nm,0.3s,baz=183,slow=17,SNR=3.9						
LPAZ	**La Paz**	**9.95**	**342**	Pn	Pn	**06 59 24.6**	**-2.2**
	0.2nm,0.3s,baz=106,slow=1.9,SNR=6.5						
SIV	**San Ignacio**	**10.41**	**21**	Pn	Pn	**06 59 33.8**	**+1.2**
	0.3nm,0.3s,baz=212,slow=9.0,SNR=14						
SIV				Sn	Sn	**07 01 27.9**	**-0.3**
	0.3nm,0.3s,baz=180,slow=20,SNR=1.0						
TXAR	**Lajitas Array**	**66.26**	**323**	P	P	**07 07 51.6**	**+1.1**
	0.2nm,0.5s,baz=142,slow=7.5,SNR=2.6						
TORD	**Torodi Ar. Bea**	**75.47**	**67**	P	P	**07 08 47.0**	**+0.3**
	0.6nm,0.6s,baz=253,slow=5.4,SNR=5.8						

*VAO **28** 07:05:19.5±0.5, 21°72S×68°52W, h117km±5km, mb3.9*
*GUC **28** 07:05:20.5±0.6, 21°75S×68°60W, h113km±5km, ML3.4*

ISC 28 07:05:19.0±0.7, 21°73S±0°04×68°67W±0°07, h127km±9km, n32, σ0s67/42, 5C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.91**	**194**	*eP*	Pn	**07 05 41.3**	**0.0**
LVC				*i* S	Sn	**07 05 57.7**	**-0.3**
LVC	**Limon Verde**	**0.91**	**194**	*eP*	Pn	**07 05 41.5**	**+0.3**
LVC				*eS*	Sn	**07 05 57.4**	**-0.6**
PB01	**IPOC Station P**	**1.02**	**312**⇓	*iP*	Pn	**07 05 41.9**	**-0.1**
PB01				*i* S	Sn	**07 05 59.1**	**-0.3**
PB01				IAML		07 06 01.6	
	comp=E,1μm,0.3s						
PB07	**IPOC Station P**	**1.13**	**270**⇑	*iP*	Pn	**07 05 43.6**	**+0.4**
PB07				*i* S	Sn	**07 06 01.6**	**+0.2**
PB07				IAML		07 06 02.4	
	comp=N,2μm,0.1s						
PB02	**IPOC Station P**	**1.21**	**289**⇑	*iP*	Pn	**07 05 44.3**	**+0.4**
PB02				*i* S	Sn	**07 06 03.2**	**+0.4**
AF01	**San Pedro de A**	**1.30**	**160**⇓	*iP*	Pn	**07 05 46.1**	**+1.1**
AF01				*i* S	Sn	**07 06 06.2**	**+1.4**
AF01				IAML		07 06 17.9	
	comp=E,694nm,0.3s						
PB04	**IPOC Station P**	**1.50**	**246**⇑	*iP*	Pn	**07 05 47.7**	**+0.6**
PB04				*i* S	Sn	**07 06 08.8**	**+0.3**
PB04				IAML		07 06 11.2	
	comp=E,506nm,0.3s						
PB08	**IPOC Station P**	**1.64**	**344**	*eP*	Pn	**07 05 50.3**	**+1.3**
PB08				*i* S	Sn	**07 06 12.7**	**+0.9**
PB05	**IPOC Station P**	**1.81**	**232**⇑	*iP*	Pn	**07 05 51.2**	**+0.5**
PB05				*i* S	Sn	**07 06 15.0**	**+0.2**
PB05				IAML		07 06 22.0	
	comp=E,200nm,0.4s						
HMBC	**Humberstone**	**1.84**	**321**⇑	*iP*	Pn	**07 05 51.0**	**-0.1**
HMBC				*i* S	Sn	**07 06 14.8**	**-0.7**
HMBC				IAML		07 06 20.7	
	comp=E,340nm,0.7s						
PB10	**IPOC Station P**	**2.49**	**224**	*eP*	Pn	**07 05 58.9**	**0.0**
CPUP	**Villa Florida**	**11.33**	**116**	*eP*	Pn	**07 07 56.3**	**-0.9**
VILB	**Vilhena**	**11.89**	**44**	*eP*	Pn	**07 08 04.0**	**-0.7**
SALV	**Santo Antonio**	**13.58**	**67**	*eP*	Pn	**07 08 26.6**	**0.0**
CLDB	**Colider**	**16.39**	**51**	*eP*	P	**07 09 02.6**	**+0.3**
PLTB	**Pedras Altas**	**16.74**	**130**	*eP*	P	**07 09 05.7**	**-0.5**
ITRB	**Iturama**	**17.25**	**87**	*eP*	Pn	**07 09 11.4**	**-0.9**
TRQA	**Tornquist**	**17.27**	**162**	*eP*	Pn	**07 09 13.0**	**+0.7**
BB19B	**Bebedouro**	**18.77**	**92**	*eP*	P	**07 09 28.0**	**-0.5**
SNDB	**Serra Nova Dou**	**19.23**	**63**	*eP*	P	**07 09 32.3**	**-1.3**
NPGB	**Novo Progresso**	**19.45**	**43**	*eP*	P	**07 09 35.7**	**-0.2**
IPMB	**Ipameri, GO**	**19.60**	**83**	*eP*	P	**07 09 36.7**	**-0.8**
VAO	**Valinhos**	**20.11**	**98**	*eP*	P	**07 09 42.6**	**-0.4**
ITTB	**Itaituba**	**21.34**	**38**	*eP*	P	**07 09 55.5**	**-0.7**
PEXB	**Peixe**	**21.68**	**67**	*eP*	P	**07 09 59.8**	**-0.1**
PRPB	**Parauapebas**	**23.91**	**52**	*eP*	P	**07 10 21.4**	**+0.1**
SMTB	**Santa Maria do**	**23.98**	**61**	*eP*	P	**07 10 22.7**	**+0.7**
MALB	**Monte Alegre**	**24.23**	**37**	*eP*	P	**07 10 25.3**	**+1.1**
SDBA	**SAO DESIDERIO**	**24.51**	**72**	*eP*	P	**07 10 27.3**	**+0.5**
BOAV	**Boa Vista**	**25.27**	**19**	*eP*	P	**07 10 34.6**	**+1.0**
SJMB	**Sao Joao De Ma**	**25.95**	**88**	*eP*	P	**07 10 39.9**	**+0.1**
RIB01	**Linhares ES**	**26.57**	**90**	*eP*	P	**07 10 45.5**	**+0.1**

IDC 28 07:05:49.1±2.7, 20°25N×45°58W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/47, mbtmp3.7/3, Error ellipse: s-maj=136.3km s-min=33.2km az=15.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**45.71**	**91**	P	P	07 14 12.2	-0.1
	0.9nm,0.9s,baz=299,slow=7.8,SNR=4.0						
TXAR	**Lajitas Array**	**53.05**	**292**	P	P	07 15 08.3	-0.1
	1.3nm,1.1s,baz=114,slow=4.2,SNR=5.3						
ILAR	**Eielson Array**	**76.58**	**334**	P	P	07 17 41.2	+0.1
	0.8nm,1.0s,baz=65,slow=3.8,SNR=4.7						

*IDC **28** 07:07:07.6±0.5, 20°18N×45°66W, h0km, mb4.1/22, mb1 4.3/23, mb1mx4.1/52, mbtmp4.1/23, MS4.7/9, Ms1 4.7/9, ms1mx4.4/15, Error ellipse: s-maj=16.5km s-min=12.1km az=140.0*

*GCMT **28** 07:07:10.3±0.1, 20°34N±0°01×45°59W±0°01, h12km, MW5.1/136, Moment Tensor Solution. s55,c62; s136,c228; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-6.59±.10; Mθθ0.27±.11; Mφφ6.32±.09; Mrθ-0.37±.38; Mθφ0.81±.08; Mφr-0.39±.31; Best double couple: M₀6.53000×10¹⁶ NP1:φs185.00000°, δ43.00000°, λ-94.00000°. NP2:φs10.00000°, δ47.00000°, λ-86.00000°. Principal axes: T 6.4400, Plg2.0000°, Azm98.0000°; N 0.1780, Plg3.0000°, Azm188.0000°; P -6.6200, Plg87.0000°, Azm332.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **28** 07:07:10.3±1.9, 20°12N±0°08×45°60W±0°10, h10km±1km, mb4.8/178 Error ellipse: s-maj=18.0km s-min=9.7km az=126.0*

ISC 28 07:07:10.0±0.3, 20°20N±0°06×45°66W±0°06, h9km, n322, σ1s76/297, mb4.8/106, MS4.7/11, 5C-5D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**15.05**	**244**	*eP*	Pn	**07 10 42.1**	**-0.9**
H05N1	**Guadeloupe/Mar**	**15.13**	**258**	T	T	07 25 56.6	
	SNR=8.0						
MAGL	**Barre de l'ile**	**15.45**	**257**	*eP*	Pn	**07 10 43.4**	**-4.9**
MAGL	**Barre de l'ile**	**15.45**	**257**	*eP*	Pn	**07 10 43.5**	**-4.8**
ANWB	**Willy Bob**	**15.47**	**263**	*eP*	Pn	**07 10 45.2**	**-3.3**
ANWB	**Willy Bob**	**15.47**	**263**	*eP*	Pn	**07 10 48.0**	**-0.5**
ILAM	**Ilet Lapin Mar**	**15.48**	**252**	*eP*	Pn	**07 10 46.1**	**-2.6**
ILAM	**Ilet Lapin Mar**	**15.48**	**252**	Pn	Pn	**07 10 45.1**	**-3.6**
ILAM				IAmb	IAmb	07 10 58.6	
	comp=Z,37nm,1.0s						
H05S1	**Guadeloupe/Mar**	**15.59**	**251**	T	T	07 26 43.1	
	SNR=24						

ANBD	**Bethesda, Anti**	**15.59**	**261**	*e*	Pn	**07 10 48.6**	**-1.4**
ANBD	**Bethesda, Anti**	**15.59**	**261**	*eP*	Pn	**07 10 50.0**	**0.0**
MPOM	**Morne Pois Mar**	**15.60**	**251**	*eP*	Pn	07 10 43.4	-6.9
MPOM	**Morne Pois Mar**	**15.60**	**251**	*eP*	Pn	**07 10 48.0**	**-2.2**
MPOM	**Morne Pois Mar**	**15.60**	**251**	Pn	Pn	**07 10 48.4**	**-1.8**
MPOM				IAmb	IAmb	07 11 05.1	
	comp=Z,114nm,1.3s						
DLPL	**La Plaine**	**15.62**	**254**	*eP*	Pn	07 10 41.4	-9.1
DLPL	**La Plaine**	**15.62**	**254**	*eP*	Pn	**07 10 46.6**	**-3.9**
CBE	**Ff, Capester**	**15.71**	**257**	*eP*	Pn	**07 10 47.1**	**-4.5**
CBE	**Ff, Capester**	**15.71**	**257**	*eP*	Pn	**07 10 48.7**	**-3.0**
MDT	**Cottage Hill,**	**15.72**	**256**	*eP*	Pn	**07 10 45.4**	**-6.3**
SVN	**Savane Anatole**	**15.72**	**253**	Pn	Pn	**07 10 50.2**	**-1.6**
SVN				IAmb	IAmb	07 10 59.9	
	comp=Z,82nm,0.9s						
DSLB	**Salisbury**	**15.74**	**255**	*eP*	Pn	**07 10 47.4**	**-4.7**
DSLB	**Salisbury**	**15.74**	**255**	*eP*	Pn	**07 10 48.2**	**-3.8**
FDF	**Fort de France**	**15.75**	**252**	*eP*	Pn	**07 10 49.3**	**-2.9**
FDF	**Fort de France**	**15.75**	**252**		Pn	**07 10 50.3**	**-1.9**
BIM	**Bigot**	**15.76**	**251**	*eP*	Pn	**07 10 50.1**	**-2.3**
BIM	**Bigot**	**15.76**	**251**	Pn	Pn	**07 10 51.5**	**-0.8**
BIM				IAmb	IAmb	07 11 06.8	
	comp=Z,92nm,1.1s						
TDBA	**Terre de Bas,**	**15.80**	**257**	*eP*	Pn	07 10 45.2	-7.7
TDBA	**Terre de Bas,**	**15.80**	**257**	*eP*	Pn	**07 10 47.6**	**-5.2**
TBG	**Guadaloupe-3**	**15.81**	**257**	*eP*	Pn	**07 10 46.7**	**-6.2**
SLBI	**Saint Lucia, B**	**15.87**	**250**	*eP*	Pn	**07 10 48.0**	**-5.7**
SLBI	**Saint Lucia, B**	**15.87**	**250**	*eP*	Pn	**07 10 49.5**	**-4.3**
MCLT	**Moule a Chique**	**15.98**	**249**	*eP*	Pn	07 10 48.4	-6.8
MCLT	**Moule a Chique**	**15.98**	**249**	*eP*	Pn	**07 10 49.5**	**-5.7**
MCLT	**Moule a Chique**	**15.98**	**249**	Pn	Pn	07 10 48.7	-6.5
MCLT				IAmb	IAmb	07 11 07.8	
	comp=Z,85nm,1.3s						
SVB	**Belmont**	**16.44**	**248**	*eP*	Pn	**07 10 55.9**	**-5.2**
SVB	**Belmont**	**16.44**	**248**	Pn	Pn	**07 10 60.0**	**-1.1**
MDP	**Montagnes des**	**16.47**	**205**	LR	LR	07 15 59.7	
	comp=Z,853nm,20.7s,baz=36,slow=32						
SMRT	**St. Maarten**	**16.60**	**266**	*eP*	Pn	**07 10 58.1**	**-5.1**
SMRT	**St. Maarten**	**16.60**	**266**	*eP*	Pn	**07 11 01.4**	**-1.8**
SMRT	**St. Maarten**	**16.60**	**266**	Pn	Pn	**07 10 52.2**	**-0.9**
SEUS	**St. Eustatius**	**16.62**	**264**	*eP*	Pn	07 10 54.9	-8.4
SEUS	**St. Eustatius**	**16.62**	**264**	*eP*	Pn	**07 11 00.8**	**-2.5**
SEUS	**St. Eustatius**	**16.62**	**264**	Pn	Pn	**07 11 02.8**	**-0.5**
SEUS				IAmb	IAmb	07 11 15.1	
	comp=Z,100nm,1.0s						
TOSP	**Speyside**	**16.82**	**240**	*eP*	Pn	07 10 58.3	-7.6
TOSP	**Speyside**	**16.82**	**240**	*eP*	Pn	**07 11 01.1**	**-4.8**
GCMP	**Grenada, Carri**	**16.96**	**246**	*eP*	Pn	**07 11 04.0**	**-3.7**
GRGR	**Grenville**	**17.32**	**245**	*eP*	Pn	**07 11 09.5**	**-2.8**
GRGR	**Grenville**	**17.32**	**245**	Pn	Pn	**07 11 11.3**	**-1.0**
GRGR				IAmb	IAmb	07 11 15.7	
	comp=Z,90nm,1.1s						
TRN	**Trinidad (W)**	**17.89**	**240**	*eP*	Pn	**07 11 16.0**	**-3.3**
STVI	**Saint Thomas**	**18.31**	**267**	P	Pn	**07 11 24.2**	**+0.2**
CUPR	**Culebra, Puert**	**18.63**	**268**	P	P	**07 11 28.8**	**+0.8**
MTP	**Monte Pirata**	**18.91**	**267**	P	P	**07 11 30.6**	**-0.6**
CBYP	**Canovanas**	**19.17**	**268**	P	P	**07 11 33.5**	**-0.5**
HUMP	**Col San Antoni**	**19.19**	**267**	P	P	**07 11 33.4**	**-0.8**
PDPR	**Patillas Dam,**	**19.37**	**267**	P	P	**07 11 35.9**	**-0.3**
GCPR	**Guaynabo City**	**19.38**	**268**	P	P	**07 11 36.1**	**-0.2**
SJG	**San Juan**	**19.47**	**267**	P	P	**07 11 34.5**	**-2.8**
	baz=68,slow=8.8,SNR=11						
SJG				LR	LR	07 17 31.9	
	comp=Z,2μm,22.0s,baz=96,slow=32						
SJG	**San Juan**	**19.47**	**267**	P	P	**07 11 36.7**	**-0.6**
SJG				IAmb	IAmb	07 11 46.9	
	comp=Z,62nm,1.4s						
OBIP	**Obispado Ponce**	**19.91**	**267**	P	P	**07 11 41.3**	**-0.8**
OBIP				IAmb	IAmb	07 11 49.9	
	comp=Z,78nm,1.4s						
AOPR	**Arecibo Observ**	**20.00**	**268**	P	P	**07 11 43.1**	**-0.1**
AOPR				IAmb	IAmb	07 11 54.6	
	comp=Z,70nm,1.4s						
CRPR	**Cabo Rojo, PR**	**20.39**	**267**	P	P	**07 11 48.6**	**+1.3**
PLCV	**Puerto La Cruz**	**20.80**	**244**	P	P	**07 11 49.1**	**-2.7**
PCRV	**Puerto La Cruz**	**20.83**	**244**	P	P	**07 11 49.1**	**-3.1**
	comp=Z,7.3nm,1.0s,baz=355,slow=11,SNR=1.9						
MCPB	**Macapa, AP**	**21.37**	**198**	*eP*	P	**07 11 56.7**	**-1.2**
DR12	**Loma Pena Alta**	**22.41**	**270**	P	P	**07 12 08.6**	**-0.5**
TMAB	**Tom-Au,PA,Br**	**22.56**	**186**	*eP*	P	**07 12 11.3**	**+0.7**
BOAV	**Boa Vista**	**22.89**	**221**	*eP*	P	**07 12 15.3**	**+1.1**
ROSB	**Rosrio**	**23.00**	**176**	*eP*	P	**07 12 15.7**	**+0.4**
MALB	**Monte Alegre**	**23.48**	**202**	*eP*	P	**07 12 21.2**	**+1.0**
SC01	**Santiago de lo**	**23.60**	**272**	P	P	**07 12 21.3**	**-0.1**
SC01				IAmb	IAmb	07 12 24.0	
	comp=Z,51nm,1.3s						
SDDR	**Presa de Saban**	**24.17**	**272**	P	P	**07 12 28.1**	**+1.2**
SDDR				IAmb	IAmb	07 12 40.1	
	comp=Z,31nm,1.2s						
NBPS	**Pedro II - PI**	**24.79**	**170**	*eP*	P	**07 12 32.6**	**+0.1**
PTGA	**Pitinga**	**25.09**	**216**	P	P	**07 12 33.3**	**-1.8**
	comp=Z,2.7nm,0.9s,baz=11,slow=15,SNR=5.2						
PTGA	**Pitinga**	**25.09**	**216**	P	P	**07 12 33.7**	**-1.4**
NBCL	**Cascavel-CE**	**25.32**	**163**	*eP*	P	**07

ESDC Sonseca Array 40.57 52 P **P** **07 14 47.6 -2.4**
comp=Z,0.6nm,0.7s,baz=246,slow=6.6,SNR=4.3
ESDC PcP **PcP** **07 16 52.4 +0.1**
comp=Z,0.9nm,0.9s,baz=278,slow=2.8,SNR=4.5
OLIL Olney 40.89 306 P **P** **07 14 54.5 +2.0**
OLIL IAmb IAmb 07 15 01.1
comp=Z,34nm,1.4s
H10N3 ASCENSION HYDR 41.42 129 T T 07 58 50.2
baz=312,slow=75,SNR=861
H10N2 ASCENSION HYDR 41.42 129 T T 07 58 52.1
baz=312,slow=75,SNR=31
H10N1 ASCENSION HYDR 41.44 129 T T 07 58 51.6
baz=312,slow=75,SNR=1121
SIUC Southern Illin 41.51 304 P **P** **07 14 59.3 +1.6**
SIUC IAmb IAmb 07 15 06.3
comp=Z,21nm,1.1s
S44A Carbondale 41.53 304 P **P** **07 14 60.0 +2.1**
S44A IAmb IAmb 07 15 06.5
comp=Z,20nm,1.0s
DBIC Dimbokro 41.77 103 LR LR 07 29 00.2
comp=Z,2μm,21.0s,baz=288,slow=31
H10S3 ASCENSION HYDR 42.06 131 T T 07 59 46.3
baz=310,slow=74,SNR=54
H10S2 ASCENSION HYDR 42.08 131 T T 07 59 48.4
baz=270,slow=74,SNR=39
LPAZ La Paz 42.45 213 P **P** **07 15 04.2 -2.0**
comp=Z,5.2nm,1.0s,baz=22,slow=7.4,SNR=7.2
LPAZ La Paz 42.45 213 P **P** **07 15 04.2 -2.0**
LPAZ La Paz 42.45 213 *eP* **P** **07 15 07.8 +1.6**
FVM French Village 42.50 305 P **P** **07 15 06.8 +1.0**
FVM IAmb IAmb 07 15 14.1
comp=Z,15nm,0.9s
LCAR Lake Charles 42.73 302 P **P** **07 15 07.5 -0.1**
L42A Oliver, Polo 42.92 310 P **P** **07 15 10.1 +1.0**
CCAR Cane Creek 42.94 298 P **P** **07 15 10.0 +0.6**
VAO Valinhos 42.96 182 *eP* **P** **07 15 11.5 +1.9**
CCM Cathedral Cave 43.15 304 P **P** **07 15 11.6 +0.6**
CCM IAmb IAmb 07 15 19.9
comp=Z,41nm,1.4s
PARB Paraibuna 43.27 180 *eP* **P** **07 15 13.9 +1.8**
N41A Harden Midland 43.44 308 P **P** **07 15 13.8 +0.4**
N41A IAmb IAmb 07 15 14.8
comp=Z,38nm,1.4s
FCAR Ozark Folk Cen 43.48 301 P **P** **07 15 14.5 +0.7**
FCAR IAmb IAmb 07 15 22.6
comp=Z,18nm,1.3s
WHAR Wooly Hollow 43.53 300 P **P** **07 15 14.6 +0.4**
WHAR IAmb IAmb 07 15 22.4
comp=Z,28nm,1.2s
X40A Basin Creek Fa 43.88 299 P **P** **07 15 17.4 +0.5**
R40A Maddies Statio 43.99 305 P **P** **07 15 16.9 -0.9**
R40A IAmb IAmb 07 15 26.0
comp=Z,12nm,1.1s
L40A Anamosa 44.05 310 P **P** **07 15 19.5 +1.3**
L40A IAmb IAmb 07 15 27.0
comp=Z,27nm,1.4s
P40A Paris 44.06 306 P **P** **07 15 18.5 +0.1**
P40A IAmb IAmb 07 15 26.7
comp=Z,21nm,1.4s
U40A Yellville 44.13 302 P **P** **07 15 18.1 -0.9**
U40A IAmb IAmb 07 15 27.0
comp=Z,17nm,1.2s
S39A Bolivar 44.70 304 P **P** **07 15 23.6 0.0**
S39A IAmb IAmb 07 15 31.0
comp=Z,9.3nm,1.1s
W39A Magazine 44.73 300 P **P** **07 15 24.0 +0.2**
W39A IAmb IAmb 07 15 32.5
comp=Z,18nm,1.1s
NATX Nacogdoches 45.20 295 P **P** **07 15 28.7 +1.2**
P38A Dawn 45.20 306 P **P** **07 15 27.2 -0.3**
P38A IAmb IAmb 07 15 35.8
comp=Z,17nm,1.1s
N38A Joes South For 45.22 308 P **P** **07 15 28.7 +1.1**
N38A IAmb IAmb 07 15 35.8
comp=Z,13nm,0.8s
U38A Gravette 45.37 302 P **P** **07 15 28.9 0.0**
Z38A Mt. Pleasant 45.55 297 P **P** **07 15 30.3 0.0**
E38A The Farm, Brul 45.63 316 P **P** **07 15 32.4 +1.6**
E38A IAmb IAmb 07 15 37.8
comp=Z,11nm,1.2s
TORD Torodi Ar. Bea 45.77 91 P **P** **07 15 30.9 -1.4**
comp=Z,3.8nm,0.9s,baz=293,slow=4.6,SNR=14
TORD LR LR 07 32 42.0
comp=Z,2μm,19.3s,baz=280,slow=34
TORD Torodi Ar. Bea 45.77 91 P **P** **07 15 30.2 -2.1**
PB11 IPOC Station P 46.15 212 P **P** **07 15 33.0 -2.3**
237A Washetta, Mont 46.19 295 P **P** **07 15 35.6 +0.2**
F36A Milaca 46.70 315 P **P** **07 15 39.0 -0.2**
F36A IAmb IAmb 07 15 48.1
comp=Z,5.3nm,0.8s
OK031 S. Brethren Rd 47.29 301 P **P** **07 15 44.4 +0.4**
KSU1 Kansas State U 47.47 305 P **P** **07 15 44.9 -0.4**
WHTX Lake Whitney, 47.59 295 P **P** **07 15 47.6 +1.3**
CPUP Villa Florida 47.62 194 P **P** **07 15 45.5 -1.0**
comp=Z,14nm,1.1s,baz=348,slow=5.3,SNR=6.1
CPUP Villa Florida 47.62 194 P **P** **07 15 45.4 -1.0**
CPUP Villa Florida 47.62 194 *eP* **P** **07 15 45.7 -0.8**
OK025 Westminster Rd 47.66 300 P **P** **07 15 46.6 -0.3**
BLOK Blackwell 47.67 302 P **P** **07 15 47.2 +0.3**
L34A Svendsen Farm, 47.77 303 P **P** **07 15 46.9 -0.8**
OK029 Liberty Lake 47.77 300 P **P** **07 15 47.8 0.0**
BCOK Bluff Creek, N 47.89 300 P **P** **07 15 49.5 +0.8**
CROK Carrier 48.26 301 P **P** **07 15 52.5 +1.0**
KAN14 Manchester OK 48.28 302 P **P** **07 15 52.2 +0.6**
KAN10 Anthony SW Sta 48.40 302 P **P** **07 15 53.2 +0.6**
OK032 Salt Plains WL 48.47 302 P **P** **07 15 53.4 +0.3**
WMOK Wichita Mounta 48.79 299 P **P** **07 15 55.9 +0.2**
WMOK IAmb IAmb 07 16 03.6
comp=Z,8.0nm,0.9s
AGMN Agassiz Nation 48.94 317 P **P** **07 15 57.4 +0.9**
AGMN IAmb IAmb 07 16 04.0
comp=Z,10nm,1.0s
R32A Long Quarter, 49.02 304 P **P** **07 15 57.4 0.0**
ABTX Abilene, Hawle 49.45 296 P **P** **07 16 01.5 +0.8**
ULM Lac du Bonnet 49.54 320 LR LR 07 33 49.2
comp=Z,890nm,21.6s,baz=114,slow=32
JCT Junction City 49.60 293 P **P** **07 16 01.9 0.0**
JCT IAmb IAmb 07 16 09.6
comp=Z,9.8nm,0.9s
CBKS Cedar Bluff 49.86 304 P **P** **07 16 03.6 -0.1**
KEST Kesra 50.37 60 P **P** **07 16 07.5 -0.3**
comp=Z,6.5nm,0.9s,baz=253,slow=3.9,SNR=5.1
KEST Kesra 50.37 60 P **P** **07 16 07.9 +0.1**
KEST IAmb IAmb 07 16 19.3
comp=Z,12nm,1.0s
ITQB Itaqui 50.70 192 P **P** **07 16 08.9 -1.0**
ITQB Itaqui 50.70 192 *eP* **P** **07 16 09.2 -0.7**
AMTX Amarillo 51.18 299 P **P** **07 16 13.3 -0.6**
OGNE Ogallala 51.83 307 P **P** **07 16 18.1 -0.6**
MSTX Muleshoe 52.07 298 P **P** **07 16 22.5 +1.9**
DAVA Damuels 52.17 45 *eP* **P** **07 16 21.2 0.0**
comp=Z,9.9nm,1.0s
SUMG Summit 52.55 3 P **P** **07 16 23.6 -0.3**
SUMG IAmb IAmb 07 16 23.7
comp=Z,15nm,1.2s
FETA Feichten 52.69 46 *eP* **P** **07 16 24.5 -0.5**
comp=Z,14nm,1.0s
ZAIG Zacatecas 52.75 284 P **P** **07 16 27.0 +1.0**
ZAIG IAmb IAmb 07 16 36.4
comp=Z,12nm,1.3s
RETA Reutte 52.80 45 *eP* **P** **07 16 25.1 -0.7**
comp=Z,5.9nm,1.1s
MOTA Moosalm 53.00 45 *eP* **P** **07 16 27.1 -0.2**
comp=Z,6.3nm,0.9s
TXAR Lajitas Array 53.01 292 P **P** **07 16 27.2 -0.4**
comp=Z,1.1nm,1.0s,baz=116,slow=5.7,SNR=6.1
TX31 Lajitas Ar. Si 53.01 292 P **P** **07 16 27.4 -0.1**
TX32 Lajitas Array 53.01 292 P **P** **07 16 27.6 0.0**
SQTA Sankt Quirin 53.05 46 *eP* **P** **07 16 27.3 -0.4**
comp=Z,17nm,0.8s
CTI Castel Tesino 53.16 47 P **P** **07 16 27.3 -1.2**
CTI IAmb IAmb 07 16 28.6
comp=Z,13nm,0.8s
WATA Walderalm 53.32 45 *eP* **P** **07 16 28.8 -0.9**
comp=Z,7.8nm,0.7s
WTTA Wattenberg 53.34 46 *eP* **P** **07 16 29.2 -0.7**
comp=Z,11nm,0.9s
ABTA Abfaltersbach 53.85 46 *eP* **P** **07 16 32.4 -1.1**
comp=Z,3.7nm,0.9s
SDCO Great Sand Dun 54.32 302 P **P** **07 16 37.1 -0.3**
MNTX Cornudas Mount 54.33 295 P **P** **07 16 35.7 -1.5**
ISCO Idaho Springs 54.47 305 P **P** **07 16 38.6 +0.2**
ISCO IAmb IAmb 07 16 48.8
comp=Z,9.6nm,1.4s
MYKA Terra Mystica 54.60 47 *eP* **P** **07 16 38.1 -0.9**
comp=Z,7.7nm,0.9s
GEC2 GERESS Array S 54.98 44 P **P** **07 16 40.7 -1.0**
GERES GERESS Array B 54.98 44 P **P** **07 16 40.7 -1.0**
comp=Z,1.9nm,0.9s,baz=251,slow=8.1,SNR=7.9
GERES GERESS Array B 54.98 44 P **P** **07 16 39.8 -1.9**
CLL Collm 54.98 41 *eP* **P** **07 16 41.0 -0.5**
comp=Z,5.0nm,0.8s
CLL *e* 07 16 48.0
CLL *eS* **S** **07 24 28.0 +4.5**
CLL *eSS* **SS** **07 28 12.0 +5.1**
CLL *eSSS* SSS 07 30 12.0
CLL Lm MLR 07 37 00.0
comp=Z,300nm,19.4s
HPIG 54.99 289 P **P** **07 16 43.5 +1.2**
HPIG IAmb IAmb 07 16 50.5
comp=Z,7.7nm,1.0s
ANMO Albuquerque 55.10 299 P **P** **07 16 42.0 -1.0**
comp=Z,1.6nm,0.9s,baz=54,slow=8.7,SNR=3.8
ANMO Albuquerque 55.10 299 P **P** **07 16 42.5 -0.4**
BNM Barren Site 55.27 298 P **P** **07 16 43.5 -0.7**
K22A Casper 55.32 308 P **P** **07 16 43.9 -0.4**
SMCO Snowmass 55.51 304 P **P** **07 16 45.8 -0.2**
ARSA Arzberg 55.96 46 *eP* **P** **07 16 47.8 -0.9**
comp=Z,6.1nm,1.1s
CONA Conrad Observa 56.27 45 *eP* **P** **07 16 50.1 -0.9**
comp=Z,2.4nm,0.7s
121A Cookes Peak, D 56.32 296 P **P** **07 16 51.1 -0.6**
121A IAmb IAmb 07 17 01.1
comp=Z,15nm,1.1s
O20A White River Ci 56.50 305 P **P** **07 16 54.9 +1.9**
O20A IAmb IAmb 07 17 02.0
comp=Z,16nm,1.2s
NB2 NORSAR Subarra 56.66 29 P **P** **07 16 52.5 -0.9**
comp=Z,55nm,2.5s,baz=251,slow=7.4
NB2 NORSAR Subarra 56.66 29 P **P** **07 16 52.5 -0.9**
baz=251,slow=7.4
NOA NORSAR Array B 56.66 29 P **P** **07 16 52.9 -0.6**
comp=Z,1.2nm,0.8s,baz=250,slow=7.3,SNR=5.9
MVCO Mesa Verde 56.71 302 P **P** **07 16 55.0 +0.6**
MVCO IAmb IAmb 07 17 03.9
comp=Z,9.7nm,1.2s
KRUC Moravsky 56.76 44 *eP* **P** **07 16 53.2 -1.1**
VRAC Vranov 56.92 44 *eP* **P** **07 16 54.2 -1.3**
RDMU Red Mountain 57.52 306 P **P** **07 16 59.3 -0.8**
RDMU IAmb IAmb 07 17 08.0
comp=Z,11nm,1.0s
BW06 Boulder Array 57.56 308 P **P** **07 16 58.8 -1.6**
BW06 IAmb IAmb 07 17 08.3
comp=Z,12nm,1.2s
PD31 Pinedale Array 57.56 308 P **P** **07 16 58.5 -1.9**
PD31 IAmb IAmb 07 17 08.3
comp=Z,10nm,1.1s
PDAR Pinedale Array 57.56 308 P **P** **07 16 59.6 -0.7**
comp=Z,0.6nm,0.8s,baz=107,slow=8.8,SNR=10
PDAR Pinedale Array 57.56 308 P **P** **07 16 59.5 -0.9**
MORC Moravsky Berou 57.59 43 ⇓P **P** **07 16 59.5 -0.8**
MORC Moravsky Berou 57.59 43 *eP* **P** **07 16 59.3 -1.0**
319A Douglas 57.68 295 P **P** **07 17 01.8 +0.5**
319A IAmb IAmb 07 17 10.1
comp=Z,9.4nm,1.2s
SRU San Rafael Swe 58.27 304 P **P** **07 17 04.9 -0.4**
SRU IAmb IAmb 07 17 13.5
comp=Z,7.6nm,1.0s
LOHW Long Hollow 58.35 309 P **P** **07 17 06.4 +0.5**
LOHW IAmb IAmb 07 17 13.4
comp=Z,6.9nm,1.1s
REDW Red Top Meadow 58.52 309 P **P** **07 17 06.8 -0.4**
REDW IAmb IAmb 07 17 14.8
comp=Z,13nm,1.4s
TPAW Teton Pass 58.60 309 P **P** **07 17 07.2 -0.6**
TPAW IAmb IAmb 07 17 16.1
comp=Z,16nm,1.4s
IMW Indian Meadow 58.60 310 P **P** **07 17 07.4 -0.3**
IMW IAmb IAmb 07 17 15.5
comp=Z,6.7nm,1.1s
FXWY Fox Creek 58.65 309 P **P** **07 17 07.2 -0.9**
AHID Auburn Hatcher 58.69 308 P **P** **07 17 07.1 -1.2**
AHID IAmb IAmb 07 17 15.6
comp=Z,9.9nm,1.2s
Q16A Castle Valley 58.77 304 P **P** **07 17 09.3 +0.3**
Q16A IAmb IAmb 07 17 17.0
comp=Z,10nm,1.3s
TMUT Trail Mountain 58.79 304 P **P** **07 17 08.1 -1.1**
TMUT IAmb IAmb 07 17 18.2
comp=Z,7.3nm,1.1s
YHL Hebgen Lake 58.80 311 P **P** **07 17 09.4 +0.3**
YHL IAmb IAmb 07 17 17.8
comp=Z,6.7nm,1.0s
TUC Tucson 58.86 296 P **P** **07 17 08.7 -0.8**
TUC IAmb IAmb 07 17 18.0
comp=Z,8.5nm,1.1s
OJC Ojcow 59.09 43 *eP* **P** **07 17 10.9 +0.2**
WUAZ Wupatki 59.10 300 P **P** **07 17 11.6 +0.4**
BOZ Bozeman (W) 59.14 312 P **P** **07 17 11.9 +0.6**
X16A Lo Mia Camp, P 59.23 299 P **P** **07 17 12.2 +0.1**
X16A IAmb IAmb 07 17 22.0
comp=Z,17nm,1.4s
NIE Niedzica 59.34 44 *eP* **P** **07 17 13.6 +1.1**
MSU Marysvale 59.58 303 P **P** **07 17 14.7 +0.2**
MVU Marysvale 59.60 303 P **P** **07 17 14.5 -0.3**
U15A North Rim 59.78 301 P **P** **07 17 15.5 -0.5**
U15A IAmb IAmb 07 17 25.0
comp=Z,7.3nm,1.1s
HVU Hansel Valley 59.94 307 P **P** **07 17 15.8 -1.0**
MCMT McKenzie Canyo 59.99 311 P **P** **07 17 15.7 -1.6**
DUG Dugway, Tooele 60.01 305 P **P** **07 17 16.3 -1.1**
DUG IAmb IAmb 07 17 25.4
comp=Z,11nm,1.1s
BZS Buzias 60.05 48 ⇑P **P** **07 17 18.0 +0.6**
MDVR Moldovita 60.11 49 ⇓P **P** **07 17 17.7 -0.2**
BGU Big Grassy Mou 60.15 306 P **P** **07 17 18.4 0.0**
CCUT Cedar City 60.56 302 P **P** **07 17 21.2 -0.2**
CCUT IAmb IAmb 07 17 30.0
comp=Z,8.9nm,1.1s
Y14A Wickenburg 60.56 298 P **P** **07 17 21.2 +0.1**
HERR Herculane 60.61 49 ⇑P **P** **07 17 21.2 0.0**
214A Organ Pipe Nat 60.61 296 P **P** **07 17 21.8 +0.3**
DRGR 60.84 47 ⇑P **P** **07 17 18.9 -3.9**
SRE Strehaia 61.17 49 ⇓P P 07 17 30.1 +5.0
SPR3 Spring Creek 3 61.23 304 P **P** **07 17 26.0 0.0**
ELK Elko 61.83 306 P **P** **07 17 29.1 -0.8**
comp=Z,1.5nm,0.7s,baz=57,slow=3.2
ELK Elko 61.83 306 P **P** **07 17 29.3 -0.6**
ELK IAmb IAmb 07 17 37.6
comp=Z,11nm,1.1s
PRN Pahroc Range 61.91 302 P **P** **07 17 30.8 +0.5**
PRN IAmb IAmb 07 17 39.4
comp=Z,6.7nm,1.1s
MFID Camas Ranch 62.15 309 P **P** **07 17 32.1 +0.3**
MFID IAmb IAmb 07 17 39.5
comp=Z,6.3nm,1.1s
ARR Arges 62.18 49 ⇑P **P** **07 17 31.6 -0.3**
PLID Pearl Lake 62.22 311 P **P** **07 17 32.0 -0.4**
PLID IAmb IAmb 07 17 37.4
comp=Z,9.9nm,1.5s
R11A Troy Canyon, C 62.26 303 P **P** **07 17 32.8 0.0**
R11A IAmb IAmb 07 17 40.9
comp=Z,5.7nm,1.1s
BURAR Bucovina Array 62.55 46 P **P** **07 17 32.9 -1.5**
TPNV Topopah Spring 62.91 302 P **P** **07 17 36.7 -0.4**
TPNV IAmb IAmb 07 17 46.7
comp=Z,9.6nm,1.3s
NEW Newport 62.95 315 P **P** **07 17 36.0 -0.9**
NEW IAmb IAmb 07 17 44.7
comp=Z,8.0nm,0.9s
MLR Muntele Rosu 63.09 48 ⇓P **P** **07 17 38.5 +0.4**
MLR Muntele Rosu 63.09 48 ⇑P **P** **07 17 37.7 -0.4**
BIZ Bicaz 63.16 47 ⇑P **P** **07 17 36.3 -2.1**
BMN Battle Mountai 63.36 306 P **P** **07 17 39.4 -0.6**
BMN IAmb IAmb 07 17 47.7
comp=Z,6.9nm,1.2s
QSM Queen of Sheba 63.51 301 P **P** **07 17 39.8 -1.1**
GSC Goldstone, Bar 63.53 300 P **P** **07 17 39.7 -1.5**
GSC IAmb IAmb 07 17 49.7
comp=Z,6.3nm,1.1s
TPH Tonopah 63.57 303 P **P** **07 17 41.0 -0.4**
VRI Vrincioaia 63.63 48 ⇓P **P** **07 17 43.3 +1.8**
E09A Wood Farm, Sta 63.68 313 P **P** **07 17 40.9 -0.9**
E09A IAmb IAmb 07 17 49.3
comp=Z,10nm,1.0s
FINES FINESS Array B 63.74 31 P **P** **07 17 40.2 -1.7**
comp=Z,2.4nm,0.8s,baz=298,slow=6.0,SNR=2.4
FINES FINESS Array B 63.74 31 P **P** **07 17 41.6 -0.2**
KVN Kaiserville 64.15 304 P **P** **07 17 44.8 -0.5**
D08A Wollman Farm, 64.19 313 P **P** **07 17 46.2 +1.0**
D08A IAmb IAmb 07 17 50.7
comp=Z,7.1nm,1.1s
NVAR Mina Array Bea 64.38 304 P **P** **07 17 45.8 -1.0**
comp=Z,0.3nm,0.6s,baz=86,slow=5.5,SNR=2.9
RYN Ryan 64.53 304 P **P** **07 17 47.9 +0.2**
RYN IAmb IAmb 07 17 55.3
comp=Z,6.9nm,1.1s
HAWA Hanford 64.64 313 P **P** **07 17 51.3 +3.2**
ARCES ARCESS Array B 64.66 22 P **P** **07 17 47.3 -0.5**
comp=Z,4.6nm,0.8s,baz=298,slow=7.8,SNR=6.3
ARCES ARCESS Array B 64.66 22 IAmb IAmb 07 17 49.6
comp=Z,36nm,1.4s
ISA Isabella, Lake 64.84 301 P **P** **07 17 50.0 +0.3**
PLCA Paso Flores 64.89 201 *eP* **P** **07 17 51.6 +1.9**
MDPB Devils Postpil 65.08 303 P **P** **07 17 51.5 0.0**
MDPB IAmb IAmb 07 18 00.2
comp=Z,6.0nm,1.0s
AKASG Malin Array Be 65.12 43 P **P** **07 17 49.6 -1.5**
comp=Z,3.5nm,0.8s,baz=274,slow=5.8,SNR=9.3
AKASG Malin Array Be 65.12 43 IAmb IAmb 07 17 51.2
comp=Z,1.3nm,1.1s
LLLB Lillooet 65.98 317 P **P** **07 17 55.5 -1.3**
LLLB IAmb IAmb 07 18 02.5
comp=Z,10nm,1.1s
ELL Elmali 66.89 58 P **P** **07 18 02.9 -0.1**
BR131 Keskin Array S 69.33 54 P **P** **07 18 17.1 -1.1**
BR131 IAmb IAmb 07 18 18.8
comp=Z,4.5nm,0.9s
BRTR Keskin Array B 69.33 54 P **P** **07 18 17.8 -0.4**
comp=Z,2.0nm,0.8s,baz=256,slow=5.0,SNR=10
BRTR Keskin Array B 69.33 54 P **P** **07 18 17.5 -0.7**
IL31 76.60 334 P **P** **07 18 59.6 -1.0**
IL31 IAmb IAmb 07 19 09.5
comp=Z,17nm,1.5s
ILAR Eielson Array 76.60 334 P **P** **07 19 00.1 -0.6**
comp=Z,2.7nm,0.9s,baz=70,slow=4.8,SNR=19
ILAR LR LR 07 52 21.4
comp=Z,442nm,18.9s,baz=84,slow=35
ILAR Eielson Array 76.60 334 P **P** **07 18 59.9 -0.8**
CCB Clear Creek Bu 77.02 334 P **P** **07 19 02.2 -0.8**
CCB IAmb IAmb 07 19 10.6
comp=Z,8.9nm,1.1s
MDM Murphy Dome 77.08 335 P **P** **07 19 02.9 -0.5**
MDM IAmb IAmb 07 19 03.4
comp=Z,13nm,1.4s
AKTO Aktyubinsk 83.00 39 LR LR 07 53 58.9
comp=Z,256nm,20.2s,baz=284,slow=34
BOSA Boshof 83.88 123 P **P** **07 19 39.5 -1.1**
comp=Z,5.8nm,0.9s,baz=317,slow=4.8,SNR=6.4
BOSA LR LR 07 48 53.1
comp=Z,521nm,21.0s,baz=334,slow=30
ABKAR Akbulak array 84.62 39 P **P** **07 19 43.6 -0.4**
TAOE Nuku Hiva Isla 97.19 263 *eLR* LR 07 52 15.6
comp=Z,284nm,33.4s
PPT2 Papeete2 108.58 258 *eSS* SS 07 41 23.7 +0.6
comp=Z,144nm,28.0s
PPT2 Papeete2 108.58 258 *eLR* LR 07 57 32.9
comp=Z,193nm,29.2s
LZH Lanzhou 117.02 27 *ePKP* **PKPdf** **07 25 52.0 -4.0**
CMAR Chiang Mai Arr 128.22 44 PKP **PKPdf** **07 26 16.8 -1.0**
comp=Z,1.4nm,0.8s,baz=284,slow=2.6,SNR=5.6
DZM Mont Dzumac 150.03 261 *eSS* SS 07 49 56.3 +1.6
comp=Z,102nm,27.6s
DZM Mont Dzumac 150.03 261 *eLR* LR 08 16 41.8
comp=Z,212nm,27.3s

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*IDC **28** 07:10:42.1±2.0,30.°49S×71.°93W,h0km,mb3.9/2,*
mb1 3.8/7,mb1mx3.6/42,mbtmp3.7/7,ML3.6/5,MS3.4/1,
Ms1 3.4/1,ms1mx2.8/24,Error ellipse: s-maj=59.8km
s-min=29.8km az=105.0
*NEIC **28** 07:10:42.9±1.3,30.°47S±0.°05×72.°13W±0.°06,h18km±2km,*
mb4.3/6,ML4.0(GUC),Error ellipse: s-maj=7.9km
s-min=5.8km az=53.0
*GUC **28** 07:10:44.1±0.6,30.°48S×72.°00W,h27km±3km,ML4.0*

ISC 28 07:10:43.2±1.3,30.°48S±0.°04×72.°13W±0.°06,h19km±4km,
n57,σ0.°90/60,mb4.2/3,1C-4D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.47**	**115**	⇓*iP*		**Pb**	**07 10 52.8**	**0.0**
CO06				*i* S		**Sg**	**07 10 59.2**	**0.0**
CO06				IAML			07 11 04.4	
	comp=N,9μm,0.4s							
CO06	**Fray Jorge**	**0.47**	**115**			**Pb**	**07 10 52.8**	**0.0**
CO06				Sg		**Sg**	**07 10 59.2**	**0.0**
CO05	**La Serena**	**0.95**	**54**	⇓*iP*		**Pb**	**07 11 00.6**	**-0.3**
CO05				*i* S		**Sb**	**07 11 13.3**	**+0.1**
CO05				IAML			07 11 17.9	
	comp=E,10μm,0.5s							
CO05	**La Serena**	**0.95**	**54**	Pn		**Pb**	**07 11 00.7**	**-0.3**
GO04	**Tololo Observa**	**1.19**	**75**	⇓*iP*		**Pn**	**07 11 04.6**	**-0.3**
GO04				*i* S		**Sg**	**07 11 21.1**	**-0.7**
GO04	**Tololo Observa**	**1.19**	**75**	Pn		**Pn**	**07 11 04.7**	**-0.3**
CO02	**Combarbal**	**1.21**	**127**	*eP*		**Pb**	**07 11 05.3**	**-0.2**
CO02				*i* S		**Sb**	**07 11 21.0**	**+0.2**
CO02				IAML			07 11 22.9	
	comp=N,12μm,0.4s							
CO02	**Combarbal**	**1.21**	**127**	Pn		**Pn**	**07 11 03.9**	**-1.3**
CO03	**El Pedregal**	**1.29**	**106**	⇓*iP*		**Pn**	**07 11 06.2**	**0.0**
CO03				*i* S		**Sb**	**07 11 23.3**	**+0.2**
CO03				IAML			07 11 27.3	
	comp=E,5μm,0.3s							
CO03	**El Pedregal**	**1.29**	**106**	Pn		**Pn**	**07 11 06.2**	**0.0**
LCO	**Las Campanas**	**1.92**	**41**	⇑*iP*		**Pn**	**07 11 15.1**	**+0.1**
LCO				*i* S		**Sn**	**07 11 39.3**	**+0.5**
LCO	**Las Campanas**	**1.92**	**41**			**Pn**	**07 11 15.7**	**+0.6**
VA06	**Catapilco**	**2.19**	**161**	*eP*		**Pn**	**07 11 19.4**	**+0.8**
VA06				*i* S		**Sb**	**07 11 47.5**	**-1.5**
VA06				IAML			07 12 07.5	
	comp=E,2μm,0.8s							
AC04	**Llanos de Chal**	**2.45**	**22**	*eP*		**Pn**	**07 11 21.5**	**-0.5**
AC04	**Llanos de Chal**	**2.45**	**22**			**Pn**	**07 11 21.6**	**-0.5**
VA01	**Torpederas**	**2.57**	**171**	Pn		**Pn**	**07 11 23.2**	**-0.5**
VA03	**San Esteban**	**2.65**	**150**	Pn		**Pn**	**07 11 24.2**	**-0.6**
MT05	**Renca**	**3.13**	**158**	Pn		**Pn**	**07 11 31.1**	**-0.5**
ZON	**Zonda**	**3.15**	**111**	Pn		**Pn**	**07 11 30.2**	**-1.5**
VA05	**Santo Domingo**	**3.20**	**172**	Pn		**Pn**	**07 11 32.4**	**+0.1**
GO03	**Copiap**	**3.32**	**30**	Pn		**Pn**	**07 11 33.7**	**-0.4**
MT09	**Talagante**	**3.43**	**164**	Pn		**Pn**	**07 11 36.0**	**+0.4**
MT01	**Popeta**	**3.46**	**168**	Pn		**Pn**	**07 11 35.6**	**-0.4**
BO01	**Tunca**	**4.00**	**168**	Pn		**Pn**	**07 11 42.5**	**-1.0**
BO02	**Sierra Bellavi**	**4.45**	**166**	Pn		**Pn**	**07 11 50.4**	**+0.7**
AC02	**Maricunga**	**4.49**	**37**			**Pn**	**07 11 49.0**	**-1.5**
GO05	**Huala**	**4.52**	**178**	Pn		**Pn**	**07 11 50.2**	**-0.4**
ML02	**Panimavida**	**5.30**	**174**	Pn		**Pn**	**07 12 01.4**	**+0.1**
PB14	**IPOC Station P**	**6.03**	**15**	Pn		**Pn**	**07 12 10.2**	**-1.4**
H03N1	**Juan Fernandez**	**6.48**	**241**	T	T		07 19 24.0	
	baz=70,slow=72,SNR=134							
H03N2	**Juan Fernandez**	**6.49**	**241**	T	T		07 19 25.8	
	baz=70,slow=72,SNR=171							
H03N3	**Juan Fernandez**	**6.49**	**241**	T	T		07 19 23.9	
	baz=70,slow=72,SNR=168							
PB04	**IPOC Station P**	**8.30**	**13**	Pn		**Pn**	**07 12 40.8**	**-1.9**
LVC	**Limon Verde**	**8.35**	**21**	Pn		**Pn**	**07 12 41.7**	**-1.8**
	comp=E,0.3nm,0.3s,baz=232,slow=18,SNR=1.2							
PB07	**IPOC Station P**	**8.95**	**14**	Pn		**Pn**	**07 12 51.4**	**-0.1**
PB09	**IPOC Station P**	**9.03**	**17**	Pn		**Pn**	**07 12 52.0**	**-0.7**
PB01	**IPOC Station P**	**9.69**	**15**	Pn		**Pn**	**07 13 00.3**	**-1.4**
PLCA	**Paso Flores**	**10.31**	**173**	Pn		**Pn**	**07 13 10.1**	**0.0**
	comp=E,0.1nm,0.3s,baz=345,slow=11,SNR=5.3							
PLCA	**Paso Flores**	**10.31**	**173**			**Pn**	**07 13 09.6**	**-0.5**
PB11	**IPOC Station P**	**10.90**	**12**	Pn		**Pn**	**07 13 17.9**	**-0.4**
PSGCX	**Pisagua**	**10.99**	**10**	Pn		**Pn**	**07 13 17.2**	**-2.2**
TRQA	**Tornquist**	**11.29**	**135**			**Pn**	**07 13 22.9**	**-0.6**
ITQB	**Itaqui**	**13.45**	**90**	Pn		**Pn**	**07 13 52.5**	**-0.5**
CPUP	**Villa Florida**	**13.66**	**76**	Pn		**Pn**	**07 13 56.2**	**+0.4**
	comp=E,0.1nm,0.3s,baz=214,slow=9,SNR=1.9							
CPUP				LR		LR	07 19 31.8	
	comp=E,172nm,19.8s,baz=273,slow=39							
LPAZ	**La Paz**	**14.59**	**15**	Pn		**Pn**	**07 14 10.7**	**+1.4**
	comp=E,0.1nm,0.3s,baz=180,slow=12,SNR=1.8							
LPAZ	**La Paz**	**14.59**	**15**	Pn		**Pn**	**07 14 08.8**	**-0.5**
SIV	**San Ignacio**	**17.62**	**38**	P		**P**	**07 14 48.8**	**+0.1**
	comp=E,0.4nm,0.3s,baz=237,slow=13,SNR=12							
BDFB	**Brasilia**	**26.57**	**62**	P		**P**	**07 16 20.4**	**+0.2**
	comp=E,1.6nm,0.7s,baz=200,slow=12,SNR=1.5							
BDFB	**Brasilia**	**26.57**	**62**	IAmb	IAmb		07 16 24.8	
	comp=Z,10nm,1.5s							
SNAA	**Sanae**	**54.88**	**159**	P		**P**	**07 20 12.4**	**+0.5**
SNAA				IAmb	IAmb		07 20 27.9	
	comp=Z,3.4nm,1.2s							

QSPA	South Pole Qui	59.75	180	P		P		07 20 47.0	+0.5
TXAR	Lajitas Array	66.64	330	P		P		07 21 32.0	-0.5
TORD	Torodi Ar. Bea	83.09	70	P		P		07 23 08.9	+1.0
	comp=Z,1.0nm,0.9s,baz=270,slow=3.8,SNR=4.2								
TORD	Torodi Ar. Bea	83.09	70	IAmb		IAmb		07 23 23.9	
	comp=Z,3.4nm,1.2s								
AAK	Ala-Archa	150.76	56	PKPbc		PKiKP		07 30 36.4	+1.5
	comp=Z,0.7nm,0.3s,baz=234,slow=2.2,SNR=3.9								
AAK	Ala-Archa	150.76	56			PKPbc		07 30 32.0	-2.2
ZALV	Zalesovo Beam	151.24	29	PKPbc		PKiKP		07 30 36.9	+1.7
	comp=Z,2.0nm,0.3s,baz=290,slow=3.4,SNR=0.7								

*TUL **28** 07:18:54.6±1.5, 36.85N±0.01×98.22W±0.02, h5km±5km, ML2.9, mb_Lg2.8/63(NEIC), Error ellipse: s-maj=2.2km s-min=1.6km az=110.0*

NEIC 28 07:18:54.9±1.1, 36.836N±0.009×98.23W±0.02, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.4km az=68.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK032	Salt Plains WL	0.04	152		Pg	07 18 56.3	+0.3
OK032				Sg	Sg	07 18 57.5	+0.6
KAN14	Manchester OK	0.25	61		Pg	07 18 59.8	+0.1
KAN14				Sg	Sg	07 19 03.3	+0.3
GC02	Grant County #	0.30	87		Pg	07 19 00.8	+0.1
GC02				Sg	Sg	07 19 05.1	+0.5
KAN10	Anthony SW Sta	0.31	21		Pg	07 19 00.8	0.0
KAN10				Sg	Sg	07 19 03.6	-1.3
CROK	Carrier	0.39	149		Pg	07 19 02.6	+0.3
CROK				Sg	Sg	07 19 08.3	+0.9
KAN05	Bluff City Nor	0.40	47		Pg	07 19 02.6	0.0
KAN05				Sg	Sg	07 19 08.0	+0.3
KAN16	Harper SW Stat	0.41	19	Pg	Pg	07 19 02.7	-0.1
KAN16				Sg	Sg	07 19 08.4	+0.2
KAN17	Caldwell West	0.43	61		Pg	07 19 03.1	-0.1
KAN17				Sg	Sg	07 19 07.2	-1.5
KAN08	Anthony NE Sta	0.44	28		Pg	07 19 03.3	-0.1
KAN08				Sg	Sg	07 19 09.4	+0.2
KAN12	Harper NE Stat	0.50	22		Pg	07 19 04.3	-0.1
KAN12				Sg	Sg	07 19 11.3	+0.4
KAN06	Argonia West S	0.51	36		Pg	07 19 04.5	-0.1
KAN06				Sg	Sg	07 19 11.4	+0.1
KAN09	Caldwell North	0.57	58		Pg	07 19 05.3	-0.7
KAN09				Sg	Sg	07 19 13.6	+0.2
KAN13	South Haven SW	0.63	74		Pg	07 19 06.7	-0.2
KAN13				Sg	Sg	07 19 15.0	-0.1
KS20	Mayfield South	0.67	54		Pg	07 19 06.9	-0.8
KS20				Sg	Sg	07 19 16.4	-0.1
U32A	Winter Ranch,	0.77	234		Pg	07 19 09.6	0.0
U32A				Sg	Sg	07 19 20.3	+0.7
BLOK	Blackwell	0.82	95		Pg	07 19 10.0	-0.6
BLOK				Sg	Sg	07 19 21.1	-0.1
OK029	Liberty Lake	1.21	149		Pg	07 19 17.4	-0.7
OK029				Sg	Sg	07 19 34.0	+0.1
BCOK	Bluff Creek, N	1.28	157		Pg	07 19 17.9	-1.5
BCOK				Sg	Sg	07 19 35.6	-0.4
T35A	Sooner Cattle	1.38	86	Pn	Pn	07 19 20.3	-0.6
QUOK	Quay	1.40	118		Pn	07 19 20.4	-0.6
OK031	S. Brethren Rd	1.43	128		Pn	07 19 20.4	-1.1
OK025	Westminster Rd	1.45	150		Pn	07 19 21.1	-0.6
OK025				IAmb_Lg		07 19 42.9	
	comp=Z,63nm,0.8s						
OK030	Cody Creek RV	1.48	127		Pn	07 19 21.5	-0.7
OKCFA	Oklahoma City	1.55	156		Pn	07 19 22.7	-0.4
OKCFA				IAmb_Lg		07 19 47.7	
	comp=Z,64nm,0.7s						
OKCSW	OKLAHOMA CITY	1.57	156		Pn	07 19 23.3	-0.1
R32A	Long Quarter,	1.63	347		Pn	07 19 24.5	+0.2
FNO	Franklin	1.71	157		Pn	07 19 25.6	+0.2
WMOK	Wichita Mounta	2.14	192		Pn	07 19 31.6	+0.3
TUL1	Leonard	2.17	114		Pb	07 19 33.3	-1.4
X34A	Smith Ranch, M	2.25	172	Pn	Pb	07 19 34.8	-1.2
CBKS	Cedar Bluff	2.31	329	Pn	Pn	07 19 33.5	-0.1
KSU1	Kansas State U	2.60	29	Pn	Pn	07 19 37.9	+0.3
KSU1				IAmb_Lg		07 20 17.2	
	comp=Z,38nm,1.0s						
U38A	Gravette	3.12	96		Pn	07 19 45.2	+0.5
X37A	Clayton	3.23	133	Pn	Pn	07 19 47.4	+1.1
X37A				IAmb_Lg		07 20 42.8	
	comp=Z,37nm,1.1s						
AMTX	Amarillo	3.41	236	Pn	Pn	07 19 49.5	+0.6
AMTX				IAmb_Lg		07 20 44.8	
	comp=Z,28nm,1.0s						
HHAR	Hobbs	3.50	98		Pn	07 19 50.3	+0.4
HHAR				IAmb_Lg		07 20 49.7	
	comp=Z,21nm,0.8s						
Z35A	Perchaven, San	3.59	167	Pn	Pn	07 19 52.8	+1.7
Z35A				IAmb_Lg		07 20 52.6	
	comp=Z,21nm,1.1s						
W39A	Magazine	3.96	113	IAmb_Lg		07 21 01.9	
	comp=Z,24nm,0.8s						
S39A	Bolivar	4.01	76		Pn	07 19 56.2	-0.7
ABTX	Abilene, Hawle	4.36	196	IAmb_Lg		07 21 14.8	
	comp=Z,16nm,1.1s						
MIAR	Mount Ida	4.42	120	IAmb_Lg		07 21 26.3	
	comp=Z,17nm,0.8s						
Z38A	Mt. Pleasant	4.45	142	IAmb_Lg		07 21 20.3	
	comp=Z,18nm,0.7s						
BGNE	Belgrade	4.57	1	IAmb_Lg		07 21 30.3	
	comp=Z,24nm,0.8s						
P38A	Dawn	4.63	52	IAmb_Lg		07 21 30.8	
	comp=Z,15nm,0.8s						
MSTX	Muleshoe	4.68	234	IAmb_Lg		07 21 30.6	
	comp=Z,13nm,1.0s						
WHTX	Lake Whitney,	4.88	172	IAmb_Lg		07 21 35.4	
	comp=Z,12nm,1.0s						
R40A	Maddies Statio	4.96	71	Pn	Pn	07 20 09.3	-0.6
T25A	Trinidad	4.96	275	Pn	Pn	07 20 09.6	-0.5
X40A	Basin Creek Fa	4.98	116	IAmb_Lg		07 21 37.8	
	comp=Z,13nm,0.8s						
FCAR	Ozark Folk Cen	5.02	99	Pn	Pn	07 20 10.9	+0.1
WHAR	Wooly Hollow	5.06	106	Pn	Pn	07 20 10.9	-0.4
WHAR				IAmb_Lg		07 21 42.3	
	comp=Z,12nm,0.8s						
OGNE	Ogallala	5.06	325	Pn	Pn	07 20 10.8	-0.6
OGNE				IAmb_Lg		07 21 33.3	
	comp=Z,21nm,0.7s						
Z37A	Washetta, Mont	5.22	157	Pn	Pn	07 20 13.8	+0.2
Z37A				IAmb_Lg		07 21 53.4	
	comp=Z,22nm,1.1s						
WLAR	White Oak Lake	5.24	125	IAmb_Lg		07 21 51.1	
	comp=Z,21nm,0.7s						
P40A	Paris	5.56	59	IAmb_Lg		07 21 55.6	
	comp=Z,13nm,0.8s						
CCM	Cathedral Cave	5.69	76	IAmb_Lg		07 22 09.1	
	comp=Z,13nm,1.1s						
T42A	Van Buren	5.72	86	IAmb_Lg		07 22 04.5	
	comp=Z,16nm,1.3s						
CCAR	Cane Creek	6.03	117	IAmb_Lg		07 22 18.2	
	comp=Z,18nm,1.0s						
PBMO	Poplar Bluff	6.26	88	IAmb_Lg		07 22 23.2	
	comp=Z,14nm,0.7s						
143A	Socs Landing,	6.97	124	IAmb_Lg		07 22 48.4	
	comp=Z,15nm,0.8s						
PHWY	Pilot Hill	7.17	311	IAmb_Lg		07 22 43.5	
	comp=Z,8.2nm,0.9s						
S44A	Carbondale	7.21	80	IAmb_Lg		07 22 45.7	
	comp=Z,11nm,0.8s						
P43A	Skaggs, Pawnee	7.41	65	IAmb_Lg		07 22 56.8	
	comp=Z,12nm,0.8s						
L40A	Anamosa	7.53	44	IAmb_Lg		07 23 02.7	
	comp=Z,9.9nm,0.8s						
Y45A	Yeager Farm, C	7.69	110	Pn	Pn	07 20 46.4	-1.1
MNTX	Cornudas Mount	7.83	231	Pn	Pn	07 20 47.5	-2.0
HDIL	Hopedale	7.91	59	Pn	Pn	07 20 50.5	0.0
HDIL				IAmb_Lg		07 23 17.9	
	comp=Z,13nm,0.7s						
L42A	Oliver, Polo	8.40	49	IAmb_Lg		07 23 21.6	
	comp=Z,11nm,0.8s						
JFWS	Jewell Farm	8.63	43	Pn	Pn	07 20 59.2	-1.1
JFWS				IAmb_Lg		07 23 26.5	
	comp=Z,9.6nm,0.7s						
TX31	Lajitas Ar. Si	8.76	213	Pn	Pn	07 21 01.0	-1.3

MEX 28 07:18:56.4±1.0, 24.96N×109.46W, h16km±30km, MD3.6, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSIG	Topolobambo	0.74	30	*i* P	Pg	07 19 08.2	-2.8
TSIG				*i* S	Sg	07 19 17.4	-3.4
LPIG	La Paz	1.15	223	*e*P	Pn	07 19 14.0	-3.8
LPIG				*i* S	Sb	07 19 27.3	-5.2
CSIG	Choix	2.11	27	*e*P	Pn	07 19 28.6	-2.4
CSIG				*i* S	Sn	07 19 53.5	-3.4

*MDD **28** 07:25:09.0±0.8, 34.83N×12.04W, h40km, mb4.5/7, Error ellipse: s-maj=19.0km s-min=6.5km az=143.0, PRXIMO*
*IGIL **28** 07:25:09.3, 34.89N×12.11W, h33km, ML2.6*
*INMG **28** 07:25:10.0±1.4, 34.84N×12.01W, h32km±9km, ML2.7, Error ellipse: s-maj=6.9km s-min=3.4km az=131.0*
*CNRM **28** 07:25:16.3, 34.72N×11.25W, h46km, ml3.4*

ISC 28 07:25:08.2±2.0, 34.82N±0.05×11.81W±0.10, h35km, n66, σ2.21/109, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	Vila Bisbo	3.34	46	P	Pn	07 26 00.1	+2.1
	10nm,0.1s,SNR=7.9						
PFVI				S	Sn	07 26 36.6	+0.2
	24nm,0.1s,SNR=11						
PFVI	Vila Bisbo	3.34	46	*e*P	Pn	07 26 00.1	+2.1
PFVI				*e*S	Sn	07 26 36.5	+0.1
PFVI				A	A	07 26 38.2	
	12nm,0.3s						
MORF	Marmelete	3.56	45	*e*S	Sn	07 26 42.2	+0.2
MORF				IAML		07 26 44.0	
	comp=N,20nm,0.3s						
MORF	Marmelete	3.56	45	P	Pn	07 26 03.4	+2.3
MORF				S	Sn	07 26 42.4	+0.4
	comp=N,16nm,0.1s						
MORF	Marmelete	3.56	45	*e*P	Pn	07 26 03.4	+2.3
MORF				*e*S	Sn	07 26 42.4	+0.4
MORF				A	A	07 26 47.8	
	comp=N,16nm,0.1s						
EAH	EAH	3.67	149	P	Pn	07 26 04.5	+1.9
EAH				S	Sn	07 26 43.3	-1.3
AVE	Averroes	3.95	111	S	Sn	07 26 52.9	+1.3
PBDV	Barranco-do-Ve	3.96	51	P	Pn	07 26 09.4	+2.8
PBDV				S	Sn	07 26 52.0	+0.2
	comp=N,5.5nm,0.1s						
PBDV	Barranco-do-Ve	3.96	51	*e*P	Pn	07 26 09.4	+2.8
PBDV				*e*S	Sn	07 26 52.0	+0.2
PBDV				A	A	07 27 01.0	
	comp=N,5.5nm,0.1s						
PMPST	Porto Santo, M	4.14	246	*e*P	Pn	07 26 06.2	-2.8
PMPST				*e*S	Sn	07 26 48.5	-7.7
PCVE	Castro Verde	4.14	46	P	Pn	07 26 11.4	+2.4
PCVE				S	Sn	07 26 56.7	+0.5
	comp=N,8.9nm,0.3s						
PCVE	Castro Verde	4.14	46	*e*P	Pn	07 26 11.4	+2.4
PCVE				*e*S	Sn	07 26 56.7	+0.5
PCVE				A	A	07 26 58.4	
	comp=N,8.9nm,0.3s						
PMPS	Porto Santo	4.15	246	P	Pn	07 26 06.2	-2.9
PMPS				S	Sn	07 26 48.5	-7.9
MESJ	Messejana	4.18	43	*e*P	Pn	07 26 11.2	+1.7
MESJ				*e*S	Sn	07 26 56.2	-0.8
MESJ				IAML		07 26 57.3	
	comp=E,7.8nm,0.2s						
MESJ	Messejana	4.18	43	P	Pn	07 26 11.7	+2.2
MESJ				S	Sn	07 26 56.7	-0.4
	comp=E,5.3nm,0.1s						
MESJ	Messejana	4.18	43	*e*P	Pn	07 26 11.7	+2.2
MESJ				*e*S	Sn	07 26 56.7	-0.4
MESJ				A	A	07 26 59.6	
	comp=E,5.3nm,0.1s						
PVAQ	Vaqueiros	4.20	51	P	Pn	07 26 11.9	+2.2
PVAQ				S	Sn	07 26 57.3	-0.2
	comp=E,13nm,0.1s						
PVAQ	Vaqueiros	4.20	51	*e*P	Pn	07 26 11.9	+2.2
PVAQ				*e*S	Sn	07 26 57.3	-0.2
PVAQ				A	A	07 26 59.6	
	comp=E,13nm,0.1s						
PVAQ	Vaqueiros	4.20	51	P	Pn	07 26 11.9	+2.2
PVAQ				S	Sn	07 26 57.7	+0.2
PNCL	Nicolau / Gran	4.22	38	P	Pn	07 26 11.6	+1.6
PNCL				S	Sn	07 26 57.0	-1.0
	comp=E,11nm,0.4s						
PNCL	Nicolau / Gran	4.22	38	*e*P	Pn	07 26 11.6	+1.6
PNCL				*e*S	Sn	07 26 57.0	-1.0
PNCL				A	A	07 27 00.9	
	comp=E,11nm,0.4s						
EGRO	El Granado	4.42	51	P	Pn	07 26 15.3	+2.5
	comp=E,0.9nm,0.1s,SNR=7.9						
EGRO				S	Sn	07 27 02.9	-0.2
	comp=E,14nm,0.2s,SNR=9.0						
ZHG	ZHG	4.50	106	P	Pn	07 26 16.2	+2.2
ZHG				S	Sn	07 27 01.2	-4.0
PMAFR	Mafra	4.60	25	P	Pn	07 26 16.2	+1.1
	comp=E,2.4nm,0.1s,SNR=7.9						
PMAFR				S	Sn	07 27 05.0	-2.4
	comp=E,16nm,0.1s,SNR=14						
PMAFR	Mafra	4.60	25	*e*P	Pn	07 26 16.3	+1.1
PMAFR				*e*S	Sn	07 27 05.8	-1.6
PMAFR				A	A	07 27 07.4	
	comp=E,24nm,0.2s						
EVO	Evora	4.80	38	S	Sn	07 27 11.3	-1.0
EVO	Evora	4.80	38	*e*S	Sn	07 27 11.3	-1.0
OUK	Oukaimeden	4.89	136	P	Pn	07 26 22.5	+2.8
OUK				S	Sn	07 27 13.9	-1.3
PMOZ	Porto Moniz, M	4.91	248	P	Pn	07 26 17.7	-1.8
	comp=E,18nm,0.3s,SNR=7.9						
PMOZ				S	Sn	07 27 08.5	-6.7
	comp=E,321nm,1.1s,SNR=7.9						
RSA	Sarsar	4.92	88	P	Pn	07 26 22.3	+2.5
RSA				S	Sn	07 27 13.7	-1.9
EMIN	Mina Concepcio	5.09	53	P	Pn	07 26 24.1	+2.2
	comp=E,0.6nm,0.1s,SNR=7.9						
EMIN				S	Sn	07 27 18.6	-0.8
	comp=E,1.6nm,0.1s,SNR=7.9						
PBAR	Barrancos	5.10	48	P	Pn	07 26 24.0	+1.9
PBAR				S	Sn	07 27 19.4	-0.3
	comp=E,3.0nm,0.2s						
PBAR	Barrancos	5.10	48	*e*P	Pn	07 26 24.0	+1.9
PBAR				*e*S	Sn	07 27 19.4	-0.3
PBAR				A	A	07 27 24.5	
	comp=E,3.0nm,0.2s						
PMTG	Montargil	5.12	33	P	Pn	07 26 23.8	+1.4
PMTG				S	Sn	07 27 18.3	-1.9
	comp=E,5.0nm,0.1s						
PMTG	Montargil	5.12	33	*e*P	Pn	07 26 23.8	+1.4
PMTG				*e*S	Sn	07 27 18.3	-1.9
PMTG				A	A	07 27 20.6	
	comp=E,5.0nm,0.1s						
ESPR	Espera	5.25	65	P	Pn	07 26 24.3	+0.1
	comp=E,2.5nm,0.2s,SNR=7.9						
ESPR				S	Sn	07 27 22.5	-1.0
	comp=E,17nm,0.2s,SNR=7.9						
PSBE	So Bento	5.27	26	*e*P	Pn	07 26 25.7	+1.3
PSBE				*e*S	Sn	07 27 23.2	-0.7
PESTR	Estremoz	5.27	39	*e*S	Sn	07 27 22.4	-1.5
PESTR				A	A	07 27 28.4	
	comp=E,4.0nm,0.3s						
SMIR	Smir Dam	5.33	79	P	Pn	07 26 27.9	+2.6
SMIR				S	Sn	07 27 19.4	-6.0
EBAD	Badajoz	5.50	43	P	Pn	07 26 29.5	+1.9
	comp=E,1.3nm,0.1s,SNR=8.1						
EBAD				S	Sn	07 27 28.2	-1.4
	comp=E,11nm,0.2s,SNR=5.4						
IFR	Ifrane	5.69	101	P	Pn	07 26 32.9	+2.5
IFR				S	Sn	07 27 32.1	-2.5
PMRV	Marv??o	5.80	36	P	Pn	07 26 33.1	+1.4
PMRV				S	Sn	07 27 34.4	-2.6
	comp=E,3.3nm,0.2s						
PMRV	Marv??o	5.80	36	*e*P	Pn	07 26 33.1	+1.4
PMRV				*e*S	Sn	07 27 34.4	-2.6
PMRV				A	A	07 27 36.4	
	comp=E,3.3nm,0.2s						
PCAS	Casmilo, Conde	5.85	26	P	Pn	07 26 33.6	+1.2
PCAS				S	Sn	07 27 35.6	-2.6
PCAS	Casmilo, Conde	5.85	26	*e*P	Pn	07 26 33.6	+1.2
PCAS				*e*S	Sn	07 27 35.6	-2.6
LCRM	LCR	5.87	99	P	Pn	07 26 34.8	+2.0
LCRM				S	Sn	07 27 36.1	-2.9
CZD	Col de Zad	5.90	106	P	Pn	07 26 36.4	+2.9
CZD				S	Sn	07 27 37.6	-2.4
EMIJ	Mijas	5.99	71	S	Sn	07 27 41.3	-0.4
	comp=E,2.8nm,0.3s,SNR=4.6						
ECAB	El Cabril	6.09	56	P	Pn	07 26 37.6	+1.9
	comp=E,0.8nm,0.2s,SNR=6.4						
ECAB				S	Sn	07 27 42.8	-1.4
	comp=E,2.3nm,0.2s,SNR=7.3						
MD31	MD31	6.18	106	P	Pn	07 26 39.5	+2.4
MD31				S	Sn	07 27 43.5	-3.1
MDT	Midelt	6.32	106	P	Pn	07 26 42.3	+3.3
MDT				S	Sn	07 27 45.4	-4.6
CFUE	Fuerteventura	6.42	197	S	Sn	07 27 45.9	-6.4
	SNR=7.9						
PALE	Palemas	6.47	84	P	Pn	07 26 43.4	+2.4
PALE				S	Sn	07 27 50.2	-3.4
EGOR	Sierra Gorda,	6.65	68	S	Sn	07 27 58.2	0.0
	comp=E,1.5nm,0.1s,SNR=7.9						
EADA	Adamuz	6.71	58	P	Pn	07 26 46.7	+2.4
	comp=E,1.0nm,0.1s,SNR=7.9						
EADA				S	Sn	07 27 57.5	-2.1
	comp=E,5.5nm,0.2s,SNR=7.9						
EPLA	Plasencia	6.94	39	S	Sn	07 28 02.7	-2.4
	comp=E,3.9nm,0.2s,SNR=7.9						
ELGU	Los Guajares,	6.95	71	S	Sn	07 28 05.1	-0.4
	comp=E,4.4nm,0.2s,SNR=7.9						
EQUE	Quentar	7.19	68	S	Sn	07 28 08.8	-2.5
	comp=E,1.9nm,0.3s,SNR=7.9						
POLO	Lamas de Olo	7.27	25	S	Sn	07 28 10.2	-3.1
POLO	Lamas de Olo	7.27	25	*e*S	Sn	07 28 10.2	-3.1
MVO	Moncorvo	7.37	29	*e*S	Sn	07 28 13.6	-2.2
PAB	San Pablo	7.59	49	P	Pn	07 26 58.7	+2.3
	comp=E,0.3nm,0.2s,SNR=7.9						
PAB				S	Sn	07 28 18.0	-3.4
	comp=E,0.4nm,0.2s,SNR=7.9						
ELOB	Lobios	7.63	22	P	Pn	07 26 57.9	+1.1
	comp=E,1.8nm,0.4s,SNR=7.9						
ELOB				S	Sn	07 28 17.7	-4.3
	comp=E,0.8nm,0.1s,SNR=5.7						
JBK	JBK	7.64	91	P	Pn	07 26 58.4	+1.3
JBK				S	Sn	07 28 17.3	-5.3
PGAV	Gavieira, Arco	7.66	20	S	Sn	07 28 18.7	-4.1
	comp=E,2.4nm,0.4s						
PGAV	Gavieira, Arco	7.66	20	*e*S	Sn	07 28 18.7	-4.1
PGAV				A	A	07 28 25.6	
	comp=E,2.4nm,0.4s						

IDC 28 07:29:22.8±2.4, 54.30N×86.05E, h0km, mb1 3.4/2, mb1mx3.1/32, mbtmp3.4/2, ML3.2/2, Error ellipse: s-maj=18.1km s-min=10.8km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	0.81	244	*i*		07 34 10.0	
	baz=67,slow=332,SNR=4.1						
ZALV	Zalesovo Beam	0.81	244	Pg	Pg	07 29 37.1	-1.1
	3.3nm,0.3s,baz=62,slow=18,SNR=24						
ZALV				Lg	Lg	07 29 49.6	
	15nm,0.3s,baz=62,slow=28,SNR=27						
KURBB	Kurchatov Arra	5.89	234	Pn	Pn	07 30 52.6	+1.3
	0.3nm,0.3s,baz=52,slow=14,SNR=3.9						
KURBB				Lg	Lg	07 32 30.5	
	0.1nm,0.3s,baz=54,slow=33,SNR=2.2						
MKAR	Makanchi Array	7.89	199	Pn	Pn	07 31 19.3	+0.6
	0.7nm,0.3s,baz=22,slow=14,SNR=25						
MKAR				Sn	Sn	07 32 50.1	+1.4
	0.2nm,0.3s,baz=26,slow=24,SNR=3.2						
MKAR				Lg	Lg	07 33 32.9	
	0.1nm,0.3s,baz=19,slow=37,SNR=2.1						

IDC 28 07:34:43.4±3.0, 54.20N×87.29E, h0km, mb1 3.0/2, mb1mx2.9/33, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=25.8km s-min=17.1km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.48	261	*i*		07 42 45.0	
	baz=80,slow=328,SNR=7.2						
ZALV	Zalesovo Beam	1.48	261	Pg	Pn	07 35 08.8	-2.4
	0.9nm,0.3s,baz=77,slow=18,SNR=9.6						
ZALV				Lg	Lg	07 35 31.9	
	1.1nm,0.3s,baz=76,slow=30,SNR=3.8						
KURBB	Kurchatov Arra	6.44	240	Pn	Pn	07 36 20.0	+0.6
	0.1nm,0.3s,baz=55,slow=14,SNR=5.7						
KURBB				Lg	Lg	07 38 05.8	
	0.1nm,0.3s,baz=67,slow=31,SNR=4.3						
MKAR	Makanchi Array	8.06	205	Pn	Pn	07 36 43.4	+1.7
	0.2nm,0.3s,baz=23,slow=13,SNR=7.8						
MKAR				Sn	Sn	07 38 12.1	-1.4
	0.1nm,0.3s,baz=23,slow=27,SNR=2.6						
MKAR				Lg	Lg	07 38 58.4	
	0.1nm,0.3s,baz=21,slow=33,SNR=2.5						

*NEIC **28** 07:41:41.9±2.1, 23.41N±0.05×142.9E±0.2, h135km±9km, mb4.2/12, Error ellipse: s-maj=24.8km s-min=4.6km az=77.0*
*IDC **28** 07:41:48.9±9.3, 23.37N×142.71E, h198km±79km, mb3.9/6, mb1 3.8/7, mb1mx3.4/31, mbtmp4.4/7, Error ellipse: s-maj=96.4km s-min=17.9km az=77.0*

ISC 28 07:41:43.4±1.0, 23.5N±0.1×142.9E±0.2, h150km, n31, σ1.19/30, mb4.2/14, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	Chichijima	3.64	350		Pn	07 42 38.9	0.0
ANA2	Anatahan	7.59	159	Pn	Pn	07 43 27.0	-4.5
JHJ2	Mitsune	9.95	345	Pn	Pn	07 44 04.7	+2.0
JMN	Monobe	12.91	324	Pn	Pn	07 44 41.0	-0.4
JGF	Kuroka	12.99	339	Pn	Pn	07 44 39.7	-2.7
MJAR	Matsushiro Arr	13.62	344	Pn	Pn	07 44 46.4	-3.9
MAJO	Matsushiro	13.62	344	Pn	Pn	07 44 49.0	-1.4
JHS	Saijyo	14.29	325		P	07 45 01.4	-0.2
KSRS	Korea Array	18.95	321	P	Pn	07 45 55.0	-0.2
	0.2nm,0.3s,baz=136,slow=12,SNR=14						
KSAR	Wonju Array Be	18.96	321	P	P	07 45 53.2	+0.2
KS19	Wonju Array Si	19.02	321	P	P	07 45 52.1	-1.5
WB0	Warramunga Arr	43.81	192	P	P	07 49 34.4	-0.1
WB0				IAmb	IAmb	07 49 54.8	
	comp=Z,8.2nm,1.4s						
WR0	Warramunga Arr	43.97	191	P	P	07 49 35.4	-0.4
WR0				IAmb	IAmb	07 49 55.1	
	comp=Z,5.6nm,1.3s						
WRA	Warramunga Arr	43.99	192	P	P	07 49 35.0	-1

MW5.0/121,Moment Tension Solution. s66,c83; s121,c193; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.34±.10; $M_{\theta\theta}$0.82±.10; $M_{\phi\phi}$-0.48±.09; $M_{r\theta}$-0.22±.21; $M_{r\phi}$-4.32±.09; $M_{\theta\phi}$0.51±.22; Best double couple: M_o4.40100×10^{16} NP1:$\phi_0$266.00000°,δ83.00000°, λ178.00000°. NP2:$\phi_0$356.00000°,δ88.00000°,λ7.00000°. Principal axes: T 4.5890, Plg6.0000°, Azm221.0000°; N -0.3740, Plg83.0000°, Azm9.0000°; P -4.2140, Plg4.0000°, Azm131.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 28 07:41:44.4±0.4,**3°80N**±0°06×**32°05W**±0°07,**h10**km,**n195,** σ1^{s}**47**/180,**mb4.7**/63,**MS4.1**/23,**Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBCL	**Cascavel-CE**	**10.11**	**218**	*eP*	**Pn**	**07 44 08.0**	**-1.8**
NBCL				*eS*	**Sn**	**07 45 56.3**	**-7.1**
RCBR	**Riachuelo**	**10.30**	**202**	Pn	**Pn**	**07 44 10.8**	**-1.6**
RCBR	**Riachuelo**	**10.30**	**202**	*eP*	**Pn**	**07 44 12.5**	**0.0**
NBPB	**Pedra_Branca-C**	**11.94**	**219**	*eP*	**Pn**	**07 44 33.2**	**-1.7**
NBLV	**Livramento - P**	**12.10**	**204**	*eP*	**Pn**	**07 44 36.5**	**-0.6**
NBPS	**Pedro II - PI**	**12.42**	**229**	*eP*	**Pn**	**07 44 38.5**	**-2.9**
NBRF	**Rio Formoso -**	**12.77**	**194**	*eP*	**Pn**	**07 44 46.5**	**+0.4**
NBMA	**Muriti-CE**	**12.95**	**211**	*eP*	**Pn**	**07 44 47.6**	**-1.1**
ROSB	**Rosrio**	**13.77**	**241**	*eP*	**Pn**	**07 44 57.7**	**-2.2**
SACV	**Santiago Islan**	**13.88**	**36**	Pn	**Pn**	**07 44 57.6**	**-3.7**
NBAN	**Anadia - AL**	**14.02**	**197**	*eP*	**Pn**	**07 45 03.6**	**+0.4**
NBLA	**Lagarto - SE**	**15.76**	**201**	*eP*	**Pn**	**07 45 27.9**	**+1.2**
NBPN	**Ponto Novo - B**	**16.65**	**209**	*eP*	**Pn**	**07 45 38.3**	**+0.2**
TMAB	**Tom-Au,PA,Br**	**17.16**	**249**	*eP*	**Pn**	**07 45 43.9**	**-0.6**
GDU01	**Guandu, BA**	**18.93**	**203**	*eP*	**P**	**07 46 06.4**	**+0.7**
SMTB	**Santa Maria do**	**19.95**	**231**	*eP*	**P**	**07 46 16.7**	**-0.2**
PRPB	**Parauapebas**	**20.31**	**241**	*eP*	**P**	**07 46 20.3**	**-0.5**
MCPB	**Macapa, AP**	**20.41**	**259**	*eP*	**P**	**07 46 21.2**	**-0.6**
CMC01	**Camacan, BA**	**20.42**	**201**	*eP*	**P**	**07 46 23.3**	**+1.4**
SDBA	**SAO DESIDERIO**	**20.55**	**218**	*eP*	**P**	**07 46 23.3**	**-0.1**
MDP	**Montagnes des**	**20.57**	**274**	P	**P**	**07 46 22.1**	**-1.5**
	8.4nm,0.8s,baz=90,slow=6.9,SNR=4.9						
H10N3	**ASCENSION HYDR**	**20.98**	**123**	T	T	08 08 10.3	
	baz=303,slow=75,SNR=703						
H10N2	**ASCENSION HYDR**	**20.99**	**123**	T	T	08 08 10.7	
	baz=303,slow=75,SNR=568						
H10N1	**ASCENSION HYDR**	**21.00**	**123**	T	T	08 08 11.8	
	baz=303,slow=75,SNR=735						
H10S3	**ASCENSION HYDR**	**21.47**	**126**	T	T	08 08 47.5	
	baz=303,slow=74,SNR=293						
H10S2	**ASCENSION HYDR**	**21.49**	**126**	T	T	08 08 49.0	
	baz=277,slow=74,SNR=128						
GUA01	**Guaratinga, BA**	**21.65**	**201**	*eP*	**P**	**07 46 36.7**	**+1.6**
PEXB	**Peixe**	**22.59**	**225**	*eP*	**P**	**07 46 44.8**	**-0.6**
MALB	**Monte Alegre**	**22.90**	**256**	*eP*	**P**	**07 46 48.5**	**-0.1**
NAN01	**Guarapari, ES**	**22.93**	**200**	*eP*	**P**	**07 46 50.3**	**+1.5**
MC01	**Montes Claros**	**23.52**	**210**	*eP*	**P**	**07 46 56.2**	**+1.3**
BSFB	**Barra de Sao F**	**24.09**	**201**	*eP*	**P**	**07 47 02.4**	**+2.1**
SJMB	**Sao Joao De Ma**	**24.10**	**202**	*eP*	**P**	**07 47 02.6**	**+2.2**
RIB01	**Linhares ES**	**24.39**	**199**	*eP*	**P**	**07 47 06.1**	**+3.0**
SNDB	**Serra Nova Dou**	**24.73**	**230**	*eP*	**P**	**07 47 06.4**	**+0.2**
DIAM	**Diamantina, MG**	**24.76**	**207**	*eP*	**P**	**07 47 06.8**	**+0.2**
BDFB	**Brasilia**	**24.95**	**219**	P	**P**	**07 47 08.1**	**-0.3**
	6.8nm,0.9s,baz=24,slow=12,SNR=6.4						
BDFB				LR	LR	07 55 53.6	
	comp=Z,691nm,21.3s,baz=16,slow=34						
BDFB	**Brasilia**	**24.95**	**219**	P	**P**	**07 47 07.7**	**-0.6**
BDFB				IAmb	IAmb	07 47 13.5	
	comp=Z,17nm,1.2s						
ITTB	**Itaituba**	**25.01**	**251**	*eP*	**P**	**07 47 08.0**	**-0.8**
NPGB	**Novo Progresso**	**25.63**	**245**	*eP*	**P**	**07 47 14.0**	**-0.4**
ALF01	**Guarapari-ES**	**25.71**	**199**	*eP*	**P**	**07 47 16.0**	**+1.0**
IPMB	**Ipameri, GO**	**26.87**	**216**	*eP*	**P**	**07 47 27.4**	**+1.8**
LIC	**Lamto**	**27.03**	**84**	*e*PKP1	**P**	**07 47 25.7**	**-1.4**
	comp=Z,71nm,1.8s						
TIC	**Toumodi**	**27.07**	**83**	*e*PKP1	**P**	**07 47 26.7**	**-0.8**
CAM01	**Campos-RJ**	**27.14**	**200**	*eP*	**P**	**07 47 30.6**	**+2.7**
DBIC	**Dimbokro**	**27.23**	**83**	P	**P**	**07 47 26.9**	**-2.0**
	comp=Z,12nm,0.9s,baz=261,slow=7.1,SNR=9.3						
DBIC				LR	LR	07 55 42.5	
	comp=Z,199nm,20.6s,baz=271,slow=31						
DBIC	**Dimbokro**	**27.23**	**83**	P	**P**	**07 47 27.8**	**-1.1**
KIC	**Kosan Boka**	**27.32**	**84**	*e*PKP1	**P**	**07 47 26.3**	**-3.4**
	comp=Z,25nm,1.1s						
BSCB	**Bom Sucesso**	**27.62**	**206**	*eP*	**P**	**07 47 34.7**	**+2.4**
CLDB	**Colider**	**27.76**	**238**	*eP*	**P**	**07 47 35.4**	**+1.8**
PTGA	**Pitinga**	**28.25**	**261**	P	**P**	**07 47 38.0**	**-0.1**
	comp=Z,1.3nm,0.9s,baz=106,slow=14,SNR=3.1						
PTGA				LR	LR	07 57 33.6	
	comp=Z,382nm,19.6s,baz=74,slow=34						
BOAV	**Boa Vista**	**28.46**	**268**	*eP*	**P**	**07 47 40.8**	**+0.9**
MACA	**Manacapuru-AM**	**29.43**	**257**	*eP*	**P**	**07 47 51.0**	**+2.4**
KOWA	**Kowa**	**29.61**	**67**	P	**P**	**07 47 49.0**	**-1.1**
	comp=Z,5.9nm,0.8s,baz=269,slow=6.6,SNR=9.4						
KOWA				LR	LR	07 58 16.7	
	comp=Z,869nm,19.8s,baz=250,slow=34						
KOWA	**Kowa**	**29.61**	**67**	P	**P**	**07 47 48.9**	**-1.3**
KOWA				IAmb	IAmb	07 47 50.4	
	comp=Z,17nm,1.2s						
H05S1	**Guadeloupe/Mar**	**30.27**	**292**	T	T	08 19 25.1	
	SNR=193						
H05N1	**Guadeloupe/Mar**	**31.09**	**296**	T	T	08 20 25.4	
	SNR=60						
PTLB	**Pontes e Lacer**	**32.93**	**234**	*eP*	**P**	**07 48 19.7**	**+0.4**
TRCB	**Terra Rica**	**33.20**	**216**	*eP*	**P**	**07 48 22.8**	**+1.1**
SAML	**Samuel**	**33.52**	**248**	P	**P**	**07 48 24.5**	**0.0**
SAML				IAmb	IAmb	07 48 24.9	
	comp=Z,9.9nm,1.4s						
TORD	**Torodi Ar. Bea**	**34.61**	**72**	P	**P**	**07 48 32.5**	**-1.5**
	comp=Z,5.3nm,0.9s,baz=263,slow=8.1,SNR=21						
TORD				LR	LR	08 00 17.0	
	comp=Z,516nm,20.5s,baz=225,slow=32						
TORD	**Torodi Ar. Bea**	**34.61**	**72**	P	**P**	**07 48 32.4**	**-1.5**
TORD				IAmb	IAmb	07 48 33.3	
	comp=Z,14nm,0.8s						
SIV	**San Ignacio**	**34.79**	**235**	P	**P**	**07 48 36.1**	**+0.5**
	comp=Z,2.6nm,0.6s,baz=93,slow=7.2,SNR=15						
CDVI	**St. Croix**	**34.91**	**296**	P	**P**	**07 48 36.2**	**-0.4**
CDVI				IAmb	IAmb	07 48 49.6	
	comp=Z,22nm,1.0s						
MTP	**Monte Pirata**	**35.73**	**296**	P	**P**	**07 48 42.6**	**-1.1**
MTP				IAmb	IAmb	07 48 43.8	
	comp=Z,20nm,1.1s						
HUMP	**Col San Antoni**	**36.02**	**296**	P	**P**	**07 48 45.6**	**-0.5**
HUMP				IAmb	IAmb	07 48 51.2	
	comp=Z,10.0nm,0.8s						
CBYP	**Canovanas**	**36.06**	**296**	P	**P**	**07 48 45.6**	**-0.9**
CBYP				IAmb	IAmb	07 49 01.9	
	comp=Z,20nm,1.2s						
PDPR	**Patillas Dam,**	**36.13**	**296**	P	**P**	**07 48 46.3**	**-0.8**
PDPR				IAmb	IAmb	07 49 00.2	
	comp=Z,12nm,1.1s						
SJG	**San Juan**	**36.27**	**296**	P	**P**	**07 48 46.8**	**-1.5**
SJG				IAmb	IAmb	07 48 54.8	
	comp=Z,9.8nm,0.9s						
GCPR	**Guaynabo City**	**36.28**	**296**	P	**P**	**07 48 46.5**	**-1.9**
GCPR				IAmb	IAmb	07 49 05.6	
	comp=Z,14nm,1.1s						
ETMB	**Extrema**	**36.62**	**248**	*eP*	**P**	**07 48 51.4**	**+0.1**
CPUP	**Villa Florida**	**38.67**	**218**	P	**P**	**07 49 08.9**	**+0.5**
	comp=Z,5.4nm,1.1s,baz=34,slow=10.0,SNR=4.2						
CPUP				LR	LR	08 04 39.0	
	comp=Z,806nm,20.2s,baz=59,slow=36						
BANI	**BANI**	**40.17**	**294**	P	**P**	**07 49 22.6**	**+1.4**
ITQB	**Itaqui**	**40.76**	**214**	P	**P**	**07 49 23.9**	**-2.0**
ITQB				IAmb	IAmb	07 49 34.9	
	comp=Z,18nm,1.0s						
LPAZ	**La Paz**	**40.87**	**240**	P	**P**	**07 49 27.8**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=86,slow=14,SNR=4.6						
LPAZ				LR	LR	08 06 14.2	
	comp=Z,231nm,18.2s,baz=72,slow=36						
LPAZ	**La Paz**	**40.87**	**240**	P	**P**	**07 49 27.6**	**-0.1**
LPAZ	**La Paz**	**40.87**	**240**	*eP*	**P**	**07 49 28.2**	**+0.5**
PLTB	**Pedras Altas**	**40.88**	**209**	*eP*	**P**	**07 49 30.6**	**+3.8**
RUSC	**La Rusia**	**40.93**	**275**	P	**P**	**07 49 29.2**	**+1.2**
RUSC				IAmb	IAmb	07 49 42.8	
	comp=Z,30nm,1.3s						
SDDR	**Presa de Saban**	**41.18**	**295**	P	**P**	**07 49 28.6**	**-0.9**
SDDR				IAmb	IAmb	07 49 38.4	
	comp=Z,12nm,0.8s						
CZSB	**Cruzeiro do Su**	**42.14**	**254**	*eP*	**P**	**07 49 38.0**	**+0.5**
ESDC	**Sonseca Array**	**43.85**	**32**	P	**P**	**07 49 50.2**	**-0.7**
	comp=Z,1.9nm,0.8s,baz=228,slow=8.9,SNR=9.8						
ESDC				LR	LR	08 05 34.3	
	comp=Z,158nm,19.4s,baz=250,slow=33						
ESDC	**Sonseca Array**	**43.85**	**32**	P	**P**	**07 49 50.2**	**-0.7**
KEST	**Kesra**	**49.67**	**45**	LR	LR	08 11 51.9	
	comp=Z,457nm,19.6s,baz=236,slow=36						
TRQA	**Tornquist**	**50.03**	**211**	P	**P**	**07 50 39.9**	**+0.5**
TRQA				IAmb	IAmb	07 50 44.0	
	comp=Z,9.7nm,1.1s						
TRQA	**Tornquist**	**50.03**	**211**	*eP*	**P**	**07 50 41.4**	**+2.0**
CDITO	**Canoas**	**50.71**	**278**	P	**P**	**07 50 43.8**	**-1.0**
VA03	**San Esteban**	**51.49**	**222**	P	**P**	**07 50 51.4**	**+0.9**
VA03				IAmb	IAmb	07 51 04.3	
	comp=Z,18nm,1.1s						
G62A	**West of Eustis**	**53.23**	**327**	P	**P**	**07 51 05.2**	**+2.1**
G62A				IAmb	IAmb	07 51 14.4	
	comp=Z,25nm,1.5s						
PLCA	**Paso Flores**	**56.58**	**215**	LR	LR	08 15 19.5	
	comp=Z,535nm,21.1s,baz=49,slow=36						
SCHQ	**Schefferville**	**58.14**	**337**	P	**P**	**07 51 38.9**	**+0.7**
	comp=Z,6.1nm,0.8s,baz=196,slow=7.8,SNR=4.4						
SCHQ				LR	LR	08 13 54.9	
	comp=Z,85nm,18.7s,baz=92,slow=33						
SCHQ	**Schefferville**	**58.14**	**337**	IAmb	IAmb	07 51 44.8	
	comp=Z,13nm,1.0s						
FPAL	**Fort Paine**	**58.24**	**309**	P	**P**	**07 51 39.3**	**0.0**
FPAL				IAmb	IAmb	07 51 49.1	
	comp=Z,11nm,0.9s						
SWET	**Sewanee**	**58.71**	**309**	P	**P**	**07 51 41.5**	**-1.1**
U49A	**Red Boiling Sp**	**59.03**	**311**	P	**P**	**07 51 44.5**	**-0.3**
GEC2	**GERESS Array S**	**59.38**	**33**	P	**P**	**07 51 46.8**	**-0.3**
GEC2				IAmb	IAmb	07 52 06.3	
	comp=Z,9.5nm,1.3s						
GERES	**GERESS Array B**	**59.38**	**33**	P	**P**	**07 51 46.4**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=243,slow=5.8,SNR=8.6						
GERES				LR	LR	08 15 29.7	
	comp=Z,135nm,19.0s,baz=283,slow=34						
GERES	**GERESS Array B**	**59.38**	**33**	P	**P**	**07 51 46.3**	**-0.8**
T47A	**Sharon Grove**	**60.19**	**311**	P	**P**	**07 51 52.0**	**-0.8**
T47A				IAmb	IAmb	07 52 02.1	
	comp=Z,9.8nm,0.8s						
CLL	**Collm**	**60.42**	**31**	*e*S	**S**	**08 00 14.0**	**+4.9**
	comp=N,200nm,23.3s						
CLL				*e*S	**S**	**08 00 14.0**	**+4.9**
	comp=E,200nm,24.0s						
CLL				*e*SSS	SSS	08 06 54.0	
CLL				LmV		08 16 00.0	
	comp=Z,200nm,18.8s						
BRG	**Berggiesshubel**	**60.66**	**32**	*eP*	**P**	**07 51 55.9**	**+0.2**
BRG				Amp		07 52 05.3	
	comp=Z,4.4nm,1.0s						
BRG				Amp		08 13 43.0	
	comp=Z,0.2nm,18.7s						
KRUC	**Moravsky**	**61.00**	**34**	*eP*	**P**	**07 51 57.3**	**-0.7**
VRAC	**Vranov**	**61.24**	**34**	*eP*	**P**	**07 51 58.1**	**-1.6**
MORC	**Moravsky Berou**	**62.01**	**34**	P	**P**	**07 52 03.8**	**-1.2**
MORC				IAmb	IAmb	07 52 23.2	
	comp=Z,9.6nm,1.4s						
MORC	**Moravsky Berou**	**62.01**	**34**	*eP*	**P**	**07 52 02.8**	**-2.1**
143A	**Socs Landing,**	**62.34**	**305**	P	**P**	**07 52 06.5**	**-0.9**
PSZ	**Piszkesteto**	**62.46**	**37**	P	**P**	**07 52 06.5**	**-1.5**
LCAR	**Lake Charles**	**63.02**	**309**	P	**P**	**07 52 11.4**	**-0.5**
LCAR				IAmb	IAmb	07 52 20.2	
	comp=Z,8.1nm,1.2s						
H43A	**Windswept, Lux**	**63.36**	**319**	P	**P**	**07 52 14.5**	**+0.5**
OJC	**Ojcow**	**63.49**	**34**	P	**P**	**07 52 13.9**	**-0.8**
OJC				IAmb	IAmb	07 52 15.4	
	comp=Z,12nm,1.2s						
BOSA	**Boshof**	**63.74**	**124**	LR	LR	08 14 24.1	
	comp=Z,198nm,21.0s,baz=344,slow=31						
N41A	**Harden Midland**	**64.17**	**314**	P	**P**	**07 52 19.0**	**-0.4**
MGMO	**Mountain Grove**	**64.18**	**310**	P	**P**	**07 52 19.8**	**+0.2**
MLR	**Muntele Rosu**	**65.25**	**41**	P	**P**	**07 52 25.3**	**-1.2**
BURAR	**Bucovina Array**	**65.58**	**39**	P	**P**	**07 52 26.7**	**-1.9**
NB2	**NORSAR Subarra**	**65.73**	**21**	P	**P**	**07 52 27.7**	**-1.5**
	comp=Z,9.0nm,1.2s,baz=228,slow=6.5						
NOA	**NORSAR Array B**	**65.73**	**21**	P	**P**	**07 52 27.8**	**-1.5**
	comp=Z,2.8nm,1.1s,baz=231,slow=6.4,SNR=5.3						
NOA				LR	LR	08 19 45.4	
	comp=Z,127nm,18.3s,baz=240,slow=35						
TUL1	**Leonard**	**66.62**	**308**	P	**P**	**07 52 36.5**	**+1.1**
TUL1				IAmb	IAmb	07 52 44.5	
	comp=Z,11nm,1.1s						
SPMN	**Marine on St.**	**66.98**	**318**	P	**P**	**07 52 38.2**	**+0.7**
SPMN				IAmb	IAmb	07 52 41.0	
	comp=Z,9.9nm,1.1s						
Z35A	**Perchaven, San**	**67.27**	**305**	P	**P**	**07 52 38.9**	**-0.7**
OK031	**S. Brethren Rd**	**67.46**	**307**	P	**P**	**07 52 39.4**	**-1.4**
OK029	**Liberty Lake**	**67.92**	**307**	P	**P**	**07 52 44.1**	**+0.5**
KAN05	**Bluff City Nor**	**68.51**	**308**	P	**P**	**07 52 46.7**	**-0.7**
KAN06	**Argonia West S**	**68.53**	**309**	P	**P**	**07 52 46.8**	**-0.7**
KAN14	**Manchester OK**	**68.55**	**308**	P	**P**	**07 52 46.4**	**-1.2**
JCT	**Junction City**	**68.94**	**301**	P	**P**	**07 52 49.8**	**-0.4**
JCT				IAmb	IAmb	07 52 59.8	
	comp=Z,9.0nm,1.0s						
BR131	**Keskin Array S**	**68.98**	**49**	P	**P**	**07 52 50.2**	**-0.2**
BR131				IAmb	IAmb	07 52 51.0	
	comp=Z,12nm,1.4s						
BRTR	**Keskin Array B**	**68.98**	**49**	P	**P**	**07 52 49.6**	**-0.8**
	comp=Z,2.1nm,1.0s,baz=237,slow=4.3,SNR=11						
BRTR				LR	LR	08 22 54.8	
	comp=Z,127nm,21.6s,baz=266,slow=36						
BRTR	**Keskin Array B**	**68.98**	**49**	P	**P**	**07 52 49.9**	**-0.5**
ECSD	**EROS Data Cent**	**69.14**	**316**	P	**P**	**07 52 52.2**	**+1.0**
ECSD				IAmb	IAmb	07 52 57.6	
	comp=Z,4.8nm,0.9s						
AKASG	**Malin Array Be**	**69.17**	**37**	P	**P**	**07 52 50.2**	**-0.9**
	comp=Z,31nm,1.4s,baz=248,slow=6.7,SNR=14						
AKASG				LR	LR	08 19 59.2	
	comp=Z,83nm,21.9s,baz=270,slow=33						
AKASG	**Malin Array Be**	**69.17**	**37**	P	**P**	**07 52 49.6**	**-1.5**
AKBB	**Malin Array Si**	**69.17**	**37**	P	**P**	**07 52 50.0**	**-1.1**
R32A	**Long Quarter,**	**69.44**	**310**	P	**P**	**07 52 54.1**	**+1.0**
R32A				IAmb	IAmb	07 53 00.5	
	comp=Z,8.1nm,0.9s						
CBKS	**Cedar Bluff**	**70.30**	**310**	P	**P**	**07 52 57.9**	**-0.6**
BNN	**Bunyan**	**70.48**	**50**	P	**P**	**07 52 59.4**	**-0.2**
ULM	**Lac du Bonnet**	**70.55**	**322**	LR	LR	08 18 54.2	
	comp=Z,84nm,21.4s,baz=125,slow=32						
ZAIG	**Zacatecas**	**70.58**	**293**	P	**P**	**07 53 00.8**	**+0.1**
ZAIG				IAmb	IAmb	07 53 11.5	
	comp=Z,7.4nm,1.2s						
FINES	**FINESS Array B**	**71.89**	**25**	LR	LR	08 24 02.8	
	comp=Z,90nm,18.0s,baz=240,slow=35						
MSTX	**Muleshoe**	**71.92**	**304**	P	**P**	**07 53 08.9**	**+0.5**
TXAR	**Lajitas Array**	**72.13**	**299**	P	**P**	**07 53 09.4**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=121,slow=6.0,SNR=9.5						
TXAR	**Lajitas Array**	**72.13**	**299**	P	**P**	**07 53 10.4**	**+0.7**
TX31	**Lajitas Ar. Si**	**72.13**	**299**	P	**P**	**07 53 09.1**	**-0.7**
TX31				IAmb	IAmb	07 53 31.4	
	comp=Z,8.5nm,1.1s						
TX32	**Lajitas Array**	**72.13**	**299**	P	**P**	**07 53 08.9**	**-0.8**
PMSA	**Palmer Station**	**72.35**	**194**	P	**P**	**07 53 09.4**	**-0.7**
MNTX	**Cornudas Mount**	**73.83**	**302**	P	**P**	**07 53 19.8**	**+0.1**
SDCO	**Great Sand Dun**	**74.61**	**308**	P	**P**	**07 53 24.0**	**-0.4**
ISCO	**Idaho Springs**	**74.96**	**310**	P	**P**	**07 53 26.2**	**-0.3**
ISCO				IAmb	IAmb	07 53 40.2	
	comp=Z,6.6nm,1.1s						
ANMO	**Albuquerque**	**75.06**	**305**	P	**P**	**07 53 26.2**	**-0.8**
DGMT	**Dagmar**	**75.36**	**319**	P	**P**	**07 53 29.6**	**+1.4**
ARCES	**ARCESS Array B**	**75.53**	**18**	LR	LR	08 22 14.2	
	comp=Z,72nm,21.4s,baz=210,slow=32						
SMCO	**Snowmass**	**75.93**	**309**	P	**P**	**07 53 31.8**	**-0.4**
SMCO				IAmb	IAmb	07 53 41.0	
	comp=Z,6.6nm,1.1s						
121A	**Cookes Peak, D**	**75.94**	**302**	P	**P**	**07 53 34.2**	**+2.1**
121A				IAmb	IAmb	07 53 49.9	
	comp=Z,5.2nm,1.1s						
VNA1	**Neumayer--Stat**	**75.97**	**172**	P	**P**	**07 53 34.0**	**+2.8**
VNA3	**Neumayer Olymp**	**76.33**	**173**	P	**P**	**07 53 35.9**	**+2.6**
VNA2	**Neumayer--Watz**	**76.35**	**172**	P	**P**	**07 53 35.8**	**+2.4**
	baz=333,slow=6.7						
KBZ	**Khabaz**	**76.52**	**46**	P	**P**	**07 53 35.0**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=275,slow=11,SNR=3.3						
KBZ				LR	LR	08 29 17.0	
	comp=Z,51nm,21.2s,baz=296,slow=37						
ONI	**Oni**	**76.78**	**47**	P	**P**	**07 53 35.9**	**-0.6**
ONI				IAmb	IAmb	07 53 49.5	
	comp=Z,8.1nm,1.2s						
O20A	**White River Ci**	**77.01**	**310**	P	**P**	**07 53 39.2**	**+1.2**
O20A				IAmb	IAmb	07 53 46.7	
	comp=Z,6.2nm,0.8s						
319A	**Douglas**	**77.13**	**301**	P	**P**	**07 53 39.7**	**+0.9**
319A				IAmb	IAmb	07 53 47.4	
	comp=Z,5.6nm,0.9s						
SNAA	**Sanae**	**77.69**	**171**	P	**P**	**07 53 43.1**	**+2.1**
PD31	**Pinedale Array**	**78.26**	**313**	P	**P**	**07 53 45.8**	**+0.8**
PDAR	**Pinedale Array**	**78.26**	**313**	P	**P**	**07 53 44.7**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=91,slow=6.5,SNR=6.3						
TUC	**Tucson**	**78.46**	**302**	P	**P**	**07 53 47.1**	**+0.9**
TUC				IAmb	IAmb	07 53 56.8	
	comp=Z,6.4nm,1.1s						
SRU	**San Rafael Swe**	**78.67**	**309**	P	**P**	**07 53 49.5**	**+2.1**
SRU				IAmb	IAmb	07 53 57.8	
	comp=Z,9.3nm,1.3s						
YNE	**Yellowstone No**	**78.81**	**315**	P	**P**	**07 53 49.9**	**+1.9**
YNE				IAmb	IAmb	07 53 56.0	
	comp=Z,5.2nm,1.0s						
LOHW	**Long Hollow**	**79.10**	**314**	P	**P**	**07 53 50.0**	**+0.4**
X16A	**Lo Mia Camp, P**	**79.11**	**304**	P	**P**	**07 53 49.3**	**-0.6**
REDW	**Red Top Meadow**	**79.26**	**313**	P	**P**	**07 53 51.0**	**+0.5**
IMW	**Indian Meadow**	**79.37**	**314**	P	**P**	**07 53 50.4**	**-0.8**
YHH	**Holmes Hill**	**79.38**	**315**	P	**P**	**07 53 51.0**	**-0.2**
YMR	**Madison River**	**79.45**	**315**	P	**P**	**07 53 51.5**	**0.0**
YMR				IAmb	IAmb	07 54 00.3	
	comp=Z,7.8nm,1.0s						
JLU	**Jordanelle**	**79.49**	**310**	P	**P**	**07 53 51.6**	**-0.3**
MTPU	**Mount Pierson**	**79.90**	**308**	P	**P**	**07 53 55.2**	**+0.9**
MSU	**Marysvale**	**79.92**	**308**	P	**P**	**07 53 55.3**	**+1.1**
MVU	**Marysvale**	**79.94**	**308**	P	**P**	**07 53 54.5**	**+0.1**
SZCU	**Shurtz Canyon**	**80.59**	**307**	P	**P**	**07 53 57.5**	**-0.3**
SZCU				IAmb	IAmb	07 54 19.4	
	comp=Z,7.2nm,1.2s						
CCUT	**Cedar City**	**80.81**	**307**	P	**P**	**07 54 00.9**	**+1.9**
CCUT				IAmb	IAmb	07 54 08.2	
	comp=Z,6.7nm,1.1s						
W13A	**Hualapai Mount**	**81.15**	**305**	P	**P**	**07 54 02.4**	**+1.6**
PSUT	**Pine Spring**	**81.23**	**308**	P	**P**	**07 54 01.5**	**+0.3**
EDM	**Edmonton**	**81.76**	**323**	P	**P**	**07 54 04.3**	**+0.8**
GWY	**Greenwater Val**	**83.43**	**306**	P	**P**	**07 54 14.3**	**+1.6**
GWY				IAmb	IAmb	07 54 39.9	
	comp=Z,4.6nm,1.0s						
QSM	**Queen of Sheba**	**83.59**	**306**	P	**P**	**07 54 15.3**	**+2.0**
QSM				IAmb	IAmb	07 54 17.5	
	comp=Z,9.1nm,1.2s						
TPH	**Tonopah**	**83.87**	**308**	P	**P**	**07 54 14.2**	**-0.8**
LCH	**Last Change Ra**	**84.21**	**307**	P	**P**	**07 54 18.0**	**+1.3**
KVN	**Kaiserville**	**84.56**	**309**	P	**P**	**07 54 18.9**	**+0.5**
NVAR	**Mina Array Bea**	**84.72**	**308**	P	**P**	**07 54 20.2**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=92,slow=6.0,SNR=6.5						
J08A	**Circle Bar Ran**	**84.81**	**313**	P	**P**	**07 54 21.2**	**+1.7**
J08A				IAmb	IAmb	07 54 41.0	
	comp=Z,8.2nm,1.2s						
PNTR	**Pine Nut**	**85.72**	**309**	P	**P**	**07 54 24.7**	**+0.3**
PNTR				IAmb	IAmb	07 54 40.0	
	comp=Z,9.8nm,1.1s						
F07A	**Phinny Hill Vi**	**85.82**	**316**	P	**P**	**07 54 22.9**	**-1.4**
AKTO	**Aktyubinsk**	**87.15**	**40**	LR	LR	08 32 21.3	
	comp=Z,81nm,21.3s,baz=279,slow=35						
GEYT	**Alibeck**	**87.83**	**52**	LR	LR	08 36 28.8	
	comp=Z,62nm,20.7s,baz=5.0,slow=37						
NRIK	**Noril'sk**	**96.52**	**18**	LR	LR	08 36 03.7	
	comp=Z,119nm,21.4s,baz=300,slow=34						
ILAR	**Eielson Array**	**96.90**	**337**	P	**P**	**07 55 16.1**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=53,slow=3.5,SNR=6.9						
ASAR	**Alice

MPOM	**Morne Pois Mar**	**2.23**	**284**	*eP*	**Pn**	**08**	**10**	**23.4 -0.4**
MPOM				*eS*	**Sn**	**08**	**10**	**52.6 +1.3**
MCLT	**Moule a Chique**	**2.26**	**265**	*eP*	**Pn**	**08**	**10**	**24.7 +0.5**
MCLT				*eS*	**Sn**	**08**	**10**	**53.9 +1.7**
SLBI	**Saint Lucia, B**	**2.28**	**273**	*eP*	**Pn**	**08**	**10**	**23.6 -1.0**
SLBI				*eS*	**Sn**	**08**	**10**	**53.4 +0.7**
SLCP	**Castries, St.**	**2.30**	**272**	*eP*	**Pn**	**08**	**10**	**23.8 -0.9**
SLCP				*eS*	**Sn**	**08**	**10**	**54.3 +1.3**
ILAM	**Ilet Lapin Mar**	**2.34**	**291**	*eP*	**Pn**	**08**	**10**	**26.5 +1.3**
ILAM				*eS*	**Sn**	**08**	**10**	**55.2 +1.1**
BIM	**Bigot**	**2.44**	**284**	*eP*	**Pn**	**08**	**10**	**26.7 -0.1**
BIM				*eS*	**Sn**	**08**	**10**	**55.9 -0.9**
SSV	**Crater Summit**	**2.57**	**257**	*eP*	**Pn**	**08**	**10**	**28.6 +0.1**
SSV				*eS*	**Sn**	**08**	**10**	**59.3 -0.6**
FDF	**Fort de France**	**2.58**	**288**	*eP*	**Pn**	**08**	**10**	**28.9 +0.2**
FDF				*eS*	**Sn**	**08**	**10**	**59.5 -0.5**
SVV	**Soufriere Volc**	**2.59**	**257**	*eS*	**Sn**	**08**	**11**	**01.1 +0.7**
SVB	**Belmont**	**2.64**	**256**	*eP*	**Pn**	**08**	**10**	**28.8 -0.6**
SVB				*eS*	**Sn**	**08**	**11**	**00.7 -0.8**
SVOC	**Richmond Hill,**	**2.64**	**253**	*eS*	**Sn**	**08**	**11**	**00.4 -1.1**
DSLB	**Salisbury**	**3.10**	**299**	*eP*	**Pn**	**08**	**10**	**35.4 -0.4**
DSLB				*eS*	**Sn**	**08**	**11**	**13.6 +0.8**
MAGL	**Barre de l'ile**	**3.26**	**308**	*eP*	**Pn**	**08**	**10**	**38.8 +0.7**
MAGL				*eS*	**Sn**	**08**	**11**	**17.7 +0.7**
GRGR	**Grenville**	**3.45**	**239**	*eP*	**Pn**	**08**	**10**	**39.6 -1.0**
TDBA	**Terre de Bas,**	**3.48**	**304**	*eP*	**Pn**	**08**	**10**	**42.1 +1.0**
TDBA				*eS*	**Sn**	**08**	**11**	**22.7 +0.3**
TBG	**Guadaloupe-3**	**3.49**	**304**	*eP*	**Pn**	**08**	**10**	**41.6 +0.4**
TBG				*eS*	**Sn**	**08**	**11**	**22.4 -0.2**
CBE	**Ff, Capester**	**3.59**	**307**	*eP*	**Pn**	**08**	**10**	**43.1 +0.6**
CBE				*eS*	**Sn**	**08**	**11**	**24.9 0.0**
ANBD	**Bethesda, Anti**	**4.34**	**316**	*eP*	**Pn**	**08**	**10**	**53.0 +0.3**
ANBD	**Bethesda, Anti**	**4.34**	**316**	*eS*	**Sn**	**08**	**11**	**43.1 -0.4**
ANOC	**Antigua Open C**	**4.43**	**316**	*eP*	**Pn**	**08**	**10**	**53.7 -0.4**
ANOC	**Antigua Open C**	**4.43**	**316**	*eS*	**Sn**	**08**	**11**	**45.2 -0.5**
ANWB	**Willy Bob**	**4.81**	**321**	*eP*	**Pn**	**08**	**10**	**58.8 -0.5**

IDC ***28*** *08:15:54.8±0.5,3.°33S±.80.°67W,h0km,mb4.6/20, mb1 4.7/24,mb1mx4.6/31,mbtmp4.6/24,ML3.8/4, MS4.1/22, Ms1 4.2/22,ms1mx4.1/29, Error ellipse: s-maj=15.8km s-min=10.9km az=44.0*

NEIC ***28*** *08:15:57.7±1.9,3.°32S±.0.°03×80.°60W±.0.°06,h10km±1km, mb4.8/307, ML5.0(ARE), Error ellipse: s-maj=11.7km s-min=3.9km az=110.0*

ARE ***28*** *08:15:59±3.1,3.°46S±.0.°02×80.°93W±.0.°07,h18km±3km, Error ellipse: s-maj=0.0km s-min=0.0km az=176.0*

BJI ***28*** *08:16:00.0±0.0,3.°40S×80.°70W,h34km,mB4.9/2*

GCMT ***28*** *08:16:01.7±0.3,3.°41S±.0.°02×80.°92W±.0.°02,h31km±1km, MW5.0/77,Moment Tensor Solution. s28,c37; s77,c114; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.65±.18; Mθθ-0.16±.10; Mϕϕ-2.49±.13; Mrθ-0.17±.13; Mϕθ-1.58±.08; Mϕr-2.39±.17; Best double couple: M0.84000×10^16^ NP1:ϕs191.00000°,δ65.00000°,λ74.00000°. NP2: ϕs45.00000°,δ29.00000°,λ121.00000°. Principal axes: T 3.6410, Plg66.0000°, Azm73.0000°; N 0.3980, Plg14.0000°, Azm198.0000°; P -4.0390, Plg19.0000°, Azm293.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

VAO ***28*** *08:16:02.0±0.3,3.°37S×80.°58W,h45km,mb4.9*

ISC 28 08:15:60.0±0.3,3.°41S±.0.°05×80.°68W±.0.°05,h35km,n661,
σ0:98/649,mb4.8/165,MS4.1/20,1C,Peru-Ecuador
border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAC1	**Pacto, Paraso**	**4.11**	**27**	*eP*	**Pn**	**08 16 59.2**	**-1.3**
PTGL	**Punta Galera**	**4.21**	**9**	*eP*	**Pn**	**08 17 01.0**	**-0.7**
OTAV	**Otavalo**	**4.25**	**32**		**Pn**	**08 17 02.8**	**+0.2**
OTAV	**Otavalo**	**4.25**	**32**	*eP*	**Pn**	**08 17 02.9**	**+0.2**
OTAV	**Otavalo**	**4.25**	**32**	*eP*	**Pn**	**08 17 02.8**	**+0.2**
CUSE	**Cuicocha Este**	**4.33**	**32**	*eP*	**Pn**	**08 17 04.2**	**+0.4**
TULM	**Tulcn-Chalpat**	**5.01**	**35**	*eP*	**Pn**	**08 17 15.2**	**+2.0**
TUMC	**Tumaco**	**5.55**	**21**	Pn	**Pn**	**08 17 19.3**	**-0.8**
CPAS1	**Pasto**	**5.67**	**36**	*eP*	**Pn**	**08 17 26.0**	**+3.8**
GCUF	**Volcan Galeras**	**5.68**	**36**	*eP*	**Pn**	**08 17 24.6**	**+2.2**
BBAC	**Balboa, Cauca**	**6.39**	**33**	*eP*	**Pn**	**08 17 31.9**	**0.0**
SOTA	**Rioblanco**	**6.85**	**37**	*eP*	**Pn**	**08 17 38.7**	**+0.3**
PTLC	**Puerto Leguiza**	**6.87**	**59**	*eP*	**Pn**	**08 17 34.6**	**-3.7**
FLOC	**Florencia**	**7.06**	**46**		**Pn**	**08 17 40.4**	**-0.5**
FLOC	**Florencia**	**7.06**	**46**	*eP*	**Pn**	**08 17 40.8**	**-0.2**
PCON	**Cinco Dias**	**7.13**	**37**	*eP*	**Pn**	**08 17 43.6**	**+1.3**
POPC	**Popayan, Colom**	**7.13**	**34**	*eP*	**Pn**	**08 17 41.4**	**-0.8**
GAIC	**Garzon, Huila**	**7.60**	**43**	*eP*	**Pn**	**08 17 48.4**	**+0.3**
MARP	**Paez Belalcaza**	**7.80**	**37**	*eP*	**Pn**	**08 17 52.6**	**+1.3**
MALC	**Bahia Malaga**	**8.09**	**24**	*eP*	Pn	08 18 02.5	+7.4
YOTC	**Yotoco, Valle**	**8.52**	**31**	*eP*	**Pn**	**08 17 59.5**	**-1.6**
MACC	**Macarena, Meta**	**8.78**	**51**	*eP*	**Pn**	**08 18 04.0**	**-0.5**
ORTC	**Ortega, Tolima**	**9.07**	**37**	*eP*	**Pn**	**08 18 08.4**	**-0.1**
NNA	**Nana**	**9.34**	**156**	Pn	**Pn**	**08 18 12.5**	**+0.3**
	6.1nm,0.3s,baz=335,slow=15,SNR=13						
NNA				Sn	**Sn**	**08 19 52.6**	**-3.5**
	2.8nm,0.3s,baz=270,slow=20,SNR=1.6						
NNA				Lg	Lg	08 20 43.0	
	8.5nm,0.3s,baz=258,slow=21,SNR=8.8						
NNA				LR	LR	08 21 47.4	
	comp=Z,934nm,20.1s,baz=316,slow=38						
NNA	**Nana**	**9.34**	**156**	Pn	**Pn**	**08 18 13.2**	**+1.0**
ANIL	**Santa Ana**	**9.45**	**34**	*eP*	**Pn**	**08 18 16.9**	**+2.9**
PAYG	**Puerto Ayora**	**9.97**	**286**	Pn	**Pn**	**08 18 19.4**	**-1.5**
PAYG	**Puerto Ayora**	**9.97**	**286**	*eP*	**Pn**	**08 18 20.8**	**-0.1**
GUY2C	**Guyana, Caldas**	**10.08**	**32**	*eP*	**Pn**	**08 18 27.0**	**+4.2**
SOLC	**Bahia Solano**	**10.11**	**19**	*eP*	**Pn**	**08 18 26.9**	**+4.2**
CBOC	**Ciudad Bolivar**	**10.32**	**27**	*eP*	**Pn**	**08 18 25.6**	**-0.2**
ROSC	**El Rosal**	**10.37**	**38**	LR	LR	08 22 37.3	
	comp=Z,1μm,21.6s,baz=230,slow=39						
ROSC	**El Rosal**	**10.37**	**38**	Pn	**Pn**	**08 18 23.9**	**-2.7**
CHIC	**Chingaza**	**10.58**	**41**	*eP*	**Pn**	**08 18 29.5**	**-0.1**
NORC	**Norcasia**	**10.63**	**33**	*eP*	**Pn**	**08 18 34.4**	**+4.4**
CACAO	**El Cacao, Vera**	**10.68**	**359**	*eP*	**Pn**	**08 18 30.6**	**-0.1**
TBTG	**Tabatinga, AM**	**10.78**	**94**	*eP*	**Pn**	**08 18 27.8**	**-4.1**
AZU	**Azuero**	**11.13**	**2**	*eP*	**Pn**	**08 18 37.5**	**+0.7**
SPBC	**San Pablo de B**	**11.16**	**36**	*eP*	Pn	08 18 32.4	-4.9
DBBC	**Dabeiba**	**11.28**	**23**	*eP*	**Pn**	**08 18 42.0**	**+3.2**
PTBC	**PUERTO BERRIO,**	**11.67**	**32**	*eP*	Pn	08 18 49.3	+5.1
RUSC	**La Rusia**	**11.95**	**39**	Pn	**Pn**	**08 18 44.7**	**-3.8**
RUSC	**La Rusia**	**11.95**	**39**	*eP*	**Pn**	**08 18 52.5**	**+4.0**
UPD2	**Meteti**	**12.17**	**13**	*eP*	Pn	08 18 56.1	+5.2
ZARC	**Zaragoza, Cauc**	**12.29**	**28**	*eP*	**Pn**	**08 18 55.5**	**+3.0**
BARC	**Barichara**	**12.44**	**37**	*eP*	**Pn**	**08 18 56.8**	**+2.0**
BCIP	**Isla Barro Col**	**12.52**	**4**		**Pn**	**08 18 56.1**	**+0.4**
BCIP	**Isla Barro Col**	**12.52**	**4**	*eP*	**Pn**	**08 18 57.6**	**+1.9**
BRRC	**Barranca, Sant**	**12.55**	**34**	*eP*	**Pn**	**08 18 58.1**	**+1.9**
CVTR	**Volcan Turrial**	**13.68**	**347**		**Pn**	**08 19 11.6**	**-0.4**
OCAC	**Ocana**	**13.70**	**32**	*eP*	**Pn**	**08 19 13.1**	**+1.0**
SMLC	**San Martn de**	**13.80**	**28**	*eP*	**Pn**	**08 19 14.9**	**+1.6**
JTS	**Las Juntas de**	**14.25**	**343**	Pn	**Pn**	**08 19 17.4**	**-2.1**
	0.1nm,0.3s,baz=270,slow=22,SNR=1.3						
JTS				LR	LR	08 24 00.6	
	comp=Z,1μm,19.7s,baz=223,slow=34						
JTS	**Las Juntas de**	**14.25**	**343**	Pn	**Pn**	**08 19 18.8**	**-0.7**
JTS	**Las Juntas de**	**14.25**	**343**	*eP*	**Pn**	**08 19 21.6**	**+2.1**
SJCC	**San Jacinto, C**	**14.31**	**22**	Pn	**Pn**	**08 19 20.4**	**+0.2**
SJCC	**San Jacinto, C**	**14.31**	**22**	*eP*	**Pn**	**08 19 21.2**	**+0.9**
ORTG	**Ortega, Santa**	**14.48**	**341**	Pn	**Pn**	**08 19 21.1**	**-1.5**
ARGC	**Ariguani, Magd**	**14.65**	**26**	*eP*	**P**	**08 19 32.8**	**+2.1**
SOCV	**Socops**	**15.20**	**40**	*eP*	**P**	**08 19 35.9**	**-0.9**
ELOV	**Elorza**	**15.22**	**47**	*eP*	**P**	**08 19 36.1**	**-1.0**
SDV	**Santo Domingo**	**15.79**	**39**	Pn	**Pn**	**08 19 39.0**	**-1.1**
	1.1nm,0.3s,baz=343,slow=5.3,SNR=1.5						
SDV	**Santo Domingo**	**15.79**	**39**	Pn	**Pn**	**08 19 38.5**	**-1.6**
SDV				IAmb	IAmb	08 19 45.3	
	comp=Z,34nm,0.8s						
SDV	**Santo Domingo**	**15.79**	**39**	*eP*	**P**	**08 19 42.9**	**-0.7**
SDV	**Santo Domingo**	**15.79**	**39**	*eP*	**Pn**	**08 19 40.7**	**+0.6**
ACON	**Acoyapa**	**15.91**	**344**	Pn	**Pn**	**08 19 40.1**	**-1.3**
CRJC	**Cerrejon, Guaj**	**16.30**	**28**	*eP*	**Pn**	**08 19 44.4**	**-2.1**
MATN	**Matagalpa**	**17.04**	**342**		**Pn**	**08 19 55.9**	**+0.1**
URIC	**Uribia, Colomb**	**17.32**	**30**	Pn	**Pn**	**08 19 56.7**	**-2.4**
BAUV	**El Baul**	**17.59**	**46**	Pn	**Pn**	**08 20 00.1**	**-2.4**
LPAZ	**La Paz**	**17.78**	**137**	P	**Pn**	**08 20 05.3**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=328,slow=11,SNR=22						
LPAZ				LR	LR	08 28 17.4	
	comp=Z,3μm,19.7s,baz=308,slow=42						
LPAZ	**La Paz**	**17.78**	**137**		**P**	**08 20 06.3**	**+0.2**
LPAZ	**La Paz**	**17.78**	**137**	*eP*	**P**	**08 20 06.1**	**+0.1**
LPAZ	**La Paz**	**17.78**	**137**	*eP*	**P**	**08 20 06.2**	**+0.2**
SAML	**Samuel**	**18.24**	**108**	P	**P**	**08 20 10.2**	**-0.3**
SAML				IAmb	IAmb	08 20 12.4	
	comp=Z,79nm,0.9s						
TGUH	**Tegucigalpa,Un**	**18.54**	**339**		**P**	**08 20 14.0**	**+0.1**
TGUH	**Tegucigalpa,Un**	**18.54**	**339**	*eP*	**Pn**	**08 20 17.7**	**+3.4**
HATO	**Hato, Curacao**	**19.38**	**37**	P	**P**	**08 20 22.1**	**-0.9**
PB11	**IPOC Station P**	**19.50**	**147**	P	**Pn**	**08 20 25.5**	**-0.4**
PB11				IAmb	IAmb	08 20 39.4	
	comp=Z,65nm,1.0s						
MTO3	**Montecristo**	**19.67**	**334**	P	**P**	**08 20 26.3**	**0.0**
BIRV	**Birongo**	**19.90**	**46**	P	**P**	**08 20 27.6**	**-1.1**
MACA	**Manacapuru-AM**	**19.97**	**90**	*eP*	**P**	**08 20 29.3**	**-0.2**
PB08	**IPOC Station P**	**20.08**	**147**	P	Pn	08 20 32.8	-0.1
PTGA	**Pitinga**	**20.87**	**83**	P	**P**	**08 20 38.7**	**-0.6**
	comp=Z,13nm,0.4s,baz=262,slow=12,SNR=27						
PTGA				S	**S**	**08 24 32.5**	**+2.2**
	comp=Z,3.2nm,0.6s,baz=347,slow=21,SNR=1.7						
PTGA	**Pitinga**	**20.87**	**83**	P	**P**	**08 20 38.9**	**-0.3**
PTGA	**Pitinga**	**20.87**	**83**	*eP*	**P**	**08 20 39.2**	**0.0**
PCRV	**Puerto La Cruz**	**20.91**	**50**	P	**P**	**08 20 39.7**	**-0.1**
	comp=Z,58nm,1.1s,baz=229,slow=5.5,SNR=16						
PB07	**IPOC Station P**	**21.02**	**151**	P	**P**	**08 20 43.2**	**+2.2**
PB07				IAmb	IAmb	08 20 56.0	
	comp=Z,96nm,1.4s						
PB09	**IPOC Station P**	**21.39**	**150**	P	**P**	**08 20 46.9**	**+1.9**
MTDJ	**Mount Denham**	**21.72**	**8**	P	**P**	**08 20 48.9**	**+0.5**
MTDJ	**Mount Denham**	**21.72**	**8**	*eP*	**P**	**08 20 49.7**	**+1.3**
PB06	**IPOC Station P**	**22.00**	**152**	P	**P**	**08 20 52.3**	**+0.8**
PB06				IAmb	IAmb	08 21 06.9	
	comp=Z,91nm,1.5s						
LVC	**Limon Verde**	**22.24**	**150**	P	**P**	**08 20 55.6**	**+1.3**
	comp=Z,20nm,0.9s,baz=332,slow=14,SNR=4.6						
LVC				LR	LR	08 30 07.2	
	comp=Z,856nm,19.0s,baz=334,slow=38						
LVC	**Limon Verde**	**22.24**	**150**	P	**P**	**08 20 55.9**	**+1.7**
VILB	**Vilhena**	**22.36**	**116**	*eP*	**P**	**08 20 55.8**	**+0.5**
SIV	**San Ignacio**	**22.99**	**124**	P	**P**	**08 21 01.6**	**-0.3**
	comp=Z,5.6nm,0.5s,baz=300,slow=9.3,SNR=44						
PTLB	**Pontes e Lacer**	**24.36**	**121**	*eP*	**P**	**08 21 16.2**	**+1.3**
DR12	**Loma Pena Alta**	**24.70**	**26**	P	**P**	**08 21 18.4**	**+0.3**
SC01	**Santiago de lo**	**24.71**	**23**	P	**P**	**08 21 19.2**	**+1.1**
TOSP	**Speyside**	**24.80**	**54**	P	**P**	**08 21 18.5**	**-0.5**
ITTB	**Itaituba**	**24.91**	**93**	*eP*	**P**	**08 21 20.7**	**+0.7**
CRPR	**Cabo Rojo, PR**	**25.13**	**32**	P	**P**	**08 21 22.1**	**+0.2**
CRPR				IAmb	IAmb	08 21 24.9	
	comp=Z,32nm,1.1s						
MLPR	**Magueyes Islan**	**25.14**	**32**	P	**P**	**08 21 21.8**	**-0.1**
MLPR				IAmb	IAmb	08 21 25.0	
	comp=Z,20nm,0.8s						
OBIP	**Obispado Ponce**	**25.43**	**33**	P	**P**	**08 21 23.3**	**-1.3**
OBIP				IAmb	IAmb	08 21 26.9	
	comp=Z,26nm,1.0s						
NPGB	**Novo Progresso**	**25.47**	**99**	*eP*	**P**	**08 21 25.0**	**-0.1**
AOPR	**Arecibo Observ**	**25.60**	**32**	P	**P**	**08 21 26.8**	**+0.5**
PDPR	**Patillas Dam,**	**25.73**	**34**	P	**P**	**08 21 28.1**	**+0.8**
SJG	**San Juan**	**25.74**	**33**	P	**P**	**08 21 27.4**	**+0.1**
	comp=Z,62nm,0.9s,baz=199,slow=5.7,SNR=22						
SJG	**San Juan**	**25.74**	**33**	P	**P**	**08 21 27.8**	**+0.4**
CLDB	**Colider**	**25.77**	**108**	*eP*	**P**	**08 21 28.0**	**+0.2**
AC02	**Maricunga**	**25.79**	**156**	P	**P**	**08 21 30.7**	**+2.3**
EMPR	**Esperanza - Ma**	**25.83**	**32**	P	**P**	**08 21 28.6**	**+0.4**
HUMP	**Col San Antoni**	**25.93**	**34**	P	**P**	**08 21 30.1**	**+1.0**
GCPR	**Guaynabo City**	**25.93**	**33**	P	**P**	**08 21 29.7**	**+0.5**
CBYP	**Canovanas**	**26.03**	**34**	P	**P**	**08 21 30.4**	**+0.3**
MTP	**Monte Pirata**	**26.06**	**34**	P	**P**	**08 21 30.1**	**-0.2**
MTP				IAmb	IAmb	08 21 33.5	
	comp=Z,27nm,1.0s						
CDVI	**St. Croix**	**26.24**	**36**	P	**P**	**08 21 32.7**	**+0.8**
CUPR	**Culebra, Puert**	**26.38**	**35**	P	**P**	**08 21 33.4**	**+0.2**
MALB	**Monte Alegre**	**26.43**	**87**	*eP*	**P**	**08 21 33.9**	**0.0**
FDF	**Fort de France**	**26.45**	**47**	P	**P**	**08 21 32.7**	**-1.2**
GRTK	**Grand Turk**	**26.47**	**20**	P	**P**	**08 21 34.4**	**+0.4**
STVI	**Saint Thomas**	**26.60**	**35**	P	**P**	**08 21 34.9**	**-0.3**
STVI				IAmb	IAmb	08 21 40.6	
	comp=Z,16nm,0.8s						
SMRT	**St. Maarten**	**27.49**	**39**	P	**P**	**08 21 42.2**	**-1.0**
SMRT				IAmb	IAmb	08 21 43.5	
	comp=Z,33nm,1.2s						
ANWB	**Willy Bob**	**28.04**	**41**	P	**P**	**08 21 48.1**	**0.0**
MCPB	**Macapa, AP**	**28.77**	**85**	*eP*	**P**	**08 21 53.6**	**-1.1**
PP1B	**Ponte de Pedra**	**28.97**	**121**	*eP*	**P**	**08 21 57.1**	**+0.6**
MDP	**Montagnes des**	**29.26**	**73**	P	**P**	**08 21 58.9**	**-0.2**
	comp=Z,6.5nm,0.7s,baz=249,slow=9.3,SNR=10						
SNDB	**Serra Nova Dou**	**30.31**	**108**	*eP*	**P**	**08 22 08.5**	**+0.1**
VA03	**San Esteban**	**30.71**	**163**	P	**P**	**08 22 11.8**	**0.0**
PRPB	**Parauapebas**	**30.88**	**96**	*eP*	**P**	**08 22 14.3**	**+0.8**
DWPF	**Disney Wildern**	**31.34**	**359**	P	**P**	**08 22 16.2**	**-1.0**
	baz=178						
MT09	**Talagante**	**31.54**	**164**	P	**P**	**08 22 20.3**	**+1.1**
MT09				IAmb	IAmb	08 22 20.9	
	comp=Z,15nm,0.8s						
CPUP	**Villa Florida**	**31.95**	**138**	P	**P**	**08 22 23.2**	**+0.5**
	comp=Z,2.9nm,0.6s,baz=301,slow=9.4,SNR=8.1						
CPUP	**Villa Florida**	**31.95**	**138**	P	**P**	**08 22 22.4**	**-0.4**
CPUP				IAmb	IAmb	08 22 35.1	
	comp=Z,19nm,1.4s						
CPUP	**Villa Florida**	**31.95**	**138**	*eP*	**P**	**08 22 23.4**	**+0.7**
BO01	**Tunca**	**32.10**	**165**	P	**P**	**08 22 24.6**	**+0.7**
BO01				IAmb	IAmb	08 22 49.5	
	comp=Z,22nm,1.4s						
GO05	**Huala**	**32.48**	**167**	P	**P**	**08 22 27.9**	**+0.6**
BO02	**Sierra Bellavi**	**32.56**	**165**	P	**P**	**08 22 29.1**	**+1.1**
BO02				IAmb	IAmb	08 22 43.5	
	comp=Z,15nm,0.9s						
TMAB	**Tom-Au,PA,Br**	**32.56**	**89**	*eP*	**P**	**08 22 28.9**	**+0.6**
PEXB	**Peixe**	**33.20**	**107**	*eP*	**P**	**08 22 34.4**	**+0.6**
TRCB	**Terra Rica**	**33.31**	**128**	P	**P**	**08 22 34.6**	**-0.1**
TRCB	**Terra Rica**	**33.31**	**128**	*eP*	**P**	**08 22 34.9**	**+0.2**
SMTB	**Santa Maria do**	**33.33**	**101**	*eP*	**P**	**08 22 35.5**	**+0.4**
ITRB	**Iturama**	**33.73**	**121**	*eP*	**P**	**08 22 38.6**	**+0.2**
PCMB	**Pacaembu**	**33.83**	**125**	*eP*	**P**	**08 22 39.3**	**+0.1**
BDFB	**Brasilia**	**34.37**	**113**	P	**P**	**08 22 44.4**	**+0.3**
	comp=Z,6.6nm,0.7s,baz=287,slow=10,SNR=8.5						
BDFB				LR	LR	08 38 36.1	
	comp=Z,1μm,18.1s,baz=299,slow=40						
BDFB	**Brasilia**	**34.37**	**113**	P	**P**	**08 22 42.9**	**-1.2**
BDFB				IAmb	IAmb	08 22 45.5	
	comp=Z,12nm,1.0s						
ITQB	**Itaqui**	**34.68**	**141**	P	**P**	**08 22 48.2**	**+1.8**
ITQB	**Itaqui**	**34.68**	**141**	*eP*	**P**	**08 22 47.7**	**+1.3**
TIGA	**Tifton**	**34.76**	**356**	P	**P**	**08 22 45.9**	**-1.2**
	baz=175						
PTGB	**Pitanga**	**34.77**	**130**	*eP*	**P**	**08 22 47.7**	**+0.3**
BRAL	**Brewton**	**34.91**	**350**	P	**P**	**08 22 47.5**	**-0.9**
	baz=169						
IPMB	**Ipameri, GO**	**34.95**	**117**	*eP*	**P**	**08 22 48.8**	**-0.2**
BB19B	**Bebedouro**	**35.86**	**122**	*eP*	**P**	**08 22 56.6**	**-0.2**
FRTB	**Fartura**	**36.03**	**126**	*eP*	**P**	**08 22 59.0**	**+0.8**
833A	**Chaparral WMA,**	**36.32**	**331**	P	**P**	**08 22 59.9**	**-0.6**
	baz=147						
ROSB	**Rosrio**	**36.51**	**90**	*eP*	**P**	**08 23 02.6**	**+0.2**
SDBA	**SAO DESIDERIO**	**36.51**	**106**	*eP*	**P**	**08 23 01.7**	**-0.8**
GOGA	**Godfrey**	**36.71**	**356**	P	**P**	**08 23 03.2**	**-0.6**
	baz=175						
LRAL	**Lakeview Retre**	**36.73**	**351**	P	**P**	**08 23 03.6**	**-0.3**
LRAL				IAmb	IAmb	08 23 04.5	
	comp=Z,12nm,0.8s						
LRAL	**Lakeview Retre**	**36.73**	**351**	P	**P**	**08 23 02.8**	**-1.2**
	baz=169,SNR=5.8						
Z47A	**Carrollton**	**37.07**	**350**	P	**P**	**08 23 06.9**	**+0.1**
Z47A				IAmb	IAmb	08 23 07.4	
	comp=Z,20nm,0.8s						
CPSB	**Cacapava Do Su**	**37.20**	**139**	*eP*	**P**	**08 23 08.7**	**+0.6**
TIJ01	**Guaruva-PR**	**37.45**	**129**	*eP*	**P**	**08 23 10.8**	**+0.5**
435B	**Jarrell**	**37.63**	**336**	P	**P**	**08 23 11.9**	**+0.2**
435B				IAmb	IAmb	08 23 25.4	
	comp=Z,18nm,1.1s						
435B	**Jarrell**	**37.63**	**336**	P	**P**	**08 23 11.0**	**-0.7**
	baz=152						
JANB	**Januaria**	**37.65**	**110**	*eP*	**P**	**08 23 12.0**	**-0.1**
SPB	**Sao Paulo**	**37.88**	**125**	*eP*	**P**	**08 23 13.6**	**-0.3**
VAO	**Valinhos**	**38.00**	**124**	*eP*	**P**	**08 23 14.7**	**-0.4**
PLTB	**Pedras Altas**	**38.00**	**141**	*eP*	**P**	**08 23 15.7**	**+0.8**
Y45A	**Yeager Farm, C**	**38.00**	**348**	P	**P**	**08 23 14.1**	**-0.6**
FPAL	**Fort Paine**	**38.03**	**353**	P	**P**	**08 23 14.2**	**-0.8**
FPAL				IAmb	IAmb	08 23 15.1	
	comp=Z,10nm,0.9s						
LL04	**Puerto Octay**	**38.08**	**170**	P	**P**	**08 23 15.8**	**+0.5**
LL04				IAmb	IAmb	08 23 16.5	
	comp=Z,16nm,0.7s						
X48A	**Hartselle**	**38.13**	**351**	P	**P**	**08 23 15.0**	**-0.8**
Z41A	**Richland Creek**	**38.22**	**343**	P	**P**	**08 23 16.0**	**-0.6**
	baz=160						
PLCA	**Paso Flores**	**38.27**	**168**	P	**P**	**08 23 17.7**	**+0.7**
	comp=Z,3.8nm,0.8s,baz=346,slow=10,SNR=7.9						
PLCA	**Paso Flores**	**38.27**	**168**	P	**P**	**08 23 17.8**	**+0.7**
PLCA	**Paso Flores**	**38.27**	**168**	*eP*	**P**	**08 23 18.2**	**+1.1**
CNLB	**Canela**	**38.27**	**135**	*eP*	**P**	**08 23 17.9**	**+0.6**
PET01	**Itanhaem-SP**	**38.32**	**126**	*eP*	**P**	**08 23 17.4**	**-0.2**
JCT	**Junction City**	**38.33**	**333**	P	**P**	**08 23 18.3**	**+0.7**
JCT				IAmb	IAmb	08 23 19.7	
	comp=Z,11nm,0.7s						
JCT	**Junction City**	**38.33**	**333**	P	**P**	**08 23 16.8**	**-0.8**
	baz=148,SNR=9.5						
KMSC	**Kings Mountain**	**38.35**	**359**	P	**P**	**08 23 17.3**	**-0.4**
KMSC				IAmb	IAmb	08 23 18.1	
	comp=Z,17nm,0.9s						
KMSC	**Kings Mountain**	**38.35**	**359**	P	**P**	**08 23 16.5**	**-1.1**
	baz=179						
W57A	**Gilead**	**38.36**	**1**	P	**P**	**08 23 17.3**	**-0.4**
W57A				IAmb	IAmb	08 23 37.0	
	comp=Z,22nm,1.4s						
MC01	**Montes Claros**	**38.42**	**113**	*eP*	**P**	**08 23 18.6**	**0.0**
TRQA	**Tornquist**	**38.50**	**156**	P	**P**	**08 23 19.3**	**+0.3**
TRQA	**Tornquist**	**38.50**	**156**	*eP*	**P**	**08 23 19.3**	**+0.3**
WHTX	**Lake Whitney,**	**38.64**	**337**	P	**P**	**08 23 21.4**	**+1.2**
WHTX				IAmb	IAmb	08 23 34.4	
	comp=Z,19nm,1.2s						
WHTX	**Lake Whitney,**	**38.64**	**337**	P	**P**	**08 23 19.6**	**-0.6**
	baz=152						
WLAR	**White Oak Lake**	**38.72**	**343**	P	**P**	**08 23 22.2**	**+1.4**
WLAR				IAmb	IAmb	08 23 23.4	
	comp=Z,26nm,1.2s						
SWET	**Sewanee**	**38.73**	**353**	P	**P**	**08 23 20.1**	**-0.8**
CPCT	**Cooper Cave**	**38.82**	**355**	P	**P**	**08 23 21.1**	**-0.5**
CPCT				IAmb	IAmb	08 23 22.1	
	comp=Z,15nm,1.0s						
Z38A	**Mt. Ple

MNTX **Cornudas Mount** 42.08 328 P P 08 23 49.0 +0.3
MNTX **Cornudas Mount** 42.08 328 P P 08 23 46.9 -1.8
baz=142,SNR=14
FVM **French Village** 42.16 349 P P 08 23 48.9 -0.3
FVM IAmb IAmb 08 23 49.5
comp=Z,9.1nm,0.7s
NBIT **Itapeh - BA** 42.21 108 eP P 08 23 50.5 +0.5
CMC01 **Camacan, BA** 42.22 109 eP P 08 23 50.5 +0.5
GUA01 **Guaratinga, BA** 42.22 111 eP P 08 23 50.4 +0.4
NAN01 **Guarapari, ES** 42.24 113 eP P 08 23 50.4 +0.3
Q51A **Peebles** 42.29 357 P P 08 23 49.5 -0.7
Q51A IAmb IAmb 08 23 50.1
comp=Z,16nm,0.9s
NBCL **Cascavel-CE** 42.30 93 eP P 08 23 50.8 0.0
RIB01 **Linhares ES** 42.39 115 eP P 08 23 51.6 +0.2
CCM **Cathedral Cave** 42.40 348 P P 08 23 50.4 -0.8
CCM **Cathedral Cave** 42.40 348 P P 08 23 50.3 -0.8
baz=164
ALF01 **Guarapari-ES** 42.49 117 eP P 08 23 52.5 +0.4
S39A **Bolivar** 42.54 345 P P 08 23 51.8 -0.5
S39A IAmb IAmb 08 23 53.3
comp=Z,14nm,0.8s
MSTX **Muleshoe** 42.62 333 P P 08 23 53.5 +0.3
MSTX IAmb IAmb 08 24 07.9
comp=Z,28nm,1.1s
MSTX **Muleshoe** 42.62 333 P P 08 23 52.0 -1.1
baz=146,SNR=10
T35A **Sooner Cattle** 42.74 341 P P 08 23 54.6 +0.7
T35A IAmb IAmb 08 24 08.8
comp=Z,37nm,1.2s
Q44A **Meyer Farm, Va** 42.80 350 P P 08 23 53.0 -1.3
Q44A IAmb IAmb 08 23 54.0
comp=Z,14nm,0.8s
BLOK **Blackwell** 42.83 340 P P 08 23 54.8 +0.1
BLOK IAmb IAmb 08 24 08.5
comp=Z,15nm,1.0s
P52A **Corning** 42.85 358 P P 08 23 53.6 -1.2
baz=178
R40A **Maddies Statio** 42.85 347 P P 08 23 54.2 -0.6
CROK **Carrier** 42.86 339 P P 08 23 54.4 -0.6
CROK IAmb IAmb 08 24 08.6
comp=Z,35nm,1.3s
P48A **Milroy** 42.88 355 P P 08 23 53.0 -2.0
P48A IAmb IAmb 08 23 53.9
comp=Z,13nm,0.9s
P49A **Miami Univ. Ec** 42.89 355 P P 08 23 53.1 -2.0
P49A **Miami Univ. Ec** 42.89 355 P P 08 23 53.5 -1.6
baz=174
AMTX **Amarillo** 42.90 334 P P 08 23 55.1 -0.2
AMTX IAmb IAmb 08 24 09.3
comp=Z,21nm,1.2s
AMTX **Amarillo** 42.90 334 P P 08 23 54.1 -1.3
baz=148
U32A **Winter Ranch,** 43.12 338 P P 08 23 58.0 +0.9
U32A IAmb IAmb 08 24 11.9
comp=Z,18nm,1.1s
KAN13 **South Haven SW** 43.15 340 P P 08 23 57.9 +0.6
KAN13 IAmb IAmb 08 23 58.7
comp=Z,21nm,1.2s
NBLA **Lagarto - SE** 43.17 102 eP P 08 23 57.1 -0.7
KAN17 **Caldwell West** 43.27 340 P P 08 23 58.0 -0.3
KAN09 **Caldwell North** 43.31 340 P P 08 23 59.1 +0.5
KAN09 IAmb IAmb 08 24 01.3
comp=Z,13nm,1.0s
O53A **New Philadelph** 43.44 359 P P 08 23 58.2 -1.3
baz=179
ACSO **Alum Creek Sta** 43.48 357 P P 08 23 59.0 -0.9
ACSO IAmb IAmb 08 23 59.6
comp=Z,19nm,0.8s
ACSO **Alum Creek Sta** 43.48 357 P P 08 23 58.0 -1.9
baz=177,SNR=5.1
O56A **Blue Knob Stat** 43.50 2 P P 08 23 59.1 -1.0
baz=183
P43A **Skaggs, Pawnee** 43.60 350 P P 08 24 00.1 -0.7
P43A IAmb IAmb 08 24 00.7
comp=Z,20nm,1.1s
NBLV **Livramento - P** 43.73 97 eP P 08 24 03.0 +0.6
SSPA **Standing Stone** 43.90 3 P P 08 24 02.0 -1.3
baz=184
SFIN **Lafayette** 43.97 353 P P 08 24 02.5 -1.3
baz=171
P40A **Paris** 43.99 347 P P 08 24 03.0 -0.9
319A **Douglas** 44.02 324 P P 08 24 05.9 +1.4
319A IAmb IAmb 08 24 06.9
comp=Z,10nm,0.8s
121A **Cookes Peak, D** 44.02 326 P P 08 24 05.9 +1.3
121A **Cookes Peak, D** 44.02 326 P P 08 24 03.3 -1.3
baz=139
N54A **Moraine State** 44.16 1 P P 08 24 04.4 -0.9
baz=181
HDIL **Hopedale** 44.45 351 P P 08 24 05.9 -1.8
HDIL **Hopedale** 44.45 351 P P 08 24 05.6 -2.1
baz=168,SNR=5.2
NBAN **Anadia - AL** 44.52 100 eP P 08 24 09.0 +0.3
BNM **Barren Site** 44.65 329 P P 08 24 10.4 +0.8
RCBR **Riachuelo** 44.69 95 eP P 08 24 10.4 +0.3
KSU1 **Kansas State U** 44.77 342 P P 08 24 10.7 +0.4
KSU1 **Kansas State U** 44.77 342 P P 08 24 08.8 -1.4
baz=157,SNR=6.7
R32A **Long Quarter,** 44.84 340 P P 08 24 11.5 +0.7
R32A IAmb IAmb 08 24 25.9
comp=Z,19nm,1.0s
N41A **Harden Midland** 44.88 349 P P 08 24 10.2 -0.8
N41A IAmb IAmb 08 24 10.8
comp=Z,14nm,0.9s
ANMO **Albuquerque** 45.18 330 P P 08 24 14.8 +0.9
ANMO IAmb IAmb 08 24 16.0
comp=Z,12nm,0.8s
ANMO **Albuquerque** 45.18 330 P P 08 24 12.9 -0.9
baz=142
L48A **N Adams** 45.26 356 P P 08 24 12.8 -1.3
L48A IAmb IAmb 08 24 13.4
comp=Z,15nm,0.8s
ERPA **Erie** 45.31 1 P P 08 24 14.7 +0.3
baz=181
NBPV **Pedro Velho** 45.31 96 eP P 08 24 15.4 +0.4
N38A **Joes South For** 45.46 347 P P 08 24 15.0 -0.7
CBKS **Cedar Bluff** 45.55 339 P P 08 24 17.1 +0.6
CBKS **Cedar Bluff** 45.55 339 P P 08 24 17.0 +0.5
baz=153
NBRF **Rio Formoso -** 45.58 99 eP P 08 24 17.3 +0.2
TUC **Tucson** 45.58 324 P P 08 24 17.3 +0.4
TUC **Tucson** 45.58 324 P P 08 24 16.9 0.0
baz=136
BINY **Binghamton** 45.59 5 P P 08 24 16.5 -0.2
baz=186
L42A **Oliver, Polo** 45.93 351 P P 08 24 17.8 -1.5
T25A **Trinidad** 45.99 333 P P 08 24 21.6 +1.5
T25A IAmb IAmb 08 24 23.4
comp=Z,8.0nm,0.9s
T25A **Trinidad** 45.99 333 P P 08 24 19.9 -0.3
baz=146,SNR=11
N35A **Tabor** 46.13 344 P P 08 24 20.7 -0.3
L40A **Anamosa** 46.26 349 P P 08 24 20.4 -1.5
214A **Organ Pipe Nat** 46.56 321 P P 08 24 25.5 +0.9
214A IAmb IAmb 08 24 35.9
comp=Z,5.8nm,0.8s
214A **Organ Pipe Nat** 46.56 321 P P 08 24 24.3 -0.3
baz=133
J47A **Sunmer** 46.58 356 P P 08 24 23.3 -1.1
X18A **Snowflake** 46.71 326 P P 08 24 26.8 +0.9
X18A IAmb IAmb 08 24 28.1
comp=Z,7.3nm,0.8s
KSCO **Kaye Shedlock'** 46.81 336 P P 08 24 27.5 +1.0
KSCO **Kaye Shedlock'** 46.81 336 P P 08 24 26.2 -0.3
baz=149
JFWS **Jewell Farm** 46.91 350 P P 08 24 25.7 -1.4
baz=167,SNR=5.0
SDCO **Great Sand Dun** 46.98 333 P P 08 24 29.1 +1.1
SDCO IAmb IAmb 08 24 30.1
comp=Z,8.1nm,0.8s
SDCO **Great Sand Dun** 46.98 333 P P 08 24 27.8 -0.2
baz=145,SNR=13
W18A **Petrified Fore** 47.03 327 P P 08 24 27.6 -0.8
baz=138
K38A **Parkersburg** 47.13 348 P P 08 24 27.7 -1.1
K38A IAmb IAmb 08 24 28.7
comp=Z,10nm,0.8s
L34A **Svendsen Farm,** 47.36 344 P P 08 24 30.1 -0.5
X16A **Lo Mia Camp, P** 47.47 325 P P 08 24 32.7 +0.9
S22A **4UR Ranch, Cre** 47.59 332 P P 08 24 32.5 -0.3
baz=143,SNR=5.2
Q24A **Divide** 47.82 334 P P 08 24 34.2 -0.4
baz=146
MVCO **Mesa Verde** 47.98 330 P P 08 24 36.5 +0.7
MVCO IAmb IAmb 08 24 50.3
comp=Z,11nm,1.2s
MVCO **Mesa Verde** 47.98 330 P P 08 24 35.0 -0.8
baz=141,SNR=6.2
Y14A **Wickenburg** 48.05 323 P P 08 24 37.0 +0.9
LBNH **Lisbon** 48.08 8 P P 08 24 35.5 -0.7
baz=192
LONY **Lake Ozonia** 48.12 6 P P 08 24 36.2 -0.3
baz=186
GLMI **Grayling** 48.14 356 P P 08 24 36.3 -0.3
baz=175
WUAZ **Wupatki** 48.23 326 P P 08 24 39.1 +1.5
WUAZ IAmb IAmb 08 24 53.4
comp=Z,14nm,1.0s
WUAZ **Wupatki** 48.23 326 P P 08 24 37.2 -0.4
baz=137,SNR=6.7
K31A **O'Neill** 48.65 342 P P 08 24 40.7 +0.1
ISCO **Idaho Springs** 48.72 334 P P 08 24 42.4 +0.9
ISCO IAmb IAmb 08 24 56.1
comp=Z,6.3nm,0.9s
ISCO **Idaho Springs** 48.72 334 P P 08 24 40.5 -1.0
baz=146,SNR=7.3
SMCO **Snowmass** 48.81 333 P P 08 24 43.2 +0.8
SMCO IAmb IAmb 08 24 57.0
comp=Z,11nm,1.1s
ECSD **EROS Data Cent** 49.07 345 P P 08 24 43.2 -0.5
ECSD IAmb IAmb 08 24 43.7
comp=Z,7.4nm,0.7s
ECSD **EROS Data Cent** 49.07 345 P P 08 24 42.8 -1.0
baz=159,SNR=9.3
IKP **In-Ko-Pah, Jac** 49.11 320 P P 08 24 44.2 -0.2
baz=130
BC3 **Big Chuckawall** 49.35 321 P P 08 24 45.6 -0.7
baz=131
W13A **Hualapai Mount** 49.37 324 P P 08 24 47.8 +1.3
U15A **North Rim** 49.40 326 P P 08 24 48.6 +1.8
IRM **Iron Mountain** 49.49 322 P P 08 24 47.0 -0.2
baz=132,SNR=6.7
N23A **Red Feather La** 49.77 335 P P 08 24 48.7 -0.7
baz=146
PHWY **Pilot Hill** 49.90 336 P P 08 24 51.1 +0.5
PHWY IAmb IAmb 08 24 52.2
comp=Z,13nm,1.4s
KNB **Kanab** 50.12 326 P P 08 24 53.4 +1.3
KNB IAmb IAmb 08 25 03.4
comp=Z,9.6nm,1.1s
PKCU **Pink Cliffs** 50.15 327 P P 08 24 54.2 +1.7
PKCU IAmb IAmb 08 25 13.3
comp=Z,22nm,1.3s
O20A **White River Ci** 50.16 332 P P 08 24 53.4 +0.9
O20A IAmb IAmb 08 25 05.1
comp=Z,8.9nm,0.9s
O20A **White River Ci** 50.16 332 P P 08 24 52.1 -0.3
baz=143
LCMT **Little Creek M** 50.35 326 P P 08 24 55.3 +1.5
F36A **Milaca** 50.36 348 P P 08 24 53.0 -0.5
F36A IAmb IAmb 08 24 53.5
comp=Z,18nm,1.4s
SUSD **Miller** 50.37 343 P P 08 24 52.8 -0.9
baz=156
MTPU **Mount Pierson** 50.52 328 P P 08 24 56.2 +0.8
Q16A **Castle Valley** 50.64 329 P P 08 24 57.1 +1.0
BBRC **Big Bear Solar** 50.67 321 P P 08 24 55.5 -0.8
baz=130
HEC **Hector,Ludlow** 50.67 322 P P 08 24 55.7 -0.5
baz=131
SZCU **Shurtz Canyon** 50.68 327 P P 08 24 57.3 +0.9
D41A **Chassel** 50.73 353 P P 08 24 55.9 -0.4
CCUT **Cedar City** 50.80 326 P P 08 24 59.0 +1.7
TUQ **Turquoise Moun** 50.82 323 P P 08 24 56.7 -0.7
baz=132,SNR=5.5
P17A **Butcher Ranch,** 50.85 330 P P 08 24 58.0 +0.5
P17A IAmb IAmb 08 24 59.2
comp=Z,8.7nm,0.8s
MSU **Marysvale** 50.86 328 P P 08 24 58.6 +0.8
MVU **Marysvale** 50.87 328 P P 08 24 59.0 +1.1
TMUT **Trail Mountain** 50.95 330 P P 08 24 59.5 +1.0
F33A **5 Mile Ranch,** 50.95 346 P P 08 24 57.3 -0.7
F33A IAmb IAmb 08 24 58.4
comp=Z,22nm,1.1s
RWWY **Rawlins** 50.96 334 P P 08 24 59.4 +0.9
TCRU **Three Creeks R** 51.08 328 P P 08 25 00.5 +1.1
TCRU IAmb IAmb 08 25 14.7
comp=Z,9.4nm,0.9s
BFSC **Mount Baldy Ra** 51.12 320 P P 08 24 59.5 -0.2
baz=130
RDMU **Red Mountain** 51.13 332 P P 08 25 00.5 +0.8
RDMU IAmb IAmb 08 25 01.3
comp=Z,19nm,1.2s
GSC **Goldstone, Bar** 51.27 322 P P 08 25 01.9 +1.2
GSC **Goldstone, Bar** 51.27 322 P P 08 24 59.9 -0.9
baz=131,SNR=5.4
SHOC **Shoshone, Teco** 51.34 323 P P 08 25 00.9 -0.3
baz=132
K22A **Casper** 51.46 336 P P 08 25 01.9 -0.2
baz=146
MPU **Maple Canyon** 51.70 330 P P 08 25 04.9 +0.8
EDW2 **Edwards Air Fo** 51.74 321 P P 08 25 03.7 -0.5
baz=130
QSM **Queen of Sheba** 51.75 322 P P 08 25 05.2 +1.0
RSSD **Black Hills** 51.75 339 P P 08 25 04.0 -0.3
RSSD IAmb IAmb 08 25 06.0
comp=Z,13nm,0.7s
RSSD **Black Hills** 51.75 339 P P 08 25 04.5 +0.2
baz=150
GWY **Greenwater Val** 51.77 323 P P 08 25 05.1 +0.5
PSUT **Pine Spring** 51.78 327 P P 08 25 05.7 +1.1
EYMN **Ely** 52.01 351 P P 08 25 05.4 -0.5
EYMN IAmb IAmb 08 25 20.6
comp=Z,11nm,1.2s
EYMN **Ely** 52.01 351 P P 08 25 04.8 -1.1
baz=166
TPNV **Topopah Spring** 52.03 324 P P 08 25 07.8 +1.3
TPNV **Topopah Spring** 52.03 324 P P 08 25 05.9 -0.6
baz=133,SNR=5.3
JLU **Jordanelle** 52.06 330 P P 08 25 07.3 +0.6
JLU IAmb IAmb 08 25 08.7
comp=Z,18nm,1.4s
FURC **Furnace Creek,** 52.08 323 P P 08 25 07.3 +0.8
baz=132
MPMC **Manual Prospec** 52.19 322 P P 08 25 07.6 -0.1
baz=131
CTU **Camp Tracy** 52.28 330 P P 08 25 09.4 +1.1
CTU IAmb IAmb 08 25 10.9
comp=Z,8.6nm,1.1s
SPR3 **Spring Creek 3** 52.37 327 P P 08 25 09.2 0.0
ARVC **Arvin** 52.43 320 P P 08 25 09.5 +0.2
baz=129
TCUT **Toone Canyon** 52.43 331 P P 08 25 10.1 +0.6
TCUT IAmb IAmb 08 25 12.1
comp=Z,8.0nm,0.7s
DUG **Dugway, Tooele** 52.44 329 P P 08 25 10.7 +1.2
DUG **Dugway, Tooele** 52.44 329 P P 08 25 09.4 0.0
baz=138
ISA **Isabella, Lake** 52.54 321 P P 08 25 11.0 +0.8
baz=130
R11A **Troy Canyon, C** 52.61 326 P P 08 25 11.0 +0.2
R11A **Troy Canyon, C** 52.61 326 P P 08 25 10.7 0.0
baz=134,SNR=8.3
GRAC **Grapevine Rang** 52.73 323 P P 08 25 11.8 +0.3
baz=131,SNR=5.7
B35A **Bob, Littlefor** 52.80 349 P P 08 25 11.1 -0.7
B35A IAmb IAmb 08 25 12.0
comp=Z,13nm,0.9s
CWC **Cottonwood Cre** 52.80 322 P P 08 25 12.6 +0.4
baz=130
E28A **Huff** 52.82 343 P P 08 25 12.4 +0.4
BW06 **Boulder Array** 52.86 334 P P 08 25 12.1 -0.5
BW06 IAmb IAmb 08 25 13.7
comp=Z,9.5nm,0.9s
BW06 **Boulder Array** 52.86 334 P P 08 25 12.1 -0.5
baz=143,SNR=13
PD31 **Pinedale Array** 52.86 334 P P 08 25 12.1 -0.5
PD31 IAmb IAmb 08 25 13.6
comp=Z,8.4nm,0.9s
PDAR **Pinedale Array** 52.86 334 P P 08 25 12.5 -0.1
comp=Z,6.5nm,0.8s,baz=127,slow=8.4,SNR=52
PDAR LR LR 08 47 55.0
comp=Z,174nm,19.1s,baz=148,slow=36
PDAR **Pinedale Array** 52.86 334 P P 08 25 12.1 -0.5
BGU **Big Grassy Mou** 53.09 330 P P 08 25 15.1 +0.9
AGMN **Agassiz Nation** 53.17 347 P P 08 25 13.7 -0.7
AGMN **Agassiz Nation** 53.17 347 P P 08 25 14.2 -0.3
baz=161,SNR=20
TIN **Tinemaha, Big** 53.29 323 P P 08 25 15.8 +0.1
baz=131
SMMC **Simmler** 53.30 320 P P 08 25 15.6 -0.1
baz=128
TPH **Tonopah** 53.36 324 P P 08 25 17.3 +1.0
AHID **Auburn Hatcher** 53.56 332 P P 08 25 16.8 -0.9
HVU **Hansel Valley** 53.60 330 P P 08 25 18.2 +0.2
HVU IAmb IAmb 08 25 19.4
comp=Z,7.3nm,1.0s
MDND **Maddock** 53.67 344 P P 08 25 18.5 +0.3
MDND **Maddock** 53.67 344 P P 08 25 18.8 +0.6
baz=156
ECR **Eagle Creek** 53.91 332 P P 08 25 20.8 +0.5
LOHW **Long Hollow** 53.99 333 P P 08 25 20.5 -0.3
LOHW IAmb IAmb 08 25 22.3
comp=Z,12nm,1.3s
MLAC **Mammoth, Mammo** 54.03 323 P P 08 25 21.6 +0.3
baz=130
ELK **Elko** 54.11 328 P P 08 25 22.7 +1.0
ELK IAmb IAmb 08 25 23.8
comp=Z,6.8nm,0.9s
NV11 **Mina Array Sit** 54.15 324 P P 08 25 23.2 +1.2
NV11 IAmb IAmb 08 25 37.6
comp=Z,9.6nm,1.2s
MOOW **Moose Ponds** 54.16 333 P P 08 25 22.1 0.0
MDPB **Devils Postpil** 54.18 323 P P 08 25 23.6 +1.2
MDPB IAmb IAmb 08 25 37.7
comp=Z,9.0nm,1.3s
FXWY **Fox Creek** 54.20 333 P P 08 25 22.4 0.0
NVAR **Mina Array Bea** 54.23 324 P P 08 25 23.6 +0.9
comp=Z,3.0nm,0.7s,baz=129,slow=7.1,SNR=25
NVAR LR LR 08 48 23.8
comp=Z,153nm,18.4s,baz=122,slow=36
NVAR **Mina Array Bea** 54.23 324 P P 08 25 23.8 +1.1
LHV **Little Huntoon** 54.23 323 P P 08 25 23.8 +1.3
LHV IAmb IAmb 08 25 42.4
comp=Z,12nm,1.2s
IMW **Indian Meadow** 54.37 333 P P 08 25 24.1 +0.4
FLWY **Flagg Ranch** 54.41 334 P P 08 25 24.6 +0.8
FLWY IAmb IAmb 08 25 25.7
comp=Z,13nm,1.0s
RYN **Ryan** 54.49 324 P P 08 25 25.2 +0.7
KVN **Kaiserville** 54.53 324 P P 08 25 24.8 -0.1
H17A **Grant Village** 54.60 334 P P 08 25 24.9 -0.4
baz=142
RLMT **Red Lodge** 54.62 335 P P 08 25 25.6 +0.1
RLMT IAmb IAmb 08 25 26.7
comp=Z,17nm,1.4s
RLMT **Red Lodge** 54.62 335 P P 08 25 25.0 -0.4
baz=144,SNR=8.7
LAO **LASA Array** 54.74 339 P P 08 25 26.0 -0.1
LAO IAmb IAmb 08 25 27.8
comp=Z,11nm,0.9s
LAO **LASA Array** 54.74 339 P P 08 25 25.4 -0.7
baz=148,SNR=5.8
YNE **Yellowstone No** 54.84 335 P P 08 25 27.4 +0.3
YNE IAmb IAmb 08 25 28.3
comp=Z,15nm,1.0s
ULM **Lac du Bonnet** 55.02 348 P P 08 25 27.4 -0.5
comp=Z,30nm,0.8s,baz=158,slow=7.5,SNR=22
ULM **Lac du Bonnet** 55.02 348 P P 08 25 27.1 -0.9
YHH **Holmes Hill** 55.03 334 P P 08 25 29.5 +1.0
YHH IAmb IAmb 08 25 33.2
comp=Z,11nm,1.4s
YERR **Yerington** 55.15 324 P P 08 25 30.0 +0.6
YHB **Horse Butte** 55.15 334 P P 08 25 30.6 +1.4
YHB IAmb IAmb 08 25 31.5
comp=Z,6.2nm,0.7s
YHL **Hebgen Lake** 55.23 334 P P 08 25 30.9 +1.0
QLMT **Earthquake Lak** 55.32 334 P P 08 25 31.7 +1.2
GCMT **Greycliff** 55.33 336 P P 08 25 30.9 +0.5
DGMT **Dagmar** 55.59 341 P P 08 25 32.2 +0.1
baz=151
VCNR **Virginia City** 55.59 324 P P 08 25 33.7 +1.2
PAHR **Pah Rah Range** 55.70 324 P P 08 25 34.1 +0.8
PAHR IAmb IAmb 08 25 44.4
comp=Z,12nm,1.4s
HLID **Hailey** 55.74 331 P P 08 25 34.0 +0.5
HLID IAmb IAmb 08 25 35.4
comp=Z,12nm,0.9s
HLID **Hailey** 55.74 331 P P 08 25 33.1 -0.4
baz=138,SNR=20
BCYI **Bear Canyon** 55.82 332 P P 08 25 35.1 +1.0
MCMT **McKenzie Canyo** 55.95 333 P P 08 25 35.6 +0.5
BOZ **Bozeman (W)** 56.01 334 P P 08 25 35.9 +0.6
BOZ IAmb IAmb 08 25 36.9
comp=Z,11nm,0.8s
BOZ **Bozeman (W)** 56.01 334 P P 08 25 34.7 -0.6
baz=142,SNR=26
DLMT **Dillon** 56.25 333 P P 08 25 37.2 +0.1
DLMT IAmb IAmb 08 25 38.7
comp=Z,6.4nm,0.8s
MFID **Camas Ranch** 56.33 330 P P 08 25 38.8 +1.1
BEKR **Beckworth** 56.38 324 P P 08 25 38.9 +0.8
LRM **Limekiln Ridge** 56.54 334 P P 08 25 39.7 +0.5
ORV **Oroville** 56.86 323 P P 08 25 42.1 +0.7
ORV IAmb IAmb 08 25 56.9
comp=Z,16nm,1.4s
HRY **Holter Researc** 56.97 335 P P 08 25 42.6 +0.5
WVOR **Wild Horse Val** 57.11 327 P P 08 25 42.9 -0.2
WVOR IAmb IAmb 08 25 45.3
comp=Z,17nm,1.1s
EGMT **Eagleton** 57.18 337 P P 08 25 43.5 -0.1
EGMT IAmb IAmb 08 25 44.3
comp=Z,7.7nm,0.8s
EGMT **Eagleton** 57.18 337 P P 08 25 42.7 -0.8
baz=145,SNR=6.4
O03E **Paynes Creek** 57.51 323 P P 08 25 45.6 -0.4
baz=129
PLID **Pearl Lake** 57.63 331 P P 08 25 46.9 0.0
PLID IAmb IAmb 08 25 47.9
comp=Z,7.3nm,0.8s
J08A **Circle Bar Ran** 57.65 328 P P 08 25 47.4 +0.4
J08A IAmb IAmb 08 25 48.2
comp=Z,5.4nm,0.6s
MOD **Modoc Plateau** 57.67 326 P P 08 25 46.9 -0.3
MOD IAmb IAmb 08 25 48.7
comp=Z,6.4nm,0.8s
MSO **Missoula** 57.98 334 P P 08 25 49.9 +0.7
MSO **Missoula** 57.98 334 P P 08 25 48.7 -0.5
baz=140,SNR=11
BMO **Blue Mountains** 58.10 330 P P 08 25 49.7 -0.4
WDC **Whiskeytown Da** 58.12 323 P P 08 25 49.3 -0.9
WDC IAmb IAmb 08 25 49.9
comp=Z,13nm,1.4s
M04C **Macdoel** 58.47 325 P P 08 25 52.2 -0.6
baz=130
K05A **Summer Lake** 58.54 326 P P 08 25 54.4 +1.0
I07A **Izee** 58.69 328 P P 08 25 55.0 +0.7
I07A IAmb IAmb 08 26 08.6
comp=Z,9.4nm,1.2s
JTMT **Jette** 58.83 334 P P 08 25 55.3 +0.2
JTMT IAmb IAmb 08 25 56.9
comp=Z,9.5nm,0.8s
F10A **Beach Ranch, E** 58.87 331 P P 08 25 56.1 +0.7
YBH **Yreka Blue Hor** 58.94 324 P P 08 25 55.7 -0.3
YBH IAmb IAmb 08 25 56.2
comp=Z,7.2nm,0.9s
K04D **Chiloquin, OR** 58.96 326 P P 08 25 55.6 -0.5
baz=130
L04D **Klamath Falls** 59.01 325 P P 08 25 56.0 -0.6
baz=129
J05D **Fort Rock, OR** 59.10 326 P P 08 25 56.9 -0.2
baz=131,SNR=6.2
SCHQ **Schefferville** 59.16 9 P P 08 25 57.2 +0.1
comp=Z,7.5nm,0.9s,baz=204,slow=3.9,SNR=3.6
SCHQ LR LR 08 54 16.0
comp=Z,74nm,18.1s,baz=244,slow=39
SCHQ **Schefferville** 59.16 9 IAmb IAmb 08 25 58.8
comp=Z,15nm,1.1s
G08A **Pilot Rock** 59.24 329 P P 08 25 58.1 +0.1
PINE **Pine Mountain** 59.27 327 P P 08 25 59.5 +1.1
TAOE **Nuku Hiva Isla** 59.32 262 eS S 08 34 03.4 -2.4
comp=Z,128nm,27.4s
TAOE eLR LR 08 43 30.3
comp=Z,228nm,29.9s
J04D **Umpqua Nationa** 59.55 326 P P 08 26 00.4 0.0
baz=130
WALA **Waterton Lakes** 59.68 335 P P 08 26 01.4 +0.4
E09A **Wood Farm, Sta** 59.70 331 P P 08 26 01.2 +0.2
I05D **Terrebonne, OR** 59.85 327 P P 08 26 01.9 -0.2
baz=131,SNR=5.6
I04A **Tendick Farm,** 60.08 326 P P 08 26 03.8 0.0
baz=130
K02D **Willamette Mer** 60.10 325 P P 08 26 04.0 0.0
baz=128
E08A **Dider Farm, El** 60.13 330 P P 08 26 04.1 +0.1

E08A IAmb IAmb 08 26 20.3
comp=Z,7.4nm,1.0s
F07A Phinny Hill Vi 60.15 329 P **P** **08 26 05.2 +1.1**
F07A IAmb IAmb 08 26 06.5
comp=Z,10.0nm,0.9s
HAWA Hanford 60.30 330 P **P** **08 26 05.5 +0.4**
HAWA IAmb IAmb 08 26 09.8
comp=Z,6.5nm,1.2s
G05D Wamic, OR 60.43 328 P **P** **08 26 06.0 -0.2**
baz=132
D08A Wollman Farm, 60.46 331 P **P** **08 26 06.7 +0.5**
NEW Newport 60.48 333 P **P** **08 26 06.8 +0.4**
NEW IAmb IAmb 08 26 07.7
comp=Z,15nm,1.3s
NEW Newport 60.48 333 P **P** **08 26 06.4 0.0**
baz=137,SNR=8.7
J01E Myrtle Point 60.54 325 P **P** **08 26 07.1 +0.3**
baz=128
FFC Flin Flon 60.56 346 P **P** **08 26 07.4 +0.7**
FFC IAmb IAmb 08 26 21.7
comp=Z,13nm,1.2s
E07A Sunnyside 60.57 330 P **P** **08 26 08.7 +1.6**
BUCK Buck Mountain 60.66 326 P **P** **08 26 08.7 +0.9**
C09A Chrisman Ranch 60.68 332 P **P** **08 26 08.2 +0.5**
F05D White Salmon 60.93 329 P **P** **08 26 10.4 +0.9**
baz=132
B08A Colville Reser 61.58 332 P **P** **08 26 14.4 +0.6**
LON Longmire 61.69 329 P **P** **08 26 14.7 0.0**
LON IAmb IAmb 08 26 16.4
comp=Z,7.1nm,0.9s
E04D Cinebar 61.95 329 P **P** **08 26 16.6 +0.2**
baz=131
D05A Enumclaw 62.08 329 P **P** **08 26 17.7 +0.6**
PMSA Palmer Station 62.41 172 P **P** **08 26 20.5 +1.5**
PMSA IAmb IAmb 08 26 29.6
comp=Z,7.8nm,1.1s
PMSA Palmer Station 62.41 172 *e*P **P** **08 26 20.1 +1.0**
D04E Lakebay 62.47 329 P **P** **08 26 20.0 +0.3**
baz=131
EDM Edmonton 62.73 339 P **P** **08 26 21.4 -0.1**
B05A Bryant 62.85 330 P **P** **08 26 22.2 -0.1**
baz=132
NLWA Neilton Lookou 63.18 329 P **P** **08 26 26.3 +1.7**
B04A Port Angeles 63.42 329 P **P** **08 26 27.3 +1.2**
B04A IAmb IAmb 08 26 31.4
comp=Z,6.7nm,0.9s
A04D Lummi Island 63.45 330 P **P** **08 26 26.5 +0.2**
baz=132,SNR=5.2
PGC Sidney 63.78 330 P **P** **08 26 29.3 +0.9**
PGC IAmb IAmb 08 26 30.4
comp=Z,8.0nm,0.8s
LLLB Lillooet 64.33 332 P **P** **08 26 33.3 +1.2**
LLLB IAmb IAmb 08 26 44.2
comp=Z,7.6nm,1.1s
CBB Campbell River 65.63 330 P **P** **08 26 42.1 +1.7**
CBB IAmb IAmb 08 26 42.9
comp=Z,7.9nm,0.9s
TLCB Telegraph Cove 66.69 330 P **P** **08 26 49.0 +1.7**
PPT Papeete 68.86 253 LR LR 08 49 36.1
comp=Z,115nm,18.7s,baz=89,slow=29
PPT2 Papeete2 68.86 253 *e*S **S** **08 36 02.9 -1.1**
comp=Z,83nm,23.8s
PPT2 *e*LQ LQ 08 45 01.5
comp=Z,708nm,35.0s
PPT2 *e*LR LR 08 47 55.3
comp=Z,263nm,26.5s
YKA Yellowknife Ar 70.59 344 P **P** **08 27 09.9 -1.4**
comp=Z,2.8nm,0.8s,baz=134,slow=7.2,SNR=6.3
YKA LR LR 09 00 51.7
comp=Z,107nm,18.2s,baz=0.0,slow=38
CRAG Craig 72.66 332 P **P** **08 27 23.8 -0.2**
baz=124
DLBC Dease Lake 73.03 335 P **P** **08 27 27.0 +0.8**
DLBC IAmb IAmb 08 27 27.9
comp=Z,9.0nm,0.8s
SFJD Kangerlussuaq 73.42 12 *i* P **P** **08 27 27.3 -1.0**
SFJD Kangerlussuaq 73.42 12 P **P** **08 27 27.7 -0.5**
DY2G Dye2 73.95 14⇑ *i*P **P** **08 27 31.1 -0.6**
DY2G IAmb IAmb 08 27 31.8
comp=Z,20nm,0.7s
TGTN Hyland Airport 74.28 338 P **P** **08 27 34.0 +0.5**
baz=130
MMPY Sheldon Lake, 76.07 338 P **P** **08 27 43.8 +0.1**
baz=127,SNR=5.8
LIC Lamto 76.14 83 *e*P **P** **08 27 45.1 0.0**
comp=Z,48nm,1.2s
TIC Toumodi 76.19 82 *e*P **P** **08 27 45.4 0.0**
DBIC Dimbokro 76.35 82 P **P** **08 27 46.7 +0.4**
comp=Z,9.1nm,0.7s,baz=277,slow=4.9,SNR=12
DBIC LR LR 09 00 34.8
comp=Z,321nm,19.8s,baz=264,slow=35
DBIC Dimbokro 76.35 82 IAmb IAmb 08 27 47.8
comp=Z,11nm,0.8s
KIC Kosan Boka 76.44 83 *e*P **P** **08 27 46.9 +0.1**
comp=Z,35nm,0.8s
FARO Faro, Yukon 76.62 337 P **P** **08 27 47.4 +0.5**
baz=125
ICESG Greenland Ices 77.57 14 *i* P **P** **08 27 52.1 -0.4**
ICESG IAmb IAmb 08 27 53.0
comp=Z,22nm,0.7s
YUK6 Outpost Mounta 77.93 335 P **P** **08 27 55.1 +0.5**
baz=120
KOWA Kowa 77.98 74 P **P** **08 27 55.2 -0.1**
RES Resolute Bay 78.45 356 LR LR 09 02 24.0
comp=Z,146nm,21.1s,baz=140,slow=36
CTG Chitna Glacier 79.21 334 P **P** **08 28 01.8 +0.4**
baz=118
BGLC Bering Glacier 79.69 333 P **P** **08 28 04.5 +0.7**
baz=116
BVCY Beaver Creek 79.69 336 P **P** **08 28 04.4 +0.5**
baz=118
CRQE Cirque 79.88 334 P **P** **08 28 05.2 +0.1**
baz=116
DAWY Dawson 79.92 338 P **P** **08 28 05.2 +0.1**
DAWY Dawson 79.92 338 P **P** **08 28 04.7 -0.4**
baz=120
M27K Edge Creek, AK 80.09 335 P **P** **08 28 06.7 +0.5**
M27K IAmb IAmb 08 28 07.5
comp=Z,9.6nm,0.9s
M27K Edge Creek, AK 80.09 335 P **P** **08 28 06.0 -0.2**
baz=117
MCARA McCarthy VSAT 80.13 334 P **P** **08 28 06.2 0.0**
baz=116
MDT Midelt 80.19 56 LR LR 09 00 49.4
comp=Z,107nm,21.1s,baz=280,slow=34
INK Inuvik 80.25 343 P **P** **08 28 06.8 +0.2**
INK Inuvik 80.25 343 P **P** **08 28 06.2 -0.4**
baz=126,SNR=6.1
BCAR Beaver Creek A 80.38 336 P **P** **08 28 07.9 +0.3**
L27K Beaver Creek, 80.39 336 P **P** **08 28 08.4 +0.7**
L27K IAmb IAmb 08 28 09.0
comp=Z,10nm,1.1s
L27K Beaver Creek, 80.39 336 P **P** **08 28 07.5 -0.2**
baz=118,SNR=5.2
SUMG Summit 80.42 12 *i* P **P** **08 28 08.3 +0.2**
SUMG IAmb IAmb 08 28 09.1
comp=Z,27nm,0.8s
SUMG Summit 80.42 12 P **P** **08 28 07.9 -0.2**
A36M Sachs Harbour 80.49 347 P **P** **08 28 07.5 -0.4**
A36M Sachs Harbour 80.49 347 P **P** **08 28 07.5 -0.4**
baz=135
M26K Nabesna, AK 80.57 335 P **P** **08 28 08.6 -0.1**
baz=116
BMRM Bremner River 80.64 334 P **P** **08 28 09.2 +0.1**
baz=115
VNA3 Neumayer Olymp 80.74 162 P **P** **08 28 09.9 +0.5**
N25K Chitina, Valde 80.91 334 P **P** **08 28 10.9 +0.4**
baz=115
EGAK Eagle 80.94 338 P **P** **08 28 10.4 -0.1**
EGAK IAmb IAmb 08 28 11.5
comp=Z,14nm,1.1s
EGAK Eagle 80.94 338 P **P** **08 28 10.0 -0.4**
baz=118,SNR=7.4
K27K Chicken 80.94 337 P **P** **08 28 10.3 -0.2**
baz=117
L26K Log Cabin Wild 80.99 336 P **P** **08 28 10.9 0.0**
L26K IAmb IAmb 08 28 11.4
comp=Z,6.3nm,0.8s
L26K Log Cabin Wild 80.99 336 P **P** **08 28 10.9 0.0**
baz=116
VNA1 Neumayer--Stat 81.02 161 P **P** **08 28 11.5 +0.7**
VNA2 Neumayer--Watz 81.37 161 P **P** **08 28 13.0 +0.3**
baz=300,slow=5.6
KLU Klutina 81.44 334 P **P** **08 28 12.9 -0.4**
baz=114
HARP HAARP 81.48 335 P **P** **08 28 13.2 -0.2**
baz=114
DOT Dot Lake 81.56 336 P **P** **08 28 13.6 -0.2**
DOT IAmb IAmb 08 28 14.6
comp=Z,8.3nm,0.8s
SCRK Sand Creek 81.67 337 P **P** **08 28 14.5 -0.1**
SCRK IAmb IAmb 08 28 15.3
comp=Z,5.7nm,0.8s
SCRK Sand Creek 81.67 337 P **P** **08 28 14.0 -0.5**
baz=116
J26L Joseph Creek 81.73 337 P **P** **08 28 14.0 -0.8**
baz=116,SNR=12
M24K Tolsona, Glenn 81.80 334 P **P** **08 28 14.2 -1.0**
baz=113
PAX Paxson 81.85 335 P **P** **08 28 15.0 -0.5**
PAX IAmb IAmb 08 28 16.4
comp=Z,9.3nm,0.8s
PAX Paxson 81.85 335 P **P** **08 28 14.3 -1.2**
baz=114,SNR=6.4
RIDG Independent Ri 81.91 336 P **P** **08 28 15.6 -0.1**
RIDG Independent Ri 81.91 336 P **P** **08 28 14.9 -0.8**
baz=115,SNR=5.7
ESDC Sonseca Array 81.98 49 P **P** **08 28 16.7 +0.1**
comp=Z,2.1nm,0.9s,baz=269,slow=5.6,SNR=11
ESDC LR LR 09 04 22.2
comp=Z,83nm,18.1s,baz=240,slow=36
ESDC Sonseca Array 81.98 49 IAmb IAmb 08 28 18.5
comp=Z,3.2nm,1.1s
NEEM North Greenlan 82.40 6 *i* P **P** **08 28 18.9 +0.5**
SML Sawmill 82.62 334 P **P** **08 28 19.2 -0.3**
baz=111
WAT6 Susitna Watana 82.65 335 P **P** **08 28 19.0 -0.8**
baz=112,SNR=5.9
SNAA Sanae 82.97 162 P **P** **08 28 21.2 0.0**
BRSE Bradley Lake S 83.02 331 P **P** **08 28 20.9 -0.7**
baz=109
HDA Harding Lake 83.03 336 P **P** **08 28 21.0 -0.5**
HDA IAmb IAmb 08 28 21.8
comp=Z,7.2nm,0.7s
HDA Harding Lake 83.03 336 P **P** **08 28 20.5 -1.0**
baz=113,SNR=5.4
WAT1 Susitna Watana 83.09 335 P **P** **08 28 21.6 -0.3**
baz=111
IL31 83.15 337 P **P** **08 28 21.5 -0.6**
IL31 IAmb IAmb 08 28 24.1
comp=Z,5.4nm,0.9s
ILAR Eielson Array 83.15 337 P **P** **08 28 21.2 -0.9**
comp=Z,3.5nm,1.0s,baz=105,slow=3.6,SNR=21
ILAR PP **PP** **08 31 35.4 +1.8**
comp=Z,0.3nm,0.8s,baz=108,slow=6.0,SNR=4.2
ILAR LR LR 09 07 01.4
comp=Z,118nm,19.7s,baz=124,slow=37
FYU Fort Yukon 83.25 339 P **P** **08 28 23.1 +0.5**
TORD Torodi Ar. Bea 83.36 76 P **P** **08 28 24.1 -0.1**
comp=Z,1.9nm,0.5s,baz=275,slow=6.3,SNR=23
TORD LR LR 09 03 54.6
comp=Z,330nm,20.5s,baz=275,slow=35
TORD Torodi Ar. Bea 83.36 76 P **P** **08 28 24.0 -0.2**
BMAR Burnt Mountain 83.39 340 P **P** **08 28 23.3 -0.1**
MCK McKinley 83.58 335 P **P** **08 28 24.1 -0.3**
MCK IAmb IAmb 08 28 25.1
comp=Z,9.2nm,1.0s
MCK McKinley 83.58 335 P **P** **08 28 24.1 -0.3**
baz=111
SUA Susitna One 83.59 333 P **P** **08 28 24.1 -0.4**
baz=109
MDM Murphy Dome 83.75 337 P **P** **08 28 24.8 -0.4**
H24K Noodor Dome 83.94 338 P **P** **08 28 26.1 -0.1**
H24K Noodor Dome 83.94 338 P **P** **08 28 25.9 -0.3**
baz=112,SNR=7.2
NEA2 Nenana 83.95 336 P **P** **08 28 25.8 -0.4**
NEA2 Nenana 83.95 336 P **P** **08 28 25.2 -1.1**
baz=111,SNR=8.6
TRF Thorofare Moun 84.05 335 P **P** **08 28 26.5 -0.5**
baz=110
SKT Skwentna 84.11 333 P **P** **08 28 26.4 -0.7**
SKT Skwentna 84.11 333 P **P** **08 28 26.6 -0.6**
baz=108
P19K Oil Pt 84.19 331 P **P** **08 28 26.8 -0.8**
baz=107
RSO Redoubt South 84.20 332 P **P** **08 28 27.9 0.0**
I23K Minto, Yukon-K 84.27 337 P **P** **08 28 27.9 +0.1**
I23K IAmb IAmb 08 28 28.6
comp=Z,6.7nm,0.8s
I23K Minto, Yukon-K 84.27 337 P **P** **08 28 27.1 -0.7**
baz=111,SNR=6.9
BPAW Bear Paw Mtn. 84.56 335 P **P** **08 28 28.7 -0.7**
BPAW Bear Paw Mtn. 84.56 335 P **P** **08 28 28.4 -1.0**
baz=109,SNR=7.8
COLD Coldfoot 85.32 339 P **P** **08 28 32.9 -0.2**
COLD IAmb IAmb 08 28 34.2
comp=Z,5.9nm,0.8s
COLD Coldfoot 85.32 339 P **P** **08 28 32.3 -0.7**
baz=110
M19K Big River Lodg 85.38 333 P **P** **08 28 33.1 -0.4**
baz=106
L19K White Mountain 85.66 333 P **P** **08 28 34.1 -0.9**
baz=106
N18K Kilae Creek 85.75 331 P **P** **08 28 34.6 -0.8**
baz=104
J20K Nowinta River 85.91 335 P **P** **08 28 35.1 -0.9**
baz=106
JMIC Jan Mayen 87.45 18 LR LR 09 05 13.2
comp=Z,63nm,20.7s,baz=154,slow=34
VNDA Vanda 92.44 191 P **P** **08 29 07.8 +1.0**
comp=Z,0.8nm,0.7s,baz=143,slow=3.7,SNR=6.9
NOA NORSAR Array B 93.88 29 LR LR 09 08 23.9
comp=Z,56nm,21.2s,baz=270,slow=34
GERES GERESS Array B 95.43 41 LR LR 09 09 38.1
comp=Z,38nm,21.2s,baz=302,slow=34
ARCES ARCESS Array B 98.81 20 LR LR 09 10 39.3
comp=Z,37nm,21.7s,baz=305,slow=33
STKA Stephens Creek 126.68 226 PKP **PKPdf** **08 35 00.1 -0.3**
comp=Z,1.9nm,0.7s,baz=84,slow=1.7,SNR=5.2
ZALV Zalesovo Beam 128.23 11 PKP **PKPdf** **08 35 01.2 -1.4**
comp=Z,1.7nm,0.5s,baz=339,slow=3.7,SNR=5.9
ZALV Zalesovo Beam 128.23 11 **PKPdf** **08 35 01.8 -0.9**
KURK Kurchatov 129.73 17 **PKPdf** **08 35 05.4 -0.2**
KURBB Kurchatov Arra 129.79 17 PKP **PKPdf** **08 35 05.4 -0.3**
comp=Z,2.0nm,0.8s,baz=326,slow=2.7,SNR=6.9
MKAR Makanchi Array 134.32 16 PKP **PKPdf** **08 35 13.8 -0.7**
comp=Z,0.6nm,0.6s,baz=338,slow=3.1,SNR=3.6
SONM Songino Array 135.32 353 PKP **PKPdf** **08 35 16.1 -0.3**
comp=Z,1.7nm,0.8s,baz=31,slow=1.5,SNR=6.2
ASAR Alice Springs 136.88 230 PKhKP PKPpre 08 35 12.8
comp=Z,0.5nm,0.7s,baz=118,slow=3.5,SNR=5.5
ASAR PKP **PKPdf** **08 35 19.1 -0.8**
comp=Z,1.4nm,0.6s,baz=115,slow=2.3,SNR=18
ASAR Alice Springs 136.88 230 PKPdf **PKPdf** **08 35 19.0 -1.0**
KSRS Korea Array 137.13 326 PKhKP PKPpre 08 35 12.1
comp=Z,0.5nm,0.6s,baz=37,slow=42,SNR=2.7
KSRS PKP **PKPdf** **08 35 19.9 0.0**
comp=Z,1.8nm,0.7s,baz=22,slow=0.9,SNR=7.5
WMQ Urumqi 138.46 13 *e*PKP **PKPdf** **08 35 22.5 +0.2**
WRA Warramunga Arr 138.51 235 PKP **PKPdf** **08 35 22.3 -0.7**
comp=Z,163nm,0.6s,baz=121,slow=2.0,SNR=1.9
HHC Hu-ho-hao-te 141.12 345 *e*PKP **PKiKP** **08 35 29.0 -1.0**
NJ2 Nanjing 146.10 329 *e*PKPbc **PKPdf** **08 35 35.8 -0.3**
LZH Lanzhou 147.21 353 *e*PKPbc **PKPbc** **08 35 40.5 +0.2**
CMAR Chiang Mai Arr 165.03 1 PKP **PKPdf** **08 36 01.2 -0.3**
comp=Z,1.3nm,0.6s,baz=300,slow=1.9,SNR=8.0

*IDC **28** 08:29:10.7±1.2,31°.48S×71°.53W,h0km,mb4.4/4, mb1 4.1/9,mb1mx3.9/27,mbtmp4.0/9,ML3.6/5,Error ellipse: s-maj=36.6km s-min=28.9km az=109.0*
*SJA **28** 08:29:12.0,31°.53S×72°.12W,h10km,ML4.5*
*NEIC **28** 08:29:13.6±1.7,31°.58S±0°.03×71°.76W±0°.06,h14km±5km, mb4.5/5,ML4.1(GUC),Error ellipse: s-maj=7.2km s-min=4.9km az=91.0*
*GUC **28** 08:29:14.2±0.7,31°.57S×71°.73W,h36km±3km,ML4.1*
ISC 28 08:29:12.4±1.4,**31°.58S**±0°.02×**71°.82W**±0°.05,**h15**km±9km, **n112**,σ1§**52**/117,**mb4.4**/6,**3C-3D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO02	**Combarbal**	**0.80**	**62**	⇓ *i*P	**Pb**	**08 29 28.1**	**+0.1**
CO02				*i* S	**Sb**	**08 29 38.1**	**-0.5**
CO02				IAML		08 29 39.1	
	comp=E,33μm,0.4s						
CO02	**Combarbal**	**0.80**	**62**		**Pb**	**08 29 28.2**	**+0.1**
CO02				Sg	**Sb**	**08 29 38.1**	**-0.5**
CO06	**Fray Jorge**	**0.92**	**10**	*e*P	**Pg**	**08 29 30.7**	**+0.6**
CO06				*i* S	**Sg**	**08 29 43.2**	**+1.1**
CO06				IAML		08 29 48.1	
	comp=E,8μm,0.5s						
CO06	**Fray Jorge**	**0.92**	**10**		**Pn**	**08 29 31.1**	**+0.3**
CO06				Sg	**Sn**	**08 29 43.7**	**0.0**
VA06	**Catapilco**	**1.08**	**156**	⇓ *i*P	**Pn**	**08 29 33.1**	**+0.2**
VA06				*i* S	**Sb**	**08 29 46.6**	**0.0**
VA06				IAML		08 29 49.4	
	comp=N,8μm,0.6s						
CO03	**El Pedregal**	**1.22**	**53**	⇓ *i*P	**Pn**	**08 29 34.8**	**-0.2**
CO03				*i* S	**Sb**	**08 29 49.3**	**-1.6**
CO03				IAML		08 29 54.6	
	comp=E,6μm,0.2s						
CO03	**El Pedregal**	**1.22**	**53**		**Pn**	**08 29 34.8**	**-0.2**
CO03				Sg	**Sb**	**08 29 50.3**	**-0.6**
VA01	**Torpederas**	**1.45**	**174**	*e*P	**Pb**	**08 29 39.1**	**-0.1**
VA01	**Torpederas**	**1.45**	**174**	Pn	**Pb**	**08 29 39.2**	**+0.1**
VA01	**Torpederas**	**1.45**	**174**	*i* P	**Pb**	**08 29 39.0**	**-0.1**
ROCH	**El Roble**	**1.55**	**154**	*e*P	**Pn**	**08 29 40.1**	**+0.4**
ROCH				*i* S	**Sb**	**08 30 00.5**	**-0.1**
ROCH				IAML		08 30 06.1	
	comp=N,6μm,0.8s						
VA03	**San Esteban**	**1.60**	**138**	*e*P	**Pn**	**08 29 40.7**	**+0.4**
VA03				*i* S	**Sb**	**08 30 01.4**	**-0.4**
VA03				IAML		08 30 04.6	
	comp=E,8μm,0.4s						
VA03	**San Esteban**	**1.60**	**138**		**Pb**	**08 29 41.2**	**-0.6**
VA03	**San Esteban**	**1.60**	**138**	*i* P	**Pb**	**08 29 41.0**	**-0.8**
GO04	**Tololo Observa**	**1.65**	**32**	*e*P	**Pb**	**08 29 42.2**	**-0.5**
GO04				*i* S	**Sb**	**08 30 03.1**	**-0.4**
GO04	**Tololo Observa**	**1.65**	**32**		**Pb**	**08 29 42.3**	**-0.5**
CO05	**La Serena**	**1.73**	**17**⇑	*i*P	**Pn**	**08 29 42.9**	**+1.0**
CO05				*i* S	**Sb**	**08 30 05.1**	**-0.3**
CO05				IAML		08 30 17.5	
	comp=E,2μm,0.2s						
CO05	**La Serena**	**1.73**	**17**	Pn	**Pb**	**08 29 43.2**	**-0.6**
MT05	**Renca**	**2.03**	**153**	*e*P	**Pn**	**08 29 47.4**	**+1.3**
MT05				*i* S	**Sb**	**08 30 13.1**	**-1.1**
MT05				IAML		08 30 16.3	
	comp=N,3μm,0.5s						
MT05	**Renca**	**2.03**	**153**	Pn	**Pb**	**08 29 47.7**	**-1.3**
MT05	**Renca**	**2.03**	**153**	*i* P	**Pb**	**08 29 48.0**	**-1.0**
VA05	**Santo Domingo**	**2.08**	**175**⇑	*e*P	**Pn**	**08 29 47.4**	**+0.6**
VA05				IAML		08 30 25.9	
	comp=E,2μm,0.6s						
VA05	**Santo Domingo**	**2.08**	**175**	Pn	**Pn**	**08 29 47.4**	**+0.6**
RTLS	**Leoncito**	**2.17**	**97**	*i* P	**Pb**	**08 29 51.0**	**-0.5**
AUSP	**Uspallata**	**2.17**	**108**	*i* P	**Pb**	**08 29 51.0**	**-0.6**
MT09	**Talagante**	**2.30**	**162**	IAML		08 30 30.2	
	comp=N,1μm,0.6s						
MT09	**Talagante**	**2.30**	**162**		**Pn**	**08 29 51.5**	**+1.5**
MT01	**Popeta**	**2.33**	**168**	IAML		08 30 28.1	
	comp=E,1μm,0.4s						
MT01	**Popeta**	**2.33**	**168**		**Pn**	**08 29 51.3**	**+1.1**
MT01	**Popeta**	**2.33**	**168**	*i* P	**Pn**	**08 29 51.0**	**+0.8**
AROD	**Rodeo**	**2.46**	**56**	*i* P	**Pb**	**08 29 56.0**	**-0.6**
ACCO	**Cerro Coronel**	**2.56**	**68**	*i* P	**Pb**	**08 29 58.0**	**-0.3**
ZON	**Zonda**	**2.68**	**90**	*i* P	**Pb**	**08 29 59.0**	**-1.2**
ACDV	**Cuesta del Vie**	**2.71**	**60**	*i* P	**Pb**	**08 29 59.0**	**-1.8**
ASAL	**Salagasta**	**2.73**	**113**	*i* P	**Pb**	**08 30 00.0**	**-1.0**
LCO	**Las Campanas**	**2.74**	**21**	*e*P	**Pn**	**08 29 57.1**	**+1.0**
LCO				*i* S	**Sn**	**08 30 31.0**	**+1.9**
LCO	**Las Campanas**	**2.74**	**21**		**Pn**	**08 29 57.2**	**+1.2**
LCO	**Las Campanas**	**2.74**	**21**	*i* P	**Pn**	**08 29 57.0**	**+1.0**
ARCO	**CERRO ARCO**	**2.76**	**118**	*i* P	**Pb**	**08 30 01.0**	**-0.5**
RTCV	**Cerro Valdivia**	**2.81**	**97**	*i* P	**Pb**	**08 30 01.0**	**-1.4**
BO01	**Tunca**	**2.87**	**168**	⇑ *i*P	**Pn**	**08 29 59.0**	**+1.3**
BO01				*i* S	**Sb**	**08 30 37.2**	**-1.2**
BO01				IAML		08 30 49.8	
	comp=E,339nm,0.4s						
BO01	**Tunca**	**2.87**	**168**	Pn	**Pn**	**08 29 59.0**	**+1.3**
BO01	**Tunca**	**2.87**	**168**	*i* P	**Pn**	**08 29 59.0**	**+1.3**
BO03	**Pichilemu**	**2.91**	**182**	*e*P	**Pn**	**08 29 58.4**	**+0.2**
BO03				IAML		08 30 54.4	
	comp=E,284nm,0.6s						
AAGR	**Agrelo**	**2.95**	**121**	*i* P	**Pb**	**08 30 03.0**	**-1.7**
BO02	**Sierra Bellavi**	**3.32**	**165**	*e*P	**Pn**	**08 30 05.5**	**+1.6**
BO02				IAML		08 31 01.1	
	comp=N,624nm,0.4s						
BO02	**Sierra Bellavi**	**3.32**	**165**		**Pn**	**08 30 05.8**	**+1.8**
BO02	**Sierra Bellavi**	**3.32**	**165**	*i* P	**Pn**	**08 30 06.0**	**+2.0**
AC04	**Llanos de Chal**	**3.42**	**11**	*e*P	**Pn**	**08 30 05.7**	**+0.4**
AC04				IAML		08 31 02.8	
	comp=N,516nm,0.5s						
AC04	**Llanos de Chal**	**3.42**	**11**	Pn	**Pn**	**08 30 05.9**	**+0.6**
AC04	**Llanos de Chal**	**3.42**	**11**	*i* P	**Pn**	**08 30 06.0**	**+0.7**
GO05	**Huala**	**3.42**	**181**	Pn	**Pn**	**08 30 05.4**	**+0.1**
GO05	**Huala**	**3.42**	**181**	*i* P	**Pn**	**08 30 05.0**	**-0.3**
AGUA	**GUANDACOL**	**3.55**	**55**	*i* P	**Pb**	**08 30 11.0**	**-4.0**
AVFE	**Valle Fertil**	**3.85**	**77**	*i* P	**Pn**	**08 30 14.0**	**+2.7**
COIS	**El Sosneado**	**3.98**	**153**	*i* P	**Pn**	**08 30 17.0**	**+4.0**
LAMA	**Las Malvinas**	**4.00**	**148**	*i* P	**Pn**	**08 30 17.0**	**+3.8**
ML02	**Panimavida**	**4.19**	**175**	Pn	**Pn**	**08 30 16.8**	**+1.1**
GO03	**Copiap**	**4.20**	**20**	*e*P	**Pn**	**08 30 16.8**	**+0.8**
GO03				*i* S	**Sn**	**08 31 08.7**	**+3.8**
GO03	**Copiap**	**4.20**	**20**		**Pn**	**08 30 17.0**	**+0.9**
GO03	**Copiap**	**4.20**	**20**	*i* P	**Pn**	**08 30 17.0**	**+0.9**
VCA	**Vinchina**	**4.22**	**49**	*i* P	**Pn**	**08 30 21.0**	**+4.6**
RFA	**San Rafael**	**4.25**	**139**	*i* P	**Pn**	**08 30 19.0**	**+2.3**
ACHE	**Chepes**	**4.43**	**86**	*i* P	**Pn**	**08 30 22.0**	**+2.7**
APLL	**PUNTA DE LOS L**	**4.70**	**77**	*i* P	**Pn**	**08 30 25.0**	**+2.2**
ACLC	**CERRO LA CRUZ**	**4.72**	**64**	*i* P	**Pn**	**08 30 26.0**	**+2.8**
MRA	**San Martin**	**5.25**	**101**	*i* P	**Pn**	**08 30 32.0**	**+1.5**
AC02	**Maricunga**	**5.28**	**27**	Pn	**Pn**	**08 30 32.5**	**+1.3**
AC02	**Maricunga**	**5.28**	**27**	*i* P	**Pn**	**08 30 32.0**	**+0.8**
CYA	**Choya**	**6.08**	**61**	*i* P	**Pn**	**08 30 43.0**	**+1.1**
VA04	**Juan Fernndez**	**6.26**	**249**	Pn	**Pn**	**08 30 45.0**	**+0.8**
H03N1	**Juan Fernandez**	**6.27**	**251**	T	T	08 37 25.9	
	baz=78,slow=72,SNR=2378						
H03N3	**Juan Fernandez**	**6.28**	**251**	T	T	08 37 26.1	
	baz=78,slow=72,SNR=2437						
H03N2	**Juan Fernandez**	**6.29**	**251**	T	T	08 37 26.6	
	baz=78,slow=72,SNR=2424						
PB14	**IPOC Station P**	**7.04**	**11**	Pn	**Pn**	**08 30 58.5**	**+3.2**
LC01	**Cunco**	**7.30**	**180**	Pn	**Pn**	**08 30 59.5**	**+0.9**
LC01	**Cunco**	**7.30**	**180**	*i* P	**Pn**	**08 31 01.0**	**+2.4**
AHML	**Horco Molle**	**7.41**	**52**	*i* P	**Pn**	**08 31 00.0**	**-0.2**
FSA	**Cafayete**	**7.48**	**45**	*i* P	**Pn**	**08 31 04.0**	**+2.8**
PB05	**IPOC Station P**	**8.81**	**10**	*i* P	**Pn**	**08 31 18.0**	**-1.4**
PLCA	**Paso Flores**	**9.19**	**174**	Pn	**Pn**	**08 31 25.9**	**+1.3**
	comp=N,0.2nm,0.3s,baz=339,slow=11,SNR=5.6						
PLCA	**Paso Flores**	**9.19**	**174**		**Pn**	**08 31 26.3**	**+1.7**
LVC	**Limon Verde**	**9.30**	**17**	Pn	**Pn**	**08 31 23.7**	**-2.6**
	comp=N,0.2nm,0.3s,baz=276,slow=15,SNR=1.6						
LVC	**Limon Verde**	**9.30**	**17**	Pn	**Pn**	**08 31 26.1**	**-0.3**
LVC	**Limon Verde**	**9.30**	**17**	*i* P	**Pn**	**08 31 28.0**	**+1.7**
PB04	**IPOC Station P**	**9.33**	**10**	Pn	**Pn**	**08 31 28.2**	**+1.7**
PB09	**IPOC Station P**	**10.01**	**14**	Pn	**Pn**	**08 31 35.9**	**-0.1**
TRQA	**Tornquist**	**10.35**	**131**	Pn	**Pn**	**08 31 41.5**	**+1.1**
PB01	**IPOC Station P**	**10.70**	**12**	Pn	**Pn**	**08 31 44.7**	**-0.5**
PSGCX	**Pisagua**	**12.03**	**8**	Pn	**Pn**	**08 32 06.3**	**+2.8**
ITQB	**Itaqui**	**13.23**	**86**	Pn	**Pn**	**08 32 18.9**	**-0.8**
CPUP	**Villa Florida**	**13.72**	**71**	Pn	**Pn**	**08 32 24.7**	**-1.7**
	comp=N,0.1nm,0.3s,baz=50,slow=17,SNR=1.3						
LPAZ	**La Paz**	**15.59**	**13**	Pn	**Pn**	**08 32 49.5**	**-2.8**
	comp=N,0.1nm,0.3s,baz=197,slow=5.4,SNR=3.0						
SIV	**San Ignacio**	**18.35**	**35**	P	**Pn**	**08 33 23.9**	**-2.6**
	comp=N,0.2nm,0.3s,baz=242,slow=13,SNR=3.4						
BDFB	**Brasilia**	**26.88**	**59**	P	**P**	**08 34 51.3**	**-1.7**
	comp=N,4.1nm,0.7s,baz=214,slow=11,SNR=3.6						
SNAA	**Sanae**	**53.76**	**159**	P	**P**	**08 38 34.3**	**+0.5**
SNAA				IAmb	IAmb	08 38 35.0	
	comp=Z,5.5nm,1.1s						
QSPA	**South Pole Qui**	**58.65**	**180**	P	**P**	**08 39 09.9**	**+1.0**
QSPA				IAmb	IAmb	08 39 10.3	
	comp=Z,3.1nm,0.9s						
DBIC	**Dimbokro**	**74.24**	**72**	P	**P**	**08 40 48.1**	**-1.1**
	comp=Z,8.9nm,0.9s,baz=220,slow=5.6,SNR=9.3						
DBIC	**Dimbokro**	**74.24**	**72**	P	**P**	**08 40 49.0**	**-0.3**
NVAR	**Mina Array Bea**	**82.01**	**325**	P	**P**	**08 41 33.6**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=147,slow=5.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**83.22**	**70**	P	**P**	**08 41 37.8**	**-0.8**
	comp=

baz=116,slow=75,SNR=22
H11N2 WAKE ISLAND Hyl 26.32 272 T T 11 07 32.4
baz=116,slow=75,SNR=97
KURBB Kurchatov Arra 150.95 40 PKPbc **PKPbc 08 49 04.1 0.0**
comp=Z,2.5nm,0.7s,baz=300,slow=3.2,SNR=6.7
ZALV Zalesovo Beam 152.06 30 PKPbc **PKPbc 08 49 06.8 +0.1**
comp=Z,12nm,0.6s,baz=297,slow=2.6,SNR=28
MKAR Makanchi Array 154.99 45 PKPbc **PKPbc 08 49 13.1 -0.2**
comp=Z,0.5nm,0.9s,baz=0.0,slow=2.2,SNR=4.6
MKAR PKPab **PKPab 08 49 28.4 -0.4**
comp=Z,0.8nm,0.8s,baz=305,slow=4.3,SNR=4.7
MKAR Makanchi Array 154.99 45 PKPbc 08 49 13.3 0.0

*LDG **28** 08:30:02.7±0.1,47.82°N×3.69°W,h6km,Md3.1/3,Ml3.1/29, Error ellipse: s-maj=1.7km s-min=1.3km az=76.0*
*STR **28** 08:30:03.9±0.5,48°N±3′×±°,h15km±5km,MLv2.8/6, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/haslach_taup-2.11 preliminary*
*BGS **28** 08:30:05.5±1.6,47.84°N×3.57°W,h5km,ML2.4*

ISC 28 08:30:00.9±1.1,47.78°N±0.02°×3.66°W±0.03°,h17km±9km, n49,σ1ᵍ39/91,France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QUIF	**Quistinic**	**0.36**	**67**	*e*Pg	**Pn**	**08 30 10.4**	**-0.8**
QUIF				*e*Sg	**Sb**	**08 30 15.7**	**+1.6**
	241nm,0.2s						
ROSF	**Rostrenen**	**0.61**	**25**	*e*P	**Pb**	**08 30 13.9**	**+0.8**
ROSF	**Rostrenen**	**0.61**	**25**	*e*Pg	**Pb**	**08 30 14.0**	**+0.8**
ROSF	**Rostrenen**	**0.61**	**25**	*e*Pn	**Pn**	**08 30 15.2**	**+0.4**
ROSF				*e*Sg	**Sb**	**08 30 21.7**	**+0.2**
	236nm,0.2s						
ROSF				*e*Sn	**Sn**	**08 30 23.8**	**-0.5**
	122nm,0.2s						
ROSF	**Rostrenen**	**0.61**	**25**	Pg	**Pb**	**08 30 13.9**	**+0.8**
ROSF				Sg	**Sb**	**08 30 21.5**	**0.0**
CAMF	**Camaret-sur-Me**	**0.81**	**308**	Pg	**Pb**	**08 30 16.8**	**+0.3**
CAMF				Sg	**Sg**	**08 30 26.9**	**-0.5**
SGMF	**Saint Gilles**	**0.88**	**57**	*e*Pg	**Pn**	**08 30 19.5**	**+1.1**
SGMF	**Saint Gilles**	**0.88**	**57**	*e*Pn	**Pn**	**08 30 20.0**	**+1.6**
SGMF				*e*Sg	**Sb**	**08 30 30.6**	**+1.6**
	151nm,0.2s						
RENF	**Rennes**	**1.40**	**75**	Pg	**Pg**	**08 30 28.8**	**+1.0**
RENF				Sg	**Sg**	**08 30 47.8**	**+1.8**
JSA	**Saint Aubin**	**1.72**	**34**	*e*P	**Pg**	**08 30 33.8**	**-0.2**
JSA				*e*S	**Sg**	**08 30 55.5**	**-0.8**
JSA				IAML		08 31 00.1	
	comp=E,40nm,0.2s						
JSA				IAML		08 31 03.1	
	comp=N,75nm,0.3s						
JSA	**Saint Aubin**	**1.72**	**34**	Pg	**Pg**	**08 30 33.9**	**0.0**
JSA	**Saint Aubin**	**1.72**	**34**	Sg	**Sg**	**08 30 55.5**	**-0.8**
JDC	**Jersey Dam (Cr**	**1.77**	**37**	*e*P	**Pg**	**08 30 34.6**	**-0.2**
JDG	**Jersey Dam (Ga**	**1.77**	**36**	*e*P	**Pg**	**08 30 34.8**	**-0.2**
JQE	**Queens East**	**1.78**	**37**	*e*P	**Pg**	**08 30 35.0**	**-0.2**
JLP	**Les Platons**	**1.79**	**35**	*e*P	**Pg**	**08 30 35.0**	**-0.3**
GRR	**Gorron**	**1.97**	**71**	*e*Pn	**Pb**	**08 30 35.4**	**-0.9**
GRR	**Gorron**	**1.97**	**71**	*e*Pg	**Pg**	**08 30 39.5**	**+0.8**
GRR				*e*Sn	**Sn**	**08 30 58.7**	**+0.9**
	comp=N,12nm,0.2s						
GRR				*e*Sg	**Sg**	**08 31 05.2**	**+0.9**
FLN	**La Foliniere**	**2.34**	**64**	*e*Pn	**Pn**	**08 30 40.2**	**+1.7**
FLN	**La Foliniere**	**2.34**	**64**	*e*Pg	**Pg**	**08 30 46.5**	**+0.8**
FLN				*e*Sg	**Sg**	**08 31 15.8**	**-0.2**
	comp=N,58nm,0.2s						
LDF	**La Druitiere**	**2.50**	**70**	*e*Pn	**Pn**	**08 30 43.1**	**+2.4**
LDF	**La Druitiere**	**2.50**	**70**	*e*Pg	**Pg**	**08 30 49.5**	**+0.7**
LDF				*e*Sn	**Sn**	**08 31 11.3**	**+0.5**
	comp=N,7.1nm,0.2s						
LDF				*e*Sg	**Sg**	**08 31 21.4**	**+0.2**
	comp=N,30nm,0.2s						
CCA1	**Carnmenellis**	**2.62**	**337**	*e*P	**Pb**	**08 30 47.7**	**+0.3**
CCA1				IAML		08 31 32.2	
	comp=N,8.1nm,0.2s						
CCA1				IAML		08 31 32.6	
	comp=E,12nm,0.4s						
DYA	**Yadsworthy**	**2.67**	**356**	IAML		08 31 26.7	
	comp=E,21nm,0.3s						
DYA				IAML		08 31 26.8	
	comp=N,21nm,0.2s						
DYA	**Yadsworthy**	**2.67**	**356**	Pn	**Pn**	**08 30 43.6**	**+0.7**
MFF	**Saint Martin d**	**2.67**	**115**	*e*Pn	**Pn**	**08 30 45.0**	**+2.0**
MFF	**Saint Martin d**	**2.67**	**115**	*e*Pg	**Pg**	**08 30 52.7**	**+0.7**
MFF				*e*Sn	**Sn**	**08 31 15.5**	**+0.6**
	comp=N,5.5nm,0.2s						
MFF				*e*Sg	**Sg**	**08 31 27.0**	**+0.5**
	comp=N,19nm,0.2s						
CHIF	**Chize**	**2.77**	**125**	Pn	**Pn**	**08 30 47.2**	**+2.9**
CHIF				Pg	**Pg**	**08 30 55.4**	**+1.6**
LFF	**La Frestale**	**4.16**	**131**	*e*Pn	**Pn**	**08 31 05.8**	**+2.3**
LFF	**La Frestale**	**4.16**	**131**	*e*Pg	**Pg**	**08 31 20.2**	**-0.3**
LFF				*e*Sn	**Sn**	**08 31 51.7**	**-0.1**
	comp=N,5.2nm,0.3s						
LFF				*e*Sg	**Sg**	**08 32 14.3**	**-0.1**
	comp=N,12nm,0.3s						
HYF	**Humbligny**	**4.30**	**95**	*e*Pn	**Pn**	**08 31 06.9**	**+1.5**
HYF				*e*Sn	**Sn**	**08 31 52.7**	**-2.4**
RJF	**Les Rejaudoux**	**4.34**	**123**	*e*Pn	**Pn**	**08 31 08.0**	**+1.9**
RJF	**Les Rejaudoux**	**4.34**	**123**	*e*Pg	**Pg**	**08 31 23.6**	**-0.4**
RJF				*e*Sn	**Sn**	**08 31 55.9**	**-0.4**
	comp=N,2.8nm,0.2s						
RJF				*e*Sg	**Sg**	**08 32 20.8**	**+0.6**
	comp=N,13nm,0.3s						
BGF	**Bois d'Agland**	**4.60**	**103**	*e*Pn	**Pn**	**08 31 10.0**	**+0.4**
BGF				*e*Sn	**Sn**	**08 32 01.7**	**-0.9**
BGF				*e*Sg	**Sg**	**08 32 27.0**	**-1.4**
	comp=N,25nm,0.3s						
AVF	**Avril sur Loir**	**4.87**	**99**	*e*Pn	**Pn**	**08 31 14.8**	**+1.5**
AVF				*e*Sn	**Sn**	**08 32 09.1**	**-0.1**
AVF				*e*Sg	**Sg**	**08 32 36.1**	**-1.0**
	comp=N,3.6nm,0.3s						
CAF	**Calviac**	**4.88**	**124**	*e*Pn	**Pn**	**08 31 15.4**	**+1.9**
CAF				*e*Sn	**Sn**	**08 32 09.0**	**-0.6**
	comp=N,1.8nm,0.2s						
CAF				*e*Sg	**Sg**	**08 32 37.0**	**-0.5**
	comp=N,7.7nm,0.3s						
SSF	**Saint Saulge**	**4.91**	**96**	*e*Pn	**Pn**	**08 31 15.9**	**+2.0**
SSF				*e*Sn	**Sn**	**08 32 09.3**	**-1.0**
SSF				*e*Sg	**Sg**	**08 32 37.2**	**-1.3**
	comp=N,8.0nm,0.4s						
SJPF	**Ste Jean**	**4.97**	**159**	*e*Pn	**Pn**	**08 31 16.6**	**+1.9**
SJPF				*e*Sn	**Sn**	**08 32 09.0**	**-2.7**
	comp=N,5.0nm,0.3s						
SJPF				*e*Sg	**Sg**	**08 32 39.8**	**-0.5**
	comp=N,2.8nm,0.3s						
LOR	**Lormes**	**5.12**	**93**	*e*Pn	**Pn**	**08 31 18.3**	**+1.6**
LOR	**Lormes**	**5.12**	**93**	*e*Pg	**Pg**	**08 31 37.4**	**-1.4**
LOR				*e*Sn	**Sn**	**08 32 15.1**	**-0.2**
LOR				*e*Sg	**Sg**	**08 32 42.8**	**-2.2**
	comp=N,6.1nm,0.3s						
SMF	**Signal de Mont**	**5.23**	**100**	*e*Pn	**Pn**	**08 31 20.2**	**+1.9**
SMF				*e*Sn	**Sn**	**08 32 17.2**	**-1.0**
SMF				*e*Sg	**Sg**	**08 32 47.0**	**-1.7**
	comp=N,3.2nm,0.3s						
ETSF	**Etsaut**	**5.35**	**155**	*e*Pn	**Pn**	**08 31 21.0**	**+1.1**
ETSF				*e*Sn	**Sn**	**08 32 20.3**	**-0.8**
	comp=N,1.3nm,0.2s						
EPF	**Esparros**	**5.52**	**148**	*e*Pn	**Pn**	**08 31 23.6**	**+1.4**
EPF	**Esparros**	**5.52**	**148**	*e*Pg	**Pg**	**08 31 45.8**	**-0.7**
EPF				*e*Sn	**Sn**	**08 32 23.8**	**-1.5**
EPF				*e*Sg	**Sg**	**08 32 56.6**	**-1.3**
	comp=N,3.1nm,0.3s						
BAIF	**Baives**	**5.66**	**63**	*e*Pn	**Pn**	**08 31 26.3**	**+2.2**
BAIF				*e*Sg	**Sg**	**08 33 00.0**	**-2.5**
	comp=N,4.5nm,0.4s						
SFTF	**Sexfontaines**	**5.85**	**83**	*e*Pg	**Pg**	**08 31 50.8**	**-2.0**
SFTF				*e*Sn	**Sn**	**08 32 31.0**	**-2.4**
SFTF				*e*Sg	**Sg**	**08 33 06.3**	**-2.3**
	comp=N,6.3nm,0.2s						
MTLF	**Montolieu**	**6.06**	**135**	*e*Pn	**Pn**	**08 31 31.5**	**+1.9**
MTLF				*e*Sn	**Sn**	**08 32 36.6**	**-1.9**
	comp=N,2.2nm,0.3s						
LASF	**Ste Croix**	**6.42**	**122**	*e*Pn	**Pn**	**08 31 36.4**	**+1.9**
LASF				*e*Sg	**Sg**	**08 33 24.4**	**-2.2**
	comp=N,5.6nm,0.5s						
VIVF	**Saint-Julien-l**	**6.47**	**114**	*e*Sg	**Sg**	**08 33 25.5**	**-2.7**
	comp=N,6.5nm,0.5s						

IDC 28 08:31:09.6±3.2,54.23°N×87.52°E,h0km,mb1 3.0/2, mb1mx2.9/38,mbtmp3.0/2,ML2.8/2,Error ellipse: s-maj=25.0km s-min=17.4km az=46.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.62**	**261**	*i*		08 39 10.0	
	baz=80,slow=333,SNR=5.7						
ZALV	**Zalesovo Beam**	**1.62**	**261**	Pg	Pn	08 31 37.0	-2.4
	1.5nm,0.3s,baz=77,slow=15,SNR=10.0						
ZALV				Lg	Lg	08 32 02.6	
	2.5nm,0.3s,baz=76,slow=25,SNR=8.3						
KURBB	**Kurchatov Arra**	**6.58**	**240**	Pn	Pn	08 32 48.5	+1.0
	0.1nm,0.3s,baz=54,slow=14,SNR=4.1						
KURBB				Sn	Sn	08 34 02.1	-1.0
	baz=41,slow=20,SNR=1.2						
KURBB				Lg	Lg	08 34 38.0	
	0.1nm,0.3s,baz=51,slow=30,SNR=3.3						
MKAR	**Makanchi Array**	**8.15**	**206**	Pn	Pn	08 33 10.5	+1.4
	0.2nm,0.3s,baz=26,slow=14,SNR=5.6						
MKAR				Sn	Sn	08 34 40.7	-1.2
	0.1nm,0.3s,baz=22,slow=28,SNR=3.2						

MEX 28 08:33:23.3±0.7,16.53°N×99.63°W,h5km,MD3.6,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAIG	**Los Arroyos**	**0.49**	**357**	*e*P	Pg	08 33 32.0	-0.7
DAIG				*i* S	Sg	08 33 39.5	+0.3
MGIG	**Malinaltepec**	**1.18**	**54**	*i* P	Pg	08 33 42.7	-3.3
MGIG				*e*S	Sg	08 33 57.8	-3.5
MEIG	**Mezcala**	**1.39**	**0**	*e*P	Pn	08 33 46.6	-2.8
MEIG				*i* S	Sb	08 34 03.3	-4.6
TLIG	**Tlapa**	**1.44**	**45**	*e*P	Pn	08 33 47.5	-2.8
TLIG				*i* S	Sb	08 34 04.5	-5.0

*TUL **28** 08:34:56.1±1.1,36.52°N±0.02°×98.98°W±0.04,h0km±2km, ML2.8,mb_Lg2.6/54(NEIC),Error ellipse: s-maj=4.6km s-min=2.4km az=122.0*

NEIC 28 08:34:57.3±1.6,36.52°N±0.03°×98.95°W±0.03°,h8km±6km, Error ellipse: s-maj=4.2km s-min=2.8km az=146.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.14**	**198**	Pg	Pg	08 34 59.7	-0.7
U32A				Sg	Sg	08 35 02.1	-0.4
OK032	**Salt Plains WL**	**0.66**	**64**	Pg	Pg	08 35 09.9	-0.1
OK032				Sg	Sg	08 35 19.3	+0.7
CROK	**Carrier**	**0.78**	**91**	Pg	Pg	08 35 12.1	-0.2
CROK				Sg	Sb	08 35 23.3	-0.6
KAN14	**Manchester OK**	**0.90**	**61**	Pg	Pg	08 35 14.4	-0.3
KAN14					Sg	08 35 26.8	+0.3
KAN10	**Anthony SW Sta**	**0.91**	**48**	Pg	Pg	08 35 14.3	-0.5
KAN10				Sg	Sg	08 35 26.0	-0.7
GC02	**Grant County #**	**0.94**	**69**	Pg	Pg	08 35 14.9	-0.4
GC02				Sg	Sg	08 35 27.7	+0.2
KAN16	**Harper SW Stat**	**1.00**	**45**	Pg	Pg	08 35 16.0	-0.5
KAN05	**Bluff City Nor**	**1.04**	**55**	Pg	Pg	08 35 16.8	-0.5
KAN08	**Anthony NE Sta**	**1.05**	**48**	Pg	Pg	08 35 16.9	-0.6
KAN17	**Caldwell West**	**1.08**	**61**	Pg	Pg	08 35 17.7	-0.5
KAN12	**Harper NE Stat**	**1.09**	**44**	Pg	Pg	08 35 17.6	-0.6
KAN06	**Argonia West S**	**1.14**	**50**	Pg	Pg	08 35 18.4	-0.7
KAN09	**Caldwell North**	**1.23**	**60**	Pg	Pb	08 35 20.1	-0.8
KAN13	**South Haven SW**	**1.28**	**67**	Pg	Pn	08 35 20.9	-0.6
KS20	**Mayfield South**	**1.32**	**57**	Pg	Pn	08 35 21.7	-0.5
BCOK	**Bluff Creek, N**	**1.38**	**128**		Pn	08 35 22.7	-0.3
OK029	**Liberty Lake**	**1.41**	**120**	Pn	Pn	08 35 23.1	-0.2
BLOK	**Blackwell**	**1.41**	**80**	Pn	Pn	08 35 23.4	0.0
OK025	**Westminster Rd**	**1.60**	**125**		Pn	08 35 26.2	+0.2
OKCFA	**Oklahoma City**	**1.64**	**132**		Pn	08 35 25.7	-0.8
OKCSW	**OKLAHOMA CITY**	**1.65**	**132**	Pn	Pn	08 35 26.3	-0.4
FNO	**Franklin**	**1.78**	**135**		Pn	08 35 28.0	-0.4
WMOK	**Wichita Mounta**	**1.78**	**176**	Pn	Pn	08 35 28.5	0.0
OK031	**S. Brethren Rd**	**1.79**	**108**	Pn	Pn	08 35 29.3	+0.7
QUOK	**Quay**	**1.84**	**100**	Pn	Pn	08 35 30.2	+1.0
OK030	**Cody Creek RV**	**1.85**	**108**	Pn	Pn	08 35 30.0	+0.7
R32A	**Long Quarter,**	**1.91**	**6**	Pn	Pn	08 35 30.7	+0.4
T35A	**Sooner Cattle**	**2.00**	**78**	Pn	Pn	08 35 32.1	+0.7
X34A	**Smith Ranch, M**	**2.12**	**154**	Pn	Pn	08 35 34.2	+1.1
X34A				IAmb_Lg		08 36 08.6	
	comp=Z,22nm,0.9s						
CBKS	**Cedar Bluff**	**2.38**	**345**	Pn	Pn	08 35 36.9	+0.2
CBKS				IAmb_Lg		08 36 16.2	
	comp=Z,28nm,0.8s						
TUL1	**Leonard**	**2.62**	**102**	Pn	Pn	08 35 40.3	+0.3
AMTX	**Amarillo**	**2.76**	**235**	Pn	Pn	08 35 42.0	0.0
AMTX				IAmb_Lg		08 36 22.5	
	comp=Z,18nm,0.9s						
LOOK	**Love County**	**2.91**	**150**	Pn	Pn	08 35 41.8	-2.2
LOOK				IAmb_Lg		08 36 35.4	
	comp=Z,16nm,0.8s						
KSU1	**Kansas State U**	**3.17**	**35**	Pn	Pn	08 35 46.4	-1.2
Z35A	**Perchaven, San**	**3.47**	**156**	Pn	Pn	08 35 51.7	0.0
X37A	**Clayton**	**3.49**	**122**		Pn	08 35 52.1	+0.1
X37A				IAmb_Lg		08 36 53.8	
	comp=Z,17nm,0.8s						
U38A	**Gravette**	**3.68**	**90**	Pn	Pn	08 35 55.9	+1.3
U38A				IAmb_Lg		08 36 59.9	
	comp=Z,15nm,0.9s						
KSCO	**Kaye Shedlock'**	**3.83**	**312**	Pn	Pn	08 35 57.1	+0.3
KSCO				IAmb_Lg		08 36 57.6	
	comp=Z,13nm,0.7s						
HHAR	**Hobbs**	**4.05**	**92**	IAmb_Lg		08 37 10.4	
	comp=Z,12nm,0.9s						
W39A	**Magazine**	**4.40**	**106**	IAmb_Lg		08 37 25.6	
	comp=Z,15nm,0.8s						
T25A	**Trinidad**	**4.43**	**280**	Pn	Pn	08 36 06.2	+1.1
T25A				IAmb_Lg		08 37 17.4	
	comp=Z,10nm,0.7s						
S39A	**Bolivar**	**4.64**	**74**	IAmb_Lg		08 37 22.3	
	comp=Z,14nm,0.8s						
WHTX	**Lake Whitney,**	**4.68**	**164**	Pn	Pn	08 36 08.2	-0.1
MIAR	**Mount Ida**	**4.80**	**113**	Pn	Pn	08 36 10.4	+0.4
U40A	**Yellville**	**4.92**	**90**	IAmb_Lg		08 37 39.4	
	comp=Z,12nm,0.9s						
P38A	**Dawn**	**5.28**	**52**	IAmb_Lg		08 37 54.4	
	comp=Z,14nm,1.0s						
SDCO	**Great Sand Dun**	**5.38**	**285**	Pn	Pn	08 36 18.8	+0.6
X40A	**Basin Creek Fa**	**5.38**	**110**	IAmb_Lg		08 37 59.5	
	comp=Z,7.3nm,0.9s						
MGMO	**Mountain Grove**	**5.39**	**81**	IAmb_Lg		08 37 50.6	
	comp=Z,14nm,0.7s						
WHAR	**Wooly Hollow**	**5.54**	**101**	IAmb_Lg		08 38 07.1	
	comp=Z,15nm,1.1s						
FCAR	**Ozark Folk Cen**	**5.55**	**94**	IAmb_Lg		08 37 57.9	
	comp=Z,11nm,0.9s						
R40A	**Maddies Statio**	**5.60**	**70**	IAmb_Lg		08 37 54.7	
	comp=Z,10nm,0.9s						
435B	**Jarrell**	**5.83**	**168**	IAmb_Lg		08 38 07.1	
	comp=Z,13nm,1.1s						
JCT	**Junction City**	**6.07**	**187**	IAmb_Lg		08 38 17.3	
	comp=Z,13nm,0.9s						
K31A	**O'Neill**	**6.10**	**1**	IAmb_Lg		08 38 17.8	
	comp=Z,15nm,0.7s						
T42A	**Van Buren**	**6.33**	**83**	IAmb_Lg		08 38 26.3	
	comp=Z,6.2nm,0.8s						
CCM	**Cathedral Cave**	**6.33**	**74**	IAmb_Lg		08 38 19.5	
	comp=Z,11nm,0.7s						
PBMO	**Poplar Bluff**	**6.85**	**85**	IAmb_Lg		08 38 42.4	
	comp=Z,8.7nm,0.8s						
PHWY	**Pilot Hill**	**6.97**	**315**	IAmb_Lg		08 38 40.9	
	comp=Z,6.3nm,0.8s						
MNTX	**Cornudas Mount**	**7.18**	**230**	IAmb_Lg		08 38 57.2	
	comp=Z,7.1nm,1.0s						
RSSD	**Black Hills**	**8.53**	**334**	IAmb_Lg		08 39 31.7	
	comp=Z,4.3nm,0.8s						
JFWS	**Jewell Farm**	**9.25**	**44**	IAmb_Lg		08 40 00.1	
	comp=Z,6.1nm,0.7s						

*IDC **28** 08:35:05.6±1.4,33.44°N×141.04E,h0km,mb3.3/2, mb1 3.6/3,mb1mx3.3/43,mbtmp3.3/3,ML2.4/1,Error ellipse: s-maj=58.6km s-min=26.7km az=94.0*
*JMA **28** 08:35:10.0±0.3,33.77°N×141.13E,h38km,M2.9*

ISC 28 08:35:11.4±1.2,33.74°N±0.06°×141.1°E±0.1,h48km,n14, σ1ᵍ35/15,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.92**	**354**	P	**Pn**	**08 35 26.2**	**-1.3**
BSO3	**Boso 3**	**1.16**	**336**	P	**Pn**	**08 35 30.3**	**-0.8**
JHJ2	**Mitsune**	**1.23**	**240**	P	**Pn**	**08 35 32.0**	**-0.3**
JMKN	**Mikurajimanish**	**1.26**	**277**	P	**Pn**	**08 35 32.7**	**+0.1**
JHCJ	**Hachijojimakas**	**1.27**	**239**	*e*S	**Sn**	**08 35 48.3**	**-0.3**
BSO4	**Boso 4**	**1.40**	**334**	P	**Pn**	**08 35 34.0**	**-0.4**
JIM2	**Oshima 3**	**1.69**	**306**	P	**Pn**	**08 35 38.0**	**-0.5**
JOD2	**Odawara 2**	**2.25**	**313**	*e*S	**Sn**	**08 36 12.7**	**0.0**
JYN	**Shimob**	**2.73**	**311**	P	**Pn**	**08 35 53.7**	**+0.8**
MJAR	**Matsushiro Arr**	**3.66**	**321**	Pn	**Pn**	**08 36 06.0**	**+0.4**
	0.3nm,0.3s,baz=149,slow=13,SNR=6.8						
MAT	**Matsushiro**	**3.66**	**321**	P	**Pn**	**08 36 07.0**	**+1.4**
MAT				*e*S	**Sn**	**08 36 45.3**	**-2.2**
ILAR	**Eielson Array**	**52.43**	**31**	P	**P**	**08 44 21.6**	**+2.8**
	0.3nm,0.6s,baz=242,slow=7.8,SNR=4.9						
WRA	**Warramunga Arr**	**53.77**	**188**	P	**P**	**08 44 27.6**	**-1.5**
	167nm,0.6s,baz=5.8,slow=7.6,SNR=1.3						
ASAR	**Alice Springs**	**57.49**	**188**	P	**P**	**08 44 54.5**	**-1.3**
	0.2nm,0.6s,baz=8.2,slow=8.3,SNR=6.8						

*NNC **28** 09:06:45.3±4.7,54.23°N×87.52E,h0km,mb3.4,mpv3.2, Error ellipse: s-maj=40.8km s-min=25.3km az=17.0, Suspected Mining explosion.*

IDC 28 09:06:47.1±2.6,54.20°N×87.43E,h0km,mb1 3.4/3, mb1mx3.2/34,mbtmp3.4/3,ML3.1/3,6C,Error ellipse: s-maj=23.7km s-min=15.0km az=61.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.56**	**262**	*i*		09 14 40.0	
	baz=80,slow=328,SNR=4.9						
ZAA0	**Zalesovo Array**	**1.56**	**262**	⇑P	Pn	09 07 13.2	-2.8
	2.4nm,0.6s						
ZAA0				⇑S	Sg	09 07 37.4	+0.3
	8.7nm,0.7s						
ZALV	**Zalesovo Beam**	**1.56**	**262**	Pg	Pn	09 07 13.6	-2.5
	2.7nm,0.3s,baz=78,slow=16,SNR=29						
ZALV				Lg	Lg	09 07 37.8	
	5.5nm,0.3s,baz=82,slow=23,SNR=8.3						
KURBB	**Kurchatov Arra**	**6.51**	**240**	Pn	Pn	09 08 24.4	+0.3
	0.2nm,0.3s,baz=55,slow=14,SNR=24						
KURBB				Lg	Lg	09 10 17.1	
	0.1nm,0.3s,baz=56,slow=32,SNR=9.9						
KURBB	**Kurchatov Arra**	**6.51**	**240**	⇑Pn	Pn	09 08 25.2	+1.0
	6.5nm,0.8s						
KURBB				⇑Sn	Sn	09 09 37.8	-1.3
	10nm,0.7s						
KURBB				⇑Lg	Lg	09 10 10.6	
	21nm,0.8s						
MK31	**Makanchi Array**	**8.10**	**206**	Pn	Pn	09 08 47.9	+1.9
	0.8nm,0.5s,baz=28,slow=14,SNR=15						
MK31				Sn	Sn	09 10 19.1	+0.9
	2.4nm,0.6s,baz=27,slow=26,SNR=4.5						
MK31				⇑Lg	Lg	09 11 00.1	
	11nm,1.0s,baz=24,slow=30,SNR=4.2						
MKAR	**Makanchi Array**	**8.10**	**206**	Pn	Pn	09 08 48.0	+2.0
	0.5nm,0.3s,baz=26,slow=14,SNR=16						
MKAR				Sn	Sn	09 10 16.5	-1.7
	0.3nm,0.3s,baz=26,slow=27,SNR=8.7						
MKAR				Lg	Lg	09 11 02.2	
	baz=23,slow=30,SNR=2.6						
BVAR	**Borovoye Array**	**10.20**	**270**	Pn	Pn	09 09 13.0	-1.6
	0.2nm,0.3s,baz=72,slow=11,SNR=2.0						
BVAR				Sn	Sn	09 11 01.6	-7.9
	0.5nm,0.3s,baz=79,slow=24,SNR=5.7						

*NEIC **28** 09:23:14.2±2.2,17.60S±0.06°×173.09W±0.10,h10km±1km, mb4.4/13,Error ellipse: s-maj=16.7km s-min=8.0km az=63.0*
*IDC **28** 09:23:14.8±2.0,17.09S×173.62W,h0km,mb3.8/3, mb1 4.2/4,mb1mx3.8/31,mbtmp3.9/4,ML4.0/1,MS3.0/3, Ms1 3.0/3,ms1mx2.7/31,Error ellipse: s-maj=115.7km s-min=23.7km az=144.0*

ISC 28 09:23:13.1±0.7,17.55S±0.07°×173.11W±0.09,h10km,n29, σ2ᵍ36/26,mb4.4/12,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**3.38**	**117**	Pn	**Pn**	**09 24 04.4**	**-1.7**
AFI	**Afiamalu**	**3.84**	**20**	Pn	**Pn**	**09 24 11.4**	**-1.0**
	11nm,0.3s,baz=201,slow=15,SNR=14						
AFI				Sn	**Sn**	**09 24 53.3**	**-4.5**
	20nm,0.3s,baz=13,slow=15,SNR=5.9						
AFI				LR	LR	09 25 35.7	
	comp=Z,73nm,19.3s,baz=182,slow=39						
RAO	**Raoul Island**	**12.45**	**200**	Pn	**Pn**	**09 26 10.8**	**+0.3**
RAR	**Rarotonga**	**13.10**	**108**	LR	LR	09 30 13.9	
	comp=Z,44nm,18.5s,baz=220,slow=31						
RAR	**Rarotonga**	**13.10**	**108**	Pn	**Pn**	**09 26 20.6**	**+1.2**
OUZ	**Omahuta**	**21.21**	**211**	P	**P**	**09 28 01.7**	**+2.7**
OUZ				IAmb	IAmb	09 28 12.8	
	comp=Z,21nm,1.4s						
URZ	**Urewera**	**22.34**	**201**	P	**P**	**09 28 12.6**	**+1.5**
	comp=Z,6.1nm,0.4s,baz=262,slow

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**1.85**	**252**	P	**Pn**	**09 42 17.3**	**+1.2**
	0.4nm,0.3s,baz=236,slow=24,SNR=11						
BRDH				S	**Sn**	**09 42 38.9**	**+0.7**
	1.2nm,0.3s,baz=236,slow=24,SNR=10						
CMAR	**Chiang Mai Arr**	**6.96**	**132**	P	**Pn**	**09 43 28.4**	**+2.1**
	0.9nm,0.3s,baz=301,slow=14,SNR=8.0						
MKAR	**Makanchi Array**	**25.16**	**342**	P	**P**	**09 47 08.3**	**+1.0**
	0.4nm,0.5s,baz=146,slow=10,SNR=2.3						
SONM	**Songino Array**	**26.57**	**20**	P	**P**	**09 47 21.8**	**+1.5**
	0.7nm,0.5s,baz=210,slow=8.5,SNR=2.9						
FITZ	**Fitzroy Crossi**	**51.71**	**140**	P	**P**	**09 50 48.2**	**-1.0**
	0.5nm,0.4s,baz=337,slow=7.7,SNR=6.6						
WRA	**Warramunga Arr**	**58.55**	**134**	P	**P**	**09 51 37.6**	**-1.0**
	1.1nm,0.3s,baz=319,slow=7.6,SNR=60						
FINES	**FINESS Array B**	**59.07**	**329**	P	**P**	**09 51 41.4**	**-0.3**
	0.6nm,0.5s,baz=109,slow=12,SNR=0.7						
ASAR	**Alice Springs**	**60.95**	**137**	P	**P**	**09 51 54.5**	**-0.5**
	3.8nm,0.5s,baz=319,slow=6.8,SNR=100						
NOA	**NORSAR Array B**	**66.23**	**328**	P	**P**	**09 52 28.6**	**-0.8**
	0.4nm,0.5s,baz=86,slow=6.1,SNR=2.5						
GERES	**GERESS Array B**	**66.29**	**315**	P	**P**	**09 52 29.2**	**-0.8**
	0.5nm,0.4s,baz=92,slow=8.1,SNR=2.7						
STKA	**Stephens Creek**	**71.55**	**138**	P	**P**	**09 53 01.3**	**-1.5**
	1.6nm,0.8s,baz=209,slow=6.8,SNR=3.3						
TORD	**Torodi Ar. Bea**	**86.56**	**283**	P	**P**	**09 54 25.5**	**+0.2**
	0.2nm,0.6s,baz=69,slow=4.8,SNR=2.0						

IDC 28 09:45:47.2±3.1, 53°.56N×87°.94E, h0km, mb1 3.1/2, mb1mx3.0/38, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=24.7km s-min=15.6km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**283**	*i*		09 58 10.8	
	baz=98,slow=333,SNR=11						
ZALV	**Zalesovo Beam**	**1.89**	**283**	Pg	Pn	09 46 20.5	-0.2
	2.0nm,0.3s,baz=97,slow=16,SNR=14						
ZALV				Lg	Lg	09 46 47.1	
	5.7nm,0.3s,baz=104,slow=25,SNR=17						
KURBB	**Kurchatov Arra**	**6.50**	**247**	Pn	Pn	09 47 25.0	+1.0
	0.2nm,0.3s,baz=60,slow=13,SNR=4.9						
KURBB				Sn	Sn	09 48 38.2	-0.6
	0.1nm,0.3s,baz=47,slow=22,SNR=1.7						
KURBB				Lg	Lg	09 49 13.2	
	0.1nm,0.3s,baz=60,slow=31,SNR=6.4						
MKAR	**Makanchi Array**	**7.68**	**210**	Pn	Pn	09 47 41.8	+1.5
	0.1nm,0.3s,baz=27,slow=12,SNR=2.2						
MKAR				Sn	Sn	09 49 07.2	-0.8
	0.2nm,0.3s,baz=32,slow=28,SNR=2.8						
MKAR				Lg	Lg	09 49 48.9	
	0.1nm,0.3s,baz=33,slow=34,SNR=4.4						

IDC 28 09:53:44.5±3.6, 53°.61N×87°.65E, h0km, mb1 2.8/2, mb1mx2.7/33, mbtmp2.8/2, ML2.9/1, Error ellipse: s-maj=36.8km s-min=24.3km az=77.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.72**	**283**	*i*		10 05 00.0	
	baz=102,slow=333,SNR=8.5						
ZALV	**Zalesovo Beam**	**1.72**	**283**	Pn	Pn	09 54 15.5	-0.2
	0.6nm,0.3s,baz=103,slow=14,SNR=4.4						
ZALV				Sn	Sg	09 54 40.7	+1.1
	1.1nm,0.3s,baz=106,slow=24,SNR=8.0						
KURBB	**Kurchatov Arra**	**6.36**	**246**	Pn	Pn	09 55 18.8	-0.6
	baz=61,slow=13,SNR=0.9						
KURBB				Lg	Lg	09 57 08.1	
	0.0nm,0.3s,baz=59,slow=30,SNR=5.0						
MKAR	**Makanchi Array**	**7.64**	**209**	Pn	Pn	09 55 39.0	+2.0
	0.2nm,0.3s,baz=23,slow=17,SNR=1.7						

*NOU **28** 09:58:35.0, 39°.20S×174°.58E, h0km, MLv3.4/7, North Island, New Zealand*
WEL 28 09:58:37.1±0.2, 39°.3S±2°×17°.5E±°, h14km±2km, M3.4/54, ML3.7/54, mLv3.4/54, Error ellipse: s-maj=0.0km s-min=0.0km az=164.8, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.12**	**11**	P	Pb	09 58 42.1	+0.9
VRZ				S	Sb	09 58 46.1	+2.2
LREZ	**Lake Rotokare**	**0.33**	**229**	P	Pb	09 58 44.6	-0.3
LREZ				S	Sb	09 58 50.7	+0.6
MHEZ	**Mangahewa**	**0.36**	**298**	P	Pb	09 58 45.5	+0.2
MHEZ				S	Sb	09 58 51.9	+1.1
DREZ	**Durham Road**	**0.41**	**277**	P	Pb	09 58 46.2	0.0
DREZ				S	Sb	09 58 53.4	+1.0
PREZ	**Palmer Road**	**0.45**	**257**	P	Pb	09 58 46.9	0.0
PREZ				S	Sb	09 58 54.8	+1.2
PKVZ	**Pokaka**	**0.48**	**96**	P	Pb	09 58 47.2	-0.3
NEZ	**North Egmont**	**0.49**	**266**	P	Pb	09 58 47.4	-0.3
WAZ	**Wanganui**	**0.55**	**159**	P	Pb	09 58 48.4	-0.2
KHEZ	**Kahui Hut**	**0.56**	**264**	P	Pb	09 58 48.5	-0.3
KHEZ				S	Sb	09 58 57.8	+1.1
TWVZ	**Taurewa**	**0.58**	**73**	P	Pg	09 58 48.6	+0.2
PKE	**Pukeiti**	**0.58**	**274**	P	Pb	09 58 48.8	-0.2
PKE				S	Sb	09 58 57.6	+0.4
MTVZ	**Mangateitei**	**0.59**	**104**	P	Pg	09 58 48.9	+0.2
TRVZ	**Turoa**	**0.64**	**95**	P	Pg	09 58 49.9	+0.2
FWVZ	**Far West T-bar**	**0.64**	**91**	P	Pg	09 58 49.8	+0.1
WHVZ	**Whangaehu Hut**	**0.67**	**94**	P	Pg	09 58 50.2	0.0
NBEZ	**Newall Road No**	**0.67**	**267**	P	Pb	09 58 50.4	-0.2
WNVZ	**Wahianoa**	**0.68**	**97**	P	Pg	09 58 50.5	+0.1
NGZ	**Ngauruhoe**	**0.68**	**85**	P	Pg	09 58 50.5	+0.1
WTVZ	**West Tongariro**	**0.68**	**80**	P	Pg	09 58 50.5	+0.1
NMEZ	**Namu Road**	**0.68**	**255**	P	Pg	09 58 50.4	0.0
NMEZ				S	Sb	09 59 00.9	+0.7
NNVZ	**North Ngauruho**	**0.70**	**81**	P	Pg	09 58 50.9	+0.1
NNVZ				S	Sn	09 59 02.3	-1.2
SNVZ	**South Ngauruho**	**0.71**	**86**	P	Pg	09 58 51.1	+0.1
SNVZ				S	Sb	09 59 01.7	+0.6
TUVZ	**Tukino**	**0.72**	**92**	P	Pb	09 58 51.4	-0.1
KRVZ	**Karewarewa**	**0.72**	**79**	P	Pg	09 58 51.2	0.0
OTVZ	**Oturere**	**0.73**	**84**	P	Pg	09 58 51.4	+0.1
HIZ	**Hauiti**	**0.73**	**8**	P	Pg	09 58 51.5	+0.1
NTVZ	**North Tongariro**	**0.75**	**79**	P	Pg	09 58 51.7	0.0
TMVZ	**Te Maari**	**0.77**	**81**	P	Pg	09 58 52.1	0.0
ETVZ	**East Tongariro**	**0.77**	**82**	P	Pg	09 58 52.2	+0.1
KATZ	**Kakaramea**	**0.80**	**71**	P	Pg	09 58 52.6	0.0
MOVZ	**Moawhango**	**0.81**	**102**	P	Pg	09 58 52.7	-0.1
RATZ	**Rangitukua**	**0.89**	**66**	P	Pb	09 58 54.5	0.0
RITZ	**Rihia Road**	**0.92**	**74**	P	Pg	09 58 55.1	+0.3
WATZ	**Wairara**	**0.95**	**56**	P	Pb	09 58 55.3	-0.1
BHHZ	**Black Hill Sta**	**1.06**	**104**	P	Pb	09 58 56.7	-0.7
OHWZ	**Ohakea**	**1.06**	**155**	P	Pb	09 58 57.2	-0.2
TLZ	**Tolley Road**	**1.11**	**35**	P	Pb	09 58 57.1	-1.0
HATZ	**Hinemaiaia**	**1.12**	**72**	P	Pb	09 58 57.7	-0.6
WHTZ	**Whakaora**	**1.12**	**59**	P	Pg	09 58 58.8	+0.1
KUTZ	**Kaahu Road**	**1.14**	**49**	P	Pb	09 58 58.1	-0.5
TSZ	**Takapari Road**	**1.25**	**131**	P	Pn	09 59 00.3	0.0
PNHZ	**Pukenui**	**1.32**	**121**	P	Pn	09 59 00.7	-0.5
KWHZ	**Kaweka Forest**	**1.33**	**98**	P	Pn	09 59 01.1	-0.3
WPRZ	**Whakapapatarin**	**1.33**	**58**	P	Pn	09 59 00.6	-0.8
KRHZ	**Kereru**	**1.33**	**108**	P	Pn	09 59 01.5	+0.1
BKZ	**Black Stump Fm**	**1.37**	**87**	P	Pn	09 59 01.4	-0.6
MRHZ	**Matea Rd**	**1.38**	**73**	P	Pn	09 59 01.3	-0.7
GRRZ	**Galatos Road**	**1.40**	**51**	P	Pn	09 59 02.0	-0.2
POWZ	**Post Office Ro**	**1.40**	**145**	P	Pb	09 59 02.7	-0.4
ALRZ	**Allen Road**	**1.43**	**62**	P	Pn	09 59 03.0	+0.3
HRRZ	**Handcock Road**	**1.48**	**55**	P	Pb	09 59 04.7	+0.2
PRRZ	**Plateau Road**	**1.50**	**61**	P	Pb	09 59 05.2	+0.5
DVHZ	**Dannevirke**	**1.53**	**134**	P	Pb	09 59 05.3	0.0
MCHZ	**McNeill Hill**	**1.54**	**98**	P	Pb	09 59 05.5	+0.1
WPHZ	**Waipukurau**	**1.56**	**122**	P	Pb	09 59 05.8	+0.1
MRZ	**Mangatainoka R**	**1.56**	**156**	P	Pn	09 59 04.7	+0.2
UTU	**Utuhina**	**1.56**	**48**	P	Pb	09 59 05.9	+0.1
HLRZ	**Highlands Stat**	**1.61**	**53**	P	Pb	09 59 07.1	+0.5
OGWZ	**Otaki Gorge**	**1.61**	**168**	P	Pn	09 59 05.4	+0.2
NGRZ	**Ngongotaha**	**1.61**	**46**	P	Pb	09 59 06.6	-0.1
NMHZ	**Naumai**	**1.62**	**86**	P	Pb	09 59 06.5	-0.4
PRWZ	**Pori Road**	**1.62**	**144**	P	Pb	09 59 07.0	+0.1
KIW	**Kapiti Island**	**1.62**	**175**	P	Pn	09 59 05.0	-0.3
TOZ	**Tahuroa Road**	**1.63**	**22**	P	Pn	09 59 04.9	-0.5
DUWZ	**D'Urville Isla**	**1.68**	**201**	P	Pn	09 59 05.4	-0.7
KMRZ	**Kaimai**	**1.69**	**35**	P	Pb	09 59 07.2	-0.8
MTHZ	**Maungataniwha**	**1.69**	**77**	P	Pn	09 59 06.4	+0.1
OMRZ	**Omania**	**1.71**	**49**	P	Pg	09 59 09.3	-0.7
KAHZ	**Kahuranaki**	**1.75**	**109**	P	Pb	09 59 09.1	+0.1
ARHZ	**Aropaoanui**	**1.76**	**91**	P	Pb	09 59 08.7	-0.5
HOWZ	**Holdsworth Sta**	**1.76**	**160**	P	Pn	09 59 08.2	+0.9
MUGZ	**Murupara**	**1.77**	**65**	P	Pn	09 59 07.3	-0.1
TIWZ	**Tintock**	**1.77**	**150**	P	Pb	09 59 08.5	-1.0
ANWZ	**Angora Road**	**1.81**	**133**	P	Pg	09 59 11.4	-0.5
PXZ	**Pawanui**	**1.83**	**116**	P	Pg	09 59 12.2	0.0
BFZ	**Birch Farm**	**1.85**	**141**	P	Pn	09 59 09.0	+0.5
RAHZ	**Arahi**	**1.86**	**81**	P	Pb	09 59 10.1	-0.9
RTZ	**Ruatahuna**	**1.86**	**71**	P	Pb	09 59 11.4	+0.4
CAW	**Cannon Point**	**1.88**	**172**	P	Pn	09 59 09.1	+0.2
TGRZ	**Tauranga**	**1.93**	**39**	P	Pn	09 59 08.9	-0.6
TCW	**Tory Channel**	**2.00**	**190**	P	Pn	09 59 10.0	-0.5
OPRZ	**Ohinepanea**	**2.00**	**46**	P	Pn	09 59 10.0	-0.5
MTW	**Mount Morrison**	**2.00**	**163**	P	Pn	09 59 11.6	+1.0
CPWZ	**Castlepoint**	**2.01**	**146**	P	Pg	09 59 15.0	-0.8
WEL	**Wellington**	**2.04**	**179**	P	Pn	09 59 11.6	+0.5
TMWZ	**Te Maipa**	**2.06**	**155**	P	Pb	09 59 13.1	-1.3
SNGZ	**Shannon Statio**	**2.08**	**78**	P	Pb	09 59 13.6	-1.2
URZ	**Urewera**	**2.10**	**63**	P	Pn	09 59 12.1	+0.2
MKAZ	**Moumakai**	**2.16**	**9**	P	Pn	09 59 12.2	-0.5
BHW	**Baring Head**	**2.17**	**177**	P	Pn	09 59 14.3	+1.4
PAWZ	**Paruwai Farm**	**2.20**	**166**	P	Pn	09 59 15.0	+1.6
MSWZ	**Moikau Station**	**2.21**	**170**	P	Pn	09 59 14.8	+1.3
NNZ	**Nelson**	**2.23**	**207**	P	Pn	09 59 13.9	+0.2
TUWZ	**Tuamarina**	**2.27**	**195**	P	Pn	09 59 13.6	-0.6
TRWZ	**Traveller**	**2.27**	**162**	P	Pb	09 59 16.9	-1.1
ETAZ	**East Tamaki Re**	**2.29**	**4**	P	Pn	09 59 14.2	-0.3
WTAZ	**Waiatarua**	**2.31**	**357**	P	Pn	09 59 14.6	-0.2
QRZ	**Quartz Range**	**2.31**	**226**	P	Pn	09 59 13.3	-1.6
PLWZ	**Palliser**	**2.36**	**170**	P	Pn	09 59 17.7	-1.7
WIAZ	**Waiheke Island**	**2.46**	**8**	P	Pn	09 59 16.6	-0.3
RVAZ	**Riverhead Bore**	**2.47**	**357**	P	Pn	09 59 16.2	-0.8
MBAZ	**Motutapu North**	**2.47**	**3**	P	Pn	09 59 16.7	-0.4
PRGZ	**Paritu Road**	**2.48**	**84**	P	Pn	09 59 15.8	-1.3
CMWZ	**Cape Campbell**	**2.54**	**189**	P	Pn	09 59 19.4	+1.5
BSWZ	**Blackbirch Sta**	**2.56**	**194**	P	Pn	09 59 18.9	+0.7
KUZ	**Kuaotunu**	**2.61**	**18**	P	Pn	09 59 17.9	-1.1
ABAZ	**Army Bay**	**2.64**	**2**	P	Pn	09 59 19.0	-0.3
RUGZ	**Raukumara Rang**	**2.64**	**62**	P	Pn	09 59 19.9	+0.5
TWGZ	**Tauwhareparae**	**2.76**	**68**	P	Pn	09 59 23.3	+2.3
HAZ	**Te Kaha**	**2.82**	**59**	P	Pn	09 59 22.2	+0.4
THZ	**Tophouse**	**2.88**	**208**	P	Pn	09 59 22.7	0.0
PKGZ	**Pakihiroa**	**2.95**	**64**	P	Pn	09 59 25.1	+1.4
PUZ	**Puketiti**	**3.00**	**68**	P	Pn	09 59 25.6	+1.3
WMGZ	**Waiomatatini S**	**3.22**	**65**	P	Pn	09 59 28.8	+1.5
KHZ	**Kahutara**	**3.30**	**196**	P	Pn	09 59 28.4	+0.1
WCZ	**Waipu Caves**	**3.31**	**355**	P	Pn	09 59 27.8	-0.8
DSZ	**Dennistoun Nort**	**3.35**	**221**	P	Pn	09 59 28.2	-1.0
GVZ	**Greta Valley S**	**3.94**	**198**	P	Pn	09 59 36.4	-0.7
LTZ	**Lake Taylor**	**4.00**	**207**	P	Pn	09 59 37.8	-0.3
OUZ	**Omahuta**	**4.12**	**347**	P	Pn	09 59 39.1	-0.5
INZ	**Inchbonnie**	**4.28**	**214**	P	Pn	09 59 41.3	-0.5
OXZ	**Oxford**	**4.56**	**206**	P	Pn	09 59 43.5	-2.1
OKCZ	**Okains Bay**	**4.65**	**195**	P	Pn	09 59 45.1	-1.8
WVZ	**Waitaha Valley**	**4.87**	**217**	P	Pn	09 59 49.7	-0.3
MHCZ	**Mount Hutt**	**4.90**	**208**	P	Pn	09 59 49.9	-0.6
GCSZ	**Gaunt Creek Bo**	**5.25**	**218**	P	Pn	09 59 54.2	-1.0
FOZ	**Fox Glacier**	**5.66**	**219**	P	Pn	09 59 59.7	-1.1
TMZ	**Timaru**	**5.84**	**207**	P	Pn	10 00 01.5	-1.8
ODZ	**Otahua Downs**	**6.54**	**206**	P	Pn	10 00 11.8	-1.2
JCZ	**Jackson Bay**	**6.56**	**221**	P	Pn	10 00 11.7	-1.7

*DJA **28** 10:15:01.0±0.6, 8°.S±4°×12°.0E±°, h157km±6km, M3.3/9, MLv3.3/9*
*IDC **28** 10:15:02.7±4.3, 8°.46S×119°.33E, h232km±52km, mb3.0/3, mb1 3.1/5, mb1mx2.9/32, mbtmp3.6/5, Error ellipse: s-maj=118.3km s-min=17.8km az=47.0*
ISC 28 10:14:59.2±0.8, 8°.33S±0°.06×119°.66E±0°.05, h178km±7km, n16, σ1°42/24, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBFI	**Labuhan Bajo,**	**0.28**	**123**	P	**Pn**	**10 15 23.5**	**+0.5**
LBFI				S	**Sn**	**10 15 40.6**	**-0.7**
WBSI	**Waikabubak, Su**	**1.33**	**191**	P	**Pn**	**10 15 29.8**	**+0.3**
WBSI				S	**Sn**	**10 15 52.3**	**-0.7**
PLAI	**Plampang**	**1.92**	**255**	P	**Pn**	**10 15 36.1**	**+0.8**
PLAI				S	**Sn**	**10 16 03.0**	**-0.2**
EDFI	**Ende, Flores**	**2.06**	**102**	P	**Pn**	**10 15 37.4**	**+0.6**
EDFI				S	**Sn**	**10 16 05.2**	**-0.8**
BASI	**Baing, Sumba**	**2.09**	**154**	P	**Pn**	**10 15 37.9**	**+0.8**
BASI				S	**Sn**	**10 15 58.7**	**+0.1**
BSSI	**Bau Bau, Buton**	**2.32**	**21**	P	**Pn**	**10 15 39.7**	**0.0**
MMRI	**Maumere**	**2.57**	**97**	P	**Pn**	**10 15 43.6**	**+1.0**
TWSI	**Taliwang, Sumb**	**2.77**	**261**	P	**Pn**	**10 15 46.0**	**+1.0**
TWSI				S	**Sn**	**10 16 20.6**	**0.0**
BKSI	**Bulukumba**	**3.02**	**9**	P	**Pn**	**10 15 49.3**	**+1.3**
MKS	**Makassar**	**3.10**	**357**	P	**Pn**	**10 15 50.0**	**+1.1**
KLNI	**Mataram**	**3.52**	**268**	P	**Pn**	**10 15 54.6**	**+0.4**
FITZ	**Fitzroy Crossi**	**11.32**	**150**	P	**Pn**	**10 17 38.2**	**+2.2**
	0.1nm,0.3s,baz=330,slow=14,SNR=2.3						
FITZ				S	**Sn**	**10 19 37.7**	**-4.1**
	0.4nm,0.3s,baz=172,slow=20,SNR=8.2						
WRA	**Warramunga Arr**	**18.31**	**131**	P	**P**	**10 19 01.0**	**+1.0**
	0.3nm,0.3s,baz=309,slow=11,SNR=24						
WRA				S	**S**	**10 22 20.5**	**+0.3**
	0.0nm,0.3s,baz=299,slow=22,SNR=2.6						
ASAR	**Alice Springs**	**20.47**	**140**	P	**P**	**10 19 24.6**	**+1.4**
	0.7nm,0.4s,baz=316,slow=9.3,SNR=24						
STKA	**Stephens Creek**	**31.07**	**142**	P	**P**	**10 21 01.1**	**+0.5**
	1.1nm,0.6s,baz=295,slow=10,SNR=3.5						
MKAR	**Makanchi Array**	**64.16**	**332**	P	**P**	**10 25 12.0**	**-2.7**
	0.3nm,0.4s,baz=152,slow=5.3,SNR=1.5						

*IDC **28** 10:25:46.7±2.8, 36°.43N×141°.82E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/41, mbtmp3.5/4, ML2.6/1, Error ellipse: s-maj=67.1km s-min=28.2km az=40.0*
*JMA **28** 10:25:48.2±0.2, 36°.71N×141°.67E, h61km±3km, M3.4*
ISC 28 10:25:47.1±2.1, 36°.71N±0°.06×141°.70E±0°.09, h9km±11km, n23, σ1°20/23, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.82**	**299**	P	**Pg**	**10 26 03.8**	**+0.8**
JHO	**Hitachi**	**0.92**	**264**	P	**Pg**	**10 26 04.7**	**0.0**
JFK	**Kawauchi**	**0.93**	**315**	P	**Pg**	**10 26 05.4**	**+0.3**
JHYU	**Hitachinakayam**	**0.97**	**248**	P	**Pg**	**10 26 05.7**	**-0.1**
JHYU				eS	**Sg**	**10 26 17.9**	**-0.5**
JFFD	**Fukushimafurud**	**0.99**	**293**	P	**Pg**	**10 26 06.3**	**+0.1**
JFT	**Otama**	**1.36**	**307**	P	**Pn**	**10 26 11.6**	**-0.7**
JMM	**Marumori**	**1.36**	**328**	P	**Pn**	**10 26 11.2**	**-1.1**
JIO	**Ouri**	**1.77**	**351**	P	**Pn**	**10 26 16.2**	**-1.6**
JAG	**Ashikaga**	**1.83**	**262**	P	**Pn**	**10 26 18.3**	**-0.5**
JAG				S	**Sn**	**10 26 40.6**	**-1.4**
JOU	**Okura**	**1.85**	**334**	P	**Pn**	**10 26 19.2**	**+0.2**
JOU				S	**Sn**	**10 26 42.4**	**-0.1**
JKT	**Katashina**	**1.97**	**272**	P	**Pn**	**10 26 21.6**	**+0.8**
JYS	**Shirataka**	**1.99**	**320**	P	**Pn**	**10 26 21.9**	**+0.9**
JYS				S	**Sn**	**10 26 45.9**	**-0.2**
MJAR	**Matsushiro Arr**	**2.81**	**268**	Pn	**Pn**	**10 26 33.6**	**+1.3**
	0.8nm,0.3s,baz=97,slow=10.0,SNR=23						
MJAR				Sn	**Sb**	**10 27 11.0**	**-1.1**
	0.9nm,0.3s,baz=134,slow=46,SNR=2.6						
MAT	**Matsushiro**	**2.81**	**268**	P	**Pn**	**10 26 33.6**	**+1.3**
MAT				eS	**Sb**	**10 27 10.0**	**-2.1**
H11N2	**WAKE ISLAND Hy**	**27.78**	**121**	T	T	11 00 43.4	
	baz=313,slow=75,SNR=43						
H11N1	**WAKE ISLAND Hy**	**27.79**	**121**	T	T	11 00 38.8	
	baz=313,slow=75,SNR=34						
H11N3	**WAKE ISLAND Hy**	**27.80**	**121**	T	T	11 00 42.3	
	baz=313,slow=75,SNR=34						
H11S1	**WAKE ISLAND Hy**	**28.49**	**123**	T	T	11 01 36.0	
	baz=316,slow=75,SNR=22						
H11S3	**WAKE ISLAND Hy**	**28.49**	**123**	T	T	11 01 32.9	
	baz=316,slow=75,SNR=18						
H11S2	**WAKE ISLAND Hy**	**28.50**	**123**	T	T	11 01 33.7	
	baz=316,slow=75,SNR=12						
MKAR	**Makanchi Array**	**44.49**	**302**	P	**P**	**10 34 01.4**	**+2.7**
	2.1nm,1.1s,baz=89,slow=12,SNR=1.8						
WRA	**Warramunga Arr**	**56.77**	**188**	P	**P**	**10 35 30.7**	**-0.8**
	0.6nm,0.9s,baz=6.5,slow=7.4,SNR=8.8						
ASAR	**Alice Springs**	**60.50**	**188**	P	**P**	**10 35 56.8**	**-0.6**
	0.2nm,0.6s,baz=3.3,slow=6.4,SNR=2.5						

IDC 28 10:26:29.7±35.0, 7°.14S×156°.23E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/27, mbtmp3.5/3, Error ellipse: s-maj=580.3km s-min=98.6km az=45.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.75**	**237**	P	P	10 31 52.5	-0.8
	0.3nm,0.6s,baz=64,slow=8.6,SNR=6.5						
ASAR	**Alice Springs**	**27.00**	**230**	P	P	10 32 14.8	+1.1
	0.1nm,0.3s,baz=57,slow=9.1,SNR=9.1						
STKA	**Stephens Creek**	**28.14**	**207**	P	P	10 32 23.1	-0.6
	1.9nm,1.0s,baz=27,slow=2.3,SNR=3.0						

*TUL **28** 10:32:38.6±1.0, 36°.79N±0°.01×98°.26W±0°.02, h5km±6km, ML2.6, mb_Lg2.3/21(NEIC), Error ellipse: s-maj=2.6km s-min=1.4km az=66.0*
NEIC 28 10:32:38.7±0.7, 36°.79N±0°.01×98°.28W±0°.03, h10km±6km, Error ellipse: s-maj=3.7km s-min=1.6km az=97.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.05**	**77**		Pg	10 32 40.1	-0.7
KAN14	**Manchester OK**	**0.30**	**57**		Pg	10 32 44.7	0.0
KAN14				Sg	Sg	10 32 48.5	-0.3
GC02	**Grant County #**	**0.34**	**80**		Pg	10 32 45.3	-0.2
GC02				Sg	Sg	10 32 50.0	0.0
KAN10	**Anthony SW Sta**	**0.36**	**24**		Pg	10 32 46.0	+0.1
KAN10				Sg	Sg	10 32 51.1	+0.4
CROK	**Carrier**	**0.37**	**141**		Pg	10 32 45.9	-0.2
CROK				Sg	Sg	10 32 51.3	+0.3
KAN05	**Bluff City Nor**	**0.45**	**46**		Pg	10 32 47.5	0.0
KAN05				Sg	Sg	10 32 54.0	+0.5
KAN16	**Harper SW Stat**	**0.46**	**21**		Pg	10 32 47.9	+0.1
KAN16				Sg	Sg	10 32 53.8	-0.2
KAN17	**Caldwell West**	**0.48**	**58**	Pg	Pg	10 32 47.6	-0.5
KAN17				Sg	Sg	10 32 54.4	-0.1
KAN08	**Anthony NE Sta**	**0.50**	**29**	Pg	Pg	10 32 48.4	0.0
KAN08				Sg	Sg	10 32 55.4	+0.3
KAN12	**Harper NE Stat**	**0.55**	**24**		Pg	10 32 49.2	-0.2
KAN06	**Argonia West S**	**0.56**	**36**	Pg	Pg	10 32 49.6	-0.1
KAN09	**Caldwell North**	**0.63**	**57**		Pg	10 32 50.7	-0.2
KAN13	**South Haven SW**	**0.68**	**71**		Pg	10 32 51.5	-0.3
U32A	**Winter Ranch,**	**0.71**	**235**		Pg	10 32 52.5	-0.1
KS20	**Mayfield South**	**0.72**	**53**		Pg	10 32 52.4	-0.3
OK029	**Liberty Lake**	**1.19**	**146**	Pg	Pb	10 33 01.0	-0.4
BCOK	**Bluff Creek, N**	**1.25**	**154**	Pn	Pn	10 33 01.6	-0.7
BCOK				Sn	Sb	10 33 18.5	-0.1
QUOK	**Quay**	**1.41**	**116**		Pn	10 33 04.4	0.0
QUOK				Sn	Sn	10 33 22.9	-0.1
T35A	**Sooner Cattle**	**1.42**	**84**		Pn	10 33 04.7	+0.1
OK025	**Westminster Rd**	**1.43**	**148**	Pn	Pn	10 33 04.7	0.0
OK031	**S. Brethren Rd**	**1.43**	**125**		Pn	10 33 04.8	+0.1
OK030	**Cody Creek RV**	**1.48**	**125**		Pn	10 33 05.8	+0.4
R32A	**Long Quarter,**	**1.66**	**348**		Pb	10 33 09.3	-0.2
WMOK	**Wichita Mounta**	**2.09**	**

WR0				IAmb	IAmb	11 30 09.9			
	comp=Z,8.1nm,1.1s								
WRAB	**Tennant Creek**	**18.96**	**222**	P	**P**	**11 30 08.8**	**+0.3**		
WRAB				IAmb	IAmb	11 30 24.2			
	comp=Z,5.5nm,0.9s								
WB2	**Warramunga Arr**	**18.96**	**222**		**P**	**11 30 08.3**	**-0.3**		
WB2				IAmb	IAmb	11 30 11.7			
	comp=Z,4.9nm,0.8s								
WRA	**Warramunga Arr**	**18.97**	**222**	P	**P**	**11 30 08.6**	**-0.1**		
	comp=Z,1.0nm,0.3s,baz=52,slow=11,SNR=67								
WRA				S	**S**	**11 33 34.9**	**-5.3**		
	comp=Z,0.0nm,0.3s,baz=61,slow=15,SNR=3.5								
WRA				PcP	**PcP**	**11 34 32.3**	**+0.6**		
	baz=30,slow=2.0,SNR=4.9								
WRA	**Warramunga Arr**	**18.97**	**222**	P	**P**	**11 30 08.2**	**-0.5**		
GUMO	**Guam**	**19.63**	**352**	LR	LR	11 36 29.9			
	comp=Z,22nm,18.5s,baz=146,slow=32								
KNRA	**Kununurra**	**20.88**	**241**		**P**	**11 30 29.7**	**+0.4**		
AS31	**Alice Springs**	**22.00**	**216**	P	**P**	**11 30 41.9**	**+0.5**		
ASAR	**Alice Springs**	**22.00**	**216**	P	**P**	**11 30 41.8**	**+0.3**		
	comp=Z,2.0nm,0.4s,baz=53,slow=8.3,SNR=64								
ASAR				PcP	**PcP**	**11 34 38.1**	**+0.8**		
	comp=Z,0.6nm,0.8s,baz=66,slow=1.5,SNR=4.8								
ASAR				S	**S**	**11 34 40.8**	**+0.8**		
	comp=Z,0.7nm,0.8s,baz=38,slow=20,SNR=4.7								
ASAR	**Alice Springs**	**22.00**	**216**	P	**P**	**11 30 41.4**	**0.0**		
ARMA	**Armidale**	**24.61**	**172**	P	**P**	**11 31 06.7**	**+0.1**		
ARMA				IAmb	IAmb	11 31 29.7			
	comp=Z,8.5nm,1.1s								
FITZ	**Fitzroy Crossi**	**24.62**	**239**	P	**P**	**11 31 07.6**	**+0.9**		
	comp=Z,31nm,0.6s,baz=59,slow=8.7,SNR=200								
FITZ	**Fitzroy Crossi**	**24.62**	**239**	P	**P**	**11 31 07.6**	**+0.9**		
STKA	**Stephens Creek**	**26.38**	**192**	P	**P**	**11 31 22.2**	**-0.3**		
	comp=Z,0.8nm,0.4s,baz=14,slow=9.8,SNR=3.8								
STKA				LR	LR	11 41 36.4			
	comp=Z,53nm,18.2s,baz=6.7,slow=36								
STKA	**Stephens Creek**	**26.38**	**192**	P	**P**	**11 31 21.8**	**-0.8**		
FORT	**Forrest**	**30.78**	**214**	P	**P**	**11 32 01.5**	**-0.2**		
FORT				IAmb	IAmb	11 32 03.2			
	comp=Z,14nm,0.8s								
CISI	**Cisompet, Garu**	**39.57**	**265**	P	**P**	**11 33 16.1**	**-1.3**		
MJAR	**Matsushiro Arr**	**43.20**	**349**	P	**P**	**11 33 46.4**	**-0.4**		
	comp=Z,2.2nm,1.0s,baz=165,slow=7.2,SNR=2.8								
SONM	**Songino Array**	**64.69**	**331**	P	**P**	**11 36 23.9**	**+0.6**		
	comp=Z,0.4nm,0.4s,baz=151,slow=5.9,SNR=3.8								
VNDA	**Vanda**	**71.90**	**177**	P	**P**	**11 37 08.8**	**+1.0**		
	comp=Z,0.4nm,0.6s,baz=332,slow=7.3,SNR=7.6								
VNDA	**Vanda**	**71.90**	**177**	P	**P**	**11 37 08.5**	**+0.8**		
VNDA				IAmb	IAmb	11 37 33.4			
	comp=Z,3.5nm,1.5s								
QSPA	**South Pole Qui**	**83.99**	**180**	P	**P**	**11 38 15.5**	**+0.4**		
QSPA				IAmb	IAmb	11 38 17.5			
	comp=Z,10nm,1.5s								
ILAR	**Eielson Array**	**85.21**	**23**	P	**P**	**11 38 20.3**	**-0.7**		
	comp=Z,0.3nm,0.5s,baz=253,slow=5.1,SNR=8.0								
TORD	**Torodi Ar. Bea**	**145.70**	**285**	PKPbc	**PKPdf**	**11 45 23.6**	**-0.4**		
	comp=Z,0.5nm,0.4s,baz=87,slow=3.4,SNR=6.4								
TORD	**Torodi Ar. Bea**	**145.70**	**285**		**PKPdf**	**11 45 22.4**	**-1.6**		

*SOME **28** 11:43:41.9, 43.˝73N × 69.˝58E*
*KRNET **28** 11:43:44.0 ± 0.1, 43.˝79N × 69.˝50E, mb3.0*
*NNC **28** 11:43:44.4 ± 3.6, 43.˝55N × 69.˝52E, h0 km, mb3.5, mpv2.7,*
Error ellipse: s-maj=32.1km s-min=20.5km az=41.0,
Suspected Mining explosion.

ISC 28 11:43:47.4 ± 3.1, 43.˝7N ± 0.˝1 × 69.˝7E ± 0.˝1, h0 km, n9, σ 1s 62/16, 14C-4D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.81**	**136**	⇑P		**Pg**		**11 44 00.4**	**-2.6**
	0.4nm,0.2s,baz=324,slow=17,SNR=68								
KK31				⇓S		**Sg**		**11 44 12.9**	**-0.7**
	22nm,0.5s,baz=308,slow=29,SNR=43								
MNAS	**Manas**	**2.36**	**120**	⇑*i*P		**Pn**		**11 44 28.0**	**+0.5**
	baz=20								
MNAS				⇑*i*S		**Sb**		**11 45 00.1**	**-0.5**
	baz=20								
TRKS	**Terek-Say**	**2.39**	**154**	⇑*i*P		**Pn**		**11 44 29.0**	**+0.9**
	baz=51								
TRKS				⇑*i*S		**Sb**		**11 45 02.0**	**+0.4**
	baz=51								
EKS2	**Erkin-Say**	**3.13**	**108**	⇑*e*P		**Pn**		**11 44 38.8**	**+0.7**
	baz=8.0								
EKS2				⇑*i*S		**Sn**		**11 45 18.4**	**+2.1**
	baz=8.0								
AML	**Almayashu**	**3.30**	**117**	⇑*i*P		**Pn**		**11 44 41.1**	**+0.4**
	baz=17								
AML				⇑*i*S		**Sn**		**11 45 23.0**	**+2.2**
	baz=17								
AAK	**Ala-Archa**	**3.64**	**105**	⇑*e*P		**Pn**		**11 44 45.7**	**+0.6**
	baz=6.0								
AAK				⇑*i*S		**Sn**		**11 45 30.5**	**+1.7**
	baz=6.0								
AAK	**Ala-Archa**	**3.64**	**105**	⇓Pg		**Pb**		**11 44 53.4**	**+0.7**
	3.4nm,0.5s								
AAK				⇓Lg		Lg		11 45 42.5	
	6.2nm,0.5s								
UCH	**Uchtor**	**3.80**	**111**	⇑*e*P		**Pn**		**11 44 48.1**	**+0.5**
	baz=11								
UCH				⇑*i*S		**Sn**		**11 45 35.4**	**+2.1**
	baz=11								
TKM2	**Tokmak 2**	**4.35**	**98**	⇑Pg		**Pg**		**11 45 08.0**	**-2.7**
	2.1nm,0.6s								
TKM2				⇓Lg		Lg		11 46 07.3	
	3.3nm,0.5s								

*TUL **28** 11:45:00 ± 1.2, 36.˝20N ± 0.˝01 × 97.˝16W ± 0.˝02, h2 km ± 7km,*
ML2.9, mb_Lg2.7/62(NEIC), Error ellipse: s-maj=2.3km
s-min=1.7km az=68.0

NEIC 28 11:45:00.1 ± 1.2, 36.˝20N ± 0.˝01 × 97.˝144W ± 0.˝009, h4 km ± 7km, Error ellipse: s-maj=1.8km s-min=0.8km az=152.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.35**	**135**			Pg		11 45 07.4	+0.5
OK031				Sg		Sg		11 45 12.4	+1.0
QUOK	**Quay**	**0.35**	**95**			Pg		11 45 07.5	+0.6
QUOK				Sg		Sg		11 45 12.4	+0.9
OK030	**Cody Creek RV**	**0.40**	**133**			Pg		11 45 08.3	+0.5
OK030				Sg		Sg		11 45 13.7	+0.7
OK029	**Liberty Lake**	**0.48**	**212**			Pg		11 45 09.5	+0.2
OK029				Sg		Sg		11 45 15.9	+0.5
OK005	**Luther M Schoo**	**0.55**	**184**			Pg		11 45 09.9	-0.6
OK005				Sg		Sg		11 45 18.6	+0.9
BLOK	**Blackwell**	**0.56**	**354**			Pg		11 45 11.1	+0.2
BLOK				Sg		Sg		11 45 17.9	-0.3
OK025	**Westminster Rd**	**0.64**	**194**			Pg		11 45 12.5	+0.2
OK025				Sg		Sg		11 45 21.3	+0.7
OK001	**Jones High Sch**	**0.65**	**190**			Pg		11 45 12.7	+0.1
OK001				Sg		Sg		11 45 19.6	-1.4
BCOK	**Bluff Creek, N**	**0.66**	**215**			Pg		11 45 12.7	0.0
BCOK				Sg		Sg		11 45 21.3	-0.1
CROK	**Carrier**	**0.74**	**294**			Pg		11 45 14.1	-0.2
CROK				Sg		Sg		11 45 24.1	+0.2
OKCFA	**Oklahoma City**	**0.82**	**198**			Pg		11 45 15.8	0.0
OKCFA				Sg		Sg		11 45 26.8	+0.2
OKCSW	**OKLAHOMA CITY**	**0.83**	**197**			Pg		11 45 15.9	-0.1
OKCSW				Sg		Sg		11 45 27.1	+0.4
KAN13	**South Haven SW**	**0.85**	**342**			Pg		11 45 16.4	-0.1
KAN13				Sg		Sg		11 45 27.7	+0.2
GC02	**Grant County #**	**0.87**	**319**			Pg		11 45 16.6	-0.2
GC02				Sg		Sg		11 45 28.3	+0.3
T35A	**Sooner Cattle**	**0.88**	**35**			Pg		11 45 16.9	0.0
T35A				Sg		Sg		11 45 28.6	+0.3
FNO	**Franklin**	**0.96**	**193**			Pg		11 45 18.2	-0.4
FNO				Sg		Sb		11 45 31.9	-0.7
KAN17	**Caldwell West**	**0.98**	**329**			Pg		11 45 18.7	-0.1
KAN17				Sg		Sg		11 45 31.8	+0.2
KAN14	**Manchester OK**	**1.00**	**319**			Pg		11 45 18.9	-0.4
KAN14				Sg		Sg		11 45 32.2	-0.1
KAN09	**Caldwell North**	**1.01**	**338**			Pg		11 45 19.0	-0.4
KAN09				Sg		Sg		11 45 32.4	-0.1
OK032	**Salt Plains WL**	**1.05**	**305**			Pg		11 45 20.2	0.0
OK032				Sg		Sg		11 45 33.5	-0.4
KAN05	**Bluff City Nor**	**1.08**	**327**			Pg		11 45 20.2	-0.5
KAN05				Sg		Sg		11 45 35.0	+0.2
KS20	**Mayfield South**	**1.08**	**342**			Pg		11 45 20.2	-0.5
KS20				Sg		Sg		11 45 34.8	+0.1
TUL1	**Leonard**	**1.13**	**104**			Pg		11 45 21.6	-0.3
TUL1				Sg		Sg		11 45 36.5	0.0
KAN06	**Argonia West S**	**1.19**	**331**			Pg		11 45 22.4	-0.5
KAN06				Sg		Sg		11 45 38.2	-0.2
KAN10	**Anthony SW Sta**	**1.20**	**321**			Pg		11 45 22.3	-0.7
KAN10				Sg		Sg		11 45 38.5	-0.1
KAN08	**Anthony NE Sta**	**1.22**	**327**			Pg		11 45 22.7	-0.8
KAN08				Sg		Sg		11 45 39.2	-0.1
KAN16	**Harper SW Stat**	**1.26**	**324**			Pg		11 45 23.7	-0.6
KAN16				Sg		Sg		11 45 40.0	-0.7
KAN12	**Harper NE Stat**	**1.29**	**328**			Pg		11 45 24.1	-0.8
KAN12				Sg		Sg		11 45 41.2	-0.3
U32A	**Winter Ranch,**	**1.51**	**277**			Pn		11 45 27.9	-0.1
X34A	**Smith Ranch, M**	**1.69**	**200**			Pb		11 45 31.3	-0.5
WMOK	**Wichita Mounta**	**1.98**	**223**	Pn		Pn		11 45 34.9	+0.5
WMOK				IAmb_Lg				11 46 02.1	
	comp=Z,29nm,0.8s								
X37A	**Clayton**	**2.17**	**137**	Pn		Pn		11 45 37.7	+0.8
X37A				IAmb_Lg				11 46 12.7	
	comp=Z,36nm,0.8s								
LOOK	**Love County**	**2.20**	**181**	Pn		Pn		11 45 37.9	+0.3
LOOK				IAmb_Lg				11 46 12.8	
	comp=Z,29nm,0.9s								
U38A	**Gravette**	**2.24**	**83**	IAmb_Lg				11 46 16.3	
	comp=Z,28nm,0.8s								
R32A	**Long Quarter,**	**2.54**	**331**	Pn		Pn		11 45 41.6	-0.7
HHAR	**Hobbs**	**2.59**	**87**	Pn		Pn		11 45 42.9	0.0
HHAR				IAmb_Lg				11 46 20.8	
	comp=Z,23nm,0.7s								
Z35A	**Perchaven, San**	**2.87**	**182**	Pn		Pn		11 45 45.1	-1.5
W39A	**Magazine**	**2.91**	**109**	Pn		Pn		11 45 47.7	+0.4
W39A				IAmb_Lg				11 46 39.7	
	comp=Z,27nm,0.8s								
KSU1	**Kansas State U**	**2.92**	**8**	Pn		Pn		11 45 47.6	+0.1
KSU1				IAmb_Lg				11 46 40.1	
	comp=Z,31nm,0.8s								
CBKS	**Cedar Bluff**	**3.32**	**322**			Pn		11 45 51.4	-1.5
CBKS				IAmb_Lg				11 46 51.9	
	comp=Z,22nm,0.9s								
MIAR	**Mount Ida**	**3.35**	**119**			Pn		11 45 52.0	-1.3
Z38A	**Mt. Pleasant**	**3.43**	**148**	Pn		Pn		11 45 54.5	+0.1
Z38A				IAmb_Lg				11 46 55.1	
	comp=Z,23nm,0.8s								
U40A	**Yellville**	**3.47**	**86**			Pn		11 45 55.1	+0.2
U40A				IAmb_Lg				11 46 54.2	
	comp=Z,21nm,1.0s								
X40A	**Basin Creek Fa**	**3.92**	**115**	Pn		Pn		11 46 02.3	+1.3
X40A				IAmb_Lg				11 47 08.6	
	comp=Z,22nm,0.9s								
AMTX	**Amarillo**	**3.93**	**252**	Pn		Pn		11 46 01.1	-0.2
AMTX				IAmb_Lg				11 47 07.4	
	comp=Z,23nm,1.1s								
MGMO	**Mountain Grove**	**4.03**	**75**	Pn		Pn		11 46 04.4	+1.7
MGMO				IAmb_Lg				11 47 08.1	
	comp=Z,19nm,0.8s								
WHAR	**Wooly Hollow**	**4.05**	**102**	Pn		Pn		11 46 05.5	+2.6
WHAR				IAmb_Lg				11 47 12.9	
	comp=Z,26nm,0.8s								
FCAR	**Ozark Folk Cen**	**4.08**	**93**	Pn		Pn		11 46 02.7	-0.6
ABTX	**Abilene, Hawle**	**4.12**	**211**	Pn		Pn		11 46 03.8	-0.1
WLAR	**White Oak Lake**	**4.15**	**126**	Pn		Pn		11 46 03.8	-0.5
WLAR				IAmb_Lg				11 47 14.0	
	comp=Z,17nm,0.7s								
237A	**Washetta, Mont**	**4.33**	**165**	Pn		Pn		11 46 07.2	+0.5
R40A	**Maddies Statio**	**4.41**	**60**	Pn		Pn		11 46 09.5	+1.6
R40A				IAmb_Lg				11 47 24.3	
	comp=Z,14nm,0.7s								
P38A	**Dawn**	**4.45**	**39**	Pn		Pn		11 46 08.9	+0.4
P38A				IAmb_Lg				11 47 27.6	
	comp=Z,21nm,0.7s								
T42A	**Van Buren**	**4.94**	**79**	Pn		Pn		11 46 14.3	-0.8
T42A				IAmb_Lg				11 47 33.3	
	comp=Z,14nm,0.8s								
CCM	**Cathedral Cave**	**5.06**	**67**	Pn		Pn		11 46 15.6	-1.3
MSTX	**Muleshoe**	**5.12**	**246**	Pn		Pn		11 46 16.0	-1.7
KSCO	**Kaye Shedlock'**	**5.18**	**304**	Pn		Pn		11 46 19.2	+0.7
KSCO				IAmb_Lg				11 47 55.9	
	comp=Z,11nm,0.7s								
P40A	**Paris**	**5.22**	**49**	Pn		Pn		11 46 21.4	+2.4
P40A				IAmb_Lg				11 47 44.3	
	comp=Z,17nm,0.8s								
BGNE	**Belgrade**	**5.26**	**352**	IAmb_Lg				11 47 58.3	
	comp=Z,19nm,0.7s								
435B	**Jarrell**	**5.42**	**184**	IAmb_Lg				11 48 01.8	
	comp=Z,16nm,0.8s								
FVM	**French Village**	**5.66**	**70**	Pn		Pn		11 46 24.3	-0.6
FVM				IAmb_Lg				11 48 04.3	
	comp=Z,9.1nm,0.7s								
L34A	**Svendsen Farm,**	**5.79**	**6**	Pn		Pn		11 46 25.8	-0.9
T25A	**Trinidad**	**5.92**	**281**	Pn		Pn		11 46 28.2	-0.5
T25A				IAmb_Lg				11 48 08.2	
	comp=Z,16nm,1.1s								
JCT	**Junction City**	**6.12**	**202**	Pn		Pn		11 46 31.1	-0.3
JCT				IAmb_Lg				11 48 22.4	
	comp=Z,12nm,0.7s								
S44A	**Carbondale**	**6.49**	**74**	Pn		Pn		11 46 36.5	0.0
S44A				IAmb_Lg				11 48 25.0	
	comp=Z,14nm,0.9s								
OXF	**Oxford**	**6.54**	**103**	Pn		Pn		11 46 37.5	+0.4
SDCO	**Great Sand Dun**	**6.87**	**285**	Pn		Pn		11 46 42.3	+0.5
P43A	**Skaggs, Pawnee**	**6.93**	**58**	Pn		Pn		11 46 43.0	+0.5
K38A	**Parkersburg**	**7.27**	**26**	IAmb_Lg				11 49 06.8	
	comp=Z,9.7nm,0.8s								
L40A	**Anamosa**	**7.44**	**36**	IAmb_Lg				11 48 57.2	
	comp=Z,8.9nm,0.8s								
PLAL	**Pickwick Lake**	**7.49**	**97**	IAmb_Lg				11 49 01.4	
	comp=Z,7.3nm,1.0s								
ECSD	**EROS Data Cent**	**7.53**	**3**	Pn		Pn		11 46 52.4	+1.6
HDIL	**Hopedale**	**7.54**	**52**	Pn		Pn		11 46 51.3	+0.5
ISCO	**Idaho Springs**	**7.59**	**301**	Pn		Pn		11 46 51.5	-0.3
MNTX	**Cornudas Mount**	**8.18**	**239**	Pn		Pn		11 47 01.0	+1.3
JFWS	**Jewell Farm**	**8.56**	**36**	IAmb_Lg				11 49 49.2	
	comp=Z,8.0nm,0.8s								
TX31	**Lajitas Ar. Si**	**8.78**	**221**	Pn		Pn		11 47 08.3	+0.4
TX32	**Lajitas Array**	**8.78**	**221**	Pn		Pn		11 47 08.7	+0.8
TXAR	**Lajitas Array**	**8.78**	**221**	Pn		Pn		11 47 08.3	+0.4
SFIN	**Lafayette**	**8.93**	**59**	IAmb_Lg				11 49 44.5	
	comp=Z,8.9nm,0.8s								
W50A	**Signal Mountai**	**9.68**	**92**	IAmb_Lg				11 50 08.7	
	comp=Z,6.3nm,1.0s								

*IDC **28** 11:46:57.5 ± 1.2, 5.˝39N × 61.˝27E, h0 km, mb3.9/8, mb1 4.1/8,*
mb1mx3.8/50, mbtmp3.9/8, MS3.4/23, Ms1 3.4/23,
ms1mx3.3/48, Error ellipse: s-maj=41.9km s-min=21.5km
az=38.0

ISC 28 11:46:58.6 ± 1.2, 5.˝3N ± 0.˝3 × 61.˝2E ± 0.˝2, h10 km, n31, σ 0.˝89/12, mb3.8/8, MS3.5/20, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**17.98**	**352**	LR		LR	LR	11 56 27.8	
	comp=Z,58nm,21.4s,baz=199,slow=32								
ATD	**Arta Tunnel**	**19.19**	**290**	LR		LR	LR	11 57 47.6	
	comp=Z,118nm,20.1s,baz=131,slow=34								
PALK	**Pallekele**	**19.45**	**83**	LR		LR	LR	11 57 24.8	
	comp=Z,227nm,18.6s,baz=9.7,slow=32								
KMBO	**Kilima Mbogo**	**24.80**	**256**	LR		LR	LR	12 01 26.2	
	comp=Z,168nm,20.3s,baz=88,slow=35								
GEYT	**Alibeck**	**32.57**	**355**	LR		LR	LR	12 06 13.4	
	comp=Z,18nm,19.0s,baz=30,slow=36								
GNI	**Garni**	**37.71**	**339**	LR		LR	LR	12 10 21.7	
	comp=Z,30nm,19.2s,baz=151,slow=37								
CMAR	**Chiang Mai Arr**	**39.03**	**67**	P		**P**		**11 54 25.2**	**-0.7**
	0.4nm,0.3s,baz=258,slow=7.1,SNR=6.2								
CMAR				PcP		**PcP**		**11 56 37.3**	**+1.2**
	0.5nm,0.3s,baz=240,slow=5.1,SNR=1.8								
CMAR				LR		LR	LR	12 07 49.4	
	comp=Z,65nm,20.6s,baz=308,slow=32								
KBZ	**Khabaz**	**41.51**	**340**	LR		LR	LR	12 14 11.8	
	comp=Z,24nm,18.2s,baz=136,slow=39								
BRTR	**Keskin Array B**	**42.32**	**328**	P		**P**		**11 54 53.6**	**+0.6**
	1.1nm,0.6s,baz=150,slow=10.0,SNR=4.0								
BRTR				LR		LR	LR	12 12 25.8	
	comp=Z,46nm,20.4s,baz=133,slow=36								
MKAR	**Makanchi Array**	**45.12**	**20**	LR		LR	LR	12 14 43.9	
	comp=Z,34nm,21.0s,baz=195,slow=37								
KURBB	**Kurchatov Arra**	**47.41**	**15**	P		**P**		**11 55 33.9**	**+0.7**
	0.5nm,0.8s,baz=224,slow=7.8,SNR=2.4								
BOSA	**Boshof**	**48.36**	**224**	LR		LR		12 14 24.4	
	comp=Z,160nm,18.4s,baz=14,slow=34								
ZALV	**Zalesovo Beam**	**52.13**	**17**	LR		LR	LR	12 20 53.4	
	comp=Z,31nm,18.3s,baz=184,slow=39								
AKASG	**Malin Array Be**	**52.54**	**335**	P		**P**		**11 56 11.3**	**-0.8**
	0.3nm,0.3s,baz=140,slow=6.2,SNR=4.2								
SONM	**Songino Array**	**57.23**	**35**	P		**P**		**11 56 46.2**	**-0.1**
	0.3nm,0.3s,baz=235,slow=5.2,SNR=5.0								
SONM				LR		LR	LR	12 21 39.1	
	comp=Z,56nm,18.3s,baz=216,slow=36								
GERES	**GERESS Array B**	**59.10**	**325**	LR		LR		12 22 36.1	
	comp=Z,17nm,19.7s,baz=111,slow=36								
TORD	**Torodi Ar. Bea**	**59.16**	**282**	LR		LR	LR	12 23 49.4	
	comp=Z,54nm,18.0s,baz=0.0,slow=37								
FINES	**FINESS Array B**	**61.82**	**342**	LR		LR	LR	12 25 28.9	
	comp=Z,26nm,18.7s,baz=198,slow=37								
DBIC	**Dimbokro**	**65.70**	**275**	LR		LR	LR	12 26 29.0	
	comp=Z,60nm,18.3s,baz=144,slow=36								
NOA	**NORSAR Array B**	**66.92**	**336**	LR		LR	LR	12 28 06.7	
	comp=Z,9.1nm,21.7s,baz=65,slow=37								
ESDC	**Sonseca Array**	**67.60**	**311**	P		**P**		**11 57 56.3**	**+0.4**
	0.7nm,0.7s,baz=91,slow=7.6,SNR=5.2								
ARCES	**ARCESS Array B**	**68.24**	**347**	LR		LR	LR	12 29 54.1	
	comp=Z,24nm,18.6s,baz=85,slow=38								
KSRS	**Korea Array**	**68.31**	**52**	LR		LR	LR	12 28 34.4	
	comp=Z,32nm,18.2s,baz=229,slow=37								
WRA	**Warramunga Arr**	**76.06**	**112**	P		**P**		**11 58 47.4**	**+0.4**
	6.1nm,1.1s,baz=291,slow=5.0,SNR=13								
ASAR	**Alice Springs**	**76.41**	**116**	P		**P**		**11 58 49.6**	**+0.7**
	2.0nm,0.9s,baz=282,slow=6.0,SNR=11								
GUMO	**Guam**	**82.59**	**77**	LR		LR	LR	12 33 30.7	
	comp=Z,48nm,21.1s,baz=344,slow=34								
STKA	**Stephens Creek**	**84.65**	**123**	LR		LR	LR	12 33 10.6	
	comp=Z,36nm,20.3s,baz=205,slow=33								
PETK	**Petropavlovsk-**	**89.65**	**37**	LR		LR	LR	12 41 29.6	
	comp=Z,44nm,19.8s,baz=272,slow=36								
PDAR	**Pinedale Array**	**131.40**	**351**	PKP		**PKPdf**		**12 06 11.6**	**-0.5**
	0.2nm,0.6s,baz=28,slow=4.1,SNR=2.2								
NVAR	**Mina Array Bea**	**136.45**	**359**	PKP		**PKiKP**		**12 06 22.4**	**-1.0**
	0.1nm,0.3s,baz=349,slow=0.9,SNR=1.8								
TXAR	**Lajitas Array**	**142.60**	**338**	PKP		**PKPdf**		**12 06 31.6**	**-1.3**
	0.2nm,0.7s,baz=106,slow=2.7,SNR=3.7								

IDC 28 11:51:41.1 ± 3.8, 4.˝70S × 151.˝67E, h0 km, mb3.0/2, mb1 3.4/2, mb1mx3.2/38, mbtmp3.1/2, Error ellipse: s-maj=147.1km s-min=51.3km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.68**	**227**	P		P		11 56 45.2	+0.7
	0.3nm,0.4s,baz=52,slow=10,SNR=6.9								
ASAR	**Alice Springs**	**25.48**	**221**	P		P		11 57 10.5	-0.8
	0.2nm,0.6s,baz=52,slow=8.5,SNR=6.1								
TORD	**Torodi Ar. Bea**	**149.21**	**288**	PKPbc		PKPbc		12 11 32.6	-0.2
	0.1nm,0.4s,baz=80,slow=3.8,SNR=1.4								

*PDG **28** 12:04:43.1 ± 0.3, 42.˝93N × 18.˝36E, h17 km, MD2.9/4,*
ML2.9/13, Error ellipse: s-maj=0.5km s-min=0.9km az=0.0
*RHSSO **28** 12:04:43.6 ± 0.2, 42.˝96N × 18.˝34E, h8 km, 2km, ML2.8/12*
*BEO **28** 12:04:44.2 ± 0.4, 42.˝87N × 18.˝41E, h18 km, 2km, ML2.6/15*

ISC 28 12:04:44.0 ± 0.8, 42.˝94N ± 0.˝02 × 18.˝38E ± 0.˝02, h17 km ± 5km, n55, σ 0.˝98/102, 7C-10D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BRY	**Bratogost**	**0.12**	**107**	⇑*i*Pg		**Pg**		**12 04 47.7**	**-0.3**
BRY				*e*Sg		**Sg**		**12 04 50.9**	**+0.2**
BRY	**Bratogost**	**0.12**	**107**	⇑*i*Pg		**Pg**		**12 04 47.3**	**-0.7**
BRY				*i* Sg		**Sg**		**12 04 50.8**	**+0.1**
TREB	**Trebinje**	**0.22**	**185**	*e*Pg		**Pg**

IDC 28 12:12:05.3±9.1, 3°12N×127°93E, h122km±53km, mb3.4/4, mb1 3.6/5, mb1mx3.2/39, mbtmp3.9/5, Error ellipse: s-maj=90.8km s-min=59.1km az=16.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.18**	**140**	P	Pn	12 13 20.6	-0.1
	6.3nm,0.3s,baz=170,slow=23,SNR=8.9						
SIJI				S	Sn	12 14 20.0	+0.5
	2.3nm,0.3s,baz=200,slow=23,SNR=5.6						
FITZ	**Fitzroy Crossi**	**21.21**	**186**	P	P	12 16 41.8	+0.4
	1.9nm,0.9s,baz=4.2,slow=13,SNR=3.7						
WRA	**Warramunga Arr**	**23.77**	**165**	P	P	12 17 07.1	+0.4
	2.1nm,0.3s,baz=344,slow=10,SNR=79						
ASAR	**Alice Springs**	**27.26**	**168**	P	P	12 17 38.4	+0.2
	0.3nm,0.5s,baz=351,slow=7.9,SNR=12						
STKA	**Stephens Creek**	**37.15**	**161**	P	P	12 19 03.8	-0.6
	1.2nm,0.4s,baz=348,slow=8.6,SNR=10						

*INET **28** 12:14:47.3, 12°41N×88°40W, h15km, MW4.0*
*IDC **28** 12:14:50.9±1.3, 13°42N×87°46W, h0km, mb3.7/3, mb1 4.0/5, mb1mx3.7/40, mbtmp3.7/5, ML3.4/2, MS2.6/1, Ms1 2.6/1, ms1mx2.2/37, Error ellipse: s-maj=106.3km s-min=15.0km az=51.0*
*NEIC **28** 12:14:55.5±1.7, 12°61N±0°08×88°29W±0°06, h35km±2km, mb4.2/9, Md4.1(SNET), Error ellipse: s-maj=14.5km s-min=7.5km az=213.0*
*SNET **28** 12:14:55.2±1.1, 12°58N×88°30W, h31km±3km, ML4.1*
ISC 28 12:14:52.4±1.3, 12°58N±0°05×88°30W±0°04, h16km±9km, n56, σ1°47/67, mb4.1/7, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JUCU	**Jucuarįn**	**0.67**	**4**	*eP*	**Pn**	**12 15 08.5**	**+1.1**
JUCU				*eS*	**Sn**	**12 15 18.3**	**+0.8**
ALJI	**Alcalda de J**	**0.79**	**340**	*eP*	**Pn**	**12 15 10.3**	**+1.4**
ALJI				*eS*	**Sn**	**12 15 22.1**	**+1.7**
ALJI				IAML		12 15 23.4	
	comp=Z,5µm,0.1s						
LCND	**La Caada**	**0.83**	**29**	*eP*	**Pn**	**12 15 10.5**	**+1.1**
LCND				*eS*	**Sn**	**12 15 22.3**	**+1.0**
LCND				IAML		12 15 26.2	
	comp=Z,14µm,0.3s						
CNCH	**Conchagua**	**0.83**	**33**	*eP*	**Pn**	**12 15 11.2**	**+1.6**
CNCH				*eS*	**Sn**	**12 15 23.0**	**+1.5**
LCY	**Lacayo**	**0.84**	**0**	*eP*	**Pn**	**12 15 11.2**	**+1.5**
VSM	**San Miguel**	**0.85**	**2**	*eP*	**Pn**	**12 15 11.6**	**+1.7**
TECA	**Tecapa**	**0.93**	**348**	*eP*	**Pn**	**12 15 12.3**	**+1.3**
COEB	**Comit de Eme**	**0.94**	**346**	*eP*	**Pn**	**12 15 11.7**	**+0.6**
COEB				*eS*	**Sn**	**12 15 26.2**	**+1.9**
COEB				IAML		12 15 28.0	
	comp=Z,4µm,0.4s						
PQSS	**Presa 15 de Se**	**1.07**	**346**	*eP*	**Pn**	**12 15 14.4**	**+1.7**
PQSS				*eS*	**Sn**	**12 15 29.1**	**+1.8**
SNVI	**San Vicente**	**1.16**	**333**	*eP*	**Pn**	**12 15 14.8**	**+0.7**
COEG	**Centro de Oper**	**1.18**	**331**	*eP*	**Pn**	**12 15 15.7**	**+1.4**
COEG				*eS*	**Sn**	**12 15 31.3**	**+1.1**
COEG				IAML		12 15 35.4	
	comp=Z,3µm,0.1s						
CRIN	**San Cristobal**	**1.23**	**84**	Pn	**Pg**	**12 15 16.3**	**+0.3**
SJTE	**Alcalda de S**	**1.24**	**326**	*eP*	**Pg**	**12 15 16.4**	**+0.1**
SJTE				*eS*	**Sn**	**12 15 32.9**	**+1.3**
SJTE				IAML		12 15 34.5	
	comp=Z,2µm,0.3s						
LFRS	**El Faro**	**1.28**	**325**	*eP*	**Pg**	**12 15 17.0**	**-0.1**
LBRS	**Las Brisas**	**1.36**	**328**	*eP*	**Pg**	**12 15 18.6**	**-0.1**
LFU	**La Fuente**	**1.41**	**326**	*eP*	**Pg**	**12 15 19.2**	**-0.3**
LFU				*eS*	**Sg**	**12 15 37.3**	**-0.7**
OPAM	**Oficina de Pla**	**1.43**	**322**	IAML		12 15 42.2	
	comp=Z,3µm,0.2s						
SNET	**Serv Nac Est T**	**1.43**	**321**	*eP*	**Pg**	**12 15 19.5**	**-0.4**
SNET				*eS*	**Sb**	**12 15 37.3**	**+0.6**
SNET				IAML		12 15 40.0	
	comp=Z,2µm,0.3s						
SNET	**Serv Nac Est T**	**1.43**	**321**	Pn	**Pb**	**12 15 19.1**	**+0.3**
UEES	**Universidad Ev**	**1.46**	**321**	IAML		12 15 41.0	
	comp=Z,2µm,0.2s						
BOQS	**Boqueron**	**1.50**	**320**	*eP*	**Pb**	**12 15 20.3**	**+0.3**
CNGN	**Cerro Negro**	**1.56**	**93**	Pn	**Pb**	**12 15 21.1**	**+0.1**
TGUH	**Tegucigalpa,Un**	**1.78**	**34**	*eP*	**Pb**	**12 15 24.1**	**-0.6**
TGUH	**Tegucigalpa,Un**	**1.78**	**34**	Pn	**Pb**	**12 15 24.0**	**-0.6**
CEVE	**Cerro Verde**	**1.79**	**314**	*eP*	**Pb**	**12 15 24.8**	**-0.2**
CEVE				IAML		12 15 52.2	
	comp=Z,2µm,0.3s						
MTO3	**Montecristo**	**2.08**	**330**	Pn	**Pb**	**12 15 28.5**	**-1.4**
MATN	**Matagalpa**	**2.34**	**81**	Pn	**Pn**	**12 15 31.1**	**+0.8**
ACON	**Acoyapa**	**3.11**	**101**	Pn	**Pn**	**12 15 41.3**	**+0.5**
ORTG	**Ortega, Santa**	**3.55**	**128**	Pn	**Pn**	**12 15 48.9**	**+2.0**
DUNO	**Dulce Nombre,**	**3.71**	**132**	Pn	**Pn**	**12 15 50.4**	**+1.4**
JTS	**Las Juntas de**	**3.99**	**124**	Pn	**Pn**	**12 15 54.6**	**+1.7**
	comp=Z,2.1nm,0.3s,baz=0.0,slow=20,SNR=20						
JTS				Pg	**Pb**	**12 16 02.6**	**+0.2**
	comp=Z,66nm,0.3s,baz=18,slow=15,SNR=54						
JTS				Sn	**Sn**	**12 16 37.4**	**-2.1**
	comp=Z,10nm,0.3s,baz=206,slow=16,SNR=5.7						
JTS				Lg	Lg	12 16 56.2	
	comp=Z,16nm,0.3s,baz=0.0,slow=20,SNR=13						
JTS	**Las Juntas de**	**3.99**	**124**	Pn	**Pn**	**12 15 54.8**	**+1.8**
CAO2	**Cobano, Puntar**	**4.25**	**132**	Pn	**Pn**	**12 15 58.0**	**+1.5**
JACO	**JACO, Garabito**	**4.60**	**129**	Pn	**Pn**	**12 16 03.2**	**+1.9**
CVTR	**Volcan Turrial**	**5.13**	**119**	Pn	**Pn**	**12 16 10.4**	**+1.5**
RIMA	**Rio Macho**	**5.17**	**122**		**Pn**	**12 16 10.4**	**+1.1**
CCIG	**Comitan**	**5.23**	**315**	Pn	**Pn**	**12 16 11.2**	**+1.0**
BATAN	**Batan**	**5.42**	**117**	Pn	**Pn**	**12 16 13.0**	**+0.4**
PEZE	**Perez Zeledon,**	**5.54**	**125**	Pn	**Pn**	**12 16 15.5**	**+1.2**
SRBA	**San Rafael, Bu**	**5.88**	**124**		**Pn**	**12 16 20.4**	**+1.4**
DRK0	**Durika**	**5.96**	**123**	Pn	**Pn**	**12 16 22.1**	**+1.9**
PRVC	**Isla de Provid**	**6.81**	**83**	Pn	**Pn**	**12 16 32.6**	**+1.0**
CMIG	**Matias Romero**	**7.79**	**306**	Pn	**Pn**	**12 16 49.5**	**+4.4**
	comp=Z,0.5nm,0.3s,baz=108,slow=20,SNR=5.6						
CMIG				Sn	**Sn**	**12 18 10.9**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=135,slow=18,SNR=1.5						
CMIG				LR	LR	12 20 15.3	
	comp=Z,50nm,21.7s,baz=142,slow=40						
BCIP	**Isla Barro Col**	**8.97**	**111**	Pn	**Pn**	**12 17 02.8**	**+1.4**
TX31	**Lajitas Ar. Si**	**21.96**	**322**		**P**	**12 19 45.4**	**-0.2**
TX31				IAmb	IAmb	12 19 46.0	
	comp=Z,8.9nm,0.8s						
TX32	**Lajitas Array**	**21.96**	**322**	P	**P**	**12 19 44.6**	**-1.1**
TXAR	**Lajitas Array**	**21.96**	**322**	P	**P**	**12 19 45.4**	**-0.2**
	comp=Z,2.7nm,0.6s,baz=137,slow=10,SNR=42						
MTP	**Monte Pirata**	**22.60**	**73**	P	**P**	**12 19 50.0**	**-2.6**
MTP				IAmb	IAmb	12 19 53.0	
	comp=Z,8.4nm,1.2s						
V58A	**Windy Hill, Pi**	**24.56**	**18**	P	**P**	**12 20 09.0**	**-2.5**
LPAZ	**La Paz**	**34.93**	**145**	P	**P**	**12 21 47.1**	**+2.7**
	comp=Z,0.9nm,0.3s,baz=326,slow=3.6,SNR=3.3						
PDAR	**Pinedale Array**	**35.27**	**332**	P	**P**	**12 21 44.5**	**-2.2**
	comp=Z,0.4nm,0.7s,baz=128,slow=9.5,SNR=4.2						
AHID	**Auburn Hatcher**	**35.99**	**331**	P	**P**	**12 21 51.7**	**-1.2**
AHID				IAmb	IAmb	12 21 52.6	
	comp=Z,3.2nm,0.8s						
REDW	**Red Top Meadow**	**36.33**	**332**	P	**P**	**12 21 54.5**	**-1.3**
LOHW	**Long Hollow**	**36.41**	**332**	P	**P**	**12 21 54.7**	**-1.7**
LOHW				IAmb	IAmb	12 21 59.8	
	comp=Z,1.4nm,0.7s						
YNE	**Yellowstone No**	**37.26**	**334**	P	**P**	**12 22 02.3**	**-1.4**
WRA	**Warramunga Arr**	**138.51**	**254**	PKP	**PKPdf**	**12 34 18.7**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=89,slow=2.4,SNR=11						

JMA 28 12:44:54.9, 34°73N×137°10E, h11km, M2.5, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAA	**Atsumi**	**0.10**	**160**	P	Pg	12 44 57.8	+0.1
JAA				S	Sg	12 44 59.5	-0.1
JIE	**Ise**	**0.47**	**224**	P	Pg	12 45 04.1	0.0
JIE				S	Sg	12 45 10.2	-0.1
TSUJ	**Tsu 2**	**0.56**	**268**	P	Pg	12 45 05.5	-0.3
TSUJ				S	Sg	12 45 12.9	-0.3
JICN	**Ichinomiyachia**	**0.61**	**340**	P	Pg	12 45 06.9	+0.2
JICN				S	Sg	12 45 14.8	0.0
TTO5	**TONANKAI O.B.S**	**0.70**	**133**	P	Pn	12 45 10.0	-0.6
TK04	**Tokai 4**	**0.73**	**118**	P	Pn	12 45 10.5	-0.5
JKN2	**Miekihoku**	**0.84**	**235**	P	Pg	12 45 10.9	-0.2
JKN2				S	Sg	12 45 22.1	0.0
JYTA	**Yamagatataniai**	**0.91**	**341**	P	Pg	12 45 12.2	-0.3
JYTA				S	Sg	12 45 23.5	-0.9
TK02	**Tokai 2**	**0.95**	**145**	P	Pg	12 45 13.2	0.0
SHZ3	**Shizuoka 3**	**0.97**	**70**	P	Pg	12 45 13.4	-0.2
MAT	**Matsushiro**	**2.02**	**26**	P	Pb	12 45 31.7	0.0
MAT				*eS*	Sb	12 45 57.5	+0.7

*IDC **28** 12:51:27.1±3.9, 20°69S×177°25W, h501km±25km, mb3.3/5, mb1 3.3/8, mb1mx3.0/37, mbtmp4.1/8, Error ellipse: s-maj=66.6km s-min=37.4km az=60.0*
ISC 28 12:51:26.5±3.5, 20°7S±0°3×177°2W±0°4, h500km, n8, σ0°70/9, mb3.7/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.40**	**302**	P	**P**	**12 52 57.3**	**+0.1**
	3.8nm,0.3s,baz=126,slow=14,SNR=17						
DZM	**Mont Dzumac**	**15.34**	**262**	P	**P**	**12 54 40.4**	**+0.1**
	0.4nm,0.3s,baz=96,slow=23,SNR=6.2						
URZ	**Urewera**	**18.20**	**195**	P	**P**	**12 55 08.1**	**-0.4**
	0.5nm,0.3s,baz=74,slow=18,SNR=1.3						
CTA	**Charters Tower**	**34.26**	**264**	P	**P**	**12 57 30.0**	**-0.4**
	2.1nm,0.3s,baz=88,slow=10,SNR=14						
STKA	**Stephens Creek**	**38.42**	**245**	P	**P**	**12 58 05.8**	**+1.1**
	2.6nm,0.9s,baz=92,slow=13,SNR=4.4						
ASAR	**Alice Springs**	**45.24**	**257**	P	**P**	**12 58 58.8**	**0.0**
	4.1nm,0.8s,baz=97,slow=7.6,SNR=54						
ASAR				PcP	**PcP**	**13 00 29.0**	**+0.5**
	0.1nm,0.5s,baz=112,slow=4.1,SNR=2.0						
WRA	**Warramunga Arr**	**45.36**	**262**	P	**P**	**12 58 58.7**	**-1.0**
	0.9nm,0.3s,baz=97,slow=7.7,SNR=48						
FITZ	**Fitzroy Crossi**	**53.78**	**262**	P	**P**	**13 00 01.7**	**-0.2**
	1.0nm,0.5s,baz=98,slow=7.1,SNR=1.8						

*TUL **28** 12:58:31.7±1.2, 36°84N±0°02×98°25W±0°03, h4km±7km, ML3.0, mb_Lg2.7/48(NEIC), Error ellipse: s-maj=2.9km s-min=2.1km az=112.0*
NEIC 28 12:58:32.5±1.3, 36°82N±0°01×98°19W±0°02, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.8km az=118.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OK032	**Salt Plains WL**	**0.02**	**223**		Pg	12 58 33.4	-0.2
OK032				Sg	Sg	12 58 34.4	+0.1
KAN14	**Manchester OK**	**0.23**	**53**	Pg	Pg	12 58 37.2	+0.2
KAN14				Sg	Sg	12 58 41.1	+1.1
GC02	**Grant County #**	**0.27**	**83**		Pg	12 58 38.2	+0.4
GC02				Sg	Sg	12 58 42.6	+1.3
KAN10	**Anthony SW Sta**	**0.31**	**14**		Pg	12 58 38.1	-0.5
KAN10				Sg	Sg	12 58 42.8	0.0
CROK	**Carrier**	**0.36**	**152**		Pg	12 58 39.7	+0.3
CROK				Sg	Sg	12 58 45.5	+1.4
KAN05	**Bluff City Nor**	**0.39**	**41**	Pg	Pg	12 58 40.0	0.0
KAN05				Sg	Sg	12 58 45.4	+0.4
KAN17	**Caldwell West**	**0.41**	**57**		Pg	12 58 40.5	+0.1
KAN17				Sg	Sg	12 58 46.9	+1.1
KAN16	**Harper SW Stat**	**0.42**	**14**		Pg	12 58 40.1	-0.5
KAN16				Sg	Sg	12 58 45.4	-0.7
KAN08	**Anthony NE Sta**	**0.44**	**23**	Pg	Pg	12 58 40.7	-0.3
KAN08				Sg	Sg	12 58 47.1	+0.2
KAN12	**Harper NE Stat**	**0.50**	**18**		Pg	12 58 41.6	-0.5
KAN12				Sg	Sg	12 58 49.0	+0.2
KAN06	**Argonia West S**	**0.50**	**32**	Pg	Pg	12 58 41.9	-0.3
KAN06				Sg	Sg	12 58 48.6	-0.2
KAN09	**Caldwell North**	**0.56**	**55**	Pg	Pg	12 58 43.2	-0.1
KAN09				Sg	Sg	12 58 50.4	-0.1
KAN13	**South Haven SW**	**0.60**	**71**	Pg	Pg	12 58 44.3	+0.2
KAN13				Sg	Sg	12 58 53.0	+1.0
KS20	**Mayfield South**	**0.65**	**51**		Pg	12 58 44.8	-0.3
KS20				Sg	Sg	12 58 53.9	+0.3
BLOK	**Blackwell**	**0.79**	**94**		Pg	12 58 47.5	-0.1
BLOK				Sg	Sb	12 58 58.8	-0.9
U32A	**Winter Ranch,**	**0.79**	**236**		Pg	12 58 46.5	-1.1
U32A				Sg	Sg	12 58 56.0	-1.8
OK029	**Liberty Lake**	**1.18**	**150**		Pg	12 58 54.7	-0.5
OK029				Sg	Sg	12 59 10.5	0.0
BCOK	**Bluff Creek, N**	**1.25**	**158**		Pg	12 58 55.4	-1.1
T35A	**Sooner Cattle**	**1.35**	**85**		Pn	12 58 57.4	-0.6
QUOK	**Quay**	**1.36**	**118**		Pn	12 58 57.6	-0.5
OK031	**S. Brethren Rd**	**1.39**	**128**		Pn	12 58 58.3	-0.4
OK025	**Westminster Rd**	**1.42**	**151**		Pn	12 58 58.7	-0.2
OK030	**Cody Creek RV**	**1.44**	**128**		Pn	12 58 59.1	-0.2
OKCFA	**Oklahoma City**	**1.52**	**157**		Pn	12 58 59.9	-0.5
OKCSW	**OKLAHOMA CITY**	**1.54**	**156**	Pn	Pn	12 58 59.5	-1.1
R32A	**Long Quarter,**	**1.65**	**346**		Pn	12 59 01.2	-1.0
FNO	**Franklin**	**1.69**	**157**		Pn	12 59 02.8	+0.1
WMOK	**Wichita Mounta**	**2.13**	**193**		Pn	12 59 08.2	-0.7
TUL1	**Leonard**	**2.14**	**114**		Pn	12 59 08.1	-0.8
X34A	**Smith Ranch, M**	**2.23**	**172**		Pn	12 59 10.4	+0.2
CBKS	**Cedar Bluff**	**2.34**	**329**		Pn	12 59 11.1	-0.5
KSU1	**Kansas State U**	**2.60**	**28**		Pn	12 59 13.6	-1.6
LOOK	**Love County**	**2.94**	**163**		Pn	12 59 20.0	+0.1
LOOK				IAmb_Lg		13 00 14.2	
	comp=Z,24nm,0.9s						
U38A	**Gravette**	**3.08**	**96**		Pn	12 59 22.6	+0.7
U38A				IAmb_Lg		13 00 18.8	
	comp=Z,29nm,0.8s						
X37A	**Clayton**	**3.20**	**133**		Pn	12 59 23.9	+0.4
X37A				IAmb_Lg		13 00 17.2	
	comp=Z,18nm,0.8s						
AMTX	**Amarillo**	**3.43**	**237**		Pn	12 59 26.6	-0.1
AMTX				IAmb_Lg		13 00 24.5	
	comp=Z,24nm,0.7s						
HHAR	**Hobbs**	**3.46**	**98**		Pn	12 59 27.2	0.0
Z35A	**Perchaven, San**	**3.56**	**167**	Pn	Pn	12 59 28.6	+0.1
W39A	**Magazine**	**3.92**	**113**		Pn	12 59 33.9	+0.5
W39A				IAmb_Lg		13 00 46.3	
	comp=Z,22nm,0.8s						
S39A	**Bolivar**	**3.98**	**76**		Pn	12 59 34.5	+0.2
KSCO	**Kaye Shedlock'**	**4.13**	**303**		Pn	12 59 36.8	+0.4
U40A	**Yellville**	**4.32**	**95**		Pn	12 59 39.6	+0.7
U40A				IAmb_Lg		13 00 51.5	
	comp=Z,24nm,0.8s						
MIAR	**Mount Ida**	**4.39**	**120**	Pn	Pn	12 59 40.1	+0.3
MIAR				IAmb_Lg		13 00 55.6	
	comp=Z,13nm,0.7s						
Z38A	**Mt. Pleasant**	**4.42**	**143**	Pn	Pn	12 59 39.6	-0.6
Z38A				IAmb_Lg		13 00 55.9	
	comp=Z,17nm,0.8s						
BGNE	**Belgrade**	**4.58**	**0**	Pn	Pn	12 59 41.6	-0.9
BGNE				IAmb_Lg		13 01 00.3	
	comp=Z,18nm,0.8s						
P38A	**Dawn**	**4.62**	**51**	Pn	Pn	12 59 43.3	+0.4
P38A				IAmb_Lg		13 01 07.1	
	comp=Z,12nm,0.8s						
MSTX	**Muleshoe**	**4.70**	**234**	IAmb_Lg		13 01 01.4	
	comp=Z,23nm,1.2s						
MGMO	**Mountain Grove**	**4.75**	**84**		Pn	12 59 44.4	-0.5
MGMO				IAmb_Lg		13 01 04.4	
	comp=Z,12nm,0.7s						
WHTX	**Lake Whitney,**	**4.86**	**173**	Pn	Pn	12 59 45.4	-0.8
R40A	**Maddies Statio**	**4.93**	**71**		Pn	12 59 47.4	+0.1
R40A				IAmb_Lg		13 01 17.9	
	comp=Z,11nm,0.9s						
X40A	**Basin Creek Fa**	**4.94**	**117**		Pn	12 59 48.4	+0.9
X40A				IAmb_Lg		13 01 16.6	
	comp=Z,17nm,1.0s						
FCAR	**Ozark Folk Cen**	**4.98**	**99**	Pn	Pn	12 59 48.1	+0.1
FCAR				IAmb_Lg		13 01 08.9	
	comp=Z,11nm,0.8s						
WHAR	**Wooly Hollow**	**5.02**	**106**	Pn	Pn	12 59 47.5	-1.0
WHAR				IAmb_Lg		13 01 11.1	
	comp=Z,12nm,0.9s						
OGNE	**Ogallala**	**5.09**	**325**		Pn	12 59 49.9	+0.3
237A	**Washetta, Mont**	**5.19**	**157**	Pn	Pn	12 59 50.2	-0.7
N38A	**Joes South For**	**5.54**	**43**	Pn	Pn	12 59 54.4	-1.2
CCM	**Cathedral Cave**	**5.66**	**75**	IAmb_Lg		13 01 34.2	
	comp=Z,13nm,0.9s						
LCAR	**Lake Charles**	**5.72**	**95**	IAmb_Lg		13 01 37.9	
	comp=Z,12nm,1.1s						
SDCO	**Great Sand Dun**	**5.90**	**281**	IAmb_Lg		13 01 45.8	
	comp=Z,9.3nm,1.1s						
PBMO	**Poplar Bluff**	**6.23**	**88**	IAmb_Lg		13 01 50.7	
	comp=Z,11nm,0.7s						
N41A	**Harden Midland**	**6.92**	**54**	IAmb_Lg		13 02 12.7	
	comp=Z,11nm,0.7s						
ECSD	**EROS Data Cent**	**7.01**	**9**	Pn	Pn	13 00 15.9	+0.1
S44A	**Carbondale**	**7.18**	**80**	IAmb_Lg		13 02 35.6	
	comp=Z,9.7nm,0.7s						
SIUC	**Southern Illin**	**7.21**	**80**	IAmb_Lg		13 02 26.4	
	comp=Z,11nm,0.9s						
JFWS	**Jewell Farm**	**8.62**	**43**	IAmb_Lg		13 03 12.2	
	comp=Z,8.9nm,0.7s						

*IDC **28** 13:00:11.4±15.0, 23°03S×177°81W, h244km±108km, mb3.1/3, mb1 3.3/4, mb1mx3.0/31, mbtmp3.7/4, Error ellipse: s-maj=182.0km s-min=36.1km az=140.0*
ISC 28 13:00:11.3±2.7, 23°05S±0°2×177°7W±0°4, h250km, n5, σ0°89/7, mb3.1/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.54**	**322**	P	**Pn**	**13 01 46.2**	**-0.2**
	0.3nm,0.3s,baz=188,slow=11,SNR=4.5						
CTA	**Charters Tower**	**33.59**	**268**	P	**P**	**13 06 29.6**	**+1.2**
	0.9nm,0.3s,baz=109,slow=10,SNR=6.3						
ASAR	**Alice Springs**	**44.27**	**259**	P	**P**	**13 07 55.6**	**-1.1**
	0.2nm,0.3s,baz=95,slow=7.9,SNR=7.1						
ASAR				PcP	**PcP**	**13 09 36.5**	**0.0**
	0.2nm,0.6s,baz=105,slow=4.6,SNR=4.4						
WRA	**Warramunga Arr**	**44.58**	**264**	P	**P**	**13 07 58.5**	**-0.7**
	0.4nm,0.4s,baz=97,slow=8.6,SNR=21						
WRA				PcP	**PcP**	**13 09 37.8**	**+0.2**
	0.3nm,0.9s,baz=101,slow=2.9,SNR=1.6						
AKASG	**Malin Array Be**	**145.27**	**330**	PKPbc	**PKPbc**	**13 19 19.4**	**+0.1**
	1.1nm,0.5s,baz=47,slow=4.0,SNR=5.4						

*NEIC **28** 13:01:53.5±1.3, 31°183S±0°004×71°5W±0°1, h34km±15km, ML4.3(GUC), Error ellipse: s-maj=13.7km s-min=0.6km az=90.0*
*GUC **28** 13:01:53.5±0.8, 31°18S×71°44W, h53km±2km, ML4.3*
*IDC **28** 13:01:58.0±1.6, 31°91S×71°75W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/26, mbtmp3.4/3, ML3.5/1, MS2.6/1, Ms1 2.6/1, ms1mx2.4/10, Error ellipse: s-maj=69.1km s-min=40.0km az=71.0*
ISC 28 13:01:54.0±2.0, 31°18S±0°03×71°48W±0°06, h35km±5km, n63, σ0°95/63, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO02	**Combarbal**	**0.41**	**93**	↓*iP*	**Pn**	**13 02 03.9**	**+0.2**
CO02				*i* S	**Sb**	**13 02 10.7**	**+0.6**
CO02	**Combarbal**	**0.41**	**93**		**Pn**	**13 02 03.8**	**+0.2**
CO06	**Fray Jorge**	**0.52**	**346**	↑*iP*	**Pn**	**13 02 05.5**	**+0.4**
CO06				*i* S	**Sn**	**13 02 13.9**	**+1.2**
CO06				IAML		13 02 16.7	
	comp=E,13µm,0.2s						
CO06	**Fray Jorge**	**0.52**	**346**		**Pn**	**13 02 05.3**	**+0.3**
CO03	**El Pedregal**	**0.76**	**63**	↓*iP*	**Pn**	**13 02 08.3**	**-0.2**
CO03				*i* S	**Sn**	**13 02 18.5**	**-0.3**
CO03				IAML		13 02 19.2	
	comp=N,28µm,0.0s						
CO03	**El Pedregal**	**0.76**	**63**	Pn	**Pn**	**13 02 08.1**	**-0.3**
GO04	**Tololo Observa**	**1.17**	**31**	↓*iP*	**Pn**	**13 02 14.2**	**0.0**
GO04				*i* S	**Sn**	**13 02 29.4**	**+0.4**
GO04				IAML		13 02 30.9	
	comp=E,16µm,0.4s						
GO04	**Tololo Observa**	**1.17**	**31**		**Pn**	**13 02 14.1**	**0.0**
CO05	**La Serena**	**1.28**	**10**	*eP*	**Pn**	**13 02 15.7**	**+0.3**
CO05				*i* S	**Sn**	**13 02 32.0**	**+0.7**
CO05	**La Serena**	**1.28**	**10**		**Pn**	**13 02 15.5**	**+0.1**
VA06	**Catapilco**	**1.38**	**173**	↑*iP*	**Pn**	**13 02 16.9**	**0.0**
VA06				*i* S	**Sn**	**13 02 35.0**	**+1.0**
VA06				IAML		13 02 40.1	
	comp=E,6µm,0.4s						
VA03	**San Esteban**	**1.76**	**154**	*eP*	**Pn**	**13 02 22.4**	**+0.2**
VA03				*i* S	**Sn**	**13 02 44.4**	**+0.9**
VA03				IAML		13 02 47.8	
	comp=E,4µm,0.4s						
VA03	**San Esteban**	**1.76**	**154**		**Pn**	**13 02 22.4**	**+0.2**
ROCH	**El Roble**	**1.83**	**167**	↑*iP*	**Pn**	**13 02 23.6**	**+0.4**
ROCH				*i* S	**Sn**	**13 02 46.9**	**+1.6**
ROCH				IAML		13 02 50.2	
	comp=N,5µm,0.4s						
VA01	**Torpederas**	**1.84**	**184**	*eP*	**Pn**	**13 02 22.8**	**-0.3**
VA01	**Torpederas**	**1.84**	**184**		**Pn**	**13 02 22.4**	**-0.8**
LCO	**Las Campanas**	**2.27**	**18**	*eP*	**Pn**	**13 02 29.4**	**+0.1**
LCO				*i* S	**Sn**	**13 02 56.9**	**+0.7**
LCO	**Las Campanas**	**2.27**	**18**		**Pn**	**13 02 29.7**	**+0.4**
MT05	**Renca**	**2.29**	**164**	*eP*	**Pn**	**13 02 29.8**	**+0.4**
MT05				*i* S	**Sn**	**13 02 58.

baz=173,slow=74,SNR=80
H01W1 Cape Leeuwin H 15.00 352 T T 13 27 44.7
baz=173,slow=74,SNR=69
H01W3 Cape Leeuwin H 15.01 352 T T 13 27 50.1
baz=173,slow=74,SNR=85
NWAO Narrogin (SRO) 16.85 2 Pn Pn 13 13 13.3 -0.4
0.2nm,0.3s,baz=82,slow=24,SNR=2.1
ASAR Alice Springs 29.36 34 P P 13 15 20.8 -0.3
0.4nm,0.8s,baz=189,slow=9.3,SNR=2.9
FITZ Fitzroy Crossi 32.42 16 P P 13 15 47.5 -0.5
1.3nm,0.8s,baz=174,slow=9.2,SNR=2.0
WRA Warramunga Arr 32.94 32 P P 13 15 53.3 +0.6
0.8nm,0.6s,baz=201,slow=10,SNR=9.5
CMAR Chiang Mai Arr 69.74 342 P P 13 20 28.1 0.0
0.5nm,0.4s,baz=186,slow=5.8,SNR=6.0

NEIC ***28*** *13:11:38.1±2.0, 15°.0S±0°.1×167°.5E±0°.1, h146km±6km, mb4.5/21, Error ellipse: s-maj=21.3km s-min=14.7km az=129.0*
IDC ***28*** *13:11:41.3±5.7, 14°.92S×167°.42E, h183km±55km, mb3.7/7, mb1 3.8/8, mb1mx3.4/30, mbtmp4.1/8, Error ellipse: s-maj=48.1km s-min=33.0km az=161.0*

ISC 28 13:11:38.0±0.6, 14°.80S±0°.08×167°.4E±0°.1, h150km, n33, σ1§29/34, mb4.3/17, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SANVU	**Saraoutou**	**0.68**	**198**			**Pn**	**13 11 58.9**	**-1.5**
SANVU				Sn		**Sn**	**13 12 15.1**	**-2.3**
DZM	**Mont Dzumac**	**7.29**	**187**	P		**Pn**	**13 13 24.4**	**+2.4**
	0.3nm,0.3s,baz=117,slow=22,SNR=10							
DZM				S		**Sn**	**13 14 44.6**	**+1.0**
	0.2nm,0.3s,baz=274,slow=24,SNR=1.8							
EIDS	**Eidsvold**	**18.58**	**233**	P		**P**	**13 15 43.8**	**+0.1**
COEN	**Coen**	**23.50**	**269**	P		**P**	**13 16 35.3**	**+0.8**
COEN				IAmb		IAmb	13 16 44.9	
	comp=Z,31nm,1.4s							
BKZ	**Black Stump Fm**	**25.55**	**163**	P		**P**	**13 16 52.7**	**-0.2**
BKZ				IAmb		IAmb	13 16 57.3	
	comp=Z,20nm,1.5s							
CAN	**Canberra**	**26.29**	**216**	P		**P**	**13 16 57.1**	**-2.5**
CAN				IAmb		IAmb	13 17 23.0	
	comp=Z,26nm,1.5s							
LTZ	**Lake Taylor**	**28.19**	**172**	P		**P**	**13 17 15.8**	**-0.6**
STKA	**Stephens Creek**	**29.06**	**230**	P		**P**	**13 17 25.0**	**+0.8**
	comp=Z,3.2nm,0.6s,baz=63,slow=8.9,SNR=8.9							
STKA	**Stephens Creek**	**29.06**	**230**	P		**P**	**13 17 25.1**	**+0.9**
WB0	**Warramunga Arr**	**31.89**	**256**	P		**P**	**13 17 47.6**	**-1.8**
WB0				IAmb		IAmb	13 17 49.2	
	comp=Z,5.3nm,1.1s							
WB2	**Warramunga Arr**	**31.94**	**256**	P		**P**	**13 17 48.8**	**-1.0**
WB2				IAmb		IAmb	13 17 58.0	
	comp=Z,4.8nm,1.1s							
WRAB	**Tennant Creek**	**31.94**	**256**	P		**P**	**13 17 48.6**	**-1.2**
WRAB				IAmb		IAmb	13 18 12.3	
	comp=Z,10nm,1.5s							
WRA	**Warramunga Arr**	**31.95**	**256**	P		**P**	**13 17 48.5**	**-1.4**
	comp=Z,1.7nm,0.9s,baz=87,slow=8.8,SNR=8.4							
WRA	**Warramunga Arr**	**31.95**	**256**	IAmb		IAmb	13 17 49.4	
	comp=Z,0.2nm,1.0s							
AS31	**Alice Springs**	**32.78**	**249**	P		**P**	**13 17 56.3**	**-0.8**
ASAR	**Alice Springs**	**32.78**	**249**	P		**P**	**13 17 56.3**	**-0.8**
	comp=Z,3.8nm,0.8s,baz=81,slow=8.9,SNR=40							
ASAR				PcP		**PcP**	**13 20 38.4**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=92,slow=2.2,SNR=1.8							
BBOO	**Buckleboo**	**33.65**	**232**	P		**P**	**13 18 04.8**	**+0.3**
KNRA	**Kununurra**	**37.27**	**263**	P		**P**	**13 18 34.9**	**-0.8**
KNRA				IAmb		IAmb	13 18 35.8	
	comp=Z,14nm,1.0s							
XMAS	**Kiritimati**	**38.60**	**67**	P		**P**	**13 18 47.0**	**+0.2**
FORT	**Forrest**	**39.39**	**239**	P		**P**	**13 18 53.3**	**+0.2**
FORT				IAmb		IAmb	13 18 58.6	
	comp=Z,27nm,1.1s							
FITZ	**Fitzroy Crossi**	**40.15**	**259**	P		**P**	**13 18 59.7**	**+0.1**
	comp=Z,5.6nm,0.8s,baz=82,slow=8.2,SNR=20							
FITZ	**Fitzroy Crossi**	**40.15**	**259**	P		**P**	**13 18 59.4**	**-0.2**
FITZ				IAmb		IAmb	13 19 00.2	
	comp=Z,5.4nm,0.7s							
MORW	**Morawa**	**49.37**	**244**	P		**P**	**13 20 11.4**	**-1.1**
MORW				IAmb		IAmb	13 20 13.7	
	comp=Z,16nm,1.4s							
UWE	**Uwekahuna**	**50.03**	**48**	P		**P**	**13 20 16.5**	**-1.1**
VNDA	**Vanda**	**62.79**	**181**	P		**P**	**13 21 46.7**	**-0.3**
VNDA				IAmb		IAmb	13 21 56.0	
	comp=Z,2.6nm,1.3s							
PET	**Petropavlovsk**	**67.97**	**354**	P		**P**	**13 22 21.9**	**+1.4**
NIKH	**Nikolski High**	**70.53**	**15**	P		**P**	**13 22 37.7**	**+1.5**
CMAR	**Chiang Mai Arr**	**75.11**	**294**	P		**P**	**13 23 04.5**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=122,slow=5.2,SNR=4.3							
SONM	**Songino Array**	**82.64**	**324**	P		**P**	**13 23 45.8**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=123,slow=5.3,SNR=1.7							
SONM	**Songino Array**	**82.64**	**324**	IAmb		IAmb	13 23 48.3	
	comp=Z,1.7nm,1.4s							
MKAR	**Makanchi Array**	**97.36**	**316**	P		**P**	**13 24 54.9**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=101,slow=6.0,SNR=2.1							
ARCES	**ARCESS Array B 120.36**	**345**		PKP		**PKPdf**	**13 30 07.8**	**-3.1**
	comp=Z,3.1nm,1.0s,baz=33,slow=3.3,SNR=4.4							
ARCES	**ARCESS Array B 120.36**	**345**		PKPdf		**PKPdf**	**13 30 10.7**	**-0.2**

MEX 28 13:19:40.4±0.4, 17°.67N×101°.26W, h46km±4km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**1.06**	**55**	*eP*		Pn	13 19 57.1	-1.8
ARIG				*eS*		Sn	13 20 10.4	-2.2
DAIG	**Los Arroyos**	**1.67**	**112**	*eP*		Pn	13 20 05.6	-1.6
DAIG				*i* S		Sn	13 20 25.1	-2.3
PLIG	**Platanillo**	**1.82**	**66**	*e*P		Pn	13 20 08.0	-1.3
PLIG				*i* S		Sn	13 20 31.9	+0.7

MEX 28 13:23:21.1±0.5, 14°.64N×92°.20W, h89km±5km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
THIG		**0.28**	**347**	*i* P		Pn	13 23 32.9	-1.4
THIG				*i* S		Sn	13 23 42.2	-1.9
PCIG		**1.45**	**317**	*i* P		Pn	13 23 44.9	-1.2
PCIG				*i* S		Sn	13 24 03.4	-1.6
CMIG	**Matias Romero**	**3.55**	**314**	*i* P		Pn	13 24 11.0	-3.1
CMIG				*i* S		Sn	13 24 53.6	-1.5

INET ***28*** *13:36:50.7, 17°.04N×86°.21W, h15km, MW4.8*
IDC ***28*** *13:37:02.3±0.5, 16°.63N×86°.27W, h0km, mb4.6/30, mb1 4.8/35, mb1mx4.7/52, mbtmp4.7/35, ML3.1/3, MS4.3/17, Ms1 4.3/17, ms1mx4.2/24, Error ellipse: s-maj=16.9km s-min=10.7km az=51.0*
NEIC ***28*** *13:37:04.6±1.3, 16°.63N±0°.06×86°.40W±0°.06, h13km±4km, mb4.9/350, Error ellipse: s-maj=8.7km s-min=8.3km az=218.0*
GCMT ***28*** *13:37:09.6±0.1, 16°.86N±0°.01×86°.36W±0°.01, h24km±1km, MW5.2/132, Moment Tensor Solution. s89,c123; s132,c221; Duration: 1§0 Moment tensor: Scale 10¹⁶ Nm; Mrr-0.53±.16; Mθθ-4.77±.14; Mϕϕ5.31±.17; Mrθ-1.53±.20; Mrϕ6.00±.12; Mθϕ0.76±.21; Best double couple: Mo8.03300×10¹⁶ NP1:ϕ₁69.00000°, δ81.00000°, λ-9.00000°. NP2:ϕ₂161.00000°, δ81.00000°, λ-171.00000°. Principal axes: T 8.1060, Plg0.0000°, Azm295.0000°; N -0.1400, Plg77.0000°, Azm204.0000°; P -7.9590, Plg13.0000°, Azm25.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
UCR ***28*** *13:37:26.6±2.5, 15°.28N×87°.54W, h7km, mb4.9(NEIC)*

ISC 28 13:37:03.6±0.3, 16°.67N±0°.04×86°.42W±0°.05, h10km, n720, σ0§92/707, mb4.9/157, MS4.4/23, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TGUH	**Tegucigalpa,Un**	**2.72**	**198**	*e*P		**Pn**	**13 37 47.1**	**-0.5**
TGUH	**Tegucigalpa,Un**	**2.72**	**198**			**Pn**	**13 37 47.0**	**-0.6**
ESQI	**Esquipulas**	**3.51**	**234**	*e*P		**Pn**	**13 37 59.2**	**+0.8**
ESQI	**Esquipulas**	**3.51**	**234**			**Pn**	**13 37 57.7**	**-0.7**
MTO3	**Montecristo**	**3.62**	**232**	*e*P		**Pn**	**13 38 00.1**	**+0.1**
MTO3	**Montecristo**	**3.62**	**232**	*e*P		**Pn**	**13 38 00.1**	**+0.1**
MTO3	**Montecristo**	**3.62**	**232**			**Pn**	**13 37 59.2**	**-0.8**
LCND	**La Caada**	**3.63**	**203**	*e*P		**Pn**	**13 37 59.1**	**-0.8**
LCND	**La Caada**	**3.63**	**203**	*e*P		**Pn**	**13 37 59.1**	**-0.8**
MATN	**Matagalpa**	**3.75**	**173**			**Pn**	**13 38 00.7**	**-0.9**
JUCU	**Jucuarn**	**3.83**	**208**	*e*P		**Pn**	**13 38 03.4**	**+0.7**
JUCU	**Jucuarn**	**3.83**	**208**	*e*P		**Pn**	**13 38 03.4**	**+0.7**
CRIN	**San Cristobal**	**3.99**	**189**			**Pn**	**13 38 04.5**	**-0.5**
SNET	**Serv Nac Est T**	**4.02**	**223**	Pn		**Pn**	**13 38 04.5**	**-0.9**
CNGN	**Cerro Negro**	**4.15**	**184**	Pn		**Pn**	**13 38 07.7**	**+0.5**
CEVE	**Cerro Verde**	**4.19**	**228**	*e*P		**Pn**	**13 38 08.5**	**+0.6**
CEVE	**Cerro Verde**	**4.19**	**228**	*e*P		**Pn**	**13 38 08.5**	**+0.6**
ACON	**Acoyapa**	**4.82**	**165**			**Pn**	**13 38 16.3**	**-0.1**
HUEH	**Huehuetenango**	**5.07**	**255**			**Pn**	**13 38 19.2**	**-0.8**
CCIG	**Comitan**	**5.50**	**267**			**Pn**	**13 38 25.8**	**-0.1**
RTAL	**Retalhuleu**	**5.51**	**248**	Pn		**Pn**	**13 38 24.2**	**-1.6**
FSCY	**Frank Sound, G**	**5.63**	**61**			**Pn**	**13 38 26.0**	**-1.5**
PRVC	**Isla de Provid**	**5.88**	**123**			**Pn**	**13 38 28.8**	**-2.0**
PTEN	**Parque Tenorio**	**6.08**	**167**	*e*P		**Pb**	**13 38 47.1**	**-2.6**
COLC	**Colonia**	**6.08**	**169**	*e*P		**Pb**	**13 38 48.1**	**-1.7**
COVE	**Coope Vega, Sa**	**6.23**	**161**	Pn		**Pn**	**13 38 36.1**	**+0.4**
ORTG	**Ortega, Santa**	**6.33**	**171**			**Pn**	**13 38 37.1**	**-0.1**
CEDE	**Laguna Cedeo**	**6.37**	**165**	*e*P		Pb	13 38 48.2	-6.4
JTS	**Las Juntas de**	**6.50**	**167**	Pn		**Pn**	**13 38 39.5**	**+0.1**
	2.5nm,0.3s,baz=9.7,slow=20,SNR=6.4							
JTS				Pg		**Pb**	**13 38 59.6**	**+2.8**
	4.9nm,0.3s,baz=79,slow=13,SNR=7.0							
JTS				Lg		Lg	13 40 16.6	
	6.8nm,0.3s,baz=259,slow=18,SNR=3.6							
JTS				LR		LR	13 40 46.0	
	comp=Z,918nm,19.2s,baz=60,slow=35							
JTS	**Las Juntas de**	**6.50**	**167**	Pn		**Pn**	**13 38 38.6**	**-0.8**
DUNO	**Dulce Nombre,**	**6.61**	**172**	Pn		**Pn**	**13 38 39.4**	**-1.5**
LCCY	**Blossom Villag**	**6.72**	**63**			**Pn**	**13 38 41.3**	**-1.1**
SOR	**Soroa**	**6.89**	**27**			**Pn**	**13 38 44.5**	**-0.3**
CBCY	**The Bluff, Cay**	**7.03**	**63**	Pn		**Pn**	**13 38 45.0**	**-1.7**
CVTR	**Volcan Turrial**	**7.09**	**158**	Pn		**Pn**	**13 38 47.8**	**-0.2**
RIMA	**Rio Macho**	**7.29**	**160**	Pn		**Pn**	**13 38 49.8**	**-0.7**
PEZE	**Perez Zeledon,**	**7.72**	**159**	Pn		**Pn**	**13 38 55.4**	**-0.9**
SRBA	**San Rafael, Bu**	**7.97**	**158**	Pn		**Pn**	**13 38 59.3**	**-0.4**
CMIG	**Matias Romero**	**8.12**	**274**	Pn		**Pn**	**13 38 59.8**	**-1.8**
	7.2nm,0.3s,baz=106,slow=6.3,SNR=24							
CMIG				LR		LR	13 42 39.5	
	comp=Z,5µm,18.3s,baz=97,slow=41							
MTDJ	**Mount Denham**	**8.62**	**78**			**Pn**	**13 39 08.5**	**-0.1**
BCIP	**Isla Barro Col**	**9.83**	**138**			**Pn**	**13 39 22.2**	**-3.0**
BCIP	**Isla Barro Col**	**9.83**	**138**	*e*P		**Pn**	**13 39 22.7**	**-2.4**
061Z	**Ochoppi**	**10.49**	**28**			**Pn**	**13 39 32.9**	**-1.3**
GTBY	**Guantanamo Bay**	**11.22**	**71**			**Pn**	**13 39 42.9**	**-1.2**
GTBY	**Guantanamo Bay**	**11.22**	**71**	*e*P		**Pn**	**13 39 44.6**	**+0.5**
TLIG	**Tlapa**	**11.65**	**276**			**Pn**	**13 39 48.5**	**-1.7**
060A	**Indiantown**	**11.75**	**28**			**Pn**	**13 39 51.4**	**0.0**
DWPF	**Disney Wildern**	**12.29**	**21**			**Pn**	**13 39 57.1**	**-1.6**
DWPF	**Disney Wildern**	**12.29**	**21**	P		**Pn**	**13 39 57.5**	**-1.1**
	baz=203							
SJCC	**San Jacinto, C**	**12.84**	**120**			**Pn**	**13 40 04.0**	**-2.4**
656A	**Willston**	**13.14**	**15**			**Pn**	**13 40 07.8**	**-2.5**
ARGC	**Ariguani, Magd**	**13.64**	**118**	*e*P		**Pn**	**13 40 15.8**	**-1.5**
DBBC	**Dabeiba**	**13.84**	**133**	*e*P		**Pn**	**13 40 16.6**	**-3.5**
451A	**Vernon**	**13.90**	**2**	Pn		**Pn**	**13 40 19.1**	**-1.7**
CRJC	**Cerrejon, Guaj**	**14.29**	**111**	*e*P		**Pn**	**13 40 25.6**	**-0.6**
SMLC	**San Martn de**	**14.35**	**121**	*e*P		**Pn**	**13 40 23.3**	**-3.7**
BRAL	**Brewton**	**14.45**	**358**			**Pn**	**13 40 26.7**	**-1.6**
BRAL	**Brewton**	**14.45**	**358**	P		**Pn**	**13 40 26.3**	**-1.9**
	baz=178							
456A	**Hilliard**	**14.56**	**15**			**Pn**	**13 40 27.7**	**-2.1**
SDDR	**Presa de Saban**	**14.59**	**79**	Pn		**Pn**	**13 40 26.7**	**-3.6**
CBOC	**Ciudad Bolivar**	**14.80**	**135**	*e*P		**P**	**13 40 39.1**	**-0.2**
352A	**Blakely**	**14.81**	**5**			**Pn**	**13 40 31.6**	**-1.6**
346A	**Big Creek Wild**	**14.92**	**350**	Pn		**Pn**	**13 40 35.6**	**+1.0**
TIGA	**Tifton**	**14.93**	**9**			**Pn**	**13 40 34.3**	**-0.5**
TIGA	**Tifton**	**14.93**	**9**	P		**Pn**	**13 40 33.3**	**-1.5**
	baz=190							
KVTX	**Kingsville**	**15.16**	**318**			**Pn**	**13 40 36.3**	**-1.7**
250A	**Grady**	**15.24**	**0**			**Pn**	**13 40 38.3**	**-0.7**
441A	**DeRidder**	**15.32**	**337**	P		**P**	**13 40 44.0**	**-0.8**
BANI	**BANI**	**15.41**	**81**	Pn		**Pn**	**13 40 42.7**	**+1.3**
PTBC	**PUERTO BERRIO,**	**15.44**	**129**	*e*P		**Pn**	**13 40 41.5**	**-0.2**
342A	**Flagon Creek P**	**15.60**	**341**	Pn		**Pn**	**13 40 45.4**	**+1.8**
255A	**Hazlehurst**	**15.61**	**13**	Pn		**Pn**	**13 40 42.4**	**-1.4**
BRRC	**Barranca, Sant**	**15.64**	**126**	*e*P		**P**	**13 40 50.0**	**+1.5**
GUY2C	**Guyana, Caldas**	**15.71**	**135**	*e*P		**Pn**	**13 40 45.4**	**-0.2**
HKT	**Hockley**	**15.79**	**329**			**Pn**	**13 40 46.8**	**+0.8**
HKT				IAmb		IAmb	13 41 01.6	
	comp=Z,119nm,0.9s							
NORC	**Norcasia**	**15.80**	**133**	*e*P		**P**	**13 40 51.5**	**+1.1**
VBMS	**Vicksburg**	**15.92**	**347**	P		**Pn**	**13 40 46.9**	**-0.9**
	baz=166							
152A	**Waverly Hall**	**16.01**	**5**			**Pn**	**13 40 46.9**	**-2.0**
152A				IAmb		IAmb	13 40 50.7	
	comp=Z,70nm,0.6s							
YOTC	**Yotoco, Valle**	**16.02**	**141**	*e*P		**P**	**13 40 54.0**	**+1.1**
735A	**Kenedy**	**16.03**	**321**	Pn		**Pn**	**13 40 47.6**	**-1.7**
146A	**Union**	**16.08**	**352**	P		**Pn**	**13 40 48.9**	**-1.0**
154A	**Montrose**	**16.16**	**10**	P		**Pn**	**13 40 49.1**	**-1.8**
154A				IAmb		IAmb	13 41 04.7	
	comp=Z,82nm,0.9s							
ANIL	**Santa Ana**	**16.22**	**137**	*e*P		**P**	**13 40 57.4**	**+2.1**
LRAL	**Lakeview Retre**	**16.31**	**358**	Pn		**Pn**	**13 40 52.6**	**-0.2**
LRAL				IAmb		IAmb	13 40 56.1	
	comp=Z,108nm,1.1s							
LRAL	**Lakeview Retre**	**16.31**	**358**	P		**Pn**	**13 40 52.8**	**+0.1**
	baz=178,SNR=27							
SPBC	**San Pablo de B**	**16.31**	**131**	*e*P		**P**	**13 40 57.6**	**+1.5**
ZAIG	**Zacatecas**	**16.36**	**294**	Pn		**Pn**	**13 40 53.4**	**-0.5**
BARC	**Barichara**	**16.37**	**126**	*e*P		**P**	**13 40 56.9**	**+0.1**
DR12	**Loma Pena Alta**	**16.37**	**80**	P		**P**	**13 40 56.8**	**+0.2**
Z47A	**Carrollton**	**16.53**	**355**			**Pn**	**13 40 55.0**	**-0.7**
Z47A				IAmb		IAmb	13 41 21.2	
	comp=Z,94nm,0.7s							
143A	**Socs Landing,**	**16.59**	**345**	Pn		**Pn**	**13 40 56.6**	**+0.2**
143A				IAmb		IAmb	13 41 24.7	
	comp=Z,98nm,1.0s							
Z51A	**Franklin**	**16.62**	**4**			**Pn**	**13 40 55.6**	**-1.1**
833A	**Chaparral WMA,**	**16.67**	**316**	P		**Pn**	**13 40 55.0**	**-2.4**
	baz=132,SNR=36							
ROSC	**El Rosal**	**16.70**	**133**	Pn		**Pn**	**13 40 57.8**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=255,slow=20,SNR=9.9							
ROSC	**El Rosal**	**16.70**	**133**	P		**P**	**13 41 00.2**	**-0.4**
ROSC	**El Rosal**	**16.70**	**133**	*e*P		**P**	**13 41 00.3**	**-0.4**
ORTC	**Ortega, Tolima**	**16.77**	**138**	*e*P		**P**	**13 41 01.1**	**+0.1**
NATX	**Nacogdoches**	**16.79**	**335**	P		**P**	**13 41 01.4**	**+0.2**
NATX				IAmb		IAmb	13 41 14.3	
	comp=Z,87nm,0.8s							
NATX	**Nacogdoches**	**16.79**	**335**	P		**Pn**	**13 40 57.4**	**-1.6**
	baz=152,SNR=5.2							
GOGA	**Godfrey**	**16.89**	**9**			**Pn**	**13 40 59.5**	**-0.6**
GOGA	**Godfrey**	**16.89**	**9**	P		**Pn**	**13 40 59.1**	**-1.0**
	baz=190,SNR=13							
RUSC	**La Rusia**	**16.89**	**128**	P		**Pn**	**13 41 02.1**	**+1.3**
RUSC	**La Rusia**	**16.89**	**128**	*e*P		**Pn**	**13 41 01.2**	**+0.4**
POPC	**Popayan, Colom**	**17.00**	**145**	*e*P		**P**	**13 41 04.3**	**+0.5**
Y49A	**Blount Mountai**	**17.12**	**0**	Pn		**Pn**	**13 41 03.4**	**+0.3**
Y49A				IAmb		IAmb	13 41 27.9	
	comp=Z,62nm,0.7s							
RGRS	**Roger Stewart**	**17.12**	**18**	Pn		**P**	**13 41 05.0**	**+0.3**
BBAC	**Balboa, Cauca**	**17.12**	**147**	*e*P		**P**	**13 41 07.6**	**+2.4**
MARP	**Paez Belalcaza**	**17.16**	**142**	*e*P		**P**	**13 41 07.7**	**+2.1**
SDV	**Santo Domingo**	**17.22**	**115**	P		**Pn**	**13 41 03.6**	**-1.0**
	comp=Z,2.0nm,0.3s,baz=318,slow=8.1,SNR=15							
SDV	**Santo Domingo**	**17.22**	**115**	Pn		**Pn**	**13 41 04.0**	**-0.6**
SDV	**Santo Domingo**	**17.22**	**115**	*e*P		**Pn**	**13 41 04.3**	**-0.3**
SDV	**Santo Domingo**	**17.22**	**115**	*e*P		**Pn**	**13 41 04.3**	**-0.3**
Y52A	**Lilburn**	**17.26**	**7**	P		**Pn**	**13 41 04.8**	**0.0**
Y52A				IAmb		IAmb	13 41 08.7	
	comp=Z,47nm,0.6s							
CHIC	**Chingaza**	**17.26**	**132**	*e*P		**P**	**13 41 09.2**	**+2.3**
NHSC	**New Hope**	**17.31**	**18**	P		**P**	**13 41 07.3**	**+0.4**
NHSC	**New Hope**	**17.31**	**18**	P		**Pn**	**13 41 05.1**	**-0.3**
	baz=200							
Y45A	**Yeager Farm, C**	**17.36**	**351**	Pn		**Pn**	**13 41 05.7**	**-0.3**
Y45A				IAmb		IAmb	13 41 20.1	
	comp=Z,71nm,0.7s							
435B	**Jarrell**	**17.36**	**326**	Pn		**Pn**	**13 41 05.6**	**-0.5**
435B	**Jarrell**	**17.36**	**326**	P		**Pn**	**13 41 05.6**	**-0.5**
	baz=142,SNR=16							
237A	**Washetta, Mont**	**17.48**	**333**	P		**P**	**13 41 09.0**	**+0.2**
237A				IAmb		IAmb	13 41 13.3	
	comp=Z,150nm,0.9s							
TAMC	**Tame, Arauca**	**17.56**	**124**	*e*P		**Pn**	**13 41 08.7**	**0.0**
VILC	**Villavicencio,**	**17.66**	**134**	*e*P		**P**	**13 41 13.0**	**+2.0**
X48A	**Hartselle**	**17.72**	**358**			**Pn**	**13 41 11.2**	**+0.7**
FPAL	**Fort Paine**	**17.82**	**2**	Pn		**Pn**	**13 41 11.4**	**-0.4**
X51A	**Calhoun**	**17.88**	**4**			**Pn**	**13 41 12.9**	**+0.3**
X51A				IAmb		IAmb	13 41 19.8	
	comp=Z,64nm,0.8s							
HODGE	**Hodges**	**17.89**	**11**			**Pn**	**13 41 13.2**	**+0.6**
OXF	**Oxford**	**17.97**	**352**			**Pn**	**13 41 13.8**	**+0.2**
OXF				IAmb		IAmb	13 41 29.1	
	comp=Z,97nm,0.9s							
OXF	**Oxford**	**17.97**	**352**	P		**Pn**	**13 41 13.5**	**-0.2**
	baz=171,SNR=7.9							
WLAR	**White Oak Lake**	**17.99**	**342**	P		**P**	**13 41 14.5**	**+0.2**
WLAR				IAmb		IAmb	13 41 37.1	
	comp=Z,98nm,0.8s							
Y57A	**Sumter**	**18.11**	**16**	P		**Pn**	**13 41 14.1**	**-1.2**
Y57A				IAmb		IAmb	13 41 43.5	
	comp=Z,63nm,0.6s							
OTAV	**Otavalo**	**18.12**	**154**	P		**Pn**	**13 41 15.2**	**-0.8**
OTAV	**Otavalo**	**18.12**	**154**	*e*P		**Pn**	**13 41 16.2**	**+0.2**
JSC	**Jenkinsville**	**18.14**	**14**	P		**Pn**	**13 41 15.2**	**-0.5**
JSC				IAmb		IAmb	13 41 21.3	
	comp=Z,43nm,0.6s							
Y58A	**Scranton**	**18.21**	**18**	P		**Pn**	**13 41 15.7**	**-0.8**
Z38A	**Mt. Pleasant**	**18.24**	**337**			**P**	**13 41 17.9**	**+0.7**
WHTX	**Lake Whitney,**	**18.25**	**329**			**Pn**	**13 41 17.5**	**+0.4**
WHTX	**Lake Whitney,**	**18.25**	**329**	P		**P**	**13 41 17.9**	**+0.6**
	baz=144,SNR=118							
PLAL	**Pickwick Lake**	**18.30**	**356**	P		**P**	**13 41 19.1**	**+1.3**
FLOC	**Florencia**	**18.36**	**144**	P		**Pn**	**13 41 18.4**	**-0.1**
FLOC				IAmb		IAmb	13 41 23.5	
	comp=Z,95nm,1.4s							
FLOC	**Florencia**	**18.36**	**144**	*e*P		**P**	**13 41 20.1**	**+1.5**
JCT	**Junction City**	**18.40**	**321**	P		**P**	**13 41 18.5**	**-0.5**
JCT	**Junction City**	**18.40**	**321**	P		**P**	**13 41 18.5**	**-0.5**
	baz=136,SNR=12							
SWET	**Sewanee**	**18.48**	**1**	P		**P**	**13 41 19.7**	**-0.1**
W50A	**Signal Mountai**	**18.48**	**3**	P		**Pn**	**13 41 20.6**	**+0.6**
W52A	**Murphy**	**18.49**	**6**	P		**Pn**	**13 41 20.4**	**+0.4**
W52A				IAmb		IAmb	13 41 24.9	
	comp=Z,68nm,0.8s							
BG3	**Lake Jocassee**	**18.52**	**9**	P		**P**	**13 41 20.5**	**+0.3**
BG3				IAmb		IAmb	13 41 43.2	
	comp=Z,39nm,0.6s							
Y59A	**Loris**	**18.54**	**20**	P		**P**	**13 41 20.7**	**+0.3**
PAULI	**Pauline**	**18.54**	**12**	P		**P**	**13 41 19.5**	**-1.0**
PAULI				IAmb		IAmb	13 41 22.8	
	comp=Z,65nm,0.9s							
X40A	**Basin Creek Fa**	**18.66**	**343**	P		**Pn**	**13 41 22.5**	**+0.5**
	baz=160,SNR=6.0							
BIRD	**Birdtown, Kers**	**18.68**	**15**	P		**P**	**13 41 21.6**	**-0.4**
BIRD				IAmb		IAmb	13 41 24.9	
	comp=Z,184nm,1.3s							
Y60A	**Bolivia**	**18.77**	**22**			**Pn**	**13 41 25.5**	**+2.0**
Y60A				IAmb		IAmb	13 41 34.6	
	comp=Z,79nm,0.8s							
CPCT	**Cooper Cave**	**18.78**	**5**	P		**P**	**13 41 23.4**	**+0.3**
CPCT				IAmb		IAmb	13 41 31.0	
	comp=Z,65nm,0.5s							
AOPR	**Arecibo Observ**	**18.83**	**82**	P		**P**	**13 41 23.6**	**-0.2**
X58A	**Rowland**	**18.91**	**18**	P		**P**	**13 41 23.9**	**-0.6**
X58

U38A Gravette 20.93 342 P P 13 41 47.2 +0.7
U38A IAmb IAmb 13 42 00.8
comp=Z,36nm,0.9s
FNO Franklin 20.95 334 P P 13 41 48.5 +1.7
S51A Beattyville 21.04 6 P P 13 41 48.4 +0.7
S51A IAmb IAmb 13 41 50.9
comp=Z,50nm,1.0s
U59A Littleton 21.05 20 P P 13 41 48.5 +0.7
U59A IAmb IAmb 13 41 53.8
comp=Z,37nm,0.8s
MGMO Mountain Grove 21.05 347 P P 13 41 48.7 +0.8
S44A Carbondale 21.10 354 P P 13 41 48.8 +0.5
SIUC Southern Illin 21.11 354 P P 13 41 48.9 +0.5
SIUC IAmb IAmb 13 42 00.8
comp=Z,57nm,0.6s
WMOK Wichita Mounta 21.13 331 P P 13 41 49.4 +0.7
WMOK IAmb IAmb 13 41 52.1
comp=Z,59nm,0.9s
WMOK Wichita Mounta 21.13 331 P P 13 41 50.0 +1.2
baz=145,SNR=50
BLA Blacksburg 21.14 13 P P 13 41 49.1 +0.3
BLA Blacksburg 21.14 13 P P 13 41 49.7 +0.9
baz=196,SNR=16
OK025 Westminster Rd 21.21 335 P P 13 41 50.0 +0.5
OK025 IAmb IAmb 13 42 05.7
comp=Z,52nm,0.8s
T57A Hurt 21.22 16 P P 13 41 50.0 +0.3
USIN University of 21.25 357 P P 13 41 50.1 +0.2
OK030 Cody Creek RV 21.29 336 P P 13 41 51.0 +0.6
OK030 IAmb IAmb 13 42 06.1
comp=Z,56nm,0.7s
OK029 Liberty Lake 21.44 335 P P 13 41 52.6 +0.6
OK029 IAmb IAmb 13 42 19.0
comp=Z,60nm,0.8s
QUOK Quay 21.47 337 P P 13 41 52.6 +0.2
WCI Wyandotte Cave 21.48 0 P P 13 41 52.7 +0.3
WCI Wyandotte Cave 21.48 0 P P 13 41 52.9 +0.4
baz=180
FVM French Village 21.53 351 P P 13 41 53.4 +0.4
S54A Dingess, Beckl 21.53 11 P P 13 41 53.3 +0.3
S54A IAmb IAmb 13 41 55.5
comp=Z,52nm,0.8s
R49A Shelbyville 21.57 3 P P 13 41 52.0 -1.4
R49A IAmb IAmb 13 42 01.7
comp=Z,60nm,1.1s
R50A Paris 21.61 4 P P 13 41 54.4 +0.5
R50A IAmb IAmb 13 42 18.4
comp=Z,41nm,0.9s
T59A Double "B" Far 21.70 20 P P 13 41 55.1 +0.4
T59A IAmb IAmb 13 42 00.0
comp=Z,34nm,0.7s
CCM Cathedral Cave 21.73 350 P P 13 41 55.4 +0.4
CCM Cathedral Cave 21.73 350 P P 13 41 55.5 +0.4
baz=167
S39A Bolivar 21.81 345 P P 13 41 56.3 +0.3
R53A Hurricane 21.94 9 P P 13 41 57.1 -0.2
R53A IAmb IAmb 13 42 06.8
comp=Z,38nm,0.8s
S57A Dark Hollow, R 22.02 16 P P 13 41 58.5 +0.3
S57A IAmb IAmb 13 42 13.1
comp=Z,63nm,1.0s
OLIL Olney 22.04 356 P P 13 41 58.8 +0.4
OLIL IAmb IAmb 13 42 13.7
comp=Z,72nm,0.9s
T35A Sooner Cattle 22.06 338 P P 13 41 58.9 +0.2
T35A IAmb IAmb 13 42 14.8
comp=Z,50nm,0.8s
PCRV Puerto La Cruz 22.14 104 P P 13 41 59.9 +0.1
comp=Z,6.1nm,0.8s,baz=258,slow=9.3,SNR=2.0
R40A Maddies Statio 22.15 348 P P 13 41 58.9 -0.7
R40A IAmb IAmb 13 42 22.9
comp=Z,27nm,0.8s
BLOK Blackwell 22.18 337 P P 13 41 59.1 -0.9
BLOK IAmb IAmb 13 42 23.3
comp=Z,47nm,0.7s
R55A Marlinton 22.23 13 P P 13 42 01.4 +0.8
R55A IAmb IAmb 13 42 03.9
comp=Z,54nm,1.1s
CROK Carrier 22.27 335 P P 13 42 01.4 +0.5
CROK IAmb IAmb 13 42 16.2
comp=Z,58nm,0.8s
Q44A Meyer Farm, Va 22.27 355 P P 13 42 01.3 +0.4
Q44A IAmb IAmb 13 42 20.4
comp=Z,67nm,0.8s
BLO Bloomington 22.42 360 P P 13 42 01.6 -0.9
Q51A Peebles 22.44 6 P P 13 42 02.0 -0.7
KAN13 South Haven SW 22.51 336 P P 13 42 03.7 +0.2
KAN13 IAmb IAmb 13 42 22.4
comp=Z,48nm,0.8s
Q52A Bidwell 22.51 8 P P 13 42 03.2 -0.2
Q52A IAmb IAmb 13 42 21.1
comp=Z,87nm,1.1s
R58B Mineral 22.51 18 P P 13 42 03.9 +0.5
R58B IAmb IAmb 13 42 07.9
comp=Z,37nm,0.9s
OK032 Salt Plains WL 22.61 335 P P 13 42 04.8 +0.2
OK032 IAmb IAmb 13 42 18.7
comp=Z,44nm,0.8s
KAN17 Caldwell West 22.64 336 P P 13 42 05.4 +0.4
KAN17 IAmb IAmb 13 42 25.1
comp=Z,40nm,0.8s
KAN14 Manchester OK 22.65 335 P P 13 42 05.5 +0.5
MSTX Muleshoe 22.65 323 P P 13 42 05.0 -0.2
MSTX Muleshoe 22.65 323 P P 13 42 05.2 +0.1
baz=136,SNR=16
KAN09 Caldwell North 22.67 336 P P 13 42 06.2 +1.0
KAN09 IAmb IAmb 13 42 25.1
comp=Z,39nm,0.9s
AMTX Amarillo 22.71 326 P P 13 42 05.8 +0.1
AMTX Amarillo 22.71 326 P P 13 42 05.9 +0.1
baz=139
KS20 Mayfield South 22.73 336 P P 13 42 05.9 +0.1
KS20 IAmb IAmb 13 42 32.0
comp=Z,46nm,0.8s
P48A Milroy 22.73 2 P P 13 42 06.3 +0.5
P48A IAmb IAmb 13 42 22.5
comp=Z,28nm,0.6s
Q54A Coxs Mills 22.77 11 P P 13 42 06.7 +0.5
Q54A IAmb IAmb 13 42 10.0
comp=Z,62nm,1.1s
MNTX Cornudas Mount 22.82 314 P P 13 42 06.6 -0.3
MNTX IAmb IAmb 13 42 22.4
comp=Z,27nm,0.8s
MNTX Cornudas Mount 22.82 314 P P 13 42 06.6 -0.3
baz=127,SNR=58
P49A Miami Univ. Ec 22.83 3 P P 13 42 06.3 -0.6
P49A IAmb IAmb 13 42 24.6
comp=Z,33nm,0.8s
P49A Miami Univ. Ec 22.83 3 P P 13 42 06.4 -0.6
baz=184
CBN Corbin Frederi 22.88 19 P P 13 42 07.6 +0.2
baz=203
KAN08 Anthony NE Sta 22.88 336 P P 13 42 07.6 +0.1
P51A Williamsport 22.92 7 P P 13 42 07.8 0.0
SLBS Sierra La Lagu 23.14 291 P P 13 42 09.9 -0.5
SLBS IAmb IAmb 13 42 26.1
comp=Z,35nm,0.9s
P53A Whipple 23.16 10 P P 13 42 10.6 +0.4
Q56A Snyder Ridge, 23.17 14 P P 13 42 10.6 +0.1
Q56A IAmb IAmb 13 42 14.8
comp=Z,38nm,0.9s
P52A Corning 23.19 8 P P 13 42 11.3 +0.7
P52A IAmb IAmb 13 42 13.8
comp=Z,52nm,0.9s
P52A Corning 23.19 8 P P 13 42 11.8 +1.3
baz=190
P40A Paris 23.30 349 P P 13 42 11.7 -0.1
P40A IAmb IAmb 13 42 35.0
comp=Z,34nm,0.8s
O44A Mansfield 23.47 356 P P 13 42 13.4 +0.1
O44A IAmb IAmb 13 42 43.1
comp=Z,31nm,0.7s
LPIG La Paz 23.56 292 P P 13 42 16.2 +1.8
comp=Z,20nm,0.3s,baz=110,slow=3.2,SNR=3.9
LPIG LR LR 13 52 21.7
comp=Z,2µm,18.3s,baz=116,slow=39
MCWV Mont Chateau 23.61 13 P P 13 42 16.1 +1.3
MCWV IAmb IAmb 13 42 18.3
comp=Z,28nm,0.7s
MCWV Mont Chateau 23.61 13 P P 13 42 14.9 +0.1
baz=196
SFIN Lafayette 23.64 359 P P 13 42 15.1 +0.1
SFIN IAmb IAmb 13 42 37.5
comp=Z,43nm,0.8s
SFIN Lafayette 23.64 359 P P 13 42 15.6 +0.6
baz=178,SNR=7.9
ACSO Alum Creek Sta 23.67 7 P P 13 42 16.0 +0.6
baz=188
P38A Dawn 23.70 346 P P 13 42 15.7 0.0
P38A IAmb IAmb 13 42 36.6
comp=Z,39nm,0.8s
O52A Adamsville 23.70 9 P P 13 42 16.1 +0.4
O52A IAmb IAmb 13 42 42.9
comp=Z,30nm,0.9s
P57A Homestead Farm 23.89 16 P P 13 42 17.9 +0.5
P57A IAmb IAmb 13 42 20.9
comp=Z,24nm,0.9s
O53A New Philadelph 23.93 10 P P 13 42 18.0 +0.2
O53A IAmb IAmb 13 42 21.1
comp=Z,44nm,0.8s
O53A New Philadelph 23.93 10 P P 13 42 18.8 +1.0
baz=192,SNR=12
HDIL Hopedale 23.93 355 P P 13 42 18.0 +0.1
HDIL IAmb IAmb 13 42 38.6
comp=Z,33nm,0.8s
HDIL Hopedale 23.93 355 P P 13 42 18.2 +0.3
baz=173
O54A Avella 24.01 11 P P 13 42 18.9 +0.2
O54A IAmb IAmb 13 42 21.6
comp=Z,36nm,0.8s
KSU1 Kansas State U 24.06 340 P P 13 42 19.4 +0.3
KSU1 Kansas State U 24.06 340 P P 13 42 19.6 +0.5
baz=156,SNR=10.0
N47A Urbana 24.14 1 P P 13 42 19.4 -0.4
N47A IAmb IAmb 13 42 33.8
comp=Z,22nm,0.8s
N49A Columbus Grove 24.25 4 P P 13 42 20.1 -0.7
N49A IAmb IAmb 13 42 24.1
comp=Z,24nm,0.7s
O56A Blue Knob Stat 24.49 15 P P 13 42 23.4 +0.3
baz=198,SNR=5.1
N53A Lisbon 24.54 10 P P 13 42 23.0 -0.4
N53A IAmb IAmb 13 42 26.4
comp=Z,31nm,0.8s
M44A Midewin, Midew 24.68 357 P P 13 42 24.8 +0.1
M44A IAmb IAmb 13 42 49.2
comp=Z,47nm,0.9s
N38A Joes South For 24.75 348 P P 13 42 25.3 -0.2
N54A Moraine State 24.84 12 P P 13 42 26.6 +0.4
N54A Moraine State 24.84 12 P P 13 42 26.5 +0.3
baz=195
MVL Millersville 24.84 19 P P 13 42 27.0 +0.8
P60A Greenville 24.90 20 P P 13 42 27.0 +0.3
P60A IAmb IAmb 13 42 31.2
comp=Z,33nm,0.9s
P60A Greenville 24.90 20 P P 13 42 27.8 +1.1
baz=205
PAGS Pennsylvania G 24.94 18 P P 13 42 27.7 +0.6
CBKS Cedar Bluff 24.96 335 P P 13 42 27.3 0.0
CBKS IAmb IAmb 13 42 42.6
comp=Z,30nm,0.8s
CBKS Cedar Bluff 24.96 335 P P 13 42 27.5 +0.2
baz=149
121A Cookes Peak, D 24.96 313 P P 13 42 27.5 -0.1
121A IAmb IAmb 13 42 34.1
comp=Z,37nm,0.9s
121A Cookes Peak, D 24.96 313 P P 13 42 28.3 +0.7
baz=124,SNR=24
SSPA Standing Stone 25.00 15 P P 13 42 28.3 +0.7
SSPA IAmb IAmb 13 42 31.0
comp=Z,29nm,0.8s
SSPA Standing Stone 25.00 15 P P 13 42 28.4 +0.7
baz=200
WUPA West Chester U 25.02 20 P P 13 42 28.1 +0.3
BNM Barren Site 25.14 318 P P 13 42 29.1 -0.2
M52A Chesterland 25.17 9 P P 13 42 29.8 +0.6
M52A IAmb IAmb 13 42 31.5
comp=Z,46nm,1.2s
M53A WI Miller and 25.18 10 P P 13 42 30.1 +0.8
M53A WI Miller and 25.18 10 P P 13 42 29.7 +0.5
baz=193,SNR=12
L48A N Adams 25.25 3 P P 13 42 30.2 +0.4
L48A IAmb IAmb 13 42 58.0
comp=Z,24nm,0.7s
L46A Eue Claire 25.26 0 P P 13 42 29.3 -0.6
L46A IAmb IAmb 13 42 58.4
comp=Z,43nm,0.9s
L42A Oliver, Polo 25.41 354 P P 13 42 30.8 -0.5
319A Douglas 25.43 309 P P 13 42 32.9 +1.1
M54A Oil Creek Stat 25.43 12 P P 13 42 32.9 +1.3
M54A IAmb IAmb 13 42 35.9
comp=Z,44nm,1.1s
M54A Oil Creek Stat 25.43 12 P P 13 42 33.1 +1.5
baz=195,SNR=8.3
L44A Lake County Fo 25.46 357 P P 13 42 31.9 +0.2
L44A Lake County Fo 25.46 357 P P 13 42 32.3 +0.6
baz=177
N58A Sunbury 25.51 17 P P 13 42 33.1 +0.9
ANMO Albuquerque 25.54 319 P P 13 42 34.3 +1.5
comp=Z,24nm,0.9s,baz=141,slow=10.0,SNR=47
ANMO LR LR 13 55 13.4
comp=Z,199nm,20.8s,baz=128,slow=42
ANMO Albuquerque 25.54 319 P P 13 42 33.5 +0.6
ANMO IAmb IAmb 13 42 36.4
comp=Z,27nm,0.9s
ANMO Albuquerque 25.54 319 P P 13 42 33.3 +0.5
baz=131
M55A Ridgway 25.58 13 P P 13 42 33.9 +1.0
M55A IAmb IAmb 13 42 37.4
comp=Z,23nm,0.9s
L40A Anamosa 25.64 352 P P 13 42 33.2 -0.2
L40A IAmb IAmb 13 42 59.4
comp=Z,26nm,1.1s
AAM Ann Arbor 25.66 5 P P 13 42 34.9 +1.3
baz=186
LUPA Lehigh Univers 25.70 20 P P 13 42 33.4 -0.5
LUPA IAmb IAmb 13 42 37.5
comp=Z,35nm,0.8s
SCIA State Center 25.82 348 P P 13 42 35.5 +0.4
baz=165
M57A Sunshine Farm, 25.86 16 P P 13 42 35.9 +0.4
M57A IAmb IAmb 13 42 38.9
comp=Z,47nm,1.1s
T25A Trinidad 25.86 326 P P 13 42 35.6 -0.1
baz=137,SNR=14
N59A State Game Lan 25.86 19 P P 13 42 36.4 +0.9
N59A IAmb IAmb 13 42 39.1
comp=Z,36nm,0.9s
N59A State Game Lan 25.86 19 P P 13 42 36.0 +0.5
baz=204,SNR=8.3
ERPA Erie 25.96 11 P P 13 42 36.4 +0.1
ERPA Erie 25.96 11 P P 13 42 35.9 -0.5
baz=194,SNR=5.6
K43A Burlington 26.00 357 P P 13 42 36.2 -0.5
K43A IAmb IAmb 13 43 05.6
comp=Z,30nm,0.7s
JFWS Jewell Farm 26.36 354 P P 13 42 39.7 -0.3
JFWS IAmb IAmb 13 43 07.4
comp=Z,31nm,0.8s
JFWS Jewell Farm 26.36 354 P P 13 42 39.5 -0.5
baz=172
TBTG Tabatinga, AM 26.38 140 eP P 13 42 40.6 +0.2
L56A Greenwood 26.50 15 P P 13 42 41.7 +0.4
L56A IAmb IAmb 13 42 46.5
comp=Z,48nm,1.1s
PAL Palisades 26.55 22 P P 13 42 41.9 +0.2
baz=208,SNR=5.7
SDCO Great Sand Dun 26.89 325 P P 13 42 45.6 +0.4
SDCO Great Sand Dun 26.89 325 P P 13 42 45.6 +0.4
baz=136,SNR=28
BINY Binghamton 26.97 17 P P 13 42 46.5 +1.0
BINY IAmb IAmb 13 42 48.3
comp=Z,24nm,0.8s
BINY Binghamton 26.97 17 P P 13 42 45.7 +0.2
baz=202,SNR=5.8
TUC Tucson 27.00 310 P P 13 42 47.2 +1.2
TUC IAmb IAmb 13 43 03.5
comp=Z,29nm,0.8s
TUC Tucson 27.00 310 P P 13 42 46.3 +0.3
baz=120
I42A Draeger Farm, 27.22 356 P P 13 42 47.4 -0.3
I42A IAmb IAmb 13 43 03.6
comp=Z,19nm,0.8s
L59A Walton 27.25 19 P P 13 42 48.5 +0.5
X18A Snowflake 27.58 315 P P 13 42 52.1 +0.8
S22A 4UR Ranch, Cre 27.64 323 P P 13 42 52.2 +0.3
baz=134,SNR=14
OGNE Ogallala 27.70 334 P P 13 42 52.6 +0.5
baz=146
J56A Wolcott 27.75 15 P P 13 42 52.1 -0.3
W18A Petrified Fore 27.77 316 P P 13 42 52.7 -0.2
baz=126
CZSB Cruzeiro do Su 27.78 150 eP P 13 42 53.5 +0.5
J57A Williamstown 28.09 16 P P 13 42 55.9 +0.4
L61B Northampton 28.26 22 P P 13 42 58.6 +1.6
baz=209
MVCO Mesa Verde 28.27 321 P P 13 42 57.4 0.0
MVCO Mesa Verde 28.27 321 P P 13 42 58.1 +0.7
baz=131
ECSD EROS Data Cent 28.34 344 P P 13 42 57.5 -0.2
ECSD EROS Data Cent 28.34 344 P P 13 42 57.9 +0.3
baz=159
214A Organ Pipe Nat 28.36 307 P P 13 42 57.9 -0.2
214A Organ Pipe Nat 28.36 307 P P 13 42 58.3 +0.2
baz=116
ISCO Idaho Springs 28.46 328 P P 13 42 59.2 0.0
baz=139
X16A Lo Mia Camp, P 28.55 313 P P 13 43 00.1 +0.2
X16A IAmb IAmb 13 43 22.3
comp=Z,15nm,0.8s
SADO Sadowa 28.68 11 P P 13 43 01.5 +0.8
comp=Z,14nm,0.8s,baz=240,slow=9.6,SNR=7.0
SADO LR LR 13 54 48.5
comp=Z,710nm,18.4s,baz=190,slow=37
SADO Sadowa 28.68 11 P P 13 43 00.9 +0.2
SADO IAmb IAmb 13 43 02.7
comp=Z,14nm,0.7s
WUAZ Wupatki 29.10 315 P P 13 43 04.7 -0.1
baz=124
BOAV Boa Vista 29.15 116 eP P 13 43 05.9 +0.7
Y14A Wickenburg 29.42 311 P P 13 43 07.8 +0.2
LONY Lake Ozonia 29.60 17 P P 13 43 08.9 0.0
LONY IAmb IAmb 13 43 11.7
comp=Z,27nm,0.8s
LONY Lake Ozonia 29.60 17 P P 13 43 09.5 +0.6
baz=203,SNR=8.7
E43A Lone Tree Farm 29.63 359 P P 13 43 09.8 +0.6
E43A IAmb IAmb 13 43 11.9
comp=Z,17nm,0.7s
SUSD Miller 29.64 342 P P 13 43 09.2 -0.1
SUSD Miller 29.64 342 P P 13 43 08.6 -0.7
baz=155,SNR=5.8
FRNY Flat Rock 30.09 18 P P 13 43 13.6 +0.4
FRNY IAmb IAmb 13 43 15.6
comp=Z,22nm,1.4s
O20A White River Ci 30.09 325 P P 13 43 13.5 -0.1
O20A IAmb IAmb 13 43 35.5
comp=Z,14nm,0.8s
LBNH Lisbon 30.09 21 P P 13 43 13.5 +0.2
baz=208
E38A The Farm, Brul 30.16 353 P P 13 43 13.8 0.0
E38A IAmb IAmb 13 43 15.2
comp=Z,13nm,0.8s
D41A Chassel 30.36 357 P P 13 43 15.4 -0.1
D41A IAmb IAmb 13 43 17.2
comp=Z,22nm,0.8s
GLA Glamis 30.37 308 P P 13 43 15.9 -0.1
baz=116
PDMCI Parker Dam,Lak 30.42 310 P P 13 43 16.5 +0.2
baz=118,SNR=6.2
SRU San Rafael Swe 30.71 322 P P 13 43 19.8 +0.8
SRU IAmb IAmb 13 43 33.2
comp=Z,11nm,0.7s
PKCU Pink Cliffs 30.81 317 P P 13 43 20.2 +0.1
PKCU IAmb IAmb 13 43 24.6
comp=Z,30nm,1.1s
KNB Kanab 30.90 316 P P 13 43 21.0 +0.2
Q16A Castle Valley 30.98 321 P P 13 43 21.6 +0.2
SWSC Sam W. Stewart 31.07 307 P P 13 43 22.0 0.0
baz=114
P17A Butcher Ranch, 31.07 322 P P 13 43 21.6 -0.6
IRM Iron Mountain 31.09 309 P P 13 43 21.9 -0.4
baz=117,SNR=6.0
BC3 Big Chuckawall 31.10 308 P P 13 43 22.3 -0.1
baz=116
RDMU Red Mountain 31.13 325 P P 13 43 22.1 -0.6
RDMU IAmb IAmb 13 43 36.8
comp=Z,13nm,0.8s
LCMT Little Creek M 31.18 316 P P 13 43 22.2 -0.9
IKP In-Ko-Pah, Jac 31.18 306 P P 13 43 23.3 +0.2
baz=114
TMUT Trail Mountain 31.24 321 P P 13 43 22.9 -0.9
PTGA Pitinga 31.30 121 P P 13 43 24.2 -0.1
PTGA IAmb IAmb 13 43 27.0
comp=Z,9.4nm,0.7s
MSU Marysvale 31.35 319 P P 13 43 24.6 -0.2
SZCU Shurtz Canyon 31.40 317 P P 13 43 25.6 +0.5
G62A West of Eustis 31.43 22 P P 13 43 26.5 +1.4
EYMN Ely 31.47 353 P P 13 43 25.2 -0.2
baz=171
MONP2 Monument Peak 31.52 306 P P 13 43 26.8 +0.5
baz=114
CCUT Cedar City 31.56 317 P P 13 43 25.9 -0.6
TCRU Three Creeks R 31.58 319 P P 13 43 26.8 0.0
TCRU IAmb IAmb 13 43 42.7
comp=Z,20nm,0.8s
BELC Belle Mtn. Jos 31.66 309 P P 13 43 28.6 +1.2
baz=116,SNR=9.9
TPFO Pinon Flats 31.84 308 P P 13 43 30.0 +1.0
baz=115,SNR=8.4
PFO Pinyon Flats O 31.84 308 P P 13 43 29.9 +0.9
comp=Z,7.4nm,0.9s,baz=104,slow=12,SNR=10
PFO Pinyon Flats O 31.84 308 P P 13 43 30.2 +1.2
PFO Pinyon Flats O 31.84 308 P P 13 43 30.2 +1.2
baz=115,SNR=8.1
PKME Peaks-Kenny Pk 31.93 23 P P 13 43 30.9 +1.5
PKME Peaks-Kenny Pk 31.93 23 P P 13 43 30.7 +1.3
baz=212
MPU Maple Canyon 31.95 322 P P 13 43 30.7 +0.8
MACA Manacapuru-AM 32.16 125 eP P 13 43 33.5 +1.6
B35A Bob, Littlefor 32.17 351 P P 13 43 31.1 -0.4
JLU Jordanelle 32.22 323 P P 13 43 31.9 -0.4
F62A Pittston Farm, 32.22 22 P P 13 43 31.4 -0.6
F62A IAmb IAmb 13 43 34.5
comp=Z,16nm,0.8s
TUQ Turquoise Moun 32.25 311 P P 13 43 34.1 +1.5
baz=118
HEC Hector,Ludlow 32.27 310 P P 13 43 34.0 +1.2
baz=117,SNR=6.2
MURC Murrieta 32.40 307 P P 13 43 34.2 +0.4
baz=114
PSUT Pine Spring 32.43 318 P P 13 43 36.1 +1.9
AGMN Agassiz Nation 32.48 348 P P 13 43 33.4 -0.9
AGMN IAmb IAmb 13 43 35.8
comp=Z,13nm,0.8s
AGMN Agassiz Nation 32.48 348 P P 13 43 33.7 -0.6
baz=163,SNR=7.5
G65A Princeton 32.55 25 P P 13 43 34.5 -0.4
PRN Pahroc Range 32.61 315 P P 13 43 36.2 +0.5
PD31 Pinedale Array 32.66 328 P P 13 43 36.4 +0.2
PDAR Pinedale Array 32.66 328 P P 13 43 37.4 +1.2
comp=Z,1.6nm,0.7s,baz=129,slow=10,SNR=15
PDAR Pinedale Array 32.66 328 P P 13 43 36.4 +0.2
BW06 Boulder Array 32.66 328 P P 13 43 36.7 +0.5
BW06 Boulder Array 32.66 328 P P 13 43 36.5 +0.3
baz=136
DUG Dugway, Tooele 32.76 321 P P 13 43 36.9 -0.1
DUG Dugway, Tooele 32.76 321 P P 13 43 36.9 -0.1
baz=128,SNR=7.8
GSC Goldstone, Bar 32.83 310 P P 13 43 38.1 +0.4
baz=117
MDND Maddock 32.94 344 P P 13 43 38.2 -0.1
MDND Maddock 32.94 344 P P 13 43 38.3 +0.1
baz=156
SPR3 Spring Creek 3 33.00 318 P P 13 43 39.0 -0.3
BFSC Mount Baldy Ra 33.01 308 P P 13 43 39.3 +0.1
baz=114
ETMB Extrema 33.04 141 eP P 13 43 39.6 +0.1
GWY Greenwater Val 33.13 312 P P 13 43 39.6 -0.7
TPNV Topopah Spring 33.20 313 P P 13 43 42.8 +1.8
TPNV IAmb IAmb 13 43 56.6
comp=Z,20nm,0.9s
TPNV Topopah Spring 33.20 313 P P 13 43 41.9 +1.0
baz=120,SNR=22
CIS Catalina Islan 33.26 306 P P 13 43 42.8 +1.4
baz=112
BGU Big Grassy Mou 33.35 322 P P 13 43 43.2 +1.0
BGU IAmb IAmb 13 43 45.5
comp=Z,16nm,1.1s
FURC Furnace Creek, 33.41 312 P P 13 43 44.4 +2.0
baz=118,SNR=7.1
R11A Troy Canyon, C 33.47 316 P P 13 43 44.9 +1.6
R11A Troy Canyon, C 33.47 316 P P 13 43 44.5 +1.2
baz=122,SNR=9.7
EDW2 Edwards Air Fo 33.53 309 P P 13 43 44.5 +0.9
baz=115

D62A	Allapoint, All	33.56	22	P		P		13 43 44.9	+1.1
MPMC	Manual Prospec	33.66	311	P		P		13 43 45.3	+0.2
	baz=117,SNR=9.8								
HVU	Hansel Valley	33.74	323	P		P		13 43 45.1	-0.4
HVU				IAmb		IAmb		13 44 02.4	
	comp=Z,11nm,0.8s								
REDW	Red Top Meadow	33.75	327	P		P		13 43 44.4	-1.3
LOHW	Long Hollow	33.80	328	P		P		13 43 45.5	-0.6
LOHW				IAmb		IAmb		13 44 01.1	
	comp=Z,9.4nm,0.8s								
ECR	Eagle Creek	33.81	326	P		P		13 43 46.9	+0.6
TPAW	Teton Pass	33.89	327	P		P		13 43 47.3	+0.3
MOOW	Moose Ponds	33.97	328	P		P		13 43 48.1	+0.6
OSI	Osito Audit: C	33.97	308	P		P		13 43 47.9	+0.4
	baz=114								
GRAC	Grapevine Rang	34.01	313	P		P		13 43 48.9	+1.1
	baz=118								
FXWY	Fox Creek	34.03	327	P		P		13 43 48.9	+0.7
FXWY				IAmb		IAmb		13 44 02.9	
	comp=Z,13nm,0.8s								
LAO	LASA Array	34.15	335	P		P		13 43 48.7	-0.3
LAO	LASA Array	34.15	335	P		P		13 43 50.2	+1.2
	baz=145								
IMW	Indian Meadow	34.17	328	P		P		13 43 49.5	+0.1
IMW				IAmb		IAmb		13 44 15.5	
	comp=Z,11nm,0.8s								
FLWY	Flagg Ranch	34.18	328	P		P		13 43 49.5	0.0
FLWY				IAmb		IAmb		13 44 15.8	
	comp=Z,12nm,0.9s								
ISA	Isabella, Lake	34.21	310	P		P		13 43 50.7	+1.1
	baz=115								
LMN	Caledonia Moun	34.24	27	P		P		13 43 50.6	+1.0
RLMT	Red Lodge	34.24	331	P		P		13 43 51.2	+1.3
	baz=139								
ARVC	Arvin	34.25	309	P		P		13 43 50.7	+0.8
	baz=114								
CWC	Cottonwood Cre	34.26	311	P		P		13 43 51.9	+1.7
	baz=117								
SAML	Samuel	34.30	136	P		P		13 43 48.4	-2.1
LCH	Last Change Ra	34.32	313	P		P		13 43 51.3	+0.7
ULM	Lac du Bonnet	34.36	349	P		P		13 43 50.6	0.0
	comp=Z,12nm,0.8s,baz=168,slow=9.3,SNR=9.1								
ULM	Lac du Bonnet	34.36	349	P		P		13 43 49.8	-0.8
ULM				IAmb		IAmb		13 43 51.1	
	comp=Z,11nm,0.8s								
TPH	Tonopah	34.43	314	P		P		13 43 51.2	-0.4
YNE	Yellowstone No	34.51	330	P		P		13 43 52.3	0.0
ELK	Elko	34.58	320	P		P		13 43 53.5	+0.6
ELK				IAmb		IAmb		13 44 07.8	
	comp=Z,22nm,0.8s								
TIN	Tinemaha, Big	34.65	312	P		P		13 43 54.1	+0.6
	baz=117								
SBC	Santa Barbara	34.65	307	P		P		13 43 54.7	+1.4
	baz=112								
VES	Vestal, Richgr	34.74	310	P		P		13 43 55.4	+1.3
	baz=115								
BATG	Bathurst New B	34.85	24	P		P		13 43 55.8	+0.9
BATG				IAmb		IAmb		13 43 57.8	
	comp=Z,18nm,0.7s								
DGMT	Dagmar	34.90	339	P		P		13 43 56.5	+1.2
DGMT	Dagmar	34.90	339	P		P		13 43 56.6	+1.2
	baz=149								
PKM	Mcpherson Peak	34.90	308	P		P		13 43 56.6	+0.9
	baz=113								
GCMT	Greycliff	34.93	331	P		P		13 43 55.2	-0.6
NV11	Mina Array Sit	35.25	314	P		P		13 43 59.9	+1.2
NV11				IAmb		IAmb		13 44 14.4	
	comp=Z,19nm,0.8s								
NVAR	Mina Array Bea	35.35	314	P		P		13 44 02.0	+2.5
	comp=Z,12nm,0.7s,baz=122,slow=8.8,SNR=87								
NVAR				PcP		PcP		13 46 31.3	+1.5
	comp=Z,2.0nm,0.8s,baz=120,slow=5.3,SNR=4.3								
NVAR				LR		LR		14 02 18.6	
	comp=Z,495nm,19.1s,baz=132,slow=43								
NVAR	Mina Array Bea	35.35	314	P		P		13 44 01.0	+1.4
LHV	Little Huntoon	35.40	314	P		P		13 44 01.8	+2.0
LHV				IAmb		IAmb		13 44 15.7	
	comp=Z,20nm,1.0s								
KVN	Kaiserville	35.51	315	P		P		13 44 02.1	+1.1
KVN				IAmb		IAmb		13 44 16.3	
	comp=Z,18nm,0.8s								
MDPB	Devils Postpil	35.52	312	P		P		13 44 02.9	+1.8
RYN	Ryan	35.59	314	P		P		13 44 03.2	+1.6
RYN				IAmb		IAmb		13 44 17.2	
	comp=Z,14nm,0.9s								
BMN	Battle Mountai	35.65	318	P		P		13 44 02.7	+0.6
BOZ	Bozeman (W)	35.72	329	P		P		13 44 04.0	+1.3
BOZ	Bozeman (W)	35.72	329	P		P		13 44 03.1	+0.4
	baz=136,SNR=6.6								
MCMT	McKenzie Canyo	35.80	327	P		P		13 44 04.2	+0.8
HLID	Hailey	35.81	324	P		P		13 44 03.7	+0.3
HLID	Hailey	35.81	324	P		P		13 44 03.7	+0.3
	baz=130,SNR=7.1								
YERR	Yerington	36.26	314	P		P		13 44 08.2	+0.8
YERR				IAmb		IAmb		13 44 22.9	
	comp=Z,17nm,0.9s								
PNTR	Pine Nut	36.55	314	P		P		13 44 09.5	-0.4
PNTR				IAmb		IAmb		13 44 31.7	
	comp=Z,17nm,0.8s								
MALB	Monte Alegre	36.69	117	eP		P		13 44 12.1	+1.1
VCNR	Virginia City	36.69	315	P		P		13 44 11.3	+0.3
PAHR	Pah Rah Range	36.70	315	P		P		13 44 12.0	+0.9
PAHR				IAmb		IAmb		13 44 14.9	
	comp=Z,17nm,0.9s								
ITTB	Itaituba	36.83	122	eP		P		13 44 12.7	+0.5
EMB	Emerald Bay	36.84	314	P		P		13 44 13.7	+1.3
LPAZ	La Paz	37.38	150	P		P		13 44 15.0	-2.5
	comp=Z,0.6nm,0.6s,baz=284,slow=4.2,SNR=2.3								
LPAZ				LR		LR		13 59 32.2	
	comp=Z,556nm,22.0s,baz=318,slow=36								
LPAZ	La Paz	37.38	150	eP		P		13 44 17.4	-0.2
BEKR	Beckworth	37.44	315	P		P		13 44 17.7	+0.3
BEKR				IAmb		IAmb		13 44 20.8	
	comp=Z,13nm,0.8s								
WVOR	Wild Horse Val	37.63	320	P		P		13 44 19.1	+0.1
WVOR				IAmb		IAmb		13 44 45.3	
	comp=Z,19nm,0.9s								
MSO	Missoula	37.73	329	P		P		13 44 20.1	+0.4
	baz=134								
MCPB	Macapa, AP	37.87	113	eP		P		13 44 22.1	+1.0
J08A	Circle Bar Ran	38.05	321	P		P		13 44 22.7	+0.3
J08A				IAmb		IAmb		13 44 46.4	
	comp=Z,15nm,0.9s								
ORV	Oroville	38.08	314	P		P		13 44 23.0	+0.4
BMO	Blue Mountains	38.24	324	P		P		13 44 23.4	-0.6
MOD	Modoc Plateau	38.40	318	P		P		13 44 25.1	-0.4
O03E	Paynes Creek	38.62	315	P		P		13 44 28.3	+1.1
	baz=117								
NPGB	Novo Progresso	38.72	125	eP		P		13 44 28.4	+0.2
F10A	Beach Ranch, E	38.88	325	P		P		13 44 29.4	0.0
I07A	Izee	39.07	321	P		P		13 44 31.8	+0.7
K05A	Summer Lake	39.20	319	P		P		13 44 32.4	+0.2
K05A				IAmb		IAmb		13 44 55.2	
	comp=Z,19nm,0.9s								
VILB	Vilhena	39.21	137	eP		P		13 44 32.2	-0.1
WALA	Waterton Lakes	39.29	331	P		P		13 44 32.9	+0.2
M04C	Macdoel	39.34	317	P		P		13 44 34.0	+0.7
	baz=119								
N02D	Trinity Center	39.54	315	P		P		13 44 35.7	+0.8
	baz=117								
J05D	Fort Rock, OR	39.70	319	P		P		13 44 36.3	0.0
	baz=121,SNR=6.2								
PINE	Pine Mountain	39.78	320	P		P		13 44 37.7	+0.7
PINE				IAmb		IAmb		13 44 51.4	
	comp=Z,29nm,0.8s								
M02C	Callahan	39.83	316	P		P		13 44 37.0	-0.3
	baz=117								
FFC	Flin Flon	39.84	346	P		P		13 44 37.3	+0.1
L04D	Klamath Falls	39.85	317	P		P		13 44 38.3	+0.7
	baz=119								
YBH	Yreka Blue Hor	39.89	316	P		P		13 44 37.8	-0.1
KMRM	Mail Ridge	39.89	314	P		P		13 44 38.9	+1.0
KMRM				IAmb		IAmb		13 44 41.6	
	comp=Z,23nm,0.9s								
DRLN	Deer Lake	40.09	29	P		P		13 44 39.6	+0.3
J04D	Umpqua Nationa	40.23	319	P		P		13 44 41.1	+0.3
	baz=120,SNR=8.9								
I05D	Terrebonne, OR	40.32	321	P		P		13 44 41.8	+0.5
	baz=122								
HUMO	Hull Mountain	40.46	317	P		P		13 44 42.3	-0.2
I04A	Tendick Farm,	40.70	319	P		P		13 44 45.2	+0.7
	baz=120								
G05D	Wamic, OR	40.79	322	P		P		13 44 45.9	+0.7
	baz=123								
CLDB	Colider	40.82	130	eP		P		13 44 45.1	-0.6

DBO	Dodson Butte	40.89	318	P		P		13 44 46.8	+0.7
DBO				IAmb		IAmb		13 45 02.2	
	comp=Z,33nm,1.5s								
SIV	San Ignacio	40.97	141	P		P		13 44 45.9	-1.0
	comp=Z,4.6nm,0.8s,baz=352,slow=5.4,SNR=12								
K02D	Willamette Mer	40.97	317	P		P		13 44 47.8	+1.1
	baz=118								
SCHQ	Schefferville	40.98	17	P		P		13 44 46.7	+0.1
	comp=Z,46nm,0.7s,baz=221,slow=7.3,SNR=36								
SCHQ				LR		LR		14 02 35.9	
	comp=Z,628nm,18.2s,baz=238,slow=37								
SCHQ	Schefferville	40.98	17	P		P		13 44 46.4	-0.2
H04A	Detroit Lake	41.01	321	P		P		13 44 47.0	0.0
H04A				IAmb		IAmb		13 45 01.8	
	comp=Z,35nm,0.9s								
F05D	White Salmon	41.22	323	P		P		13 44 49.6	+0.9
	baz=124								
I03D	Drain, OR	41.24	319	P		P		13 44 50.3	+1.4
	baz=119								
H04D	Lebanon	41.27	320	P		P		13 44 50.5	+1.4
	baz=121								
J01E	Myrtle Point	41.36	318	P		P		13 44 51.3	+1.5
	baz=118,SNR=6.7								
PTLB	Pontes e Lacer	41.75	138	eP		P		13 44 53.6	+0.3
I02D	Swisshome	41.75	319	P		P		13 44 54.3	+1.3
	baz=119								
LON	Longmire	41.90	323	P		P		13 44 55.2	+0.9
G03D	McMinnville, O	41.94	321	P		P		13 44 55.9	+1.3
	baz=121								
C06D	Leavenworth	42.06	325	P		P		13 44 56.9	+1.3
	baz=126								
TMAB	Tom-Au,PA,Br	42.30	113	eP		P		13 44 58.9	+1.0
LVC	Limon Verde	42.63	156	eP		P		13 45 00.2	-0.6
PRPB	Parauapebas	42.72	119	eP		P		13 45 02.4	+1.0
LLLB	Lillooet	44.18	328	P		P		13 45 11.9	-0.8
SALV	Santo Antonio	44.34	135	eP		P		13 45 14.7	+0.4
SNDB	Serra Nova Dou	44.90	127	eP		P		13 45 18.7	-0.1
SMTB	Santa Maria do	46.03	121	eP		P		13 45 28.0	+0.2
ROSB	Rosrio	46.07	111	eP		P		13 45 27.8	-0.4
PP1B	Ponte de Pedra	46.09	136	eP		P		13 45 28.9	+0.7
PEXB	Peixe	47.30	125	eP		P		13 45 37.4	-0.4
BDFB	Brasilia	49.66	128	LR		LR		14 08 14.1	
	comp=Z,688nm,18.9s,baz=306,slow=38								
YKA	Yellowknife Ar	49.86	343	P		P		13 45 57.6	+0.8
	comp=Z,7.6nm,0.7s,baz=134,slow=8.5,SNR=17								
YKA	Yellowknife Ar	49.86	343	P		P		13 45 56.8	0.0
SDBA	SAO DESIDERIO	50.19	123	eP		P		13 46 00.3	+0.3
CPUP	Villa Florida	51.25	146	LR		LR		14 10 53.9	
	comp=Z,352nm,18.2s,baz=318,slow=40								
CPUP	Villa Florida	51.25	146	eP		P		13 46 08.8	+1.0
PCMB	Pacaembu	51.33	137	eP		P		13 46 09.1	+0.6
DLBC	Dease Lake	52.59	333	P		P		13 46 18.4	+0.8
DLBC				IAmb		IAmb		13 46 45.7	
	comp=Z,9.7nm,0.8s								
NRS	Narsarsuaq	53.13	23	P		P		13 46 21.1	-0.2
DIAM	Diamantina, MG	54.56	128	eP		P		13 46 32.2	-0.4
GDU01	Guandu, BA	55.25	120	eP		P		13 46 37.8	+0.3
SFJD	Kangerlussuaq	55.41	16	P		P		13 46 36.7	-1.1
	comp=Z,7.3nm,0.7s,baz=281,slow=15,SNR=2.9								
SFJD	Kangerlussuaq	55.41	16	P		P		13 46 36.4	-1.4
SFJD				IAmb		IAmb		13 46 50.6	
	comp=Z,14nm,0.9s								
MMPY	Sheldon Lake,	55.46	337	P		P		13 46 39.0	+0.6
	baz=125,SNR=7.5								
PET01	Itanhaem-SP	55.82	136	eP		P		13 46 41.9	+0.5
DY2G	Dye2	56.28	18	i P		P		13 46 42.1	-2.3
DY2G				IAmb		IAmb		13 46 44.8	
	comp=Z,11nm,0.8s								
CPSB	Cacapava Do Su	56.55	146	eP		P		13 46 47.5	+0.9
GUA01	Guaratinga, BA	56.60	123	eP		P		13 46 47.5	+0.4
NBRF	Rio Formoso -	56.64	113	eP		P		13 46 46.9	-0.6
LC01	Cunco	56.92	166	P		P		13 46 47.3	-1.7
LC01				IAmb		IAmb		13 46 50.0	
	comp=Z,10.0nm,0.8s								
ILULI	Ilulissat	56.94	14	P		P		13 46 48.4	-0.4
HYT	Haines Junctio	57.08	333	P		P		13 46 50.4	+0.4
	baz=117								
MAYO	Mayo, Yukon	57.76	336	P		P		13 46 56.0	+1.3
	baz=121								
PINM	Pinnacle	57.99	332	P		P		13 46 57.2	+0.9
	baz=114								
YUK3	Moose Creek	58.78	333	P		P		13 47 02.8	+0.7
	baz=115								
TAOE	Nuku Hiva Isla	58.88	249	eLQ		LQ		14 01 53.9	
	comp=Z,667nm,30.5s								
TAOE				eLR		LR		14 04 21.7	
	comp=Z,226nm,26.2s								
PLCA	Paso Flores	58.98	166	P		P		13 47 03.6	+0.1
	comp=Z,2.3nm,0.7s,baz=360,slow=7.2,SNR=5.0								
DAWY	Dawson	59.35	336	P		P		13 47 06.5	+0.7
	baz=117								
EPYK	Eagle Plains	59.49	339	P		P		13 47 07.8	+1.1
	baz=121								
INK	Inuvik	59.52	342	P		P		13 47 07.3	+0.5
	comp=Z,4.3nm,0.8s,baz=116,slow=7.0,SNR=4.8								
INK	Inuvik	59.52	342	P		P		13 47 07.1	+0.3
INK				IAmb		IAmb		13 47 19.4	
	comp=Z,8.4nm,0.8s								
INK	Inuvik	59.52	342	P		P		13 47 08.0	+1.2
	baz=126								
M27K	Edge Creek, AK	59.63	334	P		P		13 47 08.5	+0.7
	baz=114								
MCARA	McCarthy VSAT	59.75	332	P		P		13 47 08.7	+0.2
	baz=112								
BCAR	Beaver Creek A	59.88	334	P		P		13 47 09.7	+0.2
ICESG	Greenland Ices	59.89	18	i P		P		13 47 08.9	-0.8
ICESG				IAmb		IAmb		13 47 10.3	
	comp=Z,39nm,1.1s								
ICESG				i				13 47 20.7	
L27K	Beaver Creek,	59.89	334	P		P		13 47 10.4	+0.8
L27K				IAmb		IAmb		13 47 26.1	
	comp=Z,12nm,1.4s								
L27K	Beaver Creek,	59.89	334	P		P		13 47 10.4	+0.8
	baz=114								
M26K	Nabesna, AK	60.12	333	P		P		13 47 11.4	+0.3
	baz=113								
K27K	Chicken	60.40	335	P		P		13 47 13.9	+1.0
	baz=114								
L26K	Log Cabin Wild	60.52	334	P		P		13 47 15.0	+1.3
	baz=113								
DOT	Dot Lake	61.05	334	P		P		13 47 18.3	+0.9
DOT				IAmb		IAmb		13 47 29.9	
	comp=Z,12nm,0.7s								
KLU	Klutina	61.09	332	P		P		13 47 18.9	+1.1
	baz=109								
SCRK	Sand Creek	61.15	335	P		P		13 47 19.0	+0.9
SCRK	Sand Creek	61.15	335	P		P		13 47 19.1	+0.9
	baz=113								
J26L	Joseph Creek	61.18	335	P		P		13 47 19.3	+0.9
	baz=113								
PAX	Paxson	61.40	333	P		P		13 47 20.4	+0.6
PAX				IAmb		IAmb		13 47 31.9	
	comp=Z,7.2nm,0.8s								
PAX	Paxson	61.40	333	P		P		13 47 20.7	+0.9
	baz=111								
M24K	Tolsona, Glenn	61.41	332	P		P		13 47 20.4	+0.5
M24K	Tolsona, Glenn	61.41	332	P		P		13 47 20.7	+0.8
	baz=110								
RIDG	Independent Ri	61.41	334	P		P		13 47 20.5	+0.6
RIDG	Independent Ri	61.41	334	P		P		13 47 20.2	+0.4
	baz=112,SNR=5.8								
DHY	Denali Highway	62.25	333	P		P		13 47 26.8	+1.2
	baz=109								
WAT6	Susitna Watana	62.25	333	P		P		13 47 26.6	+0.9
	baz=108								
SUMG	Summit	62.28	15	i P		P		13 47 26.5	+0.5
SUMG				IAmb		IAmb		13 47 27.8	
	comp=Z,16nm,1.1s								
SUMG				i				13 47 37.8	
SUMG	Summit	62.28	15	P		P		13 47 25.2	-0.8
HDA	Harding Lake	62.51	335	P		P		13 47 27.6	+0.4
HDA				IAmb		IAmb		13 47 39.2	
	comp=Z,14nm,0.9s								
HDA	Harding Lake	62.51	335	P		P		13 47 28.0	+0.8
	baz=110								
IL31		62.61	335	P		P		13 47 27.0	-0.8
IL31				IAmb		IAmb		13 47 39.9	
	comp=Z,8.2nm,0.8s								
ILAR	Eielson Array	62.61	335	P		P		13 47 28.8	+0.9
	comp=Z,6.2nm,0.9s,baz=115,slow=5.3,SNR=30								
ILAR	Eielson Array	62.61	335	P		P		13 47 27.2	-0.6
FYU	Fort Yukon	62.63	337	P		P		13 47 28.6	+0.7
BMAR	Burnt Mountain	62.73	338	P		P		13 47 29.5	+0.8
CCB	Clear Creek Bu	62.94	335	P		P		13 47 30.4	+0.3
CCB				IAmb		IAmb		13 47 44.6	
	comp=Z,6.5nm,0.8s								

RND	Reindeer	62.99	333	P		P		13 47 31.1	+0.6
WRH	Wood River Hil	63.00	335	P		P		13 47 30.0	-0.4
WRH				IAmb		IAmb		13 47 42.0	
	comp=Z,9.7nm,0.9s								
COLA	College	63.03	335	P		P		13 47 31.4	+0.8
	baz=109								
TCOL	CIGO, UAF Yank	63.04	335	P		P		13 47 31.9	+1.3
	baz=109								
MCK	McKinley	63.12	334	P		P		13 47 32.1	+0.8
	baz=108								
MDM	Murphy Dome	63.22	335	P		P		13 47 32.1	+0.2
MDM				IAmb		IAmb		13 47 45.7	
	comp=Z,6.4nm,0.9s								
NEEM	North Greenlan	63.31	8	i P		P		13 47 32.8	+0.1
NEEM				IAmb		IAmb		13 47 34.0	
	comp=Z,22nm,0.7s								
NEEM				i				13 47 44.6	
CAPN	Captain Cook N	63.31	330	P		P		13 47 33.7	+1.1
	baz=104								
CUT	Chulitna	63.32	332	P		P		13 47 33.1	+0.5
	baz=106								
H24K	Noodor Dome	63.37	336	P		P		13 47 33.3	+0.4
	baz=110								
EUNU	Eureka	63.43	0	P		P		13 47 33.1	-0.1
EUNU				IAmb		IAmb		13 47 34.8	
	comp=Z,16nm,1.1s								
NEA2	Nenana	63.44	335	P		P		13 47 33.3	-0.1
NEA2				IAmb		IAmb		13 47 58.2	
	comp=Z,5.9nm,0.9s								
NEA2	Nenana	63.44	335	P		P		13 47 33.6	+0.2
	baz=108								
TRF	Thorofare Moun	63.62	333	P		P		13 47 35.5	+0.7
TRF	Thorofare Moun	63.62	333	P		P		13 47 35.2	+0.4
	baz=106								
I23K	Minto, Yukon-K	63.73	335	P		P		13 47 36.2	+1.0
I23K	Minto, Yukon-K	63.73	335	P		P		13 47 35.4	+0.1
	baz=108,SNR=8.9								
SKT	Skwentna	63.78	331	P		P		13 47 36.3	+0.6
SKT				IAmb		IAmb		13 47 36.9	
	comp=Z,16nm,1.5s								
BPAW	Bear Paw Mtn.	64.10	334	P		P		13 47 37.4	-0.4
BPAW	Bear Paw Mtn.	64.10	334	P		P		13 47 37.9	+0.2
	baz=106,SNR=5.8								
CHUM	Lake Minchumin	64.61	333	P		P		13 47 41.6	+0.6
	baz=104								
COLD	Coldfoot	64.70	337	P		P		13 47 42.6	+0.9
COLD				IAmb		IAmb		13 47 55.0	
	comp=Z,7.4nm,0.9s								
COLD	Coldfoot	64.70	337	P		P		13 47 42.5	+0.9
	baz=108								
I21K	Tanana	64.80	335	P		P		13 47 42.4	+0.1
	baz=105								
N19K	Bonanza Creek	64.92	330	P		P		13 47 43.4	+0.1
	baz=101								
TOLK	Toolik Lake Re	64.93	339	P		P		13 47 43.9	+0.8
	baz=109								
L20K	Farewell, AK	64.97	332	P		P		13 47 43.6	+0.1
	baz=102								
K20K	Telida	65.25	333	P		P		13 47 45.0	-0.2
K20K				IAmb		IAmb		13 47 56.7	
	comp=Z,12nm,0.8s								
K20K	Telida	65.25	333	P		P		13 47 44.9	-0.4
	baz=102,SNR=6.8								
H21K	Melozitna Rive	65.26	335	P		P		13 47 45.5	+0.2
H21K	Melozitna Rive	65.26	335	P		P		13 47 45.8	+0.5
	baz=105								
J20K	Nowinta River	65.46	334	P		P		13 47 46.8	+0.2
J20K				IAmb		IAmb		13 47 57.8	
	comp=Z,7.1nm,0.8s								
J20K	Nowinta River	65.46	334	P		P		13 47 47.2	+0.6
	baz=103								
N18K	Kilae Creek	65.57	330	P		P		13 47 47.7	+0.3
	baz=100								
IMAR	Indian Mountai	65.72	336	P		P		13 47 48.2	-0.1
CHGN	Chignik	66.31	325	P		P		13 47 52.9	+0.7
	baz=96								
PPT	Papeete	70.89	244	LR		LR		14 13 42.6	
	comp=Z,181nm,18.4s,baz=37,slow=31								
PPT2	Papeete2	70.90	244	eLR		LR		14 09 44.7	
	comp=Z,241nm,27.0s								
EKA	Eskdalemuir Ar	72.65	36	P		P		13 48 30.6	-0.8
	comp=Z,9.7nm,1.0s,baz=272,slow=5.8,SNR=7.3								
ESDC	Sonseca Array	73.84	53	P		P		13 48 39.2	+0.4
	comp=Z,3.8nm,0.8s,baz=285,slow=6.2,SNR=18								
KOWA	Kowa	78.83	78	P		P		13 49 07.2	-0.4
NC204	NORSAR Array S	78.95	29	P		P		13 49 07.4	-0.1
NBO00	NORSAR Array S	79.02	29	P		P		13 49 05.7	-2.1
NAO01	NORSAR Array S	79.11	30	P		P		13 49 06.3	-1.9
NB2	NORSAR Subarra	79.22	29	P		P		13 49 09.5	+0.6
	comp=Z,18nm,1.1s,baz=284,slow=5.6								
NB2	NORSAR Subarra	79.22	29	P		P		13 49 09.5	+0.6
	baz=284,slow=5.6								
NOA	NORSAR Array B	79.22	29	P		P		13 49 09.0	+0.1
	comp=Z,6.3nm,0.9s,baz=285,slow=5.5,SNR=16								
NC405	NORSAR Array S	79.44	29	P		P		13 49 09.2	-0.8
NC602	NORSAR Array S	79.45	30	P		P		13 49 10.7	+0.6
TIC	Toumodi	79.91	86	eP		P		13 49 13.3	-0.2
LIC	Lamto	80.02	86

FINES	FINESS Array B	85.77	26	P		P	13 49 43.4	+0.5
	comp=Z,17nm,0.8s,baz=298,slow=4.1,SNR=32							
FINES				LR		LR	14 24 53.7	
	comp=Z,110nm,21.8s,baz=268,slow=34							
FINES	FINESS Array B	85.77	26	P		P	13 49 42.7	-0.2
MORC	Moravsky Berou	86.15	39	P		P	13 49 44.6	-0.6
ZST	Bratislava	86.45	41	*eP*		P	13 49 47.7	+1.1
MODS	Modra-Piesok	86.50	40	*eP*		P	13 49 46.6	-0.3
SMOL	Smolenice	86.54	40	*eP*		P	13 49 47.3	+0.2
LANS	Liptovska Anna	87.55	39	*eP*		P	13 49 54.0	+2.0
SEY	Seymchan	88.49	337	P		P	13 49 55.1	-1.0
	comp=Z,5.0nm,1.0s,baz=140,slow=5.7,SNR=3.6							
PETK	Petropavlovsk-	91.42	327	LR		LR	14 33 49.4	
	comp=Z,53nm,20.9s,baz=65,slow=37							
MLR	Muntele Rosu	93.09	41	P		P	13 50 18.3	+0.2
	comp=Z,5.2nm,0.9s,baz=269,slow=20,SNR=5.1							
MLR	Muntele Rosu	93.09	41	P		P	13 50 17.0	-1.1
NRIK	Noril'sk	94.12	2	LR		LR	14 33 03.5	
	comp=Z,206nm,21.9s,baz=14,slow=36							
ZALV	Zalesovo Beam	109.27	5	PP		PP	13 55 54.1	-7.8
	comp=Z,0.4nm,0.3s,baz=350,slow=3.2,SNR=2.0							
WMQ	Urumqi	119.57	5	*e*PKP		PKPdf	13 55 54.5	+0.4
HHC	Hu-ho-hao-te	120.39	344	*e*PKP		PKPdf	13 55 51.8	-4.0
BTO	Baotou	121.01	345	*e*PKP		PKiKP	13 56 01.0	+3.9
NJ2	Nanjing	125.84	333	*e*PKP		PKPdf	13 56 05.5	-0.8
STKA	Stephens Creek	134.05	242	PKP		PKPdf	13 56 21.1	-0.7
	comp=Z,2.7nm,0.9s,baz=358,slow=22,SNR=3.7							
WRA	Warramunga Arr	141.23	259	PKhKP		PKPpre	13 56 28.3	
	comp=Z,1.1nm,0.7s,baz=96,slow=3.0,SNR=12							
WRA				PKP		PKPdf	13 56 35.6	+0.2
	comp=Z,2.3nm,0.8s,baz=74,slow=1.9,SNR=10							
ASAR	Alice Springs	141.61	253	PKhKP		PKPpre	13 56 29.9	
	comp=Z,1.6nm,0.7s,baz=108,slow=3.7,SNR=34							
ASAR				PKP		pPKPdf	13 56 37.9	-0.3
	comp=Z,1.4nm,0.7s,baz=101,slow=2.8,SNR=12							
CMAR	Chiang Mai Arr	144.70	351	PKP		PKPbc	13 56 40.8	+0.4
	comp=Z,3.0nm,0.9s,baz=333,slow=3.5,SNR=14							
FITZ	Fitzroy Crossi	149.39	263	PKPbc		PKPbc	13 56 53.9	+0.1
	comp=Z,3.8nm,0.8s,baz=153,slow=3.6,SNR=9.7							
FITZ	Fitzroy Crossi	149.39	263			PKPbc	13 56 53.6	-0.2

TUL ***28*** *13:46:02.2±0.7, 36°28N±0.01×96°39W±0.01, h5km±5km, ML2.5, mb_Lg2.9/12(NEIC), Error ellipse: s-maj=1.8km s-min=1.2km az=212.0*

NEIC 28 13:46:02.0±0.7, 36°28N±0.01×96°98W±0.02, h16km±3km, Error ellipse: s-maj=2.8km s-min=1.7km az=89.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	Quay	0.25	115		Pg	13 46 07.5	0.0
QUOK				Sg	Sg	13 46 10.5	-0.7
OK031	S. Brethren Rd	0.34	160	Pg	Pg	13 46 09.3	+0.2
OK030	Cody Creek RV	0.39	155	Pg	Pg	13 46 10.0	+0.2
BLOK	Blackwell	0.52	339	Pg	Pg	13 46 12.1	-0.1
BLOK				Sg	Sg	13 46 18.8	-0.4
OK029	Liberty Lake	0.61	219	Pg	Pg	13 46 14.2	+0.1
OK029				Sg	Sg	13 46 21.5	-0.7
T35A	Sooner Cattle	0.74	31	Pg	Pg	13 46 16.4	-0.1
T35A				Sg	Sg	13 46 25.6	-0.7
OK025	Westminster Rd	0.75	203	Pg	Pg	13 46 16.5	-0.1
BCOK	Bluff Creek, N	0.80	219	Pg	Pb	13 46 17.5	-0.1
KAN13	South Haven SW	0.83	332	Pg	Pb	13 46 18.0	-0.2
KAN13				Sg	Sb	13 46 28.5	-0.6
CROK	Carrier	0.84	286	Pg	Pb	13 46 18.1	-0.1
CROK				Sg	Sb	13 46 28.9	-0.3
GC02	Grant County #	0.91	309	Pg	Pb	13 46 19.4	0.0
KAN17	Caldwell West	0.99	321	Pg	Pb	13 46 20.8	0.0
KAN09	Caldwell North	1.00	329	Pg	Pb	13 46 20.8	-0.1
TUL1	Leonard	1.03	110	Pg	Pb	13 46 21.5	0.0
KAN14	Manchester OK	1.04	311	Pg	Pb	13 46 21.6	0.0
FNO	Franklin	1.07	198	Pg	Pn	13 46 22.4	0.0
KAN05	Bluff City Nor	1.09	320	Pg	Pn	13 46 22.6	-0.1
OK032	Salt Plains WL	1.12	298	Pg	Pn	13 46 23.1	+0.1
KAN06	Argonia West S	1.20	324	Pg	Pb	13 46 24.7	+0.4
KAN10	Anthony SW Sta	1.23	314	Pg	Pb	13 46 25.1	+0.2
KAN08	Anthony NE Sta	1.23	320	Pg	Pb	13 46 25.4	+0.4
KAN16	Harper SW Stat	1.28	318	Pn	Pb	13 46 26.1	+0.3
U32A	Winter Ranch,	1.63	274	Pn	Pb	13 46 31.1	-0.7
HHAR	Hobbs	2.46	89	Pn	Pn	13 46 42.4	+1.0
R32A	Long Quarter,	2.54	328	Pn	Pn	13 46 43.4	+0.8
U40A	Yellville	3.34	87	Pn	Pn	13 46 54.9	+1.4
N35A	Tabor	4.70	13	IAmb_Lg		13 48 41.6	
	comp=Z,36nm,0.7s						
KSCO	Kaye Shedlock'	5.24	303	IAmb_Lg		13 48 57.1	
	comp=Z,22nm,0.8s						
ECSD	EROS Data Cent	7.45	2	IAmb_Lg		13 50 12.9	
	comp=Z,10nm,1.1s						
ISCO	Idaho Springs	7.66	300	IAmb_Lg		13 50 14.8	
	comp=Z,14nm,1.0s						
PHWY	Pilot Hill	8.30	310	IAmb_Lg		13 50 26.2	
	comp=Z,11nm,1.0s						
RSSD	Black Hills	9.51	328	IAmb_Lg		13 51 13.7	
	comp=Z,9.2nm,0.9s						

IDC 28 13:55:27.5±58.0, 27°63S×64°58E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/36, mbtmp3.7/3, MS3.5/2, Ms1 3.5/2, ms1mx2.9/38, Error ellipse: s-maj=1429.0km s-min=61.5km az=74.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	50.90	353	LR	LR	14 19 54.0	
	comp=Z,37nm,18.7s,baz=220,slow=29						
FITZ	Fitzroy Crossi	56.58	94	LR	LR	14 24 26.6	
	comp=Z,46nm,21.3s,baz=310,slow=31						
CMAR	Chiang Mai Arr	56.64	40	P	P	14 05 12.5	-0.1
	0.4nm,0.3s,baz=228,slow=8.1,SNR=0.9						
ASAR	Alice Springs	61.88	103	P	P	14 05 48.7	-0.4
	1.0nm,0.9s,baz=248,slow=6.7,SNR=9.6						
WRA	Warramunga Arr	63.57	100	P	P	14 06 00.9	+0.5
	0.8nm,0.8s,baz=248,slow=6.0,SNR=7.1						

NEIC ***28*** *14:10:08.2±1.9, 8°35S±0.06×107°24E±0.03, h35km±2km, mb4.4/26, Error ellipse: s-maj=11.1km s-min=3.5km az=155.0*

DJA ***28*** *14:10:09.7±0.3, 8°S±3°×10°E±°, h43km±6km, M4.8/23, mB5.6/4, mb4.7/20, MLv4.7/23, Mw(mB)5.2/4*

IDC ***28*** *14:10:14.2±2.1, 8°15S×107°56E, h85km±16km, mb3.7/14, mb1 3.9/16, mb1mx3.7/36, mbtmp4.1/16, MS3.4/3, Ms1 3.4/3, ms1mx2.9/36, Error ellipse: s-maj=29.5km s-min=11.7km az=57.0*

ISC 28 14:10:08.6±1.0, 8°48S±0.05×107°41E±0.05, h46km±10km, n107, σ2s00/105, mb4.2/24, MS4.0/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	1.00	23	Pn	Pn	14 10 26.0	-0.4
CISI				Sn	Sn	14 10 38.0	-1.4
CISI	Cisompet, Garu	1.00	23	P	Pn	14 10 26.3	0.0
CISI				S	Sn	14 10 38.6	-0.8
CNJI	Cibinong	1.20	346	P	Pn	14 10 28.8	-0.1
CNJI				S	Sn	14 10 44.0	-0.1
CMJI	Cimerak	1.24	56	P	Pn	14 10 29.8	+0.3
CMJI				S	Sn	14 10 45.8	+0.8
LEM	Lembang	1.66	7	P	Pn	14 10 37.3	+2.0
	410nm,0.3s,baz=264,slow=21,SNR=116						
LEM				LR	LR	14 10 39.4	
	comp=Z,78nm,21.9s,baz=146,slow=19						
LEM				S	Sn	14 10 57.4	+1.8
	258nm,0.3s,baz=253,slow=19,SNR=16						
LEM	Lembang	1.66	7	P	Pn	14 10 37.0	+1.6
SKJI	Sukabumi	1.70	330	P	Pn	14 10 36.2	+0.4
KPJI	Karang Pucung	1.89	53	P	Pn	14 10 40.3	+1.9
SCJI	Gunung Srandil	1.91	65	P	Pn	14 10 39.7	+1.0
DBJI	Dramaga	2.03	341	P	Pn	14 10 41.9	+1.6
CTJI	Waduk Cacaban	2.29	50	P	Pn	14 10 46.4	+2.6
XMI	Christmas Isla	2.59	221	P	Pn	14 10 47.8	-0.2
XMIS	Christmas Isla	2.64	221	Pn	Pn	14 10 48.5	-0.3
XMIS	Christmas Isla	2.64	221	P	Pn	14 10 48.0	-0.7
SBJI	Serang	2.67	331	P	Pn	14 10 50.6	+1.5
YOGI	Yogyakarta	2.93	77	P	Pn	14 10 54.2	+1.5
UGM	Wanagama	3.13	80	Pn	Pn	14 10 56.6	+1.2
UGM	Wanagama	3.13	80	P	Pn	14 10 56.9	+1.4
SMRI	Semarang	3.32	65	Pn	Pn	14 11 00.7	+2.6
SMRI	Semarang	3.32	65	P	Pn	14 11 01.1	+3.0
PCJI	Pacitan	3.73	86	P	Pn	14 11 05.8	+2.1
PWJI	Pagerwojo	4.37	84	P	Pn	14 11 14.3	+1.9
SJI	Sawahan	4.37	81	P	Pn	14 11 15.6	+3.0
KLSI		4.62	325	P	Pn	14 11 18.5	+2.6
LWLI	Liwa	4.79	316	P	Pn	14 11 19.7	+1.3
MDSI	Maura Dua	5.11	321	P	Pn	14 11 23.6	+1.0
	0.1nm39nm,0.8s						
GRJI	Gresik	5.26	73	P	Pn	14 11 27.1	+2.5
	0.5nm128nm,0.8s						
GMJI	Gumukmas	5.97	88	P	Pn	14 11 37.3	+2.9
	0.3nm55nm,0.8s						
EGSI	Enggano, Bengk	5.97	301	P	Pn	14 11 35.2	+0.7
	0.8nm6µm105nm,0.8s						
JAGI	Jajag, Banyuwa	6.67	90	Pn	Pn	14 11 46.7	+2.7
JAGI	Jajag, Banyuwa	6.67	90	P	Pn	14 11 47.3	+3.3
	0.5nm3µm77nm,0.6s						
KSI	Kapahiang	6.78	315	P	Pn	14 11 46.4	+0.7
	5µm90nm,0.4s						
ABJI	Asem Bagus	6.79	85	P	Pn	14 11 48.5	+2.8
	0.6nm160nm,0.6s						
MASI	Maura Aman, Be	7.39	316	P	Pn	14 11 54.7	+0.7
	0.6nm70nm,0.8s						
SRBI	Singaraja	7.73	88	P	Pn	14 12 01.3	+2.7
	0.4nm96nm,0.6s						
KLNI	Mataram	8.59	90	P	Pn	14 12 13.2	+2.8
	28nm,0.7s						
PPSI	Pulau Pagai	9.30	307	P	Pn	14 12 18.9	-1.3
	277nm,1.5s						
TWSI	Taliwang, Sumb	9.37	92	P	Pn	14 12 22.7	+1.7
	38nm,0.6s						
PDSI	Padang	10.22	317	P	Pn	14 12 31.8	-1.0
PLAI	Plampang	10.25	93	P	Pn	14 12 35.0	+1.8
	68nm,0.9s						
WBSI	Waikabubak, Su	11.88	96	P	Pn	14 12 55.7	+0.1
	32nm,0.9s						
KAPI	Kappang	12.73	75	P	Pn	14 13 10.2	+3.2
	0.5nm,0.3s,baz=274,slow=12,SNR=5.5						
KAPI				LR	LR	14 18 43.1	
	comp=Z,86nm,19.2s,baz=306,slow=41						
GSI	Gunungsitoli	13.81	314	Pn	Pn	14 13 16.3	-5.5
EDFI	Ende, Flores	14.12	92	P	Pn	14 13 23.6	-2.5
	1447nm7s						
MPSI	Mapaga	15.22	55	P	P	14 13 43.5	-1.2
	19nm,1.3s						
GIRL	Giralia	15.53	156	Pn	Pn	14 13 43.3	-1.2
GIRL				IAmb	IAmb	14 13 57.1	
	comp=Z,82nm,0.9s						
BATI	Baumata	16.13	97	P	Pn	14 13 53.2	+1.0
	comp=Z,3.8nm,0.3s,baz=262,slow=21,SNR=2.6						
BATI				S	Sn	14 16 43.3	-6.9
	comp=Z,3.3nm,0.3s,baz=255,slow=17,SNR=1.5						
TOLI2	Tolitoli	16.38	55		P	14 13 56.9	-0.8
SOEI	Soe	16.69	96	Pn	Pn	14 13 57.3	-2.1
SOEI				IAmb	IAmb	14 14 08.6	
	comp=Z,45nm,0.9s						
SOEI	Soe	16.69	96	P	Pn	14 13 57.6	-1.9
	comp=Z,39nm,0.8s						
LHMI	Lhok Sumawe	17.16	322		Pn	14 14 02.7	-2.5
LHMI				IAmb	IAmb	14 14 26.9	
	comp=Z,79nm,0.9s						
GTOI	Gorontalo	17.99	61	P	Pn	14 14 14.5	-0.9
	comp=Z,24nm,1.0s						
SANI	Sanana	19.56	72	P	Pn	14 14 33.5	-0.8
	comp=Z,40nm,1.0s						
FITZ	Fitzroy Crossi	20.13	120	P	Pn	14 14 42.2	+1.1
	comp=Z,6.9nm,0.9s,baz=283,slow=6.3,SNR=15						
FITZ				S	S	14 18 15.6	-7.1
	comp=Z,0.9nm,0.6s,baz=342,slow=20,SNR=1.5						
FITZ	Fitzroy Crossi	20.13	120	P	Pn	14 14 41.5	+0.5
MORW	Morawa	22.03	160	P	P	14 15 02.0	+2.8
MORW				IAmb	IAmb	14 15 03.6	
	comp=Z,20nm,1.2s						
KNRA	Kununurra	22.05	111	P	P	14 15 02.1	+2.5
KNRA				IAmb	IAmb	14 15 26.7	
	comp=Z,22nm,1.2s						
MTN	Manton Dam	23.70	103	P	P	14 15 18.1	+1.7
MTN				IAmb	IAmb	14 15 36.9	
	comp=Z,19nm,1.1s						
FAKI	Fak Fak	25.31	79	P	P	14 15 31.7	+0.5
FAKI				IAmb	IAmb	14 15 46.6	
	comp=Z,37nm,1.1s						
H01W3	Cape Leeuwin H	26.99	168	T	T	14 43 12.5	
	baz=38						
H01W1	Cape Leeuwin H	27.00	168	T	T	14 43 11.0	
	baz=38						
H01W2	Cape Leeuwin H	27.00	168	T	T	14 43 10.5	
	baz=38						
CMAR	Chiang Mai Arr	28.04	343	P	P	14 15 56.5	+0.8
	comp=Z,0.3nm,0.4s,baz=172,slow=8.2,SNR=2.3						
CMAR				LR	LR	14 28 56.9	
	comp=Z,28nm,18.5s,baz=200,slow=40						
WRA	Warramunga Arr	28.43	117	P	P	14 16 01.3	+2.1
	comp=Z,0.6nm,0.6s,baz=287,slow=11,SNR=10						
WRA				PcP	PcP	14 19 12.1	+1.3
	comp=Z,0.2nm,0.4s,baz=299,slow=1.9,SNR=1.4						
WRA	Warramunga Arr	28.43	117	P	P	14 16 01.2	+1.9
WRAB	Tennant Creek	28.43	116	P	P	14 16 00.6	+1.4
WRAB				IAmb	IAmb	14 16 18.3	
	comp=Z,4.2nm,0.9s						
WB2	Warramunga Arr	28.44	117	P	P	14 16 00.9	+1.6
WB2				IAmb	IAmb	14 16 18.3	
	comp=Z,4.9nm,1.1s						
WR0	Warramunga Arr	28.61	116	P	P	14 16 02.5	+1.7
ASAR	Alice Springs	29.51	124	P	P	14 16 11.3	+2.4
	comp=Z,0.6nm,0.5s,baz=297,slow=8.4,SNR=21						
ASAR	Alice Springs	29.51	124	P	P	14 16 10.4	+1.5
AS31	Alice Springs	29.51	124	P	P	14 16 10.5	+1.7
H08S2	Diego Garcia H	34.58	269	T	T	14 53 51.9	
	baz=94						
H08S3	Diego Garcia H	34.59	269	T	T	14 54 20.7	
	baz=94,slow=74						
H08S1	Diego Garcia H	34.60	269	T	T	14 54 21.6	
	baz=94,slow=74						
STKA	Stephens Creek	39.35	131	P	P	14 17 36.5	+2.7
	comp=Z,4.0nm,0.9s,baz=312,slow=7.0,SNR=9.1						
STKA	Stephens Creek	39.35	131	P	P	14 17 36.2	+2.5
HHC	Hu-ho-hao-te	49.23	4	*eP*	P	14 18 56.5	+3.9
HHC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,200nm,5.9s						
KSRS	Korea Array	49.56	21	P	P	14 18 54.7	-0.3
	comp=Z,0.2nm,0.4s,baz=192,slow=6.3,SNR=4.1						
JHS	Saijyo	49.60	28	P	P	14 18 54.0	-1.4
JWT	Wachi	50.92	30	P	P	14 19 04.3	-1.1
MJAR	Matsushiro Arr	53.31	31	P	P	14 19 21.3	-1.9
	comp=Z,0.6nm,0.4s,baz=279,slow=16,SNR=2.3						
MJAR	Matsushiro Arr	53.31	31	IAmb	IAmb	14 19 28.2	
	comp=Z,4.0nm,1.3s						
WMQ	Urumqi	55.05	343	*eP*	P	14 19 36.8	+1.1
WMQ				LR	LR		
	comp=Z,120nm,20.9s						
JMM	Marumori	55.66	32	P	P	14 19 38.0	-2.1
KSH	Kashi	55.95	331	P	P	14 19 41.0	-1.3
SONM	Songino Array	56.08	359	P	P	14 19 42.1	-1.0
	comp=Z,0.9nm,0.4s,baz=172,slow=5.8,SNR=5.2						
SONM				PcP	PcP	14 20 41.1	+0.3
	comp=Z,0.8nm,0.6s,baz=180,slow=3.4,SNR=2.2						
SONM	Songino Array	56.08	359	P	P	14 19 42.1	-1.0
SONM				IAmb	IAmb	14 20 02.6	
	comp=Z,3.5nm,1.4s						
ULN	Ulaanbaatar	56.10	360	P	P	14 19 43.0	-0.3
ULN				IAmb	IAmb	14 19 44.3	
	comp=Z,3.7nm,1.1s						
USRK	Ussuriysk Ar.	56.96	21	P	P	14 19 47.8	-1.4
	comp=Z,1.9nm,0.6s,baz=183,slow=6.2,SNR=10						
USRK	Ussuriysk Ar.	56.96	21	P	P	14 19 48.3	-1.0
BOOM	Boomskoye usch	58.30	333	P	P	14 19 58.5	-0.5
MK31	Makanchi Array	59.41	340	P	P	14 20 05.3	-1.1
MK31				IAmb	IAmb	14 20 13.7	
	comp=Z,4.3nm,1.3s						
MKAR	Makanchi Array	59.41	340	P	P	14 20 05.6	-0.8
	comp=Z,0.8nm,0.3s,baz=156,slow=7.6,SNR=36						
MKAR	Makanchi Array	59.41	340	P	P	14 20 05.2	-1.2
KKAR	Karatay Array	61.34	330	P	P	14 20 18.6	-1.1
YSS	Yuzh-Sakhalins	63.51	26	P	P	14 20 33.4	-0.6
ZAA0	Zalesovo Array	65.06	345	P	P	14 20 42.1	-1.9
ZAA0				IAmb	IAmb	14 21 07.2	
	comp=Z,3.5nm,1.4s						
ZALV	Zalesovo Beam	65.06	345	P	P	14 20 42.3	-1.7
	comp=Z,1.0nm,0.3s,baz=150,slow=6.8,SNR=6.9						
ZALV	Zalesovo Beam	65.06	345	P	P	14 20 42.2	-1.8
GEYT	Alibeck	65.14	319	P	P	14 20 45.8	+0.8
	comp=Z,285nm,0.7s,baz=179,slow=8.4,SNR=3.1						
KMBO	Kilima Mbogo	70.21	272	LR	LR	14 51 18.1	
	comp=Z,83nm,18.0s,baz=101,slow=35						
ABKAR	Akbulak array	70.89	329	P	P	14 21 20.0	-0.7
VNDA	Vanda	74.44	169	P	P	14 21 44.4	+2.9
	comp=Z,1.7nm,0.8s,baz=334,slow=5.7,SNR=7.6						
VNDA	Vanda	74.44	169	P	P	14 21 44.1	+2.6
PETK	Petropavlovsk-	74.68	29	P	P	14 21 42.7	-0.5
	comp=Z,3.1nm,0.9s,baz=266,slow=4.2,SNR=9.4						
FINES	FINESS Array B	93.26	332	P	P	14 23 18.8	+0.7
	comp=Z,1.0nm,0.7s,baz=114,slow=6.8,SNR=1.1						
TXAR	Lajitas Array	144.21	50	PKP	PKPdf	14 29 39.8	-0.5
	comp=Z,0.3nm,0.4s,baz=203,slow=1.8,SNR=8.1						

IDC 28 14:29:17.8±53.0, 19°31S×176°65W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/23, mbtmp3.6/3, MS3.9/1, Ms1 3.9/1, ms1mx2.6/35, Error ellipse: s-maj=983.4km s-min=180.3km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.45	243	P	P	14 36 49.9	-0.1
	3.9nm,1.2s,baz=84,slow=9.2,SNR=2.9						
WRA	Warramunga Arr	46.03	261	P	P	14 37 43.8	+0.2
	0.3nm,0.7s,baz=96,slow=7.6,SNR=5.4						
ASAR	Alice Springs	46.03	255	P	P	14 37 43.1	-0.5
	0.5nm,0.8s,baz=93,slow=8.0,SNR=11						
BATI	Baumata	58.19	270	LR	LR	15 02 28.1	
	comp=Z,109nm,21.6s,baz=142,slow=34						

NEIC ***28*** *14:55:34.2±1.7, 9°26S±0.07×120°13E±0.07, h78km±5km, mb4.7/52, Error ellipse: s-maj=11.1km s-min=9.6km az=205.0*

DJA ***28*** *14:55:34.8±0.2, 9°S±2°×12°0E±°, h81km±3km, M4.7/27, mb4.8/27, mB5.2/11, MLv4.8/19, Mw(mB)4.5/11, MwMwp5.7/2, Mwp5.8/2*

IDC ***28*** *14:55:34.5±2.0, 9°16S×120°21E, h82km±18km, mb4.2/16, mb1 4.3/19, mb1mx4.2/33, mbtmp4.5/19, MS3.1/9, Ms1 3.1/9, ms1mx2.9/44, Error ellipse: s-maj=19.8km s-min=11.3km az=69.0*

BJI ***28*** *14:55:35.0±0.0, 9°30S×120°20E, h85km, mB5.1/17, mb4.8/26, Ms4.9/3, Ms7 4.6/2*

KLM ***28*** *14:55:36, 9°47S×120°26E, h100km, mb4.7*

ISC 28 14:55:35.8±0.3, 9°30S±0°04×120°26E±0°04, h100km, n169, σ1s64/173, mb4.8/50, 1D, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBFI	Labuhan Bajo,	0.89	336	P	Pn	14 55 53.3	-1.8
LBFI				S	Sn	14 56 07.0	-2.6
WBSI	Waikabubak, Su	0.92	248	P	Pn	14 55 53.1	-2.3
WBSI				S	Sn	14 56 06.6	-3.6
BASI	Baing, Sumba	0.96	161	P	Pn	14 55 53.8	-2.0
EDFI	Ende, Flores	1.51	69	P	Pn	14 56 00.7	-1.6
MMRI	Maumere	2.06	71		Pn	14 56 08.5	-0.6
MMRI	Maumere	2.06	71	P	Pn	14 56 08.9	-0.2
PLAI	Plampang	2.50	281	P	Pn	14 56 14.5	-0.4
BSSI	Bau Bau, Buton	3.14	4	P	Pn	14 56 22.4	-1.1
TWSI	Taliwang, Sumb	3.38	279	P	Pn	14 56 26.8	+0.1
BATI	Baumata	3.47	105	P	Pn	14 56 28.4	+0.5
	41nm,0.3s,baz=283,slow=1.0,SNR=72						
BATI				S	Sn	14 57 05.5	-2.7
	181nm,0.3s,baz=292,slow=19,SNR=32						
BATI	Baumata	3.47	105	P	Pn	14 56 28.3	+0.4
BKSI	Bulukumba	3.95	358	P	Pn	14 56 33.8	-0.6
SOEI	Soe	3.98	97		Pn	14 56 35.1	+0.3
SOEI	Soe	3.98	97	P	Pn	14 56 35.4	+0.6
MKS	Makassar	4.13	349	P	Pn	14 56 36.1	-0.7
KLNI	Mataram	4.21	282	P	Pn	14 56 36.9	-0.9
KAPI	Kappang	4.29	353	P	Pn	14 56 38.8	-0.1
	69nm,0.3s,baz=198,slow=12,SNR=100						
KAPI				S	Sn	14 57 26.4	-1.4
	43nm,0.3s,baz=127,slow=20,SNR=9.6						
BNSI	Bone	4.87	358	P	Pn	14 56 47.5	+0.7
SRBI	Singaraja	5.14	283	P	Pn	14 56 50.5	+0.2
	0.6nm67nm,0.9s						
KKSI	Kolaka, Sulawe	5.28	15	P	Pn	14 56 52.7	+0.4
PMSI	Majene	5.91	347	P	Pn	14 57 01.2	+0.2
	0.7nm2µm178nm,0.6s						
JAGI	Jajag, Banyuwa	6.09	277	Pn	Pn	14 56 60.0	-3.4
JAGI	Jajag, Banyuwa	6.09	277	P	Pn	14 57 00.2	-3.2
	0.9nm3µm108nm,0.4s						
TTSI	Tana Toraja	6.23	356	P	Pn	14 57 06.9	+1.7
	0.5nm2µm145nm,0.8s						
MMSI	Mamuju	6.70	348	P	Pn	14 57 12.2	+0.5
	0.3nm738nm72nm,0.6s						
GMJI	Gumukmas	6.82	278	P	Pn	14 57 10.2	-3.0
	0.3nm42nm,0.9s						
KBKI	Kotabaru	7.22	325	P	Pn	14 57 18.4	-0.3
	0.5nm1µm101nm,0.7s						
BBKI	Banjar Baru	7.91	317	P	Pn	14 57 29.6	+1.4
	0.4nm116nm,1.0s						
APSI	Ampana	8.45	9	P	Pn	14 57 35.9	+0.5
	44nm,0.8s						
PWJI	Pagerwojo	8.46	278	P	Pn	14 57 35.5	0

MORW IAmb IAmb 15 00 09.7
comp=Z,26nm,0.9s
FORT Forrest 22.57 162 P **P** **15 00 27.9 0.0**
FORT IAmb IAmb 15 00 29.4
comp=Z,31nm,0.8s
COEN Coen 22.91 104 P **P** **15 00 31.2 -0.2**
IPM Ipoh 23.56 305 P **P** **15 00 38.0 +0.5**
NWAO Narrogin (SRO) 23.68 186 P **P** **15 00 38.9 +0.6**
comp=Z,4.5nm,0.5s,baz=20,slow=9.4,SNR=7.4
NWAO S **S** **15 04 54.8 +8.9**
comp=Z,11nm,0.4s,baz=108,slow=20,SNR=8.1
NWAO Narrogin (SRO) 23.68 186 P **P** **15 00 38.7 +0.4**
NWAO IAmb IAmb 15 00 56.7
comp=Z,15nm,0.7s
KULM Kulim 24.33 306 P **P** **15 00 44.0 -0.4**
PSI Prapat 24.43 298 P **P** **15 00 43.8 -1.7**
comp=Z,1.7nm,0.3s,baz=175,slow=12,SNR=4.0
PSI Prapat 24.43 298 P **P** **15 00 44.1 -1.3**
comp=Z,2.1nm,0.8s
CTA Charters Tower 27.29 116 P **P** **15 01 12.5 +1.4**
comp=Z,8.1nm,0.8s,baz=295,slow=8.3,SNR=11
CTAO Charters Tower 27.29 116 P **P** **15 01 11.9 +0.8**
BBOO Buckleboo 27.58 150 P **P** **15 01 13.9 +0.4**
MANU Manus Island 27.90 77 P **P** **15 01 17.6 +1.0**
UBPT Khong Chiam 28.48 329 P **P** **15 01 21.3 -0.4**
UBPT Khong Chiam 28.48 329 P **P** **15 01 22.3 +0.6**
comp=Z,10nm,2.6s
STKA Stephens Creek 29.94 142 P **P** **15 01 35.7 +1.2**
comp=Z,6.2nm,0.3s,baz=325,slow=8.0,SNR=49
STKA LR LR 15 16 38.4
comp=Z,77nm,18.2s,baz=215,slow=42
STKA Stephens Creek 29.94 142 P **P** **15 01 35.5 +1.0**
GUMO Guam 33.37 47 LR LR 15 17 03.8
comp=Z,19nm,19.3s,baz=55,slow=39
SLVN Son La 34.42 332 P **P** **15 02 13.8 -0.1**
CMAR Chiang Mai Arr 34.69 323 P **P** **15 02 15.8 -0.4**
comp=Z,2.0nm,0.5s,baz=154,slow=7.1,SNR=16
CMAR PcP **PcP** **15 04 50.4 +2.2**
comp=Z,0.7nm,0.5s,baz=164,slow=2.5,SNR=2.5
CMAR ScP **ScP** **15 08 26.6 +2.0**
comp=Z,1.2nm,0.9s,baz=163,slow=2.7,SNR=6.8
CMAR LR LR 15 18 00.6
comp=Z,32nm,19.5s,baz=180,slow=39
CMAR Chiang Mai Arr 34.69 323 P **P** **15 02 14.6 -1.6**
CHTO Chiang Mai 34.96 323 P **P** **15 02 18.1 -0.4**
ARMA Armidale 36.01 130 P **P** **15 02 30.1 +2.5**
ARMA IAmb IAmb 15 02 30.8
comp=Z,4.9nm,0.7s
TOO Toolangi 36.20 145 P **P** **15 02 31.1 +2.1**
CAN Canberra 36.86 139 P **P** **15 02 34.2 -0.4**
CAN IAmb IAmb 15 02 54.3
comp=Z,23nm,1.5s
ENH Enshi 40.68 346 P **P** **15 03 05.7 -0.8**
ENH IAmb IAmb 15 03 06.5
comp=Z,9.9nm,0.5s
NJ2 Nanjing 41.14 358 *eP* **P** **15 03 11.3 +1.1**
NJ2 pmax pmax
comp=Z,17nm,0.5s
CD2 Chengdu 43.00 339 P **P** **15 03 25.8 +0.4**
CD2 pmax pmax
comp=Z,40nm,0.5s
KSRS Korea Array 47.06 8 P **P** **15 03 57.3 0.0**
comp=Z,0.4nm,0.5s,baz=191,slow=8.5,SNR=1.9
KSRS PcP **PcP** **15 05 28.6 +0.7**
comp=Z,1.2nm,0.7s,baz=186,slow=3.0,SNR=5.6
KSRS LR LR 15 27 04.3
comp=Z,14nm,18.5s,baz=220,slow=40
H08S2 Diego Garcia H 47.25 268 T T 15 54 46.0
baz=96,slow=76,SNR=30
H08S3 Diego Garcia H 47.26 268 T T 15 54 51.1
baz=96,slow=76,SNR=24
H08S1 Diego Garcia H 47.27 268 T T 15 54 49.6
baz=96,slow=76,SNR=19
LZH Lanzhou 47.72 342 *eP* **P** **15 04 06.8 +4.1**
LZH pP pP 15 04 27.0 +0.5
LZH sP sP 15 04 37.5 -0.2
LZH pmax pmax
comp=Z,23nm,1.0s
ODAN Odare 48.05 319 *eP* **P** **15 04 04.8 -0.8**
comp=Z,14nm,0.6s
TAPN Taplejung 48.19 320 *eP* **P** **15 04 06.0 -0.7**
MJAR Matsushiro Arr 48.62 19 P **P** **15 04 06.2 -3.3**
comp=Z,1.2nm,0.6s,baz=201,slow=9.3,SNR=4.5
MJAR LR LR 15 25 54.7
comp=Z,14nm,19.3s,baz=85,slow=38
RAMN Ramite 48.63 319 *eP* **P** **15 04 09.6 -0.4**
comp=Z,13nm,0.4s
JIRN Jiri 49.38 319 *eP* **P** **15 04 15.4 -0.5**
comp=Z,70nm,0.2s
PKI Pulchoki 49.83 318 *eP* **P** **15 04 19.0 -0.2**
comp=Z,10nm,0.4s
PKIN Phulchoki 49.84 318 *eP* **P** **15 04 19.3 +0.1**
comp=Z,13nm,0.3s
KKN Kakani 50.06 319 *eP* **P** **15 04 21.1 +0.3**
HHC Hu-ho-hao-te 50.54 351 *eP* P 15 04 28.8 +4.7
HHC pmax pmax
comp=Z,15nm,1.2s
HHC pmax pmax
comp=Z,140nm,5.7s
GKN Gorkha 50.62 318 *eP* **P** **15 04 24.4 -0.6**
comp=Z,20nm,0.3s
KOLN Koldanda 51.16 317 *eP* **P** **15 04 29.3 +0.2**
comp=Z,12nm,0.3s
DANN Dangsing 51.43 318 *eP* **P** **15 04 30.5 -0.7**
comp=Z,30nm,0.3s
PYUN Piuthan 51.78 317 *eP* **P** **15 04 32.9 -0.9**
comp=Z,18nm,0.4s
GTA Gaotai 52.05 340 ⇓P **P** **15 04 35.5 +0.1**
GTA pP pP 15 04 57.8 -1.8
GTA sP sP 15 05 08.3 -2.5
GTA pmax pmax
comp=Z,12nm,0.9s
USA0B Ussuriysk Arra 54.30 10 P **P** **15 04 51.2 -0.4**
USA0B IAmb IAmb 15 05 12.2
comp=Z,14nm,1.4s
USRK Ussuriysk Ar. 54.30 10 P **P** **15 04 51.6 0.0**
comp=Z,2.3nm,0.5s,baz=195,slow=7.0,SNR=11
USRK Ussuriysk Ar. 54.30 10 P **P** **15 04 51.2 -0.4**
MLZ Mavora Lakes 54.50 140 P **P** **15 04 54.3 +1.1**
MLZ IAmb IAmb 15 04 55.5
comp=Z,11nm,0.9s
WHZ Wether Hill Ro 54.62 141 P **P** **15 04 55.0 +0.9**
WHZ IAmb IAmb 15 04 57.4
comp=Z,16nm,1.3s
WKZ Wanaka 54.84 139 P **P** **15 04 55.7 0.0**
LBZ Lake Benmore 55.42 138 P **P** **15 05 00.5 +0.6**
RPZ Rata Peaks 55.74 137 P **P** **15 05 02.6 +0.5**
QRZ Quartz Range 55.74 133 P **P** **15 05 04.0 +1.8**
LTZ Lake Taylor 56.23 136 P **P** **15 05 06.8 +1.1**
LTZ IAmb IAmb 15 05 10.4
comp=Z,21nm,1.5s
OXZ Oxford 56.26 136 P **P** **15 05 06.8 +0.9**
OXZ IAmb IAmb 15 05 10.4
comp=Z,7.6nm,0.6s
THZ Tophouse 56.32 134 P **P** **15 05 07.9 +1.5**
TUWZ Tuamarina 56.95 134 P **P** **15 05 11.2 +0.5**
BHW Baring Head 57.60 133 P **P** **15 05 15.8 +0.4**
ULN Ulaanbaatar 58.11 350 P **P** **15 05 18.2 -0.7**
ULN IAmb IAmb 15 05 19.1
comp=Z,8.0nm,1.2s
BKZ Black Stump Fm 58.16 130 P **P** **15 05 20.5 +1.0**
SONM Songino Array 58.20 349 P **P** **15 05 18.9 -0.6**
comp=Z,3.7nm,0.6s,baz=165,slow=9.0,SNR=18
SONM Songino Array 58.20 349 P **P** **15 05 19.1 -0.4**
SONM IAmb IAmb 15 05 19.7
comp=Z,3.9nm,0.9s
BFZ Birch Farm 58.39 132 P **P** **15 05 21.9 +1.0**
URZ Urewera 58.41 129 P **P** **15 05 21.6 +0.6**
URZ IAmb IAmb 15 05 23.2
comp=Z,10nm,0.9s
MXZ Matakaoa Point 59.16 128 P **P** **15 05 27.6 +1.3**
WMQ Urumqi 60.57 333 *eP* **P** **15 05 37.3 +1.4**
KSH Kashi 63.59 323 P **P** **15 05 54.5 -1.7**
KSH pmax pmax
comp=Z,11nm,0.4s
KBL Kabul 65.18 315 P **P** **15 06 05.0 -1.8**
KBL IAmb IAmb 15 06 08.3
comp=Z,6.5nm,0.8s
MK31 Makanchi Array 65.30 332 P **P** **15 06 05.9 -1.2**
MK31 IAmb IAmb 15 06 07.4
comp=Z,5.4nm,0.6s
MKAR Makanchi Array 65.30 332 P **P** **15 06 06.2 -0.8**
comp=Z,8.5nm,0.5s,baz=149,slow=7.1,SNR=129
MKAR Makanchi Array 65.30 332 P **P** **15 06 06.0 -1.1**
MAKZ Makanchi 65.45 332 P **P** **15 06 07.6 -0.4**

SOCY Socotra 69.23 287 P **P** **15 06 31.9 -0.7**
SOCY IAmb IAmb 15 06 59.3
comp=Z,16nm,1.0s
MAW Mawson 69.38 200 P **P** **15 06 34.8 +2.3**
comp=Z,1.9nm,0.6s,baz=36,slow=6.5,SNR=9.4
MAW Mawson 69.38 200 P **P** **15 06 31.6 -0.8**
ZAA0 Zalesovo Array 69.77 339 P **P** **15 06 32.9 -2.0**
ZALV Zalesovo Beam 69.77 339 P **P** **15 06 33.6 -1.4**
comp=Z,16nm,0.5s,baz=140,slow=4.6,SNR=69
ZALV Zalesovo Beam 69.77 339 P **P** **15 06 32.7 -2.2**
PEA0B Petropavlovsk- 69.85 23 P **P** **15 06 35.1 -0.4**
PETK Petropavlovsk- 69.85 23 P **P** **15 06 35.4 -0.1**
comp=Z,0.9nm,0.5s,baz=201,slow=7.7,SNR=5.7
PETK Petropavlovsk- 69.85 23 P **P** **15 06 34.8 -0.8**
VNDA Vanda 71.50 171 P **P** **15 06 47.0 +1.7**
comp=Z,0.5nm,0.5s,baz=314,slow=8.1,SNR=9.4
VNDA Vanda 71.50 171 P **P** **15 06 46.4 +1.1**
BRVK Borovoye 75.22 331 P **P** **15 07 06.7 -0.7**
BRVK IAmb IAmb 15 07 08.2
comp=Z,9.3nm,1.4s
ABKAR Akbulak array 78.53 324 P **P** **15 07 24.5 -1.6**
ABKAR IAmb IAmb 15 07 26.7
comp=Z,4.7nm,0.6s
QSPA South Pole Qui 80.70 180 P **P** **15 07 38.5 +0.8**
QSPA IAmb IAmb 15 07 40.4
comp=Z,9.9nm,0.8s
KBZ Khabaz 87.37 315 P **P** **15 08 13.1 +1.3**
comp=Z,1.0nm,0.4s,baz=102,slow=5.9,SNR=6.9
BOSA Boshof 89.96 241 P **P** **15 08 26.1 +1.5**
comp=Z,1.3nm,0.6s,baz=153,slow=2.3,SNR=1.9
BOSA Boshof 89.96 241 IAmb IAmb 15 08 28.4
comp=Z,11nm,1.4s
SNAA Sanae 91.05 195 P **P** **15 08 30.7 +2.1**
SNAA Sanae 91.05 195 P **P** **15 08 29.7 +1.0**
VNA2 Neumayer--Watz 92.67 195 P **P** **15 08 38.3 +2.2**
baz=123,slow=3.7
VNA3 Neumayer Olymp 93.04 194 P **P** **15 08 39.7 +1.9**
VNA1 Neumayer--Stat 93.07 195 P **P** **15 08 40.2 +2.2**
AKASG Malin Array Be 97.77 320 P **P** **15 08 59.3 -0.4**
comp=Z,0.6nm,0.5s,baz=93,slow=4.0,SNR=2.5
ILAR Eielson Array 99.56 26 P **Pdif** **15 09 05.5 -1.9**
comp=Z,0.3nm,0.7s,baz=258,slow=4.6,SNR=2.3
TORD Torodi Ar. Bea 119.74 280 PKP **PKPdf** **15 14 15.2 -0.1**
comp=Z,1.2nm,0.5s,baz=74,slow=1.8,SNR=12
TORD Torodi Ar. Bea 119.74 280 PKP **PKiKP** **15 14 15.2 -0.1**
NVAR Mina Array Bea 120.24 51 PKP **PKiKP** **15 14 17.9 +1.9**
comp=Z,0.3nm,0.6s,baz=277,slow=3.5,SNR=3.0
TXAR Lajitas Array 134.34 58 PKP **PKiKP** **15 14 45.1 +0.9**
comp=Z,0.2nm,0.6s,baz=254,slow=1.6,SNR=2.0
TXAR Lajitas Array 134.34 58 **PKPdf** **15 14 43.1 +0.3**
CPUP Villa Florida 144.51 184 PKP **PKPdf** **15 15 02.0 +0.7**
comp=Z,7.3nm,0.7s,baz=221,slow=1.5,SNR=14
CPUP Villa Florida 144.51 184 **PKPdf** **15 15 01.5 +0.3**

*NNC **28** 14:59:53.2±9.3, 37.77N×71.52E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=77.9km s-min=56.7km az=155.0*
ISC 28 14:59:44.6±1.3, 38.08N±0.08×72.9E±0.1, h10km, n13, σ1§11/15, 2C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**4.71**	**14**	⇓P	**Pg**	**15 01 15.1**	**+0.3**
	2.2nm,0.3s						
AAK				⇑S	**Sg**	**15 02 16.6**	**+0.7**
	14nm,0.7s						
KK31	**Karatay Array**	**5.34**	**341**	P	**Pb**	**15 01 17.8**	**-0.3**
	4.8nm,0.4s,baz=162,slow=12,SNR=46						
KK31				⇓S	**Sb**	**15 02 19.7**	**-2.6**
	8.8nm,0.3s,baz=176,slow=22,SNR=22						
PYUN	**Piuthan**	**13.04**	**137**	*eP*	**Pn**	**15 02 49.4**	**-0.7**
	16nm,0.3s						
DANN	**Dangsing**	**13.27**	**134**	*eP*	**Pn**	**15 02 53.2**	**-0.2**
	8.4nm,0.3s						
KOLN	**Koldanda**	**13.63**	**136**	*eP*	**Pn**	**15 02 57.4**	**-0.7**
	6.6nm,0.3s						
GKN	**Gorkha**	**14.04**	**132**	*eP*	**Pn**	**15 03 04.0**	**+0.3**
	8.2nm,0.3s						
AB31	**Akbulak array**	**14.57**	**324**	⇑P	**Pn**	**15 03 12.1**	**+1.3**
	1.2nm,0.5s,baz=142,slow=12,SNR=42						
KKN	**Kakani**	**14.58**	**131**	*eP*	**Pn**	**15 03 10.2**	**-0.9**
	4.3nm,0.2s						
PKIN	**Phulchoki**	**14.80**	**131**	*eP*	**Pn**	**15 03 14.0**	**-0.3**
	6.0nm,0.3s						
PKI	**Pulchoki**	**14.81**	**131**	*eP*	**Pn**	**15 03 14.0**	**-0.5**
	7.1nm,0.3s						
JIRN	**Jiri**	**15.22**	**129**	*eP*	**Pn**	**15 03 20.2**	**+0.3**
	24nm,0.5s						
RAMN	**Ramite**	**15.99**	**130**	*eP*	**Pn**	**15 03 29.1**	**-0.7**
	11nm,0.3s						
AKTO	**Aktyubinsk**	**16.29**	**324**	⇓P	**Pn**	**15 03 35.0**	**+1.7**
	1.6nm,0.4s						

*JMA **28** 15:09:21.4±0.3, 43.90N×147.10E, h19km, M4.0*
*SKHL **28** 15:09:22.5±0.2, 44.00N×147.10E, h55km±5km, mb4.6/3*
ISC 28 15:09:18.8±2.1, 43.95N±0.07×147.24E±0.08, h16km±12km, n17, σ1§21/29, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**1.00**	**275**	*i* P	**Pg**	**15 09 38.0**	**-0.1**
YUK				AMB	AMB	15 09 38.0	
	230nm,0.3s						
YUK				*i* S	**Sb**	**15 09 49.5**	**-1.0**
YUK				A	A	15 09 50.0	
	3μm,0.6s						
YUK				A	A	15 09 50.0	
	3μm,0.6s						
GRPR	**Tuman**	**1.06**	**273**	*i* P	**Pg**	**15 09 38.9**	**-0.4**
GRPR				AMB	AMB	15 09 39.0	
	400nm,0.4s						
GRPR				*i* S	**Sb**	**15 09 51.4**	**-0.9**
GRPR				A	A	15 09 52.0	
	3μm,0.4s						
GRPR				A	A	15 09 52.0	
	1μm,0.4s						
NEM2	**Nemuro 2**	**1.23**	**242**	P	**Pb**	**15 09 41.8**	**+0.1**
NEM2				*eS*	**Sb**	**15 09 56.7**	**-0.7**
NMR	**Nemuro--Hokkai**	**1.24**	**242**	*i* P	**Pb**	**15 09 41.9**	**+0.1**
NMR				*i* S	**Sb**	**15 09 56.7**	**-0.9**
KUR	**Kuril'sk**	**1.36**	**19**	*eP*	**Pn**	**15 09 43.8**	**+0.7**
KUR				AMB	AMB	15 09 46.0	
	280nm,0.3s						
KUR				*i* S	**Sn**	**15 10 00.0**	**-0.7**
KUR				A	A	15 10 04.7	
	750nm,0.5s						
KUR				A	A	15 10 04.7	
	450nm,0.5s						
JRA	**Rausu**	**1.53**	**270**	P	**Pb**	**15 09 46.4**	**-0.3**
JRA				*eS*	**Sn**	**15 10 05.1**	**+0.2**
JNSB	**Nemuroshibetsu**	**1.62**	**264**	P	**Pb**	**15 09 47.9**	**-0.5**
JKHN	**Kushirohamanak**	**1.74**	**241**	P	**Pn**	**15 09 49.4**	**+1.0**
JKHN				*eS*	**Sn**	**15 10 08.9**	**-1.3**
JNK	**Nakash**	**1.86**	**259**	P	**Pn**	**15 09 51.2**	**+1.2**
JNK				*eS*	**Sn**	**15 10 12.9**	**-0.3**
AKK	**Akkeshi**	**1.98**	**243**	*eP*	**Pn**	**15 09 52.3**	**+0.7**
AKK				*eS*	**Sn**	**15 10 13.8**	**-2.2**
JAK	**Akkeshi**	**2.08**	**244**	P	**Pn**	**15 09 54.2**	**+1.2**
JAK				*eS*	**Sn**	**15 10 17.7**	**-0.9**
JTKR	**Abashiri--Toko**	**2.40**	**272**	P	**Pn**	**15 09 59.2**	**+1.7**
JAR	**Ashorobuto**	**2.60**	**257**	P	**Pn**	**15 10 02.4**	**+2.2**
JOB	**Onbets**	**2.69**	**248**	P	**Pn**	**15 10 03.4**	**+2.0**
JOB				*eS*	**Sn**	**15 10 34.4**	**+0.8**
JMP	**Maruseppu**	**2.80**	**272**	P	**Pn**	**15 10 04.9**	**+2.0**
JCH	**Churui**	**3.13**	**246**	P	**Pn**	**15 10 08.9**	**+1.5**
JCH				*eS*	**Sn**	**15 10 44.1**	**-0.3**
YSS	**Yuzh-Sakhalins**	**4.35**	**315**	*eP*	**Pn**	**15 10 25.5**	**+1.3**

IDC 28 15:11:52.8±4.6, 4.65S×143.11E, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.6/34, mbtmp3.8/5, ML3.8/2, Error ellipse: s-maj=84.8km s-min=32.4km az=66.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**3.21**	**311**	Pn	Pn	15 12 45.1	+0.6
	1.1nm,0.3s,baz=178,slow=8.9,SNR=7.2						
JAY				Sn	Sn	15 13 21.0	-2.4
	2.1nm,0.3s,baz=15,slow=11,SNR=4.9						
WRA	**Warramunga Arr**	**17.44**	**209**	P	P	15 15 59.5	+0.5
	0.8nm,0.3s,baz=28,slow=12,SNR=55						
WRA				S	Sn	15 19 10.8	-1.8
	0.0nm,0.3s,baz=44,slow=22,SNR=1.5						
ASAR Alice Springs 20.89 204 P **P** **15 16 38.0 +1.2**
0.7nm,0.5s,baz=35,slow=12,SNR=25
FITZ Fitzroy Crossi 21.69 231 P **P** **15 16 43.8 -1.7**
2.7nm,0.9s,baz=32,slow=12,SNR=4.1
STKA Stephens Creek 27.12 183 P **P** **15 17 37.0 -0.6**
1.6nm,0.7s,baz=30,slow=6.3,SNR=3.9

IDC 28 15:13:11.8±5.7, 42.23S×79.00E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/39, mbtmp3.7/3, MS3.3/1, Ms1 3.2/1, ms1mx3.0/33, Error ellipse: s-maj=150.7km s-min=48.5km az=41.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAW	**Mawson**	**26.89**	**194**	LR	LR	15 28 50.1	
	comp=Z,57nm,18.6s,baz=34,slow=35						
H01W2	**Cape Leeuwin H**	**28.28**	**87**	T	T	15 47 59.0	
	baz=246,slow=74						
H01W3	**Cape Leeuwin H**	**28.29**	**87**	T	T	15 48 06.1	
	baz=246,slow=74						
H01W1	**Cape Leeuwin H**	**28.30**	**87**	T	T	15 48 06.3	
	baz=246,slow=74						
ASAR	**Alice Springs**	**48.79**	**86**	P	P	15 21 58.5	-0.3
	0.6nm,0.8s,baz=236,slow=6.6,SNR=7.5						
WRA	**Warramunga Arr**	**51.36**	**82**	P	P	15 22 18.3	+0.1
	0.8nm,0.8s,baz=229,slow=7.7,SNR=5.9						
CMAR	**Chiang Mai Arr**	**63.13**	**21**	P	P	15 23 41.2	0.0
	1.1nm,0.8s,baz=207,slow=7.0,SNR=9.8						
ILAR	**Eielson Array**	**145.75**	**33**	PKPbc	PKPdf	15 32 50.6	-0.5
	0.6nm,0.8s,baz=284,slow=3.6,SNR=4.1						

*DJA **28** 15:22:36.6±0.3, 8.5S×107.7E±*, h10km, M4.1/15, mb4.3/7, mB5.3/1, MLv4.0/15, Mw(mB)4.7/1*
*IDC **28** 15:22:37.8±3.8, 8.00S×108.17E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/43, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=164.1km s-min=12.6km az=57.0*
ISC 28 15:22:38.9±1.1, 8.23S±0.06×107.40E±0.07, h50km, n30, σ1§33/29, mb3.0/3, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.79**	**31**	P	**Pn**	**15 22 52.8**	**-1.1**
CISI				S	**Sn**	**15 23 02.9**	**-1.8**
CNJI	**Cibinong**	**0.96**	**344**	P	**Pn**	**15 22 54.7**	**-1.3**
CMJI	**Cimerak**	**1.13**	**67**	P	**Pn**	**15 22 57.9**	**-0.5**
CMJI				S	**Sn**	**15 23 12.1**	**-0.7**
LEM	**Lembang**	**1.41**	**9**	Pg	**Pn**	**15 23 03.4**	**+1.0**
	77nm,0.3s,baz=131,slow=6.4,SNR=28						
LEM				Lg	Lg	15 23 18.9	
	138nm,0.3s,baz=305,slow=23,SNR=8.4						
LEM	**Lembang**	**1.41**	**9**	P	**Pn**	**15 23 03.2**	**+0.8**
SKJI	**Sukabumi**	**1.48**	**325**	P	**Pn**	**15 23 02.6**	**-0.5**
KPJI	**Karang Pucung**	**1.76**	**60**	P	**Pn**	**15 23 08.0**	**+1.0**
DBJI	**Dramaga**	**1.79**	**339**	P	**Pn**	**15 23 07.8**	**+0.4**
SCJI	**Gunung Srandil**	**1.83**	**73**	P	**Pn**	**15 23 08.8**	**+0.8**
CTJI	**Waduk Cacaban**	**2.15**	**56**	P	**Pn**	**15 23 13.9**	**+1.6**
XMI	**Christmas Isla**	**2.78**	**217**	P	**Pn**	**15 23 21.7**	**+0.8**
XMIS	**Christmas Isla**	**2.82**	**218**	P	**Pn**	**15 23 20.7**	**-0.9**
UGM	**Wanagama**	**3.11**	**84**	P	**Pn**	**15 23 26.2**	**+0.7**
PCJI	**Pacitan**	**3.74**	**90**	P	**Pn**	**15 23 35.2**	**+1.1**
PWJI	**Pagerwojo**	**4.37**	**88**	P	**Pn**	**15 23 43.4**	**+0.7**
KLSI		**4.41**	**323**	P	**Pn**	**15 23 45.2**	**+1.9**
EGSI	**Enggano, Bengk**	**5.84**	**299**	P	**Pn**	**15 24 02.4**	**-0.5**
	0.3nm2μm35nm,1.0s						
JAGI	**Jajag, Banyuwa**	**6.69**	**93**	P	**Pn**	**15 24 15.2**	**+0.6**
	0.3nm26nm,0.6s						
UBSI	**University, Be**	**6.76**	**311**	P	**Pn**	**15 24 15.0**	**-0.6**
	0.6nm122nm,0.7s						
MASI	**Maura Aman, Be**	**7.21**	**314**	P	**Pn**	**15 24 21.9**	**+0.1**
	0.4nm27nm,1.4s						
KLNI	**Mataram**	**8.61**	**92**	P	**Pn**	**15 24 42.1**	**+1.2**
	6.4nm,1.0s						
TWSI	**Taliwang, Sumb**	**9.39**	**94**	P	**Pn**	**15 24 52.4**	**+0.7**
	7.8nm,2.2s						
PLAI	**Plampang**	**10.28**	**94**	P	**Pn**	**15 25 05.0**	**+1.2**
FITZ	**Fitzroy Crossi**	**20.27**	**121**	P	Pn	15 27 10.8	-1.9
	0.1nm,0.3s,baz=312,slow=14,SNR=1.4						
WRA	**Warramunga Arr**	**28.55**	**117**	P	**P**	**15 28 30.6**	**+0.4**
	0.4nm,0.9s,baz=288,slow=12,SNR=1.7						
WRA				S	**S**	**15 33 10.8**	**-4.3**
	0.8nm,0.4s,baz=283,slow=30,SNR=4.2						
ASAR	**Alice Springs**	**29.66**	**124**	P	**P**	**15 28 40.8**	**+0.7**
	0.2nm,0.9s,baz=304,slow=8.8,SNR=2.7						
H08S2	**Diego Garcia H**	**34.57**	**268**	T	T	16 06 43.4	
	baz=93,slow=75,SNR=7.4						
H08S3	**Diego Garcia H**	**34.58**	**268**	T	T	16 06 44.1	
	baz=93,slow=75,SNR=5.9						
H08S1	**Diego Carcia H**	**34.59**	**268**	T	T	16 06 44.8	
	baz=93,slow=75,SNR=5.7						
STKA	**Stephens Creek**	**39.53**	**131**	P	**P**	**15 30 06.3**	**+1.2**
	5.8nm,1.2s,baz=324,slow=10,SNR=4.3						

*BJI **28** 15:28:02.1±0.0, 23.41S×67.34W, h183km, mB5.6/25*
*SJA **28** 15:28:02±2.1, 23.87S±0.07×66.80W±0.02, h227km±3km, Error ellipse: s-maj=10.1km s-min=2.6km az=188.0*
*NEIC **28** 15:28:03.1, 23.78S×66.58W, h223km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=0.06; Mθθ=0.13; Mθφ=0.07; Mrθ=0.06; Mφφ=0.01; Mφr=-1.07; Fault plane solution: M₀=1.08000×10¹⁸ NP1:φ₁=356.76000°, δ=89.81000°, λ=-91.10000°. NP2:φ₂=257.03000°, δ=1.12000°, λ=-9.73000°. Principal axes: T 1.1359, Plg45.0000°, Azm88.0000°; N -0.1324, Plg1.0000°; Azm357.0000°; P -1.0035, Plg45.0000°, Azm266.0000°;*
*IDC **28** 15:28:03.6±0.6, 23.76S×66.58W, h194km±5km, mb5.0/30, mb1 5.1/36, mb1mx5.1/40, mbtmp5.5/36, MS4.8/15, Ms1 4.7/15, ms1mx4.6/30 Error ellipse: s-maj=8.3km s-min=7.0km az=58.0*
*GUC **28** 15:28:03.9±0.6, 23.89S×67.11W, h249km±5km, MW6.0*
*VAO **28** 15:28:04.2±0.2, 23.79S×66.57W, h203km, mb5.8*
*SVSA **28** 15:28:05.7, 23.80S×66.61W, h219km, MW5.9(NEIC)*
*NEIC **28** 15:28:05.8±1.6, 23.80S±0.07×66.61W±0.08, h219km±1km, mb5.4/535, Mwb6.0/75, Mww5.9, Md5.3(SJA), Mwc6.0(GCMT), Mwr6.0(GUC), Error ellipse: s-maj=12.6km s-min=10.9km az=225.0*
*MOS **28** 15:28:06.7±1.2, 23.51S×66.78W, h225km, mb5.4/55, Error ellipse: s-maj=10.3km s-min=5.3km az=106.9*
*GCMT **28** 15:28:09.8±0.1, 23.84S±0.01×66.89W±0.01, h221km, MW6.0/157, Moment Tensor Solution. s157,c326; s155,c487; Duration: 2s4 Moment tensor: Scale 10¹⁸ Nm; Mrr=0.09±.01; Mθθ=0.03±.01; Mφφ=0.12±.01; Mrθ=0.11±.01; Mθφ=-0.05±.01; Mφr=-1.16±.01; Best double couple: M₀=1.17100×10¹⁸ NP1:φ₁=143.00000°, δ=3.00000°, λ=-122.00000°. NP2:φ₂=355.00000°, δ=87.00000°, λ=-88.00000°. Principal axes: T 1.1920, Plg42.0000°, Azm83.0000°; N -0.0410, Plg2.0000°, Azm175.0000°; P -1.1500, Plg48.0000°, Azm266.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **28** 15:28:09, 23.58S×66.58W, h200km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=-0.82; Mθθ=0.23; Mφφ 1.06; Mrθ=1.04; Mθφ=-0.12; Mφr=-9.69; Fault plane solution: M₀=9.80000×10¹⁷ NP1:φ₁=176.00000°, δ=3.00000°, λ=-87.00000°. NP2:φ₂=354.00000°, δ=87.00000°, λ=-90.00000°. Principal axes: T 9.9183, Plg42.0000°, Azm84.0000°; N -0.2455, Plg0.0000°, Azm354.0000°; P -9.6728, Plg48.0000°, Azm264.0000°;*
*NEIC **28** 15:28:11, 23.84S×66.89W, h221km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=-0.09; Mθθ=0.01; Mφφ 0.11; Mrθ=0.09; Mθφ=-0.03; Mφr=-1.24; Fault plane solution: M₀=1.25000×10¹⁸ NP1:φ₁=153.00000°, δ=3.00000°, λ=-113.00000°. NP2:φ₂=356.00000°, δ=88.00000°, λ=-89.00000°. Principal axes: T 1.2563, Plg43.0000°, Azm85.0000°; N -0.0167, Plg1.0000°, Azm176.0000°; P -1.2396, Plg47.0000°, Azm267.0000°;*
**ISC 28 15:28:03.8±0.4, 23.83S±0.03×66.72W±0.03, h201km±2km, h201km:pP-P, n1493, σ1§64/1726, mb5.4/352, 71C-115D, Fault plane solution: NP1:φ₁=345.99039°, δ79.04662°, λ=-100.97383°. NP2:φ₂=211.57181°, δ15.45728°

HJA **Humahuaca** 1.35 63 *i* P **Pn** **15 28 38.5 +1.6**
HJA *i* S **S** **15 29 06.7 +4.7**
SLA San Lorenzo 1.42 129 *i* P **Pn** **15 28 38.5 +1.3**
SLA *i* S **S** **15 29 05.8 +3.1**
SLA IAML 15 29 11.0
comp=Z,14µm,0.8s
AF01 San Pedro de A 1.60 303⇑ *i* P **Pn** **15 28 40.6 +1.7**
AF01 *e* S **S** **15 29 09.5 +3.8**
AF01 San Pedro de A 1.60 303 **Pn** **15 28 39.8 +0.9**
AF01 Sn **S** **15 29 09.9 +4.3**
YJA Yavi 1.98 34 *i* P **Pn** **15 28 45.0 +2.2**
LVC Limon Verde 2.35 301 P **Pn** **15 28 47.3 +0.7**
comp=Z,4µm,0.3s,baz=122,slow=7.8,SNR=4724
LVC S **S** **15 29 20.2 +1.0**
comp=Z,5µm,0.3s,baz=24,slow=23,SNR=53
LVC Limon Verde 2.35 301 P **Pn** **15 28 47.4 +0.8**
LVC 15 29 20.0
LVC Limon Verde 2.35 301 *e*P **Pn** **15 28 47.3 +0.7**
FSA Cafayete 2.37 164 *i* P **Pn** **15 28 46.6 0.0**
FSA *i* S **S** **15 29 20.1 +0.8**
PB15 IPOC Station P 2.60 283⇑ *i*P **Pn** **15 28 49.5 +0.3**
PB15 *i* S **S** **15 29 23.6 -0.2**
PB15 IPOC Station P 2.60 283 Pn **Pn** **15 28 49.6 +0.4**
PB15 IPOC Station P 2.60 283 *i* P **Pn** **15 28 49.0 -0.2**
PB15 IAML 15 29 26.9
comp=Z,146µm,0.3s
PB06 IPOC Station P 2.85 293⇑ *i*P **Pn** **15 28 52.3 +0.3**
PB06 *i* S **S** **15 29 28.5 -0.4**
PB06 IPOC Station P 2.85 293 **Pn** **15 28 52.2 +0.1**
PB09 IPOC Station P 3.08 311⇑ *i*P **Pn** **15 28 55.6 +0.9**
PB09 *e*S **S** **15 29 34.7 +0.9**
PB09 IPOC Station P 3.08 311 **Pn** **15 28 55.3 +0.5**
PB09 IPOC Station P 3.08 311 *i* P **Pn** **15 28 55.0 +0.2**
PB09 IAML 15 29 38.1
comp=Z,49µm,1.0s
AHML Horco Molle 3.20 157 *i* P **Pn** **15 28 55.5 -0.5**
AHML *i* S **S** **15 29 36.3 +0.1**
PB05 IPOC Station P 3.34 286⇑ *i*P **Pn** **15 28 57.4 -0.4**
PB05 *i* S **S** **15 29 37.2 -2.1**
PB14 IPOC Station P 3.46 256⇑ *i*P **Pn** **15 28 58.4 -0.9**
PB14 *e*S **S** **15 29 39.4 -2.6**
PB14 IPOC Station P 3.46 256 Pn **Pn** **15 28 58.2 -1.1**
PB14 IPOC Station P 3.46 256 *i* P **Pn** **15 28 58.0 -1.3**
PB14 IAML 15 29 44.3
comp=Z,44µm,0.6s
PB04 IPOC Station P 3.49 295⇑ *i*P **Pn** **15 28 59.3 -0.3**
PB04 IPOC Station P 3.49 295 **Pn** **15 28 59.2 -0.4**
PB04 IPOC Station P 3.49 295 *i* P **Pn** **15 28 59.0 -0.6**
PB10 IPOC Station P 3.53 274 *e*P **Pn** **15 28 59.6 -0.3**
PB10 *i* S **S** **15 29 40.7 -2.5**
PB10 IPOC Station P 3.53 274 Pn **Pn** **15 28 59.7 -0.2**
PB10 IPOC Station P 3.53 274 *i* P **Pn** **15 28 59.0 -0.9**
PB10 IAML 15 29 47.3
comp=Z,44µm,1.6s
PB07 IPOC Station P 3.59 305⇑ *i*P **Pn** **15 29 00.7 -0.2**
PB07 *e*S **S** **15 29 43.5 -1.4**
PB07 IPOC Station P 3.59 305 **Pn** **15 29 00.5 -0.4**
PB07 IPOC Station P 3.59 305 *i* P **Pn** **15 29 00.0 -0.9**
PB07 IAML 15 29 50.7
comp=Z,54µm,0.7s
AC02 Maricunga 3.70 216 *e*P **Pn** **15 29 02.0 -0.5**
AC02 *i* S **S** **15 29 46.4 -1.5**
AC02 Maricunga 3.70 216 Pn **Pn** **15 29 01.9 -0.6**
AC02 Maricunga 3.70 216 *i* P **Pn** **15 29 02.0 -0.5**
PB01 IPOC Station P 3.77 317⇓ *i*P **Pn** **15 29 02.9 -0.2**
PB01 *i* S **S** **15 29 48.2 -0.5**
PB01 IPOC Station P 3.77 317 **Pn** **15 29 02.9 -0.2**
PB01 IPOC Station P 3.77 317 *i* P **Pn** **15 29 03.0 0.0**
PB01 IAML 15 29 52.7
comp=Z,27µm,0.6s
PB02 IPOC Station P 3.85 310⇓ *i*P **Pn** **15 29 03.7 -0.4**
PB02 *i* S **S** **15 29 48.5 -2.1**
PB02 IPOC Station P 3.85 310 *i* P **Pn** **15 29 03.0 -1.0**
PB02 IAML 15 29 54.5
comp=Z,47µm,0.5s
PB08 IPOC Station P 4.31 328 *e*P **Pn** **15 29 10.7 +0.7**
PB08 *i* S **S** **15 30 01.9 +0.6**
PB08 IPOC Station P 4.31 328 **Pn** **15 29 10.5 +0.5**
PB08 IPOC Station P 4.31 328 *i* P **Pn** **15 29 10.0 0.0**
PB08 IAML 15 30 05.1
comp=Z,14µm,0.8s
TA01 Diego Aracena 4.56 315 Pn **Pn** **15 29 11.8 -1.0**
TA01 Diego Aracena 4.56 315 *e*P **Pn** **15 29 12.0 -0.8**
HMBC Humberstone 4.60 320 *e*P **Pn** **15 29 12.2 -1.1**
HMBC *i* S **S** **15 30 04.5 -3.0**
CYA Choya 4.67 170 *e*P **Pn** **15 29 13.4 -0.7**
CYA *e*S **S** **15 30 06.3 -2.7**
CYA IAML 15 30 13.8
comp=Z,1µm,1.2s
TA02 Huaiquique 4.75 318 **Pn** **15 29 13.5 -1.6**
TA02 Huaiquique 4.75 318 *i* P **Pn** **15 29 15.0 -0.1**
PB11 IPOC Station P 4.88 325 *e*P **Pn** **15 29 15.5 -1.5**
PB11 IPOC Station P 4.88 325 **Pn** **15 29 15.7 -1.4**
PB11 IPOC Station P 4.88 325 *e*P **Pn** **15 29 15.6 -1.4**
PB11 IAML 15 30 17.5
comp=Z,29µm,0.8s
GO03 Copiap 4.91 219 *e*P **Pn** **15 29 14.5 -2.6**
GO03 *i* S **S** **15 30 10.2 -4.4**
GO03 Copiap 4.91 219 Pn **Pn** **15 29 14.6 -2.6**
GO03 Copiap 4.91 219 *i* P **Pn** **15 29 15.0 -2.2**
VCA Vinchina 5.07 195 *e*P **Pn** **15 29 19.5 +0.2**
VCA IAML 15 30 40.1
comp=Z,2µm,1.0s
PSGCX Pisagua 5.27 322 **Pn** **15 29 19.4 -2.4**
ACLC CERRO LA CRUZ 5.58 182 *i* P **Pn** **15 29 24.0 -1.8**
AGUA GUANDACOL 5.85 195 *i* P **Pn** **15 29 28.6 -0.7**
AGUA IAML 15 30 39.4
comp=Z,481nm,0.5s
AC04 Llanos de Chal 5.86 221 *e*P **Pn** **15 29 26.2 -3.1**
AC04 Llanos de Chal 5.86 221 Pn **Pn** **15 29 26.1 -3.2**
AC04 Llanos de Chal 5.86 221 *i* P **Pn** **15 29 26.0 -3.2**
AP01 Chacalluta 6.40 327 **Pn** **15 29 34.0 -2.4**
AP01 Chacalluta 6.40 327 *i* P **Pn** **15 29 36.0 -0.3**
APLL PUNTA DE LOS L 6.54 179 *i* P **Pn** **15 29 36.0 -2.2**
APLL IAML 15 31 10.4
comp=Z,9784µm,3.2s
ACDV Cuesta del Vie 6.67 198 *i* P **Pn** **15 29 39.0 -0.9**
ACDV IAML 15 31 00.9
comp=Z,893nm,0.8s
AROD Rodeo 6.77 201 *i* P **Pn** **15 29 41.0 -0.4**
AROD IAML 15 31 01.3
comp=Z,654nm,0.9s
AVFE Valle Fertil 6.83 185 *i* P **Pn** **15 29 39.0 -3.0**
AVFE IAML 15 31 02.2
comp=Z,618nm,0.4s
ACCO Cerro Coronel 7.05 197 *i* P **Pn** **15 29 43.8 -1.2**
ACCO IAML 15 31 05.2
comp=Z,1µm,1.2s
CO05 La Serena 7.28 213 Pn **Pn** **15 29 43.7 -4.1**
GO04 Tololo Observa 7.29 209 **Pn** **15 29 44.2 -3.9**
GO04 Tololo Observa 7.29 209 *i* P **Pn** **15 29 44.0 -4.1**
ACHE Chepes 7.30 180 *i* P **Pn** **15 29 46.0 -2.1**
LPAZ La Paz 7.62 350 P **Pn** **15 29 52.8 +0.1**
comp=Z,99nm,0.3s,baz=157,slow=5.7,SNR=207
LPAZ S **S** **15 31 18.6 -0.7**
comp=Z,18nm,0.3s,baz=201,slow=16,SNR=3.7
LPAZ LR LR 15 34 06.0
comp=Z,7µm,19.0s,baz=174,slow=48
LPAZ La Paz 7.62 350 **Pn** **15 29 52.2 -0.6**
LPAZ La Paz 7.62 350 *e*P **Pn** **15 29 53.0 +0.2**
LPAZ La Paz 7.62 350 *e*P **Pn** **15 29 52.9 +0.1**
LPAZ La Paz 7.62 350 *i* P **Pn** **15 29 53.0 +0.2**
CO03 El Pedregal 7.82 206 Pn **Pn** **15 29 51.1 -3.7**
CO03 El Pedregal 7.82 206 *i* P **Pn** **15 29 51.0 -3.8**
ZON Zonda 7.88 192 P **Pn** **15 29 52.2 -3.4**
ZON Zonda 7.88 192 **Pn** **15 29 52.2 -3.4**
ZON Zonda 7.88 192 *i* P **Pn** **15 29 54.0 -1.6**
ZON IAML 15 31 32.9
comp=Z,447nm,0.5s
CO06 Fray Jorge 8.10 212 **Pn** **15 29 54.1 -4.3**
RTCV Cerro Valdivia 8.16 191 *i* P **Pn** **15 29 57.0 -2.2**
RTCV IAML 15 31 31.2
comp=Z,243nm,0.7s
RTLS Leoncito 8.26 195 *i* P **Pn** **15 29 59.0 -1.7**
RTLS IAML 15 31 32.2
comp=Z,284nm,0.8s
CO02 Combarbal 8.27 206 **Pn** **15 29 56.2 -4.5**
MRA San Martin 8.60 174 *i* P **Pn** **15 30 01.0 -4.0**
MRA IAML 15 31 52.7
comp=Z,156nm,0.6s
AUSP Uspallata 8.69 195 *i* P **Pn** **15 30 05.0 -1.3**
CPUP Villa Florida 8.87 108 P **Pn** **15 30 07.0 -1.4**
comp=Z,4.6nm,0.3s,baz=292,slow=12,SNR=171
CPUP ScP **ScP** **15 39 26.9 +0.6**
comp=Z,0.4nm,0.3s,baz=298,slow=1.9,SNR=4.5
CPUP Villa Florida 8.87 108 P **Pn** **15 30 07.0 -1.4**
CPUP Villa Florida 8.87 108 **Pn** **15 30 06.0 -2.4**
CPUP Villa Florida 8.87 108 *e*P **Pn** **15 30 07.3 -1.1**
ASAL Salagasta 8.93 192 *i* P **Pn** **15 30 07.0 -2.2**
ASAL IAML 15 31 47.9
comp=Z,337nm,0.7s
ARCO CERRO ARCO 9.19 192 *i* P **Pn** **15 30 10.0 -2.7**
ARCO IAML 15 32 17.3
comp=Z,399nm,1.3s
AAGR Agrelo 9.41 191 *e*P **Pn** **15 30 13.5 -2.0**
AAGR IAML 15 32 18.6
comp=Z,451nm,0.9s
SIV San Ignacio 9.43 35 P **Pn** **15 30 14.4 -1.5**
comp=Z,21nm,0.3s,baz=222,slow=12,SNR=249
VA03 San Esteban 9.52 200 **Pn** **15 30 14.1 -2.8**
VA03 San Esteban 9.52 200 *i* P **Pn** **15 30 15.0 -1.9**
MT05 Renca 10.16 199 **Pn** **15 30 22.1 -3.0**
MT09 Talagante 10.59 200 **Pn** **15 30 27.0 -3.8**
VA05 Santo Domingo 10.69 203 Pn **Pn** **15 30 26.3 -5.6**
ITQB Itaqui 10.73 125 **Pn** **15 30 30.6 -1.9**
ITQB Itaqui 10.73 125 *e*P **Pn** **15 30 31.4 -1.1**
MT01 Popeta 10.76 201 **Pn** **15 30 29.1 -3.6**
MT01 Popeta 10.76 201 *i* P **Pn** **15 30 30.0 -2.8**
PTLB Pontes e Lacer 10.97 42 *e*P **Pn** **15 30 35.1 -0.6**
RFA San Rafael 11.01 188 *i* P **Pn** **15 30 33.0 -3.1**
BO01 Tunca 11.19 199 **Pn** **15 30 34.3 -4.1**
BO02 Sierra Bellavi 11.48 197 **Pn** **15 30 40.1 -2.0**
COIS El Sosneado 11.51 192 *i* P **Pn** **15 30 40.0 -2.5**
GO05 Huala 12.03 201 **Pn** **15 30 46.3 -2.7**
VILB Vilhena 12.46 31 *e*P **Pn** **15 30 55.2 +0.6**
ML02 Panimavida 12.57 198 **Pn** **15 30 53.9 -1.9**
TRCB Terra Rica 12.98 88 P **P** **15 31 03.1 -1.3**
TRCB Terra Rica 12.98 88 *e*P **Pn** **15 31 00.6 -0.6**
SALV Santo Antonio 13.02 55 *e*P **Pn** **15 31 00.7 -1.0**
PTGB Pitanga 13.40 97 *e*P **Pn** **15 31 05.7 -0.7**
CPSB Cacapava Do Su 13.51 122 *e*P **Pn** **15 31 06.2 -1.5**
ETMB Extrema 13.94 2 *e*P **Pn** **15 31 11.9 -1.2**
PLTB Pedras Altas 14.03 127 **Pn** **15 31 11.9 -2.3**
PLTB Pedras Altas 14.03 127 *e*P **Pn** **15 31 12.3 -1.8**
VA04 Juan Fernndez 14.43 225 P **Pn** **15 31 17.2 -1.7**
PCMB Pacaembu 14.44 84 *e*P **Pn** **15 31 19.0 -0.2**
TRQA Tornquist 14.75 165 P **Pn** **15 31 18.7 -4.2**
TRQA Tornquist 14.75 165 P **Pn** **15 31 18.7 -4.2**
SAML Samuel 15.18 13 P **Pn** **15 31 27.4 -0.9**
SAML pmax pmax
comp=Z,258nm,1.0s
SAML Samuel 15.18 13 P **Pn** **15 31 27.4 -0.9**
SAML Samuel 15.18 13⇓ *e*P **Pn** **15 31 28.1 -0.3**
SAML Samuel 15.18 13 *e*P **Pn** **15 31 28.0 -0.3**
NNA Nana 15.20 319 P **P** **15 31 30.2 +1.2**
comp=Z,18nm,0.3s,baz=158,slow=12,SNR=83
NNA S **S** **15 34 12.6 -4.9**
comp=Z,7.9nm,0.3s,baz=266,slow=19,SNR=2.6
NNA ScP **ScP** **15 39 36.7 +0.8**
comp=Z,1.8nm,0.3s,baz=320,slow=2.8,SNR=4.2
NNA Nana 15.20 319 P **P** **15 31 29.5 +0.4**
CNLB Canela 15.21 114 *e*P **Pn** **15 31 27.0 -1.6**
LC01 Cunco 15.65 195 P **P** **15 31 31.5 -2.3**
LC01 IAmb IAmb 15 31 36.7
comp=Z,170nm,0.8s
FRTB Fartura 15.74 92 *e*P **P** **15 31 34.9 0.0**
ITRB Iturama 15.74 78 *e*P **Pn** **15 31 35.1 -0.1**
TIJ01 Guaruva-PR 16.18 99 *e*P **Pn** **15 31 40.5 0.0**
LR03 Panguipulli 16.46 195 **P** **15 31 41.0 -1.7**
TER01 Tubaro-SC 16.47 110 *e*P **P** **15 31 42.0 -0.9**
CLDB Colider 16.56 41 *e*P **P** **15 31 43.0 -1.0**
CZSB Cruzeiro do Su 17.01 339 *e*P **P** **15 31 48.4 -0.5**
BB19B Bebedouro 17.04 84 *e*P **P** **15 31 49.0 -0.3**
PLCA Paso Flores 17.16 190 P **P** **15 31 50.2 -0.2**
comp=Z,2.7nm,0.3s,baz=11,slow=12,SNR=61
PLCA S **S** **15 35 02.8 +4.1**
comp=Z,1.1nm,0.3s,baz=143,slow=20,SNR=0.9
PLCA PcP **PcP** **15 36 25.7 +2.2**
comp=Z,0.7nm,0.3s,baz=274,slow=4.1,SNR=3.5
PLCA ScP **ScP** **15 39 40.2 +0.8**
comp=Z,0.2nm,0.3s,baz=84,slow=0.8,SNR=3.9
PLCA Paso Flores 17.16 190 **P** **15 31 48.8 -1.6**
PLCA IAmb IAmb 15 31 59.4
comp=Z,116nm,0.8s
PLCA Paso Flores 17.16 190 *e*P **P** **15 31 50.3 -0.1**
SPB Sao Paulo 17.67 93 P **P** **15 31 53.7 -2.3**
SPB Sao Paulo 17.67 93 *e*P **P** **15 31 55.2 -0.9**
LL04 Puerto Octay 17.69 194 P **P** **15 31 55.2 -0.9**
RCLB Rio Claro- Sao 17.71 89 *e*P **P** **15 31 56.0 -0.6**
PET01 Itanhaem-SP 17.77 95 *e*P **P** **15 31 56.3 -0.8**
LL03 Petrohue 17.91 194 P **P** **15 31 57.7 -0.7**
VA0 Valinhos 18.15 91 *e*P **P** **15 32 01.2 -1.2**
IPMB Ipameri, GO 18.24 75 *e*P **P** **15 32 01.9 -0.5**
LL05 Los Muermos 18.41 196 P **P** **15 32 03.2 -0.8**
SNDB Serra Nova Dou 18.80 54 *e*P **P** **15 32 07.4 -1.1**
LL01 San Ignacio de 19.09 193 P **P** **15 32 10.4 -0.9**
PARB Paraibuna 19.34 93 *e*P **P** **15 32 13.8 -0.5**
BDFB Brasilia 19.39 69 P **P** **15 32 14.7 -0.1**
comp=Z,138nm,0.3s,baz=242,slow=11,SNR=245
BDFB ScP **ScP** **15 39 45.2 +0.5**
comp=Z,0.7nm,0.3s,baz=75,slow=2.3,SNR=4.0
BDFB Brasilia 19.39 69 P **P** **15 32 13.1 -1.7**
LL07 Hotel Espejo d 19.76 195 P **P** **15 32 17.1 -1.3**
TBTG Tabatinga, AM 19.77 351 *e*P **P** **15 32 20.0 +1.1**
TBTG Tabatinga, AM 19.77 351 *e*P **P** **15 32 20.1 +1.3**
LL02 Futaleuf 19.77 191 P **P** **15 32 17.3 -1.3**
GO07 Milladeo Hill, 20.07 195 P **P** **15 32 19.6 -2.1**
BSCB Bom Sucesso 20.48 86 *e*P **P** **15 32 25.7 -0.8**
PEXB Peixe 21.02 60 *e*P **P** **15 32 30.4 -1.8**
MACA Manacapuru-AM 21.36 17 *e*P **P** **15 32 33.8 -1.9**
VAS01 Vassouras-RJ 21.47 91 *e*P **P** **15 32 36.0 -0.9**
ITTB Itaituba 22.06 30 *e*P **P** **15 32 40.3 -2.4**
DIAM Diamantina, MG 22.19 80 *e*P **P** **15 32 43.4 -0.7**
DUB01 Friburgo-RJ 22.48 90 *e*P **P** **15 32 45.4 -1.2**
MC01 Montes Claros 22.49 76 *e*P **P** **15 32 44.3 -2.4**
JANB Januaria 22.84 72 *e*P **P** **15 32 48.1 -1.8**
CAM01 Campos-RJ 23.18 90 *e*P **P** **15 32 51.0 -1.8**
SMTB Santa Maria do 23.59 54 *e*P **P** **15 32 55.5 -1.1**
SDBA SAO DESIDERIO 23.60 65 *e*P **P** **15 32 55.2 -1.6**
PTGA Pitinga 23.88 17 P **P** **15 32 58.7 -0.5**
comp=Z,49nm,0.3s,baz=194,slow=10,SNR=81
PTGA S **S** **15 36 58.0 -2.6**
comp=Z,30nm,0.7s,baz=270,slow=20,SNR=2.4
PTGA Pitinga 23.88 17 P **P** **15 32 57.9 -1.4**
PTGA Pitinga 23.88 17⇓ *e*P **P** **15 32 59.1 -0.1**
PRPB Parauapebas 23.92 45 *e*P **P** **15 32 57.2 -2.4**
ALF01 Guarapari-ES 24.26 88 *e*P **P** **15 33 01.3 -1.4**
SJMB Sao Joao De Ma 24.32 83 *e*P **P** **15 33 01.7 -1.5**
BSFB Barra de Sao F 24.59 83 *e*P **P** **15 33 03.3 -2.4**
RIB01 Linhares ES 24.87 85 *e*P **P** **15 33 07.0 -1.2**
MALB Monte Alegre 24.95 31 *e*P **P** **15 33 08.4 -0.6**
PTLC Puerto Leguiza 25.11 341⇓ *e*P **P** **15 33 07.0 -3.5**
NAN01 Guarapari, ES 25.54 82 *e*P **P** **15 33 11.8 -2.4**
GUA01 Guaratinga, BA 26.24 79 *e*P **P** **15 33 19.2 -1.3**
OTAV Otavalo 26.50 333 P **P** **15 33 24.1 +0.7**
OTAV pmax pmax
comp=Z,47nm,0.8s
OTAV Otavalo 26.50 333 P **P** **15 33 24.1 +0.7**
OTAV IAmb IAmb 15 33 51.8
comp=Z,47nm,0.8s
OTAV Otavalo 26.50 333⇓ *e*P **P** **15 33 26.1 +2.8**
OTAV Otavalo 26.50 333 *e*P **P** **15 33 24.5 +1.1**
CUSE Cuicocha Este 26.54 333 *e*P **P** **15 33 27.0 +3.3**
PAC1 Pacto, Paraso 26.67 332 *e*P **P** **15 33 27.9 +3.4**
FLOC Florencia 26.71 340 P **P** **15 33 25.2 +0.5**
FLOC Florencia 26.71 340 *e*P **P** **15 33 25.3 +0.5**
MACC Macarena, Meta 26.73 344 *e*P **P** **15 33 24.2 -0.7**
BOAV Boa Vista 26.75 14 *e*P **P** **15 33 23.7 -1.4**
CMC01 Camacan, BA 26.94 77 *e*P **P** **15 33 24.9 -1.8**
GCUF Volcan Galeras 26.96 336⇓ *e*P **P** **15 33 30.8 +3.2**
NBIT Itapeh - BA 27.18 76 *e*P **P** **15 33 27.4 -1.5**
GARC Garzon, Huila 27.23 341 *e*P **P** **15 33 30.5 +0.8**
MCPB Macapa, AP 27.32 33 *e*P **P** **15 33 29.0 -1.2**
SOTA Rioblanco 27.54 338 *e*P **P** **15 33 35.1 +2.4**
GDU01 Guandu, BA 27.55 73 *e*P **P** **15 33 30.2 -2.1**
PCON Cinco Dias 27.65 339⇓ *e*P **P** **15 33 36.6 +2.9**
BBAC Balboa, Cauca 27.66 337 *e*P **P** **15 33 35.4 +2.0**
PTGL Punta Galera 27.67 330 *e*P **P** **15 33 36.4 +3.1**
BETC Betania 27.68 341 *e*P **P** **15 33 35.7 +2.2**
TMAB Tom-Au,PA,Br 27.92 43 *e*P **P** **15 33 35.6 0.0**
POPC Popayan, Colom 27.95 338 *e*P **P** **15 33 37.5 +1.5**
MARP Paez Belalcaza 28.00 340⇓ *e*P **P** **15 33 38.0 +1.5**
TUMC Tumaco 28.05 334 P **P** **15 33 35.4 -1.2**
TUMC Tumaco 28.05 334 *e*P **P** **15 33 39.2 +2.6**
NBPN Ponto Novo - B 28.35 67 *e*P **P** **15 33 37.8 -1.6**
EFI East Falkland 28.59 169⇓ *e*P **P** **15 33 40.6 -0.4**
EFI pmax pmax
comp=Z,301nm,2.4s
EFI East Falkland 28.59 169 P **P** **15 33 39.3 -1.7**
EFI IAmb IAmb 15 33 50.2
comp=Z,87nm,0.9s
ORTC Ortega, Tolima 28.80 342 *e*P **P** **15 33 44.3 +1.0**
MG02 Cerro Sombrero 28.97 183 P **P** **15 33 44.9 +0.5**
CHIC Chingaza 29.10 346 *e*P **P** **15 33 47.3 +0.9**
YOTC Yotoco, Valle 29.19 340⇓ *e*P **P** **15 33 47.7 +0.8**
ANIL Santa Ana 29.39 342 *e*P **P** **15 33 50.4 +1.5**
ROSC El Rosal 29.44 344 P **P** **15 33 51.0 +1.6**
comp=Z,31nm,0.5s,baz=62,slow=12,SNR=6.5
ROSC ScP **ScP** **15 40 14.6 +1.7**
comp=Z,32nm,0.6s,baz=198,slow=18,SNR=5.0
ROSC LR LR 15 47 51.8
comp=Z,4µm,20.6s,baz=210,slow=40
ROSC El Rosal 29.44 344 P **P** **15 33 51.0 +1.6**
ROSC El Rosal 29.44 344 IAmb IAmb 15 34 07.4
comp=Z,44nm,0.7s
ROSC El Rosal 29.44 344 *e*P **P** **15 33 51.3 +1.9**
GO10 Punta Arenas 29.47 185 P **P** **15 33 49.5 +0.7**
MALC Bahia Malaga 29.54 338 *e*P **P** **15 33 52.4 +2.5**
GUY2C Guyana, Caldas 30.08 343⇓ *e*P **P** **15 33 56.0 +0.9**
ROSB Rosrio 30.17 50 *e*P **P** **15 33 55.1 -0.2**
SPBC San Pablo de B 30.17 345 *e*P **P** **15 33 57.1 +1.7**
RUSC La Rusia 30.19 347 P **P** **15 33 55.0 -1.1**
RUSC ScP **ScP** **15 40 14.8 -0.6**
RUSC La Rusia 30.19 347 *e*P **P** **15 33 55.9 -0.2**
NORC Norcasia 30.28 344 *e*P **P** **15 33 56.1 -0.3**
NBLA Lagarto - SE 30.34 70 *e*P **P** **15 33 54.1 -2.8**
PIZC Pizarro, Choco 30.44 339 *e*P **P** **15 34 00.1 +2.4**
CBOC Ciudad Bolivar 30.87 342 *e*P **P** **15 34 01.9 +0.2**
BARC Barichara 30.89 347 *e*P **P** **15 34 01.1 -0.8**
HELC Santa Helena 31.05 343 *e*P **P** **15 34 02.1 -1.4**
MG01 Puerto William 31.07 181 P **P** **15 34 02.5 -0.4**
MG01 IAmb IAmb 15 34 16.5
comp=Z,73nm,0.7s
NBPS Pedro II - PI 31.10 56 *e*P **P** **15 34 01.6 -2.1**
PTBC PUERTO BERRIO, 31.11 345 *e*P **P** **15 34 01.6 -2.1**
NBMA Murití-CE 31.41 63 *e*P **P** **15 34 04.7 -1.6**
PAMC Pamplona, Colo 31.52 349 *e*P **P** **15 34 07.9 +0.1**
MDP Montagnes des 31.86 27 LR LR 15 47 30.2
comp=Z,674nm,20.9s,baz=201,slow=37
DBBC Dabeiba 32.03 342 *e*P **P** **15 34 13.4 +1.6**
ZARC Zaragoza, Cauc 32.13 345 *e*P **P** **15 34 10.2 -2.3**
NBAN Anadia - AL 32.28 69 *e*P **P** **15 34 12.1 -1.8**
PAYG Puerto Ayora 32.43 312 P **P** **15 34 15.0 -0.3**
PAYG IAmb IAmb 15 34 19.5
comp=Z,78nm,0.8s
PAYG Puerto Ayora 32.43 312 *e*P **P** **15 34 17.5 +2.2**
UREC San Jos de Ur 32.55 344 *e*P **P** **15 34 14.7 -1.5**
PTAC Punta Ardita, 32.64 339 *e*P **P** **15 34 19.3 +2.4**
SDV Santo Domingo 32.74 353 LR LR 15 48 07.5
comp=Z,2µm,18.8s,baz=165,slow=37
SDV Santo Domingo 32.74 353 P **P** **15 34 16.8 -1.3**
SDV IAmb IAmb 15 34 20.1
comp=Z,74nm,1.0s
SDV Santo Domingo 32.74 353⇑ *e*P **P** **15 34 16.9 -1.1**
SDV Santo Domingo 32.74 353 *e*P **P** **15 34 17.5 -0.5**
NBMO Morrinhos-CE 32.86 56 *e*P **P** **15 34 17.9 -1.0**
NBLV Livramento - P 32.93 65 *e*P **P** **15 34 18.1 -1.6**
SMLC San Martn de 33.22 347 *e*P **P** **15 34 18.5 -3.4**
NBCL Cascavel-CE 33.54 59 *e*P **P** **15 34 25.0 -0.7**
NBRF Rio Formoso - 33.75 69 *e*P **P** **15 34 25.0 -1.7**
LCBC Los crdobas, 33.83 343 *e*P **P** **15 34 29.3 +2.1**
CACAO El Cacao, Vera 33.92 334 *e*P **P** **15 34 30.1 +2.0**
AZU Azuero 34.10 336 *e*P **P** **15 34 33.1 +3.5**
ARGC Ariguani, Magd 34.28 347 *e*P **P** **15 34 29.6 -1.5**
TPP Pointe-a-Pierr 34.33 9 *e*P **P** **15 34 33.4 +1.8**
SJCC San Jacinto, C 34.52 345 P **P** **15 34 30.9 -2.4**
SJCC IAmb IAmb 15 34 35.3
comp=Z,76nm,0.8s
SJCC ScP **ScP** **15 40 30.6 +0.9**
SJCC San Jacinto, C 34.52 345 *e*P **P** **15 34 32.5 -0.8**
RCBR Riachuelo 34.62 64 P **P** **15 34 33.1 -1.1**
RCBR pmax pmax
comp=Z,224nm,0.8s
RCBR Riachuelo 34.62 64 P **P** **15 34 33.0 -1.1**
RCBR Riachuelo 34.62 64 *e*P **P** **15 34 34.1 0.0**
TRN Trinidad (W) 34.66 9 *e*P **P** **15 34 34.6 +0.2**
PNME Penonome 34.76 336 *e*P **P** **15 34 38.5 +3.2**
NBPV Pedro Velho 34.80 65 *e*P **P** **15 34 34.1 -1.6**
UPA Univ. de Panam 34.93 338 *e*P **P** **15 34 39.9 +3.2**
CRJC Cerrejon, Guaj 35.16 349 *e*P **P** **15 34 37.4 -1.3**
BCIP Isla Barro Col 35.21 337 P **P** **15 34 39.3 +0.2**
BCIP pmax pmax
comp=Z,172nm,0.9s
BCIP Isla Barro Col 35.21 337 P **P** **15 34 39.3 +0.2**
BCIP Isla Barro Col 35.21 337 *e*P **P** **15 34 41.1 +2.0**
BOT Bacolet 35.27 10 *e*P **P** **15 34 37.6 -2.0**
TOSP Speyside 35.43 11 *e*P **P** **15 34 41.5 +0.5**
TOSP Speyside 35.43 11 P **P** **15 34 40.7 -0.2**
GRFF Grenada Fort F 35.99 8 *e*P **P** **15 34 44.8 -1.0**
GRGR Grenville 36.08 8 *e*P **P** **15 34 46.0 -0.6**
GRGR Grenville 36.08 8 P **P** **15 34 45.8 -0.7**
GRHS Sauteurs 36.17 8 *e*P **P** **15 34 46.1 -1.2**
GRSS Sisters 36.25 8 *e*P **P** **15 34 48.2 +0.3**
GCMP Grenada, Carri 36.46 9 *e*P **P** **15 34 48.3 -1.4**
SRBA San Rafael, Bu 36.66 332 P **P** **15 34 51.5 0.0**
SRBA IAmb IAmb 15 34 56.9
comp=Z,75nm,0.7s
SRBA ScP **ScP** **15 40 37.9 +0.2**
SVB Belmont 37.26 9 *e*P **P** **15 34 54.6 -1.8**
SVB Belmont 37.26 9 P **P** **15 34 55.0 -1.5**
SVV Soufriere Volc 37.31 9 *e*P **P** **15 34 57.8 +0.9**
RIMA Rio Macho 37.36 331 P **P** **15 34 58.6 +1.0**
RIMA IAmb IAmb 15 35 02.8
comp=Z,99nm,0.8s
BBSP Saint Philip 37.39 12 *e*P **P** **15 35 01.8 +4.3**
BBGH Gun Hill 37.41 12 *e*P **P** **15 34 57.1 -0.6**
CVTR Volcan Turrial 37.54 332 P **P** **15 35 01.0 +1.7**
CVTR IAmb IAmb 15 35 04.1
comp=Z,94nm,1.0s
JACO JACO, Garabito 37.62 330 P **P** **15 34 59.6 +0.1**
JACO IAmb IAmb 15 35 04.8
comp=Z,94nm,0.8s
MCLT Moule a Chique 37.73 9 *e*P **P** 15 34 55.1 -5.3
MCLT Moule a Chique 37.73 9 P **P** **15 34 58.4 -2.0**
MCLT IAmb IAmb 15 35 10.5
comp=Z,57nm,0.8s
HOPE Hope Point 37.87 151 P **P** **15 35 00.0 -1.2**
HOPE pmax pmax
comp=Z,285nm,1.0s
HOPE Hope Point 37.87 151 P **P** **15 34 60.0 -1.2**
SLBI Saint Lucia, B 38.04 9 *e*P **P** **15 35 01.0 -1.9**
JTS Las Juntas de 38.31 330 ScP **ScP** **15 40 43.9 +0.2**
comp=Z,16nm,0.8s,baz=52,slow=3.7,SNR=9.4
JTS Las Juntas de 38.31 330 P **P** **15 35 05.6 +0.3**
JTS pmax pmax
comp=Z,92nm,0.7s
JTS Las Juntas de 38.31 330 P **P** **15 35 05.6 +0.3**
JTS IAmb IAmb 15 35 09.8
comp=Z,92nm,0.7s
JTS Las Juntas de 38.31 330 *e*P **P** **15 35 08.2 +2.9**
DUNO Dulce Nombre, 38.37 329 P **P** **15 35 03.8 -2.0**
COVE Coope Vega, Sa 38.44 331 P **P** **15 35 08.0 +1.7**
MPOM Morne Pois Mar 38.47 9 *e*P **P** **15 35 03.1 -3.4**
MPOM Morne Pois Mar 38.47 9 P **P** **15 35 05.2 -1.3

PRVC Isla de Provid 39.65 337 eP P 15 35 18.6 +2.2
MAGL Barre de l'ile 39.89 8 eP P 15 35 11.4 -6.9
ACON Acoyapa 39.89 331 P P 15 35 18.5 +0.2
CBE Ff, Capester 39.97 8 eP P 15 35 11.4 -7.6
ANBD Bethesda, Anti 40.91 7 eP P 15 35 19.5 -7.2
PMSA Palmer Station 40.98 178 P P 15 35 27.2 +0.6
comp=Z,20nm,0.7s,baz=18,slow=7.1,SNR=24
PMSA Palmer Station 40.98 178 P P 15 35 26.6 0.0
PMSA Palmer Station 40.98 178 eP P 15 35 27.5 +0.9
ANOC Antigua Open C 40.98 7 eP P 15 35 31.1 +3.9
MATN Matagalpa 41.08 331 P P 15 35 27.8 -0.3
MATN IAmb IAmb 15 35 32.2
comp=Z,84nm,1.0s
CRIN San Cristobal 41.39 329 P P 15 35 30.8 +0.1
ANWB Willy Bob 41.52 7 eP P 15 35 27.7 -3.9
ANWB Willy Bob 41.52 7 P P 15 35 29.2 -2.4
MLPR Magueyes Islan 41.55 360 P P 15 35 30.7 -1.1
MLPR IAmb IAmb 15 35 41.0
comp=Z,87nm,0.5s
CRPR Cabo Rojo, PR 41.58 359 P P 15 35 29.0 -3.1
CRPR IAmb IAmb 15 35 33.6
comp=Z,173nm,1.1s
PDPR Patillas Dam, 41.60 1 P P 15 35 29.4 -2.8
PDPR IAmb IAmb 15 35 32.9
comp=Z,99nm,1.1s
OBIP Obispado Ponce 41.62 0 P P 15 35 29.4 -2.9
OBIP IAmb IAmb 15 35 33.1
comp=Z,121nm,0.7s
MTP Monte Pirata 41.69 2 P P 15 35 29.9 -3.0
SJG San Juan 41.69 1 P P 15 35 30.2 -2.8
SJG pmax pmax
comp=Z,117nm,1.1s
SJG San Juan 41.69 1 P P 15 35 30.2 -2.8
SJG IAmb IAmb 15 35 34.1
comp=Z,117nm,1.1s
SJG San Juan 41.69 1 eP P 15 35 30.9 -2.1
HUMP Col San Antoni 41.72 1 P P 15 35 30.2 -3.0
SMRT St. Maarten 41.78 5 eP P 15 35 35.3 +1.6
SMRT St. Maarten 41.78 5 P P 15 35 30.4 -3.3
SMRT IAmb IAmb 15 35 33.5
comp=Z,143nm,1.1s
CBYP Canovanas 41.85 1 P P 15 35 31.4 -3.0
GCPR Guaynabo City 41.89 1 P P 15 35 31.3 -3.2
GCPR IAmb IAmb 15 35 44.0
comp=Z,60nm,0.6s
CUPR Culebra, Puert 41.90 2 P P 15 35 31.9 -2.8
AOPR Arecibo Observ 41.92 360 P P 15 35 33.0 -1.9
AOPR IAmb IAmb 15 35 46.5
comp=Z,69nm,0.6s
STVI Saint Thomas 41.96 3 P P 15 35 33.8 -1.4
BANI BANI 42.12 355 P P 15 35 34.7 -1.8
PCDR Punta Cana, DR 42.12 358 P P 15 35 35.7 -0.7
ABVI Anegada Island 42.36 3 P P 15 35 35.1 -3.3
ABVI IAmb IAmb 15 35 45.4
comp=Z,148nm,0.8s
DR12 Loma Pena Alta 42.44 356 P P 15 35 35.6 -3.5
TGUH Tegucigalpa,Un 42.68 330 P P 15 35 41.2 +0.1
TGUH Tegucigalpa,Un 42.68 330 eP P 15 35 42.5 +1.3
SDDR Presa de Saban 42.78 354 P P 15 35 41.7 -0.1
SDDR Presa de Saban 42.78 354 eP P 15 35 32.8 -9.1
MTDJ Mount Denham 43.11 345 P P 15 35 44.6 +0.1
MTO3 Montecristo 43.97 328 P P 15 35 51.5 -0.1
MTO3 IAmb IAmb 15 35 55.1
comp=Z,130nm,0.7s
ESQI Esquipulas 44.10 328 P P 15 35 53.0 +0.5
ESQI IAmb IAmb 15 35 55.9
comp=Z,157nm,0.8s
GTBY Guantanamo Bay 44.25 349 P P 15 35 51.0 -2.4
CBCY The Bluff, Cay 45.13 343 P P 15 36 00.4 0.0
CBCY IAmb IAmb 15 36 03.5
comp=Z,215nm,1.2s
FSCY Frank Sound, G 45.14 341 P P 15 36 00.4 -0.1
FSCY IAmb IAmb 15 36 04.4
comp=Z,212nm,0.9s
LCCY Blossom Villag 45.15 342 P P 15 36 00.9 +0.3
GRTK Grand Turk 45.27 354 P P 15 35 59.8 -1.7
GRTK IAmb IAmb 15 36 03.7
comp=Z,147nm,0.9s
HUEH Huehuetenango 45.83 326 P P 15 36 05.9 -0.4
CCIG Comitan 46.97 326 P P 15 36 14.6 -0.5
CCIG IAmb IAmb 15 36 17.5
comp=Z,92nm,0.7s
SOR Soroa 48.97 340 P P 15 36 29.9 -0.2
SOR pmax pmax
comp=Z,137nm,0.7s
SOR Soroa 48.97 340 P P 15 36 29.9 -0.2
SOR IAmb IAmb 15 36 33.5
comp=Z,137nm,0.7s
CMIG Matias Romero 49.10 323 P P 15 36 31.7 +0.6
comp=Z,48nm,0.7s,baz=126,slow=5.1,SNR=69
CMIG ScP ScP 15 41 27.5 0.0
comp=Z,4.9nm,0.8s,baz=142,slow=5.0,SNR=3.7
061Z Ochoppi 51.27 344 P P 15 36 47.2 -0.1
TLIG Tlapa 51.57 320 P P 15 36 50.7 +1.0
DWPF Disney Wildern 53.55 344 P P 15 37 05.0 +1.0
baz=163
DWPF S S 15 44 20.7 -0.6
baz=163
MOIG Morelia 54.76 319 P P 15 37 12.3 -0.9
VNA3 Neumayer Olymp 57.23 161 P P 15 37 29.3 -0.5
VNA3 S S 15 45 11.3 +2.0
VNA3 Neumayer Olymp 57.23 161 ScP ScP 15 42 03.4 +1.3
TIGA Tifton 57.28 343 P P 15 37 31.3 +0.8
baz=162
TIGA S S 15 45 09.2 -1.5
baz=162
VNA1 Neumayer--Stat 57.42 160 P P 15 37 31.1 +0.1
VNA1 Neumayer--Stat 57.42 160 ScP ScP 15 42 04.4 +1.4
255A Hazlehurst 57.45 344 P P 15 37 31.5 -0.2
255A IAmb IAmb 15 37 34.9
comp=Z,140nm,1.4s
SHEL Horse Pasture 57.51 94 P P 15 37 31.3 -1.3
SHEL pmax pmax
comp=Z,126nm,0.7s
SHEL Horse Pasture 57.51 94 P P 15 37 31.3 -1.3
352A Blakely 57.69 342 P P 15 37 32.7 -0.7
VNA2 Neumayer--Watz 57.79 160 P P 15 37 33.1 -0.6
baz=285,slow=8.0
VNA2 S S 15 45 18.3 +1.8
VNA2 Neumayer--Watz 57.79 160 ScP ScP 15 42 06.7 +2.1
RGRS Roger Stewart 57.87 347 P P 15 37 34.7 +0.1
ZAIG Zacatecas 57.96 320 P P 15 37 36.2 +0.4
ZAIG IAmb IAmb 15 37 39.6
comp=Z,98nm,0.8s
BRAL Brewton 58.05 339 P P 15 37 35.6 -0.2
BRAL Brewton 58.05 339 P P 15 37 35.7 -0.2
baz=158
BRAL S S 15 45 18.0 -2.7
baz=158
NHSC New Hope 58.05 347 P P 15 37 35.7 -0.1
NHSC New Hope 58.05 347 P P 15 37 36.6 +0.8
baz=165
NHSC S S 15 45 20.8 +0.1
baz=165
154A Montrose 58.27 344 P P 15 37 36.3 -1.1
Y60A Bolivia 58.55 349 P P 15 37 38.3 -0.9
250A Grady 58.56 341 P P 15 37 38.9 -0.5
250A IAmb IAmb 15 37 42.1
comp=Z,76nm,0.7s
Y58A Scranton 58.72 347 P P 15 37 38.7 -1.7
Y58A IAmb IAmb 15 37 44.1
comp=Z,98nm,0.8s
152A Waverly Hall 58.75 342 P P 15 37 39.2 -1.5
152A IAmb IAmb 15 37 42.9
comp=Z,39nm,0.6s
346A Big Creek Wild 59.07 337 P P 15 37 42.0 -0.9
346A IAmb IAmb 15 37 45.8
comp=Z,87nm,0.8s
GOGA Godfrey 59.12 344 P P 15 37 42.0 -1.2
GOGA pmax pmax
comp=Z,32nm,0.8s
GOGA Godfrey 59.12 344 P P 15 37 42.0 -1.2
GOGA Godfrey 59.12 344 P P 15 37 43.8 +0.6
baz=162
GOGA S S 15 45 31.3 -3.1
baz=162
KVTX Kingsville 59.28 328 P P 15 37 43.6 -0.8
X58A Rowland 59.29 348 P P 15 37 43.9 -0.4
JSC Jenkinsville 59.42 346 P P 15 37 44.8 -0.5
JSC pmax pmax
comp=Z,47nm,0.8s
JSC Jenkinsville 59.42 346 P P 15 37 44.8 -0.5
JSC IAmb IAmb 15 37 48.8
comp=Z,47nm,0.8s
SNAA Sanae 59.43 161 P P 15 37 44.3 -0.7
SNAA S S 15 45 38.4 +0.7
SNAA Sanae 59.43 161 ScP ScP 15 42 13.0 +1.0
SNAA Sanae 59.43 161 P P 15 37 44.0 -1.0
SNAA pmax pmax
comp=Z,59nm,0.7s
SNAA Sanae 59.43 161 P P 15 37 44.0 -1.0
SNAA IAmb IAmb 15 37 50.8
comp=Z,59nm,0.7s
Z51A Franklin 59.49 342 P P 15 37 45.3 -0.5
Z51A IAmb IAmb 15 37 48.5
comp=Z,33nm,0.6s
344A Westbrook Farm 59.58 336 P P 15 37 45.6 -0.8
344A IAmb IAmb 15 37 49.8
comp=Z,73nm,0.8s
BIRD Birdtown, Kers 59.60 347 P P 15 37 46.0 -0.5
BIRD IAmb IAmb 15 37 50.1
comp=Z,84nm,1.1s
HODGE Hodges 59.60 345 P P 15 37 45.7 -0.8
CNNC Cliffs of the 59.69 349 P P 15 37 48.2 +1.2
baz=168
Y52A Lilburn 59.70 343 P P 15 37 45.8 -1.4
Y52A IAmb IAmb 15 37 50.0
comp=Z,43nm,0.8s
LRAL Lakeview Retre 59.76 340 P P 15 37 46.0 -1.6
LRAL IAmb IAmb 15 37 50.2
comp=Z,128nm,1.3s
LRAL Lakeview Retre 59.76 340 P P 15 37 48.1 +0.5
baz=158
LRAL S S 15 45 39.1 -3.6
baz=158
W57A Gilead 59.99 347 P P 15 37 48.2 -1.0
PAULI Pauline 60.06 346 P P 15 37 49.3 -0.3
146A Union 60.06 338 P P 15 37 49.3 -0.4
146A IAmb IAmb 15 37 52.7
comp=Z,98nm,1.0s
342A Flagon Creek P 60.12 335 P P 15 37 50.3 +0.2
VBMS Vicksburg 60.19 337 P P 15 37 50.1 -0.4
VBMS IAmb IAmb 15 37 54.6
comp=Z,77nm,1.1s
VBMS Vicksburg 60.19 337 P P 15 37 51.3 +0.7
baz=155
VBMS S S 15 45 45.7 -2.5
baz=155
Z47A Carrollton 60.25 339 P P 15 37 50.4 -0.5
KMSC Kings Mountain 60.26 346 P P 15 37 50.9 -0.1
KMSC Kings Mountain 60.26 346 P P 15 37 51.6 +0.6
baz=164,SNR=7.2
KMSC S S 15 45 48.7 -0.3
baz=164
735A Kenedy 60.33 329 P P 15 37 51.6 0.0
735A IAmb IAmb 15 37 55.5
comp=Z,102nm,0.8s
HKT Hockley 60.34 331 dP P 15 37 53.5 +1.9
HKT pmax pmax
comp=Z,164nm,2.3s
HKT Hockley 60.34 331 P P 15 37 51.2 -0.4
Y49A Blount Mountai 60.35 341 P P 15 37 50.2 -1.5
Y49A IAmb IAmb 15 37 54.2
comp=Z,56nm,1.0s
V58A Windy Hill, Pi 60.45 348 P P 15 37 52.3 0.0
BG3 Lake Jocassee 60.49 345 P P 15 37 52.4 -0.1
X51A Calhoun 60.58 343 P P 15 37 52.5 -0.6
833A Chaparral WMA, 60.66 327 P P 15 37 54.1 +0.3
baz=145,SNR=126
833A S S 15 45 53.6 -0.7
baz=145
FPAL Fort Paine 60.76 342 P P 15 37 53.2 -1.2
FPAL IAmb IAmb 15 37 57.0
comp=Z,61nm,0.7s
W52A Murphy 60.83 344 P P 15 37 54.2 -0.7
W52A IAmb IAmb 15 37 57.9
comp=Z,79nm,1.4s
V55A Taylorsville 60.92 347 P P 15 37 55.1 -0.3
V55A IAmb IAmb 15 37 59.1
comp=Z,144nm,1.5s
X48A Hartselle 61.09 341 P P 15 37 56.0 -0.6
V53A Saluda 61.10 345 P P 15 37 55.7 -1.0
V53A IAmb IAmb 15 37 59.9
comp=Z,88nm,1.5s
W50A Signal Mountai 61.30 343 P P 15 37 57.1 -1.0
W50A IAmb IAmb 15 38 00.9
comp=Z,69nm,0.9s
CPCT Cooper Cave 61.32 343 P P 15 37 57.6 -0.5
CPCT IAmb IAmb 15 38 00.9
comp=Z,56nm,1.1s
TKL Tuckaleechee C 61.33 344 P P 15 37 57.3 -0.9
comp=Z,16nm,0.6s,baz=161,slow=7.5,SNR=21
TKL Tuckaleechee C 61.33 344 P P 15 37 57.1 -1.1
TKL IAmb IAmb 15 38 01.6
comp=Z,103nm,1.4s
T59A Double "B" Far 61.33 350 P P 15 37 57.2 -0.9
Y45A Yeager Farm, C 61.35 338 P P 15 37 57.3 -1.0
Y45A IAmb IAmb 15 38 01.4
comp=Z,73nm,0.8s
NATX Nacogdoches 61.40 333 P P 15 37 59.5 +0.8
baz=151
NATX S S 15 46 04.9 +1.3
baz=151
V52A Sevierville 61.46 344 P P 15 37 58.0 -1.1
SWET Sewanee 61.48 342 P P 15 37 57.9 -1.3
SWET IAmb IAmb 15 38 02.0
comp=Z,86nm,0.8s
V51A Loudon 61.61 344 P P 15 37 59.2 -0.8
U54A Nelsons Funny 61.70 346 P P 15 37 59.6 -1.0
U54A IAmb IAmb 15 38 08.9
comp=Z,48nm,0.7s
435B Jarrell 61.84 330 P P 15 38 01.8 0.0
435B IAmb IAmb 15 38 05.1
comp=Z,59nm,0.8s
435B Jarrell 61.84 330 P P 15 38 02.5 +0.8
baz=148
435B S S 15 46 08.0 -1.1
baz=148
OXF Oxford 61.89 339 P P 15 37 59.9 -2.0
OXF pmax pmax
comp=Z,89nm,0.7s
OXF Oxford 61.89 339 P P 15 37 59.9 -2.0
PLAL Pickwick Lake 61.90 340 P P 15 37 59.7 -2.3
PLAL IAmb IAmb 15 38 04.2
comp=Z,41nm,0.8s
Z41A Richland Creek 61.97 335 P P 15 38 04.5 +2.0
baz=153
Z41A S S 15 46 10.7 +0.1
baz=153
RKT Rikitea 62.02 256 eP P 15 38 05.5 +2.3
comp=Z,127nm,1.0s
BLA Blacksburg 62.07 348 P P 15 38 04.6 +1.4
baz=166
BLA S S 15 46 12.7 +0.9
baz=166
237A Washetta, Mont 62.09 332 P P 15 38 04.0 +0.7
TZTN Tazewell 62.12 345 P P 15 38 03.0 -0.5
TZTN Tazewell 62.12 345 P P 15 38 04.1 +0.6
baz=162
TZTN S S 15 46 10.4 -1.9
baz=162
CCAR Cane Creek 62.18 337 P P 15 38 03.9 0.0
V48A Smith Brothers 62.23 342 P P 15 38 02.6 -1.5
S57A Dark Hollow, R 62.33 349 P P 15 38 03.9 -0.9
X43A Marvell 62.40 338 P P 15 38 06.4 +1.1
baz=155
W45A Hickory Valley 62.41 339 P P 15 38 02.7 -2.7
CLTN Cedars of Leba 62.41 342 P P 15 38 04.6 -0.8
WLAR White Oak Lake 62.47 335 P P 15 38 05.5 -0.4
CBN Corbin Frederi 62.51 351 P P 15 38 07.5 +1.5
baz=169
CBN S S 15 46 16.3 -0.8
baz=169
JCT Junction City 62.64 328 P P 15 38 06.3 -0.7
JCT pmax pmax
comp=Z,164nm,0.8s
JCT Junction City 62.64 328 P P 15 38 06.3 -0.7
JCT Junction City 62.64 328 P P 15 38 07.9 +0.9
baz=146
JCT S S 15 46 17.7 -1.5
baz=146
U49A Red Boiling Sp 62.66 343 P P 15 38 05.0 -2.0
WHTX Lake Whitney, 62.80 331 P P 15 38 06.8 -1.2
WHTX IAmb IAmb 15 38 11.4
comp=Z,95nm,0.9s
WHTX Lake Whitney, 62.80 331 P P 15 38 08.2 +0.2
baz=148,SNR=19
WHTX S S 15 46 20.3 -0.8
baz=148
S54A Dingess, Beckl 62.82 347 P P 15 38 06.8 -1.3
S54A IAmb IAmb 15 38 15.9
comp=Z,44nm,0.8s
Z38A Mt. Pleasant 62.84 334 P P 15 38 07.7 -0.6
Z38A IAmb IAmb 15 38 11.4
comp=Z,64nm,0.7s
WVT Waverly 62.88 341 P P 15 38 06.8 -1.7
WVT pmax pmax
comp=Z,139nm,0.7s
WVT Waverly 62.88 341 P P 15 37 45.3 -0.5
WVT Waverly 62.88 341 P P 15 38 08.3 -0.2
baz=158
WVT S S 15 46 18.3 -3.6
baz=158
T50A Nancy 62.89 344 P P 15 38 07.1 -1.4
Q61A Milford 62.90 352 P P 15 38 08.9 +0.4
baz=171
Q61A S S 15 46 23.1 +1.2
baz=171
R55A Marlinton 63.05 348 P P 15 38 09.2 -0.4
X40A Basin Creek Fa 63.08 336 P P 15 38 09.2 -0.7
X40A Basin Creek Fa 63.08 336 P P 15 38 10.5 +0.7
baz=153
X40A S S 15 46 21.7 -2.7
baz=153
S51A Beattyville 63.17 345 P P 15 38 09.5 -0.8
SLBS Sierra La Lagu 63.18 315 P P 15 38 10.7 -0.1
SLBS IAmb IAmb 15 38 14.6
comp=Z,50nm,0.8s
HBAR Harrisburg 63.26 338 P P 15 38 10.2 -0.8
LNXT Lenox 63.38 339 P P 15 38 11.1 -0.6
MIAR Mount Ida 63.41 335 P P 15 38 11.1 -0.9
MIAR pmax pmax
comp=Z,123nm,1.5s
MIAR Mount Ida 63.41 335 P P 15 38 11.1 -0.9
MIAR IAmb IAmb 15 38 15.9
comp=Z,123nm,1.4s
MIAR Mount Ida 63.41 335 P P 15 38 12.5 +0.5
baz=152
MIAR S S 15 46 26.6 -1.9
baz=152
GLAT Glass 63.46 340 P P 15 38 11.8 -0.5
T47A Sharon Grove 63.47 342 P P 15 38 11.3 -1.0
T47A IAmb IAmb 15 38 14.7
comp=Z,106nm,1.1s
W41B Gary Mavity, V 63.48 337 P P 15 38 12.2 -0.2
baz=154,SNR=11
W41B S S 15 46 26.5 -2.7
baz=154
WHAR Wooly Hollow 63.59 337 P P 15 38 12.4 -0.8
Q56A Snyder Ridge, 63.62 349 P P 15 38 13.2 -0.1
TX31 Lajitas Ar. Si 63.69 324 P P 15 38 13.5 -0.6
TX31 IAmb IAmb 15 38 16.6
comp=Z,72nm,0.8s
TX32 Lajitas Array 63.69 324 P P 15 38 13.4 -0.7
TXAR Lajitas Array 63.69 324 P P 15 38 13.8 -0.2
comp=Z,18nm,0.6s,baz=149,slow=7.5,SNR=136
TXAR PKP2bc 16 07 13.2
comp=Z,0.8nm,0.9s,baz=339,slow=2.8,SNR=5.4
TXAR Lajitas Array 63.69 324 P P 15 38 13.5 -0.6
LPIG La Paz 63.70 315 P P 15 38 14.7 +0.5
comp=Z,50nm,0.4s,baz=298,slow=2.0,SNR=12
P60A Greenville 63.85 352 P P 15 38 15.9 +1.1
baz=171
P60A S S 15 46 32.1 -1.7
baz=171
Z35A Perchaven, San 63.85 332 P P 15 38 14.6 -0.3
P57A Homestead Farm 63.86 350 P P 15 38 15.1 +0.3
Q54A Coxs Mills 63.87 348 P P 15 38 14.4 -0.4
LCAR Lake Charles 63.90 338 P P 15 38 13.6 -1.6
LCAR IAmb IAmb 15 38 17.7
comp=Z,27nm,0.6s
PARMO Parma 63.97 340 P P 15 38 15.1 -0.5
W39A Magazine 64.06 336 P P 15 38 15.8 -0.4
W39A IAmb IAmb 15 38 19.9
comp=Z,83nm,0.8s
W39A Magazine 64.06 336 P P 15 38 16.4 +0.1
baz=152,SNR=41
W39A S S 15 46 35.8 -0.8
baz=152
FCAR Ozark Folk Cen 64.07 337 P P 15 38 14.8 -1.5
X37A Clayton 64.15 334 P P 15 38 16.9 0.0
X37A IAmb IAmb 15 38 20.6
comp=Z,63nm,0.8s
R49A Shelbyville 64.17 344 P P 15 38 16.4 -0.5
PBMO Poplar Bluff 64.30 339 P P 15 38 16.8 -1.0
ABTX Abilene, Hawle 64.33 329 P P 15 38 17.9 -0.3
ABTX IAmb IAmb 15 38 22.2
comp=Z,64nm,0.8s
ABTX Abilene, Hawle 64.33 329 P P 15 38 18.3 +0.2
baz=146,SNR=15
ABTX S S 15 46 39.2 -0.9
baz=146
MCWV Mont Chateau 64.34 349 P P 15 38 18.5 +0.6
baz=167
MCWV S S 15 46 40.3 +0.6
baz=167
LOOK Love County 64.39 332 P P 15 38 18.0 -0.4
LOOK IAmb IAmb 15 38 20.8
comp=Z,80nm,0.8s
WCI Wyandotte Cave 64.41 343 P P 15 38 17.1 -1.3
WCI pmax pmax
comp=Z,72nm,0.6s
WCI Wyandotte Cave 64.41 343 P P 15 38 17.1 -1.3
WCI Wyandotte Cave 64.41 343 P P 15 38 18.0 -0.4
baz=160
WCI S S 15 46 36.2 -4.4
baz=160
Q51A Peebles 64.44 346 P P 15 38 17.3 -1.3
P53A Whipple 64.46 347 P P 15 38 17.7 -1.0
P53A IAmb IAmb 15 38 22.9
comp=Z,73nm,1.3s
USIN University of 64.54 342 P P 15 38 18.6 -0.6
USIN IAmb IAmb 15 38 22.0
comp=Z,42nm,0.6s
O56A Blue Knob Stat 64.72 350 P P 15 38 19.4 -1.0
O56A Blue Knob Stat 64.72 350 P P 15 38 21.7 +1.2
baz=168
O56A S S 15 46 44.8 +0.4
baz=168
T42A Van Buren 64.75 339 P P 15 38 18.7 -1.9
T42A IAmb IAmb 15 38 23.0
comp=Z,68nm,1.4s
U40A Yellville 64.75 337 P P 15 38 19.2 -1.5
U40A IAmb IAmb 15 38 23.5
comp=Z,53nm,0.7s
U40A Yellville 64.75 337 P P 15 38 20.2 -0.5
baz=154,SNR=23
U40A S S 15 46 42.7 -2.3
baz=154
P52A Corning 64.75 347 P P 15 38 19.1 -1.5
P52A Corning 64.75 347 S S 15 46 43.0 -1.8
baz=164
S44A Carbondale 64.76 340 P P 15 38 19.2 -1.5
S44A IAmb IAmb 15 38 25.3
comp=Z,36nm,0.7s
SIUC Southern Illin 64.77 340 P P 15 38 19.3 -1.5
SIUC IAmb IAmb 15 38 24.1
comp=Z,122nm,1.4s
PAL Palisades 64.85 354 P P 15 38 21.1 0.0
baz=173
PAL S S 15 46 45.4 -0.5
baz=173
WSPT Westport, CT 64.96 354 P P 15 38 21.5 -0.4
N59A State Game Lan 64.96 352 P P 15 38 22.3 +0.4
baz=171
N59A S S 15 46 48.4 +1.0
baz=171
SSPA Standing Stone 64.97 351 P P 15 38 21.0 -1.0
SSPA Standing Stone 64.97 351 P P 15 38 22.6 +0.6
baz=169
SSPA S S 15 46 47.9 +0.5
baz=169
N58A Sunbury 65.00 352 P P 15 38 22.5 +0.3
HHAR Hobbs 65.08 336 P P 15 38 22.4 -0.4
HHAR IAmb IAmb 15 38 25.9
comp=Z,58nm,0.8s
O52A Adamsville 65.16 347 P P 15 38 22.1 -1.1
M65A Busby, Falmout 65.16 357 P P 15 38 24.7 +1.6
baz=176
M65A S S 15 46 49.1 -0.5
baz=176
O53A New Philadelph 65.16 348 P P 15 38 21.9 -1.4
O53A New Philadelph 65.16 348 P P 15 38 24.0 +0.7
baz=165
O53A S S 15 46 47.9 -1.9

baz=165
X34A Smith Ranch, M 65.19 332 P P 15 38 23.5 -0.1
X34A lAmb lAmb 15 38 26.9
comp=Z,129nm,1.3s
P49A Miami Univ. Ec 65.24 345 P P 15 38 22.2 -1.5
P49A Miami Univ. Ec 65.24 345 P P 15 38 24.2 +0.4
baz=162
P49A S S **15 46 47.2 -3.6**
baz=162
MGMO Mountain Grove 65.26 338 P P 15 38 22.8 -1.1
MGMO lAmb lAmb 15 38 26.9
comp=Z,53nm,0.8s
P48A Milroy 65.34 344 P P 15 38 22.7 -1.8
P48A lAmb lAmb 15 38 26.2
comp=Z,80nm,1.4s
BLO Bloomington 65.35 343 P P 15 38 23.3 -1.2
BLO pmax pmax
comp=Z,82nm,0.5s
BLO Bloomington 65.35 343 P P 15 38 23.3 -1.2
OLIL Olney 65.38 342 P P 15 38 23.3 -1.3
U38A Gravette 65.39 336 P P 15 38 23.9 -0.9
FVM French Village 65.40 340 P P 15 38 23.5 -1.3
FVM pmax pmax
comp=Z,84nm,0.8s
FVM French Village 65.40 340 P P 15 38 23.5 -1.3
TUL1 Leonard 65.47 334 P P 15 38 25.2 -0.1
TUL1 Leonard 65.47 334 P P 15 38 25.8 +0.5
baz=151,SNR=9.7
TUL1 S S **15 46 52.7 -1.0**
baz=151
ACSO Alum Creek Sta 65.51 346 P P 15 38 25.8 +0.4
baz=164
ACSO S S **15 46 51.5 -2.5**
baz=164
KSCT Kent School, K 65.52 354 P P 15 38 25.2 -0.3
M57A Sunshine Farm, 65.55 351 P P 15 38 25.3 -0.4
FNO Franklin 65.56 333 P P 15 38 26.3 +0.4
FNO lAmb lAmb 15 38 28.8
comp=Z,106nm,1.1s
BRYW Bryant College 65.57 356 P P 15 38 26.1 +0.3
BRYW lAmb lAmb 15 38 29.5
comp=Z,99nm,0.9s
KSPA Keystone Colle 65.59 353 P P 15 38 25.9 -0.1
N54A Moraine State 65.63 349 P P 15 38 26.8 +0.6
N54A lAmb lAmb 15 38 30.9
comp=Z,63nm,1.4s
N54A Moraine State 65.63 349 P P 15 38 27.6 +1.3
baz=167,SNR=5.3
N54A S S **15 46 55.8 +0.4**
baz=167
N53A Lisbon 65.63 348 P P 15 38 26.1 -0.2
WMOK Wichita Mounta 65.72 331 P P 15 38 26.1 -0.9
WMOK pmax pmax
comp=Z,63nm,1.5s
WMOK Wichita Mounta 65.72 331 P P 15 38 26.1 -0.9
WMOK Wichita Mounta 65.72 331 P P 15 38 27.2 +0.2
baz=148
WMOK S S **15 46 54.2 -2.6**
baz=148
CCM Cathedral Cave 65.73 339 P P 15 38 25.7 -1.2
CCM pmax pmax
comp=Z,150nm,0.7s
CCM Cathedral Cave 65.73 339 P P 15 38 25.7 -1.2
CCM Cathedral Cave 65.73 339 P P 15 38 26.9 0.0
baz=155
CCM S S **15 46 53.2 -3.5**
baz=155
Q44A Meyer Farm, Va 65.81 341 P P 15 38 26.4 -0.9
OK025 Westminster Rd 65.82 333 P P 15 38 27.0 -0.5
M55A Ridgway 65.92 350 P P 15 38 27.7 -0.4
OK031 S. Brethren Rd 65.93 334 P P 15 38 28.0 -0.2
BCOK Bluff Creek, N 65.99 333 P P 15 38 28.4 -0.3
BCOK lAmb lAmb 15 38 31.6
comp=Z,104nm,1.0s
WES Weston 66.02 356 P P 15 38 28.7 +0.1
WES pmax pmax
comp=Z,20nm,0.9s
WES Weston 66.02 356 P P 15 38 28.7 +0.1
OK029 Liberty Lake 66.05 333 P P 15 38 28.6 -0.4
QUOK Quay 66.06 334 P P 15 38 28.4 -0.7
M54A Oil Creek Stat 66.10 349 P P 15 38 28.5 -0.8
M54A Oil Creek Stat 66.10 349 P P 15 38 30.8 +1.5
baz=167
M54A S S **15 47 00.6 -0.6**
baz=167
S39A Bolivar 66.11 337 P P 15 38 28.4 -1.0
L59A Walton 66.14 353 P P 15 38 29.4 -0.1
L59A lAmb lAmb 15 38 33.6
comp=Z,96nm,1.1s
HRV Adam Dziewonsk 66.15 356 P P 15 38 28.9 -0.6
HRV pmax pmax
comp=Z,58nm,0.9s
HRV Adam Dziewonsk 66.15 356 P P 15 38 28.9 -0.6
HRV lAmb lAmb 15 38 33.2
comp=Z,58nm,0.9s
HRV Adam Dziewonsk 66.15 356 P P 15 38 30.8 +1.3
baz=175
HRV S S **15 47 01.2 -0.4**
baz=175
L61B Northampton 66.17 355 P P 15 38 30.0 +0.3
baz=174,SNR=6.5
L61B S S **15 47 01.8 -0.2**
baz=174
M53A WI Miller and 66.21 349 P P 15 38 29.6 -0.3
M53A WI Miller and 66.21 349 P P 15 38 29.9 -0.1
baz=166
M53A S S **15 47 01.0 -1.5**
baz=166
BINY Binghamton 66.25 352 P P 15 38 29.8 -0.4
BINY lAmb lAmb 15 38 34.3
comp=Z,130nm,1.3s
BINY Binghamton 66.25 352 P P 15 38 30.9 +0.7
baz=171
BINY S S **15 47 02.7 -0.2**
baz=171
R40A Maddies Statio 66.28 338 P P 15 38 29.3 -1.1
R40A lAmb lAmb 15 38 34.0
comp=Z,70nm,0.8s
K62A Royalston 66.36 356 P P 15 38 30.1 -0.7
QSPA South Pole Qui 66.38 180 P P 15 38 30.8 -0.2
QSPA lAmb lAmb 15 38 35.6
comp=Z,61nm,0.8s
L56A Greenwood 66.39 351 P P 15 38 30.6 -0.6
N49A Columbus Grove 66.43 346 P P 15 38 30.4 -0.9
N49A lAmb lAmb 15 38 34.8
comp=Z,44nm,0.9s
MNTX Cornudas Mount 66.46 324 P P 15 38 30.6 -1.2
MNTX lAmb lAmb 15 38 33.6
comp=Z,50nm,0.8s
MNTX Cornudas Mount 66.46 324 P P 15 38 32.0 +0.3
baz=141
MNTX S S **15 47 05.2 -0.6**
baz=141
TRY Troy 66.54 354 P P 15 38 31.8 -0.1
TRY lAmb lAmb 15 38 36.0
comp=Z,65nm,0.9s
T35A Sooner Cattle 66.63 334 P P 15 38 33.0 +0.3
T35A lAmb lAmb 15 38 36.8
comp=Z,113nm,1.1s
P43A Skaggs, Pawnee 66.64 341 P P 15 38 31.9 -0.7
SFIN Lafayette 66.64 343 P P 15 38 31.0 -1.7
SFIN lAmb lAmb 15 38 34.4
comp=Z,32nm,0.6s
SFIN Lafayette 66.64 343 P P 15 38 31.0 -1.7
baz=160,SNR=12
SFIN S S **15 47 02.0 -5.6**
baz=160
N47A Urbana 66.75 344 P P 15 38 32.1 -1.2
N47A lAmb lAmb 15 38 36.3
comp=Z,72nm,1.1s
ERPA Erie 66.75 349 P P 15 38 33.7 +0.4
baz=167
ERPA S S **15 47 07.8 -1.1**
baz=167
BLOK Blackwell 66.78 334 P P 15 38 33.3 -0.4
BLOK lAmb lAmb 15 38 37.8
comp=Z,128nm,1.2s
O44A Mansfield 66.80 342 P P 15 38 33.0 -0.7
WVNY West Valley, N 66.81 350 P P 15 38 33.2 -0.6
WVNY lAmb lAmb 15 38 46.2
comp=Z,47nm,0.8s
K57A Scipio Center 66.84 352 P P 15 38 33.4 -0.5
K57A lAmb lAmb 15 38 38.1
comp=Z,77nm,1.2s
CROK Carrier 66.88 333 P P 15 38 34.2 0.0
MSTX Muleshoe 66.93 328 P P 15 38 34.4 -0.4
MSTX Muleshoe 66.93 328 P P 15 38 35.2 +0.4
baz=144,SNR=101
MSTX S S **15 47 10.5 -1.2**
baz=144
MMNY Mt. Morris Dam 67.03 351 P P 15 38 34.5 -0.5
MMNY lAmb lAmb 15 38 39.4
comp=Z,94nm,1.2s
J61A Chester 67.06 355 P P 15 38 35.6 +0.3
J61A lAmb lAmb 15 38 39.5
comp=Z,72nm,1.4s
KAN13 South Haven SW 67.10 334 P P 15 38 35.1 -0.6
LIC Lamto 67.14 72 eP P 15 38 35.2 -1.2
comp=Z,127nm,0.8s
AMTX Amarillo 67.15 329 P P 15 38 35.4 -0.7
AMTX lAmb lAmb 15 38 40.1
comp=Z,49nm,0.8s
AMTX Amarillo 67.15 329 P P 15 38 36.8 +0.7
baz=145
AMTX S S **15 47 11.9 -2.4**
baz=145
U32A Winter Ranch, 67.20 332 P P 15 38 36.0 -0.3
U32A lAmb lAmb 15 38 39.7
comp=Z,43nm,0.9s
SRIG Santa Rosalia 67.20 316 P P 15 38 36.2 -0.3
SRIG lAmb lAmb 15 38 40.9
comp=Z,119nm,1.3s
OK032 Salt Plains WL 67.22 333 P P 15 38 36.9 +0.5
OK032 lAmb lAmb 15 38 38.6
comp=Z,41nm,0.5s
KAN17 Caldwell West 67.25 333 P P 15 38 36.6 0.0
KAN17 lAmb lAmb 15 38 38.9
comp=Z,55nm,0.8s
KAN14 Manchester OK 67.25 333 P P 15 38 37.1 +0.5
KAN14 lAmb lAmb 15 38 40.7
comp=Z,105nm,1.3s
KAN09 Caldwell North 67.27 334 P P 15 38 37.1 +0.4
KAN09 lAmb lAmb 15 38 40.7
comp=Z,86nm,1.0s
J58A Remsen 67.32 353 P P 15 38 36.5 -0.4
KS20 Mayfield South 67.32 334 P P 15 38 36.5 -0.6
KS20 lAmb lAmb 15 38 41.1
comp=Z,78nm,1.0s
P40A Paris 67.33 339 P P 15 38 36.2 -0.8
P40A lAmb lAmb 15 38 39.8
comp=Z,62nm,0.8s
J59A Piesco 67.34 354 P P 15 38 37.3 +0.2
KAN05 Bluff City Nor 67.35 333 P P 15 38 37.3 +0.1
TIC Toumodi 67.35 71 eP P 15 38 36.8 -1.0
HDIL Hopedale 67.41 342 P P 15 38 36.5 -1.1
HDIL lAmb lAmb 15 38 39.6
comp=Z,72nm,0.8s
HDIL Hopedale 67.41 342 P P 15 38 37.9 +0.4
baz=158
HDIL S S **15 47 11.3 -5.6**
baz=158
J56A Wolcott 67.42 352 P P 15 38 36.9 -0.6
J56A lAmb lAmb 15 38 41.5
comp=Z,56nm,0.7s
J57A Williamstown 67.45 353 P P 15 38 37.0 -0.7
J57A lAmb lAmb 15 38 42.0
comp=Z,69nm,1.2s
KAN10 Anthony SW Sta 67.45 333 P P 15 38 37.4 -0.5
KIC Kosan Boka 67.46 72 eP P 15 38 36.8 -1.6
comp=Z,161nm,0.8s
L48A N Adams 67.46 346 P P 15 38 37.3 -0.5
L48A lAmb lAmb 15 38 40.9
comp=Z,42nm,0.6s
KAN08 Anthony NE Sta 67.49 333 P P 15 38 37.6 -0.5
KAN08 lAmb lAmb 15 38 42.2
comp=Z,85nm,0.9s
DBIC Dimbokro 67.50 71 P P 15 38 37.3 -1.4
comp=Z,89nm,0.8s,baz=240,slow=5.7,SNR=50
DBIC PP **PP 15 41 06.0 -4.3**
comp=Z,32nm,0.8s,baz=250,slow=8.9,SNR=3.8
DBIC LR LR 16 09 28.8
comp=Z,792nm,18.2s,baz=258,slow=37
DBIC Dimbokro 67.50 71 P P 15 38 36.8 -1.9
KAN16 Harper SW Stat 67.53 333 P P 15 38 38.1 -0.3
KAN16 lAmb lAmb 15 38 42.4
comp=Z,83nm,0.7s
J55A Hilton 67.54 351 P P 15 38 37.5 -0.7
KAN12 Harper NE Stat 67.56 333 P P 15 38 38.2 -0.3
KAN12 lAmb lAmb 15 38 42.7
comp=Z,72nm,0.8s
HSIG 67.62 319 P P 15 38 39.8 +0.7
HSIG lAmb lAmb 15 38 42.4
comp=Z,79nm,0.7s
AAM Ann Arbor 67.64 346 P P 15 38 39.7 +0.8
baz=163
AAM S S **15 47 15.3 -4.1**
baz=163
M44A Midewin, Midew 67.83 343 P P 15 38 38.5 -1.6
LBNH Lisbon 67.90 356 P P 15 38 40.6 +0.1
LBNH pmax pmax
comp=Z,28nm,1.1s
LBNH Lisbon 67.90 356 P P 15 38 40.6 +0.1
LBNH Lisbon 67.90 356 P P 15 38 41.8 +1.3
baz=175
LBNH S S **15 47 24.3 +1.7**
baz=175
N41A Harden Midland 68.02 340 P P 15 38 40.4 -0.9
N41A lAmb lAmb 15 38 43.6
comp=Z,81nm,0.7s
PECO Prince Edward 68.09 352 P P 15 38 41.3 -0.3
PECO lAmb lAmb 15 38 45.9
comp=Z,51nm,1.1s
HAL Halifax 68.19 2 P P 15 38 43.0 +0.8
HAL pmax pmax
comp=Z,47nm,0.9s
HAL Halifax 68.19 2 P P 15 38 43.0 +0.8
HAL lAmb lAmb 15 38 44.8
comp=Z,47nm,0.9s
EMMW East Machias 68.21 359 P P 15 38 42.6 +0.2
319A Douglas 68.36 322 P P 15 38 43.9 0.0
121A Cookes Peak, D 68.39 323 P P 15 38 44.4 +0.3
121A lAmb lAmb 15 38 48.9
comp=Z,104nm,0.9s
121A Cookes Peak, D 68.39 323 P P 15 38 45.2 +1.2
baz=140,SNR=79
121A S S **15 47 31.6 +2.3**
baz=140
LONY Lake Ozonia 68.49 354 P P 15 38 44.1 -0.1
LONY Lake Ozonia 68.49 354 P P 15 38 45.0 +0.8
baz=172
LONY S S **15 47 29.9 +0.3**
baz=172
L44A Lake County Fo 68.54 343 P P 15 38 43.7 -0.8
L44A lAmb lAmb 15 38 47.6
comp=Z,80nm,1.1s
L44A Lake County Fo 68.54 343 P P 15 38 44.5 0.0
baz=159
L44A S S **15 47 23.9 -6.2**
baz=159
KSU1 Kansas State U 68.57 335 P P 15 38 44.1 -0.7
KSU1 lAmb lAmb 15 38 47.7
comp=Z,55nm,0.8s
KSU1 Kansas State U 68.57 335 P P 15 38 44.8 0.0
baz=151
KSU1 S S **15 47 29.4 -1.3**
baz=151
FRNY Flat Rock 68.62 355 P P 15 38 44.6 -0.3
G65A Princeton 68.70 359 P P 15 38 45.0 -0.4
DELO Deloro Mine 68.74 352 P P 15 38 45.4 -0.3
PKME Peaks-Kenny Pk 68.80 358 P P 15 38 45.6 -0.4
PKME lAmb lAmb 15 38 49.6
comp=Z,41nm,0.8s
PKME Peaks-Kenny Pk 68.80 358 P P 15 38 46.8 +0.8
baz=177
PKME S S **15 47 32.9 -0.2**
baz=177
G62A West of Eustis 68.80 357 P P 15 38 45.4 -0.6
G62A lAmb lAmb 15 38 49.6
comp=Z,57nm,1.1s
R32A Long Quarter, 68.81 333 P P 15 38 46.0 -0.3
L42A Oliver, Polo 68.86 342 P P 15 38 45.5 -1.0
L42A lAmb lAmb 15 38 48.8
comp=Z,142nm,1.5s
N38A Joes South For 68.86 339 P P 15 38 44.8 -1.7
N38A lAmb lAmb 15 38 49.1
comp=Z,89nm,1.1s
MOQ Mont Orford 68.99 356 P P 15 38 48.0 +0.7
BNM Barren Site 69.02 325 P P 15 38 49.1 +1.1
GBN Guysborough 69.07 4 P P 15 38 48.6 +1.0
Y22D IRIS PASSCAL I 69.11 325 P P 15 38 50.9 +2.5
baz=141
Y22D S S **15 47 40.0 +2.4**
baz=141
K43A Burlington 69.14 343 P P 15 38 47.2 -1.0
K43A lAmb lAmb 15 38 51.5
comp=Z,68nm,0.6s
SADO Sadowa 69.20 351 P P 15 38 47.8 -0.7
comp=Z,12nm,0.5s,baz=198,slow=5.9,SNR=9.3
SADO Sadowa 69.20 351 P P 15 38 47.8 -0.7
LENM Lemitar 69.21 325 P P 15 38 50.1 +1.0
F63A Nahmakanta, Br 69.23 358 P P 15 38 49.2 +0.5
MNTQ Montreal, Queb 69.28 355 P P 15 38 48.7 -0.3
L40A Anamosa 69.37 341 P P 15 38 48.5 -1.1
LMN Caledonia Moun 69.37 1 P P 15 38 48.9 -0.7
LMN lAmb lAmb 15 38 52.6
comp=Z,73nm,1.1s
F64A Sherman 69.37 359 P P 15 38 49.0 -0.5
F64A lAmb lAmb 15 38 53.5
comp=Z,50nm,0.8s
F62A Pittston Farm, 69.45 358 P P 15 38 49.7 -0.4
ANMO Albuquerque 69.55 326 P P 15 38 52.1 +1.0
comp=Z,45nm,0.8s,baz=136,slow=6.5,SNR=75
ANMO Albuquerque 69.55 326 d iP P 15 38 52.9 +1.7
ANMO pmax pmax
comp=Z,77nm,1.1s
ANMO Albuquerque 69.55 326 P P 15 38 51.5 +0.3
ANMO lAmb lAmb 15 38 54.5
comp=Z,64nm,1.1s
ANMO Albuquerque 69.55 326 P P 15 38 53.4 +2.2
baz=141
ANMO S S **15 47 44.2 +1.4**
baz=141
CBKS Cedar Bluff 69.57 333 P P 15 38 51.2 +0.2
CBKS pmax pmax
comp=Z,141nm,1.0s
CBKS Cedar Bluff 69.57 333 P P 15 38 51.1 +0.2
CBKS Cedar Bluff 69.57 333 P P 15 38 51.5 +0.5
baz=148
CBKS S S **15 47 42.0 -0.5**
baz=148
N35A Tabor 69.75 337 P P 15 38 51.0 -1.0
SCIA State Center 69.85 339 P P 15 38 51.5 -1.1
SCIA lAmb lAmb 15 38 55.5
comp=Z,128nm,1.2s
SCIA State Center 69.85 339 P P 15 38 52.9 +0.4
baz=154
SCIA S S **15 47 41.6 -4.0**
baz=154
JFWS Jewell Farm 69.86 342 P P 15 38 51.8 -0.9
JFWS pmax pmax
comp=Z,119nm,0.6s
JFWS Jewell Farm 69.86 342 P P 15 38 51.8 -0.9
JFWS Jewell Farm 69.86 342 P P 15 38 52.4 -0.3
baz=157
JFWS S S **15 47 41.5 -4.2**
baz=157
TUC Tucson 69.91 321 P P 15 38 53.0 -0.3
TUC pmax pmax
comp=Z,91nm,1.3s
TUC Tucson 69.91 321 P P 15 38 53.0 -0.3
TUC lAmb lAmb 15 38 58.5
comp=Z,91nm,1.3s
TUC Tucson 69.91 321 P P 15 38 54.6 +1.3
baz=137
TUC S S **15 47 49.5 +2.6**
baz=137
E62A Clayton Lake 70.16 358 P P 15 38 54.1 -0.3
E62A lAmb lAmb 15 38 57.7
comp=Z,64nm,1.1s
GLMI Grayling 70.25 347 P P 15 38 55.4 +0.5
baz=162
GLMI S S **15 47 45.8 -4.3**
baz=162
T25A Trinidad 70.27 329 P P 15 38 55.1 -0.4
T25A lAmb lAmb 15 38 59.9
comp=Z,60nm,0.7s
T25A Trinidad 70.27 329 P P 15 38 56.1 +0.6
baz=144,SNR=54
T25A S S **15 47 53.5 +2.4**
baz=144
K38A Parkersburg 70.38 340 P P 15 38 55.5 -0.2
K38A lAmb lAmb 15 38 58.0
comp=Z,49nm,0.5s
I42A Draeger Farm, 70.40 343 P P 15 38 54.8 -1.1
I42A lAmb lAmb 15 38 59.5
comp=Z,72nm,1.1s
D62A Allapoint, All 70.61 358 P P 15 38 56.5 -0.6
D62A lAmb lAmb 15 39 00.6
comp=Z,50nm,0.8s
H43A Windswept, Lux 70.64 344 P P 15 38 56.4 -0.9
BATG Bathurst New B 70.78 0 P P 15 38 58.0 -0.1
214A Organ Pipe Nat 70.84 320 P P 15 38 59.4 +0.5
214A lAmb lAmb 15 39 02.5
comp=Z,41nm,0.8s
214A Organ Pipe Nat 70.84 320 P P 15 39 00.8 +1.9
baz=136,SNR=32
214A S S **15 48 01.9 +4.4**
baz=136
MACI Morro de la Ar 70.86 46 P P 15 38 59.5 +0.2
I40A Norwalk 70.87 342 P P 15 38 58.0 -0.7
I40A lAmb lAmb 15 39 01.3
comp=Z,30nm,0.5s
KSCO Kaye Shedlock' 70.97 331 P P 15 38 58.8 -0.9
KSCO Kaye Shedlock' 70.97 331 P P 15 39 00.7 +1.1
baz=145,SNR=10
KSCO S S **15 47 59.5 +0.5**
baz=145
L34A Svendsen Farm, 70.98 337 P P 15 38 58.4 -1.1
X18A Snowflake 71.08 323 P P 15 39 01.9 +1.5
X18A lAmb lAmb 15 39 05.3
comp=Z,46nm,0.9s
BGNE Belgrade 71.15 336 P P 15 38 59.9 -0.6
BGNE Belgrade 71.15 336 P P 15 39 00.4 -0.1
baz=150,SNR=54
BGNE S S **15 48 00.2 -0.6**
baz=150
SDCO Great Sand Dun 71.28 328 P P 15 39 02.0 +0.3
SDCO lAmb lAmb 15 39 07.0
comp=Z,48nm,0.8s
SDCO Great Sand Dun 71.28 328 P P 15 39 02.8 +1.2
baz=143
SDCO S S **15 48 05.6 +2.7**
baz=143
TAOE Nuku Hiva Isla 71.36 268 eP P 15 39 04.7 +2.2
comp=Z,315nm,1.1s
W18A Petrified Fore 71.41 324 P P 15 39 03.1 +0.7
W18A lAmb lAmb 15 39 07.7
comp=Z,106nm,1.2s
W18A Petrified Fore 71.41 324 P P 15 39 03.2 +0.8
baz=139,SNR=13
W18A S S **15 48 07.2 +2.9**
baz=139
SFX San Felipe 71.43 318 P P 15 39 02.7 +0.4
SFX lAmb lAmb 15 39 06.0
comp=Z,63nm,0.7s
PICO Pico 71.65 31 eP P 15 39 03.7 +0.1
comp=Z,236nm,1.2s
E46A Sault Ste Mari 71.66 347 P P 15 39 03.3 -0.1
E46A lAmb lAmb 15 39 07.0
comp=Z,63nm,1.1s
I37A Lemond, Waseca 71.81 340 P P 15 39 03.6 -0.7
X16A Lo Mia Camp, P 71.83 322 P P 15 39 05.7 +0.8
X16A lAmb lAmb 15 39 10.3
comp=Z,52nm,0.9s
ROSA Rosais 71.91 31 eP P 15 39 05.1 0.0
comp=Z,98nm,0.8s
S22A 4UR Ranch, Cre 71.92 328 P P 15 39 07.2 +1.7
baz=142,SNR=55
S22A S S **15 48 11.3 +1.0**
baz=142
113A Mohawk Valley, 71.98 320 P P 15 39 05.5 -0.1
113A lAmb lAmb 15 39 10.0
comp=Z,50nm,1.0s
Q24A Divide 72.08 329 P P 15 39 07.3 +0.8
baz=143,SNR=40
Q24A S S **15 48 14.7 +2.7**
baz=143
PSMN Pico do Norte, 72.12 34 eP P 15 39 06.9 +0.5
comp=Z,74nm,0.9s
KOWA Kowa 72.13 65 P P 15 39 06.3 -0.6
comp=Z,60nm,0.5s,baz=242,slow=5.5,SNR=67
KOWA S S **15 48 09.1 -3.8**
comp=Z,2.2nm,0.8s,baz=96,slow=22,SNR=6.5
KOWA Kowa 72.13 65 P P 15 39 05.3 -1.5
KOWA lAmb lAmb 15 39 12.4
comp=Z,84nm,0.8s

E43A **Lone Tree Farm** 72.25 345 P **P** 15 39 06.2 -0.7
OGNE **Ogallala** 72.31 333 P **P** 15 39 07.4 -0.1
OGNE IAmb IAmb 15 39 12.5
comp=Z,70nm,0.8s
OGNE **Ogallala** 72.31 333 P **P** 15 39 08.4 +0.9
baz=146
OGNE S **S** 15 48 14.9 +0.8
baz=146
MVCO **Mesa Verde** 72.34 326 P **P** 15 39 07.8 -0.2
MVCO IAmb IAmb 15 39 13.3
comp=Z,57nm,0.8s
MVCO **Mesa Verde** 72.34 326 P **P** 15 39 09.4 +1.4
baz=140
MVCO S **S** 15 48 18.2 +3.2
baz=140
PSET **Sete Cidades** 72.42 33 *e*P **P** 15 39 08.6 +0.4
comp=Z,268nm,1.0s
K31A **O'Neill** 72.43 336 P **P** 15 39 07.4 -0.6
CMLA **Cha da Macela** 72.47 33 *e*P **P** 15 39 09.0 +0.6
comp=Z,92nm,0.8s
COWI **Conover** 72.51 344 P **P** 15 39 07.7 -0.8
WUAZ **Wupatki** 72.60 323 P **P** 15 39 10.8 +1.4
WUAZ IAmb IAmb 15 39 14.4
comp=Z,94nm,0.9s
WUAZ **Wupatki** 72.60 323 P **P** 15 39 11.4 +1.9
baz=138
WUAZ S **SKiKP** 15 48 23.1 +0.1
baz=138
ECSD **EROS Data Cent** 72.62 338 P **P** 15 39 07.9 -1.2
ECSD IAmb IAmb 15 39 12.9
comp=Z,94nm,1.1s
ECSD **EROS Data Cent** 72.62 338 P **P** 15 39 09.3 +0.2
baz=151
ECSD S **S** 15 48 15.2 -2.2
baz=151
SPMN **Marine on St.** 72.72 341 P **P** 15 39 09.0 -0.7
SPMN IAmb IAmb 15 39 13.1
comp=Z,56nm,0.9s
SPMN **Marine on St.** 72.72 341 P **P** 15 39 09.1 -0.7
baz=155
SPMN S **S** 15 48 15.2 -3.2
baz=155
GLA **Glamis** 72.81 319 P **P** 15 39 10.4 -0.2
GLA pmax pmax
comp=Z,60nm,0.9s
GLA **Glamis** 72.81 319 P **P** 15 39 10.4 -0.2
GLA IAmb IAmb 15 39 15.1
comp=Z,60nm,0.9s
GLA **Glamis** 72.81 319 P **P** 15 39 11.7 +1.1
baz=134,SNR=17
GLA S **SKiKP** 15 48 23.7 +0.5
baz=134
ISCO **Idaho Springs** 72.97 330 P **P** 15 39 12.1 +0.4
ISCO pmax pmax
comp=Z,51nm,1.1s
ISCO **Idaho Springs** 72.97 330 P **P** 15 39 12.1 +0.4
ISCO **Idaho Springs** 72.97 330 P **P** 15 39 12.3 +0.6
baz=143
ISCO S **SKiKP** 15 48 23.9 +0.3
baz=143
SMCO **Snowmass** 73.11 328 P **P** 15 39 13.3 +0.7
SMCO IAmb IAmb 15 39 17.4
comp=Z,65nm,0.8s
DRLN **Deer Lake** 73.22 6 P **P** 15 39 12.3 -0.1
RMX **La Rumorosa** 73.26 318 P **P** 15 39 14.0 +0.7
RMX IAmb IAmb 15 39 17.8
comp=Z,65nm,0.9s
D41A **Chassel** 73.27 345 P **P** 15 39 12.9 +0.1
PDMCI **Parker Dam,Lak** 73.29 320 P **P** 15 39 14.7 +1.4
baz=135,SNR=7.7
PDMCI S **S** 15 48 29.0 +3.8
baz=135
IKP **In-Ko-Pah, Jac** 73.31 318 P **P** 15 39 14.8 +1.2
baz=134,SNR=28
IKP S **S** 15 48 29.8 +4.1
baz=134
SWSC **Sam W. Stewart** 73.33 318 P **P** 15 39 14.7 +1.2
baz=134,SNR=7.4
SWSC S **S** 15 48 31.2 +5.5
baz=134
CBX **Cerro Bola** 73.42 317 P **P** 15 39 14.8 +0.5
F36A **Milaca** 73.51 341 P **P** 15 39 12.7 -1.6
F36A IAmb IAmb 15 39 17.1
comp=Z,41nm,0.7s
PMOZ **Porto Moniz, M** 73.51 42 *e*P **P** 15 39 15.0 +0.2
comp=Z,211nm,0.8s
PMOZ **Porto Moniz, M** 73.51 42 P **P** 15 39 14.4 -0.4
BC3 **Big Chuckawall** 73.61 319 P **P** 15 39 17.0 +1.7
baz=134,SNR=91
BC3 S **S** 15 48 34.3 +5.2
baz=134
SYO **Syowa Base** 73.62 159⇑ *e*P **P** 15 39 14.2 -0.5
SYO **Syowa Base** 73.62 159⇑ *e*PcP **PcP** 15 39 26.2 -3.3
E38A **The Farm, Brul** 73.62 342 P **P** 15 39 14.1 -0.8
E38A IAmb IAmb 15 39 18.6
comp=Z,87nm,1.5s
MONP2 **Monument Peak** 73.67 318 P **P** 15 39 17.4 +1.6
baz=133,SNR=49
MONP2 S **S** 15 48 32.9 +2.9
baz=133
BAR **Barrett** 73.68 318 P **P** 15 39 15.8 +0.2
BAR IAmb IAmb 15 39 19.5
comp=Z,60nm,0.7s
W13A **Hualapai Mount** 73.71 321 P **P** 15 39 16.4 +0.5
U15A **North Rim** 73.77 323 P **P** 15 39 17.1 +0.7
U15A IAmb IAmb 15 39 21.5
comp=Z,62nm,0.9s
IRM **Iron Mountain** 73.78 320 P **P** 15 39 17.8 +1.6
baz=134,SNR=46
IRM S **S** 15 48 34.3 +3.5
baz=134
NEE2 **Needles Airpor** 73.90 321 P **P** 15 39 17.9 +1.0
baz=135
NEE2 S **S** 15 48 35.5 +3.5
baz=135
SBA **Scott Base** 73.91 190 P **P** 15 39 17.4 +1.1
SBA pmax pmax
comp=Z,74nm,1.3s
SBA **Scott Base** 73.91 190 P **P** 15 39 17.4 +1.1
SBA IAmb IAmb 15 39 22.0
comp=Z,74nm,1.2s
N23A **Red Feather La** 73.99 330 P **P** 15 39 18.4 +0.8
baz=143,SNR=28
N23A S **S** 15 48 35.7 +2.3
baz=143
SUSD **Miller** 74.07 337 P **P** 15 39 16.9 -0.7
SUSD **Miller** 74.07 337 P **P** 15 39 17.9 +0.2
baz=149
SUSD S **S** 15 48 32.1 -1.5
baz=149
109C **Camp Elliot, M** 74.09 318 P **P** 15 39 18.4 +0.5
baz=133
109C S **S** 15 48 37.3 +3.1
baz=133
PHWY **Pilot Hill** 74.10 331 P **P** 15 39 18.5 +0.3
BELC **Belle Mtn. Jos** 74.17 319 P **P** 15 39 20.4 +1.8
baz=134,SNR=43
BELC S **S** 15 48 39.5 +4.1
baz=134
TPFO **Pinon Flats** 74.18 319 P **P** 15 39 20.3 +1.7
baz=133,SNR=35
TPFO S **S** 15 48 41.0 +5.5
baz=133
PFO **Pinyon Flats O** 74.19 319 P **P** 15 39 20.3 +1.6
comp=Z,41nm,0.9s,baz=124,slow=4.8,SNR=45
PFO **Pinyon Flats O** 74.19 319 P **P** 15 39 18.8 +0.1
PFO IAmb IAmb 15 39 24.1
comp=Z,58nm,0.9s
PFO **Pinyon Flats O** 74.19 319 P **P** 15 39 20.5 +1.8
baz=133,SNR=35
PFO S **S** 15 48 40.8 +5.3
baz=133
PMPST **Porto Santo, M** 74.22 42 *e*P **P** 15 39 21.3 +2.6
comp=Z,292nm,1.3s
F33A **5 Mile Ranch,** 74.36 339 P **P** 15 39 18.7 -0.5
O20A **White River Ci** 74.47 328 P **P** 15 39 20.5 +0.2
O20A IAmb IAmb 15 39 24.9
comp=Z,98nm,0.9s
O20A **White River Ci** 74.47 328 P **P** 15 39 21.6 +1.3
baz=141,SNR=51
O20A S **S** 15 48 40.7 +2.0
baz=141
KNB **Kanab** 74.49 323 P **P** 15 39 21.4 +1.0
KNB pmax pmax
comp=Z,204nm,1.2s
KNB **Kanab** 74.49 323 P **P** 15 39 21.4 +1.0

PKCU **Pink Cliffs** 74.53 324 P **P** 15 39 21.3 +0.5
MURC **Murrieta** 74.63 318 P **P** 15 39 22.7 +1.6
baz=133,SNR=19
MURC S **S** 15 48 43.6 +3.3
baz=133
LCMT **Little Creek M** 74.72 323 P **P** 15 39 22.1 +0.4
LCMT IAmb IAmb 15 39 26.5
comp=Z,62nm,1.0s
SRU **San Rafael Swe** 74.82 326 P **P** 15 39 22.2 -0.1
SRU pmax pmax
comp=Z,48nm,0.7s
SRU **San Rafael Swe** 74.82 326 P **P** 15 39 22.2 -0.1
SRU IAmb IAmb 15 39 25.9
comp=Z,48nm,0.7s
EYMN **Ely** 74.83 343 P **P** 15 39 22.1 +0.1
EYMN **Ely** 74.83 343 P **P** 15 39 22.6 +0.7
baz=156
EYMN S **S** 15 48 38.5 -3.4
baz=156
MTPU **Mount Pierson** 74.90 324 P **P** 15 39 23.2 +0.2
MTPU IAmb IAmb 15 39 27.6
comp=Z,39nm,0.8s
BBRC **Big Bear Solar** 74.91 319 P **P** 15 39 24.1 +1.1
baz=133
BBRC S **S** 15 48 48.4 +4.6
baz=133
VNDA **Vanda** 74.91 190 P **P** 15 39 23.4 +1.3
comp=Z,35nm,1.1s,baz=136,slow=5.7,SNR=35
VNDA **Vanda** 74.91 190 P **P** 15 39 23.3 +1.2
HEC **Hector,Ludlow** 74.95 320 P **P** 15 39 24.2 +1.3
baz=134,SNR=110
HEC S **S** 15 48 47.9 +4.0
baz=134
Q16A **Castle Valley** 75.01 326 P **P** 15 39 24.0 +0.6
SCI2 **San Clemente I** 75.05 317 P **P** 15 39 24.7 +1.2
baz=132
SCI2 S **S** 15 48 49.9 +5.1
baz=132
SZCU **Shurtz Canyon** 75.06 323 P **P** 15 39 24.3 +0.5
TUQ **Turquoise Moun** 75.13 320 P **P** 15 39 25.5 +1.5
baz=134,SNR=52
TUQ S **S** 15 48 49.9 +4.0
baz=134
CCUT **Cedar City** 75.17 323 P **P** 15 39 25.3 +0.9
CCUT IAmb IAmb 15 39 29.9
comp=Z,96nm,0.9s
RWWY **Rawlins** 75.20 330 P **P** 15 39 25.5 +1.0
RWWY IAmb IAmb 15 39 29.1
comp=Z,111nm,1.1s
P17A **Butcher Ranch,** 75.21 326 P **P** 15 39 25.1 +0.6
P17A IAmb IAmb 15 39 29.6
comp=Z,80nm,1.0s
MSU **Marysvale** 75.24 325 P **P** 15 39 25.1 +0.4
MSU **Marysvale** 75.24 325 P **P** 15 39 25.1 +0.4
CIS **Catalina Islan** 75.24 317 P **P** 15 39 25.9 +1.2
baz=132,SNR=14
CIS S **S** 15 48 50.1 +3.0
baz=132
MVU **Marysvale** 75.25 325 P **P** 15 39 25.1 +0.3
MEH **Mehetia** 75.30 257 *e*P **P** 15 39 27.9 +2.5
comp=Z,29nm,0.9s
TMUT **Trail Mountain** 75.31 326 P **P** 15 39 26.0 +0.7
BFSC **Mount Baldy Ra** 75.34 318 P **P** 15 39 26.8 +1.5
baz=133,SNR=20
BFSC S **S** 15 48 51.4 +3.0
baz=133
RRX **Edison Barstow** 75.38 319 P **P** 15 39 26.5 +1.2
baz=133
RRX S **S** 15 48 52.3 +3.9
baz=133
FMP **Fort Macarthur** 75.38 318 P **P** 15 39 26.5 +1.2
baz=132
FMP S **S** 15 48 51.8 +3.4
baz=132
TCRU **Three Creeks R** 75.45 325 P **P** 15 39 26.7 +0.7
RDMU **Red Mountain** 75.45 328 P **P** 15 39 26.3 +0.3
RDMU IAmb IAmb 15 39 29.1
comp=Z,110nm,1.3s
GSC **Goldstone, Bar** 75.55 320 P **P** 15 39 27.3 +0.8
GSC pmax pmax
comp=Z,67nm,1.2s
GSC **Goldstone, Bar** 75.55 320 P **P** 15 39 27.3 +0.8
GSC IAmb IAmb 15 39 31.2
comp=Z,67nm,1.2s
GSC **Goldstone, Bar** 75.55 320 P **P** 15 39 28.3 +1.8
baz=134,SNR=26
GSC S **S** 15 48 53.8 +3.3
baz=134
MWC **Mount Wilson** 75.58 318 P **P** 15 39 27.1 +0.4
MWC pmax pmax
comp=Z,145nm,1.5s
MWC **Mount Wilson** 75.58 318 P **P** 15 39 27.1 +0.4
MWC IAmb IAmb 15 39 31.0
comp=Z,145nm,1.4s
PASC **Pasadena Art C** 75.62 318 P **P** 15 39 27.7 +1.0
PASC IAmb IAmb 15 39 32.0
comp=Z,74nm,1.1s
K22A **Casper** 75.65 331 P **P** 15 39 27.6 +0.7
K22A IAmb IAmb 15 39 32.2
comp=Z,90nm,1.1s
K22A **Casper** 75.65 331 P **P** 15 39 27.8 +0.9
baz=143,SNR=23
K22A S **S** 15 48 54.1 +2.6
baz=143
SHOC **Shoshone, Teco** 75.65 320 P **P** 15 39 28.1 +1.2
baz=134
SHOC S **S** 15 48 55.4 +3.9
baz=134
SUR **Sutherland** 75.67 119 P **P** 15 39 26.9 -0.6
SUR IAmb IAmb 15 39 32.2
comp=Z,62nm,0.8s
SUR **Sutherland** 75.67 119 P **P** 15 39 27.4 -0.1
DECC **Green Verdugo** 75.76 318 P **P** 15 39 28.6 +1.0
baz=132
DECC S **S** 15 48 56.2 +3.4
baz=132
RSSD **Black Hills** 75.77 333 P **P** 15 39 27.7 +0.1
RSSD pmax pmax
comp=Z,44nm,0.9s
RSSD **Black Hills** 75.77 333 P **P** 15 39 27.7 +0.1
RSSD IAmb IAmb 15 39 31.8
comp=Z,44nm,0.8s
RSSD **Black Hills** 75.77 333 P **P** 15 39 28.7 +1.0
baz=145
RSSD S **S** 15 48 54.8 +2.0
baz=145
B35A **Bob, Littlefor** 75.83 342 P **P** 15 39 26.8 -0.8
B35A IAmb IAmb 15 39 30.6
comp=Z,54nm,0.7s
VAH **Vaihoa** 75.84 259 *e*P **P** 15 39 30.4 +2.0
comp=Z,276nm,0.9s
EDW2 **Edwards Air Fo** 75.98 319 P **P** 15 39 30.1 +1.2
baz=133,SNR=35
EDW2 S **S** 15 48 57.4 +2.3
baz=133
PRN **Pahroc Range** 76.01 322 P **P** 15 39 30.2 +1.1
QSM **Queen of Sheba** 76.05 320 P **P** 15 39 30.1 +1.0
QSM IAmb IAmb 15 39 34.2
comp=Z,52nm,1.0s
MPU **Maple Canyon** 76.07 326 P **P** 15 39 29.6 +0.2
GWY **Greenwater Val** 76.08 320 P **P** 15 39 30.0 +0.5
GWY IAmb IAmb 15 39 34.5
comp=Z,89nm,0.9s
PSUT **Pine Spring** 76.15 324 P **P** 15 39 30.3 +0.4
PSUT IAmb IAmb 15 39 35.3
comp=Z,67nm,0.7s
PMOR **Pomariorio Ree** 76.17 260 *e*P **P** 15 39 32.3 +2.1
comp=Z,278nm,0.8s
LRMC **Laurel Mtn Rad** 76.20 319 P **P** 15 39 31.3 +1.1
baz=133
LRMC S **S** 15 49 00.6 +3.0
baz=133
OSI **Osito Audit: C** 76.24 318 P **P** 15 39 30.2 -0.2
OSI IAmb IAmb 15 39 34.6
comp=Z,94nm,1.2s
OSI **Osito Audit: C** 76.24 318 P **P** 15 39 31.7 +1.4
baz=132,SNR=6.3
OSI S **S** 15 48 59.9 +1.8
baz=132
NLU **North Lily Min** 76.25 326 P **P** 15 39 30.6 +0.1
NLU IAmb IAmb 15 39 36.1
comp=Z,69nm,1.4s
TORD **Torodi Ar. Bea** 76.27 69 P **P** 15 39 29.9 -0.8
comp=Z,108nm,0.6s,baz=264,slow=5.6,SNR=117
TORD S **S** 15 48 56.5 -2.4
comp=Z,1.7nm,0.8s,baz=245,slow=9.5,SNR=4.6

TORD **Torodi Ar. Bea** 76.27 69 P **P** 15 39 29.3 -1.5
TPNV **Topopah Spring** 76.37 321 P **P** 15 39 31.2 +0.1
TPNV pmax pmax
comp=Z,66nm,1.0s
TPNV **Topopah Spring** 76.37 321 P **P** 15 39 31.2 +0.1
TPNV IAmb IAmb 15 39 36.9
comp=Z,66nm,0.9s
TPNV **Topopah Spring** 76.37 321 P **P** 15 39 32.9 +1.8
baz=134
TPNV S **S** 15 49 04.6 +5.1
baz=134
FURC **Furnace Creek,** 76.39 320 P **P** 15 39 32.8 +1.8
baz=134,SNR=44
FURC S **S** 15 49 04.0 +4.6
baz=134
AGMN **Agassiz Nation** 76.41 340 P **P** 15 39 30.2 -0.7
AGMN IAmb IAmb 15 39 36.3
comp=Z,38nm,0.8s
AGMN **Agassiz Nation** 76.41 340 P **P** 15 39 32.1 +1.2
baz=153
AGMN S **S** 15 48 56.0 -3.1
baz=153
JLU **Jordanelle** 76.41 327 P **P** 15 39 30.9 -0.5
JLU IAmb IAmb 15 39 34.9
comp=Z,32nm,0.6s
MPMC **Manual Prospec** 76.47 320 P **P** 15 39 33.1 +1.3
baz=133,SNR=61
MPMC S **S** 15 49 03.7 +2.9
baz=133
E28A **Huff** 76.52 337 P **P** 15 39 31.4 -0.1
TIAR **Tiarei** 76.55 257 *e*P **P** 15 39 34.8 +2.4
comp=Z,7.0nm,1.0s
CTU **Camp Tracy** 76.63 326 P **P** 15 39 32.3 -0.2
ARVC **Arvin** 76.65 318 P **P** 15 39 33.9 +1.4
baz=132
ARVC S **S** 15 49 05.4 +3.1
baz=132
PAE **Paea** 76.72 256 *e*P **P** 15 39 35.8 +2.5
comp=Z,48nm,1.0s
PPTF **Pamatai, Papee** 76.73 256 P **P** 15 39 33.4 -0.1
SBC **Santa Barbara** 76.74 317 P **P** 15 39 34.0 +1.0
baz=131
SBC S **S** 15 49 06.9 +3.6
baz=131
PPT2 **Papeete2** 76.75 256 *e*P **P** 15 39 35.5 +1.9
comp=Z,106nm,1.0s
SPR3 **Spring Creek 3** 76.75 324 P **P** 15 39 33.3 -0.1
SPR3 IAmb IAmb 15 39 37.7
comp=Z,77nm,1.3s
PPT **Papeete** 76.75 257 P **P** 15 39 35.5 +1.9
comp=Z,134nm,0.9s,baz=172,slow=2.1,SNR=14
PPT LR LR 16 06 53.5
comp=Z,728nm,18.2s,baz=95,slow=30
TCUT **Toone Canyon** 76.78 327 P **P** 15 39 33.9 +0.5
TCUT IAmb IAmb 15 39 38.9
comp=Z,122nm,1.4s
ISA **Isabella, Lake** 76.80 319 P **P** 15 39 33.9 +0.5
ISA pmax pmax
comp=Z,61nm,1.0s
ISA **Isabella, Lake** 76.80 319 P **P** 15 39 33.9 +0.5
ISA IAmb IAmb 15 39 38.2
comp=Z,60nm,1.0s
ISA **Isabella, Lake** 76.80 319 P **P** 15 39 35.2 +1.8
baz=132,SNR=68
ISA S **S** 15 49 07.7 +3.6
baz=132
DUG **Dugway, Tooele** 76.81 325 P **P** 15 39 33.8 +0.3
DUG pmax pmax
comp=Z,48nm,1.0s
DUG **Dugway, Tooele** 76.81 325 P **P** 15 39 33.8 +0.3
DUG IAmb IAmb 15 39 38.3
comp=Z,48nm,1.0s
DUG **Dugway, Tooele** 76.81 325 P **P** 15 39 35.0 +1.6
baz=137
DUG S **S** 15 49 07.4 +3.2
baz=137
R11A **Troy Canyon, C** 76.97 323 P **P** 15 39 34.7 +0.3
R11A IAmb IAmb 15 39 40.3
comp=Z,75nm,1.2s
R11A **Troy Canyon, C** 76.97 323 P **P** 15 39 36.2 +1.7
baz=135,SNR=96
R11A S **S** 15 49 10.2 +4.1
baz=135
GRAC **Grapevine Rang** 77.05 321 P **P** 15 39 36.1 +1.4
baz=133,SNR=38
GRAC S **S** 15 49 11.8 +5.2
baz=133
CWC **Cottonwood Cre** 77.08 320 P **P** 15 39 36.3 +1.2
baz=133
CWC S **S** 15 49 09.8 +2.5
baz=133
PKM **Mcpherson Peak** 77.10 318 P **P** 15 39 36.5 +1.3
baz=131,SNR=42
PKM S **S** 15 49 11.5 +4.0
baz=131
BW06 **Boulder Array** 77.13 329 P **P** 15 39 35.0 -0.4
BW06 **Boulder Array** 77.13 329 P **P** 15 39 37.0 +1.7
baz=140
BW06 S **S** 15 49 09.7 +2.0
baz=140
PD31 **Pinedale Array** 77.13 329 P **P** 15 39 34.8 -0.5
PDAR **Pinedale Array** 77.13 329 P **P** 15 39 36.2 +0.9
comp=Z,15nm,0.5s,baz=131,slow=8.0,SNR=92
PDAR **Pinedale Array** 77.13 329 P **P** 15 39 34.9 -0.5
MDND **Maddock** 77.23 338 P **P** 15 39 35.5 +0.1
MDND **Maddock** 77.23 338 P **P** 15 39 36.3 +0.8
baz=149,SNR=14
MDND S **S** 15 49 07.7 -0.4
baz=149
VES **Vestal, Richgr** 77.28 319 P **P** 15 39 37.7 +1.7
baz=132,SNR=12
VES S **S** 15 49 13.1 +4.0
baz=132
LCH **Last Change Ra** 77.37 321 P **P** 15 39 36.5 -0.2
SPUT **South Promonto** 77.44 326 P **P** 15 39 37.1 +0.1
SPUT IAmb IAmb 15 39 41.3
comp=Z,150nm,1.4s
TSUM **Tsumeb** 77.45 106 P **P** 15 39 35.9 -1.7
BGU **Big Grassy Mou** 77.46 326 P **P** 15 39 37.4 +0.3
SMMC **Simmler** 77.49 318 P **P** 15 39 39.5 +2.2
baz=131,SNR=11
SMMC S **S** 15 49 14.5 +3.0
baz=131
TIN **Tinemaha, Big** 77.59 320 P **P** 15 39 39.1 +1.3
baz=133
TIN S **S** 15 49 16.3 +3.7
baz=133
TPH **Tonopah** 77.70 321 P **P** 15 39 39.0 +0.4
TPH pmax pmax
comp=Z,464nm,1.5s
TPH **Tonopah** 77.70 321 P **P** 15 39 39.0 +0.4
VOG **Valley Oaks Go** 77.78 319 P **P** 15 39 39.7 +1.0
baz=132
VOG S **S** 15 49 15.8 +1.4
baz=132
AHID **Auburn Hatcher** 77.87 328 P **P** 15 39 39.4 0.0
PAGB **Antelope Grade** 77.92 318 P **P** 15 39 40.5 +1.0
PAGB IAmb IAmb 15 39 44.2
comp=Z,103nm,1.2s
HVU **Hansel Valley** 77.96 327 P **P** 15 39 39.9 +0.1
HVU pmax pmax
comp=Z,95nm,1.3s
HVU **Hansel Valley** 77.96 327 P **P** 15 39 39.9 +0.1
HVU IAmb IAmb 15 39 44.0
comp=Z,95nm,1.3s
ULM **Lac du Bonnet** 78.15 341 P **P** 15 39 40.1 -0.3
comp=Z,50nm,0.5s,baz=157,slow=5.6,SNR=41
ULM LR LR 16 17 20.0
comp=Z,375nm,20.6s,baz=127,slow=38
ULM **Lac du Bonnet** 78.15 341*c i*P **P** 15 39 39.7 -0.7
ULM **Lac du Bonnet** 78.15 341 P **P** 15 39 39.6 -0.8
REDW **Red Top Meadow** 78.20 329 P **P** 15 39 41.2 0.0
REDW IAmb IAmb 15 39 52.9
comp=Z,49nm,0.8s
ECR **Eagle Creek** 78.22 328 P **P** 15 39 41.1 -0.1
SNOW **Snow King Moun** 78.23 329 P **P** 15 39 41.7 +0.3
SNOW IAmb IAmb 15 39 45.9
comp=Z,47nm,0.8s
LOHW **Long Hollow** 78.27 329 P **P** 15 39 41.7 +0.1
LOHW IAmb IAmb 15 39 45.5
comp=Z,34nm,0.6s
MLAC **Mammoth, Mammo** 78.33 320 P **P** 15 39 43.2 +1.1
baz=132
MLAC S **S** 15 49 23.8 +3.0
baz=132
SCHQ **Schefferville** 78.34 360 P **P** 15 39 41.0 -0.3

comp=Z,15nm,0.7s,baz=183,slow=2.4,SNR=15
SCHQ LR LR 16 16 20.7

comp=Z,249nm,19.7s,baz=182,slow=37
SCHQ Schefferville 78.34 360 P **P** **15 39 41.2 -0.2**
TPAW Teton Pass 78.34 329 P **P** **15 39 42.4 +0.3**
MOOW Moose Ponds 78.44 329 P **P** **15 39 42.5 -0.1**
MDPB Devils Postpil 78.48 320 P **P** **15 39 43.1 +0.2**
ELK Elko 78.48 324 P **P** **15 39 43.5 +0.7**

comp=Z,26nm,0.9s,baz=135,slow=3.3,SNR=72
ELK Elko 78.48 324 P **P** **15 39 43.0 +0.2**
NV11 Mina Array Sit 78.48 321 P **P** **15 39 43.0 +0.3**
FXWY Fox Creek 78.49 329 P **P** **15 39 43.1 +0.3**
LHV Little Huntoon 78.56 321 P **P** **15 39 43.7 +0.7**
NVAR Mina Array Bea 78.57 321 P **P** **15 39 44.0 +0.7**

comp=Z,12nm,0.6s,baz=151,slow=5.7,SNR=82
NVAR Mina Array Bea 78.57 321 P **P** **15 39 43.3 0.0**
PMPB Monarch Peak 78.57 318 P **P** **15 39 43.8 +0.6**
PMPB IAmb IAmb 15 39 48.7

comp=Z,95nm,1.0s
IMW Indian Meadow 78.65 329 P **P** **15 39 43.9 +0.2**
IMW IAmb IAmb 15 39 48.3

comp=Z,72nm,1.1s
FLWY Flagg Ranch 78.67 329 P **P** **15 39 44.1 +0.3**
FLWY IAmb IAmb 15 39 48.6

comp=Z,82nm,1.0s
LAO LASA Array 78.75 333 P **P** **15 39 43.9 -0.1**
LAO IAmb IAmb 15 39 48.6

comp=Z,96nm,0.9s
LAO LASA Array 78.75 333 P **P** **15 39 44.8 +0.8**
baz=144
LAO S **S** **15 49 26.1 +1.5**

baz=144
RLMT Red Lodge 78.82 331 P **P** **15 39 44.3 -0.2**
RLMT IAmb IAmb 15 39 48.4

comp=Z,41nm,0.6s
RLMT Red Lodge 78.82 331 P **P** **15 39 45.2 +0.7**
baz=141
RLMT S **S** **15 49 27.6 +2.0**

baz=141
RYN Ryan 78.83 321 P **P** **15 39 44.4 -0.2**
H17A Grant Village 78.86 330 P **P** **15 39 46.3 +1.5**
baz=140,SNR=15
H17A S **S** **15 49 30.5 +4.4**

baz=140
KVN Kaiserville 78.87 322 P **P** **15 39 44.7 -0.2**
KVN pmax pmax

comp=Z,59nm,0.8s
KVN Kaiserville 78.87 322 P **P** **15 39 44.7 -0.2**
KVN IAmb IAmb 15 39 49.7

comp=Z,59nm,0.8s
YNE Yellowstone No 79.06 330 P **P** **15 39 46.0 0.0**
YNE IAmb IAmb 15 39 51.0

comp=Z,126nm,1.3s
YMR Madison River 79.24 330 P **P** **15 39 47.8 +0.9**
YMR IAmb IAmb 15 39 51.9

comp=Z,68nm,0.9s
YHH Holmes Hill 79.28 330 P **P** **15 39 47.6 +0.4**
YHH IAmb IAmb 15 39 50.9

comp=Z,104nm,1.2s
SAO San Andreas Ge 79.33 318 P **P** **15 39 47.7 +0.5**
SAO pmax pmax

comp=Z,28nm,1.0s
SAO San Andreas Ge 79.33 318 P **P** **15 39 47.7 +0.5**
BMN Battle Mountai 79.33 323 P **P** **15 39 46.9 -0.5**
BMN pmax pmax

comp=Z,41nm,1.5s
BMN Battle Mountai 79.33 323 P **P** **15 39 46.9 -0.5**
DGMT Dagmar 79.41 336 P **P** **15 39 47.5 +0.1**
DGMT Dagmar 79.41 336 P **P** **15 39 48.3 +0.9**
baz=145
DGMT S **S** **15 49 33.0 +1.8**

baz=145
YHB Horse Butte 79.41 329 P **P** **15 39 47.8 0.0**
YHB IAmb IAmb 15 39 52.7

comp=Z,69nm,1.0s
YERR Yerington 79.48 321 P **P** **15 39 48.8 +0.5**
YERR IAmb IAmb 15 39 51.8

comp=Z,97nm,1.4s
YHL Hebgen Lake 79.48 330 P **P** **15 39 49.0 +0.7**
YHL IAmb IAmb 15 39 53.1

comp=Z,39nm,0.6s
GCMT Greycliff 79.52 331 P **P** **15 39 48.2 0.0**
CMB Columbia Colle 79.52 320 P **P** **15 39 48.3 0.0**
CMB pmax pmax

comp=Z,41nm,1.3s
CMB Columbia Colle 79.52 320 P **P** **15 39 48.3 0.0**
QLMT Earthquake Lak 79.58 329 P **P** **15 39 49.2 +0.6**
PNTR Pine Nut 79.76 321 P **P** **15 39 50.0 +0.2**
PNTR IAmb IAmb 15 39 54.5

comp=Z,76nm,0.8s
VCNR Virginia City 79.93 321 P **P** **15 39 51.7 +1.1**
VCNR IAmb IAmb 15 39 56.1

comp=Z,77nm,1.3s
EMB Emerald Bay 79.97 321 P **P** **15 39 52.1 +1.1**
PAHR Pah Rah Range 80.05 321 P **P** **15 39 51.8 +0.6**
PAHR IAmb IAmb 15 39 56.5

comp=Z,93nm,0.9s
RUBR Rubicon Trail 80.06 321 P **P** **15 39 51.5 +0.1**
RUBR IAmb IAmb 15 39 56.8

comp=Z,162nm,1.5s
HLID Hailey 80.08 327 P **P** **15 39 51.7 +0.4**
HLID IAmb IAmb 15 39 56.4

comp=Z,122nm,1.1s
HLID Hailey 80.08 327 P **P** **15 39 53.0 +1.6**
baz=136
HLID S **S** **15 49 43.7 +4.8**

baz=136
AVE Averroes 80.10 47 P **P** **15 39 52.7 +1.3**
AVE S **S** **15 49 40.1 +1.0**
BCYI Bear Canyon 80.14 328 P **P** **15 39 52.2 +0.5**
MCMT McKenzie Canyo 80.25 329 P **P** **15 39 52.6 +0.3**
BOZ Bozeman (W) 80.25 330 P **P** **15 39 52.4 +0.2**
BOZ pmax pmax

comp=Z,21nm,1.2s
BOZ Bozeman (W) 80.25 330 P **P** **15 39 52.4 +0.2**
BOZ Bozeman (W) 80.25 330 P **P** **15 39 52.9 +0.7**
baz=139
BOZ S **S** **15 49 42.2 +1.6**

baz=139
DLMT Dillon 80.53 329 P **P** **15 39 53.9 +0.2**
DLMT IAmb IAmb 15 39 57.1

comp=Z,64nm,1.2s
BOSA Boshof 80.58 117 P **P** **15 39 53.7 -0.7**

comp=Z,43nm,0.4s,baz=249,slow=4.4,SNR=76
BOSA PKKPbc **PKKPbc** **15 58 33.0 +0.1**

comp=Z,1.2nm,0.4s,baz=54,slow=3.5,SNR=7.2
BOSA LR LR 16 12 07.0

comp=Z,450nm,20.7s,baz=247,slow=33
BOSA Boshof 80.58 117 P **P** **15 39 53.2 -1.2**
MFID Camas Ranch 80.69 326 P **P** **15 39 54.7 +0.2**
MFID IAmb IAmb 15 39 59.1

comp=Z,84nm,1.4s
BEKR Beckworth 80.72 321 P **P** **15 39 55.1 +0.3**
BEKR IAmb IAmb 15 39 59.9

comp=Z,63nm,1.1s
LRM Limekiln Ridge 80.80 330 P **P** **15 39 55.3 +0.1**
MCCM Marconi Confer 81.08 318 P **P** **15 39 57.4 +0.9**
MCCM IAmb IAmb 15 40 01.2

comp=Z,74nm,1.1s
ORV Oroville 81.17 320 P **P** **15 39 57.7 +0.7**
ORV pmax pmax

comp=Z,92nm,1.2s
ORV Oroville 81.17 320 P **P** **15 39 57.7 +0.7**
ORV IAmb IAmb 15 40 02.1

comp=Z,92nm,1.1s
HRY Holter Researc 81.19 330 P **P** **15 39 57.4 +0.3**
EGMT Eagleton 81.28 332 P **P** **15 39 57.9 +0.4**
EGMT IAmb IAmb 15 40 01.8

comp=Z,131nm,1.3s
EGMT Eagleton 81.28 332 P **P** **15 39 58.3 +0.8**
baz=141
EGMT S **S** **15 49 51.5 +0.6**

baz=141
WVOR Wild Horse Val 81.48 324 P **P** **15 39 58.5 -0.2**
WVOR pmax pmax

comp=Z,35nm,1.3s
WVOR Wild Horse Val 81.48 324 P **P** **15 39 58.5 -0.2**
MAW Mawson 81.52 163 P **P** **15 39 58.7 +0.3**

comp=Z,64nm,1.0s,baz=198,slow=7.3,SNR=26
MAW LR LR 16 18 20.6

comp=Z,430nm,18.4s,baz=228,slow=37
MAW Mawson 81.52 163 P **P** **15 39 58.2 -0.2**
MDT Midelt 81.72 49 P **P** **15 40 00.9 +0.7**

comp=Z,142nm,1.0s,baz=244,slow=5.4,SNR=60
MORF Marmelete 81.73 43 *eP* **P** **15 39 59.8 -0.2**
MORF IAmb IAmb 15 40 02.5

comp=Z,119nm,1.5s
MORF *eS* **S** **15 49 56.4 +0.4**
MORF Marmelete 81.73 43 *eP* **P** **15 39 59.8 -0.2**
MORF *eS* **S** **15 49 56.3 +0.4**
MORF Marmelete 81.73 43 *eP* **P** **15 40 02.3 +2.2**

comp=Z,169nm,1.7s
IFR Ifrane 81.77 48 P **P** **15 40 01.5 +1.0**
IFR S **S** **15 49 57.1 +0.4**
O03E Paynes Creek 81.83 321 P **P** **15 40 00.8 +0.3**
baz=131,SNR=25
O03E S **S** **15 49 56.7 -0.2**

baz=131
PLID Pearl Lake 81.97 327 P **P** **15 40 01.3 0.0**
J08A Circle Bar Ran 82.03 325 P **P** **15 40 01.5 0.0**
J08A IAmb IAmb 15 40 05.3

comp=Z,60nm,0.6s
MOD Modoc Plateau 82.04 323 P **P** **15 40 01.6 -0.1**
MOD IAmb IAmb 15 40 06.6

comp=Z,46nm,0.9s
PBDV Barranco-do-Ve 82.15 44 *eP* **P** **15 40 05.0 +2.8**
LBTB Lobatse 82.22 114 P **P** **15 40 01.8 -1.3**
LBTB pmax pmax

comp=Z,250nm,1.4s
LBTB Lobatse 82.22 114 P **P** **15 40 01.8 -1.3**
MSO Missoula 82.24 329 P **P** **15 40 02.7 +0.2**
MSO IAmb IAmb 15 40 06.9

comp=Z,86nm,1.5s
MSO Missoula 82.24 329 P **P** **15 40 03.9 +1.4**
baz=137
MSO S **S** **15 50 03.1 +2.3**

baz=137
LIS Lisbon 82.30 42 *eP* **P** **15 40 02.9 -0.1**
LIS *eS* **S** **15 50 01.9 +0.4**
LIS Lisbon 82.30 42 *eP* **P** **15 40 02.8 -0.1**
LIS *eS* **S** **15 50 01.9 +0.4**
PNCL Nicolau / Gran 82.31 43 *eP* **P** **15 40 04.6 +1.7**
comp=Z,58nm,2.3s
PNCL *epP* **pP** **15 40 55.6 +2.5**
PCVE Castro Verde 82.32 43 *eP* **P** **15 40 04.6 +1.6**
comp=Z,62nm,1.9s
O02D Mt. Diablo Mer 82.33 320 P **P** **15 40 03.6 +0.4**
baz=130,SNR=10
O02D S **S** **15 50 01.2 -0.7**

baz=130
MESJ Messejana 82.33 43 *eP* **P** **15 40 02.9 -0.2**
MESJ IAmb IAmb 15 40 07.2

comp=Z,65nm,0.9s
MESJ *eS* **S** **15 50 02.2 +0.2**
MESJ Messejana 82.33 43 *eP* **P** **15 40 02.8 -0.2**
MESJ *eS* **S** **15 50 02.1 +0.2**
MESJ Messejana 82.33 43 *eP* **P** **15 40 04.8 +1.7**

comp=Z,86nm,1.7s
PMAFR Mafra 82.37 42 *eP* **P** **15 40 04.0 +0.7**
PVAQ Vaqueiros 82.38 44 *eP* **P** **15 40 04.9 +1.6**
PVAQ *epP* **pP** **15 40 53.1 -0.4**
WDC Whiskeytown Da 82.44 321 P **P** **15 40 02.3 -1.3**
WDC pmax pmax

comp=Z,22nm,0.7s
WDC Whiskeytown Da 82.44 321 P **P** **15 40 02.2 -1.3**
BMO Blue Mountains 82.46 326 P **P** **15 40 03.3 -0.4**
BMO pmax pmax

comp=Z,61nm,1.3s
BMO Blue Mountains 82.46 326 P **P** **15 40 03.3 -0.4**
BMO IAmb IAmb 15 40 08.7

comp=Z,61nm,1.3s
PBEJ Beja 82.67 43 *eP* **P** **15 40 06.6 +1.8**
comp=Z,65nm,1.0s
SFS San Fernando 82.78 45 P **P** **15 40 05.5 0.0**
SFS S **S** **15 50 11.6 +5.1**
N02D Trinity Center 82.79 321 P **P** **15 40 06.3 +0.8**
baz=130,SNR=15
N02D S **S** **15 50 06.1 -0.5**

baz=130
M04C Macdoel 82.82 322 P **P** **15 40 06.5 +0.8**
baz=131,SNR=24
M04C S **S** **15 50 08.0 +1.0**

baz=131
ARNO Arenosillo 82.82 44 P **P** **15 40 06.6 +1.0**
ARNO S **S** **15 50 09.0 +2.2**
EVO Evora 82.89 42 P **P** **15 40 06.8 +0.8**
EVO S **S** **15 50 07.8 +0.3**
EVO Evora 82.89 42 *eP* **P** **15 40 06.9 +1.0**

comp=Z,44nm,1.3s
KMRM Mail Ridge 82.90 320 P **P** **15 40 07.4 +1.4**
KMRM IAmb IAmb 15 40 11.6

comp=Z,126nm,1.5s
K05A Summer Lake 82.91 323 P **P** **15 40 06.8 +0.6**
CEU Ceuta 82.99 46 P **P** **15 40 08.0 +1.5**
CEU S **S** **15 50 12.2 +3.6**
I07A Izee 83.07 325 P **P** **15 40 07.1 +0.2**
JTMT Jette 83.08 330 P **P** **15 40 06.9 +0.1**
JTMT IAmb IAmb 15 40 11.0

comp=Z,47nm,0.8s
PMTG Montargil 83.09 42 *eP* **P** **15 40 08.2 +1.3**
comp=Z,140nm,1.1s
M02C Callahan 83.15 321 P **P** **15 40 08.3 +1.0**
baz=130
M02C S **S** **15 50 09.9 -0.3**

baz=130
F10A Beach Ranch, E 83.21 327 P **P** **15 40 08.1 +0.5**
F10A IAmb IAmb 15 40 11.8

comp=Z,134nm,1.2s
YBH Yreka Blue Hor 83.28 321 P **P** **15 40 08.0 0.0**

comp=Z,17nm,0.8s,baz=86,slow=3.3,SNR=29
YBH Yreka Blue Hor 83.28 321 P **P** **15 40 08.0 0.0**
YBH Yreka Blue Hor 83.28 321 P **P** **15 40 07.9 -0.1**
K04D Chiloquin, OR 83.32 322 P **P** **15 40 09.4 +1.1**
baz=131
K04D S **S** **15 50 12.7 +0.8**

baz=131
PESTR Estremoz 83.35 42 *eP* **P** **15 40 09.5 +1.2**
comp=Z,83nm,1.4s
PESTR Estremoz 83.35 42 P **P** **15 40 08.8 +0.4**
L04D Klamath Falls 83.37 322 P **P** **15 40 08.5 0.0**
baz=130,SNR=16
L04D S **S** **15 50 13.2 +0.7**

baz=130
J05D Fort Rock, OR 83.47 323 P **P** **15 40 09.8 +0.8**
baz=131,SNR=25
J05D S **S** **15 50 13.7 +0.3**

baz=131
PCAS Casmilo, Conde 83.53 41 *eP* **P** **15 40 10.2 +1.0**
comp=Z,86nm,1.1s
G08A Pilot Rock 83.61 326 P **P** **15 40 09.5 -0.2**
PINE Pine Mountain 83.65 324 P **P** **15 40 10.1 +0.2**
PINE IAmb IAmb 15 40 13.8

comp=Z,77nm,0.8s
PMRV Marv??o 83.82 42 *eP* **P** **15 40 10.8 +0.1**
comp=Z,61nm,1.5s
PMRV *epP* **pP** **15 41 02.4 +1.4**
KRMB Red Mountain 83.84 321 P **P** **15 40 11.4 +0.5**
KRMB IAmb IAmb 15 40 14.0

comp=Z,58nm,1.1s
WALA Waterton Lakes 83.87 331 P **P** **15 40 10.7 -0.2**
WALA IAmb IAmb 15 40 14.7

comp=Z,52nm,1.1s
FFC Flin Flon 83.89 340 P **P** **15 40 10.3 -0.3**
FFC pmax pmax

comp=Z,59nm,1.5s
FFC Flin Flon 83.89 340 P **P** **15 40 10.3 -0.3**
J04D Umpqua Nationa 83.92 323 P **P** **15 40 12.5 +1.1**
baz=131,SNR=17
J04D S **S** **15 50 18.0 -0.1**

baz=131
HUMO Hull Mountain 83.99 322 P **P** **15 40 11.0 -0.5**
PCBR Castelo Branco 84.02 42 *eP* **P** **15 40 12.8 +1.2**
comp=Z,58nm,1.2s
E09A Wood Farm, Sta 84.04 327 P **P** **15 40 11.9 +0.3**
L02E Cave Junction 84.07 321 P **P** **15 40 13.0 +1.1**
baz=130
L02E S **S** **15 50 19.7 +0.5**

baz=130
EMAL Malaga-Limoner 84.11 46 P **P** **15 40 12.6 +0.4**
EMAL S **S** **15 50 19.0 -0.8**
I05D Terrebonne, OR 84.22 324 P **P** **15 40 14.2 +1.5**
baz=131,SNR=22
I05D S **S** **15 50 20.2 -0.5**

baz=131
MELI Melilla 84.27 48 P **P** **15 40 11.7 -1.3**
PVIS Viseu 84.30 41 *eP* **P** **15 40 15.3 +2.2**
comp=Z,71nm,1.3s
MTE Manteigas 84.32 41 *eP* **P** **15 40 13.8 +0.5**
comp=Z,127nm,1.0s
MTE Manteigas 84.32 41 P **P** **15 40 13.3 0.0**

K02D Willamette Mer 84.44 322 P **P** **15 40 15.2 +1.3**
baz=130,SNR=12
K02D S **S** **15 50 23.5 +0.5**

baz=130
I04A Tendick Farm, 84.45 323 P **P** **15 40 14.9 +1.1**
baz=130,SNR=15
I04A S **S** **15 50 22.8 -0.2**

baz=130
DBO Dodson Butte 84.48 322 P **P** **15 40 14.4 +0.4**
DBO IAmb IAmb 15 40 19.0

comp=Z,70nm,1.1s
HAWA Hanford 84.66 326 P **P** **15 40 15.8 +1.1**
HAWA IAmb IAmb 15 40 19.0

comp=Z,75nm,1.1s
POLO Lamas de Olo 84.77 40 *eP* **P** **15 40 16.6 +1.1**
comp=Z,38nm,1.2s
POLO *epP* **pP** **15 41 06.7 +0.7**
NEW Newport 84.77 329 P **P** **15 40 15.9 +0.5**

comp=Z,18nm,0.7s,baz=126,slow=4.9,SNR=14
NEW Newport 84.77 329 P **P** **15 40 15.8 +0.5**
NEW Newport 84.77 329 P **P** **15 40 15.8 +0.5**
baz=135
NEW S **S** **15 50 25.0 -1.0**

baz=135
D08A Wollman Farm, 84.80 327 P **P** **15 40 15.6 +0.1**
D08A IAmb IAmb 15 40 19.6

comp=Z,93nm,1.3s
G05D Wamic, OR 84.81 325 P **P** **15 40 17.8 +2.2**
baz=131,SNR=12
G05D S **S** **15 50 29.1 +2.6**

baz=131
PCAB Cabril 84.84 40 *eP* **P** **15 40 16.8 +1.0**
comp=Z,98nm,1.1s
PGAV Gavieira, Arco 84.85 40 *eP* **P** **15 40 16.5 +0.6**
comp=Z,74nm,1.1s
J01E Myrtle Point 84.89 322 P **P** **15 40 17.4 +1.5**
baz=129
J01E S **S** **15 50 29.2 +2.0**

baz=129
I03D Drain, OR 84.91 323 P **P** **15 40 17.3 +1.3**
baz=130,SNR=8.8
I03D S **S** **15 50 28.5 +1.2**

baz=130
H04A Detroit Lake 84.91 324 P **P** **15 40 16.2 +0.2**
E07A Sunnyside 84.93 326 P **P** **15 40 16.6 +0.4**
C09A Chrisman Ranch 85.00 328 P **P** **15 40 16.3 -0.1**
C09A IAmb IAmb 15 40 20.4

comp=Z,84nm,0.8s
BUCK Buck Mountain 85.03 323 P **P** **15 40 17.1 +0.4**
MVO Moncorvo 85.09 41 *eP* **P** **15 40 17.9 +0.8**
comp=Z,160nm,1.2s
MVO *epP* **pP** **15 41 09.6 +2.0**
H04D Lebanon 85.10 323 P **P** **15 40 17.4 +0.5**
baz=130
H04D S **S** **15 50 29.8 +0.5**

baz=130
F05D White Salmon 85.31 325 P **P** **15 40 19.3 +1.3**
baz=131
F05D S **S** **15 50 33.5 +2.2**

baz=131
FCC Fort Churchill 85.36 346 P **P** **15 40 17.4 -0.4**
FCC pmax pmax

comp=Z,101nm,1.1s
FCC Fort Churchill 85.36 346 P **P** **15 40 17.4 -0.4**
FCC IAmb IAmb 15 40 22.2

comp=Z,101nm,1.1s
I02D Swisshome 85.44 323 P **P** **15 40 19.3 +0.7**
baz=130,SNR=9.0
I02D S **S** **15 50 34.4 +1.8**

baz=130
COR Corvallis 85.45 323 P **P** **15 40 17.7 -1.0**
COR pmax pmax

comp=Z,95nm,1.0s
COR Corvallis 85.45 323 P **P** **15 40 17.7 -1.0**
COR IAmb IAmb 15 40 23.2

comp=Z,94nm,0.9s
PBRG Braganca 85.66 40 *eP* **P** **15 40 20.4 +0.6**
comp=Z,101nm,1.3s
PBRG *epP* **pP** **15 41 11.1 +0.7**
PAB San Pablo 85.78 43 P **P** **15 40 20.4 -0.2**
PAB pmax pmax

comp=Z,102nm,0.9s
PAB San Pablo 85.78 43 P **P** **15 40 20.4 -0.2**
LTY Liberty 85.82 326 P **P** **15 40 20.1 -0.5**
LTY IAmb IAmb 15 40 24.1

comp=Z,85nm,1.4s
G03D McMinnville, O 85.83 324 P **P** **15 40 21.3 +0.7**
baz=130
G03D S **S** **15 50 38.5 +2.2**

baz=130
F04A Amboy 85.85 325 P **P** **15 40 20.5 -0.1**
F04A IAmb IAmb 15 40 24.9

comp=Z,107nm,1.1s
B08A Colville Reser 85.90 328 P **P** **15 40 20.3 -0.6**
LON Longmire 86.06 326 P **P** **15 40 21.6 -0.1**
LON pmax pmax

comp=Z,21nm,1.0s
LON Longmire 86.06 326 P **P** **15 40 21.6 -0.1**
ESDC Sonseca Array 86.10 43 P **P** **15 40 22.7 +0.6**

comp=Z,42nm,0.8s,baz=241,slow=4.3,SNR=78
ESDC LR LR 16 17 14.7

comp=Z,589nm,20.6s,baz=235,slow=34
ESDC Sonseca Array 86.10 43 P **P** **15 40 21.4 -0.6**
ESDC IAmb IAmb 15 40 25.9

comp=Z,44nm,0.9s
ESBB Sonseca Array 86.10 43 P **P** **15 40 21.8 -0.2**
ESBB IAmb IAmb 15 40 25.9

comp=Z,43nm,0.9s
F04D Rainier, OR 86.26 325 P **P** **15 40 23.8 +1.2**
baz=130
F04D S **S** **15 50 42.1 +1.6**

baz=130
E04D Cinebar 86.33 325 P **P** **15 40 23.8 +0.9**
baz=130
E04D S **S** **15 50 41.4 +0.3**

baz=130
C06D Leavenworth 86.38 327 P **P** **15 40 23.9 +0.7**
baz=132
C06D S **S** **15 50 41.2 -0.4**

baz=132
NRS Narsarsuaq 86.43 10 P **P** **15 40 23.0 0.0**
NRS pmax pmax

comp=Z,51nm,1.0s
NRS Narsarsuaq 86.43 10 P **P** **15 40 23.0 0.0**
NRS IAmb IAmb 15 40 35.6

comp=Z,51nm,1.0s
D05A Enumclaw 86.44 326 P **P** **15 40 23.0 -0.5**
D05A IAmb IAmb 15 40 25.8

comp=Z,75nm,1.1s
EDM Edmonton 86.72 334 P **P** **15 40 23.8 -1.0**
EDM pmax pmax

comp=Z,53nm,0.8s
EDM Edmonton 86.72 334 P **P** **15 40 23.8 -1.0**
EDM IAmb IAmb 15 40 27.5

comp=Z,53nm,0.8s
CART Cartagena 86.84 46 P **P** **15 40 23.7 -1.9**
CART S **SKSac** **15 50 33.5 +0.2**
D04E Lakebay 86.84 325 P **P** **15 40 26.7 +1.3**
baz=130
D04E S **S** **15 50 48.1 +2.1**

baz=130
E03A Lebam 86.85 325 P **P** **15 40 25.5 0.0**
RADR Rader Ridge 86.89 324 P **P** **15 40 26.4 +0.7**
UCM Universidad Co 86.91 43 P **P** **15 40 25.5 -0.5**
UCM S S 15 50 37.5 -10
B06A Marblemount 87.07 327 P **P** **15 40 25.7 -0.7**
B05A Bryant 87.20 327 P **P** **15 40 27.4 +0.3**
baz=131,SNR=18
B05A S **S** **15 50 47.1 -2.3**

baz=131
NLWA Neilton Lookou 87.55 325 P **P** **15 40 29.0 +0.1**
NLWA IAmb IAmb 15 40 33.5

comp=Z,69nm,1.1s
B04A Port Angeles 87.79 326 P **P** **15 40 29.1 -0.9**
B04A IAmb IAmb 15 40 34.1

comp=Z,42nm,0.9s
A04D Lummi Island 87.81 327 P **P** **15 40 31.3 +1.3**
baz=130
A04D S **S** **15 50 55.9 +0.8**

baz=130
PGC Sidney 88.14 326 P **P** **15 40 32.1 +0.6**
PGC IAmb IAmb 15 40 35.6

comp=Z,92nm,1.2s
LSZ Lusaka 88.31 106 P **P** **15 40 33.3 0.0**
LSZ pmax pmax

comp=Z,260nm,1.1s

LSZ Lusaka 88.31 106 P **P** **15 40 33.3 0.0**
LSZ Lusaka 88.31 106 P **P** **15 40 35.7 +2.4**
CLRS Cowichan Lake 88.60 326 P **P** **15 40 34.3 +0.6**
LLLB Lillooet 88.64 328 P **P** **15 40 33.8 -0.1**
LLLB IAmb IAmb 15 40 37.0
comp=Z,48nm,1.3s
OZB Mount Ozzard 89.38 326 P **P** **15 40 37.5 0.0**
CBB Campbell River 89.99 327 P **P** **15 40 40.4 +0.2**
CBB IAmb IAmb 15 40 44.1
comp=Z,32nm,0.9s
CASY Casey 90.15 179 P **P** **15 40 40.9 +0.1**
TLCB Telegraph Cove 91.05 326 P **P** **15 40 46.3 +1.3**
DY2G Dye2 91.35 8 *i* P **P** **15 40 47.4 +1.0**
DY2G *i* 15 41 41.6
BBB Bella Bella 92.67 327 P **P** **15 40 52.8 +0.3**
BBB IAmb IAmb 15 40 56.2
comp=Z,22nm,0.9s
KEST Kesra 93.10 52 P **P** **15 40 56.0 +0.9**
comp=Z,30nm,1.0s,baz=264,slow=3.4,SNR=23
KEST LR LR 16 24 07.4
comp=Z,1μm,19.8s,baz=208,slow=36
KEST Kesra 93.10 52 P **P** **15 40 57.1 +2.0**
KHZ Kahutara 93.81 220 P **P** **15 40 57.5 -0.7**
KHZ IAmb IAmb 15 41 03.0
comp=Z,53nm,1.4s
URZ Urewera 94.03 225 LR LR 16 15 09.3
comp=Z,634nm,21.2s,baz=210,slow=30
YKA Yellowknife Ar 94.05 340 P **P** **15 40 58.8 +0.2**
comp=Z,12nm,0.5s,baz=128,slow=5.3,SNR=50
YKA LR LR 16 29 12.4
comp=Z,360nm,18.2s,baz=0.0,slow=39
YKA Yellowknife Ar 94.05 340 P **P** **15 40 58.4 -0.3**
OXZ Oxford 94.12 219 P **P** **15 40 59.5 -0.1**
OXZ IAmb IAmb 15 41 02.9
comp=Z,31nm,1.3s
HG4B Hotspring 94.28 326 P **P** **15 41 00.1 +0.1**
HG4B IAmb IAmb 15 41 02.9
comp=Z,18nm,0.9s
LTZ Lake Taylor 94.33 219 P **P** **15 41 01.0 +0.3**
LTZ IAmb IAmb 15 41 05.4
comp=Z,36nm,1.1s
CLF Chambon-Foret 94.43 39 P **P** **15 41 00.6 -0.1**
RPZ Rata Peaks 94.44 218 P **P** **15 41 01.7 +0.6**
RPZ IAmb IAmb 15 41 04.7
comp=Z,40nm,1.3s
GRNB Grenville Isla 94.55 328 P **P** **15 41 01.2 +0.1**
THZ Tophouse 94.58 220 P **P** **15 41 01.1 -0.7**
NNZ Nelson 94.63 221 P **P** **15 41 02.1 +0.2**
NNZ IAmb IAmb 15 41 06.7
comp=Z,34nm,0.9s
ICESG Greenland Ices 94.72 9 *i* P **P** **15 41 02.8 +0.8**
ICESG *i* 15 41 58.6
VSL Villasalto 94.83 49 P **P** **15 41 02.9 +0.1**
VSL IAmb IAmb 15 41 11.7
comp=Z,25nm,0.8s
RAO Raoul Island 95.40 235 LR LR 16 15 40.0
comp=Z,105nm,19.9s,baz=113,slow=30
EKA Eskdalemuir Ar 95.55 31 P **P** **15 41 05.5 -0.1**
comp=Z,7.7nm,0.8s,baz=232,slow=4.1,SNR=10
DOU Dourbes 96.80 38 *d*P **P** **15 41 12.7 +1.3**
CRAG Craig 96.98 328 P **P** **15 41 12.8 +0.8**
baz=122
CRAG S **S** **15 52 14.7 -1.9**
baz=122
WRAK Wrangell Islan 97.12 329 S **S** **15 52 16.6 -1.2**
baz=123
DLBC Dease Lake 97.20 332 P Pdif 15 41 13.2 0.0
DLBC IAmb IAmb 15 41 17.2
comp=Z,21nm,0.9s
BGES Gesves 97.22 38 *d*P Pdif 15 41 15.3 +2.0
WLF Walferdange 97.48 39 *d*P Pdif 15 41 15.3 +0.7
WLF Walferdange 97.48 39 P **P** **15 41 14.5 0.0**
WLF pmax pmax
comp=Z,41nm,1.1s
WLF Walferdange 97.48 39 P **P** **15 41 14.5 0.0**
WLF Walferdange 97.48 39 *e*P Pdif 15 41 15.2 +0.6
comp=Z,40nm,1.0s,baz=246,slow=4.7
MEM Membach 97.84 38 *d*P Pdif 15 41 16.9 +0.7
BTNL Ternell 97.90 38 *d*P Pdif 15 41 17.2 +0.8
SUMG Summit 98.05 8 *i* P Pdif 15 41 19.0 +1.9
SUMG *i* 15 42 16.7
SUMG Summit 98.05 8 *i* P Pdif 15 41 19.0 +1.9
SUMG *i* 15 42 16.6
BFO Black Forest 98.14 41 *e*P Pdif 15 41 18.8 +1.3
comp=Z,16nm,1.1s,baz=246,slow=4.7
TGTN Hyland Airport 98.25 335 Pdiff Pdif 15 41 19.1 +1.3
baz=126
TGTN S **S** **15 52 25.3 -2.1**
baz=126
SALO Salr 98.30 44 P **P** **15 41 18.1 -0.3**
DAVOX Davos/Dischmat 98.39 43 P Pdif 15 41 19.6 +0.6
comp=Z,24nm,0.9s,baz=246,slow=6.7,SNR=22
AHRW Bad Neuenahr-A 98.41 38 *e*P Pdif 15 41 19.8 +1.2
comp=Z,28nm,1.4s,baz=246,slow=4.7
DAVA Damuels 98.61 42 *e*P Pdif 15 41 20.3 +0.4
comp=Z,36nm,1.2s,SNR=7.3
STU Stuttgart 98.85 40 *e*P Pdif 15 41 21.9 +1.2
comp=Z,69nm,1.1s,baz=246,slow=4.7
UBR Ueberruh 98.92 42 *e*P Pdif 15 41 22.3 +1.1
comp=Z,35nm,1.0s,baz=246,slow=4.7
BUG Bochum--Univer 98.93 38 *e*P Pdif 15 41 21.8 +0.9
comp=Z,23nm,1.2s,baz=246,slow=4.7
FETA Feichten 99.02 43 *e*P **Pdif** **15 41 22.1 +0.4**
comp=Z,39nm,1.1s,SNR=16
TNS Taunus Mts 99.05 39 *e*P **Pdif** **15 41 23.2 +1.6**
comp=Z,18nm,1.2s,baz=246,slow=4.7
RETA Reutte 99.24 42 *e*P **Pdif** **15 41 23.6 +1.0**
comp=Z,39nm,1.2s,SNR=9.9
MILB Miltenberg 99.37 40 *e*P **Pdif** **15 41 23.2 +0.2**
comp=Z,13nm,1.5s,baz=246,slow=4.7
MOTA Moosalm 99.39 42 *e*P **Pdif** **15 41 23.9 +0.5**
comp=Z,45nm,1.1s,SNR=12
SQTA Sankt Quirin 99.41 43 *e*P **Pdif** **15 41 23.9 +0.5**
comp=Z,48nm,1.0s,SNR=18
KASTN Kahler Asten 99.47 38 *e*P **Pdif** **15 41 24.6 +1.2**
comp=Z,10.0nm,1.0s,baz=246,slow=4.7
WATA Walderalm 99.68 43 *e*P **Pdif** **15 41 25.1 +0.4**
comp=Z,34nm,1.2s,SNR=8.6
WTTA Wattenberg 99.69 43 *e*P **Pdif** **15 41 25.2 +0.5**
comp=Z,54nm,1.1s,SNR=15
FUR Furstenfeldbru 99.84 42 *e*P **Pdif** **15 41 27.6 +2.4**
comp=Z,54nm,1.2s,baz=246,slow=4.7
ABTA Abfaltersbach 100.02 43 *e*P **Pdif** **15 41 26.6 +0.5**
comp=Z,15nm,1.0s
MMPY Sheldon Lake, 100.03 335 Pdiff **Pdif** **15 41 26.6 +0.9**
baz=123
UBBA Unterbreizbach 100.20 39 *e*P **Pdif** **15 41 28.4 +1.9**
comp=Z,6.9nm,1.2s,baz=246,slow=4.7
GRF Grafenberg Arr 100.44 40 *e*P **Pdif** **15 41 28.2 +0.4**
comp=Z,11nm,0.8s,baz=246,slow=4.7
FARO Faro, Yukon 100.65 334 Pdiff **Pdif** **15 41 29.4 +0.9**
baz=121
KBA Koelnbreinsper 100.68 43 *e*P **Pdif** **15 41 29.2 +0.1**
comp=Z,12nm,0.9s
MYKA Terra Mystica 100.69 44 *e*P **Pdif** **15 41 29.9 +0.9**
comp=Z,14nm,0.9s
CLZ Clausthal 100.85 38 *e*P **Pdif** **15 41 31.1 +1.5**
comp=Z,6.0nm,1.1s,baz=246,slow=4.7
NRDL Niedersach Rie 100.97 37 *e*P **Pdif** **15 41 32.2 +2.2**
comp=Z,12nm,1.1s,baz=246,slow=4.7
ROTZ Rotzenmuhle 101.06 40 *e*P **Pdif** **15 41 31.6 +1.1**
comp=Z,9.2nm,1.3s,baz=246,slow=4.7
MOX Moxa 101.06 39 *e*P **Pdif** **15 41 32.7 +2.2**
comp=Z,5.1nm,1.0s,baz=246,slow=4.7
MANZ Manzenberg 101.09 40 *e*P **Pdif** **15 41 32.1 +1.4**
comp=Z,6.9nm,0.9s,baz=246,slow=4.7
WET Wettzell 101.21 41 *e*P **Pdif** **15 41 32.9 +1.7**
comp=Z,12nm,1.0s,baz=246,slow=4.7
OBKA Obir 101.22 44 *e*P **Pdif** **15 41 32.4 +1.0**
comp=Z,16nm,1.4s
WERN Wernitzgruen 101.37 40 *e*P **Pdif** **15 41 35.4 +3.5**
comp=Z,8.8nm,0.9s,baz=246,slow=4.7
GUNZ Gunzen 101.37 40 *e*P **Pdif** **15 41 33.8 +1.9**
comp=Z,20nm,2.0s,baz=246,slow=4.7
NEUB Neuenburg 101.39 39 *e*P **Pdif** **15 41 34.8 +3.0**
comp=Z,9.0nm,0.7s,baz=246,slow=4.7
NKC Novy Kostel 101.39 40 *e*SKS 15 51 56.8
WERD Werda 101.39 40 *e*P **Pdif** **15 41 33.8 +1.9**
comp=Z,10nm,1.4s,baz=246,slow=4.7
TANN Tannenbergstha 101.47 40 *e*P **Pdif** **15 41 33.7 +1.4**
comp=Z,5.6nm,1.1s,baz=246,slow=4.7
MOA Molln 101.55 43 *e*P **Pdif** **15 41 33.1 +0.3**
comp=Z,12nm,1.1s
GEC2 GERESS Array S 101.59 42 *e*P **Pdif** **15 41 34.1 +1.0**
comp=Z,9.6nm,1.2s,baz=246,slow=4.7
GERES GERESS Array B 101.59 42 P **Pdif** **15 41 33.7 +0.7**
comp=Z,2.5nm,0.9s,baz=250,slow=3.8,SNR=12
GERES PKKPbc **PKKPbc** **15 57 40.5 -0.6**
comp=Z,1.0nm,0.5s,baz=106,slow=1.9,SNR=5.8
KHC Kasperske Hory 101.63 41 *e*P **Pdif** **15 41 34.7 +1.6**
KHC *e* 15 51 54.9
KHC MLR MLR
comp=Z,300nm,20.2s
KHC Kasperske Hory 101.63 41 *e*PDIFF **Pdif** **15 41 34.7 +1.6**
KHC *ex* x 15 44 47.0
KHC *e*PP PP 15 45 38.2 -8.2
KHC *e*SKS 15 51 54.9
KHC AMS AMS 16 25 50.0
comp=Z,300nm,20.2s
BSEG Bad Segeberg 101.69 36 *e*P **Pdif** **15 41 35.1 +2.0**
comp=Z,15nm,1.1s,baz=246,slow=4.7
HYT Haines Junctio 101.69 332 Pdiff **Pdif** **15 41 33.0 -0.2**
baz=118
CKRC Cesky Krumlov 101.95 42 *e*PDIFF **Pdif** **15 41 36.1 +1.6**
CKRC *ex* x 15 41 42.5
CKRC *e*PP **PP** **15 45 42.5 -6.3**
CKRC *e*SKS 15 51 56.1
CLL Collm 102.13 39 *i* Pdif **Pdif** **15 41 36.8 +1.6**
comp=Z,12nm,1.5s
CLL *i* 15 41 42.9
CLL *ep*Pdif **pPdif** **15 42 32.0 +5.6**
CLL *e*PP **PP** **15 45 48.0 -2.0**
CLL *e* 15 46 02.0
CLL *ep*PP 15 46 36.0
CLL *es*PKiKP **sPKiKP** **15 47 16.0 +5.1**
CLL *e*(PPPP) 15 49 36.0
CLL *e*SKSac **SKSac** **15 51 56.0 +1.0**
CLL *e*Sdif **Sdif** **15 53 05.0 +4.9**
CLL *e* 15 53 40.0
CLL *e*SP **SP** **15 54 33.0 -1.9**
CLL *e*PPS PPS 15 55 51.0
CLL *e*SS **SS** **16 00 00.0 -11**
CLL *e* 16 02 36.0
CLL *e* 16 05 12.0
CLL *e*SSSS 16 07 30.0
CLL Collm 102.13 39 *i* P **Pdif** **15 41 36.8 +1.6**
CLL *e* 15 45 48.0
CLL *e* 15 51 56.0
CLL pmax pmax
comp=Z,12nm,1.5s
CLL Collm 102.13 39 *e*P **Pdif** **15 41 36.8 +1.6**
comp=Z,4.7nm,0.8s,baz=246,slow=4.7
FBE Freiberg 102.19 40 *e*P **Pdif** **15 41 37.1 +1.7**
comp=Z,6.3nm,0.9s,baz=246,slow=4.7
YUK4 Talbot Arm 102.42 332 Pdiff **Pdif** **15 41 37.7 +1.1**
baz=117
PRA Prague 102.50 41 *e*SKS 15 52 01.2
BRG Berggiesshubel 102.51 40 *e*Pif 15 41 39.6
BRG Amp 15 41 41.5
comp=Z,2.9nm,0.9s
BRG Berggiesshubel 102.51 40 PP **PP** **15 45 49.0 -3.9**
BRG Berggiesshubel 102.51 40 SP SP 15 54 38.0 -0.9
BRG PKKP 15 58 00.5
BRG Amp 15 58 02.8
comp=Z,4.2nm,1.1s
BRG Berggiesshubel 102.51 40 SS SS 16 00 10.0 -5.8
BRG Amp 16 27 09.0
comp=Z,0.4nm,22.0s
BRG Amp 16 27 21.0
comp=N,0.2nm,17.6s
BRG Amp 16 27 23.0
comp=E,0.3nm,17.4s
PRU Pruhonice 102.53 41 *e*PP **PP** **15 45 49.2 -3.9**
PRU *e*SKS 15 51 58.8
PRU AMS AMS 16 26 30.0
comp=E,400nm,23.3s
CONA Conrad Observa 102.58 43 *e*P **Pdif** **15 41 38.4 +1.0**
comp=E,8.6nm,1.4s
KRUC Moravsky 103.32 42 *e*PDIFF **Pdif** **15 41 42.1 +1.5**
KRUC *e*SKS 15 52 02.4
KRUC *e* 15 53 13.4
KRUC *e*SP **SP** **15 54 50.0 +2.5**
MESA MESA 103.37 330 Pdiff **Pdif** **15 41 41.0 +0.2**
baz=114
YUK3 Moose Creek 103.39 332 Pdiff **Pdif** **15 41 41.8 +0.9**
baz=115
CTG Chitna Glacier 103.43 331 Pdiff **Pdif** **15 41 41.2 +0.3**
baz=113
VRAC Vranov 103.53 42 Pdiff **Pdif** **15 41 42.6 +1.1**
comp=E,1.4nm,0.5s,baz=250,slow=12,SNR=3.1
VRAC Vranov 103.53 42 *e*PDIFF **Pdif** **15 41 43.2 +1.7**
VRAC *e*SKS 15 52 03.9
VRAC *e* 15 53 15.5
VRAC *e*SP **SP** **15 54 51.8 +2.1**
UPC Upice 103.60 41 *e*SKS 15 52 05.6
CHVC Chvalec 103.66 41 *e*PDIFF **Pdif** **15 41 44.8 +2.7**
DPC Dobruska-Polom 103.73 41 *e*P **Pdif** **15 41 44.8 +2.4**
DPC *e* 15 52 05.6
DPC Dobruska-Polom 103.73 41 *e*PDIFF **Pdif** **15 41 44.8 +2.4**
DPC *ex* x 15 41 51.2
DPC *e*SKS 15 52 05.6
OSTC Ostas 103.74 41 *e*PDIFF **Pdif** **15 41 44.7 +2.3**
OSTC *e*SKS 15 52 04.2
INK Inuvik 103.82 339 Pdiff **Pdif** **15 41 43.2 +0.9**
comp=E,2.1nm,0.8s,baz=26,slow=5.5,SNR=2.5
KSP Ksiaz 103.89 40 *e*Pdif **Pdif** **15 41 45.5 +2.4**
KSP *e*PP **PKiKP** **15 46 00.8 +1.1**
KSP *e*SKSac **SKSac** **15 52 05.9 +2.7**
KRLC Kraliky 103.91 41 *e*P **Pdif** **15 41 45.8 +2.5**
KRLC *e* 15 52 07.1
KRLC Kraliky 103.91 41 *e*PDIFF **Pdif** **15 41 45.8 +2.5**
KRLC *e*SKS 15 52 07.1
DAWY Dawson 103.94 334 Pdiff **Pdif** **15 41 44.2 +1.2**
baz=116
BGLC Bering Glacier 103.96 330 Pdiff **Pdif** **15 41 44.4 +1.3**
baz=119
EPYK Eagle Plains 103.97 337 Pdiff **Pdif** **15 41 43.5 +0.4**
baz=117
JAVC Velka Javorina 104.04 43 *e*PDIFF **Pdif** **15 41 46.3 +2.5**
JAVC *e*SKS 15 52 08.2
JAVC *e* 15 53 22.0
CRQE Cirque 104.12 331 Pdiff **Pdif** **15 41 44.1 +0.1**
baz=113
MORC Moravsky Berou 104.27 42 *e*PDIFF **Pdif** **15 41 46.9 +2.0**
MORC *e*SKS 15 52 07.9
MORC *e* 15 53 23.0
MORC *e*SP **SP** **15 55 00.4 +2.9**
MCARA McCarthy VSAT 104.34 331 Pdiff **Pdif** **15 41 45.1 +0.2**
baz=113
KAIM Kwak Island 104.41 329 Pdiff **Pdif** **15 41 45.6 +0.5**
baz=112
L27K Beaver Creek, 104.50 333 Pdiff **Pdif** **15 41 45.2 -0.3**
baz=114
OKC Ostrava-Krasne 104.66 42 *e*SKS 15 52 10.0
NOA NORSAR Array B 104.94 30 Pdiff **Pdif** **15 41 47.8 +0.3**
comp=E,0.6nm,0.9s,baz=290,slow=3.9,SNR=2.4
NOA PKKP **PKKPab** **15 57 47.3 +1.2**
comp=E,1.0nm,0.8s,baz=77,slow=4.2,SNR=4.9
HFS Hagfors 105.75 31 Pdiff **Pdif** **15 41 51.1 0.0**
comp=E,1.1nm,0.8s,baz=131,slow=4.0,SNR=1.5
HFS PP **PP** **15 46 13.3 -3.3**
comp=E,8.5nm,1.0s,baz=217,slow=4.5,SNR=6.2
HFS PKKPbc **PKKPbc** **15 57 28.3 -0.6**
comp=E,2.0nm,0.8s,baz=156,slow=11,SNR=4.5
NIE Niedzica 105.85 43 *e*Pdif **Pdif** **15 41 56.4 +4.5**
NIE *e*PP **PP** **15 46 19.1 +1.4**
NIE *e*SKSac **SKSac** **15 52 15.4 +3.2**
RIDG Independent Ri 106.02 333 PKiKP **PKiKP** **15 46 04.0 +0.7**
baz=111
SML Sawmill 106.86 331 PKiKP **PKiKP** **15 46 05.7 +0.8**
baz=109
ILAR Eielson Array 107.22 334 Pdiff **Pdif** **15 41 58.2 +0.7**
comp=E,1.0nm,0.7s,baz=122,slow=2.7,SNR=8.2
ILAR PKiKP **PKiKP** **15 46 05.3 -0.1**
comp=E,0.8nm,0.6s,baz=136,slow=0.3,SNR=5.0
ILAR PP **PP** **15 46 27.9 +0.7**
comp=E,1.5nm,0.7s,baz=101,slow=7.1,SNR=5.7
HOM Homer 107.76 328 PKiKP **PKiKP** **15 46 07.4 +0.9**
baz=107
SKT Skwentna 108.36 330 PKiKP **PKiKP** **15 46 08.4 +0.8**
baz=106
BURAR Bucovina Array 108.47 45 PKKPab PKKPab 15 57 33.4 +2.3
BPAW Bear Paw Mtn. 108.71 333 PKiKP **PKiKP** **15 46 08.7 +0.5**
baz=106
CHUM Lake Minchumin 109.22 332 PKiKP **PKiKP** **15 46 09.5 +0.4**
baz=105
TOLK Toolik Lake Re 109.39 337 PKiKP **PKiKP** **15 46 10.4 +0.9**
baz=105
H21K Melozitna Rive 109.86 334 PKiKP **PKiKP** **15 46 11.1 +0.8**
baz=104
CSS Mathiatis 111.13 60 PKKPab PKKPab 15 57 21.0 +1.1
AKASG Malin Array Be 111.74 43 PKiKP **PKiKP** **15 46 13.8 -0.5**
comp=E,2.0nm,0.5s,baz=269,slow=2.3,SNR=11
AKASG PP **PP** **15 46 56.9 -3.2**
comp=E,5.0nm,0.9s,baz=256,slow=7.5,SNR=6.4
AKASG PKKPbc **PKKPbc** **15 57 08.3 -1.1**
comp=E,2.1nm,0.6s,baz=61,slow=3.9,SNR=7.3
AKASG PKKPab **PKKPab** **15 57 17.5 +1.1**
comp=E,4.9nm,0.7s,baz=64,slow=4.5,SNR=11
AKBB Malin Array Si 111.74 43 ||*i*PKiKP **PKiKP** **15 46 15.1 +0.8**
FINES FINESS Array B 111.95 31 PKiKP **PKiKP** **15 46 13.9 -0.4**
comp=E,0.8nm,0.5s,baz=254,slow=5.6,SNR=4.5
FINES PP **PP** **15 46 59.1 -2.2**
comp=E,6.5nm,1.0s,baz=262,slow=11,SNR=7.0
FINES PKKPbc **PKKPbc** **15 57 07.8 -1.3**
comp=E,2.1nm,0.8s,baz=56,slow=4.8,SNR=6.1
BRTR Keskin Array B 112.50 55 PP **PP** **15 47 04.6 -1.6**
comp=E,3.1nm,0.8s,baz=232,slow=6.0,SNR=3.6
BRTR PKKPab **PKKPab** **15 57 15.2 +1.4**
comp=E,4.5nm,0.8s,baz=107,slow=4.1,SNR=7.9
BRTR Keskin Array B 112.50 55 PKKPab PKKPab 15 57 14.9 +1.2
ARCES ARCESS Array B 112.87 22 PKiKP **PKiKP** **15 46 15.9 0.0**
comp=E,2.3nm,0.9s,baz=244,slow=3.9,SNR=4.8
ARCES PKKPbc **PKKPbc** **15 57 04.4 -1.9**
comp=E,2.7nm,0.6s,baz=85,slow=3.8,SNR=15
ARCES ARCESS Array B 112.87 22 *i* PKiKP **PKiKP** **15 46 16.0 0.0**
ASF Jabal al Asfar 113.31 64 PKiKP **PKiKP** **15 46 18.2 +0.2**
comp=E,1.4nm,0.5s,baz=196,slow=8.4,SNR=3.5
APA Apatity 115.64 25 ||*i*PKiKP **PKiKP** **15 46 23.0 +1.7**
APA *i* 15 47 27.0
APA pmax pmax
comp=Z,8.0nm,1.1s
APA MLR MLR
comp=Z,700nm,25.0s
ANN Anapa 116.20 50 *i* PKiKP **PKPdf** **15 46 22.5 -0.5**
ANN *e* 15 47 16.4
ANN pmax pmax
comp=Z,45nm,1.3s
OBN Obninsk 116.73 39 *d* PKiKP **PKiKP** **15 46 25.2 +1.5**
OBN *e* 15 47 18.7
OBN *e* 15 47 34.7
OBN *e*PPP PPP 15 50 07.4
OBN *i* 15 53 05.5
OBN pmax pmax
comp=Z,18nm,1.1s
SOC Sochi 117.66 52 *i* PKiKP **PKiKP** **15 46 26.2 +0.3**
SOC *e* 15 47 40.5
SOC *e*PS **PS** **15 57 31.3 +1.7**
SOC *e*SSS SSS 16 08 06.4
SOC pmax pmax
comp=Z,16nm,0.9s
LPSR Galich'ya Gora 117.97 42 *e*PKiKP **PKiKP** **15 46 27.0 +0.8**
LPSR pmax pmax
comp=Z,20nm,1.0s
VSR Storozhevoye 118.03 43 *e*PKiKP **PKPdf** **15 46 25.6 -0.8**
VSR pmax pmax
comp=Z,20nm,1.2s
VORD Divnogorie 118.10 44 *e*PKiKP **PKPdf** **15 46 25.8 -0.7**
VORD pmax pmax
comp=Z,8.0nm,0.6s
STKA Stephens Creek 118.34 207 PKP **PKPdf** **15 46 26.7 -1.0**
comp=Z,3.3nm,0.8s,baz=52,slow=2.0,SNR=9.9
STKA PKKPbc **PKKPbc** **15 56 45.9 -0.7**
comp=Z,4.3nm,0.9s,baz=346,slow=3.7,SNR=7.9
STKA Stephens Creek 118.34 207 ⇑*i*PKiKP **PKiKP** **15 46 29.2 +1.4**
KLMR Klimovskoe 118.40 32 *e*PKiKP **PKPdf** **15 46 24.6 -2.2**
KLMR pmax pmax
comp=Z,29nm,1.5s
KLMR Klimovskoe 118.40 32 *e*PKPdf **PKPdf** **15 46 24.6 -2.2**
KLMR AMP 15 46 29.4
comp=Z,29nm,1.5s
KLMR *e*PP **PP** **15 47 39.0 -7.5**
KLMR *e*PKKPab **PKKPab** **15 56 46.4 -0.2**
VRH Novokhopyorsk 119.64 43 *e*PKiKP **PKPdf** **15 46 29.2 -0.2**
VRH pmax pmax
comp=Z,20nm,1.0s
KIV Kislovodsk 119.84 52 *i* PKiKP **PKiKP** **15 46 32.0 +1.7**
KIV *e* 15 47 57.8
KIV *e* 15 53 08.9
KIV *e*PS **PS** **15 57 50.4 +1.1**
KIV *e*SS SS 16 04 08.8 +2.1
KIV pmax pmax
comp=Z,16nm,1.1s
KBZ Khabaz 119.97 52 PKP **PKPdf** **15 46 30.2 -0.1**
comp=Z,12nm,0.8s,baz=180,slow=1.0,SNR=20
KBZ Khabaz 119.97 52 *d* PKiKP **PKiKP** **15 46 31.3 +0.9**
ONI Oni 120.27 53 PKiKP **PKPdf** **15 46 30.4 -0.7**
ONI Oni 120.27 53 PKPdf **PKPdf** **15 46 30.4 -0.7**
NCK Malchik 120.46 52 ||*i*PKiKP **PKiKP** **15 46 32.0 +0.6**
ZEI Tsey 120.62 53 *i* PKiKP **PKiKP** **15 46 33.2 +1.2**
ZEI pmax pmax
comp=Z,3.0nm,0.9s
PRGR Permogore 121.28 31 *e*PKiKP **PKPdf** **15 46 31.3 -1.0**
PRGR pmax pmax
comp=Z,61nm,1.5s
MAK Makhachkala 123.27 53 *e*P **Pdif** **15 43 20.1 +11**
MAK *i* 15 46 37.0
MAK *e* 15 48 19.8
MAK *e* 15 53 20.2
MAK pmax pmax
comp=Z,214nm,1.2s
BELG Belogornoye 123.28 42 *d* PKiKP **PKiKP** **15 46 37.0 +0.4**
AKT Akhty 123.36 55 *e*PKiKP **PKiKP** **15 46 38.0 +0.7**
AKT *e* 15 47 35.0
AKT *e* 15 48 22.9
AKT *e* 15 53 29.9
AKT pmax pmax
comp=Z,12nm,1.0s
NWAO Narrogin (SRO) 123.44 184 PKP **PKPdf** **15 46 37.3 -0.2**
comp=Z,7.6nm,0.6s,baz=180,slow=1.0,SNR=4.1
NWAO Narrogin (SRO) 123.44 184 P **PKiKP** **15 46 38.7 +0.9**
KIRV Kirov 123.61 34 *d* PKiKP **PKiKP** **15 46 37.5 +0.4**
ABTO Aybut 123.82 85 P **PKiKP** **15 46 40.8 +1.9**
TRNA Turayna 123.86 75 P **PKiKP** **15 46 40.8 +2.1**
WHFO Wadi Hawf 124.42 84 P **PKiKP** **15 46 40.1 +0.1**
CTA Charters Tower 125.80 219 PKP **PKiKP** **15 46 42.8 +0.1**
comp=Z,10.0nm,0.6s,baz=144,slow=2.8,SNR=22
CTA SKPbc SKPbc 15 49 39.1
comp=Z,3.4nm,0.8s,baz=243,slow=2.3,SNR=2.9
CTAO Charters Tower 125.80 219 PKiKP **PKPdf** **15 46 42.1 -0.2**
CTAO Charters Tower 125.80 219 PKPdf **PKPdf** **15 46 42.1 -0.2**
SHAO Shalim 126.14 85 PKiKP **PKiKP** **15 46 45.6 +2.2**
ASUD Al Ashush, Dub 127.50 76 PKiKP **PKiKP** **15 46 47.5 +1.5**
FAQ Al Faqa, Dubai 127.76 76 *i* PKiKP **PKiKP** **15 46 48.1 +1.6**
SNR=7.5
FAQ Al Faqa, Dubai 127.76 76 P **PKPdf** **15 46 45.9 0.0**
ASHO Ashiyiah 128.16 77 P **PKPdf** **15 46 47.0 +0.3**
ARQ Araqi 128.29 78 P **PKiKP** **15 46 47.8 +0.2**
MASF Masafi 128.38 76 P **PKPdf** **15 46 46.5 -0.6**
SOHO SOHO 128.47 77 *i* PKPdf **PKiKP** **15 46 47.6 -0.2**
SNR=8.5
SOHO SOHO 128.47 77 P **PKPdf** **15 46 46.8 -0.4**
SHME Shamm 128.50 75 *i* PKPdf **PKPdf** **15 46 47.4 +0.2**
SNR=7.1
SHME Shamm 128.50 75 P **PKPdf** **15 46 47.5 +0.2**
BANOM Banah 128.61 75 P **PKiKP** **15 46 48.0 -0.2**
ASAR Alice Springs 128.72 204 PKP **PKPdf** **15 46 47.6 -0.2**
comp=Z,21nm,0.6s,baz=140,slow=2.0,SNR=60
ASAR SKPbc SKPbc 15 49 48.2
comp=Z,7.2nm,0.6s,baz=142,slow=3.4,SNR=14
ASAR PKKP **PKKPdf** **15 56 54.2 -0.3**
comp=Z,0.3nm,0.4s,baz=350,slow=1.8,SNR=6.2
ASAR SKKPbc **SKKPbc** **15 59 40.2 +2.5**
comp=Z,1.5nm,1.0s,baz=337,slow=3.9,SNR=4.3
ASAR Alice Springs 128.72 204 PKPdf **PKPdf** **15 46 47.2 -0.6**
AS31 Alice Springs 128.72 204 PKPdf **PKPdf** **15 46 47.2 -0.7**
ARU Arti 128.89 36 *i* PKiKP **PKiKP** **15 46 47.9 +0.2**
ARU 15 48 53.6
ARU 15 53 39.4
ARU Arti 128.89 36 PKPdf **PKiKP** **15 46 47.4 -0.3**
HOQ Hoqain 129.05 78 P **PKPdf** **15 46 42.0 -6.4**
JMDO Jabal Madar 129.50 80 P **PKiKP** **15 46 50.1 +0.1**
SMDO Samad 129.60 79 P **PKiKP** **15 46 50.2 -0.1**
BIDO Bidbid 129.77 79 P **PKPdf** **15 46 50.0 +0.3**
SVE Sverdlovsk 129.87 35 *e*PKiKP **PKPdf** **15 46 48.9 0.0**
SVE pmax pmax
comp=Z,14nm,1.1s
WSAR Wadi Sarin 130.16 79 SKPbc **SKPab** **15 49 55.6 +1.0**
comp=Z,34nm,1.0s,baz=241,slow=5.1,SNR=9.8
JLN Jalan Bani Buh 130.63 81 P **PKiKP** **15 46 52.4 +0.1**
GEYT Alibeck 131.27 60 PKP **PKiKP** **15 46 52.9 -0.3**
comp=Z,546nm,0.9s,baz=249,slow=7.3,SNR=5.5
GEYT PP **PP** **15 49 12.2 -0.9**
comp=Z,4.8nm,0.8s,baz=248,slow=7.8,SNR=4.5

GEYT					SKPbc	**SKPab**	**15 49 59.4**	**+0.6**	
	comp=Z,23nm,0.9s,baz=239,slow=8.4,SNR=14								
AB31	**Akbulak array**	**131.43**	**45**	*i*	PKIKP	**PKPdf**	**15 46 51.6**	**-0.5**	
ABKAR	**Akbulak array**	**131.43**	**45**		PKPdf	**PKPdf**	**15 46 52.5**	**+0.4**	
WR0	**Warramunga Arr**	**131.79**	**207**		PKPdf	**PKPdf**	**15 46 53.4**	**-0.4**	
WB2	**Warramunga Arr**	**131.89**	**207**		PKPdf	**PKPdf**	**15 46 52.8**	**-1.2**	
WB2					SKPbc	**SKPbc**	**15 50 00.6**	**-0.5**	
WRA	**Warramunga Arr**	**131.89**	**207**		PKhKP	PKPpre	15 46 36.4		
	comp=Z,0.7nm,0.6s,baz=174,slow=2.1,SNR=10								
WRA					PKP	**PKiKP**	**15 46 54.5**	**-0.5**	
	comp=Z,21nm,0.5s,baz=165,slow=1.6,SNR=59								
WRA					SKPbc	**SKPbc**	**15 50 00.6**	**-0.5**	
	comp=Z,142nm,1.0s,baz=154,slow=3.6,SNR=53								
WRA	**Warramunga Arr**	**131.89**	**207**		PKPdf	**PKPdf**	**15 46 53.8**	**-0.2**	
WRAB	**Tennant Creek**	**131.90**	**207**	*c*	PKIKP	**PKPdf**	**15 46 54.3**	**+0.4**	
NRIK	**Noril'sk**	**131.94**	**12**		PKP	**PKiKP**	**15 46 53.3**	**-0.2**	
	comp=Z,2.2nm,0.4s,baz=153,slow=2.3,SNR=2.1								
NRIK					SKPbc	**SKPab**	**15 50 01.4**	**+0.9**	
	comp=Z,18nm,0.9s,baz=356,slow=2.5,SNR=11								
PMG	**Port Moresby**	**133.23**	**229**		SKPbc	**SKPbc**	**15 50 06.8**	**+1.1**	
	comp=Z,59nm,1.0s,baz=285,slow=23,SNR=6.8								
PEA0B	**Petropavlovsk-**	**135.63**	**323**	‖	PKIKP	**PKiKP**	**15 47 02.8**	**+1.3**	
PETK	**Petropavlovsk-**	**135.63**	**323**		PKhKP	PKPpre	15 46 52.2		
	comp=Z,3.8nm,0.5s,baz=22,slow=1.6,SNR=13								
PETK					PKP	**PKPdf**	**15 47 00.3**	**+0.5**	
	comp=Z,14nm,0.7s,baz=174,slow=3.3,SNR=19								
PETK					SKPbc	**SKPbc**	**15 50 12.7**	**+0.4**	
	comp=Z,30nm,1.0s,baz=80,slow=9.6,SNR=14								
MA2	**Magadan**	**135.69**	**334**		PKP	**PKiKP**	**15 47 01.2**	**-0.2**	
	comp=Z,7.2nm,0.7s,baz=174,slow=3.3,SNR=4.5								
MA2					SKPbc	**SKPbc**	**15 50 11.6**	**-0.6**	
	comp=Z,26nm,0.9s,baz=54,slow=6.1,SNR=4.4								
BRVK	**Borovoye**	**136.43**	**37**	*c*	PKIKP	**PKiKP**	**15 47 02.9**	**-0.2**	
BRVK	**Borovoye**	**136.43**	**37**		PKPdf	**PKPdf**	**15 47 01.8**	**+0.5**	
BRVK	**Borovoye**	**136.43**	**37**		P	**PKPdf**	**15 47 01.8**	**+0.5**	
FITZ	**Fitzroy Crossi**	**136.62**	**197**		PKhKP	PKPpre	15 46 51.5		
	comp=Z,4.7nm,0.7s,baz=190,slow=6.8,SNR=13								
FITZ					PKP	**PKiKP**	**15 47 04.5**	**-0.1**	
	comp=Z,10nm,0.6s,baz=188,slow=6.3,SNR=19								
FITZ					SKPbc	**SKPbc**	**15 50 16.6**	**+0.2**	
	comp=Z,33nm,1.0s,baz=187,slow=2.5,SNR=14								
FITZ	**Fitzroy Crossi**	**136.62**	**197**			PKPpre	15 46 51.1		
SKR	**Severo-Kuril's**	**137.49**	**320**	*e*	PKIKP	PKPpre	15 46 58.4		
SKR				*e*			15 49 50.0		
SKR				*e*	SS	SS	16 07 38.2	-4.7	
SKR					MLR	MLR			
	comp=Z,200nm,18.0s								
BRZS	**Berezniki**	**139.08**	**40**	*i*	PP	PP	15 50 00.2	-1.3	
	baz=40								
OTUK	**Ortayu**	**139.57**	**42**		PKIKP	**PKPdf**	**15 47 04.9**	**-2.4**	
MTN	**Manton Dam**	**139.59**	**207**			PKPpre	15 46 59.1		
KKAR	**Karatay Array**	**139.99**	**51**		PKIKP	**PKPdf**	**15 47 05.9**	**-2.3**	
KKAR	**Karatay Array**	**139.99**	**51**		PKPdf	**PKPdf**	**15 47 05.9**	**-2.3**	
YAK	**Yakutsk**	**140.22**	**348**	*e*	PKHKP	PKPpre	15 47 01.2		
YAK					pmax	pmax			
	comp=Z,16nm,0.7s								
YAK					pmax	pmax			
	comp=N,17nm,1.7s								
YAK					pmax	pmax			
	comp=E,5.0nm,0.9s								
YAK					pmax	pmax			
	comp=Z,586nm,4.8s								
YAK					pmax	pmax			
	comp=N,346nm,4.8s								
YAK					pmax	pmax			
	comp=E,41nm,1.7s								
YAK	**Yakutsk**	**140.22**	**348**			PKPpre	15 47 00.0		
YAK					PKPdf	**PKPdf**	**15 47 08.3**	**+0.3**	
YAK					SKPbc	**SKPbc**	**15 50 25.5**	**+0.5**	
DZA	**Taraz**	**140.62**	**51**	*e*	PKP	**PKPdf**	**15 47 09.0**	**-0.5**	
	baz=51								
DZA				*e*	PP	**PP**	**15 50 11.8**	**+0.4**	
	baz=51								
DZA	**Taraz**	**140.62**	**51**	*e*	PKIKP	**PKPdf**	**15 47 08.9**	**-0.5**	
DZA				*e*			15 50 11.7		
BTK	**Batken**	**140.90**	**55**		PKHKP	PKPpre	15 47 05.8		
BTK	**Batken**	**140.90**	**55**			PKPpre	15 47 05.8		
BTLS	**Baital**	**141.83**	**47**	*e*	PKP	**PKPdf**	**15 47 12.3**	**+0.8**	
	baz=46								
BTLS				*e*	PP	**PP**	**15 50 19.1**	**+0.7**	
	baz=46								
BTLS	**Baital**	**141.83**	**47**	*e*	PKIKP	**PKPdf**	**15 47 12.2**	**+0.8**	
BTLS				*e*			15 50 19.1		
KURBB	**Kurchatov Arra**	**142.09**	**36**		PKHKP	PKPpre	15 47 07.6		
AML	**Almayashu**	**142.51**	**51**		P	**PKPdf**	**15 47 11.1**	**-2.2**	
JAY	**Jayapura**	**142.61**	**229**		PKhKP	PKPpre	15 47 10.5		
	comp=E,50nm,1.1s,baz=207,slow=6.9,SNR=9.1								
SGDS	**Sogindy**	**142.76**	**49**	*e*	PKP	**PKPdf**	**15 47 14.3**	**+1.0**	
	baz=49								
SGDS				*e*	PP	**PP**	**15 50 24.0**	**-0.3**	
	baz=49								
AAK	**Ala-Archa**	**142.93**	**50**		SKPbc	**SKPbc**	**15 50 33.4**	**+0.6**	
	comp=E,28nm,1.0s,baz=242,slow=2.8,SNR=4.7								
AAK	**Ala-Archa**	**142.93**	**50**		P	**PKPdf**	**15 47 11.9**	**-1.8**	
	SNR=12								
AAK	**Ala-Archa**	**142.93**	**50**	*i*	PKPdf	**PKPdf**	**15 47 11.7**	**-2.0**	
	SNR=16								
AAK	**Ala-Archa**	**142.93**	**50**	*d*	PKIKP	**PKiKP**	**15 47 16.2**	**-0.8**	
AAK	**Ala-Archa**	**142.93**	**50**			**PKPdf**	**15 47 10.2**	**-3.5**	
AAK	**Ala-Archa**	**142.93**	**50**		P	**PKPdf**	**15 47 11.7**	**-2.0**	
POO	**Poona**	**142.94**	**90**	*e*	P	**PKPdf**	**15 47 11.0**	**-3.2**	
CHMS	**Chumysh**	**142.99**	**49**		P	**PKPdf**	**15 47 12.2**	**-1.4**	
	SNR=5.9								
UCH	**Uchtor**	**143.06**	**51**		P	**PKPdf**	**15 47 13.7**	**-0.7**	
	SNR=9.6								
ZAA0	**Zalesovo Array**	**143.12**	**28**			PKPbc	15 47 10.2	-0.7	
ZALV	**Zalesovo Beam**	**143.12**	**28**		PKhKP	PKPpre	15 47 11.1		
	comp=E,62nm,0.8s,baz=300,slow=3.9,SNR=80								
ZALV					SKPbc	**SKPbc**	**15 50 32.5**	**-0.2**	
	comp=E,5.4nm,0.6s,baz=328,slow=4.2,SNR=4.1								
ZALV	**Zalesovo Beam**	**143.12**	**28**		PKIKP	PKPbc	15 47 10.6	-0.3	
ZALV							15 50 32.5		
ZALV	**Zalesovo Beam**	**143.12**	**28**			PKPbc	15 47 10.6	-0.3	
SEM	**Semipalatinsk**	**143.13**	**36**	*e*	PKP	PKPab	15 47 09.8	-0.1	
	baz=36								
SEM	**Semipalatinsk**	**143.13**	**36**	*e*	PKHKP	PKPpre	15 47 09.8		
KBK	**Karagaybulak**	**143.24**	**50**		P	PKPbc	15 47 12.9	+1.0	
	SNR=14								
TKM2	**Tokmak 2**	**143.61**	**49**		P	**PKPdf**	**15 47 14.3**	**-0.6**	
	SNR=7.9								
TKM2	**Tokmak 2**	**143.61**	**49**		PKIKP	PKPbc	15 47 13.4	+0.4	
KZA	**Kyzart**	**143.63**	**51**		P	PKPbc	15 47 14.0	+0.7	
	SNR=8.4								
NIL	**Nilore**	**143.75**	**65**		PKHKP	PKPpre	15 47 12.0		
NIL	**Nilore**	**143.75**	**65**			PKPab	15 47 12.0	-0.7	
NIL	**Nilore**	**143.75**	**65**		P	PKPab	15 47 13.0	+0.3	
KUU	**Kurty**	**143.78**	**47**	⇑	*i* PKP	PKPab	15 47 12.4	0.0	
	baz=47								
KUU				*e*	PP	**PP**	**15 50 31.7**	**+1.5**	
	baz=47								
KUU	**Kurty**	**143.78**	**47**	*c*	PKIKP	PKPab	15 47 12.4	0.0	
KUU				*e*			15 50 31.7		
MTBS	**Maitube**	**144.11**	**48**	*e*	PKP	**PKPdf**	**15 47 15.7**	**0.0**	
	baz=48								
MTBS				*e*	PP	**PP**	**15 50 32.3**	**0.0**	
	baz=48								
ULHL	**Ulahol**	**144.28**	**50**		P	**PKiKP**	**15 47 18.8**	**-1.1**	
	SNR=8.0								
AAA	**Alma-Ata**	**144.41**	**48**	*e*	PKP	PKPbc	15 47 15.1	0.0	
	baz=48								
AAA				*e*	PP	**PP**	**15 50 36.0**	**+1.9**	
	baz=48								
AAA	**Alma-Ata**	**144.41**	**48**	*e*	PKIKP	PKPbc	15 47 15.1	-0.1	
AAA				*e*			15 50 35.9		
TNSS	**Tian-Shan**	**144.50**	**48**	*e*	PKP	**PKPdf**	**15 47 17.4**	**+0.6**	
	baz=48								
MDOK	**Medeo**	**144.52**	**48**	*e*	PKP	**PKPdf**	**15 47 16.1**	**-0.3**	
	baz=48								
MDOK	**Medeo**	**144.52**	**48**	*e*	PKIKP	**PKPdf**	**15 47 16.1**	**-0.3**	
BATI	**Baumata**	**144.68**	**198**		PKP	**PKPdf**	**15 47 17.8**	**+0.4**	
	comp=E,208nm,0.6s,baz=270,slow=1.6,SNR=36								
PALK	**Pallekele**	**144.69**	**112**		PKP	PKPbc	15 47 17.1	+0.3	
	comp=E,95nm,1.1s,baz=355,slow=2.4,SNR=7.6								
PALK	**Pallekele**	**144.69**	**112**			**PKPab**	**15 47 15.2**	**-1.5**	
TDK	**Taldyqorghan**	**144.70**	**45**	*e*	PKP	**PKPdf**	**15 47 16.5**	**-0.1**	
	baz=44								
TDK	**Taldyqorghan**	**144.70**	**45**	*e*	PKIKP	**PKPdf**	**15 47 16.4**	**-0.1**	
KUR	**Kuril'sk**	**144.78**	**316**	*de*	PKIKP	**PKPdf**	**15 47 16.8**	**+0.2**	
KSH	**Kashi**	**144.89**	**55**		PKP	PKPbc	15 47 16.5	-0.3	
KSH					pPKP	pPKPdf	15 48 02.0	-8.8	
KSH					SKKS		15 57 05.5		
KSH					AMB	AMB			
	comp=E,970nm,4.9s								
KSH					LR	LR			
	comp=E,350nm,21.1s								
KSH					LR	LR			
	comp=E,340nm,19.2s								
KSH					LR	LR			
	comp=E,480nm,18.7s								
SOEI	**Soe**	**144.94**	**199**			PKPbc	15 47 17.1	-0.5	
KDJ	**Kajisay**	**144.97**	**50**		PKIKP	PKPbc	15 47 16.6	-0.5	
KDJ	**Kajisay**	**144.97**	**50**			PKPbc	15 47 16.6	-0.4	
SATY	**Saty**	**145.48**	**48**	*e*	PKP	**PKPbc**	**15 47 18.4**	**-0.1**	
	baz=48								
SATY	**Saty**	**145.48**	**48**	*e*	PKP2	**PKPbc**	**15 47 18.4**	**-0.1**	
KPKS	**Kokpek**	**145.51**	**47**	*e*	PKP	**PKPbc**	**15 47 18.7**	**+0.1**	
	baz=47								
KPKS				*e*	PP	**PP**	**15 50 40.4**	**-0.2**	
	baz=47								
KPKS	**Kokpek**	**145.51**	**47**	*e*	PKP2	**PKPbc**	**15 47 18.7**	**+0.1**	
KPKS				*e*			15 50 40.3		
BOD	**Bodaibo**	**146.04**	**359**	*e*	PKIKP	**PKPdf**	**15 47 18.5**	**+0.1**	
BOD					pmax	pmax			
	comp=Z,102nm,1.2s								
MAKZ	**Makanchi**	**146.04**	**40**		PKIKP	**PKPdf**	**15 47 19.2**	**+0.4**	
MAKZ	**Makanchi**	**146.04**	**40**		PKPdf	**PKPdf**	**15 47 18.7**	**-0.1**	
SHLS	**Shalkode**	**146.16**	**47**	*e*	PKP	**PKPbc**	**15 47 20.4**	**-0.2**	
	baz=47								
SHLS				*e*	PP	**PP**	**15 50 44.0**	**-0.4**	
	baz=47								
SHLS	**Shalkode**	**146.16**	**47**	*e*	PKIKP	**PKPbc**	**15 47 20.4**	**-0.2**	
SHLS				*e*			15 50 43.9		
MK31	**Makanchi Array**	**146.23**	**40**	*i*	PKIKP	**PKPdf**	**15 47 19.7**	**+0.6**	
MK31	**Makanchi Array**	**146.23**	**40**		PKPdf	**PKPdf**	**15 47 19.3**	**+0.2**	
MKAR	**Makanchi Array**	**146.23**	**40**		PKPbc	**PKPdf**	**15 47 19.5**	**+0.4**	
	comp=Z,76nm,0.6s,baz=355,slow=2.8,SNR=92								
MKAR	**Makanchi Array**	**146.23**	**40**		PKPdf	**PKPdf**	**15 47 19.3**	**+0.2**	
YUK	**Yuzh-Kuril'sk**	**146.60**	**315**	*e*	PKHKP	PKPpre	15 47 13.5		
YUK				*i*			15 50 46.7		
YUK				*i*	SS	SS	16 09 29.5	+1.0	
YUK				*i*	SSS	SSS	16 15 01.0		
HYB	**Hyderabad**	**146.94**	**94**	*i*	PKP	**PKPbc**	**15 47 23.0**	**-0.4**	
HYB				*e*	pPKP	pPKPab	15 48 18.0	+1.0	
YSS	**Yuzh-Sakhalins**	**147.01**	**322**	*i*	PKP2	**PKPbc**	**15 47 23.0**	**+0.3**	
YSS				*e*			16 09 35.6		
YSS					pmax	pmax			
	comp=Z,800nm,4.7s								
YSS					pmax	pmax			
	comp=Z,130nm,0.8s								
YSS	**Yuzh-Sakhalins**	**147.01**	**322**			**PKPbc**	**15 47 22.6**	**0.0**	
DGZ	**Jazzator, Alta**	**147.21**	**32**	*d*	PKP2	**PKPbc**	**15 47 23.2**	**-0.2**	
ZSN	**Zaisan**	**147.32**	**37**	*e*	PKP	**PKPbc**	**15 47 23.3**	**-0.3**	
	baz=37								
ZSN	**Zaisan**	**147.32**	**37**	*e*	PKP2	**PKPbc**	**15 47 23.3**	**-0.3**	
FAKI	**Fak Fak**	**147.63**	**217**		PKPbc	**PKPbc**	**15 47 24.6**	**-0.8**	
GRNR	**Gornyy**	**147.68**	**332**	*e*	PKP2	**PKPbc**	**15 47 24.5**	**+0.1**	
GRNR					MLR	MLR			
	comp=E,170nm,19.0s								
JAGI	**Jajag, Banyuwa**	**147.89**	**182**		PKPbc	**PKPbc**	**15 47 25.2**	**-0.8**	
ZEA	**Zeya**	**148.33**	**344**	*e*	PKP2	**PKiKP**	**15 47 27.9**	**+0.4**	
ZEA					pmax	pmax			
	comp=Z,50nm,0.9s								
CISI	**Cisompet, Garu**	**148.35**	**170**			**PKPbc**	**15 47 26.3**	**-1.0**	
CISI					PKPab	**PKiKP**	**15 47 29.5**	**+0.6**	
GUMO	**Guam**	**148.46**	**257**		PKPbc	**PKPbc**	**15 47 27.2**	**-0.3**	
	comp=Z,580nm,0.9s,baz=186,slow=4.1,SNR=19								
JKA	**Kamikawa-asahi**	**148.62**	**317**		PKPbc	**PKPbc**	**15 47 26.8**	**-0.2**	
ASAJ	**Asahikawa**	**148.63**	**317**		PKPbc	**PKPbc**	**15 47 27.1**	**+0.1**	
	comp=Z,42nm,0.6s,baz=144,slow=3.7,SNR=27								
ANA2	**Anatahan**	**148.70**	**262**		PKPbc	**PKPbc**	**15 47 27.8**	**-0.2**	
LEM	**Lembang**	**149.03**	**169**		PKPbc	**PKiKP**	**15 47 30.4**	**+0.1**	
	comp=Z,180nm,0.6s,baz=324,slow=10,SNR=25								
SMRI	**Semarang**	**149.19**	**174**		PKPbc	**PKPbc**	**15 47 28.9**	**-0.4**	
ERM	**Erimo**	**149.27**	**313**	*d*	PKP2	**PKiKP**	**15 47 30.8**	**+1.0**	
JEM	**Erimo**	**149.27**	**313**			**PKiKP**	**15 47 30.7**	**+0.9**	
SIJI	**Sorong**	**149.87**	**218**		PKPbc	**PKPbc**	**15 47 30.8**	**-0.2**	
	comp=Z,72nm,0.6s,baz=353,slow=2.9,SNR=6.1								
MOY	**Mondy**	**150.64**	**16**	*e*	PKIKP	**PKiKP**	**15 47 32.7**	**+0.2**	
MOY					pmax	pmax			
	comp=Z,96nm,1.8s								
KAPI	**Kappang**	**150.65**	**193**		PKPbc	**PKiKP**	**15 47 33.5**	**0.0**	
	comp=Z,38nm,0.7s,baz=205,slow=4.4,SNR=9.1								
KSI	**Kapahiang**	**150.77**	**158**		PKP	**PKPbc**	**15 47 31.9**	**-1.3**	
KSI					PKP	**PKiKP**	**15 47 35.2**	**+1.4**	
KLR	**Kul'dur**	**150.78**	**335**		PKPbc	**PKiKP**	**15 47 32.6**	**-0.1**	
	comp=Z,58nm,0.8s,baz=18,slow=3.4,SNR=37								
IRK	**Irkutsk**	**150.80**	**11**	*e*	PKIKP	**PKiKP**	**15 47 33.0**	**+0.3**	
IRK					pmax	pmax			
	comp=Z,74nm,1.8s								
WMQ	**Urumqi**	**151.05**	**40**	*e*	PKPbc	**PKPdf**	**15 47 26.5**	**-0.5**	
WMQ					LR	LR			
	comp=Z,470nm,22.5s								
WMQ					LR	LR			
	comp=Z,230nm,23.7s								
JTM	**Tenmabayashi**	**151.23**	**313**			**PKPbc**	**15 47 33.5**	**0.0**	
TEY	**Ternei**	**151.59**	**324**	‖	*e* PKIKP	**PKiKP**	**15 47 34.9**	**+0.5**	
TEY					pmax	pmax			
	comp=E,10.0nm,0.6s								
TEY					pmax	pmax			
	comp=Z,40nm,0.7s								
ZAK	**Zakamensk**	**152.37**	**14**	*e*	PKIKP	**PKPdf**	**15 47 28.8**	**-0.1**	
ZAK					pmax	pmax			
	comp=Z,14nm,1.1s								
JMM	**Marumori**	**152.67**	**307**			**PKiKP**	**15 47 36.9**	**-0.1**	
TNTI	**Ternate**	**153.32**	**213**		PKPab	**PKPab**	**15 47 51.0**	**-0.5**	
JCJ	**Chichijima**	**153.73**	**283**		PKPbc	**PKiKP**	**15 47 40.0**	**+0.5**	
	comp=Z,43nm,0.6s,baz=288,slow=19,SNR=2.2								
JCJ					PKPab	**PKPab**	**15 47 54.2**	**+1.1**	
	comp=Z,90nm,0.8s,baz=305,slow=19,SNR=4.0								
USA0B	**Ussuriysk Arra**	**154.55**	**328**	*d*	PKIKP	**PKiKP**	**15 47 42.5**	**+1.9**	
USRK	**Ussuriysk Ar.**	**154.55**	**328**		PKP	**PKPdf**	**15 47 32.3**	**+0.3**	
	comp=Z,3.9nm,0.8s,baz=297,slow=1.3,SNR=6.4								
USRK					PKPbc	**PKiKP**	**15 47 41.5**	**+0.9**	
	comp=Z,10nm,0.6s,baz=341,slow=0.5,SNR=31								
USRK	**Ussuriysk Ar.**	**154.55**	**328**			**PKiKP**	**15 47 40.9**	**+0.3**	
RPSI	**Rantau Prapat**	**154.82**	**144**		PKPdf	**PKPdf**	**15 47 33.1**	**-0.2**	
RPSI					PKPab	**PKPab**	**15 47 57.5**	**-0.4**	
PSI	**Prapat**	**154.91**	**144**		PKP	**PKPdf**	**15 47 34.3**	**+0.7**	
	comp=Z,1.9nm,0.3s,baz=334,slow=2.1,SNR=6.2								
PSI					PKPab	**PKPab**	**15 47 58.6**	**+0.2**	
	comp=Z,25nm,1.0s,baz=208,slow=10,SNR=9.0								
MJAR	**Matsushiro Arr**	**155.09**	**306**		PKP	**PKPdf**	**15 47 33.9**	**+0.9**	
	comp=Z,1.5nm,0.7s,baz=92,slow=5.8,SNR=4.8								
MJAR					PKPbc	PKPbc	15 47 42.7		
	comp=Z,16nm,0.9s,baz=97,slow=4.0,SNR=22								
MJAR					PKPab	**PKPab**	**15 47 59.1**	**+0.5**	
	comp=Z,12nm,0.5s,baz=53,slow=4.7,SNR=12								
MJAR	**Matsushiro Arr**	**155.09**	**306**		PKPbc	PKPdf	15 47 42.0	+9.0	
MJAR					PKPab	**PKPab**	**15 47 58.9**	**+0.3**	
MAJO	**Matsushiro**	**155.09**	**306**		PKIKP	PKPdf	15 47 42.0	+9.0	
MAJO	**Matsushiro**	**155.09**	**306**			PKPdf	15 47 42.0	+9.0	
MAT	**Matsushiro**	**155.09**	**306**	*e*	PKP	**PKPdf**	**15 47 34.6**	**+1.6**	
MDJ	**Mudanjiang**	**155.35**	**331**		PKPbc	**PKPdf**	**15 47 33.5**	**+0.4**	
SONM	**Songino Array**	**155.42**	**11**		PKP	**PKPdf**	**15 47 33.7**	**+0.4**	
	comp=Z,3.4nm,0.8s,baz=316,slow=0.8,SNR=15								
SONM					PKPab	**PKPab**	**15 48 00.4**	**+0.6**	
	comp=Z,10nm,0.7s,baz=307,slow=2.3,SNR=12								
SONM	**Songino Array**	**155.42**	**11**		PKPdf	**PKPdf**	**15 47 33.3**	**0.0**	
ULN	**Ulaanbaatar**	**155.51**	**10**		PKIKP	**PKPdf**	**15 47 33.8**	**+0.4**	
ULN	**Ulaanbaatar**	**155.51**	**10**		PKPdf	**PKPdf**	**15 47 33.8**	**+0.4**	
ULN	**Ulaanbaatar**	**155.51**	**10**		PKP	**PKPdf**	**15 47 35.2**	**+1.8**	
ULN					PKP	**PKPdf**	**15 47 37.5**	**+4.1**	
INU	**Inuyama**	**156.44**	**305**		PKPab	**PKPab**	**15 48 04.0**	**-0.5**	
IPM	**Ipoh**	**157.42**	**147**		P	**PKPab**	**15 48 10.0**	**+0.9**	
KSM	**Kuching**	**157.59**	**172**		P	**PKPab**	**15 48 05.0**	**-4.7**	
JRMM	**Jerantut**	**157.60**	**151**		P	**PKPab**	**15 48 11.0**	**+1.2**	
JWT	**Wachi**	**157.68**	**306**		PKPab	**PKPab**	**15 48 09.8**	**0.0**	
CN2	**Changchun**	**157.71**	**336**	*e*	P	**PKPab**	**15 48 08.8**	**-0.7**	
CN2					pmax	pmax			
	comp=Z,20nm,1.3s								
KULM	**Kulim**	**157.91**	**145**		P	**PKPab**	**15 48 11.0**	**-0.2**	
LSA	**Lhasa**	**159.41**	**69**		PKP	**PKPdf**	**15 47 40.3**	**+1.1**	
GTA	**Gaotai**	**160.73**	**33**	*e*	P	**PKPab**	**15 48 24.5**	**+1.5**	
GTA					pP	pPKPdf	15 48 31.0	-2.9	
GTA					pmax	pmax			
	comp=Z,25nm,1.2s								
GTA	**Gaotai**	**160.73**	**33**	⇑	PKP	**PKPdf**	**15 47 40.5**	**+0.5**	
GTA					PKPab	**PKPab**	**15 48 24.3**	**+1.3**	
GTA					pPKP	pPKPdf	15 48 32.5	-1.4	
GTA					PP	**PP**	**15 52 07.8**	**+2.0**	
GTA					SKKS		15 58 35.0		
GTA					AMB	AMB			
	comp=Z,290nm,8.0s								
GTA					LR	LR			
	comp=Z,270nm,20.4s								
GTA					LR	LR			
	comp=Z,290nm,20.7s								
GTA					LR	LR			
	comp=Z,380nm,20.0s								
KSRS	**Korea Array**	**161.51**	**321**		PKP	**PKPdf**	**15 47 41.5**	**+0.8**	
	comp=Z,4.6nm,0.9s,baz=39,slow=1.4,SNR=12								
KSRS					PKPab	**PKPab**	**15 48 27.1**	**+0.8**	
	comp=Z,7.3nm,1.0s,baz=23,slow=3.7,SNR=11								
KSAR	**Wonju Array Be**	**161.54**	**321**		PKIKP	**PKPdf**	**15 47 40.1**	**-0.6**	
KSAR	**Wonju Array Be**	**161.54**	**321**		PKPdf	**PKPdf**	**15 47 40.1**	**-0.6**	
HHC	**Hu-ho-hao-te**	**162.97**	**4**	*e*	PKP	**PKPdf**	**15 47 37.8**	**-4.4**	
BJI	**Beijing**	**163.65**	**352**		PKP	**PKPdf**	**15 47 45.3**	**+2.6**	
BJI					SS	SS	16 12 27.8	-2.6	
MHMT	**Maesarieng**	**164.61**	**109**		PKP	**PKPdf**	**15 47 46.8**	**+2.6**	
CM13	**Chiang Mai Arr**	**165.55**	**109**		PKP	**PKPdf**	**15 47 48.2**	**+3.2**	
CM05	**Chiang Mai Arr**	**165.58**	**109**		PKP	**PKPdf**	**15 47 48.3**	**+3.3**	
CM15	**Chiang Mai Arr**	**165.58**	**109**		PKP	**PKPdf**	**15 47 48.8**	**+3.8**	
CM02	**Chiang Mai Arr**	**165.59**	**109**		PKP	**PKPdf**	**15 47 48.4**	**+3.4**	
CM01	**Chiang Mai Arr**	**165.60**	**109**		PKP	**PKPdf**	**15 47 51.7**	**+6.7**	
CMAR	**Chiang Mai Arr**	**165.60**	**109**		PKP	**PKPdf**	**15 47 45.5**	**+0.5**	
	comp=Z,2.0nm,0.9s,baz=262,slow=2.3,SNR=14								
CMAR					PKPab	**PKPab**	**15 48 44.8**	**-0.2**	
	comp=Z,1.4nm,0.5s,baz=243,slow=5.2,SNR=4.3								
CMAR					PP	**PP**	**15 52 34.1**	**+1.5**	
	comp=Z,3.4nm,0.9s,baz=251,slow=5.6,SNR=4.7								
CMAR	**Chiang Mai Arr**	**165.60**	**109**		PKPdf	**PKPdf**	**15 47 43.1**	**-2.0**	
CMAR					PKPab	**PKPab**	**15 48 43.9**	**-1.0**	
CM04	**Chiang Mai Arr**	**165.61**	**109**		PKP	**PKPdf**	**15 47 48.3**	**+3.2**	
CHTO	**Chiang Mai**	**165.74**	**108**		PKIKP	**PKPdf**	**15 47 43.1**	**-2.0**	
CHTO							15 48 43.4		
CHTO	**Chiang Mai**	**165.74**	**108**		PKP	**PKPdf**	**15 47 47.2**	**+2.0**	
CHTO	**Chiang Mai**	**165.74**	**108**		PKPdf	**PKPdf**	**15 47 43.1**	**-2.0**	
CHTO					PKPab	**PKPab**	**15 48 43.4**	**-2.2**	
CHTO	**Chiang Mai**	**165.74**	**

	comp=N,1µm,0.5s							
EFP	**Efpalio**	**0.96**	**76**	P	**Pb**	**15 53 57.1**	**-0.8**	
EFP				AML	AML	15 54 17.1		
	comp=N,2760µm,0.6s							
EFP				AML	AML	15 54 22.3		
	comp=E,2405µm,0.4s							
LAKA	**Lakka**	**0.99**	**87**	P	**Pb**	**15 53 57.9**	**-0.4**	
LAKA				S	**Sn**	**15 54 13.3**	**+0.8**	
	comp=E,7µm,0.6s							
LAKA	**Lakka**	**0.99**	**87**	P	**Pb**	**15 53 58.0**	**-0.4**	
ANX	**Ano Chora**	**1.02**	**67**	P	**Pb**	**15 53 58.2**	**-0.7**	
ANX	**Ano Chora**	**1.02**	**67**	P	**Pb**	**15 53 58.3**	**-0.7**	
ANX				AML	AML	15 54 24.8		
	comp=E,2824µm,0.5s							
ANX				AML	AML	15 54 28.8		
	comp=N,2964µm,0.4s							
SERG	**Sergoula**	**1.07**	**78**	P	**Pb**	**15 53 59.0**	**-0.7**	
SERG	**Sergoula**	**1.07**	**78**	P	**Pb**	**15 53 59.0**	**-0.7**	
SERG				AML	AML	15 54 24.7		
	comp=E,2363µm,0.4s							
SERG				AML	AML	15 54 25.5		
	comp=N,2786µm,0.3s							
TRIZ	**Trizonia**	**1.07**	**80**	P	**Pb**	**15 53 59.2**	**-0.6**	
TRIZ	**Trizonia**	**1.07**	**80**	P	**Pb**	**15 53 59.3**	**-0.6**	
ALIK	**Aliki, Agiali**	**1.09**	**86**	P	**Pb**	**15 53 59.9**	**-0.2**	
EVR	**Evrytania**	**1.11**	**49**	P	**Pb**	**15 53 59.6**	**-1.0**	
EVR				AML	AML	15 54 27.7		
	comp=E,1010µm,0.9s							
EVR				AML	AML	15 54 32.0		
	comp=N,1226µm,0.6s							
KLV	**Kalavryta, Ach**	**1.13**	**97**	P	**Pn**	**15 54 00.4**	**-0.5**	
KLV	**Kalavryta, Ach**	**1.13**	**97**	P	**Pn**	**15 54 00.6**	**-0.2**	
KLV				S	**Sg**	**15 54 16.5**	**+0.2**	
KLV				AML	AML	15 54 19.7		
	comp=E,1182µm,0.5s							
KLV				AML	AML	15 54 24.6		
	comp=N,1508µm,0.4s							
IGT	**Igoumenitsa**	**1.37**	**347**	P	**Pb**	**15 54 05.4**	**+0.5**	
IGT	**Igoumenitsa**	**1.37**	**347**	P	**Pb**	**15 54 05.0**	**+0.1**	
MAKR	**Makrakomi, Fth**	**1.37**	**53**	P	**Pb**	**15 54 05.1**	**+0.2**	
MAKR	**Makrakomi, Fth**	**1.37**	**53**	P	**Pb**	**15 54 05.1**	**+0.2**	
MAKR				AML	AML	15 54 34.9		
	comp=N,1409µm,1.0s							
MAKR				AML	AML	15 54 35.5		
	comp=E,917µm,1.0s							
ITM	**Ithomi**	**1.39**	**136**	P	**Pb**	**15 54 05.5**	**+0.3**	
ITM	**Ithomi**	**1.39**	**136**	P	**Pb**	**15 54 05.6**	**+0.3**	
ITM				AML	AML	15 54 33.7		
	comp=N,728µm,0.5s							
ITM				AML	AML	15 54 34.4		
	comp=E,634µm,0.4s							
JAN	**Janina**	**1.46**	**4**	P	**Pb**	**15 54 07.1**	**+0.6**	
AGG	**Agios Georgios**	**1.50**	**56**	P	**Pb**	**15 54 06.9**	**-0.3**	
AGG	**Agios Georgios**	**1.50**	**56**	P	**Pn**	**15 54 06.4**	**+0.4**	
AGG				AML	AML	15 54 36.9		
	comp=E,1118µm,0.3s							
AGG				AML	AML	15 54 42.3		
	comp=N,1138µm,0.4s							
THAL	**Thalero**	**1.54**	**95**	P	**Pb**	**15 54 07.5**	**-0.2**	
KASA	**Kassiopi**	**1.67**	**339**	P	**Pb**	**15 54 10.5**	**+0.5**	
KEK	**Kerkira**	**1.68**	**335**	P	**Pb**	**15 54 09.5**	**-0.7**	
THL	**Klokotos Trika**	**1.70**	**36**	P	**Pb**	**15 54 10.4**	**-0.1**	
THL	**Klokotos Trika**	**1.70**	**36**	P	**Pb**	**15 54 10.3**	**-0.1**	
THL				AML	AML	15 54 39.5		
	comp=E,1365µm,0.5s							
THL				AML	AML	15 54 39.9		
	comp=N,712µm,0.7s							
LTK	**Loutraki**	**1.78**	**95**	P	**Pb**	**15 54 12.1**	**+0.3**	
LOUT	**Loutraki**	**1.79**	**96**	P	**Pb**	**15 54 12.5**	**+0.6**	
KPRO	**Kipourio**	**1.83**	**16**	P	**Pb**	**15 54 13.4**	**+0.7**	
LKR	**Lokris**	**1.84**	**75**	P	**Pb**	**15 54 12.9**	**0.0**	
EPID	**Epidavros**	**1.98**	**106**	P	**Pb**	**15 54 15.8**	**+0.5**	
VIL2	**Platees**	**2.00**	**89**	P	**Pb**	**15 54 16.2**	**+0.5**	
PENT	**Pentalofos**	**2.02**	**9**	P	**Pb**	**15 54 16.6**	**+0.5**	
NEST	**Nestorio**	**2.23**	**6**	P	**Pb**	**15 54 19.6**	**0.0**	
XOR	**Xorichti**	**2.25**	**58**	P	**Pb**	**15 54 19.0**	**-1.0**	
VLY	**Voula,Athens**	**2.45**	**97**	P	**Pb**	**15 54 22.2**	**-1.0**	
DION	**Dionisos Attik**	**2.53**	**92**	P	**Pb**	**15 54 23.3**	**-1.4**	
OHR	**Ohrid**	**2.91**	**1**	*i* Pn	**Pb**	**15 54 28.4**	**-2.8**	
STIP	**Stip**	**3.67**	**17**	*i* Pn	**Pn**	**15 54 38.4**	**+2.7**	
STON	**Ston**	**5.21**	**335**	*e*Pn	**Pn**	**15 54 56.2**	**-0.6**	
HVAR	**Hvar**	**5.94**	**328**	*e*Pn	**Pn**	**15 55 07.2**	**+0.3**	
RICI	**Ricice**	**5.95**	**334**	*e*Pn	**Pn**	**15 55 07.0**	**0.0**	
KIJV	**Kijevo**	**6.66**	**332**	*e*Pn	**Pn**	**15 55 17.1**	**+0.3**	
MORI	**Morici**	**6.82**	**328**	*e*Pn	**Pn**	**15 55 19.5**	**+0.6**	
DUGI	**Dugi Otok**	**7.20**	**325**	*e*Pn	**Pn**	**15 55 24.9**	**+0.7**	

MEX 28 15:57:40.4±0.7, 15.75N×94.25W, h73km±21km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.99**	**93**	*e*P	Pn	15 57 57.4	-1.6
PCIG				*e*S	Sn	15 58 11.2	-1.6
CMIG	**Matias Romero**	**1.46**	**336**	*e*P	Pn	15 58 03.6	-1.4
CMIG				*e*S	Sn	15 58 21.7	-1.9
TGIG		**1.49**	**47**	*i* P	Pn	15 58 03.7	-1.7
TGIG				*i* S	Sn	15 58 20.0	-4.2
VHO	**Vista Hermosa**	**2.72**	**299**	*e*P	Pn	15 58 21.1	-0.9
VHO				*e*S	Sn	15 58 52.2	-1.8
PEIG	**Puerto Escondi**	**2.80**	**275**	*e*P	Pn	15 58 20.8	-2.1
PEIG				*e*S	Sn	15 58 51.5	-4.2
TOIG	**Toxpalan**	**3.56**	**311**	*e*P	Pn	15 58 34.6	+1.2
TOIG				*e*S	Sn	15 59 15.3	+0.9
SCIG	**Sabancuy**	**4.34**	**42**	*e*P	Pn	15 58 41.8	-2.1
SCIG				*e*S	Sn	15 59 27.5	-5.7

*IDC **28** 16:02:11.0±3.1, 33.01S×178.47W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.6/20, mbtmp3.6/3, ML3.8/1, MS4.1/2, Ms1 4.1/2, ms1mx3.3/26, Error ellipse: s-maj=70.7km s-min=36.3km az=116.0*
*WEL **28** 16:02:15.5±0.7, 33°S±10°×17°9W±2°4, h33km, M3.9/8, mB4.5/6, ML4.4/16, MLv4.1/8, Mw(mB)3.6/6, Error ellipse: s-maj=0.0km s-min=0.0km az=111.6*
ISC 28 16:02:14.1±1.7, 32.9S±0.1×178.3W±0.3, h32km, n27, σ1§37/43, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.66**	**5**	P	**Pn**	**16 03 07.6**	**-0.8**
GLKZ				S	**Sn**	**16 03 49.2**	**-1.2**
MXZ	**Matakaoa Point**	**5.41**	**210**	P	**Pn**	**16 03 32.6**	**+0.1**
MXZ				S	**Sn**	**16 04 34.0**	**+0.4**
WMGZ	**Waiomatatini S**	**5.58**	**208**	P	**Pn**	**16 03 36.8**	**+1.9**
PKGZ	**Pakihiroa**	**5.78**	**210**	S	**Sn**	**16 04 41.8**	**-1.1**
HAZ	**Te Kaha**	**5.80**	**213**	P	**Pn**	**16 03 39.3**	**+1.5**
HAZ				S	**Sn**	**16 04 44.3**	**+1.1**
PUZ	**Puketiti**	**5.86**	**208**	P	**Pn**	**16 03 39.1**	**+0.3**
PUZ				S	**Sn**	**16 04 43.7**	**-1.2**
RUGZ	**Raukumara Rang**	**6.02**	**212**	P	**Pn**	**16 03 39.5**	**-1.5**
RUGZ				S	**Sn**	**16 04 47.9**	**-0.9**
TWGZ	**Tauwhareparae**	**6.07**	**209**	P	**Pn**	**16 03 43.0**	**+1.5**
TWGZ				S	**Sn**	**16 04 49.3**	**-0.5**
CNGZ	**Carnagh Statio**	**6.24**	**206**	P	**Pn**	**16 03 44.4**	**+0.4**
CNGZ				S	**Sn**	**16 04 55.7**	**+1.6**
TKGZ	**Te Karaka**	**6.34**	**209**	P	**Pn**	**16 03 45.6**	**+0.3**
TKGZ				S	**Sn**	**16 04 54.0**	**-2.6**
MWZ	**Matawai**	**6.39**	**211**	P	**Pn**	**16 03 46.4**	**+0.4**
MWZ				S	**Sn**	**16 04 57.6**	**-0.3**
URZ	**Urewera**	**6.52**	**214**	Pn	**Pn**	**16 03 45.5**	**-2.2**
URZ	2.0nm,0.3s,baz=295,slow=3.0,SNR=10			Sn	**Sn**	**16 04 58.7**	**-2.1**
	1.7nm,0.3s,baz=356,slow=23,SNR=8.1						
URZ	**Urewera**	**6.52**	**214**	P	**Pn**	**16 03 47.5**	**-0.1**
URZ				S	**Sn**	**16 05 00.2**	**-0.7**
TGRZ	**Tauranga**	**6.55**	**221**	P	**Pn**	**16 03 51.5**	**+3.3**
RAGZ	**Rawiri**	**6.57**	**211**	P	**Pn**	**16 03 49.1**	**+0.5**
RIGZ	**Rimuhau**	**6.61**	**208**	P	**Pn**	**16 03 49.0**	**0.0**
RIGZ				S	**Sn**	**16 05 02.6**	**-0.5**
SNGZ	**Shannon Statio**	**6.84**	**210**	P	**Pn**	**16 03 52.5**	**+0.3**
SNGZ				S	**Sn**	**16 05 07.9**	**-1.1**
MUGZ	**Murupara**	**6.85**	**215**	P	**Pn**	**16 03 52.0**	**-0.3**
MUGZ				S	**Sn**	**16 05 07.8**	**-1.3**
RAHZ	**Arahi**	**7.07**	**211**	P	**Pn**	**16 03 57.4**	**+2.1**
RAHZ				S	**Sn**	**16 05 14.0**	**-0.4**
MTHZ	**Maungataniwha**	**7.12**	**212**	P	**Pn**	**16 03 56.6**	**+0.6**
MTHZ				S	**Sn**	**16 05 14.5**	**-1.4**
BKZ	**Black Stump Fm**	**7.53**	**213**	P	**Pn**	**16 04 00.9**	**-0.7**
BKZ				S	**Sn**	**16 05 23.1**	**-2.9**
OTVZ	**Oturere**	**7.92**	**216**	P	**Pn**	**16 04 08.5**	**+1.3**
OTVZ				S	**Sn**	**16 05 34.0**	**-1.8**
AFI	**Afiamalu**	**19.83**	**19**	LR	LR	16 14 26.9	
	comp=Z,299nm,21.2s,baz=101,slow=37						
ASAR	**Alice Springs**	**42.79**	**270**	P	**P**	**16 10 09.6**	**+0.6**
	0.4nm,0.6s,baz=108,slow=7.3,SNR=9.2						
WRA	**Warramunga Arr**	**44.01**	**275**	P	**P**	**16 10 19.1**	**+0.4**
	0.6nm,0.4s,baz=114,slow=7.7,SNR=26						
USRK	**Ussuriysk Ar.**	**89.12**	**327**	LR	LR	16 48 15.9	
	comp=Z,211nm,21.4s,baz=26,slow=31						
FINES	**FINESS Array B**	**147.40**	**338**	PKPbc	**PKPbc**	**16 21 55.2**	**+1.4**
	1.9nm,0.9s,baz=45,slow=3.0,SNR=5.6						

MEX 28 16:07:44.6±0.3, 28.06N×112.47W, h70km±13km, MD3.6, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.76**	**165**	*i* P	Pn	16 07 58.9	-1.3
SRIG				*i* S	Sn	16 08 10.1	-1.7
GUYB	**Guaymas**	**1.42**	**96**	*e*P	Pn	16 08 07.1	-1.3
GUYB				*e*S	Sn	16 08 24.6	-1.9
HSIG		**1.65**	**54**	*i* P	Pn	16 08 10.9	-0.6
HSIG				*i* S	Sn	16 08 30.1	-1.8

*IDC **28** 16:13:24.6±3.3, 33.10S×177.89W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/20, mbtmp3.7/3, ML3.1/1, Error ellipse: s-maj=78.4km s-min=37.7km az=121.0*
*WEL **28** 16:13:27.3±1.0, 33°S±11°×17°8W±2°7, h33km, M4.5/6, mB4.8/1, ML4.7/7, MLv4.5/6, Mw(mB)4.1/1, Error ellipse: s-maj=0.0km s-min=0.0km az=110.6*
ISC 28 16:13:24.8±2.4, 32.9S±0.1×177.7W±0.4, h26km, n25, σ2§07/37, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.65**	**357**	P	**Pn**	**16 14 17.7**	**-1.9**
GLKZ				S	**Sn**	**16 15 00.3**	**-1.5**
MXZ	**Matakaoa Point**	**5.67**	**214**	P	**Pn**	**16 14 45.8**	**-1.5**
MXZ				S	**Sn**	**16 15 51.4**	**-0.2**
WMGZ	**Waiomatatini S**	**5.83**	**212**	P	**Pn**	**16 14 48.4**	**-1.2**
WMGZ				S	**Sn**	**16 15 57.4**	**+1.8**
PKGZ	**Pakihiroa**	**6.04**	**214**	P	**Pn**	**16 14 54.3**	**+1.8**
PKGZ				S	**Sn**	**16 16 01.7**	**+0.8**
URZ	**Urewera**	**6.80**	**217**	Pn	**Pn**	**16 15 01.9**	**-1.0**
	0.4nm,0.3s,baz=63,slow=6.8,SNR=1.9			Sn	**Sn**	**16 16 19.4**	**-0.1**
URZ	4.3nm,0.3s,baz=197,slow=19,SNR=18						
SNGZ	**Shannon Statio**	**7.11**	**213**	P	**Pn**	**16 15 07.0**	**-0.1**
SNGZ				S	**Sn**	**16 16 27.1**	**+0.1**
RTZ	**Ruatahuna**	**7.14**	**216**	P	**Pn**	**16 15 09.4**	**+1.8**
RTZ				S	**Sn**	**16 16 29.5**	**+1.5**
RAHZ	**Arahi**	**7.33**	**214**	P	**Pn**	**16 15 13.6**	**+3.4**
RAHZ				S	**Sn**	**16 16 30.3**	**-2.2**
WHHZ	**Waihua**	**7.39**	**212**	P	**Sn**	**16 16 35.3**	**+1.3**
MTHZ	**Maungataniwha**	**7.40**	**215**	P	**Pn**	**16 15 09.6**	**-1.5**
MTHZ				S	**Sn**	**16 16 32.2**	**-1.9**
ARHZ	**Aropaoanui**	**7.65**	**213**	P	**Sn**	**16 16 40.8**	**+0.5**
BKZ	**Black Stump Fm**	**7.81**	**215**	P	**Pn**	**16 15 17.8**	**+1.0**
BKZ				S	**Sn**	**16 16 43.0**	**-1.4**
MCHZ	**McNeill Hill**	**7.93**	**213**	P	**Sn**	**16 16 47.4**	**0.0**
KWHZ	**Kaweka Forest**	**8.05**	**215**	P	**Sn**	**16 16 50.3**	**+0.1**
KAHZ	**Kahuranaki**	**8.14**	**211**	P	**Pn**	**16 15 21.9**	**+0.6**
KAHZ				S	**Sn**	**16 16 49.7**	**-2.8**
KRHZ	**Kereru**	**8.24**	**214**	P	**Sn**	**16 16 53.0**	**-2.0**
WNVZ	**Wahianoa**	**8.39**	**218**	P	**Sn**	**16 16 54.5**	**-4.2**
PNHZ	**Pukenui**	**8.54**	**213**	P	**Sn**	**16 16 59.6**	**-2.7**
WPHZ	**Waipukurau**	**8.55**	**212**	P	**Sn**	**16 17 02.4**	**-0.1**
ANWZ	**Angora Road**	**8.86**	**210**	P	**Sn**	**16 17 06.8**	**-3.3**
DVHZ	**Dannevirke**	**8.86**	**212**	P	**Sn**	**16 17 06.8**	**-3.4**
MRZ	**Mangatainoka R**	**9.42**	**213**	P	**Pn**	**16 15 36.1**	**-2.7**
MRZ				S	**Sn**	**16 17 20.1**	**-3.8**
ASAR	**Alice Springs**	**43.29**	**269**	P	**P**	**16 21 26.9**	**+2.3**
	0.8nm,0.7s,baz=104,slow=7.2,SNR=11						
WRA	**Warramunga Arr**	**44.51**	**275**	P	**P**	**16 21 36.9**	**+2.5**
	0.7nm,0.4s,baz=116,slow=7.4,SNR=6.7						
FINES	**FINESS Array B**	**147.59**	**339**	PKPbc	**PKPab**	**16 33 09.8**	**+1.6**
	3.2nm,1.0s,baz=95,slow=4.6,SNR=4.8						

*ANF **28** 16:25:58.4±0.3, 59.70N×153.02W, h104km±3km, ML3.5/39, ML3.5/39, Error ellipse: s-maj=3.4km s-min=2.5km az=99.0*
*NEIC **28** 16:25:58.8±0.9, 59.73N±0.04×153.02W±0.06, h104km±4km, Error ellipse: s-maj=5.7km s-min=4.7km az=194.0*
*AEIC **28** 16:25:59.9±1.3, 59.72N±0.04×152.98W±0.07, h100km±4km, ML3.1/94, ML3.5/117(NEIC), Error ellipse: s-maj=5.7km s-min=4.8km az=200.0*
ISC 28 16:25:58.1±1.2, 59.71N±0.04×153.00W±0.03, h110km±6km, n219, σ0§80/218, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.13**	**244**		**Pn**	**16 26 13.4**	**0.0**
P19K	**Oil Pt**	**0.13**	**244**		**Pn**	**16 26 13.4**	**0.0**
P19K					**Sn**	**16 26 23.8**	**-1.0**
P19K	**Oil Pt**	**0.13**	**244**	IAML		16 26 25.2	
	comp=N,2µm,0.5s						
P19K				IAML		16 26 25.9	
	comp=E,2µm,0.5s						
P19K	**Oil Pt**	**0.13**	**244**	P	**Pn**	**16 26 13.4**	**0.0**
	baz=63,SNR=28						
P19K				S	**Sn**	**16 26 24.4**	**-0.4**
	baz=63						
ILS	**Iliamna Low So**	**0.25**	**352**		**Pn**	**16 26 13.7**	**-0.1**
ILSW	**Iliamna Southw**	**0.28**	**346**		**Pn**	**16 26 13.9**	**0.0**
ILSW					**Sn**	**16 26 24.9**	**-1.0**
AUW	**Augustine West**	**0.42**	**215**		**Pn**	**16 26 14.7**	**+0.3**
O20K	**Slope Mountain**	**0.42**	**27**		**Pn**	**16 26 14.7**	**+0.2**
O20K					**Sn**	**16 26 26.5**	**-0.4**
O20K	**Slope Mountain**	**0.42**	**27**	P	**Pn**	**16 26 14.8**	**+0.2**
	baz=206,SNR=24						
O20K				S	**Sn**	**16 26 26.8**	**-0.1**
	baz=206						
HOM	**Homer**	**0.69**	**94**		**Pn**	**16 26 17.2**	**+0.8**
HOM				IAML		16 26 31.3	
	comp=E,952nm,0.4s						
HOM	**Homer**	**0.69**	**94**	P	**Pn**	**16 26 16.9**	**+0.6**
	baz=276,SNR=8.2						
HOM				S	**Sn**	**16 26 30.9**	**+0.8**
	baz=276						
RSO	**Redoubt South**	**0.76**	**9**		**Pn**	**16 26 17.1**	**-0.1**
O19K	**Port Alsworth**	**0.82**	**307**		**Pn**	**16 26 17.5**	**0.0**
O19K					**Sn**	**16 26 31.4**	**-0.8**
O19K	**Port Alsworth**	**0.82**	**307**	P	**Pn**	**16 26 17.5**	**0.0**
	baz=125,SNR=35						
O19K				S	**Sn**	**16 26 31.3**	**-0.8**
	baz=125						
Q19K	**Cape Douglas,**	**0.85**	**203**		**Pn**	**16 26 18.1**	**+0.2**
Q19K					**Sn**	**16 26 32.5**	**-0.2**
Q19K	**Cape Douglas,**	**0.85**	**203**	IAML		16 26 34.1	
	comp=N,461nm,0.7s						
Q19K				IAML		16 26 43.3	
	comp=E,510nm,0.8s						
Q19K	**Cape Douglas,**	**0.85**	**203**	P	**Pn**	**16 26 18.0**	**+0.1**
	baz=23,SNR=19						
Q19K				S	**Sn**	**16 26 32.5**	**-0.2**
	baz=23						
CNPM	**China Poot**	**0.92**	**101**		**Pn**	**16 26 18.8**	**+0.3**
CNPM					**Sn**	**16 26 33.6**	**-0.2**
CNPM	**China Poot**	**0.92**	**101**	IAML		16 26 34.6	
	comp=N,1µm,0.4s						
CNPM				IAML		16 26 34.7	
	comp=E,752nm,0.5s						
BRLK	**Bradley Lake**	**1.07**	**86**		**Pn**	**16 26 20.1**	**0.0**
BRLK	**Bradley Lake**	**1.07**	**86**	IAML		16 26 36.8	
	comp=E,375nm,0.2s						
BRLK				IAML		16 26 40.1	
	comp=N,395nm,0.3s						
O18K	**Koktuh Hills**	**1.12**	**278**		**Pn**	**16 26 22.4**	**+1.8**
O18K	**Koktuh Hills**	**1.12**	**278**	P	**Pn**	**16 26 22.4**	**+1.8**
	baz=96,SNR=5.6						
O18K				S	**Sn**	**16 26 38.5**	**+0.9**
	baz=96						
BRSE	**Bradley Lake S**	**1.15**	**87**		**Pn**	**16 26 21.1**	**+0.3**
BRSE					**Sn**	**16 26 37.6**	**-0.4**
BRSE	**Bradley Lake S**	**1.15**	**87**	P	**Pn**	**16 26 20.9**	**+0.1**
	baz=270,SNR=9.5						
BRSE				S	**Sn**	**16 26 37.5**	**-0.6**
	baz=270						
N19K	**Bonanza Creek**	**1.33**	**327**		**Pn**	**16 26 23.0**	**0.0**
N19K	**Bonanza Creek**	**1.33**	**327**	P	**Pn**	**16 26 23.1**	**0.0**
	baz=145,SNR=64						
N19K				S	**Sn**	**16 26 41.0**	**-0.8**
	baz=145						
CAPN	**Captain Cook N**	**1.41**	**40**	Pn	**Pn**	**16 26 25.8**	**+2.0**
CAPN	**Captain Cook N**	**1.41**	**40**	P	**Pn**	**16 26 25.9**	**+2.2**
	baz=222						
SLKM	**Skilak Lake**	**1.61**	**59**		**Pn**	**16 26 27.1**	**+0.9**
N19K	**Kilae Creek**	**1.74**	**305**		**Pn**	**16 26 27.7**	**-0.1**
KAKN	**Katmai Knife C**	**1.77**	**218**		**Pn**	**16 26 28.8**	**+0.4**
KVTA	**Katmai Vly 10**	**1.78**	**223**		**Pn**	**16 26 29.0**	**+0.6**
O22K	**Cooper Landing**	**1.81**	**63**		**Pn**	**16 26 29.4**	**+0.7**
O22K	**Cooper Landing**	**1.81**	**63**	IAML		16 27 03.8	
	comp=E,540nm,0.5s						
O22K	**Cooper Landing**	**1.81**	**63**	P	**Pn**	**16 26 29.3**	**+0.6**
	baz=246,SNR=16						
SEW	**Seward**	**1.83**	**76**		**Pn**	**16 26 29.1**	**+0.2**
SEW	**Seward**	**1.83**	**76**	P	**Pn**	**16 26 29.1**	**+0.2**
	baz=259,SNR=12						
KCE	**Katmai Mt Cerb**	**1.85**	**218**		**Pn**	**16 26 30.4**	**+1.1**
KABU	**Katmai Buttres**	**1.86**	**220**		**Pn**	**16 26 30.2**	**+0.7**
KABR	**Katmai Barrier**	**1.88**	**214**		**Pn**	**16 26 30.1**	**+0.5**
STLK	**Strandline Lak**	**1.89**	**17**		**Pn**	**16 26 30.5**	**+0.9**
SVW2	**Sparrevohn**	**1.89**	**318**		**Pn**	**16 26 29.5**	**-0.1**
KDAK	**Kodiak Island**	**1.95**	**173**		**Pn**	**16 26 30.2**	**-0.1**
KDAK	**Kodiak Island**	**1.95**	**173**	IAML		16 26 55.9	
	comp=E,308nm,0.3s						
KDAK				IAML		16 26 56.0	
	comp=E,361nm,0.3s						
KDAK	**Kodiak Island**	**1.95**	**173**	P	**Pn**	**16 26 30.2**	**-0.1**
	baz=354						
KDAK				S	**Sn**	**16 26 55.1**	**+0.1**
	baz=354						
CAHL	**Cahill**	**2.05**	**217**		**Pn**	**16 26 32.7**	**+1.0**
SUA	**Susitna One**	**2.08**	**31**		**Pn**	**16 26 33.3**	**+1.1**
SUA	**Susitna One**	**2.08**	**31**	IAML		16 27 01.0	
	comp=N,324nm,1.1s						
SUA	**Susitna One**	**2.08**	**31**	P	**Pn**	**16 26 33.2**	**+1.0**
	baz=213,SNR=17						
SUA				S	**Sn**	**16 26 58.8**	**+0.5**
	baz=213						
RC01	**Rabbit Creek A**	**2.13**	**48**		**Pn**	**16 26 33.3**	**+0.6**
RC01	**Rabbit Creek A**	**2.13**	**48**	IAML		16 26 59.6	
	comp=N,306nm,0.3s						
RC01				IAML		16 27 01.4	
	comp=E,274nm,0.2s						
RC01	**Rabbit Creek A**	**2.13**	**48**	P	**Pn**	**16 26 33.3**	**+0.6**
	baz=231,SNR=17						
RC01				S	**Sn**	**16 26 58.6**	**-0.6**
	baz=231						
M19K	**Big River Lodg**	**2.30**	**343**		**Pn**	**16 26 35.0**	**+0.1**
SKT	**Skwentna**	**2.39**	**17**		**Pn**	**16 26 36.4**	**+0.3**
SKT	**Skwentna**	**2.39**	**17**	P	**Pn**	**16 26 36.4**	**+0.3**
	baz=198						
OHAK	**Old Harbor**	**2.50**	**184**		**Pn**	**16 26 36.9**	**-0.6**
OHAK	**Old Harbor**	**2.50**	**184**	IAML		16 27 06.9	
	comp=N,108nm,0.3s						
OHAK	**Old Harbor**	**2.50**	**184**	P	**Pn**	**16 26 36.9**	**-0.6**
	baz=3.5						
OHAK				S	**Sn**	**16 27 05.4**	**-2.2**
	baz=3.5						
PWL	**Port Wells**	**2.59**	**62**		**Pn**	**16 26 38.5**	**-0.2**
PWL	**Port Wells**	**2.59**	**62**	IAML		16 27 09.4	
	comp=N,215nm,0.4s						
PWL				IAML		16 27 11.0	
	comp=E,162nm,0.3s						
L19K	**White Mountain**	**2.64**	**341**		**Pn**	**16 26 39.4**	**+0.1**
L19K	**White Mountain**	**2.64**	**341**	P	**Pn**	**16 26 39.4**	**+0.1**
	baz=159,SNR=36						
PMR	**Palmer**	**2.68**	**44**		**Pn**	**16 26 39.8**	**0.0**
PMR				IAML		16 27 13.3	
	comp=N,97nm,0.7s						
PMR				IAML		16 27 17.3	
	comp=E,90nm,0.7s						
PMR	**Palmer**	**2.68**	**44**	P	**Pn**	**16 26 39.9**	**+0.1**
	baz=227						
PMR				S	**Sn**	**16 27 09.6**	**-2.3**
	baz=227						
L20K	**Farewell, AK**	**2.81**	**352**	P	**Pn**	**16 26 42.1**	**+0.5**
	baz=171,SNR=25						
KNK	**Knik Glacier**	**2.82**	**51**		**Pn**	**16 26 41.5**	**-0.1**
KNK	**Knik Glacier**	**2.82**	**51**	P	**Pn**	**16 26 41.7**	**0.0**
	baz=235						
KNK				S	**Sn**	**16 27 13.4**	**-1.8**
	baz=235						
GHO	**Glory Hole Cre**	**2.88**	**42**		**Pn**	**16 26 42.6**	**0.0**
GHO				IAML		16 27 24.1	
	comp=N,137nm,0.5s						
GHO				IAML		16 27 24.8	
	comp=E,172nm,0.6s						
CUT	**Chulitna**	**3.01**	**25**	Pn	**Pn**	**16 26 45.4**	**+1.2**
CUT				IAML		16 27 23.5	
	comp=N,140nm,0.3s						
CUT				IAML		16 27 26.4	
	comp=E,170nm,0.4s						
SML	**Sawmill**	**3.11**	**45**		**Pn**	**16 26 45.4**	**-0.2**
SML	**Sawmill**	**3.

TRF	Thorofare Moun	3.97	18	P		Pn	16 26 57.4	+0.3
	baz=200,SNR=6.7							
KTH	Kantishna Hill	3.98	14			Pn	16 26 57.7	+0.5
M24K	Tolsona, Glenn	4.11	51			Pn	16 26 59.4	+0.5
M24K	Tolsona, Glenn	4.11	51	IAML			16 27 50.5	
	comp=E,75nm,0.6s							
M24K				IAML			16 28 14.1	
	comp=N,78nm,3.0s							
M24K	Tolsona, Glenn	4.11	51	P		Pn	16 26 59.0	+0.1
	baz=237							
CHUM	Lake Minchumin	4.20	4			Pn	16 27 00.6	+0.6
CHUM	Lake Minchumin	4.20	4	P		Pn	16 27 00.4	+0.4
	baz=185,SNR=8.7							
RND	Reindeer	4.21	26			Pn	16 27 00.7	+0.5
DHY	Denali Highway	4.33	36			Pn	16 27 02.0	+0.1
DHY	Denali Highway	4.33	36	IAML			16 27 52.6	
	comp=N,52nm,0.5s							
DHY	Denali Highway	4.33	36	P		Pn	16 27 01.9	+0.1
	baz=221							
KAIM	Kayak Island	4.34	83	Pn		Pn	16 27 02.7	+0.7
BMRM	Bremner River	4.36	70			Pn	16 27 03.0	+0.8
BMRM	Bremner River	4.36	70	IAML			16 27 56.2	
	comp=N,39nm,1.8s							
BMRM				IAML			16 27 59.7	
	comp=E,41nm,2.9s							
BMRM	Bremner River	4.36	70	P		Pn	16 27 02.5	+0.3
	baz=257,SNR=6.0							
HMT	Hamilton	4.43	78	Pn		Pn	16 27 03.9	+0.7
CHGN	Chignik	4.47	222	Pn		Pn	16 27 04.1	+0.4
CHGN				IAML			16 27 54.6	
	comp=E,65nm,0.1s							
MCK	McKinley	4.47	24			Pn	16 27 04.4	+0.6
MCK	McKinley	4.47	24	IAML			16 28 17.5	
	comp=N,22nm,1.0s							
MCK	McKinley	4.47	24	P		Pn	16 27 04.2	+0.4
	baz=207,SNR=7.1							
BPAW	Bear Paw Mtn.	4.51	11			Pn	16 27 04.4	+0.2
BPAW	Bear Paw Mtn.	4.51	11	P		Pn	16 27 04.4	+0.2
	baz=193							
J20K	Nowinta River	4.51	354			Pn	16 27 04.7	+0.4
J20K	Nowinta River	4.51	354	P		Pn	16 27 04.7	+0.4
	baz=172,SNR=26							
N25K	Chitina, Valde	4.55	62			Pn	16 27 04.8	-0.1
N25K	Chitina, Valde	4.55	62	IAML			16 27 57.5	
	comp=E,30nm,0.5s							
N25K				IAML			16 29 28.9	
	comp=N,29nm,3.2s							
N25K	Chitina, Valde	4.55	62	P		Pn	16 27 04.8	-0.1
	baz=249,SNR=14							
HARP	HAARP	4.67	51			Pn	16 27 07.4	+1.0
HARP	HAARP	4.67	51	P		Pn	16 27 06.6	+0.2
	baz=238							
BERG	Berg Lake	4.71	78	Pn		Pn	16 27 07.4	+0.5
BWN	Browne	4.78	19	Pn		Pn	16 27 08.5	+0.7
BWN				IAML			16 28 31.0	
	comp=N,55nm,1.1s							
BWN				IAML			16 28 32.5	
	comp=E,43nm,3.1s							
GLB	Gilahina Butte	4.86	65	Pn		Pn	16 27 08.9	0.0
GLB				IAML			16 28 03.5	
	comp=E,19nm,1.4s							
GLB				IAML			16 28 05.9	
	comp=N,28nm,1.3s							
PAX	Paxson	4.88	45			Pn	16 27 10.5	+1.2
PAX	Paxson	4.88	45	P		Pn	16 27 09.5	+0.2
	baz=231							
VRDI	Verde Repeater	4.96	68			Pn	16 27 11.0	+0.5
VRDI				IAML			16 28 06.3	
	comp=N,32nm,2.6s							
VRDI				IAML			16 29 11.3	
	comp=E,17nm,3.0s							
CRQM	Cirque	5.03	74	Pn		Pn	16 27 12.0	+0.6
CRQM				IAML			16 29 44.5	
	comp=E,36nm,3.2s							
CRQE	Cirque	5.05	74	P		Pn	16 27 12.0	+0.4
	baz=262							
SNH	Sunshine Point	5.13	80	Pn		Pn	16 27 13.5	+0.8
WAX	Waxell Ridge	5.14	77	Pn		Pn	16 27 13.3	+0.5
TGL	Tana Glacier	5.18	74	Pn		Pn	16 27 13.5	+0.1
MCARA	McCarthy VSAT	5.20	67			Pn	16 27 14.8	+1.3
MCARA	McCarthy VSAT	5.20	67	IAML			16 28 47.1	
	comp=E,31nm,2.4s							
MCARA				IAML			16 28 49.1	
	comp=N,34nm,2.8s							
MCARA	McCarthy VSAT	5.20	67	P		Pn	16 27 14.4	+0.8
	baz=256							
NEA2	Nenana	5.24	19			Pn	16 27 13.8	-0.2
NEA2	Nenana	5.24	19	P		Pn	16 27 13.8	-0.2
	baz=202,SNR=10							
WRH	Wood River Hil	5.30	24			Pn	16 27 14.8	-0.1
WRH	Wood River Hil	5.30	24	IAML			16 28 10.6	
	comp=E,13nm,3.2s							
ISLE	Juniper Island	5.40	76	Pn		Pn	16 27 16.8	+0.4
PTPK	Patty Peak	5.42	70			Pn	16 27 18.1	+1.4
KIAG	Kiagna River	5.43	72			Pn	16 27 17.6	+0.8
MLY	Manley	5.44	10			Pn	16 27 16.9	0.0
BALM	Baldy	5.45	71			Pn	16 27 17.9	+0.8
HDA	Harding Lake	5.51	29			Pn	16 27 17.4	-0.3
HDA	Harding Lake	5.51	29	P		Pn	16 27 17.6	-0.1
	baz=214,SNR=9.3							
I21K	Tanana	5.51	4			Pn	16 27 18.5	+0.8
I21K	Tanana	5.51	4	P		Pn	16 27 17.9	+0.3
	baz=185							
BAGL	Bagley Icefiel	5.52	77			Pn	16 27 19.2	+1.4
CCB	Clear Creek Bu	5.52	24			Pn	16 27 17.5	-0.3
MENT	Mentasta	5.52	50	Pn		Pn	16 27 18.7	+0.9
M26K	Nabesna, AK	5.56	57			Pn	16 27 20.1	+1.6
M26K	Nabesna, AK	5.56	57	P		Pn	16 27 20.0	+1.6
	baz=245,SNR=21							
MESA	MESA	5.58	80	Pn		Pn	16 27 19.8	+1.0
MESA	MESA	5.58	80	P		Pn	16 27 19.5	+0.7
	baz=270							
RIDG	Independent Ri	5.60	40	Pn		Pn	16 27 19.9	+1.0
RIDG	Independent Ri	5.60	40	P		Pn	16 27 20.0	+1.0
	baz=227							
YAH	Yahtse	5.68	79			Pn	16 27 21.4	+1.2
GRNC	Granite Creek	5.70	75			Pn	16 27 21.1	+0.5
L26K	Log Cabin Wild	5.71	50	Pn		Pn	16 27 20.7	+0.3
TCOL	CIGO, UAF Yank	5.71	23	Pn		Pn	16 27 20.4	+0.1
TCOL	CIGO, UAF Yank	5.71	23	P		Pn	16 27 20.6	+0.2
	baz=207							
COLA	College	5.71	23	Pn		Pn	16 27 20.4	0.0
I23K	Minto, Yukon-K	5.71	16			Pn	16 27 20.9	+0.4
I23K	Minto, Yukon-K	5.71	16	P		Pn	16 27 20.5	+0.1
	baz=199,SNR=18							
MDM	Murphy Dome	5.72	21			Pn	16 27 20.4	-0.1
BARN	Barnard Glacie	5.79	72			Pn	16 27 22.9	+1.3
DOT	Dot Lake	5.80	43	Pn		Pn	16 27 22.7	+1.0
IL31		5.83	27			Pn	16 27 21.6	-0.3
ILAR	Eielson Array	5.83	27			Pn	16 27 21.6	-0.4
RKAV	Rock Avalanche	5.88	79			Pn	16 27 24.3	+1.4
CTG	Chitna Glacier	5.93	73	P		Pn	16 27 24.7	+1.2
	baz=263,SNR=6.0							
CTGM	Chitina Glacie	5.93	73			Pn	16 27 25.0	+1.4
H21K	Melozitna Rive	5.97	1			Pn	16 27 24.5	+0.6
H21K	Melozitna Rive	5.97	1	P		Pn	16 27 24.2	+0.3
	baz=181							
TABL	Table Mountain	5.98	78			Pn	16 27 25.2	+0.9
POKR	Poker Plat Res	6.01	23	Pn		Pn	16 27 24.8	+0.3
POKR	Poker Plat Res	6.01	23	P		Pn	16 27 24.4	-0.1
	baz=208							
M27K	Edge Creek, AK	6.02	59	Pn		Pn	16 27 25.8	+1.0
M27K	Edge Creek, AK	6.02	59	P		Pn	16 27 25.9	+1.1
	baz=249							
SCRK	Sand Creek	6.04	41			Pn	16 27 25.3	+0.3
SCRK	Sand Creek	6.04	41	P		Pn	16 27 25.1	+0.1
	baz=229							
LOGN	Logan Glacier	6.08	74			Pn	16 27 26.8	+1.3
IM03		6.31	357			Pn	16 27 29.2	+0.8
IMAR	Indian Mountai	6.31	357			Pn	16 27 28.9	+0.5
YUK2	White River	6.31	66			Pn	16 27 29.6	+1.0
L27K	Beaver Creek,	6.33	53	Pn		Pn	16 27 29.6	+0.8
L27K	Beaver Creek,	6.33	53	P		Pn	16 27 30.0	+1.2
	baz=243							
BC03		6.35	53			Pn	16 27 30.6	+1.6
BCAR	Beaver Creek A	6.35	53	Pn		Pn	16 27 30.3	+1.1
PCA	Pinnacle	6.42	81			Pn	16 27 31.2	+1.1
PINM	Pinnacle	6.43	81	P		Pn	16 27 31.3	+1.1
	baz=272							
J26L	Joseph Creek	6.53	39	P		Pn	16 27 31.8	+0.2
	baz=227							
H24K	Noodor Dome	6.58	19	Pn		Pn	16 27 32.7	+0.4
H24K	Noodor Dome	6.58	19	P		Pn	16 27 32.3	+0.1
	baz=203							
K27K	Chicken	6.74	45	Pn		Pn	16 27 35.7	+1.4
BCPM	Bancas Point	6.74	82			Pn	16 27 36.0	+1.6
YUK4	Talbot Arm	7.27	71	P		Pn	16 27 43.6	+1.9
	baz=263							
YUK6	Outpost Mounta	7.37	74	P		Pn	16 27 44.5	+1.4
	baz=267							
COLD	Coldfoot	7.65	8	Pn		Pn	16 27 46.8	+0.1
COLD	Coldfoot	7.65	8	P		Pn	16 27 46.8	+0.1
	baz=191							
FYU	Fort Yukon	7.72	24	Pn		Pn	16 27 47.5	-0.1
HYT	Haines Junctio	7.79	75	Pn		Pn	16 27 50.1	+1.5
HYT	Haines Junctio	7.79	75	P		Pn	16 27 50.2	+1.6
	baz=269							
BMAR	Burnt Mountain	8.60	22	Pn		Pn	16 27 59.1	-0.5
TOLK	Toolik Lake Re	9.09	8	Pn		Pn	16 28 06.9	+0.7
SPIA	Saint Paul Isl	9.39	262	Pn		Pn	16 28 11.1	+0.9

NEIC ***28*** *16:33:55.5±1.5,39.68N±0.02×142.2E±0.1,h55km±9km, mb4.5/15, Error ellipse: s-maj=15.5km s-min=2.3km az=94.0*

JMA ***28*** *16:33:55.5,39.63N×142.11E,h48km±1km,M3.9*

JMA Felt II J1.

IDC ***28*** *16:33:57.0±2.2,39.64N×142.04E,h67km±19km, mb3.7/12, mb1 3.8/17,mb1mx3.6/43, mbtmp4.0/17, Error ellipse: s-maj=23.0km s-min=13.8km az=90.0*

ISC 28 16:33:55.2±1.0,39.60N±0.04×142.13E±0.08,h50km±7km, n80,σ1s60/83,mb4.3/21,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	Miyakonagasawa	0.24	265	P	Pn	16 34 03.9	+0.1
MIYJ				S	Sn	16 34 09.5	-0.5
JTH	Tanohata	0.40	329	P	Pn	16 34 05.0	-0.3
JTH				S	Sn	16 34 11.6	-0.9
OFUJ	Ofunato	0.63	215	P	Pn	16 34 08.3	+0.3
OFUJ				S	Sn	16 34 17.1	-0.2
JOM	Ohasama	0.66	259	P	Pn	16 34 08.7	+0.3
JOM				S	Sn	16 34 18.2	+0.2
JKZ	Kuzumaki	0.73	302	P	Pn	16 34 09.3	0.0
JKZ				S	Sn	16 34 18.9	-0.7
JANG	Nango	0.91	329	P	Pn	16 34 11.1	-0.6
JANG				S	Sn	16 34 22.4	-1.4
JKMT	Kesennumamotoy	0.94	213	P	Pn	16 34 12.5	+0.5
JKMT				S	Sn	16 34 24.6	+0.2
JMK	Ichinoseki	0.96	228	P	Pn	16 34 12.7	+0.4
JMK				S	Sn	16 34 25.4	+0.5
JRG	Rokugo	1.17	261	P	Pn	16 34 15.5	+0.2
JAH	Hinai	1.29	298	P	Pn	16 34 17.0	+0.2
JIO	Ouri	1.29	208	P	Pn	16 34 17.2	+0.3
JTM	Tenmabayashi	1.44	326	P	Pn	16 34 18.7	-0.1
JTM				S	Sn	16 34 36.1	-0.5
JTM	Tenmabayashi	1.44	326		Pn	16 34 18.8	-0.1
JMM	Marumori	2.02	212		Pn	16 34 27.7	+0.9
ERM	Erimo	2.54	18	Pn	Pn	16 34 34.5	+0.6
JEW	Eniwo	3.28	351	Pn	Pn	16 34 45.8	+1.7
JSD	Sado	3.40	244		Pn	16 34 46.3	+0.6
JYT	Yasato	3.70	205		Pn	16 34 50.5	+0.8
MAJO	Matsushiro	4.34	227		Pn	16 35 00.7	+2.0
MAT	Matsushiro	4.34	227	P	Pn	16 35 01.0	+2.3
MAT				eS	Sn	16 35 58.0	+10
MJAR	Matsushiro Arr	4.34	227	P	Pn	16 35 01.0	+2.3
	0.8nm,0.3s,baz=36,slow=13,SNR=48						
MJAR	Matsushiro Arr	4.34	227		Pn	16 35 01.1	+2.4
MJB9	Matsu-Tunnel	4.34	227		Pn	16 35 01.6	+2.9
ASAJ	Asahikawa	4.53	4	P	Pn	16 35 02.0	+0.9
	1.9nm,0.3s,baz=200,slow=12,SNR=30						
ASAJ				S	Sn	16 35 59.4	+6.9
	1.0nm,0.3s,baz=342,slow=17,SNR=1.8						
JKA	Kamikawa-asahi	4.53	4	Pn	Pn	16 34 59.4	-1.8
JGF	Kuroka	5.50	225		Pn	16 35 15.5	+0.9
INU	Inuyama	5.88	225		Pn	16 35 22.8	+3.2
JHJ	Hachijo jima 2	6.74	197	P	Pn	16 35 33.5	+2.0
	4.5nm,0.3s,baz=79,slow=19,SNR=1.4						
JHJ				S	Sn	16 36 43.9	-2.9
	6.1nm,0.3s,baz=120,slow=20,SNR=2.4						
JWT	Wachi	6.87	233		Pn	16 35 37.2	+4.0
JHS	Saijyo	8.52	240	Pn	Pn	16 35 59.3	+3.4
JMN	Monobe	8.84	231	Pn	Pn	16 36 02.3	+2.0
USA0B	Ussuriysk Arra	8.85	305	Pn	Pn	16 36 01.7	+1.3
USRK	Ussuriysk Ar.	8.85	305	P	Pn	16 36 01.5	+1.2
	baz=112,slow=14,SNR=18						
USRK	Ussuriysk Ar.	8.85	305	Pn	Pn	16 36 01.9	+1.6
KSRS	Korea Array	11.33	264	P	Pn	16 36 36.5	+2.2
	1.1nm,0.3s,baz=72,slow=14,SNR=21						
KS19	Wonju Array Si	11.36	264		Pn	16 36 38.1	+3.3
KSAR	Wonju Array Be	11.37	264	Pn	Pn	16 36 38.2	+3.4
NJ2	Nanjing	20.29	255	eP	Pn	16 38 29.5	+0.5
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC	Hu-ho-hao-te	23.32	283	eP	P	16 38 59.5	+0.7
HHC				pmax	pmax		
	comp=Z,17nm,1.1s						
HHC				pmax	pmax		
	comp=Z,150nm,5.6s						
YAK	Yakutsk	23.71	345	P	P	16 39 00.6	-1.6
	comp=Z,6.7nm,0.6s,baz=290,slow=1.0,SNR=11						
YAK	Yakutsk	23.71	345	P	P	16 39 00.3	-1.9
YAK				IAmb	IAmb	16 39 03.2	
	comp=Z,11nm,0.7s						
SONM	Songino Array	26.91	300	P	P	16 39 30.2	-1.3
	comp=Z,0.6nm,0.5s,baz=86,slow=9.1,SNR=4.1						
H11N2	WAKE ISLAND Hy	29.08	126	T	T	17 10 28.0	
	baz=318,slow=75						
H11N1	WAKE ISLAND Hy	29.09	126	T	T	17 10 29.3	
	baz=318,slow=75						
H11N3	WAKE ISLAND Hy	29.10	126	T	T	17 10 30.3	
	baz=318,slow=75						
H11S1	WAKE ISLAND Hy	29.88	128	T	T	17 11 26.6	
	baz=320,slow=76						
H11S3	WAKE ISLAND Hy	29.88	128	T	T	17 11 32.6	
	baz=320,slow=76						
H11S2	WAKE ISLAND Hy	29.89	128	T	T	17 11 28.3	
	baz=320,slow=76						
WMQ	Urumqi	40.24	294	eP	P	16 41 30.0	+3.0
ZAA0	Zalesovo Array	40.65	310	P	P	16 41 29.7	-0.4
ZAA0				IAmb	IAmb	16 41 31.1	
	comp=Z,2.9nm,0.5s						
ZALV	Zalesovo Beam	40.65	310	P	P	16 41 29.1	-0.9
	comp=Z,2.8nm,0.4s,baz=94,slow=8.5,SNR=17						
ZALV				PcP	PcP	16 43 30.8	-0.2
	comp=Z,1.0nm,0.3s,baz=110,slow=4.3,SNR=4.9						
ZALV	Zalesovo Beam	40.65	310	P	P	16 41 29.9	-0.2
CMAR	Chiang Mai Arr	42.73	253	P	P	16 41 47.6	+0.1
	comp=Z,0.2nm,0.4s,baz=30,slow=5.0,SNR=2.1						
MK31	Makanchi Array	43.28	300	P	P	16 41 51.3	-0.4
MK31				IAmb	IAmb	16 41 52.0	
	comp=Z,2.0nm,0.7s						
MKAR	Makanchi Array	43.28	300	P	P	16 41 51.2	-0.5
	comp=Z,1.8nm,0.6s,baz=79,slow=9.9,SNR=14						
MKAR	Makanchi Array	43.28	300	P	P	16 41 51.5	-0.2
MAKZ	Makanchi	43.49	300	P	P	16 41 52.8	-0.5
ILAR	Eielson Array	47.04	34	P	P	16 42 21.5	+0.3
	comp=Z,0.5nm,0.6s,baz=260,slow=6.6,SNR=5.9						
KKAR	Karatay Array	52.36	299	P	P	16 43 01.3	-0.7
ABKAR	Akbulak array	56.74	309	P	P	16 43 33.1	-0.5
WB0	Warramunga Arr	59.50	188	P	P	16 43 52.7	-0.4
WB0				IAmb	IAmb	16 44 10.3	
	comp=Z,3.6nm,1.2s						
WR0	Warramunga Arr	59.67	188	P	P	16 43 53.8	-0.5
WR0				IAmb	IAmb	16 43 54.4	
	comp=Z,6.0nm,1.1s						
WB2	Warramunga Arr	59.67	188	P	P	16 43 53.9	-0.4
WB2				IAmb	IAmb	16 44 02.8	
	comp=Z,8.5nm,1.4s						
WRA	Warramunga Arr	59.67	188	P	P	16 43 53.9	-0.5
	comp=Z,1.0nm,0.9s,baz=7.2,slow=7.1,SNR=11						
WRA	Warramunga Arr	59.67	188	P	P	16 43 53.9	-0.5
ARCES	ARCESS Array B	61.80	339	P	P	16 44 08.3	0.0
	comp=Z,2.2nm,0.9s,baz=50,slow=8.4,SNR=4.0						
ARCES	ARCESS Array B	61.80	339	IAmb	IAmb	16 44 11.7	
	comp=Z,22nm,1.5s						
ASAR	Alice Springs	63.40	188	P	P	16 44 19.4	-0.1
	comp=Z,0.4nm,0.7s,baz=6.0,slow=5.3,SNR=7.6						
FIA1	FINESS Array S	66.81	332	P	P	16 44 40.7	-0.4
FIA1				IAmb	IAmb	16 45 00.1	
	comp=Z,17nm,1.4s						
FINES	FINESS Array B	66.81	332	P	P	16 44 41.0	-0.2
	comp=Z,1.7nm,0.6s,baz=41,slow=9.2,SNR=8.5						
FINES	FINESS Array B	66.81	332	P	P	16 44 40.4	-0.7
NC405	NORSAR Array S	71.83	337	P	P	16 45 11.3	-0.9
NC303	NORSAR Array S	71.85	337	P	P	16 45 11.8	-0.5
NC303				IAmb	IAmb	16 45 27.2	
	comp=Z,9.4nm,1.2s						
NC204	NORSAR Array S	71.99	338	P	P	16 45 13.2	+0.1
NC204				IAmb	IAmb	16 45 20.4	
	comp=Z,13nm,1.1s						
NB201	NORSAR Array S	72.01	337	P	P	16 45 13.2	-0.1
NB2	NORSAR Subarra	72.04	337	P	P	16 45 13.4	-0.1
	comp=Z,0.4nm,0.4s,baz=35,slow=6.2						
NOA	NORSAR Array B	72.04	337	P	P	16 45 13.0	-0.5
	comp=Z,1.0nm,0.6s,baz=58,slow=6.8,SNR=5.4						
AKASG	Malin Array Be	72.62	322	P	P	16 45 16.6	-0.4
	comp=Z,1.1nm,0.5s,baz=44,slow=6.0,SNR=9.0						
AKASG	Malin Array Be	72.62	322	IAmb	IAmb	16 45 21.5	
	comp=Z,1.2nm,1.1s						
SIV	San Ignacio	148.96	47	PKPbc	PKPbc	16 53 38.3	+0.4
	comp=Z,1.5nm,0.6s,baz=351,slow=1.5,SNR=6.1						

IDC ***28*** *16:34:36.2±9.1,52.73N×175.82W,h170km±86km, mb3.3/7, mb1 3.7/9,mb1mx3.3/50, mbtmp3.9/9, Error ellipse: s-maj=45.7km s-min=18.7km az=6.0*

NEIC ***28*** *16:34:41.9±1.5,52.6N±0.2×175.5W±0.1,h219km±7km, mb4.2/46, ML3.7/21(AEIC), Error ellipse: s-maj=23.3km s-min=8.0km az=168.0*

AEIC ***28*** *16:34:42±1.8, 52.4N±0.2×175.5W±0.1,h224km±5km, Error ellipse: s-maj=23.6km s-min=8.0km az=168.0*

ISC 28 16:34:40.9±0.7,52.8N±0.1×175.58W±0.06,h200km,n95, σ1s59/98,mb3.5/7,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSTR	Great Sitkin T	0.74	203	Pn	Pn	16 35 11.5	+2.3
GSMY	Great Sitkin M	0.79	202		Pn	16 35 12.0	+2.6
GSTD	Great Sitkin T	0.80	206		Pn	16 35 11.9	+2.3
GSTD					Sn	16 35 34.8	+3.2
KOKL	Mount Kliuchef	0.96	118		Pn	16 35 13.3	+2.9
ATKA	Atka Island	1.02	123		Pn	16 35 12.5	+1.7
ATKA					Sn	16 35 36.3	+2.4
KOFP	Korovin Flat P	1.04	118		Pn	16 35 13.4	+2.4
ADK	Adak	1.12	218		Sn	16 35 37.4	+2.2
ADK	Adak	1.12	218	Pn	Pn	16 35 13.3	+1.8
KIKV	Kanaga Island	1.32	228		Pn	16 35 15.6	+2.4
KIWB	Kanaga Island	1.33	227		Pn	16 35 15.0	+1.8
KIMD	Kanaga Island	1.44	226		Pn	16 35 15.9	+1.9
TAFP	Tanaga Falls P	1.71	240		Pn	16 35 18.7	+2.1
TAFP					Sn	16 35 47.0	+2.7
TASE	Tanaga Southea	1.78	239		Pn	16 35 19.6	+2.3
GALAA	Gareloi Lava P	2.21	244		Pn	16 35 23.7	+2.1
CERAA	Semis' Rag'd T	3.03	255		Pn	16 35 32.8	+1.9
CESW	Semis' Southwe	3.10	256		Pn	16 35 33.4	+1.6
AMKA	Amchitka	3.45	248		Pn	16 35 36.3	+0.4
LSPA	Little Sitkin	3.67	259		Pn	16 35 40.9	+2.3
LSNW	Little Sitkin	3.71	260		Pn	16 35 41.2	+2.2
LSSA	Little Sitkin	3.71	259		Pn	16 35 41.4	+2.2
UNV	Unalaska Valle	5.55	75	Pn	Pn	16 36 03.4	+1.2
AKUT	Akutan	6.02	73	Pn	Pn	16 36 10.0	+1.7
SDPT	Sand Point	9.25	68	Pn	Pn	16 36 49.4	-0.9
CNBA	Chernabura Isl	9.69	71	Pn	Pn	16 36 53.4	-2.5
CHGN	Chignik	10.58	64	Pn	Pn	16 37 06.3	-1.0
CHIR	Chirikof Islan	12.04	67	Pn	Pn	16 37 24.4	-1.7
SII	Sitkinak Islan	12.94	64	Pn	Pn	16 37 36.2	-1.2
O18K	Koktub Hills	13.31	50	P	Pn	16 37 45.1	+3.1
N18K	Kilae Creek	13.36	46	Pn	Pn	16 37 44.3	+1.7
Q19K	Cape Douglas,	13.74	55	Pn	Pn	16 37 48.1	+0.7
KDAK	Kodiak Island	14.00	60	P	Pn	16 37 49.1	-1.5
	4.6nm,0.3s,baz=284,slow=3.7,SNR=90						
KDAK				S	S	16 40 16.7	-10
	0.2nm,0.3s,baz=343,slow=19,SNR=1.4						
KDAK	Kodiak Island	14.00	60	Pn	Pn	16 37 48.9	-1.7
N19K	Bonanza Creek	14.03	47	P	Pn	16 37 53.6	+2.5
P19K	Oil Pt	14.17	52	P	P	16 37 56.1	+1.7
L19K	White Mountain	14.53	41	P	Pn	16 37 59.5	+2.4
M19K	Big River Lodg	14.58	43	P	P	16 38 00.4	+1.6
RSO	Redoubt South	14.67	49	P	Pn	16 38 01.2	+2.1
HOM	Homer	14.94	53	P	Pn	16 38 04.0	+2.0
CNPM	China Poot	15.10	54	P	Pn	16 38 05.5	+1.4
CNPM				IAmb	IAmb	16 38 11.9	
	comp=Z,14nm,1.1s						
BRLK	Bradley Lake	15.33	53	P	Pn	16 38 07.6	+0.7
BRLK				IAmb	IAmb	16 38 25.8	
	comp=Z,16nm,1.3s						
K20K	Telida	15.46	38	P	Pn	16 38 09.9	+1.5
K20K				IAmb	IAmb	16 38 25.0	
	comp=Z,7.2nm,0.8s						
SKT	Skwentna	15.82	45	P	Pn	16 38 14.7	+1.9
SKT				IAmb	IAmb	16 38 15.4	
	comp=Z,8.0nm,1.0s						
J20K	Nowinta River	15.90	36	P	P	16 38 14.8	+1.4
PPLA	Purkeypile	15.96	41	P	P	16 38 16.1	+1.9
PPLA				IAmb	IA

M27K	**Edge Creek, AK**	**20.23**	**48**	P	**P**	**16 39 00.9**	**+0.4**
M27K				IAmb	IAmb	16 39 03.7	
	comp=Z,4.5nm,0.8s						
FYU	**Fort Yukon**	**20.33**	**36**	P	**P**	**16 39 01.9**	**+0.5**
FYU				IAmb	IAmb	16 39 02.8	
	comp=Z,11nm,1.0s						
L27K	**Beaver Creek,**	**20.42**	**47**	P	**P**	**16 39 02.3**	**-0.2**
BCAR	**Beaver Creek A**	**20.44**	**47**	P	**P**	**16 39 02.2**	**-0.5**
K27K	**Chicken**	**20.58**	**44**	P	**P**	**16 39 04.6**	**+0.5**
BMAR	**Burnt Mountain**	**20.97**	**34**	P	**P**	**16 39 08.8**	**+0.6**
I07A	**Izee**	**37.34**	**80**	P	**P**	**16 41 34.0**	**-0.1**
NVAR	**Mina Array Bea**	**41.45**	**87**	P	**P**	**16 42 08.1**	**0.0**
	comp=Z,1.1nm,0.6s,baz=296,slow=13,SNR=6.5						
PDAR	**Pinedale Array**	**44.01**	**76**	P	**P**	**16 42 27.6**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=333,slow=2.4,SNR=11						
SONM	**Songino Array**	**47.78**	**297**	P	**P**	**16 42 55.3**	**-2.6**
	comp=Z,0.5nm,0.6s,baz=34,slow=5.4,SNR=2.7						
TXAR	**Lajitas Array**	**56.51**	**84**	P	**P**	**16 44 01.4**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=304,slow=5.0,SNR=8.6						
MKAR	**Makanchi Array**	**60.70**	**310**	P	**P**	**16 44 29.0**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=50,slow=5.8,SNR=2.4						
WRA	**Warramunga Arr**	**84.41**	**226**	P	**P**	**16 46 48.0**	**-2.7**
	comp=Z,0.3nm,0.4s,baz=32,slow=5.6,SNR=12						
ASAR	**Alice Springs**	**87.87**	**225**	P	**P**	**16 47 06.0**	**-1.5**
	comp=Z,1.5nm,0.8s,baz=23,slow=5.1,SNR=17						

*IDC **28** 16:44:05.3±1.0,30.°95S×71.°53W, h0km, mb3.8/3, mb1 4.0/7, mb1mx3.8/24, mbtmp3.9/7, ML3.8/4, MS3.6/1, Ms1 3.6/1, ms1mx2.9/21, Error ellipse: s-maj=38.4km s-min=25.4km az=99.0*
*GUC **28** 16:44:12.9±0.7, 30.°96S×71.°46W, h38km±8km, ML4.0*
*NEIC **28** 16:44:13.1±2.2, 30.°86S±0.°04×71.°45W±0.°06, h46km±5km, mb4.1/7, ML4.1(GUC), Error ellipse: s-maj=8.1km s-min=4.6km az=108.0*

ISC 28 16:44:12.8±0.7, 30.°87S±0.°03×71.°43W±0.°04, h44km±7km, n58, σ1§60/57, mb4.2/5, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.26**	**318**	⇑*iP*	**Pn**	**16 44 21.8**	**+0.8**
CO06				*i* S	**Sn**	**16 44 28.1**	**+1.3**
CO06				IAML		16 44 28.7	
	comp=N,24μm,0.2s						
CO06	**Fray Jorge**	**0.26**	**318**	Pn	**Pn**	**16 44 21.7**	**+0.7**
CO06				Sn	**Sn**	**16 44 28.0**	**+1.2**
CO02	**Combarbal**	**0.50**	**132**	⇓*iP*	**Pn**	**16 44 24.2**	**+0.3**
CO02				*i* S	**Sn**	**16 44 32.1**	**+0.5**
CO02	**Combarbal**	**0.50**	**132**	Pn	**Pn**	**16 44 24.1**	**+0.3**
CO02				Sn	**Sn**	**16 44 31.8**	**+0.2**
CO03	**El Pedregal**	**0.64**	**88**	⇓*iP*	**Pn**	**16 44 25.5**	**-0.1**
CO03				*i* S	**Sn**	**16 44 34.5**	**-0.2**
CO03				IAML		16 44 35.0	
	comp=E,13μm,0.1s						
CO03	**El Pedregal**	**0.64**	**88**	Pn	**Pn**	**16 44 25.4**	**-0.1**
CO03				Sn	**Sn**	**16 44 34.2**	**-0.6**
GO04	**Tololo Observa**	**0.88**	**38**	Pn	**Pn**	**16 44 29.2**	**+0.2**
CO05	**La Serena**	**0.96**	**10**	*eP*	**Pn**	**16 44 30.1**	**+0.3**
CO05				*i* S	**Sn**	**16 44 42.4**	**+0.1**
CO05				IAML		16 44 48.8	
	comp=N,3μm,0.5s						
CO05	**La Serena**	**0.96**	**10**	Pn	**Pn**	**16 44 29.9**	**0.0**
VA06	**Catapilco**	**1.69**	**176**	*eP*	**Pn**	**16 44 41.1**	**+1.3**
VA06				*i* S	**Sn**	**16 45 02.2**	**+1.9**
VA06				IAML		16 45 08.6	
	comp=E,2μm,0.2s						
VA03	**San Esteban**	**2.03**	**159**	⇑*eP*	**Pn**	**16 44 46.1**	**+1.5**
VA03				*i* S	**Sn**	**16 45 11.0**	**+2.1**
VA03				IAML		16 45 17.0	
	comp=E,4μm,0.1s						
VA03	**San Esteban**	**2.03**	**159**	Pn	**Pn**	**16 44 46.1**	**+1.5**
ROCH	**El Roble**	**2.13**	**170**	*i* S	**Sn**	**16 45 14.3**	**+2.9**
ROCH				IAML		16 45 19.8	
	comp=N,1μm,0.2s						
VA01	**Torpederas**	**2.16**	**185**		**Pn**	**16 44 46.1**	**-0.1**
ZON	**Zonda**	**2.45**	**107**	Pn	**Pn**	**16 44 53.1**	**+2.7**
MT05	**Renca**	**2.58**	**167**		**Pn**	**16 44 53.8**	**+1.7**
AC04	**Llanos de Chal**	**2.67**	**7**	Pn	**Pn**	**16 44 54.2**	**+0.9**
VA05	**Santo Domingo**	**2.79**	**183**		**Pn**	**16 44 54.9**	**+0.1**
MT09	**Talagante**	**2.92**	**173**	*eP*	**Pn**	**16 44 58.6**	**+1.7**
MT09				*i* S	**Sn**	**16 45 32.6**	**+1.8**
MT09				IAML		16 45 47.3	
	comp=N,820nm,0.4s						
MT09	**Talagante**	**2.92**	**173**	Pn	**Pn**	**16 44 58.5**	**+1.6**
MT01	**Popeta**	**2.99**	**177**	Pn	**Pn**	**16 44 58.7**	**+1.0**
GO03	**Copiap**	**3.43**	**18**	*eP*	**Pn**	**16 45 05.2**	**+1.4**
GO03				*i* S	**Sn**	**16 45 48.3**	**+5.1**
GO03	**Copiap**	**3.43**	**18**	Pn	**Pn**	**16 45 05.7**	**+1.9**
BO01	**Tunca**	**3.52**	**175**	Pn	**Pn**	**16 45 05.9**	**+0.9**
BO02	**Sierra Bellavi**	**3.95**	**172**	Pn	**Pn**	**16 45 11.4**	**+0.4**
GO05	**Huala**	**4.15**	**186**	Pn	**Pn**	**16 45 12.7**	**-0.9**
AC02	**Maricunga**	**4.50**	**27**	Pn	**Pn**	**16 45 19.7**	**+0.9**
VA04	**Juan Fernndez**	**6.85**	**244**	Pn	**Pn**	**16 45 49.8**	**-0.9**
LC01	**Cunco**	**8.02**	**183**	Pn	**Pn**	**16 46 06.3**	**-0.3**
LVC	**Limon Verde**	**8.53**	**16**	Pn	Pn	16 46 09.5	-4.5
	comp=N,3.3nm,0.3s,baz=217,slow=5.4,SNR=6.3						
LVC	**Limon Verde**	**8.53**	**16**		Pn	16 46 00.9	-13
PB04	**IPOC Station P**	**8.58**	**8**	Pn	**Pn**	**16 46 13.8**	**-0.8**
PB07	**IPOC Station P**	**9.21**	**9**	Pn	Pn	16 46 18.6	-4.7
PB01	**IPOC Station P**	**9.94**	**11**	Pn	**Pn**	**16 46 29.4**	**-3.8**
TRQA	**Tornquist**	**10.59**	**135**	Pn	**Pn**	**16 46 41.7**	**-0.2**
PB08	**IPOC Station P**	**10.88**	**11**	Pn	**Pn**	**16 46 44.9**	**-1.4**
CPUP	**Villa Florida**	**13.19**	**73**	Pn	**Pn**	**16 47 16.1**	**-1.3**
	comp=N,0.2nm,0.3s,baz=261,slow=14,SNR=1.7						
COYC	**Coyhaique**	**14.69**	**182**	Pn	**Pn**	**16 47 37.3**	**-0.3**
LPAZ	**La Paz**	**14.82**	**12**	Pn	**Pn**	**16 47 39.3**	**-0.9**
	comp=N,0.1nm,0.3s,baz=135,slow=5.7,SNR=2.8						
SIV	**San Ignacio**	**17.58**	**35**	P	**Pn**	**16 48 13.8**	**-0.8**
	comp=N,0.3nm,0.3s,baz=213,slow=7.3,SNR=8.6						
JTS	**Las Juntas de**	**42.94**	**340**	LR	LR	17 07 26.3	
	comp=N,78nm,19.8s,baz=205,slow=33						
SNAA	**Sanae**	**54.30**	**159**	P	**P**	**16 53 33.4**	**-0.8**
	comp=N,1.2nm,0.6s,baz=289,slow=11,SNR=5.1						
SNAA	**Sanae**	**54.30**	**159**	IAmb	IAmb	16 54 01.4	
	comp=Z,3.7nm,1.2s						
QSPA	**South Pole Qui**	**59.36**	**180**	P	**P**	**16 54 09.7**	**-0.6**
QSPA				IAmb	IAmb	16 54 32.1	
	comp=Z,3.3nm,1.2s						
TX32	**Lajitas Array**	**67.28**	**330**	P	**P**	**16 55 03.5**	**+0.5**
TXAR	**Lajitas Array**	**67.28**	**330**	P	**P**	**16 55 03.4**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=152,slow=5.7,SNR=3.8						
TX31	**Lajitas Ar. Si**	**67.28**	**330**	P	**P**	**16 55 03.3**	**+0.2**
TX31				IAmb	IAmb	16 55 09.9	
	comp=Z,2.1nm,1.0s						
TORD	**Torodi Ar. Bea**	**82.66**	**70**	P	**P**	**16 56 31.6**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=270,slow=4.6,SNR=7.9						
TORD	**Torodi Ar. Bea**	**82.66**	**70**	IAmb	IAmb	16 56 44.0	
	comp=Z,1.6nm,1.3s						
ASAR	**Alice Springs**	**120.58**	**207**	PKP	**PKPdf**	**17 02 58.3**	**-2.0**
	comp=Z,0.2nm,0.8s,baz=114,slow=1.5,SNR=4.5						
WRA	**Warramunga Arr**	**123.74**	**209**	PKP	**PKPdf**	**17 03 04.6**	**-1.8**
	comp=Z,0.2nm,0.5s,baz=164,slow=1.5,SNR=9.2						
H11S2	**WAKE ISLAND Hyl**	**126.28**	**271**	T	T	19 22 00.7	
	baz=116,slow=75						
H11S1	**WAKE ISLAND Hyl**	**126.29**	**271**	T	T	19 22 00.7	
	baz=116,slow=75						
H11S3	**WAKE ISLAND Hyl**	**126.30**	**271**	T	T	19 21 59.5	
	baz=116,slow=75						
H11N3	**WAKE ISLAND Hyl**	**126.61**	**273**	T	T	19 22 25.8	
	baz=116,slow=76						
H11N1	**WAKE ISLAND Hyl**	**126.63**	**273**	T	T	19 22 23.9	
	baz=116,slow=76,SNR=11						
H11N2	**WAKE ISLAND Hyl**	**126.63**	**273**	T	T	19 22 27.0	
	baz=116,slow=76						
ZALV	**Zalesovo Beam**	**151.28**	**30**	PKPbc	**PKPdf**	**17 03 59.7**	**+4.8**
	comp=Z,0.7nm,0.4s,baz=308,slow=3.1,SNR=3.9						

MEX 28 16:50:57.5±1.0, 15.°83N×93.°71W, h90km±8km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.49**	**105**	*iP*	Pn	16 51 10.5	-1.6
PCIG				*eS*	Sn	16 51 21.2	-1.7
TGIG		**1.10**	**31**	*eP*	Pn	16 51 17.2	-1.2
TGIG				*eS*	Sn	16 51 32.2	-1.9
CCIG	**Comitan**	**1.57**	**73**	*eP*	Pn	16 51 24.0	-0.4
CCIG				*eS*	Sn	16 51 42.9	-1.8
CMIG	**Matias Romero**	**1.69**	**318**	*eP*	Pn	16 51 24.7	-0.9
CMIG				*i* S	Sn	16 51 46.0	-1.1

*IDC **28** 16:59:41.2±0.8, 31.°66S×71.°43W, h0km, mb4.1/6, mb1 4.2/9, mb1mx4.0/22, mbtmp4.0/9, ML3.9/3, MS3.6/1, Ms1 3.5/1, ms1mx2.9/17, Error ellipse: s-maj=29.7km s-min=26.0km az=124.0*
*SJA **28** 16:59:47.0, 31.°64S×71.°54W, h10km, ML4.5*
*NEIC **28** 16:59:48.5±1.4, 31.°58S±0.°04×71.°53W±0.°04, h40km±5km, mb4.4/12, ML4.2(GUC), Error ellipse: s-maj=3.8km s-min=3.8km az=214.0*
*GUC **28** 16:59:48.1±0.6, 31.°61S×71.°44W, h48km±2km, ML4.1*

ISC 28 16:59:47.6±1.0, 31.°57S±0.°03×71.°56W±0.°05, h41km±9km, n116, σ1§38/117, mb4.3/8, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO02	**Combarbal**	**0.60**	**52**	⇓*iP*	**Pn**	**17 00 00.2**	**+0.3**
CO02				*i* S	**Sn**	**17 00 08.6**	**0.0**
CO02	**Combarbal**	**0.60**	**52**		**Pn**	**16 59 59.9**	**+0.1**
CO02				Sn	**Sn**	**17 00 08.3**	**-0.3**
CO02	**Combarbal**	**0.60**	**52**	*iP*	**Pn**	**17 00 00.0**	**+0.1**
CO06	**Fray Jorge**	**0.90**	**356**	⇑*iP*	**Pn**	**17 00 05.0**	**+1.1**
CO06				*i* S	**Sn**	**17 00 16.1**	**+0.5**
CO06	**Fray Jorge**	**0.90**	**356**		**Pn**	**17 00 05.0**	**+1.1**
CO06				Sn	**Sn**	**17 00 15.8**	**+0.2**
VA06	**Catapilco**	**1.01**	**168**	⇑*iP*	**Pn**	**17 00 05.4**	**+0.1**
VA06				*i* S	**Sn**	**17 00 18.9**	**+0.6**
VA06				IAML		17 00 24.3	
	comp=E,12μm,0.4s						
CO03	**El Pedregal**	**1.04**	**46**	⇓*iP*	**Pn**	**17 00 06.3**	**+0.5**
CO03				⇑*iS*	**Sn**	**17 00 20.0**	**+0.7**
CO03				IAML		17 00 23.7	
	comp=N,9μm,0.3s						
CO03	**El Pedregal**	**1.04**	**46**	Pn	**Pn**	**17 00 06.1**	**+0.3**
CO03				Sn	**Sn**	**17 00 19.1**	**-0.2**
CO03	**El Pedregal**	**1.04**	**46**	*iP*	**Pn**	**17 00 06.0**	**+0.1**
VA01	**Torpederas**	**1.45**	**183**	*eP*	**Pn**	**17 00 12.3**	**+1.0**
VA01				*i* S	**Sn**	**17 00 30.8**	**+1.8**
VA01				IAML		17 00 33.8	
	comp=E,4μm,0.6s						
VA01	**Torpederas**	**1.45**	**183**		**Pn**	**17 00 11.6**	**+0.2**
VA01	**Torpederas**	**1.45**	**183**	*i* P	**Pn**	**17 00 13.0**	**+1.7**
VA03	**San Esteban**	**1.46**	**145**	⇓*iP*	**Pn**	**17 00 11.9**	**+0.3**
VA03				*i* S	**Sn**	**17 00 29.7**	**+0.1**
VA03				IAML		17 00 32.6	
	comp=E,5μm,0.3s						
VA03	**San Esteban**	**1.46**	**145**		**Pn**	**17 00 11.7**	**+0.1**
VA03	**San Esteban**	**1.46**	**145**	*i* P	**Pn**	**17 00 12.0**	**+0.4**
GO04	**Tololo Observa**	**1.54**	**25**	*eP*	**Pn**	**17 00 14.3**	**+1.4**
GO04				*i* S	**Sn**	**17 00 34.2**	**+2.4**
GO04				IAML		17 00 39.3	
	comp=N,7μm,0.5s						
GO04	**Tololo Observa**	**1.54**	**25**		**Pn**	**17 00 14.0**	**+1.2**
GO04	**Tololo Observa**	**1.54**	**25**	*i* P	**Pn**	**17 00 14.0**	**+1.2**
CO05	**La Serena**	**1.67**	**9**	*eP*	**Pn**	**17 00 16.7**	**+2.3**
CO05				*i* S	**Sn**	**17 00 37.3**	**+2.7**
CO05				IAML		17 00 51.9	
	comp=E,3μm,0.7s						
CO05	**La Serena**	**1.67**	**9**		**Pn**	**17 00 15.4**	**+1.0**
RTLS	**Leoncito**	**1.94**	**97**	*iP*	**Pn**	**17 00 20.0**	**+1.7**
MT05	**Renca**	**1.94**	**159**	*eP*	Pn	17 00 26.3	+8.2
MT05	**Renca**	**1.94**	**159**		**Pn**	**17 00 18.7**	**+0.5**
MT05	**Renca**	**1.94**	**159**	*i* P	**Pn**	**17 00 19.0**	**+0.8**
AUSP	**Uspallata**	**1.95**	**110**	*iP*	**Pn**	**17 00 20.0**	**+1.5**
VA05	**Santo Domingo**	**2.08**	**181**	*eP*	**Pn**	**17 00 20.8**	**+0.8**
VA05				*i* S	**Sn**	**17 00 46.2**	**+1.6**
VA05	**Santo Domingo**	**2.08**	**181**		**Pn**	**17 00 20.8**	**+0.8**
MT09	**Talagante**	**2.25**	**168**	*eP*	**Pn**	**17 00 23.9**	**+1.4**
MT09				*i* S	**Sn**	**17 00 50.5**	**+1.5**
MT09				IAML		17 00 59.6	
	comp=N,2μm,0.3s						
MT09	**Talagante**	**2.25**	**168**		**Pn**	**17 00 23.8**	**+1.4**
AROD	**Rodeo**	**2.27**	**52**	*iP*	**Pn**	**17 00 26.0**	**+3.0**
MT01	**Popeta**	**2.30**	**174**	*eP*	**Pn**	**17 00 24.4**	**+1.4**
MT01				*i* S	**Sn**	**17 00 51.7**	**+1.6**
MT01				IAML		17 00 59.7	
	comp=E,1μm,0.3s						
MT01	**Popeta**	**2.30**	**174**		**Pn**	**17 00 24.0**	**+1.0**
MT01	**Popeta**	**2.30**	**174**	*i* P	**Pn**	**17 00 24.0**	**+1.0**
ACCO	**Cerro Coronel**	**2.35**	**66**	*iP*	**Pn**	**17 00 27.0**	**+3.0**
ZON	**Zonda**	**2.46**	**90**		**Pn**	**17 00 27.5**	**+2.3**
ZON	**Zonda**	**2.46**	**90**	*iP*	**Pn**	**17 00 28.0**	**+2.8**
ACDV	**Cuesta del Vie**	**2.52**	**57**	*iP*	Pn	17 00 30.0	+3.8
ASAL	**Salagasta**	**2.52**	**114**	*iP*	**Pn**	**17 00 29.0**	**+2.8**
LMEL	**Las Melosas**	**2.54**	**154**	*eP*	**Pn**	**17 00 28.0**	**+1.6**
LMEL				*eS*	**Sn**	**17 00 57.8**	**+1.6**
ARCO	**CERRO ARCO**	**2.56**	**120**	*iP*	**Pn**	**17 00 30.0**	**+3.3**
RTCV	**Cerro Valdivia**	**2.58**	**97**	*iP*	**Pn**	**17 00 30.0**	**+3.0**
AAGR	**Agrelo**	**2.76**	**124**	*iP*	**Pn**	**17 00 32.0**	**+2.6**
BO01	**Tunca**	**2.84**	**172**	*eP*	**Pn**	**17 00 31.7**	**+1.3**
BO01				*i* S	**Sn**	**17 01 04.1**	**+0.8**
BO01				IAML		17 01 17.3	
	comp=E,331nm,0.2s						
BO01	**Tunca**	**2.84**	**172**		**Pn**	**17 00 31.6**	**+1.2**
BO01	**Tunca**	**2.84**	**172**	*iP*	**Pn**	**17 00 32.0**	**+1.6**
BO02	**Sierra Bellavi**	**3.27**	**169**	⇑*eP*	**Pn**	**17 00 37.8**	**+1.3**
BO02				*i* S	**Sn**	**17 01 14.5**	**+0.3**
BO02				IAML		17 01 31.2	
	comp=N,980nm,0.5s						
BO02	**Sierra Bellavi**	**3.27**	**169**		**Pn**	**17 00 38.0**	**+1.5**
BO02	**Sierra Bellavi**	**3.27**	**169**	*iP*	**Pn**	**17 00 38.0**	**+1.5**
AGUA	**GUANDACOL**	**3.36**	**53**	*iP*	Pn	17 00 42.0	+4.2
AC04	**Llanos de Chal**	**3.38**	**7**	*eP*	**Pn**	**17 00 39.4**	**+1.5**
AC04				*i* S	**Sn**	**17 01 18.8**	**+1.9**
AC04				IAML		17 01 37.7	
	comp=E,685nm,0.6s						
AC04	**Llanos de Chal**	**3.38**	**7**		**Pn**	**17 00 39.7**	**+1.8**
AC04	**Llanos de Chal**	**3.38**	**7**	*iP*	Pn	17 00 42.0	+4.1
GO05	**Huala**	**3.44**	**185**	*eP*	**Pn**	**17 00 38.6**	**-0.2**
GO05				IAML		17 01 41.1	
	comp=E,211nm,0.3s						
GO05	**Huala**	**3.44**	**185**	Pn	**Pn**	**17 00 38.5**	**-0.2**
GO05	**Huala**	**3.44**	**185**	*iP*	**Pn**	**17 00 39.0**	**+0.3**
VCA	**Vinchina**	**4.05**	**47**	*iP*	Pn	17 00 51.0	+3.7
RFA	**San Rafael**	**4.11**	**142**	*iP*	**Pn**	**17 00 49.0**	**+1.1**
GO03	**Copiap**	**4.13**	**16**	*eP*	**Pn**	**17 00 49.7**	**+1.4**
GO03	**Copiap**	**4.13**	**16**	Pn	**Pn**	**17 00 49.4**	**+1.1**
GO03	**Copiap**	**4.13**	**16**	*iP*	**Pn**	**17 00 52.0**	**+3.7**
APLL	**PUNTA DE LOS L**	**4.47**	**76**	*iP*	**Pn**	**17 00 54.0**	**+1.0**
ACLC	**CERRO LA CRUZ**	**4.51**	**63**	*iP*	**Pn**	**17 00 55.0**	**+1.4**
MRA	**San Martin**	**5.03**	**101**	*iP*	**Pn**	**17 01 01.0**	**+0.4**
AC02	**Maricunga**	**5.18**	**25**	Pn	**Pn**	**17 01 03.9**	**+0.9**
AC02	**Maricunga**	**5.18**	**25**	*iP*	**Pn**	**17 01 06.0**	**+3.0**
CYA	**Choya**	**5.88**	**59**	*iP*	**Pn**	**17 01 13.0**	**+0.7**
VA04	**Juan Fernndez**	**6.48**	**250**		**Pn**	**17 01 20.8**	**+0.4**
H03N1	**Juan Fernandez**	**6.49**	**251**	T	T	17 08 00.2	
	baz=80,slow=73						
H03N3	**Juan Fernandez**	**6.50**	**251**	T	T	17 08 05.0	
	baz=80,slow=73						
H03N2	**Juan Fernandez**	**6.50**	**251**	T	T	17 08 02.6	
	baz=80,slow=73						
PB14	**IPOC Station P**	**7.00**	**9**	Pn	**Pn**	**17 01 28.4**	**+0.6**
LC01	**Cunco**	**7.31**	**182**	Pn	**Pn**	**17 01 32.2**	**+0.4**
PB15	**IPOC Station P**	**8.54**	**13**	Pn	**Pn**	**17 01 51.0**	**+2.1**
PLCA	**Paso Flores**	**9.18**	**175**	Pn	**Pn**	**17 01 54.9**	**-2.5**
	comp=E,0.2nm,0.3s,baz=329,slow=15,SNR=2.3						
PLCA	**Paso Flores**	**9.18**	**175**	Pn	**Pn**	**17 01 58.4**	**+0.9**
LVC	**Limon Verde**	**9.23**	**15**	Pn	**Pn**	**17 01 58.2**	**-0.4**
PB09	**IPOC Station P**	**9.96**	**13**	Pn	**Pn**	**17 02 08.3**	**0.0**
TRQA	**Tornquist**	**10.18**	**132**		**Pn**	**17 02 11.0**	**-0.2**
PB01	**IPOC Station P**	**10.65**	**11**	Pn	**Pn**	**17 02 16.3**	**-1.4**
CPUP	**Villa Florida**	**13.50**	**71**	Pn	**Pn**	**17 02 54.3**	**-2.3**
	comp=E,0.2nm,0.3s,baz=241,slow=11,SNR=3.8						
LPAZ	**La Paz**	**15.53**	**12**	Pn	**Pn**	**17 03 24.1**	**-0.2**
	comp=E,0.2nm,0.3s,baz=181,slow=6.4,SNR=4.2						
LPAZ	**La Paz**	**15.53**	**12**	Pn	**Pn**	**17 03 25.4**	**+1.0**
TRCB	**Terra Rica**	**18.95**	**67**	P	**Pn**	**17 04 05.9**	**-0.4**
TRCB				IAmb	IAmb	17 04 11.8	
	comp=Z,31nm,1.3s						
SAML	**Samuel**	**23.82**	**21**	P	**P**	**17 04 57.1**	**+0.2**
BDFB	**Brasilia**	**26.68**	**59**	P	**P**	**17 05 20.9**	**-2.1**
	comp=Z,2.4nm,0.4s,baz=218,slow=9.9,SNR=4.3						
BDFB				LR	LR	17 17 06.1	
	comp=Z,118nm,20.2s,baz=335,slow=39						
PTGA	**Pitinga**	**32.58**	**22**	P	**P**	**17 06 14.2**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=191,slow=16,SNR=5.4						
PTGA	**Pitinga**	**32.58**	**22**	IAmb	IAmb	17 06 32.3	
	comp=Z,3.3nm,0.8s						
TOSP	**Speyside**	**43.92**	**16**	P	**P**	**17 07 51.0**	**+0.6**
VNA1	**Neumayer--Stat**	**51.75**	**158**	P	**P**	**17 08 51.0**	**+0.6**
VNA2	**Neumayer--Watz**	**52.09**	**158**	P	**P**	**17 08 53.6**	**+0.6**
	baz=298,slow=11						
VNA2	**Neumayer--Watz**	**52.09**	**158**	pP	pP	17 09 05.6	+0.6
	baz=287,slow=9.0						
SNAA	**Sanae**	**53.68**	**159**	P	**P**	**17 09 05.0**	**+0.2**
SNAA	**Sanae**	**53.68**	**159**	pP	pP	17 09 17.5	+0.6
SNAA	**Sanae**	**53.68**	**159**	P	**P**	**17 09 05.0**	**+0.2**
SNAA				IAmb	IAmb	17 09 18.1	
	comp=E,4.4nm,0.8s						
QSPA	**South Pole Qui**	**58.66**	**180**	P	**P**	**17 09 41.2**	**+0.7**
QSPA				IAmb	IAmb	17 09 56.2	
	comp=Z,4.1nm,1.1s						
TXAR	**Lajitas Array**	**67.83**	**330**	P	**P**	**17 10 42.4**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=145,slow=6.1,SNR=5.6						
DBIC	**Dimbokro**	**74.02**	**72**	P	**P**	**17 11 18.6**	**-0.9**
	comp=Z,4.2nm,0.7s,baz=254,slow=2.6,SNR=6.2						
DBIC	**Dimbokro**	**74.02**	**72**	IAmb	IAmb	17 11 23.1	
	comp=Z,20nm,1.4s						
NVAR	**Mina Array Bea**	**82.14**	**325**	P	**P**	**17 12 04.4**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=152,slow=5.8,SNR=2.8						
TORD	**Torodi Ar. Bea**	**83.00**	**70**	P	**P**	**17 12 08.2**	**-0.7**
	comp=Z,2.8nm,0.8s,baz=264,slow=4.9,SNR=15						
TORD	**Torodi Ar. Bea**	**83.00**	**70**	P	**P**	**17 12 08.2**	**-0.7**
TORD				IAmb	IAmb	17 12 09.2	
	comp=Z,2.9nm,0.8s						
ASAR	**Alice Springs**	**119.91**	**207**	PKP	**PKPdf**	**17 18 33.0**	**-1.1**
	comp=Z,0.1nm,0.6s,baz=106,slow=1.4,SNR=4.3						
WRA	**Warramunga Arr**	**123.07**	**209**	PKP	**PKPdf**	**17 18 39.4**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=161,slow=1.5,SNR=15						
H11S2	**WAKE ISLAND Hyl**	**126.18**	**271**	T	T	19 37 46.8	
	baz=117,slow=75						
H11S1	**WAKE ISLAND Hyl**	**126.19**	**271**	T	T	19 37 42.8	
	baz=117,slow=75						
H11S3	**WAKE ISLAND Hyl**	**126.20**	**271**	T	T	19 37 46.4	
	baz=117,slow=75						
H11N3	**WAKE ISLAND Hyl**	**126.53**	**272**	T	T	19 38 12.9	
	baz=116,slow=75						
H11N1	**WAKE ISLAND Hyl**	**126.55**	**272**	T	T	19 38 15.4	
	baz=116,slow=75						
H11N2	**WAKE ISLAND Hyl**	**126.55**	**272**	T	T	19 38 11.3	
	baz=116,slow=75						
BVAR	**Borovoye Array**	**145.21**	**41**	PKPbc	**PKPdf**	**17 19 20.6**	**+0.4**
	comp=Z,3.2nm,0.5s,baz=272,slow=3.9,SNR=18						
KURBB	**Kurchatov Arra**	**150.80**	**41**	PKPbc	**PKPbc**	**17 19 34.5**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=302,slow=3.1,SNR=14						
KURBB				PKPab	**PKPab**	**17 19 42.1**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=293,slow=4.4,SNR=4.1						
KURK	**Kurchatov**	**150.80**	**40**		**PKPbc**	**17 19 34.5**	**-0.6**
AAK	**Ala-Archa**	**150.94**	**58**	PKPbc	**PKPbc**	**17 19 36.3**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=18,slow=6.4,SNR=5.5						
ZALV	**Zalesovo Beam**	**151.95**	**30**	PKPbc	**PKPbc**	**17 19 37.8**	**+0.2**
	comp=Z,4.4nm,0.5s,baz=307,slow=3.1,SNR=17						
ZALV	**Zalesovo Beam**	**151.95**	**30**		**PKPbc**	**17 19 37.3**	**-0.3**
MKAR

KONS	**Konsvik**	**0.19**	**212**	Pg	**Pg**	**17 45 32.8**	**+0.1**
KONS				Lg	Lg	17 45 35.6	
KONS	**Konsvik**	**0.19**	**212**	⇓*iP*	**Pg**	**17 45 32.8**	**+0.1**
KONS				*eS*	**Sg**	**17 45 35.6**	**0.0**
KONS				IAML		17 45 36.1	
	comp=Z,309nm,0.2s						
KONS				IAML		17 45 36.1	
	comp=Z,306nm,0.2s						
NBB40	**Tonnes**	**0.21**	**224**	⇓*iP*	**Pg**	**17 45 33.2**	**+0.3**
NBB40				*eS*	**Sg**	**17 45 36.1**	**+0.1**
NBB40				IAML		17 45 36.9	
	comp=Z,220nm,0.2s						
NBB17	**Glomfjord BÝr**	**0.28**	**56**	*eP*	**Pg**	**17 45 34.0**	**-0.1**
NBB17	**Glomfjord BÝr**	**0.28**	**56**	*eS*	**Sg**	**17 45 37.8**	**-0.2**
NBB30	**Finnes**	**0.34**	**24**	⇓*iP*	**Pg**	**17 45 35.4**	**+0.1**
NBB30				*eS*	**Sg**	**17 45 40.1**	**+0.1**
NBB30				IAML		17 45 41.0	
	comp=Z,87nm,0.2s						
STOK	**Stokkvaagen**	**0.36**	**204**	Pg	**Pg**	**17 45 35.7**	**+0.1**
STOK				Lg	Lg	17 45 40.7	
STOK	**Stokkvaagen**	**0.36**	**204**	*eP*	**Pg**	**17 45 35.7**	**+0.1**
STOK				*eS*	**Sg**	**17 45 40.6**	**+0.1**
NBB14	**Nordeng Farm**	**0.36**	**183**	*eP*	**Pg**	**17 45 35.5**	**-0.1**
NBB14	**Nordeng Farm**	**0.36**	**183**	*eS*	**Sg**	**17 45 39.9**	**-0.6**
NBB14				IAML		17 45 40.7	
	comp=Z,272nm,0.3s						
NBB05	**Inndyr**	**0.46**	**34**	*eP*	**Pg**	**17 45 37.0**	**-0.4**
NBB05	**Inndyr**	**0.46**	**34**	*eS*	**Sg**	**17 45 43.9**	**+0.4**
NBB05	**Inndyr**	**0.46**	**34**	IAML		17 45 46.0	
	comp=Z,223nm,0.1s						
MOR8	**Moi Rana**	**0.65**	**138**	Pg	**Pg**	**17 45 39.9**	**-1.2**
MOR8				Lg	Lg	17 45 48.9	
MOR8	**Moi Rana**	**0.65**	**138**	⇑*iP*	**Pg**	**17 45 40.1**	**-1.0**
MOR8				*eS*	**Sg**	**17 45 48.7**	**-1.0**
MOR8				IAML		17 45 50.4	
	comp=Z,45nm,0.3s						
NBB28	**Valnes**	**0.68**	**38**	⇓*iP*	**Pg**	**17 45 41.2**	**-0.4**
NBB28				*eS*	**Sg**	**17 45 50.3**	**-0.2**
NBB28				IAML		17 45 52.6	
	comp=Z,64nm,0.4s						
NBB03	**Karbol**	**0.77**	**54**	*eP*	**Pg**	**17 45 42.5**	**-0.8**
NBB03	**Karbol**	**0.77**	**54**	*eS*	**Sg**	**17 45 52.5**	**-0.8**
NBB03				IAML		17 45 54.4	
	comp=Z,104nm,0.3s						
NBB29	**Rokland skole**	**0.84**	**66**	*eS*	**Sg**	**17 45 55.1**	**-0.5**
NBB29				IAML		17 46 10.8	
	comp=Z,222nm,0.1s						
NBB08	**Skaug oppvekst**	**0.88**	**34**	*eP*	**Pg**	**17 45 44.5**	**-0.8**
NBB08	**Skaug oppvekst**	**0.88**	**34**	*eS*	**Sg**	**17 45 55.9**	**-1.0**
NBB08				IAML		17 46 05.4	
	comp=Z,100nm,0.7s						
N2RO	**R¸st**	**0.99**	**331**	*eS*	**Sg**	**17 45 59.7**	**-0.6**
N2RO				IAML		17 46 02.7	
	comp=Z,44nm,0.2s						
N2VA	**Vr¸y**	**1.04**	**346**	*eP*	**Pg**	**17 45 48.3**	**-0.1**
N2VA				*eS*	**Sg**	**17 46 01.7**	**-0.2**
N2VA				IAML		17 46 06.2	
	comp=Z,14nm,0.3s						
FAUS	**Fauske**	**1.04**	**45**	*eP*	**Pg**	**17 45 47.2**	**-1.2**
FAUS				*eS*	**Sg**	**17 45 59.9**	**-2.0**
FAUS				IAML		17 46 03.4	
	comp=Z,41nm,0.3s						
N2ST	**Straumen**	**1.11**	**51**	*eP*	**Pg**	**17 45 48.4**	**-1.3**
N2ST				*eSg*	**Sn**	**17 46 04.9**	**+0.3**
N2ST				IAML		17 46 15.3	
	comp=Z,69nm,0.1s						
N2TV	**TÝrnvik**	**1.14**	**36**	*eP*	**Pb**	**17 45 49.1**	**-0.7**
N2TV				*eS*	**Sg**	**17 46 04.4**	**-0.6**
N2TV				IAML		17 46 08.5	
	comp=Z,33nm,0.7s						
N2SV	**S¸rvÅgen**	**1.24**	**354**	*eP*	**Pn**	**17 45 50.4**	**-0.9**
N2SV				*eS*	**Sb**	**17 46 06.2**	**-1.2**
N2SV				IAML		17 46 10.2	
	comp=Z,20nm,0.3s						
N2NF	**Nordfold**	**1.32**	**32**	*ePg*	**Pn**	**17 45 52.6**	**+0.3**
N2NF				*eSg*	**Sg**	**17 46 11.0**	**+0.2**
N2NF				IAML		17 46 17.0	
	comp=Z,20nm,0.2s						
STEI	**Steigen**	**1.47**	**29**	Pg	**Pn**	**17 45 55.1**	**+0.8**
STEI				Lg	Lg	17 46 15.3	
STEI	**Steigen**	**1.47**	**29**	*ePg*	**Pn**	**17 45 55.2**	**+0.8**
STEI				*eSg*	**Sg**	**17 46 15.4**	**0.0**
STEI				IAML		17 46 18.6	
	comp=Z,14nm,0.5s						
STEI	**Steigen**	**1.47**	**29**	*eP*	**Pn**	**17 45 55.0**	**+0.6**
STEI				*eS*	**Sg**	**17 46 15.2**	**-0.2**
LOF	**Lofoten**	**1.48**	**2**	Pg	**Pn**	**17 45 53.5**	**-1.0**
LOF				Lg	Lg	17 46 12.0	
LOF	**Lofoten**	**1.48**	**2**	*eP*	**Pn**	**17 45 53.4**	**-1.1**
LOF				*eS*	**Sn**	**17 46 12.0**	**-1.6**
LOF				IAML		17 46 17.4	
	comp=Z,19nm,0.3s						
N2IH	**Innhavet**	**1.64**	**36**	*ePg*	**Pb**	**17 45 58.4**	**0.0**
N2IH				*eSg*	**Sg**	**17 46 21.0**	**-0.1**
N2IH				IAML		17 46 24.0	
	comp=Z,26nm,0.3s						
N2HS	**Hamsund**	**1.67**	**29**	*ePg*	**Pn**	**17 45 58.4**	**+1.2**
N2HS				*eSg*	**Sg**	**17 46 22.0**	**+0.1**
N2HS				IAML		17 46 24.1	
	comp=Z,27nm,0.3s						
N2DI	**Digermulen**	**1.77**	**20**	*eP*	**Pn**	**17 45 58.9**	**+0.4**
N2DI				*eSg*	**Sg**	**17 46 26.0**	**+0.8**
N2DI				IAML		17 46 34.8	
	comp=Z,13nm,0.3s						
N2LO	**L¸dingen**	**2.01**	**28**	*ePg*	**Pn**	**17 46 03.6**	**+1.9**
N2LO				*eSg*	**Sg**	**17 46 31.8**	**-0.9**
N2LO				IAML		17 46 37.0	
	comp=Z,11nm,0.5s						
SALU	**Saltoluokta**	**2.14**	**68**	P	**Pn**	**17 46 05.3**	**+1.7**
SALU				S	**Sb**	**17 46 34.8**	**+1.5**
SALU	**Saltoluokta**	**2.14**	**68**	*eP*	**Pn**	**17 46 05.3**	**+1.7**
SALU				*eSB*	**Sb**	**17 46 34.8**	**+1.5**
N2SO	**Sortland**	**2.21**	**20**	*ePg*	**Pb**	**17 46 07.4**	**-0.6**
N2SO				*eSg*	**Sb**	**17 46 36.9**	**+1.8**
N2SO				IAML		17 46 41.4	
	comp=Z,8.7nm,0.4s						
NSS	**Namsos**	**2.22**	**196**	Pn	**Pb**	**17 46 07.5**	**-0.8**
NSS				Sn	**Sb**	**17 46 36.5**	**+1.0**
N2HA	**Harstad**	**2.45**	**28**	*ePg*	**Pb**	**17 46 11.9**	**-0.3**
N2HA				*eSg*	**Sb**	**17 46 44.7**	**+2.5**
N2HA				IAML		17 46 47.5	
	comp=Z,12nm,0.3s						
NIKU	**Nikkaluokta**	**2.51**	**59**	P	**Pn**	**17 46 10.2**	**+1.5**
NIKU				S	**Sb**	**17 46 42.6**	**-1.3**
NIKU	**Nikkaluokta**	**2.51**	**59**	*eP*	**Pn**	**17 46 10.2**	**+1.5**
NIKU				*eS*	**Sb**	**17 46 42.6**	**-1.3**
RATU	**Laukkuluspa**	**2.68**	**61**	P	**Pb**	**17 46 14.1**	**-2.0**
RATU	**Laukkuluspa**	**2.68**	**61**	*ePB*	**Pb**	**17 46 14.1**	**-2.0**
DUNU	**Dundret**	**2.88**	**77**	P	**Pn**	**17 46 16.2**	**+2.5**
DUNU	**Dundret**	**2.88**	**77**	*eP*	**Pn**	**17 46 16.2**	**+2.5**
KUA	**Kurravaara**	**3.00**	**61**	P	**Pn**	**17 46 17.2**	**+1.8**
KUA	**Kurravaara**	**3.00**	**61**	*eP*	**Pn**	**17 46 17.2**	**+1.8**
HARU	**Harads**	**3.10**	**96**	P	**Pn**	**17 46 18.2**	**+1.5**
HARU				S	**Sn**	**17 46 55.9**	**+2.4**
HARU	**Harads**	**3.10**	**96**	*eP*	**Pn**	**17 46 18.2**	**+1.5**
HARU				*eS*	**Sn**	**17 46 55.9**	**+2.4**
ERTU	**Ertsjaerv**	**3.52**	**88**	P	**Pn**	**17 46 23.9**	**+1.3**
ERTU	**Ertsjaerv**	**3.52**	**88**	*eP*	**Pn**	**17 46 23.9**	**+1.3**
SJUU	**Sjulsmark**	**3.55**	**105**	P	**Pn**	**17 46 24.2**	**+1.3**
SJUU	**Sjulsmark**	**3.55**	**105**	*eP*	**Pn**	**17 46 24.2**	**+1.3**
LANU	**Lannavaara**	**3.61**	**63**	*eP*	**Pn**	**17 46 25.7**	**+1.9**
LANU				*eS*	**Sn**	**17 47 07.8**	**+1.5**
LANU	**Lannavaara**	**3.61**	**63**	*eP*	**Pn**	**17 46 25.7**	**+1.9**
LANU				*eS*	**Sn**	**17 47 07.8**	**+1.5**
TRO	**Tromso**	**3.63**	**32**	*eP*	**Pn**	**17 46 25.8**	**+1.6**
KIF	**Kilpisjarvi**	**3.67**	**47**	*eP*	**Pn**	**17 46 26.8**	**+2.2**
KIF				*eS*	**Sn**	**17 47 09.3**	**+1.7**
ODEU	**Stanfors**	**3.80**	**123**	P	**Pn**	**17 46 27.9**	**+1.4**
ODEU	**Stanfors**	**3.80**	**123**	*eP*	**Pn**	**17 46 27.9**	**+1.4**
BURU	**Burvik**	**3.92**	**118**	P	**Pn**	**17 46 30.2**	**+2.2**
BURU	**Burvik**	**3.92**	**118**	*eP*	**Pn**	**17 46 28.2**	**+0.1**
BURU				*eS*	**Sn**	**17 47 13.1**	**-0.7**
BURU	**Burvik**	**3.92**	**118**	*eP*	**Pn**	**17 46 28.2**	**+0.1**
BURU				*eS*	**Sn**	**17 47 13.1**	**-0.7**
KALU	**Kalix**	**4.12**	**97**	P	**Pn**	**17 46 31.6**	**+0.8**
KALU	**Kalix**	**4.12**	**97**	*eP*	**Pn**	**17 46 31.6**	**+0.8**
KALU				*eS*	**Sn**	**17 47 18.2**	**-0.4**
KALU	**Kalix**	**4.12**	**97**	*eP*	**Pn**	**17 46 31.6**	**+0.8**
KALU				*eS*	**Sn**	**17 47 18.2**	**-0.4**
HEF	**Hetta**	**4.32**	**61**	*eP*	**Pn**	**17 46 35.5**	**+1.9**
HEF				*eS*	**Sn**	**17 47 24.3**	**+0.6**
HEF				MSN		17 47 46.4	
	comp=Z,2.2nm,0.2s						
HEF	**Hetta**	**4.32**	**61**	*eP*	**Pn**	**17 46 35.5**	**+1.9**
HEF				*eS*	**Sn**	**17 47 24.3**	**+0.6**
HEF				MSN		17 47 46.4	
	comp=Z,2.2nm,0.2s						
TOF	**Tornio**	**4.45**	**93**	*eP*	**Pn**	**17 46 36.5**	**+1.2**
TOF				*eS*	**Sn**	**17 47 26.4**	**-0.4**
TOF				MSN		17 47 55.5	
	comp=Z,1.5nm,0.2s						
TOF	**Tornio**	**4.45**	**93**	*eP*	**Pn**	**17 46 36.5**	**+1.2**
TOF				*eS*	**Sn**	**17 47 26.4**	**-0.4**
TOF				MSN		17 47 55.5	
	comp=Z,1.5nm,0.2s						
OBF0	**Syolatti, Pyha**	**5.00**	**111**	*eP*	**Pn**	**17 46 43.0**	**+0.1**
OBF0				*eS*	**Sn**	**17 47 38.6**	**-1.8**
OBF0				MSN		17 48 07.3	
	comp=Z,2.3nm,0.2s						
OBF0	**Syolatti, Pyha**	**5.00**	**111**	*eP*	**Pn**	**17 46 43.0**	**+0.1**
OBF0				*eS*	**Sn**	**17 47 38.6**	**-1.8**
OBF0				MSN		17 48 07.3	
	comp=Z,2.3nm,0.2s						
RNF	**Rovaniemi**	**5.03**	**85**	*eP*	**Pn**	**17 46 43.9**	**+0.5**
RNF				*eS*	**Sn**	**17 47 40.3**	**-1.0**
RNF				MSN		17 48 08.6	
	comp=Z,2.2nm,0.2s						
RNF	**Rovaniemi**	**5.03**	**85**	*eP*	**Pn**	**17 46 43.9**	**+0.5**
RNF				*eS*	**Sn**	**17 47 40.3**	**-1.0**
RNF				MSN		17 48 08.6	
	comp=Z,2.2nm,0.2s						
OBF4	**Vikkela, Lumij**	**5.18**	**106**	*eP*	**Pn**	**17 46 45.8**	**+0.5**
OBF4				*eS*	**Sn**	**17 47 43.7**	**-1.1**
OBF4				MSN		17 48 15.9	
	comp=Z,1.2nm,0.2s						
OBF4	**Vikkela, Lumij**	**5.18**	**106**	*eP*	**Pn**	**17 46 45.8**	**+0.5**
OBF4				*eS*	**Sn**	**17 47 43.7**	**-1.1**
OBF4				MSN		17 48 15.9	
	comp=Z,1.2nm,0.2s						
ARA0	**ARCESS Array S**	**5.38**	**52**	Pn	**Pn**	**17 46 47.0**	**-1.1**
	baz=234,slow=16						
ARA0				Sn	**Sn**	**17 47 47.3**	**-2.4**
	baz=238,slow=22						
ARA0				Lg	Lg	17 48 13.0	
	baz=221,slow=22						
ARA0	**ARCESS Array S**	**5.38**	**52**	Pn	**Pn**	**17 46 47.0**	**-1.1**
	baz=234,slow=16						
ARA0				Sn	**Sn**	**17 47 47.3**	**-2.4**
	baz=238,slow=22						
ARA0				Sg	**Sb**	**17 48 13.0**	**+6.7**
	baz=221,slow=22						
ARCES	**ARCESS Array B**	**5.38**	**52**	Pn	**Pn**	**17 46 47.9**	**-0.2**
	baz=238,slow=12,SNR=6.9						
ARCES				Sn	**Sn**	**17 47 48.8**	**-0.9**
	baz=238,slow=22,SNR=7.5						
ARCES				Lg	Lg	17 48 12.7	
	baz=228,slow=28,SNR=5.1						
NOA	**NORSAR Array B**	**5.73**	**191**	Pn	**Pn**	**17 46 53.0**	**+0.1**
	comp=Z,0.0nm,0.3s,baz=20,slow=12,SNR=1.0						
NOA				Lg	Lg	17 48 28.0	
	comp=Z,0.1nm,0.3s,baz=77,slow=17,SNR=4.7						
NRA0	**NORESS Array S**	**6.01**	**189**	Pn	**Pn**	**17 46 58.7**	**+1.9**
	baz=7.9,slow=16						
NRA0				Sn	**Sn**	**17 48 07.1**	**+1.9**
	baz=22,slow=28						
NRA0	**NORESS Array S**	**6.01**	**189**	Pn	**Pn**	**17 46 58.7**	**+1.9**
	baz=7.9,slow=16						
NRA0				Sn	**Sn**	**17 48 07.1**	**+1.9**
	baz=22,slow=28						
FINES	**FINESS Array B**	**7.63**	**127**	Pn	**Pn**	**17 47 18.7**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=313,slow=13,SNR=1.6						
FINES				Sn	**Sn**	**17 48 42.9**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=324,slow=16,SNR=1.8						
FINES				Lg	Lg	17 49 24.4	
	comp=Z,0.3nm,0.3s,baz=325,slow=25,SNR=5.4						

NEIC ***28*** *17:50:23.6±1.4,23.8S±0.1×179.6W±0.2,h520km±9km, mb4.4/21,Error ellipse: s-maj=21.5km s-min=17.1km az=103.0*

IDC ***28*** *17:50:25.5±1.3,23.78S×179.86W,h523km±13km,mb3.3/6, mb1 3.5/10,mb1mx3.2/36,mbtmp4.3/10,Error ellipse: s-maj=25.3km s-min=17.7km az=146.0*

ISC 28 17:50:22.2±0.5,23.76S±0.06×179.49W±0.09,h500km, n74,σ2s13/75,mb3.9/10,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
RAO	**Raoul Island**	**5.65**	**166**	P		P	17 52 00.2	+5.2
	111nm,0.3s,baz=54,slow=10,SNR=6.9							
RAO	**Raoul Island**	**5.65**	**166**	P		**P**	**17 51 58.0**	**+3.0**
GLKZ	**Green Lake**	**5.66**	**166**	P		**P**	**17 51 59.9**	**+4.8**
GLKZ				S		**S**	**17 53 09.9**	**-1.3**
MSVF	**Nonsavu**	**6.42**	**339**	P		**P**	**17 52 06.0**	**+3.1**
	3.0nm,0.3s,baz=203,slow=21,SNR=17							
MSVF	**Nonsavu**	**6.42**	**339**	P		**P**	**17 52 06.1**	**+3.1**
MARNC	**Mare, Loyalty**	**11.75**	**279**	P		**P**	**17 52 58.0**	**-0.2**
MARNC	**Mare, Loyalty**	**11.75**	**279**	P		**P**	**17 52 58.9**	**+0.8**
PINNC	**Pines Island,**	**12.07**	**273**	P		**P**	**17 53 03.1**	**+1.6**
PINNC	**Pines Island,**	**12.07**	**273**	P		**P**	**17 53 03.5**	**+2.0**
AFI	**Afiamalu**	**12.22**	**38**	P		**P**	17 53 09.8	+6.5
	3.9nm,0.3s,baz=196,slow=7.4,SNR=2.5							
AFI				S		**S**	**17 55 11.2**	**-4.9**
	1.7nm,0.3s,baz=221,slow=11,SNR=1.4							
AFI	**Afiamalu**	**12.22**	**38**	P		**P**	**17 53 03.3**	**0.0**
OUENC	**Ouen Island, N**	**12.65**	**273**	P		**P**	**17 53 06.3**	**-1.5**
RTV	**Rentapao**	**12.76**	**295**	P		P	17 52 59.5	-9.5
DVP	**Devils Point**	**12.99**	**295**	P		P	17 53 02.1	-9.3
DZM	**Mont Dzumac**	**13.07**	**275**	P		**P**	**17 53 12.6**	**+0.3**
	0.5nm,0.3s,baz=163,slow=19,SNR=8.0							
WCZ	**Waipu Caves**	**13.26**	**202**	P		**P**	**17 53 17.1**	**+3.2**
WIAZ	**Waiheke Island**	**13.79**	**198**	P		**P**	17 53 29.5	+10
MXZ	**Matakaoa Point**	**13.88**	**187**	P		**P**	**17 53 24.8**	**+4.3**
HAZ	**Te Kaha**	**14.14**	**189**	P		**P**	**17 53 27.0**	**+3.7**
HAZ				S		**S**	**17 55 52.9**	**+0.3**
RUGZ	**Raukumara Rang**	**14.36**	**189**	P		**P**	**17 53 29.6**	**+3.9**
PUZ	**Puketiti**	**14.39**	**187**	P		P	17 53 31.4	+5.5
URZ	**Urewera**	**14.74**	**191**	P		**P**	**17 53 30.7**	**+1.2**
	1.8nm,0.3s,baz=108,slow=1.4,SNR=6.6							
URZ				S		**S**	**17 56 02.2**	**-1.7**
	0.5nm,0.3s,baz=55,slow=20,SNR=7.3							
URZ	**Urewera**	**14.74**	**191**	P		**P**	**17 53 29.6**	**+0.1**
URZ	**Urewera**	**14.74**	**191**	P		**P**	**17 53 31.9**	**+2.4**
URZ				S		**S**	**17 56 01.2**	**-2.8**
TLZ	**Tolley Road**	**15.13**	**195**	P		**P**	**17 53 38.3**	**+4.7**
HIZ	**Hauiti**	**15.47**	**197**	P		**P**	**17 53 41.6**	**+4.4**
BKZ	**Black Stump Fm**	**15.73**	**192**	P		**P**	**17 53 39.5**	**-0.5**
BKZ				IAmb		IAmb	17 53 45.0	
	comp=Z,7.8nm,0.7s							
BKZ	**Black Stump Fm**	**15.73**	**192**	P		**P**	**17 53 40.3**	**+0.4**
BKZ				S		**S**	**17 56 19.8**	**-3.2**
OTVZ	**Oturere**	**15.89**	**194**	P		**P**	**17 53 41.8**	**+0.1**
FWVZ	**Far West T-bar**	**16.01**	**194**	P		**P**	**17 53 44.5**	**+1.5**
WHVZ	**Whangaehu Hut**	**16.03**	**194**	P		**P**	**17 53 44.5**	**+1.3**
WNVZ	**Wahianoa**	**16.07**	**194**	P		**P**	**17 53 44.2**	**+0.6**
VRZ	**Vera Road**	**16.07**	**196**	P		**P**	**17 53 47.8**	**+4.4**
CKHZ	**Cape Kidnapper**	**16.11**	**190**	P		**P**	**17 53 43.8**	**0.0**
BHHZ	**Black Hill Sta**	**16.12**	**192**	P		**P**	**17 53 43.8**	**-0.3**
BHHZ				S		**S**	**17 56 26.7**	**-3.7**
KRHZ	**Kereru**	**16.22**	**192**	P		**P**	**17 53 45.3**	**+0.3**
BFZ	**Birch Farm**	**17.25**	**191**	P		**P**	**17 53 54.0**	**-1.4**
BFZ	**Birch Farm**	**17.25**	**191**	P		**P**	**17 53 55.4**	**0.0**
MRZ	**Mangatainoka R**	**17.35**	**193**	P		**P**	**17 53 55.9**	**-0.5**
HOWZ	**Holdsworth Sta**	**17.59**	**193**	P		**P**	**17 54 00.3**	**+1.6**
MSWZ	**Moikau Station**	**18.14**	**193**	P		**P**	**17 54 02.7**	**-1.1**
SNZO	**South Karori**	**18.16**	**194**	P		**P**	**17 54 02.0**	**-1.8**
QRZ	**Quartz Range**	**18.29**	**200**	P		**P**	**17 54 04.8**	**-0.2**
NNZ	**Nelson**	**18.40**	**197**	P		**P**	**17 54 03.9**	**-2.1**
TUWZ	**Tuamarina**	**18.45**	**196**	P		**P**	**17 54 04.8**	**-1.7**
THZ	**Tophouse**	**19.04**	**198**	P		**P**	**17 54 11.1**	**-0.9**
THZ				IAmb		IAmb	17 54 30.9	
	comp=Z,7.5nm,1.0s							
KHZ	**Kahutara**	**19.48**	**196**	P		**P**	**17 54 14.9**	**-1.0**
KHZ				IAmb		IAmb	17 54 34.3	
	comp=Z,17nm,1.2s							
LTZ	**Lake Taylor**	**20.16**	**198**	P		**P**	**17 54 20.8**	**-1.4**
LTZ				IAmb		IAmb	17 54 24.2	
	comp=Z,8.0nm,0.5s							
OXZ	**Oxford**	**20.73**	**198**	P		**P**	**17 54 25.9**	**-1.4**
OXZ				IAmb		IAmb	17 54 31.4	
	comp=Z,7.1nm,0.5s							
MQZ	**McQueen's Vall**	**20.92**	**196**	P		**P**	**17 54 28.1**	**-0.8**
MQZ				IAmb		IAmb	17 54 32.5	
	comp=Z,13nm,1.3s							
RPZ	**Rata Peaks**	**21.37**	**199**	P		**P**	**17 54 32.4**	**-0.7**
RPZ				IAmb		IAmb	17 55 00.4	
	comp=Z,14nm,1.3s							
FOZ	**Fox Glacier**	**21.60**	**202**	P		**P**	**17 54 35.0**	**-0.1**
FOZ				IAmb		IAmb	17 54 53.4	
	comp=Z,18nm,1.0s							
CTA	**Charters Tower**	**31.94**	**270**	P		**P**	**17 56 06.2**	**-0.3**
	comp=Z,7.9nm,0.3s,baz=95,slow=11,SNR=33							
CTAO	**Charters Tower**	**31.94**	**270**	P		**P**	**17 56 05.3**	**-1.2**
CTAO				IAmb		IAmb	17 56 07.9	
	comp=Z,8.9nm,0.4s							
AS31	**Alice Springs**	**42.52**	**260**	P		**P**	**17 57 30.3**	**-3.1**
ASAR	**Alice Springs**	**42.52**	**260**	P		**P**	**17 57 32.3**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=91,slow=7.5,SNR=13							
ASAR	**Alice Springs**	**42.52**	**260**	P		**P**	**17 57 30.2**	**-3.1**
WR0	**Warramunga Arr**	**42.69**	**266**	P		**P**	**17 57 33.0**	**-1.8**
WB2	**Warramunga Arr**	**42.87**	**266**	P		**P**	**17 57 34.7**	**-1.4**
WB2				IAmb		IAmb	17 57 36.2	
	comp=Z,8.8nm,1.4s							
WB0	**Warramunga Arr**	**42.87**	**266**	P		**P**	**17 57 34.4**	**-1.8**
WB0				IAmb		IAmb	17 57 42.7	
	comp=Z,4.7nm,1.1s							
WRAB	**Tennant Creek**	**42.87**	**266**	P		**P**	**17 57 34.3**	**-1.9**
WRA	**Warramunga Arr**	**42.88**	**266**	P		**P**	**17 57 34.4**	**-1.9**
	comp=Z,0.8nm,0.4s,baz=92,slow=8.4,SNR=40							
WRA	**Warramunga Arr**	**42.88**	**266**	IAmb		IAmb	17 57 41.2	
	comp=Z,0.4nm,1.4s							
QSPA	**South Pole Qui**	**66.32**	**180**	P		**P**	**18 00 19.8**	**-0.7**
ADK	**Adak**	**75.36**	**2**	P		**P**	**18 01 13.0**	**-0.6**
PETK	**Petropavlovsk-**	**79.08**	**346**	P		**P**	**18 01 34.1**	**+0.3**
	comp=Z,3.1nm,0.7s,baz=125,slow=7.4,SNR=10							
USRK	**Ussuriysk Ar.**	**80.90**	**327**	P		**P**	**18 01 43.8**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=168,slow=4.5,SNR=4.8							
NVAR	**Mina Array Bea**	**84.33**	**44**	P		**P**	**18 02 04.5**	**+3.0**
	comp=Z,0.4nm,0.7s,baz=234,slow=7.7,SNR=2.6							
ABKAR	**Akbulak array**	**127.44**	**315**			**PKPdf**	**18 08 28.4**	**-1.2**
ARCES	**ARCESS Array B**	**131.85**	**348**	PKP		**PKPdf**	**18 08 36.9**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=38,slow=1.6,SNR=6.1							
NOA	**NORSAR Array B**	**142.02**	**352**	PKhKP		PKPpre	18 08 52.2	
	comp=Z,0.3nm,0.4s,baz=23,slow=3.9,SNR=3.6							
AKASG	**Malin Array Be**	**145.11**	**328**	PKP		**PKPdf**	**18 09 02.2**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=43,slow=4.1,SNR=11							
AKASG				SKPbc		**SKPbc**	**18 11 52.9**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=58,slow=2.0,SNR=4.5							
AKASG	**Malin Array Be**	**145.11**	**328**			**PKPdf**	**18 09 01.3**	**-0.8**
CLL	**Collm**	**150.86**	**344**	*i* PKPbc		**PKPbc**	**18 09 18.1**	**+0.5**
	comp=Z,5.0nm,1.0s							
CLL				*i* PKPab		**PKPab**	**18 09 27.2**	**+0.1**
	comp=Z,4.0nm,0.9s							

MEX 28 18:24:12.6±0.9,16.00N×98.94W,h16km±999km,MD4.0, 1D,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PNIG	**Pinotepa**	**0.87**	**64**	*i* P		Pb	18 24 26.5	-2.9
PNIG				*e*S		Sb	18 24 37.0	-3.8
DAIG	**Los Arroyos**	**1.22**	**326**	*e*P		Pn	18 24 31.1	-3.9
DAIG				*e*S		Sb	18 24 45.9	-4.9
MGIG	**Malinaltepec**	**1.26**	**13**	*e*P		Pn	18 24 31.9	-3.8
MGIG				*e*S		Sb	18 24 47.2	-4.9
YOIG	**Yosondua**	**1.58**	**57**	*e*P		Pn	18 24 37.0	-3.3
YOIG				*e*S		Sn	18 24 55.3	-5.3
TLIG	**Tlapa**	**1.59**	**13**	*e*P		Pn	18 24 37.4	-2.9
TLIG				*i* S		Sn	18 24 55.8	-4.7
TXIG	**Tlaxiaco**	**1.68**	**42**	⇓*e*P		Pn	18 24 38.4	-3.1
TXIG				*e*S		Sn	18 24 58

Ms1 3.0/5,ms1mx2.6/43,Error ellipse: s-maj=17.0km s-min=14.0km az=170.0
*DDA **28** 18:38:03.8,35°.32N×28°.04E,h8km±3km,MW3.8*
*THE **28** 18:38:04.0,34°.94N×28°.11E,h9km±5km,ML3.4/3,Error ellipse: s-maj=9.4km s-min=1.5km az=146.0*
*ISK **28** 18:38:04.0,35°.12N×27°.98E,h12km,ML3.6/17*
*NIC **28** 18:38:05.1±0.0,34°.93N×28°.11E,h30km±2km,Ml4.4/3*
*HLW **28** 18:38:06.8,34°.88N×28°.66E,h12km±16km,Md3.9,Ml4.1*
*ATH **28** 18:38:08.6,35°.41N×27°.53E,h48km±15km,ML3.3/4,Error ellipse: s-maj=15.8km s-min=2.4km az=139.0*

ISC 28 18:38:03.3±1.8,34°.94N±0°.04×28°.08E±0°.03,h29km±13km, n149,σ1§92/169,mb3.9/19,MS3.0/3,3C,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**1.28**	**2**	P	**Pn**	**18 38 26.4**	**+1.2**
ARG				S	**Sb**	**18 38 44.8**	**+2.0**
	2μm,1.7s						
ARG	**Arkhangelos**	**1.28**	**2**	P	**Pn**	**18 38 26.4**	**+1.2**
ARG				AML	AML	18 38 57.2	
	comp=E,4323μm,1.4s						
ARG				AML	AML	18 39 04.9	
	comp=N,3497μm,0.7s						
ARG	**Arkhangelos**	**1.28**	**2**	PN	**Pn**	**18 38 25.7**	**+0.5**
ARG	**Arkhangelos**	**1.28**	**2**	⇑P	**Pn**	**18 38 26.8**	**+1.6**
ZKR	**Zakros**	**1.54**	**277**	P	**Pn**	**18 38 30.5**	**+1.7**
ZKR				S	**Sb**	**18 38 50.7**	**+0.4**
	comp=N,655nm,0.6s						
ZKR	**Zakros**	**1.54**	**277**	P	**Pn**	**18 38 30.5**	**+1.7**
ZKR				S	**Sn**	**18 38 44.1**	**-3.8**
ZKR				AML	AML	18 39 05.4	
	comp=E,1574μm,0.8s						
ZKR				AML	AML	18 39 06.6	
	comp=N,1085μm,0.6s						
ZKR	**Zakros**	**1.54**	**277**	PN	**Pn**	**18 38 30.6**	**+1.7**
ZKR				SN	**Sn**	**18 38 50.2**	**+2.3**
ZKR	**Zakros**	**1.54**	**277**	P	**Pn**	**18 38 30.5**	**+1.7**
ZKR				S	**Sb**	**18 38 50.6**	**+0.2**
STIA	**Sitia Lasithi**	**1.66**	**280**	P	**Pn**	**18 38 32.5**	**+2.1**
AKAS	**Kas**	**1.79**	**43**	PN	**Pn**	**18 38 34.2**	**+1.8**
NIS1	**Nisyros Isl.**	**1.82**	**336**	P	**Pn**	**18 38 31.8**	**-0.9**
NIS1	**Nisyros Isl.**	**1.82**	**336**	PN	**Pn**	**18 38 33.3**	**+0.6**
TURN	**Turunc**	**1.84**	**4**	*i* P	**Pn**	**18 38 34.6**	**+1.6**
TURN	**Turunc**	**1.84**	**4**	PN	**Pn**	**18 38 34.3**	**+1.4**
FETY	**Fethiye**	**1.88**	**25**	P	**Pn**	**18 38 34.5**	**+1.0**
FETY				S	**Sn**	**18 38 57.3**	**+1.0**
FETY	**Fethiye**	**1.88**	**25**	PN	**Pn**	**18 38 34.7**	**+1.2**
DALY	**Dalyan (Mula)**	**1.93**	**14**	PN	**Pn**	**18 38 35.5**	**+1.3**
DALY				SN	**Sn**	**18 38 58.3**	**+0.8**
KOSK	**Kos Island**	**2.02**	**334**	PN	**Pn**	**18 38 35.5**	**+0.1**
NPS	**Neapolis**	**2.05**	**280**	P	**Pn**	**18 38 38.2**	**+2.3**
NPS	**Neapolis**	**2.05**	**280**	P	**Pn**	**18 38 38.2**	**+2.3**
NPS				AML	AML	18 39 28.0	
	comp=N,1387μm,1.0s						
NPS				AML	AML	18 39 29.7	
	comp=E,1624μm,0.7s						
BDRM	**Kayabasi**	**2.19**	**346**	*i* P	**Pn**	**18 38 38.0**	**+0.3**
BDRM				IAML		18 39 21.0	
	comp=N,278nm,0.9s						
BDRM				IAML		18 39 21.0	
	comp=E,262nm,0.7s						
YER	**Yerkesik**	**2.20**	**4**	P	**Pn**	**18 38 39.5**	**+1.5**
YER	**Yerkesik**	**2.20**	**4**	PN	**Pn**	**18 38 39.0**	**+1.0**
BODT	**Bodrum**	**2.21**	**344**	P	**Pn**	**18 38 38.2**	**+0.1**
BODT	**Bodrum**	**2.21**	**344**	PN	**Pn**	**18 38 38.4**	**+0.3**
CAME	**Cameli-Denizli**	**2.23**	**26**	PN	**Pn**	**18 38 40.1**	**+1.6**
CAME				SN	**Sn**	**18 39 06.4**	**+1.2**
ELL	**Elmali**	**2.34**	**39**	PN	**Pn**	**18 38 42.4**	**+2.5**
ELL	**Elmali**	**2.34**	**39**	P	**Pn**	**18 38 42.4**	**+2.5**
MLSB	**Milas**	**2.37**	**354**	PN	**Pn**	**18 38 40.9**	**+0.7**
CAEL	**Denizli, Camel**	**2.40**	**24**	*i* P	**Pn**	**18 38 43.2**	**+2.4**
CAEL				IAML		18 39 59.0	
	comp=E,427nm,1.5s						
CAEL				IAML		18 40 01.0	
	comp=N,517nm,1.6s						
HRKL	**Herakleio**	**2.47**	**280**	PN	**Pn**	**18 38 43.6**	**+2.0**
SANT	**Santorini**	**2.57**	**305**	P	**Pn**	**18 38 43.2**	**+0.2**
SANT	**Santorini**	**2.57**	**305**	PN	**Pn**	**18 38 44.1**	**+1.1**
THR8	**Santorini-Mono**	**2.58**	**305**	P	**Pn**	**18 38 43.7**	**+0.7**
GOLH	**Golhisar**	**2.59**	**27**	*i* P	**Pn**	**18 38 42.3**	**-1.0**
GOLH				IAML		18 39 31.0	
	comp=N,163nm,0.8s						
GOLH				IAML		18 40 10.0	
	comp=E,40nm,2.7s						
THR6	**Thira Island,**	**2.61**	**304**	P	**Pn**	**18 38 44.6**	**+1.1**
THR6	**Thira Island,**	**2.61**	**304**	P	**Pn**	**18 38 44.4**	**+1.0**
TAVA	**DENIZLI_Tavas**	**2.61**	**15**	*i* P	**Pn**	**18 38 45.2**	**+1.5**
TAVA				IAML		18 39 44.0	
	comp=E,198nm,0.9s						
TAVA				IAML		18 39 53.0	
	comp=N,133nm,1.2s						
THR3	**Thira Island,**	**2.63**	**305**	P	**Pn**	**18 38 44.2**	**+0.4**
THR3	**Thira Island,**	**2.63**	**305**	P	**Pn**	**18 38 42.9**	**-0.9**
SNT5	**Nea Kammeni, S**	**2.63**	**305**	P	**Pn**	**18 38 44.5**	**+0.7**
SNT5	**Nea Kammeni, S**	**2.63**	**305**	P	**Pn**	**18 38 44.4**	**+0.5**
THR9	**Santorini-Faro**	**2.63**	**303**	P	**Pn**	**18 38 44.3**	**+0.5**
THR9	**Santorini-Faro**	**2.63**	**303**	P	**Pn**	**18 38 43.8**	**-0.1**
IDI	**Anoyia**	**2.64**	**279**	Pn	**Pn**	**18 38 45.7**	**+1.7**
	comp=N,11nm,0.3s,baz=48,slow=3.2,SNR=90						
IDI				Sn	**Sn**	**18 39 14.1**	**-1.0**
	comp=N,18nm,0.3s,baz=360,slow=19,SNR=5.0						
IDI				LR	LR	18 39 14.5	
	comp=N,18nm,20.8s,baz=88,slow=30						
IDI	**Anoyia**	**2.64**	**279**	P	**Pn**	**18 38 46.1**	**+2.1**
IDI				S	**Sn**	**18 39 16.9**	**+1.8**
	comp=N,250nm,0.9s						
IDI	**Anoyia**	**2.64**	**279**	P	**Pn**	**18 38 46.0**	**+2.0**
THR5	**Thira Island,**	**2.67**	**304**	P	**Pn**	**18 38 45.3**	**+0.9**
THR5	**Thira Island,**	**2.67**	**304**	P	**Pn**	**18 38 45.0**	**+0.6**
SIVA	**Sivas**	**2.69**	**273**	P	**Pn**	**18 38 47.4**	**+2.8**
SIVA				AML	AML	18 39 20.7	
	comp=E,1726μm,0.7s						
SIVA				AML	AML	18 39 28.5	
	comp=N,1011μm,0.8s						
AYDN	**Tasoluk**	**2.72**	**357**	*i* P	**Pn**	**18 38 46.0**	**+0.9**
AYDN				IAML		18 39 53.0	
	comp=N,72nm,0.9s						
KORT	**Korkueli**	**2.76**	**41**	PN	**Pn**	**18 38 48.4**	**+2.7**
GCAM	**G?zelcaml?**	**2.84**	**346**	*i* P	**Pn**	**18 38 47.1**	**+0.4**
GCAM				IAML		18 39 56.0	
	comp=N,111nm,1.0s						
GCAM				IAML		18 39 56.0	
	comp=E,146nm,0.8s						
GCAM	**G?zelcaml?**	**2.84**	**346**	PN	**Pn**	**18 38 47.3**	**+0.6**
ANTB	**Antalya**	**2.86**	**46**	PN	**Pn**	**18 38 50.2**	**+3.2**
APE	**Apeiranthos**	**2.97**	**317**	P	**Pn**	**18 38 49.3**	**+0.8**
APE	**Apeiranthos**	**2.97**	**317**	PN	**Pn**	**18 38 49.6**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**3.01**	**357**	PN	**Pn**	**18 38 49.8**	**+0.7**
OSC1	**CSNet OBS 1**	**3.01**	**118**	P	**Pn**	**18 38 50.6**	**+1.6**
OSC1				S	**Sn**	**18 39 26.4**	**+2.3**
VAM	**Vamos**	**3.21**	**280**	P	**Pn**	**18 38 53.4**	**+1.6**
DGB	**zmir**	**3.26**	**343**	*i* P	**Pn**	**18 38 52.2**	**-0.1**
DGB				*i* S	Sn	18 39 10.2	-20
DGB				IAML		18 39 54.0	
	comp=N,37nm,1.0s						
DGB				IAML		18 40 09.0	
	comp=E,45nm,1.1s						
BASM	**Basmaki-Afyon**	**3.37**	**27**	PN	**Pn**	**18 38 55.7**	**+1.6**
IMMV	**Iera Moni Meta**	**3.40**	**280**	P	**Pn**	**18 38 56.5**	**+2.1**
MHLO	**Agia Marina, M**	**3.46**	**301**	P	**Pn**	**18 38 57.3**	**+2.0**
KEPZ	**Antalya-Kepez**	**3.47**	**55**	*i* P	**Pn**	**18 38 58.0**	**+2.7**
KEPZ				IAML		18 39 44.0	
	comp=N,58nm,0.4s						
KEPZ				IAML		18 39 54.0	
	comp=E,60nm,1.0s						
ISP	**Isparta**	**3.49**	**34**	PN	**Pn**	**18 38 58.6**	**+2.9**
AKMS	**Akamas**	**3.49**	**87**	P	**Pn**	**18 38 57.3**	**+1.6**
AKMS				AML	AML	18 39 38.5	
	comp=E,2.1nm,0.5s						
AKMS				AML	AML	18 39 38.9	
	comp=E,1.4nm,0.3s						
ZEYE	**Izmir, Urla-Ze**	**3.53**	**339**	*i* P	**Pn**	**18 38 53.1**	**-3.1**
MANT	**Manisa**	**3.57**	**6**	*i* P	**Pn**	**18 38 57.1**	**+0.2**
MANT				*i* S	**Sn**	**18 39 37.5**	**-0.7**
MANT				IAML		18 40 34.0	
	comp=N,33nm,1.8s						
MANT				IAML		18 40 45.0	
	comp=E,30nm,1.3s						
MATC	**Matruh**	**3.65**	**192**	P	**Pn**	**18 39 00.6**	**+2.7**
	baz=200						
NATA	**Nata**	**3.69**	**91**	P	**Pn**	**18 39 00.6**	**+2.1**
ALFC	**Alefka**	**3.71**	**85**	⇑P	**Pn**	**18 39 00.3**	**+1.6**
ALFC				AML	AML	18 39 42.4	
	comp=E,1.8nm,0.5s						
ALFC				AML	AML	18 39 42.7	
	comp=E,2.2nm,0.2s						
USAK	**Uak-Merkez**	**3.84**	**11**	*i* P	**Pn**	**18 39 00.0**	**-0.5**
USAK				IAML		18 41 01.0	
	comp=N,22nm,3.0s						
USAK				IAML		18 41 01.0	
	comp=E,62nm,4.5s						
OSC2	**CSNet OBS 4**	**3.94**	**117**	S	**Sn**	**18 39 49.0**	**+1.9**
SZAC	**Souni**	**3.95**	**91**	⇑P	**Pn**	**18 39 04.1**	**+2.1**
SZAC				AML	AML	18 39 49.7	
	comp=E,1.9nm,0.4s						
SZAC				AML	AML	18 39 49.9	
	comp=E,1.4nm,0.2s						
ZEDA	**zmir-Bergama**	**4.10**	**349**	*i* P	**Pn**	**18 39 04.3**	**+0.2**
ZEDA				*i* S	**Sn**	**18 39 50.0**	**-1.1**
ZEDA				IAML		18 40 36.0	
	comp=N,21nm,0.9s						
ZEDA				IAML		18 40 37.0	
	comp=E,40nm,1.0s						
DEMI	**Demirci**	**4.13**	**7**	*i* P	**Pn**	**18 39 04.7**	**+0.2**
DEMI				*i* S	**Sn**	**18 39 50.1**	**-1.7**
DEMI				IAML		18 39 59.0	
	comp=N,16nm,0.5s						
DEMI				IAML		18 40 29.0	
	comp=E,32nm,0.9s						
ASGA	**Asgata**	**4.25**	**91**	P	**Pn**	**18 39 07.9**	**+1.9**
GDZ	**Gediz**	**4.29**	**15**	*i* P	Pn	18 39 12.9	+6.1
GDZ				*i* S	Sn	18 39 33.6	-22
CSS	**Mathiatis**	**4.31**	**88**	P	**Pn**	**18 39 08.6**	**+1.7**
VLI	**Veliai**	**4.54**	**295**	P	**Pn**	**18 39 10.6**	**+0.5**
MVOU	**Mavrovouni**	**4.56**	**87**	P	**Pn**	**18 39 13.2**	**+2.9**
BUHA	**Balikesir, Bur**	**4.63**	**350**	*i* P	**Pn**	**18 39 11.8**	**+0.6**
BUHA				IAML		18 40 55.0	
	comp=E,32nm,0.9s						
BUHA				IAML		18 40 56.0	
	comp=N,26nm,1.1s						
DURS	**Dursunbey**	**4.67**	**4**	*i* P	**Pn**	**18 39 12.2**	**+0.3**
DURS				IAML		18 40 53.0	
	comp=E,26nm,1.7s						
DURS				IAML		18 41 02.0	
	comp=N,19nm,1.7s						
KRND	**KRANIDI**	**4.68**	**303**	P	**Pn**	**18 39 13.4**	**+1.5**
HNAT	**Natroun**	**5.71**	**157**	P	**Pn**	**18 39 28.3**	**+2.2**
	baz=161						
KOT	**Kottamia**	**5.91**	**147**	P	**Pn**	**18 39 30.0**	**+1.0**
	baz=150						
KOT				S	**Sn**	**18 40 33.5**	**-2.3**
	baz=150						
HHAG	**Hagoal**	**6.02**	**145**	P	**Pn**	**18 39 31.7**	**+1.3**
	baz=148						
HHAG				S	**Sn**	**18 40 32.8**	**-5.6**
	baz=148						
HSAF	**As Saff**	**6.06**	**150**	P	**Pn**	**18 39 32.4**	**+1.4**
	baz=154						
SWA2		**6.10**	**202**	P	**Pn**	**18 39 33.4**	**+1.9**
	baz=207						
RYAN	**Fayoum**	**6.13**	**162**	AMP		18 40 00.0	
	baz=166						
GLL	**Jalalah**	**6.16**	**149**	P	**Pn**	**18 39 33.9**	**+1.5**
	baz=153						
DQRL	**Deir Qamar**	**6.32**	**99**	*e*P	**Pn**	**18 39 36.3**	**+1.8**
MMAI	**Mount Meron Ar**	**6.38**	**105**	Pn	**Pn**	**18 39 36.3**	**+0.9**
	comp=N,3.9nm,0.3s,baz=305,slow=12,SNR=9.6						
MMAI				Sn	**Sn**	**18 40 47.3**	**0.0**
	comp=N,20nm,0.3s,baz=308,slow=24,SNR=11						
MMAI				LR	LR	18 43 46.3	
	comp=N,50nm,20.7s,baz=255,slow=52						
SUZ	**Suez**	**6.48**	**140**	P	**Pn**	**18 39 37.6**	**+0.9**
	baz=143						
BRTR	**Keskin Array B**	**6.51**	**41**	Pn	**Pn**	**18 39 39.6**	**+2.3**
	comp=N,0.3nm,0.3s,baz=230,slow=11,SNR=2.0						
BRTR				Sn	**Sn**	**18 40 50.7**	**0.0**
	comp=N,0.6nm,0.3s,baz=210,slow=25,SNR=5.4						
RCY	**Rachaya**	**6.58**	**100**	*e*P	**Pn**	**18 39 39.2**	**+0.9**
ZAF	**Zafarana**	**6.79**	**145**	P	**Pn**	**18 39 41.9**	**+0.9**
	baz=148						
NBNS	**Bani Suef**	**6.86**	**156**	P	**Pn**	**18 39 43.7**	**+1.7**
	baz=159						
NBNS				S	**Sn**	**18 40 55.0**	**-4.1**
	baz=159						
NBNS				AMP		18 41 00.0	
	baz=159						
TAMRE	**El Minia**	**7.63**	**161**	P	**Pn**	**18 39 54.3**	**+1.8**
	baz=164						
HFRF	**Wahat Farafira**	**7.77**	**178**	P	**Pn**	**18 39 55.9**	**+1.6**
	baz=183						
HFRF				S	**Sn**	**18 41 19.2**	**-2.1**
	baz=183						
EIL	**Elat**	**7.83**	**130**	Pn	**Pn**	**18 39 56.6**	**+1.3**
	comp=N,3.0nm,0.3s,baz=315,slow=5.3,SNR=65						
EIL				Sn	**Sn**	**18 41 18.2**	**-4.7**
	comp=N,10nm,0.3s,baz=52,slow=17,SNR=12						
ASF	**Jabal al Asfar**	**7.86**	**108**	Pn	**Pn**	**18 39 58.1**	**+2.4**
	comp=N,0.7nm,0.3s,baz=270,slow=7.1,SNR=1.6						
ASF				Sn	**Sn**	**18 41 23.6**	**-0.1**
	comp=N,1.0nm,0.3s,baz=234,slow=22,SNR=1.7						
HBST	**Basata**	**8.02**	**133**	S	**Sn**	**18 41 19.6**	**-8.0**
	baz=136						
TR2	**Tor 2**	**8.11**	**142**	P	**Pn**	**18 39 59.8**	**+0.7**
	baz=144						
HKAT	**Jabal Katrina**	**8.13**	**140**	P	**Pn**	**18 40 00.2**	**+0.6**
	baz=142						
HKAT				S	**Sn**	**18 41 24.6**	**-6.2**
	baz=142						
MLR	**Muntele Rosu**	**10.67**	**352**	LR	LR	18 45 32.1	
	comp=N,125nm,20.9s,baz=157,slow=44						
KBZ	**Khabaz**	**14.42**	**48**	Pn	**P**	**18 41 29.9**	**-2.0**
	comp=N,0.1nm,0.3s,baz=284,slow=4.2,SNR=2.1						
KEST	**Kesra**	**15.32**	**278**	Pn	**Pn**	**18 41 36.8**	**-0.8**
	comp=N,0.1nm,0.3s,baz=100,slow=11,SNR=2.5						
AKASG	**Malin Array Be**	**15.78**	**3**	Pn	**Pn**	**18 41 38.9**	**-4.4**
	comp=N,0.6nm,0.3s,baz=198,slow=12,SNR=1.5						
VRAC	**Vranov**	**16.67**	**333**	Pn	**Pn**	**18 41 52.3**	**-2.4**
	comp=N,0.2nm,0.3s,baz=210,slow=14,SNR=1.4						
CKRC	**Cesky Krumlov**	**17.21**	**328**	*e*P	**Pn**	**18 42 01.2**	**-0.3**
WTTA	**Wattenberg**	**17.43**	**320**	*i* Pn	**Pn**	**18 42 03.9**	**-0.5**
	comp=N,2.5nm,0.5s						
GERES	**GERESS Array B**	**17.50**	**327**	P	**Pn**	**18 42 02.7**	**-2.5**
	comp=N,0.1nm,0.3s,baz=138,slow=12,SNR=5.9						
WATA	**Walderalm**	**17.51**	**320**	*e*Pn	**Pn**	**18 42 04.2**	**-1.1**
	comp=N,1.5nm,0.5s						
SQTA	**Sankt Quirin**	**17.63**	**319**	*e*Pn	**Pn**	**18 42 06.4**	**-0.4**
	comp=N,2.1nm,0.4s						
MOTA	**Moosalm**	**17.76**	**319**	*e*Pn	**Pn**	**18 42 08.1**	**-0.4**
	comp=N,3.6nm,0.8s						
KHC	**Kasperske Hory**	**17.77**	**327**	*e*P	**Pn**	**18 42 07.7**	**-0.7**
FETA	**Feichten**	**17.77**	**318**	*e*Pn	**Pn**	**18 42 08.9**	**+0.3**
	comp=N,5.6nm,0.9s						
DAVOX	**Davos/Dischmat**	**18.10**	**316**	P	**Pn**	**18 42 09.5**	**-3.2**
	comp=N,0.4nm,0.3s,baz=130,slow=9.1,SNR=5.1						
DAVA	**Damuels**	**18.39**	**318**	*e*Pn	**P**	**18 42 15.7**	**-0.4**
	comp=N,1.5nm,0.3s						
CLL	**Collm**	**19.66**	**331**	*e*pP	pP	18 42 41.0	+3.9
LUNU	**Lund**	**23.02**	**339**	*e*P	**P**	**18 43 03.0**	**-2.8**
BJUU	**Bjuv**	**23.53**	**339**	*e*P	**P**	**18 43 07.9**	**-2.8**
DEL	**Delary**	**23.62**	**340**	*e*P	**P**	**18 43 08.4**	**-3.3**
DEL				IAmb	IAmb	18 43 09.8	
	comp=Z,3.7nm,0.7s						
FABU	**Falkenberg**	**24.40**	**339**	*e*P	**P**	**18 43 18.7**	**-0.2**
BORU	**Boraas**	**24.93**	**340**	*e*P	**P**	**18 43 22.8**	**-0.9**
ONAU	**Onsala**	**24.97**	**339**	*e*P	**P**	**18 43 22.8**	**-1.3**
TJOU	**Tjoern**	**25.59**	**340**	*e*P	**P**	**18 43 29.2**	**-0.4**
ESDC	**Sonseca Array**	**25.84**	**290**	P	**P**	**18 43 31.8**	**-0.5**
	comp=Z,3.0nm,0.6s,baz=84,slow=9.7,SNR=25						
FINES	**FINESS Array B**	**26.56**	**358**	P	**P**	**18 43 37.0**	**-1.4**
	comp=Z,1.1nm,0.4s,baz=159,slow=10,SNR=8.9						
STRU	**Stroemstad**	**26.57**	**340**	*e*P	**P**	**18 43 36.5**	**-1.9**
AKTO	**Aktyubinsk**	**26.67**	**45**	P	**P**	**18 43 39.7**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=252,slow=9.6,SNR=2.2						
AKTO				LR	LR	18 56 18.5	
	comp=Z,20nm,20.5s,baz=208,slow=41						
HFS	**Hagfors**	**26.89**	**344**	P	**P**	**18 43 39.2**	**-2.2**
	comp=Z,1.8nm,0.4s,baz=153,slow=10.0,SNR=14						
HFS				LR	LR	18 54 44.0	
	comp=Z,36nm,18.2s,baz=144,slow=38						
NOA	**NORSAR Array B**	**28.28**	**343**	P	**P**	**18 43 51.4**	**-2.5**
	comp=Z,0.4nm,0.4s,baz=155,slow=17,SNR=8.5						
NOA				LR	LR	18 57 29.5	
	comp=Z,44nm,18.2s,baz=165,slow=42						
EKA	**Eskdalemuir Ar**	**29.63**	**323**	P	**P**	**18 44 03.9**	**-2.0**
	comp=Z,0.3nm,0.4s,baz=124,slow=10,SNR=4.8						
TORD	**Torodi Ar. Bea**	**32.24**	**234**	P	**P**	**18 44 30.9**	**+1.5**
	comp=Z,0.6nm,0.4s,baz=36,slow=8.0,SNR=7.5						
ARCES	**ARCESS Array B**	**34.68**	**358**	P	**P**	**18 44 48.9**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=171,slow=8.3,SNR=48						
KURBB	**Kurchatov Arra**	**39.40**	**51**	P	**P**	**18 45 32.0**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=278,slow=8.8,SNR=8.3						
KURBB				PcP	**PcP**	**18 47 40.2**	**+2.2**
	comp=Z,0.2nm,0.5s,baz=260,slow=3.7,SNR=2.0						
MKAR	**Makanchi Array**	**41.90**	**57**	P	**P**	**18 45 53.5**	**+2.4**
	comp=Z,0.3nm,0.5s,baz=271,slow=7.0,SNR=6.4						
ZALV	**Zalesovo Beam**	**43.43**	**46**	P	**P**	**18 46 03.6**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=294,slow=7.7,SNR=2.0						
SPITS	**Spitsbergen Ar**	**43.64**	**357**	P	**P**	**18 46 04.4**	**-0.4**
	comp=Z,8.2nm,0.7s,baz=146,slow=9.1,SNR=9.7						
SONM	**Songino Array**	**57.77**	**51**	P	**P**	**18 47 53.3**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=288,slow=8.7,SNR=5.6						
BOSA	**Boshof**	**63.26**	**183**	P	**P**	**18 48 32.2**	**+2.9**
	comp=Z,4.2nm,1.1s,baz=0.0,slow=1.0,SNR=2.0						
SCHQ	**Schefferville**	**64.90**	**320**	P	**P**	**18 48 39.1**	**-0.6**
	comp=Z,2.8nm,0.4s,baz=50,slow=4.3,SNR=10						
USRK	**Ussuriysk Ar.**	**75.28**	**46**	P	**P**	**18 49 44.3**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=309,slow=4.1,SNR=4.3						
KSRS	**Korea Array**	**76.50**	**54**	P	**P**	**18 49 52.0**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=315,slow=4.4,SNR=2.6						
ILAR	**Eielson Array**	**80.54**	**358**	P	**P**	**18 50 12.4**	**0.0**
	comp=Z,0.3nm,0.6s,baz=344,slow=5.1,SNR=2.6						
ASAR	**Alice Springs**	**115.65**	**102**	PKP	**PKiKP**	**18 56 44.5**	**+1.4**
	comp=Z,0.1nm,0.7s,baz=292,slow=1.8,SNR=1.5						

*JMA **28** 18:56:22.0±0.1,42°.23N×143°.58E,h47km±2km,M2.5*
*SKHL **28** 18:56:23.2±0.4,42°.20N×143°.70E,h30km±9km,mb4.4/2*

ISC 28 18:56:22.0±3.2,42°.2N±0°.1×143°.62E±0°.06,h35km±3km, n11,σ1§20/19,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTHR	**Tokachihiroo**	**0.27**	**297**	P	**Pn**	**18 56 29.9**	**+0.1**
JTHR				*e*S	**Sn**	**18 56 35.8**	**0.0**
JCH	**Churui**	**0.49**	**337**	P	**Pn**	**18 56 32.1**	**-0.3**
JCH				*e*S	**Sn**	**18 56 39.6**	**-0.1**
JNBK	**Urakawa-nobuka**	**0.66**	**280**	P	**Pn**	**18 56 34.6**	**-0.2**
JOB	**Onbets**	**0.75**	**12**	P	**Pn**	**18 56 35.9**	**-0.1**
JOB				*e*S	**Sn**	**18 56 46.6**	**+0.4**
JAR	**Ashorobuto**	**1.13**	**5**	P	**Pn**	**18 56 40.7**	**-0.6**
JAR				*e*S	**Sn**	**18 56 55.3**	**-0.3**
JAK	**Akkeshi**	**1.15**	**43**	P	**Pn**	**18 56 40.6**	**-0.9**
AKK	**Akkeshi**	**1.24**	**46**	*e*P	**Pn**	**18 56 42.9**	**+0.2**
AKK				*e*S	**Sn**	**18 56 57.3**	**-0.9**
NMR	**Nemuro--Hokkai**	**1.96**	**52**	*e*P	**Pn**	**18 56 52.2**	**-0.5**
NMR				*e*S	**Sn**	**18 57 13.1**	**-2.9**
GRPR	**Tuman**	**2.41**	**40**	*e*S	**Sn**	**18 57 26.0**	**-1.1**
YUK	**Yuzh-Kuril'sk**	**2.48**	**41**	*e*P	**Pn**	**18 57 01.5**	**+1.7**
YUK				AMB	AMB	18 57 05.3	
	120nm,0.6s						
YUK				*e*S	**Sn**	**18 57 29.5**	**+0.6**
YUK				A	A	18 57 32.4	
	100nm,0.5s						
YUK				A	A	18 57 32.4	
	150nm,0.5s						
KUR	**Kuril'sk**	**4.34**	**44**	*e*P	**Pn**	**18 57 27.6**	**+2.2**
KUR				AMB	AMB	18 57 30.0	
	50nm,0.8s						
KUR				*e*S	**Sn**	**18 58 13.6**	**-1.1**
KUR				A	A	18 58 19.8	
	50nm,0.6s						
KUR				A	A	18 58 19.8	
	50nm,0.6s						

IDC 28 19:14:19.3±336.0,53°.32N×34°.09E,h0km,Error ellipse: s-maj=134.7km s-min=82.6km az=21.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**3.86**	**27**	*i*		19 39 20.0	
	baz=210,slow=319,SNR=4.2						
I31KZ	**AKTYUBINSK INF**	**15.06**	**91**	*i*		20 42 20.0	
	baz=290,slow=326,SNR=2.8						
I48TN	**KESRA INFRASON**	**24.66**	**235**	*i*		21 46 00.0	
	baz=41,slow=310,SNR=0.7						

*TUL **28** 19:14:53.4±0.8,36°.77N±0°.01×98°.02W±0°.01,h6km±2km, ML2.5,mb_Lg2.6/12(NEIC),Error ellipse: s-maj=1.9km s-min=1.2km az=214.0*

**NEIC 28 19:14:53.6±0.7,36°.77N±0°.02×98°

WRAB					IAmb	IAmb	19 22 01.9			
	comp=Z,9.9nm,0.5s									
WB2	**Warramunga Arr**	**18.72**	**220**	P	**P**		**19 21 58.7**	**+0.6**		
WB2					IAmb	IAmb	19 22 02.3			
	comp=Z,9.9nm,0.8s									
WRA	**Warramunga Arr**	**18.73**	**220**	P	**P**		**19 21 58.9**	**+0.7**		
	comp=Z,2.5nm,0.3s,baz=44,slow=12,SNR=114									
WRA				S	**S**		**19 25 22.9**	**-3.3**		
	comp=Z,0.1nm,0.3s,baz=36,slow=22,SNR=3.2									
WRA	**Warramunga Arr**	**18.73**	**220**	P	**P**		**19 21 57.6**	**-0.5**		
AS31	**Alice Springs**	**21.82**	**214**		IAmb	IAmb	19 22 33.8			
AS31										
	comp=Z,4.1nm,0.3s									
ASAR	**Alice Springs**	**21.83**	**214**	P	**P**		**19 22 32.5**	**+1.0**		
	comp=Z,5.5nm,0.5s,baz=50,slow=9.5,SNR=134									
ASAR				S	**S**		**19 26 25.7**	**-1.5**		
	comp=Z,0.5nm,0.6s,baz=41,slow=19,SNR=4.1									
ASAR	**Alice Springs**	**21.83**	**214**			**P**	**19 22 32.4**	**+0.9**		
SOEI	**Soe**	**22.86**	**259**	P	**P**		**19 22 42.9**	**+0.4**		
SOEI					IAmb	IAmb	19 22 45.1			
	comp=Z,18nm,0.8s									
BATI	**Baumata**	**23.52**	**258**	P	**P**		**19 22 49.8**	**+1.2**		
	comp=Z,23nm,0.5s,baz=155,slow=2.8,SNR=12									
FITZ	**Fitzroy Crossi**	**24.20**	**238**	P	**P**		**19 22 55.5**	**+0.9**		
	comp=Z,6.0nm,0.3s,baz=46,slow=8.7,SNR=109									
MMRI	**Maumere**	**24.72**	**262**	P	**P**		**19 22 59.6**	**+0.2**		
STKA	**Stephens Creek**	**26.49**	**190**	P	**P**		**19 23 15.3**	**+0.1**		
	comp=Z,1.4nm,0.7s,baz=24,slow=12,SNR=3.0									
STKA	**Stephens Creek**	**26.49**	**190**	IAmb	IAmb		19 23 18.3			
	comp=Z,1.7nm,1.5s									
PSA00	**Pilbara Seismi**	**30.63**	**236**	P	**P**		**19 23 52.7**	**+0.6**		
PSA00					IAmb	IAmb	19 23 53.4			
	comp=Z,7.2nm,0.8s									
CISI	**Cisompet, Garu**	**38.95**	**265**	P	**P**		**19 25 02.8**	**-1.1**		
SONM	**Songino Array**	**64.17**	**331**	P	**P**		**19 28 11.1**	**-0.2**		
	comp=Z,0.4nm,0.6s,baz=126,slow=7.3,SNR=2.3									
SONM	**Songino Array**	**64.17**	**331**	IAmb	IAmb		19 28 20.0			
	comp=Z,0.7nm,1.0s									
CASY	**Casey**	**65.50**	**195**	P	**P**		**19 28 19.6**	**+0.2**		
CASY					IAmb	IAmb	19 28 20.7			
	comp=Z,11nm,1.4s									
VNDA	**Vanda**	**72.17**	**177**	P	**P**		**19 29 01.9**	**+1.3**		
	comp=Z,1.9nm,0.6s,baz=333,slow=7.5,SNR=13									
VNDA	**Vanda**	**72.17**	**177**	IAmb	IAmb		19 29 02.7			
	comp=Z,2.2nm,0.7s									
MKAR	**Makanchi Array**	**77.29**	**320**	P	**P**		**19 29 29.7**	**-1.1**		
	comp=Z,0.5nm,0.9s,baz=86,slow=8.5,SNR=1.8									
ZALV	**Zalesovo Beam**	**78.79**	**328**	P	**P**		**19 29 38.5**	**-0.3**		
	comp=Z,0.4nm,0.4s,baz=122,slow=5.2,SNR=1.9									
ILAR	**Eielson Array**	**85.25**	**23**	P	**P**		**19 30 10.6**	**-1.8**		
	comp=Z,0.5nm,0.5s,baz=252,slow=5.1,SNR=5.7									
TORD	**Torodi Ar. Bea**	**145.02**	**285**	PKPbc	**PKPbc**		**19 37 13.0**	**-0.4**		
	comp=Z,0.4nm,0.4s,baz=56,slow=3.7,SNR=9.3									

IDC 28 19:36:15.9±336.0, 53°27N×34°15E, h0km, Error ellipse: s-maj=135.4km s-min=83.3km az=19.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.89**	**26**	*i*		20 01 40.0	
	baz=210,slow=319,SNR=2.0						
I31KZ	**AKTYUBINSK INF**	**15.02**	**91**	*i*		21 05 00.0	
	baz=292,slow=324,SNR=2.3						
I48TN	**KESRA INFRASON**	**24.66**	**235**	*i*		22 07 30.0	
	baz=44,slow=311,SNR=0.8						

*IDC **28** 19:37:43.6±1.5, 30°81S×72°28W, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.5/23, mbtmp3.4/4, ML3.6/2, MS3.0/1, Ms1 3.0/1, ms1mx2.4/8, Error ellipse: s-maj=59.1km s-min=42.0km az=105.0*

*GUC **28** 19:37:49.3±0.5, 30°69S×71°69W, h34km±1km, ML4.0*

ISC 28 19:37:48.3±0.9, 30°64S±0°04×71°87W±0°04, h28km±6km, n27, σ1s97/34, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.20**	**99**	⇓*i*P	**Pb**	**19 37 54.3**	**-0.1**
CO06				*i* S	**Sb**	**19 37 57.8**	**-0.7**
CO06				IAML		19 37 58.2	
	comp=N,36μm,0.2s						
CO05	**La Serena**	**0.91**	**37**	*e*P	**Pn**	**19 38 04.7**	**-0.5**
CO05				*i* S	**Sb**	**19 38 15.7**	**-1.4**
CO02	**Combarbal**	**0.93**	**127**	⇓*i*P	**Pn**	**19 38 04.0**	**-1.7**
CO02				*i* S	**Sb**	**19 38 14.9**	**-3.2**
CO02				IAML		19 38 16.0	
	comp=N,18μm,0.6s						
CO03	**El Pedregal**	**1.03**	**101**	⇓*i*P	**Pn**	**19 38 05.4**	**-1.7**
CO03				*i* S	**Sn**	**19 38 17.0**	**-3.6**
CO03				IAML		19 38 17.4	
	comp=E,21μm,0.2s						
GO04	**Tololo Observa**	**1.04**	**63**	*e*P	**Pn**	**19 38 06.2**	**-1.0**
GO04				*i* S	**Sn**	**19 38 19.2**	**-1.6**
GO04				IAML		19 38 21.5	
	comp=N,15μm,0.4s						
VA06	**Catapilco**	**1.97**	**166**	*e*P	**Pn**	**19 38 19.8**	**-0.1**
VA06				*i* S	**Sn**	**19 38 43.3**	**-0.3**
VA06				IAML		19 38 51.3	
	comp=E,1μm,0.4s						
VA03	**San Esteban**	**2.40**	**152**	*e*P	**Pn**	**19 38 26.9**	**+1.2**
VA03				*i* S	**Sn**	**19 38 55.7**	**+1.5**
VA03				IAML		19 39 05.5	
	comp=E,1μm,0.5s						
ROCH	**El Roble**	**2.43**	**163**	*e*P	**Pn**	**19 38 26.9**	**+0.5**
ROCH				*i* S	**Sn**	**19 38 57.1**	**+1.7**
ROCH				IAML		19 39 07.5	
	comp=N,665nm,0.4s						
MT05	**Renca**	**2.91**	**161**	*e*P	**Pn**	**19 38 33.7**	**+1.0**
MT05				*i* S	**Sn**	**19 39 07.9**	**+1.2**
MT09	**Talagante**	**3.21**	**167**	*e*P	**Pn**	**19 38 38.0**	**+1.0**
MT09				*i* S	**Sn**	**19 39 12.9**	**-1.5**
MT09				IAML		19 39 29.3	
	comp=N,351nm,0.4s						
MT01	**Popeta**	**3.25**	**171**	*e*P	**Pn**	**19 38 37.9**	**+0.5**
MT01				IAML		19 39 35.3	
	comp=E,181nm,0.6s						
H03N1	**Juan Fernandez**	**6.60**	**243**	Pn	**Pn**	**19 39 24.4**	**+1.3**
	baz=112,slow=19,SNR=13						
H03N1				Sn	**Sn**	**19 40 33.8**	**-3.5**
H03N1				T	T	19 46 18.5	
	baz=72,slow=72,SNR=2930						
H03N2	**Juan Fernandez**	**6.61**	**243**	Pn	**Pn**	**19 39 24.8**	**+1.4**
	baz=112,slow=19,SNR=9.9						
H03N2				Sn	**Sn**	**19 40 33.9**	**-3.8**
H03N2				T	T	19 46 19.2	
	baz=72,slow=72,SNR=2505						
H03N3	**Juan Fernandez**	**6.61**	**243**	Pn	**Pn**	**19 39 24.3**	**+0.9**
	baz=112,slow=19,SNR=11						
H03N3				Sn	**Sn**	**19 40 33.6**	**-4.1**
H03N3				T	T	19 46 17.9	
	baz=72,slow=72,SNR=2142						
LVC	**Limon Verde**	**8.43**	**19**	Pn	**Pn**	**19 39 49.9**	**+1.0**
	comp=E,0.5nm,0.3s,baz=217,slow=12,SNR=2.0						
CPUP	**Villa Florida**	**13.49**	**75**	LR	LR	19 46 36.2	
	comp=E,57nm,20.0s,baz=210,slow=38						
LPAZ	**La Paz**	**14.69**	**14**	Pn	**Pn**	**19 41 18.2**	**+3.3**
	comp=E,0.1nm,0.3s,baz=192,slow=7.9,SNR=2.4						
TXAR	**Lajitas Array**	**66.89**	**330**	P	**P**	**19 48 36.7**	**-1.3**
	comp=E,0.1nm,0.6s,baz=159,slow=7.7,SNR=2.0						
TORD	**Torodi Ar. Bea**	**82.94**	**70**	P	**P**	**19 50 11.4**	**+0.4**
	comp=E,0.5nm,1.0s,baz=251,slow=5.5,SNR=2.3						
WRA	**Warramunga Arr**	**123.75**	**210**	PKP	**PKPdf**	**19 56 42.6**	**-1.4**
	comp=E,0.3nm,0.7s,baz=151,slow=1.6,SNR=4.6						
H11S2	**WAKE ISLAND Hyl**	**25.90**	**271**	T	T	22 15 31.9	
	baz=115,slow=75,SNR=29						
H11S1	**WAKE ISLAND Hyl**	**25.91**	**271**	T	T	22 15 34.7	
	baz=115,slow=75,SNR=24						
H11S3	**WAKE ISLAND Hyl**	**25.91**	**271**	T	T	22 15 33.2	
	baz=115,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hyl**	**26.22**	**273**	T	T	22 15 57.5	
	baz=115,slow=74,SNR=6.2						
H11N1	**WAKE ISLAND Hyl**	**26.24**	**273**	T	T	22 16 02.4	
	baz=115						
H11N2	**WAKE ISLAND Hyl**	**26.24**	**273**	T	T	22 15 58.7	
	baz=115,slow=74,SNR=9.8						
ZALV	**Zalesovo Beam**	**151.27**	**29**	PKPbc	**PKiKP**	**19 57 41.2**	**+2.1**
	comp=E,0.3nm,0.3s,baz=318,slow=3.9,SNR=1.9						
ZALV				PKPab	**pPKPbc**	**19 57 48.3**	**+1.1**
	comp=E,0.8nm,0.6s,baz=327,slow=2.4,SNR=4.2						

*TUL **28** 19:49:52±1.1, 36°39N±0°02×98°30W±0°04, h7km±7km, ML2.9, mb_Lg2.8/44(NEIC), Error ellipse: s-maj=4.4km s-min=2.8km az=85.0*

NEIC 28 19:49:51.8±0.7, 36°39N±0°01×98°28W±0°03, h9km±6km, Error ellipse: s-maj=3.8km s-min=0.6km az=119.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.27**	**63**		Pg	19 49 57.7	+0.5
OK032	**Salt Plains WL**	**0.42**	**8**		Pg	19 50 00.3	+0.3
GC02	**Grant County #**	**0.57**	**36**		Pg	19 50 03.1	+0.1
U32A	**Winter Ranch,**	**0.58**	**270**		Pg	19 50 02.9	-0.2
KAN14	**Manchester OK**	**0.62**	**24**		Pg	19 50 04.1	+0.2
KAN10	**Anthony SW Sta**	**0.75**	**11**		Pg	19 50 06.3	0.0
KAN17	**Caldwell West**	**0.78**	**32**		Pg	19 50 06.8	0.0
KAN05	**Bluff City Nor**	**0.79**	**24**		Pg	19 50 07.0	-0.1
KAN16	**Harper SW Stat**	**0.86**	**12**		Pg	19 50 08.2	-0.1
KAN08	**Anthony NE Sta**	**0.88**	**16**		Pg	19 50 08.6	-0.1
OK029	**Liberty Lake**	**0.89**	**131**		Pg	19 50 09.2	+0.2
KAN13	**South Haven SW**	**0.90**	**46**		Pg	19 50 09.1	-0.1
BCOK	**Bluff Creek, N**	**0.91**	**143**	Pg	Pg	19 50 09.1	-0.2
KAN09	**Caldwell North**	**0.92**	**35**		Pg	19 50 09.3	-0.2
KAN06	**Argonia West S**	**0.93**	**21**		Pg	19 50 09.4	-0.2
BLOK	**Blackwell**	**0.94**	**66**		Pg	19 50 09.7	-0.1
KAN12	**Harper NE Stat**	**0.94**	**14**		Pg	19 50 09.7	-0.2
KS20	**Mayfield South**	**1.02**	**34**		Pg	19 50 11.2	-0.3
OK025	**Westminster Rd**	**1.11**	**136**		Pg	19 50 12.8	-0.3
OK031	**S. Brethren Rd**	**1.24**	**110**		Pn	19 50 15.0	-0.3
QUOK	**Quay**	**1.29**	**99**		Pn	19 50 16.1	+0.1
OK030	**Cody Creek RV**	**1.29**	**110**		Pn	19 50 15.9	-0.1
FNO	**Franklin**	**1.33**	**147**		Pn	19 50 16.4	-0.2
T35A	**Sooner Cattle**	**1.52**	**69**		Pb	19 50 19.9	-0.2
WMOK	**Wichita Mounta**	**1.69**	**194**		Pn	19 50 21.9	+0.3
X34A	**Smith Ranch, M**	**1.82**	**168**		Pb	19 50 25.0	-0.2
R32A	**Long Quarter,**	**2.06**	**351**		Pb	19 50 28.7	-0.8
TUL1	**Leonard**	**2.07**	**103**		Pb	19 50 28.1	-1.4
TUL1				IAmb_Lg		19 51 01.8	
	comp=Z,52nm,1.0s						
LOOK	**Love County**	**2.55**	**159**		Pn	19 50 33.6	+0.2
KSU1	**Kansas State U**	**3.02**	**26**		Pb	19 50 46.5	+0.8
U38A	**Gravette**	**3.14**	**88**		Pn	19 50 42.0	+0.5
U38A				IAmb_Lg		19 51 39.9	
	comp=Z,28nm,0.8s						
AMTX	**Amarillo**	**3.15**	**243**	Pg	Pb	19 50 47.9	-0.1
AMTX				IAmb_Lg		19 51 39.2	
	comp=Z,28nm,0.8s						
HHAR	**Hobbs**	**3.50**	**90**		Pn	19 50 46.4	-0.1
W39A	**Magazine**	**3.84**	**107**		Pn	19 50 50.0	-1.0
W39A				IAmb_Lg		19 51 56.4	
	comp=Z,22nm,0.7s						
ABTX	**Abilene, Hawle**	**3.92**	**197**		Pn	19 50 50.5	-1.7
ABTX				IAmb_Lg		19 51 55.3	
	comp=Z,20nm,1.1s						
S39A	**Bolivar**	**4.17**	**70**		Pn	19 50 54.5	-1.2
S39A				IAmb_Lg		19 52 08.8	
	comp=Z,24nm,0.8s						
MIAR	**Mount Ida**	**4.25**	**114**	Pn	Pn	19 50 55.4	-1.4
KSCO	**Kaye Shedlock'**	**4.33**	**309**	IAmb_Lg		19 52 19.2	
	comp=Z,22nm,0.8s						
U40A	**Yellville**	**4.38**	**89**		Pn	19 50 59.3	+0.8
U40A				IAmb_Lg		19 52 11.5	
	comp=Z,19nm,0.8s						
WHTX	**Lake Whitney,**	**4.43**	**171**	Pn	Pn	19 51 00.5	+1.3
X40A	**Basin Creek Fa**	**4.83**	**111**	IAmb_Lg		19 52 39.4	
	comp=Z,13nm,1.1s						
MGMO	**Mountain Grove**	**4.89**	**79**	IAmb_Lg		19 52 33.4	
	comp=Z,13nm,1.1s						
P38A	**Dawn**	**4.95**	**48**	IAmb_Lg		19 52 38.8	
	comp=Z,17nm,0.8s						
WHAR	**Wooly Hollow**	**4.99**	**101**	Pn	Pn	19 51 06.8	-0.1
WHAR				IAmb_Lg		19 52 42.2	
	comp=Z,13nm,0.9s						
435B	**Jarrell**	**5.62**	**174**	IAmb_Lg		19 52 55.4	
	comp=Z,12nm,0.8s						
JCT	**Junction City**	**6.03**	**193**	IAmb_Lg		19 53 13.6	
	comp=Z,11nm,0.8s						
PBMO	**Poplar Bluff**	**6.33**	**84**	IAmb_Lg		19 53 26.4	
	comp=Z,12nm,0.8s						
SCIA	**State Center**	**6.77**	**34**	IAmb_Lg		19 53 24.9	
	comp=Z,16nm,0.8s						
N41A	**Harden Midland**	**7.24**	**51**	IAmb_Lg		19 53 49.4	
	comp=Z,13nm,0.8s						
S44A	**Carbondale**	**7.33**	**77**	IAmb_Lg		19 53 45.8	
	comp=Z,14nm,0.7s						
L40A	**Anamosa**	**7.88**	**42**	IAmb_Lg		19 54 20.3	
	comp=Z,12nm,0.8s						
121A	**Cookes Peak, D**	**8.74**	**247**	IAmb_Lg		19 54 43.7	
	comp=Z,9.7nm,1.2s						
T47A	**Sharon Grove**	**9.00**	**83**	IAmb_Lg		19 54 54.6	
	comp=Z,12nm,1.2s						
SFIN	**Lafayette**	**9.64**	**62**	IAmb_Lg		19 54 59.0	
	comp=Z,11nm,0.8s						

*NNC **28** 20:06:22.4±4.3, 37°53N×72°63E, h112km±65km, mb3.0, mpv3.7, Error ellipse: s-maj=42.1km s-min=33.7km az=128.0*

ISC 28 20:06:19.9±3.3, 37°4N±0°2×72°6E±0°1, h100km, n10, σ1s09/11, 2C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.83**	**10**	P	**Pn**	**20 07 31.5**	**+0.8**
	SNR=6.3						
UCH	**Uchtor**	**5.07**	**16**	P	**Pn**	**20 07 34.3**	**+0.4**
	SNR=40						
KZA	**Kyzart**	**5.12**	**23**	P	Pn	20 07 22.0	-13
	SNR=5.5						
EKS2	**Erkin-Say**	**5.36**	**9**	P	**Pn**	**20 07 39.4**	**+1.8**
	SNR=6.7						
AAK	**Ala-Archa**	**5.46**	**15**	P	**Pn**	**20 07 39.9**	**+0.9**
	SNR=8.2						
AAK	**Ala-Archa**	**5.46**	**15**	⇓P	**Pn**	**20 07 39.6**	**+0.7**
	3.4nm,0.4s						
AAK				⇓S	**Sn**	**20 08 39.7**	**-0.7**
	3.3nm,0.5s						
ULHL	**Ulahol**	**5.61**	**29**	P	**Pn**	**20 07 40.9**	**-0.3**
	SNR=14						
KK31	**Karatay Array**	**5.95**	**345**	⇓P	**Pn**	**20 07 45.8**	**+0.3**
	2.7nm,0.3s,baz=158,slow=11,SNR=56						
KK31				⇑S	**Sn**	**20 08 52.1**	**-0.1**
	2.4nm,0.3s,baz=170,slow=24,SNR=6.0						
AB31	**Akbulak array**	**15.01**	**326**	⇑P	**Pn**	**20 09 45.2**	**-1.5**
	0.2nm,0.3s,baz=139,slow=13,SNR=18						
AKTO	**Aktyubinsk**	**16.73**	**326**	⇓P	**P**	**20 10 09.8**	**+1.2**
	1.3nm,0.7s						

*IDC **28** 20:27:21.3±1.2, 31°49S×71°66W, h0km, mb3.7/3, mb1 4.0/7, mb1mx3.8/21, mbtmp3.7/7, ML3.8/4, MS2.9/3, Ms1 2.9/3, ms1mx2.8/21, Error ellipse: s-maj=38.0km s-min=31.0km az=150.0*

*NEIC **28** 20:27:27.7, 31°01S×71°75W, h34km, Moment Tensor Solution. Moment tensor: Scale 10^14 Nm; Mw 3.63; Mrr 1.80; Mθθ 5.43; Mrθ 2.47; Mθφ 2.69; Mφr 1.64; Fault plane solution: M0 6.24000×10^14 NP1: φs 14.36000°, δ 61.32000°, λ 136.73000°. NP2: φs 128.68000°, δ 53.04000°, λ 36.92000°. Principal axes: T 6.0885, Plg 50.0000°, Azm 337.0000°; N 0.2984, Plg 40.0000°, Azm 167.0000°; P -6.3869, Plg 5.0000°, Azm 73.0000°.*

*GUC **28** 20:27:27.8±0.7, 31°05S×71°73W, h26km±6km, ML4.0*

*NEIC **28** 20:27:28.1±0.8, 31°02S±0°04×71°72W±0°04, h30km±5km, mb4.4/13, Mwr 3.8/26, ML4.0(GUC), Error ellipse: s-maj=6.8km s-min=4.8km az=144.0*

ISC 28 20:27:25.4±1.3, 31°06S±0°03×71°75W±0°05, h16km±8km, n66, σ0s96/63, mb4.4/9, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.40**	**15**	⇓*i*P	**Pn**	**20 27 36.4**	**-0.1**
CO06				*i* S	**Sb**	**20 27 41.5**	**+1.5**
CO06				IAML		20 27 43.1	
	comp=N,16μm,0.4s						
CO06	**Fray Jorge**	**0.40**	**15**		**Pn**	**20 27 36.4**	**-0.1**
CO02	**Combarbal**	**0.66**	**103**	*e*P	**Pn**	**20 27 40.0**	**-0.2**
CO02				*i* S	**Sn**	**20 27 49.1**	**-1.3**
CO02				IAML		20 27 50.3	
	comp=N,24μm,0.2s						
CO02	**Combarbal**	**0.66**	**103**		**Pn**	**20 27 40.5**	**+0.2**
CO03	**El Pedregal**	**0.94**	**77**	*e*P	**Pn**	**20 27 44.5**	**+0.5**
CO03				*i* S	**Sn**	**20 27 56.9**	**-0.3**
CO03				IAML		20 27 59.9	
	comp=E,7μm,0.3s						
CO03	**El Pedregal**	**0.94**	**77**		**Pn**	**20 27 44.6**	**+0.5**
GO04	**Tololo Observa**	**1.21**	**43**	⇓*i*P	**Pg**	**20 27 48.7**	**-0.1**
GO04				*i* S	**Sg**	**20 28 04.7**	**+0.1**
GO04	**Tololo Observa**	**1.21**	**43**		**Pg**	**20 27 48.5**	**-0.3**
CO05	**La Serena**	**1.22**	**21**	*e*P	**Pg**	**20 27 49.0**	**0.0**
CO05				*i* S	**Sg**	**20 28 04.5**	**-0.5**
CO05				IAML		20 28 09.1	
	comp=E,4μm,0.5s						
CO05	**La Serena**	**1.22**	**21**	Pn	**Pg**	**20 27 48.6**	**-0.4**
VA06	**Catapilco**	**1.54**	**166**	⇑*i*P	**Pb**	**20 27 53.9**	**+0.3**
VA06				*i* S	**Sb**	**20 28 13.6**	**+0.6**
VA06				IAML		20 28 21.8	
	comp=N,4μm,0.3s						
VA01	**Torpederas**	**1.96**	**177**	Pn	**Pb**	**20 27 59.9**	**-0.7**
VA03	**San Esteban**	**1.98**	**149**	⇓*i*P	**Pb**	**20 28 01.4**	**+0.2**
VA03				*i* S	**Sb**	**20 28 25.5**	**-0.1**
VA03				IAML		20 28 31.5	
	comp=E,2μm,0.6s						
VA03	**San Esteban**	**1.98**	**149**		**Pb**	**20 28 00.9**	**-0.2**
ROCH	**El Roble**	**2.01**	**162**	*e*P	**Pb**	**20 28 01.0**	**-0.7**
ROCH				IAML		20 28 39.9	
	comp=N,998nm,0.5s						
MT05	**Renca**	**2.48**	**160**	*e*P	**Pb**	**20 28 08.3**	**-1.3**
MT05				*i* S	**Sb**	**20 28 39.5**	**-0.4**
MT05				IAML		20 28 51.8	
	comp=E,1μm,0.3s						
MT05	**Renca**	**2.48**	**160**	Pn	**Pn**	**20 28 06.4**	**+1.3**
VA05	**Santo Domingo**	**2.59**	**177**	*e*P	**Pb**	**20 28 11.8**	**+0.3**
VA05	**Santo Domingo**	**2.59**	**177**	Pn	**Pn**	**20 28 08.1**	**+1.5**
ZON	**Zonda**	**2.67**	**101**		**Pn**	**20 28 08.8**	**+0.9**
MT09	**Talagante**	**2.78**	**167**		**Pn**	**20 28 11.1**	**+1.6**
MT01	**Popeta**	**2.83**	**172**		**Pn**	**20 28 11.7**	**+1.8**
AC04	**Llanos de Chal**	**2.91**	**12**	Pn	**Pn**	**20 28 11.8**	**+0.8**
BO01	**Tunca**	**3.37**	**171**	Pn	**Pn**	**20 28 18.5**	**+1.1**
GO03	**Copiap**	**3.70**	**21**	Pn	**Pn**	**20 28 22.7**	**+0.7**
GO05	**Huala**	**3.94**	**182**	Pn	**Pn**	**20 28 25.8**	**+0.5**
AC02	**Maricunga**	**4.80**	**29**	Pn	**Pn**	**20 28 37.8**	**+0.3**
H03N1	**Juan Fernandez**	**6.51**	**247**	T	T	20 35 42.2	
	baz=75,slow=72,SNR=404						
VA04	**Juan Fernndez**	**6.52**	**245**	Pn	**Pn**	**20 29 00.5**	**-0.2**
PB14	**IPOC Station P**	**6.52**	**11**		**Pn**	**20 29 00.8**	**-0.3**
H03N3	**Juan Fernandez**	**6.53**	**247**	T	T	20 35 48.1	
	baz=75,slow=72,SNR=425						
H03N2	**Juan Fernandez**	**6.53**	**247**	T	T	20 35 49.3	
	baz=75,slow=72,SNR=366						
PB15	**IPOC Station P**	**8.08**	**15**	Pn	**Pn**	**20 29 22.2**	**-0.1**
LVC	**Limon Verde**	**8.79**	**17**	Pn	**Pn**	**20 29 33.4**	**+1.2**
	comp=E,0.2nm,0.3s,baz=194,slow=8.3,SNR=1.7						
LVC				Sn	Sn	20 31 22.3	+11
	comp=E,0.6nm,0.3s,baz=222,slow=14,SNR=2.1						
LVC				LR	LR	20 33 07.6	
	comp=E,74nm,19.1s,baz=190,slow=38						
LVC	**Limon Verde**	**8.79**	**17**	Pn	**Pn**	**20 29 31.5**	**-0.8**
PLCA	**Paso Flores**	**9.70**	**175**	LR	LR	20 33 25.1	
	comp=E,59nm,18.9s,baz=350,slow=39						
TRQA	**Tornquist**	**10.65**	**134**	Pn	**Pn**	**20 29 58.3**	**+0.9**
PB11	**IPOC Station P**	**11.41**	**10**	Pn	**Pn**	**20 30 07.9**	**0.0**
PSGCX	**Pisagua**	**11.51**	**8**	Pn	**Pn**	**20 30 08.6**	**-0.6**
CPUP	**Villa Florida**	**13.51**	**73**	Pn	**Pn**	**20 30 36.3**	**-0.1**
	comp=E,0.5nm,0.3s,baz=241,slow=20,SNR=2.4						
CPUP				Sn	**Sn**	**20 33 06.3**	**+0.1**
	comp=E,0.2nm,0.3s,baz=165,slow=14,SNR=1.6						
LPAZ	**La Paz**	**15.07**	**13**	Pn	**Pn**	**20 31 00.5**	**+2.1**
	comp=E,0.1nm,0.3s,baz=191,slow=6.1,SNR=9.0						
LPAZ				LR	LR	20 38 10.9	
	comp=E,41nm,19.6s,baz=196,slow=42						
LPAZ	**La Paz**	**15.07**	**13**	IAmb	IAmb	20 31 01.3	
	comp=Z,2.4nm,0.8s						
SIV	**San Ignacio**	**17.90**	**35**	P	**P**	**20 31 34.4**	**0.0**
	comp=Z,0.2nm,0.3s,baz=256,slow=11,SNR=2.2						
MG02	**Cerro Sombrero**	**21.78**	**176**	P	**P**	**20 32 15.7**	**-0.6**
SPB	**Sao Paulo**	**22.82**	**77**	P	**P**	**20 32 27.8**	**0.0**
SPB				IAmb	IAmb	20 32 32.0	
	comp=Z,35nm,1.3s						
SAML	**Samuel**	**23.41**	**22**	P	**P**	**20 32 33.6**	**-0.1**
RPN	**Rapa Nui**	**32.97**	**267**	P	**P**	**20 33 59.2**	**-0.3**
PDPR	**Patillas Dam,**	**49.11**	**7**	P	**P**	**20 36 11.6**	**-0.6**
SNAA	**Sanae**	**54.22**	**159**	P	**P**	**20 36 50.8**	**+0.8**
SNAA				IAmb	IAmb	20 37 00.3	
	comp=Z,6.1nm,1.4s						
QSPA	**South Pole Qui**	**59.17**	**180**	P	**P**	**20 37 26.4**	**+1.1**
QSPA				IAmb	IAmb	20 37 33.3	
	comp=Z,4.3nm,1.5s						
TXAR	**Lajitas Array**	**67.31**	**330**	P	**P**	**20 38 20.7**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=155

IDC 28 20:43:29.7±16.0, 6°22S×150°97E, h248km±144km, mb2.9/3, mb1 3.2/3, mb1mx2.8/27, mbtmp3.5/3, Error ellipse: s-maj=95.4km s-min=88.2km az=150.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.92**	**230**	S	S	20 45 33.0	-11
	1.2nm,0.3s,baz=170,slow=16,SNR=2.9						
WRA	**Warramunga Arr**	**21.14**	**228**	P	P	20 47 56.0	0.0
	0.9nm,0.7s,baz=53,slow=9.9,SNR=11						
ASAR	**Alice Springs**	**23.88**	**222**	P	P	20 48 21.2	+0.1
	0.4nm,0.8s,baz=58,slow=8.8,SNR=6.0						
FITZ	**Fitzroy Crossi**	**27.38**	**242**	P	P	20 48 52.4	-0.1
	0.8nm,0.3s,baz=51,slow=10.0,SNR=14						
TORD	**Torodi Ar. Bea**	**148.96**	**285**	PKPbc	PKPbc	21 02 48.8	-0.5
	0.9nm,0.7s,baz=91,slow=2.6,SNR=6.9						

MEX 28 20:54:32.3±1.4, 15°40N×92°97W, h118km±72km, MD3.5, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.39**	**322**	*i* P	Pn	20 54 48.1	-1.3
PCIG				*i* S	Sn	20 55 00.2	-2.1

*IDC **28** 21:36:38.0±2.1, 39°40N×123°20W, h0km, mb1 3.5/6, mb1mx3.3/49, mbtmp3.1/6, ML3.6/5, Error ellipse: s-maj=25.8km s-min=10.3km az=66.0*
*ANF **28** 21:36:40.3±1.4, 39°43N×122°75W, h10km±5km, ML3.9/12, Error ellipse: s-maj=11.6km s-min=7.2km az=50.0*
*NEIC **28** 21:36:40.6±2.8, 39°46N±0°01×122°95W±0°02, h5km±7km, Error ellipse: s-maj=2.1km s-min=1.6km az=75.0*
*NEIC **28** 21:36:40.2, 39°45N×122°99W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.75; $M_{\theta\theta}$-2.82; $M_{r\theta}$=0.31; $M_{\theta\phi}$8.75; $M_{r\phi}$=-0.41; Fault plane solution: $M_0$9.14000×10^{14} NP1:ϕ_s262.00000°, δ86.94000°, λ-1.94000°. NP2:ϕ_s352.10000°, δ88.06000°, λ-176.93000°. Principal axes: T 9.4803, Plg1.0000°, Azm127.0000°; N -0.7225, Plg86.0000°, Azm24.0000°; P -8.7578, Plg4.0000°, Azm217.0000°;*
*NCEDC **28** 21:36:40.2±3.1, 39°44N±0°02×122°99W±0°04, h9km±6km, Mwr3.9/6, ML3.6/58(NEIC) Error ellipse: s-maj=4.8km s-min=2.3km az=65.0*

ISC 28 21:36:40.8±1.1, 39°43N±0°02×122°96W±0°03, h10km±11km, n79, σ1$70/88, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GASB	**Alder Springs**	**0.29**	**40**		**Pg**	**21 36 46.3**	**-0.5**
GASB					**Sb**	**21 36 51.9**	**-1.4**
HOPS	**Hopland Field**	**0.45**	**191**		**Pg**	**21 36 49.3**	**-0.3**
HOPS				Sg	**Sb**	**21 36 56.8**	**-0.6**
KCPM	**Cahto Peak**	**0.54**	**298**	Pg	**Pg**	**21 36 50.8**	**-0.7**
KCPM				Sg	**Sb**	**21 36 59.4**	**-1.1**
GNAM	**Navarro Ridge**	**0.57**	**246**		**Pg**	**21 36 51.4**	**-0.5**
GPMM	**Pine Mountain**	**0.58**	**179**		**Pg**	**21 36 52.4**	**+0.2**
GSGM	**Seigler Mounta**	**0.60**	**161**		**Pg**	**21 36 52.4**	**0.0**
GDXM	**Geysers**	**0.64**	**168**		**Pg**	**21 36 53.0**	**-0.1**
GDXM				IAML		21 37 04.9	
	comp=E,3μm,0.9s						
GDXM				IAML		21 37 10.5	
	comp=N,3μm,1.2s						
MNRC	**McLaughlin Min**	**0.68**	**144**		**Pg**	**21 36 54.3**	**+0.3**
KBSM	**Bell Springs**	**0.69**	**315**		**Pb**	**21 36 53.8**	**-1.3**
O02D	**Mt. Diablo Mer**	**0.76**	**10**	P	**Pg**	**21 36 54.9**	**-0.6**
	baz=192,SNR=222						
O02D				S	**Sb**	**21 37 05.4**	**-1.2**
	baz=192						
FTR	**Fort Ross**	**0.92**	**190**		**Pg**	**21 36 57.8**	**-0.8**
SUTB	**Sutter Butte**	**0.93**	**102**		**Pg**	**21 36 57.6**	**-1.2**
KMRM	**Mail Ridge**	**0.98**	**324**	Pg	**Pg**	**21 36 58.4**	**-1.3**
LTCM	**Tuscan Springs**	**1.01**	**39**		**Pg**	**21 36 59.1**	**-1.2**
ORV	**Oroville**	**1.14**	**83**		**Pg**	**21 37 00.4**	**-2.3**
ORV	**Oroville**	**1.14**	**83**	Sg	**Sg**	**21 37 17.5**	**+0.1**
CVS	**Carmenet Viney**	**1.15**	**160**		**Pg**	**21 37 01.1**	**-1.9**
KCRM	**Chalk Rock**	**1.19**	**327**		**Pg**	**21 37 01.8**	**-2.0**
WDC	**Whiskeytown Da**	**1.19**	**16**		**Pg**	**21 37 02.0**	**-1.8**
WDC					**Sb**	**21 37 18.5**	**-0.5**
WDC				IAML		21 37 20.1	
	comp=E,1μm,1.0s						
KSMM	**Slide Mountain**	**1.20**	**309**		**Pg**	**21 37 00.6**	**-3.3**
O03E	**Paynes Creek**	**1.24**	**46**	P	**Pb**	**21 37 02.1**	**-2.3**
	baz=227,SNR=95						
MCCM	**Marconi Confer**	**1.28**	**177**	Pn	**Pn**	**21 37 02.8**	**-2.0**
MCCM				IAML		21 37 33.7	
	comp=E,921nm,1.4s						
MCCM				IAML		21 37 35.4	
	comp=N,717nm,1.8s						
LMEM	**Manzanita Entr**	**1.54**	**44**		**Pn**	**21 37 06.4**	**-2.1**
N02D	**Trinity Center**	**1.55**	**7**	P	**Pn**	**21 37 08.1**	**-0.5**
	baz=188,SNR=198						
KHMM	**Horse Mountain**	**1.56**	**338**	Pn	**Pn**	**21 37 06.8**	**-2.0**
KHMM				IAML		21 37 51.1	
	comp=E,879nm,1.3s						
JCC	**Jacoby Creek,**	**1.61**	**330**	Pn	**Pb**	**21 37 09.6**	**-1.0**
JCC				IAML		21 37 48.6	
	comp=N,729nm,2.3s						
JCC				IAML		21 37 51.0	
	comp=E,852nm,1.4s						
VAK	**Adit at Lawren**	**1.65**	**160**		**Pn**	**21 37 09.9**	**+0.1**
BKS	**Berkeley--Byer**	**1.65**	**160**		**Pn**	**21 37 09.1**	**-0.8**
BDM	**Black Diamond**	**1.71**	**149**		**Pn**	**21 37 09.3**	**-1.2**
FARB	**Farallon Islan**	**1.73**	**181**		**Pn**	**21 37 09.2**	**-1.8**
HATC	**Hat Creek Radi**	**1.80**	**39**		**Pn**	**21 37 11.6**	**-0.4**
KOMM	**Orleans Mounta**	**1.88**	**349**		**Pn**	**21 37 12.2**	**-0.9**
M02C	**Callahan**	**1.96**	**2**	P	**Pn**	**21 37 13.6**	**-0.6**
	baz=183,SNR=40						
M02C				Sb	**Sg**	**21 37 42.3**	**-1.6**
	baz=183						
WENL	**Wente Vineyard**	**2.04**	**152**		**Pn**	**21 37 14.5**	**-0.7**
BEKR	**Beckworth**	**2.06**	**77**	Pn	**Pn**	**21 37 15.7**	**+0.1**
BEKR				IAML		21 37 47.7	
	comp=N,399nm,0.8s						
BEKR				IAML		21 37 47.8	
	comp=E,468nm,0.8s						
KRMB	**Red Mountain**	**2.21**	**341**	Pn	**Pn**	**21 37 16.2**	**-1.5**
KRMB				IAML		21 38 09.5	
	comp=E,269nm,1.5s						
LHEM	**Herd Peak**	**2.27**	**14**		**Pn**	**21 37 19.3**	**+0.7**
COSM	**Mount Oso**	**2.29**	**147**		**Pn**	**21 37 16.9**	**-1.8**
YBH	**Yreka Blue Hor**	**2.31**	**5**	Pn	**Pn**	**21 37 19.1**	**+0.2**
	comp=E,9.9nm,0.3s,baz=180,slow=10,SNR=32						
YBH				Lg	Lg	21 37 52.1	
	comp=E,3.3nm,0.3s,baz=26,slow=16,SNR=8.3						
YBH	**Yreka Blue Hor**	**2.31**	**5**	Pn	**Pn**	**21 37 19.0**	**0.0**
YBH				IAML		21 38 02.2	
	comp=E,233nm,1.0s						
MHC	**Mount Hamilton**	**2.33**	**153**		**Pn**	**21 37 20.1**	**+0.8**
CMPM	**Mikes Peak**	**2.44**	**148**		**Pn**	**21 37 20.9**	**+0.1**
CMB	**Columbia Colle**	**2.45**	**124**	Pn	**Pn**	**21 37 20.8**	**-0.1**
M04C	**Macdoel**	**2.50**	**20**	Pb	**Pb**	**21 37 24.4**	**-1.5**
	baz=201,SNR=70						
M04C				Sg	**Sg**	**21 38 01.7**	**+0.5**
	baz=201						
GHS	**Gilroy Hot Spr**	**2.62**	**152**		**Pn**	**21 37 22.0**	**-1.2**
L02E	**Cave Junction**	**2.77**	**350**	Pb	**Pb**	**21 37 29.9**	**-0.5**
	baz=170,SNR=13						
PAHR	**Pah Rah Range**	**2.78**	**83**	Pn	**Pn**	**21 37 26.0**	**+0.5**
PAHR				IAML		21 38 19.1	
	comp=E,173nm,1.3s						
PAHR				IAML		21 38 28.3	
	comp=N,171nm,1.7s						
L04D	**Klamath Falls**	**2.83**	**10**	Pb	**Pb**	**21 37 30.7**	**-0.8**
	baz=191,SNR=20						
L04D				Sg	**Sg**	**21 38 12.3**	**+0.6**
	baz=191						
SAO	**San Andreas Ge**	**2.92**	**155**	Pn	**Pn**	**21 37 26.7**	**-0.5**
YERR	**Yerington**	**2.92**	**98**	Pn	**Pn**	**21 37 28.8**	**+1.2**
MOD	**Modoc Plateau**	**3.19**	**38**	Pn	**Pn**	**21 37 31.7**	**+0.5**
MOD				IAML		21 38 50.1	
	comp=N,110nm,1.4s						
K02D	**Willamette Mer**	**3.31**	**351**	Pb	**Pb**	**21 37 39.8**	**+0.2**
	baz=171						
K02D				Sg	**Sg**	**21 38 29.9**	**+2.9**
	baz=171						
MDPB	**Devils Postpil**	**3.53**	**119**	Pn	**Pn**	**21 37 37.6**	**+1.6**
MDPB				IAML		21 38 36.3	
	comp=E,130nm,0.9s						
MDPB				IAML		21 38 40.6	
	comp=N,140nm,0.8s						
RYN	**Ryan**	**3.55**	**102**	Pn	**Pn**	**21 37 37.4**	**+1.3**
RYN				IAML		21 38 36.9	
	comp=N,93nm,1.9s						
RYN				IAML		21 38 39.6	
	comp=E,121nm,1.2s						
PMPB	**Monarch Peak**	**3.64**	**151**	Pn	**Pn**	**21 37 38.1**	**+0.9**
PMPB				IAML		21 39 06.9	
	comp=E,82nm,2.1s						
PMPB				IAML		21 39 45.7	
	comp=N,121nm,1.4s						
LHV	**Little Huntoon**	**3.67**	**107**	Pn	**Pn**	**21 37 39.4**	**+1.8**
DBO	**Dodson Butte**	**3.69**	**357**	Pn	**Pn**	**21 37 39.0**	**+1.0**
DBO				IAML		21 38 45.9	
	comp=N,80nm,2.2s						
DBO				IAML		21 38 52.1	
	comp=E,136nm,1.6s						
MLAC	**Mammoth, Mammo**	**3.70**	**118**	Sg	**Sg**	**21 38 37.8**	**-1.9**
	baz=300						
NVAR	**Mina Array Bea**	**3.77**	**104**	Pn	**Pn**	**21 37 40.5**	**+1.3**
	comp=E,2.5nm,0.3s,baz=274,slow=15,SNR=77						
NVAR				Lg	Lg	21 38 41.0	
	comp=E,3.9nm,0.3s,baz=283,slow=28,SNR=7.7						
NVAR	**Mina Array Bea**	**3.77**	**104**	Pn	**Pn**	**21 37 40.6**	**+1.4**
KVN	**Kaiserville**	**3.79**	**94**	Pn	**Pn**	**21 37 40.9**	**+1.4**
KVN				IAML		21 39 00.9	
	comp=N,72nm,1.3s						
J01E	**Myrtle Point**	**3.80**	**349**	Sg	**Sg**	**21 38 49.4**	**+6.6**
	baz=169						
J04D	**Umpqua Nationa**	**3.86**	**9**	Sg	**Sg**	**21 38 50.0**	**+5.2**
	baz=190						
NV11	**Mina Array Sit**	**3.88**	**103**	Pn	**Pn**	**21 37 41.6**	**+1.0**
NV11				IAML		21 38 49.1	
	comp=E,102nm,1.9s						
PAGB	**Antelope Grade**	**4.28**	**149**	Pn	**Pn**	**21 37 45.1**	**-0.9**
TIN	**Tinemaha, Big**	**4.42**	**121**	Sg	**Sg**	**21 39 02.1**	**-0.5**
	baz=304						
PINE	**Pine Mountain**	**4.61**	**19**	Pn	**Pn**	**21 37 52.5**	**+1.7**
PINE				IAML		21 39 30.3	
	comp=N,36nm,1.2s						
PINE				IAML		21 40 04.2	
	comp=E,34nm,2.4s						
LCH	**Last Change Ra**	**4.72**	**116**	Pn	**Pn**	**21 37 54.1**	**+1.9**
ISA	**Isabella, Lake**	**5.18**	**135**	Pn	**Pn**	**21 37 59.2**	**+0.8**
ISA				IAML		21 39 22.5	
	comp=E,36nm,1.5s						
R11A	**Troy Canyon, C**	**5.86**	**98**	Pn	**Pn**	**21 38 09.8**	**+2.0**
ELK	**Elko**	**6.07**	**75**	Pn	**Pn**	**21 38 14.5**	**+3.8**
	comp=E,0.1nm,0.3s,baz=270,slow=12,SNR=4.0						
ELK				Lg	Lg	21 39 50.8	
	comp=E,0.2nm,0.3s,baz=93,slow=15,SNR=4.1						
PRN	**Pahroc Range**	**6.53**	**106**	Pn	**Pn**	**21 38 18.4**	**+1.4**
PSUT	**Pine Spring**	**7.15**	**94**	Pn	**Pn**	**21 38 26.4**	**+0.7**
HAWA	**Hanford**	**7.40**	**19**	Pn	**Pn**	**21 38 31.2**	**+2.4**
PFO	**Pinyon Flats O**	**7.82**	**136**	Pn	**Pn**	**21 38 34.8**	**+0.1**
	comp=E,0.1nm,0.3s,baz=331,slow=13,SNR=1.1						
PFO				Lg	Lg	21 40 42.5	
	comp=E,0.1nm,0.3s,baz=275,slow=10,SNR=3.6						
DUG	**Dugway, Tooele**	**7.85**	**81**	Pn	**Pn**	**21 38 36.6**	**+1.4**
MCMT	**McKenzie Canyo**	**9.24**	**51**	Pn	**Pn**	**21 38 57.5**	**+3.1**
PDAR	**Pinedale Array**	**10.65**	**67**	Pn	**Pn**	**21 39 17.1**	**+3.5**
	comp=E,0.1nm,0.3s,baz=273,slow=15,SNR=1.5						
TXAR	**Lajitas Array**	**18.81**	**117**	P	**Pn**	**21 41 02.6**	**+1.5**
	comp=E,0.0nm,0.3s,baz=298,slow=10,SNR=3.8						

MEX 28 21:44:21.4±0.4, 15°55N×94°09W, h63km±30km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.85**	**80**	*e*P	Pn	21 44 36.2	-1.5
PCIG				*e*S	Sn	21 44 47.9	-1.8
TGIG		**1.54**	**37**	*e*P	Pn	21 44 42.6	-4.1
TGIG				*e*S	Sn	21 44 58.2	-7.6
CMIG	**Matias Romero**	**1.71**	**334**	*e*P	Pn	21 44 47.7	-1.3
CMIG				*e*S	Sn	21 45 07.8	-2.1
CCIG	**Comitan**	**2.02**	**69**	*e*P	Pn	21 44 51.5	-1.8
CCIG				*e*S	Sn	21 45 14.8	-2.7

*ARE **28** 21:48:52±1.6, 15°99S±0°08×74°6W±0°1, h36km±6km, Error ellipse: s-maj=17.0km s-min=10.8km az=79.0*
*NEIC **28** 21:48:57.1±2.1, 16°00S±0°05×74°45W±0°09, h32km±4km, mb4.2/10, ML4.0(ARE), Error ellipse: s-maj=12.8km s-min=6.8km az=89.0*
*VAO **28** 21:48:57.0±0.4, 15°98S×74°49W, h44km, mb4.4*
*IDC **28** 21:48:59.0±2.5, 15°99S×74°07W, h54km±21km, mb3.6/5, mb1 3.9/8, mb1mx3.6/37, mbtmp4.0/8, ML4.0/3, MS3.2/10, Ms1 3.2/10, ms1mx3.1/23, Error ellipse: s-maj=35.4km s-min=15.0km az=41.0*

ISC 28 21:48:57.9±0.6, 16°07S±0°07×74°39W±0°08, h49km, n108, σ1$40/95, mb4.2/6, MS3.1/6, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**4.49**	**121**	Pn	**Pn**	**21 50 05.3**	**+1.9**
NNA	**Nana**	**4.71**	**329**	P	**Pn**	**21 50 07.0**	**+0.5**
	12nm,0.3s,baz=133,slow=13,SNR=12						
NNA				S	**Sn**	**21 51 04.5**	**+4.6**
	41nm,0.3s,baz=226,slow=21,SNR=7.5						
NNA				LR	LR	21 52 24.4	
	comp=Z,102nm,19.5s,baz=149,slow=43						
NNA	**Nana**	**4.71**	**329**		**Pn**	**21 50 05.6**	**-0.9**
PSGCX	**Pisagua**	**5.37**	**131**		**Pn**	**21 50 15.8**	**+0.2**
PB11	**IPOC Station P**	**5.81**	**130**		**Pn**	**21 50 22.3**	**+0.6**
TA02	**Huaiquique**	**5.81**	**137**	Pn	**Pn**	**21 50 23.5**	**+1.9**
TA01	**Diego Aracena**	**6.00**	**139**	Pn	**Pn**	**21 50 24.3**	**+0.2**
LPAZ	**La Paz**	**6.01**	**93**	P	**Pn**	**21 50 29.5**	**+4.6**
	5.1nm,0.3s,baz=274,slow=9.2,SNR=95						
LPAZ				LR	LR	21 53 02.2	
	comp=Z,267nm,18.5s,baz=250,slow=42						
LPAZ	**La Paz**	**6.01**	**93**	Pn	**Pn**	**21 50 29.2**	**+4.2**
LPAZ	**La Paz**	**6.01**	**93**	*e*P	**Pn**	**21 50 26.3**	**+1.3**
PB08	**IPOC Station P**	**6.41**	**130**	Pn	**Pn**	**21 50 31.5**	**+1.3**
PB01	**IPOC Station P**	**6.79**	**138**		**Pn**	**21 50 35.9**	**+0.9**
PB07	**IPOC Station P**	**7.06**	**144**	Pn	**Pn**	**21 50 38.9**	**+0.1**
PB04	**IPOC Station P**	**7.41**	**148**	Pn	**Pn**	**21 50 43.8**	**+0.2**
PB09	**IPOC Station P**	**7.49**	**140**	Pn	**Pn**	**21 50 46.2**	**+1.4**
PB06	**IPOC Station P**	**8.01**	**146**	Pn	**Pn**	**21 50 52.1**	**+0.2**
PB10	**IPOC Station P**	**8.24**	**155**	Pn	**Pn**	**21 50 55.4**	**+0.5**
LVC	**Limon Verde**	**8.31**	**142**	P	**Pn**	**21 50 57.0**	**+0.8**
	2.0nm,0.3s,baz=314,slow=18,SNR=13						
LVC				S	**Sn**	**21 52 26.4**	**-2.4**
	0.9nm,0.3s,baz=98,slow=19,SNR=2.2						
LVC	**Limon Verde**	**8.31**	**142**	Pn	**Pn**	**21 50 57.2**	**+1.0**
LVC	**Limon Verde**	**8.31**	**142**	*e*P	**Pn**	**21 50 56.5**	**+0.4**
CZSB	**Cruzeiro do Su**	**8.45**	**11**	*e*P	**Pn**	**21 50 56.3**	**-1.5**
PB15	**IPOC Station P**	**8.48**	**148**	Pn	**Pn**	**21 50 58.7**	**+0.4**
PB14	**IPOC Station P**	**9.29**	**157**	Pn	**Pn**	**21 51 08.5**	**-1.1**
ETMB	**Extrema**	**10.10**	**53**	*e*P	**Pn**	**21 51 19.7**	**-0.7**
TBTG	**Tabatinga, AM**	**12.60**	**21**	*e*P	**Pn**	**21 51 54.0**	**-0.6**
SIV	**San Ignacio**	**12.80**	**91**	P	**Pn**	**21 51 54.9**	**-2.4**
	0.9nm,0.3s,baz=278,slow=12,SNR=7.3						
SIV				LR	LR	21 57 37.5	
	comp=Z,118nm,20.7s,baz=294,slow=42						
SAML	**Samuel**	**13.02**	**58**	Pn	**Pn**	**21 52 01.1**	**+0.7**
SAML	**Samuel**	**13.02**	**58**	*e*P	**Pn**	**21 52 01.1**	**+0.7**
VILB	**Vilhena**	**14.08**	**79**	*e*P	**Pn**	**21 52 15.7**	**+0.9**
PTLB	**Pontes e Lacer**	**14.69**	**90**	*e*P	**Pn**	**21 52 23.9**	**+1.1**
OTAV	**Otavalo**	**16.69**	**346**	*e*P	**Pn**	**21 52 46.8**	**-2.2**
H03N1	**Juan Fernandez**	**17.77**	**192**	T	T	22 11 40.0	
	baz=14,slow=74,SNR=2301						
H03N2	**Juan Fernandez**	**17.78**	**193**	T	T	22 11 36.6	
	baz=14,slow=74,SNR=1474						
H03N3	**Juan Fernandez**	**17.79**	**193**	T	T	22 11 38.9	
	baz=14,slow=74,SNR=1105						
SALV	**Santo Antonio**	**17.97**	**92**	*e*P	**Pn**	**21 53 05.6**	**+1.2**
MACA	**Manacapuru-AM**	**18.61**	**48**	*e*P	**P**	**21 53 11.1**	**-0.3**
PP1B	**Ponte de Pedra**	**18.73**	**97**	*e*P	**P**	**21 53 13.1**	**+0.3**
CLDB	**Colider**	**18.80**	**76**	*e*P	**P**	**21 53 13.6**	**+0.1**
CPUP	**Villa Florida**	**18.88**	**126**	LR	LR	22 01 53.6	
	comp=Z,75nm,18.6s,baz=290,slow=42						
CPUP	**Villa Florida**	**18.88**	**126**	*e*P	**P**	**21 53 15.3**	**+1.0**
NPGB	**Novo Progresso**	**20.67**	**66**	*e*P	**P**	**21 53 32.2**	**-1.7**
ROSC	**El Rosal**	**20.78**	**0**	LR	LR	22 03 49.8	
	comp=Z,118nm,20.4s,baz=206,slow=43						
PTGA	**Pitinga**	**20.85**	**44**	P	**P**	**21 53 32.9**	**-2.9**
	3.1nm,0.6s,baz=217,slow=12,SNR=7.3						
PTGA				LR	LR	22 02 48.5	
	comp=Z,39nm,18.1s,baz=230,slow=40						
PTGA	**Pitinga**	**20.85**	**44**	P	**P**	**21 53 32.8**	**-2.9**
PTGA				IAmb	IAmb	21 53 39.8	
	comp=Z,5.0nm,0.7s						
ITQB	**Itaqui**	**21.20**	**133**	*e*P	**P**	**21 53 40.5**	**+1.0**
TRCB	**Terra Rica**	**21.56**	**111**	*e*P	**P**	**21 53 44.4**	**+0.9**
ITTB	**Itaituba**	**21.70**	**60**	*e*P	**P**	**21 53 43.3**	**-1.7**
PCMB	**Pacaembu**	**22.56**	**108**	*e*P	**P**	**21 53 54.9**	**+0.7**
PTGB	**Pitanga**	**22.60**	**116**	*e*P	**P**	**21 53 56.1**	**+1.5**
SNDB	**Serra Nova Dou**	**22.76**	**83**	*e*P	**P**	**21 53 54.6**	**-1.7**
BOAV	**Boa Vista**	**22.90**	**38**	*e*P	**P**	**21 53 56.0**	**-1.7**
ITRB	**Iturama**	**23.14**	**103**	*e*P	**P**	**21 54 00.1**	**-0.1**
CPSB	**Cacapava Do Su**	**23.90**	**130**	*e*P	**P**	**21 54 07.2**	**0.0**
MALB	**Monte Alegre**	**24.34**	**57**	*e*P	**P**	**21 54 10.6**	**-0.8**
FRTB	**Fartura**	**24.44**	**111**	*e*P	**P**	**21 54 13.6**	**+1.3**
TRQA	**Tornquist**	**24.48**	**156**	*e*P	**P**	**21 54 12.8**	**+0.3**
PLTB	**Pedras Altas**	**24.53**	**133**	*e*P	**P**	**21 54 14.5**	**+1.6**
PLCA	**Paso Flores**	**24.80**	**173**	*e*P	**P**	**21 54 15.1**	**-0.3**
SDV	**Santo Domingo**	**25.07**	**9**	LR	LR	22 06 02.7	
	comp=Z,33nm,18.9s,baz=231,slow=41						
SDV	**Santo Domingo**	**25.07**	**9**	*e*P	**P**	**21 54 16.8**	**-1.4**
IPMB	**Ipameri, GO**	**25.09**	**98**	*e*P	**P**	**21 54 19.1**	**+0.8**
CNLB	**Canela**	**25.34**	**125**	*e*P	**P**	**21 54 21.0**	**+0.6**
BDFB	**Brasilia**	**25.37**	**93**	P	**P**	**21 54 17.1**	**-3.7**
	comp=Z,3.7nm,0.6s,baz=214,slow=27,SNR=2.2						
BDFB	**Brasilia**	**25.37**	**93**	P	**P**	**21 54 21.9**	**+1.1**
BDFB				IAmb	IAmb	21 54 22.2	
	comp=Z,6.0nm,0.9s						
PEXB	**Peixe**	**25.60**	**85**	*e*P	**P**	**21 54 22.9**	**+0.1**
PRPB	**Parauapebas**	**26.01**	**71**	*e*P	**P**	**21 54 27.3**	**+0.7**
RCLB	**Rio Claro- Sao**	**26.11**	**108**	*e*P	**P**	**21 54 28.2**	**+0.8**
TER01	**Tubarao-SC**	**26.39**	**122**	*e*P	**P**	**21 54 31.0**	**+1.1**
VAO	**Valinhos**	**26.72**	**109**	*e*P	**P**	**21 54 33.8**	**+0.8**
MCPB	**Macapa, AP**	**27.00**	**57**	*e*P	**P**	**21 54 35.9**	**+0.5**
SMTB	**Santa Maria do**	**27.11**	**78**	*e*P	**P**	**21 54 36.5**	**0.0**
JTS	**Las Juntas de**	**28.20**	**338**	LR	LR	22 05 07.3	
	comp=Z,45nm,20.2s,baz=268,slow=34						
JANB	**Januaria**	**28.98**	**92**	*e*P	**P**	**21 54 53.4**	**+0.2**
MC01	**Montes Claros**	**29.20**	**96**	*e*P	**P**	**21 54 55.8**	**+0.6**
DIAM	**Diamantina, MG**	**29.41**	**99**	*e*P	**P**	**21 54 57.7**	**+0.5**
VAS01	**Vassouras-RJ**	**29.84**	**107**	*e*P	**P**	**21 55 01.1**	**+0.4**
MDP	**Montagnes des**	**30.09**	**47**	LR	LR	22 07 47.8	
	comp=Z,104nm,19.0s,baz=229,slow=38						
CAM01	**Campos-RJ**	**31.44**	**106**	*e*P	**P**	**21 55 15.6**	**+0.7**
BSFB	**Barra de Sao F**	**32.09**	**100**	*e*P	**P**	**21 55 21.1**	**+0.5**
ALF01	**Guarapari-ES**	**32.23**	**103**	*e*P	**P**	**21 55 22.8**	**+0.9**
RIB01	**Linhares ES**	**32.51**	**101**	*e*P	**P**	**21 55 25.1**	**+0.8**
NBPN	**Ponto Novo - B**	**33.62**	**85**	*e*P	**P**	**21 55 33.8**	**-0.3**
NBIT	**Itapeh - BA**	**33.68**	**93**	*e*P	**P**	**21 55 35.4**	**+0.9**
NBMO	**Morrinhos-CE**	**36.07**	**73**	*e*P	**P**	**21 55 55.5**	**+0.3**
NBRF	**Rio Formoso -**	**38.99**	**84**	*e*P	**P**	**21 56 19.2**	**-0.7**
W50A	**Signal Mountai**	**52.03**	**349**	P	**P**	**21 58 03.7**	**+1.1**
TXAR	**Lajitas Array**	**53.26**	**328**	P	**P**	**21 58 13.6**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=148,slow=8.6,SNR=2.7						
TXAR	**Lajitas Array**	**53.26**	**328**	P	**P**	**21 58 12.6**	**+0.6**
LCAR	**Lake Charles**	**54.23**	**343**	P	**P**	**21 58 16.7**	**-2.0**
PDAR	**Pinedale Array**	**66.88**	**333**	LR	LR	22 32 19.3	
	comp=Z,17nm,18.2s,baz=138,slow=39						
SNAA	**Sanae**	**69.07**	**161**	P	**P**	**21 59 60.0**	**+1.6**
SNAA				IAmb	IAmb	22 00 00.7	
	comp=Z,2.3nm,0.7s						
KOWA	**Kowa**	**75.85**	**70**	P	**P**	**22 00 39.4**	**-0.3**
KOWA				IAmb	IAmb	22 00 40.0	
	comp=Z,3.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**80.61**	**73**	P	**P**	**22 01 05.6**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=264,slow=6.1,SNR=17						
TORD	**Torodi Ar. Bea**	**80.61**	**73**	P	**P**	**22 01 05.4**	**-0.6**
TORD				IAmb	IAmb	22 01 06.5	
	comp=Z,2.8nm,0.9s						
ESDC	**Sonseca Array**	**85.77**	**47**	P	**P**	**22 01 32.0**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=250,slow=3.8,SNR=3.0						
ESDC	**Sonseca Array**	**85.77**	**47**	P	**P**	**22 01 32.3**	**+0.1**
H11N3	**WAKE ISLAND Hyl**	**21.82**	**283**	T	T	00 21 09.2	
	baz=94,slow=74						
H11N2	**WAKE ISLAND Hyl**	**21.

FITZ	**Fitzroy Crossi**	**52.83**	**264**	P		**P**	**22 54 29.3 +0.2**
	0.4nm,0.3s,baz=102,slow=9.3,SNR=1.2						
TXAR	**Lajitas Array**	**88.02**	**57**	P		**P**	**22 58 01.3 +1.7**
	0.5nm,0.9s,baz=209,slow=7.0,SNR=4.0						
ILAR	**Eielson Array**	**90.10**	**13**	P		**P**	**22 58 06.4 -2.0**
	1.1nm,1.1s,baz=215,slow=6.0,SNR=1.7						

IDC 28 22:46:59.7±1.9, 5°22S×151°61E, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.7/41, mbtmp3.9/5, Error ellipse: s-maj=87.0km s-min=24.7km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**6.07**	**226**	Sn		Sn	22 49 36.6	-4.3
	3.0nm,0.3s,baz=341,slow=24,SNR=3.9							
WRA	**Warramunga Arr**	**22.29**	**227**	P		P	22 51 59.9	+1.1
	2.3nm,0.7s,baz=53,slow=9.9,SNR=18							
ASAR	**Alice Springs**	**25.05**	**221**	P		P	22 52 25.4	-0.5
	1.8nm,0.8s,baz=53,slow=9.4,SNR=20							
FITZ	**Fitzroy Crossi**	**28.42**	**241**	P		P	22 52 55.4	-0.8
	2.1nm,0.4s,baz=39,slow=7.3,SNR=16							
ZALV	**Zalesovo Beam**	**80.84**	**327**	P		P	22 59 15.2	-0.2
	0.4nm,0.5s,baz=116,slow=3.4,SNR=1.9							
ILAR	**Eielson Array**	**82.99**	**22**	P		P	22 59 26.4	-0.1
	0.5nm,0.6s,baz=252,slow=5.0,SNR=5.1							
TORD	**Torodi Ar. Bea**	**149.30**	**287**	PKPbc		PKPbc	23 06 51.8	+0.2
	1.8nm,0.6s,baz=77,slow=3.1,SNR=10							

IDC 28 22:48:22.3±5.2, 5°59S×11°94W, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.6/41, mbtmp3.9/5, ML2.9/1, MS3.3/5, Ms1 3.3/5, ms1mx2.9/35, Error ellipse: s-maj=198.8km s-min=81.5km az=128.0, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**3.38**	**229**	T		T	22 52 55.9	
	baz=54,slow=75,SNR=767							
H10N1	**ASCENSION HYDR**	**3.38**	**228**	T		T	22 52 54.6	
	baz=54,slow=75,SNR=882							
H10N3	**ASCENSION HYDP**	**3.39**	**229**	T		T	22 52 55.6	
	baz=54,slow=75,SNR=898							
DBIC	**Dimbokro**	**14.08**	**30**	Pn		Pn	22 51 43.0	-0.2
	0.1nm,0.3s,baz=172,slow=14,SNR=3.5							
DBIC				LR		LR	22 56 02.4	
	comp=Z,70nm,18.9s,baz=180,slow=33							
KOWA	**Kowa**	**21.44**	**21**	P		P	22 53 12.3	0.0
	3.8nm,0.9s,baz=179,slow=6.7,SNR=7.0							
KOWA				LR		LR	23 00 31.2	
	comp=Z,65nm,20.3s,baz=4.5,slow=34							
TORD	**Torodi Ar. Bea**	**23.02**	**36**	P		P	22 53 29.3	+0.2
	1.8nm,0.5s,baz=215,slow=11,SNR=29							
LPAZ	**La Paz**	**56.03**	**254**	LR		LR	23 21 03.2	
	comp=Z,23nm,18.1s,baz=103,slow=35							
GERES	**GERESS Array B**	**58.66**	**20**	P		P	22 58 21.5	0.0
	0.6nm,0.6s,baz=192,slow=8.0,SNR=3.1							
GERES				LR		LR	23 26 26.5	
	comp=Z,26nm,18.0s,baz=92,slow=39							
ROSC	**El Rosal**	**63.15**	**278**	LR		LR	23 25 27.7	
	comp=Z,40nm,19.4s,baz=174,slow=35							
AKASG	**Malin Array Be**	**66.30**	**27**	P		P	22 59 12.4	-0.1
	1.5nm,0.7s,baz=227,slow=6.1,SNR=6.8							

*IDC **28** 23:19:18.5±5.6, 21°.49N×143°.17E, h295km±56km, mb3.3/10, mb1 3.5/11, mb1mx3.2/40, mbtmp3.9/11, Error ellipse: s-maj=29.0km s-min=14.1km az=89.0*

ISC 28 23:19:19.8±0.8, 21°.4N±0°.1×143°.1E±0°.2, h311km, n13, σ0s65/13, mb3.5/10, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**15.64**	**345**	P		**P**	**23 22 43.8**	**+0.5**
	0.0nm,0.3s,baz=149,slow=12,SNR=4.7							
KLR	**Kul'dur**	**29.17**	**345**	P		**P**	**23 24 52.9**	**-0.1**
	1.2nm,0.5s,baz=125,slow=8.6,SNR=4.3							
WRA	**Warramunga Arr**	**42.02**	**192**	P		**P**	**23 26 42.2**	**+0.5**
	1.4nm,0.6s,baz=13,slow=8.6,SNR=13							
ASAR	**Alice Springs**	**45.73**	**192**	P		**P**	**23 27 10.3**	**-0.7**
	0.2nm,0.3s,baz=9.8,slow=12,SNR=1.9							
ZALV	**Zalesovo Beam**	**54.38**	**322**	P		**P**	**23 28 14.9**	**-0.1**
	0.6nm,0.6s,baz=123,slow=11,SNR=3.7							
MKAR	**Makanchi Array**	**54.84**	**313**	P		**P**	**23 28 18.9**	**+0.4**
	0.6nm,0.5s,baz=80,slow=8.8,SNR=6.3							
ILAR	**Eielson Array**	**62.28**	**27**	P		**P**	**23 29 08.1**	**-1.1**
	0.9nm,0.6s,baz=256,slow=5.3,SNR=9.6							
YKA	**Yellowknife Ar**	**76.70**	**28**	P		**P**	**23 30 37.1**	**+0.4**
	1.8nm,0.6s,baz=291,slow=5.0,SNR=3.7							
ARCES	**ARCESS Array B**	**79.15**	**342**	P		**P**	**23 30 50.6**	**+0.6**
	3.1nm,0.9s,baz=74,slow=8.9,SNR=7.5							
NVAR	**Mina Array Bea**	**83.33**	**51**	P		**P**	**23 31 13.4**	**+0.6**
	0.6nm,0.7s,baz=274,slow=5.5,SNR=6.4							
FINES	**FINESS Array B**	**83.39**	**334**	P		**P**	**23 31 11.2**	**-1.1**
	0.9nm,0.5s,baz=94,slow=6.1,SNR=6.4							
PLCA	**Paso Flores**	**145.62**	**132**	PKPbc		**PKPbc**	**23 38 22.6**	**+0.2**
	1.4nm,0.5s,baz=237,slow=5.2,SNR=5.3							
LPAZ	**La Paz**	**150.00**	**86**	PKPbc		**PKiKP**	**23 38 36.0**	**0.0**
	1.4nm,0.5s,baz=16,slow=4.7,SNR=7.8							

DJA 28 23:19:45.8±1.0, 3°N±12°×99°E±°, h10km, M2.7/4, MLv2.7/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**0.42**	**121**	P		Pb	23 19 55.9	+0.4
PSI				P		Pb	23 19 55.9	+0.4
PSI				S		Sb	23 20 03.2	+1.2
PSI				S		Sg	23 20 03.5	+3.7
TPTI		**1.40**	**280**	P		Pn	23 20 10.9	-0.5
GSI	**Gunungsitoli**	**1.97**	**210**	P		Pn	23 20 19.1	-0.1

*IDC **29** 00:03:28.1±0.7, 41°.97N×119°.57W, h0km, mb1 3.4/6, mb1mx3.3/51, mbtmp3.0/6, ML3.4/6, Error ellipse: s-maj=10.0km s-min=5.8km az=7.0*

*ANF **29** 00:03:29.9±0.4, 41°.84N×119°.69W, h0km, ML3.8/19, Error ellipse: s-maj=3.2km s-min=2.2km az=99.0*

*NEIC **29** 00:03:30.9±3.0, 41°.88N±0°.04×119°.61W±0°.06, h10km±7km, Error ellipse: s-maj=6.4km s-min=5.3km az=68.0*

*NEIC **29** 00:03:30.4, 41°.85N×119°.64W, h10km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=2.93; $M_{\theta\theta}$=0.61; $M_{\phi\phi}$=3.54; $M_{r\theta}$=-0.45; $M_{r\phi}$=0.72; $M_{\theta\phi}$=2.87; Fault plane solution: M_0=4.44000×10^{14} NP1:ϕ_0=26.58000°, δ=27.01000°, λ=-62.14000°. NP2:ϕ_0=175.91000°, δ=66.32000°, λ=-103.40000°. Principal axes: T 4.6806, Plg=20.0000°, Azm=276.0000°; N -0.5265, Plg=12.0000°, Azm=181.0000°; P -4.1541, Plg=66.0000°, Azm=62.0000°;*

*REN **29** 00:03:30.4±2.7, 41°.85N±0°.03×119°.64W±0°.06, h12km±4km, ML4.2/5, ML3.4/91(NEIC), Mwr3.7/81(NEIC) Error ellipse: s-maj=6.5km s-min=4.1km az=73.0*

ISC 29 00:03:29.8±1.3, 41°.86N±0°.02×119°.61W±0°.02, h2km±11km, n71, σ1s16/90, Nevada

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MOD	**Modoc Plateau**	**0.52**	**275**	Pg		**Pg**	**00 03 40.6**	**+0.9**
MOD				Sg		**Sg**	**00 03 47.5**	**+1.1**
WVOR	**Wild Horse Val**	**0.92**	**52**			**Pb**	**00 03 48.6**	**0.0**
WVOR						**Sb**	**00 04 01.2**	**-0.1**
K05A	**Summer Lake**	**1.28**	**313**			**Pg**	**00 03 55.0**	**+0.6**
K05A						**Sb**	**00 04 11.7**	**-0.1**
M04C	**Macdoel**	**1.67**	**268**	P		**Pn**	**00 03 59.7**	**-0.4**
	baz=87,SNR=45							
M04C				S		**Sb**	**00 04 22.1**	**-0.7**
	baz=87							
J08A	**Circle Bar Ran**	**1.71**	**29**	Pn		**Pn**	**00 04 00.4**	**-0.3**
K04D	**Chiloquin, OR**	**1.76**	**296**	P		**Pn**	**00 04 01.0**	**-0.4**
	baz=116,SNR=20							
K04D				Sg		**Sg**	**00 04 26.9**	**+0.5**
	baz=116							
J05D	**Fort Rock, OR**	**1.86**	**320**	Pb		**Pb**	**00 04 04.5**	**0.0**
	baz=140,SNR=202							
J05D				Sb		**Sg**	**00 04 29.8**	**+0.3**
	baz=140							
L04D	**Klamath Falls**	**2.04**	**281**	P		**Pn**	**00 04 04.4**	**-0.8**
	baz=100,SNR=16							
L04D				Sb		**Sb**	**00 04 33.8**	**+0.4**
	baz=100							
BEKR	**Beckworth**	**2.07**	**196**	Pg		**Pb**	**00 04 07.8**	**-0.4**
BEKR				IAML			00 04 42.4	
	comp=E,209nm,0.8s							
PINE	**Pine Mountain**	**2.16**	**334**	Pg		**Pb**	**00 04 09.9**	**+0.2**
PAHR	**Pah Rah Range**	**2.16**	**175**	Pg		**Pb**	**00 04 10.3**	**+0.6**
I07A	**Izee**	**2.22**	**2**	Pn		**Pn**	**00 04 08.0**	**+0.3**
I07A				IAML			00 04 42.1	
	comp=N,267nm,0.5s							
I07A				IAML			00 04 42.3	
	comp=E,206nm,0.4s							
LCMM	**Colby Mountain**	**2.24**	**221**			**Sn**	**00 04 36.1**	**-0.3**
O03E	**Paynes Creek**	**2.28**	**227**	Pb		**Pb**	**00 04 11.0**	**-0.6**
	baz=46,SNR=9.4							
O03E				Sb		**Sb**	**00 04 40.7**	**+0.4**
	baz=46							
J04D	**Umpqua Nationa**	**2.30**	**308**	Pb		**Pb**	**00 04 11.8**	**-0.3**
	baz=126,SNR=35							
BMN	**Battle Mountai**	**2.30**	**128**	Pg		**Pg**	**00 04 15.2**	**+1.3**
BMN				IAML			00 04 45.8	
	comp=N,214nm,1.0s							
BMN				IAML			00 04 47.0	
	comp=E,170nm,0.8s							
YBH	**Yreka Blue Hor**	**2.32**	**268**	Pn		**Pn**	**00 04 08.2**	**-0.8**
	comp=E,9.9nm,0.3s,baz=81,slow=12,SNR=17							
YBH				Lg		Lg	00 04 42.9	
	comp=E,26nm,0.3s,baz=96,slow=19,SNR=8.3							
YBH	**Yreka Blue Hor**	**2.32**	**268**	Pn		**Pn**	**00 04 07.8**	**-1.3**
M02C	**Callahan**	**2.48**	**260**	P		**Pn**	**00 04 10.2**	**-1.0**
	baz=78,SNR=11							
M02C				Sb		**Sb**	**00 04 47.3**	**+1.4**
	baz=78							
N02D	**Trinity Center**	**2.49**	**250**	Pb		**Pb**	**00 04 14.3**	**-0.9**
	baz=68							
N02D				Sb		**Sb**	**00 04 47.7**	**+1.3**
	baz=68							
WDC	**Whiskeytown Da**	**2.55**	**241**	Pn		**Pn**	**00 04 11.2**	**-0.9**
WDC				IAML			00 04 49.4	
	comp=N,164nm,0.6s							
HUMO	**Hull Mountain**	**2.59**	**288**	Pn		**Pn**	**00 04 11.4**	**-1.3**
HUMO				IAML			00 04 52.5	
	comp=E,178nm,0.6s							
HUMO				IAML			00 04 52.5	
	comp=N,230nm,0.6s							
ORV	**Oroville**	**2.72**	**212**	Pg		**Pg**	**00 04 21.7**	**-0.1**
I05D	**Terrebonne, OR**	**2.78**	**334**	Pb		**Pb**	**00 04 20.3**	**+0.2**
	baz=153,SNR=8.1							
I05D				Sb		**Sg**	**00 04 57.4**	**-1.6**
	baz=153							
I04A	**Tendick Farm,**	**2.82**	**314**	Pb		**Pb**	**00 04 20.7**	**-0.2**
	baz=133,SNR=52							
I04A				Sb		**Sg**	**00 04 58.3**	**-2.1**
	baz=133							
EMB	**Emerald Bay**	**2.91**	**188**	Pn		**Pn**	**00 04 16.1**	**-1.2**
O02D	**Mt. Diablo Mer**	**2.94**	**236**	P		**Pn**	**00 04 16.6**	**-0.9**
	baz=54,SNR=8.0							
O02D				Sb		**Sb**	**00 05 00.8**	**+1.6**
	baz=54							
DBO	**Dodson Butte**	**2.96**	**296**	Pn		**Pn**	**00 04 17.7**	**-0.2**
DBO				IAML			00 05 05.2	
	comp=N,122nm,1.1s							
DBO				IAML			00 05 05.7	
	comp=E,103nm,1.3s							
L02E	**Cave Junction**	**2.99**	**277**	P		**Pn**	**00 04 18.1**	**-0.1**
	baz=95,SNR=9.3							
L02E				Sb		**Sb**	**00 05 01.5**	**+0.9**
	baz=95							
KVN	**Kaiserville**	**3.04**	**157**	Pn		**Pn**	**00 04 14.5**	**-4.5**
K02D	**Willamette Mer**	**3.12**	**287**	P		**Pn**	**00 04 20.3**	**+0.3**
	baz=104,SNR=40							
K02D				Sb		**Sb**	**00 05 06.6**	**+2.1**
	baz=104							
MFID	**Camas Ranch**	**3.19**	**60**			**Pn**	**00 04 18.3**	**-2.8**
KRMB	**Red Mountain**	**3.23**	**265**	Pn		**Pn**	**00 04 22.0**	**+0.3**
KRMB				Pg		**Pg**	**00 04 32.3**	**+0.5**
KRMB				IAML			00 05 20.4	
	comp=N,62nm,1.9s							
KHMM	**Horse Mountain**	**3.25**	**254**	Pg		**Pg**	**00 04 32.2**	**+0.1**
KHMM				IAML			00 05 19.8	
	comp=E,88nm,1.1s							
KHMM				IAML			00 05 23.6	
	comp=N,154nm,1.3s							
I03D	**Drain, OR**	**3.30**	**305**	Pb		**Pb**	**00 04 28.5**	**-0.5**
	baz=123							
I03D				Sb		**Sb**	**00 05 12.6**	**+2.8**
	baz=123							
RYN	**Ryan**	**3.34**	**165**	Pn		**Pn**	**00 04 22.6**	**-0.5**
RYN				IAML			00 05 23.3	
	comp=E,81nm,1.2s							
RYN				IAML			00 05 27.4	
	comp=N,88nm,1.1s							
H04A	**Detroit Lake**	**3.39**	**327**			**Pn**	**00 04 23.3**	**-0.4**
H04A				IAML			00 05 47.1	
	comp=E,53nm,0.4s							
H04A				IAML			00 05 48.2	
	comp=N,54nm,0.5s							
BUCK	**Buck Mountain**	**3.40**	**314**			**Pb**	**00 04 32.3**	**+1.5**
BUCK				IAML			00 05 25.4	
	comp=N,79nm,1.5s							
BUCK				IAML			00 05 41.5	
	comp=E,89nm,1.0s							
BMO	**Blue Mountains**	**3.43**	**29**	Pn		**Pn**	**00 04 21.8**	**-2.5**
BMO				IAML			00 05 21.2	
	comp=E,89nm,0.3s							
J01E	**Myrtle Point**	**3.45**	**294**	P		**Pn**	**00 04 25.5**	**+1.1**
	baz=111							
G08A	**Pilot Rock**	**3.46**	**8**			**Pn**	**00 04 24.0**	**-0.7**
ELK	**Elko**	**3.48**	**107**	Pn		**Pn**	**00 04 24.4**	**-0.7**
	comp=E,5.4nm,0.3s,baz=274,slow=16,SNR=17							
ELK				Pg		**Pb**	**00 04 30.3**	**-1.9**
	comp=E,5.6nm,0.3s,baz=291,slow=16,SNR=12							
ELK				Sn		**Sn**	**00 05 06.7**	**-0.3**
	comp=E,3.3nm,0.3s,baz=207,slow=23,SNR=3.3							
ELK				Lg		Lg	00 05 17.6	
	comp=E,7.3nm,0.3s,baz=33,slow=18,SNR=2.3							
ELK	**Elko**	**3.48**	**107**			**Pn**	**00 04 24.2**	**-0.9**
ELK				IAML			00 05 24.1	
	comp=E,72nm,0.6s							
ELK				IAML			00 05 24.8	
	comp=E,56nm,0.6s							
JCC	**Jacoby Creek,**	**3.49**	**254**			**Pn**	**00 04 24.3**	**-0.6**
JCC				IAML			00 05 30.9	
	comp=E,96nm,1.6s							
JCC				IAML			00 05 33.8	
	comp=N,109nm,1.7s							
H04D	**Lebanon**	**3.50**	**320**	Pb		**Pb**	**00 04 32.5**	**0.0**
	baz=139							
KMRM	**Mail Ridge**	**3.50**	**243**			**Pg**	**00 04 36.1**	**-0.9**
NVAR	**Mina Array Bea**	**3.57**	**163**	Pn		**Pn**	**00 04 27.2**	**+0.8**
	comp=N,1.5nm,0.3s,baz=346,slow=13,SNR=5.1							
NVAR				Lg		Lg	00 05 23.9	
	comp=N,6.3nm,0.3s,baz=344,slow=29,SNR=9.8							
G05D	**Wamic, OR**	**3.60**	**340**	Pb		**Pb**	**00 04 33.9**	**-0.2**
	baz=160							
NV11	**Mina Array Sit**	**3.60**	**161**	Pn		**Pn**	**00 04 27.3**	**+0.5**
KCPM	**Cahto Peak**	**3.72**	**235**			**Pg**	**00 04 40.6**	**-0.4**
KCPM				IAML			00 05 39.1	
	comp=E,70nm,1.5s							
KCPM				IAML			00 05 57.4	
	comp=N,49nm,2.3s							
COR	**Corvallis**	**3.83**	**316**			**Pg**	**00 04 41.1**	**-2.0**
COR				IAML			00 05 36.6	
	comp=N,52nm,0.9s							
COR				IAML			00 05 42.2	
	comp=N,56nm,1.1s							
I02D	**Swisshome**	**3.83**	**307**	Pb		**Pb**	**00 04 37.6**	**-0.4**
	baz=125							
CMB	**Columbia Colle**	**3.87**	**189**	Pg		**Pg**	**00 04 43.9**	**0.0**
F07A	**Phinny Hill Vi**	**4.04**	**357**			**Pg**	**00 04 47.4**	**+0.3**
F07A				IAML			00 05 45.5	
	comp=N,32nm,0.7s							
F07A				IAML			00 05 46.1	
	comp=E,50nm,0.7s							
PLID	**Pearl Lake**	**4.16**	**38**			**Pn**	**00 04 34.2**	**-0.2**
PLID				IAML			00 05 44.1	
	comp=E,30nm,0.4s							
PLID				IAML			00 05 45.7	
	comp=E,41nm,0.7s							
HLID	**Hailey**	**4.19**	**64**			**Pn**	**00 04 36.3**	**+1.5**
HLID	**Hailey**	**4.19**	**64**	P		**Pn**	**00 04 35.8**	**+0.9**
	baz=248							
TPH	**Tonopah**	**4.21**	**153**			**Pn**	**00 04 34.9**	**-0.2**
MDPB	**Devils Postpil**	**4.25**	**174**			**Pn**	**00 04 34.3**	**-1.4**
MDPB				IAML			00 06 06.1	
	comp=E,28nm,0.3s							
F10A	**Beach Ranch, E**	**4.46**	**22**			**Pn**	**00 04 37.6**	**-0.8**
F10A				IAML			00 06 07.4	
	comp=N,37nm,1.0s							
HAWA	**Hanford**	**4.53**	**1**			**Pg**	**00 04 56.8**	**+0.3**
R11A	**Troy Canyon, C**	**4.67**	**137**			**Pn**	**00 04 41.8**	**+0.3**
R11A				IAML			00 06 02.5	
	comp=E,31nm,1.0s							
R11A				IAML			00 06 06.6	
	comp=N,30nm,0.8s							
E07A	**Sunnyside**	**4.70**	**358**			**Pn**	**00 04 40.4**	**-1.2**
E07A				IAML			00 06 17.9	
	comp=E,30nm,1.0s							
E07A				IAML			00 06 26.4	
	comp=N,21nm,1.1s							
LCH	**Last Change Ra**	**4.87**	**161**			**Pn**	**00 04 42.8**	**-1.4**
DUG	**Dugway, Tooele**	**5.41**	**106**	P		**Pn**	**00 04 53.6**	**+2.1**
	baz=290							
PRN	**Pahroc Range**	**5.67**	**140**	Pn		**Pn**	**00 04 56.4**	**+1.2**
MCMT	**McKenzie Canyo**	**5.75**	**57**			**Pn**	**00 04 57.4**	**+1.0**
DLMT	**Dillon**	**6.18**	**53**			**Pn**	**00 05 02.1**	**0.0**
NEW	**Newport**	**6.64**	**15**	Pn		**Pn**	**00 05 08.3**	**0.0**
	comp=N,0.1nm,0.3s,baz=115,slow=18,SNR=1.6							
NEW				Lg		Lg	00 06 53.2	
	comp=N,0.3nm,0.3s,baz=249,slow=14,SNR=1.6							
PDAR	**Pinedale Array**	**7.51**	**80**	Pn		**Pn**	**00 05 22.9**	**+2.5**
	comp=N,0.1nm,0.3s,baz=256,slow=12,SNR=7.7							
PDAR				Lg		Lg	00 07 24.2	
	comp=N,0.0nm,0.3s,baz=267,slow=29,SNR=1.8							
TXAR	**Lajitas Array**	**17.98**	**129**	P		**P**	**00 07 41.2**	**-0.3**
	comp=N,0.0nm,0.3s,baz=322,slow=7.2,SNR=1.7							

*SJA **29** 00:05:18.2±1.0, 27°.10S×63°.17W, h576km±10km, ML4.5, MW4.5*

*IDC **29** 00:05:23.8±1.1, 26°.84S×63°.31W, h562km±11km, mb3.7/11, mb1 3.7/17, mb1mx3.5/32, mbtmp4.6/17, Error ellipse: s-maj=15.7km s-min=12.4km az=86.0*

*VAO **29** 00:05:23.9±0.3, 26°.87S×63°.33W, h560km, mb4.1*

*NEIC **29** 00:05:23.9±1.7, 26°.95S±0°.08×63°.36W±0°.08, h554km±6km, mb4.3/28, Error ellipse: s-maj=13.8km s-min=8.1km az=218.0*

ISC 29 00:05:23.3±0.3, 26°.87S±0°.05×63°.41W±0°.06, h561km, n217, σ1s06/236, mb4.3/26, 1D, Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AHML	**Horco Molle**	**1.73**	**272**	*eP*		**P**	**00 06 32.9**	**-0.1**
FSA	**Cafayete**	**2.43**	**287**	*eP*		**P**	**00 06 36.7**	**+0.4**
FSA				*i* S		**S**	**00 07 34.1**	**-1.6**
CYA	**Choya**	**2.64**	**233**	*eP*		**P**	**00 06 36.1**	**-1.1**
SLA	**San Lorenzo**	**2.85**	**318**	*i* P		**P**	**00 06 39.5**	**+0.7**
TINO	**Tinogasta**	**3.89**	**251**	*i* P		**P**	**00 06 45.5**	**+0.2**
ACLC	**CERRO LA CRUZ**	**4.04**	**230**	*eP*		**P**	**00 06 45.8**	**-0.7**
ACLC				*i* S		**S**	**00 07 50.6**	**-3.6**
ACLC				IAML			00 07 52.6	
	comp=Z,163nm,1.1s							
HJA	**Humahuaca**	**4.07**	**333**	*eP*		**P**	**00 06 48.6**	**+1.5**
VCA	**Vinchina**	**4.64**	**245**	*i* P		**P**	**00 06 51.6**	**+0.6**
AC02	**Maricunga**	**5.11**	**269**	P		**P**	**00 06 56.7**	**+1.4**
AC02	**Maricunga**	**5.11**	**269**	*i* P		**P**	**00 06 57.3**	**+2.0**
ACHE	**Chepes**	**5.14**	**213**	*i* P		**P**	**00 06 54.0**	**-1.1**
ACHE				*i* S		**S**	**00 08 05.5**	**-4.6**
AVFE	**Valle Fertil**	**5.19**	**222**	*eP*		**P**	**00 06 55.1**	**-0.3**
AVFE				*i* S		**S**	**00 08 07.7**	**-3.0**
AVFE				IAML			00 08 08.9	
	comp=Z,58nm,1.2s							
AGUA	**GUANDACOL**	**5.19**	**239**	*i* P		**P**	**00 06 56.3**	**+0.8**
CPUP	**Villa Florida**	**5.47**	**86**	P		**P**	**00 06 58.8**	**+1.0**
	comp=Z,9.7nm,0.3s,baz=253,slow=8.4,SNR=256							
CPUP				S		**S**	**00 08 13.0**	**-1.9**
	baz=80,slow=13,SNR=1.3							
CPUP	**Villa Florida**	**5.47**	**86**	*eP*		**P**	**00 06 59.0**	**+1.2**
CPUP	**Villa Florida**	**5.47**	**86**	*i* P		**P**	**00 06 58.0**	**+0.2**
AF01	**San Pedro de A**	**5.83**	**311**	P		**P**	**00 07 02.2**	**+0.8**
YCA	**YACYRETA**	**6.01**	**97**	*eP*		**P**	**00 07 01.0**	**-1.6**
YCA				IAML			00 08 31.7	
	comp=Z,42nm,2.2s							
GO03	**Copiap**	**6.12**	**262**	P		**P**	**00 07 04.4**	**+0.7**
GO03						**S**	**00 08 25.5**	**-0.2**
ZON	**Zonda**	**6.55**	**223**	P		**P**	**00 07 08.4**	**+0.9**
ZON	**Zonda**	**6.55**	**223**	*i* P		**P**	**00 07 08.7**	**+1.1**
ZON				IAML			00 08 52.2	
	comp=Z,26nm,0.8s							
LVC	**Limon Verde**	**6.56**	**309**	P		**P**	**00 07 08.8**	**+0.7**
	comp=Z,37nm,0.3s,baz=114,slow=6.3,SNR=267							
LVC				S		**S**	**00 08 26.9**	**-6.7**
	comp=Z,22nm,0.3s,baz=168,slow=3.3,SNR=13							
LVC	**Limon Verde**	**6.56**	**309**	P		**P**	**00 07 08.4**	**+0.3**
LVC	**Limon Verde**	**6.56**	**309**	*eP*		**P**	**00 07 09.0**	**+0.9**
LVC	**Limon Verde**	**6.56**	**309**	*i* P		**P**	**00 07 09.0**	**+0.9**
PB15	**IPOC Station P**	**6.60**	**302**	P		**P**	**00 07 09.1**	**+0.8**
PB15	**IPOC Station P**	**6.60**	**302**	*i* P		**P**	**00 07 09.0**	**+0.7**
ITQB	**Itaqui**	**6.60**	**117**	P		**P**	**00 07 08.7**	**+0.8**
ITQB	**Itaqui**	**6.60**	**117**	*eP*		**P**	**00 07 09.0**	**+1.1**
PB14	**IPOC Station P**	**6.69**	**288**	P		**P**	**00 07 09.8**	**+0.6**
PB14	**IPOC Station P**	**6.69**	**288**	*i* P		**P**	**00 07 10.0**	**+0.7**
LCO	**Las Campanas**	**6.80**	**250**	P		**P**	**00 07 11.0**	**+0.9**
AC04	**Llanos de Chal**	**6.94**	**257**	P		**P**	**00 07 11.8**	**+0.6**
PB06	**IPOC Station P**	**6.97**	**305**	P		**P**	**00 07 12.4**	**+0.6**
PB06	**IPOC Station P**	**6.97**	**305**	*i* P		**P**	**00 07 12.0**	**+0.3**
RTLS	**Le

TIJ01	Guaruva-PR	13.03	86	eP		P	00 08 10.8	-1.9	
SALV	Santo Antonio	13.06	35	eP		P	00 08 12.6	-0.4	
LC01	Cunco	13.94	209	P		P	00 08 20.0	-1.7	
ITRB	Iturama	13.94	62	eP		P	00 08 21.6	-0.5	
VILB	Vilhena	14.17	13	eP		P	00 08 24.5	+0.1	
BB19B	Bebedouro	14.77	70	eP		P	00 08 29.5	-1.0	
PET01	Itanhaem-SP	14.78	84	eP		P	00 08 29.3	-1.1	
SPB	Sao Paulo	14.82	81	eP		P	00 08 30.6	-0.2	
VA04	Juan Fernndez	14.94	239	P		P	00 08 32.0	+0.2	
PLCA	Paso Flores	15.04	201	P		P	00 08 33.2	+0.3	
	comp=Z,0.1nm,0.3s,baz=28,slow=8.1,SNR=4.3								
PLCA	Paso Flores	15.04	201			P	00 08 31.7	-1.2	
PLCA	Paso Flores	15.04	201	eP		P	00 08 33.0	+0.1	
RCLB	Rio Claro- Sao	15.10	76	eP		P	00 08 32.8	-0.9	
VAO	Valinhos	15.40	79	eP		P	00 08 36.2	-0.6	
LL04	Puerto Octay	15.86	206	P		P	00 08 39.2	-1.7	
LL04				IAmb		IAmb	00 08 47.3		
	comp=Z,5.1nm,0.7s								
PARB	Paraibuna	16.49	82	eP		P	00 08 47.0	-0.1	
IPMB	Ipameri, GO	16.58	61	eP		P	00 08 47.5	-0.5	
ETMB	Extrema	17.17	351	eP		P	00 08 53.5	+0.2	
CLDB	Colider	17.45	26	eP		P	00 08 55.5	-0.3	
SAML	Samuel	17.82	1	P		P	00 08 59.7	+0.4	
SAML	Samuel	17.82	1	eP		P	00 08 59.1	-0.1	
BSCB	Bom Sucesso	18.00	75	eP		P	00 09 01.2	+0.3	
BDFB	Brasilia	18.16	55	P		P	00 09 02.8	+0.3	
	comp=Z,2.5nm,0.3s,baz=234,slow=9.3,SNR=29								
BDFB	Brasilia	18.16	55	P		P	00 09 02.8	+0.3	
SNDB	Serra Nova Dou	18.68	40	eP		P	00 09 07.2	+0.1	
VAS01	Vassouras-RJ	18.72	80	eP		P	00 09 08.8	+1.4	
DIAM	Diamantina, MG	20.10	69	eP		P	00 09 21.1	+1.1	
PEXB	Peixe	20.42	47	eP		P	00 09 23.2	+0.3	
MC01	Montes Claros	20.68	65	eP		P	00 09 25.5	+0.2	
CZSB	Cruzeiro do Su	20.98	333	eP		P	00 09 27.4	-0.6	
NPGB	Novo Progresso	21.15	23	eP		P	00 09 31.2	+1.8	
JANB	Januaria	21.32	60	eP		P	00 09 31.2	+0.2	
SJMB	Sao Joao De Ma	22.02	73	eP		P	00 09 36.9	-0.3	
BSFB	Barra de Sao F	22.25	74	eP		P	00 09 40.0	+0.8	
SDBA	SAO DESIDERIO	22.55	54	eP		P	00 09 42.0	0.0	
NAN01	Guarapari, ES	23.30	72	eP		P	00 09 48.6	0.0	
SMTB	Santa Maria do	23.35	43	eP		P	00 09 49.3	+0.2	
ITTB	Itaituba	23.55	19	eP		P	00 09 51.0	+0.1	
GUA01	Guaratinga, BA	24.15	70	eP		P	00 09 56.6	+0.4	
CMC01	Camacan, BA	25.00	68	eP		P	00 10 02.9	-0.8	
NBIT	Itapeh - BA	25.30	67	eP		P	00 10 06.9	+0.6	
GDU01	Guandu, BA	25.84	64	eP		P	00 10 10.6	-0.5	
PTGA	Pitinga	26.20	8	P		P	00 10 13.7	-0.6	
	comp=Z,3.4nm,0.6s,baz=192,slow=10,SNR=9.9								
PTGA	Pitinga	26.20	8	P		P	00 10 13.6	-0.6	
PTGA				IAmb		IAmb	00 10 14.3		
	comp=Z,3.1nm,0.6s								
MG02	Cerro Sombrero	26.25	188	P		P	00 10 13.1	-1.0	
MALB	Monte Alegre	26.37	21	eP		P	00 10 16.1	+0.3	
NBPN	Ponto Novo - B	27.05	58	eP		P	00 10 21.4	-0.4	
TMAB	Tom-Au,PA,Br	28.44	34	eP		P	00 10 34.7	+0.9	
MCPB	Macapa, AP	28.53	24	eP		P	00 10 34.9	+0.3	
NBLA	Lagarto - SE	28.83	62	eP		P	00 10 36.7	-0.6	
BOAV	Boa Vista	29.22	4	eP		P	00 10 40.2	-0.4	
ROSB	Rosrio	30.15	41	eP		P	00 10 48.8	+0.1	
NBMA	Muriti-CE	30.39	55	eP		P	00 10 51.1	+0.3	
OTAV	Otavalo	30.59	329	eP		P	00 10 55.7	+2.7	
NBPS	Pedro II - PI	30.65	47	eP		P	00 10 52.7	-0.3	
NBAN	Anadia - AL	30.81	61	eP		P	00 10 54.0	-0.4	
NBPB	Pedra_Branca-C	31.07	51	eP		P	00 10 56.5	-0.1	
NBLV	Livramento - P	31.76	57	eP		P	00 11 02.6	0.0	
NBRF	Rio Formoso -	32.31	61	eP		P	00 11 06.9	-0.2	
NBMO	Morrinhos-CE	32.38	48	eP		P	00 11 07.5	-0.2	
NBCL	Cascavel-CE	32.91	51	eP		P	00 11 12.9	+0.7	
RCBR	Riachuelo	33.53	56	P		P	00 11 17.7	+0.2	
NBPV	Pedro Velho	33.60	58	eP		P	00 11 18.9	+0.9	
ORTG	Ortega, Santa	42.76	327	P		P	00 12 33.8	+1.5	
ORTG				IAmb		IAmb	00 12 34.5		
	comp=Z,6.6nm,0.8s								
ANWB	Willy Bob	44.30	2	P		P	00 12 42.6	-1.4	
MLPR	Magueyes Islan	44.71	355	P		P	00 12 46.9	-0.2	
MLPR				IAmb		IAmb	00 12 47.7		
	comp=Z,11nm,0.8s								
VNA3	Neumayer Olymp	53.40	161	P		P	00 13 51.2	+0.7	
VNA1	Neumayer--Stat	53.56	160	P		P	00 13 52.3	+0.6	
VNA2	Neumayer--Watz	53.94	160	P		P	00 13 54.9	+0.6	
SNAA	Sanae	55.58	160	P		P	00 14 06.2	+0.3	
SNAA	Sanae	55.58	160	P		P	00 14 05.9	0.0	
SNAA				IAmb		IAmb	00 14 06.5		
	comp=Z,6.4nm,0.8s								
BIRD	Birdtown, Kers	63.27	344	P		P	00 14 58.1	+0.6	
QSPA	South Pole Qui	63.35	180	P		P	00 14 58.6	+0.8	
QSPA				IAmb		IAmb	00 14 59.4		
	comp=Z,13nm,0.8s								
W57A	Gilead	63.65	345	P		P	00 15 00.4	+0.5	
W57A				IAmb		IAmb	00 15 00.8		
	comp=Z,5.5nm,0.8s								
V55A	Taylorsville	64.61	344	P		P	00 15 07.0	+1.0	
V55A				IAmb		IAmb	00 15 07.6		
	comp=Z,7.2nm,0.7s								
V53A	Saluda	64.84	343	P		P	00 15 07.7	+0.1	
LIC	Lamto	65.34	69	eP		P	00 15 10.5	-0.6	
	comp=Z,27nm,0.9s								
LIC	Lamto	65.34	69	eP		P	00 15 10.5	-0.6	
	comp=Z,27nm,0.9s								
TIC	Toumodi	65.58	68	eP		P	00 15 12.0	-0.6	
TIC	Toumodi	65.58	68	eP		P	00 15 12.0	-0.6	
KIC	Kosan Boka	65.65	69	eP		P	00 15 12.2	-0.9	
	comp=Z,20nm,0.6s								
KIC	Kosan Boka	65.65	69	eP		P	00 15 12.6	-0.5	
	comp=Z,19nm,0.6s								
DBIC	Dimbokro	65.72	68	P		P	00 15 13.1	-0.4	
	comp=Z,11nm,0.6s,baz=242,slow=4.5,SNR=19								
DBIC	Dimbokro	65.72	68	P		P	00 15 13.1	-0.4	
DBIC				IAmb		IAmb	00 15 13.7		
	comp=Z,11nm,0.8s								
TXAR	Lajitas Array	67.91	322	P		P	00 15 27.4	+0.7	
	comp=Z,0.1nm,0.5s,baz=141,slow=5.8,SNR=2.1								
SYO	Syowa Base	69.70	158	eP		P	00 15 37.2	+0.4	
KOWA	Kowa	70.81	62	P		P	00 15 43.9	-0.3	
VNDA	Vanda	72.42	189	P		P	00 15 53.6	+1.0	
	comp=Z,2.8nm,0.8s,baz=128,slow=4.5,SNR=12								
VNDA	Vanda	72.42	189	P		P	00 15 54.1	+1.5	
SADO	Sadowa	72.73	348	P		P	00 15 54.9	+0.2	
	comp=Z,2.1nm,0.4s,baz=197,slow=8.3,SNR=4.4								
TSUM	Tsumeb	73.79	104	P		P	00 16 01.8	+0.2	
TSUM				IAmb		IAmb	00 16 02.7		
	comp=Z,11nm,1.0s								
TORD	Torodi Ar. Bea	74.65	66	P		P	00 16 05.7	-0.6	
	comp=Z,15nm,0.6s,baz=274,slow=6.6,SNR=164								
TORD	Torodi Ar. Bea	74.65	66	P		P	00 16 05.7	-0.6	
TORD				IAmb		IAmb	00 16 06.5		
	comp=Z,13nm,0.8s								
BOSA	Boshof	76.56	115	P		P	00 16 16.5	-0.4	
	comp=Z,10nm,0.5s,baz=254,slow=3.9,SNR=51								
MAW	Mawson	77.72	162	P		P	00 16 22.7	+0.4	
	comp=Z,5.7nm,0.6s,baz=210,slow=5.6,SNR=27								
MAW	Mawson	77.72	162	P		P	00 16 22.7	+0.4	
LBTB	Lobatse	78.28	112	P		P	00 16 26.4	+0.1	
LBTB				IAmb		IAmb	00 16 26.8		
	comp=Z,12nm,0.8s								
PDAR	Pinedale Array	81.28	328	P		P	00 16 42.0	+0.3	
	comp=Z,0.6nm,0.4s,baz=124,slow=7.7,SNR=7.6								
PDAR	Pinedale Array	81.28	328	P		P	00 16 42.2	+0.6	
SCHQ	Schefferville	81.42	358	P		P	00 16 41.7	0.0	
	comp=Z,5.0nm,0.8s,baz=243,slow=18,SNR=4.0								
MDT	Midelt	81.53	47	P		P	00 16 43.4	+0.5	
	comp=Z,1.9nm,0.8s,baz=236,slow=3.8,SNR=4.3								
PMTG	Montargil	83.40	40	eP		P	00 16 52.7	+0.6	
	comp=Z,15nm,1.5s								
PCAS	Casmilo, Conde	83.91	39	eP		P	00 16 54.9	+0.3	
	comp=Z,19nm,1.9s								
HLID	Hailey	84.27	325	P		P	00 16 58.2	+1.7	
PCBR	Castelo Branco	84.35	40	eP		P	00 16 56.8	+0.1	
LSZ	Lusaka	84.62	104	P		P	00 17 00.2	+1.4	
MTE	Manteigas	84.68	39	eP		P	00 16 58.5	0.0	
	comp=Z,17nm,1.9s								
PVIS	Viseu	84.70	39	eP		P	00 16 59.1	+0.6	
	comp=Z,10nm,1.9s								
ESDC	Sonseca Array	86.29	42	P		P	00 17 05.6	-0.6	
	comp=Z,0.8nm,0.7s,baz=244,slow=4.6,SNR=7.9								
DAVOX	Davos/Dischmat	98.62	42	P		P	00 18 03.0	+0.3	
	baz=196,slow=15								
ASAR	Alice Springs	127.05	200	PKP		PKPdf	00 23 24.4	-0.4	
	comp=Z,3.0nm,0.6s,baz=140,slow=1.8,SNR=33								
WRA	Warramunga Arr	130.39	202	PKP		PKPdf	00 23 30.8	-0.4	
	comp=Z,1µm,1.0s,baz=184,slow=1.6,SNR=1.0								
WRA				SKPbc		SKPbc	00 26 01.1	-1.5	
	comp=Z,134nm,0.6s,baz=164,slow=3.6,SNR=0.3								
ABKAR	Akbulak array	131.40	47			PKPdf	00 23 32.7	+0.6	
SEY	Seymchan	136.99	337	PKP		PKiKP	00 23 43.4	-0.7	
	comp=Z,1.4nm,0.3s,baz=354,slow=1.8,SNR=3.6								
AAK	Ala-Archa	142.41	54			PKPdf	00 23 50.4	-2.4	
YAK	Yakutsk	143.77	350	PKP		PKPdf	00 23 54.1	-0.1	
	comp=Z,24nm,0.5s,baz=95,slow=0.3,SNR=5.9								
KSH	Kashi	144.03	59	PKP		PKPbc	00 23 54.8	-0.4	
KSH				PP		PP	00 27 14.0	-3.5	
ZALV	Zalesovo Beam	144.24	32	PKP		PKPab	00 23 55.6	+0.1	
	comp=Z,9.4nm,0.3s,baz=298,slow=4.3,SNR=50								
ZALV				pPKP		pPKPdf	00 26 05.8	-0.8	
	comp=Z,1.9nm,0.9s,baz=310,slow=5.3,SNR=3.7								
ZALV				SKPbc		SKiKP	00 26 42.3	0.0	
	comp=Z,2.7nm,0.7s,baz=303,slow=0.8,SNR=7.0								
ZALV	Zalesovo Beam	144.24	32			PKPbc	00 23 55.3	+0.2	
MAKZ	Makanchi	146.27	45			PKPdf	00 24 00.2	+1.1	
MAKZ				PKPbc		PKPbc	00 24 01.7	+0.3	
MK31	Makanchi Array	146.47	45			PKPdf	00 23 59.6	+0.2	
MK31				PKPbc		PKPbc	00 24 02.4	+0.4	
MK31				PKPab		PKPab	00 24 05.2	+0.6	
MKAR	Makanchi Array	146.47	45	PKP		PKPdf	00 24 00.2	+0.7	
	comp=Z,9.8nm,0.4s,baz=317,slow=2.1,SNR=42								
MKAR				PKPbc		PKPbc	00 24 02.1	+0.1	
	comp=Z,9.8nm,0.4s,baz=308,slow=1.5,SNR=58								
MKAR	Makanchi Array	146.47	45			PKPdf	00 24 00.2	+0.7	
MKAR				PKPbc		PKPbc	00 24 02.6	+0.6	
MKAR				PKPab		PKPab	00 24 05.3	+0.7	
SONM	Songino Array	157.59	18	PKP		PKPdf	00 24 16.6	+0.8	
	comp=Z,0.8nm,0.8s,baz=97,slow=0.5,SNR=5.0								
SONM				PKPab		PKPab	00 24 51.8	+0.2	
	comp=Z,0.8nm,0.6s,baz=333,slow=4.6,SNR=4.6								
SONM	Songino Array	157.59	18	PKPab		PKPab	00 24 52.3	+0.7	

MEX 29 00:24:33.6±0.9, 16.00N×97.54W, h15km±999km, MD3.7,
Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.69	305	eP		Pg	00 24 44.9	-2.1
PNIG				eS		Sg	00 24 53.3	-2.6
YOIG	Yosondua	0.85	360	eP		Pg	00 24 46.5	-3.8
YOIG				eS		Sg	00 24 56.6	-5.0
TXIG	Tlaxiaco	1.27	350	eP		Pn	00 24 53.5	-3.6
TXIG				eS		Sb	00 25 09.4	-4.3
VHO	Vista Hermosa	1.32	36	eP		Pn	00 24 53.9	-3.8
VHO				eS		Sb	00 25 10.2	-4.9
HUIG	Huatulco	1.40	99	eP		Pn	00 24 57.9	-0.8
HUIG				eS		Sn	00 25 11.3	-5.6
MGIG	Malinaltepec	1.61	320	eP		Pn	00 24 58.7	-3.1
MGIG				eS		Sn	00 25 18.0	-4.4
HLIG	Huajuapan de L	1.84	352	eP		Pn	00 25 02.0	-2.9
HLIG				eS		Sn	00 25 24.0	-4.0
FTIG	Fresnillo de T	1.98	344	eP		Pn	00 25 06.2	-0.6
FTIG				eS		Sn	00 25 30.3	-1.1

MEX 29 00:45:00.3±0.5, 14.04N×93.32W, h45km±211km, MD4.1,
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
THIG		1.34	50	eP		Pn	00 45 20.7	-1.8
THIG				eS		Sn	00 45 39.2	0.0
PCIG		1.66	3	*i* P		Pn	00 45 25.4	-1.5
PCIG				*i* S		Sn	00 45 37.4	-10
CCIG	Comitan	2.50	27	eP		Pn	00 45 40.5	+1.8
CCIG				eS		Sn	00 46 12.6	+4.4
TGIG		2.73	4	eP		Pn	00 45 42.7	+1.0
TGIG				eS		Sn	00 46 14.6	+1.1
CMIG	Matias Romero	3.39	334	eP		Pn	00 45 52.7	+2.0
CMIG				eS		Sn	00 46 29.0	-0.6

*IDC **29** 01:17:40.0±1.0, 30.82S×71.34W, h0km, mb4.3/5,*
mb1 4.0/10, mb1mx3.9/23, mbtmp4.0/10, ML3.6/5, MS2.8/4,
Ms1 2.8/4, ms1mx2.7/23, Error ellipse: s-maj=29.8km
s-min=21.9km az=91.0
*GUC **29** 01:17:45.9±0.8, 30.72S×71.43W, h49km±2km, ML4.3*
*NEIC **29** 01:17:46.0±1.8, 30.73S±0.02×71.48W±0.06, h35km±2km,*
mb4.2/6, ML4.3(GUC), Error ellipse: s-maj=8.0km
s-min=3.8km az=267.0

ISC 29 01:17:45.4±0.5, 30.71S±0.03×71.42W±0.04, h33km, n67,
σ1s51/76, mb4.3/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.19	281	eP		Pb	01 17 53.7	+1.7
CO06				*i* S		Sb	01 17 59.2	+2.8
CO06				IAML			01 18 00.2	
	comp=E,24µm,0.3s							
CO06	Fray Jorge	0.19	281			Pb	01 17 53.6	+1.7
CO06				Sg		Sb	01 17 59.0	+2.6
CO02	Combarbal	0.61	144	eP		Pn	01 17 58.5	+0.7
CO02				*i* S		Sn	01 18 07.6	+1.0
CO02				IAML			01 18 08.8	
	comp=N,39µm,0.3s							
CO02	Combarbal	0.61	144			Pn	01 17 58.5	+0.7
CO02						Sn	01 18 07.5	+0.9
CO03	El Pedregal	0.64	102	eP		Pb	01 17 59.1	+0.8
CO03				*i* S		Sn	01 18 08.7	+1.4
CO03	El Pedregal	0.64	102	Pn		Pb	01 17 59.1	+0.8
CO03						Sn	01 18 08.6	+1.3
GO04	Tololo Observa	0.76	45	*i* S		Sb	01 18 12.8	+2.3
GO04	Tololo Observa	0.76	45	Pn		Pb	01 18 00.8	+0.5
GO04				Sn		Sb	01 18 12.5	+2.1
CO05	La Serena	0.80	11	eP		Pb	01 18 01.4	+0.4
CO05				*i* S		Sb	01 18 13.2	+1.6
CO05	La Serena	0.80	11	Pn		Pn	01 18 00.8	+0.4
CO05				Sn		Sn	01 18 12.2	+0.9
LCO	Las Campanas	1.80	20	eP		Pn	01 18 15.8	+1.4
LCO				*i* S		Sn	01 18 38.6	+2.3
LCO	Las Campanas	1.80	20			Pn	01 18 15.8	+1.4
LCO				Sn		Sn	01 18 38.7	+2.4
VA06	Catapilco	1.85	177	eP		Pn	01 18 15.8	+1.0
VA06				*i* S		Sn	01 18 38.6	+1.6
VA06				IAML			01 18 46.2	
	comp=E,4µm,0.5s							
VA03	San Esteban	2.17	160	eP		Pn	01 18 21.3	+1.9
VA03				*i* S		Sn	01 18 48.0	+2.7
VA03				IAML			01 18 53.6	
	comp=E,4µm,0.2s							
VA03	San Esteban	2.17	160	Pn		Pn	01 18 21.1	+1.6
VA03				Sn		Sn	01 18 47.8	+2.5
ROCH	El Roble	2.28	171	eP		Pn	01 18 22.3	+1.3
ROCH				*i* S		Sn	01 18 50.1	+2.1
ROCH				IAML			01 18 57.5	
	comp=N,3µm,0.6s							
VA01	Torpederas	2.31	185	Pn		Pn	01 18 21.2	0.0
ZON	Zonda	2.49	110			Pn	01 18 26.5	+2.8
AC04	Llanos de Chal	2.52	7	Pn		Pn	01 18 25.2	+1.2
MT05	Renca	2.73	168	eP		Pn	01 18 28.9	+1.8
MT05	Renca	2.73	168			Pn	01 18 28.2	+1.1
VA05	Santo Domingo	2.94	183	Pn		Pn	01 18 29.4	-0.5
MT09	Talagante	3.08	173	eP		Pn	01 18 33.2	+1.3
MT09				IAML			01 19 22.6	
	comp=N,890nm,0.2s							
MT09	Talagante	3.08	173	Pn		Pn	01 18 33.0	+1.2
MT01	Popeta	3.15	178	eP		Pn	01 18 33.4	+0.7
MT01				IAML			01 19 23.5	
	comp=E,676nm,0.5s							
MT01	Popeta	3.15	178	Pn		Pn	01 18 33.4	+0.7
GO03	Copiap	3.27	19	Pn		Pn	01 18 35.1	+0.7
BO01	Tunca	3.68	176			Pn	01 18 40.3	+0.2
BO02	Sierra Bellavi	4.11	173			Pn	01 18 46.5	+0.5
GO05	Huala	4.31	186	Pn		Pn	01 18 47.8	-0.9
AC02	Maricunga	4.35	28	Pn		Pn	01 18 52.1	+2.4
ML02	Panimavida	5.04	180	Pn		Pn	01 18 58.3	-0.3
H03N1	Juan Fernandez	6.92	245	Pn		Pn	01 19 23.3	-1.0
H03N1	baz=115,slow=19,SNR=53							
				T		T	01 26 20.9	
	baz=72,slow=72,SNR=958							
VA04	Juan Fernndez	6.93	243	Pn		Pn	01 19 23.1	-1.5
H03N2	Juan Fernandez	6.94	245	Pn		Pn	01 19 23.6	-0.9
H03N2	baz=115,slow=19,SNR=51							
				T		T	01 26 23.1	
	baz=72,slow=72,SNR=264							
H03N3	Juan Fernandez	6.94	245	Pn		Pn	01 19 23.4	-1.1
H03N3	baz=115,slow=19,SNR=44							
				T		T	01 26 15.2	
	baz=72,slow=72,SNR=342							
H03S3	Juan Fernandez	7.07	242	Pn		Pn	01 19 24.8	-1.5
H03S1	Juan Fernandez	7.07	242	Pn		Pn	01 19 24.5	-1.9
	baz=314,slow=74,SNR=8.5							
H03S2	Juan Fernandez	7.08	242	Pn		Pn	01 19 24.7	-1.8
	baz=106,slow=74,SNR=8.1							
LC01	Cunco	8.18	183	Pn		Pn	01 19 39.8	-2.0
LVC	Limon Verde	8.37	16	Pn		Pn	01 19 44.1	-0.8
	comp=E,0.3nm,0.3s,baz=309,slow=14,SNR=1.8							
LVC				LR		LR	01 23 17.2	
	comp=E,52nm,21.2s,baz=206,slow=40							
PLCA	Paso Flores	10.03	176	Pn		Pn	01 20 03.7	-3.5
	comp=E,0.2nm,0.3s,baz=50,slow=22,SNR=1.6							
PLCA				LR		LR	01 23 44.3	
	comp=E,33nm,19.8s,baz=342,slow=37							
CPUP	Villa Florida	13.13	74	Pn		Pn	01 20 46.9	-2.7
	comp=E,0.1nm,0.3s,baz=12,slow=14,SNR=1.3							
CPUP				LR		LR	01 26 42.3	
	comp=E,34nm,19.7s,baz=207,slow=41							
CPUP	Villa Florida	13.13	74			Pn	01 20 47.2	-2.4
LPAZ	La Paz	14.67	13	Pn		Pn	01 21 12.5	+1.3
	comp=E,0.1nm,0.3s,baz=186,slow=7.0,SNR=5.7							
LPAZ	La Paz	14.67	13			Pn	01 21 13.4	+2.2
SIV	San Ignacio	17.44	35	P		Pn	01 21 46.5	+0.2
	comp=E,0.3nm,0.3s,baz=223,slow=6.9,SNR=10							
SIV				LR		LR	01 29 51.1	
	comp=E,72nm,18.4s,baz=121,slow=42							
BDFB	Brasilia	26.15	60	P		P	01 23 15.8	-1.1
	comp=E,2.9nm,0.6s,baz=236,slow=8.9,SNR=4.5							
BDFB	Brasilia	26.15	60	P		P	01 23 16.1	-0.8
BDFB				IAmb		IAmb	01 23 16.8	
	comp=Z,3.7nm,0.7s							
RUSC	La Rusia	36.43	357	P		P	01 24 46.8	-0.9
RUSC				IAmb		IAmb	01 24 51.6	
	comp=Z,5.7nm,1.1s							
SNAA	Sanae	54.44	159	P		P	01 27 09.4	+0.2
SNAA				IAmb		IAmb	01 27 18.8	
	comp=Z,2.4nm,0.8s							
QSPA	South Pole Qui	59.52	180	P		P	01 27 45.0	-0.2
TXAR	Lajitas Array	67.15	330	P		P	01 28 36.6	+0.5
	comp=Z,2.0nm,0.4s,baz=147,slow=6.7,SNR=20							
DBIC	Dimbokro	73.64	72	P		P	01 29 15.6	-0.4
	comp=Z,4.2nm,0.6s,baz=236,slow=4.8,SNR=10							
DBIC	Dimbokro	73.64	72	P		P	01 29 15.8	-0.2
MAW	Mawson	76.18	164	P		P	01 29 29.3	-0.5
	comp=Z,0.8nm,0.5s,baz=236,slow=8.6,SNR=8.2							
BOSA	Boshof	81.13	118	P		P	01 29 57.4	-0.6
	comp=Z,3.1nm,1.0s,baz=218,slow=3.2,SNR=3.0							
TORD	Torodi Ar. Bea	82.59	70	P		P	01 30 05.4	-0.2
	comp=Z,1.1nm,0.4s,baz=279,slow=6.3,SNR=42							
TORD	Torodi Ar. Bea	82.59	70	P		P	01 30 05.4	-0.2
TORD				IAmb		IAmb	01 30 05.7	
	comp=Z,3.3nm,1.4s							
H11S2	WAKE ISLAND Hy	126.29	271	T		T	03 55 29.1	
	baz=115,slow=75,SNR=44							
H11S1	WAKE ISLAND Hy	126.30	271	T		T	03 55 33.0	
	baz=115,slow=75,SNR=67							
H11S3	WAKE ISLAND Hy	126.31	271	T		T	03 55 31.3	
	baz=115,slow=75,SNR=62							
H11N3	WAKE ISLAND Hy	126.62	273	T		T	03 55 53.8	
	baz=126,slow=74							
H11N1	WAKE ISLAND Hy	126.63	273	T		T	03 55 57.7	
	baz=126							
H11N2	WAKE ISLAND Hy	126.64	273	T		T	03 55 55.6	
	baz=126,slow=74							
ZALV	Zalesovo Beam	151.14	30	PKPbc		PKPbc	01 37 34.0	-0.7
	comp=Z,3.1nm,0.5s,baz=301,slow=2.4,SNR=11							
ZALV	Zalesovo Beam	151.14	30			PKPbc	01 37 34.2	-0.5

*IDC **29** 01:37:02.6±0.7, 47.37N×153.28E, h60km±7km, mb3.5/12,*
mb1 3.7/14, mb1mx3.5/63, mbtmp3.8/14, MS2.9/8,
*Ms1 2.9/8, ms1m

s-min=8.9km az=54.0
ISC 29 01:44:27.3±1.1, 40.92N±0.02×42.23E±0.02, h6km±9km, n69, σ1s35/102, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SENK	**Senkaya-Erzuru**	**0.36**	**166**	PG	**Pb**	**01 44 35.4**	**-0.9**
DBAD	**Bademkaya**	**0.42**	**284**	*i* P	**Pb**	**01 44 35.8**	**-1.5**
DBAD				*i* S	**Sb**	**01 44 42.5**	**-1.4**
DBAD				IAML		01 44 43.0	
	comp=N,12μm,0.8s						
DBAD				IAML		01 44 45.0	
	comp=E,10μm,0.3s						
DBOC	**Borcka**	**0.61**	**315**	*i* P	**Pb**	**01 44 39.4**	**-1.0**
DBOC				*i* S	**Sb**	**01 44 47.7**	**-1.5**
DBOC				IAML		01 44 48.0	
	comp=E,8μm,0.3s						
EPOS	**Posof**	**0.70**	**32**	*i* P	**Pb**	**01 44 41.4**	**-0.6**
EPOS				*i* S	**Sb**	**01 44 52.6**	**+0.7**
EPOS				IAML		01 44 53.0	
	comp=E,2μm,0.6s						
EPOS				IAML		01 45 02.0	
	comp=N,3μm,1.0s						
BCA	**Borcka**	**0.70**	**319**	PG	**Pb**	**01 44 40.8**	**-1.2**
BCA				SG	**Sb**	**01 44 50.6**	**-1.3**
KARS	**Kars**	**0.70**	**114**	PG	**Pb**	**01 44 41.3**	**-0.8**
KARS				SG	**Sb**	**01 44 52.7**	**+0.6**
HOPA	**Hopa-Artvin**	**0.76**	**309**	PG	**Pb**	**01 44 41.7**	**-1.2**
HOPA				SG	**Sb**	**01 44 51.9**	**-1.6**
HOMI	**Horasan**	**0.90**	**196**	*i* P	**Pb**	**01 44 44.2**	**-1.3**
HOMI				*i* S	**Sn**	**01 44 59.1**	**-1.2**
HOMI				IAML		01 45 00.0	
	comp=N,3μm,0.4s						
HOMI				IAML		01 45 08.0	
	comp=E,3μm,0.4s						
ABS	**Abastumani**	**0.95**	**27**	P	**Pb**	**01 44 45.7**	**-0.6**
ABS				S	**Sn**	**01 45 00.1**	**-1.1**
KOPR	**Koprukoy-ERZUR**	**0.97**	**198**	PG	**Pb**	**01 44 45.7**	**-0.9**
KOPR				SG	**Sn**	**01 45 00.8**	**-0.9**
DIGO	**Kars**	**1.00**	**120**	*i* P	**Pg**	**01 44 45.5**	**-1.0**
DIGO				IAML		01 45 00.0	
	comp=E,1μm,0.4s						
DIGO				IAML		01 45 02.0	
	comp=N,983nm,0.8s						
EATA	**Eleskirt**	**1.07**	**169**	*i* P	**Pg**	**01 44 47.1**	**-0.8**
EATA				IAML		01 45 03.0	
	comp=N,515nm,0.4s						
EATA				IAML		01 45 03.0	
	comp=E,398nm,0.4s						
EATA				*i* S	**Sn**	**01 45 03.0**	**-1.5**
AKH	**Akhalkalaki**	**1.07**	**62**	P	**Pg**	**01 44 47.4**	**-0.5**
AKH				S	**Sg**	**01 45 02.0**	**+0.2**
AKH	**Akhalkalaki**	**1.07**	**62**	PG	**Pg**	**01 44 47.4**	**-0.5**
AKH				SG	**Sn**	**01 45 03.3**	**-1.1**
BGD	**Bogdanovka**	**1.09**	**71**	P	**Pn**	**01 44 48.8**	**-0.5**
BGD				S	**Sn**	**01 45 04.0**	**-0.9**
CHOM	**Cayeli-Rize**	**1.13**	**280**	PN	**Pn**	**01 44 48.8**	**-0.9**
CHOM				SN	**Sn**	**01 45 04.9**	**-0.6**
CHAY	**Cayeli-Rize**	**1.15**	**279**	PN	**Pn**	**01 44 49.4**	**-0.6**
CHAY				SN	**Sn**	**01 45 05.8**	**-0.2**
ERZM	**Erzurum**	**1.21**	**214**	*i* P	**Pn**	**01 44 51.0**	**0.0**
ERZM				*i* S	**Sn**	**01 45 08.7**	**+0.9**
BKRG	**Bakuriani**	**1.29**	**49**	P	**Pb**	**01 44 51.5**	**-0.5**
BKRG				S	**Sg**	**01 45 10.0**	**+1.2**
EJDE	**Erzurum, Palan**	**1.29**	**214**	*i* P	**Pg**	**01 44 52.1**	**0.0**
EMRE	**Erzurum,Aziziy**	**1.30**	**228**	*i* P	**Pg**	**01 44 51.9**	**-0.4**
BRNG	**Burnasheti**	**1.40**	**59**	P	**Pb**	**01 44 53.4**	**-0.5**
BRNG				S	**Sg**	**01 45 12.9**	**+0.7**
AGRB	**Hanur-Agry**	**1.46**	**156**	PN	**Pg**	**01 44 55.2**	**-0.1**
AGRB				SN	**Sg**	**01 45 15.8**	**+1.6**
VNNZ	**Vanand**	**1.46**	**123**	*i* P	**Pb**	**01 44 54.0**	**-0.9**
VNNZ				*i* S	**Sg**	**01 45 15.7**	**+1.5**
DMNI	**Dmanisi**	**1.54**	**74**	P	**Pn**	**01 44 55.1**	**-0.3**
TRLG	**Trialeti**	**1.54**	**66**	P	**Pn**	**01 44 55.2**	**-0.3**
TKB	**Tkibuli**	**1.54**	**21**	P	**Pb**	**01 44 56.0**	**-0.4**
TKB				S	**Sg**	**01 45 18.5**	**+1.6**
ARUZ	**Aruch**	**1.55**	**113**	*i* P	**Pb**	**01 44 55.4**	**-1.1**
ARUZ				*i* S	**Sg**	**01 45 17.0**	**-0.1**
METS	**Metsamor**	**1.60**	**118**	*i* P	**Pb**	**01 44 56.9**	**-0.5**
METS				*i* S	**Sg**	**01 45 20.0**	**+1.2**
BAYT	**Aydıntepe-Bayb**	**1.67**	**253**	PN	**Pb**	**01 44 57.7**	**-0.9**
KZRT	**Kazreti**	**1.70**	**73**	P	**Pb**	**01 44 57.9**	**-1.1**
KZRT				S	**Sg**	**01 45 22.8**	**+0.8**
MLAZ	**Malazgirt-MUS**	**1.79**	**172**	PN	**Pg**	**01 45 00.4**	**-1.2**
TASB	**TASBÜRUN-IGDIR**	**1.79**	**121**	PN	**Pb**	**01 44 59.8**	**-0.8**
CHVG	**Ch'k'valeri**	**1.81**	**357**	P	**Pb**	**01 45 00.3**	**-0.5**
CHVG				S	**Sg**	**01 45 28.3**	**+3.0**
KARO	**Karliova-Bingo**	**1.84**	**210**	PN	**Pb**	**01 45 00.5**	**-1.0**
VRTB	**Varto-Mus**	**1.85**	**199**	PN	**Pb**	**01 45 00.8**	**-0.9**
KTUT	**Trabzon**	**1.87**	**273**	PN	**Pb**	**01 45 00.7**	**-1.1**
ONI	**Oni**	**1.91**	**28**	P	**Pb**	**01 45 02.1**	**-0.4**
ONI				S	**Sg**	**01 45 28.9**	**+0.3**
YEDI	**Yedisu-Bingol**	**1.96**	**222**	PN	**Pb**	**01 45 02.9**	**-0.6**
KAPZ	**Kaputan**	**1.97**	**107**	*i* P	**Pb**	**01 45 02.8**	**-0.9**
KAPZ				*i* S	**Sg**	**01 45 31.3**	**+0.7**
GNI	**Garni**	**2.06**	**111**	Pn	**Pb**	**01 45 04.3**	**-0.9**
	comp=E,20nm,0.3s,baz=298,slow=4.6,SNR=77						
GNI				Lg	Lg	01 45 33.5	
	comp=E,14nm,0.3s,baz=142,slow=23,SNR=7.5						
GNI				LR	LR	01 46 08.3	
	comp=E,99nm,18.8s,baz=300,slow=50						
GNI	**Garni**	**2.06**	**111**	*i* P	**Pb**	**01 45 04.2**	**-1.1**
GNI				*i* S	**Sg**	**01 45 32.5**	**-1.0**
GNI	**Garni**	**2.06**	**111**	PN	**Pb**	**01 45 04.1**	**-1.1**
NRKZ	**NAREK**	**2.07**	**115**	*i* P	**Pg**	**01 45 05.7**	**-1.2**
NRKZ				*i* S	**Sg**	**01 45 36.0**	**+2.2**
BTNK	**Botanikuri**	**2.08**	**68**	P	**Pn**	**01 45 01.1**	**-1.7**
BTNK				S	**Sn**	**01 45 29.6**	**+0.6**
SEAG	**Tbilisi Sea**	**2.11**	**66**	P	**Pb**	**01 45 05.7**	**-0.4**
SEAG				S	**Sg**	**01 45 34.7**	**-0.5**
GUMT	**Gumushane**	**2.14**	**259**	PN	**Pb**	**01 45 04.6**	**-2.0**
CLDR	**Caldiran**	**2.19**	**143**	PN	**Pb**	**01 45 06.0**	**-1.5**
BNGB	**Bingl**	**2.26**	**212**	PN	**Pb**	**01 45 06.7**	**-1.9**
ERZN	**Erzincan**	**2.33**	**236**	PN	**Pb**	**01 45 07.4**	**-2.5**
GURO	**Guroymak-BITLI**	**2.37**	**184**	PN	**Pb**	**01 45 08.1**	**-2.3**
DGRG	**David-gareji**	**2.43**	**76**	P	**Pb**	**01 45 09.6**	**-1.9**
MTEO	**Meteo**	**2.46**	**44**	P	**Pb**	**01 45 13.0**	**+0.7**
PNSH	**Pansheti**	**2.48**	**45**	P	**Pn**	**01 45 02.7**	**-5.6**
PNSH				S	**Sn**	**01 45 39.3**	**+0.3**
VANB	**Van**	**2.48**	**159**	PN	**Pb**	**01 45 10.9**	**-1.5**
KBZ	**Khabaz**	**2.85**	**10**	Pn	**Pb**	**01 45 16.1**	**-2.5**
	comp=E,2.4nm,0.3s,baz=190,slow=13,SNR=38						
KBZ				Pg	**Pg**	**01 45 20.7**	**-1.3**
	comp=E,7.8nm,0.3s,baz=25,slow=12,SNR=24						
KBZ				Lg	Lg	01 45 58.2	
	comp=E,5.1nm,0.3s,baz=74,slow=14,SNR=5.6						
SVAN	**Silvan-Diyarba**	**2.87**	**196**	PN	**Pb**	**01 45 15.3**	**-3.7**
DDFL	**Dedoflistskaro**	**2.98**	**78**	P	**Pg**	**01 45 23.5**	**-0.9**
KIV	**Kislovodsk**	**3.06**	**6**	PN	**Pn**	**01 45 17.1**	**+0.8**
KVAR	**Kislovodsk Arr**	**3.06**	**6**	Pn	**Pb**	**01 45 19.5**	**-2.7**
	baz=275,slow=23,SNR=4.7						
KVAR				Pg	**Pg**	**01 45 25.2**	**-0.7**
	baz=256,slow=23,SNR=21						
KVAR				Lg	Lg	01 46 04.7	
	baz=288,slow=17,SNR=2.2						
ILIC	**ilic-Erzincan**	**3.16**	**244**	PN	**Pn**	**01 45 19.1**	**+1.3**
SVRC	**Sivrice-ELAZID**	**3.39**	**223**	PN	**Pn**	**01 45 22.6**	**+1.6**
SIRT	**Sirnak**	**3.41**	**177**	PN	**Pn**	**01 45 22.9**	**+1.7**
ARPR	**Arapgir-MALATY**	**3.50**	**240**	PN	**Pn**	**01 45 24.0**	**+1.6**
BRTR	**Keskin Array B**	**6.67**	**263**	Pg	**Pb**	**01 46 26.4**	**+2.6**
	comp=E,0.2nm,0.3s,baz=52,slow=16,SNR=3.8						
BRTR				LR	LR	01 48 59.8	
	comp=E,56nm,21.4s,baz=76,slow=40						
MLR	**Muntele Rosu**	**12.73**	**296**	Pn	**Pn**	**01 47 31.8**	**+2.9**
	comp=E,0.4nm,0.3s,baz=106,slow=18,SNR=3.5						
MLR				Sn	**Sn**	**01 49 49.3**	**-1.6**
	comp=E,0.5nm,0.3s,baz=164,slow=12,SNR=5.8						
AKASG	**Malin Array Be**	**13.32**	**322**	Pn	**Pn**	**01 47 36.3**	**-0.6**
	comp=E,0.7nm,0.3s,baz=137,slow=14,SNR=5.5						
KIRV	**Kirov**	**18.27**	**12**	LR	LR	01 56 27.7	
	comp=E,32nm,18.4s,baz=190,slow=39						
GERES	**GERESS Array B**	**21.62**	**301**	P	**P**	**01 49 21.4**	**+3.3**
	comp=E,0.4nm,0.6s,baz=108,slow=8.3,SNR=3.1						

IDC 29 01:51:28.8±2.2, 7.07S×130.05E, h0km, mb3.9/1, mb1 3.9/2, mb1mx3.4/39, mbtmp3.8/2, ML5.5/1, Error ellipse: s-maj=139.9km s-min=31.9km az=69.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.46**	**162**	Pn	Pn	01 54 41.1	0.0
	23nm,0.3s,baz=345,slow=13,SNR=2.0						
WRA				Sn	Sn	01 57 01.1	-10
	22nm,0.3s,baz=339,slow=22,SNR=1.7						
ASAR	**Alice Springs**	**16.91**	**168**	Pn	Pn	01 55 27.0	0.0
	0.4nm,0.3s,baz=347,slow=10,SNR=21						
ASAR				Sn	Sn	01 58 22.5	-13
	0.3nm,0.3s,baz=357,slow=29,SNR=5.3						
MKAR	**Makanchi Array**	**68.31**	**327**	P		02 02 31.9	0.0
	0.6nm,0.5s,baz=125,slow=5.3,SNR=9.7						

NEIC 29 01:59:35.8±1.8, 21.1N±0.2×94.5E±0.2, h89km±6km, mb4.4/6, Error ellipse: s-maj=32.3km s-min=8.6km az=221.0
IDC 29 01:59:35.8±1.2, 20.89N×94.30E, h85km±9km, mb3.7/7, mb1 3.8/8, mb1mx3.3/39, mbtmp4.0/8, Error ellipse: s-maj=39.7km s-min=11.4km az=38.0
NDI 29 01:59:39.1±1.6, 21.07N×94.11E, h90km, ML3.7, mb4.4(NEIC)
ISC 29 01:59:35.6±0.7, 21.02N±0.09×94.48E±0.08, h91km, n44, σ1s54/52, mb4.3/12, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRDH	**Bariadhala**	**3.11**	**303**	P	**Pn**	**02 00 23.3**	**+0.8**
	0.1nm,0.3s,baz=230,slow=24,SNR=1.7						
BRDH				S	**Sn**	**02 00 57.4**	**-1.4**
	0.2nm,0.3s,baz=42,slow=24,SNR=11						
IMP	**Imphal**	**3.82**	**353**	*ex*	Pn	02 00 40.3	+8.0
KOHI	**KOHIMA**	**4.69**	**356**	*eP*	**Pn**	**02 00 47.4**	**+3.2**
KOHI				*eS*	**Sn**	**02 01 36.6**	**-0.8**
CHTO	**Chiang Mai**	**4.74**	**117**		**Pn**	**02 00 44.6**	**-0.1**
CHTO				Sn	**Sn**	**02 01 35.7**	**-2.8**
CMMT	**Chiang Mai**	**4.75**	**117**	P	**Pn**	**02 00 42.4**	**-2.3**
CM15	**Chiang Mai Arr**	**4.91**	**121**	P	**Pn**	**02 00 48.2**	**+1.2**
CM13	**Chiang Mai Arr**	**4.91**	**121**	P	**Pn**	**02 00 47.5**	**+0.5**
	230nm13nm,0.4s						
CM13	**Chiang Mai Arr**	**4.91**	**121**	P	**Pn**	**02 00 47.0**	**0.0**
CM31	**Chiang Mai Arr**	**4.92**	**120**	Pn	**Pn**	**02 00 46.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**4.92**	**120**	P	**Pn**	**02 00 47.1**	**0.0**
	3.4nm,0.3s,baz=293,slow=14,SNR=24						
CMAR	**Chiang Mai Arr**	**4.92**	**120**		**Pn**	**02 00 45.6**	**-1.5**
CM02	**Chiang Mai Arr**	**4.93**	**121**	P	**Pn**	**02 00 48.4**	**+1.1**
	227nm20nm,0.8s						
CM02	**Chiang Mai Arr**	**4.93**	**121**	P	**Pn**	**02 00 47.3**	**0.0**
CM05	**Chiang Mai Arr**	**4.95**	**121**	P	**Pn**	**02 00 48.1**	**+0.5**
	173nm13nm,0.7s						
CM05	**Chiang Mai Arr**	**4.95**	**121**	P	**Pn**	**02 00 47.4**	**-0.1**
CM01	**Chiang Mai Arr**	**4.95**	**121**	P	**Pn**	**02 00 48.4**	**+0.8**
	256nm22nm,0.7s						
CM01	**Chiang Mai Arr**	**4.95**	**121**	P	**Pn**	**02 00 47.5**	**0.0**
CM09	**Chiang Mai Arr**	**4.96**	**120**	P	**Pn**	**02 00 49.8**	**+2.1**
	188nm14nm,0.5s						
CM09	**Chiang Mai Arr**	**4.96**	**120**	P	**Pn**	**02 00 47.0**	**-0.8**
CM04	**Chiang Mai Arr**	**4.98**	**121**	P	**Pn**	**02 00 48.9**	**+1.0**
	166nm16nm,0.7s						
CM04	**Chiang Mai Arr**	**4.98**	**121**	P	**Pn**	**02 00 47.9**	**0.0**
SHL	**Shillong**	**5.12**	**333**		**Pn**	**02 00 49.5**	**-0.5**
SHL	**Shillong**	**5.12**	**333**	*eP*	**Pn**	**02 00 49.5**	**-0.5**
SHL				*eP*	**Pn**	**02 00 49.5**	**-0.5**
SHL				*eS*	**Sn**	**02 01 42.6**	**-5.2**
SHL				*eS*	**Sn**	**02 01 42.7**	**-5.2**
SHL				IAML		02 01 47.7	
	comp=E,120nm,0.1s						
SHL				IAML		02 01 47.7	
	comp=N,225nm,0.2s						
SUKH	**Sukhothai**	**6.01**	**125**	P	**Pn**	**02 01 02.3**	**+0.4**
SUKH				*S*	**Sn**	**02 02 08.8**	**-0.5**
BOK	**Bokaro**	**8.41**	**291**	*ex*	Pn	02 01 43.0	+8.3
BOK				*eS*	Sn	02 02 56.7	-11
NIL	**Nilore**	**22.61**	**308**	P	**P**	**02 04 28.1**	**-0.8**
NIL				IAmb	IAmb	02 04 31.8	
	comp=Z,9.5nm,0.5s						
MK31	**Makanchi Array**	**27.56**	**342**	P	**P**	**02 05 14.0**	**+0.1**
MKAR	**Makanchi Array**	**27.56**	**342**	P	**P**	**02 05 15.7**	**+1.8**
	comp=Z,1.1nm,0.6s,baz=156,slow=8.2,SNR=8.7						
MKAR				pP	**pP**	**02 05 35.4**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=157,slow=8.5,SNR=3.0						
MKAR	**Makanchi Array**	**27.56**	**342**	P	**P**	**02 05 13.7**	**-0.2**
ZALV	**Zalesovo Beam**	**33.69**	**350**	P	**P**	**02 06 09.5**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=166,slow=10.0,SNR=2.2						
ZALV				pP	**pP**	**02 06 28.3**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=168,slow=7.4,SNR=1.9						
ZALV	**Zalesovo Beam**	**33.69**	**350**	P	**P**	**02 06 07.7**	**-0.1**
AKTO	**Aktyubinsk**	**41.00**	**325**	P	**P**	**02 07 10.7**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=113,slow=6.8,SNR=3.0						
AKTO				pP	**pP**	**02 07 31.3**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=122,slow=6.0,SNR=6.0						
WB0	**Warramunga Arr**	**56.29**	**133**	P	**P**	**02 09 06.5**	**-0.6**
WB0				IAmb	IAmb	02 09 17.8	
	comp=Z,7.1nm,1.4s						
WRA	**Warramunga Arr**	**56.38**	**134**	P	**P**	**02 09 08.5**	**+0.8**
	comp=Z,121nm,0.6s,baz=319,slow=7.6,SNR=1.2						
WRA	**Warramunga Arr**	**56.38**	**134**	P	**P**	**02 09 07.4**	**-0.3**
WB2	**Warramunga Arr**	**56.38**	**134**	P	**P**	**02 09 06.1**	**-1.6**
WB2				IAmb	IAmb	02 09 23.9	
	comp=Z,4.8nm,1.1s						
ASAR	**Alice Springs**	**58.71**	**137**	P	**P**	**02 09 25.4**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=318,slow=7.2,SNR=7.8						
ASAR	**Alice Springs**	**58.71**	**137**	P	**P**	**02 09 24.6**	**+0.6**
FINES	**FINESS Array B**	**61.45**	**329**	P	**P**	**02 09 42.8**	**+0.6**
	comp=Z,3.5nm,1.1s,baz=115,slow=9.8,SNR=3.4						
ARCES	**ARCESS Array B**	**63.15**	**338**	P	**P**	**02 09 54.7**	**+1.3**
	comp=Z,3.5nm,0.9s,baz=96,slow=7.3,SNR=2.2						
GERES	**GERESS Array B**	**68.49**	**316**	P	**P**	**02 10 29.1**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=52,slow=6.4,SNR=3.7						
GERES	**GERESS Array B**	**68.49**	**316**	P	**P**	**02 10 29.4**	**+1.2**
IMAR	**Indian Mountai**	**79.42**	**23**	P	**P**	**02 11 30.4**	**-1.1**
CAST	**Castle Rocks**	**81.30**	**25**	P	**P**	**02 11 43.1**	**+1.4**
CAST				IAmb	IAmb	02 11 57.3	
	comp=Z,5.4nm,1.3s						

IDC 29 02:16:04.7±6.4, 3.84S×103.77E, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.3/31, mbtmp3.4/2, Error ellipse: s-maj=351.7km s-min=82.4km az=46.0
DJA 29 02:16:11.4±1.9, 5.5S×6.3E, h20km±24km, M3.5/8, MLv3.5/8
ISC 29 02:16:11.2±1.0, 4.96S±0.08×103.06E±0.04, h35km, n15, σ1s93/14, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGSI	**Enggano, Bengk**	**0.87**	**244**	P	**Pn**	**02 16 27.8**	**+0.8**
EGSI				S	**Sn**	**02 16 41.6**	**+3.2**
LWLI	**Liwa**	**1.00**	**93**	P	**Pn**	**02 16 30.0**	**+1.2**
LWLI				S	**Sn**	**02 16 44.1**	**+2.4**
MDSI	**Maura Dua**	**1.21**	**67**	P	**Pn**	**02 16 33.0**	**+1.4**
LHSI	**Lahat**	**1.22**	**22**	P	**Pn**	**02 16 32.6**	**+0.8**
UBSI	**University, Be**	**1.43**	**327**	P	**Pn**	**02 16 35.9**	**+1.2**
KLSI		**1.69**	**81**	P	**Pn**	**02 16 40.0**	**+1.8**
MASI	**Maura Aman, Be**	**1.99**	**336**	P	**Pn**	**02 16 43.6**	**+1.2**
PPSI	**Pulau Pagai**	**3.75**	**306**	P	**Pn**	**02 17 07.3**	**+0.7**
FITZ	**Fitzroy Crossi**	**25.64**	**122**	P	**P**	**02 21 36.1**	**-1.7**
	0.9nm,0.9s,baz=287,slow=9.1,SNR=1.6						
H08S2	**Diego Garcia H**	**30.49**	**263**	T	T	02 54 15.8	
	baz=84						
H08S3	**Diego Garcia H**	**30.50**	**263**	T	T	02 54 08.3	
	baz=84						
H08S1	**Diego Garcia H**	**30.51**	**263**	T	T	02 54 15.5	
	baz=84						
WRA	**Warramunga Arr**	**33.88**	**119**	P	**P**	**02 22 49.8**	**-1.1**
	163nm,0.7s,baz=299,slow=8.8,SNR=1.5						
ASAR	**Alice Springs**	**35.05**	**125**	P	**P**	**02 22 59.7**	**-1.3**
	0.2nm,0.3s,baz=300,slow=8.1,SNR=2.3						
TXAR	**Lajitas Array**	**144.97**	**43**	PKP	**PKPab**	**02 35 42.1**	**-2.8**
	0.1nm,0.3s,baz=208,slow=2.8,SNR=2.1						

SKO 29 02:27:02.1, 40.55N×19.90E, h8km
TIR 29 02:27:02.1, 40.66N×20.00E, h3km, Md2.9, Ml2.9
ATH 29 02:27:03.5, 40.68N×20.00E, h18km±6km, ML2.6/4, Error ellipse: s-maj=6.2km s-min=1.0km az=318.0
THE 29 02:27:03.1, 40.66N×20.00E, h0km±2km, MPL2.4/7, Error ellipse: s-maj=2.9km s-min=0.7km az=290.0
PDG 29 02:27:03.0±0.4, 40.65N×19.98E, h10km, MPL2.7/10, Error ellipse: s-maj=0.6km s-min=1.0km az=0.0
ISC 29 02:27:03.0±1.0, 40.67N±0.02×19.98E±0.02, h13km±8km, n59, σ1s91/105, 6C-4D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLO	**Vlora**	**0.42**	**242**	P	**Pg**	**02 27 10.7**	**-0.6**
VLO				S	**Sb**	**02 27 18.0**	**-0.5**
	3μm,0.4s						
VLO	**Vlora**	**0.42**	**242**	P	**Pg**	**02 27 10.9**	**-0.3**
	baz=244						
VLO				S	**Sb**	**02 27 19.0**	**+0.5**
	baz=244						
KBN	**Korca**	**0.62**	**94**	P	**Pg**	**02 27 14.2**	**-0.9**
KBN				S	**Sb**	**02 27 24.2**	**-0.2**
	458nm,0.5s						
KBN	**Korca**	**0.62**	**94**	P	**Pg**	**02 27 14.7**	**-0.4**
	baz=93						
KBN				S	**Sb**	**02 27 25.1**	**+0.7**
	baz=93						
TIR	**Tirane**	**0.69**	**353**	P	**Pg**	**02 27 16.5**	**+0.2**
TIR				S	**Sb**	**02 27 27.3**	**+1.0**
	230nm,0.7s						
TIR	**Tirane**	**0.69**	**353**	P	**Pg**	**02 27 16.5**	**+0.2**
TIR				S	**Sg**	**02 27 25.7**	**+0.3**
TIR	**Tirane**	**0.69**	**353**	P	**Pg**	**02 27 16.6**	**+0.2**
	baz=352						
TIR				S	**Sn**	**02 27 28.3**	**-0.8**
	baz=352						
TIR	**Tirane**	**0.69**	**353**	*i* Pg	**Pg**	**02 27 16.7**	**+0.3**
LSK	**Leskovik**	**0.70**	**137**	P	**Pg**	**02 27 15.0**	**-1.7**
LSK	**Leskovik**	**0.70**	**137**	P	**Pg**	**02 27 15.7**	**-1.0**
	baz=137						
LSK				S	**Sb**	**02 27 27.6**	**+0.8**
	baz=137						
OHR	**Ohrid**	**0.77**	**54**	*i* Pg	**Pg**	**02 27 17.5**	**-0.4**
OHR				*i* Sg	**Sn**	**02 27 30.5**	**-0.6**
OHR				*eL*g	Lg	02 27 32.2	
	comp=N,93nm,0.4s						
SRN	**Sarande**	**0.79**	**179**	P	**Pg**	**02 27 18.0**	**-0.2**
SRN				S	**Sb**	**02 27 28.9**	**-0.2**
	comp=N,255nm,0.6s						
SRN	**Sarande**	**0.79**	**179**	P	**Pg**	**02 27 18.1**	**-0.1**
	baz=179						
SRN				S	**Sn**	**02 27 31.3**	**-0.1**
	baz=179						
NEST	**Nestorio**	**0.85**	**107**	P	**Pg**	**02 27 18.5**	**-1.1**
NEST	**Nestorio**	**0.85**	**107**	P	**Pg**	**02 27 19.3**	**-0.3**
NEST				S	**Sg**	**02 27 30.1**	**-0.6**
KASA	**Kassiopi**	**0.92**	**182**	P	**Pb**	**02 27 20.8**	**0.0**
KASA				S	**Sb**	**02 27 32.8**	**-0.1**
KEK	**Kerkira**	**0.96**	**188**	P	**Pg**	**02 27 21.3**	**-0.3**
KEK				S	**Sb**	**02 27 34.8**	**+0.6**
	comp=N,230nm,0.4s						
KEK	**Kerkira**	**0.96**	**188**	P	**Pg**	**02 27 21.3**	**-0.3**
KEK				S	**Sb**	**02 27 35.0**	**+0.8**
KEK				AML	AML	02 27 40.7	
	comp=E,470μm,0.5s						
KEK				AML	AML	02 27 42.6	
	comp=N,433μm,0.3s						
FNA	**Florina**	**1.07**	**83**	P	**Pb**	**02 27 22.5**	**-1.0**
FNA				S	**Sg**	**02 27 38.1**	**+0.5**
	comp=N,320nm,0.4s						
FNA	**Florina**	**1.07**	**83**	P	**Pb**	**02 27 22.6**	**-0.8**
FNA				S	**Sb**	**02 27 36.2**	**-1.2**
FNA				AML	AML	02 27 43.7	
	comp=N,768μm,0.5s						
FNA				AML	AML	02 27 43.9	
	comp=E,533μm,0.3s						
FNA	**Florina**	**1.07**	**83**	P	**Pb**	**02 27 22.8**	**-0.6**
	baz=83						
FNA				S	**Sn**	**02 27 39.4**	**+0.7**
	baz=83						
FNA	**Florina**	**1.07**	**83**	*i* Pg	**Pb**	**02 27 22.8**	**-0.6**
FNA				*i* Sg	**Sn**	**02 27 39.2**	**+0.6**
PHP	**Peshkopia**	**1.08**	**19**	P	**Pb**	**02 27 23.3**	**-0.3**
PHP				S	**Sn**	**02 27 39.7**	**+0.9**
PHP	**Peshkopia**	**1.08**	**19**	P	**Pn**	**02 27 24.1**	**+0.2**
	baz=17						
PHP				S	**Sn**	**02 27 40.9**	**+2.1**
	baz=17						
IGT	**Igoumenitsa**	**1.17**	**166**	P	**Pb**	**02 27 24.6**	**-0.4**
IGT				S	**Sn**	**02 27 42.6**	**+1.8**
	comp=E,325nm,0.5s						
IGT	**Igoumenitsa**	**1.17**	**166**	P	**Pb**	**02 27 24.7**	**-0.3**
IGT				S	**Sb**	**02 27 40.1**	**0.0**
IGT				AML	AML	02 27 44.9	
	comp=N,674μm,0.7s						
IGT				AML	AML	02 27 44.9	
	comp=E,627μm,0.4s						
IGT	**Igoumenitsa**	**1.17**	**166**	*i* Pg	**Pb**	**02 27 24.7**	**-0.3**

GTOI	**Gorontalo**	**1.09**	**72**	P	**Pn**	**02 42 09.6**	**+0.2**
GTOI				S	**Sn**	**02 42 32.8**	**-0.1**
APSI	**Ampana**	**1.24**	**195**	P	**Pn**	**02 42 11.1**	**+0.5**
APSI				S	**Sn**	**02 42 34.7**	**-0.5**
LUWI	**Luwuk**	**1.55**	**149**	P	**Pn**	**02 42 13.5**	**+0.3**
MPSI	**Mapaga**	**2.07**	**271**	P	**Pn**	**02 42 18.3**	**0.0**
WRA	**Warramunga Arr**	**23.49**	**150**	P	**P**	**02 46 29.5**	**-1.4**
	158nm,0.6s,baz=312,slow=8.6,SNR=1.7						
ASAR	**Alice Springs**	**26.49**	**155**	P	**P**	**02 46 58.4**	**+0.3**
	0.2nm,0.4s,baz=339,slow=13,SNR=4.4						
MKAR	**Makanchi Array**	**57.82**	**329**	P	**P**	**02 51 10.6**	**+1.0**
	0.3nm,0.3s,baz=126,slow=7.3,SNR=4.2						

SJA ***29*** *02:56:31.0,33.05S×72.54W,h10km,ML4.9*
IDC ***29*** *02:56:31.1±1.2,33.00S×71.93W,h0km,mb4.1/5, mb1 4.2/10,mb1mx4.0/30,mbtmp4.0/10,ML4.0/5,MS3.6/5, Ms1 3.6/5,ms1mx3.2/22,Error ellipse: s-maj=31.7km s-min=24.9km az=82.0*
GUC ***29*** *02:56:33.4±0.7,33.04S×72.21W,h32km±3km,ML4.3*
NEIC ***29*** *02:56:33.3±1.4,33.02S±0.02×72.19W±0.04,h19km±3km, mb4.4/13,Mwr4.3/32,ML4.3(GUC),Error ellipse: s-maj=5.2km s-min=2.9km az=71.0*
NEIC ***29*** *02:56:33.8,33.05S×72.16W,h22km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr-1.96; Mθθ-0.06; Mϕϕ2.02; Mrθ-0.11; Mrϕ-0.79; Mθϕ2.26; Fault plane solution: M₀3.11000×10¹⁵ NP1:ϕ173.57000°, δ68.81000°,λ-79.63000°. NP2:ϕ326.72000°,δ23.48000°, λ-114.91000°. Principal axes: T 3.2162, Plg23.0000°, Azm256.0000°; N -0.2195, Plg10.0000°, Azm350.0000°; P -2.9967, Plg65.0000°, Azm101.0000°;*
VAO ***29*** *02:56:36.6±0.5,32.65S×71.79W,h10km,mb4.4*

ISC 29 02:56:32.2±1.5,33.01S±0.03×72.26W±0.05,h12km±9km, n145,σ1§20/155,mb4.4/7,3C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.52**	**92**	*e*P	**Pg**	**02 56 42.7**	**+0.5**
VA01				*i* S	**Sg**	**02 56 49.6**	**+0.5**
VA01	**Torpederas**	**0.52**	**92**	Pg	**Pg**	**02 56 42.7**	**+0.5**
VA01				Sg	**Sg**	**02 56 49.4**	**+0.4**
VA01	**Torpederas**	**0.52**	**92**	*i* P	**Pg**	**02 56 42.0**	**-0.2**
VA05	**Santo Domingo**	**0.84**	**140**	*e*P	**Pb**	**02 56 48.4**	**-0.3**
VA05				*i* S	**Sb**	**02 56 59.2**	**-0.9**
VA05				IAML		02 57 01.6	
	comp=N,28μm,0.3s						
VA05	**Santo Domingo**	**0.84**	**140**	Pg	**Pb**	**02 56 48.5**	**-0.3**
VA05				Sg	**Sb**	**02 56 59.5**	**-0.6**
VA06	**Catapilco**	**0.93**	**62**	*e*P	**Pb**	**02 56 49.8**	**-0.4**
VA06				*i* S	**Sb**	**02 57 02.0**	**-0.4**
ROCH	**El Roble**	**1.05**	**88**	*e*P	**Pb**	**02 56 51.5**	**-0.9**
ROCH				*i* S	**Sb**	**02 57 05.0**	**-1.2**
MT01	**Popeta**	**1.20**	**136**	*e*P	**Pn**	**02 56 53.7**	**-1.2**
MT01				*i* S	**Sb**	**02 57 08.8**	**-1.5**
MT01				IAML		02 57 10.5	
	comp=N,12μm,0.3s						
MT01	**Popeta**	**1.20**	**136**	Pn	**Pn**	**02 56 53.8**	**-1.0**
MT01				Sn	**Sb**	**02 57 08.9**	**-1.5**
MT01	**Popeta**	**1.20**	**136**	*i* P	**Pn**	**02 56 54.0**	**-0.8**
MT09	**Talagante**	**1.31**	**126**	*e*P	**Pn**	**02 56 55.7**	**-0.7**
MT09				*i* S	**Sb**	**02 57 12.3**	**-1.4**
MT09				IAML		02 57 16.7	
	comp=N,12μm,0.2s						
MT09	**Talagante**	**1.31**	**126**	Pn	**Pn**	**02 56 55.9**	**-0.6**
MT09				Sn	**Sb**	**02 57 12.3**	**-1.4**
MT05	**Renca**	**1.33**	**107**	*e*P	**Pn**	**02 56 56.2**	**-0.5**
MT05				*i* S	**Sn**	**02 57 13.0**	**-1.4**
MT05				IAML		02 57 24.3	
	comp=N,8μm,0.4s						
MT05	**Renca**	**1.33**	**107**	Pn	**Pn**	**02 56 56.1**	**-0.5**
MT05				Sn	**Sn**	**02 57 13.3**	**-1.1**
MT05	**Renca**	**1.33**	**107**	*i* P	**Pn**	**02 56 56.0**	**-0.7**
VA03	**San Esteban**	**1.46**	**81**	*e*P	**Pn**	**02 56 57.7**	**-0.7**
VA03				*i* S	**Sn**	**02 57 16.8**	**-0.8**
VA03				IAML		02 57 22.4	
	comp=N,11μm,0.4s						
VA03	**San Esteban**	**1.46**	**81**		**Pn**	**02 56 57.8**	**-0.7**
VA03				Sn	**Sn**	**02 57 15.8**	**-1.7**
VA03	**San Esteban**	**1.46**	**81**	*i* P	**Pn**	**02 56 58.0**	**-0.4**
BO03	**Pichilemu**	**1.51**	**171**	⇑*i* P	**Pn**	**02 56 58.5**	**-0.5**
BO03				*i* S	**Sn**	**02 57 15.9**	**-2.6**
BO01	**Tunca**	**1.69**	**145**	*i* S	**Sn**	**02 57 22.5**	**-0.7**
BO01	**Tunca**	**1.69**	**145**	Pn	**Pn**	**02 57 00.9**	**-0.7**
BO01	**Tunca**	**1.69**	**145**	*i* P	**Pn**	**02 57 01.0**	**-0.6**
LMEL	**Las Melosas**	**1.91**	**117**	*e*P	**Pn**	**02 57 05.2**	**+0.5**
LMEL				*i* S	**Sn**	**02 57 29.4**	**+0.5**
LMEL				IAML		02 57 36.1	
	comp=N,4μm,0.2s						
GO05	**Huala**	**2.02**	**172**	*e*P	**Pn**	**02 57 05.1**	**-1.0**
GO05				IAML		02 57 46.5	
	comp=E,2μm,0.3s						
GO05	**Huala**	**2.02**	**172**	Pn	**Pn**	**02 57 05.5**	**-0.6**
GO05	**Huala**	**2.02**	**172**	*i* P	**Pn**	**02 57 06.0**	**-0.1**
CO02	**Combarbal**	**2.09**	**31**	⇑*i* P	**Pn**	**02 57 07.0**	**-0.2**
CO02				*i* S	**Sn**	**02 57 32.7**	**-0.5**
CO02	**Combarbal**	**2.09**	**31**		**Pn**	**02 57 07.0**	**-0.2**
BO02	**Sierra Bellavi**	**2.16**	**146**	*e*P	**Pn**	**02 57 08.4**	**+0.3**
BO02				*i* S	**Sn**	**02 57 35.0**	**+0.1**
BO02	**Sierra Bellavi**	**2.16**	**146**	Pn	**Pn**	**02 57 08.2**	**0.0**
BO02	**Sierra Bellavi**	**2.16**	**146**	*i* P	**Pn**	**02 57 09.0**	**+0.9**
CO06	**Fray Jorge**	**2.39**	**13**	*e*P	**Pn**	**02 57 08.2**	**-2.9**
CO06				IAML		02 57 59.3	
	comp=E,1μm,0.7s						
CO06	**Fray Jorge**	**2.39**	**13**		**Pn**	**02 57 10.2**	**-0.9**
CO03	**El Pedregal**	**2.54**	**32**	⇑*i* P	**Pn**	**02 57 13.5**	**+0.1**
CO03				IAML		02 57 57.2	
	comp=E,2μm,0.7s						
CO03	**El Pedregal**	**2.54**	**32**	Pn	**Pn**	**02 57 13.4**	**+0.1**
AUSP	**Uspallata**	**2.55**	**73**	*i* P	**Pb**	**02 57 16.0**	**-2.0**
RTLS	**Leoncito**	**2.78**	**65**	*i* P	**Pb**	**02 57 21.0**	**-1.0**
ML02	**Panimavida**	**2.84**	**166**	Pn	**Pn**	**02 57 17.2**	**-0.1**
AAGR	**Agrelo**	**2.88**	**92**	*i* P	**Pb**	**02 57 23.0**	**-0.6**
ASAL	**Salagasta**	**2.91**	**83**	*i* P	**Pb**	**02 57 24.0**	**-0.1**
COIS	**El Sosneado**	**3.05**	**134**	*i* P	**Pn**	**02 57 22.0**	**+1.8**
GO04	**Tololo Observa**	**3.09**	**24**	Pn	**Pn**	**02 57 20.9**	**-0.1**
CO05	**La Serena**	**3.20**	**16**	Pn	**Pn**	**02 57 22.0**	**-0.3**
ZON	**Zonda**	**3.37**	**65**	*i* P	**Pb**	**02 57 30.0**	**-1.8**
PUMA	**Malargue**	**3.40**	**138**	*i* P	**Pn**	**02 57 28.0**	**+2.9**
ACCO	**Cerro Coronel**	**3.63**	**49**	*i* P	**Pn**	**02 57 32.0**	**+3.4**
LCO	**Las Campanas**	**4.20**	**19**		**Pn**	**02 57 35.9**	**-0.4**
LCO	**Las Campanas**	**4.20**	**19**	*i* P	**Pn**	**02 57 36.0**	**-0.4**
AGUA	**GUANDACOL**	**4.77**	**44**	*i* P	**Pn**	**02 57 46.0**	**+2.1**
AC04	**Llanos de Chal**	**4.89**	**12**	Pn	**Pn**	**02 57 44.2**	**-1.4**
AC04	**Llanos de Chal**	**4.89**	**12**	*i* P	**Pn**	**02 57 45.0**	**-0.6**
VCA	**Vinchina**	**5.50**	**40**	*i* P	**Pn**	**02 57 56.0**	**+1.9**
APLL	**PUNTA DE LOS L**	**5.54**	**63**	*i* P	**Pn**	**02 57 56.0**	**+1.5**
MRA	**San Martin**	**5.55**	**86**	*i* P	**Pn**	**02 57 59.0**	**+4.3**
H03N1	**Juan Fernandez**	**5.59**	**264**	T	T	03 04 55.3	
	baz=88,slow=73,SNR=262						
H03N3	**Juan Fernandez**	**5.60**	**264**	T	T	03 04 40.1	
	baz=88,slow=73,SNR=245						
H03N2	**Juan Fernandez**	**5.61**	**264**	T	T	03 04 54.4	
	baz=88,slow=73,SNR=291						
H03S1	**Juan Fernandez**	**5.62**	**260**	T	T	03 04 21.2	
	baz=85,slow=75,SNR=969						
H03S3	**Juan Fernandez**	**5.62**	**260**	T	T	03 04 20.1	
	baz=85,slow=75,SNR=804						
H03S2	**Juan Fernandez**	**5.64**	**260**	T	T	03 04 25.0	
	baz=85,slow=75,SNR=878						
GO03	**Copiap**	**5.67**	**19**	Pn	**Pn**	**02 57 55.3**	**-1.1**
GO03	**Copiap**	**5.67**	**19**	*i* P	**Pn**	**02 57 56.0**	**-0.4**
ACLC	**CERRO LA CRUZ**	**5.78**	**53**	*i* P	**Pn**	**02 57 59.0**	**+1.1**
LC01	**Cunco**	**5.89**	**177**	Pn	**Pn**	**02 57 58.5**	**-0.7**
LC01	**Cunco**	**5.89**	**177**	*i* P	**Pn**	**02 58 00.0**	**+0.8**
LR03	**Panguipulli**	**6.61**	**181**	Pn	**Pn**	**02 58 08.3**	**-0.9**
AC02	**Maricunga**	**6.72**	**25**	Pn	**Pn**	**02 58 10.3**	**-0.9**
AC02	**Maricunga**	**6.72**	**25**	*i* P	**Pn**	**02 58 11.0**	**-0.2**
PLCA	**Paso Flores**	**7.83**	**170**	Pn	**Pn**	**02 58 26.2**	**+0.2**
	comp=E,0.5nm,0.3s,baz=324,slow=12,SNR=11						
PLCA	**Paso Flores**	**7.83**	**170**	Pn	**Pn**	**02 58 26.0**	**0.0**
TRQA	**Tornquist**	**9.77**	**124**	Pn	**Pn**	**02 58 52.4**	**-0.2**
LVC	**Limon Verde**	**10.77**	**17**	Pn	**Pn**	**02 59 03.9**	**-2.7**
	comp=E,0.4nm,0.3s,baz=266,slow=5.9,SNR=1.7						
LVC				LR	LR	03 03 22.6	
	comp=E,118nm,21.4s,baz=201,slow=38						
LVC	**Limon Verde**	**10.77**	**17**	Pn	**Pn**	**02 59 06.3**	**-0.3**
LVC	**Limon Verde**	**10.77**	**17**	*i* P	**Pn**	**02 59 09.0**	**+2.4**
ITQB	**Itaqui**	**13.77**	**80**		**Pn**	**02 59 47.1**	**-0.1**
CPUP	**Villa Florida**	**14.58**	**67**	Pn	**Pn**	**02 59 56.9**	**-1.4**
	comp=E,0.3nm,0.3s,baz=244,slow=12,SNR=6.6						
CPUP				LR	LR	03 05 56.4	
	comp=E,257nm,18.7s,baz=246,slow=40						
CPUP	**Villa Florida**	**14.58**	**67**	*e*P	**Pn**	**02 59 57.5**	**-0.9**
CPUP	**Villa Florida**	**14.58**	**67**	*e*P	**Pn**	**02 59 57.4**	**-0.9**
PLTB	**Pedras Altas**	**15.81**	**91**	*e*P	**Pn**	**03 00 15.0**	**+0.3**
LPAZ	**La Paz**	**17.06**	**14**	Pn	**Pn**	**03 00 31.4**	**+0.2**
	comp=E,0.4nm,0.3s,baz=185,slow=7.0,SNR=36						
LPAZ	**La Paz**	**17.06**	**14**	Pn	**Pn**	**03 00 31.2**	**0.0**
PTGB	**Pitanga**	**19.50**	**70**	*e*P	**P**	**03 00 59.4**	**+0.1**
SIV	**San Ignacio**	**19.74**	**34**	P	**P**	**03 01 01.2**	**-0.7**
	comp=E,0.3nm,0.3s,baz=231,slow=11,SNR=11						
SIV				LR	LR	03 10 11.9	
	comp=E,135nm,19.8s,baz=238,slow=42						
TRCB	**Terra Rica**	**20.08**	**65**	P	**P**	**03 01 04.8**	**-0.8**
TRCB				IAmb	IAmb	03 01 05.4	
	comp=Z,20nm,0.9s						
TRCB	**Terra Rica**	**20.08**	**65**	*e*P	**P**	**03 01 04.9**	**-0.8**
TER01	**Tubaro-SC**	**20.36**	**83**	*e*P	**P**	**03 01 08.0**	**-0.6**
PTLB	**Pontes e Lacer**	**21.15**	**37**	*e*P	**P**	**03 01 16.9**	**-0.2**
TIJ01	**Guaruva-PR**	**21.67**	**75**	*e*P	**P**	**03 01 22.6**	**-0.3**
PCMB	**Pacaembu**	**21.80**	**64**	*e*P	**P**	**03 01 22.2**	**-2.0**
PP1B	**Ponte de Pedra**	**21.91**	**50**	*e*P	**P**	**03 01 24.0**	**-1.4**
FRTB	**Fartura**	**22.16**	**70**	*e*P	**P**	**03 01 29.5**	**+1.4**
SALV	**Santo Antonio**	**22.69**	**45**	*e*P	**P**	**03 01 31.8**	**-2.0**
VILB	**Vilhena**	**22.80**	**32**	*e*P	**P**	**03 01 34.0**	**-1.0**
ITRB	**Iturama**	**23.62**	**61**	*e*P	**P**	**03 01 42.4**	**-0.8**
SPB	**Sao Paulo**	**23.74**	**73**	*e*P	**P**	**03 01 44.0**	**-0.3**
ETMB	**Extrema**	**23.74**	**15**	*e*P	**P**	**03 01 45.3**	**+0.9**
BB19B	**Bebedouro**	**24.19**	**67**	*e*P	**P**	**03 01 47.8**	**-0.9**
VAO	**Valinhos**	**24.40**	**72**	*e*P	**P**	**03 01 49.4**	**-1.3**
CZSB	**Cruzeiro do Su**	**25.16**	**359**	*e*P	**P**	**03 01 59.2**	**+1.8**
SAML	**Samuel**	**25.37**	**21**	P	**P**	**03 01 58.8**	**-0.5**
SAML				IAmb	IAmb	03 02 01.9	
	comp=Z,8.0nm,0.8s						
SAML	**Samuel**	**25.37**	**21**	*e*P	**P**	**03 01 59.8**	**+0.5**
CLDB	**Colider**	**26.73**	**38**	*e*P	**P**	**03 02 12.0**	**+0.3**
BSCB	**Bom Sucesso**	**27.17**	**71**	*e*P	**P**	**03 02 14.7**	**-1.0**
VAS01	**Vassouras-RJ**	**27.59**	**75**	*e*P	**P**	**03 02 20.3**	**+0.9**
BDFB	**Brasilia**	**27.94**	**58**	P	**P**	**03 02 21.2**	**-1.5**
BDFB	comp=Z,2.9nm,0.5s,baz=224,slow=4.4,SNR=5.5			LR	LR	03 15 05.9	
	comp=Z,203nm,20.3s,baz=339,slow=40						
BDFB	**Brasilia**	**27.94**	**58**	P	**P**	**03 02 21.4**	**-1.3**
SNDB	**Serra Nova Dou**	**28.41**	**47**	*e*P	**P**	**03 02 28.6**	**+1.9**
DUB01	**Friburgo-RJ**	**28.55**	**75**	*e*P	**P**	**03 02 28.5**	**+0.4**
TBTG	**Tabatinga, AM**	**28.76**	**5**	*e*P	**P**	**03 02 31.6**	**+1.8**
CAM01	**Campos-RJ**	**29.26**	**75**	*e*P	**P**	**03 02 35.5**	**+1.2**
NPGB	**Novo Progresso**	**30.23**	**35**	*e*P	**P**	**03 02 41.6**	**-1.2**
PEXB	**Peixe**	**30.23**	**52**	*e*P	**P**	**03 02 42.7**	**-0.2**
JANB	**Januaria**	**31.01**	**62**	*e*P	**P**	**03 02 51.7**	**+1.9**
SJMB	**Sao Joao De Ma**	**31.25**	**71**	*e*P	**P**	**03 02 53.4**	**+1.5**
MACA	**Manacapuru-AM**	**31.61**	**22**	*e*P	**P**	**03 02 55.5**	**+0.5**
PMSA	**Palmer Station**	**32.19**	**173**	*e*P	**P**	03 03 06.8	+7.2
SDBA	**SAO DESIDERIO**	**32.34**	**57**	*e*P	**P**	**03 03 08.6**	**-1.0**
ITTB	**Itaituba**	**32.41**	**32**	*e*P	**P**	**03 03 00.8**	**-1.3**
SMTB	**Santa Maria do**	**33.12**	**49**	*e*P	**P**	**03 03 07.7**	**-0.6**
GUA01	**Guaratinga, BA**	**33.52**	**69**	*e*P	**P**	**03 03 13.0**	**+1.2**
OTAV	**Otavalo**	**33.58**	**349**	*e*P	**P**	**03 03 16.5**	**+3.7**
PRPB	**Parauapebas**	**33.89**	**43**	*e*P	**P**	**03 03 14.1**	**-1.0**
CMC01	**Camacan, BA**	**34.45**	**67**	*e*P	**P**	**03 03 20.5**	**+0.6**
MALB	**Monte Alegre**	**35.30**	**32**	*e*P	**P**	**03 03 26.5**	**-0.7**
NBPN	**Ponto Novo - B**	**36.78**	**61**	*e*P	**P**	**03 03 38.7**	**-1.3**
BOAV	**Boa Vista**	**36.92**	**20**	*e*P	**P**	**03 03 41.0**	**-0.1**
NBLA	**Lagarto - SE**	**38.47**	**63**	*e*P	**P**	**03 03 54.7**	**+0.4**
RUSC	**La Rusia**	**38.69**	**359**	P	**P**	**03 03 56.6**	**0.0**
NBPS	**Pedro II - PI**	**40.46**	**52**	*e*P	**P**	**03 04 09.9**	**-1.1**
NBPB	**Pedra_Branca-C**	**40.88**	**55**	*e*P	**P**	**03 04 13.7**	**-0.7**
SDV	**Santo Domingo**	**41.69**	**2**	*e*P	**P**	**03 04 22.4**	**+1.3**
MDP	**Montagnes des**	**42.23**	**30**	LR	LR	03 24 00.2	
	comp=Z,102nm,19.6s,baz=240,slow=39						
VNA2	**Neumayer--Watz**	**51.00**	**157**	P	**P**	**03 05 31.5**	**-1.9**
QSPA	**South Pole Qui**	**57.23**	**180**	P	**P**	**03 06 19.2**	**0.0**
TXAR	**Lajitas Array**	**68.78**	**331**	P	**P**	**03 07 38.0**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=156,slow=8.7,SNR=5.6						
TXAR	**Lajitas Array**	**68.78**	**331**	P	**P**	**03 07 36.7**	**+0.5**
MNTX	**Cornudas Mount**	**71.56**	**331**	P	**P**	**03 07 53.8**	**+0.7**
MNTX				IAmb	IAmb	03 08 06.1	
	comp=Z,2.9nm,0.8s						
OKCSW	**OKLAHOMA CITY**	**72.03**	**339**	P	**P**	**03 07 56.6**	**+0.7**
OKCFA	**Oklahoma City**	**72.04**	**339**	P	**P**	**03 07 56.6**	**+0.6**
BOSA	**Boshof**	**80.70**	**118**	P	**P**	**03 08 45.2**	**-0.4**
	comp=Z,7.9nm,1.1s,baz=322,slow=0.6,SNR=5.8						
NVAR	**Mina Array Bea**	**82.96**	**325**	P	**P**	**03 08 59.4**	**+2.2**
	comp=Z,0.2nm,0.5s,baz=144,slow=6.7,SNR=2.2						
TORD	**Torodi Ar. Bea**	**84.05**	**70**	P	**P**	**03 09 02.3**	**-0.7**
	comp=Z,2.9nm,0.9s,baz=285,slow=4.8,SNR=16						
TORD	**Torodi Ar. Bea**	**84.05**	**70**	P	**P**	**03 09 02.4**	**-0.7**
TORD				IAmb	IAmb	03 09 03.8	
	comp=Z,2.9nm,0.9s						
ZALV	**Zalesovo Beam**	**153.48**	**31**	PKPbc	**PKiKP**	**03 16 30.1**	**0.0**
	comp=Z,0.8nm,0.3s,baz=290,slow=40,SNR=2.2						
MKAR	**Makanchi Array**	**156.24**	**47**	PKPab	**PKPab**	**03 16 54.7**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=308,slow=4.5,SNR=5.7						

IDC ***29*** *03:03:02.7±1.9,22.21S×170.37E,h0km,mb4.0/8, mb1 4.2/9,mb1mx4.0/27,mbtmp4.0/9,ML3.6/1,Error ellipse: s-maj=60.6km s-min=25.3km az=148.0*
NEIC ***29*** *03:03:05.8±1.1,22.20S±0.09×170.29E±0.08,h17km±7km, mb4.4/5,Error ellipse: s-maj=13.2km s-min=10.3km az=176.0*

ISC 29 03:03:07.9±0.6,22°2S±0.1×170°31E±0.06,h35km,n42, σ1§03/47,mb4.0/11,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.23**	**288**		**Pn**	**03 03 41.9**	**-0.5**
MARNC				Sn	**Sn**	**03 04 08.0**	**-0.2**
MARNC	**Mare, Loyalty**	**2.23**	**288**	P	Pn	03 03 47.3	+4.9
PINNC	**Pines Island,**	**2.68**	**261**		**Pn**	**03 03 47.3**	**-1.2**
PINNC				Sn	**Sn**	**03 04 19.6**	**-0.1**
PINNC	**Pines Island,**	**2.68**	**261**	P	Pn	03 03 55.5	+7.0
PINNC	**Pines Island,**	**2.68**	**261**	P	**Pn**	**03 03 48.3**	**-0.2**
YATNC	**Mamie plateau,**	**3.17**	**272**	P	**Pn**	**03 03 55.7**	**+0.4**
YATNC	**Mamie plateau,**	**3.17**	**272**	P	**Pn**	**03 03 54.5**	**-0.8**
OUENC	**Ouen Island, N**	**3.22**	**266**		**Pn**	**03 03 55.0**	**-1.0**
OUENC				Sn	**Sn**	**03 04 32.5**	**-0.6**
OUENC	**Ouen Island, N**	**3.22**	**266**	P	**Pn**	**03 03 58.2**	**+2.3**
OUENC	**Ouen Island, N**	**3.22**	**266**	P	**Pn**	**03 03 56.3**	**+0.4**
ONTNC	**Ouen Toro**	**3.57**	**268**		**Pn**	**03 04 00.7**	**-0.1**
ONTNC				Sn	**Sn**	**03 04 41.6**	**-0.3**
ONTNC	**Ouen Toro**	**3.57**	**268**	P	**Pn**	**03 04 04.6**	**+3.8**
ONTNC	**Ouen Toro**	**3.57**	**268**	P	**Pn**	**03 04 01.2**	**+0.4**
DZM	**Mont Dzumac**	**3.58**	**271**	Pn	**Pn**	**03 04 00.8**	**-0.3**
	5.5nm,0.3s,baz=138,slow=22,SNR=67						
DZM				Sn	**Sn**	**03 04 42.6**	**+0.3**
	8.1nm,0.3s,baz=307,slow=20,SNR=9.0						
DZM	**Mont Dzumac**	**3.58**	**271**	*e*Pn	**Pn**	**03 04 00.5**	**-0.6**
	76nm,0.6s						
DZM				*e*Sn	**Sn**	**03 04 40.5**	**-1.8**
	161nm,0.6s						
DZM	**Mont Dzumac**	**3.58**	**271**	Pn	**Pn**	**03 04 00.9**	**-0.2**
DZM				Sn	**Sn**	**03 04 42.0**	**-0.3**
DZM	**Mont Dzumac**	**3.58**	**271**	P	**Pn**	**03 04 01.6**	**+0.5**
DZM	**Mont Dzumac**	**3.58**	**271**	P	**Pn**	**03 04 01.1**	**0.0**
NOUC	**Port Laguerre**	**3.71**	**271**	P	**Pn**	**03 04 04.1**	**+1.3**
NOUC	**Port Laguerre**	**3.71**	**271**	P	**Pn**	**03 04 02.9**	**+0.1**
MSVF	**Nonsavu**	**8.53**	**60**	Pn	**Pn**	**03 05 09.5**	**+0.5**
	1.2nm,0.3s,baz=303,slow=24,SNR=1.8						
MSVF	**Nonsavu**	**8.53**	**60**		**Pn**	**03 05 08.1**	**-1.0**
RAO	**Raoul Island**	**12.72**	**126**	Pn	**Pn**	**03 06 06.4**	**+0.1**
KHZ	**Kahutara**	**20.34**	**173**	P	**P**	**03 07 40.6**	**-0.5**
KHZ				IAmb	IAmb	03 07 59.2	
	comp=Z,17nm,1.2s						
MLZ	**Mavora Lakes**	**23.18**	**184**	P	**P**	**03 08 10.9**	**-0.5**
MLZ				IAmb	IAmb	03 08 25.5	
	comp=Z,16nm,1.4s						
STKA	**Stephens Creek**	**27.26**	**243**	P	**P**	**03 08 49.8**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=89,slow=14,SNR=3.0						
ASAR	**Alice Springs**	**33.50**	**260**	P	**P**	**03 09 44.4**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=82,slow=9.5,SNR=10						
WB2	**Warramunga Arr**	**33.58**	**267**	P	**P**	**03 09 44.6**	**-0.3**
WB2				IAmb	IAmb	03 09 46.0	
	comp=Z,7.2nm,1.3s						
WRA	**Warramunga Arr**	**33.59**	**267**	P	**P**	**03 09 44.4**	**-0.7**
	comp=Z,99nm,0.4s,baz=101,slow=8.4,SNR=1.7						
MTN	**Manton Dam**	**38.40**	**277**	P	**P**	**03 10 26.7**	**+0.4**
FITZ	**Fitzroy Crossi**	**42.02**	**267**	P	**P**	**03 10 55.8**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=163,slow=11,SNR=7.2						
FITZ	**Fitzroy Crossi**	**42.02**	**267**	P	**P**	**03 10 54.2**	**-2.0**
MJAR	**Matsushiro Arr**	**65.83**	**332**	P	**P**	**03 13 49.1**	**-0.7**
	comp=Z,2.0nm,0.7s,baz=173,slow=6.5,SNR=5.2						

KSRS	**Korea Array**	**71.50**	**326**	P	**P**	**03 14 26.9**	**+1.8**
	comp=Z,1.3nm,0.8s,baz=141,slow=4.7,SNR=3.6						
CMAR	**Chiang Mai Arr**	**80.63**	**294**	P	**P**	**03 15 19.0**	**+1.5**
	comp=Z,1.3nm,0.3s,baz=130,slow=3.6,SNR=4.2						
CMAR	**Chiang Mai Arr**	**80.63**	**294**	P	**P**	**03 15 17.6**	**+0.1**
NVAR	**Mina Array Bea**	**90.01**	**48**	P	**P**	**03 16 03.5**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=225,slow=8.7,SNR=3.5						
SONM	**Songino Array**	**90.18**	**323**	P	**P**	**03 16 04.6**	**0.0**
	comp=Z,0.5nm,0.6s,baz=113,slow=3.3,SNR=2.2						
OSTC	**Ostas**	**145.19**	**331**	*e*PKP	**PKPdf**	**03 22 42.9**	**+1.3**
KRLC	**Kraliky**	**145.27**	**330**	*e*PKP	**PKPdf**	**03 22 42.6**	**+0.8**
CLL	**Collm**	**146.01**	**334**	*e*PKPbc	**PKiKP**	**03 22 47.0**	**-0.1**
	comp=Z,4.0nm,0.8s						
GERES	**GERESS Array B**	**147.56**	**331**	PKPbc	**PKiKP**	**03 22 49.5**	**-1.1**
	comp=Z,1.4nm,0.8s,baz=58,slow=3.5,SNR=7.0						

IDC 29 03:03:54.9±1.9,3.35S×150.56E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.5/30,mbtmp3.6/3,Error ellipse: s-maj=119.3km s-min=26.4km az=127.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.86**	**223**	P	P	03 09 01.3	+1.2
	178nm,0.6s,baz=46,slow=9.5,SNR=1.3						
ASAR	**Alice Springs**	**25.83**	**217**	P	P	03 09 27.2	-0.9
	0.3nm,0.3s,baz=53,slow=8.0,SNR=5.5						
FITZ	**Fitzroy Crossi**	**28.47**	**237**	P	P	03 09 51.9	0.0
	1.0nm,0.8s,baz=69,slow=8.6,SNR=6.3						
ILAR	**Eielson Array**	**81.68**	**23**	P	P	03 16 14.9	+0.1
	0.3nm,0.6s,baz=228,slow=5.3,SNR=8.7						

AZER ***29*** *03:06:39.0±0.0,40.97N×47.43E,h16km,ml3.3/32,Error ellipse: s-maj=0.8km s-min=0.2km az=27.0*
MOS ***29*** *03:06:39.4±0.0,41.00N×47.43E,h8km,MPVA3.9*
DRS ***29*** *03:06:39.8±0.0,41.13N×47.22E,h10km*
NSSP ***29*** *03:06:41.3,41.00N×47.35E,h15km,Ms3.3*

**ISC 29

GLBA	**Clilabad**	**1.88**	**157**	Pn		**Pn**	**03 07 11.9**	**-0.2**
	SNR=10								
GLBA				Sn		**Sn**	**03 07 35.8**	**+0.4**
KRNR	**Karanay**	**1.89**	**347**	*e*PN		**Pg**	**03 07 15.9**	**-1.1**
KRNR				*e*			03 07 43.4		
KRNR				pmax	pmax				
	comp=Z,7.0nm,0.1s								
KRNR				smax	smax				
	comp=E,46nm,0.3s								
KRNR	**Karanay**	**1.89**	**347**	*e*Pg		**Pb**	**03 07 15.2**	**+0.2**
KRNR				*e*Sg		**Sg**	**03 07 42.9**	**+1.2**
BTLR	**Botlikh**	**1.92**	**332**	*ce*PN		**Pb**	**03 07 15.2**	**-0.2**
BTLR				*e*S		**Sg**	**03 07 43.5**	**+0.9**
BTLR				pmax	pmax				
	comp=Z,22nm,1.5s								
BTLR	**Botlikh**	**1.92**	**332**	*e*Pg		**Pb**	**03 07 15.3**	**-0.2**
BTLR				*e*Sg		**Sg**	**03 07 41.9**	**-0.7**
NDR	**Nardaran**	**1.96**	**101**	Pn		**Pb**	**03 07 14.6**	**-1.3**
NDR				Sn		**Sn**	**03 07 31.6**	**-5.7**
MAK	**Makhachkala**	**1.98**	**1**	⇑*i*PN		**Pb**	**03 07 15.9**	**-0.4**
MAK				*e*			03 07 21.1		
MAK				*e*S		**Sg**	**03 07 46.0**	**+1.6**
MAK				*e*			03 07 52.8		
MAK				pmax	pmax				
	comp=Z,67nm,0.6s								
MAK				smax	smax				
	comp=N,190nm,0.7s								
MAK				smax	smax				
	comp=N,187nm,0.5s								
MAK				MLR	MLR				
	comp=Z,821nm,2.0s								
DBC	**Dubki**	**2.09**	**347**	*e*PN		**Pb**	**03 07 17.7**	**-0.6**
DBC				*e*			03 07 46.1		
DBC				*e*			03 07 46.6		
DBC				pmax	pmax				
	comp=Z,18nm,0.4s								
DBC				smax	smax				
	comp=N,41nm,0.4s								
DBC				smax	smax				
	comp=E,52nm,0.6s								
DBC				smax	smax				
	comp=E,52nm,0.9s								
DBC	**Dubki**	**2.09**	**347**	*e*Pg		**Pg**	**03 07 19.8**	**-1.1**
DBC				*e*Sg		**Sg**	**03 07 46.3**	**-1.7**
YRD	**Yardimli**	**2.15**	**164**	Pn		**Pn**	**03 07 15.2**	**-0.8**
	SNR=35								
YRD				Sn		**Sn**	**03 07 43.6**	**+1.2**
SBZ	**Shahbuz**	**2.15**	**223**	Pn		**Pn**	**03 07 16.4**	**+0.3**
SBZ				Sg		**Sb**	**03 07 45.2**	**-0.7**
DLMR	**Dylym**	**2.18**	**344**	*e*PN		**Pb**	**03 07 19.7**	**-0.1**
DLMR				*e*S		**Sb**	**03 07 47.7**	**+1.2**
DLMR	**Dylym**	**2.18**	**344**	*e*Pg		**Pb**	**03 07 19.7**	**-0.1**
DLMR				*e*Sg		**Sb**	**03 07 47.7**	**+1.2**
KAPZ	**Kaputan**	**2.21**	**254**	*i* P		**Pn**	**03 07 16.9**	**+0.1**
KAPZ				*i* S		**Sb**	**03 07 46.1**	**-1.3**
DVE	**Vedeno**	**2.21**	**334**	*e*PN		**Pb**	**03 07 19.1**	**-1.3**
DVE				*e*S		**Sb**	**03 07 47.9**	**+0.3**
DVE	**Vedeno**	**2.21**	**334**	*e*Pg		**Pb**	**03 07 19.1**	**-1.3**
DVE				*e*Sg		**Sb**	**03 07 47.9**	**+0.3**
GNI	**Garni**	**2.23**	**249**	*i* P		**Pn**	**03 07 17.6**	**+0.5**
GNI				*i* S		**Sn**	**03 07 46.5**	**+2.0**
GNI	**Garni**	**2.23**	**249**	*de*PN		**Pn**	**03 07 17.8**	**+0.6**
GNI				*e*S		**Sb**	**03 07 47.8**	**-0.5**
GNI				pmax	pmax				
	comp=Z,36nm,1.3s								
GNI				smax	smax				
	comp=Z,97nm,0.9s								
GNI	**Garni**	**2.23**	**249**	*e*Pn		**Pn**	**03 07 18.0**	**+0.8**
GNI				*e*Sn		**Sb**	**03 07 47.8**	**-0.5**
ORD	**Ordubad**	**2.34**	**209**	Pn		**Pn**	**03 07 18.8**	**+0.2**
	SNR=40								
ORD				Sn		**Sn**	**03 07 48.7**	**+1.7**
STE	**Stepanavan**	**2.34**	**272**	⇑*i*P		**Pn**	**03 07 18.5**	**-0.2**
STE				⇑*i*S		**Sb**	**03 07 50.5**	**+0.8**
NRKZ	**NAREK**	**2.35**	**246**	*i* P		**Pn**	**03 07 20.6**	**+1.8**
NRKZ				*i* S		**Sb**	**03 07 53.2**	**+1.7**
NAX	**Nakhchivan**	**2.35**	**221**	Pn		**Pn**	**03 07 19.2**	**+0.5**
NAX				Sg		**Sb**	**03 07 52.2**	**+0.7**
HYR	**Heyderabad**	**2.36**	**239**	Pg		**Pn**	**03 07 20.1**	**+1.2**
HYR				Sg		**Sb**	**03 07 52.3**	**+0.5**
LRK	**Lerik**	**2.43**	**164**	Pn		**Pn**	**03 07 19.7**	**-0.2**
	SNR=8.6								
LRK				Sn		**Sn**	**03 07 49.9**	**+0.5**
LKRN	**Lenkeran, Azer**	**2.48**	**156**	Pn		**Pn**	**03 07 21.4**	**+1.0**
LKRN				Sn		**Sn**	**03 07 52.0**	**+1.6**
GROC	**Groznyy**	**2.54**	**331**	*e*PN		**Pn**	**03 07 21.0**	**-0.3**
GROC				*e*			03 07 26.6		
GROC				*e*			03 08 05.6		
GROC				pmax	pmax				
	comp=Z,11nm,0.4s								
GROC				pmax	pmax				
	comp=Z,21nm,0.1s								
GROC				smax	smax				
	comp=E,50nm,0.4s								
GROC				MLR	MLR				
	comp=E,34nm,2.0s								
GROC	**Groznyy**	**2.54**	**331**	*e*Pn		**Pb**	**03 07 26.0**	**0.0**
GROC				*e*Sn		**Sb**	**03 07 58.4**	**+1.4**
ASTR	**Astara**	**2.62**	**157**	Pn		**Pn**	**03 07 22.2**	**-0.2**
ASTR				Sn		**Sb**	**03 07 53.6**	**+0.3**
ARUZ	**Aruch**	**2.66**	**256**	*i* P		**Pn**	**03 07 24.6**	**+1.6**
ARUZ				*i* S		**Sb**	**03 07 59.9**	**-0.6**
METS	**Metsamor**	**2.71**	**253**	*i* P		**Pn**	**03 07 24.1**	**+0.5**
METS				*i* S		**Sb**	**03 07 59.6**	**-2.2**
VNNZ	**Vanand**	**2.91**	**254**	*i* P		**Pn**	**03 07 26.7**	**+0.3**
VNNZ				*i* S		**Sn**	**03 08 04.3**	**+3.2**
LACR	**Lac**	**3.00**	**309**	*de*PN		**Pn**	**03 07 28.9**	**+1.2**
LACR	**Lac**	**3.00**	**309**	*e*Pn		**Pn**	**03 07 28.9**	**+1.2**
LACR				*e*Sn		**Sb**	**03 08 08.1**	**-2.2**
KORR	**Kora**	**3.29**	**311**	*e*PN		**Pb**	**03 07 36.9**	**-1.8**
KORR				*e*S		**Sb**	**03 08 17.1**	**-1.4**
KORR	**Kora**	**3.29**	**311**	*e*Pn		**Pb**	**03 07 36.9**	**-1.8**
KORR				*e*Sn		**Sb**	**03 08 17.1**	**-1.4**
ONI	**Oni**	**3.41**	**300**	*e*PN		**Pn**	**03 07 34.1**	**+0.9**
ONI				*e*S		**Sb**	**03 08 18.1**	**-3.7**
ONI	**Oni**	**3.41**	**300**	*e*Pn		**Pn**	**03 07 34.1**	**+0.9**
ONI				*e*Sn		**Sb**	**03 08 18.1**	**-3.7**
DIGR	**Digorskoe uzhe**	**3.48**	**305**	*e*PN		**Pn**	**03 07 36.0**	**+1.7**
DIGR				*e*S		**Sb**	**03 08 20.4**	**-3.6**
DIGR	**Digorskoe uzhe**	**3.48**	**305**	*e*Pn		**Pn**	**03 07 36.0**	**+1.7**
DIGR				*e*Sn		**Sb**	**03 08 20.4**	**-3.6**
LSNR	**Lesken**	**3.55**	**312**	*e*PN		**Pn**	**03 07 38.4**	**+3.2**
LSNR				*e*S		**Sn**	**03 08 21.1**	**+4.3**
LSNR	**Lesken**	**3.55**	**312**	*e*Pn		**Pn**	**03 07 38.4**	**+3.2**
LSNR				*e*Sn		**Sn**	**03 08 21.1**	**+4.3**
NEY	**Neytrino**	**4.19**	**304**	‖*e*PN		**Pn**	**03 07 43.2**	**-0.9**
KBZ	**Khabaz**	**4.36**	**311**	*e*PN		**Pb**	**03 07 55.8**	**-1.0**
SHA1	**Shidzhatmaz**	**4.50**	**309**	*e*PN		Pb	03 07 54.5	-5.0
ANN	**Anapa**	**8.29**	**301**	*e*P		**Pn**	**03 08 40.6**	**+0.4**
ANN				*e*S		**Sn**	**03 10 18.6**	**+5.1**
ANN				pmax	pmax				
	comp=Z,18nm,0.9s								
ANN				MLR	MLR				
	comp=Z,70nm,8.0s								

*TUL **29** 03:07:35.1±0.9,36°.59N±0°.01×97°.37W±0°.01,h7km±7km, ML2.7,mb_Lg2.5/28(NEIC),Error ellipse: s-maj=1.9km s-min=1.6km az=166.0*

NEIC 29 03:07:35.1±0.6,36°.57N±0°.02×97°.373W±0°.007,h5km±7km, Error ellipse: s-maj=2.2km s-min=0.7km az=174.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLOK	**Blackwell**	**0.23**	**33**		Pg	03 07 39.7	+0.1
BLOK				Sg	Sg	03 07 42.9	+0.2
KAN13	**South Haven SW**	**0.45**	**349**	Pg	Pg	03 07 43.8	-0.1
KAN13				Sg	Sg	03 07 50.0	+0.3
GC02	**Grant County #**	**0.48**	**306**		Pg	03 07 44.4	0.0
GC02				Sg	Sg	03 07 51.0	+0.3
CROK	**Carrier**	**0.50**	**263**		Pg	03 07 44.8	+0.2
CROK				Sg	Sg	03 07 51.8	+0.7
KAN17	**Caldwell West**	**0.57**	**327**		Pg	03 07 45.9	-0.2
KAN14	**Manchester OK**	**0.61**	**309**		Pg	03 07 46.7	-0.2
QUOK	**Quay**	**0.67**	**126**		Pg	03 07 48.0	+0.1
KAN05	**Bluff City Nor**	**0.67**	**324**	Pg	Pg	03 07 47.8	-0.2
OK032	**Salt Plains WL**	**0.71**	**290**		Pg	03 07 48.6	-0.2
OK031	**S. Brethren Rd**	**0.75**	**145**		Pg	03 07 49.6	+0.1
OK029	**Liberty Lake**	**0.77**	**185**		Pg	03 07 50.1	+0.2
T35A	**Sooner Cattle**	**0.77**	**63**		Pg	03 07 49.6	-0.3
KAN06	**Argonia West S**	**0.78**	**330**		Pg	03 07 49.5	-0.6
OK030	**Cody Creek RV**	**0.80**	**143**		Pg	03 07 50.5	+0.1
BCOK	**Bluff Creek, N**	**0.93**	**192**		Pg	03 07 52.9	0.0
OK025	**Westminster Rd**	**0.98**	**178**		Pg	03 07 54.0	0.0
FNO	**Franklin**	**1.31**	**181**		Pn	03 07 59.5	-0.5
U32A	**Winter Ranch,**	**1.33**	**262**		Pn	03 07 59.6	-0.6
TUL1	**Leonard**	**1.44**	**117**		Pn	03 08 01.1	-0.7
TUL1				IAmb_Lg		03 08 24.5	
	comp=Z,35nm,0.9s						
X34A	**Smith Ranch, M**	**2.00**	**191**		Pn	03 08 09.6	+0.2
R32A	**Long Quarter,**	**2.13**	**331**		Pn	03 08 11.0	-0.4
WMOK	**Wichita Mounta**	**2.16**	**213**		Pn	03 08 11.7	0.0
U38A	**Gravette**	**2.41**	**92**		Pn	03 08 15.1	-0.1
KSU1	**Kansas State U**	**2.60**	**13**	Pn	Pn	03 08 16.8	-0.9
HHAR	**Hobbs**	**2.78**	**95**		Pn	03 08 21.0	+0.7
W39A	**Magazine**	**3.22**	**114**	Pn	Pn	03 08 26.2	-0.1
W39A				IAmb_Lg		03 09 26.3	
	comp=Z,12nm,0.8s						
S39A	**Bolivar**	**3.42**	**70**	Pn	Pn	03 08 28.9	-0.2
S39A				IAmb_Lg		03 09 29.7	
	comp=Z,9.4nm,0.8s						
MIAR	**Mount Ida**	**3.69**	**122**	IAmb_Lg		03 09 35.4	
	comp=Z,12nm,0.9s						
Z38A	**Mt. Pleasant**	**3.84**	**149**	IAmb_Lg		03 09 35.1	
	comp=Z,8.6nm,0.8s						
MGMO	**Mountain Grove**	**4.13**	**80**	IAmb_Lg		03 09 46.9	
	comp=Z,11nm,0.9s						
X40A	**Basin Creek Fa**	**4.24**	**118**	IAmb_Lg		03 09 56.0	
	comp=Z,7.9nm,0.9s						
R40A	**Maddies Statio**	**4.41**	**66**	IAmb_Lg		03 09 54.2	
	comp=Z,6.8nm,0.7s						
N35A	**Tabor**	**4.50**	**17**	IAmb_Lg		03 10 07.3	
	comp=Z,12nm,0.8s						
T42A	**Van Buren**	**5.06**	**83**	IAmb_Lg		03 10 14.4	
	comp=Z,6.0nm,1.1s						
CCM	**Cathedral Cave**	**5.11**	**71**	IAmb_Lg		03 10 26.4	
	comp=Z,7.5nm,0.7s						
P40A	**Paris**	**5.14**	**53**	IAmb_Lg		03 10 20.9	
	comp=Z,9.5nm,0.9s						
FVM	**French Village**	**5.72**	**74**	IAmb_Lg		03 10 36.3	
	comp=Z,7.1nm,0.8s						
F33A	**5 Mile Ranch,**	**9.30**	**5**	IAmb_Lg		03 12 50.1	
	comp=Z,5.3nm,1.3s						

*IDC **29** 03:12:03.7±0.5,32°.47S×178°.16W,h0km,mb4.5/15, mb1 4.7/19,mb1mx4.6/44,mbtmp4.6/19,ML5.2/3,MS4.5/23, Ms1 4.5/23,ms1mx4.4/33,Error ellipse: s-maj=17.1km s-min=16.0km az=106.0*

*NEIC **29** 03:12:04.7±1.8,32°.61S±0°.07×178°.0W±0°.1,h10km±1km, mb4.9/51,Error ellipse: s-maj=15.9km s-min=10.6km az=111.0*

*GCMT **29** 03:12:07.7±0.2,32°.61S±0°.02×177°.73W±0°.02,h17km±1km, MW5.1/86,Moment Tensor Solution. s60,c76; s86,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.92±.17; $M_{\theta\theta}$0.26±.12; $M_{\phi\phi}$-3.18±.12; $M_{r\theta}$-0.06±.32; $M_{r\phi}$-0.88±.08; $M_{\theta\phi}$4.30±.40; Best double couple: $M_0$5.34300×10^{16} NP1:ϕs208.00000°,δ20.00000°,λ115.00000°. NP2: ϕs2.00000°,δ72.00000°,λ81.00000°. Principal axes: T 5.1850, Plg62.0000°, Azm259.0000°; N 0.3150, Plg8.0000°, Azm4.0000°; P -5.5010, Plg27.0000°, Azm98.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NOU **29** 03:12:12.3,33°.33S×177°.82W,h102km,mb4.8/13,South of Kermadec Islands*

ISC 29 03:12:06.0±0.3,32°.64S±0°.05×178°.08W±0°.06,h20km, n216,σ1ᵎ75/216,mb4.9/40,MS4.6/26,3D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.38**	**2**	Pn	**Pn**	**03 12 54.5**	**-3.1**
	320nm,0.3s,baz=66,slow=13,SNR=19						
RAO				Sn	**Sn**	**03 13 32.8**	**-4.2**
	666nm,0.3s,baz=280,slow=22,SNR=6.6						
RAO	**Raoul Island**	**3.38**	**2**		**Pn**	**03 12 54.8**	**-2.8**
MXZ	**Matakaoa Point**	**5.74**	**210**	Pn	**Pn**	**03 13 29.2**	**-0.8**
MXZ				Sn	**Sn**	**03 14 33.8**	**-1.4**
MXZ	**Matakaoa Point**	**5.74**	**210**	P	**Pn**	**03 13 28.0**	**-2.0**
MXZ				S	**Sn**	**03 14 34.7**	**-0.5**
WMGZ	**Waiomatatini S**	**5.91**	**208**	P	**Pn**	**03 13 32.2**	**-0.1**
WMGZ				S	**Sn**	**03 14 40.3**	**+0.8**
PKGZ	**Pakihiroa**	**6.11**	**210**	P	**Pn**	**03 13 32.1**	**-3.1**
PKGZ				S	**Sn**	**03 14 43.6**	**-0.9**
HAZ	**Te Kaha**	**6.13**	**212**	P	**Pn**	**03 13 33.4**	**-1.9**
HAZ				S	**Sn**	**03 14 45.5**	**+0.7**
PUZ	**Puketiti**	**6.19**	**208**	P	**Pn**	**03 13 33.5**	**-2.8**
PUZ				S	**Sn**	**03 14 45.9**	**-0.6**
RUGZ	**Raukumara Rang**	**6.35**	**212**	P	**Pn**	**03 13 36.6**	**-1.9**
RUGZ				S	**Sn**	**03 14 50.7**	**+0.2**
TWGZ	**Tauwhareparae**	**6.40**	**209**	P	**Pn**	**03 13 37.9**	**-1.1**
TWGZ				S	**Sn**	**03 14 51.7**	**+0.2**
CNGZ	**Carnagh Statio**	**6.57**	**206**	P	**Pn**	**03 13 38.9**	**-2.5**
CNGZ				S	**Sn**	**03 14 55.9**	**+0.1**
WHRZ	**Whale Island**	**6.59**	**216**	P	**Pn**	**03 13 42.7**	**+0.9**
TKGZ	**Te Karaka**	**6.67**	**209**	P	**Pn**	**03 13 42.4**	**-0.4**
TKGZ				S	**Sn**	**03 14 57.3**	**-0.9**
MWZ	**Matawai**	**6.72**	**211**	P	**Pn**	**03 13 41.2**	**-2.3**
MWZ				S	**Sn**	**03 14 59.8**	**+0.4**
OPRZ	**Ohinepanea**	**6.80**	**219**	P	**Pn**	**03 13 45.8**	**+1.2**
URZ	**Urewera**	**6.85**	**214**	Pn	**Pn**	**03 13 43.9**	**-1.3**
	10nm,0.3s,baz=39,slow=4.9,SNR=60						
URZ				Sn	**Sn**	**03 15 01.5**	**-1.0**
	39nm,0.3s,baz=162,slow=22,SNR=15						
URZ	**Urewera**	**6.85**	**214**		**Pn**	**03 13 42.6**	**-2.6**
URZ				Sn	**Sn**	**03 15 01.9**	**-0.6**
URZ	**Urewera**	**6.85**	**214**	P	**Pn**	**03 13 42.9**	**-2.3**
RAGZ	**Rawiri**	**6.90**	**211**	P	**Pn**	**03 13 44.6**	**-1.5**
RIGZ	**Rimuhau**	**6.94**	**208**	P	**Pn**	**03 13 43.5**	**-3.0**
SNGZ	**Shannon Statio**	**7.17**	**210**	P	**Pn**	**03 13 48.0**	**-1.8**
OUZ	**Omahuta**	**7.38**	**247**	Pn	**Pn**	**03 13 54.1**	**+1.5**
BKZ	**Black Stump Fm**	**7.86**	**213**	Pn	**Pn**	**03 13 55.9**	**-3.3**
HIZ	**Hauiti**	**8.21**	**222**		**Pn**	**03 14 04.1**	**+0.1**
TUWZ	**Tuamarina**	**10.84**	**214**		**Pn**	**03 14 36.7**	**-3.2**
THZ	**Tophouse**	**11.60**	**216**	Pn	**Pn**	**03 14 47.3**	**-3.0**
KHZ	**Kahutara**	**11.81**	**212**	Pn	**Pn**	**03 14 48.4**	**-4.8**
LTZ	**Lake Taylor**	**12.68**	**214**	Pn	Pn	03 14 59.7	-5.4
RPZ	**Rata Peaks**	**13.96**	**215**	Pn	**Pn**	**03 15 18.4**	**-4.3**
FOZ	**Fox Glacier**	**14.45**	**218**	Pn	**Pn**	**03 15 25.1**	**-4.1**
ODZ	**Otahua Downs**	**15.17**	**212**	Pn	**Pn**	**03 15 34.9**	**-4.0**
ODZ				IAmb	IAmb	03 15 47.1	
	comp=Z,39nm,0.8s						
MSVF	**Nonsavu**	**15.24**	**346**	Pn	**Pn**	**03 15 35.7**	**-4.4**
	comp=Z,0.3nm,0.3s,baz=163,slow=23,SNR=1.7						
MSVF				LR	LR	03 20 00.6	
	comp=Z,1μm,18.7s,baz=170,slow=32						
PINNC	**Pines Island,**	**16.24**	**304**	Pn	**Pn**	**03 15 49.9**	**-3.0**
PINNC				IAmb	IAmb	03 16 00.9	
	comp=Z,102nm,1.1s						
MLZ	**Mavora Lakes**	**16.60**	**216**	Pn	**Pn**	**03 15 53.6**	**-3.9**
OUENC	**Ouen Island, N**	**16.79**	**304**		**Pn**	**03 16 00.5**	**+0.6**
OUENC				IAmb	IAmb	03 16 07.6	
	comp=Z,252nm,1.4s						
OUENC	**Ouen Island, N**	**16.79**	**304**	P	**P**	**03 16 07.2**	**+5.2**
WHZ	**Wether Hill Ro**	**17.06**	**215**	Pn	**Pn**	**03 16 00.9**	**-2.3**
ONTNC	**Ouen Toro**	**17.13**	**303**	Pn	**Pn**	**03 16 03.9**	**-0.4**
ONTNC				IAmb	IAmb	03 16 13.0	
	comp=Z,110nm,1.1s						
DZM	**Mont Dzumac**	**17.29**	**304**	Pn	**P**	**03 16 08.2**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=105,slow=15,SNR=15						
DZM				LR	LR	03 21 34.5	
	comp=Z,3μm,18.3s,baz=142,slow=33						
DZM	**Mont Dzumac**	**17.29**	**304**	*e*Pn	**P**	**03 16 10.8**	**+3.1**
	comp=Z,170nm,1.4s						
DZM				*e*LR	LR	03 20 07.9	
	comp=Z,3μm,24.2s						
DZM	**Mont Dzumac**	**17.29**	**304**	Pn	**Pn**	**03 16 06.1**	**-0.3**
DZM	**Mont Dzumac**	**17.29**	**304**	P	**P**	**03 16 13.9**	**+6.2**
NOUC	**Port Laguerre**	**17.37**	**303**	P	**P**	**03 16 15.0**	**+6.5**
AFI	**Afiamalu**	**19.51**	**19**	P	**P**	**03 16 31.9**	**-0.2**
	comp=Z,9.1nm,0.3s,baz=129,slow=22,SNR=2.2						
RAR	**Rarotonga**	**19.86**	**60**	P	**P**	**03 16 34.8**	**-1.1**
	comp=Z,2.0nm,0.3s,baz=175,slow=0.9,SNR=5.8						
RAR				LR	LR	03 24 04.0	
	comp=Z,1μm,19.6s,baz=228,slow=36						
RAR	**Rarotonga**	**19.86**	**60**	P	**P**	**03 16 35.2**	**-0.7**
RAR				IAmb	IAmb	03 16 36.8	
	comp=Z,59nm,1.0s						
RAR	**Rarotonga**	**19.86**	**60**	P	**Pn**	**03 16 37.2**	**-0.3**
MGCD	**Mangrove Creek**	**25.83**	**260**	P	**P**	**03 17 37.8**	**+1.9**
	baz=26,SNR=5.3						
ARMA	**Armidale**	**25.88**	**267**	P	**P**	**03 17 38.2**	**+1.7**
	baz=26,SNR=12						
ARMA	**Armidale**	**25.88**	**267**	P	**P**	**03 17 37.8**	**+1.2**
ARMA				IAmb	IAmb	03 17 44.0	
	comp=Z,41nm,1.0s						
CAN	**Canberra**	**27.36**	**255**	P	**P**	**03 17 49.8**	**-0.1**
CAN				IAmb	IAmb	03 17 53.4	
	comp=Z,37nm,1.3s						
EIDS	**Eidsvold**	**27.86**	**277**	P	**P**	**03 17 56.4**	**+2.1**
	baz=28,SNR=15						
EIDS	**Eidsvold**	**27.86**	**277**	P	**P**	**03 17 54.0**	**-0.3**
EIDS				IAmb	IAmb	03 17 59.7	
	comp=Z,28nm,0.8s						
YNG	**Young**	**27.95**	**257**	P	**P**	**03 17 57.3**	**+2.2**
	baz=28,SNR=5.4						
RMQ	**Roma**	**29.41**	**273**	P	**P**	**03 18 11.2**	**+3.1**
	baz=30,SNR=26						
PPT2	**Papeete2**	**29.72**	**67**	*e*S	**S**	**03 23 07.6**	**+1.4**
	comp=Z,130nm,25.0s						
PPT2				*e*LR	LR	03 25 40.6	
	comp=Z,716nm,20.8s						
PPT	**Papeete**	**29.73**	**67**	LR	LR	03 29 34.2	
	comp=Z,859nm,18.4s,baz=216,slow=35						
CMSA	**Cobar Meteorol**	**30.62**	**262**	P	**P**	**03 18 21.1**	**+2.2**
	baz=31,SNR=17						
HNR	**Honiara**	**30.75**	**314**	LR	LR	03 29 46.1	
	comp=Z,727nm,18.4s,baz=164,slow=35						
ARPS	**Mount Arapiles**	**33.04**	**251**	P	**P**	**03 18 41.9**	**+1.9**
	baz=33,SNR=6.6						
QLP	**Quilpie**	**33.19**	**271**	P	**P**	**03 18 43.1**	**+1.6**
	baz=33,SNR=6.6						
STKA	**Stephens Creek**	**33.97**	**260**	P	**P**	**03 18 49.9**	**+1.8**
	baz=34,SNR=8.1						
STKA	**Stephens Creek**	**33.97**	**260**	P	**P**	**03 18 49.0**	**+0.8**
	comp=Z,7.8nm,0.8s,baz=88,slow=10,SNR=15						
STKA				LR	LR	03 32 22.4	
	comp=Z,2μm,18.0s,baz=90,slow=36						
STKA	**Stephens Creek**	**33.97**	**260**	P	**P**	**03 18 49.0**	**+0.8**
CTA	**Charters Tower**	**34.15**	**283**	P	**P**	**03 18 50.8**	**+1.0**
	comp=Z,16nm,0.5s,baz=110,slow=11,SNR=26						
CTAO	**Charters Tower**	**34.15**	**283**	P	**P**	**03 18 50.5**	**+0.6**
HTT	**Hallett**	**35.87**	**257**	P	**P**	**03 19 05.4**	**+0.8**
	baz=36						
MTSU	**Mount Surprise**	**36.71**	**284**	P	**P**	**03 19 13.7**	**+1.9**
	baz=37						
BBOO	**Buckleboo**	**38.35**	**257**	P	**P**	**03 19 25.3**	**-0.3**
	baz=38						
BBOO	**Buckleboo**	**38.35**	**257**	P	**P**	**03 19 25.6**	**0.0**
QIS	**Mount Isa**	**39.46**	**277**	P	**P**	**03 19 35.7**	**+0.6**
	baz=40						
PMG	**Port Moresby**	**39.55**	**298**	LR	LR	03 34 20.7	
	comp=Z,572nm,18.1s,baz=131,slow=34						
COEN	**Coen**	**39.87**	**289**	P	**P**	**03 19 40.3**	**+1.8**
	baz=40						
COEN	**Coen**	**39.87**	**289**	P	**P**	**03 19 39.2**	**+0.7**
COEN				IAmb	IAmb	03 19 57.9	
	comp=Z,17nm,0.8s						
TAOE	**Nuku Hiva Isla**	**42.29**	**65**	*e*S	**S**	**03 26 19.7**	**+1.2**
	comp=Z,169nm,24.0s						
TAOE				*e*LQ	LQ	03 29 38.5	
	comp=Z,506nm,27.6s						
TAOE				*e*LR	LR	03 31 27.6	
	comp=Z,433nm,21.7s						
AS31	**Alice Springs**	**42.97**	**269**	P	**P**	**03 20 03.7**	**-0.2**
ASAR	**Alice Springs**	**42.97**	**269**	P	**P**	**03 20 03.9**	**0.0**
	comp=Z,27nm,0.7s,baz=108,slow=7.6,SNR=209						
ASAR				S	**S**	**03 26 25.6**	**-2.7**
	comp=Z,1.2nm,0.9s,baz=118,slow=16,SNR=4.6						
ASAR	**Alice Springs**	**42.97**	**269**	P	**P**	**03 20 03.6**	**-0.3**
ASPA	**Alice Springs**	**42.97**	**269**	P	**P**	**03 20 03.6**	**-0.3**
	baz=43						
WR0	**Warramunga Arr**	**43.98**	**275**	P	**P**	**03 20 11.3**	**-0.8**
WR0				IAmb	IAmb	03 20 13.0	
	comp=Z,34nm,0.9s						
WB2	**Warramunga Arr**	**44.15**	**274**	P	**P**	**03 20 13.3**	**-0.1**
	baz=44						
WB2	**Warramunga Arr**	**44.15**	**274**	P	**P**	**03 20 12.6**	**-0.8**
WRAB	**Tennant Creek**	**44.15**	**275**	P	**P**	**03 20 13.0**	**-0.5**
WRA	**Warramunga Arr**	**44.16**	**274**	LR	LR	03 38 22.9	
	comp=Z,788nm,18.2s,baz=130,slow=36						
WB0	**Warramunga Arr**	**44.19**	**275**	P	**P**	**03 20 12.7**	**-1.1**
FORT	**Forrest**	**45.45**	**257**	P	**P**	**03 20 23.4**	**-0.2**
	baz=46						
FORT	**Forrest**	**45.45**	**257**	P	**P**	**03 20 22.2**	**-1.5**

comp=Z,20nm,1.4s
LC01 Cunco 81.26 131 P **P** 03 24 19.8 -0.9
LC01 IAmb IAmb 03 24 22.4
comp=Z,12nm,1.1s
BO02 Sierra Bellavi 84.35 128 P **P** 03 24 36.5 -0.5
GSI Gunungsitoli 85.93 274 P **P** 03 24 42.8 -2.3
KSRS Korea Array 86.00 320 P **P** 03 24 46.2 +1.4
comp=Z,2.2nm,0.8s,baz=129,slow=5.1,SNR=6.0
TKX Tecate 86.98 48 P **P** 03 24 49.4 -0.4
TKX IAmb IAmb 03 24 54.5
comp=Z,11nm,0.9s
ISA Isabella, Lake 87.93 45 P **P** 03 24 51.8 -2.5
ISA IAmb IAmb 03 24 59.3
comp=Z,9.6nm,1.2s
PETK Petropavlovsk- 87.95 346 P **P** 03 24 55.1 +1.2
comp=Z,4.7nm,0.8s,baz=108,slow=9.3,SNR=5.2
PETK LR LR 04 02 31.4
comp=Z,156nm,18.6s,baz=149,slow=34
CMB Columbia Colle 88.47 42 P **P** 03 24 55.7 -1.1
GSC Goldstone, Bar 88.69 46 P **P** 03 24 57.9 0.0
GSC IAmb IAmb 03 25 02.9
comp=Z,11nm,1.4s
USRK Ussuriysk Ar. 88.98 327 P **P** 03 24 59.8 +0.8
comp=Z,2.9nm,0.8s,baz=165,slow=3.0,SNR=5.5
USRK Ussuriysk Ar. 88.98 327 P **P** 03 24 59.7 +0.7
QSM Queen of Sheba 89.09 45 P **P** 03 25 01.2 +1.5
QSM IAmb IAmb 03 25 04.5
comp=Z,6.6nm,1.2s
LHV Little Huntoon 89.69 43 P **P** 03 25 03.2 +0.8
NVAR Mina Array Bea 89.92 43 P **P** 03 25 05.2 +1.3
comp=Z,1.1nm,0.9s,baz=209,slow=6.6,SNR=7.1
KVN Kaiserville 90.46 42 P **P** 03 25 04.8 -1.6
KVN IAmb IAmb 03 25 10.5
comp=Z,7.3nm,1.4s
TUC Tucson 90.56 51 P **P** 03 25 07.1 +0.3
PRN Pahroc Range 91.14 45 P **P** 03 25 08.6 -0.8
PRN IAmb IAmb 03 25 25.3
comp=Z,8.7nm,1.4s
X16A Lo Mia Camp, P 91.45 49 P **P** 03 25 11.5 +0.5
U15A North Rim 92.19 47 P **P** 03 25 14.1 -0.4
U15A IAmb IAmb 03 25 29.8
comp=Z,5.4nm,1.3s
NNA Nana 92.87 106 LR LR 04 00 21.0
comp=Z,440nm,18.3s,baz=222,slow=31
LVC Limon Verde 92.91 119 LR LR 04 00 36.3
comp=Z,194nm,18.6s,baz=296,slow=31
TCRU Three Creeks R 93.49 46 P **P** 03 25 20.6 +0.2
TCRU IAmb IAmb 03 25 28.9
comp=Z,4.0nm,0.5s
TXAR Lajitas Array 93.65 57 P **P** 03 25 23.5 +2.4
comp=Z,0.4nm,0.9s,baz=222,slow=3.6,SNR=4.3
TXAR LR LR 04 02 51.7
comp=Z,387nm,18.1s,baz=0.0,slow=33
CMAR Chiang Mai Arr 94.07 289 LR LR 04 12 55.7
comp=Z,58nm,18.1s,baz=130,slow=39
LPAZ La Paz 97.29 114 LR LR 04 04 54.8
comp=Z,98nm,18.0s,baz=232,slow=33
PDAR Pinedale Array 97.80 44 LR LR 04 07 08.4
comp=Z,230nm,18.1s,baz=248,slow=34
CPUP Villa Florida 98.65 129 LR LR 04 06 15.0
comp=Z,176nm,18.0s,baz=248,slow=33
ILAR Eielson Array 100.11 13 LR LR 04 06 45.6
comp=Z,91nm,19.5s,baz=208,slow=33
MK31 Makanchi Array 119.14 309 **PKPdf** 03 30 53.0 -0.2
MKAR Makanchi Array 119.14 309 PKP **PKiKP** 03 30 53.5 +0.3
comp=Z,1.9nm,0.9s,baz=68,slow=0.8,SNR=8.9
MKAR Makanchi Array 119.14 309 PKPdf **PKPdf** 03 30 52.1 -1.1
ZALV Zalesovo Beam 119.64 318 PKP **PKiKP** 03 30 54.3 +0.4
comp=Z,0.5nm,0.3s,baz=64,slow=6.6,SNR=1.7
AAK Ala-Archa 123.28 303 PKP **PKiKP** 03 31 02.8 +1.1
comp=Z,1.0nm,0.4s,baz=208,slow=14,SNR=1.9
KK31 Karatay Array 126.23 302 **PKPdf** 03 31 06.8 -0.1
KKAR Karatay Array 126.23 302 **PKPdf** 03 31 06.7 -0.2
KKAR Karatay Array 126.23 302 **PKiKP** 03 31 07.2 -0.1
BVAR Borovoye Array 127.94 315 PKP **PKiKP** 03 31 10.6 +0.2
comp=Z,1.3nm,0.5s,baz=214,slow=7.2,SNR=7.2
ARCES ARCESS Array B 140.75 347 PKhKP PKPpre 03 31 28.9
comp=Z,3.2nm,0.9s,baz=0.0,slow=0.9,SNR=1.7
KLMR Klimovskoe 142.68 330 *e*PKPdf PKPpre 03 31 31.9
KLMR AMP 03 31 42.9
comp=Z,17nm,1.2s
ONI Oni 145.93 299 PKPdf **PKPdf** 03 31 41.7 -1.6
KBZ Khabaz 146.25 301 PKPbc **PKPab** 03 31 45.5 -0.1
comp=Z,9.8nm,0.9s,baz=71,slow=3.3,SNR=17
OBN Obninsk 146.94 323 PKPdf **PKPdf** 03 31 44.0 -0.4
GURO Guroymak-BITLI 147.04 292 PKPdf **PKPdf** 03 31 42.4 -3.0
FIA1 FINESS Array S 147.21 339 **PKPbc** 03 31 47.2 +0.2
FINES FINESS Array B 147.21 339 PKPbc **PKPbc** 03 31 47.0 0.0
comp=Z,40nm,0.8s,baz=62,slow=4.5,SNR=51
FINES FINESS Array B 147.21 339 **PKPbc** 03 31 46.7 -0.3
MEF Metsahovi 148.68 338 *e*P **PKiKP** 03 31 52.1 -0.3
RAF Rauma 148.79 341 *e*P **PKiKP** 03 31 52.1 -0.5
VSU Vasula 149.22 334 *e*P **PKiKP** 03 31 53.7 +0.2
AAL Aland 149.97 342 *e*P **PKPab** 03 31 58.8 -1.1
MTSE Matsula 150.04 337 *e*P **PKiKP** 03 31 55.9 +0.7
NC303 NORSAR Array S 150.74 351 PKPdf **PKPdf** 03 31 49.7 -0.7
UPP Uppsala 150.84 344 *e*P **PKPbc** 03 31 55.3 -0.9
NB201 NORSAR Array S 150.92 351 **PKPab** 03 32 45.8 +1.6
NB2 NORSAR Subarra 150.94 351 PKP **PKiKP** 03 31 57.2 +0.1
comp=Z,18nm,1.2s,baz=22,slow=4.0
NOA NORSAR Array B 150.94 351 PKPbc **PKPbc** 03 31 56.4 -0.2
comp=Z,5.5nm,1.1s,baz=14,slow=4.1,SNR=6.7
NBO00 NORSAR Array S 151.01 351 **PKPab** 03 32 03.6 -0.6
MNK Minsk 151.46 328 *i* PKP **PKPdf** 03 31 54.4 +2.7
comp=E,1.0nm,0.6s
MNK *i* PKP **PKPdf** 03 31 54.4 +2.7
comp=N,21nm,1.2s
MNK *i* PKP **PKPdf** 03 31 54.4 +2.7
comp=Z,31nm,1.1s,baz=232
MNK *i* PP **PP** 03 35 40.0 +2.8
MNK *i* SKS **SKSdf** 03 38 59.4 +1.5
MNK *i* PPP PPP 03 39 03.8
MNK *i* SS **SS** 03 55 02.3 +2.0
MNK *i* SSS SSS 04 00 55.8
MNK *i* LR LR 04 32 36.2
MNK *i* LRM MLR 04 38 39.5
comp=Z,169nm,24.6s
MNK *i* LRM MLR 04 38 46.7
comp=E,65nm,23.2s
MNK *i* LRM MLR 04 38 58.3
comp=N,107nm,26.1s
IIGN Ignalina 151.62 330 *e*P **PKPbc** 03 31 57.5 -0.7
NACGM Naroch 151.68 329 *i* PKP **PKiKP** 03 32 00.1 +1.3
BNN Bunyan 151.88 292 **PKiKP** 03 32 00.5 +0.5
PABE Paberze 152.41 333 *e*P **PKiKP** 03 32 02.3 +2.1
PABE Paberze 152.41 333 **PKPbc** 03 32 00.1 +0.1
LIC Lamto 152.94 165 *e*PKP1 **PKiKP** 03 32 03.4 +0.8
comp=N,88nm,1.7s
AKASG Malin Array Be 153.00 320 PKPbc **PKiKP** 03 32 01.7 +0.1
comp=N,2.3nm,0.6s,baz=54,slow=2.4,SNR=12
AKBB Malin Array Si 153.00 320 **PKiKP** 03 32 02.6 +1.0
KIC Kosan Boka 153.13 165 *e*PKP1 **PKiKP** 03 32 03.7 +0.6
comp=N,14nm,0.8s
TIC Toumodi 153.34 164 *e*PKP1 **PKPbc** 03 32 02.7 -0.7
DBIC Dimbokro 153.41 165 PKPbc **PKiKP** 03 32 05.4 +1.8
comp=N,4.3nm,1.0s,baz=164,slow=18,SNR=2.1
BRTR Keskin Array B 153.53 295 PKPbc **PKiKP** 03 32 03.6 +0.3
comp=N,4.2nm,1.0s,baz=84,slow=5.9,SNR=8.3
SUW Suwalki 153.81 331 *e*P **PKiKP** 03 32 05.2 +2.0
OSTC Ostas 159.21 334 *e*PKPAB **PKPab** 03 32 40.1 +0.6
KRLC Kraliky 159.38 332 *e*PKPAB **PKPab** 03 32 40.9 +0.6
KRLC AMS AMS 04 49 30.0
comp=N,200nm,16.2s
CLL Collm 159.65 340 ⇓ *i* PKPab **PKPab** 03 32 41.1 -0.2
comp=Z,19nm,1.4s
CLL *i* 03 32 51.9
CLL *e*PSKS 03 46 43.0
CLL *e*SS SS 03 56 33.0 +4.8
CLL *e*SSS SSS 04 02 36.0
CLL Lm MLR 05 02 00.0
comp=N,100nm,18.1s
CLL Lm MLR 05 02 00.0
comp=E,100nm,19.7s
CLL Lm MLR 05 02 00.0
comp=Z,100nm,18.7s
PVCC Panska Ves 159.82 336 *e*PKPAB **PKPab** 03 32 43.2 +1.1
PVCC AMS AMS 04 52 10.0
comp=Z,200nm,14.9s
PRU Pruhonice 160.29 335 AMS AMS 04 54 30.0
comp=Z,200nm,18.1s
TORD Torodi Ar. Bea 160.60 179 PKP **PKPdf** 03 32 06.6 +1.6
comp=Z,0.9nm,0.9s,baz=330,slow=2.0,SNR=3.8
TORD PKPab **PKPab** 03 32 47.5 +1.2
comp=Z,3.6nm,0.8s,baz=178,slow=2.7,SNR=5.6
KHC Kasperske Hory 161.35 335 *e*PKPAB **PKPab** 03 32 43.5 -5.4
CONA Conrad Observa 161.43 329 *e*P **PKPab** 03 32 50.2 +0.9
comp=Z,13nm,1.3s
GERES GERESS Array B 161.55 335 PKPab **PKPab** 03 32 49.4 -0.4
comp=Z,2.5nm,1.0s,baz=46,slow=5.8,SNR=8.0
ARSA Arzberg 162.10 329 *e*P **PKPab** 03 32 52.5 +0.3
comp=Z,5.5nm,1.5s
MYKA Terra Mystica 163.39 331 *e*P **PKPab** 03 32 55.6 -2.4
comp=Z,10.0nm,1.2s
WATA Walderalm 163.58 336 *e*P **PKPab** 03 32 59.0 +0.2
comp=Z,5.3nm,0.8s
WTTA Wattenberg 163.62 336 *e*P **PKPab** 03 32 59.7 +0.6
comp=Z,7.0nm,0.8s
RETA Reutte 163.71 338 *e*P **PKPab** 03 33 00.2 +0.9
comp=Z,13nm,1.2s
MOTA Moosalm 163.73 337 *e*P **PKPab** 03 32 59.8 +0.3
comp=Z,12nm,1.2s
FETA Feichten 164.14 337 *e*P **PKPab** 03 33 02.1 +0.8
comp=Z,11nm,1.2s
DAVA Damuls 164.16 340 *e*P **PKPab** 03 33 02.3 +0.9
comp=Z,10.0nm,1.1s

IDC 29 03:13:34.0±3.7, 3°93S×141°93E, h161km±35km, mb3.2/3, mb1 3.4/3, mb1mx3.0/38, mbtmp3.7/3, Error ellipse: s-maj=65.7km s-min=18.8km az=107.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.87**	**319**	P	Pn	03 14 06.8	-1.6
	3.0nm,0.3s,baz=151,slow=11,SNR=10						
JAY				S	Sn	03 14 35.6	+0.6
	5.1nm,0.3s,baz=289,slow=20,SNR=7.4						
WRA	**Warramunga Arr**	**17.55**	**204**	P	P	03 17 26.7	-1.0
	27nm,0.3s,baz=22,slow=12,SNR=1.3						
ASAR	**Alice Springs**	**21.10**	**201**	P	P	03 18 05.4	-0.7
	0.9nm,0.5s,baz=30,slow=11,SNR=14						
FITZ	**Fitzroy Crossi**	**21.27**	**227**	P	P	03 18 09.5	+1.6
	0.9nm,0.5s,baz=53,slow=12,SNR=6.0						
ILAR	**Eielson Array**	**85.62**	**24**	P	P	03 25 54.1	0.0
	0.7nm,0.6s,baz=259,slow=4.6,SNR=12						

MEX 29 03:25:54.5±0.7, 15°94N×98°65W, h16km±999km, MD3.9, 1C, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.68**	**48**	*e*P	Pg	03 26 05.2	-2.6
PNIG				*e*S	Sg	03 26 13.7	-3.1
MGIG	**Malinaltepec**	**1.29**	**1**	*e*P	Pn	03 26 13.8	-4.2
MGIG				*e*S	Sb	03 26 30.1	-4.8
YOIG	**Yosondua**	**1.40**	**49**	*e*P	Pn	03 26 16.4	-3.2
YOIG				*e*S	Sn	03 26 32.3	-5.7
DAIG	**Los Arroyos**	**1.44**	**319** ⇑	*e*P	Pn	03 26 16.0	-3.9
DAIG				*e*S	Sn	03 26 31.5	-7.1
TXIG	**Tlaxiaco**	**1.56**	**33**	*e*P	Pn	03 26 18.5	-3.3
TXIG				*e*S	Sn	03 26 37.2	-4.7
TLIG	**Tlapa**	**1.62**	**3**	*e*P	Pn	03 26 19.3	-3.2
TLIG				*e*S	Sn	03 26 38.5	-4.6
FTIG	**Fresnillo de T**	**2.02**	**14**	*e*P	Pn	03 26 25.1	-3.0
FTIG				*e*S	Sn	03 26 48.0	-5.0
HLIG	**Huajuapan de L**	**2.05**	**23**	*e*P	Pn	03 26 25.9	-2.6
HLIG				*e*S	Sn	03 26 49.4	-4.5
VHO	**Vista Hermosa**	**2.16**	**58**	*e*P	Pn	03 26 27.2	-2.8
VHO				*e*S	Sn	03 26 52.0	-4.5
HUIG	**Huatulco**	**2.46**	**94**	*e*P	Pn	03 26 30.7	-3.2
HUIG				*e*S	Sn	03 27 00.5	-3.1

MEX 29 03:40:29.5±0.3, 14°54N×92°53W, h70km±18km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.33**	**330**	*e*P	Pn	03 40 50.9	-1.4
PCIG				*e*S	Sn	03 41 04.2	-5.2

*IDC **29** 03:48:11.9±1.9, 31°.39S×71°.76W, h0km, mb3.9/3, mb1 3.9/7, mb1mx3.7/28, mbtmp3.7/7, ML3.5/4, Error ellipse: s-maj=46.5km s-min=38.8km az=25.0*
*GUC **29** 03:48:16.6±0.7, 31°.18S×71°.74W, h34km±3km, ML4.0*
*NEIC **29** 03:48:17.9±1.4, 31°.16S±0°.04×71°.59W±0°.06, h33km±5km, mb4.3/7, ML4.2(GUC), Error ellipse: s-maj=8.2km s-min=4.7km az=74.0*
ISC 29 03:48:16.3±1.2, 31°.19S±0°.03×71°.72W±0°.06, h25km±9km, n52, σ1s10/60, mb4.2/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.52**	**8**	*e*P	**Pb**	**03 48 27.0**	**+0.1**
CO06				*i* S	**Sb**	**03 48 34.3**	**+0.2**
CO06				IAML		03 48 36.2	
	comp=E,8μm,0.2s						
CO06	**Fray Jorge**	**0.52**	**8**		**Pb**	**03 48 27.0**	**+0.1**
CO02	**Combarbal**	**0.61**	**91**	*e*P	**Pn**	**03 48 29.1**	**-0.5**
CO02				*i* S	**Sb**	**03 48 38.0**	**+1.1**
CO02	**Combarbal**	**0.61**	**91**		**Pn**	**03 48 28.9**	**-0.7**
CO02				Sn	**Sb**	**03 48 36.5**	**-0.4**
CO03	**El Pedregal**	**0.95**	**69**	*e*P	**Pn**	**03 48 34.0**	**-0.2**
CO03				*i* S	**Sn**	**03 48 46.7**	**-0.3**
CO03				IAML		03 48 49.7	
	comp=E,9μm,0.2s						
CO03	**El Pedregal**	**0.95**	**69**	Pn	**Pn**	**03 48 33.5**	**-0.7**
CO03				Sn	**Sn**	**03 48 44.4**	**-2.7**
GO04	**Tololo Observa**	**1.29**	**38**	*e*P	**Pn**	**03 48 39.4**	**+0.4**
GO04	**Tololo Observa**	**1.29**	**38**	Pn	**Pn**	**03 48 38.9**	**-0.1**
CO05	**La Serena**	**1.33**	**18**	*i* P	**Pn**	**03 48 39.6**	**+0.2**
CO05				*i* S	Sn	03 48 44.8	-12
CO05	**La Serena**	**1.33**	**18**	Pn	**Pn**	**03 48 39.6**	**+0.2**
VA06	**Catapilco**	**1.41**	**165**	*e*P	**Pb**	**03 48 41.4**	**-0.6**
VA06				*i* S	**Sb**	**03 48 59.5**	**-0.1**
VA06				IAML		03 49 04.3	
	comp=N,4μm,0.4s						
VA01	**Torpederas**	**1.83**	**178**	*e*P	**Pn**	**03 48 46.3**	**+0.1**
VA01	**Torpederas**	**1.83**	**178**		**Pn**	**03 48 46.6**	**+0.5**
VA03	**San Esteban**	**1.85**	**148**	*e*P	**Pb**	**03 48 48.7**	**-1.0**
VA03				*i* S	**Sb**	**03 49 12.4**	**-0.1**
VA03				IAML		03 49 16.9	
	comp=E,3μm,0.7s						
VA03	**San Esteban**	**1.85**	**148**		**Pn**	**03 48 47.9**	**+1.2**
ROCH	**El Roble**	**1.87**	**162**	*e*P	**Pn**	**03 48 48.4**	**+1.3**
ROCH				*i* S	**Sb**	**03 49 13.0**	**-0.1**
ROCH				IAML		03 49 20.5	
	comp=N,2μm,0.3s						
LCO	**Las Campanas**	**2.34**	**22**		**Pn**	**03 48 51.9**	**-1.7**
MT05	**Renca**	**2.34**	**160**	*e*P	**Pn**	**03 48 55.0**	**+1.6**
MT05				*i* S	**Sn**	**03 49 22.9**	**+1.5**
MT05				IAML		03 49 39.6	
	comp=E,2μm,0.4s						
MT05	**Renca**	**2.34**	**160**	Pn	**Pn**	**03 48 55.0**	**+1.6**
VA05	**Santo Domingo**	**2.46**	**178**	Pn	**Pn**	**03 48 54.9**	**0.0**
MT09	**Talagante**	**2.65**	**167**	*e*P	**Pn**	**03 48 59.2**	**+1.5**
MT09				*i* S	**Sn**	**03 49 31.6**	**+2.6**
MT09				IAML		03 49 43.9	
	comp=N,695nm,0.4s						
MT09	**Talagante**	**2.65**	**167**		**Pn**	**03 48 59.2**	**+1.5**
MT01	**Popeta**	**2.69**	**172**		**Pn**	**03 48 59.0**	**+0.8**
AC04	**Llanos de Chal**	**3.03**	**11**	Pn	**Pn**	**03 49 01.2**	**-1.6**
BO01	**Tunca**	**3.23**	**171**	Pn	**Pn**	**03 49 06.3**	**+0.7**
BO02	**Sierra Bellavi**	**3.68**	**168**		**Pn**	**03 49 13.1**	**+1.4**
GO03	**Copiap**	**3.81**	**20**	Pn	**Pn**	**03 49 13.7**	**+0.1**
GO05	**Huala**	**3.81**	**183**	*e*P	**Pn**	**03 49 13.0**	**-0.6**
GO05				*i* S	**Sn**	**03 49 53.9**	**-3.7**
GO05				IAML		03 49 56.9	
	comp=N,82nm,0.3s						
GO05	**Huala**	**3.81**	**183**		**Pn**	**03 49 12.9**	**-0.6**
ML02	**Panimavida**	**4.56**	**177**	Pn	**Pn**	**03 49 24.1**	**+0.2**
AC02	**Maricunga**	**4.90**	**28**	Pn	**Pn**	**03 49 28.9**	**0.0**
H03N1	**Juan Fernandez**	**6.49**	**248**	T	T	03 56 39.9	
	baz=59,slow=72,SNR=1449						
H03N3	**Juan Fernandez**	**6.50**	**248**	T	T	03 56 39.2	
	baz=79,slow=72,SNR=1080						
H03N2	**Juan Fernandez**	**6.50**	**248**	T	T	03 56 34.5	
	baz=79,slow=72,SNR=970						
PB14	**IPOC Station P**	**6.64**	**10**	Pn	**Pn**	**03 49 52.3**	**-0.4**
LVC	**Limon Verde**	**8.91**	**17**	Pn	**Pn**	**03 50 25.2**	**+1.3**
	comp=N,0.2nm,0.3s,baz=216,slow=14,SNR=1.5						
LVC	**Limon Verde**	**8.91**	**17**	Pn	**Pn**	**03 50 23.5**	**-0.3**
CPUP	**Villa Florida**	**13.52**	**73**	Pn	**Pn**	**03 51 28.2**	**+1.7**
	comp=N,0.2nm,0.3s,baz=249,slow=18,SNR=1.5						
CPUP	**Villa Florida**	**13.52**	**73**		**Pn**	**03 51 24.6**	**-2.0**
LPAZ	**La Paz**	**15.19**	**13**	Pn	**Pn**	**03 51 50.5**	**+0.5**
	comp=N,0.1nm,0.3s,baz=183,slow=4.9,SNR=6.7						
LPAZ	**La Paz**	**15.19**	**13**		**Pn**	**03 51 49.9**	**-0.1**
SIV	**San Ignacio**	**17.98**	**35**	P	**P**	**03 52 24.7**	**-0.4**
	comp=N,0.1nm,0.3s,baz=219,slow=16,SNR=2.3						
SAML	**Samuel**	**23.52**	**22**	P	**P**	**03 53 24.6**	**0.0**
SAML				IAmb	IAmb	03 53 27.0	
	comp=Z,1.9nm,1.1s						
PMSA	**Palmer Station**	**33.94**	**174**	P	**P**	**03 54 57.4**	**+0.1**
SNAA	**Sanae**	**54.09**	**159**	P	**P**	**03 57 38.4**	**-0.3**
SNAA				IAmb	IAmb	03 57 39.8	
	comp=Z,3.3nm,0.6s						
QSPA	**South Pole Qui**	**59.04**	**180**	P	**P**	**03 58 14.8**	**+0.7**
QSPA				IAmb	IAmb	03 58 29.3	
	comp=Z,6.0nm,1.4s						
TXAR	**Lajitas Array**	**67.43**	**330**	P	**P**	**03 59 10.7**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=163,slow=6.6,SNR=4.4						
TXAR	**Lajitas Array**	**67.43**	**330**	P	**P**	**03 59 10.9**	**+0.9**
DBIC	**Dimbokro**	**74.04**	**72**	P	**P**	**03 59 50.5**	**0.0**
	comp=Z,1.8nm,0.7s,baz=216,slow=7.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**83.00**	**70**	P	**P**	**04 00 39.6**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=262,slow=5.0,SNR=9.1						
TORD	**Torodi Ar. Bea**	**83.00**	**70**	P	**P**	**04 00 39.6**	**-0.3**
TORD				IAmb	IAmb	04 00 40.4	
	comp=Z,1.5nm,0.8s						
KURBB	**Kurchatov Arra**	**150.60**	**40**	PKPbc	**PKiKP**	**04 08 05.6**	**-0.8**
	comp=Z,0.2nm,0.2s,baz=298,slow=3.5,SNR=2.1						

*IDC **29** 03:51:20.0±1.4, 20°.01S×70°.54W, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.8/30, mbtmp3.8/7, ML3.8/2, MS2.6/1, Ms1 2.7/1, ms1mx2.5/25, Error ellipse: s-maj=32.9km s-min=17.5km az=72.0*
*GUC **29** 03:51:21.5±0.7, 20°.29S×70°.97W, h34km±3km, ML3.9*
*NEIC **29** 03:51:21.7±1.9, 20°.33S±0°.02×70°.91W±0°.05, h29km±6km, mb4.4/8, ML4.0(GUC), Error ellipse: s-maj=7.4km s-min=2.8km az=75.0*
*VAO **29** 03:51:29.1±0.7, 20°.54S×70°.52W, h98km±6km, mb4.1*
ISC 29 03:51:21.4±2.3, 20°.31S±0°.03×70°.91W±0°.06, h32km±17km, n73, σ1s31/81, mb4.1/6, 6C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TA01	**Diego Aracena**	**0.73**	**111**	⇓ *i* P	**Pn**	**03 51 35.2**	**-0.2**
TA01				*i* S	**Sn**	**03 51 46.0**	**+0.6**
TA01	**Diego Aracena**	**0.73**	**111**		**Pn**	**03 51 35.1**	**-0.3**
TA01					**Sn**	**03 51 46.2**	**+0.8**
TA02	**Huaiquique**	**0.73**	**87**	⇓ *i* P	**Pn**	**03 51 35.1**	**-0.4**
TA02				*e*S	**Sn**	**03 51 46.9**	**+1.4**
TA02				IAML		03 51 47.5	
	comp=N,16μm,0.1s						
TA02	**Huaiquique**	**0.73**	**87**		**Pn**	**03 51 34.8**	**-0.7**
TA02					**Sn**	**03 51 46.7**	**+1.2**
HMBC	**Humberstone**	**0.96**	**88**	⇓ *i* P	**Pn**	**03 51 38.8**	**+0.1**
HMBC				*i* S	**Sn**	**03 51 52.6**	**+1.2**
HMBC				IAML		03 51 59.1	
	comp=N,5μm,0.5s						
PSGC	**Pisagua**	**1.02**	**46** ⇑	*i* P	**Pn**	**03 51 39.1**	**-0.6**
PSGC				*e*S	**Sn**	**03 51 52.4**	**-0.6**
PSGC				IAML		03 51 57.0	
	comp=N,3μm,0.3s						
PSGCX	**Pisagua**	**1.02**	**46**		**Pn**	**03 51 38.5**	**-1.1**
PSGCX				Sn	**Sn**	**03 51 52.9**	**-0.1**
PB11	**IPOC Station P**	**1.30**	**65** ⇑	*i* P	**Pn**	**03 51 43.9**	**+0.4**
PB11				*i* S	**Sn**	**03 52 01.2**	**+1.4**
PB11				IAML		03 52 09.8	
	comp=N,4μm,0.4s						
PB11	**IPOC Station P**	**1.30**	**65**	Pn	**Pn**	**03 51 43.9**	**+0.4**
PB11				Sn	**Sn**	**03 52 01.0**	**+1.2**
PB02	**IPOC Station P**	**1.38**	**137** ⇑	*i* P	**Pn**	**03 51 45.5**	**+0.9**
PB02				*e*S	**Sn**	**03 52 03.5**	**+1.7**
PB02				IAML		03 52 11.1	
	comp=E,7μm,0.4s						
PB01	**IPOC Station P**	**1.52**	**119** ⇑	*i* P	**Pn**	**03 51 47.6**	**+1.2**
PB01				*e*S	**Sn**	**03 52 07.7**	**+2.6**
PB01				IAML		03 52 13.2	
	comp=N,3μm,0.4s						
PB01	**IPOC Station P**	**1.52**	**119**	Pn	**Pn**	**03 51 47.2**	**+0.8**
PB08	**IPOC Station P**	**1.66**	**84** ⇑	*i* P	**Pn**	**03 51 49.7**	**+1.1**
PB08				*e*S	**Sb**	**03 52 12.5**	**+0.3**
PB08				IAML		03 52 14.7	
	comp=N,1μm,0.7s						
PB08	**IPOC Station P**	**1.66**	**84**		**Pn**	**03 51 48.7**	**+0.1**
PB07	**IPOC Station P**	**1.70**	**146** ⇑	*i* P	**Pn**	**03 51 49.8**	**+0.7**
PB07				*i* S	**Sn**	**03 52 11.4**	**+1.6**
PB07				IAML		03 52 24.5	
	comp=E,2μm,0.5s						
PB07	**IPOC Station P**	**1.70**	**146**		**Pn**	**03 51 49.2**	**+0.1**
AP01	**Chacalluta**	**2.00**	**16**	*e*P	**Pn**	**03 51 54.7**	**+1.8**
AP01				*e*S	**Sn**	**03 52 18.1**	**+1.1**
AP01				IAML		03 52 34.5	
	comp=N,2μm,0.6s						
AP01	**Chacalluta**	**2.00**	**16**		**Pn**	**03 51 54.8**	**+1.8**
PB04	**IPOC Station P**	**2.13**	**161**	*i* P	**Pn**	**03 51 55.2**	**+0.2**
PB04				IAML		03 52 36.5	
	comp=E,2μm,0.5s						
PB04	**IPOC Station P**	**2.13**	**161**		**Pn**	**03 51 55.2**	**+0.2**
PB06	**IPOC Station P**	**2.69**	**153**		**Pn**	**03 52 02.7**	**+0.1**
LVC	**Limon Verde**	**2.95**	**141**	Pn	**Pn**	**03 52 08.8**	**+2.5**
	comp=E,35nm,0.3s,baz=324,slow=12,SNR=76						
LVC				Sn	**Sn**	**03 52 44.0**	**+3.2**
	comp=E,37nm,0.3s,baz=226,slow=22,SNR=8.6						
LVC				Lg	Lg	03 52 55.0	
	comp=E,37nm,0.3s,baz=58,slow=19,SNR=20						
LVC	**Limon Verde**	**2.95**	**141**		**Pn**	**03 52 05.9**	**-0.5**
LVC	**Limon Verde**	**2.95**	**141**	*e*P	**Pn**	**03 52 08.9**	**+2.5**
PB15	**IPOC Station P**	**3.18**	**155**		**Pn**	**03 52 09.6**	**+0.2**
PB10	**IPOC Station P**	**3.20**	**174**		**Pn**	**03 52 08.7**	**-0.9**
AF01	**San Pedro de A**	**3.65**	**136**	Pn	**Pn**	**03 52 16.7**	**+0.7**
PB14	**IPOC Station P**	**4.32**	**174**		**Sn**	**03 53 13.1**	**-1.6**
LPAZ	**La Paz**	**4.79**	**34**	Pn	Pn	03 52 38.5	+6.5
	comp=E,1.1nm,0.3s,baz=280,slow=6.3,SNR=60						
LPAZ				LR	LR	03 53 49.3	
	comp=E,64nm,18.0s,baz=238,slow=34						
LPAZ	**La Paz**	**4.79**	**34**		**Pn**	**03 52 33.3**	**+1.3**
LPAZ	**La Paz**	**4.79**	**34**	*e*P	Pn	03 52 38.6	+6.7
SIV	**San Ignacio**	**10.29**	**67**	Pn	**Pn**	**03 53 44.9**	**-2.0**
	comp=E,0.3nm,0.3s,baz=238,slow=9.5,SNR=5.0						

SBA	**Scott Base**	**76.65**	**191**	P	**P**		**04 03 06.6**	**-2.0**
SBA				IAmb	IAmb		04 03 07.9	
	comp=Z,4.8nm,1.0s							
TORD	**Torodi Ar. Bea**	**78.73**	**71**	P	**P**		**04 03 21.8**	**+0.5**
	comp=Z,3.8nm,0.9s,baz=253,slow=4.9,SNR=14							
TORD	**Torodi Ar. Bea**	**78.73**	**71**		**P**		**04 03 21.0**	**-0.2**
TORD				IAmb	IAmb		04 03 22.7	
	comp=Z,4.1nm,1.0s							
MKAR	**Makanchi Array**	**145.72**	**33**	PKPbc	**PKiKP**		**04 10 59.2**	**-1.5**
	comp=Z,2.1nm,0.9s,baz=330,slow=4.2,SNR=7.7							
MKAR	**Makanchi Array**	**145.72**	**33**		**PKPbc**		**04 10 57.0**	**0.0**

*IDC **29** 03:55:31.8±1.5,31°.10S×71°.51W,h0km,mb3.8/6, mb1 4.0/10,mb1mx3.8/26,mbtmp3.8/10,ML3.7/4, Error ellipse: s-maj=43.0km s-min=27.6km az=8.0*
*NEIC **29** 03:55:37.9±1.9,30°.88S±0°.02×71°.57W±0°.08,h29km±6km, mb4.3/7,ML4.0(GUC),Error ellipse: s-maj=10.7km s-min=1.0km az=100.0*
*GUC **29** 03:55:38.4±0.6,30°.98S×71°.60W,h20km±5km,ML3.9*

ISC 29 03:55:36.8±1.0,30°.95S±0°.03×71°.58W±0°.05,h26km±8km, n59,σ1ᵎ30/72,mb3.9/9,1C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.28**	**351**	*e*P		**Pn**		**03 55 45.0**	**-0.2**
CO06				*i* S		**Sn**		**03 55 50.1**	**-0.6**
CO06				IAML				03 55 50.9	
	comp=E,43μm,0.1s								
CO06	**Fray Jorge**	**0.28**	**351**	Pg		**Pb**		**03 55 44.6**	**+1.0**
CO06				Sg		**Sn**		**03 55 49.9**	**-0.7**
CO02	**Combarbal**	**0.56**	**117**	*e*P		**Pn**		**03 55 49.7**	**+0.6**
CO02				*i* S		**Sn**		**03 55 57.8**	**+0.2**
CO02	**Combarbal**	**0.56**	**117**			**Pn**		**03 55 49.7**	**+0.6**
CO02						**Sn**		**03 55 58.5**	**+0.8**
CO03	**El Pedregal**	**0.78**	**82**	*e*P		**Pn**		**03 55 52.8**	**+0.7**
CO03				*i* S		**Sn**		**03 56 03.9**	**+0.9**
CO03				IAML				03 56 04.6	
	comp=N,9μm,0.4s								
CO03	**El Pedregal**	**0.78**	**82**			**Pn**		**03 55 52.6**	**+0.4**
CO03						**Sn**		**03 56 03.6**	**+0.6**
GO04	**Tololo Observa**	**1.03**	**41**	⇓*i*P		**Pn**		**03 55 55.9**	**+0.1**
GO04				*i* S		**Sn**		**03 56 10.3**	**+0.8**
GO04	**Tololo Observa**	**1.03**	**41**			**Pn**		**03 55 55.5**	**-0.6**
CO05	**La Serena**	**1.07**	**16**	Pn		**Pn**		**03 55 55.3**	**-0.8**
VA06	**Catapilco**	**1.62**	**171**	*e*P		**Pb**		**03 56 05.6**	**-0.4**
VA06				*i* S		**Sb**		**03 56 27.1**	**+1.0**
VA06				IAML				03 56 33.1	
	comp=E,2μm,0.5s								
VA03	**San Esteban**	**2.01**	**154**	*e*P		**Pb**		**03 56 12.3**	**-0.4**
VA03				*i* S		**Sb**		**03 56 38.3**	**+1.0**
VA03				IAML				03 56 43.1	
	comp=E,1μm,0.5s								
VA03	**San Esteban**	**2.01**	**154**			**Pb**		**03 56 12.3**	**-0.4**
VA01	**Torpederas**	**2.06**	**182**			**Pn**		**03 56 11.2**	**+1.4**
ROCH	**El Roble**	**2.07**	**167**	*e*P		**Pb**		**03 56 13.4**	**-0.5**
ROCH				*i* S		**Sb**		**03 56 40.0**	**+0.8**
ROCH				IAML				03 56 45.2	
	comp=N,1μm,0.4s								
LCO	**Las Campanas**	**2.08**	**22**	*e*P		**Pn**		**03 56 11.1**	**+0.8**
LCO				*i* S		**Sn**		**03 56 35.9**	**+0.5**
LCO	**Las Campanas**	**2.08**	**22**			**Pn**		**03 56 11.1**	**+0.8**
MT05	**Renca**	**2.54**	**164**	*e*P		**Pb**		**03 56 20.0**	**-1.6**
MT05				*i* S		**Sb**		**03 56 52.0**	**-0.5**
MT05				IAML				03 57 03.8	
	comp=E,1μm,0.9s								
MT05	**Renca**	**2.54**	**164**			**Pn**		**03 56 18.8**	**+2.5**
VA05	**Santo Domingo**	**2.70**	**181**	*e*P		**Pb**		**03 56 24.7**	**+0.3**
VA05				IAML				03 57 06.9	
	comp=E,564nm,0.6s								
VA05	**Santo Domingo**	**2.70**	**181**			**Pb**		**03 56 21.6**	**-2.8**
AC04	**Llanos de Chal**	**2.77**	**9**	*e*P		**Pn**		**03 56 19.4**	**-0.1**
AC04				IAML				03 57 03.4	
	comp=N,654nm,0.1s								
AC04	**Llanos de Chal**	**2.77**	**9**			**Pn**		**03 56 19.4**	**-0.1**
MT09	**Talagante**	**2.86**	**170**	⇑*e*P		**Pn**		**03 56 23.5**	**+2.6**
MT09				*i* S		**Sb**		**03 57 02.1**	**+0.3**
MT09				IAML				03 57 12.8	
	comp=N,424nm,0.6s								
MT09	**Talagante**	**2.86**	**170**			**Pn**		**03 56 23.6**	**+2.8**
MT01	**Popeta**	**2.92**	**175**	*i* S		**Sb**		**03 57 00.8**	**-2.6**
MT01	**Popeta**	**2.92**	**175**			**Pn**		**03 56 21.2**	**-0.3**
LMEL	**Las Melosas**	**3.11**	**158**	*e*P		**Pb**		**03 56 28.1**	**-3.4**
LMEL				*i* S		**Sb**		**03 57 06.5**	**-2.7**
BO01	**Tunca**	**3.46**	**173**	*e*P		**Pn**		**03 56 31.4**	**+2.5**
BO01				*i* S		**Sb**		**03 57 17.9**	**-0.9**
BO01				IAML				03 57 34.8	
	comp=N,123nm,0.6s								
BO01	**Tunca**	**3.46**	**173**	Pn		**Pn**		**03 56 30.3**	**+1.4**
GO03	**Copiap**	**3.55**	**20**	*e*P		**Pn**		**03 56 30.7**	**+0.4**
GO03				*i* S		**Sn**		**03 57 14.6**	**+3.2**
GO03	**Copiap**	**3.55**	**20**			**Pn**		**03 56 30.5**	**+0.3**
BO02	**Sierra Bellavi**	**3.89**	**170**			**Pn**		**03 56 36.3**	**+1.4**
GO05	**Huala**	**4.06**	**184**	*e*P		**Pn**		**03 56 36.6**	**-0.6**
GO05				IAML				03 58 08.3	
	comp=E,77nm,0.6s								
GO05	**Huala**	**4.06**	**184**			**Pn**		**03 56 37.6**	**+0.4**
AC02	**Maricunga**	**4.63**	**28**			**Pn**		**03 56 45.5**	**-0.1**
ML02	**Panimavida**	**4.80**	**178**			**Pn**		**03 56 48.4**	**+1.0**
H03N1	**Juan Fernandez**	**6.69**	**246**	T		T		04 04 02.9	
	baz=73,slow=72,SNR=1076								
H03N3	**Juan Fernandez**	**6.70**	**246**	T		T		04 04 04.6	
	baz=73,slow=72,SNR=1167								
H03N2	**Juan Fernandez**	**6.71**	**246**	T		T		04 04 04.0	
	baz=73,slow=72,SNR=710								
LVC	**Limon Verde**	**8.64**	**17**	Pn		**Pn**		**03 57 39.6**	**-1.0**
	comp=E,0.3nm,0.3s,baz=321,slow=7.9,SNR=1.8								
LVC	**Limon Verde**	**8.64**	**17**	Pn		**Pn**		**03 57 39.5**	**-1.1**
CPUP	**Villa Florida**	**13.34**	**73**	Pn		**Pn**		**03 58 42.3**	**-2.1**
	comp=E,0.1nm,0.3s,baz=300,slow=4.2,SNR=1.9								
LPAZ	**La Paz**	**14.94**	**13**	Pn		**Pn**		**03 59 07.1**	**+0.3**
	comp=E,0.1nm,0.3s,baz=177,slow=9.4,SNR=5.6								
LPAZ	**La Paz**	**14.94**	**13**			**Pn**		**03 59 07.5**	**+0.7**
SIV	**San Ignacio**	**17.72**	**35**	P		**Pn**		**03 59 41.4**	**-0.5**
	comp=E,0.2nm,0.3s,baz=213,slow=8.8,SNR=5.0								
BDFB	**Brasilia**	**26.39**	**60**	P		**P**		**04 01 10.3**	**-1.0**
	comp=E,1.3nm,0.5s,baz=175,slow=6.3,SNR=3.7								
RUSC	**La Rusia**	**36.66**	**357**	P		**P**		**04 02 41.4**	**-0.5**
RUSC				IAmb		IAmb		04 02 49.6	
	comp=Z,12nm,1.5s								
SNAA	**Sanae**	**54.26**	**159**	P		**P**		**04 05 02.8**	**+2.6**
SNAA				IAmb		IAmb		04 05 04.7	
	comp=Z,4.0nm,1.1s								
QSPA	**South Pole Qui**	**59.27**	**180**	P		**P**		**04 05 37.0**	**+1.1**
QSPA				IAmb		IAmb		04 05 42.9	
	comp=Z,5.0nm,1.4s								
TXAR	**Lajitas Array**	**67.29**	**330**	P		**P**		**04 06 29.8**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=151,slow=8.2,SNR=4.8								
DBIC	**Dimbokro**	**73.85**	**72**	P		**P**		**04 07 08.8**	**-0.8**
	comp=Z,3.1nm,0.9s,baz=251,slow=4.8,SNR=6.2								
DBIC	**Dimbokro**	**73.85**	**72**	P		**P**		**04 07 09.5**	**-0.1**
PDAR	**Pinedale Array**	**81.23**	**333**	P		**P**		**04 07 49.9**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=126,slow=7.2,SNR=2.6								
PDAR	**Pinedale Array**	**81.23**	**333**	P		**P**		**04 07 50.2**	**-0.3**
NVAR	**Mina Array Bea**	**81.62**	**325**	P		**P**		**04 07 53.0**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=144,slow=6.7,SNR=4.5								
NVAR	**Mina Array Bea**	**81.62**	**325**	P		**P**		**04 07 53.7**	**+1.1**
TORD	**Torodi Ar. Bea**	**82.81**	**70**	P		**P**		**04 07 58.4**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=278,slow=6.7,SNR=16								
BVAR	**Borovoye Array**	**144.75**	**40**	PKP		**PKPab**		**04 15 09.9**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=212,slow=5.3,SNR=3.6								
ZALV	**Zalesovo Beam**	**151.42**	**30**	PKPbc		**PKPbc**		**04 15 26.8**	**-0.9**
	comp=Z,1.0nm,0.4s,baz=300,slow=3.3,SNR=3.8								

*IDC **29** 03:57:08.5±22.0,7°.95S×104°.99E,h0km,mb3.6/1, mb1 3.6/1,mb1mx3.2/47,mbtmp3.6/1,MS3.4/1,Ms1 3.4/1, ms1mx3.0/44,Error ellipse: s-maj=1063.0km s-min=37.4km az=46.0*
*DJA **29** 03:57:18.8±0.8,7°.S±3°×10°.6E±°,h20km±6km,M3.9/13, mb3.9/2,MLv3.9/13*

ISC 29 03:57:21.0±0.9,7°.26S±0°.06×106°.20E±0°.05,h32km,n22, σ1ᵎ49/24,**Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.44**	**55**	P		**Pn**		**03 57 31.9**	**+0.9**
SKJI				S		**Sn**		**03 57 40.0**	**+2.1**
DBJI	**Dramaga**	**0.89**	**38**	P		**Pb**		**03 57 38.3**	**+0.3**
CNJI	**Cibinong**	**0.93**	**93**	P		**Pn**		**03 57 37.7**	**-0.1**
CNJI				S		**Sn**		**03 57 50.3**	**+0.3**
CBJI	**Citeko**	**1.05**	**38**	P		**Pn**		**03 57 38.5**	**-1.0**
SBJI	**Serang**	**1.13**	**357**	P		**Pn**		**03 57 40.8**	**+0.2**
SBJI				S		**Sb**		**03 57 56.3**	**-0.1**
TNG	**Tangerang**	**1.17**	**23**	P		**Pn**		**03 57 42.1**	**+1.0**
TNG				P		**Pn**		**03 57 41.0**	**-0.1**
LEM	**Lembang**	**1.47**	**73**	P		**Pb**		**03 57 47.2**	**-0.7**
CISI	**Cisompet, Garu**	**1.63**	**101**	P		**Pn**		**03 57 47.6**	**0.0**
CMJI	**Cimerak**	**2.29**	**103**	P		**Pn**		**03 57 57.0**	**+0.4**
KPJI	**Karang Pucung**	**2.71**	**92**	P		**Pn**		**03 58 04.2**	**+1.8**
KLSI		**2.94**	**330**	P		**Pn**		**03 58 05.4**	**-0.1**
LWLI	**Liwa**	**3.08**	**316**	P		**Pb**		**03 58 15.4**	**+0.3**
MDSI	**Maura Dua**	**3.41**	**324**	P		**Pn**		**03 58 10.8**	**-1.1**
LHSI	**Lahat**	**4.32**	**322**	P		**Pn**		**03 58 28.7**	**+4.2**
UGM	**Wanagama**	**4.34**	**99**	P		**Pn**		**03 58 25.7**	**+0.9**
PCJI	**Pacitan**	**5.02**	**101**	P		**Pn**		**03 58 35.3**	**+1.2**
	0.3nm17nm,1.3s								
PWJI	**Pagerwojo**	**5.61**	**98**	P		**Pn**		**03 58 43.4**	**+1.2**
COCO	**West Island**	**10.45**	**241**	P		**Pn**		**03 59 49.7**	**+1.1**
WRA	**Warramunga Arr**	**30.06**	**118**	P		**P**		**04 03 26.1**	**-1.4**
	101nm,0.6s,baz=291,slow=8.8,SNR=1.3								
JAY	**Jayapura**	**34.69**	**84**	LR		LR		04 21 18.0	
	comp=Z,50nm,18.1s,baz=212,slow=40								
MKAR	**Makanchi Array**	**57.86**	**341**	P		P		04 07 03.6	-6.0
	0.4nm,0.5s,baz=154,slow=8.0,SNR=4.5								
TXAR	**Lajitas Array**	**144.33**	**48**	PKPbc		**PKPab**		**04 16 49.7**	**-3.0**
	0.4nm,0.6s,baz=226,slow=2.4,SNR=4.4								

MAN 29 04:01:47.8,10°.10N×126°.05E,h8km,mb3.9,ML2.7,MS2.2, 1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.64**	**240**	⇑*i*P		Pg		04 02 00.1	0.0
SCPH				*i* S		Sb		04 02 10.0	-0.3

*IDC **29** 04:07:36.0±2.2,7°.32S×127°.02E,h0km,mb3.6/1, mb1 3.7/2,mb1mx3.4/41,mbtmp3.6/2,ML4.5/2,Error ellipse: s-maj=143.4km s-min=34.4km az=63.0*
*DJA **29** 04:07:52.3±0.4,8°.S±4°×12°.8E±°,h200km±13km,M4.2/7, mb3.8/6,mB5.2/2,MLv4.5/7,Mw(mB)4.6/2*

ISC 29 04:07:52.5±0.9,7.7S±0°.07×127.78E±0°.09,h200km,n11, σ2ᵎ59/14,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.99**	**240**	P		**Pn**		**04 08 54.7**	**+0.4**
SOEI				S		**Sn**		**04 09 42.2**	**-0.6**
MSAI	**Masohi**	**4.54**	**15**	P		**Pn**		**04 08 59.7**	**-1.4**
BATI	**Baumata**	**4.73**	**239**	P		**Pn**		**04 09 04.6**	**+1.1**
EDFI	**Ende, Flores**	**6.10**	**260**	P		**Pn**		**04 09 21.1**	**-0.1**
	0.1nm12nm,0.9s								
BSSI	**Bau Bau, Buton**	**7.41**	**282**	P		**Pn**		**04 09 37.1**	**-1.1**
	0.2nm3μm25nm,1.5s								
SIJI	**Sorong**	**7.69**	**27**	P		**Pn**		**04 09 39.9**	**-1.8**
	0.4nm5μm7.2nm,0.7s								
PLAI	**Plampang**	**9.96**	**263**	P		**Pn**		**04 10 09.8**	**-1.4**
	17nm,0.8s								
FITZ	**Fitzroy Crossi**	**10.47**	**191**	Sn		**Sn**		**04 12 10.5**	**-4.3**
	0.7nm,0.3s,baz=292,slow=15,SNR=7.4								
WRA	**Warramunga Arr**	**13.67**	**153**	Pn		**P**		**04 11 01.5**	**+0.8**
	5.4nm,0.3s,baz=328,slow=12,SNR=0.9								
WRA				Sn		**Sn**		**04 13 27.9**	**-3.2**
	0.9nm,0.3s,baz=330,slow=22,SNR=8.1								
ASAR	**Alice Springs**	**16.86**	**160**	Pn		**Pn**		**04 11 42.2**	**+5.0**
	0.2nm,0.3s,baz=336,slow=11,SNR=13								
ASAR				Sn		**Sn**		**04 14 45.0**	**-2.2**
	0.2nm,0.3s,baz=322,slow=16,SNR=4.3								
MKAR	**Makanchi Array**	**67.69**	**328**	P		**P**		**04 18 30.1**	**+2.0**
	0.3nm,0.5s,baz=116,slow=6.6,SNR=2.4								

*DNK **29** 04:08:49.7±0.6,51°.24N×15°.59E,h15km±69km,ML1.8*
*IPEC **29** 04:08:53.5±0.3,51°.56N×16°.28E,h0km,ML2.1/3,Error ellipse: s-maj=2.2km s-min=1.6km az=25.0*
*PRU **29** 04:08:54.1±0.0,51°.55N×16°.09E,h0km*
*VIE **29** 04:08:56.2±1.1,51°.37N×16°.06E,h0km,mb2.5/4,ml2.5/5, Error ellipse: s-maj=9.1km s-min=6.5km az=44.0 73 km WNW of Wroclaw Suspected Mining induced.*

ISC 29 04:08:52.3±0.9,51°.62N±0°.04×16°.12E±0°.03,h0km,n27, σ0ᵎ82/53,**Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.79**	**172**	*e*Pg		**Pg**		**04 09 07.8**	**+0.5**
KSP				*e*Sg		**Sg**		**04 09 17.4**	**-0.1**
OSTC	**Ostas**	**1.07**	**177**	*e*PG		**Pn**		**04 09 13.3**	**-0.3**
OSTC				*e*SG		**Sg**		**04 09 26.0**	**-0.5**
	comp=Z,27nm,0.5s								
PVCC	**Panska Ves**	**1.47**	**222**	*e*PG		**Pb**		**04 09 20.9**	**+0.5**
PVCC				*e*SG		**Sn**		**04 09 40.0**	**+0.1**
	comp=Z,145nm,0.2s								
BRG	**Berggiesshubel**	**1.56**	**242**	Pg		**Pg**		**04 09 22.8**	**+0.7**
BRG				Sg		**Sg**		**04 09 43.2**	**+0.9**
BRG				Amp				04 09 43.7	
	comp=Z,54nm,0.5s								
BRG				Amp				04 48 06.0	
	comp=Z,0.2nm,24.1s								
BRG				Amp				04 48 07.0	
	comp=E,0.1nm,14.5s								
BRG				Amp				04 48 10.0	
	comp=N,0.2nm,17.1s								
KRLC	**Kraliky**	**1.60**	**165**	*e*PG		**Pn**		**04 09 21.7**	**-0.2**
KRLC				*e*SG		**Sn**		**04 09 42.6**	**-0.7**
	comp=N,18nm,0.2s								
PRA	**Prague**	**1.89**	**215**	*e*SG		**Sb**		**04 09 51.7**	**+0.1**
	comp=N,21nm,0.5s								
PRU	**Pruhonice**	**1.92**	**212**	*e*PN		**Pn**		**04 09 26.2**	**+0.1**
PRU				*e*PG		**Pb**		**04 09 27.8**	**-0.3**
PRU				*e*SG		**Sb**		**04 09 52.1**	**-0.4**
	comp=N,23nm,0.3s								
CLL	**Collm**	**1.98**	**262**	*e*Pn		**Pn**		**04 09 27.0**	**+0.1**
CLL				*e*Pg		**Pg**		**04 09 30.0**	**-0.1**
CLL				*e*				04 09 34.0	
CLL				*e*Sg		**Sg**		**04 09 56.0**	**+0.3**
	comp=Z,18nm,0.5s								
MORC	**Moravsky Berou**	**2.06**	**153**	*e*Pn		**Pn**		**04 09 27.8**	**-0.3**
	baz=336								
MORC				*e*Sg		**Sn**		**04 09 54.6**	**+0.1**
	comp=Z,13nm,0.5s,baz=336								
MORC	**Moravsky Berou**	**2.06**	**153**	*e*PN		**Pn**		**04 09 27.8**	**-0.3**
MORC				*e*SG		**Sn**		**04 09 54.7**	**+0.2**
VRAC	**Vranov**	**2.34**	**172**	*e*Pn		**Pn**		**04 09 32.5**	**+0.6**
	baz=355								
VRAC				*e*Sg		**Sb**		**04 10 04.8**	**+0.2**
	comp=Z,9.8nm,0.4s,baz=355								
VRAC	**Vranov**	**2.34**	**172**	*e*PN		**Pn**		**04 09 32.6**	**+0.6**
VRAC				*e*SG		**Sb**		**04 10 04.8**	**+0.2**
KRUC	**Moravsky**	**2.57**	**176**	*e*Pn		**Pn**		**04 09 35.3**	**+0.2**
	baz=358								
KRUC	**Moravsky**	**2.57**	**176**	*e*Pg		**Pb**		**04 09 39.1**	**-0.1**
	baz=358								
KRUC				*e*Sg		**Sb**		**04 10 11.9**	**+0.6**
	comp=Z,8.8nm,0.6s,baz=358								
KRUC	**Moravsky**	**2.57**	**176**	*e*PN		**Pn**		**04 09 35.4**	**+0.3**
KRUC				*e*SG		**Sb**		**04 10 11.9**	**+0.6**
OJC	**Ojcow**	**2.72**	**120**	*e*Pg		**Pg**		**04 09 44.2**	**-0.1**
OJC				*e*Sg		**Sg**		**04 10 19.8**	**+0.3**
JAVC	**Velka Javorina**	**2.94**	**160**	*e*PN		**Pn**		**04 09 40.1**	**-0.2**
KHC	**Kasperske Hory**	**2.98**	**214**	*e*PN		**Pn**		**04 09 40.5**	**-0.3**
KHC				*e*PG		**Pg**		**04 09 48.5**	**-0.8**
KHC				*e*SN		**Sn**		**04 10 15.5**	**-1.7**
KHC				*e*SG		**Sb**		**04 10 25.5**	**+2.4**
LANS	**Liptovska Anna**	**3.27**	**138**	*e*PG		**Pg**		**04 09 54.7**	**-0.2**
LANS				*e*SG		**Sg**		**04 10 37.9**	**+0.6**
MODS	**Modra-Piesok**	**3.34**	**167**	*e*SG		**Sg**		**04 10 40.4**	**+1.0**
CONA	**Conrad Observa**	**3.70**	**183**	*i* Pn		**Pn**		**04 09 51.9**	**+1.2**
	comp=Z,0.7nm,0.1s								
CONA				*e*Sg		**Sg**		**04 10 48.9**	**-2.2**
	comp=Z,6.8nm,0.3s								
MOA	**Molln**	**3.96**	**198**	*i* Pn		**Pn**		**04 09 54.9**	**+0.6**
	comp=Z,2.9nm,0.3s								
MOA				*e*Sg		**Sg**		**04 10 58.2**	**-1.4**
	comp=Z,3.2nm,0.3s								
LUNU	**Lund**	**4.32**	**339**	*i* P		**Pn**		**04 09 58.9**	**-0.2**
LUNU				*i* S		**Sn**		**04 10 49.5**	**-0.7**
ARSA	**Arzberg**	**4.39**	**185**	*e*Pn		**Pn**		**04 10 01.2**	**+1.0**
	comp=Z,1.2nm,0.2s								
ARSA				Sg		**Sg**		**04 11 13.9**	**+0.6**
	comp=Z,4.4nm,0.4s								
BLEU	**Blekinge**	**4.70**	**358**	*i* P		**Pn**		**04 10 05.4**	**+1.2**
KBA	**Koelnbreinsper**	**4.90**	**203**	*e*Pn		**Pn**		**04 10 07.8**	**+0.5**
	comp=Z,2.5nm,0.5s								
KBA				*e*Sg		**Sg**		**04 11 28.2**	**-1.3**
	comp=Z,2.6nm,0.4s								
DEL	**Delary**	**5.04**	**346**	*e*		**Pn**		**04 10 07.0**	**-1.9**
	baz=170,slow=11								
DEL				*i* P		**Pn**		**04 10 09.4**	**+0.5**
DEL				IAML				04 11 09.0	
	comp=Z,0.5nm,0.3s								

MEX 29 04:14:36.6±0.6,16°.40N×98°.44W,h20km±7km,MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.30**	**91**	*e*P		Pb		04 14 42.1	-1.3
PNIG				*e*S		Sb		04 14 46.6	-1.4
MGIG	**Malinaltepec**	**0.85**	**348**	*e*P		Pb		04 14 50.2	-2.7
MGIG				*e*S		Sb		04 15 00.2	-3.7
YOIG	**Yosondua**	**0.97**	**62**	*e*P		Pb		04 14 52.3	-2.7
YOIG				*e*S		Sb		04 15 03.7	-3.9
TXIG	**Tlaxiaco**	**1.07**	**37**	*e*P		Pb		04 14 53.2	-3.4
TXIG				*e*S		Sb		04 15 06.2	-4.1
TLIG	**Tlapa**	**1.17**	**354**	*e*P		Pn		04 14 55.5	-2.4
TLIG				*e*S		Sb		04 15 09.5	-3.4
FTIG	**Fresnillo de T**	**1.53**	**11**	*e*P		Pn		04 15 00.6	-2.3
FTIG				*e*S		Sn		04 15 18.2	-4.2
HLIG	**Huajuapan de L**	**1.55**	**23**	*e*P		Pn		04 15 00.3	-3.0
HLIG				*e*S		Sn		04 15 19.3	-3.6

*IDC **29** 04:24:21.2±0.8,30°.17N×131°.08E,h0km,mb4.1/17, mb1 4.2/20,mb1mx4.1/48,mbtmp4.1/20,ML3.2/3,MS3.8/8, Ms1 3.8/8,ms1mx3.2/49,Error ellipse: s-maj=21.9km s-min=17.0km az=80.0*
*NIED **29** 04:24:23.7,30°.10N×131°.36E,h26km,MW4.6,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr6.82; Mθθ0.10; Mϕϕ-6.92; Mrθ0.19; Mθϕ-3.57; Mϕr-1.80; Fault plane solution: M0 7.85000×10¹⁵ NP1: ϕs194.00000°,δ52.00000°,λ79.00000°. NP2:ϕs32.00000°, δ40.00000°,λ104.00000°*
*JMA **29** 04:24:23.7±0.1,30°.10N×131°.36E,h26km±1km,M4.2*
JMA Felt I J1.
*NEIC **29** 04:24:26.4±1.8,30°.14N±0°.06×131°.19E±0°.09,h41km±8km, mb4.5/11,Error ellipse: s-maj=11.3km s-min=7.8km az=104.0*

ISC 29 04:24:25.0±1.4,30°.14N±0°.05×131°.26E±0°.05,h30km±9km, n70,σ1ᵎ08/77,mb4.2/22,MS3.8/5,4C-3D,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JMTN	**Minamitane**	**0.41**	**310**	⇓P		**Pb**		**04 24 33.5**	**-0.5**
JMTN				*e*S		**Sn**		**04 24 40.9**	**-0.6**
JTN	**Tanegashima 3**	**0.57**	**335**	⇓P		**Pn**		**04 24 36.3**	**-0.3**
JTN				*e*S		**Sb**		**04 24 44.6**	**+0.1**
JYAK	**Yakushimahirau**	**0.66**	**279**	⇓P		**Pn**		**04 24 37.9**	**-0.4**
JYAK				*e*S		**Sn**		**04 24 48.0**	**+0.3**
JKC	**Kuchinoerabu**	**0.98**	**290**	⇑P		**Pb**		**04 24 43.0**	**-0.3**
JKC				*e*S		**Sn**		**04 24 57.2**	**+1.7**
JTSR	**Tashiro 2**	**1.07**	**344**	⇑P		**Pn**		**04 24 43.8**	**-0.2**
JTSR				*e*S		**Sb**		**04 24 58.7**	**+0.1**
JNN	**Nakanoshima**	**1.24**	**257**	P		**Pb**		**04 24 47.2**	**-0.6**
JNN				*e*S		**Sb**		**04 25 04.0**	**+0.6**
JNAR	**Kushima--Naru**	**1.39**	**0**	⇑P		**Pn**		**04 24 48.6**	**+0.3**
JNAR				*e*S		**Sn**		**04 25 06.4**	**+0.8**
JNKG	**Nichinankitago**	**1.52**	**4**	P		**Pn**		**04 24 50.6**	**+0.4**
JNKG				*e*S		**Sn**		**04 25 09.9**	**+0.9**
JSU	**Suzuyama**	**1.53**	**333**	⇑P		**Pn**		**04 24 50.4**	**+0.1**
JSU				*e*S		**Sb**		**04 25 10.7**	**-1.1**
JSU	**Suzuyama**	**1.53**	**333**

FINES **FINESS Array B** 70.79 331 P **P** 04 35 38.1 -0.2
comp=Z,3.9nm,0.6s,baz=73,slow=6.8,SNR=12
FINES **FINESS Array B** 70.79 331 P **P** 04 35 37.8 -0.5
AKASG **Malin Array Be** 74.30 320 P **P** 04 35 59.4 0.0
comp=Z,0.4nm,0.3s,baz=52,slow=6.7,SNR=5.5
BRTR **Keskin Array B** 76.74 308 P **P** 04 36 13.8 0.0
comp=Z,2.3nm,0.9s,baz=81,slow=7.6,SNR=6.0
BRTR **Keskin Array B** 76.74 308 P **P** 04 36 13.1 -0.6
NB2 **NORSAR Subarra** 76.98 334 P **P** 04 36 13.6 -1.0
comp=Z,1.1nm,0.7s,baz=50,slow=5.9
NOA **NORSAR Array B** 76.98 334 P **P** 04 36 14.8 +0.2
comp=Z,1.2nm,0.7s,baz=49,slow=5.7,SNR=7.0
NOA LR LR 05 15 51.9
comp=Z,58nm,18.5s,baz=55,slow=40
CLL **Collm** 82.45 326 *e*P **P** 04 36 45.0 +0.6
KVN **Kaiserville** 85.66 47 P **P** 04 36 59.7 -1.5
KVN IAmb IAmb 04 37 15.8
comp=Z,5.0nm,1.1s
NVAR **Mina Array Bea** 85.89 48 P **P** 04 37 04.1 +1.7
comp=Z,0.3nm,0.5s,baz=305,slow=6.6,SNR=4.4
NVAR **Mina Array Bea** 85.89 48 P **P** 04 37 01.9 -0.6
PDAR **Pinedale Array** 88.46 40 P **P** 04 37 15.6 +0.8
comp=Z,0.5nm,0.9s,baz=300,slow=3.6,SNR=2.8

KRSC ***29*** *04:33:24.2±1.3, 55˚.65N×163˚.21E, h9km±5.31km, ML4.9*
MOS ***29*** *04:33:25.5±1.0, 55˚.82N×163˚.20E, h24km, mb4.8/27, Error ellipse: s-maj=6.2km s-min=4.2km az=71.3*
NEIC ***29*** *04:33:27.7±1.4, 55˚.8N±0˚.1×162˚.8E±0˚.2, h28km±5km, mb4.6/79, Error ellipse: s-maj=18.5km s-min=12.4km az=146.0*
IDC ***29*** *04:33:32.1±2.1, 55˚.86N×162˚.78E, h63km±19km, mb4.0/31, mb1 4.1/36, mb1mx4.0/57, mbtmp4.3/36, MS3.4/14, Ms1 3.5/14, ms1mx3.3/46, Error ellipse: s-maj=13.5km s-min=10.1km az=153.0*

ISC 29 04:33:28.6±0.5, 55˚.82N±0˚.03×163˚.16E±0˚.03, h38km±1km, n291, σ1§51/328, mb4.6/94, MS3.5/13, 10C-7D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.44**	**334**	PN	**Pn**	**04 33 35.6**	**-2.6**
KBTR	**Krutoberegovo**	**0.44**	**334**	*e*P	**Pn**	**04 33 35.6**	**-2.6**
KBG	**Krutoberegovo**	**0.51**	**330**	PN	**Pn**	**04 33 36.8**	**-2.6**
KBG				S	**Sn**	**04 33 47.0**	**+0.2**
KBG	**Krutoberegovo**	**0.51**	**330**	*e*P	**Pn**	**04 33 36.8**	**-2.6**
KBG				*e*S	**Sn**	**04 33 47.0**	**+0.2**
SMKR	**Semkarok**	**1.22**	**310**	PN	**Pn**	**04 33 48.6**	**-0.5**
SMKR	**Semkarok**	**1.22**	**310**	*e*P	**Pn**	**04 33 48.6**	**-0.5**
BDR	**Baidarnaya**	**1.32**	**306**	PN	**Pn**	**04 33 50.2**	**-0.4**
BDR				S	**Sn**	**04 34 10.5**	**+3.5**
BDR	**Baidarnaya**	**1.32**	**306**	*e*P	**Pn**	**04 33 50.2**	**-0.4**
BDR				*e*S	**Sn**	**04 34 10.5**	**+3.5**
ZLN	**Zelenaya**	**1.34**	**280**	PN	**Pn**	**04 33 49.7**	**-1.1**
ZLN	**Zelenaya**	**1.34**	**280**	*e*P	**Pn**	**04 33 49.7**	**-1.1**
CIRR	**Tsirk**	**1.39**	**283**	PN	**Pn**	**04 33 50.3**	**-1.2**
CIRR	**Tsirk**	**1.39**	**283**	*e*P	**Pn**	**04 33 50.3**	**-1.2**
BZGR	**Bezymyannyi-Gr**	**1.39**	**276**	PN	**Pn**	**04 33 50.2**	**-1.4**
BZGR				S	**Sn**	**04 34 10.5**	**+1.8**
BZGR	**Bezymyannyi-Gr**	**1.39**	**276**	*e*P	**Pn**	**04 33 50.2**	**-1.4**
BZGR				*e*S	**Sn**	**04 34 10.5**	**+1.8**
SRKR	**Sorokina**	**1.39**	**308**	PN	**Pn**	**04 33 51.3**	**-0.2**
SRKR	**Sorokina**	**1.39**	**308**	*e*P	**Pn**	**04 33 51.3**	**-0.2**
LGNR	**Loginova**	**1.41**	**282**	PN	**Pn**	**04 33 52.4**	**+0.4**
LGNR				S	**Sn**	**04 34 10.9**	**+1.4**
LGNR	**Loginova**	**1.41**	**282**	*e*P	**Pn**	**04 33 52.4**	**+0.4**
LGNR				*e*S	**Sn**	**04 34 10.9**	**+1.4**
KLY	**Klyuchi**	**1.49**	**291**	PN	**Pn**	**04 33 50.4**	**-2.4**
KLY				S	**Sn**	**04 34 09.7**	**-1.3**
KLY	**Klyuchi**	**1.49**	**291**	*e*P	**Pn**	**04 33 50.4**	**-2.4**
KLY				*e*S	**Sn**	**04 34 09.7**	**-1.3**
MKZ	**Mys Kozlova**	**1.50**	**214**	PN	**Pn**	**04 33 50.9**	**-2.1**
MKZ				S	**Sn**	**04 34 11.1**	**-0.2**
MKZ	**Mys Kozlova**	**1.50**	**214**	*e*P	**Pn**	**04 33 50.9**	**-2.1**
MKZ				*e*S	**Sn**	**04 34 11.1**	**-0.2**
BZWR	**Bezymyannyi-We**	**1.51**	**277**	PN	**Pn**	**04 33 52.0**	**-1.2**
BZWR				S	**Sn**	**04 34 12.7**	**+1.1**
BZWR	**Bezymyannyi-We**	**1.51**	**277**	*e*P	**Pn**	**04 33 52.0**	**-1.2**
BZWR				*e*S	**Sn**	**04 34 12.7**	**+1.1**
KRSR	**Krestovskiy**	**1.51**	**287**	PN	**Pn**	**04 33 51.8**	**-1.4**
KRSR	**Krestovskiy**	**1.51**	**287**	*e*P	**Pn**	**04 33 51.8**	**-1.4**
KIRR	**Kirishev**	**1.59**	**276**	PN	**Pn**	**04 33 53.3**	**-1.0**
KIRR				S	**Sn**	**04 34 15.5**	**+1.8**
KIRR	**Kirishev**	**1.59**	**276**	*e*P	**Pn**	**04 33 53.3**	**-1.0**
KIRR				*e*S	**Sn**	**04 34 15.5**	**+1.8**
KMNR	**Kamenistaya**	**1.65**	**269**	PN	**Pn**	**04 33 54.3**	**-0.8**
KMNR	**Kamenistaya**	**1.65**	**269**	*e*P	**Pn**	**04 33 54.3**	**-0.8**
KPT	**Kopyto**	**1.66**	**276**	PN	**Pn**	**04 33 54.5**	**-0.7**
KPT	**Kopyto**	**1.66**	**276**	*e*P	**Pn**	**04 33 54.5**	**-0.7**
TUMD	**Tumrok D**	**1.68**	**250**	*e*P	**Pn**	**04 33 53.9**	**-1.6**
TUMD				*e*S	**Sn**	**04 34 16.0**	**+0.2**
BKI	**Bering**	**1.71**	**110**	PN	**Pn**	**04 33 54.0**	**-1.9**
BKI				S	**Sn**	**04 34 16.2**	**-0.3**
BKI	**Bering**	**1.71**	**110**	*e*P	**Pn**	**04 33 54.0**	**-1.9**
BKI				*e*S	**Sn**	**04 34 16.2**	**-0.3**
KZV	**Kizimen**	**1.78**	**248**	PN	**Pn**	**04 33 55.9**	**-1.0**
KZV				S	**Sn**	**04 34 19.4**	**+1.1**
KZV	**Kizimen**	**1.78**	**248**	*e*P	**Pn**	**04 33 55.9**	**-1.0**
KZV				*e*S	**Sn**	**04 34 19.4**	**+1.1**
TUMR	**Tumrok**	**1.79**	**254**	PN	**Pn**	**04 33 56.2**	**-0.9**
TUMR				S	**Sn**	**04 34 20.0**	**+1.4**
TUMR	**Tumrok**	**1.79**	**254**	*e*P	**Pn**	**04 33 56.2**	**-0.9**
TUMR				*e*S	**Sn**	**04 34 20.0**	**+1.4**
KOZ	**Kozyrevsk**	**1.86**	**279**	PN	**Pn**	**04 33 58.3**	**+0.3**
KOZ				S	**Sn**	**04 34 23.7**	**+3.5**
KOZ	**Kozyrevsk**	**1.86**	**279**	*e*P	**Pn**	**04 33 58.3**	**+0.3**
KOZ				*e*S	**Sn**	**04 34 23.7**	**+3.5**
ESO	**Esso**	**2.51**	**274**	PN	**Pn**	**04 34 08.5**	**+1.6**
ESO	**Esso**	**2.51**	**274**	*e*P	**Pn**	**04 34 08.5**	**+1.6**
KII	**Karymskiy**	**2.79**	**232**	PN	**Pn**	**04 34 09.7**	**-1.0**
KII	**Karymskiy**	**2.79**	**232**	*e*P	**Pn**	**04 34 09.7**	**-1.0**
SPN	**Mys Shipunski**	**3.28**	**215**	PN	**Pn**	**04 34 15.3**	**-2.1**
SPN	**Mys Shipunski**	**3.28**	**215**	*e*P	**Pn**	**04 34 15.3**	**-2.1**
SPN				*e*S	**Sn**	**04 34 53.0**	**-2.1**
OSSR	**Ossora**	**3.44**	**359**	PN	**Pn**	**04 34 19.8**	**+0.2**
OSSR	**Ossora**	**3.44**	**359**	*e*P	**Pn**	**04 34 19.8**	**+0.2**
NLC	**Nalytchevo**	**3.46**	**222**	PN	**Pn**	**04 34 18.9**	**-0.9**
NLC				S	**Sn**	**04 35 00.4**	**+0.9**
NLC	**Nalytchevo**	**3.46**	**222**	*e*P	**Pn**	**04 34 18.9**	**-0.9**
NLC				*e*S	**Sn**	**04 35 00.4**	**+0.9**
SDLR	**Sedlovina**	**3.56**	**226**	PN	**Pn**	**04 34 21.7**	**+0.4**
SDLR				S	**Sn**	**04 35 04.8**	**+2.7**
SDLR	**Sedlovina**	**3.56**	**226**	*e*P	**Pn**	**04 34 21.7**	**+0.4**
SDLR				*e*S	**Sn**	**04 35 04.8**	**+2.7**
KRER	**Koryakskii**	**3.59**	**227**	PN	**Pn**	**04 34 22.0**	**+0.1**
KRER	**Koryakskii**	**3.59**	**227**	*e*P	**Pn**	**04 34 22.0**	**+0.1**
KRX	**Arik**	**3.60**	**229**	PN	**Pn**	**04 34 22.6**	**+0.7**
KRX	**Arik**	**3.60**	**229**	*e*P	**Pn**	**04 34 22.6**	**+0.7**
SMAR	**Somma**	**3.60**	**227**	PN	**Pn**	**04 34 21.3**	**-0.7**
SMAR				S	**Sn**	**04 35 03.4**	**0.0**
SMAR	**Somma**	**3.60**	**227**	*e*P	**Pn**	**04 34 21.3**	**-0.7**
SMAR				*e*S	**Sn**	**04 35 03.4**	**0.0**
AVH	**Avacha**	**3.63**	**227**	PN	**Pn**	**04 34 22.4**	**+0.2**
AVH	**Avacha**	**3.63**	**227**	*e*P	**Pn**	**04 34 22.4**	**+0.2**
UGLR	**Uglovaya**	**3.63**	**226**	PN	**Pn**	**04 34 22.7**	**+0.3**
UGLR	**Uglovaya**	**3.63**	**226**	*e*P	**Pn**	**04 34 22.7**	**+0.3**
KOK	**Koryaka**	**3.65**	**228**	PN	**Pn**	**04 34 22.8**	**+0.2**
KOK	**Koryaka**	**3.65**	**228**	*e*P	**Pn**	**04 34 22.8**	**+0.2**
GNL	**Ganaly**	**3.69**	**237**	PN	**Pn**	**04 34 23.9**	**+0.7**
GNL	**Ganaly**	**3.69**	**237**	*e*P	**Pn**	**04 34 23.9**	**+0.7**
PALN	**Palana**	**3.71**	**334**	PN	Pn	04 34 31.0	+7.8
PALN	**Palana**	**3.71**	**334**	*e*P	Pn	04 34 31.0	+7.8
DALK	**Dalny**	**3.79**	**224**	PN	**Pn**	**04 34 23.9**	**-0.5**
DALK				S	**Sn**	**04 35 08.2**	**+0.5**
DALK	**Dalny**	**3.79**	**224**	*e*P	**Pn**	**04 34 23.9**	**-0.5**
DALK				*e*S	**Sn**	**04 35 08.2**	**+0.5**
PET	**Petropavlovsk**	**3.84**	**225**	*e*PN	**Pn**	**04 34 24.7**	**-0.4**
PET				pmax	pmax		
	comp=Z,228nm,0.6s						
PET				MLR	MLR		
	comp=Z,1μm,16.0s						
PET				MLR	MLR		
	comp=Z,700nm,17.0s						
PET	**Petropavlovsk**	**3.84**	**225**	*e*P	**Pn**	**04 34 24.9**	**-0.2**
PET				*e*S	**Sn**	**04 35 10.4**	**+1.5**
PET	**Petropavlovsk**	**3.84**	**225**		**Pn**	**04 34 23.5**	**-1.6**
PEA0B	**Petropavlovsk-**	**4.18**	**232**	‖*e*PN	**Pn**	**04 34 31.4**	**+1.6**
PEA0B	**Petropavlovsk-**	**4.18**	**232**		**Pn**	**04 34 27.4**	**-2.4**
PETK	**Petropavlovsk-**	**4.18**	**232**	P	**Pn**	**04 34 31.4**	**+1.6**
	comp=Z,5.1nm,0.3s,baz=94,slow=17,SNR=21						
PETK				S	**Sn**	**04 35 18.6**	**+1.2**
	comp=Z,3.7nm,0.3s,baz=132,slow=2.2,SNR=4.7						
PETK				LR	LR	04 36 36.8	
	comp=Z,516nm,18.6s,baz=48,slow=46						
PETK	**Petropavlovsk-**	**4.18**	**232**		**Pn**	**04 34 27.0**	**-2.8**
KRMR	**Karymshinskiy**	**4.20**	**227**	PN	**Pn**	**04 34 31.9**	**+1.9**
KRMR	**Karymshinskiy**	**4.20**	**227**	*e*P	**Pn**	**04 34 31.9**	**+1.9**
RUS	**Russkaya**	**4.35**	**221**	PN	**Pn**	**04 34 30.7**	**-1.4**
RUS	**Russkaya**	**4.35**	**221**	*e*P	**Pn**	**04 34 30.7**	**-1.4**
GRL	**Gorelyy**	**4.43**	**224**	PN	**Pn**	**04 34 34.4**	**+1.1**
GRL	**Gorelyy**	**4.43**	**224**	*e*P	**Pn**	**04 34 34.4**	**+1.1**
MTVR	**Mutnovka**	**4.44**	**223**	PN	**Pn**	**04 34 34.1**	**+0.7**
MTVR	**Mutnovka**	**4.44**	**223**	*e*P	**Pn**	**04 34 34.1**	**+0.7**
APC	**Apacha**	**4.55**	**233**	PN	**Pn**	**04 34 36.2**	**+1.4**
APC	**Apacha**	**4.55**	**233**	*e*P	**Pn**	**04 34 36.2**	**+1.4**
ASAK	**Asacha**	**4.62**	**224**	PN	**Pn**	**04 34 36.9**	**+0.9**
ASAK	**Asacha**	**4.62**	**224**	*e*P	**Pn**	**04 34 36.9**	**+0.9**
KDTR	**Khodutka, Kamc**	**5.02**	**219**	PN	**Pn**	**04 34 40.3**	**-0.9**
KDTR	**Khodutka, Kamc**	**5.02**	**219**	*e*P	**Pn**	**04 34 40.3**	**-0.9**
PAU	**Pauzhetka**	**5.76**	**224**	PN	**Pn**	**04 34 52.3**	**+0.8**
PAU	**Pauzhetka**	**5.76**	**224**	*e*P	**Pn**	**04 34 52.3**	**+0.8**
SKR	**Severo-Kuril's**	**6.65**	**222**	*e*PN	Pn	04 35 09.3	+5.6
SKR				*e*S	Sn	04 36 30.1	+12
SKR				smax	smax		
	comp=N,97nm,0.9s						
SKR				smax	smax		
	comp=E,85nm,0.8s						
MA2	**Magadan**	**7.63**	**305**	LR	LR	04 38 27.5	
	comp=E,156nm,21.9s,baz=170,slow=40						
SEY	**Seymchan**	**9.00**	**327**	P	**Pn**	**04 35 37.4**	**+1.6**
	comp=E,0.3nm,0.3s,baz=197,slow=19,SNR=1.3						
SEY				LR	LR	04 39 11.4	
	comp=E,289nm,19.0s,baz=143,slow=38						
YSS	**Yuzh-Sakhalins**	**15.47**	**244**	‖*e*P	**P**	**04 37 08.4**	**+0.6**
YSS				pmax	pmax		
	comp=Z,23nm,1.0s						
ASAJ	**Asahikawa**	**17.58**	**237**	P	**P**	**04 37 30.9**	**-0.3**
	comp=Z,1.3nm,0.3s,baz=50,slow=3.7,SNR=5.9						
ASAJ				LR	LR	04 43 44.0	
	comp=Z,163nm,18.8s,baz=358,slow=35						
YAK	**Yakutsk**	**18.20**	**304**	P	**Pn**	**04 37 38.0**	**0.0**
	comp=Z,0.1nm,0.3s,baz=160,slow=18,SNR=5.2						
YAK	**Yakutsk**	**18.20**	**304**	*e*P	**P**	**04 37 37.8**	**-0.1**
YAK				*e*S	**Sn**	**04 40 58.4**	**-1.4**
YAK				pmax	pmax		
	comp=N,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,23nm,0.8s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.0s						
YAK				smax	smax		
	comp=N,441nm,4.7s						
YAK				smax	smax		
	comp=E,242nm,4.8s						
YAK	**Yakutsk**	**18.20**	**304**	P	**P**	**04 37 35.3**	**-2.7**
YAK				IAmb	IAmb	04 37 39.0	
	comp=Z,30nm,0.6s						
KLR	**Kul'dur**	**20.09**	**264**	P	**P**	**04 37 58.5**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=63,slow=9.7,SNR=11						
KLR				LR	LR	04 46 33.9	
	comp=Z,169nm,19.5s,baz=63,slow=39						
KLR	**Kul'dur**	**20.09**	**264**	‖*e*P	Pn	04 38 01.4	+0.8
ZEA	**Zeya**	**20.67**	**279**	*e*P	Pn	04 38 07.6	+0.2
ZEA				pmax	pmax		
	comp=Z,20nm,0.5s						
CNBA	**Chernabura Isl**	**21.06**	**77**	P	**P**	**04 38 08.9**	**-0.2**
TIXI	**Tiksi**	**21.46**	**331**	P	**P**	**04 38 14.1**	**+0.9**
	comp=Z,31nm,0.6s,baz=112,slow=12,SNR=12						
J20K	**Nowinta River**	**22.52**	**51**	P	**P**	**04 38 25.2**	**+0.6**
IMAR	**Indian Mountai**	**22.80**	**46**	P	**P**	**04 38 28.5**	**+0.9**
BPAW	**Bear Paw Mtn.**	**23.90**	**51**	P	**P**	**04 38 40.8**	**+2.4**
KDAK	**Kodiak Island**	**23.99**	**67**	P	**P**	**04 38 39.4**	**+0.1**
	comp=Z,2.3nm,0.6s,baz=62,slow=5.7,SNR=8.5						
KDAK				LR	LR	04 46 54.9	
	comp=Z,74nm,18.2s,baz=221,slow=33						
MLY	**Manley**	**24.00**	**49**	P	**P**	**04 38 41.5**	**+2.1**
TRF	**Thorofare Moun**	**24.24**	**53**	P	**P**	**04 38 42.3**	**+0.6**
TRF				IAmb	IAmb	04 38 55.4	
	comp=Z,16nm,1.0s						
COLD	**Coldfoot**	**24.33**	**43**	P	**P**	**04 38 44.1**	**+1.8**
I23K	**Minto, Yukon-K**	**24.59**	**48**	P	**P**	**04 38 46.5**	**+1.8**
TOLK	**Toolik Lake Re**	**24.72**	**40**	P	**P**	**04 38 46.9**	**+1.0**
NEA2	**Nenana**	**24.72**	**50**	P	**P**	**04 38 48.0**	**+2.1**
WRH	**Wood River Hil**	**25.15**	**50**	P	**P**	**04 38 50.4**	**+0.6**
WRH				IAmb	IAmb	04 39 04.3	
	comp=Z,20nm,1.4s						
CCB	**Clear Creek Bu**	**25.26**	**50**	P	**P**	**04 38 53.3**	**+2.5**
MAJO	**Matsushiro**	**25.64**	**232**	‖*e*P	**P**	**04 38 53.8**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,12nm,0.9s						
MAJO	**Matsushiro**	**25.64**	**232**	P	**P**	**04 38 53.3**	**-1.2**
MAJO				IAmb	IAmb	04 39 02.3	
	comp=Z,25nm,1.0s						
MAT	**Matsushiro**	**25.64**	**232**	P	**P**	**04 38 53.6**	**-0.9**
MJAR	**Matsushiro Arr**	**25.64**	**232**	P	**P**	**04 38 53.9**	**-0.7**
	comp=Z,2.9nm,0.4s,baz=48,slow=8.3,SNR=6.7						
MJAR				LR	LR	04 49 13.8	
	comp=Z,78nm,19.6s,baz=15,slow=37						
ILAR	**Eielson Array**	**25.65**	**49**	P	**P**	**04 38 55.1**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=269,slow=9.2,SNR=9.3						
ILAR				LR	LR	04 49 07.8	
	comp=Z,48nm,18.9s,baz=278,slow=36						
ILAR	**Eielson Array**	**25.65**	**49**	P	**P**	**04 38 56.8**	**+2.5**
ILAR	**Eielson Array**	**25.65**	**49**	P	**P**	**04 38 56.8**	**+2.5**
PRP	**Porcupine Dome**	**26.18**	**48**	P	**P**	**04 38 59.5**	**+0.2**
K27K	**Chicken**	**27.81**	**50**	P	**P**	**04 39 14.2**	**+0.5**
K27K				IAmb	IAmb	04 39 31.6	
	comp=Z,19nm,1.5s						
JHJ	**Hachijo jima 2**	**27.91**	**225**	LR	LR	04 50 37.7	
	comp=Z,38nm,20.1s,baz=189,slow=37						
KSRS	**Korea Array**	**29.91**	**247**	P	**P**	**04 39 32.1**	**-0.5**
	comp=Z,1.7nm,1.0s,baz=71,slow=15,SNR=4.2						
KSRS				LR	LR	04 51 01.1	
	comp=Z,98nm,18.5s,baz=64,slow=35						
INK	**Inuvik**	**30.62**	**41**	P	**P**	**04 39 39.9**	**+1.3**
	comp=Z,2.1nm,0.7s,baz=187,slow=2.6,SNR=7.9						
INK	**Inuvik**	**30.62**	**41**	P	**P**	**04 39 39.0**	**+0.4**
INK				IAmb	IAmb	04 39 44.3	
	comp=Z,12nm,1.4s						
JNU	**Nakatsue**	**31.85**	**238**	LR	LR	04 54 58.4	
	comp=Z,125nm,18.3s,baz=6.5,slow=41						
ULN	**Ulaanbaatar**	**34.69**	**281**	‖*e*P	**P**	**04 40 15.8**	**+1.2**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.7s						
DLBC	**Dease Lake**	**35.02**	**57**	P	**P**	**04 40 20.6**	**+3.4**
	comp=Z,2.4nm,0.8s,baz=294,slow=13,SNR=3.7						
SONM	**Songino Array**	**35.07**	**281**	P	**P**	**04 40 17.5**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=57,slow=8.0,SNR=5.9						
SONM				PcP	**PcP**	**04 42 49.0**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=90,slow=1.4,SNR=3.3						
SONM				LR	LR	04 55 48.1	
	comp=Z,86nm,19.4s,baz=74,slow=38						
SONM	**Songino Array**	**35.07**	**281**	P	**P**	**04 40 16.1**	**-1.7**
SONM					**PcP**	**04 42 48.9**	**+0.1**
H11N2	**WAKE ISLAND Hy**	**36.14**	**174**	T	T	05 19 30.0	
	baz=357,slow=76,SNR=382						
H11N3	**WAKE ISLAND Hy**	**36.15**	**174**	T	T	05 19 31.0	
	baz=357,slow=76,SNR=326						
H11N1	**WAKE ISLAND Hy**	**36.16**	**174**	T	T	05 19 31.3	
	baz=357,slow=76,SNR=372						
EUNU	**Eureka**	**38.86**	**15**	P	**P**	**04 40 51.2**	**+1.6**
EUNU				IAmb	IAmb	04 41 04.2	
	comp=Z,8.2nm,0.8s						
DGZ	**Jazzator, Alta**	**44.10**	**295**	‖*e*P	**P**	**04 41 31.4**	**-1.5**
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GTA	**Gaotai**	**44.10**	**276**	*e*P	**P**	**04 41 33.5**	**+0.5**
GTA				pP	pP	04 41 38.3	-5.3
GTA				sP	sP	04 41 41.0	-7.4
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GUMO	**Guam**	**44.45**	**206**	LR	LR	05 05 18.0	
	comp=Z,26nm,18.2s,baz=145,slow=43						
SPB2	**Spitsbergen Ar**	**44.74**	**351**	P	**P**	**04 41 37.8**	**+0.3**
NEEM	**North Greenlan**	**45.30**	**10**	‖*i*P	**P**	**04 41 43.0**	**+0.7**
NEEM				IAmb	IAmb	04 41 43.8	
	comp=Z,16nm,0.8s						
DAG	**Danmarks Havn**	**47.67**	**1**	*i* P	**P**	**04 42 01.2**	**+0.6**
DAG				IAmb	IAmb	04 42 02.2	
	comp=Z,10nm,0.9s						
DAG	**Danmarks Havn**	**47.67**	**1**	*i* P	**P**	**04 42 01.1**	**+0.6**
DAG				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KURK	**Kurchatov**	**47.83**	**301**	P	**P**	**04 42 01.1**	**-1.0**
KURK	**Kurchatov**	**47.83**	**301**	P	**P**	**04 42 01.1**	**-1.0**
KURBB	**Kurchatov Arra**	**47.93**	**301**	P	**P**	**04 42 01.1**	**-1.8**
	comp=Z,7.8nm,0.7s,baz=56,slow=8.2,SNR=48						
MK31	**Makanchi Array**	**48.60**	**295**	P	**P**	**04 42 06.3**	**-1.8**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MK31	**Makanchi Array**	**48.60**	**295**	P	**P**	**04 42 06.3**	**-1.8**
MKAR	**Makanchi Array**	**48.60**	**295**	P	**P**	**04 42 06.4**	**-1.7**
	comp=Z,2.3nm,0.5s,baz=46,slow=7.4,SNR=28						
MKAR	**Makanchi Array**	**48.60**	**295**	P	**P**	**04 42 05.8**	**-2.3**
MAKZ	**Makanchi**	**48.75**	**295**	P	**P**	**04 42 07.0**	**-2.3**
MAKZ				pmax	pmax		
	comp=Z,8.0nm,1.4s						
MAKZ	**Makanchi**	**48.75**	**295**	P	**P**	**04 42 07.0**	**-2.3**
MAKZ				IAmb	IAmb	04 42 08.7	
	comp=Z,8.1nm,1.4s						
JTMT	**Jette**	**48.82**	**63**	P	**P**	**04 42 12.5**	**+2.6**
JTMT				IAmb	IAmb	04 42 23.4	
	comp=Z,3.7nm,0.8s						
BVAR	**Borovoye Array**	**50.10**	**308**	P	**P**	**04 42 18.1**	**-1.4**
	comp=Z,5.2nm,0.7s,baz=66,slow=5.0,SNR=18						
BRVK	**Borovoye**	**50.13**	**308**	*c i*P	**P**	**04 42 17.6**	**-2.0**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BRVK	**Borovoye**	**50.13**	**308**	P	**P**	**04 42 18.6**	**-1.0**
BRVK				IAmb	IAmb	04 42 19.2	
	comp=Z,8.6nm,0.9s						
SUMG	**Summit**	**51.02**	**8**	⇑*i*P	**P**	**04 42 27.6**	**+1.0**
SUMG				IAmb	IAmb	04 42 29.4	
	comp=Z,12nm,0.8s						
SUMG	**Summit**	**51.02**	**8**	⇑*i*P	**P**	**04 42 27.6**	**+1.0**
SUMG				pmax	pmax		
	comp=Z,12nm,0.8s						
SUMG	**Summit**	**51.02**	**8**	P	**P**	**04 42 27.3**	**+0.7**
SUMG				IAmb	IAmb	04 42 29.1	
	comp=Z,11nm,0.8s						
ARCES	**ARCESS Array B**	**51.24**	**342**	P	**P**	**04 42 27.5**	**-0.3**
	comp=Z,4.8nm,0.8s,baz=32,slow=7.1,SNR=7.4						
ARCES	**ARCESS Array B**	**51.24**	**342**	P	**P**	**04 42 27.9**	**+0.1**
ARCES				pmax	pmax		
	comp=Z,23nm,1.3s						
ARCES	**ARCESS Array B**	**51.24**	**342**	P	**P**	**04 42 27.9**	**+0.1**
ARU	**Arti**	**52.60**	**317**	*c i*P	**P**	**04 42 36.7**	**-1.4**
ARU						04 44 34.3	
ARU				S	**S**	**04 50 00.8**	**-1.4**
ARU				SS	**SS**	**04 53 39.0**	**-1.0**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NVAR	**Mina Array Bea**	**53.20**	**74**	P	**P**	**04 42 45.5**	**+2.4**
	comp=Z,1.3nm,0.8s,baz=293,slow=6.9,SNR=10						
NVAR	**Mina Array Bea**	**53.20**	**74**	P	**P**	**04 42 45.0**	**+2.0**
KIRV	**Kirov**	**54.26**	**324**	P	**P**	**04 42 50.1**	**0.0**
	comp=Z,10nm,0.7s,baz=21,slow=2.3,SNR=4.2						
KIRV	**Kirov**	**54.26**	**324**	‖*e*P	**P**	**04 42 50.3**	**+0.2**
ICESG	**Greenland Ices**	**54.29**	**10**	*i* P	**P**	**04 42 51.3**	**+0.6**
ICESG				IAmb	IAmb	04 42 52.2	
	comp=Z,10nm,0.6s						
PDAR	**Pinedale Array**	**54.68**	**64**	P	**P**	**04 42 56.0**	**+2.2**
	comp=Z,0.8nm,0.7s,baz=63,slow=10,SNR=8.9						
PDAR	**Pinedale Array**	**54.68**	**64**	P	**P**	**04 42 55.0**	**+1.2**
SPR3	**Spring Creek 3**	**54.92**	**71**	P	**P**	**04 42 58.1**	**+2.4**
SPR3				IAmb	IAmb	04 43 09.8	
	comp=Z,3.3nm,0.9s						
TPNV	**Topopah Spring

ANMO	**Albuquerque**	**62.12**	**68**	P		**P**	**04 43 47.5**	**+1.7**
N35A	**Tabor**	**62.95**	**57**	P		**P**	**04 43 52.8**	**+1.9**
SCIA	**State Center**	**63.26**	**54**	P		**P**	**04 43 54.1**	**+1.1**
MNK	**Minsk**	**64.11**	**333**	*i* P		**P**	**04 43 54.8**	**-3.6**
MNK				*i*			04 44 29.8	
MNK				*i*			04 46 15.8	
MNK				*i* S		**S**	**04 52 26.0**	**-6.1**
MNK				*i*			04 53 44.0	
MNK				*i* SS		**SS**	**04 56 37.9**	**-2.5**
MNK				*i* SSS		SSS	04 59 38.4	
MNK				pmax	pmax			
	comp=N,14nm,0.8s							
MNK				pmax	pmax			
	comp=E,2.0nm,0.8s							
MNK				pmax	pmax			
	comp=Z,5.0nm,0.6s							
MNK				MLR	MLR			
	comp=E,104nm,22.0s							
MNK				MLR	MLR			
	comp=N,487nm,22.0s							
MNK				MLR	MLR			
	comp=Z,159nm,17.0s							
MNK	**Minsk**	**64.11**	**333**	*i* P		**P**	**04 43 54.9**	**-3.5**
	comp=E,2.0nm,0.8s							
MNK				*i* P		**P**	**04 43 54.9**	**-3.5**
	comp=N,14nm,0.8s							
MNK				*i* P		**P**	**04 43 54.9**	**-3.5**
	comp=Z,5.0nm,0.6s,baz=206							
MNK				*i* PcP		**PcP**	**04 44 29.8**	**-3.4**
MNK				*i* PP		**PP**	**04 46 15.9**	**-3.1**
MNK				*i* PPP		PPP	04 47 46.3	
MNK				*i* S		**S**	**04 52 26.1**	**-6.0**
MNK				*i* SS		**SS**	**04 56 38.0**	**-2.4**
MNK				*i* SSS		SSS	04 59 38.4	
MNK				*i* LR		LR	05 09 46.1	
MNK				*i* LRM		MLR	05 12 44.9	
	comp=E,104nm,22.4s							
MNK				*i* LRM		MLR	05 12 52.1	
	comp=N,487nm,21.7s							
MNK				*i* LRM		MLR	05 13 12.3	
	comp=Z,159nm,17.4s							
P38A	**Dawn**	**64.91**	**56**	P		**P**	**04 44 05.2**	**+1.3**
P38A				IAmb		IAmb	04 44 06.0	
	comp=Z,8.0nm,0.9s							
MNTX	**Cornudas Mount**	**65.20**	**70**	P		**P**	**04 44 08.1**	**+2.2**
MNTX				IAmb		IAmb	04 44 09.9	
	comp=Z,4.2nm,0.8s							
P40A	**Paris**	**65.68**	**55**	P		**P**	**04 44 10.1**	**+1.3**
HDIL	**Hopedale**	**66.11**	**53**	P		**P**	**04 44 12.6**	**+1.0**
WMOK	**Wichita Mounta**	**66.23**	**63**	P		**P**	**04 44 14.3**	**+1.8**
WMOK				pmax	pmax			
	comp=Z,9.0nm,0.9s							
WMOK	**Wichita Mounta**	**66.23**	**63**	P		**P**	**04 44 14.3**	**+1.8**
WMOK				IAmb		IAmb	04 44 16.0	
	comp=Z,9.3nm,0.8s							
R40A	**Maddies Statio**	**66.57**	**56**	P		**P**	**04 44 14.4**	**-0.2**
GEYT	**Alibeck**	**67.08**	**304**	P		**P**	**04 44 16.9**	**-0.9**
	comp=Z,128nm,1.0s,baz=204,slow=3.2,SNR=3.0							
AKASG	**Malin Array Be**	**67.17**	**330**	P		**P**	**04 44 17.7**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=28,slow=6.3,SNR=5.2							
AKASG	**Malin Array Be**	**67.17**	**330**	P		**P**	**04 44 17.9**	**-0.2**
AKASG				pmax	pmax			
	comp=Z,4.0nm,1.4s							
AKASG	**Malin Array Be**	**67.17**	**330**	P		**P**	**04 44 17.9**	**-0.2**
AKBB	**Malin Array Si**	**67.17**	**330**⇓	*eP*		**P**	**04 44 17.8**	**-0.3**
AKBB				pmax	pmax			
	comp=Z,9.0nm,1.3s							
CCM	**Cathedral Cave**	**67.24**	**56**	P		**P**	**04 44 20.1**	**+1.3**
CCM				pmax	pmax			
	comp=Z,8.0nm,1.1s							
CCM	**Cathedral Cave**	**67.24**	**56**	P		**P**	**04 44 20.1**	**+1.3**
CCM				IAmb		IAmb	04 44 20.4	
	comp=Z,8.0nm,1.1s							
HHAR	**Hobbs**	**67.39**	**59**	P		**P**	**04 44 20.2**	**+0.4**
HHAR				IAmb		IAmb	04 44 21.5	
	comp=Z,6.4nm,0.9s							
ABTX	**Abilene, Hawle**	**67.47**	**65**	P		**P**	**04 44 20.6**	**+0.2**
ABTX				IAmb		IAmb	04 44 23.9	
	comp=Z,6.5nm,0.9s							
MGMO	**Mountain Grove**	**67.48**	**57**	P		**P**	**04 44 19.9**	**-0.5**
MGMO				IAmb		IAmb	04 44 23.5	
	comp=Z,7.0nm,0.7s							
FVM	**French Village**	**67.67**	**55**	P		**P**	**04 44 21.7**	**+0.1**
FVM				pmax	pmax			
	comp=Z,9.0nm,0.8s							
FVM	**French Village**	**67.67**	**55**	P		**P**	**04 44 21.7**	**+0.1**
P46A	**Rosedale**	**67.81**	**52**	P		**P**	**04 44 22.6**	**+0.3**
U40A	**Yellville**	**67.85**	**58**	P		**P**	**04 44 23.5**	**+0.8**
U40A				IAmb		IAmb	04 44 25.3	
	comp=Z,7.7nm,0.9s							
TX31	**Lajitas Ar. Si**	**67.97**	**70**	P		**P**	**04 44 25.1**	**+1.4**
TX32	**Lajitas Array**	**67.97**	**70**	P		**P**	**04 44 25.0**	**+1.2**
TX32				IAmb		IAmb	04 44 27.4	
	comp=Z,3.9nm,0.9s							
TXAR	**Lajitas Array**	**67.97**	**70**	P		**P**	**04 44 25.6**	**+1.9**
	comp=Z,3.8nm,0.8s,baz=296,slow=4.6,SNR=38							
T42A	**Van Buren**	**68.14**	**56**	P		**P**	**04 44 25.2**	**+0.7**
T42A				IAmb		IAmb	04 44 37.4	
	comp=Z,4.3nm,1.0s							
FCAR	**Ozark Folk Cen**	**68.57**	**58**	P		**P**	**04 44 27.8**	**+0.6**
FCAR				IAmb		IAmb	04 44 29.4	
	comp=Z,8.1nm,1.0s							
KIV	**Kislovodsk**	**68.64**	**318**	*eP*		**P**	**04 44 27.2**	**-0.4**
KIV				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KIV				MLR	MLR			
	comp=Z,72nm,17.0s							
PBMO	**Poplar Bluff**	**68.65**	**56**	P		**P**	**04 44 29.0**	**+1.3**
PBMO				IAmb		IAmb	04 44 31.3	
	comp=Z,7.8nm,1.0s							
KBZ	**Khabaz**	**68.75**	**318**	P		**P**	**04 44 28.4**	**+0.2**
	comp=Z,4.6nm,0.8s,baz=352,slow=2.1,SNR=8.4							
MIAR	**Mount Ida**	**68.96**	**59**	P		**P**	**04 44 30.7**	**+1.0**
MIAR				pmax	pmax			
	comp=Z,6.0nm,1.0s							
MIAR	**Mount Ida**	**68.96**	**59**	P		**P**	**04 44 30.7**	**+1.0**
MIAR				IAmb		IAmb	04 44 32.7	
	comp=Z,6.2nm,0.9s							
PARMO	**Parma**	**69.06**	**55**	P		**P**	**04 44 31.9**	**+1.7**
JCT	**Junction City**	**69.09**	**67**	P		**P**	**04 44 31.9**	**+1.3**
JCT				pmax	pmax			
	comp=Z,8.0nm,0.9s							
JCT	**Junction City**	**69.09**	**67**	P		**P**	**04 44 31.9**	**+1.3**
JCT				IAmb		IAmb	04 44 33.6	
	comp=Z,8.3nm,0.9s							
NEY	**Neytrino**	**69.23**	**318**⇑	*eP*		**P**	**04 44 32.0**	**+0.6**
NEY				pmax	pmax			
	comp=Z,1.0nm,0.8s							
WVT	**Waverly**	**70.38**	**54**	P		**P**	**04 44 40.1**	**+1.7**
WVT				pmax	pmax			
	comp=Z,9.0nm,1.2s							
WVT	**Waverly**	**70.38**	**54**	P		**P**	**04 44 40.1**	**+1.7**
WVT				IAmb		IAmb	04 44 41.9	
	comp=Z,9.1nm,1.1s							
CLL	**Collm**	**70.41**	**341**	*eP*		**P**	**04 44 38.0**	**-0.3**
CLL	**Collm**	**70.41**	**341**	*eP*		**P**	**04 44 38.0**	**-0.3**
KRLC	**Kraliky**	**70.82**	**338**	*eP*		**P**	**04 44 41.1**	**+0.2**
KRLC	**Kraliky**	**70.82**	**338**	*eP*		**P**	**04 44 41.1**	**+0.2**
GNI	**Garni**	**71.08**	**315**⇓	*eP*		**P**	**04 44 42.7**	**-0.1**
GNI				pmax	pmax			
	comp=Z,7.0nm,0.8s							
PLAL	**Pickwick Lake**	**71.22**	**55**	P		**P**	**04 44 44.0**	**+0.5**
PLAL				IAmb		IAmb	04 44 45.6	
	comp=Z,7.4nm,0.8s							
PRU	**Pruhonice**	**71.37**	**339**	*eP*		**P**	**04 44 44.6**	**+0.4**
PRU	**Pruhonice**	**71.37**	**339**	*eP*		**P**	**04 44 44.6**	**+0.4**
COEN	**Coen**	**71.51**	**200**	P		**P**	**04 44 44.8**	**-0.5**
KHC	**Kasperske Hory**	**72.38**	**340**	*eP*		**P**	**04 44 50.9**	**+0.6**
KHC	**Kasperske Hory**	**72.38**	**340**	*eP*		**P**	**04 44 50.9**	**+0.6**
GERES	**GERESS Array B**	**72.63**	**339**	P		**P**	**04 44 52.3**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=34,slow=5.2,SNR=8.3							
GERES	**GERESS Array B**	**72.63**	**339**	P		**P**	**04 44 51.3**	**-0.6**
Z47A	**Carrollton**	**72.69**	**56**	P		**P**	**04 44 53.5**	**+1.2**
KBA	**Koelnbreinsper**	**74.39**	**339**	*eP*		**P**	**04 45 00.8**	**-1.5**
	comp=Z,11nm,1.2s							
WTTA	**Wattenberg**	**74.54**	**340**	*eP*		**P**	**04 45 02.1**	**-1.1**
	comp=Z,12nm,1.3s							
MOTA	**Moosalm**	**74.56**	**341**	*eP*		**P**	**04 45 03.4**	**+0.1**
SQTA	**Sankt Quirin**	**74.67**	**341**	*eP*		**P**	**04 45 03.5**	**-0.4**
	comp=Z,6.6nm,0.8s							
ABTA	**Abfaltersbach**	**74.87**	**340**	*eP*		**P**	**04 45 05.3**	**+0.3**
	comp=Z,7.9nm,1.1s							
FETA	**Feichten**	**74.95**	**341**	*eP*		**P**	**04 45 05.9**	**+0.3**
	comp=Z,5.8nm,1.0s							
BRTR	**Keskin Array B**	**75.61**	**322**	P		**P**	**04 45 09.7**	**+0.2**

	comp=Z,1.9nm,0.7s,baz=90,slow=3.7,SNR=3.8							
BRTR	**Keskin Array B**	**75.61**	**322**	P		**P**	**04 45 08.8**	**-0.7**
WRA	**Warramunga Arr**	**79.32**	**207**	P		**P**	**04 45 30.1**	**0.0**
	comp=Z,1.1nm,0.9s,baz=11,slow=5.8,SNR=7.7							
WRA	**Warramunga Arr**	**79.32**	**207**	P		**P**	**04 45 29.4**	**-0.6**
ASAR	**Alice Springs**	**82.99**	**207**	P		**P**	**04 45 49.7**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=12,slow=5.8,SNR=11							
ASAR	**Alice Springs**	**82.99**	**207**	P		**P**	**04 45 49.5**	**0.0**
ESDC	**Sonseca Array**	**84.25**	**350**	P		**P**	**04 45 56.4**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=359,slow=5.5,SNR=6.8							
KEST	**Kesra**	**86.11**	**339**	P		**P**	**04 46 05.9**	**+0.4**
	comp=Z,2.3nm,0.9s,baz=286,slow=5.3,SNR=4.2							

MEX 29 05:00:40.6±1.7, 15°.47N×93°.89W, h16km±999km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.68**	**70**	*eP*	Pg	05 00 50.8	-3.2
PCIG				*eS*	Sg	05 01 00.0	-3.0
CCIG	**Comitan**	**1.86**	**64**	*eP*	Pn	05 01 09.5	-2.6
CCIG				*eS*	Sn	05 01 33.0	-2.4
CMIG	**Matias Romero**	**1.87**	**329**	*eP*	Pn	05 01 08.5	-3.5
CMIG				*eS*	Sn	05 01 30.4	-5.0

*SJA **29** 05:21:26.0, 31°.47S×72°.55W, h10km, ML4.6*
*GUC **29** 05:21:29.4±0.7, 31°.54S×72°.03W, h18km±6km, ML3.8*
*IDC **29** 05:21:31.5±1.5, 31°.65S×71°.07W, h0km, mb3.4/2, mb1 3.7/6, mb1mx3.6/25, mbtmp3.5/6, ML3.8/4, MS2.9/1, Ms1 2.9/1, ms1mx2.5/12, Error ellipse: s-maj=53.6km s-min=29.0km az=93.0*
ISC 29 05:21:29.0±0.9, 31°.53S±0°.03×72°.06W±0°.06, h10km, n49, σ1§12/55, 12C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.93**	**23**⇓	*eP*	**Pg**	**05 21 45.9**	**-1.0**
CO06				*i* S	**Sg**	**05 21 59.4**	**+0.4**
CO02	**Combarbal**	**0.97**	**70**⇑	*i* P	**Pg**	**05 21 46.7**	**-0.9**
CO02				*eS*	**Sg**	**05 21 59.4**	**-0.8**
CO02				IAML		05 22 04.1	
	comp=N,11μm,0.2s						
CO02	**Combarbal**	**0.97**	**70**	*i* P	**Pg**	**05 21 46.0**	**-1.6**
VA06	**Catapilco**	**1.21**	**148**⇑	*i* P	**Pb**	**05 21 50.8**	**-1.3**
VA06				*i* S	**Sb**	**05 22 06.7**	**-1.0**
VA06				IAML		05 22 12.8	
	comp=E,4μm,0.5s						
CO03	**El Pedregal**	**1.37**	**60**⇑	*eP*	**Pn**	**05 21 53.4**	**-0.8**
CO03				*eS*	**Sb**	**05 22 10.7**	**-1.5**
CO03				IAML		05 22 15.1	
	comp=E,3μm,0.3s						
CO03	**El Pedregal**	**1.37**	**60**	*i* P	**Pn**	**05 21 53.0**	**-1.2**
VA01	**Torpederas**	**1.53**	**167**⇑	*i* P	**Pn**	**05 21 55.8**	**-0.5**
VA01				*eS*	**Sn**	**05 22 15.3**	**-0.9**
VA01				IAML		05 22 22.4	
	comp=E,419nm,0.7s						
VA01	**Torpederas**	**1.53**	**167**	*i* P	**Pn**	**05 21 55.0**	**-1.3**
ROCH	**El Roble**	**1.69**	**148**⇑	*i* P	**Pn**	**05 21 58.6**	**-0.1**
ROCH				*i* S	**Sn**	**05 22 20.6**	**+0.1**
ROCH				IAML		05 22 26.9	
	comp=E,2μm,0.5s						
GO04	**Tololo Observa**	**1.74**	**39**⇑	*eP*	**Pn**	**05 21 59.6**	**+0.1**
GO04				*eS*	**Sn**	**05 22 22.1**	**+0.3**
CO05	**La Serena**	**1.76**	**24**⇓	*eP*	**Pn**	**05 21 59.0**	**-0.5**
CO05				*i* S	**Sn**	**05 22 22.4**	**+0.4**
VA03	**San Esteban**	**1.77**	**134**⇑	*eP*	**Pn**	**05 21 59.8**	**-0.1**
VA03				*i* S	**Sn**	**05 22 22.6**	**+0.1**
VA03				IAML		05 22 27.1	
	comp=E,4μm,0.5s						
VA03	**San Esteban**	**1.77**	**134**	*i* P	**Pn**	**05 22 00.0**	**+0.2**
VA05	**Santo Domingo**	**2.15**	**170**	*eP*	**Pn**	**05 22 04.4**	**-0.5**
VA05				*i* S	**Sb**	**05 22 34.9**	**+0.1**
VA05				IAML		05 22 42.0	
	comp=E,1μm,0.3s						
MT05	**Renca**	**2.17**	**149**⇑	*i* P	**Pn**	**05 22 05.5**	**+0.4**
MT05				*i* S	**Sb**	**05 22 34.8**	**-0.5**
MT05				IAML		05 22 39.6	
	comp=E,1μm,0.4s						
MT05	**Renca**	**2.17**	**149**	*i* P	**Pn**	**05 22 06.0**	**+0.8**
MT09	**Talagante**	**2.41**	**158**⇑	*i* P	**Pn**	**05 22 09.3**	**+0.6**
MT09				*i* S	**Sb**	**05 22 43.8**	**+1.3**
MT09				IAML		05 22 50.9	
	comp=N,450nm,0.3s						
MT01	**Popeta**	**2.42**	**164**⇑	*i* P	**Pn**	**05 22 08.6**	**-0.1**
MT01				*eS*	**Sn**	**05 22 38.7**	**+0.3**
MT01	**Popeta**	**2.42**	**164**	*i* P	**Pn**	**05 22 08.0**	**-0.7**
AROD	**Rodeo**	**2.61**	**59**	*i* P	**Pb**	**05 22 15.0**	**-1.0**
ACCO	**Cerro Coronel**	**2.74**	**71**	*i* P	**Pb**	**05 22 17.0**	**-1.3**
LCO	**Las Campanas**	**2.78**	**25**	*i* P	**Pn**	**05 22 13.0**	**-0.8**
LMEL	**Las Melosas**	**2.79**	**146**	*eP*	**Pn**	**05 22 14.9**	**+1.1**
LMEL				IAML		05 23 04.2	
	comp=N,366nm,0.3s						
BO03	**Pichilemu**	**2.96**	**178**⇑	*i* P	**Pn**	**05 22 15.1**	**-0.9**
ARCO	**CERRO ARCO**	**2.96**	**117**	*i* P	**Pb**	**05 22 22.0**	**+0.1**
BO01	**Tunca**	**2.97**	**164**	*i* P	**Pn**	**05 22 16.0**	**-0.1**
RTCV	**Cerro Valdivia**	**3.02**	**97**	*i* P	**Pb**	**05 22 21.0**	**-1.9**
AAGR	**Agrelo**	**3.15**	**120**	*i* P	**Pb**	**05 22 23.0**	**-2.0**
BO02	**Sierra Bellavi**	**3.42**	**162**	*i* P	**Pn**	**05 22 23.0**	**+0.5**
AC04	**Llanos de Chal**	**3.43**	**15**	*i* P	**Pn**	**05 22 21.0**	**-1.5**
GO05	**Huala**	**3.47**	**178**⇑	*i* P	**Pn**	**05 22 22.0**	**-1.0**
GO05	**Huala**	**3.47**	**178**	*i* P	**Pn**	**05 22 22.0**	**-1.0**
RFA	**San Rafael**	**4.42**	**138**	*i* P	**Pn**	**05 22 38.0**	**+1.8**
AC02	**Maricunga**	**5.34**	**29**	*i* P	**Pn**	**05 22 49.0**	**-0.2**
H03N1	**Juan Fernandez**	**6.09**	**250**	T	T	05 29 45.4	
	baz=78,slow=72,SNR=775						
H03N3	**Juan Fernandez**	**6.11**	**250**	T	T	05 29 43.4	
	baz=78,slow=72,SNR=1079						
H03N2	**Juan Fernandez**	**6.11**	**250**	T	T	05 29 44.7	
	baz=78,slow=72,SNR=681						
CYA	**Choya**	**6.24**	**62**	*i* P	**Pn**	**05 23 04.0**	**+2.8**
LC01	**Cunco**	**7.35**	**179**	*i* P	**Pn**	**05 23 16.0**	**-0.3**
PLCA	**Paso Flores**	**9.26**	**173**	Pn	**Pn**	**05 23 43.2**	**+0.6**
	comp=N,0.8nm,0.3s,baz=340,slow=13,SNR=22						
LVC	**Limon Verde**	**9.32**	**18**	Pn	**Pn**	**05 23 46.2**	**+2.5**
	comp=N,0.2nm,0.3s,baz=225,slow=10.0,SNR=1.6						
LVC				LR	LR	05 27 24.9	
	comp=N,77nm,20.1s,baz=218,slow=38						
LPAZ	**La Paz**	**15.59**	**14**	Pn	**Pn**	**05 25 10.2**	**+0.7**
	comp=N,0.1nm,0.3s,baz=207,slow=14,SNR=6.3						
SIV	**San Ignacio**	**18.43**	**35**	P	**P**	**05 25 44.0**	**-0.7**
	comp=N,0.1nm,0.3s,baz=225,slow=8.8,SNR=5.4						
TXAR	**Lajitas Array**	**67.58**	**330**	P	P	05 32 33.5	+7.6
	comp=N,0.1nm,0.3s,baz=153,slow=10,SNR=4.4						
TORD	**Torodi Ar. Bea**	**83.39**	**70**	P	**P**	**05 33 57.4**	**+0.5**
	comp=N,0.5nm,0.7s,baz=241,slow=4.8,SNR=3.4						
H11S2	**WAKE ISLAND Hyl**	**125.75**	**271**	T	T	07 59 23.7	
	baz=116,slow=74,SNR=5.0						
H11S1	**WAKE ISLAND Hyl**	**125.76**	**271**	T	T	07 59 24.8	
	baz=116						
H11S3	**WAKE ISLAND Hyl**	**125.77**	**271**	T	T	07 59 26.0	
	baz=116,slow=74						
ZALV	**Zalesovo Beam**	**152.13**	**30**	PKPbc	**PKiKP**	**05 41 27.5**	**+3.0**
	comp=N,1.0nm,0.4s,baz=294,slow=3.2,SNR=1.9						

*EAF **29** 05:31:24.3±21.0, 12°.68N×43°.56E, h15km±631km*
*NEIC **29** 05:31:26.2±2.2, 11°.6N±0°.2×43°.31E±0°.02, h6km±6km, mb4.6/14, Error ellipse: s-maj=24.5km s-min=1.9km az=177.0*
*IDC **29** 05:31:26.6±1.1, 11°.75N×43°.47E, h0km, mb3.9/14, mb1 4.0/16, mb1mx3.8/59, mbtmp4.0/16, ML3.7/2, MS3.9/27, Ms1 3.9/27, ms1mx3.8/41, Error ellipse: s-maj=24.1km s-min=21.8km az=33.0*
*GCMT **29** 05:31:27.2±0.4, 11°.90N±0°.02×43°.42E±0°.03, h13km±1km, MW4.8/74, Moment Tensor Solution. s15,c16; s74,c94; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.90±.13; Mθθ2.08±.10; Mϕϕ-1.18±.09; Mrθ0.53±.20; Mθϕ0.21±.07; Mϕr0.66±.32; Best double couple: M₀1.96000×10¹⁶ NP1:ϕs126.00000°, δ54.00000°, λ-23.00000°. NP2: ϕs230.00000°, δ71.00000°, λ-142.00000°. Principal axes: T 2.2020, Plg11.0000°, Azm354.0000°; N -0.4840, Plg48.0000°, Azm252.0000°; P -1.7180, Plg40.0000°, Azm93.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 29 05:31:26.5±0.5, 11°.55N±0°.05×43°.21E±0°.04, h10km, n64, σ1§71/57, mb4.4/25, MS3.9/25, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**0.36**	**267**	Pg	**Pg**	**05 31 34.3**	**+0.7**
ATD				Sg	**Sb**	**05 31 41.0**	**+0.3**
TEND	**Ethiopian Broa**	**2.18**	**277**	*eP*	**Pn**	**05 32 03.3**	**+0.4**
TEND				*eS*	**Sn**	**05 32 30.7**	**+0.9**
HARA	**HARA**	**2.25**	**178**	*eP*	**Pg**	**05 32 10.9**	**+1.3**
HARA				*eS*	Sg	05 32 48.0	+9.2
DESE	**Dese**	**3.53**	**263**	*eP*	**Pb**	**05 32 26.6**	**-2.8**
DESE				*eS*	**Sb**	**05 33 12.4**	**-0.1**
ANKE	**Ethiopia-Afar**	**3.93**	**241**	*eP*	**Pb**	**05 32 35.3**	**-0.8**
ANKE				*eS*	**Sg**	**05 33 29.2**	**-3.7**
AAE	**Adis Abeba**	**5.04**	**241**	*eP*	**Pb**	**05 32 56.9**	**+1.9**
AAE				*eS*	**Sb**	**05 34 01.5**	**+5.7**
FURI	**Furi**	**5.18**	**240**	Pn	**Pn**	**05 32 46.2**	**+1.8**
DILA	**Dilla**	**7.03**	**224**	*eP*	**Pg**	**05 33 37.3**	**-4.0**
DILA				*eS*	**Sg**	**05 35 10.6**	**-1.8**
KMBO	**Kilima Mbogo**	**13.91**	**206**	Pn	**P**	**05 34 51.3**	**-1.1**
	0.3nm,0.3s,baz=26,slow=16,SNR=5.6						
KMBO				Lg	Lg	05 38 50.2	
	0.5nm,0.3s,baz=266,slow=22,SNR=7.0						
KMBO				LR	LR	05 39 50.0	
	comp=Z,620nm,18.7s,baz=16,slow=35						
KMBO	**Kilima Mbogo**	**13.91**	**206**		**Pn**	**05 34 43.6**	**-0.5**
MBAR	**Mbarara**	**17.30**	**227**	Lg	Lg	05 40 37.4	
	1.4nm,0.3s,baz=37,slow=20,SNR=1.2						
MBAR				LR	LR	05 41 54.1	
	comp=Z,502nm,20.7s,baz=33,slow=36						
UOSS	**Minazif**	**18.14**	**41**	P	**Pn**	**05 35 38.4**	**-0.3**
WSAR	**Wadi Sarin**	**18.73**	**50**	P	**P**	**05 35 43.3**	**-2.3**
	0.3nm,0.3s,baz=238,slow=11,SNR=5.8						
WSAR				LR	LR	05 42 56.4	
	comp=Z,508nm,20.0s,baz=254,slow=38						
EIL	**Elat**	**19.61**	**338**	Lg	Lg	05 41 47.8	
	0.4nm,0.3s,baz=29,slow=19,SNR=1.7						
EIL				LR	LR	05 42 08.9	
	comp=Z,146nm,21.8s,baz=150,slow=33						
ASF	**Jabal al Asfar**	**21.34**	**345**	P	**P**	**05 36 13.9**	**0.0**
	3.9nm,0.8s,baz=197,slow=14,SNR=5.9						
ASF				Lg	Lg	05 42 40.4	
	1.0nm,0.4s,baz=225,slow=20,SNR=1.7						
MMAI	**Mount Meron Ar**	**22.54**	**343**	P	**P**	**05 36 26.1**	**-0.6**
	0.7nm,0.3s,baz=117,slow=3.7,SNR=1.5						
MMAI				LR	LR	05 43 56.1	
	comp=Z,351nm,21.0s,baz=185,slow=33						
GNI	**Garni**	**28.52**	**2**	LR	LR	05 49 32.8	
	comp=Z,179nm,19.7s,baz=167,slow=38						
GNI	**Garni**	**28.52**	**2**	P	**P**	**05 37 22.9**	**+0.5**
GNI				IAmb	IAmb	05 37 28.0	
	comp=Z,12nm,1.1s						
HRA	**Herat**	**28.60**	**34**	P	**P**	**05 37 21.8**	**-1.4**
HRA				IAmb	IAmb	05 37 32.6	
	comp=Z,16nm,1.1s						
IDI	**Anoyia**	**28.90**	**328**	LR	LR	05 48 48.8	
	comp=Z,33nm,19.2s,baz=120,slow=36						
BRTR	**Keskin Array B**	**29.32**	**345**	P	**P**	**05 37 29.7**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=184,slow=12,SNR=3.3						
BRTR				LR	LR	05 48 10.4	
	comp=Z,408nm,21.5s,baz=155,slow=34						
GEYT	**Alibeck**	**29.47**	**24**	LR	LR	05 49 47.7	
	comp=Z,290nm,19.2s,baz=40,slow=38						
ONI	**Oni**	**30.93**	**0**	P	**P**	**05 37 44.0**	**+0.4**
ONI				IAmb	IAmb	05 37 50.1	
	comp=Z,17nm,1.4s						
KBZ	**Khabaz**	**32.07**	**360**	LR	LR	05 51 42.9	
	comp=Z,201nm,18.1s,baz=160,slow=38						
NIL	**Nilore**	**35.18**	**46**	P	**P**	**05 38 19.6**	**-1.3**
PALK	**Pallekele**	**37.21**	**93**	LR	LR	05 50 37.6	
	comp=Z,119nm,21.0s,baz=24,slow=31						
BTK	**Batken**	**37.44**	**36**	P	**P**	**05 38 40.4**	**+0.3**
BTK				IAmb	IAmb	05 38 45.5	
	comp=Z,17nm,1.4s						
KEST	**Kesra**	**38.95**	**314**	LR	LR	05 54 17.7	
	comp=Z,320nm,21.5s,baz=222,slow=35						
KKAR	**Karatay Array**	**39.35**	**32**	P	**P**	**05 38 56.5**	**+0.4**
ABKAR	**Akbulak array**	**40.08**	**17**	P	**P**	**05 39 01.0**	**-1.0**
TORD	**Torodi Ar. Bea**	**40.56**	**277**	P	**P**	**05 39 10.4**	**+3.9**
	comp=Z,0.5nm,0.9s,baz=92,slow=5.7,SNR=3.4						
TORD				LR	LR	05 55 44.0	
	comp=Z,176nm,18.4s,baz=85,slow=36						
AKTO	**Aktyubinsk**	**40.64**	**15**	P	**P**	**05 39 06.6**	**-0.1**
	comp=Z,4.6nm,1.1s,baz=187,slow=9.5,SNR=12						
AKASG	**Malin Array Be**	**40.69**	**346

SONM					IAmb	IAmb	05 42 02.7
	comp=Z,4.3nm,1.1s						
NRIK	**Noril'sk**	**64.23**	**16**	LR	LR	LR	06 12 22.8
	comp=Z,162nm,20.4s,baz=210,slow=38						
HHC	**Hu-ho-hao-te**	**66.18**	**50**	*eP*	**P**		**05 42 14.0 -0.7**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.2s						
HHC				pmax	pmax		
	comp=Z,91nm,5.4s						
NJ2	**Nanjing**	**71.86**	**60**	*eP*	**P**		**05 42 50.3 +0.3**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
USRK	**Ussuriysk Ar.**	**81.19**	**47**	LR	LR		06 22 36.8
	comp=Z,126nm,21.0s,baz=257,slow=38						
WRA	**Warramunga Arr**	**94.91**	**109**	P	**P**		**05 44 49.4 -0.3**
	comp=Z,0.3nm,0.8s,baz=291,slow=3.6,SNR=1.8						
WRA				LR	LR		06 24 01.2
	comp=Z,61nm,19.1s,baz=245,slow=33						
ASAR	**Alice Springs**	**95.18**	**113**	P	**P**		**05 44 50.5 -0.3**
	comp=Z,0.3nm,0.8s,baz=297,slow=6.1,SNR=1.8						

IDC ***29*** *05:52:58.7±1.1,18°.86N×146°.15E,h0km,mb3.8/5, mb1 4.1/6,mb1mx3.7/41,mbtmp3.9/6,ML4.2/1,Error ellipse: s-maj=67.0km s-min=22.4km az=101.0*

ISC 29 05:53:04.0±1.1,18°.8N±0°.1×146°.2E±0°.5,h35km,n9, σ0ˢ35/7,mb3.6/5,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.36**	**194**	Pn	**Pn**	**05 54 21.5**	**0.0**
	8.3nm,0.3s,baz=184,slow=22,SNR=1.8						
GUMO				Sn	**Sn**	**05 55 22.3**	**+0.3**
	6.1nm,0.3s,baz=53,slow=18,SNR=1.5						
H11S3	**WAKE ISLAND Hy**	**19.39**	**88**	T	T	06 16 58.8	
	baz=275						
H11S1	**WAKE ISLAND Hy**	**19.41**	**88**	T	T	06 16 57.1	
	baz=275						
H11S2	**WAKE ISLAND Hy**	**19.41**	**88**	T	T	06 17 11.1	
	baz=275						
WRA	**Warramunga Arr**	**40.24**	**197**	P	**P**	**06 00 37.3**	**-0.3**
	0.3nm,0.6s,baz=20,slow=7.7,SNR=2.2						
ASAR	**Alice Springs**	**43.90**	**196**	P	**P**	**06 01 07.0**	**-0.4**
	0.2nm,0.5s,baz=20,slow=8.4,SNR=2.5						
ARCES	**ARCESS Array B**	**82.54**	**342**	P	**P**	**06 05 23.2**	**+0.4**
	3.4nm,0.8s,baz=74,slow=10,SNR=4.3						
NVAR	**Mina Array Bea**	**82.68**	**52**	P	**P**	**06 05 24.6**	**+0.1**
	0.4nm,0.6s,baz=269,slow=5.2,SNR=5.1						
FINES	**FINESS Array B**	**86.99**	**335**	P	**P**	**06 05 45.3**	**-0.1**
	0.7nm,0.4s,baz=87,slow=7.1,SNR=6.4						

TUL ***29*** *06:16:05.3±1.1,35°.60N±0°.02×97°.38W±0°.02,h5km±4km, ML2.6,mb_Lg2.3/28(NEIC),Error ellipse: s-maj=2.9km s-min=1.1km az=150.0*

NEIC 29 06:16:05.5±1.3,35°.63N±0°.02×97°.38W±0°.03,h6km±5km, Error ellipse: s-maj=3.9km s-min=2.3km az=97.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK025	**Westminster Rd**	**0.05**	**146**		Pg	06 16 06.8	-0.2
OK025					Sg	06 16 07.9	-0.1
OK009	**Oakdale Elemen**	**0.06**	**222**		Pg	06 16 06.6	-0.5
OK009					Sg	06 16 07.6	-0.6
OK029	**Liberty Lake**	**0.18**	**339**		Pg	06 16 09.8	+0.5
BCOK	**Bluff Creek, N**	**0.19**	**279**		Pg	06 16 09.5	+0.1
BCOK					Sg	06 16 12.2	+0.2
OKCFA	**Oklahoma City**	**0.22**	**197**		Pg	06 16 09.4	-0.4
OKCFA					Sg	06 16 12.2	-0.6
OKCSW	**OKLAHOMA CITY**	**0.23**	**193**		Pg	06 16 09.5	-0.5
OKCSW					Sg	06 16 12.6	-0.3
FNO	**Franklin**	**0.37**	**183**		Pg	06 16 12.0	-0.7
OK031	**S. Brethren Rd**	**0.54**	**53**		Pg	06 16 16.2	+0.2
OK030	**Cody Creek RV**	**0.57**	**58**		Pg	06 16 16.6	+0.1
QUOK	**Quay**	**0.77**	**45**		Pg	06 16 20.3	0.0
CROK	**Carrier**	**1.01**	**331**		Pg	06 16 24.7	-0.2
X34A	**Smith Ranch, M**	**1.09**	**200**		Pg	06 16 25.7	-0.8
BLOK	**Blackwell**	**1.14**	**6**		Pg	06 16 27.0	-0.4
BLOK					Sg	06 16 42.4	+0.2
GC02	**Grant County #**	**1.28**	**342**		Pn	06 16 29.6	-0.5
GC02					Sn	06 16 47.3	+0.3
TUL1	**Leonard**	**1.32**	**77**		Pn	06 16 29.0	-1.5
TUL1					Sn	06 16 47.4	-0.5
OK032	**Salt Plains WL**	**1.36**	**330**		Pn	06 16 30.6	-0.4
KAN13	**South Haven SW**	**1.39**	**357**		Pn	06 16 31.5	0.0
KAN14	**Manchester OK**	**1.41**	**340**		Pn	06 16 31.4	-0.4
KAN17	**Caldwell West**	**1.45**	**348**		Pn	06 16 32.3	-0.1
WMOK	**Wichita Mounta**	**1.45**	**233**		Pn	06 16 31.1	-1.3
T35A	**Sooner Cattle**	**1.47**	**28**		Pn	06 16 32.4	-0.2
U32A	**Winter Ranch,**	**1.52**	**300**	Pn	Pn	06 16 33.3	0.0
U32A					Sg	06 16 54.3	-0.1
KAN09	**Caldwell North**	**1.52**	**353**	Pn	Pb	06 16 33.8	-0.4
KAN05	**Bluff City Nor**	**1.53**	**345**		Pn	06 16 33.7	+0.1
KAN05				IAmb_Lg		06 16 55.3	
	comp=Z,14nm,1.0s						
KAN05					Sg	06 16 56.1	+1.3
KAN10	**Anthony SW Sta**	**1.60**	**339**		Pn	06 16 34.7	+0.2
KS20	**Mayfield South**	**1.61**	**355**		Pn	06 16 35.0	+0.5
KS20				IAmb_Lg		06 16 57.7	
	comp=Z,19nm,0.8s						
LOOK	**Love County**	**1.64**	**174**		Pn	06 16 34.8	-0.1
KAN06	**Argonia West S**	**1.67**	**347**		Pn	06 16 36.0	+0.6
KAN08	**Anthony NE Sta**	**1.67**	**343**		Pn	06 16 36.0	+0.6
KAN16	**Harper SW Stat**	**1.69**	**341**		Pn	06 16 36.4	+0.7
KAN12	**Harper NE Stat**	**1.74**	**343**		Pn	06 16 37.0	+0.6
X37A	**Clayton**	**1.94**	**122**		Pn	06 16 39.8	+0.8
X37A					Sn	06 17 03.4	-0.4
U38A	**Gravette**	**2.56**	**71**		Pn	06 16 47.9	+0.3
HHAR	**Hobbs**	**2.86**	**76**		Pn	06 16 51.4	-0.4
W39A	**Magazine**	**2.96**	**97**	Pn	Pn	06 16 53.2	0.0
W39A					Sb	06 17 36.6	+1.4
R32A	**Long Quarter,**	**2.99**	**339**	IAmb_Lg		06 17 46.7	
	comp=Z,7.5nm,0.8s						
MIAR	**Mount Ida**	**3.30**	**108**	IAmb_Lg		06 17 58.1	
	comp=Z,6.2nm,0.8s						
KSU1	**Kansas State U**	**3.52**	**10**		Pg	06 17 11.2	-1.8
KSU1				IAmb_Lg		06 18 05.6	
	comp=Z,6.8nm,0.8s						
ABTX	**Abilene, Hawle**	**3.54**	**213**	IAmb_Lg		06 17 58.6	
	comp=Z,8.4nm,1.1s						
AMTX	**Amarillo**	**3.60**	**259**	Pn	Pn	06 17 01.2	-0.8
CBKS	**Cedar Bluff**	**3.70**	**330**	IAmb_Lg		06 18 07.6	
	comp=Z,6.5nm,0.7s						
S39A	**Bolivar**	**3.85**	**56**	IAmb_Lg		06 18 07.4	
	comp=Z,6.1nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.28**	**85**	IAmb_Lg		06 18 27.6	
	comp=Z,5.8nm,0.8s						
MGMO	**Mountain Grove**	**4.39**	**68**	IAmb_Lg		06 18 33.9	
	comp=Z,6.1nm,0.8s						
R40A	**Maddies Statio**	**4.88**	**55**	IAmb_Lg		06 18 49.4	
	comp=Z,4.6nm,0.8s						
P38A	**Dawn**	**5.02**	**36**	IAmb_Lg		06 18 55.3	
	comp=Z,6.4nm,0.8s						
PBMO	**Poplar Bluff**	**5.73**	**76**	IAmb_Lg		06 19 18.9	
	comp=Z,4.8nm,0.7s						
T25A	**Trinidad**	**5.87**	**287**	IAmb_Lg		06 19 15.7	
	comp=Z,6.2nm,0.8s						

NEIC ***29*** *06:24:54.6±1.5,31°.88S±0°.03×72°.18W±0°.09,h1km±8km, Error ellipse: s-maj=11.1km s-min=3.7km az=79.0*
IDC ***29*** *06:24:56.7±3.6,31°.94S×71°.56W,h0km,mb4.1/2, mb1 3.8/6,mb1mx3.6/24,mbtmp3.7/6,ML3.7/4,Error ellipse: s-maj=91.4km s-min=32.1km az=103.0*
GUC ***29*** *06:24:57.7±0.8,31°.88S×72°.02W,h39km±2km,ML4.0*

ISC 29 06:24:58.5±1.7,31°.89S±0°.03×72°.12W±0°.07,h37km±2km, n55,σ1ˢ17/61,3C-6D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.97**	**134**	↓*iP*	**Pn**	**06 25 14.5**	**-1.0**
VA06				*i* S	**Sn**	**06 25 26.5**	**-1.5**
VA06				IAML		06 25 29.6	
	comp=E,7μm,0.5s						
CO02	**Combarbal**	**1.18**	**55**	↓*iP*	**Pn**	**06 25 17.2**	**-1.3**
CO02				*i* S	**Sn**	**06 25 32.6**	**-0.7**
CO02				IAML		06 25 36.8	
	comp=N,15μm,0.3s						
CO02	**Combarbal**	**1.18**	**55**		**Pn**	**06 25 17.3**	**-1.2**
VA01	**Torpederas**	**1.20**	**161**	↓*eP*	**Pn**	**06 25 18.7**	**+0.1**
VA01				*i* S	**Sn**	**06 25 34.2**	**+0.5**
VA01	**Torpederas**	**1.20**	**161**		**Pn**	**06 25 18.6**	**-0.1**
CO06	**Fray Jorge**	**1.28**	**19**	↑*iP*	**Pn**	**06 25 19.0**	**-0.8**
CO06				*eS*	**Sn**	**06 25 36.1**	**+0.4**
CO06	**Fray Jorge**	**1.28**	**19**		**Pn**	**06 25 18.9**	**-0.8**
ROCH	**El Roble**	**1.43**	**139**	↓*iP*	**Pn**	**06 25 22.4**	**+0.4**
ROCH				*eS*	**Sn**	**06 25 40.0**	**+0.3**
ROCH				IAML		06 25 42.9	
	comp=N,3μm,0.4s						
VA03	**San Esteban**	**1.59**	**124**	↓*iP*	**Pn**	**06 25 24.3**	**+0.2**
VA03				*i* S	**Sn**	**06 25 43.9**	**+0.4**
VA03				IAML		06 25 47.0	
	comp=E,3μm,0.2s						
VA03	**San Esteban**	**1.59**	**124**		**Pn**	**06 25 24.4**	**+0.2**
CO03	**El Pedregal**	**1.61**	**50**	↑*eP*	**Pn**	**06 25 24.3**	**-0.2**
CO03				*eS*	**Sn**	**06 25 44.1**	**+0.1**
CO03				IAML		06 25 45.0	
	comp=N,3μm,0.2s						
CO03	**El Pedregal**	**1.61**	**50**	Pn	**Pn**	**06 25 24.4**	**0.0**
VA05	**Santo Domingo**	**1.81**	**167**	*eP*	**Pn**	**06 25 27.3**	**+0.2**
VA05				*eS*	**Sn**	**06 25 49.5**	**+0.6**
VA05				IAML		06 25 59.7	
	comp=E,2μm,0.4s						
VA05	**Santo Domingo**	**1.81**	**167**	Pn	**Pn**	**06 25 27.3**	**+0.2**
MT05	**Renca**	**1.90**	**142**	↓*eP*	**Pn**	**06 25 29.9**	**+1.5**
MT05				*eS*	**Sn**	**06 25 52.5**	**+1.5**
MT05				IAML		06 25 56.4	
	comp=E,3μm,0.3s						
MT05	**Renca**	**1.90**	**142**		**Pn**	**06 25 30.1**	**+1.8**
GO04	**Tololo Observa**	**2.05**	**34**	↑*eP*	**Pn**	**06 25 31.1**	**+0.5**
GO04				*eS*	**Sn**	**06 25 56.3**	**+1.2**
GO04	**Tololo Observa**	**2.05**	**34**		**Pn**	**06 25 32.1**	**+1.5**
MT01	**Popeta**	**2.10**	**160**	*eP*	**Pn**	**06 25 31.7**	**+0.6**
MT01				IAML		06 26 06.9	
	comp=E,819nm,0.4s						
MT01	**Popeta**	**2.10**	**160**		**Pn**	**06 25 30.9**	**-0.2**
CO05	**La Serena**	**2.10**	**21**	*eP*	**Pn**	**06 25 31.1**	**-0.1**
CO05				*eS*	**Sn**	**06 25 57.2**	**+1.2**
CO05				IAML		06 26 14.1	
	comp=E,1μm,0.4s						
CO05	**La Serena**	**2.10**	**21**	Pn	**Pn**	**06 25 31.0**	**-0.2**
MT09	**Talagante**	**2.11**	**153**	*eP*	**Pn**	**06 25 32.7**	**+1.4**
MT09				*eS*	**Sn**	**06 25 57.2**	**+0.8**
MT09				IAML		06 26 07.2	
	comp=E,970nm,0.5s						
MT09	**Talagante**	**2.11**	**153**		**Pn**	**06 25 29.6**	**-1.7**
LMEL	**Las Melosas**	**2.53**	**141**	*eP*	**Pn**	**06 25 38.5**	**+1.3**
LMEL				*i* S	**Sn**	**06 26 07.7**	**+0.8**
LMEL				IAML		06 26 19.9	
	comp=N,965nm,0.5s						
BO01	**Tunca**	**2.64**	**161**	*eP*	**Pn**	**06 25 39.2**	**+0.7**
BO01	**Tunca**	**2.64**	**161**	Pn	**Pn**	**06 25 38.9**	**+0.4**
ZON	**Zonda**	**2.95**	**84**		**Pn**	**06 25 45.4**	**+2.5**
BO02	**Sierra Bellavi**	**3.10**	**159**	*eP*	**Pn**	**06 25 45.5**	**+0.5**
BO02				IAML		06 26 40.5	
	comp=N,731nm,0.3s						
BO02	**Sierra Bellavi**	**3.10**	**159**		**Pn**	**06 25 46.2**	**+1.2**
GO05	**Huala**	**3.12**	**177**	*eP*	**Pn**	**06 25 45.1**	**0.0**
GO05				IAML		06 26 50.9	
	comp=E,163nm,0.6s						
GO05	**Huala**	**3.12**	**177**	Pn	**Pn**	**06 25 45.0**	**0.0**
LCO	**Las Campanas**	**3.12**	**23**	*eP*	**Pn**	**06 25 45.0**	**-0.4**
LCO				*i* S	**Sn**	**06 26 25.0**	**+3.5**
AC04	**Llanos de Chal**	**3.78**	**14**	Pn	**Pn**	**06 25 53.9**	**-0.3**
ML02	**Panimavida**	**3.91**	**172**	Pn	**Pn**	**06 25 56.0**	**+0.1**
GO03	**Copiap**	**4.58**	**21**	*eP*	**Pn**	**06 26 07.9**	**+2.6**
GO03	**Copiap**	**4.58**	**21**	Pn	**Pn**	**06 26 05.5**	**+0.5**
AC02	**Maricunga**	**5.67**	**28**	Pn	**Pn**	**06 26 20.4**	**-0.3**
VA04	**Juan Fernndez**	**5.92**	**251**	Pn	**Pn**	**06 26 23.8**	**+0.3**
H03N1	**Juan Fernandez**	**5.93**	**253**	T	T	06 33 02.5	
	baz=82,slow=73,SNR=131						
H03N3	**Juan Fernandez**	**5.95**	**253**	T	T	06 33 01.8	
	baz=82,slow=73,SNR=933						
H03N2	**Juan Fernandez**	**5.95**	**253**	T	T	06 32 58.6	
	baz=82,slow=73,SNR=70						
LC01	**Cunco**	**7.00**	**178**	Pn	**Pn**	**06 26 38.0**	**-0.3**
PLCA	**Paso Flores**	**8.92**	**172**	Pn	**Pn**	**06 27 06.1**	**+1.3**
	comp=E,3nm,0.3s,baz=341,slow=12,SNR=9.9						
TRQA	**Tornquist**	**10.34**	**129**	Pn	**Pn**	**06 27 25.7**	**+1.5**
CPUP	**Villa Florida**	**14.06**	**71**	Pn	**Pn**	**06 28 11.7**	**-3.4**
	comp=E,0.1nm,0.3s,baz=240,slow=15,SNR=1.1						
LPAZ	**La Paz**	**15.95**	**14**	Pn	**P**	**06 28 42.8**	**-1.2**
	comp=E,0.1nm,0.3s,baz=195,slow=10,SNR=2.2						
LPAZ	**La Paz**	**15.95**	**14**	IAmb	IAmb	06 29 00.9	
	comp=Z,2.3nm,1.1s						
SIV	**San Ignacio**	**18.75**	**35**	P	**Pn**	**06 29 15.3**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=214,slow=11,SNR=2.4						
BDFB	**Brasilia**	**27.26**	**59**	P	**P**	**06 30 39.5**	**0.0**
	comp=Z,5.0nm,0.9s,baz=225,slow=10.0,SNR=4.9						
TORD	**Torodi Ar. Bea**	**83.56**	**70**	P	**P**	**06 37 24.4**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=253,slow=4.9,SNR=4.3						
TORD	**Torodi Ar. Bea**	**83.56**	**70**	IAmb	IAmb	06 37 25.2	
	comp=Z,0.8nm,0.8s						
H11S2	**WAKE ISLAND Hy**	**125.70**	**271**	T	T	09 02 58.1	
	baz=117,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**125.72**	**271**	T	T	09 02 49.5	
	baz=117,slow=75,SNR=8.3						
H11S3	**WAKE ISLAND Hy**	**125.72**	**271**	T	T	09 02 59.1	
	baz=117,slow=75,SNR=10						

IDC 29 06:51:49.5±15.0,20°.75S×179°.49W,h476km±61km, mb3.0/4,mb1 3.2/5,mb1mx2.9/28,mbtmp3.9/5,Error ellipse: s-maj=318.8km s-min=100.5km az=92.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.79**	**322**	P	P	06 53 04.8	-0.1
	5.5nm,0.3s,baz=142,slow=9.2,SNR=23						
STKA	**Stephens Creek**	**36.43**	**244**	P	P	06 58 12.7	-0.3
	2.0nm,0.8s,baz=102,slow=6.0,SNR=4.0						
ASAR	**Alice Springs**	**43.11**	**257**	P	P	06 59 06.9	-0.1
	1.4nm,0.5s,baz=92,slow=8.2,SNR=23						
WRA	**Warramunga Arr**	**43.19**	**263**	P	P	06 59 07.5	-0.2
	0.7nm,0.6s,baz=98,slow=7.4,SNR=14						
FITZ	**Fitzroy Crossi**	**51.62**	**263**	P	P	07 00 11.3	0.0
	0.7nm,0.5s,baz=89,slow=7.1,SNR=2.3						

WEL 29 07:10:47.1±1.2,45°.5S×167°.7E±°,h5km±6km,M3.8/18, ML4.0/24,MLv3.8/18,Error ellipse: s-maj=0.0km s-min=0.0km az=98.1,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLZ	**Mavora Lakes**	**0.90**	**97**	P	Pb	07 11 05.4	+0.1
PYZ	**Puysegur Point**	**0.91**	**187**	P	Pg	07 11 03.9	-0.6
MSZ	**Milford Sound**	**0.97**	**53**	P	Pg	07 11 05.3	-0.4
WHZ	**Wether Hill Ro**	**0.99**	**129**	P	Pb	07 11 06.5	-0.3
WHZ				S	Sb	07 11 19.8	-0.4
WKZ	**Wanaka**	**1.60**	**75**	P	Pb	07 11 16.9	-0.3
EAZ	**Earnscleugh**	**1.74**	**90**	P	Pn	07 11 18.7	+0.7
EAZ				S	Sn	07 11 40.7	+0.1
APZ	**The Paps**	**1.75**	**153**	P	Pn	07 11 18.9	+0.6
JCZ	**Jackson Bay**	**1.83**	**50**	P	Pn	07 11 19.3	0.0
SYZ	**Scrubby Hill**	**2.04**	**129**	P	Pn	07 11 22.2	+0.1
SYZ				S	Sn	07 11 47.2	-0.8
TUZ	**Tuapeka**	**2.07**	**110**	P	Pn	07 11 23.4	+0.8
LBZ	**Lake Benmore**	**2.53**	**71**	P	Pn	07 11 29.0	0.0
ODZ	**Otahua Downs**	**2.70**	**87**	P	Pn	07 11 30.9	-0.3
HHSZ	**Highcliff Hill**	**2.71**	**105**	P	Pn	07 11 31.9	+0.6
FOZ	**Fox Glacier**	**2.75**	**52**	P	Pn	07 11 31.4	-0.4
TMZ	**Timaru**	**3.09**	**75**	P	Pn	07 11 35.8	-0.8
GCSZ	**Gaunt Creek Bo**	**3.17**	**53**	P	Pn	07 11 38.4	+0.7
ARCZ	**Arundel**	**3.36**	**68**	P	Pn	07 11 39.5	-0.8
RPZ	**Rata Peaks**	**3.39**	**64**	P	Pn	07 11 40.4	-0.3
WVZ	**Waitaha Valley**	**3.56**	**53**	P	Pn	07 11 42.8	-0.1
MHCZ	**Mount Hutt**	**3.80**	**65**	P	Pn	07 11 46.4	0.0
WACZ	**Wakanui South**	**3.80**	**71**	P	Pn	07 11 46.6	+0.3
INZ	**Inchbonnie**	**4.18**	**54**	P	Pn	07 11 51.4	-0.1
OXZ	**Oxford**	**4.20**	**64**	P	Pn	07 11 51.8	0.0
MQZ	**McQueen's Vall**	**4.44**	**71**	P	Pn	07 11 53.7	-1.4
LTZ	**Lake Taylor**	**4.63**	**59**	P	Pn	07 11 58.2	+0.3
AMCZ	**Amberley**	**4.67**	**65**	P	Pn	07 11 58.0	-0.2
OKCZ	**Okains Bay**	**4.70**	**73**	P	Pn	07 11 59.5	+0.7
DSZ	**Denniston Nort**	**5.04**	**47**	P	Pn	07 12 02.3	-1.1
THZ	**Tophouse**	**5.63**	**54**	P	Pn	07 12 11.4	-0.1
QRZ	**Quartz Range**	**6.08**	**45**	P	Pn	07 12 17.1	-0.6
TUWZ	**Tuamarina**	**6.44**	**56**	P	Pn	07 12 25.6	+3.0
DUWZ	**D'Urville Isla**	**6.84**	**52**	P	Pn	07 12 30.0	+1.9
KHEZ	**Kahui Hut**	**7.99**	**44**	P	Pn	07 12 44.8	+0.9
NEZ	**North Egmont**	**8.05**	**44**	P	Pn	07 12 44.9	+0.2
PKE	**Pukeiti**	**8.05**	**44**	P	Pn	07 12 45.3	+0.5

IDC ***29*** *07:16:06.8±1.4,7°.10S×119°.33E,h593km±14km,mb3.0/5, mb1 3.2/9,mb1mx3.0/35,mbtmp4.0/9,Error ellipse: s-maj=69.8km s-min=11.5km az=55.0*

ISC 29 07:16:07.1±1.1,7°.1S±0°.2×119°.4E±0°.3,h600km,n10, σ1ˢ18/12,mb3.6/5,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.15**	**11**	P	**P**	**07 17 22.3**	**+0.2**
	9.0nm,0.3s,baz=218,slow=5.0,SNR=11						
BATI	**Baumata**	**5.23**	**126**	P	**P**	**07 17 41.5**	**-0.4**
	13nm,0.3s,baz=246,slow=10.0,SNR=2.6						
BATI				S	**S**	**07 18 57.0**	**-2.4**
	16nm,0.3s,baz=125,slow=23,SNR=7.2						
FITZ	**Fitzroy Crossi**	**12.49**	**151**	P	**P**	**07 18 50.1**	**-0.7**
	0.5nm,0.3s,baz=335,slow=11,SNR=35						
WRA	**Warramunga Arr**	**19.32**	**133**	P	**P**	**07 19 55.8**	**+1.0**
	0.5nm,0.3s,baz=308,slow=11,SNR=31						
WRA				S	**S**	**07 23 00.5**	**+1.4**
	0.0nm,0.3s,baz=304,slow=19,SNR=3.2						
ASAR	**Alice Springs**	**21.57**	**141**	P	**P**	**07 20 15.6**	**+0.6**
	1.5nm,0.4s,baz=315,slow=8.2,SNR=28						
STKA	**Stephens Creek**	**32.18**	**143**	P	**P**	**07 21 48.5**	**+1.1**
	1.5nm,0.3s,baz=321,slow=8.4,SNR=7.7						
SONM	**Songino Array**	**55.92**	**349**	P	**P**	**07 24 50.1**	**+0.5**
	0.6nm,0.5s,baz=169,slow=8.1,SNR=2.8						
MKAR	**Makanchi Array**	**62.98**	**332**	P	**P**	**07 25 36.1**	**-0.3**
	0.5nm,0.5s,baz=140,slow=7.2,SNR=5.5						
ZALV	**Zalesovo Beam**	**67.44**	**339**	P	**P**	**07 26 03.3**	**-0.7**
	1.1nm,0.5s,baz=146,slow=4.2,SNR=4.3						
TORD	**Torodi Ar. Bea**	**118.47**	**281**	PKP	**PKPdf**	**07 33 47.6**	**-0.9**
	0.3nm,0.8s,baz=34,slow=2.2,SNR=1.8						

GCMT 29 07:16:39.0±0.5,35°.19S±0°.02×107°.23W±0°.03,h20km±1km, MW4.8/71,Moment Tensor Solution. s12,c14; s71,c93; Duration: 0 Moment tensor: Scale 10^{16}**Nm;** M_{rr}-0.23±.12; $M_{\theta\theta}$0.13±.10; $M_{\phi\phi}$0.09±.10; $M_{r\theta}$0.30±.19; $M_{\theta\phi}$-1.77±.07; $M_{\theta r}$-0.03±.18; **Best double couple:** $M_0$1.79500×10^{16} **NP1:**ϕ_s180.00000°,δ80.00000°, λ-1.00000°. **NP2:**ϕ_s270.00000°,δ89.00000°, λ-170.00000°. **Principal axes:** T 1.9090, Plg6.0000°, Azm44.0000°; N -0.2270, Plg80.0000°, Azm275.0000°; P -1.6810, Plg8.0000°, Azm135.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Southern East Pacific Rise**

MEX ***29*** *07:30:49.5±1.1,14°.65N×92°.55W,h80km±12km,MD4.3*
GCG ***29*** *07:30:52.0±0.8,14°.60N×92°.47W,h50km±789km,MD3.9*

ISC 29 07:30:47.7±1.3,14°.52N±0°.07×92°.77W±0°.04,h57km±20km, n18,σ2ˢ85/32,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.62**	**52**	*eP*	**Pn**	**07 31 00.6**	**-0.2**
THIG				*eS*	**Sn**	**07 31 09.9**	**-0.5**
PCIG		**1.25**	**340**	*iP*	**Pn**	**07 31 10.4**	**+1.3**
PCIG				*eS*	**Sn**	**07 31 25.6**	**+0.7**
CCIG	**Comitan**	**1.85**	**19**	*eP*	**Pn**	**07 31 19.1**	**+1.7**
CCIG				*eS*	**Sn**	**07 31 39.1**	**-0.6**
FUG	**Fuego 3**	**1.87**	**92**	*eP*	**Pn**	**07 31 18.1**	**+0.6**
FUG				*eS*	**Sn**	**07 31 38.1**	**-2.0**
PCG	**Pacaya**	**2.10**	**93**	*eP*	**Pn**	**07 31 22.1**	**+1.4**
PCG				*eS*	**Sn**	**07 31 45.1**	**-0.7**
PCG				*i* S	**Sn**	**07 31 45.1**	**-0.7**
TGIG		**2.27**	**351**	*eP*	**Pn**	**07 31 22.9**	**0.0**
TGIG				*eS*	**Sn**	**07 31 49.5**	**-0.2**
NBG	**Las Nubes**	**2.35**	**88**	*eP*	**Pn**	**07 31 25.6**	**+1.5**
NBG				*eS*	**Sn**	**07 31 51.8**	**-0.2**
MRL	**Marmol**	**3.04**	**79**	*eP*	**Pn**	**07 31 34.2**	**+0.7**
CMIG	**Matias Romero**	**3.27**	**322**	*eP*	**Pn**	**07 31 38.6**	**+2.1**
CMIG				*eS*	**Sn**	**07 32 15.3**	**+1.2**
HUIG	**Huatulco**	**3.45**	**291**	*eP*	**Pn**	**07 31 40.7**	**+1.7**
HUIG				*eS*	**Sn**	**07 32 17.6**	**-1.2**
VHO	**Vista Hermosa**	**4.58**	**304**	*eP*	**Pn**	**07 31 56.5**	**+1.8**
VHO				*eS*	**Sn**	**07 32 39.3**	**-7.5**
SCIG	**Sabancuy**	**4.67

KTUT	Trabzon	1.86	273	PN	Pn	07 50 14.2	+0.8
ONI	Oni	1.92	28	P	Pg	07 50 18.0	-0.2
ONI				S	Sg	07 50 44.0	+1.0
KELT	Kelkit	2.38	252	*i* P	Pb	07 50 24.2	-0.3
KELT				*i* S	Sg	07 50 56.3	-1.5
KELT				IAML		07 51 07.0	

comp=E,15nm,0.7s

IDC ***29*** *08:00:25.9±1.4,26.°55S×67.°80E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/35, mbtmp3.9/6, Error ellipse: s-maj=46.4km s-min=28.0km az=88.0*

ISC 29 08:00:27.5±1.5, 26.°6S±0.°2×67.°8E±0.°4, h10km, n12, σ0°24/6, mb4.0/6, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**19.33**	**14**	T	T	08 25 04.5	
	baz=193,slow=76,SNR=34						
H08S2	**Diego Garcia H**	**19.33**	**14**	T	T	08 25 02.5	
	baz=193,slow=76,SNR=37						
H08S3	**Diego Garcia H**	**19.34**	**14**	T	T	08 25 05.9	
	baz=193,slow=76,SNR=40						
H01W2	**Cape Leeuwin H**	**40.38**	**113**	T	T	08 50 58.0	
	baz=268,slow=75,SNR=19						
H01W3	**Cape Leeuwin H**	**40.39**	**113**	T	T	08 50 58.2	
	baz=268,slow=75,SNR=19						
H01W1	**Cape Leeuwin H**	**40.40**	**113**	T	T	08 50 59.3	
	baz=268,slow=75,SNR=20						
MAW	**Mawson**	**41.17**	**183**	P	**P**	**08 08 11.8**	**+0.1**
	1.7nm,0.6s,baz=341,slow=12,SNR=2.4						
ASAR	**Alice Springs**	**59.31**	**103**	P	**P**	**08 10 29.9**	**-0.1**
	0.7nm,0.6s,baz=251,slow=6.3,SNR=12						
WRA	**Warramunga Arr**	**60.90**	**99**	P	**P**	**08 10 41.0**	**+0.1**
	0.6nm,0.7s,baz=247,slow=6.6,SNR=7.2						
VNDA	**Vanda**	**65.14**	**166**	P	**P**	**08 11 08.1**	**-0.1**
	1.3nm,0.9s,baz=248,slow=7.0,SNR=4.1						
MKAR	**Makanchi Array**	**74.17**	**10**	P	**P**	**08 12 03.9**	**-0.3**
	0.4nm,0.7s,baz=191,slow=3.8,SNR=3.9						
ZALV	**Zalesovo Beam**	**81.51**	**10**	P	**P**	**08 12 45.0**	**+0.3**
	1.5nm,0.8s,baz=202,slow=7.5,SNR=4.3						

IDC 29 08:11:51.8±11.0, 3.°30S×155.°81E, h0km, mb4.0/3, mb1 4.3/4, mb1mx3.7/35, mbtmp4.2/4, ML2.5/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/39, Error ellipse: s-maj=190.0km s-min=92.5km az=17.0, North of Solomon Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.52**	**234**	Pn	Pn	08 14 24.7	+0.7
	1.7nm,0.3s,baz=33,slow=9.5,SNR=7.2						
CTA	**Charters Tower**	**19.12**	**208**	LR	LR	08 23 53.4	
	comp=Z,125nm,18.7s,baz=242,slow=38						
GUMO	**Guam**	**19.98**	**327**	LR	LR	08 22 31.5	
	comp=Z,13nm,22.0s,baz=138,slow=32						
WRA	**Warramunga Arr**	**26.69**	**230**	P	P	08 17 32.9	0.0
	3.0nm,0.6s,baz=56,slow=9.9,SNR=44						
ASAR	**Alice Springs**	**29.30**	**224**	P	P	08 17 55.5	-0.6
	1.8nm,1.2s,baz=59,slow=9.0,SNR=6.0						
STKA	**Stephens Creek**	**31.42**	**204**	P	P	08 18 15.3	+0.5
	0.5nm,0.3s,baz=26,slow=11,SNR=3.7						

IDC 29 08:21:14.1±402.0, 51.°08N×46.°65E, h0km, Error ellipse: s-maj=150.9km s-min=124.9km az=110.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**7.25**	**91**	*i*		09 04 20.0	
	baz=280,slow=326,SNR=9.9						
I43RU	**DUBNA INFRASON**	**7.94**	**319**	*i*		09 11 10.0	
	baz=132,slow=328,SNR=1.9						
I46RU	**ZALESOVO INFRA**	**23.21**	**68**	*i*		10 45 40.0	
	baz=279,slow=319,SNR=0.6						
I45RU	**USSURIYSK INFR**	**54.83**	**61**	*i*		13 53 40.0	
	baz=309,slow=315,SNR=2.9						

NNC ***29*** *08:26:45.1±3.3, 53.°67N×88.°24E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=27.0km s-min=13.6km az=56.0, Suspected Mining explosion.*

IDC ***29*** *08:26:45.8±2.7, 53.°70N×88.°14E, h0km, mb1 3.5/2, mb1mx3.2/51, mbtmp3.5/2, ML3.2/2, Error ellipse: s-maj=23.2km s-min=16.4km az=59.0*

ISC 29 08:26:46.0±3.8, 53.°7N±0.°1×88.°1E±0.°2, h0km, n8, σ1§49/13, 6C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.97**	**278**	*i*		08 40 10.0	
	baz=94,slow=348,SNR=2.3						
ZAA0	**Zalesovo Array**	**1.97**	**278**	⇑Pn	**Pn**	**08 27 20.0**	**-0.5**
	2.3nm,0.5s						
ZAA0				⇑Sn	**Sb**	**08 27 48.3**	**+0.6**
	4.8nm,0.5s						
ZALV	**Zalesovo Beam**	**1.97**	**278**	**Pn**	**Pn**	**08 27 20.6**	**0.0**
	6.9nm,0.3s,baz=95,slow=14,SNR=22						
ZALV				Lg	Lg	08 27 48.1	
	11nm,0.3s,baz=96,slow=24,SNR=13						
KURBB	**Kurchatov Arra**	**6.67**	**246**	Pn	**Pn**	**08 28 25.6**	**+0.5**
	0.6nm,0.3s,baz=62,slow=14,SNR=12						
KURBB				Sn	**Sn**	**08 29 41.3**	**-0.4**
	0.1nm,0.3s,baz=60,slow=28,SNR=1.3						
KURBB				Lg	Lg	08 30 16.9	
	0.1nm,0.3s,baz=58,slow=30,SNR=7.2						
KURBB	**Kurchatov Arra**	**6.67**	**246**	⇑Pn	**Pn**	**08 28 24.2**	**-0.9**
	3.7nm,0.5s						
KURBB				⇓Sn	**Sn**	**08 29 43.0**	**+1.3**
	7.1nm,0.6s						
KURBB				⇓Lg	Lg	08 30 19.7	
	14nm,0.7s						
MK31	**Makanchi Array**	**7.88**	**211**	⇓Pn	**Pn**	**08 28 42.7**	**+0.9**
	0.4nm,0.5s,baz=31,slow=14,SNR=8.9						
MK31				⇑Sn	**Sn**	**08 30 13.3**	**+1.7**
	1.2nm,0.7s,baz=37,slow=28,SNR=5.7						
MK31				⇑Lg	Lg	08 30 53.0	
	2.1nm,0.7s,baz=25,slow=34						
MKAR	**Makanchi Array**	**7.88**	**211**	Pn	**Pn**	**08 28 42.4**	**+0.6**
	0.3nm,0.3s,baz=32,slow=14,SNR=11						
MKAR				Sn	**Sn**	**08 30 10.2**	**-1.4**
	0.3nm,0.3s,baz=27,slow=29,SNR=4.1						
MKAR				Lg	Lg	08 30 54.3	
	0.2nm,0.3s,baz=27,slow=32,SNR=2.7						
MAKZ	**Makanchi**	**7.96**	**212**	⇑Pn	**Pn**	**08 28 43.6**	**+0.6**
	1.0nm,0.7s						
MAKZ				⇓Sn	**Sn**	**08 30 10.2**	**-3.5**
	2.9nm,1.1s						
MAKZ				⇓Lg	Lg	08 30 54.7	
	1.6nm,0.8s						

NNC 29 08:31:54.9±2.7, 53.°63N×88.°16E, h0km, mb3.5, mpv3.2, 7C-4D, Error ellipse: s-maj=22.0km s-min=10.8km az=59.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**2.01**	**281**	⇓Pn	Pn	08 32 29.3	-0.7
	3.2nm,0.7s						
ZAA0				⇑Sn	Sb	08 32 57.2	-0.5
	12nm,0.5s						
KURBB	**Kurchatov Arra**	**6.65**	**247**	⇓Pn	Pn	08 33 33.1	-0.7
	4.3nm,0.4s						
KURBB				⇑Sn	Sn	08 34 48.5	-1.7
	13nm,0.7s						
KURBB				⇓Lg	Lg	08 35 27.2	
	15nm,0.8s						
MK31	**Makanchi Array**	**7.80**	**211**	⇑Pn	Pn	08 33 51.5	+1.8
	0.5nm,0.5s,baz=28,slow=12,SNR=14						
MK31				⇑Sn	Sn	08 35 21.5	+2.8
	1.3nm,0.7s,baz=31,slow=26,SNR=4.2						
MK31				⇑Lg	Lg	08 36 01.8	
	2.0nm,0.7s,baz=37,slow=30,SNR=4.5						
MAKZ	**Makanchi**	**7.89**	**213**	⇑Pn	Pn	08 33 51.9	+1.1
	1.0nm,0.9s						
MAKZ				⇓Sn	Sn	08 35 21.5	+0.7
	1.4nm,0.7s						
MAKZ				⇑Lg	Lg	08 36 05.0	
	4.7nm,0.9s						

TRN ***29*** *08:45:12.0, 13.°79N×58.°39W, h57km, MD3.8*

ISC 29 08:45:11.4±2.8, 13.°86N±0.°07×58.°5W±0.°2, h10km, n18, σ1§19/31, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.23**	**232**	*e*P	**Pg**	**08 45 34.4**	**-0.6**
BBSP				*e*S	**Sg**	**08 45 51.2**	**+0.4**
BBGH	**Gun Hill**	**1.28**	**236**	*e*P	**Pb**	**08 45 35.2**	**-0.4**
BBGH				*e*S	**Sb**	**08 45 52.1**	**-0.1**
MPOM	**Morne Pois Mar**	**2.39**	**284**	*e*P	**Pn**	**08 45 51.3**	**+0.6**
MPOM				*e*S	**Sn**	**08 46 20.2**	**+0.1**
MCLT	**Moule a Chique**	**2.41**	**267**	*e*P	**Pn**	**08 45 52.7**	**+1.8**
MCLT				*e*S	**Sn**	**08 46 20.0**	**-0.6**
SLBI	**Saint Lucia, B**	**2.44**	**274**	*e*P	**Pn**	**08 45 51.5**	**+0.1**
SLBI				*e*S	**Sn**	**08 46 20.9**	**-0.4**
SLCP	**Castries, St.**	**2.46**	**274**	*e*P	**Pn**	**08 45 52.5**	**+0.9**
SLCP				*e*S	**Sn**	**08 46 21.1**	**-0.6**
ILAM	**Ilet Lapin Mar**	**2.50**	**292**	*e*P	**Pn**	**08 45 53.0**	**+0.7**
ILAM				*e*S	**Sn**	**08 46 22.9**	**0.0**
BIM	**Bigot**	**2.61**	**285**	*e*P	**Pn**	**08 45 54.4**	**+0.7**
BIM				*e*S	**Sn**	**08 46 22.9**	**-2.7**
SSV	**Crater Summit**	**2.71**	**259**	*e*S	**Sn**	**08 46 28.2**	**+0.2**
SVB	**Belmont**	**2.77**	**258**	*e*P	**Pn**	**08 45 57.2**	**+1.3**
SVB				*e*S	**Sn**	**08 46 28.2**	**-1.3**
DSLB	**Salisbury**	**3.26**	**299**	*e*P	**Pn**	**08 46 04.7**	**+2.0**
DSLB				*e*S	**Sn**	**08 46 42.5**	**+0.9**
MAGL	**Barre de l'ile**	**3.42**	**308**	*e*P	**Pn**	**08 46 06.5**	**+1.6**
MAGL				*e*S	**Sn**	**08 46 44.7**	**-0.9**
TDBA	**Terre de Bas,**	**3.65**	**303**	*e*P	**Pn**	**08 46 09.8**	**+1.8**
TDBA				*e*S	**Sn**	**08 46 51.3**	**+0.2**
CBE	**Ff, Capester**	**3.75**	**306**	*e*P	**Pn**	**08 46 10.6**	**+1.3**
CBE				*e*S	**Sn**	**08 46 54.0**	**+0.4**
ANBD	**Bethesda, Anti**	**4.49**	**315**	*e*P	**Pn**	**08 46 19.9**	**+0.4**
ANBD	**Bethesda, Anti**	**4.49**	**315**	*e*S	**Sn**	**08 47 12.4**	**+0.5**
ANWB	**Willy Bob**	**4.95**	**320**	*e*P	**Pn**	**08 46 26.0**	**+0.1**
ANWB	**Willy Bob**	**4.95**	**320**	*e*S	**Sn**	**08 47 20.3**	**-3.0**

IDC ***29*** *08:46:49.0±0.5, 40.°27N×143.°79E, h0km, mb4.7/28, mb1 4.8/37, mb1mx4.7/52, mbtmp4.7/37, ML3.9/8, MS4.6/40, Ms1 4.6/40, ms1mx4.5/51, Error ellipse: s-maj=13.2km s-min=10.6km az=116.0*

JMA ***29*** *08:46:49.3±0.4, 40.°30N×143.°72E, h9km±5km, M5.2*

JMA Felt I J1.

NIED ***29*** *08:46:49.4, 40.°30N×143.°72E, h9km, MW5.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr2.96; Mθθ1.83; Mϕϕ-4.79; Mrθ4.15; Mθϕ-1.56; Mϕr3.69; Fault plane solution: M0 7.11000×10^16 NP1:φs43.00000°, δ76.00000°, λ117.00000°. NP2:φs159.00000°, δ30.00000°, λ30.00000°.*

MOS ***29*** *08:46:49.1±0.9, 40.°33N×143.°70E, h13km, mb5.4/90, MS4.9/18 Error ellipse: s-maj=5.2km s-min=3.7km az=106.6*

BJI ***29*** *08:46:50.1±0.0, 40.°34N×143.°62E, h15km, mB5.5/57, mb5.2/74, Ms5.3/78, Ms7 5.1/72*

NEIC ***29*** *08:46:50.6±1.2, 40.°31N±0.°06×143.°68E±0.°09, h10km±1km, mb5.1/258, Mwr5.2/24, Error ellipse: s-maj=12.8km s-min=8.8km az=113.0*

NEIC ***29*** *08:46:52.1, 40.°30N×143.°70E, h10km, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr2.86; Mθθ-1.36; Mϕϕ-1.49; Mrθ1.85; Mθϕ-1.42; Mϕr6.00; Fault plane solution: M0 6.90000×10^16 NP1:φs239.07000°, δ14.54000°, λ128.05000°. NP2:φs20.12000°, δ78.60000°, λ80.92000°. Principal axes: T 7.1290, Plg56.0000°, Azm279.0000°; N -0.4791, Plg9.0000°, Azm22.0000°; P -6.6499, Plg33.0000°, Azm118.0000°;*

GCMT ***29*** *08:46:54.6±0.2, 40.°29N±0.°01×143.°83E±0.°02, h16km, MW5.2/134, Moment Tensor Solution. s73,c104; s134,c210; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.43±.17; Mθθ-0.73±.10; Mϕϕ-3.70±.12; Mrθ4.01±.38; Mθϕ-1.38±.06; Mϕr6.65±.48; Best double couple: M0 8.89200×10^16 NP1:φs194.00000°, δ15.00000°, λ75.00000°. NP2:φs30.00000°, δ76.00000°, λ94.00000°. Principal axes: T 9.0300, Plg59.0000°, Azm305.0000°; N -0.2750, Plg4.0000°, Azm209.0000°; P -8.7550, Plg30.0000°, Azm117.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 08:46:49.7±0.6, 40.°30N±0.°03×143.°80E±0.°03, h9km±3km, h9km: pP-P, n874, σ1§50/931, mb5.1/257, MS5.0/76, 154C-44D, Fault plane solution: NP1:φs139.54318°, δ42.76626°, λ40.68951°. NP2:φs17.28235°, δ63.72458°, λ125.04281°. Principal axes: T Plg56.3187°, Azm334.3465°; N Plg30.9882°, Azm180.0346°; P Plg11.8928°, Azm82.7681°; **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.52**	**257**	⇑P	**Pn**	**08 47 16.0**	**-1.1**
JKEN	**Kujiedanarisaw**	**1.60**	**267**	⇑P	**Pn**	**08 47 16.8**	**-1.3**
MIYJ	**Miyakonagasawa**	**1.68**	**245**	⇑P	**Pn**	**08 47 18.4**	**-0.8**
JANG	**Nango**	**1.75**	**273**	⇑P	**Pn**	**08 47 19.4**	**-0.7**
JANG				*e*S	**Sn**	**08 47 41.0**	**-1.5**
ERM	**Erimo**	**1.78**	**345**	*c i*P	**Pn**	**08 47 20.8**	**+0.1**
ERM				pmax	pmax		
	comp=Z,629nm,1.0s						
ERM	**Erimo**	**1.78**	**345**		**Pn**	**08 47 20.6**	**0.0**
JEM	**Erimo**	**1.79**	**345**	P	**Pn**	**08 47 20.7**	**0.0**
JEM	**Erimo**	**1.79**	**345**		**Pn**	**08 47 20.7**	**0.0**
JOM	**Ohasama**	**2.09**	**248**	⇑P	**Pn**	**08 47 25.0**	**+0.1**
JNBK	**Urakawa-nobuka**	**2.13**	**339**	P	**Pn**	**08 47 25.6**	**+0.1**
JNBK				*e*S	**Sb**	**08 47 53.7**	**-1.4**
JTM	**Tenmabayashi**	**2.13**	**284**	⇑P	**Pn**	**08 47 25.5**	**0.0**
JTM	**Tenmabayashi**	**2.13**	**284**	Pn	**Pn**	**08 47 25.7**	**+0.2**
JKMT	**Kesennumamotoy**	**2.33**	**231**	P	**Pn**	**08 47 27.7**	**-0.4**
JCH	**Churui**	**2.34**	**352**	⇑P	**Pn**	**08 47 28.1**	**-0.2**
JCH				*e*S	**Sn**	**08 47 56.1**	**-1.1**
JOT	**Ohata**	**2.35**	**298**	⇑P	**Pn**	**08 47 28.4**	**0.0**
JMK	**Ichinoseki**	**2.40**	**237**	⇑P	**Pn**	**08 47 29.1**	**0.0**
JAH	**Hinai**	**2.42**	**268**	⇑P	**Pn**	**08 47 29.9**	**+0.5**
JKB	**Kayabe**	**2.62**	**308**	P	**Pn**	**08 47 32.5**	**+0.3**
JIO	**Ouri**	**2.64**	**227**	⇑P	**Pn**	**08 47 31.6**	**-0.8**
JAK	**Akkeshi**	**2.78**	**14**	P	**Pn**	**08 47 34.1**	**-0.3**
JAK				*e*S	**Sn**	**08 48 06.2**	**-1.9**
JYW	**Yuwa**	**2.86**	**256**	⇑P	**Pn**	**08 47 36.4**	**+1.0**
JYK	**Kaneyama**	**2.99**	**244**	⇑P	**Pn**	**08 47 37.6**	**+0.3**
JYK				*e*S	**Sn**	**08 48 13.6**	**+0.4**
JAR	**Ashorobuto**	**3.00**	**360**	⇑P	**Pn**	**08 47 36.7**	**-0.7**
JAR				*e*S	**Sn**	**08 48 10.7**	**-2.8**
JFR	**Furan**	**3.00**	**343**	P	**Pn**	**08 47 38.0**	**+0.5**
JFR				*e*S	**Sn**	**08 48 12.8**	**-0.8**
JEW	**Eniwo**	**3.09**	**326**	⇑P	**Pn**	**08 47 39.8**	**+1.1**
JEW				S	**Sn**	**08 48 16.4**	**+0.7**
JEW	**Eniwo**	**3.09**	**326**		**Pn**	**08 47 39.6**	**+1.0**
JOMM	**Oshimamatsumae**	**3.12**	**294**	P	**Pn**	**08 47 40.8**	**+1.7**
JMM	**Marumori**	**3.37**	**225**		**Pn**	**08 47 41.5**	**-1.0**
NMR	**Nemuro--Hokkai**	**3.39**	**25**	⇓*i*P	**Pn**	**08 47 42.0**	**-0.8**
NMR				*i* S	**Sn**	**08 48 19.4**	**-3.8**
JYS	**Shirataka**	**3.56**	**236**	⇑P	**Pn**	**08 47 45.5**	**+0.4**
JKA	**Kamikawa-asahi**	**3.92**	**347**	Pn	**Pn**	**08 47 50.5**	**+0.5**
ASAJ	**Asahikawa**	**3.92**	**347**	Pn	**Pn**	**08 47 51.3**	**+1.2**
	comp=Z,7.9nm,0.3s,baz=204,slow=8.8,SNR=42						
ASAJ				Sn	**Sn**	**08 48 38.0**	**+1.8**
	comp=Z,29nm,0.3s,baz=195,slow=20,SNR=5.5						
ASAJ				LR	LR	08 49 49.5	
	comp=Z,4μm,21.0s,baz=184,slow=46						
RUSJ	**Misakicho**	**3.96**	**15**	⇓*i*P	**Pn**	**08 47 51.9**	**+1.4**
RUSJ				*i* S	**Sn**	**08 48 36.0**	**-1.0**
GRPR	**Tuman**	**3.98**	**21**	*d i*P	**Pn**	**08 47 50.2**	**-0.6**
GRPR				*i* S	**Sn**	**08 48 32.3**	**-5.2**
GRPR				pmax	pmax		
	comp=Z,508nm,0.5s						
GRPR				pmax	pmax		
	comp=E,72nm,0.2s						
GRPR				pmax	pmax		
	comp=N,252nm,0.4s						
GRPR				smax	smax		
	comp=E,1μm,0.3s						
GRPR				smax	smax		
	comp=N,3μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**4.04**	**22**	*e*P	**Pn**	**08 47 51.7**	**0.0**
YUK				*e*S	**Sn**	**08 48 36.3**	**-2.8**
YUK				pmax	pmax		
	comp=Z,805nm,0.3s						
YUK				pmax	pmax		
	comp=N,117nm,0.1s						
YUK				pmax	pmax		
	comp=E,117nm,0.1s						
YUK				smax	smax		
	comp=N,1μm,0.6s						
YUK				smax	smax		
	comp=E,4μm,0.6s						
YUK				MLR	MLR		
	comp=N,7μm,14.0s						
YUK				MLR	MLR		
	comp=Z,7μm,17.0s						
YUK				MLR	MLR		
	comp=E,8μm,10.0s						
JSD	**Sado**	**4.86**	**244**	Pn	Pn	08 47 56.1	-6.8
JYT	**Yasato**	**4.95**	**216**	Pn	**Pn**	**08 48 03.4**	**-0.8**
JAG	**Ashikaga**	**5.15**	**223**	P	**Pn**	**08 48 06.8**	**-0.2**
MJAR	**Matsushiro Arr**	**5.77**	**231**	Pn	**Pn**	**08 48 16.1**	**+0.6**
	comp=E,1.2nm,0.3s,baz=39,slow=11,SNR=105						
MJAR				Sn	**Sn**	**08 49 23.4**	**+1.7**
	baz=89,slow=20,SNR=2.3						
MJAR	**Matsushiro Arr**	**5.77**	**231**	Pn	**Pn**	**08 48 15.8**	**+0.4**
MAJO	**Matsushiro**	**5.77**	**231**	*c i*P	**Pn**	**08 48 16.5**	**+1.0**
MAJO	**Matsushiro**	**5.77**	**231**		**Pn**	**08 48 15.8**	**+0.3**
MAT	**Matsushiro**	**5.77**	**231**	P	**Pn**	**08 48 16.5**	**+1.0**
MAT				*e*S	**Sn**	**08 49 25.1**	**+3.3**
MAT	**Matsushiro**	**5.77**	**231**	P	**Pn**	**08 48 16.3**	**+0.8**
KUR	**Kuril'sk**	**5.77**	**30**	*e*P	**Pn**	**08 48 15.5**	**0.0**
KUR				*e*S	**Sn**	**08 49 18.2**	**-3.6**
KUR				pmax	pmax		
	comp=Z,500nm,0.5s						
KUR				pmax	pmax		
	comp=E,2μm,3.0s						
KUR				smax	smax		
	comp=N,5μm,5.7s						
KUR				smax	smax		
	comp=E,5μm,8.1s						
KUR				smax	smax		
	comp=E,710nm,0.6s						
KUR				smax	smax		
	comp=N,453nm,0.7s						
KUR				MLR	MLR		
	comp=Z,5μm,11.0s						
YSS	**Yuzh-Sakhalins**	**6.70**	**354**	*e*P	**Pn**	**08 48 29.8**	**+1.6**
YSS				*e*S	**Sn**	**08 49 43.5**	**-1.1**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS				pmax	pmax		
	comp=Z,800nm,6.0s						
YSS				smax	smax		
	comp=N,110nm,1.0s						
YSS				smax	smax		
	comp=E,130nm,0.6s						
YSS				MLR	MLR		
	comp=Z,8μm,15.0s						
YSS				MLR	MLR		
	comp=N,8μm,12.0s						
YSS				MLR	MLR		
	comp=E,12μm,15.0s						
YSS	**Yuzh-Sakhalins**	**6.70**	**354**	Pn	**Pn**	**08 48 29.2**	**+1.0**
JGF	**Kuroka**	**6.92**	**229**		**Pn**	**08 48 30.9**	**-0.3**
TEY	**Ternei**	**7.11**	**314**	⇓*e*P	**Pn**	**08 48 34.8**	**+1.0**
TEY				pmax	pmax		
	comp=N,40nm,1.1s						
TEY				pmax	pmax		
	comp=E,60nm,1.1s						
TEY				pmax	pmax		
	comp=Z,70nm,1.1s						
TEY				MLR	MLR		
	comp=N,300nm,13.0s						
TEY				MLR	MLR		
	comp=E,300nm,13.0s						
TEY				MLR	MLR		
	comp=Z,300nm,12.0s						
INU	**Inuyama**	**7.29**	**230**		**Pn**	**08 48 36.6**	**+0.2**
JHJ	**Hachijo jima 2**	**7.85**	**205**	Pn	**Pn**	**08 48 43.2**	**-0.8**
	comp=Z,33nm,0.3s,baz=327,slow=23,SNR=7.6						
JHJ				Sn	**Sn**	**08 50 04.9**	**-8.2**
	comp=Z,35nm,0.3s,baz=250,slow=22,SNR=8.0						
JHJ				LR	LR	08 51 26.1	
	comp=Z,2μm,20.9s,baz=49,slow=35						
JWT	**Wachi**	**8.32**	**236**	Pn	**Pn**	**08 48 50.0**	**-0.4**
VLA	**Vladivostok**	**9.34**	**291**	*e*P	**Pn**	**08 49 05.6**	**+1.1**
USRK	**Ussuriysk Ar.**	**9.58**	**298**	Pn	**Pn**	**08 49 10.2**	**+2.5**
	baz=101,slow=12,SNR=117						
USRK				LR	LR	08 52 52.1	
	comp=Z,5μm,18.6s,baz=83,slow=38						
USRK	**Ussuriysk Ar.**	**9.58**	**298**	Pn	**Pn**	**08 49 07.6**	**-0.1**
USA0B	**Ussuriysk Arra**	**9.58**	**298**	*c i*P	**Pn**	**08 49 09.6**	**+1.8**
USA0B	**Ussuriysk Arra**	**9.58**	**298**		**Pn**	**08 49 06.6**	**-1.2**
MSHR	**Mys Shultsa**	**9.76**	**288**	⇓*i*P	**Pn**	**08 49 11.2**	**+1.0**
JHS	**Saijyo**	**9.98**	**241**	Pn	**Pn**	**08 49 13.3**	**+0.1**
TYV	**Tymovskoe**	**10.60**	**356**	*e*P	**Pn**	**08 49 21.3**	**-0.3**
TYV				*e*S	**Sn**	**08 51 21.6**	**+1.2**
TYV				pmax	pmax		
	comp=Z,31nm,1.1s						
TYV				pmax	pmax		
	comp=Z,500nm,3.4s						
TYV				smax	smax		
	comp=N,15nm,1.2s						
TYV				smax	smax		
	comp=E,23nm,1.2s						
TYV				smax	smax		
	comp=N,600nm,3.7s						
TYV				smax	smax		
	comp=E,900nm,3.7s						
TYV				MLR	MLR		
	comp=N,6μm,15.0s						
TYV				MLR	MLR		
	comp=Z,10μm,15.0s						
MDJ	**Mudanjiang**	**11.34**	**297**	P	**Pn**	**08 49 33.5**	**+1.6**
MDJ				S	**Sn**	**08 51 38.5**	**-0.2**
MDJ				SS	**SnSn**	**08 51 52.5**	**+2.1**
MDJ				pmax	pmax		
	comp=Z,180nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,2μm,7.1s						
MDJ				LR	LR		
	comp=Z,6μm,15.2s						
MDJ				LR	LR		
	comp=Z,11μm,13.7s						
MDJ				LR	LR		
	comp=Z,17μm,14.5s						
MDJ	**Mudanjiang**	**11.34**	**297**	Pn	**Pn**	**08 49 32.9**	**+1.0**
GRNR	**Gornyy**	**11.67**	**336**	⇑*i*P	**Pn**	**08 49 37.0**	**+0.6**
GRNR				*e*S	**Sn**	**08 51 50.4**	**+3.7**
GRNR				pmax	pmax		
	comp=N,30nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,30nm,0.9s						
GRNR				smax	smax		
	comp=N,9.0nm,0.5s						
GRNR				MLR	MLR		
	comp=E,4μm,13.0s						
GRNR				MLR	MLR		
	comp=N,2μm,12.0s						
GRNR				MLR	MLR		
	comp=Z,4μm,14.0s						
KLR	**Kul'dur**	**12.36**	**320**	Pn	**Pn**	**08 49 47.2**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=126,slow=13,SNR=59						
KLR				LR	LR	08 55 04.3	
	comp=Z,2μm,18.9s,baz=130,slow=40

comp=Z,3μm,15.0s
CN2 Changchun 14.07 290 *e*P **Pn** **08 50 10.0 +0.8**
CN2 pmax pmax
comp=Z,40nm,1.1s
CN2 pmax pmax
comp=Z,1μm,10.0s
CN2 LR LR
comp=Z,5μm,12.0s
CN2 LR LR
comp=Z,4μm,12.0s
CN2 LR LR
comp=Z,5μm,13.0s
SNY Shenyang 15.33 282 ⇓P **Pn** **08 50 26.5 +0.4**
SNY pmax pmax
comp=Z,47nm,1.2s
SNY pmax pmax
comp=Z,2μm,11.0s
SNY LR LR
comp=Z,3μm,13.7s
SNY LR LR
comp=Z,5μm,14.5s
SNY LR LR
comp=Z,7μm,14.6s
PETK Petropavlovsk- 15.94 32 Pn **Pn** **08 50 35.6 +1.6**
comp=Z,0.3nm,0.3s,baz=217,slow=17,SNR=4.5
PETK LR LR 08 56 29.1
comp=Z,2μm,19.2s,baz=217,slow=36
PETK Petropavlovsk- 15.94 32 **Pn** **08 50 34.9 +0.9**
PET Petropavlovsk 16.27 34 *e*P **P** **08 50 44.9 +3.6**
PET *e*S **Sn** **08 53 45.2 +6.5**
PET MLR MLR
comp=Z,3μm,16.0s
PET MLR MLR
comp=Z,4μm,15.0s
DL2 Dalian 17.14 273 P **P** **08 50 49.8 -1.2**
DL2 S **Sn** **08 53 57.5 -2.5**
DL2 pmax pmax
comp=Z,110nm,1.5s
DL2 pmax pmax
comp=Z,1μm,3.7s
DL2 LR LR
comp=Z,2μm,12.6s
DL2 LR LR
comp=Z,3μm,12.0s
DL2 LR LR
comp=Z,2μm,12.0s
ZEA Zeya 17.49 326 *e*P **Pn** **08 50 51.8 -1.9**
ZEA pmax pmax
comp=E,40nm,0.9s
ZEA pmax pmax
comp=N,60nm,1.0s
ZEA pmax pmax
comp=Z,80nm,1.1s
ZEA pmax pmax
comp=N,200nm,7.6s
ZEA pmax pmax
comp=Z,200nm,4.9s
ZEA MLR MLR
comp=E,3μm,13.0s
ZEA MLR MLR
comp=N,2μm,15.0s
ZEA MLR MLR
comp=Z,3μm,14.0s
HIA Hailar 19.22 306 P **P** **08 51 12.5 -1.4**
HIA pmax pmax
comp=Z,56nm,1.1s
HIA Hailar 19.22 306 P **P** **08 51 12.5 -1.4**
MA2 Magadan 19.80 11 P **Pn** **08 51 21.8 +0.2**
comp=Z,0.8nm,0.3s,baz=193,slow=11,SNR=5.2
MA2 Magadan 19.80 11 P **P** **08 51 19.4 -0.7**
BJI Beijing 21.08 278 P **P** **08 51 31.3 -2.9**
BJI pP **pwP** **08 51 40.5 +0.9**
BJI S **S** **08 55 28.0 -0.8**
BJI pmax pmax
comp=Z,47nm,1.7s
BJI pmax pmax
comp=Z,480nm,5.7s
BJT Baijiatuan 21.09 278 P **P** **08 51 32.4 -1.9**
BJT pmax pmax
comp=Z,59nm,1.0s
BJT Baijiatuan 21.09 278 P **P** **08 51 32.4 -1.9**
BJT IAmb IAmb 08 51 56.1
comp=Z,59nm,1.0s
TIA Tai'an 21.31 268 ⇓P **P** **08 51 34.8 -1.9**
TIA S **S** **08 55 24.5 -8.9**
TIA pmax pmax
comp=Z,44nm,1.3s
TIA pmax pmax
comp=Z,610nm,11.3s
TIA LR LR
comp=Z,4μm,13.2s
TIA LR LR
comp=Z,4μm,15.2s
TIA LR LR
comp=Z,6μm,14.2s
NJ2 Nanjing 21.70 256 *e*P **P** **08 51 39.3 -1.6**
NJ2 pmax pmax
comp=Z,28nm,0.8s
NJ2 LR LR
comp=Z,4μm,16.1s
NJ2 LR LR
comp=Z,4μm,16.6s
NJ2 LR LR
comp=Z,5μm,17.5s
SEY Seymchan 23.25 10 P **P** **08 51 56.8 -0.2**
comp=Z,21nm,0.7s,baz=187,slow=8.0,SNR=44
YAK Yakutsk 23.39 343 P **P** **08 51 58.8 +0.4**
comp=Z,22nm,0.4s,baz=352,slow=2.4,SNR=17
YAK LR LR 09 01 52.3
comp=Z,1μm,19.7s,baz=108,slow=39
YAK Yakutsk 23.39 343 *e*P **P** **08 51 56.0 -2.4**
YAK *e**PP **pwP** **08 52 02.6 -2.0**
YAK *e*PPP PPP 08 52 27.8
YAK *e* 08 55 45.3
YAK *e*S **S** **08 56 07.0 -4.4**
YAK *e**SS **sS** **08 56 12.8 -1.4**
YAK *e* 09 03 10.9
YAK pmax pmax
comp=Z,82nm,0.8s
YAK pmax pmax
comp=E,8.0nm,0.9s
YAK pmax pmax
comp=N,21nm,0.9s
YAK pmax pmax
comp=Z,67nm,1.1s
YAK pmax pmax
comp=E,41nm,1.5s
YAK pmax pmax
comp=N,55nm,1.3s
YAK smax smax
comp=E,665nm,2.9s
YAK smax smax
comp=N,486nm,2.7s
YAK MLR MLR
comp=Z,3μm,14.0s
YAK MLR MLR
comp=N,2μm,15.0s
YAK MLR MLR
comp=E,823nm,17.0s
YAK Yakutsk 23.39 343 P **P** **08 51 56.5 -1.9**
CIT Chita 23.82 310 *e*P **P** **08 52 01.3 -1.6**
CIT *e* 08 52 10.6
CIT *e* 08 52 38.5
CIT *e* 08 52 46.3
CIT *e* 08 56 14.8
CIT pmax pmax
comp=Z,402nm,1.7s
HHC Hu-ho-hao-te 24.42 282 ⇓*i*P **P** **08 52 07.0 -1.6**
HHC pP pwP 08 52 16.5 +2.4
HHC sP sP 08 52 20.5 +9.4
HHC PP **PnPn** **08 52 43.0 +4.1**
HHC S **S** **08 56 22.0 -6.5**
HHC sS sS 08 56 37.3 +5.8
HHC pmax pmax
comp=Z,600nm,6.0s
HHC LR LR
comp=Z,2μm,14.2s
HHC LR LR
comp=Z,3μm,14.5s
HHC LR LR
comp=Z,5μm,14.6s
BTO Baotou 25.62 282 *e*P **P** **08 52 18.8 -0.6**
BTO PP **PnPn** **08 52 59.0 +3.8**
BTO S **S** **08 56 42.8 -4.9**
BTO LR LR
comp=Z,8μm,11.8s
BTO LR LR
comp=Z,11μm,15.3s
WHN Wuhan 25.79 257 ⇓P **P** **08 52 21.5 +0.5**
WHN S **S** **08 56 55.5 +5.2**
WHN pmax pmax
comp=Z,250nm,1.2s
WHN LR LR
comp=Z,16μm,17.1s
WHN LR LR
comp=Z,9μm,15.4s
WHN LR LR
comp=Z,11μm,18.5s
BOD Bodaibo 25.92 323 *e*P **P** **08 52 22.4 +0.5**
BOD pmax pmax
comp=Z,192nm,1.0s
QZH Quanzhou 26.05 242 ⇑*i*P **P** **08 52 25.0 +1.7**
QZH S **S** **08 56 57.8 +3.3**
QZH LR LR
comp=Z,2μm,14.3s
QZH LR LR
comp=Z,3μm,17.3s
QZH LR LR
comp=Z,2μm,12.3s
GUMO Guam 26.62 178 LR LR 09 03 25.6
comp=Z,637nm,19.3s,baz=4.0,slow=38
ULN Ulaanbaatar 27.26 298*c i*P **P** **08 52 34.7 +0.4**
ULN pmax pmax
comp=Z,92nm,2.5s
ULN Ulaanbaatar 27.26 298 P **P** **08 52 34.4 +0.1**
ULN IAmb IAmb 08 52 48.1
comp=Z,52nm,1.2s
ULN Ulaanbaatar 27.26 298 P **P** **08 52 32.2 -2.1**
comp=Z,7μmcomp=Z,4μmcomp=Z,152nm,1.5s
SONM Songino Array 27.70 298 P **P** **08 52 39.0 +0.8**
comp=Z,14nm,0.9s,baz=96,slow=8.4,SNR=48
SONM LR LR 09 03 57.5
comp=Z,2μm,20.0s,baz=88,slow=37
SONM Songino Array 27.70 298 P **P** **08 52 38.1 -0.1**
SONM IAmb IAmb 08 52 51.5
comp=Z,57nm,1.4s
XAN Xi'an 28.36 268 P **P** **08 52 44.5 +0.4**
XAN pP pwP 08 52 53.0 +3.4
XAN PP **PnPn** **08 53 29.5 -3.2**
XAN pmax pmax
comp=Z,37nm,1.8s
XAN pmax pmax
comp=Z,680nm,6.3s
XAN LR LR
comp=Z,2μm,15.7s
XAN LR LR
comp=Z,3μm,15.7s
XAN LR LR
comp=Z,3μm,13.2s
H11N2 WAKE ISLAND Hy 28.49 129 T T 09 22 36.0
baz=323,slow=74,SNR=164
H11N1 WAKE ISLAND Hy 28.50 129 T T 09 22 43.4
baz=323
H11N3 WAKE ISLAND Hy 28.51 129 T T 09 22 37.2
baz=323,slow=74,SNR=173
H11S1 WAKE ISLAND Hy 29.33 131 T T 09 23 47.8
baz=328
H11S3 WAKE ISLAND Hy 29.33 131 T T 09 23 44.0
baz=328
H11S2 WAKE ISLAND Hy 29.35 131 T T 09 23 42.8
baz=328
IRK Irkutsk 29.45 307 *e*P **P** **08 52 51.6 -2.0**
IRK pmax pmax
comp=Z,123nm,1.6s
ENH Enshi 29.58 261 P **P** **08 52 54.5 -0.5**
ZAK Zakamensk 29.87 303 *e*P **P** **08 52 57.1 -0.4**
ZAK pmax pmax
comp=Z,23nm,1.3s
BILL Bilibino 30.38 17 *i*P **P** **08 53 01.0 -0.6**
BILL *i* 08 53 11.0
BILL *i* 08 53 58.0
BILL pmax pmax
comp=Z,33nm,1.2s
BILL MLR MLR
comp=Z,995nm,15.0s
MOY Mondy 31.40 306 *e*P **P** **08 53 11.6 +0.6**
MOY pmax pmax
comp=Z,90nm,3.2s
LZH Lanzhou 31.49 275 ⇓P **P** **08 53 13.5 +1.5**
LZH pP pwP 08 53 22.5 +5.0
LZH sP sP 08 53 26.0 +12
LZH PP **PP** **08 54 21.0 -2.0**
LZH S **S** **08 58 23.3 +3.0**
LZH SS **SnSn** **09 00 06.0 +1.4**
LZH pmax pmax
comp=Z,37nm,1.3s
LZH pmax pmax
comp=Z,380nm,4.6s
LZH LR LR
comp=Z,2μm,11.9s
LZH LR LR
comp=Z,2μm,13.3s
LZH LR LR
comp=Z,2μm,14.4s
TIXI Tiksi 32.32 351 P **P** **08 53 18.7 +0.1**
comp=Z,16nm,0.9s,baz=154,slow=6.7,SNR=6.2
TIXI Tiksi 32.32 351 P **P** **08 53 17.5 -1.1**
TIXI IAmb IAmb 08 53 29.4
comp=Z,23nm,1.1s
GTA Gaotai 33.52 283 ⇑P **P** **08 53 30.0 +0.3**
GTA pP pwP 08 53 38.5 +3.3
GTA PP **PP** **08 54 44.3 -1.0**
GTA PcP **PcP** **08 56 06.0 -4.4**
GTA S **S** **08 58 52.3 +0.6**
GTA sS sS 08 59 05.8 +11
GTA pmax pmax
comp=Z,94nm,1.1s
GTA pmax pmax
comp=Z,470nm,4.7s
GTA LR LR
comp=Z,2μm,15.3s
GTA LR LR
comp=Z,3μm,14.5s
GTA LR LR
comp=Z,4μm,14.5s
CD2 Chengdu 33.63 267 P **P** **08 53 30.3 -0.3**
CD2 pP pwP 08 53 39.8 +3.6
CD2 PP **PP** **08 54 46.3 -0.3**
CD2 S **S** **08 58 51.3 -2.2**
CD2 sS sS 08 59 07.0 +10
CD2 pmax pmax
comp=Z,40nm,1.1s
CD2 pmax pmax
comp=Z,500nm,7.1s
CD2 LR LR
comp=Z,8μm,13.7s
CD2 LR LR
comp=Z,3μm,14.3s
CD2 LR LR
comp=Z,5μm,14.5s
GYA Guiyang 33.68 257 ⇓*i*P **P** **08 53 31.5 +0.3**
GYA pP pwP 08 53 40.0 +3.3
GYA S **S** **08 58 56.0 +1.5**
GYA pmax pmax
comp=Z,69nm,1.1s
GYA LR LR
comp=Z,3μm,15.1s
GYA LR LR
comp=Z,3μm,16.2s
GYA LR LR
comp=Z,5μm,14.7s
QIZ Qiongzhong 36.00 244 P **P** **08 53 52.0 +0.9**
QIZ PP **PP** **08 55 17.8 +4.9**
QIZ S **S** **08 59 31.3 +1.3**
QIZ pmax pmax
comp=Z,310nm,8.8s
QIZ LR LR
comp=Z,1μm,15.2s
QIZ LR LR
comp=Z,2μm,19.6s
QIZ LR LR
comp=Z,2μm,13.2s
KMI Kunming 37.36 259 ⇑P **P** **08 54 03.5 +0.6**
KMI pP pwP 08 54 12.0 +3.5
KMI sP sP 08 54 16.8 +11
KMI S **S** **08 59 47.0 -4.2**
KMI sS ScP 09 00 03.0 -6.2
KMI pmax pmax
comp=Z,47nm,1.2s
KMI pmax pmax
comp=Z,490nm,3.5s
KMI LR LR
comp=Z,3μm,15.8s
KMI LR LR
comp=Z,3μm,17.7s
KMI LR LR
comp=Z,4μm,17.1s
SLVN Son La 38.73 253 P **P** **08 54 14.1 -0.2**
DGZ Jazzator, Alta 40.09 303*c i*P **P** **08 54 27.0 +1.5**
DGZ pmax pmax
comp=Z,95nm,0.9s
WMQ Urumqi 41.13 294 ⇓P **P** **08 54 35.5 +1.5**
WMQ pP pwP 08 54 43.8 +3.7
WMQ sP sP 08 54 48.8 +12
WMQ pmax pmax
comp=Z,56nm,0.9s
WMQ pmax pmax
comp=Z,490nm,4.9s
WMQ LR LR
comp=Z,2μm,12.3s
WMQ LR LR
comp=Z,3μm,17.1s
WMQ LR LR
comp=Z,1μm,16.9s
NRIK Noril'sk 41.14 333 P **P** **08 54 34.1 +0.4**
comp=Z,4.6nm,0.5s,baz=104,slow=7.2,SNR=8.3
NRIK LR LR 09 13 17.7
comp=Z,2μm,18.6s,baz=102,slow=39
NRIK Noril'sk 41.14 333 P **P** **08 54 33.7 0.0**
ZAA0 Zalesovo Array 41.18 310 P **P** **08 54 33.9 -0.4**
ZAA0 IAmb IAmb 08 54 35.9
comp=Z,30nm,0.8s
ZALV Zalesovo Beam 41.18 310 P **P** **08 54 35.3 +1.0**
comp=Z,25nm,0.7s,baz=80,slow=7.3,SNR=69
ZALV LR LR 09 12 39.0
comp=Z,1μm,18.4s,baz=102,slow=38
ZALV Zalesovo Beam 41.18 310 P **P** **08 54 34.4 +0.1**
UBPT Khong Chiam 41.60 244 P **P** **08 54 39.9 +1.8**
comp=Z,22nm,1.3s
UBPT Khong Chiam 41.60 244 P **P** **08 54 36.7 -1.4**
UBPT Khong Chiam 41.60 244 P **P** **08 54 39.1 +1.0**
comp=Z,22nm,1.3s
N18K Kilae Creek 41.65 40 P **P** **08 54 39.5 +1.4**
baz=269
ZSN Zaisan 42.18 300 ⇑*i*P **P** **08 54 43.2 +0.6**
comp=Z,31nm,1.1s,baz=300
ZSN *e*S S 09 01 16.9 +14
baz=300
ZSN Zaisan 42.18 300*c i*P **P** **08 54 43.2 +0.6**
ZSN pmax pmax
comp=Z,31nm,1.1s
L19K White Mountain 42.19 38 P **P** **08 54 43.5 +1.1**
L19K IAmb IAmb 08 54 59.3
comp=Z,36nm,1.4s
L19K White Mountain 42.19 38 P **P** **08 54 43.6 +1.1**
baz=268
N19K Bonanza Creek 42.34 40 P **P** **08 54 44.3 +0.5**
baz=270
K20K Telida 42.59 36 P **P** **08 54 46.2 +0.5**
K20K Telida 42.59 36 P **P** **08 54 47.4 +1.7**
baz=268
J20K Nowinta River 42.60 35 P **P** **08 54 45.5 -0.2**
J20K Nowinta River 42.60 35 P **P** **08 54 47.4 +1.6**
baz=267
L20K Farewell, AK 42.65 37 P **P** **08 54 47.7 +1.5**
baz=269
JAY Jayapura 42.70 185 LR LR 09 11 17.4
comp=Z,516nm,19.4s,baz=2.5,slow=34
IMAR Indian Mountai 42.90 32 P **P** **08 54 48.5 +0.4**
PAYA Payao 42.91 254 P P 08 54 56.8 +8.0
H21K Melozitna Rive 43.26 33 P **P** **08 54 51.0 -0.2**
H21K Melozitna Rive 43.26 33 P **P** **08 54 52.5 +1.4**
baz=266
CHUM Lake Minchumin 43.39 35 P **P** **08 54 53.0 +0.8**
baz=269
PPLA Purkeypile 43.44 37 P **P** **08 54 53.8 +1.1**
baz=270
UTTA Uttaradit 43.44 252 P **P** **08 54 54.1 +1.1**
comp=Z,26nm,1.1s
KDAK Kodiak Island 43.45 44 P **P** **08 54 52.8 +0.1**
comp=Z,15nm,0.9s,baz=351,slow=4.3,SNR=3.9
I21K Tanana 43.58 33 P **P** **08 54 54.2 +0.6**
I21K Tanana 43.58 33 P **P** **08 54 54.9 +1.3**
baz=268
LAMP Lampang 43.61 253 P **P** **08 54 56.2 +1.7**
comp=Z,29nm,0.9s
CHAI Chaiyaphum 43.62 248 P **P** **08 54 55.6 +1.1**
comp=Z,570nmcomp=Z,33nm,1.1s
SKT Skwentna 43.75 38 P **P** **08 54 55.5 +0.4**
baz=271
LSA Lhasa 43.84 273 P **P** **08 54 56.5 -0.2**
LSA pmax pmax
comp=Z,72nm,1.5s
LSA Lhasa 43.84 273 P **P** **08 54 56.5 -0.2**
PHIT Phitsanulok 43.89 251 P **P** **08 54 58.9 +2.2**
comp=Z,1μmcomp=Z,72nm,1.0s
CMMT Chiang Mai 43.93 254 P **P** **08 54 57.9 +0.8**
comp=Z,22nm,1.7s
CMMT Chiang Mai 43.93 254 P **P** **08 54 57.3 +0.2**
comp=Z,21nm,1.7s
CHTO Chiang Mai 43.94 254 P **P** **08 54 55.9 -1.2**
CHTO pmax pmax
comp=Z,24nm,1.2s
CHTO Chiang Mai 43.94 254 P **P** **08 54 58.1 +1.0**
comp=Z,24nm,1.9s
CHTO Chiang Mai 43.94 254 P **P** **08 54 55.9 -1.2**
CHTO Chiang Mai 43.94 254 P **P** **08 54 57.5 +0.4**
comp=Z,712nmcomp=Z,14nm,1.9s
BPAW Bear Paw Mtn. 43.98 35 P **P** **08 54 58.0 +1.0**
BPAW IAmb IAmb 08 55 11.8
comp=Z,30nm,1.4s
BPAW Bear Paw Mtn. 43.98 35 P **P** **08 54 57.3 +0.4**
baz=270
KTH Kantishna Hill 44.01 36 P **P** **08 54 58.1 +0.9**
KTH IAmb IAmb 08 55 14.0
comp=Z,25nm,1.0s
MK31 Makanchi Array 44.05 300 P **P** **08 54 57.9 +0.2**
MK31 pmax pmax
comp=Z,44nm,1.0s
MK31 Makanchi Array 44.05 300 P **P** **08 54 57.9 +0.2**
MK31 IAmb IAmb 08 54 59.3
comp=Z,44nm,1.0s
MKAR Makanchi Array 44.05 300 P **P** **08 54 58.3 +0.6**
comp=Z,41nm,1.0s,baz=78,slow=8.8,SNR=171
MKAR LR LR 09 13 54.0
comp=Z,1μm,18.3s,baz=82,slow=37
MKAR Makanchi Array 44.05 300 P **P** **08 54 57.1 -0.6**
SUA Susitna One 44.14 39 P **P** **08 54 58.6 +0.3**
baz=273
CMAR Chiang Mai Arr 44.16 254 P **P** **08 55 00.0 +1.2**
comp=Z,3.0nm,0.4s,baz=49,slow=5.9,SNR=12
CMAR LR LR 09 15 27.0
comp=Z,724nm,19.1s,baz=100,slow=39
CMAR Chiang Mai Arr 44.16 254*ce*P **P** **08 55 00.3 +1.4**
CMAR pmax pmax
comp=Z,3.0nm,0.4s
CMAR Chiang Mai Arr 44.16 254 P **P** **08 54 59.0 +0.1**
CM04 Chiang Mai Arr 44.17 254 P **P** **08 55 01.8 +2.8**
comp=Z,8.4nm,0.8s
CM01 Chiang Mai Arr 44.17 254 P **P** **08 55 00.7 +1.7**
comp=Z,135nmcomp=Z,7.5nm,1.0s
CM05 Chiang Mai Arr 44.19 254 P **P** **08 55 02.6 +3.5**
comp=Z,103nmcomp=Z,5.4nm,1.6s
MAKZ Makanchi 44.25 300 P **P** **08 54 59.1 -0.2**
MAKZ pmax pmax
comp=Z,64nm,1.1s
MAKZ Makanchi 44.25 300 P **P** **08 54 59.1 -0.2**
TRF Thorofare Moun 44.30 36 P **P** **08 54 59.3 -0.3**
TRF Thorofare Moun 44.30 36 P **P** **08 54 59.7 +0.1**
baz=271
CUT Chulitna 44.33 37 P **P** **08 54 59.7 0.0**
baz=272
COLD Coldfoot 44.40 31 P **P** **08 55 01.3 +1.1**
baz=267
SEM Semipalatinsk 44.51 305 ⇑*i*P **P** **08 55 01.0 -0.7**
comp=Z,40nm,1.3s,baz=306
SEM *e*S **S** **09 01 43.2 +6.2**
baz=306
SEM Semipalatinsk 44.51 305*c i*P **P** **08 55 00.9 -0.7**
SEM *e*S **S** **09 01 43.2 +6.2**
SEM pmax pmax
comp=Z,40nm,1.3s
BWN Browne 44.65 35 P **P** **08 55 03.6 +1.3**
RC01 Rabbit Creek A 44.65 39 P **P** **08 55 02.6 +0.4**
baz=274
I23K Minto, Yukon-K 44.69 34 P **P** **08 55 04.8 +2.4**
I23K Minto, Yukon-K 44.69 34 P **P** **08 55 03.3 +0.8**
baz=270

O22K Cooper Landing 44.70 40 P P 08 55 02.8 +0.2
baz=274
TOLK Toolik Lake Re 44.72 29 P P 08 55 04.0 +1.1
TOLK IAmb IAmb 08 55 27.6
comp=Z,29nm,1.1s
TOLK Toolik Lake Re 44.72 29 P P 08 55 03.9 +1.1
baz=266
NEA2 Nenana 44.82 34 P P 08 55 04.0 +0.4
NEA2 IAmb IAmb 08 55 17.5
comp=Z,33nm,1.2s
NEA2 Nenana 44.82 34 P P 08 55 04.7 +1.1
baz=271
SRAK Srakaew 44.86 246 P P 08 55 03.0 -1.5
comp=Z,3μmcomp=Z,209nm,0.9s
MCK McKinley 44.89 36 P P 08 55 04.9 +0.7
baz=272
PMR Palmer 44.91 39 P P
PMR pmax pmax 08 55 04.3 0.0
comp=Z,35nm,1.5s
PMR Palmer 44.91 39 P P 08 55 04.3 0.0
PMR IAmb IAmb 08 55 16.3
comp=Z,35nm,1.5s
PMR Palmer 44.91 39 P P 08 55 05.1 +0.8
baz=274
MHMT Maesarieng 45.08 254 P P 08 55 11.3 +5.1
comp=Z,42nm,1.1s
WAT1 Susitna Watana 45.11 37 P P 08 55 04.9 -1.1
baz=273
MDM Murphy Dome 45.17 34 P P 08 55 07.0 +0.6
WRH Wood River Hil 45.24 34 P P 08 55 06.9 0.0
WRH IAmb IAmb 08 55 28.5
comp=Z,24nm,1.4s
KNK Knik Glacier 45.24 39 P P 08 55 06.3 -0.7
baz=275
SML Sawmill 45.27 38 P P 08 55 06.7 -0.6
baz=274
H24K Noodor Dome 45.30 33 P P 08 55 07.8 +0.4
H24K IAmb IAmb 08 55 20.1
comp=Z,36nm,1.2s
H24K Noodor Dome 45.30 33 P P 08 55 07.5 0.0
baz=271,SNR=8.2
TCOL CIGO, UAF Yank 45.33 34 P P 08 55 08.4 +0.9
TCOL IAmb IAmb 08 55 26.6
comp=Z,29nm,0.9s
TCOL CIGO, UAF Yank 45.33 34 P P 08 55 06.6 -1.0
baz=272
COLA College 45.33 34 P P 08 55 08.6 +1.0
COLA pmax pmax
comp=Z,32nm,1.0s
COLA College 45.33 34 P P 08 55 08.6 +1.0
COLA IAmb IAmb 08 55 26.6
comp=Z,32nm,1.0s
COLA College 45.33 34 P P 08 55 08.5 +0.9
baz=272
CCB Clear Creek Bu 45.36 34 P P 08 55 07.7 -0.2
CCB IAmb IAmb 08 55 26.4
comp=Z,28nm,1.5s
SHL Shillong 45.36 268 P P 08 55 08.0 -0.6
SHL pmax pmax
comp=Z,20nm,0.7s
SHL Shillong 45.36 268 P P 08 55 08.0 -0.6
SHL IAmb IAmb 08 55 17.5
comp=Z,20nm,0.7s
KURK Kurchatov 45.46 306 P P 08 55 10.0 +1.2
WAT6 Susitna Watana 45.49 37 P P 08 55 09.3 +0.1
baz=274
POKR Poker Plat Res 45.50 34 P P 08 55 09.6 +0.6
POKR Poker Plat Res 45.50 34 P P 08 55 08.3 -0.7
baz=272
KURBB Kurchatov Arra 45.54 306 P P 08 55 09.9 +0.5
comp=Z,46nm,0.5s,baz=80,slow=8.5,SNR=256
KURBB Kurchatov Arra 45.54 306 P P 08 55 09.4 -0.1
DHY Denali Highway 45.63 36 P P 08 55 09.3 -0.9
baz=274
HDA Harding Lake 45.74 35 P P 08 55 11.3 +0.4
HDA IAmb IAmb 08 55 23.6
comp=Z,22nm,1.1s
HDA Harding Lake 45.74 35 P P 08 55 11.5 +0.6
baz=273,SNR=5.1
SCM Sheep Creek Mo 45.75 38 P P 08 55 11.1 0.0
SCM pmax pmax
comp=Z,36nm,1.2s
SCM Sheep Creek Mo 45.75 38 P P 08 55 11.1 0.0
SCM IAmb IAmb 08 55 31.1
comp=Z,36nm,1.2s
IL31 45.75 34 P P 08 55 10.7 -0.2
IL31 IAmb IAmb 08 55 22.2
comp=Z,24nm,0.9s
ILAR Eielson Array 45.75 34 P P 08 55 12.3 +1.3
comp=Z,3.9nm,0.9s,baz=262,slow=6.3,SNR=31
ILAR Eielson Array 45.75 34 P P 08 55 12.0 +1.0
M24K Tolsona, Glenn 46.26 38 P P 08 55 14.4 -0.7
baz=276
PRP Porcupine Dome 46.29 33 P P 08 55 16.1 +0.8
PRP IAmb IAmb 08 55 34.3
comp=Z,23nm,1.0s
PRP Porcupine Dome 46.29 33 P P 08 55 15.2 -0.2
baz=273
FYU Fort Yukon 46.36 31 P P 08 55 16.8 +1.1
KLU Klutina 46.45 39 P P 08 55 17.4 +0.7
KLU Klutina 46.45 39 P P 08 55 17.7 +1.1
baz=277
PAX Paxson 46.50 36 P P 08 55 18.2 +1.1
baz=276
DIV Divide 46.56 39 P P 08 55 17.8 +0.3
HARP HAARP 46.70 37 P P 08 55 17.1 -1.5
baz=276
RIDG Independent Ri 46.71 35 P P 08 55 18.9 +0.3
RIDG IAmb IAmb 08 55 42.8
comp=Z,22nm,1.2s
RIDG Independent Ri 46.71 35 P P 08 55 18.2 -0.4
baz=275
SHLS Shalkode 47.04 296 eP P 08 55 17.9 -3.7
comp=Z,81nm,2.0s,baz=296
SHLS eS S 09 02 20.4 +6.9
baz=296
SHLS Shalkode 47.04 296 eP P 08 55 17.8 -3.7
SHLS eS S 09 02 20.3 +6.9
SHLS pmax pmax
comp=Z,81nm,2.0s
SCRK Sand Creek 47.06 35 P P 08 55 22.4 +0.9
SCRK IAmb IAmb 08 55 32.7
comp=Z,23nm,1.0s
SCRK Sand Creek 47.06 35 P P 08 55 20.6 -0.9
baz=276,SNR=7.0
DOT Dot Lake 47.07 35 P P 08 55 22.3 +0.9
DOT IAmb IAmb 08 55 36.5
comp=Z,11nm,1.0s
BMRM Bremner River 47.15 39 P P 08 55 21.2 -0.8
baz=278
TDK Taldyqorghan 47.16 298 eP P 08 55 20.0 -2.3
baz=299
TDK eS S 09 02 12.9 -2.0
baz=299
TDK eLR LR 09 15 58.8
comp=Z,2μm,14.2s,baz=299
TDK Taldyqorghan 47.16 298 eP P 08 55 20.0 -2.3
TDK eS S 09 02 12.8 -2.1
TDK MLR MLR
comp=Z,2μm,14.0s
J26L Joseph Creek 47.20 34 P P 08 55 22.3 -0.1
baz=276
UZB Uzynbulak 47.35 296⇑iP P 08 55 23.2 -0.8
comp=Z,22nm,1.3s,baz=296
UZB eS S 09 02 22.1 +4.2
baz=296
UZB Uzynbulak 47.35 296c iP P 08 55 23.2 -0.8
UZB eS S 09 02 22.1 +4.2
UZB pmax pmax
comp=Z,22nm,1.3s
L26K Log Cabin Wild 47.46 36 P P 08 55 24.6 +0.1
L26K Log Cabin Wild 47.46 36 P P 08 55 23.6 -0.8
baz=277,SNR=9.6
KPKS Kokpek 47.47 296⇑iP P 08 55 25.0 +0.1
comp=Z,22nm,1.0s,baz=297
KPKS Kokpek 47.47 296c iP P 08 55 24.9 +0.1
KPKS pmax pmax
comp=Z,22nm,1.0s
M26K Nabesna, AK 47.70 37 P P 08 55 28.4 +2.0
M26K Nabesna, AK 47.70 37 P P 08 55 25.2 -1.2
baz=278
SATY Saty 47.80 296⇑iP P 08 55 27.0 -0.5
comp=Z,43nm,2.1s,baz=296
SATY Saty 47.80 296c iP P 08 55 27.0 -0.5
SATY pmax pmax
comp=Z,43nm,2.1s

MCARA McCarthy VSAT 47.84 38 P P 08 55 27.0 -0.4
baz=279
K27K Chicken 47.90 35 P P 08 55 27.0 -0.8
baz=278
L27K Beaver Creek, 48.14 36 P P 08 55 30.0 +0.2
baz=279
BCAR Beaver Creek A 48.16 36 P P 08 55 31.2 +1.3
EGAK Eagle 48.19 34 P P 08 55 30.9 +0.9
EGAK IAmb IAmb 08 55 41.5
comp=Z,25nm,1.1s
EGAK Eagle 48.19 34 P P 08 55 30.4 +0.3
baz=278,SNR=6.2
CHKK Chushkaly 48.50 297⇑iP P 08 55 32.0 -0.8
baz=298
TARG Taragay, Kyrgy 48.69 294 P P 08 55 35.2 +0.5
MDOK Medeo 48.70 297 iP P 08 55 34.3 -0.2
baz=297
MDOK eS S 09 02 40.3 +3.2
baz=297
MDOK eLR LR 09 16 36.0
comp=Z,1μm,14.2s,baz=297
MDOK Medeo 48.70 297 iP P 08 55 34.2 -0.2
MDOK eS S 09 02 40.2 +3.2
MDOK MLR MLR
comp=Z,1μm,14.0s
TNSS Tian-Shan 48.81 296 eP P 08 55 36.1 +0.4
baz=297
KUU Kurty 48.92 298⇑iP P 08 55 35.2 -0.9
comp=Z,56nm,1.1s,baz=298
KUU eS S 09 02 43.6 +3.7
baz=298
KUU Kurty 48.92 298c iP P 08 55 35.1 -0.9
KUU eS S 09 02 43.6 +3.7
KUU pmax pmax
comp=Z,56nm,1.1s
KDJ Kajisay 48.98 295 P P 08 55 37.0 +0.4
KDJ pmax pmax
comp=Z,22nm,1.0s
KDJ Kajisay 48.98 295 P P 08 55 37.0 +0.4
KDJ IAmb IAmb 08 55 38.0
comp=Z,22nm,1.0s
YUK3 Moose Creek 48.98 38 P P 08 55 36.1 -0.4
baz=281
MTBS Maitube 49.13 297⇑iP P 08 55 37.5 -0.2
baz=297
MTBS eS S 09 02 50.2 +7.2
baz=297
BRZS Berezniki 49.32 306⇑iP P 08 55 38.8 -0.2
comp=Z,43nm,1.3s,baz=307
BRZS Berezniki 49.32 306c iP P 08 55 38.8 -0.2
BRZS pmax pmax
comp=Z,43nm,1.3s
PMG Port Moresby 49.55 176 LR LR 09 13 37.3
comp=Z,166nm,20.9s,baz=354,slow=32
ULHL Ulahol 49.58 296 P P 08 55 41.9 +0.6
SNR=7.6
BOOM Boomskoye usch 49.70 296 P P 08 55 41.3 -0.9
BOOM pmax pmax
comp=Z,66nm,1.1s
BOOM Boomskoye usch 49.70 296 P P 08 55 41.3 -0.9
EPYK Eagle Plains 49.77 31 P P 08 55 44.3 +2.1
EPYK IAmb IAmb 08 56 02.3
comp=Z,28nm,0.9s
EPYK Eagle Plains 49.77 31 P P 08 55 42.4 +0.2
baz=280
TKM2 Tokmak 2 49.78 297 P P 08 55 43.7 +0.9
SNR=56
BRVK Borovoye 49.86 311c iP P 08 55 43.5 +0.5
BRVK pmax pmax
comp=Z,44nm,1.3s
BRVK Borovoye 49.86 311 P P 08 55 42.9 -0.1
BTLS Baital 50.06 300⇑iP P 08 55 44.0 -0.7
comp=Z,18nm,1.4s,baz=300
BTLS Baital 50.06 300c iP P 08 55 43.9 -0.7
BTLS pmax pmax
comp=Z,18nm,1.4s
OTUK Ortayu 50.08 304 P P 08 55 43.7 -1.1
SGDS Sogindy 50.24 298 eP P 08 55 44.6 -1.5
baz=298
KBK Karagaybulak 50.32 297 P P 08 55 47.8 +0.9
SNR=20
KZA Kyzart 50.33 296 P P 08 55 48.6 +1.4
SNR=22
USP Ospenovka 50.40 298 P P 08 55 48.3 +1.0
SNR=5.1
HYT Haines Junctio 50.58 38 P P 08 55 50.6 +2.1
HYT Haines Junctio 50.58 38 P P 08 55 48.6 +0.1
baz=284
AAK Ala-Archa 50.63 297 LR LR 09 18 32.7
comp=Z,1μm,18.0s,baz=74,slow=38
AAK Ala-Archa 50.63 297c iP P 08 55 49.2 0.0
AAK pmax pmax
comp=Z,78nm,1.3s
AAK Ala-Archa 50.63 297 P P 08 55 49.0 -0.3
AAK IAmb IAmb 08 55 58.7
comp=Z,17nm,0.9s
INK Inuvik 50.63 28 P P 08 55 49.0 +0.4
comp=Z,4.5nm,0.9s,baz=309,slow=4.2,SNR=7.4
INK Inuvik 50.63 28 P P 08 55 51.1 +2.5
INK pmax pmax
comp=Z,9.0nm,0.9s
INK Inuvik 50.63 28 P P 08 55 51.1 +2.5
INK Inuvik 50.63 28 P P 08 55 47.5 -1.1
baz=281
MAYO Mayo, Yukon 50.67 35 P P 08 55 49.7 +0.6
baz=283
UCH Uchtor 50.78 296 P P 08 55 51.6 +0.9
SNR=11
KSH Kashi 50.83 292 P P 08 55 55.0 +4.3
KSH pP pwP 08 56 05.3 +8.5
KSH sP sP 08 56 09.3 +16
KSH PP PP 08 57 52.8 +6.1
KSH S S 09 03 15.3 +8.4
KSH sS sS 09 03 27.5 +17
KSH ScS ScS 09 05 45.5 +3.7
KSH pmax pmax
comp=Z,24nm,1.3s
KSH pmax pmax
comp=Z,350nm,5.7s
KSH LR LR
comp=Z,4μm,14.7s
KSH LR LR
comp=Z,4μm,14.0s
KSH LR LR
comp=Z,7μm,16.6s
EKS2 Erkin-Say 51.12 297 P P 08 55 53.7 +0.9
SNR=13
AML Almayashu 51.38 296 P P 08 55 55.9 +0.8
SNR=38
FARO Faro, Yukon 52.14 36 P P 08 56 00.2 +0.1
baz=286
BESE Bessie Mountai 52.48 41 P P 08 56 02.5 -0.2
BESE IAmb IAmb 08 56 05.4
comp=Z,34nm,1.0s
DZA Taraz 52.68 298 eP P 08 56 03.3 -1.1
baz=299
DZA Taraz 52.68 298 eP P 08 56 03.3 -1.1
EDFI Ende, Flores 52.90 208 P P 08 56 09.4 +3.1
comp=Z,10nm,1.6s
MMPY Sheldon Lake, 52.96 35 P P 08 56 05.5 -0.6
baz=288
KK31 Karatay Array 53.15 299 iP P 08 56 07.5 -0.3
KK31 Karatay Array 53.15 299 P P 08 56 07.0 -0.8
KK31 IAmb IAmb 08 56 09.3
comp=Z,33nm,1.2s
KKAR Karatay Array 53.15 299 P P 08 56 07.0 -0.8
KKAR pmax pmax
comp=Z,33nm,1.3s
KKAR Karatay Array 53.15 299 P P 08 56 06.9 -0.9
KKAR Karatay Array 53.15 299 P P 08 56 07.0 -0.8
KKAR IAmb IAmb 08 56 09.3
comp=Z,33nm,1.2s
SVE Sverdlovsk 53.97 318deP P 08 56 14.7 +1.1
SVE pmax pmax
comp=Z,96nm,1.3s
SVE MLR MLR
comp=E,3μm,14.0s
SVE MLR MLR
comp=Z,5μm,14.0s
BTK Batken 54.21 295 P P 08 56 14.9 -0.8
BTK pmax pmax
comp=Z,34nm,1.2s
BTK Batken 54.21 295 P P 08 56 14.9 -0.8
BTK IAmb IAmb 08 56 25.5
comp=Z,34nm,1.2s
GAR Garm 55.02 294 P P 08 56 20.5 -1.1

PSI Prapat 55.06 239 P P 08 56 22.6 +0.4
comp=Z,9.5nm,0.8s,baz=269,slow=3.2,SNR=5.2
ARU Arti 55.18 318c iP P 08 56 22.9 +0.5
ARU 08 58 23.2
ARU PPP PPP 08 59 36.6
ARU S S 09 04 08.8 +3.4
ARU pmax pmax
comp=Z,84nm,1.5s
ARU MLR MLR
comp=Z,4μm,15.0s
ARU Arti 55.18 318 P P 08 56 22.8 +0.4
NIL Nilore 55.40 287 P P 08 56 24.6 +0.2
NIL pmax pmax
comp=Z,104nm,1.1s
NIL Nilore 55.40 287 P P 08 56 24.6 +0.2
CHGR Chuyangaron 55.98 294 P P 08 56 28.5 -0.1
PWJI Pagerwojo 56.42 219 P P 08 56 46.2 +15
EUNU Eureka 56.68 9 P P 08 56 33.1 +0.3
GSI Gunungsitoli 57.07 239 P P 08 56 37.0 +0.6
GSI Gunungsitoli 57.07 239 P P 08 56 37.7 +1.3
comp=Z,6μmcomp=Z,51nm,0.6s
AB31 Akbulak array 57.29 309 iP P 08 56 37.8 +0.2
ABKAR Akbulak array 57.29 309 P P 08 56 38.0 +0.4
ABKAR Akbulak array 57.29 309 P P 08 56 38.1 +0.5
ABKAR IAmb IAmb 08 56 39.4
comp=Z,27nm,0.8s
KLSI 57.34 228 P P 08 56 38.4 +0.1
comp=Z,426nmcomp=Z,12nm,1.6s
MDSI Maura Dua 57.50 229 P P 08 56 38.9 -0.4
comp=Z,11nm,1.6s
LEM Lembang 57.52 224 LR LR 09 22 16.6
comp=Z,340nm,19.9s,baz=12,slow=37
AKTO Aktyubinsk 57.91 311 LR LR 09 23 03.6
comp=Z,699nm,18.0s,baz=59,slow=38
AKTO Aktyubinsk 57.91 311 P P 08 56 41.9 0.0
KBL Kabul 58.02 290 P P 08 56 42.2 -0.9
KBL pmax pmax
comp=Z,38nm,1.1s
KBL Kabul 58.02 290 P P 08 56 42.2 -0.9
HSPB Hornsund (broa 58.65 348 eP P 08 56 48.3 +1.6
KIRV Kirov 58.79 322c iP P 08 56 48.6 +0.8
PRGR Permogore 59.06 327 eP P 08 56 49.6 -0.1
PRGR e 08 58 58.2
PRGR pmax pmax
comp=Z,94nm,1.1s
YKA Yellowknife Ar 60.06 32 LR LR 09 25 39.3
comp=Z,273nm,18.9s,baz=0.0,slow=39
HYB Hyderabad 60.17 268 iP P 08 56 57.0 -1.0
WB0 Warramunga Arr 60.39 190 P P 08 56 59.1 -0.2
WB0 IAmb IAmb 08 57 21.6
comp=Z,20nm,1.2s
WR0 Warramunga Arr 60.56 190 P P 08 56 59.6 -0.8
WR0 IAmb IAmb 08 57 22.9
comp=Z,14nm,1.2s
WRAB Tennant Creek 60.56 190d iP P 08 57 01.9 +1.5
WRAB pmax pmax
comp=Z,14nm,2.1s
WRAB Tennant Creek 60.56 190 P P 08 57 00.7 +0.2
WRAB IAmb IAmb 08 57 22.8
comp=Z,26nm,1.4s
WB2 Warramunga Arr 60.57 190 P P 08 57 00.1 -0.4
WB2 IAmb IAmb 08 57 23.6
comp=Z,13nm,1.1s
WRA Warramunga Arr 60.57 190 P P 08 57 00.3 -0.2
comp=Z,2.3nm,0.6s,baz=8.1,slow=6.8,SNR=29
WRA Warramunga Arr 60.57 190 P P 08 56 59.7 -0.9
ARCES ARCESS Array B 61.60 339 P P 08 57 07.5 +0.4
comp=Z,4.8nm,0.8s,baz=44,slow=7.1,SNR=11
ARCES LR LR 09 29 29.2
comp=Z,1μm,18.5s,baz=60,slow=42
ARCES ARCESS Array B 61.60 339 P P 08 57 07.0 0.0
ARCES IAmb IAmb 08 57 09.4
comp=Z,21nm,1.3s
KLMR Klimovskoe 62.01 328 eP P 08 57 07.9 -1.9
KLMR e 08 59 23.3
KLMR pmax pmax
comp=Z,59nm,1.4s
KLMR MLR MLR
comp=Z,989nm,16.0s
KLMR Klimovskoe 62.01 328 eP P 08 57 08.0 -1.9
KLMR AMP 08 57 11.6
comp=Z,59nm,1.4s
KLMR ePP PP 08 59 23.4 -2.4
KLMR LQ LQ 09 19 48.5
KLMR LQ LQ 09 19 48.5
KLMR LR LR 09 22 18.1
KLMR AMP 09 27 40.2
comp=Z,989nm,15.6s
NEEM North Greenlan 62.17 4 iP P 08 57 12.1 +1.0
LLLB Lillooet 62.63 46 P P 08 57 15.0 +0.7
LLLB IAmb IAmb 08 57 36.0
comp=Z,16nm,1.5s
BELG Belogornoye 62.70 317c iP P 08 57 15.4 +0.8
BELG pmax pmax
comp=Z,16nm,1.0s
HRA Herat 62.93 293 P P 08 57 17.2 +0.5
POO Poona 63.11 272 eP P 08 57 15.0 -2.9
GEYT Alibeck 63.90 299 P P 08 57 23.1 +0.2
comp=Z,866nm,0.9s,baz=15,slow=1.7,SNR=12
GEYT LR LR 09 26 46.3
comp=Z,525nm,19.8s,baz=225,slow=38
ASAR Alice Springs 64.30 190 P P 08 57 25.9 +0.5
comp=Z,2.2nm,0.8s,baz=7.3,slow=5.4,SNR=12
ASAR LR LR 09 24 09.9
comp=Z,140nm,21.9s,baz=7.5,slow=35
ASAR Alice Springs 64.30 190 P P 08 57 25.4 0.0
E04D Cinebar 64.36 50 P P 08 57 23.8 -1.9
baz=302
LON Longmire 64.70 49 P P 08 57 27.7 -0.3
LON pmax pmax
comp=Z,12nm,1.5s
LON Longmire 64.70 49 P P 08 57 27.7 -0.3
LTY Liberty 65.08 48 P P 08 57 30.7 +0.2
LTY IAmb IAmb 08 57 44.4
comp=Z,19nm,1.5s
B08A Colville Reser 65.23 47 P P 08 57 32.2 +0.8
B08A IAmb IAmb 08 57 47.4
comp=Z,13nm,1.4s
I03D Drain, OR 65.43 53 P P 08 57 31.6 -1.1
baz=303
DZM Mont Dzumac 65.54 157 LR LR 09 21 28.1
comp=Z,319nm,20.8s,baz=9.0,slow=32
DZM Mont Dzumac 65.54 157 eP P 08 57 38.8 +5.2
comp=Z,38nm,1.4s
DZM eS S 09 06 22.2 +3.3
comp=Z,261nm,24.1s
DZM Mont Dzumac 65.54 157 eLR LR 09 17 13.0
comp=Z,523nm,22.3s
H04A Detroit Lake 65.59 51 P P 08 57 34.8 +0.9
H04A IAmb IAmb 08 57 41.1
comp=Z,13nm,1.2s
EDM Edmonton 65.64 40 P P 08 57 34.6 +0.6
EDM pmax pmax
comp=Z,42nm,1.5s
EDM Edmonton 65.64 40 P P 08 57 34.6 +0.6
MOS Moscow 65.74 323 eP P 08 57 34.2 -0.3
MOS e 08 59 57.8
MOS eS S 09 06 18.9 -1.7
MOS pmax pmax
comp=Z,65nm,1.4s
MOS MLR MLR
comp=Z,1μm,15.0s
K02D Willamette Mer 65.78 54 P P 08 57 34.3 -0.8
baz=303
G05D Wamic, OR 65.80 51 P P 08 57 32.2 -2.9
baz=304
I04A Tendick Farm, 65.94 52 P P 08 57 35.7 -0.4
baz=304
MSVF Nonsavu 65.95 144 LR LR 09 20 26.9
comp=Z,251nm,21.4s,baz=349,slow=31
L02E Cave Junction 66.11 54 P P 08 57 36.1 -1.1
baz=304
C09A Chrisman Ranch 66.13 47 P P 08 57 37.6 +0.4
C09A IAmb IAmb 08 57 51.0
comp=Z,23nm,1.4s
D08A Wollman Farm, 66.18 48 P P 08 57 38.3 +0.8
D08A IAmb IAmb 08 57 53.6
comp=Z,14nm,1.3s
HAWA Hanford 66.21 49 P P 08 57 39.1 +1.4
VRH Novokhopyorsk 66.42 318 eP P 08 57 38.3 -0.6
VRH pmax pmax
comp=Z,40nm,1.0s
VRH MLR MLR
comp=Z,3μm,15.0s
E08A Dider Farm, El 66.42 48 P P 08 57 39.2 +0.2

E08A IAmb IAmb 08 58 00.8
comp=Z,16nm,1.5s
J04D Umpqua Nationa 66.43 53 P **P** **08 57 38.5 -1.0**
baz=304
NEW Newport 66.51 46 P **P** **08 57 39.6 -0.1**
NEW pmax pmax
comp=Z,25nm,1.5s
NEW Newport 66.51 46 P **P** **08 57 39.5 -0.1**
NEW IAmb IAmb 08 57 55.6
comp=Z,25nm,1.4s
NEW Newport 66.51 46 P **P** **08 57 39.2 -0.5**
baz=305
OBN Obninsk 66.60 323 LR LR 09 29 42.2
comp=Z,256nm,19.6s,baz=48,slow=39
OBN Obninsk 66.60 323*c i*P **P** **08 57 40.6 +0.6**
OBN *i* 08 57 48.5
OBN *i* 08 58 11.5
OBN *i* 09 00 06.9
OBN pmax pmax
comp=Z,37nm,1.2s
OBN MLR MLR
comp=Z,2µm,17.0s
FIA1 FINESS Array S 66.79 332 P **P** **08 57 41.5 +0.4**
FINES FINESS Array B 66.80 332 P **P** **08 57 42.0 +0.8**
comp=Z,19nm,0.7s,baz=44,slow=7.2,SNR=47
FINES LR LR 09 29 26.8
comp=Z,929nm,20.8s,baz=40,slow=38
FINES FINESS Array B 66.80 332 P **P** **08 57 41.5 +0.3**
PINE Pine Mountain 66.83 52 P **P** **08 57 41.9 -0.1**
PINE IAmb IAmb 08 57 56.2
comp=Z,18nm,1.1s
L04D Klamath Falls 66.88 54 P **P** **08 57 41.3 -0.9**
baz=304
YBH Yreka Blue Hor 66.90 54 P **P** **08 57 42.6 +0.2**
YBH pmax pmax
comp=Z,18nm,1.4s
YBH Yreka Blue Hor 66.90 54 P **P** **08 57 42.6 +0.2**
YBH IAmb IAmb 08 57 57.4
comp=Z,18nm,1.4s
E09A Wood Farm, Sta 66.93 48 P **P** **08 57 43.2 +0.9**
J05D Fort Rock, OR 66.94 52 P **P** **08 57 42.4 -0.2**
baz=304
LPSR Galich'ya Gora 67.00 320*e*P **P** **08 57 42.7 +0.1**
LPSR pmax pmax
comp=Z,50nm,1.0s
LPSR MLR MLR
comp=Z,2µm,14.0s
M02C Callahan 67.00 55 P **P** **08 57 42.9 -0.1**
baz=304
G08A Pilot Rock 67.16 49 P **P** **08 57 44.9 +1.0**
N02D Trinity Center 67.33 55 P **P** **08 57 44.9 -0.1**
baz=304
M04C Macdoel 67.41 54 P **P** **08 57 45.1 -0.6**
baz=304
SUMG Summit 67.42 1 *i*P **P** **08 57 47.3 +1.8**
SUMG IAmb IAmb 08 57 56.2
comp=Z,29nm,1.0s
SUMG Summit 67.42 1 *i*P **P** **08 57 47.2 +1.8**
SUMG pmax pmax
comp=Z,29nm,1.0s
SUMG Summit 67.42 1 P **P** **08 57 45.4 0.0**
K05A Summer Lake 67.46 53 P **P** **08 57 46.1 +0.1**
WDC Whiskeytown Da 67.65 55 P **P** **08 57 48.0 +1.0**
WDC pmax pmax
comp=Z,11nm,1.2s
WDC Whiskeytown Da 67.65 55 P **P** **08 57 48.0 +1.0**
WDC IAmb IAmb 08 58 03.7
comp=Z,11nm,1.2s
VSR Storozhevoye 67.71 319*e*P **P** **08 57 46.8 -0.3**
VSR pmax pmax
comp=Z,30nm,1.0s
VSR MLR MLR
comp=Z,2µm,15.0s
O02D Mt. Diablo Mer 67.72 56 P **P** **08 57 47.8 +0.3**
baz=305
F10A Beach Ranch, E 67.76 48 P **P** **08 57 48.2 +0.5**
WALA Waterton Lakes 67.78 44 P **P** **08 57 48.3 +0.5**
WALA IAmb IAmb 08 58 01.1
comp=Z,18nm,1.3s
VORD Divnogorie 67.79 319*e*P **P** **08 57 47.3 -0.4**
VORD pmax pmax
comp=Z,30nm,1.0s
AFI Afiamalu 67.88 133 LR LR 09 20 58.9
comp=Z,256nm,21.6s,baz=338,slow=30
O03E Paynes Creek 68.28 55 P **P** **08 57 51.3 +0.2**
baz=305
MOD Modoc Plateau 68.29 53 P **P** **08 57 52.5 +1.4**
MOD IAmb IAmb 08 58 04.8
comp=Z,14nm,1.4s
JTMT Jette 68.36 45 P **P** **08 57 51.2 -0.3**
JTMT IAmb IAmb 08 58 05.8
comp=Z,25nm,1.5s
BMO Blue Mountains 68.37 49 P **P** **08 57 52.2 +0.6**
BMO pmax pmax
comp=Z,11nm,1.3s
BMO Blue Mountains 68.37 49 P **P** **08 57 52.2 +0.6**
J08A Circle Bar Ran 68.55 51 P **P** **08 57 53.1 +0.4**
J08A IAmb IAmb 08 58 06.6
comp=Z,13nm,1.2s
AKT Akhty 68.63 307*e*P **P** **08 57 54.3 +1.0**
AKT *e* 08 58 19.4
AKT pmax pmax
comp=Z,54nm,0.8s
GROC Groznyy 68.80 309*e*P **P** **08 57 53.9 -0.2**
GROC *e* 08 58 16.4
GROC pmax pmax
comp=Z,12nm,0.4s
ORV Oroville 68.89 56 P **P** **08 57 55.3 +0.5**
ORV pmax pmax
comp=Z,7.0nm,1.1s
ORV Oroville 68.89 56 P **P** **08 57 55.3 +0.5**
PLID Pearl Lake 68.98 48 P **P** **08 57 56.0 +0.5**
PLID IAmb IAmb 08 58 09.3
comp=Z,12nm,1.1s
WVOR Wild Horse Val 68.99 52 P **P** **08 57 55.9 +0.4**
WVOR pmax pmax
comp=Z,25nm,1.4s
WVOR Wild Horse Val 68.99 52 P **P** **08 57 55.9 +0.4**
WVOR IAmb IAmb 08 58 09.9
comp=Z,25nm,1.4s
MSO Missoula 69.10 46 P **P** **08 57 56.2 +0.2**
MSO IAmb IAmb 08 58 09.2
comp=Z,12nm,1.1s
MSO Missoula 69.10 46 P **P** **08 57 56.6 +0.5**
baz=307
GOF Gofitskoye 69.31 312⇑*e*P **P** **08 57 58.5 +1.2**
GOF pmax pmax
comp=Z,59nm,0.9s
BEKR Beckworth 69.43 55 P **P** **08 57 59.0 +0.7**
FFC Flin Flon 69.96 34 P **P** **08 58 01.8 +0.7**
FFC pmax pmax
comp=Z,16nm,1.1s
FFC Flin Flon 69.96 34 P **P** **08 58 01.8 +0.7**
FFC IAmb IAmb 08 58 31.4
comp=Z,16nm,1.1s
MFID Camas Ranch 70.08 50 P **P** **08 58 02.0 -0.2**
MFID IAmb IAmb 08 58 18.6
comp=Z,19nm,1.5s
EMB Emerald Bay 70.11 56 P **P** **08 58 03.4 +0.8**
PAHR Pah Rah Range 70.13 55 P **P** **08 58 03.5 +0.9**
PAHR IAmb IAmb 08 58 19.0
comp=Z,14nm,1.2s
KIV Kislovodsk 70.17 311⇑P **P** **08 58 05.2 +2.4**
KIV Kislovodsk 70.17 311*e*P **P** **08 58 04.0 +1.2**
KIV *e*S **S** **09 07 15.9 +1.7**
KIV *e*SS **SS** **09 11 46.5 +3.2**
KIV pmax pmax
comp=Z,82nm,1.1s
KIV pmax pmax
comp=Z,70nm,3.7s
KIV Kislovodsk 70.17 311 P **P** **08 58 03.9 +1.2**
KBZ Khabaz 70.19 311 P **P** **08 58 04.0 +1.3**
comp=Z,30nm,0.9s,baz=41,slow=3.5,SNR=35
KBZ LR LR 09 34 35.4
comp=Z,946nm,18.2s,baz=28,slow=41
KBZ Khabaz 70.19 311 P **P** **08 58 04.0 +1.3**
VCNR Virginia City 70.21 55 P **P** **08 58 03.9 +0.7**
HRY Holter Researc 70.32 45 P **P** **08 58 04.5 +0.9**
PNTR Pine Nut 70.36 55 P **P** **08 58 05.4 +1.3**
PNTR IAmb IAmb 08 58 20.8
comp=Z,18nm,1.4s
CMB Columbia Colle 70.49 56 P **P** **08 58 05.3 +0.6**
CMB pmax pmax
comp=Z,11nm,1.2s
CMB Columbia Colle 70.49 56 P **P** **08 58 05.3 +0.6**

ONI Oni 70.55 310 P **P** **08 58 06.4 +1.4**
ONI pmax pmax
comp=Z,36nm,1.0s
ONI Oni 70.55 310 P **P** **08 58 06.4 +1.4**
EGMT Eagleton 70.61 43 P **P** **08 58 05.6 +0.3**
EGMT IAmb IAmb 08 58 21.2
comp=Z,23nm,1.1s
EGMT Eagleton 70.61 43 P **P** **08 58 05.1 -0.2**
baz=309
YERR Yerington 70.65 55 P **P** **08 58 06.6 +0.7**
YERR IAmb IAmb 08 58 20.3
comp=Z,26nm,1.3s
DLMT Dillon 70.73 47 P **P** **08 58 06.6 +0.4**
DLMT IAmb IAmb 08 58 20.2
comp=Z,22nm,1.1s
HLID Hailey 70.81 49 P **P** **08 58 07.7 +1.0**
HLID Hailey 70.81 49 P **P** **08 58 06.4 -0.3**
baz=308,SNR=7.1
MNK Minsk 70.83 326 *i*P **P** **08 58 07.0 +0.6**
MNK *i* 08 58 34.8
MNK *i* 09 00 43.3
MNK *i* PPP PPP 09 02 25.9
MNK *i* S **S** **09 07 20.9 -0.4**
MNK *i* 09 08 10.4
MNK *i* SS **SS** **09 11 51.9 -0.7**
MNK pmax pmax
comp=N,19nm,0.9s
MNK pmax pmax
comp=Z,57nm,0.9s
MNK pmax pmax
comp=E,6.0nm,1.2s
MNK MLR MLR
comp=E,112nm,19.0s
MNK MLR MLR
comp=N,481nm,18.0s
MNK MLR MLR
comp=Z,1µm,20.0s
MNK Minsk 70.83 326 *i*P **P** **08 58 07.0 +0.6**
comp=E,6.0nm,1.2s
MNK *i*P **P** **08 58 07.0 +0.6**
comp=N,19nm,0.9s
MNK *i*P **P** **08 58 07.0 +0.6**
comp=Z,57nm,0.9s,baz=228
MNK *i* PcP PcP 08 58 34.9 +7.8
MNK *i* PP **PP** **09 00 43.4 +0.6**
MNK *i* PPP PPP 09 02 25.9
MNK *i* S **S** **09 07 21.0 -0.3**
MNK *i* SS **SS** **09 11 52.0 -0.7**
MNK *i* SSS SSS 09 15 13.5
MNK *i* LQ LQ 09 24 16.9
MNK *i* LR LR 09 30 00.8
MNK *i* LRM MLR 09 31 58.0
comp=E,112nm,18.8s
MNK *i* LRM MLR 09 32 13.9
comp=N,481nm,18.1s
MNK *i* LRM MLR 09 32 50.1
comp=Z,1µm,19.6s
ICESG Greenland Ices 70.90 1 *i*P **P** **08 58 05.9 -1.1**
NACGM Naroch 71.02 327 *i*P **P** **08 58 08.8 +1.3**
BMN Battle Mountai 71.03 53 P **P** **08 58 08.8 +0.7**
BMN pmax pmax
comp=Z,25nm,1.5s
BMN Battle Mountai 71.03 53 P **P** **08 58 08.8 +0.7**
BMN IAmb IAmb 08 58 22.8
comp=Z,25nm,1.5s
BOZ Bozeman (W) 71.12 46 P **P** **08 58 09.6 +1.0**
BOZ pmax pmax
comp=Z,31nm,1.4s
BOZ Bozeman (W) 71.12 46 P **P** **08 58 09.6 +1.0**
BOZ IAmb IAmb 08 58 24.8
comp=Z,31nm,1.4s
BOZ Bozeman (W) 71.12 46 P **P** **08 58 07.5 -1.0**
baz=309,SNR=12
AKH Akhalkalaki 71.24 309⇑P **P** **08 58 11.1 +1.7**
GNI Garni 71.25 307*ce*P **P** **08 58 11.1 +1.7**
GNI pmax pmax
comp=Z,42nm,1.4s
GNI Garni 71.25 307 P **P** **08 58 09.6 +0.2**
CHVG Ch'k'valeri 71.28 310⇑P **P** **08 58 11.1 +1.8**
RYN Ryan 71.31 55 P **P** **08 58 09.7 -0.1**
KVN Kaiserville 71.32 54 P **P** **08 58 11.0 +1.1**
KVN pmax pmax
comp=Z,19nm,1.2s
KVN Kaiserville 71.32 54 P **P** **08 58 11.0 +1.1**
KVN IAmb IAmb 08 58 24.3
comp=Z,19nm,1.2s
LHV Little Huntoon 71.55 55 P **P** **08 58 12.6 +1.6**
LHV IAmb IAmb 08 58 26.1
comp=Z,28nm,1.2s
MDPB Devils Postpil 71.56 56 P **P** **08 58 12.6 +1.2**
NVAR Mina Array Bea 71.57 55 P **P** **08 58 13.1 +1.6**
comp=Z,3.6nm,0.9s,baz=287,slow=6.7,SNR=30
NVAR LR LR 09 26 26.0
comp=Z,103nm,19.1s,baz=301,slow=33
NVAR Mina Array Bea 71.57 55 P **P** **08 58 11.9 +0.4**
NV11 Mina Array Sit 71.66 55 P **P** **08 58 13.0 +1.1**
NV11 IAmb IAmb 08 58 33.4
comp=Z,15nm,1.4s
NC405 NORSAR Array S 71.68 338 P **P** **08 58 11.4 -0.1**
QLMT Earthquake Lak 71.71 46 P **P** **08 58 13.4 +1.2**
PABE Paberze 71.74 329 P **P** **08 58 12.4 +0.6**
NC204 NORSAR Array S 71.83 338 P **P** **08 58 11.8 -0.7**
YHL Hebgen Lake 71.83 46 P **P** **08 58 13.4 +0.3**
YHL IAmb IAmb 08 58 25.1
comp=Z,12nm,1.1s
STKA Stephens Creek 71.84 182 P **P** **08 58 13.4 +0.8**
comp=Z,1.7nm,0.8s,baz=316,slow=2.5,SNR=6.1
STKA LR LR 09 30 02.7
comp=Z,132nm,20.5s,baz=8.2,slow=36
STKA Stephens Creek 71.84 182 P **P** **08 58 12.5 -0.1**
NB201 NORSAR Array S 71.86 338 P **P** **08 58 13.0 +0.4**
NB2 NORSAR Subarra 71.89 338 P **P** **08 58 13.1 +0.3**
comp=Z,21nm,0.9s,baz=36,slow=6.2
NB2 NORSAR Subarra 71.89 338 P **P** **08 58 13.1 +0.3**
baz=36,slow=6.2
NOA NORSAR Array B 71.89 338 P **P** **08 58 13.2 +0.3**
comp=Z,13nm,0.9s,baz=37,slow=6.0,SNR=31
YHB Horse Butte 71.89 46 P **P** **08 58 13.5 +0.1**
YHB IAmb IAmb 08 58 29.7
comp=Z,21nm,1.3s
NBO00 NORSAR Array S 72.02 338 P **P** **08 58 12.9 -0.6**
ELK Elko 72.04 52 P **P** **08 58 14.7 +0.4**
ELK pmax pmax
comp=Z,4.0nm,1.1s
ELK Elko 72.04 52 P **P** **08 58 14.7 +0.4**
YHH Holmes Hill 72.06 46 P **P** **08 58 15.5 +1.1**
GCMT Greycliff 72.07 45 P **P** **08 58 15.2 +0.9**
YMR Madison River 72.07 46 P **P** **08 58 15.6 +1.2**
SOC Sochi 72.10 312 *e*P **P** **08 58 12.6 -1.7**
SOC *e*PPP PPP 09 02 38.7
SOC *e*S **S** **09 07 35.3 -1.0**
SOC *e*SS **SS** **09 12 09.7 -2.9**
SOC pmax pmax
comp=Z,12nm,0.7s
BATM Batumi 72.19 310⇑P **P** **08 58 15.8 +1.0**
BCA Borcka 72.33 310⇑P **P** **08 58 16.8 +1.0**
SMMC Simmler 72.36 59 P **P** **08 58 14.6 -1.5**
baz=307
YNE Yellowstone No 72.38 46 P **P** **08 58 16.9 +0.6**
YNE IAmb IAmb 08 58 29.7
comp=Z,15nm,1.3s
TPH Tonopah 72.46 55 P **P** **08 58 18.4 +1.6**
TPH pmax pmax
comp=Z,140nm,1.4s
TPH Tonopah 72.46 55 P **P** **08 58 18.4 +1.6**
IMW Indian Meadow 72.57 47 P **P** **08 58 19.3 +1.8**
IMW IAmb IAmb 08 58 34.5
comp=Z,27nm,1.4s
FLWY Flagg Ranch 72.59 47 P **P** **08 58 18.5 +1.0**
FLWY IAmb IAmb 08 58 32.0
comp=Z,19nm,1.4s
ANN Anapa 72.60 314 *e*P **P** **08 58 17.4 +0.2**
ANN *e*S **S** **09 07 40.6 -1.4**
ANN pmax pmax
comp=Z,55nm,1.4s
ANN MLR MLR
comp=Z,397nm,14.0s
FXWY Fox Creek 72.69 47 P **P** **08 58 19.8 +1.7**
FXWY IAmb IAmb 08 58 40.0
comp=Z,15nm,1.3s
LCH Last Change Ra 72.71 56 P **P** **08 58 19.2 +1.0**
RLMT Red Lodge 72.71 45 P **P** **08 58 19.4 +1.2**
RLMT Red Lodge 72.71 45 P **P** **08 58 17.1 -1.1**
baz=310

PKM Mcpherson Peak 72.73 59 P **P** **08 58 17.9 -0.6**
baz=307
MOOW Moose Ponds 72.77 47 P **P** **08 58 19.8 +1.2**
MOOW IAmb IAmb 08 58 33.4
comp=Z,16nm,1.2s
TPAW Teton Pass 72.82 47 P **P** **08 58 20.4 +1.4**
TPAW IAmb IAmb 08 58 33.2
comp=Z,16nm,1.2s
AKASG Malin Array Be 72.85 323 P **P** **08 58 19.3 +0.7**
comp=Z,23nm,0.8s,baz=44,slow=6.1,SNR=62
AKASG LR LR 09 32 09.8
comp=Z,594nm,18.9s,baz=20,slow=37
AKASG Malin Array Be 72.85 323 P **P** **08 58 18.8 +0.2**
AKASG IAmb IAmb 08 58 20.6
comp=Z,18nm,1.2s
AKBB Malin Array Si 72.85 323*c i*P **P** **08 58 19.0 +0.4**
AKBB pmax pmax
comp=Z,37nm,0.9s
AKBB Malin Array Si 72.85 323 P **P** **08 58 18.4 -0.2**
HVU Hansel Valley 72.86 50 P **P** **08 58 19.9 +0.8**
HVU pmax pmax
comp=Z,14nm,1.2s
HVU Hansel Valley 72.86 50 P **P** **08 58 19.9 +0.8**
HVU IAmb IAmb 08 58 35.5
comp=Z,14nm,1.2s
CWC Cottonwood Cre 72.91 57 P **P** **08 58 18.9 -0.6**
baz=308
LOHW Long Hollow 72.94 47 P **P** **08 58 20.8 +1.2**
SNOW Snow King Moun 72.95 47 P **P** **08 58 20.4 +0.7**
REDW Red Top Meadow 72.96 47 P **P** **08 58 20.7 +1.0**
REDW IAmb IAmb 08 58 34.5
comp=Z,23nm,1.4s
GRAC Grapevine Rang 73.03 56 P **P** **08 58 19.2 -0.8**
baz=308,SNR=7.4
SUW Suwalki 73.13 328*e*P **P** **08 58 21.0 +0.7**
ISA Isabella, Lake 73.13 57 P **P** **08 58 19.9 -0.8**
baz=308
DGMT Dagmar 73.14 40 P **P** **08 58 20.8 +0.4**
DGMT IAmb IAmb 08 58 31.6
comp=Z,21nm,1.1s
DGMT Dagmar 73.14 40 P **P** **08 58 18.8 -1.6**
baz=312
AHID Auburn Hatcher 73.20 48 P **P** **08 58 21.7 +0.6**
BGU Big Grassy Mou 73.25 50 P **P** **08 58 21.8 +0.4**
DY2G Dye2 73.28 4 *i*P **P** **08 58 22.6 +1.4**
DY2G IAmb IAmb 08 58 25.0
comp=Z,8.7nm,0.7s
LAO LASA Array 73.30 42 P **P** **08 58 22.5 +1.0**
LAO IAmb IAmb 08 58 35.6
comp=Z,34nm,1.4s
LAO LASA Array 73.30 42 P **P** **08 58 20.2 -1.3**
baz=312
R11A Troy Canyon, C 73.31 54 P **P** **08 58 22.8 +1.0**
R11A Troy Canyon, C 73.31 54 P **P** **08 58 21.2 -0.6**
baz=308,SNR=9.5
SPUT South Promonto 73.34 50 P **P** **08 58 23.6 +1.7**
MPMC Manual Prospec 73.53 57 P **P** **08 58 21.8 -1.3**
baz=308,SNR=8.3
FURC Furnace Creek, 73.67 56 P **P** **08 58 23.4 -0.3**
baz=308,SNR=9.6
SPR3 Spring Creek 3 73.67 53 P **P** **08 58 25.7 +1.6**
SPR3 IAmb IAmb 08 58 39.2
comp=Z,22nm,1.5s
TPNV Topopah Spring 73.76 55 P **P** **08 58 25.3 +0.8**
TPNV pmax pmax
comp=Z,25nm,1.5s
TPNV Topopah Spring 73.76 55 P **P** **08 58 25.2 +0.8**
TPNV IAmb IAmb 08 58 39.9
comp=Z,25nm,1.4s
TPNV Topopah Spring 73.76 55 P **P** **08 58 23.5 -1.0**
baz=308,SNR=9.0
DUG Dugway, Tooele 73.83 51 P **P** **08 58 26.1 +1.3**
DUG pmax pmax
comp=Z,15nm,1.2s
DUG Dugway, Tooele 73.83 51 P **P** **08 58 26.1 +1.3**
DUG IAmb IAmb 08 58 38.6
comp=Z,15nm,1.1s
DUG Dugway, Tooele 73.83 51 P **P** **08 58 24.2 -0.6**
baz=309,SNR=10
GURO Guroymak-BITLI 73.89 307 P **P** **08 58 26.4 +1.3**
EDW2 Edwards Air Fo 73.92 58 P **P** **08 58 24.9 -0.4**
baz=308
GWY Greenwater Val 73.97 56 P **P** **08 58 26.6 +0.9**
GWY IAmb IAmb 08 58 39.9
comp=Z,18nm,1.4s
QSM Queen of Sheba 73.98 56 P **P** **08 58 26.5 +1.0**
QSM IAmb IAmb 08 58 39.8
comp=Z,25nm,1.1s
BW06 Boulder Array 74.07 47 P **P** **08 58 26.8 +0.5**
BW06 Boulder Array 74.07 47 P **P** **08 58 24.8 -1.5**
baz=310,SNR=6.4
PD31 Pinedale Array 74.07 47 P **P** **08 58 27.0 +0.7**
PDAR Pinedale Array 74.07 47 P **P** **08 58 27.2 +0.9**
comp=Z,1.6nm,0.7s,baz=263,slow=2.3,SNR=18
PDAR Pinedale Array 74.07 47 P **P** **08 58 27.0 +0.7**
TCUT Toone Canyon 74.07 49 P **P** **08 58 27.1 +0.8**
TCUT IAmb IAmb 08 58 40.6
comp=Z,17nm,1.2s
CTU Camp Tracy 74.14 50 P **P** **08 58 26.0 -0.7**
PRN Pahroc Range 74.23 54 P **P** **08 58 27.5 +0.4**
PRN IAmb IAmb 08 58 43.9
comp=Z,24nm,1.4s
PSUT Pine Spring 74.25 53 P **P** **08 58 27.7 +0.3**
JLU Jordanelle 74.38 50 P **P** **08 58 29.1 +0.9**
NLU North Lily Min 74.42 51 P **P** **08 58 28.8 +0.4**
GSC Goldstone, Bar 74.43 57 P **P** **08 58 28.7 +0.4**
GSC pmax pmax
comp=Z,14nm,1.5s
GSC Goldstone, Bar 74.43 57 P **P** **08 58 28.7 +0.4**
GSC Goldstone, Bar 74.43 57 P **P** **08 58 27.1 -1.2**
baz=309
BFSC Mount Baldy Ra 74.54 58 P **P** **08 58 28.1 -0.9**
baz=308
MPU Maple Canyon 74.64 50 P **P** **08 58 30.6 +1.0**
MPU IAmb IAmb 08 58 43.2
comp=Z,17nm,1.3s
TUQ Turquoise Moun 74.91 56 P **P** **08 58 30.2 -0.9**
baz=309,SNR=9.0
BBRC Big Bear Solar 75.00 58 P **P** **08 58 31.9 +0.1**
baz=309
HEC Hector,Ludlow 75.03 57 P **P** **08 58 29.9 -1.9**
baz=309
SORM Soroca 75.04 321⇑P **P** **08 58 32.2 +0.7**
CCUT Cedar City 75.18 53 P **P** **08 58 34.3 +1.5**
MURC Murrieta 75.23 58 P **P** **08 58 32.2 -0.8**
baz=309
MVU Marysvale 75.27 52 P **P** **08 58 33.6 +0.3**
TMUT Trail Mountain 75.36 51 P **P** **08 58 33.8 -0.1**
RDMU Red Mountain 75.49 49 P **P** **08 58 34.8 +0.3**
RDMU IAmb IAmb 08 58 48.8
comp=Z,28nm,1.2s
P17A Butcher Ranch, 75.52 50 P **P** **08 58 35.4 +0.8**
P17A IAmb IAmb 08 58 49.1
comp=Z,22nm,1.3s
MTPU Mount Pierson 75.58 52 P **P** **08 58 36.4 +1.1**
MTPU IAmb IAmb 08 58 53.2
comp=Z,18nm,1.5s
LCMT Little Creek M 75.59 54 P **P** **08 58 36.3 +1.2**
LCMT IAmb IAmb 08 58 51.9
comp=Z,24nm,1.3s
KIS Kishinev 75.61 320*e*PP PP 09 01 29.0 +5.4
comp=Z,120nm,6.6s
KIS *e*LR LR 09 34 15.0
comp=Z,500nm,15.5s
Q16A Castle Valley 75.62 51 P **P** **08 58 35.8 +0.5**
Q16A IAmb IAmb 08 58 49.9
comp=Z,17nm,1.2s
PFO Pinyon Flats O 75.71 58 P **P** **08 58 36.3 +0.6**
PFO pmax pmax
comp=Z,13nm,1.3s
PFO Pinyon Flats O 75.71 58 P **P** **08 58 36.3 +0.6**
PFO Pinyon Flats O 75.71 58 P **P** **08 58 34.5 -1.2**
baz=309
TPFO Pinon Flats 75.71 58 P **P** **08 58 34.2 -1.6**
baz=309
BEL Belsk 75.72 328*e*P **P** **08 58 37.6 +2.3**
BELC Belle Mtn. Jos 75.76 58 P **P** **08 58 34.8 -1.3**
baz=309
UMR Umm Al-Rimmam 75.79 297*e*P **P** **08 58 35.0 -1.1**
MDND Maddock 75.79 38 P **P** **08 58 34.9 -0.9**
baz=315
LVV L'vov 75.83 325*e*P **P** **08 58 36.1 +0.1**
LVV *e* 09 01 26.4
LVV *e* 09 03 18.1
LVV *e*S **S** **09 08 16.3 -1.8**

LVV *e* 09 09 05.8
LVV pmax pmax
comp=Z,60nm,1.5s
LVV MLR MLR
comp=E,1µm,18.0s
LVV MLR MLR
comp=N,700nm,17.0s
LVV MLR MLR
comp=Z,800nm,17.0s
K22A Casper 75.83 46 P P 08 58 36.9 +0.6
K22A IAmb IAmb 08 58 47.7
comp=Z,16nm,1.4s
K22A Casper 75.83 46 P P 08 58 34.9 -1.4
baz=312
DIKM Dikmen 75.86 313 ⇑P P 08 58 38.2 +1.9
SRU San Rafael Swe 75.88 51 P P 08 58 37.5 +0.7
SRU pmax pmax
comp=Z,13nm,1.0s
SRU San Rafael Swe 75.88 51 P P 08 58 37.5 +0.7
SRU IAmb IAmb 08 58 52.9
comp=Z,13nm,1.0s
KBD Kabd 76.03 296 *e*P **P 08 58 36.3 -1.2**
RWWY Rawlins 76.09 47 P P 08 58 38.4 +0.4
RWWY IAmb IAmb 08 58 51.7
comp=Z,26nm,1.4s
QRN Al-Qurain 76.15 296 *e*P **P 08 58 36.8 -1.4**
RSSD Black Hills 76.17 43 P P 08 58 38.7 +0.3
RSSD pmax pmax
comp=Z,23nm,1.4s
RSSD Black Hills 76.17 43 P P 08 58 38.7 +0.3
RSSD IAmb IAmb 08 58 53.9
comp=Z,23nm,1.4s
RSSD Black Hills 76.17 43 P P 08 58 38.3 -0.1
baz=313
IRM Iron Mountain 76.21 57 P P 08 58 38.7 +0.2
baz=310,SNR=5.9
RDF Al-Radifah 76.29 296 *e*P **P 08 58 37.6 -1.3**
RST Umm Al-Ruwaisa 76.31 297 *e*P **P 08 58 37.4 -1.7**
BC3 Big Chuckawall 76.33 57 P P 08 58 39.1 -0.1
baz=310
W13A Hualapai Mount 76.41 56 P P 08 58 40.2 +0.3
IKP In-Ko-Pah, Jac 76.54 59 P P 08 58 40.8 +0.3
baz=309
O20A White River Ci 76.54 49 P P 08 58 40.1 -0.4
baz=312
KWP Kalwaria Pacla 76.55 325 *e*P **P 08 58 41.6 +1.5**
KWP *e*S **S 09 08 30.2 +4.1**
KWP Kalwaria Pacla 76.55 325 P P 08 58 41.0 +0.9
KWP pmax pmax
comp=Z,677nm,1.2s
KWP Kalwaria Pacla 76.55 325 P P 08 58 41.0 +0.9
U15A North Rim 76.55 54 P P 08 58 42.2 +1.5
U15A IAmb IAmb 08 58 55.5
comp=Z,17nm,1.2s
SWSC Sam W. Stewart 76.55 58 P P 08 58 40.4 0.0
baz=310
PDMCI Parker Dam,Lak 76.76 56 P P 08 58 42.9 +1.4
baz=310
BUR08 Bucovina Ar. S 76.88 322 P P 08 58 42.8 +0.7
BUR08 IAmb IAmb 08 58 44.4
comp=Z,15nm,0.8s
BURAR Bucovina Array 76.89 322 ⇑P P 08 58 43.8 +1.6
BURAR Bucovina Array 76.89 322 P P 08 58 42.7 +0.5
BURAR IAmb IAmb 08 58 44.8
comp=Z,19nm,0.8s
BIZ Bicaz 76.96 321 ⇑P P 08 58 43.6 +1.1
TESR Tescani 77.00 321 ⇑P P 08 58 43.5 +0.7
GLA Glamis 77.12 58 P P 08 58 42.5 -1.1
baz=310
CFR Carcaliu 77.22 319 ⇑P P 08 58 44.5 +0.6
KOLS Kolonicke sedl 77.26 325 *e*P **P 08 58 45.1 +1.0**
KOLS pmax pmax
comp=Z,28nm,1.3s
KOLS Kolonicke sedl 77.26 325 *e*P **P 08 58 45.1 +1.0**
N23A Red Feather La 77.33 47 P P 08 58 43.1 -1.9
baz=319
OJC Ojcow 77.35 327 *e*P **P 08 58 45.8 +1.1**
OJC *e*PcP **PcP 08 58 54.8 -0.3**
OJC *e*S **S 09 08 34.1 -0.7**
OJC Ojcow 77.35 327 P P 08 58 45.5 +0.9
OJC pmax pmax
comp=Z,46nm,1.2s
OJC Ojcow 77.35 327 P P 08 58 45.5 +0.9
BNN Bunyan 77.38 310 P P 08 58 45.8 +0.7
VRI Vrincioaia 77.43 320 ⇑P P 08 58 45.4 +0.3
UZH Uzhgorod 77.47 325 *e*P **P 08 58 41.0 -4.3**
UZH *i* 08 58 45.0
UZH *e* 08 58 50.8
PLOR Plostina 77.48 320 ⇑P P 08 58 48.5 +3.0
CRVS Cervenica-Dubn 77.64 325 *e*P **P 08 58 47.6 +1.3**
CRVS pmax pmax
comp=Z,25nm,1.2s
CRVS Cervenica-Dubn 77.64 325 *e*P **P 08 58 47.6 +1.3**
COVR Voineasa-Covas 77.70 321 ⇑P P 08 58 48.5 +1.8
WUAZ Wupatki 77.71 54 P P 08 58 47.2 +0.1
WUAZ Wupatki 77.71 54 P P 08 58 46.5 -0.6
baz=311,SNR=5.0
Y14A Wickenburg 77.71 56 P P 08 58 47.2 +0.2
OZUR 77.72 321 ⇑P P 08 58 48.9 +2.1
TRPA Tarpa 77.74 324 ⇑P P 08 58 48.4 +1.6
TRPA Tarpa 77.74 324 *e*P **P 08 58 48.7 +1.9**
NIE Niedzica 77.75 326 *e*P **P 08 58 49.1 +2.2**
SMCO Snowmass 77.91 49 P P 08 58 48.7 +0.3
113A Mohawk Valley, 77.98 57 P P 08 58 49.1 +0.7
BRTR Keskin Array B 78.06 312 P P 08 58 50.1 +1.2
comp=Z,7.1nm,1.1s,baz=90,slow=3.7,SNR=12
BRTR PP **PP 09 01 39.6 -5.1**
comp=Z,3.4nm,0.8s,baz=37,slow=12,SNR=8.6
BRTR LR LR 09 40 21.4
comp=Z,721nm,18.0s,baz=3.0,slow=41
BRTR Keskin Array B 78.06 312 P P 08 58 49.2 +0.2
BRTR Keskin Array B 78.06 312 P P 08 58 49.2 +0.2
MLR Muntele Rosu 78.08 321 ⇑P P 08 58 49.1 +0.2
ISCO Idaho Springs 78.26 47 P P 08 58 51.4 +1.1
ISCO pmax pmax
comp=Z,15nm,1.5s
ISCO Idaho Springs 78.26 47 P P 08 58 51.4 +1.1
ISCO Idaho Springs 78.26 47 P P 08 58 50.2 -0.1
baz=313
KSP Ksiaz 78.29 329 *e*P **P 08 58 51.0 +1.2**
KSP *e*PcP **PcP 08 59 00.3 +1.1**
KSP *e*S **S 09 08 45.0 +0.1**
LANS Liptovska Anna 78.31 326 *e*P **P 08 58 51.8 +1.8**
LANS pmax pmax
comp=Z,12nm,1.2s
LANS Liptovska Anna 78.31 326 *e*P **P 08 58 51.8 +1.8**
OKC Ostrava-Krasne 78.33 328 AMS AMS 09 38 10.0
comp=Z,1µm,14.1s
MVCO Mesa Verde 78.33 51 P P 08 58 51.3 +0.7
MVCO IAmb IAmb 08 59 07.1
comp=Z,18nm,1.3s
MVCO Mesa Verde 78.33 51 P P 08 58 51.1 +0.5
baz=312
SUSD Miller 78.54 41 P P 08 58 51.8 +0.4
SUSD Miller 78.54 41 P P 08 58 51.5 +0.1
baz=316
OSTC Ostas 78.55 329 *e*PCP **PcP 08 59 01.6 +1.2**
OSTC AMS AMS 09 37 20.0
comp=Z,1µm,16.3s
VOIR 78.55 321 ⇑P P 08 58 52.7 +1.2
CHVC Chvalec 78.58 329 *e*PCP **P 08 58 52.4 +0.9**
MORC Moravsky Berou 78.62 328 ⇑P P 08 58 53.0 +1.2
MORC Moravsky Berou 78.62 328 P P 08 58 52.4 +0.6
MORC pmax pmax
comp=Z,29nm,1.2s
MORC Moravsky Berou 78.62 328 P P 08 58 52.4 +0.6
MORC IAmb IAmb 08 59 03.1
comp=Z,29nm,1.1s
MORC Moravsky Berou 78.62 328 *e*P **P 08 58 52.9 +1.2**
DRGR 78.65 323 ⇑P P 08 58 53.2 +1.1
UPC Upice 78.66 329 *e*PCP **P 08 58 52.7 +0.8**
UPC *ex* x 08 59 02.6
UPC AMS AMS 09 37 30.0
comp=Z,1µm,15.7s
DPC Dobruska-Polom 78.67 329 *e*PCP **P 08 58 53.3 +1.3**
DPC *ex* x 08 59 02.5
DPC AMS AMS 09 38 40.0
comp=Z,1µm,14.2s
KRLC Kraliky 78.70 328 AMS AMS 09 38 20.0
comp=Z,1µm,15.1s
ARR Arges 78.80 321 ⇑P P 08 58 54.6 +1.8
S22A 4UR Ranch, Cre 78.96 50 P P 08 58 55.5 +1.3
baz=313
W18A Petrified Fore 78.98 53 P P 08 58 54.6 +0.4
baz=312
PSZ Piszkesteto 79.06 325 ⇑P P 08 58 56.2 +1.9
PSZ Piszkesteto 79.06 325 *e*P **P 08 58 56.3 +2.0**
PSZ Piszkesteto 79.06 325 P P 08 58 55.6 +1.4
PSZ pmax pmax
comp=Z,32nm,1.0s
PSZ Piszkesteto 79.06 325 P P 08 58 55.6 +1.4
VYHS Vyhne 79.08 326 *e*P **P 08 58 55.3 +1.1**
VYHS pmax pmax
comp=Z,78nm,2.3s
VYHS Vyhne 79.08 326 *e*P **P 08 58 55.3 +1.1**
Q24A Divide 79.09 48 P P 08 58 55.7 +0.8
baz=314
214A Organ Pipe Nat 79.12 57 P P 08 58 55.6 +0.8
214A Organ Pipe Nat 79.12 57 P P 08 58 55.6 +0.8
baz=311
LOT Lotru 79.16 322 ⇑P P 08 58 55.2 +0.4
BRG Berggiesshubel 79.17 330 *i* P **P 08 58 56.1 +1.4**
BRG Amp 08 58 58.3
comp=Z,11nm,1.0s
BRG Berggiesshubel 79.17 330 P P 08 59 05.3 +11
BRG Amp 08 59 05.6
comp=Z,15nm,1.2s
BRG Berggiesshubel 79.17 330 S S 09 08 51.0 -3.3
CLL Collm 79.17 331 *i* P **P 08 58 55.2 +0.5**
comp=Z,21nm,0.9s
CLL *i* PcP **PcP 08 59 04.0 +1.0**
CLL *i* 08 59 07.6
CLL *e*PP **PP 09 01 54.0 +0.7**
CLL *e*S **S 09 08 49.0 -5.3**
CLL *e*PS **PnS 09 09 42.0 +5.8**
CLL *e*SS SS 09 13 48.0 -11
CLL *e* 09 14 48.0
CLL *e* 09 18 36.0
CLL Collm 79.17 331 *i* P **P 08 58 55.2 +0.5**
CLL *i* *PP **PcP 08 59 04.0 +1.0**
CLL *e*S **S 09 08 49.0 -5.3**
CLL pmax pmax
comp=Z,21nm,0.9s
CLL MLR MLR
comp=Z,900nm,20.5s
CLL Collm 79.17 331 P P 08 58 55.0 +0.3
CLL IAmb IAmb 08 58 56.5
comp=Z,22nm,1.0s
PVCC Panska Ves 79.21 330 AMS AMS 09 38 00.0
comp=Z,1µm,15.4s
JAVC Velka Javorina 79.28 327 *e*P **P 08 58 57.5 +2.1**
VRAC Vranov 79.38 328 ⇑P P 08 58 57.5 +1.7
VRAC Vranov 79.38 328 *e*P **P 08 58 57.1 +1.3**
SIRR Siria 79.53 323 ⇑P P 08 58 58.3 +1.6
PRA Prague 79.63 330 AMS AMS 09 38 20.0
comp=Z,1µm,15.4s
KRUC Moravsky 79.65 328 *e*P **P 08 58 58.4 +1.1**
PRU Pruhonice 79.65 329 *e*PCP **P 08 58 58.2 +0.9**
PRU AMS AMS 09 38 10.0
comp=Z,1µm,17.0s
SMOL Smolenice 79.65 327 *e*P **P 08 58 59.1 +1.7**
SMOL pmax pmax
comp=Z,12nm,1.2s
SMOL Smolenice 79.65 327 *e*P **P 08 58 59.1 +1.7**
GZR Gura Zlata 79.67 322 ⇑P P 08 58 57.6 +0.1
SDCO Great Sand Dun 79.73 49 P P 08 58 56.5 -1.8
SDCO Great Sand Dun 79.73 49 P P 08 58 58.5 +0.2
baz=314
MODS Modra-Piesok 79.83 327 *e*P **P 08 58 59.0 +0.7**
MODS pmax pmax
comp=Z,195nm,2.9s
MODS Modra-Piesok 79.83 327 *e*P **P 08 58 59.0 +0.7**
TREC Trest 79.83 329 AMS AMS 09 38 20.0
comp=Z,900nm,16.0s
K31A O'Neill 79.96 42 P P 08 58 59.9 +0.8
BZS Buzias 80.04 323 ⇑P P 08 59 00.5 +1.0
ZST Bratislava 80.04 327 *e*P **P 08 59 01.5 +2.1**
ZST Bratislava 80.04 327 *e*P **P 08 59 01.5 +2.1**
TUC Tucson 80.19 56 P P 08 59 01.6 +1.0
TUC pmax pmax
comp=Z,12nm,1.5s
TUC Tucson 80.19 56 P P 08 59 01.6 +1.0
TUC Tucson 80.19 56 P P 08 59 01.8 +1.2
baz=312
ECSD EROS Data Cent 80.21 40 P P 08 59 00.7 +0.2
ECSD EROS Data Cent 80.21 40 P P 08 59 00.7 +0.2
baz=318
HERR Herculane 80.22 322 ⇑P P 08 58 59.9 -0.6
NKC Novy Kostel 80.25 331 AMS AMS 09 40 00.0
comp=Z,2µm,14.7s
MDVR Moldovita 80.62 322 ⇑P P 08 59 03.2 +0.5
RAR Rarotonga 80.63 128 LR LR 09 29 25.5
comp=Z,229nm,19.2s,baz=320,slow=32
SOP Sopron 80.67 327 *e*P **P 08 59 05.5 +2.7**
KHC Kasperske Hory 80.71 329 *e*PCP **P 08 59 03.6 +0.5**
KHC *ex* x 08 59 13.0
KHC AMS AMS 09 40 00.0
comp=Z,2µm,15.6s
CONA Conrad Observa 80.76 327 *e*P **P 08 59 05.2 +1.7**
comp=Z,16nm,1.0s,SNR=7.0
T25A Trinidad 80.77 49 P P 08 59 04.1 +0.2
T25A Trinidad 80.77 49 P P 08 59 03.1 -0.8
baz=314
GEC2 GERESS Array S 80.90 329 P P 08 59 03.9 -0.3
GERES GERESS Array B 80.90 329 P P 08 59 04.9 +0.8
comp=Z,4.1nm,0.8s,baz=36,slow=5.0,SNR=14
GERES LR LR 09 39 20.8
comp=Z,1µm,18.0s,baz=14,slow=39
GERES GERESS Array B 80.90 329 P P 08 59 03.9 -0.3
ANMO Albuquerque 81.08 52 *ce*P **P 08 59 08.1 +2.6**
ANMO pmax pmax
comp=Z,9.0nm,1.7s
ANMO Albuquerque 81.08 52 P P 08 59 06.9 +1.4
ANMO Albuquerque 81.08 52 P P 08 59 04.8 -0.7
baz=313
BGNE Belgrade 81.15 42 P P 08 59 04.4 -1.2
baz=317
FRGS Fruska Gora 81.21 324 ⇑P P 08 59 06.6 +0.8
KOVH Kovagotottos 81.26 325 *e*P **P 08 59 07.0 +1.0**
ARSA Arzberg 81.44 327 *i* P **P 08 59 08.2 +1.2**
comp=Z,12nm,1.1s
VTS Vitosha 81.52 320 ⇑P P 08 59 09.0 +1.4
VTS Vitosha 81.52 320 P P 08 59 08.1 +0.5
VTS pmax pmax
comp=Z,18nm,0.8s
VTS Vitosha 81.52 320 P P 08 59 08.1 +0.5
VTS IAmb IAmb 08 59 10.3
comp=Z,18nm,0.8s
BNM Barren Site 81.52 52 P P 08 59 09.0 +1.0
I37A Lemond, Waseca 81.54 38 P P 08 59 08.8 +1.2
SCHQ Schefferville 81.68 17 P P 08 59 09.9 +1.8
comp=Z,3.5nm,0.8s,baz=326,slow=11,SNR=1.7
SCHQ LR LR 09 40 39.8
comp=Z,404nm,18.2s,baz=330,slow=40
SCHQ Schefferville 81.68 17 P P 08 59 08.2 +0.1
SCHQ IAmb IAmb 08 59 27.3
comp=Z,19nm,1.2s
121A Cookes Peak, D 81.92 54 P P 08 59 09.8 -0.2
121A IAmb IAmb 08 59 26.8
comp=Z,16nm,1.4s
121A Cookes Peak, D 81.92 54 P P 08 59 11.0 +1.0
baz=313
DIVS Divibare 81.94 323 P P 08 59 10.2 +0.4
DIVS IAmb IAmb 08 59 20.4
comp=Z,17nm,1.1s
GROS Grobnik 82.08 327 *i* P **P 08 59 11.0 +0.5**
SOCY Socotra 82.09 279 P P 08 59 09.9 -1.1
SOKA Soboth 82.10 327 *e*P **P 08 59 11.4 +0.9**
comp=Z,33nm,1.1s,SNR=6.8
BTNL Ternell 82.19 334 *d*P **P 08 59 11.4 +0.5**
CBKS Cedar Bluff 82.19 45 P P 08 59 11.6 +0.5
CBKS pmax pmax
comp=Z,14nm,1.0s
CBKS Cedar Bluff 82.19 45 P P 08 59 11.6 +0.5
CBKS IAmb IAmb 08 59 23.8
comp=Z,14nm,1.0s
CBKS Cedar Bluff 82.19 45 P P 08 59 10.5 -0.6
baz=316
GOLS Golise 82.38 326 *i* P **P 08 59 12.4 +0.4**
OBKA Obir 82.44 327 *e*P **P 08 59 12.8 +0.5**
comp=Z,11nm,0.8s
KBA Koelnbreinsper 82.47 328 *e*P **P 08 59 12.9 +0.3**
comp=Z,44nm,1.1s,SNR=7.1
BCLA Clavier 82.60 335 *d*P **P 08 59 12.5 -0.5**
BCLA *dp*P **pwP 08 59 22.2 +3.1**
BCLA *ds*P PcP 08 59 26.2 +8.2
BGES Gesves 82.70 335 *d*P **P 08 59 13.2 -0.3**
MYKA Terra Mystica 82.71 328 *e*P **P 08 59 14.1 +0.4**
comp=Z,23nm,1.6s
BMRD Maredsous 82.88 335 *d*P **P 08 59 15.4 +1.0**
BMRD *dp*P **pwP 08 59 23.4 +2.9**
WATA Walderalm 82.95 329 *e*P **P 08 59 16.2 +1.1**
comp=Z,21nm,1.3s
WTTA Wattenberg 82.99 329 *e*P **P 08 59 16.5 +1.1**
comp=Z,18nm,1.2s
DOU Dourbes 83.11 335 *d*P **P 08 59 14.6 -1.1**
MOTA Moosalm 83.13 330 *e*P **P 08 59 16.9 +0.9**
comp=Z,30nm,1.0s,SNR=7.6
RETA Reutte 83.14 330 *e*P **P 08 59 17.1 +1.1**
comp=Z,24nm,1.4s
SQTA Sankt Quirin 83.19 330 *e*P **P 08 59 17.3 +1.0**
comp=Z,16nm,1.0s
FETA Feichten 83.54 330 *e*P **P 08 59 19.0 +0.8**
comp=Z,12nm,0.9s
PDG Podgorica 83.57 322 ⇑P P 08 59 19.3 +1.1
PDG Podgorica 83.57 322 P P 08 59 18.3 +0.2
DAVA Damuels 83.64 330 *i* P **P 08 59 19.5 +0.9**
comp=Z,14nm,1.1s
FNA Florina 83.81 320 P P 08 59 19.8 +0.3
FNA pmax pmax
comp=Z,23nm,1.1s
FNA Florina 83.81 320 P P 08 59 19.8 +0.3
PMOR Pomariorio Ree 83.83 115 *e*T T 10 31 32.1
comp=Z,3.1nm,0.2s
ECH Echery 83.86 332 P P 08 59 19.8 +0.2
ECH pmax pmax
comp=Z,9.0nm,0.9s
ECH Echery 83.86 332 P P 08 59 19.8 +0.2
ECH IAmb IAmb 08 59 30.3
comp=Z,9.2nm,0.9s
MSTX Muleshoe 83.94 50 P P 08 59 21.0 +0.6
MSTX IAmb IAmb 08 59 34.1
comp=Z,21nm,1.4s
MSTX Muleshoe 83.94 50 P P 08 59 19.0 -1.4
baz=315
MNTX Cornudas Mount 83.97 53 P P 08 59 21.1 +0.6
MNTX Cornudas Mount 83.97 53 P P 08 59 21.2 +0.8
baz=314
KBN Korca 84.22 320 P P 08 59 20.6 -1.0
KBN pmax pmax
comp=Z,66nm,1.2s
KBN Korca 84.22 320 P P 08 59 20.6 -1.0
PPT Papeete 84.48 118 LR LR 09 33 18.6
comp=Z,438nm,18.9s,baz=302,slow=33
PPT2 Papeete2 84.50 118 *e*S **S 09 09 51.0 +0.9**
comp=Z,663nm,38.2s
PPT2 Papeete2 84.50 118 *e*LR LR 09 26 00.5
comp=Z,767nm,21.5s,baz=316
P38A Dawn 84.82 41 P P 08 59 24.1 -0.4
P38A IAmb IAmb 08 59 37.3
comp=Z,22nm,1.4s
TAOE Nuku Hiva Isla 85.20 106 *e*S **S 09 09 58.4 +1.0**
comp=Z,266nm,23.2s
TAOE Nuku Hiva Isla 85.20 106 *e*LR LR 09 26 35.0
comp=Z,635nm,21.1s,baz=313
T35A Sooner Cattle 85.32 44 P P 08 59 27.4 +0.2
SENIN Lac Senin/Sane 85.38 331 P P 08 59 27.2 -0.3
SENIN IAmb IAmb 08 59 38.3
comp=Z,16nm,1.1s
P40A Paris 85.63 40 P P 08 59 28.8 +0.2
P40A IAmb IAmb 08 59 41.4
comp=Z,13nm,1.1s
WMOK Wichita Mounta 85.68 47 P P 08 59 29.2 +0.2
WMOK pmax pmax
comp=Z,6.0nm,1.1s
WMOK Wichita Mounta 85.68 47 P P 08 59 29.2 +0.2
NRCA Norcia 86.01 326 P P 08 59 29.8 -0.8
HDIL Hopedale 86.14 38 P P 08 59 29.4 -1.7
baz=322
ITM Ithomi 86.27 317 P P 08 59 31.8 -0.1
S39A Bolivar 86.40 42 P P 08 59 31.9 -0.6
R40A Maddies Statio 86.47 41 P P 08 59 32.7 -0.1
TX31 Lajitas Ar. Si 86.67 54 P P 08 59 34.1 0.0
TX32 Lajitas Array 86.67 54 P P 08 59 34.1 0.0
TX32 IAmb IAmb 08 59 48.1
comp=Z,15nm,1.2s
TXAR Lajitas Array 86.67 54 P P 08 59 35.2 +1.1
comp=Z,3.1nm,0.9s,baz=294,slow=3.4,SNR=23
TXAR LR LR 09 33 12.0
comp=Z,99nm,21.7s,baz=0.0,slow=32
TXAR Lajitas Array 86.67 54 P P 08 59 34.6 +0.5
ABTX Abilene, Hawle 86.73 49 P P 08 59 34.2 -0.1
ABTX IAmb IAmb 08 59 47.4
comp=Z,16nm,1.4s
ABTX Abilene, Hawle 86.73 49 P P 08 59 31.5 -2.7
baz=317
HPIG 87.09 57 P P 08 59 36.2 -0.1
HPIG IAmb IAmb 08 59 50.3
comp=Z,12nm,1.3s
CCM Cathedral Cave 87.17 40 P P 08 59 35.3 -0.9
CCM pmax pmax
comp=Z,14nm,1.0s
CCM Cathedral Cave 87.17 40 P P 08 59 35.3 -0.9
CCM IAmb IAmb 08 59 49.4
comp=Z,14nm,1.0s
CCM Cathedral Cave 87.17 40 P P 08 59 33.4 -2.8
baz=321
Q44A Meyer Farm, Va 87.58 38 P 08 59 37.4 -0.8
FVM French Village 87.62 40 P P 08 59 36.9 -1.5
FVM pmax pmax
comp=Z,13nm,1.2s
FVM French Village 87.62 40 P 08 59 36.9 -1.5
FVM IAmb IAmb 08 59 50.5
comp=Z,13nm,1.2s
U40A Yellville 87.66 42 P P 08 59 38.8 +0.1
U40A IAmb IAmb 08 59 51.2
comp=Z,9.1nm,0.8s
U40A Yellville 87.66 42 P P 08 59 39.7 +1.1
baz=320
T42A Van Buren 88.04 41 P P 08 59 40.5 +0.1
T42A IAmb IAmb 08 59 53.0
comp=Z,12nm,1.3s
WHTX Lake Whitney, 88.45 48 P 08 59 42.9 +0.5
WHTX IAmb IAmb 08 59 55.7
comp=Z,22nm,1.4s
PBMO Poplar Bluff 88.57 41 P P 08 59 43.1 +0.2
PBMO IAmb IAmb 08 59 56.5
comp=Z,16nm,1.1s
MIAR Mount Ida 88.67 44 P P 08 59 42.4 -1.0
MIAR pmax pmax
comp=Z,11nm,1.1s
MIAR Mount Ida 88.67 44 P P 08 59 42.4 -1.0
MIAR IAmb IAmb 08 59 56.5
comp=Z,11nm,1.1s
MIAR Mount Ida 88.67 44 P P 08 59 44.6 +1.1
baz=320
WHAR Wooly Hollow 88.78 43 P P 08 59 43.9 0.0
ERPA Erie 88.88 31 P P 08 59 44.3 0.0
baz=328
WCI Wyandotte Cave 89.40 37 P P 08 59 45.8 -1.0
baz=324
O53A New Philadelph 89.96 33 P P 08 59 49.0 -0.4
baz=327
KEST Kesra 93.51 324 P P 09 00 05.9 -0.1
comp=Z,1.8nm,0.6s,baz=242,slow=0.7,SNR=3.6
KEST LR LR 09 48 10.2
comp=Z,634nm,18.4s,baz=335,slow=39
ESDC Sonseca Array 95.14 336 LR LR 09 47 27.7
comp=Z,527nm,18.6s,baz=355,slow=38
TORD Torodi Ar. Bea 116.25 318 PKP **PKiKP 09 05 33.6 -0.4**
comp=Z,0.3nm,0.8s,baz=46,slow=1.7,SNR=1.7
TORD PP **PP 09 06 32.0 -6.6**
comp=Z,1.2nm,1.0s,baz=34,slow=6.9,SNR=3.7
OTAV Otavalo 124.30 54 *eP* **PKPdf 09 05 48.5 -1.6**
CZSB Cruzeiro do Su 134.06 55 *eP* **PKiKP 09 06 08.4 -0.9**
MALB Monte Alegre 138.37 28 *eP* **PKPdf 09 06 15.7 -0.3**
ITTB Itaituba 140.13 31 *eP* **PKPdf 09 06 19.2 0.0**
SAML Samuel 140.62 45 *eP* **PKPdf 09 06 19.2 -0.9**
TMAB Tom-Au,PA,Br 140.74 19 *eP* **PKPdf 09 06 20.4 0.0**
LPAZ La Paz 143.42 58 PKP **PKPdf 09 06 25.2 -0.5**
comp=Z,0.7nm,0.5s,baz=0.0,slow=5.1,SNR=3.6
LPAZ La Paz 143.42 58 PKPdf 09 06 24.6 -1.1
PRPB Parauapebas 143.90 23 *eP* **PKPdf 09 06 25.3 -0.6**
NBPS Pedro II - PI 143.95 9 *eP* **PKPdf 09 06 25.9 -0.2**
SNAA Sanae 144.41 197 PKPdf **PKPdf 09 06 24.8 -0.4**
H03N2 Juan Fernandez 145.40 92 T T 11 49 03.8
baz=300
H03N3 Juan Fernandez 145.41 92 T T 11 49 03.2
baz=300
H03N1 Juan Fernandez 145.42 92 T T 11 49 04.5
baz=300
PB08 IPOC Station P 145.44 64 PKPdf 09 06 27.9 -1.0
RCBR Riachuelo 145.68 359 *eP* **PKPdf 09 06 27.7 -1.4**

VNA2	Neumayer--Watz	145.97	196	PKPdf	PKPab	09 06 28.8	-0.2
NBPV	Pedro Velho	146.26	358	*e*P	PKPdf	09 06 29.4	-0.6
VNA1	Neumayer--Stat	146.37	196	PKPdf	PKPbc	09 06 29.7	0.0
LVC	Limon Verde	147.24	67	*e*P	PKPdf	09 06 30.6	-1.3
SNDB	Serra Nova Dou	148.81	29	*e*P	PKPdf	09 06 32.6	-1.6
NBAN	Anadia - AL	149.50	0	*e*P	PKPdf	09 06 34.4	-1.0
PEXB	Peixe	149.96	24	*e*P	PKPdf	09 06 36.4	+0.4
SALV	Santo Antonio	150.37	40	*e*P	PKPdf	09 06 36.1	-0.5
PMSA	Palmer Station	150.68	156	*e*P	PKPdf	09 06 35.3	-0.3
NBLA	Lagarto - SE	150.78	3	*e*P	PKPdf	09 06 36.7	-0.6
SDBA	SAO DESIDERIO	151.18	18	*e*P	PKPdf	09 06 38.2	+0.2
ZON	Zonda	152.41	82	PKIKP	PKPdf	09 06 38.5	-0.9
ZON				09 06 45.1			
ZON	Zonda	152.41	82	PKPdf	PKPdf	09 06 38.5	-0.9
ZON				PKPbc	PKPbc	09 06 45.1	-1.1
LC01	Cunco	152.59	99	PKPdf	PKPdf	09 06 39.2	-0.2
LC01				PKPbc	PKiKP	09 06 46.9	+0.3
LC01				PKPab	PKPab	09 06 56.3	-0.6
PLCA	Paso Flores	153.98	102	PKPbc	PKiKP	09 06 51.6	+2.1
	comp=Z,2.4nm,1.0s,baz=308,slow=4.1,SNR=1.5						
PLCA	Paso Flores	153.98	102	*e*P	PKPdf	09 06 42.3	+0.9
CMC01	Camacan, BA	154.99	8	*e*P	PKPdf	09 06 43.7	+0.3
IPMB	Ipameri, GO	155.47	28	*e*P	PKPdf	09 06 43.7	-0.3
MC01	Montes Claros	155.56	18	*e*P	PKPdf	09 06 44.3	+0.1
ITRB	Iturama	156.16	35	*e*P	PKPdf	09 06 44.9	0.0
GUA01	Guaratinga, BA	156.17	9	*e*P	PKPdf	09 06 45.2	+0.2
PCMB	Pacaembu	157.39	39	*e*P	PKPdf	09 06 45.2	-1.2
TRCB	Terra Rica	157.69	43	*e*P	PKPdf	09 06 46.4	-0.5
SJMB	Sao Joao De Ma	158.06	13	*e*P	PKPdf	09 06 47.2	-0.1
ITQB	Itaqui	160.24	64	*e*P	PKPdf	09 06 49.0	-0.6
PET01	Itanhaem-SP	161.53	34	*e*P	PKPdf	09 06 51.9	+0.8
PLTB	Pedras Altas	163.57	64	*e*P	PKPdf	09 06 53.4	+0.4

HLW ***29*** *09:12:32.2,35˚.14N×24˚.68E,h22km±23km,Md4.9*
BJI ***29*** *09:12:36.7±0.0,34˚.65N×24˚.34E,h38km,mB5.2/12, mb4.8/29,Ms4.9/5,Ms7 4.7/3*
MOS ***29*** *09:12:37.6±1.1,34˚.75N×24˚.62E,h27km,mb5.0/34,Error ellipse: s-maj=6.0km s-min=3.4km az=89.1*
PDG ***29*** *09:12:37.4±0.2,34˚.65N×23˚.81E,h16km±6km,ML4.8/12, Error ellipse: s-maj=6.8km s-min=3.3km az=90.0*
NEIC ***29*** *09:12:38.9±1.6,34˚.76N±0˚.07×24˚.62E±0˚.05,h19km±4km, Error ellipse: s-maj=10.1km s-min=5.6km az=177.0*
IDC ***29*** *09:12:39.9±1.3,34˚.74N×24˚.67E,h34km±8km,mb4.5/29, mb1 4.6/41,mb1mx4.5/52,mbtmp4.7/41,ML4.3/8,MS3.7/9, Ms1 3.7/9,ms1mx3.3/60,Error ellipse: s-maj=12.3km s-min=9.8km az=151.0*
ISK ***29*** *09:12:39.7,34˚.74N×24˚.60E,h22km,ML4.4/17*
DDA ***29*** *09:12:39.8,34˚.92N×24˚.81E,h9km±4km,MW4.4*
ATH ***29*** *09:12:40.1,34˚.69N×24˚.59E,h25km±7km,ML4.6/7,Error ellipse: s-maj=7.2km s-min=1.3km az=348.0*
MED_RC ***29*** *09:12:40.0±0.5,34˚.67N×24˚.53E,h40km,MW4.5/11, Moment Tensor Solution.Mantle waves: s11,c11; Duration: 1s1 Moment tensor: Scale 10¹⁵Nm; Mrr-2.00±1.35; Mθθ-0.52±1.74; Mθφ2.52±2.36; Mrθ4.95±.26; Mφφ-4.04±1.65; Mrφ0.04±.44; Best double couple: M≈6.77000×10¹⁵ NP1:φ≈182.00000°,δ42.00000°, λ-18.00000°. NP2:φ≈286.00000°,δ78.00000°, λ-131.00000°. Principal axes: T 6.4600, Plg22.0000°, Azm46.0000°; N 0.6100, Plg40.0000°, Azm296.0000°; P -7.0800, Plg42.0000°, Azm157.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
THE ***29*** *09:12:41.1,34˚.76N×24˚.59E,h15km,ML4.5/7 Error ellipse: s-maj=1.4km s-min=0.6km az=357.0*

ISC 29 09:12:39.7±0.5,34.73N±0.03×24.61E±0.02,h33km±3km, n799,σ1$67/872,mb4.8/136,MS4.1/6,44C-18D,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	0.33	30	P	Pb	09 12 47.9	+0.1
SIVA				S	Sb	09 12 53.7	+0.4
	496µm,0.4s						
SIVA	**Sivas**	0.33	30	P	Pb	09 12 47.9	+0.1
SIVA				S	Sb	09 12 53.7	+0.4
SIVA				AML	AML	09 12 55.8	
SIVA				AML	AML	09 12 56.1	
TMBK	**Timbaki Herakl**	0.36	21	P	Pb	09 12 48.8	+0.6
TMBK				S	Sb	09 12 54.5	+0.5
	106µm,0.4s						
GVD	**Gavdhos**	0.44	284	P	Pb	09 12 49.2	-0.2
GVD				S	Sb	09 12 56.8	+0.8
	144µm,0.5s						
GVD	**Gavdhos**	0.44	284	P	Pb	09 12 49.2	-0.2
GVD				S	Sb	09 12 56.3	+0.3
GVD				AML	AML	09 12 59.1	
GVD				AML	AML	09 13 02.8	
GVD	**Gavdhos**	0.44	284	PG	Pb	09 12 49.4	0.0
GVD				SG	Sb	09 12 56.3	+0.3
IDI	**Anoyia**	0.60	23	Pg	Pb	09 12 51.8	-0.1
	2µm,0.3s,baz=351,slow=20,SNR=417.4						
IDI				Lg	Lg	09 13 01.2	
	3µm,0.3s,baz=322,slow=19,SNR=12						
IDI	**Anoyia**	0.60	23	P	Pb	09 12 51.8	-0.1
IDI				S	Sb	09 13 00.7	+0.4
	31µm,0.5s						
IDI	**Anoyia**	0.60	23	P	Pb	09 12 51.9	0.0
IDI				S	Sb	09 13 00.9	+0.6
IDI				AML	AML	09 13 06.6	
	comp=N,58996µm,0.4s						
IDI				AML	AML	09 13 09.0	
	comp=E,64801µm,0.6s						
PRNS	**Prines Rethymn**	0.64	352	P	Pb	09 12 52.4	-0.1
PRNS				S	Sb	09 13 01.7	+0.5
KSTL	**Kastelli Herak**	0.68	34	P	Pn	09 12 54.8	+1.7
KSTL				S	Sn	09 13 06.4	+3.8
IACM	**Heraklion**	0.69	33	P	Pb	09 12 53.5	+0.2
IACM	**Heraklion**	0.69	33	P	Pb	09 12 53.5	+0.2
IACM				S	Sn	09 13 04.7	+2.0
HRKL	**Herakleio**	0.70	35	P	Pb	09 12 53.8	+0.2
HRKL	**Herakleio**	0.70	35	PG	Pn	09 12 54.3	+0.9
VAM	**Vamos**	0.75	334	P	Pb	09 12 54.2	-0.2
VAM				S	Sb	09 13 05.3	+0.9
	comp=E,51µm,0.4s						
VAM	**Vamos**	0.75	334	P	Pb	09 12 54.5	+0.1
VAM				S	Sn	09 13 06.1	+1.8
VAM				AML	AML	09 13 11.8	
	comp=N,89601µm,0.4s						
VAM				AML	AML	09 13 12.8	
IMMV	**Iera Moni Meta**	0.89	325	P	Pn	09 12 56.4	+0.5
IMMV				S	Sn	09 13 09.3	+1.6
	comp=N,44µm,0.6s						
IMMV	**Iera Moni Meta**	0.89	325	P	Pn	09 12 56.7	+0.8
IMMV				S	Sn	09 13 09.8	+2.0
IMMV				AML	AML	09 13 19.8	
	comp=E,93688µm,0.7s						
IMMV				AML	AML	09 13 22.7	
	comp=N,79688µm,0.5s						
IMMV	**Iera Moni Meta**	0.89	325	PG	Pn	09 12 56.8	+0.9
IMMV				SG	Sn	09 13 09.7	+2.0
KNDR	**Palaiochora Ch**	0.91	304	P	Pb	09 12 57.9	+0.9
KNDR				S	Sn	09 13 11.8	+3.7
KNDR	**Palaiochora Ch**	0.91	304	PG	Pb	09 12 58.1	+1.1
KNDR				SG	Sn	09 13 11.6	+3.5
FRMA	**Ierapetra Chan**	0.97	73	P	Pb	09 12 59.9	+2.0
FRMA				S	Sb	09 13 15.6	+5.2
NPS	**Neapolis**	0.98	57	P	Pb	09 12 58.4	+0.2
NPS				S	Sb	09 13 11.9	+1.1
	comp=N,18µm,0.7s						
NPS	**Neapolis**	0.98	57	P	Pb	09 12 58.9	+0.8
NPS				S	Sb	09 13 11.3	+0.5
NPS				AML	AML	09 13 19.1	
	comp=E,27576µm,0.8s						
NPS				AML	AML	09 13 24.0	
	comp=N,39432µm,0.6s						
STIA	**Sitia Lasithi**	1.30	69	P	Pb	09 13 04.3	+0.7
ZKR	**Zakros**	1.38	73	P	Pb	09 13 04.7	-0.1
ZKR				S	Sb	09 13 22.0	-0.1
ZKR	**Zakros**	1.38	73	P	Pb	09 13 05.4	+0.6
ZKR				S	Sb	09 13 23.4	+1.3
ZKR	**Zakros**	1.38	73	PN	Pb	09 13 05.2	+0.4
ANKY	**Antikythira Is**	1.56	317	P	Pb	09 13 07.9	0.0
ANKY	**Antikythira Is**	1.56	317	P	Pb	09 13 08.5	+0.6
ANKY				S	Sb	09 13 28.2	+1.0
ANKY				AML	AML	09 13 39.3	
	comp=E,18452µm,0.6s						
ANKY				AML	AML	09 13 42.2	
	comp=N,11485µm,0.6s						
SANT	**Santorini**	1.77	23	⇑P	Pn	09 13 10.0	+1.9
SANT	**Santorini**	1.77	23	*i* P	Pb	09 13 11.0	-0.6
SANT				*i* S	Sb	09 13 38.9	+5.3
SANT	**Santorini**	1.77	23	PN	Pn	09 13 10.4	+2.3
SANT	**Santorini**	1.77	23	Pn	Pn	09 13 10.0	+1.9
SANT				Sn	Sn	09 13 30.0	+0.4
THR7	**Fira-Santorini**	1.81	21	P	Pn	09 13 10.8	+2.2
THT2	**Imerovigli**	1.82	21	P	Pb	09 13 11.3	-1.2
THT2	**Imerovigli**	1.82	21	PN	Pb	09 13 11.2	-1.2
THR2	**Thira island,**	1.84	21	P	Pb	09 13 11.6	-1.1
CMBO	**Columbo, Santo**	1.85	20	P	Pb	09 13 11.9	-1.0
MHLO	**Agia Marina, M**	1.96	355	P	Pn	09 13 12.8	+2.2
VLI	**Veliai**	2.40	326	P	Pn	09 13 18.6	+1.9
APE	**Apeiranthos**	2.45	18	⇑P	Pn	09 13 19.9	+2.5
APE	**Apeiranthos**	2.45	18	P	Pn	09 13 19.9	+2.5
APE	**Apeiranthos**	2.45	18	*i* P	Pn	09 13 20.0	+2.5
APE				*i* S	Sn	09 13 49.1	+2.9
APE	**Apeiranthos**	2.45	18	*c i*P	Pn	09 13 19.9	+2.5
APE				*i* S	Sb	09 13 51.3	-1.5
APE	**Apeiranthos**	2.45	18	PN	Pn	09 13 20.0	+2.5
NIS1	**Nisyros Isl.**	2.80	48	PN	Pn	09 13 24.9	+2.7
KRND	**KRANIDI**	2.90	336	P	Pn	09 13 25.5	+2.0
EPID	**Epidavros**	3.12	338	P	Pn	09 13 28.5	+1.9
VLY	**Voula,Athens**	3.18	348	P	Pn	09 13 29.6	+2.2
BODT	**Bodrum**	3.19	43	PN	Pn	09 13 29.8	+2.2
ARG	**Arkhangelos**	3.23	62	P	Pn	09 13 30.2	+2.1
ARG	**Arkhangelos**	3.23	62	PN	Pn	09 13 30.7	+2.6
ITM	**Ithomi**	3.27	319	P	Pn	09 13 30.3	+1.6
ITM	**Ithomi**	3.27	319	PN	Pn	09 13 30.2	+1.6
ITM	**Ithomi**	3.27	319		Pn	09 13 30.1	+1.4
SLUM	**Salum**	3.27	171	P	Pn	09 13 27.7	-1.0
	baz=172						
BDRM	**Kayabasi**	3.27	44	*i* P	Pn	09 13 30.9	+2.2
BDRM				*i* S	Sn	09 14 06.2	-0.4
ATHU	**Athens Univers**	3.29	349	P	Pn	09 13 31.1	+2.1
KARY	**Karystos**	3.29	358	P	Pn	09 13 31.0	+2.0
ATH	**Athens Observa**	3.31	348	P	Pn	09 13 31.3	+2.1
DION	**Dionisos Attik**	3.38	351	P	Pn	09 13 32.5	+2.3
DDIM	**Aydin, Didim**	3.45	37	*i* P	Pn	09 13 32.9	+1.8
DDIM				*i* S	Sb	09 14 23.0	+1.3
SMG	**Samos**	3.47	31	P	Pn	09 13 33.2	+1.7
LTK	**Loutraki**	3.54	339	P	Pn	09 13 34.1	+1.7
VILL	**Villia**	3.58	343	P	Pn	09 13 34.9	+1.9
TURN	**Turunc**	3.59	54	*i* P	Pn	09 13 35.5	+2.5
TURN				*i* S	Sn	09 14 16.0	+1.7
TURN	**Turunc**	3.59	54	PN	Pn	09 13 35.2	+2.2
MLSB	**Milas**	3.62	44	PN	Pn	09 13 35.9	+2.4
GCAM	**G?zelcaml?**	3.64	35	*i* P	Pn	09 13 36.7	+2.9
GCAM	**G?zelcaml?**	3.64	35	PN	Pn	09 13 35.8	+2.0
DGB	**zmir**	3.79	28	*i* P	Pn	09 13 37.4	+1.7
ZEYE	**Izmir, Urla-Ze**	3.82	23	*i* P	Pn	09 13 37.4	+1.3
YER	**Yerkesik**	3.83	50	P	Pn	09 13 39.2	+2.9
YER	**Yerkesik**	3.83	50	PN	Pn	09 13 39.5	+3.2
KLV	**Kalavryta, Ach**	3.85	330	P	Pn	09 13 38.5	+1.8
DALY	**Dalyan (Mula)**	3.89	57	PN	Pn	09 13 39.7	+2.5
KYMI	**Kymi, Euboea I**	3.91	354	P	Pn	09 13 39.8	+2.3
MULA	**Mugla, Merkez-**	3.92	49	*i* P	Pn	09 13 40.7	+3.0
MULA				*i* S	Sn	09 14 24.8	+2.1
AYDN	**Tasoluk**	3.94	41	*i* P	Pn	09 13 40.6	+2.7
AYDN				*i* S	Sn	09 14 25.2	+2.1
URLA	**Izmir**	3.96	23	*i* P	Pn	09 13 39.6	+1.5
DRO	**Drossia**	3.97	325	P	Pn	09 13 40.7	+2.4
LAKA	**Lakka**	4.09	330	P	Pn	09 13 41.7	+1.7
FETY	**Fethiye**	4.11	61	PN	Pn	09 13 41.7	+1.5
LKR	**Lokris**	4.12	342	P	Pn	09 13 42.0	+1.7
AYDB	**Zeytinkoy-Aydi**	4.16	39	PN	Pn	09 13 43.9	+2.9
TRIZ	**Trizonia**	4.16	331	P	Pn	09 13 42.8	+1.9
EFP	**Efpalio**	4.28	330	P	Pn	09 13 44.5	+2.0
AKAS	**Kas**	4.34	68	*i* P	Pn	09 13 44.6	+1.1
AKAS				*i* S	Sn	09 14 32.7	-0.4
AKAS	**Kas**	4.34	68	PN	Pn	09 13 45.7	+2.2
CAME	**Cameli-Denizli**	4.41	59	PN	Pn	09 13 46.7	+2.3
ANX	**Ano Chora**	4.42	331	P	Pn	09 13 46.1	+1.6
TAVA	**DENIZLI_Tavas**	4.42	51	*i* P	Pn	09 13 47.1	+2.4
TAVA				*i* S	Sn	09 14 36.7	+1.7
CAEL	**Denizli, Camel**	4.50	57	*i* P	Pn	09 13 48.1	+2.3
CAEL				*i* S	Sn	09 14 40.1	+3.0
SIGR	**SIGRI**	4.58	12	P	Pn	09 13 48.2	+1.6
AGG	**Agios Georgios**	4.65	338	P	Pn	09 13 49.4	+1.7
AGG	**Agios Georgios**	4.65	338	P	Pn	09 13 49.7	+2.0
AGG	**Agios Georgios**	4.65	338	Pn	Pn	09 13 49.7	+2.0
ZEDA	**zmir-Bergama**	4.67	24	*i* P	Pn	09 13 49.3	+1.4
PRK	**Paraskevi**	4.70	16	P	Pn	09 13 51.0	+2.8
MAKR	**Makrakomi, Fth**	4.71	336	P	Pn	09 13 50.9	+2.4
GOLH	**Golhisar**	4.73	57	*i* P	Pn	09 13 47.1	-1.7
GOLH				*i* S	Sn	09 14 39.3	-3.3
ELL	**Elmali**	4.76	63	PN	Pn	09 13 51.3	+2.1
ELL	**Elmali**	4.76	63	Pn	Pn	09 13 51.3	+2.1
ELL				Sn	Sn	09 14 44.3	+1.0
KOCA	**Canakkale, Ayv**	4.91	14	*i* P	Pn	09 13 50.5	-0.7
MANT	**Manisa**	4.91	39	*i* P	Pn	09 13 54.5	+3.1
AKUM	**Antalya-Kumluc**	4.94	70	*i* P	Pn	09 13 52.3	+0.7
AKUM				*i* S	Sn	09 14 46.2	-1.3
KORT	**Korkueli**	5.18	62	*i* P	Pn	09 13 56.9	+1.8
KORT				*i* S	Sn	09 14 55.0	+1.2
BRDR	**BURDUR-Merkez**	5.31	55	*i* P	Pn	09 13 58.2	+1.5
SWA2		5.52	172	P	Pn	09 13 58.6	-1.0
	baz=173						
BALB	**Balikesir**	5.55	27	Pn	Pn	09 14 02.4	+2.5
BALB				Sn	Sn	09 15 00.4	-2.2
KZIL	**AFYON_Kizioren**	5.68	50	*i* P	Pn	09 14 03.3	+1.4
KZIL				*i* S	Sn	09 14 59.0	-6.9
ISP	**Isparta**	5.69	55	Pn	Pn	09 14 02.1	+0.1
ISP				Sn	Sn	09 15 06.8	+0.7
KEPZ	**Antalya-Kepez**	6.08	67	*i* P	Pn	09 14 09.3	+2.0
KEPZ				*i* S	Sn	09 15 13.6	-2.2
ALN	**Alexandroupoli**	6.26	10	P	Pn	09 14 11.2	+1.5
ALN	**Alexandroupoli**	6.26	10	Pn	Pn	09 14 11.2	+1.5
SEDI	**Konya, Seydise**	6.39	63	*i* P	Pn	09 14 14.9	+3.2
SEDI				*i* S	Sn	09 15 21.5	-2.0
YVAC	**Isparta, Yalva**	6.40	55	*i* P	Pn	09 14 12.9	+1.2
FNA	**Florina**	6.56	338	Pn	Pn	09 14 14.9	+1.0
FNA				Sn	Sn	09 15 27.9	+0.4
KBN	**Korca**	6.61	334	P	Pn	09 14 15.9	+1.2
KBN	**Korca**	6.61	334		Pn	09 14 15.9	+1.2
VLO	**Vlora**	7.02	326	P	Pn	09 14 20.9	+0.8
VLO	**Vlora**	7.02	326		Pn	09 14 19.9	+0.8
ERMK	**Ermenek**	7.02	72	*i* P	Pn	09 14 22.3	+1.9
OHR	**Ohrid**	7.04	336	*i* Pn	Pn	09 14 20.9	+0.3
CSS	**Mathiatis**	7.17	86	Pn	Pn	09 14 21.6	-0.7
HNAT	**Natroun**	7.20	133	P	Pn	09 14 20.2	-2.4
	baz=135						
KKBE	**Karaman, Kazim**	7.20	67	*i* P	Pn	09 14 24.3	+1.6
KKBE				*i* S	Sn	09 15 41.6	-1.8
STIP	**Stip**	7.21	345	*i* Pn	Pn	09 14 24.0	+1.3
SCTE	**Santa Cesarea**	7.23	319		Pn	09 14 22.5	-0.5
TIR	**Tirane**	7.59	332	P	Pn	09 14 28.0	+0.1
TIR	**Tirane**	7.59	332	Pn	Pn	09 14 28.0	+0.1
SKO	**Skopje**	7.64	342	*i* Pn	Pn	09 14 30.1	+1.4
TIP	**Timpagrande**	7.69	308	⇑P	Pn	09 14 27.8	-1.7
TIP	**Timpagrande**	7.69	308	Pn	Pn	09 14 28.9	-0.6
MDUB	**Mudurnu**	7.75	40		Pn	09 14 32.7	+2.3
KOT	**Kottamia**	7.76	126	P	Pn	09 14 27.8	-2.7
	baz=128						
KOT				S	Sn	09 15 51.3	-5.9
	baz=128						
HSAF	**As Saff**	7.79	129	P	Pn	09 14 28.3	-2.5
	baz=131						
GLL	**Jalalah**	7.91	129	P	Pn	09 14 29.8	-2.7
	baz=131						
VTS	**Vitosha**	7.95	353	⇑P	Pn	09 14 34.4	+1.4
VTS	**Vitosha**	7.95	353	P	Pn	09 14 34.1	+1.1
VTS	**Vitosha**	7.95	353	Pn	Pn	09 14 34.1	+1.1
PUK	**Puka**	8.18	335	Pn	Pn	09 14 37.6	+1.4
BR231	**Keskin MP Arra**	8.27	50		Pn	09 14 38.9	+1.5
ANTO	**Ankara**	8.29	49	P	Pn	09 14 39.5	+1.8
ANTO	**Ankara**	8.29	49	Pn	Pn	09 14 39.5	+1.8
NBNS	**Bani Suef**	8.34	135	P	Pn	09 14 36.5	-1.8
	baz=137						
ULC	**Ulcinj**	8.36	331	⇑*i* Pn	Pn	09 14 37.0	-1.5
ULC				*i* Sn	Sn	09 16 06.2	-5.5
SUZ	**Suez**	8.50	123	P	Pn	09 14 37.8	-2.7
	baz=125						
MATE	**Matera**	8.61	316	⇑P	Pn	09 14 39.3	-2.6
PVY	**Plav**	8.65	337	⇑*i* Pn	Pn	09 14 41.8	-0.8
PVY				*i* Sn	Sn	09 16 14.8	-4.3
RAFF	**Raffo Rosso**	8.67	290	Pn	Pn	09 14 43.1	+0.3
VAE	**Valguarnera**	8.69	291	Pn	Pn	09 14 44.5	+1.3
	comp=N,4.7nm,0.3s,baz=67,slow=7.7,SNR=1.8						
VAE				Sn	Sn	09 16 14.2	-6.0
	comp=N,8.3nm,0.3s,baz=285,slow=1.6,SNR=6.7						
PDG	**Podgorica**	8.75	333	⇑P	Pn	09 14 42.1	-1.7
PDG	**Podgorica**	8.75	333	*e*Pn	Pn	09 14 42.3	-1.6
PDG	**Podgorica**	8.75	333	Pn	Pn	09 14 42.5	-1.4
TTG	**Podgorica**	8.75	333	⇓*i* Pn	Pn	09 14 42.2	-1.7
TTG				*i* Sn	Sn	09 16 15.8	-5.5
BR131	**Keskin Array S**	8.76	53	*c i*P	Pn	09 14 46.2	+2.1
BR131	**Keskin Array S**	8.76	53		Pn	09 14 43.8	-0.3
BRTR	**Keskin Array B**	8.76	53	Pn	Pn	09 14 46.1	+2.0
	comp=N,0.9nm,0.3s,baz=233,slow=14,SNR=18						
BRTR	**Keskin Array B**	8.76	53	*i* P	Pn	09 14 46.2	+2.1
BRTR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BRTR	**Keskin Array B**	8.76	53	Pn	Pn	09 14 45.4	+1.3
BUM	**Brajici-Budva**	8.78	331	⇑*i* Pn	Pn	09 14 42.5	-1.9
BUM				*e*Sn	Sn	09 16 16.2	-6.0
TAMRE	**El Minia**	8.86	141	P	Pn	09 14 43.1	-2.3
	baz=142						
IVA	**Berane**	8.92	337	⇑*i* Pn	Pn	09 14 45.7	-0.6
IVA				*i* Sn	Sn	09 16 21.2	-4.4
CEME	**Cevo**	8.98	332	⇓*i* Pn	Pn	09 14 44.8	-2.3
CEME				*i* Sn	Sn	09 16 21.5	-5.6
KOME	**Kolasin**	9.03	335	⇑*i* Pn	Pn	09 14 47.2	-0.5
KOME				*i* Sn	Sn	09 16 23.6	-4.7
HCY	**Herceg Novi**	9.06	330	*e*Pn	Pn	09 14 45.8	-2.5
HCY	**Herceg Novi**	9.06	330	⇓*i* Pn	Pn	09 14 45.7	-2.5
HCY				*i* Sn	Sn	09 16 22.4	-6.7
MMAI	**Mount Meron Ar**	9.14	98	Pn	Pn	09 14 47.1	-2.2
	comp=Z,8.5nm,0.3s,baz=299,slow=10,SNR=12						
MMAI				Sn	Sn	09 16 23.4	-7.7
	comp=Z,5.4nm,0.3s,baz=285,slow=16,SNR=1.6						
MMAI				LR	LR	09 20 03.5	
	comp=Z,144nm,19.4s,baz=280,slow=49						
NKME	**Niksic**	9.15	333	⇑*i* Pn	Pn	09 14 48.3	-1.2
NKME				*i* Sn	Sn	09 16 25.9	-5.5
BOVS	**Bovan**	9.17	347	⇑P	Pn	09 14 49.6	-0.1
NKY	**Niksic**	9.18	333	⇓*i* Pn	Pn	09 14 48.5	-1.4
NKY				*i* Sn	Sn	09 16 26.1	-6.0
TRBB	**Trebinje**	9.35	330	*e*Pn	Pn	09 14 49.4	-2.7
HWQ	**Hawqa**	9.37	90	*e*P	Pn	09 14 51.1	-1.4
RCY	**Rachaya**	9.39	94	*e*P	Pn	09 14 50.7	-2.1
BRY	**Bratogost**	9.43	332	*e*Pn	Pn	09 14 50.9	-2.4
BRY	**Bratogost**	9.43	332	⇓*i* Pn	Pn	09 14 51.2	-2.1
BRY				*i* Sn	Sn	09 16 31.7	-6.5
PLE	**Pljevlja**	9.49	336	⇓*i* Pn	Pn	09 14 53.3	-0.9
PLE				*i* Sn	Sn	09 16 34.8	-5.0
GRB	**Gharib**	9.50	130	P	Pn	09 14 51.7	-2.5
	baz=132						
UPM	**Unac-Piva**	9.55	334	*e*Pn	Pn	09 14 53.8	-1.3
UPM	**Unac-Piva**	9.55	334	⇓*i* Pn	Pn	09 14 53.7	-1.3
UPM				*e*Sn	Sn	09 16 35.7	-5.5
CLTB	**Caltabellotta**	9.64	290	Pn	Pn	09 14 57.6	+1.4
CORL	**Corleone**	9.65	292	Pn	Pn	09 14 57.8	+1.5
STON	**Ston**	9.75	329	*e*Pn	Pn	09 14 53.8	-3.7
STON	**Ston**	9.75	329	*e*Pn	Pn	09 14 54.4	-3.1
STON				Sn	Sn	09 16 35.9	-10
RUDO	**Rudo**	9.76	337	*e*Pn	Pn	09 14 55.3	-2.4
SGRT	**San Giovanni R**	9.88	318	Pn	Pn	09 14 58.7	-0.8
BNN	**Bunyan**	9.90	62		Pn	09 15 01.0	+1.1
BBLS	**Lazići**	9.97	338	*e*Pn	Pn	09 14 56.3	-4.3
DIVS	**Divibare**	10.01	341	*e*Pn	Pn	09 14 59.4	-1.8
DIVS	**Divibare**	10.01	341		Pn	09 15 00.7	-0.5
TR2	**Tor 2**	10.02	127	P	Pn	09 14 58.3	-3.1
	baz=128					

VYHS Vyhne 14.40 344 *e*PN **P** **09 16 09.8 +2.1**
VLC Villacollemand 14.45 315 Pn **Pn** **09 16 04.0 +2.1**
MYKA Terra Mystica 14.49 328 *e*P **Pn** **09 16 00.2 -2.2**
comp=Z,7.2nm,0.5s
TEOL Teolo 14.50 321 Pn **Pn** **09 16 00.4 -2.1**
ZST Bratislava 14.57 340 *e*P **P** **09 16 10.1 +0.6**
ZST Bratislava 14.57 340 *e*PN **P** **09 16 10.1 +0.6**
STAL STALIGIAL 14.62 325 **Pn** **09 16 03.4 -0.8**
SOC Sochi 14.66 48 *e*P **Pn** **09 16 05.3 +0.6**
SOC *e* 09 18 49.2
SOC pmax pmax
comp=Z,16nm,0.8s
SOC MLR MLR
comp=Z,140nm,17.0s
MODS Modra-Piesok 14.68 340 *e*P **P** **09 16 10.5 -0.3**
MODS Modra-Piesok 14.68 340 *e*PN **P** **09 16 10.5 -0.3**
CONA Conrad Observa 14.71 336 *e*P **Pn** **09 16 04.6 -0.9**
comp=Z,6.9nm,0.7s
ZOU Zoufplan 14.73 327 **Pn** **09 16 04.2 -1.6**
SMOL Smolenice 14.77 341 *e*P **P** **09 16 12.0 +0.3**
SMOL Smolenice 14.77 341 *e*PN **P** **09 16 12.0 +0.3**
KBA Koelnbreinsper 14.97 329 *e*P **Pn** **09 16 07.2 -1.7**
comp=Z,19nm,0.5s
CTI Castel Tesino 14.98 323 P **Pn** **09 16 07.7 -1.4**
CTI pmax pmax
comp=Z,45nm,0.6s
CTI Castel Tesino 14.98 323 Pn **Pn** **09 16 07.7 -1.4**
CTI IAmb IAmb 09 16 16.2
comp=Z,46nm,0.6s
NIE Niedzica 15.02 349 *e*P **Pn** **09 16 11.9 +2.5**
JAVC Velka Javorina 15.02 342 *e*P **P** **09 16 15.1 +0.5**
ABTA Abfaltersbach 15.08 326 *e*P **Pn** **09 16 08.6 -1.8**
comp=Z,34nm,0.6s
MOA Molln 15.22 333 *e*P **Pn** **09 16 11.6 -0.5**
comp=Z,26nm,0.6s
SALO Salr 15.28 320 Pn **Pn** **09 16 11.3 -1.6**
SALO IAmb IAmb 09 16 23.7
comp=Z,46nm,0.7s
KRUC Moravsky 15.55 339 *e*P **P** **09 16 20.1 -0.3**
VRAC Vranov 15.72 340 ⇑P **Pn** **09 16 19.5 +0.9**
VRAC Vranov 15.72 340 Pn **Pn** **09 16 21.1 +2.5**
comp=Z,5.4nm,0.3s,baz=153,slow=9.9,SNR=42
VRAC Vranov 15.72 340 *e*P **P** **09 16 21.9 -0.4**
KARS Kars 15.75 63 P **Pn** **09 16 18.6 -0.6**
KARS pmax pmax
comp=Z,212nm,1.2s
KARS Kars 15.75 63 Pn **Pn** **09 16 18.6 -0.6**
OKC Ostrava-Krasne 15.82 344 *e*P **P** **09 16 23.8 +0.4**
OKC Ostrava-Krasne 15.82 344 *e*P **P** **09 16 23.8 +0.4**
WTTA Wattenberg 15.87 326 *e*P **Pn** **09 16 19.6 -1.0**
comp=Z,110nm,1.3s,SNR=6.5
OJC Ojcow 15.87 349 *e*P **Pn** **09 16 20.5 0.0**
OJC Ojcow 15.87 349 P **Pn** **09 16 20.2 -0.4**
OJC pmax pmax
comp=Z,12nm,0.7s
OJC Ojcow 15.87 349 Pn **Pn** **09 16 20.2 -0.4**
MORC Moravsky Berou 15.90 343 ⇑P **Pn** **09 16 21.2 +0.2**
MORC Moravsky Berou 15.90 343 P **Pn** **09 16 21.2 +0.2**
MORC pmax pmax
comp=Z,38nm,1.3s
MORC Moravsky Berou 15.90 343 Pn **Pn** **09 16 21.2 +0.2**
MORC Moravsky Berou 15.90 343 *e*P **P** **09 16 24.3 -0.1**
WATA Walderalm 15.95 326 *e*P **Pn** **09 16 21.2 -0.5**
comp=Z,34nm,0.5s,SNR=10
SQTA Sankt Quirin 16.03 325 *e*P **Pn** **09 16 22.0 -0.7**
comp=Z,29nm,0.5s,SNR=11
TREC Trest 16.03 338 *e*P **P** **09 16 26.1 +0.3**
TREC Trest 16.03 338 *e*P **P** **09 16 26.1 +0.3**
FETA Feichten 16.12 324 *e*P **Pn** **09 16 24.6 +0.7**
comp=Z,92nm,1.3s,SNR=11
MOTA Moosalm 16.17 325 *i* P **Pn** **09 16 23.2 -1.4**
comp=Z,45nm,1.0s
GEC2 GERESS Array S 16.25 333 **Pn** **09 16 25.9 +0.4**
GEC2 IAmb IAmb 09 16 30.2
comp=Z,62nm,0.6s
GERES GERESS Array B 16.25 333 Pn **Pn** **09 16 26.3 +0.8**
comp=Z,9.9nm,0.3s,baz=145,slow=12,SNR=92
GERES LR LR 09 24 18.4
comp=Z,385nm,19.0s,baz=128,slow=43
GERES ScP **ScP** **09 24 48.7 -1.7**
comp=Z,0.1nm,0.3s,baz=83,slow=3.1,SNR=5.5
GERES GERESS Array B 16.25 333 **Pn** **09 16 26.0 +0.5**
AKASG Malin Array Be 16.31 10 Pn **Pn** **09 16 25.7 -0.4**
comp=Z,101nm,0.3s,baz=200,slow=10,SNR=173
AKASG ScP **ScP** **09 24 49.8 -0.6**
comp=Z,0.5nm,0.3s,baz=217,slow=2.5,SNR=6.1
AKASG Malin Array Be 16.31 10 P **Pn** **09 16 26.0 -0.1**
AKASG pmax pmax
comp=Z,214nm,0.7s
AKASG Malin Array Be 16.31 10 **Pn** **09 16 26.0 -0.1**
AKBB Malin Array Si 16.31 10*c* *i*P **Pn** **09 16 25.2 -0.9**
AKBB Malin Array Si 16.31 10 Pn **Pn** **09 16 26.3 +0.2**
KRLC Kraliky 16.37 342 *e*P **P** **09 16 30.0 +0.5**
KRLC Kraliky 16.37 342 *e*P **P** **09 16 30.0 +0.5**
DAVOX Davos/Dischmat 16.38 322 Pn **Pn** **09 16 28.1 +0.9**
comp=Z,1.0nm,0.3s,baz=137,slow=18,SNR=5.0
DAVOX LR LR 09 24 42.8
comp=Z,117nm,19.9s,baz=126,slow=44
NEY Neytrino 16.43 53 *e*P **P** **09 16 30.0 -0.3**
RETA Reutte 16.43 325 *e*P **Pn** **09 16 28.3 +0.5**
comp=Z,12nm,0.5s
KHC Kasperske Hory 16.54 334 *e*P **P** **09 16 32.1 +0.8**
KHC Kasperske Hory 16.54 334 *e*P **P** **09 16 32.1 +0.8**
ONI Oni 16.66 56 P **Pn** **09 16 31.4 +0.8**
ONI pmax pmax
comp=Z,22nm,0.8s
ONI Oni 16.66 56 **Pn** **09 16 31.4 +0.8**
KIV Kislovodsk 16.71 51 *e*P **P** **09 16 34.6 +1.2**
KIV pmax pmax
comp=Z,67nm,1.0s
KIV Kislovodsk 16.71 51 Pn **Pn** **09 16 32.9 +1.5**
KIV IAmb IAmb 09 16 37.0
comp=Z,92nm,1.2s
DAVA Damuels 16.72 323 *e*P **P** **09 16 34.7 +1.1**
comp=Z,46nm,0.9s,SNR=16
DPC Dobruska-Polom 16.74 341 *e*P **Pn** **09 16 32.6 +1.0**
DPC Dobruska-Polom 16.74 341 *e*P **Pn** **09 16 32.6 +1.0**
KBZ Khabaz 16.75 52 Pn **P** **09 16 34.2 +0.5**
comp=Z,1.8nm,0.3s,baz=250,slow=9.0,SNR=79
KBZ Khabaz 16.75 52*c* *i*P **P** **09 16 34.8 +1.1**
GNI Garni 16.87 65 Pn **Pn** **09 16 33.6 +0.2**
comp=Z,1.4nm,0.3s,baz=233,slow=1.4,SNR=8.3
GNI LR LR 09 24 28.3
comp=Z,512nm,18.6s,baz=270,slow=42
GNI Garni 16.87 65*c* *i*P **Pn** **09 16 34.8 +1.4**
GNI pmax pmax
comp=Z,21nm,0.7s
GNI Garni 16.87 65 **Pn** **09 16 33.4 0.0**
PRU Pruhonice 16.94 337 *e*P **Pn** **09 16 34.7 +0.7**
PRU Pruhonice 16.94 337 *e*P **Pn** **09 16 34.7 +0.7**
OSTC Ostas 16.96 341 *e*P **Pn** **09 16 34.5 +0.2**
UPC Upice 16.97 341 *e*P **Pn** **09 16 36.0 +1.6**
UPC Upice 16.97 341 *e*P **Pn** **09 16 36.0 +1.6**
CHVC Chvalec 17.03 341 *e*P **Pn** **09 16 36.4 +1.2**
PRA Prague 17.04 337 *e*P **P** **09 16 37.3 +0.4**
PRA Prague 17.04 337 *e*P **P** **09 16 37.3 +0.4**
KSP Ksiaz 17.20 342 *e*P **P** **09 16 39.5 +0.8**
PVCC Panska Ves 17.40 338 *e*P **P** **09 16 41.2 +0.3**
PVCC Panska Ves 17.40 338 *e*P **P** **09 16 41.2 +0.3**
GOF Gofitskoye 17.47 48⇓ *e*P **P** **09 16 42.7 +1.1**
GOF pmax pmax
comp=Z,102nm,0.8s
SENIN Lac Senin/Sane 17.51 317 **Pn** **09 16 41.6 +0.2**
NKC Novy Kostel 17.86 334 *e*P **P** **09 16 47.7 +1.7**
NKC Novy Kostel 17.86 334 *e*P **P** **09 16 47.7 +1.7**
GRA1 Grafenberg Arr 17.89 331 P **P** **09 16 47.0 +0.7**
GRA1 IAmb IAmb 09 16 49.7
comp=Z,64nm,0.8s
GRF Grafenberg Arr 17.89 331 P **P** **09 16 47.0 +0.7**
GRF pmax pmax
comp=Z,64nm,0.8s
GRFO Grafenberg 17.89 331 P **Pn** **09 16 46.5 +0.6**
GRFO pmax pmax
comp=Z,65nm,0.9s
GRFO Grafenberg 17.89 331 P **Pn** **09 16 46.5 +0.6**
GRFO IAmb IAmb 09 16 49.6
comp=Z,65nm,0.9s
BRG Berggiesshubel 17.90 338 *i* P **Pn** **09 16 46.8 +0.9**
BRG Amp 09 16 49.1
comp=Z,28nm,0.9s
BRG Amp 09 25 38.0
comp=Z,0.2nm,15.1s
BRG Amp 09 41 26.0
comp=E,0.8nm,14.8s
BRG Amp 09 41 27.0
comp=N,0.6nm,14.6s
BRG Amp 09 41 30.0
comp=Z,1.4nm,14.4s
BFO Black Forest 18.20 323 P **Pn** **09 16 50.5 +0.8**
BFO pmax pmax
comp=Z,22nm,0.9s
BFO Black Forest 18.20 323 **Pn** **09 16 50.5 +0.8**
GROC Groznyy 18.48 56 *e*P **P** **09 16 52.6 -0.2**
GROC pmax pmax
comp=Z,44nm,1.0s
CLL Collm 18.57 337 *i* P **P** **09 16 53.7 0.0**
comp=Z,37nm,0.9s
CLL *i* pP **pP** **09 17 02.8 +0.7**
CLL *i* sP sP 09 17 06.2 +0.7
CLL *e*PP **PnPn** **09 17 09.0 +2.7**
CLL *i* PPP PPP 09 17 15.2
CLL Collm 18.57 337 *i* P **P** **09 16 53.7 0.0**
CLL pmax pmax
comp=Z,37nm,0.9s
CLL Collm 18.57 337 P **P** **09 16 53.7 0.0**
ECH Echery 18.71 321 P **P** **09 16 55.5 +0.1**
ECH pmax pmax
comp=Z,35nm,1.1s
ECH Echery 18.71 321 P **P** **09 16 55.5 +0.1**
GKP Gorka Klasztor 19.25 346 *e*P **P** **09 17 02.1 +0.9**
SUW Suwalki 19.30 357 *e*P **P** **09 17 00.1 -1.6**
SUW *e*S **S** **09 20 37.1 -1.1**
SUW Suwalki 19.30 357 *e*P **P** **09 17 00.5 -1.2**
SUW Suwalki 19.30 357 P **P** **09 17 00.7 -1.0**
SUW pmax pmax
comp=Z,240nm,0.7s
SUW Suwalki 19.30 357 P **P** **09 17 00.7 -1.0**
AKT Akhty 19.37 63 *e*P **P** **09 17 03.8 +1.1**
AKT pmax pmax
comp=Z,8.0nm,0.4s
VORD Divnogorie 19.41 29 *e*P **P** **09 17 02.3 -0.6**
VORD pmax pmax
comp=Z,10.0nm,0.5s
VSR Storozhevoye 19.56 28 *e*P **P** **09 17 03.4 -1.1**
VSR pmax pmax
comp=Z,10.0nm,0.5s
MNK Minsk 19.90 6 *i* P **P** **09 17 05.1 -3.1**
MNK *i* S **S** **09 20 47.3 -3.0**
MNK pmax pmax
comp=Z,55nm,0.9s
MNK pmax pmax
comp=N,62nm,0.9s
MNK pmax pmax
comp=E,4.0nm,0.8s
MNK MLR MLR
comp=N,671nm,20.0s
MNK MLR MLR
comp=E,79nm,19.0s
MNK MLR MLR
comp=Z,243nm,18.0s
MNK Minsk 19.90 6 *i* P **P** **09 17 05.1 -3.1**
comp=E,4.0nm,0.8s
MNK *i* P **P** **09 17 05.1 -3.1**
comp=N,62nm,0.9s
MNK *i* P **P** **09 17 05.1 -3.1**
comp=Z,55nm,0.8s,baz=188
MNK *i* PP **sP** **09 17 21.6 +1.6**
MNK *i* S **S** **09 20 47.3 -3.0**
MNK *i* SS **SnSn** **09 21 05.7 -1.5**
MNK *i* LQ LQ 09 23 08.1
MNK *i* LR LR 09 24 15.9
MNK *i* LRM MLR 09 26 39.7
comp=N,671nm,19.9s
MNK *i* LRM MLR 09 26 41.5
comp=E,79nm,19.0s
MNK *i* LRM MLR 09 26 59.6
comp=Z,243nm,18.1s
KLNR Kaliningrad 20.11 353 *e*P **P** **09 17 08.9 -1.5**
KLNR pmax pmax
comp=Z,74nm,1.0s
WLF Walferdange 20.16 323 *d*P **P** **09 17 12.3 +1.3**
WLF Walferdange 20.16 323 P **P** **09 17 10.9 -0.2**
WLF pmax pmax
comp=Z,78nm,1.2s
WLF Walferdange 20.16 323 P **P** **09 17 10.9 -0.2**
WLF IAmb IAmb 09 17 17.2
comp=Z,78nm,1.2s
NACGM Naroch 20.23 4 *i* P **P** **09 17 10.7 -1.0**
LPSR Galich'ya Gora 20.58 25 *e*P **P** **09 17 13.3 -2.3**
LPSR pmax pmax
comp=Z,30nm,1.5s
VRH Novokhopyorsk 20.60 32 *e*P **P** **09 17 14.3 -1.5**
VRH pmax pmax
comp=Z,30nm,0.8s
IIGN Ignalina 20.65 3 *e*P **P** **09 17 15.7 -0.6**
IIGN IAmb IAmb 09 17 23.5
comp=Z,35nm,0.5s
BHOU Houvegnez 20.68 325 *d*P **P** **09 17 18.6 +1.8**
PABE Paberze 20.78 359 *e*P **P** **09 17 16.6 -1.1**
PABE Paberze 20.78 359 P **P** **09 17 15.8 -1.9**
BTNL Ternell 20.78 325 *d*P **P** **09 17 19.4 +1.5**
MEM Membach 20.86 325 *d*P **P** **09 17 19.9 +1.3**
ISAL Salakas 20.86 2 *e*P **P** **09 17 17.7 -1.0**
ISAL IAmb IAmb 09 17 22.7
comp=Z,24nm,0.5s
BSTI Sart Tilman 21.05 325 *d*P **P** **09 17 22.3 +1.6**
BCLA Clavier 21.07 324 *d*P **P** **09 17 21.7 +0.8**
BGES Gesves 21.15 324 *d*P **P** **09 17 22.4 +0.6**
DOU Dourbes 21.21 322 *d*P **P** **09 17 22.9 +0.5**
BMRD Maredsous 21.25 323 *d*P **P** **09 17 23.5 +0.6**
CLF Chambon-Foret 21.29 315 P **P** **09 17 22.9 -0.4**
CLF IAmb IAmb 09 17 29.9
comp=Z,70nm,1.3s
RGN Rugen 21.33 342 *e*P **P** **09 17 23.6 0.0**
RGN Rugen 21.33 342 P **P** **09 17 22.7 -0.9**
SNF Seneffe 21.62 323 *d*P **P** **09 17 27.6 +0.8**
UCC Uccle 21.77 324 P **P** **09 17 29.8 +1.4**
UCC pmax pmax
comp=Z,28nm,0.6s
UCC Uccle 21.77 324 P **P** **09 17 29.8 +1.4**
UCC IAmb IAmb 09 17 30.1
comp=Z,28nm,0.6s
OBN Obninsk 22.01 19 P **P** **09 17 32.1 +1.2**
comp=Z,8.1nm,0.5s,baz=223,slow=18,SNR=6.8
OBN Obninsk 22.01 19 *i* P **P** **09 17 29.8 -1.1**
OBN *i* 09 17 36.0
OBN *i* 09 18 01.8
OBN pmax pmax
comp=Z,35nm,1.0s
OBN Obninsk 22.01 19 P **P** **09 17 31.6 +0.7**
LUNU Lund 22.27 343 *i* P **P** **09 17 31.9 -1.9**
BLEU Blekinge 22.40 347 *i* P **P** **09 17 32.1 -3.0**
COP Copenhagen 22.57 342 *i* P **P** **09 17 36.4 -0.6**
COP IAmb IAmb 09 17 37.0
comp=Z,333nm,0.5s
COP Copenhagen 22.57 342 *i* P **P** **09 17 36.4 -0.6**
COP pmax pmax
comp=Z,330nm,0.5s
BJUU Bjuv 22.78 343 *i* P **P** **09 17 37.8 -1.3**
MOS Moscow 22.84 19 *e*P **P** **09 17 38.6 -1.2**
MOS pmax pmax
comp=Z,72nm,0.9s
DEL Delary 22.95 345 *i* P **P** **09 17 39.5 -1.3**
ESBB Sonseca Array 23.23 291 P **P** **09 17 44.8 +0.7**
ESDC Sonseca Array 23.24 291 P **P** **09 17 44.5 +0.4**
comp=Z,16nm,0.9s,baz=82,slow=9.1,SNR=64
ESDC Sonseca Array 23.24 291 P **P** **09 17 43.7 -0.4**
PAB San Pablo 23.53 290 P **P** **09 17 47.1 +0.1**
PAB pmax pmax
comp=Z,13nm,0.9s
PAB San Pablo 23.53 290 P **P** **09 17 47.1 +0.1**
VSU Vasula 23.78 3 *e*P **P** **09 17 48.1 -1.0**
VSU Vasula 23.78 3⇑ *i*P **P** **09 17 48.0 -1.0**
VSU pmax pmax
comp=Z,65nm,0.9s
MTSE Matsula 24.00 359 *e*P **P** **09 17 49.9 -1.1**
BELG Belogornoye 24.11 36 P **P** **09 17 51.3 -0.9**
comp=Z,59nm,0.7s,baz=86,slow=1.3,SNR=14
MUD Monsted U'grnd 24.15 339 *i* P **P** **09 17 51.7 -0.8**
MUD IAmb IAmb 09 17 53.4
comp=Z,47nm,0.9s
MUD Monsted U'grnd 24.15 339 *i* P **P** **09 17 51.7 -0.8**
MUD pmax pmax
comp=Z,47nm,0.9s
ONAU Onsala 24.24 343 *i* P **P** **09 17 52.8 -0.5**
BORU Boraas 24.26 344 *i* P **P** **09 17 53.5 0.0**
MDT Midelt 24.33 274 P **P** **09 17 56.6 +2.1**
comp=Z,2.9nm,0.6s,baz=91,slow=15,SNR=15
GOET G??ttrup 24.63 340 *i* P **P** **09 17 57.5 +0.7**
GOET IAmb IAmb 09 17 58.0
comp=Z,64nm,0.6s
TJOU Tjoern 24.88 343 *i* P **P** **09 17 59.0 -0.1**
MEF Metsahovi 25.50 360 *e*P **P** **09 18 03.9 -0.8**
PBRG Braganca 25.51 295 *e*P **P** **09 18 05.8 +0.7**
comp=Z,27nm,1.3s
PBAR Barrancos 25.62 287 *e*P **P** **09 18 06.7 +0.6**
comp=Z,30nm,1.4s
AAL Aland 25.64 355 *e*P **P** **09 18 04.9 -1.0**
MVO Moncorvo 25.67 294 *e*P **P** **09 18 07.5 +0.9**
comp=Z,30nm,0.9s
PMRV Marv??o 25.88 290 *e*P **P** **09 18 08.7 +0.2**
comp=Z,36nm,1.5s
STRU Stroemstad 25.88 344 *i* P **P** **09 18 08.0 -0.2**
HOMB Homborsund 25.89 340 *i* P **P** **09 18 08.3 +0.1**
HOMB IAmb IAmb 09 18 09.1
comp=Z,29nm,0.5s
HOMB Homborsund 25.89 340 *e*P **P** **09 18 08.4 +0.1**
PCBR Castelo Branco 25.95 291 *e*P **P** **09 18 11.2 +2.1**
comp=Z,19nm,1.9s
MTE Manteigas 26.02 292 *e*P **P** **09 18 11.6 +1.9**
comp=Z,18nm,1.6s
MTE Manteigas 26.02 292 P **P** **09 18 11.7 +1.9**
PESTR Estremoz 26.04 289 *e*P **P** **09 18 11.0 +1.1**
comp=Z,36nm,1.1s
PESTR Estremoz 26.04 289 P **P** **09 18 10.3 +0.4**
PVAQ Vaqueiros 26.20 285 *e*P **P** **09 18 11.6 +0.3**
PVAQ Vaqueiros 26.20 285 P **P** **09 18 11.9 +0.5**
POLO Lamas de Olo 26.26 294 *e*P **P** **09 18 12.6 +0.6**
comp=Z,9.8nm,1.8s
PBEJ Beja 26.28 287 *e*P **P** **09 18 14.6 +2.5**
comp=Z,22nm,0.9s
PVIS Viseu 26.30 293 *e*P **P** **09 18 13.0 +0.7**
SNART Snartemo 26.31 339 *i* P **P** **09 18 13.9 +1.8**
SNART IAmb IAmb 09 18 16.0
comp=Z,132nm,1.1s
SNART Snartemo 26.31 339 *e*P **P** **09 18 12.3 +0.2**
RAF Rauma 26.37 357 *e*P **P** **09 18 11.9 -0.7**
EVO Evora 26.37 288 *e*P **P** **09 18 13.8 +0.9**
comp=Z,19nm,2.0s
PBDV Barranco-do-Ve 26.38 285 *e*P **P** **09 18 13.6 +0.6**
comp=Z,67nm,1.4s
HFS Hagfors 26.39 348 P **P** **09 18 11.8 -1.1**
comp=Z,11nm,0.4s,baz=150,slow=10,SNR=55
PCVE Castro Verde 26.44 286 *e*P **P** **09 18 15.6 +2.1**
comp=Z,42nm,1.6s
PCAB Cabril 26.46 295 *e*P **P** **09 18 14.5 +0.8**
comp=Z,26nm,1.4s
PMTG Montargil 26.53 289 *e*P **P** **09 18 15.4 +1.1**
comp=Z,21nm,1.8s
MESJ Messejana 26.57 286 *e*P **P** **09 18 17.9 +3.2**
PGAV Gavieira, Arco 26.66 296 *e*P **P** **09 18 14.8 -0.8**
comp=Z,20nm,1.8s
COI Coimbra 26.68 292 P **P** **09 18 16.6 +1.0**
COI pmax pmax
comp=Z,19nm,0.7s
COI Coimbra 26.68 292 P **P** **09 18 16.6 +1.0**
COI IAmb IAmb 09 18 40.4
comp=Z,19nm,0.7s
PCAS Casmilo, Conde 26.74 291 *e*P **P** **09 18 21.3 +5.1**
FINES FINESS Array B 26.75 2 P **P** **09 18 14.5 -1.5**
comp=Z,29nm,0.5s,baz=159,slow=11,SNR=26
FINES FINESS Array B 26.75 2 P **P** **09 18 14.8 -1.2**
FINES FINESS Array B 26.75 2 P **P** **09 18 14.8 -1.2**
FIA1 FINESS Array S 26.75 2 P **P** **09 18 14.2 -1.8**
FIA1 IAmb IAmb 09 18 19.1
comp=Z,20nm,0.7s
PNCL Nicolau / Gran 26.80 287 *e*P **P** **09 18 20.2 +3.5**
comp=Z,43nm,1.7s
OSL Oslo 26.80 344 *e*P **P** **09 18 17.0 +0.5**
KONO Kongsberg 26.80 343 P **P** **09 18 14.6 -1.9**
KONO pmax pmax
comp=Z,35nm,1.2s
KONO Kongsberg 26.80 343 *e*P **P** **09 18 15.8 -0.7**
KONO Kongsberg 26.80 343 P **P** **09 18 14.6 -1.9**
KONO IAmb IAmb 09 18 19.3
comp=Z,35nm,1.2s
NC602 NORSAR Array S 27.35 346 *e*P **P** **09 18 20.2 -1.3**
NC602 NORSAR Array S 27.35 346 P **P** **09 18 20.7 -0.8**
BLS5 Blasjo 27.43 340 *e*P **P** **09 18 22.3 0.0**
NAO01 NORSAR Array S 27.59 345 P **P** **09 18 22.8 -0.8**
NC405 NORSAR Array S 27.67 347 P **P** **09 18 23.0 -1.4**
NC405 IAmb IAmb 09 18 37.8
comp=Z,52nm,1.4s
NB201 NORSAR Array S 27.69 346 P **P** **09 18 23.7 -0.8**
NB2 NORSAR Subarra 27.70 346 P **P** **09 18 23.3 -1.3**
comp=Z,2.0nm,0.4s,baz=156,slow=9.3
NB2 NORSAR Subarra 27.70 346 P **P** **09 18 23.3 -1.3**
baz=156,slow=9.3
NOA NORSAR Array B 27.70 346 P **P** **09 18 23.2 -1.3**
comp=Z,3.5nm,0.4s,baz=147,slow=9.0,SNR=74
NBO00 NORSAR Array S 27.78 346 P **P** **09 18 24.1 -1.2**
ODD1 Odda 27.80 341 *e*P **P** **09 18 26.1 +0.6**
NC303 NORSAR Array S 27.84 346 P **P** **09 18 24.8 -1.1**
NC303 IAmb IAmb 09 18 26.4
comp=Z,22nm,1.1s
KLMR Klimovskoe 27.85 16 *e*P **P** **09 18 23.0 -2.9**
KLMR pmax pmax
comp=Z,22nm,1.0s
KLMR Klimovskoe 27.85 16 *e*P **P** **09 18 23.1 -2.9**
KLMR AMP 09 18 24.6
comp=Z,22nm,1.0s
NC204 NORSAR Array S 28.00 346 *e*P **P** **09 18 26.7 -0.6**
NC204 NORSAR Array S 28.00 346 P **P** **09 18 26.9 -0.5**
SKAR Skarslia 28.02 343 *e*P **P** **09 18 27.8 +0.3**
EKA Eskdalemuir Ar 28.13 326 P **P** **09 18 28.4 -0.1**
comp=Z,2.7nm,0.4s,baz=114,slow=11,SNR=23
ESK Eskdalemuir 28.14 326 P **P** **09 18 29.1 +0.5**
ESK pmax pmax
comp=Z,25nm,1.1s
ESK Eskdalemuir 28.14 326 P **P** **09 18 29.1 +0.5**
ESK IAmb IAmb 09 18 57.9
comp=Z,25nm,1.1s
BER Bergen 28.55 340 *e*P **P** **09 18 31.1 -1.0**
ASK Askoy 28.67 340 *e*P **P** **09 18 33.3 +0.1**
AKTO Aktyubinsk 28.87 47 P **P** **09 18 34.5 -0.7**
comp=Z,4.5nm,0.5s,baz=253,slow=7.6,SNR=17
HYA Hoyanger 28.97 342 *e*P **P** **09 18 35.4 -0.4**
DOMB Dombas 29.05 345 *e*P **P** **09 18 37.1 +0.4**
FOO Floro 29.64 341 *e*P **P** **09 18 41.6 -0.1**
AKN Aaknes 29.64 343 *e*P **P** **09 18 42.0 +0.2**
ABKAR Akbulak array 29.69 50 P **P** **09 18 42.2 -0.2**
MOL Molde 29.85 344 *e*P **P** **09 18 43.9 +0.2**
TORD Torodi Ar. Bea 29.87 230 P **P** **09 18 44.3 0.0**
comp=Z,16nm,0.5s,baz=36,slow=9.1,SNR=113
TORD LR LR 09 33 50.7
comp=Z,86nm,18.5s,baz=45,slow=42
TORD Torodi Ar. Bea 29.87 230 P **P** **09 18 44.3 0.0**
TBLU Trondheim 29.91 347 *e*P **P** **09 18 45.0 +0.9**
PRGR Permogore 30.07 20 *e*P **P** **09 18 43.2 -2.3**
PRGR *e*PP **sP** **09 18 56.0 -1.8**
PRGR pmax pmax
comp=Z,51nm,0.9s
NSS Namsos 30.81 349 *e*P **P** **09 18 51.6 -0.5**
HRA Herat 30.88 80 P **P** **09 18 53.9 +0.5**
ARU Arti 31.66 36*c* *i*P **P** **09 19 00.2 +0.5**
ARU 09 20 00.4
ARU S **S** **09 24 08.6 +1.8**
ARU SS **SnSn** **09 25 54.6 +0.2**
ARU pmax pmax
comp=Z,9.0nm,0.5s
ARU Arti 31.66 36 P **P** **09 19 00.2 +0.5**
ARU IAmb IAmb 09 19 03.7
comp=Z,14nm,0.6s
MOR8 Moi Rana 32.05 352 *e*P **P** **09 19 02.4 -0.6**
STOK Stokkvaagen 32.37 351 *e*P **P** **09 19 05.8 0.0**
KONS Konsvik 32.52 351 *e*P **P** **09 19 06.1 -0.5**
NBB40 Tonnes 32.54 351 *e*P **P** **09 19 06.9 -0.4**
NBB13 Alf Garage 32.62 352 *e*P **P** **09 19 08.3 +0.4**
LODK Lodwar 32.72 160 P **P** **09 19 10.5 +1.1**
KOWA Kowa 32.72 239 P **P** **09 19 09.5 +0.1**
comp=Z,7.1nm,0.5s,baz=34,slow=11,SNR=21
KOWA Kowa 32.72 239 P **P** **09 19 10.0 +0.6**
KOWA IAmb IAmb 09 19 14.8
comp=Z,7.7nm,0.5s
NBB17 Glomfjord BÞr 32.72 352 *e*P **P** **09 19 08.2 -0.7**
SVE Sverdlovsk 32.87 37 *e*P **P** **09 19 10.2 -0.1**
NBB30 Finnes 32.90 352 *e*P **P** **09 19 10.4 0.0**
NBB28 Valnes 33.03 353 *e*P **P** **09 19 10.6 -0.9**
FAUS Fauske 33.13 353 *e*P **P** **09 19 11.3 -1.2**
N2TV TWnvik 33.33 353 *e*P **P** **09 19 14.1 -0.1**
STEI Steigen 33.67 354 *e*P **P** **09 19 16.4 -0.8**
LOF Lofoten 34.04 353 *e*P **P** **09 19 20.6 +0.3**

KTK1 **Kautokeino** 34.34 359 *e*P P 09 19 22.8 -0.1
ARA0 **ARCESS Array S** 34.86 1 *e*P P 09 19 25.5 -2.0
ARCES **ARCESS Array B** 34.86 1 P P 09 19 25.7 -1.8
comp=Z,4.9nm,0.4s,baz=177,slow=8.6,SNR=78
ARCES **ARCESS Array B** 34.86 1 IAmb IAmb 09 19 41.8
comp=Z,31nm,1.4s
TRO **Tromso** 35.09 357 *e*P P 09 19 27.0 -2.4
CHGR **Chuyangaron** 35.67 70 P P 09 19 34.8 -0.2
CHGR IAmb IAmb 09 19 59.8
comp=Z,18nm,0.9s
HAMF **Hammerfest** 35.97 359 *e*P P 09 19 35.6 -1.4
KK31 **Karatay Array** 36.30 63 P P 09 19 40.8 +0.6
KK31 pmax pmax
comp=Z,8.0nm,1.1s
KK31 **Karatay Array** 36.30 63 P P 09 19 40.8 +0.6
KKAR **Karatay Array** 36.30 63 P P 09 19 40.9 +0.7
KKAR **Karatay Array** 36.30 63 P P 09 19 40.9 +0.7
KBL **Kabul** 36.33 77 P P 09 19 40.5 -0.3
KBL pmax pmax
comp=Z,4.0nm,1.1s
KBL **Kabul** 36.33 77 P P 09 19 40.5 -0.3
GAR **Garm** 36.52 70 P P 09 19 40.7 -1.6
GAR IAmb IAmb 09 19 59.3
comp=Z,8.3nm,0.6s
BRVK **Borovoye** 36.91 46⇑ *i*P P 09 19 46.2 +1.0
BRVK pmax pmax
comp=Z,10.0nm,1.4s
BRVK **Borovoye** 36.91 46 P P 09 19 44.7 -0.5
DBIC **Dimbokro** 38.95 231 P P 09 20 02.4 -0.4
comp=Z,5.4nm,0.5s,baz=38,slow=8.6,SNR=11
DBIC LR LR 09 36 46.1
comp=Z,96nm,19.9s,baz=78,slow=37
DBIC **Dimbokro** 38.95 231 P P 09 20 02.4 -0.4
DBIC IAmb IAmb 09 20 24.7
comp=Z,22nm,1.4s
AAK **Ala-Archa** 39.25 63 P P 09 20 06.0 +0.7
comp=Z,1.4nm,0.4s,baz=183,slow=5.4,SNR=3.6
AAK **Ala-Archa** 39.25 63 P P 09 20 05.5 +0.2
NIL **Nilore** 39.94 77 P P 09 20 10.6 -0.3
NIL pmax pmax
comp=Z,20nm,1.1s
NIL **Nilore** 39.94 77 P P 09 20 10.6 -0.3
NIL IAmb IAmb 09 20 22.0
comp=Z,20nm,1.1s
KSH **Kashi** 40.78 68 P P 09 20 15.3 -2.7
KSH sP sP 09 20 29.8 -0.7
KSH PcP **PcP** **09 22 19.8 +1.1**
KSH pmax pmax
comp=Z,4.0nm,0.8s
KDJ **Kajisay** 41.29 64 P P 09 20 23.2 +1.0
KDJ pmax pmax
comp=Z,6.0nm,0.8s
KDJ **Kajisay** 41.29 64 P P 09 20 23.2 +1.0
TARG **Taragay, Kyrgy** 41.80 64 P P 09 20 27.6 +0.9
HSPB **Hornsund (broa** 42.56 357 *e*P P 09 20 32.3 +0.5
SPA0 **Spitsbergen Ar** 43.69 358 *e*P P 09 20 40.4 -0.7
MAKZ **Makanchi** 44.17 56 P P 09 20 45.6 +0.3
MAKZ pmax pmax
comp=Z,11nm,1.1s
MAKZ **Makanchi** 44.17 56 P P 09 20 45.6 +0.3
MK31 **Makanchi Array** 44.39 56 P P 09 20 46.9 -0.2
MK31 pmax pmax
comp=Z,19nm,1.1s
MK31 **Makanchi Array** 44.39 56 P P 09 20 46.9 -0.2
MK31 IAmb IAmb 09 20 48.2
comp=Z,19nm,1.1s
MKAR **Makanchi Array** 44.39 56 P P 09 20 47.3 +0.3
comp=Z,16nm,0.7s,baz=275,slow=7.3,SNR=128
MKAR **Makanchi Array** 44.39 56 P P 09 20 46.9 -0.2
KBS **Kingsbay** 44.62 357 *e*P P 09 20 48.4 0.0
ZAA0 **Zalesovo Array** 45.62 46 P P 09 20 55.9 -0.8
ZAA0 IAmb IAmb 09 20 56.8
comp=Z,9.2nm,0.6s
ZALV **Zalesovo Beam** 45.62 46 P P 09 20 56.0 -0.7
comp=Z,9.7nm,0.5s,baz=264,slow=9.6,SNR=28
ZALV **Zalesovo Beam** 45.62 46 P P 09 20 55.9 -0.8
DGZ **Jazzator, Alta** 47.50 52 *c i*P P 09 21 11.6 -0.1
DGZ pmax pmax
comp=Z,5.0nm,0.6s
NRIK **Noril'sk** 48.46 25 P P 09 21 18.2 -0.4
comp=Z,11nm,0.9s,baz=276,slow=5.4,SNR=7.8
NRIK **Noril'sk** 48.46 25 P P 09 21 19.6 +1.0
NRIK pmax pmax
comp=Z,11nm,1.0s
NRIK **Noril'sk** 48.46 25 P P 09 21 19.6 +1.0
NRIK IAmb IAmb 09 21 21.4
comp=Z,11nm,0.9s
WMQ **Urumqi** 48.61 59 *e*P P 09 21 22.0 +1.7
WMQ pP sP 09 21 30.5 -2.4
WMQ sP pwP 09 21 35.8 +3.4
WMQ pmax pmax
comp=Z,18nm,0.9s
WMQ pmax pmax
comp=Z,290nm,8.7s
WMQ LR LR
comp=Z,600nm,14.1s
WMQ LR LR
comp=Z,360nm,14.9s
ICESG **Greenland Ices** 48.87 335 *i*P P 09 21 23.8 +1.6
SUMG **Summit** 49.22 339 *i*P P 09 21 25.3 +0.4
SUMG IAmb IAmb 09 21 26.0
comp=Z,15nm,1.0s
SUMG **Summit** 49.22 339 *i*P P 09 21 25.2 +0.4
SUMG pmax pmax
comp=Z,15nm,1.0s
SUMG **Summit** 49.22 339 P P 09 21 24.9 +0.1
NOR **Nord** 49.31 353 *i*P P 09 21 24.3 -0.7
NOR IAmb IAmb 09 21 25.2
comp=Z,15nm,0.5s
NOR **Nord** 49.31 353 *i*P P 09 21 24.3 -0.7
NOR pmax pmax
comp=Z,15nm,0.5s
DY2G **Dye2** 51.11 331 *i*P P 09 21 39.2 +0.1
DY2G IAmb IAmb 09 21 40.9
comp=Z,23nm,0.8s
NEEM **North Greenlan** 53.27 345 *i*P P 09 21 55.0 0.0
NEEM IAmb IAmb 09 21 59.2
comp=Z,16nm,0.7s
ZAK **Zakamensk** 57.37 48 *e*P P 09 22 24.7 0.0
ZAK pmax pmax
comp=Z,10.0nm,1.0s
GTA **Gaotai** 58.56 61 ⇑P P 09 22 33.5 +0.2
GTA pP pwP 09 22 45.5 -0.3
GTA sP sP 09 22 50.8 +4.9
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA LR LR
comp=Z,180nm,15.3s
GTA LR LR
comp=Z,210nm,15.6s
EUNU **Eureka** 59.52 349 P P 09 22 40.4 +1.1
EUNU IAmb IAmb 09 22 40.9
comp=Z,8.8nm,0.8s
SONM **Songino Array** 60.11 50 P P 09 22 44.5 +0.6
comp=Z,7.7nm,0.8s,baz=281,slow=8.3,SNR=19
SONM **Songino Array** 60.11 50 P P 09 22 44.6 +0.7
SONM pmax pmax
comp=Z,6.0nm,0.8s
SONM **Songino Array** 60.11 50 P P 09 22 44.6 +0.7
SONM IAmb IAmb 09 22 45.1
comp=Z,5.9nm,0.8s
ULN **Ulaanbaatar** 60.51 50 P P 09 22 47.0 +0.3
ULN **Ulaanbaatar** 60.51 50 P P 09 22 47.0 +0.3
TIXI **Tiksi** 61.72 20 *c i*P P 09 22 53.7 -0.6
LZH **Lanzhou** 62.79 63 *e*P P 09 22 59.5 -2.8
LZH pmax pmax
comp=Z,19nm,1.0s
BOSA **Boshof** 63.01 179 P P 09 23 03.2 -0.2
comp=Z,3.8nm,0.7s,baz=7.1,slow=6.1,SNR=7.4
SCHQ **Schefferville** 63.22 320 P P 09 23 05.1 +0.5
comp=Z,14nm,0.5s,baz=63,slow=5.2,SNR=64
SCHQ **Schefferville** 63.22 320 P P 09 23 04.5 -0.1
HHC **Hu-ho-hao-te** 66.25 56 *e*P P 09 23 25.3 +0.6
HHC pmax pmax
comp=Z,15nm,1.3s
HHC pmax pmax
comp=Z,200nm,5.9s
CM02 **Chiang Mai Arr** 67.09 83 P P 09 23 27.3 -2.9
comp=Z,5.9nm,0.6s
LBNH **Lisbon** 70.92 311 P P 09 23 53.1 -0.5
baz=60
FRNY **Flat Rock** 71.64 312 P P 09 23 59.4 +1.4
PLVO **Plevna** 73.64 314 P P 09 24 11.9 +2.1
PLVO IAmb IAmb 09 24 29.5
comp=Z,11nm,1.2s

SEY **Seymchan** 74.12 22 LR LR 09 59 11.5
comp=Z,73nm,19.5s,baz=276,slow=38
KLR **Kul'dur** 74.38 41 *c i*P P 09 24 14.2 +0.1
KLR pmax pmax
comp=Z,7.0nm,0.9s
P60A **Greenville** 75.59 308 P P 09 24 20.4 -0.8
baz=57
NJ2 **Nanjing** 75.66 61 *e*P P 09 24 22.5 +0.8
NJ2 pmax pmax
comp=Z,11nm,0.5s
INK **Inuvik** 75.97 352 P P 09 24 22.6 -0.3
baz=18
SSPA **Standing Stone** 76.57 310 P P 09 24 27.0 +0.2
baz=56
TOLK **Toolik Lake Re** 76.84 358 P P 09 24 28.2 +0.2
baz=4.9
ERPA **Erie** 77.03 312 P P 09 24 29.6 +0.3
baz=55
USRK **Ussuriysk Ar.** 77.46 45 P P 09 24 31.2 -0.6
comp=Z,4.3nm,0.7s,baz=302,slow=4.1,SNR=10.0
USRK **Ussuriysk Ar.** 77.46 45 P P 09 24 32.0 +0.2
USRK **Ussuriysk Ar.** 77.46 45 P P 09 24 31.9 +0.2
N54A **Moraine State** 77.69 311 P P 09 24 34.1 +0.9
baz=54
YKA **Yellowknife Ar** 77.71 342 P P 09 24 32.8 -0.1
comp=Z,3.3nm,0.7s,baz=43,slow=5.9,SNR=10
EPYK **Eagle Plains** 78.20 352 P P 09 24 36.0 +0.5
EPYK IAmb IAmb 09 24 37.3
comp=Z,8.7nm,0.7s
EPYK **Eagle Plains** 78.20 352 P P 09 24 35.5 0.0
baz=16
COLD **Coldfoot** 78.28 358 P P 09 24 37.5 +1.6
COLD IAmb IAmb 09 24 48.7
comp=Z,10nm,1.0s
COLD **Coldfoot** 78.28 358 P P 09 24 36.5 +0.6
baz=4.4
MCWV **Mont Chateau** 78.36 310 P P 09 24 38.1 +1.3
baz=54
FYU **Fort Yukon** 78.72 356 P P 09 24 40.2 +1.9
FYU IAmb IAmb 09 24 41.7
comp=Z,11nm,1.0s
O53A **New Philadelph** 78.86 311 P P 09 24 40.6 +0.9
baz=54
KSRS **Korea Array** 78.90 52 P P 09 24 40.1 +0.3
comp=Z,2.4nm,0.4s,baz=304,slow=4.7,SNR=16
H24K **Noodor Dome** 79.58 357 P P 09 24 43.5 +0.4
baz=6.3
IMAR **Indian Mountai** 79.60 359 P P 09 24 44.3 +1.2
PRP **Porcupine Dome** 79.78 356 P P 09 24 43.3 -1.0
PRP **Porcupine Dome** 79.78 356 P P 09 24 44.5 +0.2
baz=8.2
P52A **Corning** 79.80 311 P P 09 24 44.9 +0.1
baz=53
H21K **Melozitna Rive** 79.91 359 P P 09 24 46.7 +1.8
H21K IAmb IAmb 09 24 47.4
comp=Z,11nm,0.8s
H21K **Melozitna Rive** 79.91 359 P P 09 24 46.2 +1.3
baz=2.2,SNR=9.1
ACSO **Alum Creek Sta** 79.96 312 P P 09 24 46.2 +0.6
baz=53
EGAK **Eagle** 80.19 354 P P 09 24 47.2 +0.9
EGAK **Eagle** 80.19 354 P P 09 24 46.2 -0.1
baz=12
HUMP **Col San Antoni** 80.25 285 P P 09 24 49.4 +1.9
HUMP IAmb IAmb 09 24 49.8
comp=Z,8.2nm,0.8s
POKR **Poker Plat Res** 80.28 357 P P 09 24 45.7 -1.2
baz=6.6
I23K **Minto, Yukon-K** 80.33 357 P P 09 24 48.6 +1.5
I23K IAmb IAmb 09 24 50.0
comp=Z,5.2nm,0.7s
I23K **Minto, Yukon-K** 80.33 357 P P 09 24 47.5 +0.4
baz=5.0
I21K **Tanana** 80.38 359 P P 09 24 49.2 +1.9
I21K IAmb IAmb 09 24 54.2
comp=Z,11nm,0.8s
I21K **Tanana** 80.38 359 P P 09 24 48.3 +0.9
baz=2.8,SNR=6.5
PDPR **Patillas Dam,** 80.46 285 P P 09 24 50.5 +1.9
PDPR IAmb IAmb 09 24 51.7
comp=Z,11nm,0.7s
MDM **Murphy Dome** 80.48 357 P P 09 24 48.9 +0.9
MDM IAmb IAmb 09 24 49.7
comp=Z,11nm,0.8s
MLY **Manley** 80.50 358 P P 09 24 49.2 +1.1
MLY IAmb IAmb 09 24 50.1
comp=Z,7.7nm,0.8s
COLA **College** 80.54 357 P P 09 24 48.8 +0.6
baz=6.3
TCOL **CIRO, UAF Yank** 80.55 357 P P 09 24 48.8 +0.6
baz=6.3
ILAR **Eielson Array** 80.60 356 P P 09 24 49.1 +0.5
comp=Z,2.5nm,0.8s,baz=359,slow=3.4,SNR=19
ILAR **Eielson Array** 80.60 356 P P 09 24 48.2 -0.3
J26L **Joseph Creek** 80.66 355 P P 09 24 48.9 -0.1
baz=9.8
DAWY **Dawson** 80.72 353 P P 09 24 50.4 +1.1
DAWY IAmb IAmb 09 24 51.0
comp=Z,10nm,0.9s
DAWY **Dawson** 80.72 353 P P 09 24 49.4 +0.1
baz=13,SNR=7.9
CCB **Clear Creek Bu** 80.77 357 P P 09 24 50.0 +0.5
MAYO **Mayo, Yukon** 80.78 351 P P 09 24 49.3 -0.3
baz=16,SNR=5.5
NEA2 **Nenana** 80.88 357 P P 09 24 51.9 +1.9
NEA2 **Nenana** 80.88 357 P P 09 24 49.8 -0.3
baz=5.3
WRH **Wood River Hil** 80.96 357 P P 09 24 50.9 +0.4
HDA **Harding Lake** 80.96 356 P P 09 24 51.1 +0.6
HDA IAmb IAmb 09 24 52.1
comp=Z,13nm,0.8s
HDA **Harding Lake** 80.96 356 P P 09 24 50.5 0.0
baz=7.0,SNR=8.3
K27K **Chicken** 81.00 354 P P 09 24 51.8 +1.0
K27K IAmb IAmb 09 25 07.0
comp=Z,11nm,0.9s
K27K **Chicken** 81.00 354 P P 09 24 51.5 +0.8
baz=11
MMPY **Sheldon Lake,** 81.06 349 P P 09 24 52.5 +1.4
baz=20
SCRK **Sand Creek** 81.21 355 P P 09 24 52.9 +0.9
SCRK IAmb IAmb 09 24 55.7
comp=Z,13nm,1.4s
SCRK **Sand Creek** 81.21 355 P P 09 24 52.8 +0.9
baz=9.5
J20K **Nowinta River** 81.42 359 P P 09 24 54.0 +1.1
J20K IAmb IAmb 09 24 55.0
comp=Z,10nm,0.8s
J20K **Nowinta River** 81.42 359 P P 09 24 53.4 +0.4
baz=1.0,SNR=7.4
BPAW **Bear Paw Mtn.** 81.44 358 P P 09 24 53.3 +0.2
BPAW IAmb IAmb 09 24 54.1
comp=Z,9.2nm,0.8s
BPAW **Bear Paw Mtn.** 81.44 358 P P 09 24 52.9 -0.2
baz=3.7,SNR=10
RIDG **Independent Ri** 81.50 355 P P 09 24 53.6 +0.1
baz=8.8
DOT **Dot Lake** 81.54 355 P P 09 24 54.3 +0.7
DOT IAmb IAmb 09 24 56.1
comp=Z,7.2nm,0.8s
TGTN **Hyland Airport** 81.58 347 P P 09 24 55.0 +1.1
baz=22
CHUM **Lake Minchumin** 81.69 359 P P 09 24 54.2 -0.1
baz=2.6,SNR=5.8
MCK **McKinley** 81.73 357 P P 09 24 55.2 +0.5
MCK pmax pmax
comp=Z,12nm,1.0s
MCK **McKinley** 81.73 357 P P 09 24 55.2 +0.5
MCK IAmb IAmb 09 24 55.8
comp=Z,12nm,1.0s
MCK **McKinley** 81.73 357 P P 09 24 54.8 +0.2
baz=5.4
FARO **Faro, Yukon** 81.75 350 P P 09 24 55.7 +0.9
baz=18
AGMN **Agassiz Nation** 81.76 324 P P 09 24 55.5 +0.4
baz=46
BCAR **Beaver Creek A** 81.93 354 P P 09 24 57.2 +1.5
L27K **Beaver Creek,** 81.94 354 P P 09 24 57.1 +1.4
L27K IAmb IAmb 09 24 58.0
comp=Z,6.6nm,0.8s
L27K **Beaver Creek,** 81.94 354 P P 09 24 56.8 +1.0
baz=11
KMSC **Kings Mountain** 81.97 307 P P 09 24 56.8 +0.4
baz=53
TRF **Thorofare Moun** 82.07 358 P P 09 24 57.4 +0.8
TRF IAmb IAmb 09 24 57.6
comp=Z,10nm,0.8s

TRF **Thorofare Moun** 82.07 358 P P 09 24 56.9 +0.3
baz=4.2
L26K **Log Cabin Wild** 82.10 354 P P 09 24 57.2 +0.6
baz=10.0
CAST **Castle Rocks** 82.15 358 P P 09 24 57.6 +0.7
baz=2.7
MENT **Mentasta** 82.22 355 P P 09 24 58.9 +1.6
MENT IAmb IAmb 09 25 01.1
comp=Z,16nm,1.2s
K20K **Telida** 82.24 359 P P 09 24 58.4 +1.1
K20K IAmb IAmb 09 24 59.1
comp=Z,6.9nm,0.8s
K20K **Telida** 82.24 359 P P 09 24 58.3 +1.0
baz=1.1
DHY **Denali Highway** 82.31 356 P P 09 24 58.4 +0.5
DHY **Denali Highway** 82.31 356 P P 09 24 57.8 -0.1
baz=6.6,SNR=5.2
SFIN **Lafayette** 82.34 314 P P 09 24 58.4 +0.1
baz=50
SPMN **Marine on St.** 82.34 321 P P 09 24 58.2 +0.1
baz=47
R49A **Shelbyville** 82.49 312 P P 09 24 59.8 +0.7
R49A IAmb IAmb 09 25 01.1
comp=Z,6.2nm,0.7s
JFWS **Jewell Farm** 82.50 318 P P 09 24 59.4 +0.3
baz=49
PPLA **Purkeypile** 82.67 359 P P 09 25 00.8 +1.1
PPLA **Purkeypile** 82.67 359 P P 09 25 00.2 +0.4
baz=2.6
M26K **Nabesna, AK** 82.69 354 P P 09 25 00.4 +0.7
baz=10
BLO **Bloomington** 82.76 313 P P 09 25 00.9 +0.4
BLO pmax pmax
comp=Z,11nm,0.9s
BLO **Bloomington** 82.76 313 P P 09 25 00.9 +0.4
BLO IAmb IAmb 09 25 02.1
comp=Z,11nm,0.9s
WAT6 **Susitna Watana** 82.83 356 P P 09 25 01.0 +0.4
baz=6.3
HARP **HAARP** 82.85 355 P P 09 25 00.9 +0.4
baz=8.5
YUK3 **Moose Creek** 83.07 353 P P 09 25 01.7 -0.2
baz=12,SNR=7.6
T50A **Nancy** 83.08 311 P P 09 25 03.5 +1.3
T50A IAmb IAmb 09 25 04.1
comp=Z,5.0nm,0.8s
CUT **Chulitna** 83.11 358 P P 09 25 02.0 +0.2
baz=4.2
L20K **Farewell, AK** 83.12 359 P P 09 25 02.8 +0.9
baz=1.2
WCI **Wyandotte Cave** 83.22 312 P P 09 25 04.0 +1.2
WCI pmax pmax
comp=Z,12nm,1.0s
WCI **Wyandotte Cave** 83.22 312 P P 09 25 04.0 +1.2
WCI IAmb IAmb 09 25 04.6
comp=Z,12nm,1.0s
WCI **Wyandotte Cave** 83.22 312 P P 09 25 03.4 +0.6
baz=51
L19K **White Mountain** 83.42 360 P P 09 25 04.5 +1.0
L19K IAmb IAmb 09 25 09.7
comp=Z,15nm,1.2s
L19K **White Mountain** 83.42 360 P P 09 25 04.2 +0.7
baz=0.4
PETK **Petropavlovsk-** 83.49 26 LR LR 10 05 03.0
comp=Z,90nm,18.6s,baz=296,slow=38
HDIL **Hopedale** 83.51 315 P P 09 25 04.8 +0.6
baz=49
SKT **Skwentna** 83.58 358 P P 09 25 04.4 +0.1
SKT **Skwentna** 83.58 358 P P 09 25 04.2 -0.1
baz=3.2
N25K **Chitina, Valde** 83.60 355 P P 09 25 05.0 +0.5
baz=8.9
L40A **Anamosa** 83.61 318 P P 09 25 05.3 +0.5
SML **Sawmill** 83.63 357 P P 09 25 05.5 +0.9
SML **Sawmill** 83.63 357 P P 09 25 05.0 +0.4
baz=5.8
YUK6 **Outpost Mounta** 83.65 352 P P 09 25 06.1 +1.1
baz=14
HYT **Haines Junctio** 83.66 351 P P 09 25 05.9 +1.0
baz=15
PMR **Palmer** 83.88 357 P P 09 25 06.4 +0.7
baz=5.2
U49A **Red Boiling Sp** 83.98 311 P P 09 25 08.0 +1.2
U49A IAmb IAmb 09 25 08.7
comp=Z,7.1nm,0.8s
OLIL **Olney** 83.99 313 P P 09 25 07.4 +0.6
KNK **Knik Glacier** 84.03 357 P P 09 25 07.4 +0.8
baz=5.7
SUA **Susitna One** 84.07 358 P P 09 25 07.9 +1.0
SUA **Susitna One** 84.07 358 P P 09 25 07.7 +0.8
baz=3.8
BMRM **Bremner River** 84.23 355 P P 09 25 08.6 +0.9
baz=8.9
P43A **Skaggs, Pawnee** 84.24 315 P P 09 25 08.9 +0.9
RC01 **Rabbit Creek A** 84.41 357 P P 09 25 09.4 +0.9
baz=4.7
GOGA **Godfrey** 84.43 307 P P 09 25 10.2 +1.1
baz=52
T47A **Sharon Grove** 84.50 312 P P 09 25 09.8 +0.4
T47A IAmb IAmb 09 25 10.9
comp=Z,8.0nm,0.8s
N18K **Kilae Creek** 84.93 0 P P 09 25 12.2 +1.0
baz=360
EDM **Edmonton** 85.10 336 P P 09 25 12.9 +0.7
EDM pmax pmax
comp=Z,10.0nm,0.7s
EDM **Edmonton** 85.10 336 P P 09 25 12.9 +0.7
BDFB **Brasilia** 85.12 247 P P 09 25 13.9 +1.0
comp=Z,2.6nm,0.6s,baz=47,slow=8.6,SNR=3.7
RSO **Soubt South** 85.12 359 P P 09 25 14.6 +2.2
ECSD **EROS Data Cent** 85.34 322 P P 09 25 14.3 +0.8
ECSD IAmb IAmb 09 25 15.0
comp=Z,8.3nm,0.8s
ECSD **EROS Data Cent** 85.34 322 P P 09 25 14.4 +0.8
baz=45
O19K **Port Alsworth** 85.41 359 P P 09 25 13.8 +0.3
baz=0.9
WVT **Waverly** 85.50 311 P P 09 25 14.6 +0.1
WVT pmax pmax
comp=Z,6.0nm,0.8s
WVT **Waverly** 85.50 311 P P 09 25 14.6 +0.1
WVT IAmb IAmb 09 25 15.7
comp=Z,5.8nm,0.8s
WVT **Waverly** 85.50 311 P P 09 25 14.8 +0.3
baz=50
O18K **Koktuh Hills** 85.76 360 P P 09 25 15.6 +0.3
baz=0.1
FVM **French Village** 85.86 314 P P 09 25 16.1 -0.1
FVM pmax pmax
comp=Z,10.0nm,0.8s
FVM **French Village** 85.86 314 P P 09 25 16.1 -0.1
MJAR **Matsushiro Arr** 85.95 48 P P 09 25 17.4 +0.7
comp=Z,3.1nm,0.8s,baz=309,slow=4.7,SNR=6.1
MJAR **Matsushiro Arr** 85.95 48 IAmb IAmb 09 25 17.7
comp=Z,4.5nm,1.0s
PTGA **Pitinga** 85.95 266 P P 09 25 18.9 +1.9
PTGA IAmb IAmb 09 25 35.5
comp=Z,7.0nm,1.1s
SUSD **Miller** 86.01 323 P P 09 25 17.2 +0.3
baz=43
X48A **Hartselle** 86.09 310 P P 09 25 18.0 +0.6
CCM **Cathedral Cave** 86.29 315 P P 09 25 19.1 +0.7
CCM pmax pmax
comp=Z,10.0nm,0.8s
CCM **Cathedral Cave** 86.29 315 P P 09 25 19.1 +0.7
CCM **Cathedral Cave** 86.29 315 P P 09 25 19.2 +0.9
baz=48
PLAL **Pickwick Lake** 86.39 311 P P 09 25 19.1 +0.2
PLAL IAmb IAmb 09 25 19.9
comp=Z,8.0nm,0.8s
L34A **Svendsen Farm,** 86.47 320 P P 09 25 19.6 +0.5
P38A **Dawn** 86.55 317 P P 09 25 20.1 +0.6
P38A IAmb IAmb 09 25 21.3
comp=Z,10nm,1.1s
PBMO **Poplar Bluff** 86.66 313 P P 09 25 20.8 +0.7
PBMO IAmb IAmb 09 25 21.6
comp=Z,7.1nm,0.7s
R40A **Maddies Statio** 86.73 315 P P 09 25 21.3 +0.8
N35A **Tabor** 86.85 319 P P 09 25 22.1 +1.0
T42A **Van Buren** 86.89 314 P P 09 25 22.1 +0.9
LRAL **Lakeview Retre** 86.96 309 P P 09 25 22.7 +1.0
LRAL **Lakeview Retre** 86.96 309 P P 09 25 22.9 +1.2
baz=50
MGMO **Mountain Grove** 87.50 314 P P 09 25 25.2 +0.9
MGMO IAmb IAmb 09 25 26.2
comp=Z,6.6nm,0.8s

OXF	Oxford	87.53	311	P		P		09 25 24.7	+0.2
	baz=49								
LCAR	Lake Charles	87.57	313	P		P		09 25 24.7	+0.2
LAO	LASA Array	87.67	329	P		P		09 25 25.7	+0.7
LAO	LASA Array	87.67	329	P		P		09 25 26.1	+1.2
	baz=38								
KDAK	Kodiak Island	87.81	358	P		P		09 25 26.0	+0.7
	baz=2.3								
EGMT	Eagleton	88.06	331	P		P		09 25 27.3	+0.4
	baz=36								
KSU1	Kansas State U	88.62	318	P		P		09 25 30.5	+1.0
RSSD	Black Hills	88.68	326	P		P		09 25 30.3	+0.3
	baz=40								
W41B	Gary Mavity, V	88.83	313	P		P		09 25 31.0	+0.4
	baz=47								
X40A	Basin Creek Fa	89.65	313	P		P		09 25 34.5	+0.1
	baz=47								
JTMT	Jette	90.02	334	P		P		09 25 37.1	+1.0
JTMT				IAmb		IAmb		09 25 37.9	
	comp=Z,9.5nm,1.1s								
MIAR	Mount Ida	90.05	313	P		P		09 25 37.2	+0.9
	baz=46								
T35A	Sooner Cattle	90.11	317	P		P		09 25 37.7	+1.1
R32A	Long Quarter,	90.25	319	P		P		09 25 37.3	+0.1
R32A				IAmb		IAmb		09 25 38.4	
	comp=Z,8.6nm,0.9s								
CBKS	Cedar Bluff	90.51	320	P		P		09 25 38.7	+0.3
	baz=43								
NEW	Newport	90.58	336	P		P		09 25 39.3	+0.7
NEW				pmax		pmax			
	comp=Z,5.0nm,0.8s								
NEW	Newport	90.58	336	P		P		09 25 39.3	+0.7
NEW				IAmb		IAmb		09 25 40.2	
	comp=Z,4.7nm,0.8s								
NEW	Newport	90.58	336	P		P		09 25 39.5	+0.9
	baz=31								
YNE	Yellowstone No	90.61	330	P		P		09 25 39.9	+0.8
YNE				IAmb		IAmb		09 25 41.3	
	comp=Z,5.1nm,0.8s								
BOZ	Bozeman (W)	90.79	331	P		P		09 25 39.3	-0.5
	baz=35								
K22A	Casper	90.96	326	P		P		09 25 40.7	0.0
K22A				IAmb		IAmb		09 25 41.4	
	comp=Z,6.7nm,0.9s								
K22A	Casper	90.96	326	P		P		09 25 40.6	0.0
	baz=38								
PHWY	Pilot Hill	91.52	325	P		P		09 25 43.7	+0.2
PHWY				IAmb		IAmb		09 25 44.8	
	comp=Z,5.9nm,0.8s								
YPP	Pitchstone Pla	91.54	330	P		P		09 25 45.5	+2.1
YPP				IAmb		IAmb		09 26 02.6	
	comp=Z,4.5nm,1.2s								
IMW	Indian Meadow	91.90	330	P		P		09 25 46.1	+1.0
MOOW	Moose Ponds	91.94	329	P		P		09 25 45.9	+0.7
N23A	Red Feather La	92.06	325	P		P		09 25 46.0	0.0
	baz=39								
PDAR	Pinedale Array	92.23	328	P		P		09 25 46.5	0.0
	comp=Z,0.8nm,0.7s,baz=66,slow=5.4,SNR=9.1								
TPAW	Teton Pass	92.23	329	P		P		09 25 47.4	+0.7
TPAW				IAmb		IAmb		09 25 48.2	
	comp=Z,3.2nm,0.8s								
ISCO	Idaho Springs	92.76	324	P		P		09 25 49.4	+0.2
ISCO				pmax		pmax			
	comp=Z,2.0nm,0.9s								
ISCO	Idaho Springs	92.76	324	P		P		09 25 49.4	+0.2
ISCO	Idaho Springs	92.76	324	P		P		09 25 49.2	0.0
	baz=39								
WMOK	Wichita Mounta	92.95	316	P		P		09 25 50.4	+0.6
	baz=43								
SDCO	Great Sand Dun	94.30	323	P		P		09 25 55.8	-0.5
	baz=39								
S22A	4UR Ranch, Cre	94.95	323	P		P		09 25 59.1	-0.2
	baz=38								
ABTX	Abilene, Hawle	94.98	316	P		P		09 25 59.9	+0.7
	baz=43								
I04A	Tendick Farm,	96.27	337	P		P		09 26 04.9	0.0
	baz=27								
NVAR	Mina Array Bea	99.49	331	P		Pdif		09 26 20.2	+0.5
	comp=Z,0.3nm,0.6s,baz=114,slow=1.1,SNR=4.2								
TXAR	Lajitas Array	99.73	316	P		Pdif		09 26 21.6	+0.8
	comp=Z,0.4nm,0.8s,baz=46,slow=5.4,SNR=6.4								
ISA	Isabella, Lake	101.95	330	P		Pdif		09 26 29.6	-0.9
	baz=30								
SWSC	Sam W. Stewart	103.10	327	P		Pdif		09 26 35.1	-0.4
	baz=32								
WRA	Warramunga Arr	116.99	96	PKP		PKPdf		09 31 21.2	-0.4
	comp=Z,0.4nm,0.5s,baz=316,slow=1.6,SNR=13								
WRA	Warramunga Arr	116.99	96	PKIKP		PKPdf		09 31 21.8	+0.3
WRA	Warramunga Arr	116.99	96	PKPdf		PKPdf		09 31 21.8	+0.3
ASAR	Alice Springs	118.42	100	PKP		PKPdf		09 31 24.1	-0.2
	comp=Z,0.4nm,0.6s,baz=302,slow=1.1,SNR=8.1								
ASAR				PKKPab		PKKPbc		09 41 42.1	+1.3
	comp=Z,0.3nm,0.6s,baz=112,slow=3.9,SNR=5.2								
ASAR	Alice Springs	118.42	100	PKPdf		PKPdf		09 31 23.9	-0.3
QSPA	South Pole Qui	124.59	180	PKP		PKPdf		09 31 34.8	+0.1
	comp=Z,0.7nm,0.5s,baz=281,slow=0.2,SNR=9.9								

IDC ***29*** *09:14:59.0±4.8, 23°.92S×179°.74E, h537km±49km, mb3.2/5, mb1 3.4/7, mb1mx3.1/24, mbtmp4.2/7, Error ellipse: s-maj=92.2km s-min=21.3km az=154.0*

ISC 29 09:15:00.1±1.7**, 23°.8S**±0°.3**×179.7E**±0°.2**, h550**km**, n7,**
σ0°79/7, mb3.7/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	Nonsavu	6.19	346	P		P	09 16 40.3	-0.4
	2.7nm,0.3s,baz=232,slow=21,SNR=9.8							
DZM	Mont Dzumac	12.29	275	P		P	09 17 41.8	0.0
	0.3nm,0.3s,baz=90,slow=15,SNR=7.7							
CTA	Charters Tower	31.16	270	P		P	09 20 35.9	+1.2
	4.1nm,0.4s,baz=91,slow=12,SNR=16							
STKA	Stephens Creek	34.48	248	P		P	09 21 01.8	-0.8
	0.9nm,0.4s,baz=97,slow=10,SNR=6.2							
ASAR	Alice Springs	41.75	261	P		P	09 22 01.6	-0.2
	0.8nm,0.4s,baz=94,slow=6.5,SNR=25							
WRA	Warramunga Arr	42.10	266	P		P	09 22 04.4	-0.2
	1.8nm,0.4s,baz=100,slow=8.3,SNR=83							
TXAR	Lajitas Array	90.63	58	P		P	09 27 04.8	+0.3
	0.7nm,0.8s,baz=215,slow=6.3,SNR=8.7							

IDC ***29*** *09:27:11.0±0.6, 29°.83N×80°.46E, h0km, mb4.2/24, mb1 4.3/26, mb1mx4.2/41, mbtmp4.2/26, ML3.9/2, MS3.7/8, Ms1 3.7/8, ms1mx3.3/49, Error ellipse: s-maj=15.8km s-min=13.0km az=30.0*

MOS ***29*** *09:27:14.8±1.2, 30°.02N×80°.39E, h34km, mb4.8/18, Error ellipse: s-maj=9.3km s-min=5.0km az=112.4*

BJI ***29*** *09:27:14.5±0.0, 30°.01N×80°.47E, h15km, mB4.9/12, mb4.4/27, Ms4.3/9, Ms7 4.0/9*

NDI ***29*** *09:27:14.6±3.0, 29°.82N×80°.56E, h10km, ML4.6, mb4.6(NEIC)*

DMN ***29*** *09:27:17.2±0.3, 29°.95N×80°.52E, h10km, Ml4.6/11, Error ellipse: s-maj=16.5km s-min=6.2km az=27.0*

NEIC ***29*** *09:27:17.1±2.1, 30°.0N±0°.1×80°.37E±0°.08, h35km±1km, mb4.6/43, Error ellipse: s-maj=18.6km s-min=9.6km az=206.0*

ISC 29 09:27:14.6±0.3**, 29°.96N**±0°.04**×80°.40E**±0°.03**, h23**km**, n204,**
σ1988/213, mb4.5/61, MS3.6/9, 6C-2D, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PYUN	Piuthan	2.93	129	eP	n	Pn	09 28 00.9	+0.8
PYUN				eSn		Sn	09 28 33.4	-1.3
	667nm,0.3s							
SMLA	Simla	3.02	293	eP		Pn	09 28 05.0	+4.0
SMLA				i x		Pb	09 28 09.0	+1.3
SMLA				eS		Sb	09 28 44.5	+0.3
SMLA				IAML			09 28 51.1	
	comp=E,4μm,0.4s							
SMLA				IAML			09 28 54.4	
	comp=N,4μm,0.4s							
NDI	New Delhi	3.06	246	eP		Pn	09 28 03.0	+1.4
NDI				eS		Sn	09 28 40.0	+2.5
DANN	Dangsing	3.35	118	ePn		Pn	09 28 07.1	+1.2
DANN				eSn		Sn	09 28 43.2	-1.9
	comp=N,203nm,0.2s							
KOLN	Koldanda	3.56	127	ePn		Pn	09 28 10.1	+1.4
KOLN				eSn		Sn	09 28 48.6	-1.5
DHRM	DHARAMSHALA	4.19	304	eP		Pn	09 28 20.1	+2.7
GKN	Gorkha	4.20	117	ePn		Pn	09 28 18.3	+0.9
GKN				eSn		Sn	09 29 02.9	-2.9
	comp=N,278nm,0.3s							
DMN	Daman	4.75	118	ePn		Pn	09 28 25.8	+0.7
DMN				eSn		Sn	09 29 16.5	-3.1
	comp=N,108nm,0.3s							
KKN	Kakani	4.80	116	ePn		Pn	09 28 26.4	+0.7
KKN				eSn		Sn	09 29 17.0	-3.7
	comp=N,88nm,0.2s							
PKIN	Phulchoki	4.99	117	ePn		Pn	09 28 28.3	-0.1
PKI	Pulchoki	5.00	117	ePn		Pn	09 28 28.6	0.0
PKI				eSn		Sn	09 29 22.9	-3.0
	comp=N,116nm,0.3s							
GUN	Gumba	5.22	112	ePn		Pn	09 28 32.2	+0.5
GUN				eSn		Sn	09 29 27.3	-4.0
	comp=N,121nm,0.3s							
JIRN	Jiri	5.58	113	ePn		Pn	09 28 37.5	+0.9
JIRN				eSn		Sn	09 29 37.0	-3.1
	comp=N,150nm,0.2s							
RAMN	Ramite	6.23	117	ePn		Pn	09 28 45.1	-0.3
RAMN				eSn		Sn	09 29 52.3	-3.8
	comp=N,235nm,0.2s							
ODAN	Odare	6.89	115	ePn		Pn	09 28 54.9	+0.4
ODAN				eSn		Sn	09 30 07.5	-4.8
	comp=N,86nm,0.3s							
TAPN	Taplejung	6.93	110	ePn		Pn	09 28 56.0	+0.9
TAPN				eSn		Sn	09 30 08.5	-4.9
	comp=N,66nm,0.3s							
CHCP	Chirah Chowk	7.10	303	P		Pn	09 28 58.7	+1.5
NIL	Nilore	7.11	303	P		Pn	09 28 57.0	-0.3
NIL	Nilore	7.11	303			Pn	09 28 57.0	-0.3
BHPL	Bhopal	7.20	202	eP		Pn	09 28 57.0	-1.6
BHPL				eS		Sn	09 30 14.7	-5.1
BOK	Bokaro	7.86	140	eP		Pn	09 29 06.0	-1.6
BOK				eS		Sn	09 30 27.7	-8.1
THW	Thamme Wali	7.92	293	P		Pn	09 29 09.2	+0.8
CEP	Cherat	8.18	300	P		Pn	09 29 13.4	+1.3
LSA	Lhasa	9.34	89	P		Pn	09 29 29.8	+1.4
LSA				LR		LR		
	comp=N,3μm,9.5s							
LSA				LR		LR		
	comp=N,530nm,8.5s							
LSA	Lhasa	9.34	89	P		Pn	09 29 28.3	-0.1
LSA	Lhasa	9.34	89			Pn	09 29 28.3	-0.1
KSH	Kashi	10.20	340	P		Pn	09 29 42.5	+2.8
KSH				pP			09 29 49.5	
KSH				S		Sn	09 31 25.5	-8.0
KSH				pmax		pmax		
	comp=N,9.0nm,0.7s							
KBL	Kabul	10.64	298	P		Pn	09 29 44.0	-1.9
KBL	Kabul	10.64	298			Pn	09 29 44.0	-1.9
SHL	Shillong	11.07	111	P		Pn	09 29 53.7	+1.9
SHL	Shillong	11.07	111	Pn		Pn	09 29 53.7	+1.9
SHL	Shillong	11.07	111	eS		Sn	09 31 42.7	-12
TARG	Taragay, Kyrgy	11.93	351	Pn		Pn	09 30 03.6	0.0
GAR	Garm	12.26	320			Pn	09 30 06.3	-1.6
KDJ	Kajisay	12.42	349	P		Pn	09 30 09.5	-0.6
KDJ	Kajisay	12.42	349			Pn	09 30 09.5	-0.6
HYB	Hyderabad	12.60	188	i P		Pn	09 30 16.0	+3.4
HYB				eS		Sn	09 32 39.0	+6.6
CHGR	Chuyangaron	12.70	316			Pn	09 30 10.1	-3.9
BTK	Batken	12.76	325	P		Pn	09 30 13.8	-0.9
BTK	Batken	12.76	325	Pn		Pn	09 30 13.8	-0.9
POO	Poona	12.85	209	eP		Pn	09 30 12.2	-3.8
POO				IAmb		IAmb	09 30 14.6	
	comp=Z,13nm,0.5s							
POO				eS		Sn	09 32 24.0	-14
BOOM	Boomskoye usch	13.01	345	P		Pn	09 30 17.9	-0.2
BOOM	Boomskoye usch	13.01	345			Pn	09 30 17.9	-0.2
AAK	Ala-Archa	13.51	341	Pn		Pn	09 30 25.5	+0.5
	comp=Z,0.4nm,0.3s,baz=23,slow=16,SNR=5.9							
AAK	Ala-Archa	13.51	341	ceP		Pn	09 30 26.1	+1.1
AAK				pmax		pmax		
	comp=Z,17nm,1.3s							
AAK	Ala-Archa	13.51	341	Pn		Pn	09 30 24.3	-0.7
KAD	Karad	13.82	206	ψ iP		Pn	09 30 25.0	-4.3
KAD				i S		Sn	09 32 46.3	-16
WMQ	Urumqi	15.00	21	eP		Pn	09 30 46.3	+1.1
WMQ				pP		P	09 30 52.8	+2.3
WMQ				sP		sP	09 30 59.0	-2.3
WMQ				pmax		pmax		
	comp=Z,420nm,9.9s							
WMQ				LR		LR		
	comp=Z,750nm,13.1s							
WMQ				LR		LR		
	comp=Z,410nm,13.9s							
WMQ				LR		LR		
	comp=Z,370nm,16.5s							
WMQ	Urumqi	15.00	21	P		P	09 30 52.9	+2.4
WMQ	Urumqi	15.00	21	P		P	09 30 52.9	+2.4
KK31	Karatay Array	15.32	332	P		Pn	09 30 48.5	-0.9
KK31				pmax		pmax		
	comp=Z,4.0nm,0.5s							
KK31	Karatay Array	15.32	332	Pn		Pn	09 30 48.5	-0.9
KKAR	Karatay Array	15.32	332	P		Pn	09 30 46.8	-2.5
KKAR	Karatay Array	15.32	332	Pn		Pn	09 30 46.8	-2.5
MAKZ	Makanchi	16.86	4	P		Pn	09 31 08.4	-0.8
MAKZ				pmax		pmax		
	comp=Z,60nm,1.3s							
MAKZ	Makanchi	16.86	4	Pn		Pn	09 31 08.4	-0.8
MAKZ				IAmb		IAmb	09 31 14.0	
	comp=Z,60nm,1.3s							
MK31	Makanchi Array	16.87	4	P		Pn	09 31 08.7	-0.5
MK31				pmax		pmax		
	comp=Z,27nm,1.0s							
MK31	Makanchi Array	16.87	4			Pn	09 31 08.7	-0.5
MK31				IAmb		IAmb	09 31 14.0	
	comp=Z,27nm,0.9s							
MKAR	Makanchi Array	16.87	4	Pn		Pn	09 31 09.1	-0.1
	comp=Z,0.6nm,0.3s,baz=192,slow=11,SNR=70							
MKAR				LR		LR	09 38 18.9	
	comp=Z,137nm,20.3s,baz=120,slow=39							
MKAR	Makanchi Array	16.87	4	i P		Pn	09 31 09.5	+0.3
MKAR				pmax		pmax		
	comp=Z,20nm,0.8s							
MKAR	Makanchi Array	16.87	4	Pn		Pn	09 31 07.3	-1.9
GTA	Gaotai	18.51	54	eP		Pn	09 31 30.8	+1.1
GTA				pP		sP	09 31 38.5	-1.7
GTA				sP		pP	09 31 43.0	+6.3
GTA				pmax		pmax		
	comp=Z,51nm,5.3s							
GTA				LR		LR		
	comp=Z,330nm,14.5s							
GTA				LR		LR		
	comp=Z,320nm,14.2s							
GTA				LR		LR		
	comp=Z,350nm,13.8s							
GEYT	Alibeck	20.09	299	P		P	09 31 46.9	+0.3
	comp=Z,3.7nm,0.6s,baz=90,slow=12,SNR=4.1							
CHTO	Chiang Mai	20.18	119	P		Pn	09 31 49.4	-0.3
CHTO				pmax		pmax		
	comp=Z,13nm,1.4s							
CHTO	Chiang Mai	20.18	119	P		Pn	09 31 49.4	-0.3
CHTO	Chiang Mai	20.18	119	P		P	09 31 48.7	+1.0
	comp=Z,4.6nm,1.1s							
CMMT	Chiang Mai	20.18	119	P		P	09 31 48.7	+0.9
	comp=Z,8.0nm,1.1s							
CM13	Chiang Mai Arr	20.39	120	P		Pn	09 32 01.5	+9.3
	comp=Z,11nm,0.8s							
CMAR	Chiang Mai Arr	20.39	120	P		P	09 31 49.9	-0.2
	comp=Z,0.8nm,0.3s,baz=307,slow=8.9,SNR=1.3							
CMAR				LR		LR	09 40 42.0	
	comp=Z,51nm,19.2s,baz=300,slow=40							
CMAR	Chiang Mai Arr	20.39	120	P		Pn	09 31 51.5	-0.7
CMAR	Chiang Mai Arr	20.39	120	P		Pn	09 31 51.5	-0.8
CM02	Chiang Mai Arr	20.41	120	P		Pn	09 32 01.2	+8.8
	comp=Z,12nm,0.9s							
DGZ	Jazzator, Alta	20.42	13	i P		P	09 31 50.7	+0.4
DGZ				pmax		pmax		
	comp=Z,38nm,1.2s							
CM01	Chiang Mai Arr	20.43	120	P		Pn	09 31 59.0	+6.4
	comp=Z,12nm,0.9s							
CM05	Chiang Mai Arr	20.43	120	P		Pn	09 32 00.0	+7.4
	comp=Z,71nmcomp=Z,6.0nm,0.9s							
CM09	Chiang Mai Arr	20.44	120	P		Pn	09 32 02.0	+9.3
	comp=Z,9.7nm,0.8s							
CM04	Chiang Mai Arr	20.46	120	P		Pn	09 32 02.2	+9.3
	comp=Z,5.9nm,0.8s							
LZH	Lanzhou	20.56	67	eP		Pn	09 31 59.8	+5.6
LZH				pP		sP	09 32 07.5	+5.1
LZH				sP		pP	09 32 11.8	+12
LZH				pmax		pmax		
	comp=Z,21nm,1.1s							
WSAR	Wadi Sarin	20.57	256	P		P	09 31 52.7	+0.8
	comp=Z,4.5nm,0.8s,baz=109,slow=10,SNR=6.1							
KURBB	Kurchatov Arra	20.68	357	P		P	09 31 53.5	+0.6
	comp=Z,13nm,0.7s,baz=183,slow=10,SNR=70							
KURK	Kurchatov	20.77	357	P		P	09 31 53.5	-0.4
KURK	Kurchatov	20.77	357	P		P	09 31 53.5	-0.4
PHIT	Phitsanulok	22.28	120	P		P	09 32 18.8	+8.5
	comp=Z,45nm,1.2s							
PALK	Pallekele	22.57	179	LR		LR	09 40 57.1	
	comp=Z,185nm,18.2s,baz=116,slow=37							
ZAA0	Zalesovo Array	24.18	6	P		P	09 32 29.4	+0.3
ZAA0				IAmb		IAmb	09 32 31.5	
	comp=Z,16nm,1.0s							
ZALV	Zalesovo Beam	24.18	6	P		P	09 32 29.7	+0.6
	comp=Z,11nm,0.5s,baz=190,slow=9.8,SNR=41							
ZALV	Zalesovo Beam	24.18	6	i P		P	09 32 30.0	+0.9
ZALV				pmax		pmax		
	comp=Z,11nm,0.5s							
BVAR	Borovoye Array	24.18	345	P		P	09 32 30.0	+0.8
	comp=Z,1.4nm,0.4s,baz=150,slow=12,SNR=4.9							
BVAR	Borovoye Array	24.18	345	P		P	09 32 30.0	+0.8
BRVK	Borovoye	24.24	345	ceP		P	09 32 29.8	+0.2
BRVK				pmax		pmax		
	comp=Z,6.0nm,1.3s							
BRVK	Borovoye	24.24	345	P		P	09 32 29.2	-0.5
ABKAR	Akbulak array	24.75	327	P		P	09 32 35.8	+1.5
ABKAR	Akbulak array	24.75	327	P		P	09 32 35.5	+1.2
ABKAR				IAmb		IAmb	09 32 37.6	
	comp=Z,6.2nm,0.9s							
AKTO	Aktyubinsk	26.47	327	P		P	09 32 51.0	+1.1
	comp=Z,3.2nm,0.6s,baz=113,slow=9.8,SNR=12							
ZAK	Zakamensk	26.67	34	eP		P	09 32 53.3	+1.4
ZAK				pmax		pmax		
	comp=Z,8.0nm,1.0s							
SONM	Songino Array	26.78	41	P		P	09 32 54.1	+1.1
	comp=Z,3.7nm,0.8s,baz=236,slow=9.0,SNR=10							
SONM	Songino Array	26.78	41	P		P	09 32 54.0	+1.1
SONM				IAmb		IAmb	09 33 06.3	
	comp=Z,13nm,1.4s							
ULN	Ulaanbaatar	27.17	41	ceP		P	09 32 58.1	+1.6
ULN				pmax		pmax		
	comp=Z,11nm,1.6s							
ULN	Ulaanbaatar	27.17	41	P		P	09 32 58.4	+1.9
ULN	Ulaanbaatar	27.17	41	P		P	09 32 58.3	+1.8
	comp=Z,22nm,1.4s							
UBPT	Khong Chiam	27.29	117	P		P	09 32 58.0	+0.5
UBPT	Khong Chiam	27.29	117	P		P	09 32 58.8	+1.2
	comp=Z,6.0nm,1.9s							
HHC	Hu-ho-hao-te	27.49	58	eP		P	09 33 01.5	+2.1
HHC				pmax		pmax		
	comp=Z,12nm,1.3s							
HHC				pmax		pmax		
	comp=Z,270nm,5.9s							
ARU	Arti	30.61	336	d iP		P	09 33 26.8	+0.1
ARU							09 34 21.3	
ARU							09 36 26.8	
ARU				S		S	09 38 26.0	-1.3
ARU				pmax		pmax		
	comp=Z,4.0nm,1.0s							
GNI	Garni	30.73	299	i P		P	09 33 27.9	-0.3
GNI				pmax		pmax		
	comp=Z,8.0nm,1.1s							
KBZ	Khabaz	32.71	305	P		P	09 33 47.5	+2.1
	comp=Z,3.6nm,0.8s,baz=160,slow=7.8,SNR=4.4							
KBZ	Khabaz	32.71	305	ceP		P	09 33 47.3	+2.0
KBZ				pmax		pmax		
	comp=Z,5.0nm,0.9s							
NEY	Neytrino	32.74	304	i P		P	09 33 46.2	+0.3
NEY				pmax		pmax		
	comp=Z,2.0nm,0.8s							
BELG	Belogornoye	32.88	322	i P		P	09 33 48.0	+1.3
BELG				pmax		pmax		
	comp=Z,3.0nm,1.1s							
KIV	Kislovodsk	32.91	306	eP		P	09 33 47.7	+0.5
KIV				pmax		pmax		
	comp=Z,9.0nm,1.1s							
NJ2	Nanjing	32.91	76	eP		P	09 33 47.5	+0.3
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
NRIK	Noril'sk	39.63	4	i P		P	09 34 44.5	+0.3
NRIK				pmax		pmax		
	comp=Z,14nm,1.3s							
KSRS	Korea Array	39.89	66	P		P	09 34 46.9	+0.2
	comp=Z,2.2nm,0.9s,baz=278,slow=10.0,SNR=5.6							
OBN	Obninsk	39.97	322	ceP		P	09 34 48.3	+1.2
OBN				pmax		pmax		
	comp=Z,11nm,0.6s							
KLMR	Klimovskoe	41.02	331	eP		P	09 34 54.5	-1.2
KLMR				pmax		pmax		
	comp=Z,21nm,1.4s							
KLMR	Klimovskoe	41.02	331	eP		P	09 34 54.5	-1.2
KLMR				AMP			09 34 57.6	
	comp=Z,21nm,1.4s							
USRK	Ussuriysk Ar.	42.86	56	P		P	09 35 10.2	-0.8
	comp=Z,1.8nm,0.9s,baz=204,slow=3.2,SNR=2.7							
USRK				LR		LR	09 53 47.7	
	comp=Z,65nm,21.1s,baz=284,slow=37							
KLR	Kul'dur	43.07	49	LR		LR	09 56 54.3	
	comp=Z,135nm,18.9s,baz=267,slow=41							
KLR	Kul'dur	43.07	49	i P		P	09 35 16.2	+3.5
KLR				pmax		pmax		
	comp=Z,11nm,1.6s							
AKASG	Malin Array Be	43.16	314	P		P	09 35 14.0	+0.7
	comp=Z,4.0nm,0.8s,baz=82,slow=5.7,SNR=10							
AKASG	Malin Array Be	43.16	314	P		P	09 35 12.7	-0.6
AKBB	Malin Array Si	43.16	314	ceP		P	09 35 13.7	+0.4
AKBB	Malin Array Si	43.16	314	P		P	09 35 13.4	+0.1
AKBB				IAmb		IAmb	09 35 20.9	
	comp=Z,3.9nm,0.7s							
MNK	Minsk	44.63	319	i P		P	09 35 22.8	-2.3
MNK				i			09 37 06.9	
MNK				i PPP		PPP	09 37 44.0	
MNK				i S		S	09 41 55.2	-4.6
MNK				i SS		SS	09 45 17.2	-2.8
MNK				pmax		pmax		
	comp=Z,14nm,0.7s							
MNK				pmax		pmax		
	comp=E,4.0nm,1.0s							
MNK				pmax		pmax		
	comp=N,19nm,0.7s							
MNK				MLR		MLR		
	comp=N,436nm,23.0s							
MNK				MLR		MLR		
	comp=Z,89nm,14.0s		

KWP	**Kalwaria Pacla**	**47.22**	**312**	P		**P**	**09 35 46.2**	**+0.5**
KWP				pmax		pmax		
	comp=Z,94nm,0.9s							
KWP	**Kalwaria Pacla**	**47.22**	**312**	P		**P**	**09 35 46.2**	**+0.5**
FIA1	**FINESS Array S**	**47.23**	**328**	P		**P**	**09 35 46.7**	**+1.2**
FINES	**FINESS Array B**	**47.23**	**328**	P		**P**	**09 35 46.5**	**+1.0**
	comp=Z,6.9nm,0.5s,baz=112,slow=9.2,SNR=40							
MJAR	**Matsushiro Arr**	**48.17**	**66**	LR		LR	09 58 36.5	
	comp=Z,55nm,19.6s,baz=305,slow=39							
KEV	**Kevo**	**49.76**	**339**	P		**P**	**09 36 06.2**	**+1.4**
KEV				pmax		pmax		
	comp=Z,44nm,1.3s							
KEV	**Kevo**	**49.76**	**339**	P		**P**	**09 36 06.2**	**+1.4**
JHJ	**Hachijo jima 2**	**50.12**	**70**	LR		LR	10 01 14.2	
	comp=Z,194nm,18.0s,baz=280,slow=41							
ARA0	**ARCESS Array S**	**50.16**	**338**	*e*P		**P**	**09 36 08.9**	**+1.0**
ARCES	**ARCESS Array B**	**50.16**	**338**	P		**P**	**09 36 09.3**	**+1.3**
	comp=Z,8.6nm,0.6s,baz=108,slow=7.8,SNR=45							
ARCES	**ARCESS Array B**	**50.16**	**338**	P		**P**	**09 36 09.2**	**+1.3**
KTK1	**Kautokeino**	**50.72**	**337**	*e*P		**P**	**09 36 12.7**	**+0.5**
HAMF	**Hammerfest**	**51.15**	**339**	*e*P		**P**	**09 36 16.6**	**+1.3**
KMBO	**Kilima Mbogo**	**51.46**	**241**	P		**P**	**09 36 19.2**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=30,slow=16,SNR=1.7							
TRO	**Tromso**	**52.37**	**337**	*e*P		**P**	**09 36 25.6**	**+1.1**
GERES	**GERESS Array B**	**53.14**	**311**	P		**P**	**09 36 31.9**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=98,slow=3.0,SNR=1.9							
GERES	**GERESS Array B**	**53.14**	**311**	P		**P**	**09 36 30.9**	**+0.2**
FAUS	**Fauske**	**53.16**	**334**	*e*P		**P**	**09 36 30.7**	**+0.3**
STEI	**Steigen**	**53.28**	**335**	*e*P		**P**	**09 36 32.1**	**+0.9**
MOR8	**Moi Rana**	**53.29**	**332**	*e*P		**P**	**09 36 30.9**	**-0.4**
KONS	**Konsvik**	**53.87**	**333**	*e*P		**P**	**09 36 36.9**	**+1.3**
NSS	**Namsos**	**54.12**	**330**	*e*P		**P**	**09 36 38.8**	**+1.3**
NB2	**NORSAR Subarra**	**54.25**	**326**	P		**P**	**09 36 38.7**	**+0.2**
	comp=Z,6.6nm,1.2s,baz=92,slow=7.4							
NB2	**NORSAR Subarra**	**54.25**	**326**	P		**P**	**09 36 38.7**	**+0.2**
	baz=92,slow=7.4							
NOA	**NORSAR Array B**	**54.25**	**326**	P		**P**	**09 36 38.0**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=91,slow=7.2,SNR=4.7							
NOA	**NORSAR Array B**	**54.25**	**326**	P		**P**	**09 36 38.0**	**-0.5**
SPA0	**Spitsbergen Ar**	**55.62**	**347**	*e*P		**P**	**09 36 49.6**	**+1.4**
HOMB	**Homborsund**	**55.64**	**323**	*e*P		**P**	**09 36 49.1**	**+0.6**
BATI	**Baumata**	**57.69**	**127**	LR		LR	10 10 06.1	
	comp=Z,96nm,18.3s,baz=150,slow=45							
KEST	**Kesra**	**58.79**	**296**	P		**P**	**09 37 11.6**	**+0.3**
	comp=Z,3.8nm,0.9s,baz=315,slow=5.5,SNR=4.3							
KEST	**Kesra**	**58.79**	**296**	IAmb		IAmb	09 37 38.0	
	comp=Z,6.2nm,1.1s							
BILL	**Bilibino**	**61.06**	**25**	*i* P		**P**	**09 37 27.5**	**+1.3**
BILL				pmax		pmax		
	comp=Z,22nm,1.1s							
ESDC	**Sonseca Array**	**67.56**	**304**	P		**P**	**09 38 10.2**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=73,slow=6.7,SNR=5.8							
EUNU	**Eureka**	**69.97**	**358**	P		**P**	**09 38 23.4**	**-0.3**
EUNU				IAmb		IAmb	09 38 50.1	
	comp=Z,13nm,1.4s							
WB0	**Warramunga Arr**	**71.74**	**127**	P		**P**	**09 38 35.3**	**+0.1**
WB0				IAmb		IAmb	09 38 45.0	
	comp=Z,9.4nm,1.4s							
WRA	**Warramunga Arr**	**71.82**	**127**	P		**P**	**09 38 34.7**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=322,slow=5.9,SNR=20							
WRA	**Warramunga Arr**	**71.82**	**127**	P		**P**	**09 38 36.1**	**+0.4**
WRA	**Warramunga Arr**	**71.82**	**127**	P		**P**	**09 38 36.1**	**+0.4**
WRAB	**Tennant Creek**	**71.82**	**127**	*i* P		**P**	**09 38 38.3**	**+2.6**
WRAB				pmax		pmax		
	comp=Z,6.0nm,1.1s							
WRAB	**Tennant Creek**	**71.82**	**127**	P		**P**	**09 38 35.3**	**-0.4**
WRAB				IAmb		IAmb	09 38 45.2	
	comp=Z,5.1nm,1.1s							
WB2	**Warramunga Arr**	**71.83**	**127**	P		**P**	**09 38 35.5**	**-0.3**
WB2				IAmb		IAmb	09 38 39.5	
	comp=Z,3.3nm,0.8s							
WR0	**Warramunga Arr**	**71.97**	**127**	P		**P**	**09 38 36.2**	**-0.4**
WR0				IAmb		IAmb	09 38 47.3	
	comp=Z,5.7nm,1.1s							
TORD	**Torodi Ar. Bea**	**73.86**	**276**	P		**P**	**09 38 48.2**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=53,slow=4.9,SNR=9.8							
TORD	**Torodi Ar. Bea**	**73.86**	**276**	P		**P**	**09 38 47.7**	**-0.3**
AS31	**Alice Springs**	**74.05**	**130**	P		**P**	**09 38 48.4**	**-0.5**
ASAR	**Alice Springs**	**74.05**	**130**	P		**P**	**09 38 47.6**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=315,slow=6.0,SNR=12							
ASAR	**Alice Springs**	**74.05**	**130**	P		**P**	**09 38 49.2**	**+0.3**
ASAR	**Alice Springs**	**74.05**	**130**	P		**P**	**09 38 49.2**	**+0.3**
TOLK	**Toolik Lake Re**	**75.05**	**17**	P		**P**	**09 38 55.1**	**+0.9**
H21K	**Melozitna Rive**	**76.30**	**20**	P		**P**	**09 39 02.7**	**+1.4**
H21K				IAmb		IAmb	09 39 03.7	
	comp=Z,9.1nm,1.0s							
MLY	**Manley**	**77.36**	**20**	P		**P**	**09 39 07.9**	**+0.6**
MLY				IAmb		IAmb	09 39 09.1	
	comp=Z,4.8nm,0.8s							
L19K	**White Mountain**	**78.06**	**23**	P		**P**	**09 39 11.4**	**+0.1**
MDM	**Murphy Dome**	**78.14**	**19**	P		**P**	**09 39 11.7**	**+0.1**
MDM				IAmb		IAmb	09 39 13.8	
	comp=Z,9.8nm,1.3s							
NEA2	**Nenana**	**78.17**	**20**	P		**P**	**09 39 11.7**	**-0.1**
TCOL	**CIGO, UAF Yank**	**78.31**	**19**	P		**P**	**09 39 13.1**	**+0.6**
TCOL				IAmb		IAmb	09 39 14.0	
	comp=Z,7.5nm,0.9s							
COLA	**College**	**78.31**	**19**	P		**P**	**09 39 13.2**	**+0.7**
COLA				pmax		pmax		
	comp=Z,7.0nm,0.9s							
COLA	**College**	**78.31**	**19**	P		**P**	**09 39 13.2**	**+0.7**
COLA				IAmb		IAmb	09 39 14.0	
	comp=Z,7.2nm,0.8s							
BOSA	**Boshof**	**78.50**	**227**	P		**P**	**09 39 13.8**	**-0.5**
	comp=Z,2.4nm,0.9s,baz=28,slow=3.1,SNR=3.8							
IL31		**78.66**	**19**	P		**P**	**09 39 14.3**	**-0.1**
IL31				IAmb		IAmb	09 39 15.6	
	comp=Z,6.9nm,1.1s							
ILAR	**Eielson Array**	**78.66**	**19**	P		**P**	**09 39 14.6**	**+0.1**
	comp=Z,3.4nm,0.9s,baz=305,slow=4.7,SNR=25							
ILAR	**Eielson Array**	**78.66**	**19**	P		**P**	**09 39 14.1**	**-0.3**
N19K	**Bonanza Creek**	**79.14**	**24**	P		**P**	**09 39 18.1**	**+0.9**
N19K				IAmb		IAmb	09 39 20.3	
	comp=Z,11nm,1.0s							
SKT	**Skwentna**	**79.32**	**22**	P		**P**	**09 39 18.8**	**+0.7**
SCRK	**Sand Creek**	**80.07**	**18**	P		**P**	**09 39 23.2**	**+0.9**
SCRK				IAmb		IAmb	09 39 24.2	
	comp=Z,6.7nm,1.0s							
DBIC	**Dimbokro**	**82.61**	**273**	P		**P**	**09 39 36.3**	**-0.2**
	comp=Z,2.3nm,0.6s,baz=56,slow=3.6,SNR=2.3							
TXAR	**Lajitas Array**	**120.91**	**4**	PKP		**PKiKP**	**09 46 08.4**	**+2.6**
	comp=Z,0.5nm,1.0s,baz=316,slow=2.5,SNR=3.8							
LPAZ	**La Paz**	**148.14**	**288**	PKPbc		**PKPbc**	**09 46 59.5**	**-0.4**
	comp=Z,1.9nm,1.0s,baz=3.3,slow=5.2,SNR=3.6							
LPAZ	**La Paz**	**148.14**	**288**	PKHKP		PKPpre	09 46 52.6	
LPAZ							09 47 02.0	
LPAZ	**La Paz**	**148.14**	**288**	PKPdf		**PKPdf**	**09 46 52.6**	**-4.2**
LPAZ				PKPbc		**PKPbc**	**09 46 57.7**	**-2.2**
LPAZ				PKPab		**PKiKP**	**09 47 02.0**	**+0.3**

*SOME **29** 09:39:17.1, 48.63N×81.70E, h0km*
*NNC **29** 09:39:19.1±2.6, 45.38N×83.78E, h6km±19km, mb2.8, mpv2.4, Error ellipse: s-maj=29.0km s-min=12.5km az=138.0*

ISC 29 09:39:17.5±1.1, 48.64N±0.05×81.66E±0.08, h10km, n6, σ0$88/10, 4C, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAKZ	**Makanchi**	**1.84**	**173**	⇑P	**Pg**	**09 39 52.2**	**-0.6**
	1.0nm,0.3s						
MAKZ				⇑S	**Sg**	**09 40 17.8**	**+1.1**
	0.9nm,0.2s						
MK31	**Makanchi Array**	**1.89**	**167**	⇑P	**Pn**	**09 39 49.6**	**-0.3**
	0.9nm,0.3s,baz=139,slow=16,SNR=48						
MK31				⇑S	**Sn**	**09 40 13.0**	**-0.9**
	6.6nm,0.5s,baz=142,slow=28,SNR=20						
SEM	**Semipalatinsk**	**2.00**	**333**	*e*P	**Pg**	**09 39 55.2**	**-0.6**
	4.6nm,0.1s						
SEM				*e*S	**Sg**	**09 40 22.3**	**+0.6**
	57nm,0.0s						
ZSN	**Zaisan**	**2.46**	**118**	*e*P	**Pn**	**09 39 57.9**	**+0.2**
	4.3nm,0.1s						
ZSN				*e*S	**Sn**	**09 40 27.2**	**-0.6**
	19nm,0.3s						
ZSN	**Zaisan**	**2.46**	**118**	Pg	**Pn**	**09 39 58.9**	**+1.2**
	4.3nm,0.2s						
ZSN				Lg	Lg	09 40 27.2	
	19nm,0.3s						
KAPS	**Kapalarasan**	**3.71**	**206**	Pg	**Pn**	**09 40 15.6**	**+0.8**
	0.1nm,0.3s						
KAPS				Lg	Lg	09 40 55.7	
	0.5nm,0.2s						

*SJA **29** 10:01:18.0, 31.33S×72.84W, h10km, ML5.1*
*IDC **29** 10:01:19.4±0.8, 31.32S×72.09W, h0km, mb4.1/8, mb1 4.2/13, mb1mx4.0/32, mbtmp4.1/13, ML4.0/5, MS3.5/2, Ms1 3.5/2, ms1mx3.1/21, Error ellipse: s-maj=27.7km s-min=19.2km az=103.0*
*NEIC **29** 10:01:20.9, 31.39S×72.09W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.12; $M_{\theta\theta}$0.51; $M_{\phi\phi}$-0.63; $M_{r\theta}$-0.18; $M_{r\phi}$1.70; $M_{\theta r}$-1.32; Fault plane solution: $M_0$2.24000×10^{15} NP1:ϕ_s188.28000°, δ88.37000°, λ143.42000°. NP2:ϕ_s279.49000°, δ53.44000°, λ2.03000°. Principal axes: T 2.1916, Plg26.0000°, Azm138.0000°; N 0.0897, Plg53.0000°, Azm6.0000°; P -2.2813, Plg24.0000°, Azm240.0000°;*
*NEIC **29** 10:01:21.4±2.5, 31.37S±0.03×72.11W±0.05, h10km±1km, mb4.4/17, Mwr4.2/41, ML4.3(GUC) Error ellipse: s-maj=8.0km s-min=4.8km az=298.0*
*GUC **29** 10:01:21.5±0.7, 31.33S×72.11W, h39km±3km, ML4.3*

ISC 29 10:01:19.5±1.6, 31.33S±0.03×72.20W±0.05, h4km±10km, n116, σ1$24/130, mb4.3/11, 5C-6D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.81**	**37**	⇓*i*P	**Pg**	**10 01 35.4**	**+0.3**
CO06				*e*S	**Sb**	**10 01 47.1**	**-0.4**
CO06	**Fray Jorge**	**0.81**	**37**		**Pg**	**10 01 35.3**	**+0.3**
CO06				Sg	**Sb**	**10 01 48.2**	**+0.7**
CO02	**Combarbal**	**1.03**	**84**	⇓*i*P	**Pg**	**10 01 39.1**	**-0.1**
CO02				*e*S	**Sg**	**10 01 52.3**	**-0.4**
CO02	**Combarbal**	**1.03**	**84**		**Pg**	**10 01 39.1**	**-0.1**
CO02				Sg	**Sg**	**10 01 52.6**	**-0.1**
CO03	**El Pedregal**	**1.38**	**70**	⇓*i*P	**Pn**	**10 01 44.8**	**-0.8**
CO03				*i* S	**Sb**	**10 02 02.0**	**-2.0**
CO03				IAML		10 02 07.3	
	comp=N,12µm,0.4s						
CO03	**El Pedregal**	**1.38**	**70**	Pn	**Pn**	**10 01 44.9**	**-0.8**
CO03				Sn	**Sb**	**10 02 02.2**	**-1.8**
VA06	**Catapilco**	**1.45**	**148**	⇑*i*P	**Pn**	**10 01 46.4**	**-0.1**
VA06				*i* S	**Sn**	**10 02 04.2**	**-1.9**
CO05	**La Serena**	**1.63**	**31**	⇓*i*P	**Pn**	**10 01 48.8**	**-0.2**
CO05				*e*S	**Sn**	**10 02 08.1**	**-2.3**
CO05				IAML		10 02 19.8	
	comp=E,6µm,0.4s						
CO05	**La Serena**	**1.63**	**31**	Pn	**Pn**	**10 01 48.7**	**-0.3**
CO05				Sn	**Sb**	**10 02 11.4**	**+0.4**
GO04	**Tololo Observa**	**1.66**	**47**	*e*P	**Pn**	**10 01 49.3**	**-0.4**
GO04				*e*S	**Sn**	**10 02 10.5**	**-1.1**
GO04	**Tololo Observa**	**1.66**	**47**	P	**Pn**	**10 01 49.8**	**+0.1**
VA01	**Torpederas**	**1.75**	**165**	⇑*i*P	**Pn**	**10 01 50.5**	**-0.3**
VA01				*i* S	**Sn**	**10 02 11.6**	**-2.0**
VA01	**Torpederas**	**1.75**	**165**	Pn	**Pn**	**10 01 50.5**	**-0.3**
VA01				Sn	**Sn**	**10 02 11.5**	**-2.1**
VA01	**Torpederas**	**1.75**	**165**	*i* P	**Pn**	**10 01 51.0**	**+0.2**
ROCH	**El Roble**	**1.92**	**149**	*e*P	**Pn**	**10 01 53.0**	**-0.4**
ROCH				*i* S	**Sn**	**10 02 17.0**	**-1.1**
ROCH				IAML		10 02 29.2	
	comp=E,2µm,0.5s						
VA03	**San Esteban**	**2.00**	**136**	⇑*i*P	**Pn**	**10 01 55.1**	**+0.8**
VA03				*e*S	**Sn**	**10 02 18.2**	**-1.6**
VA03				IAML		10 02 26.3	
	comp=N,3µm,0.5s						
VA03	**San Esteban**	**2.00**	**136**	Pn	**Pn**	**10 01 55.0**	**+0.8**
VA05	**Santo Domingo**	**2.38**	**168**	*e*P	**Pn**	**10 01 59.1**	**-0.2**
VA05				*e*S	**Sn**	**10 02 27.4**	**-1.6**
VA05				IAML		10 02 44.3	
	comp=N,1µm,0.4s						
VA05	**Santo Domingo**	**2.38**	**168**		**Pn**	**10 01 59.1**	**-0.2**
MT05	**Renca**	**2.40**	**149**	⇑*e*P	**Pn**	**10 02 00.1**	**+0.4**
MT05				*i* S	**Sn**	**10 02 28.8**	**-0.9**
MT05				IAML		10 02 55.4	
	comp=E,2µm,0.4s						
MT05	**Renca**	**2.40**	**149**	Pn	**Pn**	**10 01 59.9**	**+0.1**
MT05	**Renca**	**2.40**	**149**	*i* P	**Pb**	**10 02 03.0**	**-0.4**
RTLS	**Leoncito**	**2.52**	**102**	*i* P	**Pb**	**10 02 05.0**	**-0.5**
AUSP	**Uspallata**	**2.55**	**111**	*i* P	**Pb**	**10 02 06.0**	**-0.1**
FSR	**Penalolen**	**2.57**	**147**	*e*P	**Pb**	**10 02 06.3**	**+0.1**
FSR				*e*S	**Sb**	**10 02 37.0**	**-1.2**
AROD	**Rodeo**	**2.61**	**64**	*i* P	**Pb**	**10 02 06.0**	**-1.1**
LCO	**Las Campanas**	**2.65**	**30**	*e*P	**Pn**	**10 02 03.1**	**-0.2**
LCO				*e*S	**Sn**	**10 02 35.2**	**-0.8**
LCO	**Las Campanas**	**2.65**	**30**		**Pn**	**10 02 03.1**	**-0.2**
MT09	**Talagante**	**2.65**	**158**	*e*P	**Pn**	**10 02 04.2**	**+1.0**
MT09				*i* S	**Sn**	**10 02 35.9**	**0.0**
MT09				IAML		10 02 52.7	
	comp=N,806nm,0.3s						
MT09	**Talagante**	**2.65**	**158**	Pn	**Pn**	**10 02 04.0**	**+0.8**
MT01	**Popeta**	**2.65**	**163**	*e*P	**Pn**	**10 02 03.2**	**+0.1**
MT01				*e*S	**Sn**	**10 02 34.8**	**-1.0**
MT01	**Popeta**	**2.65**	**163**		**Pn**	**10 02 03.3**	**+0.1**
ACCO	**Cerro Coronel**	**2.79**	**75**	*i* P	**Pb**	**10 02 10.0**	**-0.1**
ACDV	**Cuesta del Vie**	**2.89**	**67**	*i* P	**Pb**	**10 02 12.0**	**+0.3**
ZON	**Zonda**	**3.01**	**95**	*i* P	**Pb**	**10 02 15.0**	**+1.2**
LMEL	**Las Melosas**	**3.02**	**147**	⇑*e*P	**Pn**	**10 02 06.2**	**+1.2**
LMEL				*i* S	**Sn**	**10 02 45.2**	**0.0**
LMEL				IAML		10 02 58.9	
	comp=N,621nm,0.7s						
ARCO	**CERRO ARCO**	**3.15**	**119**	*i* P	**Pb**	**10 02 16.0**	**-0.3**
RTCV	**Cerro Valdivia**	**3.16**	**101**	*i* P	**Pb**	**10 02 16.0**	**-0.4**
BO03	**Pichilemu**	**3.17**	**177**	*e*P	**Pn**	**10 02 09.6**	**-0.6**
BO03				*i* S	**Sn**	**10 02 44.8**	**-3.7**
BO01	**Tunca**	**3.20**	**163**	⇓*e*P	**Pn**	**10 02 10.7**	**+0.1**
BO01				*e*S	**Sn**	**10 02 48.5**	**-0.7**
BO01	**Tunca**	**3.20**	**163**		**Pn**	**10 02 10.7**	**+0.1**
AC04	**Llanos de Chal**	**3.26**	**18**	⇓*e*P	**Pn**	**10 02 10.5**	**-1.0**
AC04				*i* S	**Sn**	**10 02 47.8**	**-2.9**
AC04				IAML		10 03 16.3	
	comp=E,797nm,0.8s						
AC04	**Llanos de Chal**	**3.26**	**18**	Pn	**Pn**	**10 02 10.2**	**-1.3**
AAGR	**Agrelo**	**3.35**	**122**	*i* P	**Pb**	**10 02 19.0**	**-0.6**
BO02	**Sierra Bellavi**	**3.66**	**161**	*e*P	**Pn**	**10 02 17.7**	**+0.7**
BO02				*i* S	**Sn**	**10 02 59.4**	**-1.2**
BO02	**Sierra Bellavi**	**3.66**	**161**	Pn	**Pn**	**10 02 18.0**	**+1.0**
GO05	**Huala**	**3.68**	**177**	Pn	**Pn**	**10 02 16.9**	**-0.4**
GO03	**Copiap**	**4.09**	**25**	Pn	**Pn**	**10 02 22.8**	**-0.2**
ML02	**Panimavida**	**4.47**	**172**	Pn	**Pn**	**10 02 28.2**	**+0.1**
ACHE	**Chepes**	**4.74**	**89**	*i* P	Pb	10 02 38.0	-5.3
APLL	**PUNTA DE LOS L**	**4.96**	**81**	*i* P	**Pn**	**10 02 39.0**	**+4.1**
AC02	**Maricunga**	**5.22**	**32**	Pn	**Pn**	**10 02 41.6**	**+2.7**
H03N1	**Juan Fernandez**	**6.06**	**248**	T	T	10 09 45.6	
	baz=77,slow=72,SNR=552						
VA04	**Juan Fernndez**	**6.06**	**246**	Pn	**Pn**	**10 02 49.7**	**-0.3**
H03N3	**Juan Fernandez**	**6.08**	**248**	T	T	10 09 29.7	
	baz=77,slow=72,SNR=702						
H03N2	**Juan Fernandez**	**6.08**	**248**	T	T	10 09 45.2	
	baz=77,slow=72,SNR=628						
CYA	**Choya**	**6.25**	**64**	*i* P	**Pn**	**10 02 55.0**	**+2.4**
PB14	**IPOC Station P**	**6.86**	**14**	Pn	**Pn**	**10 03 01.4**	**+0.1**
AHML	**Horco Molle**	**7.52**	**55**	*i* P	Pn	10 03 15.0	+4.9
FSA	**Cafayete**	**7.53**	**48**	*i* P	**Pn**	**10 03 15.0**	**+4.6**
LC01	**Cunco**	**7.56**	**178**		**Pn**	**10 03 09.9**	**-0.7**
LC01	**Cunco**	**7.56**	**178**	*i* P	**Pn**	**10 03 10.0**	**-0.6**
LR03	**Panguipulli**	**8.29**	**181**	Pn	**Pn**	**10 03 19.7**	**-0.9**
PB15	**IPOC Station P**	**8.44**	**17**		**Pn**	**10 03 24.3**	**+1.4**
PB04	**IPOC Station P**	**9.14**	**12**	Pn	**Pn**	**10 03 31.2**	**-1.2**
LVC	**Limon Verde**	**9.16**	**19**	Pn	**Pn**	**10 03 32.5**	**-0.4**
	comp=E,0.5nm,0.3s,baz=186,slow=10,SNR=1.9						
LVC	**Limon Verde**	**9.16**	**19**		**Pn**	**10 03 32.5**	**-0.4**
PLCA	**Paso Flores**	**9.48**	**172**	Pn	**Pn**	**10 03 37.9**	**+0.9**
	comp=E,0.4nm,0.3s,baz=340,slow=12,SNR=4.8						
PLCA	**Paso Flores**	**9.48**	**172**	Pn	**Pn**	**10 03 37.1**	**+0.2**
LL04	**Puerto Octay**	**9.56**	**181**	Pn	**Pn**	**10 03 39.3**	**+1.3**
PB07	**IPOC Station P**	**9.78**	**13**	Pn	**Pn**	**10 03 43.6**	**+2.3**
PB09	**IPOC Station P**	**9.85**	**16**	Pn	**Pn**	**10 03 44.2**	**+2.0**
PB01	**IPOC Station P**	**10.52**	**14**	Pn	**Pn**	**10 03 55.2**	**+3.9**
TRQA	**Tornquist**	**10.76**	**131**		**Pn**	**10 03 56.9**	**+2.5**
LL01	**San Ignacio de**	**11.03**	**181**	Pn	**Pn**	**10 03 58.4**	**+0.3**
CPUP	**Villa Florida**	**13.95**	**73**	Pn	**Pn**	**10 04 38.8**	**+0.8**
	comp=E,0.3nm,0.3s,baz=226,slow=12,SNR=4.2						
CPUP				LR	LR	10 10 19.2	
	comp=E,146nm,20.5s,baz=330,slow=39						
CPUP	**Villa Florida**	**13.95**	**73**		**Pn**	**10 04 38.8**	**+0.8**
LPAZ	**La Paz**	**15.42**	**15**	Pn	**Pn**	**10 05 00.1**	**+1.4**
	comp=E,0.5nm,0.3s,baz=195,slow=7.2,SNR=21						
LPAZ	**La Paz**	**15.42**	**15**		**Pn**	**10 04 59.9**	**+1.3**
SIV	**San Ignacio**	**18.33**	**36**	P	**Pn**	**10 05 34.0**	**-0.9**
	comp=E,0.3nm,0.3s,baz=228,slow=11,SNR=12						
SIV				LR	LR	10 13 56.4	
	comp=E,186nm,19.0s,baz=92,slow=41						
SIV	**San Ignacio**	**18.33**	**36**	P	**Pn**	**10 05 34.0**	**-0.9**
SPB	**Sao Paulo**	**23.25**	**77**	P	**P**	**10 06 27.5**	**-0.6**
SAML	**Samuel**	**23.79**	**23**	P	**P**	**10 06 34.4**	**+0.9**
SAML				IAmb	IAmb	10 06 42.7	
	comp=Z,6.9nm,1.0s						
BDFB	**Brasilia**	**27.03**	**60**	P	**P**	**10 07 02.2**	**-0.9**
	comp=Z,9.1nm,0.7s,baz=236,slow=9.0,SNR=12						
BDFB	**Brasilia**	**27.03**	**60**	P	**P**	**10 07 02.4**	**-0.8**
BDFB				IAmb	IAmb	10 07 10.0	
	comp=Z,14nm,1.0s						
PTGA	**Pitinga**	**32.56**	**23**	P	**P**	**10 07 51.8**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=173,slow=6.3,SNR=5.0						
PTGA	**Pitinga**	**32.56**	**23**	P	**P**	**10 07 51.5**	**-0.5**
PTGA				IAmb	IAmb	10 07 60.0	
	comp=Z,7.2nm,1.1s						
PDPR	**Patillas Dam,**	**49.42**	**8**	P	**P**	**10 10 10.8**	**+0.2**
SNAA	**Sanae**	**54.11**	**159**	P	**P**	**10 10 44.2**	**-1.0**
SNAA				IAmb	IAmb	10 10 54.1	
	comp=Z,4.1nm,0.9s						
QSPA	**South Pole Qui**	**58.90**	**180**	P	**P**	**10 11 19.9**	**+0.3**
	comp=Z,1.9nm,1.0s,baz=220,slow=2.4,SNR=2.5						
QSPA	**South Pole Qui**	**58.90**	**180**	P	**P**	**10 11 21.3**	**+1.7**
QSPA				IAmb	IAmb	10 11 35.2	
	comp=Z,3.7nm,1.1s						
TX32	**Lajitas Array**	**67.35**	**330**	P	**P**	**10 12 17.5**	**+1.6**
TX32				IAmb	IAmb	10 12 32.8	
	comp=Z,2.0nm,1.2s						
TXAR	**Lajitas Array**	**67.35**	**330**	P	**P**	**10 12 17.3**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=160,slow=10,SNR=7.3						
TXAR	**Lajitas Array**	**67.35**	**330**	P	**P**	**10 12 17.3**	**+1.3**
TX31	**Lajitas Ar. Si**	**67.35**	**330**	P	**P**	**10 12 17.3**	**+1.3**
DBIC	**Dimbokro**	**74.47**	**72**	P	**P**	**10 13 00.0**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=228,slow=3.9,SNR=3.8						
DBIC	**Dimbokro**	**74.47**	**72**	P	**P**	**10 13 00.0**	**+0.5**
DBIC	**Dimbokro**	**74.47**	**72**	IAmb	IAmb	10 13 09.1	
	comp=Z,18nm,1.3s						
MAW	**Mawson**	**75.78**	**164**	P	**P**	**10 13 07.1**	**+0.9**
	comp=Z,1.4nm,0.5s,baz=225,slow=5.1,SNR=3.0						
MAW	**Mawson**	**75.78**	**164**	P	**P**	**10 13 07.1**	**+0.9**
MAW	**Mawson**	**75.78**	**164**	IAmb	IAmb	10 13 15.2	
	comp=Z,1.1nm,0.8s						
NVAR	**Mina Array Bea**	**81.62**	**325**	P	**P**	**10 13 39.6**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=175,slow=5.4,SNR=4.7						
TORD	**Torodi Ar. Bea**	**83.43**	**70**	P	**P**	**10 13 48.8**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=259,slow=4.6,SNR=13						
TORD	**Torodi Ar. Bea**	**83.43**	**70**	P	**P**	**10 13 48.2**	**-0.5**
TORD				IAmb	IAmb	10 13 52.3	
	comp=Z,2.3nm,0.8s						
ILAR	**Eielson Array**	**111.75**	**334**	PP	**PP**	**10 20 38.2**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=162,slow=4.1,SNR=4.1						
WRA	**Warramunga Arr**	**123.02**	**210**	PKP	**PKPdf**	**10 20 17.0**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=157,slow=1.6,SNR=1.4						
H11S2	**WAKE ISL

	0.1nm,0.1s							
DJR				*e*S		**Sg**	**10 27 37.6**	**+1.8**
	2.2nm,0.3s							
ANVS	**Anan'yevo**	**2.06**	**275**	⇑*i*P		**Pb**	**10 27 15.8**	**-1.2**
	baz=81							
ANVS				⇑*i*S		**Sg**	**10 27 45.2**	**-0.4**
	baz=81							
TARG	**Taragay, Kyrgy**	**2.17**	**246**	⇑*i*P		**Pn**	**10 27 15.6**	**-0.4**
	baz=56							
TARG				⇑*i*S		**Sn**	**10 27 44.1**	**+0.9**
	baz=56							
KDJ	**Kajisay**	**2.48**	**259**	⇑*i*P		**Pn**	**10 27 20.3**	**+0.2**
	baz=67							
KDJ				⇑*i*S		**Sb**	**10 27 53.3**	**-1.5**
	baz=67							
KOTS	**Kotyrbulak**	**2.52**	**285**	*e*P		**Pb**	**10 27 24.8**	**-0.1**
	5.4nm,0.2s							
KOTS				*e*S		**Sg**	**10 27 59.0**	**-1.5**
	18nm,0.5s							
MDOK	**Medeo**	**2.55**	**283**	*e*P		**Pb**	**10 27 24.9**	**-0.6**
	5.6nm,0.4s							
MDOK				*e*S		**Sb**	**10 27 59.1**	**+2.1**
	11nm,0.3s							
TNSS	**Tian-Shan**	**2.61**	**280**	*e*P		**Pb**	**10 27 26.7**	**+0.1**
	3.7nm,0.3s							
TNSS				*e*S		**Sg**	**10 28 02.2**	**-1.1**
	3.3nm,0.2s							
KAPS	**Kapalarasan**	**2.75**	**344**	*e*P		**Pb**	**10 27 29.7**	**+0.9**
KAPS				*e*S		**Sg**	**10 28 07.2**	**-0.7**
	0.7nm,0.2s							
IZV	**Izvestkoviy**	**2.85**	**279**	*e*P		**Pb**	**10 27 29.9**	**-0.6**
	1.8nm,0.1s							
IZV				*e*S		**Sb**	**10 28 07.7**	**+2.2**
	7.9nm,0.4s							
KTBS	**Karatobe**	**2.96**	**292**	*e*P		**Pb**	**10 27 32.2**	**-0.1**
	2.0nm,0.2s							
KTBS				*e*S		**Sb**	**10 28 11.7**	**+3.3**
	13nm,0.2s							
ULHL	**Ulahol**	**3.14**	**264**	⇑*e*P		**Pn**	**10 27 30.6**	**+1.4**
	baz=70							
ULHL				⇑*i*S		**Sn**	**10 28 10.2**	**+3.3**
	baz=70							
KUU	**Kurty**	**3.25**	**294**	*e*P		**Pb**	**10 27 37.2**	**-0.1**
	0.6nm,0.1s							
KUU				*e*S		**Sb**	**10 28 19.9**	**+3.0**
	2.6nm,0.2s							
BOOM	**Boomskoye usch**	**3.34**	**269**	⇑*e*P		**Pn**	**10 27 33.4**	**+1.5**
	baz=74							
BOOM				⇑*i*S		**Sn**	**10 28 15.5**	**+3.9**
	baz=74							

SJA 29 10:33:41.0,21°.34S×68°.82W,h96km,ML5.2,
Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.69**	**295**	*i* P	Pn	10 33 59.0	+0.9
PB02	**IPOC Station P**	**1.00**	**271**	*i* P	Pn	10 34 02.0	+0.7
PB07	**IPOC Station P**	**1.06**	**249**	*i* P	Pn	10 34 03.0	+1.0
PB08	**IPOC Station P**	**1.23**	**345**	*i* P	Pn	10 34 04.0	-0.2
LVC	**Limon Verde**	**1.27**	**184**	*i* P	Pn	10 34 02.0	-2.6
PB04	**IPOC Station P**	**1.58**	**231**	*i* P	Pn	10 34 09.0	+0.7
PB11	**IPOC Station P**	**1.75**	**333**	*i* P	Pn	10 34 10.0	-0.5
PB05	**IPOC Station P**	**1.98**	**220**	*i* P	Pn	10 34 12.0	-1.3
PSGCX	**Pisagua**	**2.12**	**325**	*i* P	Pn	10 34 14.0	-1.1
HJA	**Humahuaca**	**3.67**	**121**	*i* P	Pn	10 34 37.0	+1.0
ARCO	**CERRO ARCO**	**11.46**	**180**	*i* P	Pn	10 36 22.0	+0.4
AAGR	**Agrelo**	**11.70**	**180**	*i* P	Pn	10 36 24.0	-0.8

*NEIC **29** 10:48:53.1±1.5,4°.74S±0°.07×152°.75E±0°.10,h51km±5km, mb4.1/16,Error ellipse: s-maj=14.7km s-min=9.1km az=106.0*

*IDC **29** 10:48:54.5±4.3,4°.79S×152°.77E,h68km±40km,mb3.9/12, mb1 4.0/13,mb1mx3.8/35,mbtmp4.2/13,ML2.0/1,MS3.1/5, Ms1 3.1/5,ms1mx2.8/40,Error ellipse: s-maj=24.7km s-min=18.7km az=99.0*

ISC 29 10:48:53.3±0.6,4°.70S±0°.06×152°.69E±0°.09,h58km,n41, σ1s10/37,mb4.0/17,MS3.1/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.73**	**314**		**Pn**	**10 49 08.7**	**+0.9**
MANU	**Manus Island**	**5.93**	**296**	Pn	**Pn**	**10 50 17.4**	**-1.2**
PMG	**Port Moresby**	**7.21**	**229**	P	**Pn**	**10 50 38.8**	**+2.7**
	1.5nm,0.3s,baz=153,slow=4.5,SNR=1.8						
PMG				S	**Sn**	**10 51 55.4**	**-1.2**
	1.4nm,0.3s,baz=22,slow=16,SNR=1.4						
PMG	**Port Moresby**	**7.21**	**229**		**Pn**	**10 50 38.2**	**+2.1**
HNR	**Honiara**	**8.60**	**124**	LR	LR	10 54 09.4	
	comp=Z,122nm,20.4s,baz=338,slow=37						
PATS	**Pohnpei**	**12.76**	**26**	Pn	**Pn**	**10 51 53.0**	**+1.0**
SANVU	**Saraoutou**	**17.82**	**128**		**Pn**	**10 52 55.5**	**-1.9**
GUMO	**Guam**	**19.76**	**337**	LR	LR	11 01 51.3	
	comp=Z,27nm,18.1s,baz=166,slow=39						
EIDS	**Eidsvold**	**20.61**	**184**	P	**P**	**10 53 27.8**	**-0.1**
EIDS				IAmb	IAmb	10 53 53.5	
	comp=Z,12nm,1.2s						
DZM	**Mont Dzumac**	**21.81**	**144**	P	**P**	**10 53 41.2**	**+0.3**
	comp=Z,8.9nm,0.8s,baz=291,slow=11,SNR=8.8						
DZM				LR	LR	11 00 35.8	
	comp=Z,70nm,19.9s,baz=277,slow=32						
DZM	**Mont Dzumac**	**21.81**	**144**	IAmb	IAmb	10 53 44.4	
	comp=Z,17nm,1.1s						
WB0	**Warramunga Arr**	**23.28**	**228**	P	**P**	**10 53 56.0**	**-0.2**
WB0				IAmb	IAmb	10 54 20.6	
	comp=Z,5.9nm,1.1s						
WR0	**Warramunga Arr**	**23.29**	**228**	P	**P**	**10 53 56.5**	**+0.2**
WRAB	**Tennant Creek**	**23.41**	**228**	P	**P**	**10 53 57.0**	**-0.4**
WRAB				IAmb	IAmb	10 54 21.3	
	comp=Z,10nm,1.3s						
WB2	**Warramunga Arr**	**23.42**	**228**	P	**P**	**10 53 57.0**	**-0.5**
WB2				IAmb	IAmb	10 54 04.1	
	comp=Z,5.2nm,1.1s						
WRA	**Warramunga Arr**	**23.43**	**228**	P	**P**	**10 53 57.2**	**-0.4**
	comp=Z,2.0nm,0.4s,baz=51,slow=10.0,SNR=31						
KNRA	**Kununurra**	**25.92**	**243**	P	**P**	**10 54 20.0**	**-0.3**
KNRA				IAmb	IAmb	10 54 24.0	
	comp=Z,16nm,1.3s						
AS31	**Alice Springs**	**26.15**	**222**	P	**P**	**10 54 21.9**	**-0.5**
ASAR	**Alice Springs**	**26.15**	**222**	P	**P**	**10 54 22.6**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=54,slow=9.1,SNR=41						
ASAR	**Alice Springs**	**26.15**	**222**	P	**P**	**10 54 22.2**	**-0.2**
MSVF	**Nonsavu**	**27.99**	**120**	LR	LR	11 05 55.0	
	comp=Z,50nm,18.0s,baz=210,slow=37						
STKA	**Stephens Creek**	**28.97**	**200**	P	**P**	**10 54 45.7**	**-1.8**
	comp=Z,1.7nm,0.7s,baz=22,slow=11,SNR=4.6						
STKA	**Stephens Creek**	**28.97**	**200**	IAmb	IAmb	10 54 51.5	
	comp=Z,0.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**29.61**	**241**	P	**P**	**10 54 53.0**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=58,slow=7.4,SNR=14						
FITZ	**Fitzroy Crossi**	**29.61**	**241**	IAmb	IAmb	10 55 14.3	
	comp=Z,3.9nm,0.9s						
FORT	**Forrest**	**34.80**	**219**	P	**P**	**10 55 38.9**	**+0.4**
PSA00	**Pilbara Seismi**	**35.99**	**239**	P	**P**	**10 55 48.3**	**-0.6**
PSA00				IAmb	IAmb	10 55 55.8	
	comp=Z,2.6nm,1.2s						
JNU	**Nakatsue**	**42.92**	**333**	P	**P**	**10 56 47.0**	**+0.4**
	comp=Z,14nm,0.7s,baz=77,slow=1.3,SNR=5.5						
KSRS	**Korea Array**	**47.86**	**333**	P	**P**	**10 57 26.4**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=144,slow=7.7,SNR=3.5						
KSAR	**Wonju Array Be**	**47.87**	**333**	P	**P**	**10 57 24.2**	**-1.3**
CMAR	**Chiang Mai Arr**	**57.73**	**295**	P	**P**	**10 58 40.9**	**+2.2**
	comp=Z,1.8nm,0.7s,baz=124,slow=4.9,SNR=8.8						
CMAR	**Chiang Mai Arr**	**57.73**	**295**	P	**P**	**10 58 39.3**	**+0.6**
PEA0B	**Petropavlovsk-**	**57.75**	**4**	P	**P**	**10 58 39.7**	**+1.6**
PETK	**Petropavlovsk-**	**57.75**	**4**	P	**P**	**10 58 38.3**	**+0.1**
	comp=Z,2.8nm,0.6s,baz=165,slow=6.2,SNR=5.8						
PETK				LR	LR	11 18 11.7	
	comp=Z,20nm,20.0s,baz=149,slow=30						
PETK	**Petropavlovsk-**	**57.75**	**4**	P	**P**	**10 58 38.1**	**-0.1**
MKAR	**Makanchi Array**	**80.18**	**319**	P	**P**	**11 00 58.3**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=103,slow=6.5,SNR=2.1						
ZALV	**Zalesovo Beam**	**81.01**	**326**	P	**P**	**11 01 02.0**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=112,slow=6.4,SNR=2.2						
ILAR	**Eielson Array**	**82.11**	**22**	P	**P**	**11 01 07.1**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=243,slow=5.0,SNR=12						
GERES	**GERESS Array B**	**123.91**	**329**	PKP	**PKiKP**	**11 07 46.1**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=307,slow=0.5,SNR=1.7						
TORD	**Torodi Ar. Bea**	**150.17**	**288**	PKPbc	**PKiKP**	**11 08 39.4**	**-0.2**
	comp=Z,1.4nm,0.4s,baz=76,slow=2.6,SNR=17						
TORD	**Torodi Ar. Bea**	**150.17**	**288**	PKPbc	**PKiKP**	**11 08 39.3**	**-0.4**
TORD				PKPab	**PKPab**	**11 08 43.0**	**-2.0**

*IDC **29** 10:54:39.5±0.8,27°.70N×85°.75E,h0km,mb4.3/17, mb1 4.3/19,mb1mx4.1/48,mbtmp4.3/19,ML4.2/2,MS3.3/6, Ms1 3.4/6,ms1mx3.0/44,Error ellipse: s-maj=26.0km s-min=13.0km az=51.0*

*BJI **29** 10:54:40.0±0.0,27°.85N×86°.00E,h6km,mB4.7/8, mb4.4/19,Ms3.9/5,Ms7 3.6/4*

*NEIC **29** 10:54:42.0±2.0,27°.8N±0°.1×85°.82E±0°.10,h10km±1km, mb4.4/35,Error ellipse: s-maj=19.5km s-min=12.6km az=206.0*

*DMN **29** 10:54:42.0±0.1,27°.76N×85°.88E,h10km,Ml4.7/6,Error ellipse: s-maj=2.3km s-min=1.0km az=12.0*

*NDI **29** 10:54:43.8±2.3,27°.81N×85°.82E,h10km,ML4.1, mb4.4(NEIC)*

ISC 29 10:54:41.8±0.8,27°.78N±0°.04×85°.84E±0°.02,h15km±5km, n94,σ1s50/103,mb4.4/26,MS3.4/5,1C-1D,Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUN	**Gumba**	**0.14**	**16**	*e*Pg	**Pg**	**10 54 45.8**	**-0.2**
GUN				*e*Sg	**Sg**	**10 54 48.7**	**0.0**
JIRN	**Jiri**	**0.33**	**110**	*e*Pg	**Pg**	**10 54 49.1**	**+0.1**
PKI	**Pulchoki**	**0.43**	**242**	*e*Pg	**Pb**	**10 54 51.3**	**0.0**
PKI				*e*Sg	**Sb**	**10 54 57.4**	**-0.3**
	9μm,0.7s						
PKIN	**Phulchoki**	**0.44**	**243**	*e*Pg	**Pb**	**10 54 51.4**	**0.0**
KKN	**Kakani**	**0.49**	**272**	*e*Pg	**Pb**	**10 54 52.2**	**-0.1**
KKN				*e*Sg	**Sb**	**10 54 59.7**	**+0.3**
DMN	**Daman**	**0.67**	**256**	*e*Pg	**Pb**	**10 54 55.7**	**+0.3**
DMN				*e*Sg	**Sb**	**10 55 05.0**	**+0.5**
	3μm,0.4s						
RAMN	**Ramite**	**1.07**	**140**	*e*Pg	**Pg**	**10 55 01.4**	**-1.1**
GKN	**Gorkha**	**1.08**	**282**	*e*Pg	**Pn**	**10 55 03.1**	**+0.5**
GKN				*e*Sg	**Sn**	**10 55 17.8**	**+0.3**
	1μm,0.5s						
ODAN	**Odare**	**1.66**	**123**	*e*Pg	**Pb**	**10 55 12.8**	**+0.6**
ODAN				*e*Sg	**Sn**	**10 55 32.7**	**+1.0**
	914nm,0.4s						
TAPN	**Taplejung**	**1.72**	**104**	*e*Pg	**Pb**	**10 55 13.6**	**+0.4**
TAPN				*e*Sg	**Sb**	**10 55 35.1**	**+0.4**
	2μm,0.4s						
DANN	**Dangsing**	**1.92**	**288**	*e*Pg	**Pg**	**10 55 18.0**	**-0.8**
DANN				*e*Sg	**Sg**	**10 55 44.0**	**+0.2**
	1μm,0.4s						
KOLN	**Koldanda**	**1.98**	**270**	*e*Pg	**Pg**	**10 55 19.9**	**0.0**
KOLN				*e*Sg	**Sg**	**10 55 46.1**	**+0.4**
	3μm,0.6s						
GTK	**Tadong**	**2.50**	**100**	*e*P	**Pb**	**10 55 24.9**	**-1.6**
GTK				*e*S	**Sb**	**10 55 56.3**	**-0.8**
PYUN	**Piuthan**	**2.54**	**278**	*e*Pg	**Pg**	**10 55 30.0**	**-0.6**
PYUN				*e*Sg	**Sg**	**10 56 03.0**	**-0.5**
	1μm,0.4s						
BOK	**Bokaro**	**3.97**	**179**	*e*P	**Pn**	**10 55 44.5**	**+2.4**
BOK				*e*S	**Sn**	**10 56 30.2**	**+1.8**
DHUB	**DHUBRI**	**4.11**	**114**	*e*P	**Pb**	**10 55 56.4**	**+2.6**
DHUB				*e*S	**Sn**	**10 56 32.4**	**+0.7**
LSA	**Lhasa**	**5.04**	**66**	Pn	Pn	10 55 53.3	-4.0
LSA				LR	LR		
	comp=N,790nm,5.7s						
LSA				LR	LR		
	comp=E,710nm,6.3s						
LSA	**Lhasa**	**5.04**	**66**	Pn	**Pn**	**10 55 56.7**	**-0.7**
SHL	**Shillong**	**5.84**	**111**	Pn	**Pn**	**10 56 07.8**	**-0.2**
SHL	**Shillong**	**5.84**	**111**	*e*P	**Pn**	**10 56 08.8**	**+0.8**
KOHI	**KOHIMA**	**7.67**	**104**	*e*P	**Pn**	**10 56 34.2**	**+1.0**
KOHI				*e*S	**Sn**	**10 57 59.0**	**-1.0**
MOKO	**MOKOCHONG**	**7.87**	**99**	*e*P	**Pn**	**10 56 38.0**	**+2.1**
MOKO				*e*S	**Sn**	**10 58 02.2**	**-2.7**
SMLA	**Simla**	**8.26**	**296**	*e*P	**Pn**	**10 56 42.4**	**+1.3**
SMLA				*e*S	**Sn**	**10 58 11.1**	**-3.1**
SMLA				IAML		10 58 15.4	
	comp=E,94nm,0.5s						
SMLA				IAML		10 58 17.5	
	comp=N,139nm,0.6s						
BHPL	**Bhopal**	**8.84**	**241**	*e*P	**Pn**	**10 56 52.4**	**+3.3**
BHPL				*e*S	**Sn**	**10 58 22.5**	**-6.0**
DHRM	**DHARAMSHALA**	**9.39**	**301**	*e*P	**Pn**	**10 56 57.6**	**+0.8**
DHRM				IAML		10 58 40.4	
	comp=N,85nm,0.5s						
DHRM				IAML		10 58 46.9	
	comp=N,53nm,0.7s						
CHCP	**Chirah Chowk**	**12.30**	**302**	P	**Pn**	**10 57 36.3**	**-0.1**
NIL	**Nilore**	**12.30**	**301**	Pn	**Pn**	**10 57 35.0**	**-1.5**
HYB	**Hyderabad**	**12.31**	**215**	*i* P	**Pn**	**10 57 33.0**	**-3.6**
HYB				*e*S	Sn	11 00 04.0	+10
THW	**Thamme Wali**	**13.16**	**296**	⇑P	**Pn**	**10 57 45.9**	**-2.3**
CEP	**Cherat**	**13.40**	**300**	P	**Pn**	**10 57 48.1**	**-3.4**
KSH	**Kashi**	**14.29**	**328**	P	**Pn**	**10 58 00.3**	**-3.4**
KSH				pP	P	10 58 03.5	-7.4
KSH				sP		10 58 08.0	
KSH				pmax	pmax		
	comp=N,9.0nm,0.9s						
CHTO	**Chiang Mai**	**14.98**	**124**	Pn	**Pn**	**10 58 10.5**	**-2.6**
CMAR	**Chiang Mai Arr**	**15.20**	**125**	Pn	**Pn**	**10 58 17.7**	**+1.7**
	comp=N,0.3nm,0.3s,baz=299,slow=12,SNR=8.6						
CMAR				LR	LR	11 04 56.1	
	comp=N,62nm,18.6s,baz=5.5,slow=40						
CMAR	**Chiang Mai Arr**	**15.20**	**125**	Pn	**Pn**	**10 58 15.9**	**-0.2**
TARG	**Taragay, Kyrgy**	**15.39**	**337**	Pn	**Pn**	**10 58 18.5**	**-0.3**
TARG				IAmb	IAmb	10 58 41.6	
	comp=Z,8.0nm,0.8s						
KBL	**Kabul**	**15.87**	**299**	Pn	**Pn**	**10 58 21.8**	**-3.0**
KBL				IAmb	IAmb	10 58 35.0	
	comp=Z,7.9nm,0.8s						
KDJ	**Kajisay**	**15.97**	**336**		**Pn**	**10 58 25.7**	**-0.4**
WMQ	**Urumqi**	**16.08**	**5**	*e*P	**P**	**10 58 30.0**	**-0.7**
WMQ				pmax	pmax		
	comp=Z,21nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,120nm,5.5s						
GTA	**Gaotai**	**16.41**	**41**	⇓P	**P**	**10 58 35.3**	**+0.8**
GTA				pP	sP	10 58 40.8	-1.0
GTA				pmax	pmax		
	comp=Z,11nm,1.1s						
BOOM	**Boomskoye usch**	**16.74**	**334**		**Pn**	**10 58 36.4**	**+0.5**
GAR	**Garm**	**17.10**	**315**	Pn	**Pn**	**10 58 38.3**	**-2.1**
GAR				IAmb	IAmb	10 58 49.2	
	comp=Z,27nm,1.3s						
BTK	**Batken**	**17.45**	**318**		**Pn**	**10 58 42.9**	**-1.8**
BTK				IAmb	IAmb	10 58 48.2	
	comp=Z,20nm,1.1s						
AAK	**Ala-Archa**	**17.46**	**331**	LR	LR	11 06 23.1	
	comp=Z,89nm,19.9s,baz=123,slow=40						
AAK	**Ala-Archa**	**17.46**	**331**	Pn	**Pn**	**10 58 44.3**	**-0.6**
CHGR	**Chuyangaron**	**17.65**	**312**	Pn	**Pn**	**10 58 43.9**	**-3.3**
CHGR				IAmb	IAmb	10 58 57.0	
	comp=Z,73nm,1.2s						
MK31	**Makanchi Array**	**19.19**	**353**	P	**P**	**10 59 05.9**	**+1.0**
MK31				IAmb	IAmb	10 59 13.0	
	comp=Z,6.0nm,0.8s						
MKAR	**Makanchi Array**	**19.19**	**353**	P	**P**	**10 59 06.0**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=176,slow=11,SNR=51						
MKAR	**Makanchi Array**	**19.19**	**353**	P	**P**	**10 59 06.0**	**+1.1**
MAKZ	**Makanchi**	**19.24**	**352**		**P**	**10 59 06.1**	**+0.7**
KK31	**Karatay Array**	**19.69**	**325**	P	**P**	**10 59 11.1**	**+0.7**
KKAR	**Karatay Array**	**19.69**	**325**		**P**	**10 59 09.5**	**-1.0**
KKAR	**Karatay Array**	**19.69**	**325**	P	**P**	**10 59 11.1**	**+0.7**
KKAR				IAmb	IAmb	10 59 13.5	
	comp=Z,5.2nm,1.2s						
PALK	**Pallekele**	**20.97**	**194**	LR	LR	11 07 18.6	
	comp=Z,70nm,18.5s,baz=124,slow=36						
HHC	**Hu-ho-hao-te**	**24.83**	**52**	*e*P	**P**	**11 00 03.8**	**+0.2**
HHC				pmax	pmax		
	comp=Z,12nm,1.2s						
HHC				pmax	pmax		
	comp=Z,160nm,5.7s						
SONM	**Songino Array**	**25.64**	**33**	P	**P**	**11 00 12.8**	**+1.9**
	comp=Z,7.5nm,0.7s,baz=222,slow=9.6,SNR=18						
SONM	**Songino Array**	**25.64**	**33**	P	**P**	**11 00 12.4**	**+1.5**
SONM				IAmb	IAmb	11 00 15.2	
	comp=Z,5.9nm,0.8s						
ULN	**Ulaanbaatar**	**25.98**	**34**	P	**P**	**11 00 12.6**	**-1.4**
ULN				IAmb	IAmb	11 00 18.2	
	comp=Z,8.2nm,0.6s						
ZAA0	**Zalesovo Array**	**26.16**	**359**	P	**P**	**11 00 15.0**	**-0.3**
ZAA0				IAmb	IAmb	11 00 23.2	
	comp=Z,5.1nm,0.9s						
ZALV	**Zalesovo Beam**	**26.16**	**359**	P	**P**	**11 00 16.5**	**+1.2**
	comp=Z,3.8nm,0.6s,baz=185,slow=9.8,SNR=14						
ZALV				LR	LR	11 12 15.0	
	comp=Z,102nm,18.7s,baz=102,slow=40						
ZALV	**Zalesovo Beam**	**26.16**	**359**	P	**P**	**11 00 15.8**	**+0.5**
ABKAR	**Akbulak array**	**29.25**	**324**	P	**P**	**11 00 44.3**	**+1.2**
ABKAR				IAmb	IAmb	11 00 45.3	
	comp=Z,2.7nm,0.6s						
AKTO	**Aktyubinsk**	**30.96**	**325**	P	**P**	**11 00 57.2**	**-0.9**
	comp=Z,1.2nm,0.4s,baz=159,slow=9.1,SNR=6.4						
ARU	**Arti**	**34.62**	**333**	P	**P**	**11 01 30.5**	**+0.4**
	comp=Z,2.7nm,0.2s,baz=161,slow=18,SNR=5.8						
ARU	**Arti**	**34.62**	**333**	IAmb	IAmb	11 01 31.8	
	comp=Z,6.5nm,0.6s						
KSRS	**Korea Array**	**36.48**	**64**	P	**P**	**11 01 46.8**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=266,slow=8.1,SNR=4.8						
NRIK	**Noril'sk**	**41.60**	**1**	P	**P**	**11 02 30.0**	**+1.2**
	comp=Z,8.2nm,0.5s,baz=167,slow=6.5,SNR=7.5						
NRIK				LR	LR	11 22 00.4	
	comp=Z,84nm,20.3s,baz=228,slow=39						
NRIK	**Noril'sk**	**41.60**	**1**	P	**P**	**11 02 30.4**	**+1.6**
NRIK				IAmb	IAmb	11 02 31.1	
	comp=Z,12nm,0.7s						
JWT	**Wachi**	**42.55**	**67**	P	**P**	**11 02 37.5**	**+0.5**
ELL	**Elmali**	**47.56**	**296**	P	**P**	**11 03 18.2**	**+1.2**
AKASG	**Malin Array Be**	**48.10**	**314**	P	**P**	**11 03 20.1**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=80,slow=7.3,SNR=4.6						
AKASG	**Malin Array Be**	**48.10**	**314**	IAmb	IAmb	11 03 37.7	
	comp=Z,2.7nm,1.4s						
JCJ	**Chichijima**	**49.63**	**77**	P	**P**	**11 03 31.7**	**-1.2**
	comp=Z,48nm,0.6s,baz=278,slow=15,SNR=3.6						
TIXI	**Tiksi**	**49.84**	**16**	LR	LR	11 25 35.4	
	comp=Z,3μm,21.9s,baz=43,slow=37						
FIA1	**FINESS Array S**	**51.61**	**328**	P	**P**	**11 03 48.5**	**+1.2**
FINES	**FINESS Array B**	**51.61**	**328**	P	**P**	**11 03 48.0**	**+0.6**
	comp=Z,1.9nm,0.6s,baz=114,slow=6.5,SNR=9.8						
ARCES	**ARCESS Array B**	**53.97**	**338**	P	**P**	**11 04 05.7**	**+1.1**
	comp=Z,5.8nm,0.7s,baz=106,slow=8.9,SNR=14						
ARCES	**ARCESS Array B**	**53.97**	**338**	P	**P**	**11 04 05.8**	**+1.1**
NB2	**NORSAR Subarra**	**58.71**	**327**	P	**P**	**11 04 37.9**	**-0.8**
	comp=Z,2.7nm,0.8s,baz=88,slow=7.4						
NOA	**NORSAR Array B**	**58.71**	**327**	P	**P**	**11 04 37.8**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=90,slow=6.6,SNR=4.6						
NOA				LR	LR	11 31 31.2	
	comp=Z,22nm,19.7s,baz=315,slow=38						
FITZ	**Fitzroy Crossi**	**59.72**	**135**	P	**P**	**11 04 46.5**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=331,slow=11,SNR=1.9						
KEST	**Kesra**	**64.03**	**298**	P	**P**	**11 05 15.7**	**+0.6**
	comp=Z,4.3nm,1.0s,baz=7.5,slow=7.2,SNR=3.9						
KEST	**Kesra**	**64.03**	**298**	IAmb	IAmb	11 05 17.5	
	comp=Z,8.9nm,1.2s						
WB0	**Warramunga Arr**	**66.64**	**130**	P	**P**	**11 05 32.7**	**+0.7**
WB0				IAmb	IAmb	11 05 32.9	
	comp=Z,3.3nm,0.6s						
WRA	**Warramunga Arr**	**66.73**	**130**	P	**P**	**11 05 33.1**	**+0.5**
	comp=Z,2.6nm,0.5s,baz=323,slow=6.6,SNR=70						
WRA	**Warramunga Arr**	**66.73**	**130**	IAmb	IAmb	11 05 34.4	
	comp=Z,0.1nm,0.7s						
WRAB	**Tennant Creek**	**66.73**	**130**	P	**P**	**11 05 33.5**	**+0.9**
WRAB				IAmb	IAmb	11 05 33.8	
	comp=Z,3.7nm,0.6s						
WB2	**Warramunga Arr**	**66.73**	**130**	P	**P**	**11 05 33.3**	**+0.6**
WB2				IAmb	IAmb	11 05 33.8	
	comp=Z,4.0nm,0.6s						
WR0	**Warramunga Arr**	**66.88**	**130**	P	**P**	**11 05 34.2**	**+0.6**
WR0				IAmb	IAmb	11 05 52.2	
	comp=Z,4.1nm,1.2s						
ASAR	**Alice Springs**	**69.03**	**133**	P	**P**	**11 05 47.5**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=315,slow=6.4,SNR=37						
MTE	**Manteigas**	**74.97**	**308**	P	**P**	**11 06 24.8**	**+2.2**
ILAR	**Eielson Array**	**79.11**	**20**	P	**P**	**11 06 45.8**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=308,slow=5.0,SNR=7.8						
STKA	**Stephens Creek**	**79.60**	**134**	P	**P**	**11 06 48.1**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=321,slow=14,SNR=2.3						
KDAK	**Kodiak Island**	**81.78**	**27**	P	**P**	**11 06 59.3**	**-0.5**
	comp=Z,8.5nm,0.8s,baz=345,slow=5.1,SNR=4.1						
KDAK	**Kodiak Island**	**81.78**	**27**	P	**P**	**11 07 01.0**	**+1.2**

IDC 29 11:01:47.7±14.0,14°.59S×166°.47E,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.5/43,mbtmp3.6/4,ML3.5/1,Error ellipse: s-maj=247.9km s-min=39.6km az=60.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.45**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**5.33**	**197**	P	**Pn**	**11 10 24.7**	**+1.6**
	3.9nm,0.3s,baz=27,slow=15,SNR=5.1						
NNA				S	**Sn**	**11 11 23.3**	**-0.1**
	4.8nm,0.3s,baz=295,slow=17,SNR=2.7						
NNA	**Nana**	**5.33**	**197**		**Pn**	**11 10 23.3**	**+0.2**
OTAV	**Otavalo**	**7.74**	**336**	Pn	Pn	11 11 01.1	+4.6
FLOC	**Florencia**	**8.40**	**357**		**Pn**	**11 11 07.7**	**+2.5**
ROSC	**El Rosal**	**11.66**		LR	LR	11 17 39.2	
	comp=Z,67nm,18.1s,baz=199,slow=43						
LPAZ	**La Paz**	**11.68**	**144**	P	**Pn**	**11 11 54.2**	**+3.4**
	0.1nm,0.3s,baz=354,slow=9.2,SNR=2.0						
LPAZ				LR	LR	11 17 16.1	
	comp=Z,66nm,19.6s,baz=28,slow=42						
LPAZ	**La Paz**	**11.68**	**144**		**Pn**	**11 11 51.5**	**+0.7**
SAML	**Samuel**	**12.14**	**101**		**Pn**	**11 11 56.5**	**0.0**
PTGA	**Pitinga**	**16.42**	**69**	P	**P**	**11 12 56.1**	**-0.2**
	0.9nm,0.3s,baz=253,slow=14,SNR=20						
PTGA	**Pitinga**	**16.42**	**69**	P	**P**	**11 12 56.4**	**0.0**
SIV	**San Ignacio**	**16.59**	**124**	P	**P**	**11 12 58.2**	**-0.1**
	0.2nm,0.3s,baz=311,slow=12,SNR=7.2						
SIV				LR	LR	11 19 39.3	
	comp=Z,98nm,20.3s,baz=296,slow=38						
SJCC	**San Jacinto, C**	**16.65**	**0**	P	**P**	**11 13 02.8**	**+4.0**
SJCC				IAmb	IAmb	11 13 05.4	
	comp=Z,15nm,1.2s						
JTS	**Las Juntas de**	**19.58**	**330**	LR	LR	11 20 36.8	
	comp=Z,34nm,19.4s,baz=212,slow=35						
TXAR	**Lajitas Array**	**45.19**	**324**	P	**P**	**11 17 18.3**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=152,slow=8.1,SNR=2.2						
LPIG	**La Paz**	**46.00**	**313**	LR	LR	11 33 59.7	
	comp=Z,37nm,18.8s,baz=160,slow=32						
NVAR	**Mina Array Bea**	**60.23**	**322**	P	**P**	**11 19 09.5**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=116,slow=6.1,SNR=2.3						
DBIC	**Dimbokro**	**71.51**	**81**	P	**P**	**11 20 22.9**	**-1.0**
	comp=Z,5.0nm,0.7s,baz=248,slow=5.4,SNR=3.8						
DBIC	**Dimbokro**	**71.51**	**81**	IAmb	IAmb	11 20 23.3	
	comp=Z,9.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**78.96**	**75**	P	**P**	**11 21 05.2**	**-1.5**
	comp=Z,1.7nm,0.6s,baz=288,slow=5.1,SNR=11						
TORD	**Torodi Ar. Bea**	**78.96**	**75**	P	**P**	**11 21 05.3**	**-1.4**
TORD				IAmb	IAmb	11 21 06.0	
	comp=Z,1.7nm,0.8s						
WRA	**Warramunga Arr**	**140.53**	**227**	PKP	**PKPdf**	**11 28 29.4**	**-3.3**
	comp=Z,0.5nm,0.8s,baz=126,slow=2.0,SNR=3.1						

NNC 29 11:27:36.3±2.8, 37.83N×78.13E, h15km±11km, mb3.8, mpv3.5, 5C-5D, Error ellipse: s-maj=21.1km s-min=16.8km az=124.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.22**	**2**	Pg	Pg	11 29 12.1	-4.2
	5.3nm,1.2s						
SATY				Lg	Lg	11 30 24.5	
	28nm,1.1s						
TNSS	**Tian-Shan**	**5.27**	**351**	Pg	Pb	11 29 12.0	+3.5
	4.5nm,0.4s						
TNSS				Lg	Lg	11 30 24.4	
	6.0nm,0.7s						
UZB	**Uzynbulak**	**5.35**	**7**	Pg	Pb	11 29 13.7	+4.0
	1.4nm,0.2s						
UZB				Lg	Lg	11 30 27.0	
	9.6nm,0.5s						
MDOK	**Medeo**	**5.39**	**352**	Pn	Pn	11 28 59.4	+3.1
	1.9nm,0.6s						
MDOK				Pg	Pb	11 29 13.4	+3.2
	6.8nm,0.7s						
MDOK				Lg	Lg	11 30 26.3	
	15nm,0.6s						
MDOK	**Medeo**	**5.39**	**352**	Pg	Pg	11 29 15.0	-4.5
	3.9nm,0.4s						
MDOK				Lg	Lg	11 30 29.1	
	11nm,0.6s						
SHLS	**Shalkode**	**5.41**	**10**	Pg	Pg	11 29 16.2	-3.8
	6.7nm,0.5s						
SHLS				Lg	Lg	11 30 31.4	
	29nm,0.8s						
TKM2	**Tokmak 2**	**5.44**	**340**	⇓Pn	Pn	11 28 57.9	+0.8
	1.8nm,0.6s						
TKM2				⇓Lg	Lg	11 30 28.0	
	9.7nm,0.8s						
KOTS	**Kotyrbulak**	**5.45**	**352**	Pg	Pg	11 29 16.8	-3.9
	3.0nm,0.2s						
KOTS				Lg	Lg	11 30 32.6	
	17nm,0.4s						
KST	**Kastek**	**5.46**	**343**	Pg	Pg	11 29 17.8	-3.1
	2.0nm,0.7s						
KST				Lg	Lg	11 30 34.3	
	2.9nm,0.8s						
AAK	**Ala-Archa**	**5.54**	**331**	⇑Pn	Pn	11 28 57.9	-0.6
	1.5nm,0.5s						
AAK				Pg	Pb	11 29 13.9	+1.0
	4.3nm,0.6s						
AAK				⇓Lg	Lg	11 30 30.8	
	17nm,0.8s						
PDGK	**Podgornoye**	**5.59**	**10**	Pg	Pb	11 29 17.1	+3.5
	1.0nm,0.4s						
PDGK				Lg	Lg	11 30 32.8	
	4.5nm,0.5s						
PDGK	**Podgornoye**	**5.59**	**10**	⇑Pn	Pn	11 28 58.9	-0.1
	2.6nm,0.6s						
PDGK				⇑Lg	Lg	11 30 33.8	
	19nm,0.9s						
DGS	**Degeres**	**5.69**	**342**	Pg	Pg	11 29 20.4	-4.9
	4.7nm,0.6s						
DGS				Lg	Lg	11 30 38.7	
	6.8nm,0.5s						
MAKZ	**Makanchi**	**9.41**	**16**	⇑Pn	Pn	11 29 50.0	-1.3
	1.3nm,0.5s						
MAKZ				⇓Sn	Sn	11 31 36.0	-0.9
	0.7nm,0.7s						
MK31	**Makanchi Array**	**9.47**	**18**	⇑Pn	Pn	11 29 50.6	-1.6
	1.1nm,0.6s,baz=200,slow=12,SNR=21						
MK31				⇓Sn	Sn	11 31 39.2	+0.8
	0.4nm,0.5s,baz=205,slow=26,SNR=4.2						

IDC 29 11:28:17.8±1.5, 15.34S×177.30W, h429km±28km, mb3.3/3, mb1 3.4/5, mb1mx3.1/38, mbtmp4.1/5, Error ellipse: s-maj=141.4km s-min=23.2km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.05**	**241**	P	P	11 29 41.9	+0.2
	3.1nm,0.3s,baz=68,slow=9.3,SNR=18						
AFI	**Afiamalu**	**5.53**	**76**	P	P	11 29 46.7	+0.1
	3.7nm,0.3s,baz=271,slow=4.2,SNR=7.9						
AFI				S	S	11 30 59.6	+0.5
	1.8nm,0.3s,baz=194,slow=12,SNR=1.5						
STKA	**Stephens Creek**	**40.83**	**239**	P	P	11 35 19.9	-0.5
	1.3nm,0.9s,baz=79,slow=16,SNR=1.5						
WRA	**Warramunga Arr**	**46.19**	**257**	P	P	11 36 02.4	-0.3
	0.5nm,0.3s,baz=92,slow=6.8,SNR=54						
ASAR	**Alice Springs**	**46.55**	**252**	P	P	11 36 05.5	+0.1
	8.7nm,0.6s,baz=84,slow=7.9,SNR=114						

BJI ***29*** *11:35:38.2±0.0, 39.48N×143.70E, h13km, mB5.0/31, mb4.7/62, Ms4.4/39, Ms7 4.2/39*

IDC ***29*** *11:35:39.0±0.7, 39.36N×143.61E, h0km, mb4.3/24, mb1 4.4/31, mb1mx4.3/58, mbtmp4.3/31, ML3.6/7, MS3.7/22, Ms1 3.7/22, ms1mx3.5/43, Error ellipse: s-maj=15.8km s-min=13.1km az=125.0*

JMA ***29*** *11:35:41.1±0.3, 39.46N×143.67E, h39km, M4.7*
JMA Felt I J1.

MOS ***29*** *11:35:41.5±1.2, 39.49N×143.63E, h30km, mb4.8/26, MS4.1/7, Error ellipse: s-maj=7.5km s-min=5.0km az=104.6*

NIED ***29*** *11:35:41.1, 39.47N×143.67E, h39km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr3.92; Mθθ0.96; Mφφ-4.88; Mrθ0.58; Mθφ-1.37; Mφr1.19; Fault plane solution: M0 4.75000×10^15 NP1:ϕs 18.00000°, δ53.00000°, λ,98.00000°. NP2:ϕs 186.00000°, δ37.00000°, λ,80.00000°.*

NEIC ***29*** *11:35:42.5±1.6, 39.37N±0.06×143.7E±0.1, h22km±5km, mb4.7/43 Error ellipse: s-maj=13.5km s-min=7.8km az=113.0*

ISC 29 11:35:39.7±0.5, 39.42N±0.04×143.76E±0.05, h11km, n212, σ1s 96/221, mb4.7/73, MS4.0/34, 7C-2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.51**	**277**	P	**Pn**	**11 36 05.4**	**-1.2**
JTH	**Tanohata**	**1.55**	**290**	P	**Pn**	**11 36 06.0**	**-1.2**
JTH				*e*S	**Sn**	**11 36 23.4**	**-4.0**
OFUJ	**Ofunato**	**1.66**	**259**	P	**Pn**	**11 36 07.6**	**-1.1**
JOM	**Ohasama**	**1.91**	**272**	P	**Pn**	**11 36 11.7**	**-0.5**
JANG	**Nango**	**1.97**	**300**	P	**Pn**	**11 36 11.5**	**-1.5**
JMK	**Ichinoseki**	**2.03**	**258**	P	**Pn**	**11 36 13.2**	**-0.5**
JMK				*e*S	**Sn**	**11 36 35.9**	**-3.2**
ERM	**Erimo**	**2.63**	**350**	*i* P	**Pn**	**11 36 22.5**	**+0.4**
ERM	**Erimo**	**2.63**	**350**	Pn	**Pn**	**11 36 22.1**	**0.0**
JEM	**Erimo**	**2.63**	**350**	Pn	**Sn**	**11 36 52.9**	**-1.2**
JYK	**Kaneyama**	**2.69**	**260**	P	**Pn**	**11 36 22.8**	**-0.1**
JMM	**Marumori**	**2.79**	**237**		**Pn**	**11 36 23.2**	**-1.1**
JOT	**Ohata**	**2.85**	**314**	P	**Pn**	**11 36 24.8**	**-0.3**
JNBK	**Urakawa-nobuka**	**2.96**	**345**	P	**Pn**	**11 36 27.4**	**+0.8**
JNBK				*e*S	**Sn**	**11 37 01.6**	**-0.4**
JCH	**Churui**	**3.21**	**355**	P	**Pn**	**11 36 29.9**	**-0.1**
JCH				*e*S	**Sn**	**11 37 05.6**	**-2.6**
JKB	**Kayabe**	**3.22**	**321**	P	**Pn**	**11 36 31.2**	**+1.0**
JFT	**Otama**	**3.29**	**236**	P	**Pn**	**11 36 30.7**	**-0.4**
JFT				*e*S	**Sn**	**11 37 08.6**	**-1.6**
JAK	**Akkeshi**	**3.64**	**11**	P	**Pn**	**11 36 35.7**	**-0.2**
JAK				*e*S	**Sn**	**11 37 16.3**	**-2.6**
JEW	**Eniwo**	**3.84**	**334**	Pn	**Pn**	**11 36 40.0**	**+1.4**
NMR	**Nemuro--Hokkai**	**4.22**	**20**	*e*P	**Pn**	**11 36 43.1**	**-0.7**
NMR				*e*S	**Sn**	**11 37 29.6**	**-3.4**
JYT	**Yasato**	**4.26**	**223**	Pn	**Pn**	**11 36 42.7**	**-1.7**
JSD	**Sado**	**4.52**	**254**	Pn	**Pn**	**11 36 48.4**	**+0.5**
JKA	**Kamikawa-asahi**	**4.77**	**350**	Pn	**Pn**	**11 36 53.0**	**+1.5**
ASAJ	**Asahikawa**	**4.77**	**350**	Pn	**Pn**	**11 36 52.7**	**+1.2**
	3.6nm,0.3s,baz=183,slow=14,SNR=44						
ASAJ				Sn	**Sn**	**11 37 50.8**	**+4.0**
	5.9nm,0.3s,baz=37,slow=29,SNR=4.0						
GRPR	**Tuman**	**4.81**	**18**	*e*P	**Pn**	**11 36 51.7**	**-0.3**
GRPR				*e*S	**Sn**	**11 37 43.7**	**-4.0**
GRPR				pmax	pmax		
	comp=N,47nm,0.2s						
GRPR				pmax	pmax		
	comp=E,50nm,0.2s						
GRPR				pmax	pmax		
	comp=Z,123nm,0.2s						
GRPR				smax	smax		
	comp=N,178nm,0.3s						
GRPR				smax	smax		
	comp=E,780nm,0.3s						
GRPR				MLR	MLR		
	comp=E,2μm,9.0s						
GRPR				MLR	MLR		
	comp=Z,6μm,17.0s						
GRPR				MLR	MLR		
	comp=N,2μm,11.0s						
RUSJ	**Misakicho**	**4.81**	**13**	P	**Pn**	**11 36 52.5**	**+0.5**
RUSJ				*e*S	**Sn**	**11 37 45.8**	**-1.9**
YUK	**Yuzh-Kuril'sk**	**4.87**	**18**	*c i* P	**Pn**	**11 36 52.3**	**-0.5**
YUK				*e*S	**Sn**	**11 37 45.4**	**-3.8**
YUK				pmax	pmax		
	comp=Z,246nm,0.2s						
YUK				smax	smax		
	comp=E,760nm,0.5s						
YUK				smax	smax		
	comp=N,508nm,0.3s						
YUK				MLR	MLR		
	comp=Z,400nm,12.0s						
MJAR	**Matsushiro Arr**	**5.24**	**239**	Pn	**Pn**	**11 36 58.0**	**0.0**
	comp=Z,1.2nm,0.3s,baz=43,slow=12,SNR=156						
MJAR				LR	LR	11 39 12.0	
	comp=Z,409nm,20.9s,baz=70,slow=42						
MJAR	**Matsushiro Arr**	**5.24**	**239**	Pn	**Pn**	**11 36 57.4**	**-0.6**
MAJO	**Matsushiro**	**5.24**	**239**	*i* P	**Pn**	**11 36 59.0**	**+1.0**
MAJO	**Matsushiro**	**5.24**	**239**		**Pn**	**11 36 58.9**	**+1.0**
MAT	**Matsushiro**	**5.24**	**239**	P	**Pn**	**11 36 58.9**	**+0.9**
MAT				S	**Sn**	**11 37 58.0**	**-0.4**
MJB9	**Matsu-Tunnel**	**5.24**	**239**		**Pn**	**11 36 58.7**	**+0.7**
JGF	**Kuroka**	**6.36**	**235**		**Pn**	**11 37 13.5**	**+0.1**
KUR	**Kuril'sk**	**6.56**	**26**	P	**Pn**	**11 37 15.1**	**-0.9**
KUR				*e*S	**Sn**	**11 38 25.9**	**-4.8**
KUR				smax	smax		
	comp=N,94nm,0.4s						
KUR				smax	smax		
	comp=E,216nm,0.4s						
INU	**Inuyama**	**6.73**	**235**	Pn	**Pn**	**11 37 18.5**	**+0.1**
JHJ2	**Mitsune**	**7.05**	**208**	Pn	**Pn**	**11 37 23.1**	**+0.3**
JHJ	**Hachijo jima 2**	**7.06**	**208**	Pn	**Pn**	**11 37 22.0**	**-0.9**
	comp=E,21nm,0.3s,baz=335,slow=20,SNR=13						
JHJ				Sn	**Sn**	**11 38 36.2**	**-6.9**
	comp=E,28nm,0.3s,baz=239,slow=24,SNR=9.7						
JHJ				LR	LR	11 40 29.5	
	comp=E,277nm,19.6s,baz=58,slow=42						
YSS	**Yuzh-Sakhalins**	**7.57**	**355**	*i* P	**Pn**	**11 37 31.3**	**+1.5**
YSS				pmax	pmax		
	comp=Z,33nm,0.9s						
YSS	**Yuzh-Sakhalins**	**7.57**	**355**	Pn	**Pn**	**11 37 31.9**	**+2.0**
JWT	**Wachi**	**7.83**	**241**	Pn	**Pn**	**11 37 35.3**	**+1.8**
JHS	**Saijyo**	**9.57**	**246**	Pn	**Pn**	**11 37 58.7**	**+1.4**
JMN	**Monobe**	**9.76**	**237**	Pn	**Pn**	**11 37 59.9**	**-0.2**
USA0B	**Ussuriysk Arra**	**10.00**	**302**	P	**Pn**	**11 38 05.2**	**+2.0**
USA0B	**Ussuriysk Arra**	**10.00**	**302**		**Pn**	**11 38 05.2**	**+2.0**
USRK	**Ussuriysk Ar.**	**10.00**	**302**	Pn	**Pn**	**11 38 05.0**	**+1.8**
	baz=110,slow=14,SNR=34						
USRK	**Ussuriysk Ar.**	**10.00**	**302**	P	**Pn**	**11 38 05.2**	**+2.0**
USRK	**Ussuriysk Ar.**	**10.00**	**302**	Pn	**Pn**	**11 38 05.2**	**+2.0**
MDJ	**Mudanjiang**	**11.74**	**301**	P	**Pn**	**11 38 28.3**	**+1.2**
MDJ				sP		11 38 41.0	
MDJ				S	**Sn**	**11 40 39.0**	**+0.9**
MDJ				SS	**SnSn**	**11 40 52.0**	**+2.1**
MDJ				pmax	pmax		
	comp=Z,26nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,340nm,3.5s						
MDJ				LR	LR		
	comp=Z,910nm,12.8s						
MDJ				LR	LR		
	comp=Z,1μm,13.4s						
MDJ				LR	LR		
	comp=Z,1μm,12.9s						
MDJ	**Mudanjiang**	**11.74**	**301**		**Pn**	**11 38 28.4**	**+1.4**
JNU	**Nakatsue**	**12.14**	**243**	Pn	**Pn**	**11 38 31.9**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=83,slow=14,SNR=1.8						
JNU	**Nakatsue**	**12.14**	**243**		**Pn**	**11 38 32.4**	**-0.2**
KSRS	**Korea Array**	**12.57**	**266**	Pn	**Pn**	**11 38 39.8**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=83,slow=13,SNR=20						
KSRS				LR	LR	11 43 07.0	
	comp=Z,302nm,18.6s,baz=79,slow=36						
KS19	**Wonju Array Si**	**12.61**	**266**	Pn	**Pn**	**11 38 39.4**	**+0.5**
KSAR	**Wonju Array Be**	**12.61**	**266**	P	**Pn**	**11 38 39.5**	**+0.6**
KSAR	**Wonju Array Be**	**12.61**	**266**	Pn	**Pn**	**11 38 39.5**	**+0.6**
KLR	**Kul'dur**	**13.03**	**323**	Pn	**Pn**	**11 38 44.5**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=111,slow=14,SNR=11						
KLR				LR	LR	11 44 01.3	
	comp=Z,508nm,18.1s,baz=130,slow=39						
KLR	**Kul'dur**	**13.03**	**323**	*c e* P	**Pn**	**11 38 44.7**	**+0.1**
KLR				pmax	pmax		
	comp=Z,29nm,0.9s						
CN2	**Changchun**	**14.38**	**294**	*e* P	**Pn**	**11 39 04.0**	**+0.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=Z,400nm,13.0s						
CN2				LR	LR		
	comp=Z,500nm,13.0s						
CN2				LR	LR		
	comp=Z,500nm,15.0s						
PETK	**Petropavlovsk-**	**16.70**	**30**	LR	LR	11 45 25.6	
	comp=Z,85nm,20.9s,baz=217,slow=35						
DL2	**Dalian**	**17.17**	**275**	P	**P**	**11 39 41.0**	**-0.1**
DL2				S	**Sn**	**11 42 51.3**	**+1.0**
DL2				pmax	pmax		
	comp=Z,41nm,0.8s						
DL2				LR	LR		
	comp=Z,490nm,12.7s						
DL2				LR	LR		
	comp=Z,480nm,15.9s						
DL2				LR	LR		
	comp=Z,600nm,15.6s						
ZEA	**Zeya**	**18.21**	**327**	*e* P	**Pn**	**11 39 49.6**	**-2.6**
ZEA				pmax	pmax		
	comp=N,10.0nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,20nm,0.8s						
ZEA				MLR	MLR		
	comp=N,200nm,10.0s						
ZEA				MLR	MLR		
	comp=Z,300nm,14.0s						
HIA	**Hailar**	**19.72**	**308**	*i* P	**P**	**11 40 07.2**	**-1.9**
HIA				pmax	pmax		
	comp=Z,21nm,0.9s						
MA2	**Magadan**	**20.66**	**10**	P	Pn	11 40 20.6	-0.9
	comp=Z,12nm,0.7s,baz=168,slow=9.9,SNR=5.0						
MA2				LR	LR	11 50 00.6	
	comp=Z,202nm,18.3s,baz=180,slow=42						
MA2	**Magadan**	**20.66**	**10**	IAmb	IAmb	11 40 21.9	
	comp=Z,18nm,0.9s						
BJI	**Beijing**	**21.20**	**281**	P	**P**	**11 40 22.0**	**-3.1**
BJI				pmax	pmax		
	comp=Z,24nm,0.9s						
BJI				LR	LR		
	comp=Z,350nm,13.3s						
BJI				LR	LR		
	comp=Z,400nm,17.4s						
BJI				LR	LR		
	comp=Z,590nm,17.8s						
BJT	**Baijiatuao**	**21.21**	**280**	P	**P**	**11 40 23.1**	**-2.2**
BJT				pmax	pmax		
	comp=Z,24nm,0.9s						
BJT	**Baijiatuao**	**21.21**	**280**	P	**P**	**11 40 23.1**	**-2.2**
BJT				IAmb	IAmb	11 40 32.1	
	comp=Z,24nm,0.9s						
NJ2	**Nanjing**	**21.47**	**258**	*e* P	**P**	**11 40 29.3**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
SEY	**Seymchan**	**24.11**	**10**	P	**P**	**11 40 57.5**	**+2.4**
	comp=Z,6.2nm,0.7s,baz=199,slow=7.9,SNR=14						
SEY				LR	LR	11 52 20.4	
	comp=Z,228nm,18.1s,baz=190,slow=41						
YAK	**Yakutsk**	**24.22**	**344**	P	**P**	**11 40 56.8**	**+0.7**
	comp=Z,18nm,0.5s,baz=332,slow=3.8,SNR=5.0						
YAK				LR	LR	11 50 54.5	
	comp=Z,113nm,19.9s,baz=88,slow=38						
YAK	**Yakutsk**	**24.22**	**344**	*e* P	**P**	**11 40 56.6**	**+0.5**
YAK				*e**PP	**pwP**	**11 41 01.9**	**-0.9**
YAK				*e*		11 41 30.2	
YAK				*e*		11 44 37.4	
YAK				*e*S	**S**	**11 45 14.0**	**-0.1**
YAK				*e**SS	sS	11 45 30.1	+12
YAK				*e*SS	**SnSn**	**11 46 04.9**	**+8.8**
YAK				pmax	pmax		
	comp=Z,26nm,0.9s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,195nm,3.7s						
YAK				pmax	pmax		
	comp=E,99nm,2.5s						
YAK				pmax	pmax		
	comp=N,108nm,3.1s						
YAK				smax	smax		
	comp=E,58nm,2.2s						
YAK				smax	smax		
	comp=N,45nm,2.2s						
YAK				MLR	MLR		
	comp=Z,184nm,16.0s						
YAK				MLR	MLR		
	comp=E,144nm,14.0s						
YAK				MLR	MLR		
	comp=N,92nm,19.0s						
HHC	**Hu-ho-hao-te**	**24.59**	**284**	*e* P	**P**	**11 41 00.5**	**+0.7**
HHC				pmax	pmax		
	comp=N,21nm,1.1s						
HHC				pmax	pmax		
	comp=N,97nm,5.5s						
HHC				LR	LR		
	comp=N,160nm,13.7s						
HHC				LR	LR		
	comp=N,500nm,14.2s						
HHC				LR	LR		
	comp=N,730nm,15.2s						
SSLB	**Suanglung**	**24.80**	**238**	P	**P**	**11 41 00.3**	**-1.4**
SSLB				IAmb	IAmb	11 41 11.5	
	comp=Z,23nm,0.9s						
YULB	**Yu-li**	**24.86**	**237**	P	**P**	**11 41 01.7**	**-0.5**
YULB				IAmb	IAmb	11 41 18.9	
	comp=Z,26nm,1.2s						
TWG	**Pinlang**	**25.41**	**236**	P	**P**	**11 41 06.3**	**-0.9**
WHN	**Wuhan**	**25.58**	**259**	⇓P	**P**	**11 41 09.0**	**+0.3**
WHN				pP	**pwP**	**11 41 17.8**	**+2.1**
WHN				pmax	pmax		
	comp=Z,130nm,1.0s						
GUMO	**Guam**	**25.75**	**178**	P	**P**	**11 41 13.9**	**+3.7**
	comp=Z,38nm,0.7s,baz=240,slow=20,SNR=1.6						
GUMO	**Guam**	**25.75**	**178**	P	**P**	**11 41 09.9**	**-0.4**
GUMO				pmax	pmax		
	comp=Z,197nm,1.3s						
GUMO	**Guam**	**25.75**	**178**	P	**P**	**11 41 09.9**	**-0.4**
BOD	**Bodaibo**	**26.60**	**324**	*e* P	**P**	**11 41 17.8**	**+0.1**
BOD				pmax	pmax		
	comp=Z,24nm,1.0s						
ULN	**Ulaanbaatar**	**27.66**	**300**	*c e* P	**P**	**11 41 27.9**	**+0.3**
ULN				pmax	pmax		
	comp=Z,21nm,1.3s						
ULN	**Ulaanbaatar**	**27.66**	**300**	P	**P**	**11 41 27.8**	**+0.3**
ULN				IAmb	IAmb	11 41 31.9	
	comp=Z,12nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**27.96**	**128**	T	T	12 12 31.3	
	baz=318,slow=75,SNR=325						
H11N1	**WAKE ISLAND Hy**	**27.97**	**128**	T	T	12 12 30.8	
	baz=318,slow=75,SNR=304						
H11N3	**WAKE ISLAND Hy**	**27.98**	**128**	T	T	12 12 36.5	
	baz=318,slow=75,SNR=396						
SONM	**Songino Array**	**28.10**	**300**	P	**P**	**11 41 32.1**	**+0.7**
	comp=Z,3.6nm,0.6s,baz=95,slow=9.0,SNR=14						
SONM				LR	LR	11 52 53.6	
	comp=Z,159nm,19.8s,baz=98,slow=37						
SONM	**Songino Array**	**28.10**	**300**	P	**P**	**11 41 31.9**	**+0.5**
XAN	**Xi'an**	**28.32**	**270**	P	**P**	**11 41 33.8**	**+0.4**
XAN				pP	pwP	11 41 41.3	+1.0
XAN				pmax	pmax		
	comp=Z,9.0nm,1.7s						
XAN				pmax	pmax		
	comp=Z,260nm,4.4s						
XAN				LR	LR		
	comp=Z,340nm,13.2s						
XAN				LR	LR		
	comp=Z,240nm,12.3s						
XAN				LR	LR		
	comp=Z,300nm,12.7s						
XAN	**Xi'an**	**28.32**	**270**	P	**P**	**11 41 36.2**	**+2.8**
XAN	**Xi'an**	**28.32**	**270**	P	**P**	**11 41 36.2**	**+2.8**
H11S1	**WAKE ISLAND Hy**	**28.78**	**130**	T	T	12 13 30.9	
	baz=319,slow=76,SNR=33						
H11S3	**WAKE ISLAND Hy**	**28.78**	**130**	T	T	12 13 29.2	
	baz=319,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**28.80**	**130**	T	T	12 13 32.8	
	baz=319,slow=76,SNR=3.2						
ENH	**Enshi**	**29.43**	**263**	P	**P**	**11 41 43.2**	**-0.1**
ENH				IAmb	IAmb	11 41 52.8	
	comp=Z,26nm,0.9s						
ZAK	**Zakamensk**	**30.34**	**305**	*e* P	**P**	**11 41 51.1**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BILL	**Bilibino**	**31.22**	**16**	*i* P	**P**	**11 41 58.8**	**+0.1

GTA LR LR
comp=Z,250nm,16.4s
GTA LR LR
comp=Z,410nm,17.4s
GTA LR LR
comp=Z,590nm,16.7s
QIZ Qiongzhong 35.60 245 P **P** **11 42 36.5 -0.9**
QIZ S **S** **11 48 13.5 +0.1**
QIZ LR LR
comp=Z,220nm,14.7s
QIZ LR LR
comp=Z,240nm,15.7s
QIZ LR LR
comp=Z,240nm,14.7s
KMI Kunming 37.17 260 ⇑P **P** **11 42 53.8 +2.8**
KMI pP pwP 11 43 01.0 +3.0
KMI pmax pmax
comp=Z,12nm,0.5s
DGZ Jazzator, Alta 40.55 304 *i* P **P** **11 43 19.1 +0.1**
DGZ pmax pmax
comp=Z,26nm,0.7s
TNTI Ternate 41.28 205 P **P** **11 43 23.8 -1.3**
WMQ Urumqi 41.46 295 *eP* **P** **11 43 27.8 +1.3**
WMQ pP pwP 11 43 37.0 +3.6
WMQ pmax pmax
comp=Z,34nm,1.1s
WMQ pmax pmax
comp=Z,160nm,4.9s
WMQ LR LR
comp=Z,290nm,15.1s
WMQ LR LR
comp=Z,200nm,17.7s
WMQ Urumqi 41.46 295 P **P** **11 43 28.3 +1.8**
WMQ Urumqi 41.46 295 P **P** **11 43 28.3 +1.8**
ZAA0 Zalesovo Array 41.73 310 P **P** **11 43 29.5 +1.1**
ZAA0 IAmb IAmb 11 43 29.9
comp=Z,9.0nm,0.6s
ZALV Zalesovo Beam 41.73 310 P **P** **11 43 29.1 +0.7**
comp=Z,11nm,0.6s,baz=90,slow=7.9,SNR=38
ZALV PcP **PcP** **11 45 25.2 +0.5**
comp=Z,2.6nm,0.7s,baz=70,slow=4.1,SNR=3.8
ZALV LR LR 12 01 09.0
comp=Z,61nm,18.5s,baz=38,slow=37
ZALV Zalesovo Beam 41.73 310 P **P** **11 43 28.7 +0.3**
NRIK Noril'sk 41.91 334 LR LR 12 01 52.8
comp=Z,125nm,18.1s,baz=36,slow=38
NRIK Noril'sk 41.91 334 *i* P **P** **11 43 29.6 -0.1**
NRIK pmax pmax
comp=Z,5.0nm,1.0s
IMAR Indian Mountai 43.66 32 P **P** **11 43 45.0 +1.1**
CMMT Chiang Mai 43.68 255 P **P** **11 43 45.5 +0.8**
comp=Z,9.5nm,1.4s
CHTO Chiang Mai 43.68 255 P **P** **11 43 44.1 -0.6**
CHTO pmax pmax
comp=Z,6.0nm,0.7s
CHTO Chiang Mai 43.68 255 P P 11 43 52.3 +7.6
CHTO Chiang Mai 43.68 255 P **P** **11 43 44.1 -0.6**
CHTO IAmb IAmb 11 43 54.9
comp=Z,5.7nm,0.7s
LSA Lhasa 43.86 274 P **P** **11 43 46.5 -0.1**
LSA pmax pmax
comp=Z,8.0nm,0.7s
LSA Lhasa 43.86 274 P **P** **11 43 46.5 -0.1**
LSA IAmb IAmb 11 44 00.9
comp=Z,7.8nm,0.7s
CMAR Chiang Mai Arr 43.90 255 P **P** **11 43 46.7 +0.3**
comp=Z,1.0nm,0.3s,baz=45,slow=6.9,SNR=14
CMAR LR LR 12 01 31.9
comp=Z,39nm,18.4s,baz=349,slow=36
CMAR Chiang Mai Arr 43.90 255 *i* P **P** **11 43 47.2 +0.8**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 43.90 255 P P **11 43 47.2 +0.8**
CM04 Chiang Mai Arr 43.91 255 P P **11 43 48.7 +2.2**
comp=Z,6.4nm,0.9s
MK31 Makanchi Array 44.46 300 P **P** **11 43 51.2 +0.5**
MK31 pmax pmax
comp=Z,9.0nm,0.8s
MK31 Makanchi Array 44.46 300 P **P** **11 43 51.2 +0.5**
MK31 IAmb IAmb 11 43 51.9
comp=Z,8.6nm,0.8s
MKAR Makanchi Array 44.46 300 P **P** **11 43 50.9 +0.2**
comp=Z,7.6nm,0.7s,baz=76,slow=10,SNR=65
MKAR Makanchi Array 44.46 300 P **P** **11 43 51.1 +0.4**
MKAR Makanchi Array 44.46 300 P **P** **11 43 51.1 +0.4**
MAKZ Makanchi 44.67 301 P **P** **11 43 52.6 +0.3**
MAKZ pmax pmax
comp=Z,9.0nm,0.8s
MAKZ Makanchi 44.67 301 P **P** **11 43 52.6 +0.3**
MAKZ IAmb IAmb 11 43 57.9
comp=Z,9.1nm,0.8s
KURK Kurchatov 45.96 307 P **P** **11 44 03.4 +1.0**
KURK Kurchatov 45.96 307 P **P** **11 44 03.4 +1.0**
KURBB Kurchatov Arra 46.03 307 P **P** **11 44 03.4 +0.3**
comp=Z,14nm,0.7s,baz=80,slow=8.2,SNR=110
ILAR Eielson Array 46.49 34 P **P** **11 44 08.5 +2.0**
comp=Z,0.6nm,0.7s,baz=263,slow=5.9,SNR=8.0
BMAR Burnt Mountain 47.35 30 P **P** **11 44 16.0 +2.8**
BCAR Beaver Creek A 48.88 36 P **P** **11 44 25.8 +0.7**
EGAK Eagle 48.94 33 P **P** **11 44 25.7 +0.2**
TARG Taragay, Kyrgy 49.03 295 P **P** **11 44 26.9 -0.1**
TARG IAmb IAmb 11 44 33.6
comp=Z,8.4nm,0.8s
KDJ Kajisay 49.33 296 P **P** **11 44 27.2 -1.8**
KDJ pmax pmax
comp=Z,11nm,1.4s
KDJ Kajisay 49.33 296 P **P** **11 44 27.2 -1.8**
KDJ IAmb IAmb 11 44 39.6
comp=Z,11nm,1.4s
BOOM Boomskoye usch 50.06 297 P **P** **11 44 35.4 +0.8**
BOOM pmax pmax
comp=Z,10.0nm,1.0s
BOOM Boomskoye usch 50.06 297 P **P** **11 44 35.4 +0.8**
BOOM IAmb IAmb 11 44 36.4
comp=Z,9.6nm,1.0s
BVAR Borovoye Array 50.36 311 P **P** **11 44 37.0 +0.6**
comp=Z,7.6nm,0.8s,baz=106,slow=7.9,SNR=22
BRVK Borovoye 50.42 311 *eP* **P** **11 44 37.3 +0.4**
BRVK pmax pmax
comp=Z,7.0nm,0.7s
BRVK Borovoye 50.42 311 P **P** **11 44 37.2 +0.4**
BRVK IAmb IAmb 11 44 38.5
comp=Z,8.2nm,0.8s
AAK Ala-Archa 51.01 297 P **P** **11 44 41.8 +0.1**
comp=Z,1.6nm,0.6s,baz=76,slow=11,SNR=4.2
AAK Ala-Archa 51.01 297 P **P** **11 44 42.0 +0.3**
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 51.01 297 P **P** **11 44 42.0 +0.3**
KSH Kashi 51.15 293 P P 11 44 47.8 +5.1
KSH pP pwP 11 44 56.0 +6.4
KSH pmax pmax
comp=Z,6.0nm,0.6s
INK Inuvik 51.42 28 P **P** **11 44 46.8 +2.7**
comp=Z,1.7nm,0.5s,baz=333,slow=3.2,SNR=7.4
INK Inuvik 51.42 28 P **P** **11 44 46.7 +2.5**
INK IAmb IAmb 11 45 03.2
comp=Z,14nm,1.5s
KK31 Karatay Array 53.55 299 P **P** **11 45 00.2 -0.2**
KK31 pmax pmax
comp=Z,4.0nm,0.9s
KK31 Karatay Array 53.55 299 P **P** **11 45 00.2 -0.2**
KKAR Karatay Array 53.55 299 P **P** **11 45 00.2 -0.2**
KKAR Karatay Array 53.55 299 P **P** **11 45 00.2 -0.2**
SVE Sverdlovsk 54.60 318 *eP* **P** **11 45 09.3 +1.5**
SVE pmax pmax
comp=Z,24nm,1.0s
SVE MLR MLR
comp=Z,529nm,15.0s
NIL Nilore 55.64 288 P **P** **11 45 15.6 -0.1**
NIL pmax pmax
comp=Z,20nm,0.9s
NIL Nilore 55.64 288 P **P** **11 45 15.6 -0.1**
ARU Arti 55.81 318 P **P** **11 45 17.2 +0.6**
comp=Z,1.5nm,0.3s,baz=73,slow=3.5,SNR=12
ARU Arti 55.81 318 *d iP* **P** **11 45 17.5 +0.9**
ARU 11 47 21.1
ARU S **S** **11 53 05.2 +1.9**
ARU SS **SS** **11 56 47.9 -0.4**
ARU pmax pmax
comp=Z,23nm,1.0s
ARU MLR MLR
comp=Z,326nm,14.0s
ARU Arti 55.81 318 P **P** **11 45 17.1 +0.6**
CHGR Chuyangaron 56.33 295 P **P** **11 45 20.9 +0.2**

ABKAR Akbulak array 57.83 310 P **P** **11 45 31.0 0.0**
KBL Kabul 58.30 291 P **P** **11 45 33.8 -1.0**
KBL pmax pmax
comp=Z,8.0nm,0.9s
KBL Kabul 58.30 291 P **P** **11 45 33.8 -1.0**
KBL IAmb IAmb 11 45 35.5
comp=Z,7.7nm,0.8s
AKTO Aktyubinsk 58.47 312 P **P** **11 45 35.5 +0.1**
comp=Z,3.4nm,0.8s,baz=70,slow=10,SNR=7.9
KIRV Kirov 59.47 323 *ceP* **P** **11 45 42.6 +0.4**
WB0 Warramunga Arr 59.52 190 P **P** **11 45 43.2 +0.2**
WB0 IAmb IAmb 11 45 52.3
comp=Z,3.9nm,0.8s
WR0 Warramunga Arr 59.69 190 P **P** **11 45 44.2 +0.1**
WR0 IAmb IAmb 11 45 52.2
comp=Z,4.1nm,1.1s
WB2 Warramunga Arr 59.70 190 P **P** **11 45 45.5 +1.2**
WB2 IAmb IAmb 11 46 09.1
comp=Z,3.1nm,0.8s
WRA Warramunga Arr 59.70 190 P **P** **11 45 43.8 -0.4**
comp=Z,1.1nm,0.7s,baz=7.9,slow=7.0,SNR=15
WRA Warramunga Arr 59.70 190 *i* P **P** **11 45 45.0 +0.8**
WRA pmax pmax
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 62.41 340 LR LR 12 15 44.8
comp=Z,77nm,21.1s,baz=120,slow=38
BELG Belogornoye 63.32 317 P **P** **11 46 09.0 +0.7**
comp=Z,15nm,0.8s,baz=354,slow=3.6,SNR=4.2
BELG Belogornoye 63.32 317 *i* P **P** **11 46 09.1 +0.7**
BELG pmax pmax
comp=Z,4.0nm,0.9s
ASAR Alice Springs 63.43 190 P **P** **11 46 10.9 +1.5**
comp=Z,0.3nm,0.5s,baz=13,slow=6.1,SNR=2.5
DZM Mont Dzumac 64.74 157 *e*LR LR 12 05 45.4
comp=Z,650nm,28.2s
OBN Obninsk 67.29 323 *i* P **P** **11 46 34.0 0.0**
OBN *i* 11 47 01.6
OBN pmax pmax
comp=Z,6.0nm,0.8s
OBN MLR MLR
comp=Z,165nm,15.0s
AFI Afiamalu 67.31 133 LR LR 12 11 29.6
comp=Z,29nm,21.1s,baz=290,slow=32
FIA1 FINESS Array S 67.56 333 P **P** **11 46 37.2 +1.6**
FIA1 IAmb IAmb 11 46 46.8
comp=Z,9.2nm,0.9s
FINES FINESS Array B 67.56 333 P **P** **11 46 36.5 +0.8**
comp=Z,3.3nm,0.7s,baz=44,slow=8.5,SNR=7.5
FINES LR LR 12 19 05.7
comp=Z,190nm,18.9s,baz=10,slow=39
SUMG Summit 68.29 1 P **P** **11 46 41.1 +0.5**
SUMG pmax pmax
comp=Z,12nm,1.1s
SUMG Summit 68.29 1 P **P** **11 46 41.1 +0.5**
SUMG IAmb IAmb 11 46 43.7
comp=Z,12nm,1.1s
BEKR Beckworth 69.96 55 P **P** **11 46 53.9 +2.6**
ZEI Tsey 70.71 310 *eP* **P** **11 46 55.2 -0.6**
ZEI pmax pmax
comp=Z,3.0nm,1.1s
KIV Kislovodsk 70.73 311 *eP* **P** **11 46 57.5 +1.7**
KIV pmax pmax
comp=Z,23nm,1.0s
KIV MLR MLR
comp=Z,93nm,18.0s
KIV Kislovodsk 70.73 311 P **P** **11 46 57.2 +1.5**
KBZ Khabaz 70.74 311 P **P** **11 46 56.8 +1.1**
comp=Z,6.9nm,0.9s,baz=71,slow=7.7,SNR=9.0
MNK Minsk 71.55 326 *i* P **P** **11 46 56.4 -4.0**
MNK *i* 11 47 15.8
MNK *i* 11 49 34.6
MNK *i* PPP PPP 11 51 18.1
MNK *i* S **S** **11 56 11.3 -7.7**
MNK *i* 11 56 58.3
MNK *i* SS **SS** **12 00 47.9 -5.2**
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK pmax pmax
comp=Z,7.0nm,0.6s
MNK pmax pmax
comp=N,13nm,0.9s
MNK MLR MLR
comp=Z,218nm,20.0s
MNK MLR MLR
comp=N,436nm,19.0s
MNK MLR MLR
comp=E,53nm,19.0s
MNK Minsk 71.55 326 *i* P **P** **11 46 56.5 -3.9**
comp=E,2.0nm,0.7s
MNK *i* P **P** **11 46 56.5 -3.9**
comp=N,13nm,0.9s
MNK *i* P **P** **11 46 56.5 -3.9**
comp=Z,7.0nm,0.7s,baz=227
MNK *i* PcP **PcP** **11 47 15.9 -3.9**
MNK *i* PP **PP** **11 49 34.6 -3.9**
MNK *i* PPP PPP 11 51 18.2
MNK *i* S **S** **11 56 11.4 -7.7**
MNK *i* SS **SS** **12 00 48.0 -5.1**
MNK *i* SSS SSS 12 04 07.6
MNK *i* LQ LQ 12 13 25.8
MNK *i* LR LR 12 18 51.6
MNK *i* LRM MLR 12 21 26.0
MNK comp=Z,218nm,19.6s *i* LRM MLR 12 21 28.2
MNK comp=N,436nm,18.8s *i* LRM MLR 12 21 30.3
MNK comp=E,53nm,18.8s
BOZ Bozeman (W) 71.75 46 P **P** **11 47 04.5 +2.5**
BOZ pmax pmax
comp=Z,5.0nm,1.3s
BOZ Bozeman (W) 71.75 46 P **P** **11 47 04.5 +2.5**
KVN Kaiserville 71.86 54 P **P** **11 47 04.1 +1.3**
KVN pmax pmax
comp=Z,3.0nm,1.0s
KVN Kaiserville 71.86 54 P **P** **11 47 04.0 +1.3**
NVAR Mina Array Bea 72.09 55 P **P** **11 47 07.2 +2.9**
comp=Z,0.8nm,0.8s,baz=296,slow=6.8,SNR=6.6
NVAR LR LR 12 16 58.9
comp=Z,11nm,18.7s,baz=7.5,slow=34
NB2 NORSAR Subarra 72.69 338 P **P** **11 47 08.1 +0.9**
comp=Z,1.1nm,0.7s,baz=37,slow=6.2
NOA NORSAR Array B 72.69 338 P **P** **11 47 08.1 +0.9**
comp=Z,1.9nm,0.8s,baz=37,slow=6.1,SNR=6.0
NOA LR LR 12 24 45.5
comp=Z,69nm,18.1s,baz=25,slow=40
AKASG Malin Array Be 73.53 323 P **P** **11 47 12.7 +0.4**
comp=Z,1.6nm,0.5s,baz=44,slow=6.1,SNR=7.0
AKASG Malin Array Be 73.53 323 *i* P **P** **11 47 14.1 +1.8**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
PDAR Pinedale Array 74.69 47 P **P** **11 47 20.1 +0.6**
comp=Z,0.4nm,0.5s,baz=283,slow=1.0,SNR=5.5
PDAR Pinedale Array 74.69 47 P **P** **11 47 21.3 +1.8**
RDMU Red Mountain 76.09 49 P **P** **11 47 30.7 +3.1**
RDMU IAmb IAmb 11 47 40.4
comp=Z,4.4nm,1.0s
SRU San Rafael Swe 76.46 50 P **P** **11 47 33.5 +3.8**
SRU pmax pmax
comp=Z,3.0nm,0.8s
SRU San Rafael Swe 76.46 50 P **P** **11 47 33.5 +3.8**
BRTR Keskin Array B 78.63 312 LR LR 12 27 09.1
comp=Z,49nm,18.4s,baz=17,slow=39
RAR Rarotonga 80.11 128 LR LR 12 15 20.2
comp=Z,39nm,20.2s,baz=249,slow=30
GERES GERESS Array B 81.64 329 LR LR 12 27 41.0
comp=Z,81nm,18.8s,baz=0.0,slow=38
PMOR Pomariorio Ree 83.48 115 *eT* T 13 20 06.8
comp=Z,3.2nm,0.3s
PPT Papeete 84.09 118 LR LR 12 17 52.5
comp=Z,43nm,20.5s,baz=306,slow=30
PPT2 Papeete2 84.10 118 *e*LR LR 12 14 38.7
comp=Z,73nm,22.8s
TAOE Nuku Hiva Isla 84.99 106 *e*LR LR 12 15 07.4
comp=Z,48nm,21.3s
TXAR Lajitas Array 87.21 54 P **P** **11 48 28.8 +2.4**
comp=Z,0.2nm,0.6s,baz=297,slow=2.7,SNR=2.7
ESDC Sonseca Array 95.93 336 LR LR 12 38 11.5
comp=Z,52nm,18.6s,baz=0.0,slow=39

*NOU **29** 11:45:30.0,23°.83S×179°.55W,h547km,mb4.5/64,South of Fiji Islands*
*IDC **29** 11:45:31.4±1.2,23°.95S×179°.99E,h513km±12km, mb3.7/11,mb1 4.0/15,mb1mx3.8/28,mbtmp4.6/15,Error ellipse: s-maj=21.7km s-min=12.6km az=158.0*

*NEIC **29** 11:45:32.1±1.7,23°.9S±0°.1×179°.9W±0°.1,h520km±8km, mb4.4/78,Error ellipse: s-maj=17.1km s-min=14.9km az=126.0*

ISC 29 11:45:31.0±0.5,23°.91S±0°.05×179°.91W±0°.07,h518km, n148,σ1°.76/157,mb4.3/52,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.61**	**162**	P	**P**	**11 47 04.8**	**+0.5**
	99nm,0.3s,baz=87,slow=8.4,SNR=11						
RAO				S	**S**	**11 48 17.5**	**-3.2**
	81nm,0.3s,baz=75,slow=19,SNR=2.4						
RAO	**Raoul Island**	**5.61**	**162**	P	**P**	**11 47 05.4**	**+1.1**
RAO	**Raoul Island**	**5.61**	**162**	P	**P**	**11 47 04.9**	**+0.6**
GLKZ	**Green Lake**	**5.62**	**162**	P	**P**	**11 47 05.2**	**+0.8**
GLKZ				S	**S**	**11 48 20.2**	**-0.7**
MSVF	**Nonsavu**	**6.43**	**342**	P	**P**	**11 47 13.2**	**+0.8**
	6.0nm,0.3s,baz=252,slow=23,SNR=31						
MSVF	**Nonsavu**	**6.43**	**342**	P	**P**	**11 47 13.3**	**+0.8**
NIUE	**Niue**	**10.46**	**65**	P	**P**	**11 47 53.5**	**+0.1**
MARNC	**Mare, Loyalty**	**11.40**	**280**	P	**P**	**11 48 04.1**	**+0.9**
MARNC	**Mare, Loyalty**	**11.40**	**280**	P	**P**	**11 48 04.1**	**+0.9**
PINNC	**Pines Island,**	**11.70**	**274**	P	**P**	**11 48 08.8**	**+2.4**
PINNC	**Pines Island,**	**11.70**	**274**	P	**P**	**11 48 08.6**	**+2.2**
OUENC	**Ouen Island, N**	**12.28**	**274**	P	**P**	**11 48 15.2**	**+2.7**
OUENC	**Ouen Island, N**	**12.28**	**274**	P	**P**	**11 48 14.7**	**+2.2**
YATNC	**Mamie plateau,**	**12.30**	**276**	P	**P**	**11 48 15.2**	**+2.5**
RTV	**Rentapao**	**12.49**	**297**	P	**P**	**11 48 16.0**	**+1.3**
	916μm,0.7s						
AFI	**Afiamalu**	**12.56**	**39**	P	**P**	**11 48 11.9**	**-3.7**
	8.1nm,0.3s,baz=142,slow=2.4,SNR=17						
AFI				S	S	11 50 21.1	-10
	1.6nm,0.3s,baz=18,slow=20,SNR=2.3						
AFI	**Afiamalu**	**12.56**	**39**	P	**P**	**11 48 12.5**	**-3.1**
AFI	**Afiamalu**	**12.56**	**39**	P	**P**	**11 48 11.9**	**-3.7**
OUZ	**Omahuta**	**12.61**	**205**	P	**P**	**11 48 18.0**	**+2.3**
OUZ	**Omahuta**	**12.61**	**205**	P	**P**	**11 48 17.7**	**+2.0**
ONTNC	**Ouen Toro**	**12.65**	**275**	P	**P**	**11 48 13.8**	**-2.6**
DZM	**Mont Dzumac**	**12.71**	**276**	P	**P**	**11 48 18.6**	**+1.5**
	0.8nm,0.3s,baz=101,slow=20,SNR=9.1						
DZM	**Mont Dzumac**	**12.71**	**276**	P	**P**	**11 48 19.0**	**+1.9**
DZM	**Mont Dzumac**	**12.71**	**276**	P	**P**	**11 48 19.1**	**+2.0**
DVP	**Devils Point**	**12.72**	**297**	P	**P**	**11 48 19.5**	**+2.4**
	109μm,0.6s						
WCZ	**Waipu Caves**	**12.98**	**201**	P	**P**	**11 48 22.3**	**+2.7**
MXZ	**Matakaoa Point**	**13.70**	**186**	P	**P**	**11 48 28.8**	**+1.7**
MXZ				S	**S**	**11 50 55.0**	**+2.7**
WMGZ	**Waiomatatini S**	**13.94**	**186**	P	**P**	**11 48 31.4**	**+1.8**
WMGZ				S	**S**	**11 50 57.2**	**+0.3**
WMGZ	**Waiomatatini S**	**13.94**	**186**	P	**P**	**11 50 59.1**	**+2.1**
HAZ	**Te Kaha**	**13.95**	**188**	P	**P**	**11 48 28.8**	**-0.9**
HAZ				S	**S**	**11 50 58.3**	**+1.3**
HAZ	**Te Kaha**	**13.95**	**188**	P	**P**	**11 50 56.6**	**-0.4**
PKGZ	**Pakihiroa**	**14.04**	**187**	P	**P**	**11 48 32.2**	**+1.4**
RUGZ	**Raukumara Rang**	**14.17**	**188**	P	**P**	**11 48 32.7**	**+0.6**
RUGZ				S	**S**	**11 51 00.6**	**-0.9**
PUZ	**Puketiti**	**14.21**	**186**	P	**S**	**11 50 55.1**	**-7.1**
TWGZ	**Tauwhareparae**	**14.34**	**187**	P	**S**	**11 51 08.5**	**+3.8**
KMRZ	**Kaimai**	**14.34**	**193**	P	S	11 51 20.4	+16
URZ	**Urewera**	**14.53**	**189**	P	**P**	**11 48 34.6**	**-1.2**
	6.6nm,0.3s,baz=59,slow=1.4,SNR=29						
URZ				S	**S**	**11 51 03.3**	**-5.0**
	1.4nm,0.3s,baz=192,slow=20,SNR=2.8						
SANVU	**Saraoutou**	**14.76**	**302**	P	**P**	**11 48 37.4**	**-1.2**
SANVU	**Saraoutou**	**14.76**	**302**	P	**P**	**11 48 38.9**	**+0.3**
RIGZ	**Rimuhau**	**14.89**	**187**	P	**S**	**11 51 13.9**	**-1.2**
RTZ	**Ruatahuna**	**14.90**	**190**	P	**S**	**11 51 13.6**	**-1.9**
MTHZ	**Maungataniwha**	**15.15**	**190**	P	**S**	**11 51 17.6**	**-2.6**
RAHZ	**Arahi**	**15.18**	**189**	P	**S**	**11 51 20.1**	**-0.6**
HIZ	**Hauiti**	**15.23**	**196**	P	**P**	**11 48 45.9**	**+2.7**
HIZ	**Hauiti**	**15.23**	**196**	P	S	11 51 36.1	+15
MHGZ	**Mahia Peninsul**	**15.31**	**186**	P	**P**	**11 48 39.3**	**-4.7**
FUNA	**Funafuti**	**15.32**	**357**	P	**P**	**11 48 42.2**	**-2.2**
RITZ	**Rihia Road**	**15.45**	**192**	P	**P**	**11 48 45.7**	**+0.2**
BKZ	**Black Stump Fm**	**15.52**	**191**	P	**S**	**11 51 24.2**	**-2.7**
MCHZ	**McNeill Hill**	**15.76**	**190**	P	**S**	**11 51 27.3**	**-3.9**
KWHZ	**Kaweka Forest**	**15.78**	**191**	P	**S**	**11 51 26.7**	**-5.0**
PXZ	**Pawanui**	**16.31**	**189**	P	**P**	**11 48 49.9**	**-4.2**
BFZ	**Birch Farm**	**17.04**	**190**	P	**P**	**11 48 59.1**	**-2.3**
TIWZ	**Tintock**	**17.19**	**191**	P	**P**	**11 49 02.3**	**-0.6**
MTW	**Mount Morrison**	**17.63**	**192**	P	**P**	**11 49 05.7**	**-1.2**
PAWZ	**Paruwai Farm**	**17.86**	**192**	P	**P**	**11 49 07.7**	**-1.3**
MSWZ	**Moikau Station**	**17.92**	**192**	P	**P**	**11 49 08.9**	**-0.7**
RPZ	**Rata Peaks**	**21.11**	**198**	P	**P**	**11 49 39.5**	**+1.0**
RPZ				IAmb	IAmb	11 49 43.5	
	comp=Z,11nm,0.6s						
HNR	**Honiara**	**24.03**	**303**	P	**P**	**11 50 04.0**	**-1.0**
ARMA	**Armidale**	**26.10**	**249**	P	**P**	**11 50 24.8**	**+1.5**
ARMA				IAmb	IAmb	11 50 25.3	
	comp=Z,9.6nm,0.7s						
EIDS	**Eidsvold**	**26.39**	**261**	P	**P**	**11 50 26.1**	**+0.2**
CAN	**Canberra**	**29.21**	**240**	P	**P**	**11 50 51.5**	**+1.0**
CTAO	**Charters Tower**	**31.56**	**270**	P	**P**	**11 51 11.5**	**+0.6**
TOO	**Toolangi**	**32.52**	**237**	P	**P**	**11 51 19.5**	**+0.7**
TOO				IAmb	IAmb	11 51 19.9	
	comp=Z,6.8nm,0.7s						
PMG	**Port Moresby**	**34.58**	**289**	P	**P**	**11 51 36.5**	**+0.1**
	comp=Z,48nm,0.8s,baz=106,slow=4.8,SNR=10						
PMG	**Port Moresby**	**34.58**	**289**	P	**P**	**11 51 35.6**	**-0.8**
STKA	**Stephens Creek**	**34.80**	**248**	P	**P**	**11 51 38.3**	**+0.2**
	comp=Z,2.6nm,0.3s,baz=92,slow=10,SNR=16						
STKA	**Stephens Creek**	**34.80**	**248**	P	**P**	**11 51 38.2**	**+0.1**
COEN	**Coen**	**36.20**	**279**	P	**P**	**11 51 49.2**	**-0.7**
COEN				IAmb	IAmb	11 51 51.3	
	comp=Z,13nm,0.8s						
BBOO	**Buckleboo**	**39.52**	**247**	P	**P**	**11 52 16.3**	**-0.6**
AS31	**Alice Springs**	**42.12**	**261**	P	**P**	**11 52 37.5**	**-0.3**
AS31				IAmb	IAmb	11 52 38.5	
	comp=Z,5.0nm,0.7s						
ASAR	**Alice Springs**	**42.12**	**261**	P	**P**	**11 52 37.4**	**-0.3**
	comp=Z,11nm,0.5s,baz=98,slow=7.2,SNR=171						
ASAR				ScP	**ScP**	**11 57 23.8**	**+2.2**
	comp=Z,3.6nm,0.7s,baz=110,slow=4.0,SNR=18						
ASAR				S	**S**	**11 58 17.8**	**-2.1**
	comp=Z,0.6nm,0.8s,baz=99,slow=16,SNR=6.1						
WR0	**Warramunga Arr**	**42.30**	**266**	P	**P**	**11 52 38.4**	**-0.8**
WR0				IAmb	IAmb	11 52 38.9	
	comp=Z,15nm,0.8s						
WB2	**Warramunga Arr**	**42.48**	**266**	P	**P**	**11 52 39.8**	**-0.8**
WRAB	**Tennant Creek**	**42.48**	**266**	P	**P**	**11 52 39.8**	**-0.8**
WB0	**Warramunga Arr**	**42.49**	**266**	P	**P**	**11 52 40.0**	**-0.6**
WRA	**Warramunga Arr**	**42.49**	**266**	P	**P**	**11 52 40.0**	**-0.7**
	comp=Z,31nm,0.5s,baz=102,slow=8.5,SNR=541						
WRA				ScP	**ScP**	**11 57 25.8**	**+2.7**
	comp=Z,3.3nm,0.9s,baz=95,slow=4.3,SNR=12						
WRA				S	**S**	**11 58 20.5**	**-4.8**
	comp=Z,0.8nm,0.7s,baz=99,slow=13,SNR=3.8						
WRA	**Warramunga Arr**	**42.49**	**266**	P	**P**	**11 52 39.2**	**-1.5**
FORT	**Forrest**	**46.39**	**250**	P	**P**	**11 53 09.7**	**-0.9**
MTN	**Manton Dam**	**47.54**	**274**	P	**P**	**11 53 18.4**	**-1.1**
MTN				IAmb	IAmb	11 53 19.1	
	comp=Z,12nm,0.6s						
KNRA	**Kununurra**	**48.77**	**270**	P	**P**	**11 53 28.5**	**-0.2**
FITZ	**Fitzroy Crossi**	**50.91**	**266**	P	**P**	**11 53 44.5**	**+0.1**
FITZ				IAmb	IAmb	11 53 45.7	
	comp=Z,12nm,0.7s						
SOEI	**Soe**	**54.93**	**275**	P	**P**	**11 54 14.5**	**+1.2**
PSA00	**Pilbara Seismi**	**55.25**	**260**	P	**P**	**11 54 14.6**	**-0.7**
PSA00				IAmb	IAmb	11 54 15.0	
	comp=Z,21nm,1.4s						
NWAO	**Narrogin (SRO)**	**55.31**	**246**	P	**P**	**11 54 15.2**	**-0.4**
NWAO				IAmb	IAmb	11 54 27.9	
	comp=Z,12nm,1.1s						
MORW	**Morawa**	**56.95**	**250**	P	**P**	**11 54 26.5**	**-0.5**
MORW				IAmb	IAmb	11 54 26.7	
	comp=Z,9.6nm,0.6s						
TOLI2	**Tolitoli**	**62.66**	**285**	P	**P**	**11 55 04.0**	**-1.3**
TOLI2				IAmb	IAmb	11 55 04.8	
	comp=Z,13nm,0.8s						
QSPA	**South Pole Qui**	**66.18**	**180**	P	**P**	**11 55 27.0**	**+0.2**
JOW	**Kunigami**	**71.06**	**312**	P	**P**	**11 55 57.5**	**+0.7**
JOW				IAmb	IAmb	11 56 13.2	
	comp=Z,32nm,1.4s						
JWT	**Wachi**	**72.51**	**323**	P	**P**	**11 56 05.8**	**+0.8**
JWT				IAmb	IAmb	11 56 16.9	
	comp=Z,26nm,1.4s						
JSU	**Suzuyama**	**72.74**	**317**	P	**P**	**11 56 06.9**	**+0.4**
KSRS	**Korea Array**	**78.31**	**320**	P	**P**	**11 56 38.5**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=123,slow=5.7,SNR=5.8						
USRK	**Ussuriysk Ar.**	**80.82**	**327**	P	**P**	**11 56 51.0**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=108,slow=4.5,SNR=4.5						
ISA	**Isabella, Lake**	**82.96**	**46**	P	**P**	**11 57 02.5**	**+0.9**
ISA				IAmb	IAmb	11 57 03.7	

	comp=Z,5.4nm,0.8s							
CMB	**Columbia Colle**	**83.15**	**43**	P	**P**	**11 57 03.4**	**+0.9**	
WDC	**Whiskeytown Da**	**83.41**	**40**	P	**P**	**11 57 04.0**	**+0.4**	
MDPB	**Devils Postpil**	**83.73**	**44**	P	**P**	**11 57 06.6**	**+1.0**	
GSC	**Goldstone, Bar**	**83.86**	**47**	P	**P**	**11 57 06.0**	**-0.1**	
GSC				IAmb	IAmb	11 57 08.1		
	comp=Z,5.0nm,0.9s							
PNTR	**Pine Nut**	**84.27**	**43**	P	**P**	**11 57 08.5**	**+0.3**	
PNTR				IAmb	IAmb	11 57 10.8		
	comp=Z,5.6nm,0.9s							
BEKR	**Beckworth**	**84.28**	**42**	P	**P**	**11 57 08.9**	**+0.8**	
YERR	**Yerington**	**84.44**	**43**	P	**P**	**11 57 09.6**	**+0.6**	
LHV	**Little Huntoon**	**84.46**	**44**	P	**P**	**11 57 09.5**	**+0.6**	
LHV				IAmb	IAmb	11 57 11.2		
	comp=Z,7.0nm,1.2s							
NVAR	**Mina Array Bea**	**84.70**	**44**	P	**P**	**11 57 11.1**	**+0.8**	
	comp=Z,1.5nm,0.7s,baz=224,slow=7.5,SNR=13							
NV11	**Mina Array Sit**	**84.79**	**44**	P	**P**	**11 57 11.5**	**+0.8**	
TPNV	**Topopah Spring**	**85.17**	**46**	P	**P**	**11 57 13.2**	**+0.6**	
TPH	**Tonopah**	**85.18**	**45**	P	**P**	**11 57 13.1**	**+0.4**	
MOD	**Modoc Plateau**	**85.55**	**40**	P	**P**	**11 57 15.0**	**+0.7**	
Y14A	**Wickenburg**	**85.72**	**50**	P	**P**	**11 57 16.5**	**+1.3**	
W13A	**Hualapai Mount**	**85.74**	**49**	P	**P**	**11 57 16.4**	**+1.0**	
PRN	**Pahroc Range**	**86.22**	**46**	P	**P**	**11 57 17.5**	**-0.1**	
PRN				IAmb	IAmb	11 57 19.9		
	comp=Z,4.0nm,0.9s							
PINE	**Pine Mountain**	**86.34**	**38**	P	**P**	**11 57 19.7**	**+1.6**	
PINE				IAmb	IAmb	11 57 20.1		
	comp=Z,5.8nm,0.8s							
TUC	**Tucson**	**86.45**	**52**	P	**P**	**11 57 20.5**	**+1.8**	
TUC				IAmb	IAmb	11 57 21.7		
	comp=Z,5.4nm,0.8s							
BMN	**Battle Mountai**	**86.55**	**43**	P	**P**	**11 57 19.3**	**+0.2**	
BMN				IAmb	IAmb	11 57 20.9		
	comp=Z,3.2nm,0.8s							
WVOR	**Wild Horse Val**	**86.86**	**41**	P	**P**	**11 57 21.6**	**+1.1**	
WVOR				IAmb	IAmb	11 57 22.6		
	comp=Z,6.0nm,1.1s							
319A	**Douglas**	**87.08**	**54**	P	**P**	**11 57 23.7**	**+2.0**	
319A				IAmb	IAmb	11 57 24.8		
	comp=Z,8.2nm,1.1s							
LCMT	**Little Creek M**	**87.21**	**47**	P	**P**	**11 57 23.0**	**+0.8**	
I07A	**Izee**	**87.34**	**39**	P	**P**	**11 57 23.8**	**+1.1**	
I07A				IAmb	IAmb	11 57 25.4		
	comp=Z,6.4nm,1.0s							
CCUT	**Cedar City**	**87.42**	**47**	P	**P**	**11 57 24.0**	**+0.7**	
J08A	**Circle Bar Ran**	**87.50**	**40**	P	**P**	**11 57 24.6**	**+1.2**	
J08A				IAmb	IAmb	11 57 25.5		
	comp=Z,12nm,1.2s							
U15A	**North Rim**	**87.54**	**48**	P	**P**	**11 57 25.5**	**+1.5**	
U15A				IAmb	IAmb	11 57 26.1		
	comp=Z,4.2nm,0.9s							
D05A	**Enumclaw**	**87.89**	**35**	P	**P**	**11 57 26.6**	**+1.6**	
ELK	**Elko**	**87.96**	**43**	P	**P**	**11 57 26.6**	**+0.7**	
PKCU	**Pink Cliffs**	**88.07**	**47**	P	**P**	**11 57 28.6**	**+2.1**	
PKCU				IAmb	IAmb	11 57 29.4		
	comp=Z,6.0nm,0.9s							
G08A	**Pilot Rock**	**88.38**	**38**	P	**P**	**11 57 28.4**	**+0.9**	
G08A				IAmb	IAmb	11 57 29.5		
	comp=Z,4.4nm,0.9s							
MTPU	**Mount Pierson**	**88.47**	**47**	P	**P**	**11 57 29.8**	**+1.4**	
MTPU				IAmb	IAmb	11 57 31.2		
	comp=Z,3.2nm,0.8s							
E07A	**Sunnyside**	**88.65**	**37**	P	**P**	**11 57 30.0**	**+1.5**	
E07A				IAmb	IAmb	11 57 30.8		
	comp=Z,5.6nm,0.8s							
HAWA	**Hanford**	**88.72**	**37**	P	**P**	**11 57 29.8**	**+0.9**	
HAWA				IAmb	IAmb	11 57 30.9		
	comp=Z,4.9nm,0.9s							
MFID	**Camas Ranch**	**89.11**	**41**	P	**P**	**11 57 31.8**	**+0.9**	
MFID				IAmb	IAmb	11 57 32.9		
	comp=Z,6.5nm,1.1s							
CMAR	**Chiang Mai Arr**	**89.61**	**290**	P	**P**	**11 57 35.3**	**+1.6**	
	comp=Z,0.9nm,0.4s,baz=132,slow=3.1,SNR=9.9							
CMAR				PP	**PP**	**12 01 14.7**	**-0.3**	
	comp=Z,0.4nm,0.3s,baz=144,slow=6.3,SNR=5.1							
TMUT	**Trail Mountain**	**89.78**	**46**	P	**P**	**11 57 35.9**	**+1.5**	
SPUT	**South Promonto**	**90.04**	**44**	P	**P**	**11 57 36.3**	**+0.9**	
SPUT				IAmb	IAmb	11 57 37.7		
	comp=Z,5.1nm,1.0s							
HLID	**Hailey**	**90.04**	**41**	P	**P**	**11 57 36.1**	**+0.8**	
HVU	**Hansel Valley**	**90.08**	**44**	P	**P**	**11 57 36.4**	**+0.8**	
HVU				IAmb	IAmb	11 57 37.4		
	comp=Z,4.0nm,0.7s							
SRU	**San Rafael Swe**	**90.14**	**47**	P	**P**	**11 57 36.7**	**+0.7**	
SRU				IAmb	IAmb	11 57 37.7		
	comp=Z,5.2nm,0.8s							
MNTX	**Cornudas Mount**	**90.14**	**55**	P	**P**	**11 57 37.0**	**+1.1**	
MNTX				IAmb	IAmb	11 57 37.6		
	comp=Z,1.8nm,0.8s							
P17A	**Butcher Ranch,**	**90.18**	**46**	P	**P**	**11 57 36.1**	**0.0**	
P17A				IAmb	IAmb	11 57 38.7		
	comp=Z,4.1nm,1.2s							
TX31	**Lajitas Ar. Si**	**90.36**	**58**	P	**P**	**11 57 38.2**	**+1.1**	
TX32	**Lajitas Array**	**90.36**	**58**	P	**P**	**11 57 38.4**	**+1.3**	
TX32				IAmb	IAmb	11 57 39.3		
	comp=Z,2.9nm,0.8s							
TXAR	**Lajitas Array**	**90.36**	**58**	P	**P**	**11 57 38.5**	**+1.5**	
	comp=Z,2.3nm,0.7s,baz=214,slow=6.5,SNR=32							
HHC	**Hu-ho-hao-te**	**90.48**	**315**	*e*P	**P**	**11 57 37.5**	**+0.1**	
HHC				pmax	pmax			
	comp=Z,10.0nm,1.2s							
HHC				pmax	pmax			
	comp=Z,85nm,5.5s							
TCUT	**Toone Canyon**	**90.60**	**45**	P	**P**	**11 57 39.1**	**+1.0**	
TCUT				IAmb	IAmb	11 57 40.0		
	comp=Z,7.0nm,0.8s							
ANMO	**Albuquerque**	**90.89**	**52**	P	**P**	**11 57 40.3**	**+0.8**	
ILAR	**Eielson Array**	**92.02**	**14**	P	**P**	**11 57 43.2**	**-0.5**	
	comp=Z,0.5nm,0.8s,baz=187,slow=6.9,SNR=3.0							
PDAR	**Pinedale Array**	**92.64**	**44**	P	**P**	**11 57 47.9**	**+0.4**	
	comp=Z,1.0nm,0.7s,baz=200,slow=3.6,SNR=10.0							
ARCES	**ARCESS Array B**	**131.91**	**348**	PKP	**PKPdf**	**12 03 44.0**	**-0.4**	
	comp=Z,8.9nm,1.1s,baz=75,slow=1.4,SNR=4.7							
FINES	**FINESS Array B**	**138.48**	**341**	SKP		12 06 41.9		
	comp=Z,1.7nm,0.6s,baz=92,slow=4.6,SNR=5.1							
BRTR	**Keskin Array B**	**147.65**	**307**	PKPbc	**PKiKP**	**12 04 19.1**	**+0.2**	
	comp=Z,1.8nm,0.6s,baz=106,slow=3.6,SNR=4.1							
CLL	**Collm**	**150.89**	**343**	*e*PKPbc	**PKiKP**	**12 04 25.0**	**0.0**	
	comp=Z,5.0nm,0.6s							
CLL				Lm	MLR	14 47 00.0		
	comp=Z,100nm,18.3s							

MEX 29 11:45:43.4±1.2, 16°33N×95°64W, h6km±13km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.72**	**219**	*e*P	Pg	11 45 55.5	-1.7
HUIG				*i* S	Sg	11 46 06.1	-0.6
CMIG	**Matias Romero**	**1.04**	**44**	*i* P	Pg	11 46 00.7	-2.7
CMIG				*i* S	Sg	11 46 14.2	-2.9
VHO	**Vista Hermosa**	**1.28**	**305**	*i* P	Pn	11 46 02.1	-5.9
VHO				*i* S	Sg	11 46 17.1	-7.6
YOIG	**Yosondua**	**1.90**	**286**	*e*P	Pn	11 46 13.3	-3.3
YOIG				*i* S	Sn	11 46 36.2	-4.8
TXIG	**Tlaxiaco**	**2.24**	**294**	*e*P	Pn	11 46 18.7	-2.5
TXIG				*i* S	Sn	11 46 44.7	-4.6
PNIG	**Pinotepa**	**2.39**	**272**	*e*P	Pn	11 46 19.1	-4.0
PNIG				*i* S	Sn	11 46 47.4	-5.3
HLIG	**Huajuapan de L**	**2.55**	**306**	*i* P	Pn	11 46 20.8	-4.7
HLIG				*i* S	Sn	11 46 52.4	-4.6
FTIG	**Fresnillo de T**	**2.85**	**304**	*e*P	Pn	11 46 28.5	-1.1
FTIG				*e*S	Sn	11 46 59.4	-4.9
MGIG	**Malinaltepec**	**3.01**	**288**	*e*P	Pn	11 46 31.1	-0.6
MGIG				*e*S	Sn	11 47 04.8	-3.4
TLIG	**Tlapa**	**3.06**	**294**	*e*P	Pn	11 46 33.6	+1.2
TLIG				*e*S	Sn	11 47 09.1	-0.3

*IDC **29** 11:54:42.8±1.7, 21°16S×178°34W, h559km±20km, mb2.7/6, mb1 3.1/9, mb1mx2.9/23, mbtmp3.8/9, Error ellipse: s-maj=34.7km s-min=16.7km az=144.0*

ISC 29 11:54:43.8±1.0, 21°15S±0.2×178°3W±0.2, h579km, n10, σ1§84/9, mb3.3/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.75**	**313**	P	**P**	**11 56 12.9**	**-0.6**
	1.3nm,0.3s,baz=121,slow=21,SNR=6.5						
AFI	**Afiamalu**	**9.46**	**42**	P	**P**	**11 56 54.7**	**-2.3**
	2.7nm,0.3s,baz=240,slow=8.1,SNR=5.5						
URZ	**Urewera**	**17.60**	**192**	P	**P**	**11 58 15.0**	**-1.5**
	0.8nm,0.3s,baz=301,slow=2.4,SNR=6.4						

STKA	**Stephens Creek**	**37.28**	**245**	P	**P**	**12 01 08.4**	**+0.8**	
	0.7nm,0.5s,baz=77,slow=9.1,SNR=3.6							
ASAR	**Alice Springs**	**44.10**	**257**	P	**P**	**12 02 01.8**	**-0.1**	
	1.2nm,0.8s,baz=94,slow=7.8,SNR=18							
WRA	**Warramunga Arr**	**44.22**	**263**	P	**P**	**12 02 02.2**	**-0.7**	
	0.1nm,0.3s,baz=96,slow=7.5,SNR=9.1							
NVAR	**Mina Array Bea**	**81.63**	**43**	P	**P**	**12 06 05.0**	**+2.5**	
	0.2nm,0.6s,baz=201,slow=4.8,SNR=2.5							
ILAR	**Eielson Array**	**88.91**	**13**	P	**P**	**12 06 37.1**	**+0.4**	
	0.3nm,0.7s,baz=216,slow=7.6,SNR=2.2							
PDAR	**Pinedale Array**	**89.57**	**43**	P	**P**	**12 06 42.8**	**+2.2**	
	0.2nm,0.6s,baz=196,slow=5.6,SNR=2.4							
AKASG	**Malin Array Be**	**143.34**	**330**	PKP	PKPbc	12 13 11.6	+0.3	
	1.5nm,0.5s,baz=46,slow=4.3,SNR=2.1							

MEX 29 12:22:54.6±0.9, 15°76N×97°12W, h5km, MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEIG	**Puerto Escondi**	**0.24**	**353**	*i* P	Pg	12 22 58.9	-0.5
PEIG				*i* S	Sg	12 23 02.4	-0.2
HUIG	**Huatulco**	**0.97**	**89**	*i* P	Pg	12 23 11.5	-1.7
HUIG				*i* S	Sg	12 23 23.9	-2.0
PNIG	**Pinotepa**	**1.16**	**303**	*e*P	Pg	12 23 13.2	-3.7
PNIG				*e*S	Sg	12 23 28.7	-3.2
YOIG	**Yosondua**	**1.17**	**339**	*e*P	Pg	12 23 14.6	-2.5
YOIG				*e*S	Sg	12 23 29.4	-2.8

*TIF **29** 12:37:36.8, 40°90N×42°19E, h10km±1km*
*DDA **29** 12:37:36.6, 40°89N×42°25E, h11km±2km, ML2.6*
*ISK **29** 12:37:36.4, 40°92N×42°24E, h12km, ML3.1/12*

ISC 29 12:37:37.2±1.0, 40°91N±0°02×42°24E±0°02, h14km±9km, n33, σ0§80/56, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SENK	**Senkaya-Erzuru**	**0.35**	**167**	PG	**Pg**	**12 37 43.8**	**-0.7**
SENK				SG	**Sb**	**12 37 50.0**	**-1.0**
DBAD	**Bademkaya**	**0.43**	**285**	*i* P	**Pg**	**12 37 45.7**	**-0.2**
DBAD				*i* S	**Sb**	**12 37 52.3**	**-0.8**
DBAD	comp=N,1µm,0.4s			IAML		12 37 53.0	
DBAD	comp=E,871nm,0.3s			IAML		12 37 54.0	
KARS	**Kars**	**0.69**	**113**	PG	**Pb**	**12 37 50.9**	**-0.3**
KARS				SG	**Sb**	**12 38 01.3**	**+0.6**
BCA	**Borcka**	**0.71**	**319**	PG	**Pb**	**12 37 50.9**	**-0.6**
BCA				SG	**Sb**	**12 38 00.6**	**-0.6**
HOPA	**Hopa-Artvin**	**0.77**	**309**	PG	**Pg**	**12 37 51.4**	**-0.8**
HOPA				SG	**Sg**	**12 38 01.6**	**-0.7**
BATM	**Batumi**	**0.81**	**329**	P	**Pg**	**12 37 52.5**	**-0.4**
BATM				S	**Sb**	**12 38 03.6**	**-0.2**
BATM	**Batumi**	**0.81**	**329**	PG	**Pg**	**12 37 52.6**	**-0.4**
BATM				SG	**Sb**	**12 38 03.8**	**-0.2**
HOMI	**Horasan**	**0.90**	**197**	*i* P	**Pb**	**12 37 54.1**	**-0.7**
HOMI				*i* S	**Sn**	**12 38 08.7**	**+0.1**
HOMI	comp=E,346nm,0.4s			IAML		12 38 13.0	
HOMI	comp=N,269nm,0.5s			IAML		12 38 13.0	
ABS	**Abastumani**	**0.95**	**27**	P	**Pn**	**12 37 55.8**	**-0.6**
ABS				S	**Sn**	**12 38 09.8**	**0.0**
KOPR	**Koprukoy-ERZUR**	**0.96**	**198**	PG	**Pb**	**12 37 55.5**	**-0.3**
KOPR				SG	**Sn**	**12 38 09.5**	**-0.6**
DIGO	**Kars**	**0.99**	**119**	*i* P	**Pg**	**12 37 55.5**	**-0.9**
DIGO				*i* S	**Sb**	**12 38 09.0**	**-0.4**
DIGO	comp=E,154nm,0.4s			IAML		12 38 10.0	
DIGO	comp=N,191nm,0.9s			IAML		12 38 12.0	
EAK	**Akyaka**	**1.06**	**102**	*i* P	**Pg**	**12 37 56.6**	**-1.1**
EAK				*i* S	**Sn**	**12 38 12.2**	**-0.3**
EAK	comp=N,135nm,1.0s			IAML		12 38 17.0	
EAK	comp=E,147nm,0.8s			IAML		12 38 18.0	
AKH	**Akhalkalaki**	**1.07**	**62**	P	**Pb**	**12 37 57.3**	**-0.3**
AKH				S	**Sb**	**12 38 11.8**	**+0.2**
AKH	**Akhalkalaki**	**1.07**	**62**	PG	**Pb**	**12 37 57.2**	**-0.4**
AKH				SG	**Sn**	**12 38 12.2**	**-0.6**
BGD	**Bogdanovka**	**1.08**	**70**	P	**Pn**	**12 37 59.2**	**+1.0**
CHOM	**Cayeli-Rize**	**1.14**	**280**	PN	**Pn**	**12 37 58.4**	**-0.4**
CHOM				SN	**Sn**	**12 38 14.6**	**+0.4**
CHAY	**Cayeli-Rize**	**1.16**	**279**	PN	**Pn**	**12 37 58.8**	**-0.3**
BKRG	**Bakuriani**	**1.29**	**48**	P	**Pg**	**12 38 01.5**	**-0.5**
BKRG				S	**Sg**	**12 38 20.2**	**+1.5**
EJDE	**Erzurum, Palan**	**1.29**	**214**	*i* P	**Pg**	**12 38 01.9**	**-0.2**
EJDE				*i* S	**Sn**	**12 38 21.3**	**+2.8**
EJDE	comp=N,152nm,0.6s			IAML		12 38 27.0	
EJDE	comp=E,255nm,0.6s			IAML		12 38 31.0	
EMRE	**Erzurum,Aziziy**	**1.30**	**228**	*i* P	**Pg**	**12 38 02.0**	**-0.4**
EMRE				*i* S	**Sg**	**12 38 21.6**	**+2.2**
EMRE	comp=E,184nm,0.6s			IAML		12 38 28.0	
EMRE	comp=N,130nm,0.5s			IAML		12 38 35.0	
BRNG	**Burnasheti**	**1.39**	**59**	P	**Pg**	**12 38 03.8**	**-0.2**
AGRB	**Hanur-Agry**	**1.45**	**156**	PN	**Pb**	**12 38 03.3**	**-0.8**
DMNI	**Dmanisi**	**1.53**	**73**	P	**Pb**	**12 38 05.1**	**-0.4**
TRLG	**Trialeti**	**1.54**	**65**	P	**Pb**	**12 38 05.5**	**-0.1**
TKB	**Tkibuli**	**1.55**	**21**	P	**Pg**	**12 38 06.4**	**-0.6**
TKB				S	**Sg**	**12 38 28.4**	**+1.3**
KOPT	**Kop Dagi**	**1.60**	**237**	*i* P	**Pg**	**12 38 08.0**	**0.0**
KOPT				IAML		12 38 35.0	
KOPT	comp=N,44nm,0.5s			IAML		12 38 44.0	
BAYT	**Aydıntepe-Bayb**	**1.68**	**253**	PN	**Pn**	**12 38 06.4**	**0.0**
BAYT				SN	**Sb**	**12 38 28.1**	**-1.0**
TASB	**TASBURUN-IGDIR**	**1.78**	**121**	PN	**Pn**	**12 38 07.8**	**+0.1**
CHVG	**Ch'k'valeri**	**1.81**	**356**	P	**Pg**	**12 38 11.8**	**-0.2**
CHVG				S	**Sg**	**12 38 37.2**	**+1.6**
KTUT	**Trabzon**	**1.88**	**273**	PN	**Pn**	**12 38 08.9**	**0.0**
ONI	**Oni**	**1.91**	**28**	P	**Pb**	**12 38 12.2**	**+0.3**
ONI				S	**Sg**	**12 38 39.1**	**+0.4**
GNI	**Garni**	**2.05**	**111**	PN	**Pn**	**12 38 11.7**	**+0.2**
KELT	**Kelkit**	**2.40**	**253**	*i* P	**Pb**	**12 38 19.7**	**-0.6**
KELT				*i* S	**Sb**	**12 38 50.8**	**+0.9**
KELT	comp=N,20nm,0.3s			IAML		12 38 55.0	
KELT	comp=E,28nm,0.4s			IAML		12 38 56.0	

*TUL **29** 12:40:00.7±1.5, 36°63N±0°02×98°21W±0°04, h6km±6km, ML3.1, mb_Lg3.1/78(NEIC), Error ellipse: s-maj=4.1km s-min=2.2km az=78.0*

NEIC 29 12:40:00.6±0.6, 36°598N±0°005×98°21W±0°04, h5km±7km, Error ellipse: s-maj=4.7km s-min=0.7km az=86.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.21**	**1**	Pg	Pg	12 40 04.8	0.0
OK032				Sg	Sg	12 40 07.7	+0.3
CROK	**Carrier**	**0.21**	**116**	Pg	Pg	12 40 05.5	+0.8
CROK				Sg	Sg	12 40 08.9	+1.5
GC02	**Grant County #**	**0.38**	**48**		Pg	12 40 08.2	+0.1
GC02				Sg	Sg	12 40 13.5	+0.5
KAN14	**Manchester OK**	**0.41**	**29**		Pg	12 40 08.6	0.0
KAN14				Sg	Sg	12 40 14.3	+0.3
KAN10	**Anthony SW Sta**	**0.53**	**10**		Pg	12 40 10.8	-0.1
KAN10				Sg	Sg	12 40 17.8	0.0
KAN17	**Caldwell West**	**0.57**	**39**		Pg	12 40 11.5	-0.1
KAN17				Sg	Sg	12 40 19.3	+0.1
KAN05	**Bluff City Nor**	**0.58**	**28**		Pg	12 40 11.7	-0.1
KAN05				Sg	Sg	12 40 19.4	0.0
KAN16	**Harper SW Stat**	**0.64**	**11**	Pg	Pg	12 40 12.6	-0.3
KAN16				Sg	Sg	12 40 21.4	+0.1
KAN08	**Anthony NE Sta**	**0.66**	**17**		Pg	12 40 13.0	-0.2
KAN08				Sg	Sg	12 40 21.7	-0.1
U32A	**Winter Ranch,**	**0.67**	**251**		Pg	12 40 13.7	+0.2
KAN06	**Argonia West S**	**0.71**	**24**		Pg	12 40 14.1	-0.1
KAN06				Sg	Sg	12 40 23.4	-0.1
KAN09	**Caldwell North**	**0.72**	**41**		Pg	12 40 14.1	-0.3
KAN09				Sg	Sg	12 40 23.9	+0.1
KAN12	**Harper NE Stat**	**0.72**	**14**		Pg	12 40 14.1	-0.3
KAN12				Sg	Sg	12 40 23.8	0.0
KAN13	**South Haven SW**	**0.72**	**55**		Pg	12 40 14.3	-0.2
KAN13				Sg	Sg	12 40 24.1	+0.2
BLOK	**Blackwell**	**0.82**	**78**		Pg	12 40 16.2	-0.2
KS20	**Mayfield South**	**0.82**	**40**		Pg	12 40 16.0	-0.4
OK029	**Liberty Lake**	**1.01**	**142**		Pg	12 40 19.9	-0.1
BCOK	**Bluff Creek, N**	**1.06**	**152**		Pg	12 40 20.8	-0.1
OK025	**Westminster Rd**	**1.24**	**145**		Pg	12 40 24.0	-0.3
OK031	**S. Brethren Rd**	**1.28**	**120**		Pn	12 40 24.9	-0.3
QUOK	**Quay**	**1.29**	**109**		Pn	12 40 25.0	-0.3
OKCFA	**Oklahoma City**	**1.33**	**152**		Pn	12 40 25.5	-0.4
OK030	**Cody Creek RV**	**1.33**	**120**		Pn	12 40 25.8	-0.1
OKCSW	**OKLAHOMA CITY**	**1.35**	**152**	Pn	Pn	12 40 25.9	-0.2
T35A	**Sooner Cattle**	**1.40**	**76**		Pn	12 40 26.7	-0.2
FNO	**Franklin**	**1.49**	**154**		Pn	12 40 28.2	+0.1
R32A	**Long Quarter,**	**1.86**	**348**		Pn	12 40 34.1	+0.9
R32A				IAmb_Lg		12 40 59.7	
	comp=Z,63nm,0.7s						
WMOK	**Wichita Mounta**	**1.91**	**194**		Pb	12 40 35.1	-0.9
X34A	**Smith Ranch, M**	**2.02**	**171**	Pn	Pb	12 40 36.8	-0.9
TUL1	**Leonard**	**2.07**	**109**	Pn	Pn	12 40 36.8	+0.7
TUL1				IAmb_Lg		12 41 06.6	
	comp=Z,61nm,0.9s						
CBKS	**Cedar Bluff**	**2.52**	**332**	Pn	Pn	12 40 43.5	+1.2
LOOK	**Love County**	**2.73**	**162**		Pn	12 40 45.0	-0.1
KSU1	**Kansas State U**	**2.80**	**26**		Pn	12 40 45.5	-0.7
KSU1				IAmb_Lg		12 41 35.0	
	comp=Z,64nm,0.8s						
X37A	**Clayton**	**3.06**	**130**		Pn	12 40 49.9	+0.2
X37A				IAmb_Lg		12 41 42.2	
	comp=Z,43nm,0.8s						
U38A	**Gravette**	**3.09**	**92**	Pn	Pn	12 40 51.2	+1.2
AMTX	**Amarillo**	**3.30**	**240**	IAmb_Lg		12 41 46.4	
	comp=Z,36nm,0.8s						
HHAR	**Hobbs**	**3.46**	**94**	Pn	Pn	12 40 57.0	+1.9
HHAR				IAmb_Lg		12 41 53.3	
	comp=Z,52nm,0.9s						
W39A	**Magazine**	**3.86**	**110**	IAmb_Lg		12 42 06.6	
	comp=Z,37nm,0.7s						
S39A	**Bolivar**	**4.06**	**73**	Pn	Pn	12 41 04.0	+0.6
S39A				IAmb_Lg		12 42 08.6	
	comp=Z,42nm,0.8s						
ABTX	**Abilene, Hawle**	**4.14**	**197**	IAmb_Lg		12 42 11.9	
	comp=Z,57nm,1.2s						
KSCO	**Kaye Shedlock'**	**4.25**	**306**	Pn	Pn	12 41 08.5	+2.4
KSCO				IAmb_Lg		12 42 13.4	
	comp=Z,31nm,0.7s						
Z38A	**Mt. Pleasant**	**4.26**	**141**	IAmb_Lg		12 42 22.6	
	comp=Z,41nm,0.9s						
MIAR	**Mount Ida**	**4.30**	**117**	IAmb_Lg		12 42 20.9	
	comp=Z,31nm,0.9s						
U40A	**Yellville**	**4.33**	**92**	IAmb_Lg		12 42 21.9	
	comp=Z,25nm,0.8s						
WHTX	**Lake Whitney,**	**4.64**	**172**	Pn	Pn	12 41 09.8	-1.5
P38A	**Dawn**	**4.77**	**49**	Pn	Pn	12 41 09.2	-3.9
P38A				IAmb_Lg		12 42 38.5	
	comp=Z,33nm,0.7s						
MGMO	**Mountain Grove**	**4.80**	**82**	Pn	Pn	12 41 13.6	+0.1
MGMO				IAmb_Lg		12 42 38.2	
	comp=Z,32nm,0.8s						
BGNE	**Belgrade**	**4.80**	**1**	Pn	Pn	12 41 11.7	-1.9
X40A	**Basin Creek Fa**	**4.87**	**114**	IAmb_Lg		12 42 40.5	
	comp=Z,37nm,0.8s						
WHAR	**Wooly Hollow**	**4.98**	**103**	IAmb_Lg		12 42 47.6	
	comp=Z,42nm,1.0s						
T25A	**Trinidad**	**5.00**	**278**	IAmb_Lg		12 42 46.3	
	comp=Z,44nm,0.8s						
R40A	**Maddies Statio**	**5.02**	**69**		Pn	12 41 16.2	-0.4
WLAR	**White Oak Lake**	**5.09**	**123**	IAmb_Lg		12 42 53.2	
	comp=Z,30nm,0.8s						
OGNE	**Ogallala**	**5.27**	**327**	IAmb_Lg		12 42 57.8	
	comp=Z,33nm,0.7s						
P40A	**Paris**	**5.68**	**57**	IAmb_Lg		12 43 03.4	
	comp=Z,41nm,0.9s						
LCAR	**Lake Charles**	**5.72**	**93**	IAmb_Lg		12 43 15.0	
	comp=Z,19nm,0.7s						
T42A	**Van Buren**	**5.73**	**84**	IAmb_Lg		12 43 12.8	
	comp=Z,18nm,0.8s						
CCM	**Cathedral Cave**	**5.74**	**73**	IAmb_Lg		12 43 05.7	
	comp=Z,29nm,0.7s						
435B	**Jarrell**	**5.82**	**175**	IAmb_Lg		12 43 23.3	
	comp=Z,33nm,1.0s						
CCAR	**Cane Creek**	**5.91**	**115**	IAmb_Lg		12 43 23.6	
	comp=Z,40nm,1.0s						
PBMO	**Poplar Bluff**	**6.26**	**86**	IAmb_Lg		12 43 18.3	
	comp=Z,35nm,0.8s						
FVM	**French Village**	**6.36**	**75**	IAmb_Lg		12 43 21.3	
	comp=Z,25nm,0.9s						
SCIA	**State Center**	**6.57**	**35**	IAmb_Lg		12 43 36.8	
	comp=Z,34nm,0.8s						
SLM	**Saint Louis**	**6.

SVB	**Belmont**	**2.84 259**	*e*P		**Pn**	**12 42 13.5**	**-0.5**
SVB			*e*S		**Sn**	**12 42 46.3**	**-1.3**
SVB	**Belmont**	**2.84 259**			**Pn**	**12 42 13.2**	**-0.8**
BAMF	**Morne Balai**	**2.86 291**	*e*P		**Pn**	**12 42 14.6**	**+0.2**
CXM	**Morne La Croix**	**2.88 291**	*e*P		**Pn**	**12 42 14.8**	**+0.1**
PML	**Morne Lenard**	**2.88 290**	*e*P		**Pn**	**12 42 14.6**	**0.0**
SVN	**Savane Anatole**	**2.89 291**	*e*P		**Pn**	**12 42 15.0**	**+0.3**
SVN	**Savane Anatole**	**2.89 291**			**Pn**	**12 42 14.5**	**-0.2**
PCM	**Pelee Case Pet**	**2.92 290**	*e*P		**Pn**	**12 42 14.7**	**-0.4**
PCM	**Pelee Case Pet**	**2.92 290**	*e*P		**Pn**	**12 42 15.2**	**+0.2**
DLPL	**La Plaine**	**3.16 299**	*e*P		**Pn**	**12 42 18.1**	**-0.2**
DLPL			*e*S		**Sn**	**12 42 53.9**	**-1.5**
DLPL	**La Plaine**	**3.16 299**			**Pn**	**12 42 18.2**	**-0.2**
GCMP	**Grenada, Carri**	**3.24 246**	*e*P		**Pn**	**12 42 18.9**	**-0.7**
GCMP			*e*S		**Sn**	**12 42 55.0**	**-2.5**
TOSP	**Speyside**	**3.26 220**	*i* P		**Pn**	**12 42 19.3**	**-0.5**
TOSP			*e*S		**Sn**	**12 42 54.7**	**-3.2**
TOSP	**Speyside**	**3.26 220**			**Pn**	**12 42 19.5**	**-0.3**
DSLB	**Salisbury**	**3.36 299**	*e*P		**Pn**	**12 42 21.3**	**+0.2**
DSLB			*e*S		**Sn**	**12 42 59.7**	**-0.6**
MDPV	**Dominica, Penn**	**3.45 302**	*e*P		**Pn**	**12 42 22.5**	**+0.1**
MDPV			*e*S		**Sn**	**12 43 01.3**	**-1.4**
BOT	**Bacolet**	**3.48 221**	*e*P		**Pn**	**12 42 22.4**	**-0.4**
MDCT	**Cottage Hill,**	**3.48 301**	*e*P		**Pn**	**12 42 22.7**	**-0.1**
MDCT			*e*S		**Sn**	**12 43 01.3**	**-2.0**
GRSS	**Sisters**	**3.49 245**	*e*P		**Pn**	**12 42 23.0**	**+0.2**
GRSS			*e*S		**Sn**	**12 43 00.8**	**-2.7**
MAGL	**Barre de l'ile**	**3.52 308**	*e*P		**Pn**	**12 42 23.2**	**-0.1**
MAGL			*e*S		**Sn**	**12 43 02.7**	**-1.6**
GRHS	**Sauteurs**	**3.55 244**	*e*P		**Pn**	**12 42 24.1**	**+0.4**
GRHS			*e*S		**Sn**	**12 43 04.0**	**-1.0**
H05N1	**Guadeloupe/Mar**	**3.59 314**		Pn	**Pn**	**12 42 23.6**	**-0.7**
H05N1				Sn	**Sn**	**12 43 03.6**	**-2.4**
GRGR	**Grenville**	**3.60 243**	*e*P		**Pn**	**12 42 23.7**	**-0.7**
GRGR			*e*S		**Sn**	**12 43 05.5**	**-0.8**
GRGR	**Grenville**	**3.60 243**			**Pn**	**12 42 23.9**	**-0.6**
GRFF	**Grenada Fort F**	**3.71 242**	*e*P		**Pn**	**12 42 25.0**	**-1.0**
GRFF			*e*S		**Sn**	**12 43 06.1**	**-2.9**
TDBA	**Terre de Bas,**	**3.74 303**	*e*P		**Pn**	**12 42 26.4**	**0.0**
TDBA			*e*S		**Sn**	**12 43 06.1**	**-3.7**
TBG	**Guadaloupe-3**	**3.75 303**	*e*P		**Pn**	**12 42 26.3**	**-0.2**
TBG			*e*S		**Sn**	**12 43 06.4**	**-3.7**
CBE	**Ff, Capester**	**3.84 306**	*e*P		**Pn**	**12 42 28.4**	**+0.6**
CBE			*e*S		**Sn**	**12 43 11.1**	**-1.2**
TRN	**Trinidad (W)**	**4.31 224**	*e*P		**Pn**	**12 42 34.2**	**0.0**
TRN	**Trinidad (W)**	**4.31 224**	*e*S		**Sn**	**12 43 20.8**	**-3.1**
ANWB	**Willy Bob**	**5.04 320**	*e*P		**Pn**	**12 42 43.1**	**-1.2**
ANWB	**Willy Bob**	**5.04 320**	*e*S		**Sn**	**12 43 39.0**	**-2.9**
ANWB	**Willy Bob**	**5.04 320**		Pn	**Pn**	**12 42 43.4**	**-0.9**
SKI	**Saint Kitts**	**5.47 310**	*e*P		**Pn**	**12 42 48.5**	**-1.7**
SKI	**Saint Kitts**	**5.47 310**	*e*S		**Sn**	**12 43 50.0**	**-2.4**
SMRT	**St. Maarten**	**6.17 314**			**Pn**	**12 42 59.2**	**-0.7**
PLCV	**Puerto La Cruz**	**7.07 240**			**Pn**	**12 43 13.8**	**+1.6**
PCRV	**Puerto La Cruz**	**7.10 240**	Pn		**Pn**	**12 43 13.8**	**+1.1**
	11nm,0.3s,baz=90,slow=2.0,SNR=42						
PCRV				Sn	**Sn**	**12 44 31.7**	**-1.1**
	4.1nm,0.3s,baz=327,slow=15,SNR=5.9						
ABVI	**Anegada Island**	**7.52 311**	Pn		**Pn**	**12 43 17.6**	**-0.7**
STVI	**Saint Thomas**	**7.76 306**			**Pn**	**12 43 22.1**	**+0.4**
CUPR	**Culebra, Puert**	**8.00 305**			**Pn**	**12 43 25.9**	**+1.0**
MTP	**Monte Pirata**	**8.11 303**			**Pn**	**12 43 27.2**	**+0.8**
HUMP	**Col San Antoni**	**8.37 302**			**Pn**	**12 43 31.0**	**+1.0**
CBYP	**Canovanas**	**8.44 303**			**Pn**	**12 43 31.8**	**+0.7**
PDPR	**Patillas Dam,**	**8.46 301**			**Pn**	**12 43 31.8**	**+0.7**
SJG	**San Juan**	**8.61 301**			**Pn**	**12 43 35.0**	**+1.8**
	4.5nm,0.3s,baz=126,slow=6.9,SNR=13						
SJG	**San Juan**	**8.61 301**			**Pn**	**12 43 34.1**	**+0.9**
GCPR	**Guaynabo City**	**8.65 302**			**Pn**	**12 43 35.2**	**+1.4**
OBIP	**Obispado Ponce**	**8.96 299**			**Pn**	**12 43 36.8**	**-1.2**
AOPR	**Arecibo Observ**	**9.22 300**	*e*P		**Pn**	**12 43 40.9**	**-0.9**
AOPR	**Arecibo Observ**	**9.22 300**			**Pn**	**12 43 43.7**	**+1.9**
MLPR	**Magueyes Islan**	**9.30 298**			**Pn**	**12 43 44.1**	**+1.3**
CRPR	**Cabo Rojo, PR**	**9.37 298**	Pn		**Pn**	**12 43 44.9**	**+1.2**
AGPR	**Aguadilla, PR**	**9.58 300**	Pn		**Pn**	**12 43 48.9**	**+2.3**
MDP	**Montagnes des**	**10.34 146**	Pn		Pn	12 43 50.0	-7.0
	6.7nm,0.3s,baz=337,slow=16,SNR=38						
MDP				Sn	Sn	12 45 34.8	-18
	15nm,0.3s,baz=54,slow=18,SNR=13						
MDP				LR	LR	12 48 32.4	
	comp=Z,149nm,18.6s,baz=292,slow=42						
BAUV	**El Baul**	**10.63 244**	*e*P		**Pn**	**12 43 59.5**	**-1.6**
BAUV	**El Baul**	**10.63 244**	*e*S		**Sn**	**12 45 51.3**	**-8.2**
DR12	**Loma Pena Alta**	**11.66 297**			**Pn**	**12 44 14.7**	**-0.4**
SDDR	**Presa de Saban**	**13.40 294**			**Pn**	**12 44 39.6**	**+0.6**
PTGA	**Pitinga**	**14.53 186**	Pn		Pn	12 44 47.9	-6.5
	2.7nm,0.3s,baz=2.0,slow=20,SNR=18						
PTGA				Sn	Sn	12 47 20.1	-15
	2.3nm,0.3s,baz=93,slow=23,SNR=5.8						
PTGA	**Pitinga**	**14.53 186**	Pn		Pn	12 44 48.5	-5.9
GTBY	**Guantanamo Bay**	**17.12 293**	Pn		**Pn**	**12 45 24.3**	**-3.7**
SAML	**Samuel**	**23.11 192**	P		**P**	**12 46 34.1**	**-0.4**
LMN	**Caledonia Moun**	**32.40 352**	P		**P**	**12 47 59.1**	**+1.0**
PLAL	**Pickwick Lake**	**34.07 313**	P		**P**	**12 48 14.6**	**+1.8**
PLAL				IAmb	IAmb	12 48 15.3	
	comp=Z,6.4nm,0.7s						
LCAR	**Lake Charles**	**36.79 313**	P		**P**	**12 48 37.9**	**+1.7**
LCAR				IAmb	IAmb	12 48 38.3	
	comp=Z,3.9nm,0.8s						
FCAR	**Ozark Folk Cen**	**37.40 312**	P		**P**	**12 48 42.6**	**+1.3**
FCAR				IAmb	IAmb	12 48 43.6	
	comp=Z,8.4nm,1.0s						
CCM	**Cathedral Cave**	**37.84 316**	P		**P**	**12 48 46.0**	**+1.0**
CCM				IAmb	IAmb	12 48 47.1	
	comp=Z,12nm,1.2s						
HHAR	**Hobbs**	**38.89 312**	P		**P**	**12 48 55.6**	**+1.6**
HHAR				IAmb	IAmb	12 48 56.5	
	comp=Z,8.3nm,1.1s						
S39A	**Bolivar**	**39.09 314**	P		**P**	**12 48 56.4**	**+0.8**
S39A				IAmb	IAmb	12 48 57.4	
	comp=Z,9.5nm,0.8s						
SCHQ	**Schefferville**	**41.46 353**	P		**P**	**12 49 15.9**	**+1.0**
	comp=Z,4.5nm,0.9s,baz=140,slow=12,SNR=2.3						
SCHQ	**Schefferville**	**41.46 353**		IAmb	IAmb	12 49 23.2	
	comp=Z,20nm,1.4s						
WMOK	**Wichita Mounta**	**41.94 307**	P		**P**	**12 49 17.4**	**-1.9**
L34A	**Svendsen Farm,**	**43.20 318**	P		**P**	**12 49 29.1**	**-0.3**
ECSD	**EROS Data Cent**	**44.23 320**	P		**P**	**12 49 37.7**	**+0.1**
ECSD				IAmb	IAmb	12 49 42.7	
	comp=Z,4.7nm,1.3s						
AMTX	**Amarillo**	**44.25 306**	P		**P**	**12 49 38.4**	**+0.4**
AMTX				IAmb	IAmb	12 49 41.0	
	comp=Z,6.5nm,1.2s						
TXAR	**Lajitas Array**	**44.57 298**	P		**P**	**12 49 41.8**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=124,slow=7.5,SNR=9.9						
TXAR				PcP	**PP**	**12 51 24.9**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=122,slow=5.9,SNR=4.9						
TXAR				LR	LR	13 13 06.9	
	comp=Z,48nm,18.1s,baz=0.0,slow=42						
TXAR	**Lajitas Array**	**44.57 298**	P		**P**	**12 49 41.3**	**+0.7**
TX31	**Lajitas Ar. Si**	**44.57 298**	P		**P**	**12 49 41.7**	**+1.1**
TX31				IAmb	IAmb	12 49 53.4	
	comp=Z,4.5nm,0.8s						
TX32	**Lajitas Array**	**44.57 298**	P		**P**	**12 49 41.7**	**+1.1**
MSTX	**Muleshoe**	**44.86 304**	P		**P**	**12 49 43.9**	**+0.9**
HPIG		**45.96 294**	P		**P**	**12 49 53.8**	**+1.9**
SUSD	**Miller**	**46.05 320**	P		**P**	**12 49 51.3**	**-0.8**
AGMN	**Agassiz Nation**	**46.26 326**	P		**P**	**12 49 54.0**	**+0.3**
MNTX	**Cornudas Mount**	**46.47 301**	P		**P**	**12 49 56.3**	**+0.7**
MNTX				IAmb	IAmb	12 49 57.8	
	comp=Z,6.2nm,1.0s						
H10N3	**ASCENSION HYDR**	**48.58 114**	T		T	13 42 11.0	
	baz=295,slow=74,SNR=6.8						
H10N2	**ASCENSION HYDR**	**48.59 114**	T		T	13 42 09.6	
	baz=295,slow=74,SNR=5.0						
H10N1	**ASCENSION HYDR**	**48.60 114**	T		T	13 42 08.9	
	baz=295,slow=74,SNR=7.3						
PHWY	**Pilot Hill**	**49.12 313**	P		**P**	**12 50 17.6**	**+1.3**
PHWY				IAmb	IAmb	12 50 18.7	
	comp=Z,10nm,1.5s						
BO02	**Sierra Bellavi**	**49.75 193**	P		**P**	**12 50 19.9**	**-0.9**
BO02				IAmb	IAmb	12 50 22.2	
	comp=Z,8.8nm,1.1s						
WUAZ	**Wupatki**	**52.10 304**	P		**P**	**12 50 39.6**	**+0.8**
SRU	**San Rafael Swe**	**52.20 309**	P		**P**	**12 50 39.6**	**+0.1**
BW06	**Boulder Array**	**52.48 314**	P		**P**	**12 50 42.3**	**+0.7**
PD31	**Pinedale Array**	**52.48 314**	P		**P**	**12 50 42.0**	**+0.4**
PDAR	**Pinedale Array**	**52.48 314**	P		**P**	**12 50 42.6**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=116,slow=9.5,SNR=12						
KOWA	**Kowa**	**52.61 82**	P		**P**	**12 50 41.4**	**-1.3**
	comp=Z,1.9nm,0.7s,baz=283,slow=16,SNR=2.4						
DBIC	**Dimbokro**	**53.06 92**	P		**P**	**12 50 45.5**	**-0.5**
	comp=Z,3.1nm,0.8s,baz=310,slow=6.7,SNR=4.6						
DBIC	**Dimbokro**	**53.06 92**	IAmb		IAmb	12 50 46.4	
	comp=Z,6.3nm,0.8s						
AHID	**Auburn Hatcher**	**53.57 313**	P		**P**	**12 50 50.3**	**+0.7**
AHID			IAmb		IAmb	12 50 51.9	
	comp=Z,4.2nm,0.9s						
ESDC	**Sonseca Array**	**54.05 51**	P		**P**	**12 50 52.5**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=257,slow=9.1,SNR=4.3						
DUG	**Dugway, Tooele**	**54.17 310**	P		**P**	**12 50 54.4**	**+0.5**
YHB	**Horse Butte**	**54.21 316**	P		**P**	**12 50 56.1**	**+1.8**
YHB			IAmb		IAmb	12 50 57.7	
	comp=Z,6.8nm,0.9s						
YHL	**Hebgen Lake**	**54.23 316**	P		**P**	**12 50 56.2**	**+1.8**
YHL			IAmb		IAmb	12 50 57.7	
	comp=Z,8.1nm,1.0s						
EGMT	**Eagleton**	**54.34 320**	P		**P**	**12 50 56.1**	**+1.1**
BGU	**Big Grassy Mou**	**54.50 311**	P		**P**	**12 50 57.3**	**+1.0**
BGU			IAmb		IAmb	12 51 12.2	
	comp=Z,4.2nm,1.1s						
BOZ	**Bozeman (W)**	**54.76 316**	P		**P**	**12 50 59.1**	**+1.0**
BOZ			IAmb		IAmb	12 51 01.1	
	comp=Z,4.3nm,1.1s						
HRY	**Holter Researc**	**55.23 318**	P		**P**	**12 51 02.7**	**+1.2**
PLCA	**Paso Flores**	**55.43 191**	P		**P**	**12 51 01.3**	**-1.5**
	comp=Z,3.4nm,0.9s,baz=35,slow=6.5,SNR=4.2						
NVAR	**Mina Array Bea**	**58.05 307**	P		**P**	**12 51 23.1**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=89,slow=5.8,SNR=4.9						
TORD	**Torodi Ar. Bea**	**58.29 83**	P		**P**	**12 51 22.2**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=266,slow=5.8,SNR=5.7						
EDM	**Edmonton**	**58.34 325**	P		**P**	**12 51 23.3**	**0.0**
EDM			IAmb		IAmb	12 51 45.9	
	comp=Z,7.2nm,1.1s						
GERES	**GERESS Array B**	**67.95 43**	P		**P**	**12 52 26.9**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=242,slow=5.6,SNR=5.8						
GERES	**GERESS Array B**	**67.95 43**	P		**P**	**12 52 26.1**	**-1.1**
NOA	**NORSAR Array B**	**68.16 29**	P		**P**	**12 52 29.1**	**+0.8**
	comp=Z,2.0nm,1.0s,baz=258,slow=6.7,SNR=3.4						
HFS	**Hagfors**	**69.21 31**	P		**P**	**12 52 35.0**	**+0.2**
	comp=Z,4.0nm,0.9s,baz=258,slow=7.4,SNR=5.0						
INK	**Inuvik**	**71.77 338**	P		**P**	**12 52 51.1**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=106,slow=0.6,SNR=6.8						
INK	**Inuvik**	**71.77 338**	IAmb		IAmb	12 53 16.2	
	comp=Z,8.8nm,1.3s						
BCAR	**Beaver Creek A**	**74.81 332**	P		**P**	**12 53 10.2**	**+1.8**
L27K	**Beaver Creek,**	**74.83 332**	P		**P**	**12 53 10.3**	**+1.8**
L27K			IAmb		IAmb	12 53 10.5	
	comp=Z,5.8nm,0.8s						
M27K	**Edge Creek, AK**	**74.86 331**	P		**P**	**12 53 10.5**	**+1.7**
M27K			IAmb		IAmb	12 53 11.7	
	comp=Z,7.4nm,0.9s						
ARCES	**ARCESS Array B**	**75.02 21**	P		**P**	**12 53 09.3**	**-0.1**
	comp=Z,5.2nm,0.6s,baz=270,slow=6.1,SNR=14						
ARCES	**ARCESS Array B**	**75.02 21**	P		**P**	**12 53 09.9**	**+0.5**
FINES	**FINESS Array B**	**75.34 30**	P		**P**	**12 53 11.6**	**+0.3**
	comp=Z,6.8nm,0.8s,baz=253,slow=3.2,SNR=14						
L26K	**Log Cabin Wild**	**75.52 332**	P		**P**	**12 53 13.6**	**+1.1**
L26K			IAmb		IAmb	12 53 14.7	
	comp=Z,5.5nm,0.8s						
MENT	**Mentasta**	**75.70 332**	P		**P**	**12 53 14.5**	**+1.1**
ILAR	**Eielson Array**	**76.99 334**	P		**P**	**12 53 20.7**	**0.0**
	comp=Z,1.8nm,0.8s,baz=105,slow=4.4,SNR=14						
COLA	**College**	**77.39 334**	P		**P**	**12 53 22.7**	**-0.2**
MDM	**Murphy Dome**	**77.54 334**	P		**P**	**12 53 24.4**	**+0.5**
NEA2	**Nenana**	**77.94 334**	P		**P**	**12 53 26.3**	**+0.3**

IDC 29 12:42:02.5±8.7, 19°43N×146°08E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/41, mbtmp3.2/3, Error ellipse: s-maj=309.2km s-min=30.6km az=77.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**23.95**	**322**	P	P	12 47 18.9	+0.4
	0.8nm,0.7s,baz=146,slow=9.0,SNR=4.7						
WRA	**Warramunga Arr**	**40.79**	**197**	P	P	12 49 46.4	+0.6
	0.3nm,0.6s,baz=21,slow=7.5,SNR=6.5						
ASAR	**Alice Springs**	**44.45**	**196**	P	P	12 50 14.5	-1.1
	0.1nm,0.7s,baz=17,slow=6.8,SNR=5.8						

*MDD **29** 12:48:50.7±2.0, 41°55N×15°53W, h0km, mb4.1/7, Error ellipse: s-maj=17.0km s-min=14.4km az=84.0, PRXIMO*
*INMG **29** 12:48:52.9±1.0, 41°61N×15°94W, h10km, ML2.7, Error ellipse: s-maj=6.3km s-min=4.2km az=95.0*

ISC 29 12:48:53.6±3.5, 41°48N±0°06×15°2W±0°2, h10km, n55, σ0°97/87, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMAZ	**Mazaricos**	**4.83**	**70**	P	**Pn**	**12 50 06.3**	**-0.2**
	0.5nm,0.1s,SNR=7.9						
EMAZ				S	**Sn**	**12 51 01.4**	**-1.0**
	2.2nm,0.1s,SNR=7.9						
EZAM	**Zamans**	**4.89**	**80**	P	**Pn**	**12 50 07.7**	**+0.5**
	2.9nm,0.2s,SNR=7.9						
EZAM				S	**Sn**	**12 51 03.9**	**0.0**
	3.9nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**5.17**	**117**	P	**Pn**	**12 50 11.7**	**+0.6**
	2.0nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**12 51 11.1**	**+0.4**
	8.3nm,0.2s,SNR=6.6						
PMAFR	**Mafra**	**5.17**	**117**	*e*Pn	**Pn**	**12 50 12.0**	**+0.9**
PMAFR				*e*Sn	**Sn**	**12 51 11.4**	**+0.7**
PMAFR				A	A	12 51 23.8	
	13nm,0.6s						
PGAV	**Gavieira, Arco**	**5.19**	**82**	P	**Pn**	**12 50 12.2**	**+0.7**
PGAV				S	**Sn**	**12 51 12.2**	**+0.7**
PGAV	**Gavieira, Arco**	**5.19**	**82**	*e*Pn	**Pn**	**12 50 12.2**	**+0.7**
PGAV				*e*Sn	**Sn**	**12 51 12.2**	**+0.7**
PGAV				A	A	12 51 12.2	
	30nm,1.5s						
PGAV				-ML		12 51 14.3	
PSBE	**So Bento**	**5.25**	**110**	*e*Pn	**Pn**	**12 50 13.5**	**+1.4**
PSBE				*e*Sn	**Sn**	**12 51 14.6**	**+1.9**
PSBE				A	A	12 51 17.8	
	12nm,0.4s						
PCAS	**Casmilo, Conde**	**5.27**	**104**	S	**Sn**	**12 51 13.6**	**+0.4**
	4.7nm,0.2s						
PCAS	**Casmilo, Conde**	**5.27**	**104**	*e*Sn	**Sn**	**12 51 13.6**	**+0.4**
PCAS				A	A	12 51 16.6	
	4.7nm,0.2s						
ELOB	**Lobios**	**5.34**	**83**	P	**Pn**	**12 50 13.9**	**+0.4**
	1.0nm,0.1s,SNR=6.9						
ELOB				S	**Sn**	**12 51 15.0**	**-0.1**
	2.5nm,0.1s,SNR=7.3						
PCAB	**Cabril**	**5.37**	**85**	P	**Pn**	**12 50 14.6**	**+0.8**
PCAB				S	**Sn**	**12 51 16.1**	**+0.4**
	6.9nm,0.3s						
PCAB	**Cabril**	**5.37**	**85**	*e*Pn	**Pn**	**12 50 14.6**	**+0.8**
PCAB				*e*Sn	**Sn**	**12 51 16.1**	**+0.4**
PCAB				A	A	12 51 21.6	
	14nm,0.3s						
POLO	**Lamas de Olo**	**5.55**	**89**	S	**Sn**	**12 51 20.6**	**+0.3**
	2.2nm,0.2s						
POLO	**Lamas de Olo**	**5.55**	**89**	*e*Sn	**Sn**	**12 51 20.6**	**+0.3**
POLO				A	A	12 51 25.5	
	2.2nm,0.2s						
PVIS	**Viseu**	**5.55**	**95**	S	**Sn**	**12 51 21.1**	**+0.8**
	4.6nm,0.3s						
PVIS	**Viseu**	**5.55**	**95**	*e*Sn	**Sn**	**12 51 21.1**	**+0.8**
PVIS				A	A	12 51 26.0	
	9.2nm,0.3s						
PMTG	**Montargil**	**5.84**	**112**	P	**Pn**	**12 50 21.0**	**+0.8**
PMTG				S	**Sn**	**12 51 27.4**	**+0.2**
	3.2nm,0.5s						
PMTG	**Montargil**	**5.84**	**112**	*e*Pn	**Pn**	**12 50 21.0**	**+0.8**
PMTG				*e*Sn	**Sn**	**12 51 27.4**	**+0.2**
PMTG				A	A	12 51 33.9	
	3.2nm,0.5s						
MTE	**Manteigas**	**5.88**	**98**	P	**Pn**	**12 50 20.8**	**-0.1**
MTE				S	**Sn**	**12 51 29.0**	**+0.6**
	1.6nm,0.2s						
MTE	**Manteigas**	**5.88**	**98**	*e*Pn	**Pn**	**12 50 20.8**	**-0.1**
MTE				*e*Sn	**Sn**	**12 51 29.0**	**+0.6**
MTE				A	A	12 51 32.2	
	3.1nm,0.2s						
PCBR	**Castelo Branco**	**6.08**	**103**	S	**Sn**	**12 51 33.3**	**+0.1**
	1.8nm,0.4s						
PCBR	**Castelo Branco**	**6.08**	**103**	*e*Sn	**Sn**	**12 51 33.3**	**+0.1**
PCBR				A	A	12 51 38.0	
	3.5nm,0.4s						
PNCL	**Nicolau / Gran**	**6.12**	**121**	P	**Pn**	**12 50 24.5**	**+0.3**
PNCL				S	**Sn**	**12 51 33.5**	**-0.8**
	3.3nm,0.3s						
PNCL	**Nicolau / Gran**	**6.12**	**121**	*e*Pn	**Pn**	**12 50 24.5**	**+0.3**
PNCL				*e*Sn	**Sn**	**12 51 33.5**	**-0.8**
PNCL				A	A	12 51 39.7	
	3.3nm,0.3s						
MVO	**Moncorvo**	**6.14**	**90**	S	**Sn**	**12 51 34.0**	**-0.9**
	1.5nm,0.1s,SNR=6.9						
MVO	**Moncorvo**	**6.14**	**90**	*e*Sn	**Sn**	**12 51 34.2**	**-0.6**
MVO				A	A	12 51 39.0	
	4.3nm,0.1s						
EPON	**Pontenova**	**6.22**	**70**	P	**Pn**	**12 50 25.9**	**+0.3**
	0.5nm,0.1s,SNR=7.9						
EPON				S	**Sn**	**12 51 34.7**	**-2.0**
	1.7nm,0.2s,SNR=7.9						
PMRV	**Marv??o**	**6.28**	**106**	P	**Pn**	**12 50 27.2**	**+0.8**
PMRV				S	**Sn**	**12 51 37.9**	**-0.3**
	3.9nm,0.2s						
PMRV	**Marv??o**	**6.28**	**106**	*e*Pn	**Pn**	**12 50 27.2**	**+0.8**
PMRV				*e*Sn	**Sn**	**12 51 37.9**	**-0.3**
PMRV				A	A	12 51 42.2	
	3.9nm,0.2s						
ECAL	**Calabor**	**6.33**	**83**	P	**Pn**	**12 50 27.9**	**+0.7**
	1.0nm,0.2s,SNR=7.9						
ECAL				S	**Sn**	**12 51 38.7**	**-0.8**
	1.0nm,0.1s,SNR=6.7						
PTEO	**Sao Teotonio**	**6.35**	**126**	S	**Sn**	**12 51 39.2**	**-0.6**
	2.3nm,0.5s						
PTEO	**Sao Teotonio**	**6.35**	**126**	*e*Sn	**Sn**	**12 51 39.2**	**-0.6**
PTEO				A	A	12 51 44.4	
	4.6nm,0.5s						
MESJ	**Messejana**	**6.48**	**122**	S	**Sn**	**12 51 43.8**	**+0.7**
	3.0nm,0.7s						
MESJ	**Messejana**	**6.48**	**122**	*e*Sn	**Sn**	**12 51 43.8**	**+0.7**
MESJ				A	A	12 51 46.6	
	3.0nm,0.7s						
MORF	**Marmelete**	**6.55**	**127**	P	**Pn**	**12 50 30.1**	**0.0**
MORF				S	**Sn**	**12 51 43.6**	**-1.2**
	4.9nm,0.3s						
MORF	**Marmelete**	**6.55**	**127**	*e*Pn	**Pn**	**12 50 30.1**	**0.0**
MORF				*e*Sn	**Sn**	**12 51 43.6**	**-1.2**
MORF				A	A	12 51 48.1	
	4.9nm,0.3s						
PFVI	**Vila Bisbo**	**6.56**	**129**	S	**Sn**	**12 51 43.4**	**-1.7**
	3.7nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**6.56**	**129**	*e*Sn	**Sn**	**12 51 43.8**	**-1.3**
PCVE	**Castro Verde**	**6.72**	**123**	P	**Pn**	**12 50 33.3**	**+0.9**
PCVE				S	**Sn**	**12 51 48.3**	**-0.7**
PCVE	**Castro Verde**	**6.72**	**123**	*e*Pn	**Pn**	**12 50 33.3**	**+0.9**
PCVE				*e*Sn	**Sn**	**12 51 48.3**	**-0.7**
EBAD	**Badajoz**	**6.82**	**111**	P	**Pn**	**12 50 34.1**	**+0.3**
	0.7nm,0.1s,SNR=6.3						
EBAD				S	**Sn**	**12 51 50.0**	**-1.5**
	0.5nm,0.0s,SNR=9.2						
PBDV	**Barranco-do-Ve**	**7.03**	**125**	S	**Sn**	**12 51 56.2**	**-0.4**
	3.5nm,1.0s						
PBDV	**Barranco-do-Ve**	**7.03**	**125**	*e*Sn	**Sn**	**12 51 56.2**	**-0.4**
PBDV				A	A	12 52 16.2	
	3.5nm,1.0s						
EPLA	**Plasencia**	**7.05**	**99**	S	**Sn**	**12 51 56.0**	**-1.1**
	0.7nm,0.1s,SNR=7.9						
PVAQ	**Vaqueiros**	**7.06**	**123**	P	**Pn**	**12 50 38.0**	**+0.9**
PVAQ				S	**Sn**	**12 51 56.7**	**-0.7**
	3.5nm,0.5s						
PVAQ	**Vaqueiros**	**7.06**	**123**	*e*Pn	**Pn**	**12 50 38.0**	**+0.9**
PVAQ				*e*Sn	**Sn**	**12 51 56.7**	**-0.7**
PVAQ				A	A	12 52 00.1	
	3.5nm,0.5s						
PBAR	**Barrancos**	**7.08**	**115**	S	**Sn**	**12 51 57.2**	**-0.6**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEYL	**Yanliau Villag** baz=280	**0.24**	**273**	P	**Pn**	**13 18 11.5**	**-0.4**
HWA	**Hwalien** baz=297	**0.26**	**298**	*i* P	**Pn**	**13 18 11.7**	**-0.3**
HWA	baz=297			*i* S	**Sn**	**13 18 16.5**	**-1.7**
TEGC	**Jichi Village** baz=240	**0.33**	**243**	P	**Pn**	**13 18 12.2**	**-0.1**
TWD	**Chiawan** baz=314	**0.33**	**313**	⇓*i* P	**Pn**	**13 18 11.8**	**-0.5**
TWD	baz=314			*i* S	**Sn**	**13 18 18.1**	**-0.4**
ETM	**Tongmen** baz=287	**0.35**	**288**	P	**Pn**	**13 18 12.2**	**-0.4**
ETM	baz=287			*e*S	**Sn**	**13 18 19.0**	**+0.1**
ETL	**Fush Village** baz=325	**0.37**	**325**	P	**Pn**	**13 18 12.3**	**-0.5**
ETL	baz=325			S	**Sn**	**13 18 18.9**	**-0.4**
ESL	**Shilin** baz=262	**0.39**	**264**	*e*P	**Pn**	**13 18 12.5**	**-0.6**
ESL	baz=262			*e*S	**Sn**	**13 18 19.2**	**-0.3**
NACB	**Ninganchiao** baz=323	**0.40**	**323**	P	**Pn**	**13 18 12.5**	**-0.7**
NACB	baz=323			S	**Sn**	**13 18 19.2**	**-0.5**
EGFH	**Guangfu** baz=243	**0.44**	**245**	*i* P	**Pn**	**13 18 13.2**	**-0.5**
EGFH	baz=243			S	**Sn**	**13 18 20.4**	**-0.1**
EHP	**Heping Village** baz=348	**0.46**	**347**	P	**Pn**	**13 18 13.5**	**-0.7**
EHP	baz=348			S	**Sn**	**13 18 21.5**	**+0.2**
ETLH	**Xiulin Townshi** baz=315	**0.49**	**316**	P	**Pn**	**13 18 13.6**	**-1.0**
ETLH	baz=315			S	**Sn**	**13 18 21.4**	**-0.6**
HGSD	**Ruisui** baz=226	**0.54**	**228**	P	**Pn**	**13 18 14.8**	**-0.6**
HGSD	baz=226			*e*S	**Sn**	**13 18 23.3**	**+0.2**
EWUT	**Wuta** baz=353	**0.59**	**353**	*i* P	**Pn**	**13 18 15.2**	**-0.8**
EWUT	baz=353			*i* S	**Sn**	**13 18 24.1**	**-0.4**
EHY	**Hungye** baz=233	**0.60**	**235**	*i* P	**Pn**	**13 18 14.9**	**-1.3**
EHY	baz=233			*e*S	**Sn**	**13 18 23.4**	**-1.4**
WHF	**Hehuan Shan** baz=297	**0.61**	**298**	⇓*i* P	**Pn**	**13 18 15.3**	**-1.4**
WHF	baz=297			*i* S	**Sn**	**13 18 24.2**	**-1.4**
OWD	**Renai** baz=278	**0.63**	**279**	*i* P	**Pn**	**13 18 15.6**	**-1.1**
OWD	baz=278			S	**Sn**	**13 18 24.2**	**-1.4**
CHGB	**Renai** baz=287	**0.66**	**288**	P	**Pn**	**13 18 16.1**	**-1.1**
CHGB	baz=287			S	**Sn**	**13 18 25.8**	**-0.6**
FUSS	**Fushou** baz=304	**0.68**	**305**	*i* P	**Pn**	**13 18 16.6**	**-0.9**
FUSS	baz=304			S	**Sn**	**13 18 26.1**	**-1.0**
YULB	**Yu-li** baz=227	**0.69**	**228**	P	**Pn**	**13 18 15.9**	**-1.5**
YULB	baz=227			S	**Sn**	**13 18 25.2**	**-1.7**
EYUL	**Yuli** baz=223	**0.71**	**224**	*e*P	**Pn**	**13 18 17.1**	**-0.5**
EYUL	baz=223			*e*S	**Sn**	**13 18 28.2**	**+1.0**
TWT	**Tachien** baz=301	**0.74**	**303**	*i* P	**Pn**	**13 18 17.6**	**-0.6**
TWT	baz=301			*i* S	**Sn**	**13 18 27.2**	**-1.0**
TDCB	**Techi** baz=301	**0.75**	**302**	P	**Pn**	**13 18 17.4**	**-0.9**
TDCB	baz=301			S	**Sn**	**13 18 27.1**	**-1.5**
SSLB	**Suanglung** baz=264	**0.83**	**265**	P	**Pn**	**13 18 18.2**	**-1.1**
FULB	**Fuli** baz=217	**0.83**	**218**	*i* P	**Pn**	**13 18 19.1**	**-0.3**
FULB	baz=217			*i* S	**Sn**	**13 18 31.2**	**+0.7**
SMLT	**Sun Moon Lake** baz=271	**0.88**	**272**	*i* P	**Pn**	**13 18 19.2**	**-0.8**
SMLT	baz=271			S	**Sn**	**13 18 31.0**	**-0.6**
CHKT	**Chengkung** baz=209	**0.88**	**211**	*i* P	**Pn**	**13 18 18.5**	**-1.4**
CHKT	baz=209			*i* S	**Sn**	**13 18 30.3**	**-1.2**
TWE	**Neicheng** baz=349	**0.88**	**349**	P	**Pn**	**13 18 19.4**	**-0.5**
TWE	baz=349			S	**Sn**	**13 18 29.8**	**-1.7**
WCS	**Beigang Elemen** baz=282	**0.89**	**283**	P	**Pn**	**13 18 19.2**	**-0.8**
YUS	**Yu-Shan** baz=245	**0.91**	**246**	*i* P	**Pn**	**13 18 20.3**	**-0.5**
YUS	baz=245			*i* S	**Sn**	**13 18 31.6**	**-1.3**
TYC	**Yuchr** baz=272	**0.92**	**273**	*i* P	**Pn**	**13 18 19.9**	**-0.5**
TYC	baz=272			*i* S	**Sn**	**13 18 32.8**	**+0.4**
YHNB	**Yeheng** baz=331	**0.92**	**332**	P	**Pn**	**13 18 19.8**	**-0.9**
YHNB	baz=331			S	**Sn**	**13 18 31.4**	**-1.3**
WHP	**Taichung City** baz=296	**0.93**	**297**	*i* P	**Pn**	**13 18 20.6**	**-0.2**
WHP	baz=296			*e*S	**Sn**	**13 18 34.1**	**+1.1**
WHYT	**Xinyi Township** baz=259	**0.93**	**260**	*i* P	**Pn**	**13 18 20.5**	**-0.3**
WHYT	baz=259			*i* S	**Sn**	**13 18 33.7**	**+0.8**
NSK	**Sanguang** baz=331	**0.94**	**331**	*i* P	**Pn**	**13 18 20.0**	**-0.8**
NSK	baz=331			*i* S	**Sn**	**13 18 31.3**	**-1.7**
NTC	**Toucheng** baz=359	**0.99**	**359**	*e*P	**Pn**	**13 18 20.6**	**-0.9**
NTC	baz=359			*e*S	**Sn**	**13 18 32.6**	**-1.7**
EDH	**Donghe** baz=209	**1.02**	**210**	*e*P	**Pn**	**13 18 20.5**	**-1.3**
EDH	baz=209			S	**Sn**	**13 18 33.9**	**-1.0**
ELDTW	**Lidau** baz=228	**1.02**	**229**	*i* P	**Pn**	**13 18 20.3**	**-1.7**
ELDTW	baz=228			*i* S	**Sn**	**13 18 34.0**	**-1.0**
ALS	**Alishan** baz=249	**1.02**	**251**	*i* P	**Pn**	**13 18 21.9**	**-0.3**
ALS	baz=249			*i* S	**Sn**	**13 18 34.8**	**-0.7**
WJS	**Zhushan** baz=267	**1.03**	**268**	*i* P	**Pn**	**13 18 22.6**	**+0.5**
WJS	baz=267			*i* S	**Sn**	**13 18 36.5**	**+1.2**
WNT	**Mingjian** baz=270	**1.07**	**271**	P	**Pn**	**13 18 22.8**	**+0.1**
WNT	baz=270			S	**Sn**	**13 18 37.4**	**+1.1**
NSTT	**Nanjuang** baz=314	**1.10**	**315**	*i* P	**Pn**	**13 18 22.9**	**0.0**
NSTT	baz=314			*i* S	**Sn**	**13 18 37.4**	**+0.5**
TWQ1	**Liyutan** baz=296	**1.10**	**297**	*i* P	**Pn**	**13 18 22.9**	**-0.1**
TWQ1	baz=296			*i* S	**Sn**	**13 18 37.4**	**+0.3**
CHN5	**Tsauling** baz=256	**1.11**	**257**	*i* P	**Pn**	**13 18 23.3**	**+0.1**
CHN5	baz=256			S	**Sn**	**13 18 35.6**	**-1.7**
TIPB	**Shuangxi** baz=358	**1.11**	**359**	*i* P	**Pn**	**13 18 22.9**	**-0.2**
TIPB	baz=358			*i* S	**Sn**	**13 18 37.6**	**+0.3**
TCU	**Taichung** baz=284	**1.12**	**285**	*e*P	**Pn**	**13 18 23.5**	**+0.2**
TCU	baz=284			*e*S	**Sn**	**13 18 38.8**	**+1.4**
NHDH	**Xindian Distri** baz=344	**1.14**	**345**	P	**Pn**	**13 18 23.3**	**-0.3**
NHDH	baz=344			*e*S	**Sn**	**13 18 37.6**	**-0.4**
NSY	**Sanyi** baz=299	**1.15**	**299**	P	**Pn**	**13 18 23.8**	**+0.2**
NSY	baz=299			S	**Sn**	**13 18 38.3**	**+0.1**
TWA	**Mucha** baz=348	**1.15**	**348**	P	**Pn**	**13 18 23.1**	**-0.5**
TWA	baz=348			*i* S	**Sn**	**13 18 38.1**	**-0.1**
LONT	**Longtian** baz=214	**1.16**	**215**	*e*P	**Pn**	**13 18 23.3**	**-0.5**
LONT	baz=214			*e*S	**Sn**	**13 18 38.8**	**+0.4**
NMLH	**Miaoli** baz=304	**1.19**	**305**	P	**Pn**	**13 18 24.5**	**+0.3**
NMLH	baz=304			*e*S	**Sn**	**13 18 38.1**	**-1.0**
STYH	**Taoyuan** baz=235	**1.21**	**236**	*i* P	**Pn**	**13 18 24.5**	**+0.1**
STYH	baz=235			S	**Sn**	**13 18 39.9**	**+0.4**
WCHH	**Zhanghua** baz=280	**1.21**	**281**	*i* P	**Pn**	**13 18 24.9**	**+0.4**
WCHH	baz=280			*i* S	**Sn**	**13 18 41.1**	**+1.5**
NWF	**Wu-fen Shan** baz=357	**1.21**	**357**	*i* P	**Pn**	**13 18 24.7**	**+0.1**
NWF	baz=357			S	**Sn**	**13 18 40.2**	**+0.4**
YOJ	**Yonaguni jima**	**1.21**	**60**	P	**Pn**	**13 18 24.9**	**+0.3**
YOJ				S	**Sn**	**13 18 39.9**	**+0.2**
YOJ	**Yonaguni jima** baz=60	**1.21**	**60**	P	**Pn**	**13 18 24.9**	**+0.3**
YOJ	baz=60			S	**Sn**	**13 18 40.2**	**+0.5**
WDJ	**Dajia District** baz=293	**1.22**	**294**	P	**Pn**	**13 18 24.3**	**-0.2**
WDJ	baz=293			S	**Sn**	**13 18 39.1**	**-0.6**
WDLH	**Douliu** baz=261	**1.22**	**262**	*e*P	**Pn**	**13 18 25.8**	**+1.1**
WDLH	baz=261			*e*S	**Sn**	**13 18 41.6**	**+1.7**
LDUT	**Ludao** baz=196	**1.23**	**197**	P	**Pn**	**13 18 22.8**	**-2.0**
LDUT	baz=196			S	**Sn**	**13 18 39.0**	**-1.2**
TPUB	**Ta-pu** baz=243	**1.25**	**244**	*e*P	**Pn**	**13 18 25.9**	**+0.8**
TPUB	baz=243			*e*S	**Sn**	**13 18 42.1**	**+1.3**
TWGBT	**Beinan** baz=214	**1.26**	**215**	P	**Pn**	**13 18 24.3**	**-0.8**
TWGBT	baz=214			S	**Sn**	**13 18 39.7**	**-1.1**
TWG	**Pinlang** baz=214	**1.26**	**215**	*i* P	**Pn**	**13 18 24.3**	**-0.8**
TWG	baz=214			*i* S	**Sn**	**13 18 39.9**	**-1.0**
NCUH	**Zhongli** baz=331	**1.27**	**331**	S	**Sn**	**13 18 42.0**	**+0.9**
NCU	**National Centr** baz=331	**1.27**	**331**	*i* P	**Pn**	**13 18 25.6**	**+0.3**
NCU	baz=331			*i* S	**Sn**	**13 18 42.0**	**+0.9**
WTP	**Ta-pu** baz=241	**1.29**	**242**	*i* P	**Pn**	**13 18 26.3**	**+0.6**
WTP	baz=241			*i* S	**Sn**	**13 18 42.7**	**+0.9**
WRL	**Guolierlin Hig** baz=271	**1.35**	**272**	*e*P	**Pn**	**13 18 26.5**	**0.0**
WRL	baz=271			*e*S	**Sn**	**13 18 43.7**	**+0.5**
WTK	**Tuku** baz=262	**1.36**	**263**	*e*P	**Pn**	**13 18 27.0**	**+0.5**
WTK	baz=262			S	**Sn**	**13 18 45.3**	**+2.1**
ANP	**Anpu** baz=347	**1.36**	**347**	P	**Pn**	**13 18 28.0**	**+1.4**
ANP	baz=347			*e*S	**Sn**	**13 18 43.7**	**+0.2**
CHY	**Chiayi** baz=254	**1.36**	**255**	*e*S	**Sn**	**13 18 45.3**	**+1.9**
TWK	**Hsinying** baz=244	**1.39**	**245**	P	**Pn**	**13 18 28.0**	**+1.1**
TWK	baz=244			*i* S	**Sn**	**13 18 45.8**	**+1.7**
CHN1	**Nanshi** baz=240	**1.39**	**242**	P	**Pn**	**13 18 27.9**	**+0.9**
CHN1	baz=240			S	**Sn**	**13 18 45.3**	**+1.1**
SNST	**Tainan City** baz=242	**1.40**	**243**	*e*P	**Pn**	**13 18 26.1**	**-1.0**
SNST	baz=242			*e*S	**Sn**	**13 18 45.1**	**+0.8**
SGST	**Jiashian** baz=236	**1.40**	**237**	*e*S	**Sn**	**13 18 44.6**	**+0.2**
SLGT	**Liugui** baz=231	**1.41**	**233**	*e*P	**Pn**	**13 18 28.0**	**+0.8**
SLGT	baz=231			*e*S	**Sn**	**13 18 46.0**	**+1.5**
ECL	**Taimali** baz=212	**1.50**	**214**	*e*P	**Pn**	**13 18 28.9**	**+0.4**
ECL	baz=212			*e*S	**Sn**	**13 18 46.4**	**-0.5**
WSF	**Szhu** baz=261	**1.51**	**262**	S	**Sn**	**13 18 48.5**	**+1.3**
ICHU	**Yijhu** baz=250	**1.53**	**252**	*e*P	**Pn**	**13 18 29.5**	**+0.6**
ICHU	baz=250			*e*S	**Sn**	**13 18 47.6**	**+0.1**
SSD	**Sandimen** baz=224	**1.58**	**226**	P	**Pn**	**13 18 29.6**	**+0.1**
SSD	baz=224			*e*S	**Sn**	**13 18 49.5**	**+0.8**
TSMG	**Majia** baz=223	**1.60**	**224**	*e*P	**Pn**	**13 18 31.0**	**+1.2**
TSMG	baz=223			*e*S	**Sn**	**13 18 50.8**	**+1.5**
IRIF	**Iriomote-Funau**	**1.78**	**74**	P	**Pn**	**13 18 33.0**	**+0.7**
IRIF				*e*S	**Sn**	**13 18 54.5**	**+0.9**
HATJ	**Hateruma jima**	**1.79**	**83**	P	**Pn**	**13 18 32.8**	**+0.3**
HATJ				*e*S	**Sn**	**13 18 53.3**	**-0.7**
JKRS	**Kuro-shima**	**2.00**	**79**	P	**Pn**	**13 18 36.3**	**+0.9**
JKRS				S	**Sn**	**13 19 00.3**	**+1.1**
JIJ	**Ishigaki jima**	**2.15**	**76**	P	**Pn**	**13 18 37.3**	**-0.1**
JIJ				S	**Sn**	**13 19 02.1**	**-0.7**
JISG	**Ishigakijimahi**	**2.35**	**72**	P	**Pn**	**13 18 40.2**	**0.0**
JISG				*e*S	**Sn**	**13 19 07.0**	**-0.9**
JTJ	**Tarama**	**2.71**	**73**	P	**Pn**	**13 18 45.3**	**+0.2**
JTJ				*e*S	**Sn**	**13 19 16.4**	**-0.3**

*IDC **29** 13:20:16.7±3.2, 32°.87S×72°.40W, h0km, mb3.9/2, mb1 3.8/5, mb1mx3.6/26, mbtmp3.7/5, ML3.9/3, MS2.8/2, Ms1 2.8/2, ms1mx2.6/21, Error ellipse: s-maj=135.9km s-min=25.4km az=103.0*

*NEIC **29** 13:20:21.2±1.7, 33°.04S±0°.04×72°.12W±0°.07, h23km±7km, mb4.1/6, ML3.9(GUC), Error ellipse: s-maj=9.8km s-min=3.9km az=66.0*

*GUC **29** 13:20:21.6±0.8, 33°.04S×72°.03W, h30km±6km, ML3.9*

ISC 29 13:20:20.0±2.3, 33°.01S±0°.04×72°.19W±0°.06, h19km±17km, n66, σ0°82/64, 8C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.46**	**91**	⇓*i* P	**Pb**	**13 20 29.7**	**+0.3**
VA01	**Torpederas**	**0.46**	**91**	Pg	**Pb**	**13 20 29.6**	**+0.1**
VA05	**Santo Domingo**	**0.81**	**143**	⇓*i* P	**Pb**	**13 20 35.5**	**+0.2**
VA05				*i* S	**Sg**	**13 20 46.7**	**+0.2**
VA05	comp=E,25μm,0.3s			IAML		13 20 47.4	
VA05	**Santo Domingo**	**0.81**	**143**		**Pb**	**13 20 35.5**	**+0.2**
VA05				Sg	**Sb**	**13 20 45.4**	**-0.5**
VA06	**Catapilco**	**0.88**	**59**	⇓*i* P	**Pg**	**13 20 36.9**	**-0.3**
VA06				*i* S	**Sb**	**13 20 48.1**	**+0.2**
ROCH	**El Roble**	**0.99**	**88**	⇓*i* P	**Pb**	**13 20 38.4**	**-0.3**
ROCH				*i* S	**Sb**	**13 20 51.7**	**+0.2**
MT01	**Popeta**	**1.16**	**137**	⇑*i* P	**Pn**	**13 20 40.8**	**-0.4**
MT01	comp=N,7μm,0.3s			IAML		13 20 57.1	
MT01	**Popeta**	**1.16**	**137**		**Pn**	**13 20 40.6**	**-0.6**
MT01					**Sb**	**13 20 54.9**	**-1.2**
MT09	**Talagante**	**1.26**	**127**	⇑*i* P	**Pn**	**13 20 42.8**	**+0.1**
MT09				*i* S	**Sn**	**13 20 59.2**	**0.0**
MT09	comp=N,6μm,0.4s			IAML		13 21 00.7	
MT09	**Talagante**	**1.26**	**127**		**Pn**	**13 20 42.6**	**-0.1**
MT05	**Renca**	**1.28**	**108**	⇓*i* P	**Pn**	**13 20 43.1**	**+0.2**
MT05				*e*S	**Sb**	**13 20 59.1**	**-0.4**
MT05	comp=E,4μm,0.4s			IAML		13 21 09.7	
MT05	**Renca**	**1.28**	**108**	Pn	**Pn**	**13 20 43.0**	**+0.2**
VA03	**San Esteban**	**1.40**	**80**	*e*P	**Pn**	**13 20 44.8**	**+0.2**
VA03				*i* S	**Sb**	**13 21 03.3**	**+0.1**
VA03	comp=E,4μm,0.3s			IAML		13 21 10.3	
VA03	**San Esteban**	**1.40**	**80**		**Pn**	**13 20 44.8**	**+0.2**
BO03	**Pichilemu**	**1.49**	**173**	⇑*i* P	**Pn**	**13 20 45.7**	**-0.1**
BO03				*i* S	**Sn**	**13 21 03.1**	**-1.6**
BO03	comp=N,2μm,0.4s			IAML		13 21 05.4	
BO01	**Tunca**	**1.66**	**146**	⇑*i* P	**Pn**	**13 20 48.0**	**-0.1**
BO01				*i* S	**Sn**	**13 21 07.9**	**-0.9**
BO01	**Tunca**	**1.66**	**146**		**Pn**	**13 20 47.8**	**-0.3**
LMEL	**Las Melosas**	**1.86**	**117**	⇑*i* P	**Pb**	**13 20 52.3**	**-1.1**
LMEL				*e*S	**Sb**	**13 21 15.8**	**-0.6**
LMEL	comp=N,3μm,0.6s			IAML		13 21 21.9	
GO05	**Huala**	**2.00**	**174**	*e*P	**Pn**	**13 20 52.7**	**-0.2**
GO05	comp=E,826nm,0.2s			IAML		13 21 23.3	
GO05	**Huala**	**2.00**	**174**	Pn	**Pn**	**13 20 52.6**	**-0.2**
CO02	**Combarbal**	**2.07**	**30**	⇑*i* P	**Pn**	**13 20 54.5**	**+0.7**
CO02	**Combarbal**	**2.07**	**30**		**Pn**	**13 20 54.4**	**+0.7**
BO02	**Sierra Bellavi**	**2.13**	**147**	⇑*i* P	**Pn**	**13 20 55.4**	**+0.8**
BO02				*i* S	**Sn**	**13 21 20.5**	**0.0**
BO02	comp=N,4μm,0.6s			IAML		13 21 26.5	
BO02	**Sierra Bellavi**	**2.13**	**147**		**Pn**	**13 20 55.2**	**+0.6**
CO06	**Fray Jorge**	**2.38**	**12**	⇑*i* P	**Pn**	**13 20 57.9**	**-0.1**
CO06	comp=E,695nm,0.8s			IAML		13 21 45.7	
CO06	**Fray Jorge**	**2.38**	**12**		**Pn**	**13 20 57.8**	**-0.2**
CO03	**El Pedregal**	**2.52**	**31**	IAML		13 21 44.8	
	comp=E,759nm,0.1s						
CO03	**El Pedregal**	**2.52**	**31**	Pn	**Pn**	**13 21 00.6**	**+0.7**
ML02	**Panimavida**	**2.82**	**167**	Pn	**Pn**	**13 21 04.2**	**+0.2**
GO04	**Tololo Observa**	**3.07**	**23**		**Pn**	**13 21 08.2**	**+0.5**
CO05	**La Serena** comp=N,398nm,0.3s	**3.19**	**15**	IAML		13 22 20.2	
CO05	**La Serena**	**3.19**	**15**	Pn	**Pn**	**13 21 09.5**	**+0.4**
ZON	**Zonda**	**3.31**	**65**	Pn	**Pn**	**13 21 11.9**	**+1.0**
LCO	**Las Campanas**	**4.19**	**18**		**Pn**	**13 21 23.2**	**+0.1**
AC04	**Llanos de Chal**	**4.89**	**12**	Pn	**Pn**	**13 21 31.7**	**-0.8**
H03N1	**Juan Fernandez** baz=89,slow=74,SNR=55	**5.65**	**264**	T	T	13 28 24.6	
GO03	**Copiap**	**5.66**	**18**	Pn	**Pn**	**13 21 42.5**	**-0.6**
H03N3	**Juan Fernandez** baz=89,slow=74,SNR=60	**5.66**	**264**	T	T	13 28 27.3	
H03N2	**Juan Fernandez** baz=89,slow=74,SNR=43	**5.67**	**264**	T	T	13 28 26.8	
H03S1	**Juan Fernandez** baz=86,slow=75,SNR=381	**5.67**	**260**	T	T	13 27 59.6	
H03S3	**Juan Fernandez** baz=86,slow=75,SNR=577	**5.68**	**260**	T	T	13 28 06.6	
H03S2	**Juan Fernandez** baz=86,slow=75,SNR=549	**5.69**	**260**	T	T	13 27 59.3	
LC01	**Cunco**	**5.88**	**178**	Pn	**Pn**	**13 21 45.5**	**-0.6**
AC02	**Maricunga**	**6.70**	**24**	Pn	**Pn**	**13 21 57.8**	**-0.1**
PLCA	**Paso Flores** comp=N,0.6nm,0.3s,baz=335,slow=13,SNR=10.0	**7.82**	**171**	Pn	**Pn**	**13 22 13.8**	**+1.0**
PLCA	comp=N,32nm,19.0s,baz=342,slow=41			LR	LR	13 25 40.7	
LL04	**Puerto Octay**	**7.88**	**181**	Pn	**Pn**	**13 22 14.9**	**+1.3**
LL05	**Los Muermos**	**8.44**	**187**	Pn	**Pn**	**13 22 22.3**	**+1.1**
PB14	**IPOC Station P**	**8.50**	**11**	Pn	**Pn**	**13 22 19.7**	**-2.7**
PB10	**IPOC Station P**	**9.57**	**9**	Pn	**Pn**	**13 22 37.6**	**+0.8**
TRQA	**Tornquist**	**9.72**	**124**	Pn	**Pn**	**13 22 38.9**	**0.0**
LVC	**Limon Verde** comp=N,0.4nm,0.3s,baz=278,slow=14,SNR=2.0	**10.76**	**16**	Pn	**Pn**	**13 22 49.6**	**-3.8**
PB07	**IPOC Station P**	**11.43**	**11**	Pn	**Pn**	**13 23 02.3**	**-0.1**
PB09	**IPOC Station P**	**11.47**	**14**	Pn	**Pn**	**13 23 02.7**	**-0.3**
CPUP	**Villa Florida** comp=N,87nm,20.2s,baz=222,slow=39	**14.53**	**67**	LR	LR	13 29 42.4	
LPAZ	**La Paz** comp=N,0.2nm,0.3s,baz=195,slow=7.7,SNR=9.8	**17.05**	**13**	Pn	**Pn**	**13 24 18.5**	**+0.5**
LPAZ	**La Paz**	**17.05**	**13**	P	**P**	**13 24 19.4**	**-0.4**
SIV	**San Ignacio** comp=N,0.3nm,0.3s,baz=218,slow=11,SNR=5.4	**19.71**	**33**	P	**P**	**13 24 48.5**	**+0.1**
EFI	**East Falkland**	**21.30**	**155**	P	**P**	**13 25 05.7**	**+0.3**
QSPA	**South Pole Qui** comp=N,0.7nm,0.7s,baz=156,slow=2.6,SNR=2.3	**57.22**	**180**	P	**P**	**13 30 06.6**	**+0.8**
QSPA	**South Pole Qui** comp=Z,2.7nm,1.1s	**57.22**	**180**	IAmb	IAmb	13 30 22.7	
TORD	**Torodi Ar. Bea** comp=Z,1.1nm,0.8s,baz=245,slow=6.2,SNR=6.1	**84.00**	**70**	P	**P**	**13 32 49.6**	**+0.2**
TORD	**Torodi Ar. Bea** comp=Z,1.0nm,0.8s	**84.00**	**70**	IAmb	IAmb	13 33 18.0	
H11S2	**WAKE ISLAND Hyl** baz=118,slow=75,SNR=18	**25.65**	**270**	T	T	15 58 09.9	
H11S1	**WAKE ISLAND Hyl** baz=118,slow=75,SNR=13	**25.66**	**270**	T	T	15 58 09.3	
H11S3	**WAKE ISLAND Hyl** baz=118,slow=75,SNR=8.6	**25.67**	**270**	T	T	15 58 09.4	
MKAR	**Makanchi Array** comp=Z,0.4nm,0.7s,baz=291,slow=4.0,SNR=3.7	**156.20**	**47**	PKPab	**PKPab**	**13 40 41.2**	**+0.3**

MEX 29 13:36:30.5±0.9, 16°.55N×95°.39W, h63km±11km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.72**	**41**	*e*P	Pn	13 36 43.6	-1.6
CMIG				*e*S	Sn	13 36 53.8	-2.3
HUIG	**Huatulco**	**1.04**	**222**	*e*P	Pn	13 36 47.5	-1.7
HUIG				*e*S	Sn	13 37 01.8	-1.3
VHO	**Vista Hermosa**	**1.39**	**292**	*e*P	Pn	13 36 52.0	-2.1
VHO				*e*S	Sn	13 37 09.3	-2.4
PEIG	**Puerto Escondi**	**1.78**	**252**	*e*P	Pn	13 36 57.5	-1.5
PEIG				*i* S	Sn	13 37 18.6	-1.9
YOIG	**Yosondua**	**2.09**	**279**	*e*P	Pn	13 37 01.5	-2.1
YOIG				*i* S	Sn	13 37 26.3	-2.4
TOIG	**Toxpalan**	**2.23**	**314**	*i* P	Pn	13 37 06.3	+1.1
TOIG				*i* S	Sn	13 37 24.6	-7.0
PCIG		**2.24**	**112**	*i* P	Pn	13 37 03.9	-1.4
PCIG				*i* S	Sn	13 37 30.7	-1.2
PNIG	**Pinotepa**	**2.63**	**267**	*e*P	Pn	13 37 09.8	-0.9
PNIG				*e*S	Sn	13 37 39.1	-2.4

*IDC **29** 13:42:43.1±0.8, 33°.07S×71°.98W, h0km, mb4.2/8, mb1 4.4/12, mb1mx4.2/24, mbtmp4.2/12, ML4.3/4, MS4.0/10, Ms1 4.0/10, ms1mx3.8/22, Error ellipse: s-maj=27.1km s-min=21.4km az=86.0*

*VAO **29** 13:42:43.6±0.4, 32°.96S×72°.26W, h14km, mb4.5*

*NEIC **29** 13:42:44.8±1.7, 33°.02S±0°.03×72°.17W±0°.05, h15km±3km, mb4.7/23, Mwr4.6/59, ML4.4(GUC), Error ellipse: s-maj=7.0km s-min=3.1km az=67.0*

*GUC **29** 13:42:44.8±0.7, 33°.02S×72°.24W, h32km±3km, ML4.5*

*NEIC **29** 13:42:45.6, 33°.01S×72°.14W, h19km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_n2.73; $M_{\theta\theta}$2.36; $M_{\phi\phi}$-5.09; $M_{r\theta}$1.17; $M_{\theta\phi}$-2.12; $M_{\phi r}$-8.38; Fault plane solution: $M_0$9.78000×10^{15} NP1:φ≡51.93000°, δ21.53000°, λ149.54000°. NP2:φ≡170.61000°, δ79.28000°, λ71.22000°. Principal axes: T 8.7800, Plg52.0000°, Azm59.0000°; N 1.7574, Plg18.0000°, Azm174.0000°; P -10.5374, Plg32.0000°, Azm276.0000°;*

ISC 29 13:42:42.9±1.5, 33°.00S±0°.03×72°.27W±0°.04, h6km±9km, n156, σ1°$44/159, mb4.7/14, MS4.1/9, 8C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.52**	**93**	⇓*i* P	**Pg**	**13 42 54.6**	**+1.7**
VA01				*i* S	**Sb**	**13 43 01.7**	**-0.5**
VA01	**Torpederas**	**0.52**	**93**	Pg	**Pg**	**13 42 54.4**	**+1.5**
VA05	**Santo Domingo**	**0.85**	**140**	⇓*i* P	**Pb**	**13 43 00.4**	**+0.3**

VA05				*i* S		**Sb**	**13 43 11.2**	**-0.6**
VA05				IAML			13 43 12.8	
	comp=E,38μm,0.4s							
VA05	**Santo Domingo**	**0.85**	**140**			**Pb**	**13 43 00.2**	**+0.1**
VA05				Sg		**Sb**	**13 43 10.3**	**-1.5**
VA06	**Catapilco**	**0.93**	**62**	⇓ *i* P		**Pb**	**13 43 01.7**	**+0.4**
VA06				*i* S		**Sb**	**13 43 13.8**	**-0.1**
VA06				IAML			13 43 19.2	
	comp=N,32μm,0.6s							
MT01	**Popeta**	**1.21**	**136**	*i* P		**Pn**	**13 43 05.6**	**-0.7**
MT01				*i* S		**Sb**	**13 43 21.4**	**-0.7**
MT01				IAML			13 43 22.6	
	comp=N,23μm,0.3s							
MT01	**Popeta**	**1.21**	**136**			**Pn**	**13 43 05.7**	**-0.7**
MT09	**Talagante**	**1.32**	**126**	⇑ *i* P		**Pn**	**13 43 07.6**	**-0.4**
MT09				*i* S		**Sn**	**13 43 24.6**	**-1.4**
MT09				IAML			13 43 26.1	
	comp=N,12μm,0.3s							
MT09	**Talagante**	**1.32**	**126**			**Pn**	**13 43 07.4**	**-0.6**
MT05	**Renca**	**1.34**	**107**	⇓ *i* P		**Pn**	**13 43 08.0**	**-0.2**
MT05				*i* S		**Sn**	**13 43 25.1**	**-1.2**
MT05				IAML			13 43 30.0	
	comp=N,10μm,0.3s							
MT05	**Renca**	**1.34**	**107**	Pn		**Pn**	**13 43 07.8**	**-0.4**
VA03	**San Esteban**	**1.46**	**81**	⇑ *e*P		**Pn**	**13 43 09.7**	**-0.2**
VA03				*i* S		**Sb**	**13 43 29.1**	**-0.4**
VA03				IAML			13 43 35.6	
	comp=E,10μm,0.2s							
VA03	**San Esteban**	**1.46**	**81**			**Pn**	**13 43 09.5**	**-0.4**
BO03	**Pichilemu**	**1.51**	**170**	⇑ *i* P		**Pn**	**13 43 10.5**	**0.0**
BO03				*i* S		**Sn**	**13 43 28.4**	**-2.1**
BO01	**Tunca**	**1.70**	**145**	⇑ *i* P		**Pn**	**13 43 12.8**	**-0.3**
BO01				*i* S		**Sn**	**13 43 33.4**	**-1.9**
BO01	**Tunca**	**1.70**	**145**	Pn		**Pn**	**13 43 12.8**	**-0.3**
LMEL	**Las Melosas**	**1.92**	**117**	⇑ *i* P		**Pn**	**13 43 17.1**	**+0.8**
LMEL				*i* S		**Sb**	**13 43 41.3**	**-1.5**
LMEL				IAML			13 43 46.8	
	comp=N,7μm,0.2s							
GO05	**Huala**	**2.02**	**172**	⇑ *e*P		**Pn**	**13 43 17.5**	**-0.1**
GO05				*i* S		**Sn**	**13 43 43.5**	**+0.3**
GO05	**Huala**	**2.02**	**172**	Pn		**Pn**	**13 43 17.6**	**-0.1**
CO02	**Combarbal**	**2.09**	**31**	⇑ *i* P		**Pn**	**13 43 19.2**	**+0.7**
CO02				*i* S		**Sn**	**13 43 45.5**	**+0.6**
CO02	**Combarbal**	**2.09**	**31**			**Pn**	**13 43 19.2**	**+0.7**
BO02	**Sierra Bellavi**	**2.17**	**146**	⇑ *i* P		**Pn**	**13 43 20.4**	**+0.6**
BO02				*i* S		**Sn**	**13 43 46.9**	**-0.1**
BO02				IAML			13 43 55.6	
	comp=N,4μm,0.5s							
BO02	**Sierra Bellavi**	**2.17**	**146**			**Pn**	**13 43 20.3**	**+0.6**
CO06	**Fray Jorge**	**2.38**	**13**	*e*P		**Pn**	**13 43 22.6**	**+0.2**
CO06				IAML			13 44 11.2	
	comp=E,2μm,0.5s							
CO06	**Fray Jorge**	**2.38**	**13**			**Pn**	**13 43 22.0**	**-0.5**
CO03	**El Pedregal**	**2.54**	**32**	*e*P		**Pn**	**13 43 25.9**	**+1.2**
CO03	**El Pedregal**	**2.54**	**32**	Pn		**Pn**	**13 43 25.4**	**+0.7**
ML02	**Panimavida**	**2.84**	**166**	Pn		**Pn**	**13 43 28.5**	**-0.3**
GO04	**Tololo Observa**	**3.08**	**24**	*i* S		**Sn**	**13 44 10.1**	**+0.4**
GO04	**Tololo Observa**	**3.08**	**24**	Pn		**Pn**	**13 43 32.9**	**+0.6**
CO05	**La Serena**	**3.19**	**16**	Pn		**Pn**	**13 43 34.0**	**+0.4**
ZON	**Zonda**	**3.37**	**65**	Pn		**Pn**	**13 43 37.0**	**+0.9**
BI05	**Punta Hualpn**	**3.82**	**191**	*e*P		**Pn**	**13 43 42.3**	**+0.1**
LCO	**Las Campanas**	**4.20**	**19**			**Pn**	**13 43 47.9**	**+0.2**
AC04	**Llanos de Chal**	**4.89**	**12**	Pn		**Pn**	**13 43 56.4**	**-0.5**
VA04	**Juan Fernndez**	**5.53**	**262**	Pn		**Pn**	**13 44 07.5**	**+1.7**
H03N1	**Juan Fernandez**	**5.59**	**264**	T		T	13 50 59.0	
	baz=85,slow=73,SNR=57							
H03N3	**Juan Fernandez**	**5.60**	**264**	T		T	13 50 52.8	
	baz=85,slow=73,SNR=57							
H03N2	**Juan Fernandez**	**5.61**	**264**	T		T	13 50 59.6	
	baz=85,slow=73,SNR=51							
H03S1	**Juan Fernandez**	**5.62**	**260**	T		T	13 50 30.2	
	baz=86,slow=75,SNR=559							
H03S3	**Juan Fernandez**	**5.62**	**260**	T		T	13 50 31.6	
	baz=86,slow=75,SNR=557							
H03S2	**Juan Fernandez**	**5.63**	**260**	T		T	13 50 26.9	
	baz=86,slow=75,SNR=838							
GO03	**Copiap**	**5.67**	**19**	Pn		**Pn**	**13 44 07.5**	**-0.2**
LC01	**Cunco**	**5.89**	**177**	Pn		**Pn**	**13 44 10.2**	**-0.6**
AC02	**Maricunga**	**6.72**	**25**	Pn		**Pn**	**13 44 22.5**	**0.0**
PLCA	**Paso Flores**	**7.84**	**170**	Pn		**Pn**	**13 44 37.9**	**+0.3**
	comp=E,1.0nm,0.3s,baz=336,slow=12,SNR=16							
PLCA	**Paso Flores**	**7.84**	**170**	Pn		**Pn**	**13 44 37.7**	**+0.1**
PLCA	**Paso Flores**	**7.84**	**170**	*e*P		**Pn**	**13 44 37.3**	**-0.2**
LL04	**Puerto Octay**	**7.90**	**181**	Pn		**Pn**	**13 44 39.0**	**+0.7**
PB14	**IPOC Station P**	**8.50**	**12**	Pn		**Pn**	**13 44 44.3**	**-2.6**
LL01	**San Ignacio de**	**9.36**	**181**	Pn		**Pn**	**13 44 60.0**	**+1.7**
PB10	**IPOC Station P**	**9.57**	**9**	Pn		**Pn**	**13 45 01.8**	**+0.6**
TRQA	**Tornquist**	**9.78**	**124**	Pn		**Pn**	**13 45 03.0**	**-1.1**
TRQA	**Tornquist**	**9.78**	**124**	*e*P		**Pn**	**13 45 04.4**	**+0.3**
PB15	**IPOC Station P**	**10.06**	**15**	Pn		**Pn**	**13 45 06.0**	**-2.2**
LVC	**Limon Verde**	**10.77**	**17**	Pn		**Pn**	**13 45 15.8**	**-2.1**
	comp=E,1.0nm,0.3s,baz=200,slow=13,SNR=3.0							
LVC				Sn		Sn	13 47 31.9	+13
	comp=E,1.1nm,0.3s,baz=234,slow=7.1,SNR=3.6							
LVC				LR		LR	13 49 36.1	
	comp=E,591nm,21.4s,baz=203,slow=38							
LVC	**Limon Verde**	**10.77**	**17**	Pn		**Pn**	**13 45 15.2**	**-2.7**
LVC	**Limon Verde**	**10.77**	**17**	*e*P		**Pn**	**13 45 15.3**	**-2.7**
PB09	**IPOC Station P**	**11.48**	**14**	Pn		**Pn**	**13 45 25.2**	**-2.3**
LPA	**La Plata**	**12.05**	**103**	*e*P		**Pn**	**13 45 39.5**	**+4.3**
LPA				PPP		PPP	13 45 49.7	
LPA				PP		**PbPb**	**13 46 07.7**	**-6.5**
LPA				pPP			13 46 43.9	
LPA				S		**Sn**	**13 47 56.0**	**+6.1**
LPA				SSS		SSS	13 48 21.6	
LPA				SS		**SbSb**	**13 48 44.3**	**+5.0**
LPA				PCP		**PcP**	**13 51 18.9**	**-1.6**
LPA				SCS		**ScS**	**13 58 33.0**	**+3.2**
LPA				PKIKP		**PKiKP**	**13 59 14.7**	**-3.7**
LPA				SKIKP			14 03 03.1	
LPA				PKIKS			14 03 10.3	
LPA				SKIKS			14 06 27.6	
PB01	**IPOC Station P**	**12.16**	**12**	Pn		Pn	13 45 32.2	-4.6
PB08	**IPOC Station P**	**13.10**	**13**	Pn		**Pn**	**13 45 50.9**	**+1.0**
PSGCX	**Pisagua**	**13.48**	**9**	Pn		Pn	13 45 50.1	-4.8
ITQB	**Itaqui**	**13.77**	**80**	*e*P		**Pn**	**13 45 58.3**	**-0.4**
ITQB				*e*S		**Sn**	**13 48 32.1**	**0.0**
CPUP	**Villa Florida**	**14.58**	**67**	Pn		**Pn**	**13 46 09.9**	**+0.2**
	comp=E,0.5nm,0.3s,baz=244,slow=11,SNR=9.0							
CPUP				LR		LR	13 52 08.0	
	comp=E,1μm,18.2s,baz=246,slow=39							
CPUP	**Villa Florida**	**14.58**	**67**	Pn		**Pn**	**13 46 08.9**	**-0.9**
CPUP	**Villa Florida**	**14.58**	**67**	*e*P		**Pn**	**13 46 11.8**	**+2.1**
PLTB	**Pedras Altas**	**15.82**	**91**	Pn		**Pn**	**13 46 23.4**	**-2.8**
PLTB	**Pedras Altas**	**15.82**	**91**	*e*P		**Pn**	**13 46 25.7**	**-0.5**
CPSB	**Cacapava Do Su**	**16.23**	**86**	*e*P		**Pn**	**13 46 30.7**	**-0.9**
LPAZ	**La Paz**	**17.05**	**14**	Pn		**P**	**13 46 43.6**	**-0.9**
	comp=E,0.5nm,0.3s,baz=198,slow=8.4,SNR=18							
LPAZ	**La Paz**	**17.05**	**14**	Pn		**Pn**	**13 46 41.7**	**-0.9**
CNLB	**Canela**	**18.69**	**84**	*e*P		**P**	**13 47 01.5**	**-0.4**
PTGB	**Pitanga**	**19.50**	**70**	*e*P		**P**	**13 47 10.6**	**-0.3**
SIV	**San Ignacio**	**19.77**	**34**	P		**P**	**13 47 13.7**	**+0.3**
	comp=E,0.2nm,0.3s,baz=225,slow=12,SNR=17							
SIV				LR		LR	13 56 23.9	
	comp=E,574nm,18.9s,baz=240,slow=42							
TRCB	**Terra Rica**	**20.08**	**65**	*e*P		**P**	**13 47 16.9**	**-0.3**
TER01	**Tubaro-SC**	**20.36**	**84**	*e*P		**P**	**13 47 19.6**	**-0.6**
PTLB	**Pontes e Lacer**	**21.14**	**37**	*e*P		**P**	**13 47 28.5**	**-0.2**
NNA	**Nana**	**21.33**	**348**	LR		LR	13 54 19.0	
	comp=E,144nm,18.5s,baz=172,slow=32							
EFI	**East Falkland**	**21.34**	**155**	P		**P**	**13 47 30.5**	**0.0**
EFI				IAmb		IAmb	13 47 37.3	
	comp=Z,44nm,0.9s							
PCMB	**Pacaembu**	**21.80**	**64**	*e*P		**P**	**13 47 34.3**	**-1.4**
PP1B	**Ponte de Pedra**	**21.91**	**50**	*e*P		**P**	**13 47 36.0**	**-0.9**
FRTB	**Fartura**	**22.16**	**70**	*e*P		**P**	**13 47 36.1**	**-3.5**
SALV	**Santo Antonio**	**22.69**	**45**	*e*P		**P**	**13 47 44.2**	**-1.1**
VILB	**Vilhena**	**22.80**	**32**	*e*P		**P**	**13 47 46.1**	**-0.3**
PET01	**Itanhaem-SP**	**23.54**	**75**	*e*P		**P**	**13 47 53.6**	**-0.3**
ITRB	**Iturama**	**23.62**	**61**	*e*P		**P**	**13 47 53.2**	**-1.6**
ETMB	**Extrema**	**23.74**	**15**	*e*P		**P**	**13 47 55.9**	**-0.1**
SPB	**Sao Paulo**	**23.74**	**73**	P		**P**	**13 47 54.5**	**-1.5**
SPB	**Sao Paulo**	**23.74**	**73**	*e*P		**P**	**13 47 54.5**	**-1.5**
BB19B	**Bebedouro**	**24.20**	**67**	*e*P		**P**	**13 47 59.5**	**-0.8**
RCLB	**Rio Claro- Sao**	**24.25**	**71**	*e*P		**P**	**13 47 59.8**	**-1.0**
VAO	**Valinhos**	**24.40**	**72**	*e*P		**P**	**13 48 01.3**	**-1.0**
CZSB	**Cruzeiro do Su**	**25.15**	**359**	*e*P		**P**	**13 48 08.2**	**-0.8**
PARB	**Paraibuna**	**25.32**	**75**	*e*P		**P**	**13 48 09.6**	**-0.9**
IPMB	**Ipameri, GO**	**26.27**	**61**	*e*P		**P**	**13 48 18.6**	**-0.6**
ESAR	**Angra dos Reis**	**26.43**	**75**	*e*P		**P**	**13 48 20.1**	**-0.4**
CLDB	**Colider**	**26.73**	**38**	*e*P		**P**	**13 48 22.3**	**-0.9**
VAS01	**Vassouras-RJ**	**27.59**	**75**	*e*P		**P**	**13 48 31.2**	**+0.1**
BDFB	**Brasilia**	**27.94**	**58**	P		**P**	**13 48 33.8**	**-0.5**
	comp=Z,5.2nm,0.6s,baz=231,slow=4.5,SNR=5.9							
BDFB	**Brasilia**	**27.94**	**58**	P		**P**	**13 48 33.4**	**-0.9**
BDFB				IAmb		IAmb	13 48 34.4	
	comp=Z,14nm,1.1s							
SNDB	**Serra Nova Dou**	**28.41**	**47**	*e*P		**P**	**13 48 38.0**	**-0.3**
DUB01	**Friburgo-RJ**	**28.56**	**75**	*e*P		**P**	**13 48 38.6**	**-1.0**
NPGB	**Novo Progresso**	**30.22**	**35**	*e*P		**P**	**13 48 53.4**	**-1.0**
PEXB	**Peixe**	**30.23**	**52**	*e*P		**P**	**13 48 53.2**	**-1.4**
RIB01	**Linhares ES**	**31.55**	**72**	*e*P		**P**	**13 49 05.1**	**-1.0**
SDBA	**SAO DESIDERIO**	**32.34**	**57**	*e*P		**P**	**13 49 12.5**	**-0.7**
ITTB	**Itaituba**	**32.40**	**32**	*e*P		**P**	**13 49 12.8**	**-0.8**
SMTB	**Santa Maria do**	**33.12**	**49**	*e*P		**P**	**13 49 19.1**	**-0.8**
PRPB	**Parauapebas**	**33.89**	**43**	*e*P		**P**	**13 49 26.2**	**-0.5**
PTGA	**Pitinga**	**34.12**	**22**	P		**P**	**13 49 28.4**	**-0.2**
PTGA				IAmb		IAmb	13 49 30.1	
	comp=Z,15nm,1.2s							
GDU01	**Guandu, BA**	**35.41**	**65**	*e*P		**P**	**13 49 38.7**	**-1.1**
NBPN	**Ponto Novo - B**	**36.78**	**61**	*e*P		**P**	**13 49 50.8**	**-0.8**
BOAV	**Boa Vista**	**36.91**	**20**	*e*P		**P**	**13 49 50.9**	**-1.8**
MCPB	**Macapa, AP**	**37.63**	**34**	*e*P		**P**	**13 49 58.1**	**-0.6**
NBLA	**Lagarto - SE**	**38.47**	**63**	*e*P		**P**	**13 50 05.0**	**-0.9**
RUSC	**La Rusia**	**38.69**	**359**	P		**P**	**13 50 07.3**	**-0.8**
ROSB	**Rosrio**	**39.89**	**47**	*e*P		**P**	**13 50 17.0**	**-0.7**
NBMA	**Muriti-CE**	**40.18**	**58**	*e*P		**P**	**13 50 19.2**	**-1.0**
NBAN	**Anadia - AL**	**40.46**	**63**	*e*P		**P**	**13 50 21.3**	**-1.2**
BBSP	**Saint Philip**	**47.45**	**17**	*e*P		**P**	**13 51 17.5**	**-0.9**
VNA3	**Neumayer Olymp**	**50.35**	**158**	P		**P**	**13 51 41.5**	**+1.3**
VNA2	**Neumayer--Watz**	**51.01**	**157**	P		**P**	**13 51 45.0**	**-0.2**
SNAA	**Sanae**	**52.58**	**158**	P		**P**	**13 51 57.9**	**+0.9**
SNAA	**Sanae**	**52.58**	**158**	P		**P**	**13 51 57.1**	**+0.2**
SNAA				IAmb		IAmb	13 52 10.2	
	comp=Z,15nm,1.4s							
QSPA	**South Pole Qui**	**57.23**	**180**	P		**P**	**13 52 31.9**	**+1.1**
TXAR	**Lajitas Array**	**68.77**	**331**	P		**P**	**13 53 49.9**	**+2.0**
	comp=Z,0.8nm,0.9s,baz=144,slow=8.3,SNR=6.7							
PPT2	**Papeete2**	**70.19**	**262**	*e*S		S	14 03 17.4	+8.1
	comp=Z,68nm,23.5s							
PPT2	**Papeete2**	**70.19**	**262**	*e*LR		LR	14 15 26.4	
	comp=Z,160nm,30.0s							
PPT	**Papeete**	**70.20**	**262**	LR		LR	14 17 33.4	
	comp=Z,45nm,21.4s,baz=166,slow=30							
WVT	**Waverly**	**70.30**	**347**	P		**P**	**13 53 57.6**	**+0.7**
WVT				IAmb		IAmb	13 54 08.6	
	comp=Z,9.5nm,0.9s							
MNTX	**Cornudas Mount**	**71.55**	**331**	P		**P**	**13 54 04.3**	**-0.4**
MSTX	**Muleshoe**	**72.53**	**334**	P		**P**	**13 54 09.6**	**-1.1**
MSTX				IAmb		IAmb	13 54 23.8	
	comp=Z,12nm,1.1s							
P48A	**Milroy**	**73.12**	**349**	P		**P**	**13 54 14.5**	**+0.5**
MAW	**Mawson**	**74.19**	**164**	P		**P**	**13 54 20.1**	**+0.2**
	comp=Z,4.3nm,0.9s,baz=235,slow=6.0,SNR=6.4							
MAW				LR		LR	14 29 36.4	
	comp=Z,210nm,18.2s,baz=232,slow=38							
MAW	**Mawson**	**74.19**	**164**	P		**P**	**13 54 21.5**	**+1.5**
DBIC	**Dimbokro**	**75.04**	**72**	P		**P**	**13 54 25.0**	**-0.8**
	comp=Z,4.7nm,0.9s,baz=334,slow=5.4,SNR=3.2							
DBIC				LR		LR	14 26 02.4	
	comp=Z,48nm,18.3s,baz=180,slow=35							
X16A	**Lo Mia Camp, P**	**76.49**	**328**	P		**P**	**13 54 34.1**	**+0.3**
ECSD	**EROS Data Cent**	**79.54**	**342**	P		**P**	**13 54 51.5**	**+1.1**
ECSD				IAmb		IAmb	13 54 52.6	
	comp=Z,9.6nm,1.1s							
BOSA	**Boshof**	**80.70**	**118**	P		**P**	**13 54 57.5**	**+0.2**
	comp=Z,3.3nm,0.9s,baz=203,slow=3.9,SNR=4.0							
BOSA				LR		LR	14 27 07.8	
	comp=Z,82nm,19.4s,baz=185,slow=33							
BOSA	**Boshof**	**80.70**	**118**	IAmb		IAmb	13 55 17.6	
	comp=Z,14nm,1.4s							
PDAR	**Pinedale Array**	**82.79**	**333**	P		**P**	**13 55 10.0**	**+2.1**
	comp=Z,0.4nm,0.8s,baz=170,slow=7.1,SNR=2.1							
NVAR	**Mina Array Bea**	**82.96**	**325**	P		**P**	**13 55 11.9**	**+3.0**
	comp=Z,0.4nm,0.7s,baz=159,slow=4.6,SNR=4.0							
TORD	**Torodi Ar. Bea**	**84.05**	**70**	P		**P**	**13 55 14.8**	**0.0**
	comp=Z,4.4nm,0.9s,baz=256,slow=4.4,SNR=15							
TORD				LR		LR	14 29 48.7	
	comp=Z,125nm,21.6s,baz=265,slow=34							
TORD	**Torodi Ar. Bea**	**84.05**	**70**	IAmb		IAmb	13 55 16.1	
	comp=Z,6.0nm,1.0s							
ESDC	**Sonseca Array**	**96.02**	**46**	LR		LR	14 39 24.7	
	comp=Z,81nm,18.7s,baz=240,slow=36							
DZM	**Mont Dzumac**	**101.67**	**234**	*e*LR		LR	14 29 55.2	
	comp=Z,72nm,22.7s							
WRA	**Warramunga Arr**	**121.54**	**210**	PKP		**PKiKP**	**14 01 38.2**	**+0.1**
	comp=Z,0.7nm,1.1s,baz=137,slow=2.4,SNR=2.6							
H11S2	**WAKE ISLAND Hyd**	**25.59**	**270**	T		T	16 20 49.3	
	baz=118,slow=75,SNR=24							
H11S1	**WAKE ISLAND Hyd**	**25.60**	**270**	T		T	16 20 44.4	
	baz=118,slow=75,SNR=2.7							
H11S3	**WAKE ISLAND Hyd**	**25.61**	**270**	T		T	16 20 44.5	
	baz=118,slow=75,SNR=3.9							
BVAR	**Borovoye Array**	**146.67**	**42**	PKPbc		**PKPab**	**14 02 25.2**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=254,slow=4.3,SNR=6.9							
HYB	**Hyderabad**	**149.51**	**113**	*i* PKP		**PKPbc**	**14 02 33.0**	**-0.7**
ZALV	**Zalesovo Beam**	**153.48**	**31**	PKP		**PKPdf**	**14 02 35.5**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=305,slow=5.2,SNR=4.0							
ZALV				PKPbc		**PKiKP**	**14 02 42.7**	**+0.9**
	comp=Z,3.3nm,0.9s,baz=279,slow=3.9,SNR=8.1							
MKAR	**Makanchi Array**	**156.24**	**47**	PKPab		**PKPab**	**14 03 06.9**	**+0.8**
	comp=Z,2.5nm,1.0s,baz=285,slow=4.6,SNR=11							
MKAR	**Makanchi Array**	**156.24**	**47**			**PKPab**	**14 03 05.9**	**-0.2**

*TRN **29** 13:50:55.1, 13.82N×58.50W, h81km, MD4.1*
ISC 29 13:50:52.5±2.4, 13.83N±0.04×58.4W±0.1, h10km, n41, σ2s 02/59, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.24**	**235**	*e*S	**Sn**	**13 51 34.2**	**+1.5**
BBGH	**Gun Hill**	**1.30**	**238**	*e*P	**Pn**	**13 51 18.2**	**+1.4**
BBGH				*e*S	**Sn**	**13 51 34.9**	**+0.6**
BCHC	**Barbados, Cave**	**1.37**	**240**	*e*	**Pn**	**13 51 19.1**	**+1.5**
BCHC	**Barbados, Cave**	**1.37**	**240**	*e*	**Sn**	**13 51 35.6**	**-0.2**
MPOM	**Morne Pois Mar**	**2.44**	**285**	*e*P	**Pn**	**13 51 32.3**	**-0.1**
MPOM	**Morne Pois Mar**	**2.44**	**285**	*e*	**Pg**	**13 51 41.7**	**+2.3**
MPOM				*e*S	**Sn**	**13 52 00.3**	**-2.1**
MCLT	**Moule a Chique**	**2.45**	**268**	*e*P	**Pn**	**13 51 33.9**	**+1.2**
MCLT				*e*S	**Sn**	**13 52 01.6**	**-1.1**
SLBI	**Saint Lucia, B**	**2.49**	**275**	*e*P	**Pn**	**13 51 33.4**	**+0.3**
SLBI				*e*S	**Sn**	**13 52 02.0**	**-1.6**
SLCP	**Castries, St.**	**2.50**	**274**	*e*S	**Sn**	**13 52 02.3**	**-1.5**
ILAM	**Ilet Lapin Mar**	**2.56**	**292**	*e*P	**Pn**	**13 51 34.6**	**+0.6**
ILAM				*e*S	**Sn**	**13 52 04.0**	**-1.3**
LPMF	**Morne Lapointe**	**2.58**	**287**	*e*P	**Pn**	**13 51 34.7**	**+0.3**
ZAM	**Aeronautique**	**2.63**	**287**	*e*P	**Pn**	**13 51 35.4**	**+0.2**
BIM	**Bigot**	**2.66**	**285**	*e*S	**Sn**	**13 52 07.0**	**-0.8**
SSV	**Crater Summit**	**2.74**	**260**	*e*P	**Pn**	**13 51 37.3**	**+0.6**
SSV				*e*S	**Sn**	**13 52 08.8**	**-1.2**
SVV	**Soufriere Volc**	**2.77**	**260**	*e*P	**Pn**	**13 51 38.0**	**+1.0**
SVV				*e*S	**Sn**	**13 52 09.9**	**-0.5**
FDF	**Fort de France**	**2.79**	**289**	*e*P	**Pn**	**13 51 38.3**	**+0.9**
FDF				*e*S	**Sn**	**13 52 08.6**	**-2.7**
SVB	**Belmont**	**2.81**	**259**	*e*P	**Pn**	**13 51 37.7**	**+0.2**
SVB				*e*S	**Sn**	**13 52 09.0**	**-2.5**
BAMF	**Morne Balai**	**2.82**	**291**	*e*P	**Pn**	**13 51 38.9**	**+1.1**
CXM	**Morne La Croix**	**2.84**	**290**	*e*P	**Pn**	**13 51 39.4**	**+1.3**
SVN	**Savane Anatole**	**2.85**	**291**	*e*P	**Pn**	**13 51 39.5**	**+1.4**
PCM	**Pelee Case Pet**	**2.88**	**290**	*e*P	**Pn**	**13 51 39.6**	**+1.1**
DLPL	**La Plaine**	**3.12**	**299**	*e*	**Pn**	**13 51 43.8**	**+2.0**
DLPL				*e*S	**Sn**	**13 52 17.3**	**-1.8**
GCMP	**Grenada, Carri**	**3.22**	**246**	*e*P	**Pn**	**13 51 43.0**	**-0.1**
GCMP				*e*S	**Sn**	**13 52 19.2**	**-2.4**
TOSP	**Speyside**	**3.25**	**220**	*e*P	**Pn**	**13 51 44.0**	**+0.3**
TOSP				*e*S	**Sn**	**13 52 20.1**	**-2.3**
DSLB	**Salisbury**	**3.31**	**299**	*e*P	**Pn**	**13 51 45.4**	**+0.9**
DSLB				*e*S	**Sn**	**13 52 21.4**	**-2.6**
MDCT	**Cottage Hill,**	**3.44**	**301**	*e*P	**Pn**	**13 51 47.5**	**+1.3**
MDCT				*e*S	**Sn**	**13 52 24.4**	**-2.7**
GRSS	**Sisters**	**3.46**	**244**	*e*P	**Pn**	**13 51 47.3**	**+0.8**
MAGL	**Barre de l'ile**	**3.48**	**308**	*e*P	**Pn**	**13 51 48.2**	**+1.5**
MAGL				*e*S	**Sn**	**13 52 26.6**	**-1.4**
GRGR	**Grenville**	**3.58**	**242**	*e*P	**Pn**	**13 51 48.4**	**+0.3**
GRGR				*e*S	**Sn**	**13 52 28.1**	**-2.3**
GRFF	**Grenada Fort F**	**3.69**	**242**	*e*P	**Pn**	**13 51 50.3**	**+0.7**
GRFF	**Grenada Fort F**	**3.69**	**242**	*e*	**Sn**	**13 52 26.1**	**-7.0**
TDBA	**Terre de Bas,**	**3.70**	**303**	*e*P	**Pn**	**13 51 50.9**	**+1.1**
TDBA				*e*S	**Sn**	**13 52 31.2**	**-2.3**
TBG	**Guadaloupe-3**	**3.71**	**303**	*e*P	**Pn**	**13 51 50.8**	**+0.9**
TBG				*e*S	**Sn**	**13 52 31.7**	**-2.0**
CBE	**Ff, Capester**	**3.80**	**306**	*e*S	**Sn**	**13 52 33.1**	**-2.9**
TRN	**Trinidad (W)**	**4.30**	**223**	*e*P	**Pn**	**13 51 59.1**	**+1.1**
TRN	**Trinidad (W)**	**4.30**	**223**	*e*	**Sn**	**13 52 42.6**	**-5.7**
ANWB	**Willy Bob**	**5.01**	**320**	*e*P	**Pn**	**13 52 07.9**	**+0.2**
ANWB	**Willy Bob**	**5.01**	**320**	*e*S	**Sn**	**13 53 03.0**	**-2.7**
SKI	**Saint Kitts**	**5.43**	**310**	*e*	**Sn**	**13 53 15.6**	**-0.6**
SMRT	**St. Maarten**	**6.14**	**314**	*e*P	**Pn**	**13 52 24.1**	**+0.8**
SMRT	**St. Maarten**	**6.14**	**314**	*e*S	**Sn**	**13 53 29.0**	**-4.6**

KMA 29 14:01:25.9±0.2, 37.06N×125.08E, h8km, Error ellipse: s-maj=4.0km s-min=1.1km az=31.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DACB	**Daecheong-do R**	**0.83**	**339**	P	Pg	14 01 42.0	+0.1
	SNR=29						
DACB	**Daecheong-do R**	**0.83**	**339**	P	Pg	14 01 42.0	+0.1
	SNR=29						
KSDEI	**Deokjeokdo**	**0.84**	**76**	P	Pg	14 01 42.1	0.0
	SNR=10						
KSDEI	**Deokjeokdo**	**0.84**	**76**	P	Pg	14 01 42.1	0.0
	SNR=10						
KSBAR	**Backryungdo**	**0.96**	**343**	P	Pg	14 01 44.2	-0.2
	SNR=28						
KSBAR	**Backryungdo**	**0.96**	**343**	P	Pg	14 01 44.2	-0.2
	SNR=28						
KSGAH	**Ganghwa**	**1.27**	**59**	P	Pn	14 01 49.9	0.0
	SNR=9.8						
KSGAH	**Ganghwa**	**1.27**	**59**	P	Pn	14 01 49.9	0.0
	SNR=9.8						
HAWB	**Hwaseong-si**	**1.36**	**88**	P	Pn	14 01 50.0	-1.2
	SNR=5.9						
HAWB	**Hwaseong-si**	**1.36**	**88**	P	Pn

1.2nm,0.3s,baz=198,slow=20,SNR=1.4
PMG Port Moresby 15.57 104 Pn **Pn** **14 07 02.9 -0.5**
PMG IAmb IAmb 14 07 05.8
comp=Z,74nm,0.9s
PMG Port Moresby 15.57 104 P **Pn** **14 07 03.7 +0.3**
comp=Z,896nmcomp=Z,87nm,1.0s
KLNI Mataram 15.79 260 P **Pn** **14 07 05.7 -0.6**
comp=Z,26nm,0.7s
KBKI Kotabaru 15.83 279 P **Pn** **14 07 07.2 +0.4**
comp=Z,1µmcomp=Z,53nm,1.1s
QIS Mount Isa 16.34 153 P **Pn** **14 07 10.8 -2.4**
baz=16,SNR=46
BBKI Banjar Baru 17.11 278 P **P** **14 07 23.5 -0.5**
comp=Z,6µmcomp=Z,2µmcomp=Z,46nm,0.9s
MTSU Mount Surprise 17.16 136 P **Pn** **14 07 21.4 -2.1**
baz=17,SNR=43
ABJI Asem Bagus 17.56 263 P **P** **14 07 28.9 0.0**
comp=Z,107nm,0.9s
AS31 Alice Springs 17.69 174 Pn **Pn** **14 07 26.5 -3.6**
AS31 IAmb IAmb 14 07 31.6
comp=Z,29nm,0.4s
ASAR Alice Springs 17.69 174 P **Pn** **14 07 26.5 -3.5**
comp=Z,5.2nm,0.3s,baz=353,slow=15,SNR=182
ASAR S Sn 14 10 33.1 -13
comp=Z,1.9nm,0.3s,baz=358,slow=25,SNR=8.7
ASAR LR LR 14 14 45.7
comp=Z,178nm,19.4s,baz=352,slow=39
JAGI Jajag, Banyuwa 17.71 261 Pn **Pn** **14 07 27.2 -3.0**
JAGI IAmb IAmb 14 07 31.6
comp=Z,29nm,0.9s
KMMI Kalianget 17.78 266 P **P** **14 07 32.4 +1.1**
comp=Z,259nm,0.9s
BLJI Banyuglugur 18.19 263 P **Pn** **14 07 36.3 +0.2**
comp=Z,92nm,0.8s
PKKI Palangkaraya 18.19 281 P **Pn** **14 07 36.1 -0.1**
comp=Z,95nm,1.0s
WRKA Warakurna 19.25 190 P **P** **14 07 46.1 -1.3**
baz=19,SNR=250
CTA Charters Tower 19.82 136 P **Pn** **14 07 56.8 +1.1**
comp=Z,1.0nm,0.3s,baz=311,slow=12,SNR=22
CTA S S 14 11 24.5 -10
comp=Z,0.3nm,0.3s,baz=252,slow=21,SNR=3.0
CTAO Charters Tower 19.82 136 **P** **14 07 55.3 +1.6**
CTAO IAmb IAmb 14 08 00.1
comp=Z,24nm,0.8s
PWJI Pagerwojo 19.98 263 P Pn 14 08 06.6 +9.1
SJI Sawahan 19.99 264 P **P** **14 07 55.3 -0.4**
comp=Z,43nm,1.1s
UGM Wanagama 21.23 264 P **P** **14 08 09.2 +0.1**
SBUM Sibu 21.30 293 P **P** **14 08 11.0 +1.3**
KPJI Karang Pucung 22.78 265 P **P** **14 08 23.4 -2.2**
comp=Z,61nm,1.0s
CMJI Cimerak 23.28 264 P **P** **14 08 28.8 -1.8**
comp=Z,98nm,0.9s
QLP Quilpie 23.66 151 P **P** **14 08 35.3 +1.2**
baz=24,SNR=16
CISI Cisompet, Garu 23.89 265 P **P** **14 08 35.2 -1.2**
CISI Cisompet, Garu 23.89 265 P **P** **14 08 36.0 -0.5**
comp=Z,764nmcomp=Z,76nm,1.1s
LEM Lembang 24.07 267 P **P** **14 08 37.9 -0.4**
comp=Z,27nm,0.7s,baz=330,slow=20,SNR=2.7
MEEK Meekatharra 24.10 210 P **P** **14 08 38.5 +0.4**
baz=24,SNR=12
CNJI Cibinong 24.57 266 P **P** **14 08 41.4 -1.1**
comp=Z,2µmcomp=Z,251nm,1.1s
CBJI Citeko 24.84 268 P **P** **14 08 46.3 +1.3**
FORT Forrest 24.92 188 P **P** **14 08 46.5 +1.0**
baz=25,SNR=29
RMQ Roma 26.01 143 P **P** **14 08 55.1 -0.4**
baz=26,SNR=5.1
BBOO Buckleboo 26.98 172 P **P** **14 09 04.4 +0.2**
baz=27,SNR=17
STKA Stephens Creek 27.33 162 P **P** **14 09 08.3 +0.9**
baz=27,SNR=5.9
STKA Stephens Creek 27.33 162 P **P** **14 09 08.1 +0.7**
comp=Z,7.0nm,0.9s,baz=344,slow=8.6,SNR=8.8
STKA LR LR 14 21 21.7
comp=Z,189nm,18.1s,baz=355,slow=39
STKA Stephens Creek 27.33 162 P **P** **14 09 06.4 -0.9**
MORW Morawa 27.39 211 P **P** **14 09 08.3 +0.4**
baz=28,SNR=5.7
HTT Hallett 28.09 167 P **P** **14 09 14.2 0.0**
baz=28,SNR=6.1
BLDU Ballidu 28.32 208 P **P** **14 09 16.9 +0.7**
baz=28,SNR=14
NWAO Narrogin (SRO) 30.05 205 P **P** **14 09 32.4 +0.8**
baz=30,SNR=9.5
NWAO Narrogin (SRO) 30.05 205 P **P** **14 09 32.2 +0.6**
comp=Z,15nm,0.8s,baz=44,slow=8.1,SNR=13
NWAO LR LR 14 22 02.7
comp=Z,125nm,22.0s,baz=150,slow=37
ARPS Mount Arapiles 31.98 165 P **P** **14 09 50.3 +1.8**
baz=32,SNR=4.6
JOW Kunigami 32.80 354 P **P** **14 09 56.9 +1.1**
JOW IAmb IAmb 14 09 57.5
comp=Z,17nm,0.9s
MNSI Mandailing Nat 32.89 281 P **P** **14 09 56.7 -0.1**
UBPT Khong Chiam 33.59 309 P **P** **14 10 03.5 +0.7**
comp=Z,14nm,1.1s
UBPT Khong Chiam 33.59 309 P **P** **14 10 03.1 +0.3**
UBPT IAmb IAmb 14 10 04.1
comp=Z,9.6nm,0.8s
UBPT Khong Chiam 33.59 309 P **P** **14 10 02.8 0.0**
comp=Z,14nm,1.1s
PSI Prapat 34.00 284 P **P** **14 10 07.0 +0.4**
GSI Gunungsitoli 34.96 281 P **P** **14 10 13.8 -1.0**
GSI IAmb IAmb 14 10 16.9
comp=Z,9.9nm,0.8s
SKNT Sakolnakorn 35.75 310 P **P** **14 10 22.0 +0.5**
comp=Z,7.3nm,0.5s
CHAI Chaiyaphum 36.68 307 P **P** **14 10 29.9 +0.5**
comp=Z,285nmcomp=Z,17nm,1.0s
UTHA Uthaitani 38.56 304 P **P** **14 10 45.6 +0.3**
comp=Z,244nmcomp=Z,24nm,0.8s
PHIT Phitsanulok 38.65 307 P **P** **14 10 47.2 +1.2**
comp=Z,549nmcomp=Z,67nm,0.9s
UTTA Uttaradit 38.85 308 P **P** **14 10 49.9 +2.2**
comp=Z,10.0nm,0.8s
SUKH Sukhothai 39.43 307 P **P** **14 10 54.0 +1.4**
comp=Z,10nm,0.7s
NJ2 Nanjing 39.80 343 *e*P **P** **14 10 57.0 +1.6**
NJ2 pmax pmax
comp=Z,27nm,0.5s
PAYA Payao 40.31 309 P **P** **14 11 02.0 +2.1**
comp=Z,529nmcomp=Z,32nm,0.7s
CM04 Chiang Mai Arr 40.46 307 P **P** **14 11 03.5 +2.4**
comp=Z,68nmcomp=Z,10nm,0.8s
CM09 Chiang Mai Arr 40.47 308 P **P** **14 11 03.7 +2.5**
comp=Z,78nmcomp=Z,10nm,0.9s
CM01 Chiang Mai Arr 40.48 307 P **P** **14 11 03.0 +1.7**
comp=Z,9.5nm,0.9s
CM05 Chiang Mai Arr 40.48 307 P **P** **14 11 02.6 +1.3**
comp=Z,63nmcomp=Z,5.9nm,0.6s
CM02 Chiang Mai Arr 40.50 307 P **P** **14 11 02.8 +1.3**
comp=Z,66nmcomp=Z,6.9nm,0.8s
CM31 Chiang Mai Arr 40.52 308 P **P** **14 11 01.2 -0.4**
CM31 IAmb IAmb 14 11 27.5
comp=Z,6.8nm,0.9s
CMAR Chiang Mai Arr 40.52 308 P **P** **14 11 01.1 -0.4**
comp=Z,2.2nm,0.6s,baz=133,slow=7.0,SNR=16
CMAR LR LR 14 31 37.4
comp=Z,14nm,18.4s,baz=160,slow=42
CMAR Chiang Mai Arr 40.52 308 P **P** **14 11 00.9 -0.7**
CM13 Chiang Mai Arr 40.52 307 P **P** **14 11 03.9 +2.2**
comp=Z,61nmcomp=Z,8.0nm,1.0s
CM15 Chiang Mai Arr 40.53 307 P **P** **14 11 03.2 +1.5**
comp=Z,371nmcomp=Z,9.3nm,0.9s
CMMT Chiang Mai 40.71 308 P **P** **14 11 03.8 +0.6**
comp=Z,13nm,0.9s
CMMT Chiang Mai 40.71 308 P **P** **14 11 02.1 -1.1**
comp=Z,12nm,0.9s
CHTO Chiang Mai 40.71 308 P **P** **14 11 04.1 +0.9**
comp=Z,12nm,0.9s
CHTO Chiang Mai 40.71 308 P **P** **14 11 02.7 -0.5**
CHTO IAmb IAmb 14 11 28.4
comp=Z,9.2nm,0.9s
CHTO Chiang Mai 40.71 308 P **P** **14 11 02.7 -0.5**
JSG Sagara 40.88 8 P **P** **14 11 03.0 -1.4**
JWT Wachi 41.18 4 P **P** **14 11 06.7 -0.2**
JWT IAmb IAmb 14 11 15.8
comp=Z,27nm,1.1s
MAJO Matsushiro 42.72 8 P **P** **14 11 18.9 -0.5**
MAJO IAmb IAmb 14 11 32.3
comp=Z,9.1nm,1.0s
MJAR Matsushiro Arr 42.72 8 P **P** **14 11 18.7 -0.7**
comp=Z,3.3nm,0.8s,baz=193,slow=8.4,SNR=6.6
MJAR LR LR 14 27 28.1

comp=Z,66nm,21.3s,baz=245,slow=34
KSRS Korea Array 43.37 355 P **P** **14 11 25.0 +0.5**
comp=Z,0.8nm,0.7s,baz=181,slow=8.5,SNR=3.0
KSRS LR LR 14 28 02.3
comp=Z,24nm,20.0s,baz=182,slow=34
LZH Lanzhou 49.41 330 *e*P P 14 12 17.5 +5.3
LZH pP pwP 14 12 32.3 +0.8
LZH sP sP 14 12 39.0 +10
LZH pmax pmax
comp=Z,12nm,1.1s
USRK Ussuriysk Ar. 49.95 0 LR LR 14 32 57.3
comp=Z,21nm,20.4s,baz=124,slow=36
HHC Hu-ho-hao-te 50.18 340 *e*P P 14 12 23.0 +5.1
HHC pmax pmax
comp=Z,12nm,1.1s
HHC pmax pmax
comp=Z,90nm,5.5s
WHZ Wether Hill Ro 50.56 148 P **P** **14 12 21.4 +0.8**
WHZ IAmb IAmb 14 12 43.0
comp=Z,15nm,1.1s
LBZ Lake Benmore 50.84 145 P **P** **14 12 24.2 +1.3**
THZ Tophouse 50.98 141 P **P** **14 12 25.3 +1.4**
TUWZ Tuamarina 51.46 140 P **P** **14 12 28.1 +0.6**
KHZ Kahutara 51.73 141 P **P** **14 12 30.2 +0.8**
URZ Urewera 52.06 135 P **P** **14 12 31.8 -0.2**
URZ IAmb IAmb 14 12 55.0
comp=Z,12nm,1.2s
PALK Pallekele 52.68 284 P **P** **14 12 37.1 0.0**
GTA Gaotai 53.99 329 *e*P **P** **14 12 47.3 +1.0**
GTA pP pwP 14 13 05.0 -0.8
GTA sP sP 14 13 14.5 +11
GTA pmax pmax
comp=Z,3.0nm,1.1s
ODAN Odare 53.99 309 *e*P **P** **14 12 46.2 -0.5**
comp=Z,9.0nm,0.5s
TAPN Taplejung 54.00 310 *e*P **P** **14 12 46.0 -0.8**
comp=Z,12nm,0.4s
RAMN Ramite 54.65 309 *e*P **P** **14 12 51.6 +0.1**
comp=Z,16nm,0.4s
JIRN Jiri 55.32 310 *e*P **P** **14 12 55.0 -1.4**
comp=Z,9.7nm,0.6s
PKI Pulchoki 55.88 309 *e*P **P** **14 12 59.4 -1.0**
PKIN Phulchoki 55.89 309 *e*P **P** **14 12 58.9 -1.5**
comp=Z,8.1nm,0.6s
KKN Kakani 56.08 309 *e*P **P** **14 13 00.6 -1.1**
GKN Gorkha 56.68 309 *e*P **P** **14 13 05.4 -0.5**
comp=Z,17nm,0.5s
KOLN Koldanda 57.38 308 *e*P **P** **14 13 10.7 -0.2**
comp=Z,19nm,0.7s
HYB Hyderabad 57.52 295 *i* P **P** **14 13 09.0 -2.9**
ULN Ulaanbaatar 57.89 341 P **P** **14 13 15.1 +1.0**
ULN IAmb IAmb 14 13 43.9
comp=Z,5.4nm,1.1s
ULN Ulaanbaatar 57.89 341 P **P** **14 13 16.0 +1.9**
PYUN Piuthan 58.01 308 *e*P **P** **14 13 15.1 -0.2**
comp=Z,31nm,0.7s
SONM Songino Array 58.09 340 P **P** **14 13 16.1 +0.7**
comp=Z,0.8nm,0.6s,baz=150,slow=6.8,SNR=3.7
CASY Casey 61.99 190 P **P** **14 13 42.7 +1.0**
CASY IAmb IAmb 14 13 43.7
comp=Z,6.2nm,0.9s
PEA0B Petropavlovsk- 62.81 17 P **P** **14 13 46.7 -0.7**
WMQ Urumqi 63.56 326 *e*P **P** **14 13 55.3 +2.7**
MK31 Makanchi Array 68.39 326 P **P** **14 13 28.8 +0.2**
MK31 IAmb IAmb 14 14 52.6
comp=Z,6.7nm,1.0s
MKAR Makanchi Array 68.39 326 P **P** **14 14 24.2 +0.7**
comp=Z,3.5nm,0.6s,baz=113,slow=7.6,SNR=18
MKAR Makanchi Array 68.39 326 P **P** **14 14 23.8 +0.2**
KSH Kashi 68.52 317 P **P** **14 14 26.5 +1.9**
KSH pmax pmax
comp=Z,6.0nm,0.5s
MAKZ Makanchi 68.58 326 P **P** **14 14 24.7 -0.1**
MAKZ IAmb IAmb 14 14 53.6
comp=Z,6.7nm,0.8s
KDJ Kajisay 68.97 319 P **P** **14 14 27.4 0.0**
BOOM Boomskoye usch 69.95 319 P **P** **14 14 33.7 +0.2**
AAK Ala-Archa 70.96 319 P **P** **14 14 40.3 +0.7**
comp=Z,0.8nm,0.3s,baz=21,slow=14,SNR=2.5
AAK Ala-Archa 70.96 319 P **P** **14 14 39.8 +0.2**
ZAA0 Zalesovo Array 71.50 333 P **P** **14 14 42.2 -0.2**
ZALV Zalesovo Beam 71.50 333 P **P** **14 14 42.4 0.0**
comp=Z,1.8nm,0.7s,baz=108,slow=4.8,SNR=6.3
ZALV Zalesovo Beam 71.50 333 P **P** **14 14 42.0 -0.4**
GAR Garm 72.26 314 P **P** **14 14 47.4 -0.1**
GAR IAmb IAmb 14 15 12.3
comp=Z,12nm,0.8s
KURBB Kurchatov Arra 72.61 328 P **P** **14 14 49.6 +0.4**
comp=Z,1.5nm,0.5s,baz=127,slow=4.9,SNR=8.2
KURK Kurchatov 72.62 328 P **P** **14 14 49.6 +0.4**
VNDA Vanda 73.24 173 P **P** **14 14 53.7 +1.2**
comp=Z,2.5nm,0.8s,baz=298,slow=6.4,SNR=7.0
VNDA Vanda 73.24 173 P **P** **14 14 53.5 +1.1**
KKAR Karatay Array 73.79 318 P **P** **14 14 56.7 +0.3**
MAW Mawson 76.55 202 P **P** **14 15 12.7 +1.0**
baz=77,SNR=5.2
MAW Mawson 76.55 202 P **P** **14 15 13.5 +1.7**
comp=Z,5.5nm,0.9s,baz=62,slow=6.4,SNR=7.6
MAW Mawson 76.55 202 P **P** **14 15 13.2 +1.5**
BVAR Borovoye Array 78.19 327 P **P** **14 15 21.0 -0.2**
comp=Z,0.9nm,0.5s,baz=124,slow=7.2,SNR=4.0
SOCY Socotra 79.45 284 P **P** **14 15 28.7 -0.3**
NRIK Noril'sk 81.03 345 LR LR 14 52 57.5
comp=Z,28nm,21.3s,baz=224,slow=37
QSPA South Pole Qui 83.98 180 P **P** **14 15 52.3 +0.4**
QSPA IAmb IAmb 14 15 53.4
comp=Z,7.4nm,1.0s
LPAZ La Paz 150.34 139 PKPbc **PKiKP** **14 23 16.3 +0.8**
comp=Z,0.5nm,0.5s,baz=203,slow=5.8,SNR=4.1

*KRNET **29** 14:06:15.8±0.1, 42.˙84N×80.˙70E, h22km, mb3.9*
*SOME **29** 14:06:16.1, 42.˙90N×80.˙72E, h15km*
*NNC **29** 14:06:16.3±0.9, 42.˙96N×80.˙71E, h8km±3km, mb4.3, mpv4.0, Error ellipse: s-maj=6.3km s-min=3.2km az=143.0*
*IDC **29** 14:06:17.9±0.8, 43.˙02N×81.˙45E, h0km, mb3.8/1, mb1 3.6/4, mb1mx3.4/44, mbtmp3.6/4, ML3.1/3, MS3.7/4, Ms1 3.7/4, ms1mx2.8/53, Error ellipse: s-maj=19.9km s-min=7.9km az=107.0*
ISC 29 14:06:14.2±1.6, 42.˙98N±0.˙05×80.˙73E±0.˙05, h2km±11km, n73, σ1°40/109, MS3.6/4, 31C-14D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KTMS	**Ketmen**	**0.55**	**329**	⇓	*e*P	**Pn**	**14 06 28.5**	**-0.8**
KTMS	baz=37			⇓	*e*S	**Sn**	**14 06 37.9**	**-1.2**
KTMS	**Ketmen**	**0.55**	**329**	⇓	*e*P	**Pn**	**14 06 28.5**	**-0.8**
KTMS	389nm,0.1s				eS	**Sn**	**14 06 37.8**	**-1.2**
KTMS	**Ketmen**	**0.55**	**329**		P	**Pn**	**14 06 28.5**	**-0.8**
KTMS	389nm,0.1s				S	**Sn**	**14 06 37.8**	**-1.2**
PDGK	**Podgornoye**	**0.98**	**292**		P	**Pn**	**14 06 34.8**	**-0.3**
PDGK	315nm,0.2s				S	**Sn**	**14 06 49.0**	**-0.7**
PDGK	**Podgornoye**	**0.98**	**292**	⇑	P	**Pn**	**14 06 34.7**	**-0.4**
PDGK	147nm,0.2s			⇓	S	**Sn**	**14 06 48.8**	**-0.9**
UZB	**Uzynbulak**	**1.27**	**278**		*e*P	**Pg**	**14 06 39.3**	**+0.8**
UZB	baz=85				eS	**Sg**	**14 06 56.6**	**+1.7**
UZB	**Uzynbulak**	**1.27**	**278**		*e*P	**Pg**	**14 06 39.3**	**+0.8**
UZB	235nm,0.2s				eS	**Sg**	**14 06 56.6**	**+1.7**
UZB	**Uzynbulak**	**1.27**	**278**		P	**Pg**	**14 06 39.3**	**+0.8**
UZB	204nm,0.2s				S	**Sg**	**14 06 56.6**	**+1.7**
DJR	**Jarkent**	**1.52**	**333**	⇓	*e*P	**Pg**	**14 06 44.1**	**+0.8**
DJR	11nm,0.2s				eS	**Sg**	**14 07 05.1**	**+2.1**
DJR	**Jarkent**	**1.52**	**333**		P	**Pg**	**14 06 44.1**	**+0.8**
DJR	11nm,0.2s				S	**Sg**	**14 07 05.1**	**+2.1**

107nm,0.3s

KPKS Kokpek 1.58 289 *e*P **Pg** **14 06 44.6 +0.1**
baz=94
KPKS eS **Sg** **14 07 05.5 +0.6**
baz=94
KPKS Kokpek 1.58 289 *e*P **Pg** **14 06 44.6 +0.1**
455nm,0.2s
KPKS eS **Sg** **14 07 05.5 +0.6**
1µm,0.4s
SATY Saty 1.71 274 *e*P **Pb** **14 06 46.7 +0.2**
baz=78
SATY eS **Sg** **14 07 09.5 +0.3**
baz=78
SATY Saty 1.71 274 *e*P **Pb** **14 06 46.7 +0.2**
81nm,0.2s
SATY eS **Sg** **14 07 09.5 +0.3**
635nm,0.1s
SATY Saty 1.71 274 P **Pb** **14 06 46.7 +0.2**
81nm,0.2s
SATY S **Sg** **14 07 09.5 +0.3**
635nm,0.1s
ANVS Anan'yevo 2.26 266 ⇑ *i*P **Pn** **14 06 53.4 +0.5**
baz=70
ANVS ⇑ *i*S **Sn** **14 07 21.7 +0.2**
baz=70
TARG Taragay, Kyrgy 2.50 241 ⇑ *i*P **Pn** **14 06 56.5 +0.1**
baz=44
TARG ⇑ *i*S **Sn** **14 07 26.4 -1.3**
baz=44
KAPS Kapalarasan 2.51 337 ⇓ *e*P **Pb** **14 07 01.4 +1.3**
3.7nm,0.1s
KAPS eS **Sg** **14 07 34.7 -0.2**
27nm,0.2s
KAPS Kapalarasan 2.51 337 Pg **Pb** **14 07 01.4 +1.3**
3.7nm,0.3s
KAPS Lg Lg 14 07 34.7
27nm,0.3s
TDK Taldyqorghan 2.63 321 *e*P **Pg** **14 07 03.8 -0.9**
134nm,0.2s
TDK eS **Sg** **14 07 38.3 -0.4**
203nm,0.2s
TDK Taldyqorghan 2.63 321 Pg **Pg** **14 07 03.7 -0.9**
134nm,0.3s
TDK Lg Lg 14 07 38.3
188nm,0.4s
KOTS Kotyrbulak 2.67 277 *e*P **Pg** **14 07 04.2 -1.1**
25nm,0.2s
KOTS eS **Sg** **14 07 39.8 0.0**
262nm,0.2s
MDOK Medeo 2.71 275 *e*P **Pg** **14 07 05.3 -0.8**
13nm,0.2s
MDOK eS **Sg** **14 07 40.8 -0.4**
86nm,0.4s
MDOK Medeo 2.71 275 ⇓ Pg **Pg** **14 07 07.3 +1.2**
17nm,0.3s
MDOK ⇓ Lg Lg 14 07 40.7
52nm,0.5s
MDOK Medeo 2.71 275 Pg **Pg** **14 07 05.3 -0.8**
13nm,0.4s
MDOK Lg Lg 14 07 40.8
86nm,0.4s
KDJ Kajisay 2.76 253 ⇑ *i*P **Pn** **14 07 00.7 +1.0**
baz=56
KDJ ⇑ *i*S **Sn** **14 07 32.6 -1.1**
baz=56
KNDC Almaty 2.77 276 ⇑ Pg **Pg** **14 07 08.5 +1.2**
42nm,0.5s
KNDC ⇓ Sn **Sn** **14 07 35.4 +1.6**
49nm,0.4s
KNDC ⇑ Lg Lg 14 07 45.8
188nm,0.6s
TNSS Tian-Shan 2.78 273 *e*P **Pb** **14 07 05.8 +1.0**
14nm,0.2s
TNSS eS **Sg** **14 07 42.2 -1.3**
47nm,0.2s
TNSS Tian-Shan 2.78 273 Pg **Pb** **14 07 05.8 +1.0**
14nm,0.4s
TNSS Lg Lg 14 07 42.2
47nm,0.3s
AAA Alma-Ata 2.81 276 Pg **Pg** **14 07 07.1 -0.9**
37nm,0.2s
AAA Lg Lg 14 07 44.0
161nm,0.4s
CHKK Chushkaly 2.87 289 *e*P **Pb** **14 07 07.8 +1.6**
18nm,0.3s
CHKK eS **Sg** **14 07 45.2 -1.1**
80nm,0.2s
CHKK Chushkaly 2.87 289 Pg **Pb** **14 07 07.8 +1.6**
18nm,0.3s
CHKK Lg Lg 14 07 45.2
80nm,0.2s
IZV Izvestkoviy 3.02 273 *e*P **Pg** **14 07 11.2 -1.0**
28nm,0.2s
IZV eS **Sg** **14 07 51.0 -0.3**
93nm,0.2s
IZV Izvestkoviy 3.02 273 Pg **Pg** **14 07 11.2 -1.0**
20nm,0.2s
IZV Lg Lg 14 07 51.0
93nm,0.4s
KTBS Karatobe 3.05 285 *e*P **Pg** **14 07 11.3 -1.3**
19nm,0.2s
KTBS eS **Sg** **14 07 51.5 -0.6**
245nm,0.2s
KTBS Karatobe 3.05 285 Pg **Pg** **14 07 11.3 -1.3**
19nm,0.2s
KTBS Lg Lg 14 07 51.5
245nm,0.3s
MTBS Maitube 3.16 274 *e*P **Pb** **14 07 12.3 +1.1**
22nm,0.1s
MTBS eS **Sg** **14 07 53.3 -2.4**
69nm,0.2s
MTBS Maitube 3.16 274 Pg **Pb** **14 07 12.3 +1.1**
22nm,0.2s
MTBS Lg Lg 14 07 53.3
69nm,0.3s
KUU Kurty 3.33 287 *e*P **Pg** **14 07 16.5 -1.5**
18nm,0.4s
KUU eS **Sg** **14 08 00.2 -0.9**
68nm,0.2s
KUU Kurty 3.33 287 Pg **Pg** **14 07 16.5 -1.5**
18nm,0.6s
KUU Lg Lg 14 08 00.2
68nm,0.3s
ULHL Ulahol 3.40 259 ⇑ *i*P **Pn** **14 07 09.5 +1.0**
baz=61
ULHL ⇑ *i*S **Sn** **14 07 48.6 -0.8**
baz=61
KST Kastek 3.50 273 *e*P **Pb** **14 07 18.3 +1.3**
15nm,0.3s
KST eS **Sg** **14 08 03.8 -2.8**
43nm,0.5s
KST Kastek 3.50 273 Pg **Pb** **14 07 18.3 +1.3**
14nm,0.3s
KST Lg Lg 14 08 03.8
40nm,0.4s
BOOM Boomskoye usch 3.56 264 ⇑ *i*P **Pn** **14 07 11.5 +0.7**
baz=66
BOOM ⇑ *i*S **Sn** **14 07 52.6 -1.0**
baz=66
DGS Degeres 3.64 276 *e*P **Pg** **14 07 22.4 -1.6**
25nm,0.3s
DGS eS **Sg** **14 08 10.9 -0.3**
136nm,0.3s
DGS Degeres 3.64 276 Pg **Pg** **14 07 22.4 -1.6**
25nm,0.4s
DGS Lg Lg 14 08 10.9
136nm,0.9s
KRBS Karabastau 3.76 283 *e*P **Pb** **14 07 23.8 +2.4**
12nm,0.3s
KRBS eS **Sg** **14 08 13.3 -1.7**
45nm,0.5s
KRBS Karabastau 3.76 283 Pg **Pb** **14 07 23.8 +2.4**
12nm,0.5s
KRBS Lg Lg 14 08 13.3
45nm,0.5s
TKM2 Tokmak 2 3.77 271 ⇑ *i*P **Pn** **14 07 15.1 +1.5**
baz=73
TKM2 ⇑ *i*S **Sn** **14 07 58.4 -0.3**
baz=73
TKM2 Tokmak 2 3.77 271 ⇓ Pg **Pg** **14 07 25.6 -0.9**
8.3nm,0.4s
TKM2 ⇑ Lg Lg 14 08 14.8
30nm,0.4s
MAKZ Makanchi 3.93 13 ⇓ Pn **Pn** **14 07 17.4 +1.7**
4.4nm,0.3s
MAKZ ⇑ Sn **Sn** **14 08 04.6 +2.2**
3.7nm,0.3s
MAKZ ⇑ Lg Lg 14 08 19.1
19nm,0.5s

MK31	**Makanchi Array**	**3.97**	**16**	⇑Pn		**Pn**	**14 07 17.6**	**+1.4**
	1.2nm,0.2s,baz=197,slow=13,SNR=364							
MK31				⇑Sn		**Sn**	**14 08 03.6**	**+0.2**
	16nm,0.6s							
MK31				⇑Lg		Lg	14 08 21.1	
	23nm,0.5s,baz=194,slow=28,SNR=13							
MKAR	**Makanchi Array**	**3.97**	**16**	Pn		**Pn**	**14 07 18.1**	**+1.9**
	2.5nm,0.3s,baz=190,slow=12,SNR=154							
MKAR				Lg		Lg	14 08 20.4	
	4.7nm,0.3s,baz=195,slow=27,SNR=4.4							
KZA	**Kyzart**	**4.15**	**259**	⇑*eP*		**Pn**	**14 07 20.3**	**+1.3**
	baz=61							
KZA				⇑*iS*		**Sn**	**14 08 06.8**	**-1.6**
	baz=61							
CHMS	**Chumysh**	**4.39**	**272**	⇑*iP*		**Pn**	**14 07 23.5**	**+1.5**
	baz=74							
CHMS				⇑*iS*		**Sn**	**14 08 13.9**	**+0.2**
	baz=74							
AAK	**Ala-Archa**	**4.60**	**268**	⇑*iP*		**Pn**	**14 07 26.5**	**+1.5**
	baz=70							
AAK				⇑*iS*		**Sn**	**14 08 18.4**	**-0.7**
	baz=70							
AAK	**Ala-Archa**	**4.60**	**268**	⇑Pg		**Pg**	**14 07 42.4**	**0.0**
	5.3nm,0.5s							
AAK				⇑Lg		Lg	14 08 41.0	
	23nm,0.6s							
BTLS	**Baital**	**5.25**	**295**	*eP*		**Pg**	**14 07 50.9**	**-3.8**
	6.5nm,0.4s							
BTLS				*eS*		**Sg**	**14 08 59.1**	**-3.6**
	4.5nm,0.6s							
BTLS	**Baital**	**5.25**	**295**	Pg		**Pg**	**14 07 50.9**	**-3.8**
	6.5nm,0.4s							
BTLS				Lg		Lg	14 08 59.1	
	4.5nm,0.8s							
ZSN	**Zaisan**	**5.34**	**32**	*eP*		**Pg**	**14 07 53.7**	**-2.8**
	2.9nm,0.2s							
ZSN				*eS*		**Sg**	**14 09 04.1**	**-1.6**
	16nm,0.5s							
ZSN	**Zaisan**	**5.34**	**32**	Pg		**Pg**	**14 07 53.7**	**-2.8**
	2.9nm,0.2s							
ZSN				Lg		Lg	14 09 04.1	
	16nm,0.7s							
MRKS	**Merke**	**5.52**	**270**	*eP*		**Pg**	**14 07 58.6**	**-1.4**
	6.8nm,0.5s							
MRKS				*eS*		**Sg**	**14 09 12.6**	**+1.0**
	12nm,0.3s							
MRKS	**Merke**	**5.52**	**270**	Pg		**Pg**	**14 07 58.6**	**-1.4**
	6.4nm,0.5s							
MRKS				Lg		Lg	14 09 12.6	
	12nm,0.4s							
KK31	**Karatay Array**	**7.49**	**274**	⇓Pg		**Pg**	**14 08 37.0**	**-0.7**
	0.7nm,0.4s,baz=98,slow=12,SNR=3.8							
KK31				⇓Lg		Lg	14 10 12.5	
	3.2nm,0.5s,baz=93,slow=27,SNR=4.2							
KURBB	**Kurchatov Arra**	**7.80**	**350**	⇓Lg		Lg	14 10 24.6	
	19nm,0.6s							
OTUK	**Ortayu**	**7.90**	**315**	⇑Pn		Pn	14 08 14.9	+4.8
	1.7nm,0.7s							
OTUK				⇑Lg		Lg	14 10 25.3	
	7.6nm,0.8s							
ZALV	**Zalesovo Beam**	**11.31**	**12**	Pn		**Pn**	**14 08 56.8**	**+0.1**
	0.1nm,0.3s,baz=191,slow=13,SNR=2.5							
SONM	**Songino Array**	**18.62**	**66**	P		**Pn**	**14 10 31.9**	**-1.3**
	0.3nm,0.3s,baz=264,slow=11,SNR=2.2							
PETK	**Petropavlovsk-**	**50.08**	**50**	LR		LR	14 36 13.3	
	comp=Z,23nm,19.0s,baz=181,slow=36							
KEST	**Kesra**	**54.16**	**288**	LR		LR	14 46 09.1	
	comp=Z,276nm,18.1s,baz=272,slow=44							
LEM	**Lembang**	**55.26**	**147**	LR		LR	14 44 31.9	
	comp=Z,53nm,18.4s,baz=306,slow=42							
TORD	**Torodi Ar. Bea**	**73.17**	**272**	P		P	14 17 54.4	+7.7
	0.6nm,0.6s,baz=50,slow=4.8,SNR=6.0							
BBB	**Bella Bella**	**81.98**	**17**	LR		LR	15 00 41.4	
	comp=Z,24nm,18.8s,baz=307,slow=40							

IDC 29 14:19:13.8±0.8, 0.75S×130.96E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.4/38, mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=12.1km s-min=2.2km az=171.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**0.33**	**111**	Pg	Pg	14 19 20.0	0.0
	119nm,0.3s,baz=210,slow=22,SNR=287						
SIJI				Lg	Lg	14 19 24.5	
	baz=180,slow=20						
FITZ	**Fitzroy Crossi**	**18.01**	**197**	P	P	14 23 26.2	-0.2
	0.1nm,0.3s,baz=26,slow=14,SNR=2.3						
WRA	**Warramunga Arr**	**19.36**	**170**	P	P	14 23 39.4	-1.7
	0.1nm,0.3s,baz=351,slow=13,SNR=3.0						
ASAR	**Alice Springs**	**22.96**	**173**	P	P	14 24 20.0	0.0
	0.9nm,0.6s,baz=351,slow=11,SNR=21						
MKAR	**Makanchi Array**	**63.63**	**325**	P	P	14 29 46.6	-0.1
	0.1nm,0.4s,baz=117,slow=8.8,SNR=2.0						

PGC 29 14:27:33.6±1.0, 50.67N×130.45W, h10km, MLSn3.1/33, Mw3.7/33, 213km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.47**	**90**	Pn	Pn	14 27 58.4	-1.9
HOLB				Sn	Sn	14 28 15.9	-3.7
HG4B	**Hotspring**	**1.69**	**344**	Pn	Pn	14 28 00.7	-2.5
HG4B				Sn	Sn	14 28 21.4	-3.6
BPBC	**Brooks Peninsu**	**1.79**	**106**	Pn	Pn	14 28 02.3	-2.3
PACB	**Port Alice, BC**	**1.90**	**96**	Pn	Pn	14 28 04.2	-1.8
PACB				Sn	Sn	14 28 25.9	-4.1
PHC	**Port Hardy**	**1.92**	**88**	Pn	Pn	14 28 04.7	-1.6
PHC				Sn	Sn	14 28 26.7	-3.8
BNB	**Barry Inlet**	**2.07**	**337**	Pn	Pn	14 28 06.2	-2.4
BBB	**Bella Bella**	**2.10**	**43**	Pn	Pn	14 28 07.0	-1.8
BBB				Sn	Sn	14 28 30.8	-4.3
MAYB	**Maynard**	**2.11**	**96**	Pn	Pn	14 28 07.5	-1.5
MAYB				Sn	Sn	14 28 31.2	-4.2
EDB	**Eliza Dome**	**2.28**	**109**	Pn	Pn	14 28 09.0	-2.2
EDB				Sn	Sn	14 28 35.6	-3.7
TLCB	**Telegraph Cove**	**2.30**	**92**	Pn	Pn	14 28 10.5	-1.1
TLCB				Sn	Sn	14 28 37.2	-2.8
WOSB	**Woss**	**2.53**	**100**	Pn	Pn	14 28 13.8	-1.0
MOBC	**Moresby Island**	**2.65**	**340**	Pn	Pn	14 28 14.6	-1.8
MOBC				Sn	Sn	14 28 45.9	-2.8
BNKB	**Banks Island**	**2.69**	**7**	Pn	Pn	14 28 14.9	-2.0
BUTB	**Butedale**	**2.69**	**26**	Pn	Pn	14 28 15.5	-1.6
BUTB				Sn	Sn	14 28 47.2	-2.5
NCRB	**Newcastle Ridg**	**2.81**	**94**	Pn	Pn	14 28 17.3	-1.5
BNAB	**Bonilla**	**2.83**	**358**	Pn	Pn	14 28 17.1	-1.7
DIB	**Dawson Inlet,**	**2.83**	**334**	Pn	Pn	14 28 18.1	-0.7
DIB				Sn	Sn	14 28 50.3	-2.7
ETB	**Estevan Point**	**2.83**	**116**	Pn	Pn	14 28 17.5	-1.4
VIB	**Van Inlet**	**2.89**	**334**	Pn	Pn	14 28 17.0	-1.9
VIB				Sn	Sn	14 28 52.0	-2.7
GDR	**Gold River**	**2.97**	**106**	Pn	Pn	14 28 19.3	-1.5
HWKB	**Hawksbury Isla**	**3.04**	**15**	Pn	Pn	14 28 20.2	-1.6
GRNB	**Grenville Isla**	**3.19**	**5**	Pn	Pn	14 28 22.3	-1.6
TOFB	**Tofino**	**3.30**	**116**	Pn	Pn	14 28 23.9	-1.4
TOFB				Sn	Sn	14 29 01.2	-3.4
CBB	**Campbell River**	**3.32**	**99**	Pn	Pn	14 28 24.8	-0.8
CBB				Sn	Sn	14 29 01.4	-3.6
BTB	**Buttle Lake**	**3.39**	**109**	Pn	Pn	14 28 25.5	-1.3
BTB				Sn	Sn	14 29 03.5	-3.7
MWAB	**Mount Washingt**	**3.43**	**104**	Sn	Sn	14 29 04.5	-3.5
KITB	**Kitimat**	**3.59**	**17**	Pn	Pn	14 28 28.1	-1.1
B012	**Ucluelet**	**3.63**	**117**	Sn	Sn	14 29 08.2	-4.4
NDB	**Naden**	**3.63**	**336**	Pn	Pn	14 28 28.7	-1.2
OZB	**Mount Ozzard**	**3.64**	**116**	Pn	Pn	14 28 28.4	-1.6
RUBB	**Prince Rupert**	**3.66**	**2**	Pn	Pn	14 28 28.9	-1.4
B928	**Bamfield**	**3.90**	**116**	Pn	Pn	14 28 32.8	-0.8
B928				Sn	Sn	14 29 16.4	-3.0
TXB	**Texada**	**3.98**	**102**	Pn	Pn	14 28 34.0	-0.8
MGB	**Mount Grey**	**4.08**	**112**	Pn	Pn	14 28 35.6	-0.6
MGB				Sn	Sn	14 29 19.8	-4.3
SHB	**Sechelt**	**4.36**	**102**	Pn	Pn	14 28 39.5	-0.5
SHB				Sn	Sn	14 29 28.3	-2.6
NLLB	**Nanaimo Lost L**	**4.41**	**107**	Sn	Sn	14 29 28.3	-3.7
PFB	**Port Renfrew**	**4.43**	**116**	Pn	Pn	14 28 40.5	-0.5
UBRB	**Upper Baezaeko**	**4.53**	**58**	Pn	Pn	14 28 42.7	+0.3
UBRB				Sn	Sn	14 29 33.2	-1.9
GOBB	**Galiano Island**	**4.81**	**108**	Pn	Pn	14 28 46.0	0.0
OBC	**Olympics--Boni**	**4.93**	**120**	Pn	Pn	14 28 48.4	+0.6
PGC	**Sidney**	**4.97**	**111**	Sn	Sn	14 29 43.0	-2.8
B009	**North Saanich**	**4.97**	**111**	Sn	Sn	14 29 42.4	-3.4
B011	**North Saanich**	**4.97**	**111**	Sn	Sn	14 29 42.7	-3.1
SNB	**Saturna Island**	**5.09**	**109**	Sn	Sn	14 29 45.5	-3.1
HNBB	**Haney**	**5.26**	**102**	Sn	Sn	14 29 49.9	-3.2
FSB	**Fort Saint Jam**	**5.33**	**42**	Pn	Pn	14 28 53.1	-0.2
LLLB	**Lillooet**	**5.45**	**87**	Pn	Pn	14 28 54.5	-0.4
VDB	**Vedder Mountai**	**5.64**	**104**	Pn	Pn	14 28 57.8	+0.3
HDW	**Hoodsport**	**5.71**	**119**	Pn	Pn	14 28 59.2	+0.6
CMW	**Cultus Mountai**	**5.87**	**109**	Pn	Pn	14 29 00.9	+0.2
JCW	**Jim Creek**	**6.08**	**111**	Pn	Pn	14 29 04.7	+1.1
RPW	**Rockport**	**6.22**	**108**	Pn	Pn	14 29 05.6	0.0
FMW	**Mount Fremont**	**6.90**	**119**	Pn	Pn	14 29 16.9	+2.0
LTY	**Liberty**	**7.28**	**114**	Pn	Pn	14 29 21.3	+1.2
BMBC	**Bull Mountain**	**7.33**	**40**	Pn	Pn	14 29 21.5	+0.8
BMBC				Sn	Sn	14 30 42.7	-1.1
DLBC	**Dease Lake**	**7.79**	**2**	Sn	Sn	14 30 53.8	-1.3
NBC5	**NorthernBC 5**	**8.24**	**31**	Pn	Pn	14 29 34.2	+1.0

IDC 29 14:36:35.2±17.0, 6.58N×92.11E, h0km, mb3.7/2, mb1 3.7/3, mb1mx3.5/48, mbtmp3.7/3, ML3.8/1, Error ellipse: s-maj=329.5km s-min=25.6km az=153.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.56**	**29**	Pn	Pn	14 39 49.0	0.0
	0.1nm,0.3s,baz=216,slow=13,SNR=5.6						
H08S3	**Diego Garcia H**	**24.13**	**235**	T	T	15 07 48.1	
	baz=56,slow=76,SNR=12						
H08S2	**Diego Garcia H**	**24.13**	**234**	T	T	15 07 39.2	
	baz=56,slow=76,SNR=12						
H08S1	**Diego Carcia H**	**24.15**	**234**	T	T	15 07 45.7	
	baz=56,slow=76,SNR=8.1						
MKAR	**Makanchi Array**	**40.95**	**350**	P	P	14 44 19.1	-0.5
	0.6nm,0.8s,baz=161,slow=9.2,SNR=5.3						
ZALV	**Zalesovo Beam**	**47.60**	**354**	P	P	14 45 13.1	+0.4
	0.6nm,0.3s,baz=163,slow=10,SNR=4.0						

*BJI **29** 14:39:10.1±0.0, 1.64N×127.43E, h103km, mB5.1/23, mb4.7/40*
*NEIC **29** 14:39:13.8±2.2, 2.05N±0.05×127.32E±0.07, h98km±6km, mb4.9/74, Error ellipse: s-maj=10.6km s-min=7.2km az=74.0*
*IDC **29** 14:39:13.8±1.4, 1.97N×127.35E, h103km±12km, mb4.2/16, mb1 4.3/20, mb1mx4.1/44, mbtmp4.6/20, MS3.2/8, Ms1 3.2/8, ms1mx3.0/41, Error ellipse: s-maj=17.9km s-min=8.0km az=78.0*
*DJA **29** 14:39:13.4±0.4, 2.7N±3.3×12.7E±*, h78km±5km, M4.9/14, mb5.2/14, mB5.2/11, MLv5.2/13, Mw(mB)4.6/11*
*KLM **29** 14:39:16, 2.07N×127.18E, h45km, mb4.9*

ISC 29 14:39:14.2±0.3, 1.98N±0.03×127.29E±0.05, h112km, n233, σ1§31/250, mb4.8/72, 2C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMI	**Galela, Maluku**	**0.52**	**106**	P	**Pn**	**14 39 28.8**	**-2.6**
GAMI				S	**Sn**	**14 39 40.5**	**-3.8**
TNTI	**Ternate**	**1.20**	**176**	Pn	**Pn**	**14 39 37.0**	**-0.8**
TNTI				Sn	**Sn**	**14 39 54.1**	**-1.4**
TNTI	**Ternate**	**1.20**	**176**	P	**Pn**	**14 39 37.1**	**-0.7**
TNTI				S	**Sn**	**14 39 54.9**	**-0.7**
SGSI	**Sangihe**	**2.44**	**314**	P	**Pn**	**14 39 49.8**	**-3.2**
MNI	**Manado**	**2.51**	**258**	P	**Pn**	**14 39 52.7**	**-1.2**
KMSI	**Cibinong**	**3.59**	**247**	P	**Pn**	**14 40 07.9**	**-0.3**
SANI	**Sanana**	**4.21**	**198**	P	**Pn**	**14 40 14.7**	**-1.8**
GTOI	**Gorontalo**	**4.48**	**253**	P	**Pn**	**14 40 20.3**	**+0.2**
SWI	**Sorong**	**4.87**	**125**	P	**Pn**	**14 40 25.8**	**+0.4**
SIJI	**Sorong**	**4.88**	**125**	P	**Pn**	**14 40 25.0**	**-0.6**
	10.0nm,0.3s,baz=312,slow=9.0,SNR=20						
SIJI				LR	LR	14 42 34.7	
	comp=Z,289nm,19.9s,baz=27,slow=42						
SIJI	**Sorong**	**4.88**	**125**	P	**Pn**	**14 40 24.9**	**-0.6**
DAV	**Davao City (W)**	**5.34**	**341**	P	**Pn**	**14 40 30.1**	**-1.6**
	72nm,0.3s,baz=29,slow=3.7,SNR=3.7						
DAV				S	**Sn**	**14 41 28.4**	**-3.5**
	46nm,0.3s,baz=234,slow=19,SNR=2.4						
DAV				LR	LR	14 43 01.6	
	comp=Z,380nm,18.4s,baz=134,slow=42						
KRAI	**Karang Ratu**	**5.38**	**168**	P	**Pn**	**14 40 34.6**	**+2.4**
LUWI	**Luwuk**	**5.43**	**236**		**Pn**	**14 40 32.8**	**-0.1**
LUWI	**Luwuk**	**5.43**	**236**	P	**Pn**	**14 40 33.5**	**+0.6**
	5.5nm6μm195nm,0.6s						
KCP	**Kidapawan**	**5.46**	**336**	⇑*iP*	**Pn**	**14 40 31.9**	**-1.4**
KCP				*iS*	**Sn**	**14 41 35.9**	**+0.9**
MSAI	**Masohi**	**5.54**	**163**	P	Pn	14 40 41.8	+7.4
MRSI	**Marisa**	**5.55**	**254**	P	**Pn**	**14 40 35.2**	**+0.6**
	1.7nm3μm256nm,0.6s						
APSI	**Ampana**	**6.33**	**243**	P	**Pn**	**14 40 45.4**	**+0.3**
	1.6nm2μm151nm,0.8s						
TOLI2	**Tolitoli**	**6.56**	**263**		**Pn**	**14 40 46.6**	**-1.7**
FAKI	**Fak Fak**	**6.95**	**134**	Pn	**Pn**	**14 40 54.2**	**+0.8**
MPSI	**Mapaga**	**7.57**	**258**	P	**Pn**	**14 41 01.9**	**0.0**
	0.2nm636nm56nm,0.7s						
KKSI	**Kolaka, Sulawe**	**8.31**	**223**	P	**Pn**	**14 41 10.3**	**-1.7**
SNPH	**Sibulan**	**8.35**	**331**	*eP*	**Pn**	**14 41 11.2**	**-1.4**
TTSI	**Tana Toraja**	**8.98**	**236**	P	**Pn**	**14 41 20.5**	**-0.6**
	2μm157nm,0.6s						
BNSI	**Bone**	**9.58**	**229**	P	**Pn**	**14 41 27.9**	**-1.3**
	1μm94nm,0.5s						
BKSI	**Bulukumba**	**10.19**	**225**	P	**Pn**	**14 41 38.2**	**+0.7**
	733nm49nm,0.5s						
KAPI	**Kappang**	**10.25**	**227**	P	**Pn**	**14 41 38.0**	**-0.3**
	7.0nm,0.3s,baz=355,slow=5.5,SNR=8.7						
KAPI				S	**Sn**	**14 43 25.9**	**-5.4**
	2.1nm,0.3s,baz=246,slow=20,SNR=1.7						
KAPI	**Kappang**	**10.25**	**227**	P	**Pn**	**14 41 38.4**	**+0.1**
	38nm,0.7s						
SPMM	**Sapulut**	**11.14**	**284**	P	**Pn**	**14 41 51.0**	**+0.6**
MMRI	**Maumere**	**11.69**	**205**	Pn	**Pn**	**14 41 58.4**	**+0.8**
MMRI	**Maumere**	**11.69**	**205**	P	P	14 42 12.9	+6.7
EDFI	**Ende, Flores**	**12.03**	**208**	P	**Pn**	**14 42 01.9**	**-0.4**
	542nm57nm,0.7s						
SOEI	**Soe**	**12.04**	**194**	Pn	**Pn**	**14 42 02.6**	**+0.2**
SOEI	**Soe**	**12.04**	**194**	P	**P**	**14 42 11.3**	**+0.8**
BATI	**Baumata**	**12.63**	**197**	P	**Pn**	**14 42 11.5**	**+1.4**
	3.2nm,0.3s,baz=267,slow=19,SNR=4.1						
BATI	**Baumata**	**12.63**	**197**	P	**Pn**	**14 42 11.3**	**+1.2**
	55nm,1.0s						
LBFI	**Labuhan Bajo,**	**12.74**	**215**	P	**Pn**	**14 42 11.0**	**-0.5**
GENI	**Genyem**	**13.65**	**109**	P	**P**	**14 42 28.1**	**-0.1**
WBSI	**Waikabubak, Su**	**13.97**	**214**	P	**Pn**	**14 42 28.0**	**+0.5**
	1μm118nm,0.8s						
PLAI	**Plampang**	**14.33**	**221**	P	**P**	**14 42 33.9**	**-1.8**
	3μm360nm,1.0s						
TWSI	**Taliwang, Sumb**	**14.87**	**224**	P	**P**	**14 42 42.0**	**+0.2**
	2μm166nm,1.1s						
KLNI	**Mataram**	**15.21**	**227**	P	**P**	**14 42 46.9**	**+1.3**
MTN	**Manton Dam**	**15.21**	**166**	P	**Pn**	**14 42 42.7**	**-0.5**
	baz=15,SNR=29						
KDU	**Kakadu**	**15.45**	**161**	P	**Pn**	**14 42 44.1**	**-2.1**
	baz=16,SNR=13						
KHKI	**Kahang-Kahang**	**15.54**	**228**	P	**P**	**14 42 50.2**	**+1.0**
KMMI	**Kalianget**	**16.04**	**236**	P	**P**	**14 42 56.5**	**+1.7**
	218nm,0.8s						
BYJI	**Banyuwangi**	**16.40**	**232**	P	P	14 43 07.1	+8.4
JAGI	**Jajag, Banyuwa**	**16.71**	**231**		**P**	**14 43 02.8**	**+0.5**
JAGI				IAmb	IAmb	14 43 07.2	
	comp=Z,50nm,0.8s						
JAGI	**Jajag, Banyuwa**	**16.71**	**231**	P	**Pn**	**14 43 01.2**	**-0.7**
KNRA	**Kununurra**	**17.60**	**175**	P	**P**	**14 43 11.7**	**-0.3**
	baz=18,SNR=34						
PWJI	**Pagerwojo**	**18.37**	**237**	P	**Pn**	**14 43 22.8**	**+1.0**
	comp=Z,88nm,0.8s						
PCJI	**Pacitan**	**18.98**	**238**	P	**Pn**	**14 43 29.4**	**+0.3**
UGM	**Wanagama**	**19.40**	**239**	P	**P**	**14 43 31.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**20.02**	**185**	P	**P**	**14 43 37.5**	**-0.9**
	baz=20,SNR=101						
FITZ	**Fitzroy Crossi**	**20.02**	**185**	P	**P**	**14 43 37.4**	**-0.9**
	comp=Z,32nn,0.6s,baz=14,slow=8.4,SNR=163						
FITZ				ScP	**ScP**	**14 51 16.9**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=343,slow=6.4,SNR=1.6						
GUMO	**Guam**	**20.86**	**56**	P	**P**	**14 43 46.3**	**-1.1**
	comp=Z,43nn,0.5s,baz=225,slow=8.4,SNR=4.6						
GUMO	**Guam**	**20.86**	**56**	P	**P**	**14 43 46.2**	**-1.2**
GUMO				IAmb	IAmb	14 43 49.1	
	comp=Z,60nm,0.8s						
GUMO	**Guam**	**20.86**	**56**	P	**P**	**14 43 46.8**	**-0.6**
TWG	**Pinlang**	**21.58**	**344**	P	**P**	**14 43 52.1**	**-2.9**
TWG				IAmb	IAmb	14 44 02.9	
	comp=Z,74nm,1.1s						
YULB	**Yu-li**	**22.06**	**345**	P	**P**	**14 43 57.9**	**-2.2**
YULB				IAmb	IAmb	14 43 59.8	
	comp=Z,26nm,0.6s						
TPUB	**Ta-pu**	**22.16**	**344**	P	**P**	**14 43 58.9**	**-2.2**
SSLB	**Suanglung**	**22.53**	**345**	P	**P**	**14 44 04.6**	**-0.4**
SSLB				IAmb	IAmb	14 44 08.6	
	comp=Z,53nm,0.9s						
WB0	**Warramunga Arr**	**22.71**	**162**	P	**P**	**14 44 05.8**	**-0.9**
YOJ	**Yonaguni jima**	**22.73**	**350**	P	**P**	**14 44 07.2**	**+0.3**
WRAB	**Tennant Creek**	**22.85**	**163**	P	**P**	**14 44 07.5**	**-0.7**
WRA	**Warramunga Arr**	**22.86**	**163**	P	**P**	**14 44 07.8**	**-0.4**
	comp=Z,150nn,0.6s,baz=344,slow=11,SNR=769						
WRA				S	**S**	**14 48 10.4**	**+1.0**
	comp=Z,8.2nn,0.9s,baz=350,slow=17,SNR=10						
WB2	**Warramunga Arr**	**22.86**	**163**	P	**P**	**14 44 07.5**	**-0.7**
WR0	**Warramunga Arr**	**22.93**	**162**	P	**P**	**14 44 08.4**	**-0.6**
YHNB	**Yeheng**	**23.27**	**346**	P	**P**	**14 44 12.2**	**0.0**
YHNB				IAmb	IAmb	14 44 17.4	
	comp=Z,52nn,1.2s						
QIZ	**Qiongzhong**	**24.07**	**316**	P	**P**	**14 44 19.5**	**+0.2**
JOW	**Kunigami**	**24.73**	**2**	P	**P**	**14 44 26.1**	**+0.8**
JOW				IAmb	IAmb	14 44 30.0	
	comp=Z,45nn,1.1s						
UBPT	**Khong Chiam**	**25.26**	**303**	P	**P**	**14 44 30.8**	**+0.6**
	comp=Z,36nn,0.6s						
UBPT	**Khong Chiam**	**25.26**	**303**	P	**P**	**14 44 30.8**	**+0.6**
UBPT	**Khong Chiam**	**25.26**	**303**	P	**P**	**14 44 30.9**	**+0.7**
UBPT				IAmb	IAmb	14 44 31.9	
	comp=Z,20nn,0.6s						
QIS	**Mount Isa**	**25.44**	**152**	P	**P**	**14 44 32.2**	**+0.4**
	baz=26,SNR=81						
AS31	**Alice Springs**	**26.29**	**166**	P	**P**	**14 44 39.2**	**-0.3**
AS31	**Alice Springs**	**26.29**	**166**	P	**ScP**	**14 51 34.2**	**+1.3**
ASAR	**Alice Springs**	**26.29**	**166**	P	**P**	**14 44 39.2**	**-0.3**
	comp=Z,17nn,0.5s,baz=355,slow=7.7,SNR=419						
ASAR				PcP	**PcP**	**14 48 03.8**	**+0.6**
	comp=Z,4.1nn,0.6s,baz=352,slow=2.3,SNR=7.8						
ASAR				S	**S**	**14 49 04.8**	**+0.7**
	comp=Z,2.1nn,0.7s,baz=340,slow=13,SNR=4.9						
ASAR				ScP	**ScP**	**14 51 34.1**	**+1.2**
	comp=Z,4.0nn,0.7s,baz=348,slow=2.5,SNR=17						
ASAR	**Alice Springs**	**26.29**	**166**	P	**P**	**14 44 39.0**	**-0.5**
ASAR	**Alice Springs**	**26.29**	**166**	P	**ScP**	**14 51 34.0**	**+1.1**
WRKA	**Warakurna**	**26.88**	**178**	P	**P**	**14 44 44.5**	**-0.2**
	baz=27,SNR=65						
GIRL	**Giralia**	**27.59**	**207**	P	**P**	**14 44 52.8**	**+1.7**
	baz=28,SNR=9.1						
SRAK	**Srakaew**	**27.67**	**297**	P	**P**	**14 44 47.9**	**-4.0**
	comp=Z,112nn,0.7s						
CHAI	**Chaiyaphum**	**28.51**	**300**	P	**P**	**14 44 59.3**	**-0.1**
	comp=Z,25nn,0.7s						
CTA	**Charters Tower**	**28.76**	**141**	P	**P**	**14 45 02.7**	**+1.2**
	comp=Z,4.5nn,0.9s,baz=305,slow=9.5,SNR=4.6						
CTAO	**Charters Tower**	**28.76**	**141**	P	**P**	**14 45 02.5**	**+1.0**
JCJ	**Chichijima**	**28.77**	**28**	LR	LR	14 54 35.6	
	comp=Z,55nn,20.2s,baz=130,slow=32						
MEEK	**Meekatharra**	**29.66**	**196**	P	**P**	**14 45 09.3**	**-0.1**
	baz=30,SNR=40						
GSI	**Gunungsitoli**	**29.71**	**269**	P	**P**	**14 45 09.4**	**-0.7**
PHIT	**Phitsanulok**	**30.43**	**301**	P	**P**	**14 45 17.5**	**+1.2**
	comp=Z,45nn,0.8s						
PHIT	**Phitsanulok**	**30.43**	**301**	P	**P**	**14 45 17.6**	**+1.2**
UTTA	**Uttaradit**	**30.57**	**303**	P	**P**	**14 45 19.3**	**+1.8**
	comp=Z,12nn,1.0s						
UTTA	**Uttaradit**	**30.57**	**303**	P	**P**	**14 45 19.3**	**+1.8**
	comp=Z,3.1nn,1.0s						
NJ2	**Nanjing**	**30.95**	**346**	*eP*	**P**	**14 45 23.0**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,10.0nn,0.5s						
NANT	**Nan**	**30.95**	**304**	P	**P**	**14 45 22.4**	**+1.4**
	comp=Z,45nn,0.6s						
SUKH	**Sukhothai**	**31.23**	**301**	P	**P**	**14 45 24.6**	**+1.2**
	comp=Z,18nn,0.7s						
SUKH	**Sukhothai**	**31.23**	**301**	P	**P**	**14 45 24.6**	**+1.2**
CM36	**Chiang Mai Arr**	**32.16**	**303**	P	**P**	**14 45 32.0**	**+0.5**
CM35	**Chiang Mai Arr**	**32.

XAN	Xi'an	36.22	334	P	P	14 46 08.5	+2.0	
XAN				pP	pwP	14 46 35.0	+0.9	
XAN				pmax	pmax			
	comp=Z,12nm,1.4s							
XAN				pmax	pmax			
	comp=Z,240nm,4.5s							
STKA	Stephens Creek	36.31	159	P	P	14 46 07.6	+0.4	
	baz=36,SNR=122							
STKA	Stephens Creek	36.31	159	P	P	14 46 07.5	+0.4	
	comp=Z,67nm,0.6s,baz=331,slow=9.1,SNR=166							
STKA				PcP	PcP	14 48 30.4	+0.6	
	comp=Z,2.4nm,0.5s,baz=0.5,slow=6.5,SNR=1.7							
STKA				LR	LR	15 04 11.0		
	comp=Z,49nm,18.9s,baz=24,slow=41							
STKA	Stephens Creek	36.31	159	P	P	14 46 07.3	+0.2	
STKA				IAmb	IAmb	14 46 08.8		
	comp=Z,16nm,0.8s							
HTT	Hallett	36.89	164	P	P	14 46 12.5	+0.3	
	baz=37,SNR=5.9							
CMSA	Cobar Meteorol	37.64	154	P	P	14 46 19.3	+0.9	
	baz=38,SNR=30							
JMM	Marumori	37.80	18	P	P	14 46 19.7	-0.1	
BJT	Baijiatuan	39.19	346	P	P	14 46 31.4	+0.1	
BJT				IAmb	IAmb	14 46 59.4		
	comp=Z,14nm,0.9s							
BJI	Beijing	39.21	346	P	P	14 46 31.8	+0.4	
BJI				pmax	pmax			
	comp=Z,13nm,0.6s							
ARMA	Armidale	39.71	146	P	P	14 46 36.0	0.0	
	baz=40,SNR=9.1							
LZH	Lanzhou	40.29	330	eP	P	14 46 42.0	+1.3	
LZH				pP	pP	14 47 06.5	+1.0	
LZH				sP	sP	14 47 18.8	+0.9	
LZH				pmax	pmax			
	comp=Z,25nm,1.1s							
ARPS	Mount Arapiles	40.86	162	P	P	14 46 46.2	+1.0	
	baz=41,SNR=7.3							
HHC	Hu-ho-hao-te	41.22	342	eP	P	14 46 51.3	+3.1	
HHC				pmax	pmax			
	comp=Z,10.0nm,1.1s							
HHC				pmax	pmax			
	comp=Z,180nm,5.7s							
SHL	Shillong	41.37	308	P	P	14 46 49.5	-0.3	
SHL				IAmb	IAmb	14 46 51.1		
	comp=Z,16nm,0.6s							
WAKE	Wake Island	42.17	63	P	P	14 46 55.7	-0.4	
USRK	Ussuriysk Ar.	42.25	5	P	P	14 46 57.0	+0.7	
	comp=Z,3.0nm,0.7s,baz=181,slow=8.3,SNR=5.6							
USRK	Ussuriysk Ar.	42.25	5	P	P	14 46 57.2	+0.8	
CAN	Canberra	42.31	153	P	P	14 46 58.3	+1.3	
CAN				IAmb	IAmb	14 46 59.5		
	comp=Z,36nm,1.0s							
ERM	Erimo	42.33	18	P	P	14 46 57.1	+0.1	
CNB	Canberra Magne	42.47	153	P	P	14 46 59.2	+0.8	
	baz=43,SNR=6.9							
MDJ	Mudanjiang	42.51	2	P	P	14 46 59.0	+0.5	
MDJ				pmax	pmax			
	comp=Z,12nm,0.8s							
MDJ				pmax	pmax			
	comp=Z,240nm,3.5s							
TOO	Toolangi	42.82	159	P	P	14 47 02.3	+1.2	
	baz=43,SNR=12							
MILA	Mila	43.83	155	P	P	14 47 10.2	+0.9	
	baz=44,SNR=3.1							
ASAJ	Asahikawa	44.10	16	P	P	14 47 12.2	+0.9	
	comp=Z,5.4nm,0.7s,baz=288,slow=9.6,SNR=4.7							
GTA	Gaotai	44.88	330	eP	P	14 47 19.0	+1.3	
GTA				pmax	pmax			
	comp=Z,4.0nm,1.0s							
NOUC	Port Laguerre	44.98	124	P	P	14 47 17.3	-1.3	
ULN	Ulaanbaatar	48.95	342	P	P	14 47 50.4	+1.2	
ULN				IAmb	IAmb	14 48 18.1		
	comp=Z,16nm,1.0s							
SONM	Songino Array	49.12	341	P	P	14 47 51.6	+1.0	
	comp=Z,1.9nm,0.6s,baz=159,slow=7.5,SNR=4.5							
SONM	Songino Array	49.12	341	P	P	14 47 51.6	+1.0	
HYB	Hyderabad	50.25	291	i PKP	P	14 47 59.0	-0.5	
WMQ	Urumqi	54.47	325	eP	P	14 48 32.5	+2.2	
WMQ				pP	pP	14 48 56.3	-0.1	
WMQ				sP	sP	14 49 09.8	+1.3	
WMQ				pmax	pmax			
	comp=Z,18nm,0.9s							
WMQ				pmax	pmax			
	comp=Z,170nm,5.1s							
PEA0B	Petropavlovsk-	56.84	21	P	P	14 48 47.2	+0.2	
PETK	Petropavlovsk-	56.84	21	P	P	14 48 47.3	+0.4	
QRZ	Quartz Range	59.22	141	P	P	14 49 03.7	-0.1	
MK31	Makanchi Array	59.30	326	P	P	14 49 05.4	+1.0	
MK31				IAmb	IAmb	14 49 33.1		
	comp=Z,4.9nm,0.8s							
MKAR	Makanchi Array	59.30	326	P	P	14 49 05.7	+1.4	
	comp=Z,4.8nm,0.6s,baz=112,slow=7.6,SNR=44							
MKAR				LR	LR	15 17 30.7		
	comp=Z,44nm,18.2s,baz=294,slow=39							
MKAR	Makanchi Array	59.30	326	P	P	14 49 05.3	+1.0	
UZB	Uzynbulak	59.32	321	eP	P	14 49 04.8	+0.1	
	baz=320							
MAKZ	Makanchi	59.49	325	P	P	14 49 06.4	+0.7	
MAKZ				IAmb	IAmb	14 49 34.3		
	comp=Z,7.1nm,0.8s							
SATY	Saty	59.67	320	eP	P	14 49 08.2	+1.2	
	baz=320							
KSH	Kashi	59.67	316	P	P	14 49 09.8	+2.6	
KSH				pmax	pmax			
	comp=Z,5.0nm,0.7s							
KPKS	Kokpek	59.69	321	eP	P	14 49 07.8	+0.7	
	baz=321							
LBZ	Lake Benmore	59.93	146	P	P	14 49 08.8	+0.1	
YAK	Yakutsk	59.93	1	P	P	14 49 08.8	+0.5	
NNZ	Nelson	59.98	141	P	P	14 49 08.6	-0.3	
NNZ				IAmb	IAmb	14 49 28.8		
	comp=Z,23nm,1.2s							
THZ	Tophouse	59.98	142	P	P	14 49 08.8	-0.3	
THZ				IAmb	IAmb	14 49 28.2		
	comp=Z,28nm,1.5s							
KDJ	Kajisay	60.02	319	P	P	14 49 10.6	+1.1	
KDJ				IAmb	IAmb	14 49 12.2		
	comp=Z,6.8nm,0.6s							
OXZ	Oxford	60.36	144	P	P	14 49 11.7	+0.1	
TUWZ	Tuamarina	60.45	141	P	P	14 49 12.1	-0.1	
MDOK	Medeo	60.59	320	eP	P	14 49 14.3	+0.9	
	baz=320							
TNSS	Tian-Shan	60.60	320	eP	P	14 49 15.0	+1.3	
	baz=320							
KHZ	Kahutara	60.74	142	P	P	14 49 13.9	-0.3	
KHZ				IAmb	IAmb	14 49 26.0		
	comp=Z,20nm,1.2s							
SNZO	South Karori	60.86	141	P	P	14 49 14.5	-0.5	
URZ	Urewera	60.89	136	P	P	14 49 15.7	+0.5	
	comp=Z,2.6nm,0.6s,baz=284,slow=4.2,SNR=1.3							
URZ	Urewera	60.89	136	P	P	14 49 15.0	-0.3	
URZ				IAmb	IAmb	14 49 40.4		
	comp=Z,14nm,1.2s							
BKZ	Black Stump Fm	60.92	138	P	P	14 49 15.1	-0.4	
BKZ				IAmb	IAmb	14 49 40.5		
	comp=Z,12nm,1.4s							
CHKK	Chushkaly	60.95	320	eP	P	14 49 14.7	-0.9	
	baz=320							
MTBS	Maitube	60.98	320	eP	P	14 49 15.9	0.0	
	baz=320							
KUU	Kurty	61.39	320	eP	P	14 49 18.1	-0.5	
	baz=320							
AAK	Ala-Archa	62.03	318	P	P	14 49 23.2	+0.2	
ZAA0	Zalesovo Array	62.39	333	P	P	14 49 25.6	+0.5	
ZALV	Zalesovo Beam	62.39	333	P	P	14 49 25.7	+0.6	
	comp=Z,0.8nm,0.4s,baz=128,slow=6.8,SNR=5.3							
KBL	Kabul	63.03	308	P	P	14 49 30.4	+0.4	
KBL				IAmb	IAmb	14 49 32.1		
	comp=Z,7.0nm,0.6s							
BTLS	Baital	63.37	321	eP	P	14 49 31.7	-0.1	
	baz=320							
GAR	Garm	63.52	313	P	P	14 49 33.9	+0.9	
GAR				IAmb	IAmb	14 49 35.1		
	comp=Z,19nm,1.0s							
BTK	Batken	63.53	314	P	P	14 49 32.7	-0.3	
CHGR	Chuyangaron	64.25	312	P	P	14 49 38.4	+0.7	
CHGR				IAmb	IAmb	14 49 39.9		
	comp=Z,18nm,1.2s							
IUG	Iuzhnay	64.86	316	eP	P	14 49 42.9	+1.2	
	baz=316							
KK31	Karatay Array	64.89	317	P	P	14 49 42.8	+1.1	
KKAR	Karatay Array	64.89	317	P	P	14 49 42.7	+1.0	
KKAR	Karatay Array	64.89	317	P	P	14 49 42.7	+1.0	
KKAR				IAmb	IAmb	14 49 44.6		
	comp=Z,8.1nm,1.1s							
BRZS	Berezniki	66.43	325	eP	P	14 49 51.6	+0.1	
	baz=325							
BRVK	Borovoye	69.16	327	P	P	14 50 09.7	+1.2	
CASY	Casey	69.16	187	P	P	14 50 08.5	+0.3	
CASY				IAmb	IAmb	14 50 09.9		
	comp=Z,14nm,0.8s							
UOSS	Minazif	72.03	295	P	P	14 50 27.0	+0.5	
UOSS				IAmb	IAmb	14 50 44.7		
	comp=Z,30nm,1.4s							
SOCY	Socotra	73.27	282	P	P	14 50 33.6	-0.6	
SOCY				IAmb	IAmb	14 50 49.6		
	comp=Z,30nm,1.4s							
ABKAR	Akbulak array	73.85	321	P	P	14 50 37.0	+0.2	
WMR	Waimanalo Ridg	75.33	69	P	P	14 50 45.3	-0.6	
VNDA	Vanda	81.63	173	P	P	14 51 19.9	+0.5	
	comp=Z,9.4nm,0.8s,baz=315,slow=6.6,SNR=21							
VNDA	Vanda	81.63	173	P	P	14 51 19.7	+0.3	
MAW	Mawson	82.32	200	P	P	14 51 24.4	+1.3	
	baz=82,SNR=13							
MAW	Mawson	82.32	200	P	P	14 51 24.3	+1.3	
	comp=Z,14nm,0.7s,baz=68,slow=5.5,SNR=26							
MAW	Mawson	82.32	200	P	P	14 51 23.9	+0.8	
ILAR	Eielson Array	86.43	25	P	P	14 51 44.2	+0.2	
	comp=Z,0.4nm,0.8s,baz=236,slow=6.1,SNR=1.8							
QSPA	South Pole Qui	91.90	180	P	P	14 52 10.4	+0.6	
QSPA				IAmb	IAmb	14 52 25.7		
	comp=Z,4.6nm,1.1s							
MNK	Minsk	93.86	325	i P	P	14 52 18.2	-0.7	
	comp=E,4.0nm,0.9s							
MNK				i P	P	14 52 18.2	-0.7	
	comp=N,9.0nm,0.8s							
MNK				i P	P	14 52 18.2	-0.7	
	comp=Z,9.0nm,0.6s,baz=262							
MNK				i pP	pP	14 52 37.6	-10	
MNK				i sP	pwP	14 52 45.5	-5.1	
MNK				i PP	PP	14 56 04.1	-1.7	
MNK				i PPP	PPP	14 58 04.9		
MNK				i S	SKSac	15 02 42.1	-1.3	
MNK				i sS	ScS	15 03 21.0	+0.4	
MNK				i SP	SP	15 04 36.4	+3.0	
MNK				i PS	PS	15 04 45.5	-2.5	
MNK				i SS	SS	15 09 42.9	+2.5	
MNK				i SSS	SSS	15 13 24.2		
MNK				i LQ	LQ	15 28 43.4		
MNK				i LR	LR	15 32 55.6		
MNK				i LRM	MLR	15 35 11.7		
	comp=Z,60nm,15.9s							
MNK				i LRM	MLR	15 35 23.2		
	comp=N,324nm,19.6s							
MNK				i LRM	MLR	15 35 24.0		
	comp=E,111nm,22.4s							
TXAR	Lajitas Array	122.20	53	PKP	PKiKP	14 57 57.4	+0.4	
	comp=E,0.4nm,0.6s,baz=180,slow=2.3,SNR=6.4							
TORD	Torodi Ar. Bea	123.98	287	PKP	PKPdf	14 58 00.4	0.0	
	comp=E,1.7nm,0.7s,baz=56,slow=2.2,SNR=11							

NOU ***29*** *14:43:27.2, 14°.37S×167°.22E, h128km, mb3.7/9, Vanuatu Islands*
BJI ***29*** *14:45:15.0±0.0, 13°.51S×167°.38E, h133km, mB4.9/16, mb4.8/33*
IDC ***29*** *14:45:15.6±1.8, 13°.75S×167°.14E, h125km±13km, mb4.3/21, mb1 4.3/23, mb1mx4.2/44, mbtmp4.7/23, MS3.1/2, Ms1 3.1/2, ms1mx2.7/26, Error ellipse: s-maj=16.6km s-min=12.4km az=105.0*
NEIC ***29*** *14:45:16.1±1.8, 13°.71S±0°.09×167°.2E±0°.1, h127km±5km, mb4.9/45, Error ellipse: s-maj=17.8km s-min=12.4km az=70.0*

ISC 29 14:45:15.7±0.4, 13°.75S±0°.05×167°.15E±0°.07, h127km, n145, σ1s24/149, mb4.9/69, 2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
SANVU	Saraoutou	1.69	178		Pn	14 45 47.0	+1.1
SANVU	Saraoutou	1.69	178	P	Pn	14 45 48.5	+2.6
KOUNC	Koumac, New Ca	7.30	202	P	Pn	14 47 01.6	+1.8
MARNC	Mare, Loyalty	7.74	174	Pn	Pn	14 47 04.2	-1.5
HNR	Honiara	8.26	301	P	Pn	14 47 14.0	+1.3
	28nm,0.3s,baz=161,slow=7.7,SNR=17						
HNR				S	Sn	14 48 44.4	0.0
	25nm,0.3s,baz=40,slow=22,SNR=7.4						
HNR				LR	LR	14 50 29.1	
	comp=Z,56nm,21.3s,baz=176,slow=38						
HNR	Honiara	8.26	301	Pn	Pn	14 47 13.2	+0.5
DZM	Mont Dzumac	8.31	185	P	Pn	14 47 15.1	+1.6
	4.8nm,0.3s,baz=306,slow=5.8,SNR=27						
DZM				S	Sn	14 48 46.7	+1.0
	0.8nm,0.3s,baz=142,slow=19,SNR=2.0						
DZM	Mont Dzumac	8.31	185	ePn	Pn	14 47 16.7	+3.3
	29nm,0.2s						
DZM				eSn	Sn	14 48 45.2	-0.5
	50nm,0.3s						
DZM	Mont Dzumac	8.31	185	Pn	Pn	14 47 14.4	+1.0
NOUC	Port Laguerre	8.35	185	P	Pn	14 47 15.9	+2.0
	62nm,0.9s						
ONTNC	Ouen Toro	8.54	184	Pn	Pn	14 47 15.7	-0.8
ONTNC	Ouen Toro	8.54	184	P	Pn	14 47 20.3	+3.8
OUENC	Ouen Island, N	8.63	182	Pn	Pn	14 47 20.3	+2.6
PINNC	Pines Island,	8.82	178		Pn	14 47 22.1	+1.8
PMG	Port Moresby	20.05	280	P	P	14 49 39.4	+0.3
	33nm,0.9s,baz=84,slow=6.9,SNR=7.2						
PMG	Port Moresby	20.05	280	P	P	14 49 39.3	+0.2
PMG				IAmb	IAmb	14 49 42.5	
	comp=Z,37nm,0.9s						
RAO	Raoul Island	20.73	140	P	P	14 49 44.6	-1.6
CTA	Charters Tower	20.95	250	P	P	14 49 49.2	+0.5
	comp=Z,7.8nm,0.7s,baz=68,slow=11,SNR=10						
CTAO	Charters Tower	20.95	250	P	P	14 49 49.0	+0.2
URZ	Urewera	25.97	162	LR	LR	14 59 08.4	
	comp=Z,86nm,18.9s,baz=30,slow=32						
BFZ	Birch Farm	27.99	165	P	P	14 50 55.4	+0.8
BFZ				IAmb	IAmb	14 50 56.6	
	comp=Z,36nm,1.5s						
STKA	Stephens Creek	29.55	228	P	P	14 51 09.0	+0.5
	comp=Z,2.5nm,0.5s,baz=51,slow=9.0,SNR=7.4						
STKA	Stephens Creek	29.55	228	P	P	14 51 08.8	+0.3
WR0	Warramunga Arr	31.78	254	P	P	14 51 25.2	-3.1
WB0	Warramunga Arr	31.90	255	P	P	14 51 24.4	-4.9
WB0				IAmb	IAmb	14 51 28.8	
	comp=Z,18nm,0.6s						
WB2	Warramunga Arr	31.95	254	P	P	14 51 24.3	-5.5
WB2				IAmb	IAmb	14 51 29.3	
	comp=Z,7.4nm,0.7s						
WRAB	Tennant Creek	31.95	254	P	P	14 51 24.8	-5.1
WRAB				IAmb	IAmb	14 51 29.2	
	comp=Z,7.6nm,0.6s						
WRA	Warramunga Arr	31.97	254	P	P	14 51 28.8	-1.2
	comp=Z,7.4nm,0.6s,baz=86,slow=9.0,SNR=14						
WRA				ScP	ScP	14 57 49.1	-0.1
	comp=Z,1.7nm,0.8s,baz=82,slow=3.4,SNR=7.7						
WRA	Warramunga Arr	31.97	254	P	P	14 51 25.0	-4.9
ASAR	Alice Springs	32.93	248	P	P	14 51 37.3	-1.0
	comp=Z,3.5nm,0.6s,baz=73,slow=9.5,SNR=16						
ASAR				S	S	14 56 42.1	-5.0
	comp=Z,0.6nm,0.8s,baz=86,slow=14,SNR=4.6						
ASAR				ScP	ScP	14 57 51.9	-0.5
	comp=Z,0.9nm,0.7s,baz=85,slow=3.7,SNR=6.2						
FAKI	Fak Fak	36.11	284	P	P	14 52 06.2	+0.4
SIJI	Sorong	37.74	287	P	P	14 52 19.1	-0.5
	comp=Z,49nm,1.1s,baz=71,slow=7.4,SNR=12						
FITZ	Fitzroy Crossi	40.09	258	P	P	14 52 38.4	-0.7
	comp=Z,4.5nm,0.8s,baz=84,slow=6.8,SNR=13						
BATI	Baumata	42.65	270	P	P	14 53 01.7	+1.6
	comp=Z,64nm,0.8s,baz=196,slow=1.5,SNR=6.5						
MMRI	Maumere	44.30	272	P	P	14 53 13.2	-0.1
MMRI	Maumere	44.30	272	P	P	14 53 13.5	+0.2
EDFI	Ende, Flores	44.81	271	P	P	14 53 15.6	-1.9
	comp=Z,0.0nmcomp=Z,11nm,1.1s						
WBSI	Waikabubak, Su	46.89	270	P	P	14 53 34.3	+0.5
	comp=Z,0.2nmcomp=Z,39nm,1.0s						
MRSI	Marisa	46.95	284	P	P	14 53 35.7	+1.5
	comp=Z,0.1nmcomp=Z,15nm,0.5s						
KAPI	Kappang	47.49	276	P	P	14 53 38.5	+0.2
KAPI				IAmb	IAmb	14 53 39.7	
	comp=Z,23nm,0.8s						
TOLI2	Tolitoli	48.25	284	P	P	14 53 43.0	-1.3
TOLI2				IAmb	IAmb	14 53 44.3	
	comp=Z,12nm,1.0s						
PLAI	Plampang	48.60	270	P	P	14 53 46.1	-0.8
	comp=Z,72nm,0.8s						
MPSI	Mapaga	48.84	283	P	P	14 53 48.1	-0.6
	comp=Z,33nm,0.9s						
TWSI	Taliwang, Sumb	49.49	270	P	P	14 53 53.4	-0.3
	comp=Z,457nmcomp=Z,40nm,1.1s						
KLNI	Mataram	50.31	270	P	P	14 53 58.6	-1.3
JAGI	Jajag, Banyuwa	52.19	270	P	P	14 54 12.9	-1.0
SPMM	Sapulut	53.53	286	P	P	14 54 25.0	+1.2
JOW	Kunigami	55.25	317	P	P	14 54 36.8	+0.8
UGM	Wanagama	55.82	270	P	P	14 54 40.3	-0.1
JGF	Kuroka	56.61	331	P	P	14 54 45.1	-0.4
JGF				IAmb	IAmb	14 54 47.5	
	comp=Z,14nm,1.2s						
JMN	Monobe	56.87	327	P	P	14 54 47.7	+0.3
MJAR	Matsushiro Arr	56.98	332	P	P	14 54 47.5	-0.7
	comp=Z,11nm,1.1s,baz=165,slow=7.5,SNR=14						
MJAR	Matsushiro Arr	56.98	332	P	P	14 54 47.5	-0.7
MJAR				IAmb	IAmb	14 54 48.9	
	comp=Z,7.7nm,0.9s						
MAJO	Matsushiro	56.99	332	P	P	14 54 46.9	-1.2
MAJO				IAmb	IAmb	14 54 49.2	
	comp=Z,13nm,0.9s						
MAT	Matsushiro	56.99	332	P	P	14 54 47.1	-1.0
JNU	Nakatsue	58.06	324	P	P	14 54 54.1	-1.6
	comp=Z,11nm,0.8s,baz=85,slow=4.5,SNR=4.0						
CISI	Cisompet, Garu	58.52	269	P	P	14 54 57.8	-1.6
SSLB	Suanglung	58.57	309	P	P	14 54 58.4	-1.1
YHNB	Yeheng	58.76	310	P	P	14 55 01.3	+0.4
JKA	Kamikawa-asahi	61.78	340	P	P	14 55 21.9	+1.0
ASAJ	Asahikawa	61.78	340	P	P	14 55 21.9	+1.0
	comp=Z,14nm,0.9s,baz=243,slow=4.0,SNR=6.2						
KSRS	Korea Array	62.87	326	P	P	14 55 28.6	+0.4
	comp=Z,3.4nm,1.0s,baz=139,slow=5.7,SNR=7.4						
CASY	Casey	64.39	202	P	P	14 55 37.3	-0.6
NJ2	Nanjing	64.90	316	eP	P	14 55 43.0	+1.3
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
USA0B	Ussuriysk Arra	65.96	333	P	P	14 55 48.5	+0.2
USA0B				IAmb	IAmb	14 55 50.4	
	comp=Z,20nm,1.1s						
USRK	Ussuriysk Ar.	65.96	333	P	P	14 55 49.4	+1.1
	comp=Z,12nm,1.1s,baz=132,slow=5.7,SNR=7.5						
USRK	Ussuriysk Ar.	65.96	333	P	P	14 55 48.3	0.0
KIWB	Kanaga Island	66.73	11	P	P	14 55 52.8	-0.2
PEA0B	Petropavlovsk-	67.08	354	P	P	14 55 55.5	+0.3
PEA0B				IAmb	IAmb	14 56 23.7	
	comp=Z,43nm,1.2s						
PETK	Petropavlovsk-	67.08	354	P	P	14 55 55.7	+0.5
	comp=Z,11nm,0.8s,baz=181,slow=13,SNR=10						
PETK	Petropavlovsk-	67.08	354	P	P	14 55 55.5	+0.3
IPM	Ipoh	68.05	281	P	P	14 56 02.0	-0.2
GSI	Gunungsitoli	70.51	276	P	P	14 56 16.9	-0.5
GSI				IAmb	IAmb	14 56 18.2	
	comp=Z,27nm,0.8s						
ENH	Enshi	70.66	309	P	P	14 56 17.0	-0.9
ENH				IAmb	IAmb	14 56 18.5	
	comp=Z,20nm,0.8s						
SURA	Surathani	70.76	285	P	P	14 56 20.2	+1.4
	comp=Z,7μmcomp=Z,38nm,0.9s						
CHAI	Chaiyaphum	70.83	292	P	P	14 56 19.4	+0.3
	comp=Z,18nm,0.8s						
BJI	Beijing	71.43	321	P	P	14 56 23.0	+0.7
BJI				pmax	pmax		
	comp=Z,11nm,0.9s						
PHIT	Phitsanulok	72.69	293	P	P	14 56 31.3	+1.0
	comp=Z,76nm,0.8s						
UTTA	Uttaradit	72.76	294	P	P	14 56 31.9	+1.2
	comp=Z,14nm,0.8s						
XAN	Xi'an	72.94	312	P	P	14 56 31.5	0.0
XAN				pP	pP	14 57 02.0	-0.7
XAN				pmax	pmax		
	comp=Z,16nm,1.0s						
XAN				pmax	pmax		
	comp=Z,97nm,5.3s						
UTHA	Uthaitani	73.00	291	P	P	14 56 33.4	+1.3
	comp=Z,18nm,0.9s						
NANT	Nan	73.01	295	P	P	14 56 32.7	+0.5
	comp=Z,20nm,0.7s						
SUKH	Sukhothai	73.50	293	P	P	14 56 35.8	+0.8
	comp=Z,264nmcomp=Z,29nm,0.7s						
KMI	Kunming	73.69	302	⇓P	P	14 56 37.5	+1.2
KMI				pP	pP	14 57 11.5	+3.8
KMI				pmax	pmax		
	comp=Z,27nm,0.9s						
LAMP	Lampang	73.86	294	P	P	14 56 38.5	+1.4
	comp=Z,549nmcomp=Z,66nm,0.8s						
CM04	Chiang Mai Arr	74.40	294	P	P	14 56 41.4	+1.1
	comp=Z,150nmcomp=Z,23nm,0.8s						
CM09	Chiang Mai Arr	74.40	294	P	P	14 56 41.5	+1.2
	comp=Z,171nmcomp=Z,22nm,0.9s						
CM01	Chiang Mai Arr	74.42	294	P	P	14 56 41.5	+1.1
	comp=Z,177nmcomp=Z,21nm,0.8s						
CM05	Chiang Mai Arr	74.43	294	P	P	14 56 41.4	+1.0
	comp=Z,116nmcomp=Z,15nm,0.8s						
CM02	Chiang Mai Arr	74.44	294	P	P	14 56 41.6	+1.1
	comp=Z,136nmcomp=Z,18nm,0.8s						
CM31	Chiang Mai Arr	74.45	294	P	P	14 56 40.5	-0.1
CM31				IAmb	IAmb	14 56 42.4	
	comp=Z,18nm,0.8s						
CMAR	Chiang Mai Arr	74.45	294	P	P	14 56 41.5	+0.9
	comp=Z,122nm,0.7s,baz=129,slow=4.7,SNR=84						
CMAR	Chiang Mai Arr	74.45	294	P	P	14 56 40.6	0.0
CM15	Chiang Mai Arr	74.46	294	P	P	14 56 41.7	+1.0
	comp=Z,146nmcomp=Z,21nm,0.8s						
CM13	Chiang Mai Arr	74.47	294	P	P	14 56 41.6	+0.9
	comp=Z,119nmcomp=Z,17nm,0.8s						
CMMT	Chiang Mai	74.57	294	P	P	14 56 41.5	+0.2
	comp=Z,18nm,0.9s						
CHTO	Chiang Mai	74.57	294	P	P	14 56 41.7	+0.4
	comp=Z,18nm,1.0s						
CHTO	Chiang Mai	74.57	294	P	P	14 56 41.1	-0.2
CHTO				IAmb	IAmb	14 56 42.8	
	comp=Z,13nm,0.8s						
HHC	Hu-ho-hao-te	74.77	320	eP	P	14 56 43.5	+1.4
HHC				pmax	pmax		
	comp=Z,17nm,1.2s						
HHC				pmax	pmax		
	comp=Z,120nm,5.3s						
CD2	Chengdu	75.

comp=Z,4.4nm,0.6s,baz=58,slow=1.4,SNR=11
FINES FINESS Array B 124.77 338 PKP **PKPdf** **15 03 58.7 -1.4**
comp=Z,3.5nm,0.8s,baz=82,slow=4.0,SNR=7.5
NB2 NORSAR Subarra129.65 345 PKPdf **PKPdf** **15 04 08.4 -1.1**
comp=Z,1.1nm,0.7s,baz=32,slow=1.8
NOA NORSAR Array B129.65 345 PKP **PKPdf** **15 04 09.2 -0.3**
comp=Z,1.7nm,0.7s,baz=34,slow=2.0,SNR=6.2
AKASG Malin Array Be 129.86 326 PKP **PKPdf** **15 04 10.7 +0.6**
comp=Z,1.5nm,0.7s,baz=39,slow=2.0,SNR=6.7
AKASG Malin Array Be 129.86 326 PKP **PKPdf** **15 04 09.5 -0.6**
BRTR Keskin Array B 131.78 311 SKPab **SKPab** **15 07 30.3 +0.9**
comp=Z,0.7nm,0.4s,baz=119,slow=3.7,SNR=3.7
KOLS Kolonicke sedl 134.56 328 *e*PKP **PKiKP** **15 04 21.6 +1.1**
DPC Dobruska-Polom 136.46 333 *e*SKP 15 07 44.9
CLL Collm 137.11 336 *e*PKPdf **PKPdf** **15 04 25.0 +1.3**
KHC Kasperske Hory 138.56 334 *e*PKPDF **PKPdf** **15 04 25.7 -0.8**
KHC *e*SKP 15 07 47.6
GERES GERESS Array B 138.72 333 PKP **PKPdf** **15 04 26.7 -0.2**
comp=Z,1.8nm,0.9s,baz=27,slow=3.3,SNR=5.8
GERES SKPbc **SKPbc** **15 07 51.5 +1.3**
comp=Z,1.3nm,0.7s,baz=64,slow=3.1,SNR=7.8
KEST Kesra 150.38 322 PKPbc **PKPbc** **15 04 52.8 0.0**
comp=Z,16nm,0.9s,baz=66,slow=0.8,SNR=14
PBRG Braganca 151.54 350 *e*PKPbc **PKPbc** **15 04 54.9 -0.3**
PGAV Gavieira, Arco 151.60 353 *e*PKPbc **PKiKP** **15 04 56.0 +0.2**
POLO Lamas de Olo 152.12 352 *e*PKPbc **PKPbc** **15 04 57.0 +0.4**
MVO Moncorvo 152.21 351 *e*PKPbc **PKiKP** **15 04 57.3 +0.2**
ESDC Sonseca Array 153.01 345 PKPbc **PKPbc** **15 04 58.4 -0.2**
comp=Z,2.6nm,0.8s,baz=18,slow=2.2,SNR=11
ESDC PKPab **PKPab** **15 05 10.6 +0.3**
comp=Z,0.9nm,0.6s,baz=22,slow=3.6,SNR=7.6
ESDC Sonseca Array 153.01 345 **PKPbc** **15 04 58.4 -0.2**
ESDC PKPab **PKPab** **15 05 10.1 -0.2**
MTE Manteigas 153.04 351 *e*PKPbc **PKPbc** **15 04 58.9 +0.3**
PNCL Nicolau / Gran 155.43 352 *e*PKPbc **PKPdf** **15 04 57.9 +3.4**
TORD Torodi Ar. Bea 165.84 269 PKP **PKPdf** **15 05 05.8 -0.6**
comp=Z,2.8nm,0.9s,baz=62,slow=2.0,SNR=11
TORD PKPab **PKPab** **15 06 06.3 -0.4**
comp=Z,1.6nm,0.9s,baz=91,slow=3.0,SNR=5.8
TORD Torodi Ar. Bea 165.84 269 **PKPdf** **15 05 05.3 -1.2**

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*IDC **29** 14:49:01.5±2.0, 4.76S×150.84E, h274km±16km, mb3.7/7, mb1 3.9/9, mb1mx3.4/40, mbtmp4.3/9, Error ellipse: s-maj=48.2km s-min=13.6km az=120.0*
ISC 29 14:49:03.9±1.0, 4.8S±0.2×150.8E±0.3, h300km, n10, σ2.8s15/13, mb3.9/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.77**	**218**	P		**Pn**	**14 50 28.4**	**-2.0**
	5.0nm,0.3s,baz=354,slow=4.2,SNR=11							
PMG				S		**S**	**14 51 41.9**	**+1.7**
	1.6nm,0.3s,baz=284,slow=20,SNR=4.2							
CTA	**Charters Tower**	**15.78**	**196**	P		**Pn**	**14 52 30.4**	**-1.0**
	0.4nm,0.3s,baz=11,slow=15,SNR=3.2							
WRA	**Warramunga Arr**	**21.92**	**225**	P		**P**	**14 53 34.1**	**+0.8**
	11nm,0.3s,baz=49,slow=10,SNR=82							
WRA				ScP		**ScP**	**15 00 33.3**	**+3.9**
	0.8nm,0.9s,baz=48,slow=2.8,SNR=6.7							
ASAR	**Alice Springs**	**24.78**	**219**	P		**P**	**14 53 59.6**	**+0.4**
	2.8nm,0.4s,baz=49,slow=8.4,SNR=35							
ASAR				ScP		**ScP**	**15 00 40.6**	**+3.5**
	0.7nm,0.8s,baz=39,slow=2.9,SNR=5.3							
FITZ	**Fitzroy Crossi**	**27.86**	**240**	P		**P**	**14 54 26.8**	**+0.1**
	5.3nm,0.3s,baz=55,slow=3.4,SNR=47							
PETK	**Petropavlovsk-**	**58.03**	**5**	P		**P**	**14 58 25.6**	**-0.1**
	1.9nm,0.5s,baz=176,slow=7.6,SNR=13							
ZALV	**Zalesovo Beam**	**80.06**	**327**	P		**P**	**15 00 41.4**	**+1.1**
	0.6nm,0.3s,baz=116,slow=6.6,SNR=3.0							
ILAR	**Eielson Array**	**82.97**	**22**	P		**P**	**15 00 54.0**	**-1.3**
	0.7nm,0.5s,baz=248,slow=5.3,SNR=8.6							
NVAR	**Mina Array Bea**	**93.72**	**52**	P		**P**	**15 01 48.1**	**+0.7**
	0.1nm,0.3s,baz=289,slow=2.8,SNR=2.1							
TORD	**Torodi Ar. Bea**	**148.37**	**287**	PKPbc		**PKPab**	**15 08 17.6**	**-2.6**
	0.2nm,0.4s,baz=68,slow=2.8,SNR=1.6							

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*SOME **29** 14:52:32.2, 43.38N×84.18E, h0km*
*NNC **29** 14:52:33.3±8.2, 43.49N×84.76E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=62.9km s-min=29.7km az=129.0*
ISC 29 14:52:26.2±3.6, 43.2N±0.1×84.9E±0.1, h10km, n7, σ1.9s40/11, 6C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.29**	**276**	*e*P		**Pb**	**14 53 24.6**	**-0.2**
	0.6nm,0.1s							
KTMS				*e*S		**Sb**	**14 54 02.8**	**-2.2**
	9.8nm,0.1s							
DJR	**Jarkent**	**3.83**	**289**	*e*P		**Pb**	**14 53 33.8**	**-0.3**
	1.8nm,0.2s							
DJR				*e*S		**Sb**	**14 54 18.8**	**-1.7**
	5.7nm,0.3s							
PDGK	**Podgornoye**	**3.92**	**274**	⇑Pg		**Pg**	**14 53 42.2**	**+0.9**
	1.8nm,0.8s							
PDGK				⇑Lg		Lg	14 54 33.4	
	5.6nm,0.6s							
MK31	**Makanchi Array**	**4.02**	**334**	⇑Pg		**Pg**	**14 53 42.8**	**-0.4**
	0.5nm,0.3s,baz=148,slow=18,SNR=12							
MK31				⇑Lg		Lg	14 54 30.5	
	3.3nm,0.5s,baz=148,slow=29,SNR=5.1							
MAKZ	**Makanchi**	**4.14**	**331**	⇑Pg		**Pg**	**14 53 45.3**	**-0.1**
	1.7nm,0.6s							
MAKZ				⇑Lg		Lg	14 54 33.4	
	2.0nm,0.7s							
ZSN	**Zaisan**	**4.24**	**0**	*e*P		**Pg**	**14 53 47.5**	**+0.1**
	1.7nm,0.4s							
ZSN				*e*S		**Sg**	**14 54 42.0**	**-0.4**
	8.6nm,0.7s							
KAPS	**Kapalarasan**	**4.46**	**300**	*e*P		**Pb**	**14 53 46.4**	**+1.7**
	1.4nm,0.4s							
KAPS				*e*S		**Sb**	**14 54 40.5**	**+1.9**
	7.9nm,0.5s							

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*ISK **29** 14:54:08.5, 41.94N×26.83E, h10km, ML2.5/7*
*DDA **29** 14:54:08.2, 41.92N×26.91E, h8km±1km, ML1.6*
ISC 29 14:54:07.7±1.9, 41.96N±0.08×26.86E±0.04, h4km±11km, n13, σ0.8s54/24, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KIRK	**Kırklareli**	**0.25**	**135**	*i* P		**Pg**	**14 54 12.7**	**+0.1**
KIRK				IAML			14 54 16.0	
	comp=E,63nm,0.3s							
KIRK				*i* S		**Sg**	**14 54 16.1**	**+0.2**
KIRK				IAML			14 54 18.0	
	comp=N,99nm,0.6s							
ARMN	**Kirklareli, Me**	**0.43**	**102**	*i* P		**Pg**	**14 54 16.3**	**+0.2**
ARMN				*i* S		**Sg**	**14 54 21.8**	**0.0**
VIZE	**Kirklareli, Vi**	**0.83**	**117**	*i* P		**Pg**	**14 54 23.2**	**-0.4**
VIZE				IAML			14 54 34.0	
	comp=N,24nm,1.3s							
VIZE				*i* S		**Sn**	**14 54 37.2**	**-1.5**
VIZE				IAML			14 54 39.0	
	comp=E,26nm,0.2s							
UKOP	**Uzunkopru-Edir**	**0.85**	**192**	PG		**Pb**	**14 54 24.8**	**-0.1**
UKOP				SG		**Sb**	**14 54 36.8**	**+0.2**
KESN	**Edirne-Kesan**	**1.14**	**187**	*i* P		**Pg**	**14 54 29.3**	**-0.3**
KESN				*i* S		**Sg**	**14 54 43.2**	**-1.2**
KESN				IAML			14 54 46.0	
	comp=E,32nm,0.7s							
KESN				IAML			14 54 48.0	
	comp=N,25nm,0.4s							
MAR4	**Marsite Statio**	**1.22**	**164**	PN		**Pn**	**14 54 31.5**	**0.0**
MAR4				SN		**Sn**	**14 54 48.8**	**+0.4**
ALN	**Alexandroupoli**	**1.22**	**210**	PN		**Pg**	**14 54 31.6**	**+0.4**
ALN				SN		**Sn**	**14 54 48.4**	**-0.1**
SLVT	**Silivri**	**1.25**	**125**	PN		**Pg**	**14 54 32.2**	**+0.6**
SLVT				SN		**Sn**	**14 54 49.9**	**+0.8**
MAR3	**Marsite Statio**	**1.26**	**165**	PN		**Pg**	**14 54 32.4**	**+0.6**
MAR3				SN		**Sn**	**14 54 49.5**	**+0.2**
RDO	**Rodhopi**	**1.28**	**231**	PN		**Pb**	**14 54 32.4**	**0.0**
RDO				SN		**Sn**	**14 54 50.1**	**+0.2**
MAR6	**Marsite Statio**	**1.29**	**166**	PN		**Pg**	**14 54 32.9**	**+0.5**
RKY	**Sarkoy-Tekirda**	**1.29**	**169**	PN		**Pg**	**14 54 32.7**	**+0.2**
RKY				SN		**Sn**	**14 54 50.5**	**+0.2**
ERIK	**Erikli-Kesan**	**1.31**	**192**	PN		**Pg**	**14 54 32.9**	**0.0**

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*NEIC **29** 14:54:17.8±1.7, 18.30S±0.07×70.4W±0.2, h58km±9km, Error ellipse: s-maj=22.9km s-min=9.8km az=102.0*
*GUC **29** 14:54:19.8±0.6, 18.41S×70.26W, h45km±5km, ML3.6*

ISC 29 14:54:17.9±1.6, 18.32S±0.07×70.3W±0.1, h54km±10km, n29, σ0.86/31, 1C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**0.05**	**177**	⇑*i*P		**Pn**	**14 54 26.4**	**+0.3**
AP01				*i* S		**Sn**	**14 54 32.0**	**0.0**
AP01	**Chacalluta**	**0.05**	**177**			**Pn**	**14 54 26.4**	**+0.3**
PSGC	**Pisagua**	**1.29**	**171**	⇓*i*P		**Pn**	**14 54 39.6**	**-0.1**
PSGC				*e*S		**Sn**	**14 54 56.0**	**+0.1**
PSGCX	**Pisagua**	**1.29**	**171**	Pn		**Pn**	**14 54 39.6**	**-0.1**
PB11	**IPOC Station P**	**1.57**	**156**	⇓*i*P		**Pn**	**14 54 43.2**	**-0.4**
PB11				*i* S		**Sn**	**14 55 01.8**	**-1.2**
PB11				IAML			14 55 07.7	
	comp=E,770nm,0.1s							
PB11	**IPOC Station P**	**1.57**	**156**	Pn		**Pn**	**14 54 43.2**	**-0.4**
TA02	**Huaiquique**	**1.95**	**174**	*e*P		**Pn**	**14 54 47.9**	**-0.7**
TA02				IAML			14 55 22.7	
	comp=N,1μm,0.1s							
TA02	**Huaiquique**	**1.95**	**174**	Pn		**Pn**	**14 54 48.9**	**+0.3**
HMBC	**Humberstone**	**1.99**	**168**	⇓*i*P		**Pn**	**14 54 49.2**	**-0.2**
HMBC				IAML			14 55 26.3	
	comp=E,645nm,0.5s							
PB08	**IPOC Station P**	**2.13**	**148**	⇓*i*P		**Pn**	**14 54 52.0**	**+0.6**
PB08				*i* S		**Sn**	**14 55 16.9**	**-0.1**
PB08				IAML			14 55 23.5	
	comp=E,420nm,0.1s							
PB08	**IPOC Station P**	**2.13**	**148**	Pn		**Pn**	**14 54 51.5**	**+0.1**
TA01	**Diego Aracena**	**2.24**	**176**	*e*P		**Pn**	**14 54 52.5**	**0.0**
TA01				IAML			14 55 34.0	
	comp=E,352nm,0.6s							
TA01	**Diego Aracena**	**2.24**	**176**	Pn		**Pn**	**14 54 52.6**	**0.0**
PB01	**IPOC Station P**	**2.83**	**164**	*e*P		**Pn**	**14 55 00.6**	**-0.1**
PB01				IAML			14 55 48.1	
	comp=E,207nm,0.3s							
PB01	**IPOC Station P**	**2.83**	**164**	Pn		**Pn**	**14 55 00.6**	**-0.1**
LPAZ	**La Paz**	**2.93**	**47**	Pn		**Pn**	**14 55 00.9**	**-1.7**
PB02	**IPOC Station P**	**3.01**	**172**	*e*P		**Pn**	**14 55 03.6**	**+0.3**
PB02				IAML			14 55 51.5	
	comp=E,413nm,0.2s							
PB07	**IPOC Station P**	**3.41**	**173**	IAML			14 56 05.3	
	comp=E,111nm,0.5s							
PB07	**IPOC Station P**	**3.41**	**173**	Pn		**Pn**	**14 55 09.9**	**+1.0**
PB09	**IPOC Station P**	**3.61**	**163**	IAML			14 56 10.9	
	comp=E,116nm,0.5s							
PB09	**IPOC Station P**	**3.61**	**163**	Pn		**Pn**	**14 55 12.6**	**+1.1**
PB04	**IPOC Station P**	**4.00**	**177**	Pn		**Pn**	**14 55 18.4**	**+1.6**
PB06	**IPOC Station P**	**4.42**	**171**	Pn		**Pn**	**14 55 23.8**	**+1.2**
LVC	**Limon Verde**	**4.47**	**163**	Pn		**Pn**	**14 55 25.9**	**+2.4**
PB15	**IPOC Station P**	**4.93**	**171**	Pn		**Pn**	**14 55 30.1**	**+0.4**
PB10	**IPOC Station P**	**5.17**	**182**	Pn		**Pn**	**14 55 32.5**	**-0.2**
PB14	**IPOC Station P**	**6.27**	**180**	Pn		**Pn**	**14 55 47.4**	**-0.7**
AC02	**Maricunga**	**8.55**	**173**	Pn		**Pn**	**14 56 18.5**	**-1.0**
PTGA	**Pitinga**	**20.24**	**31**	P		**P**	**14 58 48.9**	**+0.1**
PTGA				IAmb	IAmb		14 58 51.0	
	comp=Z,2.5nm,0.6s							

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*INET **29** 14:56:25.3, 10.34N×85.33W, h45km, MW2.6*
UCR 29 14:56:27.9±1.0, 10.31N×85.46W, h49km±3km, MW3.6, 9C-11D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUAI	**GUAI**	**0.06**	**234**	⇑*i*P		**Pn**	**14 56 35.4**	**-0.1**
GUAI				*i* S		Sn	14 56 41.4	+0.5
SAJU	**San Juanillo,**	**0.34**	**226**	⇑*i*P		Pn	14 56 37.1	-0.2
SAJU				*e*S		Sn	14 56 44.8	+0.7
HZTE	**Horizontes, Gu**	**0.43**	**342**	⇓*i*P		Pn	14 56 38.5	+0.2
HZTE				*e*S		Sn	14 56 46.8	+1.2
COLC	**Colonia**	**0.44**	**35**	⇑*i*P		Pn	14 56 38.2	-0.2
COLC				*i* S		Sn	14 56 46.2	+0.4
LIM1	**Limonal**	**0.44**	**28**	*i* P		Pn	14 56 38.2	-0.2
INDI	**Punta indio, G**	**0.44**	**186**	⇑*i*P		Pn	14 56 38.2	-0.2
INDI				*e*S		Sn	14 56 46.5	+0.7
CUI	**Cuipilapa**	**0.45**	**40**	⇑*i*P		Pn	14 56 38.5	-0.1
CUI				*e*S		Sn	14 56 46.5	+0.2
GPS2	**Hotel Rincn d**	**0.46**	**13**	*i* P		Pn	14 56 38.4	-0.3
GPS2				*e*S		Sn	14 56 46.5	+0.2
GUAB	**Guayabo de Bag**	**0.46**	**30**	*i* P		Pn	14 56 38.5	-0.1
LAPC	**Finca la Perla**	**0.46**	**3**	⇓*i*P		Pn	14 56 38.2	-0.4
GBS3	**Finca Las Img**	**0.47**	**0**	⇓*i*P		Pn	14 56 38.4	-0.2
HORNC	**Hornillas**	**0.49**	**34**	⇑*i*P		Pn	14 56 38.8	-0.3
BUEV	**Buena Vista**	**0.49**	**6**	*i* P		Pn	14 56 38.8	-0.3
GB1A	**Borinquen Arri**	**0.51**	**7**	*i* P		Pn	14 56 39.1	-0.3
BUAI	**Buenos Aires**	**0.58**	**12**	⇑*i*P		Pn	14 56 40.2	0.0
PTEN	**Parque Tenorio**	**0.62**	**49**	⇑*i*P		Pn	14 56 40.5	-0.1
CASO	**Castillo**	**0.72**	**80**	⇓*i*P		Pn	14 56 42.2	+0.2
LAFE	**Finca La Fe, P**	**0.73**	**133**	⇓*e*P		Pn	14 56 41.5	-0.5
LAFE				*e*S		Sn	14 56 51.9	-0.4
ARE1	**Arenal 1**	**0.74**	**78**	⇓*i*P		Pn	14 56 42.7	+0.5
ARE1				*e*S		Sn	14 56 54.2	+1.6
CEDE	**Laguna Cedeo**	**0.76**	**76**	*i* P		Pn	14 56 42.9	+0.4
FORC	**Fortuna**	**0.79**	**78**	⇓*i*P		Pn	14 56 43.1	+0.2
SRA1	**San Ramn**	**0.99**	**103**	⇓*i*P		Pn	14 56 45.9	+0.4
SRA1				*e*S		Sn	14 56 59.6	+1.1
JACO	**JACO, Garabito**	**1.01**	**129**	⇓*e*P		Pn	14 56 45.6	-0.2
JACO				*e*S		Sn	14 56 59.1	0.0
COVE	**Coope Vega, Sa**	**1.12**	**68**	*e*P		Pn	14 56 46.8	-0.4
COVE				*e*S		Sn	14 57 02.0	+0.5
HDC	**Heredia**	**1.36**	**103**	⇓*e*P		Pn	14 56 51.0	+0.3
RIFO	**Rio Frio, Sara**	**1.51**	**89**	*e*P		Pn	14 56 53.0	+0.5
OCM	**Ochomogo**	**1.53**	**105**	*e*P		Pn	14 56 53.4	+0.4
LCR2	**La Lucha 2**	**1.54**	**111**	⇓*e*P		Pn	14 56 53.4	+0.3
RIMA	**Rio Macho**	**1.66**	**109**	⇑*e*P		Pn	14 56 55.5	+0.8
CDM	**Cerro de Muert**	**1.83**	**114**	*e*P		Pn	14 56 57.7	+0.4
DRK0	**Durika**	**2.42**	**115**	*e*P		Pn	14 57 05.2	+0.1

MEX 29 14:58:18.8±1.0, 14.39N×93.14W, h20km±999km, MD3.7, Near coast of Chiapas

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*MOS **29** 15:02:13.8±1.1, 17.82N×102.24W, h35km, mb5.2/54, Error ellipse: s-maj=7.2km s-min=4.2km az=98.4*
*NEIC **29** 15:02:13.9±1.9, 17.81N±0.04×102.30W±0.04, h20km±3km, mb5.0/454, Md5.0/42(MEX), Error ellipse: s-maj=6.8km s-min=5.3km az=140.0*
*MEX **29** 15:02:15.6±1.3, 17.87N×102.50W, h23km±102km, MD5.0*
*BJI **29** 15:02:17.0±0.0, 17.90N×102.20W, h40km, mB5.4/2, Ms5.3/6, Ms7 5.0/6*
*GCMT **29** 15:02:17.9±0.2, 17.72N±0.01×102.38W±0.02, h13km, MW5.1/117, Moment Tensor Solution. s72,c92; s117,c178; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 5.04±.16; Mθθ -4.58±.12; Mφφ -0.46±.11; Mrθ 0.76±.24; Mθφ 2.47±.09; Mφr -1.12±.30; Best double couple: Mo 5.56500×10^16 NP1:φs286.00000°, δ40.00000°, λ77.00000°. NP2:φs123.00000°, δ52.00000°, λ101.00000°. Principal axes: T 5.2680, Plg80.0000°, Azm80.0000°; N 0.5910, Plg8.0000°, Azm297.0000°; P -5.8620, Plg6.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **29** 15:02:17.7±2.1, 17.76N×102.19W, h50km±18km, mb4.5/30, mb1 4.6/35, mb1mx4.5/44, mbtmp4.7/35, ML4.1/5, MS4.2/29, Ms1 4.3/29, ms1mx4.2/43 Error ellipse: s-maj=18.2km s-min=9.7km az=48.0*
ISC 29 15:02:14.0±0.7, 17.70N±0.03×102.50W±0.03, h28km±4km, n1026, σ1.9s62/1039, mb5.0/253, MS4.3/34, 15C-18D, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
UON	**La Union**	**0.71**	**68**	⇓*i*P		**Pb**	**15 02 25.8**	**-2.0**
UON				*i* S		**Sb**	**15 02 34.9**	**-2.3**
MMIG	**Aquila**	**0.99**	**306**	*e*P		**Pn**	**15 02 30.5**	**-1.6**
	baz=118,slow=11							
MMIG				*i* S		**Sb**	**15 02 40.2**	**-5.1**
MMIG	**Aquila**	**0.99**	**306**			**Pn**	**15 02 30.5**	**-1.6**
MMIG						**Sb**	**15 02 40.2**	**-5.1**
URUA	**Uruapan**	**1.76**	**13**	⇑*i*P		**Pn**	**15 02 42.8**	**0.0**
URUA				*i* S		**Sn**	**15 03 03.5**	**-0.9**
URUA	**Uruapan**	**1.76**	**13**			**Pn**	**15 02 42.8**	**0.0**
URUA						**Sn**	**15 03 03.5**	**-0.9**
ARIG	**Puente Sto Nin**	**2.13**	**74**	⇓*i*P		**Pn**	**15 02 46.8**	**-0.9**
ARIG				*i* S		**Sn**	**15 03 11.4**	**-1.9**
ARIG	**Puente Sto Nin**	**2.13**	**74**			**Pn**	**15 02 46.8**	**-0.9**
ARIG						**Sn**	**15 03 11.4**	**-1.9**
MOIG	**Morelia**	**2.33**	**32**	⇓*i*P		**Pn**	**15 02 51.0**	**+0.3**
MOIG				*i* S		**Sb**	**15 03 24.4**	**+0.5**
MOIG	**Morelia**	**2.33**	**32**	Pn		**Pn**	**15 02 49.5**	**-1.2**
MOIG	**Morelia**	**2.33**	**32**			**Sb**	**15 03 24.4**	**+0.5**
MEIG	**Mezcala**	**2.75**	**85**	⇓*e*P		**Pn**	**15 02 57.0**	**+0.6**
MEIG	**Mezcala**	**2.75**	**85**			**Pn**	**15 02 57.0**	**+0.6**
DAIG	**Los Arroyos**	**2.81**	**104**	⇑*e*P		**Pn**	**15 02 55.7**	**-1.3**
DAIG				*i* S		**Sn**	**15 03 22.6**	**-7.3**
DAIG	**Los Arroyos**	**2.81**	**104**			**Pn**	**15 02 55.7**	**-1.3**
DAIG						**Sn**	**15 03 22.6**	**-7.3**
MAVM	**Malinalco, Edo**	**3.12**	**66**	⇓*e*P		**Pn**	**15 03 01.1**	**-0.4**
MAVM	**Malinalco, Edo**	**3.12**	**66**			**Pn**	**15 03 01.1**	**-0.4**
IGIG	**Irapuato, Guan**	**3.23**	**20**	⇓*e*P		**Pn**	**15 03 03.7**	**+0.6**
IGIG	**Irapuato, Guan**	**3.23**	**20**			**Pn**	**15 03 03.7**	**+0.6**
ACIG	**Acambay**	**3.36**	**47**	⇑*e*P		**Pn**	**15 03 08.6**	**+3.8**
UNM	**Universidad Na**	**3.54**	**62**	P		**Pn**	**15 03 03.9**	**-3.6**
UNM	**Universidad Na**	**3.54**	**62**			**Pn**	**15 03 03.9**	**-3.6**
JRQG	**Juriquilla Cam**	**3.56**	**33**	⇓*i*P		**Pb**	**15 03 16.1**	**-0.4**
JRQG	**Juriquilla Cam**	**3.56**	**33**			**Pb**	**15 03 16.1**	**-0.4**
TLIG	**Tlapa**	**3.75**	**92**	⇓*i*P		**Pn**	**15 03 09.9**	**-0.3**
TLIG				*i* S		**Pb**	**15 03 21.6**	**+1.8**
TLIG	**Tlapa**	**3.75**	**92**	Pn		**Pn**	**15 03 09.0**	**-1.2**
TLIG	**Tlapa**	**3.75**	**92**			**Pb**	**15 03 21.6**	**+1.8**
AMVM	**AMECAMECA**	**3.80**	**67**	⇑*e*P		**Pn**	**15 03 11.5**	**+0.4**
AMVM	**AMECAMECA**	**3.80**	**67**			**Pn**	**15 03 11.5**	**+0.4**
PPM	**Popocatepetl**	**3.92**	**69**	⇓*e*P		**Pn**	**15 03 13.0**	**+0.2**
FTIG	**Fresnillo de T**	**4.17**	**87**	⇓*e*P		**Pn**	**15 03 15.6**	**-0.3**
FTIG				*i* S		**Sn**	**15 04 00.1**	**-3.6**
HLIG	**Huajuapan de L**	**4.48**	**88**	⇓*e*P		**Pn**	**15 03 20.1**	**-0.1**
HLIG				*i* S		Sn	15 04 00.6	-11
TXIG	**Tlaxiaco**	**4.54**	**95**	⇓*e*P		**Pn**	**15 03 20.7**	**-0.4**
TXIG				*i* S		**Sb**	**15 04 30.5**	**+2.9**
YOIG	**Yosondua**	**4.81**	**99**	⇓*e*P		**Pn**	**15 03 24.8**	**0.0**
YOIG				*i* S		**Sb**	**15 04 40.9**	**+5.5**
ZAIG	**Zacatecas**	**5.04**	**359**	⇑*i*P		**Pb**	**15 03 38.0**	**-3.8**
ZAIG				*i* S		**Sb**	**15 04 47.4**	**+5.4**
ZAIG	**Zacatecas**	**5.04**	**359**	Pn		**Pn**	**15 03 28.7**	**+0.7**
ZAIG	**Zacatecas**	**5.04**	**359**			**Pb**	**15 03 38.0**	**-3.8**
ZAIG						**Sb**	**15 04 47.4**	**+5.4**
TOIG	**Toxpalan**	**5.19**	**85**	*e*P		**Pn**	**15 03 29.9**	**-0.1**
PEIG	**Puerto Escondi**	**5.40**	**107**	⇓*i*P		**Pn**	**15 03 31.9**	**-0.8**
VHO	**Vista Hermosa**	**5.54**	**96**	⇓*i*P		**Pn**	**15 03 35.0**	**+0.1**
VHO				*i* S		**Sn**	**15 04 31.2**	**-6.6**
HUIG	**Huatulco**	**6.42**	**106**	*i* P		**Pn**	**15 03 46.7**	**-0.1**
HUIG				*i* S		**Sn**	**15 04 58.6**	**-0.6**
HUIG	**Huatulco**	**6.42**	**106**			**Pn**	**15 03 46.7**	**-0.1**
HUIG						**Sn**	**15 04 58.6**	**-0.6**
CMIG	**Matias Romero**	**7.30**	**94**	P		**Pn**	**15 03 58.5**	**-0.3**
	3.2nm,0.3s,baz=286,slow=13,SNR=16							
CMIG				S		**Sn**	**15 05 16.0**	**-4.8**
	2.4nm,0.3s,baz=38,slow=19,SNR=1.3							
H06E1	**SOCORRO T-PHAS**	**8.08**	**279**	T		T	15 12 23.2	
	SNR=17							
SLBS	**Sierra La Lagu**	**9.16**	**312**			**Pn**	**15 04 28.0**	**+3.5**
LPIG	**La Paz**	**9.68**	**312**	P		Pn	15 04 38.3	+6.8
	1.2nm,0.3s,baz=217,slow=5.1,SNR=4.4							
LPIG				LR		LR	15 07 50.9	
	comp=Z,3μm,18.9s,baz=128,slow=34							
833A	**Chaparral WMA,**	**10.95**	**15**	P		**Pn**	**15 04 49.1**	**+0.3**
	baz=195							
TX31	**Lajitas Ar. Si**	**11.63**	**355**			**Pn**	**15 05 00.8**	**+2.6**
TX32	**Lajitas Array**	**11.63**	**355**	Pn		**Pn**	**15 05 00.2**	**+2.0**
TXAR	**Lajitas Array**	**11.63**	**355**	P		**Pn**	**15 05 01.8**	**+3.5**
	0.5nm,0.3s,baz=178,slow=14,SNR=31							
TXAR	**Lajitas Array**	**11.63**	**355**	P		**Pn**	**15 05 00.9**	**+2.6**
TXAR	**Lajitas Array**	**11.63**	**355**	Pn		**Pn**	**15 05 00.9**	**+2.6**
JCT	**Junction City**	**12.96**	**10**	P		**Pn**	**15 05 16.3**	**-0.1**
JCT	**Junction City**	**12.96**	**10**	Pn		**Pn**	**15 05 16.3**	**-0.1**
JCT	**Junction City**	**12.96**	**10**	P		**Pn**	**

W18A Petrified Fore 18.50 341 P Pn 15 06 29.6 +1.0
baz=157
JTS Las Juntas de 18.54 111 P P 15 06 29.0 +0.4
comp=Z,0.4nm,0.3s,baz=41,slow=19,SNR=3.6
JTS Las Juntas de 18.54 111 *i* P Pn 15 06 29.2 +0.2
JTS pmax pmax
comp=Z,53nm,1.2s
OK029 Liberty Lake 18.57 13 P P 15 06 28.0 -0.8
MIAR Mount Ida 18.57 24 P P 15 06 26.8 -2.0
MIAR pmax pmax
comp=Z,26nm,0.9s
MIAR Mount Ida 18.57 24 P 15 06 26.8 -2.0
MIAR Mount Ida 18.57 24 P P 15 06 26.6 -2.3
baz=207
Y14A Wickenburg 18.71 332 P Pn 15 06 32.3 +1.4
CCAR Cane Creek 18.79 29 Pn P 15 06 31.5 +0.3
CCAR IAmb IAmb 15 06 32.9
comp=Z,104nm,1.0s
X40A Basin Creek Fa 18.82 25 P P 15 06 30.0 -1.4
X40A Basin Creek Fa 18.82 25 P P 15 06 29.6 -1.9
baz=209
OK030 Cody Creek RV 18.85 14 P P 15 06 30.8 -1.0
OK030 IAmb IAmb 15 06 42.1
comp=Z,56nm,0.9s
OK031 S. Brethren Rd 18.86 14 P P 15 06 30.9 -1.1
OK031 IAmb IAmb 15 06 35.0
comp=Z,55nm,0.9s
U32A Winter Ranch, 18.86 9 P P 15 06 31.5 -0.5
GLA Glamis 18.89 326 P Pn 15 06 34.2 +1.1
GLA pmax pmax
comp=Z,51nm,1.0s
GLA Glamis 18.89 326 P Pn 15 06 34.2 +1.1
GLA Glamis 18.89 326 P Pn 15 06 34.1 +1.1
baz=140,SNR=10
SOR Soroa 18.97 71 P P 15 06 31.8 -1.5
SOR pmax pmax
comp=Z,25nm,0.7s
SOR Soroa 18.97 71 P P 15 06 31.8 -1.5
W39A Magazine 19.07 22 P P 15 06 33.7 -0.6
W39A Magazine 19.07 22 P P 15 06 33.3 -1.0
baz=206,SNR=11
TUL1 Leonard 19.09 17 P P 15 06 33.0 -1.4
TUL1 IAmb IAmb 15 06 45.5
comp=Z,41nm,0.7s
TUL1 Leonard 19.09 17 P P 15 06 33.1 -1.4
baz=199,SNR=8.3
QUOK Quay 19.10 14 P P 15 06 34.0 -0.6
CROK Carrier 19.15 11 P P 15 06 34.5 -0.6
CROK IAmb IAmb 15 06 45.8
comp=Z,39nm,0.7s
146A Union 19.18 37 P P 15 06 34.5 -1.0
146A IAmb IAmb 15 06 38.9
comp=Z,128nm,1.2s
IKP In-Ko-Pah, Jac 19.29 323 P Pn 15 06 37.5 -0.4
baz=137
SWSC Sam W. Stewart 19.33 324 P Pn 15 06 38.3 -0.1
baz=138
CBX Cerro Bola 19.37 321 P Pn 15 06 38.9 0.0
BRAL Brewton 19.40 43 P P 15 06 35.7 -2.2
baz=229
OK032 Salt Plains WL 19.40 10 P P 15 06 37.3 -0.6
OK032 IAmb IAmb 15 06 48.8
comp=Z,35nm,0.6s
WUAZ Wupatki 19.42 338 Pn 15 06 40.8 +1.2
WUAZ IAmb IAmb 15 06 46.7
comp=Z,47nm,0.9s
WUAZ Wupatki 19.42 338 P Pn 15 06 40.4 +0.8
baz=153,SNR=39
T25A Trinidad 19.44 355 Pn 15 06 39.9 0.0
T25A Trinidad 19.44 355 P P 15 06 38.1 -0.4
baz=174,SNR=21
GC02 Grant County # 19.51 11 P P 15 06 38.4 -0.7
PDMCI Parker Dam,Lak 19.54 330 P Pn 15 06 41.0 +0.2
baz=144
BLOK Blackwell 19.55 13 P P 15 06 38.7 -0.9
BLOK IAmb IAmb 15 06 48.4
comp=Z,98nm,1.0s
KAN14 Manchester OK 19.59 11 P P 15 06 38.9 -1.1
KAN14 IAmb IAmb 15 06 41.3
comp=Z,55nm,0.8s
MONP2 Monument Peak 19.64 323 P Pn 15 06 43.9 +1.6
baz=136,SNR=7.5
W41B Gary Mavity, V 19.65 26 P P 15 06 39.5 -1.1
baz=210,SNR=18
BC3 Big Chuckawall 19.68 326 P Pn 15 06 44.1 +1.4
baz=140,SNR=10
KAN17 Caldwell West 19.72 11 P P 15 06 40.7 -0.6
KAN17 IAmb IAmb 15 06 42.5
comp=Z,108nm,1.1s
CVTR Volcan Turrial 19.72 110 P P 15 06 40.6 -1.4
KAN10 Anthony SW Sta 19.73 10 P P 15 06 40.5 -1.1
WHAR Wooly Hollow 19.73 25 P P 15 06 40.0 -1.5
WHAR IAmb IAmb 15 06 41.8
comp=Z,54nm,0.9s
KAN13 South Haven SW 19.74 12 P P 15 06 40.6 -1.0
KAN05 Bluff City Nor 19.76 11 P P 15 06 40.6 -1.2
KAN05 IAmb IAmb 15 06 42.9
comp=Z,101nm,0.7s
KAN09 Caldwell North 19.83 12 P P 15 06 41.5 -1.1
KAN16 Harper SW Stat 19.84 10 P P 15 06 41.9 -0.8
KAN16 IAmb IAmb 15 06 43.3
comp=Z,75nm,0.8s
Y45A Yeager Farm, C 19.85 33 P P 15 06 41.9 -0.9
KAN08 Anthony NE Sta 19.86 11 P P 15 06 41.5 -1.3
KAN08 IAmb IAmb 15 06 43.4
comp=Z,42nm,0.7s
T35A Sooner Cattle 19.86 14 P P 15 06 41.4 -1.5
T35A IAmb IAmb 15 06 44.5
comp=Z,54nm,0.7s
KAN06 Argonia West S 19.90 11 P P 15 06 43.0 -0.3
IRM Iron Mountain 19.91 328 P Pn 15 06 45.4 +0.1
baz=142,SNR=33
KAN12 Harper NE Stat 19.92 11 P P 15 06 42.8 -0.8
KAN12 IAmb IAmb 15 06 44.2
comp=Z,90nm,0.9s
KS20 Mayfield South 19.94 12 P P 15 06 42.9 -0.9
U38A Gravette 20.00 19 P P 15 06 42.5 -1.9
HHAR Hobbs 20.00 21 P P 15 06 42.7 -1.7
109C Camp Elliot, M 20.04 322 P Pn 15 06 46.2 -0.6
baz=135
W13A Hualapai Mount 20.08 332 Pn 15 06 48.4 +1.0
W13A PcP 15 11 01.3 +0.8
MVCO Mesa Verde 20.14 346 P P 15 06 46.5 +0.3
MVCO Mesa Verde 20.14 346 P Pn 15 06 47.5 -0.7
baz=163,SNR=14
SDCO Great Sand Dun 20.14 353 P P 15 06 46.2 -0.1
SDCO Great Sand Dun 20.14 353 P Pn 15 06 47.4 -0.9
baz=171,SNR=41
NEE2 Needles Airpor 20.14 330 P Pn 15 06 48.2 +0.2
baz=144
TPFO Pinon Flats 20.19 324 P Pn 15 06 49.8 +1.1
baz=138,SNR=14
PFO Pinyon Flats O 20.20 324 P Pn 15 06 50.6 +1.8
comp=Z,18nm,0.9s,baz=137,slow=7.9,SNR=12
PFO Pinyon Flats O 20.20 324 *i* P Pn 15 06 49.0 +0.3
PFO pmax pmax
comp=Z,56nm,1.0s
PFO Pinyon Flats O 20.20 324 P Pn 15 06 48.2 -0.6
PFO Pinyon Flats O 20.20 324 P Pn 15 06 48.7 0.0
baz=138,SNR=13
BELC Belle Mtn. Jos 20.24 326 P Pn 15 06 49.9 +0.7
baz=140
FSCY Frank Sound, G 20.28 82 P P 15 06 46.2 -1.4
FCAR Ozark Folk Cen 20.32 25 P P 15 06 46.6 -1.3
FCAR IAmb IAmb 15 07 01.2
comp=Z,41nm,1.0s
S22A 4UR Ranch, Cre 20.33 350 P Pn 15 06 49.7 -0.7
baz=167,SNR=28
OXF Oxford 20.42 32 P P 15 06 47.1 -1.9
OXF pmax pmax
comp=Z,214nm,1.2s
OXF Oxford 20.42 32 P P 15 06 47.1 -1.9
OXF Oxford 20.42 32 P P 15 06 47.2 -1.8
baz=218,SNR=13
250A Grady 20.43 43 P P 15 06 46.7 -2.4
250A IAmb IAmb 15 06 52.9
comp=Z,76nm,1.2s
U40A Yellville 20.45 23 P P 15 06 47.6 -1.7
U40A Yellville 20.45 23 P P 15 06 47.6 -1.7
baz=207,SNR=8.5
U15A North Rim 20.57 337 Pn 15 06 53.5 +0.3
U15A IAmb IAmb 15 07 00.2
comp=Z,72nm,1.5s
MURC Murrieta 20.60 323 P Pn 15 06 53.4 0.0
baz=136,SNR=6.3

MET Memphis--Engin 20.65 30 P P 15 06 50.1 -1.3
HBAR Harrisburg 20.66 28 P P 15 06 49.8 -1.8
LRAL Lakeview Retre 20.68 39 P P 15 06 49.7 -2.2
LRAL IAmb IAmb 15 06 54.7
comp=Z,75nm,1.2s
LRAL Lakeview Retre 20.68 39 P P 15 06 50.2 -1.6
baz=226,SNR=18
LPAR Lepanto 20.86 29 P P 15 06 52.4 -1.4
LPAR IAmb IAmb 15 06 53.5
comp=Z,104nm,1.1s
LCAR Lake Charles 20.88 27 P P 15 06 51.9 -2.1
R32A Long Quarter, 20.91 8 P P 15 06 53.0 -1.3
R32A IAmb IAmb 15 06 54.8
comp=Z,56nm,0.8s
BBRC Big Bear Solar 20.94 325 P Pn 15 06 58.2 +0.7
baz=138
SCI2 San Clemente I 20.98 320 P Pn 15 06 58.4 +0.7
baz=132
352A Blakely 21.02 46 P P 15 06 53.1 -2.4
W45A Hickory Valley 21.04 32 P P 15 06 53.9 -1.8
HEC Hector,Ludlow 21.05 327 P P 15 06 58.6 +2.6
baz=140,SNR=28
CBKS Cedar Bluff 21.17 6 P P 15 06 56.2 -0.9
CBKS pmax pmax
comp=Z,112nm,1.1s
CBKS Cedar Bluff 21.17 6 P P 15 06 56.2 -0.9
CBKS IAmb IAmb 15 06 57.9
comp=Z,112nm,1.1s
CBKS Cedar Bluff 21.17 6 P P 15 06 56.7 -0.5
baz=187,SNR=11
CIS Catalina Islan 21.18 321 P P 15 06 59.8 +2.5
baz=133
KSCO Kaye Shedlock' 21.23 360 P P 15 06 58.0 +0.2
KSCO Kaye Shedlock' 21.23 360 P P 15 06 58.4 +0.5
baz=179,SNR=13
KNB Kanab 21.28 337 P P 15 06 59.0 +0.5
KNB pmax pmax
comp=Z,63nm,1.3s
KNB Kanab 21.28 337 P P 15 06 59.0 +0.5
KNB IAmb IAmb 15 07 05.2
comp=Z,63nm,1.3s
Q24A Divide 21.31 354 P P 15 06 59.3 +0.4
baz=172
TUQ Turquoise Moun 21.32 329 P P 15 07 01.6 +2.8
baz=142,SNR=45
BFSC Mount Baldy Ra 21.33 323 P P 15 07 01.0 +2.0
baz=136,SNR=13
MGMO Mountain Grove 21.37 23 P P 15 06 57.1 -2.1
MGMO IAmb IAmb 15 07 02.0
comp=Z,57nm,1.3s
LCMT Little Creek M 21.44 336 P P 15 07 01.2 +1.0
PKCU Pink Cliffs 21.48 338 P P 15 07 00.8 +0.1
PKCU IAmb IAmb 15 07 21.1
comp=Z,41nm,1.0s
PLAL Pickwick Lake 21.48 34 P P 15 06 58.5 -2.0
PLAL IAmb IAmb 15 07 01.8
comp=Z,46nm,0.7s
S39A Bolivar 21.48 20 P P 15 06 58.2 -2.2
S39A IAmb IAmb 15 07 13.4
comp=Z,30nm,0.8s
MWC Mount Wilson 21.55 323 P P 15 07 03.2 +1.8
MWC pmax pmax
comp=Z,48nm,1.1s
MWC Mount Wilson 21.55 323 P P 15 07 03.2 +1.8
MWC IAmb IAmb 15 07 12.3
comp=Z,48nm,1.1s
HALT Halls 21.57 30 P P 15 06 59.5 -1.9
HALT IAmb IAmb 15 07 23.0
comp=Z,62nm,0.8s
PASC Pasadena Art C 21.59 322 P P 15 07 03.2 +1.6
PASC IAmb IAmb 15 07 16.7
comp=Z,70nm,1.4s
Y49A Blount Mountai 21.60 39 P P 15 06 60.0 -1.8
Y49A IAmb IAmb 15 07 05.2
comp=Z,36nm,0.8s
061Z Ochoppi 21.61 64 P P 15 06 59.5 -2.4
X48A Hartselle 21.66 37 P P 15 06 59.7 -2.6
X48A IAmb IAmb 15 07 02.0
comp=Z,21nm,0.6s
GSC Goldstone, Bar 21.66 327 P P 15 07 04.3 +1.8
GSC pmax pmax
comp=Z,41nm,1.0s
GSC Goldstone, Bar 21.66 327 P P 15 07 04.2 +1.8
GSC IAmb IAmb 15 07 08.9
comp=Z,41nm,0.9s
GSC Goldstone, Bar 21.66 327 P P 15 07 04.9 +2.4
baz=140,SNR=31
T42A Van Buren 21.72 25 P P 15 07 00.3 -2.7
DECC Green Verdugo 21.73 322 P P 15 07 05.0 +1.9
baz=135
PBMO Poplar Bluff 21.79 27 P P 15 07 00.6 -3.1
SHOC Shoshone, Teco 21.86 329 P P 15 07 06.8 +2.3
baz=142,SNR=8.8
152A Waverly Hall 21.88 44 P P 15 07 01.5 -3.3
152A IAmb IAmb 15 07 08.3
comp=Z,26nm,0.7s
GLAT Glass 21.88 30 P P 15 07 00.7 -4.0
TIGA Tifton 21.93 48 P P 15 07 01.9 -3.3
TIGA IAmb IAmb 15 07 09.4
comp=Z,62nm,0.9s
TIGA Tifton 21.93 48 P P 15 07 03.9 -1.4
baz=235
KSU1 Kansas State U 21.93 12 P P 15 07 03.7 -1.5
KSU1 Kansas State U 21.93 12 P P 15 07 03.7 -1.5
baz=195,SNR=11
DWPF Disney Wildern 21.97 58 P P 15 07 03.3 -2.4
DWPF Disney Wildern 21.97 58 P P 15 07 03.5 -2.2
baz=246
MTPU Mount Pierson 21.97 339 P P 15 07 07.4 +1.3
MTPU IAmb IAmb 15 07 24.3
comp=Z,62nm,1.0s
EDW2 Edwards Air Fo 21.99 324 P P 15 07 07.9 +1.9
baz=137,SNR=30
PARMO Parma 21.99 28 P P 15 07 03.6 -2.2
PARMO IAmb IAmb 15 07 05.2
comp=Z,82nm,0.8s
Z51A Franklin 22.00 42 P P 15 07 03.0 -3.0
Z51A IAmb IAmb 15 07 14.2
comp=Z,29nm,0.7s
HICK Hickman 22.13 29 P P 15 07 05.4 -2.0
HENM Henderson Moun 22.16 29 P P 15 07 06.0 -1.7
ISCO Idaho Springs 22.18 354 P P 15 07 07.8 -0.5
ISCO pmax pmax
comp=Z,36nm,1.0s
ISCO Idaho Springs 22.18 354 P P 15 07 07.8 -0.5
ISCO IAmb IAmb 15 07 12.6
comp=Z,36nm,0.9s
ISCO Idaho Springs 22.18 354 P P 15 07 08.8 +0.4
baz=172,SNR=32
QSM Queen of Sheba 22.21 328 P P 15 07 09.3 +1.1
QSM IAmb IAmb 15 07 20.6
comp=Z,86nm,1.3s
OSI Osito Audit: C 22.21 322 P P 15 07 10.1 +1.8
baz=135
LRMC Laurel Mtn Rad 22.26 326 P P 15 07 10.3 +1.3
baz=138,SNR=11
GWY Greenwater Val 22.28 329 P P 15 07 10.4 +1.3
GWY IAmb IAmb 15 07 25.5
comp=Z,45nm,1.0s
SCZ2 Santa Cruz Isl 22.33 320 P P 15 07 11.5 +1.9
baz=132
R40A Maddies Statio 22.38 22 P P 15 07 07.5 -2.6
R40A IAmb IAmb 15 07 18.4
comp=Z,66nm,0.8s
MSU Marysvale 22.39 340 P P 15 07 10.8 +0.3
MSU Marysvale 22.39 340 P P 15 07 10.8 +0.3
MVU Marysvale 22.40 340 P P 15 07 10.8 +0.3
MVU IAmb IAmb 15 07 25.0
comp=Z,89nm,1.0s
SRU San Rafael Swe 22.45 343 P P 15 07 11.5 +0.5
SRU pmax pmax
comp=Z,14nm,0.7s
SRU San Rafael Swe 22.45 343 P P 15 07 11.5 +0.5
Q16A Castle Valley 22.45 342 P P 15 07 11.7 +0.6
Q16A IAmb IAmb 15 07 23.9
comp=Z,37nm,1.1s
WVT Waverly 22.49 32 P P 15 07 07.9 -3.4
WVT pmax pmax
comp=Z,27nm,0.9s
WVT Waverly 22.49 32 P P 15 07 07.8 -3.4
WVT Waverly 22.49 32 P P 15 07 08.9 -2.3
baz=219
PRN Pahroc Range 22.52 333 P P 15 07 12.7 +1.0
PRN IAmb IAmb 15 07 35.5
comp=Z,80nm,1.3s

CCM Cathedral Cave 22.55 24 P P 15 07 07.8 -4.1
CCM pmax pmax
comp=Z,13nm,0.8s
CCM Cathedral Cave 22.55 24 P P 15 07 07.8 -4.1
CCM Cathedral Cave 22.55 24 P P 15 07 09.5 -2.4
baz=208
FPAL Fort Paine 22.55 39 P P 15 07 07.7 -4.3
FPAL IAmb IAmb 15 07 11.3
comp=Z,44nm,1.0s
FURC Furnace Creek, 22.60 329 P P 15 07 14.3 +2.0
baz=142,SNR=7.6
MPMC Manual Prospec 22.60 327 P P 15 07 14.7 +2.1
baz=140,SNR=57
ARVC Arvin 22.64 323 P P 15 07 15.8 +2.9
baz=135
SBC Santa Barbara 22.68 321 P P 15 07 16.7 +3.4
baz=133
TPNV Topopah Spring 22.68 330 P P 15 07 13.5 0.0
TPNV pmax pmax
comp=Z,100nm,1.2s
TPNV Topopah Spring 22.68 330 P P 15 07 13.5 0.0
TPNV IAmb IAmb 15 07 25.8
comp=Z,100nm,1.1s
TPNV Topopah Spring 22.68 330 P P 15 07 15.9 +2.4
baz=144,SNR=40
V48A Smith Brothers 22.72 35 P P 15 07 10.6 -3.2
FVM French Village 22.81 25 P P 15 07 11.9 -2.8
FVM pmax pmax
comp=Z,21nm,0.6s
FVM French Village 22.81 25 P P 15 07 11.8 -2.8
FVM IAmb IAmb 15 07 23.2
comp=Z,21nm,0.6s
TMUT Trail Mountain 22.81 342 P P 15 07 15.4 +0.4
TMUT IAmb IAmb 15 07 18.1
comp=Z,22nm,0.8s
ISA Isabella, Lake 22.83 325 P P 15 07 16.8 +1.8
ISA pmax pmax
comp=Z,61nm,1.2s
ISA Isabella, Lake 22.83 325 P P 15 07 16.8 +1.8
ISA IAmb IAmb 15 07 22.7
comp=Z,61nm,1.1s
ISA Isabella, Lake 22.83 325 P P 15 07 16.7 +1.8
baz=137,SNR=30
SWET Sewanee 22.84 37 P P 15 07 11.4 -3.6
P17A Butcher Ranch, 22.84 343 P P 15 07 15.6 +0.5
O20A White River Ci 22.90 349 P P 15 07 15.9 +0.1
baz=165
255A Hazlehurst 22.99 48 P P 15 07 12.7 -3.8
255A IAmb IAmb 15 07 22.2
comp=Z,67nm,1.2s
X51A Calhoun 23.02 40 P P 15 07 14.5 -2.4
PKM Mcpherson Peak 23.05 321 P P 15 07 18.3 +1.0
baz=133
Y52A Lilburn 23.06 42 P P 15 07 13.6 -3.7
Y52A IAmb IAmb 15 07 25.7
comp=Z,28nm,0.8s
S44A Carbondale 23.06 28 P P 15 07 13.8 -3.5
S44A IAmb IAmb 15 07 17.9
comp=Z,21nm,0.7s
SIUC Southern Illin 23.10 28 P P 15 07 14.2 -3.4
SIUC IAmb IAmb 15 07 25.8
comp=Z,24nm,0.7s
GOGA Godfrey 23.17 44 P P 15 07 14.1 -4.3
GOGA pmax pmax
comp=Z,35nm,0.9s
GOGA Godfrey 23.17 44 P P 15 07 14.1 -4.3
GOGA IAmb IAmb 15 07 17.1
comp=Z,35nm,0.9s
GOGA Godfrey 23.17 44 P P 15 07 15.6 -2.8
baz=232,SNR=16
OGNE Ogallala 23.17 1 P P 15 07 17.3 -1.1
OGNE Ogallala 23.17 1 P P 15 07 17.6 -0.8
baz=181,SNR=12
W50A Signal Mountai 23.19 38 P P 15 07 15.3 -3.3
P38A Dawn 23.19 18 P P 15 07 16.4 -2.1
P38A IAmb IAmb 15 07 26.0
comp=Z,22nm,0.8s
CWC Cottonwood Cre 23.20 327 P P 15 07 21.6 +2.8
baz=139
CLTN Cedars of Leba 23.25 35 P P 15 07 16.7 -2.5
CLTN IAmb IAmb 15 07 27.2
comp=Z,32nm,1.0s
GRAC Grapevine Rang 23.26 329 P P 15 07 20.4 +1.1
baz=141,SNR=30
VES Vestal, Richgr 23.30 324 P P 15 07 21.5 +1.9
baz=136,SNR=8.2
N23A Red Feather La 23.30 353 P P 15 07 19.5 -0.4
baz=171,SNR=15
SMMC Simmler 23.45 322 P P 15 07 22.8 +1.7
baz=134,SNR=13
CACAO El Cacao, Vera 23.47 113 *e*P P 15 07 20.4 -1.1
T47A Sharon Grove 23.52 32 P P 15 07 18.9 -2.9
T47A IAmb IAmb 15 07 27.8
comp=Z,26nm,0.8s
T47A PcP 15 11 06.6 -0.4
R11A Troy Canyon, C 23.54 334 P P 15 07 23.0 +0.8
R11A IAmb IAmb 15 07 35.0
comp=Z,32nm,1.1s
R11A Troy Canyon, C 23.54 334 P P 15 07 23.4 +1.2
baz=147,SNR=30
P40A Paris 23.57 21 P P 15 07 20.3 -1.9
LCH Last Change Ra 23.59 329 P P 15 07 22.9 +0.4
SPR3 Spring Creek 3 23.59 336 P P 15 07 22.8 -0.1
SPR3 IAmb IAmb 15 07 34.5
comp=Z,51nm,1.4s
SPR3 PcP 15 11 08.4 +0.9
RDMU Red Mountain 23.59 346 P P 15 07 22.3 -0.4
MPU Maple Canyon 23.60 342 P P 15 07 22.7 0.0
PHWY Pilot Hill 23.66 354 P P 15 07 22.9 -0.5
PHWY IAmb IAmb 15 07 25.3
comp=Z,30nm,0.9s
NLU North Lily Min 23.68 341 P P 15 07 23.3 -0.3
TIN Tinemaha, Big 23.74 327 P P 15 07 25.5 +1.5
baz=140,SNR=7.3
MTDJ Mount Denham 23.75 85 P P 15 07 23.1 -1.2
VOG Valley Oaks Go 23.81 324 P P 15 07 26.0 +1.4
baz=136
N35A Tabor 23.83 13 P P 15 07 23.5 -1.2
CPCT Cooper Cave 23.83 39 P P 15 07 21.7 -3.0
U49A Red Boiling Sp 23.86 35 P P 15 07 22.2 -2.8
U49A PcP 15 11 07.5 -0.2
BGNE Belgrade 23.92 8 P P 15 07 23.9 -1.7
BGNE Belgrade 23.92 8 P P 15 07 24.7 -0.9
baz=190,SNR=8.8
W52A Murphy 23.95 40 P P 15 07 23.4 -2.5
UPA Univ. de Panam 23.95 108 *e*P P 15 07 25.1 -0.9
USIN University of 24.01 30 P P 15 07 24.4 -2.0
DUG Dugway, Tooele 24.13 340 P P 15 07 27.6 -0.1
DUG pmax pmax
comp=Z,13nm,1.0s
DUG Dugway, Tooele 24.13 340 P P 15 07 27.6 -0.1
DUG Dugway, Tooele 24.13 340 P P 15 07 28.2 +0.6
baz=155,SNR=12
V51A Loudon 24.17 38 P P 15 07 24.9 -3.0
V51A IAmb IAmb 15 07 34.8
comp=Z,65nm,1.4s
Q44A Meyer Farm, Va 24.18 26 P P 15 07 25.9 -2.0
RWWY Rawlins 24.25 351 P P 15 07 29.0 +0.1
RWWY IAmb IAmb 15 07 32.2
comp=Z,27nm,0.9s
CTU Camp Tracy 24.26 343 P P 15 07 29.5 +0.5
N38A Joes South For 24.36 17 P P 15 07 28.3 -1.3
TKL Tuckaleechee C 24.42 39 P P 15 07 27.9 -2.3
comp=Z,14nm,0.5s,baz=213,slow=11,SNR=25
TKL Tuckaleechee C 24.42 39 P P 15 07 27.5 -2.7
TKL pmax pmax
comp=Z,24nm,0.8s
TKL Tuckaleechee C 24.42 39 P P 15 07 27.5 -2.7
TKL IAmb IAmb 15 07 37.2
comp=Z,24nm,0.8s
OLIL Olney 24.44 28 P P 15 07 28.6 -1.7
HODGE Hodges 24.46 44 P P 15 07 27.9 -2.8
MLAC Mammoth, Mammo 24.49 327 P P 15 07 32.6 +1.4
baz=139
BG3 Lake Jocassee 24.50 42 P P 15 07 29.0 -2.0
BG3 IAmb IAmb 15 07 41.2
comp=Z,26nm,0.9s
PMPB Monarch Peak 24.54 322 P P 15 07 33.0 +1.6
PMPB IAmb IAmb 15 07 39.2
comp=Z,62nm,1.2s
P43A Skaggs, Pawnee 24.59 25 P P 15 07 30.1 -1.7
MDPB Devils Postpil 24.62 327 P P 15 07 34.4 +2.1
MDPB IAmb IAmb 15 07 36.6
comp=Z,25nm,0.8s
V52A Sevierville 24.65 39 P P 15 07 29.7 -2.6

V52A IAmb IAmb 15 07 41.2
comp=Z,25nm,0.9s
L34A Svendsen Farm, 24.75 11 P P 15 07 31.6 -1.5
T50A Nancy 24.75 35 P P 15 07 30.7 -2.5
T50A IAmb IAmb 15 07 40.9
comp=Z,29nm,0.8s
NV11 Mina Array Sit 24.78 330 P P 15 07 35.8 +2.2
NV11 IAmb IAmb 15 07 47.8
comp=Z,61nm,1.0s
NVAR Mina Array Bea 24.84 329 P P 15 07 37.6 +3.3
comp=Z,43nm,1.0s,baz=154,slow=10,SNR=135
NVAR PcP **PcP 15 11 11.3 +1.2**
comp=Z,2.8nm,1.1s,baz=147,slow=3.6,SNR=4.7
NVAR LR LR 15 17 32.1
comp=Z,838nm,19.0s,baz=140,slow=37
NVAR Mina Array Bea 24.84 329 P P 15 07 36.5 +2.1
BGU Big Grassy Mou 24.86 341 P P 15 07 35.6 +1.2
WCI Wyandotte Cave 24.89 31 P P 15 07 31.8 -2.6
WCI pmax pmax
comp=Z,76nm,0.8s
WCI Wyandotte Cave 24.89 31 P P 15 07 31.8 -2.6
WCI Wyandotte Cave 24.89 31 P P 15 07 33.1 -1.3
baz=219
V53A Saluda 25.01 40 P P 15 07 33.7 -1.9
V53A IAmb IAmb 15 07 35.5
comp=Z,28nm,0.8s
N41A Harden Midland 25.03 21 P P 15 07 33.4 -2.3
N41A IAmb IAmb 15 07 42.3
comp=Z,43nm,0.8s
SPUT South Promonto 25.03 342 P P 15 07 36.5 +0.6
K31A O'Neill 25.05 7 P P 15 07 35.8 -0.1
K22A Casper 25.10 353 P P 15 07 35.9 -0.7
K22A IAmb IAmb 15 07 39.6
comp=Z,50nm,1.0s
K22A Casper 25.10 353 P P 15 07 37.0 +0.4
baz=170,SNR=20
RYN Ryan 25.11 329 P P 15 07 38.4 +1.8
RYN IAmb IAmb 15 07 56.4
comp=Z,50nm,1.1s
PAULI Pauline 25.11 43 P P 15 07 34.3 -2.2
PAULI IAmb IAmb 15 07 36.6
comp=Z,29nm,1.1s
TZTN Tazewell 25.15 38 P P 15 07 34.6 -2.2
TZTN IAmb IAmb 15 07 38.9
comp=Z,27nm,1.1s
TZTN Tazewell 25.15 38 P P 15 07 35.8 -1.0
baz=226
KVN Kaiserville 25.24 331 P P 15 07 40.5 +2.6
KVN pmax pmax
comp=Z,82nm,1.0s
KVN Kaiserville 25.24 331 P P 15 07 40.5 +2.6
NHSC New Hope 25.26 48 P P 15 07 36.0 -1.8
NHSC New Hope 25.26 48 P P 15 07 36.2 -1.6
baz=238
SAO San Andreas Ge 25.30 322 P P 15 07 39.1 +0.9
SAO pmax pmax
comp=Z,17nm,0.9s
SAO San Andreas Ge 25.30 322 P P 15 07 39.0 +0.9
SCIA State Center 25.40 16 P P 15 07 38.6 -0.4
SCIA State Center 25.40 16 P P 15 07 37.1 -2.0
baz=200
ELK Elko 25.45 337 P P 15 07 42.2 +2.4
comp=Z,7.0nm,1.0s,baz=155,slow=7.6,SNR=18
ELK PcP **PcP 15 11 12.8 +1.4**
comp=Z,3.9nm,1.0s,baz=133,slow=0.9,SNR=5.3
ELK Elko 25.45 337 P P 15 07 40.2 +0.4
ELK **PcP 15 11 11.6 +0.2**
O44A Mansfield 25.46 26 P P 15 07 37.9 -1.7
HDIL Hopedale 25.47 24 P P 15 07 38.0 -1.7
HDIL Hopedale 25.47 24 P P 15 07 37.7 -2.0
baz=210,SNR=5.7
R49A Shelbyville 25.51 33 P P 15 07 38.8 -1.2
R49A IAmb IAmb 15 07 48.6
comp=Z,36nm,1.3s
BLO Bloomington 25.52 30 P P 15 07 38.5 -1.6
BLO pmax pmax
comp=Z,71nm,0.5s
BLO Bloomington 25.52 30 P P 15 07 38.5 -1.6
P46A Rosedale 25.56 28 P P 15 07 39.0 -1.5
P46A IAmb IAmb 15 07 48.6
comp=Z,28nm,0.7s
HVU Hansel Valley 25.56 342 P P 15 07 40.5 -0.2
HVU pmax pmax
comp=Z,14nm,1.0s
HVU Hansel Valley 25.56 342 P P 15 07 40.5 -0.2
CMB Columbia Colle 25.61 326 P P 15 07 42.2 +1.2
CMB pmax pmax
comp=Z,11nm,0.9s
CMB Columbia Colle 25.61 326 P P 15 07 42.2 +1.2
KMSC Kings Mountain 25.62 43 P P 15 07 38.7 -2.4
KMSC IAmb IAmb 15 07 40.8
comp=Z,26nm,0.7s
KMSC Kings Mountain 25.62 43 P P 15 07 39.1 -2.1
baz=232,SNR=8.8
BW06 Boulder Array 25.70 348 P P 15 07 40.5 -1.5
BW06 IAmb IAmb 15 07 44.5
comp=Z,52nm,1.4s
BW06 Boulder Array 25.70 348 P P 15 07 41.6 -0.4
baz=164,SNR=30
PD31 Pinedale Array 25.70 348 P P 15 07 41.3 -0.7
PD31 IAmb IAmb 15 07 44.5
comp=Z,47nm,1.4s
PD31 **PcP 15 11 11.9 -0.1**
PDAR Pinedale Array 25.70 348 P P 15 07 42.5 +0.5
comp=Z,5.9nm,0.6s,baz=150,slow=9.6,SNR=61
PDAR PcP **PcP 15 11 12.1 +0.1**
comp=Z,3.5nm,0.9s,baz=149,slow=3.5,SNR=8.1
PDAR Pinedale Array 25.70 348 P P 15 07 40.9 -1.1
PDAR **PcP 15 11 11.5 -0.4**
YERR Yerington 25.74 329 P P 15 07 43.7 +1.3
YERR IAmb IAmb 15 07 53.7
comp=Z,26nm,0.9s
S51A Beattyville 25.89 36 P P 15 07 41.2 -2.3
S51A IAmb IAmb 15 07 44.5
comp=Z,28nm,0.6s
BIRD Birdtown, Kers 25.91 45 P P 15 07 41.4 -2.4
R50A Paris 25.94 34 P P 15 07 41.1 -2.9
R50A IAmb IAmb 15 07 52.9
comp=Z,19nm,0.8s
BMN Battle Mountai 25.98 334 P P 15 07 45.1 +0.6
BMN pmax pmax
comp=Z,78nm,1.3s
BMN Battle Mountai 25.98 334 P P 15 07 45.1 +0.6
BMN IAmb IAmb 15 07 56.8
comp=Z,78nm,1.3s
PNTR Pine Nut 26.00 329 P P 15 07 45.1 +0.4
PNTR IAmb IAmb 15 07 49.4
comp=Z,46nm,0.8s
GTBY Guantanamo Bay 26.01 81 P P 15 07 44.1 -0.7
Y58A Scranton 26.04 47 P P 15 07 43.0 -2.0
L40A Anamosa 26.13 19 P P 15 07 43.8 -1.8
L40A IAmb IAmb 15 07 56.0
comp=Z,22nm,0.8s
V55A Taylorsville 26.13 42 P P 15 07 43.6 -2.2
V55A IAmb IAmb 15 07 46.0
comp=Z,20nm,0.9s
EMB Emerald Bay 26.16 328 P P 15 07 47.5 +1.2
U54A Nelsons Funny 26.17 40 P P 15 07 43.8 -2.4
U54A IAmb IAmb 15 07 52.5
comp=Z,31nm,0.6s
VCNR Virginia City 26.18 329 P P 15 07 48.0 +1.6
VCNR IAmb IAmb 15 07 55.4
comp=Z,37nm,1.1s
K38A Parkersburg 26.21 16 P P 15 07 44.8 -1.6
K38A IAmb IAmb 15 07 47.7
comp=Z,78nm,1.4s
SFIN Lafayette 26.23 27 P P 15 07 44.9 -1.7
SFIN IAmb IAmb 15 07 54.6
comp=Z,37nm,0.8s
SFIN Lafayette 26.23 27 P P 15 07 44.3 -2.3
baz=214,SNR=7.0
P48A Milroy 26.27 31 P P 15 07 44.0 -2.9
P48A IAmb IAmb 15 07 50.0
comp=Z,14nm,0.7s
ECR Eagle Creek 26.37 345 P P 15 07 47.9 -0.2
RSSD Black Hills 26.37 358 P P 15 07 47.7 -0.4
RSSD pmax pmax
comp=Z,18nm,1.3s
RSSD Black Hills 26.37 358 P P 15 07 47.7 -0.4
RSSD Black Hills 26.37 358 P P 15 07 47.5 -0.6
baz=176
ECSD EROS Data Cent 26.43 10 P P 15 07 46.9 -1.5
ECSD IAmb IAmb 15 07 51.6
comp=Z,34nm,1.1s
ECSD EROS Data Cent 26.43 10 P P 15 07 47.5 -0.8
baz=192,SNR=17
W57A Gilead 26.51 45 P P 15 07 46.5 -2.6
W57A IAmb IAmb 15 07 49.0
comp=Z,20nm,0.7s
REDW Red Top Meadow 26.54 346 P P 15 07 49.2 -0.5
REDW IAmb IAmb 15 07 54.5
comp=Z,54nm,1.3s
L42A Oliver, Polo 26.59 22 P P 15 07 47.0 -2.8
L42A IAmb IAmb 15 07 56.6
comp=Z,29nm,0.6s
M44A Midewin, Midew 26.67 25 P P 15 07 48.1 -2.4
M44A IAmb IAmb 15 08 04.2
comp=Z,48nm,1.2s
P49A Miami Univ. Ec 26.68 32 P P 15 07 47.9 -2.8
P49A IAmb IAmb 15 07 56.6
comp=Z,16nm,0.6s
P49A Miami Univ. Ec 26.68 32 P P 15 07 48.5 -2.1
baz=220
TPAW Teton Pass 26.68 346 P P 15 07 51.3 +0.3
TPAW IAmb IAmb 15 07 56.2
comp=Z,74nm,1.4s
LOHW Long Hollow 26.73 347 P P 15 07 51.0 -0.3
LOHW IAmb IAmb 15 07 54.0
comp=Z,27nm,1.0s
SUSD Miller 26.83 6 P P 15 07 50.9 -1.1
SUSD IAmb IAmb 15 08 03.0
comp=Z,45nm,0.9s
SUSD Miller 26.83 6 P P 15 07 51.5 -0.5
baz=187
FXWY Fox Creek 26.84 346 P P 15 07 52.4 0.0
MOOW Moose Ponds 26.89 347 P P 15 07 51.9 -0.8
U56A King 26.97 42 P P 15 07 51.1 -2.2
U56A IAmb IAmb 15 07 52.2
comp=Z,15nm,0.5s
BEKR Beckworth 26.97 329 P P 15 07 55.2 +1.7
BEKR IAmb IAmb 15 08 04.8
comp=Z,42nm,1.2s
Q51A Peebles 27.01 34 P P 15 07 50.3 -3.4
Q51A IAmb IAmb 15 07 55.8
comp=Z,30nm,0.6s
Q51A **PcP 15 11 14.8 +0.1**
IMW Indian Meadow 27.07 347 P P 15 07 55.1 +0.6
IMW IAmb IAmb 15 07 59.9
comp=Z,35nm,1.4s
FLWY Flagg Ranch 27.19 347 P P 15 07 55.3 -0.2
FLWY IAmb IAmb 15 08 00.5
comp=Z,39nm,1.4s
FLWY **PcP 15 11 14.6 -0.7**
JFWS Jewell Farm 27.20 20 P P 15 07 52.4 -3.0
JFWS pmax pmax
comp=Z,23nm,0.8s
JFWS Jewell Farm 27.20 20 P P 15 07 52.4 -3.0
JFWS IAmb IAmb 15 08 01.7
comp=Z,23nm,0.8s
JFWS Jewell Farm 27.20 20 P P 15 07 53.7 -1.7
baz=206
N47A Urbana 27.26 29 P P 15 07 52.9 -2.9
N47A IAmb IAmb 15 08 05.0
comp=Z,30nm,0.7s
R53A Hurricane 27.30 37 P P 15 07 53.7 -2.6
ORV Oroville 27.32 327 P P 15 07 57.1 +0.7
ORV pmax pmax
comp=Z,45nm,1.5s
ORV Oroville 27.32 327 P P 15 07 57.1 +0.7
ORV IAmb IAmb 15 08 08.8
comp=Z,45nm,1.4s
I37A Lemond, Waseca 27.33 14 P P 15 07 55.1 -1.4
I37A IAmb IAmb 15 08 03.2
comp=Z,36nm,0.9s
O49A Covington 27.36 31 P P 15 07 54.7 -2.1
O49A IAmb IAmb 15 07 59.5
comp=Z,32nm,0.7s
H17A Grant Village 27.47 347 P P 15 07 58.3 +0.3
baz=163
V58A Windy Hill, Pi 27.47 44 P P 15 07 55.2 -2.5
V58A IAmb IAmb 15 07 58.6
comp=Z,31nm,1.3s
BLA Blacksburg 27.48 41 P P 15 07 55.5 -2.4
BLA pmax pmax
comp=Z,27nm,0.9s
BLA Blacksburg 27.48 41 P P 15 07 55.5 -2.4
BLA IAmb IAmb 15 07 59.5
comp=Z,27nm,0.8s
BLA Blacksburg 27.48 41 P P 15 07 56.0 -1.9
baz=230,SNR=7.9
Q52A Bidwell 27.56 36 P P 15 07 56.3 -2.2
SJCC San Jacinto, C 27.62 103 P P 15 07 59.4 0.0
SJCC IAmb IAmb 15 08 15.1
comp=Z,22nm,0.9s
HLID Hailey 27.68 341 P P 15 08 00.4 +0.6
HLID Hailey 27.68 341 P P 15 08 01.3 +1.4
baz=154
DBBC Dabeiba 27.75 109 eP P 15 08 02.3 +1.7
YNR Norris Junctio 27.79 347 P P 15 08 00.7 -0.2
YHH Holmes Hill 27.90 347 P P 15 08 01.9 0.0
RLMT Red Lodge 27.92 350 P P 15 08 00.8 -1.2
RLMT Red Lodge 27.92 350 P P 15 08 01.3 -0.6
baz=166
YNE Yellowstone No 27.94 349 P P 15 08 02.8 +0.5
I40A Norwalk 27.97 19 P P 15 08 00.8 -1.4
N49A Columbus Grove 28.00 30 P P 15 08 00.3 -2.2
N49A IAmb IAmb 15 08 01.8
comp=Z,15nm,0.7s
MFID Camas Ranch 28.01 339 P P 15 08 03.8 +1.1
O03E Paynes Creek 28.02 327 P P 15 08 03.4 +0.6
baz=138
YHL Hebgen Lake 28.03 347 P P 15 08 03.7 +0.6
UREC San Jos de Ur 28.07 107 eP P 15 08 03.2 -0.1
QLMT Earthquake Lak 28.07 346 P P 15 08 04.1 +0.8
BCYI Bear Canyon 28.07 343 P P 15 08 03.7 +0.3
T57A Hurt 28.08 42 P P 15 08 01.3 -2.0
ACSO Alum Creek Sta 28.08 33 P P 15 08 02.3 -0.9
baz=222
P52A Corning 28.10 35 P P 15 08 00.4 -3.0
baz=224
WVOR Wild Horse Val 28.23 334 P P 15 08 03.5 -1.2
WVOR pmax pmax
comp=Z,11nm,0.9s
WVOR Wild Horse Val 28.23 334 P P 15 08 03.5 -1.2
R55A Marlinton 28.34 39 P P 15 08 03.7 -2.0
R55A IAmb IAmb 15 08 16.9
comp=Z,33nm,1.2s
Q54A Coxs Mills 28.38 37 P P 15 08 03.0 -2.9
Q54A IAmb IAmb 15 08 09.0
comp=Z,25nm,1.4s
P53A Whipple 28.41 36 P P 15 08 03.1 -3.0
P53A IAmb IAmb 15 08 19.1
comp=Z,10nm,0.7s
CBOC Ciudad Bolivar 28.43 111 eP P 15 08 07.1 +0.3
O02D Mt. Diablo Mer 28.45 326 P P 15 08 06.8 +0.2
baz=136
I42A Draeger Farm, 28.52 21 P P 15 08 05.3 -1.8
I42A IAmb IAmb 15 08 06.4
comp=Z,65nm,1.5s
MOD Modoc Plateau 28.52 331 P P 15 08 08.2 +0.8
MOD IAmb IAmb 15 08 18.9
comp=Z,30nm,1.4s
O52A Adamsville 28.61 34 P P 15 08 05.0 -2.9
O52A IAmb IAmb 15 08 14.1
comp=Z,42nm,1.4s
WDC Whiskeytown Da 28.61 327 P P 15 08 07.9 0.0
WDC pmax pmax
comp=Z,4.0nm,0.9s
WDC Whiskeytown Da 28.61 327 P P 15 08 07.9 0.0
GCMT Greycliff 28.64 350 P P 15 08 07.8 -0.5
L48A N Adams 28.68 29 P P 15 08 06.3 -2.2
L48A IAmb IAmb 15 08 14.9
comp=Z,21nm,0.6s
S57A Dark Hollow, R 28.73 41 P P 15 08 06.8 -2.3
S57A IAmb IAmb 15 08 08.0
comp=Z,18nm,0.8s
ZARC Zaragoza, Cauc 28.78 107 eP P 15 08 06.1 -3.6
E28A Huff 28.83 3 P P 15 08 08.6 -1.2
E28A IAmb IAmb 15 08 18.3
comp=Z,37nm,0.8s
BOZ Bozeman (W) 28.84 347 P P 15 08 10.7 +0.6
BOZ pmax pmax
comp=Z,10.0nm,0.9s
BOZ Bozeman (W) 28.84 347 P P 15 08 10.7 +0.6
BOZ Bozeman (W) 28.84 347 P P 15 08 10.0 -0.1
baz=161,SNR=13
DLMT Dillon 28.84 345 P P 15 08 11.3 +1.2
J08A Circle Bar Ran 28.93 335 P P 15 08 12.1 +1.2
J08A IAmb IAmb 15 08 22.4
comp=Z,25nm,1.0s
N02D Trinity Center 28.98 327 P P 15 08 10.8 -0.5
baz=137
YOTC Yotoco, Valle 29.02 115 eP P 15 08 04.2 -7.8
O53A New Philadelph 29.04 35 P P 15 08 08.8 -3.0
baz=225
F36A Milaca 29.06 13 P P 15 08 10.3 -1.5
LAO LASA Array 29.07 355 P P 15 08 11.9 -0.2
baz=172
M04C Macdoel 29.15 329 P P 15 08 13.1 +0.1
baz=139,SNR=5.9
T59A Double "B" Far 29.17 44 P P 15 08 10.9 -2.1
LRM Limekiln Ridge 29.24 346 P P 15 08 14.3 +0.6
BBAC Balboa, Cauca 29.29 119 eP P 15 08 13.7 -0.7
GUY2C Guyana, Caldas 29.29 112 eP P 15 08 16.4 +1.6
AAM Ann Arbor 29.32 29 P P 15 08 12.3 -1.9
AAM pmax pmax
comp=Z,63nm,0.5s
AAM Ann Arbor 29.32 29 P P 15 08 12.3 -1.9
AAM Ann Arbor 29.32 29 P P 15 08 12.6 -1.6
baz=218
OTAV Otavalo 29.34 124 P P 15 08 14.8 -0.4
OTAV pmax pmax
comp=Z,18nm,1.1s
OTAV Otavalo 29.34 124 P P 15 08 14.8 -0.4
OTAV IAmb IAmb 15 08 18.2
comp=Z,18nm,1.1s
OTAV Otavalo 29.34 124 eP P 15 08 16.6 +1.4
OTAV Otavalo 29.34 124 eP P 15 08 15.6 +0.4
G40A Rib Lake 29.35 18 P P 15 08 12.7 -1.7
G40A IAmb IAmb 15 08 22.1
comp=Z,17nm,0.9s
M02C Callahan 29.36 328 P P 15 08 15.2 +0.5
baz=137
Q56A Snyder Ridge, 29.39 39 P P 15 08 13.0 -1.9
MCWV Mont Chateau 29.40 37 P P 15 08 13.1 -1.9
baz=228
CMBC Cumbal 29.42 122|| eP P 15 08 18.5 +2.6
O54A Avella 29.45 36 P P 15 08 13.0 -2.4
O54A IAmb IAmb 15 08 28.6
comp=Z,20nm,1.1s
POPC Popayan, Colom 29.48 118 eP P 15 08 17.0 +0.8
PTBC PUERTO BERRIO, 29.53 109 eP P 15 08 16.9 +0.5
YBH Yreka Blue Hor 29.55 328 P P 15 08 17.2 +0.9
comp=Z,3.0nm,0.7s,baz=103,slow=7.1,SNR=9.3
YBH PcP **PcP 15 11 21.4 +0.4**
comp=Z,1.3nm,0.3s,baz=137,slow=4.8,SNR=4.4
YBH Yreka Blue Hor 29.55 328 P P 15 08 16.9 +0.6
YBH pmax pmax
comp=Z,7.0nm,1.1s
YBH Yreka Blue Hor 29.55 328 P P 15 08 16.9 +0.6
PLID Pearl Lake 29.55 340 P P 15 08 17.0 +0.5
PLID **PcP 15 11 21.9 +0.7**
NORC Norcasia 29.58 111 eP P 15 08 15.6 -1.2
GCUF Volcan Galeras 29.65 121 eP P 15 08 17.5 -0.5
L04D Klamath Falls 29.71 329 P P 15 08 18.6 +0.7
baz=139
SOTA Rioblanco 29.76 118 eP P 15 08 19.4 +0.5
K04D Chiloquin, OR 29.76 331 P P 15 08 19.6 +1.4
baz=140
BMO Blue Mountains 29.78 339 P P 15 08 18.3 -0.1
BMO pmax pmax
comp=Z,15nm,1.5s
BMO Blue Mountains 29.78 339 P P 15 08 18.3 -0.1
T60A Surry 29.81 44 P P 15 08 16.9 -1.7
PCON Cinco Dias 29.83 118 eP P 15 08 26.1 +6.4
MARP Paez Belalcaza 29.93 117 eP P 15 08 16.6 -3.7
HRY Holter Researc 29.94 347 P P 15 08 20.2 +0.4
I07A Izee 29.95 335 P P 15 08 21.1 +1.2
BRRC Barranca, Sant 29.98 107 eP P 15 08 19.4 -0.9
KRMB Red Mountain 30.00 327 P P 15 08 23.1 +2.7
KRMB IAmb IAmb 15 08 32.2
comp=Z,56nm,1.4s
ORTC Ortega, Tolima 30.01 114 eP P 15 08 18.5 -2.2
J05D Fort Rock, OR 30.04 332 P P 15 08 20.5 -0.3
baz=142
K50A Casco 30.17 30 P P 15 08 19.2 -2.5
N54A Moraine State 30.20 35 P P 15 08 20.4 -1.7
baz=226
L02E Cave Junction 30.31 328 P P 15 08 24.1 +1.1
baz=137
PINE Pine Mountain 30.31 333 P P 15 08 23.8 +0.5
P57A Homestead Farm 30.37 39 P P 15 08 22.0 -1.6
P57A IAmb IAmb 15 08 22.6
comp=Z,9.6nm,0.6s
ROSC El Rosal 30.39 112 eP P 15 08 28.0 +3.6
J04D Umpqua Nationa 30.40 331 P P 15 08 25.1 +1.0
baz=140,SNR=11
COWI Conover 30.42 19 P P 15 08 22.5 -1.4
COWI IAmb IAmb 15 08 33.6
comp=Z,12nm,0.7s
O56A Blue Knob Stat 30.55 38 P P 15 08 22.5 -2.7
O56A Blue Knob Stat 30.55 38 P P 15 08 22.9 -2.2
baz=229
MSO Missoula 30.55 344 P P 15 08 24.9 -0.3
MSO PcP **15 11 24.7 +1.1**
MSO Missoula 30.55 344 P P 15 08 25.6 +0.4
baz=158
DGMT Dagmar 30.72 358 P P 15 08 27.1 +0.5
DGMT Dagmar 30.72 358 P P 15 08 27.3 +0.7
baz=176,SNR=6.2
F10A Beach Ranch, E 30.73 340 P P 15 08 27.3 +0.5
F10A IAmb IAmb 15 08 40.2
comp=Z,10nm,0.8s
K02D Willamette Mer 30.73 329 P P 15 08 27.7 +0.9
baz=137
G08A Pilot Rock 30.75 337 P P 15 08 27.8 +0.7
G08A IAmb IAmb 15 08 37.7
comp=Z,17nm,1.1s
G08A PcP **15 11 25.4 +1.2**
M54A Oil Creek Stat 30.76 35 P P 15 08 24.2 -2.8
M54A IAmb IAmb 15 08 26.8
comp=Z,22nm,1.3s
M54A Oil Creek Stat 30.76 35 P P 15 08 24.9 -2.0
baz=226
PAMC Pamplona, Colo 30.81 106 eP P 15 08 29.5 +1.2
EGMT Eagleton 30.82 350 P P 15 08 27.3 -0.3
EGMT IAmb IAmb 15 08 29.4
comp=Z,24nm,1.1s
EGMT Eagleton 30.82 350 P P 15 08 28.1 +0.6
baz=166,SNR=6.3
DBO Dodson Butte 30.84 330 P P 15 08 28.1 +0.3
I05D Terrebonne, OR 30.92 333 P P 15 08 29.6 +1.2
baz=143
I04A Tendick Farm, 30.97 331 P P 15 08 30.2 +1.4
baz=140
AGMN Agassiz Nation 31.00 9 P P 15 08 27.8 -1.1
AGMN Agassiz Nation 31.00 9 P P 15 08 28.0 -1.0
baz=192,SNR=26
ERPA Erie 31.01 34 P P 15 08 26.8 -2.3
baz=225
RUSC La Rusia 31.04 109 eP P 15 08 30.6 +0.3
SSPA Standing Stone 31.18 38 P P 15 08 28.3 -2.3
SSPA Standing Stone 31.18 38 P P 15 08 29.1 -1.5
baz=230
J01E Myrtle Point 31.21 329 P P 15 08 32.3 +1.4
baz=137,SNR=6.2
M55A Ridgway 31.22 36 P P 15 08 28.1 -3.1
M55A IAmb IAmb 15 08 29.2
comp=Z,32nm,1.5s
I03D Drain, OR 31.33 330 P P 15 08 33.5 +1.5
baz=139
E43A Lone Tree Farm 31.35 21 P P 15 08 31.0 -1.1
E43A IAmb IAmb 15 08 54.7
comp=Z,19nm,0.9s
B35A Bob, Littlefor 31.41 11 P P 15 08 31.1 -1.5
B35A IAmb IAmb 15 08 39.8
comp=Z,23nm,1.0s
D41A Chassel 31.45 18 P P 15 08 31.6 -1.4
EYMN Ely 31.48 14 P P 15 08 31.5 -1.8
EYMN IAmb IAmb 15 08 41.1
comp=Z,13nm,0.9s
EYMN **PcP 15 11 25.7 -0.2**
EYMN Ely 31.48 14 P P 15 08 31.3 -2.0
baz=200
H04A Detroit Lake 31.57 333 P P 15 08 35.1 +1.0
H04A IAmb IAmb 15 08 45.7
comp=Z,29nm,1.1s
G05D Wamic, OR 31.64 334 P P 15 08 34.1 -0.7
baz=144
H04D Lebanon 31.68 332 P P 15 08 36.5 +1.5
baz=141
HOOD Mount Hood Mea 31.84 334 P P 15 08 38.3 +1.6
I02D Swisshome 31.88 330 P P 15 08 37.0 +0.3
baz=139
WVNY West Valley, N 31.95 35 P P 15 08 35.1 -2.3

WVNY IAmb IAmb 15 08 56.2
comp=Z,21nm,1.3s
TAMC Tame, Arauca 31.99 107 eP P 15 08 38.5 +0.3
N58A Sunbury 32.00 39 P P 15 08 35.5 -2.3
P60A Greenville 32.03 41 P P 15 08 35.9 -2.3
baz=234
M57A Sunshine Farm, 32.07 37 P P 15 08 36.4 -2.1
M57A IAmb IAmb 15 08 37.6
comp=Z,12nm,0.5s
SDV Santo Domingo 32.18 102 eP P 15 08 38.5 -1.5
SDV Santo Domingo 32.18 102 eP P 15 08 40.2 +0.2
F05D White Salmon 32.22 335 P P 15 08 41.2 +1.4
baz=144,SNR=6.4
E46A Sault Ste Mari 32.32 24 P P 15 08 38.2 -2.4
E46A IAmb IAmb 15 08 41.6
comp=Z,15nm,1.0s
L56A Greenwood 32.34 36 P P 15 08 38.6 -2.3
PTLC Puerto Leguiza 32.34 120 eP P 15 08 42.3 +1.1
G03D McMinnville, O 32.45 332 P P 15 08 42.5 +0.7
baz=141
J54A Appleton 32.53 33 P P 15 08 39.9 -2.6
J54A IAmb IAmb 15 08 56.5
comp=Z,10nm,0.7s
MMNY Mt. Morris Dam 32.55 35 P P 15 08 40.4 -2.3
MMNY IAmb IAmb 15 08 54.0
comp=Z,19nm,1.2s
N59A State Game Lan 32.61 39 P P 15 08 40.2 -3.1
N59A State Game Lan 32.61 39 P P 15 08 41.2 -2.0
baz=232
PTGC Puerto Gaitan, 32.62 111 eP P 15 08 42.3 -1.3
WALA Waterton Lakes 32.62 346 P P 15 08 43.1 -0.3
WALA IAmb IAmb 15 08 46.2
comp=Z,28nm,1.4s
NEW Newport 32.74 342 P P 15 08 43.6 -0.7
NEW PcP 15 11 29.3 -0.1
NEW Newport 32.74 342 P P 15 08 45.0 +0.6
baz=153
ULM Lac du Bonnet 32.90 8 P P 15 08 44.3 -1.4
comp=Z,18nm,0.7s,baz=191,slow=9.1,SNR=14
ULM PcP PcP 15 11 30.2 +0.5
comp=Z,6.9nm,0.9s,baz=224,slow=4.5,SNR=3.6
ULM LR LR 15 24 22.8
comp=Z,442nm,19.8s,baz=196,slow=40
ULM Lac du Bonnet 32.90 8 *i* P P 15 08 45.8 +0.1
ULM Lac du Bonnet 32.90 8 P P 15 08 43.9 -1.8
J55A Hilton 32.96 34 P P 15 08 43.0 -3.2
J55A IAmb IAmb 15 08 58.3
comp=Z,32nm,1.4s
E04D Cinebar 33.22 334 P P 15 08 50.3 +1.9
baz=143
BINY Binghamton 33.27 37 P P 15 08 46.8 -2.3
BINY IAmb IAmb 15 08 47.5
comp=Z,15nm,0.6s
BINY Binghamton 33.27 37 P P 15 08 47.2 -1.9
baz=230
K57A Scipio Center 33.31 36 P P 15 08 46.7 -2.7
SADO Sadowa 33.34 31 P P 15 08 47.1 -2.4
comp=Z,9.1nm,0.5s,baz=247,slow=8.5,SNR=9.5
SADO PcP PcP 15 11 31.1 +0.1
comp=Z,5.5nm,0.8s,baz=288,slow=5.8,SNR=3.2
SADO Sadowa 33.34 31 P P 15 08 46.8 -2.8
SADO IAmb IAmb 15 08 47.5
comp=Z,10nm,0.6s
J56A Wolcott 33.48 35 P P 15 08 48.2 -2.7
B08A Colville Reser 33.52 340 PcP 15 11 31.9 +0.4
TRNY Table Rock, Ra 33.69 40 P P 15 08 50.5 -2.1
TRNY IAmb IAmb 15 08 58.9
comp=Z,18nm,1.3s
D04E Lakebay 33.80 335 P P 15 08 55.2 +1.7
baz=143
L59A Walton 33.82 38 P P 15 08 51.8 -2.1
L59A IAmb IAmb 15 09 21.0
comp=Z,26nm,1.4s
PECO Prince Edward 33.85 34 P P 15 08 51.1 -2.9
PECO IAmb IAmb 15 09 06.3
comp=Z,9.3nm,0.7s
DELO Deloro Mine 33.92 33 P P 15 08 51.8 -2.8
DELO IAmb IAmb 15 09 13.0
comp=Z,24nm,1.4s
J57A Williamstown 34.04 36 P P 15 08 53.1 -2.6
J57A IAmb IAmb 15 09 03.8
comp=Z,9.7nm,0.9s
WSPT Westport, CT 34.25 41 P P 15 08 55.1 -2.4
WSPT IAmb IAmb 15 08 56.4
comp=Z,24nm,1.1s
J58A Remsen 34.41 36 P P 15 08 56.2 -2.7
B05A Bryant 34.42 337 P P 15 09 01.4 +2.5
baz=145
KSCT Kent School, K 34.48 40 P P 15 08 57.4 -2.1
KSCT IAmb IAmb 15 08 58.0
comp=Z,12nm,1.1s
SJG San Juan 34.56 84 P P 15 09 00.1 -0.4
comp=Z,13nm,0.4s,baz=277,slow=6.4,SNR=6.9
PLVO Plevna 34.56 32 P P 15 08 57.6 -2.6
PLVO IAmb IAmb 15 09 16.8
comp=Z,18nm,1.5s
J59A Piesco 34.92 37 P P 15 09 00.8 -2.5
J59A IAmb IAmb 15 09 19.7
comp=Z,16nm,1.4s
A04D Lummi Island 35.03 337 P P 15 09 06.3 +2.2
baz=145
MTP Monte Pirata 35.13 84 P P 15 09 04.1 -1.3
MTP IAmb IAmb 15 09 16.4
comp=Z,29nm,0.9s
M63A Gales Ferry 35.19 41 P P 15 09 04.0 -1.6
L61B Northampton 35.38 39 P P 15 09 05.8 -1.5
baz=235
NCB Newcomb 35.39 36 P P 15 09 05.0 -2.4
QUA2 Belchertown 35.48 40 P P 15 09 06.2 -2.0
QUA2 IAmb IAmb 15 09 06.2
comp=Z,24nm,1.4s
LONY Lake Ozonia 35.60 35 P P 15 09 07.1 -2.1
LONY Lake Ozonia 35.60 35 P P 15 09 07.6 -1.6
baz=230
EDM Edmonton 36.45 349 P P 15 09 16.6 +0.3
EDM pmax pmax
comp=Z,35nm,1.1s
EDM Edmonton 36.45 349 P P 15 09 16.6 +0.3
EDM IAmb IAmb 15 09 17.7
comp=Z,35nm,1.1s
FFC Flin Flon 36.95 1 P P 15 09 19.7 -0.9
FFC pmax pmax
comp=Z,24nm,0.9s
FFC Flin Flon 36.95 1 P P 15 09 19.7 -0.9
FFC IAmb IAmb 15 09 28.9
comp=Z,24nm,0.9s
I62A Tamworth 37.00 38 P P 15 09 20.4 -0.8
I62A IAmb IAmb 15 09 32.2
comp=Z,19nm,1.0s
MOQ Mont Orford 37.33 36 P P 15 09 22.4 -1.6
G62A West of Eustis 38.25 37 P P 15 09 30.2 -1.5
CZSB Cruzeiro do Su 38.79 128 eP P 15 09 35.9 -0.7
NNA Nana 38.89 138 ceP P 15 09 39.3 +1.9
NNA pmax pmax
comp=Z,43nm,1.7s
PKME Peaks-Kenny Pk 38.99 38 P P 15 09 36.8 -1.1
baz=236
F63A Nahmakanta, Br 39.35 37 P P 15 09 39.2 -1.7
E62A Clayton Lake 39.63 36 P P 15 09 41.8 -1.5
LMQ La Malbaie 39.75 34 P P 15 09 42.4 -1.8
LMQ IAmb IAmb 15 10 09.6
comp=Z,30nm,1.0s
F64A Sherman 39.88 38 P P 15 09 43.8 -1.5
G65A Princeton 39.99 39 P P 15 09 44.6 -1.6
D62A Allapoint, All 40.17 36 P P 15 09 46.5 -1.2
D62A IAmb IAmb 15 09 46.9
comp=Z,31nm,1.5s
FCC Fort Churchill 41.47 7 P P 15 09 57.4 -0.8
FCC pmax pmax
comp=Z,50nm,1.1s
FCC Fort Churchill 41.47 7 P P 15 09 57.4 -0.8
FCC IAmb IAmb 15 10 00.7
comp=Z,50nm,1.1s
BATG Bathurst New B 41.97 37 P P 15 10 01.0 -1.5
LMN Caledonia Moun 41.99 40 P P 15 10 00.4 -2.2
LMN IAmb IAmb 15 10 07.7
comp=Z,25nm,1.2s
GBN Guysborough 43.83 42 P P 15 10 16.3 -1.3
GBN IAmb IAmb 15 10 16.9
comp=Z,37nm,1.2s
BOAV Boa Vista 43.90 105 eP P 15 10 18.3 -0.3
RPN Rapa Nui 45.05 189 LR LR 15 25 04.7
comp=Z,367nm,21.9s,baz=28,slow=30
ETMB Extrema 45.08 125 eP P 15 10 27.0 -0.9
DLBC Dease Lake 45.44 340 P P 15 10 32.3 +2.0

DLBC IAmb IAmb 15 10 42.5
comp=Z,20nm,0.8s
YKA Yellowknife Ar 45.54 352 P P 15 10 31.5 +0.6
comp=Z,7.0nm,0.8s,baz=153,slow=8.2,SNR=3.6
YKA LR LR 15 30 57.6
comp=Z,849nm,20.3s,baz=0.0,slow=38
TAOE Nuku Hiva Isla 45.60 238 eT T 15 58 52.5
comp=Z,35nm,0.2s
PTGA Pitinga 45.69 109 P P 15 10 32.1 -0.7
PTGA IAmb IAmb 15 10 33.6
comp=Z,21nm,0.9s
SCHQ Schefferville 46.01 28 P P 15 10 34.0 -0.9
comp=Z,8.2nm,0.6s,baz=228,slow=7.9,SNR=8.0
SCHQ LR LR 15 33 30.3
comp=Z,190nm,18.8s,baz=256,slow=41
SCHQ Schefferville 46.01 28 P P 15 10 33.4 -1.4
SCHQ IAmb IAmb 15 10 43.6
comp=Z,41nm,1.4s
MACA Manacapuru-AM 46.15 113 eP P 15 10 36.1 -0.4
SAML Samuel 47.01 121 P P 15 10 41.0 -2.2
SAML pmax pmax
comp=Z,26nm,1.0s
SAML Samuel 47.01 121 P P 15 10 41.0 -2.2
SAML Samuel 47.01 121 eP P 15 10 41.3 -1.8
TGTN Hyland Airport 47.42 344 P P 15 10 46.8 +1.0
baz=146
LPAZ La Paz 47.83 133 P P 15 10 49.8 -0.4
comp=Z,7.1nm,0.8s,baz=325,slow=4.8,SNR=26
LPAZ PcP PcP 15 12 19.4 +0.5
comp=Z,3.2nm,0.9s,baz=355,slow=4.8,SNR=2.7
LPAZ LR LR 15 29 00.2
comp=Z,292nm,18.2s,baz=306,slow=34
LPAZ La Paz 47.83 133 P P 15 10 49.1 -1.1
LPAZ pmax pmax
comp=Z,10.0nm,1.0s
LPAZ La Paz 47.83 133 P P 15 10 49.1 -1.1
LPAZ IAmb IAmb 15 10 50.8
comp=Z,10nm,1.0s
LPAZ La Paz 47.83 133 eP P 15 10 49.9 -0.2
PSGCX Pisagua 48.84 138 P P 15 10 57.4 +0.1
PSGCX IAmb IAmb 15 10 58.2
comp=Z,15nm,0.9s
MMPY Sheldon Lake, 49.13 343 P P 15 11 00.5 +1.5
baz=142,SNR=14
PB11 IPOC Station P 49.26 138 P P 15 10 59.7 -0.9
PB11 PcP PcP 15 12 24.0 +0.6
HYT Haines Junctio 49.76 338 P P 15 11 05.2 +1.3
baz=134
PB08 IPOC Station P 49.85 137 P P 15 11 04.3 -1.1
PB08 IAmb IAmb 15 11 11.6
comp=Z,12nm,0.9s
HLP Hilina Pali 49.94 281 P P 15 11 07.5 +1.7
MLH Mauna Loa 49.99 281 P P 15 11 08.4 +1.9
HMH Humu'ula Sheep 50.07 281 P P 15 11 08.8 +1.7
AIN Ainahou 50.08 281 P P 15 11 08.7 +1.7
YUK6 Outpost Mounta 50.14 338 P P 15 11 08.3 +1.4
baz=133
MLOA Mauna Loa Obse 50.16 281 P P 15 11 09.5 +1.5
KHU Kahuku 50.24 281 P P 15 11 09.1 +0.8
KHU pmax pmax
comp=Z,284nm,1.5s
KHU Kahuku 50.24 281 P P 15 11 09.1 +0.8
PB01 IPOC Station P 50.30 139 P P 15 11 08.7 +0.3
PB07 IPOC Station P 50.55 140 P P 15 11 10.4 0.0
PB07 IAmb IAmb 15 11 11.8
comp=Z,24nm,0.9s
PB09 IPOC Station P 51.01 139 P P 15 11 14.2 +0.3
ITTB Itaituba 51.08 111 eP P 15 11 13.5 -1.0
MALB Monte Alegre 51.33 107 eP P 15 11 16.1 -0.2
YUK3 Moose Creek 51.45 338 P P 15 11 18.5 +1.7
baz=131
BGLC Bering Glacier 51.47 335 P P 15 11 18.5 +1.9
baz=127
RKT Rikitea 51.51 219 eT T 16 06 07.3
comp=Z,10nm,0.3s
VILB Vilhena 51.68 123 eP P 15 11 18.1 -0.8
LVC Limon Verde 51.81 139 LR LR 15 29 03.1
comp=Z,158nm,19.9s,baz=310,slow=31
LVC Limon Verde 51.81 139 P P 15 11 19.3 -0.8
LVC pmax pmax
comp=Z,19nm,1.1s
LVC Limon Verde 51.81 139 P P 15 11 19.3 -0.8
LVC IAmb IAmb 15 11 22.2
comp=Z,20nm,1.1s
LVC Limon Verde 51.81 139 eP P 15 11 21.5 +1.3
DHH Diamond Head 52.04 283 P P 15 11 23.2 +1.7
DHH Diamond Head 52.04 283 P P 15 11 23.2 +1.7
MCARA McCarthy VSAT 52.14 337 P P 15 11 22.4 +0.7
baz=128
M27K Edge Creek, AK 52.34 338 P P 15 11 24.5 +1.2
M27K IAmb IAmb 15 11 37.3
comp=Z,21nm,1.0s
BMRM Bremner River 52.50 336 P P 15 11 26.5 +2.1
baz=126
AF01 San Pedro de A 52.52 139 P P 15 11 25.7 +0.4
NPGB Novo Progresso 52.65 114 eP P 15 11 24.4 -1.7
DAWY Dawson 52.65 341 P P 15 11 26.5 +1.1
DAWY IAmb IAmb 15 11 28.7
comp=Z,12nm,1.1s
DAWY Dawson 52.65 341 P P 15 11 27.1 +1.6
baz=134
MCPB Macapa, AP 52.76 104 eP P 15 11 26.8 -0.2
BCAR Beaver Creek A 52.77 339 P P 15 11 27.9 +1.6
M26K Nabesna, AK 52.77 338 P P 15 11 27.5 +1.1
M26K IAmb IAmb 15 11 41.5
comp=Z,26nm,1.2s
M26K Nabesna, AK 52.77 338 P P 15 11 27.7 +1.3
baz=129
L27K Beaver Creek, 52.78 339 P P 15 11 28.7 +2.2
L27K IAmb IAmb 15 11 32.4
comp=Z,33nm,1.5s
L27K Beaver Creek, 52.78 339 P P 15 11 27.9 +1.5
baz=130,SNR=5.1
SIV San Ignacio 52.80 127 LR LR 15 32 13.8
comp=Z,157nm,18.9s,baz=304,slow=34
N25K Chitina, Valde 52.88 336 P P 15 11 29.4 +2.2
N25K IAmb IAmb 15 11 47.1
comp=Z,28nm,1.1s
N25K Chitina, Valde 52.88 336 P P 15 11 30.1 +2.9
baz=126
L26K Log Cabin Wild 53.29 338 P P 15 11 30.6 +0.5
L26K IAmb IAmb 15 11 42.5
comp=Z,13nm,1.1s
L26K Log Cabin Wild 53.29 338 P P 15 11 31.8 +1.7
baz=129,SNR=6.0
KLU Klutina 53.32 336 P P 15 11 30.3 -0.2
KLU Klutina 53.32 336 P P 15 11 31.5 +1.0
baz=125
K27K Chicken 53.50 340 P P 15 11 34.3 +2.6
K27K IAmb IAmb 15 11 36.0
comp=Z,22nm,0.8s
EPYK Eagle Plains 53.54 344 P P 15 11 33.8 +1.8
EPYK Eagle Plains 53.54 344 P P 15 11 33.7 +1.8
baz=138
HARP HAARP 53.56 337 P P 15 11 33.8 +1.7
baz=126
EGAK Eagle 53.70 341 P P 15 11 34.5 +1.5
EGAK IAmb IAmb 15 11 47.7
comp=Z,17nm,0.9s
EGAK Eagle 53.70 341 P P 15 11 34.3 +1.2
baz=132,SNR=11
M24K Tolsona, Glenn 53.78 336 P P 15 11 35.1 +1.3
M24K Tolsona, Glenn 53.78 336 P P 15 11 35.8 +2.0
baz=125
DOT Dot Lake 53.93 339 P P 15 11 36.2 +1.3
DOT IAmb IAmb 15 11 46.6
comp=Z,37nm,1.4s
PTLB Pontes e Lacer 53.97 125 eP P 15 11 34.6 -1.1
SEW Seward 54.02 333 P P 15 11 36.7 +1.2
baz=120
PAX Paxson 54.02 337 P P 15 11 35.8 +0.2
PAX pmax pmax
comp=Z,19nm,1.0s
PAX Paxson 54.02 337 P P 15 11 35.8 +0.2
PAX IAmb IAmb 15 11 38.5
comp=Z,19nm,1.0s
PAX Paxson 54.02 337 P P 15 11 37.0 +1.4
baz=126,SNR=7.9
SCM Sheep Creek Mo 54.07 336 P P 15 11 36.7 +0.7
SCM pmax pmax
comp=Z,20nm,1.0s
SCM Sheep Creek Mo 54.07 336 P P 15 11 36.6 +0.7
SCM IAmb IAmb 15 11 50.6
comp=Z,20nm,1.0s
SCRK Sand Creek 54.11 339 P P 15 11 37.9 +1.6

SCRK IAmb IAmb 15 11 46.2
comp=Z,14nm,1.1s
SCRK Sand Creek 54.11 339 P P 15 11 38.5 +2.2
baz=128,SNR=7.1
CLDB Colider 54.16 118 eP P 15 11 35.5 -1.7
INK Inuvik 54.25 346 P P 15 11 37.8 +0.8
INK pmax pmax
comp=Z,33nm,0.9s
INK Inuvik 54.25 346 P P 15 11 37.8 +0.8
INK Inuvik 54.25 346 P P 15 11 37.8 +0.8
baz=142,SNR=15
KNK Knik Glacier 54.29 335 P P 15 11 39.2 +1.7
baz=122
J26L Joseph Creek 54.30 340 P P 15 11 39.2 +1.6
baz=129,SNR=17
OHAK Old Harbor 54.45 329 P P 15 11 40.0 +1.4
OHAK Old Harbor 54.45 329 P P 15 11 40.7 +2.0
baz=115
SML Sawmill 54.45 335 P P 15 11 39.0 +0.3
SML Sawmill 54.45 335 P P 15 11 41.0 +2.3
baz=123
WAT6 Susitna Watana 54.65 336 P P 15 11 40.8 +0.6
baz=124
PMR Palmer 54.66 335 P P 15 11 41.0 +0.9
PMR pmax pmax
comp=Z,19nm,0.8s
PMR Palmer 54.66 335 P P 15 11 41.0 +0.9
PMR IAmb IAmb 15 11 51.6
comp=Z,19nm,0.8s
PMR Palmer 54.66 335 P P 15 11 41.6 +1.5
baz=122
DHY Denali Highway 54.79 337 P P 15 11 42.1 +0.9
baz=124
AC02 Maricunga 54.86 143 P P 15 11 43.1 +0.5
AC02 IAmb IAmb 15 12 02.9
comp=Z,13nm,1.0s
CAPN Captain Cook N 55.08 333 P P 15 11 44.6 +1.4
baz=119
WAT1 Susitna Watana 55.10 336 P P 15 11 45.4 +2.0
baz=123
SUA Susitna One 55.26 334 P P 15 11 46.3 +1.7
SUA Susitna One 55.26 334 P P 15 11 46.4 +1.8
baz=120
PMOR Pomariorio Ree 55.31 237 eT T 16 10 59.3
comp=Z,3.3nm,0.3s
Q19K Cape Douglas, 55.35 331 P P 15 11 46.6 +1.3
baz=115
HDA Harding Lake 55.41 338 P P 15 11 46.4 +0.9
HDA IAmb IAmb 15 11 58.6
comp=Z,16nm,0.9s
HDA Harding Lake 55.41 338 P P 15 11 46.5 +1.0
baz=126,SNR=7.7
PRP Porcupine Dome 55.59 340 P P 15 11 48.1 +1.1
PRP Porcupine Dome 55.59 340 P P 15 11 48.2 +1.2
baz=128,SNR=16
IL31 55.60 339 P P 15 11 47.7 +0.9
ILAR Eielson Array 55.60 339 P P 15 11 48.2 +1.4
comp=Z,13nm,0.9s,baz=148,slow=5.5,SNR=83
ILAR PcP PcP 15 12 47.1 +0.8
comp=Z,2.5nm,0.7s,baz=153,slow=2.6,SNR=6.5
ILAR LR LR 15 37 41.1
comp=Z,227nm,19.3s,baz=127,slow=38
ILAR Eielson Array 55.60 339 P P 15 11 47.6 +0.7
ILAR Eielson Array 55.60 339 P P 15 11 47.6 +0.7
H03N2 Juan Fernandez 55.61 156 T T 16 11 44.1
baz=334,slow=77,SNR=116
H03N1 Juan Fernandez 55.62 156 T T 16 11 47.8
baz=334,slow=77,SNR=135
H03N3 Juan Fernandez 55.63 156 T T 16 11 48.8
baz=334,slow=77,SNR=85
RSO Redoubt South 55.63 333 P P 15 11 48.8 +1.4
MCK McKinley 55.74 337 P P 15 11 49.1 +1.1
MCK pmax pmax
comp=Z,20nm,1.0s
MCK McKinley 55.74 337 P P 15 11 49.1 +1.1
MCK IAmb IAmb 15 11 60.0
comp=Z,20nm,1.0s
MCK McKinley 55.74 337 P P 15 11 49.5 +1.6
baz=123,SNR=6.7
SKT Skwentna 55.84 334 P P 15 11 49.8 +1.1
SKT Skwentna 55.84 334 P P 15 11 48.9 +0.3
baz=119,SNR=7.4
CCB Clear Creek Bu 55.84 338 P P 15 11 49.7 +1.1
CCB IAmb IAmb 15 11 53.8
comp=Z,8.0nm,0.8s
WRH Wood River Hil 55.85 338 P P 15 11 49.6 +0.9
WRH IAmb IAmb 15 12 03.1
comp=Z,16nm,1.1s
POKR Poker Plat Res 55.99 339 P P 15 11 50.6 +0.9
POKR IAmb IAmb 15 11 59.9
comp=Z,20nm,0.9s
POKR Poker Plat Res 55.99 339 P P 15 11 50.0 +0.3
baz=125,SNR=7.8
XMAS Kiritimati 56.09 260 P P 15 11 52.1 +0.9
TRF Thorofare Moun 56.10 336 P P 15 11 52.0 +1.2
TRF Thorofare Moun 56.10 336 P P 15 11 51.9 +1.2
baz=122,SNR=15
FYU Fort Yukon 56.15 341 P P 15 11 52.0 +1.3
MDM Murphy Dome 56.17 338 P P 15 11 51.9 +0.8
MDM IAmb IAmb 15 11 57.1
comp=Z,16nm,1.1s
BWN Browne 56.18 337 P P 15 11 51.9 +0.9
O19K Port Alsworth 56.21 332 P P 15 11 52.7 +1.4
baz=115
NEA2 Nenana 56.27 338 P P 15 11 52.4 +0.7
NEA2 IAmb IAmb 15 11 54.7
comp=Z,23nm,1.1s
NEA2 Nenana 56.27 338 P P 15 11 52.7 +1.1
baz=123,SNR=8.5
O18K Koktuh Hills 56.47 331 P P 15 11 54.5 +1.3
O18K Koktuh Hills 56.47 331 P P 15 11 54.7 +1.5
baz=114
BMAR Burnt Mountain 56.50 342 P P 15 11 54.5 +1.2
N19K Bonanza Creek 56.55 332 P P 15 11 54.6 +0.7
N19K Bonanza Creek 56.55 332 P P 15 11 55.1 +1.2
baz=116,SNR=6.3
PPLA Purkeypile 56.56 335 P P 15 11 54.8 +0.9
PPLA Purkeypile 56.56 335 P P 15 11 56.0 +2.0
baz=119
H24K Noodor Dome 56.56 339 P P 15 11 54.7 +0.9
H24K Noodor Dome 56.56 339 P P 15 11 55.3 +1.5
baz=125,SNR=13
I23K Minto, Yukon-K 56.68 338 P P 15 11 55.9 +1.3
I23K Minto, Yukon-K 56.68 338 P P 15 11 56.4 +1.9
baz=123,SNR=13
BPAW Bear Paw Mtn. 56.70 337 P P 15 11 55.8 +1.0
BPAW IAmb IAmb 15 12 08.8
comp=Z,14nm,1.0s
BPAW Bear Paw Mtn. 56.70 337 P P 15 11 56.0 +1.1
baz=121,SNR=5.5
CAST Castle Rocks 56.77 336 P P 15 11 56.1 +0.8
CAST Castle Rocks 56.77 336 P P 15 11 55.9 +0.5
baz=120,SNR=6.0
SALV Santo Antonio 56.94 123 eP P 15 11 56.2 -0.9
M19K Big River Lodg 56.99 334 P P 15 11 58.3 +1.4
M19K Big River Lodg 56.99 334 P P 15 11 58.1 +1.2
baz=116,SNR=6.0
L20K Farewell, AK 57.04 334 P P 15 11 57.9 +0.7
baz=117,SNR=7.7
CHUM Lake Minchumin 57.10 336 P P 15 11 58.8 +1.2
baz=120
MLY Manley 57.10 338 P P 15 11 58.8 +1.1
MLY IAmb IAmb 15 12 09.0
comp=Z,24nm,1.2s
N18K Kilae Creek 57.12 332 P P 15 11 58.8 +1.0
CO03 El Pedregal 57.14 147 P P 15 11 57.8 -0.6
CO03 IAmb IAmb 15 12 13.5
comp=Z,17nm,0.8s
RES Resolute Bay 57.15 2 LR LR 15 38 47.9
comp=Z,655nm,19.6s,baz=214,slow=38
RES Resolute Bay 57.15 2 P P 15 11 58.2 +0.4
RES pmax pmax
comp=Z,9.0nm,0.8s
RES Resolute Bay 57.15 2 P P 15 11 58.2 +0.4
RES IAmb IAmb 15 11 59.2
comp=Z,9.2nm,0.8s
PRPB Parauapebas 57.16 110 eP P 15 11 58.8 -0.1
TMAB Tom-Au,PA,Br 57.18 105 eP P 15 11 59.4 +0.5
L19K White Mountain 57.31 334 P P 15 11 58.5 -0.7
L19K White Mountain 57.31 334 P P 15 11 59.4 +0.2
baz=116,SNR=7.3
K20K Telida 57.53 335 P P 15 12 00.3 -0.3
K20K Telida 57.53 335 P P 15 12 01.5 +0.8
baz=118,SNR=6.6
I21K Tanana 57.63 338 P P 15 12 01.9 +0.6
I21K Tanana 57.63 338 P P 15 12 02.5 +1.2

baz=121,SNR=5.9
J20K Nowinta River 57.94 336 P P 15 12 04.3 +0.8
J20K IAmb IAmb 15 12 05.7
comp=Z,22nm,0.9s
J20K Nowinta River 57.94 336 P P 15 12 04.6 +1.0
baz=118,SNR=9.4
PPT Papeete 58.09 235 LR LR 15 31 39.5
comp=Z,65nm,21.4s,baz=54,slow=30
PPT2 Papeete2 58.10 235 *e*S **PKiKP 15 19 21.0 -0.4**
comp=Z,296nm,27.8s
PPT2 *e*LR LR 15 28 31.6
comp=Z,614nm,28.5s
COLD Coldfoot 58.12 340 P P **15 12 06.0 +1.2**
baz=124
H21K Melozitna Rive 58.17 338 P P **15 12 05.8 +0.6**
H21K IAmb IAmb 15 12 07.3
comp=Z,21nm,1.1s
H21K Melozitna Rive 58.17 338 P P **15 12 06.3 +1.2**
baz=120,SNR=10
SNDB Serra Nova Dou 58.53 117 *e*P P **15 12 08.4 0.0**
PP1B Ponte de Pedra 58.53 124 *e*P P **15 12 07.6 -0.8**
IMAR Indian Mountai 58.67 338 P P **15 12 08.8 +0.2**
TOLK Toolik Lake Re 58.73 342 P P **15 12 10.3 +1.3**
TOLK IAmb IAmb 15 12 14.3
comp=Z,16nm,0.8s
TOLK Toolik Lake Re 58.73 342 P P **15 12 09.8 +0.8**
baz=125
BO02 Sierra Bellavi 60.28 150 P P **15 12 19.7 -0.5**
BO02 IAmb IAmb 15 12 20.8
comp=Z,11nm,0.9s
SMTB Santa Maria do 60.31 111 *e*P P **15 12 21.2 +0.4**
ROSB Rosrio 61.05 104 *e*P P **15 12 26.2 +0.4**
PEXB Peixe 61.16 115 *e*P P **15 12 26.4 -0.1**
NIKH Nikolski High 61.84 321 P P **15 12 31.4 +0.9**
baz=98
CPUP Villa Florida 61.98 134 P P **15 12 30.9 -0.8**
comp=Z,13nm,0.9s,baz=326,slow=8.3,SNR=19
CPUP Villa Florida 61.98 134 P P **15 12 30.2 -1.6**
CPUP pmax pmax
comp=Z,14nm,1.0s
CPUP Villa Florida 61.98 134 P P **15 12 30.2 -1.6**
CPUP IAmb IAmb 15 12 31.9
comp=Z,14nm,0.9s
CPUP Villa Florida 61.98 134 *e*P P **15 12 30.6 -1.2**
A21K Barrow 62.22 343 P P **15 12 33.1 +0.4**
baz=119
ANM Nome 62.59 334 P P **15 12 36.4 +1.0**
baz=107
EUNU Eureka 62.82 3 P P **15 12 37.8 +1.1**
EUNU IAmb IAmb 15 12 47.7
comp=Z,18nm,0.9s
BDFB Brasilia 63.10 118 P P **15 12 39.0 -0.5**
comp=Z,12nm,0.9s,baz=278,slow=7.5,SNR=10
BDFB Brasilia 63.10 118 P P **15 12 39.5 -0.1**
BDFB pmax pmax
comp=Z,13nm,0.9s
BDFB Brasilia 63.10 118 P P **15 12 39.5 -0.1**
BDFB IAmb IAmb 15 12 39.8
comp=Z,13nm,0.9s
LC01 Cunco 63.19 154 P P **15 12 39.3 -0.3**
LC01 IAmb IAmb 15 12 40.6
comp=Z,21nm,1.2s
TRCB Terra Rica 63.22 128 *e*P P **15 12 39.3 -0.9**
ITRB Iturama 63.26 124 *e*P P **15 12 40.3 -0.2**
PCMB Pacaembu 63.59 126 *e*P P **15 12 41.8 -0.8**
ICESG Greenland Ices 64.01 21 ⫝̸ *i*P P **15 12 46.0 +0.9**
ICESG IAmb IAmb 15 12 46.5
comp=Z,18nm,0.8s
NBPS Pedro II - PI 64.09 104 *e*P P **15 12 46.8 +0.6**
IPMB Ipameri, GO 64.10 121 *e*P P **15 12 45.2 -0.8**
SDBA SÃO DESIDERIO 64.25 114 *e*P P **15 12 46.8 -0.3**
ITQB Itaqui 64.61 136 P P **15 12 48.3 -0.9**
ITQB Itaqui 64.61 136 *e*P P **15 12 48.7 -0.4**
PTGB Pitanga 64.75 129 *e*P P **15 12 50.1 -0.2**
NEEM North Greenlan 64.86 11 ⫝̸ *i*P P **15 12 50.9 +0.4**
NEEM IAmb IAmb 15 12 54.5
comp=Z,27nm,0.8s
NBMO Morrinhos-CE 65.00 102 *e*P P **15 12 52.8 +0.8**
PLCA Paso Flores 65.28 154 P P **15 12 53.7 +0.3**
comp=Z,5.1nm,0.9s,baz=332,slow=9.7,SNR=5.2
PLCA LR LR 15 35 43.2
comp=Z,234nm,18.2s,baz=322,slow=31
PLCA Paso Flores 65.28 154 P P **15 12 53.0 -0.4**
PLCA pmax pmax
comp=Z,12nm,1.2s
PLCA Paso Flores 65.28 154 P P **15 12 53.0 -0.4**
PLCA IAmb IAmb 15 13 01.0
comp=Z,12nm,1.1s
PLCA Paso Flores 65.28 154 *e*P P **15 12 54.2 +0.8**
BB19B Bebedouro 65.44 124 *e*P P **15 12 54.8 0.0**
SUMG Summit 65.55 17 *i* P P **15 12 55.0 -0.1**
SUMG IAmb IAmb 15 12 59.7
comp=Z,20nm,1.0s
SUMG Summit 65.55 17 P P **15 12 55.3 +0.2**
SUMG pmax pmax
comp=Z,30nm,1.0s
SUMG Summit 65.55 17 P P **15 12 55.3 +0.2**
JANB Januaria 65.96 116 *e*P P **15 12 58.1 -0.1**
ITAB Conceicia 66.19 131 P P **15 12 58.1 -1.3**
NBPB Pedra_Branca-C 66.23 104 *e*P P **15 13 00.5 +0.4**
ADK Adak 66.53 319 P P **15 13 01.3 0.0**
ADK pmax pmax
comp=Z,52nm,1.0s
ADK Adak 66.53 319 P P **15 13 01.3 0.0**
LL02 Futaleuf 66.82 156 P P **15 13 03.2 +0.2**
LL02 IAmb IAmb 15 13 04.8
comp=Z,14nm,1.1s
KIWB Kanaga Island 66.82 319 P P **15 13 02.7 -0.5**
RCLB Rio Claro- Sao 66.94 125 *e*P P **15 13 04.2 -0.2**
NBCL Cascavel-CE 66.95 103 *e*P P **15 13 05.8 +1.2**
MC01 Montes Claros 67.04 117 *e*P P **15 13 05.4 +0.3**
CPSB Cacapava Do Su 67.20 135 *e*P P **15 13 05.6 -0.2**
TRQA Tornquist 67.26 146 P P **15 13 05.9 -0.2**
TRQA pmax pmax
comp=Z,41nm,1.5s
TRQA Tornquist 67.26 146 P P **15 13 05.9 -0.2**
TRQA Tornquist 67.26 146 *e*P P **15 13 06.4 +0.3**
SPB Sao Paulo 67.64 126 *e*P P **15 13 09.6 +0.9**
NBMA Muriti-CE 67.67 106 *e*P P **15 13 09.8 +0.6**
VAO Valinhos 67.69 125 *e*P P **15 13 09.2 0.0**
NBPN Ponto Novo - B 67.74 110 *e*P P **15 13 09.6 -0.1**
PLTB Pedras Altas 67.94 136 P P **15 13 09.6 -0.9**
PLTB Pedras Altas 67.94 136 *e*P P **15 13 10.4 -0.1**
DIAM Diamantina, MG 68.01 119 *e*P P **15 13 11.4 +0.1**
PET01 Itanhaem-SP 68.13 126 *e*P P **15 13 12.0 +0.2**
RAR Rarotonga 68.15 238 LR LR 15 33 38.8
comp=Z,152nm,19.6s,baz=82,slow=28
CNLB Canela 68.32 133 *e*P P **15 13 13.2 +0.2**
BSCB Bom Sucesso 68.41 122 *e*P P **15 13 14.0 +0.2**
COYC Coyhaique 68.76 158 P P **15 13 15.2 0.0**
MIDW Midway 68.79 294 P P **15 13 16.8 +0.8**
PARB Paraibuna 68.92 124 *e*P P **15 13 17.1 +0.2**
AMKA Amchitka 69.04 319 P P **15 13 17.1 0.0**
TER01 Tubaro-SC 69.10 131 *e*P P **15 13 18.4 +0.6**
NBLV Livramento - P 69.36 105 *e*P P **15 13 20.8 +1.0**
GDU01 Guandu, BA 69.49 112 *e*P P **15 13 20.4 -0.1**
ESAR Angra dos Reis 69.69 124 *e*P P **15 13 22.0 +0.5**
RCBR Riachuelo 69.75 103 *e*P P **15 13 22.4 +0.2**
NBLA Lagarto - SE 69.97 109 *e*P P **15 13 23.2 -0.2**
NBIT Itapeh - BA 70.12 114 *e*P P **15 13 25.0 +0.7**
CMC01 Camacan, BA 70.23 114 *e*P P **15 13 25.1 +0.1**
SJMB Sao Joao De Ma 70.28 118 *e*P P **15 13 24.8 -0.4**
GUA01 Guaratinga, BA 70.51 115 *e*P P **15 13 27.1 +0.4**
NBPV Pedro Velho 70.53 104 *e*P P **15 13 27.9 +1.0**
NBAN Anadia - AL 70.83 107 *e*P P **15 13 27.7 -0.9**
DUB01 Friburgo-RJ 70.89 122 *e*P P **15 13 29.6 +0.7**
RIB01 Linhares ES 71.23 118 *e*P P **15 13 30.7 -0.3**
CAM01 Campos-RJ 71.35 121 *e*P P **15 13 32.2 +0.6**
NBRF Rio Formoso - 71.50 106 *e*P P **15 13 33.2 +0.5**
ALF01 Guarapari-ES 71.55 120 *e*P P **15 13 33.8 +0.9**
NOR Nord 71.99 9 *i* P P **15 13 36.0 +1.4**
NOR Nord 71.99 9 *i* P P **15 13 36.0 +1.4**
BILL Bilibino 74.20 337 *i* P P **15 13 47.1 -0.8**
BILL *i* 15 14 05.3
BILL pmax pmax
comp=Z,18nm,1.2s
AFI Afiamalu 75.20 250 LR LR 15 39 45.0
comp=Z,81nm,18.9s,baz=60,slow=30
AFI Afiamalu 75.20 250 P P **15 13 55.0 +0.3**
AFI pmax pmax
comp=Z,37nm,1.0s
AFI Afiamalu 75.20 250 P P **15 13 55.0 +0.3**
PMOZ Porto Moniz, M 76.78 60 *e*LR LR 15 43 05.7
comp=Z,118nm,22.0s
SPITS Spitsbergen Ar 78.42 11 P P **15 14 13.1 +1.4**
comp=Z,7.4nm,0.5s,baz=101,slow=0.4,SNR=11
SPITS LR LR 15 50 34.6
comp=Z,449nm,18.3s,baz=290,slow=37
SPITS Spitsbergen Ar 78.42 11 P P **15 14 13.1 +1.4**
SPITS pmax pmax
comp=Z,80nm,1.3s
SPB2 Spitsbergen Ar 78.42 11 P P **15 14 12.9 +1.3**
EFI East Falkland 79.20 154 *i* P P **15 14 16.5 +0.3**
EFI pmax pmax
comp=Z,40nm,1.1s
ESK Eskdalemuir 80.80 35 P P **15 14 24.7 -0.3**
ESK pmax pmax
comp=Z,32nm,1.1s
ESK Eskdalemuir 80.80 35 P P **15 14 24.7 -0.3**
EKA Eskdalemuir Ar 80.82 35 P P **15 14 25.9 +0.9**
comp=Z,3.4nm,0.8s,baz=295,slow=5.3,SNR=7.7
PET Petropavlovsk 81.24 323 *ce*P P **15 14 28.0 +0.7**
PET pmax pmax
comp=Z,33nm,1.3s
PGAV Gavieira, Arco 81.44 49 *e*LR LR 15 48 20.3
comp=Z,170nm,20.0s
PEA0B Petropavlovsk- 81.76 323 *ce*P P **15 14 30.4 +0.2**
PETK Petropavlovsk- 81.76 323 P P **15 14 32.2 +2.0**
comp=Z,12nm,0.9s,baz=101,slow=7.7,SNR=9.7
PMTG Montargil 82.28 52 *e*P P **15 14 35.4 +2.3**
comp=Z,31nm,1.8s
PNCL Nicolau / Gran 82.32 53 *e*P P **15 14 34.1 +0.7**
MTE Manteigas 82.40 50 *e*LR LR 15 47 11.2
comp=Z,146nm,18.0s
MVO Moncorvo 82.56 49 *e*LR LR 15 48 45.6
comp=Z,129nm,18.0s
EVO Evora 82.59 52 *e*P P **15 14 36.2 +1.4**
comp=Z,23nm,1.5s
PCBR Castelo Branco 82.61 51 *e*P P **15 14 35.8 +0.9**
comp=Z,21nm,2.0s
MESJ Messejana 82.63 53 *e*P P **15 14 36.5 +1.5**
PMRV Marv??o 82.80 51 *e*P P **15 14 36.8 +0.9**
comp=Z,28nm,1.6s
PMRV Marv??o 82.80 51 *e*LR LR 15 47 57.0
comp=Z,178nm,18.0s
PCVE Castro Verde 82.83 53 *e*P P **15 14 37.1 +1.1**
PVAQ Vaqueiros 83.14 53 *e*LR LR 15 47 24.0
comp=Z,171nm,20.0s
TIXI Tiksi 84.37 346 P P **15 14 44.0 +0.8**
comp=Z,18nm,0.9s,baz=29,slow=4.6,SNR=4.4
TIXI Tiksi 84.37 346 *ce*P P **15 14 43.6 +0.4**
TIXI Tiksi 84.37 346 P P **15 14 43.4 +0.2**
PAB San Pablo 85.00 50 P P **15 14 45.4 -1.8**
PAB pmax pmax
comp=Z,12nm,1.2s
PAB San Pablo 85.00 50 P P **15 14 45.4 -1.8**
PAB IAmb IAmb 15 14 58.0
comp=Z,12nm,1.2s
ESDC Sonseca Array 85.24 50 P P **15 14 49.0 +0.6**
comp=Z,3.1nm,1.1s,baz=302,slow=3.9,SNR=8.0
ESDC LR LR 15 53 50.1
comp=Z,128nm,18.0s,baz=275,slow=36
KONO Kongsberg 85.51 28 *ce*P P **15 14 48.9 -0.3**
KONO pmax pmax
comp=Z,32nm,2.5s
NB2 NORSAR Subarra 85.56 27 P P **15 14 50.3 +0.8**
comp=Z,38nm,1.7s,baz=299,slow=4.8
NB2 NORSAR Subarra 85.56 27 P P **15 14 50.3 +0.8**
baz=299,slow=4.8
NOA NORSAR Array B 85.56 27 P P **15 14 50.8 +1.3**
comp=Z,3.9nm,0.9s,baz=303,slow=4.9,SNR=7.3
NOA LR LR 15 53 54.1
comp=Z,130nm,20.5s,baz=315,slow=36
ARCES ARCESS Array B 85.61 16 P P **15 14 51.8 +2.2**
comp=Z,2.5nm,0.7s,baz=87,slow=5.0,SNR=5.1
ARCES LR LR 15 53 48.2
comp=Z,238nm,20.1s,baz=310,slow=36
MSVF Nonsavu 85.71 250 P P **15 14 51.5 +0.5**
MSVF pmax pmax
comp=Z,25nm,1.0s
MSVF Nonsavu 85.71 250 P P **15 14 51.5 +0.5**
HFS Hagfors 87.08 27 P P **15 14 57.3 +0.4**
comp=Z,6.6nm,1.0s,baz=282,slow=7.4,SNR=3.9
HFS LR LR 15 55 41.8
comp=Z,107nm,18.2s,baz=304,slow=37
YAK Yakutsk 90.52 338 *e*P P **15 15 14.2 +1.1**
YAK *e**PP **sP 15 15 25.8 +1.0**
YAK *e*S **SKSac 15 25 39.2 -3.3**
YAK *e* 15 26 04.2
YAK *e*SS **SS 15 32 02.6 -3.8**
YAK pmax pmax
comp=Z,26nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=Z,148nm,5.5s
YAK smax smax
comp=N,137nm,3.8s
YAK smax smax
comp=E,130nm,4.6s
YAK Yakutsk 90.52 338 P P **15 15 13.1 -0.1**
FINES FINESS Array B 91.18 22 P P **15 15 14.9 -1.3**
comp=E,3.0nm,0.9s,baz=317,slow=13,SNR=2.6
FINES LR LR 15 56 20.8
comp=E,175nm,21.1s,baz=323,slow=36
CLL Collm 91.28 35 *e*P P **15 15 18.0 +1.1**
CLL Collm 91.28 35 *e*P P **15 15 18.0 +1.1**
DAVOX Davos/Dischmat 91.71 39 LR LR 15 58 24.5
comp=E,130nm,18.3s,baz=272,slow=37
KHC Kasperske Hory 92.72 36 *e*P P **15 15 23.6 -0.1**
KHC Kasperske Hory 92.72 36 *e*P P **15 15 23.6 -0.1**
NRIK Noril'sk 92.90 356 P P **15 15 25.6 +1.6**
comp=E,8.5nm,0.9s,baz=15,slow=5.3,SNR=5.6
NRIK LR LR 15 58 20.8
comp=E,165nm,20.0s,baz=64,slow=36
NRIK Noril'sk 92.90 356 *ce*P P **15 15 25.4 +1.4**
NRIK pmax pmax
comp=Z,13nm,1.0s
GERES GERESS Array B 92.93 36 P P **15 15 25.2 +0.5**
comp=Z,0.3nm,0.4s,baz=328,slow=4.7,SNR=4.9
GERES LR LR 15 58 48.7
comp=Z,145nm,19.1s,baz=310,slow=37
URZ Urewera 93.50 231 LR LR 15 47 38.3
comp=Z,38nm,21.2s,baz=39,slow=29
DPC Dobruska-Polom 93.58 34 *e*P P **15 15 26.5 -1.1**
DPC Dobruska-Polom 93.58 34 *e*P P **15 15 26.5 -1.1**
KRLC Kraliky 93.97 34 *e*P P **15 15 29.8 +0.3**
KRLC Kraliky 93.97 34 *e*P P **15 15 29.8 +0.3**
VRAC Vranov 94.30 35 P P **15 15 31.4 +0.5**
comp=Z,1.5nm,0.3s,baz=167,slow=7.3,SNR=3.8
VRAC LR LR 16 01 55.3
comp=Z,93nm,18.4s,baz=296,slow=38
TIC Toumodi 95.08 81 *e*P P **15 15 34.0 -1.2**
LIC Lamto 95.20 82 *e*P P **15 15 33.8 -1.9**
comp=Z,36nm,1.0s
KIC Kosan Boka 95.43 82 *e*P P **15 15 35.6 -1.2**
comp=Z,19nm,0.9s
KEST Kesra 96.48 49 P P **15 15 41.3 0.0**
comp=Z,2.7nm,0.8s,baz=237,slow=9.5,SNR=3.7
MNK Minsk 96.59 27 *i* P P **15 15 40.9 -0.3**
MNK *i* 15 19 34.1
MNK *i* PPP PPP 15 21 38.2
MNK *i* S **SKSac 15 26 12.9 -3.2**
MNK *i* PS PS 15 28 24.1 +0.5
MNK *i* SS **SS 15 33 32.1 -1.3**
MNK *i* SSS SSS 15 37 16.8
MNK *i* LR LR 15 57 30.2
MNK *i* LRM MLR 16 01 16.8
comp=N,81nm,17.4s
MNK *i* LRM MLR 16 01 50.0
comp=Z,226nm,19.6s
MNK *i* LRM MLR 16 02 01.6
comp=E,16nm,14.5s
PRGR Permogore 96.95 15 *e*P P **15 15 40.5 -2.2**
PRGR pmax pmax
comp=Z,48nm,1.5s
TORD Torodi Ar. Bea 99.17 73 P **Pdif 15 15 52.6 -1.0**
comp=Z,1.4nm,1.0s,baz=277,slow=7.1,SNR=5.1
TORD PKKPbc **PKKPbc 15 32 19.4 +1.4**
comp=Z,1.3nm,0.8s,baz=95,slow=2.8,SNR=6.3
TORD LR LR 15 57 25.2
comp=Z,115nm,21.0s,baz=285,slow=34
OBN Obninsk 99.58 22 LR LR 16 02 00.6
comp=Z,38nm,18.8s,baz=342,slow=36
OBN Obninsk 99.58 22 *i* P **Pdif 15 15 53.6 -1.0**
OBN *i* 15 16 00.8
OBN *i* 15 19 58.5
OBN *i* S **SKSac 15 26 33.9 +2.7**
OBN pmax pmax
comp=Z,12nm,1.4s
AKASG Malin Array Be 99.80 29 LR LR 16 01 22.8
comp=Z,66nm,19.8s,baz=10.0,slow=36
KIV Kislovodsk 110.87 26 *i* PKIKP **PKiKP 15 20 44.7 -0.1**
KIV pmax pmax
comp=Z,6.0nm,1.1s
HHC Hu-ho-hao-te 113.71 332 *e*PKP **PKiKP 15 20 51.5 +1.2**
MKAR Makanchi Array 115.66 356 PKP **PKiKP 15 20 53.5 -0.3**
comp=Z,1.0nm,0.8s,baz=346,slow=3.0,SNR=7.3
MKAR PKKPbc **PKKPbc 15 31 25.4 -2.3**
comp=Z,1.3nm,0.9s,baz=157,slow=3.4,SNR=8.6
NJ2 Nanjing 116.61 321 *e*PKP **PKiKP 15 20 57.5 +1.5**
WMQ Urumqi 118.07 352 *e*PKP **PKiKP 15 20 59.5 +0.9**
WMQ LR LR
comp=Z,230nm,13.5s
WMQ LR LR
comp=Z,220nm,22.1s
GTA Gaotai 119.48 340 *e*PKP **PKiKP 15 21 01.8 +0.2**
GTA LR LR
comp=Z,340nm,18.5s
GTA LR LR
comp=Z,370nm,18.5s
GTA LR LR
comp=Z,510nm,20.7s
AAK Ala-Archa 119.90 3 *c i*PKIKP **PKPdf 15 21 02.1 -0.2**
AAK pmax pmax
comp=Z,14nm,2.5s
STKA Stephens Creek 120.87 243 PKP **PKiKP 15 21 04.4 +0.2**
comp=Z,6.4nm,0.7s,baz=47,slow=2.7,SNR=14
STKA Stephens Creek 120.87 243 PKIKP **PKPdf 15 21 03.8 -0.3**
STKA Stephens Creek 120.87 243 PKPdf **PKPdf 15 21 03.8 -0.3**
LZH Lanzhou 120.98 335 *e*PKP **PKiKP 15 21 06.3 +1.6**
GEYT Alibeck 121.74 18 PKP **PKiKP 15 21 06.7 +0.8**
comp=Z,344nm,0.8s,baz=243,slow=6.3
KSH Kashi 123.06 1 PKP **PKiKP 15 21 10.3 +1.7**
KSH PP PP 15 22 56.5 +10
KSH LR LR
comp=Z,290nm,15.4s
KSH LR LR
comp=Z,380nm,19.4s
WRAB Tennant Creek 126.36 258 *c i*PKIKP **PKPdf 15 21 14.1 -0.9**
WRAB pmax pmax
comp=Z,13nm,1.0s
WRA Warramunga Arr 126.37 258 PKP **PKiKP 15 21 15.4 -0.1**
comp=Z,7.9nm,0.8s,baz=79,slow=1.9,SNR=24
WRA Warramunga Arr 126.37 258 PKIKP **PKPdf 15 21 14.8 -0.2**
WRA Warramunga Arr 126.37 258 **PKPdf 15 21 14.8 -0.2**
ASAR Alice Springs 127.17 253 PKP **PKPdf 15 21 16.6 +0.2**
comp=Z,4.9nm,0.8s,baz=103,slow=1.9,SNR=21
ASAR Alice Springs 127.17 253 PKIKP **PKPdf 15 21 16.2 -0.3**
ASAR Alice Springs 127.17 253 PKPdf **PKPdf 15 21 16.2 -0.3**
MAW Mawson 129.24 173 PKP **PKiKP 15 21 19.8 +0.1**
comp=Z,9.2nm,0.9s,baz=268,slow=4.7,SNR=13
MAW Mawson 129.24 173 PKIKP **PKiKP 15 21 19.9 +0.2**
MBAR Mbarara 131.01 75 *c i*PKIKP **PKiKP 15 21 27.0 +1.8**
BOSA Boshof 131.08 113 PKP **PKPdf 15 21 24.1 +0.2**
comp=Z,7.1nm,0.9s,baz=308,slow=2.3,SNR=6.3
SKNT Sakolnakorn 136.79 321 PKP **PKiKP 15 21 37.5 +0.9**
CMMT Chiang Mai 138.03 329 PKP **PKiKP 15 21 39.3 +0.2**
CHTO Chiang Mai 138.03 329 PKP **PKiKP 15 21 39.6 +0.5**
CMAR Chiang Mai Arr 138.34 329 PKP **PKPdf 15 21 37.9 +0.2**
comp=Z,3.3nm,1.0s,baz=331,slow=1.7,SNR=15
SUKH Sukhothai 138.81 327 PKP **PKiKP 15 21 42.8 +2.2**
HYB Hyderabad 145.09 358 *i* PKP **PKPbc 15 21 49.0 -0.1**
SKLT Songkhla 146.35 315 PKP **PKPab 15 21 54.8 +0.9**
TRTT Trang 146.47 317 PKP **PKPab 15 21 54.8 +0.4**
PKDT Phuket 147.28 319 PKP **PKiKP 15 21 58.0 -0.2**

INET 29 15:20:03.2, 12.92N×86.57W, h16km, MW3.6, Nicaragua

NOU ***29*** *15:24:28.4, 37.32S×177.61E, h217km, mb3.7/10, Off E. Coast of N. Island, N.Z.*
WEL 29 15:24:33.4±1.2, **37.3S**±0.5°×**177.7E**±°, **h162**km±9km, **M3.2**/60, **ML3.6**/8, **MLv3.2**/60, **Error ellipse: s-maj=0.0km s-min=0.0km az=54.6, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.59**	**145**	P	Pn	15 24 56.5	-0.1
WHRZ	**Whale Island**	**0.66**	**207**	P	Pn	15 24 58.1	+1.1
RUGZ	**Raukumara Rang**	**0.74**	**160**	P	Pn	15 24 57.0	-0.6
MXZ	**Matakaoa Point**	**0.81**	**111**	P	Pn	15 24 58.2	+0.3
MXZ				S	Sn	15 25 16.9	+0.1
PKGZ	**Pakihiroa**	**0.84**	**137**	P	Pn	15 24 58.8	+0.5
OPRZ	**Ohinepanea**	**0.86**	**228**	P	Pn	15 24 58.1	-0.2
MYRZ	**Mayor Island**	**0.89**	**269**	P	Pn	15 24 58.7	+0.2
MARZ	**Manawahe**	**0.90**	**217**	P	Pn	15 24 58.7	+0.1
EDRZ	**Edgecumbe**	**0.97**	**210**	P	Pn	15 24 59.6	+0.4
TGRZ	**Tauranga**	**0.98**	**242**	P	Pn	15 24 59.4	+0.2
WMGZ	**Waiomatatini S**	**1.01**	**123**	P	Pn	15 25 00.1	+0.7
WMGZ				S	Sn	15 25 19.7	+0.3
URZ	**Urewera**	**1.01**	**191**	P	Pn	15 24 59.2	-0.2
TWGZ	**Tauwhareparae**	**1.03**	**151**	P	Pn	15 25 00.6	+0.9
TWGZ				S	Sn	15 25 20.7	+0.8
MWZ	**Matawai**	**1.07**	**173**	P	Pn	15 25 00.2	+0.2
PUZ	**Puketiti**	**1.07**	**138**	P	Pn	15 25 00.5	+0.5
PUZ				S	Sn	15 25 19.8	-0.6
MKRZ	**Makatiti**	**1.12**	**219**	P	Pn	15 25 01.9	+1.4
OMRZ	**Omania**	**1.14**	**223**	P	Pn	15 25 01.4	+0.8
KARZ	**Kaharoa**	**1.16**	**229**	P	Pn	15 25 00.9	+0.2
TARZ	**Mount Tarawera**	**1.18**	**215**	P	Pn	15 25 01.7	+0.7
RAGZ	**Rawiri**	**1.23**	**178**	P	Pn	15 25 02.1	+0.7
TKGZ	**Te Karaka**	**1.23**	**162**	P	Pn	15 25 01.7	+0.4
RRRZ	**Republican Roa**	**1.26**	**212**	P	Pn	15 25 01.9	+0.3
KMRZ	**Kaimai**	**1.26**	**242**	P	Pn	15 25 01.9	+0.3
MUGZ	**Murupara**	**1.29**	**201**	P	Pn	15 25 01.8	-0.1
RTZ	**Ruatahuna**	**1.38**	**192**	P	Pn	15 25 02.5	-0.2
CNGZ	**Carnagh Statio**	**1.39**	**151**	P	Pn	15 25 03.9	+1.2
HRRZ	**Handcock Road**	**1.40**	**217**	P	Pn	15 25 03.5	+0.5
KUZ	**Kuaotunu**	**1.41**	**291**	P	Pn	15 25 02.3	-0.6
PRRZ	**Plateau Road**	**1.44**	**211**	P	Pn	15 25 03.5	+0.2
RIGZ	**Rimuhau**	**1.47**	**167**	P	Pn	15 25 04.1	+0.5
RIGZ				S	Sn	15 25 27.5	+0.4
SNGZ	**Shannon Statio**	**1.51**	**180**	P	Pn	15 25 04.3	+0.3
ALRZ	**Allen Road**	**1.52**	**211**	P	Pn	15 25 04.4	+0.3
TOZ	**Tahuroa Road**	**1.54**	**252**	P	Pn	15 25 04.7	+0.4
WPRZ	**Whakapapatarin**	**1.56**	**217**	P	Pn	15 25 05.1	+0.5
MTHZ	**Maungataniwha**	**1.63**	**194**	P	Pn	15 25 05.6	+0.3
RAHZ	**Arahi**	**1.66**	**187**	P	Pn	15 25 06.0	+0.5
PRGZ	**Paritu Road**	**1.70**	**166**	P	Pn	15 25 06.4	+0.4
MRHZ	**Matea Rd**	**1.73**	**205**	P	Pn	15 25 06.0	-0.3
MKAZ	**Moumakai**	**1.76**	**275**	P	Pn	15 25 06.8	+0.2
KNZ	**Kokohu**	**1.77**	**172**	P	Pn	15 25 06.9	+0.2
TLZ	**Tolley Road**	**1.79**	**233**	P	Pn	15 25 07.5	+0.5
WHHZ	**Waihua**	**1.81**	**183**	P	Pn	15 25 07.5	+0.3
GRZ	**Great Barrier**	**1.83**	**303**	P	Pn	15 25 07.0	-0.4
WIAZ	**Waiheke Island**	**1.84**	**284**	P	Pn	15 25 07.5	0.0
NMHZ	**Naumai**	**1.88**	**193**	P	Pn	15 25 08.7	+0.7
HATZ	**Hinemaiaia**	**1.90**	**211**	P	Pn	15 25 08.1	-0.1
WATZ	**Wairara**	**1.93**	**221**	P	Pn	15 25 08.9	+0.4
MHGZ	**Mahia Peninsul**	**1.93**	**167**	P	Pn	15 25 09.0	+0.5
ETAZ	**East Tamaki Re**	**1.96**	**278**	P	Pn	15 25 09.3	+0.4
ARHZ	**Aropaoanui**	**2.01**	**188**	P	Pn	15 25 09.7	+0.3
BKZ	**Black Stump Fm**	**2.01**	**199**	P	Pn	15 25 08.8	-0.7

RATZ	Rangitukua	2.03	218	P	Pn	15 25 09.8 +0.2
MBAZ	Motutapu North	2.03	284	P	Pn	15 25 09.8 +0.3
RITZ	Rihia Road	2.07	214	P	Pn	15 25 10.4 +0.2
ABAZ	Army Bay	2.13	288	P	Pn	15 25 11.0 +0.3
KATZ	Kakaramea	2.15	217	P	Pn	15 25 10.9 -0.2
MCHZ	McNeill Hill	2.23	193	P	Pn	15 25 11.9 -0.1
WTAZ	Waiatarua	2.25	278	P	Pn	15 25 12.6 +0.4
NTVZ	North Tongarir	2.25	215	P	Pn	15 25 12.5 +0.1
TMVZ	Te Maari	2.26	215	P	Pn	15 25 12.1 -0.3
KRVZ	Karewarewa	2.27	216	P	Pn	15 25 12.5 +0.1
ETVZ	East Tongariro	2.27	214	P	Pn	15 25 12.2 -0.3
KWHZ	Kaweka Forest	2.27	199	P	Pn	15 25 12.0 -0.5
RVAZ	Riverhead Bore	2.28	282	P	Pn	15 25 12.7 +0.2
WTVZ	West Tongariro	2.31	216	P	Pn	15 25 12.6 -0.3
NNVZ	North Ngauruho	2.31	216	P	Pn	15 25 12.9 -0.1
OTVZ	Oturere	2.31	215	P	Pn	15 25 12.8 -0.3
HIZ	Hauiti	2.33	237	P	Pn	15 25 14.0 +0.9
SNVZ	South Ngauruho	2.34	215	P	Pn	15 25 13.2 -0.2
TWVZ	Taurewa	2.35	219	P	Pn	15 25 13.2 -0.2
NGZ	Ngauruhoe	2.35	215	P	Pn	15 25 13.4 -0.1
CKHZ	Cape Kidnapper	2.40	185	P	Pn	15 25 13.5 -0.3
TUVZ	Tukino	2.40	213	P	Pn	15 25 13.6 -0.5
BHHZ	Black Hill Sta	2.44	204	P	Pn	15 25 13.4 -1.0
FWVZ	Far West T-bar	2.44	215	P	Pn	15 25 14.1 -0.5
WHVZ	Whangaehu Hut	2.44	214	P	Pn	15 25 14.0 -0.7
WNVZ	Wahianoa	2.48	213	P	Pn	15 25 14.3 -0.7
MOVZ	Moawhango	2.48	210	P	Pn	15 25 13.8 -1.1
KRHZ	Kereru	2.49	198	P	Pn	15 25 14.0 -1.0
KAHZ	Kahuranaki	2.55	188	P	Pn	15 25 15.3 -0.4
PKVZ	Pokaka	2.56	217	P	Pn	15 25 15.5 -0.4
MTVZ	Mangateitei	2.58	214	P	Pn	15 25 15.8 -0.4
VRZ	Vera Road	2.76	227	P	Pn	15 25 18.5 +0.3
WCZ	Waipu Caves	2.76	298	P	Pn	15 25 18.0 -0.3
PXZ	Pawanui	2.79	188	P	Pn	15 25 17.4 -1.1
PNHZ	Pukenui	2.79	199	P	Pn	15 25 17.5 -1.2
WPHZ	Waipukurau	2.88	194	P	Pn	15 25 18.5 -1.3
TSZ	Takapari Road	2.99	201	P	Pn	15 25 19.4 -1.7
WAZ	Wanganui	3.10	216	P	Pn	15 25 21.7 -0.8
DVHZ	Dannevirke	3.17	197	P	Pn	15 25 21.3 -2.0
LREZ	Lake Rotokare	3.19	226	P	Pn	15 25 25.5 +1.9
NEZ	North Egmont	3.25	231	P	Pn	15 25 25.1 +0.6
ANWZ	Angora Road	3.26	192	P	Pn	15 25 23.1 -1.3
PKE	Pukeiti	3.27	233	P	Pn	15 25 25.2 +0.5
OHWZ	Ohakea	3.34	208	P	Pn	15 25 24.5 -0.9
POWZ	Post Office Ro	3.35	201	P	Pn	15 25 23.8 -1.9
PRWZ	Pori Road	3.45	198	P	Pn	15 25 25.3 -1.7
BFZ	Birch Farm	3.52	194	P	Pn	15 25 25.6 -2.1
MRZ	Mangatainoka R	3.66	202	P	Pn	15 25 27.1 -2.4
OUZ	Omahuta	3.66	303	P	Pn	15 25 29.3 -0.3
TIWZ	Tintock	3.68	198	P	Pn	15 25 27.8 -2.2
CPWZ	Castlepoint	3.75	193	P	Pn	15 25 29.2 -1.4
HOWZ	Holdsworth Sta	3.90	201	P	Pn	15 25 29.9 -2.8
OGWZ	Otaki Gorge	3.93	205	P	Pn	15 25 30.4 -2.6
TMWZ	Te Maipa	4.00	196	P	Pn	15 25 31.4 -2.5
KIW	Kapiti Island	4.06	207	P	Pn	15 25 31.7 -3.0
MTW	Mount Morrison	4.14	200	P	Pn	15 25 32.7 -3.1
CAW	Cannon Point	4.22	204	P	Pn	15 25 33.6 -3.2
TRWZ	Traveller	4.32	197	P	Pn	15 25 35.2 -2.9
PAWZ	Paruwai Farm	4.37	199	P	Pn	15 25 35.3 -3.5
DUWZ	D'Urville Isla	4.43	216	P	Pn	15 25 36.2 -3.3
MSWZ	Moikau Station	4.45	201	P	Pn	15 25 36.2 -3.6
WEL	Wellington	4.48	206	P	Pn	15 25 36.8 -3.4
BHW	Baring Head	4.56	204	P	Pn	15 25 37.6 -3.6
PLWZ	Palliser	4.59	200	P	Pn	15 25 38.0 -3.7
TCW	Tory Channel	4.60	210	P	Pn	15 25 38.1 -3.7
TUWZ	Tuamarina	4.92	211	P	Pn	15 25 40.6 -5.4
NNZ	Nelson	5.01	217	P	Pn	15 25 43.5 -3.5
QRZ	Quartz Range	5.17	225	P	Pn	15 25 45.4 -3.8
BSWZ	Blackbirch Sta	5.19	210	P	Pn	15 25 45.6 -3.9
THZ	Tophouse	5.65	216	P	Pn	15 25 52.0 -3.6
KHZ	Kahutara	5.92	209	P	Pn	15 25 54.8 -4.2
DSZ	Denniston Nort	6.20	222	P	Pn	15 25 58.7 -4.1
GVZ	Greta Valley S	6.58	209	P	Pn	15 26 03.1 -4.8
LTZ	Lake Taylor	6.75	214	P	Pn	15 26 05.1 -5.0
INZ	Inchbonnie	7.09	218	P	Pn	15 26 10.6 -3.9
OKCZ	Okains Bay	7.23	206	P	Pn	15 26 11.7 -4.7
OXZ	Oxford	7.29	212	P	Pn	15 26 11.3 -5.9
MQZ	McQueen's Vall	7.36	208	P	Pn	15 26 12.3 -5.8
MHCZ	Mount Hutt	7.66	213	P	Pn	15 26 16.7 -5.4
WACZ	Wakanui South	7.87	210	P	Pn	15 26 20.2 -4.8
RPZ	Rata Peaks	8.03	215	P	Pn	15 26 22.7 -4.3
ARCZ	Arundel	8.16	213	P	Pn	15 26 24.3 -4.5
FOZ	Fox Glacier	8.49	220	P	Pn	15 26 28.9 -4.3
TMZ	Timaru	8.58	212	P	Pn	15 26 29.3 -5.1
ODZ	Otahua Downs	9.27	211	P	Pn	15 26 38.6 -4.8
JCZ	Jackson Bay	9.41	221	P	Pn	15 26 40.9 -4.6

*SJA **29** 15:26:39.5±0.7, 27.°09S×63.°12W, h614km±10km, ML4.6, MW4.3*
*VAO **29** 15:26:48.7±0.3, 26.°91S×63.°32W, h561km, mb4.1*
*NEIC **29** 15:26:48.9±1.4, 26.°90S±0.°10×63.°4W±0.°1, h561km±6km, mb4.2/49, Error ellipse: s-maj=17.3km s-min=13.5km az=76.0*
*IDC **29** 15:26:48.4±1.1, 26.°84S×63.°41W, h563km±12km, mb3.5/6, mb1 3.7/11, mb1mx3.4/35, mbtmp4.4/11, Error ellipse: s-maj=19.4km s-min=14.3km az=37.0*

ISC 29 15:26:48.3±0.4, 26.°86S±0.°06×63.°37W±0.°06, h561km, n206, σ0.°79/214, mb4.2/29, Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHML	Horco Molle	1.75	272	*e*P	P	15 27 57.7	-0.4
FSA	Cafayete	2.45	287	*e*P	P	15 28 01.7	+0.3
FSA				*e*S	S	15 29 02.3	+1.4
CYA	Choya	2.67	233	*e*P	P	15 28 01.9	-0.4
SLA	San Lorenzo	2.87	317	*i* P	P	15 28 04.4	+0.7
ACLC	CERRO LA CRUZ	4.07	230	*i* P	P	15 28 10.0	-1.6
ACLC				IAML		15 29 17.3	
	comp=Z,95nm,0.6s						
HJA	Humahuaca	4.08	333	*i* P	P	15 28 13.7	+1.5
APLL	PUNTA DE LOS L	4.49	217	*i* P	P	15 28 13.0	-1.6
APLL				IAML		15 29 22.6	
	comp=Z,53nm,0.8s						
VCA	Vinchina	4.67	245	*e*P	P	15 28 16.5	+0.2
VCA				*e*S	S	15 29 28.1	0.0
AC02	Maricunga	5.14	269	P	P	15 28 21.9	+1.4
AC02	Maricunga	5.14	269	*i* P	P	15 28 22.0	+1.4
ACHE	Chepes	5.17	213	*i* P	P	15 28 19.0	-1.3
AVFE	Valle Fertil	5.22	222	*i* P	P	15 28 20.0	-0.6
AVFE				IAML		15 29 38.6	
	comp=Z,32nm,0.5s						
AGUA	GUANDACOL	5.22	239	*i* P	P	15 28 21.0	+0.3
CPUP	Villa Florida	5.44	86	P	P	15 28 23.7	+1.2
	comp=Z,4.4nm,0.3s,baz=259,slow=8.5,SNR=103						
CPUP	Villa Florida	5.44	86	P	P	15 28 23.6	+1.1
CPUP	Villa Florida	5.44	86	*i* P	P	15 28 23.7	+1.2
MRA	San Martin	5.91	200	*e*P	P	15 28 25.2	-1.4
GO03	Copiap	6.15	262	P	P	15 28 28.9	0.0
GO03	Copiap	6.15	262	*i* P	P	15 28 30.0	+1.1
ACCO	Cerro Coronel	6.23	232	*i* P	P	15 28 30.0	+0.1
AROD	Rodeo	6.30	237	*e*P	P	15 28 31.5	+1.0
AROD				*e*S	S	15 29 54.8	+0.7
LVC	Limon Verde	6.57	309	P	P	15 28 33.8	+0.5
	comp=Z,16nm,0.3s,baz=137,slow=18,SNR=115						
LVC				S	S	15 29 56.9	-2.0
	comp=Z,20nm,0.3s,baz=307,slow=20,SNR=11						
LVC	Limon Verde	6.57	309		P	15 28 33.2	-0.1
LVC	Limon Verde	6.57	309	*e*P	P	15 28 33.7	+0.5
LVC	Limon Verde	6.57	309	*i* P	P	15 28 34.0	+0.8
ITQB	Itaqui	6.58	117	P	P	15 28 33.3	+0.6
ITQB	Itaqui	6.58	117	*e*P	P	15 28 33.8	+1.1
ITQB				*e*S	S	15 29 57.8	-0.3
ZON	Zonda	6.58	224	P	P	15 28 32.7	-0.1
PB15	IPOC Station P	6.62	302	P	P	15 28 33.8	+0.4
PB15	IPOC Station P	6.62	302	*i* P	P	15 28 34.0	+0.5
PB14	IPOC Station P	6.72	288	P	P	15 28 34.6	+0.2
PB14	IPOC Station P	6.72	288	*i* P	P	15 28 35.0	+0.5
RTCV	Cerro Valdivia	6.72	221	*i* P	P	15 28 35.0	+0.9
RTCV				IAML		15 30 04.2	
	comp=Z,18nm,2.0s						
AC04	Llanos de Chal	6.97	257	P	P	15 28 36.5	+0.1
AC04	Llanos de Chal	6.97	257	*i* P	P	15 28 37.0	+0.6
PB06	IPOC Station P	6.99	305	P	P	15 28 37.1	+0.3
PB06	IPOC Station P	6.99	305	*i* P	P	15 28 37.0	+0.1
RTLS	Leoncito	7.14	225	*i* P	P	15 28 39.3	+1.0
RTLS				IAML		15 30 28.0	
	comp=Z,14nm,2.5s						
PB10	IPOC Station P	7.31	296	P	P	15 28 39.9	+0.1
PB10	IPOC Station P	7.31	296	*i* P	P	15 28 40.0	+0.3
GO04	Tololo Observa	7.32	241	P	P	15 28 40.3	+0.3
PB09	IPOC Station P	7.35	312	P	P	15 28 40.9	+0.6
PB09	IPOC Station P	7.35	312	*i* P	P	15 28 41.0	+0.6
PB05	IPOC Station P	7.37	301	*i* P	P	15 28 40.0	-0.5
ASAL	Salagasta	7.43	218	*i* P	P	15 28 41.0	+0.2
ASAL				IAML		15 30 15.6	
	comp=Z,70nm,0.5s						
AUSP	Uspallata	7.49	223	*i* P	P	15 28 42.6	+1.0
CO03	El Pedregal	7.54	237	P	P	15 28 42.1	+0.1
PB04	IPOC Station P	7.63	305	P	P	15 28 43.0	-0.1
PB04	IPOC Station P	7.63	305	*i* P	P	15 28 43.0	-0.1
ARCO	CERRO ARCO	7.67	218	*i* P	P	15 28 43.0	+0.6
AAGR	Agrelo	7.80	216	*i* P	P	15 28 45.0	+0.5
AAGR				IAML		15 30 32.0	
	comp=Z,45nm,0.7s						
PB07	IPOC Station P	7.83	309	P	P	15 28 45.0	-0.1
PB07	IPOC Station P	7.83	309	*i* P	P	15 28 45.0	-0.1
CO02	Combarbal	7.96	235	P	P	15 28 45.9	-0.1
PB01	IPOC Station P	8.05	315	P	P	15 28 46.9	-0.1
PB01	IPOC Station P	8.05	315	*i* P	P	15 28 47.0	-0.1
PB02	IPOC Station P	8.12	311	*i* P	P	15 28 48.0	+0.2
CO06	Fray Jorge	8.19	240	P	P	15 28 48.2	0.0
PB08	IPOC Station P	8.53	320	P	P	15 28 52.8	+0.7
PB08	IPOC Station P	8.53	320	*i* P	P	15 28 53.0	+0.8
VA03	San Esteban	8.57	225	P	P	15 28 52.3	+0.3
VA03	San Esteban	8.57	225	*i* P	P	15 28 53.0	+0.9
TA01	Diego Aracena	8.84	314	P	P	15 28 54.7	-0.1
TA01	Diego Aracena	8.84	314	*i* P	P	15 28 55.0	+0.2
TA02	Huaiquique	9.02	315	P	P	15 28 56.3	-0.3
RFA	San Rafael	9.02	208	*i* P	P	15 28 56.0	-0.5
RFA				IAML		15 30 42.3	
	comp=Z,18nm,0.7s						
PB11	IPOC Station P	9.12	319		P	15 28 57.5	-0.3
PB11	IPOC Station P	9.12	319	*i* P	P	15 28 57.0	-0.8
CPSB	Cacapava Do Su	9.42	114	*e*P	P	15 29 00.2	-0.2
PSGCX	Pisagua	9.52	318	P	P	15 29 01.5	-0.3
PSGCX	Pisagua	9.52	318	*i* P	P	15 29 02.0	+0.2
MT09	Talagante	9.53	222	P	P	15 29 00.8	-0.9
MT01	Popeta	9.75	222	P	P	15 29 02.8	-0.9
PLTB	Pedras Altas	9.83	122	P	P	15 29 04.1	-0.5
PLTB	Pedras Altas	9.83	122	*e*P	P	15 29 04.2	-0.4
BO01	Tunca	10.02	220	P	P	15 29 05.8	-0.8
BO01	Tunca	10.02	220	*i* P	P	15 29 06.0	-0.5
BO02	Sierra Bellavi	10.15	217	P	P	15 29 07.2	-0.7
BO02	Sierra Bellavi	10.15	217	*i* P	P	15 29 10.0	+2.1
PTGB	Pitanga	10.41	81	*e*P	P	15 29 11.5	+0.7
TRCB	Terra Rica	10.56	70	P	P	15 29 12.9	+0.8
TRCB	Terra Rica	10.56	70	*e*P	P	15 29 13.0	+0.8
SIV	San Ignacio	11.02	12	P	P	15 29 18.0	+0.9
	comp=Z,0.4nm,0.3s,baz=204,slow=9.5,SNR=9.0						
TRQA	Tornquist	11.23	174	P	P	15 29 16.1	-2.7
TRQA	Tornquist	11.23	174	*i* P	P	15 29 20.0	+1.2
CNLB	Canela	11.32	105	*e*P	P	15 29 18.6	-1.4
LPAZ	La Paz	11.41	336	P	P	15 29 20.9	-0.7
	comp=Z,2.9nm,0.3s,baz=130,slow=5.5,SNR=36						
LPAZ				S	S	15 31 25.0	-2.5
	comp=Z,0.2nm,0.3s,baz=195,slow=7.5,SNR=3.7						
LPAZ	La Paz	11.41	336	P	P	15 29 21.2	-0.4
LPAZ	La Paz	11.41	336	*i* P	P	15 29 21.6	-0.1
PTLB	Pontes e Lacer	12.02	20	*e*P	P	15 29 27.9	+0.6
PP1B	Ponte de Pedra	12.11	42	*e*P	P	15 29 28.6	+0.4
PCMB	Pacaembu	12.22	67	*e*P	P	15 29 29.8	+0.5
TER01	Tubaro-SC	12.73	101	*e*P	P	15 29 34.0	-0.4
TIJ01	Guaruva-PR	13.00	86	*e*P	P	15 29 35.7	-1.7
SALV	Santo Antonio	13.03	35	*e*P	P	15 29 38.6	+0.9
ITRB	Iturama	13.91	62	*e*P	P	15 29 47.3	+0.6
VILB	Vilhena	14.15	13	*e*P	P	15 29 50.6	+1.4
BB19B	Bebedouro	14.74	70	*e*P	P	15 29 55.0	-0.1
PET01	Itanhaem-SP	14.75	84	*e*P	P	15 29 54.3	-0.8
SPB	Sao Paulo	14.79	81	*e*P	P	15 29 56.1	+0.6
PLCA	Paso Flores	15.06	201	*e*P	P	15 29 58.0	0.0
RCLB	Rio Claro- Sao	15.06	76	*e*P	P	15 29 57.9	-0.5
VAO	Valinhos	15.37	79	*e*P	P	15 30 01.3	-0.2
PARB	Parabiuna	16.45	82	*e*P	P	15 30 13.3	-0.5
IPMB	Ipameri, GO	16.55	61	*e*P	P	15 30 12.9	+0.1
CLDB	Colider	17.43	26	*e*P	P	15 30 20.4	-0.2
SAML	Samuel	17.81	1	P	P	15 30 23.6	-0.5
SAML	Samuel	17.81	1	*e*P	P	15 30 24.1	-0.1
BSCB	Bom Sucesso	17.97	75	*e*P	P	15 30 25.6	0.0
BDFB	Brasilia	18.13	55	P	P	15 30 27.7	+0.6
	comp=Z,1.8nm,0.3s,baz=236,slow=8.2,SNR=16						
BDFB	Brasilia	18.13	55	P	P	15 30 27.4	+0.2
SNDB	Serra Nova Dou	18.66	40	*e*P	P	15 30 31.9	0.0
DUB01	Friburgo-RJ	19.69	81	*e*P	P	15 30 41.1	-0.1
DIAM	Diamantina, MG	20.07	69	*e*P	P	15 30 45.3	+0.5
PEXB	Peixe	20.39	47	*e*P	P	15 30 48.1	+0.5
CAM01	Campos-RJ	20.40	80	*e*P	P	15 30 45.9	-1.7
MC01	Montes Claros	20.65	65	*e*P	P	15 30 50.2	+0.2
NPGB	Novo Progresso	21.12	23	*e*P	P	15 30 55.7	+1.4
JANB	Januaria	21.29	60	*e*P	P	15 30 56.1	+0.3
ALF01	Guarapari-ES	21.63	78	*e*P	P	15 30 59.3	+0.7
SDBA	SAO DESIDERIO	22.52	54	*e*P	P	15 31 07.1	+0.4
SMTB	Santa Maria do	23.32	43	*e*P	P	15 31 14.4	+0.6
PRPB	Parauapebas	24.29	35	*e*P	P	15 31 23.2	+0.8
GDU01	Guandu, BA	25.80	64	*e*P	P	15 31 35.9	+0.1
PTGA	Pitinga	26.18	8	P	P	15 31 38.1	-1.0
PTGA				IAmb	IAmb	15 31 39.3	
	comp=Z,6.0nm,0.6s						
NBPN	Ponto Novo - B	27.02	58	*e*P	P	15 31 46.3	-0.3
MCPB	Macapa, AP	28.50	24	*e*P	P	15 32 00.2	+0.8
NBLA	Lagarto - SE	28.80	62	*e*P	P	15 32 00.9	-1.0
BOAV	Boa Vista	29.21	6	*e*P	P	15 32 05.7	+0.2
NBMA	Muriti-CE	30.36	55	*e*P	P	15 32 15.9	+0.4
NBPS	Pedro II - PI	30.62	47	*e*P	P	15 32 18.0	+0.2
NBPV	Pedro Velho	33.57	58	*e*P	P	15 32 43.2	+0.4
MLPR	Magueyes Islan	44.70	355	P	P	15 34 11.7	-0.4
MTP	Monte Pirata	44.73	357	P	P	15 34 10.9	-1.5
VNA3	Neumayer Olymp	53.40	161	P	P	15 35 16.2	+0.6
VNA1	Neumayer--Stat	53.56	160	P	P	15 35 17.6	+1.0
VNA2	Neumayer--Watz	53.94	160	P	P	15 35 19.9	+0.5
SNAA	Sanae	55.58	160	P	P	15 35 30.8	-0.1
SNAA	Sanae	55.58	160	P	P	15 35 30.6	-0.2
	comp=Z,2.0nm,0.6s,baz=185,slow=20,SNR=10						
SNAA				PcP	PcP	15 36 22.4	+0.2
	comp=Z,1.7nm,0.9s,baz=225,slow=5.7,SNR=4.2						
SNAA	Sanae	55.58	160	P	P	15 35 30.7	-0.2
QSPA	South Pole Qui	63.36	180	P	P	15 36 23.4	+0.5
QSPA				IAmb	IAmb	15 36 24.3	
	comp=Z,5.3nm,0.8s						
Y49A	Blount Mountai	64.22	339	P	P	15 36 27.6	-1.0
Y49A				IAmb	IAmb	15 36 47.1	
	comp=Z,17nm,1.4s						
V55A	Taylorsville	64.61	344	P	P	15 36 31.8	+0.8
V55A				IAmb	IAmb	15 36 32.5	
	comp=Z,8.1nm,0.7s						
TKL	Tuckaleechee C	65.10	342	P	P	15 36 33.8	-0.3
TKL				IAmb	IAmb	15 36 34.5	
	comp=Z,8.3nm,1.2s						
CPCT	Cooper Cave	65.11	341	P	P	15 36 33.9	-0.3
CPCT				IAmb	IAmb	15 37 02.6	
	comp=Z,9.9nm,1.3s						
LIC	Lamto	65.31	69	*e*PKP2	P	15 36 35.4	-0.5
	comp=Z,72nm,1.8s						
U54A	Nelsons Funny	65.39	344	P	P	15 36 36.0	0.0
TIC	Toumodi	65.55	68	*e*PKP2	P	15 36 36.7	-0.7
KIC	Kosan Boka	65.62	69	*e*PKP2	P	15 36 36.8	-1.1
	comp=Z,9.4nm,0.6s						
DBIC	Dimbokro	65.69	68	P	P	15 36 38.1	-0.2
	comp=Z,5.1nm,0.6s,baz=237,slow=5.8,SNR=8.2						
DBIC	Dimbokro	65.69	68	P	P	15 36 37.8	-0.5
DBIC				IAmb	IAmb	15 36 53.9	
	comp=Z,9.8nm,1.1s						
V48A	Smith Brothers	66.08	339	P	P	15 36 39.5	-0.7
V48A				IAmb	IAmb	15 36 40.5	
	comp=Z,3.7nm,0.6s						
CLTN	Cedars of Leba	66.25	340	P	P	15 36 40.8	-0.4
CLTN				IAmb	IAmb	15 36 41.6	
	comp=Z,5.2nm,0.6s						
WVT	Waverly	66.76	339	P	P	15 36 43.1	-1.3
WVT				IAmb	IAmb	15 36 44.4	
	comp=Z,3.6nm,0.6s						
TX32	Lajitas Array	67.92	322	P	P	15 36 52.0	+0.3
TXAR	Lajitas Array	67.92	322	P	P	15 36 52.4	+0.6
	comp=Z,0.4nm,0.5s,baz=151,slow=7.7,SNR=6.1						
TXAR	Lajitas Array	67.92	322	P	P	15 36 52.0	+0.2
TX31	Lajitas Ar. Si	67.92	322	P	P	15 36 51.8	0.0
PAL	Palisades	68.22	351	P	P	15 36 52.5	-0.7
N54A	Moraine State	69.22	347	P	P	15 36 59.7	+0.5
N54A				IAmb	IAmb	15 37 16.3	
	comp=Z,13nm,1.1s						
M55A	Ridgway	69.46	348	P	P	15 37 00.9	+0.2
M55A				IAmb	IAmb	15 37 10.4	
	comp=Z,18nm,1.4s						
L56A	Greenwood	69.89	349	P	P	15 37 03.5	+0.2
J59A	Piesco	70.72	351	P	P	15 37 09.0	+0.9
J59A				IAmb	IAmb	15 37 09.9	
	comp=Z,7.5nm,0.9s						
J58A	Remsen	70.72	351	P	P	15 37 09.3	+1.1
KOWA	Kowa	70.78	62	P	P	15 37 08.7	-0.4
KOWA				IAmb	IAmb	15 37 09.6	
	comp=Z,6.9nm,0.7s						
MSTX	Muleshoe	71.11	326	P	P	15 37 10.9	+0.2
MSTX				IAmb	IAmb	15 37 11.9	
	comp=Z,4.9nm,0.9s						
PKME	Peaks-Kenny Pk	71.98	356	P	P	15 37 16.0	+0.6
G62A	West of Eustis	72.03	355	P	P	15 37 16.9	+1.2
LMN	Caledonia Moun	72.37	359	P	P	15 37 18.3	+0.6
F63A	Nahmakanta, Br	72.40	356	P	P	15 37 19.1	+1.3
VNDA	Vanda	72.44	189	P	P	15 37 19.4	+1.7
F64A	Sherman	72.51	356	P	P	15 37 19.6	+1.2
F64A				IAmb	IAmb	15 37 27.5	
	comp=Z,10nm,1.2s						
F62A	Pittston Farm,	72.65	355	P	P	15 37 20.6	+1.3
F62A				IAmb	IAmb	15 37 38.8	
	comp=Z,17nm,1.4s						
E62A	Clayton Lake	73.34	356	P	P	15 37 24.1	+0.9
E62A				IAmb	IAmb	15 37 25.7	
	comp=Z,11nm,0.9s						
D62A	Allapoint, All	73.77	356	P	P	15 37 26.5	+1.0
D62A				IAmb	IAmb	15 37 28.2	
	comp=Z,10nm,1.1s						
TORD	Torodi Ar. Bea	74.61	66	P	P	15 37 30.8	-0.3
	comp=Z,7.9nm,0.6s,baz=275,slow=6.5,SNR=66						
TORD	Torodi Ar. Bea	74.61	66	P	P	15 37 30.3	-0.8
TORD				IAmb	IAmb	15 37 31.5	
	comp=Z,8.7nm,0.7s						
214A	Organ Pipe Nat	75.10	318	P	P	15 37 33.7	+0.2
SDCO	Great Sand Dun	75.44	327	P	P	15 37 36.5	+0.9
BOSA	Boshof	76.53	115	P	P	15 37 41.6	-0.2
	comp=Z,4.4nm,0.5s,baz=266,slow=4.8,SNR=5.3						
BOSA	Boshof	76.53	115	P	P	15 37 41.5	-0.3
BOSA				IAmb	IAmb	15 37 41.9	
	comp=Z,6.6nm,0.7s						
ECSD	EROS Data Cent	76.58	336	P	P	15 37 41.1	-0.2
D41A	Chassel	77.01	343	P	P	15 37 44.2	+0.7
LBTB	Lobatse	78.26	112	P	P	15 37 50.6	-0.5
LBTB				IAmb	IAmb	15 37 51.7	
	comp=Z,5.8nm,0.8s						
KNB	Kanab	78.73	322	P	P	15 37 54.9	+1.6
CCUT	Cedar City	79.41	322	P	P	15 37 58.5	+1.5
MSU	Marysvale	79.46	323	P	P	15 37 58.3	+1.1
RDMU	Red Mountain	79.63	326	P	P	15 37 58.9	+0.8
PDAR	Pinedale Array	81.29	327	P	P	15 38 06.3	-0.3
	comp=Z,0.7nm,0.5s,baz=120,slow=8.8,SNR=5.2						
PDAR	Pinedale Array	81.29	327	P	P	15 38 06.5	-0.1
YNE	Yellowstone No	83.20	329	P	P	15 38 17.1	+0.9
YNE				IAmb	IAmb	15 38 38.0	
	comp=Z,7.6nm,0.7s						
HLID	Hailey	84.28	325	P	P	15 38 22.3	+0.8
HLID				IAmb	IAmb	15 38 24.2	
	comp=Z,7.4nm,1.4s						
ASAR	Alice Springs	127.07	200	PKP	PKPdf	15 44 49.3	-0.6
	comp=Z,2.1nm,0.7s,baz=114,slow=1.3,SNR=2.7						
WRA	Warramunga Arr	130.41	202	PKP	PKPdf	15 44 54.8

M5.2/13,mB5.7/7,mb5.1/13,Mw(mB)5.3/7,MwMwp5.0/2, Mwp5.3/2

ISC 29 15:35:19.9±0.3,5.**39S**±0.04×**152.08E**±0.05,**h45**km,**n679,** σ1.**35**/688,**mb5.3**/191,**MS4.7**/39,**10C-4D,New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.30**	**230**	Pn		**Pn**	**15 36 50.3**	**0.0**
	28nm,0.3s,baz=46,slow=13,SNR=48							
PMG				Sn		**Sn**	**15 38 02.3**	**+1.3**
	53nm,0.3s,baz=147,slow=22,SNR=9.1							
PMG	**Port Moresby**	**6.30**	**230**	P		**Pn**	**15 36 52.7**	**+2.4**
PMG	**Port Moresby**	**6.30**	**230**	P		**Pn**	**15 36 52.6**	**+2.3**
HNR	**Honiara**	**8.77**	**118**	LR		LR	15 40 18.9	
	comp=Z,3μm,21.6s,baz=286,slow=34							
JAY	**Jayapura**	**11.70**	**284**	Pn		**Pn**	**15 38 05.5**	**+1.1**
	0.1nm,0.3s,baz=98,slow=7.1,SNR=1.5							
JAY				LR		LR	15 42 07.7	
	comp=Z,4μm,18.5s,baz=89,slow=35							
JAY	**Jayapura**	**11.70**	**284**	P		Pn	15 38 15.6	+11
GENI	**Genyem**	**12.20**	**283**	P		Pn	15 38 16.7	+5.5
	2μm4μm161nm,1.5s							
PATS	**Pohnpei**	**13.65**	**27**	P		**P**	**15 38 37.9**	**-0.8**
	baz=14,SNR=6.0							
PATS	**Pohnpei**	**13.65**	**27**	Pn		**Pn**	**15 38 31.3**	**+0.4**
MTSU	**Mount Surprise**	**14.76**	**210**	P		**Pn**	**15 38 47.4**	**+1.5**
	baz=15,SNR=11							
CTA	**Charters Tower**	**15.67**	**201**	Pn		**Pn**	**15 38 57.5**	**-0.2**
	0.5nm,0.3s,baz=30,slow=12,SNR=7.3							
CTAO	**Charters Tower**	**15.67**	**201**	P		**Pn**	**15 38 57.1**	**-0.6**
CTAO				pmax		pmax		
	comp=Z,58nm,1.5s							
CTAO	**Charters Tower**	**15.67**	**201**	Pn		**Pn**	**15 38 57.1**	**-0.6**
SRPI	**Serui, Papua**	**16.19**	**282**	P		**P**	**15 39 08.9**	**+2.0**
	comp=Z,4μmcomp=Z,62nm,1.0s							
QIS	**Mount Isa**	**19.34**	**218**	P		**Pn**	**15 39 42.4**	**-0.6**
	baz=19,SNR=20							
EIDS	**Eidsvold**	**19.89**	**183**	P		**Pn**	**15 39 48.6**	**-0.9**
	baz=20,SNR=6.7							
FAKI	**Fak Fak**	**19.93**	**276**	P		**P**	**15 39 47.0**	**-1.1**
GUMO	**Guam**	**20.17**	**339**	P		**P**	**15 39 51.8**	**+1.1**
	comp=Z,327nm,1.1s,baz=170,slow=2.6,SNR=9.1							
GUMO				LR		LR	15 47 53.8	
	comp=Z,532nm,18.7s,baz=167,slow=38							
GUMO	**Guam**	**20.17**	**339**	P		**P**	**15 39 50.8**	**+0.1**
GUMO				pmax		pmax		
	comp=Z,434nm,1.1s							
GUMO	**Guam**	**20.17**	**339**	P		**P**	**15 39 50.8**	**+0.1**
GUMO	**Guam**	**20.17**	**339**	P		Pn	15 39 54.1	+1.2
KDU	**Kakadu**	**20.66**	**248**	P		**P**	**15 39 54.3**	**-1.8**
	baz=21,SNR=3.9							
RMQ	**Roma**	**21.21**	**188**	P		**P**	**15 40 02.2**	**+0.3**
	baz=21,SNR=54							
SIJI	**Sorong**	**21.26**	**281**	P		**P**	**15 40 02.8**	**+0.2**
	comp=Z,38nm,0.9s,baz=87,slow=8.0,SNR=11							
SIJI	**Sorong**	**21.26**	**281**	P		**P**	**15 40 02.5**	**0.0**
SWI	**Sorong**	**21.26**	**282**	P		**P**	**15 40 04.8**	**+2.2**
	comp=Z,1μmcomp=Z,98nm,1.3s							
NOUC	**Port Laguerre**	**21.57**	**142**	P		**P**	**15 40 11.9**	**+6.1**
DZM	**Mont Dzumac**	**21.64**	**141**	P		**P**	**15 40 06.4**	**-0.2**
	comp=Z,12nm,0.6s,baz=205,slow=10.0,SNR=12							
DZM	**Mont Dzumac**	**21.64**	**141**	*e*P		**P**	**15 40 05.6**	**-1.0**
	comp=Z,32nm,0.7s							
DZM				*e*LQ		LQ	15 44 18.8	
	comp=Z,3μm,27.5s							
DZM				*e*LR		LR	15 45 11.3	
	comp=Z,5μm,26.1s							
DZM	**Mont Dzumac**	**21.64**	**141**	P		**P**	**15 40 05.7**	**-0.8**
DZM	**Mont Dzumac**	**21.64**	**141**	P		**P**	**15 40 12.7**	**+6.1**
ONTNC	**Ouen Toro**	**21.82**	**142**	P		**P**	**15 40 07.8**	**-0.6**
YATNC	**Mamie plateau,**	**21.91**	**141**	P		**P**	**15 40 16.0**	**+6.6**
MTN	**Manton Dam**	**21.95**	**249**	P		**P**	**15 40 11.3**	**+1.3**
	baz=22,SNR=25							
OUENC	**Ouen Island, N**	**22.14**	**141**	P		**P**	**15 40 10.8**	**-1.1**
OUENC	**Ouen Island, N**	**22.14**	**141**	P		**P**	**15 40 16.5**	**+4.6**
QLP	**Quilpie**	**22.36**	**199**	P		**P**	**15 40 13.7**	**-0.5**
	baz=22,SNR=9.5							
WB0	**Warramunga Arr**	**22.37**	**229**	P		**P**	**15 40 13.2**	**-1.2**
WR0	**Warramunga Arr**	**22.38**	**228**	P		**P**	**15 40 13.8**	**-0.7**
ANA2	**Anatahan**	**22.50**	**344**	P		**P**	**15 40 16.1**	**+0.4**
ANA2				IAmb		IAmb	15 40 34.6	
	comp=Z,78nm,0.6s							
WRAB	**Tennant Creek**	**22.50**	**228**	*i* P		**P**	**15 40 15.4**	**-0.4**
WRAB				pmax		pmax		
	comp=Z,41nm,1.0s							
WRAB	**Tennant Creek**	**22.50**	**228**	P		**P**	**15 40 14.5**	**-1.4**
WB2	**Warramunga Arr**	**22.51**	**228**	P		**P**	**15 40 14.9**	**-1.0**
WRA	**Warramunga Arr**	**22.52**	**228**	P		**P**	**15 40 15.2**	**-0.9**
	comp=Z,21nm,0.9s,baz=53,slow=9.7,SNR=77							
WRA				S		**S**	**15 44 19.4**	**-0.8**
	comp=Z,18nm,1.2s,baz=54,slow=18,SNR=11							
WRA				ScP		**ScP**	**15 47 45.8**	**+2.8**
	comp=Z,4.6nm,1.1s,baz=36,slow=2.2,SNR=7.3							
WRA				LR		LR	15 49 20.7	
	comp=Z,2μm,20.6s,baz=60,slow=38							
WRA	**Warramunga Arr**	**22.52**	**228**	P		**P**	**15 40 15.1**	**-0.9**
WRA				S		**S**	**15 44 19.4**	**-0.8**
WRA				pmax		pmax		
	comp=Z,8.0nm,1.0s							
WRA	**Warramunga Arr**	**22.52**	**228**	P		**P**	**15 40 15.1**	**-0.9**
KNRA	**Kununurra**	**25.07**	**244**	P		**P**	**15 40 40.2**	**-0.2**
	baz=25,SNR=92							
AS31	**Alice Springs**	**25.23**	**222**	P		**P**	**15 40 40.0**	**-1.7**
ASAR	**Alice Springs**	**25.23**	**222**	P		**P**	**15 40 41.0**	**-0.8**
	comp=Z,18nm,0.7s,baz=55,slow=9.0,SNR=147							
ASAR				S		**S**	**15 45 09.1**	**+4.6**
	comp=Z,3.2nm,1.0s,baz=39,slow=18,SNR=2.6							
ASAR				ScP		**ScP**	**15 47 54.4**	**+4.0**
	comp=Z,1.9nm,0.9s,baz=42,slow=3.7,SNR=4.4							
ASAR				LR		LR	15 50 31.2	
	comp=Z,1μm,21.2s,baz=64,slow=36							
ASAR	**Alice Springs**	**25.23**	**222**	P		**P**	**15 40 40.3**	**-1.5**
ASAR	**Alice Springs**	**25.23**	**222**	P		**P**	**15 40 40.3**	**-1.5**
TNTI	**Ternate**	**25.43**	**283**	P		**P**	**15 40 42.5**	**-1.2**
SANI	**Sanana**	**26.24**	**276**	P		**P**	**15 40 57.3**	**+6.3**
CMSA	**Cobar Meteorol**	**26.69**	**192**	P		**P**	**15 40 55.6**	**+0.7**
	baz=27,SNR=30							
SOEI	**Soe**	**27.90**	**259**	P		**P**	**15 41 03.5**	**-2.6**
SOEI				IAmb		IAmb	15 41 31.1	
	comp=Z,118nm,1.1s							
SOEI	**Soe**	**27.90**	**259**	P		**P**	**15 41 08.3**	**+2.2**
	comp=Z,2μmcomp=Z,107nm,1.1s							
STKA	**Stephens Creek**	**28.12**	**199**	P		**P**	**15 41 07.0**	**-0.7**
	baz=28,SNR=8.2							
STKA	**Stephens Creek**	**28.12**	**199**	P		**P**	**15 41 06.2**	**-1.4**
	comp=Z,5.3nm,0.7s,baz=31,slow=12,SNR=9.4							
STKA				LR		LR	15 52 36.4	
	comp=Z,2μm,19.1s,baz=17,slow=37							
STKA	**Stephens Creek**	**28.12**	**199**	*i* P		**P**	**15 41 05.7**	**-2.0**
STKA	**Stephens Creek**	**28.12**	**199**	P		**P**	**15 41 05.2**	**-2.5**
BATI	**Baumata**	**28.55**	**259**	P		**P**	**15 41 12.3**	**+0.6**
	comp=Z,50nm,0.5s,baz=348,slow=2.4,SNR=5.0							
BATI	**Baumata**	**28.55**	**259**	P		**P**	**15 41 14.1**	**+2.4**
	comp=Z,69nm,1.1s							
KMSI	**Cibinong**	**28.68**	**281**	P		P	15 41 20.5	+7.6
FITZ	**Fitzroy Crossi**	**28.74**	**242**	P		**P**	**15 41 12.5**	**-0.9**
	baz=29,SNR=72							
FITZ	**Fitzroy Crossi**	**28.74**	**242**	P		**P**	**15 41 13.2**	**-0.3**
	comp=Z,16nm,0.5s,baz=72,slow=7.8,SNR=23							
MMRI	**Maumere**	**29.79**	**262**	P		P	15 41 28.9	+6.2
WRKA	**Warakurna**	**30.03**	**227**	P		**P**	**15 41 23.7**	**-1.1**
	baz=30,SNR=49							
EDFI	**Ende, Flores**	**30.33**	**262**	P		**P**	**15 41 26.6**	**-1.1**
HTT	**Hallett**	**30.46**	**202**	P		**P**	**15 41 28.0**	**-0.6**
	baz=30,SNR=5.3							
TOLI2	**Tolitoli**	**31.92**	**281**	P		**P**	**15 41 39.9**	**-1.6**
ARPS	**Mount Arapiles**	**32.61**	**195**	P		**P**	**15 41 47.6**	**+0.3**
	baz=33,SNR=6.5							
MPSI	**Mapaga**	**32.63**	**279**	P		**P**	**15 41 48.8**	**+1.0**
	comp=Z,12nm,0.8s							
WBSI	**Waikabubak, Su**	**32.67**	**261**	P		P	15 41 53.0	+4.8
	comp=Z,121nm,0.8s							
RCP	**Roxas**	**33.70**	**300**⇓	*e*P		**P**	**15 41 57.9**	**+0.9**
LQP	**Lukban**	**35.97**	**303**	*e*P		**P**	**15 42 12.6**	**-4.3**
SPMM	**Sapulut**	**36.95**	**285**	P		**P**	**15 42 26.0**	**+0.8**
PCPH	**Palayan**	**37.08**	**305**	*e*P		**P**	**15 42 26.3**	**+0.2**
JAGI	**Jajag, Banyuwa**	**37.76**	**263**	P		**P**	**15 42 29.8**	**-2.2**
MEEK	**Meekatharra**	**38.27**	**233**	P		**P**	**15 42 35.7**	**-0.5**
	baz=38,SNR=30							
JOW	**Kunigami**	**39.46**	**325**	P		**P**	**15 42 46.2**	**+0.2**
JOW				IAmb		IAmb	15 42 52.1	
	comp=Z,48nm,0.8s							
BKZ	**Black Stump Fm**	**40.22**	**150**	P		**P**	**15 42 51.8**	**-0.5**
GIRL	**Giralia**	**40.35**	**241**	P		**P**	**15 42 53.3**	**-0.2**
	baz=40,SNR=4.7							
MORW	**Morawa**	**41.41**	**231**	P		**P**	**15 43 01.1**	**-1.1**
	baz=41,SNR=11							
BLDU	**Ballidu**	**41.65**	**229**	P		**P**	**15 43 02.7**	**-1.3**
	baz=42,SNR=4.6							
MUN	**Mundaring**	**42.70**	**227**	P		**P**	**15 43 10.7**	**-2.0**
	baz=43,SNR=8.7							
JNU	**Nakatsue**	**43.27**	**334**	P		**P**	**15 43 17.0**	**-0.2**
	comp=Z,15nm,1.0s,baz=174,slow=18,SNR=2.6							
MJAR	**Matsushiro Arr**	**43.69**	**344**	P		**P**	**15 43 19.4**	**-1.1**
	comp=Z,4.5nm,0.9s,baz=162,slow=11,SNR=6.0							
MJAR				PcP		**PcP**	**15 45 07.0**	**0.0**
	comp=Z,9.5nm,1.0s,baz=157,slow=5.5,SNR=5.8							
MJAR				LR		LR	16 00 09.0	
	comp=Z,521nm,21.3s,baz=180,slow=34							
MJAR	**Matsushiro Arr**	**43.69**	**344**	P		**P**	**15 43 21.0**	**+0.5**
MJAR							15 45 07.1	
MJAR				pmax		pmax		
	comp=Z,5.0nm,1.0s							
MJAR	**Matsushiro Arr**	**43.69**	**344**	P		**P**	**15 43 21.0**	**+0.5**
MAT	**Matsushiro**	**43.69**	**344**	P		**P**	**15 43 18.8**	**-1.7**
MAT				*e*S		**S**	**15 49 50.2**	**+2.7**
JHS	**Saijyo**	**43.97**	**337**	P		**P**	**15 43 22.4**	**-0.4**
CISI	**Cisompet, Garu**	**44.02**	**265**	P		**P**	**15 43 22.1**	**-1.5**
QZH	**Quanzhou**	**44.38**	**314**	P		**P**	**15 43 28.3**	**+2.1**
QZH				LR		LR		
	comp=Z,950nm,15.0s							
JSD	**Sado**	**45.08**	**345**	P		**P**	**15 43 32.0**	**+0.5**
JSD				IAmb		IAmb	15 43 42.2	
	comp=Z,141nm,1.4s							
JTM	**Tenmabayashi**	**47.05**	**349**	P		**P**	**15 43 47.9**	**+0.8**
QIZ	**Qiongzhong**	**48.16**	**301**	P		**P**	**15 43 57.3**	**+1.3**
QIZ				S		**S**	**15 50 55.3**	**+3.1**
QIZ				sS		**sS**	**15 51 16.0**	**+2.6**
QIZ				pmax		pmax		
	comp=Z,27nm,1.2s							
QIZ				pmax		pmax		
	comp=Z,180nm,8.8s							
QIZ				LR		LR		
	comp=Z,370nm,23.5s							
QIZ				LR		LR		
	comp=Z,520nm,19.1s							
QIZ				LR		LR		
	comp=Z,720nm,20.6s							
KSRS	**Korea Array**	**48.21**	**334**	P		**P**	**15 43 55.8**	**-0.3**
	comp=Z,4.2nm,1.0s,baz=157,slow=9.0,SNR=9.7							
KSRS				PcP		**PcP**	**15 45 23.8**	**+1.0**
	comp=Z,3.5nm,1.0s,baz=191,slow=1.3,SNR=6.2							
KSRS				LR		LR	16 03 10.6	
	comp=Z,208nm,19.7s,baz=196,slow=35							
KSAR	**Wonju Array Be**	**48.22**	**334**	P		**P**	**15 43 55.6**	**-0.5**
KSAR	**Wonju Array Be**	**48.22**	**334**	P		**P**	**15 43 55.6**	**-0.5**
NJ2	**Nanjing**	**48.86**	**322**	*e*P		**P**	**15 44 02.5**	**+1.3**
NJ2				pmax		pmax		
	comp=Z,5.0nm,0.5s							
ASAJ	**Asahikawa**	**50.02**	**351**	P		**P**	**15 44 12.0**	**+2.2**
	comp=Z,12nm,1.0s,baz=172,slow=10,SNR=1.7							
UBPT	**Khong Chiam**	**50.53**	**295**	P		**P**	**15 44 16.4**	**+2.2**
	comp=Z,11nm,1.1s							
UBPT	**Khong Chiam**	**50.53**	**295**	P		**P**	**15 44 16.4**	**+2.2**
	comp=Z,11nm,1.1s							
USA0B	**Ussuriysk Arra**	**52.58**	**342**	P		**P**	**15 44 28.4**	**-0.6**
USA0B				pmax		pmax		
	comp=Z,21nm,1.3s							
USA0B	**Ussuriysk Arra**	**52.58**	**342**	P		**P**	**15 44 28.4**	**-0.6**
USRK	**Ussuriysk Ar.**	**52.58**	**342**	P		**P**	**15 44 29.1**	**+0.1**
	comp=Z,5.8nm,1.0s,baz=180,slow=9.7,SNR=6.9							
USRK				LR		LR	16 05 28.7	
	comp=Z,196nm,19.3s,baz=150,slow=34							
USRK	**Ussuriysk Ar.**	**52.58**	**342**	P		**P**	**15 44 28.2**	**-0.8**
USRK	**Ussuriysk Ar.**	**52.58**	**342**	P		**P**	**15 44 28.2**	**-0.8**
PSI	**Prapat**	**53.72**	**277**	P		**P**	**15 44 37.7**	**-0.4**
TRTT	**Trang**	**53.88**	**284**	P		**P**	**15 44 40.1**	**+1.0**
	comp=Z,16nm,1.4s							
TRTT	**Trang**	**53.88**	**284**	P		**P**	**15 44 40.2**	**+1.0**
	comp=Z,16nm,1.4s							
CHAI	**Chaiyaphum**	**53.90**	**294**	P		**P**	**15 44 40.4**	**+1.2**
	comp=Z,25nm,1.0s							
ENH	**Enshi**	**54.04**	**314**	P		**P**	**15 44 39.2**	**-0.8**
ENH				IAmb		IAmb	15 44 42.0	
	comp=Z,80nm,1.2s							
GYA	**Guiyang**	**54.19**	**308**⇓	*i* P		**P**	**15 44 42.5**	**+1.2**
GYA				sP		sP	15 45 03.5	+3.9
GYA				pmax		pmax		
	comp=Z,21nm,1.0s							
GYA				LR		LR		
	comp=Z,1μm,20.3s							
SURA	**Surathani**	**54.24**	**285**	P		**P**	**15 44 44.1**	**+2.4**
	comp=Z,16nm,1.4s							
SURA	**Surathani**	**54.24**	**285**	P		**P**	**15 44 44.2**	**+2.4**
	comp=Z,15nm,1.4s							
CN2	**Changchun**	**54.55**	**337**	*e*P		**P**	**15 44 43.8**	**+0.4**
CN2				S		**S**	**15 52 17.3**	**-2.3**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.8s							
CN2				LR		LR		
	comp=Z,400nm,15.0s							
CN2				LR		LR		
	comp=Z,400nm,15.0s							
CN2				LR		LR		
	comp=Z,800nm,19.0s							
GSI	**Gunungsitoli**	**54.84**	**275**	P		**P**	**15 44 43.5**	**-2.7**
GSI				IAmb		IAmb	15 44 46.1	
	comp=Z,38nm,1.2s							
PKDT	**Phuket**	**55.21**	**283**	P		**P**	**15 44 50.0**	**+1.2**
	comp=Z,16nm,1.1s							
PKDT	**Phuket**	**55.21**	**283**	P		**P**	**15 44 50.0**	**+1.2**
	comp=Z,16nm,1.1s							
PHIT	**Phitsanulok**	**55.74**	**295**	P		**P**	**15 44 54.4**	**+1.9**
	comp=Z,54nm,0.9s							
PHIT	**Phitsanulok**	**55.74**	**295**	P		**P**	**15 44 54.4**	**+1.9**
	comp=Z,13nm,0.9s							
UTTA	**Uttaradit**	**55.80**	**296**	P		**P**	**15 44 53.7**	**+0.8**
	comp=Z,264nmcomp=Z,28nm,1.1s							
UTTA	**Uttaradit**	**55.80**	**296**	P		**P**	**15 44 53.8**	**+0.8**
	comp=Z,66nmcomp=Z,6.9nm,1.1s							
BJI	**Beijing**	**55.99**	**327**	P		**P**	**15 44 54.0**	**+0.1**
BJI				pP		**pP**	**15 45 05.3**	**-1.5**
BJI				sP		**sP**	**15 45 13.8**	**+1.7**
BJI				sS		**sS**	**15 53 03.8**	**+3.5**
BJI				pmax		pmax		
	comp=Z,11nm,1.6s							
BJI				LR		LR		
	comp=Z,490nm,18.8s							
BJI				LR		LR		
	comp=Z,680nm,19.5s							
NANT	**Nan**	**56.03**	**297**	P		**P**	**15 44 55.8**	**+1.3**
	comp=Z,50nm,1.2s							
NANT	**Nan**	**56.03**	**297**	P		**P**	**15 44 55.9**	**+1.3**
	comp=Z,12nm,1.2s							
SRDT	**SRDT**	**56.06**	**291**	P		**P**	**15 44 56.7**	**+1.9**
	comp=Z,46nm,1.5s							
SRDT	**SRDT**	**56.06**	**291**	P		**P**	**15 44 56.7**	**+1.9**
	comp=Z,46nm,1.5s							
SRDT	**SRDT**	**56.06**	**291**	P		**P**	**15 44 55.6**	**+0.8**
	comp=Z,44nm,1.5s							
UTHA	**Uthaitani**	**56.12**	**293**	P		**P**	**15 44 57.0**	**+1.8**
	comp=Z,264nmcomp=Z,23nm,0.9s							
UTHA	**Uthaitani**	**56.12**	**293**	P		**P**	**15 44 57.1**	**+1.8**
	comp=Z,66nmcomp=Z,5.6nm,0.9s							
SUKH	**Sukhothai**	**56.55**	**295**	P		**P**	**15 44 59.6**	**+1.4**
	comp=Z,224nmcomp=Z,27nm,1.1s							
SUKH	**Sukhothai**	**56.55**	**295**	P		**P**	**15 44 59.7**	**+1.4**
	comp=Z,56nmcomp=Z,6.8nm,1.1s							
XAN	**Xi'an**	**56.56**	**317**	P		**P**	**15 44 58.3**	**+0.1**
XAN				pP		sP	15 45 15.0	-1.5
XAN				pmax		pmax		
	comp=Z,24nm,1.3s							
XAN				pmax		pmax		
	comp=Z,250nm,5.3s							
XAN				LR		LR		
	comp=Z,610nm,19.0s							
XAN				LR		LR		
	comp=Z,550nm,21.5s							
XAN				LR		LR		
	comp=Z,810nm,22.1s							
KMI	**Kunming**	**56.73**	**305**	⇓P		**P**	**15 45 01.3**	**+1.6**
KMI				pmax		pmax		
	comp=Z,39nm,1.2s							
KMI				LR		LR		
	comp=Z,430nm,19.2s							
KMI				LR		LR		
	comp=Z,470nm,22.0s							
UMPA	**Umpang Tak**	**56.85**	**293**	P		**P**	**15 45 03.0**	**+2.5**
	comp=Z,590nmcomp=Z,25nm,1.1s							
UMPA	**Umpang Tak**	**56.85**	**293**	P		**P**	**15 45 03.0**	**+2.5**
	comp=Z,146nmcomp=Z,6.3nm,1.1s							
LAMP	**Lampang**	**56.89**	**296**	P		**P**	**15 45 02.9**	**+2.3**
	comp=Z,387nmcomp=Z,34nm,1.2s							
LAMP	**Lampang**	**56.89**	**296**	P		**P**	**15 45 03.0**	**+2.3**
	comp=Z,96nmcomp=Z,8.6nm,1.2s							
PAYA	**Payao**	**56.96**	**297**	P		**P**	**15 45 02.1**	**+0.9**
	comp=Z,407nmcomp=Z,39nm,1.2s							
PAYA	**Payao**	**56.96**	**297**	P		**P**	**15 45 02.2**	**+1.0**
	comp=Z,102nmcomp=Z,9.8nm,1.2s							
KLR	**Kul'dur**	**57.21**	**344**	*i* P		**P**	**15 45 01.6**	**-0.8**
KLR				pmax		pmax		
	comp=Z,17nm,1.6s							
CM36	**Chiang Mai Arr**	**57.36**	**296**	P		**P**	**15 45 05.0**	**+0.9**
CM35	**Chiang Mai Arr**	**57.37**	**296**	P		**P**	**15 45 04.0**	**-0.1**
CM34	**Chiang Mai Arr**	**57.43**	**296**	P		**P**	**15 45 05.0**	**+0.5**
CM04	**Chiang Mai Arr**	**57.43**	**296**	P		**P**	**15 45 06.0**	**+1.5**
	comp=Z,229nmcomp=Z,20nm,1.2s							
CM04	**Chiang Mai Arr**	**57.43**	**296**	P		**P**	**15 45 06.0**	**+1.5**
	comp=Z,229nmcomp=Z,20nm,1.2s							
CM09	**Chiang Mai Arr**	**57.43**	**296**	P		**P**	**15 45 06.1**	**+1.5**
	comp=Z,195nmcomp=Z,19nm,1.1s							
CM09	**Chiang Mai Arr**	**57.43**	**296**	P		**P**	**15 45 06.2**	**+1.5**
	comp=Z,195nmcomp=Z,19nm,1.1s							
CM01	**Chiang Mai Arr**	**57.45**	**296**	P		**P**	**15 45 05.8**	**+1.1**
	comp=Z,227nmcomp=Z,23nm,1.1s							
CM01	**Chiang Mai Arr**	**57.45**	**296**	P		**P**	**15 45 05.8**	**+1.1**
	comp=Z,227nmcomp=Z,23nm,1.1s							
CM05	**Chiang Mai Arr**	**57.46**	**296**	P		**P**	**15 45 06.2**	**+1.5**
	comp=Z,162nmcomp=Z,17nm,1.1s							
CM05	**Chiang Mai Arr**	**57.46**	**296**	P		**P**	**15 45 06.3**	**+1.5**
	comp=Z,162nmcomp=Z,17nm,1.1s							
CM02	**Chiang Mai Arr**	**57.47**	**296**	P		**P**	**15 45 05.9**	**+1.1**
	comp=Z,204nmcomp=Z,22nm,1.1s							
CM02	**Chiang Mai Arr**	**57.47**	**296**	P		**P**	**15 45 06.0**	**+1.1**
	comp=Z,204nmcomp=Z,22nm,1.1s							
CM31	**Chiang Mai Arr**	**57.48**	**296**	P		**P**	**15 45 06.0**	**+1.1**
	comp=Z,5μmcomp=Z,440nm,1.4s							
CM31	**Chiang Mai Arr**	**57.48**	**296**	P		**P**	**15 45 02.8**	**-2.1**
CM31				IAmb		IAmb	15 45 07.8	
	comp=Z,72nm,1.4s							
CMAR	**Chiang Mai Arr**	**57.48**	**296**	P		**P**	**15 45 05.5**	**+0.6**
	comp=Z,14nm,1.0s,baz=116,slow=5.0,SNR=57							
CMAR				ScP		**ScP**	**15 49 57.4**	**+2.7**
	comp=Z,1.1nm,0.9s,baz=90,slow=1.8,SNR=4.2							
CMAR				LR		LR	16 10 12.6	
	comp=Z,250nm,18.3s,baz=157,slow=36							
CMAR	**Chiang Mai Arr**	**57.48**	**296**	P		**P**	**15 45 03.4**	**-1.5**
CMAR	**Chiang Mai Arr**	**57.48**	**296**	P		**P**	**15 45 03.4**	**-1.5**
CM15	**Chiang Mai Arr**	**57.50**	**296**	P		**P**	**15 45 06.2**	**+1.2**
	comp=Z,196nmcomp=Z,18nm,1.0s							
CM15	**Chiang Mai Arr**	**57.50**	**296**	P		**P**	**15 45 06.0**	**+1.0**
	comp=Z,196nmcomp=Z,18nm,1.0s							
CM13	**Chiang Mai Arr**	**57.50**	**296**	P		**P**	**15 45 06.0**	**+1.0**
	comp=Z,166nmcomp=Z,20nm,1.1s							
CM13	**Chiang Mai Arr**	**57.50**	**296**	P		**P**	**15 45 06.0**	**+1.0**
	comp=Z,166nmcomp=Z,20nm,1.1s							
CMMT	**Chiang Mai**	**57.59**	**296**	P		**P**	**15 45 06.0**	**+0.3**
	comp=Z,30nm,1.4s							
CMMT	**Chiang Mai**	**57.59**	**296**	P		**P**	**15 45 06.0**	**+0.3**
	comp=Z,30nm,1.4s							
CMMT	**Chiang Mai**	**57.59**	**296**	P		**P**	**15 45 06.2**	**+0.5**
	comp=Z,29nm,1.4s							
CM33	**Chiang Mai Arr**	**57.60**	**296**	P		**P**	**15 45 06.0**	**+0.3**
CHTO	**Chiang Mai**	**57.60**	**296**	P		**P**	**15 45 04.9**	**-0.8**
CHTO				pmax		pmax		
	comp=Z,50nm,1.3s							
CHTO	**Chiang Mai**	**57.60**	**296**	P		**P**	**15 45 06.2**	**+0.5**
	comp=Z,31nm,1.4s							
CHTO	**Chiang Mai**	**57.60**	**296**	P		**P**	**15 45 04.8**	**-0.8**
CHTO				IAmb		IAmb	15 45 08.2	
	comp=Z,50nm,1.3s							
CHTO	**Chiang Mai**	**57.60**	**296**	P		**P**	**15 45 05.8**	**+0.1**
	comp=Z,17nm,1.4s							
CM32	**Chiang Mai Arr**	**57.63**	**296**	P		**P**	**15 45 07.0**	**+1.0**
PPT2	**Papeete2**	**58.24**	**107**	*e*S		**S**	**15 53 09.3**	**-0.2**

NIKH	**Nikolski High**	**66.85**	**24**	P	**P**	**15 46 06.9**	**-0.1**		
	baz=223								
TAOE	**Nuku Hiva Isla**	**67.27**	**97**	*e*S	**S**	**15 55 04.2**	**+1.2**		
	comp=Z,905nm,39.5s								
TAOE	**Nuku Hiva Isla**	**67.27**	**97**	*e*LR	LR	16 06 23.9			
	comp=Z,249nm,22.5s								
LSA	**Lhasa**	**67.98**	**305**	P	**P**	**15 46 15.8**	**+0.5**		
LSA				LR	LR				
	comp=Z,540nm,24.9s								
LSA				LR	LR				
	comp=Z,390nm,15.5s								
LSA	**Lhasa**	**67.98**	**305**	P	**P**	**15 46 14.5**	**-0.8**		
LSA				pmax	pmax				
	comp=Z,34nm,1.1s								
LSA	**Lhasa**	**67.98**	**305**	P	**P**	**15 46 14.5**	**-0.8**		
LSA				IAmb	IAmb	15 46 17.0			
	comp=Z,34nm,1.1s								
UNV	**Unalaska Valle**	**68.46**	**25**	P	**P**	**15 46 17.2**	**+0.1**		
UNV				IAmb	IAmb	15 46 43.5			
	comp=Z,40nm,1.1s								
UNV	**Unalaska Valle**	**68.46**	**25**	P	**P**	**15 46 16.5**	**-0.6**		
	baz=225								
YAK	**Yakutsk**	**69.41**	**349**	*e*P	**P**	**15 46 23.4**	**+0.5**		
YAK				*e**PP	**PcP**	**15 46 44.6**	**-1.4**		
YAK				*e*		15 48 57.7			
YAK				*e*S	**S**	**15 55 25.8**	**-0.7**		
YAK				*e**SS	**SKiKP**	**15 56 03.2**	**-5.2**		
YAK				*e*		15 56 19.8			
YAK				*e*SS	**SS**	**15 59 55.2**	**+0.6**		
YAK				pmax	pmax				
	comp=Z,15nm,1.6s								
YAK				pmax	pmax				
	comp=N,5.0nm,1.7s								
YAK				pmax	pmax				
	comp=E,4.0nm,1.3s								
YAK				pmax	pmax				
	comp=Z,212nm,3.8s								
YAK				pmax	pmax				
	comp=E,114nm,3.3s								
YAK				pmax	pmax				
	comp=N,114nm,3.2s								
YAK				smax	smax				
	comp=N,101nm,2.5s								
YAK				smax	smax				
	comp=E,45nm,2.0s								
SPIA	**Saint Paul Isl**	**69.46**	**21**	P	**P**	**15 46 21.2**	**-2.1**		
	baz=220								
ZAK	**Zakamensk**	**69.63**	**329**	*e*P	**P**	**15 46 23.5**	**-1.1**		
ZAK				pmax	pmax				
	comp=Z,42nm,1.2s								
TAPN	**Taplejung**	**70.10**	**301**	*e*P	**P**	**15 46 28.0**	**-0.3**		
	comp=Z,72nm,1.0s								
ODAN	**Odare**	**70.23**	**301**	*e*P	**P**	**15 46 28.8**	**-0.2**		
	comp=Z,92nm,1.0s								
BOK	**Bokaro**	**70.69**	**297**	*e*P	**P**	**15 46 31.6**	**+0.1**		
JIRN	**Jiri**	**71.48**	**301**	*e*P	**P**	**15 46 36.4**	**-0.3**		
	comp=Z,70nm,1.2s								
MOY	**Mondy**	**71.55**	**329**	*e*P	**P**	**15 46 36.5**	**+0.2**		
MOY				pmax	pmax				
	comp=Z,39nm,1.3s								
PKI	**Pulchoki**	**72.12**	**301**	*e*P	**P**	**15 46 39.9**	**-0.6**		
	comp=Z,85nm,1.1s								
PKIN	**Phulchoki**	**72.13**	**301**	*e*P	**P**	**15 46 40.0**	**-0.5**		
	comp=Z,66nm,1.1s								
CHNA	**Chernabura Isl**	**72.13**	**27**	P	**P**	**15 46 39.0**	**-0.6**		
	baz=231								
VNDA	**Vanda**	**72.27**	**178**	P	**P**	**15 46 40.4**	**+0.3**		
	comp=Z,1.5nm,0.7s,baz=337,slow=5.5,SNR=6.6								
VNDA	**Vanda**	**72.27**	**178**	P	**P**	**15 46 40.4**	**+0.3**		
VNDA				pmax	pmax				
	comp=Z,10.0nm,1.2s								
VNDA	**Vanda**	**72.27**	**178**	P	**P**	**15 46 40.4**	**+0.3**		
KKN	**Kakani**	**72.29**	**301**	*e*P	**P**	**15 46 41.1**	**-0.3**		
DMN	**Daman**	**72.39**	**301**	*e*P	**P**	**15 46 41.9**	**-0.2**		
	comp=Z,163nm,1.0s								
GKN	**Gorkha**	**72.89**	**301**	*e*P	**P**	**15 46 44.5**	**-0.4**		
	comp=Z,174nm,1.1s								
KOLN	**Koldanda**	**73.72**	**301**	*e*P	**P**	**15 46 49.3**	**-0.6**		
	comp=Z,131nm,1.1s								
DANN	**Dangsing**	**73.73**	**301**	*e*P	**P**	**15 46 49.3**	**-0.7**		
	comp=Z,108nm,1.1s								
BILL	**Bilibino**	**73.95**	**6**	*i*P	**P**	**15 46 51.5**	**+1.4**		
BILL				pmax	pmax				
	comp=Z,8.0nm,1.0s								
PYUN	**Piuthan**	**74.32**	**301**	*e*P	**P**	**15 46 52.6**	**-0.8**		
	comp=Z,113nm,0.9s								
WMQ	**Urumqi**	**75.69**	**318**	P	**P**	**15 47 02.0**	**+1.2**		
WMQ				pP	PcP	15 47 10.3	-3.1		
WMQ				sP	sP	15 47 24.0	+4.4		
WMQ				pmax	pmax				
	comp=Z,33nm,1.3s								
WMQ				pmax	pmax				
	comp=Z,310nm,4.9s								
WMQ				LR	LR				
	comp=Z,340nm,15.7s								
WMQ				LR	LR				
	comp=Z,330nm,19.1s								
WMQ				LR	LR				
	comp=Z,320nm,21.7s								
HYB	**Hyderabad**	**76.01**	**289**	*i*P	**P**	**15 47 02.0**	**-1.1**		
OHAK	**Old Harbor**	**76.40**	**27**	P	**P**	**15 47 04.7**	**+0.4**		
OHAK				IAmb	IAmb	15 47 06.5			
	comp=Z,89nm,1.2s								
OHAK	**Old Harbor**	**76.40**	**27**	P	**P**	**15 47 05.4**	**+1.0**		
	baz=237								
ANM	**Nome**	**76.55**	**17**	P	**P**	**15 47 06.0**	**+0.8**		
	baz=224								
KDAK	**Kodiak Island**	**77.03**	**27**	P	**P**	**15 47 08.3**	**+0.4**		
	comp=Z,26nm,1.0s,baz=132,slow=5.2,SNR=4.3								
KDAK	**Kodiak Island**	**77.03**	**27**	P	**P**	**15 47 08.3**	**+0.4**		
KDAK				pmax	pmax				
	comp=Z,91nm,1.5s								
KDAK	**Kodiak Island**	**77.03**	**27**	IAmb	IAmb	15 47 13.5			
	comp=Z,91nm,1.4s								
KDAK	**Kodiak Island**	**77.03**	**27**	P	**P**	**15 47 08.3**	**+0.4**		
	baz=237								
Q19K	**Cape Douglas,**	**77.19**	**26**	P	**P**	**15 47 08.9**	**+0.1**		
Q19K	**Cape Douglas,**	**77.19**	**26**	P	**P**	**15 47 08.7**	**-0.2**		
	baz=236								
O19K	**Port Alsworth**	**77.63**	**24**	P	**P**	**15 47 10.6**	**-0.6**		
O19K				IAmb	IAmb	15 47 13.1			
	comp=Z,28nm,0.9s								
O19K	**Port Alsworth**	**77.63**	**24**	P	**P**	**15 47 11.1**	**-0.1**		
	baz=235								
SVW2	**Sparrevohn**	**77.65**	**23**	P	**P**	**15 47 12.0**	**+0.6**		
SVW2				IAmb	IAmb	15 47 13.9			
	comp=Z,46nm,1.1s								
P19K	**Oil Pt**	**77.77**	**25**	P	**P**	**15 47 12.4**	**+0.3**		
P19K	**Oil Pt**	**77.77**	**25**	P	**P**	**15 47 12.0**	**-0.1**		
	baz=236								
N19K	**Bonanza Creek**	**77.92**	**24**	P	**P**	**15 47 12.8**	**-0.2**		
N19K				IAmb	IAmb	15 47 14.8			
	comp=Z,47nm,1.1s								
N19K	**Bonanza Creek**	**77.92**	**24**	P	**P**	**15 47 13.5**	**+0.5**		
	baz=235,SNR=5.5								
DGZ	**Jazzator, Alta**	**78.12**	**323**	*i*P	**P**	**15 47 14.1**	**-0.3**		
DGZ				pmax	pmax				
	comp=Z,20nm,1.1s								
BHPL	**Bhopal**	**78.13**	**295**	*e*P	**P**	**15 47 14.0**	**-0.9**		
BHPL				IAmb	IAmb	15 47 15.2			
	comp=Z,12nm,0.7s								
O20K	**Slope Mountain**	**78.27**	**25**	P	**P**	**15 47 14.9**	**0.0**		
	baz=237								
HOM	**Homer**	**78.45**	**26**	P	**P**	**15 47 16.4**	**+0.5**		
HOM	**Homer**	**78.45**	**26**	P	**P**	**15 47 15.9**	**+0.1**		
	baz=238								
CNPM	**China Poot**	**78.56**	**26**	P	**P**	**15 47 16.6**	**+0.1**		
L19K	**White Mountain**	**78.57**	**22**	P	**P**	**15 47 16.9**	**+0.4**		
L19K	**White Mountain**	**78.57**	**22**	P	**P**	**15 47 17.4**	**+0.9**		
	baz=234,SNR=26								
M19K	**Big River Lodg**	**78.58**	**23**	P	**P**	**15 47 17.0**	**+0.5**		
M19K				IAmb	IAmb	15 47 19.2			
	comp=Z,85nm,1.2s								
M19K	**Big River Lodg**	**78.58**	**23**	P	**P**	**15 47 18.0**	**+1.4**		
	baz=235,SNR=15								
BRLK	**Bradley Lake**	**78.83**	**26**	P	**P**	**15 47 17.9**	**-0.1**		
BRLK				IAmb	IAmb	15 47 20.4			
	comp=Z,62nm,1.0s								
ZSN	**Zaisan**	**78.86**	**320**	*e*P	**P**	**15 47 18.1**	**-0.4**		
	baz=320								
ZSN	**Zaisan**	**78.86**	**320**	*e*P	**P**	**15 47 18.0**	**-0.4**		
BRSE	**Bradley Lake S**	**78.89**	**26**	P	**P**	**15 47 18.6**	**+0.3**		
	baz=236								
L20K	**Farewell, AK**	**79.11**	**23**	P	**P**	**15 47 20.2**	**+0.8**		
	baz=235,SNR=17								
K20K	**Telida**	**79.55**	**22**	P	**P**	**15 47 22.6**	**+0.8**		
K20K				IAmb	IAmb	15 47 24.2			
	comp=Z,86nm,1.2s								
K20K	**Telida**	**79.55**	**22**	P	**P**	**15 47 22.9**	**+1.1**		
	baz=235,SNR=21								
SEW	**Seward**	**79.63**	**26**	P	**P**	**15 47 22.7**	**+0.5**		
SEW	**Seward**	**79.63**	**26**	P	**P**	**15 47 22.5**	**+0.3**		
	baz=240,SNR=9.8								
O22K	**Cooper Landing**	**79.70**	**25**	P	**P**	**15 47 23.0**	**+0.4**		
O22K	**Cooper Landing**	**79.70**	**25**	P	**P**	**15 47 22.6**	**0.0**		
	baz=239								
SKT	**Skwentna**	**79.75**	**24**	P	**P**	**15 47 21.7**	**-1.2**		
SKT	**Skwentna**	**79.75**	**24**	P	**P**	**15 47 21.9**	**-1.0**		
	baz=237,SNR=5.5								
SUA	**Susitna One**	**79.79**	**24**	P	**P**	**15 47 22.7**	**-0.5**		
SUA				IAmb	IAmb	15 47 29.9			
	comp=Z,63nm,1.2s								
SMLA	**Simla**	**79.97**	**303**	*e*P	**P**	**15 47 23.9**	**-0.8**		
SMLA				IAmb	IAmb	15 47 28.1			
	comp=Z,55nm,1.6s								
PPLA	**Purkeypile**	**79.99**	**23**	P	**P**	**15 47 24.0**	**-0.4**		
PPLA				IAmb	IAmb	15 47 29.2			
	comp=Z,60nm,1.2s								
PPLA	**Purkeypile**	**79.99**	**23**	P	**P**	**15 47 25.1**	**+0.7**		
	baz=237								
J20K	**Nowinta River**	**79.99**	**21**	P	**P**	**15 47 24.9**	**+0.7**		
J20K	**Nowinta River**	**79.99**	**21**	P	**P**	**15 47 25.3**	**+1.1**		
	baz=235,SNR=43								
RC01	**Rabbit Creek A**	**80.01**	**25**	P	**P**	**15 47 24.6**	**+0.2**		
RC01	**Rabbit Creek A**	**80.01**	**25**	P	**P**	**15 47 24.5**	**+0.2**		
	baz=239								
MK31	**Makanchi Array**	**80.30**	**319**	P	**P**	**15 47 25.6**	**-0.7**		
MK31				pmax	pmax				
	comp=Z,17nm,1.2s								
MK31	**Makanchi Array**	**80.30**	**319**	P	**P**	**15 47 25.6**	**-0.7**		
MKAR	**Makanchi Array**	**80.30**	**319**	P	**P**	**15 47 25.8**	**-0.5**		
	comp=Z,12nm,1.0s,baz=101,slow=6.5,SNR=42								
MKAR				LR	LR	16 21 28.7			
	comp=Z,395nm,21.1s,baz=55,slow=34								
CAST	**Castle Rocks**	**80.32**	**22**	P	**P**	**15 47 26.0**	**+0.1**		
CAST				IAmb	IAmb	15 47 27.1			
	comp=Z,58nm,1.0s								
CAST	**Castle Rocks**	**80.32**	**22**	P	**P**	**15 47 25.7**	**-0.3**		
	baz=237,SNR=8.7								
CUT	**Chulitna**	**80.48**	**24**	P	**P**	**15 47 26.0**	**-0.8**		
CUT	**Chulitna**	**80.48**	**24**	P	**P**	**15 47 26.1**	**-0.6**		
	baz=239,SNR=6.8								
PWL	**Port Wells**	**80.49**	**25**	P	**P**	**15 47 26.8**	**-0.1**		
CHUM	**Lake Minchumin**	**80.49**	**22**	P	**P**	**15 47 27.6**	**+0.7**		
	baz=236,SNR=26								
MAKZ	**Makanchi**	**80.51**	**319**	P	**P**	**15 47 26.5**	**-0.8**		
MAKZ				pmax	pmax				
	comp=Z,30nm,1.2s								
MAKZ	**Makanchi**	**80.51**	**319**	P	**P**	**15 47 26.5**	**-0.8**		
PMR	**Palmer**	**80.52**	**24**	P	**P**	**15 47 26.8**	**-0.2**		
PMR				pmax	pmax				
	comp=Z,90nm,1.2s								
PMR	**Palmer**	**80.52**	**24**	P	**P**	**15 47 26.8**	**-0.2**		
PMR				IAmb	IAmb	15 47 28.9			
	comp=Z,90nm,1.2s								
PMR	**Palmer**	**80.52**	**24**	P	**P**	**15 47 26.9**	**-0.2**		
	baz=240,SNR=13								
KNK	**Knik Glacier**	**80.71**	**25**	P	**P**	**15 47 28.2**	**+0.1**		
KNK	**Knik Glacier**	**80.71**	**25**	P	**P**	**15 47 28.6**	**+0.5**		
	baz=240,SNR=9.3								
KTH	**Kantishna Hill**	**80.83**	**22**	P	**P**	**15 47 28.0**	**-0.8**		
KTH				IAmb	IAmb	15 47 29.5			
	comp=Z,68nm,1.1s								
DHRM	**DHARAMSHALA**	**80.93**	**304**	*e*P	**P**	**15 47 29.5**	**-0.7**		
DHRM				IAmb	IAmb	15 47 39.7			
	comp=Z,25nm,0.7s								
SML	**Sawmill**	**80.96**	**25**	P	**P**	**15 47 29.6**	**+0.2**		
SML	**Sawmill**	**80.96**	**25**	P	**P**	**15 47 29.8**	**+0.4**		
	baz=240,SNR=18								
TRF	**Thorofare Moun**	**81.02**	**23**	P	**P**	**15 47 29.0**	**-0.9**		
TRF				IAmb	IAmb	15 47 31.0			
	comp=Z,34nm,1.1s								
TRF	**Thorofare Moun**	**81.02**	**23**	P	**P**	**15 47 29.3**	**-0.6**		
	baz=238,SNR=7.8								
GLI	**Glacier Island**	**81.03**	**26**	P	**P**	**15 47 29.8**	**0.0**		
GLI	**Glacier Island**	**81.03**	**26**	P	**P**	**15 47 29.5**	**-0.3**		
	baz=242								
BPAW	**Bear Paw Mtn.**	**81.10**	**22**	P	**P**	**15 47 29.3**	**-0.8**		
BPAW				IAmb	IAmb	15 47 31.1			
	comp=Z,34nm,1.1s								
BPAW	**Bear Paw Mtn.**	**81.10**	**22**	P	**P**	**15 47 29.6**	**-0.6**		
	baz=238,SNR=12								
IMAR	**Indian Mountai**	**81.18**	**20**	P	**P**	**15 47 29.9**	**-0.6**		
FID	**Port Fidalgo**	**81.23**	**26**	P	**P**	**15 47 30.9**	**0.0**		
FID				IAmb	IAmb	15 47 33.0			
	comp=Z,83nm,1.0s								
ZAA0	**Zalesovo Array**	**81.25**	**327**	P	**P**	**15 47 29.4**	**-1.7**		
ZALV	**Zalesovo Beam**	**81.25**	**327**	P	**P**	**15 47 30.1**	**-0.9**		
	comp=Z,9.1nm,0.9s,baz=104,slow=6.3,SNR=24								
ZALV				LR	LR	16 23 09.5			
	comp=Z,388nm,20.1s,baz=105,slow=35								
ZALV	**Zalesovo Beam**	**81.25**	**327**	P	**P**	**15 47 29.4**	**-1.7**		
ZALV	**Zalesovo Beam**	**81.25**	**327**	P	**P**	**15 47 29.4**	**-1.7**		
H21K	**Melozitna Rive**	**81.31**	**20**	P	**P**	**15 47 31.2**	**0.0**		
H21K				IAmb	IAmb	15 47 33.4			
	comp=Z,40nm,1.3s								
H21K	**Melozitna Rive**	**81.31**	**20**	P	**P**	**15 47 31.5**	**+0.3**		
	baz=236,SNR=12								
I21K	**Tanana**	**81.33**	**21**	P	**P**	**15 47 31.3**	**0.0**		
I21K				IAmb	IAmb	15 47 33.6			
	comp=Z,88nm,1.2s								
I21K	**Tanana**	**81.33**	**21**	P	**P**	**15 47 32.1**	**+0.9**		
	baz=237,SNR=12								
WAT1	**Susitna Watana**	**81.38**	**24**	P	**P**	**15 47 31.2**	**-0.5**		
	baz=240								
SCM	**Sheep Creek Mo**	**81.39**	**25**	P	**P**	**15 47 31.9**	**+0.1**		
SCM				pmax	pmax				
	comp=Z,127nm,1.2s								
SCM	**Sheep Creek Mo**	**81.39**	**25**	P	**P**	**15 47 31.9**	**+0.1**		
UZB	**Uzynbulak**	**81.45**	**315**	*e*P	**P**	**15 47 32.4**	**-0.3**		
	comp=Z,17nm,1.2s,baz=315								
UZB	**Uzynbulak**	**81.45**	**315**	*e*P	**P**	**15 47 32.3**	**-0.3**		
UZB				pmax	pmax				
	comp=Z,17nm,1.2s								
EYAK	**Cordova Ski Ar**	**81.46**	**26**	P	**P**	**15 47 32.8**	**+0.8**		
	baz=243								
RND	**Reindeer**	**81.55**	**23**	P	**P**	**15 47 32.1**	**-0.5**		
RND				pmax	pmax				
	comp=Z,85nm,1.1s								
RND	**Reindeer**	**81.55**	**23**	P	**P**	**15 47 32.1**	**-0.5**		
WAT6	**Susitna Watana**	**81.58**	**24**	P	**P**	**15 47 32.8**	**-0.1**		
	baz=241,SNR=18								
MCK	**McKinley**	**81.68**	**23**	P	**P**	**15 47 32.8**	**-0.4**		
MCK				pmax	pmax				
	comp=Z,152nm,1.1s								
MCK	**McKinley**	**81.68**	**23**	P	**P**	**15 47 32.8**	**-0.4**		
MCK	**McKinley**	**81.68**	**23**	P	**P**	**15 47 32.8**	**-0.4**		
	baz=240,SNR=46								
BWN	**Browne**	**81.71**	**22**	P	**P**	**15 47 32.9**	**-0.4**		
DIV	**Divide**	**81.72**	**26**	P	**P**	**15 47 33.8**	**+0.3**		
KPKS	**Kokpek**	**81.77**	**315**	*e*P	**P**	**15 47 33.6**	**-0.7**		
	comp=Z,19nm,1.3s,baz=315								
KPKS	**Kokpek**	**81.77**	**315**	*e*P	**P**	**15 47 33.5**	**-0.7**		
KPKS				pmax	pmax				
	comp=Z,19nm,1.3s								
KAIM	**Kayak Island**	**81.78**	**27**	P	**P**	**15 47 34.4**	**+0.7**		
	baz=244								
KLU	**Klutina**	**81.82**	**25**	P	**P**	**15 47 34.6**	**+0.6**		
KLU	**Klutina**	**81.82**	**25**	P	**P**	**15 47 34.8**	**+0.8**		
	baz=243,SNR=19								
SATY	**Saty**	**81.86**	**315⇑**	*i*P	**P**	**15 47 34.4**	**-0.3**		
	comp=Z,11nm,1.4s,baz=315								
SATY	**Saty**	**81.86**	**315**	*c i*P	**P**	**15 47 34.4**	**-0.3**		
SATY				pmax	pmax				
	comp=Z,11nm,1.4s								
DHY	**Denali Highway**	**81.97**	**24**	P	**P**	**15 47 34.8**	**-0.1**		
DHY				IAmb	IAmb	15 47 36.5			
	comp=Z,69nm,1.1s								
DHY	**Denali Highway**	**81.97**	**24**	P	**P**	**15 47 34.9**	**0.0**		
	baz=241,SNR=13								
M24K	**Tolsona, Glenn**	**82.00**	**25**	P	**P**	**15 47 35.3**	**+0.3**		
M24K	**Tolsona, Glenn**	**82.00**	**25**	P	**P**	**15 47 36.1**	**+1.1**		
	baz=242,SNR=11								
NEA2	**Nenana**	**82.07**	**22**	P	**P**	**15 47 34.6**	**-0.6**		
NEA2				IAmb	IAmb	15 47 36.0			
	comp=Z,76nm,1.2s								
NEA2	**Nenana**	**82.07**	**22**	P	**P**	**15 47 34.6**	**-0.6**		
	baz=239,SNR=28								
BMRM	**Bremner River**	**82.15**	**26**	P	**P**	**15 47 35.8**	**+0.1**		
BMRM	**Bremner River**	**82.15**	**26**	P	**P**	**15 47 36.5**	**+0.7**		
	baz=244,SNR=10								
I23K	**Minto, Yukon-K**	**82.25**	**21**	P	**P**	**15 47 35.8**	**-0.4**		
I23K	**Minto, Yukon-K**	**82.25**	**21**	P	**P**	**15 47 36.3**	**+0.2**		
	baz=239,SNR=7.5								
TDK	**Taldyqorghan**	**82.37**	**317**	*e*P	**P**	**15 47 35.7**	**-1.5**		
	comp=Z,21nm,0.4s,baz=317								
TDK	**Taldyqorghan**	**82.37**	**317**	*e*P	**P**	**15 47 35.7**	**-1.5**		
TDK				pmax	pmax				
	comp=Z,21nm,0.4s								
BGLC	**Bering Glacier**	**82.37**	**27**	P	**P**	**15 47 36.7**	**-0.1**		
	baz=245								
WRH	**Wood River Hil**	**82.38**	**22**	P	**P**	**15 47 35.9**	**-0.9**		
N25K	**Chitina, Valde**	**82.44**	**26**	P	**P**	**15 47 37.6**	**+0.3**		
N25K	**Chitina, Valde**	**82.44**	**26**	P	**P**	**15 47 37.6**	**+0.3**		
	baz=244,SNR=7.4								
KDJ	**Kajisay**	**82.50**	**314**	P	**P**	**15 47 37.9**	**-0.3**		
KDJ				pmax	pmax				
	comp=Z,42nm,1.1s								
KDJ	**Kajisay**	**82.50**	**314**	P	**P**	**15 47 37.9**	**-0.3**		
KDJ				IAmb	IAmb	15 47 40.5			
	comp=Z,42nm,1.1s								
HARP	**HAARP**	**82.55**	**25**	P	**P**	**15 47 38.7**	**+0.8**		
	baz=243								
MDM	**Murphy Dome**	**82.57**	**22**	P	**P**	**15 47 36.4**	**-1.5**		
MDM				IAmb	IAmb	15 47 38.5			
	comp=Z,73nm,1.4s								
CCB	**Clear Creek Bu**	**82.57**	**22**	P	**P**	**15 47 36.5**	**-1.3**		
CCB				IAmb	IAmb	15 47 38.3			
	comp=Z,72nm,1.2s								
TCOL	**CIGO, UAF Yank**	**82.66**	**22**	P	**P**	**15 47 37.1**	**-1.1**		
TCOL	**CIGO, UAF Yank**	**82.66**	**22**	P	**P**	**15 47 37.6**	**-0.7**		
	baz=240,SNR=9.4								
COLA	**College**	**82.67**	**22**	P	**P**	**15 47 37.1**	**-1.2**		
COLA				pmax	pmax				
	comp=Z,74nm,1.1s								
COLA	**College**	**82.67**	**22**	P	**P**	**15 47 37.1**	**-1.2**		
COLA	**College**	**82.67**	**22**	P	**P**	**15 47 37.2**	**-1.0**		
	baz=240								
PAX	**Paxson**	**82.69**	**24**	P	**P**	**15 47 38.0**	**-0.6**		
PAX				pmax	pmax				
	comp=Z,31nm,1.1s								
PAX	**Paxson**	**82.69**	**24**	P	**P**	**15 47 38.0**	**-0.6**		
PAX				IAmb	IAmb	15 47 40.0			
	comp=Z,31nm,1.1s								
PAX	**Paxson**	**82.69**	**24**	P	**P**	**15 47 38.8**	**+0.2**		
	baz=243,SNR=10								
GLB	**Gilahina Butte**	**82.70**	**26**	P	**P**	**15 47 38.6**	**0.0**		
SEM	**Semipalatinsk**	**82.71**	**322**	*e*P	**P**	**15 47 36.4**	**-2.7**		
	baz=322								
SEM	**Semipalatinsk**	**82.71**	**322**	*e*P	**P**	**15 47 36.4**	**-2.7**		
CRQE	**Cirque**	**82.73**	**27**	P	**P**	**15 47 39.2**	**+0.3**		
	baz=245								
VRDI	**Verde Repeater**	**82.77**	**26**	P	**P**	**15 47 38.8**	**-0.4**		
KSH	**Kashi**	**82.78**	**311**	P	**P**	**15 47 41.3**	**+1.7**		
KSH				sP	sP	15 47 59.8	+1.2		
KSH				pmax	pmax				
	comp=Z,23nm,1.0s								
KSH				pmax	pmax				
	comp=Z,180nm,5.9s								
KSH				LR	LR				
	comp=Z,260nm,12.6s								
KSH				LR	LR				
	comp=Z,200nm,14.0s								
KSH				LR	LR				
	comp=Z,380nm,19.4s								
HDA	**Harding Lake**	**82.78**	**23**	P	**P**	**15 47 37.9**	**-1.0**		
HDA				IAmb	IAmb	15 47 39.7			
	comp=Z,42nm,1.4s								
HDA	**Harding Lake**	**82.78**	**23**	P	**P**	**15 47 38.3**	**-0.7**		
	baz=241,SNR=11								
MDOK	**Medeo**	**82.85**	**315**	*e*P	**P**	**15 47 39.4**	**-0.6**		
	baz=315								
MDOK	**Medeo**	**82.85**	**315**	*e*P	**P**	**15 47 39.3**	**-0.6**		
TNSS	**Tian-Shan**	**82.89**	**314**	*e*P	**P**	**15 47 40.7**	**+0.2**		
	baz=314								
POKR	**Poker Flat Res**	**82.94**	**22**	P	**P**	**15 47 38.7**	**-1.1**		
	baz=241								
AAA	**Alma-Ata**	**82.95**	**315**	*e*P	**P**	**15 47 39.3**	**-1.2**		
	baz=315								
AAA	**Alma-Ata**	**82.95**	**315**	*e*P	**P**	**15 47 39.2**	**-1.2**		
IL31		**82.98**	**22**	P	**P**	**15 47 38.4**	**-1.5**		
IL31				IAmb	IAmb	15 47 40.2			
	comp=Z,55nm,1.2s								
ILAR	**Eielson Array**	**82.98**	**22**	P	**P**	**15 47 39.5**	**-0.4**		
	comp=Z,22nm,0.9s,baz=254,slow=5.1,SNR=93								
ILAR				LR	LR	16 22 33.9			
	comp=Z,450nm,19.6s,baz=258,slow=34								
ILAR	**Eielson Array**	**82.98**	**22**	P	**P**	**15 47 38.4**	**-1.5**		
ILAR	**Eielson Array**	**82.98**	**22**	P	**P**	**15 47 38.4**	**-1.5**		
MESA	**MESA**	**83.01**	**27**	P	**P**	**15 47 40.4**	**-0.1**		
	baz=246								
MCARA	**McCarthy VSAT**	**83.02**	**26**	P	**P**	**15 47 40.1**	**-0.1**		
MCARA	**McCarthy VSAT**	**83.02**	**26**	P	**P**	**15 47 40.7**	**+0.5**		
	baz=245,SNR=9.5								
COLD	**Coldfoot**	**83.05**	**19**	P	**P**	**15 47 40.2**	**0.0**		
COLD				IAmb	IAmb	15 47 42.6			
	comp=Z,38nm,1.2s								
COLD	**Coldfoot**	**83.05**	**19**	P	**P**	**15 47 40.8**	**+0.5**		
	baz=238,SNR=11								
CHKK	**Chushkaly**	**83.06**	**315**	*e*P	**P**	**15 47 40.0**	**-0.9**		
	baz=315								
H24K	**Noodor Dome**	**83.13**	**21**	P	**P**	**15 47 39.9**	**-0.9**		
H24K	**Noodor Dome**	**83.13**	**21**	P	**P**	**15 47 40.4**	**-0.4**		
	baz=240,

BVCY	Beaver Creek	84.38	26	P		P		15 47 48.4	+1.2	
	baz=247									
CHMS	Chumysh	84.44	314	P		P		15 47 48.1	+0.1	
	SNR=19									
UCH	Uchtor	84.45	313	P		P		15 47 49.4	+0.9	
	SNR=35									
AAK	Ala-Archa	84.55	314	P		P		15 47 44.0	-4.7	
	SNR=5.2									
AAK	Ala-Archa	84.55	314	P		P		15 47 47.7	-1.0	
AAK				pmax		pmax				
	comp=Z,36nm,1.3s									
AAK	Ala-Archa	84.55	314	P		P		15 47 47.7	-1.0	
AAK				IAmb		IAmb		15 47 50.4		
	comp=Z,36nm,1.2s									
QSPA	South Pole Qui	84.57	180	P		P		15 47 47.6	-0.7	
SGDS	Sogindy	84.63	314	*e*P		P		15 47 48.0	-0.9	
	baz=314									
USP	Ospenovka	84.68	314	P		P		15 47 50.0	+0.8	
	SNR=11									
MAW	Mawson	84.75	203	LR		LR		16 22 30.0		
	comp=Z,501nm,21.4s,baz=70,slow=33									
MAW	Mawson	84.75	203	P		P		15 47 47.7	-1.2	
MAW				pmax		pmax				
	comp=Z,3.0nm,1.1s									
MAW	Mawson	84.75	203	P		P		15 47 47.7	-1.2	
YUK6	Outpost Mounta	84.94	27	P		P		15 47 51.1	+0.8	
	baz=250									
AML	Almayashu	85.03	313	P		P		15 47 52.1	+0.7	
	SNR=97									
BMAR	Burnt Mountain	85.05	20	P		P		15 47 51.1	+0.6	
EKS2	Erkin-Say	85.07	314	P		P		15 47 51.9	+0.7	
	SNR=49									
SIT	Sitka	85.15	32	P		P		15 47 52.4	+1.3	
	baz=252									
EGAK	Eagle	85.19	23	P		P		15 47 51.4	+0.2	
EGAK	Eagle	85.19	23	P		P		15 47 51.9	+0.7	
	baz=247									
HYT	Haines Junctio	85.29	28	P		P		15 47 53.1	+1.2	
HYT	Haines Junctio	85.29	28	P		P		15 47 53.4	+1.4	
	baz=250,SNR=21									
BTLS	Baital	85.38	316	*e*P		P		15 47 51.2	-1.5	
	comp=Z,35nm,1.5s,baz=316									
BTLS	Baital	85.38	316	*e*P		P		15 47 51.1	-1.5	
BTLS				pmax		pmax				
	comp=Z,35nm,1.5s									
DAWY	Dawson	85.62	24	P		P		15 47 54.4	+1.0	
	baz=248,SNR=22									
BESE	Bessie Mountai	85.85	30	P		P		15 47 55.4	+0.7	
CRAG	Craig	85.88	33	P		P		15 47 56.2	+1.4	
	baz=254									
SKAG	Skagway	85.88	29	P		P		15 47 56.2	+1.5	
	baz=252									
HG4B	Hotspring	86.17	37	P		P		15 47 57.1	+0.8	
HG4B				IAmb		IAmb		15 47 59.0		
	comp=Z,48nm,1.2s									
NRIK	Noril'sk	86.29	341	P		P		15 47 56.8	+0.3	
	comp=Z,3.7nm,0.5s,baz=101,slow=3.1,SNR=6.8									
NRIK				LR		LR		16 26 27.8		
	comp=Z,221nm,20.6s,baz=121,slow=36									
NRIK	Noril'sk	86.29	341	*ce*P		P		15 47 54.4	-2.1	
NRIK				pmax		pmax				
	comp=Z,21nm,1.3s									
WRAK	Wrangell Islan	86.55	33	P		P		15 47 59.2	+1.1	
	baz=255									
BTK	Batken	86.78	311	P		P		15 47 59.0	-0.7	
BTK				pmax		pmax				
	comp=Z,28nm,1.2s									
BTK	Batken	86.78	311	P		P		15 47 59.0	-0.7	
BTK				IAmb		IAmb		15 48 01.0		
	comp=Z,28nm,1.2s									
DZA	Taraz	86.89	313	*e*P		P		15 47 58.0	-2.1	
	baz=313									
DZA	Taraz	86.89	313	*e*P		P		15 47 58.0	-2.1	
MAYO	Mayo, Yukon	86.92	25	P		P		15 48 01.2	+1.5	
	baz=252									
GAR	Garm	86.98	309	P		P		15 47 59.9	-0.9	
GAR				IAmb		IAmb		15 48 01.7		
	comp=Z,35nm,1.3s									
RUBB	Prince Rupert	87.20	35	P		P		15 48 02.2	+1.0	
GRNB	Grenville Isla	87.26	35	P		P		15 48 01.4	-0.2	
GRNB				IAmb		IAmb		15 48 09.4		
	comp=Z,31nm,1.2s									
KBL	Kabul	87.31	305	P		P		15 48 00.9	-1.7	
KBL				pmax		pmax				
	comp=Z,9.0nm,1.1s									
KBL	Kabul	87.31	305	P		P		15 48 00.9	-1.7	
BRZS	Berezniki	87.31	321	*e*P		P		15 47 59.7	-2.3	
	baz=321									
BRZS	Berezniki	87.31	321	*e*P		P		15 47 59.7	-2.3	
EPYK	Eagle Plains	87.49	22	P		P		15 48 02.6	+0.1	
EPYK	Eagle Plains	87.49	22	P		P		15 48 03.2	+0.7	
	baz=251,SNR=27									
KK31	Karatay Array	87.51	314	P		P		15 48 02.3	-0.8	
KK31				pmax		pmax				
	comp=Z,27nm,1.2s									
KK31	Karatay Array	87.51	314	P		P		15 48 02.3	-0.8	
KK31				IAmb		IAmb		15 48 05.2		
	comp=Z,27nm,1.2s									
KKAR	Karatay Array	87.51	314	P		P		15 48 02.1	-1.1	
KKAR	Karatay Array	87.51	314	P		P		15 48 02.0	-1.1	
FARO	Faro, Yukon	87.62	27	P		P		15 48 04.1	+0.9	
	baz=254,SNR=13									
IUG	luzhnay	87.71	313	*i*P		P		15 48 03.7	-0.5	
	baz=312									
IUG	luzhnay	87.71	313	*c i*P		P		15 48 03.7	-0.5	
CHGR	Chuyangaron	87.82	309	P		P		15 48 03.9	-0.9	
CHGR				IAmb		IAmb		15 48 08.8		
	comp=Z,41nm,1.2s									
BBB	Bella Bella	88.00	37	P		P		15 48 07.0	+1.8	
	comp=Z,6.4nm,1.0s,baz=327,slow=4.0,SNR=5.2									
DLBC	Dease Lake	88.26	31	P		P		15 48 08.0	+1.6	
	comp=Z,60nm,1.1s,baz=245,slow=4.5,SNR=24									
DLBC	Dease Lake	88.26	31	P		P		15 48 06.7	+0.3	
MMPY	Sheldon Lake,	88.66	27	P		P		15 48 09.2	+1.0	
	baz=256,SNR=16									
INK	Inuvik	89.26	21	P		P		15 48 10.2	-0.6	
INK				pmax		pmax				
	comp=Z,41nm,1.2s									
INK	Inuvik	89.26	21	P		P		15 48 10.2	-0.6	
INK				IAmb		IAmb		15 48 12.2		
	comp=Z,41nm,1.2s									
INK	Inuvik	89.26	21	P		P		15 48 10.9	+0.1	
	baz=254									
J01E	Myrtle Point	89.28	47	P		P		15 48 12.0	+0.6	
	baz=262									
CBB	Campbell River	89.32	40	P		P		15 48 10.9	-0.6	
CBB				IAmb		IAmb		15 48 14.7		
	comp=Z,19nm,0.9s									
BRVK	Borovoye	89.35	323	*ce*P		P		15 48 10.6	-0.9	
BRVK				pmax		pmax				
	comp=Z,14nm,1.3s									
BRVK	Borovoye	89.35	323	P		P		15 48 09.8	-1.7	
L02E	Cave Junction	89.38	48	P		P		15 48 13.3	+1.4	
	baz=262									
K02D	Willamette Mer	89.41	47	P		P		15 48 12.9	+0.7	
	baz=262,SNR=5.5									
I02D	Swisshome	89.47	46	P		P		15 48 13.8	+1.5	
	baz=262									
O02D	Mt. Diablo Mer	89.73	50	P		P		15 48 15.1	+1.4	
	baz=263									
I03D	Drain, OR	89.77	46	P		P		15 48 14.6	+0.9	
	baz=262									
TGTN	Hyland Airport	89.78	28	P		P		15 48 14.6	+1.1	
	baz=258,SNR=9.3									
M02C	Callahan	89.83	49	P		P		15 48 15.8	+1.6	
	baz=263,SNR=6.3									
N02D	Trinity Center	89.89	49	P		P		15 48 15.8	+1.4	
	baz=263									
NLWA	Neilton Lookou	89.91	43	P		P		15 48 13.9	-0.4	
NLWA				IAmb		IAmb		15 48 17.2		
	comp=Z,19nm,1.1s									
YBH	Yreka Blue Hor	89.98	48	P		P		15 48 16.5	+1.6	
	comp=Z,13nm,1.1s,baz=158,slow=5.1,SNR=11									
E03A	Lebam	90.00	43	P		P		15 48 14.5	-0.2	
E03A				IAmb		IAmb		15 48 16.9		
	comp=Z,47nm,1.1s									
G03D	McMinnville, O	90.03	45	P		P		15 48 15.4	+0.5	
	baz=262									
B04A	Port Angeles	90.25	42	P		P		15 48 16.2	+0.4	
B04A				IAmb		IAmb		15 48 18.1		
	comp=Z,21nm,1.2s									
H04D	Lebanon	90.31	45	P		P		15 48 17.1	+0.9	
	baz=263									
F04D	Rainier, OR	90.32	44	P		P		15 48 17.4	+1.2	
	baz=263									
L04D	Klamath Falls	90.34	48	P		P		15 48 17.5	+0.9	
	baz=263,SNR=5.6									
I04A	Tendick Farm,	90.46	46	P		P		15 48 17.7	+0.7	
	baz=263,SNR=6.3									
O03E	Paynes Creek	90.49	50	P		P		15 48 17.9	+0.6	
	baz=263									
J04D	Umpqua Nationa	90.61	47	P		P		15 48 18.7	+0.8	
	baz=263,SNR=8.0									
M04C	Macdoel	90.64	48	P		P		15 48 18.7	+0.7	
	baz=263									
E04D	Cinebar	90.68	43	P		P		15 48 18.5	+0.6	
	baz=263									
F04A	Amboy	90.71	44	P		P		15 48 17.6	-0.4	
F04A				IAmb		IAmb		15 48 20.1		
	comp=Z,16nm,1.0s									
H04A	Detroit Lake	90.72	45	P		P		15 48 17.2	-1.0	
H04A				IAmb		IAmb		15 48 20.6		
	comp=Z,24nm,1.3s									
K04D	Chiloquin, OR	90.80	47	P		P		15 48 19.4	+0.7	
	baz=264									
A04D	Lummi Island	90.86	41	P		P		15 48 19.5	+0.9	
	baz=263,SNR=6.7									
B05A	Bryant	91.21	42	P		P		15 48 21.2	+1.0	
	baz=263									
J05D	Fort Rock, OR	91.25	47	P		P		15 48 22.0	+1.1	
	baz=264,SNR=28									
I05D	Terrebonne, OR	91.29	46	P		P		15 48 21.3	+0.4	
	baz=264									
F05D	White Salmon	91.37	44	P		P		15 48 21.9	+0.8	
	baz=264									
SMMC	Simmler	91.39	55	P		P		15 48 22.6	+1.1	
	baz=264									
G05D	Wamic, OR	91.40	45	P		P		15 48 22.0	+0.7	
	baz=264									
PKM	Mcpherson Peak	91.50	55	P		P		15 48 23.9	+1.7	
	baz=264									
PINE	Pine Mountain	91.51	46	P		P		15 48 22.1	0.0	
BEKR	Beckworth	91.55	50	P		P		15 48 22.4	+0.1	
BEKR				IAmb		IAmb		15 48 24.5		
	comp=Z,17nm,1.4s									
LLLB	Lillooet	91.61	39	P		P		15 48 22.1	-0.1	
MOD	Modoc Plateau	91.79	48	P		P		15 48 23.0	-0.4	
MOD				IAmb		IAmb		15 48 25.7		
	comp=Z,28nm,1.2s									
LTY	Liberty	92.05	43	P		P		15 48 24.0	-0.4	
LTY				IAmb		IAmb		15 48 26.0		
	comp=Z,14nm,1.2s									
PNTR	Pine Nut	92.06	51	P		P		15 48 24.6	-0.2	
PNTR				IAmb		IAmb		15 48 27.4		
	comp=Z,20nm,1.2s									
PAHR	Pah Rah Range	92.28	51	P		P		15 48 24.6	-1.1	
YERR	Yerington	92.33	51	P		P		15 48 25.2	-0.8	
YERR				IAmb		IAmb		15 48 28.4		
	comp=Z,15nm,1.2s									
MDPB	Devils Postpil	92.34	53	P		P		15 48 26.2	0.0	
MDPB				IAmb		IAmb		15 48 31.4		
	comp=Z,12nm,1.1s									
CIS	Catalina Islan	92.52	57	P		P		15 48 27.7	+0.9	
	baz=265									
E07A	Sunnyside	92.55	44	P		P		15 48 26.4	-0.2	
E07A				IAmb		IAmb		15 48 28.8		
	comp=Z,34nm,1.3s									
I07A	Izee	92.58	46	P		P		15 48 26.9	0.0	
I07A				IAmb		IAmb		15 48 29.1		
	comp=Z,36nm,1.2s									
ISA	Isabella, Lake	92.66	55	P		P		15 48 27.1	-0.3	
ISA				pmax		pmax				
	comp=Z,5.0nm,1.1s									
ISA	Isabella, Lake	92.66	55	P		P		15 48 27.1	-0.3	
ISA	Isabella, Lake	92.66	55	P		P		15 48 28.0	+0.5	
	baz=265									
HAWA	Hanford	92.75	44	P		P		15 48 27.8	+0.2	
HAWA				IAmb		IAmb		15 48 29.7		
	comp=Z,35nm,1.4s									
LHV	Little Huntoon	92.84	52	P		P		15 48 28.8	+0.7	
LHV				IAmb		IAmb		15 48 31.0		
	comp=Z,22nm,1.2s									
SYO	Syowa Base	92.87	199	‖ *e*P		P		15 48 28.2	+0.6	
SYO	Syowa Base	92.87	199	‖ *ep*P		pP		15 48 34.0	-6.3	
HRA	Herat	92.87	304	P		P		15 48 27.1	-1.6	
MWC	Mount Wilson	92.88	56	P		P		15 48 27.6	-1.0	
MWC	Mount Wilson	92.88	56	P		P		15 48 27.6	-1.0	
MWC				IAmb		IAmb		15 48 31.3		
	comp=Z,32nm,1.1s									
PNT	Penticton	92.94	41	P		P		15 48 24.6	-3.8	
PNT				pmax		pmax				
	comp=Z,20nm,1.2s									
TIN	Tinemaha, Big	92.97	53	P		P		15 48 30.3	+1.4	
	baz=266									
EDW2	Edwards Air Fo	92.99	55	P		P		15 48 30.2	+1.2	
	baz=266									
NVAR	Mina Array Bea	93.01	52	P		P		15 48 30.6	+1.4	
	comp=Z,6.5nm,0.9s,baz=257,slow=6.3,SNR=45									
NVAR				LR		LR		16 26 18.7		
	comp=Z,540nm,18.7s,baz=258,slow=33									
NVAR	Mina Array Bea	93.01	52	P		P		15 48 28.8	-0.4	
CWC	Cottonwood Cre	93.04	54	P		P		15 48 30.2	+0.9	
	baz=266									
B08A	Colville Reser	93.05	42	P		P		15 48 28.5	-0.4	
G08A	Pilot Rock	93.06	45	P		P		15 48 28.4	-0.7	
G08A				IAmb		IAmb		15 48 31.1		
	comp=Z,28nm,1.3s									
E08A	Dider Farm, El	93.09	44	P		P		15 48 29.2	+0.1	
E08A				IAmb		IAmb		15 48 31.3		
	comp=Z,31nm,1.3s									
NV11	Mina Array Sit	93.13	52	P		P		15 48 29.3	-0.4	
NV11				IAmb		IAmb		15 48 32.1		
	comp=Z,20nm,1.2s									
BFSC	Mount Baldy Ra	93.22	56	P		P		15 48 31.4	+1.3	
	baz=266									
KVN	Kaiserville	93.22	51	P		P		15 48 30.5	+0.4	
KVN				pmax		pmax				
	comp=Z,17nm,1.2s									
KVN	Kaiserville	93.22	51	P		P		15 48 30.5	+0.4	
KVN				IAmb		IAmb		15 48 32.4		
	comp=Z,17nm,1.2s									
D08A	Wollman Farm,	93.23	43	P		P		15 48 30.0	+0.3	
D08A				IAmb		IAmb		15 48 31.7		
	comp=Z,28nm,1.5s									
J08A	Circle Bar Ran	93.26	47	P		P		15 48 30.1	+0.1	
J08A				IAmb		IAmb		15 48 32.2		
	comp=Z,21nm,1.1s									
LRMC	Laurel Mtn Rad	93.29	55	P		P		15 48 31.8	+1.4	
	baz=266,SNR=8.9									
LCH	Last Chance Ra	93.44	53	P		P		15 48 31.0	-0.1	
MPMC	Manual Prospec	93.49	54	P		P		15 48 32.7	+1.3	
	baz=266,SNR=9.3									
GRAC	Grapevine Rang	93.65	53	P		P		15 48 33.2	+1.2	
	baz=266,SNR=5.9									
C09A	Chrisman Ranch	93.72	42	P		P		15 48 31.6	-0.3	
C09A				IAmb		IAmb		15 48 33.7		
	comp=Z,16nm,1.2s									
E09A	Wood Farm, Sta	93.72	44	P		P		15 48 32.1	+0.2	
E09A				IAmb		IAmb		15 48 34.0		
	comp=Z,39nm,1.3s									
QSM	Queen of Sheba	93.98	54	P		P		15 48 33.8	+0.4	
QSM				IAmb		IAmb		15 48 35.9		
	comp=Z,17nm,1.2s									
GSC	Goldstone, Bar	93.99	55	P		P		15 48 34.9	+1.3	
	baz=266									
FURC	Furnace Creek,	94.02	54	P		P		15 48 34.8	+1.3	
	baz=266,SNR=6.0									
MONP2	Monument Peak	94.15	57	P		P		15 48 36.2	+1.7	
	baz=266									
PFO	Pinyon Flats O	94.17	57	P		P		15 48 36.1	+1.6	
	baz=266									
TPFO	Pinon Flats	94.17	57	P		P		15 48 35.7	+1.2	
	baz=266									
BMO	Blue Mountains	94.20	45	P		P		15 48 34.2	-0.1	
BMO				pmax		pmax				
	comp=Z,29nm,1.3s									
BMO	Blue Mountains	94.20	45	P		P		15 48 34.2	-0.1	
BMO				IAmb		IAmb		15 48 36.2		
	comp=Z,29nm,1.3s									
F10A	Beach Ranch, E	94.32	44	P		P		15 48 34.3	-0.5	
F10A				IAmb		IAmb		15 48 36.6		
	comp=Z,27nm,1.2s									
HEC	Hector,Ludlow	94.34	56	P		P		15 48 36.3	+1.1	
	baz=266									
IKP	In-Ko-Pah, Jac	94.40	58	P		P		15 48 36.0	+0.5	
	baz=266									
SHOC	Shoshone, Teco	94.46	54	P		P		15 48 36.8	+1.2	
	baz=267,SNR=8.6									
NEW	Newport	94.52	42	P		P		15 48 36.3	+0.7	
	comp=Z,10nm,1.1s,baz=246,slow=1.4,SNR=11									
NEW	Newport	94.52	42	P		P		15 48 35.1	-0.5	
NEW				pmax		pmax				
	comp=Z,18nm,1.2s									
NEW	Newport	94.52	42	P		P		15 48 35.1	-0.5	
NEW				IAmb		IAmb		15 48 37.4		
	comp=Z,18nm,1.1s									
NEW	Newport	94.52	42	P		P		15 48 35.9	+0.2	
	baz=267,SNR=7.7									
TPNV	Topopah Spring	94.54	53	P		P		15 48 35.5	-0.7	
TPNV				pmax		pmax				
	comp=Z,19nm,1.3s									
TPNV	Topopah Spring	94.54	53	P		P		15 48 35.5	-0.7	
TPNV				IAmb		IAmb		15 48 38.7		
	comp=Z,19nm,1.2s									
TPNV	Topopah Spring	94.54	53	P		P		15 48 37.0	+0.8	
	baz=267									
BELC	Belle Mtn. Jos	94.57	56	P		P		15 48 37.5	+1.2	
	baz=267,SNR=7.2									
SWSC	Sam W. Stewart	94.68	57	P		P		15 48 37.9	+1.2	
	baz=267									
TUQ	Turquoise Moun	94.72	55	P		P		15 48 38.2	+1.2	
	baz=267,SNR=7.4									
BC3	Big Chuckawall	95.01	57	P		P		15 48 39.6	+1.3	
	baz=267									
R11A	Troy Canyon, C	95.14	52	P		P		15 48 38.4	-0.5	
R11A	Troy Canyon, C	95.14	52	P		P		15 48 39.8	+0.9	
	baz=267,SNR=12									
MFID	Camas Ranch	95.19	47	P		P		15 48 38.7	-0.3	
MFID				IAmb		IAmb		15 48 41.1		
	comp=Z,17nm,1.4s									
IRM	Iron Mountain	95.29	56	P		P		15 48 41.1	+1.6	
	baz=267,SNR=12									
ABKAR	Akbulak array	95.44	319	P		P		15 48 37.3	-2.4	
GLA	Glamis	95.50	57	P		P		15 48 41.9	+1.4	
	baz=267									
ELK	Elko	95.52	50	P		P		15 48 39.6	-1.1	
ELK				pmax		pmax				
	comp=Z,7.0nm,1.3s									
ELK	Elko	95.52	50	P		P		15 48 39.6	-1.1	
SPR3	Spring Creek 3	96.15	51	P		P		15 48 43.2	-0.5	
SPR3				IAmb		IAmb		15 48 46.2		
	comp=Z,21nm,1.3s									
HLID	Hailey	96.22	47	P		P		15 48 44.4	+0.6	
	baz=268									
YKA	Yellowknife Ar	96.28	28	P		P		15 48 44.4	+1.1	
	comp=Z,5.8nm,0.9s,baz=264,slow=3.5,SNR=7.8									
YKA				LR		LR		16 28 40.4		
	comp=Z,410nm,20.0s,baz=0.0,slow=33									
YKA	Yellowknife Ar	96.28	28	P		P		15 48 43.1	-0.2	
YKA	Yellowknife Ar	96.28	28	P		P		15 48 43.1	-0.2	
ARU	Arti	96.41	326	P		P		15 48 44.5	+0.5	
ARU								15 52 39.3		
ARU				S		SKSac		15 59 16.7	-0.2	
ARU				MLR		MLR				
	comp=Z,720nm,19.0s									
PSUT	Pine Spring	96.51	52	P		P		15 48 44.9	-0.2	
MSO	Missoula	96.62	44	P		P		15 48 46.6	+1.2	
	baz=269									
WALA	Waterton Lakes	96.67	41	P		P		15 48 45.6	0.0	
LCMT	Little Creek M	96.95	53	P		P		15 48 46.9	-0.2	
EDM	Edmonton	97.03	37	P		Pdif		15 48 47.3	+0.2	
EDM				pmax		pmax				
	comp=Z,32nm,1.2s									
EDM	Edmonton	97.03	37	P		Pdif		15 48 47.3	+0.2	
SZCU	Shurtz Canyon	97.09	53	P		Pdif		15 48 48.0	+0.1	
SZCU				IAmb		IAmb		15 48 50.6		
	comp=Z,13nm,1.3s									
214A	Organ Pipe Nat	97.16	59	P		P		15 48 48.0	0.0	
	baz=268									
DUG	Dugway, Tooele	97.35	50	P		Pdif		15 48 49.7	+0.8	
	baz=269									
PKCU	Pink Cliffs	97.70	53	P		Pdif		15 48 51.3	+0.5	
PKCU				IAmb		IAmb		15 48 54.4		
	comp=Z,25nm,1.4s									
BOZ	Bozeman (W)	98.23	45	P		Pdif		15 48 52.9	+0.2	
	baz=271									
WUAZ	Wupatki	98.43	55	P		Pdif		15 48 54.6	+0.7	
	baz=269									
EGMT	Eagleton	99.45	42	P		Pdif		15 48 58.4	+0.4	
	baz=272									
PDAR	Pinedale Array	99.78	48	LR		LR		16 32 36.9		
	comp=Z,377nm,18.1s,baz=276,slow=34									
LAO	LASA Array	101.93	44	P		Pdif		15 49 10.3	+1.2	
	baz=275									
S22A	4UR Ranch, Cre	102.05	53	P		Pdif		15 49 10.7	+0.6	
	baz=273									
SDCO	Great Sand Dun	103.10	53	P		Pdif		15 49 15.8	+1.0	
	baz=273									
MNK	Minsk	113.72	328	*i* PKIKP		PKiKP		15 53 48.2	-5.2	
MNK				*i*				15 54 42.0		
MNK				*i* PPP		PPP		15 57 06.1		
MNK				*i*				16 00 56.3		
MNK				*i* PS		PS		16 04 19.6	-3.9	
MNK				*i* SS		SS		16 10 28.1	-2.7	
MNK				*i* SSS		SSS		16 14 53.5		
MNK				pmax		pmax				
	comp=Z,8.0nm,0.8s									
MNK				pmax		pmax				
	comp=N,27nm,0.8s									
MNK				pmax		pmax				
	comp=E,1.0nm,0.7s									
MNK				MLR		MLR				
	comp=N,114nm,18.0s									
MNK				MLR		MLR				
	comp=Z,308nm,19.0s									
MNK				MLR		MLR				
	comp=E,48nm,22.0s									
MNK	Minsk	113.72	328	*i* PKP		PKiKP		15 53 48.3	-5.1	
	comp=E,1.0nm,0.7s									
MNK				*i* PKP		PKiKP		15 53 48.3	-5.1	
	comp=N,27nm,0.8s									
MNK				*i* PKP		PKiKP		15 53 48.3	-5.1	
	comp=Z,8.0nm,0.8s,baz=63									
MNK				*i* PP		PP		15 54 42.1	-4.1	
MNK				*i* PPP		PPP		15 57 06.2		
MNK				*i* SKS		SKSdf		16 00 56.3	-5.5	
MNK				*i* PS		PS		16 04

	baz=300								
CKRC	Cesky Krumlov	123.87	328	*e*PKPDF	PKiKP	15 54 13.7	+0.3		
KHC	Kasperske Hory	124.07	328	*e*PKiKP	PKiKP	15 54 14.1	+0.2		
KHC	Kasperske Hory	124.07	328	*e*PKPDF	PKiKP	15 54 14.1	+0.2		
ARSA	Arzberg	124.11	326	*e*P	PKPdf	15 54 13.6	-0.1		
	comp=Z,1.5nm,0.6s								
GEC2	GERESS Array S	124.18	328		PKPdf	15 54 13.2	-0.7		
GERES	GERESS Array B	124.18	328	PKP	PKiKP	15 54 14.2	+0.1		
	comp=Z,1.1nm,0.5s,baz=240,slow=1.1,SNR=7.1								
GERES	GERESS Array B	124.18	328	PKiKP	PKPdf	15 54 12.9	-0.9		
GERES	GERESS Array B	124.18	328		PKPdf	15 54 12.9	-0.9		
SOKA	Soboth	124.71	325	*e*P	PKPdf	15 54 14.6	-0.3		
	comp=Z,14nm,1.3s								
OBKA	Obir	125.08	325	*e*P	PKPdf	15 54 15.7	0.0		
	comp=Z,3.0nm,0.6s								
KBA	Koelnbreinsper	125.42	326	*e*P	PKPdf	15 54 16.2	-0.2		
	comp=Z,7.1nm,0.9s								
MYKA	Terra Mystica	125.52	326	*e*P	PKiKP	15 54 17.3	+0.4		
	comp=Z,7.3nm,1.1s								
ABTA	Abfaltersbach	126.08	327	*e*P	PKPdf	15 54 17.2	-0.4		
	comp=Z,7.6nm,1.1s								
WATA	Walderalm	126.23	328	*e*P	PKPdf	15 54 17.7	-0.2		
	comp=Z,7.3nm,0.9s								
WTTA	Wattenberg	126.24	327	*e*P	PKPdf	15 54 17.9	0.0		
	comp=Z,1.5nm,1.4s								
EKA	Eskdalemuir Ar	126.39	343	PKP	PKiKP	15 54 18.2	0.0		
	comp=Z,1.1nm,0.5s,baz=359,slow=3.3,SNR=4.5								
MOTA	Moosalm	126.47	328	*e*P	PKPdf	15 54 18.5	+0.2		
	comp=Z,13nm,1.7s								
SQTA	Sankt Quirin	126.50	328	*e*P	PKiKP	15 54 18.9	0.0		
	comp=Z,4.9nm,0.7s								
RETA	Reutte	126.56	328	*e*P	PKiKP	15 54 19.0	+0.1		
	comp=Z,2.7nm,0.6s								
FETA	Feichten	126.88	328	*e*P	PKPdf	15 54 18.8	-0.4		
	comp=Z,9.3nm,1.2s								
DAVA	Damuels	127.15	328	*e*P	PKPdf	15 54 18.9	-0.8		
	comp=Z,12nm,1.5s								
DAVOX	Davos/Dischmat	127.48	328	PKP	PKiKP	15 54 21.7	+0.7		
	comp=Z,1.8nm,0.4s,baz=175,slow=9.7,SNR=5.2								
LPAZ	La Paz	134.76	119	PKP	PKiKP	15 54 37.1	+0.1		
	comp=Z,1.2nm,0.8s,baz=297,slow=2.3,SNR=2.6								
PGAV	Gavieira, Arco	139.59	337	*e*PKPdf	PKiKP	15 54 45.9	+0.4		
MTE	Manteigas	140.63	335	*e*PKPdf	PKiKP	15 54 46.4	-1.2		
PCAS	Casmilo, Conde	141.31	336	*e*PKPdf	PKPdf	15 54 46.7	+0.5		
PNCL	Nicolau / Gran	142.96	334	*e*PKPdf	PKPdf	15 54 45.4	-3.7		
MESJ	Messejana	143.05	334	*e*PKPdf	PKPdf	15 54 48.5	-0.8		
MORF	Marmelete	143.68	334	*e*PKPdf	PKPab	15 54 47.4	+0.2		
LCRM	LCR	144.62	326	P	PKPdf	15 54 52.0	-0.4		
MDT	Midelt	145.12	324	PKPbc	PKPdf	15 54 53.6	+0.4		
	comp=Z,19nm,1.1s,baz=62,slow=5.2,SNR=5.1								
MDT	Midelt	145.12	324	P	PKPdf	15 54 53.3	+0.1		
FDF	Fort de France	146.04	72	PKP2	PKPdf	15 54 54.9	-0.2		
FDF	Fort de France	146.04	72	PKPbc	PKPdf	15 54 54.9	-0.2		
BIM	Bigot	146.16	72	PKPbc	PKPdf	15 54 55.0	-0.3		
TZRR	Tazzarine	147.14	323	P	PKPbc	15 54 59.3	+0.5		
PTGA	Pitinga	147.42	100	PKPbc	PKPdf	15 54 58.4	+0.9		
EAH	EAH	148.73	329	P	PKiKP	15 55 05.0	+0.6		
TTIG	Tnine Tigouga,	148.98	326	P	PKiKP	15 55 05.0	-0.2		
TORD	Torodi Ar. Bea	149.80	287	PKPbc	PKPbc	15 55 06.0	-0.1		
	comp=Z,43nm,1.1s,baz=48,slow=1.3,SNR=88								
TORD	Torodi Ar. Bea	149.80	287		PKPbc	15 55 05.0	-1.1		
PMPST	Porto Santo, M	150.41	340	*e*PKPbc	PKiKP	15 55 08.8	+1.0		
PMPS	Porto Santo	150.43	340	*e*PKPdf	PKPdf	15 55 00.8	-1.0		
PMPS	Porto Santo	150.43	340	*e*PKPbc	PKiKP	15 55 08.9	+1.0		
PMAR	Madeira	150.93	341	*e*PKPbc	PKiKP	15 55 10.0	+0.8		
PMOZ	Porto Moniz, M	150.93	341	*e*PKPbc	PKiKP	15 55 10.8	+1.7		
BDFB	Brasilia	151.14	137	PKPbc	PKiKP	15 55 09.9	0.0		
	comp=Z,1.4nm,0.3s,baz=270,slow=1.0,SNR=3.2								

BEO ***29*** *15:53:42.2₀0.8, 45˚.56N×27˚.74E, h106km±4km, ML3.3/6*
SOF ***29*** *15:53:45.5, 45˚.86N×26˚.66E, h13km, MD3.7*
SIGU ***29*** *15:53:48.5, 45˚.71N×26˚.72E, h129km, mb3.2*
NEIC ***29*** *15:53:49₀1.0, 45˚.76N₀.04×26˚.71E₀.05, h127km±3km, Error ellipse: s-maj=5.3km s-min=4.9km az=145.0*
IDC ***29*** *15:53:49.9₀1.0, 45˚.91N×26˚.91E, h96km±34km, mb3.3/2, mb1 3.2/4, mb1mx2.8/48, mbtmp3.5/4, Error ellipse: s-maj=78.3km s-min=16.4km az=108.0*

ISC 29 15:53:49.3±0.8, 45.74N±0.02×26.71E±0.02, h131km±4km, n222, σ1ᵗ41/272, mb3.8/3, 61C-54D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	Plostina	0.12	342	⇑P	Pn	15 54 06.3	-0.8
PLOR	Plostina	0.12	342	⇓S	Sn	15 54 19.6	-1.1
PLOR	Plostina	0.12	342	PKIKP	Pn	15 54 06.3	-0.8
PLOR	Plostina	0.12	342		Pn	15 54 06.3	-0.8
PLOR					Sn	15 54 19.6	-1.1
VRI	Vrincioaia	0.13	7	⇑P	Pn	15 54 06.5	-0.6
VRI	Vrincioaia	0.13	7	⇓S	Sn	15 54 19.3	-1.3
VRI	Vrincioaia	0.13	7		Pn	15 54 06.5	-0.6
VRI					Sn	15 54 19.3	-1.3
BISRR	Bisoca	0.19	179	⇑P	Pn	15 54 07.0	-0.3
BISRR	Bisoca	0.19	179	⇑S	Sn	15 54 19.8	-1.1
BISRR	Bisoca	0.19	179		Pn	15 54 07.0	-0.3
BISRR					Sn	15 54 19.8	-1.1
COVR	Voineasa-Covas	0.37	288	⇓P	Pn	15 54 07.1	-0.7
COVR	Voineasa-Covas	0.37	288	⇑S	Sn	15 54 20.5	-1.4
COVR	Voineasa-Covas	0.37	288		Pn	15 54 07.1	-0.7
COVR					Sn	15 54 20.4	-1.4
NEHR	Nehoiu	0.42	223	⇓P	Pn	15 54 07.8	-0.3
NEHR	Nehoiu	0.42	223	⇓S	Sn	15 54 21.1	-1.2
NEHR	Nehoiu	0.42	223		Pn	15 54 07.8	-0.3
NEHR					Sn	15 54 21.1	-1.2
MLR	Muntele Rosu	0.59	246	⇑P	Pn	15 54 08.7	-0.3
MLR	Muntele Rosu	0.59	246	⇑S	Sn	15 54 22.7	-1.3
MLR	Muntele Rosu	0.59	246	P	Pn	15 54 08.8	-0.3
	71nm,0.3s,baz=129,slow=14,SNR=279						
MLR				S	Sn	15 54 22.4	-1.7
	39nm,0.3s,baz=17,slow=5.0,SNR=10						
MLR	Muntele Rosu	0.59	246	*e*Pg	Pn	15 54 08.8	-0.3
MLR				*e*Sg	Sn	15 54 22.8	-1.3
MLR	Muntele Rosu	0.59	246	PKIKP	Pn	15 54 08.8	-0.3
GHRR		0.59	56	⇑P	Pn	15 54 08.7	-0.3
GHRR		0.59	56	⇓S	Sn	15 54 23.3	-0.6
GHRR		0.59	56		Pn	15 54 08.7	-0.3
GHRR					Sn	15 54 23.3	-0.6
ISR	Istrita	0.63	191	⇓P	Pn	15 54 08.9	-0.4
ISR	Istrita	0.63	191	PKIKP	Pn	15 54 08.9	-0.4
ISR	Istrita	0.63	191		Pn	15 54 08.9	-0.4
TUDR		0.69	101	⇓P	Pn	15 54 09.2	-0.4
TUDR		0.69	101	⇓S	Sn	15 54 23.6	-1.4
TUDR		0.69	101		Pn	15 54 09.2	-0.4
TUDR					Sn	15 54 23.6	-1.4
OZUR		0.74	300	⇑P	Pn	15 54 09.2	-0.9
OZUR		0.74	300	⇑S	Sn	15 54 23.4	-2.4
IZVR	Izvoarele	0.77	104	⇓P	Pn	15 54 09.2	-1.0
IZVR	Izvoarele	0.77	104	⇑S	Sn	15 54 24.0	-2.1
IZVR	Izvoarele	0.77	104		Pn	15 54 09.2	-1.0
IZVR					Sn	15 54 24.0	-2.1
TESR	Tescani	0.78	357	⇑P	Pn	15 54 09.4	-0.9
TESR	Tescani	0.78	357	⇑S	Sn	15 54 23.7	-2.6
TESR	Tescani	0.78	357		Pn	15 54 09.4	-0.9
TESR					Sn	15 54 23.7	-2.6
VARL	Varlezi	0.82	78	⇑P	Pn	15 54 10.3	-0.3
VARL	Varlezi	0.82	78	⇑S	Sn	15 54 25.2	-1.5
VARL	Varlezi	0.82	78		Pn	15 54 10.3	-0.3
VARL					Sn	15 54 25.2	-1.5
SECR		0.83	213	⇑P	Pn	15 54 10.7	-0.1
SECR		0.83	213	⇑S	Sn	15 54 25.2	-1.9
SECR		0.83	213		Pn	15 54 10.7	-0.1
SECR					Sn	15 54 25.2	-1.9
BIR	Birlad	0.83	50	⇑P	Pn	15 54 10.4	-0.3
BIR	Birlad	0.83	50	⇓S	Sn	15 54 25.2	-1.8
BIR	Birlad	0.83	50		Pn	15 54 10.4	-0.3
BIR					Sn	15 54 25.2	-1.8
PGOR	Pogoanele	0.85	167	⇑P	Pn	15 54 10.6	-0.3
PGOR	Pogoanele	0.85	167	⇑S	Sn	15 54 26.6	-0.6
PGOR	Pogoanele	0.85	167		Pn	15 54 10.6	-0.3
PGOR					Sn	15 54 26.6	-0.6
SCTR	Scanteiesti	0.91	93	⇑P	Pn	15 54 11.0	-0.4
SCTR	Scanteiesti	0.91	93	⇑S	Sn	15 54 26.8	-1.3
SCTR	Scanteiesti	0.91	93		Pn	15 54 11.0	-0.4
SCTR					Sn	15 54 26.8	-1.3
DOPR	Dopca	0.95	285	⇓P	Pn	15 54 11.4	-0.4
DOPR	Dopca	0.95	285	⇓S	Sn	15 54 27.6	-1.3
DOPR	Dopca	0.95	285		Pn	15 54 11.4	-0.4
DOPR					Sn	15 54 27.6	-1.3
TATR	Tatarca	0.95	98	⇑P	Pn	15 54 11.3	-0.4
TATR	Tatarca	0.95	98	⇓S	Sn	15 54 27.3	-1.5
TATR	Tatarca	0.95	98		Pn	15 54 11.3	-0.4
TATR					Sn	15 54 27.3	-1.5
VLDR	Vladesti	0.97	83	⇓P	Pn	15 54 11.5	-0.4
VLDR	Vladesti	0.97	83	⇓S	Sn	15 54 27.3	-1.8
VLDR	Vladesti	0.97	83		Pn	15 54 11.5	-0.4
VLDR					Sn	15 54 27.3	-1.8
GISR	Galati	0.99	107	⇑P	Pn	15 54 11.7	-0.4
GISR	Galati	0.99	107	⇓S	Sn	15 54 27.8	-1.7
GISR	Galati	0.99	107		Pn	15 54 11.7	-0.4
GISR					Sn	15 54 27.8	-1.7
SULR		1.10	197	⇓P	Pn	15 54 13.2	0.0
SULR		1.10	197	⇑S	Sn	15 54 31.3	-0.1
SULR		1.10	197		Pn	15 54 13.2	0.0
SULR					Sn	15 54 31.3	-0.1
CFR	Carcaliu	1.15	118	⇑P	Pn	15 54 13.0	-0.6
CFR	Carcaliu	1.15	118	⇑S	Sn	15 54 30.0	-2.1
CFR	Carcaliu	1.15	118		Pn	15 54 13.0	-0.6
CFR					Sn	15 54 30.0	-2.1
VASR	Vaslui	1.18	39	⇓P	Pn	15 54 13.7	-0.3
VASR	Vaslui	1.18	39	⇓S	Sn	15 54 31.2	-1.6
VASR	Vaslui	1.18	39		Pn	15 54 13.7	-0.3
VASR					Sn	15 54 31.2	-1.6
VOIR		1.20	256	⇑P	Pn	15 54 13.8	-0.5
VOIR		1.20	256	⇑S	Sn	15 54 31.5	-1.7
VOIR		1.20	256		Pn	15 54 13.8	-0.5
VOIR					Sn	15 54 31.5	-1.7
AMRR	Amara	1.21	158	⇑P	Pn	15 54 14.0	-0.3
AMRR	Amara	1.21	158	⇓S	Sn	15 54 32.2	-1.1
AMRR	Amara	1.21	158		Pn	15 54 14.0	-0.3
AMRR					Sn	15 54 32.2	-1.1
GIRR	Girov	1.23	353	⇑P	Pn	15 54 14.3	-0.2
GIRR	Girov	1.23	353		Pn	15 54 14.3	-0.2
LEHL	Lehliu	1.26	176	⇑P	Pn	15 54 14.7	-0.1
LEHL	Lehliu	1.26	176	⇑S	Sn	15 54 33.6	-0.7
LEHL	Lehliu	1.26	176		Pn	15 54 14.7	-0.1
LEHL					Sn	15 54 33.6	-0.7
BIZ	Bicaz	1.27	341	⇑P	Pn	15 54 15.1	+0.1
BIZ	Bicaz	1.27	341	⇓S	Sn	15 54 33.0	-1.6
BIZ	Bicaz	1.27	341		Pn	15 54 15.1	+0.1
BIZ					Sn	15 54 33.0	-1.6
HARR	Harsova	1.36	140	⇑P	Pn	15 54 15.3	-0.5
HARR	Harsova	1.36	140		Pn	15 54 15.3	-0.5
BUC1	Bucharest	1.47	199	⇓P	Pn	15 54 16.7	-0.3
BUC1	Bucharest	1.47	199	⇓S	Sn	15 54 36.5	-1.7
BUC1	Bucharest	1.47	199		Pn	15 54 16.7	-0.3
BUC1					Sn	15 54 36.5	-1.7
TPGR	Topolog	1.50	125	⇑P	Pn	15 54 16.6	-0.8
TPGR	Topolog	1.50	125	⇓S	Sn	15 54 36.2	-2.6
TPGR	Topolog	1.50	125		Pn	15 54 16.6	-0.8
TPGR					Sn	15 54 36.2	-2.6
ARR	Arges	1.50	257	⇑P	Pn	15 54 17.4	-0.1
ARR	Arges	1.50	257	⇓S	Sn	15 54 38.0	-1.0
ARR	Arges	1.50	257		Pn	15 54 17.4	-0.1
ARR					Sn	15 54 38.0	-1.0
STFAR	Stefanesti-Arg	1.51	235	⇑P	Pn	15 54 17.3	-0.3
STFAR	Stefanesti-Arg	1.51	235	⇓S	Sn	15 54 38.9	-0.1
STFAR	Stefanesti-Arg	1.51	235		Pn	15 54 17.3	-0.3
STFAR					Sn	15 54 38.9	-0.1
TLBR	Topalu	1.52	141	⇑P	Pn	15 54 17.2	-0.5
TLBR	Topalu	1.52	141	⇓S	Sn	15 54 36.9	-2.3
TLBR	Topalu	1.52	141		Pn	15 54 17.2	-0.5
TLBR					Sn	15 54 36.9	-2.3
IAS	Iasi	1.57	22	⇓P	Pn	15 54 17.7	-0.5
IAS	Iasi	1.57	22	⇓S	Sn	15 54 38.2	-2.2
IAS	Iasi	1.57	22		Pn	15 54 17.7	-0.5
IAS					Sn	15 54 38.2	-2.2
TLCR		1.58	110	⇓P	Pn	15 54 17.6	-0.7
TLCR		1.58	110	⇓S	Sn	15 54 38.6	-1.8
TLCR		1.58	110		Pn	15 54 17.6	-0.7
TLCR					Sn	15 54 38.6	-1.8
SGRR	Singureni	1.60	199	⇓P	Pn	15 54 18.1	-0.5
SGRR	Singureni	1.60	199	⇓S	Sn	15 54 38.9	-1.9
SGRR	Singureni	1.60	199		Pn	15 54 18.1	-0.5
SGRR					Sn	15 54 38.9	-1.9
CVDA	Cernavoda	1.69	146	⇑P	Pn	15 54 19.2	-0.3
CVDA	Cernavoda	1.69	146	⇑S	Sn	15 54 40.4	-2.3
CVDA	Cernavoda	1.69	146		Pn	15 54 19.2	-0.3
CVDA					Sn	15 54 40.4	-2.3
HUMR	Humele	1.72	226	⇓P	Pn	15 54 19.4	-0.5
HUMR	Humele	1.72	226	⇓S	Sn	15 54 41.7	-1.6
HUMR	Humele	1.72	226		Pn	15 54 19.4	-0.5
HUMR					Sn	15 54 41.7	-1.6
ICOR	Ion Corvin	1.79	154	⇑P	Pn	15 54 20.7	-0.1
ICOR	Ion Corvin	1.79	154	⇓S	Sn	15 54 43.0	-1.9
ICOR	Ion Corvin	1.79	154		Pn	15 54 20.7	-0.1
ICOR					Sn	15 54 43.0	-1.9
MILM	Milestii Mici	1.88	50	⇑P	Pn	15 54 21.4	-0.4
MILM	Milestii Mici	1.88	50	⇑S	Sn	15 54 44.4	-2.3
MILM	Milestii Mici	1.88	50		Pn	15 54 21.4	-0.4
MILM	Milestii Mici	1.88	50	P	Pn	15 54 21.3	-0.4
COPA	Copaceanca	1.92	214	⇓P	Pn	15 54 21.9	-0.4
COPA	Copaceanca	1.92	214	⇓S	Sn	15 54 45.9	-1.5
COPA	Copaceanca	1.92	214		Pn	15 54 21.9	-0.4
COPA					Sn	15 54 46.0	-1.5
KIS	Kishinev	1.93	48	⇓*i*P	Pn	15 54 22.0	-0.4
	380nm,0.1s						
KIS				*i* S	Sn	15 54 45.5	-2.3
	320nm,0.4s						
KIS				SMsm		15 54 46.3	
	350nm,0.4s						
KIS	Kishinev	1.93	48	⇓P	Pn	15 54 22.1	-0.4
KIS	Kishinev	1.93	48		Pn	15 54 22.1	-0.4
KIS					Sn	15 54 46.0	-1.9
KIS	Kishinev	1.93	48	⇓*i*P	Pn	15 54 22.0	-0.4
KIS				Pm		15 54 22.2	
KIS				*i* S	Sn	15 54 45.5	-2.3
KIS				Sm		15 54 46.2	
MFTR	Murfatlar	1.98	141	⇓P	Pn	15 54 22.6	-0.3
MFTR	Murfatlar	1.98	141	⇑S	Sn	15 54 46.5	-2.2
MFTR	Murfatlar	1.98	141		Pn	15 54 22.6	-0.3
LOT	Lotru	2.08	263	⇑P	Pn	15 54 24.0	-0.4
LOT	Lotru	2.08	263	⇑S	Sn	15 54 50.6	-0.6
LOT	Lotru	2.08	263		Pn	15 54 24.0	-0.4
LOT					Sn	15 54 50.6	-0.6
BURAR	Bucovina Array	2.14	332	⇑P	Pn	15 54 25.7	+0.6
BURAR	Bucovina Array	2.14	332		Pn	15 54 25.7	+0.6
BURAR	Bucovina Array	2.14	332	Pn	Pn	15 54 26.3	+1.2
EFOR	EFORIE	2.15	140	⇑S	Sn	15 54 50.7	-1.8
EFOR	EFORIE	2.15	140		Sn	15 54 50.7	-1.8
BUR08	Bucovina Ar. S	2.17	332		Pn	15 54 26.2	+0.8
RAZG	Razgrad	2.17	184	⇓P	Pn	15 54 25.1	-0.3
RAZG	Razgrad	2.17	184	⇑S	Sn	15 54 50.8	-2.3
RAZG	Razgrad	2.17	184		Pn	15 54 25.1	-0.3
ZIMR		2.29	205	⇑P	Pn	15 54 26.0	-0.8
ZIMR		2.29	205	⇓S	Sn	15 54 53.3	-2.2
PSN	Preselentsi	2.31	152	P	Pn	15 54 27.3	+0.2
MANR	Mangalia	2.34	144	⇓P	Pn	15 54 26.6	-0.8
MANR	Mangalia	2.34	144	⇓S	Sn	15 54 55.8	-0.9
PURM	Purcari	2.34	69	⇓P	Pn	15 54 27.1	-0.3
PURM	Purcari	2.34	69	⇓S	Sn	15 54 55.2	-1.5
PURM	Purcari	2.34	69		Pn	15 54 27.1	-0.3
PURM					Sn	15 54 55.2	-1.5
SZH	Strazhica	2.53	193	P	Pn	15 54 33.3	+0.2
PRD	Provadia	2.58	169	P	Pn	15 54 30.8	+0.3
SORM	Soroca	2.65	25	⇓P	Pn	15 54 30.6	-0.7
SORM	Soroca	2.65	25		Pn	15 54 30.6	-0.7
SORM	Soroca	2.65	25	P	Pn	15 54 30.6	-0.7
SRE	Strehaia	2.70	248	⇑P	Pn	15 54 31.7	-0.3
SRE	Strehaia	2.70	248	⇑S	Sn	15 55 02.9	-2.0
SRE	Strehaia	2.70	248		Pn	15 54 31.7	-0.3
PVL	Pavlikeni	2.70	202	P	Pn	15 54 33.4	+1.3
GZR	Gura Zlata	2.78	264	⇑P	Pn	15 54 33.3	+0.2
GZR	Gura Zlata	2.78	264	⇓S	Sn	15 55 06.4	-0.5
GZR	Gura Zlata	2.78	264	*e*Pn	Pn	15 54 33.2	+0.1
GZR				*e*Sn	Sn	15 55 03.5	-3.4
GZR	Gura Zlata	2.78	264		Pn	15 54 33.3	+0.2
GZR					Sn	15 55 06.4	-0.5
KMPD	K-Podol'skiy	2.83	357	*e*P	Pn	15 54 35.4	+1.7
KMPD				*e*S	Sn	15 55 08.1	+0.1
NDNU	Novodnistrovsk	2.90	9	*e*P	Pn	15 54 33.9	-0.6
NDNU				Pm		15 54 34.0	
NDNU				*e*S	Sn	15 55 06.4	-3.0
NDNU				Sm		15 55 07.3	
BAIL	Bailesti	2.94	236	⇑S	Sn	15 55 09.7	-0.7
BAIL	Bailesti	2.94	236		Sn	15 55 09.7	-0.7
DRGR		2.97	292	⇑P	Pn	15 54 34.8	-0.7
DRGR		2.97	292	⇓S	Sn	15 55 11.0	-0.2
DRGR		2.97	292	*e*Pn	Pn	15 54 34.6	-0.9
DRGR				*e*Sn	Sn	15 55 08.0	-3.1
DRGR		2.97	292		Pn	15 54 34.8	-0.7
PUNG	Punghina	3.05	243	⇑P	Pn	15 54 35.3	-1.2
HERR	Herculane	3.15	256	⇑P	Pn	15 54 37.0	-0.7
HERR	Herculane	3.15	256		Pn	15 54 37.0	-0.7
BZS	Buzias	3.57	270	⇑P	Pn	15 54 43.2	0.0
BZS	Buzias	3.57	270	⇑S	Sn	15 55 23.1	-2.0
BZS	Buzias	3.57	270	*e*Pn	Pn	15 54 42.4	-0.9
BZS	Buzias	3.57	270		Pn	15 54 43.2	0.0
MDVR	Moldovita	3.65	257	⇓P	Pn	15 54 43.8	-0.6
MDVR	Moldovita	3.65	257	*e*Pn	Pn	15 54 43.6	-0.9
MDVR				*e*Sn	Sn	15 55 22.9	-4.3
MDVR	Moldovita	3.65	257		Pn	15 54 43.8	-0.6
ZAGS	Zajecar	3.72	240	*e*Pn	Pn	15 54 43.1	-2.2
ZAGS				*e*Sn	Sn	15 55 21.7	-7.0
KUBS	Kucevo	3.80	251	*e*Pn	Pn	15 54 45.1	-1.3
ZAPS	Zavoj	3.81	231	*e*Pn	Pn	15 54 43.9	-2.7
VTS	Vitosha	3.99	220	⇓P	Pn	15 54 48.8	-0.2
VTS	Vitosha	3.99	220		Pn	15 54 48.8	-0.2
VTS	Vitosha	3.99	220	P	Pn	15 54 48.9	-0.2
BOVS	Bovan	4.14	241	⇑P	Pn	15 54 49.6	-1.2
BOVS	Bovan	4.14	241	*e*Pn	Pn	15 54 49.3	-1.5
BOVS	Bovan	4.14	241		Pn	15 54 49.6	-1.2
KOLS	Kolonicke sedl	4.39	318	*e*PN	Pn	15 54 49.0	-5.2
BOSS	Bosilegrad	4.44	225	*e*Pn	Pn	15 54 50.4	-4.5
BARS	Barje	4.56	232	*e*Pn	Pn	15 54 54.2	-2.3
GRUS	Gruza	4.64	249	*e*Pn	Pn	15 54 57.0	-0.6
TRUS	Trudelj	4.72	254	*e*Pn	Pn	15 54 57.6	-1.0
SELS	Selova	4.72	240	*e*Pn	Pn	15 54 57.2	-1.5
CRVS	Cervenica-Dubn	4.77	314	*e*P	Pn	15 54 53.9	-5.3
ALN	Alexandroupoli	4.86	186	Pn	Pn	15 55 00.3	-0.1
DIVS	Divibare	5.04	253	*e*Pn	Pn	15 55 01.9	-1.0
DIVS	Divibare	5.04	253	Pn	Pn	15 55 02.0	-1.0
SEV	Sevastopol'	5.07	101	*e*P	Pn	15 55 01.6	-1.6
SEV				Pm		15 55 02.6	
SEV				*e*S	Sn	15 55 57.9	-2.8
SEV				Sm		15 56 02.4	
IVAS	Ivanjica	5.15	248	*e*Pn	Pn	15 55 02.9	-1.5
STIP	Stip	5.20	221	*i* Pn	Pn	15 55 02.1	-2.9
AKASG	Malin Array Be	5.25	18	P	Pn	15 55 03.4	-2.2
	3.4nm,0.3s,baz=200,slow=12,SNR=14						
AKASG				S	Sn	15 56 00.1	-4.9
	6.8nm,0.3s,baz=204,slow=21,SNR=8.6						
AKASG	Malin Array Be	5.25	18	Pn	Pn	15 55 03.1	-2.5
AKBB	Malin Array Si	5.25	18	Pn	Pn	15 55 03.1	-2.4
BBLS	Lazići	5.52	253	*e*Pn	Pn	15 55 09.0	-0.4
SUDU	Sudak	5.91	95	Pm		15 55 07.9	
SUDU				Sm		15 56 19.0	
FINES	FINESS Array B	15.74	359	P	P	15 57 24.7	0.0
	0.1nm,0.3s,baz

DVHZ	Dannevirke	3.19 187	P	Pn	16 04 01.5	-0.5
ANWZ	Angora Road	3.33 183	P	Pn	16 04 03.4	+0.2
PRWZ	Pori Road	3.46 189	P	Pn	16 04 04.3	-0.1
BFZ	Birch Farm	3.56 185	P	Pn	16 04 05.0	-0.3
MRZ	Mangatainoka R	3.63 193	P	Pn	16 04 04.8	-1.1
TIWZ	Tintock	3.69 189	P	Pn	16 04 06.2	-0.3
OGWZ	Otaki Gorge	3.86 197	P	Pn	16 04 07.1	-1.0
HOWZ	Holdsworth Sta	3.87 193	P	Pn	16 04 07.1	-1.0
KIW	Kapiti Island	3.97 200	P	Pn	16 04 07.7	-1.4
TMWZ	Te Maipa	4.02 189	P	Pn	16 04 09.1	-0.5
MTW	Mount Morrison	4.12 192	P	Pn	16 04 09.6	-1.0
CAW	Cannon Point	4.16 197	P	Pn	16 04 09.7	-1.3
DUWZ	D'Urville Isla	4.25 210	P	Pn	16 04 10.3	-1.6
TRWZ	Traveller	4.33 190	P	Pn	16 04 12.1	-0.5
PAWZ	Paruwai Farm	4.35 193	P	Pn	16 04 12.0	-0.9
WEL	Wellington	4.40 199	P	Pn	16 04 13.0	-0.4
MSWZ	Moikau Station	4.42 194	P	Pn	16 04 12.9	-0.6
TCW	Tory Channel	4.48 204	P	Pn	16 04 13.0	-1.1
PLWZ	Palliser	4.57 194	P	Pn	16 04 14.2	-0.9
TUWZ	Tuamarina	4.79 205	P	Pn	16 04 15.7	-1.5
NNZ	Nelson	4.82 211	P	Pn	16 04 15.6	-2.0
QRZ	Quartz Range	4.91 220	P	Pn	16 04 16.3	-2.2
BSWZ	Blackbirch Sta	5.07 205	P	Pn	16 04 19.8	-0.4
THZ	Tophouse	5.47 211	P	Pn	16 04 23.0	-1.5
KHZ	Kahutara	5.80 204	P	Pn	16 04 26.4	-1.6
DSZ	Denniston Nort	5.95 218	P	Pn	16 04 26.6	-3.2
GVZ	Greta Valley S	6.46 204	P	Pn	16 04 33.0	-2.3
LTZ	Lake Taylor	6.58 210	P	Pn	16 04 33.2	-3.5
AMCZ	Amberley	6.78 206	P	Pn	16 04 36.7	-2.2
INZ	Inchbonnie	6.88 214	P	Pn	16 04 36.6	-3.4
OKCZ	Okains Bay	7.14 202	P	Pn	16 04 41.0	-1.9
MQZ	McQueen's Vall	7.25 204	P	Pn	16 04 41.2	-2.9
RPZ	Rata Peaks	7.85 211	P	Pn	16 04 47.9	-3.2
TMZ	Timaru	8.42 209	P	Pn	16 04 55.1	-2.6

IDC ***29*** *16:12:51.6₀0.5, 13˚.80N×58˚.30W, h0ᵏᵐ, mb4.2/19, mb1 4.4/22, mb1mx4.3/36, mbtmp4.2/22, ML4.7/2, MS3.8/13, Ms1 3.9/13, ms1mx3.6/36, Error ellipse: s-maj=15.9km s-min=13.9km az=128.0*

NEIC ***29*** *16:12:53.7±1.3, 13˚.80N±0˚.06×58˚.40W±0˚.07, h10ᵏᵐ±1ᵏᵐ, mb4.7/78, Error ellipse: s-maj=11.0km s-min=10.2km az=88.0*

TRN ***29*** *16:12:53.7, 13˚.78N×58˚.32W, h49ᵏᵐ, MD4.3*

ISC 29 16:12:54.3±3.1, 13°.81N±0°.03×58°.39W±0°.05, h17ᵏᵐ±19ᵏᵐ, n260, σ1°45/262, mb4.7/52, MS3.9/11, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.25 236**		*eP*	**Pb**	**16 13 18.4**	**+0.9**
BBSP				*eS*	**Sb**	**16 13 34.9**	**+1.6**
BBGH	**Gun Hill**	**1.31 240**		*eP*	**Pn**	**16 13 17.9**	**0.0**
BBGH				*eS*	**Sb**	**16 13 35.8**	**+0.8**
BBGH	**Gun Hill**	**1.31 240**	Pn	Pn	**Pn**	**16 13 18.7**	**+0.8**
BCHC	**Barbados, Cave**	**1.38 241**		*eP*	**Pn**	**16 13 18.1**	**-0.6**
BCHC				*eS*	**Sn**	**16 13 36.7**	**+0.2**
H05S1	**Guadeloupe/Mar**	**2.45 285**	Pn	Pn	**Pn**	**16 13 34.3**	**+0.9**
H05S1			Sn	Sn	**Sn**	**16 14 04.3**	**+1.3**
MPOM	**Morne Pois Mar**	**2.47 285**	*eP*	*eP*	**Pn**	**16 13 33.6**	**-0.1**
MPOM				*eS*	**Sn**	**16 14 03.6**	**0.0**
MPOM	**Morne Pois Mar**	**2.47 285**	Pn	Pn	**Pn**	**16 13 32.6**	**-1.1**
MCLT	**Moule a Chique**	**2.48 268**	*eP*	Pn	**Pn**	**16 13 34.9**	**+1.0**
MCLT				*eS*	**Sn**	**16 14 02.7**	**-1.0**
MCLT	**Moule a Chique**	**2.48 268**	Pg	Pn	**Pn**	**16 13 31.6**	**-2.3**
SLBI	**Saint Lucia, B**	**2.51 275**	*eP*	*eP*	**Pn**	**16 13 34.4**	**+0.1**
SLBI				*eS*	**Sn**	**16 14 05.0**	**+0.4**
SLCP	**Castries, St.**	**2.53 275**	*eP*	Pn	**Pn**	**16 13 35.6**	**+1.1**
SLCP				*eS*	**Sn**	**16 14 05.6**	**+0.6**
MVM	**Montagne Vaucl**	**2.54 287**	*eP*	Pn	**Pn**	**16 13 34.5**	**-0.2**
ILAM	**Ilet Lapin Mar**	**2.59 292**	*eP*	Pn	**Pn**	**16 13 34.9**	**-0.4**
ILAM				*eS*	**Sn**	**16 14 06.4**	**-0.1**
ILAM	**Ilet Lapin Mar**	**2.59 292**	Pn	Pn	**Pn**	**16 13 35.0**	**-0.4**
LPMF	**Morne Lapointe**	**2.61 287**	*eP*	Pn	**Pn**	**16 13 35.3**	**-0.4**
ZAM	**Aeronautique**	**2.67 287**	*eP*	Pn	**Pn**	**16 13 36.0**	**-0.5**
TRMF	**Trois Ilets**	**2.68 286**	*eP*	Pn	**Pn**	**16 13 36.2**	**-0.3**
BIM	**Bigot**	**2.69 285**	*eP*	Pn	**Pn**	**16 13 36.6**	**-0.2**
BIM				*eS*	**Sn**	**16 14 08.5**	**-0.5**
BIM	**Bigot**	**2.69 285**			**Pn**	**16 13 36.2**	**-0.6**
SSV	**Crater Summit**	**2.76 260**	*eP*	Pn	**Pn**	**16 13 38.5**	**+0.6**
SSV				*eS*	**Sn**	**16 14 11.1**	**+0.1**
SVV	**Soufriere Volc**	**2.79 260**	*eP*	Pn	**Pn**	**16 13 39.1**	**+1.0**
SVV				*eS*	**Sn**	**16 14 10.7**	**-0.7**
FDF	**Fort de France**	**2.83 289**	*eP*	Pn	**Pn**	**16 13 38.5**	**-0.1**
FDF				*eS*	**Sn**	**16 14 12.5**	**+0.1**
FDF	**Fort de France**	**2.83 289**	Pn	Pn	**Pn**	**16 13 38.3**	**-0.4**
SVOC	**Richmond Hill,**	**2.83 257**	*eP*	Pn	**Pn**	**16 13 39.4**	**+0.8**
SVOC				*eS*	**Sn**	**16 14 11.0**	**-1.3**
SVB	**Belmont**	**2.83 259**	*eP*	Pn	**Pn**	**16 13 38.4**	**-0.4**
SVB				*eS*	**Sn**	**16 14 11.8**	**-0.7**
SVB	**Belmont**	**2.83 259**		Pn	**Pn**	**16 13 38.2**	**-0.5**
BAMF	**Morne Balai**	**2.85 291**	*eP*	Pn	**Pn**	**16 13 39.3**	**+0.6**
CXM	**Morne La Croix**	**2.87 291**	*eP*	Pn	**Pn**	**16 13 40.0**	**+0.6**
PML	**Morne Lenard**	**2.87 290**	*eP*	Pn	**Pn**	**16 13 39.8**	**+0.5**
SVN	**Savane Anatole**	**2.88 291**	*eP*	Pn	**Pn**	**16 13 40.0**	**+0.6**
SVN	**Savane Anatole**	**2.88 291**			**Pn**	**16 13 39.2**	**-0.2**
PCM	**Pelee Case Pet**	**2.91 290**	*eP*	Pn	**Pn**	**16 13 40.2**	**+0.4**
PCM	**Pelee Case Pet**	**2.91 290**	*eP*	Pn	**Pn**	**16 13 40.5**	**+0.7**
DLPL	**La Plaine**	**3.15 299**	*eP*	Pn	**Pn**	**16 13 43.3**	**+0.1**
DLPL				*eS*	**Sn**	**16 14 19.4**	**-0.9**
DLPL	**La Plaine**	**3.15 299**			**Pn**	**16 13 43.1**	**0.0**
GCMP	**Grenada, Carri**	**3.23 246**	*eP*	Pn	**Pn**	**16 13 44.1**	**-0.2**
GCMP				*eS*	**Sn**	**16 14 21.2**	**-1.2**
TOSP	**Speyside**	**3.26 220**	*eP*	Pn	**Pn**	**16 13 44.7**	**+0.1**
TOSP				*eS*	**Sn**	**16 14 19.7**	**-3.3**
TOSP	**Speyside**	**3.26 220**	Pn	Pn	**Pn**	**16 13 44.3**	**-0.3**
DSLB	**Salisbury**	**3.35 299**	*eP*	Pn	**Pn**	**16 13 46.0**	**+0.1**
DSLB				*eS*	**Sn**	**16 14 24.1**	**-1.1**
MDPV	**Dominica, Penn**	**3.44 302**	*eP*	Pn	**Pn**	**16 13 48.5**	**+1.4**
MDPV				*eS*	**Sn**	**16 14 27.2**	**-0.3**
MDCT	**Cottage Hill,**	**3.47 302**	*eP*	Pn	**Pn**	**16 13 48.6**	**+1.1**
MDCT				*eS*	**Sn**	**16 14 27.8**	**-0.4**
GRSS	**Sisters**	**3.48 245**	*eP*	Pn	**Pn**	**16 13 48.4**	**+0.7**
GRSS				*eS*	**Sn**	**16 14 26.8**	**-1.7**
MAGL	**Barre de l'ile**	**3.51 308**	*eP*	Pn	**Pn**	**16 13 48.5**	**+0.4**
MAGL				*eS*	**Sn**	**16 14 29.0**	**-0.2**
GRHS	**Sauteurs**	**3.54 244**	*eP*	Pn	**Pn**	**16 13 49.0**	**+0.6**
GRHS				*eS*	**Sn**	**16 14 29.6**	**-0.3**
H05N1	**Guadeloupe/Mar**	**3.58 314**	Pn	Pn	**Pn**	**16 13 49.7**	**+0.6**
H05N1			Sn	Sn	**Sn**	**16 14 30.4**	**-0.6**
	SNR=3174						
GRGR	**Grenville**	**3.59 243**	*eP*		**Pn**	**16 13 49.2**	**0.0**
GRGR				*eS*	**Sn**	**16 14 29.7**	**-1.5**
GRGR	**Grenville**	**3.59 243**	Pn	Pn	**Pn**	**16 13 48.7**	**-0.5**
GRFF	**Grenada Fort F**	**3.70 242**	*eP*	Pn	**Pn**	**16 13 51.0**	**+0.2**
GRFF				*eS*	**Sn**	**16 14 31.4**	**-2.5**
TDBA	**Terre de Bas,**	**3.73 303**	*eP*	Pn	**Pn**	**16 13 52.2**	**+1.1**
TDBA				*eS*	**Sn**	**16 14 34.4**	**-0.3**
TBG	**Guadaloupe-3**	**3.74 303**	*eP*	Pn	**Pn**	**16 13 51.5**	**+0.3**
TBG				*eS*	**Sn**	**16 14 35.3**	**+0.4**
CBE	**Ff, Capester**	**3.83 306**	*eP*	Pn	**Pn**	**16 13 53.0**	**+0.5**
CBE				*eS*	**Sn**	**16 14 36.1**	**-1.1**
TRN	**Trinidad (W)**	**4.31 223**	*eP*	Pn	**Pn**	**16 13 59.7**	**+0.7**
TRN	**Trinidad (W)**	**4.31 223**	*eS*	Sn	**Sn**	**16 14 46.8**	**-2.1**
ANWB	**Willy Bob**	**5.04 320**	*eP*	Pn	**Pn**	**16 14 09.0**	**-0.1**
ANWB	**Willy Bob**	**5.04 320**	*eS*	Sn	**Sn**	**16 15 04.8**	**-2.1**
ANWB	**Willy Bob**	**5.04 320**	Pn	Pn	**Pn**	**16 14 07.9**	**-1.1**
NVDO	**Nevis, Disaste**	**5.23 309**	*eP*	Pn	**Pn**	**16 14 12.5**	**+0.7**
NVDO	**Nevis, Disaste**	**5.23 309**	*eS*	Sn	**Sn**	**16 15 10.4**	**-1.3**
SKI	**Saint Kitts**	**5.46 310**	*eP*	Pn	**Pn**	**16 14 16.5**	**+1.6**
SKI	**Saint Kitts**	**5.46 310**	*eS*	Sn	**Sn**	**16 15 15.8**	**-1.6**
SEUS	**St. Eustatius**	**5.74 310**	*eP*	Pn	**Pn**	**16 14 18.0**	**-0.7**
SEUS	**St. Eustatius**	**5.74 310**	*eS*	Sn	**Sn**	**16 15 22.0**	**-1.6**
SEUS	**St. Eustatius**	**5.74 310**	Pn	Pn	**Pn**	**16 14 18.7**	**0.0**
SMRT	**St. Maarten**	**6.17 314**	*eP*	Pn	**Pn**	**16 14 24.3**	**-0.4**
SMRT	**St. Maarten**	**6.17 314**	*eS*	Sn	**Sn**	**16 15 33.0**	**-1.8**
SMRT	**St. Maarten**	**6.17 314**	Pn	Pn	**Pn**	**16 14 24.0**	**-0.6**
PLCV	**Puerto La Cruz**	**7.06 240**			**Pn**	**16 14 38.6**	**+1.6**
PLCV					**Sn**	**16 15 55.5**	**-1.4**
PCRV	**Puerto La Cruz**	**7.09 240**	Pn	Pn	**Pn**	**16 14 38.6**	**+1.1**
	18nm,0.3s,baz=73,slow=3.3,SNR=60						
PCRV				Sn	**Sn**	**16 15 55.5**	**-2.2**
	8.1nm,0.3s,baz=232,slow=9.3,SNR=7.0						
CDVI	**St. Croix**	**7.28 303**	Pn	Pn	**Pn**	**16 14 38.8**	**-1.1**
ABVI	**Anegada Island**	**7.51 311**	Pn	Pn	**Pn**	**16 14 42.6**	**-0.4**
STVI	**Saint Thomas**	**7.75 306**	Pn	Pn	**Pn**	**16 14 46.2**	**-0.2**
CUPR	**Culebra, Puert**	**7.99 305**	Pn	Pn	**Pn**	**16 14 49.7**	**+0.1**
MTP	**Monte Pirata**	**8.10 303**	Pn	Pn	**Pn**	**16 14 51.6**	**+0.5**
HUMP	**Col San Antoni**	**8.36 302**	Pn	Pn	**Pn**	**16 14 55.2**	**+0.4**
CBYP	**Canovanas**	**8.43 303**			**Pn**	**16 14 55.9**	**+0.1**
PDPR	**Patillas Dam,**	**8.45 301**	Pn	Pn	**Pn**	**16 14 55.9**	**0.0**
SJG	**San Juan**	**8.60 301**	Pn	Pn	**Pn**	**16 14 58.6**	**+0.6**
	6.5nm,0.3s,baz=308,slow=20,SNR=2.6						
SJG				Sn	**Sn**	**16 16 32.1**	**-2.5**
	6.7nm,0.3s,baz=307,slow=18,SNR=2.3						
SJG	**San Juan**	**8.60 301**			**Pn**	**16 14 58.5**	**+0.5**
GCPR	**Guaynabo City**	**8.64 302**			**Pn**	**16 14 59.0**	**+0.4**
OBIP	**Obispado Ponce**	**8.95 299**	Pn	Pn	**Pn**	**16 15 02.8**	**0.0**
AOPR	**Arecibo Observ**	**9.21 300**	*eP*	Pn	**Pn**	**16 15 06.6**	**+0.1**
AOPR	**Arecibo Observ**	**9.21 300**		Pn	**Pn**	**16 15 06.8**	**+0.4**
MLPR	**Magueyes Islan**	**9.29 298**	Pn	Pn	**Pn**	**16 15 07.6**	**+0.1**
CRPR	**Cabo Rojo, PR**	**9.36 298**			**Pn**	**16 15 08.4**	**-0.1**
MDP	**Montagnes des**	**10.35 146**	Pn	Pn		16 15 16.4	-5.6
	6.2nm,0.3s,baz=334,slow=16,SNR=35						
MDP				Sn	Sn	16 17 01.9	-16
	20nm,0.3s,baz=73,slow=23,SNR=16						
MDP				LR	LR	16 19 58.3	
	comp=Z,997nm,19.3s,baz=316,slow=42						
BAUV	**El Baul**	**10.62 244**	*eP*		**Pn**	**16 15 24.8**	**-1.0**
BAUV	**El Baul**	**10.62 244**	*eS*		Sn	16 17 17.0	-7.5
DR12	**Loma Pena Alta**	**11.65 297**			**Pn**	**16 15 40.5**	**+0.6**
BANI	**BANI**	**12.36 293**	Pn	Pn	**Pn**	**16 15 52.2**	**+2.4**
SDV	**Santo Domingo**	**12.96 249**	Pn	Pn	**Pn**	**16 15 57.4**	**-0.6**
	1.0nm,0.3s,baz=56,slow=10.0,SNR=11						
SDV	**Santo Domingo**	**12.96 249**	Pn		**Pn**	**16 15 56.9**	**-1.1**
SDV	**Santo Domingo**	**12.96 249**	*eP*		**Pn**	**16 15 55.4**	**-2.6**
SC01	**Santiago de lo**	**13.07 297**	Pn		**Pn**	**16 15 58.1**	**-1.2**
SDDR	**Presa de Saban**	**13.39 294**	Pn		**Pn**	**16 16 03.8**	**0.0**
CRJC	**Cerrejon, Guaj**	**14.42 261**	*eP*		**P**	**16 16 24.1**	**-0.6**
PTGA	**Pitinga**	**14.53 186**	Pn		Pn	16 16 13.7	-5.6
	5.0nm,0.3s,baz=8.2,slow=20,SNR=29						
PTGA				Sn		16 18 47.2	-13
	3.4nm,0.3s,baz=279,slow=23,SNR=2.6						
PAMC	**Pamplona, Colo**	**15.46 247**	*eP*		**Pn**	**16 16 34.6**	**+2.4**
OCAC	**Ocana**	**15.66 251**	*eP*		**Pn**	**16 16 34.6**	**+0.1**
MALB	**Monte Alegre**	**16.09 165**	*eP*		Pn	16 16 32.4	-7.5
SMLC	**San Martn de**	**16.16 254**	*eP*		**Pn**	**16 16 41.2**	**+0.5**
BARC	**Barichara**	**16.22 245**	*eP*		**P**	**16 16 48.9**	**+4.1**
BRRC	**Barranca, Sant**	**16.46 248**	*eP*		**Pn**	**16 16 45.1**	**+0.4**
RUSC	**La Rusia**	**16.46 243**	Pn		**Pn**	**16 16 44.0**	**-1.1**
RUSC			IAmb		IAmb	16 17 07.5	
	comp=Z,32nm,0.9s						
RUSC	**La Rusia**	**16.46 243**	*eP*		**P**	**16 16 53.7**	**+5.9**
SJCC	**San Jacinto, C**	**16.88 258**	Pn		**Pn**	**16 16 49.7**	**-0.3**
SJCC	**San Jacinto, C**	**16.88 258**	*eP*		**Pn**	**16 16 51.8**	**+1.8**
MACA	**Manacapuru-AM**	**17.02 188**	*eP*		**Pn**	**16 16 45.8**	**-5.8**
GTBY	**Guantanamo Bay**	**17.11 293**	Pn		**Pn**	**16 16 51.4**	**-1.4**
ZARC	**Zaragoza, Cauc**	**17.35 250**	*eP*		**Pn**	**16 16 52.7**	**-3.1**
PTBC	**PUERTO BERRIO,**	**17.37 247**	*eP*		**Pn**	**16 16 53.7**	**-2.5**
CHIC	**Chingaza**	**17.66 240**	*eP*		**P**	**16 17 05.1**	**+4.1**
UREC	**San Jos de Ur**	**17.87 252**	*eP*		**Pn**	**16 17 00.4**	**-2.0**
ROSC	**El Rosal**	**18.05 242**	LR		LR	16 25 12.0	
	comp=Z,523nm,21.3s,baz=64,slow=41						
NORC	**Norcasia**	**18.18 245**	*eP*		**Pn**	**16 17 05.1**	**-1.0**
ITTB	**Itaituba**	**18.25 172**	*eP*		**Pn**	**16 17 01.5**	**-5.5**
HELC	**Santa Helena**	**18.48 248**	*eP*		**P**	**16 17 05.1**	**-4.9**
DBBC	**Dabeiba**	**18.77 251**	*eP*		**P**	**16 17 10.9**	**-2.0**
GUY2C	**Guyana, Caldas**	**18.77 245**	*eP*		**P**	**16 17 12.8**	**-0.5**
TMAB	**Tom-Au,PA,Br**	**19.05 147**	*eP*		**Pn**	**16 17 17.6**	**+1.0**
CBOC	**Ciudad Bolivar**	**19.06 247**	*eP*		**P**	**16 17 13.7**	**-2.4**
ANIL	**Santa Ana**	**19.16 243**	*eP*		**P**	**16 17 17.6**	**+0.2**
MACC	**Macarena, Meta**	**19.18 234**	*eP*		Pn	16 17 27.1	+8.9
CAP2	**Capurgana**	**19.29 257**	P		**P**	**16 17 18.5**	**-0.1**
CAP2			IAmb		IAmb	16 17 45.3	
	comp=Z,29nm,1.1s						
BBSR	**BB Station**	**19.35 344**	P		**P**	**16 17 17.1**	**-1.9**
NPGB	**Novo Progresso**	**20.94 172**	*eP*		**P**	**16 17 36.4**	**0.0**
FLOC	**Florencia**	**20.95 236**	*eP*		**P**	**16 17 33.8**	**-2.8**
PTLC	**Puerto Leguiza**	**21.15 231**	*eP*		**P**	**16 17 37.6**	**-1.2**
ROSB	**Rosrio**	**21.82 139**	*eP*		P	16 17 53.5	+7.6
SAML	**Samuel**	**23.11 192**	P		**P**	**16 17 59.0**	**-0.5**
SAML			IAmb		IAmb	16 18 09.3	
	comp=Z,33nm,1.1s						
SAML	**Samuel**	**23.11 192**	*eP*		**P**	**16 17 58.8**	**-0.8**
OTAV	**Otavalo**	**24.00 237**	*eP*		**P**	16 18 20.3	+11
CLDB	**Colider**	**24.66 174**	*eP*		**P**	**16 18 17.2**	**+2.9**
NBPS	**Pedro II - PI**	**24.70 136**	*eP*		P	16 18 25.6	+11
CZSB	**Cruzeiro do Su**	**25.69 214**	*eP*		**P**	**16 18 30.3**	**+6.7**
JTS	**Las Juntas de**	**26.20 265**	LR		LR	16 30 00.0	
	comp=Z,50nm,20.0s,baz=124,slow=39						
VILB	**Vilhena**	**26.65 184**	*eP*		**P**	**16 18 36.1**	**+3.7**
NBPB	**Pedra_Branca-C**	**26.80 135**	*eP*		P	16 18 45.5	+12
NBCL	**Cascavel-CE**	**26.82 131**	*eP*		P	16 18 47.1	+13
PEXB	**Peixe**	**27.63 158**	*eP*		**P**	**16 18 46.1**	**+5.0**
JSC	**Jenkinsville**	**29.05 318**	P		**P**	**16 18 52.5**	**-1.2**
JSC			IAmb		IAmb	16 18 54.4	
	comp=Z,14nm,0.9s						
PTLB	**Pontes e Lacer**	**29.08 181**	*eP*		**P**	**16 18 58.4**	**+4.4**
SDBA	**SAO DESIDERIO**	**29.28 152**	*eP*		**P**	16 19 03.4	+7.4
SALV	**Santo Antonio**	**29.64 175**	*eP*		**P**	**16 19 03.5**	**+4.5**
RCBR	**Riachuelo**	**29.65 130**	*eP*		P	16 19 12.5	+13
SIV	**San Ignacio**	**29.73 185**	P		**P**	**16 18 59.6**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=16,slow=8.7,SNR=2.1						
SIV				LR	LR	16 32 06.7	
	comp=Z,120nm,19.5s,baz=70,slow=39						
NBLV	**Livramento - P**	**29.95 133**	*eP*		P	16 19 14.2	+12
LPAZ	**La Paz**	**31.42 198**	P		**P**	**16 19 16.3**	**+0.8**
	comp=Z,1.8nm,0.9s,baz=354,slow=8.4,SNR=5.5						
LPAZ				LR	LR	16 33 54.1	
	comp=Z,246nm,20.1s,baz=348,slow=40						
LPAZ	**La Paz**	**31.42 198**	P		**P**	**16 19 15.2**	**-0.2**
LPAZ			IAmb		IAmb	16 19 25.9	
	comp=Z,10nm,1.2s						
W50A	**Signal Mountai**	**32.27 316**	P		**P**	**16 19 19.8**	**-2.4**
W50A			IAmb		IAmb	16 19 36.8	
	comp=Z,8.1nm,0.7s						
LMN	**Caledonia Moun**	**32.39 352**	P		**P**	**16 19 22.9**	**-0.1**
LMN			IAmb		IAmb	16 19 25.0	
	comp=Z,16nm,0.8s						
MEDO	**Medina**	**33.97 333**	P		**P**	**16 19 36.3**	**-0.5**
MEDO			IAmb		IAmb	16 19 39.0	
	comp=Z,15nm,0.8s						
PECO	**Prince Edward**	**33.98 336**	P		**P**	**16 19 36.4**	**-0.6**
PECO			IAmb		IAmb	16 19 55.6	
	comp=Z,7.8nm,0.8s						
CMC01	**Camacan, BA**	**34.48 147**	*eP*		P	16 19 50.7	+9.2
OXF	**Oxford**	**34.78 312**	P		**P**	**16 19 44.4**	**+0.4**
PSGCX	**Pisagua**	**35.15 199**	P		**P**	**16 19 45.1**	**-2.3**
PSGCX			IAmb		IAmb	16 19 55.0	
	comp=Z,11nm,1.1s						
PB11	**IPOC Station P**	**35.16 199**	P		**P**	**16 19 45.1**	**-2.4**
GUA01	**Guaratinga, BA**	**35.35 148**	*eP*		P	16 19 58.1	+9.0
PB08	**IPOC Station P**	**35.36 198**	P		**P**	**16 19 47.8**	**-1.7**
PB08			IAmb		IAmb	16 19 58.1	
	comp=Z,17nm,1.1s						
MET	**Memphis--Engin**	**35.45 312**	P		**P**	**16 19 48.6**	**-1.2**
PCMB	**Pacaembu**	**35.89 169**	*eP*		P	16 19 58.9	+5.2
BB19B	**Bebedouro**	**35.99 164**	*eP*		P	16 20 01.4	+6.9
S44A	**Carbondale**	**36.30 317**	P		**P**	**16 19 56.4**	**-0.6**
S44A			IAmb		IAmb	16 20 06.4	
	comp=Z,7.5nm,0.7s						
PB01	**IPOC Station P**	**36.31 198**	P		**P**	**16 19 56.0**	**-1.3**
SJMB	**Sao Joao De Ma**	**36.49 152**	*eP*		P	16 20 07.6	+8.8
PB07	**IPOC Station P**	**37.08 198**	P		**P**	**16 20 02.6**	**-1.4**
LVC	**Limon Verde**	**37.63 196**	P		**P**	**16 20 08.5**	**-0.4**
	comp=Z,4.0nm,0.8s,baz=55,slow=5.0,SNR=3.2						
LVC	**Limon Verde**	**37.63 196**	P		**P**	**16 20 08.1**	**-0.8**
LVC			IAmb		IAmb	16 20 20.0	
	comp=Z,19nm,1.1s						
LVC	**Limon Verde**	**37.63 196**	*eP*		P	16 20 14.5	+5.6
PB06	**IPOC Station P**	**37.91 197**	P		**P**	**16 20 10.1**	**-0.9**
PB14	**IPOC Station P**	**39.96 197**	P		**P**	**16 20 27.4**	**-1.0**
PB14			IAmb		IAmb	16 20 37.4	
	comp=Z,18nm,1.0s						
MACI	**Morro de la Ar**	**41.43 63**	P		**P**	**16 20 40.8**	**+0.3**
MACI			IAmb		IAmb	16 20 42.1	
	comp=Z,20nm,0.9s						
SCHQ	**Schefferville**	**41.46 353**	P		**P**	**16 20 39.7**	**-0.4**
	comp=Z,3.7nm,0.8s,baz=280,slow=16,SNR=2.2						
SCHQ	**Schefferville**	**41.46 353**	IAmb		IAmb	16 20 52.0	
	comp=Z,34nm,1.4s						
WMOK	**Wichita Mounta**	**41.93 307**	P		**P**	**16 20 43.8**	**-0.5**
BGNE	**Belgrade**	**44.10 316**	P		**P**	**16 21 01.8**	**+0.1**
ECSD	**EROS Data Cent**	**44.22 320**	P		**P**	**16 21 02.8**	**+0.1**
AMTX	**Amarillo**	**44.24 306**	P		**P**	**16 21 03.5**	**+0.4**
TX31	**Lajitas Ar. Si**	**44.56 298**	P		**P**	**16 21 06.3**	**+0.7**
TX31			IAmb		IAmb	16 21 22.9	
	comp=Z,5.8nm,0.8s						
TX32	**Lajitas Array**	**44.56 298**	P		**P**	**16 21 06.3**	**+0.7**
TXAR	**Lajitas Array**	**44.56 298**	P		**P**	**16 21 06.6**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=111,slow=7.4,SNR=10						
TXAR				PcP	**PcP**	**16 22 49.9**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=138,slow=5.9,SNR=4.0						
MSTX	**Muleshoe**	**44.85 304**	P		**P**	**16 21 08.5**	**+0.6**
MSTX			IAmb		IAmb	16 21 11.4	
	comp=Z,7.6nm,0.8s						
ZON	**Zonda**	**46.17 192**	P		**P**	**16 21 18.1**	**-0.1**
AGMN	**Agassiz Nation**	**46.26 326**	P		**P**	**16 21 19.0**	**+0.3**
AGMN			IAmb		IAmb	16 21 20.0	
	comp=Z,7.2nm,0.7s						
MNTX	**Cornudas Mount**	**46.46 301**	P		**P**	**16 21 20.8**	**+0.2**
MNTX			IAmb		IAmb	16 21 23.0	
	comp=Z,5.2nm,0.9s						
ULM	**Lac du Bonnet**	**47.41 328**	P		**P**	**16 21 27.5**	**-0.2**
	comp=Z,4.9nm,0.8s,baz=162,slow=5.9,SNR=3.6						
ULM	**Lac du Bonnet**	**47.41 328**	IAmb		IAmb	16 21 28.7	
	comp=Z,12nm,1.2s						
H10N3	**ASCENSION HYDR**	**48.59 114**	T		T	17 13 31.4	
	baz=296,slow=74,SNR=9.5						
H10N2	**ASCENSION HYDR**	**48.60 114**	T		T	17 13 29.2	
	baz=296,slow=74,SNR=9.1						
H10N1	**ASCENSION HYDR**	**48.61 114**	T		T	17 13 32.0	
	baz=296,slow=74,SNR=10.0						
MT09	**Talagante**	**48.82 194**	P		**P**	**16 21 37.7**	**-1.2**
BO02	**Sierra Bellavi**	**49.75 193**	P		**P**	**16 21 45.2**	**-0.7**
X18A	**Snowflake**	**50.76 303**	P		**P**	**16 21 53.5**	**-0.4**
X18A			IAmb		IAmb	16 21 57.2	
	comp=Z,8.9nm,1.4s						

BBSP	**Saint Philip**	**1.30**	**237**	*eP*	**Pg**	**16 16 29.0**	**+1.1**
BBSP				*eS*	**Sn**	**16 16 47.0**	**+2.4**
BBGH	**Gun Hill**	**1.36**	**241**	*eP*	**Pn**	**16 16 29.1**	**+1.0**
BBGH				*eS*	**Sg**	**16 16 47.4**	**+0.5**
BCHC	**Barbados, Cave**	**1.43**	**242**	*eP*	**Pb**	**16 16 30.4**	**+0.7**
BCHC				*eS*	**Sg**	**16 16 49.3**	**+0.3**
MPOM	**Morne Pois Mar**	**2.53**	**285**	*eP*	**Pn**	**16 16 45.5**	**+1.4**
MPOM				*eS*	**Sn**	**16 17 12.7**	**-2.3**
MCLT	**Moule a Chique**	**2.53**	**268**	*eP*	**Pn**	**16 16 45.2**	**+1.0**
MCLT				*eS*	**Sn**	**16 17 14.2**	**-0.9**
SLBI	**Saint Lucia, B**	**2.57**	**275**	*eP*	**Pn**	**16 16 45.3**	**+0.6**
SLBI				*eS*	**Sn**	**16 17 14.9**	**-1.2**
MVM	**Montagne Vaucl**	**2.59**	**287**	*eP*	**Pn**	**16 16 45.2**	**+0.2**
ILAM	**Ilet Lapin Mar**	**2.64**	**292**	*eP*	**Pn**	**16 16 45.5**	**-0.1**
ILAM				*eS*	**Sn**	**16 17 16.5**	**-1.2**
LPMF	**Morne Lapointe**	**2.66**	**287**	*eP*	**Pn**	**16 16 45.9**	**-0.1**
ZAM	**Aeronautique**	**2.72**	**286**	*eP*	**Pn**	**16 16 46.8**	**0.0**
TRMF	**Trois Ilets**	**2.73**	**286**	*eP*	**Pn**	**16 16 46.7**	**-0.2**
BIM	**Bigot**	**2.74**	**285**	*eP*	**Pn**	**16 16 47.2**	**0.0**
BIM				*eS*	**Sn**	**16 17 19.0**	**-1.4**
FDF	**Fort de France**	**2.88**	**289**	*eP*	**Pn**	**16 16 49.5**	**+0.5**
FDF				*eS*	**Sn**	**16 17 22.6**	**-1.1**
SVB	**Belmont**	**2.89**	**260**	*eP*	**Pn**	**16 16 49.6**	**+0.5**
SVB				*eS*	**Sn**	**16 17 22.4**	**-1.5**
BAMF	**Morne Balai**	**2.90**	**290**	*eP*	**Pn**	**16 16 50.0**	**+0.7**
CXM	**Morne La Croix**	**2.92**	**290**	*eP*	**Pn**	**16 16 50.4**	**+0.7**
SVN	**Savane Anatole**	**2.93**	**291**	*eP*	**Pn**	**16 16 50.7**	**+1.0**
PCM	**Pelee Case Pet**	**2.96**	**290**	*eP*	**Pn**	**16 16 50.9**	**+0.8**
DLPL	**La Plaine**	**3.20**	**299**	*eP*	**Pn**	**16 16 53.7**	**+0.3**
DLPL				*eS*	**Sn**	**16 17 30.3**	**-1.3**
GCMP	**Grenada, Carri**	**3.29**	**247**	*eP*	**Pn**	**16 16 54.1**	**-0.5**
GCMP				*eS*	**Sn**	**16 17 31.6**	**-2.1**
TOSP	**Speyside**	**3.29**	**221**	*eP*	**Pn**	**16 16 55.0**	**+0.3**
DSLB	**Salisbury**	**3.39**	**299**	*eP*	**Pn**	**16 16 56.3**	**+0.2**
DSLB				*eS*	**Sn**	**16 17 34.9**	**-1.6**
MDPV	**Dominica, Penn**	**3.49**	**302**	*eP*	**Pn**	**16 16 58.6**	**+1.2**
MDPV				*eS*	**Sn**	**16 17 37.6**	**-1.1**
MDCT	**Cottage Hill,**	**3.52**	**301**	*eP*	**Pn**	**16 16 58.7**	**+1.0**
MDCT				*eS*	**Sn**	**16 17 38.5**	**-1.0**
GRSS	**Sisters**	**3.53**	**245**	*eP*	**Pn**	**16 16 58.9**	**+1.0**
GRSS				*eS*	**Sn**	**16 17 37.8**	**-1.9**
MAGL	**Barre de l'ile**	**3.55**	**307**	*eP*	**Pn**	**16 16 58.9**	**+0.7**
GRHS	**Sauteurs**	**3.59**	**244**	*eP*	**Pn**	**16 16 59.6**	**+0.9**
GRHS				*eS*	**Sn**	**16 17 38.8**	**-2.4**
GRGR	**Grenville**	**3.64**	**243**	*eP*	**Pn**	**16 16 59.8**	**+0.4**
GRGR				*eS*	**Sn**	**16 17 39.7**	**-2.8**
GRFF	**Grenada Fort F**	**3.75**	**243**	*eP*	**Pn**	**16 16 59.6**	**-1.4**
GRFF				*eS*	**Sn**	**16 17 41.8**	**-3.4**
TDBA	**Terre de Bas,**	**3.78**	**303**	*eP*	**Pn**	**16 17 03.5**	**+2.1**
TDBA				*eS*	**Sn**	**16 17 45.1**	**-0.8**
TBG	**Guadaloupe-3**	**3.79**	**303**	*eP*	**Pn**	**16 17 02.9**	**+1.5**
CBE	**Ff, Capester**	**3.88**	**306**	*eP*	**Pn**	**16 17 03.4**	**+0.6**
CBE				*eS*	**Sn**	**16 17 46.9**	**-1.5**
TRN	**Trinidad (W)**	**4.34**	**224**	*eP*	**Pn**	**16 17 09.5**	**+0.4**
TRN	**Trinidad (W)**	**4.34**	**224**	*eS*	**Sn**	**16 17 56.0**	**-3.8**
ANWB	**Willy Bob**	**5.07**	**320**	*eP*	**Pn**	**16 17 18.7**	**-0.4**
ANWB	**Willy Bob**	**5.07**	**320**	*eS*	**Sn**	**16 18 14.4**	**-3.4**

*TRN **29** 16:23:11.6, 13°.77N×58°.38W, h98km, MD3.9*
ISC 29 16:23:11.1±3.1, 13°.85N±0°.07×58°.4W±0°.2, h10km, n26, σ0§93/42, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**1.32**	**238**	*eP*	**Pg**	**16 23 36.8**	**+0.2**
BBGH				*eS*	**Sg**	**16 23 55.2**	**+1.4**
BCHC	**Barbados, Cave**	**1.39**	**240**	*eS*	**Sg**	**16 23 56.9**	**+1.0**
MPOM	**Morne Pois Mar**	**2.46**	**284**	*eP*	**Pn**	**16 23 51.2**	**0.0**
MPOM				*eS*	**Sn**	**16 24 20.9**	**-0.4**
MCLT	**Moule a Chique**	**2.47**	**267**	*eP*	**Pn**	**16 23 51.7**	**+0.2**
MCLT				*eS*	**Sn**	**16 24 20.2**	**-1.6**
SLBI	**Saint Lucia, B**	**2.50**	**274**	*eP*	**Pn**	**16 23 51.9**	**0.0**
SLBI				*eS*	**Sn**	**16 24 20.5**	**-2.0**
MVM	**Montagne Vaucl**	**2.52**	**287**	*eP*	**Pn**	**16 23 52.3**	**+0.2**
ILAM	**Ilet Lapin Mar**	**2.57**	**291**	*eP*	**Pn**	**16 23 53.0**	**+0.2**
ILAM				*eS*	**Sn**	**16 24 24.4**	**+0.3**
LPMF	**Morne Lapointe**	**2.59**	**287**	*eP*	**Pn**	**16 23 53.1**	**0.0**
ZAM	**Aeronautique**	**2.65**	**286**	*eP*	**Pn**	**16 23 53.9**	**+0.1**
TRMF	**Trois Ilets**	**2.66**	**285**	*eP*	**Pn**	**16 23 54.1**	**0.0**
BIM	**Bigot**	**2.67**	**285**	*eP*	**Pn**	**16 23 54.0**	**-0.2**
BIM				*eS*	**Sn**	**16 24 26.3**	**-0.4**
FDF	**Fort de France**	**2.81**	**289**	*eP*	**Pn**	**16 23 56.7**	**+0.6**
FDF				*eS*	**Sn**	**16 24 30.6**	**+0.6**
SVB	**Belmont**	**2.83**	**259**	*eP*	**Pn**	**16 23 56.9**	**+0.5**
SVB				*eS*	**Sn**	**16 24 29.1**	**-1.5**
BAMF	**Morne Balai**	**2.83**	**290**	*eP*	**Pn**	**16 23 57.0**	**+0.6**
SVN	**Savane Anatole**	**2.86**	**291**	*eP*	**Pn**	**16 23 57.0**	**+0.2**
PCM	**Pelee Case Pet**	**2.89**	**290**	*eP*	**Pn**	**16 23 57.5**	**+0.3**
DLPL	**La Plaine**	**3.13**	**299**	*eP*	**Pn**	**16 24 00.8**	**+0.4**
DLPL				*eS*	**Sn**	**16 24 37.0**	**-0.9**
GCMP	**Grenada, Carri**	**3.24**	**246**	*eP*	**Pn**	**16 24 01.8**	**-0.2**
GCMP				*eS*	**Sn**	**16 24 38.8**	**-1.9**
DSLB	**Salisbury**	**3.32**	**299**	*eP*	**Pn**	**16 24 03.6**	**+0.5**
DSLB				*eS*	**Sn**	**16 24 41.7**	**-1.1**
MDCT	**Cottage Hill,**	**3.45**	**301**	*eP*	**Pn**	**16 24 05.4**	**+0.5**
MDCT				*eS*	**Sn**	**16 24 44.7**	**-1.1**
MAGL	**Barre de l'ile**	**3.48**	**307**	*eP*	**Pn**	**16 24 06.3**	**+0.9**
MAGL				*eS*	**Sn**	**16 24 45.0**	**-1.6**
TDBA	**Terre de Bas,**	**3.71**	**303**	*eP*	**Pn**	**16 24 09.1**	**+0.7**
TDBA				*eS*	**Sn**	**16 24 50.6**	**-1.6**
TBG	**Guadaloupe-3**	**3.72**	**303**	*eP*	**Pn**	**16 24 09.4**	**+0.8**
TBG				*eS*	**Sn**	**16 24 52.2**	**-0.2**
CBE	**Ff, Capester**	**3.81**	**306**	*eP*	**Pn**	**16 24 09.8**	**-0.1**
CBE				*eS*	**Sn**	**16 24 53.8**	**-0.9**
ANWB	**Willy Bob**	**5.01**	**320**	*eP*	**Pn**	**16 24 26.8**	**+0.5**
ANWB	**Willy Bob**	**5.01**	**320**	*eS*	**Sn**	**16 25 22.2**	**-2.1**

*SOME **29** 16:28:32.1, 40°.03N×75°.68E, h10km*
*KRNET **29** 16:28:33.9±0.1, 39°.90N×75°.60E, mb3.9*
*NNC **29** 16:28:36.5±1.5, 40°.14N×75°.70E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=11.0km s-min=9.5km az=158.0*
ISC 29 16:28:37.5±1.4, 40°.11N±0°.04×75°.70E±0°.03, h6km±11km, n73, σ1§68/110, 38C-12D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.62**	**161**	Pg	**Pg**	**16 28 51.0**	**+1.4**
KSH				Sg	**Sn**	**16 29 03.0**	**-0.5**
KSH	comp=N,520nm,0.7s			smax	smax		
KSH	comp=E,630nm,0.9s			smax	smax		
KZA	**Kyzart** baz=53	**2.00**	**350**	⇑*iP*	**Pn**	**16 29 13.3**	**+1.1**
KZA	baz=53			⇑*iS*	**Sg**	**16 29 41.9**	**+0.1**
KZA	**Kyzart** SNR=77	**2.00**	**350**	P	**Pn**	**16 29 13.6**	**+1.4**
ARLS	**Aral** baz=34	**2.04**	**330**	⇑*iP*	**Pn**	**16 29 13.0**	**+0.4**
ARLS	baz=34			⇑*iS*	**Sb**	**16 29 41.6**	**+0.8**
ULHL	**Ulahol** baz=11	**2.17**	**11**	⇓*iP*	**Pn**	**16 29 15.8**	**+1.3**
ULHL	baz=11			⇓*iS*	**Sg**	**16 29 46.5**	**-0.9**
ULHL	**Ulahol** SNR=44	**2.17**	**11**	P	**Pb**	**16 29 17.3**	**-0.1**
OHH	**Osh** baz=87	**2.27**	**282**	⇑*iP*	**Pn**	**16 29 13.8**	**-1.9**
OHH	baz=87			⇑*iS*	**Sn**	**16 29 42.9**	**-1.1**
TARG	**Taragay, Kyrgy** baz=42	**2.27**	**44**	⇑*iP*	**Pn**	**16 29 17.2**	**+1.2**
TARG	baz=42			⇑*iS*	**Sb**	**16 29 48.7**	**+1.0**
UCH	**Uchtor** baz=41	**2.30**	**337**	⇑*eP*	**Pn**	**16 29 17.1**	**+0.7**
UCH	baz=41			⇑*iS*	**Sb**	**16 29 48.5**	**-0.1**
UCH	**Uchtor** SNR=16	**2.30**	**337**	P	**Pn**	**16 29 17.9**	**+1.5**
KDJ	**Kajisay** baz=28	**2.31**	**28**	⇑*iP*	**Pn**	**16 29 18.0**	**+1.7**
KDJ	baz=28			⇑*iS*	**Sb**	**16 29 49.9**	**+1.3**
BOOM	**Boomskoye usch** baz=6.0	**2.39**	**4**	⇑*iP*	**Pn**	**16 29 18.9**	**+1.5**
BOOM	baz=6.0			⇑*iS*	**Sb**	**16 29 51.5**	**+0.7**
AML	**Almayashu** baz=28	**2.53**	**324**	⇓*iP*	**Pn**	**16 29 19.8**	**+0.3**
AML	baz=28			⇓*iS*	**Sb**	**16 29 53.4**	**-1.7**
AML	**Almayashu** SNR=18	**2.53**	**324**	P	**Pn**	**16 29 20.8**	**+1.3**
KBK	**Karagaybulak** baz=50	**2.61**	**348**	⇑*iP*	**Pn**	**16 29 21.4**	**+1.0**
KBK	baz=50			⇑*iS*	**Sb**	**16 29 56.3**	**-0.9**
KBK	**Karagaybulak** SNR=9.4	**2.61**	**348**	P	**Pb**	**16 29 25.7**	**+0.9**
AAK	**Ala-Archa** baz=43	**2.69**	**341**	⇑*eP*	**Pn**	**16 29 22.3**	**+0.8**
AAK	baz=43			⇑*eS*	**Sb**	**16 29 57.9**	**-1.5**
AAK	**Ala-Archa** SNR=8.4	**2.69**	**341**	P	**Pn**	**16 29 23.7**	**+2.2**
AAK	**Ala-Archa** comp=E,67nm,0.6s	**2.69**	**341**	⇑Pn	**Pn**	**16 29 23.4**	**+1.9**
AAK	comp=E,36nm,0.5s			⇓Lg	Lg	16 30 00.9	
TKM2	**Tokmak 2** baz=60	**2.81**	**358**	⇑*iP*	**Pn**	**16 29 24.6**	**+1.3**
TKM2	baz=60			⇑*iS*	**Sb**	**16 30 01.7**	**-1.4**
TKM2	**Tokmak 2** SNR=6.8	**2.81**	**358**	P	**Pn**	**16 29 25.7**	**+2.4**
TKM2	**Tokmak 2** comp=E,22nm,0.5s	**2.81**	**358**	⇓Pn	**Pn**	**16 29 25.8**	**+2.6**
TKM2	comp=E,72nm,0.7s			⇓Lg	Lg	16 30 07.7	
FRU1	**Bishkek** baz=46	**2.82**	**344**	⇑*eP*	**Pn**	**16 29 24.6**	**+1.4**
FRU1	baz=46			⇑*iS*	**Sb**	**16 30 01.7**	**-1.4**
KST	**Kastek** comp=E,16nm,0.4s	**2.94**	**4**	*eP*	**Pb**	**16 29 29.4**	**-1.0**
KST	comp=E,111nm,0.5s			*eS*	**Sg**	**16 30 10.6**	**-1.3**
KST	**Kastek** comp=E,49nm,0.6s	**2.94**	**4**	Pg	**Pn**	**16 29 27.7**	**+2.7**
KST	comp=E,111nm,0.5s			Lg	Lg	16 30 09.0	
CHMS	**Chumysh** baz=49	**2.98**	**346**	⇑*eP*	**Pn**	**16 29 26.3**	**+1.0**
CHMS	baz=49			⇑*iS*	**Sb**	**16 30 04.7**	**-2.9**
CHMS	**Chumysh** SNR=13	**2.98**	**346**	P	**Pn**	**16 29 27.6**	**+2.3**
IZV	**Izvestkoviy** comp=E,30nm,0.6s	**3.00**	**13**	*eP*	**Pb**	**16 29 31.6**	**0.0**
IZV	comp=E,84nm,0.5s			*eS*	**Sg**	**16 30 14.2**	**+0.1**
IZV	**Izvestkoviy** comp=E,30nm,0.6s	**3.00**	**13**	Pg	**Pb**	**16 29 30.8**	**-0.8**
IZV	comp=E,81nm,0.7s			Lg	Lg	16 30 14.2	
ANVS	**Anan'yevo** baz=28	**3.05**	**28**	⇓*iP*	**Pn**	**16 29 28.3**	**+1.8**
ANVS	baz=28			⇓*iS*	**Sb**	**16 30 07.7**	**-2.3**
MTBS	**Maitube** comp=E,14nm,0.6s	**3.07**	**10**	*eP*	**Pb**	**16 29 32.1**	**-0.5**
MTBS	comp=E,66nm,0.6s			*eS*	**Sg**	**16 30 14.5**	**-1.6**
MTBS	**Maitube** comp=E,45nm,0.6s	**3.07**	**10**	Pg	**Pn**	**16 29 29.5**	**+2.8**
MTBS	comp=E,64nm,0.7s			Lg	Lg	16 30 11.7	
TNSS	**Tian-Shan** comp=E,8.5nm,0.6s	**3.07**	**17**	*eP*	**Pb**	**16 29 31.9**	**-0.9**
TNSS	comp=E,22nm,0.5s			*eS*	**Sg**	**16 30 14.8**	**-1.4**
TNSS	**Tian-Shan** comp=E,23nm,0.4s	**3.07**	**17**	Pg	**Pn**	**16 29 29.0**	**+2.0**
TNSS	comp=E,22nm,0.5s			Lg	Lg	16 30 10.5	
DGS	**Degeres** comp=E,11nm,0.6s	**3.13**	**1**	*eP*	**Pb**	**16 29 31.3**	**-2.4**
DGS	comp=E,93nm,0.6s			*eS*	**Sb**	**16 30 13.4**	**+1.2**
DGS	**Degeres** comp=E,17nm,0.7s	**3.13**	**1**	Pg	**Pn**	**16 29 30.2**	**+2.7**
DGS	comp=E,93nm,0.6s			Lg	Lg	16 30 12.7	
MDOK	**Medeo** comp=E,12nm,0.6s	**3.21**	**18**	*eP*	**Pb**	**16 29 34.5**	**-0.6**
MDOK	comp=E,77nm,0.9s			*eS*	**Sg**	**16 30 19.4**	**-1.4**
MDOK	**Medeo** comp=E,22nm,0.7s	**3.21**	**18**	⇑Pn	**Pn**	**16 29 29.7**	**+0.9**
MDOK	comp=E,50nm,0.9s			⇑Lg	Lg	16 30 18.9	
MDOK	**Medeo** comp=E,20nm,0.6s	**3.21**	**18**	Pg	**Pb**	**16 29 34.2**	**-0.9**
MDOK	comp=E,77nm,0.9s			Lg	Lg	16 30 19.4	
MRKS	**Merke** comp=E,17nm,0.5s	**3.23**	**326**	*eP*	**Pb**	**16 29 32.9**	**-2.4**
MRKS	comp=E,40nm,0.4s			*eS*	**Sb**	**16 30 16.4**	**+1.5**
MRKS	**Merke** comp=E,25nm,0.7s	**3.23**	**326**	Pg	**Pn**	**16 29 32.5**	**+3.7**
MRKS	comp=E,39nm,0.5s			Lg	Lg	16 30 16.4	
AAA	**Alma-Ata** comp=E,18nm,0.3s	**3.23**	**16**	*eP*	**Pb**	**16 29 35.8**	**+0.5**
AAA	comp=E,74nm,0.6s			*eS*	**Sg**	**16 30 21.2**	**0.0**
AAA	**Alma-Ata** comp=E,29nm,0.4s	**3.23**	**16**	Pg	**Pb**	**16 29 35.0**	**-0.3**
AAA	comp=E,74nm,0.6s			Lg	Lg	16 30 21.2	
KNDC	**Almaty** comp=E,32nm,0.5s	**3.25**	**17**	⇑Pn	**Pn**	**16 29 30.0**	**+0.9**
KNDC	comp=E,171nm,0.5s			⇑Lg	Lg	16 30 21.2	
USP	**Ospenovka** SNR=5.8	**3.28**	**344**	P	**Pn**	**16 29 32.0**	**+2.5**
KOTS	**Kotyrbulak** comp=E,16nm,0.3s	**3.30**	**18**	*eP*	**Pb**	**16 29 36.7**	**+0.1**
KOTS	comp=E,141nm,0.8s			*eS*	**Sg**	**16 30 22.7**	**-0.7**
KOTS	**Kotyrbulak** comp=E,16nm,0.7s	**3.30**	**18**	Pg	**Pb**	**16 29 35.7**	**-0.8**
KOTS	comp=E,141nm,0.8s			Lg	Lg	16 30 22.7	
MNAS	**Manas** baz=19	**3.39**	**316**	⇑*iP*	**Pn**	**16 29 31.1**	**0.0**
MNAS	baz=19			⇑*iS*	**Sn**	**16 30 13.1**	**+1.5**
SGDS	**Sogindy** comp=E,15nm,0.3s	**3.44**	**347**	Pg	**Pb**	**16 29 38.2**	**-0.6**
SGDS	comp=E,40nm,0.6s			Lg	Lg	16 30 26.0	
SATY	**Saty** comp=E,5.2nm,1.0s	**3.58**	**34**	*eP*	**Pb**	**16 29 41.1**	**-0.2**
SATY	comp=E,35nm,0.6s			*eS*	**Sg**	**16 30 30.9**	**-1.6**
SATY	**Saty** comp=E,13nm,0.7s	**3.58**	**34**	Pg	**Pb**	**16 29 41.0**	**-0.3**
SATY	comp=E,35nm,0.6s			Lg	Lg	16 30 30.9	
KRBS	**Karabastau** comp=E,15nm,0.5s	**3.59**	**360**	*eP*	**Pb**	**16 29 41.7**	**+0.3**
KRBS	comp=E,35nm,0.7s			*eS*	**Sg**	**16 30 31.1**	**-1.6**
KRBS	**Karabastau** comp=E,29nm,0.7s	**3.59**	**360**	Pg	**Pb**	**16 29 41.1**	**-0.3**
KRBS	comp=E,35nm,0.7s			Lg	Lg	16 30 31.1	
KTBS	**Karatobe** comp=E,25nm,0.7s	**3.67**	**11**	*eP*	**Pb**	**16 29 43.5**	**+0.6**
KTBS	comp=E,97nm,0.7s			*eS*	**Sg**	**16 30 34.2**	**-1.3**
KTBS	**Karatobe** comp=E,25nm,0.7s	**3.67**	**11**	Pg	**Pb**	**16 29 42.9**	**0.0**
KTBS	comp=E,97nm,0.7s			Lg	Lg	16 30 34.2	
TRKS	**Terek-Say** baz=96	**3.74**	**294**	⇑*eP*	**Pn**	**16 29 34.2**	**-1.8**
TRKS	baz=96			⇑*iS*	**Sn**	**16 30 18.5**	**-2.0**
BTK	**Batken** baz=74	**3.75**	**271**	⇑*eP*	**Pn**	**16 29 33.9**	**-2.1**
BTK	baz=74			⇑*iS*	**Sn**	**16 30 17.7**	**-2.8**
KUU	**Kurty** comp=E,3.5nm,0.8s	**3.81**	**7**	*eP*	**Pb**	**16 29 45.8**	**+0.5**
KUU	comp=E,82nm,0.8s			*eS*	**Sg**	**16 30 37.9**	**-2.0**
KUU	**Kurty** comp=E,15nm,0.6s	**3.81**	**7**	Pg	**Pb**	**16 29 45.1**	**-0.2**
KUU	comp=E,82nm,0.8s			Lg	Lg	16 30 37.9	
CHKK	**Chushkaly** comp=E,11nm,0.8s	**3.86**	**14**	*eP*	**Pb**	**16 29 47.0**	**+0.9**
CHKK	comp=E,79nm,0.9s			*eS*	**Sg**	**16 30 40.4**	**-1.2**
CHKK	**Chushkaly** comp=E,14nm,0.5s	**3.86**	**14**	Pg	**Pb**	**16 29 46.5**	**+0.4**
CHKK	comp=E,79nm,0.9s			Lg	Lg	16 30 40.4	
KPKS	**Kokpek** comp=E,14nm,0.6s	**4.03**	**33**	*eP*	**Pb**	**16 29 49.5**	**+0.6**
KPKS	comp=E,66nm,0.4s			*eS*	**Sg**	**16 30 44.6**	**-2.3**
PDGK	**Podgornoye** comp=E,3.7nm,0.8s	**4.29**	**40**	Pg	**Pb**	**16 29 51.9**	**-1.5**
PDGK	comp=E,19nm,0.8s			Lg	Lg	16 30 50.1	
KTMS	**Ketmen** comp=E,0.3nm,0.3s	**4.82**	**45**	*eP*	**Pb**	**16 30 03.4**	**+1.0**
KTMS	comp=E,17nm,0.6s			*eS*	**Sg**	**16 31 07.6**	**-4.6**
KTMS	**Ketmen** comp=E,0.3nm,0.1s	**4.82**	**45**	Pg	**Pb**	**16 30 02.5**	**+0.1**
KTMS	comp=E,17nm,0.6s			Lg	Lg	16 31 07.6	
KK31	**Karatay Array** comp=E,8.0nm,0.8s,baz=134,slow=16,SNR=17	**4.91**	**309**	⇓Pg	**Pb**	**16 30 05.3**	**+1.4**
KK31	comp=E,4.7nm,0.5s,baz=124,slow=28,SNR=5.1			⇓Lg	Lg	16 31 12.1	
BTLS	**Baital** comp=E,2.9nm,1.0s	**5.08**	**347**	*eP*	**Pb**	**16 30 07.0**	**+0.2**
BTLS	comp=E,22nm,0.5s			*eS*	**Sb**	**16 31 14.5**	**+6.4**
BTLS	**Baital** comp=E,7.6nm,0.7s	**5.08**	**347**	Pg	**Pb**	**16 30 07.7**	**+0.9**
BTLS	comp=E,22nm,0.8s			Lg	Lg	16 31 16.9	
DJR	**Jarkent** comp=E,1.2nm,0.2s	**5.20**	**34**	*eP*	**Pb**	**16 30 10.6**	**+1.7**
DJR	comp=E,7.9nm,0.5s			*eS*	**Sg**	**16 31 20.2**	**-4.2**
DJR	**Jarkent** comp=E,3.9nm,0.7s	**5.20**	**34**	Pg	**Pb**	**16 30 09.8**	**+0.9**
DJR	comp=E,7.9nm,0.5s			Lg	Lg	16 31 20.2	
MAKZ	**Makanchi** comp=E,1.1nm,0.8s	**8.10**	**32**	⇑Pn	**Pn**	**16 30 36.5**	**+0.8**
MAKZ	comp=E,2.0nm,1.1s			⇑Lg	Lg	16 32 52.9	
MK31	**Makanchi Array** comp=E,1.1nm,0.7s,baz=211,slow=13,SNR=10	**8.22**	**33**	⇓Pn	**Pn**	**16 30 37.8**	**+0.4**
MK31	comp=E,3.2nm,1.1s,baz=215,slow=29,SNR=2.8			⇑Lg	Lg	16 32 54.3	
WMQ	**Urumqi**	**9.67**	**64**	*eP*	**Pn**	**16 30 55.8**	**-1.5**
WMQ	comp=N,8.0nm,0.7s			smax	smax		
WMQ	comp=E,11nm,0.5s			smax	smax		

*IDC **29** 16:29:23.0±1.4, 16°.66N×145°.93E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.7/62, mbtmp3.8/7, ML3.5/1, MS3.1/3, Ms1 3.1/3, ms1mx2.7/39, Error ellipse: s-maj=40.2km s-min=21.5km az=85.0*
*NEIC **29** 16:29:24.7±1.2, 16°.75N±0°.07×146°.1E±0°.1, h12km±6km, mb4.6/11, Error ellipse: s-maj=15.9km s-min=6.3km az=122.0*
ISC 29 16:29:24.4±0.9, 16°.79N±0°.06×146°.0E±0°.2, h10km, n33, σ1§17/26, mb4.4/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**0.51**	**210**		**Pb**	**16 29 35.2**	**-0.2**
GUMO	**Guam** 5.7nm,0.3s,baz=22,slow=5.4,SNR=6.2	**3.35**	**199**	Pn	**Pn**	**16 30 16.9**	**0.0**
GUMO	comp=E,78nm,18.2s,baz=356,slow=27			LR	LR	16 30 50.8	
GUMO	4.3nm,0.3s,baz=26,slow=17,SNR=2.7			Sn	**Sn**	**16 30 59.5**	**+2.8**
GUMO	**Guam**	**3.35**	**199**	Pn	**Pn**	**16 30 17.0**	**+0.1**
JCJ	**Chichijima**	**10.85**	**342**	Pn	**Pn**	**16 32 02.1**	**+2.4**
JMZ	**Minamidaito 2**	**16.41**	**306**		**P**	**16 33 17.7**	**-0.1**
H11S3	**WAKE ISLAND Hy** baz=268,slow=75,SNR=150	**19.81**	**82**	T	T	16 54 20.6	
H11S1	**WAKE ISLAND Hy** baz=268,slow=75,SNR=211	**19.82**	**82**	T	T	16 54 22.9	
H11S2	**WAKE ISLAND Hy** baz=268,slow=75,SNR=181	**19.83**	**82**	T	T	16 54 21.9	
H11N1	**WAKE ISLAND Hy** baz=265,slow=75,SNR=382	**20.07**	**78**	T	T	16 54 41.5	
H11N2	**WAKE ISLAND Hy** baz=265,slow=75,SNR=316	**20.08**	**78**	T	T	16 54 43.0	
H11N3	**WAKE ISLAND Hy** baz=265,slow=75,SNR=295	**20.09**	**78**	T	T	16 54 42.6	
JNU	**Nakatsue** comp=E,29nm,1.1s	**21.22**	**323**	P	**P**	**16 34 10.6**	**+0.1**
JNU				IAmb	IAmb	16 34 23.9	
JHS	**Saijyo** comp=Z,20nm,1.2s	**21.48**	**330**	P	**P**	**16 34 12.9**	**-0.3**
JHS				IAmb	IAmb	16 34 33.1	
DAV	**Davao City (W)** comp=Z,64nm,19.4s,baz=89,slow=35	**22.15**	**247**	LR	LR	16 42 23.5	
KSRS	**Korea Array** comp=Z,7.7nm,1.0s,baz=145,slow=11,SNR=6.6	**26.03**	**326**	P	**P**	**16 34 57.5**	**-0.2**
USRK	**Ussuriysk Ar.**	**29.78**	**340**	P	**P**	**16 35 29.4**	**-1.9**
BJT	**Baijiatuan** comp=Z,14nm,1.4s	**34.70**	**318**	P	**P**	**16 36 13.8**	**-0.6**
BJT				IAmb	IAmb	16 36 21.2	
PETK	**Petropavlovsk-** comp=Z,55nm,20.3s,baz=244,slow=33	**37.40**	**12**	LR	LR	16 49 50.9	
WRA	**Warramunga Arr** comp=Z,0.5nm,0.7s,baz=21,slow=9.1,SNR=4.8	**38.25**	**198**	P	**P**	**16 36 43.1**	**-1.8**
SLVN	**Son La** comp=Z,11nm,1.3s	**39.94**	**283**	P	**P**	**16 36 59.4**	**+0.2**
SLVN				IAmb	IAmb	16 37 02.0	
ASAR	**Alice Springs** comp=Z,0.2nm,0.5s,baz=15,slow=13,SNR=8.8	**41.90**	**197**	P	**P**	**16 37 13.4**	**-1.8**
CM31	**Chiang Mai Arr**	**44.76**	**279**	P	**P**	**16 37 38.1**	**-0.4**
CMAR	**Chiang Mai Arr** comp=Z,5.8nm,1.0s,baz=74,slow=6.3,SNR=28	**44.76**	**279**	P	**P**	**16 37 39.1**	**+0.6**
CMAR	**Chiang Mai Arr**	**44.76**	**279**	P	**P**	**16 37 38.1**	**-0.5**
SONM	**Songino Array**	**44.80**	**322**	P	**P**	**16 37 37.8**	**-0.8**
IMAR	**Indian Mountai**	**62.85**	**24**	P	**P**	**16 39 50.5**	**+0.3**
KURBB	**Kurchatov Array** comp=Z,0.7nm,0.3s,baz=98,slow=6.7,SNR=1.9	**62.92**	**319**	P	**P**	**16 39 52.0**	**+1.1**
H21K	**Melozitna Rive**	**63.10**	**24**	P	**P**	**16 39 52.4**	**+0.5**
MLY	**Manley**	**63.73**	**25**	P	**P**	**16 39 55.5**	**-0.6**
MLY				IAmb	IAmb	16 40 05.2	
MDM	**Murphy Dome** comp=Z,6.5nm,1.3s	**64.73**	**25**	P	**P**	**16 40 02.3**	**-0.4**
MDM				IAmb	IAmb	16 40 04.4	
H24K	**Noodor Dome** com

*BJI **29** 16:33:25.5±0.0,30.°30N×69.°96E,h15km,mB4.7/10, mb4.5/25,Ms3.8/5,Ms7 3.7/3*
*NDI **29** 16:33:26.6±2.6,30.°64N×69.°58E,h10km,ML4.3, mb4.3(NEIC)*
*IDC **29** 16:33:29.3±0.9,30.°62N×69.°83E,h0km,mb4.0/15, mb1 4.0/16,mb1mx3.9/59,mbtmp4.0/16,ML3.6/1,MS3.2/3, Ms1 3.3/3,ms1mx2.8/46,Error ellipse: s-maj=23.6km s-min=17.5km az=52.0*
*NEIC **29** 16:33:32.2±1.9,30.°7N±0.°1×70.°0E±0.°1,h25km±5km, mb4.3/16,Error ellipse: s-maj=16.7km s-min=12.8km az=223.0*
*NNC **29** 16:33:33.1±4.1,31.°05N×69.°57E,h0km,mb4.5,Error ellipse: s-maj=65.1km s-min=33.1km az=104.0*
*MOS **29** 16:33:33.5±1.6,30.°85N×70.°08E,h35km,mb4.9/3,Error ellipse: s-maj=15.6km s-min=5.9km az=83.3*

ISC 29 16:33:29.9±0.5,30.°49N±0.°05×69.°97E±0.°04,h19km,n98, σ2s34/105,mb4.2/26,2C-3D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBL	**Kabul**	**4.11**	**349**	P		**Pn**	**16 34 33.2**	**+1.3**
KBL	**Kabul**	**4.11**	**349**	Pn		**Pn**	**16 34 33.2**	**+1.3**
NIL	**Nilore**	**4.20**	**41**	P		**Pn**	**16 34 34.3**	**+1.3**
NIL	**Nilore**	**4.20**	**41**	Pn		**Pn**	**16 34 34.3**	**+1.3**
BHK	**Bhakra**	**5.61**	**79**	*e*P		Pb	16 35 02.0	-5.2
BHK				*e*S		**Sg**	**16 36 33.8**	**+3.8**
DHRM	**DHARAMSHALA**	**5.69**	**70**	*e*P		**Pn**	**16 34 56.4**	**+2.8**
DHRM				*e*S		**Sb**	**16 36 10.9**	**-5.7**
DHRM				IAML			16 36 42.4	
	comp=N,514nm,0.7s							
DHRM				IAML			16 36 44.5	
	comp=E,707nm,0.8s							
KUDL	**Kundal**	**6.15**	**111**	*e*P		**Pn**	**16 35 00.3**	**+0.5**
KUDL				*i* x		**Pg**	**16 35 29.7**	**+2.0**
KUDL				*e*S		**Sn**	**16 36 11.1**	**+1.5**
SMLA	**Simla**	**6.22**	**82**	*e*P		**Pn**	**16 35 02.6**	**+2.0**
SMLA				*i* x		Pb	16 35 10.3	-7.3
SMLA				*e*S		**Sn**	**16 36 14.6**	**+3.3**
SMLA				IAML			16 36 23.6	
	comp=E,152nm,1.0s							
SMLA				IAML			16 36 24.2	
	comp=N,329nm,0.6s							
NDI	**New Delhi**	**6.56**	**104**	*e*P		**Pb**	**16 35 19.0**	**-4.4**
NDI				*e*S		**Sn**	**16 36 21.0**	**+1.3**
BHUJ	**Bhuj**	**7.22**	**182**	*e*P		**Pn**	**16 35 13.6**	**-0.8**
BHUJ				*e*S		**Sn**	**16 36 32.4**	**-3.4**
CHGR	**Chuyangaron**	**8.17**	**356**			**Pn**	**16 35 27.1**	**-0.4**
GAR	**Garm**	**8.49**	**2**			**Pn**	**16 35 31.8**	**-0.2**
DRK	**Karamyk**	**9.09**	**9**			**Pn**	**16 35 40.4**	**+0.1**
BTK	**Batken**	**9.57**	**4**	P		**Pn**	**16 35 46.8**	**+0.1**
BTK	**Batken**	**9.57**	**4**			**Pn**	**16 35 46.8**	**+0.1**
BHPL	**Bhopal**	**9.82**	**136**	*e*P		**Pn**	**16 35 51.4**	**+1.3**
BHPL				*e*S		**Sn**	**16 37 38.9**	**-1.0**
KSH	**Kashi**	**10.26**	**27**	P		**Pn**	**16 35 52.5**	**-3.6**
KSH				pP			16 35 55.8	
KSH				sP			16 35 59.3	
KSH				S		Sn	16 37 38.3	-12
KSH				pmax		pmax		
	comp=N,27nm,0.8s							
KSH				LR		LR		
	comp=N,290nm,10.4s							
KSH				LR		LR		
	comp=N,280nm,8.5s							
PYUN	**Piuthan**	**11.61**	**99**	*e*P		**Pn**	**16 36 15.1**	**+0.3**
	comp=N,52nm,0.4s							
DANN	**Dangsing**	**12.21**	**97**	*e*P		**Pn**	**16 36 23.3**	**+0.2**
	comp=N,56nm,0.5s							
KOLN	**Koldanda**	**12.22**	**99**	*e*P		**Pn**	**16 36 22.9**	**-0.2**
	comp=N,30nm,0.4s							
WSAR	**Wadi Sarin**	**12.43**	**237**	Pn		**Pn**	**16 36 23.1**	**-2.8**
	comp=N,1.2nm,0.3s,baz=85,slow=7.5,SNR=14							
WSAR				Sn		Sn	16 38 29.6	-14
	comp=N,0.9nm,0.3s,baz=289,slow=18,SNR=6.7							
KK31	**Karatay Array**	**12.59**	**2**	⇓P		**Pn**	**16 36 26.2**	**-1.8**
	comp=N,2.4nm,0.4s,baz=186,slow=12,SNR=49							
KK31				⇑S		**Sn**	**16 38 43.4**	**-4.3**
	comp=N,4.6nm,0.7s,baz=187,slow=25,SNR=4.0							
KK31	**Karatay Array**	**12.59**	**2**	P		**Pn**	**16 36 25.5**	**-2.5**
KK31	**Karatay Array**	**12.59**	**2**	Pn		**Pn**	**16 36 25.5**	**-2.5**
KKAR	**Karatay Array**	**12.59**	**2**	P		**Pn**	**16 36 25.5**	**-2.5**
KKAR	**Karatay Array**	**12.59**	**2**	Pn		**Pn**	**16 36 25.5**	**-2.5**
AAK	**Ala-Archa**	**12.65**	**15**	Pn		**Pn**	**16 36 27.5**	**-1.4**
	comp=N,1.4nm,0.3s,baz=187,slow=5.8,SNR=14							
AAK				LR		LR	16 42 08.6	
	comp=N,238nm,19.4s,baz=187,slow=41							
AAK	**Ala-Archa**	**12.65**	**15**	P		**Pn**	**16 36 27.2**	**-1.6**
	comp=N,4.7nm,0.6s							
AAK				S		**Sn**	**16 38 46.0**	**-3.3**
	comp=N,8.0nm,1.0s							
AAK	**Ala-Archa**	**12.65**	**15**	P		**Pn**	**16 36 27.3**	**-1.6**
AAK	**Ala-Archa**	**12.65**	**15**	Pn		**Pn**	**16 36 27.3**	**-1.6**
BOOM	**Boomskoye usch**	**12.89**	**20**	P		**Pn**	**16 36 30.6**	**-1.7**
BOOM	**Boomskoye usch**	**12.89**	**20**			**Pn**	**16 36 30.6**	**-1.7**
KDJ	**Kajisay**	**12.98**	**25**	P		**Pn**	**16 36 32.7**	**-0.7**
KDJ	**Kajisay**	**12.98**	**25**			**Pn**	**16 36 32.7**	**-0.7**
GKN	**Gorkha**	**13.04**	**97**	*e*P		**Pn**	**16 36 33.0**	**-1.4**
	comp=N,28nm,0.4s							
TKM2	**Tokmak 2**	**13.19**	**18**	⇑P		**Pn**	**16 36 37.6**	**+1.2**
	comp=N,13nm,1.1s							
TKM2				⇓S		**Sn**	**16 39 00.6**	**-2.1**
	comp=N,7.8nm,0.9s							
UOSS	**Minazif**	**13.38**	**249**	Pn		**Pn**	**16 36 35.9**	**-3.0**
PKIN	**Phulchoki**	**13.80**	**98**	*e*P		**Pn**	**16 36 43.2**	**-1.6**
	comp=N,23nm,0.4s							
PKI	**Pulchoki**	**13.82**	**98**	*e*P		**Pn**	**16 36 43.4**	**-1.7**
	comp=N,17nm,0.5s							
RAMN	**Ramite**	**15.01**	**99**	*e*P		**Pn**	**16 36 58.1**	**-3.2**
	comp=N,20nm,0.5s							
HYB	**Hyderabad**	**15.19**	**147**	*i* P		P	16 37 16.0	+7.6
HYB				*e*S		**Sn**	**16 39 57.0**	**+5.7**
BOK	**Bokaro**	**15.65**	**111**	*e*P		**Pn**	**16 37 09.1**	**-0.4**
BOK				*e*S		**Sn**	**16 39 53.2**	**-9.2**
ODAN	**Odare**	**15.71**	**99**	*e*P		**Pn**	**16 37 07.9**	**-2.5**
	comp=N,13nm,0.5s							
TAPN	**Taplejung**	**15.85**	**97**	*e*P		**Pn**	**16 37 09.8**	**-2.4**
	comp=N,19nm,0.5s							
MAKZ	**Makanchi**	**18.76**	**26**	P		**P**	**16 37 42.0**	**-5.7**
MAKZ				pmax		pmax		
	comp=Z,5.0nm,0.8s							
MAKZ	**Makanchi**	**18.76**	**26**			**P**	**16 37 42.0**	**-5.7**
MK31	**Makanchi Array**	**18.87**	**27**	P		**P**	**16 37 48.0**	**-0.9**
MK31				pmax		pmax		
	comp=Z,5.0nm,1.1s							
MK31	**Makanchi Array**	**18.87**	**27**	P		**P**	**16 37 48.0**	**-0.9**
MKAR	**Makanchi Array**	**18.87**	**27**	P		**P**	**16 37 48.5**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=197,slow=11,SNR=7.7							
MKAR	**Makanchi Array**	**18.87**	**27**	P		**P**	**16 37 47.9**	**-1.0**
WMQ	**Urumqi**	**19.35**	**42**	*e*P		**Pn**	**16 37 56.5**	**+1.1**
WMQ				pmax		pmax		
	comp=Z,28nm,0.9s							
WMQ				pmax		pmax		
	comp=Z,190nm,5.1s							
ABKAR	**Akbulak array**	**20.22**	**341**	P		**P**	**16 38 03.6**	**-0.1**
ABKAR				IAmb		IAmb	16 38 16.9	
	comp=Z,3.4nm,0.8s							
KURBB	**Kurchatov Arra**	**21.11**	**15**	P		**P**	**16 38 13.1**	**-0.1**
	comp=Z,1.7nm,0.3s,baz=206,slow=10,SNR=10							
KURK	**Kurchatov**	**21.21**	**15**	P		**P**	**16 38 13.1**	**-1.3**
KURK	**Kurchatov**	**21.21**	**15**	P		**P**	**16 38 13.1**	**-1.3**
AKTO	**Aktyubinsk**	**21.84**	**339**	P		**P**	**16 38 19.9**	**-1.3**
	comp=Z,1.2nm,0.8s,baz=160,slow=8.6,SNR=2.7							
BVAR	**Borovoye Array**	**22.52**	**1**	P		**P**	**16 38 29.1**	**+0.8**
	comp=Z,7.6nm,0.8s,baz=173,slow=13,SNR=20							
BRVK	**Borovoye**	**22.55**	**0**	P		**P**	**16 38 28.2**	**-0.5**
BRVK				pmax		pmax		
	comp=Z,10.0nm,0.8s							
BRVK	**Borovoye**	**22.55**	**0**	P		**P**	**16 38 28.2**	**-0.5**
BRVK				IAmb		IAmb	16 38 37.5	
	comp=Z,9.9nm,0.8s							
ZAA0	**Zalesovo Array**	**25.78**	**20**	P		**P**	**16 38 59.1**	**-0.3**
ZAA0				IAmb		IAmb	16 39 27.4	
	comp=Z,4.5nm,0.8s							
ZALV	**Zalesovo Beam**	**25.78**	**20**	P		**P**	**16 38 59.9**	**+0.5**
	comp=Z,3.5nm,0.5s,baz=206,slow=9.9,SNR=12							
ZALV				LR		LR	16 49 26.8	
	comp=Z,33nm,21.7s,baz=146,slow=37							
ZALV	**Zalesovo Beam**	**25.78**	**20**	P		**P**	**16 38 59.1**	**-0.3**
GTA	**Gaotai**	**25.93**	**62**	*e*P		**P**	**16 39 03.8**	**+2.7**
GTA				pP		pP	16 39 08.3	+1.0
GTA				sP		sP	16 39 11.5	+1.6
GTA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
ARU	**Arti**	**27.14**	**346**	P		**P**	**16 39 13.9**	**+2.2**
	comp=Z,0.6nm,0.4s,baz=181,slow=21,SNR=4.3							
BELG	**Belogornoye**	**27.35**	**330**	P		**P**	**16 39 15.5**	**+2.0**
	comp=Z,4.5nm,0.5s,baz=126,slow=10,SNR=2.1							
LZH	**Lanzhou**	**28.77**	**70**	*e*P		**P**	**16 39 28.3**	**+1.7**
LZH				pP		pP	16 39 33.0	+0.2
LZH				sP		sP	16 39 36.0	+0.6
LZH				pmax		pmax		
	comp=Z,29nm,1.0s							
CMAR	**Chiang Mai Arr**	**28.87**	**108**	P		**P**	**16 39 28.4**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=295,slow=9.8,SNR=7.5							
CMAR				LR		LR	16 54 04.1	
	comp=Z,34nm,18.2s,baz=210,slow=42							
CD2	**Chengdu**	**28.99**	**80**	P		**P**	**16 39 25.5**	**-3.0**
CD2				pmax		pmax		
	comp=Z,20nm,0.5s							
KMI	**Kunming**	**29.41**	**92**	⇓P		**P**	**16 39 33.0**	**+0.5**
KMI				pP		pP	16 39 38.0	-0.7
SONM	**Songino Array**	**32.75**	**48**	P		**P**	**16 40 04.0**	**+2.5**
	comp=Z,1.8nm,0.5s,baz=214,slow=15,SNR=2.8							
HHC	**Hu-ho-hao-te**	**35.05**	**61**	*e*P		**P**	**16 40 21.0**	**-0.6**
HHC				pmax		pmax		
	comp=Z,10.0nm,1.1s							
HHC				pmax		pmax		
	comp=Z,140nm,5.8s							
AKASG	**Malin Array Be**	**36.34**	**316**	P		**P**	**16 40 33.0**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=135,slow=16,SNR=4.7							
AKASG	**Malin Array Be**	**36.34**	**316**	P		**P**	**16 40 33.0**	**+0.6**
AKASG	**Malin Array Be**	**36.34**	**316**	P		**P**	**16 40 33.0**	**+0.6**
AKASG	**Malin Array Be**	**36.34**	**316**	IAmb		IAmb	16 41 01.8	
	comp=Z,2.3nm,1.3s							
BURAR	**Bucovina Array**	**38.14**	**310**	P		**P**	**16 40 47.0**	**-0.8**
NRIK	**Noril'sk**	**40.17**	**10**	P		**P**	**16 41 06.6**	**+2.1**
	comp=Z,2.4nm,0.5s,baz=171,slow=8.9,SNR=3.9							
NJ2	**Nanjing**	**41.52**	**75**	*e*P		**P**	**16 41 15.0**	**-1.1**
NJ2				pmax		pmax		
	comp=Z,7.0nm,0.5s							
FIA1	**FINESS Array S**	**42.12**	**330**	P		**P**	**16 41 21.6**	**+1.0**
FINES	**FINESS Array B**	**42.12**	**330**	P		**P**	**16 41 21.5**	**+0.9**
	comp=Z,4.8nm,1.1s,baz=117,slow=6.6,SNR=6.2							
FINES	**FINESS Array B**	**42.12**	**330**	P		**P**	**16 41 21.4**	**+0.8**
ARCES	**ARCESS Array B**	**46.42**	**340**	P		**P**	**16 41 57.5**	**+2.6**
	comp=Z,3.4nm,0.8s,baz=142,slow=9.0,SNR=1.8							
ARCES	**ARCESS Array B**	**46.42**	**340**	IAmb		IAmb	16 42 07.0	
	comp=Z,12nm,1.3s							
KSRS	**Korea Array**	**47.91**	**65**	P		**P**	**16 42 11.1**	**+4.2**
	comp=Z,1.0nm,0.8s,baz=263,slow=8.1,SNR=4.8							
NC602	**NORSAR Array S**	**48.56**	**326**	P		**P**	**16 42 11.1**	**-0.6**
NC303	**NORSAR Array S**	**48.74**	**327**	P		**P**	**16 42 12.8**	**-0.2**
TORD	**Torodi Ar. Bea**	**64.83**	**271**	P		**P**	**16 44 08.8**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=49,slow=4.9,SNR=4.3							
TORD	**Torodi Ar. Bea**	**64.83**	**271**	IAmb		IAmb	16 44 19.9	
	comp=Z,9nm,1.4s							
SUMG	**Summit**	**66.47**	**342**	P		**P**	**16 44 18.8**	**+0.7**
SUMG				pmax		pmax		
	comp=Z,4.0nm,0.8s							
SUMG	**Summit**	**66.47**	**342**	P		**P**	**16 44 18.8**	**+0.7**
SUMG				IAmb		IAmb	16 44 22.6	
	comp=Z,4.3nm,0.8s							
BMAR	**Burnt Mountain**	**78.97**	**13**	P		**P**	**16 45 32.4**	**+0.4**
ADK	**Adak**	**79.38**	**35**	P		**P**	**16 45 33.6**	**-0.9**
ADK				pmax		pmax		
	comp=Z,40nm,1.4s							
ADK	**Adak**	**79.38**	**35**	P		**P**	**16 45 33.6**	**-0.9**
WRA	**Warramunga Arr**	**79.62**	**120**	P		**P**	**16 45 38.7**	**+2.4**
	comp=Z,1.3nm,0.7s,baz=321,slow=5.1,SNR=12							
WRA	**Warramunga Arr**	**79.62**	**120**	IAmb		IAmb	16 45 46.9	
	comp=Z,0.2nm,1.1s							
ILAR	**Eielson Array**	**80.78**	**15**	P		**P**	**16 45 44.3**	**+2.5**
	comp=Z,12nm,0.3s,baz=311,slow=2.7,SNR=5.2							
ASAR	**Alice Springs**	**81.59**	**124**	P		**P**	**16 45 51.1**	**+4.3**
	comp=Z,0.7nm,0.7s,baz=305,slow=5.7,SNR=14							
ASAR	**Alice Springs**	**81.59**	**124**	P		**P**	**16 45 47.4**	**+0.6**

IDC 29 16:41:03.8±20.0,21.°30S×179.°59E,h0km,mb3.9/3, mb1 4.2/4,mb1mx3.8/27,mbtmp4.1/4,ML4.4/1,Error ellipse: s-maj=378.0km s-min=56.1km az=61.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**17.04**	**187**	P		Pn	16 45 03.6	+0.2
	1.4nm,0.3s,baz=4.7,slow=7.9,SNR=11							
STKA	**Stephens Creek**	**35.41**	**245**	P		P	16 48 00.5	-1.1
	1.7nm,0.6s,baz=98,slow=7.1,SNR=4.6							
ASAR	**Alice Springs**	**42.14**	**258**	P		P	16 48 58.0	-0.2
	1.2nm,0.9s,baz=94,slow=7.3,SNR=16							
WRA	**Warramunga Arr**	**42.26**	**263**	P		P	16 48 59.8	+0.6
	0.6nm,0.3s,baz=95,slow=8.3,SNR=51							

*IDC **29** 16:46:12.7±3.2,31.°50S×72.°90W,h0km,mb3.8/1, mb1 3.9/4,mb1mx3.6/22,mbtmp3.7/4,ML4.0/3,Error ellipse: s-maj=120.6km s-min=35.3km az=97.0*
*SJA **29** 16:46:14.0,31.°51S×72.°46W,h10km,ML4.5*
*NEIC **29** 16:46:15.8±1.1,31.°54S±0.°03×72.°05W±0.°06,h10km±1km, mb4.4/3,Error ellipse: s-maj=9.0km s-min=5.2km az=252.0*
*GUC **29** 16:46:16.0±0.7,31.°55S×71.°96W,h28km±4km,ML3.9*

ISC 29 16:46:15.0±2.3,31.°51S±0.°04×72.°22W±0.°07,h8km±15km, n82,σ1965/89,mb4.4/3,7C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.97**	**31**	*e*P		**Pb**	**16 46 33.1**	**-1.0**
CO06				*e*S		**Sg**	**16 46 46.9**	**+0.6**
CO06	**Fray Jorge**	**0.97**	**31**			**Pb**	**16 46 33.0**	**-1.1**
CO02	**Combarbal**	**1.09**	**74**	⇑P		**Pn**	**16 46 33.6**	**-3.0**
CO02				*i* S		**Sb**	**16 46 46.3**	**-4.2**
CO02				IAML			16 46 53.1	
	comp=E,7μm,0.3s							
CO02	**Combarbal**	**1.09**	**74**			**Pn**	**16 46 33.6**	**-3.0**
CO02	**Combarbal**	**1.09**	**74**	*i* P		Pn	16 46 33.0	-3.6
VA06	**Catapilco**	**1.31**	**144**	⇑P		**Pn**	**16 46 37.5**	**-2.1**
VA06				*i* S		**Sn**	**16 46 53.3**	**-4.0**
VA06				IAML			16 46 56.6	
	comp=E,5μm,0.4s							
CO03	**El Pedregal**	**1.47**	**63**	⇓P		**Pn**	**16 46 40.6**	**-1.3**
CO03				*e*S		**Sn**	**16 46 58.1**	**-3.3**
CO03				IAML			16 47 02.3	
	comp=E,2μm,0.7s							
CO03	**El Pedregal**	**1.47**	**63**	Pn		**Pn**	**16 46 40.5**	**-1.5**
CO03	**El Pedregal**	**1.47**	**63**	*i* P		**Pn**	**16 46 40.0**	**-1.9**
VA01	**Torpederas**	**1.59**	**162**	*e*P		**Pn**	**16 46 42.7**	**-0.7**
VA01				*e*S		**Sn**	**16 47 02.6**	**-1.5**
VA01	**Torpederas**	**1.59**	**162**	Pn		**Pn**	**16 46 41.9**	**-1.5**
VA01	**Torpederas**	**1.59**	**162**	*i* P		**Pn**	**16 46 43.0**	**-0.4**
ROCH	**El Roble**	**1.78**	**145**	⇑P		**Pn**	**16 46 45.5**	**-0.9**
ROCH				*i* S		**Sn**	**16 47 07.3**	**-2.0**
ROCH				IAML			16 47 13.7	
	comp=N,3μm,0.7s							
CO05	**La Serena**	**1.79**	**28**	*e*P		**Pn**	**16 46 46.5**	**+0.3**
CO05				*e*S		**Sn**	**16 47 09.7**	**+0.5**
CO05	**La Serena**	**1.79**	**28**	Pn		**Pn**	**16 46 46.0**	**-0.2**
GO04	**Tololo Observa**	**1.81**	**43**	*e*P		**Pn**	**16 46 45.9**	**-0.8**
GO04				*i* S		**Sn**	**16 47 09.9**	**0.0**
GO04	**Tololo Observa**	**1.81**	**43**			**Pn**	**16 46 46.4**	**-0.3**
GO04	**Tololo Observa**	**1.81**	**43**	*i* P		**Pn**	**16 46 47.0**	**+0.3**
VA03	**San Esteban**	**1.89**	**132**	*e*P		**Pn**	**16 46 46.6**	**-1.1**
VA03				*i* S		**Sn**	**16 47 09.6**	**-2.2**
VA03				IAML			16 47 13.6	
	comp=E,5μm,0.3s							
VA03	**San Esteban**	**1.89**	**132**			**Pn**	**16 46 46.4**	**-1.3**
VA03	**San Esteban**	**1.89**	**132**	*i* P		**Pn**	**16 46 47.0**	**-0.7**
VA05	**Santo Domingo**	**2.20**	**167**	*e*P		**Pn**	**16 46 51.5**	**-0.4**
VA05				*e*S		**Sn**	**16 47 19.9**	**+0.6**
VA05				IAML			16 47 29.1	
	comp=E,1μm,0.4s							
VA05	**Santo Domingo**	**2.20**	**167**	Pn		**Pn**	**16 46 50.9**	**-1.0**
MT05	**Renca**	**2.26**	**147**	*e*P		**Pn**	**16 46 52.3**	**-0.4**
MT05				*e*S		**Sn**	**16 47 20.3**	**-0.5**
MT05				IAML			16 47 27.6	
	comp=E,2μm,0.4s							
MT05	**Renca**	**2.26**	**147**	Pn		**Pn**	**16 46 51.5**	**-1.3**
MT05	**Renca**	**2.26**	**147**	*i* P		**Pn**	**16 46 53.0**	**+0.3**
MT01	**Popeta**	**2.49**	**161**	⇑P		**Pn**	**16 46 55.5**	**-0.4**
MT01				*e*S		**Sn**	**16 47 26.9**	**+0.5**
MT01				IAML			16 47 39.0	
	comp=E,462nm,0.6s							
MT01	**Popeta**	**2.49**	**161**			**Pn**	**16 46 55.2**	**-0.6**
MT01	**Popeta**	**2.49**	**161**	*i* P		**Pn**	**16 46 55.0**	**-0.8**
MT09	**Talagante**	**2.49**	**156**	*e*P		**Pn**	**16 46 56.2**	**+0.3**
MT09				*e*S		**Sn**	**16 47 27.1**	**+0.5**
MT09				IAML			16 47 35.8	
	comp=N,812nm,0.3s							
MT09	**Talagante**	**2.49**	**156**			**Pn**	**16 46 55.3**	**-0.7**
RTLS	**Leoncito**	**2.51**	**97**	*i* P		**Pn**	**16 46 58.0**	**+1.6**
AUSP	**Uspallata**	**2.51**	**107**	*i* P		**Pn**	**16 46 58.0**	**+1.6**
AROD	**Rodeo**	**2.71**	**61**	*i* P		**Pn**	**16 47 02.0**	**+2.8**
LCO	**Las Campanas**	**2.81**	**28**	*i* P		**Pn**	**16 47 01.0**	**+0.5**
ACCO	**Cerro Coronel**	**2.86**	**72**	*i* P		**Pn**	**16 47 05.0**	**+3.8**
LMEL	**Las Melosas**	**2.89**	**144**	⇑P		**Pn**	**16 47 02.0**	**+0.5**
LMEL				*i* S		**Sn**	**16 47 36.2**	**-0.3**
LMEL				IAML			16 47 44.0	
	comp=N,548nm,0.2s							
BO03	**Pichilemu**	**2.99**	**176**	⇑P		**Pn**	**16 47 02.1**	**-0.6**
BO03				IAML			16 47 59.0	
	comp=E,218nm,0.5s							
ZON	**Zonda**	**3.02**	**92**	Pn		**Pn**	**16 47 06.0**	**+2.7**
BO01	**Tunca**	**3.03**	**162**	⇑P		**Pn**	**16 47 03.1**	**-0.2**
BO01				IAML			16 47 52.8	
	comp=E,192nm,0.5s							
BO01	**Tunca**	**3.03**	**162**	Pn		**Pn**	**16 47 02.8**	**-0.5**
BO01	**Tunca**	**3.03**	**162**	*i* P		**Pn**	**16 47 03.0**	**-0.3**
ASAL	**Salagasta**	**3.07**	**111**	*i* P		**Pn**	**16 47 08.0**	**+4.1**
ARCO	**CERRO ARCO**	**3.09**	**116**	*i* P		**Pn**	**16 47 08.0**	**+3.8**
BO02	**Sierra Bellavi**	**3.49**	**160**	*e*P		**Pn**	**16 47 09.8**	**+0.1**
BO02				*e*S		**Sn**	**16 47 51.8**	**+0.5**
BO02				IAML			16 48 05.6	
	comp=N,462nm,0.2s							
BO02	**Sierra Bellavi**	**3.49**	**160**			**Pn**	**16 47 09.2**	**-0.5**
BO02	**Sierra Bellavi**	**3.49**	**160**	*i* P		**Pn**	**16 47 10.0**	**+0.3**
GO05	**Hualа**	**3.50**	**176**	Pn		**Pn**	**16 47 08.9**	**-0.9**
GO05	**Hualа**	**3.50**	**176**	*i* P		**Pn**	**16 47 09.0**	**-0.8**
AVFE	**Valle Fertil**	**4.17**	**80**	*i* P		**Pn**	**16 47 22.0**	**+2.9**
GO03	**Copiap**	**4.27**	**24**	Pn		**Pn**	**16 47 20.6**	**+0.3**
ML02	**Panimavida**	**4.30**	**171**	Pn		**Pn**	**16 47 19.8**	**-0.9**
RFA	**San Rafael**	**4.53**	**137**	*i* P		**Pn**	**16 47 25.0**	**+1.1**
ACHE	**Chepes**	**4.77**	**87**	*i* P		**Pn**	**16 47 32.0**	**+4.7**
ACLC	**CERRO LA CRUZ**	**5.00**	**67**	*i* P		**Pn**	**16 47 33.0**	**+2.5**
AC02	**Maricunga**	**5.38**	**31**	Pn		**Pn**	**16 47 36.0**	**-0.1**
AC02	**Maricunga**	**5.38**	**31**	*i* P		**Pn**	**16 47 37.0**	**+0.9**
H03N1	**Juan Fernandez**	**5.97**	**249**	T		T	16 54 26.2	
	baz=82,slow=72,SNR=1220							
H03N3	**Juan Fernandez**	**5.99**	**249**	T		T	16 54 27.7	
	baz=82,slow=72,SNR=52							
H03N2	**Juan Fernandez**	**5.99**	**249**	T		T	16 54 27.0	
	baz=82,slow=72,SNR=1093							
PB14	**IPOC Station P**	**7.04**	**14**	Pn		**Pn**	**16 47 59.0**	**+0.3**
LC01	**Cunco**	**7.38**	**178**	Pn		**Pn**	**16 48 01.7**	**-1.3**
LC01	**Cunco**	**7.38**	**178**	*i* P		**Pn**	**16 48 03.0**	**0.0**
LR03	**Panguipulli**	**8.11**	**181**	Pn		**Pn**	**16 48 12.6**	**-0.4**
PLCA	**Paso Flores**	**9.30**	**172**	Pn		**Pn**	**16 48 30.1**	**+0.5**
	comp=N,1.0nm,0.3s,baz=342,slow=12,SNR=12							
PLCA	**Paso Flores**	**9.30**	**172**	Pn		**Pn**	**16 48 29.8**	**+0.3**
PLCA	**Paso Flores**	**9.30**	**172**	*i* P		**Pn**	**16 48 30.0**	**+0.5**
LL03	**Petrohue**	**9.61**	**181**	Pn		**Pn**	**16 48 33.8**	**+0.1**
TRQA	**Tornquist**	**10.65**	**131**	Pn		**Pn**	**16 48 46.1**	**-1.8**
LPAZ	**La Paz**	**15.60**	**15**	Pn		**Pn**	**16 49 57.5**	**+1.5**
	comp=N,0.1nm,0.3s,baz=203,slow=13,SNR=4.8							
SIV	**San Ignacio**	**18.49**	**36**	Pn		**Pn**	**16 50 34.6**	**+2.9**
	comp=N,0.1nm,0.3s,baz=257,slow=17,SNR=2.2							
PMSA	**Palmer Station**	**33.67**	**174**	*i* P		**P**	**16 52 56.0

TWS1			*i* S		Sn	17 34 41.9	-0.6		
	baz=330								
ETLH	**Xiulin Townshi**	**0.52 206**	P		Pn	17 34 32.9	-0.2		
	baz=202								
ETLH			*e*S		Sn	17 34 42.5	-0.2		
	baz=202								
ETL	**Fush Village**	**0.52 191**	*e*P		Pn	17 34 33.2	+0.1		
	baz=186								
ETL			*e*S		Sn	17 34 43.1	+0.4		
	baz=186								
ANP	**Anpu**	**0.55 340**	P		Pn	17 34 33.2	-0.1		
	baz=344								
ANP			S		Sn	17 34 43.0	-0.2		
	baz=344								
NTST	**Danshui**	**0.55 333**	*e*P		Pn	17 34 33.5	+0.2		
	baz=336								
NTST			*e*S		Sn	17 34 43.5	+0.3		
	baz=336								
NCU	**National Centr**	**0.57 301**	*e*P		Pn	17 34 33.6	+0.1		
	baz=303								
NCU			S		Sn	17 34 43.9	+0.3		
	baz=303								
NCUH	**Zhongli**	**0.58 301**	P		Pn	17 34 33.5	-0.1		
	baz=303								
NCUH			S		Sn	17 34 43.5	-0.1		
	baz=303								
TWD	**Chiawan**	**0.60 192**	P		Pn	17 34 33.4	-0.4		
	baz=187								
TWD			*e*S		Sn	17 34 44.3	+0.2		
	baz=187								
FUSS	**Fushou**	**0.61 226**	*i* P		Pn	17 34 34.0	-0.2		
	baz=223								
FUSS			S		Sn	17 34 44.1	-0.6		
	baz=223								
TWY	**Chenhua**	**0.61 349**	P		Pn	17 34 34.3	+0.4		
	baz=353								
TWY			*e*S		Sn	17 34 44.3	0.0		
	baz=353								
TWT	**Tachien**	**0.66 231**	P		Pn	17 34 35.0	+0.5		
	baz=228								
TWT			S		Sn	17 34 45.4	0.0		
	baz=228								
NSTT	**Nanjuang**	**0.66 267**	P		Pn	17 34 34.2	-0.2		
	baz=266								
NSTT			S		Sn	17 34 44.9	-0.3		
	baz=266								
TDCB	**Techi**	**0.67 231**	P		Pn	17 34 34.8	+0.1		
	baz=229								
TDCB			S		Sn	17 34 45.2	-0.3		
	baz=229								
WHF	**Hehuan Shan**	**0.67 219**	P		Pn	17 34 34.5	-0.5		
	baz=215								
WHF			*e*S		Sn	17 34 45.5	-0.7		
	baz=215								
SBCB	**Hsinchu**	**0.69 280**	P		Pn	17 34 34.5	-0.2		
	baz=280								
SBCB			S		Sn	17 34 45.9	+0.2		
	baz=280								
HWA	**Hwalien**	**0.70 189**	*e*P		Pn	17 34 35.3	+0.4		
	baz=185								
HWA			*e*S		Sn	17 34 46.6	+0.7		
	baz=185								
HSN	**Hsinchu**	**0.70 281**	*e*P		Pn	17 34 34.4	-0.4		
	baz=284								
HSN			*e*S		Sn	17 34 44.8	-1.2		
	baz=284								
CHGB	**Renai**	**0.79 220**	P		Pn	17 34 36.0	-0.1		
	baz=217								
CHGB			S		Sn	17 34 47.6	-0.6		
	baz=217								
WHP	**Taichung City**	**0.81 241**	*i* P		Pn	17 34 36.4	+0.2		
	baz=240								
WHP			S		Sn	17 34 48.1	-0.3		
	baz=240								
NMLH	**Miaoli**	**0.86 261**	*i* P		Pn	17 34 36.8	+0.1		
	baz=260								
NMLH			S		Sn	17 34 49.0	-0.4		
	baz=260								
OWD	**Renai**	**0.88 215**	P		Pn	17 34 36.5	-0.5		
	baz=213								
OWD			S		Sn	17 34 49.1	-0.7		
	baz=213								
ESL	**Shilin**	**0.90 198**	P		Pn	17 34 37.3	+0.2		
	baz=194								
ESL			*e*S		Sn	17 34 49.4	-0.6		
	baz=194								
NSY	**Sanyi**	**0.92 254**	P		Pn	17 34 37.3	-0.1		
	baz=253								
NSY			S		Sn	17 34 50.0	-0.4		
	baz=253								
TWQ1	**Liyutan**	**0.93 250**	P		Pn	17 34 37.5	-0.1		
	baz=248								
TWQ1			S		Sn	17 34 50.4	-0.3		
	baz=248								
WCS	**Beigang Elemen**	**0.96 231**	P		Pn	17 34 38.1	+0.1		
	baz=229								
WCS			*e*S		Sn	17 34 51.5	+0.1		
	baz=229								
PCYT	**Pengchaiyu**	**1.00 18**	*e*P		Pn	17 34 39.2	+0.7		
	baz=20								
PCYT			*e*S		Sn	17 34 53.1	+0.8		
	baz=20								
EGFH	**Guangfu**	**1.04 196**	*e*P		Pn	17 34 38.9	0.0		
	baz=193								
EGFH			*e*S		Sn	17 34 53.2	+0.2		
	baz=193								
WDJ	**Dajia District**	**1.04 252**	P		Pn	17 34 39.0	+0.1		
	baz=251								
WDJ			S		Sn	17 34 53.0	-0.2		
	baz=251								
SMLT	**Sun Moon Lake**	**1.09 224**	P		Pn	17 34 39.7	+0.1		
	baz=222								
SMLT			*e*S		Sn	17 34 54.4	0.0		
	baz=222								
TCU	**Taichung**	**1.09 242**	*e*P		Pn	17 34 39.7	+0.1		
	baz=240								
TCU			*e*S		Sn	17 34 54.1	-0.2		
	baz=240								
TYC	**Yuchr**	**1.10 226**	P		Pn	17 34 39.6	-0.1		
	baz=224								
TYC			*e*S		Sn	17 34 54.5	0.0		
	baz=224								
SSLB	**Suanglung**	**1.13 219**	P		Pn	17 34 40.1	+0.1		
	baz=217								
SSLB			*e*S		Sn	17 34 55.4	+0.2		
	baz=217								
YOJ	**Yonaguni jima**	**1.19 100**	P		Pn	17 34 40.0	-0.7		
YOJ			*e*S		Sn	17 34 55.2	-1.2		
YOJ	**Yonaguni jima**	**1.19 100**	P		Pn	17 34 40.3	-0.4		
	baz=99								
YOJ			*e*S		Sn	17 34 57.4	+1.0		
	baz=99								
HGSD	**Ruisui**	**1.21 193**	P		Pn	17 34 41.3	+0.2		
	baz=191								
HGSD			*e*S		Sn	17 34 57.3	+0.4		
	baz=191								
EHY	**Hungye**	**1.22 198**	*e*P		Pn	17 34 41.2	0.0		
	baz=195								
EHY			*e*S		Sn	17 34 57.3	+0.1		
	baz=195								
WCHH	**Zhanghua**	**1.22 241**	*e*P		Pn	17 34 41.1	-0.1		
	baz=240								
WCHH			*e*S		Sn	17 34 56.8	-0.3		
	baz=240								
WNT	**Mingjian**	**1.24 231**	*e*P		Pn	17 34 41.6	+0.2		
	baz=229								
WNT			*e*S		Sn	17 34 57.7	+0.1		
	baz=229								
WJS	**Zhushan**	**1.25 227**	*e*P		Pn	17 34 41.8	+0.2		
	baz=226								
WJS			*e*S		Sn	17 34 58.2	+0.4		
	baz=226								
WHYT	**Xinyi Township**	**1.26 220**	*e*P		Pn	17 34 42.5	+0.7		
	baz=218								
WHYT			S		Sn	17 34 59.1	+1.0		
	baz=218								
YULB	**Yu-li**	**1.33 197**	*e*P		Pn	17 34 42.9	+0.2		
	baz=195								
YULB			*e*S		Sn	17 34 60.0	+0.1		
	baz=195								
EYUL	**Yuli**	**1.37 196**	*e*P		Pn	17 34 43.4	+0.2		
	baz=194								
EYUL			*e*S		Sn	17 35 01.1	+0.5		
	baz=194								
YUS	**Yu-Shan**	**1.38 211**	*e*P		Pn	17 34 43.8	+0.1		
	baz=209								
ALS	**Alishan**	**1.43 216**	P		Pn	17 34 44.3	0.0		
	baz=214								
ALS			S		Sn	17 35 02.1	-0.4		
	baz=214								
CHN5	**Tsauling**	**1.44 222**	*e*P		Pn	17 34 45.0	+0.8		
	baz=220								
CHN5			*e*S		Sn	17 35 02.6	+0.2		
	baz=220								
WRL	**Guolierlin Hig**	**1.45 238**	P		Pn	17 34 43.7	-0.5		
	baz=237								
WRL			S		Sn	17 35 01.4	-1.2		
	baz=237								
WDLH	**Douliu**	**1.46 228**	*e*P		Pn	17 34 44.3	-0.1		
	baz=227								
WDLH			*e*S		Sn	17 35 02.8	0.0		
	baz=227								
FULB	**Fuli**	**1.52 195**	*e*P		Pn	17 34 45.3	+0.1		
	baz=193								
FULB			*e*S		Sn	17 35 04.3	+0.1		
	baz=193								
WTCT	**Ta-ch'eng**	**1.55 239**	*e*P		Pn	17 34 45.7	+0.2		
	baz=237								
WTCT			*e*S		Sn	17 35 04.8	0.0		
	baz=237								
WTK	**Tuku**	**1.57 232**	*e*P		Pn	17 34 46.1	+0.4		
	baz=230								
WTK			*e*S		Sn	17 35 05.0	-0.3		
	baz=230								
CHKT	**Chengkung**	**1.60 192**	*e*P		Pn	17 34 46.4	+0.2		
	baz=190								
CHKT			*e*S		Sn	17 35 06.6	+0.5		
	baz=190								
CHN2	**Minshiung**	**1.61 226**	*e*P		Pn	17 34 47.4	+1.1		
	baz=224								
CHN2			*e*S		Sn	17 35 06.4	+0.1		
	baz=224								
ELDTW	**Lidau**	**1.61 204**	*e*P		Pn	17 34 46.3	-0.2		
	baz=202								
ELDTW			*e*S		Sn	17 35 06.4	-0.2		
	baz=202								
CHY	**Chiayi**	**1.67 226**	*e*P		Pn	17 34 47.4	+0.3		
	baz=224								
CHY			*e*S		Sn	17 35 07.9	+0.1		
	baz=224								
TPUB	**Ta-pu**	**1.70 217**	*e*P		Pn	17 34 48.2	+0.7		
	baz=215								
TPUB			*e*S		Sn	17 35 08.4	0.0		
	baz=215								
WSF	**Szhu**	**1.72 234**	*e*P		Pn	17 34 48.4	+0.6		
	baz=232								
WSF			S		Sn	17 35 08.8	-0.1		
	baz=232								
STYH	**Taoyuan**	**1.73 210**	*e*P		Pn	17 34 48.9	+1.0		
	baz=209								
STYH			*e*S		Sn	17 35 09.7	+0.6		
	baz=209								
EDH	**Donghe**	**1.74 193**	*e*P		Pn	17 34 48.9	+0.8		
	baz=191								
EDH			*e*S		Sn	17 35 09.7	+0.3		
	baz=191								
WTP	**Ta-pu**	**1.75 216**	*e*P		Pn	17 34 48.7	+0.5		
	baz=214								
WTP			*e*S		Sn	17 35 09.9	+0.2		
	baz=214								
TWK	**Hsinying**	**1.80 219**	*e*P		Pn	17 34 49.5	+0.6		
	baz=217								
TWK			*e*S		Sn	17 35 11.2	+0.2		
	baz=217								
LONT	**Longtian**	**1.84 197**	*e*P		Pn	17 34 50.1	+0.7		
	baz=196								
LONT			*e*S		Sn	17 35 12.4	+0.5		
	baz=196								
CHN1	**Nanshi**	**1.84 217**	*e*P		Pn	17 34 50.3	+0.8		
	baz=215								
CHN1			*e*S		Sn	17 35 12.4	+0.4		
	baz=215								
IRIF	**Iriomote-Funau**	**1.85 100**	P		Pn	17 34 48.6	-0.9		
IRIF			S		Sn	17 35 10.8	-1.3		
ICHU	**Yijhu**	**1.86 226**	*e*P		Pn	17 34 50.1	+0.5		
	baz=224								
ICHU			*e*S		Sn	17 35 12.2	-0.1		
	baz=224								
SGST	**Jiashian**	**1.90 214**	*e*P		Pn	17 34 51.0	+0.8		
	baz=212								
SGST			*e*S		Sn	17 35 13.6	+0.3		
	baz=212								
TWG	**Pinlang**	**1.94 198**	*e*P		Pn	17 34 50.9	+0.2		
	baz=196								
TWG			*e*S		Sn	17 35 14.7	+0.5		
	baz=196								
TWGBT	**Beinan**	**1.94 198**	*e*P		Pn	17 34 50.8	+0.1		
	baz=196								
TWGBT			*e*S		Sn	17 35 13.6	-0.7		
	baz=196								
SLGT	**Liugui**	**1.94 211**	*e*P		Pn	17 34 52.0	+1.2		
	baz=209								
SLGT			*e*S		Sn	17 35 15.1	+0.7		
	baz=209								
HATJ	**Hateruma jima**	**1.99 108**	*e*S		Sn	17 35 14.9	-0.5		
LDUT	**Ludao**	**2.00 187**	*e*P		Pn	17 34 52.4	+0.8		
	baz=185								
LDUT			*e*S		Sn	17 35 16.3	+0.5		
	baz=185								
JKRS	**Kuro-shima**	**2.12 101**	P		Pn	17 34 52.9	-0.3		
JKRS			*e*S		Sn	17 35 17.7	-0.9		
SSD	**Sandimen**	**2.17 208**	*e*P		Pn	17 34 53.9	+0.1		
	baz=206								
SSD			*e*S		Sn	17 35 19.4	-0.3		
	baz=206								
ECL	**Taimali**	**2.18 199**	*e*P		Pn	17 34 54.4	+0.4		
	baz=197								
ECL			*e*S		Sn	17 35 19.8	-0.3		
	baz=197								
MATB	**Ma-tsu**	**2.19 313**	*e*P		Pn	17 34 54.8	+0.8		
	baz=312								
MATB			*e*S		Sn	17 35 20.0	-0.1		
	baz=312								
TSMG	**Majia**	**2.20 207**	*e*P		Pn	17 34 54.8	+0.6		
	baz=206								
TSMG			*e*S		Sn	17 35 20.5	+0.1		
	baz=206								
JIJ	**Ishigaki jima**	**2.22 97**	P		Pn	17 34 53.9	-0.6		
JIJ			S		Sn	17 35 19.2	-1.8		
PNG	**Penghu**	**2.27 241**	*e*P		Pn	17 34 55.4	+0.3		
	baz=240								
PNG			*e*S		Sn	17 35 21.8	-0.4		
	baz=240								
MASBT	**Mashibuluo**	**2.28 206**	*e*P		Pn	17 34 56.1	+0.7		
	baz=205								
MASBT			*e*S		Sn	17 35 22.3	-0.3		
	baz=205								
PHUB	**P'eng-hu**	**2.28 240**	*e*S		Sn	17 35 22.2	-0.3		
	baz=239								
JISG	**Ishigakijimahi**	**2.35 92**	P		Pn	17 34 55.9	-0.3		
JISG			*e*S		Sn	17 35 23.5	-0.6		
PTMZ	**Houxiangcun**	**2.40 279**	*e*P		Pn	17 34 56.9	0.0		
	baz=279								
PTMZ			*e*S		Sn	17 35 24.8	-0.4		
	baz=279								
EAST	**Anshuo**	**2.42 200**	*e*P		Pn	17 34 57.9	+0.7		
	baz=198								
EAST			*e*S		Sn	17 35 25.3	-0.5		
	baz=198								
SSPT	**Xinbi**	**2.42 206**	*e*P		Pn	17 34 58.1	+0.8		
	baz=205								
SCZT	**Fangliau**	**2.51 204**	*e*P		Pn	17 34 58.6	+0.2		
	baz=203								
SCZT			*e*S		Sn	17 35 27.8	-0.1		
	baz=203								
LYJJ	**Jianjiangzhen**	**2.58 317**	*e*P		Pn	17 34 59.9	+0.6		
	baz=317								
LYJJ			*e*S		Sn	17 35 29.5	-0.2		
	baz=317								
SLIU	**Shizi**	**2.59 199**	*e*P		Pn	17 35 00.2	+0.7		
	baz=198								
LAY	**Lan-yu**	**2.63 184**	*e*P		Pn	17 35 01.1	+1.1		
	baz=182								
LAY			*e*S		Sn	17 35 30.7	-0.2		
	baz=182								
XPSS	**Dashiqiu**	**2.64 329**	*e*P		Pn	17 35 01.3	+1.1		
	baz=329								
XPSS			*e*S		Sn	17 35 30.8	-0.4		
	baz=329								
JTJ	**Tarama**	**2.71 90**	*e*S		Sn	17 35 33.2	+0.5		
HEN	**Hengchun**	**2.81 199**	*e*P		Pn	17 35 02.7	+0.3		
	baz=198								
HEN			*e*S		Sn	17 35 34.7	-0.5		
	baz=198								
TWK1	**Hengchun**	**2.85 198**	*e*S		Sn	17 35 35.0	-1.2		
	baz=196								
TWKBT	**Hengchun**	**2.85 197**	*e*P		Pn	17 35 03.1	+0.1		
	baz=196								
TWKBT			*e*S		Sn	17 35 35.8	-0.4		
	baz=196								
KNM	**Kinmen**	**3.01 266**	*e*S		Sn	17 35 41.5	+1.2		
	baz=265								
KNMB	**Chin-men Tao**	**3.05 267**	*e*P		Pn	17 35 05.8	+0.1		
	baz=266								
KNMB			*e*S		Sn	17 35 39.5	-1.6		
	baz=266								
JIRB	**Irabujima**	**3.13 86**	*e*S		Sn	17 35 42.8	-0.4		
JIKM	**Ikemajima**	**3.21 85**	*e*S		Sn	17 35 45.8	+0.8		
JMJ2	**Miyako jima3**	**3.27 88**	*e*S		Sn	17 35 46.2	-0.4		
JOGS	**Gusukube**	**3.34 88**	*e*S		Sn	17 35 48.7	+0.4		
AXDP	**Jialang**	**3.42 275**	*e*P		Pn	17 35 11.3	+0.4		
	baz=273								
AXDP			*e*S		Sn	17 35 48.9	-1.4		
	baz=273								
ZPLA	**Ao Xicun**	**3.71 259**	*e*P		Pn	17 35 15.0	+0.3		
	baz=258								
ZPLA			*e*S		Sn	17 35 54.8	-2.3		
	baz=258								

IDC 29 17:38:03.0±1.5, 2°24N×126°49E, h0km, mb3.3/4, mb1 3.6/5, mb1mx3.4/34, mbtmp3.5/5, ML3.8/1, Error ellipse: s-maj=62.5km s-min=22.6km az=63.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.68**	**123**	Pn	Pn	17 39 26.6	-2.2
	2.8nm,0.3s,baz=185,slow=20,SNR=26						
FITZ	**Fitzroy Crossi**	**20.22**	**182**	P	Pn	17 42 41.1	-0.5
	1.6nm,0.9s,baz=18,slow=9.6,SNR=1.8						
WRA	**Warramunga Arr**	**23.35**	**161**	P	P	17 43 13.1	-0.1
	0.2nm,0.4s,baz=334,slow=11,SNR=6.1						
ASAR	**Alice Springs**	**26.74**	**165**	P	P	17 43 45.0	+0.5
	0.1nm,0.3s,baz=344,slow=11,SNR=6.4						
MKAR	**Makanchi Array**	**58.65**	**326**	P	P	17 48 01.8	-0.3
	0.7nm,0.6s,baz=123,slow=7.9,SNR=8.7						

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*IDC **29** 17:43:04.0±2.2, 6°.79N×125°.98E, h200km±34km, mb3.2/4, mb1 3.5/5, mb1mx3.0/36, mbtmp4.0/5, Error ellipse: s-maj=111.6km s-min=19.4km az=125.0*

*MAN **29** 17:43:05.4, 5°.87N×126°.20E, h115km, mb4.7, ML3.6, MS3.5*

ISC 29 17:43:06.3±1.2, 6°.0N±0°.1×126°.1E±0°.2, h150km, n9, σ1s31/10, mb3.6/4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.14**	**333**	P	Pn	17 43 31.6	-0.8
	75nm,0.3s,baz=109,slow=2.9,SNR=6.0						
DAV				S	Sn	17 43 52.9	+0.7
	83nm,0.3s,baz=124,slow=23,SNR=4.2						
KCP	**Kidapawan**	**1.39**	**314**	i/P	Pn	17 43 34.3	-0.5
KCP				*i* S	Sn	17 43 56.1	-0.5
SGSI	**Sangihe**	**2.41**	**194**	P	Pn	17 43 45.2	-1.2
SANI	**Sanana**	**8.04**	**181**	P	Pn	17 44 55.3	-5.0
BATI	**Baumata**	**16.32**	**189**	P	P	17 46 50.2	+2.9
	1.4nm,0.3s,baz=27,slow=6.8,SNR=2.4						
FITZ	**Fitzroy Crossi**	**23.99**	**181**	P	P	17 48 07.0	-0.2
	1.5nm,0.9s,baz=0.0,slow=9.1,SNR=2.0						
WRA	**Warramunga Arr**	**27.07**	**163**	P	P	17 48 34.2	-0.8
	0.3nm,0.4s,baz=344,slow=9.9,SNR=7.5						
ASAR	**Alice Springs**	**30.50**	**166**	P	P	17 49 04.8	-0.5
	0.6nm,0.4s,baz=341,slow=7.0,SNR=31						
STKA	**Stephens Creek**	**40.50**	**160**	P	P	17 50 30.9	+0.3
	0.7nm,0.3s,baz=334,slow=13,SNR=3.4						

DJA 29 17:43:51.9±0.6, 1°N±5°×12°2E±°, h10km, M3.5/6, MLv3.5/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.77**	**219**	P	Pg	17 44 06.7	0.0
MRSI				S	Sg	17 44 17.3	+0.5
KMSI	**Cibinong**	**1.64**	**108**	P	Pn	17 44 19.1	-1.7
APSI	**Ampana**	**2.12**	**201**	P	Pn	17 44 28.1	+0.6
MPSI	**Mapaga**	**2.63**	**254**	P	Pn	17 44 36.2	+1.8

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*MOS **29** 17:50:11.3±1.0, 1°.66N×128°.55E, h40km, mb4.8/18, Error ellipse: s-maj=11.3km s-min=6.3km az=109.6*

*BJI **29** 17:50:11.0±0.0, 1°.24N×128°.84E, h54km, mB5.1/22, mb4.7/43, Ms4.6/5, Ms7 4.3/5*

*IDC **29** 17:50:13.7±1.3, 1°.57N×128°.58E, h45km±12km, mb4.1/20, mb1 4.2/22, mb1mx4.1/38, mbtmp4.4/22, ML4.3/3, MS3.6/12, Ms1 3.6/12, ms1mx3.3/32, Error ellipse: s-maj=15.1km s-min=8.4km az=68.0*

*DJA **29** 17:50:14.9±0.3, 2°N±3°×12°9E±°, h48km±3km, M4.8/24, mb4.8/24, mB5.3/12, MLv4.9/13, Mw(mB)4.8/12*

*NEIC **29** 17:50:14.5±2.2, 1°.61N±0°.07×128°.56E±0°.04, h53km±6km, mb5.0/82, Error ellipse: s-maj=10.6km s-min=5.3km az=200.0*

*GCMT **29** 17:50:15.5±0.3, 1°.68N±0°.02×128°.57E±0°.03, h35km±2km, MW4.8/60, Moment Tensor Solution. s16,c17; s60,c84; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.73±.17; $M_{\theta\theta}$-0.21±.10; $M_{\phi\phi}$0.94±.12; $M_{r\theta}$0.10±.10; $M_{r\phi}$1.09±.07; $M_{\theta\phi}$1.59±.15; Best double couple: M0.07700×10^{16} NP1:ϕ_s70.00000°, δ32.00000°, λ-25.00000°. NP2: ϕ_s182.00000°, δ77.00000°, λ-119.00000°. Principal axes: T 2.2960, Plg26.0000°, Azm294.0000°; N -0.4380, Plg28.0000°, Azm189.0000°; P -1.8570, Plg50.0000°, Azm60.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 17:50:15.1±0.3, 1°.52N±0°.04×128°.55E±0°.04, h61km, n251, σ1s73/264, mb4.9/105, 4C-2D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAMI	**Galela, Maluku**	**0.83**	**293**	P	Pn	17 50 29.3	-1.7
GAMI				S	Sn	17 50 40.4	-2.3
TNTI	**Ternate**	**1.40**	**238**	Pn	Pn	17 50 38.0	-0.5
TNTI				Sn	Sn	17 50 57.1	+1.2
TNTI	**Ternate**	**1.40**	**238**	P	Pn	17 50 38.0	-0.5
TNTI				S	Sn	17 50 56.8	+0.8
SWI	**Sorong**	**3.60**	**131**	P	Pn	17 51 08.9	+0.5
SIJI	**Sorong**	**3.60**	**131**	P	Pn	17 51 07.8	-0.8
	176nm,0.3s,baz=164,slow=21,SNR=428						
SIJI				S	Sn	17 51 47.7	-2.2
	28nm,0.3s,baz=155,slow=21,SNR=14						
SIJI	**Sorong**	**3.60**	**131**	P	Pn	17 51 07.5	-1.0
SGSI	**Sangihe**	**3.71**	**306**	P	Pn	17 51 10.2	+0.3
MNI	**Manado**	**3.71**	**269**	P	Pn	17 51 11.0	+1.0
SANI	**Sanana**	**4.37**	**216**	P	Pn	17 51 18.3	-0.8
KMSI	**Cibinong**	**4.67**	**258**	P	Pn	17 51 24.1	+1.1
KRAI	**Karang Ratu**	**4.81**	**182**	P	Pn	17 51 26.9	+1.9
MSAI	**Masohi**	**4.85**	**176**	P	Pn	17 51 28.3	+2.8
GTOI	**Gorontalo**	**5.61**	**261**	P	Pn	17 51 38.6	+2.6
	0.3nm950nm81nm,1.1s						
FAKI	**Fak Fak**	**5.75**	**140**	Pn	Pn	17 51 38.5	+0.5
FAKI				Sn	Sn	17 52 41.3	-1.4
FAKI	**Fak Fak**	**5.75**	**140**	P	Pn	17 51 38.6	+0.6
	1.4nm5µm196nm,0.7s						
DAV	**Davao City (W)**	**6.26**	**332**	P	Pn	17 51 46.8	+1.9
	37nm,0.3s,baz=120,slow=11,SNR=1.6						
DAV				S	Sn	17 52 57.8	+2.7
	42nm,0.3s,baz=326,slow=9.9,SNR=1.3						
LUWI	**Luwuk**	**6.31**	**246**	Pn	Pn	17 51 45.7	0.0
LUWI	**Luwuk**	**6.31**	**246**	P	Pn	17 51 48.5	+2.9
KCP	**Kidapawan**	**6.45**	**328**	i/P	Pn	17 51 50.2	+2.5
KCP				*i* S	Sn	17 53 07.7	+7.8
MRSI	**Marisa**	**6.69**	**261**	P	Pn	17 51 52.3	+1.5
	0.6nm2µm129nm,0.6s						
APSI	**Ampana**	**7.31**	**

2005

BNSI Bone 10.29 235 P **Pn** 17 52 41.7 +1.7
41nm,0.9s
MMSI Mamuju 10.51 247 P Pn 17 52 50.9 +7.8
BKSI Bulukumba 10.82 231 P **Pn** **17 52 51.7 +4.4**
KAPI Kappang 10.93 234 P **Pn** **17 52 50.0 +1.2**
1.8nm,0.3s,baz=98,slow=6.8,SNR=2.2
KAPI S **Sn** **17 54 47.5 -2.0**
baz=191,slow=23,SNR=1.0
KAPI LR LR 17 57 56.7
comp=Z,139nm,21.7s,baz=62,slow=42
KAPI Kappang 10.93 234 P **Pn** **17 52 49.8 +1.0**
KAPI Kappang 10.93 234 Pn **Pn** **17 52 49.8 +1.0**
SOEI Soe 11.98 201 Pn **Pn** **17 53 00.6 -2.7**
EDFI Ende, Flores 12.28 214 P P 17 53 23.7 +6.1
BATI Baumata 12.62 203 LR LR 17 58 23.5
comp=Z,275nm,20.8s,baz=31,slow=39
JAY Jayapura 12.79 108 LR LR 17 57 35.1
comp=Z,415nm,21.3s,baz=290,slow=34
MTKI Muara Teweh, K 13.87 260 P **Pn** **17 53 28.2 -0.7**
893nm10nm,1.4s
BBKI Banjar Baru 14.57 250 P **Pn** **17 53 38.8 +0.7**
3µm44nm,1.5s
STKI Sintang 17.13 265 P **P** **17 54 11.5 0.0**
20nm,1.3s
JAGI Jajag, Banyuwa 17.45 235 Pn **Pn** **17 54 12.8 -1.7**
SJI Sawahan 19.10 241 P **Pn** **17 54 35.5 +0.9**
1µm53nm,1.5s
PWJI Pagerwojo 19.20 240 P Pn 17 54 43.7 +8.0
FITZ Fitzroy Crossi 19.70 188 P **P** **17 54 39.9 +0.3**
0.2nm,0.3s,baz=23,slow=9.3,SNR=11
SMRI Semarang 19.98 245 P **P** **17 54 42.1 -0.6**
SMRI IAmb IAmb 17 55 06.8
comp=Z,411nm,2.0s
GUMO Guam 20.11 53 LR LR 18 01 38.5
comp=Z,288nm,19.6s,baz=222,slow=34
UGM Wanagama 20.27 242 P **P** **17 54 43.8 -2.2**
CTJI Waduk Cacaban 21.10 246 P **P** **17 54 56.3 +1.5**
comp=Z,47nm,1.4s
KPJI Karang Pucung 21.46 246 P **P** **17 55 00.0 +1.4**
comp=Z,82nm,1.2s
PMG Port Moresby 21.48 121 LR LR 18 04 16.4
comp=Z,240nm,20.5s,baz=266,slow=39
WB0 Warramunga Arr 21.92 165 P **P** **17 55 03.7 +0.2**
WB0 IAmb IAmb 17 55 09.7
comp=Z,18nm,0.7s
WRAB Tennant Creek 22.07 165*ce*P **P** **17 55 07.3 +2.2**
WRAB pmax pmax
comp=Z,34nm,1.3s
WRAB Tennant Creek 22.07 165 P **P** **17 55 04.2 -0.9**
WRAB IAmb IAmb 17 55 11.5
comp=Z,19nm,0.7s
WRA Warramunga Arr 22.07 165 P **P** **17 55 06.5 +1.3**
comp=Z,12nm,0.6s,baz=346,slow=12,SNR=80
WRA S **S** **17 59 07.6 +2.4**
comp=Z,0.8nm,0.8s,baz=360,slow=23,SNR=2.7
WRA ScP **ScP** **18 02 34.5 +1.0**
comp=Z,1.0nm,0.9s,baz=332,slow=2.9,SNR=4.3
WRA LR LR 18 05 52.7
comp=Z,83nm,21.8s,baz=25,slow=42
WRA Warramunga Arr 22.07 165 P **P** **17 55 04.9 -0.3**
WB2 Warramunga Arr 22.07 165 P **P** **17 55 05.4 +0.2**
WB2 IAmb IAmb 17 55 11.6
comp=Z,18nm,0.7s
WR0 Warramunga Arr 22.14 165 P **P** **17 55 05.8 -0.1**
TWG Pinlang 22.39 342 P **P** **17 55 06.3 -2.2**
TWG IAmb IAmb 17 55 34.4
comp=Z,146nm,2.0s
ANA2 Anatahan 22.42 48 P **P** **17 55 07.3 -1.7**
ANA2 IAmb IAmb 17 55 54.6
comp=Z,64nm,0.8s
LEM Lembang 22.48 248 LR LR 18 05 58.9
comp=Z,171nm,20.4s,baz=44,slow=42
CISI Cisompet, Garu 22.56 246 P **P** **17 55 09.6 -1.0**
YULB Yu-li 22.85 343 P **P** **17 55 10.7 -2.8**
YULB IAmb IAmb 17 55 52.8
comp=Z,41nm,1.2s
TPUB Ta-pu 22.98 341 P **P** **17 55 12.1 -2.6**
TPUB IAmb IAmb 17 55 40.9
comp=Z,263nm,1.7s
SSLB Suanglung 23.33 342 P **P** **17 55 15.9 -2.3**
SSLB IAmb IAmb 17 55 41.8
comp=Z,156nm,1.8s
YOJ Yonaguni jima 23.43 347 P **P** **17 55 18.3 -0.7**
YOJ pmax pmax
comp=Z,423nm,1.5s
YOJ Yonaguni jima 23.43 347 P **P** **17 55 18.3 -0.7**
YHNB Yeheng 24.04 344 P **P** **17 55 24.2 -0.5**
TATO Taipei 24.30 344 P **P** **17 55 26.6 -0.3**
KLSI 24.59 255 P **P** **17 55 31.1 +1.4**
comp=Z,9.9nm,1.3s
BTDF Bukit Timah Da 24.77 270 P **P** **17 55 33.1 +1.7**
comp=Z,26nm,1.0s
MDSI Maura Dua 25.07 256 P **P** **17 55 35.1 +0.9**
comp=Z,17nm,1.1s
JOW Kunigami 25.17 359 P **P** **17 55 33.6 -1.3**
JOW IAmb IAmb 17 56 14.4
comp=Z,82nm,1.3s
QIZ Qiongzhong 25.28 315 P **P** **17 55 35.2 -0.7**
QIZ IAmb IAmb 17 55 45.3
comp=Z,60nm,1.5s
AS31 Alice Springs 25.57 169 P **P** **17 55 40.0 +1.4**
ASAR Alice Springs 25.57 169 P **P** **17 55 39.9 +1.3**
comp=Z,1.6nm,0.5s,baz=350,slow=8.8,SNR=40
ASAR PcP **PcP** **17 59 09.2 +0.6**
comp=Z,0.7nm,0.6s,baz=337,slow=2.2,SNR=4.1
ASAR ScP **ScP** **18 02 44.2 +1.2**
comp=Z,0.7nm,0.8s,baz=357,slow=3.0,SNR=7.0
UBPT Khong Chiam 26.57 302 P **P** **17 55 50.0 +2.4**
comp=Z,1µmcomp=Z,34nm,0.9s
UBPT Khong Chiam 26.57 302 P **P** **17 55 47.1 -0.6**
UBPT IAmb IAmb 17 55 50.8
comp=Z,20nm,0.7s
UBPT Khong Chiam 26.57 302 P **P** **17 55 48.4 +0.8**
comp=Z,1µmcomp=Z,33nm,0.9s
MASI Maura Aman, Be 26.71 260 P **P** **17 55 56.1 +7.1**
CTA Charters Tower 27.61 142 P **P** **17 55 57.9 +0.8**
comp=Z,0.9nm,0.4s,baz=11,slow=23,SNR=1.7
CTAO Charters Tower 27.61 142 P **P** **17 55 58.4 +1.4**
CTAO pmax pmax
comp=Z,35nm,1.7s
CTAO Charters Tower 27.61 142 P **P** **17 55 58.4 +1.4**
CTAO IAmb IAmb 17 56 18.7
comp=Z,35nm,1.6s
PDSI Padang 28.19 265 P **P** **17 56 02.0 -0.3**
JCJ Chichijima 28.60 26 LR LR 18 06 55.9
comp=Z,44nm,18.4s,baz=202,slow=35
JCJ Chichijima 28.60 26 P **P** **17 56 03.4 -2.3**
PSI Prapat 29.63 273 P **P** **17 56 14.2 -1.0**
comp=Z,6.6nm,0.7s,baz=60,slow=5.4,SNR=8.7
PSI LR LR 18 08 51.0
comp=Z,76nm,18.6s,slow=38
PSI Prapat 29.63 273 P **P** **17 56 15.5 +0.3**
comp=Z,5.6nm,0.8s
SRIT Nakonsritamara 29.66 285 P **P** **17 56 14.1 -1.2**
SRIT IAmb IAmb 17 56 28.2
comp=Z,17nm,1.0s
CHAI Chaiyaphum 29.83 300 P **P** **17 56 21.3 +4.5**
comp=Z,20nm,0.7s
JSU Suzuyama 29.88 3 P **P** **17 56 16.1 -0.9**
JSU IAmb IAmb 17 56 39.3
comp=Z,21nm,1.1s
PATS Pohnpei 30.14 79 P **P** **17 56 16.8 -2.7**
GSI Gunungsitoli 30.97 270 P **P** **17 56 25.1 -1.7**
GSI IAmb IAmb 17 56 27.1
comp=Z,33nm,0.5s
GSI Gunungsitoli 30.97 270 P **P** **17 56 26.4 -0.5**
comp=Z,52nm,0.7s
SLVN Son La 31.06 311 P **P** **17 56 27.1 -0.5**
NJ2 Nanjing 31.72 344 *eP* **P** **17 56 34.0 +0.8**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
PHIT Phitsanulok 31.75 301 P **P** **17 56 37.2 +3.6**
comp=Z,20nm,0.9s
LHMI Lhok Sumawe 31.76 277 P **P** **17 56 34.7 +0.9**
NANT Nan 32.25 304 P **P** **17 56 40.4 +2.3**
comp=Z,14nm,0.7s
JMN Monobe 32.43 8 P **P** **17 56 36.6 -2.8**
HNR Honiara 33.11 110 P **P** **17 56 45.3 -0.4**
HNR pmax pmax
comp=Z,100nm,1.2s
HNR Honiara 33.11 110 P **P** **17 56 45.3 -0.4**
PAYA Payao 33.21 304 P **P** **17 56 48.8 +2.3**
comp=Z,549nmcomp=Z,12nm,0.5s
CM31 Chiang Mai Arr 33.57 302 P **P** **17 56 47.8 -1.8**
CMAR Chiang Mai Arr 33.57 302 P **P** **17 56 50.8 +1.2**
comp=Z,0.9nm,0.4s,baz=118,slow=7.6,SNR=11

2015 SEP

CMAR Chiang Mai Arr 33.57 302 P **P** **17 56 48.2 -1.4**
JHS Saijyo 33.58 7 P **P** **17 56 47.0 -2.5**
JHS IAmb IAmb 17 57 07.1
comp=Z,55nm,1.3s
CMMT Chiang Mai 33.72 303 P **P** **17 56 52.4 +1.4**
comp=Z,7.2nm,1.6s
CMMT Chiang Mai 33.72 303 P **P** **17 56 51.3 +0.3**
comp=Z,6.8nm,1.6s
CHTO Chiang Mai 33.73 303 P **P** **17 56 49.8 -1.2**
CHTO pmax pmax
comp=Z,4.0nm,0.8s
CHTO Chiang Mai 33.73 303 P **P** **17 56 52.6 +1.6**
comp=Z,7.1nm,1.9s
CHTO Chiang Mai 33.73 303 P **P** **17 56 49.8 -1.2**
CHTO Chiang Mai 33.73 303 P **P** **17 56 51.5 +0.5**
comp=Z,4.0nm,1.9s
ENH Enshi 33.84 330 P **P** **17 56 51.6 -0.2**
ENH IAmb IAmb 17 57 00.1
comp=Z,9.0nm,0.9s
JWT Wachi 34.19 10 P **P** **17 56 54.3 -0.4**
COCO West Island 34.32 246 P **P** **17 56 55.4 -0.7**
COCO pmax pmax
comp=Z,300nm,1.6s
COCO West Island 34.32 246 P **P** **17 56 55.4 -0.7**
INU Inuyama 34.57 12 P **P** **17 56 57.9 -0.1**
INU IAmb IAmb 17 57 02.6
comp=Z,14nm,0.7s
JGF Kuroka 34.88 13 P **P** **17 56 59.6 -1.2**
JGF IAmb IAmb 17 57 10.5
comp=Z,77nm,1.9s
STKA Stephens Creek 35.44 161 P **P** **17 57 07.4 +1.8**
comp=Z,4.9nm,0.6s,baz=337,slow=8.8,SNR=13
STKA LR LR 18 14 30.6
comp=Z,114nm,19.3s,baz=346,slow=41
STKA Stephens Creek 35.44 161 P **P** **17 57 06.4 +0.8**
KSRS Korea Array 35.76 359 P **P** **17 57 08.0 -0.3**
comp=Z,2.4nm,0.6s,baz=172,slow=8.9,SNR=16
KSRS Korea Array 35.76 359 *eP* **P** **17 57 07.5 -0.7**
KSRS pmax pmax
comp=Z,2.0nm,0.6s
KS19 Wonju Array Si 35.81 359 P **P** **17 57 08.0 -0.7**
KS19 IAmb IAmb 17 57 30.3
comp=Z,103nm,2.0s
MJAR Matsushiro Arr 35.98 13 P **P** **17 57 08.7 -1.5**
comp=Z,8.4nm,0.8s,baz=180,slow=9.8,SNR=22
MJAR Matsushiro Arr 35.98 13 P **P** **17 57 08.2 -2.0**
MJAR pmax pmax
comp=Z,5.0nm,0.9s
MJAR Matsushiro Arr 35.98 13 P **P** **17 57 08.2 -2.0**
MAJO Matsushiro 35.98 13 *i* P **P** **17 57 08.9 -1.2**
MAJO pmax pmax
comp=Z,13nm,0.7s
MAJO Matsushiro 35.98 13 P **P** **17 57 08.5 -1.7**
MAJO IAmb IAmb 17 57 10.5
comp=Z,14nm,0.8s
MAT Matsushiro 35.98 13 P **P** **17 57 08.1 -2.0**
MJA0 Matsu Arr-Jizo 35.99 13 *eP* **P** **17 57 08.6 -1.7**
MJA0 pmax pmax
comp=Z,8.0nm,0.7s
XAN Xi'an 37.20 333 P **P** **17 57 20.0 -0.6**
XAN pP pP 17 57 31.5 -4.1
XAN pmax pmax
comp=Z,17nm,0.8s
XAN pmax pmax
comp=Z,260nm,3.9s
JSD Sado 37.42 13 P **P** **17 57 21.0 -1.3**
CD2 Chengdu 37.49 324 P **P** **17 57 23.3 +0.2**
CD2 pmax pmax
comp=Z,20nm,0.8s
JMM Marumori 37.88 16 P **P** **17 57 26.0 -0.2**
JMM IAmb IAmb 17 57 28.8
comp=Z,71nm,1.4s
BJT Baijiatuau 39.94 345 P **P** **17 57 41.7 -1.8**
BJT pmax pmax
comp=Z,9.0nm,1.0s
BJT Baijiatuau 39.94 345 P **P** **17 57 41.7 -1.8**
BJT IAmb IAmb 17 57 44.3
comp=Z,8.9nm,1.0s
BJI Beijing 39.96 345 P **P** **17 57 43.5 -0.1**
BJI pP **pP** **17 57 55.8 -2.9**
BJI pmax pmax
comp=Z,8.0nm,0.8s
H11S3 WAKE ISLAND Hy 41.02 63 T T 18 41 55.1
baz=249,slow=74,SNR=14
H11S2 WAKE ISLAND Hy 41.04 63 T T 18 41 44.8
baz=249,slow=74,SNR=14
H11S1 WAKE ISLAND Hy 41.04 63 T T 18 41 48.9
baz=249,slow=74,SNR=9.6
LZH Lanzhou 41.32 329 *eP* **P** **17 57 56.5 +1.4**
LZH pP pP 17 58 13.3 +3.1
LZH sP sP 17 58 19.3 +2.1
LZH pmax pmax
comp=Z,30nm,1.2s
H11N1 WAKE ISLAND Hy 41.62 62 T T 18 42 35.8
baz=248,slow=75,SNR=52
H11N2 WAKE ISLAND Hy 41.64 62 T T 18 42 32.0
baz=248,slow=75,SNR=42
H11N3 WAKE ISLAND Hy 41.64 62 T T 18 42 18.4
baz=248,slow=75,SNR=19
SANVU Saraoutou 41.77 115 P **P** **17 57 59.0 +0.2**
SANVU IAmb IAmb 17 57 59.1
comp=Z,89nm,1.4s
HHC Hu-ho-hao-te 42.06 341 *eP* **P** **17 58 02.5 +1.5**
HHC pmax pmax
comp=Z,13nm,1.1s
HHC pmax pmax
comp=Z,120nm,5.4s
USRK Ussuriysk Ar. 42.61 4 P **P** **17 58 05.3 0.0**
comp=Z,2.3nm,0.6s,baz=160,slow=4.3,SNR=4.6
USRK Ussuriysk Ar. 42.61 4 P **P** **17 58 04.9 -0.3**
USRK Ussuriysk Ar. 42.61 4 P **P** **17 58 04.9 -0.3**
USA0B Ussuriysk Arra 42.61 4 P **P** **17 58 05.7 +0.4**
USA0B pmax pmax
comp=Z,71nm,2.0s
USA0B Ussuriysk Arra 42.61 4 P **P** **17 58 05.7 +0.4**
USA0B IAmb IAmb 17 58 19.2
comp=Z,71nm,1.9s
SHL Shillong 42.65 307 P **P** **17 58 06.5 +0.3**
SHL pmax pmax
comp=Z,65nm,0.7s
SHL Shillong 42.65 307 P **P** **17 58 06.5 +0.3**
ASAJ Asahikawa 44.21 15 P **P** **17 58 19.0 +0.8**
comp=Z,15nm,1.0s,baz=229,slow=9.8,SNR=12
LSA Lhasa 45.26 312 P **P** **17 58 29.0 +1.7**
LSA Lhasa 45.26 312 P **P** **17 58 28.5 +1.2**
LSA pmax pmax
comp=Z,21nm,0.6s
LSA Lhasa 45.26 312 P **P** **17 58 28.5 +1.2**
LSA IAmb IAmb 17 58 30.9
comp=Z,21nm,0.6s
GTA Gaotai 45.92 329 ⇑P **P** **17 58 32.8 +0.8**
GTA pP pP 17 58 45.0 -2.3
GTA sP sP 17 58 49.3 -4.9
GTA pmax pmax
comp=Z,7.0nm,1.2s
GTA pmax pmax
comp=Z,87nm,5.3s
GTA LR LR
comp=Z,210nm,16.0s
GTA LR LR
comp=Z,220nm,17.1s
GTA LR LR
comp=Z,120nm,16.0s
TAPN Taplejung 46.79 307 *eP* **P** **17 58 39.9 +0.7**
comp=Z,31nm,0.5s
ODAN Odare 46.83 306 *eP* **P** **17 58 40.2 +0.7**
comp=Z,101nm,0.6s
YSS Yuzh-Sakhalins 46.92 13 P **P** **17 58 40.2 +0.7**
RAMN Ramite 47.51 306 *eP* **P** **17 58 45.8 +1.0**
comp=Z,98nm,0.5s
JIRN Jiri 48.14 307 *eP* **P** **17 58 50.5 +0.7**
comp=Z,94nm,0.6s
PKI Pulchoki 48.73 306 *eP* **P** **17 58 54.4 +0.1**
comp=Z,28nm,0.7s
PKIN Phulchoki 48.74 306 *eP* **P** **17 58 54.4 +0.1**
comp=Z,26nm,0.7s
KKN Kakani 48.92 306 *eP* **P** **17 58 56.0 +0.3**
comp=Z,26nm,0.5s
DMN Daman 48.99 306 *eP* **P** **17 58 56.6 +0.4**
comp=Z,49nm,0.7s
GKN Gorkha 49.53 306 *eP* **P** **17 59 00.4 +0.2**
comp=Z,32nm,0.8s
ULN Ulaanbaatar 49.78 341*ce*P **P** **17 59 01.6 -0.2**
ULN pmax pmax
comp=Z,9.0nm,1.0s
ULN Ulaanbaatar 49.78 341 P **P** **17 59 01.6 -0.2**
ULN IAmb IAmb 17 59 09.2
comp=Z,7.2nm,0.9s
ULN Ulaanbaatar 49.78 341 P **P** **17 59 02.2 +0.5**
comp=Z,37nm,0.8s
SONM Songino Array 49.97 341 P **P** **17 59 03.4 +0.2**
comp=Z,2.1nm,0.5s,baz=161,slow=9.3,SNR=6.8
SONM PcP **PcP** **18 00 22.9 +0.4**
comp=Z,1.0nm,0.5s,baz=145,slow=5.3,SNR=2.2
SONM Songino Array 49.97 341 P **P** **17 59 02.7 -0.4**
SONM 18 00 22.9
SONM pmax pmax
comp=Z,5.0nm,1.2s
SONM Songino Array 49.97 341 P **P** **17 59 02.7 -0.4**
KOLN Koldanda 50.28 306 *eP* **P** **17 59 06.7 +0.8**
comp=Z,131nm,0.6s
DANN Dangsing 50.38 306 *eP* **P** **17 59 07.3 +0.5**
comp=Z,122nm,0.6s
PYUN Piuthan 50.90 306 *eP* **P** **17 59 11.4 +0.7**
comp=Z,119nm,0.6s
HYB Hyderabad 51.59 291 *i* P **P** **17 59 15.0 -0.7**
ZEA Zeya 52.06 359 *eP* **P** **17 59 21.5 +3.0**
WMQ Urumqi 55.57 325 *eP* **P** **17 59 45.5 +1.0**
WMQ sP sP 18 00 04.5 -2.5
WMQ pmax pmax
comp=Z,35nm,0.7s
WMQ pmax pmax
comp=Z,160nm,5.1s
PETK Petropavlovsk- 56.81 21 P **P** **17 59 54.0 +0.9**
comp=Z,3.1nm,0.6s,baz=152,slow=2.0,SNR=2.4
PETK Petropavlovsk- 56.81 21 P **P** **17 59 53.0 -0.1**
PETK Petropavlovsk- 56.81 21 P **P** **17 59 53.0 -0.1**
DGZ Jazzator, Alta 59.40 330 *i* P **P** **18 00 11.2 -0.3**
DGZ pmax pmax
comp=Z,3.0nm,0.8s
MSWZ Moikau Station 60.11 141 P **P** **18 00 16.8 +0.4**
PLWZ Palliser 60.20 141 P **P** **18 00 18.9 +1.9**
BFZ Birch Farm 60.36 140 P **P** **18 00 15.8 -2.1**
YAK Yakutsk 60.37 1 *eP* **P** **18 00 17.0 -0.6**
YAK *e**PP **pP** **18 00 29.9 -3.8**
YAK *e* 18 01 00.7
YAK *e* 18 02 29.8
YAK *eS* **S** **18 08 29.2 +1.6**
YAK *e**SS **sS** **18 08 52.5 -2.8**
YAK *e* 18 10 06.7
YAK pmax pmax
comp=Z,9.0nm,1.0s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK pmax pmax
comp=Z,112nm,3.0s
YAK pmax pmax
comp=E,89nm,2.7s
YAK pmax pmax
comp=N,72nm,3.4s
YAK smax smax
comp=E,160nm,3.3s
YAK smax smax
comp=N,120nm,3.2s
YAK Yakutsk 60.37 1 P **P** **18 00 17.1 -0.5**
YAK IAmb IAmb 18 00 38.5
comp=Z,11nm,0.6s
MK31 Makanchi Array 60.40 325 P **P** **18 00 17.9 -0.3**
MK31 pmax pmax
comp=Z,8.0nm,0.6s
MK31 Makanchi Array 60.40 325 P **P** **18 00 17.9 -0.3**
MK31 IAmb IAmb 18 00 18.9
comp=Z,7.9nm,0.6s
MKAR Makanchi Array 60.40 325 P **P** **18 00 18.1 -0.1**
comp=Z,1.1nm,0.5s,baz=115,slow=8.2,SNR=172
MKAR ScP **ScP** **18 04 59.2 +0.4**
comp=Z,0.3nm,0.7s,baz=142,slow=5.1,SNR=2.5
MAKZ Makanchi 60.58 325 P **P** **18 00 19.2 -0.3**
MAKZ pmax pmax
comp=Z,12nm,0.6s
MAKZ Makanchi 60.58 325 P **P** **18 00 19.2 -0.3**
MAKZ IAmb IAmb 18 00 20.1
comp=Z,12nm,0.6s
KSH Kashi 60.88 315 P **P** **18 00 22.8 +1.0**
KSH pP pP 18 00 40.3 +2.5
KSH sP sP 18 00 45.5 +1.0
KSH pmax pmax
comp=Z,4.0nm,0.6s
KDJ Kajisay 61.20 318 P **P** **18 00 24.5 +0.6**
KDJ pmax pmax
comp=Z,6.0nm,0.6s
KDJ Kajisay 61.20 318 P **P** **18 00 24.5 +0.6**
KDJ IAmb IAmb 18 00 24.7
comp=Z,5.9nm,0.6s
AAK Ala-Archa 63.21 318 *i* P **P** **18 00 37.3 0.0**
AAK pmax pmax
comp=Z,8.0nm,0.9s
AAK Ala-Archa 63.21 318 P **P** **18 00 34.4 -3.0**
ZAA0 Zalesovo Array 63.37 333 P **P** **18 00 36.6 -1.4**
ZALV Zalesovo Beam 63.37 333 P **P** **18 00 36.9 -1.1**
comp=Z,2.4nm,0.6s,baz=104,slow=6.9,SNR=11
ZALV Zalesovo Beam 63.37 333 P **P** **18 00 36.3 -1.6**
DRK Karamyk 63.84 314 P **P** **18 00 41.5 -0.3**
DRK IAmb IAmb 18 00 42.7
comp=Z,5.6nm,0.7s
KBL Kabul 64.31 308 P **P** **18 00 43.2 -1.6**
KBL pmax pmax
comp=Z,4.0nm,0.9s
KBL Kabul 64.31 308 P **P** **18 00 43.2 -1.6**
KURBB Kurchatov Arra 64.57 327 P **P** **18 00 45.0 -0.9**
GAR Garm 64.75 313 P **P** **18 00 46.5 -1.0**
GAR IAmb IAmb 18 00 57.8
comp=Z,16nm,0.4s
BTK Batken 64.75 314 P **P** **18 00 46.7 -0.8**
BTK pmax pmax
comp=Z,11nm,1.4s
BTK Batken 64.75 314 P **P** **18 00 46.6 -0.8**
BTK IAmb IAmb 18 01 02.4
comp=Z,11nm,1.4s
AMKA Amchitka 65.36 32 P **P** **18 00 49.2 -1.8**
CHGR Chuyangaron 65.49 312 P **P** **18 00 49.8 -2.5**
CHGR IAmb IAmb 18 01 13.0
comp=Z,29nm,1.6s
KK31 Karatay Array 66.08 317 P **P** **18 00 55.2 -0.7**
KK31 Karatay Array 66.08 317 P **P** **18 00 54.9 -1.0**
KKAR Karatay Array 66.08 317 P **P** **18 00 55.0 -0.9**
KKAR pmax pmax
comp=Z,5.0nm,0.9s
KKAR Karatay Array 66.08 317 P **P** **18 00 55.0 -0.9**
KKAR Karatay Array 66.08 317 P **P** **18 00 54.9 -0.9**
KKAR IAmb IAmb 18 00 56.2
comp=Z,4.7nm,0.8s
ADK Adak 67.78 33 P **P** **18 01 04.6 -1.9**
ADK pmax pmax
comp=Z,94nm,1.6s
ADK Adak 67.78 33 P **P** **18 01 04.6 -1.9**
HRA Herat 69.70 306 P **P** **18 01 17.1 -2.0**
BRVK Borovoye 70.22 327*ce*P **P** **18 01 21.1 -0.5**
BRVK pmax pmax
comp=Z,11nm,1.7s
BRVK Borovoye 70.22 327 P **P** **18 01 19.3 -2.3**
BRVK IAmb IAmb 18 01 21.5
comp=Z,5.0nm,0.7s
PAF Port-aux-Franc 71.14 216 P **P** **18 01 27.0 -0.2**
PAF pmax pmax
comp=Z,794nm,1.5s
PAF Port-aux-Franc 71.14 216 P **P** **18 01 27.0 -0.2**
BILL Bilibino 71.23 14 *i* P **P** **18 01 28.0 +0.6**
BILL pmax pmax
comp=Z,27nm,2.1s
BILL Bilibino 71.23 14 P **P** **18 01 27.0 -0.4**
BILL IAmb IAmb 18 03 34.5
comp=Z,46nm,1.6s
NRIK Noril'sk 73.00 346 P **P** **18 01 38.7 +0.7**
comp=Z,2.1nm,0.5s,baz=138,slow=5.0,SNR=1.9
NRIK LR LR 18 35 56.7
comp=Z,40nm,21.1s,baz=28,slow=38
NRIK Noril'sk 73.00 346 *i* P **P** **18 01 38.2 +0.3**
NRIK pmax pmax
comp=Z,8.0nm,1.5s
UOSS Minazif 73.37 295 P **P** **18 01 39.5 -1.5**
UOSS IAmb IAmb 18 03 42.0
comp=Z,44nm,1.5s
DHH Diamond Head 74.22 68 P **P** **18 01 45.7 -0.4**
DHH Diamond Head 74.22 68 P **P** **18 01 45.7 -0.4**
SOCY Socotra 74.59 282 P **P** **18 01 47.0 -1.5**
SOCY IAmb IAmb 18 01 47.7
comp=Z,14nm,0.6s
AB31 Akbulak array 75.00 321 P **P** **18 01 48.5 -1.5**

29d 17h

ABKAR	**Akbulak array**	**75.00 321**	P	**P**	**18 01 48.6**	**-1.5**
ABKAR	**Akbulak array**	**75.00 321**	P	**P**	**18 01 48.9**	**-1.1**
ARU	**Arti**	**77.77 328**	*d* P	**P**	**18 02 03.8**	**-1.7**
ARU			S	**S**	**18 11 52.4**	**-0.8**
ARU			pmax	pmax		
	comp=Z,13nm,1.8s					
VNDA	**Vanda**	**81.02 173**	P	**P**	**18 02 23.6**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=309,slow=9.9,SNR=3.7					
VNDA	**Vanda**	**81.02 173**	P	**P**	**18 02 23.6**	**+0.8**
VNDA			pmax	pmax		
	comp=Z,13nm,1.8s					
MAW	**Mawson**	**82.33 201**	P	**P**	**18 02 30.4**	**+0.5**
	comp=Z,1.6nm,0.5s,baz=41,slow=11,SNR=3.1					
KBZ	**Khabaz**	**85.81 314**	P	**P**	**18 02 48.1**	**0.0**
	comp=Z,1.7nm,0.7s,baz=128,slow=13,SNR=2.7					
KIV	**Kislovodsk**	**85.97 314**	*e*P	**P**	**18 02 48.0**	**-1.1**
KIV			pmax	pmax		
	comp=Z,5.0nm,1.1s					
ILAR	**Eielson Array**	**86.31 25**	P	**P**	**18 02 49.9**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=239,slow=5.8,SNR=5.6					
ILAR	**Eielson Array**	**86.31 25**	*e*P	**P**	**18 02 50.9**	**+0.7**
GURO	**Guroymak-BITLI**	**86.33 308**	P	**P**	**18 02 51.2**	**+0.1**
OBN	**Obninsk**	**89.90 325**	*i* P	**P**	**18 03 06.8**	**-0.6**
OBN			pmax	pmax		
	comp=Z,5.0nm,0.9s					
BRTR	**Keskin Array B**	**92.82 310**	LR	LR	18 51 16.8	
	comp=Z,37nm,18.7s,baz=68,slow=40					
FINES	**FINESS Array B**	**94.63 332**	P	**P**	**18 03 28.0**	**-1.2**
	comp=Z,2.0nm,0.8s,baz=62,slow=4.5,SNR=5.7					
FINES	**FINESS Array B**	**94.63 332**	*e*P	**P**	**18 03 29.9**	**+0.8**
FINES			pmax	pmax		
	comp=Z,1.0nm,0.7s					
MNK	**Minsk**	**94.97 325**	*i* P	**P**	**18 03 34.8**	**+3.9**
MNK			*i*		18 07 23.4	
MNK			*i* PPP	PPP	18 09 25.2	
MNK			*i* S	**SKSac**	**18 14 04.8**	**+3.6**
MNK			*i* PS	**PS**	**18 16 07.1**	**+2.4**
MNK			*i* SS	**SS**	**18 21 11.7**	**+5.5**
MNK			pmax	pmax		
	comp=N,12nm,0.9s					
MNK			pmax	pmax		
	comp=Z,7.0nm,0.9s					
MNK			pmax	pmax		
	comp=E,2.0nm,0.9s					
MNK			MLR	MLR		
	comp=E,18nm,18.0s					
MNK			MLR	MLR		
	comp=N,59nm,17.0s					
MNK			MLR	MLR		
	comp=Z,156nm,23.0s					
MNK	**Minsk**	**94.97 325**	*i* P	**P**	**18 03 34.9**	**+4.0**
	comp=E,2.0nm,0.8s					
MNK			*i* P	**P**	**18 03 34.9**	**+4.0**
	comp=N,12nm,0.9s					
MNK			*i* P	**P**	**18 03 34.9**	**+4.0**
	comp=Z,7.0nm,0.9s,baz=260					
MNK			*i* PP	**PP**	**18 07 23.4**	**+3.0**
MNK			*i* PPP	PPP	18 09 25.3	
MNK			*i* S	**SKSac**	**18 14 04.8**	**+3.6**
MNK			*i* PS	**PS**	**18 16 07.1**	**+2.4**
MNK			*i* SS	**SS**	**18 21 11.8**	**+5.6**
MNK			*i* SSS	SSS	18 24 27.1	
MNK			*i* LR	LR	18 45 13.5	
MNK			*i* LRM	MLR	18 46 16.8	
	comp=E,18nm,17.9s					
MNK			*i* LRM	MLR	18 46 32.1	
	comp=N,59nm,16.6s					
MNK			*i* LRM	MLR	18 46 37.2	
	comp=Z,156nm,23.0s					
TORD	**Torodi Ar. Bea**	**125.32 287**	PKP	**PKPdf**	**18 09 09.9**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=28,slow=3.1,SNR=3.6					

*TRN **29** 18:23:42.4, 13.°77N×58.°53W, h91km, MD4.2*
*IDC **29** 18:23:43.8±2.5, 14.°02N×58.°85W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/31, mbtmp3.4/3, Error ellipse: s-maj=102.6km s-min=27.4km az=26.0*
ISC 29 18:23:40.7±1.7,**13.°80N**±0.°04×**58.°4W**±0.°1,**h10**km,**n43,** σ1°**91**/65,**mb3.2**/3,**North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.21**	**235**	*e*P		**Pg**		**18 24 05.2**	**+1.4**
BBSP				*e*S		**Sb**		**18 24 20.9**	**+1.7**
H05S1	**Guadeloupe/Mar** SNR=1712	**2.40**	**285**	Pn		**Pn**		**18 24 18.8**	**-1.2**
H05S1				Sn		**Sn**		**18 24 46.9**	**-2.7**
H05S1				T		T		18 27 04.9	
MCLT	**Moule a Chique**	**2.43**	**268**	*e*P		**Pn**		**18 24 20.1**	**-0.4**
MCLT				*e*S		**Sn**		**18 24 48.9**	**-1.3**
MPOM	**Morne Pois Mar**	**2.43**	**286**	*e*P		**Pn**		**18 24 19.9**	**-0.5**
MPOM	**Morne Pois Mar**	**2.43**	**286**	*e*		**Pg**		**18 24 29.2**	**+1.9**
MPOM				*e*S		**Sn**		**18 24 48.1**	**-2.1**
SLBI	**Saint Lucia, B**	**2.47**	**275**	*e*P		**Pn**		**18 24 21.4**	**+0.5**
SLBI				*e*S		**Sn**		**18 24 49.6**	**-1.6**
SLCP	**Castries, St.**	**2.48**	**275**	*e*P		**Pn**		**18 24 21.4**	**+0.3**
SLCP				*e*S		**Sn**		**18 24 50.2**	**-1.3**
MVM	**Montagne Vaucl**	**2.49**	**288**	*e*P		**Pn**		**18 24 21.3**	**-0.1**
ILAM	**Ilet Lapin Mar**	**2.55**	**293**	*e*P		**Pn**		**18 24 21.9**	**-0.2**
ILAM				*e*S		**Sn**		**18 24 52.3**	**-0.9**
LPMF	**Morne Lapointe**	**2.56**	**288**	*e*P		**Pn**		**18 24 22.2**	**-0.1**
ZAM	**Aeronautique**	**2.62**	**287**	*e*P		**Pn**		**18 24 23.0**	**-0.1**
BIM	**Bigot**	**2.65**	**286**	*e*P		**Pn**		**18 24 23.2**	**-0.2**
BIM				*e*S		**Sn**		**18 24 53.9**	**-1.8**
SSV	**Crater Summit**	**2.71**	**260**	*e*P		**Pn**		**18 24 24.1**	**-0.4**
SVV	**Soufriere Volc**	**2.74**	**260**	*e*P		**Pn**		**18 24 24.8**	**+0.1**
SVOC	**Richmond Hill,**	**2.78**	**257**	*e*S		**Sn**		**18 24 56.7**	**-2.1**
SVB	**Belmont**	**2.78**	**259**	*e*P		**Pn**		**18 24 24.9**	**-0.4**
SVB				*e*S		**Sn**		**18 24 56.9**	**-2.0**
FDF	**Fort de France**	**2.78**	**290**	*e*P		**Pn**		**18 24 25.2**	**-0.1**
FDF				*e*S		**Sn**		**18 24 56.9**	**-2.1**
BAMF	**Morne Balai**	**2.81**	**291**	*e*P		**Pn**		**18 24 26.3**	**+0.6**
CXM	**Morne La Croix**	**2.83**	**291**	*e*P		**Pn**		**18 24 26.6**	**+0.6**
SVN	**Savane Anatole**	**2.83**	**292**	*e*P		**Pn**		**18 24 26.9**	**+0.8**
PCM	**Pelee Case Pet**	**2.87**	**291**	*e*P		**Pn**		**18 24 27.2**	**+0.8**
DLPL	**La Plaine**	**3.11**	**300**	*e*P		**Pn**		**18 24 30.1**	**+0.2**
DLPL				*e*S		**Sn**		**18 25 05.7**	**-1.5**
GCMP	**Grenada, Carri**	**3.19**	**246**	*e*P		**Pn**		**18 24 30.5**	**-0.3**
GCMP				*e*S		**Sn**		**18 25 05.1**	**-3.9**
TOSP	**Speyside**	**3.22**	**220**	*e*P		**Pn**		**18 24 31.4**	**+0.1**
TOSP				*e*S		**Sn**		**18 25 06.5**	**-3.2**
DSLB	**Salisbury**	**3.31**	**300**	*e*P		**Pn**		**18 24 33.0**	**+0.4**
DSLB				*e*S		**Sn**		**18 25 09.4**	**-2.6**
MDPV	**Dominica, Penn**	**3.41**	**303**	*e*P		**Pn**		**18 24 34.9**	**+1.0**
MDPV				*e*S		**Sn**		**18 25 12.3**	**-2.1**
GRSS	**Sisters**	**3.43**	**245**	*e*P		**Pn**		**18 24 33.0**	**-1.2**
MDCT	**Cottage Hill,**	**3.43**	**302**	*e*P		**Pn**		**18 24 35.2**	**+0.9**
MDCT				*e*S		**Sn**		**18 25 11.7**	**-3.4**
MAGL	**Barre de l'ile**	**3.48**	**308**	*e*P		**Pn**		**18 24 35.1**	**+0.3**
MAGL				*e*S		**Sn**		**18 25 13.8**	**-2.3**
GRHS	**Sauteurs**	**3.49**	**244**	*e*P		**Pn**		**18 24 35.2**	**+0.2**
GRHS				*e*S		**Sn**		**18 25 13.7**	**-2.7**
H05N1	**Guadeloupe/Mar** SNR=592	**3.55**	**315**	Pn		**Pn**		**18 24 34.5**	**-1.4**
H05N1				Sn		**Sn**		**18 25 14.5**	**-3.5**
H05N1				T		T		18 28 48.0	
GRFF	**Grenada Fort F**	**3.65**	**242**	*e*P		**Pn**		**18 24 36.9**	**-0.4**
GRFF				*e*S		**Sn**		**18 25 17.6**	**-2.9**
TDBA	**Terre de Bas,**	**3.70**	**304**	*e*P		**Pn**		**18 24 38.2**	**+0.3**
TDBA				*e*S		**Sn**		**18 25 18.0**	**-3.6**
TBG	**Guadaloupe-3**	**3.71**	**304**	*e*P		**Pn**		**18 24 38.4**	**+0.4**
CBE	**Ff, Capester**	**3.80**	**307**	*e*P		**Pn**		**18 24 39.8**	**+0.4**
CBE				*e*S		**Sn**		**18 25 21.4**	**-2.7**
TRN	**Trinidad (W)**	**4.26**	**223**	*e*P		**Pn**		**18 24 46.1**	**+0.4**
TRN				*e*S		**Sn**		**18 25 30.5**	**-5.0**
SKI	**Saint Kitts**	**5.43**	**311**	*e*P		**Pn**		**18 25 01.9**	**+0.2**
SKI	**Saint Kitts**	**5.43**	**311**	*e*S		**Sn**		**18 26 00.5**	**-3.8**
SMRT	**St. Maarten**	**6.14**	**314**	*e*P		**Pn**		**18 25 11.1**	**-0.4**
SMRT	**St. Maarten**	**6.14**	**314**	*e*S		**Sn**		**18 26 16.7**	**-5.1**
TXAR	**Lajitas Array** 0.2nm,0.7s,baz=116,slow=8.2,SNR=3.7	**44.52**	**298**	P		**P**		**18 31 54.5**	**+1.6**
PDAR	**Pinedale Array** 0.2nm,0.6s,baz=109,slow=11,SNR=2.1	**52.45**	**314**	P		**P**		**18 32 54.3**	**+0.3**
TORD	**Torodi Ar. Bea** 0.3nm,0.7s,baz=259,slow=5.3,SNR=1.5	**58.35**	**83**	P		P		18 33 44.0	+7.4

*JMA **29** 18:34:24.0±0.2, 24.°02N×122.°41E, h18km, M1.9*
*TAP **29** 18:34:24.3, 24.°11N×122.°43E, h30km±1km, ML2.5, D*
ISC 29 18:34:23.9±1.2,**24.°07N**±0.°05×**122.°43E**±0.°02,**h27**km±13km, **n43,** σ0°**58**/59,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.66**	**53**	P		**Pn**		**18 34 37.4**	**-0.1**
YOJ				*e*S		**Sn**		**18 34 46.1**	**-0.9**
YOJ	**Yonaguni jima** baz=56	**0.66**	**53**	*i* P		**Pb**		**18 34 37.0**	**+0.2**
YOJ				S		**Sb**		**18 34 45.8**	**+0.1**
	baz=56								
EWUT	**Wuta** baz=299	**0.70**	**303**	*e*P		**Pb**		**18 34 37.6**	**0.0**
EWUT				*e*S		**Sb**		**18 34 46.8**	**-0.1**
	baz=299								
ETL	**Fush Village** baz=258	**0.74**	**277**	*e*S		**Sn**		**18 34 49.1**	**0.0**
TWD	**Chiawan** baz=268	**0.76**	**271**	*e*S		**Sb**		**18 34 48.6**	**+0.1**
NACB	**Ninganchiao** baz=261	**0.77**	**278**	*i* S		**Sb**		**18 34 49.3**	**+0.5**
ETLH	**Xiulin Townshi** baz=276	**0.88**	**279**	*e*P		**Pn**		**18 34 40.4**	**-0.2**
ETLH				*e*S		**Sn**		**18 34 52.1**	**-0.4**
	baz=276								
ESL	**Shilin** baz=243	**0.95**	**255**	*i* P		**Pn**		**18 34 40.7**	**-0.7**
ESL				*e*S		**Sn**		**18 34 52.9**	**-1.1**
	baz=243								
TWE	**Neicheng** baz=311	**0.95**	**313**	P		**Pb**		**18 34 41.7**	**-0.1**
TWE				*i* S		**Sb**		**18 34 54.0**	**0.0**
	baz=311								
NTC	**Toucheng** baz=323	**0.96**	**325**	*e*P		**Pb**		**18 34 41.9**	**+0.1**
NTC				*e*S		**Sb**		**18 34 54.4**	**+0.2**
	baz=323								
EGFH	**Guangfu** baz=244	**1.00**	**247**	*e*P		**Pn**		**18 34 41.7**	**-0.4**
EGFH				*i* S		**Sn**		**18 34 55.0**	**-0.3**
	baz=244								
TIPB	**Shuangxi** baz=327	**1.06**	**329**	*e*P		**Pb**		**18 34 43.4**	**-0.2**
TIPB				*e*S		**Sb**		**18 34 56.7**	**-0.4**
	baz=327								
WHF	**Hehuan Shan** baz=259	**1.07**	**274**	*e*P		**Pn**		**18 34 43.6**	**+0.1**
WHF				*e*S		**Sn**		**18 34 57.2**	**-0.4**
	baz=259								
HGSD	**Ruisui** baz=236	**1.08**	**238**	*e*P		**Pn**		**18 34 42.9**	**-0.4**
FUSS	**Fushou** baz=277	**1.10**	**280**	*e*P		**Pn**		**18 34 44.1**	**+0.4**
YHNB	**Yeheng** baz=287	**1.13**	**302**	*e*P		**Pb**		**18 34 44.6**	**-0.3**
YHNB				*i* S		**Sb**		**18 34 59.3**	**0.0**
	baz=287								
CHGB	**Renai** baz=255	**1.15**	**270**	*e*P		**Pn**		**18 34 44.7**	**+0.3**
CHGB				*e*S		**Sn**		**18 34 59.6**	**+0.3**
	baz=255								
NSK	**Sanguang** baz=287	**1.15**	**302**	*i* P		**Pb**		**18 34 44.7**	**-0.5**
NSK				*e*S		**Sb**		**18 34 59.4**	**-0.4**
	baz=287								
OWD	**Renai** baz=262	**1.15**	**265**	*e*P		**Pn**		**18 34 44.7**	**+0.3**
EHY	**Hungye** baz=230	**1.16**	**241**	*e*P		**Pn**		**18 34 44.6**	**+0.3**
NWF	**Wu-fen Shan** baz=328	**1.16**	**330**	*e*P		**Pb**		**18 34 44.6**	**-0.8**
WFSB	**Wu-fen Shan** baz=328	**1.16**	**330**	*e*P		**Pb**		**18 34 44.5**	**-0.8**
TDCB	**Techi** baz=265	**1.18**	**279**	*e*S		**Sn**		**18 34 59.9**	**0.0**
YULB	**Yu-li** baz=235	**1.24**	**237**	*e*P		**Pn**		**18 34 45.2**	**-0.2**
EYUL	**Yuli** baz=233	**1.24**	**235**	*e*P		**Pn**		**18 34 45.9**	**+0.4**
TWF1	**Yuli** baz=234	**1.26**	**236**	*e*P		**Pn**		**18 34 45.8**	**0.0**
FULB	**Fuli** baz=229	**1.35**	**231**	*e*P		**Pn**		**18 34 46.5**	**-0.5**
WHP	**Taichung City** baz=266	**1.37**	**279**	*e*P		**Pb**		**18 34 49.0**	**0.0**
WHP				*e*S		**Sn**		**18 35 05.2**	**+0.5**
	baz=266								
DPDB	**Guoxing** baz=267	**1.38**	**269**	*e*S		**Sn**		**18 35 05.5**	**+0.7**
SSLB	**Suanglung** baz=246	**1.38**	**259**	*e*P		**Pn**		**18 34 48.3**	**+0.9**
WCS	**Beigang Elemen** baz=268	**1.39**	**270**	*e*P		**Pb**		**18 34 49.0**	**-0.2**
SMLT	**Sun Moon Lake** baz=251	**1.41**	**263**	*e*P		**Pn**		**18 34 48.8**	**+0.8**
SMLT				*e*S		**Sn**		**18 35 06.3**	**+0.6**
	baz=251								
NSTT	**Nanjuang** baz=291	**1.42**	**294**	*e*P		**Pb**		**18 34 49.4**	**-0.3**
TYC	**Yuchr** baz=262	**1.45**	**264**	*e*P		**Pn**		**18 34 49.5**	**+1.1**
JKRS	**Kuro-shima**	**1.45**	**83**	P		**Pb**		**18 34 51.3**	**+1.0**
WHYT	**Xinyi Township** baz=246	**1.49**	**256**	*e*P		**Pn**		**18 34 50.1**	**+1.1**
EDH	**Donghe** baz=222	**1.50**	**224**	*e*P		**Pn**		**18 34 48.5**	**-0.5**
ELDTW	**Lidau** baz=234	**1.56**	**236**	*e*P		**Pn**		**18 34 51.2**	**+1.2**
WJS	**Zhushan** baz=260	**1.58**	**261**	*e*P		**Pn**		**18 34 51.3**	**+1.2**
ALS	**Alishan** baz=248	**1.59**	**250**	*e*P		**Pn**		**18 34 51.4**	**+0.9**
JIJ	**Ishigaki jima**	**1.59**	**79**	P		**Pb**		**18 34 52.4**	**-0.2**
JIJ				*e*S		**Sb**		**18 35 11.6**	**-0.8**
LDUT	**Ludao** baz=211	**1.64**	**213**	*e*P		**Pn**		**18 34 50.3**	**-0.7**
JISG	**Ishigakijimahi**	**1.79**	**73**	*e*S		**Sn**		**18 35 15.7**	**+0.8**

*IDC **29** 18:36:27.1±1.1, 32.°59S×178.°07W, h0km, mb4.3/3, mb1 4.5/5, mb1mx4.0/34, mbtmp4.3/5, ML4.1/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/27, Error ellipse: s-maj=35.1km s-min=26.7km az=100.0*
*NEIC **29** 18:36:29.1±2.5, 32.°54S±0.°08×178.°2W±0.°2, h10km±1km, mb4.3/7, Error ellipse: s-maj=28.7km s-min=7.6km az=113.0*
*WEL **29** 18:36:31.3±0.8, 32.°5S±8.°×17.°8W±2.°3, h33km, M4.2/13, mB4.6/9, ML4.9/15, MLv4.7/13, Mw(mB)3.8/9, Error ellipse: s-maj=0.0km s-min=0.0km az=109.2*
ISC 29 18:36:28.5±0.8,**32.°49S**±0.°08×**178.°3W**±0.°2,**h10**km,**n49,** σ1°**42**/70,**mb4.3**/6,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.23**	**6**	P		**Pn**		**18 37 18.2**	**-1.1**
GLKZ				S		**Sn**		**18 37 56.4**	**-1.5**
RAO	**Raoul Island** 29nm,0.3s,baz=72,slow=20,SNR=1.7	**3.25**	**6**	Pn		**Pn**		**18 37 20.3**	**+0.8**
RAO				Sn		**Sn**		**18 37 55.4**	**-2.8**
	54nm,0.3s,baz=112,slow=21,SNR=2.0								
RAO	**Raoul Island**	**3.25**	**6**	Sn		**Sn**		**18 37 55.6**	**-2.6**
RIZ	**Raoul Island**	**3.25**	**6**	S		**Sn**		**18 38 00.5**	**+2.1**
MXZ	**Matakaoa Point**	**5.77**	**208**	Pn		**Pn**		**18 37 53.0**	**-1.1**
MXZ				Sn		**Sn**		**18 38 57.0**	**-3.3**
MXZ	**Matakaoa Point**	**5.77**	**208**	S		**Sn**		**18 39 00.2**	**-0.1**
WMGZ	**Waiomatatini S**	**5.95**	**206**	P		**Pn**		**18 37 56.2**	**-0.4**
WMGZ				S		**Sn**		**18 39 07.4**	**+2.5**
PKGZ	**Pakihiroa**	**6.14**	**208**	P		**Pn**		**18 37 58.1**	**-1.2**
PKGZ				S		**Sn**		**18 39 09.8**	**+0.2**
HAZ	**Te Kaha**	**6.15**	**210**	P		**Pn**		**18 37 59.0**	**-0.3**
HAZ				S		**Sn**		**18 39 12.3**	**+2.6**
PUZ	**Puketiti**	**6.23**	**206**	P		**Pn**		**18 38 00.9**	**+0.3**
PUZ				S		**Sn**		**18 39 10.5**	**-1.3**
RUGZ	**Raukumara Rang**	**6.37**	**210**	P		**Pn**		**18 38 02.0**	**-0.5**
RUGZ				S		**Sn**		**18 39 15.1**	**-0.2**
TWGZ	**Tauwhareparae**	**6.43**	**207**	P		**Pn**		**18 38 04.0**	**+0.7**
TWGZ				S		**Sn**		**18 39 17.2**	**+0.5**
CNGZ	**Carnagh Statio**	**6.62**	**204**	P		**Pn**		**18 38 03.8**	**-2.0**
CNGZ				S		**Sn**		**18 39 20.6**	**-0.6**
TKGZ	**Te Karaka**	**6.71**	**207**	S		**Sn**		**18 39 23.3**	**-0.2**
MWZ	**Matawai**	**6.74**	**209**	P		**Pn**		**18 38 08.1**	**+0.5**
MWZ				S		**Sn**		**18 39 24.8**	**+0.3**
URZ	**Urewera** 2.4nm,0.3s,baz=305,slow=23,SNR=14	**6.86**	**212**	Pn		**Pn**		**18 38 09.0**	**-0.1**
URZ				Sn		**Sn**		**18 39 23.9**	**-3.2**
	1.5nm,0.3s,baz=57,slow=16,SNR=1.6								
URZ	**Urewera**	**6.86**	**212**			**Pn**		**18 38 08.3**	**-0.8**
URZ						Sn		**18 39 25.6**	**-1.6**

URZ	**Urewera**	**6.86**	**212**	P		**Pn**		**18 38 09.3**	**+0.3**
URZ				S		**Sn**		**18 39 26.2**	**-1.0**
RAGZ	**Rawiri**	**6.93**	**209**	P		**Pn**		**18 38 10.8**	**+0.7**
RAGZ				S		**Sn**		**18 39 28.8**	**-0.2**
RIGZ	**Rimuhau**	**6.97**	**206**	P		**Pn**		**18 38 11.5**	**+0.8**
RIGZ				S		**Sn**		**18 39 30.1**	**0.0**
SNGZ	**Shannon Statio**	**7.20**	**208**	P		**Pn**		**18 38 14.2**	**+0.4**
SNGZ				S		**Sn**		**18 39 34.7**	**-1.0**
RTZ	**Ruatahuna**	**7.21**	**211**	P		**Pn**		**18 38 13.7**	**-0.3**
RTZ				S		**Sn**		**18 39 36.7**	**+0.7**
RAHZ	**Arahi**	**7.42**	**209**	P		**Pn**		**18 38 18.6**	**+1.8**
RAHZ				S		**Sn**		**18 39 38.7**	**-2.4**
MTHZ	**Maungataniwha**	**7.47**	**210**	P		**Pn**		**18 38 18.3**	**+0.8**
MTHZ				S		**Sn**		**18 39 40.0**	**-1.4**
BKZ	**Black Stump Fm**	**7.88**	**211**	Pn		**Pn**		**18 38 23.0**	**-0.2**
BKZ	**Black Stump Fm**	**7.88**	**211**	P		**Pn**		**18 38 23.3**	**+0.1**
KWHZ	**Kaweka Forest**	**8.12**	**210**	P		**Pn**		**18 38 27.4**	**+0.8**
KWHZ				S		**Sn**		**18 39 55.1**	**-3.4**
OTVZ	**Oturere**	**8.25**	**215**	P		**Pn**		**18 38 29.0**	**+0.6**
OTVZ				S		**Sn**		**18 39 59.7**	**-2.1**
BFZ	**Birch Farm**	**9.27**	**207**	Pn		**Pn**		**18 38 40.0**	**-2.2**
THZ	**Tophouse**	**11.60**	**215**	Pn		**Pn**		**18 39 12.9**	**-1.2**
KHZ	**Kahutara**	**11.82**	**211**	Pn		**Pn**		**18 39 15.1**	**-2.0**
DZM	**Mont Dzumac** comp=Z,146nm,20.7s,baz=122,slow=33	**17.04**	**304**	LR		LR		18 45 58.9	
KNTN	**Kanton**	**30.20**	**13**	P		**P**		**18 42 40.2**	**+1.0**
AS31	**Alice Springs**	**42.76**	**269**	P		**P**		**18 44 27.8**	**+1.4**
AS31				IAmb		IAmb		18 44 28.9	
	comp=Z,1.5nm,0.8s								
ASAR	**Alice Springs** comp=Z,3.3nm,0.6s,baz=104,slow=7.4,SNR=54	**42.76**	**269**	P		**P**		**18 44 28.4**	**+2.0**
ASAR	**Alice Springs**	**42.76**	**269**	P		**P**		**18 44 27.9**	**+1.5**
WR0	**Warramunga Arr**	**43.76**	**275**	P		**P**		**18 44 35.3**	**+0.8**
WR0				IAmb		IAmb		18 44 49.3	
	comp=Z,4.2nm,0.9s								
WB2	**Warramunga Arr**	**43.93**	**274**	P		**P**		**18 44 36.3**	**+0.5**
WB2				IAmb		IAmb		18 44 38.3	
	comp=Z,6.0nm,0.8s								
WRA	**Warramunga Arr** comp=Z,3.8nm,0.7s,baz=116,slow=7.5,SNR=43	**43.94**	**274**	P		**P**		**18 44 37.5**	**+1.6**
WRA	**Warramunga Arr**	**43.94**	**274**	P		**P**		**18 44 37.7**	**+1.8**
WB0	**Warramunga Arr**	**43.97**	**275**	P		**P**		**18 44 37.7**	**+1.6**
QSPA	**South Pole Qui** comp=Z,2.3nm,1.1s,baz=71,slow=0.8,SNR=3.5	**57.63**	**180**	P		**P**		**18 46 18.0**	**-0.6**
QSPA	**South Pole Qui**	**57.63**	**180**	P		**P**		**18 46 19.5**	**+0.9**
QSPA				IAmb		IAmb		18 46 32.1	
	comp=Z,4.4nm,0.8s								
MKAR	**Makanchi Array** comp=Z,0.2nm,0.6s,baz=95,slow=1.6,SNR=2.0	**118.89**	**309**	PKP		**PKPdf**		**18 55 16.9**	**0.0**
KURK	**Kurchatov**	**122.28**	**313**			**PKiKP**		**18 55 23.9**	**+0.5**
KURBB	**Kurchatov Arra** comp=Z,0.4nm,0.3s,baz=127,slow=1.9,SNR=1.6	**122.31**	**313**	PKP		**PKPdf**		**18 55 23.9**	**+0.6**
FINES	**FINESS Array B** comp=Z,5.4nm,0.8s,baz=42,slow=4.3,SNR=13	**146.99**	**339**	PKPbc		**PKPbc**		**18 56 10.2**	**-0.4**
NOA	**NORSAR Array B** comp=Z,0.4nm,0.7s,baz=20,slow=4.0,SNR=1.7	**150.76**	**350**	PKPbc		**PKiKP**		**18 56 21.6**	**+0.5**
TORD	**Torodi Ar. Bea** comp=Z,0.6nm,1.0s,baz=171,slow=2.8,SNR=2.5	**160.75**	**180**	PKPab		**PKPab**		**18 57 10.7**	**-0.5**

MEX 29 18:42:32.9±1.0,**14.°66N×94.°57W, h20**km±201km,**MD4.2, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PCIG		**1.67**	**51**	*e*P		Pn		18 42 58.2	-2.8
PCIG				*e*S		Sn		18 43 17.8	-4.0
HUIG	**Huatulco**	**1.85**	**307**	*e*P		Pn		18 43 01.6	-1.9
HUIG				*i* S		Sn		18 43 21.0	-4.4
CMIG	**Matias Romero**	**2.44**	**353**	*e*P		Pn		18 43 10.0	-1.6
CMIG				*e*S		Sn		18 43 37.9	-2.9
TGIG		**2.53**	**33**	*e*P		Pn		18 43 11.1	-1.8
TGIG				*i* S		Sn		18 43 40.2	-3.0
PEIG	**Puerto Escondi**	**2.82**	**298**	*e*P		Pn		18 43 15.1	-1.7
PEIG				*e*S		Sn		18 43 45.9	-4.4
CCIG	**Comitan**	**2.85**	**55**	*e*P		Pn		18 43 18.8	+1.4
CCIG				*e*S		Sn		18 43 47.1	-4.1

*IDC **29** 18:42:49.4±1.9, 24.°04N×109.°04W, h0km, mb3.4/2, mb1 3.9/6, mb1mx3.7/40, mbtmp3.5/6, ML3.8/4, MS3.2/6, Ms1 3.2/6, ms1mx2.9/23, Error ellipse: s-maj=33.9km s-min=17.3km az=153.0*
*NEIC **29** 18:42:52.0±3.0, 24.°16N±0.°08×109.°31W±0.°03, h10km±2km, mb4.1/81, Md4.2/14(MEX), Error ellipse: s-maj=13.6km s-min=3.1km az=160.0*
*MEX **29** 18:42:54.3±1.3, 24.°34N×109.°27W, h38km±330km, MD4.2*
ISC 29 18:42:52.0±0.6,**24.°30N**±0.°04×**109.°24W**±0.°04,**h10**km, **n128,** σ1°**80**/120,**mb4.0**/8,**MS3.2**/3,**Gulf of California**

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

OK030	**Cody Creek RV**	**15.81**	**40**			**P**	**18 46 39.5**	**+0.9**
OK030				IAmb		IAmb	18 46 54.3	
	comp=Z,10.0nm,0.8s							
O20A	**White River Ci**	**15.82**	**3**	Pn		**Pn**	**18 46 34.8**	**-0.1**
O20A				IAmb		IAmb	18 46 51.1	
	comp=Z,38nm,1.7s							
X37A	**Clayton**	**15.83**	**46**	P		**P**	**18 46 42.0**	**+3.3**
X37A				IAmb		IAmb	18 47 05.8	
	comp=Z,17nm,0.6s							
LHV	**Little Huntoon**	**15.99**	**333**	P		**P**	**18 46 41.1**	**+0.5**
LHV				IAmb		IAmb	18 46 47.0	
	comp=Z,29nm,1.8s							
NV11	**Mina Array Sit**	**16.00**	**334**	P		**P**	**18 46 40.7**	**-0.2**
KAN16	**Harper SW Stat**	**16.05**	**34**	P		**P**	**18 46 43.4**	**+2.1**
KAN16				IAmb		IAmb	18 46 44.6	
	comp=Z,13nm,0.7s							
NVAR	**Mina Array Bea**	**16.06**	**333**	Pn		**P**	**18 46 44.0**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=162,slow=13,SNR=14							
NVAR	**Mina Array Bea**	**16.06**	**333**	P		**P**	**18 46 42.8**	**+1.2**
DUG	**Dugway, Tooele**	**16.14**	**350**	P		**P**	**18 46 42.9**	**+0.6**
KAN06	**Argonia West S**	**16.18**	**34**	P		**P**	**18 46 43.7**	**+1.0**
KAN06				IAmb		IAmb	18 47 10.5	
	comp=Z,12nm,0.5s							
RDMU	**Red Mountain**	**16.23**	**359**	P		**P**	**18 46 43.7**	**+0.2**
RDMU				IAmb		IAmb	18 47 01.2	
	comp=Z,23nm,1.8s							
SAO	**San Andreas Ge**	**16.26**	**323**			**P**	**18 46 42.8**	**-0.8**
SAO				IAmb		IAmb	18 46 54.4	
	comp=Z,41nm,2.1s							
KS20	**Mayfield South**	**16.32**	**35**	P		**P**	**18 46 44.9**	**+0.6**
KS20				IAmb		IAmb	18 46 59.1	
	comp=Z,8.5nm,0.8s							
JLU	**Jordanelle**	**16.37**	**354**	P		**P**	**18 46 42.3**	**-2.7**
JLU				IAmb		IAmb	18 46 49.7	
	comp=Z,19nm,1.7s							
CTU	**Camp Tracy**	**16.49**	**353**	P		**P**	**18 46 46.5**	**+0.2**
KVN	**Kaiserville**	**16.52**	**335**	P		**P**	**18 46 47.1**	**+0.5**
CMB	**Columbia Colle**	**16.67**	**328**	P		**P**	**18 46 47.4**	**-0.8**
BGU	**Big Grassy Mou**	**16.89**	**350**	P		**P**	**18 46 51.7**	**+1.0**
YERR	**Yerington**	**16.92**	**332**	P		**P**	**18 46 51.5**	**+0.4**
YERR				IAmb		IAmb	18 47 04.2	
	comp=Z,29nm,1.8s							
MIAR	**Mount Ida**	**17.02**	**50**	P		**P**	**18 46 51.9**	**-0.1**
ELK	**Elko**	**17.16**	**344**	P		**P**	**18 46 55.1**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=174,slow=6.9,SNR=5.7							
ELK				LR		LR	18 53 30.7	
	comp=Z,58nm,19.9s,baz=180,slow=37							
ELK	**Elko**	**17.16**	**344**	P		**P**	**18 46 53.0**	**-0.8**
PNTR	**Pine Nut**	**17.16**	**332**	P		**Pn**	**18 46 51.4**	**-0.7**
SPUT	**South Promonto**	**17.18**	**352**	P		**P**	**18 46 54.0**	**+0.2**
W39A	**Magazine**	**17.24**	**47**	P		**P**	**18 46 57.5**	**+3.1**
W39A				IAmb		IAmb	18 47 33.1	
	comp=Z,37nm,1.7s							
PHWY	**Pilot Hill**	**17.25**	**10**	P		**P**	**18 46 56.4**	**+1.6**
BMN	**Battle Mountai**	**17.43**	**339**	P		**P**	**18 46 58.3**	**+1.6**
HVU	**Hansel Valley**	**17.68**	**351**	P		**P**	**18 47 01.1**	**+1.6**
PD31	**Pinedale Array**	**18.43**	**359**	P		**Pn**	**18 47 09.5**	**+1.8**
PDAR	**Pinedale Array**	**18.43**	**359**	P		**Pn**	**18 47 10.5**	**+2.7**
	comp=Z,0.1nm,0.3s,baz=163,slow=11,SNR=14							
PDAR	**Pinedale Array**	**18.43**	**359**	P		**Pn**	**18 47 09.9**	**+2.2**
K22A	**Casper**	**18.44**	**6**	P		**Pn**	**18 47 10.1**	**+2.2**
K22A				IAmb		IAmb	18 47 19.6	
	comp=Z,18nm,1.2s							
U40A	**Yellville**	**18.53**	**46**	P		**Pn**	**18 47 10.8**	**+2.0**
U40A				IAmb		IAmb	18 47 21.5	
	comp=Z,20nm,1.6s							
S39A	**Bolivar**	**19.05**	**42**	P		**Pn**	**18 47 15.1**	**0.0**
S39A				IAmb		IAmb	18 47 23.1	
	comp=Z,18nm,1.1s							
LOHW	**Long Hollow**	**19.30**	**357**	P		**Pn**	**18 47 18.4**	**+0.1**
MGMO	**Mountain Grove**	**19.38**	**45**	P		**Pn**	**18 47 20.6**	**+1.5**
MGMO				IAmb		IAmb	18 47 36.8	
	comp=Z,15nm,1.2s							
MOOW	**Moose Ponds**	**19.44**	**357**	P		**Pn**	**18 47 20.9**	**+0.8**
LCAR	**Lake Charles**	**19.51**	**49**	P		**Pn**	**18 47 23.7**	**+3.1**
LCAR				IAmb		IAmb	18 47 32.4	
	comp=Z,30nm,2.0s							
IMW	**Indian Meadow**	**19.60**	**356**	P		**Pn**	**18 47 23.3**	**+1.3**
IMW				IAmb		IAmb	18 47 33.2	
	comp=Z,18nm,1.9s							
HLID	**Hailey**	**19.68**	**349**	P		**Pn**	**18 47 24.5**	**+1.6**
HLID				IAmb		IAmb	18 47 27.8	
	comp=Z,48nm,2.8s							
MFID	**Camas Ranch**	**19.83**	**346**	P		**Pn**	**18 47 25.4**	**+0.9**
N35A	**Tabor**	**20.06**	**31**			Pn	18 47 27.6	+0.4
N35A				IAmb		IAmb	18 47 55.8	
	comp=Z,10nm,0.6s							
T42A	**Van Buren**	**20.07**	**47**	P		Pn	18 47 27.1	-0.2
T42A				IAmb		IAmb	18 47 58.6	
	comp=Z,18nm,1.9s							
R40A	**Maddies Statio**	**20.07**	**42**	P		Pn	18 47 26.7	-0.6
R40A				IAmb		IAmb	18 47 36.5	
	comp=Z,10nm,1.1s							
RSSD	**Black Hills**	**20.23**	**11**	P		Pn	18 47 27.7	-1.6
RSSD				IAmb		IAmb	18 47 41.1	
	comp=Z,11nm,1.4s							
BCYI	**Bear Canyon**	**20.26**	**351**	P		**P**	**18 47 26.2**	**-1.5**
YMR	**Madison River**	**20.37**	**356**	P		**P**	**18 47 28.6**	**-0.4**
YNR	**Norris Junctio**	**20.41**	**357**	P		Pn	18 47 29.3	-2.1
YNR				IAmb		IAmb	18 47 51.4	
	comp=Z,15nm,1.3s							
J08A	**Circle Bar Ran**	**20.48**	**340**	P		Pn	18 47 31.4	-0.8
YHH	**Holmes Hill**	**20.49**	**357**	P		Pn	18 47 30.9	-1.6
YHL	**Hebgen Lake**	**20.57**	**356**	P		Pn	18 47 33.2	-0.2
YHL				IAmb		IAmb	18 47 49.1	
	comp=Z,16nm,1.6s							
YNE	**Yellowstone No**	**20.67**	**358**	P		Pn	18 47 33.9	-0.7
YNE				IAmb		IAmb	18 47 46.4	
	comp=Z,7.8nm,1.2s							
YBH	**Yreka Blue Hor**	**20.69**	**330**	P		Pn	18 47 35.2	+0.6
	comp=Z,1.0nm,0.8s,baz=120,slow=8.1,SNR=1.4							
YBH				LR		LR	18 55 02.2	
	comp=Z,48nm,18.4s,baz=143,slow=35							
YBH	**Yreka Blue Hor**	**20.69**	**330**	IAmb		IAmb	18 48 10.5	
	comp=Z,26nm,2.0s							
MCMT	**McKenzie Canyo**	**20.69**	**353**	P		Pn	18 47 34.6	-0.3
K05A	**Summer Lake**	**20.75**	**335**	P		Pn	18 47 36.1	+0.6
RLMT	**Red Lodge**	**20.78**	**360**	P		Pn	18 47 34.1	-1.7
RLMT				IAmb		IAmb	18 47 41.6	
	comp=Z,24nm,1.8s							
DLMT	**Dillon**	**21.19**	**353**	P		**P**	**18 47 37.8**	**0.0**
DLMT				IAmb		IAmb	18 48 00.7	
	comp=Z,10nm,1.4s							
PLAL	**Pickwick Lake**	**21.21**	**55**	P		**P**	**18 47 40.1**	**+2.2**
PLAL				IAmb		IAmb	18 47 50.2	
	comp=Z,4.8nm,0.7s							
BOZ	**Bozeman (W)**	**21.34**	**355**	P		**P**	**18 47 41.2**	**+1.8**
BOZ				IAmb		IAmb	18 47 52.3	
	comp=Z,8.8nm,1.4s							
BMO	**Blue Mountains**	**21.54**	**344**	P		**P**	**18 47 41.9**	**+0.5**
ECSD	**EROS Data Cent**	**21.98**	**25**	P		**P**	**18 47 48.2**	**+2.1**
ECSD				IAmb		IAmb	18 47 53.6	
	comp=Z,7.6nm,1.1s							
HRY	**Holter Researc**	**22.46**	**355**	P		**P**	**18 47 52.2**	**+0.9**
LAO	**LASA Array**	**22.48**	**5**	P		**P**	**18 47 53.2**	**+1.8**
Q44A	**Meyer Farm, Va**	**22.48**	**45**	P		**P**	**18 47 54.5**	**+3.0**
SWET	**Sewanee**	**22.92**	**56**	P		**P**	**18 47 59.2**	**+3.0**
SWET				IAmb		IAmb	18 48 33.4	
	comp=Z,16nm,1.5s							
FPAL	**Fort Paine**	**22.92**	**58**	P		**P**	**18 47 59.0**	**+2.7**
CLTN	**Cedars of Leba**	**22.96**	**54**	P		**P**	**18 47 58.9**	**+2.3**
CLTN				IAmb		IAmb	18 48 06.5	
	comp=Z,8.7nm,1.0s							
W50A	**Signal Mountai**	**23.38**	**57**	P		**P**	**18 48 02.5**	**+1.5**
CPCT	**Cooper Cave**	**24.08**	**57**	P		**P**	**18 48 08.6**	**+0.9**
V51A	**Loudon**	**24.33**	**56**	P		**P**	**18 48 11.0**	**+1.0**
W52A	**Murphy**	**24.41**	**58**	P		**P**	**18 48 09.7**	**-1.1**
T50A	**Nancy**	**24.44**	**53**	P		**P**	**18 48 12.3**	**+1.3**
T50A				IAmb		IAmb	18 48 19.3	
	comp=Z,8.5nm,1.1s							
TKL	**Tuckaleechee C**	**24.72**	**57**	LR		LR	18 59 00.6	
	comp=Z,74nm,18.4s,baz=282,slow=39							
V52A	**Sevierville**	**24.92**	**57**	P		**P**	**18 48 15.8**	**+0.5**
P52A	**Corning**	**27.48**	**50**	P		**P**	**18 48 39.0**	**+0.7**
EYMN	**Ely**	**27.48**	**26**	P		**P**	**18 48 38.5**	**+0.1**
O52A	**Adamsville**	**27.89**	**49**	P		**P**	**18 48 41.6**	**-0.5**
M53A	**WI Miller and**	**29.27**	**47**	P		**P**	**18 48 54.8**	**+0.5**
ALLY	**Alegheny Colle**	**29.72**	**47**	P		**P**	**18 49 01.2**	**+2.8**
M54A	**Oil Creek Stat**	**29.98**	**48**	P		**P**	**18 49 02.6**	**+1.9**
ILAR	**Eielson Array**	**47.21**	**339**	P		**P**	**18 51 26.2**	**+1.5**
	comp=Z,0.8nm,0.8s,baz=163,slow=7.0,SNR=4.6							
ILAR	**Eielson Array**	**47.21**	**339**	P		**P**	**18 51 25.7**	**+0.9**
NNA	**Nana**	**47.98**	**135**	LR		LR	19 05 59.7	
	comp=Z,37nm,20.3s,baz=324,slow=29							

WRA	**Warramunga Arr**	**121.38**	**261**	PKP		**PKiKP**	**19 01 45.8**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=82,slow=1.4,SNR=1.4							
ASAR	**Alice Springs**	**122.77**	**257**	PKP		**PKiKP**	**19 01 47.9**	**-1.2**
	comp=Z,0.4nm,1.0s,baz=80,slow=2.0,SNR=2.1							

IDC 29 18:46:51.9±21.0, 7.59N×94.16E, h84km±166km, mb3.2/3, mb1 3.3/4, mb1mx3.0/43, mbtmpg3.4/4, ML3.6/1, Error ellipse: s-maj=255.9km s-min=28.7km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.77**	**23**	P	Pn	18 49 37.4	+0.6
	0.1nm,0.3s,baz=210,slow=15,SNR=3.1						
H08S3	**Diego Garcia H**	**26.37**	**235**	T	T	19 19 15.5	
	baz=54,slow=75,SNR=24						
H08S2	**Diego Garcia H**	**26.37**	**235**	T	T	19 19 08.4	
	baz=54,slow=75,SNR=24						
H08S1	**Diego Garcia H**	**26.39**	**235**	T	T	19 19 16.3	
	baz=54,slow=75,SNR=11						
ZALV	**Zalesovo Beam**	**46.84**	**352**	P	P	18 55 13.0	-0.3
	0.3nm,0.3s,baz=185,slow=8.5,SNR=3.7						
WRA	**Warramunga Arr**	**48.09**	**125**	P	P	18 55 23.4	-0.2
	0.4nm,0.8s,baz=306,slow=8.4,SNR=5.7						
ASAR	**Alice Springs**	**49.72**	**130**	P	P	18 55 36.0	0.0
	0.3nm,0.7s,baz=301,slow=6.6,SNR=8.1						

*IDC **29** 18:49:34.5±0.4, 13.80N×58.22W, h0km, mb4.6/25, mb1 4.8/29, mb1mx4.7/39, mbtmpg4.7/29, ML3.7/3, MS3.9/21, Ms1 3.9/21, ms1mx3.8/32, Error ellipse: s-maj=11.6km s-min=9.5km az=132.0*

*MOS **29** 18:49:35.2±0.8, 13.78N×58.42W, h13km, mb5.2/15, Error ellipse: s-maj=8.8km s-min=7.1km az=42.9*

*NEIC **29** 18:49:36.5±2.0, 13.83N±0.05×58.28W±0.06, h10km±1km, mb5.0/288, Mwr4.8/23, Error ellipse: s-maj=10.2km s-min=8.9km az=96.0*

*NEIC **29** 18:49:37.3, 13.73N×58.46W, h6km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-1.76; $M_{\theta\theta}$0.46; $M_{\phi\phi}$1.30; $M_{r\theta}$-0.01; $M_{\theta\phi}$0.26; $M_{\phi r}$0.94; Fault plane solution: $M_0$1.85000×10^{16} NP1:ϕ_s188.32000°, δ60.33000°, λ-95.78000°. NP2:ϕ_s19.87000°, δ30.18000°, λ-79.98000°. Principal axes: T 1.6150, Plg15.0000°, Azm283.0000°; N 0.4085, Plg5.0000°, Azm191.0000°; P -2.0236, Plg74.0000°, Azm83.0000°;*

*TRN **29** 18:49:38.4, 13.79N×58.40W, h58km, MD5.1*

TRN Felt in St. Vincent MMI III.

*GCMT **29** 18:49:40.5±0.3, 13.75N±0.03×58.22W±0.02, h12km, MW4.9/82, Moment Tensor Solution. s18,c18; s82,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.71±.08; $M_{\theta\theta}$-0.89±.11; $M_{\phi\phi}$2.59±.07; $M_{r\theta}$-2.15±.41; $M_{\theta\phi}$0.27±.06; $M_{\phi r}$-0.03±.26; Best double couple: $M_0$3.05600×10^{16} NP1:ϕ_s153.00000°, δ54.00000°, λ-142.00000°. NP2: ϕ_s38.00000°, δ60.00000°, λ-43.00000°. Principal axes: T 2.6220, Plg4.0000°, Azm97.0000°; N 0.8630, Plg39.0000°, Azm189.0000°; P -3.4910, Plg50.0000°, Azm2.0000°;*
nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 29 18:49:38.3±1.0, 13.75N±0.03×58.32W±0.04, h26km±6km, n675, σ1s50/633, mb5.0/183, MS3.9/22, 1C-2D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBSP	**Saint Philip**	**1.28**	**240**	*eP*	**Pb**	**18 50 02.3**	**+0.5**
BBSP				*eS*	**Sn**	18 50 16.9	**0.0**
BBGH	**Gun Hill**	**1.35**	**243**	*eP*	**Pn**	**18 50 02.2**	**+0.7**
BBGH				*eS*	**Sn**	18 50 18.6	**-0.1**
BBGH	**Gun Hill**	**1.35**	**243**		**Pb**	**18 50 02.6**	**-0.4**
BBGH				Sn	**Sb**	18 50 20.2	**+0.3**
BCHC	**Barbados, Cave**	**1.42**	**244**	*eP*	**Pn**	**18 50 01.7**	**-0.7**
BCHC				*eS*	**Sn**	18 50 18.9	**-1.4**
H05S1	**Guadeloupe/Mar**	**2.53**	**286**	Pn	**Pn**	18 50 16.5	**-1.2**
H05S1				Sn	**Sn**	18 50 44.6	**-3.2**
H05S1				T		18 50 06.5	
MCLT	**Moule a Chique**	**2.55**	**269**	*eP*	**Pn**	**18 50 17.3**	**-0.7**
MCLT	**Moule a Chique**	**2.55**	**269**	*e*	**Pb**	**18 50 25.5**	**+2.1**
MCLT				*eS*	**Sn**	18 50 45.4	**-2.8**
MCLT	**Moule a Chique**	**2.55**	**269**		**Pn**	**18 50 15.1**	**-2.9**
MPOM	**Morne Pois Mar**	**2.56**	**286**	*eP*	**Pn**	**18 50 17.8**	**-0.3**
MPOM	**Morne Pois Mar**	**2.56**	**286**	*e*	**Pb**	**18 50 26.7**	**+3.2**
MPOM				*eS*	**Sn**	18 50 47.4	**-1.0**
MPOM	**Morne Pois Mar**	**2.56**	**286**	Pn	**Pn**	18 50 16.9	**-1.2**
MPOM				Sn	**Sn**	18 50 45.6	**-2.8**
SLBI	**Saint Lucia, B**	**2.59**	**276**	*eP*	**Pn**	18 50 18.0	**-0.6**
SLBI				*eS*	**Sn**	18 50 47.4	**-1.9**
SLCP	**Castries, St.**	**2.61**	**276**	*eP*	**Pn**	18 50 19.2	**+0.4**
SLCP				*eS*	**Sn**	18 50 47.8	**-1.8**
MVM	**Montagne Vaucl**	**2.62**	**288**	*eP*	**Pn**	18 50 18.3	**-0.8**
ILAM	**Ilet Lapin Mar**	**2.68**	**293**	*eP*	**Pn**	18 50 19.0	**-0.8**
ILAM				*eS*	**Sn**	18 50 48.6	**-2.8**
ILAM	**Ilet Lapin Mar**	**2.68**	**293**		**Pn**	18 50 18.9	**-0.8**
ILAM				Sn	**Sn**	18 50 49.2	**-2.1**
LPMF	**Morne Lapointe**	**2.70**	**288**	*eP*	**Pn**	18 50 19.1	**-0.8**
ZAM	**Aeronautique**	**2.75**	**288**	*eP*	**Pn**	18 50 20.0	**-0.7**
TRMF	**Trois Ilets**	**2.76**	**287**	*eP*	**Pn**	18 50 20.1	**-0.8**
BIM	**Bigot**	**2.78**	**286**	*eP*	**Pn**	18 50 20.6	**-0.5**
BIM				*eS*	**Sn**	18 50 51.9	**-1.9**
BIM	**Bigot**	**2.78**	**286**		**Pn**	18 50 20.1	**-1.0**
BIM				Sn	**Sn**	18 50 52.0	**-1.9**
SSV	**Crater Summit**	**2.83**	**262**	*eP*	**Pn**	18 50 22.3	**+0.4**
SSV				*eS*	**Sn**	18 50 54.7	**-0.5**
SVV	**Soufriere Volc**	**2.85**	**262**	*eP*	**Pn**	18 50 22.9	**+0.7**
SVOC	**Richmond Hill,**	**2.89**	**258**	*eP*	**Pn**	18 50 22.1	**-0.5**
SVOC				*eS*	**Sn**	18 50 54.6	**-1.9**
SVB	**Belmont**	**2.89**	**261**	*eP*	**Pn**	18 50 22.4	**-0.3**
SVB	**Belmont**	**2.89**	**261**		**Pn**	18 50 21.8	**-0.9**
FDF	**Fort de France**	**2.91**	**290**	P	**Pn**	18 50 22.2	**-0.8**
FDF						18 50 54.8	
FDF	**Fort de France**	**2.91**	**290**	*i* P	**Pn**	18 50 22.8	**-0.3**
FDF				*eS*	**Sn**	18 50 55.1	**-2.2**
FDF	**Fort de France**	**2.91**	**290**	Pn	**Pn**	18 50 22.2	**-0.8**
FDF				Sn	**Sn**	18 50 54.8	**-2.4**
BAMF	**Morne Balai**	**2.94**	**291**	*eP*	**Pn**	18 50 23.2	**-0.2**
CXM	**Morne La Croix**	**2.96**	**291**	*eP*	**Pn**	18 50 23.6	**-0.1**
PML	**Morne Lenard**	**2.96**	**291**	*eP*	**Pn**	18 50 23.6	**-0.1**
SVN	**Savane Anatole**	**2.97**	**292**	*eP*	**Pn**	18 50 23.6	**-0.2**
SVN	**Savane Anatole**	**2.97**	**292**		**Pn**	18 50 23.5	**-0.2**
PCM	**Pelee Case Pet**	**3.00**	**291**	*eP*	**Pn**	18 50 24.0	**-0.1**
DLPL	**La Plaine**	**3.24**	**299**	*i* P	**Pn**	18 50 27.1	**-0.4**
DLPL				*eS*	**Sn**	18 51 02.8	**-2.6**
DLPL	**La Plaine**	**3.24**	**299**		**Pn**	18 50 26.9	**-0.6**
TOSP	**Speyside**	**3.26**	**222**	*eP*	**Pn**	18 50 28.6	**+0.8**
TOSP				*eS*	**Sn**	18 51 04.0	**-1.7**
TOSP	**Speyside**	**3.26**	**222**	Pn	**Pn**	18 50 28.1	**+0.3**
GCMP	**Grenada, Carri**	**3.28**	**248**	*eP*	**Pn**	18 50 27.8	**-0.3**
GCMP				*eS*	**Sn**	18 51 02.8	**-3.4**
DSLB	**Salisbury**	**3.44**	**300**	*eP*	**Pn**	18 50 29.8	**-0.4**
DSLB				*eS*	**Sn**	18 51 08.5	**-1.7**
BOT	**Bacolet**	**3.48**	**223**	*eP*	**Pn**	18 50 32.4	**+1.6**
GRSS	**Sisters**	**3.52**	**246**	*eP*	**Pn**	18 50 30.1	**-1.2**
GRSS				*eS*	**Sn**	18 51 11.4	**-0.8**
MDPV	**Dominica, Penn**	**3.53**	**302**	*eP*	**Pn**	18 50 31.1	**-0.5**
MDPV				*eS*	**Sn**	18 51 09.3	**-3.2**
MDCT	**Cottage Hill,**	**3.56**	**302**	*eP*	**Pn**	18 50 31.7	**-0.2**
MDCT				*eS*	**Sn**	18 51 09.8	**-3.4**
GRHS	**Sauteurs**	**3.58**	**245**	*eP*	**Pn**	18 50 33.6	**+1.4**
GRHS				*eS*	**Sn**	18 51 11.9	**-1.7**
MAGL	**Barre de l'ile**	**3.60**	**308**	*eP*	**Pn**	18 50 32.2	**-0.3**
MAGL				*eS*	**Sn**	18 51 11.9	**-2.3**
GRGR	**Grenville**	**3.63**	**244**	*eP*	**Pn**	18 50 32.6	**-0.2**
GRGR				*eS*	**Sn**	18 51 13.2	**-1.7**
GRGR	**Grenville**	**3.63**	**244**	Pn	**Pn**	18 50 32.8	**-0.1**
H05N1	**Guadeloupe/Mar**	**3.67**	**314**	Pn	**Pn**	18 50 31.9	**-1.5**
	SNR=3234						
H05N1				Sn	**Sn**	18 51 12.0	**-4.0**
H05N1				T	T	18 54 59.0	
GRFF	**Grenada Fort F**	**3.74**	**243**	*eP*	**Pn**	18 50 34.2	**-0.2**
GRFF				*eS*	**Sn**	18 51 15.0	**-2.6**
TDBA	**Terre de Bas,**	**3.83**	**303**	*eP*	**Pn**	18 50 35.5	**-0.1**
TDBA				*eS*	**Sn**	18 51 18.1	**-1.6**
TBG	**Guadaloupe-3**	**3.83**	**303**	*eP*	**Pn**	18 50 35.0	**-0.6**
TBG				*eS*	**Sn**	18 51 17.4	**-2.6**
CBE	**Ff, Capester**	**3.93**	**306**	*eP*	**Pn**	18 50 36.8	**-0.2**
CBE				*eS*	**Sn**	18 51 19.6	**-2.6**
TRN	**Trinidad (W)**	**4.32**	**225**	*eP*	**Pn**	18 50 43.1	**+0.8**
TRN	**Trinidad (W)**	**4.32**	**225**	*eS*	**Sn**	18 51 28.6	**-3.2**
TPP	**Pointe-a-Pierr**	**4.59**	**222**	*eP*	**Pn**	18 50 46.9	**+0.9**
TPP	**Pointe-a-Pierr**	**4.59**	**222**	*eS*	**Sn**	18 51 36.7	**-1.8**
ANDO	**Antigua, Disas**	**4.75**	**315**	*eP*	**Pn**	18 50 48.0	**-0.3**
ANDO	**Antigua, Disas**	**4.75**	**315**	*eS*	**Sn**	18 51 39.3	**-3.3**
ANOC	**Antigua Open C**	**4.76**	**315**	*eP*	**Pn**	18 50 47.8	**-0.6**
ANOC	**Antigua Open C**	**4.76**	**315**	*eS*	**Sn**	18 51 39.4	**-3.4**
ANWB	**Willy Bob**	**5.13**	**320**	*eP*	**Pn**	18 50 52.1	**-1.3**
ANWB	**Willy Bob**	**5.13**	**320**	*eS*	**Sn**	18 51 47.9	**-4.0**
ANWB	**Willy Bob**	**5.13**	**320**	Pn	**Pn**	18 50 51.2	**-2.2**
NVDO	**Nevis, Disaste**	**5.33**	**309**	*eP*	**Pn**	18 50 55.6	**-0.6**
NVDO	**Nevis, Disaste**	**5.33**	**309**	*eS*	**Sn**	18 51 53.5	**-3.2**
SKOC	**St. Kitts, UWI**	**5.52**	**310**	*eP*	**Pn**	18 50 59.2	**+0.3**
SKOC	**St. Kitts, UWI**	**5.52**	**310**	*eS*	**Sn**	18 51 58.4	**-3.1**
SKI	**Saint Kitts**	**5.55**	**310**	*eP*	**Pn**	18 50 59.5	**+0.2**
SKI	**Saint Kitts**	**5.55**	**310**	*eS*	**Sn**	18 51 58.5	**-3.8**
SEUS	**St. Eustatius**	**5.83**	**310**	*eP*	**Pn**	18 51 03.5	**+0.4**
SEUS	**St. Eustatius**	**5.83**	**310**		**Pn**	18 51 02.4	**-0.7**
SMRT	**St. Maarten**	**6.26**	**314**	*eP*	**Pn**	18 51 07.4	**-1.6**
SMRT	**St. Maarten**	**6.26**	**314**	*eS*	**Sn**	18 52 13.9	**-5.8**
SMRT	**St. Maarten**	**6.26**	**314**	Pn	**Pn**	18 51 07.3	**-1.8**
PLCV	**Puerto La Cruz**	**7.10**	**240**		**Pn**	18 51 22.2	**+1.6**
PLCV					**Sn**	18 52 34.8	**-5.7**
PCRV	**Puerto La Cruz**	**7.13**	**241**	Pn	**Pn**	18 51 22.2	**+1.1**
	38nm,0.3s,baz=55,slow=5.5,SNR=66						
PCRV				Sn	**Sn**	18 52 34.8	**-6.5**
	10.0nm,0.3s,baz=48,slow=4.8,SNR=1.4						
PCRV				LR	LR	18 55 10.6	
	comp=Z,698nm,21.9s,slow=47						
CDVI	**St. Croix**	**7.37**	**303**	Pn	**Pn**	**18 51 23.2**	**-1.1**
ABVI	**Anegada Island**	**7.61**	**311**	Pn	**Pn**	**18 51 25.9**	**-1.5**
STVI	**Saint Thomas**	**7.85**	**306**	Pn	**Pn**	**18 51 29.2**	**-1.6**
CUPR	**Culebra, Puert**	**8.08**	**305**	Pn	**Pn**	**18 51 32.9**	**-1.1**
MTP	**Monte Pirata**	**8.19**	**303**		**Pn**	**18 51 35.1**	**-0.4**
HUMP	**Col San Antoni**	**8.46**	**302**	Pn	**Pn**	**18 51 38.9**	**-0.2**
CBYP	**Canovanas**	**8.53**	**303**		**Pn**	**18 51 38.7**	**-1.5**
PDPR	**Patillas Dam,**	**8.54**	**301**	Pn	**Pn**	**18 51 38.7**	**-1.6**
SJG	**San Juan**	**8.69**	**301**	Pn	**Pn**	**18 51 41.6**	**-0.7**
	7.6nm,0.3s,baz=100,slow=12,SNR=24						
SJG				Sn	**Sn**	**18 53 19.7**	**+0.1**
	3.7nm,0.3s,baz=315,slow=22,SNR=1.2						
SJG	**San Juan**	**8.69**	**301**	P	**Pn**	**18 51 41.4**	**-1.0**
SJG	**San Juan**	**8.69**	**301**		**Pn**	**18 51 41.4**	**-1.0**
SJG	**San Juan**	**8.69**	**301**	*eP*	**Pn**	**18 51 39.2**	**-3.2**
GCPR	**Guaynabo City**	**8.73**	**302**		**Pn**	**18 51 42.5**	**-0.4**
OBIP	**Obispado Ponce**	**9.04**	**299**	Pn	**Pn**	**18 51 45.9**	**-1.3**
EMPR	**Esperanza - Ma**	**9.18**	**302**		**Pn**

SOR pmax pmax
comp=Z,22nm,1.0s
SOR Soroa 25.08 295 P **P** **18 54 58.7 -2.2**
RIOS Rincon, Osa 25.21 261 P **P** **18 55 01.8 -0.4**
RIMA Rio Macho 25.32 264 P **P** **18 55 04.2 +0.9**
RIMA IAmb IAmb 18 55 09.6
comp=Z,54nm,1.3s
CZSB Cruzeiro do Su 25.68 215 *e*P **P** **18 55 08.6 +2.2**
ACON Acoyapa 26.24 269 P **P** **18 55 11.4 -0.1**
ACON IAmb IAmb 18 55 15.9
comp=Z,39nm,1.3s
JTS Las Juntas de 26.27 265 LR LR 19 07 29.9
comp=Z,84nm,20.7s,baz=99,slow=41
JTS Las Juntas de 26.27 265 *i* P **P** **18 55 13.0 +1.2**
JTS pmax pmax
comp=Z,23nm,1.0s
SNDB Serra Nova Dou 26.49 164 *e*P **P** **18 55 14.4 +0.7**
VILB Vilhena 26.60 184 *e*P **P** **18 55 15.2 +0.5**
NBPB Pedra_Branca-C 26.71 135 *e*P **P** **18 55 17.0 +1.2**
NBCL Cascavel-CE 26.72 131 *e*P **P** **18 55 20.1 +4.3**
PEXB Peixe 27.55 158 *e*P **P** **18 55 24.3 +1.0**
NBMA Muriti-CE 28.59 136 *e*P **P** **18 55 35.6 +3.0**
PTLB Pontes e Lacer 29.03 182 *e*P **P** **18 55 37.3 +1.0**
SDBA SAO DESIDERIO 29.20 152 *e*P **P** **18 55 38.4 +0.4**
SIV San Ignacio 29.68 185 P **P** **18 55 43.1 +0.8**
comp=Z,6.0nm,0.7s,baz=340,slow=3.5,SNR=14
SIV LR LR 19 09 56.7
comp=Z,144nm,18.9s,baz=94,slow=41
KMSC Kings Mountain 29.73 320 P **P** **18 55 43.7 +1.1**
baz=130
MTO3 Montecristo 30.11 275 P **P** **18 55 46.4 0.0**
MTO3 IAmb IAmb 18 55 51.5
comp=Z,22nm,0.8s
NBPN Ponto Novo - B 30.34 143 *e*P **P** **18 55 48.5 +0.4**
PAL Palisades 30.37 336 P **P** **18 55 49.2 +1.1**
baz=149
NBPV Pedro Velho 30.40 130 *e*P **P** **18 55 52.1 +3.5**
152A Waverly Hall 30.57 312 P **P** **18 55 49.7 -0.2**
LUPA Lehigh Univers 30.63 334 P **P** **18 55 50.3 -0.1**
LUPA IAmb IAmb 18 55 53.6
comp=Z,32nm,1.3s
HRV Adam Dziewonsk 30.86 341 P **P** **18 55 53.7 +1.4**
baz=154
BDFB Brasilia 30.93 160 P **P** **18 55 53.7 +0.3**
comp=Z,3.6nm,0.5s,baz=343,slow=14,SNR=5.5
N59A State Game Lan 31.06 334 P **P** **18 55 55.7 +1.5**
baz=146
L61B Northampton 31.18 339 P **P** **18 55 56.8 +1.6**
baz=152
Q56A Snyder Ridge, 31.21 328 IAmb IAmb 18 55 59.1
comp=Z,24nm,1.1s
Z51A Franklin 31.24 313 P **P** **18 55 55.9 0.0**
Z51A IAmb IAmb 18 55 59.2
comp=Z,21nm,1.1s
LPAZ La Paz 31.39 198 P **P** **18 55 59.1 +1.2**
comp=Z,12nm,0.8s,baz=9.6,slow=9.0,SNR=34
LPAZ LR LR 19 10 38.0
comp=Z,376nm,21.0s,baz=354,slow=40
LPAZ La Paz 31.39 198 *e*P **P** **18 55 59.7 +1.8**
LPAZ pmax pmax
comp=Z,12nm,0.8s
LPAZ La Paz 31.39 198 IAmb IAmb 18 56 00.4
comp=Z,14nm,0.8s
LPAZ La Paz 31.39 198 *e*P **P** **18 55 57.8 -0.2**
SSPA Standing Stone 31.79 331 P **P** **18 56 01.3 +0.7**
SSPA IAmb IAmb 18 56 03.7
comp=Z,15nm,1.1s
SSPA Standing Stone 31.79 331 P **P** **18 56 02.2 +1.6**
baz=142
JANB Januaria 31.80 154 *e*P **P** **18 56 01.6 +0.6**
O56A Blue Knob Stat 31.82 330 P **P** **18 56 01.8 +0.8**
baz=140
NBLA Lagarto - SE 31.92 139 *e*P **P** **18 56 02.6 +0.6**
NBAN Anadia - AL 31.94 136 *e*P **P** **18 56 04.8 +2.6**
M57A Sunshine Farm, 32.00 333 IAmb IAmb 18 56 05.7
comp=Z,18nm,0.9s
TZTN Tazewell 32.01 320 P **P** **18 56 03.0 +0.3**
baz=129
Q54A Coxs Mills 32.05 326 IAmb IAmb 18 56 16.3
comp=Z,26nm,1.3s
FPAL Fort Paine 32.20 315 P **P** **18 56 04.2 -0.1**
FPAL IAmb IAmb 18 56 07.6
comp=Z,19nm,1.0s
BINY Binghamton 32.21 335 IAmb IAmb 18 56 08.2
comp=Z,30nm,1.2s
BINY Binghamton 32.21 335 P **P** **18 56 05.3 +1.0**
baz=146
W50A Signal Mountai 32.37 316 P **P** **18 56 05.8 0.0**
W50A IAmb IAmb 18 56 09.7
comp=Z,15nm,1.0s
Y49A Blount Mountai 32.40 313 P **P** **18 56 06.5 +0.4**
LRAL Lakeview Retre 32.41 311 P **P** **18 56 06.3 +0.2**
LRAL Lakeview Retre 32.41 311 P **P** **18 56 08.0 +1.9**
baz=120
LBNH Lisbon 32.53 342 P **P** **18 56 08.5 +1.4**
baz=155
CCIG Comitan 32.74 279 IAmb IAmb 18 56 14.7
comp=Z,19nm,0.7s
PKME Peaks-Kenny Pk 32.76 346 P **P** **18 56 10.2 +1.2**
baz=160
SWET Sewanee 32.80 316 IAmb IAmb 18 56 12.9
comp=Z,16nm,1.1s
M55A Ridgway 32.85 331 IAmb IAmb 18 56 13.1
comp=Z,21nm,1.1s
GDU01 Guandu, BA 33.01 145 *e*P **P** **18 56 11.8 +0.2**
NCB Newcomb 33.05 339 P **P** **18 56 12.8 +1.1**
IPMB Ipameri, GO 33.07 162 *e*P **P** **18 56 12.8 +0.7**
X48A Hartselle 33.16 313 IAmb IAmb 18 56 15.9
comp=Z,28nm,1.0s
O53A New Philadelph 33.16 327 P **P** **18 56 13.4 +0.7**
baz=136
P52A Corning 33.22 325 P **P** **18 56 13.7 +0.5**
baz=134
J57A Williamstown 33.23 336 P **P** **18 56 14.1 +0.9**
J57A IAmb IAmb 18 56 16.9
comp=Z,17nm,1.1s
M54A Oil Creek Stat 33.31 330 P **P** **18 56 15.7 +1.8**
baz=140
U49A Red Boiling Sp 33.43 318 IAmb IAmb 18 56 17.6
comp=Z,23nm,1.6s
MC01 Montes Claros 33.43 154 *e*P **P** **18 56 15.7 +0.4**
J56A Wolcott 33.47 335 P **P** **18 56 15.6 +0.4**
J56A IAmb IAmb 18 56 17.8
comp=Z,16nm,0.9s
WVNY West Valley, N 33.51 332 P **P** **18 56 14.6 -1.1**
WVNY IAmb IAmb 18 56 18.7
comp=Z,24nm,1.0s
CLTN Cedars of Leba 33.55 317 IAmb IAmb 18 56 19.5
comp=Z,25nm,1.6s
FRNY Flat Rock 33.59 340 IAmb IAmb 18 56 19.4
comp=Z,20nm,1.1s
V48A Smith Brothers 33.69 316 IAmb IAmb 18 56 20.8
comp=Z,26nm,1.1s
LONY Lake Ozonia 33.74 339 P **P** **18 56 19.0 +1.3**
baz=151
NBIT Itapeh - BA 34.08 146 *e*P **P** **18 56 22.1 +1.3**
E62A Clayton Lake 34.09 346 IAmb IAmb 18 56 24.2
comp=Z,18nm,1.1s
PLAL Pickwick Lake 34.16 313 P **P** **18 56 22.7 +1.3**
ITRB Iturama 34.16 167 *e*P **P** **18 56 21.2 -0.3**
CMC01 Camacan, BA 34.39 147 *e*P **P** **18 56 24.9 +1.3**
T47A Sharon Grove 34.57 317 IAmb IAmb 18 56 28.1
comp=Z,26nm,1.4s
WVT Waverly 34.59 315 P **P** **18 56 26.0 +0.9**
WVT pmax pmax
comp=Z,21nm,1.1s
WVT Waverly 34.59 315 P **P** **18 56 26.0 +0.9**
WVT IAmb IAmb 18 56 27.9
comp=Z,21nm,1.1s
WVT Waverly 34.59 315 P **P** **18 56 26.6 +1.6**
baz=123
WCI Wyandotte Cave 34.77 320 P **P** **18 56 28.5 +1.9**
baz=127
OXF Oxford 34.88 312 P **P** **18 56 28.4 +0.8**
OXF pmax pmax
comp=Z,99nm,1.0s
OXF Oxford 34.88 312 P **P** **18 56 28.4 +0.8**
OXF Oxford 34.88 312 P **P** **18 56 29.4 +1.7**
baz=119
PSGCX Pisagua 35.12 200 IAmb IAmb 18 56 29.6
comp=Z,19nm,0.8s
GUA01 Guaratinga, BA 35.26 148 *e*P **P** **18 56 32.0 +1.0**
PB08 IPOC Station P 35.33 198 P **P** **18 56 31.5 -0.5**
SADO Sadowa 35.63 334 P **P** **18 56 34.8 +0.8**
comp=Z,7.6nm,0.9s,baz=137,slow=13,SNR=4.5
PCMB Pacaembu 35.82 169 *e*P **P** **18 56 36.8 +1.0**

TA01 Diego Aracena 36.04 199 P **P** **18 56 36.8 -0.9**
TA01 IAmb IAmb 18 56 39.0
comp=Z,20nm,0.8s
PB01 IPOC Station P 36.28 198 P **P** **18 56 39.1 -0.7**
SIUC Southern Illin 36.38 317 IAmb IAmb 18 56 43.7
comp=Z,27nm,0.9s
S44A Carbondale 36.39 317 IAmb IAmb 18 56 44.2
comp=Z,34nm,1.1s
SJMB Sao Joao De Ma 36.41 152 *e*P **P** **18 56 42.3 +1.5**
BSFB Barra de Sao F 36.67 152 *e*P **P** **18 56 44.5 +1.4**
PBMO Poplar Bluff 36.71 314 P **P** **18 56 43.7 +0.4**
PBMO IAmb IAmb 18 56 46.2
comp=Z,30nm,0.9s
BSCB Bom Sucesso 37.01 159 *e*P **P** **18 56 47.0 +0.9**
W41B Gary Mavity, V 37.25 311 P **P** **18 56 48.6 +0.6**
baz=116,SNR=12
WLAR White Oak Lake 37.27 308 IAmb IAmb 18 56 52.4
comp=Z,44nm,1.2s
T42A Van Buren 37.30 314 P **P** **18 56 48.3 0.0**
WHAR Wooly Hollow 37.34 311 P **P** **18 56 48.9 +0.2**
WHAR IAmb IAmb 18 56 51.6
comp=Z,35nm,1.1s
X40A Basin Creek Fa 37.39 310 IAmb IAmb 18 56 52.2
comp=Z,24nm,1.1s
X40A Basin Creek Fa 37.39 310 P **P** **18 56 49.6 +0.5**
baz=115,SNR=8.6
FCAR Ozark Folk Cen 37.49 312 IAmb IAmb 18 56 52.6
comp=Z,37nm,1.0s
LVC Limon Verde 37.60 196 P **P** **18 56 51.3 -0.1**
comp=Z,34nm,0.8s,baz=1.2,slow=7.1,SNR=18
LVC Limon Verde 37.60 196 P **P** **18 56 50.5 -0.9**
LVC pmax pmax
comp=Z,39nm,0.9s
LVC Limon Verde 37.60 196 P **P** **18 56 50.5 -0.9**
LVC Limon Verde 37.60 196 *e*P **P** **18 56 51.6 +0.3**
P43A Skaggs, Pawnee 37.64 319 P **P** **18 56 52.0 +0.8**
NATX Nacogdoches 37.77 304 P **P** **18 56 54.8 +2.4**
baz=110
PB06 IPOC Station P 37.88 197 P **P** **18 56 52.1 -1.3**
CCM Cathedral Cave 37.92 316 P **P** **18 56 53.8 +0.2**
CCM pmax pmax
comp=Z,23nm,1.0s
CCM Cathedral Cave 37.92 316 P **P** **18 56 53.8 +0.2**
CCM IAmb IAmb 18 56 56.0
comp=Z,23nm,1.0s
CCM Cathedral Cave 37.92 316 P **P** **18 56 55.1 +1.5**
baz=121
MIAR Mount Ida 37.97 309 P **P** **18 56 55.3 +1.2**
baz=114
HDIL Hopedale 38.02 320 P **P** **18 56 55.4 +1.1**
baz=126
HKT Hockley 38.16 301 *i* P **P** **18 56 56.6 +1.0**
HKT pmax pmax
comp=Z,31nm,1.3s
HKT Hockley 38.16 301 P **P** **18 56 56.2 +0.5**
HKT IAmb IAmb 18 56 59.1
comp=Z,29nm,1.2s
L44A Lake County Fo 38.18 324 P **P** **18 56 57.1 +1.4**
baz=129
MGMO Mountain Grove 38.18 314 IAmb IAmb 18 56 58.4
comp=Z,57nm,1.6s
VAO Valinhos 38.18 163 *e*P **P** **18 56 55.5 -0.5**
U40A Yellville 38.22 312 IAmb IAmb 18 56 58.7
comp=Z,30nm,1.1s
U40A Yellville 38.22 312 P **P** **18 56 56.8 +0.7**
baz=117,SNR=7.3
ALF01 Guarapari-ES 38.28 153 *e*P **P** **18 56 57.5 +0.7**
PB15 IPOC Station P 38.32 197 P **P** **18 56 57.0 -0.3**
W39A Magazine 38.40 310 IAmb IAmb 18 57 01.4
comp=Z,52nm,1.2s
W39A Magazine 38.40 310 P **P** **18 56 58.4 +0.8**
baz=115,SNR=13
SPB Sao Paulo 38.61 164 *e*P **P** **18 56 59.8 +0.3**
PTGB Pitanga 38.72 171 *e*P **P** **18 57 00.8 +0.3**
HHAR Hobbs 38.98 312 P **P** **18 57 03.0 +0.5**
S39A Bolivar 39.17 314 IAmb IAmb 18 57 06.5
comp=Z,43nm,0.9s
P40A Paris 39.22 317 P **P** **18 57 03.9 -0.5**
435B Jarrell 39.85 302 P **P** **18 57 10.7 +0.9**
baz=106
CPUP Villa Florida 39.85 179 P **P** **18 57 09.5 -0.3**
comp=Z,3.0nm,0.6s,baz=356,slow=6.1,SNR=6.4
CPUP LR LR 19 17 14.4
comp=Z,87nm,18.8s,baz=351,slow=42
CPUP Villa Florida 39.85 179 *e*P **P** **18 57 09.6 -0.2**
PB14 IPOC Station P 39.93 197 P **P** **18 57 10.4 -0.4**
PB14 IAmb IAmb 18 57 11.9
comp=Z,37nm,0.9s
JFWS Jewell Farm 39.99 323 P **P** **18 57 12.2 +1.4**
baz=127
WHTX Lake Whitney, 40.10 304 IAmb IAmb 18 57 14.3
comp=Z,41nm,1.2s
WHTX Lake Whitney, 40.10 304 P **P** **18 57 12.2 +0.3**
baz=108
TUL1 Leonard 40.18 310 P **P** **18 57 13.0 +0.5**
TUL1 IAmb IAmb 18 57 15.2
comp=Z,30nm,0.9s
TUL1 Leonard 40.18 310 P **P** **18 57 13.3 +0.8**
baz=114,SNR=6.2
Z35A Perchaven, San 40.36 306 IAmb IAmb 18 57 17.0
comp=Z,42nm,0.9s
N38A Joes South For 40.65 318 IAmb IAmb 18 57 18.7
comp=Z,45nm,1.1s
833A Chaparral WMA, 40.77 298 P **P** **18 57 17.8 +0.3**
baz=102
OK030 Cody Creek RV 40.93 310 P **P** **18 57 18.4 -0.3**
QUOK Quay 40.97 310 IAmb IAmb 18 57 21.5
comp=Z,34nm,1.1s
T35A Sooner Cattle 41.12 311 IAmb IAmb 18 57 22.7
comp=Z,36nm,1.1s
X34A Smith Ranch, M 41.24 307 P **P** **18 57 19.7 -1.6**
X34A IAmb IAmb 18 57 29.9
comp=Z,37nm,1.3s
K38A Parkersburg 41.35 321 IAmb IAmb 18 57 24.1
comp=Z,37nm,1.1s
SCHQ Schefferville 41.52 353 P **P** **18 57 23.5 +0.2**
comp=Z,14nm,1.1s,baz=144,slow=10,SNR=4.3
SCHQ Schefferville 41.52 353 IAmb IAmb 18 58 41.5
comp=Z,67nm,1.9s
BLOK Blackwell 41.58 311 P **P** **18 57 23.7 -0.3**
BLOK IAmb IAmb 18 57 27.2
comp=Z,42nm,1.0s
JCT Junction City 41.61 301 IAmb IAmb 18 57 26.4
comp=Z,42nm,1.1s
JCT Junction City 41.61 301 P **P** **18 57 25.0 +0.6**
baz=104
AC02 Maricunga 41.69 195 P **P** **18 57 24.7 -0.9**
KS20 Mayfield South 42.01 311 P **P** **18 57 28.2 +0.6**
KS20 IAmb IAmb 18 57 30.1
comp=Z,38nm,1.2s
KAN09 Caldwell North 42.02 311 IAmb IAmb 18 57 30.2
comp=Z,25nm,1.1s
WMOK Wichita Mounta 42.02 307 P **P** **18 57 28.5 +0.7**
baz=110
ABTX Abilene, Hawle 42.05 304 P **P** **18 57 27.9 -0.2**
ABTX IAmb IAmb 18 57 30.1
comp=Z,31nm,1.1s
ABTX Abilene, Hawle 42.05 304 P **P** **18 57 29.0 +1.0**
baz=107
KAN17 Caldwell West 42.09 311 IAmb IAmb 18 57 30.8
comp=Z,27nm,1.2s
KSU1 Kansas State U 42.11 314 P **P** **18 57 26.7 -1.6**
KSU1 IAmb IAmb 18 57 29.8
comp=Z,22nm,1.0s
KSU1 Kansas State U 42.11 314 P **P** **18 57 29.2 +0.8**
baz=116
KAN05 Bluff City Nor 42.20 311 IAmb IAmb 18 57 32.2
comp=Z,33nm,1.1s
KAN14 Manchester OK 42.20 310 IAmb IAmb 18 57 31.7
comp=Z,27nm,0.7s
KAN06 Argonia West S 42.24 311 P **P** **18 57 29.1 -0.3**
KAN06 IAmb IAmb 18 57 32.1
comp=Z,42nm,1.4s
N35A Tabor 42.27 317 P **P** **18 57 29.1 -0.5**
N35A IAmb IAmb 18 57 31.8
comp=Z,43nm,1.1s
OK032 Salt Plains WL 42.33 310 IAmb IAmb 18 57 32.7
comp=Z,39nm,1.2s
KAN16 Harper SW Stat 42.38 311 IAmb IAmb 18 57 33.2
comp=Z,39nm,1.1s
GO03 Copiap 42.70 196 P **P** **18 57 32.4 -0.9**
GO03 IAmb IAmb 18 57 34.3
comp=Z,42nm,0.9s
ITQB Itaqui 43.20 178 *e*P **P** **18 57 37.6 +0.4**
L34A Svendsen Farm, 43.28 318 P **P** **18 57 38.8 +1.0**
L34A IAmb IAmb 18 57 40.0
comp=Z,24nm,0.7s
R32A Long Quarter, 43.32 312 IAmb IAmb 18 57 40.5
comp=Z,41nm,1.1s
F36A Milaca 43.63 324 P **P** **18 57 40.1 -0.4**
EYMN Ely 43.81 328 P **P** **18 57 43.0 +1.0**
baz=130
LCO Las Campanas 44.17 196 P **P** **18 57 46.1 +0.8**
LCO pmax pmax
comp=Z,50nm,1.1s
LCO Las Campanas 44.17 196 P **P** **18 57 46.1 +0.8**
BGNE Belgrade 44.20 316 P **P** **18 57 45.8 +0.5**
baz=117,SNR=6.1
CBKS Cedar Bluff 44.22 312 IAmb IAmb 18 57 47.6
comp=Z,27nm,0.9s
CBKS Cedar Bluff 44.22 312 P **P** **18 57 46.5 +1.0**
baz=113
ECSD EROS Data Cent 44.31 320 P **P** **18 57 46.4 +0.3**
ECSD EROS Data Cent 44.31 320 P **P** **18 57 46.6 +0.5**
baz=120
AMTX Amarillo 44.33 306 IAmb IAmb 18 57 49.5
comp=Z,43nm,1.6s
AMTX Amarillo 44.33 306 P **P** **18 57 47.3 +0.8**
baz=107
TXAR Lajitas Array 44.65 298 P **P** **18 57 50.3 +1.2**
comp=Z,7.3nm,0.8s,baz=116,slow=5.8,SNR=51
TXAR PcP **PP** **18 59 33.8 +0.3**
comp=Z,2.1nm,0.8s,baz=99,slow=5.6,SNR=5.4
TXAR LR LR 19 20 50.6
comp=Z,43nm,21.2s,baz=0.0,slow=42
TXAR Lajitas Array 44.65 298 P **P** **18 57 48.5 -0.6**
TXAR 18 59 32.7
TXAR Lajitas Array 44.65 298 P **P** **18 57 48.5 -0.6**
TXAR PcP **PcP** **18 59 32.7 +1.0**
TX31 Lajitas Ar. Si 44.65 298 P **P** **18 57 48.5 -0.6**
TX31 IAmb IAmb 18 57 55.1
comp=Z,27nm,0.8s
TX31 PcP **PP** **18 59 33.1 -0.5**
TX32 Lajitas Array 44.65 298 P **P** **18 57 48.8 -0.3**
MSTX Muleshoe 44.94 305 P **P** **18 57 52.0 +0.6**
baz=106,SNR=18
B35A Bob, Littlefor 45.23 327 P **P** **18 57 53.0 -0.4**
B35A IAmb IAmb 18 57 55.3
comp=Z,16nm,1.0s
PLTB Pedras Altas 45.48 174 *e*P **P** **18 57 55.5 0.0**
CO03 El Pedregal 45.91 195 P **P** **18 57 58.3 -0.6**
CO03 PcP **PcP** **18 59 33.6 -2.2**
SUSD Miller 46.13 320 P **P** **18 58 00.3 -0.2**
SUSD Miller 46.13 320 P **P** **18 58 00.9 +0.3**
baz=119,SNR=5.6
AGMN Agassiz Nation 46.34 326 IAmb IAmb 18 58 03.9
comp=Z,17nm,0.8s
AGMN Agassiz Nation 46.34 326 P **P** **18 58 02.9 +0.8**
baz=125
KSCO Kaye Shedlock' 46.38 311 IAmb IAmb 18 58 05.0
comp=Z,26nm,1.1s
KSCO Kaye Shedlock' 46.38 311 P **P** **18 58 03.4 +0.6**
baz=110
MNTX Cornudas Mount 46.55 301 P **P** **18 58 04.4 +0.4**
MNTX Cornudas Mount 46.55 301 P **P** **18 58 05.5 +1.5**
baz=102
OGNE Ogallala 46.67 314 P **P** **18 58 05.1 +0.2**
baz=113
T25A Trinidad 47.12 308 P **P** **18 58 09.0 +0.4**
baz=107,SNR=7.2
ULM Lac du Bonnet 47.49 328 P **P** **18 58 10.6 -0.6**
comp=Z,20nm,1.1s,baz=124,slow=8.9,SNR=8.0
ULM LR LR 19 18 46.8
comp=Z,172nm,20.9s,baz=118,slow=37
ULM Lac du Bonnet 47.49 328 *e*P **P** **18 58 11.8 +0.7**
ULM pmax pmax
comp=Z,20nm,1.1s
ULM Lac du Bonnet 47.49 328 P **P** **18 58 10.5 -0.6**
ULM IAmb IAmb 18 58 13.0
comp=Z,21nm,1.1s
SDCO Great Sand Dun 48.12 309 P **P** **18 58 17.4 +0.8**
SDCO Great Sand Dun 48.12 309 P **P** **18 58 16.8 +0.3**
baz=107
ANMO Albuquerque 48.13 305 P **P** **18 58 17.2 +0.7**
ANMO pmax pmax
comp=Z,9.0nm,1.2s
ANMO Albuquerque 48.13 305 P **P** **18 58 17.2 +0.7**
ANMO Albuquerque 48.13 305 P **P** **18 58 17.3 +0.7**
baz=104
MDND Maddock 48.21 323 P **P** **18 58 17.9 +1.2**
baz=121
Q24A Divide 48.22 310 P **P** **18 58 17.3 0.0**
baz=108
H10N3 ASCENSION HYDR 48.50 114 T T 19 50 13.8
baz=295,slow=74,SNR=16
H10N2 ASCENSION HYDR 48.50 114 T T 19 50 23.0
baz=295,slow=74,SNR=14
H10N1 ASCENSION HYDR 48.52 114 T T 19 50 23.2
baz=295,slow=74,SNR=17
121A Cookes Peak, D 48.71 301 IAmb IAmb 18 58 24.8
comp=Z,23nm,1.1s
121A Cookes Peak, D 48.71 301 P **P** **18 58 21.6 +0.6**
baz=101,SNR=10
ISCO Idaho Springs 48.83 311 P **P** **18 58 23.6 +1.6**
baz=108
H10S3 ASCENSION HYDR 48.85 115 T T 19 51 55.2
SNR=9.1
S22A 4UR Ranch, Cre 49.13 308 P **P** **18 58 24.7 +0.4**
baz=106
PHWY Pilot Hill 49.21 313 P **P** **18 58 25.2 +0.3**
PHWY IAmb IAmb 18 58 27.6
comp=Z,26nm,1.2s
RSSD Black Hills 49.27 317 P **P** **18 58 25.2 +0.1**
RSSD pmax pmax
comp=Z,8.0nm,1.0s
RSSD Black Hills 49.27 317 P **P** **18 58 25.2 +0.1**
RSSD Black Hills 49.27 317 P **P** **18 58 25.7 +0.5**
baz=113
N23A Red Feather La 49.42 312 P **P** **18 58 27.6 +1.1**
baz=109,SNR=6.0
SLBS Sierra La Lagu 49.66 289 P **P** **18 58 30.2 +1.9**
319A Douglas 49.77 300 P **P** **18 58 30.4 +1.3**
319A IAmb IAmb 18 58 32.6
comp=Z,28nm,1.1s
K22A Casper 50.41 314 IAmb IAmb 18 58 36.6
comp=Z,27nm,1.2s
K22A Casper 50.41 314 P **P** **18 58 34.7 +0.9**
baz=110,SNR=5.6
RWWY Rawlins 50.58 313 IAmb IAmb 18 58 39.0
comp=Z,26nm,1.6s
ML02 Panimavida 50.78 194 P **P** **18 58 36.0 -0.4**
W18A Petrified Fore 50.80 304 P **P** **18 58 37.4 +0.5**
baz=102
X18A Snowflake 50.86 303 IAmb IAmb 18 58 40.9
comp=Z,43nm,1.7s
TUC Tucson 51.17 300 P **P** **18 58 39.9 +0.3**
TUC pmax pmax
comp=Z,11nm,1.1s
TUC Tucson 51.17 300 P **P** **18 58 39.9 +0.3**
TUC Tucson 51.17 300 P **P** **18 58 41.1 +1.5**
baz=98
DGMT Dagmar 51.20 322 P **P** **18 58 40.5 +1.0**
baz=117
LAO LASA Array 51.70 319 IAmb IAmb 18 58 46.2
comp=Z,17nm,0.9s
LAO LASA Array 51.70 319 P **P** **18 58 44.3 +1.0**
baz=113
RDMU Red Mountain 51.95 311 P **P** **18 58 46.0 +0.6**
RDMU IAmb IAmb 18 58 48.3
comp=Z,20nm,1.3s
X16A Lo Mia Camp, P 52.05 303 P **P** **18 58 47.6 +1.3**
WUAZ Wupatki 52.19 304 IAmb IAmb 18 58 50.8
comp=Z,21nm,1.2s
WUAZ Wupatki 52.19 304 P **P** **18 58 49.4 +2.1**
baz=101
SRU San Rafael Swe 52.29 309 P **P** **18 58 47.2 -0.8**
SRU pmax pmax
comp=Z,10.0nm,1.0s
SRU San Rafael Swe 52.29 309 P **P** **18 58 47.2 -0.8**
P17A Butcher Ranch, 52.54 309 IAmb IAmb 18 58 53.1
comp=Z,36nm,1.6s
KOWA Kowa 52.56 82 P **P** **18 58 49.4 -0.7**
KOWA IAmb IAmb 18 59 02.4
comp=Z,28nm,1.4s
BW06 Boulder Array 52.57 314 P **P** **18 58 49.8 -0.2**
BW06 IAmb IAmb 18 58 52.4
comp=Z,18nm,1.1s
BW06 Boulder Array 52.57 314 P **P** **18 58 50.3 +0.2**
baz=108
PD31 Pinedale Array 52.57 314 IAmb IAmb 18 58 52.4
comp=Z,15nm,1.1s
PDAR Pinedale Array 52.57 314 P **P** **18 58 50.7 +0.7**

comp=Z,10nm,1.0s,baz=110,slow=8.7,SNR=45
PDAR LR LR 19 22 42.6
comp=Z,75nm,21.5s,baz=118,slow=38
214A Organ Pipe Nat 52.83 300 P P 18 58 52.9 +1.0
baz=97
DBIC Dimbokro 52.99 92 P P 18 58 53.6 +0.4
comp=Z,8.3nm,0.8s,baz=290,slow=6.7,SNR=7.4
DBIC LR LR 19 18 34.1
comp=Z,208nm,20.1s,baz=280,slow=33
U15A North Rim 53.09 305 P P 18 58 54.5 +0.4
RLMT Red Lodge 53.11 317 IAmb IAmb 18 58 56.8
comp=Z,18nm,1.1s
RLMT Red Lodge 53.11 317 P P 18 58 54.8 +0.8
baz=109
Y14A Wickenburg 53.26 302 P P 18 58 55.1 +0.1
DY2G Dye2 53.28 6 *i* P P 18 58 56.3 +1.5
DY2G IAmb IAmb 18 58 57.6
comp=Z,46nm,1.1s
JLU Jordanelle 53.34 311 IAmb IAmb 18 58 59.8
comp=Z,24nm,1.3s
MVU Marysvale 53.44 308 IAmb IAmb 18 58 59.4
comp=Z,29nm,1.2s
TCUT Toone Canyon 53.44 311 P P 18 58 56.8 +0.3
TCUT IAmb IAmb 18 58 59.7
comp=Z,15nm,0.9s
LOHW Long Hollow 53.55 314 P P 18 58 57.6 +0.3
KNB Kanab 53.62 306 P P 18 58 56.7 -1.1
KNB pmax pmax
comp=Z,9.0nm,1.0s
KNB Kanab 53.62 306 P P 18 58 56.7 -1.1
REDW Red Top Meadow 53.65 314 IAmb IAmb 18 59 01.3
comp=Z,22nm,1.4s
AHID Auburn Hatcher 53.66 313 P P 18 58 58.8 +0.8
AHID IAmb IAmb 18 59 00.4
comp=Z,22nm,1.1s
TPAW Teton Pass 53.76 314 IAmb IAmb 18 59 01.3
comp=Z,12nm,1.1s
LC01 Cunco 53.89 193 P P 18 58 59.3 0.0
ESDC Sonseca Array 54.04 51 P P 18 59 00.4 -0.2
comp=Z,3.1nm,1.1s,baz=252,slow=7.4,SNR=10
ESDC LR LR 19 19 38.2
comp=Z,74nm,18.5s,baz=275,slow=33
ESDC Sonseca Array 54.04 51 P P 18 59 01.5 +0.9
CCUT Cedar City 54.14 307 P P 18 59 01.3 -0.3
PDMCI Parker Dam,Lak 54.24 302 P P 18 59 03.5 +1.4
baz=98
SPUT South Promonto 54.25 311 IAmb IAmb 18 59 05.0
comp=Z,19nm,1.5s
DUG Dugway, Tooele 54.26 310 P P 18 59 01.9 -0.5
DUG pmax pmax
comp=Z,19nm,1.4s
DUG Dugway, Tooele 54.26 310 P P 18 59 01.9 -0.5
DUG IAmb IAmb 18 59 05.4
comp=Z,19nm,1.4s
DUG Dugway, Tooele 54.26 310 P P 18 59 03.5 +1.1
baz=103
YHB Horse Butte 54.29 316 P P 18 59 02.8 +0.1
BGU Big Grassy Mou 54.58 311 P P 18 59 05.3 +0.5
BGU IAmb IAmb 18 59 09.6
comp=Z,19nm,1.1s
HVU Hansel Valley 54.60 312 P P 18 59 05.3 +0.4
HVU pmax pmax
comp=Z,13nm,1.1s
HVU Hansel Valley 54.60 312 P P 18 59 05.2 +0.4
HVU IAmb IAmb 18 59 07.2
comp=Z,13nm,1.1s
GLA Glamis 54.65 301 P P 18 59 07.0 +1.8
baz=96
PSUT Pine Spring 54.70 308 IAmb IAmb 18 59 15.6
comp=Z,13nm,0.8s
BOZ Bozeman (W) 54.84 316 P P 18 59 07.0 +0.5
BOZ pmax pmax
comp=Z,17nm,1.2s
BOZ Bozeman (W) 54.84 316 P P 18 59 07.0 +0.5
BOZ IAmb IAmb 18 59 09.5
comp=Z,17nm,1.1s
BOZ Bozeman (W) 54.84 316 P P 18 59 07.2 +0.7
baz=108
IRM Iron Mountain 55.05 302 P P 18 59 09.0 +0.9
baz=97,SNR=13
BC3 Big Chuckawall 55.24 301 P P 18 59 10.3 +0.7
baz=97
PLCA Paso Flores 55.38 191 P P 18 59 10.7 +0.4
comp=Z,32nm,0.9s,baz=14,slow=8.2,SNR=42
PLCA LR LR 19 24 44.3
comp=Z,107nm,19.9s,baz=8.5,slow=38
PLCA Paso Flores 55.38 191 P P 18 59 10.9 +0.6
PLCA pmax pmax
comp=Z,41nm,1.0s
PLCA Paso Flores 55.38 191 P P 18 59 10.9 +0.6
PLCA Paso Flores 55.38 191 *eP* P 18 59 11.3 +1.0
DLMT Dillon 55.42 316 IAmb IAmb 18 59 13.9
comp=Z,16nm,1.3s
SWSC Sam W. Stewart 55.45 301 P P 18 59 12.6 +1.6
baz=96
BELC Belle Mtn. Jos 55.73 302 P P 18 59 13.5 +0.3
baz=96
TUQ Turquoise Moun 55.84 304 P P 18 59 14.3 +0.4
baz=98
LL04 Puerto Octay 55.93 193 P P 18 59 14.1 0.0
MONP2 Monument Peak 55.97 300 P P 18 59 14.1 -0.8
baz=96
R11A Troy Canyon, C 56.01 307 P P 18 59 16.3 +1.2
baz=100
TPFO Pinon Flats 56.06 301 P P 18 59 17.2 +1.7
baz=96
PFO Pinyon Flats O 56.07 301 P P 18 59 16.1 +0.6
baz=96
HEC Hector,Ludlow 56.10 303 P P 18 59 16.3 +0.6
baz=97
LL03 Petrohue 56.15 193 P P 18 59 15.4 -0.2
ELK Elko 56.18 310 IAmb IAmb 18 59 19.3
comp=Z,16nm,1.5s
SHOC Shoshone, Teco 56.19 304 P P 18 59 17.5 +1.3
baz=98
HLID Hailey 56.20 313 P P 18 59 16.8 +0.4
HLID Hailey 56.20 313 P P 18 59 17.5 +1.1
baz=104
TPNV Topopah Spring 56.31 305 P P 18 59 18.6 +1.3
baz=98
GSC Goldstone, Bar 56.54 303 IAmb IAmb 18 59 22.4
comp=Z,31nm,1.9s
GSC Goldstone, Bar 56.54 303 P P 18 59 20.7 +1.8
baz=97
ICESG Greenland Ices 56.56 8 *i* P P 18 59 19.9 +1.1
ICESG IAmb IAmb 18 59 20.8
comp=Z,15nm,1.0s
QSM Queen of Sheba 56.67 304 P P 18 59 19.3 -0.3
MURC Murrieta 56.68 301 P P 18 59 21.1 +1.3
baz=96
FURC Furnace Creek, 56.73 305 P P 18 59 22.3 +2.3
baz=98
MSO Missoula 56.74 317 P P 18 59 21.9 +1.9
baz=106
BFSC Mount Baldy Ra 57.12 302 P P 18 59 24.3 +1.3
baz=96
MPMC Manual Prospec 57.18 304 P P 18 59 25.0 +1.5
baz=97
GRAC Grapevine Rang 57.20 305 P P 18 59 24.6 +1.1
baz=98
JTMT Jette 57.22 318 P P 18 59 23.2 -0.3
LRMC Laurel Mtn Rad 57.27 303 P P 18 59 26.0 +1.9
baz=96
EDW2 Edwards Air Fo 57.46 303 P P 18 59 27.2 +1.8
baz=96
BMN Battle Mountai 57.61 309 P P 18 59 26.5 +0.1
BMN pmax pmax
comp=Z,21nm,1.2s
BMN Battle Mountai 57.61 309 P P 18 59 26.5 +0.1
BMN IAmb IAmb 18 59 29.4
comp=Z,21nm,1.2s
PLID Pearl Lake 57.67 315 P P 18 59 26.4 -0.4
PLID IAmb IAmb 18 59 29.0
comp=Z,14nm,1.1s
CWC Cottonwood Cre 57.70 304 P P 18 59 29.0 +1.9
baz=97
ISA Isabella, Lake 57.94 304 P P 18 59 30.3 +1.6
baz=96
LL02 Futaleuf 58.01 192 IAmb IAmb 18 59 42.0
comp=Z,22nm,1.4s
NV11 Mina Array Sit 58.02 307 P P 18 59 29.4 +0.1
NV11 IAmb IAmb 18 59 32.4
comp=Z,22nm,1.5s
NVAR Mina Array Bea 58.13 307 P P 18 59 31.5 +1.4
comp=Z,1.8nm,0.8s,baz=99,slow=6.4,SNR=9.8
NVAR LR LR 19 26 38.0
comp=Z,139nm,21.9s,baz=96,slow=38

TORD Torodi Ar. Bea 58.23 83 P P 18 59 30.7 -0.2
comp=Z,1.6nm,0.7s,baz=278,slow=6.2,SNR=12
TORD LR LR 19 23 40.5
comp=Z,315nm,18.1s,baz=270,slow=35
TORD Torodi Ar. Bea 58.23 83 P P 18 59 31.1 +0.1
TORD IAmb IAmb 18 59 48.1
comp=Z,26nm,1.9s
EDM Edmonton 58.42 325 P P 18 59 31.4 -0.3
EDM pmax pmax
comp=Z,24nm,1.0s
EDM Edmonton 58.42 325 P P 18 59 31.4 -0.3
F10A Beach Ranch, E 58.72 316 P P 18 59 34.3 +0.3
PKM Mcpherson Peak 58.95 303 P P 18 59 37.7 +1.8
baz=95
SMMC Simmler 59.14 303 P P 18 59 38.6 +1.5
baz=95
NEW Newport 59.20 318 P P 18 59 37.1 -0.1
comp=Z,13nm,0.9s,baz=130,slow=5.2,SNR=12
NEW Newport 59.20 318 IAmb IAmb 18 59 39.1
comp=Z,16nm,0.9s
NEW Newport 59.20 318 P P 18 59 38.0 +0.7
baz=105
C09A Chrisman Ranch 59.84 318 P P 18 59 41.8 +0.2
BEKR Beckworth 59.90 308 P P 18 59 42.5 +0.1
I07A Izee 59.91 313 IAmb IAmb 18 59 44.9
comp=Z,12nm,1.1s
SUMG Summit 59.96 7 *i* P P 18 59 43.4 +0.9
SUMG IAmb IAmb 18 59 45.6
comp=Z,27nm,1.1s
SUMG Summit 59.96 7 *i* P P 18 59 43.3 +0.9
SUMG pmax pmax
comp=Z,27nm,1.1s
SUMG Summit 59.96 7 P P 18 59 41.8 -0.7
D08A Wollman Farm, 60.10 317 P P 18 59 44.1 +0.7
D08A IAmb IAmb 18 59 45.9
comp=Z,14nm,1.1s
HAWA Hanford 60.37 316 P P 18 59 44.9 -0.4
HAWA IAmb IAmb 18 59 47.7
comp=Z,9.7nm,0.8s
ORV Oroville 60.74 308 P P 18 59 47.9 0.0
ORV pmax pmax
comp=Z,21nm,1.6s
ORV Oroville 60.74 308 P P 18 59 47.9 0.0
ORV IAmb IAmb 18 59 50.9
comp=Z,21nm,1.6s
J05D Fort Rock, OR 61.02 312 P P 18 59 51.6 +1.6
baz=98
O03E Paynes Creek 61.05 309 P P 18 59 51.1 +1.0
baz=96
M04C Macdoel 61.26 310 P P 18 59 52.7 +1.1
baz=97,SNR=5.8
LTY Liberty 61.31 317 IAmb IAmb 18 59 54.1
comp=Z,14nm,1.0s
G05D Wamic, OR 61.39 314 P P 18 59 52.6 +0.4
baz=100
C06D Leavenworth 61.59 317 P P 18 59 54.7 +1.2
baz=101
J04D Umpqua Nationa 61.65 312 P P 18 59 55.2 +1.0
baz=98
L04D Klamath Falls 61.66 311 P P 18 59 55.0 +0.8
baz=97
O02D Mt. Diablo Mer 61.79 308 P P 18 59 56.3 +1.2
baz=96
B05A Bryant 62.44 317 P P 19 00 00.4 +1.2
baz=100
E04D Cinebar 62.46 315 P P 19 00 00.1 +0.7
baz=99
YKA Yellowknife Ar 62.64 334 P P 19 00 00.2 0.0
comp=Z,3.4nm,0.8s,baz=105,slow=8.4,SNR=5.3
YKA LR LR 19 27 17.6
comp=Z,77nm,21.8s,baz=0.0,slow=36
YKA Yellowknife Ar 62.64 334 *eP* P 19 00 00.5 +0.3
YKA pmax pmax
comp=Z,5.0nm,0.8s
LLLB Lillooet 62.76 320 P P 19 00 01.8 +0.5
NEEM North Greenlan 63.81 2 *i* P P 19 00 09.3 +1.1
NEEM IAmb IAmb 19 00 10.6
comp=Z,24nm,1.1s
KEST Kesra 64.03 57 IAmb IAmb 19 00 23.8
comp=Z,14nm,1.1s
CBB Campbell River 64.85 319 P P 19 00 15.6 +0.5
EUNU Eureka 67.56 355 IAmb IAmb 19 00 34.8
comp=Z,18nm,1.2s
CLL Collm 67.71 40 *eP* P 19 00 34.0 +0.6
comp=Z,7.0nm,1.3s
CLL *e* 19 00 43.0
CLL *e*SSS SSS 19 17 06.0
CLL *e*SSSS 19 18 12.0
CLL Collm 67.71 40 *eP* P 19 00 34.0 +0.6
CLL *e* 19 00 43.0
CLL pmax pmax
comp=Z,7.0nm,1.3s
GERES GERESS Array B 67.94 43 P P 19 00 34.0 -1.0
comp=Z,1.8nm,0.9s,baz=259,slow=6.1,SNR=6.8
GERES GERESS Array B 67.94 43 *eP* P 19 00 35.9 +0.9
GERES pmax pmax
comp=Z,2.0nm,0.8s
NB2 NORSAR Subarra 68.18 29 P P 19 00 37.7 +1.5
comp=Z,17nm,1.2s,baz=257,slow=6.5
NOA NORSAR Array B 68.18 29 P P 19 00 36.5 +0.3
comp=Z,4.7nm,1.0s,baz=241,slow=6.7,SNR=4.6
TGTN Hyland Airport 68.47 331 P P 19 00 39.3 +1.2
baz=101,SNR=8.7
DLBC Dease Lake 68.82 328 IAmb IAmb 19 00 44.1
comp=Z,13nm,1.1s
A36M Sachs Harbour 69.94 342 P P 19 00 48.9 +2.1
baz=108
MMPY Sheldon Lake, 70.05 332 P P 19 00 49.8 +2.0
baz=99
NOR Nord 70.09 6 *i* P P 19 00 47.0 -0.8
NOR IAmb IAmb 19 00 52.5
comp=Z,56nm,1.9s
NOR Nord 70.09 6 *i* P P 19 00 46.9 -0.8
NOR pmax pmax
comp=Z,57nm,1.9s
FARO Faro, Yukon 70.96 331 P P 19 00 54.6 +1.3
baz=97,SNR=14
INK Inuvik 71.85 338 P P 19 00 58.6 +0.1
INK pmax pmax
comp=Z,17nm,1.1s
INK Inuvik 71.85 338 P P 19 00 58.6 +0.1
INK IAmb IAmb 19 01 00.4
comp=Z,16nm,1.1s
INK Inuvik 71.85 338 P P 19 00 59.9 +1.4
baz=99
KLNR Kaliningrad 72.27 37 *i* P P 19 01 03.2 +2.0
KLNR pmax pmax
comp=Z,34nm,0.9s
HYT Haines Junctio 72.83 330 P P 19 01 05.6 +0.9
baz=93,SNR=5.9
EPYK Eagle Plains 72.84 336 P P 19 01 05.7 +1.1
baz=95
YUK6 Outpost Mounta 73.25 330 P P 19 01 08.2 +0.9
baz=92
DAWY Dawson 73.83 333 P P 19 01 11.6 +1.1
baz=92,SNR=10
YUK3 Moose Creek 74.28 331 P P 19 01 14.4 +1.0
baz=90
PABE Paberze 74.42 36 P P 19 01 14.7 +0.7
EGAK Eagle 74.61 334 IAmb IAmb 19 01 17.3
comp=Z,16nm,1.1s
EGAK Eagle 74.61 334 P P 19 01 16.0 +1.1
baz=90
CTG Chitna Glacier 74.70 330 P P 19 01 16.3 +0.5
baz=89
BCAR Beaver Creek A 74.89 332 P P 19 01 17.4 +0.7
L27K Beaver Creek, 74.91 332 P P 19 01 17.9 +1.1
baz=89,SNR=18
M27K Edge Creek, AK 74.94 331 P P 19 01 17.7 +0.6
M27K Edge Creek, AK 74.94 331 P P 19 01 18.3 +1.3
baz=89,SNR=11
K27K Chicken 75.01 333 IAmb IAmb 19 01 20.3
comp=Z,19nm,1.1s
ARCES ARCESS Array B 75.05 21 P P 19 01 17.4 0.0
comp=Z,12nm,0.8s,baz=282,slow=5.7,SNR=11
ARCES ARCESS Array B 75.05 21 *eP* P 19 01 19.5 +2.1
ARCES pmax pmax
comp=Z,8.0nm,0.7s
FINES FINESS Array B 75.36 30 P P 19 01 18.6 -0.6
comp=Z,7.8nm,0.8s,baz=256,slow=2.8,SNR=15
FINES FINESS Array B 75.36 30 *eP* P 19 01 20.4 +1.1
FINES pmax pmax
comp=Z,8.0nm,0.8s
M26K Nabesna, AK 75.46 331 P P 19 01 21.0 +1.0
baz=88
MCARA McCarthy VSAT 75.51 330 P P 19 01 21.3 +1.2
baz=88,SNR=8.3

L26K Log Cabin Wild 75.60 332 P P 19 01 22.1 +1.4
baz=88,SNR=6.0
BUR08 Bucovina Ar. S 75.63 44 P P 19 01 21.6 +0.3
BUR08 IAmb IAmb 19 01 34.3
comp=Z,15nm,1.1s
BURAR Bucovina Array 75.64 44 P P 19 01 22.8 +1.4
J26L Joseph Creek 75.65 334 P P 19 01 22.5 +1.5
baz=88
VSU Vasula 75.82 33 *i* P P 19 01 22.8 +0.9
VSU pmax pmax
comp=Z,57nm,1.0s
SCRK Sand Creek 75.85 333 P P 19 01 22.9 +0.7
SCRK Sand Creek 75.85 333 P P 19 01 23.2 +1.0
baz=88
N25K Chitina, Valde 76.25 331 P P 19 01 25.6 +1.1
baz=87
BMRM Bremner River 76.29 330 P P 19 01 25.8 +1.1
baz=86
MLR Muntele Rosu 76.33 46 P P 19 01 26.0 +0.7
MLR pmax pmax
comp=Z,34nm,1.5s
MLR Muntele Rosu 76.33 46 P P 19 01 26.0 +0.7
PRP Porcupine Dome 76.44 335 IAmb IAmb 19 01 27.9
comp=Z,22nm,1.0s
PRP Porcupine Dome 76.44 335 P P 19 01 26.0 +0.4
baz=87,SNR=12
HARP HAARP 76.47 331 P P 19 01 26.9 +1.3
baz=86
PAX Paxson 76.57 332 P P 19 01 27.0 +0.7
PAX pmax pmax
comp=Z,16nm,1.0s
PAX Paxson 76.57 332 P P 19 01 27.0 +0.7
PAX IAmb IAmb 19 01 28.5
comp=Z,16nm,1.0s
PAX Paxson 76.57 332 P P 19 01 26.6 +0.3
baz=86,SNR=5.9
MNK Minsk 76.73 37 *i* P P 19 01 17.8 -9.4
MNK *i* 19 11 31.3
MNK *i* SSS SSS 19 19 23.9
MNK pmax pmax
comp=N,15nm,1.0s
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=Z,8.0nm,0.6s
MNK MLR MLR
comp=N,102nm,16.0s
MNK MLR MLR
comp=E,36nm,17.0s
MNK MLR MLR
comp=Z,62nm,16.0s
MNK Minsk 76.73 37 *i* P P 19 01 17.9 -9.4
comp=E,3.0nm,0.9s
MNK *i* P P 19 01 17.9 -9.4
comp=N,15nm,1.1s
MNK *i* P P 19 01 17.9 -9.4
comp=Z,8.0nm,0.6s,baz=95
MNK *i* PcP pP 19 01 28.8 -5.7
MNK *i* PP PP 19 04 10.3 -9.4
MNK *i* PPP PPP 19 05 57.5
MNK *i* S S 19 11 02.7 -10
MNK *i* SS **SS 19 15 60.0 -8.3**
MNK *i* SSS SSS 19 19 23.9
MNK *i* LR LR 19 35 57.8
MNK *i* LRM MLR 19 37 20.7
comp=N,102nm,15.9s
MNK *i* LRM MLR 19 37 40.1
comp=E,36nm,17.4s
MNK *i* LRM MLR 19 37 47.3
comp=Z,62nm,15.9s
EYAK Cordova Ski Ar 76.89 330 P P 19 01 29.1 +1.2
baz=85
KLU Klutina 76.89 331 P P 19 01 28.9 +0.7
baz=85
IL31 77.06 334 IAmb IAmb 19 01 30.8
comp=Z,18nm,1.1s
ILAR Eielson Array 77.06 334 P P 19 01 28.4 -0.5
comp=Z,7.6nm,1.0s,baz=99,slow=4.4,SNR=26
ILAR LR LR 19 36 37.3
comp=Z,59nm,21.5s,baz=100,slow=37
ILAR Eielson Array 77.06 334 *eP* P 19 01 29.5 +0.6
ILAR pmax pmax
comp=Z,8.0nm,1.0s
HDA Harding Lake 77.12 334 P P 19 01 30.1 +0.8
baz=85
POKR Poker Plat Res 77.27 334 P P 19 01 31.0 +0.9
baz=85
H24K Noodor Dome 77.39 335 P P 19 01 31.6 +0.8
H24K IAmb IAmb 19 01 33.3
comp=Z,16nm,1.0s
H24K Noodor Dome 77.39 335 P P 19 01 32.0 +1.2
baz=85,SNR=8.4
COLA College 77.47 334 P P 19 01 32.5 +1.3
baz=84
TCOL CIGO, UAF Yank 77.47 334 P P 19 01 32.5 +1.3
baz=84
WRH Wood River Hil 77.61 334 P P 19 01 32.3 +0.3
WRH IAmb IAmb 19 01 34.0
comp=Z,21nm,1.2s
WAT6 Susitna Watana 77.65 332 P P 19 01 33.8 +1.3
baz=84
TOLK Toolik Lake Re 77.76 338 P P 19 01 33.3 +0.5
baz=84
AKASG Malin Array Be 77.95 41 P P 19 01 34.0 -0.2
comp=Z,0.2nm,0.2s,baz=270,slow=4.6,SNR=4.9
AKASG LR LR 19 31 06.8
comp=Z,60nm,21.2s,baz=300,slow=32
WAT1 Susitna Watana 77.99 332 P P 19 01 35.4 +1.2
baz=83
SML Sawmill 78.01 331 P P 19 01 35.3 +1.0
baz=83
NEA2 Nenana 78.02 334 P P 19 01 35.2 +0.9
baz=83,SNR=12
APA Apatity 78.06 23 ||*i* P P 19 01 30.1 -4.3
APA pmax pmax
comp=Z,9.0nm,1.1s
APA MLR MLR
comp=Z,900nm,16.0s
MCK McKinley 78.06 333 P P 19 01 35.6 +1.1
baz=83
I23K Minto, Yukon-K 78.07 334 P P 19 01 35.4 +0.9
I23K IAmb IAmb 19 01 36.9
comp=Z,21nm,1.1s
I23K Minto, Yukon-K 78.07 334 P P 19 01 35.4 +0.9
baz=83,SNR=7.5
COLD Coldfoot 78.16 337 P P 19 01 36.1 +1.1
baz=83
PMR Palmer 78.41 331 P P 19 01 37.7 +1.3
baz=83
MLY Manley 78.67 334 IAmb IAmb 19 01 40.0
comp=Z,10nm,1.0s
TRF Thorofare Moun 78.69 333 P P 19 01 39.1 +0.9
TRF Thorofare Moun 78.69 333 P P 19 01 39.3 +1.1
baz=82,SNR=5.0
SEW Seward 78.77 329 P P 19 01 38.9 +0.5
baz=82
RC01 Rabbit Creek A 78.77 330 P P 19 01 40.0 +1.6
baz=82
BPAW Bear Paw Mtn. 78.91 333 IAmb IAmb 19 01 41.2
comp=Z,17nm,1.0s
BPAW Bear Paw Mtn. 78.91 333 P P 19 01 39.9 +0.6
baz=82,SNR=9.4
I21K Tanana 79.17 335 P P 19 01 42.2 +1.6
baz=81
SUA Susitna One 79.19 331 P P 19 01 41.1 +0.2
baz=81
H21K Melozitna Rive 79.43 335 P P 19 01 42.0 0.0
H21K Melozitna Rive 79.43 335 P P 19 01 43.1 +1.1
baz=80
BRSE Bradley Lake S 79.46 329 P P 19 01 43.7 +1.4
baz=81
SKT Skwentna 79.48 331 P P 19 01 43.3 +0.9
baz=81
CAST Castle Rocks 79.50 333 IAmb IAmb 19 01 45.0
comp=Z,15nm,1.1s
CAST Castle Rocks 79.50 333 P P 19 01 43.9 +1.5
baz=80
CHUM Lake Minchumin 79.52 333 P P 19 01 43.8 +1.3
baz=80
IMAR Indian Mountai 79.75 336 P P 19 01 44.1 +0.3
J20K Nowinta River 80.26 334 P P 19 01 47.3 +0.7
baz=79
K20K Telida 80.39 333 IAmb IAmb 19 01 49.3
comp=Z,22nm,1.1s
K20K Telida 80.39 333 P P 19 01 47.9 +0.7
baz=79,SNR=5.4
L20K Farewell, AK 80.47 332 P P 19 01 48.5 +0.7

	baz=79							
ELL	**Elmali**	**80.51**	**54**	P		**P**	**19 01 47.9**	**-0.7**
ELL	**Elmali**	**80.51**	**54**	P		**P**	**19 01 47.9**	**-0.7**
KDAK	**Kodiak Island**	**80.75**	**327**	P		**P**	**19 01 50.3**	**+1.0**
	baz=79							
L19K	**White Mountain**	**80.98**	**332**	P		**P**	**19 01 51.2**	**+0.7**
	baz=78							
O19K	**Port Alsworth**	**81.15**	**330**	P		**P**	**19 01 53.1**	**+1.8**
	baz=78							
OBN	**Obninsk**	**81.61**	**35**	*c*	*i*P	**P**	**19 01 55.4**	**+1.5**
OBN					*i*		19 02 05.0	
OBN					pmax	pmax		
	comp=Z,22nm,0.8s							
KLMR	**Klimovskoe**	**81.89**	**29**	*e*P		**P**	**19 01 54.7**	**-0.5**
KLMR					pmax	pmax		
	comp=Z,29nm,1.6s							
KLMR	**Klimovskoe**	**81.89**	**29**	*e*P		**P**	**19 01 54.7**	**-0.5**
KLMR					AMP		19 02 11.8	
	comp=Z,29nm,1.6s							
BRTR	**Keskin Array B**	**82.83**	**51**	P		**P**	**19 02 00.7**	**-0.2**
	comp=Z,3.9nm,1.1s,baz=284,slow=6.1,SNR=4.9							
BRTR					LR	LR	19 35 09.6	
	comp=Z,40nm,20.7s,baz=306,slow=33							
BRTR	**Keskin Array B**	**82.83**	**51**	*e*P		**P**	**19 02 02.1**	**+1.3**
BRTR					pmax	pmax		
	comp=Z,2.0nm,0.9s							
BRTR	**Keskin Array B**	**82.83**	**51**	P		**P**	**19 02 00.0**	**-0.8**
PRGR	**Permogore**	**84.50**	**28**	*e*P		**P**	**19 02 09.4**	**+0.7**
PRGR					*e*PP	**pwP**	**19 02 19.6**	**-0.9**
PRGR					pmax	pmax		
	comp=Z,163nm,1.5s							
ANM	**Nome**	**84.83**	**336**	P		**P**	**19 02 11.7**	**+1.3**
	baz=69							
GAMB	**Gambell**	**87.69**	**336**	P		**P**	**19 02 25.7**	**+1.3**
	baz=63							
BELG	**Belogornoye**	**88.67**	**36**	*i*P		**P**	**19 02 30.4**	**+1.1**
BELG					pmax	pmax		
	comp=Z,2.0nm,1.0s							
MBAR	**Mbarara**	**89.22**	**91**	*i*P		**P**	**19 02 33.3**	**+0.4**
UNV	**Unalaska Valle**	**89.39**	**326**	P		**P**	**19 02 33.5**	**+0.9**
	baz=67							
BOSA	**Boshof**	**90.97**	**119**	P		**P**	**19 02 40.9**	**+0.3**
	comp=Z,6.9nm,0.9s,baz=315,slow=2.5,SNR=8.6							
BOSA					LR	LR	19 37 10.5	
	comp=Z,134nm,19.4s,baz=350,slow=31							
NIKH	**Nikolski High**	**91.03**	**325**	P		**P**	**19 02 41.6**	**+1.3**
	baz=66							
BILL	**Bilibino**	**92.37**	**345**	*i*P		**P**	**19 02 47.0**	**+0.8**
BILL					pmax	pmax		
	comp=Z,16nm,1.1s							
ARU	**Arti**	**92.73**	**30**	*d*iP		**P**	**19 02 49.2**	**+1.1**
ARU							19 06 31.4	
ARU					S	**SKSac**	**19 13 19.9**	**-0.2**
ARU					SP	**SP**	**19 15 01.1**	**-0.9**
ARU					SS	**SS**	**19 20 01.8**	**-1.7**
ARU					pmax	pmax		
	comp=Z,14nm,1.8s							
NRIK	**Noril'sk**	**93.70**	**12**	LR		LR	19 43 58.9	
	comp=Z,40nm,18.7s,baz=324,slow=35							
NRIK	**Noril'sk**	**93.70**	**12**	*i*P		**P**	**19 02 51.9**	**-0.4**
NRIK					pmax	pmax		
	comp=Z,3.0nm,1.0s							
AKTO	**Aktyubinsk**	**95.39**	**35**	P		**P**	**19 03 00.1**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=301,slow=4.3,SNR=4.6							
WMQ	**Urumqi**	**114.84**	**26**	*e*P		PKPdf	19 08 18.8	+1.8
WMQ					pmax	pmax		
	comp=Z,150nm,5.1s							
WMQ					LR	LR		
	comp=E,300nm,22.7s							
WMQ					LR	LR		
	comp=Z,110nm,20.5s							
HHC	**Hu-ho-hao-te**	**124.87**	**9**	*e*P		**PKiKP**	**19 08 38.5**	**+1.7**
NJ2	**Nanjing**	**134.38**	**3**	*e*P		**PKiKP**	**19 08 56.3**	**+0.4**
NJ2					pmax	pmax		
	comp=Z,6.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**140.92**	**36**	PKP		**PKPdf**	**19 09 06.9**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=322,slow=2.8,SNR=3.0							
PSI	**Prapat**	**152.07**	**56**	PKPbc		**PKPbc**	**19 09 32.2**	**-0.4**
	comp=Z,4.0nm,0.7s,baz=199,slow=6.4,SNR=4.8							
RPSI	**Rantau Prapat**	**152.13**	**56**			**PKPbc**	**19 09 32.2**	**-0.3**
STKA	**Stephens Creek**	**154.35**	**222**	PKPbc		**PKPbc**	**19 09 35.8**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=131,slow=5.8,SNR=3.3							
PMG	**Port Moresby**	**154.68**	**277**	PKPbc		**PKiKP**	**19 09 40.2**	**+2.1**
	comp=Z,21nm,0.9s,baz=208,slow=15,SNR=3.2							
ASAR	**Alice Springs**	**164.81**	**228**	PKP		**PKPdf**	**19 09 40.4**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=197,slow=1.3,SNR=8.7							
ASAR					PKPab	**PKPab**	**19 10 37.0**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=124,slow=4.9,SNR=9.2							
WRA	**Warramunga Arr**	**166.42**	**241**	PKP		**PKPdf**	**19 09 41.8**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=102,slow=0.4,SNR=7.3							
WRA					PKPab	**PKPab**	**19 10 44.3**	**+0.4**
	comp=Z,1.2nm,0.9s,baz=126,slow=4.3,SNR=5.5							

GUC 29 18:58:49.9±0.7,**33°04S**×**72°03W**,**h36**km±4km,**ML2.8, 3C,**
Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.32**	**88**	*e*P	Pn	18 58 58.1	+0.1
VA01				*e*S	Sn	18 59 04.8	+0.3
VA05	**Santo Domingo**	**0.71**	**151**	⇑*i*P	Pn	18 59 03.9	+0.4
VA05				*i* S	Sn	18 59 15.1	+1.9
VA05				IAML		18 59 15.9	
	comp=E,1μm,0.3s						
VA06	**Catapilco**	**0.78**	**53**	*e*P	Pn	18 59 05.3	+1.0
VA06				*i* S	Sn	18 59 16.2	+1.5
VA06				IAML		18 59 21.6	
	comp=N,818nm,0.4s						
ROCH	**El Roble**	**0.86**	**86**	*i* P	Pn	18 59 06.9	+1.2
ROCH				*e*P	Pn	18 59 06.9	+1.2
ROCH				*i* S	Sn	18 59 20.1	+3.0
ROCH				*i* S	Sn	18 59 20.4	+3.2
ROCH				IAML		18 59 22.3	
	comp=N,672nm,0.9s						
MT01	**Popeta**	**1.05**	**142**	⇑*i*P	Pn	18 59 09.0	+0.9
MT01				*i* S	Sn	18 59 24.2	+2.6
MT01				IAML		18 59 25.6	
	comp=N,496nm,0.1s						
MT05	**Renca**	**1.14**	**109**	*e*P	Pn	18 59 11.1	+1.8
MT05				IAML		18 59 35.7	
	comp=E,428nm,0.2s						
MT09	**Talagante**	**1.14**	**131**	⇑*i*P	Pn	18 59 11.1	+1.6
MT09				*i* S	Sn	18 59 27.8	+3.8
MT09				IAML		18 59 33.2	
	comp=N,381nm,0.3s						
VA03	**San Esteban**	**1.27**	**78**	*e*P	Pn	18 59 13.3	+2.1
VA03				*e*S	Sn	18 59 32.0	+4.9
VA03				IAML		18 59 37.7	
	comp=N,250nm,0.5s						
BO03	**Pichilemu**	**1.46**	**178**	*e*P	Pn	18 59 13.8	+0.1
BO03				*e*S	Sn	18 59 31.3	-0.3

*SJA **29** 18:59:23.0,31°.75S×71°.56W,h10km,ML4.5*
*IDC **29** 18:59:25.0±3.1,31°.80S×71°.37W,h52km±26km,mb3.7/4, mb1 3.9/9,mb1mx3.7/30,mbtmp4.0/9,ML3.8/5,Error ellipse: s-maj=33.0km s-min=21.8km az=95.0*
*NEIC **29** 18:59:25.1±1.6,31°.73S±0°.03×71°.51W±0°.08,h44km±8km, Error ellipse: s-maj=9.4km s-min=4.8km az=93.0*
*GUC **29** 18:59:25.2±0.7,31°.78S×71°.39W,h30km±4km,ML4.1*

ISC 29 18:59:24.2±0.9,**31°73S**±0°.03×**71°55W**±0°.05,**h42**km±10km, **n104,σ1°51**/112,**mb4.3**/6,**2C-4D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.70**	**42**	*e*P	**Pn**	**18 59 38.0**	**+0.1**
CO02	**Combarbal**	**0.70**	**42**	⇓*i*P	**Pn**	**18 59 38.0**	**+0.1**
CO02				*i* S	**Sn**	**18 59 47.7**	**0.0**
CO02	**Combarbal**	**0.70**	**42**		**Pn**	**18 59 38.0**	**+0.1**
CO02				Sg	**Sn**	**18 59 46.8**	**-0.8**
VA06	**Catapilco**	**0.85**	**166**	⇑*i*P	**Pn**	**18 59 39.9**	**+0.1**
VA06				*e*S	**Sn**	**18 59 50.0**	**-1.1**
VA06				IAML		18 59 52.8	
	comp=E,18μm,0.5s						
CO06	**Fray Jorge**	**1.06**	**356**	⇑*i*P	**Pn**	**18 59 43.7**	**+1.1**
CO06				IAML		19 00 00.4	
	comp=E,4μm,0.2s						
CO06	**Fray Jorge**	**1.06**	**356**		**Pn**	**18 59 43.5**	**+1.0**
CO03	**El Pedregal**	**1.16**	**40**	⇓*i*P	**Pn**	**18 59 44.3**	**+0.3**
CO03				*i* S	**Sn**	**18 59 59.0**	**+0.3**
CO03				IAML		18 59 59.5	
	comp=E,11μm,0.3s						
CO03	**El Pedregal**	**1.16**	**40**		**Pn**	**18 59 44.2**	**+0.3**
CO03					**Sn**	**18 59 58.2**	**-0.5**
CO03	**El Pedregal**	**1.16**	**40**	*i* P	**Pn**	**18 59 44.0**	**0.0**
VA01	**Torpederas**	**1.29**	**184**	*e*P	**Pn**	**18 59 46.9**	**+1.1**
VA01				*e*S	**Sn**	**19 00 03.5**	**+1.7**
VA01				IAML		19 00 06.6	
	comp=E,6μm,0.3s						
VA01	**Torpederas**	**1.29**	**184**		**Pn**	**18 59 46.5**	**+0.8**
VA01	**Torpederas**	**1.29**	**184**	*i* P	**Pn**	**18 59 47.0**	**+1.3**
ROCH	**El Roble**	**1.32**	**160**	⇓*i*P	**Pn**	**18 59 47.0**	**+0.6**
ROCH				*i* S	**Sn**	**19 00 02.9**	**+0.1**
ROCH				IAML		19 00 07.5	
	comp=N,6μm,0.3s						
VA03	**San Esteban**	**1.33**	**141**	⇓*i*P	**Pn**	**18 59 46.5**	**+0.1**
VA03				*i* S	**Sn**	**19 00 02.4**	**-0.5**
VA03				IAML		19 00 04.6	
	comp=N,8μm,0.5s						
VA03	**San Esteban**	**1.33**	**141**		**Pn**	**18 59 46.4**	**+0.1**
VA03				Sn	**Sn**	**19 00 02.2**	**-0.8**
VA03	**San Esteban**	**1.33**	**141**	*i* P	**Pn**	**18 59 47.0**	**+0.6**
GO04	**Tololo Observa**	**1.68**	**23**	*e*P	**Pn**	**18 59 52.8**	**+1.4**
GO04				*i* S	**Sn**	**19 00 15.5**	**+3.7**
GO04	**Tololo Observa**	**1.68**	**23**	Pn	**Pn**	**18 59 52.5**	**+1.2**
MT05	**Renca**	**1.79**	**158**	*e*P	**Pn**	**18 59 54.1**	**+1.5**
MT05				*i* S	**Sn**	**19 00 16.3**	**+2.1**
MT05				IAML		19 00 17.9	
	comp=E,7μm,0.3s						
MT05	**Renca**	**1.79**	**158**		**Pn**	**18 59 53.5**	**+0.8**
MT05	**Renca**	**1.79**	**158**	*i* P	**Pn**	**18 59 54.0**	**+1.3**
CO05	**La Serena**	**1.83**	**8**	*e*P	**Pn**	**18 59 54.3**	**+1.1**
CO05				IAML		19 00 24.1	
	comp=E,3μm,0.4s						
CO05	**La Serena**	**1.83**	**8**		**Pn**	**18 59 54.2**	**+1.1**
AUSP	**Uspallata**	**1.90**	**105**	*i* P	**Pn**	**18 59 56.0**	**+1.6**
RTLS	**Leoncito**	**1.92**	**93**	*i* P	**Pn**	**18 59 56.0**	**+1.3**
VA05	**Santo Domingo**	**1.92**	**182**	*e*P	**Pn**	**18 59 57.0**	**+2.7**
VA05				*e*S	**Sn**	**19 00 21.4**	**+4.1**
VA05				IAML		19 00 25.3	
	comp=E,4μm,0.3s						
VA05	**Santo Domingo**	**1.92**	**182**	Pn	**Pn**	**18 59 55.0**	**+0.6**
MT09	**Talagante**	**2.09**	**167**	*e*P	**Pn**	**18 59 58.3**	**+1.4**
MT09				IAML		19 00 29.5	
	comp=E,2μm,0.1s						
MT09	**Talagante**	**2.09**	**167**	Pn	**Pn**	**18 59 58.1**	**+1.2**
MT01	**Popeta**	**2.14**	**173**	*e*P	**Pn**	**19 00 00.2**	**+2.8**
MT01				IAML		19 00 31.9	
	comp=E,2μm,0.4s						
MT01	**Popeta**	**2.14**	**173**	Pn	**Pn**	**18 59 58.7**	**+1.3**
AROD	**Rodeo**	**2.37**	**49**	*i* P	**Pn**	**19 00 04.0**	**+3.1**
LMEL	**Las Melosas**	**2.39**	**152**	*e*P	**Pn**	**19 00 03.1**	**+2.0**
LMEL				*i* S	**Sn**	**19 00 31.7**	**+2.5**
LMEL				IAML		19 00 42.9	
	comp=N,2μm,0.3s						
ASAL	**Salagasta**	**2.45**	**111**	*i* P	**Pn**	**19 00 05.0**	**+3.2**
ZON	**Zonda**	**2.45**	**86**		**Pn**	**19 00 03.9**	**+2.1**
ZON	**Zonda**	**2.45**	**86**	*i* P	**Pn**	**19 00 04.0**	**+2.2**
ARCO	**CERRO ARCO**	**2.48**	**117**	*i* P	**Pn**	**19 00 06.0**	**+3.8**
RTCV	**Cerro Valdivia**	**2.56**	**94**	*i* P	**Pn**	**19 00 06.0**	**+2.7**
AAGR	**Agrelo**	**2.67**	**121**	*i* P	**Pn**	**19 00 08.0**	**+3.2**
BO01	**Tunca**	**2.68**	**172**	Pn	**Pn**	**19 00 06.4**	**+1.5**
LCO	**Las Campanas**	**2.81**	**15**		**Pn**	**19 00 08.5**	**+1.6**
BO02	**Sierra Bellavi**	**3.12**	**168**	Pn	**Pn**	**19 00 12.6**	**+1.6**
GO05	**Huala**	**3.28**	**185**	*e*P	**Pn**	**19 00 12.8**	**-0.3**
GO05				IAML		19 01 17.8	
	comp=E,439nm,0.8s						
GO05	**Huala**	**3.28**	**185**	Pn	**Pn**	**19 00 13.2**	**0.0**
GO05	**Huala**	**3.28**	**185**	*i* P	**Pn**	**19 00 14.0**	**+0.8**
AC04	**Llanos de Chal**	**3.54**	**7**		**Pn**	**19 00 17.4**	**+0.7**
AC04	**Llanos de Chal**	**3.54**	**7**	*i* P	**Pn**	**19 00 19.0**	**+2.3**
RFA	**San Rafael**	**3.98**	**140**	*i* P	**Pn**	**19 00 24.0**	**+1.2**
ML02	**Panimavida**	**4.02**	**179**		**Pn**	**19 00 23.8**	**+0.5**
VCA	**Vinchina**	**4.16**	**45**	*i* P	**Pn**	**19 00 29.0**	**+3.7**
GO03	**Copiap**	**4.28**	**16**		**Pn**	**19 00 27.9**	**+1.0**
GO03	**Copiap**	**4.28**	**16**	*i* P	**Pn**	**19 00 30.0**	**+3.1**
APLL	**PUNTA DE LOS L**	**4.51**	**74**	*i* P	**Pn**	**19 00 31.0**	**+1.0**
ACLC	**CERRO LA CRUZ**	**4.58**	**61**	*i* P	**Pn**	**19 00 32.0**	**+0.8**
MRA	**San Martin**	**5.00**	**99**	*i* P	**Pn**	**19 00 37.0**	**+0.2**
AC02	**Maricunga**	**5.32**	**24**		**Pn**	**19 00 42.4**	**+0.9**
AC02	**Maricunga**	**5.32**	**24**	*i* P	**Pn**	**19 00 44.0**	**+2.4**
CYA	**Choya**	**5.96**	**58**	*i* P	**Pn**	**19 00 50.0**	**0.0**
VA04	**Juan Fernndez**	**6.43**	**251**		**Pn**	**19 00 57.3**	**+1.0**
H03N1	**Juan Fernandez**	**6.45**	**253**	P	**Pn**	**19 00 57.6**	**+1.3**
	baz=79,slow=18						
H03N1				T	T	19 07 33.8	
	baz=80,slow=73,SNR=2209						
H03N3	**Juan Fernandez**	**6.46**	**253**	P	**Pn**	**19 00 57.4**	**+0.9**
	baz=79,slow=18						
H03N3				T	T	19 07 40.3	
	baz=80,slow=73,SNR=2325						
H03N2	**Juan Fernandez**	**6.46**	**253**	P	**Pn**	**19 00 57.6**	**+1.1**
	baz=76,slow=18						
H03N2				T	T	19 07 41.2	
	baz=80,slow=73,SNR=1856						
H03S3	**Juan Fernandez**	**6.54**	**249**	P	**Pn**	**19 00 57.5**	**-0.1**
	baz=76,slow=20,SNR=15						
H03S3				T	T	19 07 43.8	
	baz=67,slow=73						
H03S1	**Juan Fernandez**	**6.54**	**249**	P	**Pn**	**19 00 57.2**	**-0.4**
	baz=79,slow=20,SNR=9.9						
H03S1				T	T	19 07 42.2	
	baz=67,slow=73						
H03S2	**Juan Fernandez**	**6.56**	**249**	P	**Pn**	**19 00 57.8**	**-0.1**
	baz=76,slow=20,SNR=16						
H03S2				T	T	19 07 43.1	
	baz=67,slow=73						
PB14	**IPOC Station P**	**7.15**	**8**	Pn	**Pn**	**19 01 06.4**	**-0.1**
LC01	**Cunco**	**7.15**	**182**	Pn	**Pn**	**19 01 06.5**	**+0.2**
LC01	**Cunco**	**7.15**	**182**	*i* P	**Pn**	**19 01 07.0**	**+0.7**
PB10	**IPOC Station P**	**8.24**	**6**	Pn	**Pn**	**19 01 20.8**	**-0.4**
PB15	**IPOC Station P**	**8.69**	**13**	Pn	**Pn**	**19 01 26.6**	**-0.9**
PLCA	**Paso Flores**	**9.02**	**175**	P	**Pn**	**19 01 31.6**	**-0.2**
	comp=E,0.2nm,0.3s,baz=2.8,slow=8.3,SNR=1.6						
PLCA	**Paso Flores**	**9.02**	**175**		**Pn**	**19 01 31.5**	**-0.3**
LVC	**Limon Verde**	**9.38**	**15**	P	**Pn**	**19 01 37.9**	**+0.6**
	comp=E,0.5nm,0.3s,baz=155,slow=7.7,SNR=1.9						
LVC				S	**Sn**	**19 03 23.8**	**+2.1**
	comp=E,0.4nm,0.3s,baz=184,slow=18,SNR=1.9						
TRQA	**Tornquist**	**10.07**	**131**	Pn	**Pn**	**19 01 45.6**	**-0.7**
PB07	**IPOC Station P**	**10.08**	**9**	Pn	**Pn**	**19 01 49.2**	**+2.7**
PB09	**IPOC Station P**	**10.11**	**12**	Pn	**Pn**	**19 01 48.5**	**+1.5**
PB01	**IPOC Station P**	**10.80**	**10**	Pn	**Pn**	**19 01 55.7**	**-0.7**
TA01	**Diego Aracena**	**11.19**	**7**	Pn	**Pn**	**19 02 01.1**	**-0.5**
GO07	**Milladeo Hill,**	**11.48**	**188**		**Sn**	**19 04 13.9**	**+1.5**
PB08	**IPOC Station P**	**11.74**	**11**	Pn	**Pn**	**19 02 10.2**	**+0.7**
PB11	**IPOC Station P**	**12.04**	**9**	Pn	**Pn**	**19 02 11.0**	**-2.4**
CPUP	**Villa Florida**	**13.55**	**70**	P	**Pn**	**19 02 33.2**	**-0.6**
	comp=E,0.2nm,0.3s,baz=238,slow=12,SNR=2.9						
PLTB	**Pedras Altas**	**15.27**	**95**	Pn	**Pn**	**19 02 54.8**	**-2.1**
PLTB				lAmb	lAmb	19 03 16.7	
	comp=Z,27nm,1.4s						
LPAZ	**La Paz**	**15.69**	**12**	P	**Pn**	**19 03 03.9**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=198,slow=3.2,SNR=4.0						
LPAZ	**La Paz**	**15.69**	**12**	Pn	**Pn**	**19 03 03.3**	**+0.4**
SIV	**San Ignacio**	**18.35**	**34**	P	**P**	**19 03 34.6**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=165,slow=12,SNR=2.0						
EFI	**East Falkland**	**22.25**	**157**	P	**P**	**19 04 18.0**	**+0.6**
BDFB	**Brasilia**	**26.76**	**59**	P	**P**	**19 05 00.6**	**+0.3**
SNAA	**Sanae**	**53.53**	**158**	P	**P**	**19 08 40.8**	**+0.5**
SNAA				lAmb	lAmb	19 09 05.4	
	comp=Z,8.3nm,1.6s						
QSPA	**South Pole Qui**	**58.50**	**180**	P	**P**	**19 09 16.4**	**+0.4**
QSPA				lAmb	lAmb	19 09 46.8	
	comp=Z,8.0nm,1.6s						
TXAR	**Lajitas Array**	**67.97**	**330**	P	**P**	**19 10 19.3**	**+0.3**
	comp=Z,0.1nm,0.5s,baz=158,slow=9.7,SNR=3.4						
DBIC	**Dimbokro**	**74.07**	**72**	P	**P**	**19 10 55.0**	**-1.2**
	comp=Z,3.1nm,0.8s,baz=222,slow=8.6,SNR=2.0						
NVAR	**Mina Array Bea**	**82.27**	**325**	P	**P**	**19 11 41.7**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=149,slow=5.9,SNR=5.1						
TORD	**Torodi Ar. Bea**	**83.05**	**70**	P	**P**	**19 11 44.5**	**-1.2**
	comp=Z,2.4nm,0.8s,baz=263,slow=5.3,SNR=12						
TORD	**Torodi Ar. Bea**	**83.05**	**70**	P	**P**	**19 11 44.9**	**-0.7**
TORD				lAmb	lAmb	19 11 45.2	
	comp=Z,2.6nm,0.9s						
ASAR	**Alice Springs**	**119.77**	**207**	PKP	**PKPdf**	**19 18 09.3**	**-1.1**
	comp=Z,0.2nm,0.7s,baz=132,slow=1.6,SNR=6.0						
WRA	**Warramunga Arr**	**122.94**	**209**	PKP	**PKPdf**	**19 18 15.9**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=159,slow=1.6,SNR=15						
H11S2	**WAKE ISLAND Hyl**	**26.19**	**271**	T	T	21 37 18.6	
	baz=117,slow=75,SNR=80						
H11S1	**WAKE ISLAND Hyl**	**26.20**	**271**	T	T	21 37 19.3	
	baz=117,slow=75,SNR=74						
H11S3	**WAKE ISLAND Hyl**	**26.21**	**271**	T	T	21 37 19.9	
	baz=117,slow=75,SNR=68						
H11N3	**WAKE ISLAND Hyl**	**26.55**	**272**	T	T	21 37 45.0	
	baz=116,slow=75,SNR=60						
H11N1	**WAKE ISLAND Hyl**	**26.56**	**272**	T	T	21 37 45.7	
	baz=116,slow=75,SNR=17						
H11N2	**WAKE ISLAND Hyl**	**26.56**	**272**	T	T	21 37 46.3	
	baz=116,slow=75,SNR=74						
ZALV	**Zalesovo Beam**	**152.08**	**30**	PKPbc	**PKPbc**	**19 19 14.2**	**-0.2**
	comp=Z,1.6nm,0.4s,baz=308,slow=3.2,SNR=11						

MEX 29 19:02:52.3±0.7,**14°.95N**×**93°.63W**,**h16**km±177km,**MD3.8, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.85**	**28**	*i* P	Pb	19 03 05.8	-2.8
PCIG				*i* S	Sb	19 03 15.5	-4.2

*IDC **29** 19:05:06.0±1.4,10°.18N×93°.83E,h0km,mb3.7/5, mb1 3.9/6,mb1mx3.6/48,mbtmp3.8/6,ML4.2/1,Error ellipse: s-maj=84.0km s-min=16.5km az=54.0*
*NDI **29** 19:05:15.7±2.3,10°.02N×93°.97E,h100km±255km,ML3.4, mb4.3(NEIC)*
*NEIC **29** 19:05:17.6±1.2,10°.3N±0°.1×93°.8E±0°.2,h90km±10km, mb4.3/23,Error ellipse: s-maj=29.5km s-min=9.6km az=55.0*

ISC 29 19:05:17.5±0.8,**10°.2N**±0°.1×**93°.9E**±0°.2,**h100**km,**n38,** σ0°**99**/33,**mb4.0**/16,**Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.85**	**321**		Pn	19 05 46.5	-1.8
PBA	**Port Blair**	**1.85**	**321**	*e*P	Pn	19 05 48.6	+0.4
PBA				*e*S	Sn	19 06 11.7	+0.1
PBA				IAML		19 06 16.0	
	comp=N,540nm,0.5s						
DGPR	**DIGLIPUR**	**3.11**	**342**	*e*P	**Pn**	**19 06 06.5**	**+1.8**
DGPR				*e*S	**Sn**	**19 06 42.1**	**+0.9**
DGPR				IAML		19 06 54.1	
	comp=N,105nm,0.2s						
PSI	**Prapat**	**8.87**	**146**	Pn	Pn	19 07 16.8	-6.3
	comp=N,2.5nm,0.3s,baz=353,slow=19,SNR=5.1						
PSI				Sn	**Sn**	**19 09 00.6**	**-0.9**
	comp=N,0.9nm,0.3s,baz=322,slow=19,SNR=1.8						
SHL	**Shillong**	**15.40**	**353**		**Pn**	**19 08 50.4**	**+0.8**
SHL	**Shillong**	**15.40**	**353**	*e*P	**P**	**19 08 50.8**	**-1.1**
KOHI	**KOHIMA**	**15.43**	**1**	*e*P	**Pn**	**19 08 48.6**	**-1.3**
MOKO	**MOKOCHONG**	**16.04**	**2**	*e*P	**P**	**19 08 58.8**	**-0.1**
LSA	**Lhasa**	**19.57**	**353**	P	**Pn**	**19 09 38.8**	**-1.5**
H08S3	**Diego Garcia H**	**27.75**	**231**	T	T	19 38 31.9	
	baz=49						
H08S2	**Diego Garcia H**	**27.75**	**231**	T	T	19 38 28.7	
	baz=49						
H08S1	**Diego Garcia H**	**27.77**	**231**	T	T	19 38 22.2	
	baz=49						
TARG	**Taragay, Kyrgy**	**34.45**	**338**	P	**P**	**19 11 56.3**	**+0.2**
TARG				lAmb	lAmb	19 12 01.6	
	comp=Z,1.8nm,1.0s						
GAR	**Garm**	**35.59**	**328**	P	**P**	**19 12 04.9**	**-0.8**
CHGR	**Chuyangaron**	**35.97**	**326**	P	**P**	**19 12 07.1**	**-1.7**
CHGR				lAmb	lAmb	19 12 08.0	
	comp=Z,12nm,1.1s						
BTK	**Batken**	**36.12**	**329**	P	**P**	**19 12 10.0**	**-0.1**
BTK				lAmb	lAmb	19 12 12.8	
	comp=Z,3.3nm,1.0s						
AAK	**Ala-Archa**	**36.50**	**336**	P	**P**	**19 12 12.3**	**-1.0**
	comp=Z,0.5nm,0.2s,baz=170,slow=6.1,SNR=2.2						
MK31	**Makanchi Array**	**37.78**	**347**	P	**P**	**19 12 22.6**	**-1.3**
MKAR	**Makanchi Array**	**37.78**	**347**	P	**P**	**19 12 23.5**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=165,slow=10,SNR=4.2						
MKAR	**Makanchi Array**	**37.78**	**347**	P	**P**	**19 12 23.3**	**-0.7**
KK31	**Karatay Array**	**38.61**	**332**	P	**P**	**19 12 30.4**	**-0.6**
KK31				lAmb	lAmb	19 12 45.5	
	comp=Z,3.0nm,1.6s						
KKAR	**Karatay Array**	**38.61**	**332**	P	**P**	**19 12 30.8**	**-0.2**
KKAR	**Karatay Array**	**38.61**	**332**	P	**P**	**19 12 30.4**	**-0.6**
KKAR				lAmb	lAmb	19 12 45.5	
	comp=Z,3.0nm,1.6s						
**GE

ISCO	Idaho Springs	3.82	184			Pn	19 11 09.1	+1.2
LOHW	Long Hollow	3.86	272			Pn	19 11 10.0	+1.6
H17A	Grant Village	3.89	283			Pn	19 11 08.0	-0.8
H17A					IAML		19 12 13.0	
	comp=N,69nm,1.2s							
H17A					IAML		19 12 14.5	
	comp=E,51nm,1.9s							
FLWY	Flagg Ranch	3.94	279			Pn	19 11 10.5	+1.0
FLWY					IAML		19 12 22.9	
	comp=E,76nm,2.1s							
MOOW	Moose Ponds	3.96	274	Pn		Pn	19 11 10.8	+1.0
SNOW	Snow King Moun	3.98	270			Pn	19 11 09.9	-0.1
SNOW					IAML		19 12 16.4	
	comp=E,68nm,1.0s							
SNOW					IAML		19 12 32.3	
	comp=E,96nm,1.4s							
YNR	Norris Junctio	4.03	288			Pn	19 11 12.9	+2.2
YNR					IAML		19 12 24.4	
	comp=E,42nm,1.0s							
YPP	Pitchstone Pla	4.04	281			Pn	19 11 11.7	+0.8
YPP					IAML		19 12 22.1	
	comp=E,46nm,1.9s							
YPP					IAML		19 12 22.7	
	comp=N,47nm,1.6s							
REDW	Red Top Meadow	4.06	268			Pn	19 11 12.1	+1.1
REDW					IAML		19 12 22.7	
	comp=N,101nm,0.9s							
REDW					IAML		19 12 22.8	
	comp=N,89nm,1.2s							
IMW	Indian Meadow	4.10	276			Pn	19 11 13.7	+1.9
IMW					IAML		19 12 36.1	
	comp=N,47nm,0.7s							
O20A	White River Ci	4.12	213			Pn	19 11 11.9	+0.1
O20A					IAML		19 12 22.6	
	comp=E,69nm,0.9s							
O20A					IAML		19 12 56.0	
	comp=N,80nm,1.8s							
TPAW	Teton Pass	4.12	270			Pn	19 11 13.3	+1.3
TPAW					IAML		19 12 28.9	
	comp=N,58nm,1.4s							
TPAW					IAML		19 12 39.7	
	comp=N,37nm,1.5s							
FXWY	Fox Creek	4.17	272			Pn	19 11 13.5	+0.9
YHH	Holmes Hill	4.17	288	Pn		Pn	19 11 12.5	-0.1
YMR	Madison River	4.22	286			Pn	19 11 14.9	+1.6
YMR					IAML		19 12 28.9	
	comp=N,69nm,1.0s							
YMR					IAML		19 12 45.5	
	comp=E,63nm,0.9s							
AHID	Auburn Hatcher	4.33	261			Pn	19 11 14.5	-0.3
AHID					IAML		19 12 27.9	
	comp=E,58nm,1.2s							
AHID					IAML		19 12 49.3	
	comp=E,46nm,1.2s							
YHB	Horse Butte	4.40	287			Pn	19 11 16.8	+1.0
YHB					IAML		19 12 28.7	
	comp=N,38nm,1.9s							
E28A	Huff	4.40	46			Pn	19 11 16.6	+1.0
RDMU	Red Mountain	4.40	228			Pn	19 11 16.1	+0.2
RDMU					IAML		19 12 31.4	
	comp=E,68nm,1.0s							
RDMU					IAML		19 12 49.0	
	comp=N,49nm,1.1s							
YHL	Hebgen Lake	4.41	288			Pn	19 11 16.4	+0.4
YHL					IAML		19 12 41.5	
	comp=E,46nm,1.6s							
YHL					IAML		19 12 47.7	
	comp=N,46nm,1.6s							
ECR	Eagle Creek	4.47	265			Pn	19 11 17.1	+0.3
SMCO	Snowmass	4.61	197			Pn	19 11 21.6	+2.7
SMCO					IAML		19 12 40.6	
	comp=N,36nm,1.0s							
SMCO					IAML		19 12 41.4	
	comp=N,44nm,1.4s							
SUSD	Miller	4.64	78			Pn	19 11 25.9	+7.0
K31A	O'Neill	4.88	99			Pn	19 11 28.2	+5.9
DGMT	Dagmar	4.92	9			Pn	19 11 24.2	+1.5
BOZ	Bozeman (W)	4.94	296	Pn		Pn	19 11 23.5	+0.4
BOZ					IAML		19 12 55.7	
	comp=N,21nm,1.1s							
KSCO	Kaye Shedlock'	5.02	156			Pn	19 11 24.9	+0.7
TCUT	Toone Canyon	5.17	243			Pn	19 11 26.9	+0.4
EGMT	Eagleton	5.40	326			Pn	19 11 30.6	+1.1
JLU	Jordanelle	5.48	239			Pn	19 11 31.2	+0.6
DLMT	Dillon	5.51	291			Pn	19 11 32.6	+1.6
LRM	Limekiln Ridge	5.56	296	Pn		Pn	19 11 32.4	+0.7
HRY	Holter Researc	5.57	306			Pn	19 11 31.4	-0.4
MCMT	McKenzie Canyo	5.57	285			Pn	19 11 34.6	+2.7
SPUT	South Promonto	5.78	249			Pn	19 11 33.8	-0.9
MDND	Maddock	5.81	41			Pn	19 11 36.5	+1.5
HVU	Hansel Valley	5.81	254			Pn	19 11 35.1	-0.1
P17A	Butcher Ranch,	5.82	227			Pn	19 11 36.1	+0.9
SDCO	Great Sand Dun	5.86	182			Pn	19 11 38.1	+2.2
SRU	San Rafael Swe	5.98	223			Pn	19 11 37.7	+0.3
TMUT	Trail Mountain	6.19	228			Pn	19 11 41.5	+0.9
NLU	North Lily Min	6.25	237			Pn	19 11 41.0	-0.3
ECSD	EROS Data Cent	6.29	86			Pn	19 11 42.7	+1.1
BGU	Big Grassy Mou	6.34	248			Pn	19 11 41.5	-0.9
CBKS	Cedar Bluff	6.36	137			Pn	19 11 45.8	+3.1
Q16A	Castle Valley	6.45	225			Pn	19 11 44.9	+0.9
T25A	Trinidad	6.50	174			Pn	19 11 44.0	-0.7
DUG	Dugway, Tooele	6.57	241	Pn		Pn	19 11 45.0	-0.5
HLID	Hailey	6.63	273			Pn	19 11 48.0	+1.7
L34A	Svendsen Farm,	6.76	101			Pn	19 11 48.8	+0.8
MSO	Missoula	6.90	301	Pn		Pn	19 11 50.4	+0.3
MSU	Marysvale	7.28	228			Pn	19 11 55.5	+0.1
MVU	Marysvale	7.31	228			Pn	19 11 56.6	+0.9
PSUT	Pine Spring	8.22	235			Pn	19 12 10.1	+1.9
I10CA	LAC DU BONNET	9.14	41	*i*			20 02 30.0	
	baz=226,slow=318,SNR=4.2							
ULM	Lac du Bonnet	9.24	41	Pn		Pn	19 12 20.8	-1.2
	comp=N,1.3nm,0.3s,baz=230,slow=10,SNR=10							
ULM				Sn		Sn	19 14 04.8	-1.8
	comp=N,0.3nm,0.3s,baz=270,slow=20,SNR=2.3							
ULM				Lg		Lg	19 14 54.9	
	comp=N,0.6nm,0.3s,baz=229,slow=20,SNR=3.2							
NVAR	Mina Array Bea	11.11	247	Pn		Pn	19 12 51.0	+3.2
	comp=N,0.1nm,0.3s,baz=58,slow=14,SNR=3.6							
NVAR				Lg		Lg	19 15 49.5	
	comp=N,0.1nm,0.3s,baz=64,slow=37,SNR=1.3							
TXAR	Lajitas Array	14.31	174	Pn		P	19 13 39.4	+0.5
	comp=N,0.0nm,0.3s,baz=348,slow=8.3,SNR=2.1							
TXAR				Lg		Lg	19 17 40.0	
	comp=N,0.0nm,0.3s,baz=6.9,slow=31,SNR=3.9							

NIC ***29*** *19:30:10.3±0.0,37˚.05N×28˚.30E, h3km±1km, Ml3.7/5*
THE ***29*** *19:30:11.8,36˚.99N×28˚.38E, h2km±2km, ML3.4/6, Error ellipse: s-maj=2.2km s-min=0.8km az=51.0*
ATH ***29*** *19:30:11.7,36˚.91N×28˚.25E, h65km±8km, ML3.4/3, Error ellipse: s-maj=9.3km s-min=1.4km az=199.0*
DDA ***29*** *19:30:11.5,36˚.99N×28˚.36E, h2km±1km, MW3.7*
ISK ***29*** *19:30:11.7,37˚.01N×28˚.37E, h6km, ML3.6/17*
IDC ***29*** *19:30:11.2±1.8,36˚.77N×28˚.57E, h0km, mb3.6/2, mb1 3.8/5, mb1mx3.5/35, mbtmp3.7/5, ML3.2/3, Error ellipse: s-maj=41.8km s-min=21.2km az=148.0*
HLW ***29*** *19:30:16.6,36˚.69N×28˚.62E, h11km±15km, Md3.9, Ml3.9*
ISC 29 19:30:12.3±0.8, 37˚.01N±0˚.02×28˚.37E±0˚.01, h9km±6km, n90, σ1§16/135, 3C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YER	Yerkesik	0.15	332	P		Pg	19 30 15.5	0.0
YER				S		Sg	19 30 18.3	+0.5
YER	Yerkesik	0.15	332	PG		Pg	19 30 15.5	0.0
YER				SG		Sg	19 30 17.7	-0.1
TURN	Turunc	0.25	203	*i* P		Pg	19 30 17.0	-0.3
TURN				*i* S		Sg	19 30 20.5	-0.1
TURN	Turunc	0.25	203	PG		Pg	19 30 17.1	-0.2
TURN				SG		Sg	19 30 21.6	+0.9
MULA	Mugla, Merkez-	0.25	351	*i* P		Pg	19 30 17.1	-0.3
MULA				*i* S		Sg	19 30 20.9	0.0
DALY	Dalyan (Mula)	0.30	129	PG		Pg	19 30 17.9	-0.2
DALY				SG		Sb	19 30 22.9	-1.8
MLSB	Milas	0.55	302	PG		Pg	19 30 22.9	-0.1
MLSB				SG		Sg	19 30 31.0	+0.7
TAVA	DENIZLI_Tavas	0.63	43	*i* P		Pg	19 30 23.8	-0.7
TAVA				*i* S		Sg	19 30 33.2	+0.4
FETY	Fethiye	0.68	123	P		Pg	19 30 24.9	-0.5
FETY				S		Sb	19 30 34.7	-1.2
FETY	Fethiye	0.68	123	PG		Pg	19 30 25.2	-0.2
FETY				SG		Sb	19 30 35.5	-0.4
BDRM	Kayabasi	0.74	275	*i* P		Pg	19 30 25.9	-0.6
BDRM				*i* S		Sb	19 30 38.0	+0.3
CAME	Cameli-Denizli	0.75	94	PG		Pg	19 30 26.4	-0.4
CAME				SG		Sb	19 30 37.5	-0.5
AYDN	Tasoluk	0.76	329	*i* P		Pg	19 30 26.8	-0.2
AYDN				*i* S		Sg	19 30 37.6	+0.7
CAEL	Denizli, Camel	0.77	81	*i* P		Pg	19 30 27.1	0.0
ARG	Arkhangelos	0.81	194	P		Pg	19 30 27.3	-0.6
ARG				S		Sb	19 30 39.5	-0.1
	2µm,0.5s							
ARG	Arkhangelos	0.81	194	P		Pg	19 30 27.3	-0.6
ARG				S		Sb	19 30 39.4	-0.2
ARG					AML	AML	19 30 44.5	
	comp=E,4315µm,0.5s							
ARG					AML	AML	19 30 45.6	
	comp=N,3108µm,0.5s							
ARG	Arkhangelos	0.81	194	PG		Pb	19 30 27.9	-0.6
ARG				SG		Sb	19 30 39.8	+0.2
ARG	Arkhangelos	0.81	194	P		Pg	19 30 27.2	-0.6
ARG				S		Sb	19 30 40.1	+0.5
BODT	Bodrum	0.85	274	P		Pg	19 30 27.9	-0.7
BODT				S		Sb	19 30 40.7	0.0
BODT	Bodrum	0.85	274	PG		Pg	19 30 28.2	-0.4
BODT				SG		Sb	19 30 40.9	+0.2
YKAV	Yalikavak-Bodr	0.88	278	PG		Pb	19 30 29.1	-0.6
GOLH	Golhisar	0.98	76	*i* P		Pg	19 30 26.9	-4.2
GOLH				*i* S		Sg	19 30 41.0	-3.0
DDIM	Aydin, Didim	1.01	297	*i* P		Pg	19 30 30.9	-0.7
DDIM				*i* S		Sn	19 30 47.9	+1.1
AYDB	Zeytinkoy-Aydi	1.01	338	PG		Pg	19 30 31.3	-0.5
NIS1	Nisyros Isl.	1.04	248	P		Pb	19 30 32.0	-0.4
NIS1				S		Sb	19 30 46.7	+0.6
	comp=N,5µm,0.6s							
NISR	Nisiros	1.07	249	P		Pb	19 30 32.6	-0.3
NISR				S		Sb	19 30 47.4	+0.4
	comp=N,2µm,0.5s							
NISR	Nisiros	1.07	249	P		Pg	19 30 31.4	-1.4
NISR					AML	AML	19 30 52.7	
	comp=E,6281µm,0.3s							
NISR					AML	AML	19 30 59.0	
	comp=N,2934µm,0.5s							
GCAM	G?zelcaml?	1.14	308	*i* P		Pg	19 30 33.4	-0.7
GCAM				*i* S		Sb	19 30 49.5	+0.4
GCAM	G?zelcaml?	1.14	308	PN		Pg	19 30 33.7	-0.5
KOSK	Kos Island	1.14	258	P		Pg	19 30 33.7	-0.5
KOSK				S		Sn	19 30 50.5	+0.3
	comp=N,2µm,0.5s							
KOSK	Kos Island	1.14	258	PN		Pb	19 30 34.1	-0.1
AKAS	Kas	1.26	127	*i* P		Pn	19 30 36.3	+0.1
AKAS				*i* S		Sn	19 30 57.3	+4.0
AKAS	Kas	1.26	127	PN		Pn	19 30 36.5	+0.3
ELL	Elmali	1.26	101	PN		Pn	19 30 36.4	+0.2
ELL	Elmali	1.26	101	P		Pg	19 30 35.7	-0.8
ELL				S		Sn	19 30 55.2	+1.9
KSL	Kastellorizon	1.30	131	P		Pg	19 30 36.4	-0.8
KSL				S		Sg	19 30 53.0	-1.0
KSL	Kastellorizon	1.30	131	P		Pn	19 30 36.8	+0.2
KSL	Kastellorizon	1.30	131	⇑P		Pn	19 30 36.8	+0.2
KSL				S		Sn	19 30 56.3	+2.2
KSL					AML	AML	19 31 04.9	
	comp=N,1.9nm,0.6s							
KSL					AML	AML	19 31 04.9	
	comp=N,1.9nm,0.6s							
SMG	Samos	1.41	300	P		Pn	19 30 37.5	-0.6
SMG				S		Sg	19 30 57.1	-0.5
	comp=N,1µm,0.5s							
SMG	Samos	1.41	300	P		Pn	19 30 37.5	-0.6
SMG					AML	AML	19 31 04.5	
	comp=E,2544µm,0.6s							
SMG					AML	AML	19 31 05.8	
	comp=N,2869µm,0.4s							
DEMR	Demre-Antalya	1.46	121	PN		Pg	19 30 39.4	-0.8
MANT	Manisa	1.49	6	*i* P		Pn	19 30 38.7	-0.7
MANT				*i* S		Sb	19 30 58.5	-0.9
BRDR	BURDUR-Merkez	1.52	62	*i* P		Pb	19 30 40.3	-0.3
BRDR				*i* S		Sg	19 31 02.2	+1.2
KULA	Kula-Manisa	1.52	9	PN		Pn	19 30 40.2	+0.4
DGB	zmir	1.58	312	*i* P		Pn	19 30 39.3	-1.1
KORT	Korkueli	1.59	90	*i* P		Pg	19 30 42.0	-0.7
KORT				*i* S		Sg	19 31 06.1	+2.8
KORT	Korkueli	1.59	90	PN		Pb	19 30 41.7	-0.2
KHL	Karahalli	1.60	35	PN		Pn	19 30 41.5	+0.6
PASA	Karahalli, USA	1.61	33	*i* P		Pn	19 30 40.8	-0.1
PASA				*i* S		Sn	19 31 01.4	-0.5
BASM	Basmaki-Afyon	1.62	55	PN		Pn	19 30 41.6	+0.5
AKUM	Antalya-Kumluc	1.73	113	*i* P		Pb	19 30 43.9	-0.3
AKUM				*i* S		Sg	19 31 11.3	+3.6
GOMA	Golmarmara-Man	1.74	348	PN		Pn	19 30 43.1	+0.5
BUCA	Burdur, Bucak-	1.78	79	*i* P		Pg	19 30 45.4	-1.0
BUCA				*i* S		Sg	19 31 08.7	-0.8
USAK	Uak-Merkez	1.78	17	*i* P		Pn	19 30 43.3	0.0
USAK				*i* S		Sn	19 31 05.5	-0.6
KZIL	AFYON_Kizioren	1.88	48	*i* P		Pn	19 30 45.7	+0.9
AKHS	Akhisar	1.92	347	*i* P		Pn	19 30 44.7	-0.5
AKHS				*i* S		Sn	19 31 07.4	-2.1
AKS	Akhisar	1.92	347	PN		Pn	19 30 45.4	+0.2
ZEYE	Izmir, Urla-Ze	1.93	310	*i* P		Pn	19 30 44.5	-0.8
ZEYE				*i* S		Sg	19 31 16.9	+2.7
URLA	Izmir	1.95	314	*i* P		Pn	19 30 46.3	+0.7
DEMI	Demirci	2.05	8	*i* P		Pn	19 30 46.9	-0.2
DEMI				*i* S		Sn	19 31 13.2	+0.4
BAGO	Egridir - ISPA	2.16	62	*i* P		Pn	19 30 50.1	+1.5
ZEDA	zmir-Bergama	2.21	333	*i* P		Pn	19 30 48.8	-0.4
ZEDA				*i* S		Sg	19 31 24.2	+1.0
GDZ	Gediz	2.26	23	*i* P		Pn	19 30 49.1	-0.8
APE	Apeiranthos	2.27	272	P		Pn	19 30 50.0	0.0
APE				S		Sn	19 31 18.1	-0.1
	comp=N,162nm,0.6s							
APE	Apeiranthos	2.27	272	P		Pn	19 30 50.3	+0.3
APE	Apeiranthos	2.27	272	S		Sn	19 31 17.6	-0.6
ZKR	Zakros	2.57	223	P		Pn	19 30 55.0	+0.9
ZKR	Zakros	2.57	223	P		Pn	19 30 55.0	0.0
ZKR				S		Sn	19 31 26.0	+0.6
ZKR					AML	AML	19 31 30.3	
	comp=N,0.4nm,0.5s							
ZKR					AML	AML	19 31 30.3	
	comp=N,0.4nm,0.5s							
NPS	Neapolis	2.83	233	P		Pb	19 31 00.7	-2.3
IDI	Anoyia	3.30	240	P		Pn	19 31 04.6	+0.5
AKMS	Akamas	3.78	120	⇑P		Pn	19 31 11.2	+0.5
AKMS					AML	AML	19 31 53.1	
	comp=N,0.4nm,0.8s							
AKMS					AML	AML	19 31 56.8	
	comp=N,0.6nm,0.9s							
ALFC	Alefka	3.89	117	P		Pn	19 31 11.9	-0.4
ALFC					AML	AML	19 31 60.0	
	comp=N,0.3nm,0.3s							
ALFC					AML	AML	19 32 00.4	
	comp=N,0.3nm,0.3s							
NATA	Nata	4.07	122	P		Pn	19 31 15.3	+0.6
OSC1	CSNet OBS 1	4.23	145	P		Pn	19 31 16.6	-0.3
SZAC	Souni	4.30	120	⇓P		Pn	19 31 18.1	+0.2
SZAC					AML	AML	19 32 11.6	
	comp=N,0.3nm,0.4s							
CSS	Mathiatis	4.51	115	P		Pn	19 31 20.6	-0.2
ASGA	Asgata	4.54	118	⇑P		Pn	19 31 21.4	+0.3
BRTR	Keskin Array B	4.95	55	Pn		Pn	19 31 29.4	+2.4
	comp=N,1.2nm,0.3s,baz=240,slow=15,SNR=17							
BRTR					Sn	Sn	19 32 25.1	+0.6
	comp=N,0.6nm,0.3s,baz=239,slow=17,SNR=5.9							
SLUM	Salum	6.09	206	P		Pn	19 31 43.8	+1.3
	baz=210							
SLUM					S	Sn	19 32 47.6	-4.7
	baz=210							
SLUM					AMP		19 33 00.0	
	baz=210							
KOT	Kottamia	7.63	157	P		Pn	19 32 02.4	-1.2
	baz=157							
HSAF	As Saff	7.83	159	P		Pn	19 32 06.0	-0.5
	baz=159							
GLL	Jalalah	7.92	158	P		Pn	19 32 07.2	-0.4
	baz=159							
RYAN	Fayoum	8.06	168	P		Pn	19 32 09.4	-0.2
	baz=169							
ZNM	Zenema	8.49	152	P		Pn	19 32 14.6	-0.9
	baz=152							
HKAT	Jabal Katrina	9.69	149	P		Pn	19 32 30.9	-1.1
	baz=149							
HHRG	Al Ghardaqah	10.70	154	P		Pn	19 32 47.9	+2.1
	baz=154							
KEST	Kesra	15.38	271	Pn		P	19 33 52.1	-2.1
	comp=N,0.2nm,0.3s,baz=81,slow=13,SNR=4.2							
GERES	GERESS Array B	15.95	322	Pn		P	19 34 02.2	+1.7
	comp=N,0.0nm,0.3s,baz=131,slow=10,SNR=2.5							
ESDC	Sonseca Array	25.43	286	P		P	19 35 42.3	+2.0
	comp=N,0.6nm,0.8s,baz=86,slow=11,SNR=3.0							
TORD	Torodi Ar. Bea	33.67	232	P		P	19 36 53.6	0.0
	comp=N,0.8nm,0.5s,baz=36,slow=9.0,SNR=16							

NEIC ***29*** *19:37:45.0±1.5,24˚.00N±0˚.04×121˚.56E±0˚.03, h18km±4km, mb5.0/74, Mwr4.2/26, ML5.1(TAP), Error ellipse: s-maj=6.3km s-min=2.4km az=145.0*
BJI ***29*** *19:37:44.6±0.0,23˚.95N×121˚.65E, h25km, mB4.5/19, mb4.3/33, ML4.4/10, Ms4.2/23, Ms7 4.1/23*
NEIC ***29*** *19:37:45.4,23˚.98N×121˚.57E, h23km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.12; $M_{\theta\theta}$-1.13; $M_{\phi\phi}$-0.99; $M_{r\theta}$0.29; $M_{r\phi}$-1.25; $M_{\theta\phi}$-0.88; Fault plane solution: $M_0$2.41000×10^{15} NP1:ϕ_s207.19000°, δ53.54000°, λ64.78000°. NP2:ϕ_s65.59000°, δ43.31000°, λ119.97000°. Principal axes: T 2.4600, Plg69.0000°, Azm59.0000°; N -0.1119, Plg20.0000°, Azm223.0000°; P -2.3481, Plg5.0000°, Azm315.0000°;*
TAP ***29*** *19:37:46.0,24˚.02N×121˚.51E, h19km, ML4.8, B*
JMA ***29*** *19:37:45.0±0.1,23˚.96N×121˚.54E, h18km±2km, M4.6*
ASIES ***29*** *19:37:45.4,24˚.00N×121˚.60E, h24km, MW4.1*
IDC ***29*** *19:37:51.2±3.5,23˚.97N×121˚.66E, h74km±33km, mb3.9/15, mb1 4.1/18, mb1mx3.9/40, mbtmp4.2/18, MS3.1/3, Ms1 3.2/3, ms1mx2.9/38, Error ellipse: s-maj=17.9km s-min=12.5km az=79.0*
ISC 29 19:37:45.7±0.6, 24˚.00N±0˚.01×121˚.56E±0˚.02, h23km±3km, n297, σ1§21/405, mb4.8/57, 22C-47D, Fault plane solution: NP1:ϕ_s206.39404°, δ81.79212°, λ57.73966°. NP2:ϕ_s103.64941°, δ33.17854°, λ164.87788°. Principal axes: T Plg43.8503°, Azm84.8354°; N Plg31.8906°, Azm211.5433°; P Plg29.3982°, Azm322.0659°; **Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HWA	Hwalien	0.04	121	⇓*i* P		Pb	19 37 50.4	+0.7
	baz=116							
HWA				*i* S		Sb	19 37 53.7	+1.4
	baz=116							
ETM	Tongmen	0.07	243	⇑*i* P		Pb	19 37 49.5	-0.4
	baz=193							
TWD	Chiawan	0.09	20	⇑*i* P		Pb	19 37 50.0	0.0
	baz=57							
TWD				*i* S		Sb	19 37 52.6	-0.2
	baz=57							
TEYL	Yanliau Villag	0.14	167	⇓*i* P		Pb	19 37 50.7	+0.3
	baz=144							
TEYL				S		Sb	19 37 54.3	+0.8
	baz=144							
ETL	Fush Village	0.17	19	P		Pb	19 37 50.6	-0.1
	baz=38							
ETL				S		Sb	19 37 54.0	-0.3
	baz=38							
NACB	Ninganchiao	0.18	9	⇑*i* P		Pb	19 37 50.5	-0.3
	baz=28							
NACB				*i* S		Sb	19 37 53.3	-1.0
	baz=28							
NACB	Ninganchiao	0.18	9			Pb	19 37 50.1	-0.8
NACB				Sg		Sb	19 37 53.5	-0.8
ESL	Shilin	0.22	213	⇑*i* P		Pb	19 37 51.1	-0.3
	baz=202							
ESL				*i* S		Sb	19 37 54.4	-0.9
	baz=202							
ETLH	Xiulin Townshi	0.22	340	⇑*i* P		Pb	19 37 51.0	-0.5
	baz=352							
ETLH				*i* S		Sb	19 37 54.1	-1.3
	baz=352							
TEGC	Jichi Village	0.29	184	⇓P		Pb	19 37 53.2	+0.9
	baz=181							
TEGC				S		Sn	19 37 58.7	-1.5
	baz=181							
WHF	Hehuan Shan	0.31	298	⇑*i* P		Pb	19 37 52.2	-0.8
	baz=294							
WHF				*i* S		Sb	19 37 56.1	-1.9
	baz=294							
EHP	Heping Village	0.35	28	P		Pb	19 37 53.5	+0.2
	baz=37							
EHP				S		Sb	19 37 58.6	+0.1
	baz=37							
EGFH	Guangfu	0.35	201	⇓P		Pb	19 37 52.9	-0.4
	baz=192							
EGFH				*i* S		Sb	19 37 58.4	-0.2
	baz=192							
OWD	Renai	0.36	263	⇑*i* P		Pb	19 37 53.1	-0.4
	baz=262							
OWD				*i* S		Sb	19 37 57.3	-1.6
	baz=262							
CHGB	Renai	0.36	280	⇓*i* P		Pb	19 37 53.3	-0.4
	baz=273							
CHGB				*i* S		Sb	19 37 57.8	-1.3
	baz=273							
FUSS	Fushou	0.38	310	⇓*i* P		Pb	19 37 53.7	-0.4
	baz=321							
FUSS				*i* S		Sb	19 37 58.9	-0.8
	baz=321							
TWT	Tachien	0.44	306	⇓*i* P		Pb	19 37 54.8	-0.1
	baz=298							
TWT				*i* S		Sb	19 38 00.4	-0.7
	baz=298							
TDCB	Techi	0.45	304	⇓*i* P		Pb	19 37 54.8	-0.3
	baz=299							
TDCB				*i* S		Sb	19 38 00.3	-1.1
	baz=299							
EWUT	Wuta	0.48	24	⇑*i* P		Pb	19 37 55.5	0.0
	baz=30							
EWUT				*e* S		Sb	19 38 01.8	-0.5
	baz=30							
HGSD	Ruisui	0.52	194	⇓P		Pb	19 37 56.0	-0.2
	baz=196							
HGSD				*e* S		Sn	19 38 05.5	-0.4
	baz=196							
EHY	Hungye	0.54	204	⇓*i* P		Pb	19 37 55.4	-1.1
	baz=190							
EHY				*e* S		Sb	19 38 03.4	-0.4
	baz=190					

YHNB	**Yeheng**	**0.69**	**346**	⇓	*i*	P		**Pb**	**19 37 58.8 -0.3**	**WRL**	**Guolierlin Hig**	**1.09**	**265**	⇓	*e*	P		**Pb**	**19 38 06.2 +0.3**	**JISG**	**Ishigakijimahi**	**2.57**	**76**			P		**Pn**	**19 38 26.4 +0.4**
	baz=342										baz=263									JISG						S		**Sn**	**19 38 57.1 +0.5**
YHNB						S		**Sb**	**19 38 07.6 -0.7**	WRL					*e*	S		**Sn**	**19 38 21.2 +1.2**	**MATB**	**Ma-tsu**	**2.60**	**326**		*e*	P		**Pn**	**19 38 26.1 -0.2**
	baz=342										baz=263										baz=316									
YHNB	**Yeheng**	**0.69**	**346**					**Pb**	**19 37 58.7 -0.4**	**STYH**	**Taoyuan**	**1.10**	**221**		*e*	P		**Pb**	**19 38 05.8 -0.2**	**MSUT**	**Lienchiang**	**2.62**	**326**		*e*	P		**Pn**	**19 38 26.6 -0.1**
YHNB							Sg	**Sb**	**19 38 07.4 -0.9**	STYH											baz=316									
NSK	**Sanguang**	**0.70**	**344**	⇓	*i*	P		**Pb**	**19 37 59.0 -0.3**		baz=210									**QZH**	**Quanzhou**	**2.87**	**290**			Pn		**Pn**	**19 38 29.3 -0.7**
NSK	baz=342				*i*	S		**Sb**	**19 38 07.8 -0.7**						*e*	S		**Sn**	**19 38 20.8 +0.7**	QZH						Sn		**Sn**	**19 39 01.3 -2.5**
											baz=210									QZH						smax		smax	
WHYT	**Xinyi Township**	**0.72**	**245**		*e*	P		**Pb**	**19 37 59.3 -0.2**	**CHN2**	**Minshiung**	**1.10**	**245**		*e*	P		**Pb**	**19 38 06.6 +0.6**		comp=N,500nm,0.5s								
	baz=246									CHN2																				
WHYT					*e*	S		**Sb**	**19 38 08.8 -0.2**		baz=242									QZH						smax		smax	
	baz=246									**TPUB**	**Ta-pu**	**1.10**	**231**	⇓	*i*	P		**Pb**	**19 38 06.7 +0.6**		comp=E,310nm,0.5s								
TWE	**Neicheng**	**0.72**	**7**	⇑	*i*	P		**Pb**	**19 37 59.4 -0.2**		baz=217									**KNM**	**Kinmen**	**2.89**	**279**		*e*	P		**Pn**	**19 38 31.8 +1.5**
	baz=13									TPUB					*i*	S		**Sn**	**19 38 21.2 +0.8**		baz=277									
TWE						S		**Sb**	**19 38 09.0 -0.2**	**TPUB**	**Ta-pu**	**1.10**	**231**					**Pb**	**19 38 06.5 +0.4**	**JTJ**	**Tarama**	**2.93**	**77**			P		**Pn**	**19 38 31.9 +1.0**
	baz=13									TPUB							Sn	**Sn**	**19 38 20.8 +0.5**	JTJ						S		**Sn**	**19 39 06.5 +1.1**
YUS	**Yu-Shan**	**0.76**	**228**	⇑	*i*	P		**Pb**	**19 38 00.6 +0.1**	**TWS1**	**Kuangyinshan**	**1.10**	**353**		*e*	P		**Pn**	**19 38 05.5 -0.3**	**KNMB**	**Chin-men Tao**	**2.94**	**280**		*e*	P		**Pn**	**19 38 30.5 -0.4**
	baz=214										baz=8.0										baz=279									
YUS						S		**Sb**	**19 38 10.3 -0.2**	TWS1						S		**Sn**	**19 38 20.8 +0.5**	**KNMB**	**Chin-men Tao**	**2.94**	**280**			P		**Pn**	**19 38 30.8 -0.2**
	baz=214										baz=8.0									**LYJJ**	**Jianjiangzhen**	**3.02**	**328**	⇑	*e*	P		**Pn**	**19 38 32.1 0.0**
ILA	**Ilan**	**0.78**	**12**	⇓	*e*	P		**Pn**	**19 38 01.0 -0.3**	**NHW**	**Xinwu Township**	**1.11**	**335**	⇓	*e*	P		**Pb**	**19 38 06.8 +0.6**		baz=319									
	baz=17										baz=6.0									**XPSS**	**Dashiqiu**	**3.17**	**337**		*e*	P		**Pn**	**19 38 33.8 -0.4**
ILA						S		**Sb**	**19 38 11.4 +0.6**	**STYT**	**Tauyuan**	**1.11**	**222**		P			**Pb**	**19 38 06.2 -0.1**		baz=344									
	baz=17										baz=210									**JIRB**	**Irabujima**	**3.39**	**75**		P			**Pn**	**19 38 38.2 +1.0**
WJS	**Zhushan**	**0.79**	**257**	⇓	*e*	P		**Pn**	**19 38 01.3 -0.1**	STYT					S			**Sn**	**19 38 21.1 +0.5**	JIRB						S		**Sn**	**19 39 17.6 +0.8**
	baz=252										baz=210									**AXDP**	**Jialang**	**3.40**	**286**		*e*	P		**Pn**	**19 38 38.1 +0.8**
WJS						S		**Sn**	**19 38 12.0 -0.4**	**WTK**	**Tuku**	**1.12**	**254**		*e*	P		**Pb**	**19 38 06.7 +0.3**		baz=286									
	baz=252										baz=251									**JIKM**	**Ikemajima**	**3.48**	**74**		P			**Pn**	**19 38 40.5 +2.1**
WWF	**Wufeng**	**0.79**	**273**		*e*	P		**Pn**	**19 38 01.6 +0.1**	WTK					*e*	S		**Sn**	**19 38 22.2 +1.5**	JIKM						S		**Sn**	**19 39 20.5 +1.6**
	baz=269										baz=251									**ZPLA**	**Ao Xicun**	**3.49**	**270**	⇓	*e*	P		**Pn**	**19 38 38.6 0.0**
WWF					*e*	S		**Sn**	**19 38 12.5 -0.1**	**WTP**	**Ta-pu**	**1.15**	**229**	⇓	*i*	P		**Pb**	**19 38 07.3 +0.4**		baz=265									
	baz=269										baz=216									**JMJ**	**Miyako jima 2**	**3.50**	**76**		*e*	P		**Pn**	**19 38 40.3 +1.7**
TWQ1	**Liyutan**	**0.80**	**296**	⇓	*i*	P		**Pn**	**19 38 01.4 -0.2**	WTP					S			**Sn**	**19 38 23.0 +1.5**		baz=88									
	baz=296										baz=216									JMJ						*e*	S		**Sn**	**19 39 21.0 +1.6**
NSTT	**Nanjuang**	**0.81**	**321**	⇓	*i*	P		**Pb**	**19 38 01.3 +0.2**	**CHY**	**Chiayi**	**1.16**	**245**		*e*	P		**Pb**	**19 38 07.5 +0.5**		baz=88									
	baz=323										baz=253									**JMJ2**	**Miyako jima3**	**3.51**	**77**		P			**Pn**	**19 38 40.3 +1.4**
NSTT						S		**Sb**	**19 38 11.4 -0.3**	CHY					*e*	S		**Sb**	**19 38 23.7 +2.1**	JMJ2						S		**Sn**	**19 39 21.1 +1.4**
	baz=323										baz=253									**JOGS**	**Gusukube**	**3.58**	**77**		P			**Pn**	**19 38 41.3 +1.4**
WNT	**Mingjian**	**0.81**	**262**	⇓	*i*	P		**Pn**	**19 38 01.9 +0.1**	**LONT**	**Longtian**	**1.16**	**200**		*e*	P		**Pb**	**19 38 06.8 -0.2**	JOGS						S		**Sn**	**19 39 23.2 +1.7**
	baz=259										baz=184									**VDOS**	**Pratas Island**	**5.55**	**235**		*e*	P		**Pn**	**19 39 08.7 +1.8**
WNT					*e*	S		**Sn**	**19 38 12.9 -0.2**	**NTST**	**Danshui**	**1.16**	**355**		*e*	P		**Pb**	**19 38 07.0 -0.1**		baz=217									
	baz=259										baz=8.0									**CVP**	**Callao Caves**	**6.27**	**178**		*e*	P		**Pn**	**19 39 20.0 +3.2**
WNT1	**Nantou City**	**0.81**	**264**	⇓		P		**Pn**	**19 38 02.1 +0.3**	NTST					*e*	S		**Sb**	**19 38 23.7 +1.9**	**JOW**	**Kunigami**	**6.69**	**64**		*e*	P		**Pn**	**19 39 22.1 -0.5**
	baz=261										baz=8.0										baz=63									
WNT1					*e*	S		**Sn**	**19 38 12.7 -0.5**	**ANP**	**Anpu**	**1.18**	**358**		*e*	P		**Pn**	**19 38 06.9 0.0**	**JOW**	**Kunigami**	**6.69**	**64**	Pn		**Pn**	**19 39 22.1 -0.5**
	baz=261									ANP						S		**Sb**	**19 38 23.6 +1.2**	**HKPS**	**Hong Kong Po S**	**7.04**	**257**		*e*	P		**Pn**	**19 39 28.5 +1.0**
TCU	**Taichung**	**0.82**	**280**	⇓	*e*	P		**Pn**	**19 38 02.2 +0.3**	**WTCT**	**Ta-ch'eng**	**1.18**	**264**		P			**Pb**	**19 38 07.8 +0.3**		baz=241									
	baz=275										baz=261									**GZH**	**Guangzhou**	**7.60**	**265**		P			**Pn**	**19 39 31.0 -4.0**
FULB	**Fuli**	**0.83**	**197**		*e*	P		**Pb**	**19 38 00.5 -1.0**	WTCT					*e*	S		**Sb**	**19 38 22.8 +0.5**	GZH						S		**Sn**	**19 40 53.5 -7.0**
	baz=205										baz=261									GZH						smax		smax	
FULB					*e*	S		**Sn**	**19 38 14.2 +0.5**	**NWRT**	**Kuosheng**	**1.20**	**4**		*e*	P		**Pb**	**19 38 08.1 +0.3**		comp=N,190nm,1.2s								
	baz=205										baz=353									GZH						smax		smax	
NSY	**Sanyi**	**0.84**	**300**	⇓	*i*	P		**Pn**	**19 38 02.6 +0.4**	**TWK**	**Hsinying**	**1.23**	**234**		*e*	P		**Pb**	**19 38 08.8 +0.5**		comp=E,130nm,1.2s								
	baz=300										baz=230									**JMZ**	**Minamidaito 2**	**8.95**	**76**		Pn			**Pn**	**19 39 50.3 -3.3**
ALS	**Alishan**	**0.85**	**235**	⇓	*i*	P		**Pb**	**19 38 02.1 +0.2**	TWK					*e*	S		**Sb**	**19 38 24.7 +1.0**	**WHN**	**Wuhan**	**9.14**	**317**	⇑	P		**Pn**	**19 39 56.0 -0.2**
	baz=224										baz=230									WHN						S		**Sn**	**19 41 33.5 -5.0**
ALS						S		**Sb**	**19 38 13.1 0.0**	**CHN1**	**Nanshi**	**1.25**	**230**		*e*	P		**Pb**	**19 38 09.2 +0.6**	WHN						LR		LR	
	baz=224										baz=227										comp=N,3μm,4.4s									
NJD	**Zhudong**	**0.85**	**329**	⇓	*i*	P		**Pn**	**19 38 02.5 +0.2**	CHN1					*e*	S		**Sb**	**19 38 26.3 +2.0**	WHN						LR		LR	
	baz=332										baz=227										comp=E,2μm,4.0s									
NTC	**Toucheng**	**0.89**	**16**		*e*	P		**Pb**	**19 38 02.3 -0.1**	**SNST**	**Tainan City**	**1.25**	**232**		*e*	P		**Pb**	**19 38 09.2 +0.7**	WHN						LR		LR	
	baz=19										baz=227										comp=Z,3μm,12.0s									
NMLH	**Miaoli**	**0.89**	**307**		*e*	P		**Pn**	**19 38 03.3 +0.5**	**TWG**	**Pinlang**	**1.26**	**201**		*e*	P		**Pn**	**19 38 05.7 -2.2**	**JSU**	**Suzuyama**	**10.85**	**45**		Pn		**Pn**	**19 40 18.2 -1.5**
	baz=308										baz=185									**QIZ**	**Qiongzhong**	**11.98**	**248**		P		**Pn**	**19 40 36.5 +1.4**
WYL	**Yuanlin Townsh**	**0.90**	**268**		*e*	P		**Pn**	**19 38 03.2 +0.3**	**TWG**	**Pinlang**	**1.26**	**201**					**Pn**	**19 38 05.5 -2.3**	QIZ						S		**Sn**	**19 42 50.3 +2.3**
	baz=265									**TWGBT**	**Beinan**	**1.26**	**201**		*e*	P		**Pn**	**19 38 05.7 -2.2**	QIZ						LR		LR	
WYL					*e*	S		**Sn**	**19 38 15.7 +0.4**		baz=185										comp=N,220nm,20.1s									
	baz=265									**WSF**	**Szhu**	**1.28**	**254**		P			**Pb**	**19 38 08.9 -0.2**	QIZ						LR		LR	
CHN5	**Tsauling**	**0.91**	**244**	⇑	*i*	P		**Pn**	**19 38 03.4 +0.3**		baz=251										comp=E,300nm,22.1s									
CHN5						S		**Sn**	**19 38 15.6 +0.1**	WSF					*e*	S		**Sb**	**19 38 25.8 +0.7**	QIZ						LR		LR	
	baz=241										baz=251										comp=Z,200nm,13.7s									
WDJ	**Dajia District**	**0.91**	**293**	⇓		P		**Pn**	**19 38 03.6 +0.5**	**SGST**	**Jiashian**	**1.28**	**225**		*e*	P		**Pn**	**19 38 08.6 +0.3**	**QIZ**	**Qiongzhong**	**11.98**	**248**		Pn		**Pn**	**19 40 35.0 -0.1**
	baz=292										baz=209									**JNU**	**Nakatsue**	**12.22**	**40**		P		**Pn**	**19 40 42.2 +3.7**
CHKT	**Chengkung**	**0.92**	**192**	⇓	*e*	P		**Pb**	**19 38 01.9 -1.0**	SGST					*e*	S		**Sb**	**19 38 26.6 +1.3**		0.4nm,0.3s,baz=207,slow=11,SNR=1.6									
	baz=188										baz=209									**KSAR**	**Wonju Array Be**	**14.45**	**21**		Pn		**Pn**	**19 41 06.0 -2.9**
CHKT					*e*	S		**Sb**	**19 38 14.8 +0.2**	**TTN**	**Taitung**	**1.30**	**197**		*e*	P		**Pb**	**19 38 10.4 +1.0**	**KSRS**	**Korea Array**	**14.48**	**21**		P		**P**	**19 41 13.2 -2.5**
	baz=188										baz=178										1.9nm,0.3s,baz=201,slow=12,SNR=61									
HSN1	**Hsinchu**	**0.92**	**327**	⇓	*i*	P		**Pn**	**19 38 04.1 +0.9**	**SLGT**	**Liugui**	**1.31**	**220**		*e*	P		**Pb**	**19 38 09.3 -0.3**	KSRS						LR		LR	19 47 32.6
	baz=336										baz=216										comp=Z,93nm,19.8s,baz=198,slow=40									
HSN1					*e*	S		**Sn**	**19 38 15.8 0.0**	**LDUT**	**Ludao**	**1.32**	**184**		*e*	P		**Pn**	**19 38 07.2 -1.6**	**JMN**	**Monobe**	**14.49**	**45**		Pn		**Pn**	**19 41 04.9 -4.6**
	baz=336										baz=167									**KS19**	**Wonju Array Si**	**14.50**	**20**				**Pn**	**19 41 07.9 -1.6**
WCHH	**Zhanghua**	**0.92**	**275**		P			**Pn**	**19 38 03.6 +0.3**	**ICHU**	**Yiju**	**1.34**	**242**		*e*	P		**Pb**	**19 38 10.4 +0.3**	**JHS**	**Saijyo**	**14.86**	**40**		Pn		**Pn**	**19 41 11.6 -2.9**
	baz=273										baz=223									**XAN**	**Xi'an**	**14.90**	**315**		P		**P**	**19 41 23.0 +2.5**
WCHH					*e*	S		**Sn**	**19 38 16.8 +1.0**	ICHU					*e*	S		**Sb**	**19 38 28.6 +1.8**	XAN						pmax		pmax	
	baz=273										baz=223										comp=Z,11nm,1.4s									
NJN	**Zhunan**	**0.93**	**317**		*e*	P		**Pn**	**19 38 03.7 +0.4**	**YOJ**	**Yonaguni jima**	**1.40**	**71**		P			**Pb**	**19 38 10.5 -0.6**	XAN						pmax		pmax	
	baz=318									YOJ						S		**Sb**	**19 38 29.5 +1.0**		comp=Z,160nm,4.2s									
NJN					*e*	S		**Sn**	**19 38 16.3 +0.3**	**YOJ**	**Yonaguni jima**	**1.40**	**71**	⇑	*i*	P		**Pb**	**19 38 10.6 -0.5**	XAN						LR		LR	
	baz=318										baz=87										comp=N,460nm,9.2s									
SBCB	**Hsinchu**	**0.95**	**326**	⇓	*i*	P		**Pn**	**19 38 04.5 +0.9**	YOJ					*e*	S		**Sb**	**19 38 28.6 +0.1**	XAN						LR		LR	
	baz=328										baz=87										comp=E,460nm,10.8s									
SBCB					*e*	S		**Sb**	**19 38 15.9 +0.3**	**YOJ**	**Yonaguni jima**	**1.40**	**71**					**Pb**	**19 38 10.5 -0.5**	XAN						LR		LR	
	baz=328									YOJ							Sn	**Sb**	**19 38 28.6 +0.1**		comp=Z,560nm,13.5s									
ELDTW	**Lidau**	**0.95**	**212**		*e*	P		**Pb**	**19 38 02.0 -1.5**	**CHN3**	**Shinhua**	**1.43**	**230**		*e*	P		**Pb**	**19 38 12.4 +0.6**	**KMI**	**Kunming**	**17.16**	**278**	⇓		P		**Pn**	**19 41 44.5 +0.2**
	baz=208										baz=225									KMI						pP		pP	19 41 50.3 -2.5
ELDTW						S		**Sb**	**19 38 15.7 0.0**	**SCST**	**Cishan**	**1.48**	**222**		*e*	P		**Pb**	**19 38 13.7 +1.1**	KMI						pmax		pmax	
	baz=208										baz=217										comp=Z,14nm,0.5s									
ECS	**Chishang**	**0.95**	**199**		*e*	P		**Pb**	**19 38 02.1 -1.5**	**SCLT**	**Jiali**	**1.50**	**237**		*e*	P		**Pb**	**19 38 12.4 -0.5**	KMI						LR		LR	
	baz=196										baz=233										comp=Z,470nm,9.3s									
ECS					*e*	S		**Sn**	**19 38 18.3 +1.7**	SCLT					*e*	S		**Sb**	**19 38 32.3 +0.8**	KMI						LR		LR	
	baz=196										baz=233										comp=Z,530nm,11.2s									
NHDH	**Xindian Distri**	**0.96**	**358**		P			**Pn**	**19 38 03.9 +0.1**	**ECL**	**Taimali**	**1.50**	**202**		*e*	P		**Pn**	**19 38 10.0 -1.3**	KMI						LR		LR	
NHDH					*e*	S		**Sn**	**19 38 16.6 -0.1**		baz=185										comp=Z,620nm,13.1s									
HSN	**Hsinchu**	**0.97**	**326**		*e*	P		**Pn**	**19 38 04.3 +0.4**	**SSD**	**Sandimen**	**1.51**	**215**		*e*	P		**Pn**	**19 38 11.7 +0.3**	**CD2**	**Chengdu**	**17.23**	**297**		P		**Pn**	**19 41 45.0 +0.1**
	baz=337										baz=210									CD2						pmax		pmax	
HSN					*e*	S		**Sn**	**19 38 18.5 +1.6**	**TSMG**	**Majia**	**1.54**	**213**		*e*	P		**Pb**	**19 38 13.3 -0.3**		comp=Z,20nm,1.0s								
	baz=337										baz=209									CD2						LR		LR	
WGK	**Gukeng**	**0.97**	**251**		P			**Pn**	**19 38 04.5 +0.6**	**TAI1**	**Yung-k'ang**	**1.56**	**232**		*e*	P		**Pb**	**19 38 13.8 0.0**		comp=Z,560nm,15.1s								
	baz=248										baz=226									CD2						LR		LR	
WGK					*e*	S		**Sn**	**19 38 17.7 +0.7**	**SGLT**	**Jiouru**	**1.61**	**218**		*e*	P		**Pb**	**19 38 15.4 +0.7**		comp=Z,890nm,10.4s								
	baz=248										baz=213									CD2						LR		LR	
TATO	**Taipei**	**0.97**	**356**					**Pb**	**19 38 03.9 0.0**	**MASBT**	**Mashibuluo**	**1.62**	**212**		*e*	P		**Pn**	**19 38 13.0 +0.1**		comp=Z,1μm,12.2s								
TATO							Sg	**Sb**	**19 38 15.3 -1.1**		baz=224									**HHC**	**Hu-ho-hao-te**	**18.78**	**336**		*e*	P		**Pn**	**19 42 05.5 +1.5**
TWA	**Mucha**	**0.98**	**1**	⇑	*i*	P		**Pb**	**19 38 03.9 0.0**	MASBT					*e*	S		**Sb**	**19 38 35.9 +0.8**	HHC						pmax		pmax	
	baz=358										baz=224										comp=Z,7.0nm,1.1s									
TWA						S		**Sb**	**19 38 16.2 -0.2**	**TSPT**	**Pingtung City**	**1.64**	**217**		*e*	P		**Pb**	**19 38 15.7 +0.5**	HHC						pmax		pmax	
	baz=358										baz=212										comp=Z,120nm,5.7s									
WDLH	**Douliu**	**0.99**	**252**	⇓	*i*	P		**Pn**	**19 38 05.0 +0.8**	**PCYT**	**Pengchaiyu**	**1.69**	**16**		*e*	P		**Pn**	**19 38 14.6 +0.8**	HHC						LR		LR	
	baz=249										baz=18										comp=Z,410nm,13.1s									
WDLH					*e*	S		**Sn**	**19 38 18.4 +1.0**	**EAST**	**Anshuo**	**1.74**	**202**		*e*	P		**Pn**	**19 38 13.2 -1.3**	HHC						LR		LR	
	baz=249										baz=188										comp=Z,320nm,12.1s									
TIPB	**Shuangxi**	**1.00**	**14**		*e*	P		**Pb**	**19 38 03.8 -0.5**	**TAW**	**Tawu**	**1.75**	**201**		*e*	P		**Pn**	**19 38 14.7 +0.1**	HHC						LR		LR	
	baz=17										baz=186										comp=Z,380nm,11.6s									
BACT	**New Taipei Cit**	**1.00**	**354**		*e*	P		**Pb**	**19 38 04.9 +0.6**	**SSPT**	**Xinbi**	**1.77**	**211**		*e*	P		**Pb**	**19 38 17.2 -0.2**	**MJAR**	**Matsushiro Arr**	**19.02**	**45**		P		**Pn**	**19 42 07.9 +1.1**
	baz=2.0										baz=207										comp=Z,0.0nm,0.3s,baz=222,slow=6.7,SNR=3.0									
BACT					*e*	S		**Sn**	**19 38 18.3 +0.6**	**SCZT**	**Fangliau**	**1.84**	**208**		*e*	P		**Pb**	**19 38 17.3 -1.3**	MJAR						LR		LR	19 51 05.2
	baz=2.0										baz=187										comp=Z,45nm,18.6s,baz=275,slow=42									
NCUH	**Zhongli**	**1.02**	**340**	⇓	*i*	P		**Pb**	**19 38 05.6 +0.8**	**PHUB**	**P'eng-hu**	**1.89**	**256**		*e*	P		**Pn**	**19 38 17.1 +0.5**	**MJAR**	**Matsushiro Arr**	**19.02**	**45**		P		**P**	**19 42 06.2 +0.2**
	baz=342										baz=252									**LZH**	**Lanzhou**	**19.47**	**312**		*e*	P		**Pn**	**19 42 14.5 +2.1**
NCUH						S		**Sn**	**19 38 20.2 +1.8**	PHUB					*e*	S		**Sn**	**19 38 40.2 +0.6**	LZH						pP		pP	19 42 18.8 +1.0
	baz=342										baz=252									LZH						pmax		pmax	
NCU	**National Centr**	**1.02**	**340**	⇑	*i*	P		**Pb**	**19 38 05.8 +1.0**	**PNG**	**Penghu**	**1.89**	**257**	⇓	*e*	P		**Pn**	**19 38 17.0 +0.5**		comp=Z,20nm,1.0s								
	baz=343										baz=253									LZH						LR		LR	
NCU					*i*	S		**Sn**	**19 38 20.4 +2.0**	PNG					*e*	S		**Sn**	**19 38 40.7 +1.0**		comp=Z,390nm,10.0s								
	baz=343										baz=253									LZH						LR		LR	
NTY	**Taoyuan**	**1.02**	**346**		P			**Pb**	**19 38 05.7 +0.9**	**SLIU**	**Shizi**	**1.91**	**202**		*e*	P		**Pb**	**19 38 18.5 -1.3**		comp=Z,500nm,11.9s								
	baz=349										baz=184									LZH						LR		LR	
NTY						S		**Sn**	**19 38 20.2 +1.8**	**LAY**	**Lan-yu**	**1.95**	**180**		*e*	P		**Pn**	**19 38 16.4 -1.1**		comp=Z,460nm,13.3s								
	baz=349										baz=168									**JMM**	**Marumori**	**21.46**	**45**		P		**P**	**19 42 28.4 -4.1**
NHY	**Taipei**	**1.03**	**0**		*e*	P		**Pb**	**19 38 04.9 0.0**	**WLCH**	**Liuqiu**	**1.97**	**214**		*e*	P		**Pb**	**19 38 20.3 -0.6**	JMM						IAmb		IAmb	19 42 51.6
	baz=3.0										baz=224										comp=Z,131nm,2.0s									
NHY						S		**Sn**	**19 38 18.6 0.0**	**TWP**	**Hsiaoliuchiu**	**1.98**	**214**		*e*	P		**Pb**	**19 38 20.0 -1.1**	**CMMT**	**Chiang Mai**	**21.67**	**261**		P		**P**	**19 42 39.4 +4.5**
	baz=3.0										baz=224										comp=Z,16nm,1.3s									
TAP	**Taipei**	**1.04**	**357**		*e*	P		**Pb**	**19 38 05.0 0.0**	**IRIF**	**Iriomote-Funau**	**2.01**	**80**		P			**Pn**	**19 38 19.1 +0.9**	**CHTO**	**Chiang Mai**	**21.67**	**261**		P		**P**	**19 42 31.7 -3.2**
	baz=360									IRIF						S		**Sb**	**19 38 44.3 -1.7**	**CHTO**	**Chiang Mai**	**21.67**	**261**		P		**P**	**19 42 39.7 +4.8**
TAP						S		**Sn**	**19 38 19.1 +0.5**	**HATJ**	**Hateruma jima**	**2.05**	**88**		P			**Pn**	**19 38 19.9 +1.1**		comp=Z,9.6nm,1.3s									
	baz=360									HATJ						S		**Sn**	**19 38 45.1 +1.5**	**CMAR**	**Chiang Mai Arr**	**21.78**	**260**		P		**P**	**19 42 38.8 +2.6**
TAP1	**Taipei**	**1.04**	**358**		*e*	P		**Pb**	**19 38 05.2 +0.2**	**VCHM**	**Qimei**	**2.11**	**249**	⇑		P		**Pn**	**19 38 20.6 +1.0**		comp=Z,4.4nm,0.9s,baz=60,slow=7.9,SNR=15									
	baz=360										baz=229									CMAR						LR		LR	19 51 38.7
TAP1					*e*	S		**Sn**	**19 38 18.4 -0.2**	VCHM					*e*	S		**Sn**	**19 38 46.1 +1.0**		comp=Z,60nm,19.1s,baz=139,slow=38									
	baz=360										baz=229									**CMAR**	**Chiang Mai Arr**	**21.78**	**260**		P		**P**	**19 42 38.2 +2.1**
EDH	**Donghe**	**1.05**	**193**		*e*	P		**Pn**	**19 38 03.9 -1.1**	**HEN**	**Hengchun**	**2.13**	**201**		*e*	P		**Pb**	**19 38 22.3 -1.2**	**USA0B**	**Ussuriysk Arra**	**21.89**	**20**		P		**P**	**19 42 34.5 -2.4**
	baz=189										baz=182									USA0B						IAmb		IAmb	19 42 43.3
TWB1	**Santiao Chiao**	**1.08**	**21**		*e*	P		**Pn**	**19 38 05.3 -0.1**	**TWK1**	**Hengchun**	**2.16**	**199**		*e*	P		**Pn**	**19 38 22.1 +1.8**		comp=Z,69nm,2.0s									
	baz=24										baz=182									**USRK**	**Ussuriysk Ar.**	**21.89**	**20**		P		**P**	**19 42 37.4 +0.4**
TWB1					*e*	S		**Sn**	**19 38 20.2 +0.6**	**TWKBT**	**Hengchun**	**2.16**	**199**		*e*	P		**Pn**	**19 38 21.4 +1.1**		comp=Z,1.4nm,0.5s,baz=201,slow=8.4,SNR=8.4									
	baz=24										baz=182									**USRK**	**Ussuriysk Ar.**	**21.89**	**20**		P		**P**	**19 42 34.5 -2.5**
NWF	**Wu-fen Shan**	**1.08**	**10**		P			**Pn**	**19 38 05.6 +0.1**	**TSEB**	**Hengchuen, Pin**	**2.18**	**196**		*e*	P		**Pb**	**

comp=Z,220nm,18.2s
GTA LR LR
comp=Z,250nm,17.8s
GTA LR LR
comp=Z,150nm,19.6s
KLR Kul'dur 26.43 15 P **P** **19 43 21.3 +0.7**
comp=Z,2.4nm,0.5s,baz=200,slow=7.1,SNR=13
ASAJ Asahikawa 26.44 35 P **P** **19 43 20.1 -0.6**
comp=Z,22nm,1.2s,baz=246,slow=9.1,SNR=8.1
JKA Kamikawa-asahi 26.44 35 P **P** **19 43 20.1 -0.6**
JKA Kamikawa-asahi 26.44 35 IAmb IAmb 19 43 34.5
comp=Z,165nm,1.7s
ULN Ulaanbaatar 26.47 338 P **P** **19 43 19.7 -1.5**
ULN Ulaanbaatar 26.47 338 P **P** **19 43 22.7 +1.5**
comp=Z,31nm,1.1s
SONM Songino Array 26.67 337 P **P** **19 43 23.5 +0.5**
comp=Z,5.6nm,0.8s,baz=158,slow=8.6,SNR=17
SONM Songino Array 26.67 337 P **P** **19 43 21.4 -1.6**
SHL Shillong 26.97 280 P **P** **19 43 26.3 +0.3**
SHL IAmb IAmb 19 43 30.6
comp=Z,19nm,1.0s
LSA Lhasa 27.68 288 P **P** **19 43 32.2 -0.4**
LSA IAmb IAmb 19 43 38.6
comp=Z,10nm,0.6s
WMQ Urumqi 34.03 314 *eP* **P** **19 44 29.3 +1.2**
YAK Yakutsk 38.41 6 P **P** **19 45 04.6 -0.6**
MK31 Makanchi Array 38.71 316 P **P** **19 45 08.4 +0.5**
MKAR Makanchi Array 38.71 316 P **P** **19 45 08.5 +0.6**
comp=Z,3.5nm,0.7s,baz=102,slow=10,SNR=30
MKAR Makanchi Array 38.71 316 P **P** **19 45 08.3 +0.3**
MAKZ Makanchi 38.92 316 P **P** **19 45 10.2 +0.6**
ZAA0 Zalesovo Array 40.59 327 P **P** **19 45 22.8 -0.6**
ZALV Zalesovo Beam 40.59 327 P **P** **19 45 22.7 -0.7**
comp=Z,4.4nm,0.5s,baz=114,slow=7.8,SNR=26
ZALV PcP **PcP** **19 47 24.2 -1.1**
comp=Z,0.4nm,0.5s,baz=107,slow=6.4,SNR=2.0
ZALV Zalesovo Beam 40.59 327 P **P** **19 45 22.9 -0.5**
KSH Kashi 41.29 303 P P 19 45 34.8 +5.2
KSH sP sP 19 45 41.5 +1.9
KSH pmax pmax
comp=Z,5.0nm,1.2s
H11N1 WAKE ISLAND Hy 42.15 87 T T 20 30 44.0
baz=283,slow=74,SNR=27
H11N2 WAKE ISLAND Hy 42.15 87 T T 20 30 45.0
baz=283,slow=74,SNR=20
H11N3 WAKE ISLAND Hy 42.17 87 T T 20 30 44.9
baz=283,slow=74,SNR=25
H11S3 WAKE ISLAND Hy 42.28 89 T T 20 30 47.6
baz=284,slow=75,SNR=87
H11S1 WAKE ISLAND Hy 42.28 88 T T 20 30 49.0
baz=284,slow=75,SNR=41
H11S2 WAKE ISLAND Hy 42.29 89 T T 20 30 49.1
baz=284,slow=75,SNR=50
COCO West Island 43.34 217 P **P** **19 45 50.0 +3.8**
WB0 Warramunga Arr 45.26 163 P **P** **19 46 00.4 -1.3**
WB0 IAmb IAmb 19 47 27.9
comp=Z,23nm,1.9s
WRA Warramunga Arr 45.42 163 P **P** **19 46 01.6 -1.3**
comp=Z,3.0nm,0.5s,baz=345,slow=8.7,SNR=86
WRA PcP **PcP** **19 47 40.5 -1.4**
comp=Z,0.3nm,0.5s,baz=339,slow=2.6,SNR=1.6
WRA Warramunga Arr 45.42 163 P **P** **19 46 01.5 -1.3**
WB2 Warramunga Arr 45.42 163 P **P** **19 46 01.6 -1.2**
WR0 Warramunga Arr 45.49 163 P **P** **19 46 02.1 -1.3**
WR0 IAmb IAmb 19 46 02.7
comp=Z,6.6nm,0.5s
GAR Garm 45.61 302 P **P** **19 46 04.7 +0.3**
KKAR Karatay Array 45.86 307 P **P** **19 46 06.8 +0.6**
KKAR Karatay Array 45.86 307 P **P** **19 46 06.9 +0.6**
KKAR IAmb IAmb 19 46 15.8
comp=Z,2.2nm,0.8s
KBL Kabul 46.56 296 P **P** **19 46 11.8 -0.3**
KBL IAmb IAmb 19 46 21.3
comp=Z,18nm,1.6s
BRVK Borovoye 48.11 321 P **P** **19 46 24.5 +0.9**
AS31 Alice Springs 48.87 165 P **P** **19 46 28.5 -1.3**
ASAR Alice Springs 48.87 165 P **P** **19 46 29.1 -0.7**
comp=Z,1.9nm,0.3s,baz=341,slow=6.9,SNR=39
ASAR PcP **PcP** **19 47 52.8 -1.3**
comp=Z,0.5nm,0.7s,baz=348,slow=4.1,SNR=2.3
ASAR Alice Springs 48.87 165 P **P** **19 46 28.1 -1.7**
ABKAR Akbulak array 53.82 314 P **P** **19 47 06.2 -0.4**
ABKAR Akbulak array 53.82 314 P **P** **19 47 06.1 -0.5**
ABKAR IAmb IAmb 19 47 08.9
comp=Z,4.3nm,0.7s
ARU Arti 55.46 323 P **P** **19 47 18.1 -0.3**
ARU IAmb IAmb 19 48 04.0
comp=Z,9.1nm,1.3s
STKA Stephens Creek 58.77 160 P **P** **19 47 41.2 -0.9**
comp=Z,2.1nm,0.6s,baz=326,slow=11,SNR=8.5
STKA Stephens Creek 58.77 160 P **P** **19 47 40.5 -1.5**
ONI Oni 65.68 308 P **P** **19 48 28.0 -0.5**
ONI IAmb IAmb 19 48 33.0
comp=Z,6.5nm,1.2s
KBZ Khabaz 65.86 309 P **P** **19 48 30.4 +0.9**
comp=Z,1.3nm,0.7s,baz=80,slow=12,SNR=2.3
KIV Kislovodsk 65.97 309 P **P** **19 48 29.1 -1.2**
KIV IAmb IAmb 19 48 33.5
comp=Z,4.3nm,0.9s
L19K White Mountain 66.10 31 P **P** **19 48 30.9 +0.1**
L19K IAmb IAmb 19 50 10.6
comp=Z,43nm,1.8s
IMAR Indian Mountai 66.19 26 P **P** **19 48 30.7 -0.6**
J20K Nowinta River 66.20 28 P **P** **19 48 31.4 0.0**
J20K IAmb IAmb 19 50 53.5
comp=Z,30nm,1.9s
K20K Telida 66.33 29 P **P** **19 48 32.7 +0.5**
K20K IAmb IAmb 19 50 12.2
comp=Z,54nm,1.9s
H21K Melozitna Rive 66.61 27 P **P** **19 48 34.1 +0.1**
H21K IAmb IAmb 19 48 35.4
comp=Z,21nm,1.4s
CAST Castle Rocks 67.21 29 P **P** **19 48 37.8 -0.1**
CAST IAmb IAmb 19 51 02.8
comp=Z,7.0nm,0.9s
PPLA Purkeypile 67.23 30 P **P** **19 48 38.5 +0.4**
PPLA IAmb IAmb 19 49 08.2
comp=Z,40nm,1.4s
TOLK Toolik Lake Re 67.48 23 P **P** **19 48 39.7 +0.2**
TOLK IAmb IAmb 19 49 22.7
comp=Z,59nm,2.0s
BPAW Bear Paw Mtn. 67.59 28 P **P** **19 48 40.5 +0.3**
BPAW IAmb IAmb 19 49 52.8
comp=Z,37nm,1.8s
SKT Skwentna 67.68 31 P **P** **19 48 40.0 -0.8**
SKT IAmb IAmb 19 50 34.2
comp=Z,26nm,1.4s
KTH Kantishna Hill 67.70 29 P **P** **19 48 41.1 +0.1**
KTH IAmb IAmb 19 49 57.7
comp=Z,28nm,1.6s
KDAK Kodiak Island 67.85 35 P **P** **19 48 41.4 -0.5**
TRF Thorofare Moun 68.00 29 P **P** **19 48 43.6 +0.6**
SUA Susitna One 68.13 31 P **P** **19 48 43.1 -0.7**
CNPM China Poot 68.24 33 P **P** **19 48 44.1 -0.3**
NEA2 Nenana 68.33 28 P **P** **19 48 43.9 -1.0**
NEA2 IAmb IAmb 19 48 47.0
comp=Z,8.9nm,0.6s
BRLK Bradley Lake 68.37 33 P **P** **19 48 44.4 -0.8**
MCK McKinley 68.55 29 P **P** **19 48 45.8 -0.5**
MCK IAmb IAmb 19 49 09.6
comp=Z,49nm,1.9s
H24K Noodor Dome 68.60 26 P **P** **19 48 46.2 -0.3**
H24K IAmb IAmb 19 49 38.0
comp=Z,7.6nm,1.3s
MDM Murphy Dome 68.62 27 P **P** **19 48 46.1 -0.6**
MDM IAmb IAmb 19 48 48.9
comp=Z,9.9nm,0.9s
RC01 Rabbit Creek A 68.68 31 P **P** **19 48 46.9 -0.2**
WRH Wood River Hil 68.77 28 P **P** **19 48 47.0 -0.5**
WRH IAmb IAmb 19 50 02.0
comp=Z,44nm,1.9s
CCB Clear Creek Bu 68.86 27 P **P** **19 48 48.8 +0.7**
CCB IAmb IAmb 19 50 45.7
comp=Z,28nm,2.0s
PMR Palmer 68.87 31 P **P** **19 48 47.6 -0.6**
SEW Seward 69.01 32 P **P** **19 48 48.5 -0.7**
SML Sawmill 69.20 31 P **P** **19 48 49.7 -0.7**
IL31 69.22 27 P **P** **19 48 50.2 -0.1**
IL31 IAmb IAmb 19 50 17.2
comp=Z,22nm,1.8s
ILAR Eielson Array 69.22 27 P **P** **19 48 49.1 -1.3**
comp=Z,0.9nm,0.6s,baz=270,slow=4.3,SNR=12
ILAR Eielson Array 69.22 27 P **P** **19 48 49.3 -1.1**
KNK Knik Glacier 69.22 31 P **P** **19 48 49.7 -0.8**
DHY Denali Highway 69.36 29 P **P** **19 48 51.0 -0.5**
DHY IAmb IAmb 19 49 13.1
comp=Z,24nm,1.5s
PWL Port Wells 69.40 32 P **P** **19 48 51.3 -0.3**
BMAR Burnt Mountain 69.55 24 P **P** **19 48 52.7 +0.3**
SCM Sheep Creek Mo 69.66 30 P **P** **19 48 52.9 -0.3**
M24K Tolsona, Glenn 70.12 30 P **P** **19 48 56.0 -0.1**
PAX Paxson 70.24 29 P **P** **19 48 56.4 -0.4**
PAX IAmb IAmb 19 50 54.9
comp=Z,26nm,1.6s
KLU Klutina 70.39 31 P **P** **19 48 57.7 -0.1**
SCRK Sand Creek 70.63 28 P **P** **19 48 58.4 -0.8**
SCRK IAmb IAmb 19 50 43.7
comp=Z,31nm,1.9s
N25K Chitina, Valde 70.97 30 P **P** **19 49 01.4 +0.1**
BMRM Bremner River 71.14 31 P **P** **19 49 02.5 +0.3**
GLB Gilahina Butte 71.38 30 P **P** **19 49 03.5 -0.2**
M26K Nabesna, AK 71.49 29 P **P** **19 49 04.5 +0.1**
M26K IAmb IAmb 19 49 06.4
comp=Z,14nm,1.1s
FINES FINESS Array B 71.78 330 P **P** **19 49 05.6 -0.4**
comp=Z,2.7nm,0.9s,baz=71,slow=6.0,SNR=6.7
FINES FINESS Array B 71.78 330 P **P** **19 49 05.4 -0.6**
L27K Beaver Creek, 71.81 28 P **P** **19 49 06.8 +0.5**
L27K IAmb IAmb 19 49 08.9
comp=Z,5.6nm,0.7s
BCAR Beaver Creek A 71.83 28 P **P** **19 49 07.1 +0.7**
DAWY Dawson 72.54 27 P **P** **19 49 10.3 -0.4**
DAWY IAmb IAmb 19 49 11.8
comp=Z,10.0nm,1.1s
CTGM Chitina Glacie 72.67 30 P **P** **19 49 12.4 +0.8**
EPYK Eagle Plains 72.83 24 P **P** **19 49 11.5 -0.8**
EPYK IAmb IAmb 19 49 13.0
comp=Z,8.4nm,0.8s
HYT Haines Junctio 74.48 30 P **P** **19 49 23.0 +0.8**
HYT IAmb IAmb 19 49 43.0
comp=Z,41nm,1.5s
NOA NORSAR Array B 78.55 332 P **P** **19 49 45.4 +0.3**
comp=Z,0.6nm,0.8s,baz=63,slow=6.3,SNR=2.4
DLBC Dease Lake 78.93 31 P **P** **19 49 47.5 +0.2**
DLBC IAmb IAmb 19 52 02.7
comp=Z,31nm,1.8s
YKA Yellowknife Ar 83.00 23 P **P** **19 50 09.7 +0.9**
comp=Z,1.3nm,0.6s,baz=303,slow=12,SNR=5.9

*VAO **29** 19:43:58.7±0.4,23.°57S×67.°53W,h10km,mb4.0*
*GUC **29** 19:44:07.3±0.6,22.°72S×68.°46W,h151km±8km,ML3.5*
ISC 29 19:44:04.2±0.9,**22.°88S**±0.°06×**68.°08W**±0.°07,**h125**km,**n20,**
σ2^{S}**19/21,4C,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.82**	**289**	*eP*		**Pn**	**19 44 26.6**	**+1.2**
PB09	**IPOC Station P**	**1.53**	**315**	↑*iP*		**Pn**	**19 44 33.7**	**+1.2**
PB09				*i* S		**Sn**	**19 44 53.6**	**-0.3**
PB05	**IPOC Station P**	**1.96**	**270**	↑*iP*		**Pn**	**19 44 38.0**	**+0.4**
PB05				*i* S		**Sn**	**19 45 01.5**	**-1.6**
PB05				IAML			19 45 08.6	
comp=N,326nm,0.3s								
PB01	**IPOC Station P**	**2.25**	**324**	↑*iP*		**Pn**	**19 44 41.7**	**+0.6**
PB01				IAML			19 45 13.5	
comp=E,381nm,0.2s								
PB10	**IPOC Station P**	**2.37**	**254**	↑*iP*		**Pn**	**19 44 43.2**	**+0.7**
PB10				IAML			19 45 31.7	
comp=N,243nm,0.3s								
PB08	**IPOC Station P**	**2.91**	**340**	*eP*		**Pn**	**19 44 51.6**	**+1.8**
PB08				*i* S		**Sn**	**19 45 24.4**	**-0.5**
PB08				IAML			19 45 29.1	
comp=N,73nm,0.4s								
TA01	**Diego Aracena**	**3.02**	**319**	*eP*		**Pn**	**19 44 50.4**	**-0.6**
TA01				IAML			19 45 26.8	
comp=N,179nm,0.7s								
PSGC	**Pisagua**	**3.79**	**329**	*eP*		**Pn**	**19 44 59.7**	**-1.4**
PSGC				IAML			19 46 07.0	
comp=E,60nm,0.4s								
AC02	**Maricunga**	**4.05**	**193**	*eP*		**Pn**	**19 45 07.9**	**+2.9**
GO03	**Copiap**	**5.08**	**202**	*eP*		**Pn**	**19 45 18.3**	**0.0**
PTLB	**Pontes e Lacer**	**11.22**	**50**	*eP*		**Pn**	**19 46 40.1**	**-0.9**
SAML	**Samuel**	**14.63**	**19**	*eP*		**P**	**19 47 32.4**	**+4.2**
CPSB	**Cacapava Do Su**	**15.07**	**123**	*eP*		Pn	19 47 19.8	-11
PLTB	**Pedras Altas**	**15.60**	**128**	*eP*		Pn	19 47 27.5	-10
CLDB	**Colider**	**16.74**	**46**	*eP*		**P**	**19 47 53.9**	**+2.4**
TIJ01	**Guaruva-PR**	**17.58**	**102**	*eP*		**P**	**19 47 56.3**	**-4.5**
TER01	**Tubaro-SC**	**17.97**	**112**	*eP*		**P**	**19 48 00.5**	**-4.5**
IPMB	**Ipameri, GO**	**19.24**	**79**	*eP*		**Pn**	**19 48 20.5**	**-0.7**
BSCB	**Bom Sucesso**	**21.69**	**89**	*eP*		**P**	**19 48 45.0**	**-0.4**
ESAR	**Angra dos Reis**	**21.76**	**95**	*eP*		**P**	**19 48 45.4**	**-0.5**

INET 29 19:50:44.8,12.°93N×86.°58W,h16km,MW3.6,Nicaragua

*IDC **29** 19:53:19.7±0.5,3.°34S×146.°47E,h0km,mb4.8/28, mb1 4.8/32,mb1mx4.8/37,mbtmp4.8/32,ML4.3/3,MS4.6/28, Ms1 4.6/28,ms1mx4.6/29,Error ellipse: s-maj=15.6km s-min=10.4km az=82.0*
*MOS **29** 19:53:19.5±1.1,3.°34S×146.°40E,h15km,mb5.2/25,Error ellipse: s-maj=10.8km s-min=5.8km az=110.6*
*NEIC **29** 19:53:21.3±2.3,3.°38S±0.°07×146.°40E±0.°08,h12km±3km, mb5.3/112,Mwb5.2/23,Error ellipse: s-maj=11.3km s-min=9.9km az=79.0*
*BJI **29** 19:53:21.1±0.0,3.°12S×146.°57E,h19km,mB5.3/45, mb5.0/71,Ms5.2/60,Ms7 4.9/59*
*NEIC **29** 19:53:22.5,3.°41S×146.°33E,h4km,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; Mrr-1.80; Mθθ0.72; Mφφ 1.08; Mrθ2.18; Mrφ 7.86; Mθφ-0.74; Fault plane solution: M0 8.34000×10^{16} NP1:φs267.56000°, δ80.24000°,λ-17.99000°. NP2:φs0.71000°,δ72.27000°, λ-169.75000°. Principal axes: T 8.8546, Plg5.0000°, Azm315.0000°; N -1.1523, Plg70.0000°, Azm60.0000°; P -7.7023, Plg20.0000°, Azm223.0000°;*
*GCMT **29** 19:53:25.3±0.1,3.°28S±0.°01×146.°47E±0.°01,h12km, MW5.3/142,Moment Tensor Solution. s104,c172; s142,c267; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; Mrr-0.10±.01; Mθθ-0.12±.02; Mφφ0.22±.02; Mrθ0.07±.04; Mrφ1.19±.01; Mθr-0.24±.04; Best double couple: M0 1.23000×10^{17} NP1:φs266.00000°,δ78.00000°, λ-4.00000°. NP2:φs356.00000°,δ86.00000°, λ-168.00000°. Principal axes: T 1.2690, Plg6.0000°, Azm130.0000°; N -0.0780, Plg77.0000°, Azm13.0000°; P -1.1910, Plg11.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **29** 19:53:29.7±0.6,3.°3S±5.°1×14.°6E±.°1,h59km±6km,M5.1/31, mb5.2/31,mB5.5/19,MLv5.5/1,Mw(mB)5.0/19, MwMwp5.0/5,Mwp5.2/5*
ISC 29 19:53:22.7±0.2,**3.°34S**±0.°03×**146.°47E**±0.°04,**h20**km,**n414,**
σ2^{S}**03**/398,**mb5.2**/129,**MS4.8**/45,**22C-19D,Fault plane solution: NP1:**φs280.74283°,δ69.29680°,λ-12.10567°. **NP2:**φs15.07906°,δ78.68676°,λ-158.86710°. **Principal axes:** T Plg6.3883°, Azm146.6596°; N Plg66.1522°, Azm41.9880°; P Plg22.8734°, Azm239.3669°; **Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**5.82**	**278**		LR	LR	19 56 50.4	
comp=Z,7μm,20.4s,slow=36								
PMG	**Port Moresby**	**6.07**	**174**		Pn	**Pn**	**19 54 51.8**	**+0.4**
8.9nm,0.3s,baz=27,slow=9.0,SNR=26								
PMG					Sn	**Sn**	**19 56 02.0**	**+1.7**
baz=348,slow=20,SNR=4.6								
PMG	**Port Moresby**	**6.07**	**174**		Pn	**Pn**	**19 54 51.5**	**+0.2**
PMG	**Port Moresby**	**6.07**	**174**		P	**Pn**	**19 54 50.5**	**-0.9**
PMG	**Port Moresby**	**6.07**	**174**		P	**Pn**	**19 54 51.9**	**+0.5**
PMG	**Port Moresby**	**6.07**	**174**		P	**Pn**	**19 54 51.8**	**+0.4**
GENI	**Genyem**	**6.34**	**277**		P	**Pn**	**19 54 57.9**	**+2.8**
2.0nm7μm5μm331nm,1.1s								
SRPI	**Serui, Papua**	**10.33**	**278**		P	Pn	19 56 00.5	+11
BAKI	**Biak**	**10.57**	**281**		P	Pn	19 55 59.4	+6.2
214nm,1.1s								
FAKI	**Fak Fak**	**14.21**	**271**		Pn	**Pn**	**19 56 45.3**	**+2.3**
FAKI	**Fak Fak**	**14.21**	**271**		P	**Pn**	**19 56 45.9**	**+2.9**
3μm86nm,1.3s								
HNR	**Honiara**	**14.69**	**115**		Pn	**Pn**	**19 56 49.7**	**+0.2**
2.8nm,0.3s,baz=292,slow=19,SNR=5.0								
HNR					Sn	**Sn**	**19 59 34.9**	**+3.0**
14nm,0.3s,baz=72,slow=20,SNR=2.5								
HNR					LR	LR	20 02 28.5	
comp=Z,3μm,18.7s,baz=280,slow=37								
HNR Honiara 14.69 115 P **Pn** **19 56 48.6 -0.9**								
HNR Honiara 14.69 115 Pn **Pn** **19 56 48.6 -0.9**								
MTSU Mount Surprise 14.86 188 P **Pn** **19 56 51.7 -0.1**								
baz=15,SNR=24								
SIJI Sorong 15.39 279 Pn **Pn** **19 56 58.5 -0.5**								
0.3nm,0.3s,baz=77,slow=11,SNR=7.1								
SIJI					LR	LR	20 02 12.7	
comp=Z,2μm,21.5s,baz=102,slow=35								
SIJI Sorong 15.39 279 P **P** **19 57 02.9 -0.5**								
521nm34nm,1.0s								
SWI Sorong 15.40 279 P **P** **19 57 04.2 +0.7**								
1μm76nm,1.0s								
PATS Pohnpei 15.55 49 P **P** **19 57 07.9 +2.7**								
baz=16,SNR=5.7								
PATS Pohnpei 15.55 49 Pn **Pn** **19 57 01.4 +0.5**								
PATS IAmb IAmb 19 57 12.3								
comp=Z,295nm,1.1s								
SAUI Saumlaki 15.79 252 Pn **Pn** **19 57 01.4 -2.6**								
BNDI Bandanaira 16.57 265 P P 19 57 33.8 +17								
CTA Charters Tower 16.65 181 Pn **P** **19 57 18.9 +1.5**								
comp=Z,0.6nm,0.3s,baz=347,slow=12,SNR=12								
CTA Sn **S** **20 00 33.2 +2.5**								
comp=Z,0.1nm,0.3s,baz=292,slow=22,SNR=5.6								
CTA LR LR 20 04 05.9								
comp=Z,2μm,19.7s,baz=6.0,slow=39								
CTAO Charters Tower 16.65 181 P **Pn** **19 57 14.7 -0.4**								
CTAO pmax pmax								
comp=Z,79nm,1.2s								
CTAO Charters Tower 16.65 181 P **Pn** **19 57 14.7 -0.4**								
KDU Kakadu 16.68 235 P **Pn** **19 57 13.4 -2.0**								
baz=16,SNR=72								
GUMO Guam 16.89 355 Pn **Pn** **19 57 17.8 -0.2**								
comp=Z,2.2nm,0.3s,baz=213,slow=18,SNR=2.3								
GUMO Sn **S** **20 00 33.2 -2.3**								
comp=Z,1.6nm,0.3s,baz=165,slow=20,SNR=1.4								
GUMO LR LR 20 03 21.3								
comp=Z,1μm,18.7s,baz=177,slow=36								
GUMO Guam 16.89 355 P **P** **19 57 20.4 +0.4**								
GUMO S **S** **20 00 33.2 -2.3**								
GUMO pmax pmax								
comp=Z,372nm,1.4s								
GUMO Guam 16.89 355 P **P** **19 57 20.4 +0.4**								
GUMO IAmb IAmb 19 57 33.6								
comp=Z,372nm,1.4s								
MSAI Masohi 17.52 269 P **P** **19 57 33.9 +6.9**								
MTN Manton Dam 17.87 237 P **Pn** **19 57 28.8 -1.6**								
baz=18,SNR=12								
KRAI Karang Ratu 18.05 270 P **P** **19 57 36.8 +3.9**								
comp=Z,2μmcomp=Z,72nm,1.0s								
QIS Mount Isa 18.38 201 P **P** **19 57 34.9 -1.6**								
baz=18,SNR=6.8								
GAMI Galela, Maluku 19.37 285 P **Pn** **19 57 51.0 +2.4**								
comp=Z,2μmcomp=Z,139nm,1.2s								
TNTI Ternate 19.53 282 P **P** **19 57 48.3 -0.9**								
TNTI IAmb IAmb 19 58 05.1								
comp=Z,460nm,2.0s								
TNTI Ternate 19.53 282 P **Pn** **19 57 53.3 +2.8**								
comp=Z,1μmcomp=Z,2μmcomp=Z,90nm,1.3s								
WB0 Warramunga Arr 20.14 215 P **P** **19 57 55.0 -0.8**								
WR0 Warramunga Arr 20.21 214 P **P** **19 57 56.0 -0.6**								
WR0 IAmb IAmb 19 57 59.6								
comp=Z,198nm,1.1s								
WRAB Tennant Creek 20.30 215 P **P** **19 57 56.9 -0.6**								
WRAB pmax pmax								
comp=Z,305nm,1.2s								
WRAB Tennant Creek 20.30 215 P **P** **19 57 56.9 -0.6**								
WB2 Warramunga Arr 20.31 215 P **P** **19 57 57.3 -0.3**								
WB2 IAmb IAmb 19 57 58.6								
comp=Z,196nm,1.0s								
WRA Warramunga Arr 20.31 215 P **P** **19 57 57.2 -0.4**								
comp=Z,84nm,0.8s,baz=36,slow=12,SNR=241								
WRA S Sn 20 01 47.1 -1.1								
comp=Z,3.0nm,1.1s,baz=30,slow=24,SNR=5.3								
WRA LR LR 20 06 42.7								
comp=Z,3μm,18.5s,baz=50,slow=40								
WRA Warramunga Arr 20.31 215 P **P** **19 57 56.9 -0.8**								
SANI Sanana 20.50 273 P Pn 19 58 01.6 -0.4								
comp=Z,2μmcomp=Z,1μmcomp=Z,76nm,1.1s								
KNRA Kununurra 21.31 234 P **P** **19 58 07.3 -1.2**								
baz=21,SNR=36								
SGSI Sangihe 22.06 288 P P 19 58 31.5 +15								
MNI Manado 22.14 282 P **P** **19 58 21.0 +3.6**								
comp=Z,3μmcomp=Z,167nm,1.0s								
EIDS Eidsvold 22.35 169 P **P** **19 58 20.6 +1.0**								
baz=22,SNR=5.9								
KMSI Cibinong 22.82 279 P **P** **19 58 29.8 +5.2**								
SOEI Soe 22.95 253 P **P** **19 58 25.2 -1.0**								
SOEI Soe 22.95 253 P **P** **19 58 28.2 +2.0**								
comp=Z,3μmcomp=Z,260nm,1.1s								
RMQ Roma 23.12 175 P **P** **19 58 28.9 +1.3**								
baz=23,SNR=37								
QLP Quilpie 23.21 185 P **P** **19 58 29.0 +0.4**								
baz=23,SNR=14								
DAV Davao City (W) 23.28 296 P **P** **19 58 29.9 +0.6**								
comp=Z,61nm,0.3s,baz=75,slow=12,SNR=1.3								
DAV LR LR 20 05 26.6								
comp=Z,2μm,19.9s,baz=101,slow=31								
DAV Davao City (W) 23.28 296 P **P** **19 58 25.7 -3.6**								
AS31 Alice Springs 23.58 210 P **P** **19 58 31.9 -0.4**								
ASAR Alice Springs 23.58 210 P **P** **19 58 31.9 -0.4**								
comp=Z,130nm,1.2s,baz=38,slow=8.5,SNR=208								
ASAR S **S** **20 02 49.5 +3.7**								
comp=Z,2.9nm,1.1s,baz=31,slow=18,SNR=4.2								
ASAR LR LR 20 08 12.7								
comp=Z,2μm,20.1s,baz=42,slow=38								
BATI Baumata 23.64 252 P **P** **19 58 32.5 -0.6**								
comp=Z,43nm,0.8s,baz=108,slow=3.2,SNR=10								
BATI S **S** **20 02 52.5 +5.6**								
comp=Z,8.5nm,0.9s,baz=0.2,slow=12,SNR=1.2								
BATI LR LR 20 09 33.9								
comp=Z,1μm,20.0s,baz=86,slow=41								
BATI Baumata 23.64 252 P **P** **19 58 32.6 -0.4**								
SANVU Saraoutou 23.70 122 P **P** **19 58 31.9 -1.5**								
SANVU IAmb IAmb 19 58 35.2								
comp=Z,130nm,1.0s								
SANVU Saraoutou 23.70 122 P **P** **19 58 34.3 +0.9**								
GTOI Gorontalo 23.78 279 P **P** **19 58 36.3 +2.0**								
comp=Z,1μmcomp=Z,93nm,1.2s								
LUWI Luwuk 23.79 275 P **P** **19 58 34.9 +0.5**								
LUWI Luwuk 23.79 275 P **P** **19 58 38.1 +3.7**								
comp=Z,12μmcomp=Z,373nm,1.4s								
KOUNC Koumac, New Ca 24.37 136 P **P** **19 58 41.4 +1.7**								
MRSI Marisa 24.81 278 P **P** **19 58 44.5 +0.7**								
comp=Z,1μmcomp=Z,116nm,1.0s								
APSI Ampana 24.92 275 P **P** **19 58 47.4 +2.6**								
comp=Z,2μmcomp=Z,171nm,1.1s								
FITZ Fitzroy Crossi 25.14 233 P **P** **19 58 45.8 -0.9**								
baz=25,SNR=50								
FITZ Fitzroy Crossi 25.14 233 P **P** **19 58 45.8 -0.9**								
comp=Z,45nm,0.9s,baz=57,slow=8.8,SNR=68								
FITZ S **S** **20 03 14.9 +4.2**								
comp=Z,4.4nm,1.0s,baz=36,slow=19,SNR=1.5								
FITZ LR LR 20 08 56.1								
comp=Z,2μm,21.9s,baz=54,slow=37								
EDFI Ende, Flores 25.22 257 P **P** **19 58 52.0 +4.4**								
comp=Z,22nm,1.5s								
TOLI2 Tolitoli 26.06 279 P **P** **19 58 54.9 -0.2**								
TOLI2 IAmb IAmb 19 59 13.0								
comp=Z,76nm,1.1s								
BNSI Bone 26.33 267 P P 19 59 07.0 +9.5								
BKSI Bulukumba 26.35 265 P P 19 59 07.2 +9.5								
TTSI Tana Toraja 26.61 270 P P 19 59 12.1 +12								
KAPI Kappang 26.70 266 P **P** **19 59 01.2 +0.3**								
comp=Z,4.3nm,0.3s,baz=120,slow=8.1,SNR=1.6								
KAPI S S 20 03 49.5 +14								
comp=Z,2.7nm,0.3s,baz=86,slow=17,SNR=2.0								
KAPI LR LR 20 11 07.3								
comp=Z,398nm,20.4s,baz=113,slow=40

DZM eS S 20 03 24.4 -14
comp=Z,1µm,25.7s
DZM eLR LR 20 05 40.5
comp=Z,7µm,27.1s
DZM Mont Dzumac 26.88 136 P **P** **19 59 01.5 -1.1**
DZM IAmb IAmb 19 59 05.7
comp=Z,92nm,1.0s
DZM Mont Dzumac 26.88 136 P **P** **19 59 04.1 +1.6**
ONTNC Ouen Toro 27.04 136 P **P** **19 59 01.8 -2.1**
ONTNC Ouen Toro 27.04 136 P **P** **19 59 06.6 +2.7**
YATNC Mamie plateau, 27.19 135 P **P** **19 59 07.9 +2.7**
ARMA Armidale 27.38 170 P **P** **19 59 08.0 +1.1**
baz=27,SNR=7.6
OUENC Ouen Island, N 27.39 136 P **P** **19 59 05.3 -1.6**
OUENC Ouen Island, N 27.39 136 P **P** **19 59 09.1 +2.1**
MMSI Mamuju 27.53 271 P P 19 59 22.6 +14
WBSI Waikabubak, Su 27.61 256 P P 19 59 18.5 +9.3
MARNC Mare, Loyalty 27.65 132 P **P** **19 59 07.3 -2.0**
WRKA Warakurna 27.78 217 P **P** **19 59 09.9 -0.7**
baz=28,SNR=20
PINNC Pines Island, 27.94 135 P **P** **19 59 09.6 -2.2**
PINNC IAmb IAmb 19 59 31.8
comp=Z,56nm,1.3s
CMSA Cobar Meteorol 28.06 181 P **P** **19 59 13.9 +0.9**
baz=28,SNR=5.2
STKA Stephens Creek 28.76 189 P **P** **19 59 20.6 +1.5**
baz=29,SNR=9.4
STKA Stephens Creek 28.76 189 P **P** **19 59 20.6 +1.5**
comp=Z,14nm,0.9s,baz=7.3,slow=11,SNR=18
STKA S S 20 04 23.8 +16
comp=Z,3.7nm,1.1s,baz=50,slow=21,SNR=1.8
STKA Stephens Creek 28.76 189 *i*P **P** **19 59 18.3 -0.8**
STKA Stephens Creek 28.76 189 P **P** **19 59 16.2 -2.9**
BKB Balikpapan 29.62 273 P **P** **19 59 25.9 -1.1**
BKB IAmb IAmb 19 59 34.3
comp=Z,78nm,1.1s
WAKE Wake Island 29.99 41 P **P** **19 59 30.7 +0.6**
JCJ Chichijima 30.54 352 P **P** **19 59 36.5 +1.7**
comp=Z,34nm,0.7s,baz=219,slow=16,SNR=1.6
JCJ LR LR 20 10 00.4
comp=Z,590nm,21.4s,baz=166,slow=33
JCJ Chichijima 30.54 352 P **P** **19 59 34.6 -0.3**
HTT Hallett 30.76 192 P **P** **19 59 36.9 0.0**
baz=31,SNR=3.6
SPMM Sapulut 31.03 285 P **P** **19 59 40.0 +0.5**
MTKI Muara Teweh, K 31.64 274 P P 19 59 53.7 +8.8
FORT Forrest 32.37 211 P **P** **19 59 50.9 -0.1**
baz=32,SNR=13
JMZ Minamidaito 2 32.53 334 P **P** **19 59 52.4 -0.1**
MSVF Nonsavu 34.09 117 P **P** **20 00 05.6 -0.8**
comp=Z,7.7nm,0.7s,baz=325,slow=2.3,SNR=4.0
MSVF Nonsavu 34.09 117 P **P** **20 00 04.4 -2.0**
MSVF pmax pmax
comp=Z,52nm,1.3s
MSVF Nonsavu 34.09 117 P **P** **20 00 04.4 -2.0**
MSVF IAmb IAmb 20 00 08.2
comp=Z,52nm,1.3s
MSVF Nonsavu 34.09 117 P **P** **20 00 08.4 +2.0**
SBUM Sibu 34.72 279 P **P** **20 00 13.0 +1.3**
JOW Kunigami 34.77 331 P **P** **20 00 10.6 -1.4**
STKI Sintang 35.14 275 P P 20 00 23.1 +7.7
MEEK Meekatharra 35.34 226 P **P** **20 00 16.0 -0.9**
baz=35,SNR=9.8
TWG Pinlang 35.93 318 P **P** **20 00 19.6 -2.4**
YULB Yu-li 36.17 319 P **P** **20 00 22.1 -2.0**
YULB IAmb IAmb 20 00 43.6
comp=Z,60nm,1.3s
KSM Kuching 36.46 277 P **P** **20 00 29.0 +2.2**
NACB Ninganchiao 36.52 320 P **P** **20 00 25.9 -1.1**
SSLB Suanglung 36.67 319 P **P** **20 00 27.0 -1.3**
SSLB IAmb IAmb 20 00 43.3
comp=Z,42nm,1.1s
MORW Morawa 38.60 225 P **P** **20 00 43.9 -0.8**
baz=38,SNR=6.4
CISI Cisompet, Garu 38.70 262 P **P** **20 00 43.3 -2.4**
BLDU Ballidu 39.07 223 P **P** **20 00 48.1 -0.5**
baz=39,SNR=5.7
JNU Nakatsue 39.15 339 P **P** **20 00 48.5 -0.7**
comp=Z,51nm,1.3s,baz=172,slow=7.9,SNR=4.6
JNU Nakatsue 39.15 339 P **P** **20 00 48.7 -0.5**
JNU IAmb IAmb 20 00 52.1
comp=Z,84nm,1.4s
CNJI Cibinong 39.36 263 P P 20 01 04.1 +13
INU Inuyama 39.49 348 P **P** **20 00 52.4 +0.5**
INU IAmb IAmb 20 01 12.2
comp=Z,77nm,1.5s
JWT Wachi 39.80 346 P **P** **20 00 54.4 -0.1**
JHS Saijyo 40.14 343 P **P** **20 00 56.5 -1.0**
JHS IAmb IAmb 20 00 57.7
comp=Z,65nm,1.2s
NWAO Narrogin (SRO) 40.19 220 P **P** **20 00 55.7 -2.2**
baz=40,SNR=3.6
MJAR Matsushiro Arr 40.41 350 P **P** **20 00 58.7 -0.9**
comp=Z,12nm,1.1s,baz=163,slow=9.0,SNR=13
MJAR LR LR 20 16 06.2
comp=Z,352nm,19.8s,baz=150,slow=34
MJAR Matsushiro Arr 40.41 350 P **P** **20 00 57.5 -2.2**
MJAR pmax pmax
comp=Z,39nm,1.7s
MJAR Matsushiro Arr 40.41 350 P **P** **20 00 57.5 -2.2**
MAJO Matsushiro 40.42 350 P **P** **20 00 58.3 -1.4**
MAJO pmax pmax
comp=Z,104nm,1.7s
MAJO Matsushiro 40.42 350 P **P** **20 00 58.3 -1.4**
MAJO IAmb IAmb 20 01 06.5
comp=Z,104nm,1.7s
MAT Matsushiro 40.42 350 P **P** **20 00 58.1 -1.6**
MAT S **S** **20 07 08.6 +1.5**
MJB9 Matsu-Tunnel 40.42 350 P **P** **20 00 58.8 -0.9**
MJB9 IAmb IAmb 20 02 10.7
comp=Z,39nm,0.6s
OUZ Omahuta 40.47 145 P **P** **20 00 58.5 -1.7**
JMM Marumori 41.33 353 P **P** **20 01 06.8 -0.4**
JSD Sado 41.86 350 P **P** **20 01 10.3 -1.2**
MDSI Maura Dua 42.21 267 P P 20 01 20.6 +5.9
QIZ Qiongzhong 42.34 303 P **P** **20 01 15.3 -0.4**
QIZ PP **PP** **20 02 57.5 +3.5**
QIZ S **S** **20 07 35.8 -0.3**
QIZ pmax pmax
comp=Z,38nm,1.3s
QIZ LR LR
comp=Z,640nm,18.6s
QIZ LR LR
comp=Z,630nm,28.4s
QIZ LR LR
comp=Z,1µm,28.4s
QIZ Qiongzhong 42.34 303 P **P** **20 01 14.9 -0.8**
QIZ IAmb IAmb 20 01 23.2
comp=Z,74nm,1.2s
TJN Taejon 43.35 337 *ce*P **P** **20 01 20.0 -3.6**
NJ2 Nanjing 43.90 325 *e*P **P** **20 01 29.3 +1.2**
NJ2 pmax pmax
comp=Z,15nm,0.7s
NJ2 LR LR
comp=Z,2µm,19.1s
NJ2 LR LR
comp=Z,950nm,14.7s
NJ2 LR LR
comp=Z,2µm,19.0s
QRZ Quartz Range 44.09 151 P **P** **20 01 27.1 -2.5**
KSRS Korea Array 44.09 339 P **P** **20 01 29.6 0.0**
comp=Z,16nm,1.0s,baz=153,slow=9.4,SNR=29
KSRS LR LR 20 18 09.7
comp=Z,844nm,18.7s,baz=164,slow=34
KSAR Wonju Array Be 44.10 339 P **P** **20 01 28.1 -1.5**
KSAR Wonju Array Be 44.10 339 P **P** **20 01 28.1 -1.5**
KS19 Wonju Array Si 44.16 339 P **P** **20 01 29.1 -1.0**
INCN Inchon 44.60 337 P **P** **20 01 32.7 -1.0**
INCN pmax pmax
comp=Z,36nm,0.9s
INCN Inchon 44.60 337 P **P** **20 01 32.7 -1.0**
INCN IAmb IAmb 20 01 35.1
comp=Z,36nm,0.8s
URZ Urewera 44.61 145 P **P** **20 01 34.7 +0.9**
comp=Z,4.9nm,0.8s,baz=320,slow=17,SNR=1.7
URZ Urewera 44.61 145 P **P** **20 01 30.9 -2.9**
BKZ Black Stump Fm 44.90 147 P **P** **20 01 34.4 -1.7**
THZ Tophouse 45.00 152 P **P** **20 01 34.6 -2.3**
FOZ Fox Glacier 45.06 156 P **P** **20 01 34.5 -2.7**
FOZ IAmb IAmb 20 02 50.5
comp=Z,43nm,1.4s
TUWZ Tuamarina 45.24 151 P **P** **20 01 35.9 -2.8**
RPZ Rata Peaks 45.73 155 P **P** **20 01 41.2 -1.4**
RPZ IAmb IAmb 20 01 57.2
comp=Z,44nm,1.4s

KHZ Kahutara 45.80 152 P **P** **20 01 40.7 -2.4**
KHZ IAmb IAmb 20 02 41.8
comp=Z,80nm,1.8s
MLZ Mavora Lakes 45.96 159 P **P** **20 01 43.5 -1.0**
JEW Eniwo 46.19 355 P **P** **20 01 45.6 -0.5**
MQZ McQueen's Vall 46.41 154 P **P** **20 01 47.2 -0.7**
KULM Kulim 46.57 280 P **P** **20 01 50.0 +0.3**
SKLT Songkhla 46.94 283 P **P** **20 01 57.1 +4.6**
comp=Z,654nmcomp=Z,60nm,1.2s
MNSI Mandailing Nat 47.05 274 P P 20 01 59.8 +6.4
JKA Kamikawa-asahi 47.37 356 P **P** **20 01 57.3 +2.0**
JKA Kamikawa-asahi 47.37 356 IAmb IAmb 20 02 05.7
comp=Z,158nm,1.6s
ASAJ Asahikawa 47.37 356 P **P** **20 01 57.3 +2.0**
comp=Z,29nm,1.1s,baz=212,slow=9.5,SNR=3.0
ASAJ Asahikawa 47.37 356 P **P** **20 01 57.3 +2.0**
ASAJ pmax pmax
comp=Z,158nm,1.6s
TRSI Tarutung 47.79 276 P P 20 02 13.7 +14
DL2 Dalian 47.88 334 P **P** **20 02 00.0 +0.6**
DL2 S **S** **20 09 00.5 +4.8**
DL2 pmax pmax
comp=Z,37nm,1.1s
DL2 LR LR
comp=Z,1µm,18.4s
DL2 LR LR
comp=Z,590nm,18.9s
DL2 LR LR
comp=Z,1µm,20.5s
PSI Prapat 47.92 277 P P 20 02 05.2 +4.9
CHAI Chaiyaphum 47.97 295 P P 20 02 07.2 +6.7
comp=Z,15nm,1.1s
CHAI Chaiyaphum 47.97 295 P P 20 02 07.0 +6.5
TRTT Trang 47.97 284 P **P** **20 02 04.8 +4.2**
comp=Z,45nm,1.1s
SURA Surathani 48.31 285 P P 20 02 12.1 +8.9
SURA Surathani 48.31 285 P P 20 02 12.0 +8.8
comp=Z,22nm,1.2s
SLVN Son La 48.35 302 P **P** **20 02 01.8 -1.7**
SLVN IAmb IAmb 20 02 11.8
comp=Z,35nm,1.2s
GYA Guiyang 48.56 310 ⇓P **P** **20 02 06.5 +1.4**
GYA pmax pmax
comp=Z,13nm,1.2s
GYA LR LR
comp=Z,1µm,22.7s
ENH Enshi 48.63 316 P **P** **20 02 04.5 -1.0**
SURT Suratani 49.07 285 P P 20 02 21.4 +12
SURT Suratani 49.07 285 P P 20 02 21.0 +12
comp=Z,0.8nm,1.1s
USA0B Ussuriysk Arra 49.08 346 P **P** **20 02 06.0 -2.5**
USA0B 20 03 28.6
USA0B pmax pmax
comp=Z,19nm,0.9s
USA0B Ussuriysk Arra 49.08 346 P **P** **20 02 06.0 -2.5**
USA0B IAmb IAmb 20 02 09.5
comp=Z,19nm,0.8s
USA0B PcP **PcP** **20 03 28.6 -3.4**
USRK Ussuriysk Ar. 49.08 346 P **P** **20 02 09.1 +0.5**
comp=Z,13nm,0.8s,baz=180,slow=8.9,SNR=22
USRK LR LR 20 19 50.7
comp=Z,443nm,21.3s,baz=145,slow=32
USRK Ussuriysk Ar. 49.08 346 P **P** **20 02 07.5 -1.1**
USRK 20 03 29.9
USRK Ussuriysk Ar. 49.08 346 P **P** **20 02 07.5 -1.1**
USRK PcP **PcP** **20 03 29.9 -2.2**
GSI Gunungsitoli 49.09 275 P **P** **20 02 07.4 -1.9**
GSI Gunungsitoli 49.09 275 P **P** **20 02 13.4 +4.1**
comp=Z,45nm,1.2s
PHET Kaeng Krachan 49.23 290 P P 20 02 19.0 +8.7
PHET Kaeng Krachan 49.23 290 P P 20 02 19.0 +8.7
comp=Z,9.1nm,1.0s
PHIT Phitsanulok 49.82 296 P P 20 02 22.1 +7.4
PHIT Phitsanulok 49.82 296 P P 20 02 22.0 +7.3
UTTA Uttaradit 49.88 296 P **P** **20 02 16.8 +1.7**
comp=Z,366nmcomp=Z,40nm,1.1s
UTTA Uttaradit 49.88 296 P **P** **20 02 16.8 +1.7**
comp=Z,91nmcomp=Z,10.0nm,1.1s
COCO West Island 49.89 257 P **P** **20 02 11.1 -4.2**
COCO pmax pmax
comp=Z,450nm,1.6s
COCO West Island 49.89 257 P **P** **20 02 11.1 -4.2**
MDJ Mudanjiang 50.07 344 P **P** **20 02 17.3 +1.1**
MDJ pP pwP 20 02 24.5 0.0
MDJ sP sP 20 02 27.8 +3.7
MDJ PP **PP** **20 04 15.0 +3.5**
MDJ S **S** **20 09 32.0 +5.6**
MDJ pmax pmax
comp=Z,11nm,0.9s
MDJ pmax pmax
comp=Z,150nm,3.5s
MDJ LR LR
comp=Z,380nm,4.4s
MDJ LR LR
comp=Z,640nm,7.7s
MDJ LR LR
comp=Z,820nm,14.7s
MDJ Mudanjiang 50.07 344 P **P** **20 02 15.8 -0.4**
MDJ IAmb IAmb 20 02 25.4
comp=Z,33nm,1.2s
SRDT SRDT 50.11 292 P P 20 02 27.5 +11
NANT Nan 50.12 298 P **P** **20 02 18.2 +1.2**
comp=Z,53nm,1.2s
NANT Nan 50.12 298 P **P** **20 02 18.3 +1.2**
comp=Z,13nm,1.2s
UTHA Uthaitani 50.17 293 P P 20 02 30.1 +13
YSS Yuzh-Sakhalins 50.18 357 *i*P **P** **20 02 17.9 +1.0**
YSS pmax pmax
comp=Z,37nm,1.1s
CN2 Changchun 50.59 340 *e*P **P** **20 02 19.5 -0.6**
CN2 *e*S **S** **20 09 30.0 -3.6**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 LR LR
comp=Z,900nm,16.0s
CN2 LR LR
comp=Z,700nm,16.0s
CN2 LR LR
comp=Z,1µm,17.0s
SUKH Sukhothai 50.62 296 P **P** **20 02 23.4 +2.6**
comp=Z,326nmcomp=Z,28nm,1.0s
SUKH Sukhothai 50.62 296 P **P** **20 02 23.4 +2.6**
comp=Z,81nmcomp=Z,7.0nm,1.0s
UMPA Umpang Tak 50.91 294 P P 20 02 36.0 +13
UMPA Umpang Tak 50.91 294 P P 20 02 36.0 +13
KMI Kunming 50.99 306 ⇓P **P** **20 02 25.5 +1.8**
KMI pP sP 20 02 30.8 -0.9
KMI pmax pmax
comp=Z,26nm,1.0s
KMI LR LR
comp=Z,450nm,20.8s
KMI LR LR
comp=Z,450nm,21.6s
KMI LR LR
comp=Z,930nm,26.3s
PAYA Payao 51.06 298 P **P** **20 02 25.9 +1.8**
comp=Z,590nmcomp=Z,62nm,1.1s
PAYA Payao 51.06 298 P **P** **20 02 26.0 +1.8**
comp=Z,147nmcomp=Z,16nm,1.1s
XAN Xi'an 51.32 320 P **P** **20 02 25.3 -0.5**
XAN pP pP 20 02 31.3 -0.3
XAN pmax pmax
comp=Z,23nm,1.5s
XAN pmax pmax
comp=Z,150nm,3.4s
XAN LR LR
comp=Z,640nm,24.7s
XAN LR LR
comp=Z,540nm,19.0s
XAN LR LR
comp=Z,810nm,26.0s
BJT Baijiatuau 51.33 330 P **P** **20 02 24.2 -1.5**
BJT pmax pmax
comp=Z,20nm,1.1s
BJT Baijiatuau 51.33 330 P **P** **20 02 24.1 -1.5**
BJI Beijing 51.34 330 P **P** **20 02 25.3 -0.5**
BJI pP **pP** **20 02 31.0 -0.5**
BJI sP **pwP** **20 02 35.5 +1.4**
BJI S **S** **20 09 50.5 +6.4**
BJI pmax pmax
comp=Z,18nm,1.1s
BJI pmax pmax
comp=Z,260nm,3.7s
BJI LR LR
comp=Z,930nm,22.0s

BJI LR LR
comp=Z,930nm,18.8s
BJI LR LR
comp=Z,1µm,19.7s
CM36 Chiang Mai Arr 51.45 297 P **P** **20 02 28.0 +1.0**
CM35 Chiang Mai Arr 51.45 297 P **P** **20 02 28.0 +0.9**
CM04 Chiang Mai Arr 51.51 297 P **P** **20 02 29.6 +2.1**
comp=Z,210nmcomp=Z,24nm,1.1s
CM04 Chiang Mai Arr 51.51 297 P **P** **20 02 29.7 +2.2**
comp=Z,210nmcomp=Z,24nm,1.1s
CM34 Chiang Mai Arr 51.52 297 P **P** **20 02 29.0 +1.5**
CM09 Chiang Mai Arr 51.52 297 P **P** **20 02 29.6 +2.0**
comp=Z,213nmcomp=Z,24nm,1.0s
CM09 Chiang Mai Arr 51.52 297 P **P** **20 02 29.0 +1.4**
comp=Z,213nmcomp=Z,24nm,1.0s
CM01 Chiang Mai Arr 51.54 297 P **P** **20 02 29.9 +2.2**
comp=Z,220nmcomp=Z,24nm,1.1s
CM01 Chiang Mai Arr 51.54 297 P **P** **20 02 29.9 +2.2**
comp=Z,220nmcomp=Z,24nm,1.1s
CM05 Chiang Mai Arr 51.54 297 P **P** **20 02 29.7 +2.0**
comp=Z,141nmcomp=Z,16nm,1.0s
CM05 Chiang Mai Arr 51.54 297 P **P** **20 02 29.8 +2.0**
comp=Z,141nmcomp=Z,16nm,1.0s
CM02 Chiang Mai Arr 51.55 297 P **P** **20 02 29.9 +2.1**
comp=Z,246nmcomp=Z,28nm,1.0s
CM02 Chiang Mai Arr 51.55 297 P **P** **20 02 29.9 +2.1**
comp=Z,246nmcomp=Z,28nm,1.0s
CM31 Chiang Mai Arr 51.56 297 P **P** **20 02 29.9 +2.0**
comp=Z,5umcomp=Z,496nm,1.0s
CM31 Chiang Mai Arr 51.56 297 P **P** **20 02 25.8 -2.1**
CM31 IAmb IAmb 20 02 36.3
comp=Z,48nm,1.1s
CMAR Chiang Mai Arr 51.56 297 P **P** **20 02 29.1 +1.1**
comp=Z,8.0nm,0.9s,baz=113,slow=5.7,SNR=34
CMAR LR LR 20 21 32.9
comp=Z,249nm,21.3s,baz=150,slow=33
CMAR Chiang Mai Arr 51.56 297 P **P** **20 02 28.4 +0.5**
CM15 Chiang Mai Arr 51.58 297 P **P** **20 02 29.9 +1.9**
comp=Z,209nmcomp=Z,27nm,1.1s
CM15 Chiang Mai Arr 51.58 297 P **P** **20 02 29.0 +1.0**
comp=Z,209nmcomp=Z,27nm,1.1s
CM13 Chiang Mai Arr 51.59 297 P **P** **20 02 30.0 +2.0**
comp=Z,164nmcomp=Z,22nm,1.4s
CM13 Chiang Mai Arr 51.59 297 P **P** **20 02 30.1 +2.0**
comp=Z,164nmcomp=Z,22nm,1.4s
CMMT Chiang Mai 51.68 297 P **P** **20 02 30.0 +1.2**
comp=Z,26nm,1.3s
CMMT Chiang Mai 51.68 297 P **P** **20 02 30.0 +1.2**
comp=Z,26nm,1.3s
CMMT Chiang Mai 51.68 297 P **P** **20 02 30.0 +1.2**
comp=Z,25nm,1.3s
CM33 Chiang Mai Arr 51.69 297 P **P** **20 02 29.0 +0.2**
CHTO Chiang Mai 51.69 297 P **P** **20 02 28.8 0.0**
CHTO pmax pmax
comp=Z,43nm,1.3s
CHTO Chiang Mai 51.69 297 P **P** **20 02 30.2 +1.4**
comp=Z,26nm,1.4s
CHTO Chiang Mai 51.69 297 P **P** **20 02 28.8 0.0**
CHTO IAmb IAmb 20 02 36.8
comp=Z,43nm,1.3s
CHTO Chiang Mai 51.69 297 P **P** **20 02 30.3 +1.4**
comp=Z,15nm,1.4s
CM32 Chiang Mai Arr 51.72 297 P **P** **20 02 31.0 +2.0**
MHMT Maesarieng 52.38 296 P P 20 02 42.0 +8.1
CD2 Chengdu 53.07 313 P **P** **20 02 38.0 -0.9**
CD2 pP pP 20 02 45.3 +0.6
CD2 sP pwP 20 02 48.0 +0.8
CD2 S **S** **20 10 08.5 +0.2**
CD2 sS sS 20 10 20.8 +2.9
CD2 SS **SS** **20 13 48.0 +0.1**
CD2 pmax pmax
comp=Z,30nm,0.9s
CD2 pmax pmax
comp=Z,310nm,4.9s
CD2 LR LR
comp=Z,1µm,20.4s
CD2 LR LR
comp=Z,1µm,19.5s
CD2 LR LR
comp=Z,1µm,22.6s
KLR Kul'dur 53.89 348 P **P** **20 02 44.4 -0.1**
comp=Z,5.0nm,0.9s,baz=179,slow=4.4,SNR=9.3
KLR Kul'dur 53.89 348 *ce*P **P** **20 02 45.0 +0.5**
KLR pmax pmax
comp=Z,33nm,1.3s
HHC Hu-ho-hao-te 54.31 328 ⇑*i*P **P** **20 02 48.3 +0.4**
HHC pP sP 20 02 56.0 +0.1
HHC sP pwP 20 02 59.0 +2.8
HHC S **S** **20 10 25.0 +0.1**
HHC sS sS 20 10 37.5 +3.0
HHC pmax pmax
comp=Z,27nm,1.2s
HHC pmax pmax
comp=Z,110nm,5.7s
HHC LR LR
comp=Z,750nm,22.4s
HHC LR LR
comp=Z,980nm,19.4s
HHC LR LR
comp=Z,2µm,20.6s
LZH Lanzhou 55.87 318 *e*P **P** **20 03 00.3 +0.9**
LZH pP sP 20 03 06.5 -0.9
LZH sS sS 20 10 58.5 +2.7
LZH pmax pmax
comp=Z,33nm,1.2s
LZH pmax pmax
comp=Z,190nm,4.3s
LZH LR LR
comp=Z,680nm,15.2s
LZH LR LR
comp=Z,1µm,13.3s
LZH LR LR
comp=Z,920nm,17.1s
XMAS Kiritimati 56.31 85 P **P** **20 03 02.6 -0.1**
PEA0B Petropavlovsk- 57.03 8 P **P** **20 03 07.6 +0.5**
PEA0B pmax pmax
comp=Z,79nm,1.5s
PEA0B Petropavlovsk- 57.03 8 P **P** **20 03 07.5 +0.5**
PETK Petropavlovsk- 57.03 8 P **P** **20 03 07.6 +0.5**
comp=Z,3.9nm,0.8s,baz=249,slow=12,SNR=3.8
PETK LR LR 20 23 35.0
comp=Z,168nm,21.5s,baz=186,slow=32
PETK Petropavlovsk- 57.03 8 P **P** **20 03 08.0 +0.9**
PETK Petropavlovsk- 57.03 8 P **P** **20 03 08.0 +0.9**
PET Petropavlovsk 57.08 9 *e*P **P** **20 03 08.4 +1.0**
PET *e*S **S** **20 11 01.5 +0.3**
PET MLR MLR
comp=Z,900nm,18.0s
PET MLR MLR
comp=Z,500nm,18.0s
HIA Hailar 57.29 340 P **P** **20 03 07.5 -1.5**
HIA pmax pmax
comp=Z,43nm,1.2s
HIA Hailar 57.29 340 P **P** **20 03 07.5 -1.5**
HIA IAmb IAmb 20 03 18.6
comp=Z,43nm,1.2s
ZEA Zeya 59.10 347 *e*P **P** **20 03 22.2 +0.6**
ZEA *e*S **S** **20 11 31.8 +4.2**
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA smax smax
comp=E,100nm,5.2s
SHL Shillong 60.16 302 P **P** **20 03 28.3 -1.3**
SHL pmax pmax
comp=Z,30nm,1.2s
SHL Shillong 60.16 302 P **P** **20 03 28.3 -1.3**
SHL IAmb IAmb 20 03 51.8
comp=Z,30nm,1.2s
GTA Gaotai 60.38 320 ⇑P **P** **20 03 31.8 +1.0**
GTA pP pP 20 03 37.0 +0.3
GTA sP pwP 20 03 40.8 +1.6
GTA pmax pmax
comp=Z,17nm,1.0s
GTA pmax pmax
comp=Z,120nm,4.5s
GTA LR LR
comp=Z,490nm,18.2s
GTA LR LR
comp=Z,440nm,18.5s
GTA LR LR
comp=Z,650nm,20.7s
AMKA Amchitka 61.27 23 P **P** **20 03 37.0 +0.6**
OBL Observatory Le 61.52 66 P **P** **20 03 38.5 -0.4**
ULN Ulaanbaatar 61.54 331 P **P** **20 03 36.7 -1.9**

ULN pmax pmax
comp=Z,34nm,1.4s
ULN Ulaanbaatar 61.54 331 P **P** **20 03 36.7 -1.9**
ULN IAmb IAmb 20 03 52.6
comp=Z,34nm,1.4s
ULN Ulaanbaatar 61.54 331 P **P** **20 03 39.5 +0.9**
comp=Z,2µmcomp=Z,66nm,1.3s
SONM Songino Array 61.84 331 P **P** **20 03 41.3 +0.7**
comp=Z,2.1nm,0.7s,baz=152,slow=6.7,SNR=12
SONM LR LR 20 29 47.6
comp=Z,1µm,19.8s,baz=118,slow=35
SONM Songino Array 61.84 331 P **P** **20 03 40.4 -0.2**
SONM pmax pmax
comp=Z,25nm,1.4s
SONM Songino Array 61.84 331 P **P** **20 03 40.4 -0.2**
SONM IAmb IAmb 20 03 50.2
comp=Z,25nm,1.4s
LSA Lhasa 62.24 306 P **P** **20 03 43.2 -0.9**
LSA pmax pmax
comp=Z,13nm,1.2s
LSA Lhasa 62.24 306 P **P** **20 03 43.2 -0.9**
KIWB Kanaga Island 63.05 24 P **P** **20 03 48.9 +0.5**
ADK Adak 63.27 25 P **P** **20 03 50.5 +0.7**
ADK pmax pmax
comp=Z,61nm,1.3s
ADK Adak 63.27 25 P **P** **20 03 50.5 +0.7**
GSTR Great Sitkin T 63.68 25 P **P** **20 03 53.0 +0.3**
PPT2 Papeete2 64.18 108 *e*S S 20 12 18.0 -15
comp=Z,296nm,30.8s
PPT2 *e*LQ LQ 20 20 08.0
comp=Z,714nm,26.8s
PPT2 *e*LR LR 20 22 54.6
comp=Z,437nm,24.8s
ZAK Zakamensk 65.07 331 *e*P **P** **20 04 01.3 -0.6**
ZAK pmax pmax
comp=Z,22nm,1.3s
BOD Bodaibo 66.30 342 *e*P **P** **20 04 09.4 -0.1**
BOD pmax pmax
comp=Z,32nm,1.3s
YAK Yakutsk 66.44 351 *e*P **P** **20 04 10.3 0.0**
YAK *e* 20 04 38.8
YAK *e* 20 06 39.8
YAK *e*S **S** **20 12 58.1 -1.3**
YAK *e**SS SnSn 20 13 26.8
YAK *e*SS **SS** **20 17 15.8 -0.7**
YAK pmax pmax
comp=Z,24nm,1.2s
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=Z,96nm,3.1s
YAK pmax pmax
comp=E,63nm,2.8s
YAK smax smax
comp=E,92nm,2.8s
YAK smax smax
comp=N,55nm,2.8s
YAK Yakutsk 66.44 351 P **P** **20 04 09.2 -1.1**
YAK IAmb IAmb 20 04 16.7
comp=Z,42nm,1.4s
MOY Mondy 67.00 331 *e*P **P** **20 04 15.3 +1.0**
MOY pmax pmax
comp=Z,66nm,1.6s
CASY Casey 67.67 195 P **P** **20 04 15.3 -2.8**
HYB Hyderabad 70.06 290 *i* P **P** **20 04 33.0 -1.0**
WMQ Urumqi 70.45 319 ⇑P **P** **20 04 36.5 +0.6**
WMQ pP pwP 20 04 46.5 +2.2
WMQ sP PcP 20 04 50.8 -6.4
WMQ pmax pmax
comp=Z,36nm,1.1s
WMQ pmax pmax
comp=Z,200nm,4.7s
WMQ LR LR
comp=Z,410nm,20.7s
WMQ LR LR
comp=Z,460nm,15.5s
WMQ LR LR
comp=Z,290nm,23.5s
BILL Bilibino 72.56 8 *i* P **P** **20 04 49.3 +1.3**
BILL *i* 20 05 04.7
BILL *i* 20 07 26.1
BILL pmax pmax
comp=Z,29nm,1.1s
BILL Bilibino 72.56 8 P **P** **20 04 48.7 +0.7**
SDPT Sand Point 72.82 29 P **P** **20 04 50.3 +0.5**
TAOE Nuku Hiva Isla 73.08 98 *e*LR LR 20 27 03.6
comp=Z,686nm,25.4s
DGZ Jazzator, Alta 73.17 324 *i* P **P** **20 04 52.6 +0.3**
DGZ pmax pmax
comp=Z,26nm,1.5s
ZSN Zaisan 73.76 322⇑ *e*P **P** **20 04 53.0 -2.6**
comp=Z,62nm,4.0s,baz=322
ZSN Zaisan 73.76 322 *ce*P **P** **20 04 52.9 -2.6**
VNDA Vanda 74.58 177 P **P** **20 04 59.2 -0.6**
comp=Z,1.4nm,0.7s,baz=340,slow=7.2,SNR=7.1
VNDA LR LR 20 36 03.7
comp=Z,490nm,18.5s,baz=352,slow=34
VNDA Vanda 74.58 177 P **P** **20 04 58.6 -1.3**
VNDA pmax pmax
comp=Z,7.0nm,1.1s
VNDA Vanda 74.58 177 P **P** **20 04 58.6 -1.3**
MK31 Makanchi Array 75.12 320 *i* P **P** **20 05 03.3 -0.3**
MK31 pmax pmax
comp=Z,30nm,1.1s
MK31 Makanchi Array 75.12 320 P **P** **20 05 02.1 -1.4**
MKAR Makanchi Array 75.12 320 P **P** **20 05 04.0 +0.4**
comp=Z,14nm,0.9s,baz=106,slow=6.8,SNR=63
MKAR LR LR 20 36 18.8
comp=Z,471nm,22.0s,baz=84,slow=34
MKAR Makanchi Array 75.12 320 *i* P **P** **20 05 04.0 +0.4**
MKAR pmax pmax
comp=Z,15nm,0.9s
MKAR Makanchi Array 75.12 320 P **P** **20 05 03.4 -0.2**
MAKZ Makanchi 75.33 320 P **P** **20 05 02.9 -1.8**
MAKZ pmax pmax
comp=Z,28nm,1.0s
MAKZ Makanchi 75.33 320 P **P** **20 05 02.9 -1.8**
MAKZ IAmb IAmb 20 05 06.3
comp=Z,28nm,1.0s
UZB Uzynbulak 76.07 316 *e*P **P** **20 05 08.7 -0.6**
comp=Z,46nm,3.2s,baz=316
UZB Uzynbulak 76.07 316 *e*P **P** **20 05 08.6 -0.6**
UZB pmax pmax
comp=Z,46nm,3.2s
KPKS Kokpek 76.40 316 *e*P **P** **20 05 09.2 -1.8**
comp=Z,38nm,1.9s,baz=316
KPKS Kokpek 76.40 316 *e*P **P** **20 05 09.2 -1.8**
KPKS pmax pmax
comp=Z,38nm,1.9s
SATY Saty 76.47 316 *e*P **P** **20 05 10.8 -0.7**
comp=Z,8.5nm,1.3s,baz=316
SATY Saty 76.47 316 *e*P **P** **20 05 10.7 -0.7**
SATY pmax pmax
comp=Z,9.0nm,1.3s
ZAA0 Zalesovo Array 76.49 328 P **P** **20 05 09.5 -1.7**
ZALV Zalesovo Beam 76.49 328 P **P** **20 05 10.5 -0.6**
comp=Z,7.0nm,0.9s,baz=106,slow=5.3,SNR=20
ZALV LR LR 20 37 35.0
comp=Z,790nm,21.6s,baz=124,slow=35
ZALV Zalesovo Beam 76.49 328 P **P** **20 05 09.9 -1.3**
TDK Taldyqorghan 77.07 318 *e*P **P** **20 05 13.9 -0.8**
comp=Z,22nm,0.8s,baz=318
TDK Taldyqorghan 77.07 318 *e*P **P** **20 05 13.8 -0.8**
TDK pmax pmax
comp=Z,22nm,0.8s
KSH Kashi 77.22 312 P **P** **20 05 18.0 +2.2**
KSH pP PcP 20 05 26.5 0.0
KSH sP pwP 20 05 30.0 +5.8
KSH S **S** **20 15 09.5 +4.8**
KSH SKS **SKSac** **20 15 23.8 -4.1**
KSH ScS **ScS** **20 15 31.5 -1.2**
KSH pmax pmax
comp=Z,6.0nm,1.3s
KSH pmax pmax
comp=Z,270nm,9.0s
KSH LR LR
comp=Z,520nm,17.8s
KSH LR LR
comp=Z,620nm,20.6s
KSH LR LR
comp=Z,830nm,23.9s
MDOK Medeo 77.45 315 *e*P **P** **20 05 14.4 -2.6**
baz=316

MDOK Medeo 77.45 315 *e*P **P** **20 05 14.4 -2.6**
TNSS Tian-Shan 77.48 315 *e*P **P** **20 05 17.1 -0.5**
baz=315
SEM Semipalatinsk 77.69 323 *e*P **P** **20 05 16.0 -2.3**
baz=323
SEM Semipalatinsk 77.69 323 *e*P **P** **20 05 16.0 -2.3**
MTBS Maitube 77.87 315 *e*P **P** **20 05 18.7 -0.6**
baz=315
NIL Nilore 77.97 305 P **P** **20 05 18.5 -1.4**
NIL pmax pmax
comp=Z,35nm,0.9s
NIL Nilore 77.97 305 P **P** **20 05 18.5 -1.4**
NIL IAmb IAmb 20 05 37.3
comp=Z,35nm,0.9s
KUU Kurty 78.15 316 *e*P **P** **20 05 19.4 -1.3**
comp=Z,16nm,1.2s,baz=316
KUU Kurty 78.15 316 *e*P **P** **20 05 19.4 -1.3**
KUU pmax pmax
comp=Z,16nm,1.2s
L19K White Mountain 78.90 24 P **P** **20 05 24.4 -0.1**
L19K IAmb IAmb 20 05 32.3
comp=Z,47nm,1.1s
L19K White Mountain 78.90 24 P **P** **20 05 26.6 +2.1**
baz=240
M19K Big River Lodg 78.96 24 P **P** **20 05 27.0 +2.2**
baz=241
AAK Ala-Archa 79.11 314 P **P** **20 05 25.7 -0.5**
AAK pmax pmax
comp=Z,13nm,1.3s
AAK Ala-Archa 79.11 314 P **P** **20 05 25.7 -0.5**
K20K Telida 79.80 23 P **P** **20 05 30.4 +1.1**
K20K Telida 79.80 23 P **P** **20 05 31.2 +1.9**
baz=241
BTLS Baital 80.04 317 *e*P **P** **20 05 29.4 -1.6**
baz=317
BTLS Baital 80.04 317 *e*P **P** **20 05 29.4 -1.6**
J20K Nowinta River 80.17 22 P **P** **20 05 33.5 +2.2**
baz=241
CAST Castle Rocks 80.61 24 IAmb IAmb 20 05 51.0
comp=Z,43nm,1.4s
CAST Castle Rocks 80.61 24 P **P** **20 05 34.4 +0.7**
baz=243
CHUM Lake Minchumin 80.74 23 P **P** **20 05 36.4 +2.0**
baz=242
KTH Kantishna Hill 81.14 24 IAmb IAmb 20 05 42.9
comp=Z,33nm,1.2s
IMAR Indian Mountai 81.20 21 P **P** **20 05 37.8 +1.0**
BTK Batken 81.21 311 IAmb IAmb 20 06 09.2
comp=Z,32nm,1.4s
GAR Garm 81.38 310 IAmb IAmb 20 06 48.8
comp=Z,35nm,1.4s
DZA Taraz 81.44 314 *e*P **P** **20 05 37.4 -1.3**
baz=314
DZA Taraz 81.44 314 *e*P **P** **20 05 37.3 -1.3**
MLY Manley 81.87 22 IAmb IAmb 20 05 47.6
comp=Z,24nm,1.2s
MLY Manley 81.87 22 P **P** **20 05 41.5 +1.1**
baz=244
MCK McKinley 82.02 24 P **P** **20 05 40.9 -0.3**
MCK pmax pmax
comp=Z,44nm,1.2s
MCK McKinley 82.02 24 P **P** **20 05 40.9 -0.3**
MCK IAmb IAmb 20 05 48.9
comp=Z,44nm,1.2s
MCK McKinley 82.02 24 P **P** **20 05 41.5 +0.3**
baz=246
KKAR Karatay Array 82.07 314 P **P** **20 05 41.3 -0.6**
KKAR Karatay Array 82.07 314 P **P** **20 05 41.3 -0.6**
BRZS Berezniki 82.20 321 *e*P **P** **20 05 41.0 -1.5**
comp=Z,12nm,1.9s,baz=321
BRZS Berezniki 82.20 321 *e*P **P** **20 05 40.9 -1.5**
BRZS pmax pmax
comp=Z,12nm,1.9s
CHGR Chuyangaron 82.20 310 IAmb IAmb 20 06 01.8
comp=Z,33nm,1.2s
IUG luzhnay 82.22 313 *e*P **P** **20 05 41.4 -1.4**
baz=313
IUG luzhnay 82.22 313 *e*P **P** **20 05 41.4 -1.4**
NEA2 Nenana 82.32 23 P **P** **20 05 44.4 +1.6**
baz=245
DHY Denali Highway 82.40 25 IAmb IAmb 20 07 16.4
comp=Z,30nm,0.8s
NRIK Noril'sk 82.59 342 P **P** **20 05 43.6 -0.4**
comp=Z,2.6nm,0.5s,baz=172,slow=8.6,SNR=4.4
NRIK LR LR 20 40 47.6
comp=Z,236nm,21.3s,baz=122,slow=34
NRIK Noril'sk 82.59 342 *ce*P **P** **20 05 44.3 +0.3**
NRIK pmax pmax
comp=Z,34nm,1.5s
NRIK Noril'sk 82.59 342 IAmb IAmb 20 06 04.4
comp=Z,18nm,0.9s
WRH Wood River Hil 82.66 23 IAmb IAmb 20 05 50.7
comp=Z,42nm,1.3s
CCB Clear Creek Bu 82.84 23 P **P** **20 05 45.2 -0.2**
CCB IAmb IAmb 20 05 52.9
comp=Z,37nm,1.4s
ILAR Eielson Array 83.26 23 P **P** **20 05 46.9 -0.7**
comp=Z,3.5nm,0.8s,baz=258,slow=5.1,SNR=23
ILAR LR LR 20 38 57.8
comp=Z,309nm,20.6s,baz=265,slow=33
ILAR Eielson Array 83.26 23 P **P** **20 05 46.6 -1.0**
ILAR Eielson Array 83.26 23 P **P** **20 05 46.6 -1.0**
DOT Dot Lake 84.00 25 IAmb IAmb 20 05 58.4
comp=Z,23nm,1.2s
BRVK Borovoye 84.39 324 *ce*P **P** **20 05 53.2 -0.4**
BRVK pmax pmax
comp=Z,24nm,1.7s
BRVK Borovoye 84.39 324 P **P** **20 05 53.0 -0.7**
BRVK IAmb IAmb 20 06 10.3
comp=Z,26nm,1.1s
MAW Mawson 84.49 202 P **P** **20 05 54.1 +0.2**
comp=Z,1.6nm,0.6s,baz=41,slow=11,SNR=2.6
MAW LR LR 20 40 35.7
comp=Z,406nm,21.8s,baz=66,slow=34
J26L Joseph Creek 84.49 24 P **P** **20 05 55.1 +1.1**
baz=250
BCAR Beaver Creek A 84.78 26 P **P** **20 05 56.6 +1.1**
K27K Chicken 84.95 25 IAmb IAmb 20 06 04.3
comp=Z,27nm,1.3s
K27K Chicken 84.95 25 P **P** **20 05 58.2 +1.9**
baz=252
BMAR Burnt Mountain 85.12 21 P **P** **20 05 59.2 +2.2**
EGAK Eagle 85.56 24 IAmb IAmb 20 06 28.6
comp=Z,22nm,1.3s
DAWY Dawson 86.09 25 IAmb IAmb 20 06 11.8
comp=Z,34nm,1.4s
DAWY Dawson 86.09 25 P **P** **20 06 03.8 +1.8**
baz=254
QSPA South Pole Qui 86.61 180 P **P** **20 06 03.1 -1.5**
ABKAR Akbulak array 90.23 319 P **P** **20 06 20.7 -1.3**
GEYT Alibeck 90.73 308 LR LR 20 49 03.1
comp=Z,652nm,21.0s,baz=185,slow=37
ARU Arti 91.60 326 P **P** **20 06 27.5 -0.7**
ARU 20 10 05.1
ARU S **SKSac** **20 16 58.3 -1.4**
ARU SS **SS** **20 23 31.1 -2.8**
E09A Wood Farm, Sta 96.11 44 P **P** **20 06 49.2 +0.1**
E09A IAmb IAmb 20 06 56.4
comp=Z,16nm,1.2s
NVAR Mina Array Bea 96.15 52 P **P** **20 06 50.7 +0.8**
comp=Z,0.6nm,0.8s,baz=261,slow=5.9,SNR=4.1
NVAR LR LR 20 42 27.9
comp=Z,350nm,21.2s,baz=270,slow=31
BMO Blue Mountains 96.75 45 P **P** **20 06 52.4 +0.2**
BMO pmax pmax
comp=Z,17nm,1.6s
BMO Blue Mountains 96.75 45 P **P** **20 06 52.4 +0.2**
BMO IAmb IAmb 20 06 59.0
comp=Z,17nm,1.6s
YKA Yellowknife Ar 97.07 28 P Pdif 20 06 53.9 +0.7
comp=Z,2.3nm,0.9s,baz=267,slow=4.3,SNR=2.6
YKA LR LR 20 48 42.5
comp=Z,187nm,20.1s,baz=0.0,slow=34
BELG Belogornoye 98.04 322 *i* P **P** **20 06 56.0 -1.7**
BELG pmax pmax
comp=Z,4.0nm,1.0s
KIV Kislovodsk 102.23 314 *e*P **Pdif** **20 07 15.6 -1.1**
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR
comp=Z,176nm,20.0s
MNK Minsk 109.00 327 *i* P **Pdif** **20 07 52.1 +5.6**
MNK *i* 20 18 56.3
MNK *i* PS **PS** **20 21 38.8 -6.1**
MNK *i* SS SS 20 27 30.9 -5.2
MNK *i* SSS SSS 20 31 35.3

MNK pmax pmax
comp=Z,7.0nm,0.8s
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=N,9.0nm,0.9s
MNK MLR MLR
comp=N,173nm,23.0s
MNK MLR MLR
comp=Z,800nm,24.0s
MNK MLR MLR
comp=E,90nm,26.0s
MNK Minsk 109.00 327 *i* P **Pdif** **20 07 52.1 +5.7**
comp=E,3.0nm,0.9s
MNK *i* P **Pdif** **20 07 52.1 +5.7**
comp=N,9.0nm,0.9s
MNK *i* P **Pdif** **20 07 52.1 +5.7**
comp=Z,7.0nm,0.8s,baz=68
MNK *i* PP **PP** **20 12 12.3 -6.0**
MNK *i* PPP PPP 20 14 29.8
MNK *i* SKS **SKSdf** **20 18 56.4 -5.4**
MNK *i* PS PS 20 21 38.9 -6.0
MNK *i* SS **SS** **20 27 31.0 -5.2**
MNK *i* SSS SSS 20 31 35.4
MNK *i* LQ LQ 20 48 03.5
MNK *i* LR LR 20 53 11.4
MNK *i* LRM MLR 20 57 37.5
comp=E,90nm,25.6s
MNK *i* LRM MLR 20 57 37.5
comp=N,173nm,23.0s
MNK *i* LRM MLR 20 57 37.5
comp=Z,800nm,24.3s
UZH Uzhgorod 114.54 323 *e*P **Pdif** **20 08 14.2 +3.0**
UZH *i* 20 12 58.4
CLL Collm 118.43 329 *e*PP PP 20 13 22.0 -3.1
CLL *e*PS PKKPdf 20 23 12.0 +15
CLL *e* 20 25 12.0
CLL *e*(SS) 20 30 18.0
CLL *e* 20 35 00.0
CLL Lm MLR 21 04 00.0
comp=N,400nm,20.9s
CLL Lm MLR 21 04 00.0
comp=E,500nm,21.3s
CLL Lm MLR 21 04 00.0
comp=Z,600nm,20.7s
CLL Collm 118.43 329 *e*PKIKP **PKiKP** **20 12 16.0 +7.0**
CLL MLR MLR
comp=Z,600nm,20.7s
GERES GERESS Array B 119.42 326 PKP **PKPdf** **20 12 10.6 -0.5**
comp=Z,0.2nm,0.3s,baz=66,slow=5.5,SNR=1.4
ESDC Sonseca Array 134.99 327 PKP **PKiKP** **20 12 42.8 +0.3**
comp=Z,0.2nm,0.7s,baz=48,slow=1.9,SNR=1.1
LPAZ La Paz 140.63 121 PKP **PKPdf** **20 12 52.9 +0.2**
comp=Z,2.0nm,0.9s,baz=225,slow=4.3,SNR=4.8
CPUP Villa Florida 142.58 143 PKP **PKPdf** **20 12 54.5 -0.7**
comp=Z,0.9nm,0.4s,baz=153,slow=2.3,SNR=2.3
TORD Torodi Ar. Bea 143.85 288 PKP PKPbc 20 12 55.2 -0.2
comp=Z,3.3nm,1.0s,baz=60,slow=2.8,SNR=12
TORD Torodi Ar. Bea 143.85 288 PKPab 20 12 54.1 -0.7
PDPR Patillas Dam, 144.99 63 **PKPab** **20 12 56.8 -2.0**
HUMP Col San Antoni 145.09 63 **PKPbc** **20 12 57.2 -2.0**
SAML Samuel 148.02 113 PKiKP **PKPdf** **20 13 04.3 -0.5**
SAML Samuel 148.02 113 **PKPdf** **20 13 04.3 -0.5**
KOWA Kowa 148.86 293 **PKPbc** **20 13 09.2 -0.8**
KIC Kosan Boka 151.16 277 *e*PKP1 **PKPbc** **20 13 14.9 -0.9**
comp=Z,35nm,1.2s
DBIC Dimbokro 151.25 278 PKPbc **PKPbc** **20 13 16.1 +0.1**
comp=Z,8.0nm,1.1s,baz=100,slow=6.1,SNR=2.8
TIC Toumodi 151.42 278 *e*PKP1 **PKPbc** **20 13 14.9 -1.5**
LIC Lamto 151.46 277 *e*PKP1 **PKPbc** **20 13 15.7 -0.7**
comp=Z,77nm,1.6s

MEX 29 20:05:50.2±0.4, 13°.99N×93°.19W, h11km±37km, MD4.2, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.71**	**359**	*e*P	Pn	20 06 16.3	-3.7
PCIG				*e*S	Sn	20 06 37.1	-4.7
CCIG	**Comitan**	**2.50**	**24**	*e*P	Pn	20 06 27.3	-3.7
CCIG				*e*S	Sn	20 06 57.7	-3.9
TGIG		**2.77**	**1**	*e*P	Pn	20 06 32.1	-2.6
TGIG				*i* S	Sn	20 07 04.3	-4.0
CMIG	**Matias Romero**	**3.49**	**332**	*e*P	Pn	20 06 41.8	-2.7
CMIG				*i* S	Sn	20 07 21.8	-4.0

*NOU **29** 20:25:29.1, 37°.23S×177°.27E, h262km, mb3.6/5, Off E. Coast of N. Island, N.Z.*

WEL 29 20:25:41.8±0.8, 38°.5S±6°×177°.7E±°, h161km±6km, M2.7/37, **ML2.6**/7, **MLv2.7**/37, **Error ellipse: s-maj=0.0km s-min=0.0km az=162.3, North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPRZ	**Ohinepanea**	**0.26**	**206**	P	Pn	20 26 04.4	+1.0
TGRZ	**Tauranga**	**0.37**	**251**	P	Pn	20 26 04.9	+1.1
MARZ	**Manawahe**	**0.37**	**183**	P	Pn	20 26 05.0	+1.1
MKRZ	**Makatiti**	**0.56**	**199**	P	Pn	20 26 06.9	+2.2
OMRZ	**Omania**	**0.56**	**208**	P	Pn	20 26 05.7	+1.0
TARZ	**Mount Tarawera**	**0.64**	**194**	P	Pn	20 26 06.4	+1.2
KMRZ	**Kaimai**	**0.64**	**249**	P	Pn	20 26 06.6	+1.5
URZ	**Urewera**	**0.72**	**153**	P	Pn	20 26 05.6	+0.1
URZ				S	Sn	20 26 24.3	+0.4
RUGZ	**Raukumara Rang**	**0.85**	**115**	P	Pn	20 26 05.9	-0.6
RUGZ				S	Sn	20 26 25.0	-0.6
MUGZ	**Murupara**	**0.86**	**176**	P	Pn	20 26 06.7	+0.2
MUGZ				S	Sn	20 26 25.6	-0.1
HAZ	**Te Kaha**	**0.87**	**100**	P	Pn	20 26 06.4	-0.2
HAZ				S	Sn	20 26 25.5	-0.1
TOZ	**Tahuroa Road**	**0.96**	**263**	P	Pn	20 26 08.5	+1.3
MWZ	**Matawai**	**0.97**	**138**	P	Pn	20 26 07.2	-0.2
RTZ	**Ruatahuna**	**1.02**	**168**	P	Pn	20 26 07.9	+0.1
RAGZ	**Rawiri**	**1.05**	**148**	P	Pn	20 26 08.1	+0.1
RAGZ				S	Sn	20 26 29.2	+0.9
PKGZ	**Pakihiroa**	**1.13**	**105**	P	Pn	20 26 08.9	+0.2
PKGZ				S	Sn	20 26 30.8	+1.4
TWGZ	**Tauwhareparae**	**1.16**	**119**	P	Pn	20 26 09.4	+0.5
TWGZ				S	Sn	20 26 32.7	+2.8
TLZ	**Tolley Road**	**1.16**	**232**	P	Pn	20 26 10.3	+1.3
TKGZ	**Te Karaka**	**1.23**	**133**	P	Pn	20 26 09.7	+0.2
TKGZ				S	Sn	20 26 31.6	+0.8
MTHZ	**Maungataniwha**	**1.24**	**175**	P	Pn	20 26 09.7	0.0
MTHZ				S	Sn	20 26 32.0	+0.7
SNGZ	**Shannon Statio**	**1.27**	**157**	P	Pn	20 26 10.1	+0.2
SNGZ				S	Sn	20 26 31.9	+0.1
MXZ	**Matakaoa Point**	**1.28**	**88**	P	Pn	20 26 10.2	+0.2
MXZ				S	Sn	20 26 31.9	+0.3
PUZ	**Puketiti**	**1.32**	**111**	P	Pn	20 26 10.1	-0.2
RAHZ	**Arahi**	**1.34**	**167**	P	Pn	20 26 10.9	+0.3
RIGZ	**Rimuhau**	**1.38**	**143**	P	Pn	20 26 11.2	+0.3
WMGZ	**Waiomatatini S**	**1.38**	**99**	P	Pn	20 26 11.0	+0.1
RATZ	**Rangitukua**	**1.45**	**210**	P	Pn	20 26 12.1	+0.4
CNGZ	**Carnagh Statio**	**1.48**	**127**	P	Pn	20 26 12.5	+0.6
NMHZ	**Naumai**	**1.48**	**177**	P	Pn	20 26 12.6	+0.5
WHHZ	**Waihua**	**1.52**	**164**	P	Pn	20 26 12.5	+0.2
BKZ	**Black Stump Fm**	**1.56**	**186**	P	Pn	20 26 12.3	-0.5
KATZ	**Kakaramea**	**1.57**	**210**	P	Pn	20 26 14.1	+1.1
KNZ	**Kokohu**	**1.60**	**152**	P	Pn	20 26 12.9	-0.2
PRGZ	**Paritu Road**	**1.61**	**145**	P	Pn	20 26 13.4	+0.1
ARHZ	**Aropaoanui**	**1.66**	**172**	P	Pn	20 26 13.9	+0.1
TMVZ	**Te Maari**	**1.69**	**207**	P	Pn	20 26 14.3	0.0
ETVZ	**East Tongariro**	**1.71**	**207**	P	Pn	20 26 14.5	0.0
WTVZ	**West Tongariro**	**1.73**	**210**	P	Pn	20 26 14.8	+0.1
NNVZ	**North Ngauruho**	**1.74**	**209**	P	Pn	20 26 14.9	+0.1
OTVZ	**Oturere**	**1.75**	**207**	P	Pn	20 26 15.0	+0.1
TWVZ	**Taurewa**	**1.76**	**214**	P	Pn	20 26 14.8	-0.2
SNVZ	**South Ngauruho**	**1.78**	**208**	P	Pn	20 26 15.3	+0.1
NGZ	**Ngauruhoe**	**1.78**	**209**	P	Pn	20 26 15.7	+0.5
MHGZ	**Mahia Peninsul**	**1.81**	**149**	P	Pn	20 26 15.2	-0.1
KWHZ	**Kaweka Forest**	**1.82**	**187**	P	Pn	20 26 15.2	-0.4
MCHZ	**McNeill Hill**	**1.83**	**180**	P	Pn	20 26 15.6	0.0
TUVZ	**Tukino**	**1.84**	**206**	P	Pn	20 26 15.8	-0.2
WHVZ	**Whangaehu Hut**	**1.88**	**207**	P	Pn	20 26 16.0	-0.5
WNVZ	**Wahianoa**	**1.92**	**206**	P	Pn	20 26 16.4	-0.4
BHHZ	**Black Hill Sta**	**1.94**	**195**	P	Pn	20 26 16.1	-0.9
MOVZ	**Moawhango**	**1.94**	**202**	P	Pn	20 26 16.0	-0.9
KRHZ	**Kereru**	**2.04**	**187**	P	Pn	20 26 17.2	-0.8
CKHZ	**Cape Kidnapper**	**2.06**	**172**	P	Pn	20 26 17.7	-0.6
KAHZ	**Kahuranaki**	**2.18**	**176**	P	Pn	20 26 19.0	-0.7
PNHZ	**Pukenui**	**2.33**	**189**	P	Pn	20 26 20.0	-1.4
PXZ	**Pawanui**	**2.42**	**177**	P	Pn	20 26 21.0	-1.3

DVHZ	**Dannevirke**	**2.71**	**189**	P		Pn	20 26 24.0	-2.1
BFZ	**Birch Farm**	**3.08**	**186**	P		Pn	20 26 28.4	-2.2
MRZ	**Mangatainoka R**	**3.17**	**196**	P		Pn	20 26 29.0	-2.6
TIWZ	**Tintock**	**3.22**	**191**	P		Pn	20 26 29.7	-2.6
HOWZ	**Holdsworth Sta**	**3.41**	**195**	P		Pn	20 26 31.6	-3.0
OGWZ	**Otaki Gorge**	**3.41**	**200**	P		Pn	20 26 32.0	-2.7
KIW	**Kapiti Island**	**3.53**	**203**	P		Pn	20 26 33.0	-3.2
MTW	**Mount Morrison**	**3.66**	**194**	P		Pn	20 26 33.3	-4.6
CAW	**Cannon Point**	**3.71**	**199**	P		Pn	20 26 35.1	-3.4
DUWZ	**D'Urville Isla**	**3.85**	**213**	P		Pn	20 26 37.3	-3.0
TCW	**Tory Channel**	**4.05**	**207**	P		Pn	20 26 39.6	-3.4
PLWZ	**Palliser**	**4.11**	**195**	P		Pn	20 26 39.8	-3.9
KHZ	**Kahutara**	**5.38**	**206**	P		Pn	20 26 55.8	-4.4
GVZ	**Greta Valley S**	**6.04**	**206**	P		Pn	20 27 04.2	-4.8

*IDC **29** 20:34:22.8±7.4, 31°.33S×179°.90E, h461km±93km, mb3.1/3, mb1 3.3/4, mb1mx3.0/24, mbtmp4.1/4, Error ellipse: s-maj=94.8km s-min=41.2km az=5.0*

ISC 29 20:34:19.4±1.1, 31°.15S±0°.10×179°.7W±0°.2, h450km, n14, σ2s30/22, mb3.4/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.43**	**40**	P	**P**	**20 35 22.8**	**+0.2**
GLKZ				S	**S**	**20 36 11.5**	**-2.2**
MXZ	**Matakaoa Point**	**6.61**	**194**	P	**P**	**20 36 01.9**	**+2.0**
MXZ				S	**S**	**20 37 19.4**	**-2.7**
HAZ	**Te Kaha**	**6.91**	**197**	P	**P**	**20 36 05.2**	**+2.2**
HAZ				S	**S**	**20 37 25.4**	**-2.6**
PKGZ	**Pakihiroa**	**6.97**	**195**	P	**P**	**20 36 04.8**	**+1.0**
PKGZ				S	**S**	**20 37 26.1**	**-3.1**
PUZ	**Puketiti**	**7.11**	**193**	P	P	20 36 01.9	-3.3
PUZ				P	**S**	**20 37 29.8**	**-2.0**
RUGZ	**Raukumara Rang**	**7.14**	**197**	P	**P**	**20 36 08.2**	**+2.7**
RUGZ				S	S	20 37 25.7	-6.9
TWGZ	**Tauwhareparae**	**7.27**	**195**	P	**P**	**20 36 11.5**	**+4.6**
TWGZ				P	**S**	**20 37 35.3**	**+0.4**
MWZ	**Matawai**	**7.52**	**197**	P	**P**	**20 36 12.3**	**+2.7**
MWZ				S	**S**	**20 37 39.2**	**-0.7**
URZ	**Urewera**	**7.56**	**199**	P	**P**	**20 36 12.1**	**+2.2**
	5.7nm,0.3s,baz=272,slow=4.4,SNR=34						
URZ				S	**S**	**20 37 36.9**	**-3.8**
	2.9nm,0.3s,baz=274,slow=23,SNR=12						
MTHZ	**Maungataniwha**	**8.19**	**199**	P	**P**	**20 36 18.2**	**+1.3**
MTHZ				S	**S**	**20 37 52.5**	**-0.7**
STKA	**Stephens Creek**	**32.89**	**258**	P	**P**	**20 40 15.0**	**+0.2**
	0.6nm,0.4s,baz=74,slow=7.4,SNR=3.7						
ASAR	**Alice Springs**	**41.62**	**269**	P	**P**	**20 41 26.6**	**-0.4**
	0.6nm,0.4s,baz=106,slow=7.3,SNR=16						
WRA	**Warramunga Arr**	**42.68**	**274**	P	**P**	**20 41 34.9**	**-0.5**
	1.4nm,0.3s,baz=112,slow=7.9,SNR=72						
FINES	**FINESS Array B**	**145.32**	**338**	PKPbc	**PKPab**	**20 53 06.5**	**+0.3**
	4.9nm,1.1s,baz=349,slow=1.4,SNR=4.5						

*IDC **29** 20:34:38.2±2.1, 30°.66S×71°.78W, h0km, mb3.9/3, mb1 4.0/5, mb1mx3.7/21, mbtmp3.9/5, ML3.7/2, Error ellipse: s-maj=57.4km s-min=42.6km az=179.0*

ISC 29 20:34:39.2±1.2, 30°.7S±0°.2×72°.0W±0°.2, h16km, n9, σ1s18/9, mb4.1/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N1	**Juan Fernandez**	**6.47**	**243**	Pn	**Pn**	**20 36 12.8**	**-0.7**
	baz=117,slow=18,SNR=43						
H03N1				T	T	20 43 22.0	
	baz=70,slow=72,SNR=94						
H03N3	**Juan Fernandez**	**6.48**	**243**	Pn	**Pn**	**20 36 12.8**	**-0.9**
	baz=117,slow=18,SNR=19						
H03N3				T	T	20 43 12.8	
	baz=70,slow=72,SNR=95						
H03N2	**Juan Fernandez**	**6.48**	**244**	Pn	**Pn**	**20 36 12.9**	**-0.8**
	baz=117,slow=18,SNR=12						
H03N2				T	T	20 43 19.7	
	baz=70,slow=72,SNR=20						
LPAZ	**La Paz**	**14.80**	**15**	Pn	**Pn**	**20 38 07.8**	**-0.7**
	0.1nm,0.3s,baz=212,slow=9.5,SNR=2.8						
SIV	**San Ignacio**	**17.75**	**37**	P	**P**	**20 38 45.3**	**-1.2**
	0.3nm,0.3s,baz=228,slow=11,SNR=15						
BDFB	**Brasilia**	**26.59**	**61**	P	**P**	**20 40 16.4**	**-0.5**
	2.2nm,0.5s,baz=212,slow=7.8,SNR=3.8						
TXAR	**Lajitas Array**	**66.91**	**330**	P	**P**	**20 45 32.7**	**+1.8**
	0.2nm,0.6s,baz=200,slow=6.7,SNR=2.1						
TORD	**Torodi Ar. Bea**	**83.07**	**70**	P	**P**	**20 47 05.2**	**+0.7**
	1.1nm,0.8s,baz=246,slow=5.4,SNR=7.4						
ZALV	**Zalesovo Beam**	**151.40**	**29**	PKPbc	**PKiKP**	**20 54 33.0**	**+0.8**
	2.1nm,0.5s,baz=300,slow=3.3,SNR=13						

*IDC **29** 20:53:26.6±2.0, 3°.82S×146°.91E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/24, mbtmp3.7/7, MS3.1/2, Ms1 3.1/2, ms1mx2.6/37, Error ellipse: s-maj=61.6km s-min=23.6km az=109.0*

ISC 29 20:53:31.8±1.8, 3°.9S±0°.2×146°.9E±0°.4, h35km, n8, σ1s30/7, mb3.7/6, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.15**	**216**	P	**P**	**20 58 03.7**	**+0.5**
	2.4nm,0.7s,baz=40,slow=12,SNR=26						
ASAR	**Alice Springs**	**23.36**	**211**	P	**P**	**20 58 38.4**	**+1.0**
	1.0nm,0.8s,baz=40,slow=8.6,SNR=9.0						
FITZ	**Fitzroy Crossi**	**25.18**	**234**	P	**P**	**20 58 52.2**	**-2.0**
	2.6nm,0.8s,baz=58,slow=8.8,SNR=7.1						
FITZ				LR	LR	21 09 27.5	
	comp=Z,45nm,21.8s,baz=52,slow=38						
KSRS	**Korea Array**	**44.74**	**338**	LR	LR	21 17 50.2	
	comp=Z,21nm,21.1s,baz=175,slow=33						
CMAR	**Chiang Mai Arr**	**52.19**	**297**	P	**P**	**21 02 40.3**	**+0.7**
	0.7nm,0.7s,baz=103,slow=6.6,SNR=5.0						
MKAR	**Makanchi Array**	**75.80**	**320**	P	**P**	**21 05 15.1**	**+0.7**
	0.7nm,0.8s,baz=96,slow=6.8,SNR=5.2						
ZALV	**Zalesovo Beam**	**77.17**	**328**	P	**P**	**21 05 21.1**	**-0.8**
	0.2nm,0.3s,baz=83,slow=3.3,SNR=1.9						
ILAR	**Eielson Array**	**83.56**	**23**	P	**P**	**21 05 55.9**	**-0.1**
	0.4nm,0.6s,baz=258,slow=3.6,SNR=2.9						

*TUL **29** 20:53:47.7±1.7, 36°.37N±0°.01×98°.32W±0°.02, h5km±6km, ML2.7, mb_Lg2.5/23(NEIC), Error ellipse: s-maj=2.5km s-min=1.8km az=93.0*

NEIC 29 20:53:47.8±1.1, 36°.379N±0°.006×98°.33W±0°.04, h15km±3km, Error ellipse: s-maj=4.8km s-min=0.9km az=89.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.31**	**66**	P	Pg	20 53 54.1	-0.1
CROK				Sg	Sg	20 53 58.8	+0.1
OK032	**Salt Plains WL**	**0.43**	**13**	P	Pg	20 53 56.6	+0.1
OK032				Sg	Sg	20 54 02.7	+0.2
U32A	**Winter Ranch,**	**0.54**	**270**	P	Pg	20 53 58.2	-0.3
U32A				Sg	Sg	20 54 05.7	-0.1
GC02	**Grant County #**	**0.60**	**39**	P	Pg	20 53 59.5	-0.2
GC02				Sg	Sg	20 54 07.9	+0.1
KAN14	**Manchester OK**	**0.65**	**27**	P	Pg	20 54 00.4	-0.1
KAN14				Sg	Sb	20 54 09.4	-0.3
KAN10	**Anthony SW Sta**	**0.77**	**14**	P	Pg	20 54 02.5	-0.2
KAN10				Sg	Sb	20 54 13.0	-0.1
KAN17	**Caldwell West**	**0.80**	**34**	P	Pg	20 54 03.1	-0.3
KAN17				Sg	Sg	20 54 14.0	-0.1
KAN05	**Bluff City Nor**	**0.81**	**27**	Pg	Pg	20 54 03.4	-0.3
KAN05				Sg	Sb	20 54 14.8	+0.2
KAN16	**Harper SW Stat**	**0.87**	**14**	P	Pb	20 54 04.4	-0.3
KAN08	**Anthony NE Sta**	**0.89**	**19**	Pg	Pb	20 54 04.9	-0.1
KAN08				Sg	Sg	20 54 17.0	+0.1
OK029	**Liberty Lake**	**0.92**	**129**	Pg	Pb	20 54 04.8	-0.7
OK029				Sg	Sb	20 54 17.5	+0.1
BCOK	**Bluff Creek, N**	**0.93**	**141**	Pg	Pb	20 54 05.4	-0.2
BCOK				Sg	Sb	20 54 17.6	-0.2
KAN13	**South Haven SW**	**0.93**	**47**	Pg	Pb	20 54 04.4	-1.3
KAN13				Sg	Sb	20 54 17.8	-0.2
KAN06	**Argonia West S**	**0.95**	**23**	Pg	Pb	20 54 05.8	-0.1
KAN06				Sg	Sg	20 54 18.5	0.0
KAN09	**Caldwell North**	**0.95**	**37**	Pg	Pb	20 54 05.1	-0.9
KAN09				Sg	Sg	20 54 18.5	-0.1
KAN12	**Harper NE Stat**	**0.95**	**16**	P	Pb	20 54 06.0	0.0
KAN12				Sg	Sn	20 54 19.8	-0.3
BLOK	**Blackwell**	**0.97**	**67**	P	Pb	20 54 06.2	-0.2
BLOK				Sg	Sb	20 54 19.3	+0.1
KS20	**Mayfield South**	**1.05**	**36**	Pg	Pb	20 54 07.5	-0.2
KS20				Sg	Sb	20 54 21.5	+0.1
OK025	**Westminster Rd**	**1.13**	**134**	Pg	Pb	20 54 08.4	-0.7
OK025				Sg	Sb	20 54 23.6	0.0
OKCFA	**Oklahoma City**	**1.20**	**143**	Pg	Pn	20 54 09.8	-0.3
OKCFA				Sg	Sb	20 54 24.3	-1.2
OKCSW	**OKLAHOMA CITY**	**1.21**	**143**	Pg	Pg	20 54 10.9	-0.2
OK031	**S. Brethren Rd**	**1.28**	**109**		Pn	20 54 11.4	+0.2
OK031				Sg	Sn	20 54 28.2	+0.2
QUOK	**Quay**	**1.33**	**99**		Pb	20 54 12.2	-0.2
QUOK				Sn	Sn	20 54 29.8	+0.6
OK030	**Cody Creek RV**	**1.33**	**109**		Pb	20 54 12.2	-0.3
FNO	**Franklin**	**1.35**	**146**	Pn	Pn	20 54 11.2	-1.0
T35A	**Sooner Cattle**	**1.56**	**69**		Pb	20 54 16.4	+0.1
WMOK	**Wichita Mounta**	**1.68**	**193**		Pn	20 54 17.4	+0.7
X34A	**Smith Ranch, M**	**1.82**	**167**		Pb	20 54 20.5	-0.3
X34A				lAmb_Lg		20 54 47.9	
	comp=Z,29nm,0.8s						
R32A	**Long Quarter,**	**2.06**	**352**	Pn	Pb	20 54 23.9	-1.0
TUL1	**Leonard**	**2.11**	**102**	Pn	Pb	20 54 24.6	-1.1
TUL1				lAmb_Lg		20 54 59.4	
	comp=Z,29nm,1.1s						
LOOK	**Love County**	**2.56**	**158**	Pn	Pn	20 54 30.5	+1.7
CBKS	**Cedar Bluff**	**2.67**	**336**	Pn	Pn	20 54 30.4	0.0
CBKS				lAmb_Lg		20 55 18.4	
	comp=Z,18nm,0.7s						
X37A	**Clayton**	**3.00**	**126**	Pn	Pn	20 54 35.6	+0.7
KSU1	**Kansas State U**	**3.04**	**26**		Pn	20 54 37.5	+2.1
AMTX	**Amarillo**	**3.11**	**242**		Pn	20 54 38.1	+1.6
U38A	**Gravette**	**3.18**	**88**		Pn	20 54 37.5	+0.2
U38A				lAmb_Lg		20 55 36.0	
	comp=Z,9.6nm,0.8s						
HHAR	**Hobbs**	**3.55**	**90**		Pn	20 54 42.0	-0.4
W39A	**Magazine**	**3.88**	**106**	lAmb_Lg		20 55 52.8	
	comp=Z,11nm,0.8s						
ABTX	**Abilene, Hawle**	**3.90**	**197**	Pn	Pn	20 54 47.8	+0.6
S39A	**Bolivar**	**4.21**	**70**	Pn	Pn	20 54 51.5	-0.1
S39A				lAmb_Lg		20 56 05.5	
	comp=Z,8.1nm,0.7s						
MIAR	**Mount Ida**	**4.29**	**114**	Pn	Pn	20 54 52.9	+0.3
KSCO	**Kaye Shedlock'**	**4.30**	**309**	Pn	Pn	20 54 50.1	-2.8
MSTX	**Muleshoe**	**4.36**	**238**	Pn	Pn	20 54 53.1	-0.6
MSTX				lAmb_Lg		20 56 11.7	
	comp=Z,8.3nm,1.1s						
U40A	**Yellville**	**4.42**	**89**	Pn	Pn	20 54 53.6	-0.8
U40A				lAmb_Lg		20 56 07.7	
	comp=Z,8.5nm,0.7s						
X40A	**Basin Creek Fa**	**4.87**	**111**	Pn	Pn	20 54 59.8	-0.7
MGMO	**Mountain Grove**	**4.93**	**79**	Pn	Pn	20 55 00.3	-1.1
T25A	**Trinidad**	**4.94**	**281**	Pn	Pn	20 55 00.9	-0.8
T25A				lAmb_Lg		20 56 34.6	
	comp=Z,9.7nm,1.3s						
WHAR	**Wooly Hollow**	**5.03**	**101**	Pn	Pn	20 55 00.3	-2.4
R40A	**Maddies Statio**	**5.19**	**67**	Pn	Pn	20 55 04.4	-0.6
R40A				lAmb_Lg		20 56 37.0	
	comp=Z,6.9nm,0.9s						
T42A	**Van Buren**	**5.85**	**81**	Pn	Pn	20 55 11.9	-2.1
P40A	**Paris**	**5.88**	**56**	Pn	Pn	20 55 14.4	0.0
CCM	**Cathedral Cave**	**5.90**	**71**	Pn	Pn	20 55 12.3	-2.4
CCM				lAmb_Lg		20 56 55.5	
	comp=Z,9.2nm,0.7s						
PBMO	**Poplar Bluff**	**6.37**	**84**	lAmb_Lg		20 57 14.5	
	comp=Z,7.0nm,1.0s						
FVM	**French Village**	**6.51**	**73**	Pn	Pn	20 55 24.4	+1.4
ISCO	**Idaho Springs**	**6.68**	**303**	Pn	Pn	20 55 24.7	-1.0
ISCO				lAmb_Lg		20 57 26.9	
	comp=Z,4.7nm,1.0s						

*IDC **29** 21:10:59.2±6.5, 4°.11S×129°.16E, h170km±82km, mb3.3/1, mb1 3.3/4, mb1mx3.0/48, mbtmp3.8/4, MS2.5/1, Ms1 2.5/1, ms1mx2.1/21, Error ellipse: s-maj=116.1km s-min=17.8km az=82.0*

*DJA **29** 21:10:59.7±0.5, 4°.S±7°×12°.9E±°, h145km±4km, M3.6/6, mb4.2/3, MLv3.4/6*

ISC 29 21:10:57.1±0.9, 4°.23S±0°.07×129°.05E±0°.08, h150km, n14, σ2s03/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.89**	**352**	P	**Pn**	**21 11 21.8**	**+0.8**
MSAI				S	**Sn**	**21 11 38.7**	**-0.5**
BNDI	**Bandanaira**	**0.90**	**109**	P	**Pn**	**21 11 25.4**	**+4.4**
KRAI	**Karang Ratu**	**1.12**	**324**	P	**Pn**	**21 11 24.2**	**+1.3**
KRAI				S	**Sn**	**21 11 42.1**	**-0.6**
FAKI	**Fak Fak**	**3.44**	**68**	P	**Pn**	**21 11 53.3**	**+3.1**
SANI	**Sanana**	**3.75**	**305**	P	**Pn**	**21 11 52.8**	**-1.3**
SIJI	**Sorong**	**4.00**	**34**	P	**Pn**	**21 11 58.1**	**+0.7**
	3.3nm,0.3s,baz=163,slow=20,SNR=32						
SIJI				S	**Sn**	**21 12 44.6**	**+0.3**
	8.4nm,0.3s,baz=207,slow=23,SNR=16						
SIJI	**Sorong**	**4.00**	**34**	P	**Pn**	**21 11 57.7**	**+0.3**
GTOI	**Gorontalo**	**7.73**	**309**	P	**Pn**	**21 12 48.2**	**+1.2**
	0.0nm6.6nm,0.8s						
BSSI	**Bau Bau, Buton**	**8.74**	**257**	P	**Pn**	**21 13 02.2**	**+1.8**
	35nm,1.6s						
MKS	**Makassar**	**9.60**	**264**	P	**Pn**	**21 13 13.1**	**+1.2**
WRA	**Warramunga Arr**	**16.45**	**162**	P	**P**	**21 14 40.1**	**+0.8**
	0.5nm,0.3s,baz=347,slow=12,SNR=31						
WRA				S	**S**	**21 17 38.4**	**-3.8**
	0.1nm,0.3s,baz=345,slow=26,SNR=1.1						
ASAR	**Alice Springs**	**19.88**	**167**	P	**Pn**	**21 15 18.8**	**-1.3**
	0.4nm,0.3s,baz=351,slow=12,SNR=22						
GUMO	**Guam**	**23.66**	**41**	LR	LR	21 25 12.1	
	comp=Z,12nm,19.7s,baz=166,slow=36						
MKAR	**Makanchi Array**	**65.41**	**327**	P	**P**	**21 21 23.3**	**-0.4**
	0.4nm,0.4s,baz=112,slow=7.4,SNR=9.0						

MEX 29 21:11:05.4±0.4, 29°.35N×110°.51W, h20km, MD3.6, Sonora

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NZIG	**Nacozari, Sono**	**1.31**	**39**	*e*P	Pn	21 11 19.0	-10
NZIG				*e*S	Sn	21 11 34.8	-11
CGIG		**2.42**	**65**	*i* P	Pn	21 11 42.6	-1.4
CGIG				*e*S	Sn	21 12 09.3	-3.8

MEX 29 21:14:17.8±0.8, 16°.07N×96°.14W, h66km±8km, MD3.9, 2C, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.31**	**174**	*e*P	Pn	21 14 27.4	-1.2
HUIG				*e*S	Sn	21 14 34.6	-1.8
PANG	**Puerto Angel**	**0.52**	**218**	*i* P	Pn	21 14 29.4	-1.0
PANG				*i* S	Sn	21 14 37.5	-2.1
PEIG	**Puerto Escondi**	**0.97**	**266**	*e*P	Pn	21 14 34.3	-1.4
PEIG				*e*S	Sn	21 14 47.1	-2.0
VHO	**Vista Hermosa**	**1.14**	**330**	*i* P	Pn	21 14 36.9	-1.2
VHO				*i* S	Sn	21 14 51.1	-2.2
YOIG	**Yosondua**	**1.56**	**300**	*e*P	Pn	21 14 42.4	-1.2
YOIG				*e*S	Sn	21 15 00.6	-2.5
CMIG	**Matias Romero**	**1.57**	**50**	*e*P	Pn	21 14 41.7	-1.9
CMIG				*e*S	Sn	21 14 55.4	-7.7
TXIG	**Tlaxiaco**	**1.95**	**307**⇑	*e*P	Pn	21 14 47.7	-1.2
TXIG				⇑*e*S	Sn	21 15 11.0	-1.6

*IDC **29** 21:17:29.0±1.5, 40°.97N×116°.39W, h0km, mb1 2.9/2, mb1mx2.9/41, mbtmp2.5/2, ML3.1/2, Error ellipse: s-maj=16.6km s-min=5.5km az=164.0*

*NEIC **29** 21:17:29.4±1.6, 40°.92N±0°.03×116°.45W±0°.07, h0km±2km, ML2.5/57, Error ellipse: s-maj=8.8km s-min=3.8km az=76.0*

ISC 29 21:17:28.8±1.0, 40°.91N±0°.04×116°.43W±0°.04, h0km, n34, σ0s81/34, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMN	**Battle Mountai**	**0.76**	**232**	Pg	**Pb**	**21 17 45.1**	**0.0**
ELK	**Elko**	**0.92**	**100**	Pg	**Pg**	**21 17 46.7**	**+0.2**
	28nm,0.3s,baz=295,slow=18,SNR=442						
ELK				Lg	Lg	21 17 57.7	
	35nm,0.3s,baz=205,slow=20,SNR=18						
ELK	**Elko**	**0.92**	**100**	Pg	**Pg**	**21 17 46.1**	**-0.4**
WVOR	**Wild Horse Val**	**2.25**	**314**		**Pn**	**21 18 08.5**	**+1.0**
WVOR				IAML		21 18 47.2	
	29nm,0.5s						
WVOR				IAML		21 18 51.9	
	23nm,1.2s						
KVN	**Kaiserville**	**2.25**	**215**		**Pn**	**21 18 07.7**	**+0.2**
KVN				IAML		21 18 58.1	
	comp=N,18nm,0.7s						
SPR3	**Spring Creek 3**	**2.50**	**139**		**Pn**	**21 18 12.9**	**+1.9**
SPR3				IAML		21 19 00.2	
	comp=N,25nm,0.6s						
SPR3				IAML		21 19 01.0	
	comp=E,28nm,0.6s						
MFID	**Camas Ranch**	**2.55**	**10**	Pn	**Pn**	**21 18 11.5**	**0.0**
MFID				IAML		21 18 51.5	
	comp=E,31nm,0.6s						
MFID				IAML		21 18 55.1	
	comp=E,31nm,0.7s						
PAHR	**Pah Rah Range**	**2.56**	**243**	Pn	**Pn**	**21 18 12.0**	**+0.3**
BGU	**Big Grassy Mou**	**2.58**	**88**	Pn	**Pn**	**21 18 11.2**	**-0.8**
BGU				IAML		21 18 53.4	
	comp=N,15nm,0.6s						
BGU				IAML		21 18 53.5	
	comp=E,22nm,0.5s						
R11A	**Troy Canyon, C**	**2.63**	**165**		**Pn**	**21 18 12.9**	**+0.1**
RYN	**Ryan**	**2.79**	**216**		**Pn**	**21 18 14.9**	**0.0**
RYN				IAML		21 19 04.0	
	comp=E,12nm,0.6s						
RYN				IAML		21 19 09.1	
	comp=N,20nm,0.6s						
NV11	**Mina Array Sit**	**2.81**	**209**		**Pn**	**21 18 15.4**	**+0.3**
DUG	**Dugway, Tooele**	**2.85**	**103**		**Pn**	**21 18 15.4**	**-0.2**
DUG				IAML		21 19 10.4	
	comp=N,16nm,0.9s						
DUG				IAML		21 19 21.4	
	comp=N,16nm,0.8s						
NVAR	**Mina Array Bea**	**2.86**	**211**	Pn	**Pn**	**21 18 16.4**	**+0.4**
	comp=N,0.8nm,0.3s,baz=28,slow=13,SNR=22						
NVAR				Pg	**Pg**	**21 18 23.1**	**-0.6**
	comp=N,3.8nm,0.3s,baz=31,slow=16,SNR=32						
NVAR				Lg	Lg	21 19 01.1	
	comp=N,0.3nm,0.3s,baz=27,slow=30,SNR=1.6						
J08A	**Circle Bar Ran**	**2.88**	**329**		**Pn**	**21 18 16.4**	**+0.3**
J08A				IAML		21 19 11.7	
	comp=N,24nm,0.9s						
YERR	**Yerington**	**2.89**	**229**		**Pn**	**21 18 16.1**	**-0.1**
YERR				IAML		21 19 22.3	
	comp=E,15nm,1.9s						
HVU	**Hansel Valley**	**2.89**	**71**		**Pn**	**21 18 15.2**	**-1.0**
PNTR	**Pine Nut**	**3.03**	**234**		**Pn**	**21 18 18.5**	**+0.2**
PNTR				IAML		21 19 18.2	
	comp=N,13nm,1.0s						
PNTR				IAML		21 19 47.7	
	comp=E,10nm,2.3s						
SPUT	**South Promonto**	**3.04**	**81**		**Pn**	**21 18 17.6**	**-0.7**
SPUT				IAML		21 19 10.8	
	comp=N,11nm,0.5s						
SPUT				IAML		21 19 15.2	
	comp=E,9.5nm,0.6s						
HLID	**Hailey**	**3.05**	**29**	Pn	**Pn**	**21 18 18.3**	**-0.2**
HLID				IAML		21 19 10.6	
	comp=E,14nm,0.7s						
HLID				IAML		21 19 12.6	
	comp=E,9.2nm,0.7s						
PSUT	**Pine Spring**	**3.09**	**139**		**Pn**	**21 18 19.8**	**+0.7**
LHV	**Little Huntoon**	**3.10**	**212**		**Pn**	**21 18 18.5**	**-0.4**
LHV				IAML		21 19 30.0	
	comp=N,18nm,0.8s						
BEKR	**Beckworth**	**3.17**	**252**		**Pn**	**21 18 19.5**	**-0.7**
PRN	**Pahroc Range**	**3.66**	**162**		**Pn**	**21 18 27.6**	**+0.8**
LCH	**Last Change Ra**	**3.79**	**195**		**Pn**	**21 18 29.1**	**+0.5**
LCH				IAML		21 19 38.0	
	comp=E,8.9nm,0.6s						
LCH				IAML		21 19 41.5	
	comp=N,7.3nm,0.6s						
TPNV	**Topopah Spring**	**3.95**	**178**		**Pn**	**21 18 31.6**	**+0.7**
BMO	**Blue Mountains**	**4.00**	**351**		**Pn**	**21 18 32.5**	**+1.1**
BMO				IAML		21 19 22.6	
	comp=N,4.7nm,4.0s						
BMO				IAML		21 19 50.5	
	comp=N,5.4nm,1.3s						
MVU	**Marysvale**	**4.04**	**125**		**Pn**	**21 18 33.3**	**+1.1**
PLID	**Pearl Lake**	**4.19**	**4**		**Pn**	**21 18 36.0**	**+1.8**
PLID				IAML		21 20 10.3	
	comp=N,4.3nm,4.2s						
PLID				IAML		21 20 34.6	
	comp=N,5.2nm,4.5s						
MCMT	**McKenzie Canyo**	**4.72**	**33**		**Pn**	**21 18 42.0**	**+0.4**
KNB	**Kanab**	**4.79**	**143**		**Pn**	**21 18 43.7**	**+1.2**
PDAR	**Pinedale Array**	**5.46**	**68**	Pn	**Pn**	**21 18 53.1**	**+1.4**
	comp=N,0.1nm,0.3s,baz=247,slow=12,SNR=3.1						
PDAR				Pg	**Pb**	**21 19 04.5**	**-0.7**
	comp=N,0.1nm,0.3s,baz=227,slow=17,SNR=2.3						
I56US	**NEWPORT INFRAS**	**7.38**	**356**	*i*		22 03 20.0	
	baz=173,slow=317,SNR=3.3						
I10CA	**LAC DU BONNET**	**17.00**	**50**	*i*		23 00 30.0	
	baz=243,slow=317,SNR=3.9						

*IDC **29** 21:17:40.9±2.0, 33°.37S×178°.88W, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.9/29, mbtmp4.1/4, ML3.9/1, MS3.8/1, Ms1 3.8/1, ms1mx2.7/28, Error ellipse: s-maj=54.7km s-min=37.0km az=144.0*

*WEL **29** 21:17:45.9±0.8, 33°.S±8°×17°.9W±2°.0, h33km, M4.2/13, mB4.8/9, ML4.5/17, MLv4.4/13, Mw(mB)4.0/9, Error ellipse: s-maj=0.0km s-min=0.0km az=110.8*

ISC 29 21:17:46.6±1.3, 33°.43S±0°.08×178°.8W±0°.2, h48km, n29, σ1s06/41, mb3.9/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**

σ0ˢ45/12, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LHV	**Little Huntoon**	**0.16**	**79**		**Pg**	**21 26 25.5**	**+0.5**
LHV				IAML		21 26 28.2	
	comp=N,78nm,0.5s						
LHV				IAML		21 26 28.9	
	comp=E,75nm,0.3s						
NVAR	**Mina Array Bea**	**0.38**	**56**	*i*	**Pg**	**21 26 29.2**	**+0.1**
	comp=E,3.0nm,0.3s,baz=237,slow=21,SNR=31						
NVAR	**Mina Array Bea**	**0.38**	**56**		**Pg**	**21 26 28.9**	**-0.2**
RYN	**Ryan**	**0.43**	**19**	Pg	**Pg**	**21 26 30.7**	**+0.5**
RYN				IAML		21 26 39.1	
	comp=E,12nm,0.3s						
RYN				IAML		21 26 39.5	
	comp=N,9.8nm,0.3s						
NV11	**Mina Array Sit**	**0.48**	**64**		**Pg**	**21 26 31.8**	**+0.7**
MDPB	**Devils Postpil**	**0.66**	**207**	Pg	**Pb**	**21 26 36.2**	**-0.2**
YERR	**Yerington**	**0.87**	**331**	Pg	**Pb**	**21 26 40.0**	**0.0**
YERR				IAML		21 26 55.1	
	comp=N,5.6nm,0.4s						
YERR				IAML		21 27 10.5	
	comp=E,6.2nm,0.4s						
KVN	**Kaiserville**	**0.95**	**30**	Pg	**Pb**	**21 26 40.7**	**-0.8**
KVN				IAML		21 26 44.1	
	comp=E,4.1nm,3.7s						
PNTR	**Pine Nut**	**1.11**	**321**	Pn	**Pn**	**21 26 45.1**	**+0.1**
PNTR				IAML		21 27 22.9	
	comp=E,5.8nm,2.1s						
LCH	**Last Change Ra**	**1.30**	**139**		**Pn**	**21 26 47.0**	**-0.4**
LCH				IAML		21 27 00.3	
	comp=E,4.1nm,4.5s						
LCH				IAML		21 27 00.7	
	comp=N,3.0nm,4.2s						
PAHR	**Pah Rah Range**	**1.57**	**341**		**Pg**	**21 26 52.1**	**+0.1**
R11A	**Troy Canyon, C**	**2.46**	**86**	Pn	**Pb**	**21 27 07.2**	**+0.2**
I57US	**PINON FLAT INF**	**4.95**	**158**	*i*		22 02 20.0	
	baz=343,slow=308,SNR=2.7						
I56US	**NEWPORT INFRAS**	**10.11**	**6**	*i*		22 27 20.0	
	baz=186,slow=318,SNR=1.0						
I10CA	**LAC DU BONNET**	**20.10**	**46**	*i*		23 28 00.0	
	baz=241,slow=321,SNR=0.5						

*IDC **29** 21:34:01.6±1.8,28°.40S×174°.54W,h0ᵏᵐ,mb3.8/3, mb1 4.0/4,mb1mx3.7/36,mbtmp3.9/4,ML4.5/1,MS2.9/1, Ms1 2.9/1,ms1mx2.4/24,Error ellipse: s-maj=48.9km s-min=35.8km az=20.0*

ISC 29 21:34:08.2±1.2,28°.5S±0°.2×174°.8W±0°.1,h35ᵏᵐ,n13, σ1ˢ30/13,mb4.0/3,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.87**	**254**	Pn	**Pn**	**21 34 51.7**	**+0.3**
	64nm,0.3s,baz=82,slow=8.2,SNR=6.3						
RAO				Sn	**Sn**	**21 35 24.8**	**0.0**
	224nm,0.3s,baz=87,slow=19,SNR=7.1						
MSVF	**Nonsavu**	**12.59**	**327**	LR	LR	21 41 01.5	
	comp=Z,52nm,21.5s,baz=201,slow=33						
ASAR	**Alice Springs**	**46.08**	**264**	P	**P**	**21 42 28.6**	**-0.4**
	0.3nm,0.4s,baz=98,slow=7.0,SNR=5.3						
WRA	**Warramunga Arr**	**46.91**	**269**	P	**P**	**21 42 35.4**	**-0.2**
	1.4nm,0.7s,baz=110,slow=6.4,SNR=14						
QSPA	**South Pole Qui**	**61.61**	**180**	P	**P**	**21 44 21.5**	**-0.5**
	1.1nm,0.7s,baz=346,slow=8.3,SNR=6.6						
VNA3	**Neumayer Olymp**	**79.98**	**175**	P	**P**	**21 46 12.1**	**-1.3**
VNA3	**Neumayer Olymp**	**79.98**	**175**	PcP	**PcP**	**21 46 22.1**	**+1.3**
VNA2	**Neumayer--Watz**	**80.45**	**176**	P	**P**	**21 46 15.1**	**-0.8**
VNA2	**Neumayer--Watz**	**80.45**	**176**	PcP	**PcP**	**21 46 25.5**	**+2.7**
VNA1	**Neumayer--Stat**	**80.66**	**175**	P	**P**	**21 46 16.3**	**-0.7**
VNA1	**Neumayer--Stat**	**80.66**	**175**	PcP	**PcP**	**21 46 25.8**	**+2.1**
FINES	**FINESS Array B**	**144.25**	**343**	PKP	**PKPab**	**21 53 37.5**	**-0.1**
	0.8nm,0.7s,baz=57,slow=5.1,SNR=4.3						
AKASG	**Malin Array Be**	**151.37**	**327**	PKPbc	**PKPbc**	**21 53 57.5**	**-0.3**
	0.5nm,0.3s,baz=43,slow=2.4,SNR=4.2						

IDC 29 21:39:40.6±566.0,34°.45N×121°.50W,h0ᵏᵐ,Error ellipse: s-maj=239.3km s-min=97.5km az=94.0,Off coast of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I57US	**PINON FLAT INF**	**4.27**	**100**	*i*		22 07 10.0	
	baz=282,slow=318,SNR=1.8						
I56US	**NEWPORT INFRAS**	**4.19**	**12**	*i*		23 02 50.0	
	baz=194,slow=317,SNR=1.7						
I10CA	**LAC DU BONNET**	**24.38**	**42**	*i*		00 09 50.0	
	baz=237,slow=322,SNR=1.4						

MEX 29 21:49:10.3±0.4,14°.30N×92°.53W,h40ᵏᵐ±43ᵏᵐ,MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.65**	**23**	*eP*	Pn	21 49 23.1	0.0
THIG				*eS*	Sn	21 49 29.8	-2.5
PCIG		**1.54**	**335**	*eP*	Pn	21 49 33.6	-1.7
PCIG				*eS*	Sn	21 49 52.3	-1.9

*IDC **29** 21:50:20.2±1.2,29°.76S×176°.14W,h0ᵏᵐ,mb4.0/5, mb1 4.2/6,mb1mx3.9/24,mbtmp4.0/6,ML3.4/1,MS3.2/4, Ms1 3.2/4,ms1mx2.9/29,Error ellipse: s-maj=35.6km s-min=22.4km az=163.0*

*NEIC **29** 21:50:23.2±2.0,29°.7S±0°.1×176°.20W±0°.10,h10ᵏᵐ±2ᵏᵐ, mb4.1/6,Error ellipse: s-maj=19.1km s-min=12.5km az=29.0*

ISC 29 21:50:25.0±1.0,29°.70S±0°.08×176°.17W±0°.10,h28ᵏᵐ,n25, σ1ˢ21/26,mb4.2/7,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.59**	**286**	Pn	**Pn**	**21 50 51.2**	**0.0**
	134nm,0.3s,baz=42,slow=21,SNR=8.8						
RAO				Sn	**Sn**	**21 51 11.9**	**+1.0**
	289nm,0.3s,baz=300,slow=23,SNR=4.4						
RAO				LR	LR	21 51 17.4	
	comp=Z,216nm,18.9s,baz=138,slow=35						
RAO	**Raoul Island**	**1.59**	**286**		**Pn**	**21 50 50.6**	**-0.7**
RAO				Sn	**Sn**	**21 51 11.8**	**+1.0**
MXZ	**Matakaoa Point**	**9.09**	**209**	Pn	**Pn**	**21 52 32.6**	**-1.7**
PUZ	**Puketiti**	**9.54**	**208**	P	**Sn**	**21 54 27.2**	**+0.3**
URZ	**Urewera**	**10.19**	**211**	Pn	**Pn**	**21 52 47.2**	**-2.2**
	0.3nm,0.3s,baz=114,slow=22,SNR=1.7						
URZ				Sn	**Sn**	**21 54 42.3**	**-0.5**
	1.0nm,0.3s,baz=252,slow=16,SNR=7.5						
URZ				LR	LR	21 56 34.4	
	comp=Z,70nm,19.8s,baz=31,slow=37						
URZ	**Urewera**	**10.19**	**211**		**Pn**	**21 52 47.6**	**-1.8**
THZ	**Tophouse**	**14.94**	**213**	Pn	**Pn**	**21 53 55.4**	**+1.2**
DZM	**Mont Dzumac**	**17.38**	**292**	LR	LR	22 00 37.9	
	comp=Z,116nm,19.0s,baz=234,slow=35						
DZM	**Mont Dzumac**	**17.38**	**292**		**P**	**21 54 26.9**	**+0.1**
DZM				IAmb	IAmb	21 54 55.1	
	comp=Z,6.8nm,0.9s						
PPT	**Papeete**	**27.12**	**70**	LR	LR	22 03 06.0	
	comp=Z,36nm,21.6s,baz=212,slow=28						
CTAO	**Charters Tower**	**35.27**	**277**	P	**P**	**21 57 17.5**	**0.0**
CTAO				IAmb	IAmb	21 57 24.8	
	comp=Z,5.9nm,1.1s						
STKA	**Stephens Creek**	**36.19**	**256**	P	**P**	**21 57 26.1**	**+0.8**
	comp=Z,3.9nm,0.8s,baz=111,slow=7.9,SNR=6.5						
STKA				LR	LR	22 11 29.8	
	comp=Z,68nm,18.2s,baz=26,slow=35						
STKA	**Stephens Creek**	**36.19**	**256**	P	**P**	**21 57 26.2**	**+0.9**
STKA				IAmb	IAmb	21 57 27.6	
	comp=Z,2.1nm,1.1s						
ASAR	**Alice Springs**	**44.74**	**265**	P	**P**	**21 58 35.5**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=101,slow=7.4,SNR=15						
ASAR	**Alice Springs**	**44.74**	**265**	P	**P**	**21 58 35.8**	**-0.4**
WR0	**Warramunga Arr**	**45.49**	**271**	P	**P**	**21 58 41.7**	**-0.4**
WR0				IAmb	IAmb	21 58 53.5	
	comp=Z,3.3nm,1.1s						
WRA	**Warramunga Arr**	**45.67**	**270**	P	**P**	**21 58 42.0**	**-1.6**
	comp=Z,2.2nm,0.7s,baz=110,slow=7.5,SNR=17						
WRA	**Warramunga Arr**	**45.67**	**270**	P	**P**	**21 58 42.2**	**-1.3**
FITZ	**Fitzroy Crossi**	**53.96**	**268**	P	**P**	**21 59 45.7**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=113,slow=13,SNR=4.1						
QSPA	**South Pole Qui**	**60.41**	**180**	P	**P**	**22 00 34.3**	**+2.6**
NVAR	**Mina Array Bea**	**86.66**	**42**	P	**P**	**22 03 06.1**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=213,slow=8.2,SNR=2.7						
FINES	**FINESS Array B**	**145.01**	**342**	PKPbc	**PKPbc**	**22 09 56.8**	**-1.5**
	comp=Z,3.5nm,0.8s,baz=350,slow=5.8,SNR=4.2						
FINES	**FINESS Array B**	**145.01**	**342**	PKPbc	**PKPbc**	**22 09 57.1**	**-1.2**
NOA	**NORSAR Array B**	**148.28**	**353**	PKPbc	**PKPbc**	**22 10 08.4**	**+0.6**
	comp=Z,1.6nm,0.9s,baz=15,slow=2.7,SNR=4.3						
AKASG	**Malin Array Be**	**151.68**	**325**	PKPbc	**PKPbc**	**22 10 15.8**	**-0.6**
	comp=Z,2.0nm,0.6s,baz=48,slow=2.6,SNR=7.2						

WEL 29 21:53:54.7±6.1,39°.5S±6°×17°.5E±°,h13ᵏᵐ±41ᵏᵐ,M0.5/8, ML0.8/8,MLv0.5/8,Error ellipse: s-maj=0.0km s-min=0.0km az=112.1,North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWVZ	**Taurewa**	**0.09**	**355**	P	Pg	21 53 59.2	+1.6
WTVZ	**West Tongariro**	**0.12**	**69**	P	Pb	21 53 58.8	-0.2
NGZ	**Ngauruhoe**	**0.12**	**98**	P	Pb	21 53 58.8	-0.2
NNVZ	**North Ngauruho**	**0.13**	**79**	P	Pb	21 53 59.1	-0.2
PKVZ	**Pokaka**	**0.15**	**211**	P	Pg	21 53 58.5	+0.1
SNVZ	**South Ngauruho**	**0.15**	**101**	P	Pb	21 53 59.4	-0.2
KRVZ	**Karewarewa**	**0.16**	**67**	P	Pb	21 53 59.4	-0.3
WHVZ	**Whangaehu Hut**	**0.17**	**139**	P	Pg	21 53 59.1	+0.3
NTVZ	**North Tongariro**	**0.19**	**72**	P	Pb	21 53 59.9	-0.3
WNVZ	**Wahianoa**	**0.21**	**145**	P	Pb	21 54 02.4	+1.9
KATZ	**Kakaramea**	**0.27**	**47**	P	Pb	21 54 01.0	-0.5

*IDC **29** 21:56:10.6±1.4,40°.12N×144°.37E,h0ᵏᵐ,mb3.9/10, mb1 4.1/12,mb1mx3.9/28,mbtmp4.0/12,ML2.8/2,MS3.4/3, Ms1 3.4/3,ms1mx2.8/45,Error ellipse: s-maj=31.3km s-min=24.8km az=117.0*

*NEIC **29** 21:56:15.0±1.6,40°.26N±0°.06×144°.1E±0°.1,h10ᵏᵐ±1ᵏᵐ, mb4.4/15,Error ellipse: s-maj=16.8km s-min=9.4km az=92.0*

*JMA **29** 21:56:16.5±0.2,40°.35N×143°.66E,h17ᵏᵐ,M4.0*

*NIED **29** 21:56:16.5,40°.35N×143°.66E,h17ᵏᵐ,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.59; Mθθ0.34; Mϕϕ -0.93; Mrθ0.92; Mθϕ -0.30; Mϕr0.81; Fault plane solution: M₀1.50000×10¹⁵ NP1:φˢ43.00000°, δ77.00000°,λ115.00000°. NP2:φˢ160.00000°,δ28.00000°, λ29.00000°.*

ISC 29 21:56:16.3±3.5,40°.32N±0°.05×143°.86E±0°.08,h17ᵏᵐ±22ᵏᵐ, n72,σ1ˢ39/71,mb4.2/17,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.58**	**257**	P	**Pn**	**21 56 41.8**	**-1.6**
JTH				*eS*	**Sn**	**21 56 59.7**	**-3.7**
JKEN	**Kujiedanarisaw**	**1.65**	**267**	P	**Pn**	**21 56 42.8**	**-1.6**
MIYJ	**Miyakonagasawa**	**1.73**	**245**	P	**Pn**	**21 56 44.7**	**-0.9**
ERM	**Erimo**	**1.77**	**343**		**Pb**	**21 56 47.3**	**-1.0**
ERM				Sn	**Sn**	**21 57 08.2**	**0.0**
JEM	**Erimo**	**1.77**	**343**	*eS*	**Sn**	**21 57 06.2**	**-2.0**
JANG	**Nango**	**1.79**	**272**	P	**Pn**	**21 56 45.0**	**-1.4**
JANG				*eS*	**Sn**	**21 57 05.5**	**-3.2**
JNBK	**Urakawa-nobuka**	**2.12**	**337**	P	**Pn**	**21 56 50.4**	**+0.4**
JOM	**Ohasama**	**2.15**	**248**	P	**Pn**	**21 56 50.9**	**-0.4**
JOM				*eS*	**Sn**	**21 57 15.0**	**-2.5**
JTM	**Tenmabayashi**	**2.17**	**283**	P	**Pn**	**21 56 51.4**	**-0.3**
JCH	**Churui**	**2.32**	**351**	P	**Pn**	**21 56 53.9**	**+0.2**
JCH				S	**Sn**	**21 57 21.5**	**-0.2**
JOT	**Ohata**	**2.38**	**297**	P	**Pn**	**21 56 53.4**	**-1.1**
JMK	**Ichinoseki**	**2.45**	**237**	P	**Pn**	**21 56 55.1**	**-0.4**
JMK				*eS*	**Sn**	**21 57 23.6**	**-1.5**
JKB	**Kayabe**	**2.65**	**307**	P	**Pn**	**21 56 58.4**	**+0.3**
JKB				*eS*	**Sn**	**21 57 28.9**	**-0.9**
JAK	**Akkeshi**	**2.74**	**13**	P	**Pn**	**21 56 59.8**	**+0.3**
JAK				*eS*	**Sn**	**21 57 31.4**	**-0.8**
JAR	**Ashorobuto**	**2.97**	**359**	P	**Pn**	**21 57 02.4**	**-0.2**
JAR				*eS*	**Sn**	**21 57 35.9**	**-2.0**
JFR	**Furan**	**2.99**	**342**	*eS*	**Sn**	**21 57 37.5**	**-0.9**
JYK	**Kaneyama**	**3.04**	**244**	P	**Pn**	**21 57 03.8**	**+0.2**
JEW	**Eniwo**	**3.10**	**325**	*eS*	**Sn**	**21 57 40.5**	**-0.4**
JEW	**Eniwo**	**3.10**	**325**		**Pn**	**21 57 05.8**	**+1.5**
JMM	**Marumori**	**3.42**	**225**		**Pn**	**21 57 07.8**	**-1.0**
JKA	**Kamikawa-asahi**	**3.90**	**347**	Pn	**Pn**	**21 57 17.5**	**+2.1**
MJAR	**Matsushiro Arr**	**5.82**	**231**	Pn	**Pn**	**21 57 41.8**	**-0.1**
	0.2nm,0.3s,baz=41,slow=11,SNR=19						
MJAR	**Matsushiro Arr**	**5.82**	**231**		**Pn**	**21 57 42.0**	**+0.1**
MAJO	**Matsushiro**	**5.82**	**231**	Pn	**Pn**	**21 57 42.8**	**+0.9**
MAT	**Matsushiro**	**5.82**	**231**	P	**Pn**	**21 57 42.4**	**+0.5**
MAT				*eS*	**Sn**	**21 58 49.7**	**+1.5**
JGF	**Kuroka**	**6.97**	**229**	Pn	**Pn**	**21 57 59.5**	**+1.9**
JWT	**Wachi**	**8.37**	**236**	Pn	**Pn**	**21 58 18.5**	**+1.7**
USA0B	**Ussuriysk Arra**	**9.61**	**298**		**Pn**	**21 58 37.2**	**+3.4**
USRK	**Ussuriysk Ar.**	**9.61**	**298**	Pn	**Pn**	**21 58 36.7**	**+2.9**
	baz=100,slow=14,SNR=18						
USRK	**Ussuriysk Ar.**	**9.61**	**298**		**Pn**	**21 58 36.8**	**+3.1**
JHS	**Saijyo**	**10.04**	**241**	Pn	**Pn**	**21 58 41.3**	**+1.7**
KSRS	**Korea Array**	**12.74**	**262**	Pn	Pn	21 59 22.4	+5.7
	0.2nm,0.3s,baz=90,slow=13,SNR=2.0						
KSRS				LR	LR	22 03 19.3	
	comp=Z,84nm,18.0s,baz=75,slow=33						
YULB	**Yu-li**	**25.42**	**235**	P	**P**	**22 01 43.3**	**+0.2**
SONM	**Songino Array**	**27.73**	**298**	P	**P**	**22 02 04.2**	**+0.4**
	0.9nm,0.6s,baz=90,slow=8.7,SNR=7.7						
SONM	**Songino Array**	**27.73**	**298**	P	**P**	**22 02 04.3**	**+0.6**
H11N2	**WAKE ISLAND Hy**	**28.47**	**129**	T	T	22 32 16.0	
	baz=320,slow=75,SNR=5.1						
H11N1	**WAKE ISLAND Hy**	**28.48**	**129**	T	T	22 32 16.0	
	baz=320,SNR=5.6						
H11N3	**WAKE ISLAND Hy**	**28.49**	**129**	T	T	22 32 16.0	
	baz=320,slow=75,SNR=5.6						
H11S1	**WAKE ISLAND Hy**	**29.31**	**131**	T	T	22 33 09.5	
	baz=319,slow=74,SNR=5.8						
H11S3	**WAKE ISLAND Hy**	**29.32**	**131**	T	T	22 33 20.1	
	baz=319						
H11S2	**WAKE ISLAND Hy**	**29.33**	**131**	T	T	22 33 08.9	
	baz=319,slow=74,SNR=4.8						
ZAA0	**Zalesovo Array**	**41.20**	**310**	P	**P**	**22 04 00.6**	**+0.8**
ZALV	**Zalesovo Beam**	**41.20**	**310**	P	**P**	**22 03 58.3**	**-1.5**
	1.9nm,0.6s,baz=97,slow=7.3,SNR=8.7						
ZALV	**Zalesovo Beam**	**41.20**	**310**	P	**P**	**22 04 00.8**	**+1.1**
IMAR	**Indian Mountai**	**42.85**	**32**	P	**P**	**22 04 10.4**	**-2.7**
MK31	**Makanchi Array**	**44.07**	**300**	P	**P**	**22 04 23.2**	**0.0**
MK31				IAmb	IAmb	22 04 24.5	
	comp=Z,3.4nm,0.9s						
MKAR	**Makanchi Array**	**44.07**	**300**	P	**P**	**22 04 22.7**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=82,slow=9.9,SNR=16						
MKAR	**Makanchi Array**	**44.07**	**300**	P	**P**	**22 04 23.4**	**+0.2**
CMAR	**Chiang Mai Arr**	**44.21**	**254**	P	**P**	**22 04 24.4**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=44,slow=7.7,SNR=4.9						
CMAR	**Chiang Mai Arr**	**44.21**	**254**	P	**P**	**22 04 23.1**	**-1.5**
MAKZ	**Makanchi**	**44.28**	**300**	P	**P**	**22 04 24.9**	**+0.1**
MAKZ				IAmb	IAmb	22 04 27.3	
	comp=Z,5.3nm,1.1s						
ILAR	**Eielson Array**	**45.70**	**34**	P	P	22 04 31.4	-4.5
	comp=Z,0.2nm,0.6s,baz=236,slow=7.5,SNR=1.7						
KKAR	**Karatay Array**	**53.18**	**299**	P	**P**	**22 05 33.3**	**-0.1**
KKAR	**Karatay Array**	**53.18**	**299**	P	**P**	**22 05 33.2**	**-0.1**
KKAR				IAmb	IAmb	22 05 34.6	
	comp=Z,4.6nm,1.4s						
NIL	**Nilore**	**55.44**	**287**	P	**P**	**22 05 50.8**	**+0.9**
NIL				IAmb	IAmb	22 05 52.2	
	comp=Z,8.4nm,1.0s						
ABKAR	**Akbulak array**	**57.31**	**309**	P	**P**	**22 06 03.6**	**+0.7**
ABKAR	**Akbulak array**	**57.31**	**309**	P	**P**	**22 06 03.4**	**+0.4**
ABKAR				IAmb	IAmb	22 06 04.6	
	comp=Z,2.7nm,0.8s						
LEM	**Lembang**	**57.57**	**224**	LR	LR	22 31 33.5	
	comp=Z,31nm,19.9s,baz=344,slow=37						
WR0	**Warramunga Arr**	**60.60**	**190**	P	**P**	**22 06 25.6**	**-0.4**
WR0				IAmb	IAmb	22 06 47.8	
	comp=Z,7.1nm,1.3s						
WRA	**Warramunga Arr**	**60.61**	**190**	P	P	22 06 21.5	-4.5
	comp=Z,0.5nm,1.1s,baz=8.4,slow=7.1,SNR=1.9						
WRA	**Warramunga Arr**	**60.61**	**190**	P	**P**	**22 06 25.2**	**-0.8**
FINES	**FINESS Array B**	**66.79**	**332**	P	**P**	**22 07 06.8**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=46,slow=8.2,SNR=7.2						
FINES	**FINESS Array B**	**66.79**	**332**	P	**P**	**22 07 07.0**	**+0.6**
KIV	**Kislovodsk**	**70.19**	**311**	P	**P**	**22 07 29.1**	**+1.0**
KBZ	**Khabaz**	**70.21**	**311**	P	**P**	**22 07 28.6**	**+0.6**
	comp=Z,3.0nm,0.8s,baz=76,slow=3.6,SNR=5.6						
NB2	**NORSAR Subarra**	**71.88**	**338**	P	**P**	**22 07 39.0**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=36,slow=6.5						
NOA	**NORSAR Array B**	**71.88**	**338**	P	**P**	**22 07 37.9**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=36,slow=6.1,SNR=4.3						
AKASG	**Malin Array Be**	**72.85**	**323**	P	**P**	**22 07 44.2**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=46,slow=6.0,SNR=6.4						
BUR08	**Bucovina Ar. S**	**76.88**	**322**	P	**P**	**22 08 08.9**	**+1.5**
BUR08				IAmb	IAmb	22 08 23.4	
	comp=Z,3.0nm,1.1s						
BURAR	**Bucovina Array**	**76.90**	**322**	P	**P**	**22 08 09.0**	**+1.5**
CLL	**Collm**	**79.17**	**331**	*eP*	**P**	**22 08 21.0**	**+1.1**
PPT	**Papeete**	**84.45**	**118**	LR	LR	22 37 18.6	
	comp=Z,38nm,21.6s,baz=183,slow=29						

MEX 29 22:14:21.5±0.8,14°.32N×94°.02W,h18ᵏᵐ±38ᵏᵐ,MD4.1, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.58**	**29**	*i* P	Pn	22 14 45.8	-2.8
PCIG				*i* S	Sn	22 15 03.8	-4.8
HUIG	**Huatulco**	**2.48**	**306**	*eP*	Pn	22 14 57.1	-3.9
HUIG				*eS*	Sn	22 15 26.2	-4.6
TGIG		**2.59**	**19**	*eP*	Pn	22 15 00.1	-2.5
TGIG				*i* S	Sn	22 15 30.0	-3.7
CCIG	**Comitan**	**2.67**	**43**	*eP*	Pn	22 15 03.6	-0.2
CCIG				*i* S	Sn	22 15 32.7	-3.0
CMIG	**Matias Romero**	**2.88**	**343**	*eP*	Pn	22 15 03.9	-2.6
CMIG				*i* S	Sn	22 15 37.1	-3.6

*IDC **29** 22:15:30.1±0.9,11°.64S×165°.14E,h0ᵏᵐ,mb4.1/11, mb1 4.3/13,mb1mx4.1/45,mbtmp4.2/13,ML4.3/2,MS3.3/8, Ms1 3.3/8,ms1mx3.0/31,Error ellipse: s-maj=30.0km s-min=18.1km az=129.0*

*NEIC **29** 22:15:32.5±1.1,11°.6S±0°.1×165°.1E±0°.1,h10ᵏᵐ±1ᵏᵐ, mb4.3/10,Error ellipse: s-maj=21.6km s-min=14.0km az=51.0*

ISC 29 22:15:35.4±0.6,11°.71S±0°.07×164°.97E±0°.09,h34ᵏᵐ,n43, σ1ˢ31/40,mb4.2/14,MS3.5/5,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**4.30**	**150**	Pn	**Pn**	**22 16 38.3**	**-0.1**
HNR	**Honiara**	**5.44**	**294**	Pn	**Pn**	**22 16 54.7**	**+0.6**
	9.2nm,0.3s,baz=43,slow=3.8,SNR=3.9						
HNR				Sn	**Sn**	**22 17 50.8**	**-4.7**
	24nm,0.3s,baz=181,slow=15,SNR=1.7						
HNR				LR	LR	22 18 55.9	
	comp=Z,225nm,21.7s,baz=129,slow=37						
DZM	**Mont Dzumac**	**10.40**	**172**	Pn	**Pn**	**22 18 02.9**	**+0.7**
	2.6nm,0.3s,baz=149,slow=19,SNR=21						
DZM				Sn	**Sn**	**22 19 54.5**	**-3.1**
	0.3nm,0.3s,baz=315,slow=22,SNR=1.2						
DZM				LR	LR	22 21 37.1	
	comp=Z,103nm,18.7s,baz=84,slow=35						
DZM	**Mont Dzumac**	**10.40**	**172**	*e*Pn	**Pn**	**22 18 02.0**	**-0.2**
	8.8nm,0.2s						
DZM				*e*Sn	**Sn**	**22 19 54.9**	**-2.8**
	2.4nm,0.2s						
DZM				*e*LR	LR	22 20 28.9	
	comp=Z,108nm,24.1s						
ONTNC	**Ouen Toro**	**10.63**	**173**	Pn	**Pn**	**22 18 07.7**	**+2.3**
OUENC	**Ouen Island, N**	**10.79**	**171**	Pn	**Pn**	**22 18 08.2**	**+0.6**
PINNC	**Pines Island,**	**11.09**	**168**	Pn	**Pn**	**22 18 12.4**	**+0.7**
MSVF	**Nonsavu**	**13.99**	**117**	LR	LR	22 23 28.4	
	comp=Z,106nm,18.0s,baz=84,slow=34						
PMG	**Port Moresby**	**17.66**	**276**	LR	LR	22 26 34.4	
	comp=Z,69nm,18.0s,baz=130,slow=37						
CTA	**Charters Tower**	**19.82**	**243**	P	**Pn**	**22 20 06.0**	**+0.9**
	7.8nm,0.8s,baz=83,slow=13,SNR=7.2						
CTAO	**Charters Tower**	**19.82**	**243**	P	**Pn**	**22 20 05.9**	**+0.9**
CTAO				IAmb	IAmb	22 20 10.3	
	comp=Z,19nm,1.1s						
JAY	**Jayapura**	**25.73**	**289**	LR	LR	22 30 38.5	
	comp=Z,64nm,22.0s,baz=220,slow=35						
STKA	**Stephens Creek**	**29.44**	**223**	P	**P**	**22 21 37.5**	**+1.5**
	comp=Z,1.9nm,0.8s,baz=341,slow=6.6,SNR=3.8						
STKA				LR	LR	22 32 25.8	
	comp=Z,88nm,20.9s,baz=24,slow=34						
STKA	**Stephens Creek**	**29.44**	**223**	P	**P**	**22 21 37.0**	**+0.9**
H11S2	**WAKE ISLAND Hy**	**30.06**	**3**	T	T	22 53 10.6	
	baz=184,slow=76,SNR=7.4						
H11S3	**WAKE ISLAND Hy**	**30.06**	**3**	T	T	22 53 11.9	
	baz=184,slow=76,SNR=5.9						
H11S1	**WAKE ISLAND Hy**	**30.08**	**3**	T	T	22 53 12.0	
	baz=184,slow=76,SNR=6.8		

MEX 29 23:01:00.9±0.7, 18°.13N×103°.43W, h7km±17km, MD3.5, 1D, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.18**	**28**	*i* P		Pg	23 01 04.2	-0.3
MMIG				*i* S		Sg	23 01 06.7	-0.2
COIG	**Colima**	**1.07**	**347**	*i* P		Pg	23 01 18.9	-2.6
COIG				*eS*		Sg	23 01 32.1	-3.3
R15V		**1.16**	**333**	*ie* P		Pg	23 01 20.1	-3.0
R15V				*eS*		Sg	23 01 34.8	-3.4

*TUL **29** 23:11:37.2±1.3, 36°.63N±0°.01×98°.21W±0°.02, h5km±6km, ML2.5, mb_Lg2.1/11(NEIC), Error ellipse: s-maj=2.3km s-min=1.8km az=107.0*

*NEIC **29** 23:11:37.2±1.3, **36°.61N**±0°.02×**98°.21W**±0°.01, **h14**km±3km, **Error ellipse: s-maj=2.6km s-min=1.1km az=175.0, Oklahoma***

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.19**	**359**		Pg	Pg	23 11 41.1	-0.5
OK032					Sg	Sg	23 11 44.1	-0.6
CROK	**Carrier**	**0.21**	**121**		Pg	Pg	23 11 41.9	0.0
CROK					Sg	Sg	23 11 45.3	+0.2
GC02	**Grant County #**	**0.37**	**49**			Pg	23 11 44.5	-0.1
GC02					Sg	Sg	23 11 49.8	0.0
KAN14	**Manchester OK**	**0.40**	**30**		Pg	Pg	23 11 44.8	-0.4
KAN14					Sg	Sg	23 11 50.6	0.0
KAN10	**Anthony SW Sta**	**0.52**	**10**		Pg	Pg	23 11 46.9	-0.6
KAN16	**Harper SW Stat**	**0.62**	**11**		Pg	Pg	23 11 49.0	-0.5
KAN16					Sg	Sg	23 11 57.7	-0.1
U32A	**Winter Ranch,**	**0.68**	**250**		Pg	Pg	23 11 50.1	-0.4
U32A					Sg	Sg	23 11 59.3	-0.2
KAN06	**Argonia West S**	**0.69**	**24**		Pg	Pg	23 11 50.0	-0.7
KAN06					Sg	Sg	23 11 59.9	0.0
KAN09	**Caldwell North**	**0.70**	**42**		Pg	Pg	23 11 50.3	-0.7
KAN09					Sg	Sg	23 12 00.2	-0.1
KAN12	**Harper NE Stat**	**0.70**	**14**		Pg	Pg	23 11 50.5	-0.4
KAN13	**South Haven SW**	**0.71**	**55**		Pg	Pg	23 11 50.6	-0.5
KAN13					Sg	Sg	23 11 59.6	-0.8
KAN13					lAmb_Lg		23 12 00.3	
	comp=Z,29nm,0.8s							
BLOK	**Blackwell**	**0.81**	**79**			Pg	23 11 52.6	-0.3
BLOK					Sg	Sb	23 12 03.9	0.0
BCOK	**Bluff Creek, N**	**1.07**	**153**		Pg	Pb	23 11 57.2	-0.2
BCOK					Sg	Sn	23 12 12.3	-0.1
OK025	**Westminster Rd**	**1.25**	**145**			Pb	23 12 00.5	0.0
QUOK	**Quay**	**1.29**	**110**		Pn	Pb	23 12 01.5	+0.3
OK030	**Cody Creek RV**	**1.34**	**120**		Pn	Pb	23 12 02.3	+0.3
OKCFA	**Oklahoma City**	**1.34**	**153**		Pn	Pb	23 12 02.0	-0.1
T35A	**Sooner Cattle**	**1.40**	**77**			Pb	23 12 03.0	0.0
T35A					lAmb_Lg		23 12 24.3	
	comp=Z,9.3nm,0.8s							
FNO	**Franklin**	**1.50**	**154**		Pn	Pb	23 12 04.7	-0.2
FNO					lAmb_Lg		23 12 25.8	
	comp=Z,6.2nm,0.9s							
WMOK	**Wichita Mounta**	**1.93**	**194**		Pn	Pb	23 12 11.4	-0.7
TUL1	**Leonard**	**2.07**	**109**		lAmb_Lg		23 12 43.0	
	comp=Z,6.7nm,0.7s							
KSU1	**Kansas State U**	**2.79**	**26**		lAmb_Lg		23 13 09.2	
	comp=Z,7.3nm,0.7s							
X37A	**Clayton**	**3.07**	**130**		Pn	Pn	23 12 26.6	+1.4
X37A					lAmb_Lg		23 13 22.4	
	comp=Z,5.0nm,0.7s							
S39A	**Bolivar**	**4.05**	**73**		Pn	Pn	23 12 40.4	+1.7
U40A	**Yellville**	**4.32**	**92**		lAmb_Lg		23 14 00.8	
	comp=Z,4.7nm,0.8s							

*TUL **29** 23:17:28.8±1.2, 36°.63N±0°.04×98°.21W±0°.05, h6km±7km, ML3.3, mb_Lg3.2/94(NEIC), Error ellipse: s-maj=6.3km s-min=4.3km az=119.0*

*ANF **29** 23:17:29.3±0.3, 36°.60N×98°.19W, h6km, ML3.9/13, Error ellipse: s-maj=3.7km s-min=3.1km az=167.0*

*NEIC **29** 23:17:29.0±1.5, 36°.60N±0°.02×98°.20W±0°.04, h5km±2km, Error ellipse: s-maj=5.2km s-min=3.0km az=98.0*

ISC 29 23:17:28.9±0.9, 36°.61N±0°.02×98°.20W±0°.02, h9km±8km, n114, σ1§07/111, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.19**	**358**		Pg	**Pg**	**23 17 32.9**	**-0.1**
OK032					Sg	**Sg**	**23 17 35.7**	**+0.1**
CROK	**Carrier**	**0.20**	**121**			**Pg**	**23 17 33.6**	**+0.5**
CROK					Sg	**Sg**	**23 17 37.0**	**+1.0**
GC02	**Grant County #**	**0.36**	**49**			**Pg**	**23 17 36.3**	**+0.2**
GC02					Sg	**Sg**	**23 17 41.6**	**+0.6**
KAN14	**Manchester OK**	**0.39**	**29**			**Pg**	**23 17 36.6**	**0.0**
KAN14					Sg	**Sg**	**23 17 42.3**	**+0.4**
KAN10	**Anthony SW Sta**	**0.52**	**9**		Pg	**Pg**	**23 17 38.8**	**-0.2**
KAN10					Sg	**Sg**	**23 17 46.0**	**+0.2**
KAN17	**Caldwell West**	**0.56**	**39**			**Pg**	**23 17 39.6**	**0.0**
KAN17					Sg	**Sg**	**23 17 47.3**	**+0.3**
KAN05	**Bluff City Nor**	**0.56**	**28**		Pg	**Pg**	**23 17 40.2**	**+0.4**
KAN05					Sg	**Sg**	**23 17 47.3**	**+0.1**
KAN16	**Harper SW Stat**	**0.62**	**10**		Pg	**Pg**	**23 17 40.7**	**-0.3**
KAN16					Sg	**Sg**	**23 17 49.2**	**+0.1**
KAN08	**Anthony NE Sta**	**0.64**	**17**		Pg	**Pg**	**23 17 41.1**	**-0.2**
KAN08					Sg	**Sg**	**23 17 49.8**	**+0.1**
U32A	**Winter Ranch,**	**0.69**	**250**		Pg	**Pg**	**23 17 41.7**	**-0.4**
U32A	**Winter Ranch,** baz=68,SNR=67	**0.69**	**250**		P	**Pg**	**23 17 41.7**	**-0.4**
U32A					S	**Sg**	**23 17 51.5**	**+0.5**
	baz=68							
KAN06	**Argonia West S**	**0.69**	**23**			**Pg**	**23 17 42.1**	**-0.2**
KAN06					Sg	**Sg**	**23 17 51.5**	**+0.1**
KAN09	**Caldwell North**	**0.70**	**42**			**Pg**	**23 17 42.1**	**-0.3**
KAN09					Sg	**Sg**	**23 17 51.8**	**+0.1**
KAN13	**South Haven SW**	**0.70**	**55**		Pg	**Pg**	**23 17 42.4**	**-0.2**
KS20	**Mayfield South**	**0.81**	**40**		Pg	**Pg**	**23 17 44.0**	**-0.5**
KS20					Sg	**Sg**	**23 17 54.5**	**-0.5**
BLOK	**Blackwell**	**0.81**	**79**			**Pg**	**23 17 44.2**	**-0.2**
OK029	**Liberty Lake**	**1.01**	**143**			**Pg**	**23 17 48.0**	**-0.4**
BCOK	**Bluff Creek, N**	**1.07**	**153**			**Pg**	**23 17 49.0**	**-0.4**
OK025	**Westminster Rd**	**1.24**	**146**			**Pn**	**23 17 52.0**	**-0.6**
OK031	**S. Brethren Rd**	**1.28**	**120**			**Pn**	**23 17 52.9**	**-0.1**
QUOK	**Quay**	**1.28**	**110**		Pn	**Pn**	**23 17 52.9**	**-0.2**
OK030	**Cody Creek RV**	**1.33**	**120**			**Pn**	**23 17 53.7**	**-0.1**
OKCFA	**Oklahoma City**	**1.34**	**153**			**Pn**	**23 17 53.6**	**-0.2**
OKCFA	**Oklahoma City** baz=333	**1.34**	**153**		P	**Pn**	**23 17 53.6**	**-0.2**
OKCFA					S	**Sn**	**23 18 12.2**	**+0.4**
	baz=333							
OKCSW	**OKLAHOMA CITY**	**1.35**	**153**			**Pn**	**23 17 53.8**	**-0.2**
T35A	**Sooner Cattle**	**1.39**	**77**			**Pn**	**23 17 54.8**	**+0.2**
T35B	**Sooner Cattle** baz=258,SNR=196	**1.39**	**77**		P	**Pn**	**23 17 54.8**	**+0.2**
T35B					S	**Sb**	**23 18 13.2**	**+0.2**
	baz=258							
FNO	**Franklin**	**1.50**	**154**			**Pn**	**23 17 56.3**	**+0.2**
R32A	**Long Quarter,**	**1.85**	**348**			**Pb**	**23 18 02.0**	**-1.0**
R32A	**Long Quarter,** baz=167,SNR=97	**1.85**	**348**		P	**Pn**	**23 18 01.7**	**+0.7**
R32A					S	**Sb**	**23 18 26.4**	**0.0**
	baz=167							
WMOK	**Wichita Mounta**	**1.93**	**194**			**Pn**	**23 18 03.0**	**+1.1**
WMOK	**Wichita Mounta** baz=14,SNR=170	**1.93**	**194**		P	**Pn**	**23 18 03.0**	**+1.1**
WMOK					S	**Sb**	**23 18 28.7**	**+0.2**
	baz=14							
WMOK	**Wichita Mounta** baz=14	**1.93**	**194**		P	**Pn**	**23 18 03.1**	**+1.1**
WMOK					S	**Sb**	**23 18 29.1**	**+0.7**
	baz=14							
X34A	**Smith Ranch, M**	**2.03**	**171**		Pn	**Pn**	**23 18 04.7**	**+1.3**
TUL1	**Leonard**	**2.07**	**109**		Pn	**Pb**	**23 18 05.5**	**-1.2**
TUL1					lAmb_Lg		23 18 37.9	
	comp=Z,113nm,0.8s							
TUL1	**Leonard** baz=291,SNR=19	**2.07**	**109**		P	**Pb**	**23 18 05.6**	**-1.0**
TUL1					S	**Sb**	**23 18 31.5**	**-1.0**
	baz=291							
TUL1	**Leonard** baz=291	**2.07**	**109**		P	**Pb**	**23 18 05.7**	**-1.0**
TUL1					S	**Sb**	**23 18 33.7**	**+1.2**
	baz=291							
CBKS	**Cedar Bluff**	**2.51**	**331**		Pn	**Pn**	**23 18 11.6**	**+1.6**
CBKS	**Cedar Bluff** baz=151,SNR=12	**2.51**	**331**		P	**Pb**	**23 18 12.7**	**-1.6**
CBKS	**Cedar Bluff** baz=151	**2.51**	**331**		Sb	**Sb**	**23 18 45.9**	**+0.5**
LOOK	**Love County**	**2.74**	**162**		Pn	**Pn**	**23 18 14.2**	**+1.1**
KSU1	**Kansas State U**	**2.79**	**26**		Pn	**Pn**	**23 18 14.8**	**+1.0**
KSU1	**Kansas State U** baz=208	**2.79**	**26**		P	**Pn**	**23 18 15.4**	**+1.6**
X37A	**Clayton**	**3.06**	**130**		Pn	**Pn**	**23 18 18.5**	**+0.9**
X37A					lAmb_Lg		23 19 12.6	
	comp=Z,105nm,1.1s							
X37A	**Clayton** baz=312,SNR=20	**3.06**	**130**		P	**Pn**	**23 18 18.7**	**+1.1**
U38A	**Gravette**	**3.08**	**92**		Pn	**Pn**	**23 18 18.7**	**+0.9**
U38A	**Gravette** baz=275,SNR=9.0	**3.08**	**92**		P	**Pn**	**23 18 19.4**	**+1.6**
AMTX	**Amarillo**	**3.31**	**240**		Pn	**Pn**	**23 18 22.8**	**+1.8**
AMTX					lAmb_Lg		23 19 20.8	
	comp=Z,50nm,0.7s							
AMTX	**Amarillo** baz=57,SNR=17	**3.31**	**240**		P	**Pn**	**23 18 23.2**	**+2.1**
AMTX	**Amarillo** baz=57	**3.31**	**240**		Pb	**Pb**	**23 18 28.8**	**+0.8**
Z35A	**Perchaven, San**	**3.36**	**166**		Pn	**Pn**	**23 18 22.9**	**+1.2**
Z35A	**Perchaven, San** baz=347	**3.36**	**166**		P	**Pn**	**23 18 22.9**	**+1.2**
HHAR	**Hobbs**	**3.45**	**94**		Pn	**Pn**	**23 18 23.9**	**+1.0**
HHAR					lAmb_Lg		23 19 22.9	
	comp=Z,64nm,0.8s							
W39A	**Magazine**	**3.85**	**110**		Pn	**Pn**	**23 18 29.6**	**+1.2**
W39A					lAmb_Lg		23 19 40.9	
	comp=Z,63nm,1.0s							
W39A	**Magazine** baz=293	**3.85**	**110**		Sb	**Sg**	**23 19 31.1**	**-1.6**
S39A	**Bolivar**	**4.04**	**73**			**Pn**	**23 18 31.7**	**+0.7**
S39A					lAmb_Lg		23 19 39.8	
	comp=Z,68nm,0.7s							
S39A	**Bolivar** baz=256,SNR=26	**4.04**	**73**		P	**Pn**	**23 18 31.6**	**+0.6**
S39A					S	**Sn**	**23 19 18.9**	**+0.4**
	baz=256							
ABTX	**Abilene, Hawle**	**4.15**	**197**		Pn	**Pn**	**23 18 33.3**	**+0.8**
ABTX					lAmb_Lg		23 19 43.4	
	comp=Z,60nm,1.1s							
KSCO	**Kaye Shedlock'**	**4.25**	**306**		lAmb_Lg		23 19 41.5	
	comp=Z,43nm,0.7s							
Z38A	**Mt. Pleasant**	**4.26**	**141**		Pn	**Pn**	**23 18 34.9**	**+0.9**
Z38A					lAmb_Lg		23 19 47.6	
	comp=Z,51nm,0.9s							
MIAR	**Mount Ida**	**4.30**	**117**		Pn	**Pn**	**23 18 35.5**	**+1.1**
MIAR					lAmb_Lg		23 19 48.3	
	comp=Z,41nm,0.7s							
MIAR	**Mount Ida** baz=300	**4.30**	**117**		Sb	**Sg**	**23 19 43.8**	**-3.0**
U40A	**Yellville**	**4.32**	**92**		Pn	**Pn**	**23 18 35.8**	**+1.0**
U40A					lAmb_Lg		23 19 52.0	
	comp=Z,50nm,0.8s							
MSTX	**Muleshoe**	**4.57**	**236**		Pn	**Pn**	**23 18 39.5**	**+1.1**
WHTX	**Lake Whitney,**	**4.65**	**172**		Pn	**Pn**	**23 18 39.8**	**+0.4**
P38A	**Dawn**	**4.75**	**49**		Pn	**Pn**	**23 18 42.0**	**+1.2**
P38A					lAmb_Lg		23 20 07.3	
	comp=Z,37nm,0.8s							
MGMO	**Mountain Grove**	**4.79**	**82**			**Pn**	**23 18 42.3**	**+1.1**
MGMO					lAmb_Lg		23 20 11.3	
	comp=Z,37nm,0.8s							
BGNE	**Belgrade**	**4.79**	**0**			**Pn**	**23 18 41.6**	**+0.3**
BGNE	**Belgrade** baz=181,SNR=16	**4.79**	**0**		P	**Pn**	**23 18 41.6**	**+0.3**
BGNE	**Belgrade** baz=181	**4.79**	**0**		P	**Pn**	**23 18 41.6**	**+0.3**
X40A	**Basin Creek Fa**	**4.86**	**114**		lAmb_Lg		23 20 10.4	
	comp=Z,61nm,0.8s							
FCAR	**Ozark Folk Cen**	**4.96**	**97**		Pn	**Pn**	**23 18 45.0**	**+1.3**
FCAR					lAmb_Lg		23 20 13.2	
	comp=Z,31nm,0.8s							
WHAR	**Wooly Hollow**	**4.97**	**104**		Pn	**Pn**	**23 18 44.8**	**+1.0**
WHAR					lAmb_Lg		23 20 15.7	
	comp=Z,63nm,0.9s							
T25A	**Trinidad**	**5.01**	**278**		lAmb_Lg		23 20 09.7	
	comp=Z,61nm,0.8s							
T25A	**Trinidad** baz=94	**5.01**	**278**		Sb	**Sg**	**23 20 03.8**	**-5.8**
237A	**Washetta, Mont**	**5.01**	**156**		Pn	**Pn**	**23 18 44.4**	**+0.1**
R40A	**Maddies Statio**	**5.01**	**69**		Pn	**Pn**	**23 18 45.5**	**+1.2**
R40A					lAmb_Lg		23 20 18.6	
	comp=Z,34nm,0.8s							
WLAR	**White Oak Lake**	**5.09**	**123**		lAmb_Lg		23 20 21.7	
	comp=Z,46nm,0.8s							
OGNE	**Ogallala**	**5.26**	**326**		Pn	**Pn**	**23 18 49.4**	**+1.6**
OGNE					lAmb_Lg		23 20 25.5	
	comp=Z,43nm,0.8s							
L34A	**Svendsen Farm,**	**5.53**	**14**		Pn	**Pn**	**23 18 51.1**	**-0.4**
P40A	**Paris**	**5.66**	**57**		lAmb_Lg		23 20 32.4	
	comp=Z,58nm,0.8s							
N38A	**Joes South For**	**5.70**	**41**		Pn	**Pn**	**23 18 53.9**	**+0.1**
LCAR	**Lake Charles**	**5.71**	**93**		Pn	**Pn**	**23 18 55.7**	**+1.7**
LCAR					lAmb_Lg		23 20 35.6	
	comp=Z,28nm,0.8s							
T42A	**Van Buren**	**5.72**	**84**		Pn	**Pn**	**23 18 55.1**	**+1.1**
T42A					lAmb_Lg		23 20 44.6	
	comp=Z,26nm,0.8s							
CCM	**Cathedral Cave**	**5.73**	**73**		Pn	**Pn**	**23 18 55.5**	**+1.3**
CCM					lAmb_Lg		23 20 33.8	
	comp=Z,51nm,0.7s							
435B	**Jarrell**	**5.84**	**175**		lAmb_Lg		23 20 46.3	
	comp=Z,34nm,0.8s							
CCAR	**Cane Creek**	**5.91**	**115**		lAmb_Lg		23 20 49.7	
	comp=Z,55nm,0.8s							
K31A	**O'Neill**	**6.02**	**356**		Pn	**Pn**	**23 18 59.2**	**+1.0**
FVM	**French Village**	**6.35**	**75**		Pn	**Pn**	**23 19 04.0**	**+1.3**
FVM					lAmb_Lg		23 20 50.0	
	comp=Z,36nm,1.0s							
SLM	**Saint Louis**	**6.64**	**70**		lAmb_Lg		23 21 06.0	
	comp=Z,28nm,0.8s							
ECSD	**EROS Data Cent**	**7.22**	**9**		Pn	**Pn**	**23 19 13.7**	**-1.0**
S44A	**Carbondale**	**7.23**	**79**		Pn	**Pn**	**23 19 15.1**	**+0.3**
S44A					lAmb_Lg		23 21 36.3	
	comp=Z,28nm,0.8s							
SIUC	**Southern Illin**	**7.26**	**79**		lAmb_Lg		23 21 25.3	
	comp=Z,29nm,0.8s							
PHWY	**Pilot Hill**	**7.34**	**312**		lAmb_Lg		23 21 34.8	
	comp=Z,29nm,1.0s							
W45A	**Hickory Valley**	**7.46**	**99**		lAmb_Lg		23 21 33.9	
	comp=Z,40nm,0.7s							
Y45A	**Yeager Farm, C**	**7.59**	**109**		lAmb_Lg		23 21 41.4	
	comp=Z,24nm,0.8s							
Q44A	**Meyer Farm, Va**	**7.63**	**70**		Pn	**Pn**	**23 19 21.1**	**+0.9**
Q44A					lAmb_Lg		23 21 42.3	
	comp=Z,38nm,0.8s							
L40A	**Anamosa**	**7.67**	**43**		Pn	**Pn**	**23 19 21.3**	**+0.5**
L40A					lAmb_Lg		23 21 37.6	
	comp=Z,36nm,0.8s							
SUSD	**Miller**	**7.84**	**356**		lAmb_Lg		23 21 42.3	
	comp=Z,25nm,0.8s							
I37A	**Lemond, Waseca**	**8.25**	**25**		lAmb_Lg		23 22 12.9	
	comp=Z,26nm,0.9s							
OLIL	**Olney**	**8.29**	**72**		lAmb_Lg		23 21 59.5	
	comp=Z,21nm,0.8s							
USIN	**University of**	**8.51**	**78**		lAmb_Lg		23 22 06.6	
	comp=Z,23nm,0.9s							
TX31	**Lajitas Ar. Si**	**8.59**	**214**		Pn	**Pn**	**23 19 33.6**	**0.0**
TX32	**Lajitas Array**	**8.59**	**214**		Pn	**Pn**	**23 19 33.4**	**-0.1**
TXAR	**Lajitas Array**	**8.59**	**214**		Pn	**Pn**	**23 19 33.1**	**-0.4**
RWWY	**Rawlins**	**8.64**	**309**		lAmb_Lg		23 22 15.3	
	comp=Z,21nm,1.1s							
RSSD	**Black Hills**	**8.72**	**331**		Pn	**Pn**	**23 19 37.3**	**+1.8**
JFWS	**Jewell Farm**	**8.78**	**42**		lAmb_Lg		23 22 17.0	
	comp=Z,26nm,0.7s							
P46A	**Rosedale**	**9.17**	**68**		lAmb_Lg		23 22 39.6	
	comp=Z,30nm,0.8s							
V48A	**Smith Brothers**	**9.24**	**92**		lAmb_Lg		23 22 19.0	
	comp=Z,13nm,1.0s							
I40A	**Norwalk**	**9.29**	**36**		lAmb_Lg		23 22 33.0	
	comp=Z,16nm,0.8s							
F33A	**5 Mile Ranch,**	**9.33**	**8**		lAmb_Lg		23 22 39.5	
	comp=Z,15nm,1.0s							
BLO	**Bloomington**	**9.58**	**71**		lAmb_Lg		23 22 37.3	
	comp=Z,17nm,0.7s							
WCI	**Wyandotte Cave**	**9.61**	**77**		lAmb_Lg		23 22 37.9	
	comp=Z,17nm,0.8s							

*MOS **29** 23:20:46.8±0.9, 2°.52S×140°.24E, h8km, mb5.3/25, Error ellipse: s-maj=8.8km s-min=5.2km az=111.6*

*IDC **29** 23:20:47.4±0.4, 2°.55S×140°.21E, h0km, mb5.1/18, mb1 5.3/23, mb1mx5.3/26, mbtmp5.2/23, ML5.3/4, MS4.7/23, Ms1 4.7/23, ms1mx4.6/29, Error ellipse: s-maj=11.0km s-min=6.7km az=2.0*

*BJI **29** 23:20:48.4±0.0, 2°.70S×140°.69E, h34km, mB5.4/47, mb5.2/70, Ms4.9/59, Ms7 4.7/61*

*NEIC **29** 23:20:50.8±2.0, 2°.56S±0°.08×140°.20E±0°.07, h19km±1km, mb5.5/182, Mwb5.4/32, Error ellipse: s-maj=14.3km s-min=11.5km az=211.0*

*DJA **29** 23:20:50.1±0.3, 3°S±4°×14°0E±°, h20km±2km, M5.2/34, mb5.4/34, mB5.6/24, MLv5.5/4, Mw(mB)5.1/24, MwMwp5.0/7, Mwp5.3/7*

*NEIC **29** 23:20:51.9, 2°.58S×140°.26E, h19km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.37; $M_{\theta\theta}$-1.20; $M_{\phi\phi}$0.83; $M_{r\theta}$-0.28; $M_{\theta\phi}$-0.89; $M_{\phi r}$0.10; Fault plane solution: $M_0$1.42000×10^{17} NP1:ϕs293.46000°, δ85.44000°, λ165.76000°. NP2:ϕs24.61000°, δ75.81000°, λ4.71000°. Principal axes: T 1.2136, Plg13.0000°, Azm248.0000°; N 0.3530, Plg75.0000°, Azm96.0000°; P -1.5666, Plg7.0000°, Azm340.0000°;*

*GCMT **29** 23:20:53.8±0.1, 2°.36S±0°.01×140°.29E±0°.01, h31km, MW5.4/127, Moment Tensor Solution. s127,c219; s122,c210; Duration: 1§3 Moment tensor: Scale 10^{17} Nm; M_{rr}1.01±.02; $M_{\theta\theta}$-1.33±.02; $M_{\phi\phi}$0.31±.02; $M_{r\theta}$-1.12±.04; $M_{\theta\phi}$0.33±.01; $M_{\phi r}$0.44±.04; Best double couple: $M_0$1.70700×10^{17} NP1:ϕs87.00000°, δ24.00000°, λ68.00000°. NP2:ϕs290.00000°, δ68.00000°, λ99.00000°. Principal axes: T 1.5310, Plg66.0000°, Azm216.0000°; N 0.3510, Plg9.0000°, Azm107.0000°; P -1.8830, Plg22.0000°, Azm13.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 23:20:51.8±0.6, 2°.63S±0°.03×140°.30E±0°.03, h32km±3km, n792, σ1§69/766, mb5.4/201, MS4.8/43, 42C-29D, Fault plane solution: NP1:ϕs2.37653°, δ86.87287°, λ26.64133°. **NP2:**ϕs270.80893°, δ63.40146°, λ176.50230°. **Principal axes:** T Plg20.8039°, Azm229.8357°; N Plg63.1891°, Azm8.5825°; P Plg16.1423°, Azm133.5222°;

Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.14**	**284**		P	**Pb**	**23 20 56.6**	**-1.1**
GENI					S	**Sb**	**23 21 01.7**	**0.0**
JAY	**Jayapura** 14μm,0.3s,baz=243,slow=9.6	**0.41**	**75**		Pg	**Pb**	**23 20 58.2**	**-2.9**
JAY					Lg	Lg	23 21 03.8	
	33μm,0.3s,baz=261,slow=21,SNR=23							
JAY	**Jayapura**	**0.41**	**75**		P	**Pb**	**23 20 58.5**	**-2.6**
JAY					S	**Sb**	**23 21 03.9**	**-3.5**
WAMI	**Wamena**	**2.02**	**232**		P	**Pb**	**23 21 26.5**	**-1.4**
SRPI	**Serui, Papua**	**4.13**	**280**		P	**Pn**	**23 21 53.6**	**+0.9**
BAKI	**Biak**	**4.43**	**289**		P	**Pn**	**23 21 55.8**	**-1.0**
MMPI	**Merauke**	**5.80**	**179**		P	**Pn**	**23 22 19.4**	**+3.7**
FAKI	**Fak Fak**	**8.05**	**268**		Pn	**Pn**	**23 22 48.0**	**+1.4**
FAKI	**Fak Fak** 4μm482nm,0.8s	**8.05**	**268**		P	**Pn**	**23 22 48.2**	**+1.6**
SIJI	**Sorong** 12nm,0.3s,baz=54,slow=14,SNR=15	**9.20**	**281**		Pn	**Pn**	**23 23 01.7**	**-0.6**
SIJI					LR	LR	23 27 03.8	
	comp=Z,5μm,20.5s,baz=99,slow=41							
SIJI	**Sorong** 4μm76nm,0.9s	**9.20**	**281**		P	**Pn**	**23 23 02.8**	**+0.4**
SWI	**Sorong** 5μm168nm,0.7s	**9.21**	**281**		P	**Pn**	**23 23 04.5**	**+2.1**
PMG	**Port Moresby** 12nm,0.3s,baz=327,slow=5.8,SNR=22	**9.58**	**135**		Pn	**Pn**	**23 23 10.2**	**+2.6**
PMG					LR	LR	23 27 56.9	
	comp=Z,6μm,19.4s,baz=302,slow=44							
PMG	**Port Moresby**	**9.58**	**135**		P	**Pn**	**23 23 10.6**	**+3.0**
PMG	**Port Moresby**	**9.58**	**135**		Pn	**Pn**	**23 23 10.6**	**+3.0**
PMG	**Port Moresby**	**9.58**	**135**		P	**Pn**	**23 23 10.5**	**+3.0**
PMG	**Port Moresby**	**9.58**	**135**		P	**Pn**	**23 23 11.2**	**+3.6**
PMG	**Port Moresby**	**9.58**	**135**		P	**Pn**	**23 23 11.1**	**+3.5**
SAUI	**Saumlaki**	**10.42**	**239**		Pn	**Pn**	**23 23 18.3**	**-0.8**
SAUI	**Saumlaki**	**10.42**	**239**		P	Pn	23 23 33.4	+14
BNDI	**Bandanaira** 4μm392nm,0.8s	**10.55**	**259**		P	**Pn**	**23 23 22.7**	**+1.9**
MSAI	**Masohi** 44nm,0.8s	**11.38**	**266**		P	**Pn**	**23 23 34.6**	**+2.3**
KRAI	**Karang Ratu** 3μm99nm,1.4s	**11.91**	**266**		P	**Pn**	**23 23 41.8**	**+2.3**
KDU	**Kakadu** baz=13,SNR=229	**12.65**	**217**		P	**Pn**	**23 23 49.3**	**-0.3**
KDU					S	**Sn**	**23 26 05.2**	**-4.2**
	baz=13							
GAMI	**Galela, Maluku**	**13.28**	**289**		P	**Pn**	**23 24 00.5**	**+2.4**
TNTI	**Ternate**	**13.37**	**284**		Pn	**Pn**	**23 23 58.9**	**-0.5**
TNTI	**Ternate** 3μm81nm,1.1s	**13.37**	**284**		P	**Pn**	**23 24 00.0**	**+0.6**
MTN	**Manton Dam** baz=14,SNR=106	**13.62**	**221**		P	**Pn**	**23 24 01.9**	**-0.9**
MTN					S	**Sn**	**23 26 25.4**	**-7.6**
	baz=14							
SANI	**Sanana** 3μm288nm,1.1s	**14.31**	**272**		P	**Pn**	**23 24 12.9**	**+0.5**
MTSU	**Mount Surprise** baz=16,SNR=74	**15.91**	**166**		P	**Pn**	**23 24 33.4**	**-0.1**
MNI	**Manado**	**15.98**	**284**		P	**P**	**23 24 38.2**

comp=Z,2µmcomp=Z,190nm,1.0s
MMRI Maumere 18.94 251 P **P** **23 25 10.3 0.0**
MMRI Maumere 18.94 251 P **Pn** **23 25 13.4 +2.3**
EDFI Ende, Flores 19.49 251 P **P** **23 25 16.0 -0.4**
comp=Z,3µmcomp=Z,924nmcomp=Z,87nm,0.9s
ANA2 Anatahan 19.59 16 P **P** **23 25 17.5 +0.2**
ANA2 IAmb IAmb 23 25 20.9
comp=Z,284nm,0.6s
ANA2 Anatahan 19.59 16 P **Pn** **23 25 19.8 +0.9**
TOLI2 Tolitoli 19.87 281 P **P** **23 25 19.8 -0.7**
SARN Sarigan 19.95 16 P **Pn** **23 25 22.3 -0.9**
BSSI Bau Bau, Buton 20.06 259 P Pn 23 25 25.6 +1.1
BNSI Bone 20.24 264 P Pn 23 25 27.0 +0.4
comp=Z,2µmcomp=Z,214nm,0.9s
PATS Pohnpei 20.29 62 P **P** **23 25 24.9 -0.1**
baz=20,SNR=19
PATS Pohnpei 20.29 62 P **P** **23 25 25.0 0.0**
BKSI Bulukumba 20.31 262 P Pn 23 25 26.4 -1.0
comp=Z,2µmcomp=Z,2µmcomp=Z,178nm,1.1s
TTSI Tana Toraja 20.46 268 P Pn 23 25 29.4 +0.2
MPSI Mapaga 20.61 278 P **P** **23 25 29.7 +1.1**
comp=Z,4µmcomp=Z,55nm,0.7s
KAPI Kappang 20.64 263 P **P** **23 25 29.6 +0.7**
comp=Z,67nm,0.9s,baz=278,slow=18,SNR=5.4
KAPI LR LR 23 34 33.9
comp=Z,596nm,21.2s,baz=106,slow=40
KAPI Kappang 20.64 263 P **P** **23 25 29.6 +0.7**
KAPI Kappang 20.64 263 P Pn 23 25 31.6 +0.3
KAPI P Pn 23 25 31.6 +0.3
KAPI Kappang 20.64 263 P Pn 23 25 31.7 +0.4
HNR Honiara 20.66 110 P **P** **23 25 28.6 -0.5**
comp=Z,140nm,0.4s,baz=274,slow=3.8,SNR=7.4
HNR Honiara 20.66 110 P **P** **23 25 28.1 -1.0**
HNR Honiara 20.66 110 P Pn 23 25 33.1 +1.6
MKS Makassar 20.94 262 P Pn 23 25 34.4 -0.4
comp=Z,3µmcomp=Z,319nm,0.9s
BASI Baing, Sumba 20.99 248 P Pn 23 25 38.6 +3.2
FITZ Fitzroy Crossi 21.05 222 P **P** **23 25 33.3 +0.1**
baz=21,SNR=299
FITZ Fitzroy Crossi 21.05 222 P **P** **23 25 33.5 +0.3**
comp=Z,181nm,0.8s,baz=46,slow=11,SNR=160
FITZ S **S** **23 29 21.9 -4.2**
comp=Z,100nm,0.8s,baz=75,slow=15,SNR=7.3
FITZ LR LR 23 34 15.3
comp=Z,5µm,19.4s,baz=44,slow=38
LBFI Labuhan Bajo, 21.13 253 P **P** **23 25 35.9 +1.8**
MMSI Mamuju 21.37 269 P **P** **23 25 40.1 +3.3**
PMSI Majene 21.38 267 P **P** **23 25 42.7 +5.9**
AS31 Alice Springs 21.81 196 P **P** **23 25 41.3 -0.1**
AS31 IAmb IAmb 23 25 43.8
comp=Z,96nm,0.7s
ASAR Alice Springs 21.82 196 P **P** **23 25 42.2 +0.8**
comp=Z,254nm,0.7s,baz=29,slow=9.8,SNR=1386
ASAR S **S** **23 29 41.3 +0.2**
comp=Z,54nm,0.9s,baz=19,slow=23,SNR=12
ASAR LR LR 23 35 13.9
comp=Z,7µm,18.4s,baz=22,slow=40
ASAR Alice Springs 21.82 196 P **P** **23 25 41.9 +0.4**
WBSI Waikabubak, Su 21.92 251 P **P** **23 25 41.8 -0.9**
RCP Roxas 22.44 309‖ *e*P **P** **23 25 49.8 +1.6**
PLAI Plampang 23.23 254 P **P** **23 25 53.4 -3.1**
BKB Balikpapan 23.43 273 P **P** **23 26 00.1 +1.7**
BKB IAmb IAmb 23 26 08.7
comp=Z,200nm,0.9s
BKB Balikpapan 23.43 273 P **P** **23 26 04.0 +5.5**
TWSI Taliwang, Sumb 24.07 254 P **P** **23 26 03.6 -0.9**
KBKI Kotabaru 24.11 268 P **P** **23 26 05.1 +0.2**
comp=Z,119nm,0.7s
QLP Quilpie 24.12 171 P **P** **23 26 05.9 +1.2**
baz=24,SNR=27
KLNI Mataram 24.76 256 P **P** **23 26 11.6 +0.8**
comp=Z,976nmcomp=Z,2µmcomp=Z,92nm,1.0s
EIDS Eidsvold 24.88 156 P **P** **23 26 12.3 +0.6**
baz=25,SNR=4.2
RMQ Roma 25.07 162 P **P** **23 26 13.9 +0.4**
baz=25,SNR=93
WRKA Warakurna 25.11 206 P **P** **23 26 13.7 -0.1**
baz=25,SNR=452
BBKI Banjar Baru 25.44 267 P **P** **23 26 19.2 +2.2**
PKKI Palangkaraya 26.31 270 P **P** **23 26 30.1 +5.2**
KMMI Kalianget 26.60 260 P P 23 26 37.0 +10
JAGI Jajag, Banyuwa 26.66 256 P **P** **23 26 25.2 -2.9**
JAGI Jajag, Banyuwa 26.66 256 P **P** **23 26 33.4 +5.4**
SBUM Sibu 28.52 280 P **P** **23 26 46.0 +1.3**
SJI Sawahan 28.86 259 P P 23 27 00.7 +13
PWJI Pagerwojo 28.87 258 P **P** **23 26 51.6 +3.8**
STKA Stephens Creek 29.12 178 P **P** **23 26 50.4 +0.6**
baz=29,SNR=39
STKA Stephens Creek 29.12 178 P **P** **23 26 50.2 +0.4**
comp=Z,19nm,0.6s,baz=344,slow=9.3,SNR=38
STKA LR LR 23 40 37.2
comp=Z,6µm,19.0s,baz=350,slow=41
STKA Stephens Creek 29.12 178 P **P** **23 26 49.5 -0.3**
CMSA Cobar Meteorol 29.20 171 P **P** **23 26 52.5 +1.9**
baz=29,SNR=51
ARMA Armidale 29.65 160 P **P** **23 26 55.0 +0.4**
baz=30,SNR=8.4
BBOO Buckleboo 30.29 187 P **P** **23 27 00.4 +0.3**
baz=30,SNR=43
FORT Forrest 30.30 201 P **P** **23 27 01.6 +1.3**
baz=30,SNR=20
HTT Hallett 30.67 182 P **P** **23 27 04.4 +0.8**
baz=31,SNR=22
JOW Kunigami 31.50 339 P **P** **23 27 10.9 0.0**
JOW IAmb IAmb 23 27 20.9
comp=Z,180nm,2.0s
KPJI Karang Pucung 31.59 260 P **P** **23 27 13.2 +1.3**
MEEK Meekatharra 31.67 219 P **P** **23 27 12.7 +0.3**
baz=32,SNR=29
YULB Yu-li 31.81 325 P **P** **23 27 12.5 -1.2**
YULB IAmb IAmb 23 27 13.6
comp=Z,143nm,1.9s
NOUC Port Laguerre 31.82 130 P **P** **23 27 14.4 +0.6**
DZM Mont Dzumac 31.91 129 *e*P **P** **23 27 15.2 +0.5**
comp=Z,72nm,1.1s
DZM *e*S **S** **23 32 28.0 +4.0**
comp=Z,641nm,29.4s
DZM *e*LR LR 23 35 43.8
comp=Z,2µm,28.1s
DZM Mont Dzumac 31.91 129 P **P** **23 27 15.1 +0.4**
DZM Mont Dzumac 31.91 129 P **P** **23 27 15.7 +1.0**
ONTNC Ouen Toro 32.05 130 P **P** **23 27 16.4 +0.6**
ONTNC Ouen Toro 32.05 130 P **P** **23 27 17.9 +2.1**
comp=Z,40nm,0.9s
GIRL Giralia 32.18 230 P **P** **23 27 17.2 +0.3**
baz=32,SNR=18
YATNC Mamie plateau, 32.25 129 P **P** **23 27 19.4 +1.8**
SSLB Suanglung 32.31 325 P **P** **23 27 17.3 -0.8**
SSLB IAmb IAmb 23 28 27.9
comp=Z,42nm,1.1s
YNG Young 32.40 167 P **P** **23 27 20.8 +2.0**
baz=33,SNR=32
OUENC Ouen Island, N 32.41 130 P **P** **23 27 19.6 +0.6**
CISI Cisompet, Garu 32.72 260 P **P** **23 27 19.9 -1.9**
CISI IAmb IAmb 23 27 25.6
comp=Z,36nm,0.7s
CISI Cisompet, Garu 32.72 260 P **P** **23 27 21.8 0.0**
YHNB Yeheng 32.77 327 P **P** **23 27 22.1 -0.1**
MARNC Mare, Loyalty 32.84 127 P **P** **23 27 26.8 +4.0**
PINNC Pines Island, 32.98 129 P **P** **23 27 24.7 +0.8**
PINNC IAmb IAmb 23 27 28.9
comp=Z,45nm,1.2s
CAN Canberra 33.52 167 IAmb IAmb 23 27 40.8
comp=Z,179nm,1.8s
CNB Canberra Magne 33.60 167 P **P** **23 27 31.2 +1.9**
baz=34,SNR=21
ARPS Mount Arapiles 34.01 178 P **P** **23 27 34.0 +1.3**
baz=34,SNR=67
PPBI Pangkal Pinang 34.14 270 P **P** **23 27 34.6 +0.4**
comp=Z,6µmcomp=Z,44nm,0.8s
MORW Morawa 34.99 219 P **P** **23 27 41.4 0.0**
baz=35,SNR=58
TOO Toolangi 35.10 173 P **P** **23 27 43.6 +1.4**
baz=35,SNR=10
JSU Suzuyama 35.21 345 P **P** **23 27 43.3 +0.1**
JSU IAmb IAmb 23 27 44.1
comp=Z,33nm,0.7s
MILA Mila 35.22 168 P **P** **23 27 44.2 +0.9**
baz=35,SNR=18
BLDU Balliduu 35.68 216 P **P** **23 27 47.8 +0.5**
baz=36,SNR=27
MDSI Maura Dua 36.10 266 P **P** **23 27 50.1 -1.0**
comp=Z,681nmcomp=Z,47nm,1.0s
LWLI Liwa 36.24 265 P P 23 28 00.0 +7.6
JNU Nakatsue 36.65 347 P **P** **23 27 55.1 -0.5**
JNU IAmb IAmb 23 27 56.1
comp=Z,37nm,0.8s
JMN Monobe 36.66 351 IAmb IAmb 23 27 56.5
comp=Z,50nm,0.7s
BTDF Bukit Timah Da 36.73 276 P **P** **23 27 58.4 +1.9**
LHSI Lahat 36.74 267 P **P** **23 27 56.7 +0.2**
comp=Z,1µmcomp=Z,80nm,0.8s
QIZ Qiongzhong 36.88 307 P **P** **23 27 57.3 -0.4**
QIZ S **S** **23 33 43.5 +2.9**
QIZ pmax pmax
comp=Z,23nm,1.3s
QIZ LR LR
comp=Z,740nm,26.5s
QIZ LR LR
comp=Z,510nm,25.5s
QIZ LR LR
comp=Z,800nm,21.6s
QIZ Qiongzhong 36.88 307 IAmb IAmb 23 28 03.8
comp=Z,47nm,1.0s
MUN Mundaring 36.97 215 P **P** **23 27 57.1 -1.2**
baz=37,SNR=5.8
NWAO Narrogin (SRO) 37.10 213 P **P** **23 27 59.6 +0.3**
baz=37,SNR=14
JWT Wachi 37.99 353 IAmb IAmb 23 28 07.3
comp=Z,47nm,0.6s
MASI Maura Aman, Be 38.02 268 P **P** **23 28 07.2 -0.3**
comp=Z,153nm,0.7s
UBPT Khong Chiam 38.79 298 P **P** **23 28 13.5 -0.3**
comp=Z,1µmcomp=Z,41nm,0.9s
UBPT Khong Chiam 38.79 298 P **P** **23 28 13.6 -0.3**
comp=Z,1µmcomp=Z,41nm,0.9s
UBPT Khong Chiam 38.79 298 P **P** **23 28 13.9 +0.1**
UBPT Khong Chiam 38.79 298 P **P** **23 28 13.7 -0.1**
comp=Z,1µmcomp=Z,39nm,0.9s
MJA0 Matsu Arr-Jizo 39.01 357 *e*P **P** **23 28 13.7 -1.8**
MJA0 pmax pmax
comp=Z,10.0nm,0.6s
MJAR Matsushiro Arr 39.02 357 P **P** **23 28 13.8 -1.6**
comp=Z,8.5nm,0.6s,baz=170,slow=10,SNR=23
MJAR PcP **PcP** **23 30 25.8 +0.4**
comp=Z,6.5nm,0.7s,baz=151,slow=5.1,SNR=6.9
MJAR Matsushiro Arr 39.02 357 P **P** **23 28 14.3 -1.2**
MAJO Matsushiro 39.02 357 P **P** **23 28 14.2 -1.2**
MAJO pmax pmax
comp=Z,20nm,0.8s
MAJO Matsushiro 39.02 357 P **P** **23 28 14.2 -1.2**
MAT Matsushiro 39.02 357 P **P** **23 28 13.0 -2.4**
MAT S **S** **23 34 13.2 +0.7**
PDSI Padang 39.86 272 P **P** **23 28 20.9 -2.0**
comp=Z,42nm,0.6s
MSVF Nonsavu 39.95 115 P **P** **23 28 25.6 +2.0**
MSVF pmax pmax
comp=Z,42nm,1.0s
MSVF Nonsavu 39.95 115 P **P** **23 28 25.6 +2.0**
MSVF Nonsavu 39.95 115 P **P** **23 28 25.3 +1.7**
NJ2 Nanjing 40.05 331 *e*P **P** **23 28 25.3 +1.2**
NJ2 pmax pmax
comp=Z,21nm,0.5s
NJ2 LR LR
comp=Z,1µm,17.0s
NJ2 LR LR
comp=Z,1µm,18.0s
NJ2 LR LR
comp=Z,1µm,15.5s
JMM Marumori 40.29 1 IAmb IAmb 23 28 26.3
comp=Z,92nm,0.8s
JSD Sado 40.50 358 P **P** **23 28 27.1 -0.6**
JSD IAmb IAmb 23 28 28.2
comp=Z,97nm,0.8s
TAU Tasmania Unive 40.60 172 P **P** **23 28 30.1 +1.6**
TAU pmax pmax
comp=Z,153nm,1.7s
TAU Tasmania Unive 40.60 172 P **P** **23 28 30.1 +1.6**
TAU IAmb IAmb 23 28 37.4
comp=Z,153nm,1.7s
SKLT Songkhla 40.78 284 P **P** **23 28 30.2 -0.2**
comp=Z,974nmcomp=Z,66nm,0.8s
SKLT Songkhla 40.78 284 P **P** **23 28 30.2 -0.2**
comp=Z,974nmcomp=Z,66nm,0.8s
SKNT Sakolnakorn 40.80 300 P **P** **23 28 30.2 -0.3**
comp=Z,3µmcomp=Z,64nm,1.5s
SKNT Sakolnakorn 40.80 300 P **P** **23 28 30.0 -0.5**
comp=Z,3µmcomp=Z,64nm,1.5s
MNSI Mandailing Nat 40.85 274 P **P** **23 28 29.6 -1.5**
comp=Z,695nmcomp=Z,66nm,0.7s
WHN Wuhan 41.24 325 ‖P **P** **23 28 36.0 +2.0**
WHN S **S** **23 34 49.5 +3.6**
WHN LR LR
comp=Z,2µm,21.4s
SRAK Srakaew 41.38 295 P P 23 28 30.1 -5.2
KSRS Korea Array 41.50 345 P **P** **23 28 35.8 -0.2**
comp=Z,11nm,0.6s,baz=161,slow=9.1,SNR=38
KSRS PcP **PcP** **23 30 34.5 +1.3**
comp=Z,10nm,0.7s,baz=164,slow=3.7,SNR=17
KSRS LR LR 23 43 56.8
comp=Z,949nm,20.8s,baz=156,slow=34
KS19 Wonju Array Si 41.56 345 P **P** **23 28 36.8 +0.3**
KS19 IAmb IAmb 23 28 52.8
comp=Z,147nm,1.9s
RPSI Rantau Prapat 41.70 277 P **P** **23 28 36.3 -1.7**
RPSI IAmb IAmb 23 28 38.0
comp=Z,59nm,0.8s
PSI Prapat 41.71 277 P **P** **23 28 36.3 -2.0**
PSI pmax pmax
comp=Z,59nm,0.8s
PSI Prapat 41.71 277 P **P** **23 28 36.8 -1.5**
comp=Z,37nm,1.1s
TRTT Trang 41.82 285 P **P** **23 28 38.4 -0.6**
comp=Z,42nm,0.9s
TRTT Trang 41.82 285 P **P** **23 28 38.5 -0.6**
comp=Z,42nm,0.9s
INCN Inchon 41.88 344 P **P** **23 28 38.8 -0.3**
INCN pmax pmax
comp=Z,132nm,1.7s
INCN Inchon 41.88 344 P **P** **23 28 38.8 -0.3**
INCN IAmb IAmb 23 28 42.8
comp=Z,132nm,1.6s
CHAI Chaiyaphum 42.12 297 P **P** **23 28 40.7 -0.6**
comp=Z,448nmcomp=Z,55nm,0.8s
CHAI Chaiyaphum 42.12 297 P **P** **23 28 40.8 -0.6**
comp=Z,112nmcomp=Z,14nm,0.8s
SURA Surathani 42.19 287 P **P** **23 28 42.3 +0.3**
comp=Z,6µmcomp=Z,18nm,1.0s
SURA Surathani 42.19 287 P **P** **23 28 42.3 +0.3**
comp=Z,6µmcomp=Z,18nm,1.0s
GSI Gunungsitoli 42.90 275 P **P** **23 28 46.0 -1.8**
GSI IAmb IAmb 23 29 01.8
comp=Z,57nm,0.6s
GSI Gunungsitoli 42.90 275 P **P** **23 28 45.7 -2.1**
comp=Z,77nm,0.6s
JTM Tenmabayashi 43.21 1 P **P** **23 28 49.5 -0.3**
JTM IAmb IAmb 23 28 50.4
comp=Z,114nm,0.7s
PHET Kaeng Krachan 43.23 292 P **P** **23 28 50.4 0.0**
comp=Z,672nmcomp=Z,81nm,0.8s
GYA Guiyang 43.50 314 ‖P **P** **23 28 54.3 +1.7**
GYA S **S** **23 35 22.5 +2.9**
GYA pmax pmax
comp=Z,31nm,0.9s
GYA pmax pmax
comp=Z,230nm,3.8s
TPTI 43.50 277 P **P** **23 28 51.0 -1.6**
comp=Z,10nm,0.7s
PHIT Phitsanulok 44.00 298 P **P** **23 28 57.0 +0.4**
comp=Z,1µmcomp=Z,152nm,1.0s
PHIT Phitsanulok 44.00 298 P **P** **23 28 57.1 +0.4**
comp=Z,288nmcomp=Z,38nm,1.0s
LHMI Lhok Sumawe 44.01 280 P **P** **23 28 56.3 -0.5**
LHMI IAmb IAmb 23 28 56.8
comp=Z,83nm,0.7s
UTTA Uttaradit 44.10 299 P **P** **23 28 57.4 +0.1**
comp=Z,468nmcomp=Z,64nm,0.9s
UTTA Uttaradit 44.10 299 P **P** **23 28 57.4 +0.1**
comp=Z,117nmcomp=Z,16nm,0.9s
SRDT SRDT 44.15 294 P **P** **23 29 00.6 +2.8**
comp=Z,30nm,1.3s
SRDT SRDT 44.15 294 P **P** **23 29 00.7 +2.8**
comp=Z,30nm,1.3s
SRDT SRDT 44.15 294 P **P** **23 29 00.6 +2.8**
UTHA Uthaitani 44.27 295 P **P** **23 28 58.7 -0.1**
comp=Z,387nmcomp=Z,47nm,0.9s
UTHA Uthaitani 44.27 295 P **P** **23 28 58.7 -0.1**
comp=Z,96nmcomp=Z,12nm,0.9s
TIA Tai'an 44.28 333 *e*P **P** **23 28 58.0 -0.6**
TIA S **S** **23 35 29.5 -1.0**
TIA pmax pmax
comp=Z,21nm,1.4s
TIA LR LR
comp=Z,560nm,17.1s
TIA LR LR
comp=Z,240nm,11.6s
TIA LR LR
comp=Z,970nm,18.2s
NANT Nan 44.39 300 P **P** **23 29 00.5 +0.7**
comp=Z,47nm,1.0s
NANT Nan 44.39 300 P **P** **23 29 00.0 +0.2**
comp=Z,12nm,1.0s
DL2 Dalian 44.77 339 P **P** **23 29 04.5 +2.1**
DL2 S **S** **23 35 43.0 +5.6**
DL2 SS **ScS** **23 38 56.0 -1.7**
DL2 pmax pmax
comp=Z,20nm,0.8s
DL2 LR LR
comp=Z,260nm,18.7s
DL2 LR LR
comp=Z,740nm,18.5s
DL2 LR LR
comp=Z,780nm,18.1s
OUZ Omahuta 44.78 140 P **P** **23 29 05.3 +2.7**
OUZ IAmb IAmb 23 29 13.4
comp=Z,87nm,1.4s
SUKH Sukhothai 44.80 298 P **P** **23 29 03.8 +0.8**
comp=Z,326nmcomp=Z,39nm,0.9s
SUKH Sukhothai 44.80 298 P P 23 27 48.7 -74
SUKH Sukhothai 44.80 298 P **P** **23 29 03.8 +0.8**
comp=Z,81nmcomp=Z,9.7nm,0.9s
UMPA Umpang Tak 45.02 296 P **P** **23 29 05.9 +1.1**
comp=Z,4µmcomp=Z,47nm,1.0s
UMPA Umpang Tak 45.02 296 P **P** **23 29 05.9 +1.1**
comp=Z,888nmcomp=Z,12nm,1.0s
LAMP Lampang 45.21 299 P **P** **23 29 07.4 +1.2**
comp=Z,448nmcomp=Z,53nm,0.8s
CM36 Chiang Mai Arr 45.67 299 P **P** **23 29 10.0 +0.1**
CM35 Chiang Mai Arr 45.69 299 P **P** **23 29 10.0 0.0**
KMI Kunming 45.69 309 ⇑P **P** **23 29 11.0 +0.8**
KMI pP pP 23 29 17.0 -2.9
KMI S **S** **23 35 51.0 -0.6**
KMI ScS **ScS** **23 39 05.5 +0.8**
KMI pmax pmax
comp=Z,17nm,1.2s
KMI LR LR
comp=Z,600nm,25.1s
KMI LR LR
comp=Z,570nm,24.1s
KMI LR LR
comp=Z,830nm,26.1s
CM04 Chiang Mai Arr 45.73 299 P **P** **23 29 11.0 +0.6**
comp=Z,244nmcomp=Z,30nm,0.9s
CM09 Chiang Mai Arr 45.74 299 P **P** **23 29 11.1 +0.7**
comp=Z,258nmcomp=Z,35nm,0.9s
MSHR Mys Shultsa 45.75 351 *i*P **P** **23 29 10.0 -0.1**
MSHR pmax pmax
comp=Z,17nm,0.7s
CM01 Chiang Mai Arr 45.76 299 P **P** **23 29 11.2 +0.6**
comp=Z,262nmcomp=Z,35nm,1.1s
CM34 Chiang Mai Arr 45.76 300 P **P** **23 29 11.0 +0.4**
CM05 Chiang Mai Arr 45.76 299 P **P** **23 29 11.1 +0.5**
comp=Z,190nmcomp=Z,23nm,1.1s
CM02 Chiang Mai Arr 45.77 299 P **P** **23 29 11.3 +0.6**
comp=Z,276nmcomp=Z,32nm,0.9s
CM31 Chiang Mai Arr 45.78 299 P **P** **23 29 11.9 +1.1**
comp=Z,7µmcomp=Z,834nm,1.0s
CM31 Chiang Mai Arr 45.78 299 IAmb IAmb 23 29 12.3
comp=Z,80nm,1.4s
CM31 Chiang Mai Arr 45.78 299 P **P** **23 29 11.7 +0.9**
SNR=18
CMAR Chiang Mai Arr 45.78 299 P **P** **23 29 11.1 +0.3**
comp=Z,25nm,0.9s,baz=119,slow=6.3,SNR=60
CMAR ScP **ScP** **23 34 40.8 +1.7**
comp=Z,0.8nm,0.4s,baz=115,slow=3.0,SNR=5.0
CMAR LR LR 23 47 14.3
comp=Z,244nm,21.2s,baz=136,slow=35
CMAR Chiang Mai Arr 45.78 299 P **P** **23 29 11.4 +0.6**
CM15 Chiang Mai Arr 45.80 299 P **P** **23 29 11.4 +0.5**
comp=Z,274nmcomp=Z,36nm,0.9s
CM13 Chiang Mai Arr 45.80 299 P **P** **23 29 11.4 +0.5**
comp=Z,230nmcomp=Z,30nm,0.9s
CMMT Chiang Mai 45.92 299 P **P** **23 29 11.9 0.0**
comp=Z,24nm,0.9s
CMMT Chiang Mai 45.92 299 P **P** **23 29 11.9 0.0**
CM33 Chiang Mai Arr 45.92 299 P **P** **23 29 11.0 -0.9**
CHTO Chiang Mai 45.92 299 P **P** **23 29 11.7 -0.2**
CHTO pmax pmax
comp=Z,42nm,1.3s
CHTO Chiang Mai 45.92 299 P **P** **23 29 12.1 +0.2**
comp=Z,25nm,0.9s
CHTO Chiang Mai 45.92 299 P **P** **23 29 11.7 -0.2**
CHTO Chiang Mai 45.92 299 P **P** **23 29 12.1 +0.2**
comp=Z,14nm,0.9s
CM32 Chiang Mai Arr 45.94 299 P **P** **23 29 13.0 +0.9**
MHMT Maesarieng 46.56 298 P **P** **23 29 18.1 +1.2**
comp=Z,1µmcomp=Z,57nm,0.8s
MHMT Maesarieng 46.56 298 P P 23 27 52.3 -85
MHMT Maesarieng 46.56 298 P **P** **23 29 18.2 +1.2**
JKA Kamikawa-asahi 46.58 2 P **P** **23 29 15.3 -1.3**
JKA IAmb IAmb 23 29 17.5
comp=Z,72nm,0.8s
ASAJ Asahikawa 46.58 2 P **P** **23 29 15.3 -1.3**
ASAJ pmax pmax
comp=Z,72nm,0.8s
XAN Xi'an 46.94 324 P **P** **23 29 20.0 +0.3**
XAN S **S** **23 36 07.5 -1.4**
XAN sS sS 23 36 25.8 +0.9
XAN pmax pmax
comp=Z,22nm,0.8s
XAN pmax pmax
comp=Z,280nm,3.7s
XAN LR LR
comp=Z,460nm,22.2s
XAN LR LR
comp=Z,320nm,19.0s
XAN LR LR
comp=Z,540nm,23.7s
USA0B Ussuriysk Arra 47.21 352 P **P** **23 29 21.2 -0.3**
USA0B pmax pmax
comp=Z,18nm,1.0s
USA0B Ussuriysk Arra 47.21 352 P **P** **23 29 21.2 -0.3**
USRK Ussuriysk Ar. 47.21 352 P **P** **23 29 21.2 -0.3**
comp=Z,10nm,0.6s,baz=176,slow=6.8,SNR=25
USRK LR LR 23 46 10.6
comp=Z,1µm,20.5s,baz=162,slow=32
USRK Ussuriysk Ar. 47.21 352 P **P** **23 29 21.1 -0.5**
QRZ Quartz Range 47.86 147 IAmb IAmb 23 29 29.9
comp=Z,94nm,1.5s
BJI Beijing 47.88 335 P **P** **23 29 26.8 0.0**
BJI S **S** **23 36 27.3 +5.4**
BJI sS **pS** **23 36 34.3 +1.1**
BJI pmax pmax
comp=Z,10.0nm,0.7s
BJI LR LR
comp=Z,790nm,20.6s
MDJ Mudanjiang 48.00 350 P **P** **23 29 28.3 +0.6**
MDJ pP pP 23 29 35.8 -1.5
MDJ S **S** **23 36 26.5 +3.0**
MDJ pmax pmax
comp=Z,28nm,0.7s
MDJ pmax pmax
comp=Z,250nm,3.5s
MDJ LR LR
comp=Z,710nm,17.3s
MDJ LR LR
comp=Z,430nm,15.1s
MDJ LR LR
comp=Z,1µm,17.6s
CN2 Changchun 48.11 346 *e*P **P** **23 29 27.5 -1.0**
CN2 *e*S **S** **23 36 21.3 -3.8**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,800nm,18.0s
CN2 LR LR
comp=Z,600nm,18.0s
CN2 LR LR
comp=Z,1µm,18.0s
CD2 Chengdu 48.20 317 P **P** **23 29 30.5 +0.9**
CD2 S **S** **23 36 28.0 +1.0**
CD2 pmax pmax
comp=Z,70nm,0.7s
CD2 pmax pmax
comp=Z,320nm,6.5s
CD2 LR LR
comp=Z,500nm,15.3s
CD2 LR LR

comp=Z,920nm,17.9s
CD2 LR LR
comp=Z,820nm,20.0s
NNZ Nelson 48.60 147 IAmb IAmb 23 29 39.1
comp=Z,58nm,1.4s
URZ Urewera 48.87 141 IAmb IAmb 23 29 47.4
comp=Z,29nm,0.9s
BKZ Black Stump Fm 49.05 143 IAmb IAmb 23 29 46.4
comp=Z,33nm,0.7s
MLZ Mavora Lakes 49.07 154 P **P** **23 29 37.5 +1.5**
MLZ IAmb IAmb 23 30 06.8
comp=Z,148nm,1.8s
RPZ Rata Peaks 49.17 151 P **P** **23 29 37.0 +0.2**
MXZ Matakaoa Point 49.22 140 IAmb IAmb 23 30 00.9
comp=Z,54nm,0.9s
LBZ Lake Benmore 49.25 152 P **P** **23 29 37.9 +0.5**
LBZ IAmb IAmb 23 29 39.2
comp=Z,50nm,1.3s
OXZ Oxford 49.37 150 IAmb IAmb 23 29 43.0
comp=Z,41nm,1.3s
YSS Yuzh-Sakhalins 49.42 2 *e*P **P** **23 29 38.1 -0.4**
YSS *e*S **S** **23 36 40.7 -2.7**
YSS *e*SS **SS** **23 40 13.6 -2.1**
YSS pmax pmax
comp=Z,90nm,0.9s
YSS MLR MLR
comp=Z,900nm,16.0s
YSS Yuzh-Sakhalins 49.42 2 P **P** **23 29 38.1 -0.4**
KHZ Kahutara 49.51 148 IAmb IAmb 23 29 40.2
comp=Z,37nm,0.5s
BFZ Birch Farm 49.86 144 IAmb IAmb 23 29 49.5
comp=Z,40nm,0.6s
MQZ McQueen's Vall 49.96 150 IAmb IAmb 23 29 46.6
comp=Z,75nm,1.4s
HHC Hu-ho-hao-te 50.59 332 *e*P **P** **23 29 49.5 +1.8**
HHC S **S** **23 37 02.0 +1.7**
HHC SS **SS** **23 40 33.5 -1.5**
HHC pmax pmax
comp=Z,11nm,1.1s
HHC pmax pmax
comp=Z,270nm,5.5s
HHC LR LR
comp=Z,800nm,18.0s
HHC LR LR
comp=Z,480nm,18.2s
HHC LR LR
comp=Z,1μm,18.8s
LZH Lanzhou 51.38 322 ⇑P **P** **23 29 55.0 +1.2**
LZH sP pP 23 30 05.5 +1.9
LZH PP **PP** **23 31 55.8 +4.6**
LZH *e*S **S** **23 37 11.8 +0.3**
LZH sS sS 23 37 26.0 -1.7
LZH SS **SS** **23 40 45.3 -2.5**
LZH pmax pmax
comp=Z,75nm,1.0s
LZH pmax pmax
comp=Z,300nm,4.3s
LZH LR LR
comp=Z,1μm,13.8s
LZH LR LR
comp=Z,1μm,14.9s
LZH LR LR
comp=Z,2μm,16.0s
KLR Kul'dur 52.18 353*ce*P **P** **23 29 59.2 -0.1**
KLR pmax pmax
comp=Z,30nm,0.8s
MOKO MOKOCHONG 52.76 306 *e*P **P** **23 30 03.8 -0.4**
GRNR Gornyy 53.29 357⇓*i*P **P** **23 30 07.5 0.0**
GRNR pmax pmax
comp=Z,20nm,0.7s
ITAN ITANAGAR 53.76 307 *ex* **P** **23 30 12.2 +0.8**
SHL Shillong 54.60 304 P **P** **23 30 17.0 -0.8**
SHL pmax pmax
comp=Z,23nm,0.7s
SHL Shillong 54.60 304 P **P** **23 30 17.0 -0.8**
SHL IAmb IAmb 23 30 30.9
comp=Z,23nm,0.7s
SHL Shillong 54.60 304 *e*P **P** **23 30 16.0 -1.8**
SHL Shillong 54.60 304 P **P** **23 30 18.9 +1.1**
SNR=13
SKR Severo-Kuril's 54.81 12 *e*P **P** **23 30 15.9 -2.6**
SKR *e*S **S** **23 37 50.6 -6.6**
SKR pmax pmax
comp=Z,76nm,1.2s
SKR pmax pmax
comp=Z,100nm,4.8s
SKR MLR MLR
comp=Z,100nm,19.0s
GTA Gaotai 55.96 323 ⇑P **P** **23 30 28.5 +1.2**
GTA pP pP 23 30 33.5 -3.6
GTA S **S** **23 38 15.8 +2.4**
GTA sS pS 23 38 27.0 +1.8
GTA pmax pmax
comp=Z,29nm,1.0s
GTA pmax pmax
comp=Z,94nm,4.2s
GTA LR LR
comp=Z,280nm,19.6s
GTA LR LR
comp=Z,390nm,20.0s
GTA LR LR
comp=Z,350nm,21.8s
LSA Lhasa 56.91 308 P **P** **23 30 36.0 +1.4**
LSA S **S** **23 38 24.5 -2.4**
LSA LR LR
comp=Z,630nm,16.8s
LSA LR LR
comp=Z,940nm,18.6s
LSA Lhasa 56.91 308 P **P** **23 30 35.0 +0.4**
ZEA Zeya 57.21 351 *e*P **P** **23 30 36.0 +0.3**
ZEA *e* 23 38 35.2
ZEA pmax pmax
comp=Z,20nm,0.8s
PEA0B Petropavlovsk- 57.42 12*ce*P **P** **23 30 36.3 -0.9**
PEA0B Petropavlovsk- 57.42 12 IAmb IAmb 23 30 55.4
comp=Z,144nm,1.6s
PETK Petropavlovsk- 57.42 12 P **P** **23 30 37.2 0.0**
comp=Z,20nm,0.8s,baz=199,slow=13,SNR=26
PETK PcP **PcP** **23 31 30.5 -0.3**
comp=Z,8.0nm,0.6s,baz=151,slow=3.4,SNR=6.0
PETK LR LR 23 52 21.6
comp=Z,197nm,21.5s,baz=211,slow=33
PET Petropavlovsk 57.55 13 *e*P P 23 30 45.8 +7.7
PET *e*S **S** **23 38 38.0 +4.4**
PET *e*SS **SS** **23 42 31.0 +6.8**
PET MLR MLR
comp=Z,300nm,19.0s
GTK Tadong 57.99 305 *e*P **P** **23 30 42.9 +0.9**
SONM Songino Array 58.34 334 P **P** **23 30 44.4 +0.5**
comp=Z,4.6nm,0.6s,baz=153,slow=7.7,SNR=34
SONM LR LR 23 56 09.5
comp=Z,865nm,19.0s,baz=138,slow=36
SONM PKP2bc 00 00 36.9
comp=Z,1.7nm,1.0s,baz=322,slow=1.4,SNR=7.6
SONM Songino Array 58.34 334 P **P** **23 30 44.3 +0.4**
TAPN Taplejung 58.74 304 *e*P **P** **23 30 47.7 +0.4**
comp=Z,56nm,0.9s
ODAN Odare 58.82 304 *e*P **P** **23 30 48.1 +0.3**
comp=Z,67nm,0.8s
BOK Bokaro 59.06 300 *e*P **P** **23 30 50.8 +1.6**
BOK IAmb IAmb 23 30 53.4
comp=Z,30nm,0.4s
RAMN Ramite 59.51 303 *e*P **P** **23 30 53.1 +0.5**
comp=Z,16nm,0.4s
VIS Vishakhapatnam 59.66 292 *e*P **P** **23 30 55.0 +1.6**
JIRN Jiri 60.11 304 *e*P **P** **23 30 57.3 +0.4**
comp=Z,14nm,0.4s
PKI Pulchoki 60.72 304 *e*P **P** **23 31 00.9 -0.1**
comp=Z,39nm,0.9s
PKIN Phulchoki 60.74 304 *e*P **P** **23 31 01.0 0.0**
KKN Kakani 60.91 304 *e*P **P** **23 31 02.4 +0.3**
comp=Z,66nm,0.8s
DMN Daman 60.99 304 *e*P **P** **23 31 03.0 +0.3**
comp=Z,93nm,0.8s
GKN Gorkha 61.51 304 *e*P **P** **23 31 06.5 +0.3**
comp=Z,134nm,0.8s
ZAK Zakamensk 61.60 334 *e*P **P** **23 31 05.8 -0.4**
ZAK pmax pmax
comp=Z,31nm,1.2s
KOLN Koldanda 62.30 303 *e*P **P** **23 31 12.0 +0.5**
comp=Z,114nm,0.9s
DANN Dangsing 62.36 304 *e*P **P** **23 31 12.4 +0.4**
comp=Z,128nm,0.8s
PYUN Piuthan 62.92 303 *e*P **P** **23 31 16.1 +0.5**
comp=Z,255nm,0.8s
MOY Mondy 63.53 334 *e*P **P** **23 31 20.3 +1.2**
MOY pmax pmax
comp=Z,97nm,2.3s
BOD Bodaibo 63.84 345 *e*P **P** **23 31 20.2 -0.7**
BOD pmax pmax
comp=Z,25nm,1.5s
HYB Hyderabad 64.03 291 *i* P **P** **23 31 21.0 -2.0**
YAK Yakutsk 64.99 354*d* iP **P** **23 31 28.3 0.0**
YAK *e* 23 32 00.5
YAK *e*S **S** **23 40 06.6 -1.3**
YAK *e**SS sS 23 40 35.9 +12
YAK *e* 23 41 17.8
YAK *e*SS **SS** **23 44 19.5 -0.8**
YAK pmax pmax
comp=Z,70nm,0.8s
YAK pmax pmax
comp=N,21nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=Z,220nm,4.1s
YAK pmax pmax
comp=N,136nm,3.6s
YAK pmax pmax
comp=E,114nm,2.8s
YAK smax smax
comp=N,224nm,3.3s
YAK smax smax
comp=E,90nm,2.7s
YAK Yakutsk 64.99 354 P **P** **23 31 28.1 -0.2**
KIWB Kanaga Island 65.11 28 P **P** **23 31 29.6 +0.3**
ADK Adak 65.35 28 P **P** **23 31 30.2 -0.6**
ADK pmax pmax
comp=Z,60nm,0.8s
ADK Adak 65.35 28 P **P** **23 31 30.2 -0.6**
WMQ Urumqi 65.94 321 ⇑P **P** **23 31 36.3 +1.4**
WMQ pP pP 23 31 42.5 -2.5
WMQ sP sP 23 31 51.5 +2.7
WMQ pmax pmax
comp=Z,54nm,0.9s
WMQ pmax pmax
comp=Z,330nm,4.3s
WMQ LR LR
comp=Z,340nm,17.9s
WMQ LR LR
comp=Z,180nm,23.5s
DDI Dehra Dun 67.71 304 *e*P **P** **23 31 46.7 +0.2**
DDI IAmb IAmb 23 31 51.9
comp=Z,86nm,0.4s
POO Poona 68.64 291 *e*P **P** **23 31 51.2 -1.2**
POO IAmb IAmb 23 31 54.2
comp=Z,30nm,1.2s
POO Poona 68.64 291 *e*P P 23 31 47.0 -5.5
SMLA Simla 68.67 305 *e*P **P** **23 31 52.5 +0.1**
SMLA IAmb IAmb 23 31 58.1
comp=Z,51nm,0.8s
DGZ Jazzator, Alta 69.09 326 *i* P **P** **23 31 54.9 +0.1**
DGZ pmax pmax
comp=Z,42nm,0.7s
ZSN Zaisan 69.44 323 *e*P **P** **23 31 57.0 0.0**
baz=323
ZSN Zaisan 69.44 323 *e*P **P** **23 31 56.9 0.0**
DHRM DHARAMSHALA 69.70 306 *e*P **P** **23 31 57.5 -1.6**
DHRM IAmb IAmb 23 32 01.6
comp=Z,40nm,1.2s
NIKH Nikolski High 69.80 30 P **P** **23 31 59.4 +0.4**
baz=236
PPT Papeete 70.26 108 LR LR 23 59 08.4
comp=Z,262nm,20.6s,baz=284,slow=33
PPT2 Papeete2 70.26 108 *e*S **S** **23 41 17.6 +4.7**
comp=Z,230nm,23.5s
PPT2 Papeete2 70.26 108 *e*LR LR 23 53 32.2
comp=Z,473nm,23.0s
MK31 Makanchi Array 70.70 322 IAmb IAmb 23 32 06.7
comp=Z,20nm,0.8s
MKAR Makanchi Array 70.70 322 P **P** **23 32 05.4 +0.8**
comp=Z,25nm,0.7s,baz=106,slow=7.7,SNR=156
MAKZ Makanchi 70.90 322 P **P** **23 32 06.2 +0.3**
MAKZ pmax pmax
comp=Z,41nm,0.8s
MAKZ Makanchi 70.90 322 P **P** **23 32 06.2 +0.3**
MAKZ IAmb IAmb 23 32 07.8
comp=Z,41nm,0.8s
SHLS Shalkode 71.03 317⇑*e*P **P** **23 32 05.9 -0.9**
comp=Z,12nm,0.7s,baz=318
SHLS *e*S **S** **23 41 19.3 -1.8**
baz=318
SHLS Shalkode 71.03 317*ce*P **P** **23 32 05.9 -0.9**
SHLS *e*S **S** **23 41 19.2 -1.8**
SHLS pmax pmax
comp=Z,12nm,0.7s
UZB Uzynbulak 71.32 317⇑*e*P **P** **23 32 09.4 +0.8**
comp=Z,15nm,1.0s,baz=317
UZB Uzynbulak 71.32 317*ce*P **P** **23 32 09.4 +0.8**
UZB pmax pmax
comp=Z,15nm,1.0s
UNV Unalaska Valle 71.46 30 P **P** **23 32 08.4 -0.6**
UNV Unalaska Valle 71.46 30 P **P** **23 32 09.2 +0.3**
baz=238
SPIA Saint Paul Isl 71.61 26 P **P** **23 32 10.5 +0.6**
baz=233
KPKS Kokpek 71.67 318 *e*P **P** **23 32 11.2 +0.5**
comp=Z,11nm,0.9s,baz=318
KPKS Kokpek 71.67 318 *e*P **P** **23 32 11.1 +0.5**
KPKS pmax pmax
comp=Z,11nm,0.9s
SATY Saty 71.70 317⇑*e*P **P** **23 32 11.8 +0.9**
comp=Z,14nm,1.0s,baz=317
SATY Saty 71.70 317*ce*P **P** **23 32 11.8 +0.9**
SATY pmax pmax
comp=Z,14nm,1.0s
KSH Kashi 72.19 313 P **P** **23 32 16.0 +2.1**
KSH pP pP 23 32 22.0 -2.0
KSH sP sP 23 32 25.3 -2.5
KSH PcP **PcP** **23 32 33.0 +0.9**
KSH PP **PP** **23 34 59.5 +4.8**
KSH S **S** **23 41 36.5 +1.9**
KSH SKS **SKSac** **23 42 13.5 -2.8**
KSH SS **SS** **23 46 20.0 +7.3**
KSH pmax pmax
comp=Z,51nm,1.1s
KSH pmax pmax
comp=Z,260nm,6.6s
KSH LR LR
comp=Z,380nm,18.5s
KSH LR LR
comp=Z,440nm,20.8s
KSH LR LR
comp=Z,880nm,22.7s
KDJ Kajisay 72.21 316 IAmb IAmb 23 32 21.8
comp=Z,22nm,0.8s
TDK Taldyqorghan 72.44 319 *e*P **P** **23 32 15.2 +0.1**
baz=319
TDK *e*S **S** **23 41 36.4 -0.7**
baz=319
TDK Taldyqorghan 72.44 319 *e*P **P** **23 32 15.2 +0.1**
TDK *e*S **S** **23 41 36.3 -0.7**
NIL Nilore 72.56 306 P **P** **23 32 15.9 -0.2**
NIL pmax pmax
comp=Z,72nm,0.7s
NIL Nilore 72.56 306 P **P** **23 32 15.9 -0.2**
NIL Nilore 72.56 306 P **P** **23 32 16.9 +0.8**
MDOK Medeo 72.67 317 *e*P **P** **23 32 17.2 +0.4**
baz=317
MDOK *e*S **SKiKP** **23 41 46.0 -3.0**
baz=317
MDOK Medeo 72.67 317 *e*P **P** **23 32 17.1 +0.4**
MDOK *e*S **SKiKP** **23 41 45.9 -3.0**
ZALV Zalesovo Beam 72.67 329 P **P** **23 32 16.0 -0.3**
comp=Z,23nm,0.7s,baz=111,slow=6.4,SNR=86
ZALV LR LR 00 04 25.9
comp=Z,362nm,19.7s,baz=120,slow=36
ZALV Zalesovo Beam 72.67 329 P **P** **23 32 15.3 -1.0**
TNSS Tian-Shan 72.69 317 *e*P **P** **23 32 17.7 +0.5**
baz=317
AAA Alma-Ata 72.78 317 *e*P **P** **23 32 16.7 -0.6**
baz=317
AAA Alma-Ata 72.78 317 *e*P **P** **23 32 16.7 -0.6**
BILL Bilibino 72.80 10 *i* P **P** **23 32 13.6 -3.2**
BILL *i* 23 32 30.9
BILL pmax pmax
comp=Z,8.0nm,0.8s
CHKK Chushkaly 72.95 317 *e*P **P** **23 32 16.9 -1.3**
baz=318
MTBS Maitube 73.08 317 *e*P **P** **23 32 17.6 -1.5**
baz=317
BOOM Boomskoye usch 73.20 316 IAmb IAmb 23 32 27.2
comp=Z,34nm,0.8s
BHUJ Bhuj 73.35 295 *e*P **P** **23 32 21.0 +0.1**
BHUJ IAmb IAmb 23 32 24.6
comp=Z,170nm,1.2s
KUU Kurty 73.41 317 *e*P **P** **23 32 20.8 -0.2**
comp=Z,28nm,0.9s,baz=317
KUU Kurty 73.41 317 *e*P **P** **23 32 20.7 -0.2**
KUU pmax pmax
comp=Z,28nm,0.9s
SEM Semipalatinsk 73.49 325 *e*P **P** **23 32 20.3 -1.2**
baz=325
SEM Semipalatinsk 73.49 325 *e*P **P** **23 32 20.3 -1.2**
KZA Kyzart 73.54 315 P **P** **23 32 24.1 +1.8**
SNR=68
TKM2 Tokmak 2 73.58 316 P **P** **23 32 23.3 +1.1**
SNR=5.5
UCH Uchtor 74.11 315 P **P** **23 32 27.6 +2.0**
SNR=28
CHMS Chumysh 74.19 316 P **P** **23 32 26.4 +0.9**
SNR=12
AAK Ala-Archa 74.25 316 P **P** **23 32 27.3 +1.1**
SNR=15
AAK Ala-Archa 74.25 316 P **P** **23 32 26.9 +0.8**
AAK Ala-Archa 74.25 316*ce*P **P** **23 32 27.1 +1.0**
AAK pmax pmax
comp=Z,80nm,1.3s
AAK Ala-Archa 74.25 316 P **P** **23 32 25.4 -0.7**
AAK Ala-Archa 74.25 316 P **P** **23 32 27.2 +1.1**
SGDS Sogindy 74.42 316 *e*P **P** **23 32 26.4 -0.5**
baz=316
TIXI Tiksi 74.52 356 *i* P **P** **23 32 27.3 +0.5**
TIXI Tiksi 74.52 356 P **P** **23 32 25.6 -1.1**
AML Almayashu 74.66 315 P **P** **23 32 30.0 +1.3**
SNR=51
AML Almayashu 74.66 315 P **P** **23 32 30.0 +1.3**
AML Almayashu 74.66 315 P **P** **23 32 30.4 +1.7**
EKS2 Erkin-Say 74.76 315 P **P** **23 32 30.3 +1.3**
SNR=27
SDPT Sand Point 75.25 30 P **P** **23 32 31.7 +0.4**
baz=243
DRK Karamyk 75.26 312 IAmb IAmb 23 32 37.4
comp=Z,41nm,1.2s
BTLS Baital 75.34 318 *e*P **P** **23 32 32.5 +0.3**
comp=Z,15nm,1.2s,baz=318
BTLS Baital 75.34 318 *e*P **P** **23 32 32.4 +0.3**
BTLS pmax pmax
comp=Z,15nm,1.2s
CHNA Chernabura Isl 75.47 31 P **P** **23 32 33.0 +0.5**
baz=244
VNDA Vanda 75.73 175 P **P** **23 32 34.3 +0.6**
comp=Z,7.9nm,0.6s,baz=327,slow=6.5,SNR=58
VNDA LR LR 00 06 14.2
comp=Z,2μm,19.3s,baz=353,slow=36
VNDA Vanda 75.73 175 P **P** **23 32 33.1 -0.6**
BTK Batken 76.14 312 IAmb IAmb 23 32 47.4
comp=Z,35nm,1.2s
KBL Kabul 76.16 306 P **P** **23 32 36.6 -0.7**
KBL pmax pmax
comp=Z,16nm,0.8s
KBL Kabul 76.16 306 P **P** **23 32 36.6 -0.7**
KBL Kabul 76.16 306 P **P** **23 32 37.6 +0.3**
SNR=13
GAR Garm 76.24 311 P **P** **23 32 37.8 +0.3**
SBA Scott Base 76.47 174 P **P** **23 32 39.5 +1.6**
SBA pmax pmax
comp=Z,50nm,1.6s
SBA Scott Base 76.47 174 P **P** **23 32 39.5 +1.6**
SBA IAmb IAmb 23 33 04.2
comp=Z,50nm,1.6s
DZA Taraz 76.55 315 *e*P **P** **23 32 38.3 -0.9**
baz=315
DZA Taraz 76.55 315 *e*P **P** **23 32 38.2 -0.9**
CHGN Chignik 76.72 30 P **P** **23 32 40.1 +0.5**
baz=244
KKAR Karatay Array 77.19 315 P **P** **23 32 43.1 +0.4**
KKAR Karatay Array 77.19 315 P **P** **23 32 43.1 +0.4**
KKAR Karatay Array 77.19 315 IAmb IAmb 23 32 46.4
comp=Z,11nm,0.8s
IUG Iuzhnay 77.27 314 *e*P **P** **23 32 43.7 +0.4**
baz=314
IUG Iuzhnay 77.27 314 *e*P **P** **23 32 43.7 +0.4**
TNA Tin City 77.54 20 P **P** **23 32 44.5 +0.5**
baz=234
BRZS Berezniki 77.83 322 *e*P **P** **23 32 45.2 -0.9**
baz=322
BRZS Berezniki 77.83 322 *e*P **P** **23 32 45.2 -0.9**
ANM Nome 77.84 21 P **P** **23 32 47.1 +1.2**
ANM pmax pmax
comp=Z,21nm,0.8s
ANM Nome 77.84 21 P **P** **23 32 47.1 +1.2**
ANM IAmb IAmb 23 32 47.6
comp=Z,21nm,0.8s
ANM Nome 77.84 21 P **P** **23 32 46.5 +0.6**
baz=236
CHIR Chirikof Islan 77.94 31 P **P** **23 32 47.3 +0.8**
baz=247
SII Sitkinak Islan 78.97 31 P **P** **23 32 53.0 +0.7**
baz=248
TAOE Nuku Hiva Isla 79.28 98 *e*LR LR 23 57 42.0
comp=Z,1μm,25.0s
OHAK Old Harbor 79.67 30 P **P** **23 32 57.0 +1.0**
OHAK Old Harbor 79.67 30 P **P** **23 32 56.7 +0.7**
baz=249
N18K Kilae Creek 79.78 27 IAmb IAmb 23 32 58.8
comp=Z,30nm,0.8s
N18K Kilae Creek 79.78 27 P **P** **23 32 57.5 +0.9**
baz=246
SVW2 Sparrevohn 80.09 26 IAmb IAmb 23 33 00.2
comp=Z,36nm,0.7s
NRIK Noril'sk 80.09 343 P **P** **23 32 58.1 +0.1**
comp=Z,15nm,0.8s,baz=92,slow=6.0,SNR=17
NRIK LR LR 00 08 21.5
comp=Z,589nm,20.5s,baz=122,slow=36
NRIK Noril'sk 80.09 343 *i* P **P** **23 32 58.5 +0.4**
NRIK pmax pmax
comp=Z,35nm,1.0s
NRIK Noril'sk 80.09 343 IAmb IAmb 23 33 04.0
comp=Z,42nm,1.1s
Q19K Cape Douglas, 80.13 29 P **P** **23 32 59.1 +0.5**
baz=248
BRVK Borovoye 80.23 325*ce*P **P** **23 32 59.8 +0.7**
BRVK pmax pmax
comp=Z,46nm,1.7s
BRVK Borovoye 80.23 325 P **P** **23 32 59.3 +0.2**
BRVK Borovoye 80.23 325 P **P** **23 32 60.0 +0.9**
KDAK Kodiak Island 80.23 30 P **P** **23 32 59.6 +0.6**
KDAK pmax pmax
comp=Z,85nm,0.7s
KDAK Kodiak Island 80.23 30 P **P** **23 32 59.6 +0.6**
KDAK Kodiak Island 80.23 30 P **P** **23 32 59.9 +0.8**
baz=249
N19K Bonanza Creek 80.47 27 P **P** **23 33 01.3 +0.9**
baz=247
P19K Oil Pt 80.60 28 P **P** **23 33 01.3 +0.3**
baz=248
L19K White Mountain 80.85 25 P **P** **23 33 03.2 +0.9**
baz=246
M19K Big River Lodg 80.94 26 P **P** **23 33 03.8 +1.0**
baz=247
HOM Homer 81.35 28 P **P** **23 33 05.6 +0.6**
baz=250
L20K Farewell, AK 81.39 25 P **P** **23 33 06.2 +1.1**
baz=247
K20K Telida 81.65 25 IAmb IAmb 23 33 09.0
comp=Z,68nm,0.8s
K20K Telida 81.65 25 P **P** **23 33 07.4 +0.9**
baz=247
BRLK Bradley Lake 81.75 28 IAmb IAmb 23 33 08.5
comp=Z,37nm,0.8s
BRSE Bradley Lake S 81.81 29 P **P** **23 33 08.1 +0.7**
baz=250
J20K Nowinta River 81.94 24 P **P** **23 33 09.1 +1.0**
baz=247,SNR=42
CAPN Captain Cook N 81.97 27 P **P** **23 33 08.7 +0.5**
baz=250
SKT Skwentna 82.22 26 P **P** **23 33 08.7 -0.8**
baz=250,SNR=9.3
CAST Castle Rocks 82.50 25 P **P** **23 33 11.1 +0.1**
baz=249
O22K Cooper Landing 82.54 28 P **P** **23 33 11.6 +0.4**
baz=251
SEW Seward 82.54 28 P **P** **23 33 11.5 +0.3**
baz=252
JLN Jalan Bani Buh 82.56 293 P **P** **23 33 13.7 +1.5**
SNR=5.3
RC01 Rabbit Creek A 82.73 27 P **P** **23 33 11.8 -0.4**
baz=251,SNR=15

MAW **Mawson** 82.80 202 P P 23 33 13.1 +0.6
baz=83,SNR=4.8
MAW **Mawson** 82.80 202 P P 23 33 12.4 0.0
comp=Z,3.5nm,0.7s,baz=107,slow=7.1,SNR=7.3
MAW **Mawson** 82.80 202 P P 23 33 12.3 -0.1
IMAR **Indian Mountai** 82.81 22 P P 23 33 12.8 +0.3
KTH **Kantishna Hill** 83.03 25 P P 23 33 13.6 -0.3
KTH IAmb IAmb 23 33 14.3
comp=Z,46nm,0.8s
H21K **Melozitna Rive** 83.04 23 IAmb IAmb 23 33 15.3
comp=Z,20nm,0.8s
H21K **Melozitna Rive** 83.04 23 P P 23 33 14.2 +0.5
baz=248,SNR=16
PMR **Palmer** 83.17 27 P P 23 33 14.1 -0.3
baz=252,SNR=10
I21K **Tanana** 83.19 23 IAmb IAmb 23 33 17.5
comp=Z,27nm,0.8s
I21K **Tanana** 83.19 23 P P 23 33 15.0 +0.5
baz=249,SNR=5.4
BPAW **Bear Paw Mtn.** 83.20 24 IAmb IAmb 23 33 23.1
comp=Z,88nm,2.0s
BPAW **Bear Paw Mtn.** 83.20 24 P P 23 33 14.4 -0.2
baz=250,SNR=7.3
TRF **Thorofare Moun** 83.27 25 IAmb IAmb 23 33 17.1
comp=Z,28nm,0.7s
TRF **Thorofare Moun** 83.27 25 P P 23 33 14.3 -0.9
baz=250,SNR=8.5
WSAR **Wadi Sarin** 83.38 294 P P 23 33 17.8 +1.4
SNR=5.1
KNK **Knik Glacier** 83.42 27 P P 23 33 15.9 +0.1
baz=252,SNR=15
SML **Sawmill** 83.59 27 P P 23 33 16.8 +0.1
baz=252,SNR=22
MLY **Manley** 83.62 23 P P 23 33 17.0 +0.2
baz=250
MHTO **MHTO** 83.78 291 P P 23 33 19.8 +1.3
SNR=13
JMDO **Jabal Madar** 83.78 293 P P 23 33 19.4 +0.9
SNR=7.5
RND **Reindeer** 83.86 25 P P 23 33 17.2 -0.9
RND pmax pmax
comp=Z,68nm,0.8s
RND **Reindeer** 83.86 25 P P 23 33 17.2 -0.9
BIDO **Bidbid** 83.87 294 P P 23 33 19.8 +0.9
SNR=10
GLI **Glacier Island** 83.89 28 P P 23 33 18.6 +0.4
baz=254
SMDO **Samad** 83.90 293 P P 23 33 19.8 +0.6
SNR=8.3
MCK **McKinley** 83.93 25 IAmb IAmb 23 33 18.7
comp=Z,40nm,0.8s
MCK **McKinley** 83.93 25 P P 23 33 17.7 -0.7
baz=252,SNR=14
WAT6 **Susitna Watana** 84.09 26 P P 23 33 19.2 -0.2
baz=253,SNR=12
A21K **Barrow** 84.11 17 P P 23 33 19.5 +0.5
baz=244
NEA2 **Nenana** 84.15 24 IAmb IAmb 23 33 23.9
comp=Z,16nm,0.7s
NEA2 **Nenana** 84.15 24 P P 23 33 19.4 -0.1
baz=251,SNR=8.4
I23K **Minto, Yukon-K** 84.21 24 IAmb IAmb 23 33 23.0
comp=Z,34nm,0.7s
I23K **Minto, Yukon-K** 84.21 24 P P 23 33 20.0 +0.3
baz=251,SNR=29
DHY **Denali Highway** 84.40 26 P P 23 33 20.9 0.0
baz=253,SNR=26
EYAK **Cordova Ski Ar** 84.44 29 P P 23 33 21.4 +0.5
baz=255
WRH **Wood River Hil** 84.52 24 IAmb IAmb 23 33 21.5
comp=Z,40nm,0.8s
COLD **Coldfoot** 84.59 21 IAmb IAmb 23 33 23.4
comp=Z,19nm,0.8s
COLD **Coldfoot** 84.59 21 P P 23 33 22.4 +0.8
baz=250,SNR=11
KLU **Klutina** 84.61 28 P P 23 33 21.3 -0.7
KLU **Klutina** 84.61 28 P P 23 33 22.3 +0.4
baz=255,SNR=8.6
HOQ **Hoqain** 84.62 294 P P 23 33 23.7 +0.9
SNR=14
BSY **Bisya** 84.65 293 P P 23 33 23.3 +0.3
SNR=9.9
M24K **Tolsona, Glenn** 84.66 27 P P 23 33 22.8 +0.7
baz=254,SNR=5.7
TCOL **CIGO, UAF Yank** 84.73 24 IAmb IAmb 23 33 23.0
comp=Z,29nm,0.9s
TCOL **CIGO, UAF Yank** 84.73 24 P P 23 33 22.7 +0.3
baz=252
COLA **College** 84.74 24 P P 23 33 21.1 -1.2
COLA pmax pmax
comp=Z,28nm,0.9s
COLA **College** 84.74 24 P P 23 33 21.1 -1.2
COLA IAmb IAmb 23 33 23.0
comp=Z,28nm,0.8s
COLA **College** 84.74 24 P P 23 33 22.6 +0.2
baz=252
HDA **Harding Lake** 84.97 25 IAmb IAmb 23 33 24.7
comp=Z,31nm,0.8s
HDA **Harding Lake** 84.97 25 P P 23 33 22.8 -0.8
baz=253,SNR=16
POKR **Poker Plat Res** 84.98 24 P P 23 33 23.4 -0.3
baz=253
H24K **Noodor Dome** 85.02 23 IAmb IAmb 23 33 25.2
comp=Z,22nm,0.8s
H24K **Noodor Dome** 85.02 23 P P 23 33 23.9 0.0
baz=252,SNR=18
BMRM **Bremner River** 85.09 28 IAmb IAmb 23 33 25.9
comp=Z,47nm,0.8s
BMRM **Bremner River** 85.09 28 P P 23 33 24.5 +0.2
baz=256
IL31 **85.10 24** IAmb IAmb 23 33 24.2
comp=Z,36nm,0.8s
ILAR **Eielson Array** 85.10 24 P P 23 33 23.1 -1.2
comp=Z,31nm,0.7s,baz=257,slow=4.8,SNR=32
ILAR LR LR 00 06 07.1
comp=Z,140nm,20.5s,baz=247,slow=32
ILAR **Eielson Array** 85.10 24 P P 23 33 22.9 -1.4
HARP **HAARP** 85.19 27 P P 23 33 25.3 +0.5
baz=255
PAX **Paxson** 85.20 26 IAmb IAmb 23 33 26.0
comp=Z,52nm,1.4s
PAX **Paxson** 85.20 26 P P 23 33 24.9 -0.1
baz=255,SNR=8.1
N25K **Chitina, Valde** 85.25 28 IAmb IAmb 23 33 27.4
comp=Z,23nm,0.7s
N25K **Chitina, Valde** 85.25 28 P P 23 33 25.5 +0.4
baz=256,SNR=8.7
TOLK **Toolik Lake Re** 85.29 20 IAmb IAmb 23 33 27.5
comp=Z,28nm,0.8s
TOLK **Toolik Lake Re** 85.29 20 P P 23 33 25.6 +0.4
baz=251,SNR=14
ARQ **Aragi** 85.32 294 P P 23 33 26.6 +0.3
SNR=8.1
SOHO **SOHO** 85.38 294 *i* P P 23 33 26.4 -0.1
SNR=12
GEYT **Alibeck** 85.44 308 P P 23 33 28.0 +1.4
comp=Z,117nm,0.5s,baz=52,slow=13,SNR=18
GEYT LR LR 00 13 19.3
comp=Z,301nm,21.8s,baz=195,slow=37
ABKAR **Akbulak array** 85.69 320 P P 23 33 27.3 -0.2
BANOM **Banah** 85.75 296 P P 23 33 29.1 +0.7
SHAO **Shalim** 85.75 288 *i* P P 23 33 28.6 +0.1
SNR=7.6
UOSS **Minazif** 85.75 295 P P 23 33 27.6 -0.8
UOSS **Minazif** 85.75 295 P P 23 33 27.5 -0.8
UOSS IAmb IAmb 23 33 33.7
comp=Z,24nm,0.8s
CRQE **Cirque** 85.75 29 P P 23 33 28.0 +0.3
baz=257
HATD **Hatta, Dubai** 85.80 295 P P 23 33 28.8 +0.1
MSFE **Esma-Masafi** 85.82 296 *i* P P 23 33 29.4 +0.7
SNR=8.4
ASHO **Ashiyiah** 85.86 295 P P 23 33 28.9 0.0
PRP **Porcupine Dome** 85.86 24 P P 23 33 28.0 -0.2
baz=255,SNR=6.3
SHME **Shamm** 85.90 296 *i* P P 23 33 29.7 +0.7
SNR=6.6
MCARA **McCarthy VSAT** 85.93 28 P P 23 33 29.2 +0.7
baz=257
MENT **Mentasta** 85.97 26 IAmb IAmb 23 33 30.3
comp=Z,31nm,0.8s
DOT **Dot Lake** 85.99 26 IAmb IAmb 23 33 30.2
comp=Z,31nm,0.8s
ALNE **Al Ain** 86.09 294 *i* P P 23 33 30.6 +0.6
SNR=29
ALNE **Al Ain** 86.09 294 P P 23 33 30.8 +0.7
SNR=14
SCRK **Sand Creek** 86.11 25 IAmb IAmb 23 33 41.9
comp=Z,28nm,1.4s
SCRK **Sand Creek** 86.11 25 P P 23 33 29.2 -0.2
baz=256,SNR=5.2
FAQ **Al Faqa, Dubai** 86.29 295 P P 23 33 30.7 -0.3
J26L **Joseph Creek** 86.41 25 P P 23 33 31.1 +0.2
baz=256,SNR=20
ASUD **Al Ashush, Dub** 86.52 295 *i* P P 23 33 32.1 0.0
SNR=6.8
SVE **Sverdlovsk** 86.53 327 *e*P P 23 33 31.2 -0.3
CTG **Chitna Glacier** 86.64 29 P P 23 33 32.8 +0.7
baz=259
M27K **Edge Creek, AK** 86.67 27 P P 23 33 32.9 +0.7
baz=258,SNR=16
BMAR **Burnt Mountain** 86.73 22 P P 23 33 33.5 +1.1
L27K **Beaver Creek,** 86.84 26 IAmb IAmb 23 33 34.5
comp=Z,18nm,0.8s
L27K **Beaver Creek,** 86.84 26 P P 23 33 33.5 +0.5
baz=258,SNR=14
BCAR **Beaver Creek A** 86.86 26 P P 23 33 33.6 +0.5
K27K **Chicken** 86.94 26 P P 23 33 34.5 +1.1
baz=258
SOCY **Socotra** 86.95 282 IAmb IAmb 23 33 36.6
comp=Z,32nm,0.7s
RBK **Rabkut** 87.06 288 P P 23 33 35.2 +0.2
SNR=10.0
BVCY **Beaver Creek** 87.15 27 P P 23 33 35.1 +0.6
baz=259
DOK **Doka** 87.20 289 P P 23 33 35.1 -0.5
SNR=9.0
YUK3 **Moose Creek** 87.21 28 P P 23 33 35.6 +0.6
baz=259
QSPA **South Pole Qui** 87.32 180 P P 23 33 34.8 -0.6
QSPA IAmb IAmb 23 33 36.4
comp=Z,26nm,0.6s
EGAK **Eagle** 87.48 25 IAmb IAmb 23 33 44.9
comp=Z,49nm,1.3s
EGAK **Eagle** 87.48 25 P P 23 33 36.4 +0.5
baz=259
WHFO **Wadi Hawf** 87.50 288 P P 23 33 36.5 -0.6
SNR=5.5
ARU **Arti** 87.60 327 *c* *i*P P 23 33 35.8 -0.9
ARU S **SKSac** 23 44 00.7 -1.5
ARU SS **SS** 23 49 56.5 -5.8
ARU pmax pmax
comp=Z,8.0nm,0.8s
ARU **Arti** 87.60 327 P P 23 33 34.8 -1.9
ABTO **Aybut** 87.92 287 P P 23 33 38.4 -0.8
SNR=7.0
YUK6 **Outpost Mounta** 88.06 29 P P 23 33 39.6 +0.4
baz=261
DAWY **Dawson** 88.10 26 P P 23 33 39.8 +0.8
baz=260
HYT **Haines Junctio** 88.46 29 IAmb IAmb 23 33 42.6
comp=Z,34nm,0.8s
HYT **Haines Junctio** 88.46 29 P P 23 33 41.5 +0.6
baz=262
SKAG **Skagway** 89.37 31 P P 23 33 45.6 +0.6
baz=264
EPYK **Eagle Plains** 89.56 24 IAmb IAmb 23 33 47.1
comp=Z,28nm,0.9s
EPYK **Eagle Plains** 89.56 24 P P 23 33 46.1 +0.2
baz=263
FARO **Faro, Yukon** 90.60 28 P P 23 33 51.4 +0.6
baz=266
INK **Inuvik** 91.00 22 IAmb IAmb 23 34 01.2
comp=Z,31nm,1.2s
INK **Inuvik** 91.00 22 P P 23 33 52.4 +0.1
baz=266
MMPY **Sheldon Lake,** 91.59 28 P P 23 33 56.1 +0.7
baz=268
KIRV **Kirov** 92.69 328 *i* P P 23 34 00.7 +0.3
TGTN **Hyland Airport** 92.97 29 P P 23 34 02.3 +0.5
baz=270
BELG **Belogornoye** 93.70 322 *i* P P 23 34 04.0 -1.2
BELG pmax pmax
comp=Z,3.0nm,0.8s
A36M **Sachs Harbour** 93.86 18 P P 23 34 05.2 -0.3
baz=274
CBB **Campbell River** 94.79 40 P P 23 34 10.7 +0.4
CBB IAmb IAmb 23 34 19.3
comp=Z,19nm,1.4s
NLWA **Neilton Lookou** 95.87 43 IAmb IAmb 23 34 24.6
comp=Z,15nm,1.1s
I03D **Drain, OR** 96.40 47 P P 23 34 17.6 -0.1
baz=273
E04D **Cinebar** 96.81 44 P P 23 34 20.3 +0.8
baz=274
M02C **Callahan** 96.86 49 P P 23 34 20.9 +0.8
baz=273
O02D **Mt. Diablo Mer** 96.97 50 P P 23 34 21.3 +0.7
baz=273
N02D **Trinity Center** 97.00 49 P P 23 34 21.3 +0.6
baz=273
B05A **Bryant** 97.02 42 P Pdif 23 34 21.3 +0.7
baz=274
I04A **Tendick Farm,** 97.07 46 P Pdif 23 34 21.1 +0.1
baz=273
KBZ **Khabaz** 97.16 314 LR LR 00 24 48.9
comp=Z,77nm,19.0s,baz=74,slow=40
KBZ **Khabaz** 97.16 314 *i* P P 23 34 18.0 -3.2
KBZ pmax pmax
comp=Z,3.0nm,1.0s
KIV **Kislovodsk** 97.30 314 *e*P P 23 34 18.9 -3.1
KIV pmax pmax
comp=Z,5.0nm,1.0s
O03E **Paynes Creek** 97.72 50 P Pdif 23 34 24.0 0.0
baz=273
J05D **Fort Rock, OR** 97.96 47 P Pdif 23 34 25.4 +0.2
baz=274
APA **Apatity** 98.83 338 *i* P Pdif 23 34 28.9 +0.7
APA pmax pmax
comp=Z,9.0nm,1.1s
APA MLR MLR
comp=Z,2μm,24.0s
B08A **Colville Reser** 98.84 42 P P 23 34 27.7 -1.1
BEKR **Beckworth** 98.85 50 P Pdif 23 34 29.2 0.0
YKA **Yellowknife Ar** 99.27 27 P Pdif 23 34 29.7 -0.6
comp=Z,2.1nm,0.8s,baz=281,slow=4.3,SNR=3.7
YKA LR LR 00 15 34.9
comp=Z,449nm,21.0s,baz=0.0,slow=33
PKM **Mcpherson Peak** 99.61 55 P Pdif 23 34 32.6 0.0
baz=274
OBN **Obninsk** 99.99 325 *i* P Pdif 23 34 31.9 -1.7
OBN *i* 23 38 40.5
OBN pmax pmax
comp=Z,6.0nm,1.0s
NVAR **Mina Array Bea** 100.55 52 P Pdif 23 34 37.5 +0.7
comp=Z,1.6nm,0.8s,baz=258,slow=5.3,SNR=10
NVAR PP PP 23 38 42.2 -1.8
comp=Z,0.6nm,0.7s,baz=249,slow=12,SNR=3.8
NVAR **Mina Array Bea** 100.55 52 Pdif 23 34 36.8 0.0
ARCES **ARCESS Array B** 100.95 341 P Pdif 23 34 35.9 -1.7
comp=Z,6.7nm,0.8s,baz=76,slow=5.1,SNR=12
ARCES **ARCESS Array B** 100.95 341 P Pdif 23 34 36.3 -1.3
ARCES **ARCESS Array B** 100.95 341 Pdif 23 34 36.3 -1.3
MPMC **Manual Prospec** 101.41 54 P Pdif 23 34 39.6 -1.1
baz=275
TPNV **Topopah Spring** 102.32 53 P Pdif 23 34 43.6 -1.1
baz=276
HEC **Hector,Ludlow** 102.46 55 P Pdif 23 34 45.0 -0.3
baz=276
TPFO **Pinon Flats** 102.48 56 P Pdif 23 34 45.8 +0.4
baz=275
R11A **Troy Canyon, C** 102.69 51 P Pdif 23 34 46.7 +0.4
baz=277
BELC **Belle Mtn. Jos** 102.82 56 P Pdif 23 34 47.3 +0.4
baz=276
IKP **In-Ko-Pah, Jac** 102.85 57 P Pdif 23 34 47.7 +0.6
baz=275
HLID **Hailey** 102.86 46 P Pdif 23 34 47.4 +0.5
baz=279
IRM **Iron Mountain** 103.51 56 P Pdif 23 34 50.4 +0.5
baz=276
VNA2 **Neumayer--Watz** 103.57 190 Pdiff Pdif 23 34 49.8 +0.5
FINES **FINESS Array B** 103.70 333 Pdiff Pdif 23 34 48.6 -1.4
comp=Z,2.1nm,0.8s,baz=85,slow=2.5,SNR=5.4
FINES **FINESS Array B** 103.70 333 P Pdif 23 34 48.9 -1.1
FINES **FINESS Array B** 103.70 333 Pdif 23 34 48.9 -1.1
MNK **Minsk** 105.02 326 *i* P Pdif 23 34 50.4 -5.6
MNK *i* 23 46 14.1
MNK *i* PS PS 23 48 24.7 -6.8
MNK *i* SS SS 23 54 02.3 -6.2
MNK pmax pmax
comp=E,4.0nm,1.2s
MNK pmax pmax
comp=N,5.0nm,0.7s
MNK pmax pmax
comp=Z,7.0nm,0.8s
MNK MLR MLR
comp=E,35nm,17.0s
MNK MLR MLR
comp=Z,284nm,19.0s
MNK MLR MLR
comp=N,122nm,16.0s
MNK **Minsk** 105.02 326 *i* P Pdif 23 34 50.4 -5.6
comp=E,4.0nm,1.2s
MNK *i* P Pdif 23 34 50.4 -5.6
comp=N,5.0nm,0.7s
MNK *i* P Pdif 23 34 50.4 -5.6
comp=Z,7.0nm,0.8s,baz=253
MNK *i* PP PKiKP 23 39 09.8 -0.8
MNK *i* PPP PPP 23 41 22.7
MNK *i* SKS SKSdf 23 46 14.2 -5.9
MNK *i* PS PS 23 48 24.8 -6.7
MNK *i* SS SS 23 54 02.3 -6.2
MNK *i* SSS SSS 23 57 60.0
PDAR **Pinedale Array** 106.50 46 Pdiff Pdif 23 35 03.9 +0.6
comp=Z,0.5nm,0.6s,baz=327,slow=2.5,SNR=4.2
PDAR PKiKP PKiKP 23 39 15.9 +1.8
comp=Z,0.3nm,0.3s,baz=300,slow=4.1,SNR=2.8
N23A **Red Feather La** 109.56 47 P PKiKP 23 39 19.2 -0.7
baz=284
S22A **4UR Ranch, Cre** 109.60 51 P PKiKP 23 39 18.8 -1.4
baz=282
KOLS **Kolonicke sedl** 110.11 322 *i* P Pdif 23 35 21.2 +2.4
KOLS **Kolonicke sedl** 110.11 322 *e*PDIFF Pdif 23 35 21.2 +2.4
Q24A **Divide** 110.61 49 P PKiKP 23 39 21.6 -0.4
baz=284
CRVS **Cervenica-Dubn** 110.62 322 *i* P Pdif 23 35 23.8 +2.7
CRVS **Cervenica-Dubn** 110.62 322 *e*PDIFF Pdif 23 35 23.8 +2.7
T25A **Trinidad** 111.61 51 P PKiKP 23 39 23.5 -0.4
baz=284
MNTX **Cornudas Mount** 111.99 57 P PKiKP 23 39 23.5 -1.0
baz=281
ULM **Lac du Bonnet** 113.07 35 PKiKP PKiKP 23 39 24.3 -1.6
comp=Z,2.1nm,0.5s,baz=257,slow=1.6,SNR=4.3
ULM **Lac du Bonnet** 113.07 35 *i* PKiKP PKiKP 23 39 25.1 -0.8
ULM **Lac du Bonnet** 113.07 35 PKiKP PKiKP 23 39 25.1 -0.8
DPC **Dobruska-Polom** 113.12 325 *e*PKP PKiKP 23 39 30.9 +4.8
TXAR **Lajitas Array** 113.89 59 PKiKP PKiKP 23 39 26.9 -1.3
comp=Z,0.3nm,0.5s,baz=198,slow=1.6,SNR=5.2
TXAR **Lajitas Array** 113.89 59 *i* PKiKP PKiKP 23 39 27.7 -0.5
TXAR **Lajitas Array** 113.89 59 PKiKP PKiKP 23 39 27.7 -0.5
CLL **Collm** 114.55 327 *e*Sdif Sdif 23 48 01.0 -6.6
CLL *e*PPS PPS 23 51 12.0
CLL *e*SS SS 23 56 24.0 +7.8
CLL *e*SSSS 00 04 00.0
CLL Lm MLR 00 31 00.0
comp=N,300nm,20.0s
CLL Lm MLR 00 31 00.0
comp=E,200nm,20.9s
CLL Lm MLR 00 31 00.0
comp=Z,500nm,20.9s
CKRC **Cesky Krumlov** 114.97 324 *e*PKP PKPdf 23 39 34.0 +4.4
BGNE **Belgrade** 115.03 45 P PKiKP 23 39 29.6 -0.4
baz=290
ECSD **EROS Data Cent** 115.25 42 P PKiKP 23 39 29.8 -0.5
baz=292
KHC **Kasperske Hory** 115.26 324 *e*PKP PKPdf 23 39 33.4 +3.2
GERES **GERESS Array B** 115.32 324 PKP PKiKP 23 39 30.3 -0.1
comp=Z,1.7nm,0.6s,baz=82,slow=2.8,SNR=8.5
GERES **GERESS Array B** 115.32 324 *i* PKiKP PKiKP 23 39 30.4 0.0
KBA **Koelnbreinsper** 116.34 322 *e*P PKiKP 23 39 32.7 +0.2
comp=Z,13nm,1.5s
MYKA **Terra Mystica** 116.36 322 *e*P PKPdf 23 39 31.8 -0.7
comp=Z,12nm,1.4s
ABTX **Abilene, Hawle** 116.53 55 P PKPdf 23 39 33.1 -0.1
baz=285
EYMN **Ely** 116.68 36 P PKPdf 23 39 32.7 -0.3
baz=299
JCT **Junction City** 116.92 57 PKiKP PKPdf 23 39 33.4 -0.6
JCT **Junction City** 116.92 57 PKPdf PKPdf 23 39 33.4 -0.6
JCT **Junction City** 116.92 57 P PKPdf 23 39 33.7 -0.3
baz=284
ABTA **Abfaltersbach** 117.00 322 *e*P PKPdf 23 39 33.3 -0.4
comp=Z,9.8nm,1.3s
WTTA **Wattenberg** 117.28 323 *e*P PKPdf 23 39 32.9 -1.5
comp=Z,5.0nm,0.7s
WATA **Walderalm** 117.29 323 *e*P PKiKP 23 39 34.4 +0.1
comp=Z,10.0nm,1.2s
SQTA **Sankt Quirin** 117.56 323 *e*P PKPdf 23 39 34.7 -0.1
comp=Z,5.0nm,0.7s
MOTA **Moosalm** 117.56 324 *e*P PKiKP 23 39 35.1 +0.2
comp=Z,5.2nm,0.7s
FETA **Feichten** 117.94 323 *e*P PKiKP 23 39 36.3 +0.7
comp=Z,6.5nm,0.9s
DAVA **Damuels** 118.31 324 *e*P PKiKP 23 39 37.2 +0.9
comp=Z,3.3nm,0.6s
TUL1 **Leonard** 118.62 50 P PKiKP 23 39 37.4 +0.3
baz=289
U38A **Gravette** 119.51 49 PKPdf 23 39 37.9 -0.8
JFWS **Jewell Farm** 119.81 41 P PKPdf 23 39 37.9 -1.2
baz=298
S39A **Bolivar** 119.85 47 PKPdf PKPdf 23 39 38.3 -1.1
HHAR **Hobbs** 119.90 49 PKPdf 23 38.1 -1.4
R40A **Maddies Statio** 120.39 46 PKPdf 23 39 39.0 -1.3
W39A **Magazine** 120.40 50 P PKPdf 23 39 40.1 -0.4
baz=290
U40A **Yellville** 120.69 49 PKPdf PKPdf 23 39 39.9 -1.1
U40A **Yellville** 120.69 49 P PKPdf 23 39 40.4 -0.6
baz=292
MIAR **Mount Ida** 120.78 51 P PKPdf 23 39 41.0 -0.2
baz=290
CCM **Cathedral Cave** 121.22 46 PKiKP PKPdf 23 39 40.5 -1.4
CCM **Cathedral Cave** 121.22 46 PKPdf PKPdf 23 39 40.5 -1.4
CCM **Cathedral Cave** 121.22 46 P PKPdf 23 39 41.4 -0.5
baz=294
W41B **Gary Mavity, V** 121.58 50 P PKPdf 23 39 42.3 -0.4
baz=292
GLMI **Grayling** 122.37 37 P PKPdf 23 39 43.3 -0.6
baz=304
SCHQ **Schefferville** 123.47 18 PKP PKPdf 23 39 45.7 -0.1
comp=Z,4.7nm,0.6s,baz=360,slow=2.0,SNR=11
KEST **Kesra** 124.00 312 PKP PKPdf 23 39 47.5 0.0
comp=Z,4.7nm,0.9s,baz=58,slow=17,SNR=3.1
L48A **N Adams** 124.03 39 PKPdf 23 39 46.0 -1.3
BLO **Bloomington** 124.05 43 PKiKP PKiKP 23 39 47.7 +0.1
BLO **Bloomington** 124.05 43 PKiKP 23 39 47.7 +0.1
WVT **Waverly** 124.50 47 PKiKP PKPdf 23 39 46.3 -2.0
WVT **Waverly** 124.50 47 PKPdf PKPdf 23 39 46.3 -2.0
WVT **Waverly** 124.50 47 P PKPdf 23 39 47.1 -1.2
baz=296
WCI **Wyandotte Cave** 124.66 44 P PKPdf 23 39 47.6 -1.0
baz=298
N49A **Columbus Grove** 124.73 40 PKPdf 23 39 48.0 -0.6
CLTN **Cedars of Leba** 125.61 46 PKPdf 23 39 49.2 -1.3
U49A **Red Boiling Sp** 125.81 46 PKPdf 23 39 50.0 -0.8
ACSO **Alum Creek Sta** 125.87 40 P PKPdf 23 39 50.4 -0.4
baz=303
T50A **Nancy** 126.24 45 PKPdf PKPdf 23 39 50.8 -0.8
LRAL **Lakeview Retre** 126.42 50 PKPdf 23 39 50.9 -1.2
LRAL **Lakeview Retre** 126.42 50 P PKPdf 23 39 51.0 -1.2
baz=294
Y49A **Blount Mountai** 126.53 49 PKPdf 23 39 50.5 -1.8
M53A **Wi Miller and** 126.66 38 P PKPdf 23 39 51.3 -1.0
baz=306
P52A **Corning** 126.75 41 P PKPdf 23 39 51.7 -0.8
baz=303
W50A **Signal Mountai** 126.75 47 PKPdf 23 39 52.5 -0.2
O53A **New Philadelph** 127.00 39 P PKPdf 23 39 52.3 -0.6
baz=304
M54A **Oil Creek Stat** 127.23 37 P PKPdf 23 39 53.0 -0.5
baz=307
P53A **Whipple** 127.31 40 PKPdf 23 39 53.2 -0.4
N54A **Moraine State** 127.36 38 P PKPdf 23 39 53.2 -0.5
baz=306
TZTN **Tazewell** 127.38 45 P PKPdf 23 39 53.1 -0.7
baz=300
LONY **Lake Ozonia** 128.10 31 P PKPdf 23 39 54.0 -1.0
baz=314
MCWV **Mont Chateau** 128.20 39 P PKPdf 23 39 55.2 -0.1
baz=305
PLCA **Paso Flores** 128.47 150 PKP PKiKP 23 39 57.3 +0.8
comp=Z,5.4nm,0.6s,baz=244,slow=2.0,SNR=22
PLCA **Paso Flores** 128.47 150 *e*P PKiKP 23 39 57.2 +0.7
O56A **Blue Knob Stat** 128.64 38 P PKPdf 23 39 55.2 -0.9
baz=307
NCB **Newcomb** 128.73 32 PKPdf PKPdf 23 39 55.7 -0.5
SSPA **Standing Stone** 128.83 37 PKPdf PKPdf 23 39 55.9 -0.6
SSPA **Standing Stone** 128.83 37 P PKPdf 23 39 56.4 -0.1
baz=308
GOGA **Godfrey** 128.93 48 P PKPdf 23 39 56.2 -0.6
baz=298

BINY	**Binghamton** baz=311	**128.96**	**34**	P		**PKPdf**	**23 39 55.8 -0.9**
BLA	**Blacksburg** baz=303	**129.19**	**42**	P		**PKPdf**	**23 39 57.1 -0.3**
KMSC	**Kings Mountain** baz=301	**129.64**	**45**	P		**PKPdf**	**23 39 58.1 0.0**
LBNH	**Lisbon** baz=316	**129.72**	**30**	P		**PKPdf**	**23 39 58.3 +0.3**
N59A	**State Game Lan** baz=310	**129.91**	**36**	P		**PKPdf**	**23 39 58.2 -0.4**
L61B	**Northampton** baz=314	**130.60**	**32**	P		**PKPdf**	**23 39 59.8 +0.1**
P60A	**Greenville** baz=310	**130.69**	**37**	P		**PKPdf**	**23 39 58.9 -1.1**
ESDC	**Sonseca Array** comp=Z,0.4nm,0.7s,baz=28,slow=6.3,SNR=2.6	**130.90**	**323**	PKP		**PKiKP**	**23 40 01.6 +0.2**
ESDC				PP		**PP**	**23 42 17.5 +1.3**
	comp=Z,1.4nm,1.1s,baz=47,slow=6.6,SNR=3.4						
HRV	**Adam Dziewonsk** baz=316	**131.15**	**31**	P		**PKPdf**	**23 39 59.0 -1.8**
TRQA	**Tornquist**	**134.57**	**155**	*e*P		**PKiKP**	**23 40 09.8 +1.0**
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,0.5s,baz=67,slow=3.1,SNR=12	**137.76**	**287**	PKhKP		PKPpre	23 40 04.7
TORD				PKP		**PKiKP**	**23 40 15.2 -0.7**
	comp=Z,2.8nm,0.7s,baz=63,slow=2.3,SNR=8.3						
GO03	**Copiap**	**137.96**	**138**	PKPdf		**PKPdf**	**23 40 10.4 -3.7**
OTAV	**Otavalo**	**141.19**	**93**	*e*P		**PKiKP**	**23 40 22.2 -1.3**
KOWA	**Kowa**	**142.87**	**291**	PKPdf		**PKPdf**	**23 40 21.2 -2.0**
POPC	**Popayan, Colom**	**143.06**	**89**	*e*P		PKPbc	23 40 20.2 -0.6
PB11	**IPOC Station P**	**143.12**	**128**	PKPdf		PKPbc	23 40 20.8 +0.3
SOTA	**Rioblanco**	**143.12**	**90**	*e*P		PKPab	23 40 20.1 +0.3
PB08	**IPOC Station P**	**143.29**	**129**			PKPbc	23 40 21.8 +0.5
PCON	**Cinco Dias**	**143.33**	**90**	*e*P		PKPbc	23 40 22.6 +0.7
YOTC	**Yotoco, Valle**	**143.39**	**87**	*e*P		PKPab	23 40 20.5 +0.1
SJCC	**San Jacinto, C**	**144.02**	**77**	PKPdf		PKPbc	23 40 23.6 +0.3
SJCC	**San Jacinto, C**	**144.02**	**77**	*e*P		PKPbc	23 40 23.1 -0.1
FLOC	**Florencia**	**144.05**	**91**			PKPbc	23 40 23.7 +0.3
FLOC	**Florencia**	**144.05**	**91**	*e*P		**PKPab**	**23 40 22.6 -0.3**
BETC	**Betania**	**144.29**	**89**	*e*P		**PKPdf**	**23 40 25.0 -0.8**
ANIL	**Santa Ana**	**144.32**	**86**	*e*P		**PKPab**	**23 40 23.9 -0.2**
ANIL				*e*P		**PKPdf**	**23 40 26.1 0.0**
GUY2C	**Guyana, Caldas**	**144.33**	**85**	*e*P		PKPbc	23 40 24.7 0.0
ORTC	**Ortega, Tolima**	**144.49**	**87**	*e*P		PKPbc	23 40 24.7 0.0
ZARC	**Zaragoza, Cauc**	**144.66**	**81**	*e*P		**PKPab**	**23 40 24.3 -0.8**
SMRC	**Santa Marta, M**	**144.72**	**74**	*e*P		**PKPab**	**23 40 21.3 -4.0**
PTLC	**Puerto Leguiza**	**144.83**	**93**	*e*P		**PKPab**	**23 40 24.9 -0.8**
KIC	**Kosan Boka** comp=Z,116nm,0.7s	**144.96**	**277**	*e*PKP1		**PKPab**	**23 40 25.8 -0.4**
DBIC	**Dimbokro** comp=Z,74nm,0.6s,baz=102,slow=3.0,SNR=117	**145.05**	**278**	PKP		**PKPab**	**23 40 26.6 +0.1**
PTBC	**PUERTO BERRIO**	**145.14**	**82**	*e*P		**PKPbc**	**23 40 26.7 -0.1**
TIC	**Toumodi**	**145.22**	**278**	*e*PKP1		**PKPbc**	**23 40 26.7 -0.3**
LIC	**Lamto** comp=Z,136nm,0.8s	**145.26**	**277**	*e*PKP1		**PKPbc**	**23 40 26.7 -0.4**
SMLC	**San Martn de**	**145.27**	**78**	*e*P		**PKPbc**	**23 40 23.7 -3.5**
ROSC	**El Rosal** comp=Z,41nm,0.6s,baz=354,slow=5.8,SNR=19	**145.38**	**85**	PKPbc		**PKPab**	**23 40 29.4 +1.2**
ROSC	**El Rosal**	**145.38**	**85**	*e*P		**PKPbc**	**23 40 27.3 -0.7**
CZSB	**Cruzeiro do Su**	**145.50**	**108**	*e*P		**PKPab**	**23 40 28.6 +0.4**
SPBC	**San Pablo de B**	**145.59**	**84**	*e*P		**PKPdf**	**23 40 22.5 -5.6**
SPBC				*e*P		**PKPbc**	**23 40 24.9 -3.4**
CHIC	**Chingaza**	**145.98**	**86**	*e*P		**PKPdf**	**23 40 29.5 +0.3**
VILC	**Villavicencio,**	**146.03**	**87**	*e*P		**PKPab**	**23 40 30.9 +0.6**
CRJC	**Cerrejon, Guaj**	**146.04**	**74**	*e*P		**PKPbc**	**23 40 29.9 +0.3**
OCAC	**Ocana**	**146.08**	**79**	*e*P		**PKPab**	**23 40 31.0 +0.5**
LPAZ	**La Paz** comp=Z,30nm,0.6s,baz=257,slow=2.8,SNR=116	**146.20**	**125**	PKPbc		**PKPab**	**23 40 32.2 +0.8**
LPAZ	**La Paz**	**146.20**	**125**	*e*P		**PKPbc**	**23 40 30.8 +0.1**
BARC	**Barichara**	**146.40**	**82**	*e*P		**PKPbc**	**23 40 30.4 -0.6**
CNLB	**Canela**	**146.49**	**162**	*e*P		**PKPab**	**23 40 32.0 +0.5**
CPUP	**Villa Florida** comp=Z,22nm,0.9s,baz=38,slow=2.0,SNR=23	**146.54**	**150**	PKPbc		**PKPab**	**23 40 31.7 0.0**
CPUP	**Villa Florida**	**146.54**	**150**	*e*P		**PKPab**	**23 40 31.9 +0.3**
RUSC	**La Rusia**	**146.55**	**83**	*e*P		**PKPbc**	**23 40 31.5 -0.3**
PAMC	**Pamplona, Colo**	**146.80**	**81**	*e*P		**PKPab**	**23 40 33.2 -0.5**
TER01	**Tubaro-SC**	**147.72**	**164**	*e*P		**PKPbc**	**23 40 34.2 +0.2**
TAMC	**Tame, Arauca**	**147.79**	**82**	*e*P		**PKPbc**	**23 40 34.5 -0.1**
SDV	**Santo Domingo**	**148.61**	**77**			**PKPbc**	**23 40 35.8 -1.2**
SDV	**Santo Domingo**	**148.61**	**77**	*e*P		**PKPbc**	**23 40 36.2 -0.8**
SDV	**Santo Domingo**	**148.61**	**77**	*e*P		**PKPdf**	**23 40 33.5 +0.2**
TBTG	**Tabatinga, AM**	**149.06**	**103**	*e*P		**PKPbc**	**23 40 37.0 -0.8**
OBIP	**Obispado Ponce**	**149.49**	**58**			**PKPbc**	**23 40 36.7 -2.1**
SJG	**San Juan**	**149.84**	**57**	*e*P		**PKPbc**	**23 40 39.3 -0.3**
HUMP	**Col San Antoni**	**150.08**	**57**	PKPdf		**PKPdf**	**23 40 32.6 -2.6**
HUMP				PKPbc		**PKPbc**	**23 40 39.9 -0.4**
PTGB	**Pitanga**	**150.28**	**157**	*e*P		**PKPbc**	**23 40 38.5 -2.2**
TUJ01	**Guaruva-PR**	**150.79**	**163**	*e*P		**PKPbc**	**23 40 39.9 +2.0**
ETMB	**Extrema**	**150.84**	**115**	*e*P		**PKPdf**	**23 40 36.8 +0.2**
TRCB	**Terra Rica**	**151.75**	**154**	*e*P		**PKPdf**	**23 40 40.6 +2.9**
PET01	**Itanhaem-SP**	**152.25**	**165**	*e*P		**PKPdf**	**23 40 41.6 +3.1**
FRTB	**Fartura**	**152.46**	**160**	*e*P		**PKPdf**	**23 40 42.2 +3.3**
SPB	**Sao Paulo**	**152.87**	**164**	*e*P		**PKPbc**	**23 40 43.1 -3.4**
PCMB	**Pacaembu**	**153.39**	**155**	*e*P		**PKPdf**	**23 40 41.3 +1.1**
PTLB	**Pontes e Lacer**	**153.68**	**134**	*e*P		**PKPdf**	**23 40 42.2 +1.5**
SAML	**Samuel**	**153.92**	**116**	*e*P		**PKPdf**	**23 40 44.3 +3.2**
MAN01	**Angra dos Reis**	**154.32**	**171**	*e*P		**PKPdf**	**23 40 44.4 +2.9**
VILB	**Vilhena**	**154.43**	**128**	*e*P		**PKPdf**	**23 40 44.7 +2.9**
PP1B	**Ponte de Pedra**	**154.94**	**144**	*e*P		**PKPdf**	**23 40 45.5 +3.0**
DUB01	**Friburgo-RJ**	**155.31**	**174**	*e*P		**PKPdf**	**23 40 46.4 +3.5**
ITRB	**Iturama**	**155.46**	**155**	*e*P		**PKPdf**	**23 40 47.1 +4.0**
TOSP	**Speyside**	**157.61**	**66**	PKPab		**PKPab**	**23 41 17.7 -0.4**
IPMB	**Ipameri, GO**	**157.87**	**158**	*e*P		**PKPdf**	**23 40 48.8 +2.4**
BOAV	**Boa Vista**	**159.19**	**90**	*e*P		**PKPdf**	**23 40 48.8 +0.8**
PTGA	**Pitinga**	**159.46**	**99**	PKPdf		**PKPdf**	**23 40 48.7 +0.4**
PTGA				PKPab		**PKPab**	**23 41 25.8 -0.4**
NAN01	**Guarapari, ES**	**159.66**	**179**	*e*P		**PKPdf**	**23 40 51.9 +3.6**
BDFB	**Brasilia** comp=Z,2.1nm,0.5s,baz=141,slow=8.3,SNR=3.7	**160.07**	**156**	PKP		**PKPdf**	**23 40 49.9 +0.9**
BDFB				PKPab		**PKPab**	**23 41 28.5 -0.1**
	comp=Z,6.2nm,0.8s,baz=178,slow=6.0,SNR=5.7						
MC01	**Montes Claros**	**160.34**	**168**	*e*P		**PKPdf**	**23 40 52.5 +3.3**
PEXB	**Peixe**	**163.05**	**150**	*e*P		**PKPdf**	**23 40 55.4 +3.3**
NBLV	**Livramento - P**	**169.70**	**196**	*e*P		**PKPdf**	**23 41 00.9 +3.6**

*TRN **29** 23:38:20.1, 10.83N×62.41W, h81km, MD3.1*
*FUNV **29** 23:38:21.7, 10.38N×62.36W, h5km, MW3.3*

ISC 29 23:38:19.9±1.4, 10.78N±0.05×62.33W±0.04, h89km±14km, n18,σ1s75/33, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.90**	**264**	*e*P	**Pn**	**23 38 38.2**	**-0.1**
CRUV				*e*S	**Sn**	**23 38 49.3**	**-2.9**
TRN	**Trinidad (W)**	**0.92**	**98**	*e*P	**Pn**	**23 38 40.1**	**+1.6**
TRN				*e*S	**Sn**	**23 38 53.5**	**+1.0**
TRN	**Trinidad (W)**	**0.92**	**98**	*e*P	**Pn**	**23 38 40.3**	**+1.8**
TRN				*e*S	**Sn**	**23 38 53.5**	**+1.0**
GRFF	**Grenada Fort F**	**1.39**	**24**	*e*P	**Pn**	**23 38 43.6**	**-0.6**
GRFF				*e*S	**Sn**	**23 39 00.7**	**-1.8**
GRGR	**Grenville**	**1.50**	**26**	*e*P	**Pn**	**23 38 45.7**	**+0.1**
GRGR				*e*S	**Sn**	**23 39 04.3**	**-0.7**
GRSS	**Sisters**	**1.67**	**25**	*e*P	**Pn**	**23 38 47.3**	**-0.4**
GRSS				*e*S	**Sn**	**23 39 08.2**	**-0.6**
TOSP	**Speyside**	**1.83**	**73**	*e*P	**Pn**	**23 38 50.9**	**+1.0**
TOSP				*e*S	**Sn**	**23 39 13.0**	**+0.4**
GCMP	**Grenada, Carri**	**1.91**	**27**	*e*P	**Pn**	**23 38 51.2**	**+0.2**
GCMP				*e*S	**Sn**	**23 39 13.7**	**-0.8**
PCRV	**Puerto La Cruz**	**2.35**	**255**	*e*P	**Pn**	**23 38 58.2**	**+1.5**
PCRV				*e*S	**Sn**	**23 39 25.3**	**+0.3**
RIOV	**Rio Grande**	**2.74**	**169**	*e*S	**Sn**	**23 39 29.2**	**-5.0**
PRGV	**PARIAGUAN**	**3.04**	**229**	*e*P	**Pn**	**23 39 06.4**	**+0.4**
PRGV				*e*S	**Sn**	**23 39 39.3**	**-2.1**
MCLT	**Moule a Chique**	**3.21**	**25**	*e*P	**Pn**	**23 39 07.8**	**-0.5**
MCLT				*e*S	**Sn**	**23 39 44.6**	**-1.1**
BIRV	**Birongo**	**3.89**	**266**	*e*P	**Pn**	**23 39 20.6**	**+3.1**
BIRV				*e*S	**Sn**	**23 40 03.4**	**+1.4**
MERV	**Las Mercedes**	**4.20**	**249**	*e*P	**Pn**	**23 39 22.0**	**+0.4**
MERV				*e*S	**Sn**	**23 40 08.4**	**-1.1**
TACV	**Tcata**	**4.67**	**263**	*e*P	**Pn**	**23 39 30.4**	**+2.3**
TACV				*e*S	**Sn**	**23 40 22.1**	**+1.0**
CACV	**CAICARA DEL OR**	**5.24**	**233**	*e*S	Sn	23 40 20.7	-14
BENV	**Beln**	**5.25**	**262**	*e*P	**Pn**	**23 39 38.0**	**+2.0**
BENV				*e*S	**Sn**	**23 40 34.5**	**-0.8**
BAUV	**El Baul**	**5.92**	**253**	*e*P	**Pn**	**23 39 45.6**	**+0.6**
BAUV				*e*S	**Sn**	**23 40 48.7**	**-2.9**

MEX 29 23:40:05.9±0.3, 18.15N×103.44W, h8km±6km, MD3.5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.17**	**32**	*i* P	Pg	23 40 09.0	-0.4
MMIG				*i* S	Sg	23 40 11.5	-0.3
COIG	**Colima**	**1.05**	**347**	*e*P	Pg	23 40 23.2	-3.0
COIG				*e*S	Sg	23 40 36.6	-3.3

*HEL **29** 23:41:53.9, 67.84N×20.08E, h0km, ML1.7, Explosion*
UPP 29 23:41:54.2±0.0, 67.83N×20.20E, h0km, ML2.3, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**22**	P	Pg	23 41 57.2	+0.3
KUA				S	Sg	23 41 59.2	+0.5
KUA	**Kurravaara**	**0.14**	**22**	*i* P	Pg	23 41 57.2	+0.3
KUA				*i* S	Sg	23 41 59.2	+0.5
RATU	**Laukkuluspa**	**0.23**	**270**	P	Pg	23 41 58.8	+0.3
RATU	**Laukkuluspa**	**0.23**	**270**	*i* P	Pg	23 41 58.8	+0.3
KOVU	**Salmi**	**0.40**	**358**	P	Pg	23 42 01.9	+0.1
KOVU	**Salmi**	**0.40**	**358**	*i* P	Pg	23 42 01.9	+0.1
NIKU	**Nikkaluokta**	**0.44**	**276**	P	Pg	23 42 02.8	+0.1
NIKU	**Nikkaluokta**	**0.44**	**276**	*i* P	Pg	23 42 02.8	+0.1
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	23 42 07.6	-0.2
LANU	**Lannavaara** baz=257	**0.71**	**71**	*e*P	Pg	23 42 07.5	-0.4
LANU				*e*S	Sg	23 42 17.0	0.0
MASU	**Masugnsbyn**	**0.78**	**117**	P	Pg	23 42 09.1	-0.1
MASU	**Masugnsbyn**	**0.78**	**117**	*i* P	Pg	23 42 09.1	-0.1
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	23 42 09.0	-0.3
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	Pg	23 42 09.0	-0.3
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	Pg	23 42 17.1	-0.1
KIF	**Kilpisjarvi** baz=190	**1.21**	**10**	*e*PB	Pb	23 42 17.9	0.0
KIF				MSG		23 42 31.5	
	comp=Z,7.1nm,0.2s						
KIF				*e*SB	Sb	23 42 33.6	-0.3
PAJU	**Pajala**	**1.38**	**124**	P	Pg	23 42 19.5	-1.1
PAJU	**Pajala**	**1.38**	**124**	*e*P	Pg	23 42 19.3	-1.4
PAJU				*e*SB	Sg	23 42 37.7	-0.8
HEF	**Hetta**	**1.42**	**64**	*e*P	Pn	23 42 19.7	-1.6
HEF	**Hetta** baz=249	**1.42**	**64**	*e*P	Pn	23 42 20.2	-1.1
HEF				MSG		23 42 37.7	
	comp=Z,4.5nm,0.2s						
HEF				*e*SN	Sn	23 42 43.1	+2.4
ERTU	**Ertsjaerv**	**1.50**	**148**	P	Pn	23 42 21.6	-0.7
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*PG	Pn	23 42 21.8	-0.5
ERTU				*e*SB	Sg	23 42 41.1	-1.0
KLF	**Kolari**	**1.56**	**111**	*e*P	Pn	23 42 22.7	-0.5
KLF				*e*SB	Sn	23 42 43.7	-0.4
HARU	**Harads**	**1.70**	**169**	P	Pn	23 42 25.1	+0.1
HARU	**Harads**	**1.70**	**169**	*e*P	Pn	23 42 25.1	+0.1
KALU	**Kalix** baz=328	**2.34**	**146**	*e*P	Pn	23 42 34.7	+1.0
KALU				*e*SG	Sb	23 43 07.0	+0.6
TOF	**Tornio** baz=317	**2.39**	**135**	*e*PB	Pn	23 42 35.9	+1.4
TOF				MSG		23 43 05.7	
	comp=Z,4.5nm,0.2s						
TOF				*e*SG	Sb	23 43 08.2	+0.2
SGF	**Sodankyl** baz=283	**2.45**	**96**	*e*PB	Pn	23 42 37.1	+1.7
SGF				*e*SG	Sb	23 43 10.7	+0.9
RNF	**Rovaniemi**	**2.57**	**116**	*e*PB	Pn	23 42 39.0	+1.9
ARA0	**ARCESS Array S**	**2.59**	**46**	*e*SB	Sb	23 43 12.7	-1.1
KEV	**Kevo**	**3.14**	**49**	*e*S	Sn	23 43 24.7	+1.7
KEV				MSG		23 43 26.9	
	comp=Z,2.1nm,0.2s						

*DNK **29** 23:42:20.5±0.3, 67.84N×20.24E, h0km, ML3.0(UPP), Explosion*
UPP 29 23:42:20.2±0.2, 67.85N×20.22E, h0km, ML3.0, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**22**	P	Pg	23 42 22.7	+0.3
KUA				S	Sg	23 42 24.3	+0.4
RATU	**Laukkuluspa**	**0.24**	**265**	P	Pg	23 42 24.9	+0.1
RATU	**Laukkuluspa**	**0.24**	**265**	P	Pg	23 42 24.9	+0.1
KOVU	**Salmi**	**0.38**	**356**	P	Pg	23 42 27.4	0.0
KOVU	**Salmi**	**0.38**	**356**	P	Pg	23 42 27.4	0.0
NIKU	**Nikkaluokta**	**0.45**	**273**	P	Pg	23 42 28.9	+0.1
NIKU	**Nikkaluokta**	**0.45**	**273**	P	Pg	23 42 28.9	+0.1

IDC 29 23:45:59.3±2.2, 3.22S×150.27E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/30, mbtmp3.6/3, Error ellipse: s-maj=169.1km s-min=28.9km az=122.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.9nm,0.3s,baz=48,slow=9.6,SNR=26	**22.76**	**222**	P	P	23 51 03.4	-0.1
ASAR	**Alice Springs** 0.5nm,0.6s,baz=57,slow=7.8,SNR=5.3	**25.76**	**216**	P	P	23 51 32.6	+0.6
ILAR	**Eielson Array** 0.4nm,0.7s,baz=255,slow=5.4,SNR=4.2	**81.67**	**23**	P	P	23 58 19.9	+0.6
TORD	**Torodi Ar. Bea** 0.2nm,0.8s,baz=149,slow=3.4,SNR=1.4	**147.41**	**289**	PKPbc	PKPdf	00 05 44.2	+0.4

LDG 29 23:46:37.8±0.1, 42.79N×1.07W, h2km, Md1.1/2, Ml1.4/1, Error ellipse: s-maj=1.8km s-min=0.7km az=25.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.34**	**341**	*e*Pg	Pg	23 46 44.3	-0.1
SJPF	13nm,0.2s			*e*Sg	Sg	23 46 48.9	0.0
ETSF	**Etsaut**	**0.39**	**73**	*e*Pg	Pg	23 46 45.5	+0.2
EPF	**Esparros**	**1.06**	**76**	*e*Pg	Pg	23 46 57.7	-0.5
EPF	0.6nm,0.2s			*e*Sg	Sg	23 47 11.5	-0.5

*TUL **29** 23:47:31.4±1.2, 36.25N±0.01×97.229W±0.008, h3km±7km, ML2.6, mb_Lg2.7/39(NEIC), Error ellipse: s-maj=2.4km s-min=1.9km az=244.0*
NEIC 29 23:47:31.6±1.1, 36.26N±0.01×97.229W±0.008, h3km±7km, Error ellipse: s-maj=1.6km s-min=0.8km az=157.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.43**	**102**	P	Pg	23 47 40.2	+0.4
QUOK				Sg	Sg	23 47 46.3	+0.9
OK031	**S. Brethren Rd**	**0.44**	**134**	P	Pg	23 47 40.3	+0.4
OK031				Sg	Sg	23 47 46.4	+0.7
OK030	**Cody Creek RV**	**0.49**	**132**	P	Pg	23 47 41.3	+0.3
OK030				Sg	Sg	23 47 48.1	+0.8
OK029	**Liberty Lake**	**0.50**	**202**	P	Pg	23 47 41.1	0.0
OK029				Sg	Sg	23 47 47.9	+0.4
BLOK	**Blackwell**	**0.50**	**1**	P	Pg	23 47 41.5	+0.3
BLOK				Sg	Sg	23 47 48.5	+0.8
CROK	**Carrier**	**0.66**	**292**	P	Pg	23 47 44.1	0.0
CROK				Sg	Sg	23 47 53.1	+0.4
BCOK	**Bluff Creek, N**	**0.68**	**207**	P	Pg	23 47 44.4	-0.1
BCOK				Sg	Sg	23 47 53.5	+0.2
OK025	**Westminster Rd**	**0.68**	**187**	P	Pg	23 47 44.4	-0.2
OK025				Sg	Sg	23 47 54.0	+0.5
KAN13	**South Haven SW**	**0.78**	**345**	Pg	Pg	23 47 46.4	-0.1
GC02	**Grant County #**	**0.78**	**320**		Pg	23 47 46.2	-0.3
OKCFA	**Oklahoma City**	**0.86**	**192**	Pg	Pg	23 47 47.7	-0.4
OKCFA				Sg	Sg	23 47 59.7	+0.5
OKCSW	**OKLAHOMA CITY**	**0.87**	**191**	Pg	Pg	23 47 47.8	-0.4
T35A	**Sooner Cattle**	**0.87**	**41**		Pg	23 47 48.4	0.0
T35A				Sg	Sg	23 47 59.8	+0.2
KAN17	**Caldwell West**	**0.89**	**331**		Pg	23 47 48.4	-0.3
KAN17				Sg	Sg	23 48 00.4	+0.1
KAN14	**Manchester OK**	**0.91**	**320**		Pg	23 47 48.6	-0.5
KAN09	**Caldwell North**	**0.93**	**340**	Pg	Pg	23 47 49.1	-0.2
KAN09				Sg	Sg	23 48 01.6	+0.1
OK032	**Salt Plains WL**	**0.96**	**305**	Pg	Pg	23 47 49.4	-0.6
KS20	**Mayfield South**	**1.00**	**345**	Pg	Pg	23 47 50.5	-0.3
KS20				Sg	Sg	23 48 04.2	+0.4
FNO	**Franklin**	**1.01**	**188**	Pg	Pg	23 47 50.3	-0.6
KAN10	**Anthony SW Sta**	**1.11**	**321**	Pg	Pg	23 47 52.5	-0.3

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN10				Sg	Sg	23 48 07.3	+0.1
KAN06	**Argonia West S**	**1.11**	**333**		Pg	23 47 52.6	-0.2
KAN06				Sg	Sg	23 48 07.2	0.0
KAN08	**Anthony NE Sta**	**1.13**	**329**	Pg	Pg	23 47 52.6	-0.7
KAN08				Sg	Sg	23 48 08.1	0.0
KAN16	**Harper SW Stat**	**1.18**	**325**	Pg	Pg	23 47 53.6	-0.5
KAN16				Sg	Sg	23 48 09.3	0.0
KAN12	**Harper NE Stat**	**1.21**	**329**	Pg	Pg	23 47 54.1	-0.5
TUL1	**Leonard**	**1.22**	**106**		Pg	23 47 54.0	-0.9
TUL1				Sg	Sg	23 48 10.6	0.0
U32A	**Winter Ranch,**	**1.44**	**275**	Pn	Pn	23 47 58.2	-0.3
WMOK	**Wichita Mounta** comp=Z,37nm,0.7s	**1.98**	**220**	IAmb_Lg		23 48 34.8	
X37A	**Clayton**	**2.25**	**137**		Pn	23 48 10.1	+0.4
HHAR	**Hobbs**	**2.66**	**89**	Pn	Pn	23 48 15.1	-0.3
KSU1	**Kansas State U** comp=Z,18nm,0.7s	**2.88**	**10**	IAmb_Lg		23 49 04.2	
W39A	**Magazine** comp=Z,28nm,0.8s	**3.00**	**110**	IAmb_Lg		23 49 10.4	
CBKS	**Cedar Bluff** comp=Z,14nm,1.0s	**3.24**	**323**	IAmb_Lg		23 49 21.1	
MIAR	**Mount Ida**	**3.44**	**119**	Pn	Pn	23 48 26.4	+0.4
MIAR	comp=Z,16nm,0.8s			IAmb_Lg		23 49 24.3	
U40A	**Yellville** comp=Z,26nm,0.7s	**3.54**	**87**	IAmb_Lg		23 49 23.2	
AMTX	**Amarillo**	**3.88**	**251**	Pn	Pn	23 48 31.0	-1.2
X40A	**Basin Creek Fa** comp=Z,20nm,0.8s	**4.00**	**115**	IAmb_Lg		23 49 44.6	
MGMO	**Mountain Grove**	**4.08**	**76**	Pn	Pn	23 48 36.3	+1.3
MGMO	comp=Z,16nm,0.9s			IAmb_Lg		23 49 39.5	
FCAR	**Ozark Folk Cen** comp=Z,17nm,0.8s	**4.15**	**94**	IAmb_Lg		23 49 49.7	
WLAR	**White Oak Lake**	**4.24**	**126**	Pn	Pn	23 48 36.3	-0.8
WLAR	comp=Z,14nm,0.7s			IAmb_Lg		23 49 51.0	
R40A	**Maddies Statio**	**4.45**	**61**	Pn	Pn	23 48 39.8	-0.1
P38A	**Dawn**	**4.45**	**40**	Pn	Pn	23 48 37.8	-2.2
P38A	comp=Z,14nm,0.8s			IAmb_Lg		23 49 58.0	
LCAR	**Lake Charles** comp=Z,14nm,0.8s	**4.92**	**90**	IAmb_Lg		23 50 07.1	
KSCO	**Kaye Shedlock'** comp=Z,11nm,0.7s	**5.09**	**304**	IAmb_Lg		23 50 18.4	
CCM	**Cathedral Cave** comp=Z,15nm,1.1s	**5.11**	**68**	IAmb_Lg		23 50 21.3	
P40A	**Paris** comp=Z,11nm,0.7s	**5.24**	**50**	IAmb_Lg		23 50 16.0	
435B	**Jarrell** comp=Z,15nm,0.7s	**5.47**	**183**	IAmb_Lg		23 50 38.1	
N38A	**Joes South For** comp=Z,15nm,0.7s	**5.50**	**33**	IAmb_Lg		23 50 37.9	
T25A	**Trinidad** comp=Z,14nm,0.9s	**5.84**	**281**	IAmb_Lg		23 50 41.0	
JCT	**Junction City** comp=Z,12nm,0.9s	**6.15**	**201**	IAmb_Lg		23 50 54.7	
S44A	**Carbondale** comp=Z,12nm,0.9s	**6.54**	**75**	IAmb_Lg		23 51 13.3	
SDCO	**Great Sand Dun** comp=Z,11nm,1.1s	**6.78**	**285**	IAmb_Lg		23 51 08.0	

*IDC **30** 00:11:11.8±1.4, 3.38S×146.56E, h0km, mb3.9/10, mb1 4.1/11, mb1mx3.9/30, mbtmp3.9/11, ML3.5/1, MS3.7/18, Ms1 3.7/18, ms1mx3.5/33, Error ellipse: s-maj=46.0km s-min=17.9km az=100.0*
*NEIC **30** 00:11:13.4±1.1, 3.45S±0.1×146.8E±0.2, h10km±6km, mb4.3/8, Error ellipse: s-maj=32.8km s-min=11.0km az=114.0*
ISC 30 00:11:14.7±0.7, 3.38S±0.09×146.7E±0.2, h20km, n38, σ0s84/28, mb3.9/9, MS3.7/15, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.49**	**27**	Pn	**Pn**	**00 11 39.4**	**-1.0**
PMG	**Port Moresby** comp=Z,462nm,19.6s,baz=338,slow=38	**6.00**	**176**	LR	LR	00 15 00.2	
JAY	**Jayapura** comp=Z,710nm,19.7s,baz=118,slow=36	**6.

*IDC **30** 00:45:54.1±0.8,3°.49S×146°.31E,h0km,mb4.1/12, mb1 4.2/14,mb1mx4.0/45,mbtmp4.1/14,ML3.1/2,MS3.5/18, Ms1 3.5/18,ms1mx3.3/45,Error ellipse: s-maj=26.5km s-min=15.6km az=87.0*

ISC 30 00:45:56.3±0.6,3°.29S±0°.07×146°.32E±0°.09,h20km,n42, σ1§81/32,mb4.1/11,MS3.4/15,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.61**	**40**	**Pn**		**Pn**	**00 46 20.2**	**-3.5**
JAY	**Jayapura**	**5.66**	**278**	**LR**		**LR**	00 49 22.9	
	comp=Z,391nm,19.8s,baz=98,slow=37							
RABL	**Rabaul**	**5.90**	**99**	**Pn**		**Pn**	**00 47 22.6**	**-0.1**
PMG	**Port Moresby**	**6.14**	**172**	**Pn**		**Pn**	**00 47 21.5**	**-4.4**
	4.5nm,0.3s,baz=18,slow=20,SNR=2.4							
COEN	**Coen**	**11.05**	**196**	**Pn**		**Pn**	**00 48 34.7**	**+1.3**
HNR	**Honiara**	**14.85**	**115**	**LR**		**LR**	00 55 01.8	
	comp=Z,138nm,18.6s,baz=224,slow=37							
HNR	**Honiara**	**14.85**	**115**	**Pn**		**Pn**	**00 49 26.7**	**+1.4**
CTA	**Charters Tower**	**16.70**	**180**	**Pn**		**Pn**	**00 49 47.5**	**-1.8**
	0.3nm,0.3s,baz=355,slow=14,SNR=1.5							
CTAO	**Charters Tower**	**16.70**	**180**	**P**		**P**	**00 49 51.6**	**+0.1**
GUMO	**Guam**	**16.83**	**355**	**LR**		**LR**	00 54 19.2	
	comp=Z,104nm,20.5s,baz=100,slow=30							
MTN	**Manton Dam**	**17.77**	**237**	**P**		**P**	**00 50 02.9**	**-0.5**
MTN				IAmb		IAmb	00 50 06.4	
	comp=Z,28nm,1.4s							
WB0	**Warramunga Arr**	**20.10**	**215**	**P**		**Pn**	00 50 29.7	-1.1
WR0	**Warramunga Arr**	**20.17**	**214**	**P**		**P**	**00 50 29.2**	**-0.5**
WR0				IAmb		IAmb	00 50 30.3	
	comp=Z,16nm,0.9s							
WB2	**Warramunga Arr**	**20.26**	**214**	**P**		**P**	**00 50 30.4**	**-0.4**
WB2				IAmb		IAmb	00 50 33.5	
	comp=Z,16nm,0.9s							
WRA	**Warramunga Arr**	**20.27**	**214**	**P**		**P**	**00 50 30.2**	**-0.6**
	comp=Z,8.4nm,0.8s,baz=38,slow=12,SNR=52							
WRA				LR		LR	00 59 45.5	
	comp=Z,139nm,19.1s,baz=45,slow=41							
WRA	**Warramunga Arr**	**20.27**	**214**	**P**		**P**	**00 50 29.4**	**-1.5**
KNRA	**Kununurra**	**21.22**	**233**	**P**		**P**	**00 50 41.0**	**-0.1**
DAV	**Davao City (W)**	**23.12**	**296**	**LR**		**LR**	01 00 10.4	
	comp=Z,59nm,18.8s,baz=116,slow=37							
BATI	**Baumata**	**23.52**	**252**	**LR**		**LR**	01 02 05.1	
	comp=Z,120nm,19.2s,baz=82,slow=41							
ASAR	**Alice Springs**	**23.55**	**210**	**P**		**P**	**00 51 05.1**	**-0.5**
	comp=Z,5.0nm,0.8s,baz=37,slow=9.2,SNR=31							
ASAR				LR		LR	01 00 44.2	
	comp=Z,128nm,18.9s,baz=29,slow=38							
ASAR	**Alice Springs**	**23.55**	**210**	**P**		**P**	**00 51 05.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**25.05**	**233**	**P**		**P**	**00 51 18.7**	**-0.8**
	comp=Z,2.8nm,0.5s,baz=50,slow=10,SNR=16							
FITZ				LR		LR	01 01 04.4	
	comp=Z,108nm,19.4s,baz=54,slow=36							
FITZ	**Fitzroy Crossi**	**25.05**	**233**	**P**		**P**	**00 51 19.0**	**-0.5**
FITZ				IAmb		IAmb	00 51 26.5	
	comp=Z,7.0nm,0.9s							
KAPI	**Kappang**	**26.56**	**265**	**LR**		**LR**	01 02 53.7	
	comp=Z,33nm,18.6s,baz=104,slow=38							
DZM	**Mont Dzumac**	**27.02**	**135**	**P**		**P**	**00 51 37.3**	**-0.2**
	comp=Z,7.6nm,1.0s,baz=113,slow=8.9,SNR=5.9							
DZM				LR		LR	01 00 58.7	
	comp=Z,208nm,18.7s,baz=282,slow=34							
DZM	**Mont Dzumac**	**27.02**	**135**	**P**		**P**	**00 51 37.8**	**+0.4**
DZM				IAmb		IAmb	00 51 39.4	
	comp=Z,7.1nm,0.9s							
STKA	**Stephens Creek**	**28.79**	**188**	**P**		**P**	**00 51 52.8**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=12,slow=14,SNR=3.5							
STKA				LR		LR	01 04 15.8	
	comp=Z,106nm,20.7s,baz=12,slow=38							
NWAO	**Narrogin (SRO)**	**40.13**	**219**	**LR**		**LR**	01 12 35.6	
	comp=Z,104nm,18.4s,baz=210,slow=40							
KSRS	**Korea Array**	**43.99**	**339**	**P**		**P**	**00 54 05.0**	**+2.6**
	comp=Z,3.2nm,0.9s,baz=154,slow=9.2,SNR=3.2							
KSRS				LR		LR	01 09 53.7	
	comp=Z,38nm,20.1s,baz=152,slow=33							
USRK	**Ussuriysk Ar.**	**48.99**	**346**	**P**		**P**	**00 54 45.2**	**+3.7**
	comp=Z,4.2nm,0.8s,baz=177,slow=6.9,SNR=6.6							
USRK				LR		LR	01 14 54.4	
	comp=Z,26nm,18.5s,baz=157,slow=35							
USRK	**Ussuriysk Ar.**	**48.99**	**346**	**P**		**P**	**00 54 39.4**	**-2.1**
CMAR	**Chiang Mai Arr**	**51.41**	**297**	**P**		**P**	**00 55 02.0**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=96,slow=4.3,SNR=5.0							
CMAR				LR		LR	01 18 30.4	
	comp=Z,20nm,18.1s,baz=177,slow=38							
CMAR	**Chiang Mai Arr**	**51.41**	**297**	**P**		**P**	**00 54 57.9**	**-2.5**
SONM	**Songino Array**	**61.72**	**331**	**LR**		**LR**	01 22 30.3	
	comp=Z,69nm,19.6s,baz=111,slow=36							
MKAR	**Makanchi Array**	**74.99**	**320**	**P**		**P**	**00 57 36.9**	**+0.5**
	comp=Z,1.7nm,0.9s,baz=97,slow=7.6,SNR=3.0							
MKAR	**Makanchi Array**	**74.99**	**320**	**P**		**P**	**00 57 35.9**	**-0.5**
ZALV	**Zalesovo Beam**	**76.37**	**328**	**P**		**P**	**00 57 44.4**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=102,slow=5.0,SNR=1.8							
ZALV				LR		LR	01 30 08.2	
	comp=Z,43nm,21.8s,baz=116,slow=35							
ILAR	**Eielson Array**	**83.27**	**23**	**P**		**P**	**00 58 23.9**	**+2.7**
	comp=Z,0.6nm,0.7s,baz=245,slow=5.1,SNR=6.0							
BVAR	**Borovoye Array**	**84.19**	**324**	**P**		**P**	**00 58 28.8**	**+2.5**
	comp=Z,0.7nm,0.5s,baz=108,slow=4.7,SNR=0.8							
GEYT	**Alibeck**	**90.58**	**308**	**LR**		**LR**	01 44 12.0	
	comp=Z,24nm,18.1s,baz=140,slow=40							
TORD	**Torodi Ar. Bea**	**143.70**	**288**	**PKP**		**PKiKP**	**01 05 32.7**	**-1.7**
	comp=Z,0.5nm,0.9s,baz=108,slow=3.2,SNR=2.5							
SIV	**San Ignacio**	**146.82**	**126**	**PKPbc**		**PKPbc**	**01 05 37.1**	**-1.1**
	baz=223,slow=3.5							

*IDC **30** 00:49:59.6±0.9,39°.28N×75°.06E,h0km,mb3.9/15, mb1 4.0/21,mb1mx3.8/57,mbtmp3.9/21,ML3.3/7,MS3.2/4, Ms1 3.2/4,ms1mx2.8/62,Error ellipse: s-maj=16.2km s-min=14.3km az=90.0*

*MOS **30** 00:50:02.9±1.6,39°.48N×75°.10E,h18km,mb4.3/9,Error ellipse: s-maj=8.0km s-min=5.0km az=94.5*

*SOME **30** 00:50:03.4,39°.75N×74°.93E,h10km*

*KRNET **30** 00:50:03.2±0.1,39°.64N×74°.99E,h3km,mb4.4*

*NEIC **30** 00:50:04.3±2.8,39°.53N±0°.06×75°.07E±0°.09,h10km±1km, mb4.4/13,Error ellipse: s-maj=12.4km s-min=9.5km az=132.0*

*NNC **30** 00:50:09.8±1.3,40°.00N×75°.03E,h0km,mb4.6,mpv4.3, Error ellipse: s-maj=10.5km s-min=6.7km az=166.0*

ISC 30 00:50:01.2±1.1,39°.63N±0°.03×75°.16E±0°.02,h2km±7km, n177,σ1§91/226,mb4.2/24,MS3.9/5,33C-28D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.64**	**100**	**Pg**		**Pg**	**00 50 11.5**	**-2.0**
KSH				Sg		**Sg**	**00 50 21.0**	**-0.8**
KSH				pmax		pmax		
	comp=Z,2μm,0.5s							
KSH				smax		smax		
	comp=N,10μm,0.7s							
KSH				smax		smax		
	comp=E,7μm,1.0s							
SFK	**Sufi-Kurgan**	**1.33**	**287**	⇑*i*P		**Pg**	**00 50 26.5**	**-0.3**
	baz=89							
SFK				⇑*i*S		**Sg**	**00 50 42.6**	**-1.4**
	baz=89							
OHH	**Osh**	**2.03**	**297**	⇑*i*P		**Pb**	**00 50 38.8**	**-0.1**
	baz=98							
OHH				⇑*i*S		**Sn**	**00 51 04.0**	**+1.4**
	baz=98							
ARLS	**Aral**	**2.32**	**344**	⇑*i*P		**Pb**	**00 50 44.3**	**+0.4**
	baz=47							
ARLS				⇑*i*S		**Sg**	**00 51 14.1**	**-1.7**
	baz=47							
KZA	**Kyzart**	**2.45**	**2**	⇓*i*P		**Pb**	**00 50 46.6**	**+0.3**
	baz=5.0							
KZA				⇓*i*S		**Sg**	**00 51 18.2**	**-1.7**
	baz=5.0							
KZA	**Kyzart**	**2.45**	**2**	P		**Pg**	**00 50 46.9**	**-1.2**
	SNR=227							
DRK	**Karamyk**	**2.60**	**268**	⇑*i*P		**Pn**	**00 50 46.5**	**+1.9**
	baz=67							
DRK				⇑*i*S		**Sn**	**00 51 19.0**	**+2.0**
	baz=67							
DRK	**Karamyk**	**2.60**	**268**			**Pb**	**00 50 48.1**	**-0.7**
UCH	**Uchtor**	**2.64**	**350**	⇓*i*P		**Pb**	**00 50 49.4**	**-0.2**
	baz=52							
UCH				⇓*i*S		**Sb**	**00 51 22.3**	**-0.4**
	baz=52							
UCH	**Uchtor**	**2.64**	**350**	P		**Pb**	**00 50 49.5**	**-0.2**
	SNR=240							
AML	**Almayashu**	**2.74**	**337**	⇓*e*P		**Pb**	**00 50 50.0**	**-1.2**
	baz=39							
AML				⇓*i*S		**Sb**	**00 51 23.7**	**-1.6**
	baz=39							
AML	**Almayashu**	**2.74**	**337**	⇓*i*P		**Pb**	**00 50 50.1**	**-1.0**
	SNR=53							
ULHL	**Ulahol**	**2.74**	**17**	⇓*i*P		**Pb**	**00 50 51.0**	**-0.1**
	baz=20							
ULHL				⇓*i*S		**Sb**	**00 51 26.3**	**+1.0**
	baz=20							
ULHL	**Ulahol**	**2.74**	**17**	P		**Pb**	**00 50 50.9**	**-0.2**
	SNR=29							
TARG	**Taragay, Kyrgy**	**2.91**	**43**			**Pb**	**00 50 54.0**	**-0.1**
BOOM	**Boomskoye usch**	**2.92**	**11**	⇓*i*P		**Pb**	**00 50 53.7**	**-0.5**
	baz=14							
BOOM				⇓*i*S		**Sb**	**00 51 30.1**	**-0.3**
	baz=14							
BOOM	**Boomskoye usch**	**2.92**	**11**	PN		**Pb**	**00 50 54.4**	**+0.2**
BOOM	**Boomskoye usch**	**2.92**	**11**	Pn		**Pb**	**00 50 54.4**	**+0.2**
KDJ	**Kajisay**	**2.93**	**31**	⇑*i*P		**Pb**	**00 50 54.3**	**-0.1**
	baz=33							
KDJ				⇑*i*S		**Sb**	**00 51 30.8**	**0.0**
	baz=33							
KDJ	**Kajisay**	**2.93**	**31**	PN		**Pb**	**00 50 55.0**	**+0.6**
KDJ	**Kajisay**	**2.93**	**31**	Pn		**Pb**	**00 50 55.0**	**+0.6**
KBK	**Karagaybulak**	**3.03**	**357**	⇓*i*P		**Pb**	**00 50 54.5**	**-1.5**
	baz=59							
KBK				⇓*i*S		**Sb**	**00 51 31.3**	**-2.3**
	baz=59							
KBK	**Karagaybulak**	**3.03**	**357**	P		**Pb**	**00 50 55.8**	**-0.2**
	SNR=76							
AAK	**Ala-Archa**	**3.05**	**351**	Pn		**Pb**	**00 50 55.3**	**-1.0**
	comp=E,20nm,0.3s,baz=166,slow=7.5,SNR=148							
AAK				Sn		**Sg**	**00 51 38.2**	**-1.0**
	comp=E,12nm,0.3s,baz=353,slow=23,SNR=4.0							
AAK				LR		LR	00 51 44.4	
	comp=E,63nm,21.8s,baz=106,slow=31							
AAK	**Ala-Archa**	**3.05**	**351**	⇑*e*P		**Pb**	**00 50 54.9**	**-1.4**
	baz=53							
AAK				⇑*i*S		**Sb**	**00 51 31.7**	**-2.4**
	baz=53							
AAK	**Ala-Archa**	**3.05**	**351**	P		**Pb**	**00 50 55.4**	**-1.0**
	SNR=95							
AAK	**Ala-Archa**	**3.05**	**351**	⇓Pn		**Pb**	**00 50 55.2**	**-1.2**
	comp=E,75nm,0.6s							
AAK				⇑Lg		Lg	00 51 37.2	
	comp=E,203nm,0.9s							
AAK	**Ala-Archa**	**3.05**	**351**	PN		**Pb**	**00 50 55.5**	**-0.8**
AAK	**Ala-Archa**	**3.05**	**351**	Pn		**Pb**	**00 50 55.5**	**-0.8**
FRU1	**Bishkek**	**3.20**	**353**	⇓*e*P		**Pb**	**00 50 57.5**	**-1.4**
	baz=55							
FRU1				⇓*i*S		**Sb**	**00 51 36.2**	**-2.3**
	baz=55							
FRU1	**Bishkek**	**3.20**	**353**	PN		**Pb**	**00 50 58.8**	**-0.2**
FRU1	**Bishkek**	**3.20**	**353**	Pn		**Pb**	**00 50 58.8**	**-0.2**
EKS2	**Erkin-Say**	**3.21**	**341**	⇑*i*P		**Pb**	**00 50 56.7**	**-2.3**
	baz=44							
EKS2				⇑*i*S		**Sb**	**00 51 35.1**	**-3.5**
	baz=44							
EKS2	**Erkin-Say**	**3.21**	**341**	P		**Pb**	**00 50 58.0**	**-1.0**
	SNR=9.3							
TKM2	**Tokmak 2**	**3.31**	**6**	⇑*i*P		**Pb**	**00 50 58.9**	**-1.9**
	baz=8.0							
TKM2				⇑*i*S		**Sb**	**00 51 38.7**	**-2.9**
	baz=8.0							
TKM2	**Tokmak 2**	**3.31**	**6**	P		**Pb**	**00 50 59.2**	**-1.6**
	SNR=130							
TKM2	**Tokmak 2**	**3.31**	**6**	⇑Pn		**Pb**	**00 50 59.3**	**-1.5**
	comp=E,173nm,0.3s							
TKM2				⇑Lg		Lg	00 51 44.3	
	comp=E,503nm,0.7s							
TKM2	**Tokmak 2**	**3.31**	**6**	*i* PN		**Pb**	**00 50 59.2**	**-1.6**
TKM2				pmax		pmax		
	comp=Z,173nm,0.3s							
BTK	**Batken**	**3.37**	**279**	⇑*i*P		**Pn**	**00 50 57.8**	**+2.8**
	baz=79							
BTK				⇑*i*S		**Sn**	**00 51 37.5**	**+1.9**
	baz=79							
BTK	**Batken**	**3.37**	**279**	PN		**Pn**	**00 50 57.0**	**+2.0**
BTK	**Batken**	**3.37**	**279**			**Pn**	**00 50 57.0**	**+2.0**
CHMS	**Chumysh**	**3.38**	**355**	⇓*e*P		**Pb**	**00 50 59.5**	**-2.4**
	baz=57							
CHMS				⇓*i*S		**Sb**	**00 51 39.7**	**-3.9**
	baz=57							
CHMS	**Chumysh**	**3.38**	**355**	P		**Pb**	**00 50 59.9**	**-2.1**
	SNR=80							
MRKS	**Merke**	**3.44**	**336**	*e*P		**Pb**	**00 51 03.2**	**+0.3**
	comp=Z,48nm,0.4s							
MRKS				*e*S		**Sb**	**00 51 46.5**	**+1.2**
	comp=Z,96nm,0.5s							
MRKS	**Merke**	**3.44**	**336**	Pg		**Pg**	**00 51 06.5**	**-0.6**
	comp=Z,107nm,0.4s							
MRKS				Lg		Lg	00 51 46.5	
	comp=Z,96nm,0.5s							
KST	**Kastek**	**3.47**	**10**	*e*P		**Pb**	**00 51 04.8**	**+1.4**
	comp=Z,84nm,0.4s							
KST				*e*S		**Sb**	**00 51 48.3**	**+2.2**
	comp=Z,230nm,0.7s							
KST	**Kastek**	**3.47**	**10**	Pg		**Pg**	**00 51 07.3**	**-0.4**
	comp=Z,84nm,0.4s							
KST				Lg		Lg	00 51 47.6	
	comp=Z,230nm,0.7s							
MNAS	**Manas**	**3.49**	**326**	⇓*i*P		**Pn**	**00 51 00.1**	**+3.4**
	baz=27							
MNAS				⇓*i*S		**Sn**	**00 51 41.1**	**+2.4**
	baz=27							
IZV	**Izvestkoviy**	**3.58**	**17**	*e*P		**Pg**	**00 51 08.9**	**-0.8**
	comp=Z,100nm,0.6s							
IZV				*e*S		**Sg**	**00 51 55.5**	**-0.6**
	comp=Z,218nm,0.5s							
IZV	**Izvestkoviy**	**3.58**	**17**	Pg		**Pg**	**00 51 09.0**	**-0.8**
	comp=Z,100nm,0.6s							
IZV				Lg		Lg	00 51 50.3	
	comp=Z,218nm,0.5s							
TRKS	**Terek-Say**	**3.60**	**303**	⇓*i*P		**Pn**	**00 50 59.9**	**+1.6**
	baz=3.0							
TRKS				⇓*i*S		**Sn**	**00 51 41.1**	**-0.4**
	baz=3.0							
MTBS	**Maitube**	**3.63**	**15**	*e*P		**Pg**	**00 51 09.9**	**-0.9**
	comp=Z,49nm,0.4s							
MTBS				*e*S		**Sg**	**00 51 57.5**	**-0.2**
	comp=Z,76nm,0.5s							
MTBS	**Maitube**	**3.63**	**15**	Pg		**Pg**	**00 51 09.9**	**-0.9**
	comp=Z,60nm,0.6s							
MTBS				Lg		Lg	00 51 51.8	
	comp=Z,76nm,0.5s							
DGS	**Degeres**	**3.64**	**7**	*e*P		**Pb**	**00 51 06.4**	**0.0**
	comp=Z,65nm,0.6s							
DGS				*e*S		**Sb**	**00 51 50.9**	**-0.1**
	comp=Z,161nm,0.7s							
DGS	**Degeres**	**3.64**	**7**	Pg		**Pg**	**00 51 10.0**	**-1.0**
	comp=Z,339nm,0.8s							
DGS				Lg		Lg	00 51 52.3	
	comp=Z,161nm,0.7s							
TNSS	**Tian-Shan**	**3.66**	**21**	*e*P		**Pg**	**00 51 10.2**	**-1.2**
	comp=Z,100nm,0.3s							
TNSS				*e*S		**Sg**	**00 51 58.7**	**-0.3**
	comp=Z,74nm,0.6s							
TNSS	**Tian-Shan**	**3.66**	**21**	Pg		**Pg**	**00 51 10.2**	**-1.2**
	comp=Z,100nm,0.3s							
TNSS				Lg		Lg	00 51 52.4	
	comp=Z,74nm,0.6s							
USP	**Ospenovka**	**3.67**	**352**	⇑*i*P		**Pb**	**00 51 03.4**	**-3.5**
	baz=54							
USP				⇑*i*S		**Sn**	**00 51 46.8**	**+3.8**
	baz=54							
USP	**Ospenovka**	**3.67**	**352**	P		**Pb**	**00 51 03.9**	**-3.0**
	SNR=58							
ANVS	**Anan'yevo**	**3.68**	**30**	⇑*i*P		**Pb**	**00 51 05.0**	**-2.1**
	baz=32							
ANVS				⇑*i*S		**Sb**	**00 51 49.5**	**-2.7**
	baz=32							
GAR	**Garm**	**3.81**	**262**	Pn		**Pn**	**00 51 02.4**	**+1.3**
MDOK	**Medeo**	**3.81**	**21**	*e*P		**Pg**	**00 51 12.6**	**-1.6**
	comp=Z,32nm,0.4s							
MDOK				*e*S		**Sg**	**00 52 03.1**	**-0.4**
	comp=Z,113nm,0.9s							
MDOK	**Medeo**	**3.81**	**21**	⇑Pn		**Pb**	**00 51 05.7**	**-3.5**
	comp=Z,12nm,0.5s							
MDOK				⇑Pg		**Pg**	**00 51 12.1**	**-2.1**
	comp=Z,27nm,0.4s							
MDOK				⇓Lg		Lg	00 52 04.7	
	comp=Z,158nm,0.9s							
MDOK	**Medeo**	**3.81**	**21**	PN		**Pb**	**00 51 05.5**	**-3.8**
AAA	**Alma-Ata**	**3.81**	**20**	*e*P		**Pg**	**00 51 13.6**	**-0.7**
	comp=Z,187nm,0.5s							
AAA				*e*S		**Sg**	**00 52 02.9**	**-0.8**
	comp=Z,136nm,0.4s							
AAA	**Alma-Ata**	**3.81**	**20**	Pg		**Pg**	**00 51 13.4**	**-1.0**
	comp=Z,187nm,0.5s							
AAA				Lg		Lg	00 51 57.9	
	comp=Z,136nm,0.4s							
KNDC	**Almaty**	**3.83**	**20**	⇑Pg		**Pg**	**00 51 13.5**	**-1.2**
	comp=Z,164nm,0.6s							
KNDC				⇑Lg		Lg	00 52 04.6	
	comp=Z,370nm,0.6s							
SGDS	**Sogindy**	**3.84**	**354**	Pg		**Pg**	**00 51 14.2**	**-0.7**
	comp=Z,73nm,0.5s							
SGDS				Lg		Lg	00 51 59.2	
	comp=Z,53nm,1.0s							
KOTS	**Kotyrbulak**	**3.89**	**22**	*e*P		**Pg**	**00 51 14.8**	**-1.0**
	comp=Z,52nm,0.5s							
KOTS				*e*S		**Sg**	**00 52 05.8**	**-0.4**
	comp=Z,330nm,0.8s							
KOTS	**Kotyrbulak**	**3.89**	**22**	Pg		**Pg**	**00 51 15.0**	**-0.8**
	comp=Z,72nm,0.6s							
KOTS				Lg		Lg	00 52 02.1	
	comp=Z,330nm,0.8s							
KRBS	**Karabastau**	**4.08**	**5**	*e*P		**Pg**	**00 51 18.1**	**-1.4**
	comp=Z,45nm,0.4s							
KRBS				*e*S		**Sg**	**00 52 12.1**	**-0.3**
	comp=Z,56nm,0.7s							
KRBS	**Karabastau**	**4.08**	**5**	Pg		**Pg**	**00 51 18.4**	**-1.1**
	comp=Z,67nm,0.6s							
KRBS				Lg		Lg	00 52 07.0	
	comp=Z,75nm,0.8s							
SATY	**Saty**	**4.21**	**34**	*e*P		**Pg**	**00 51 21.2**	**-0.7**
	comp=Z,24nm,0.8s							
SATY				*e*S		**Sg**	**00 52 17.1**	**+0.7**
	comp=Z,92nm,1.3s							
KTBS	**Karatobe**	**4.24**	**15**	*e*P		**Pg**	**00 51 20.6**	**-1.8**
	comp=Z,45nm,0.4s							
KTBS				*e*S		**Sg**	**00 52 16.4**	**-0.9**
	comp=Z,136nm,0.8s							
KUU	**Kurty**	**4.35**	**11**	*e*P		**Pg**	**00 51 22.8**	**-1.8**
	comp=Z,67nm,0.4s							
KUU				*e*S		**Sg**	**00 52 20.8**	**-0.3**
	comp=Z,91nm,0.6s							
KUU	**Kurty**	**4.35**	**11**	Pg		**Pg**	**00 51 24.2**	**-0.4**
	comp=Z,67nm,0.4s							
KUU				Lg		Lg	00 52 17.9	
	comp=Z,91nm,0.6s							
DZA	**Taraz**	**4.35**	**320**	Pg		**Pg**	**00 51 26.4**	**+1.7**
	comp=Z,77nm,0.2s							
DZA				Lg		Lg	00 52 20.9	
	comp=Z,210nm,0.3s							
CHKK	**Chushkaly**	**4.44**	**17**	*e*P		**Pg**	**00 51 24.4**	**-1.9**
	comp=Z,37nm,0.7s							
CHKK				*e*S		**Sg**	**00 52 22.5**	**-1.3**
	comp=Z,97nm,0.9s							
IUG	**Iuzhnay**	**4.63**	**305**	*e*P		**Pb**	**00 51 24.4**	**+1.1**
	comp=Z,318nm,0.8s							
IUG				*e*S		**Sb**	**00 52 23.3**	**+3.8**
	comp=Z,264nm,0.9s							
KPKS	**Kokpek**	**4.66**	**33**	*e*P		**Pg**	**00 51 29.2**	**-1.3**
	comp=Z,69nm,0.8s							
KPKS				*e*S		**Sg**	**00 52 30.8**	**-0.1**
	comp=Z,66nm,0.7s							
CHGR	**Chuyangaron**	**4.76**	**260**			**Pn**	**00 51 14.1**	**-0.1**
SHLS	**Shalkode**	**4.79**	**41**	*e*P		**Pg**	**00 51 36.9**	**+4.0**
	comp=Z,32nm,0.4s							
SHLS				*e*S		Sg	00 52 43.9	+8.9
	comp=Z,172nm,1.2s							
PDGK	**Podgornoye**	**4.92**	**40**	⇓Pn		Pb	00 51 22.3	-6.0
	comp=Z,6.8nm,0.8s							
PDGK				⇑Pg		**Pg**	**00 51 35.3**	**-0.3**
	comp=Z,19nm,0.6s							
PDGK				⇑Lg		Lg	00 52 43.2	
	comp=Z,102nm,0.9s							
PDGK	**Podgornoye**	**4.92**	**40**	PN		Pb	00 51 22.5	-5.8
PDGK							00 51 35.9	
KK31	**Karatay Array**	**4.93**	**316**	⇓Pn		**Pn**	**00 51 18.4**	**+2.0**
	comp=Z,5.3nm,0.6s,baz=118,slow=13,SNR=63							
KK31				⇓Pg		**Pg**	**00 51 32.4**	**-3.3**
	comp=Z,15nm,0.5s,baz=132,slow=16,SNR=13							
KK31				⇑Sn		**Sn**	**00 52 15.9**	**+1.9**
	comp=Z,17nm,0.5s							
KK31				⇓Lg		Lg	00 52 35.8	
	comp=Z,16nm,0.5s,baz=137,slow=28,SNR=4.5							
KK31	**Karatay Array**	**4.93**	**316**	PN		**Pn**	**00 51 18.8**	**+2.5**
KK31				*e*			00 51 32.9	
KK31	**Karatay Array**	**4.93**	**316**	Pn		**Pn**	**00 51 18.8**	**+2.5**
KKAR	**Karatay Array**	**4.93**	**316**	PN		**Pn**	**00 51 19.0**	**+2.7**
KKAR	**Karatay Array**	**4.93**	**316**	Pn		**Pn**	**00 51 18.5**	**+2.2**
KKAR	**Karatay Array**	**4.93**	**316**	Pn		**Pn**	**00 51 19.0**	**+2.7**
CHM	**Chimkent**	**4.99**	**304**	*e*P		**Pb**	**00 51 32.8**	**+3.4**
	comp=Z,3.7nm,0.6s							
CHM				*e*S		**Sg**	**00 52 37.5**	**-4.0**
	comp=Z,190nm,0.5s							
KTMS	**Ketmen**	**5.45**	**44**	*e*P		**Pg**	**00 51 43.3**	**-2.4**
	comp=Z,6.3nm,0.8s							
KTMS				*e*S		**Sg**	**00 52 56.4**	**0.0**
	comp=Z,22nm,0.5s							
KTMS	**Ketmen**	**5.45**	**

AKTO	**Aktyubinsk** comp=E,0.3nm,0.3s,baz=126,slow=16,SNR=9.6	**16.19**	**317**	Pn	**Pn**	**00 53 50.3**	**+0.5**
SHL	**Shillong**	**19.83**	**130**	P	**P**	**00 54 31.8**	**-1.7**
SHL	comp=Z,12nm,0.4s			pmax	pmax		
SHL	**Shillong**	**19.83**	**130**	P	**P**	**00 54 31.8**	**-1.7**
ARU	**Arti** comp=Z,1.1nm,0.5s,baz=175,slow=7.3,SNR=6.2	**20.05**	**332**	P	Pn	00 54 38.0	+0.8
ARU	**Arti**	**20.05**	**332**	*d* P	Pn	00 54 37.2	0.0
ARU						00 54 53.8	
ARU				S	Sn	00 58 24.6	+1.5
ARU				SS	**SnSn**	**00 58 42.5**	**+5.1**
ARU	comp=Z,13nm,1.2s			pmax	pmax		
ARU	**Arti**	**20.05**	**332**	P	Pn	00 54 37.2	0.0
BELG	**Belogornoye** comp=Z,6.6nm,0.9s,baz=62,slow=1.6,SNR=4.3	**22.83**	**313**	P	**P**	**00 55 05.1**	**-0.3**
BELG	**Belogornoye**	**22.83**	**313**	*i* P	**P**	**00 55 08.9**	**+3.5**
BELG	comp=Z,4.0nm,1.4s			pmax	pmax		
LZH	**Lanzhou**	**22.88**	**90**	*e*P	**P**	**00 55 08.5**	**+2.2**
LZH	comp=Z,15nm,1.0s			pmax	pmax		
GNI	**Garni**	**23.30**	**281**	LR	LR	01 06 17.1	
GNI	comp=Z,35nm,18.8s,baz=24,slow=42 **Garni**	**23.30**	**281**	*i* P	**P**	**00 55 11.0**	**+0.4**
GNI	comp=Z,15nm,1.5s			pmax	pmax		
SONM	**Songino Array**	**23.89**	**60**	P	**P**	**00 55 16.8**	**+0.5**
SONM	comp=Z,0.3nm,0.3s,baz=246,slow=11,SNR=3.5 **Songino Array**	**23.89**	**60**	P	**P**	**00 55 17.5**	**+1.2**
SONM	comp=Z,1.0nm,1.3s			pmax	pmax		
SONM	**Songino Array**	**23.89**	**60**	P	**P**	**00 55 17.5**	**+1.2**
ONI	**Oni**	**24.00**	**287**	P	**P**	**00 55 18.2**	**+0.8**
ONI	comp=Z,11nm,1.3s			pmax	pmax		
ONI	**Oni**	**24.00**	**287**	P	**P**	**00 55 18.1**	**+0.8**
ONI	comp=Z,11nm,1.3s			IAmb	IAmb	00 55 20.5	
KBZ	**Khabaz** comp=Z,0.9nm,0.6s,baz=131,slow=11,SNR=1.8	**24.35**	**290**	P	**P**	**00 55 18.7**	**-1.8**
KIV	**Kislovodsk**	**24.50**	**291**	*e*P	**P**	**00 55 22.8**	**+0.8**
KIV	comp=Z,5.0nm,1.1s			pmax	pmax		
KIRV	**Kirov** comp=Z,11nm,0.5s,baz=98,slow=7.1,SNR=4.7	**25.11**	**328**	P	**P**	**00 55 28.8**	**+1.6**
HHC	**Hu-ho-hao-te**	**27.70**	**76**	*e*P	**P**	**00 55 55.0**	**+4.1**
HHC	comp=Z,15nm,0.9s			pmax	pmax		
HHC	comp=Z,120nm,4.8s			pmax	pmax		
OBN	**Obninsk**	**29.91**	**314**	*e*P	**P**	**00 56 10.7**	**+0.4**
OBN				*e*		00 57 08.1	
OBN	comp=Z,5.0nm,0.9s			pmax	pmax		
BRTR	**Keskin Array B** comp=Z,1.0nm,0.5s,baz=103,slow=8.7,SNR=3.8	**31.75**	**284**	P	**P**	**00 56 25.9**	**-0.9**
BRTR	**Keskin Array B**	**31.75**	**284**	*e*P	**P**	**00 56 29.8**	**+2.9**
BRTR	comp=Z,1.0nm,0.5s			pmax	pmax		
BRTR	**Keskin Array B**	**31.75**	**284**	P	**P**	**00 56 26.8**	**-0.1**
MNK	**Minsk**	**34.75**	**311**	*i* P	**P**	**00 56 51.3**	**-1.4**
MNK				*i*		00 58 07.7	
MNK				*i*		00 59 24.6	
MNK				*i* S	**S**	**01 02 19.6**	**-4.0**
MNK				*i* SS	**SnSn**	**01 04 34.9**	**-1.0**
MNK				*i*		01 07 10.5	
MNK	comp=E,1.0nm,0.7s			pmax	pmax		
MNK	comp=Z,3.0nm,0.7s			pmax	pmax		
MNK	comp=N,6.0nm,0.7s			pmax	pmax		
MNK	comp=Z,142nm,18.0s			MLR	MLR		
MNK	comp=E,38nm,18.0s			MLR	MLR		
MNK	comp=N,283nm,18.0s			MLR	MLR		
MNK	**Minsk**	**34.75**	**311**	*i* P	**P**	**00 56 51.3**	**-1.4**
MNK	comp=E,1.0nm,0.7s			*i* P	**P**	**00 56 51.3**	**-1.4**
MNK	comp=N,6.0nm,0.7s			*i* P	**P**	**00 56 51.3**	**-1.4**
MNK	comp=Z,3.0nm,0.7s,baz=96			*i* PP	**PnPn**	**00 58 07.7**	**-0.7**
MNK				*i* PPP	PPP	00 58 20.6	
MNK				*i* PcP	**PcP**	**00 59 24.7**	**-1.5**
MNK				*i* S	**S**	**01 02 19.6**	**-3.9**
MNK				*i* SS	**SnSn**	**01 04 35.0**	**-1.0**
MNK				*i* SSS	SSS	01 04 51.8	
MNK				*i* LR	LR	01 07 45.9	
MNK	comp=Z,142nm,18.1s			*i* LRM	MLR	01 10 14.9	
MNK	comp=E,38nm,18.1s			*i* LRM	MLR	01 13 20.1	
MNK	comp=N,283nm,18.2s			*i* LRM	MLR	01 13 21.7	
BUR08	**Bucovina Ar. S**	**36.49**	**299**	P	**P**	**00 57 08.7**	**+0.9**
BUR08	comp=Z,12nm,1.5s			IAmb	IAmb	00 57 35.5	
FIA1	**FINESS Array S**	**36.85**	**323**	P	**P**	**00 57 11.7**	**+1.1**
FINES	**FINESS Array B** comp=Z,1.8nm,0.5s,baz=108,slow=8.7,SNR=15	**36.85**	**323**	P	**P**	**00 57 11.4**	**+0.8**
FINES	**FINESS Array B**	**36.85**	**323**	*e*P	**P**	**00 57 11.9**	**+1.3**
FINES	comp=Z,2.0nm,0.5s			pmax	pmax		
FINES	**FINESS Array B**	**36.85**	**323**	P	**P**	**00 57 11.6**	**+0.9**
VTS	**Vitosha**	**38.73**	**292**	P	**P**	**00 57 28.7**	**+1.8**
VTS	comp=Z,7.0nm,1.4s			pmax	pmax		
VTS	**Vitosha**	**38.73**	**292**	P	**P**	**00 57 28.6**	**+1.8**
VTS	comp=Z,7.3nm,1.4s			IAmb	IAmb	00 57 51.6	
YAK	**Yakutsk** comp=Z,206nm,18.9s,baz=102,slow=38	**39.51**	**37**	LR	LR	01 15 02.4	
ARCES	**ARCESS Array B** comp=Z,5.7nm,1.0s,baz=99,slow=7.5,SNR=4.7	**39.60**	**335**	P	**P**	**00 57 35.3**	**+1.6**
FNA	**Florina**	**40.55**	**290**	P	**P**	**00 57 42.9**	**+0.9**
FNA	comp=Z,13nm,1.3s			pmax	pmax		
FNA	**Florina**	**40.55**	**290**	P	**P**	**00 57 42.9**	**+0.9**
FNA	comp=Z,13nm,1.3s			IAmb	IAmb	00 58 04.0	
PDG	**Podgorica**	**41.62**	**293**	P	**P**	**00 57 51.7**	**+1.0**
GERES	**GERESS Array B** comp=Z,0.4nm,0.5s,baz=90,slow=8.8,SNR=2.3	**43.89**	**303**	P	**P**	**00 58 08.7**	**-0.5**
NB2	**NORSAR Subarra** comp=Z,0.7nm,0.5s,baz=91,slow=7.9	**43.94**	**321**	P	**P**	**00 58 10.1**	**+0.7**
NOA	**NORSAR Array B** comp=Z,0.7nm,0.5s,baz=91,slow=8.0,SNR=6.2	**43.94**	**321**	P	**P**	**00 58 10.0**	**+0.7**
DAV	**Davao City (W)** comp=Z,48nm,19.9s,baz=174,slow=39	**55.52**	**112**	LR	LR	01 25 56.1	
ESDC	**Sonseca Array** comp=Z,0.5nm,0.6s,baz=52,slow=7.3,SNR=6.4	**58.91**	**298**	P	**P**	**01 00 01.0**	**-0.8**
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.4s,baz=46,slow=5.4,SNR=13	**69.04**	**270**	P	**P**	**01 01 05.8**	**-3.0**
TORD	**Torodi Ar. Bea**	**69.04**	**270**	P	**P**	**01 01 06.1**	**-2.7**
TORD	comp=Z,4.6nm,1.3s			IAmb	IAmb	01 01 30.9	
ILAR	**Eielson Array** comp=Z,0.5nm,0.8s,baz=314,slow=4.7,SNR=2.8	**70.84**	**18**	P	**P**	**01 01 19.6**	**+0.5**
WRA	**Warramunga Arr** comp=Z,1.9nm,0.7s,baz=321,slow=5.4,SNR=4.5	**80.98**	**125**	P	**P**	**01 02 15.8**	**-1.8**
WRA	**Warramunga Arr**	**80.98**	**125**	P	**P**	**01 02 16.0**	**-1.6**
ASAR	**Alice Springs** comp=Z,1.2nm,0.7s,baz=306,slow=5.6,SNR=5.6	**83.46**	**128**	P	**P**	**01 02 28.7**	**-1.8**
ASAR	**Alice Springs**	**83.46**	**128**	P	**P**	**01 02 29.9**	**-0.6**
ASAR	**Alice Springs**	**83.46**	**128**	P	**P**	**01 02 29.9**	**-0.6**

*IDC **30** 00:54:37.2≈5.3, 8.°84S×124.°40E, h107km±61km, mb3.3/1, mb1 3.6/4, mb1mx3.3/34, mbtmp3.8/4, Error ellipse: s-maj=76.8km s-min=30.0km az=40.0*
*DJA **30** 00:54:38.2≈0.5, 9.°5±6.°×12.°4E±.°, h108km±8km, M4.2/7, mB5.0/3, mb4.6/2, MLv4.0/7, Mw(mB)4.4/3*
ISC 30 00:54:36.0±1.1, **8.88S**±0.07×**124.46E**±0.09, **h100**km, **n11**, σ**2s92/18**, **Timor region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.89**	**193**	P	**Pn**	**00 54 59.0**	**+3.5**
SOEI				S	**Sn**	**00 55 13.6**	**+3.6**
BATI	**Baumata**	**1.53**	**211**	P	**Pn**	**00 55 05.0**	**+2.3**
BATI	48nm,0.3s,baz=50,slow=3.7,SNR=16			S	**Sn**	**00 55 25.0**	**+2.0**
BATI	73nm,0.3s,baz=88,slow=2.7,SNR=9.5 **Baumata**	**1.53**	**211**	P	**Pn**	**00 55 04.8**	**+2.0**
BATI				S	**Sn**	**00 55 24.8**	**+1.8**
MMRI	**Maumere**	**2.21**	**276**	P	**Pn**	**00 55 10.3**	**-1.1**
MMRI				S	**Sn**	**00 55 36.7**	**-1.8**
EDFI	**Ende, Flores**	**2.74**	**273**	P	**Pn**	**00 55 18.1**	**-0.4**
WBSI	**Waikabubak, Su**	**5.06**	**261**	P	**Pn**	**00 55 49.4**	**-0.3**
KKSI	**Kolaka, Sulawe**	**5.45**	**329**	P	**Pn**	**00 55 56.4**	**+1.5**
FITZ	**Fitzroy Crossi** 0.8nm,0.3s,baz=353,slow=17,SNR=32	**9.23**	**173**	P	**Pn**	**00 56 46.6**	**+0.3**
FITZ				S	**Sn**	**00 58 23.9**	**-4.5**
WRA	2.8nm,0.3s,baz=215,slow=9.5,SNR=20 **Warramunga Arr**	**14.56**	**140**	P	**Pn**	**00 57 58.6**	**+1.3**
WRA	0.7nm,0.3s,baz=327,slow=14,SNR=24			S	**Sn**	**01 00 32.6**	**-5.4**
ASAR	1.2nm,0.3s,baz=314,slow=24,SNR=11 **Alice Springs**	**17.26**	**150**	P	**Pn**	**00 58 34.0**	**+3.1**
ASAR	0.5nm,0.3s,baz=321,slow=10,SNR=15			S	**Sn**	**01 01 38.6**	**-4.3**
MKAR	0.5nm,0.3s,baz=326,slow=27,SNR=11 **Makanchi Array**	**66.94**	**330**	P	**P**	**01 05 17.6**	**-0.3**
	0.4nm,0.6s,baz=134,slow=8.3,SNR=3.3						

*NEIC **30** 01:06:21.8±1.9, 46.°51N±0.°03×80.°91W±0.°03, h5km±2km, Error ellipse: s-maj=4.9km s-min=3.2km az=350.0*
*OTT **30** 01:06:22.2≈0.1, 46.°51N×80.°91W, h4km, MN3.1/12*
OTT 8km east from Sudbury, Ontario Felt Felt at Sudbury, Sturgeon Falls, Ontario.
ISC 30 01:06:20.7±1.2, **46.°50N**±0.°03×**80.°87W**±0.°03, **h4**km±11km, **n55**, σ**1s02/80**, **Ontario**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUNO	**Sudbury Onapin**	**0.36**	**293**	PG	**Pg**	**01 06 28.1**	**+0.4**
SUNO				SG	**Sg**	**01 06 32.4**	**+0.1**
SUNO				Trac		01 06 38.6	
SUNO	comp=Z,34nm,0.0s **Sudbury Onapin**	**0.36**	**293**	Pg	**Pg**	**01 06 28.1**	**+0.4**
SUNO				Sg	**Sg**	**01 06 32.4**	**+0.1**
KLBO	**Killbear Provi**	**1.24**	**158**	PG	**Pn**	**01 06 44.1**	**-0.7**
KLBO				SG	**Sb**	**01 07 00.1**	**-0.9**
KLBO	comp=Z,17nm,0.1s			Trac		01 07 07.5	
KLBO	**Killbear Provi**	**1.24**	**158**	Pg	**Pn**	**01 06 44.1**	**-0.7**
KLBO				Sg	**Sb**	**01 07 00.1**	**-0.9**
EEO	**Eldee**	**1.25**	**83**	PG	**Pb**	**01 06 45.0**	**+0.1**
EEO				SG	**Sn**	**01 07 01.6**	**-0.6**
EEO	comp=Z,40nm,0.1s			Trac		01 07 04.7	
EEO	**Eldee**	**1.25**	**83**	Pg	**Pb**	**01 06 45.0**	**+0.1**
EEO				Sg	**Sn**	**01 07 01.6**	**-0.6**
TOBO	**Tobermory, Bru**	**1.36**	**200**	PG	**Pb**	**01 06 46.2**	**-0.5**
TOBO				SG	**Sg**	**01 07 04.4**	**+0.1**
TOBO	comp=Z,59nm,0.2s			Trac		01 07 08.1	
TOBO	**Tobermory, Bru**	**1.36**	**200**	Pg	**Pb**	**01 06 46.2**	**-0.5**
TOBO				Sg	**Sg**	**01 07 04.4**	**+0.1**
BUKO	**Buck Lake**	**1.48**	**135**	PG	**Pb**	**01 06 48.4**	**-0.4**
BUKO				SG	**Sg**	**01 07 08.4**	**+0.3**
BUKO	comp=Z,30nm,0.1s			Trac		01 07 11.3	
BUKO	**Buck Lake**	**1.48**	**135**		**Pb**	**01 06 48.4**	**-0.4**
BUKO				Sg	**Sg**	**01 07 08.4**	**+0.3**
BMRO	**Meriville Lake**	**1.93**	**187**	PN	**Pb**	**01 06 55.9**	**-0.5**
BMRO				SN	**Sb**	**01 07 20.6**	**-0.2**
BMRO	comp=Z,77nm,0.3s			Trac		01 07 23.6	
BMRO	**Meriville Lake**	**1.93**	**187**	Pn	**Pb**	**01 06 55.9**	**-0.5**
BMRO				Sn	**Sb**	**01 07 20.6**	**-0.2**
ALGO	**Algonquin Park**	**2.03**	**105**	PN	**Pb**	**01 06 57.5**	**-0.8**
ALGO				SN	**Sb**	**01 07 24.3**	**+0.4**
ALGO	comp=Z,105nm,0.1s			Trac		01 07 29.5	
ALGO	**Algonquin Park**	**2.03**	**105**	Pn	**Pb**	**01 06 57.5**	**-0.8**
ALGO				Sn	**Sb**	**01 07 24.3**	**+0.4**
CLWO	**Collingwood**	**2.09**	**169**	PN	**Pb**	**01 06 58.4**	**-0.9**
CLWO				SN	**Sb**	**01 07 25.0**	**-0.7**
CLWO	comp=Z,32nm,0.1s			Trac		01 07 32.1	
CLWO	**Collingwood**	**2.09**	**169**	Pn	**Pb**	**01 06 58.4**	**-0.9**
CLWO				Sn	**Sb**	**01 07 25.0**	**-0.7**
SADO	**Sadowa**	**2.12**	**144**	PN	**Pb**	**01 06 58.4**	**-1.3**
SADO				SN	**Sb**	**01 07 25.3**	**-1.0**
SADO	comp=Z,11nm,0.1s			Trac		01 07 34.6	
SADO	**Sadowa**	**2.12**	**144**	Pn	**Pb**	**01 06 58.3**	**-1.3**
KILO	**Kirkland Lake**	**2.14**	**21**	PN	**Pn**	**01 06 58.5**	**+1.2**
KILO				SN	**Sb**	**01 07 25.4**	**-1.6**
KILO	comp=Z,44nm,0.2s			Trac		01 07 28.0	
KILO	**Kirkland Lake**	**2.14**	**21**	Pn	**Pn**	**01 06 58.5**	**+1.2**
KILO				Sn	**Sb**	**01 07 25.4**	**-1.6**
BASO	**Ashfield**	**2.55**	**193**	PN	**Pn**	**01 07 04.3**	**+1.3**
BASO				SN	**Sn**	**01 07 35.4**	**+0.9**
BASO	comp=Z,38nm,0.2s			Trac		01 07 41.4	
BASO	**Ashfield**	**2.55**	**193**	Pn	**Pn**	**01 07 04.3**	**+1.3**
BASO				Sn	**Sn**	**01 07 35.4**	**+0.9**
PEMO	**Pembroke**	**2.65**	**107**	PN	**Pn**	**01 07 06.0**	**+1.6**
PEMO				SN	**Sn**	**01 07 38.1**	**+1.2**
PEMO	comp=Z,8.7nm,0.1s			Trac		01 07 45.6	
PEMO	**Pembroke**	**2.65**	**107**	Pn	**Pn**	**01 07 06.0**	**+1.6**
PEMO				Sn	**Sn**	**01 07 38.1**	**+1.2**
I49A	**Point Hope**	**2.91**	**209**	Pn	**Pn**	**01 07 08.5**	**+0.6**
DELO	**Deloro Mine**	**3.03**	**130**	Pn	**Pn**	**01 07 09.8**	**+0.4**
PLVO	**Plevna**	**3.03**	**118**	Pn	**Pn**	**01 07 09.8**	**+0.3**
GLMI	**Grayling**	**3.12**	**239**	Pn	**Pn**	**01 07 11.0**	**+0.2**
G45A	**Suttons Bay**	**3.66**	**248**	Pn	**Pn**	**01 07 17.8**	**-0.3**
K50A	**Cascn** comp=Z,32nm,1.2s	**3.93**	**199**	IAmb_Lg		01 08 30.7	
E43A	**Lone Tree Farm**	**4.24**	**270**	Pn	**Pn**	**01 07 26.4**	**+0.3**
J47A	**Sunmer**	**4.31**	**222**	Pn	**Pn**	**01 07 28.0**	**+0.9**
WVNY	**West Valley, N**	**4.41**	**158**	Pn	**Pn**	**01 07 30.1**	**+1.7**
WVNY	comp=Z,16nm,1.2s			IAmb_Lg		01 08 43.0	
J57A	**Williamstown**	**4.64**	**130**	Pn	**Pn**	**01 07 32.5**	**+0.9**
LONY	**Lake Ozonia**	**4.80**	**111**	Pn	**Pn**	**01 07 34.2**	**+0.4**
K57A	**Scipio Center**	**4.89**	**139**	Pn	**Pn**	**01 07 35.7**	**+0.7**
K57A	comp=Z,8.3nm,0.9s			IAmb_Lg		01 08 59.9	
L56A	**Greenwood**	**4.97**	**150**	Pn	**Pn**	**01 07 37.1**	**+0.9**
J58A	**Remsen**	**5.06**	**126**	Pn	**Pn**	**01 07 37.4**	**-0.1**
M54A	**Oil Creek Stat**	**5.07**	**170**	Pn	**Pn**	**01 07 38.6**	**+1.0**
L48A	**N Adams**	**5.23**	**211**	Pn	**Pn**	**01 07 40.7**	**+1.0**
M55A	**Ridgway**	**5.26**	**162**	Pn	**Pn**	**01 07 41.9**	**+1.8**
H43A	**Windswept, Lux**	**5.26**	**250**	Pn	**Pn**	**01 07 40.7**	**+0.5**
D41A	**Chassel**	**5.32**	**279**	Pn	**Pn**	**01 07 40.5**	**-0.4**
NCB	**Newcomb**	**5.33**	**116**	Pn	**Pn**	**01 07 40.1**	**-1.0**
FRNY	**Flat Rock**	**5.37**	**105**	Pn	**Pn**	**01 07 42.0**	**+0.3**
COWI	**Conover**	**5.74**	**269**	Pn	**Pn**	**01 07 47.2**	**+0.4**
SSPA	**Standing Stone**	**6.25**	**159**	Pn	**Pn**	**01 07 54.9**	**+1.1**
O56A	**Blue Knob Stat**	**6.46**	**164**	Pn	**Pn**	**01 07 58.2**	**+1.6**
G40A	**Rib Lake**	**6.63**	**263**	Pn	**Pn**	**01 07 57.5**	**-1.4**
Q54A	**Coxs Mills** comp=Z,7.8nm,1.1s	**7.52**	**180**	IAmb_Lg		01 10 17.4	

*IDC **30** 01:06:54.4±0.8, 31.°54S×71.°63W, h0km, mb4.3/8, mb1 4.3/13, mb1mx4.2/25, mbtmp4.2/13, ML4.0/5, MS3.6/6, Ms1 3.6/6, ms1mx3.3/27, Error ellipse: s-maj=24.1km s-min=21.2km az=92.0*

*SJA **30** 01:06:56.7±1.1, 31.°47S×72.°07W, h49km±12km, ML4.6, MW4.6*
*NEIC **30** 01:06:57.9, 31.°50S×71.°76W, h35km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.82; $M_{\theta\theta}$-0.01; $M_{\phi\phi}$-1.80; $M_{r\theta}$0.28; $M_{r\phi}$-0.00; $M_{\theta\phi}$-1.51; Fault plane solution: M_o2.37000×10^{15} NP1:ϕ_s173.31000°, δ65.18000°, λ84.32000°. NP2:ϕ_s6.65000°, δ25.42000°, λ102.09000°. Principal axes: T 2.3931, Plg69.0000°, Azm72.0000°; N -0.0398, Plg5.0000°, Azm176.0000°; P -2.3534, Plg20.0000°, Azm268.0000°;*
*VAO **30** 01:06:58.1±0.4, 31.°39S×71.°56W, h10km, mb4.6*
*GUC **30** 01:06:58.9±0.7, 31.°52S×71.°70W, h39km±2km, ML4.5*
*NEIC **30** 01:06:59.0±2.1, 31.°50S±0.°03×71.°71W±0.°05, h24km±3km, mb4.7/41, Mwr4.2/50, ML4.6(GUC), Error ellipse: s-maj=6.7km s-min=3.9km az=98.0*
ISC 30 01:06:58.4±0.9, **31.°51S**±0.°02×**71.°72W**±0.°04, **h23**km±6km, **n214**, σ**1s14/227**, **mb4.7**/29, **MS3.7**/3, **1C**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO02	**Combarbal**	**0.69**	**64**	*e*P	**Pn**	**01 07 12.2**	**-0.5**
CO02				*i* S	**Sn**	**01 07 21.9**	**-0.8**
CO02	comp=N,58μm,0.2s			IAML		01 07 27.0	
CO02	**Combarbal**	**0.69**	**64**		**Pn**	**01 07 12.1**	**-0.7**
CO02				Sn	**Sn**	**01 07 21.6**	**-1.2**
CO06	**Fray Jorge**	**0.84**	**5**	*e*P	**Pb**	**01 07 14.4**	**+0.2**
CO06				*i* S	**Sn**	**01 07 26.3**	**0.0**
CO06	comp=N,31μm,0.4s			IAML		01 07 27.6	
CO06	**Fray Jorge**	**0.84**	**5**		**Pn**	**01 07 14.8**	**+0.1**
CO06				Sn	**Sb**	**01 07 25.8**	**+0.7**
VA06	**Catapilco**	**1.11**	**161**	*e*P	**Pb**	**01 07 18.7**	**-0.1**
VA06				*i* S	**Sn**	**01 07 33.0**	**0.0**
VA06	comp=E,23μm,0.4s			IAML		01 07 36.0	
CO03	**El Pedregal**	**1.11**	**53**	*e*P	**Pb**	**01 07 18.7**	**-0.2**
CO03				*i* S	**Sn**	**01 07 33.5**	**+0.4**
CO03	comp=E,14μm,0.3s			IAML		01 07 36.8	
CO03	**El Pedregal**	**1.11**	**53**	Pn	**Pb**	**01 07 18.6**	**-0.2**
CO03				Sn	**Sn**	**01 07 33.0**	**-0.1**
VA01	**Torpederas**	**1.51**	**178**	*e*P	**Pn**	**01 07 24.3**	**+0.4**
VA01	**Torpederas**	**1.51**	**178**	Pn	**Pn**	**01 07 24.1**	**+0.2**
VA01				Sn	**Sn**	**01 07 42.4**	**-0.5**
GO04	**Tololo Observa**	**1.55**	**31**	*e*P	**Pn**	**01 07 25.6**	**+0.8**
GO04				*i* S	**Sb**	**01 07 46.0**	**+0.2**
GO04	**Tololo Observa**	**1.55**	**31**		**Pb**	**01 07 25.9**	**-0.6**
GO04	**Tololo Observa**	**1.55**	**31**	*i* P	**Pb**	**01 07 25.7**	**-0.8**
GO04				*i* S	**Sb**	**01 07 46.5**	**+0.7**
ROCH	**El Roble**	**1.57**	**158**	*e*P	**Pn**	**01 07 25.9**	**+0.8**
ROCH				*i* S	**Sb**	**01 07 46.0**	**-0.6**
ROCH	comp=E,8μm,0.7s			IAML		01 07 53.6	
VA03	**San Esteban**	**1.59**	**142**	*e*P	**Pb**	**01 07 26.2**	**-1.0**
VA03				*i* S	**Sb**	**01 07 46.7**	**-0.3**
VA03	comp=E,13μm,0.5s			IAML		01 07 50.7	
VA03	**San Esteban**	**1.59**	**142**		**Pb**	**01 07 26.6**	**-0.6**
VA03	**San Esteban**	**1.59**	**142**	*i* P	**Pb**	**01 07 27.1**	**-0.1**
VA03				*i* S	**Sb**	**01 07 49.3**	**+2.4**
VA03	comp=E,6μm,0.8s			IAML		01 07 52.8	
CO05	**La Serena**	**1.64**	**15**	*e*P	**Pn**	**01 07 26.9**	**+1.1**
CO05				*i* S	**Sb**	**01 07 48.4**	**+0.3**
CO05	comp=N,7μm,0.3s			IAML		01 07 52.0	
CO05	**La Serena**	**1.64**	**15**		**Pn**	**01 07 26.0**	**+0.3**
MT05	**Renca**	**2.05**	**156**	*e*P	**Pn**	**01 07 32.7**	**+1.3**
MT05				*i* S	**Sb**	**01 07 59.1**	**-1.0**
MT05	comp=E,5μm,0.3s			IAML		01 08 07.8	
MT05	**Renca**	**2.05**	**156**		**Pn**	**01 07 32.3**	**+0.9**
MT05	**Renca**	**2.05**	**156**	*i* P	**Pn**	**01 07 33.0**	**+1.5**
AUSP	**Uspallata**	**2.11**	**110**	*i* P	**Pb**	**01 07 36.1**	**+0.1**
VA05	**Santo Domingo**	**2.14**	**178**	*e*P	**Pn**	**01 07 32.9**	**+0.3**
VA05	comp=N,3μm,0.5s			IAML		01 08 13.9	
VA05	**Santo Domingo**	**2.14**	**178**		**Pn**	**01 07 32.5**	**-0.1**
MT09	**Talagante**	**2.34**	**165**	*e*P	**Pn**	**01 07 37.0**	**+1.4**
MT09				*i* S	**Sn**	**01 08 05.7**	**+2.0**
MT09	**Talagante**	**2.34**	**165**	Pn	**Pn**	**01 07 36.9**	**+1.4**
MT01	**Popeta**	**2.38**	**171**	*e*P	**Pn**	**01 07 36.7**	**+0.8**
MT01				*i* S	**Sn**	**01 08 05.7**	**+1.3**
MT01	**Popeta**	**2.38**	**171**	Pn	**Pn**	**01 07 36.7**	**+0.8**
MT01	**Popeta**	**2.38**	**171**	*i* P	**Pn**	**01 07 37.0**	**+1.1**
ACCO	**Cerro Coronel**	**2.46**	**69**	*i* P	**Pb**	**01 07 41.0**	**-1.0**
ACCO	comp=Z,2μm,4.9s			IAML		01 08 24.1	
ZON	**Zonda**	**2.59**	**92**	*i* P	**Pb**	**01 07 43.0**	**-1.2**
LCO	**Las Campanas**	**2.64**	**20**	*i* P	**Pn**	**01 07 40.6**	**+0.8**
LCO				*i* S	**Sn**	**01 08 13.4**	**+2.2**
LCO	**Las Campanas**	**2.64**	**20**		**Pn**	**01 07 40.1**	**+0.3**
LCO	**Las Campanas**	**2.64**	**20**	*i* P	**Pn**	**01 07 40.7**	**+0.9**
LMEL	**Las Melosas**	**2.66**	**152**	*e*P	**Pn**	**01 07 41.7**	**+1.8**
ARCO	**CERRO ARCO**	**2.71**	**120**	*i* P	**Pb**	**01 07 45.1**	**-1.2**
ARCO	comp=Z,2μm,0.6s			IAML		01 08 32.6	
RTCV	**Cerro Valdivia**	**2.73**	**98**	*i* P	**Pb**	**01 07 44.6**	**-1.9**
BO01	**Tunca**	**2.92**	**170**	*e*P	**Pn**	**01 07 44.1**	**+0.7**
BO01	**Tunca**	**2.92**	**170**		**Pn**	**01 07 44.5**	**+1.1**
BO01	**Tunca**	**2.92**	**170**	*i* P	**Pn**	**01 07 44.0**	**+0.6**
BO01	comp=Z,1μm,0.8s			IAML		01 08 31.5	
AC04	**Llanos de Chal**	**3.34**	**10**	Pn	**Pn**	**01 07 49.4**	**+0.2**
AC04	**Llanos de Chal**	**3.34**	**10**	*i* P	**Pn**	**01 07 49.0**	**-0.1**
AC04	comp=Z,1μm,0.6s			IAML		01 08 48.0	
BO02	**Sierra Bellavi**	**3.37**	**167**		**Pn**	**01 07 50.9**	**+1.4**
BO02	**Sierra Bellavi**	**3.37**	**167**	*i* P	**Pn**	**01 07 51.3**	**+1.7**
BO02	comp=Z,814nm,0.7s			IAML		01 08 53.3	
GO05	**Huala**	**3.49**	**183**	Pn	**Pn**	**01 07 50.4**	**-0.9**
GO05	**Huala**	**3.49**	**183**	*i* P	**Pn**	**01 07 51.0**	**-0.3**
COIS	**El Sosneado**	**4.00**	**154**	*i* P	**Pn**	**01 08 01.4**	**+3.1**
VCA	**Vinchina**	**4.11**	**49**	*i* P	**Pn**	**01 08 03.4**	**+3.4**
VCA	comp=Z,1μm,1.4s			IAML		01 09 20.9	
GO03	**Copiap**	**4.11**	**19**	Pn	**Pn**	**01 08 00.3**	**+0.5**
GO03	**Copiap**	**4.11**	**19**	*i* P	**Pn**	**01 08 01.0**	**+1.2**
RFA	**San Rafael**	**4.24**	**141**	*i* P	**Pn**	**01 08 04.6**	**+2.9**
ML02	**Panimavida**	**4.25**	**177**	Pn	**Pn**	**01 08 02.7**	**+1.1**
APLL	**PUNTA DE LOS L**	**4.59**	**77**	*i* P	**Pn**

comp=Z,200nm,20.2s,baz=341,slow=38
PLCA Paso Flores 9.25 174 Pn Pn 01 09 10.2 -0.1
PLCA Paso Flores 9.25 174 *eP* **Pn 01 09 12.2 +1.8**
PB07 IPOC Station P 9.88 10 *i* P **Pn 01 09 21.0 +1.8**
PB02 IPOC Station P 10.28 10 *i* P **Pn 01 09 24.0 -0.6**
TRQA Tornquist 10.33 132 Pn **Pn 01 09 25.6 +0.5**
TRQA Tornquist 10.33 132 *eP* **Pn 01 09 26.1 +1.0**
ITQB Itaqui 13.13 86 Pn **Pn 01 10 03.7 +0.2**
ITQB Itaqui 13.13 86 *eP* **Pn 01 10 02.7 -0.7**
CPUP Villa Florida 13.61 71 Pn **Pn 01 10 09.3 -0.7**
comp=Z,0.5nm,0.3s,baz=234,slow=13,SNR=5.4
CPUP Sn **Sn 01 12 39.2 -1.3**
comp=Z,0.6nm,0.3s,baz=142,slow=19,SNR=2.1
CPUP LR LR 01 15 51.9
comp=Z,384nm,18.4s,baz=282,slow=40
CPUP Villa Florida 13.61 71 Pn **Pn 01 10 08.9 -1.1**
CPUP Villa Florida 13.61 71 *eP* **Pn 01 10 09.4 -0.7**
PLTB Pedras Altas 15.43 96 Pn **Pn 01 10 32.1 -2.5**
LPAZ La Paz 15.50 13 Pn **Pn 01 10 37.0 +0.9**
comp=Z,0.3nm,0.3s,baz=181,slow=8.0,SNR=10
LPAZ La Paz 15.50 13 Pn 01 10 37.1 +0.9
CPSB Cacapava Do Su 15.72 91 *eP* **Pn 01 10 36.9 -1.5**
CNLB Canela 18.13 88 *eP* **P 01 11 10.3 +1.4**
SIV San Ignacio 18.25 95 P **Pn 01 11 09.7 -0.4**
comp=Z,0.8nm,0.3s,baz=208,slow=6.6,SNR=10
PTGB Pitanga 18.60 74 *eP* **Pn 01 11 14.5 0.0**
TRCB Terra Rica 19.05 68 *eP* **P 01 11 17.7 -1.4**
PTLB Pontes e Lacer 19.69 39 *eP* **P 01 11 25.4 -0.5**
TER01 Tubaro-SC 19.78 87 *eP* **P 01 11 27.0 0.0**
PP1B Ponte de Pedra 20.61 52 *eP* **P 01 11 35.4 -0.6**
PCMB Pacaembu 20.76 67 *eP* **P 01 11 36.8 -0.8**
FRTB Fartura 21.25 73 *eP* **P 01 11 43.4 +0.4**
VILB Vilhena 21.30 32 *eP* **P 01 11 42.9 -0.6**
SALV Santo Antonio 21.33 47 *eP* **P 01 11 42.9 -0.9**
ETMB Extrema 22.18 14 *eP* **P 01 11 53.3 +0.3**
EFI East Falkland 22.52 157 P **P 01 11 54.4 -1.8**
EFI IAmb IAmb 01 11 55.0
comp=Z,37nm,1.1s
PET01 Itanhaem-SP 22.74 78 *eP* **P 01 11 59.4 +0.6**
SPB Sao Paulo 22.90 76 P **P 01 12 00.7 +0.2**
SPB IAmb IAmb 01 12 01.6
comp=Z,22nm,0.9s
SPB Sao Paulo 22.90 76 *eP* **P 01 12 01.5 +1.0**
BB19B Bebedouro 23.20 69 *eP* **P 01 12 03.0 -0.7**
RCLB Rio Claro- Sao 23.34 73 *eP* **P 01 12 05.5 +0.4**
VAO Valinhos 23.54 75 *eP* **P 01 12 06.8 -0.3**
CZSB Cruzeiro do Su 23.68 358 *eP* **P 01 12 10.4 +2.0**
SAML Samuel 23.81 21 *eP* **P 01 12 09.3 -0.3**
PARB Paraibuna 24.51 77 *eP* **P 01 12 18.0 +1.9**
IPMB Ipameri, GO 25.17 63 *eP* **P 01 12 21.0 -1.2**
CLDB Colider 25.28 39 *eP* **P 01 12 23.4 +0.4**
BSCB Bom Sucesso 26.27 73 *eP* **P 01 12 31.0 -1.1**
BDFB Brasilia 26.77 59 P **P 01 12 35.7 -1.0**
comp=Z,13nm,1.0s,baz=228,slow=7.3,SNR=14
BDFB LR LR 01 24 22.8
comp=Z,427nm,19.0s,baz=164,slow=39
BDFB Brasilia 26.77 59 P **P 01 12 35.2 -1.5**
BDFB IAmb IAmb 01 12 49.2
comp=Z,17nm,0.8s
VAS01 Vassouras-RJ 26.78 77 *eP* **P 01 12 37.7 +1.1**
SNDB Serra Nova Dou 27.07 49 *eP* **P 01 12 38.8 -0.5**
TBTG Tabatinga, AM 27.23 4 *eP* **P 01 12 41.2 +0.6**
PEXB Peixe 28.96 53 *eP* **P 01 12 58.0 +1.8**
ALF01 Guarapari-ES 29.78 76 *eP* **P 01 13 04.8 +1.4**
JANB Januaria 29.91 63 *eP* **P 01 13 04.1 -0.5**
MACA Manacapuru-AM 30.05 22 *eP* **P 01 13 05.8 0.0**
SJMB Sao Joao De Ma 30.34 72 *eP* **P 01 13 07.5 -0.8**
BSFB Barra de Sao F 30.55 73 *eP* **P 01 13 09.6 -0.6**
NAN01 Guarapari, ES 31.64 72 *eP* **P 01 13 19.6 -0.2**
SMTB Santa Maria do 31.80 50 *eP* **P 01 13 21.2 -0.1**
GUA01 Guaratinga, BA 32.57 70 *eP* **P 01 13 29.3 +1.3**
PTGA Pitinga 32.57 22 P **P 01 13 27.1 -0.9**
NBIT Itapeh - BA 33.78 68 *eP* **P 01 13 38.7 +0.1**
GDU01 Guandu, BA 34.37 66 *eP* **P 01 13 43.4 -0.3**
BOAV Boa Vista 35.36 20 *eP* **P 01 13 51.8 -0.4**
CHIC Chingaza 35.99 357 *eP* **P 01 14 02.6 +4.6**
MCPB Macapa, AP 36.14 35 *eP* **P 01 13 58.1 -0.9**
TMAB Tom-Au,PA,Br 36.56 42 *eP* **P 01 14 02.4 -0.1**
GUY2C Guyana, Caldas 36.69 354 *eP* **P 01 14 06.2 +2.1**
RUSC La Rusia 37.22 358 P **P 01 14 09.6 +1.0**
RUSC IAmb IAmb 01 14 23.7
comp=Z,14nm,1.0s
RUSC La Rusia 37.22 358 *eP* **P 01 14 09.6 +1.0**
NBLA Lagarto - SE 37.40 64 *eP* **P 01 14 09.6 -0.2**
HELC Santa Helena 37.67 354 *eP* **P 01 14 13.1 +0.8**
ROSB Rosrio 38.55 48 *eP* **P 01 14 19.9 +0.6**
NBMA Muriti-CE 39.01 59 *eP* **P 01 14 22.2 -1.1**
NBPS Pedro II - PI 39.19 53 *eP* **P 01 14 23.7 -1.1**
NBAN Anadia - AL 39.39 64 *eP* **P 01 14 26.6 +0.1**
NBPB Pedra_Branca-C 39.66 56 *eP* **P 01 14 27.9 -0.9**
NBLV Livramento - P 40.37 61 *eP* **P 01 14 33.8 -0.9**
SMRT St. Maarten 49.97 11 P **P 01 15 51.1 +0.4**
VNA3 Neumayer Olymp 51.56 159 P **P 01 16 02.7 +0.5**
VNA1 Neumayer--Stat 51.86 158 P **P 01 16 05.7 +1.4**
VNA2 Neumayer--Watz 52.20 158 P **P 01 16 07.5 +0.5**
baz=286,slow=8.1
CMIG Matias Romero 53.20 332 LR LR 01 32 14.6
comp=Z,50nm,20.0s,baz=100,slow=28
SNAA Sanae 53.79 159 P **P 01 16 19.1 +0.4**
SNAA Sanae 53.79 159 P **P 01 16 19.1 +0.4**
SNAA IAmb IAmb 01 16 19.9
comp=Z,7.0nm,1.0s
W50A Signal Mountai 67.58 348 P **P 01 17 52.7 -0.2**
W50A IAmb IAmb 01 17 53.5
comp=Z,5.6nm,1.0s
CPCT Cooper Cave 67.69 349 P **P 01 17 53.8 +0.3**
CPCT IAmb IAmb 01 17 54.9
comp=Z,7.1nm,1.2s
TXAR Lajitas Array 67.71 330 P **P 01 17 54.2 +0.2**
comp=Z,0.4nm,0.7s,baz=151,slow=8.7,SNR=5.5
TXAR Lajitas Array 67.71 330 P **P 01 17 54.8 +0.8**
V52A Sevierville 67.92 350 P **P 01 17 54.6 -0.4**
V51A Loudon 68.00 349 P **P 01 17 54.1 -1.4**
V48A Smith Brothers 68.39 347 P **P 01 17 57.2 -0.7**
V48A IAmb IAmb 01 17 59.0
comp=Z,7.6nm,1.1s
CLTN Cedars of Leba 68.63 347 P **P 01 17 59.9 +0.4**
CLTN IAmb IAmb 01 18 00.0
comp=Z,4.5nm,0.8s
WVT Waverly 68.96 346 P 01 18 01.2 -0.3
WVT IAmb IAmb 01 18 02.4
comp=Z,6.2nm,0.8s
LCAR Lake Charles 69.66 343 P 01 18 05.9 +0.1
LCAR IAmb IAmb 01 18 06.2
comp=Z,4.0nm,0.9s
PBMO Poplar Bluff 70.16 344 P **P 01 18 08.9 +0.1**
PBMO IAmb IAmb 01 18 09.7
comp=Z,3.9nm,0.5s
HHAR Hobbs 70.58 341 P **P 01 18 11.5 0.0**
HHAR IAmb IAmb 01 18 12.5
comp=Z,6.1nm,1.2s
MSTX Muleshoe 71.41 333 P **P 01 18 17.5 +0.8**
MSTX IAmb IAmb 01 18 18.0
comp=Z,5.6nm,0.8s
CCM Cathedral Cave 71.57 344 P **P 01 18 17.8 +0.4**
CCM IAmb IAmb 01 18 18.6
comp=Z,4.2nm,0.8s
R40A Maddies Statio 72.04 343 P **P 01 18 20.0 -0.3**
P40A Paris 73.16 344 P **P 01 18 26.8 0.0**
P40A IAmb IAmb 01 18 28.0
comp=Z,6.1nm,0.8s
L59A Walton 73.40 357 P **P 01 18 29.4 +1.1**
L59A IAmb IAmb 01 18 29.7
comp=Z,7.8nm,0.8s
LIC Lamto 73.74 72 *eP* **P 01 18 29.8 -1.1**
comp=Z,15nm,0.6s
TIC Toumodi 73.99 72 *eP* **P 01 18 31.6 -0.8**
KIC Kosan Boka 74.05 72 *eP* **P 01 18 32.0 -0.7**
comp=Z,20nm,0.8s
DBIC Dimbokro 74.14 72 P **P 01 18 32.9 -0.4**
comp=Z,12nm,0.8s,baz=231,slow=5.5,SNR=15
DBIC LR LR 01 48 19.4
comp=Z,43nm,21.1s,baz=183,slow=34
DBIC Dimbokro 74.14 72 P **P 01 18 32.9 -0.4**
L40A Anamosa 75.38 345 P **P 01 18 39.4 -0.4**
MAW Mawson 75.48 164 P **P 01 18 40.2 +0.1**
comp=Z,2.9nm,0.6s,baz=243,slow=2.3,SNR=4.1
MAW Mawson 75.48 164 P **P 01 18 40.4 +0.3**
SDCO Great Sand Dun 75.78 333 P **P 01 18 44.5 +2.0**
FRNY Flat Rock 76.00 359 P **P 01 18 44.1 +0.9**
D62A Allapoint, All 78.27 2 P **P 01 18 57.1 +1.2**
ECSD EROS Data Cent 78.27 342 P **P 01 18 55.9 -0.1**
ECSD IAmb IAmb 01 18 57.2
comp=Z,4.7nm,0.8s
KOWA Kowa 79.37 66 P **P 01 19 02.3 -0.4**
KOWA IAmb IAmb 01 19 02.9
comp=Z,6.2nm,0.8s
BOSA Boshof 80.99 118 P **P 01 19 10.5 -1.0**
comp=Z,4.1nm,0.8s,baz=243,slow=4.2,SNR=7.7
BOSA Boshof 80.99 118 P **P 01 19 11.6 +0.1**
PDAR Pinedale Array 81.67 333 P **P 01 19 15.6 +0.8**
comp=Z,0.3nm,0.7s,baz=181,slow=6.0,SNR=3.0
NVAR Mina Array Bea 82.00 325 P **P 01 19 17.5 +0.9**
comp=Z,0.5nm,0.7s,baz=156,slow=7.5,SNR=3.8
NVAR Mina Array Bea 82.00 325 P **P 01 19 16.4 -0.2**
LBTB Lobatse 83.11 115 P **P 01 19 22.0 -0.7**
LBTB IAmb IAmb 01 19 23.4
comp=Z,4.4nm,0.8s
TORD Torodi Ar. Bea 83.11 70 P **P 01 19 22.5 -0.1**
comp=Z,11nm,0.8s,baz=261,slow=4.7,SNR=62
TORD Torodi Ar. Bea 83.11 70 P **P 01 19 22.2 -0.4**
AKASG Malin Array Be 120.30 46 PKP **PKPdf 01 25 45.8 -1.3**
baz=116,slow=74,SNR=36
AKASG Malin Array Be 120.30 46 PKP **PKPdf 01 25 45.5 -1.6**
comp=Z,0.5nm,0.4s,baz=264,slow=3.2,SNR=4.5
WRA Warramunga Arr 123.06 210 PKP **PKPdf 01 25 51.8 -1.7**
comp=Z,0.6nm,0.7s,baz=155,slow=1.6,SNR=3.4
H11S2 WAKE ISLAND Hyl 126.04 271 T T 03 44 54.2
baz=116,slow=74,SNR=48
H11S1 WAKE ISLAND Hyl 126.06 271 T T 03 44 52.9
baz=116,slow=74,SNR=39
H11S3 WAKE ISLAND Hyl 126.06 271 T T 03 44 55.4
baz=116,slow=74,SNR=36
H11N3 WAKE ISLAND Hyl 126.39 272 T T 03 45 12.1
baz=116,slow=74
H11N1 WAKE ISLAND Hyl 126.41 272 T T 03 45 14.9
baz=116
H11N2 WAKE ISLAND Hyl 126.41 272 T T 03 45 10.3
baz=116,slow=74
ARU Arti 137.67 39 PKPdf **PKPdf 01 26 19.8 -0.1**
ABKAR Akbulak array 139.90 49 PKPdf **PKPdf 01 26 24.8 +0.6**
BRVK Borovoye 145.18 41 **PKPbc 01 26 32.9 -0.1**
CHGR Chuyangaron 147.39 66 PKPbc **PKPbc 01 26 40.0 -0.3**
TOLI2 Tolitoli 147.53 204 PKPbc **PKPbc 01 26 40.2 -1.0**
KK31 Karatay Array 148.06 58 PKPbc **PKPbc 01 26 42.0 +0.1**
KKAR Karatay Array 148.06 58 PKPbc **PKPbc 01 26 41.0 -0.8**
HYB Hyderabad 149.64 111 *i* PKP **PKPbc 01 26 46.0 -0.6**
AAK Ala-Archa 151.02 58 PKPbc **PKiKP 01 26 50.3 +0.3**
ZAA0 Zalesovo Array 151.96 30 PKPbc **PKPbc 01 26 51.2 +0.2**
ZAA0 PKPab **pPKPbc 01 26 59.5 +0.9**
ZALV Zalesovo Beam 151.96 30 PKPbc **PKPbc 01 26 50.8 -0.1**
comp=Z,22nm,0.5s,baz=300,slow=3.1,SNR=98
ZALV Zalesovo Beam 151.96 30 PKPbc **PKPbc 01 26 50.6 -0.4**
ZALV PKPab **pPKPbc 01 26 59.6 +1.0**
KSH Kashi 152.62 64 PKPbc **PKPdf 01 26 47.5 +1.4**
MK31 Makanchi Array 154.87 45 PKPbc **PKPbc 01 26 56.9 -0.7**
MKAR Makanchi Array 154.87 45 PKPbc **PKPbc 01 26 57.2 -0.3**
comp=Z,1.9nm,0.7s,baz=336,slow=2.7,SNR=11
MKAR PKPab **PKPab 01 27 13.1 +0.1**
comp=Z,2.0nm,0.9s,baz=306,slow=4.3,SNR=4.9
MKAR Makanchi Array 154.87 45 PKPbc **PKPbc 01 26 57.3 -0.3**
MKAR PKPab **PKPab 01 27 13.8 +0.9**

*NEIC **30** 01:09:46.4±0.7,36.865N±0.006×89.44W±0.01, h13km±3km, Error ellipse: s-maj=1.6km s-min=0.9km az=85.0*
*SLM **30** 01:09:46.8±0.9,36.865N±0.006×89.44W±0.01, h9km±4km, Md2.7/45, mb_Lg2.6/56(NEIC), Error ellipse: s-maj=1.6km s-min=0.8km az=66.0*
*ANF **30** 01:09:46.9±0.3,36.85N×89.48W, h9km, ML3.1/14, Error ellipse: s-maj=4.5km s-min=2.9km az=96.0*

ISC 30 01:09:46.8±0.8,36.87N±0.02×89.45W±0.02, h15km±5km, n110, σ0.92/118, New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHRM	**Charleston**	**0.07**	**102**		**Pg**	**01 09 50.3**	**+0.6**
DWDM	**Dogwood**	**0.08**	**207**		**Pg**	**01 09 50.6**	**+0.7**
HENM	**Henderson Moun**	**0.15**	**187**		**Pg**	**01 09 49.8**	**-0.9**
HENM				Sg	Sg	01 09 52.3	-1.0
MATM	**Matthews**	**0.16**	**234**		**Pg**	**01 09 50.1**	**-0.7**
EPRM	**East Prairie**	**0.17**	**154**		**Pg**	**01 09 50.0**	**-0.9**
EPRM					**Sg**	**01 09 52.8**	**-0.8**
KEWM	**Kewanee**	**0.20**	**215**		**Pg**	**01 09 50.9**	**-0.6**
KEWM					**Sg**	**01 09 54.2**	**-0.4**
SJMO	**Saint John's B**	**0.24**	**186**		**Pg**	**01 09 51.3**	**-0.8**
SJMO					**Sg**	**01 09 55.1**	**-0.5**
COKM	**Charter Oak**	**0.27**	**235**		**Pg**	**01 09 52.1**	**-0.5**
COKM					**Sg**	**01 09 56.3**	**-0.3**
NMMO	**New Madrid**	**0.29**	**197**		**Pg**	**01 09 52.3**	**-0.6**
NMMO					**Sg**	**01 09 56.8**	**-0.3**
CATM	**Catron**	**0.30**	**212**		**Pg**	**01 09 52.6**	**-0.5**
CATM					**Sg**	**01 09 57.1**	**-0.3**
NMEM	**New Madrid Sch**	**0.31**	**201**		**Pg**	**01 09 57.5**	**-0.3**
GUAMO	**Guam**	**0.32**	**274**		**Pg**	**01 09 53.1**	**-0.3**
PARMO	**Parma**	**0.32**	**230**	Pg	**Pg**	**01 09 52.9**	**-0.5**
PARMO				Sg	**Sg**	**01 09 57.6**	**-0.4**
WALK	**Watson Lake**	**0.34**	**193**		**Pg**	**01 09 53.1**	**-0.6**
WALK					**Sg**	**01 09 58.1**	**-0.4**
HICK	**Hickman**	**0.37**	**152**		**Pg**	**01 09 53.6**	**-0.7**
HICK				Sg	**Sg**	**01 09 58.6**	**-0.8**
MARMO	**Marston**	**0.38**	**208**		**Pg**	**01 09 54.0**	**-0.5**
MARMO					**Sg**	**01 09 59.5**	**-0.2**
PENMO	**Penman**	**0.44**	**199**		**Pg**	**01 09 55.0**	**-0.7**
PENMO				Sg	**Sg**	**01 10 01.2**	**-0.4**
MLDM	**Malden**	**0.45**	**238**		**Pg**	**01 09 55.2**	**-0.5**
MLDM					**Sg**	**01 10 01.7**	**-0.2**
CGM3	**Cape Girardeau**	**0.46**	**339**		**Pg**	**01 09 55.6**	**-0.4**
CGM3					**Sg**	**01 10 02.0**	**-0.4**
BRNM	**Bernie**	**0.46**	**252**		**Pg**	**01 09 55.4**	**-0.7**
BRNM					**Sg**	**01 10 02.1**	**-0.3**
PPLM	**Point Pleasant**	**0.47**	**193**		**Pg**	**01 09 55.6**	**-0.6**
FMKY	**Fulgham**	**0.48**	**115**		**Pg**	**01 09 55.7**	**-0.6**
POBM	**Portage Bay**	**0.49**	**201**		**Pg**	**01 09 55.9**	**-0.7**
TOPM	**Tallapoosa**	**0.49**	**226**		**Pg**	**01 09 56.1**	**-0.5**
PVMO	**Portageville**	**0.49**	**204**	Pg	**Pg**	**01 09 55.8**	**-0.8**
PVMO				Sg	**Sg**	**01 10 02.8**	**-0.5**
WYBT	**Wynnburg**	**0.52**	**184**		**Pg**	**01 09 56.5**	**-0.6**
BETM	**Bethany**	**0.55**	**243**		**Pg**	**01 09 57.1**	**-0.6**
WADM	**Wardell**	**0.57**	**209**		**Pg**	**01 09 57.4**	**-0.7**
GLAT	**Glass**	**0.61**	**168**	Pg	**Pg**	**01 09 57.8**	**-1.0**
GLAT				Sg	**Sg**	**01 10 05.9**	**-1.0**
MIST	**Miston**	**0.70**	**184**		**Pg**	**01 09 59.6**	**-0.8**
UTMT	**University of**	**0.70**	**138**	Pg	**Pg**	**01 09 59.8**	**-0.8**
UTMT				Sg	**Sg**	**01 10 08.9**	**-1.0**
BRGM	**Braggadocio**	**0.74**	**207**		**Pg**	**01 10 00.4**	**-0.8**
LNXT	**Lenox**	**0.76**	**183**	Pg	**Pg**	**01 10 00.8**	**-0.9**
LNXT	**Lenox**	**0.76**	**183**	P	**Pg**	**01 10 01.0**	**-0.7**
	baz=2.9,SNR=58						
PBMO	**Poplar Bluff**	**0.79**	**264**		**Pg**	**01 10 01.0**	**-1.3**
PBMO				Sg	**Sg**	**01 10 11.6**	**-1.1**
PBMO	**Poplar Bluff**	**0.79**	**264**	P	**Pg**	**01 10 01.2**	**-1.1**
	baz=84,SNR=35						
PEBM	**Pemiscott Bayo**	**0.82**	**204**		**Pg**	**01 10 01.9**	**-0.9**
PEBM				Sg	**Sg**	**01 10 13.0**	**-0.6**
S44A	**Carbondale**	**0.84**	**10**		**Pg**	**01 10 02.1**	**-1.0**
S44A				Sg	**Sg**	**01 10 13.7**	**-0.5**
S44A	**Carbondale**	**0.84**	**10**	P	**Pg**	**01 10 02.0**	**-1.1**
	baz=190,SNR=53						
SIUC	**Southern Illin**	**0.87**	**12**		**Pg**	**01 10 02.5**	**-1.1**
HALT	**Halls**	**0.96**	**175**	Pg	**Pg**	**01 10 04.2**	**-1.2**
GNAR	**Gosnell**	**1.01**	**207**	Pg	**Pg**	**01 10 05.5**	**-0.9**
GNAR				Sg	**Sg**	**01 10 19.1**	**-0.4**
T42A	**Van Buren**	**1.33**	**278**		**Pn**	**01 10 10.2**	**-0.7**
T42A	**Van Buren**	**1.33**	**278**	P	**Pn**	**01 10 10.4**	**-0.4**
	baz=97,SNR=143						
FVM	**French Village**	**1.36**	**325**		**Pn**	**01 10 11.1**	**-0.2**
FVM	**French Village**	**1.36**	**325**	P	**Pn**	**01 10 11.2**	**-0.1**
	baz=145,SNR=74						
FVM				S	**Sb**	**01 10 28.8**	**-0.5**
	baz=145						
LPAR	**Lepanto**	**1.44**	**209**	Pn	**Pn**	**01 10 12.4**	**+0.1**
WVT	**Waverly**	**1.50**	**119**		**Pn**	**01 10 12.8**	**-0.3**
WVT	**Waverly**	**1.50**	**119**	P	**Pn**	**01 10 13.1**	**0.0**
	baz=300,SNR=76						
SFTN	**Shelby Forest**	**1.57**	**197**		**Pn**	**01 10 14.7**	**+0.5**
LCAR	**Lake Charles**	**1.59**	**240**		**Pn**	**01 10 14.8**	**+0.4**
LCAR	**Lake Charles**	**1.59**	**240**	P	**Pn**	**01 10 14.8**	**+0.4**
	baz=60,SNR=76						
LCAR				S	**Sb**	**01 10 36.5**	**+0.8**
	baz=60						
HBAR	**Harrisburg**	**1.63**	**217**		**Pn**	**01 10 15.4**	**+0.4**
HBAR	**Harrisburg**	**1.63**	**217**	P	**Pn**	**01 10 15.8**	**+0.7**
	baz=36,SNR=13						
HBAR				S	**Sb**	**01 10 38.0**	**+0.9**
	baz=36						
W45A	**Hickory Valley**	**1.72**	**173**	Pn	**Pn**	**01 10 15.9**	**-0.3**
W45A	**Hickory Valley**	**1.72**	**173**	P	**Pn**	**01 10 16.0**	**-0.2**
	baz=353,SNR=49						
EBZ	**Ebenezer Churc**	**1.72**	**177**		**Pn**	**01 10 16.5**	**+0.2**
MET	**Memphis--Engin**	**1.79**	**193**	Pn	**Pn**	**01 10 17.5**	**+0.4**
USIN	**University of**	**1.79**	**52**	IAmb_Lg		01 10 46.0	
	comp=Z,34nm,0.8s						
CCM	**Cathedral Cave**	**1.86**	**310**	Pn	**Pb**	**01 10 19.5**	**-1.0**
CCM	**Cathedral Cave**	**1.86**	**310**	P	**Pb**	**01 10 19.6**	**-0.9**
	baz=129,SNR=46						
SLM	**Saint Louis**	**1.87**	**341**	Pn	**Pn**	**01 10 19.6**	**+1.2**
SLM	**Saint Louis**	**1.87**	**341**	S	**Sb**	**01 10 44.5**	**+0.5**
	baz=160						
T47A	**Sharon Grove**	**1.88**	**86**	Pn	**Pn**	**01 10 19.3**	**+0.9**
T47A	**Sharon Grove**	**1.88**	**86**	P	**Pn**	**01 10 19.6**	**+1.1**
	baz=267,SNR=53						
Q44A	**Meyer Farm, Va**	**2.06**	**9**	P	**Pb**	**01 10 23.1**	**-0.9**
	baz=190,SNR=17						
Q44A				S	**Sb**	**01 10 50.7**	**+1.3**
	baz=190						
OLIL	**Olney**	**2.15**	**29**	S	**Sb**	**01 10 52.8**	**+0.9**
	baz=210						
PLAL	**Pickwick Lake**	**2.19**	**149**	Pn	**Pn**	**01 10 22.5**	**-0.1**
PWLA	**Pickwick Lake**	**2.19**	**149**		**Pn**	**01 10 22.2**	**-0.5**
OXF	**Oxford**	**2.35**	**179**		**Pn**	**01 10 25.2**	**+0.3**
OXF	**Oxford**	**2.35**	**179**	P	**Pn**	**01 10 25.4**	**+0.5**
	baz=359,SNR=19						
OXF				S	**Sn**	**01 10 55.2**	**+1.7**
	baz=359						
R40A	**Maddies Statio**	**2.65**	**303**	Pn	**Pn**	**01 10 30.5**	**+1.5**
P43A	**Skaggs, Pawnee**	**2.77**	**359**	IAmb_Lg		01 11 14.6	
	comp=Z,19nm,1.1s						
WHAR	**Wooly Hollow**	**2.79**	**236**	Pn	**Pn**	**01 10 32.1**	**+1.2**
WHAR				IAmb_Lg		01 11 20.9	
	comp=Z,24nm,0.9s						
W41B	**Gary Mavity, V**	**2.83**	**234**	P	**Pn**	**01 10 32.7**	**+1.2**
	baz=52						
WCI	**Wyandotte Cave**	**2.85**	**61**	IAmb_Lg		01 11 19.1	
	comp=Z,18nm,0.8s						
Y45A	**Yeager Farm, C**	**3.00**	**182**	P	**Pn**	**01 10 34.7**	**+1.0**
	baz=1.5						
Y45A				S	**Sn**	**01 11 11.4**	**+2.0**
	baz=1.5						
P40A	**Paris**	**3.36**	**323**	IAmb_Lg		01 11 33.4	
	comp=Z,17nm,0.8s						
O44A	**Mansfield**	**3.37**	**13**	IAmb_Lg		01 11 36.9	
	comp=Z,13nm,0.7s						
X40A	**Basin Creek Fa**	**3.64**	**230**	IAmb_Lg		01 11 43.6	
	comp=Z,18nm,0.8s						
HHAR	**Hobbs**	**3.66**	**262**	Pn	**Pn**	**01 10 45.1**	**+2.1**
R49A	**Shelbyville**	**3.68**	**66**	Pn	**Pn**	**01 10 43.4**	**+0.2**
HDIL	**Hopedale**	**3.69**	**2**	IAmb_Lg		01 11 43.7	
	comp=Z,17nm,0.8s						
T50A	**Nancy**	**3.69**	**86**	Pn	**Pn**	**01 10 45.4**	**+1.9**
W50A	**Signal Mountai**	**3.74**	**115**	Pn	**Pn**	**01 10 46.4**	**+2.3**
W50A				IAmb_Lg		01 11 44.7	
	comp=Z,22nm,0.9s						
Z47A	**Carrollton**	**3.83**	**162**	Pn	**Pn**	**01 10 45.7**	**+0.4**
Z47A				IAmb_Lg		01 11 48.7	
	comp=Z,15nm,0.9s						
FPAL	**Fort Paine**	**3.89**	**126**	IAmb_Lg		01 11 56.0	
	comp=Z,12nm,0.7s						
W39A	**Magazine**	**3.89**	**246**	Pn	**Pn**	**01 10 47.7**	**+1.6**
W39A				IAmb_Lg		01 11 52.0	
	comp=Z,13nm,1.0s						
Y49A	**Blount Mountai**	**3.89**	**140**	IAmb_Lg		01 11 50.5	
	comp=Z,17nm,0.8s						
SFIN	**Lafayette**	**3.96**	**27**	IAmb_Lg		01 11 50.2	
	comp=Z,14nm,0.9s						
N41A	**Harden Midland**	**3.99**	**344**	Pn	**Pn**	**01 10 49.0**	**+1.6**
N41A				IAmb_Lg		01 12 03.8	
	comp=Z,14nm,0.8s						
U38A	**Gravette**	**3.99**	**265**	Pn	**Pn**	**01 10 48.4**	**+0.9**
MIAR	**Mount Ida**	**4.08**	**237**	Pn	**Pn**	**01 10 50.0**	**+1.3**
MIAR				IAmb_Lg		01 12 04.3	
	comp=Z,18nm,0.9s						
P48A	**Milroy**	**4.09**	**50**	IAmb_Lg		01 11 54.6	
	comp=Z,10nm,0.8s						
CPCT	**Cooper Cave**	**4.23**	**108**	IAmb_Lg		01 12 05.4	
	comp=Z,13nm,1.1s						
P38A	**Dawn**	**4.23**	**312**	Pn	**Pn**	**01 10 51.0**	**+0.2**
LRAL	**Lakeview Retre**	**4.32**	**152**	Pn	**Pn**	**01 10 51.3**	**-0.7**
WLAR	**White Oak Lake**	**4.36**	**224**	IAmb_Lg		01 12 17.3	
	comp=Z,11nm,0.9s						
P49A	**Miami Univ. Ec**	**4.58**	**53**	IAmb_Lg		01 12 10.3	
	comp=Z,14nm,0.8s						
S51A	**Beattyville**	**4.73**	**79**	IAmb_Lg		01 12 16.5	
	comp=Z,9.6nm,0.8s						
W52A	**Murphy**	**4.81**	**110**	Pn	**Pn**	**01 10 58.4**	**-0.4**
W52A				IAmb_Lg		01 12 18.9	
	comp=Z,13nm,0.8s						
L42A	**Oliver, Polo**	**5.13**	**358**	Pn	**Pn**	**01 11 04.0**	**+0.8**
TUL1	**Leonard**	**5.21**	**261**	Pn	**Pn**	**01 11 04.1**	**-0.1**
TUL1				IAmb_Lg		01 12 33.8	
	comp=Z,8.0nm,0.9s						
Q51A	**Peebles**	**5.28**	**64**	IAmb_Lg		01 12 31.8	
	comp=Z,10nm,0.8s						
L40A	**Anamosa**	**5.37**	**346**	Pn	**Pn**	**01 11 04.9**	**-1.5**
250A	**Grady**	**5.54**	**151**	IAmb_Lg		01 12 44.3	
	comp=Z,14nm,0.9s						
P51A	**Williamsport**	**5.67**	**61**	IAmb_Lg		01 12 43.6	
	comp=Z,19nm,0.8s						
KSU1	**Kansas State U**	**6.08**	**294**	Pn	**Pn**	**01 11 12.8**	**-3.4**
R53A	**Hurricane**	**6.13**	**74**	IAmb_Lg		01 13 08.4	
	comp=Z,8.3nm,0.9s						
Q54A	**Coxs Mills**	**7.13**	**70**	IAmb_Lg		01 13 36.8	
	comp=Z,5.9nm,1.0s						

*IDC **30** 01:23:00.7±0.9,58.22S×24.75W, h0km, mb4.1/5, mb1 4.3/6, mb1mx3.9/35, mbtmp4.2/6, ML4.4/1, MS3.5/3, Ms1 3.5/3, ms1mx3.1/21, Error ellipse: s-maj=35.3km s-min=24.5km az=85.0*
*NEIC **30** 01:23:06.3±1.1,58.2S±0.1×24.85W±0.10, h35km±1km, mb4.5/12, Error ellipse: s-maj=22.7km s-min=7.1km az=13.0*

**ISC 30 01:23:05

SAML					IAmb	IAmb	01 32 58.5		
	comp=Z,2.0nm,0.7s								
TORD	**Torodi Ar. Bea**	**74.41**	**27**	P	**P**		**01 34 40.2**	**+0.5**	
	comp=Z,2.2nm,0.8s,baz=199,slow=5.8,SNR=13								
TORD	**Torodi Ar. Bea**	**74.41**	**27**	P	**P**		**01 34 40.3**	**+0.6**	
ASAR	**Alice Springs**	**96.46**	**160**	P	**P**		**01 36 30.4**	**-0.8**	
	comp=Z,0.5nm,0.7s,baz=178,slow=3.6,SNR=3.0								
SONM	**Songino Array**	**149.52**	**88**	PKPbc	**PKPbc**		**01 42 50.3**	**+0.1**	
	comp=Z,2.6nm,1.0s,baz=226,slow=2.3,SNR=7.7								
SONM	**Songino Array**	**149.52**	**88**		**PKiKP**		**01 42 50.6**	**-0.6**	
ILAR	**Eielson Array**	**152.55**	**308**	PKPbc	**PKiKP**		**01 42 57.0**	**+0.2**	
	comp=Z,0.8nm,0.8s,baz=103,slow=1.2,SNR=4.7								

*IDC **30** 01:25:27.4±1.5, 3°.29S×145°.80E, h0km, mb4.2/4, mb1 4.4/7, mb1mx4.0/47, mbtmp4.3/7, ML4.4/2, MS3.5/13, Ms1 3.5/13, ms1mx3.3/35, Error ellipse: s-maj=44.1km s-min=23.0km az=92.0*

*NEIC **30** 01:25:28.1±1.9, 3°.27S±0°.09×146°.1E±0°.1, h10km±1km, mb4.6/13, Error ellipse: s-maj=26.7km s-min=11.7km az=112.0*

*DJA **30** 01:25:29.6±3.6, 3°.S±8°.×14°.6E±°, h24km±30km, M4.0/6, mB4.9/1, mb4.5/6, MLv3.8/1, Mw(mB)4.2/1*

ISC 30 01:25:29.8±0.8, 3°.27S±0°.07×146.1E±0.1, h25km, n35, σ1s22/28, mb4.3/6, MS3.4/9, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.78**	**47**	Pn	**Pn**	**01 25 58.1**	**-0.8**
JAY	**Jayapura**	**5.41**	**278**	LR	LR	01 28 42.0	
	comp=Z,569nm,20.7s,baz=56,slow=38						
PMG	**Port Moresby**	**6.19**	**170**	Pn	**Pn**	**01 26 59.6**	**0.0**
	3.3nm,0.3s,baz=346,slow=17,SNR=2.0						
PMG				Sn	**Sn**	**01 28 08.1**	**-1.6**
	1.5nm,0.3s,baz=352,slow=13,SNR=1.2						
PMG				LR	LR	01 29 09.0	
	comp=Z,202nm,21.5s,baz=23,slow=36						
PMG	**Port Moresby**	**6.19**	**170**	Pn	**Pn**	**01 26 60.0**	**+0.3**
COEN	**Coen**	**11.00**	**195**	Pn	**Pn**	**01 28 06.8**	**+1.2**
SIJI	**Sorong**	**14.98**	**279**	LR	LR	01 34 52.2	
	comp=Z,142nm,19.8s,baz=70,slow=38						
HNR	**Honiara**	**15.09**	**115**	LR	LR	01 34 56.4	
	comp=Z,157nm,18.4s,baz=282,slow=37						
CTA	**Charters Tower**	**16.72**	**179**	Pn	**P**	**01 29 24.6**	**0.0**
	0.4nm,0.3s,baz=353,slow=16,SNR=4.7						
CTAO	**Charters Tower**	**16.72**	**179**		**P**	**01 29 25.3**	**+0.7**
CTAO				IAmb	IAmb	01 29 26.7	
	comp=Z,18nm,1.1s						
WB0	**Warramunga Arr**	**19.97**	**214**	P	**P**	**01 29 59.4**	**-1.0**
WB0				IAmb	IAmb	01 30 01.8	
	comp=Z,36nm,1.1s						
WR0	**Warramunga Arr**	**20.04**	**213**	P	**P**	**01 30 00.1**	**-1.1**
WRAB	**Tennant Creek**	**20.13**	**214**	P	**P**	**01 30 01.7**	**-0.4**
WRAB				IAmb	IAmb	01 30 03.1	
	comp=Z,30nm,0.8s						
WB2	**Warramunga Arr**	**20.13**	**214**	P	**P**	**01 30 01.1**	**-1.1**
WB2				IAmb	IAmb	01 30 03.3	
	comp=Z,30nm,0.8s						
WRA	**Warramunga Arr**	**20.14**	**214**	P	**P**	**01 30 01.2**	**-1.1**
	comp=Z,1.8nm,0.3s,baz=40,slow=11,SNR=89						
WRA				LR	LR	01 37 53.6	
	comp=Z,157nm,20.5s,baz=50,slow=37						
KNRA	**Kununurra**	**21.03**	**233**	P	**P**	**01 30 11.1**	**-0.8**
KNRA				IAmb	IAmb	01 30 15.1	
	comp=Z,20nm,0.6s						
EIDS	**Eidsvold**	**22.50**	**168**	P	**P**	**01 30 28.1**	**+0.5**
DAV	**Davao City (W)**	**22.89**	**297**	LR	LR	01 38 44.6	
	comp=Z,46nm,19.8s,baz=168,slow=35						
BATI	**Baumata**	**23.28**	**252**	LR	LR	01 39 32.7	
	comp=Z,112nm,18.4s,baz=81,slow=37						
AS31	**Alice Springs**	**23.44**	**209**	P	**P**	**01 30 36.4**	**-0.9**
ASAR	**Alice Springs**	**23.44**	**209**	P	**P**	**01 30 36.2**	**-1.2**
	comp=Z,4.4nm,0.7s,baz=40,slow=8.4,SNR=41						
ASAR				LR	LR	01 40 35.4	
	comp=Z,183nm,20.4s,baz=31,slow=39						
ASAR	**Alice Springs**	**23.44**	**209**	P	**P**	**01 30 36.5**	**-0.9**
FITZ	**Fitzroy Crossi**	**24.85**	**232**	P	**P**	**01 30 49.3**	**-1.2**
	comp=Z,8.8nm,0.6s,baz=45,slow=9.0,SNR=56						
FITZ				LR	LR	01 41 04.1	
	comp=Z,135nm,21.2s,baz=56,slow=38						
FITZ	**Fitzroy Crossi**	**24.85**	**232**		**P**	**01 30 49.3**	**-1.2**
FITZ				IAmb	IAmb	01 30 51.2	
	comp=Z,10nm,0.8s						
STKA	**Stephens Creek**	**28.77**	**188**	P	**P**	**01 31 28.2**	**+2.6**
	comp=Z,1.7nm,0.4s,baz=351,slow=9.6,SNR=5.8						
STKA				LR	LR	01 42 31.9	
	comp=Z,62nm,19.5s,baz=13,slow=36						
STKA	**Stephens Creek**	**28.77**	**188**		**P**	**01 31 26.2**	**+0.7**
BBOO	**Buckleboo**	**30.85**	**197**	P	**P**	**01 31 45.8**	**+1.7**
FORT	**Forrest**	**32.22**	**210**	P	**P**	**01 31 53.5**	**-2.6**
KSRS	**Korea Array**	**43.89**	**339**	P	**P**	**01 33 35.5**	**+1.2**
	comp=Z,1.6nm,0.8s,baz=151,slow=9.9,SNR=5.2						
CMAR	**Chiang Mai Arr**	**51.17**	**297**	LR	LR	01 56 02.4	
	comp=Z,18nm,19.1s,baz=255,slow=36						
SONM	**Songino Array**	**61.58**	**331**	LR	LR	02 01 28.2	
	comp=Z,85nm,20.4s,baz=44,slow=35						
ZALV	**Zalesovo Beam**	**76.22**	**328**	LR	LR	02 09 20.8	
	comp=Z,60nm,21.8s,baz=95,slow=35						
BOOM	**Boomskoye usch**	**77.71**	**315**	P	**P**	**01 37 24.3**	**-0.5**
BOOM				IAmb	IAmb	01 37 27.4	
	comp=Z,4.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**143.45**	**288**	PKP	**PKPdf**	**01 45 04.0**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=67,slow=3.5,SNR=1.5						
TORD	**Torodi Ar. Bea**	**143.45**	**288**		**PKPdf**	**01 45 02.3**	**-1.0**
SIV	**San Ignacio**	**147.03**	**126**	PKPbc	**PKPbc**	**01 45 12.1**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=264,slow=9.2,SNR=2.8						

*NEIC **30** 01:26:19.9±1.8, 51°.0N±0°.3×173°.9W±0°.1, h19km±12km, Error ellipse: s-maj=41.7km s-min=9.5km az=173.0*

*AEIC **30** 01:26:23.1±1.8, 51°.4N±0°.2×174°.0W±0°.1, h26km±8km, ML3.7, mb4.1/24(NEIC), Error ellipse: s-maj=35.8km s-min=9.1km az=171.0*

*IDC **30** 01:26:36.0±4.6, 52°.85N×174°.89W, h72km±42km, mb3.7/13, mb1 3.9/16, mb1mx3.7/67, mbtmp4.0/16, ML4.3/2, MS3.1/3, Ms1 3.1/3, ms1mx2.8/45, Error ellipse: s-maj=31.1km s-min=13.8km az=179.0*

ISC 30 01:26:23.5±1.5, 51°.3N±0°.2×174°.03W±0°.07, h35km, n60, σ1s07/48, mb4.0/15, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSTR	**Great Sitkin T**	**1.50**	**303**		**Pn**	**01 26 48.1**	**+0.2**
ADK	**Adak**	**1.76**	**291**		**Pn**	**01 26 51.3**	**-0.1**
KIWB	**Kanaga Island**	**2.02**	**287**		**Pn**	**01 26 55.9**	**+0.8**
NIKH	**Nikolski High**	**3.61**	**60**	Pn	**Pn**	**01 27 17.7**	**+0.9**
AMKA	**Amchitka**	**4.18**	**274**	Pn	**Pn**	**01 27 25.1**	**+0.4**
UNV	**Unalaska Valle**	**5.26**	**58**	Pn	**Pn**	**01 27 41.0**	**+1.6**
O18K	**Koktuh Hills**	**13.63**	**44**	Pn	**Pn**	**01 29 34.8**	**+0.7**
KDAK	**Kodiak Island**	**14.01**	**54**	P	**P**	**01 29 47.1**	**+0.5**
	3.6nm,0.3s,baz=292,slow=8.0,SNR=15						
KDAK	**Kodiak Island**	**14.01**	**54**	Pn	**Pn**	**01 29 38.2**	**-1.0**
N19K	**Bonanza Creek**	**14.44**	**41**	P	**P**	**01 29 48.3**	**-3.2**
M19K	**Big River Lodg**	**15.09**	**38**	P	**P**	**01 29 58.4**	**-0.3**
CNPM	**China Poot**	**15.28**	**49**	P	**P**	**01 29 59.6**	**-1.2**
K20K	**Telida**	**16.10**	**34**	P	**P**	**01 30 08.2**	**-1.6**
SEW	**Seward**	**16.34**	**48**	P	**Pn**	**01 30 10.8**	**+1.0**
J20K	**Nowinta River**	**16.61**	**31**	P	**P**	**01 30 15.6**	**+0.2**
CAST	**Castle Rocks**	**16.85**	**35**	P	**P**	**01 30 19.8**	**+1.7**
CAST				IAmb	IAmb	01 30 40.6	
	comp=Z,17nm,1.5s						
KTH	**Kantishna Hill**	**17.35**	**36**	P	**P**	**01 30 23.8**	**+0.1**
KTH				IAmb	IAmb	01 30 51.0	
	comp=Z,15nm,1.2s						
PETK	**Petropavlovsk-**	**17.38**	**287**	P	**P**	**01 30 24.3**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=79,slow=17,SNR=2.2						
PETK				LR	LR	01 35 58.7	
	comp=Z,42nm,21.2s,baz=78,slow=34						
BPAW	**Bear Paw Mtn.**	**17.64**	**35**	P	**P**	**01 30 27.7**	**+0.8**
MLY	**Manley**	**18.29**	**32**	P	**Pn**	**01 30 36.2**	**+2.1**
I23K	**Minto, Yukon-K**	**18.83**	**33**	P	**Pn**	**01 30 40.1**	**-0.5**
CCB	**Clear Creek Bu**	**19.10**	**36**	P	**P**	**01 30 40.7**	**-2.1**
CCB				IAmb	IAmb	01 30 51.2	
	comp=Z,14nm,1.4s						
MDM	**Murphy Dome**	**19.11**	**34**	P	**P**	**01 30 42.4**	**-0.6**
MDM				IAmb	IAmb	01 31 05.9	
	comp=Z,11nm,1.4s						
HDA	**Harding Lake**	**19.29**	**37**	P	**P**	**01 30 44.1**	**-0.9**
HDA				IAmb	IAmb	01 30 44.6	
	comp=Z,18nm,1.4s						
IL31		**19.50**	**36**	P	**P**	**01 30 47.1**	**0.0**
ILAR	**Eielson Array**	**19.50**	**36**	P	**P**	**01 30 46.2**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=236,slow=9.0,SNR=24						
ILAR				LR	LR	01 39 06.3	
	comp=Z,62nm,18.7s,baz=225,slow=40						
ILAR	**Eielson Array**	**19.50**	**36**	P	**P**	**01 30 47.0**	**-0.2**
H24K	**Noodor Dome**	**19.73**	**33**	P	**P**	**01 30 49.9**	**+0.1**
H24K				IAmb	IAmb	01 30 59.9	
	comp=Z,12nm,1.2s						
M26K	**Nabesna, AK**	**20.07**	**44**	P	**P**	**01 30 54.0**	**+0.5**
M26K				IAmb	IAmb	01 30 55.1	
	comp=Z,4.1nm,0.6s						
SCRK	**Sand Creek**	**20.25**	**40**	P	**P**	**01 30 55.0**	**-0.5**
SCRK				IAmb	IAmb	01 31 21.7	
	comp=Z,16nm,1.4s						
M27K	**Edge Creek, AK**	**20.55**	**45**	P	**P**	**01 30 58.2**	**-0.6**
M27K				IAmb	IAmb	01 31 04.0	
	comp=Z,16nm,1.3s						
BCAR	**Beaver Creek A**	**20.82**	**43**	P	**P**	**01 31 00.9**	**-0.6**
TOLK	**Toolik Lake Re**	**21.00**	**25**	P	**P**	**01 31 03.5**	**0.0**
TOLK				IAmb	IAmb	01 31 04.4	
	comp=Z,7.3nm,0.7s						
K27K	**Chicken**	**21.04**	**40**	P	**P**	**01 31 04.0**	**+0.1**
K27K				IAmb	IAmb	01 31 17.1	
	comp=Z,17nm,1.4s						
MA2	**Magadan**	**21.40**	**306**	LR	LR	01 39 06.6	
	comp=Z,74nm,18.7s,baz=176,slow=37						
EGAK	**Eagle**	**21.69**	**39**	P	**P**	**01 31 10.4**	**-0.5**
BMAR	**Burnt Mountain**	**21.72**	**31**	P	**P**	**01 31 13.2**	**+2.0**
INK	**Inuvik**	**25.84**	**34**	P	**P**	**01 31 50.0**	**-1.1**
	comp=Z,1.5nm,0.6s,baz=283,slow=6.2,SNR=5.0						
INK	**Inuvik**	**25.84**	**34**	P	**P**	**01 31 51.0**	**-0.1**
INK				IAmb	IAmb	01 32 02.3	
	comp=Z,13nm,1.5s						
D05A	**Enumclaw**	**33.64**	**76**	P	P	01 32 55.6	-4.8
KLR	**Kul'dur**	**34.06**	**288**	P	**P**	**01 33 04.3**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=76,slow=7.0,SNR=8.7						
H11N2	**WAKE ISLAND Hy**	**34.89**	**213**	T	T	02 11 29.8	
	baz=20,slow=75,SNR=9.2						
H11N3	**WAKE ISLAND Hy**	**34.90**	**213**	T	T	02 11 26.5	
	baz=20,slow=75,SNR=3.6						
H11N1	**WAKE ISLAND Hy**	**34.91**	**213**	T	T	02 11 27.7	
	baz=20,slow=75,SNR=3.8						
H11S1	**WAKE ISLAND Hy**	**36.09**	**212**	T	T	02 12 30.3	
	baz=20,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**36.11**	**212**	T	T	02 12 30.2	
	baz=20,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**36.11**	**212**	T	T	02 12 30.2	
	baz=20,slow=76,SNR=6.5						
USA0B	**Ussuriysk Arra**	**36.26**	**280**	P	**P**	**01 33 24.2**	**+1.1**
USRK	**Ussuriysk Ar.**	**36.26**	**280**	P	**P**	**01 33 23.5**	**+0.5**
	comp=Z,5.0nm,0.6s,baz=64,slow=11,SNR=9.0						
USRK	**Ussuriysk Ar.**	**36.26**	**280**	P	**P**	**01 33 24.4**	**+1.3**
NVAR	**Mina Array Bea**	**40.59**	**86**	P	P	01 34 13.6	+14
	comp=Z,0.8nm,0.8s,baz=299,slow=8.2,SNR=6.2						
PDAR	**Pinedale Array**	**43.47**	**75**	P	P	01 34 31.1	+7.9
	comp=Z,1.5nm,0.8s,baz=323,slow=5.9,SNR=7.0						
SONM	**Songino Array**	**49.33**	**299**	P	**P**	**01 35 09.9**	**+0.9**
	comp=Z,1.2nm,0.5s,baz=48,slow=7.7,SNR=8.8						
TXAR	**Lajitas Array**	**55.70**	**85**	P	P	01 36 08.8	+12
	comp=Z,0.7nm,0.7s,baz=281,slow=5.2,SNR=6.2						
MKAR	**Makanchi Array**	**62.39**	**311**	P	**P**	**01 36 42.3**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=47,slow=5.8,SNR=10.0						
FINES	**FINESS Array B**	**66.47**	**350**	P	**P**	**01 37 07.5**	**-1.3**
	comp=Z,5.7nm,1.0s,baz=10,slow=8.5,SNR=4.9						
AKASG	**Malin Array Be**	**76.48**	**345**	P	**P**	**01 38 08.2**	**-1.0**
	comp=Z,1.6nm,0.4s,baz=18,slow=6.4,SNR=3.5						
GERES	**GERESS Array B**	**80.02**	**355**	P	**P**	**01 38 28.2**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=38,slow=6.8,SNR=4.0						
ASAR	**Alice Springs**	**87.52**	**226**	P	P	01 39 18.2	+11
	comp=Z,0.5nm,0.8s,baz=43,slow=5.6,SNR=1.6						
ESDC	**Sonseca Array**	**89.00**	**8**	P	**P**	**01 39 14.3**	**-0.2**
	comp=Z,0.5nm,0.9s,baz=350,slow=3.4,SNR=4.5						

*IDC **30** 01:30:44.8±1.8, 20°.82N×90°.82E, h0km, mb3.6/3, mb1 3.6/3, mb1mx3.3/45, mbtmp3.6/3, ML2.2/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/38, Error ellipse: s-maj=56.4km s-min=22.1km az=79.0*

ISC 30 01:30:49.6±1.7, 20°.8N±0°.1×90°.8E±0°.3, h35km, n6, σ1s08/6, mb3.6/3, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**2.01**	**24**	Pn	**Pn**	**01 31 21.3**	**+0.3**
	0.8nm,0.3s,baz=255,slow=24,SNR=7.7						
BRDH				Sn	**Sn**	**01 31 44.9**	**0.0**
	2.8nm,0.3s,baz=124,slow=24,SNR=41						
AAK	**Ala-Archa**	**25.68**	**332**	LR	LR	01 48 35.6	
	comp=Z,36nm,19.8s,baz=216,slow=42						
MKAR	**Makanchi Array**	**26.80**	**347**	P	**P**	**01 36 27.3**	**+0.9**
	1.3nm,0.8s,baz=152,slow=8.2,SNR=5.5						
ZALV	**Zalesovo Beam**	**33.37**	**354**	P	**P**	**01 37 23.5**	**-0.9**
	0.4nm,0.3s,baz=151,slow=9.2,SNR=2.0						
WRA	**Warramunga Arr**	**58.83**	**131**	P	**P**	**01 40 44.0**	**-0.9**
	2µm,1.0s,baz=320,slow=7.5						
ASAR	**Alice Springs**	**61.01**	**134**	P	**P**	**01 41 00.9**	**+1.0**
	0.2nm,0.5s,baz=315,slow=6.4,SNR=1.2						

MEX 30 01:31:58.6±0.7, 24°.37N×109°.33W, h20km, MD3.7, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLBS	**Sierra La Lagu**	**0.88**	**220**	*e*P	Pb	01 32 12.1	-3.2
SLBS				*e*S	Sb	01 32 23.9	-2.7
LPIG	**La Paz**	**0.93**	**254**	*e*P	Pb	01 32 13.0	-3.1
LPIG				*e*S	Sb	01 32 24.6	-3.3
TSIG	**Topolobambo**	**1.25**	**12**	*e*P	Pn	01 32 18.2	-2.8

*GUC **30** 01:32:04.4±0.7, 30°.65S×71°.72W, h32km±2km, ML4.0*

*NEIC **30** 01:32:04±2.6, 30°.64S±0°.01×71°.73W±0°.07, h29km±7km, Error ellipse: s-maj=9.1km s-min=1.4km az=95.0*

ISC 30 01:32:04.3±0.9, 30°.68S±0°.03×71°.74W±0°.07, h29km±5km, n37, σ1s34/48, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.09**	**88**	*e*P	**Pb**	**01 32 09.3**	**-0.1**
CO06				*i* S	**Sb**	**01 32 12.8**	**-0.1**
CO06				IAML		01 32 13.3	
	comp=E,40µm,0.2s						
CO06	**Fray Jorge**	**0.09**	**88**	Pg	**Pb**	**01 32 09.1**	**-0.3**
CO06				Sg	**Sb**	**01 32 12.7**	**-0.1**
CO02	**Combarbal**	**0.82**	**130**	*e*P	**Pn**	**01 32 19.6**	**-0.6**
CO02				*i* S	**Sn**	**01 32 31.0**	**-0.5**
CO02				IAML		01 32 35.6	
	comp=N,10µm,0.2s						
CO02	**Combarbal**	**0.82**	**130**		**Pn**	**01 32 19.3**	**-0.8**
CO02					**Sn**	**01 32 30.6**	**-0.9**
CO05	**La Serena**	**0.87**	**30**	*e*P	**Pn**	**01 32 19.6**	**-1.1**
CO05				*i* S	**Sn**	**01 32 31.0**	**-1.4**
CO05				IAML		01 32 33.5	
	comp=N,12µm,0.4s						
CO05	**La Serena**	**0.87**	**30**		**Pn**	**01 32 19.5**	**-1.2**
CO03	**El Pedregal**	**0.92**	**100**	*e*P	**Pn**	**01 32 20.5**	**-0.9**
CO03				*i* S	**Sn**	**01 32 33.1**	**-0.6**
CO03	**El Pedregal**	**0.92**	**100**	Pn	**Pn**	**01 32 20.6**	**-0.8**
GO04	**Tololo Observa**	**0.95**	**58**	*e*P	**Pn**	**01 32 21.3**	**-0.8**
GO04				*i* S	**Sb**	**01 32 34.9**	**0.0**
GO04				IAML		01 32 42.8	
	comp=N,13µm,0.3s						
GO04	**Tololo Observa**	**0.95**	**58**		**Pn**	**01 32 21.0**	**-1.0**
LCO	**Las Campanas**	**1.89**	**29**	*e*P	**Pn**	**01 32 34.7**	**-0.3**
LCO				*i* S	**Sn**	**01 32 58.2**	**+0.3**
LCO	**Las Campanas**	**1.89**	**29**	Pn	**Pn**	**01 32 34.3**	**-0.6**
VA06	**Catapilco**	**1.92**	**169**	*i* S	**Sb**	**01 33 01.5**	**-0.6**
VA03	**San Esteban**	**2.31**	**154**	*e*P	**Pn**	**01 32 42.9**	**+2.3**
VA03				*i* S	**Sb**	**01 33 11.8**	**-1.9**
VA03	**San Esteban**	**2.31**	**154**	Pn	**Pn**	**01 32 42.4**	**+1.8**
VA01	**Torpederas**	**2.34**	**178**	Pn	**Pn**	**01 32 40.3**	**-0.6**
ROCH	**El Roble**	**2.37**	**165**	*e*P	**Pn**	**01 32 42.2**	**+0.6**
ROCH				*i* S	**Sb**	**01 33 17.2**	**+1.8**
ROCH				IAML		01 33 20.2	
	comp=N,892nm,0.8s						
AC04	**Llanos de Chal**	**2.53**	**13**		**Pn**	**01 32 42.1**	**-1.5**
PEL	**Peldehue**	**2.62**	**160**	*i* S	**Sb**	**01 33 19.8**	**-2.6**
MT05	**Renca**	**2.84**	**163**	*e*P	**Pn**	**01 32 49.5**	**+1.8**
MT05				*i* S	**Sb**	**01 33 26.9**	**-1.8**
MT05				IAML		01 33 42.7	
	comp=E,495nm,0.2s						
MT05	**Renca**	**2.84**	**163**	Pn	**Pn**	**01 32 49.6**	**+1.8**
VA05	**Santo Domingo**	**2.97**	**178**	Pn	**Pn**	**01 32 49.6**	**0.0**
MT09	**Talagante**	**3.15**	**169**	*e*P	**Pn**	**01 32 53.4**	**+1.2**
MT09				IAML		01 33 49.7	
	comp=N,272nm,0.5s						
MT09	**Talagante**	**3.15**	**169**		**Pn**	**01 32 53.8**	**+1.6**
MT01	**Popeta**	**3.21**	**173**	Pn	**Pn**	**01 32 53.5**	**+0.7**
GO03	**Copiap**	**3.34**	**24**		**Pn**	**01 32 54.6**	**-0.1**
LMEL	**Las Melosas**	**3.42**	**158**	*e*P	**Pn**	**01 32 58.6**	**+2.7**
LMEL				IAML		01 33 54.9	
BO01	**Tunca**	**3.75**	**172**	Pn	**Pn**	**01 33 00.6**	**+0.4**
BO02	**Sierra Bellavi**	**4.18**	**169**	Pn	**Pn**	**01 33 07.3**	**+1.0**
AC02	**Maricunga**	**4.46**	**32**	Pn	**Pn**	**01 33 10.8**	**+0.3**
VA04	**Juan Fernndez**	**6.70**	**242**	Pn	**Pn**	**01 33 38.8**	**-2.0**
LC01	**Cunco**	**8.20**	**181**	Pn	**Pn**	**01 34 00.2**	**-1.2**
TRQA	**Tornquist**	**10.91**	**135**	Pn	**Pn**	**01 34 38.6**	**0.0**
LPAZ	**La Paz**	**14.70**	**14**		**Pn**	**01 35 32.8**	**+1.9**
SNAA	**Sanae**	**54.57**	**159**	P	**P**	**01 41 26.6**	**-3.0**
QSPA	**South Pole Qui**	**59.55**	**180**	P	**P**	**01 42 06.5**	**+1.5**
QSPA				IAmb	IAmb	01 42 22.7	
	comp=Z,0.7nm,0.9s						
VNDA	**Vanda**	**67.40**	**191**	P	**P**	**01 42 57.7**	**+1.1**
VNDA				IAmb	IAmb	01 43 17.0	
	comp=Z,2.0nm,1.3s						

*NEIC **30** 01:40:25.2±1.5, 32°.86S±0°.09×177°.6W±0°.1, h10km±2km, mb4.7/20, Error ellipse: s-maj=19.6km s-min=7.4km az=137.0*

*IDC **30** 01:40:26.8±0.8, 32°.71S×178°.20W, h0km, mb4.4/6, mb1 4.6/10, mb1mx4.3/25, mbtmp4.5/10, ML4.8/3, MS3.9/11, Ms1 3.8/11, ms1mx3.6/26, Error ellipse: s-maj=27.4km s-min=21.2km az=147.0*

ISC 30 01:40:27.5±0.6, 32.72S±0°.06×178°.16W±0°.10, h10km, n68, σ1s55/65, mb4.7/17, MS3.9/10, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.46**	**4**	Pn	**Pn**	**01 41 20.7**	**-0.8**
	105nm,0.3s,baz=115,slow=13,SNR=11						
RAO				Sn	**Sn**	**01 41 58.4**	**-4.2**
	96nm,0.3s,baz=243,slow=22,SNR=3.7						
RAO	**Raoul Island**	**3.46**	**4**	Pn	**Pn**	**01 41 19.7**	**-1.8**
MXZ	**Matakaoa Point**	**5.63**	**210**	Pn	**Pn**	**01 41 50.4**	**-0.9**
URZ	**Urewera**	**6.74**	**214**	Pn	**Pn**	**01 42 06.2**	**-0.3**
	5.8nm,0.3s,baz=293,slow=23,SNR=29						
URZ				Sn	**Sn**	**01 43 20.8**	**-2.5**
	14nm,0.3s,baz=337,slow=22,SNR=9.0						
BKZ	**Black Stump Fm**	**7.75**	**212**	Pn	**Pn**	**01 42 19.6**	**-0.9**
BFZ	**Birch Farm**	**9.12**	**208**	Pn	**Pn**	**01 42 38.4**	**-0.9**
RPZ	**Rata Peaks**	**13.86**	**215**	Pn	**Pn**	**01 43 40.0**	**-3.9**
MSVF	**Nonsavu**	**15.31**	**346**	Pn	**Pn**	**01 44 03.9**	**+0.1**
	0.2nm,0.3s,baz=128,slow=8.5,SNR=2.7						
MSVF	**Nonsavu**	**15.31**	**346**		**Pn**	**01 44 04.5**	**+0.6**
OUENC	**Ouen Island, N**	**16.78**	**304**		**P**	**01 44 28.0**	**+3.1**
DZM	**Mont Dzumac**	**17.28**	**304**	Pn	**Pn**	**01 44 29.9**	**+0.8**
	0.1nm,0.3s,baz=105,slow=8.0,SNR=4.0						
DZM				LR	LR	01 50 03.5	
	comp=Z,1µm,18.5s,baz=108,slow=33						
DZM	**Mont Dzumac**	**17.28**	**304**	*e*Pn	**P**	**01 44 32.3**	**+1.7**
	44nm,1.4s						
DZM				*e*LR	LR	01 48 11.0	
	comp=Z,899nm,22.9s						
DZM	**Mont Dzumac**	**17.28**	**304**	P	**P**	**01 44 34.3**	**+3.7**
LHI	**Lord Howe Isla**	**19.33**	**267**	P	**Pn**	**01 44 56.4**	**+2.4**
LHI				IAmb	IAmb	01 45 11.6	
	comp=Z,47nm,1.2s						
RAR	**Rarotonga**	**19.96**	**60**	LR	LR	01 51 04.8	
	comp=Z,147nm,19.3s,baz=218,slow=32						
EIDS	**Eidsvold**	**27.80**	**277**	P	**P**	**01 46 19.3**	**+2.4**
EIDS				IAmb	IAmb	01 46 19.8	
	comp=Z,7.6nm,0.8s						
PAE	**Paea**	**29.77**	**67**	*e*T	T	02 17 57.9	
	comp=Z,1.3nm,0.2s						
PPT2	**Papeete2**	**29.82**	**67**	*e*LR	LR	01 54 12.9	
	comp=Z,196nm,26.8s						
PPT	**Papeete**	**29.83**	**67**	LR	LR	01 58 26.1	
	comp=Z,59nm,18.5s,baz=230,slow=36						
**

comp=Z,15nm,0.7s,baz=53,slow=3.6,SNR=38
FINES FINESS Array B 147.26 339 PKPbc PKPbc 02 00 09.8 -0.6
NB2 NORSAR Subarra151.01 351 PKP **PKiKP 02 00 21.1 +0.5**
comp=Z,1.0nm,0.6s,baz=17,slow=2.6
NOA NORSAR Array B151.01 351 PKPbc **PKiKP 02 00 20.9 +0.4**
comp=Z,1.9nm,0.7s,baz=14,slow=4.1,SNR=9.6
NACGM Naroch 151.72 329 *i* PKP **PKiKP 02 00 22.9 +0.7**
AKASG Malin Array Be 153.02 320 PKPbc **PKiKP 02 00 25.9 +0.9**
comp=Z,2.3nm,0.7s,baz=58,slow=2.5,SNR=9.0
AKASG Malin Array Be 153.02 320 PKPbc 02 00 24.8 0.0
DBIC Dimbokro 153.34 165 PKPbc **PKPbc 02 00 26.4 -0.2**
comp=Z,2.6nm,0.8s,baz=192,slow=6.3,SNR=1.7
BRTR Keskin Array B 153.51 294 PKPbc **PKiKP 02 00 26.6 +0.1**
comp=Z,1.7nm,0.5s,baz=118,slow=4.4,SNR=7.3
TORD Torodi Ar. Bea 160.52 180 PKP **PKPdf 02 00 29.4 +1.2**
comp=Z,0.6nm,0.9s,baz=253,slow=1.2,SNR=3.1
TORD PKPab **PKPab 02 01 11.1 +1.9**
comp=Z,0.6nm,0.8s,baz=178,slow=3.1,SNR=2.3

MEX 30 01:45:58.7±0.3, 14°30N×92°76W, h48km±197km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PCIG		**1.47**	**342**	*eP*		Pn	01 46 21.1	-1.6
PCIG				*eS*		Sn	01 46 38.3	-2.5

*SJA **30** 01:59:59.2±1.1, 30°.56S×72°.01W, h10km±9km, ML4.7, MW4.6*
*VAO **30** 02:00:02.9±0.4, 30°.51S×71°.65W, h10km, mb4.9*
*GUC **30** 02:00:03.9±0.5, 30°.66S×71°.72W, h36km±1km, ML4.9*
*NEIC **30** 02:00:04.5, 30°.64S×71°.72W, h32km, Moment Tension Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.70; $M_{\theta\theta}$0.02; $M_{\phi\phi}$-0.72; $M_{r\theta}$0.16; $M_{\theta\phi}$-0.00; $M_{\phi r}$-0.91; Fault plane solution: $M_0$1.16000×10^{16} NP1:ϕ_s172.14000°, δ71.41000°, λ84.64000°. NP2:ϕ_s8.54000°, δ19.32000°, λ105.53000°. Principal axes: T 1.1605, Plg63.0000°, Azm74.0000°; N 0.0061, Plg5.0000°, Azm174.0000°; P -1.1666, Plg26.0000°, Azm266.0000°;*
*IDC **30** 02:00:04.3±0.7, 30°.61S×71°.59W, h26km±3km, mb4.3/9, mb1 4.4/14, mb1mx4.2/25, mbtmp4.4/14, ML4.2/5, MS4.1/15, Ms1 4.1/15, ms1mx4.0/21 Error ellipse: s-maj=21.6km s-min=17.6km az=77.0*
*NEIC **30** 02:00:04.7±1.6, 30°.63S±0°.03×71°.68W±0°.07, h27km±4km, mb4.8/61, Mwr4.6/62, ML4.9(GUC), Error ellipse: s-maj=8.2km s-min=4.2km az=84.0*
*GCMT **30** 02:00:06.7±0.4, 30°.77S±0°.03×72°.04W±0°.04, h36km±1km, MW4.9/59, Moment Tensor Solution. s32,c41; s59,c69; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.79±.17; $M_{\theta\theta}$-0.24±.10; $M_{\phi\phi}$-2.56±.11; $M_{r\theta}$0.12±.10; $M_{\theta\phi}$0.21±.07; $M_{\phi r}$-1.86±.12; Best double couple: $M_0$3.26800×10^{16} NP1:ϕ_s354.00000°, δ28.00000°, λ89.00000°. NP2: ϕ_s176.00000°, δ62.00000°, λ91.00000°. Principal axes: T 3.3740, Plg73.0000°, Azm88.0000°; N -0.2180, Plg1.0000°, Azm355.0000°; P -3.1620, Plg17.0000°, Azm265.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 30 02:00:04.0±0.5, 30°.63S±0°.02×71°.72W±0°.04, h26km±3km, n281, σ1$44/286, mb4.8/32, MS4.3/12, 15C-15B, Fault plane solution: NP1:ϕ_s3.98951°, δ87.93842°, λ-87.44730°. NP2:ϕ_s132.88957°, δ3.28080°, λ-141.05400°. Principal axes: T Plg42.8836°, Azm91.5262°; N Plg2.5511°, Azm183.8976°; P Plg47.0026°, Azm276.6364°; Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.09**	**122**	⇓*iP*		**Pb**	**02 00 09.2**	**+0.5**
CO06				*i* S		**Sb**	**02 00 12.9**	**+0.9**
CO06				IAML			02 00 13.5	
	comp=E,241μm,0.2s							
CO06	**Fray Jorge**	**0.09**	**122**			**Pb**	**02 00 09.2**	**+0.5**
CO06				Sg		**Sb**	**02 00 12.9**	**+0.9**
CO05	**La Serena**	**0.82**	**31**	⇓*iP*		**Pb**	**02 00 19.3**	**-0.4**
CO05				*i* S		**Sn**	**02 00 31.4**	**+0.2**
CO05				IAML			02 00 33.2	
	comp=N,95μm,0.3s							
CO05	**La Serena**	**0.82**	**31**			**Pb**	**02 00 19.2**	**-0.4**
CO05				Sn		**Sn**	**02 00 30.8**	**-0.4**
CO02	**Combarbal**	**0.85**	**133**	⇓*iP*		**Pb**	**02 00 19.5**	**-0.6**
CO02				*i* S		**Sb**	**02 00 30.5**	**-0.7**
CO02				IAML			02 00 35.8	
	comp=E,58μm,0.4s							
CO02	**Combarbal**	**0.85**	**133**			**Pb**	**02 00 19.5**	**-0.6**
CO02				Sn		**Sb**	**02 00 31.1**	**0.0**
CO03	**El Pedregal**	**0.91**	**104**	⇓*iP*		**Pb**	**02 00 20.6**	**-0.7**
CO03				*eS*		**Sn**	**02 00 33.0**	**-0.6**
CO03	**El Pedregal**	**0.91**	**104**			**Pb**	**02 00 20.6**	**-0.7**
CO03	**El Pedregal**	**0.91**	**104**	*i* P		**Pb**	**02 00 20.9**	**-0.4**
CO03				*eS*		**Sn**	**02 00 33.7**	**+0.1**
GO04	**Tololo Observa**	**0.92**	**61**	⇓*iP*		**Pb**	**02 00 21.0**	**-0.4**
GO04				*i* S		**Sn**	**02 00 33.8**	**-0.1**
GO04				IAML			02 00 37.9	
	comp=N,114μm,0.5s							
GO04	**Tololo Observa**	**0.92**	**61**			**Pb**	**02 00 20.9**	**-0.6**
GO04	**Tololo Observa**	**0.92**	**61**	*i* P		**Pb**	**02 00 21.0**	**-0.4**
GO04				*eS*		**Sn**	**02 00 36.0**	**+2.1**
LCO	**Las Campanas**	**1.84**	**29**	⇑*iP*		**Pn**	**02 00 34.6**	**+0.4**
LCO				*eS*		**Sb**	**02 00 58.5**	**-1.3**
LCO	**Las Campanas**	**1.84**	**29**			**Pn**	**02 00 34.6**	**+0.4**
LCO	**Las Campanas**	**1.84**	**29**	*i* P		**Pn**	**02 00 34.4**	**+0.3**
LCO				*eS*		**Sb**	**02 01 00.2**	**+0.4**
VA06	**Catapilco**	**1.96**	**169**	⇑*iP*		**Pn**	**02 00 35.9**	**+0.3**
VA06				*eS*		**Sn**	**02 01 00.2**	**+0.9**
VA06				IAML			02 01 10.5	
	comp=N,16μm,0.5s							
AROD	**Rodeo**	**2.00**	**77**	*i* P		**Pb**	**02 00 39.6**	**-0.2**
ACCO	**Cerro Coronel**	**2.29**	**90**	*i* P		**Pb**	**02 00 44.0**	**-0.9**
ACDV	**Cuesta del Vie**	**2.29**	**79**	*i* P		**Pb**	**02 00 44.6**	**-0.2**
ACDV				IAML			02 01 24.5	
	comp=Z,5μm,0.6s							
VA03	**San Esteban**	**2.35**	**155**	⇑*iP*		**Pn**	**02 00 42.3**	**+1.2**
VA03				*eS*		**Sn**	**02 01 10.4**	**+1.3**
VA03				IAML			02 01 29.5	
	comp=E,8μm,0.6s							
VA03	**San Esteban**	**2.35**	**155**			**Pn**	**02 00 42.2**	**+1.2**
VA03	**San Esteban**	**2.35**	**155**	*i* P		**Pn**	**02 00 42.4**	**+1.4**
RTLS	**Leoncito**	**2.38**	**120**	*i* P		**Pb**	**02 00 45.0**	**-1.4**
VA01	**Torpederas**	**2.39**	**178**	*eP*		**Pn**	**02 00 40.9**	**-0.5**
VA01				*i* S		**Sb**	**02 01 13.4**	**-1.9**
VA01	**Torpederas**	**2.39**	**178**	Pn		**Pn**	**02 00 41.1**	**-0.3**
ROCH	**El Roble**	**2.42**	**166**	⇑*iP*		**Pn**	**02 00 42.6**	**+0.5**
ROCH				*i* S		**Sn**	**02 01 11.0**	**+0.2**
ROCH				IAML			02 01 19.8	
	comp=N,6μm,0.4s							
AC04	**Llanos de Chal**	**2.48**	**13**	⇑*iP*		**Pn**	**02 00 42.5**	**-0.2**
AC04				*eS*		**Sn**	**02 01 12.5**	**+0.4**
AC04	**Llanos de Chal**	**2.48**	**13**	Pn		**Pn**	**02 00 42.6**	**-0.2**
AC04	**Llanos de Chal**	**2.48**	**13**	*i* P		**Pn**	**02 00 42.5**	**-0.2**
AUSP	**Uspallata**	**2.55**	**129**	*i* P		**Pb**	**02 00 47.6**	**-1.7**
PEL	**Peldehue**	**2.66**	**161**	*eP*		**Pn**	**02 00 46.2**	**+1.0**
ZON	**Zonda**	**2.77**	**110**	*i* P		**Pb**	**02 00 50.2**	**-2.6**
ZON				IAML			02 01 37.1	
	comp=Z,2μm,0.7s							
MT05	**Renca**	**2.88**	**163**	*eP*		**Pn**	**02 00 49.2**	**+0.9**
MT05				*eS*		**Sn**	**02 01 24.4**	**+2.3**
MT05				IAML			02 01 38.9	
	comp=E,6μm,0.4s							
MT05	**Renca**	**2.88**	**163**	Pn		**Pn**	**02 00 49.1**	**+0.8**
MT05	**Renca**	**2.88**	**163**	*i* P		**Pn**	**02 00 50.0**	**+1.7**
RTCV	**Cerro Valdivia**	**2.99**	**115**	*i* P		**Pb**	**02 00 53.1**	**-3.5**
RTCV				IAML			02 01 38.2	
	comp=Z,666nm,2.4s							
FSR	**Penalolen**	**3.02**	**161**	*i* S		**Sb**	**02 01 36.2**	**+2.7**
VA05	**Santo Domingo**	**3.02**	**178**	*eP*		**Pn**	**02 00 49.4**	**-0.8**
VA05				*eS*		**Sn**	**02 01 22.2**	**-3.3**
VA05				IAML			02 01 52.6	
	comp=N,3μm,0.3s							
VA05	**Santo Domingo**	**3.02**	**178**			**Pn**	**02 00 49.6**	**-0.5**
AGUA	**GUANDACOL**	**3.02**	**69**	*i* P		**Pb**	**02 00 55.5**	**-1.7**
ASAL	**Salagasta**	**3.15**	**129**	*i* P		**Pb**	**02 00 55.9**	**-3.4**
ASAL				IAML			02 01 50.2	
	comp=Z,2μm,0.9s							
MT09	**Talagante**	**3.20**	**169**	*eP*		**Pn**	**02 00 53.4**	**+0.7**
MT09				IAML			02 01 48.6	
	comp=E,2μm,0.2s							
MT09	**Talagante**	**3.20**	**169**			**Pn**	**02 00 53.4**	**+0.7**
ARCO	**CERRO ARCO**	**3.24**	**134**	*i* P		**Pb**	**02 00 57.7**	**-3.3**
ARCO				IAML			02 01 56.0	
	comp=Z,2μm,1.1s							
MT01	**Popeta**	**3.25**	**173**			**Pn**	**02 00 53.5**	**+0.1**
MT01	**Popeta**	**3.25**	**173**	*i* P		**Pn**	**02 00 53.4**	**+0.1**
GO03	**Copiap**	**3.29**	**24**	*eP*		**Pn**	**02 00 53.9**	**0.0**
GO03	**Copiap**	**3.29**	**24**	Pn		**Pn**	**02 00 54.3**	**+0.3**
GO03	**Copiap**	**3.29**	**24**	*i* P		**Pn**	**02 00 54.2**	**+0.3**
LMEL	**Las Melosas**	**3.46**	**159**	*eP*		**Pn**	**02 00 57.9**	**+1.6**
LMEL				*i* S		**Sn**	**02 01 39.9**	**+3.4**
LMEL				IAML			02 01 57.7	
	comp=E,2μm,0.5s							
AAGR	**Agrelo**	**3.47**	**136**	*i* P		**Pn**	**02 01 00.4**	**+3.9**
AAGR				IAML			02 02 03.5	
	comp=Z,2μm,1.3s							
VCA	**Vinchina**	**3.59**	**59**	*i* P		**Pb**	**02 01 02.5**	**-4.4**
BO01	**Tunca**	**3.79**	**172**	*eP*		**Pn**	**02 01 00.8**	**0.0**
BO01	**Tunca**	**3.79**	**172**			**Pn**	**02 01 00.8**	**0.0**
BO01	**Tunca**	**3.79**	**172**	*i* P		**Pn**	**02 01 01.0**	**+0.3**
BO02	**Sierra Bellavi**	**4.23**	**169**	Pn		**Pn**	**02 01 07.6**	**+0.7**
BO02	**Sierra Bellavi**	**4.23**	**169**	*i* P		**Pn**	**02 01 08.0**	**+1.2**
AC01	**CERRO LA CRUZ**	**4.31**	**75**	*i* P		**Pn**	**02 01 11.0**	**+3.0**
GO05	**Huala**	**4.37**	**182**	Pn		**Pn**	**02 01 07.7**	**-1.1**
GO05	**Huala**	**4.37**	**182**	*i* P		**Pn**	**02 01 07.4**	**-1.4**
AC02	**Maricunga**	**4.41**	**32**	Pn		**Pn**	**02 01 10.7**	**+0.9**
AC02	**Maricunga**	**4.41**	**32**	*i* P		**Pn**	**02 01 10.6**	**+0.9**
APLL	**PUNTA DE LOS L**	**4.49**	**88**	*i* P		**Pn**	**02 01 13.1**	**+2.7**
COIS	**El Sosneado**	**4.81**	**159**	*i* P		**Pn**	**02 01 17.0**	**+2.2**
RFA	**San Rafael**	**4.96**	**147**	*i* P		**Pn**	**02 01 19.0**	**+2.1**
RFA				IAML			02 02 50.0	
	comp=Z,566nm,1.0s							
ML02	**Panimavida**	**5.13**	**177**	Pn		**Pn**	**02 01 18.8**	**-0.3**
MRA	**San Martin**	**5.43**	**111**	*i* P		**Pn**	**02 01 25.0**	**+1.7**
CYA	**Choya**	**5.60**	**69**	*i* P		**Pn**	**02 01 28.0**	**+2.4**
CYA				IAML			02 03 10.6	
	comp=Z,379nm,0.8s							
PB14	**IPOC Station P**	**6.09**	**11**	Pn		**Pn**	**02 01 29.6**	**-3.0**
PB14	**IPOC Station P**	**6.09**	**11**	*i* P		**Pn**	**02 01 30.0**	**-2.7**
PB14				IAML			02 03 17.9	
	comp=Z,417nm,0.8s							
H03N1	**Juan Fernandez**	**6.72**	**243**	T		T	02 08 33.2	
	baz=72,slow=72,SNR=5827							
H03N2	**Juan Fernandez**	**6.73**	**244**	T		T	02 08 34.1	
	baz=72,slow=72,SNR=4260							
H03N3	**Juan Fernandez**	**6.73**	**243**	T		T	02 08 28.9	
	baz=72,slow=72,SNR=3530							
VA04	**Juan Fernndez**	**6.74**	**242**	Pn		**Pn**	**02 01 39.1**	**-2.1**
FSA	**Cafayete**	**6.77**	**50**	*i* P		**Pn**	**02 01 43.8**	**+1.9**
AHML	**Horco Molle**	**6.79**	**57**	*i* P		**Pn**	**02 01 43.0**	**+1.0**
AHML				IAML			02 03 35.0	
	comp=Z,230nm,0.8s							
PB10	**IPOC Station P**	**7.16**	**9**	Pn		**Pn**	**02 01 45.8**	**-1.3**
PB15	**IPOC Station P**	**7.66**	**16**	Pn		**Pn**	**02 01 52.4**	**-1.7**
PB15	**IPOC Station P**	**7.66**	**16**	*i* P		**Pn**	**02 01 52.0**	**-2.1**
PB05	**IPOC Station P**	**7.86**	**10**	*i* P		**Pn**	**02 01 53.0**	**-3.8**
PB06	**IPOC Station P**	**8.12**	**14**			**Pn**	**02 01 59.0**	**-1.3**
LC01	**Cunco**	**8.25**	**181**	Pn		**Pn**	**02 01 59.9**	**-2.1**
LC01	**Cunco**	**8.25**	**181**	*i* P		**Pn**	**02 02 01.0**	**-1.0**
LVC	**Limon Verde**	**8.37**	**18**	Pn		**Pn**	**02 02 01.5**	**-2.5**
	comp=Z,1.3nm,0.3s,baz=185,slow=8.5,SNR=11							
LVC					LR	LR	02 05 19.7	
	comp=Z,1μm,20.2s,baz=212,slow=38							
LVC	**Limon Verde**	**8.37**	**18**	*eP*		**Pn**	**02 02 02.3**	**-1.7**
LVC	**Limon Verde**	**8.37**	**18**	*i* P		**Pn**	**02 02 02.0**	**-2.0**
PB04	**IPOC Station P**	**8.38**	**10**	Pn		**Pn**	**02 02 01.9**	**-2.1**
LR03	**Panguipulli**	**9.00**	**183**	Pn		**Pn**	**02 02 10.9**	**-1.3**
PB07	**IPOC Station P**	**9.02**	**11**	Pn		**Pn**	**02 02 11.7**	**-1.0**
PB01	**IPOC Station P**	**9.75**	**12**	Pn		**Pn**	**02 02 18.8**	**-3.9**
PLCA	**Paso Flores**	**10.13**	**175**	Pn		**Pn**	**02 02 28.1**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=334,slow=11,SNR=4.4							
PLCA					LR	LR	02 06 27.0	
	comp=Z,812nm,19.9s,baz=351,slow=38							
PLCA	**Paso Flores**	**10.13**	**175**	Pn		**Pn**	**02 02 28.3**	**+0.6**
PLCA	**Paso Flores**	**10.13**	**175**	*eP*		**Pn**	**02 02 29.4**	**+1.7**
LL05	**Los Muermos**	**10.85**	**187**	Pn		**Pn**	**02 02 37.9**	**+0.3**
TRQA	**Tornquist**	**10.94**	**135**	Pn		**Pn**	**02 02 39.1**	**+0.3**
TRQA	**Tornquist**	**10.94**	**135**	*eP*		**Pn**	**02 02 39.9**	**+1.1**
PSGCX	**Pisagua**	**11.08**	**8**	*i* P		**Pn**	**02 02 37.0**	**-3.9**
ITQB	**Itaqui**	**13.10**	**90**	Pn		**Pn**	**02 03 07.5**	**-1.0**
ITQB	**Itaqui**	**13.10**	**90**	*eP*		**Pn**	**02 03 07.3**	**-1.1**
CPUP	**Villa Florida**	**13.36**	**75**	Pn		**Pn**	**02 03 10.9**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=251,slow=14,SNR=7.6							
CPUP					LR	LR	02 08 42.5	
	comp=Z,1μm,21.8s,baz=251,slow=39							
CPUP	**Villa Florida**	**13.36**	**75**	Pn		**Pn**	**02 03 10.6**	**-1.4**
CPUP	**Villa Florida**	**13.36**	**75**	*eP*		**Pn**	**02 03 11.3**	**-0.7**
LPAZ	**La Paz**	**14.65**	**14**	Pn		**Pn**	**02 03 28.8**	**-1.3**
	comp=Z,1.1nm,0.3s,baz=187,slow=7.2,SNR=30							
PLTB	**Pedras Altas**	**15.55**	**99**	Pn		**Pn**	**02 03 39.6**	**-1.8**
CPSB	**Cacapava Do Su**	**15.76**	**94**	*eP*		**P**	**02 03 46.9**	**-1.1**
SIV	**San Ignacio**	**17.53**	**36**	P		**Pn**	**02 04 06.7**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=226,slow=11,SNR=42							
SIV					LR	LR	02 12 10.5	
	comp=Z,1μm,20.8s,baz=214,slow=42							
CNLB	**Canela**	**18.13**	**91**	*eP*		**Pn**	**02 04 13.8**	**-0.2**
TRCB	**Terra Rica**	**18.74**	**70**	P		**Pn**	**02 04 23.4**	**+2.0**
TRCB				IAmb		IAmb	02 04 35.2	
	comp=Z,33nm,0.8s							
TRCB	**Terra Rica**	**18.74**	**70**	*eP*		**P**	**02 04 20.1**	**-0.9**
PTLB	**Pontes e Lacer**	**19.01**	**40**	*eP*		**P**	**02 04 23.3**	**-0.6**
NNA	**Nana**	**19.15**	**345**	LR		LR	02 10 26.3	
	comp=Z,193nm,19.4s,baz=170,slow=32							
TER01	**Tubaro-SC**	**19.76**	**90**	*eP*		**P**	**02 04 32.6**	**+0.5**
PP1B	**Ponte de Pedra**	**20.08**	**54**	*eP*		**P**	**02 04 35.3**	**-0.3**
PCMB	**Pacaembu**	**20.43**	**69**	*eP*		**P**	**02 04 39.2**	**-0.2**
VILB	**Vilhena**	**20.56**	**34**	*eP*		**P**	**02 04 40.1**	**-0.7**
TIJ01	**Guaruva-PR**	**20.73**	**81**	*eP*		**P**	**02 04 41.2**	**-1.6**
SALV	**Santo Antonio**	**20.74**	**49**	*eP*		**P**	**02 04 42.4**	**-0.3**
FRTB	**Fartura**	**21.02**	**75**	*eP*		**P**	**02 04 45.1**	**-0.7**
ETMB	**Extrema**	**21.33**	**15**	*eP*		**P**	**02 04 49.7**	**+0.6**
ITRB	**Iturama**	**22.14**	**66**	*eP*		**P**	**02 04 57.0**	**-0.9**
PET01	**Itanhaem-SP**	**22.51**	**80**	*eP*		**P**	**02 05 00.9**	**+0.5**
SPB	**Sao Paulo**	**22.70**	**78**	P		**P**	**02 05 04.0**	**+0.2**
SPB	**Sao Paulo**	**22.70**	**78**	*eP*		**P**	**02 05 04.9**	**+1.1**
CZSB	**Cruzeiro do Su**	**22.80**	**357**	*eP*		**P**	**02 05 05.6**	**+0.8**
BB19B	**Bebedouro**	**22.91**	**71**	*eP*		**P**	**02 05 05.4**	**-0.6**
SAML	**Samuel**	**23.00**	**22**	*eP*		**P**	**02 05 07.5**	**+0.7**
RCLB	**Rio Claro- Sao**	**23.10**	**75**	*eP*		**P**	**02 05 07.8**	**-0.2**
VAO	**Valinhos**	**23.33**	**77**	*eP*		**P**	**02 05 10.4**	**+0.1**
PARB	**Paraibuna**	**24.33**	**79**	*eP*		**P**	**02 05 21.0**	**+1.2**
CLDB	**Colider**	**24.60**	**40**	*eP*		**P**	**02 05 21.4**	**-0.8**
IPMB	**Ipameri, GO**	**24.79**	**65**	*eP*		**P**	**02 05 23.9**	**0.0**
ESAR	**Angra dos Reis**	**25.45**	**79**	*eP*		**P**	**02 05 29.1**	**-0.8**
BSCB	**Bom Sucesso**	**26.03**	**75**	*eP*		**P**	**02 05 37.0**	**+1.8**
BDFB	**Brasilia**	**26.34**	**61**	P		**P**	**02 05 37.1**	**-0.9**
	comp=Z,12nm,0.9s,baz=234,slow=8.6,SNR=16							
BDFB					LR	LR	02 17 07.4	
	comp=Z,1μm,18.4s,baz=274,slow=39							
BDFB	**Brasilia**	**26.34**	**61**	P		**P**	**02 05 36.2**	**-1.8**
BDFB				IAmb		IAmb	02 05 50.2	
	comp=Z,30nm,0.9s							
TBTG	**Tabatinga, AM**	**26.36**	**4**	*eP*		**P**	**02 05 38.9**	**+0.8**
SNDB	**Serra Nova Dou**	**26.50**	**50**	*eP*		**P**	**02 05 38.6**	**-0.8**
VAS01	**Vassouras-RJ**	**26.59**	**79**	*eP*		**P**	**02 05 40.8**	**+0.5**
NPGB	**Novo Progresso**	**28.03**	**37**	*eP*		**P**	**02 05 52.3**	**-0.9**
CAM01	**Campos-RJ**	**28.29**	**79**	*eP*		**P**	**02 05 56.3**	**+0.9**
PEXB	**Peixe**	**28.45**	**55**	*eP*		**P**	**02 05 56.1**	**-0.8**
MACA	**Manacapuru-AM**	**29.24**	**23**	*eP*		**P**	**02 06 03.4**	**-0.5**
JANB	**Januaria**	**29.52**	**64**	*eP*		**P**	**02 06 05.4**	**-1.1**
ALF01	**Guarapari-ES**	**29.59**	**78**	*eP*		**P**	**02 06 07.1**	**+0.1**
SJMB	**Sao Joao De Ma**	**30.09**	**74**	*eP*		**P**	**02 06 10.9**	**-0.5**
ITTB	**Itatiuba**	**30.16**	**33**	*eP*		**P**	**02 06 10.9**	**-1.1**
BSFB	**Barra de Sao F**	**30.30**	**74**	*eP*		**P**	**02 06 12.7**	**-0.6**
RIB01	**Linhares ES**	**30.45**	**76**	*eP*		**P**	**02 06 14.9**	**+0.3**
SDBA	**SAO DESIDERIO**	**30.71**	**60**	*eP*		**P**	**02 06 16.7**	**-0.3**
PTLC	**Puerto Leguiza**	**30.77**	**354**	*eP*		**P**	**02 06 15.1**	**-2.3**
SMTB	**Santa Maria do**	**31.24**	**51**	*eP*		**P**	**02 06 22.1**	**+0.5**
NAN01	**Guarapari, ES**	**31.38**	**73**	*eP*		**P**	**02 06 24.8**	**+2.0**
PTGA	**Pitinga**	**31.76**	**23**	P		**P**	**02 06 24.7**	**-1.5**
PTGA				IAmb		IAmb	02 06 39.2	
	comp=Z,6.8nm,0.9s							
PTGA	**Pitinga**	**31.76**	**23**	*eP*		**P**	**02 06 25.4**	**-0.7**
GUA01	**Guaratinga, BA**	**32.28**	**72**	*eP*		**P**	**02 06 31.6**	**+0.8**
BBAC	**Balboa, Cauca**	**32.89**	**350**	*eP*		**P**	**02 06 35.0**	**-1.3**
SOTA	**Rioblanco**	**32.91**	**351**	*eP*		**P**	**02 06 39.2**	**+2.4**
PCON	**Cinco Dias**	**33.07**	**351**	*eP*		**P**	**02 06 43.0**	**+4.8**
CMC01	**Camacan, BA**	**33.16**	**70**	*eP*		**P**	**02 06 40.8**	**+2.3**
NBIT	**Itapeh - BA**	**33.47**	**69**	*eP*		**P**	**02 06 43.7**	**+2.6**
GDU01	**Guandu, BA**	**34.03**	**68**	*eP*		**P**	**02 06 47.6**	**+1.6**
ORTC	**Ortega, Tolima**	**34.51**	**354**	*eP*		**P**	**02 06 52.5**	**+2.4**
BOAV	**Boa Vista**	**34.53**	**20**	*eP*		**P**	**02 06 50.1**	**-0.2**
CHIC	**Chingaza**	**35.11**	**357**	*eP*		**P**	**02 06 57.2**	**+1.4**
NBPN	**Ponto Novo - B**	**35.25**	**63**	*eP*		**P**	**02 06 58.3**	**+1.6**
MCPB	**Macapa, AP**	**35.43**	**35**	*eP*		**P**	**02 06 58.2**	**+0.1**
GUY2C	**Guyana, Caldas**	**35.82**	**354**	*eP*		**P**	**02 07 03.3**	**+1.4**
TMAB	**Tom-Au,PA,Br**	**35.91**	**43**	*eP*		**P**	**02 07 02.5**	**+0.3**
NORC	**Norcasia**	**36.11**	**355**	*eP*		**P**	**02 07 05.5**	**+1.5**
RUSC	**La Rusia**	**36.34**	**358**	P		**P**	**02 07 06.5**	**+0.1**
RUSC	**La Rusia**	**36.34**	**358**	*eP*		**P**	**02 07 07.6**	**+1.2**
CBOC	**Ciudad Bolivar**	**36.52**	**353**	*eP*		**P**	**02 07 09.3**	**+1.8**
HELC	**Santa Helena**	**36.79**	**354**	*eP*		**P**	**02 07 11.3**	**+1.2**
NBLA	**Lagarto - SE**	**37.03**	**66**	*eP*		**P**	**02 07 13.1**	**+1.2**
PTBC	**PUERTO BERRIO,**	**37.05**	**355**	*eP*		**P**	**02 07 11.1**	**-0.8**
DBBC	**Dabeiba**	**37.68**	**353**	*eP*		**P**	**02 07 19.5**	**+2.2**
ZARC	**Zaragoza, Cauc**	**38.02**	**355**	*eP*		**P**	**02 07 20.2**	**+0.1**
NBMA	**Muriti-CE**	**38.56**	**60**	*eP*		**P**	**02 07 24.1**	**-0.7**
NBPS	**Pedro II - PI**	**38.66**	**54**	*eP*		**P**	**02 07 25.6**	**-0.1**
NBAN	**Anadia - AL**	**39.02**	**65**	*eP*		**P**	**02 07 28.8**	**+0.2**
NBPB	**Pedra_Branca-C**	**39.18**	**57**	*eP*		**P**	**02 07 29.3**	**-0.6**
SMLC	**San Martn de**	**39.27**	**356**	*eP*		**P**	**02 07 29.5**	**-1.0**
SDV	**Santo Domingo**	**39.30**	**2**	*eP*		**P**	**02 07 30.8**	**-0.2**
NBLV	**Livramento - P**	**39.95**	**62**	*eP*		**P**	**02 07 37.9**	**+1.4**
BCIP	**Isla Barro Col**	**40.33**	**348**	P		**P**	**02 07 40.6**	**+1.2**
SJCC	**San Jacinto, C**	**40.43**	**355**	P		**P**	**02 07 41.0**	**+0.7**
SJCC	**San Jacinto, C**	**40.43**	**355**	*eP*		**P**	**02 07 41.7**	**+1.4**
TOSP	**Speyside**	**43.05**	**16**	P		**P**	**02 08 01.4**	**-0.2**
TOSP				IAmb		IAmb	02 08 15.5	
	comp=Z,13nm,0.9s							
BIM	**Bigot**	**46.04**	**14**	P		**P**	**02 08 26.0**	**+0.4**
FDF	**Fort de France**	**46.23**	**14**	P		**P**	**02 08 26.7**	**-0.4**
FDF				IAmb		IAmb	02 08 34.2	
	comp=Z,18nm,1.0s							
CRPR	**Cabo Rojo, PR**	**48.56**	**6**	P		**P**	**02 08 44.3**	**-0.7**
SJG	**San Juan**	**48.75**	**7**	P		**P**	**02 08 46.5**	**-0.1**
CBYP	**Canovanas**	**48.94**	**7**	P		**P**	**02 08 47.6**	**-0.6**
GCPR	**Guaynabo City**	**48.95**	**7**	P		**P**	**02 08 47.3**	**-0.9**

BOSA					IAmb	IAmb	02 12 19.7			
	comp=Z,11nm,1.1s									
ELK	**Elko**	**81.64**	**328**		P	**P**	**02 12 20.6**	**+0.6**		
TORD	**Torodi Ar. Bea**	**82.81**	**70**		P	**P**	**02 12 25.7**	**-0.7**		
	comp=Z,3.6nm,0.5s,baz=281,slow=5.9,SNR=90									
TORD					LR	LR	02 47 17.1			
	comp=Z,274nm,19.0s,baz=230,slow=34									
TORD	**Torodi Ar. Bea**	**82.81**	**70**		P	**P**	**02 12 25.5**	**-0.9**		
ULM	**Lac du Bonnet**	**83.32**	**345**		P	**P**	**02 12 28.6**	**+0.5**		
	comp=Z,3.6nm,0.6s,baz=124,slow=7.6,SNR=3.6									
ULM	**Lac du Bonnet**	**83.32**	**345**		P	**P**	**02 12 28.1**	**0.0**		
ULM					IAmb	IAmb	02 12 43.0			
	comp=Z,8.3nm,1.0s									
BEKR	**Beckworth**	**83.41**	**324**		P	**P**	**02 12 30.4**	**+1.3**		
LBTB	**Lobatse**	**83.48**	**115**		P	**P**	**02 12 29.8**	**-0.1**		
HLID	**Hailey**	**83.54**	**330**		P	**P**	**02 12 30.4**	**+0.8**		
MCMT	**McKenzie Canyo**	**83.92**	**332**		P	**P**	**02 12 32.3**	**+0.6**		
DGMT	**Dagmar**	**83.94**	**339**		P	**P**	**02 12 31.7**	**+0.3**		
SCHQ	**Schefferville**	**85.21**	**3**		LR	LR	02 51 06.8			
	comp=Z,62nm,20.0s,baz=194,slow=36									
ESDC	**Sonseca Array**	**94.04**	**46**		LR	LR	02 55 54.4			
	comp=Z,120nm,18.0s,baz=245,slow=36									
DZM	**Mont Dzumac**	**103.44**	**234**	*e*	LR	LR	02 47 59.7			
	comp=Z,194nm,23.9s									
H11S2	**WAKE ISLAND Hyl**	**26.02**	**271**		T	T	04 37 41.5			
	baz=115,slow=75,SNR=296									
H11S1	**WAKE ISLAND Hyl**	**26.03**	**271**		T	T	04 37 44.3			
	baz=115,slow=75,SNR=292									
H11S3	**WAKE ISLAND Hyl**	**26.04**	**271**		T	T	04 37 42.8			
	baz=115,slow=75,SNR=254									
H11N3	**WAKE ISLAND Hyl**	**26.35**	**273**		T	T	04 38 11.4			
	baz=116,slow=75,SNR=38									
H11N1	**WAKE ISLAND Hyl**	**26.36**	**273**		T	T	04 38 11.0			
	baz=116,slow=75,SNR=14									
H11N2	**WAKE ISLAND Hyl**	**26.37**	**273**		T	T	04 38 11.8			
	baz=116,slow=75,SNR=76									
ZALV	**Zalesovo Beam**	**151.20**	**29**		PKPbc	**PKPbc**	**02 19 54.2**	**-0.2**		
	comp=Z,16nm,0.8s,baz=294,slow=2.8,SNR=37									
ZALV					pPKPbc	**PKPab**	**02 20 02.7**	**+0.3**		
	comp=Z,28nm,0.8s,baz=294,slow=3.2,SNR=18									
MKAR	**Makanchi Array**	**154.25**	**44**		PKPbc	**PKPbc**	**02 20 01.4**	**-0.1**		
	comp=Z,1.8nm,0.9s,baz=339,slow=3.0,SNR=5.7									
MKAR					pPKPbc	**pPKPbc**	**02 20 09.6**	**-0.7**		
	comp=Z,2.7nm,0.9s,baz=306,slow=4.2,SNR=6.9									
MKAR					PKPab	**PKPab**	**02 20 15.4**	**-0.1**		
	comp=Z,3.4nm,0.9s,baz=300,slow=2.4,SNR=7.5									
MKAR	**Makanchi Array**	**154.25**	**44**			**PKPbc**	**02 20 01.2**	**-0.3**		
SONM	**Songino Array**	**162.75**	**4**		PKPab	**PKPab**	**02 20 53.3**	**+1.0**		
	comp=Z,1.5nm,0.9s,baz=348,slow=6.2,SNR=5.4									
SONM					pPKPab	**pPKPab**	**02 21 00.9**	**0.0**		
	comp=Z,2.0nm,0.9s,baz=335,slow=3.9,SNR=5.6									
CMAR	**Chiang Mai Arr**	**165.21**	**143**		PKPab	**PKPab**	**02 21 02.9**	**-0.8**		
	comp=Z,0.8nm,0.3s,baz=232,slow=4.7,SNR=4.1									
CMAR					pPKPab	**pPKPab**	**02 21 11.3**	**-0.8**		
	comp=Z,2.2nm,0.8s,baz=228,slow=5.3,SNR=1.6									
CMAR	**Chiang Mai Arr**	**165.21**	**143**			**PKPab**	**02 21 02.5**	**-1.2**		
LZH	**Lanzhou**	**173.41**	**33**	*e*	PKP	**PKPdf**	**02 20 05.3**	**-6.0**		
LZH					pPKP	pPKPdf	02 20 18.8	-1.3		
LZH					PKP	PKPab	02 21 25.8	-14		

BJI ***30*** *02:11:22.6±0.0,7˚.26S×154˚.59E,h35km,mB5.2/20, mb4.7/35,Ms4.9/5,Ms7 4.4/4*

NEIC ***30*** *02:11:23.1±1.7,7˚.20S±0˚.04×154˚.46E±0˚.09,h22km±5km, mb5.0/63,Error ellipse: s-maj=12.7km s-min=6.2km az=87.0*

MOS ***30*** *02:11:23.8±1.1,7˚.19S×154˚.32E,h42km,mb5.0/21,Error ellipse: s-maj=9.7km s-min=9.2km az=94.9*

IDC ***30*** *02:11:24.1±0.7,7˚.23S×154˚.45E,h34km±4km,mb4.4/17, mb1 4.6/21,mb1mx4.4/35,mbtmp4.6/21,ML3.6/3,MS3.6/12, Ms1 3.6/12,ms1mx3.4/28,Error ellipse: s-maj=15.7km s-min=13.3km az=104.0*

DJA ***30*** *02:11:26.9±1.1,7˚S±4˚×15˚4E±˚,h31km±10km,M4.8/15, mB5.2/7,mb4.8/15,MLv5.1/2,Mw(mB)4.6/7*

ISC 30 02:11:24.7±0.3,7˚21S±0˚.05×154˚49E±0˚.06,h39km,n257, σ1§19/253,mb4.9/71,MS3.7/10,1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
RABL	**Rabaul**	**3.79**	**322**	Pn	**Pn**	**02 12 19.2**	**-1.4**
HNR	**Honiara**	**5.83**	**113**	LR	LR	02 14 53.9	
	comp=Z,694nm,20.1s,baz=276,slow=36						
PMG	**Port Moresby**	**7.58**	**253**	Pn	**Pn**	**02 13 12.9**	**+0.3**
	6.3nm,0.3s,baz=56,slow=12,SNR=18						
PMG				Sn	**Sn**	**02 14 42.0**	**+4.7**
	5.4nm,0.3s,baz=16,slow=14,SNR=5.2						
PMG				LR	LR	02 16 07.4	
	comp=Z,578nm,19.4s,baz=58,slow=38						
PMG	**Port Moresby**	**7.58**	**253**	P	**Pn**	**02 13 12.4**	**-0.2**
PMG	**Port Moresby**	**7.58**	**253**	Pn	**Pn**	**02 13 12.4**	**-0.2**
PMG	**Port Moresby**	**7.58**	**253**	P	**Pn**	**02 13 12.0**	**-0.6**
	0.5nm1μm176nm,0.8s						
PATS	**Pohnpei**	**14.47**	**15**	Pn	**Pn**	**02 14 46.8**	**-0.1**
JAY	**Jayapura**	**14.51**	**288**	Pn	**Pn**	**02 14 47.7**	**+0.2**
	0.9nm,0.3s,baz=190,slow=22,SNR=5.8						
JAY				LR	LR	02 20 53.9	
	comp=Z,308nm,19.4s,baz=72,slow=39						
JAY	**Jayapura**	**14.51**	**288**	P	**Pn**	**02 14 48.6**	**+1.1**
	16nm,1.3s						
SANVU	**Saraoutou**	**14.90**	**124**	Pn	**Pn**	**02 14 52.6**	**-0.1**
CTA	**Charters Tower**	**15.09**	**211**	Pn	**Pn**	**02 14 53.8**	**-1.4**
	0.4nm,0.3s,baz=29,slow=14,SNR=3.6						
CTAO	**Charters Tower**	**15.09**	**211**	P	**Pn**	**02 14 53.2**	**-2.0**
CTAO				pmax	pmax		
	comp=Z,23nm,1.0s						
CTAO	**Charters Tower**	**15.09**	**211**	Pn	**Pn**	**02 14 53.2**	**-2.0**
EIDS	**Eidsvold**	**18.35**	**190**	P	**Pn**	**02 15 36.8**	**+0.6**
DZM	**Mont Dzumac**	**18.74**	**143**	P	**Pn**	**02 15 42.1**	**+1.0**
	comp=Z,3.7nm,0.3s,baz=332,slow=8.0,SNR=38						
DZM				LR	LR	02 21 51.9	
	comp=Z,218nm,20.3s,baz=204,slow=34						
DZM	**Mont Dzumac**	**18.74**	**143**	*e*P	**Pn**	**02 15 41.3**	**+0.2**
	comp=Z,36nm,0.6s						
DZM				*e*LR	LR	02 20 07.8	
	comp=Z,296nm,23.1s						
DZM	**Mont Dzumac**	**18.74**	**143**	P	**Pn**	**02 15 42.3**	**+1.3**
ONTNC	**Ouen Toro**	**18.93**	**144**	P	**P**	**02 15 42.7**	**+0.3**
ONTNC				IAmb	IAmb	02 15 44.9	
	comp=Z,80nm,1.3s						
OUENC	**Ouen Island, N**	**19.24**	**143**	P	**Pn**	**02 15 46.5**	**-0.5**
PINNC	**Pines Island,**	**19.75**	**142**	P	**Pn**	**02 15 52.5**	**-0.5**
TARA	**Tarawa**	**20.26**	**66**	P	**P**	**02 15 56.3**	**-0.7**
FAKI	**Fak Fak**	**22.56**	**280**	P	**P**	**02 16 21.5**	**-0.2**
	comp=Z,55nm,1.8s						
GUMO	**Guam**	**22.77**	**335**	LR	LR	02 25 30.6	
	comp=Z,50nm,18.2s,baz=134,slow=37						
WR0	**Warramunga Arr**	**23.13**	**235**	P	**P**	**02 16 25.8**	**-1.8**
WB0	**Warramunga Arr**	**23.15**	**235**	P	**P**	**02 16 26.5**	**-1.4**
WB0				IAmb	IAmb	02 16 28.2	
	comp=Z,41nm,0.9s						
ARMA	**Armidale**	**23.24**	**186**	P	**P**	**02 16 28.5**	**-0.2**
WRAB	**Tennant Creek**	**23.27**	**235**	*i* P	**P**	**02 16 28.1**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,42nm,0.7s						
WRAB	**Tennant Creek**	**23.27**	**235**	P	**P**	**02 16 27.8**	**-1.2**
WRAB				IAmb	IAmb	02 16 29.7	
	comp=Z,42nm,0.8s						
WB2	**Warramunga Arr**	**23.27**	**235**	P	**P**	**02 16 27.4**	**-1.7**
WB2				IAmb	IAmb	02 16 29.8	
	comp=Z,40nm,0.8s						
WRA	**Warramunga Arr**	**23.29**	**235**	P	**P**	**02 16 27.8**	**-1.4**
	comp=Z,196nm,0.6s,baz=58,slow=9.5,SNR=2.3						
WRA				LR	LR	02 25 01.3	
	comp=Z,139nm,21.9s,baz=55,slow=35						
WRA	**Warramunga Arr**	**23.29**	**235**	P	**P**	**02 16 29.1**	**-0.1**
WRA				pmax	pmax		
	comp=Z,25nm,0.6s						
WRA	**Warramunga Arr**	**23.29**	**235**	P	**P**	**02 16 29.1**	**-0.1**
WRA				IAmb	IAmb	02 16 30.1	
	comp=Z,25nm,0.6s						
MTN	**Manton Dam**	**23.66**	**254**	P	**P**	**02 16 31.7**	**-1.1**
MSVF	**Nonsavu**	**25.23**	**117**	P	**P**	**02 16 47.6**	**+0.3**
	comp=Z,5.8nm,0.8s,baz=272,slow=15,SNR=4.9						
AS31	**Alice Springs**	**25.66**	**228**	P	**P**	**02 16 49.5**	**-1.5**
ASAR	**Alice Springs**	**25.66**	**228**	P	**P**	**02 16 49.7**	**-1.3**
	comp=Z,13nm,0.9s,baz=61,slow=9.1,SNR=73						
ASAR				LR	LR	02 26 22.7	
	comp=Z,211nm,20.4s,baz=62,slow=35						
KNRA	**Kununurra**	**26.56**	**249**	P	**P**	**02 16 58.2**	**-1.0**
STKA	**Stephens Creek**	**27.33**	**204**	P	**P**	**02 17 04.4**	**-1.6**
	comp=Z,4.2nm,0.8s,baz=10,slow=10,SNR=6.7						
STKA				LR	LR	02 27 49.5	
	comp=Z,200nm,19.0s,baz=23,slow=36						

STKA	**Stephens Creek**	**27.33**	**204**	*e*P		**P**	**02 17 04.2**	**-1.8**		
STKA				pmax		pmax				
	comp=Z,4.0nm,0.8s									
H11S3	**WAKE ISLAND Hy**	**28.23**	**25**	T		T	02 45 54.0			
	baz=202,slow=75,SNR=11									
H11S2	**WAKE ISLAND Hy**	**28.24**	**25**	T		T	02 45 59.4			
	baz=202,slow=75,SNR=8.4									
H11S1	**WAKE ISLAND Hy**	**28.25**	**25**	T		T	02 46 10.7			
	baz=202,slow=75,SNR=7.1									
FITZ	**Fitzroy Crossi**	**30.11**	**246**	P		**P**	**02 17 29.5**	**-1.3**		
	comp=Z,9.0nm,0.7s,baz=86,slow=8.2,SNR=36									
FITZ	**Fitzroy Crossi**	**30.11**	**246**	P		**P**	**02 17 29.8**	**-1.0**		
EDFI	**Ende, Flores**	**32.52**	**265**	P		**P**	**02 17 50.6**	**-1.6**		
	comp=Z,17nm,0.9s									
KAPI	**Kappang**	**34.61**	**272**	P		**P**	**02 18 10.0**	**-0.3**		
	comp=Z,6.0nm,0.4s,baz=113,slow=4.5,SNR=5.5									
KAPI	**Kappang**	**34.61**	**272**	P		**P**	**02 18 09.6**	**-0.8**		
KAPI				pmax		pmax				
	comp=Z,31nm,1.1s									
KAPI	**Kappang**	**34.61**	**272**	P		**P**	**02 18 09.6**	**-0.8**		
KAPI				IAmb		IAmb	02 18 36.1			
	comp=Z,31nm,1.1s									
PSA00	**Pilbara Seismi**	**36.36**	**243**	P		**P**	**02 18 23.0**	**-2.3**		
JAGI	**Jajag, Banyuwa**	**39.97**	**265**	P		**P**	**02 18 52.5**	**-3.3**		
JAGI				IAmb		IAmb	02 19 05.0			
	comp=Z,44nm,1.2s									
PCJI	**Pacitan**	**42.92**	**266**	P		P	02 19 30.8	+11		
KPJI	**Karang Pucung**	**45.18**	**267**	P		P	02 19 49.5	+11		
KSRS	**Korea Array**	**50.90**	**333**	P		**P**	**02 20 21.7**	**-0.2**		
	comp=Z,4.9nm,0.8s,baz=147,slow=7.6,SNR=12									
KSRS				pP		**pP**	**02 20 31.8**	**+0.5**		
	comp=Z,5.7nm,0.9s,baz=152,slow=7.5,SNR=7.0									
KSRS	**Korea Array**	**50.90**	**333**	*e*P		**P**	**02 20 22.0**	**+0.1**		
KSRS				pmax		pmax				
	comp=Z,5.0nm,0.7s									
NJ2	**Nanjing**	**51.77**	**321**	*e*P		**P**	**02 20 30.5**	**+1.9**		
NJ2				pmax		pmax				
	comp=Z,15nm,0.6s									
USRK	**Ussuriysk Ar.**	**55.06**	**340**	P		**P**	**02 20 52.1**	**-0.4**		
	comp=Z,1.2nm,0.5s,baz=131,slow=5.3,SNR=5.0									
USRK				pP		**pP**	**02 21 02.5**	**+0.8**		
	comp=Z,3.4nm,0.7s,baz=192,slow=5.8,SNR=6.6									
USRK	**Ussuriysk Ar.**	**55.06**	**340**	P		**P**	**02 20 51.8**	**-0.8**		
USRK	**Ussuriysk Ar.**	**55.06**	**340**	P		**P**	**02 20 51.8**	**-0.8**		
MNSI	**Mandailing Nat**	**55.35**	**276**	P		P	02 21 05.4	+10		
SKNT	**Sakolnakorn**	**55.41**	**296**	P		**P**	**02 20 58.2**	**+2.6**		
TRSI	**Tarutung**	**56.17**	**277**	P		P	02 21 09.3	+8.1		
GSI	**Gunungsitoli**	**57.41**	**276**	P		**P**	**02 21 08.5**	**-1.5**		
BJI	**Beijing**	**58.82**	**326**	P		**P**	**02 21 22.0**	**+2.8**		
BJI				pmax		pmax				
	comp=Z,7.0nm,0.8s									
XAN	**Xi'an**	**59.52**	**317**	P		**P**	**02 21 24.3**	**0.0**		
XAN				pP		pP	02 21 34.5	+0.4		
XAN				pmax		pmax				
	comp=Z,7.0nm,1.0s									
KLR	**Kul'dur**	**59.62**	**343**	*i* P		**P**	**02 21 24.3**	**-0.3**		
KLR				pmax		pmax				
	comp=Z,14nm,1.3s									
PETK	**Petropavlovsk-**	**60.15**	**2**	P		**P**	**02 21 27.8**	**-0.3**		
	comp=Z,3.9nm,0.6s,baz=174,slow=8.4,SNR=6.8									
PETK				LR		LR	02 43 29.6			
	comp=Z,33nm,21.5s,baz=169,slow=32									
PETK	**Petropavlovsk-**	**60.15**	**2**	P		**P**	**02 21 27.5**	**-0.7**		
PETK	**Petropavlovsk-**	**60.15**	**2**	P		**P**	**02 21 27.5**	**-0.7**		
CM31	**Chiang Mai Arr**	**60.43**	**296**	P		**P**	**02 21 31.6**	**+0.8**		
CM31				IAmb		IAmb	02 21 51.5			
	comp=Z,14nm,1.1s									
CMAR	**Chiang Mai Arr**	**60.43**	**296**	P		**P**	**02 21 31.7**	**+1.0**		
	comp=Z,1.2nm,0.3s,baz=112,slow=4.5,SNR=7.6									
CMAR				pP		**pP**	**02 21 41.6**	**+1.2**		
	comp=Z,4.4nm,0.7s,baz=117,slow=5.5,SNR=3.7									
CMAR	**Chiang Mai Arr**	**60.43**	**296**	*e*P		**P**	**02 21 34.0**	**+3.2**		
CMAR				pmax		pmax				
	comp=Z,1.0nm,0.3s									
CMAR	**Chiang Mai Arr**	**60.43**	**296**	P		**P**	**02 21 30.7**	**0.0**		
CMMT	**Chiang Mai**	**60.54**	**296**	P		P	02 21 37.8	+6.2		
CHTO	**Chiang Mai**	**60.55**	**296**	P		**P**	**02 21 31.6**	**0.0**		
CHTO				pmax		pmax				
	comp=Z,14nm,1.3s									
CHTO	**Chiang Mai**	**60.55**	**296**	P		**P**	**02 21 31.6**	**0.0**		
CHTO				IAmb		IAmb	02 21 43.1			
	comp=Z,14nm,1.3s									
CHTO	**Chiang Mai**	**60.55**	**296**	P		P	02 21 42.9	+11		
HHC	**Hu-ho-hao-te**	**61.97**	**324**	*e*P		**P**	**02 21 44.8**	**+3.8**		
HHC				pmax		pmax				
	comp=Z,7.0nm,1.0s									
HHC				pmax		pmax				
	comp=Z,140nm,4.9s									
HIA	**Hailar**	**63.91**	**335**	*i* P		**P**	**02 21 53.6**	**+0.1**		
HIA				pmax		pmax				
	comp=Z,5.0nm,0.5s									
LZH	**Lanzhou**	**64.12**	**316**	*e*P		**P**	**02 22 00.0**	**+4.6**		
LZH				pP		pP	02 22 05.8	+0.5		
LZH				sP		sP	02 22 08.0	-0.3		
LZH				pmax		pmax				
	comp=Z,25nm,1.0s									
GTA	**Gaotai**	**68.56**	**317**	*e*P		**P**	**02 22 25.8**	**+2.1**		
GTA				pP		pP	02 22 32.3	-1.4		
GTA				sP		sP	02 22 35.5	-1.2		
GTA				pmax		pmax				
	comp=Z,5.0nm,1.5s									
GTA				pmax		pmax				
	comp=Z,60nm,4.5s									
GTA				LR		LR				
	comp=Z,330nm,16.4s									
GTA				LR		LR				
	comp=Z,280nm,17.8s									
GTA				LR		LR				
	comp=Z,140nm,16.7s									
ULN	**Ulaanbaatar**	**68.92**	**328**	*i* P		**P**	**02 22 26.2**	**+0.4**		
ULN				pmax		pmax				
	comp=Z,10.0nm,1.3s									
ULN	**Ulaanbaatar**	**68.92**	**328**	P		**P**	**02 22 26.0**	**+0.2**		
ULN				IAmb		IAmb	02 22 38.1			
	comp=Z,16nm,1.1s									
ULN	**Ulaanbaatar**	**68.92**	**328**	P		**P**	**02 22 29.8**	**+4.0**		
SONM	**Songino Array**	**69.25**	**328**	P		**P**	**02 22 29.0**	**+1.2**		
	comp=Z,3.5nm,0.6s,baz=141,slow=5.0,SNR=15									
SONM				pP		**pP**	**02 22 39.0**	**+1.6**		
	comp=Z,9.3nm,0.9s,baz=134,slow=6.3,SNR=14									
SONM	**Songino Array**	**69.25**	**328**	P		**P**	**02 22 28.2**	**+0.4**		
SONM				IAmb		IAmb	02 22 39.9			
	comp=Z,12nm,1.0s									
VNDA	**Vanda**	**70.38**	**178**	P		**P**	**02 22 34.5**	**+0.4**		
	comp=Z,1.5nm,0.8s,baz=318,slow=6.9,SNR=11									
VNDA	**Vanda**	**70.38**	**178**	P		**P**	**02 22 34.6**	**+0.4**		
YAK	**Yakutsk**	**71.66**	**348**	*i* P		**P**	**02 22 41.1**	**-0.9**		
YAK				pmax		pmax				
	comp=Z,21nm,0.5s									
ZAK	**Zakamensk**	**72.42**	**328**	*e*P		**P**	**02 22 46.2**	**-0.8**		
ZAK				pmax		pmax				
	comp=Z,8.0nm,1.5s									
TAPN	**Taplejung**	**73.09**	**301**	*e*P		**P**	**02 22 52.5**	**+0.8**		
	comp=Z,36nm,0.9s									
ODAN	**Odare**	**73.21**	**301**	*e*P		**P**	**02 22 53.1**	**+0.7**		
	comp=Z,63nm,0.7s									
JIRN	**Jiri**	**74.47**	**301**	*e*P		**P**	**02 23 00.5**	**+0.6**		
	comp=Z,27nm,0.7s									
PKI	**Pulchoki**	**75.11**	**301**	*e*P		**P**	**02 23 03.8**	**+0.3**		
PKIN	**Phulchoki**	**75.12**	**301**	*e*P		**P**	**02 23 03.7**	**+0.2**		
KKN	**Kakani**	**75.28**	**301**	*e*P		**P**	**02 23 04.7**	**+0.3**		
DMN	**Daman**	**75.38**	**301**	*e*P		**P**	**02 23 05.9**	**+0.9**		
	comp=Z,69nm,0.8s									
BILL	**Bilibino**	**75.53**	**5**	*e*P		**P**	**02 23 04.6**	**-0.1**		
BILL				pmax		pmax				
	comp=Z,14nm,0.9s									
GKN	**Gorkha**	**75.88**	**301**	*e*P		**P**	**02 23 08.1**	**+0.3**		
	comp=Z,51nm,0.8s									
KOLN	**Koldanda**	**76.70**	**301**	*e*P		**P**	**02 23 12.7**	**+0.2**		
	comp=Z,46nm,0.8s									
DANN	**Dangsing**	**76.72**	**301**	*e*P		**P**	**02 23 12.7**	**0.0**		
	comp=Z,30nm,0.8s									
PYUN	**Piuthan**	**77.31**	**301**	*e*P		**P**	**02 23 16.2**	**+0.3**		
	comp=Z,62nm,0.9s									
N18K	**Kilae Creek**	**78.00**	**23**	P		**P**	**02 23 20.6**	**+1.8**		
	baz=231									
WMQ	**Urumqi**	**78.64**	**317**	*e*P		**P**	**02 23 25.0**	**+2.2**		
WMQ				LR		LR				
	comp=Z,600nm,25.3s									
WMQ				LR		LR				
	comp=Z,780nm,29.0s									
M19K	**Big River Lodg**	**79.34**	**22**	P		**P**	**02 23 27.1**	**+1.0**		
	baz=232									
L19K	**White Mountain**	**79.34**	**22**	P		**P**	**02 23 26.7**	**+0.6**		
	baz=231									
L20K	**Farewell, AK**	**79.88**	**22**	P		**P**	**02 23 29.8**	**+0.7**		
	baz=232									
RC01	**Rabbit Creek A**	**80.66**	**24**	P		**P**	**02 23 33.2**	**-0.1**		
	baz=236									
J20K	**Nowinta River**	**80.84**	**20**	P		**P**	**02 23 35.0**	**+0.8**		
	baz=232									
DGZ	**Jazzator, Alta**	**81.01**	**323**	*i* P		**P**	**02 23 35.3**	**-0.3**		
DGZ				pmax		pmax				
	comp=Z,4.0nm,0.5s									
CAST	**Castle Rocks**	**81.11**	**21**	P		**P**	**02 23 35.1**	**-0.6**		
	baz=234									
SML	**Sawmill**	**81.62**	**24**	P		**P**	**02 23 38.6**	**+0.2**		
	baz=237									
ZSN	**Zaisan**	**81.79**	**320**	*e*P		**P**	**02 23 38.2**	**-1.5**		
	baz=320									
ZSN	**Zaisan**	**81.79**	**320**	*e*P		**P**	**02 23 38.1**	**-1.5**		
IMAR	**Indian Mountai**	**82.09**	**19**	P		**P**	**02 23 40.4**	**-0.4**		
WAT6	**Susitna Watana**	**82.27**	**23**	P		**P**	**02 23 41.7**	**-0.2**		
	baz=238									
MCK	**McKinley**	**82.44**	**22**	P		**P**	**02 23 41.9**	**-0.8**		
	baz=237									
MLY	**Manley**	**82.53**	**20**	P		**P**	**02 23 42.9**	**-0.2**		
	baz=235									
M24K	**Tolsona, Glenn**	**82.65**	**24**	P		**P**	**02 23 44.1**	**+0.3**		
	baz=239									
DHY	**Denali Highway**	**82.68**	**23**	P		**P**	**02 23 44.8**	**+0.7**		
	baz=238									
NEA2	**Nenana**	**82.87**	**21**	P		**P**	**02 23 43.8**	**-1.0**		
	baz=236									
I23K	**Minto, Yukon-K**	**83.08**	**21**	P		**P**	**02 23 45.6**	**-0.2**		
I23K				IAmb		IAmb	02 23 58.8			
	comp=Z,24nm,1.9s									
I23K	**Minto, Yukon-K**	**83.08**	**21**	P		**P**	**02 23 45.2**	**-0.6**		
	baz=236									
MK31	**Makanchi Array**	**83.24**	**319**	P		**P**	**02 23 48.0**	**+0.8**		
MK31				pmax		pmax				
	comp=Z,6.0nm,0.9s									
MK31	**Makanchi Array**	**83.24**	**319**	P		**P**	**02 23 48.0**	**+0.8**		
MKAR	**Makanchi Array**	**83.24**	**319**	P		**P**	**02 23 47.4**	**+0.2**		
	comp=Z,3.5nm,0.7s,baz=101,slow=4.6,SNR=15									
MKAR				pP		**pP**	**02 23 58.2**	**+1.3**		
	comp=Z,8.6nm,0.9s,baz=108,slow=4.5,SNR=11									
MKAR	**Makanchi Array**	**83.24**	**319**	P		**P**	**02 23 47.9**	**+0.7**		
MKAR	**Makanchi Array**	**83.24**	**319**	P		**P**	**02 23 47.9**	**+0.7**		
GLB	**Gilahina Butte**	**83.30**	**25**	P		**P**	**02 23 47.4**	**+0.2**		
MDM	**Murphy Dome**	**83.37**	**21**	P		**P**	**02 23 47.3**	**-0.2**		
MDM				IAmb		IAmb	02 23 52.1			
	comp=Z,7.8nm,1.1s									
TCOL	**CIGO, UAF Yank**	**83.46**	**21**	P		**P**	**02 23 46.9**	**-0.9**		
	baz=238									
HDA	**Harding Lake**	**83.54**	**22**	P		**P**	**02 23 47.3**	**-1.0**		
	baz=238									
IL31		**83.76**	**22**	P		**P**	**02 23 48.0**	**-1.3**		
ILAR	**Eielson Array**	**83.76**	**22**	P		**P**	**02 23 47.7**	**-1.7**		
	comp=Z,4.4nm,0.8s,baz=255,slow=5.0,SNR=27									
ILAR				LR		LR	02 56 54.9			
	comp=Z,60nm,19.5s,baz=228,slow=33									
ILAR	**Eielson Array**	**83.76**	**22**	P		**P**	**02 23 48.6**	**-0.8**		
ILAR	**Eielson Array**	**83.76**	**22**	P		**P**	**02 23 48.6**	**-0.8**		
H24K	**Noodor Dome**	**83.97**	**20**	P		**P**	**02 23 49.8**	**-0.8**		
H24K				IAmb		IAmb	02 23 52.5			
	comp=Z,6.2nm,1.1s									
H24K	**Noodor Dome**	**83

LHV	**Little Huntoon**	**92.07**	**52**	P		**P**	02 24 30.8	**+0.9**
RYN	**Ryan**	**92.10**	**52**	P		**P**	**02 24 30.8**	**+0.5**
RYN				IAmb		IAmb	02 24 32.0	
	comp=Z,8.6nm,1.0s							
CWC	**Cottonwood Cre**	**92.17**	**54**	P		**P**	**02 24 31.7**	**+1.0**
	baz=263							
BFSC	**Mount Baldy Ra**	**92.23**	**56**	P		**P**	**02 24 31.9**	**+0.9**
	baz=263							
BRVK	**Borovoye**	**92.23**	**323**	*i* P		**P**	**02 24 29.2**	**-1.2**
BRVK				pmax		pmax		
	comp=Z,23nm,5.6s							
NVAR	**Mina Array Bea**	**92.25**	**52**	P		**P**	**02 24 31.9**	**+0.7**
	comp=Z,6.9nm,0.9s,baz=253,slow=6.5,SNR=42							
NVAR	**Mina Array Bea**	**92.25**	**52**	P		**P**	**02 24 31.6**	**+0.5**
NV11	**Mina Array Sit**	**92.36**	**52**	P		**P**	**02 24 31.8**	**+0.2**
LRMC	**Laurel Mtn Rad**	**92.37**	**55**	P		**P**	**02 24 33.1**	**+1.5**
	baz=263							
KVN	**Kaiserville**	**92.48**	**51**	P		**P**	**02 24 32.5**	**+0.3**
KVN				pmax		pmax		
	comp=Z,11nm,1.1s							
KVN	**Kaiserville**	**92.48**	**51**	P		**P**	**02 24 32.5**	**+0.3**
MPMC	**Manual Prospec**	**92.59**	**54**	P		**P**	**02 24 33.9**	**+1.1**
	baz=263							
PNT	**Penticton**	**92.74**	**41**	P		P	02 24 27.0	-5.9
PNT				pmax		pmax		
	comp=Z,7.0nm,0.9s							
GRAC	**Grapevine Rang**	**92.81**	**53**	P		**P**	**02 24 34.9**	**+1.4**
	baz=263							
GSC	**Goldstone, Bar**	**93.06**	**55**	P		**P**	**02 24 36.1**	**+1.3**
	baz=263							
QSM	**Queen of Sheba**	**93.08**	**54**	P		**P**	**02 24 35.0**	**+0.2**
QSM				IAmb		IAmb	02 24 36.4	
	comp=Z,8.6nm,0.9s							
FURC	**Furnace Creek,**	**93.15**	**54**	P		**P**	**02 24 36.5**	**+1.5**
	baz=263							
GWY	**Greenwater Val**	**93.27**	**54**	P		**P**	**02 24 35.5**	**-0.3**
GWY				IAmb		IAmb	02 24 37.3	
	comp=Z,4.5nm,0.9s							
BMN	**Battle Mountai**	**93.32**	**50**	P		**P**	**02 24 36.2**	**+0.2**
BMN				pmax		pmax		
	comp=Z,7.0nm,1.0s							
BMN	**Battle Mountai**	**93.32**	**50**	P		**P**	**02 24 36.2**	**+0.2**
BMN				IAmb		IAmb	02 24 37.6	
	comp=Z,6.5nm,1.0s							
HEC	**Hector,Ludlow**	**93.39**	**55**	P		**P**	**02 24 37.3**	**+1.0**
	baz=264							
BELC	**Belle Mtn. Jos**	**93.58**	**56**	P		**P**	**02 24 38.6**	**+1.4**
	baz=264							
TPNV	**Topopah Spring**	**93.69**	**53**	P		**P**	**02 24 38.2**	**+0.4**
TPNV				pmax		pmax		
	comp=Z,6.0nm,0.8s							
TPNV	**Topopah Spring**	**93.69**	**53**	P		**P**	**02 24 38.2**	**+0.4**
TPNV				IAmb		IAmb	02 24 39.5	
	comp=Z,6.0nm,0.8s							
TPNV	**Topopah Spring**	**93.69**	**53**	P		**P**	**02 24 38.9**	**+1.2**
	baz=264							
TUQ	**Turquoise Moun**	**93.79**	**55**	P		**P**	**02 24 39.2**	**+1.0**
	baz=264							
BC3	**Big Chuckawall**	**93.99**	**57**	P		**P**	**02 24 40.5**	**+1.3**
	baz=264							
IRM	**Iron Mountain**	**94.30**	**56**	P		**P**	**02 24 42.0**	**+1.5**
	baz=264							
R11A	**Troy Canyon, C**	**94.36**	**52**	P		**P**	**02 24 40.7**	**-0.1**
R11A				IAmb		IAmb	02 24 42.5	
	comp=Z,5.3nm,1.1s							
R11A	**Troy Canyon, C**	**94.36**	**52**	P		**P**	**02 24 41.7**	**+0.9**
	baz=264							
ELK	**Elko**	**94.85**	**50**	P		**P**	**02 24 43.2**	**+0.1**
ELK				pmax		pmax		
	comp=Z,4.0nm,1.3s							
ELK	**Elko**	**94.85**	**50**	P		**P**	**02 24 43.2**	**+0.1**
SPR3	**Spring Creek 3**	**95.39**	**51**	P		**P**	**02 24 46.4**	**+0.7**
SPR3				IAmb		IAmb	02 24 47.5	
	comp=Z,11nm,1.2s							
KNB	**Kanab**	**96.43**	**54**	P		**P**	**02 24 52.1**	**+1.8**
KNB				pmax		pmax		
	comp=Z,5.0nm,1.1s							
KNB	**Kanab**	**96.43**	**54**	P		**P**	**02 24 52.1**	**+1.8**
KNB				IAmb		IAmb	02 24 53.2	
	comp=Z,4.6nm,1.1s							
YKA	**Yellowknife Ar**	**96.76**	**28**	P		**P**	**02 24 50.8**	**-0.1**
	comp=Z,2.8nm,0.8s,baz=268,slow=3.1,SNR=5.4							
YKA				LR		LR	03 04 29.5	
	comp=Z,17nm,21.1s,baz=0.0,slow=33							
U15A	**North Rim**	**96.81**	**54**	P		**P**	**02 24 53.0**	**+0.8**
PKCU	**Pink Cliffs**	**96.86**	**53**	P		**P**	**02 24 54.5**	**+2.0**
PKCU				IAmb		IAmb	02 24 56.1	
	comp=Z,6.8nm,1.1s							
MTPU	**Mount Pierson**	**97.00**	**53**	P		Pdif	02 24 54.3	+1.0
MTPU				IAmb		IAmb	02 24 55.7	
	comp=Z,4.6nm,0.9s							
PDAR	**Pinedale Array**	**99.21**	**48**	P		**Pdif**	**02 25 01.9**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=199,slow=1.3,SNR=5.2							
PDAR				LR		LR	03 02 47.4	
	comp=Z,28nm,20.1s,baz=256,slow=31							
ARU	**Arti**	**99.24**	**326**	P		**Pdif**	**02 24 59.4**	**-2.8**
ARU							02 29 01.5	
ARU				S		**SKSac**	**02 35 37.7**	**+0.2**
ARU				SS		**SS**	**02 43 14.3**	**-6.0**
SNAA	**Sanae**	**99.87**	**187**	*i* P		**Pdif**	**02 25 04.9**	**0.0**
SNAA				pmax		pmax		
	comp=Z,12nm,3.5s							
VNA2	**Neumayer--Watz**	**101.08**	**186**	Pdiff		**Pdif**	**02 25 10.9**	**+0.7**
OBN	**Obninsk**	**111.66**	**327**	*i* PKIKP		**PKiKP**	**02 29 54.4**	**-0.5**
OBN				pmax		pmax		
	comp=Z,5.0nm,1.2s							
AKASG	**Malin Array Be**	**117.42**	**324**	PKP		**PKPdf**	**02 30 06.0**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=65,slow=2.3,SNR=5.5							
AKASG	**Malin Array Be**	**117.42**	**324**			**PKPdf**	**02 30 05.5**	**-0.6**
KHC	**Kasperske Hory**	**126.86**	**329**	*e*PKIKP		**PKiKP**	**02 30 25.5**	**+0.6**
KHC	**Kasperske Hory**	**126.86**	**329**	*e*PKPDF		**PKiKP**	**02 30 25.5**	**+0.6**
GERES	**GERESS Array B**	**126.98**	**328**	PKP		**PKiKP**	**02 30 25.4**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=64,slow=3.1,SNR=6.9							
GERES	**GERESS Array B**	**126.98**	**328**	PKPdf		**PKPdf**	**02 30 24.6**	**-0.1**
LPAZ	**La Paz**	**131.79**	**119**	PKP		**PKiKP**	**02 30 36.4**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=223,slow=0.7,SNR=7.4							
LPAZ	**La Paz**	**131.79**	**119**	*e*PKIKP		**PKiKP**	**02 30 36.6**	**+0.2**
LPAZ				pmax		pmax		
	comp=Z,2.0nm,0.6s							
PMRV	**Marv??o**	**144.02**	**336**	*e*PKPdf		PKPbc	02 30 55.4	+1.0
PBAR	**Barrancos**	**144.93**	**334**	*e*PKPdf		**PKPdf**	**02 30 58.3**	**+0.2**
EVO	**Evora**	**145.04**	**336**	*e*PKPdf		**PKPdf**	**02 30 58.6**	**+0.3**
PBEJ	**Beja**	**145.41**	**335**	*e*PKPdf		**PKPab**	**02 31 00.0**	**+1.0**
PNCL	**Nicolau / Gran**	**145.61**	**336**	*e*PKPdf		**PKPab**	**02 31 00.4**	**+0.7**
MESJ	**Messejana**	**145.71**	**335**	*e*PKPdf		**PKPdf**	**02 30 58.9**	**-0.5**
MESJ	**Messejana**	**145.71**	**335**	*e*PKPab		**PKPdf**	**02 30 59.0**	**-0.5**
PCVE	**Castro Verde**	**145.81**	**335**	*e*PKPab		**PKPab**	**02 31 01.3**	**+0.8**
PVAQ	**Vaqueiros**	**145.87**	**334**	*e*PKPab		**PKPab**	**02 31 01.3**	**+0.6**
PTEO	**Sao Teotonio**	**146.17**	**336**	*e*PKPab		**PKPab**	**02 31 02.3**	**+0.4**
MORF	**Marmelete**	**146.35**	**335**	*e*PKPab		**PKPab**	**02 31 02.8**	**+0.2**
PFVI	**Vila Bisbo**	**146.57**	**335**	*e*PKPab		**PKPab**	**02 31 03.6**	**+0.2**
BDFB	**Brasilia**	**148.18**	**136**	PKPbc		**PKPbc**	**02 31 07.4**	**-0.2**
	comp=Z,4.6nm,0.7s,baz=285,slow=0.9,SNR=8.2							
TORD	**Torodi Ar. Bea**	**152.60**	**285**	PKPbc		**PKPbc**	**02 31 17.8**	**-0.3**
	comp=Z,3.4nm,0.7s,baz=77,slow=2.1,SNR=28							
TORD				PKPab		**PKPab**	**02 31 28.1**	**-0.5**
	comp=Z,3.2nm,0.8s,baz=54,slow=2.3,SNR=7.0							

*TUL **30** 02:28:21.1±1.3,36°.76N±0°.01×98°.07W±0°.02,h6km±5km, ML2.7,mb_Lg2.4/25(NEIC),Error ellipse: s-maj=2.2km s-min=1.6km az=100.0*

NEIC 30 02:28:21.3±0.8,36°.75N±0°.01×98°.06W±0°.02,h12km±2km, Error ellipse: s-maj=2.5km s-min=1.7km az=109.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.14**	**293**	Pg	Pg	02 28 24.1	-0.6
OK032				Sg	Sg	02 28 26.2	-0.9
GC02	**Grant County #**	**0.19**	**57**	Pg	Pg	02 28 25.4	-0.1
GC02				Sg	Sg	02 28 28.4	0.0
KAN14	**Manchester OK**	**0.22**	**20**	Pg	Pg	02 28 25.8	-0.2
KAN14				Sg	Sg	02 28 29.1	-0.2
CROK	**Carrier**	**0.25**	**167**	Pg	Pg	02 28 26.5	-0.1
CROK				Sg	Sg	02 28 30.3	+0.1
KAN10	**Anthony SW Sta**	**0.37**	**355**	Pg	Pg	02 28 28.6	-0.3
KAN10				Sg	Sg	02 28 33.9	0.0
KAN17	**Caldwell West**	**0.38**	**38**	Pg	Pg	02 28 28.7	-0.1
KAN17				Sg	Sg	02 28 34.0	+0.1
KAN05	**Bluff City Nor**	**0.39**	**22**	Pg	Pg	02 28 28.8	-0.3
KAN05				Sg	Sg	02 28 34.3	0.0
KAN16	**Harper SW Stat**	**0.47**	**359**	Pg	Pg	02 28 30.4	-0.3
KAN16				Sg	Sg	02 28 37.1	+0.1
KAN08	**Anthony NE Sta**	**0.48**	**8**	Pg	Pg	02 28 30.5	-0.3
KAN08				Sg	Sg	02 28 37.1	-0.1
KAN06	**Argonia West S**	**0.52**	**18**	Pg	Pg	02 28 31.2	-0.3
KAN06				Sg	Sg	02 28 38.5	0.0
KAN09	**Caldwell North**	**0.52**	**42**	Pg	Pg	02 28 31.3	-0.2
KAN09				Sg	Sg	02 28 38.5	0.0
KAN13	**South Haven SW**	**0.53**	**60**	Pg	Pg	02 28 31.5	-0.3
KAN13				Sg	Sg	02 28 39.1	+0.2
KAN12	**Harper NE Stat**	**0.55**	**5**	Pg	Pg	02 28 31.9	-0.2
KAN12				Sg	Sg	02 28 39.4	0.0
KS20	**Mayfield South**	**0.62**	**40**	Pg	Pg	02 28 32.9	-0.7
KS20				Sg	Sg	02 28 41.7	-0.1
BLOK	**Blackwell**	**0.68**	**89**	Pg	Pg	02 28 34.1	-0.4
BLOK				Sg	Sg	02 28 43.6	+0.3
U32A	**Winter Ranch,**	**0.85**	**244**	Pg	Pg	02 28 36.9	-0.8
U32A				Sg	Sg	02 28 48.2	-0.6
OK029	**Liberty Lake**	**1.07**	**153**	Pb	Pb	02 28 41.4	-0.4
BCOK	**Bluff Creek, N**	**1.15**	**162**	Pg	Pb	02 28 42.4	-0.8
BCOK				Sg	Sb	02 28 58.2	+0.2
QUOK	**Quay**	**1.23**	**118**		Pn	02 28 44.1	-0.2
QUOK				Sg	Sb	02 29 00.5	+0.1
T35A	**Sooner Cattle**	**1.25**	**82**		Pn	02 28 44.4	-0.2
OK031	**S. Brethren Rd**	**1.26**	**129**		Pn	02 28 44.7	-0.1
OK025	**Westminster Rd**	**1.30**	**153**		Pn	02 28 45.5	+0.1
OK030	**Cody Creek RV**	**1.31**	**128**	Pn	Pb	02 28 45.9	-0.1
OKCFA	**Oklahoma City**	**1.42**	**160**	Pn	Pn	02 28 47.0	+0.1
FNO	**Franklin**	**1.58**	**160**	Pn	Pn	02 28 49.8	+0.6
R32A	**Long Quarter,**	**1.75**	**343**	lAmb_Lg		02 29 18.8	
	comp=Z,18nm,1.2s						
TUL1	**Leonard**	**2.01**	**114**	lAmb_Lg		02 29 28.8	
	comp=Z,15nm,0.8s						
WMOK	**Wichita Mounta**	**2.09**	**197**	Pn	Pn	02 28 57.2	+1.0
X34A	**Smith Ranch, M**	**2.15**	**175**	Pn	Pn	02 28 58.1	+1.1
CBKS	**Cedar Bluff**	**2.45**	**328**	Pn	Pn	02 29 01.3	+0.1
KSU1	**Kansas State U**	**2.61**	**26**	lAmb_Lg		02 29 46.8	
	comp=Z,12nm,0.8s						
U38A	**Gravette**	**2.97**	**95**	Pn	Pn	02 29 09.2	+1.0
X37A	**Clayton**	**3.07**	**134**	Pn	Pn	02 29 11.1	+1.5
HHAR	**Hobbs**	**3.35**	**97**	Pn	Pn	02 29 14.5	+1.0
HHAR				lAmb_Lg		02 30 12.6	
	comp=Z,9.2nm,0.8s						
S39A	**Bolivar**	**3.89**	**75**	Pn	Pn	02 29 21.7	+0.7
U40A	**Yellville**	**4.21**	**94**	lAmb_Lg		02 30 38.3	
	comp=Z,9.5nm,0.7s						
MIAR	**Mount Ida**	**4.26**	**120**	Pn	Pn	02 29 27.2	+1.2
MIAR				lAmb_Lg		02 30 37.9	
	comp=Z,8.0nm,1.0s						
KSCO	**Kaye Shedlock'**	**4.26**	**303**	lAmb_Lg		02 30 41.6	
	comp=Z,8.5nm,0.7s						
P38A	**Dawn**	**4.58**	**50**	Pn	Pn	02 29 30.4	+0.1
MGMO	**Mountain Grove**	**4.65**	**83**	Pn	Pn	02 29 32.8	+1.4
X40A	**Basin Creek Fa**	**4.82**	**116**	Pn	Pn	02 29 34.9	+1.3
X40A				lAmb_Lg		02 30 56.1	
	comp=Z,8.9nm,0.7s						
R40A	**Maddies Statio**	**4.85**	**70**	Pn	Pn	02 29 34.6	+0.5
R40A				lAmb_Lg		02 31 01.7	
	comp=Z,4.9nm,0.7s						
WHAR	**Wooly Hollow**	**4.90**	**106**	lAmb_Lg		02 31 06.3	
	comp=Z,11nm,1.2s						
T25A	**Trinidad**	**5.11**	**276**	lAmb_Lg		02 31 04.7	
	comp=Z,7.9nm,0.8s						
OGNE	**Ogallala**	**5.21**	**325**	Pn	Pn	02 29 40.6	+1.4
OGNE				lAmb_Lg		02 31 15.7	
	comp=Z,8.6nm,0.7s						
P40A	**Paris**	**5.49**	**58**	lAmb_Lg		02 31 19.8	
	comp=Z,6.9nm,1.0s						

*JMA **30** 02:53:45.1±0.1,38°.48N×141°.91E,h61km±1km,M3.8*
JMA Felt II J1.
*NEIC **30** 02:53:45.4±1.2,38°.48N±0°.05×141°.9E±0°.1,h61km±8km, mb4.5/3,Error ellipse: s-maj=11.7km s-min=6.8km az=100.0*
*IDC **30** 02:53:46.9±4.1,38°.23N×141°.71E,h93km±41km,mb3.5/4, mb1 3.7/5,mb1mx3.3/31,mbtmp3.8/5,MS3.2/2,Ms1 3.2/2, ms1mx2.4/53,Error ellipse: s-maj=48.5km s-min=26.1km az=101.0*

ISC 30 02:53:44.3±1.0,38°.44N±0°.05×141°.98E±0°.07,h59km±8km, n49,σ1°.07/57,mb4.4/8,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.43**	**252**	P	**Pn**	**02 53 56.1**	**+0.6**
JIKH				S	**Sn**	**02 54 03.9**	**+0.4**
JIO	**Ouri**	**0.50**	**272**	P	**Pn**	**02 53 56.7**	**+0.5**
JIO				S	**Sn**	**02 54 04.8**	**0.0**
JKMT	**Kesennumamotoy**	**0.54**	**313**	P	**Pn**	**02 53 57.1**	**+0.4**
JKMT				S	**Sn**	**02 54 05.5**	**-0.2**
OFUJ	**Ofunato**	**0.68**	**339**	P	**Pn**	**02 53 58.8**	**+0.5**
OFUJ				S	**Sn**	**02 54 08.5**	**-0.1**
JMK	**Ichinoseki**	**0.79**	**311**	P	**Pn**	**02 54 00.0**	**+0.4**
JMK				S	**Sn**	**02 54 10.7**	**-0.1**
JOU	**Okura**	**1.04**	**266**	P	**Pn**	**02 54 03.1**	**+0.2**
JOU				S	**Sn**	**02 54 16.3**	**-0.3**
JMM	**Marumori**	**1.10**	**239**	P	**Pn**	**02 54 03.9**	**+0.3**
JMM				S	**Sn**	**02 54 17.6**	**-0.3**
JMM	**Marumori**	**1.10**	**239**	Pn	**Pn**	**02 54 03.8**	**+0.1**
JMM				Sn	**Sn**	**02 54 17.7**	**-0.3**
JOM	**Ohasama**	**1.16**	**333**	P	**Pn**	**02 54 04.8**	**+0.3**
JOM				S	**Sn**	**02 54 19.5**	**0.0**
JYK	**Kaneyama**	**1.36**	**291**	P	**Pn**	**02 54 07.4**	**+0.3**
JYK				S	**Sn**	**02 54 24.2**	**+0.1**
JFK	**Kawauchi**	**1.39**	**220**	P	**Pn**	**02 54 08.0**	**+0.5**
JFK				S	**Sn**	**02 54 25.0**	**+0.2**
JRG	**Rokugo**	**1.42**	**313**	P	**Pn**	**02 54 08.1**	**+0.2**
JYS	**Shirataka**	**1.52**	**262**	P	**Pn**	**02 54 09.9**	**+0.6**
JYS				S	**Sn**	**02 54 28.7**	**+0.6**
JFT	**Otama**	**1.59**	**235**	P	**Pn**	**02 54 11.3**	**+1.0**
JFT				S	**Sn**	**02 54 30.2**	**+0.3**
JTM	**Tenmabayashi**	**2.45**	**343**	Pn	**Pn**	**02 54 22.4**	**+0.5**
JYT	**Yasato**	**2.63**	**213**	Pn	**Pn**	**02 54 25.1**	**+0.8**
JSD	**Sado**	**2.96**	**263**	Pn	**Pn**	**02 54 29.2**	**+0.3**
MJAR	**Matsushiro Arr**	**3.55**	**239**	P	**Pn**	**02 54 36.8**	**-0.1**
	0.3nm,0.3s,baz=77,slow=18,SNR=8.2						
MJAR	**Matsushiro Arr**	**3.55**	**239**	Pn	**Pn**	**02 54 37.9**	**+1.0**
MAJO	**Matsushiro**	**3.55**	**239**	Pn	**Pn**	**02 54 39.1**	**+2.1**
MAT	**Matsushiro**	**3.55**	**239**	P	**Pn**	**02 54 39.1**	**+2.1**
MAT				*e*S	**Sn**	**02 55 18.1**	**+0.4**
MJB9	**Matsu-Tunnel**	**3.55**	**239**	Pn	**Pn**	**02 54 38.4**	**+1.4**
ERM	**Erimo**	**3.68**	**14**	Pn	**Pn**	**02 54 38.7**	**0.0**
JHJ	**Hachijo jima 2**	**5.60**	**199**	S	**Sn**	**02 56 04.9**	**-3.2**
	16nm,0.3s,baz=113,slow=22,SNR=5.6						
ASAJ	**Asahikawa**	**5.69**	**4**	P	**Pn**	**02 55 06.3**	**+0.2**
	1.2nm,0.3s,baz=270,slow=13,SNR=2.3						
ASAJ				S	**Sn**	**02 56 06.9**	**-3.2**
	2.1nm,0.3s,baz=90,slow=32,SNR=6.1						
JKA	**Kamikawa-asahi**	**5.69**	**4**		**Pn**	**02 55 06.0**	**-0.2**
USA0B	**Ussuriysk Arra**	**9.46**	**311**	Pn	**Pn**	**02 55 59.0**	**+1.2**
USRK	**Ussuriysk Ar.**	**9.46**	**311**	P	**Pn**	**02 55 58.8**	**+1.0**
	baz=120,slow=14,SNR=8.6						
USRK	**Ussuriysk Ar.**	**9.46**	**311**		**Pn**	**02 55 58.5**	**+0.7**
SEY	**Seymchan**	**25.32**	**11**	LR	LR	03 09 36.1	
	comp=Z,51nm,18.6s,baz=74,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.52**	**124**	T	T	03 30 00.7	
	baz=316,slow=76,SNR=128						
H11N1	**WAKE ISLAND Hy**	**28.52**	**124**	T	T	03 29 53.5	
	baz=316,slow=76,SNR=137						
H11N3	**WAKE ISLAND Hy**	**28.53**	**124**	T	T	03 29 54.4	
	baz=316,slow=76,SNR=94						
H11S1	**WAKE ISLAND Hy**	**29.28**	**126**	T	T	03 30 50.7	
	baz=318,slow=76,SNR=62						
H11S3	**WAKE ISLAND Hy**	**29.28**	**126**	T	T	03 30 51.2	
	baz=318,slow=76,SNR=73						
H11S2	**WAKE ISLAND Hy**	**29.30**	**126**	T	T	03 30 52.8	
	baz=318,slow=76,SNR=50						
MAKZ	**Makanchi**	**43.98**	**301**	P	**P**	**03 01 44.1**	**-1.4**
MAKZ				lAmb	lAmb	03 01 53.8	
	comp=Z,4.8nm,0.6s						
ILAR	**Eielson Array**	**48.07**	**33**	P	**P**	**03 02 17.9**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=265,slow=5.7,SNR=6.1						
ABKAR	**Akbulak array**	**57.39**	**310**	P	**P**	**03 03 26.0**	**-0.4**
WR0	**Warramunga Arr**	**58.51**	**188**	P	**P**	**03 03 34.7**	**+0.2**
WR0				lAmb	lAmb	03 03 58.6	
	comp=Z,9.4nm,1.4s						
WRA	**Warramunga Arr**	**58.52**	**188**	P	**P**	**03 03 30.9**	**-3.7**
	comp=Z,2μm,1.0s,baz=5.4,slow=7.0,SNR=1.5						
WRA				LR	LR	03 29 57.0	
	comp=Z,15nm,18.2s,baz=215,slow=37						
FINES	**FINESS Array B**	**67.78**	**332**	P	**P**	**03 04 35.1**	**-0.3**
	comp=Z,3.4nm,0.9s,baz=35,slow=5.1,SNR=4.2						
FINES	**FINESS Array B**	**67.78**	**332**	P	**P**	**03 04 35.5**	**+0.1**
PDAR	**Pinedale Array**	**76.36**	**46**	P	**P**	**03 05 28.2**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=270,slow=1.3,SNR=7.5						
PDAR	**Pinedale Array**	**76.36**	**46**	P	**P**	**03 05 28.4**	**+1.0**
BUR08	**Bucovina Ar. S**	**77.48**	**322**	P	**P**	**03 05 34.0**	**+0.6**
BUR08				lAmb	lAmb	03 05 40.3	
	comp=Z,7.9nm,1.4s						
BURAR	**Bucovina Array**	**77.49**	**322**	P	**P**	**03 05 33.7**	**+0.3**
TXAR	**Lajitas Array**	**88.91**	**53**	P	**P**	**03 06 33.9**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=316,slow=4.0,SNR=4.1						
TXAR	**Lajitas Array**	**88.91**	**53**	P	**P**	**03 06 33.3**	**+0.7**

*TUL **30** 02:58:29.7±1.2,36°.71N±0°.01×98°.10W±0°.01,h6km±4km, ML2.5,mb_Lg2.3/9(NEIC),Error ellipse: s-maj=1.9km s-min=1.3km az=142.0*

NEIC 30 02:58:29.9±0.8,36°.69N±0°.01×98°.09W±0°.02,h10km±2km, Error ellipse: s-maj=2.6km s-min=1.5km az=124.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.14**	**320**		Pg	02 58 32.8	-0.4
OK032				Sg	Sg	02 58 34.9	-0.6
CROK	**Carrier**	**0.21**	**155**	Pg	Pg	02 58 34.6	+0.4
CROK				Sg	Sg	02 58 37.9	+0.7
GC02	**Grant County #**	**0.24**	**50**		Pg	02 58 34.9	0.0
GC02				Sg	Sg	02 58 38.6	+0.3
KAN14	**Manchester OK**	**0.28**	**22**	Pg	Pg	02 58 35.4	-0.3
KAN14				Sg	Sg	02 58 39.5	0.0
KAN10	**Anthony SW Sta**	**0.43**	**360**		Pg	02 58 38.0	-0.3
KAN10				Sg	Sg	02 58 44.0	0.0
KAN17	**Caldwell West**	**0.44**	**37**		Pg	02 58 38.3	-0.2
KAN17				Sg	Sg	02 58 44.4	+0.1
KAN05	**Bluff City Nor**	**0.45**	**23**	Pg	Pg	02 58 38.4	-0.3
KAN16	**Harper SW Stat**	**0.53**	**2**	Pg	Pg	02 58 39.9	-0.4
KAN16				Sg	Sg	02 58 47.2	0.0
KAN09	**Caldwell North**	**0.58**	**41**		Pg	02 58 40.9	-0.3
KAN09				Sg	Sg	02 58 48.8	-0.1
KAN06	**Argonia West S**	**0.58**	**19**	Pg	Pg	02 58 40.8	-0.4
KS20	**Mayfield South**	**0.69**	**39**	Pg	Pg	02 58 42.5	-0.6
BLOK	**Blackwell**	**0.71**	**84**	Pg	Pg	02 58 43.2	-0.3
U32A	**Winter Ranch,**	**0.80**	**247**	Pg	Pg	02 58 44.8	-0.5
U32A				Sg	Sg	02 58 55.8	+0.2
OK029	**Liberty Lake**	**1.03**	**150**	Pg	Pg	02 58 49.1	-0.6
BCOK	**Bluff Creek, N**	**1.11**	**159**	Pg	Pb	02 58 50.5	-0.6
QUOK	**Quay**	**1.23**	**115**		Pn	02 58 52.8	-0.3
OK031	**S. Brethren Rd**	**1.25**	**126**		Pn	02 58 53.2	-0.2
OK025	**Westminster Rd**	**1.27**	**151**	Pn	Pn	02 58 53.7	+0.1
T35A	**Sooner Cattle**	**1.29**	**80**		Pn	02 58 53.9	-0.1
OK030	**Cody Creek RV**	**1.30**	**125**		Pn	02 58 54.1	0.0
FNO	**Franklin**	**1.54**	**158**	Pn	Pb	02 58 58.3	-0.2
WMOK	**Wichita Mounta**	**2.03**	**196**	Pn	Pn	02 59 05.2	+1.1
CBKS	**Cedar Bluff**	**2.49**	**329**	lAmb_Lg		02 59 47.2	
	comp=Z,8.5nm,0.8s						
U38A	**Gravette**	**3.00**	**94**	Pn	Pn	02 59 18.6	+1.2
X37A	**Clayton**	**3.05**	**133**	Pn	Pn	02 59 19.7	+1.5
HHAR	**Hobbs**	**3.37**	**96**	Pn	Pn	02 59 22.9	+0.3
AMTX	**Amarillo**	**3.43**	**239**	lAmb_Lg		03 00 23.1	
	comp=Z,7.2nm,1.0s						
S39A	**Bolivar**	**3.94**	**74**	lAmb_Lg		03 00 37.1	
	comp=Z,7.5nm,0.9s						
U40A	**Yellville**	**4.23**	**93**	lAmb_Lg		03 00 47.7	
	comp=Z,5.6nm,0.8s						
PBMO	**Poplar Bluff**	**6.16**	**87**	lAmb_Lg		03 01 44.4	
	comp=Z,4.5nm,0.7s						

**ID

BKZ	**Black Stump Fm**	**15.83**	**190**	P		**P**	**03 56 20.1**	**-1.7**
BKZ				IAmb		IAmb	03 56 28.5	
	comp=Z,4.6nm,0.7s							
QRZ	**Quartz Range**	**18.32**	**198**	P		**P**	**03 56 46.5**	**+1.3**
THZ	**Tophouse**	**19.09**	**197**	P		**P**	**03 56 53.3**	**+1.0**
THZ				IAmb		IAmb	03 57 04.7	
	comp=Z,7.7nm,1.1s							
MLZ	**Mavora Lakes**	**23.81**	**201**	P		**P**	**03 57 35.5**	**+0.8**
WHZ	**Wether Hill Ro**	**24.33**	**201**	P		**P**	**03 57 40.5**	**+1.3**
WHZ				IAmb		IAmb	03 57 48.6	
	comp=Z,13nm,1.1s							
CTAO	**Charters Tower**	**31.55**	**270**	P		**P**	**03 58 42.9**	**+0.3**
CTAO				IAmb		IAmb	03 58 43.7	
	comp=Z,5.7nm,0.8s							
BBOO	**Buckleboo**	**39.63**	**247**	P		**P**	**03 59 48.7**	**-0.8**
BBOO				IAmb		IAmb	04 00 02.0	
	comp=Z,6.2nm,1.1s							
AS31	**Alice Springs**	**42.16**	**260**	P		**P**	**04 00 09.7**	**-0.1**
ASAR	**Alice Springs**	**42.16**	**260**	P		**P**	**04 00 09.6**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=99,slow=7.7,SNR=10							
ASAR				ScP		**ScP**	**04 04 54.4**	**+2.6**
	comp=Z,0.7nm,0.9s,baz=90,slow=5.6,SNR=4.1							
ASAR	**Alice Springs**	**42.16**	**260**	P		**P**	**04 00 10.0**	**+0.2**
WR0	**Warramunga Arr**	**42.31**	**266**	P		**P**	**04 00 10.2**	**-0.8**
WR0				IAmb		IAmb	04 00 13.6	
	comp=Z,3.3nm,1.1s							
WB2	**Warramunga Arr**	**42.49**	**266**	P		**P**	**04 00 11.5**	**-0.9**
WB0	**Warramunga Arr**	**42.49**	**266**	P		**P**	**04 00 11.6**	**-0.8**
WB0				IAmb		IAmb	04 00 12.2	
	comp=Z,2.3nm,0.7s							
WRA	**Warramunga Arr**	**42.50**	**266**	P		**P**	**04 00 11.6**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=90,slow=5.8,SNR=48							
FITZ	**Fitzroy Crossi**	**50.93**	**265**	P		**P**	**04 01 16.5**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=84,slow=6.5,SNR=1.9							
FITZ	**Fitzroy Crossi**	**50.93**	**265**	P		**P**	**04 01 16.2**	**0.0**
CASY	**Casey**	**60.42**	**206**	P		**P**	**04 02 21.6**	**+0.3**
QSPA	**South Pole Qui**	**66.50**	**180**	P		**P**	**04 03 02.0**	**+1.7**
QSPA				IAmb		IAmb	04 03 02.7	
	comp=Z,2.9nm,0.7s							
JHS	**Saijyo**	**73.33**	**321**	P		**P**	**04 03 41.6**	**+0.4**
JHS				IAmb		IAmb	04 03 54.0	
	comp=Z,4.6nm,0.9s							
JNU	**Nakatsue**	**73.34**	**318**	P		**P**	**04 03 42.9**	**+1.5**
KIWB	**Kanaga Island**	**75.15**	**2**	P		**P**	**04 03 50.5**	**-0.6**
ADK	**Adak**	**75.19**	**2**	P		**P**	**04 03 50.6**	**-0.7**
CMB	**Columbia Colle**	**82.92**	**43**	P		**P**	**04 04 32.6**	**-0.2**
YBH	**Yreka Blue Hor**	**83.80**	**39**	P		**P**	**04 04 38.0**	**+1.0**
	comp=Z,1.5nm,0.9s,baz=236,slow=3.6,SNR=4.3							
YBH	**Yreka Blue Hor**	**83.80**	**39**	P		**P**	**04 04 38.6**	**+1.5**
PNTR	**Pine Nut**	**84.05**	**43**	P		**P**	**04 04 38.7**	**+0.2**
PNTR				IAmb		IAmb	04 04 40.4	
	comp=Z,5.9nm,1.0s							
NVAR	**Mina Array Bea**	**84.48**	**44**	P		**P**	**04 04 40.6**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=222,slow=7.1,SNR=5.7							
NVAR	**Mina Array Bea**	**84.48**	**44**	P		**P**	**04 04 40.2**	**-0.5**
U15A	**North Rim**	**87.34**	**48**	P		**P**	**04 04 55.3**	**+0.8**
U15A				IAmb		IAmb	04 04 56.3	
	comp=Z,2.8nm,0.8s							
G08A	**Pilot Rock**	**88.14**	**38**	P		**P**	**04 04 58.5**	**+0.7**
G08A				IAmb		IAmb	04 04 59.8	
	comp=Z,2.8nm,1.0s							
CM31	**Chiang Mai Arr**	**89.49**	**290**	P		**P**	**04 05 04.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**89.49**	**290**	P		**P**	**04 05 03.9**	**-0.6**
TMUT	**Trail Mountain**	**89.57**	**46**	P		**P**	**04 05 04.4**	**-0.5**
HVU	**Hansel Valley**	**89.86**	**44**	P		**P**	**04 05 06.4**	**+0.5**
HVU				IAmb		IAmb	04 05 07.1	
	comp=Z,2.7nm,0.9s							
SRU	**San Rafael Swe**	**89.93**	**47**	P		**P**	**04 05 06.8**	**+0.5**
SRU				IAmb		IAmb	04 05 07.5	
	comp=Z,3.6nm,0.8s							
TXAR	**Lajitas Array**	**90.20**	**58**	P		**P**	**04 05 08.8**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=213,slow=6.4,SNR=8.5							
TXAR	**Lajitas Array**	**90.20**	**58**	P		**P**	**04 05 08.2**	**+0.4**
PDAR	**Pinedale Array**	**92.41**	**44**	P		**P**	**04 05 18.1**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=215,slow=4.7,SNR=4.9							
FINES	**FINESS Array B**	**138.17**	**342**	PKhKP		PKPpre	04 11 23.4	
	comp=Z,3.3nm,0.9s,baz=149,slow=4.0,SNR=2.3							
NB2	**NORSAR Subarra**	**141.78**	**351**	PKP		PKPpre	04 11 29.2	
	comp=Z,0.6nm,0.6s,baz=18,slow=3.6							
NOA	**NORSAR Array B**	**141.78**	**351**	PKhKP		PKPpre	04 11 29.4	
	comp=Z,1.7nm,1.1s,baz=5.2,slow=4.9,SNR=4.7							
AKASG	**Malin Array Be**	**144.75**	**328**	PKP		**PKPdf**	**04 11 38.9**	**-0.7**
	comp=Z,1.8nm,0.5s,baz=45,slow=4.0,SNR=8.9							
AKASG	**Malin Array Be**	**144.75**	**328**			**PKPdf**	**04 11 39.1**	**-0.6**
CLL	**Collm**	**150.58**	**343**	*i* PKPbc		**PKPbc**	**04 11 54.7**	**-0.5**
	comp=Z,8.0nm,0.9s							

*ARE **30** 04:08:31±1.6, 15°.70S±0°.07×72°.12W±0°.09, h12km±4km, Error ellipse: s-maj=12.2km s-min=8.7km az=64.0*
*NEIC **30** 04:08:33.2±1.3, 15°.78S±0°.07×72°.12W±0°.04, h10km±1km, mb4.4/8, ML4.0(ARE), Error ellipse: s-maj=11.5km s-min=6.5km az=12.0*
*IDC **30** 04:08:39.4±1.9, 15°.72S×71°.80W, h66km±20km, mb3.5/4, mb1 3.8/8, mb1mx3.5/31, mbtmp3.9/8, MS3.0/5, Ms1 3.1/5, ms1mx2.9/21, Error ellipse: s-maj=28.9km s-min=13.8km az=43.0*

ISC 30 04:08:31.9±0.6, 15°.74S±0°.07×72°.26W±0°.09, h10km, n45, σ1§45/45, mb4.2/7, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**3.20**	**145**	Pn		**Pn**	**Pn**	**04 09 21.6**	**-0.6**
AP01				Sn		**Sn**	**Sn**	**04 09 59.7**	**-0.7**
LPAZ	**La Paz**	**4.01**	**98**	P		**Pn**	**Pn**	**04 09 37.4**	**+3.4**
	0.7nm,0.3s,baz=276,slow=9.6,SNR=24								
LPAZ				LR		LR	LR	04 11 29.8	
	comp=Z,106nm,21.1s,baz=274,slow=48								
LPAZ	**La Paz**	**4.01**	**98**	Pn		**Pn**	**Pn**	**04 09 33.5**	**-0.5**
PSGCX	**Pisagua**	**4.34**	**152**			**Pn**	**Pn**	**04 09 39.4**	**+1.3**
PB11	**IPOC Station P**	**4.71**	**149**	Pn		**Pn**	**Pn**	**04 09 43.4**	**+0.2**
TA02	**Huaiquique**	**4.94**	**156**			**Pn**	**Pn**	**04 09 46.7**	**+0.5**
TA01	**Diego Aracena**	**5.19**	**158**	Pn		**Pn**	**Pn**	**04 09 51.0**	**+1.3**
PB08	**IPOC Station P**	**5.28**	**146**			**Pn**	**Pn**	**04 09 51.0**	**-0.3**
NNA	**Nana**	**5.80**	**309**	P		Pn	Pn	04 10 05.9	+7.7
	1.7nm,0.3s,baz=92,slow=4.7,SNR=4.8								
NNA				S		**Sb**	**Sb**	**04 11 18.9**	**-4.0**
	1.2nm,0.3s,baz=246,slow=16,SNR=1.7								
NNA				LR		LR	LR	04 12 32.0	
	comp=Z,164nm,18.8s,baz=126,slow=38								
NNA	**Nana**	**5.80**	**309**			**Pn**	**Pn**	**04 10 01.3**	**+3.2**
PB01	**IPOC Station P**	**5.90**	**154**			**Pn**	**Pn**	**04 09 58.0**	**-1.4**
PB07	**IPOC Station P**	**6.37**	**160**			**Pn**	**Pn**	**04 10 06.6**	**+0.7**
PB09	**IPOC Station P**	**6.67**	**155**			**Pn**	**Pn**	**04 10 10.5**	**+0.4**
PB04	**IPOC Station P**	**6.86**	**163**			**Pn**	**Pn**	**04 10 13.0**	**+0.3**
PB06	**IPOC Station P**	**7.38**	**160**			**Pn**	**Pn**	**04 10 20.1**	**+0.3**
PB06						**Sn**	**Sn**	**04 11 42.1**	**-1.7**
LVC	**Limon Verde**	**7.53**	**156**	P		**Pn**	**Pn**	**04 10 23.6**	**+1.5**
	3.0nm,0.3s,baz=327,slow=8.3,SNR=18								
LVC				S		**Sn**	**Sn**	**04 11 49.3**	**+1.4**
	4.0nm,0.3s,baz=112,slow=19,SNR=10								
LVC	**Limon Verde**	**7.53**	**156**	Pn		**Pn**	**Pn**	**04 10 22.3**	**+0.2**
PB15	**IPOC Station P**	**7.88**	**161**			**Pn**	**Pn**	**04 10 26.2**	**-0.6**
PB10	**IPOC Station P**	**7.90**	**169**	Pn		**Pn**	**Pn**	**04 10 26.8**	**0.0**
PB14	**IPOC Station P**	**9.01**	**169**	Pn		**Pn**	**Pn**	**04 10 41.9**	**-0.5**
SIV	**San Ignacio**	**10.77**	**93**	P		**Pn**	**Pn**	**04 11 05.4**	**-0.9**
	0.4nm,0.3s,baz=274,slow=9.7,SNR=12								
AC02	**Maricunga**	**11.42**	**166**	Pn		**Pn**	**Pn**	**04 11 15.7**	**+0.2**
CPUP	**Villa Florida**	**17.46**	**130**	LR		LR	LR	04 19 23.5	
	comp=Z,65nm,18.1s,baz=318,slow=38								
PTGA	**Pitinga**	**19.23**	**40**	P		**P**	**P**	**04 12 56.2**	**-0.2**
	0.4nm,0.3s,baz=217,slow=13,SNR=8.8								
PTGA	**Pitinga**	**19.23**	**40**	P		**P**	**P**	**04 12 55.5**	**-0.8**
ROSC	**El Rosal**	**20.55**	**354**	LR		LR	LR	04 20 53.0	
	comp=Z,87nm,21.4s,baz=42,slow=36								
RUSC	**La Rusia**	**21.51**	**358**	P		**P**	**P**	**04 13 22.3**	**+0.7**
PLCA	**Paso Flores**	**24.95**	**177**	LR		LR	LR	04 25 41.4	
	comp=Z,31nm,18.1s,baz=342,slow=41								
TXAR	**Lajitas Array**	**54.11**	**326**	P		**P**	**P**	**04 17 57.9**	**+0.6**
	0.3nm,0.6s,baz=108,slow=7.7,SNR=4.7								
TXAR	**Lajitas Array**	**54.11**	**326**	P		**P**	**P**	**04 17 57.6**	**+0.4**
SDCO	**Great Sand Dun**	**61.70**	**330**	P		**P**	**P**	**04 18 51.6**	**+1.0**
SDCO				IAmb		IAmb	IAmb	04 19 03.4	
	comp=Z,4.8nm,1.4s								
ECSD	**EROS Data Cent**	**63.24**	**340**	P		**P**	**P**	**04 19 02.0**	**+1.5**
PDAR	**Pinedale Array**	**67.56**	**331**	P		**P**	**P**	**04 19 30.9**	**+2.1**
	comp=Z,0.5nm,0.8s,baz=151,slow=4.1,SNR=4.3								
PDAR	**Pinedale Array**	**67.56**	**331**	P		**P**	**P**	**04 19 30.4**	**+1.6**
SNAA	**Sanae**	**68.73**	**161**	P		**P**	**P**	**04 19 35.9**	**+0.3**
SNAA				IAmb		IAmb	IAmb	04 19 37.3	
	comp=Z,3.9nm,1.2s								
YNE	**Yellowstone No**	**69.50**	**332**	P		**P**	**P**	**04 19 42.0**	**+1.1**
YNE				IAmb		IAmb	IAmb	04 19 42.5	
	comp=Z,3.3nm,0.8s								

QSPA	**South Pole Qui**	**74.42**	**180**	P		**P**	**04 20 10.6**	**+0.6**
EDM	**Edmonton**	**77.23**	**336**	P		**P**	**04 20 26.5**	**+0.5**
TORD	**Torodi Ar. Bea**	**78.56**	**73**	P		**P**	**04 20 30.8**	**-3.5**
	comp=Z,1.9nm,0.8s,baz=267,slow=4.4,SNR=9.7							
TORD	**Torodi Ar. Bea**	**78.56**	**73**	P		**P**	**04 20 32.3**	**-2.0**
ESDC	**Sonseca Array**	**84.07**	**46**	P		**P**	**04 21 02.1**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=240,slow=4.8,SNR=4.2							
MJAR	**Matsushiro Arr**	**145.92**	**313**	PKPbc		**PKPdf**	**04 28 12.2**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=73,slow=2.4,SNR=5.5							
MJAR	**Matsushiro Arr**	**145.92**	**313**			**PKPdf**	**04 28 09.9**	**-1.6**
SONM	**Songino Array**	**147.98**	**2**	PKPbc		**PKPbc**	**04 28 18.2**	**+0.4**
	comp=Z,2.9nm,0.9s,baz=299,slow=1.6,SNR=11							
SONM	**Songino Array**	**147.98**	**2**			**PKPbc**	**04 28 17.1**	**-0.7**

*IDC **30** 04:13:50.1±1.1, 9°.10N×126°.63E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/36, mbtmp3.8/5, MS2.7/3, Ms1 2.8/3, ms1mx2.4/48, Error ellipse: s-maj=68.2km s-min=21.3km az=77.0*
*MAN **30** 04:13:57.6, 9°.11N×126°.21E, h7km, mb4.8, ML3.7, MS3.6*

ISC 30 04:13:55.8±1.6, 9°.12N±0°.05×126°.43E±0°.08, h32km±11km, n18, σ1§98/21, mb3.7/6, 5C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.93**	**184**	⇓*i*P		**Pb**	**Pb**	**04 14 14.1**	**+0.6**
BIPH				*i* S		**Sb**	**Sb**	**04 14 25.2**	**-0.3**
SCPH	**Surigao**	**1.13**	**305**	*e*P		**Pb**	**Pb**	**04 14 16.6**	**-0.2**
SCPH				*i* S		**Sb**	**Sb**	**04 14 31.3**	**+0.1**
BUKP	**Musuan**	**1.83**	**228**	⇑*e*P		**Pb**	**Pb**	**04 14 27.0**	**-1.6**
BUKP				*e*S		**Sn**	**Sn**	**04 14 45.7**	**-1.5**
MSLP	**Maasin**	**1.84**	**303**	⇑*e*P		**Pb**	**Pb**	**04 14 28.0**	**-0.9**
DAV	**Davao City (W)**	**2.20**	**202**	LR		LR	LR	04 15 37.5	
	comp=Z,158nm,21.5s,baz=8.0,slow=47								
KCP	**Kidapawan**	**2.48**	**212**	⇓*e*P		**Pb**	**Pb**	**04 14 39.7**	**0.0**
KCP				*i* S		**Sn**	**Sn**	**04 15 05.9**	**+2.5**
LLP	**Lapu-Lapu**	**2.70**	**296**	⇑*e*P		**Pn**	**Pn**	**04 14 39.9**	**+2.9**
LLP				*e*S		**Sb**	**Sb**	**04 15 13.5**	**-2.7**
DCPH	**Dipolog City**	**3.08**	**260**	⇓*e*P		**Pn**	**Pn**	**04 14 44.4**	**+2.1**
DCPH				*e*S		**Sn**	**Sn**	**04 15 19.4**	**+1.3**
CNOP	**Candoni, Negro**	**3.80**	**281**	⇑*i*P		**Pn**	**Pn**	**04 14 54.2**	**+2.1**
RCP	**Roxas**	**4.36**	**304**	⇑*e*P		**Pn**	**Pn**	**04 15 03.9**	**+4.0**
GUMO	**Guam**	**18.62**	**75**	LR		LR	LR	04 23 40.8	
	comp=Z,44nm,21.0s,baz=151,slow=32								
FITZ	**Fitzroy Crossi**	**27.06**	**182**	P		**P**	**P**	**04 19 34.5**	**-1.0**
	1.6nm,0.8s,baz=4.9,slow=13,SNR=1.8								
CMAR	**Chiang Mai Arr**	**28.22**	**292**	LR		LR	LR	04 30 33.8	
	comp=Z,11nm,18.7s,baz=255,slow=35								
WRA	**Warramunga Arr**	**29.91**	**165**	P		**P**	**P**	**04 19 58.8**	**-2.2**
	0.1nm,0.3s,baz=347,slow=9.5,SNR=8.0								
ASAR	**Alice Springs**	**33.40**	**167**	P		**P**	**P**	**04 20 30.1**	**-1.5**
	0.4nm,0.3s,baz=346,slow=7.3,SNR=7.8								
MKAR	**Makanchi Array**	**53.03**	**323**	P		**P**	**P**	**04 23 08.8**	**-1.1**
	0.6nm,0.6s,baz=105,slow=7.9,SNR=3.7								
ILAR	**Eielson Array**	**80.40**	**26**	P		**P**	**P**	**04 26 02.9**	**-1.1**
	0.2nm,0.7s,baz=237,slow=5.0,SNR=4.1								
FINES	**FINESS Array B**	**86.97**	**332**	P		**P**	**P**	**04 26 39.0**	**+1.3**
	2.0nm,1.0s,baz=58,slow=3.4,SNR=6.5								

*NEIC **30** 04:20:28.8±1.6, 30°.83S±0°.04×72°.72W±0°.06, h14km±5km, mb4.2/6, Error ellipse: s-maj=8.2km s-min=6.1km az=94.0*
*IDC **30** 04:20:28.9±1.5, 30°.88S×72°.72W, h0km, mb3.6/2, mb1 3.9/5, mb1mx3.6/28, mbtmp3.8/5, ML3.6/3, Error ellipse: s-maj=49.7km s-min=33.9km az=86.0*

ISC 30 04:20:27.9±2.0, 30°.83S±0°.06×72°.75W±0°.07, h6km±12km, n37, σ1§40/40, mb4.1/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.97**	**81**	Pg		**Pg**	**Pg**	**04 20 46.6**	**0.0**
CO06				Sn		**Sg**	**Sg**	**04 20 59.4**	**+0.1**
CO02	**Combarbal**	**1.55**	**104**			**Pn**	**Pn**	**04 20 55.9**	**-0.2**
CO02				Sn		**Sn**	**Sn**	**04 21 14.7**	**-1.9**
CO05	**La Serena**	**1.59**	**56**	Pn		**Pn**	**Pn**	**04 20 56.2**	**-0.4**
CO05				Sn		**Sn**	**Sn**	**04 21 15.9**	**-1.5**
CO03	**El Pedregal**	**1.77**	**91**	Pn		**Pn**	**Pn**	**04 20 59.1**	**-0.1**
CO03				Sn		**Sn**	**Sn**	**04 21 19.9**	**-2.2**
GO04	**Tololo Observa**	**1.81**	**69**			**Pn**	**Pn**	**04 20 59.4**	**-0.4**
GO04				Sn		**Sn**	**Sn**	**04 21 21.8**	**-1.4**
VA01	**Torpederas**	**2.38**	**157**	Pn		**Pn**	**Pn**	**04 21 07.8**	**+0.4**
LCO	**Las Campanas**	**2.54**	**45**			**Pn**	**Pn**	**04 21 09.7**	**-0.2**
LCO				Sn		**Sn**	**Sn**	**04 21 38.8**	**-2.4**
VA03	**San Esteban**	**2.69**	**136**			**Pn**	**Pn**	**04 21 11.8**	**0.0**
VA05	**Santo Domingo**	**2.98**	**161**	Pn		**Pn**	**Pn**	**04 21 15.3**	**-0.3**
AC04	**Llanos de Chal**	**3.00**	**30**	Pn		**Pn**	**Pn**	**04 21 14.8**	**-1.1**
MT05	**Renca**	**3.07**	**147**	Pn		**Pn**	**Pn**	**04 21 16.4**	**-0.7**
BO01	**Tunca**	**3.82**	**159**	Pn		**Pn**	**Pn**	**04 21 24.5**	**-2.8**
GO03	**Copiap**	**3.91**	**35**	Pn		**Pn**	**Pn**	**04 21 28.7**	**+0.3**
GO05	**Huala**	**4.22**	**171**	Pn		**Pn**	**Pn**	**04 21 31.8**	**-1.1**
BO02	**Sierra Bellavi**	**4.29**	**158**			**Pn**	**Pn**	**04 21 34.4**	**+0.7**
ML02	**Panimavida**	**5.04**	**168**	Pn		**Pn**	**Pn**	**04 21 43.7**	**-0.3**
AC02	**Maricunga**	**5.09**	**40**			**Pn**	**Pn**	**04 21 45.9**	**+0.7**
H03N1	**Juan Fernandez**	**5.84**	**242**	T		T		04 27 57.4	
	baz=70,slow=71,SNR=6.9								
H03N2	**Juan Fernandez**	**5.85**	**242**	T		T		04 27 56.0	
	baz=70,slow=71,SNR=38								
H03N3	**Juan Fernandez**	**5.85**	**242**	T		T		04 27 55.0	
	baz=70,slow=71,SNR=60								
VA04	**Juan Fernndez**	**5.86**	**240**	Pn		**Pn**	**Pn**	**04 21 54.1**	**-1.2**
LC01	**Cunco**	**8.08**	**175**			**Pn**	**Pn**	**04 22 24.5**	**-1.3**
PB06	**IPOC Station P**	**8.58**	**20**	Pn		**Pn**	**Pn**	**04 22 32.2**	**-0.5**
PLCA	**Paso Flores**	**10.04**	**170**	Pn		**Pn**	**Pn**	**04 22 54.2**	**+1.5**
	0.1nm,0.3s,baz=319,slow=15,SNR=3.4								
PLCA	**Paso Flores**	**10.04**	**170**	Pn		**Pn**	**Pn**	**04 22 52.0**	**-0.7**
TA02	**Huaiquique**	**10.78**	**13**	Pn		**Pn**	**Pn**	**04 23 01.4**	**-1.3**
PSGCX	**Pisagua**	**11.44**	**13**	Pn		**Pn**	**Pn**	**04 23 11.5**	**-0.4**
LPAZ	**La Paz**	**15.08**	**17**	Pn		**P**	**P**	**04 24 05.8**	**-1.8**
	0.1nm,0.3s,baz=180,slow=8.3,SNR=5.9								
LPAZ	**La Paz**	**15.08**	**17**	P		**Pn**	**Pn**	**04 24 05.2**	**+3.1**
SIV	**San Ignacio**	**18.23**	**38**	P		**P**	**P**	**04 24 43.4**	**+1.5**
	0.2nm,0.3s,baz=233,slow=11,SNR=29								
CVTR	**Volcan Turrial**	**41.97**	**344**	P		**P**	**P**	**04 28 18.8**	**-1.4**
SNAA	**Sanae**	**54.74**	**159**	P		**P**	**P**	**04 29 56.7**	**-1.1**
SNAA				IAmb		IAmb	IAmb	04 30 02.4	
	comp=Z,4.2nm,1.3s								
QSPA	**South Pole Qui**	**59.40**	**180**	P		**P**	**P**	**04 30 31.7**	**+0.8**
QSPA				IAmb		IAmb	IAmb	04 30 50.7	
	comp=Z,2.9nm,1.2s								
TXAR	**Lajitas Array**	**66.68**	**331**	P		**P**	**P**	**04 31 22.2**	**+2.5**
	comp=Z,0.4nm,0.7s,baz=148,slow=5.3,SNR=5.3								
TORD	**Torodi Ar. Bea**	**83.72**	**71**	P		**P**	**P**	**04 33 00.1**	**+2.1**
	comp=Z,0.6nm,1.0s,baz=282,slow=6.6,SNR=4.3								
TORD	**Torodi Ar. Bea**	**83.72**	**71**	P		**P**	**P**	**04 32 58.6**	**+0.6**
TORD				IAmb		IAmb	IAmb	04 33 05.6	
	comp=Z,2.1nm,1.4s								
ZALV	**Zalesovo Beam**	**151.80**	**29**	PKPbc		**PKiKP**	**PKiKP**	**04 40 24.8**	**+1.4**
	comp=Z,1.6nm,0.4s,baz=308,slow=4.9,SNR=4.1								

GUC 30 04:25:15.4±0.7, 31°.50S×71°.72W, h38km±3km, ML3.7, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.68**	**65**	*e*P		**Pn**	**Pn**	**04 25 28.6**	**-0.2**
CO02				*i* S		Sn		04 25 38.3	+0.2
CO02				IAML				04 25 43.2	
	comp=E,6µm,0.3s								
CO06	**Fray Jorge**	**0.83**	**5**	*e*P		Pn		04 25 30.9	+0.3
CO06				*i* S		Sn		04 25 42.1	+0.6
CO06				IAML				04 25 43.8	
	comp=E,6µm,0.2s								
CO03	**El Pedregal**	**1.10**	**54**	*e*P		Pn		04 25 35.0	+0.6
CO03				*i* S		Sn		04 25 50.1	+1.7
CO03				IAML				04 25 53.8	
	comp=E,3µm,0.4s								
VA06	**Catapilco**	**1.12**	**161**	*e*P		Pn		04 25 35.0	+0.5
VA06				*i* S		Sn		04 25 50.4	+1.8
VA06				IAML				04 25 53.1	
	comp=E,4µm,0.4s								
VA01	**Torpederas**	**1.52**	**178**	*e*P		Pn		04 25 41.8	+1.8
GO04	**Tololo Observa**	**1.54**	**31**	*e*P		Pn		04 25 42.0	+1.4
GO04				*i* S		Sn		04 26 02.6	+3.2
GO04				IAML				04 26 05.2	
	comp=N,2µm,0.2s								
ROCH	**El Roble**	**1.59**	**158**	*e*P		Pn		04 25 42.4	+1.2
ROCH				*i* S		Sn		04 26 03.9	+3.3
ROCH				IAML				04 26 07.3	
	comp=N,1µm,0.3s								
VA03	**San Esteban**	**1.60**	**142**	*e*P		Pn		04 25 43.4	+2.1
VA03				*i* S		Sn		04 26 04.2	+3.4
VA03				IAML				04 26 06.4	
	comp=N,2µm,0.3s								
PEL	**Peldehue**	**1.86**	**152**	⇑*i*P		Pn		04 25 46.6	+1.8
PEL				*i* S		Sn		04 26 10.0	+3.0
PEL				IAML				04 26 16.1	
	comp=E,494nm,0.3s								
MT05	**Renca**	**2.06**	**157**	*e*P		Pn		04 25 50.2	+2.7
MT05				*i* S		Sn		04 26 16.6	+4.5
MT05				IAML				04 26 19.4	
	comp=E,1µm,0.4s								
VA05	**Santo Domingo**	**2.15**	**178**	*e*P		Pn		04 25 49.1	+0.3
VA05				IAML				04 26 27.6	
	comp=E,694nm,0.6s								
MT09	**Talagante**	**2.35**	**165**	*e*P		Pn		04 25 53.6	+2.0
MT09				*i* S		Sn		04 26 22.4	+3.1
MT09				IAML				04 26 36.6	
	comp=N,390nm,0.2s								
LCO	**Las Campanas**	**2.63**	**20**	⇑*i*P		Pn		04 25 56.8	+1.2
LCO				*i* S		Sn		04 26 28.7	+2.3
BO02	**Sierra Bellavi**	**3.38**	**167**	*e*P		Pn		04 26 08.2	+2.5

IDC 30 04:26:13.2±4.7, 5°.27S×150°.00E, h158km±41km, mb3.4/3, mb1 3.5/4, mb1mx3.2/33, mbtmp3.9/4, MS3.2/12, Ms1 3.2/12, ms1mx3.0/33, Error ellipse: s-maj=78.3km s-min=30.8km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.99**	**214**	P		Pn		04 27 26.6	0.0
	2.7nm,0.3s,baz=45,slow=7.1,SNR=4.1								
JAY	**Jayapura**	**9.66**	**286**	LR		LR		04 31 44.9	
	comp=Z,230nm,18.7s,baz=52,slow=34								
HNR	**Honiara**	**10.70**	**113**	LR		LR		04 32 10.5	
	comp=Z,195nm,21.5s,baz=271,slow=33								
WRA	**Warramunga Arr**	**21.09**	**225**	P		P		04 30 45.7	+0.3
	2µm,1.0s,baz=48,slow=10,SNR=12								
WRA				LR		LR		04 40 16.3	
	comp=Z,74nm,20.0s,baz=60,

1.1nm,0.6s,baz=232,slow=9.0,SNR=3.5
FINES FINESS Array B 37.41 326 P **P** **04 40 44.9 +3.4**
1.6nm,0.7s,baz=116,slow=8.7,SNR=4.9
NB2 NORSAR Subarra 44.32 323 P **P** **04 41 41.1 +2.9**
comp=Z,0.4nm,0.5s,baz=93,slow=7.9
NOA NORSAR Array B 44.32 323 P **P** **04 41 41.1 +2.9**
comp=Z,1.1nm,0.9s,baz=96,slow=7.7,SNR=4.2
TORD Torodi Ar. Bea 65.80 269 P **P** **04 44 13.2 -0.2**
comp=Z,0.4nm,0.6s,baz=49,slow=5.6,SNR=6.0
WRA Warramunga Arr 82.00 122 P **P** **04 45 45.4 -2.2**
comp=Z,0.2nm,0.5s,baz=324,slow=5.0,SNR=1.7

*INET **30** 04:43:11.2,8.74N×85.28W,h15km,ML4.2*
*NEIC **30** 04:43:24.0±1.5,9.14N±0.05×84.93W±0.04,h30km±6km, mb4.7/15,ML4.5(UCR),Error ellipse: s-maj=8.3km s-min=4.5km az=214.0*
*UCR **30** 04:43:25.7±1.3,9.24N×84.85W,h15km±4km,MW4.3, mb4.7(NEIC)*
*UPA **30** 04:43:26.0±0.8,9.15N×85.01W,h27km±105km,MW4.3*
ISC 30 04:43:23.3±1.2,**9.14N**±0.04×**84.91W**±0.03,**h31**km±9km, **n79**,σ1§**40**/107,**mb4.8**/7,**15C-5D,Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACO	**JACO, Garabito**	**0.57**	**25**	*i*P	**Pb**	**04 43 34.4**	**-0.6**
JACO				*e*S	**Sb**	**04 43 41.5**	**-1.6**
JACO	**JACO, Garabito**	**0.57**	**25**		**Pb**	**04 43 34.4**	**-0.6**
JACO				Sg	**Sb**	**04 43 41.4**	**-1.7**
CAO2	**Cobano, Puntar**	**0.58**	**340**		**Pb**	**04 43 35.6**	**+0.5**
CAO2				Sg	**Sb**	**04 43 43.4**	**+0.2**
LAFE	**Finca La Fe, P**	**0.67**	**360**	⇓*i*P	**Pb**	**04 43 36.6**	**0.0**
LAFE				*e*S	**Sb**	**04 43 45.4**	**-0.2**
INDI	**Punta indio, G**	**0.93**	**321**	*e*P	**Pb**	**04 43 41.7**	**+0.7**
INDI				*e*S	**Sb**	**04 43 55.0**	**+1.9**
SRA1	**San Ramn**	**1.03**	**24**	*e*P	**Pn**	**04 43 42.3**	**+0.5**
SRA1				*i* S	**Sn**	**04 43 55.5**	**+0.3**
LCR2	**La Lucha 2**	**1.07**	**56**	⇑*i*P	**Pn**	**04 43 43.4**	**+1.0**
LCR2				*e*S	**Sn**	**04 43 56.7**	**+0.3**
DUNO	**Dulce Nombre,**	**1.10**	**328**		**Pn**	**04 43 43.7**	**+1.1**
DUNO				Sg	**Sb**	**04 44 02.7**	**+4.8**
JTS	**Las Juntas de**	**1.15**	**358**	⇑*i*P	**Pn**	**04 43 44.2**	**+0.9**
JTS				*e*S	**Sn**	**04 43 58.5**	**+0.5**
JTS	**Las Juntas de**	**1.15**	**358**		**Pn**	**04 43 44.1**	**+0.8**
JTS					**Sn**	**04 43 58.2**	**+0.2**
HDC	**Heredia**	**1.16**	**42**	⇑*i*P	**Pn**	**04 43 45.0**	**+1.4**
HDC				*e*S	**Sn**	**04 43 59.7**	**+1.2**
HDC	**Heredia**	**1.16**	**42**		**Pn**	**04 43 44.9**	**+1.3**
HDC					**Sn**	**04 43 59.0**	**+0.6**
OCM	**Ochomogo**	**1.20**	**51**	*i* P	**Pn**	**04 43 45.1**	**+1.0**
CDM	**Cerro de Muert**	**1.20**	**70**	⇑*e*P	**Pn**	**04 43 45.7**	**+1.3**
RIMA	**Rio Macho**	**1.20**	**59**	⇑*i*P	**Pn**	**04 43 45.5**	**+1.3**
RIMA	**Rio Macho**	**1.20**	**59**		**Pn**	**04 43 45.5**	**+1.3**
RIMA					**Sn**	**04 44 00.1**	**+0.5**
SAJU	**San Juanillo,**	**1.22**	**319**	*e*P	**Pb**	**04 43 46.3**	**+0.5**
PEZE	**Perez Zeledon,**	**1.24**	**79**	*i* P	**Pn**	**04 43 46.3**	**+1.8**
PEZE	**Perez Zeledon,**	**1.24**	**79**		**Pn**	**04 43 46.1**	**+1.5**
PEZE				Sg	**Sb**	**04 44 05.6**	**+3.8**
GUAI	**GUAI**	**1.27**	**332**	*i* P	**Pn**	**04 43 46.1**	**+1.1**
CASO	**Castillo**	**1.30**	**7**	⇑*i*P	**Pn**	**04 43 46.9**	**+1.5**
CASO				*i* S	**Sb**	**04 44 04.0**	**+0.4**
ARE1	**Arenal 1**	**1.33**	**8**	⇑*i*P	**Pb**	**04 43 47.8**	**+0.1**
ORTG	**Ortega, Santa**	**1.33**	**336**		**Pn**	**04 43 46.3**	**+0.3**
FORC	**Fortuna**	**1.34**	**10**	⇑*i*P	**Pb**	**04 43 47.8**	**-0.1**
RAFA	**San Farael, Vo**	**1.35**	**53**	⇑*i*P	**Pn**	**04 43 48.3**	**+1.9**
CEDE	**Laguna Cedeo**	**1.36**	**8**	⇑*i*P	**Pb**	**04 43 48.2**	**0.0**
CVTR	**Volcan Turrial**	**1.43**	**52**	⇑*i*P	**Pb**	**04 43 49.6**	**-0.1**
CVTR	**Volcan Turrial**	**1.43**	**52**		**Pn**	**04 43 48.3**	**+0.8**
RIFO	**Rio Frio, Sara**	**1.52**	**39**	⇑*i*P	**Pn**	**04 43 50.4**	**+2.0**
SRBA	**San Rafael, Bu**	**1.53**	**86**		**Pn**	**04 43 50.1**	**+1.5**
CUI	**Cuipilapa**	**1.53**	**350**	⇑*e*P	**Pn**	**04 43 50.4**	**+1.8**
CUI				*i* S	**Sb**	**04 44 11.1**	**+0.8**
COLC	**Colonia**	**1.55**	**349**	*i* P	**Pb**	**04 43 51.0**	**-0.5**
PTEN	**Parque Tenorio**	**1.57**	**357**	*i* P	**Pb**	**04 43 51.5**	**-0.3**
HORNC	**Hornillas**	**1.59**	**350**	*i* P	**Pn**	**04 43 51.1**	**+1.7**
LIM1	**Limonal**	**1.59**	**348**	*i* P	**Pn**	**04 43 51.1**	**+1.7**
GUAB	**Guayabo de Bag**	**1.59**	**348**	*i* P	**Pn**	**04 43 51.2**	**+1.7**
DRK0	**Durika**	**1.64**	**86**	⇑*e*P	**Pb**	**04 43 51.0**	**-0.2**
DRK0	**Durika**	**1.64**	**86**		**Pn**	**04 43 51.8**	**+1.5**
COVE	**Coope Vega, Sa**	**1.65**	**17**	⇑*i*P	**Pn**	**04 43 52.0**	**+1.8**
COVE	**Coope Vega, Sa**	**1.65**	**17**		**Pn**	**04 43 51.2**	**+1.0**
GPS2	**Hotel Rincn d**	**1.66**	**345**	*e*P	**Pb**	**04 43 53.5**	**+0.1**
LAPC	**Finca la Perla**	**1.70**	**342**	*i* P	**Pn**	**04 43 52.6**	**+1.6**
HZTE	**Horizontes, Gu**	**1.71**	**337**	*e*P	**Pb**	**04 43 55.0**	**+0.8**
HZTE	**Horizontes, Gu**	**1.71**	**337**		**Pn**	**04 43 51.3**	**+0.3**
GBS3	**Finca Las Img**	**1.72**	**342**	*i* P	**Pb**	**04 43 53.7**	**-0.7**
BUAI	**Buenos Aires**	**1.78**	**346**	*i* P	**Pn**	**04 43 54.3**	**+2.3**
BATAN	**Batan**	**1.78**	**58**	⇓*i*P	**Pb**	**04 43 55.6**	**+0.1**
BATAN				*e*S	**Sb**	**04 44 18.8**	**+1.4**
BATAN	**Batan**	**1.78**	**58**		**Pn**	**04 43 53.5**	**+1.4**
EDSV	**San Vito**	**1.94**	**99**	*e*P	**Pb**	**04 43 58.2**	**+0.1**
MLIR3	**Monte Lirio, C**	**2.08**	**99**	*e*P	**Pb**	**04 44 01.5**	**+0.9**
MLIR3				*e*S	**Sb**	**04 44 27.4**	**+1.3**
CDITO	**Canoas**	**2.08**	**105**	⇓*e*P	**Pb**	**04 44 00.4**	**-0.2**
CDITO				*e*S	**Sb**	**04 44 04.0**	**+0.3**
CDITO	**Canoas**	**2.08**	**105**		**Pn**	**04 43 57.4**	**+1.2**
BRU2	**Volcan**	**2.21**	**99**	⇓*e*P	**Pb**	**04 44 02.4**	**-0.4**
BRU2				*e*S	**Sb**	**04 44 31.0**	**+1.1**
BRU2	**Volcan**	**2.21**	**99**		**Pn**	**04 43 59.6**	**+1.5**
BC3P	**Paso Ancho**	**2.29**	**98**	*e*P	**Pb**	**04 44 03.6**	**-0.5**
BC3P				*e*S	**Sb**	**04 44 32.7**	**+0.6**
BCO2	**Palmira**	**2.38**	**100**	*e*P	**Pb**	**04 44 04.9**	**-0.8**
BCO2				*e*S	**Sb**	**04 44 34.6**	**-0.3**
CNI2	**El Empalme, Bo**	**2.42**	**83**	*e*P	**Pn**	**04 44 04.3**	**+3.6**
CNI2				*e*S	**Sn**	**04 44 33.2**	**+3.9**
PTAR3	**Potrerillos Ar**	**2.42**	**100**	*e*P	**Pb**	**04 44 05.8**	**-0.5**
PTAR3				*e*S	**Sb**	**04 44 35.6**	**-0.3**
BAGA3	**Bagala, Chiriq**	**2.44**	**106**	*e*P	**Pn**	**04 44 04.9**	**+3.8**
BAGA3				*e*S	**Sb**	**04 44 34.8**	**-1.5**
LNBQ3	**Los Naranjos,**	**2.46**	**98**	*e*P	**Pb**	**04 44 06.0**	**-0.9**
LNBQ3				*e*S	**Sb**	**04 44 36.4**	**-0.5**
DVD	**David**	**2.52**	**106**	*e*P	**Pb**	**04 44 07.0**	**-1.0**
DVD				*e*S	**Sb**	**04 44 37.9**	**-1.4**
LOCO3	**Loma Colorada,**	**2.56**	**106**	*e*P	**Pb**	**04 44 07.4**	**-1.3**
LOCO3				*e*S	**Sb**	**04 44 38.4**	**-1.4**
PSOM3	**Paja de Sombre**	**2.59**	**100**	*e*P	**Pb**	**04 44 07.5**	**-1.7**
ACON	**Acoyapa**	**2.83**	**355**		**Pn**	**04 44 07.2**	**+0.9**
CNGN	**Cerro Negro**	**3.78**	**332**	Pn	**Pn**	**04 44 20.0**	**+0.4**
MATN	**Matagalpa**	**3.90**	**345**		**Pn**	**04 44 21.7**	**+0.4**
CRIN	**San Cristobal**	**4.12**	**329**	Pn	**Pn**	**04 44 24.3**	**0.0**
441A	**DeRidder**	**22.85**	**341**	P	**P**	**04 48 24.1**	**+0.1**
143A	**Socs Landing,**	**24.21**	**347**	P	**P**	**04 48 37.5**	**+0.3**
CCAR	**Cane Creek**	**25.46**	**347**	P	**P**	**04 48 49.3**	**+0.8**
CCAR				IAmb	IAmb	04 49 01.8	
	comp=Z,32nm,1.0s						
TX32	**Lajitas Array**	**26.71**	**321**	P	**P**	**04 48 59.0**	**-1.1**
WHAR	**Wooly Hollow**	**26.89**	**347**		**P**	**04 49 01.7**	**+0.2**
WHAR				IAmb	IAmb	04 49 20.5	
	comp=Z,16nm,1.0s						
FCAR	**Ozark Folk Cen**	**27.43**	**347**	P	**P**	**04 49 05.7**	**-0.7**
FCAR				IAmb	IAmb	04 49 20.6	
	comp=Z,26nm,1.0s						
U40A	**Yellville**	**28.04**	**346**	P	**P**	**04 49 12.1**	**+0.2**
U40A				IAmb	IAmb	04 49 26.0	
	comp=Z,20nm,0.9s						
OKCFA	**Oklahoma City**	**28.56**	**338**	P	**P**	**04 49 13.5**	**-3.0**
MGMO	**Mountain Grove**	**28.68**	**348**	P	**P**	**04 49 17.9**	**+0.3**
MGMO				IAmb	IAmb	04 49 36.7	
	comp=Z,11nm,0.9s						
S39A	**Bolivar**	**29.43**	**346**	P	**P**	**04 49 23.7**	**-0.5**
S39A				IAmb	IAmb	04 49 28.6	
	comp=Z,8.3nm,0.8s						
KAN17	**Caldwell West**	**30.13**	**339**	P	**P**	**04 49 28.1**	**-2.3**
KAN17				IAmb	IAmb	04 49 35.4	
	comp=Z,13nm,0.7s						
YERR	**Yerington**	**42.75**	**320**	P	**P**	**04 51 16.3**	**-1.8**

*NEIC **30** 04:44:43.7±1.6,17.01N±0.05×98.73W±0.05,h43km±9km, mb4.3/135,Md4.6/142(MEX), Error ellipse: s-maj=8.6km s-min=4.9km az=216.0*
*MEX **30** 04:44:44.7±4.0,16.92N×98.78W,h28km±36km,MD4.6*
*IDC **30** 04:44:46.4±4.6,17.01N×98.61W,h62km±40km,mb3.7/7, mb1 4.0/10,mb1mx3.7/41,mbtmp3.9/10,ML3.5/3,MS3.4/7, Ms1 3.5/7,ms1mx3.2/23,Error ellipse: s-maj=42.5km s-min=14.2km az=44.0*
ISC 30 04:44:41.4±1.1,**16.94N**±0.03×**98.76W**±0.03,**h29**km±9km, **n171**,σ1§**43**/153,**mb4.3**/44,**MS3.5**/7,**Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**0.64**	**17**		**Pn**	**04 44 55.2**	**+0.5**
TLIG					**Sn**	**04 45 04.5**	**+0.5**
PNIG	**Pinotepa**	**0.82**	**132**		**Pb**	**04 44 57.8**	**+0.7**
PNIG					**Sn**	**04 45 07.1**	**-1.1**
DAIG	**Los Arroyos**	**0.85**	**275**		**Pb**	**04 44 57.9**	**+0.1**
DAIG					**Sb**	**04 45 08.8**	**-0.1**
MEIG	**Mezcala**	**1.28**	**320**		**Pb**	**04 45 04.5**	**-0.4**
MEIG					**Sn**	**04 45 19.9**	**+0.4**
PLIG	**Platanillo**	**1.61**	**334**		**Pb**	**04 45 09.6**	**-0.9**
PLIG					**Sn**	**04 45 21.5**	**-6.3**
OXBJ	**Oaxaca**	**1.95**	**86**		**Pn**	**04 45 14.4**	**+1.6**
OXBJ					**Sb**	**04 45 39.0**	**-1.5**
TPIG	**Tehuac#an**	**1.98**	**42**		**Pb**	**04 45 16.2**	**-0.8**
TPIG					**Sb**	**04 45 41.6**	**+0.2**
MAVM	**Malinalco, Edo**	**2.12**	**341**		**Pb**	**04 45 17.6**	**-1.7**
MAVM					**Sb**	**04 45 44.4**	**-0.9**
AMVM	**AMECAMECA**	**2.18**	**359**		**Pn**	**04 45 17.3**	**+1.4**
AMVM					**Sb**	**04 45 47.5**	**+0.5**
UNM	**Universidad Na**	**2.41**	**351**	Pn	**Pn**	**04 45 20.4**	**+1.3**
UNM				Sn	**Sn**	**04 45 46.0**	**-1.8**
PANG	**Puerto Angel**	**2.54**	**120**		**Pb**	**04 45 26.2**	**0.0**
PANG					**Sn**	**04 45 45.2**	**-5.3**
HUIG	**Huatulco**	**2.80**	**114**		**Pn**	**04 45 26.0**	**+1.7**
HUIG					**Sn**	**04 45 54.5**	**-2.6**
VTVM	**Tizayuca**	**2.81**	**360**		**Pn**	**04 45 26.4**	**+1.7**
VTVM					**Sn**	**04 45 58.9**	**+1.1**
LVIG	**Laguna Verde**	**3.55**	**38**		**Pn**	**04 45 35.5**	**+0.9**
LVIG					**Sn**	**04 46 17.7**	**+2.1**
MOIG	**Morelia**	**3.57**	**320**		**Pn**	**04 45 38.1**	**+3.1**
MOIG					**Sn**	**04 46 17.1**	**+0.7**
CMIG	**Matias Romero**	**3.71**	**87**	P	**Pn**	**04 45 38.2**	**+1.4**
	5.1nm,0.3s,baz=260,slow=13,SNR=99						
CMIG				S	**Sn**	**04 46 21.1**	**+1.5**
	88nm,0.3s,baz=105,slow=19,SNR=3.6						
CMIG	**Matias Romero**	**3.71**	**87**		**Pn**	**04 45 38.1**	**+1.3**
CMIG					**Sn**	**04 46 23.4**	**+3.8**
URUA	**Uruapan**	**4.00**	**309**		**Pn**	**04 45 43.3**	**+2.3**
URUA					**Sn**	**04 46 27.6**	**+0.7**
JRQG	**Juriquilla Cam**	**4.07**	**337**		**Pn**	**04 45 43.6**	**+1.7**
JRQG					**Sn**	**04 46 29.1**	**+0.4**
TUIG	**Tuzandepetl**	**4.28**	**75**		**Pn**	**04 45 42.7**	**-1.9**
TUIG					**Sn**	**04 46 35.4**	**+1.8**
IGIG	**Irapuato, Guan**	**4.50**	**328**		**Pn**	**04 45 48.9**	**+1.0**
IGIG					**Sn**	**04 46 39.4**	**0.0**
MMIG	**Aquila**	**4.57**	**288**		**Pn**	**04 45 49.8**	**+1.2**
MMIG					**Sn**	**04 46 37.0**	**-3.8**
EZ5V		**5.25**	**299**		**Pn**	**04 46 00.9**	**+2.8**
TGIG		**5.40**	**91**		**Pn**	**04 46 03.0**	**+2.9**
TGIG					**Sn**	**04 47 01.7**	**+0.3**
R15V		**5.44**	**295**		**Pn**	**04 46 02.5**	**+1.9**
PCIG		**5.46**	**102**		**Pn**	**04 46 02.7**	**+1.8**
PCIG					**Sn**	**04 46 59.1**	**-3.7**
TXAR	**Lajitas Array**	**13.13**	**341**	P	**Pn**	**04 47 49.6**	**+3.5**
	0.1nm,0.3s,baz=163,slow=14,SNR=11						
TXAR	**Lajitas Array**	**13.13**	**341**		**Pn**	**04 47 45.4**	**-0.7**
TX31	**Lajitas Ar. Si**	**13.13**	**341**		**Pn**	**04 47 46.4**	**+0.3**
TX32	**Lajitas Array**	**13.13**	**341**	Pn	**Pn**	**04 47 48.0**	**+2.0**
JCT	**Junction City**	**13.51**	**356**	Pn	**Pn**	**04 47 51.6**	**+0.4**
ORTG	**Ortega, Santa**	**14.48**	**115**	Pn	**Pn**	**04 48 03.8**	**-0.8**
441A	**DeRidder**	**14.65**	**19**	Pn	**Pn**	**04 48 04.7**	**-2.1**
WHTX	**Lake Whitney,**	**15.03**	**4**	Pn	**Pn**	**04 48 12.6**	**+0.8**
237A	**Washetta, Mont**	**15.23**	**10**	Pn	**Pn**	**04 48 12.0**	**-2.4**
342A	**Flagon Creek P**	**15.52**	**21**	Pn	**Pn**	**04 48 19.4**	**+1.2**
ABTX	**Abilene, Hawle**	**15.63**	**357**	Pn	**Pn**	**04 48 19.8**	**+0.1**
ABTX				IAmb	IAmb	04 48 26.4	
	comp=Z,43nm,1.2s						
MNTX	**Cornudas Mount**	**15.87**	**339**	Pn	**Pn**	**04 48 22.7**	**-0.1**
RIMA	**Rio Macho**	**16.15**	**114**	Pn	**Pn**	**04 48 27.4**	**+0.8**
RIMA				IAmb	IAmb	04 48 45.2	
	comp=Z,19nm,0.8s						
344A	**Westbrook Farm**	**16.18**	**25**	Pn	**Pn**	**04 48 24.1**	**-2.7**
344A				IAmb	IAmb	04 48 41.1	
	comp=Z,25nm,1.1s						
Z35A	**Perchaven, San**	**16.38**	**4**	P	**Pn**	**04 48 29.2**	**0.0**
Z35A				IAmb	IAmb	04 48 33.2	
	comp=Z,27nm,0.8s						
Z38A	**Mt. Pleasant**	**16.60**	**11**	P	**Pn**	**04 48 32.5**	**+0.4**
319A	**Douglas**	**17.26**	**328**	IAmb	IAmb	04 49 01.6	
	comp=Z,31nm,1.3s						
WLAR	**White Oak Lake**	**17.43**	**16**	P	**Pn**	**04 48 42.9**	**+0.4**
WLAR				IAmb	IAmb	04 48 55.7	
	comp=Z,26nm,0.9s						
121A	**Cookes Peak, D**	**17.54**	**334**	Pn	**P**	**04 48 44.8**	**-0.1**
121A				IAmb	IAmb	04 49 06.0	
	comp=Z,25nm,1.1s						
X34A	**Smith Ranch, M**	**17.61**	**3**	Pn	**Pn**	**04 48 43.6**	**-1.0**
X34A				IAmb	IAmb	04 48 46.4	
	comp=Z,37nm,1.3s						
X37A	**Clayton**	**17.83**	**9**	IAmb	IAmb	04 49 01.9	
	comp=Z,26nm,1.0s						
AMTX	**Amarillo**	**18.06**	**352**		**P**	**04 48 50.9**	**+0.4**
AMTX				IAmb	IAmb	04 48 51.6	
	comp=Z,21nm,1.1s						
MIAR	**Mount Ida**	**18.14**	**14**		**Pn**	**04 48 49.5**	**-1.6**
OKCFA	**Oklahoma City**	**18.43**	**3**	P	**Pn**	**04 48 55.0**	**+0.2**
BNM	**Barren Site**	**18.53**	**339**		**Pn**	**04 48 56.3**	**0.0**
OK025	**Westminster Rd**	**18.61**	**4**	P	**P**	**04 48 56.6**	**+0.1**
OK025				IAmb	IAmb	04 49 15.0	
	comp=Z,24nm,0.9s						
BCOK	**Bluff Creek, N**	**18.67**	**3**	IAmb	IAmb	04 49 17.5	
	comp=Z,28nm,0.9s						
W39A	**Magazine**	**18.71**	**13**	IAmb	IAmb	04 49 12.4	
	comp=Z,29nm,1.4s						
TUC	**Tucson**	**18.78**	**327**	P	**Pn**	**04 48 59.4**	**+0.3**
OK029	**Liberty Lake**	**18.82**	**3**	IAmb	IAmb	04 49 18.3	
	comp=Z,23nm,1.0s						
OK030	**Cody Creek RV**	**18.99**	**5**	IAmb	IAmb	04 49 01.8	
	comp=Z,25nm,0.9s						
OK031	**S. Brethren Rd**	**19.01**	**5**	IAmb	IAmb	04 49 02.1	
	comp=Z,26nm,0.9s						
TUL1	**Leonard**	**19.08**	**7**	IAmb	IAmb	04 49 16.4	
	comp=Z,17nm,0.9s						
ANMO	**Albuquerque**	**19.20**	**340**	P	**Pn**	**04 49 05.0**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=143,slow=12,SNR=10						
ANMO	**Albuquerque**	**19.20**	**340**	P	**Pn**	**04 49 03.9**	**-0.4**
CROK	**Carrier**	**19.50**	**2**	IAmb	IAmb	04 49 20.5	
	comp=Z,21nm,1.0s						
214A	**Organ Pipe Nat**	**19.64**	**322**	P	**P**	**04 49 08.4**	**+0.6**
HHAR	**Hobbs**	**19.73**	**12**	IAmb	IAmb	04 49 25.0	
	comp=Z,21nm,1.2s						
KAN13	**South Haven SW**	**20.02**	**3**	IAmb	IAmb	04 49 14.7	
	comp=Z,25nm,1.0s						
KAN09	**Caldwell North**	**20.14**	**3**	IAmb	IAmb	04 49 27.1	
	comp=Z,13nm,0.8s						
Y49A	**Blount Mountai**	**20.17**	**31**	IAmb	IAmb	04 49 17.5	
	comp=Z,17nm,1.4s						
X18A	**Snowflake**	**20.18**	**332**	IAmb	IAmb	04 49 33.2	
	comp=Z,12nm,1.0s						
LCAR	**Lake Charles**	**20.21**	**18**	IAmb	IAmb	04 49 29.9	
	comp=Z,14nm,0.8s						
KS20	**Mayfield South**	**20.24**	**3**	IAmb	IAmb	04 49 17.6	
	comp=Z,12nm,0.9s						
PLAL	**Pickwick Lake**	**20.35**	**26**	IAmb	IAmb	04 49 34.9	
	comp=Z,15nm,0.8s						
X48A	**Hartselle**	**20.35**	**29**	IAmb	IAmb	04 49 17.7	
	comp=Z,12nm,1.0s						
Z51A	**Franklin**	**20.39**	**34**	IAmb	IAmb	04 49 16.9	
	comp=Z,13nm,0.9s						
T25A	**Trinidad**	**20.73**	**347**	IAmb	IAmb	04 49 26.6	
	comp=Z,16nm,1.1s						
X16A	**Lo Mia Camp, P**	**20.78**	**329**	IAmb	IAmb	04 49 30.9	
	comp=Z,14nm,0.9s						
T42A	**Van Buren**	**21.13**	**17**	IAmb	IAmb	04 49 35.5	
	comp=Z,19nm,1.1s						
Y52A	**Lilburn**	**21.41**	**35**	IAmb	IAmb	04 49 46.1	
	comp=Z,18nm,1.1s						
GOGA	**Godfrey**	**21.41**	**37**	IAmb	IAmb	04 49 37.9	
	comp=Z,13nm,0.9s						
WVT	**Waverly**	**21.44**	**25**	P	**P**	**04 49 26.0**	**-1.2**
WVT				IAmb	IAmb	04 49 41.0	
	comp=Z,17nm,0.9s						
V48A	**Smith Brothers**	**21.53**	**27**	IAmb	IAmb	04 49 38.4	
	comp=Z,13nm,1.1s						
WUAZ	**Wupatki**	**21.65**	**331**	P	**P**	**04 49 30.0**	**+0.4**
WUAZ				IAmb	IAmb	04 49 35.5	
	comp=Z,16nm,0.9s						
CBKS	**Cedar Bluff**	**21.81**	**358**	P	**P**	**04 49 30.9**	**-0.4**
MVCO	**Mesa Verde**	**21.94**	**339**	P	**P**	**04 49 32.8**	**-0.1**
MVCO				IAmb	IAmb	04 49 52.2	
	comp=Z,12nm,0.8s						
R40A	**Maddies Statio**	**22.02**	**14**	P	**P**	**04 49 32.8**	**-0.6**
CLTN	**Cedars of Leba**	**22.04**	**28**	IAmb	IAmb	04 49 47.2	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,8.9nm,0.9s						
S44A	**Carbondale**	**22.30**	**20**	P	**P**	**04 49 34.6**	**-1.9**
SIUC	**Southern Illin**	**22.33**	**20**	P	**P**	**04 49 35.5**	**-1.3**
CPCT	**Cooper Cave**	**22.38**	**32**	P	**P**	**04 49 37.7**	**+0.3**
T47A	**Sharon Grove**	**22.47**	**25**	P	**P**	**04 49 38.4**	**+0.1**
HODGE	**Hodges**	**22.70**	**38**	IAmb	IAmb	04 49 53.0	
	comp=Z,10nm,0.9s						
U15A	**North Rim**	**22.82**	**331**	P	**P**	**04 49 41.9**	**-0.5**
BG3	**Lake Jocassee**	**22.87**	**35**	P	**P**	**04 49 42.9**	**+0.3**
TKL	**Tuckaleechee C**	**22.92**	**33**	P	**P**	**04 49 45.1**	**+2.0**
	comp=Z,4.1nm,0.8s,baz=196,slow=14,SNR=4.4						
TKL	**Tuckaleechee C**	**22.92**	**33**	P	**P**	**04 49 42.1**	**-1.0**
TKL				IAmb	IAmb	04 49 57.1	
	comp=Z,9.8nm,0.9s						
NHSC	**New Hope**	**23.23**	**43**	P	**P**	**04 49 46.1**	**-0.2**
P40A	**Paris**	**23.25**	**13**	P	**P**	**04 49 45.1**	**-1.3**
V53A	**Saluda**	**23.44**	**34**	P	**P**	**04 49 47.3**	**-1.0**
V53A				IAmb	IAmb	04 50 00.9	
	comp=Z,19nm,1.1s						
ISCO	**Idaho Springs**	**23.54**	**347**	P	**P**	**04 49 49.0**	**-0.6**
KNB	**Kanab**	**23.54**	**331**	P	**P**	**04 49 49.2**	**-0.3**
KNB				IAmb	IAmb	04 49 54.0	
	comp=Z,8.9nm,1.0s						
PKCU	**Pink Cliffs**	**23.66**	**332**	IAmb	IAmb	04 49 55.5	
	comp=Z,9.2nm,1.1s						
LCMT	**Little Creek M**	**23.74**	**330**	P	**P**	**04 49 49.7**	**-1.6**
WCI	**Wyandotte Cave**	**23.86**	**25**	P	**P**	**04 49 51.4**	**-0.9**
OGNE	**Ogallala**	**24.09**	**354**	P	**P**	**04 49 53.4**	**-1.1**
MTPU	**Mount Pierson**	**24.10**	**333**	P	**P**	**04 49 54.1**	**-0.9**
MTPU				IAmb	IAmb	04 49 59.0	
	comp=Z,12nm,0.9s						
SRU	**San Rafael Swe**	**24.36**	**337**	P	**P**	**04 49 56.5**	**-0.7**
SRU				IAmb	IAmb	04 50 15.5	
	comp=Z,11nm,1.3s						
Q16A	**Castle Valley**	**24.44**	**336**	P	**P**	**04 49 57.8**	**-0.1**
Q16A				IAmb	IAmb	04 50 13.8	
	comp=Z,12nm,1.4s						
V55A	**Taylorsville**	**24.45**	**36**	IAmb	IAmb	04 50 00.0	
	comp=Z,9.3nm,1.1s						
MSU	**Marysvale**	**24.50**	**334**	P	**P**	**04 49 58.1**	**-0.3**
MVU	**Marysvale**	**24.50**	**334**	P	**P**	**04 49 56.3**	**-2.2**
O20A	**White River Ci**	**24.53**	**342**	IAmb	IAmb	04 50 20.1	
	comp=Z,8.6nm,1.1s						
U54A	**Nelsons Funny**	**24.61**	**34**	P	**P**	**04 49 59.1**	**-0.2**
W57A	**Gilead**	**24.68**	**39**	P	**P**	**04 49 59.0**	**-0.9**
W57A				IAmb	IAmb	04 50 02.1	
	comp=Z,11nm,0.9s						
QSM	**Queen of Sheba**	**24.86**	**323**	P	**P**	**04 50 01.3**	**-0.2**
GWY	**Greenwater Val**	**24.90**	**324**	P	**P**	**04 50 01.1**	**-1.0**
PRN	**Pahroc Range**	**24.94**	**328**	P	**P**	**04 50 02.1**	**-0.2**
PRN				IAmb	IAmb	04 50 08.5	
	comp=Z,11nm,1.4s						
PSUT	**Pine Spring**	**25.25**	**331**	P	**P**	**04 50 05.5**	**+0.3**
RDMU	**Red Mountain**	**25.34**	**340**	P	**P**	**04 50 04.4**	**-1.6**
RDMU				IAmb	IAmb

*YARS **30** 04:47:02.1±0.0, 74.49N×134.03E, h10km*
*IDC **30** 04:47:09.2±0.8, 75.02N×133.63E, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.7/45, mbtmp3.8/9, ML4.6/1, Error ellipse: s-maj=37.8km s-min=14.6km az=133.0*
*NEIC **30** 04:47:11.9±1.2, 74.8N±0.1×134.1E±0.4, h15km±5km, mb4.3/15, Error ellipse: s-maj=22.7km s-min=7.6km az=139.0*

ISC 30 04:47:10.7±0.6, 74.97N±0.07×133.7E±0.1, h10km, n32, σ1§21/34, mb4.1/17, Laptev Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIXI	**Tiksi**	**3.62**	**205**	Pn	**Pn**	**04 48 06.7**	**0.0**
	2.1nm,0.3s,baz=356,slow=7.7,SNR=6.5						
TIXI				Sn	**Sn**	**04 48 47.2**	**-2.1**
	4.9nm,0.3s,baz=308,slow=10,SNR=6.7						
TIXI				Lg	Lg	04 49 04.7	
	5.4nm,0.3s,baz=307,slow=8.8,SNR=7.3						
TIXI	**Tiksi**	**3.62**	**205**	*e*Pg	Pn	04 48 01.1	-5.5
	14nm,0.2s						
TIXI				*e*Sg	**Sn**	**04 48 48.6**	**-0.7**
	31nm,0.2s						
TIXI	**Tiksi**	**3.62**	**205**	Pn	**Pn**	**04 48 06.1**	**-0.5**
TIXI				Sn	**Sn**	**04 48 47.4**	**-1.9**
BTGS	**Batagay**	**7.37**	**177**	*e*Pg	Pn	04 49 07.5	+10
	3.1nm,0.3s						
BTGS				*e*Sg	**Sb**	**04 50 49.6**	**+3.5**
	12nm,0.3s						
IMAR	**Indian Mountai**	**24.10**	**73**	P	**P**	**04 52 25.7**	**-0.2**
H21K	**Melozitna Rive**	**24.60**	**73**	P	**P**	**04 52 30.6**	**+0.1**
H21K				IAmb	IAmb	04 52 39.1	
	comp=Z,4.4nm,1.0s						
MLY	**Manley**	**25.62**	**72**	P	**P**	**04 52 39.8**	**+0.1**
I23K	**Minto, Yukon-K**	**25.86**	**71**	P	**P**	**04 52 42.5**	**+0.7**
I23K				IAmb	IAmb	04 52 46.0	
	comp=Z,7.9nm,1.4s						
ILAR	**Eielson Array**	**26.78**	**69**	P	**P**	**04 52 50.8**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=323,slow=8.7,SNR=13						
ILAR	**Eielson Array**	**26.78**	**69**	P	**P**	**04 52 49.7**	**-0.4**
PAX	**Paxson**	**28.63**	**70**	P	**P**	**04 53 06.0**	**-0.8**
SCM	**Sheep Creek Mo**	**29.14**	**73**	P	**P**	**04 53 10.1**	**-1.3**
SONM	**Songino Array**	**29.59**	**219**	P	**P**	**04 53 16.9**	**+1.4**
	comp=Z,2.1nm,0.8s,baz=9.2,slow=10,SNR=11						
SONM	**Songino Array**	**29.59**	**219**	P	**P**	**04 53 16.8**	**+1.4**
EYAK	**Cordova Ski Ar**	**30.64**	**73**	P	**P**	**04 53 23.4**	**-1.0**
SUMG	**Summit**	**32.58**	**356**	P	**P**	**04 53 43.9**	**+2.0**
SUMG				IAmb	IAmb	04 53 54.6	
	comp=Z,7.2nm,1.4s						
BRVK	**Borovoye**	**32.84**	**264**	P	**P**	**04 53 43.7**	**-0.2**
BRVK				IAmb	IAmb	04 53 44.7	
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**35.58**	**247**	P	**P**	**04 54 08.9**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=45,slow=6.3,SNR=3.6						
MKAR	**Makanchi Array**	**35.58**	**247**	P	**P**	**04 54 08.4**	**+0.6**
MJB9	**Matsu-Tunnel**	**38.57**	**174**	P	**P**	**04 54 31.6**	**-1.6**
PDAR	**Pinedale Array**	**55.48**	**53**	P	**P**	**04 56 45.5**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=29,slow=2.1,SNR=2.6						
PDAR	**Pinedale Array**	**55.48**	**53**	P	**P**	**04 56 45.7**	**+0.3**
YERR	**Yerington**	**56.96**	**63**	P	**P**	**04 56 56.8**	**+0.8**
YERR				IAmb	IAmb	04 56 57.4	
	comp=Z,1.7nm,0.7s						
KVN	**Kaiserville**	**57.16**	**62**	P	**P**	**04 56 58.4**	**+1.0**
KVN				IAmb	IAmb	04 57 03.7	
	comp=Z,3.0nm,0.7s						
RYN	**Ryan**	**57.47**	**62**	P	**P**	**04 56 59.5**	**0.0**
RYN				IAmb	IAmb	04 57 01.2	
	comp=Z,2.6nm,0.8s						
NVAR	**Mina Array Bea**	**57.71**	**62**	P	**P**	**04 57 02.2**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=351,slow=4.9,SNR=12						
NVAR	**Mina Array Bea**	**57.71**	**62**	P	**P**	**04 57 01.7**	**+0.4**
R11A	**Troy Canyon, C**	**58.41**	**60**	P	**P**	**04 57 06.7**	**+0.6**
R11A				IAmb	IAmb	04 57 11.7	
	comp=Z,2.2nm,0.7s						
LCH	**Last Change Ra**	**59.00**	**62**	P	**P**	**04 57 11.2**	**+1.0**
LCH				IAmb	IAmb	04 57 11.9	
	comp=Z,2.4nm,0.8s						
TXAR	**Lajitas Array**	**69.66**	**52**	P	**P**	**04 58 19.0**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=357,slow=5.8,SNR=7.9						
TORD	**Torodi Ar. Bea**	**87.24**	**314**	P	**P**	**04 59 56.1**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=2.0,slow=5.6,SNR=5.9						
WRA	**Warramunga Arr**	**94.70**	**179**	P	**P**	**05 00 30.2**	**-1.3**
	comp=Z,0.3nm,0.8s,baz=355,slow=4.8,SNR=2.2						

RSNC 30 04:50:05.3±0.7, 6.48N×73.56W, h112km±4km, ML2.0, 2C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.39**	**74**	⇓*e*P	Pn	04 50 21.7	-0.3
BARC				*e*S	Sn	04 50 34.3	-0.2
BARC				*i*		04 50 35.4	
	comp=Z,22nm,0.2s						
BRRC	**Barranca, Sant**	**0.64**	**347**	*e*P	Pn	04 50 22.5	-0.9
BRRC				*e*S	Sn	04 50 36.4	-0.5
BRRC				*i*		04 50 37.5	
	comp=Z,20nm,0.1s						
RUSC	**La Rusia**	**0.76**	**141**	*e*P	Pn	04 50 24.4	-0.5
RUSC				*e*S	Sn	04 50 39.5	0.0
RUSC				*i*		04 50 40.9	
	comp=Z,6.9nm,0.3s						
RUSC	**La Rusia**	**0.76**	**141**	P	Pn	04 50 24.6	-0.3
PTBC	**PUERTO BERRIO,**	**0.89**	**274**	⇑*i*P	Pn	04 50 23.7	-1.8
PTBC				*e*S	Sn	04 50 38.5	-2.3
PTBC				*i*		04 50 39.1	
	comp=Z,55nm,0.1s						
SPBC	**San Pablo de B**	**0.97**	**212**	*e*S	Sn	04 50 42.7	+0.3
SPBC				*i*		04 50 47.1	
	comp=Z,25nm,0.1s						
PAMC	**Pamplona, Colo**	**1.21**	**45**	*e*P	Pn	04 50 29.0	-0.3
PAMC				*e*S	Sn	04 50 47.3	-0.2
PAMC				*i*		04 50 50.3	
	comp=Z,9.4nm,0.2s						
NORC	**Norcasia**	**1.59**	**235**	*e*P	Pn	04 50 32.9	-0.4
NORC				*e*S	Sn	04 50 53.8	-0.9
NORC				*i*		04 50 56.1	
	comp=Z,13nm,0.1s						
ZARC	**Zaragoza, Cauc**	**1.63**	**308**	⇑*e*P	Pn	04 50 33.0	-0.8
ZARC				*e*S	Sn	04 50 55.8	+0.3
ZARC				*i*		04 50 59.0	
	comp=Z,19nm,0.3s						
OCAC	**Ocana**	**1.76**	**8**	*e*P	Pn	04 50 34.7	-0.8
OCAC				*e*S	Sn	04 50 58.1	-0.5
OCAC				*i*		04 51 06.6	
	comp=Z,26nm,0.3s						
TAMC	**Tame, Arauca**	**1.76**	**91**	*e*P	Pn	04 50 35.1	-0.3
TAMC				*e*S	Sn	04 50 58.2	-0.2
TAMC				*i*		04 51 07.0	
	comp=Z,10nm,0.4s						
CHIC	**Chingaza**	**1.85**	**185**	*e*P	Pn	04 50 37.7	+0.8
CHIC				*e*S	Sn	04 51 02.3	+1.4
HELC	**Santa Helena**	**1.98**	**262**	*e*P	Pn	04 50 37.8	-0.6
HELC				*e*S	Sn	04 51 03.5	-0.1
HELC				*i*		04 51 11.9	
	comp=Z,6.3nm,0.3s						
GUY2C	**Guyana, Caldas**	**2.19**	**235**	*e*P	Pn	04 50 42.0	+0.8
GUY2C				*e*S	Sn	04 51 10.4	+1.8
GUY2C				*i*		04 51 15.0	
	comp=Z,7.1nm,0.5s						
SMLC	**San Martn de**	**2.36**	**348**	*e*P	Pn	04 50 42.7	-0.2
SMLC				*e*S	Sn	04 51 11.8	0.0
SMLC				*i*		04 51 17.0	
	comp=Z,9.8nm,0.4s						
CBOC	**Ciudad Bolivar**	**2.51**	**256**	*e*P	Pn	04 50 45.0	-0.1
CBOC				*e*S	Sn	04 51 15.3	-0.3
CBOC				*i*		04 51 18.8	
	comp=Z,2.4nm,0.4s						
ORTC	**Ortega, Tolima**	**3.06**	**213**	*e*S	Sn	04 51 30.7	+2.3
ORTC				*i*		04 51 38.8	
	comp=Z,1.9nm,0.5s						

MEX 30 06:25:57.0±0.6, 15.12N×93.70W, h16km±339km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.74**	**39**	*e*P	Pg	06 26 08.8	-2.8
PCIG				*e*S	Sg	06 26 18.2	-3.3

*IDC **30** 06:26:19.7±1.0, 34.82N×80.76E, h0km, mb3.7/6, mb1 3.8/10, mb1mx3.6/66, mbtmp3.7/10, ML3.2/4, MS3.2/7, Ms1 3.2/7, ms1mx2.9/45, Error ellipse: s-maj=29.2km s-min=17.8km az=54.0*

ISC 30 06:26:21.4±1.0, 34.9N±0.1×80.8E±0.2, h10km, n17, σ1§67/11, mb3.8/7, MS3.1/5, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**9.15**	**329**	Pn	Pn	06 28 42.9	+9.3
	0.3nm,0.3s,baz=176,slow=18,SNR=4.8						
AAK				Lg	Lg	06 31 10.8	
	0.2nm,0.3s,baz=344,slow=18,SNR=2.3						
AAK				LR	LR	06 32 29.3	
	comp=Z,88nm,18.6s,baz=100,slow=40						
MKAR	**Makanchi Array**	**11.94**	**5**	Pn	**Pn**	**06 29 10.7**	**-0.9**
	0.2nm,0.3s,baz=182,slow=14,SNR=2.1						
KURBB	**Kurchatov Arra**	**15.80**	**355**	Pn	**Pn**	**06 29 59.9**	**-3.9**
	0.0nm,0.3s,baz=176,slow=12,SNR=3.9						
GEYT	**Alibeck**	**18.48**	**286**	LR	LR	06 39 17.5	
	comp=Z,77nm,18.7s,baz=25,slow=42						
ZALV	**Zalesovo Beam**	**19.25**	**7**	P	**P**	**06 30 46.2**	**+0.4**
	0.2nm,0.3s,baz=204,slow=14,SNR=2.4						
BVAR	**Borovoye Array**	**19.56**	**341**	P	**Pn**	**06 30 50.0**	**-0.6**
	0.4nm,0.3s,baz=161,slow=14,SNR=18						
AKTO	**Aktyubinsk**	**22.70**	**320**	LR	LR	06 41 06.6	
	comp=Z,67nm,20.4s,baz=53,slow=39						
CMAR	**Chiang Mai Arr**	**22.99**	**131**	P	**P**	**06 31 26.4**	**0.0**
	1.4nm,0.3s,baz=319,slow=11,SNR=5.9						
CMAR				LR	LR	06 41 56.5	
	comp=Z,26nm,18.3s,baz=26,slow=41						
SONM	**Songino Array**	**23.04**	**48**	P	**P**	**06 31 28.4**	**+1.6**
	0.8nm,0.5s,baz=260,slow=8.4,SNR=5.9						
KIRV	**Kirov**	**31.48**	**329**	LR	LR	06 46 14.6	
	comp=Z,103nm,19.2s,baz=5.4,slow=38						
BRTR	**Keskin Array B**	**37.47**	**292**	LR	LR	06 52 27.4	
	comp=Z,33nm,20.0s,baz=102,slow=42						
AKASG	**Malin Array Be**	**40.13**	**309**	P	**P**	**06 33 57.8**	**+0.5**
	0.6nm,0.4s,baz=95,slow=11,SNR=5.3						
FINES	**FINESS Array B**	**43.30**	**325**	P	**P**	**06 34 24.4**	**+1.4**
	2.7nm,0.7s,baz=77,slow=8.4,SNR=4.2						
NOA	**NORSAR Array B**	**50.41**	**324**	LR	LR	06 57 51.3	
	comp=Z,32nm,21.9s,baz=345,slow=38						
TORD	**Torodi Ar. Bea**	**73.72**	**275**	P	**P**	**06 37 55.5**	**-0.4**
	0.8nm,0.9s,baz=29,slow=5.8,SNR=4.5						
WRA	**Warramunga Arr**	**74.56**	**128**	P	**P**	**06 37 60.0**	**-0.7**
	99nm,0.6s,baz=326,slow=5.4,SNR=3.2						
ASAR	**Alice Springs**	**77.00**	**131**	P	**P**	**06 38 13.9**	**-0.7**
	0.2nm,0.5s,baz=316,slow=5.4,SNR=5.6						

*IDC **30** 06:44:57.1±1.3, 7.62S×123.30E, h0km, mb3.9/2, mb1 4.1/5, mb1mx3.7/32, mbtmp4.0/5, ML4.6/4, MS3.1/8, Ms1 3.1/8, ms1mx2.8/41, Error ellipse: s-maj=69.2km s-min=19.5km az=60.0*
*DJA **30** 06:44:59.4±0.5, 9.3S×12.2E±°, h10km±4km, M4.3/12, mb4.7/6, mB4.9/4, MLv4.2/12, Mw(mB)4.2/4*
*NEIC **30** 06:45:01.3±2.0, 8.54S±0.07×122.06E±0.09, h19km±9km, mb4.2/10, Error ellipse: s-maj=13.5km s-min=9.2km az=63.0*

ISC 30 06:44:59.5±0.7, 8.62S±0.06×122.01E±0.05, h10km, n46, σ1§74/45, mb4.2/4, MS3.1/4, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**0.22**	**94**	Pg	**Pg**	**06 45 05.2**	**+1.1**
MMRI	**Maumere**	**0.22**	**94**	P	**Pg**	**06 45 05.1**	**+1.1**
EDFI	**Ende, Flores**	**0.34**	**248**	P	**Pn**	**06 45 10.7**	**+0.1**
LBFI	**Labuhan Bajo,**	**2.10**	**274**	P	**Pn**	**06 45 34.3**	**-0.5**
BASI	**Baing, Sumba**	**2.13**	**222**	P	**Pn**	**06 45 34.8**	**-0.3**
BATI	**Baumata**	**2.27**	**134**	Pn	**Pb**	**06 45 40.3**	**-0.2**
	67nm,0.3s,baz=354,slow=1.9,SNR=28						
BATI				Sn	**Sg**	**06 46 13.6**	**+1.3**
	31nm,0.3s,baz=8.2,slow=16,SNR=4.1						
BATI	**Baumata**	**2.27**	**134**	P	**Pb**	**06 45 39.0**	**-1.5**
SOEI	**Soe**	**2.49**	**117**		**Pn**	**06 45 41.1**	**+0.8**
SOEI	**Soe**	**2.49**	**117**	P	**Pn**	**06 45 40.9**	**+0.6**
WBSI	**Waikabubak, Su**	**2.78**	**248**	P	**Pn**	**06 45 45.2**	**+1.1**
WBSI				S	**Sn**	**06 46 20.4**	**+2.6**
BSSI	**Bau Bau, Buton**	**2.89**	**328**	P	**Pn**	**06 45 44.2**	**-1.4**
BKSI	**Bulukumba**	**3.78**	**330**	P	**Pn**	**06 45 56.4**	**-1.4**
PLAI	**Plampang**	**4.19**	**267**	P	**Pn**	**06 46 04.1**	**+0.6**
KAPI	**Kappang**	**4.23**	**328**	Pn	**Pn**	**06 46 04.0**	**0.0**
	3.2nm,0.3s,baz=180,slow=9.5,SNR=8.1						
KAPI				LR	LR	06 47 38.3	
	comp=Z,192nm,18.6s,baz=160,slow=37						
KAPI	**Kappang**	**4.23**	**328**	P	**Pn**	**06 46 02.8**	**-1.2**
BNSI	**Bone**	**4.60**	**336**	P	**Pn**	**06 46 08.2**	**-0.9**
KDI	**Kendari**	**4.67**	**7**	P	**Pn**	**06 46 10.4**	**+0.3**
TWSI	**Taliwang, Sumb**	**5.08**	**268**	P	**Pn**	**06 46 15.5**	**-0.1**
	0.2nm942nm72nm,0.8s						
KLNI	**Mataram**	**5.86**	**272**	P	**Pn**	**06 46 29.0**	**+2.6**
	0.1nm2um35nm,0.8s						
LUWI	**Luwuk**	**7.57**	**6**	Pn	**Pn**	**06 46 50.2**	**+0.3**
APSI	**Ampana**	**7.67**	**357**	P	**Pn**	**06 46 49.2**	**-2.1**
	0.2nm659nm73nm,0.7s						
KNRA	**Kununurra**	**9.63**	**137**	Pn	**Pn**	**06 47 16.9**	**-1.3**
TOLI2	**Tolitoli**	**9.75**	**353**	Pn	**Pn**	**06 47 20.7**	**+0.9**
MTN	**Manton Dam**	**9.89**	**116**	Pn	**Pn**	**06 47 21.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**10.06**	**160**	Pn	**Pn**	**06 47 24.4**	**+0.3**
	0.5nm,0.3s,baz=347,slow=10,SNR=17						
FITZ				Sn	**Sn**	**06 49 12.2**	**-4.9**
	0.8nm,0.3s,baz=115,slow=5.1,SNR=4.7						
FITZ				LR	LR	06 52 05.9	
	comp=Z,32nm,19.8s,baz=333,slow=40						
FITZ	**Fitzroy Crossi**	**10.06**	**160**		**Pn**	**06 47 24.5**	**+0.4**
PSA00	**Pilbara Seismi**	**13.04**	**189**	Pn	**Pn**	**06 48 06.8**	**+1.8**
LEM	**Lembang**	**14.38**	**276**	LR	LR	06 56 03.4	
	comp=Z,151nm,18.0s,baz=158,slow=43						
WB0	**Warramunga Arr**	**16.32**	**134**	Pn	**Pn**	**06 48 46.5**	**-2.4**
WB0				IAmb	IAmb	06 48 53.7	
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**16.40**	**135**	Pn	**Pn**	**06 48 45.5**	**-4.4**
	comp=Z,14nm,0.3s,baz=312,slow=12,SNR=4.0						
WRA				LR	LR	06 55 20.7	
	comp=Z,59nm,20.4s,baz=325,slow=38						
WRAB	**Tennant Creek**	**16.40**	**135**	Pn	**Pn**	**06 48 48.8**	**-1.1**
WRAB				IAmb	IAmb	06 48 54.7	
	comp=Z,14nm,0.8s						
WB2	**Warramunga Arr**	**16.41**	**135**	Pn	**Pn**	**06 48 46.3**	**-3.7**
WB2				IAmb	IAmb	06 48 54.6	
	comp=Z,13nm,0.8s						
WR0	**Warramunga Arr**	**16.55**	**134**	Pn	**Pn**	**06 48 49.0**	**-2.9**
WR0				IAmb	IAmb	06 48 56.4	
	comp=Z,18nm,0.8s						
AS31	**Alice Springs**	**18.80**	**144**		**Pn**	**06 49 20.2**	**+0.4**
ASAR	**Alice Springs**	**18.80**	**144**	P	**P**	**06 49 19.5**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=326,slow=13,SNR=60						
MORW	**Morawa**	**21.10**	**195**		**P**	**06 49 45.7**	**+1.4**
MORW				IAmb	IAmb	06 49 47.3	
	comp=Z,15nm,0.9s						
COEN	**Coen**	**21.41**	**106**	P	**P**	**06 49 47.4**	**-0.4**
COEN				IAmb	IAmb	06 49 52.4	
	comp=Z,22nm,1.0s						
FORT	**Forrest**	**22.76**	**166**	P	**P**	**06 50 03.2**	**+1.2**
NWAO	**Narrogin (SRO)**	**24.59**	**190**	LR	LR	07 01 59.5	
	comp=Z,42nm,19.0s,baz=187,slow=40						
BBOO	**Buckleboo**	**27.36**	**154**	P	**P**	**06 50 44.7**	**-0.2**
STKA	**Stephens Creek**	**29.44**	**145**	P	**P**	**06 51 03.8**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=340,slow=13,SNR=3.4						
STKA				LR	LR	07 03 04.1	
	comp=Z,51nm,18.1s,baz=23,slow=37						
KSRS	**Korea Array**	**46.17**	**7**	LR	LR	07 14 02.4	
	comp=Z,12nm,19.4s,baz=317,slow=39						
URZ	**Urewera**	**57.50**	**130**	LR	LR	07 21 19.5	
	comp=Z,46nm,19.9s,baz=212,slow=38						
MKAR	**Makanchi Array**	**65.52**	**331**	P	**P**	**06 55 40.6**	**-2.5**
	comp=Z,0.4nm,0.4s,baz=116,slow=7.7,SNR=2.3						
TORD	**Torodi Ar. Bea**	**121.33**	**280**	PKP	**PKiKP**	**07 03 55.6**	**+1.5**
	comp=Z,0.3nm,0.8s,baz=68,slow=1.2,SNR=1.5						
CPUP	**Villa Florida**	**145.25**	**181**	PKPbc	**PKPdf**	**07 04 40.1**	**+1.8**
	comp=Z,2.9nm,0.9s,baz=175,slow=1.6,SNR=6.5						

MEX 30 06:47:26.3±1.4, 17.01N×96.52W, h67km±7km, MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OXBJ	**Oaxaca**	**0.21**	**285**	*e*P	Pn	06 47 35.2	-1.7
OXBJ				*e*S	Sn	06 47 42.7	-1.9
VHO	**Vista Hermosa**	**0.22**	**286**	*e*P	Pn	06 47 35.2	-1.7
VHO				*e*S	Sn	06 47 42.9	-1.8
YOIG	**Yosondua**	**1.00**	**261**	*e*P	Pn	06 47 43.8	-1.1
YOIG				*e*S	Sn	06 47 57.7	-1.1
TOIG	**Toxpalan**	**1.20**	**334**	*e*P	Pn	06 47 45.5	-1.8
TOIG				*i* S	Sn	06 48 01.0	-2.0
TXIG	**Tlaxiaco**	**1.22**	**281**	*e*P	Pn	06 47 46.7	-1.1
TXIG				*e*S	Sn	06 48 01.1	-2.7
HUIG	**Huatulco**	**1.30**	**162**	*e*P	Pn	06 47 47.3	-1.2
HUIG				*e*S	Sn	06 48 03.9	-1.3
HLIG	**Huajuapan de L**	**1.47**	**304**	*e*P	Pn	06 47 49.6	-1.5
HLIG				*e*S	Sn	06 48 06.8	-2.9
TPIG	**Tehuac#an**	**1.61**	**330**	*e*P	Pn	06 47 51.5	-1.4
TPIG				*e*S	Sn	06 48 10.5	-2.4
PNIG	**Pinotepa**	**1.66**	**248**	*e*P	Pn	06 47 50.7	-2.7
PNIG				*e*S	Sn	06 48 11.3	-2.6
FTIG	**Fresnillo de T**	**1.78**	**300**	*e*P	Pn	06 47 54.0	-1.1
FTIG				*e*S	Sn	06 48 14.6	-2.3
TLIG	**Tlapa**	**2.03**	**286**	*e*P	Pn	06 47 57.8	-0.7
TLIG				*e*S	Sn	06 48 19.3	-3.6
MGIG	**Malinaltepec**	**2.04**	**276**	*e*P	Pn	06 47 57.6	-1.0
MGIG				*e*S	Sn	06 48 20.7	-2.4
DAIG	**Los Arroyos**	**3.00**	**271**	*e*P	Pn	06 48 09.4	-2.1
DAIG				*e*S	Sn	06 48 43.8	-2.6
MEIG	**Mezcala**	**3.10**	**287**	*e*P	Pn	06 48 12.3	-0.6
MEIG				*i* S	Sn	06 48 46.1	-2.8
PLIG	**Platanillo**	**3.16**	**296**	*e*P	Pn	06 48 12.9	-0.9
PLIG				*e*S	Sn	06 48 45.2	-5.1
MAVM	**Malinalco, Edo**	**3.43**	**305**	*e*P	Pn	06 48 17.3	-0.3
MAVM				*e*S	Sn	06 48 55.6	-1.6

*JMA **30** 07:24:33.5±0.2, 24.62N×122.78E, h83km±2km, M2.0*
*TAP **30** 07:24:33.6, 24.44N×122.71E, h80km±1km, ML2.7, C*

ISC 30 07:24:33.6±1.5, 24.44N±0.05×122.74E±0.03, h82km±11km, n36, σ0§58/60, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.25**	**85**	P	**Pn**	**07 24 46.0**	**+0.2**
YOJ				*e*S	**Sn**	**07 24 55.1**	**+0.2**
YOJ	**Yonaguni jima**	**0.25**	**85**	*i* P	**Pn**	**07 24 46.0**	**+0.2**
	baz=83						
YOJ				*i* S	**Sn**	**07 24 55.2**	**+0.2**
	baz=83						
IRIF	**Iriomote-Funau**	**0.91**	**96**	P	**Pn**	**07 24 51.2**	**-0.6**
IRIF				S	**Sn**	**07 25 05.4**	**+0.1**
NTC	**Toucheng**	**0.92**	**297**	P	**Pn**	**07 24 52.0**	**+0.2**
	baz=297						
NTC				*e*S	**Sn**	**07 25 04.8**	**-0.6**
	baz=297						
TIPB	**Shuangxi**	**0.98**	**303**	P	**Pn**	**07 24 52.8**	**+0.2**
	baz=303						
TIPB				*e*S	**Sn**	**07 25 05.7**	**-1.1**
	baz=303						
TWE	**Neicheng**	**1.01**	**286**	*e*P	**Pn**	**07 24 53.2**	**+0.3**
	baz=286						
TWE				*e*S	**Sn**	**07 25 07.3**	**-0.1**
	baz=286						
HATJ	**Hateruma jima**	**1.05**	**111**	P	**Pn**	**07 24 54.3**	**+1.0**
HATJ				*e*S	**Sn**	**07 25 08.6**	**+0.5**
NWF	**Wu-fen Shan**	**1.07**	**306**	*e*P	**Pn**	**07 24 54.0**	**+0.3**
	baz=306						
NWF				*e*S	**Sn**	**07 25 08.6**	**-0.2**
	baz=306						
WFSB	**Wu-fen Shan**	**1.07**	**306**	*e*P	**Pn**	**07 24 54.0**	**+0.4**
	baz=306						
WFSB				*e*S	**Sn**	**07 25 08.8**	**+0.2**
	baz=306						
NACB	**Ninganchiao**	**1.07**	**256**	*e*P	**Pn**	**07 24 53.4**	**-0.3**
	baz=255						
TWD	**Chiawan**	**1.10**	**251**	*e*P	**Pn**	**07 24 53.5**	**-0.4**
	baz=250						
TWD				*e*S	**Sn**	**07 25 08.8**	**-0.5**
	baz=250						
ETLH	**Xiulin Townshi**	**1.17**	**259**	*e*S	**Sn**	**07 25 10.5**	**-0.4**
	baz=258						
JKRS	**Kuro-shima**	**1.18**	**100**	P	**Pn**	**07 24 55.4**	**+0.5**
JKRS				*e*S	**Sn**	**07 25 11.5**	**+0.5**
YHNB	**Yeheng**	**1.26**	**281**	*e*P	**Pn**	**07 24 56.4**	**+0.3**
	baz=280						
YHNB				*e*S	**Sn**	**07 25 13.1**	**+0.2**
	baz=280						
NSK	**Sanguang**	**1.28**	**281**	*e*P	**Pn**	**07 24 56.4**	**+0.2**
	baz=280						
NSK				*e*S	**Sn**	**07 25 13.1**	**-0.1**
	baz=280						
JIJ	**Ishigaki jima**	**1.28**	**93**	P	**Pn**	**07 24 56.2**	**-0.1**
JIJ				S	**Sn**	**07 25 12.3**	**-1.0**
WHF	**Hehuan Shan**	**1.37**	**258**	*e*P	**Pn**	**07 24 57.8**	**-0.1**
	baz=257						
WHF				*e*S	**Sn**	**07 25 15.7**	**-0.3**
	baz=257						
FUSS	**Fushou**	**1.37**	**262**	*e*P	**Pn**	**07 24 58.0**	**+0.4**
	baz=261						
FUSS				*e*S	**Sn**	**07 25 15.8**	**0.0**
	baz=261						
JISG	**Ishigakijimahi**	**1.44**	**84**	P	**Pn**	**07 24 58.1**	**-0.2**
JISG				S	**Sn**	**07 25 16.1**	**-0.8**
CHGB	**Renai**	**1.47**	**256**	*e*P	**Pn**	**07 24 58.7**	**-0.2**
	baz=254						
CHGB				*e*

	baz=64							
CHGR	**Chuyangaron**	**1.07**	**269**			**Pb**	**07 30 54.1**	**+0.9**
DRK	**Karamyk**	**1.27**	**50**	⇑	*iP*	Pn	07 30 53.0	-3.6
	baz=52							
DRK				⇑	*iS*	**Sb**	**07 31 07.5**	**-5.8**
	baz=52							
DRK	**Karamyk**	**1.27**	**50**			**Pn**	**07 30 53.5**	**-3.1**
BTK	**Batken**	**1.40**	**9**	⇑	*iP*	**Pn**	**07 30 55.8**	**-2.4**
	baz=5.0							
BTK				⇑	*iS*	**Sn**	**07 31 12.1**	**-4.6**
	baz=5.0							
BTK	**Batken**	**1.40**	**9**			**Pn**	**07 30 56.9**	**-1.3**
IUG	**Iuzhnay**	**3.49**	**354**		*eP*	**Pb**	**07 31 35.0**	**+0.6**
	4µm,0.5s							
IUG					*eS*	**Sg**	**07 32 23.2**	**-1.3**
	274nm,1.0s							
AML	**Almayashu**	**4.21**	**34**		P	**Pn**	**07 31 40.6**	**+3.5**
	SNR=123							
KBL	**Kabul**	**4.29**	**197**		Pn	**Pn**	**07 31 38.1**	**+0.1**
KK31	**Karatay Array**	**4.42**	**360**	⇓	Pn	**Pn**	**07 31 42.0**	**+2.3**
	13nm,0.3s,baz=172,slow=15,SNR=248							
KK31				⇑	Pg	**Pb**	**07 31 51.5**	**+1.2**
	19nm,0.5s,baz=189,slow=14,SNR=11							
KK31				⇑	Sn	**Sn**	**07 32 31.6**	**+0.3**
	20nm,0.5s							
KK31				⇑	Lg	Lg	07 32 48.8	
	33nm,0.5s,baz=176,slow=29,SNR=5.3							
KK31	**Karatay Array**	**4.42**	**360**		Pn	**Pn**	**07 31 41.7**	**+2.0**
KKAR	**Karatay Array**	**4.42**	**360**			**Pn**	**07 31 42.1**	**+2.4**
KKAR	**Karatay Array**	**4.42**	**360**		Pn	**Pn**	**07 31 42.2**	**+2.5**
MRKS	**Merke**	**4.55**	**26**		*eP*	**Pb**	**07 31 54.3**	**+1.8**
	48nm,0.7s							
MRKS					*eS*	**Sg**	**07 32 56.3**	**-2.4**
	62nm,0.5s							
UCH	**Uchtor**	**4.67**	**39**		P	**Pn**	**07 31 45.3**	**+1.9**
	SNR=16							
AAK	**Ala-Archa**	**4.98**	**36**		P	**Pn**	**07 31 51.0**	**+3.7**
	SNR=7.7							
AAK	**Ala-Archa**	**4.98**	**36**	⇓	Pn	**Pn**	**07 31 49.1**	**+1.7**
	55nm,0.6s							
AAK	**Ala-Archa**	**4.98**	**36**		Pn	**Pn**	**07 31 49.3**	**+1.9**
FRU1	**Bishkek**	**5.17**	**36**			**Pn**	**07 31 52.5**	**+2.5**
KBK	**Karagaybulak**	**5.21**	**39**		P	**Pn**	**07 31 55.0**	**+4.5**
	SNR=101							
CHMS	**Chumysh**	**5.38**	**35**		P	**Pn**	**07 31 56.3**	**+3.5**
	SNR=32							
NIL	**Nilore**	**5.48**	**155**		Pn	**Pn**	**07 31 55.1**	**+1.0**
USP	**Ospenovka**	**5.48**	**32**		P	**Pn**	**07 31 57.2**	**+2.9**
	SNR=26							
BOOM	**Boomskoye usch**	**5.61**	**46**			**Pn**	**07 31 56.6**	**+0.5**
ULHL	**Ulahol**	**5.63**	**49**		P	**Pn**	**07 31 57.7**	**+1.3**
	SNR=7.1							
TKM2	**Tokmak 2**	**5.72**	**41**		P	**Pn**	**07 32 01.4**	**+3.7**
	SNR=48							
TKM2	**Tokmak 2**	**5.72**	**41**	⇑	Pn	**Pn**	**07 32 00.9**	**+3.2**
	31nm,0.5s							
TKM2				⇑	Sn	**Sn**	**07 33 06.2**	**+2.7**
	21nm,0.7s							
KST	**Kastek**	**6.00**	**42**		*eP*	**Pb**	**07 32 19.0**	**+1.8**
	3.0nm,0.8s							
KST					*eS*	**Sb**	**07 33 37.3**	**+8.2**
	4.5nm,1.5s							
MDOK	**Medeo**	**6.67**	**46**	⇑	Pn	**Pn**	**07 32 12.2**	**+1.6**
	6.4nm,0.6s							
MDOK					Lg	Lg	07 34 04.4	
	13nm,0.7s							
DHRM	**DHARAMSHALA**	**7.95**	**142**		*eP*	Pn	07 32 23.3	-5.0
SMLA	**Simla**	**9.29**	**142**		*eP*	**Pn**	**07 32 47.8**	**+1.3**
SMLA					*eS*	**Sn**	**07 34 28.4**	**-2.6**
AB31	**Akbulak array**	**13.02**	**328**	⇓	Pn	**Pn**	**07 33 35.6**	**-1.8**
	3.0nm,0.4s,baz=163,slow=9.8,SNR=134							
AB31				⇓	Sn	**Sn**	**07 36 01.7**	**-0.6**
	6.6nm,0.6s,baz=152,slow=24,SNR=12							
ABKAR	**Akbulak array**	**13.02**	**328**			**Pn**	**07 33 36.5**	**-1.0**
ABKAR	**Akbulak array**	**13.02**	**328**		Pn	**Pn**	**07 33 36.4**	**-1.0**
AKTO	**Aktyubinsk**	**14.73**	**327**	⇓	Pn	**Pn**	**07 34 00.6**	**-0.2**
	3.3nm,0.6s							
AKTO				⇓	Sn	**Sn**	**07 36 45.3**	**+1.3**
	5.5nm,0.7s							
ZALV	**Zalesovo Beam**	**18.13**	**28**		P	**Pn**	**07 34 42.1**	**-2.1**
	0.1nm,0.3s,baz=224,slow=12,SNR=3.3							
ONI	**Oni**	**20.88**	**289**			**P**	**07 35 15.2**	**+0.4**
ONI					IAmb	IAmb	07 35 19.0	
	comp=Z,16nm,0.7s							
FINES	**FINESS Array B**	**35.48**	**325**		P	**P**	**07 37 28.7**	**-0.1**
	comp=Z,3.6nm,0.9s,baz=113,slow=11,SNR=4.0							
NOA	**NORSAR Array B**	**42.43**	**322**		P	**P**	**07 38 25.2**	**-1.9**
	comp=Z,0.6nm,0.6s,baz=119,slow=7.1,SNR=3.5							
TORD	**Torodi Ar. Bea**	**65.42**	**267**		P	**P**	**07 41 15.3**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=43,slow=6.3,SNR=7.9							
TORD	**Torodi Ar. Bea**	**65.42**	**267**		IAmb	IAmb	07 41 17.7	
	comp=Z,1.9nm,1.2s							
WRA	**Warramunga Arr**	**83.45**	**122**		P	**P**	**07 42 59.0**	**-1.4**
	comp=Z,80nm,0.5s,baz=326,slow=4.8,SNR=2.3							

*INET **30** 07:32:46.6, 13.˝16N×87.˝93W, h20km, MD3.5, ML3.6*
*SNET **30** 07:32:48.9±0.5, 13.˝25N×87.˝88W, h4km±1km, ML4.0*
*UCR **30** 07:32:49.4±1.2, 13.˝27N×87.˝89W, h4km±3km, ML4.0*
ISC 30 07:32:49.0±0.8, 13.˝32N±0.˝05×87.˝88W±0.˝03, h9km±5km, n44, σ0s56/63, 5C-8D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCND	**La Caada**	**0.02**	**236**	*eP*	**Pg**	**07 32 50.9**	**+0.2**
LCND				*eS*	**Sg**	**07 32 52.1**	**+0.2**
LCND				IAML		07 32 55.6	
	comp=Z,177µm,0.3s						
LCND	**La Caada**	**0.02**	**236**	*eP*	**Pg**	**07 32 50.9**	**+0.2**
LCND				*eS*	**Sg**	**07 32 52.1**	**+0.2**
LCND				IAML		07 32 55.6	
	comp=Z,173µm,0.2s						
LCND				IAML		07 32 55.6	
	comp=Z,177µm,0.3s						
LUNI	**Base Naval La**	**0.04**	**67**	⇑ *eP*	**Pg**	**07 32 51.5**	**+0.6**
LUNI				*eS*	**Sg**	**07 32 53.5**	**+1.3**
LUNI				IAML		07 32 55.1	
	comp=Z,130µm,0.4s						
CNCH	**Conchagua**	**0.06**	**135**	⇓ *eP*	**Pg**	**07 32 50.9**	**-0.3**
CNCH				*eS*	**Sg**	**07 32 52.4**	**-0.3**
CNCH	**Conchagua**	**0.06**	**135**	⇓ *eP*	**Pg**	**07 32 50.9**	**-0.3**
CNCH				*eS*	**Sg**	**07 32 52.4**	**-0.3**
CNRM	**Centro Naciona**	**0.33**	**299**	*eP*	**Pg**	**07 32 56.4**	**+0.9**
CNRM				*eS*	**Sb**	**07 33 02.4**	**0.0**
CNRM	**Centro Naciona**	**0.33**	**299**	*eP*	**Pg**	**07 32 56.4**	**+0.9**
CNRM				*eS*	**Sb**	**07 33 02.4**	**0.0**
VSM	**San Miguel**	**0.40**	**286**	⇓ *eP*	**Pb**	**07 32 58.1**	**-0.4**
VSM	**San Miguel**	**0.40**	**286**	⇓ *eP*	**Pb**	**07 32 58.1**	**-0.4**
PACA	**Pacayal**	**0.46**	**289**	*eP*	**Pb**	**07 32 59.0**	**-0.4**
PACA	**Pacayal**	**0.46**	**289**	*eP*	**Pb**	**07 32 59.0**	**-0.4**
TECA	**Tecapa**	**0.63**	**286**	*eP*	**Pb**	**07 33 02.0**	**-0.4**
TECA	**Tecapa**	**0.63**	**286**	*eP*	**Pb**	**07 33 02.0**	**-0.4**
COEB	**Comit de Eme**	**0.66**	**286**	*eP*	**Pb**	**07 33 02.4**	**-0.5**
COEB	**Comit de Eme**	**0.66**	**286**	*eP*	**Pb**	**07 33 02.4**	**-0.5**
ALJI	**Alcalda de J**	**0.68**	**271**	⇑ *iP*	**Pb**	**07 33 02.5**	**-0.5**
ALJI				*eS*	**Sb**	**07 33 12.9**	**+0.5**
ALJI				AML	AML	07 33 16.8	
	comp=Z,4µm,0.5s						
ALJI	**Alcalda de J**	**0.68**	**271**	⇑ *iP*	**Pb**	**07 33 02.5**	**-0.5**
ALJI				*eS*	**Sb**	**07 33 12.9**	**+0.5**
ALJI				AML	AML	07 33 16.8	
	comp=Z,4µm,0.5s						
TGUH	**Tegucigalpa,Un**	**0.94**	**39**	⇑ *iP*	**Pg**	**07 33 07.3**	**+0.1**
TGUH	**Tegucigalpa,Un**	**0.94**	**39**	⇑ *iP*	**Pg**	**07 33 07.3**	**+0.1**
COEG	**Centro de Oper**	**1.02**	**287**	⇓ *eP*	**Pb**	**07 33 08.5**	**-0.4**
COEG				*eS*	**Sn**	**07 33 23.5**	**-0.6**
COEG				IAML		07 33 33.2	
	comp=Z,2µm,0.5s						
COEG	**Centro de Oper**	**1.02**	**287**	⇓ *eP*	**Pb**	**07 33 08.5**	**-0.4**
COEG				*eS*	**Sn**	**07 33 23.5**	**-0.6**
COEG				IAML		07 33 33.2	
	comp=Z,2µm,0.5s						
SJTE	**Alcalda de S**	**1.14**	**285**	*eP*	**Pb**	**07 33 10.5**	**-0.5**
SJTE				*eS*	**Sn**	**07 33 26.8**	**-0.2**
SJTE	**Alcalda de S**	**1.14**	**285**	*eP*	**Pb**	**07 33 10.5**	**-0.5**
SJTE				*eS*	**Sn**	**07 33 26.8**	**-0.2**
LFRS	**El Faro**	**1.19**	**285**	*eP*	**Pn**	**07 33 11.7**	**-0.3**
LFRS	**El Faro**	**1.19**	**285**	*eP*	**Pn**	**07 33 11.7**	**-0.3**
LBRS	**Las Brisas**	**1.21**	**290**	*eP*	**Pn**	**07 33 11.9**	**-0.2**
LBRS	**Las Brisas**	**1.21**	**290**	*eP*	**Pn**	**07 33 11.9**	**-0.2**
LLGN	**La Laguna**	**1.33**	**309**	*eP*	**Pn**	**07 33 13.6**	**-0.3**
LLGN				*eS*	**Sg**	**07 33 32.6**	**+0.5**
LLGN	**La Laguna**	**1.33**	**309**	*eP*	**Pn**	**07 33 13.6**	**-0.3**
LLGN				*eS*	**Sg**	**07 33 32.6**	**+0.5**
SNET	**Serv Nac Est T**	**1.37**	**286**	*eP*	**Pb**	**07 33 14.6**	**-0.3**
SNET				*eS*	**Sg**	**07 33 33.8**	**+0.7**
SNET	**Serv Nac Est T**	**1.37**	**286**	*eP*	**Pb**	**07 33 14.6**	**-0.3**
SNET				*eS*	**Sg**	**07 33 33.8**	**+0.7**
LALI	**Alcalda de L**	**1.42**	**277**	*eP*	**Pb**	**07 33 15.0**	**-0.6**
LALI	**Alcalda de L**	**1.42**	**277**	*eP*	**Pb**	**07 33 15.0**	**-0.6**
BOQS	**Boqueron**	**1.43**	**287**	*eP*	**Pb**	**07 33 16.0**	**+0.1**
BOQS	**Boqueron**	**1.43**	**287**	*eP*	**Pb**	**07 33 16.0**	**+0.1**
UNIC	**Universidad Ca**	**1.75**	**292**	*eP*	**Pb**	**07 33 20.7**	**-0.7**
UNIC	**Universidad Ca**	**1.75**	**292**	*eP*	**Pb**	**07 33 20.7**	**-0.7**
MTO3	**Montecristo**	**1.80**	**307**	⇓ *iP*	**Pb**	**07 33 21.6**	**-0.7**
MTO3				*eS*	**Sg**	**07 33 46.6**	**-0.3**
MTO3	**Montecristo**	**1.80**	**307**	⇓ *iP*	**Pb**	**07 33 21.6**	**-0.7**
MTO3				*eS*	**Sg**	**07 33 46.6**	**-0.3**
ESQI	**Esquipulas**	**1.88**	**311**	*eP*	**Pb**	**07 33 22.6**	**-1.1**
ESQI				IAML		07 34 05.0	
	comp=Z,1µm,0.9s						
GPS2	**Hotel Rincn d**	**3.55**	**136**	*eP*	**Pn**	**07 33 45.7**	**+1.3**
CUI	**Cuipilapa**	**3.75**	**135**	*eP*	**Pn**	**07 33 48.6**	**+1.5**
SAJU	**San Juanillo,**	**3.87**	**146**	*eP*	**Pn**	**07 33 48.4**	**-0.2**
JTS	**Las Juntas de**	**4.15**	**136**	*eP*	**Pn**	**07 33 52.6**	**-0.1**

IDC 30 07:54:51.8±19.0, 22.˝71S×174.˝62W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/30, mbtmp3.9/4, Error ellipse: s-maj=361.3km s-min=153.3km az=81.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.46**	**267**	P	P	08 01 59.2	+0.5
	2.9nm,0.6s,baz=90,slow=11,SNR=6.7						
STKA	**Stephens Creek**	**39.75**	**247**	P	P	08 02 26.8	+0.4
	0.6nm,0.4s,baz=81,slow=9.4,SNR=3.8						
ASAR	**Alice Springs**	**47.12**	**258**	P	P	08 03 25.7	-0.4
	0.3nm,0.4s,baz=96,slow=7.4,SNR=5.5						
WRA	**Warramunga Arr**	**47.44**	**263**	P	P	08 03 27.3	-1.3
	64nm,0.4s,baz=104,slow=8.4,SNR=2.2						
FITZ	**Fitzroy Crossi**	**55.87**	**263**	P	P	08 04 31.8	+0.1
	1.0nm,0.7s,baz=86,slow=8.1,SNR=1.7						

NNC 30 07:58:54.0±2.6, 54.˝25N×91.˝14E, h0km, mb4.0, mpv3.4, 3C-2D, Error ellipse: s-maj=25.6km s-min=15.0km az=23.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**3.74**	**268**	Pg	Pb	08 00 02.5	+1.7
	1.7nm,0.6s						
ZAA0				⇑ Lg	Lg	08 00 51.3	
	17nm,1.0s						
KURBB	**Kurchatov Arra**	**8.52**	**250**	⇓ Pn	Pn	08 00 58.7	+0.1
	3.8nm,0.8s						
KURBB				⇑ Sn	Sn	08 02 37.1	+1.8
	16nm,0.7s						
KURBB				Lg	Lg	08 03 27.0	
	20nm,0.7s						
MK31	**Makanchi Array**	**9.35**	**221**	⇓ Pn	Pn	08 01 09.1	-0.8
	13nm,1.1s,baz=31,slow=14,SNR=4.6						
MK31				⇑ Lg	Lg	08 03 50.8	
	12nm,1.0s,baz=33,slow=27						

IDC 30 08:25:01.4±5.3, 30.˝35S×178.˝13W, h72km±35km, mb3.7/2, mb1 3.8/2, mb1mx3.4/28, mbtmp4.0/2, Error ellipse: s-maj=84.6km s-min=34.2km az=137.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.11**	**10**	P	Pn	08 25 20.7	-0.8
	92nm,0.3s,baz=44,slow=20,SNR=6.6						
RAO				S	Sn	08 25 36.6	+0.2
	368nm,0.3s,baz=96,slow=23,SNR=10						
STKA	**Stephens Creek**	**34.38**	**257**	P	P	08 31 42.6	+1.0
	3.2nm,0.7s,baz=98,slow=12,SNR=10						
ASAR	**Alice Springs**	**43.00**	**267**	P	P	08 32 53.2	-0.7
	0.8nm,0.7s,baz=104,slow=7.4,SNR=14						
WRA	**Warramunga Arr**	**43.98**	**272**	P	P	08 33 01.4	-0.5
	110nm,0.6s,baz=113,slow=7.7,SNR=15						
FINES	**FINESS Array B**	**145.06**	**340**	PKPbc	PKPbc	08 44 28.6	-0.7
	3.6nm,0.7s,baz=58,slow=5.2,SNR=10						

*NEIC **30** 08:28:17.7±1.2, 36.˝68N±0.˝03×98.˝44W±0.˝01, h4km±7km, Error ellipse: s-maj=4.4km s-min=1.3km az=167.0*
*TUL **30** 08:28:17.3±1.1, 36.˝72N±0.˝03×98.˝45W±0.˝04, h5km±7km, ML3.3, mb_Lg3.0/72(NEIC), Error ellipse: s-maj=4.3km s-min=3.4km az=72.0*
*ANF **30** 08:28:18.5±0.3, 36.˝69N×98.˝44W, h8km, ML3.6/13, Error ellipse: s-maj=3.1km s-min=2.9km az=149.0*
ISC 30 08:28:18.2±1.1, 36.˝69N±0.˝02×98.˝40W±0.˝02, h5km±10km, n105, σ0s83/92, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OK032	**Salt Plains WL**	**0.19**	**52**		**Pg**	**08 28 21.8**	**-0.1**
CROK	**Carrier**	**0.38**	**118**	Pg	**Pg**	**08 28 26.2**	**+0.7**
CROK				Sg	**Sg**	**08 28 31.8**	**+1.3**
KAN14	**Manchester OK**	**0.44**	**52**		**Pg**	**08 28 26.4**	**-0.4**
GC02	**Grant County #**	**0.46**	**69**	Pg	**Pg**	**08 28 27.0**	**-0.1**
KAN10	**Anthony SW Sta**	**0.50**	**29**		**Pg**	**08 28 27.7**	**-0.1**
U32A	**Winter Ranch,**	**0.57**	**238**		**Pg**	**08 28 28.3**	**-0.9**
U32A	**Winter Ranch,**	**0.57**	**238**	P	**Pg**	**08 28 28.3**	**-0.9**
	baz=59,SNR=135						
U32A				S	**Sg**	**08 28 36.5**	**-0.2**
	baz=59						
KAN05	**Bluff City Nor**	**0.60**	**45**		**Pg**	**08 28 29.4**	**-0.2**
KAN16	**Harper SW Stat**	**0.60**	**26**		**Pg**	**08 28 28.9**	**-0.8**
KAN17	**Caldwell West**	**0.62**	**55**	Pg	**Pg**	**08 28 29.6**	**-0.5**
KAN17				Sg	**Sg**	**08 28 37.7**	**-0.5**
KAN08	**Anthony NE Sta**	**0.64**	**32**		**Pg**	**08 28 30.2**	**-0.3**
KAN12	**Harper NE Stat**	**0.69**	**28**		**Pg**	**08 28 30.6**	**-0.8**
KAN06	**Argonia West S**	**0.71**	**38**		**Pg**	**08 28 31.3**	**-0.5**
KAN09	**Caldwell North**	**0.77**	**54**		**Pg**	**08 28 32.6**	**-0.4**
KAN13	**South Haven SW**	**0.81**	**66**	Pg	**Pg**	**08 28 33.1**	**-0.6**
KS20	**Mayfield South**	**0.87**	**51**		**Pg**	**08 28 34.4**	**-0.5**
BLOK	**Blackwell**	**0.95**	**85**	Pg	**Pg**	**08 28 36.0**	**-0.5**
OK029	**Liberty Lake**	**1.17**	**139**		**Pg**	**08 28 39.7**	**-0.9**
BCOK	**Bluff Creek, N**	**1.21**	**148**		**Pg**	**08 28 40.3**	**-1.1**
OK025	**Westminster Rd**	**1.40**	**142**		**Pn**	**08 28 43.7**	**-0.6**
OK031	**S. Brethren Rd**	**1.46**	**120**		**Pn**	**08 28 45.0**	**-0.2**
OK031				Pg	**Pb**	**08 28 45.2**	**-0.6**
QUOK	**Quay**	**1.46**	**110**		**Pn**	**08 28 45.0**	**-0.1**
OKCFA	**Oklahoma City**	**1.48**	**149**	Pn	**Pn**	**08 28 44.9**	**-0.5**
OKCFA	**Oklahoma City**	**1.48**	**149**	P	**Pn**	**08 28 45.1**	**-0.3**
	baz=331,SNR=14						
OKCFA				S	**Sg**	**08 29 06.0**	**+0.2**
	baz=331						
OKCSW	**OKLAHOMA CITY**	**1.50**	**148**		**Pn**	**08 28 44.9**	**-0.8**
OK030	**Cody Creek RV**	**1.51**	**120**	Pn	**Pn**	**08 28 45.8**	**0.0**
T35A	**Sooner Cattle**	**1.53**	**81**		**Pn**	**08 28 46.0**	**-0.2**
T35B	**Sooner Cattle**	**1.53**	**81**	P	**Pn**	**08 28 46.0**	**-0.1**
	baz=262,SNR=176						
T35B				S	**Sb**	**08 29 07.2**	**+0.5**
	baz=262						
FNO	**Franklin**	**1.64**	**150**		**Pn**	**08 28 47.8**	**+0.1**
R32A	**Long Quarter,**	**1.75**	**352**		**Pn**	**08 28 49.0**	**-0.2**
R32A	**Long Quarter,**	**1.75**	**352**	P	**Pn**	**08 28 49.0**	**-0.2**
	baz=170,SNR=136						
R32A				S	**Sn**	**08 29 12.0**	**+0.1**
	baz=170						
WMOK	**Wichita Mounta**	**1.97**	**189**		**Pn**	**08 28 52.3**	**+0.1**
WMOK	**Wichita Mounta**	**1.97**	**189**	P	**Pn**	**08 28 52.2**	**+0.1**
	baz=10,SNR=170						
WMOK				S	**Sb**	**08 29 19.3**	**-0.1**
	baz=10						
WMOK	**Wichita Mounta**	**1.97**	**189**	P	**Pn**	**08 28 52.3**	**+0.1**
	baz=10						
WMOK				S	**Sb**	**08 29 19.1**	**-0.2**
	baz=10						
X34A	**Smith Ranch, M**	**2.13**	**167**		**Pn**	**08 28 54.9**	**+0.5**
TUL1	**Leonard**	**2.24**	**109**		**Pn**	**08 28 56.8**	**+0.9**
TUL1	**Leonard**	**2.24**	**109**	P	**Pn**	**08 28 56.5**	**+0.6**
	baz=292,SNR=46						
TUL1				S	**Sb**	**08 29 28.1**	**+1.0**
	baz=292						
TUL1	**Leonard**	**2.24**	**109**	Sb	**Sb**	**08 29 28.2**	**+1.0**
	baz=292						
CBKS	**Cedar Bluff**	**2.37**	**334**		**Pn**	**08 28 57.4**	**-0.4**
CBKS	**Cedar Bluff**	**2.37**	**334**	P	**Pn**	**08 28 57.5**	**-0.3**
	baz=152,SNR=61						
CBKS				S	**Sb**	**08 29 29.0**	**-2.1**
	baz=152						
CBKS	**Cedar Bluff**	**2.37**	**334**	S	**Sb**	**08 29 29.9**	**-1.2**
	baz=152						
LOOK	**Love County**	**2.87**	**159**		**Pn**	**08 29 05.1**	**+0.6**
AMTX	**Amarillo**	**3.22**	**237**	P	**Pn**	**08 29 10.1**	**+0.7**
	baz=55,SNR=61						
AMTX	**Amarillo**	**3.22**	**237**	Pb	**Pb**	**08 29 16.0**	**+0.1**
	baz=55						
X37A	**Clayton**	**3.23**	**129**		**Pn**	**08 29 10.1**	**+0.5**
X37A				IAmb_Lg		08 30 07.1	
	comp=Z,54nm,0.8s						
X37A	**Clayton**	**3.23**	**129**	P	**Pn**	**08 29 09.7**	**+0.2**
	baz=312,SNR=53						
U38A	**Gravette**	**3.24**	**93**		**Pn**	**08 29 10.2**	**+0.5**
U38A				IAmb_Lg		08 30 08.2	
	comp=Z,47nm,0.7s						
U38A	**Gravette**	**3.24**	**93**	P	**Pn**	**08 29 10.0**	**+0.4**
	baz=276,SNR=19						
Z35A	**Perchaven, San**	**3.48**	**164**	Pn	**Pn**	**08 29 13.7**	**+0.8**
HHAR	**Hobbs**	**3.62**	**95**		**Pn**	**08 29 15.2**	**+0.4**
HHAR	**Hobbs**	**3.62**	**95**	P	**Pn**	**08 29 15.2**	**+0.4**
	baz=278						
W39A	**Magazine**	**4.03**	**110**	Pn	**Pn**	**08 29 21.2**	**+0.7**
W39A				IAmb_Lg		08 30 35.3	
	comp=Z,23nm,0.8s						
W39A	**Magazine**	**4.03**	**110**	P	**Pn**	**08 29 21.2**	**+0.7**
	baz=294,SNR=7.5						
W39A	**Magazine**	**4.03**	**110**	P	**Pn**	**08 29 21.3**	**+0.9**
	baz=294						
KSCO	**Kaye Shedlock'**	**4.07**	**306**	IAmb_Lg		08 30 27.0	
	comp=Z,45nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.07**	**306**	Pb	**Pb**	**08 29 31.1**	**+0.6**
	baz=123						
S39A	**Bolivar**	**4.17**	**75**		**Pn**	**08 29 22.4**	**-0.2**
S39A	**Bolivar**	**4.17**	**75**	P	**Pn**	**08 29 22.2**	**-0.3**
	baz=258,SNR=14						
ABTX	**Abilene, Hawle**	**4.18**	**195**	Pn	**Pn**	**08 29 22.1**	**-0.5**
ABTX				IAmb_Lg		08 30 31.5	
	comp=Z,24nm,1.1s						
Z38A	**Mt. Pleasant**	**4.42**	**140**	Pn	**Pn**	**08 29 25.8**	**0.0**
Z38A				IAmb_Lg		08 30 41.8	
	comp=Z,29nm,0.8s						
MIAR	**Mount Ida**	**4.47**	**117**		**Pn**	**08 29 27.3**	**+0.7**
MIAR				IAmb_Lg		08 30 41.8	
	comp=Z,19nm,0.9s						
MIAR	**Mount Ida**	**4.47**	**117**	P	**Pn**	**08 29 27.4**	**+0.8**
	baz=301						
U40A	**Yellville**	**4.48**	**93**		**Pn**	**08 29 26.8**	**+0.1**
U40A				IAmb_Lg		08 30 41.1	
	comp=Z,36nm,0.8s						
U40A	**Yellville**	**4.48**	**93**	P	**Pn**	**08 29 26.8**	**+0.1**
	baz=276,SNR=13						
U40A	**Yellville**	**4.48**	**93**	P	**Pn**	**08 29 27.0**	**+0.3**
	baz=276						
U40A				S	**Sn**	**08 30 18.6**	**-0.6**
	baz=276						
N35A	**Tabor**	**4.69**	**26**		**Sn**	**08 30 26.2**	**+1.8**
BGNE	**Belgrade**	**4.72**	**2**	IAmb_Lg		08 30 45.4	
	comp=Z,30nm,0.7s						
BGNE	**Belgrade**	**4.72**	**2**	P	**Pn**	**08 29 29.4**	**-0.6**
	baz=182						
WHTX	**Lake Whitney,**	**4.75**	**170**		**Pn**	**08 29 30.1**	**-0.2**
WHTX	**Lake Whitney,**	**4.75**	**170**	P	**Pn**	**08 29 30.3**	**-0.1**
	baz=352,SNR=18						
WHTX	**Lake Whitney,**	**4.75**	**170**	P	**Pn**	**08 29 30.7**	**+0.3**
	baz=352						
P38A	**Dawn**	**4.83**	**51**	IAmb_Lg		08 30 58.0	
	comp=Z,23nm,0.7s						
T25A	**Trinidad**	**4.84**	**277**	Sb	**Sb**	**08 30 46.7**	**+4.5**
	baz=93						
MGMO	**Mountain Grove**	**4.93**	**83**		**Pn**	**08 29 33.1**	**+0.2**
X40A	**Basin Creek Fa**	**5.04**	**114**	Pn	**Pn**	**08 29 35.0**	**+0.6**
X40A				IAmb_Lg		08 31 12.7	
	comp=Z,22nm,0.8s						
OGNE	**Ogallala**	**5.11**	**327**	IAmb_Lg		08 31 04.9	
	comp=Z,24nm,0.8s						
FCAR	**Ozark Folk Cen**	**5.13**	**97**	Pn	**Pn**	**08 29 36.2**	**+0.6**
R40A	**Maddies Statio**	**5.13**	**70**	Pn	**Pn**	**08 29 35.7**	**+0.1**
R40A				IAmb_Lg		08 31 07.8	
	comp=Z,18nm

comp=Z,20nm,1.5s
WR0 Warramunga Arr 50.04 256 P P 08 40 43.9 -1.0
WB0 Warramunga Arr 50.19 257 P P 08 40 44.8 -1.2
WB0 IAmb IAmb 08 40 46.4
comp=Z,10nm,1.4s
WB2 Warramunga Arr 50.22 256 P P 08 40 45.2 -1.0
WB2 IAmb IAmb 08 40 46.1
comp=Z,3.8nm,0.6s
WRA Warramunga Arr 50.23 256 P P 08 40 45.3 -1.0
comp=Z,61nm,0.5s,baz=90,slow=6.8,SNR=7.5
AS31 Alice Springs 50.52 252 P P 08 40 47.4 -1.0
AS31 IAmb IAmb 08 40 48.4
comp=Z,3.8nm,0.6s
ASAR Alice Springs 50.52 252 P P 08 40 47.5 -0.9
comp=Z,13nm,0.6s,baz=87,slow=7.9,SNR=219
ASAR Alice Springs 50.52 252 P P 08 40 47.7 -0.7
FORT Forrest 55.84 243 P P 08 41 26.6 -0.6
PSA00 Pilbara Seismi 63.61 253 P P 08 42 20.9 +0.4
PSA00 IAmb IAmb 08 42 21.5
comp=Z,11nm,1.2s
VNDA Vanda 63.69 186 P P 08 42 26.2 +6.1
comp=Z,0.6nm,0.7s,baz=6.3,slow=5.7,SNR=5.0
VNDA Vanda 63.69 186 IAmb IAmb 08 42 27.3
comp=Z,2.8nm,1.4s
TCRU Three Creeks R 77.86 44 P P 08 43 45.9 -0.6
TCRU IAmb IAmb 08 43 51.8
comp=Z,6.4nm,0.5s

*IDC **30** 08:50:06.9±0.7, 59°.72S×26°.21W, h0km, mb4.4/10, mb1 4.5/11, mb1mx4.3/21, mbtmp4.4/11, ML4.8/1, MS3.5/10, Ms1 3.4/10, ms1mx3.4/17, Error ellipse: s-maj=29.0km s-min=16.3km az=62.0*
*NEIC **30** 08:50:18.6±1.9, 59°.9S±0°.1×26°.4W±0°.3, h95km±6km, mb4.6/35, Error ellipse: s-maj=24.8km s-min=12.6km az=52.0*
ISC 30 08:50:08.2±0.6, 59°.7S±0°.1×26°.1W±0°.1, h10km, n57, σ1§10/46, mb4.4/21, MS3.4/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.86**	**309**	Pn	Pn	08 52 12.6	+10
VNA1	**Neumayer--Stat**	**13.21**	**153**	P	**Pn**	**08 53 14.9**	**-0.5**
VNA1				S	Sn	08 55 30.5	-12
VNA3	**Neumayer Olymp**	**13.36**	**157**	P	**Pn**	**08 53 16.5**	**-1.1**
VNA3				S	Sn	08 55 29.5	-16
VNA2	**Neumayer--Watz**	**13.60**	**153**	P	**Pn**	**08 53 19.9**	**-1.0**
	baz=311,slow=16						
VNA2				S	Sn	08 55 37.5	-14
SNAA	**Sanae**	**15.19**	**152**	P	**Pn**	**08 53 41.5**	**-0.9**
SNAA				S	Sn	08 56 16.6	-14
SNAA	**Sanae**	**15.19**	**152**	Pn	**Pn**	**08 53 41.2**	**-1.3**
	4.1nm,0.3s,baz=317,slow=20,SNR=49						
SNAA				Sn	Sn	08 56 15.6	-15
	0.3nm,0.3s,baz=340,slow=13,SNR=8.5						
SNAA				LR	LR	08 58 25.7	
	comp=Z,176nm,19.8s,baz=245,slow=33						
SNAA	**Sanae**	**15.19**	**152**	Pn	**Pn**	**08 53 41.5**	**-0.9**
SNAA				IAmb	IAmb	08 53 45.0	
	comp=Z,15nm,0.5s						
PMSA	**Palmer Station**	**18.18**	**238**	LR	LR	09 00 41.8	
	comp=Z,227nm,18.7s,baz=50,slow=35						
BELA	**Belgrano 2**	**18.47**	**186**	P	**Pn**	**08 54 24.2**	**+0.4**
EFI	**East Falkland**	**19.57**	**280**	P	**Pn**	**08 54 38.1**	**+0.9**
EFI				IAmb	IAmb	08 55 02.6	
	comp=Z,64nm,1.4s						
MG02	**Cerro Sombrero**	**24.57**	**267**	P	**P**	**08 55 26.8**	**-1.1**
QSPA	**South Pole Qui**	**30.53**	**180**	P	**P**	**08 56 22.4**	**+1.0**
	comp=Z,4.0nm,0.7s,baz=215,slow=1.8,SNR=27						
QSPA	**South Pole Qui**	**30.53**	**180**	P	**P**	**08 56 22.3**	**+1.0**
TRQA	**Tornquist**	**31.43**	**297**	P	**P**	**08 56 29.8**	**+0.5**
TRQA				IAmb	IAmb	08 56 32.6	
	comp=Z,11nm,0.8s						
PLCA	**Paso Flores**	**33.36**	**285**	P	**P**	**08 56 45.5**	**-0.8**
	comp=Z,2.3nm,0.7s,baz=161,slow=9.4,SNR=7.0						
PLCA	**Paso Flores**	**33.36**	**285**	IAmb	IAmb	08 57 08.4	
	comp=Z,12nm,1.4s						
PLTB	**Pedras Altas**	**33.44**	**314**	P	**P**	**08 56 49.1**	**+2.1**
PLTB				IAmb	IAmb	08 57 16.1	
	comp=Z,20nm,1.3s						
LC01	**Cunco**	**35.42**	**285**	P	**P**	**08 57 03.2**	**-0.9**
LC01				IAmb	IAmb	08 57 27.9	
	comp=Z,12nm,1.2s						
ITQB	**Itaqui**	**36.44**	**312**	P	**P**	**08 57 15.2**	**+2.3**
MAW	**Mawson**	**36.90**	**140**	P	**P**	**08 57 17.8**	**+1.5**
	comp=Z,3.1nm,1.1s,baz=256,slow=3.5,SNR=5.0						
MAW				LR	LR	09 10 40.2	
	comp=Z,102nm,19.7s,baz=238,slow=33						
ML02	**Panimavida**	**37.69**	**289**	P	**P**	**08 57 22.4**	**-1.0**
BO02	**Sierra Bellavi**	**38.17**	**290**	P	**P**	**08 57 28.7**	**+1.1**
BO02				IAmb	IAmb	08 57 36.7	
	comp=Z,5.0nm,0.9s						
GO05	**Huala**	**38.54**	**289**	P	**P**	**08 57 30.1**	**-0.5**
GO05				IAmb	IAmb	08 57 44.5	
	comp=Z,8.0nm,0.9s						
BO01	**Tunca**	**38.64**	**291**	P	**P**	**08 57 31.1**	**-0.4**
BO01				IAmb	IAmb	08 57 32.9	
	comp=Z,18nm,1.5s						
MT09	**Talagante**	**39.10**	**291**	P	**P**	**08 57 35.1**	**-0.4**
MT01	**Popeta**	**39.15**	**291**	P	**P**	**08 57 35.3**	**-0.4**
MT01				IAmb	IAmb	08 57 43.9	
	comp=Z,13nm,0.9s						
CPUP	**Villa Florida**	**39.72**	**313**	P	**P**	**08 57 41.4**	**+0.9**
	comp=Z,3.8nm,0.6s,baz=153,slow=7.4,SNR=12						
CPUP				LR	LR	09 13 30.5	
	comp=Z,34nm,19.9s,baz=186,slow=35						
CPUP	**Villa Florida**	**39.72**	**313**	P	**P**	**08 57 39.9**	**-0.6**
CPUP				IAmb	IAmb	08 57 44.2	
	comp=Z,4.8nm,0.8s						
VA03	**San Esteban**	**39.73**	**293**	P	**P**	**08 57 40.9**	**+0.2**
ZON	**Zonda**	**39.88**	**296**	P	**P**	**08 57 41.9**	**0.0**
ZON				IAmb	IAmb	08 57 45.0	
	comp=Z,8.4nm,0.6s						
GO04	**Tololo Observa**	**42.01**	**294**	P	**P**	**08 58 01.6**	**+1.9**
VNDA	**Vanda**	**42.93**	**183**	P	**P**	**08 58 07.9**	**+1.6**
	comp=Z,3.4nm,0.9s,baz=185,slow=7.3,SNR=15						
VNDA				LR	LR	09 14 56.9	
	comp=Z,28nm,21.0s,baz=182,slow=35						
VNDA	**Vanda**	**42.93**	**183**	P	**P**	**08 58 07.4**	**+1.0**
AC04	**Llanos de Chal**	**43.81**	**296**	P	**P**	**08 58 14.3**	**+0.3**
AC02	**Maricunga**	**44.10**	**299**	P	**P**	**08 58 18.1**	**+1.1**
AC02				IAmb	IAmb	08 58 21.8	
	comp=Z,6.3nm,0.8s						
BOSA	**Boshof**	**46.44**	**71**	LR	LR	09 14 13.9	
	comp=Z,34nm,21.7s,baz=187,slow=31						
PB07	**IPOC Station P**	**48.90**	**301**	P	**P**	**08 58 53.6**	**-0.6**
PB07				IAmb	IAmb	08 58 57.5	
	comp=Z,13nm,0.9s						
PB01	**IPOC Station P**	**49.33**	**302**	IAmb	IAmb	08 59 01.2	
	comp=Z,11nm,0.8s						
H10S2	**ASCENSION HYDR**	**51.38**	**15**	T	T	09 54 54.1	
	baz=187,slow=74,SNR=4.8						
H10S3	**ASCENSION HYDR**	**51.38**	**15**	T	T	09 55 04.6	
	baz=33,slow=74,SNR=11						
H10N3	**ASCENSION HYDR**	**52.50**	**15**	T	T	09 56 18.3	
	baz=266,slow=74,SNR=8.1						
H10N2	**ASCENSION HYDR**	**52.51**	**15**	T	T	09 56 34.0	
	baz=189,slow=74,SNR=6.9						
LPAZ	**La Paz**	**53.00**	**306**	P	**P**	**08 59 25.8**	**+0.1**
	comp=Z,3.9nm,0.7s,baz=152,slow=7.2,SNR=14						
LPAZ				LR	LR	09 21 58.8	
	comp=Z,19nm,21.4s,baz=152,slow=36						
LPAZ	**La Paz**	**53.00**	**306**	P	**P**	**08 59 24.9**	**-0.7**
LPAZ				IAmb	IAmb	08 59 28.7	
	comp=Z,5.0nm,0.9s						
SAML	**Samuel**	**57.81**	**315**	P	**P**	**08 59 58.1**	**-1.5**
SAML				IAmb	IAmb	09 00 02.2	
	comp=Z,2.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**75.99**	**28**	P	**P**	**09 01 56.5**	**+1.4**
	comp=Z,3.2nm,0.5s,baz=199,slow=6.3,SNR=29						
TORD				LR	LR	09 29 44.2	
	comp=Z,36nm,20.8s,baz=190,slow=31						
TORD	**Torodi Ar. Bea**	**75.99**	**28**	P	**P**	**09 01 56.4**	**+1.2**
STKA	**Stephens Creek**	**88.18**	**170**	P	**P**	**09 02 58.7**	**-0.4**
	comp=Z,1.5nm,0.9s,baz=244,slow=3.6,SNR=3.4						
STKA				LR	LR	09 41 24.8	
	comp=Z,28nm,19.1s,baz=208,slow=35						
STKA	**Stephens Creek**	**88.18**	**170**	IAmb	IAmb	09 03 01.7	
	comp=Z,1.1nm,1.3s						
SNET	**Serv Nac Est T**	**88.86**	**300**	P	**P**	**09 03 01.0**	**-1.5**
ASAR	**Alice Springs**	**95.32**	**162**	P	**P**	**09 03 31.3**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=183,slow=4.3,SNR=15						
WRA	**Warramunga Arr**	**99.04**	**161**	P	**Pdif**	**09 03 47.5**	**-1.6**
	comp=Z,0.5nm,1.0s,baz=194,slow=7.7,SNR=2.2						
WRA				LR	LR	09 46 10.6	
	comp=Z,70nm,20.2s,baz=125,slow=34						
FINES	**FINESS Array B**	**127.34**	**29**	PKP	**PKiKP**	**09 09 11.2**	**-0.7**
	comp=Z,2.7nm,0.8s,baz=163,slow=7.4,SNR=4.2						
ARCES	**ARCESS Array B**	**134.12**	**23**	PKP	**PKiKP**	**09 09 24.4**	**-1.0**
	comp=Z,3.9nm,0.9s,baz=315,slow=0.7,SNR=4.4						
ZALV	**Zalesovo Beam**	**143.34**	**68**	PKhKP	PKPpre	09 09 37.7	
	comp=Z,1.1nm,0.4s,baz=223,slow=4.8,SNR=4.5						
SONM	**Songino Array**	**150.19**	**92**	PKPbc	**PKiKP**	**09 09 58.4**	**-0.7**
	comp=Z,3.4nm,0.8s,baz=219,slow=1.8,SNR=14						
ILAR	**Eielson Array**	**152.88**	**306**	PKPbc	**PKPbc**	**09 10 02.5**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=147,slow=1.9,SNR=9.3						

IDC 30 09:00:12.1±4.6, 52°.27N×35°.69E, h0km, mb1 3.9/2, mb1mx3.3/51, mbtmp3.9/2, ML2.9/3, Error ellipse: s-maj=59.6km s-min=18.5km az=127.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBN	**Obninsk**	**2.90**	**10**	Lg	Lg	09 01 39.8	
	2.6nm,0.3s,baz=8.6,slow=22,SNR=8.5						
AKASG	**Malin Array Be**	**4.34**	**251**	Pn	Pn	09 01 17.7	-1.5
	1.4nm,0.3s,baz=56,slow=13,SNR=4.1						
AKASG				Sn	Sn	09 02 08.4	-2.0
	2.2nm,0.3s,baz=63,slow=22,SNR=5.3						
I43RU	**DUBNA INFRASON**	**4.55**	**11**	*i*		09 27 40.0	
	baz=192,slow=329,SNR=3.6						
FINES	**FINESS Array B**	**10.58**	**334**	Pn	Pn	09 02 40.2	-4.6
	0.1nm,0.3s,baz=152,slow=14,SNR=1.4						
ARCES	**ARCESS Array B**	**17.97**	**348**	P	Pn	09 04 22.9	-0.1
	baz=147,slow=7.2,SNR=6.0						

NEIC 30 09:05:23.5±0.3, 37°.26N±0°.02×97°.53W±0°.02, h5km±3km, Error ellipse: s-maj=2.8km s-min=1.7km az=52.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KS20	**Mayfield South**	**0.04**	**213**		Pg	09 05 24.8	+0.1
KS20				Sg	Sg	09 05 25.5	0.0
KS21	**Milan North St**	**0.11**	**283**		Pg	09 05 25.9	+0.1
KS21				Sg	Sg	09 05 27.4	+0.1
KAN09	**Caldwell North**	**0.14**	**210**		Pg	09 05 26.5	+0.1
KAN09				Sg	Sg	09 05 28.4	0.0
KAN13	**South Haven SW**	**0.25**	**171**		Pg	09 05 28.8	+0.3
KAN13				Sg	Sg	09 05 32.3	+0.6
KAN06	**Argonia West S**	**0.26**	**267**		Pg	09 05 28.7	0.0
KAN17	**Caldwell West**	**0.29**	**221**		Pg	09 05 29.1	0.0
KAN17				Sg	Sg	09 05 32.8	-0.1
KAN05	**Bluff City Nor**	**0.31**	**241**	Pg	Pg	09 05 29.5	-0.1
KAN08	**Anthony NE Sta**	**0.35**	**265**		Pg	09 05 30.3	-0.1
KAN12	**Harper NE Stat**	**0.38**	**276**		Pg	09 05 30.8	0.0
KAN16	**Harper SW Stat**	**0.43**	**265**		Pg	09 05 31.7	-0.1
KAN14	**Manchester OK**	**0.46**	**229**		Pg	09 05 32.3	-0.1
KAN10	**Anthony SW Sta**	**0.47**	**253**		Pg	09 05 32.5	-0.1
GC02	**Grant County #**	**0.49**	**213**		Pg	09 05 32.7	-0.2
BLOK	**Blackwell**	**0.56**	**153**		Pg	09 05 34.5	+0.3
OK032	**Salt Plains WL**	**0.71**	**230**		Pg	09 05 36.9	-0.3
CROK	**Carrier**	**0.84**	**206**		Pg	09 05 39.2	-0.4
T35A	**Sooner Cattle**	**0.88**	**113**		Pg	09 05 40.8	+0.3
QUOK	**Quay**	**1.27**	**149**	Pg	Pg	09 05 47.6	-0.3
OK031	**S. Brethren Rd**	**1.42**	**157**		Pn	09 05 49.9	-0.1
OK030	**Cody Creek RV**	**1.46**	**156**		Pn	09 05 50.5	-0.1
OK029	**Liberty Lake**	**1.46**	**178**		Pn	09 05 50.5	-0.1
U32A	**Winter Ranch,**	**1.47**	**234**		Pn	09 05 50.5	-0.3
R32A	**Long Quarter,**	**1.49**	**321**		Pn	09 05 51.2	+0.2
BCOK	**Bluff Creek, N**	**1.60**	**182**		Pn	09 05 52.6	+0.1
OK025	**Westminster Rd**	**1.68**	**175**	Pn	Pn	09 05 54.1	+0.4
KSU1	**Kansas State U**	**1.98**	**21**	IAmb_Lg		09 06 29.7	
	comp=Z,29nm,0.8s						
W39A	**Magazine**	**3.66**	**123**	IAmb_Lg		09 07 28.5	
	comp=Z,12nm,0.8s						
P38A	**Dawn**	**3.93**	**52**	IAmb_Lg		09 07 33.3	
	comp=Z,11nm,0.8s						
R40A	**Maddies Statio**	**4.29**	**75**	IAmb_Lg		09 07 40.2	
	comp=Z,14nm,0.8s						
WHAR	**Wooly Hollow**	**4.67**	**113**	IAmb_Lg		09 07 59.3	
	comp=Z,9.5nm,0.7s						
X40A	**Basin Creek Fa**	**4.71**	**125**	IAmb_Lg		09 08 03.5	
	comp=Z,11nm,0.9s						
N38A	**Joes South For**	**4.86**	**42**	IAmb_Lg		09 07 59.1	
	comp=Z,11nm,0.8s						
P40A	**Paris**	**4.87**	**61**	IAmb_Lg		09 07 58.2	
	comp=Z,11nm,0.8s						
CCM	**Cathedral Cave**	**5.05**	**79**	IAmb_Lg		09 08 11.2	
	comp=Z,7.4nm,1.0s						
OGNE	**Ogallala**	**5.08**	**318**	IAmb_Lg		09 08 06.7	
	comp=Z,12nm,0.7s						
K31A	**O'Neill**	**5.44**	**350**	IAmb_Lg		09 08 28.2	
	comp=Z,9.2nm,0.7s						
PBMO	**Poplar Bluff**	**5.70**	**93**	IAmb_Lg		09 08 28.0	
	comp=Z,9.9nm,1.0s						

*BJI **30** 09:07:10.1±0.0, 31°.19N×142°.32E, h10km, mB4.9/26, mb4.5/39, Ms4.4/14, Ms7 4.1/17*
*IDC **30** 09:07:14.2±0.5, 31°.38N×141°.87E, h0km, mb4.5/27, mb1 4.6/31, mb1mx4.5/64, mbtmp4.5/31, ML4.1/4, MS3.3/10, Ms1 3.3/10, ms1mx3.0/42, Error ellipse: s-maj=16.0km s-min=12.6km az=69.0*
*MOS **30** 09:07:14.7±0.9, 31°.38N×141°.84E, h15km, mb4.9/21, Error ellipse: s-maj=11.3km s-min=5.5km az=107.7*
*NEIC **30** 09:07:16.3±1.5, 31°.39N±0°.06×141°.9E±0°.1, h10km±1km, mb4.8/97, Error ellipse: s-maj=15.1km s-min=9.7km az=71.0*
*JMA **30** 09:07:20.3±0.4, 31°.68N×141°.80E, h47km, M4.0*
*NIED **30** 09:07:20.4, 31°.68N×141°.80E, h47km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-2.43; Mθθ-0.04; Mφφ2.47; Mrθ-2.09; Mθφ-1.43; Mφr2.57; Fault plane solution: M₀4.33000×10¹⁵ NP1: φs143.00000°, δ71.00000°, λ-101.00000°. NP2: φs353.00000°, δ22.00000°, λ-62.00000°.*
ISC 30 09:07:18.4±0.4, 31°.41N±0°.05×141°.90E±0°.06, h29km, n223, σ1§37/200, mb4.7/88, MS3.8/12, 4C-10D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**2.10**	**301**	P	**Pn**	**09 07 51.1**	**-0.6**
JHCJ	**Hachijojimakas**	**2.44**	**314**	P	**Pn**	**09 07 55.6**	**-0.7**
JHJ2	**Mitsune**	**2.45**	**315**	P	**Pn**	**09 07 55.7**	**-0.9**
JHJ2				eS	Sn	09 08 20.7	-4.7
JHJ2	**Mitsune**	**2.45**	**315**	Pn	**Pn**	**09 07 55.4**	**-1.1**
JHJ	**Hachijo jima 2**	**2.48**	**314**	Pn	**Pn**	**09 07 55.2**	**-1.6**
	32nm,0.3s,baz=113,slow=23,SNR=11						
JHJ				Sn	**Sn**	**09 08 24.9**	**-1.2**
	88nm,0.3s,baz=52,slow=20,SNR=6.9						
JHJ				LR	LR	09 08 28.4	
	comp=Z,166nm,19.1s,baz=102,slow=30						
JMKN	**Mikurajimanish**	**3.15**	**322**	P	**Pn**	**09 08 05.2**	**-0.9**
BSO1	**Boso 1**	**3.33**	**347**	P	**Pn**	**09 08 07.2**	**-0.9**
BSO3	**Boso 3**	**3.58**	**341**	P	**Pn**	**09 08 10.6**	**-1.2**
JCJ	**Chichijima**	**4.30**	**177**	Pn	**Pn**	**09 08 21.0**	**-1.0**
	36nm,0.3s,baz=279,slow=12,SNR=7.0						
JCJ	**Chichijima**	**4.30**	**177**	Pn	**Pn**	**09 08 20.9**	**-1.0**
JOD2	**Odawara 2**	**4.51**	**329**	P	**Pn**	**09 08 24.0**	**-0.8**
JSG	**Sagara**	**4.51**	**317**	Pn	**Pn**	**09 08 22.8**	**-2.0**
JYT	**Yasato**	**5.01**	**344**	Pn	**Pn**	**09 08 31.1**	**-0.6**
JRY	**Ryogami san**	**5.23**	**332**	P	**Pn**	**09 08 33.9**	**-0.9**
JGF	**Kuroka**	**5.65**	**319**		**Pn**	**09 08 40.3**	**-0.2**
INU	**Inuyama**	**5.67**	**315**	Pn	**Pn**	**09 08 40.1**	**-0.6**
MJAR	**Matsushiro Arr**	**5.97**	**330**	Pn	**Pn**	**09 08 44.5**	**-0.4**
	1.7nm,0.3s,baz=150,slow=11,SNR=62						
MJAR	**Matsushiro Arr**	**5.97**	**330**	P	**Pn**	**09 08 44.6**	**-0.3**
MJAR	**Matsushiro Arr**	**5.97**	**330**	Pn	**Pn**	**09 08 44.6**	**-0.3**
MAJO	**Matsushiro**	**5.97**	**330**	*ce*P	**Pn**	**09 08 45.4**	**+0.5**
MAJO	**Matsushiro**	**5.97**	**330**	Pn	**Pn**	**09 08 44.5**	**-0.3**
MAT	**Matsushiro**	**5.97**	**330**	P	**Pn**	**09 08 44.8**	**-0.1**
MAT				S	**Sn**	**09 09 46.0**	**-6.3**
MJB9	**Matsu-Tunnel**	**5.97**	**330**	Pn	**Pn**	**09 08 44.7**	**-0.3**
JMM	**Marumori**	**6.51**	**352**		**Pn**	**09 08 50.1**	**-2.1**
JSD	**Sado**	**7.26**	**337**	Pn	**Pn**	**09 09 01.9**	**-0.7**
JTM	**Tenmabayashi**	**9.39**	**356**	Pn	**Pn**	**09 09 30.3**	**-1.4**
ERM	**Erimo**	**10.64**	**5**	P	**Pn**	**09 09 45.4**	**-3.4**
ERM	**Erimo**	**10.64**	**5**	Pn	**Pn**	**09 09 45.4**	**-3.4**
ASAJ	**Asahikawa**	**12.70**	**2**	Pn	**Pn**	**09 10 13.9**	**-3.1**
	2.0nm,0.3s,baz=191,slow=8.9,SNR=12						
ASAJ				LR	LR	09 16 18.4	
	comp=Z,86nm,18.7s,baz=172,slow=43						
ASAJ	**Asahikawa**	**12.70**	**2**	P	**Pn**	**09 10 13.6**	**-3.4**
JKA	**Kamikawa-asahi**	**12.70**	**2**		**Pn**	**09 10 13.6**	**-3.5**
KSRS	**Korea Array**	**13.01**	**301**	Pn	P	09 10 26.0	-5.5
	0.5nm,0.3s,baz=111,slow=13,SNR=8.8						
KSRS				LR	LR	09 15 39.3	
	comp=Z,181nm,18.3s,baz=116,slow=39						
MSHR	**Mys Shultsa**	**14.06**	**325**	*e*P	**Pn**	**09 10 34.3**	**-1.3**
MSHR				pmax	pmax		
	comp=Z,32nm,1.2s						
KUR	**Kuril'sk**	**14.57**	**17**	*e*P	**Pn**	**09 10 42.1**	**-0.4**
KUR				pmax	pmax		
	comp=Z,163nm,1.1s						
USRK	**Ussuriysk Ar.**	**14.97**	**331**	Pn	**Pn**	**09 10 46.0**	**-1.9**
	baz=148,slow=12,SNR=4.1						
USRK	**Ussuriysk Ar.**	**14.97**	**331**	P	**Pn**	**09 10 46.0**	**-1.9**
YSS	**Yuzh-Sakhalins**	**15.54**	**2**	*e*P	Pn	09 10 48.1	-7.3
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS				MLR	MLR		
	comp=Z,200nm,15.0s						
YSS				MLR	MLR		
	comp=E,600nm,14.0s						
GUMO	**Guam**	**17.94**	**171**	P	**P**	**09 11 25.1**	**-1.1**
GUMO				pmax	pmax		
	comp=Z,332nm,1.5s						
GUMO	**Guam**	**17.94**	**171**	P	**P**	**09 11 25.1**	**-1.1**
YHNB	**Yeheng**	**19.30**	**255**	P	**Pn**	**09 11 41.2**	**-1.2**
YHNB				IAmb	IAmb	09 11 50.8	
	comp=Z,180nm,1.8s						
NACB	**Ninganchiao**	**19.34**	**253**	P	**Pn**	**09 11 40.5**	**-2.2**
NACB				IAmb	IAmb	09 11 43.8	
	comp=Z,26nm,0.8s						
KLR	**Kul'dur**	**19.38**	**340**	P	**Pn**	**09 11 41.0**	**-2.1**
	comp=Z,1.4nm,0.3s,baz=163,slow=11,SNR=15						
KLR				LR	LR	09 19 22.3	
	comp=Z,36nm,18.9s,baz=202,slow=38						
KLR	**Kul'dur**	**19.38**	**340**	*e*P	**Pn**	**09 11 41.8**	**-1.3**
KLR				pmax	pmax		
	comp=Z,12nm,1.5s						
TYV	**Tymovskoe**	**19.45**	**1**	*e*P	**Pn**	**09 11 44.9**	**+1.0**
TYV				pmax	pmax		
	comp=Z,300nm,3.3s						
TYV				pmax	pmax		
	comp=Z,15nm,0.8s						
NJ2	**Nanjing**	**19.61**	**278**	*e*P	**Pn**	**09 11 45.3**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
YULB	**Yu-li**	**19.93**	**251**	P	**Pn**	**09 11 47.9**	**-2.0**
YULB				IAmb	IAmb	09 11 58.2	
	comp=Z,32nm,0.9s						
SSLB	**Suanglung**	**20.03**	**253**	P	Pn	09 11 49.1	-1.9
SSLB				IAmb	IAmb	09 12 00.3	
	comp=Z,38nm,1.0s						
BJI	**Beijing**	**22.53**	**300**	P	**P**	**09 12 15.0**	**-0.9**
BJI				pmax	pmax		
	comp=Z,10.0nm,1.5s						
BJI				pmax	pmax		
	comp=Z,230nm,4.7s						
BJI				LR	LR		
	comp=Z,280nm,15.6s						
BJT	**Baijiatuau**	**22.53**	**300**	P	**P**	**09 12 14.6**	**-1.4**
BJT				pmax	pmax		
	comp=Z,13nm,1.1s						
BJT	**Baijiatuau**	**22.53**	**300**	P	**P**	**09 12 14.6**	**-1.4**
HIA	**Hailar**	**24.42**	**323**	P	**P**	**09 12 32.9**	**-1.5**
HIA				pmax	pmax		
	comp=Z,16nm,0.7s						
HIA	**Hailar**	**24.42**	**323**	P	**P**	**09 12 32.9**	**-1.5**
HIA				IAmb	IAmb	09 12 36.1	
	comp=Z,16nm,0.7s						
PETK	**Petropavlovsk-**	**24.53**	**23**	P	**P**	**09 12 35.0**	**-0.3**
	comp=Z,4.2nm,0.9s,baz=211,slow=10,SNR=4.3						
PETK	**Petropavlovsk-**	**24.53**	**23**	P	**P**	**09 12 34.7**	**-0.6**
ZEA	**Zeya**	**24.69**	**339**	*e*P	**P**	**09 12 39.3**	**+2.5**
ZEA				pmax	pmax		
	comp=N,30nm,1.4s						
ZEA				pmax	pmax		
	comp=Z,40nm,1.3s						
H11N2	**WAKE ISLAND Hy**	**25.31**	**111**	T	T	09 39 08.5	
	baz=304,slow=75,SNR=4.0						
H11N1	**WAKE ISLAND Hy**	**25.31**	**111**	T	T	09 39 09.5	
	baz=304,slow=75,SNR=2.7						
H11N3	**WAKE ISLAND Hy**	**25.32**	**111**	T	T	09 39 08.3	
	baz=304,slow=75,SNR=3.9						
H11S3	**WAKE ISLAND Hy**	**25.82**	**114**	T	T	09 39 46.9	
	baz=302,slow=74,SNR=3.0						
H11S1	**WAKE ISLAND Hy**	**25.82**	**114**	T	T	09 39 54.4	
	baz=302,slow=74,SNR=3.6						
H11S2	**WAKE ISLAND Hy**	**25.84**	**114**	T	T	09 39 50.8	
	baz=302						
HHC	**Hu-ho-hao-te**	**26.14**	**300**	*e*P	**P**	**09 12 50.8**	**+0.6**
HHC				PP	**PnPn**	**09 13 34.5**	**+5.4**
HHC				S	**S**	**09 17 23.8**	**+3.6**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,130nm,6.9s						
HHC				LR	LR		
	comp=Z,390nm,16.2s						
HHC				LR	LR		
	comp=Z,500nm,12.3s						
HHC				LR	LR		
	comp=Z,490nm,12.9s						
XAN	**Xi'an**	**27.80**	**284**	P	**

comp=Z,14nm,0.8s
LSA Lhasa 43.42 281 P **P** 09 15 18.7 -0.6
LSA pmax pmax
comp=Z,4.0nm,0.6s
LSA Lhasa 43.42 281 P **P** 09 15 18.7 -0.6
WMQ Urumqi 43.96 302 *eP* P 09 15 25.8 +2.8
WMQ LR LR
comp=Z,290nm,7.3s
WMQ LR LR
comp=Z,120nm,11.5s
WMQ LR LR
comp=Z,90nm,13.5s
DGZ Jazzator, Alta 44.19 311 *d iP* **P** 09 15 26.1 +1.2
DGZ pmax pmax
comp=Z,14nm,0.8s
COEN Coen 45.12 178 P **P** 09 15 33.0 +0.7
COEN IAmb IAmb 09 15 35.7
comp=Z,14nm,0.9s
ZALV Zalesovo Beam 46.14 317 P **P** 09 15 40.4 +0.4
comp=Z,3.7nm,0.4s,baz=109,slow=8.2,SNR=6.0
ZALV PcP **PcP** 09 17 15.7 +0.1
comp=Z,2.3nm,0.6s,baz=114,slow=3.9,SNR=3.8
ZALV LR LR 09 36 02.4
comp=Z,72nm,18.7s,baz=78,slow=38
MK31 Makanchi Array 47.62 307 P **P** 09 15 52.1 +0.3
MK31 pmax pmax
comp=Z,18nm,1.6s
MK31 Makanchi Array 47.62 307 P **P** 09 15 52.1 +0.3
MK31 IAmb IAmb 09 16 57.1
comp=Z,18nm,1.6s
MKAR Makanchi Array 47.62 307 P **P** 09 15 52.1 +0.2
comp=Z,4.4nm,0.6s,baz=83,slow=9.9,SNR=14
MKAR Makanchi Array 47.62 307 P **P** 09 15 52.3 +0.4
MKAR Makanchi Array 47.62 307 P **P** 09 15 52.2 +0.4
KNRA Kununurra 48.48 197 P **P** 09 15 58.1 -0.5
KNRA IAmb IAmb 09 17 18.5
comp=Z,16nm,1.1s
NRIK Noril'sk 48.57 337 P **P** 09 15 59.7 +1.0
comp=Z,3.0nm,0.6s,baz=108,slow=12,SNR=4.6
NRIK Noril'sk 48.57 337 P **P** 09 15 59.7 +1.0
NRIK pmax pmax
comp=Z,11nm,1.2s
NRIK Noril'sk 48.57 337 IAmb IAmb 09 16 36.4
comp=Z,11nm,1.1s
KURK Kurchatov 49.86 312 P **P** 09 16 09.4 +0.5
KURK Kurchatov 49.86 312 P **P** 09 16 09.4 +0.5
KURBB Kurchatov Arra 49.92 312 P **P** 09 16 09.4 +0.1
comp=Z,6.8nm,0.6s,baz=86,slow=6.8,SNR=36
K20K Telida 50.83 32 P **P** 09 16 17.3 +1.3
K20K IAmb IAmb 09 16 18.6
comp=Z,13nm,0.8s
J20K Nowinta River 50.91 30 P **P** 09 16 18.3 +1.7
J20K IAmb IAmb 09 16 19.1
comp=Z,13nm,0.8s
KDAK Kodiak Island 51.12 39 P **P** 09 16 19.1 +0.8
comp=Z,6.2nm,0.5s,baz=316,slow=11,SNR=4.4
KDAK Kodiak Island 51.12 39 **P** 09 16 18.7 +0.4
IMAR Indian Mountai 51.35 28 P **P** 09 16 21.1 +1.2
WB0 Warramunga Arr 51.39 189 P **P** 09 16 20.0 -0.7
WR0 Warramunga Arr 51.56 189 P **P** 09 16 21.3 -0.6
WR0 IAmb IAmb 09 16 22.6
comp=Z,34nm,1.6s
WRAB Tennant Creek 51.56 189 P **P** 09 16 21.4 -0.5
WRAB pmax pmax
comp=Z,15nm,1.2s
WRAB Tennant Creek 51.56 189 P **P** 09 16 21.4 -0.5
WRAB IAmb IAmb 09 16 23.3
comp=Z,15nm,1.2s
WB2 Warramunga Arr 51.56 189 P **P** 09 16 21.4 -0.6
WB2 IAmb IAmb 09 16 23.4
comp=Z,23nm,1.4s
WRA Warramunga Arr 51.57 189 P **P** 09 16 21.0 -1.0
comp=Z,4.2nm,0.4s,baz=5.5,slow=7.6,SNR=162
PPLA Purkeypile 51.63 32 P **P** 09 16 24.1 +1.9
FITZ Fitzroy Crossi 51.64 200 P **P** 09 16 22.2 -0.3
H21K Melozitna Rive 51.68 29 IAmb IAmb 09 16 25.0
comp=Z,13nm,0.8s
SUA Susitna One 52.20 34 P **P** 09 16 27.2 +0.7
MLY Manley 52.47 30 P **P** 09 16 29.9 +1.6
MLY IAmb IAmb 09 16 30.7
comp=Z,9.8nm,0.9s
SANVU Saraoutou 52.54 149 P **P** 09 16 30.4 +1.1
SEW Seward 52.79 36 P **P** 09 16 30.7 +0.1
PMR Palmer 52.98 34 P **P** 09 16 32.7 +0.7
PMR pmax pmax
comp=Z,51nm,1.8s
PMR Palmer 52.98 34 P **P** 09 16 32.7 +0.7
I23K Minto, Yukon-K 53.06 30 P **P** 09 16 34.1 +1.6
I23K IAmb IAmb 09 16 34.9
comp=Z,6.9nm,1.0s
KSH Kashi 53.24 298 P P 09 16 38.5 +4.0
KSH pmax pmax
comp=Z,4.0nm,0.7s
KNK Knik Glacier 53.30 34 P **P** 09 16 35.2 +0.7
TOLK Toolik Lake Re 53.34 25 P **P** 09 16 36.4 +1.8
TOLK IAmb IAmb 09 16 37.5
comp=Z,14nm,0.8s
SML Sawmill 53.36 34 P **P** 09 16 35.8 +0.8
MDM Murphy Dome 53.53 30 P **P** 09 16 37.5 +1.4
MDM IAmb IAmb 09 16 38.2
comp=Z,14nm,1.0s
AAK Ala-Archa 53.67 302 P **P** 09 16 37.6 -0.1
comp=Z,1.3nm,0.3s,baz=158,slow=1.7,SNR=4.0
AAK Ala-Archa 53.67 302 ⇓ *eP* **P** 09 16 38.3 +0.6
AAK pmax pmax
comp=Z,21nm,1.7s
POKR Poker Plat Res 53.87 30 P **P** 09 16 38.5 -0.1
POKR IAmb IAmb 09 16 41.1
comp=Z,10nm,0.8s
HDA Harding Lake 54.05 31 P **P** 09 16 40.5 +0.5
HDA IAmb IAmb 09 16 40.7
comp=Z,8.9nm,0.8s
IL31 54.09 30 P **P** 09 16 40.7 +0.6
IL31 IAmb IAmb 09 16 41.1
comp=Z,6.8nm,0.8s
ILAR Eielson Array 54.09 30 P **P** 09 16 40.3 +0.1
comp=Z,6.2nm,0.8s,baz=264,slow=6.0,SNR=46
BVAR Borovoye Array 54.76 315 P **P** 09 16 45.4 +0.1
comp=Z,3.9nm,0.7s,baz=110,slow=8.1,SNR=13
BRVK Borovoye 54.82 316 P **P** 09 16 46.3 +0.7
BRVK pmax pmax
comp=Z,4.0nm,0.6s
BRVK Borovoye 54.82 316 P **P** 09 16 46.3 +0.7
BRVK IAmb IAmb 09 16 49.0
comp=Z,4.2nm,0.6s
AS31 Alice Springs 55.29 189 P **P** 09 16 49.7 +0.4
ASAR Alice Springs 55.29 189 P **P** 09 16 48.5 -0.8
comp=Z,3.5nm,0.6s,baz=16,slow=14,SNR=55
ASAR Alice Springs 55.29 189 P **P** 09 16 49.1 -0.2
ASAR Alice Springs 55.29 189 P **P** 09 16 49.1 -0.2
L27K Beaver Creek, 56.36 32 P **P** 09 16 58.3 +1.7
L27K IAmb IAmb 09 16 58.9
comp=Z,11nm,1.0s
BCAR Beaver Creek A 56.38 32 P **P** 09 16 58.9 +2.2
KK31 Karatay Array 56.43 304 P **P** 09 16 58.3 +0.9
KK31 pmax pmax
comp=Z,12nm,0.5s
KK31 Karatay Array 56.43 304 P **P** 09 16 58.3 +0.9
KKAR Karatay Array 56.43 304 P **P** 09 16 58.1 +0.7
KKAR pmax pmax
comp=Z,12nm,0.5s
KKAR Karatay Array 56.43 304 P **P** 09 16 58.3 +0.9
KKAR Karatay Array 56.43 304 P **P** 09 16 58.1 +0.7
KKAR IAmb IAmb 09 16 58.7
comp=Z,12nm,0.5s
EGAK Eagle 56.55 30 P **P** 09 16 58.6 +0.7
EGAK IAmb IAmb 09 18 56.2
comp=Z,18nm,1.6s
PSA00 Pilbara Seismi 56.76 205 P **P** 09 16 59.0 -0.9
CHGR Chuyangaron 58.59 299 P **P** 09 17 13.5 +0.7
INK Inuvik 59.24 26 P **P** 09 17 17.0 +0.4
comp=Z,4.4nm,0.8s,baz=257,slow=6.9,SNR=4.4
INK Inuvik 59.24 26 IAmb IAmb 09 18 12.3
comp=Z,20nm,1.4s
ARU Arti 60.90 321 P **P** 09 17 28.5 +0.3
comp=Z,6.6nm,0.5s,baz=98,slow=2.9,SNR=28
ARU Arti 60.90 321 *d iP* **P** 09 17 28.2 -0.1
ARU S **S** 09 25 46.2 +2.0
ARU SS **SS** 09 29 48.0 +5.0
ARU pmax pmax
comp=Z,16nm,0.6s
ARU Arti 60.90 321 P **P** 09 17 28.8 +0.5
ABKAR Akbulak array 61.96 313 P **P** 09 17 35.8 +0.3
ABKAR Akbulak array 61.96 313 P **P** 09 17 35.9 +0.3
AKTO Aktyubinsk 62.81 314 P **P** 09 17 41.2 0.0
comp=Z,3.1nm,0.6s,baz=74,slow=16,SNR=10
STKA Stephens Creek 62.94 180 P **P** 09 17 44.2 +2.1
comp=Z,1.8nm,0.8s,baz=331,slow=5.7,SNR=4.4
STKA Stephens Creek 62.94 180 P **P** 09 17 43.8 +1.6
FORT Forrest 63.22 193 P **P** 09 17 44.0 0.0
KIRV Kirov 65.02 325 P **P** 09 17 55.4 -0.1
comp=Z,18nm,0.8s,baz=69,slow=0.7,SNR=4.4
KIRV Kirov 65.02 325 ⇓ *eP* **P** 09 17 55.8 +0.3
GEYT Aibeck 67.00 301 P **P** 09 18 09.8 +1.1
comp=Z,3.1nm,0.5s,baz=198,slow=4.2,SNR=4.9
NWAO Narrogin (SRO) 68.10 202 P **P** 09 18 14.2 -1.3
NWAO pmax pmax
comp=Z,56nm,1.7s
NWAO Narrogin (SRO) 68.10 202 P **P** 09 18 14.2 -1.3
OZB Mount Ozzard 68.64 45 P **P** 09 18 18.8 -0.1
ARCES ARCESS Array B 69.41 340 P **P** 09 18 24.3 +1.1
comp=Z,9.5nm,0.9s,baz=47,slow=5.3,SNR=3.4
AKT Akhty 72.81 308 *eP* **P** 09 18 42.5 -2.0
AKT *e* 09 18 59.9
AKT pmax pmax
comp=Z,8.0nm,0.6s
EDM Edmonton 73.54 37 P **P** 09 18 48.9 +0.4
EDM pmax pmax
comp=Z,38nm,1.9s
EDM Edmonton 73.54 37 P **P** 09 18 48.9 +0.4
PINE Pine Mountain 73.72 48 P **P** 09 18 50.8 +0.9
PINE IAmb IAmb 09 19 09.0
comp=Z,5.4nm,0.9s
NEW Newport 73.92 43 P **P** 09 18 51.6 +0.7
NEW pmax pmax
comp=Z,6.0nm,1.1s
NEW Newport 73.92 43 P **P** 09 18 51.6 +0.7
NEW IAmb IAmb 09 18 52.7
comp=Z,5.7nm,1.1s
FIA1 FINESS Array S 73.99 333 P **P** 09 18 51.3 +0.4
FINES FINESS Array B 73.99 333 P **P** 09 18 51.1 +0.3
comp=Z,4.2nm,0.6s,baz=66,slow=6.0,SNR=7.7
E09A Wood Farm, Sta 74.16 45 P **P** 09 18 53.0 +0.8
E09A IAmb IAmb 09 18 58.2
comp=Z,23nm,1.8s
KBZ Khabaz 74.92 312 P **P** 09 18 57.8 +1.2
comp=Z,5.0nm,0.8s,baz=67,slow=3.9,SNR=5.3
KIV Kislovodsk 74.94 312 *eP* **P** 09 18 56.0 -0.9
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,51nm,18.0s
GNI Garni 75.44 308 ⇓ *eP* **P** 09 18 57.3 -2.7
GNI pmax pmax
comp=Z,4.0nm,1.0s
HRY Holter Researc 77.80 43 P **P** 09 19 13.0 -0.1
RYN Ryan 77.82 52 P **P** 09 19 12.9 -0.5
KVN Kaiserville 77.89 52 P **P** 09 19 13.8 -0.1
KVN pmax pmax
comp=Z,3.0nm,1.0s
KVN Kaiserville 77.89 52 P **P** 09 19 13.8 -0.1
HLID Hailey 77.94 46 P **P** 09 19 14.5 +0.5
NVAR Mina Array Bea 78.07 52 P **P** 09 19 15.6 +0.6
comp=Z,1.8nm,0.7s,baz=286,slow=5.7,SNR=22
NVAR Mina Array Bea 78.07 52 P **P** 09 19 15.2 +0.3
BOZ Bozeman (W) 78.52 43 P **P** 09 19 18.1 +0.9
BOZ pmax pmax
comp=Z,14nm,1.9s
BOZ Bozeman (W) 78.52 43 P **P** 09 19 18.1 +0.9
BOZ IAmb IAmb 09 20 15.8
comp=Z,14nm,1.9s
AKASG Malin Array Be 79.01 323 LR LR 09 57 00.8
comp=Z,72nm,18.1s,baz=335,slow=38
NC405 NORSAR Array S 79.32 338 P **P** 09 19 19.5 -1.6
HFS Hagfors 79.38 336 P **P** 09 19 20.8 -0.6
comp=Z,5.2nm,0.7s,baz=138,slow=7.2,SNR=8.4
NC204 NORSAR Array S 79.50 338 P **P** 09 19 22.2 +0.2
NB2 NORSAR Subarra 79.53 338 P **P** 09 19 22.3 +0.1
comp=Z,1.8nm,0.5s,baz=41,slow=5.3
NOA NORSAR Array B 79.53 338 P **P** 09 19 22.4 +0.1
comp=Z,4.3nm,0.8s,baz=41,slow=5.3,SNR=16
H17A Grant Village 79.81 44 P **P** 09 19 23.1 -1.3
HVU Hansel Valley 79.91 47 P **P** 09 19 25.4 +0.5
HVU pmax pmax
comp=Z,3.0nm,0.7s
HVU Hansel Valley 79.91 47 P **P** 09 19 25.4 +0.5
R11A Troy Canyon, C 79.94 51 P **P** 09 19 25.6 +0.4
FXWY Fox Creek 79.96 45 P **P** 09 19 24.2 -1.0
REDW Red Top Meadow 80.22 45 IAmb IAmb 09 19 29.0
comp=Z,9.6nm,1.6s
SNOW Snow King Moun 80.22 45 IAmb IAmb 09 19 57.4
comp=Z,19nm,1.9s
LOHW Long Hollow 80.23 45 IAmb IAmb 09 19 29.4
comp=Z,9.9nm,1.7s
GWY Greenwater Val 80.35 54 IAmb IAmb 09 19 32.8
comp=Z,7.4nm,1.2s
DUG Dugway, Tooele 80.76 48 IAmb IAmb 09 19 32.0
comp=Z,21nm,1.8s
PDAR Pinedale Array 81.34 45 P **P** 09 19 32.8 +0.2
comp=Z,0.8nm,0.6s,baz=284,slow=1.9,SNR=10
P17A Butcher Ranch, 82.48 48 IAmb IAmb 09 19 40.5
comp=Z,5.4nm,0.7s
KNB Kanab 82.50 51 IAmb IAmb 09 19 45.5
comp=Z,20nm,1.6s
Q16A Castle Valley 82.52 49 IAmb IAmb 09 19 44.8
comp=Z,11nm,1.5s
RDMU Red Mountain 82.59 47 IAmb IAmb 09 19 41.0
comp=Z,7.6nm,0.7s
SRU San Rafael Swe 82.83 48 IAmb IAmb 09 19 41.9
comp=Z,5.5nm,0.7s
BR131 Keskin Array S 82.91 312 *c iP* **P** 09 19 41.1 +0.4
BRTR Keskin Array B 82.91 312 P **P** 09 19 41.5 +0.8
comp=Z,1.9nm,0.7s,baz=100,slow=5.1,SNR=4.3
Y14A Wickenburg 84.09 54 IAmb IAmb 09 19 48.3
comp=Z,3.1nm,0.9s
WUAZ Wupatki 84.31 52 IAmb IAmb 09 19 49.8
comp=Z,5.3nm,0.9s
SMCO Snowmass 85.03 47 P **P** 09 19 52.2 +0.3
SMCO IAmb IAmb 09 19 59.4
comp=Z,6.2nm,1.3s
214A Organ Pipe Nat 85.33 55 P **P** 09 19 53.0 -0.1
214A IAmb IAmb 09 19 54.8
comp=Z,4.0nm,0.9s
CLL Collm 86.18 331 *eP* **P** 09 19 57.0 +0.2
CLL Collm 86.18 331 *eP* **P** 09 19 57.0 +0.2
ANMO Albuquerque 87.90 50 ⇓ *eP* **P** 09 20 06.3 +0.5
ANMO pmax pmax
comp=Z,1.0nm,1.2s
APE Apeiranthos 89.57 314 ⇑ *iP* **P** 09 20 12.9 -0.5
APE pmax pmax
comp=Z,77nm,1.3s
TXAR Lajitas Array 93.22 53 P **P** 09 20 31.4 +0.9
comp=Z,4.3nm,0.7s,baz=297,slow=3.0,SNR=64
TORD Torodi Ar. Bea 121.52 313 PKP **PKiKP** 09 26 09.7 -0.3
comp=Z,0.2nm,0.5s,baz=65,slow=1.4,SNR=5.4
VNA2 Neumayer--Watz 137.00 194 PKPdf **PKiKP** 09 26 40.0 +0.7
VNA3 Neumayer Olymp 137.21 193 PKPdf **PKiKP** 09 26 38.6 -1.2
VNA1 Neumayer--Stat 137.40 194 PKPdf **PKiKP** 09 26 40.0 -0.1
LPAZ La Paz 148.81 68 PKPbc **PKPab** 09 27 05.6 -2.8
comp=Z,1.5nm,0.6s,baz=355,slow=1.5,SNR=8.8

*KRNET **30** 09:12:52.1±0.1, 42°.22N×69°.60E, mb2.6*
ISC 30 09:12:53.4±2.1, 42°.21N±0°.06×69°.6E±0°.1, h11km, n6,
σ1s14/12, 8C-4D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**1.12**	**37**	⇑ P	**Pb**	**09 13 14.1**	**-0.7**
	1.1nm,0.5s,baz=213,slow=14,SNR=12						
KK31				⇑ S	**Sb**	**09 13 28.7**	**-0.8**
	1.6nm,0.5s,baz=208,slow=30,SNR=5.2						
TRKS	**Terek-Say**	**1.35**	**120**	⇑ *eP*	**Pn**	**09 13 17.9**	**-0.5**
	baz=22						
TRKS				⇑ *iS*	**Sg**	**09 13 37.2**	**+0.3**
	baz=22						
MNAS	**Manas**	**2.19**	**82**	⇓ *iP*	**Pn**	**09 13 30.7**	**+0.9**
	baz=82						
MNAS				⇓ *iS*	**Sb**	**09 13 58.9**	**-1.3**
	baz=82						
BTK	**Batken**	**2.35**	**156**	⇑ *iP*	**Pn**	**09 13 33.2**	**+1.2**
	baz=57						
BTK				⇑ *iS*	**Sb**	**09 14 03.1**	**-1.7**
	baz=57						
AML	**Almayashu**	**3.06**	**90**	⇑ *eP*	**Pn**	**09 13 42.9**	**+0.8**
	baz=90						
AML				⇑ *iS*	**Sn**	**09 14 19.9**	**+1.0**
	baz=90						
ARLS	**Aral**	**3.55**	**94**	⇓ *iP*	**Pn**	**09 13 49.6**	**+1.0**
	baz=94						
ARLS				⇓ *iS*	**Sn**	**09 14 31.5**	**+0.8**

*IPEC **30** 09:14:49.4±0.2, 50°.10N×19°.28E, h2km±1km, ML3.6/3, Error ellipse: s-maj=2.9km s-min=1.1km az=162.0*
*IDC **30** 09:14:50.0±1.0, 49°.94N×19°.26E, h0km, mb3.4/1, mb1 3.6/6, mb1mx3.4/45, mbtmp3.5/6, ML3.0/5, MS2.8/1, Ms1 2.9/1, ms1mx2.1/43, Error ellipse: s-maj=20.2km s-min=9.3km az=149.0*
ISC 30 09:14:48.8±0.6, 50°.12N±0°.02×19°.25E±0°.02, h0km, n87,
σ1s21/139, 14C-5D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.37**	**73**	*eP*	**Pg**	**09 14 56.3**	**+0.4**
OJC				*eSg*	**Sg**	**09 15 01.2**	**+0.6**
RAC	**Raciborz**	**0.68**	**268**	*ePG*	**Pb**	**09 15 03.6**	**+0.1**
RAC				*eSG*	**Sb**	**09 15 13.8**	**+0.3**
OKC	**Ostrava-Krasne**	**0.76**	**249**	*ePG*	**Pb**	**09 15 05.0**	**0.0**
OKC				*eSG*	**Sb**	**09 15 16.2**	**+0.3**
	comp=Z,342nm,0.5s						
NIE	**Niedzica**	**0.97**	**135**	*ePg*	**Pg**	**09 15 07.9**	**+0.4**
NIE				*eSg*	**Sb**	**09 15 21.5**	**-0.6**
LANS	**Liptovska Anna**	**0.98**	**172**	*ePG*	**Pg**	**09 15 08.0**	**+0.5**
LANS				*eSG*	**Sg**	**09 15 20.6**	**+0.5**
LANS				*eLG*	Lg	09 15 24.9	
MORC	**Moravsky Berou**	**1.15**	**254**	⇓ P	**Pb**	**09 15 11.8**	**+0.2**
MORC	**Moravsky Berou**	**1.15**	**254**	⇑ S	**Sn**	**09 15 28.2**	**-0.5**
MORC	**Moravsky Berou**	**1.15**	**254**	*ePg*	**Pb**	**09 15 11.6**	**0.0**
MORC	baz=73			*eSg*	**Sg**	**09 15 26.2**	**+0.4**
	738nm,0.7s,baz=73						
MORC	**Moravsky Berou**	**1.15**	**254**	*ePG*	**Pb**	**09 15 11.7**	**+0.1**
MORC				*eSG*	**Sg**	**09 15 26.2**	**+0.4**
STHS	**Stebnicka Huta**	**1.47**	**118**	*ePG*	**Pn**	**09 15 15.7**	**-0.9**
STHS				*eSG*	**Sn**	**09 15 37.8**	**+1.3**
STHS				*eLG*	Lg	09 15 45.8	
KRLC	**Kraliky**	**1.59**	**270**	*ePG*	**Pn**	**09 15 18.2**	**-0.1**
KRLC				*eSG*	**Sn**	**09 15 39.7**	**+0.2**
	comp=Z,200nm,0.5s						
VYHS	**Vyhne**	**1.65**	**190**	*ePN*	**Pn**	**09 15 18.9**	**-0.1**
VYHS				*eSN*	**Sn**	**09 15 40.0**	**-0.8**
VYHS				*eLG*	Lg	09 15 43.8	
KECS	**Kecovo**	**1.82**	**153**	*ePN*	**Pn**	**09 15 21.0**	**-0.4**
KECS				*eSN*	**Sn**	**09 15 43.8**	**-1.4**
KECS				*eLG*	Lg	09 15 48.6	
CRVS	**Cervenica-Dubn**	**1.89**	**129**	*ePN*	**Pn**	**09 15 21.9**	**-0.4**
CRVS				*eSG*	**Sg**	**09 15 49.0**	**-0.3**
CRVS				*eLG*	Lg	09 15 58.8	
DPC	**Dobruska-Polom**	**1.89**	**278**	*ePN*	**Pn**	**09 15 23.1**	**+0.7**
DPC				*ePG*	**Pg**	**09 15 25.1**	**0.0**
DPC				*eSG*	**Sg**	**09 15 50.7**	**+1.1**
	comp=Z,258nm,0.6s						
VRAC	**Vranov**	**1.90**	**246**	⇑ P	**Pn**	**09 15 23.0**	**+0.5**
VRAC	**Vranov**	**1.90**	**246**	⇓ S	**Sn**	**09 15 46.9**	**-0.3**
VRAC	**Vranov**	**1.90**	**246**	Pn	**Pn**	**09 15 22.4**	**-0.2**
	14nm,0.3s,baz=63,slow=13,SNR=34						
VRAC				Lg	Lg	09 15 50.1	
	9.5nm,0.3s,baz=70,slow=13,SNR=6.1						
VRAC	**Vranov**	**1.90**	**246**	*ePn*	**Pn**	**09 15 23.1**	**+0.5**
	baz=64						
VRAC				*eSg*	**Sg**	**09 15 49.6**	**-0.3**
	290nm,0.8s,baz=64						
VRAC	**Vranov**	**1.90**	**246**	*ePN*	**Pn**	**09 15 23.2**	**+0.7**
VRAC				*eSG*	**Sg**	**09 15 49.7**	**-0.2**
OSTC	**Ostas**	**1.99**	**284**	*ePN*	**Pb**	**09 15 25.5**	**-0.4**
OSTC				*ePG*	**Pg**	**09 15 26.6**	**-0.4**
OSTC				*eSG*	**Sg**	**09 15 52.3**	**-0.5**
	comp=Z,257nm,0.8s						
SMOL	**Smolenice**	**2.00**	**217**	*ePN*	**Pn**	**09 15 24.7**	**+0.9**
SMOL				*eSN*	**Sn**	**09 15 49.1**	**-0.4**
KSP	**Ksiaz**	**2.02**	**292**	*ePG*	**Pg**	**09 15 28.1**	**+0.5**
KSP				*eSg*	**Sg**	**09 15 54.7**	**+0.9**
CHVC	**Chvalec**	**2.10**	**284**	*ePN*	**Pn**	**09 15 25.9**	**+0.6**
CHVC				*ePG*	**Pg**	**09 15 29.8**	**+0.8**
CHVC				*eSG*	**Sg**	**09 15 57.9**	**+1.7**
	comp=Z,148nm,0.7s						
UPC	**Upice**	**2.11**	**282**	*ePN*	**Pb**	**09 15 26.9**	**-1.1**
UPC				*ePG*	**Pg**	**09 15 29.2**	**-0.1**
UPC				*eSG*	**Sg**	**09 15 56.8**	**+0.2**
	comp=Z,162nm,0.6s						
KRUC	**Moravsky**	**2.13**	**242**	*ePn*	**Pn**	**09 15 26.0**	**+0.3**
	baz=60						
KRUC				*eSg*	**Sg**	**09 15 56.9**	**-0.5**
	391nm,1.1s,baz=60						
KRUC	**Moravsky**	**2.13**	**242**	*ePN*	**Pn**	**09 15 26.0**	**+0.3**
KRUC				*eSG*	**Sg**	**09 15 56.9**	**-0.5**
MODS	**Modra-Piesok**	**2.17**	**217**	*ePN*	**Pn**	**09 15 25.2**	**-1.0**
MODS				*eSN*	**Sn**	**09 15 50.6**	**-3.2**
MODS				*eLG*	Lg	09 16 03.9	
PSZ	**Piszkesteto**	**2.24**	**169**	⇑ P	**Pn**	**09 15 28.0**	**+0.8**
PSZ	**Piszkesteto**	**2.24**	**169**	⇓ S	**Sn**	**09 15 55.5**	**0.0**
PSZ	**Piszkesteto**	**2.24**	**169**	*eP*	**Pn**	**09 15 27.6**	**+0.4**
PSZ	**Piszkesteto**	**2.24**	**169**	*ePG*	**Pg**	**09 15 31.8**	**+0.1**
KOLS	**Kolonicke sedl**	**2.30**	**120**	*ePN*	**Pn**	**09 15 28.1**	**+0.1**
KOLS				*ePG*	**Pg**	**09 15 33.4**	**+0.6**
KOLS				*eSN*	**Sn**	**09 15 56.5**	**-0.5**
KOLS				*eLG*	Lg	09 16 18.6	
ZST	**Bratislava**	**2.38**	**217**	*eSN*	**Sn**	**09 15 57.5**	**-1.5**
TREC	**Trest**	**2.58**	**253**	*ePN*	**Pn**	**09 15 32.0**	**+0.2**
TREC				*ePG*	**Pg**	**09 15 37.8**	**-0.4**
TREC				*eSG*	**Sg**	**09 16 12.9**	**+1.4**
	comp=Z,207nm,0.8s						
BUD	**Budapest**	**2.64**	**183**	*ePG*	**Pg**	**09 15 39.0**	**-0.3**
CSKK	**Cskako**	**2.83**	**194**	*eP*	**Pn**	**09 15 36.7**	**+1.5**
SOP	**Sopron**	**3.01**	**217**	*ePG*	**Pg**	**09 15 45.9**	**-0.6**
SOP	**Sopron**	**3.01**	**217**	*eS*	**Sn**	**09 16 16.6**	**+2.1**
PVCC	**Panska Ves**	**3.03**	**280**	*ePN*	**Pn**	**09 15 39.4**	**+1.4**
PVCC				*ePG*	**Pg**	**09 15 45.8**	**-1.0**
PVCC				*eSG*	**Sg**	**09 16 27.1**	**+1.1**
	comp=Z,174nm,0.5s						
PRU	**Pruhonice**	**3.04**	**269**	*ePN*	**Pn**	**09 15 38.4**	**+0.3**
PRU				*ePG*	**Pb**	**09 15 44.2**	**+0.5**
PRU				*eSG*	**Sg**	**09 16 27.7**	**+1.4**
	comp=Z,80nm,0.4s						
PRA	**Prague**	**3.10**	**271**	*ePN*	**Pn**	**09 15 40.4**	**+1.4**
PRA				*ePG*	**Pg**	**09 15 47.5**	**-0.7**
PRA				*eSG*	**Sg**	**09 16 28.2**	**-0.2**
	comp=Z,133nm,0.6s						
CONA	**Conrad Observa**	**3.12**	**227**	*ePn*	**Pn**	**09 15 39.0**	**-0.4**
	2.0nm,0.3s						
CONA				*eSg*	**Sn**	**09 16 15.7**	**-1.7**
	39nm,0.6s						
MPLH	**Magyarpolny**	**3.16**	**202**	*eP*	**Pn**	**09 15 40.3**	**+0.5**
PBCC	**Pribram**	**3.42**	**265**	*eSG*	**Sg**	**09 16 40.2**	**+1.5**
	comp=Z,54nm,0.5s						
BRG	**Berggiesshubel**	**3.47**	**285**	Pg	**Pg**	**09 15 53.9**	**-1.4**
BRG				Sg	**Sg**	**09 16 41.3**	**+1.0**
BRG				Amp		09 16 54.3	
	comp=Z,50nm,0.5s						
CKRC	**Cesky Krumlov**	**3.47**	**250**	*ePN*	**Pn**	**09 15 46.3**	**+2.2**
CKRC				*ePG*	**Pb**	**09 15 53.2**	**+2.0**
CKRC				*eSG*	**Sg**	**09 16 40.9**	**+0.6**
	comp=Z,168nm,0.9s						
ARSA	**Arzberg**	**3.78**	**222**	*ePn*	**Pn**	**09 15 49.3**	**+0.9**
	comp=Z,1.9nm,0.2s						
ARSA				*eSg*	**Sb**	**09 16 41.9**	**-0.9**
	comp=Z,24nm,0.7s						
KHC	**Kasperske Hory**	**3.82**	**257**	*ePN*	**Pn**	**09 15 49.2**	**+0.4**
KHC				*ePG*	**Pb**	**09 15 58.3**	**+1.3**
KHC				*ex*	**Sn**	**09 16 35.5**	**+1.1**
KHC				*ex*	**Sb**	**09 16 45.0**	**+1.2**
KHC				*eSG*	**Sg**	**09 16 51.6**	**+0.3**
	comp=Z,93nm,0.7s						
GERES	**GERESS Array B**	**3.83**	**253**	Pn	**Pn**	**09 15 49.4**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=59,slow=14,SNR=5.1						
GERES				Lg	Lg	09 16 50.3	
	comp=Z,12nm,0.3s,baz=74,slow=30,SNR=14						
MORH	**Mrgy, Hungar**	**3.92**	**186**	*eP*	**Pn**	**09 15 50.5**	**+0.2**
MOA	**Molln**	**3.99**	**237**	*ePn*	**Pn**	**09 15 51.1**	**-0.1**
	comp=Z,0.2nm,0.1s						
MOA				*eSg*	**Sg**	**09 16 55.0**	**-1.8**
	comp=Z,32nm,0.5s						
DRGR		**4.05**	**144**	⇑ P	**Pn**	**09 15 52.6**	**+0.5**
KOVH	**Kovagotottos**	**4.10**	**191**	*ePG*	**Pg**	**09 16 07.6**	**+0.2**
CLL	**Collm**	**4.14**	**289**	*ePG*	**Pg**	**09 16 10.0**	**+1.8**
CLL				*e*		09 16 19.0	
CLL				*eSg*	**Sg**	**09 17 02.0**	**+0.1**
	comp=Z,92nm,0.6s						
SIRR	**Siria**	**4.17**	**156**	⇑ P	**Pn**	**09 15 53.7**	**0.0**
SOKA	**Soboth**	**4.44**	**221**	*ePn*	**Pn**	**09 15 59.0**	**+1.5**
	comp=Z,0.6nm,0.2s						
SOKA				*eSn*	**Sn**	**09 16 47.7**	**-2.1**

	comp=Z,4.9nm,0.7s							
CJR	**Cluj-Napoca**	**4.47**	**138**	⇑P		**Pn**	**09 15 58.3**	**+0.4**
BURAR	**Bucovina Array**	**4.67**	**120**	⇓P		**Pn**	**09 16 00.9**	**+0.3**
BZS	**Buzias**	**4.77**	**160**	⇑P		**Pn**	**09 16 03.4**	**+1.4**
KBA	**Koelnbreinsper**	**4.96**	**234**	*e*Pn		**Pn**	**09 16 03.6**	**-1.0**
KBA				*e*Sg		**Sg**	**09 17 27.3**	**-0.7**
	comp=Z,14nm,0.5s							
FRGS	**Fruska Gora**	**4.97**	**175**	⇑P		**Pn**	**09 16 05.1**	**+0.4**
MYKA	**Terra Mystica**	**5.11**	**229**	*e*Pn		Pb	09 16 14.0	-5.1
	comp=Z,2.0nm,0.3s							
MYKA				*e*Sg		**Sg**	**09 17 34.7**	**+1.8**
	comp=Z,2.5nm,0.3s							
GZR	**Gura Zlata**	**5.29**	**152**	⇑P		**Pn**	**09 16 09.9**	**+0.8**
BIZ	**Bicaz**	**5.55**	**122**	⇓P		**Pn**	**09 16 14.6**	**+2.0**
LOT	**Lotru**	**5.58**	**145**	⇑P		**Pn**	**09 16 14.2**	**+1.2**
MDVR	**Moldovita**	**5.59**	**162**	⇑P		**Pn**	**09 16 14.2**	**+1.0**
ABTA	**Abfaltersbach**	**5.61**	**236**	*e*Sg		**Sg**	**09 17 49.1**	**+0.2**
	comp=Z,6.8nm,0.4s							
HERR	**Herculane**	**5.66**	**157**	⇑P		**Pn**	**09 16 14.2**	**+0.1**
WATA	**Walderalm**	**5.79**	**244**	*e*Sg		**Sg**	**09 17 55.7**	**+1.0**
	comp=Z,18nm,0.6s							
WTTA	**Wattenberg**	**5.79**	**243**	*e*Sg		**Sg**	**09 17 57.3**	**+2.5**
	comp=Z,43nm,0.8s							
DOPR	**Dopca**	**5.84**	**133**	⇑P		**Pn**	**09 16 17.0**	**+0.3**
MOTA	**Moosalm**	**6.06**	**246**	*e*Sg		**Sg**	**09 18 05.1**	**+1.8**
	comp=Z,42nm,0.8s							
VOIR		**6.10**	**138**	⇑P		**Pn**	**09 16 21.1**	**+0.9**
RETA	**Reutte**	**6.19**	**248**	*e*Sg		**Sg**	**09 18 09.1**	**+1.5**
	comp=Z,61nm,0.8s							
AKASG	**Malin Array Be**	**6.41**	**81**	Pn		**Pn**	**09 16 23.0**	**-1.3**
	comp=Z,1.3nm,0.3s,baz=261,slow=13,SNR=4.2							
FETA	**Feichten**	**6.45**	**245**	*e*Sg		**Sg**	**09 18 16.7**	**+1.0**
	comp=Z,4.2nm,0.6s							
BLEU	**Blekinge**	**6.53**	**343**	*e*		**Pn**	**09 16 21.4**	**-4.7**
	baz=161,slow=11							
BLEU				*i* P		Pb	09 16 25.4	-18
BLEU				*e*S		**Sn**	**09 17 38.7**	**-2.5**
BLEU				IAML			09 17 39.5	
	comp=Z,1.0nm,0.4s							
NACGM	**Naroch**	**6.64**	**41**	*i* P		**Pg**	**09 16 59.0**	**+3.0**
DAVA	**Damuels**	**6.81**	**249**	*e*Sg		**Sg**	**09 18 32.0**	**+4.4**
	comp=Z,18nm,0.4s							
DEL	**Delary**	**7.13**	**335**	*i* P		**Pn**	**09 16 34.1**	**-0.2**
DEL				*i* S		**Sn**	**09 17 53.0**	**-2.9**
DEL				IAML			09 18 09.9	
	comp=Z,2.1nm,0.4s							
MEF	**Metsahovi**	**10.54**	**14**	*e*P		**Pn**	**09 17 19.9**	**-1.0**
RAF	**Rauma**	**11.03**	**6**	*e*P		**Pn**	**09 17 27.6**	**0.0**
NOA	**NORSAR Array B**	**11.84**	**341**	Pn		**Pn**	**09 17 36.0**	**-2.8**
	comp=Z,0.0nm,0.3s,baz=151,slow=12,SNR=5.2							
NOA				LR		LR	09 23 09.4	
	comp=Z,41nm,19.7s,baz=10.0,slow=42							
FINES	**FINESS Array B**	**11.98**	**16**	Pn		**Pn**	**09 17 38.7**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=198,slow=12,SNR=7.7							
ARCES	**ARCESS Array B**	**19.71**	**7**	Pn		**P**	**09 19 19.9**	**+0.4**
	baz=187,slow=12,SNR=2.4							
TORD	**Torodi Ar. Bea**	**39.57**	**207**	P		**P**	**09 22 21.9**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=10,slow=6.8,SNR=4.0							

MAN 30 09:30:12.8, 13.67N×120.50E, h48km, mb3.9, ML2.7, MS2.3, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LUBP	**Lubang**	**0.26**	**285**	⇑	*i*P	Pn	09 30 23.7	+2.4
PGP	**Puerto Galera**	**0.47**	**110**	⇑	*e*P	Pn	09 30 25.5	+1.9
PGP					*i* S	Sn	09 30 34.5	+3.3
LQP	**Lukban**	**1.10**	**66**		*e*P	Pn	09 30 32.3	+0.3
LQP					*e*S	Sn	09 30 48.8	+2.7

IDC 30 09:50:35.8±5.5, 7.90S×86.36E, h0km, mb3.8/3, mb1 4.2/4, mb1mx3.6/55, mbtmp4.0/4, ML4.6/1, MS3.1/5, Ms1 3.2/5, ms1mx2.8/34, Error ellipse: s-maj=139.4km s-min=31.4km az=64.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PALK	**Pallekele**	**16.10**	**339**	Pn		Pn	09 54 23.9	+0.2
	2.2nm,0.3s,baz=250,slow=13,SNR=7.8							
PALK				LR		LR	09 59 24.1	
	comp=Z,65nm,20.2s,baz=279,slow=33							
CMAR	**Chiang Mai Arr**	**28.99**	**25**	P		P	09 56 37.3	-0.1
	2.1nm,0.6s,baz=214,slow=10,SNR=11							
CMAR				LR		LR	10 07 08.5	
	comp=Z,20nm,20.4s,baz=145,slow=34							
KAPI	**Kappang**	**33.30**	**87**	LR		LR	10 08 42.8	
	comp=Z,58nm,21.4s,baz=104,slow=33							
H01W3	**Cape Leeuwin H**	**37.03**	**140**	T		T	10 36 55.9	
	baz=317,slow=75,SNR=14							
H01W2	**Cape Leeuwin H**	**37.03**	**141**	T		T	10 36 57.3	
	baz=317,slow=75,SNR=16							
H01W1	**Cape Leeuwin H**	**37.04**	**140**	T		T	10 36 58.0	
	baz=317,slow=75,SNR=15							
WRA	**Warramunga Arr**	**47.92**	**110**	P		P	09 59 15.9	-0.5
	0.7nm,0.7s,baz=282,slow=7.8,SNR=5.9							
ASAR	**Alice Springs**	**48.11**	**115**	P		P	09 59 18.3	+0.4
	0.2nm,0.4s,baz=286,slow=6.7,SNR=4.6							
KSRS	**Korea Array**	**59.52**	**38**	LR		LR	10 27 10.1	
	comp=Z,15nm,18.1s,baz=325,slow=37							
VNDA	**Vanda**	**79.20**	**168**	LR		LR	10 33 45.9	
	comp=Z,22nm,19.9s,baz=302,slow=33							

*SOME **30** 09:50:40.9, 50.20N×86.75E, h0km, MS3.6*
*BJI **30** 09:50:44.4±0.0, 50.16N×87.62E, h12km, mB4.5/5, mb4.4/11, ML4.4/6, Ms4.1/4*
*MOS **30** 09:50:44.7±1.4, 50.05N×87.89E, h16km, mb4.3/8, Error ellipse: s-maj=8.3km s-min=6.6km az=52.0*
*IDC **30** 09:50:44.3±0.6, 50.04N×88.07E, h0km, mb4.2/13, mb1 4.3/21, mb1mx4.1/61, mbtmp4.3/21, ML3.9/8, MS3.3/8, Ms1 3.3/8, ms1mx2.9/49, Error ellipse: s-maj=12.1km s-min=9.1km az=0.0*
*NEIC **30** 09:50:46.2±1.8, 50.09N±0.07×87.9E±0.1, h10km±1km, mb4.4/30, Error ellipse: s-maj=12.9km s-min=12.3km az=124.0*
*NNC **30** 09:50:47.2±1.6, 50.12N×87.82E, h0km, mb4.8, mpv4.5, Error ellipse: s-maj=15.3km s-min=5.7km az=102.0*

ISC 30 09:50:44.8±1.0, 50.00N±0.02×87.92E±0.02, h2km±6km, n145, σ1§83/173, mb4.3/26, MS3.7/6, 16C-12D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CUR	**Chagan-Uzun**	**0.30**	**71**	Pg		**Pg**	**09 50 50.4**	**-0.1**
CUR				Sg		**Sg**	**09 50 54.9**	**+0.6**
AKAR	**Aktash**	**0.37**	**329**	Pg		**Pg**	**09 50 51.0**	**-0.9**
AKAR				Sg		**Sg**	**09 50 57.0**	**+0.2**
CHBI	**Chibit, Altay**	**0.41**	**320**	Pg		**Pg**	**09 50 52.6**	**0.0**
CHBI				Sg		**Sg**	**09 50 58.4**	**+0.4**
DGZ	**Jazzator, Alta**	**0.43**	**226**	Pg		**Pg**	**09 50 52.3**	**-0.8**
DGZ				Sg		**Sg**	**09 50 57.9**	**-0.8**
DGZ	**Jazzator, Alta**	**0.43**	**226**	*d*	*i*PG	**Pg**	**09 50 52.3**	**-0.8**
ULGR	**Ulagan, Altay**	**0.62**	**3**	Pg		**Pg**	**09 50 56.8**	**+0.1**
ULGR				Sg		**Sg**	**09 51 05.3**	**+0.5**
ARTR	**Artybash**	**1.84**	**348**	Pg		**Pg**	**09 51 21.3**	**+1.2**
ARTR				Sg		**Sg**	**09 51 46.1**	**+2.2**
UKR	**Ust'-Kan**	**2.21**	**296**	Pg		**Pb**	**09 51 25.2**	**-0.4**
UKR				Sg		**Sg**	**09 51 54.6**	**-1.3**
GALT	**Gorno-Altaysk,**	**2.32**	**328**	Pg		**Pg**	**09 51 29.0**	**-0.3**
GALT				Sg		**Sg**	**09 52 00.3**	**+1.0**
TASR	**Tashtagol**	**2.76**	**360**	Pg		**Pb**	**09 51 34.9**	**0.0**
TASR				Sg		**Sg**	**09 52 11.3**	**-2.1**
ZSN	**Zaisan**	**3.25**	**219**	*e*P		**Pb**	**09 51 41.4**	**-1.9**
	132nm,0.5s							
ZSN				*e*S		**Sb**	**09 52 24.9**	**+1.5**
	968nm,1.1s							
ELT	**Eltsovka**	**3.43**	**343**	Pg		**Pn**	**09 51 40.9**	**+1.7**
CERR	**Cheremushki**	**3.60**	**36**	Pg		**Pg**	**09 51 52.9**	**-0.8**
CERR				Sg		**Sg**	**09 52 40.9**	**+0.6**
ZAA0	**Zalesovo Array**	**4.39**	**335**	⇓Pn		**Pn**	**09 51 53.2**	**+0.8**
	9.4nm,0.7s							
ZAA0				⇑Pg		**Pb**	**09 52 03.3**	**+0.7**
	8.7nm,0.5s							
ZAA0				⇓Sn		**Sn**	**09 52 45.9**	**+1.8**
	15nm,0.5s							
ZAA0				⇑Lg		Lg	09 53 02.7	
	49nm,0.6s							
ZAA0	**Zalesovo Array**	**4.39**	**335**	Pn		**Pn**	**09 51 53.5**	**+1.1**
ZALV	**Zalesovo Beam**	**4.39**	**335**	Pn		**Pn**	**09 51 53.5**	**+1.1**
	18nm,0.3s,baz=158,slow=14,SNR=48							
ZALV				Lg		Lg	09 53 04.5	
	29nm,0.3s,baz=176,slow=30,SNR=5.5							
ZALV				LR		LR	09 53 46.1	
	comp=Z,217nm,20.3s,baz=48,slow=41							
ZALV	**Zalesovo Beam**	**4.39**	**335**			**Pn**	**09 51 53.3**	**+0.9**
MK31	**Makanchi Array**	**4.93**	**232**	⇑Pn		**Pn**	**09 52 03.6**	**+3.7**
	176nm,0.6s,baz=53,slow=13,SNR=794							
MK31				⇑Sn		**Sn**	**09 53 03.3**	**+5.7**
	46nm,0.5s,baz=53,slow=28,SNR=4.0							
MK31				⇓Lg		Lg	09 53 21.9	
	115nm,0.5s,baz=53,slow=32,SNR=12							
MK31	**Makanchi Array**	**4.93**	**232**	PN		**Pn**	**09 52 03.7**	**+3.8**
MK31	**Makanchi Array**	**4.93**	**232**			**Pn**	**09 52 03.7**	**+3.8**
MKAR	**Makanchi Array**	**4.93**	**232**	Pn		**Pn**	**09 52 03.9**	**+3.9**
	36nm,0.3s,baz=51,slow=12,SNR=381							
MKAR				Lg		Lg	09 53 23.1	
	42nm,0.3s,baz=52,slow=30,SNR=14							
MKAR	**Makanchi Array**	**4.93**	**232**	Pn		**Pn**	**09 52 03.7**	**+3.8**
SEM	**Semipalatinsk**	**4.94**	**278**	*e*P		**Pn**	**09 52 02.4**	**+2.3**
	37nm,0.5s							
SEM				*e*S		**Sn**	**09 53 00.6**	**+2.7**
	212nm,0.6s							
MAKZ	**Makanchi**	**5.08**	**233**	⇑Pn		**Pn**	**09 52 05.7**	**+3.7**
	64nm,0.5s							
MAKZ				⇑Sn		**Sn**	**09 53 06.2**	**+4.9**
	95nm,0.5s							
MAKZ				⇓Lg		Lg	09 53 26.4	
	387nm,1.1s							
MAKZ	**Makanchi**	**5.08**	**233**	PN		**Pn**	**09 52 05.7**	**+3.7**
MAKZ	**Makanchi**	**5.08**	**233**	Pn		**Pn**	**09 52 05.7**	**+3.7**
KURK	**Kurchatov**	**5.99**	**280**	PN		**Pn**	**09 52 16.4**	**+2.0**
KURK							09 53 27.4	
KURBB	**Kurchatov Arra**	**6.04**	**279**	Pn		**Pn**	**09 52 16.4**	**+1.2**
	5.3nm,0.3s,baz=92,slow=14,SNR=295							
KURBB				Sn		**Sn**	**09 53 27.4**	**+2.6**
	4.2nm,0.3s,baz=88,slow=27,SNR=11							
KURBB				Lg		Lg	09 53 52.4	
	4.4nm,0.3s,baz=90,slow=35,SNR=6.9							
KURBB	**Kurchatov Arra**	**6.04**	**279**	⇑Pn		**Pn**	**09 52 16.9**	**+1.8**
	67nm,0.5s							
KURBB				⇓Sn		**Sn**	**09 53 27.0**	**+2.2**
	205nm,0.6s							
KURBB				⇑Lg		Lg	09 53 55.2	
	590nm,0.8s							
WMQ	**Urumqi**	**6.18**	**181**	*e*Pn		**Pn**	**09 52 20.3**	**+3.2**
WMQ				Sn		**Sn**	**09 53 34.5**	**+6.0**
WMQ				Sg		**Sg**	**09 54 00.0**	**-3.3**
WMQ				smax		smax		
	comp=N,210nm,1.1s							
WMQ				smax		smax		
	comp=E,190nm,0.9s							
PDGK	**Podgornoye**	**8.83**	**224**	⇓Pn		**Pn**	**09 52 57.7**	**+4.1**
	25nm,0.8s							
MDOK	**Medeo**	**10.13**	**232**	⇑Pn		**Pn**	**09 53 13.4**	**+2.1**
	23nm,0.6s							
OTUK	**Ortayu**	**10.36**	**266**	⇑Pn		**Pn**	**09 53 14.5**	**+0.2**
	8.8nm,0.5s							
OTUK				⇑Lg		Lg	09 56 13.2	
	138nm,1.4s							
KDJ	**Kajisay**	**10.84**	**227**	P		**Pn**	**09 53 23.7**	**+2.7**
KDJ	**Kajisay**	**10.84**	**227**	Pn		**Pn**	**09 53 23.7**	**+2.7**
TARG	**Taragay, Kyrgy**	**10.86**	**224**	Pn		**Pn**	**09 53 21.4**	**-0.1**
TKM2	**Tokmak 2**	**11.05**	**235**	P		**Pn**	**09 53 25.3**	**+1.3**
	SNR=13							
TKM2	**Tokmak 2**	**11.05**	**235**	⇓Pn		**Pn**	**09 53 24.9**	**+0.9**
	7.7nm,0.7s							
BOOM	**Boomskoye usch**	**11.18**	**232**	P		**Pn**	**09 53 25.9**	**+0.2**
BOOM	**Boomskoye usch**	**11.18**	**232**			**Pn**	**09 53 25.9**	**+0.2**
ULHL	**Ulahol**	**11.21**	**231**	P		**Pn**	**09 53 28.5**	**+2.4**
	SNR=19							
BVAR	**Borovoye Array**	**11.33**	**292**	Pn		**Pn**	**09 53 26.7**	**-0.8**
	2.1nm,0.3s,baz=107,slow=14,SNR=22							
BVAR				Sn		**Sn**	**09 55 29.0**	**-5.7**
	6.0nm,0.3s,baz=94,slow=18,SNR=12							
BRVK	**Borovoye**	**11.40**	**292**	⇑Pn		**Pn**	**09 53 27.8**	**-0.7**
	6.0nm,0.5s							
BRVK				⇑Sn		**Sn**	**09 55 36.3**	**0.0**
	17nm,0.8s							
BRVK	**Borovoye**	**11.40**	**292**	P		**Pn**	**09 53 28.5**	**0.0**
BRVK	**Borovoye**	**11.40**	**292**	Pn		**Pn**	**09 53 28.5**	**0.0**
USP	**Ospenovka**	**11.41**	**239**	P		**Pn**	**09 53 32.3**	**+3.5**
	SNR=9.9							
KBK	**Karagaybulak**	**11.58**	**236**	P		**Pn**	**09 53 35.4**	**+4.3**
	SNR=6.3							
KZA	**Kyzart**	**11.83**	**233**	P		**Pn**	**09 53 37.7**	**+2.9**
	SNR=10							
AAK	**Ala-Archa**	**11.84**	**237**	Pn		**Pn**	**09 53 35.6**	**+1.0**
	1.3nm,0.3s,baz=72,slow=9.3,SNR=21							
AAK				LR		LR	09 58 40.8	
	comp=Z,42nm,19.2s,baz=14,slow=40							
AAK	**Ala-Archa**	**11.84**	**237**	Pn		**Pn**	**09 53 34.7**	**+0.1**
UCH	**Uchtor**	**12.11**	**235**	P		**Pn**	**09 53 41.1**	**+2.5**
	SNR=5.6							
EKS2	**Erkin-Say**	**12.21**	**238**	P		**Pn**	**09 53 40.9**	**+1.1**
	SNR=10							
SONM	**Songino Array**	**12.35**	**93**	Pn		**Pn**	**09 53 43.9**	**+2.3**
	0.1nm,0.3s,baz=282,slow=14,SNR=7.9							
SONM				LR		LR	09 59 06.2	
	comp=Z,46nm,18.1s,baz=329,slow=41							
SONM	**Songino Array**	**12.35**	**93**	P		**Pn**	**09 53 43.6**	**+2.0**
SONM	**Songino Array**	**12.35**	**93**			**Pn**	**09 53 43.6**	**+2.0**
ULN	**Ulaanbaatar**	**12.76**	**92**	⇓	*e*P	**Pn**	**09 53 47.0**	**-0.3**
ULN				pmax		pmax		
	comp=Z,1.0nm,0.8s							
ULN	**Ulaanbaatar**	**12.76**	**92**	Pn		**Pn**	**09 53 46.5**	**-0.8**
KSH	**Kashi**	**13.47**	**223**	P		**P**	**09 54 07.5**	**+1.0**
KSH				pmax		pmax		
	comp=Z,7.0nm,0.5s							
KSH				LR		LR		
	comp=Z,280nm,6.2s							
KSH				LR		LR		
	comp=Z,290nm,6.6s							
GTA	**Gaotai**	**13.54**	**137**	*e*P		**P**	**09 54 05.5**	**-1.7**
GTA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
GTA				pmax		pmax		
	comp=Z,56nm,3.8s							
GTA				LR		LR		
	comp=Z,230nm,10.2s							
GTA				LR		LR		
	comp=Z,340nm,10.2s							
ARSB	**Arslanbob**	**13.56**	**236**	P		**Pn**	**09 53 58.8**	**+0.7**
ARSB	**Arslanbob**	**13.56**	**236**	Pn		**Pn**	**09 53 58.8**	**+0.7**
KK31	**Karatay Array**	**13.80**	**247**	⇑Pn		**Pn**	**09 54 01.3**	**-0.1**
	comp=Z,4.2nm,0.5s,baz=50,slow=14,SNR=52							
KK31				⇓Sn		**Sn**	**09 56 38.7**	**+3.5**
	comp=Z,3.9nm,0.5s							
KK31	**Karatay Array**	**13.80**	**247**	P		**Pn**	**09 53 59.6**	**-1.8**
KK31	**Karatay Array**	**13.80**	**247**	Pn		**Pn**	**09 53 59.6**	**-1.8**
KKAR	**Karatay Array**	**13.80**	**247**	P		**Pn**	**09 53 59.8**	**-1.6**
KKAR	**Karatay Array**	**13.80**	**247**	Pn		**Pn**	**09 53 59.8**	**-1.6**
KKAR	**Karatay Array**	**13.80**	**247**			**Pn**	**09 53 59.8**	**-1.6**
DRK	**Karamyk**	**15.51**	**233**	Pn		**Pn**	**09 54 26.2**	**+1.4**
DRK				IAmb		IAmb	09 54 27.2	
	comp=Z,29nm,1.1s							
BTK	**Batken**	**15.62**	**237**	P		**Pn**	**09 54 25.5**	**-0.4**
BTK				pmax		pmax		
	comp=Z,11nm,0.7s							
BTK	**Batken**	**15.62**	**237**			**Pn**	**09 54 25.5**	**-0.4**
BTK				IAmb		IAmb	09 54 40.6	
	comp=Z,11nm,0.7s							
GAR	**Garm**	**16.65**	**235**			**Pn**	**09 54 38.9**	**-0.3**
GAR				IAmb		IAmb	09 54 57.4	
	comp=Z,18nm,0.8s							
CHGR	**Chuyangaron**	**17.52**	**237**			**Pn**	**09 54 48.9**	**-1.2**
CHGR				IAmb		IAmb	09 55 04.4	
	comp=Z,16nm,0.8s							
SVE	**Sverdlovsk**	**17.55**	**303**	*e*P		**Pn**	**09 54 48.1**	**-2.3**
SVE				pmax		pmax		
	comp=Z,19nm,1.0s							
ABKAR	**Akbulak array**	**18.10**	**278**			**Pn**	**09 54 56.9**	**-0.3**
ABKAR	**Akbulak array**	**18.10**	**278**	P		**Pn**	**09 54 56.9**	**-0.3**
ARU	**Arti**	**18.62**	**301**	P		**Pn**	**09 55 03.4**	**0.0**
	comp=Z,0.0nm,0.3s,baz=122,slow=6.9,SNR=6.3							
ARU	**Arti**	**18.62**	**301**	P		**Pn**	**09 55 03.2**	**-0.3**
AKTO	**Aktyubinsk**	**19.08**	**283**	P		**Pn**	**09 55 09.2**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=92,slow=12,SNR=26							
NRIK	**Noril'sk**	**19.40**	**360**	P		**P**	**09 55 11.3**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=168,slow=4.8,SNR=3.6							
NRIK				LR		LR	10 03 10.2	
	comp=Z,208nm,18.6s,baz=202,slow=38							
NRIK	**Noril'sk**	**19.40**	**360**	⇓	*e*P	**P**	**09 55 11.7**	**0.0**
NRIK				pmax		pmax		
	comp=Z,17nm,2.6s							
NIL	**Nilore**	**19.60**	**219**	P		**P**	**09 55 14.8**	**+0.6**
NIL				pmax		pmax		
	comp=Z,16nm,0.8s							
NIL	**Nilore**	**19.60**	**219**			**P**	**09 55 14.8**	**+0.6**
NIL				IAmb		IAmb	09 55 17.0	
	comp=Z,16nm,0.8s							
HIA	**Hailar**	**20.55**	**80**	P		**P**	**09 55 25.2**	**+0.7**
HIA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
HIA	**Hailar**	**20.55**	**80**	P		**P**	**09 55 25.2**	**+0.7**
KBL	**Kabul**	**20.74**	**229**	P		**P**	**09 55 27.0**	**+0.2**
KBL				pmax		pmax		
	comp=Z,7.0nm,0.8s							
KBL	**Kabul**	**20.74**	**229**	P		**P**	**09 55 27.0**	**+0.2**
BJT	**Baijiatuau**	**22.21**	**106**	P		**P**	**09 55 41.9**	**-0.4**
BJT				pmax		pmax		
	comp=Z,19nm,1.7s							
BJT	**Baijiatuau**	**22.21**	**106**	P		**P**	**09 55 41.9**	**-0.4**
BJT				IAmb		IAmb	09 56 05.3	
	comp=Z,19nm,1.7s							
KIRV	**Kirov**	**23.75**	**306**	LR		LR	10 06 49.2	
	comp=Z,84nm,19.7s,baz=305,slow=40							
KIRV	**Kirov**	**23.75**	**306**	⇑	*e*P	**P**	**09 55 57.6**	**-0.5**
HRA	**Herat**	**24.43**	**240**	P		**P**	**09 56 05.5**	**+0.6**
HRA				IAmb		IAmb	09 56 07.0	
	comp=Z,5.0nm,0.8s							
GEYT	**Alibeck**	**24.43**	**252**	P		**P**	**09 56 06.2**	**+1.4**
	comp=Z,693nm,0.8s,baz=207,slow=6.3,SNR=3.8							
SHL	**Shillong**	**24.59**	**171**	P		**P**	**09 56 07.7**	**+1.3**
SHL				pmax		pmax		
	comp=Z,6.0nm,0.7s							
SHL	**Shillong**	**24.59**	**171**	P		**P**	**09 56 07.7**	**+1.3**
SHL				IAmb		IAmb	09 56 11.1	
	comp=Z,5.5nm,0.7s							
BELG	**Belogornoye**	**25.13**	**291**	P		**P**	**09 56 11.7**	**+0.9**
	comp=Z,7.8nm,0.3s,baz=263,slow=2.5,SNR=4.5							
BELG	**Belogornoye**	**25.13**	**291**	⇓	*i*P	**P**	**09 56 11.7**	**+0.9**
BELG				pmax		pmax		
	comp=Z,4.0nm,1.1s							
YAK	**Yakutsk**	**25.76**	**46**	*e*P		**P**	**09 56 16.9**	**+0.5**
YAK				pmax		pmax		
	comp=Z,17nm,0.9s							
YAK				pmax		pmax		
	comp=E,5.0nm,1.3s							
YAK	**Yakutsk**	**25.76**	**46**	P		**P**	**09 56 15.7**	**-0.8**
KLR	**Kul'dur**	**28.11**	**74**	⇑	*e*P	**P**	**09 56 36.3**	**-1.5**
KLR				pmax		pmax		
	comp=Z,10.0nm,2.0s							
USRK	**Ussuriysk Ar.**	**30.21**	**84**	P		**P**	**09 56 57.3**	**+0.9**
	comp=Z,4.8nm,1.0s,baz=285,slow=9.3,SNR=6.5							
USRK	**Ussuriysk Ar.**	**30.21**	**84**	P		**P**	**09 56 56.9**	**+0.5**
USRK	**Ussuriysk Ar.**	**30.21**	**84**	P		**P**	**09 56 56.9**	**+0.5**
FINES	**FINESS Array B**	**35.28**	**313**	P		**P**	**09 57 40.5**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=140,slow=9.9,SNR=4.3							
MNK	**Minsk**	**36.05**	**301**	*i* P		**P**	**09 57 44.3**	**-2.9**
MNK				*i*			09 59 05.2	
MNK				*i*			10 00 10.2	
MNK				*i* S		**S**	**10 03 24.9**	**-1.8**
MNK				*i* SS		**SnSn**	**10 05 50.6**	**+0.2**
MNK				*i* SSS		SSS	10 06 11.8	
MNK				*i*			10 08 02.9	
MNK				pmax		pmax		
	comp=N,15nm,0.9s							
MNK				pmax		pmax		
	comp=E,2.0nm,0.9s							
MNK				pmax		pmax		
	comp=Z,4.0nm,0.9s							
MNK				MLR		MLR		
	comp=E,29nm,18.0s							
MNK				MLR		MLR		
	comp=N,342nm,18.0s							
MNK				MLR		MLR		
	comp=Z,63nm,18.0s							
MNK	**Minsk**	**36.05**	**301**	*i* P		**P**	**09 57 44.3**	**-2.9**
	comp=E,2.0nm,0.9s							
MNK				*i* P		**P**	**09 57 44.3**	**-2.9**
	comp=N,15nm,0.9s							
MNK				*i* P		**P**	**09 57 44.3**	**-2.9**
	comp=Z,4.0nm,0.9s,baz=72							
MNK				*i* PP		**PnPn**	**09 59 05.3**	**-2.5**
MNK				*i* PPP		PPP	09 59 19.1	
MNK				*i* PcP		**PcP**	**10 00 10.3**	**-3.0**
MNK				*i* S		**S**	**10 03 24.9**	**-1.8**
MNK				*i* SS		**SnSn**	**10 05 50.6**	**+0.2**
MNK				*i* SSS		SSS	10 06 11.9	
MNK				*i* LQ		LQ	10 08 44.9	
MNK				*i* LR		LR	10 11 39.1	
MNK				*i* LRM		MLR	10 12 23.6	
	comp=E,29nm,18.3s

NEIC ***30*** *10:02:48.8±1.5,21°.54S±0°.10×170°.6E±0°.1,h131km±8km, mb4.6/35,Error ellipse: s-maj=16.2km s-min=12.9km az=56.0*

IDC ***30*** *10:02:51.9±1.5,21°.68S×170°.35E,h152km±12km,mb4.0/7, mb1 4.1/11,mb1mx3.8/37,mbtmp4.6/11,MS3.2/1, Ms1 3.2/1,ms1mx2.6/19,Error ellipse: s-maj=21.8km s-min=13.0km az=1.0*

NOU ***30*** *10:02:51.8,21°.48S×170°.34E,h156km,mb4.8/35, Southeast of Loyalty Islands*

ISC 30 10:02:50.7±0.6,21°.56S±0°.07×170°.44E±0°.07,h150km,n68, σ0s99/71,mb4.5/21,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**2.24**	**271**	Pn	**Pn**	**10 03 27.6**	**-1.0**
PINNC	**Pines Island,**	**2.96**	**249**		**Pn**	**10 03 36.8**	**-0.8**
OUENC	**Ouen Island, N**	**3.44**	**255**	Pn	**Pn**	**10 03 43.2**	**-0.5**
DZM	**Mont Dzumac**	**3.74**	**261**	P	**Pn**	**10 03 47.5**	**-0.2**
	11nm,0.3s,baz=129,slow=6.6,SNR=161						
DZM				S	**Sn**	**10 04 31.2**	**-0.7**
	59nm,0.3s,baz=180,slow=23,SNR=24						
DZM	**Mont Dzumac**	**3.74**	**261**	*e*Pn	**Pn**	**10 03 47.5**	**-0.2**
DZM				*e*Sn	**Sn**	**10 04 33.0**	**+1.1**
	1μm,1.4s						
DZM	**Mont Dzumac**	**3.74**	**261**	P	**Pn**	**10 03 47.7**	**0.0**
ONTNC	**Ouen Toro**	**3.77**	**258**	Pn	**Pn**	**10 03 47.5**	**-0.5**
NOUC	**Port Laguerre**	**3.88**	**261**	P	**Pn**	**10 03 49.3**	**0.0**
RTV	**Rentapao**	**4.20**	**333**	P	**Pn**	**10 03 53.8**	**+0.3**
DVP	**Devils Point**	**4.36**	**331**	P	**Pn**	**10 03 55.5**	**-0.2**
SANVU	**Saraoutou**	**6.80**	**333**	Pn	**Pn**	**10 04 26.7**	**-1.5**
SANVU	**Saraoutou**	**6.80**	**333**	P	**Pn**	**10 04 27.8**	**-0.4**
NFK	**Norfolk Island**	**7.79**	**196**	P	**Pn**	**10 04 42.5**	**+1.2**
MSVF	**Nonsavu**	**8.12**	**63**	P	**Pn**	**10 04 47.9**	**+2.0**
	1.3nm,0.3s,baz=263,slow=15,SNR=9.3						
MSVF	**Nonsavu**	**8.12**	**63**	P	**Pn**	**10 04 47.2**	**+1.4**
HNR	**Honiara**	**15.72**	**318**	P	**P**	**10 06 26.0**	**+1.0**
	11nm,0.3s,baz=175,slow=18,SNR=7.1						
HNR	**Honiara**	**15.72**	**318**		**P**	**10 06 23.9**	**-1.1**
URZ	**Urewera**	**17.61**	**162**	P	**P**	**10 06 46.3**	**+0.7**
	1.1nm,0.3s,baz=340,slow=2.6,SNR=19						
URZ	**Urewera**	**17.61**	**162**		**P**	**10 06 46.8**	**+1.2**
URZ				IAmb	IAmb	10 06 48.8	
	comp=Z,30nm,1.0s						
EIDS	**Eidsvold**	**18.16**	**254**	P	**Pn**	**10 06 54.4**	**+1.0**
EIDS				IAmb	IAmb	10 06 55.2	
	comp=Z,28nm,0.8s						
BKZ	**Black Stump Fm**	**18.30**	**165**	Pn	**P**	**10 06 54.0**	**+0.8**
ARMA	**Armidale**	**19.05**	**239**	P	**Pn**	**10 07 04.0**	**+0.1**
BFZ	**Birch Farm**	**19.70**	**167**	P	**P**	**10 07 07.5**	**-0.7**
BFZ				IAmb	IAmb	10 07 10.0	
	comp=Z,37nm,1.2s						
THZ	**Tophouse**	**20.25**	**175**	P	**P**	**10 07 14.9**	**+0.6**
THZ				IAmb	IAmb	10 07 43.2	
	comp=Z,44nm,1.5s						
CTA	**Charters Tower**	**22.65**	**269**	P	**P**	**10 07 40.2**	**+0.9**
	comp=Z,6.8nm,0.6s,baz=100,slow=11,SNR=12						
CTAO	**Charters Tower**	**22.65**	**269**	P	**P**	**10 07 40.5**	**+1.1**
LBZ	**Lake Benmore**	**22.77**	**180**	P	**P**	**10 07 40.8**	**+0.6**
LBZ				IAmb	IAmb	10 08 32.2	
	comp=Z,54nm,1.6s						
CAN	**Canberra**	**23.25**	**229**	P	**P**	**10 07 45.7**	**+0.9**
TOO	**Toolangi**	**26.82**	**228**	P	**P**	**10 08 17.8**	**+0.8**
COEN	**Coen**	**27.01**	**282**	P	**P**	**10 08 20.5**	**+1.6**
COEN				IAmb	IAmb	10 08 22.4	
	comp=Z,44nm,1.8s						
STKA	**Stephens Creek**	**27.66**	**242**	P	**P**	**10 08 25.2**	**+0.6**
	comp=Z,12nm,0.8s,baz=84,slow=11,SNR=36						
STKA				LR	LR	10 19 05.7	
	comp=Z,50nm,18.2s,baz=7.2,slow=35						
STKA	**Stephens Creek**	**27.66**	**242**	P	**P**	**10 08 25.2**	**+0.6**
BBOO	**Buckleboo**	**32.44**	**242**	P	**P**	**10 09 06.9**	**+0.3**
WR0	**Warramunga Arr**	**33.56**	**266**	P	**P**	**10 09 16.1**	**-0.5**
WR0				IAmb	IAmb	10 09 36.4	
	comp=Z,16nm,1.5s						
WB0	**Warramunga Arr**	**33.73**	**266**	P	**P**	**10 09 17.4**	**-0.6**
WB0				IAmb	IAmb	10 09 18.1	
	comp=Z,7.8nm,0.9s						
AS31	**Alice Springs**	**33.73**	**259**	P	**P**	**10 09 18.0**	**-0.1**
ASAR	**Alice Springs**	**33.73**	**259**	P	**P**	**10 09 17.6**	**-0.4**
	comp=Z,7.4nm,0.8s,baz=85,slow=8.8,SNR=83						
ASAR				S	**S**	**10 14 29.7**	**-0.9**
	comp=Z,0.9nm,1.0s,baz=86,slow=17,SNR=5.2						
WB2	**Warramunga Arr**	**33.74**	**266**	P	**P**	**10 09 17.4**	**-0.7**
WB2				IAmb	IAmb	10 09 18.2	
	comp=Z,31nm,1.9s						
WRAB	**Tennant Creek**	**33.74**	**266**	P	**P**	**10 09 17.3**	**-0.8**
WRAB				IAmb	IAmb	10 09 18.2	
	comp=Z,27nm,1.9s						
WRA	**Warramunga Arr**	**33.75**	**266**	P	**P**	**10 09 17.4**	**-0.8**
	comp=Z,3.3nm,0.6s,baz=101,slow=7.8,SNR=43						
WRA	**Warramunga Arr**	**33.75**	**266**	P	**P**	**10 09 17.6**	**-0.6**
MCQ	**Macquarie Isla**	**34.02**	**192**	P	**P**	**10 09 20.1**	**0.0**
MTN	**Manton Dam**	**38.44**	**276**	P	**P**	**10 09 58.2**	**+0.1**
MTN				IAmb	IAmb	10 09 58.6	
	comp=Z,9.2nm,0.7s						
FORT	**Forrest**	**38.94**	**247**	P	**P**	**10 10 02.2**	**+0.1**
KNRA	**Kununurra**	**39.84**	**271**	P	**P**	**10 10 09.6**	**-0.1**
KNRA				IAmb	IAmb	10 10 10.3	
	comp=Z,11nm,0.8s						
FITZ	**Fitzroy Crossi**	**42.17**	**267**	P	**P**	**10 10 29.4**	**+0.6**
FITZ				IAmb	IAmb	10 10 30.3	
	comp=Z,14nm,0.8s						
PSA00	**Pilbara Seismi**	**46.87**	**260**	P	**P**	**10 11 05.4**	**-0.7**
PSA00	**Pilbara Seismi**	**46.87**	**260**	P	**P**	**10 11 06.0**	**-0.1**
PSA00				IAmb	IAmb	10 11 06.8	
	comp=Z,15nm,1.1s						
NWAO	**Narrogin (SRO)**	**48.20**	**245**	P	**P**	**10 11 16.3**	**+0.2**
MORW	**Morawa**	**49.38**	**250**	P	**P**	**10 11 25.1**	**-0.2**
MORW				IAmb	IAmb	10 11 25.7	
	comp=Z,14nm,0.9s						
VNDA	**Vanda**	**56.17**	**182**	P	**P**	**10 12 13.8**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=24,slow=5.3,SNR=9.4						
VNDA	**Vanda**	**56.17**	**182**	P	**P**	**10 12 14.0**	**-0.3**
VNDA				IAmb	IAmb	10 12 50.1	
	comp=Z,14nm,1.9s						
SBA	**Scott Base**	**56.38**	**181**	P	**P**	**10 12 16.3**	**+0.6**
QSPA	**South Pole Qui**	**68.51**	**180**	P	**P**	**10 13 36.0**	**-0.6**
QSPA				IAmb	IAmb	10 13 37.0	
	comp=Z,8.6nm,1.1s						
MAW	**Mawson**	**76.72**	**202**	P	**P**	**10 14 25.2**	**+0.3**
	comp=Z,4.8nm,0.7s,baz=127,slow=7.0,SNR=15						
MAW	**Mawson**	**76.72**	**202**	P	**P**	**10 14 25.5**	**+0.6**
BELA	**Belgrano 2**	**79.70**	**175**	P	**P**	**10 14 39.7**	**-1.5**
BELA				IAmb	IAmb	10 14 40.4	
	comp=Z,5.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**80.47**	**294**	P	**P**	**10 14 48.5**	**+2.1**
	comp=Z,0.9nm,0.7s,baz=151,slow=3.7,SNR=4.4						
SNAA	**Sanae**	**86.90**	**182**	P	**P**	**10 15 16.6**	**-1.7**
SNAA	**Sanae**	**86.90**	**182**	P	**P**	**10 15 17.0**	**-1.3**
SNAA				IAmb	IAmb	10 15 59.7	
	comp=Z,19nm,1.8s						
VNA3	**Neumayer Olymp**	**87.45**	**180**	P	**P**	**10 15 19.1**	**-1.7**
VNA2	**Neumayer--Watz**	**87.76**	**181**	P	**P**	**10 15 20.9**	**-1.3**
	baz=174,slow=5.3						
VNA1	**Neumayer--Stat**	**88.04**	**180**	P	**P**	**10 15 22.3**	**-1.2**
KOLS	**Kolonicke sedl**	**142.76**	**325**	*e*PKP	**PKPdf**	**10 22 02.8**	**-3.3**
VYHS	**Vyhne**	**144.83**	**327**	*e*PKP	**PKPab**	**10 22 07.0**	**-2.1**
BRG	**Berggiesshubel**	**145.43**	**334**	*e*PKP	**PKPab**	**10 22 11.4**	**+0.2**
BRG				Amp		10 22 12.7	
	comp=Z,4.9nm,0.9s						
CLL	**Collm**	**145.48**	**335**	*e*PKPbc	**PKPab**	**10 22 12.0**	**+0.6**
	comp=Z,10.0nm,1.1s						
CLL				*e*pPKPdf	pPKPab	10 22 48.0	-1.4
GERES	**GERESS Array B**	**147.05**	**331**	PKPbc	**PKPbc**	**10 22 15.9**	**0.0**
	comp=Z,1.3nm,0.7s,baz=97,slow=3.4,SNR=5.8						

ATH ***30*** *10:39:53.5,38°.71N×21°.29E,h20km±3km,ML2.5/10,Error ellipse: s-maj=3.3km s-min=0.7km az=147.0*

THE ***30*** *10:39:53.5,38°.72N×21°.30E,h17km,ML2.6/9,Error ellipse: s-maj=0.6km s-min=0.3km az=357.0*

ISC 30 10:39:53.1±1.0,38°.74N±0°.03×21°.29E±0°.02,h19km±2km, n52,σ0s81/75,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDO	**Prodromos**	**0.16**	**211**	P	**Pg**	**10 39 57.7**	**+0.1**
PVO	**Paravola**	**0.22**	**123**	P	**Pg**	**10 39 58.5**	**0.0**
PVO				S	**Sg**	**10 40 01.9**	**-0.3**
PVO	**Paravola**	**0.22**	**123**	P	**Pg**	**10 39 58.5**	**0.0**
PVO				S	**Sg**	**10 40 02.5**	**+0.3**
EVR	**Evrytania**	**0.45**	**66**	P	**Pg**	**10 40 02.3**	**0.0**
EVR				S	**Sb**	**10 40 09.4**	**+0.6**
	395nm,0.4s						
EVR	**Evrytania**	**0.45**	**66**	P	**Pg**	**10 40 02.1**	**-0.2**
EVR				S	**Sb**	**10 40 09.3**	**+0.5**
EVR				AML	AML	10 40 10.4	
	comp=E,838μm,0.5s						
EVR				AML	AML	10 40 10.7	
	comp=N,745μm,0.3s						
NYDR	**Nydri-Lefkada**	**0.46**	**267**	P	**Pg**	**10 40 02.6**	**+0.1**
NYDR				S	**Sb**	**10 40 14.4**	**+1.3**
NYDR	**Nydri-Lefkada**	**0.46**	**267**	P	**Pg**	**10 40 02.7**	**+0.2**
LKD2	**Lefkada island**	**0.49**	**276**	P	**Pg**	**10 40 03.4**	**+0.2**
LKD2				S	**Sb**	**10 40 11.6**	**+1.5**
	comp=N,688nm,0.4s						
LKD2	**Lefkada island**	**0.49**	**276**	P	**Pg**	**10 40 03.4**	**+0.2**
LKD2				S	**Sg**	**10 40 10.1**	**+0.2**
LKD2				AML	AML	10 40 16.0	
	comp=N,1654μm,0.3s						
LKD2				AML	AML	10 40 18.8	
	comp=E,1145μm,0.3s						
TSLK	**Tsoukalades, L**	**0.50**	**280**	P	**Pg**	**10 40 03.8**	**+0.5**
TSLK	**Tsoukalades, L**	**0.50**	**280**	P	**Pg**	**10 40 03.7**	**+0.4**
TSLK				S	**Sb**	**10 40 11.1**	**+0.9**
TSLK				AML	AML	10 40 16.2	
	comp=E,1514μm,0.3s						
TSLK				AML	AML	10 40 17.1	
	comp=N,1294μm,0.4s						
EVGI	**Lefkada island**	**0.51**	**257**	P	**Pg**	**10 40 03.5**	**+0.1**
EVGI	**Lefkada island**	**0.51**	**257**	P	**Pg**	**10 40 03.3**	**0.0**
ANX	**Ano Chora**	**0.52**	**106**	P	**Pg**	**10 40 03.2**	**-0.4**
ANX				S	**Sb**	**10 40 11.2**	**+0.5**
	comp=N,918nm,0.3s						
ANX	**Ano Chora**	**0.52**	**106**	P	**Pg**	**10 40 03.1**	**-0.4**
ANX				S	**Sg**	**10 40 10.3**	**-0.3**
ANX				AML	AML	10 40 14.7	
	comp=E,1544μm,0.3s						
ANX				AML	AML	10 40 16.5	
	comp=N,2201μm,0.4s						
DRAG	**Dragano-Lefkad**	**0.56**	**265**	P	**Pb**	**10 40 04.0**	**-0.2**
DRAG	**Dragano-Lefkad**	**0.56**	**265**	P	**Pb**	**10 40 04.1**	**-0.2**
EFP	**Efpalio**	**0.57**	**122**	P	**Pb**	**10 40 04.3**	**-0.2**
EFP				S	**Sg**	**10 40 12.9**	**+0.6**
	comp=N,948nm,0.4s						
EFP	**Efpalio**	**0.57**	**122**	P	**Pb**	**10 40 04.3**	**-0.2**
EFP				S	**Sg**	**10 40 12.4**	**0.0**
EFP				AML	AML	10 40 13.9	
	comp=E,2102μm,0.5s						
EFP				AML	AML	10 40 16.1	
	comp=N,1553μm,0.4s						
FSK	**Fiskardo**	**0.63**	**244**	P	**Pb**	**10 40 05.4**	**0.0**
FSK				S	**Sg**	**10 40 15.2**	**+1.1**
	comp=N,608nm,0.2s						
FSK	**Fiskardo**	**0.63**	**244**	P	**Pb**	**10 40 05.6**	**+0.2**
FSK				AML	AML	10 40 17.2	
	comp=E,1286μm,0.2s						
FSK				AML	AML	10 40 17.4	
	comp=N,1192μm,0.2s						
SERG	**Sergoula**	**0.68**	**118**	P	**Pb**	**10 40 06.0**	**-0.4**
SERG				S	**Sg**	**10 40 16.3**	**+0.5**
	comp=N,632nm,0.2s						
SERG	**Sergoula**	**0.68**	**118**	P	**Pg**	**10 40 06.8**	**+0.1**
SERG				AML	AML	10 40 19.0	
	comp=E,1409μm,0.2s						
SERG				AML	AML	10 40 19.9	
	comp=N,1133μm,0.3s						
RLS	**Riolos of Patr**	**0.69**	**168**	P	**Pb**	**10 40 06.3**	**-0.2**
RLS	**Riolos of Patr**	**0.69**	**168**	P	**Pb**	**10 40 06.3**	**-0.2**
MAKR	**Makrakomi, Fth**	**0.71**	**67**	P	**Pb**	**10 40 07.4**	**+0.5**
MAKR				S	**Sg**	**10 40 17.4**	**+0.6**
	comp=N,555nm,0.4s						
MAKR	**Makrakomi, Fth**	**0.71**	**67**	P	**Pb**	**10 40 07.2**	**+0.3**
TRIZ	**Trizonia**	**0.72**	**121**	P	**Pb**	**10 40 07.1**	**+0.1**
TRIZ				S	**Sg**	**10 40 17.1**	**+0.3**
TRIZ	**Trizonia**	**0.72**	**121**	P	**Pg**	**10 40 07.3**	**0.0**
LAKA	**Lakka**	**0.73**	**132**	P	**Pb**	**10 40 07.1**	**-0.2**
LAKA				S	**Sg**	**10 40 17.6**	**+0.2**
	comp=N,698nm,0.4s						
LAKA	**Lakka**	**0.73**	**132**	P	**Pb**	**10 40 07.0**	**-0.3**
VLS	**Valsamata**	**0.78**	**225**	P	**Pb**	**10 40 07.5**	**-0.6**
VLS	**Valsamata**	**0.78**	**225**	P	**Pb**	**10 40 07.4**	**-0.6**
VLS				AML	AML	10 40 24.7	
	comp=N,702μm,0.2s						
VLS				AML	AML	10 40 30.0	
	comp=E,661μm,0.3s						
KEF4	**Livadi, Kephal**	**0.83**	**235**	P	**Pb**	**10 40 08.4**	**-0.5**
KEF4				S	**Sn**	**10 40 21.3**	**-0.1**
KEF4	**Livadi, Kephal**	**0.83**	**235**	P	**Pb**	**10 40 08.4**	**-0.5**
PSDA	**Pessada-Kefalo**	**0.83**	**222**	P	**Pb**	**10 40 08.3**	**-0.6**
PSDA				S	**Sn**	**10 40 21.1**	**-0.4**
PSDA	**Pessada-Kefalo**	**0.83**	**222**	P	**Pb**	**10 40 08.3**	**-0.6**
DRO	**Drossia**	**0.85**	**157**	P	**Pb**	**10 40 09.1**	**-0.1**
DRO	**Drossia**	**0.85**	**157**	P	**Pb**	**10 40 09.2**	**-0.1**
DRO				AML	AML	10 40 24.5	
	comp=N,2703μm,0.5s						
DRO				AML	AML	10 40 24.6	
	comp=E,2400μm,0.5s						
AGG	**Agios Georgios**	**0.86**	**70**	P	**Pb**	**10 40 09.5**	**0.0**
AGG				AML	AML	10 40 27.3	
	comp=N,513μm,0.3s						
AGG				AML	AML	10 40 27.9	
	comp=E,400μm,0.3s						
DMLN	**Damoulianata-K**	**0.87**	**236**	P	**Pb**	**10 40 09.1**	**-0.5**
KEF3	**Kipouria, Keph**	**0.91**	**234**	P	**Pb**	**10 40 09.1**	**-1.1**
KLV	**Kalavryta, Ach**	**0.97**	**135**	P	**Pb**	**10 40 10.7**	**-0.6**
KLV	**Kalavryta, Ach**	**0.97**	**135**	P	**Pb**	**10 40 11.2**	**-0.1**
THL	**Klokotos Trika**	**1.00**	**34**	P	**Pb**	**10 40 12.0**	**+0.2**
THL				S	**Sn**	**10 40 26.6**	**+0.9**
	comp=E,140nm,0.6s						
THL	**Klokotos Trika**	**1.00**	**34**	P	**Pb**	**10 40 12.0**	**+0.2**
STON	**Ston**	**4.95**	**328**	*e*Pn	**Pn**	**10 41 06.0**	**-0.3**
STON				Sn	**Sn**	**10 41 58.4**	**-4.5**
MAKA	**Makarska**	**5.58**	**326**	*e*Pn	**Pn**	**10 41 14.6**	**-0.4**
MAKA				Sn	**Sn**	**10 42 16.1**	**-2.3**
RICI	**Ricice**	**5.70**	**328**	*e*Pn	**Pn**	**10 41 16.7**	**0.0**
RICI				Sn	**Sn**	**10 42 19.5**	**-2.0**
KIJV	**Kijevo**	**6.42**	**327**	*e*Pn	**Pn**	**10 41 27.2**	**+0.6**
MORI	**Morici**	**6.63**	**322**	*e*Pn	**Pn**	**10 41 30.4**	**+1.0**
DUGI	**Dugi Otok**	**7.04**	**320**	*e*Pn	**Pn**	**10 41 35.6**	**+0.6**

IDC 30 10:41:58.3±9.7,28°.19S×176°.65W,h0km,mb3.8/3, mb1 3.9/3,mb1mx3.6/26,mbtmp3.8/3,Error ellipse: s-maj=199.7km s-min=38.8km az=114.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.54**	**226**	Pn	Pb	10 42 27.4	-0.3
	86nm,0.3s,baz=84,slow=18,SNR=2.6						
RAO				Sn	Sg	10 42 48.1	+0.3
	167nm,0.3s,baz=278,slow=23,SNR=5.0						
STKA	**Stephens Creek**	**36.18**	**254**	P	P	10 49 03.1	+0.4
	1.1nm,0.8s,baz=107,slow=13,SNR=4.3						
ASAR	**Alice Springs**	**44.46**	**264**	P	P	10 50 10.9	-0.6
	0.5nm,0.6s,baz=102,slow=6.7,SNR=14						
WRA	**Warramunga Arr**	**45.25**	**269**	P	P	10 50 17.8	0.0
	0.7nm,0.4s,baz=110,slow=7.6,SNR=12						

MEX 30 10:49:53.2±0.7,15°.89N×92°.79W,h5km±7km,MD3.9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.45**	**246**	*e*P	Pg	10 50 01.5	-0.4
PCIG				*e*S	Sg	10 50 08.0	+0.2
CCIG	**Comitan**	**0.74**	**58**	*e*P	Pg	10 50 06.3	-1.1
CCIG				*i* S	Sg	10 50 16.8	-0.3
TGIG		**0.94**	**340**	*e*P	Pg	10 50 09.6	-1.6
TGIG				*i* S	Sg	10 50 20.8	-2.6
CMIG	**Matias Romero**	**2.33**	**301**	*e*P	Pn	10 50 30.9	-1.4
CMIG				*i* S	Sn	10 50 57.5	-3.9
HUIG	**Huatulco**	**3.19**	**268**	*e*P	Pn	10 50 40.0	-4.1
HUIG				*e*S	Sn	10 51 19.6	-3.0

BER 30 11:07:20.7±1.1,66°.43N×14°.76E,h0km,ML1.5,1C, Suspected explosion,Northern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOR8	**Moi Rana**	**0.29**	**207**	⇑*i*P	Pg	11 07 23.3	-2.8
MOR8				*e*S	Sg	11 07 25.3	-4.5
MOR8				IAML		11 07 27.0	
	comp=Z,108nm,0.7s						
KONS	**Konsvik**	**0.66**	**277**	*e*P	Pg	11 07 32.2	-1.1
KONS				*e*S	Sg	11 07 42.0	0.0
NBB40	**Tonnes**	**0.71**	**278**	*e*P	Pg	11 07 32.8	-1.4
NBB40				*e*S	Sg	11 07 42.4	-1.1
STOK	**Stokkvaagen**	**0.71**	**263**	*e*S	Sg	11 07 43.2	-0.2
FAUS	**Fauske**	**0.98**	**12**	*e*P	Pg	11 07 37.5	-2.0
FAUS				*e*S	Sg	11 07 52.0	-0.1

DNK 30 11:08:02.0±1.4,57°.17N×12°.50E,h0km,ML1.0, Suspected explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FABU	**Falkenberg**	**0.21**	**144**	*i* P	Pg	11 08 06.1	+0.1
ONAU	**Onsala**	**0.39**	**306**	*i* P	Pg	11 08 08.9	-0.6
BORU	**Boraas**	**0.49**	**17**	*i* P	Pg	11 08 11.0	-0.4
BORU				*i* S	Sg	11 08 17.6	-0.1
DEL	**Delary**	**1.03**	**132**	*e*	Pg	11 08 20.3	-1.4
	baz=322,slow=11						
DEL				*i* P	Pb	11 08 21.3	-1.3
DEL				IAML		11 08 44.3	
	comp=Z,1.2nm,0.4s						
BJUU	**Bjuv**	**1.14**	**165**	*i* P	Pg	11 08 22.5	-1.3
BJUU				*i* S	Sg	11 08 37.4	-1.0
BLEU	**Blekinge**	**2.02**	**114**	*e*P	Pn	11 08 37.9	+0.6

BJI ***30*** *11:27:19.6±0.0,36°.61N×70°.53E,h182km,mb4.5/8*

IDC ***30*** *11:27:22.5±2.2,36°.47N×71°.13E,h172km±20km,mb3.9/14, mb1 4.0/22,mb1mx3.7/45,mbtmp4.5/22,MS2.8/1, Ms1 2.8/1,ms1mx2.4/42,Error ellipse: s-maj=14.0km s-min=12.7km az=146.0*

NNC ***30*** *11:27:23.0±3.8,37°.07N×70°.49E,h0km,mb4.9,mpv4.9, Error ellipse: s-maj=36.6km s-min=18.7km az=158.0*

MOS ***30*** *11:27:24.3±0.8,36°.58N×71°.08E,h196km,mb4.3/10,Error ellipse: s-maj=9.2km s-min=4.9km az=86.8*

NEIC ***30*** *11:27:24.9±1.7,36°.57N±0°.06×70°.92E±0°.09,h194km±6km, mb4.5/25,Error ellipse: s-maj=10.3km s-min=9.2km az=78.0*

SOME ***30*** *11:27:37.2,38°.58N×72°.30E,h0km,MS4.6*

ISC 30 11:27:25.0±0.4,36°.60N±0°.04×70°.98E±0°.04,h200km,n159, σ1s91/184,mb4.2/26,23C-6D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**2.45**	**348**		**Pn**	**11 28 08.0**	**-0.5**
CHGR	**Chuyangaron**	**2.51**	**325**		**Pn**	**11 28 08.2**	**-0.9**
KBL	**Kabul**	**2.59**	**218**	PN	**Pn**	**11 28 09.4**	**-0.8**
KBL	**Kabul**	**2.59**	**218**		**Pn**	**11 28 09.4**	**-0.8**
DRK	**Karamyk**	**2.95**	**12**	Pn	**Pn**	**11 28 14.6**	**+0.3**
BTK	**Batken**	**3.46**	**358**	PN	**Pn**	**11 28 20.7**	**+0.5**
BTK	**Batken**	**3.46**	**358**		**Pn**	**11 28 20.6**	**+0.5**
NIL	**Nilore**	**3.48**	**147**	PN	**Pn**	**11 28 20.3**	**-0.2**
NIL	**Nilore**	**3.48**	**147**	Pn	**Pn**	**11 28 20.3**	**-0.2**
TAS	**Tashkent**	**4.90**	**345**	PN	**Pn**	**11 28 38.2**	**+0.1**
TAS	**Tashkent**	**4.90**	**345**	Pn	**Pn**	**11 28 38.2**	**+0.1**
KSH	**Kashi**	**4.90**	**52**	P	**Pn**	**11 28 34.0**	**-4.2**
KSH				S	Sn	11 29 25.0	-11
KSH				smax	smax		
	comp=N,1μm,0.7s						
KSH				smax	smax		
	comp=E,530nm,0.4s						
IUG	**luzhnay**	**5.59**	**353**	*e*P	**Pn**	**11 28 50.7**	**+3.7**
	2μm,0.7s						
IUG				*e*S	**Sn**	**11 29 48.3**	**-3.5**
	1μm,0.7s						
IUG	**luzhnay**	**5.59**	**353**	*e*PN	**Pn**	**11 28 47.2**	**+0.2**
CHM	**Chimkent**	**5.81**	**350**	*e*P	**Pn**	**11 28 53.9**	**+4.1**
	505nm,0.7s						
CHM				*e*S	**Sn**	**11 29 53.5**	**-3.4**
	2μm,0.7s						
AML	**Almayashu**	**5.91**	**20**	P	**Pn**	**11 28 50.9**	**-0.5**
	SNR=622						
DHRM	**DHARAMSHALA**	**6.17**	**133**	*e*P	**Pn**	**11 28 53.8**	**-1.0**
DHRM				*e*S	**Sn**	**11 30 01.1**	**-4.6**
DHRM				IAML		11 30 02.3	
	comp=E,2μm,0.6s						
DHRM				IAML		11 30 04.5	
	comp=N,1μm,0.5s						
UCH	**Uchtor**	**6.25**	**25**	P	**Pn**	**11 28 55.5**	**-0.3**
	SNR=96						
DZA	**Taraz**	**6.29**	**2**	*e*P	**Pn**	**11 28 59.3**	**+3.3**
	comp=N,314nm,0.2s						
DZA				*e*S	**Sn**	**11 30 04.5**	**-3.6**
	comp=N,2μm,0.4s						
MRKS	**Merke**	**6.38**	**15**	*e*P	**Pn**	**11 29 00.5**	**+3.3**
	comp=N,53nm,0.4s						
MRKS				*e*S	**Sn**	**11 30 06.0**	**-4.3**
	comp=N,267nm,0.6s						
KZA	**Kyzart**	**6.39**	**30**	P	**Pn**	**11 28 56.5**	**-1.2**
	SNR=27						
EKS2	**Erkin-Say**	**6.43**	**19**	P	**Pn**	**11 28 57.7**	**-0.1**
	SNR=229						
KK31	**Karatay Array**	**6.51**	**357**	⇓P	**Pn**	**11 28 56.1**	**-2.7**
	comp=N,19nm,0.3s,baz=186,slow=13,SNR=750						
KK31				⇓S	**Sn**	**11 30 06.8**	**-6.3**
	comp=N,99nm,0.5s,baz=190,slow=23,S

comp=E,32nm,0.6s
MDOK S Sn 11 30 48.3 -1.2
comp=E,27nm,0.8s
UZB Uzynbulak 9.00 41 *e*PN **Pn 11 29 30.3 -1.0**
PDGK Podgornoye 9.37 42 ⇑P **Pn 11 29 35.4 -0.7**
comp=E,4.4nm,0.6s
PDGK ⇑S **Sn 11 31 24.1 +3.1**
comp=E,37nm,1.1s
AYAN Aya Nagar 9.61 146 *e*P **Pn 11 29 36.8 -2.5**
KUDL Kundal 9.63 150 *e*P **Pn 11 29 37.0 -2.5**
KUDL *e*S Sn 11 31 16.6 -11
GEYT Alibeck 10.34 281 P **Pn 11 29 46.8 -1.9**
comp=E,1.7nm,0.3s,baz=112,slow=9.8,SNR=6.8
GYA0B ALIBECK ARRAY 10.34 281 ⇑P **Pn 11 29 47.0 -1.6**
GYA0B ⇑S **Sn 11 31 38.3 -5.8**
GYA0B ALIBECK ARRAY 10.34 281 Pn **Pn 11 29 46.7 -1.9**
OTUK Ortayu 11.68 4 ⇑P **Pn 11 30 04.4 -1.3**
comp=E,11nm,0.8s
OTUK ⇓S **Sn 11 32 11.0 -4.9**
comp=E,29nm,1.1s
MAKZ Makanchi 13.08 35 P **Pn 11 30 23.3 -0.1**
MAKZ Makanchi 13.08 35 **Pn 11 30 23.3 -0.1**
MK31 Makanchi Array 13.22 36 P **Pn 11 30 25.1 0.0**
MK31 Makanchi Array 13.22 36 **Pn 11 30 25.1 0.0**
MKAR Makanchi Array 13.22 36 P **Pn 11 30 24.9 -0.2**
comp=E,0.6nm,0.3s,baz=218,slow=9.2,SNR=21
MKAR Makanchi Array 13.22 36 P **Pn 11 30 25.2 +0.1**
MKAR Makanchi Array 13.22 36 Pn **Pn 11 30 25.2 +0.1**
BRZS Berezniki 13.43 5 *e*P **Pn 11 30 27.1 -0.6**
BHPL Bhopal 14.43 156 *e*P **Pn 11 30 39.9 -0.5**
BHPL *i* x **P 11 30 43.5 +1.9**
BHPL *e*x Sn 11 33 11.3 -11
AB31 Akbulak array 14.99 331 ⇑P **Pn 11 30 46.2 -0.7**
comp=E,6.0nm,0.4s,baz=145,slow=12,SNR=276
AB31 ⇑S **S 11 33 28.6 -4.7**
comp=E,3.7nm,0.5s,baz=145,slow=24,SNR=4.8
ABKAR Akbulak array 14.99 331 **Pn 11 30 46.5 -0.4**
ABKAR Akbulak array 14.99 331 P **Pn 11 30 46.2 -0.7**
KURBB Kurchatov Arra 15.03 19 P **Pn 11 30 45.5 -1.9**
comp=E,0.6nm,0.3s,baz=209,slow=10,SNR=32
KURK Kurchatov 15.14 19 P **Pn 11 30 45.6 -3.2**
KURK Kurchatov 15.14 19 P **Pn 11 30 45.5 -3.2**
BVAR Borovoye Array 16.43 359 P **Pn 11 31 04.3 0.0**
comp=E,3.7nm,0.3s,baz=185,slow=16,SNR=30
BVAR S **S 11 34 04.4 -0.7**
comp=E,1.2nm,0.3s,baz=164,slow=24,SNR=4.3
BANOM Banah 16.43 234 P **P 11 31 05.0 +1.2**
SHME Shamm 16.45 234 P **P 11 31 05.3 +1.4**
BRVK Borovoye *d i*P **Pn 11 31 04.7 0.0**
BRVK pmax pmax
comp=E,36nm,1.3s
BRVK Borovoye 16.46 359 **P 11 31 04.5 +0.7**
BRVK IAmb IAmb 11 31 07.6
comp=E,22nm,0.8s
AKTO Aktyubinsk 16.69 330 P **Pn 11 31 08.3 +0.9**
comp=E,1.6nm,0.3s,baz=142,slow=10,SNR=39
AKTO S **S 11 34 10.5 +0.2**
comp=E,0.3nm,0.3s,baz=205,slow=22,SNR=4.7
AKTO Aktyubinsk 16.69 330 ⇑P **Pn 11 31 07.9 +0.6**
comp=E,21nm,0.9s
AKTO ⇓S **S 11 34 09.3 -0.9**
comp=E,14nm,1.3s
WSAR Wadi Sarin 17.06 222 P **P 11 31 10.4 -0.3**
comp=E,1.0nm,0.3s,baz=82,slow=6.2,SNR=6.7
ASHO Ashiyiah 17.46 231 P **P 11 31 16.4 +1.3**
DGZ Jazzator, Alta 17.71 37 *d i*P **Pn 11 31 19.8 +0.2**
GNBR Gunib 19.39 295 ⇑ *e*P **P 11 31 37.7 +1.9**
GNBR pmax pmax
comp=E,39nm,0.8s
ZAA0 Zalesovo Array 19.83 25 P **P 11 31 40.5 +0.2**
ZAA0 IAmb IAmb 11 31 42.0
comp=E,22nm,0.8s
ZALV Zalesovo Beam 19.83 25 P **P 11 31 40.9 +0.6**
comp=E,6.0nm,0.3s,baz=221,slow=11,SNR=78
ZALV Zalesovo Beam 19.83 25 *i* P **P 11 31 41.4 +1.1**
ZALV pmax pmax
comp=E,17nm,0.4s
ZALV Zalesovo Beam 19.83 25 P **P 11 31 40.7 +0.4**
BTLR Botlikh 19.97 295 ⇑ *e*P **P 11 31 43.6 +1.5**
BTLR pmax pmax
comp=E,17nm,0.7s
GNI Garni 20.85 288 P **P 11 31 53.4 +1.9**
comp=E,6.4nm,0.5s,baz=156,slow=4.8,SNR=4.2
GNI Garni 20.85 288 P **P 11 31 50.1 -1.4**
GNI IAmb IAmb 11 32 01.7
comp=E,14nm,0.9s
MIB Mutribah 20.88 258 *e*P **P 11 31 53.2 +1.5**
QRN Al-Qurain 20.90 255 *e*P **P 11 31 53.8 +1.9**
SHL Shillong 20.97 116 P **P 11 31 52.6 -0.3**
SHL pmax pmax
comp=E,14nm,0.4s
SHL Shillong 20.97 116 P **P 11 31 52.5 -0.3**
RDF Al-Radifah 21.10 255 *e*P **P 11 31 55.5 +1.4**
ARU Arti 21.53 341 P **P 11 31 60.0 +1.7**
comp=E,2.3nm,0.5s,baz=190,slow=8.7,SNR=5.2
ARU Arti 21.53 341 ⇑ *e*P **P 11 31 59.0 +0.7**
ARU *i* *PP **pP 11 32 30.7 -2.1**
ARU pmax pmax
comp=E,8.0nm,1.0s
ARU Arti 21.53 341 P **P 11 31 58.2 -0.1**
ARU IAmb IAmb 11 32 02.1
comp=E,18nm,1.3s
ZEI Tsey 21.68 295 *e*P **P 11 32 02.8 +2.6**
ZEI pmax pmax
comp=E,2.0nm,1.0s
ONI Oni 21.99 294 P **P 11 32 03.2 +0.1**
ONI pmax pmax
comp=E,7.0nm,0.8s
ONI Oni 21.99 294 P **P 11 32 03.1 +0.1**
ONI IAmb IAmb 11 32 08.3
comp=E,7.3nm,0.8s
SHA1 Shidzhatmaz 22.71 297 ⇑ *i*P **P 11 32 12.0 +2.1**
KIV Kislovodsk 22.73 298 *e*P **P 11 32 11.9 +2.0**
KIV pmax pmax
comp=E,7.0nm,1.0s
BELG Belogornoye 22.80 321 P **P 11 32 12.9 +2.6**
comp=E,16nm,0.7s,baz=177,slow=2.6,SNR=4.6
BELG Belogornoye 22.80 321 ⇑ *i*P **P 11 32 12.0 +1.7**
BELG *i* *PP **pP 11 32 44.2 -2.1**
BELG pmax pmax
comp=E,3.0nm,0.8s
DOK Doka 23.25 224 P **P 11 32 12.8 -1.9**
SNR=7.8
WHFO Wadi Hawf 24.02 224 P **P 11 32 20.6 -1.2**
SNR=6.8
AKASG Malin Array Be 32.87 309 P **P 11 33 41.5 +1.6**
comp=E,7.0nm,0.6s,baz=81,slow=6.9,SNR=15
AKASG Malin Array Be 32.87 309 **P 11 33 40.6 +0.8**
AKBB Malin Array Si 32.87 309 ⇑ *e*P **P 11 33 41.4 +1.6**
AKBB *i* *PP **pP 11 34 22.1 +1.1**
AKBB Malin Array Si 32.87 309 P **P 11 33 40.7 +0.9**
AKBB IAmb IAmb 11 33 42.1
comp=E,6.6nm,0.7s
NRIK Noril'sk 34.03 10 ⇑ *e*P **P 11 33 51.3 +1.7**
NRIK *i* *PP **pP 11 34 31.9 +0.2**
NRIK pmax pmax
comp=E,8.0nm,1.3s
BURAR Bucovina Array 35.22 303 P **P 11 34 00.1 -0.1**
BUR08 Bucovina Ar. S 35.23 303 P **P 11 33 59.1 -1.2**
BUR08 IAmb IAmb 11 34 47.1
comp=E,21nm,1.7s
FINES FINESS Array B 37.39 326 P **P 11 34 19.3 +1.0**
comp=E,5.3nm,0.7s,baz=116,slow=9.6,SNR=16
FINES FINESS Array B 37.39 326 *i* P **P 11 34 19.7 +1.4**
FINES pmax pmax
comp=E,5.0nm,0.7s
FINES FINESS Array B 37.39 326 P **P 11 34 18.4 +0.2**
NIE Niedzica 38.50 306 *e*P **P 11 34 31.9 +4.1**
TIR Tirane 39.55 293 P **P 11 34 35.1 -1.4**
TIR Tirane 39.55 293 P **P 11 34 35.1 -1.4**
ARCES ARCESS Array B 41.05 338 P **P 11 34 50.7 +2.3**
comp=E,7.1nm,1.0s,baz=116,slow=8.2,SNR=7.8
NC303 NORSAR Array S 44.23 323 P **P 11 35 16.2 +2.1**
NC303 IAmb IAmb 11 36 20.5
comp=E,33nm,1.4s
NB2 NORSAR Subarra 44.29 323 P **P 11 35 15.7 +1.1**
comp=E,2.0nm,0.5s,baz=94,slow=7
NOA NORSAR Array B 44.29 323 P **P 11 35 15.8 +1.2**
comp=E,4.2nm,0.7s,baz=97,slow=7.8,SNR=20
NC204 NORSAR Array S 44.53 323 P **P 11 35 18.0 +1.5**
KLR Kul'dur 45.10 54 ⇑ *e*P **P 11 35 23.0 +1.9**
KMBO Kilima Mbogo 48.88 227 P **P 11 35 53.0 +1.9**
comp=E,4.4nm,0.5s,baz=36,slow=12,SNR=12
KIBK Kibwezi 49.40 226 P **P 11 35 52.5 -2.2**
SNR=6.4

MBAR Mbarara 52.55 234 *ce*P **P 11 36 20.3 +1.9**
TORD Torodi Ar. Bea 65.70 269 P **P 11 37 47.7 -0.7**
comp=Z,2.0nm,0.5s,baz=50,slow=6.1,SNR=38
TORD Torodi Ar. Bea 65.70 269 P **P 11 37 48.0 -0.4**
KOWA Kowa 69.55 273 P **P 11 38 12.4 0.0**
KOWA IAmb IAmb 11 38 38.9
comp=Z,31nm,2.0s
TOLK Toolik Lake Re 70.83 15 P **P 11 38 21.5 +2.0**
TOLK IAmb IAmb 11 39 10.7
comp=Z,27nm,1.6s
ILAR Eielson Array 74.69 16 P **P 11 38 43.0 +0.8**
comp=Z,1.0nm,1.0s,baz=304,slow=3.6,SNR=5.1
ILAR Eielson Array 74.69 16 P **P 11 38 43.0 +0.8**
ILAR Eielson Array 74.69 16 P **P 11 38 41.9 -0.3**
LBTB Lobatse 74.74 222 P **P 11 38 44.6 +1.5**
LBTB pmax pmax
comp=Z,26nm,1.5s
LBTB Lobatse 74.74 222 P **P 11 38 44.6 +1.5**
KNRA Kununurra 75.29 123 P **P 11 38 46.9 +0.7**
BCAR Beaver Creek A 77.27 15 P **P 11 38 59.1 +2.2**
BOSA Boshof 77.81 220 P **P 11 39 01.0 +0.7**
comp=Z,6.2nm,0.8s,baz=24,slow=2.7,SNR=11
BOSA Boshof 77.81 220 P **P 11 39 01.0 +0.7**
BOSA Boshof 77.81 220 P **P 11 39 00.9 +0.7**
YKA Yellowknife Ar 81.15 3 *ce*P **P 11 39 19.3 +1.6**
comp=Z,1.2nm,0.5s,baz=9.1,slow=5.3,SNR=5.2
YKA Yellowknife Ar 81.15 3 *ce*P **P 11 39 20.0 +2.3**
YKA pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 82.06 122 P **P 11 39 22.6 -0.5**
comp=Z,1.2nm,0.4s,baz=323,slow=4.8,SNR=45
WRA Warramunga Arr 82.06 122 P **P 11 39 22.6 -0.5**
WRAB Tennant Creek 82.06 122 P **P 11 39 22.7 -0.4**
WRAB pmax pmax
comp=Z,22nm,1.8s
WRAB Tennant Creek 82.06 122 P **P 11 39 22.7 -0.4**
WRAB IAmb IAmb 11 41 09.2
comp=Z,22nm,1.8s
WB2 Warramunga Arr 82.06 122 P **P 11 39 22.9 -0.3**
WB2 IAmb IAmb 11 39 38.4
comp=Z,14nm,1.6s
WR0 Warramunga Arr 82.21 122 P **P 11 39 23.3 -0.6**
WR0 IAmb IAmb 11 41 19.2
comp=Z,19nm,1.8s
AS31 Alice Springs 84.32 125 P **P 11 39 34.5 -0.1**
ASAR Alice Springs 84.32 125 P **P 11 39 34.1 -0.6**
comp=Z,1.9nm,0.6s,baz=310,slow=5.0,SNR=38
ASAR Alice Springs 84.32 125 P **P 11 39 34.7 0.0**
ASAR Alice Springs 84.32 125 P **P 11 39 34.7 0.0**

OTT 30 11:39:28.2±0.5, **42.23N**×**55.31W, h18**km, **ML3.8**/3,
Atlantic Ocean. 543km south from Grand Bank, NI, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBN	**Guysborough**	**5.50**	**307**	SN	Sn	11 41 48.2	-3.6
CHEG	**Cheticamp, Nov**	**5.97**	**322**	PN	Pn	11 40 54.8	-0.8
CHEG				SN	Sn	11 41 59.0	-4.5
CHEG				Trac		11 42 01.8	
comp=Z,2.6nm,0.2s							
DRLN	**Deer Lake**	**7.19**	**348**	PN	Pn	11 41 10.0	-2.3
DRLN				SN	Sn	11 42 28.6	-4.9
DRLN				Trac		11 42 33.8	
comp=Z,132nm,1.9s							
LMN	**Caledonia Moun**	**7.74**	**301**	PN	Pn	11 41 18.3	-1.6
LMN				SN	Sn	11 42 41.0	-6.1
LMN				Trac		11 42 43.9	
comp=Z,41nm,0.9s							

*IDC **30** 11:54:47.2*±*1.2, 47.11N*×*154.18E, h0*km*, mb3.8/5, mb1 4.0/6, mb1mx3.6/44, mbtmp3.7/6, ML2.6/1, MS3.1/7, Ms1 3.1/7, ms1mx2.8/49, Error ellipse: s-maj=43.6km s-min=26.8km az=112.0*

ISC 30 11:54:51.5±1.2, **47.1N**±0.2×**154.2E**±0.3, **h27**km, **n16, s**0**51/6, mb3.7/5, MS3.3/3, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsky-**	**6.38**	**19**	Pn	**Pn**	**11 56 23.7**	**0.0**
0.6nm,0.3s,baz=178,slow=12,SNR=17							
MA2	**Magadan**	**12.63**	**352**	LR	LR	12 02 02.7	
comp=Z,38nm,18.2s,baz=56,slow=34							
KLR	**Kul'dur**	**15.12**	**286**	LR	LR	12 04 13.1	
comp=Z,46nm,18.6s,baz=18,slow=37							
USRK	**Ussuriysk Ar.**	**15.80**	**267**	LR	LR	12 04 21.4	
comp=Z,91nm,19.1s,baz=300,slow=36							
SEY	**Seymchan**	**15.86**	**357**	LR	LR	12 03 54.5	
comp=Z,44nm,19.5s,baz=223,slow=34							
YAK	**Yakutsk**	**20.41**	**326**	LR	LR	12 08 03.7	
comp=Z,31nm,20.2s,baz=88,slow=39							
H11S1	**WAKE ISLAND Hy**	**30.34**	**156**	T	T	12 33 28.3	
baz=343,slow=76,SNR=36							
H11S3	**WAKE ISLAND Hy**	**30.35**	**156**	T	T	12 33 21.9	
baz=343,slow=76,SNR=48							
H11S2	**WAKE ISLAND Hy**	**30.36**	**156**	T	T	12 33 35.2	
baz=343,slow=76,SNR=38							
ILAR	**Eielson Array**	**35.77**	**39**	P	**P**	**12 01 47.6**	**-0.2**
0.4nm,0.7s,baz=250,slow=7.2,SNR=6.8							
JAY	**Jayapura**	**50.85**	**198**	LR	LR	12 20 58.3	
comp=Z,47nm,21.6s,baz=217,slow=31							
NVAR	**Mina Array Bea**	**61.58**	**63**	LR	LR	12 31 09.4	
comp=Z,20nm,18.6s,baz=316,slow=35							
FINES	**FINESS Array B**	**64.01**	**335**	P	**P**	**12 05 22.6**	**+0.5**
1.0nm,0.6s,baz=18,slow=6.6,SNR=4.1							
NOA	**NORSAR Array B**	**68.10**	**342**	P	**P**	**12 05 47.8**	**-0.6**
0.8nm,0.9s,baz=26,slow=6.4,SNR=3.3							
ASAR	**Alice Springs**	**72.82**	**199**	P	**P**	**12 06 17.5**	**-0.1**
0.6nm,0.9s,baz=8.5,slow=6.0,SNR=6.0							
TXAR	**Lajitas Array**	**76.64**	**61**	P	**P**	**12 06 40.2**	**+0.3**
0.6nm,0.8s,baz=308,slow=3.3,SNR=7.8							

*NEIC **30** 12:17:03.8*±*1.5, 27.5N*±*0.1*×*140.03E*±*0.10, h486*km*±*8*km*, mb4.3/40, Error ellipse: s-maj=15.6km s-min=12.3km az=163.0*
*IDC **30** 12:17:03.5*±*1.0, 27.54N*×*139.91E, h486*km*±*12*km*, mb3.3/13, mb1 3.5/17, mb1mx3.3/49, mbtmp4.1/17, Error ellipse: s-maj=18.1km s-min=10.7km az=80.0*
*JMA **30** 12:17:04.8*±*0.1, 27.85N*×*140.57E, h489*km*±*2*km*, M4.0*
ISC 30 12:17:03.0±0.5, **27.61N**±0.06×**140.01E**±0.08, **h479**km, **n94, s**1**32**/104, **mb4.2**/35, **Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.00**	**104**	P	**P**	**12 18 07.5**	**+1.3**
CBIJ				S	**S**	**12 18 57.0**	**-0.5**
JCJ	**Chichijima**	**2.00**	**104**	P	**P**	**12 18 07.8**	**+1.6**
56nm,0.3s,baz=5.7,slow=13,SNR=20							
JCJ				S	**S**	**12 18 56.9**	**-0.5**
64nm,0.3s,baz=96,slow=23,SNR=16							
JCJ	**Chichijima**	**2.00**	**104**	P	**P**	**12 18 07.3**	**+1.1**
JCJ					**S**	**12 18 58.9**	**+1.4**
JHH2	**Haha-jima-NKT2**	**2.16**	**116**	P	**P**	**12 18 08.8**	**+1.7**
JHH2				S	**S**	**12 18 59.0**	**0.0**
JHCJ	**Hachijojimakas**	**5.45**	**358**	P	**P**	**12 18 34.4**	**+1.4**
JHCJ				S	**S**	**12 19 44.8**	**-1.8**
JHJ2	**Mitsune**	**5.49**	**358**	P	**P**	**12 18 34.8**	**+1.4**
JHJ2				S	**S**	**12 19 45.7**	**-1.5**
JHJ2	**Mitsune**	**5.49**	**358**	P	**P**	**12 18 35.2**	**+1.9**
JHJ	**Hachijo jima 2**	**5.50**	**358**	P	**P**	**12 18 34.9**	**+1.5**
7.9nm,0.3s,baz=79,slow=22,SNR=5.2							
JHJ				S	**S**	**12 19 45.8**	**-1.6**
20nm,0.3s,baz=261,slow=22,SNR=7.0							
BSO3	**Boso 3**	**7.19**	**3**	P	**P**	**12 18 51.3**	**+1.3**
BSO3				S	**S**	**12 20 14.8**	**-3.0**
JIE	**Ise**	**7.33**	**338**	P	**P**	**12 18 54.9**	**+3.1**
JKN2	**Miekihoku**	**7.35**	**335**	P	**P**	**12 18 55.3**	**+3.3**
JOD2	**Odawara 2**	**7.67**	**354**	P	**P**	**12 18 57.3**	**+1.9**
JMZ	**Minamidaito 2**	**8.06**	**259**	P	**P**	**12 19 59.6**	**+0.1**
JRY	**Ryogami san**	**8.44**	**354**	P	**P**	**12 19 04.4**	**+1.0**
JYT	**Yasato**	**8.60**	**1**	P	**P**	**12 19 05.3**	**+0.2**
JWT	**Wachi**	**8.61**	**334**	P	**P**	**12 19 07.8**	**+2.7**
MJAR	**Matsushiro Arr**	**9.04**	**351**	P	**P**	**12 19 10.3**	**+0.5**
0.2nm,0.3s,baz=289,slow=35,SNR=4.2							
MJAR	**Matsushiro Arr**	**9.04**	**351**	P	**P**	**12 19 11.4**	**+1.6**
JSU	**Suzuyama**	**9.18**	**297**	P	**P**	**12 19 13.2**	**+1.8**
JHS	**Saijyo**	**9.44**	**323**	P	**P**	**12 19 18.4**	**+4.3**
JMM	**Marumori**	**10.25**	**3**	P	**P**	**12 19 25.0**	**+2.3**
JOW	**Kunigami**	**10.48**	**268**	P	**P**	**12 19 26.8**	**+1.4**
JTM	**Tenmabayashi**	**13.18**	**4**	P	**P**	**12 19 54.7**	**+0.6**
KSRS	**Korea Array**	**14.14**	**317**	P	**P**	**12 20 06.1**	**+1.8**
baz=135,slow=10,SNR=3.9							
SSLB	**Suanglung**	**17.59**	**262**	P	**P**	**12 20 40.7**	**+0.1**
SONM	**Songino Array**	**33.02**	**317**	P	**P**	**12 22 56.9**	**-0.6**
0.7nm,0.6s,baz=125,slow=7.7,SNR=3.0							
CMAR	**Chiang Mai Arr**	**38.73**	**265**	P	**P**	**12 23 44.8**	**-0.5**
1.1nm,0.6s,baz=53,slow=8.8,SNR=9.5							
JIRN	**Jiri**	**47.35**	**283**	*e*P	**P**	**12 24 53.2**	**0.0**
28nm,0.6s							
WB0	**Warramunga Arr**	**47.41**	**187**	P	**P**	**12 24 51.9**	**-1.3**
FITZ	**Fitzroy Crossi**	**47.52**	**199**	P	**P**	**12 24 53.6**	**-0.5**
FITZ				IAmb	IAmb	12 25 26.8	
comp=Z,17nm,1.8s							
GUN	**Gumba**	**47.56**	**284**	*e*P	**P**	**12 24 54.9**	**+0.1**
WRAB	**Tennant Creek**	**47.58**	**187**	P	**P**	**12 24 53.2**	**-1.3**
WRAB				IAmb	IAmb	12 26 46.6	
comp=Z,24nm,2.0s							
WR0	**Warramunga Arr**	**47.58**	**187**	P	**P**	**12 24 53.5**	**-1.0**
WR0				IAmb	IAmb	12 26 09.0	
comp=Z,13nm,1.6s							
WB2	**Warramunga Arr**	**47.58**	**187**	P	**P**	**12 24 53.7**	**-0.9**
WRA	**Warramunga Arr**	**47.59**	**187**	P	**P**	**12 24 53.6**	**-1.0**
comp=Z,1.0nm,0.4s,baz=3.9,slow=7.5,SNR=64							
WRA				PcP	**PcP**	**12 26 15.4**	**+0.1**
comp=Z,0.8nm,0.6s,baz=359,slow=3.5,SNR=6.6							
WRA	**Warramunga Arr**	**47.59**	**187**	P	**P**	**12 24 53.3**	**-1.3**
JOHN	**Johnston Islan**	**47.68**	**92**	P	**P**	**12 24 54.2**	**-1.2**
ZAA0	**Zalesovo Array**	**47.84**	**319**	P	**P**	**12 24 55.2**	**-0.8**
ZALV	**Zalesovo Beam**	**47.84**	**319**	P	**P**	**12 24 55.5**	**-0.5**
comp=Z,2.1nm,0.4s,baz=96,slow=8.2,SNR=8.4							
ZALV				PcP	**PcP**	**12 26 14.7**	**-1.0**
comp=Z,1.1nm,0.4s,baz=69,slow=4.9,SNR=4.1							
ZALV	**Zalesovo Beam**	**47.84**	**319**	P	**P**	**12 24 55.3**	**-0.7**
PKI	**Pulchoki**	**48.05**	**283**	*e*P	**P**	**12 24 57.4**	**-1.0**
PKIN	**Phulchoki**	**48.05**	**283**	*e*P	**P**	**12 24 57.3**	**-1.1**
comp=Z,6.9nm,0.5s							
KKN	**Kakani**	**48.11**	**284**	*e*P	**P**	**12 24 58.3**	**-0.4**
DMN	**Daman**	**48.30**	**283**	*e*P	**P**	**12 24 59.7**	**-0.5**
GKN	**Gorkha**	**48.61**	**284**	*e*P	**P**	**12 25 02.5**	**0.0**
comp=Z,8.2nm,0.4s							
MK31	**Makanchi Array**	**48.66**	**309**	P	**P**	**12 25 01.8**	**-0.5**
MKAR	**Makanchi Array**	**48.66**	**309**	P	**P**	**12 25 02.1**	**-0.2**
comp=Z,1.8nm,0.4s,baz=82,slow=10,SNR=21							
DANN	**Dangsing**	**49.29**	**285**	*e*P	**P**	**12 25 07.8**	**+0.2**
KOLN	**Koldanda**	**49.56**	**284**	*e*P	**P**	**12 25 09.3**	**-0.2**
PYUN	**Piuthan**	**50.01**	**285**	*e*P	**P**	**12 25 12.8**	**0.0**
comp=Z,47nm,0.4s							
ASAR	**Alice Springs**	**51.31**	**187**	P	**P**	**12 25 21.2**	**-1.0**
comp=Z,0.8nm,0.5s,baz=3.8,slow=7.1,SNR=13							
KDJ	**Kajisay**	**52.45**	**303**	P	**P**	**12 25 30.5**	**+0.1**
PSA00	**Pilbara Seismi**	**52.63**	**204**	P	**P**	**12 25 30.5**	**-1.1**
BOOM	**Boomskoye usch**	**53.33**	**304**	P	**P**	**12 25 37.4**	**+0.8**
BOOM				IAmb	IAmb	12 25 37.6	
comp=Z,5.7nm,0.6s							
AAK	**Ala-Archa**	**54.38**	**304**	P	**P**	**12 25 44.3**	**+0.2**
K20K	**Telida**	**54.92**	**30**	P	**P**	**12 25 50.0**	**+2.7**
K20K				IAmb	IAmb	12 26 48.3	
comp=Z,25nm,1.6s							
J20K	**Nowinta River**	**55.01**	**29**	P	**P**	**12 25 50.2**	**+2.2**
J20K				IAmb	IAmb	12 26 41.1	
comp=Z,30nm,1.9s							
KDAK	**Kodiak Island**	**55.12**	**37**	P	**P**	**12 25 50.9**	**+2.1**
IMAR	**Indian Mountai**	**55.47**	**27**	P	**P**	**12 25 52.7**	**+1.6**
CAST	**Castle Rocks**	**55.82**	**30**	P	**P**	**12 25 55.4**	**+1.8**
CAST				IAmb	IAmb	12 27 37.8	
comp=Z,39nm,2.0s							
BRVK	**Borovoye**	**56.42**	**317**	P	**P**	**12 25 58.1**	**+0.1**
BRVK				IAmb	IAmb	12 25 58.6	
comp=Z,7.8nm,0.7s							
NIL	**Nilore**	**56.88**	**294**	P	**P**	**12 26 02.6**	**+1.0**
NIL				IAmb	IAmb	12 26 03.3	
comp=Z,7.3nm,0.7s							
PMR	**Palmer**	**57.05**	**33**	P	**P**	**12 26 02.5**	**+0.4**
KK31	**Karatay Array**	**57.22**	**305**	P	**P**	**12 26 03.9**	**+0.2**
KK31				IAmb	IAmb	12 26 04.3	
comp=Z,6.8nm,0.7s							
KKAR	**Karatay Array**	**57.22**	**305**	P	**P**	**12 26 03.9**	**+0.2**
KKAR				IAmb	IAmb	12 26 04.3	
comp=Z,6.8nm,0.7s							
KKAR	**Karatay Array**	**57.22**	**305**	P	**P**	**12 26 03.8**	**+0.1**
MDM	**Murphy Dome**	**57.63**	**29**	P	**P**	**12 26 07.8**	**+1.6**
H24K	**Noodor Dome**	**57.84**	**28**	P	**P**	**12 26 09.6**	**+2.0**
H24K				IAmb	IAmb	12 26 50.2	
comp=Z,24nm,1.9s							
GAR	**Garm**	**58.07**	**301**	IAmb	IAmb	12 26 09.8	
comp=Z,9.1nm,0.6s							
GAR				P	**P**	**12 26 10.0**	**+0.3**
ILAR	**Eielson Array**	**58.20**	**29**	P	**P**	**12 26 10.3**	**+0.4**
comp=Z,1.2nm,1.0s,baz=244,slow=5.8,SNR=7.8							
ILAR	**Eielson Array**	**58.20**	**29**	P	**P**	**12 26 10.0**	**0.0**
CHGR	**Chuyangaron**	**59.03**	**300**	P	**P**	**12 26 16.3**	**+0.2**
FORT	**Forrest**	**59.17**	**192**	P	**P**	**12 26 16.1**	**-0.8**
STKA	**Stephens Creek**	**59.17**	**178**	P	**P**	**12 26 16.6**	**-0.3**
comp=Z,1.0nm,0.4s,baz=332,slow=20,SNR=4.1							
STKA	**Stephens Creek**	**59.17**	**178**	P	**P**	**12 26 16.6**	**-0.3**
BMAR	**Burnt Mountain**	**59.24**	**26**	P	**P**	**12 26 19.5**	**+2.5**
L26K	**Log Cabin Wild**	**59.75**	**31**	P	**P**	**12 26 22.1**	**+1.6**
L26K				IAmb	IAmb	12 26 32.2	
comp=Z,38nm,1.9s							
BBOO	**Buckleboo**	**60.20**	**184**	P	**P**	**12 26 23.4**	**-0.4**
EGAK	**Eagle**	**60.65**	**29**	P	**P**	**12 26 27.2**	**+0.9**
EGAK				IAmb	IAmb	12 28 25.3	
comp=Z,35nm,1.9s							
ARU	**Arti**	**62.83**	**322**	P	**P**	**12 26 40.5**	**-0.3**
ARU				IAmb	IAmb	12 26 40.7	
comp=Z,6.2nm,0.5s							
ABKAR	**Akbulak array**	**63.35**	**314**	P	**P**	**12 26 44.0**	**-0.3**
ABKAR				IAmb	IAmb	12 26 44.4	
comp=Z,4.7nm,0.7s							
ABKAR	**Akbulak array**	**63.35**	**314**	P	**P**	**12 26 43.9**	**-0.5**
ARCES	**ARCESS Array B**	**72.42**	**340**	P	**P**	**12 27 40.1**	**+0.6**
comp=Z,4.4nm,0.8s,baz=68,slow=8.0,SNR=8.9							
ARCES	**ARCESS Array B**	**72.42**	**340**	P	**P**	**12 27 39.9**	**+0.5**
KBZ	**Khabaz**	**76.24**	**312**	P	**P**	**12 28 02.0**	**+0.5**
comp=Z,3.1nm,0.8s,baz=118,slow=7.8,SNR=4.9							
FIA1	**FINESS Array S**	**76.63**	**333**	P	**P**	**12 28 03.0**	**-0.3**
FINES	**FINESS Array B**	**76.63**	**333**	P	**P**	**12 28 02.8**	**-0.5**
comp=Z,3.9nm,0.3s,baz=68,slow=5.0,SNR=36							
FINES	**FINESS Array B**	**76.63**	**333**	P	**P**	**12 28 03.0**	**-0.3**
PINE	**Pine Mountain**	**77.48**	**47**	P	**P**	**12 28 08.8**	**+0.2**
PINE				IAmb	IAmb	12 29 15.6	
comp=Z,16nm,1.6s							
NVAR	**Mina Array Bea**	**81.71**	**51**	P	**P**	**12 28 32.5**	**+1.4**
comp=Z,1.3nm,0.5s,baz=296,slow=5.6,SNR=5.9							
NC405	**NORSAR Array S**	**82.19**	**337**	P	**P**	**12 28 31.3**	**-1.5**
NB2	**NORSAR Subarra**	**82.41**	**338**	P	**P**	**12 28 32.9**	**-1.1**

	PRK				S	Sg	12 26 48.1	+0.2
		4μm,0.3s						
	PRK	**Paraskevi**	**0.19**	**122**	P	**Pg**	**12 26 45.2**	**0.0**
	PRK				S	**Sg**	**12 26 48.1**	**+0.2**
	PRK				AML	AML	12 26 48.3	
		comp=N,9100μm,0.3s						
	PRK				AML	AML	12 26 48.9	
		comp=E,7025μm,0.3s						
	SIGR	**SIGRI**	**0.21**	**229**	P	**Pg**	**12 26 45.2**	**-0.3**
	SIGR				S	**Sg**	**12 26 48.6**	**+0.2**
		comp=E,2μm,0.3s						
	SIGR	**SIGRI**	**0.21**	**229**	P	**Pg**	**12 26 45.2**	**-0.3**
	SIGR				S	**Sg**	**12 26 48.6**	**+0.2**
	SIGR				AML	AML	12 26 48.7	
		comp=N,3483μm,0.3s						
	SIGR				AML	AML	12 26 48.7	
		comp=E,3259μm,0.3s						
	SIGR	**SIGRI**	**0.21**	**229**	PG	**Pg**	**12 26 45.1**	**-0.3**
	SIGR				SG	**Sg**	**12 26 48.5**	**+0.2**
	BOZC	**Bozcaada**	**0.49**	**359**	PG	**Pg**	**12 26 50.5**	**-0.3**
	BOZC				SG	**Sg**	**12 26 57.9**	**+0.6**
	EZN	**Ezine**	**0.52**	**23**	P	**Pg**	**12 26 50.8**	**-0.5**
	EZN				S	**Sg**	**12 26 58.6**	**+0.5**
		comp=E,212nm,0.2s						
	EZN	**Ezine**	**0.52**	**23**	PG	**Pg**	**12 26 50.8**	**-0.5**
	EZN				SG	**Sg**	**12 26 58.2**	**+0.1**
	DKL	**Dikili**	**0.71**	**113**	PG	**Pg**	**12 26 54.5**	**-0.4**
	DKL				SG	**Sg**	**12 27 05.0**	**+0.8**
	FOCM	**Foa**	**0.82**	**140**	PG	**Pg**	**12 26 56.8**	**-0.2**
	GADA	**Gvkgeada**	**0.85**	**352**	P	**Pg**	**12 26 57.0**	**-0.6**
	GADA				S	**Sg**	**12 27 08.8**	**+0.2**
		comp=E,80nm,0.4s						
	GADA	**Gvkgeada**	**0.85**	**352**	PG	**Pg**	**12 26 57.4**	**-0.2**
	LIA	**Limnos Island**	**0.87**	**309**	P	**Pg**	**12 26 58.0**	**0.0**
	LIA				S	**Sb**	**12 27 10.7**	**+0.4**
		comp=E,102nm,0.4s						
	LIA	**Limnos Island**	**0.87**	**309**	P	**Pb**	**12 26 58.7**	**+0.2**
	LIA				S	**Sb**	**12 27 10.7**	**+0.4**
	URLA	**Izmir**	**1.07**	**157**	PG	**Pg**	**12 27 01.3**	**-0.5**
	GELI	**Tayfur-Gelibol**	**1.09**	**17**	PN	**Pg**	**12 27 01.8**	**-0.4**
	LPK	**Lapseki**	**1.16**	**28**	PN	**Pg**	**12 27 02.8**	**-0.6**
	SMTH	**Samothraki Isl**	**1.19**	**340**	P	**Pg**	**12 27 03.3**	**-0.8**
	SMTH				S	**Sb**	**12 27 19.9**	**+0.3**
		comp=E,32nm,0.2s						
	SMTH	**Samothraki Isl**	**1.19**	**340**	P	**Pg**	**12 27 03.3**	**-0.8**
	ERIK	**Erikli-Kesan**	**1.36**	**15**	PN	**Pn**	**12 27 06.3**	**-0.2**
	KRBG	**Karabiga-Canak**	**1.41**	**42**	PN	**Pn**	**12 27 07.2**	**+0.1**
	BALB	**Balikesir**	**1.44**	**78**	PN	**Pn**	**12 27 07.4**	**-0.1**
	ALN	**Alexandroupoli**	**1.55**	**360**	P	**Pn**	**12 27 09.1**	**+0.1**
	ALN				S	**Sn**	**12 27 29.3**	**+0.1**
		comp=E,38nm,0.7s						
	ALN	**Alexandroupoli**	**1.55**	**360**	PN	**Pn**	**12 27 09.0**	**+0.1**
	RKY	**Sarkoy-Tekirda**	**1.59**	**32**	PN	**Pn**	**12 27 09.8**	**+0.2**
	MAR6	**Marsite Statio**	**1.64**	**34**	PN	**Pn**	**12 27 10.3**	**0.0**
	MAR3	**Marsite Statio**	**1.68**	**34**	PN	**Pn**	**12 27 11.1**	**+0.2**
	GZKV	**Gazikoy-Tekird**	**1.70**	**34**	PN	**Pn**	**12 27 11.2**	**+0.1**
	MAR4	**Marsite Statio**	**1.72**	**33**	PN	**Pn**	**12 27 11.5**	**0.0**
	SMG	**Samos**	**1.75**	**159**	P	**Pb**	**12 27 12.9**	**-0.6**

*NEIC **30** 12:29:50.7±1.3,22.°13S±0.°03×69.°89W±0.°07, h73km±4km, mb4.5/10, ML4.0(GUC), Error ellipse: s-maj=9.3km s-min=4.9km az=94.0*

*GUC **30** 12:29:51.8±0.7,22.°14S×69.°73W, h75km±3km, ML4.0*

*IDC **30** 12:29:53.6±1.9,22.°18S×69.°39W, h92km±11km, mb4.1/3, mb1 3.9/5, mb1mx3.4/29, mbtmp4.2/5, MS3.0/1, Ms1 3.0/1, ms1mx2.4/21, Error ellipse: s-maj=44.2km s-min=23.8km az=99.0*

ISC 30 12:29:50.6±0.7,22.°13S±0.°03×69.°84W±0.°05, h83km±5km, n55,σ1°23/65, mb4.4/6, 9C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB04	**IPOC Station P**	**0.35**	**235**	⇓*i*P	**Pn**	**12 30 04.2**	**+0.4**
PB04				*i* S	**Sn**	**12 30 13.7**	**+0.2**
PB04				IAML		12 30 15.1	
	comp=N,14μm,0.5s						
PB04	**IPOC Station P**	**0.35**	**235**		**Pn**	**12 30 04.1**	**+0.3**
PB07	**IPOC Station P**	**0.40**	**353**	⇓*i*P	**Pn**	**12 30 04.2**	**+0.1**
PB07				*i* S	**Sn**	**12 30 13.6**	**-0.4**
PB07				IAML		12 30 14.1	
	comp=E,24μm,0.2s						
PB07	**IPOC Station P**	**0.40**	**353**		**Pn**	**12 30 03.9**	**-0.2**
PB06	**IPOC Station P**	**0.62**	**157**		**Pn**	**12 30 05.3**	**-0.7**
PB09	**IPOC Station P**	**0.64**	**59**	⇑*i*P	**Pn**	**12 30 06.0**	**-0.1**
PB09				*i* S	**Sn**	**12 30 16.3**	**-1.3**
PB09				IAML		12 30 18.1	
	comp=N,11μm,0.2s						
PB09	**IPOC Station P**	**0.64**	**59**		**Pn**	**12 30 06.0**	**-0.1**
PB02	**IPOC Station P**	**0.81**	**356**	⇓*i*P	**Pn**	**12 30 08.3**	**+0.5**
PB02				*i* S	**Sn**	**12 30 20.6**	**+0.1**
LVC	**Limon Verde**	**0.98**	**119**	P	**Pn**	**12 30 10.2**	**+0.2**
	baz=312,slow=9.5						
LVC				S	**Sn**	**12 30 23.7**	**-0.7**
	comp=N,545nm,0.3s,baz=204,slow=20,SNR=86						
LVC	**Limon Verde**	**0.98**	**119**	⇑*e*P	**Pn**	**12 30 09.6**	**-0.4**
LVC				*i* S	**Sn**	**12 30 23.6**	**-0.9**
LVC	**Limon Verde**	**0.98**	**119**		**Pn**	**12 30 10.0**	**0.0**
PB01	**IPOC Station P**	**1.13**	**17**	⇑*i*P	**Pn**	**12 30 11.8**	**+0.3**
PB01				*i* S	**Sn**	**12 30 27.1**	**+0.1**
PB01				IAML		12 30 28.8	
	comp=E,10μm,0.2s						
PB01	**IPOC Station P**	**1.13**	**17**		**Pn**	**12 30 11.2**	**-0.3**
PB15	**IPOC Station P**	**1.13**	**163**		**Pn**	**12 30 11.4**	**-0.2**
PB10	**IPOC Station P**	**1.53**	**205**	⇑*i*P	**Pn**	**12 30 16.3**	**-0.1**
PB10				*i* S	**Sn**	**12 30 35.4**	**-0.6**
PB10				IAML		12 30 36.8	
	comp=E,2μm,0.8s						
PB10	**IPOC Station P**	**1.53**	**205**		**Pn**	**12 30 16.1**	**-0.3**
TA01	**Diego Aracena**	**1.59**	**348**	⇑*i*P	**Pn**	**12 30 17.4**	**+0.2**
TA01				*i* S	**Sn**	**12 30 37.7**	**+0.5**
TA01	**Diego Aracena**	**1.59**	**348**		**Pn**	**12 30 17.0**	**-0.1**
AF01	**San Pedro de A**	**1.74**	**118**		**Pn**	**12 30 20.9**	**+1.5**
HMBC	**Humberstone**	**1.84**	**359**	⇑*i*P	**Pn**	**12 30 20.8**	**+0.2**
HMBC				IAML		12 30 50.6	
	comp=E,1μm,0.5s						
TA02	**Huaiquique**	**1.87**	**351**	*e*P	**Pn**	**12 30 21.2**	**+0.3**
TA02				*i* S	**Sn**	**12 30 43.4**	**-0.4**
TA02	**Huaiquique**	**1.87**	**351**		**Pn**	**12 30 20.5**	**-0.4**
PB08	**IPOC Station P**	**2.08**	**18**	⇑*i*P	**Pn**	**12 30 24.5**	**+0.5**
PB08				IAML		12 30 51.7	
	comp=E,805nm,0.4s						
PB08	**IPOC Station P**	**2.08**	**18**		**Pn**	**12 30 24.4**	**+0.5**
PB11	**IPOC Station P**	**2.36**	**4**	⇑*i*P	**Pn**	**12 30 27.2**	**-0.4**
PB11				*i* S	**Sn**	**12 30 49.8**	**-6.0**
PB11				IAML		12 31 12.1	
	comp=N,866nm,0.3s						
PB11	**IPOC Station P**	**2.36**	**4**	Pn	**Pn**	**12 30 27.2**	**-0.4**
PSGC	**Pisagua**	**2.53**	**354**	⇑*i*P	**Pn**	**12 30 29.1**	**-0.7**
PSGC				*i* S	Sn	12 30 50.7	-9.2
PSGCX	**Pisagua**	**2.53**	**354**		**Pn**	**12 30 29.0**	**-0.8**
PB14	**IPOC Station P**	**2.54**	**192**		**Pn**	**12 30 29.4**	**-0.7**
AC02	**Maricunga**	**4.73**	**172**	Pn	**Pn**	**12 31 00.5**	**+0.5**
GO03	**Copiap**	**5.45**	**184**		**Pn**	**12 31 08.0**	**-1.5**
LPAZ	**La Paz**	**6.03**	**16**	P	**Pn**	**12 31 20.3**	**+2.5**
	comp=N,3.1nm,0.3s,baz=199,slow=4.3,SNR=50						
LPAZ	**La Paz**	**6.03**	**16**	Pn	**Pn**	**12 31 19.9**	**+2.1**
SIV	**San Ignacio**	**10.29**	**55**	P	**Pn**	**12 32 12.9**	**-2.6**
	comp=N,0.6nm,0.3s,baz=241,slow=14,SNR=8.6						
SAML	**Samuel**	**14.58**	**27**	Pn	**Pn**	**12 33 12.0**	**-0.8**
PTGA	**Pitinga**	**23.34**	**26**	P	**P**	**12 34 53.3**	**+1.4**
	comp=N,2.8nm,0.3s,baz=203,slow=18,SNR=6.1						
PTGA	**Pitinga**	**23.34**	**26**	P	**P**	**12 34 53.2**	**+1.4**
MDP	**Montagnes des**	**31.87**	**34**	LR	LR	12 50 57.9	
	comp=N,23nm,18.2s,baz=108,slow=40						
MATN	**Matagalpa**	**38.25**	**334**	P	**P**	**12 37 02.9**	**-0.1**
MATN				IAmb	IAmb	12 37 08.6	
	comp=Z,10nm,1.4s						
060A	**Indiantown**	**49.92**	**348**	P	**P**	**12 38 38.8**	**+2.8**
SNAA	**Sanae**	**61.97**	**161**	P	**P**	**12 40 02.6**	**+1.0**
SNAA				IAmb	IAmb	12 40 06.4	
	comp=Z,5.7nm,1.2s						
HHAR	**Hobbs**	**62.40**	**338**	P	**P**	**12 40 04.9**	**+0.1**
HHAR				IAmb	IAmb	12 40 09.1	
	comp=Z,2.6nm,1.0s						
BRNJ	**Basking Ridge**	**62.64**	**356**	P	**P**	**12 40 06.6**	**+0.4**
PAL	**Palisades**	**62.92**	**357**	P	**P**	**12 40 08.5**	**+0.4**
NCB	**Newcomb**	**65.89**	**357**	P	**P**	**12 40 28.5**	**+1.0**
BNM	**Barren Site**	**66.01**	**327**	P	**P**	**12 40 26.3**	**-2.4**
DBIC	**Dimbokro**	**69.74**	**74**	P	**P**	**12 40 52.3**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=228,slow=7.3,SNR=1.9						
DBIC	**Dimbokro**	**69.74**	**74**	P	**P**	**12 40 52.2**	**-0.1**
DBIC				IAmb	IAmb	12 41 08.8	
	comp=Z,14nm,1.5s						
TORD	**Torodi Ar. Bea**	**78.38**	**71**	P	**P**	**12 41 42.4**	**-0.3**
	comp=Z,2.6nm,0.5s,baz=256,slow=5.4,SNR=24						
TORD	**Torodi Ar. Bea**	**78.38**	**71**	P	**P**	**12 41 42.5**	**-0.1**
TORD				IAmb	IAmb	12 41 43.1	
	comp=Z,2.3nm,0.7s						
BOSA	**Boshof**	**83.91**	**118**	P	**P**	**12 42 12.2**	**+0.2**
ASAR	**Alice Springs**	**128.96**	**208**	PKP	**PKiKP**	**12 48 50.9**	**+0.6**
	comp=Z,0.4nm,0.9s,baz=136,slow=2.4,SNR=2.1						
WRA	**Warramunga Arr**	**131.98**	**211**	PKP	**PKiKP**	**12 48 57.1**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=153,slow=2.0,SNR=4.9						
MKAR	**Makanchi Array**	**146.64**	**36**	PKPbc	**PKiKP**	**12 49 24.1**	**-1.5**
	comp=Z,1.3nm,0.8s,baz=262,slow=4.5,SNR=4.7						
MKAR	**Makanchi Array**	**146.64**	**36**		**PKiKP**	**12 49 24.5**	**-1.1**

*KRNET **30** 12:30:15.4±0.1,41.°20N×69.°47E, h12km, mb2.7*

ISC 30 12:30:15.3±1.3,41.°24N±0.°05×69.°53E±0.°05, h3km±15km, n6,σ1°11/10, 9C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAS	**Tashkent**	**0.19**	**295**	⇓*i*P	**Pg**	**12 30 19.3**	**+0.2**
	baz=16						
TAS				⇓*i*S	**Sg**	**12 30 21.9**	**+0.2**
	baz=16						
TRKS	**Terek-Say**	**1.25**	**76**	⇑*i*P	**Pg**	**12 30 39.9**	**+0.7**
	baz=78						
TRKS				⇑*i*S	**Sn**	**12 30 57.9**	**+0.7**
	baz=78						
BTK	**Batken**	**1.54**	**140**	⇑*i*P	**Pb**	**12 30 44.0**	**-0.5**
	baz=37						
BTK				⇑*i*S	**Sg**	**12 31 04.6**	**-0.1**
	baz=37						
KK31	**Karatay Array**	**2.00**	**21**	⇓Pn	Pg	12 31 00.1	+6.4
	0.8nm,0.3s,baz=196,slow=15,SNR=16						
KK31				⇑Sn	Sg	12 31 30.3	+11
	3.6nm,0.4s,baz=202,slow=27,SNR=11						
GAR	**Garm**	**2.32**	**165**	⇑*i*P	**Pn**	**12 30 55.7**	**+1.2**
	baz=63						
GAR				⇑*i*S	**Sb**	**12 31 25.4**	**-1.6**
	baz=63						
MNAS	**Manas**	**2.55**	**60**	⇑*i*P	**Pb**	**12 31 00.3**	**-1.5**
	baz=59						
MNAS				⇑*i*S	**Sb**	**12 31 33.2**	**-0.3**
	baz=59						

*IDC **30** 12:30:36.9±1.1,30.°89S×71.°68W, h0km, mb3.9/4, mb1 3.9/5, mb1mx3.7/30, mbtmp3.8/5, ML3.8/1, MS3.4/8, Ms1 3.4/8, ms1mx3.2/19, Error ellipse: s-maj=47.3km s-min=28.9km az=81.0*

*NEIC **30** 12:30:39.1±1.8,30.°91S±0.°04×71.°91W±0.°05, h14km±4km, mb4.5/17, Mwr4.2/41, ML4.3(GUC), Error ellipse: s-maj=6.1km s-min=6.0km az=187.0*

*NEIC **30** 12:30:39.1,30.°91S×71.°91W, h32km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.12; $M_{\theta\theta}$0.42; $M_{\phi\phi}$-2.54; $M_{r\theta}$0.32; $M_{\theta\phi}$0.06; $M_{\phi r}$-0.12; Fault plane solution: $M_0$2.38000×10^{15} NP1:ϕ_s168.90000°, δ47.38000°, λ76.18000°. NP2:ϕ_s8.87000°, δ44.40000°, λ104.55000°. Principal axes: T 2.1768, Plg80.0000°, Azm7.0000°; N 0.3650, Plg10.0000°, Azm178.0000°; P -2.5418, Plg2.0000°, Azm269.0000°;*

*GUC **30** 12:30:40.6±0.6,30.°96S×71.°79W, h32km±6km, ML4.3*

ISC 30 12:30:39.9±1.3,30.°96S±0.°03×71.°84W±0.°06, h23km±9km, n71,σ1°22/68, mb4.4/10, MS3.8/3, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.33**	**31**		**Pb**	**12 30 48.5**	**+1.2**
CO02	**Combarbal**	**0.76**	**109**	⇓*i*P	**Pn**	**12 30 54.5**	**-0.8**
CO02				*i* S	**Sb**	**12 31 04.1**	**-0.2**
CO02	**Combarbal**	**0.76**	**109**		**Pb**	**12 30 54.9**	**+0.5**
CO03	**El Pedregal**	**0.99**	**83**	⇓*i*P	**Pn**	**12 30 57.9**	**-0.6**
CO03				*i* S	**Sn**	**12 31 10.6**	**-1.3**
CO03				IAML		12 31 13.0	
	comp=E,18μm,0.4s						
CO03	**El Pedregal**	**0.99**	**83**		**Pb**	**12 30 58.4**	**0.0**
CO05	**La Serena**	**1.16**	**27**	⇓*i*P	**Pn**	**12 31 00.8**	**+0.1**
CO05				*i* S	**Sb**	**12 31 15.6**	**-0.2**
CO05				IAML		12 31 18.2	
	comp=N,9μm,0.4s						
CO05	**La Serena**	**1.16**	**27**		**Pb**	**12 31 01.4**	**+0.2**
GO04	**Tololo Observa**	**1.19**	**49**	⇓*i*P	**Pn**	**12 31 01.1**	**-0.3**
GO04				*i* S	**Sn**	**12 31 16.0**	**-0.9**
GO04	**Tololo Observa**	**1.19**	**49**		**Pb**	**12 31 01.8**	**-0.1**
VA06	**Catapilco**	**1.66**	**164**	*i* S	**Sb**	**12 31 29.8**	**-0.4**
VA06				IAML		12 31 36.3	
	comp=N,5μm,0.3s						
VA01	**Torpederas**	**2.06**	**176**	*e*P	**Pb**	**12 31 16.3**	**-0.3**
VA01	**Torpederas**	**2.06**	**176**		**Pn**	**12 31 13.6**	**+0.4**
VA03	**San Esteban**	**2.10**	**149**	*e*P	**Pn**	**12 31 15.1**	**+1.3**
VA03				*i* S	**Sb**	**12 31 42.5**	**-0.6**
VA03				IAML		12 31 53.6	
	comp=E,3μm,0.5s						
VA03	**San Esteban**	**2.10**	**149**		**Pb**	**12 31 16.0**	**-1.4**
ROCH	**El Roble**	**2.12**	**161**	*e*P	**Pn**	**12 31 15.6**	**+1.4**
ROCH				*i* S	**Sb**	**12 31 42.8**	**-1.1**
ROCH				IAML		12 31 50.2	
	comp=N,2μm,0.3s						
LCO	**Las Campanas**	**2.18**	**27**	⇑*i*P	**Pn**	**12 31 15.4**	**+0.5**
LCO				*i* S	**Sn**	**12 31 41.5**	**+0.1**
LCO	**Las Campanas**	**2.18**	**27**		**Pn**	**12 31 15.6**	**+0.6**
PEL	**Peldehue**	**2.39**	**156**	⇑*i*P	**Pn**	**12 31 19.4**	**+1.7**
PEL				*e*S	**Sb**	**12 31 49.3**	**-1.9**
PEL				IAML		12 31 54.0	
	comp=N,1μm,0.3s						
MT05	**Renca**	**2.60**	**159**	*e*P	**Pn**	**12 31 22.4**	**+1.9**
MT05				*e*S	**Sb**	**12 31 54.2**	**-3.1**
MT05				IAML		12 32 05.9	
	comp=E,3μm,0.4s						
MT05	**Renca**	**2.60**	**159**		**Pn**	**12 31 22.0**	**+1.4**
VA05	**Santo Domingo**	**2.70**	**176**	IAML		12 32 09.1	
	comp=E,2μm,0.3s						
VA05	**Santo Domingo**	**2.70**	**176**		**Pn**	**12 31 23.0**	**+1.2**
AC04	**Llanos de Chal**	**2.83**	**14**	*e*P	**Pn**	**12 31 23.5**	**-0.2**
MT09	**Talagante**	**2.90**	**166**	*e*P	**Pn**	**12 31 26.6**	**+1.8**
MT09				*e*S	**Sn**	**12 32 01.5**	**+2.5**
MT09				IAML		12 32 15.3	
	comp=N,1μm,0.4s						
MT09	**Talagante**	**2.90**	**166**		**Pn**	**12 31 26.5**	**+1.8**
MT01	**Popeta**	**2.94**	**170**		**Pn**	**12 31 26.5**	**+1.3**
BO01	**Tunca**	**3.48**	**170**	*e*P	**Pn**	**12 31 34.4**	**+1.7**
BO01	**Tunca**	**3.48**	**170**		**Pn**	**12 31 34.5**	**+1.8**
BO02	**Sierra Bellavi**	**3.92**	**167**	*e*P	**Pn**	**12 31 40.6**	**+1.8**
BO02	**Sierra Bellavi**	**3.92**	**167**		**Pn**	**12 31 40.9**	**+2.1**
GO05	**Huala**	**4.04**	**181**		**Pn**	**12 31 40.5**	**+0.1**
ML02	**Panimavida**	**4.80**	**176**		**Pn**	**12 31 51.4**	**+0.6**
H03N1	**Juan Fernandez**	**6.49**	**246**	T	T	12 39 12.3	
	baz=73,slow=72,SNR=2072						
H03N3	**Juan Fernandez**	**6.50**	**246**	T	T	12 39 03.0	
	baz=73,slow=72,SNR=1568						
H03N2	**Juan Fernandez**	**6.50**	**246**	T	T	12 39 12.8	
	baz=73,slow=72,SNR=1773						
LC01	**Cunco**	**7.92**	**180**		**Pn**	**12 32 33.7**	**0.0**
LVC	**Limon Verde**	**8.72**	**18**	LR	LR	12 35 54.4	
	comp=N,231nm,18.6s,baz=210,slow=37						
PLCA	**Paso Flores**	**9.81**	**174**	Pn	**Pn**	**12 33 00.5**	**+1.0**
	comp=N,0.2nm,0.3s,baz=344,slow=18,SNR=2.2						
PLCA				LR	LR	12 36 54.8	
	comp=N,205nm,18.4s,baz=347,slow=38						
TRQA	**Tornquist**	**10.78**	**134**	Pn	**Pn**	**12 33 14.9**	**+2.1**
CPUP	**Villa Florida**	**13.54**	**74**	LR	LR	12 38 26.8	
	comp=N,36nm,21.5s,baz=241,slow=35						
PLTB	**Pedras Altas**	**15.60**	**98**	Pn	**Pn**	**12 34 18.2**	**-0.2**
SIV	**San Ignacio**	**17.85**	**36**	LR	LR	12 42 54.0	
	comp=N,166nm,22.0s,baz=273,slow=42						
NNA	**Nana**	**19.44**	**345**	LR	LR	12 40 38.4	
	comp=N,56nm,19.7s,baz=190,slow=31						
SPB	**Sao Paulo**	**22.87**	**77**	P	**P**	**12 35 41.5**	**-0.3**
SPB				IAmb	IAmb	12 35 51.2	
	comp=Z,22nm,1.4s						
BDFB	**Brasilia**	**26.58**	**60**	P	**P**	**12 36 16.1**	**-0.5**
PTGA	**Pitinga**	**32.10**	**23**	P	**P**	**12 37 04.7**	**-0.8**
PTGA				IAmb	IAmb	12 37 05.1	
	comp=Z,8.0nm,1.5s						
VA02	**Isla de Pascua**	**32.98**	**267**	P	**P**	**12 37 11.4**	**-1.7**
TUMC	**Tumaco**	**33.26**	**347**	P	**P**	**12 37 13.6**	**-2.0**
HOPE	**Hope Point**	**34.36**	**143**	P	**P**	**12 37 25.0**	**+0.2**
ROSC	**El Rosal**	**35.68**	**356**	P	**P**	**12 37 35.8**	**-1.2**
RUSC	**La Rusia**	**36.66**	**358**	P	**P**	**12 37 43.2**	**-2.3**
RUSC				IAmb	IAmb	12 37 48.8	
	comp=Z,12nm,1.1s						
SNAA	**Sanae**	**54.34**	**159**	P	**P**	**12 40 05.2**	**+1.0**
	comp=Z,2.6nm,0.7s,baz=270,slow=11,SNR=11						
QSPA	**South Pole Qui**	**59.27**	**180**	P	**P**	**12 40 40.7**	**+1.2**
QSPA				IAmb	IAmb	12 40 47.1	
	comp=Z,3.5nm,1.4s						
SHEL	**Horse Pasture**	**61.65**	**92**	P	**P**	**12 40 57.1**	**+0.7**
HKT	**Hockley**	**64.73**	**337**	P	**P**	**12 41 16.1**	**-0.1**
HKT				IAmb	IAmb	12 41 28.2	
	comp=Z,3.6nm,0.8s						
TXAR	**Lajitas Array**	**67.18**	**330**	P	**P**	**12 41 34.1**	**+1.9**
	comp=Z,0.1nm,0.5s,baz=154,slow=9.0,SNR=2.1						
LCAR	**Lake Charles**	**69.10**	**343**	P	**P**	**12 41 43.5**	**-0.4**
LCAR				IAmb	IAmb	12 41 59.2	
	comp=Z,3.4nm,1.1s						
R40A	**Maddies Statio**	**71.48**	**343**	P	**P**	**12 41 58.4**	**-0.1**
DBIC	**Dimbokro**	**74.06**	**72**	P	**P**	**12 42 14.5**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=232,slow=8.5,SNR=5.1						
DBIC				LR	LR	13 12 20.0	
	comp=Z,49nm,19.8s,baz=179,slow=34						
DBIC	**Dimbokro**	**74.06**	**72**	P	**P**	**12 42 14.7**	**+0.3**
DBIC				IAmb	IAmb	12 42 25.0	
	comp=Z,10nm,1.2s						
MOQ	**Mont Orford**	**75.91**	**360**	P	**P**	**12 42 24.2**	**-0.2**
MAW	**Mawson**	**76.04**	**164**	LR	LR	13 18 44.7	
	comp=Z,36nm,18.2s,baz=234,slow=38						
TORD	**Torodi Ar. Bea**	**83.02**	**70**	P	**P**	**12 43 04.1**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=258,slow=5.0,SNR=2.3						
CASY	**Casey**	**83.06**	**181**	P	**P**	**12 43 04.9**	**+1.8**
ESDC	**Sonseca Array**	**94.34**	**46**	LR	LR	13 26 10.3	
	comp=Z,31nm,18.7s,baz=285,slow=35						
WRA	**Warramunga Arr**	**123.49**	**210**	PKP	**PKiKP**	**12 49 36.0**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=157,slow=1.7,SNR=8.2						
H11S2	**WAKE ISLAND Hyd**	**125.93**	**271**	T	T	15 08 23.9	
	baz=116,slow=75,SNR=112						
H11S1	**WAKE ISLAND Hyd**	**125.94**	**271**	T	T	15 08 26.0	
	baz=116,slow=75,SNR=104						
H11S3	**WAKE ISLAND Hyd**	**125.95**	**271**	T	T	15 08 22.3	
	baz=116,slow=75,SNR=151						
ZALV	**Zalesovo Beam**	**151.53**	**29**	PKPbc	**PKPbc**	**12 50 30.6**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=292,slow=3.9,SNR=4.9						
ZALV	**Zalesovo Beam**	**151.53**	**29**		**PKiKP**	**12 50 32.0**	**0.0**

NOU 30 12:33:32.1,37.°64S×177.°06E, h219km, mb3.6/9, Off E. Coast of N. Island, N.Z., Off east coast of North Island

*TAP **30** 12:35:13.6,24.°33N×122.°93E, h42km, ML4.2, D*

*JMA **30** 12:35:13.5±0.1,24.°38N×122.°98E, h49km±1km, M3.6*

JMA Felt I J1

ISC 30 12:35:14.0±1.2,24.°29N±0.°03×122.°98E±0.°02, h42km±8km, n124,σ1°35/244, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.17**	**8**	P	**Pn**	**12 35 21.2**	**-0.1**
YOJ				S	**Sn**	**12 35 26.5**	**0.0**
YOJ	**Yonaguni jima**	**0.17**	**8**	P	**Pn**	**12 35 21.2**	**-0.1**
	baz=25						
YOJ				S	**Sn**	**12 35 26.4**	**0.0**
	baz=25						
IRIF	**Iriomote-Funau**	**0.68**	**86**	P	**Pn**	**12 35 26.9**	**-0.3**
IRIF				S	**Sn**	**12 35 37.1**	**+0.4**
HATJ	**Hateruma jima**	**0.79**	**107**	P	**Pn**	**12 35 28.6**	**0.0**
HATJ				S	**Sn**	**12 35 40.9**	**+1.7**
JKRS	**Kuro-shima**	**0.94**	**93**	P	**Pn**	**12 35 31.0**	**+0.3**
JKRS				S	**Sn**	**12 35 43.4**	**+0.5**
JIJ	**Ishigaki jima**	**1.06**	**86**	P	**Pn**	**12 35 31.8**	**-0.6**
JIJ				S	**Sn**	**12 35 45.5**	**-0.4**
EWUT	**Wuta**	**1.11**	**278**	P	**Pn**	**12 35 32.3**	**-0.7**
	baz=287						
EWUT				S	**Sn**	**12 35 46.1**	**-1.0**
	baz=287						
EHP	**Heping Village**	**1.13**	**271**	*e*P	**Pn**	**12 35 33.1**	**-0.2**
	baz=280						
EHP				*e*S	**

TWY	**Chenhua**	**1.59 308**	P	**Pn**	**12 35 39.6**	**-0.1**
	baz=309							
TWY			S	**Sn**	**12 35 57.8**	**-1.2**
	baz=309							
ANP	**Anpu**	**1.60 304**	P	**Pn**	**12 35 39.5**	**-0.3**
	baz=304							
ANP			*e*S	**Sn**	**12 35 58.2**	**-1.2**
	baz=304							
JTJ	**Tarama**	**1.60 77**	P	**Pn**	**12 35 40.0**	**+0.2**
JTJ			S	**Sn**	**12 35 58.8**	**-0.5**
HGSD	**Ruisui**	**1.63 241**	P	**Pn**	**12 35 39.0**	**-1.2**
	baz=239							
HGSD			S	**Sn**	**12 35 57.6**	**-2.4**
	baz=239							
TWS1	**Kuangyinshan**	**1.64 300**	P	**Pn**	**12 35 39.8**	**-0.5**
	baz=300							
TWS1			S	**Sn**	**12 35 59.2**	**-0.9**
	baz=300							
NTST	**Danshui**	**1.64 302**	*e*P	**Pn**	**12 35 40.0**	**-0.3**
	baz=302							
NTST			*e*S	**Sn**	**12 35 59.6**	**-0.7**
	baz=302							
TWT	**Tachien**	**1.65 269**	P	**Pn**	**12 35 41.7**	**+1.1**
	baz=268							
TWT			*e*S	**Sn**	**12 36 01.1**	**+0.4**
	baz=268							
TDCB	**Techi**	**1.67 269**	P	**Pn**	**12 35 41.2**	**+0.4**
	baz=268							
TDCB			*e*S	**Sn**	**12 36 00.5**	**-0.6**
	baz=268							
CHGB	**Renai**	**1.67 262**	P	**Pn**	**12 35 40.7**	**-0.2**
	baz=249							
CHGB			S	**Sn**	**12 36 00.9**	**-0.3**
	baz=249							
OWD	**Renai**	**1.69 259**	*i* P	**Pn**	**12 35 40.8**	**-0.3**
	baz=257							
OWD			S	**Sn**	**12 36 00.8**	**-0.7**
	baz=257							
EHY	**Hungye**	**1.71 243**	P	**Pn**	**12 35 40.3**	**-1.0**
	baz=254							
EHY			*e*S	**Sn**	**12 36 01.8**	**-0.2**
	baz=254							
NCU	**National Centr**	**1.77 293**	*e*P	**Pn**	**12 35 41.9**	**-0.2**
	baz=304							
NCU			*e*S	**Sn**	**12 36 02.4**	**-0.9**
	baz=304							
NCUH	**Zhongli**	**1.77 293**	*e*P	**Pn**	**12 35 42.0**	**-0.1**
	baz=304							
NCUH			*e*S	**Sn**	**12 36 02.7**	**-0.7**
	baz=304							
YULB	**Yu-li**	**1.78 240**	*i* P	**Pn**	**12 35 41.4**	**-0.9**
	baz=252							
YULB			S	**Sn**	**12 36 02.3**	**-1.4**
	baz=252							
EYUL	**Yuli**	**1.79 239**	P	**Pn**	**12 35 41.7**	**-0.6**
	baz=236							
EYUL			S	**Sn**	**12 36 03.0**	**-0.9**
	baz=236							
NSTT	**Nanjuang**	**1.84 281**	*e*P	**Pn**	**12 35 43.3**	**+0.2**
	baz=293							
NSTT			*e*S	**Sn**	**12 36 06.5**	**+1.4**
	baz=293							
WHP	**Taichung City**	**1.86 270**	P	**Pn**	**12 35 44.8**	**+1.4**
	baz=269							
WHP			S	**Sn**	**12 36 06.6**	**+0.8**
	baz=269							
SBCB	**Hsinchu**	**1.89 286**	*e*P	**Pn**	**12 35 43.5**	**-0.2**
	baz=286							
SBCB			*e*S	**Sn**	**12 36 06.1**	**-0.2**
	baz=286							
FULB	**Fuli**	**1.89 235**	P	**Pn**	**12 35 42.4**	**-1.4**
	baz=223							
FULB			S	**Sn**	**12 36 04.1**	**-2.4**
	baz=223							
CHKT	**Chengkung**	**1.90 232**	P	**Pn**	**12 35 42.3**	**-1.5**
	baz=218							
CHKT			S	**Sn**	**12 36 03.5**	**-3.1**
	baz=218							
WCS	**Beigang Elemen**	**1.91 263**	P	**Pn**	**12 35 44.4**	**+0.5**
	baz=253							
WCS			*e*S	**Sn**	**12 36 07.2**	**+0.5**
	baz=253							
SSLB	**Suanglung**	**1.92 255**	P	**Pn**	**12 35 44.1**	**-0.1**
	baz=254							
SSLB			*e*S	**Sn**	**12 36 06.4**	**-0.8**
	baz=254							
SMLT	**Sun Moon Lake**	**1.95 258**	P	**Pn**	**12 35 44.6**	**0.0**
	baz=257							
SMLT			S	**Sn**	**12 36 07.5**	**-0.4**
	baz=257							
TYC	**Yuchr**	**1.98 259**	P	**Pn**	**12 35 45.4**	**+0.4**
	baz=247							
TYC			*e*S	**Sn**	**12 36 08.2**	**-0.4**
	baz=247							
NMLH	**Miaoli**	**2.01 277**	*e*P	**Pn**	**12 35 46.8**	**+1.3**
	baz=277							
NMLH			*e*S	**Sn**	**12 36 11.0**	**+1.6**
	baz=277							
TWQ1	**Liyutan**	**2.02 272**	*e*P	**Pn**	**12 35 46.9**	**+1.4**
	baz=271							
TWQ1			*e*S	**Sn**	**12 36 08.9**	**-0.6**
	baz=271							
EDH	**Donghe**	**2.02 230**	P	**Pn**	**12 35 44.1**	**-1.5**
	baz=219							
EDH			*e*S	**Sn**	**12 36 06.5**	**-3.1**
	baz=219							
YUS	**Yu-Shan**	**2.02 247**	P	**Pn**	**12 35 45.8**	**-0.3**
	baz=245							
NSY	**Sanyi**	**2.03 274**	*e*P	**Pn**	**12 35 47.0**	**+1.3**
	baz=273							
NSY			*e*S	**Sn**	**12 36 12.2**	**+2.3**
	baz=273							
WHYT	**Xinyi Township**	**2.04 254**	P	**Pn**	**12 35 46.3**	**+0.5**
	baz=242							
WHYT			S	**Sn**	**12 36 09.4**	**-0.6**
	baz=242							
JIRB	**Irabujima**	**2.06 75**	P	**Pn**	**12 35 46.2**	**+0.1**
JIRB			*e*S	**Sn**	**12 36 10.4**	**-0.2**
ELDTW	**Lidau**	**2.11 239**	P	**Pn**	**12 35 45.8**	**-1.0**
	baz=237							
ELDTW			S	**Sn**	**12 36 10.6**	**-1.4**
	baz=237							
TCU	**Taichung**	**2.11 267**	*e*P	**Pn**	**12 35 48.8**	**+2.0**
	baz=279							
TCU			*e*S	**Sn**	**12 36 13.8**	**+2.0**
	baz=279							
WJS	**Zhushan**	**2.11 258**	*e*P	**Pn**	**12 35 48.6**	**+1.8**
	baz=256							
WJS			*e*S	**Sn**	**12 36 14.4**	**+2.5**
	baz=256							
LDUT	**Ludao**	**2.13 221**	P	**Pn**	**12 35 45.2**	**-1.8**
	baz=210							
LDUT			S	**Sn**	**12 36 08.3**	**-3.9**
	baz=210							
WDJ	**Dajia District**	**2.14 272**	*e*P	**Pn**	**12 35 48.4**	**+1.2**
	baz=271							
WDJ			*e*S	**Sn**	**12 36 14.5**	**+2.0**
	baz=271							
ALS	**Alishan**	**2.14 249**	P	**Pn**	**12 35 47.9**	**+0.4**
	baz=247							
ALS			*e*S	**Sn**	**12 36 11.7**	**-1.2**
	baz=247							
WNT	**Mingjian**	**2.14 259**	P	**Pn**	**12 35 48.7**	**+1.5**
	baz=246							
WNT			*e*S	**Sn**	**12 36 14.9**	**+2.4**
	baz=246							
LONT	**Longtian**	**2.19 231**	*e*P	**Pn**	**12 35 47.0**	**-0.8**
	baz=241							
LONT			*e*S	**Sn**	**12 36 12.8**	**-1.0**
	baz=241							
CHN5	**Tsauling**	**2.22 252**	P	**Pn**	**12 35 49.4**	**+1.1**
	baz=241							
CHN5			S	**Sn**	**12 36 15.2**	**+0.5**
	baz=241							
WCHH	**Zhanghua**	**2.22 265**	*e*P	**Pn**	**12 35 49.2**	**+0.8**
	baz=264							
WCHH			*e*S	**Sn**	**12 36 15.4**	**+0.8**
	baz=264							
TTN	**Taitung**	**2.28 228**	*e*P	**Pn**	**12 35 49.5**	**+0.5**
	baz=216							
TTN			*e*S	**Sn**	**12 36 14.9**	**-0.9**
	baz=216							
TWGBT	**Beinan**	**2.28 230**	*e*P	**Pn**	**12 35 48.9**	**-0.2**
	baz=240							
TWGBT			*e*S	**Sn**	**12 36 14.2**	**-1.8**
	baz=240							
TWG	**Pinlang**	**2.28 231**	*e*P	**Pn**	**12 35 48.9**	**-0.3**
	baz=240							
TWG			*e*S	**Sn**	**12 36 15.1**	**-1.0**
	baz=240							
STYH	**Taoyuan**	**2.31 242**	P	**Pn**	**12 35 49.7**	**+0.2**
	baz=232							
STYH			S	**Sn**	**12 36 15.7**	**-1.0**
	baz=232							
WDLH	**Douliu**	**2.31 256**	P	**Pn**	**12 35 51.0**	**+1.4**
	baz=243							
WDLH			*e*S	**Sn**	**12 36 18.7**	**+1.9**
	baz=243							
TPUB	**Ta-pu**	**2.37 246**	P	**Pn**	**12 35 51.5**	**+1.1**
	baz=244							
TPUB			*e*S	**Sn**	**12 36 19.3**	**+1.0**
	baz=244							
WTP	**Ta-pu**	**2.41 245**	P	**Pn**	**12 35 52.0**	**+1.1**
	baz=243							
WTP			*e*S	**Sn**	**12 36 20.7**	**+1.6**
	baz=243							
WRL	**Guolierlin Hig**	**2.41 261**	*e*P	**Pn**	**12 35 51.7**	**+0.8**
	baz=260							
WRL			*e*S	**Sn**	**12 36 21.2**	**+2.0**
	baz=260							
CHN2	**Minshiung**	**2.42 252**	*e*P	**Pn**	**12 35 52.5**	**+1.6**
	baz=250							
CHN2			*e*S	**Sn**	**12 36 21.9**	**+2.6**
	baz=250							
WTK	**Tuku**	**2.45 256**	*e*P	**Pn**	**12 35 52.5**	**+1.1**
	baz=244							
WTK			*e*S	**Sn**	**12 36 21.3**	**+1.2**
	baz=244							
CHY	**Chiayi**	**2.47 252**	*e*P	**Pn**	**12 35 53.2**	**+1.5**
	baz=250							
CHY			*e*S	**Sn**	**12 36 23.0**	**+2.3**
	baz=250							
SLGT	**Liugui**	**2.50 239**	P	**Pn**	**12 35 53.1**	**+0.9**
	baz=230							
SLGT			*e*S	**Sn**	**12 36 23.9**	**+2.4**
	baz=230							
TWK	**Hsinying**	**2.50 246**	P	**Pn**	**12 35 53.4**	**+1.2**
	baz=244							
TWK			*e*S	**Sn**	**12 36 22.1**	**+0.5**
	baz=244							
CHN1	**Nanshi**	**2.50 244**	P	**Pn**	**12 35 53.5**	**+1.3**
	baz=242							
CHN1			S	**Sn**	**12 36 23.7**	**+2.2**
	baz=242							
WTCT	**Ta-ch'eng**	**2.51 261**	*e*P	**Pn**	**12 35 53.4**	**+1.2**
	baz=260							
WTCT			*e*S	**Sn**	**12 36 23.1**	**+1.6**
	baz=260							
SGST	**Jiashian**	**2.51 242**	*e*P	**Pn**	**12 35 52.6**	**+0.4**
	baz=239							
SGST			*e*S	**Sn**	**12 36 22.0**	**+0.4**
	baz=239							
ECL	**Taimali**	**2.51 228**	*e*P	**Pn**	**12 35 51.6**	**-0.7**
	baz=236							
ECL			*e*S	**Sn**	**12 36 20.1**	**-1.6**
	baz=236							
SNST	**Tainan City**	**2.52 245**	P	**Pn**	**12 35 54.1**	**+1.8**
	baz=243							
SNST			S	**Sn**	**12 36 23.8**	**+2.0**
	baz=243							
LAY	**Lan-yu**	**2.60 211**	*e*P	**Pn**	**12 35 52.5**	**-1.0**
	baz=208							
LAY			*e*S	**Sn**	**12 36 21.5**	**-2.4**
	baz=208							
WSF	**Szhu**	**2.61 256**	*e*P	**Pn**	**12 35 55.5**	**+1.9**
	baz=269							
WSF			*e*S	**Sn**	**12 36 26.4**	**+2.3**
	baz=269							
ICHU	**Yijhu**	**2.64 250**	*e*P	**Pn**	**12 35 55.4**	**+1.3**
	baz=248							
ICHU			*e*S	**Sn**	**12 36 26.0**	**+1.1**
	baz=248							
SSD	**Sandimen**	**2.65 235**	*e*P	**Pn**	**12 35 54.6**	**+0.4**
	baz=228							
SSD			*e*S	**Sn**	**12 36 24.7**	**-0.4**
	baz=228							
TSMG	**Majia**	**2.66 234**	*e*P	**Pn**	**12 35 54.8**	**+0.4**
	baz=228							
TSMG			*e*S	**Sn**	**12 36 25.0**	**-0.4**
	baz=228							
SCST	**Cishan**	**2.68 239**	*e*P	**Pn**	**12 35 56.9**	**+2.3**
	baz=250							
SCST			*e*S	**Sn**	**12 36 29.5**	**+3.7**
	baz=250							
CHN3	**Shinhua**	**2.69 244**	*e*P	**Pn**	**12 35 56.9**	**+2.2**
	baz=242							
CHN3			*e*S	**Sn**	**12 36 29.0**	**+3.0**
	baz=242							
CHN8	**Yiju**	**2.71 250**	*e*P	**Pn**	**12 35 56.0**	**+1.0**
	baz=248							
CHN8			*e*S	**Sn**	**12 36 28.0**	**+1.5**
	baz=248							
TAW	**Tawu**	**2.72 225**	*e*P	**Pn**	**12 35 54.9**	**-0.2**
	baz=231							
TAW			*e*S	**Sn**	**12 36 25.7**	**-1.0**
	baz=231							
MASBT	**Mashibuluo**	**2.73 233**	*e*S	**Sn**	**12 36 28.1**	**+1.0**
	baz=222							
EAST	**Anshuo**	**2.73 226**	*e*P	**Pn**	**12 35 54.5**	**-0.9**
	baz=232							
EAST			*e*S	**Sn**	**12 36 25.7**	**-1.4**
	baz=232							
SGLT	**Jiouru**	**2.77 236**	*e*P	**Pn**	**12 35 58.1**	**+2.3**
	baz=234							
SGLT			*e*S	**Sn**	**12 36 30.8**	**+2.8**
	baz=234							
SCLT	**Jiali**	**2.79 247**	*e*P	**Pn**	**12 35 57.6**	**+1.5**
	baz=245							
SCLT			*e*S	**Sn**	**12 36 30.7**	**+2.3**
	baz=245							
SSPT	**Xinbi**	**2.86 231**	*e*P	**Pn**	**12 35 57.8**	**+0.7**
	baz=225							
SSPT			*e*S	**Sn**	**12 36 30.4**	**+0.2**
	baz=225							
SNJT	**Kaohsiung City**	**2.87 238**	*e*P	**Pn**	**12 36 00.3**	**+3.1**
	baz=236							
SNJT			*e*S	**Sn**	**12 36 35.1**	**+4.5**
	baz=236							
SLIU	**Shizi**	**2.88 225**	*e*P	**Pn**	**12 35 57.8**	**+0.4**
	baz=213							
SLIU			*e*S	**Sn**	**12 36 30.8**	**0.0**
	baz=213							
SCZT	**Fangliau**	**2.89 229**	*e*P	**Pn**	**12 35 57.7**	**+0.2**
	baz=220							
SCZT			*e*S	**Sn**	**12 36 30.3**	**-0.8**
	baz=220							
TSEB	**Hengchuen, Pin**	**3.06 219**	*e*P	**Pn**	**12 36 00.9**	**+1.2**
	baz=217							
TSEB			*e*S	**Sn**	**12 36 36.2**	**+1.1**
	baz=217							
HEN	**Hengchun**	**3.07 223**	*e*P	**Pn**	**12 36 00.5**	**+0.5**
	baz=220							
HEN			*e*S	**Sn**	**12 36 35.5**	**0.0**
	baz=220							
WLCH	**Liuqiu**	**3.08 232**	*e*P	**Pn**	**12 36 03.6**	**+3.5**
	baz=245							
WLCH			*e*S	**Sn**	**12 36 40.8**	**+5.2**
	baz=245							
TWKBT	**Hengchun**	**3.08 221**	*e*P	**Pn**	**12 36 00.7**	**+0.7**
	baz=218							
TWKBT			*e*S	**Sn**	**12 36 35.2**	**-0.4**
	baz=218							
TWK1	**Hengchun**	**3.08 221**	*e*P	**Pn**	**12 36 00.5**	**+0.4**
	baz=218							
TWK1			*e*S	**Sn**	**12 36 34.9**	**-0.8**
	baz=218							
PHUB	**P'eng-hu**	**3.22 257**	*e*P	**Pn**	**12 36 01.9**	**-0.1**
	baz=256							
PHUB			*e*S	**Sn**	**12 36 37.9**	**-1.2**
	baz=256							
PNG	**Penghu**	**3.22 258**	*e*P	**Pn**	**12 36 02.1**	**+0.1**
	baz=257							
PNG			*e*S	**Sn**	**12 36 38.5**	**-0.5**
	baz=257							
MATB	**Ma-tsu**	**3.32 305**	*e*P	**Pn**	**12 36 04.0**	**+0.6**
	baz=304							
MATB			*e*S	**Sn**	**12 36 40.8**	**-0.8**
	baz=304							
VCHM	**Qimei**	**3.43 252**	*e*P	**Pn**	**12 36 05.0**	**+0.1**
	baz=251							
VCHM			*e*S	**Sn**	**12 36 43.8**	**-0.5**
	baz=251							
PTMZ	**Houxiangcun**	**3.59 283**	*e*P	**Pn**	**12 36 07.5**	**+0.3**
	baz=283							
PTMZ			*e*S	**Sn**	**12 36 47.5**	**-0.8**
	baz=283							
XPSS	**Dashiqiu**	**3.64 317**	*e*P	**Pn**	**12 36 09.0**	**+1.2**
	baz=309							
XPSS			*e*S	**Sn**	**12 36 49.9**	**+0.3**
	baz=309							
LYJJ	**Jianjiangzhen**	**3.68 308**	*e*P	**Pn**	**12 36 09.6**	**+1.2**
	baz=309							
LYJJ			*e*S	**Sn**	**12 36 50.0**	**-0.5**
	baz=309							
KNM	**Kinmen**	**4.15 273**	*e*P	**Pn**	**12 36 17.1**	**+2.3**
	baz=273							
KNM			*e*S	**Sn**	**12 37 04.6**	**+2.5**
	baz=273							
KNMB	**Chin-men Tao**	**4.19 273**	*e*P	**Pn**	**12 36 15.9**	**+0.5**
	baz=274							
KNMB			*e*S	**Sn**	**12 37 02.7**	**-0.5**
	baz=274							
AXDP	**Jialang**	**4.60 279**	*e*P	**Pn**	**12 36 20.8**	**-0.3**
	baz=279							
AXDP			*e*S	**Sn**	**12 37 11.3**	**-1.9**
	baz=279							
ZPLA	**Ao Xicun**	**4.79 267**	*e*P	**Pn**	**12 36 24.2**	**+0.6**
	baz=257							
ZPLA			*e*S	**Sn**	**12 37 16.2**	**-1.7**
	baz=257							
APYP	**Conner**	**6.60 195**	*e*S	**Sn**	**12 37 58.9**	**-3.6**
APYP	**Conner**	**6.60 195‖**	*e*P	**Pn**	**12 36 48.6**	**+0.2**

*NEIC **30** 12:46:44.8±1.5, 17°.3S±0°.2×178°.9W±0°.1, h532km±9km, mb4.1/24, Error ellipse: s-maj=26.3km s-min=16.2km az=147.0*

*IDC **30** 12:46:47.5±1.8, 17°.33S×179°.06W, h567km±18km, mb3.3/7, mb1 3.6/9, mb1mx3.1/39, mbtmp4.2/9, Error ellipse: s-maj=76.6km s-min=15.8km az=150.0*

ISC 30 12:46:45.6±0.6, 17°.3S±0°.2×178°.9W±0°.1, h550km, n45, σ1§18/45, mb4.1/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.92**	**262**	P	**P**	**12 48 03.1**	**+2.9**
	3.0nm,0.3s,baz=85,slow=3.4,SNR=20						
MSVF	**Nonsavu**	**2.92**	**262**	P	**P**	**12 47 58.7**	**-1.6**
AFI	**Afiamalu**	**7.67**	**65**	P	**P**	**12 48 37.5**	**-2.7**
	4.7nm,0.3s,baz=91,slow=7.8,SNR=7.6						
AFI	**Afiamalu**	**7.67**	**65**	P	**P**	**12 48 37.4**	**-2.9**
MARNC	**Mare, Loyalty**	**12.99**	**249**	P	**P**	**12 49 32.9**	**-1.4**
PINNC	**Pines Island,**	**13.85**	**246**	P	**P**	**12 49 43.3**	**+0.1**
DZM	**Mont Dzumac**	**14.57**	**249**	P	**P**	**12 49 49.7**	**-1.1**
	0.4nm,0.3s,baz=73,slow=20,SNR=2.6						
OUZ	**Omahuta**	**19.02**	**199**	P	**P**	**12 50 31.6**	**-1.0**
NNZ	**Nelson**	**24.70**	**194**	P	**P**	**12 51 24.2**	**+0.7**
ARMA	**Armidale**	**29.82**	**239**	P	**P**	**12 52 08.4**	**-0.3**
ARMA				IAmb	IAmb	12 52 09.1	
	comp=Z,4.5nm,0.7s						
CTAO	**Charters Tower**	**33.07**	**260**	P	**P**	**12 52 36.8**	**+0.4**
CTAO				IAmb	IAmb	12 52 41.8	
	comp=Z,7.1nm,1.1s						
CAN	**Canberra**	**33.67**	**232**	P	**P**	**12 52 40.6**	**-0.7**
COEN	**Coen**	**36.62**	**270**	P	**P**	**12 53 07.6**	**+1.5**
TOO	**Toolangi**	**37.16**	**230**	P	**P**	**12 53 09.5**	**-0.7**
TOO				IAmb	IAmb	12 53 10.0	
	comp=Z,9.6nm,0.9s						
STKA	**Stephens Creek**	**38.49**	**240**	P	**P**	**12 53 20.7**	**-0.3**
	comp=Z,2.8nm,0.5s,baz=73,slow=9.0,SNR=8.6						
STKA	**Stephens Creek**	**38.49**	**240**	P	**P**	**12 53 20.8**	**-0.2**
BBOO	**Buckleboo**	**43.26**	**240**	P	**P**	**12 53 58.2**	**-0.8**
BBOO				IAmb	IAmb	12 53 58.8	
	comp=Z,7.3nm,0.8s						
WR0	**Warramunga Arr**	**44.08**	**259**	P	**P**	**12 54 05.6**	**+0.2**
WB0	**Warramunga Arr**	**44.23**	**259**	P	**P**	**12 54 06.8**	**+0.1**
WB0				IAmb	IAmb	12 54 33.4	
	comp=Z,7.4nm,1.2s						
WB2	**Warramunga Arr**	**44.25**	**259**	P	**P**	**12 54 06.1**	**-0.8**
WB2				IAmb	IAmb	12 54 33.9	
	comp=Z,7.5nm,1.4s						
WRA	**Warramunga Arr**	**44.27**	**259**	P	**P**	**12 54 06.2**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=97,slow=7.0,SNR=34						
WRA	**Warramunga Arr**	**44.27**	**259**	P	**P**	**12 54 06.3**	**-0.7**
AS31	**Alice Springs**	**44.48**	**254**	P	**P**	**12 54 08.4**	**-0.2**
AS31				IAmb	IAmb	12 54 08.9	
	comp=Z,4.9nm,0.6s						
ASAR	**Alice Springs**	**44.49**	**254**	P	**P**	**12 54 08.3**	**-0.3**
	comp=Z,16nm,0.6s,baz=88,slow=8.2,SNR=278						
ASAR	**Alice Springs**	**44.49**	**254**	P	**P**	**12 54 08.4**	**-0.2**
FORT	**Forrest**	**49.82**	**244**	P	**P**	**12 54 47.3**	**-1.2**
KNRA	**Kununurra**	**50.07**	**264**	P	**P**	**12 54 50.0**	**-0.6**
KNRA				IAmb	IAmb	12 54 55.6	
	comp=Z,24nm,1.5s						
FITZ	**Fitzroy Crossi**	**52.65**	**260**	P	**P**	**12 55 09.7**	**+0.5**
BEKR	**Beckworth**	**78.79**	**42**	P	**P**	**12 57 52.9**	**+0.9**
YERR	**Yerington**	**79.03**	**43**	P	**P**	**12 57 54.3**	**+1.0**
NVAR	**Mina Array Bea**	**79.35**	**44**	P	**P**	**12 57 55.8**	**+0.8**
	comp=Z,9.9nm,0.8s,baz=225,slow=8.7,SNR=6.5						
U15A	**North Rim**	**82.50**	**48**	P	**P**	**12 58 12.0**	**+0.7**
U15A				IAmb	IAmb	12 58 13.9	
	comp=Z,4.1nm,1.3s						
K20K	**Telida**	**82.74**	**11**	P	**P**	**12 58 12.5**	**+0.9**
K20K				IAmb	IAmb	12 58 13.4	
	comp=Z,3.5nm,0.8s						
GLB	**Gilahina Butte**	**83.35**	**16**	P	**P**	**12 58 15.3**	**+0.6**
GLB				IAmb	IAmb	12 58 42.6	
	comp=Z,21nm,1.5s						
PMSA	**Palmer Station**	**84.52**	**157**	P	**P**	**12 58 22.8**	**+2.3**
CCB	**Clear Creek Bu**	**85.14**	**13**	P	**P**	**12 58 23.8**	**+0.4**
CCB				IAmb	IAmb	12 58 25.6	
	comp=Z,2.3nm,1.0s						
IMAR	**Indian Mountai**	**85.21**	**10**	P	**P**	**12 58 24.8**	**+1.1**
ILAR	**Eielson Array**	**85.44**	**13**	P	**P**	**12 58 24.9**	**0.0**
	comp=Z,0.3nm,0.4s,baz=225,slow=5.0,SNR=9.2						
TXAR	**Lajitas Array**	**86.10**	**58**	P	**P**	**12 58 29.9**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=222,slow=5.9,SNR=10.0						
TXAR	**Lajitas Array**	**86.10**	**58**	P	**P**	**12 58 30.5**	**+1.5**
PDAR	**Pinedale Array**	**87.27**	**44**	P	**P**	**12 58 34.5**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=210,slow=3.4,SNR=7.3						
PDAR	**Pinedale Array**	**87.27**	**44**	P	**P**	**12 58 34.9**	**+0.6**
BMAR	**Burnt Mountain**	**88.21**	**13**	P	**P**	**12 58 38.5**	**+0.7**
GERES	**GERESS Array B**	**146.94**	**345**	PKPbc	**PKiKP**	**13 05 27.1**	**-1.5**
	comp=Z,0.7nm,0.4s,baz=46,slow=3.9,SNR=4.2						
GERES	**GERESS Array B**	**146.94**	**345**		**PKiKP**	**13 05 27.4**	**-1.2**

*DJA **30** 12:56:28.9±0.5, 2°.N±5°×122°.7E±°, h125km±8km, M4.1/6, mB4.8/1, mb4.1/2, MLv4.1/6, Mw(mB)4.0/1*

*IDC **30** 12:56:34.7±5.4, 2°.73N×128°.58E, h52km±51km, mb3.6/6, mb1 3.8/7, mb1mx3.5/40, mbtmp3.9/7, ML4.1/1, MS3.4/2, Ms1 3.4/2, ms1mx2.7/33, Error ellipse: s-maj=75.4km s-min=19.7km az=76.0*

*NEIC **30** 12:56:35.4±1.4, 2°.7N±0°.1×128°.3E±0°.1, h60km±6km, mb4.1/12, Error ellipse: s-maj=17.9km s-min=13.2km az=59.0*

ISC 30 12:56:32.7±0.8, 2°.77N±0°.09×128°.42E±0°.08, h35km, n30, σ1§04/30, mb4.1/10, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAMI	**Galela, Maluku**	**1.11**	**214**	P	**Pn**	**12 56 50.8**	**-1.1**
GAMI				S	**Sn**	**12 57 06.9**	**+0.9**
TNTI	**Ternate**	**2.24**	**208**		**Pn**	**12 57 09.1**	**+1.7**
SWI	**Sorong**	**4.59**	**142**	P	**Pn**	**12 57 42.1**	**+2.4**
SIJI	**Sorong**	**4.60**	**142**	P	**Pn**	**12 57 41.0**	**+1.2**
	10.0nm,0.3s,baz=279,slow=23,SNR=27						
SIJI				S	**Sn**	**12 58 30.8**	**-1.2**
	2.5nm,0.3s,baz=197,slow=23,SNR=5.9						
SIJI	**Sorong**	**4.60**	**142**	P	**Pn**	**12 57 40.7**	**+0.9**
FAKI	**Fak Fak**	**6.82**	**146**	Pn	**Pn**	**12 58 12.5**	**+2.1**
FAKI	**Fak Fak**	**6.82**	**146**	P	**Pn**	**12 58 09.3**	**-1.1**
TOLI2	**Tolitoli**	**7.81**	**258**		**Pn**	**12 58 24.1**	**+0.2**
MTN	**Manton Dam**	**15.74**	**170**	Pn	**Pn**	**13 00 13.4**	**+1.5**
KNRA	**Kununurra**	**18.33**	**179**	P	**Pn**	**13 00 44.6**	**+0.3**
KNRA

	comp=Z,3.6nm,0.6s,baz=345,slow=10,SNR=45						
WRA	**Warramunga Arr**	**23.30**	**166**	P	**P**	**13 01 36.6**	**-1.1**
WB2	**Warramunga Arr**	**23.31**	**166**	P	**P**	**13 01 37.5**	**-0.2**
WB2				IAmb	IAmb	13 01 39.6	
	comp=Z,5.3nm,0.6s						
WR0	**Warramunga Arr**	**23.37**	**165**	P	**P**	**13 01 38.1**	**-0.3**
PSA00	**Pilbara Seismi**	**25.60**	**199**	P	**P**	**13 01 57.9**	**-1.0**
PSA00				IAmb	IAmb	13 02 22.1	
	comp=Z,9.5nm,1.8s						
ASAR	**Alice Springs**	**26.81**	**169**	P	**P**	**13 02 09.6**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=357,slow=8.3,SNR=11						
ASAR				PcP	**PcP**	**13 05 31.4**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=352,slow=2.1,SNR=8.2						
JHJ	**Hachijo jima 2**	**32.02**	**18**	LR	LR	13 14 55.9	
	comp=Z,138nm,18.9s,baz=73,slow=34						
BBOO	**Buckleboo**	**36.11**	**169**	P	**P**	**13 03 30.6**	**-0.9**
STKA	**Stephens Creek**	**36.66**	**161**	P	**P**	**13 03 36.6**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=348,slow=9.0,SNR=5.5						
STKA	**Stephens Creek**	**36.66**	**161**	P	**P**	**13 03 36.2**	**0.0**
USRK	**Ussuriysk Ar.**	**41.38**	**4**	P	**P**	**13 04 16.0**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=151,slow=4.4,SNR=4.5						
USRK	**Ussuriysk Ar.**	**41.38**	**4**	P	**P**	**13 04 16.0**	**+0.5**
MKAR	**Makanchi Array**	**59.31**	**325**	P	**P**	**13 06 31.6**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=103,slow=10,SNR=2.6						
MKAR	**Makanchi Array**	**59.31**	**325**	P	**P**	**13 06 31.3**	**+0.2**
VNDA	**Vanda**	**82.27**	**173**	P	**P**	**13 08 49.7**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=317,slow=5.8,SNR=5.1						
VNDA	**Vanda**	**82.27**	**173**	P	**P**	**13 08 49.1**	**-1.0**

*IDC **30** 13:00:39.4±0.6, 1°.88N×126°.17E, h0km, mb4.1/15, mb1 4.1/16, mb1mx4.0/43, mbtmp4.0/16, ML4.1/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/37, Error ellipse: s-maj=35.3km s-min=12.6km az=78.0*

*NEIC **30** 13:00:45.7±2.0, 1°.89N±0°.09×126°.38E±0°.06, h36km±8km, mb4.4/24, Error ellipse: s-maj=14.7km s-min=5.3km az=211.0*

*DJA **30** 13:00:46.4±0.3,2°N±3°×12°6E±°, h50km±10km, M4.3/11, mb4.4/5, mB4.8/2, MLv4.3/11, Mw(mB)4.0/2*

ISC 30 13:00:46.1±0.4,**1°.87N**±0°.04×**126°.43E**±0°.05,**h47**km,**n60, σ1$37/65,mb4.3/24,1C,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMI	**Galela, Maluku**	**1.36**	**91**	P	**Pn**	**13 01 09.6**	**+1.0**
GAMI				S	**Sn**	**13 01 27.7**	**+2.2**
TNTI	**Ternate**	**1.44**	**139**		**Pn**	**13 01 09.4**	**-0.3**
TNTI	**Ternate**	**1.44**	**139**	P	**Pn**	**13 01 09.8**	**+0.1**
TNTI				S	**Sn**	**13 01 28.5**	**+1.1**
SGSI	**Sangihe**	**2.02**	**334**	P	**Pn**	**13 01 16.8**	**-0.9**
SGSI				S	**Sn**	**13 01 41.0**	**-0.8**
KMSI	**Cibinong**	**2.77**	**242**	P	**Pn**	**13 01 29.5**	**+1.6**
GTOI	**Gorontalo**	**3.63**	**250**	P	**Pn**	**13 01 40.9**	**+1.1**
SANI	**Sanana**	**3.92**	**186**	P	**Pn**	**13 01 43.8**	**+0.1**
LUWI	**Luwuk**	**4.66**	**232**		**Pn**	**13 01 53.2**	**-0.8**
LUWI	**Luwuk**	**4.66**	**232**	P	**Pn**	**13 01 54.9**	**+0.9**
MRSI	**Marisa**	**4.70**	**253**	P	**Pn**	**13 01 55.8**	**+1.3**
KCP	**Kidapawan**	**5.28**	**345**↑	*eP*	**Pn**	**13 02 06.3**	**+3.8**
KCP				*i* S	**Sn**	**13 03 07.3**	**+5.2**
APSI	**Ampana**	**5.52**	**240**	P	**Pn**	**13 02 07.3**	**+1.5**
	0.3nm719nm68nm,1.1s						
SIJI	**Sorong**	**5.55**	**119**	LR	LR	13 04 29.2	
	comp=Z,104nm,21.0s,baz=7.5,slow=40						
TOLI2	**Tolitoli**	**5.70**	**263**		**Pn**	**13 02 06.8**	**-1.4**
MPSI	**Mapaga**	**6.71**	**257**	P	**Pn**	**13 02 23.4**	**+1.3**
	0.3nm799nm18nm,0.8s						
TTSI	**Tana Toraja**	**8.22**	**234**	P	**Pn**	**13 02 44.7**	**+1.9**
	28nm,1.0s						
MTN	**Manton Dam**	**15.34**	**162**	Pn	**Pn**	**13 04 19.7**	**+0.1**
MTN				IAmb	IAmb	13 04 37.3	
	comp=Z,14nm,1.1s						
KNRA	**Kununurra**	**17.58**	**173**	Pn	**Pn**	**13 04 46.5**	**-1.3**
KNRA				IAmb	IAmb	13 04 56.9	
	comp=Z,15nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.86**	**182**	P	**P**	**13 05 11.2**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=11,slow=12,SNR=15						
FITZ	**Fitzroy Crossi**	**19.86**	**182**	P	**P**	**13 05 11.9**	**-1.4**
TWG	**Pinlang**	**21.47**	**346**	P	**P**	**13 05 29.4**	**-1.3**
TWG				IAmb	IAmb	13 05 32.4	
	comp=Z,39nm,1.5s						
WB0	**Warramunga Arr**	**22.88**	**160**	P	**P**	**13 05 45.2**	**-0.6**
WB0				IAmb	IAmb	13 05 51.3	
	comp=Z,11nm,0.6s						
WRAB	**Tennant Creek**	**23.02**	**161**	P	**P**	**13 05 46.9**	**-0.3**
WRAB				IAmb	IAmb	13 05 52.8	
	comp=Z,12nm,0.9s						
WRA	**Warramunga Arr**	**23.02**	**161**	P	**P**	**13 05 46.8**	**-0.5**
	comp=Z,5.5nm,0.6s,baz=335,slow=11,SNR=46						
WRA				PcP	**PcP**	**13 09 37.1**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=318,slow=2.7,SNR=1.8						
WRA	**Warramunga Arr**	**23.02**	**161**	P	**P**	**13 05 46.0**	**-1.3**
WB2	**Warramunga Arr**	**23.03**	**161**	P	**P**	**13 05 46.6**	**-0.7**
WB2				IAmb	IAmb	13 05 52.9	
	comp=Z,9.1nm,0.7s						
WR0	**Warramunga Arr**	**23.11**	**160**	P	**P**	**13 05 47.4**	**-0.7**
WR0				IAmb	IAmb	13 05 53.7	
	comp=Z,6.3nm,0.5s						
PMG	**Port Moresby**	**23.49**	**119**	P	**P**	**13 05 53.8**	**+1.9**
	comp=Z,14nm,1.0s,baz=300,slow=14,SNR=1.6						
PMG	**Port Moresby**	**23.49**	**119**	IAmb	IAmb	13 06 08.5	
	comp=Z,21nm,0.8s						
PSA00	**Pilbara Seismi**	**24.17**	**195**	P	**P**	**13 05 58.2**	**0.0**
PSA00				IAmb	IAmb	13 06 12.9	
	comp=Z,12nm,1.3s						
JOW	**Kunigami**	**24.89**	**4**	P	**P**	**13 06 05.4**	**+0.8**
JOW				IAmb	IAmb	13 06 31.2	
	comp=Z,29nm,1.4s						
AS31	**Alice Springs**	**26.40**	**164**	P	**P**	**13 06 18.7**	**+0.3**
ASAR	**Alice Springs**	**26.40**	**164**	P	**P**	**13 06 18.4**	**0.0**
	comp=Z,4.8nm,0.8s,baz=344,slow=7.6,SNR=38						
ASAR				PcP	**PcP**	**13 09 44.5**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=346,slow=2.1,SNR=5.3						
ASAR	**Alice Springs**	**26.40**	**164**	P	**P**	**13 06 18.8**	**+0.4**
JNU	**Nakatsue**	**31.37**	**7**	P	**P**	**13 07 01.2**	**-1.3**
FORT	**Forrest**	**32.50**	**177**	P	**P**	**13 07 13.3**	**+0.9**
JWT	**Wachi**	**34.28**	**13**	P	**P**	**13 07 28.8**	**+0.9**
KSRS	**Korea Array**	**35.44**	**2**	P	**P**	**13 07 35.5**	**-2.4**
	comp=Z,1.1nm,0.6s,baz=180,slow=9.4,SNR=5.2						
BBOO	**Buckleboo**	**35.67**	**166**	P	**P**	**13 07 40.7**	**+0.8**
BBOO				IAmb	IAmb	13 07 45.8	
	comp=Z,5.5nm,0.8s						
MJAR	**Matsushiro Arr**	**36.18**	**16**	P	**P**	**13 07 43.9**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=190,slow=8.1,SNR=4.3						
STKA	**Stephens Creek**	**36.52**	**158**	P	**P**	**13 07 47.6**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=322,slow=12,SNR=7.0						
STKA	**Stephens Creek**	**36.52**	**158**	P	**P**	**13 07 47.7**	**+0.6**
USRK	**Ussuriysk Ar.**	**42.44**	**6**	P	**P**	**13 08 37.2**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=201,slow=4.2,SNR=2.0						
PALK	**Pallekele**	**45.88**	**278**	P	**P**	**13 09 03.8**	**-0.6**
KLR	**Kul'dur**	**47.41**	**5**	P	**P**	**13 09 16.1**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=209,slow=10,SNR=2.1						
SONM	**Songino Array**	**48.96**	**342**	P	**P**	**13 09 27.2**	**-0.8**
	comp=Z,0.7nm,0.9s,baz=112,slow=3.9,SNR=2.7						
SONM				PcP	**PcP**	**13 10 52.9**	**+1.3**
	comp=Z,0.8nm,1.0s,baz=150,slow=6.5,SNR=3.6						
SONM	**Songino Array**	**48.96**	**342**	P	**P**	**13 09 26.7**	**-1.2**
PETK	**Petropavlovsk-**	**57.26**	**22**	P	**P**	**13 10 29.5**	**+0.7**
	comp=Z,2.9nm,0.9s,baz=174,slow=5.2,SNR=4.1						
NIL	**Nilore**	**58.84**	**309**	P	**P**	**13 10 40.0**	**-0.2**
MK31	**Makanchi Array**	**58.91**	**326**	P	**P**	**13 10 39.7**	**-0.8**
MK31				IAmb	IAmb	13 11 07.6	
	comp=Z,6.5nm,1.2s						
MKAR	**Makanchi Array**	**58.91**	**326**	P	**P**	**13 10 39.5**	**-1.0**
	comp=Z,2.3nm,0.4s,baz=120,slow=7.9,SNR=32						
MKAR	**Makanchi Array**	**58.91**	**326**	P	**P**	**13 10 39.9**	**-0.6**
ZALV	**Zalesovo Beam**	**62.11**	**334**	P	**P**	**13 11 00.8**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=141,slow=8.8,SNR=2.1						
SOCY	**Socotra**	**72.45**	**282**	P	**P**	**13 12 07.3**	**-1.1**
ABKAR	**Akbulak array**	**73.40**	**321**	P	**P**	**13 12 12.2**	**-1.1**
VNDA	**Vanda**	**81.63**	**173**	P	**P**	**13 12 60.0**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=330,slow=6.4,SNR=7.6						
ILAR	**Eielson Array**	**86.90**	**25**	P	**P**	**13 13 24.9**	**-0.8**
	comp=Z,0.4nm,0.9s,baz=239,slow=4.7,SNR=2.5						
FINES	**FINESS Array B**	**93.32**	**332**	P	**P**	**13 13 55.7**	**-0.1**
	comp=Z,2.5nm,0.9s,baz=107,slow=7.4,SNR=1.7						
TORD	**Torodi Ar. Bea**	**123.19**	**287**	PKP	**PKPdf**	**13 19 36.8**	**-1.9**
	comp=Z,0.8nm,0.7s,baz=46,slow=2.4,SNR=4.8						
TORD	**Torodi Ar. Bea**	**123.19**	**287**		**PKPdf**	**13 19 37.7**	**-1.0**

JMA 30 13:06:58.1±0.3,**37°.31N**×**144°.62E,h45**km,**M3.5,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.69**	**293**	P	Pn	13 07 40.3	+1.4
JIKH				*e*S	Sn	13 08 11.8	+1.6
JIO	**Ouri**	**2.83**	**295**	P	Pn	13 07 42.2	+1.4
JIO				*e*S	Sn	13 08 15.3	+1.7
JKMT	**Kesennumamotoy**	**2.90**	**302**	P	Pn	13 07 43.2	+1.5
JKMT				*e*S	Sn	13 08 17.1	+1.8
OFUJ	**Ofunato**	**2.92**	**308**	P	Pn	13 07 43.7	+1.7
OFUJ				*e*S	Sn	13 08 17.3	+1.4
JFT	**Otama**	**3.42**	**275**	P	Pn	13 07 51.5	+2.6
JFT				*e*S	Sn	13 08 30.6	+2.5
JCH	**Churui**	**5.38**	**350**	P	Pn	13 08 16.1	+0.3
JCH				*e*S	Sn	13 09 15.1	-1.4
NEM2	**Nemuro 2**	**6.11**	**8**	P	Pn	13 08 22.8	-2.9
NEM2				*e*S	Sn	13 09 28.4	-5.9
JTKR	**Abashiri--Toko**	**6.68**	**356**	P	Pn	13 08 33.7	+0.2

*IDC **30** 13:09:24.0±0.8, 40°.24N×143°.78E, h0km, mb3.9/15, mb1 4.1/20, mb1mx4.0/38, mbtmp3.9/20, ML3.2/5, MS3.3/10, Ms1 3.4/10, ms1mx3.0/50, Error ellipse: s-maj=20.9km s-min=16.6km az=105.0*

*JMA **30** 13:09:25.8±0.2, 40°.31N×143°.69E, h16km, M4.0*

*NEIC **30** 13:09:25.1±2.1, 40°.18N±0°.01×143°.9E±0°.1, h10km±2km, mb4.1/3, Error ellipse: s-maj=18.1km s-min=3.0km az=94.0*

*MOS **30** 13:09:25.6±1.0, 40°.32N×143°.75E, h18km, mb4.5/9, Error ellipse: s-maj=10.7km s-min=5.7km az=94.3*

*NIED **30** 13:09:25.9, 40°.31N×143°.69E, h16km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.03; Mθθ0.47; Mϕϕ -1.50; Mrθ0.59; Mθϕ -0.64; Mrϕ0.77; Fault plane solution: M₀1.71000×10¹⁵ NP1:ϕs36.00000°, δ65.00000°, λ113.00000°. NP2:ϕs170.00000°, δ34.00000°, λ49.00000°.*

ISC 30 13:09:26.6±0.6,**40°.29N**±0°.05×**143°.81E**±0°.06,**h16**km,**n101, σ1$43/104,mb4.2/28,MS3.3/7,8C-7D,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.53**	**257**	P	**Pn**	**13 09 51.6**	**-1.7**
JKEN	**Kujiedanarisaw**	**1.61**	**268**	P	**Pn**	**13 09 52.3**	**-2.0**
JKEN				*e*S	**Sn**	**13 10 11.5**	**-3.2**
MIYJ	**Miyakonagasawa**	**1.69**	**246**	P	**Pn**	**13 09 53.9**	**-1.5**
JANG	**Nango**	**1.75**	**273**	P	**Pn**	**13 09 54.9**	**-1.5**
ERM	**Erimo**	**1.79**	**344**↑	*eP*	**Pn**	**13 09 56.0**	**-0.8**
ERM				pmax	pmax		
	comp=Z,130nm,1.7s						
ERM	**Erimo**	**1.79**	**344**	Pn	**Pn**	**13 09 56.4**	**-0.4**
JOM	**Ohasama**	**2.10**	**248**	P	**Pn**	**13 10 00.6**	**-0.5**
JNBK	**Urakawa-nobuka**	**2.14**	**339**	P	**Pn**	**13 10 01.4**	**-0.2**
JTM	**Tenmabayashi**	**2.14**	**284**	P	**Pn**	**13 10 01.1**	**-0.6**
JTM				*e*S	**Sn**	**13 10 26.6**	**-1.4**
JTM	**Tenmabayashi**	**2.14**	**284**	Pn	**Pn**	**13 10 00.8**	**-0.9**
JCH	**Churui**	**2.34**	**352**	P	**Pn**	**13 10 03.8**	**-0.6**
JCH				*e*S	**Sn**	**13 10 31.7**	**-1.2**
JOT	**Ohata**	**2.36**	**298**	P	**Pn**	**13 10 04.0**	**-0.6**
JMK	**Ichinoseki**	**2.41**	**237**	P	**Pn**	**13 10 04.7**	**-0.6**
JKB	**Kayabe**	**2.63**	**308**	P	**Pn**	**13 10 08.0**	**-0.4**
JAK	**Akkeshi**	**2.78**	**14**	P	**Pn**	**13 10 10.0**	**-0.5**
JAK				*e*S	**Sn**	**13 10 42.7**	**-1.0**
JYK	**Kaneyama**	**3.00**	**244**	P	**Pn**	**13 10 13.3**	**-0.1**
JAR	**Ashorobuto**	**3.00**	**359**	*e*S	**Sn**	**13 10 46.4**	**-2.7**
JFR	**Furan**	**3.01**	**343**	P	**Pn**	**13 10 12.8**	**-0.8**
JEW	**Eniwo**	**3.10**	**326**	P	**Pn**	**13 10 15.7**	**+0.9**
JEW				*e*S	**Sn**	**13 10 51.8**	**+0.3**
JEW	**Eniwo**	**3.10**	**326**	Pn	**Pn**	**13 10 15.7**	**+0.9**
JMM	**Marumori**	**3.37**	**225**		**Pn**	**13 10 16.8**	**-1.8**
NMR	**Nemuro--Hokkai**	**3.39**	**24**↓	*iP*	**Pn**	**13 10 18.1**	**-0.8**
NMR				*i* S	**Sn**	**13 10 55.5**	**-3.2**
GLVR	**Golovnino**	**3.67**	**20**	*eP*	**Pn**	**13 10 23.2**	**+0.5**
GLVR				*e*S	**Sn**	**13 11 02.8**	**-2.8**
GLVR				smax	smax		
	comp=E,328nm,0.4s						
GLVR				smax	smax		
	comp=N,625nm,0.3s						
JKA	**Kamikawa-asahi**	**3.92**	**347**	Pn	**Pn**	**13 10 25.8**	**-0.3**
JKA	**Kamikawa-asahi**	**3.92**	**347**		**Sn**	**13 11 10.0**	**-1.9**
ASAJ	**Asahikawa**	**3.92**	**347**	Pn	**Pn**	**13 10 26.4**	**+0.2**
	comp=N,1.9nm,0.3s,baz=210,slow=11,SNR=12						
ASAJ				Sn	**Sn**	**13 11 10.0**	**-1.9**
	comp=N,6.7nm,0.3s,baz=102,slow=20,SNR=4.8						
ASAJ	**Asahikawa**	**3.92**	**347**	P	**Pn**	**13 10 25.8**	**-0.4**
ASAJ						13 11 10.0	
RUSJ	**Misakicho**	**3.96**	**15**	P	**Pn**	**13 10 28.3**	**+1.7**
RUSJ				S	**Sn**	**13 11 13.1**	**+0.5**
GRPR	**Tuman**	**3.98**	**21**	*eP*	**Pn**	**13 10 26.4**	**-0.5**
GRPR				*eS*	**Sn**	**13 11 09.0**	**-4.1**
GRPR				pmax	pmax		
	comp=Z,82nm,0.3s						
GRPR				smax	smax		
	comp=E,334nm,0.2s						
GRPR				smax	smax		
	comp=N,643nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.04**	**22**↓	*iP*	**Pn**	**13 10 28.4**	**+0.7**
YUK				*i* S	**Sn**	**13 11 12.2**	**-2.5**
YUK				pmax	pmax		
	comp=Z,190nm,0.3s						
YUK				pmax	pmax		
	comp=N,53nm,0.1s						
YUK				pmax	pmax		
	comp=E,79nm,0.2s						
YUK				smax	smax		
	comp=N,546nm,0.5s						
YUK				smax	smax		
	comp=E,238nm,0.3s						
JSD	**Sado**	**4.86**	**244**	Pn	**Pn**	**13 10 38.9**	**-0.2**
JYT	**Yasato**	**4.96**	**216**	Pn	**Pn**	**13 10 37.6**	**-2.7**
MJAR	**Matsushiro Arr**	**5.77**	**231**	Pn	**Pn**	**13 10 50.2**	**-1.4**
	comp=E,0.2nm,0.3s,baz=34,slow=12,SNR=20						
MJAR	**Matsushiro Arr**	**5.77**	**231**	P	**Pn**	**13 10 51.4**	**-0.3**
MJAR	**Matsushiro Arr**	**5.77**	**231**		**Pn**	**13 10 51.4**	**-0.3**
MAJO	**Matsushiro**	**5.78**	**231**↓	*eP*	**Pn**	**13 10 51.6**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.4s						
MAJO	**Matsushiro**	**5.78**	**231**	Pn	**Pn**	**13 10 51.5**	**-0.1**
MAT	**Matsushiro**	**5.78**	**231**	P	**Pn**	**13 10 52.1**	**+0.4**
MAT				*e*S	**Sn**	**13 11 57.1**	**-0.5**
YSS	**Yuzh-Sakhalins**	**6.70**	**354**	*eP*	**Pn**	**13 11 04.4**	**+0.1**
YSS				MLR	MLR		
	comp=Z,600nm,15.0s						
YSS	**Yuzh-Sakhalins**	**6.70**	**354**	Pn	**Pn**	**13 11 07.4**	**+3.1**
JGF	**Kuroka**	**6.92**	**229**		**Pn**	**13 11 07.5**	**+0.1**
INU	**Inuyama**	**7.29**	**230**	Pn	**Pn**	**13 11 11.9**	**-0.6**
JHJ	**Hachijo jima 2**	**7.85**	**206**	Pn	**Pn**	**13 11 16.7**	**-3.5**
	comp=Z,3.9nm,0.3s,baz=41,slow=19,SNR=1.0						
JHJ				Sn	Sn	13 12 39.3	-9.4
	comp=Z,12nm,0.3s,baz=72,slow=19,SNR=6.2						
JWT	**Wachi**	**8.32**	**236**	Pn	**Pn**	**13 11 26.8**	**+0.2**
USA0B	**Ussuriysk Arra**	**9.59**	**298**	*iP*	**Pn**	**13 11 46.0**	**+2.0**
USA0B	**Ussuriysk Arra**	**9.59**	**298**	Pn	**Pn**	**13 11 45.6**	**+1.7**
USRK	**Ussuriysk Ar.**	**9.59**	**298**	Pn	**Pn**	**13 11 44.2**	**+0.2**
	baz=101,slow=14,SNR=23						
USRK				Sn	**Sn**	**13 13 25.8**	**-5.6**
	baz=171,slow=28,SNR=2.5						
USRK				LR	LR	13 15 27.8	
	comp=Z,182nm,19.1s,baz=94,slow=38						
USRK	**Ussuriysk Ar.**	**9.59**	**298**	Pn	**Pn**	**13 11 45.5**	**+1.5**
JHS	**Saijyo**	**9.99**	**241**	Pn	**Pn**	**13 11 49.5**	**+0.1**
KLR	**Kul'dur**	**12.37**	**320**	Pn	**Pn**	**13 12 22.2**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=125,slow=14,SNR=3.9						
KLR				LR	LR	13 17 39.7	
	comp=Z,127nm,18.6s,baz=42,slow=40						
KLR	**Kul'dur**	**12.37**	**320**↓	*eP*	**Pn**	**13 12 22.5**	**+0.6**
KSRS	**Korea Array**	**12.70**	**262**	LR	LR	13 17 16.1	
	comp=Z,141nm,18.4s,baz=78,slow=37						
JOW	**Kunigami**	**18.61**	**229**	P	**P**	**13 13 41.1**	**-2.2**
JOW				IAmb	IAmb	13 13 59.1	
	comp=Z,12nm,1.0s						
MA2	**Magadan**	**19.79**	**10**	LR	LR	13 22 11.0	
	comp=Z,36nm,21.9s,baz=130,slow=39						
SEY	**Seymchan**	**23.25**	**10**	P	**P**	**13 14 32.5**	**-0.4**
	comp=Z,2.9nm,0.8s,baz=229,slow=9.3,SNR=7.6						
SEY				LR	LR	13 22 59.2	
	comp=Z,83nm,18.5s,baz=164,slow=35						
YAK	**Yakutsk**	**23.39**	**343**	LR	LR	13 25 03.0	
	comp=Z,117nm,18.1s,baz=89,slow=40						
YAK	**Yakutsk**	**23.39**	**343**	*eP*	**P**	**13 14 34.2**	**-0.2**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.6s						

BOD	**Bodaibo**	**25.93**	**323**	*eP*	**P**	**13 14 57.3**	**-0.5**
BOD				pmax	pmax		
	comp=Z,11nm,1.2s						
ULN	**Ulaanbaatar**	**27.26**	**298**↑	*eP*	**P**	**13 15 11.2**	**+1.0**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.7s						
SONM	**Songino Array**	**27.70**	**298**	P	**P**	**13 15 14.3**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=98,slow=10,SNR=7.8						
SONM				LR	LR	13 25 44.9	
	comp=Z,66nm,18.0s,baz=118,slow=35						
SONM	**Songino Array**	**27.70**	**298**	*eP*	**P**	**13 15 14.6**	**+0.5**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.48**	**129**	T	T	13 45 08.9	
	baz=321,slow=74						
H11N1	**WAKE ISLAND Hy**	**28.49**	**129**	T	T	13 45 17.6	
	baz=321						
H11N3	**WAKE ISLAND Hy**	**28.50**	**129**	T	T	13 45 13.1	
	baz=321,slow=74						
H11S1	**WAKE ISLAND Hy**	**29.32**	**131**	T	T	13 46 19.8	
	baz=320,slow=74						
H11S3	**WAKE ISLAND Hy**	**29.32**	**131**	T	T	13 46 17.6	
	baz=320						
H11S2	**WAKE ISLAND Hy**	**29.34**	**131**	T	T	13 46 13.1	
	baz=320,slow=74						
GTA	**Gaotai**	**33.53**	**283**	↓P	**P**	**13 16 06.5**	**+0.9**
GTA				pP	pwP	13 16 14.5	+1.1
GTA				sP	sP	13 16 17.8	+6.5
GTA				pmax	pmax		
	comp=Z,8.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,47nm,5.1s						
GTA				LR	LR		
	comp=N,170nm,15.6s						
GTA				LR	LR		
	comp=E,170nm,16.0s						
GTA				LR	LR		
	comp=Z,200nm,14.5s						
DAV	**Davao City (W)**	**36.89**	**211**	LR	LR	13 31 45.2	
	comp=Z,37nm,20.2s,baz=96,slow=36						
DGZ	**Jazzator, Alta**	**40.10**	**303**↑	*eP*	**P**	**13 17 02.2**	**+0.8**
DGZ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ZAA0	**Zalesovo Array**	**41.19**	**310**	P	**P**	**13 17 10.1**	**0.0**
ZAA0				IAmb	IAmb	13 17 11.2	
	comp=Z,3.5nm,0.8s						
ZALV	**Zalesovo Beam**	**41.19**	**310**	P	**P**	**13 17 10.4**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=87,slow=7.2,SNR=9.3						
ZALV	**Zalesovo Beam**	**41.19**	**310**	P	**P**	**13 17 10.5**	**+0.3**
ZALV	**Zalesovo Beam**	**41.19**	**310**	P	**P**	**13 17 10.5**	**+0.3**
MKAR	**Makanchi Array**	**44.05**	**300**	P	**P**	**13 17 33.6**	**+0.1**
	comp=Z,4.4nm,1.0s,baz=80,slow=10.0,SNR=9.3						
MKAR	**Makanchi Array**	**44.05**	**300**	*eP*	**P**	**13 17 34.1**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MKAR	**Makanchi Array**	**44.05**	**300**	P	**P**	**13 17 33.8**	**+0.2**
CMAR	**Chiang Mai Arr**	**44.17**	**254**	P	**P**	**13 17 34.5**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=50,slow=6.0,SNR=2.2						
CMAR				LR	LR	13 38 02.7	
	comp=Z,22nm,19.9s,baz=180,slow=39						
ILAR	**Eielson Array**	**45.74**	**34**	P	**P**	**13 17 47.5**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=264,slow=7.1,SNR=5.2						
DAWY	**Dawson**	**49.05**	**35**	P	**P**	**13 18 12.0**	**-0.5**
DAWY				IAmb	IAmb	13 18 24.3	
	comp=Z,4.9nm,1.3s						
BRVK	**Borovoye**	**49.87**	**311**↑	*eP*	**P**	**13 18 19.2**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.7s						
AAK	**Ala-Archa**	**50.64**	**297**	*deP*	**P**	**13 18 25.3**	**+0.2**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ARU	**Arti**	**55.19**	**318**↑	*eP*	**P**	**13 18 59.1**	**+0.9**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.3s						
ABKAR	**Akbulak array**	**57.30**	**309**	P	**P**	**13 19 13.4**	**0.0**
KBS	**Kingsbay**	**57.77**	**350**↑	*eP*	**P**	**13 19 15.8**	**-0.5**
KBS				pmax	p

WBSI	**Waikabubak, Su**	**2.74**	**248**	P	Pn	13 25 42.6	+0.7
BSSI	**Bau Bau, Buton**	**2.87**	**329**	P	Pn	13 25 43.4	-0.3
BKSI	**Bulukumba**	**3.76**	**331**	P	Pn	13 25 55.3	-0.6
PLAI	**Plampang**	**4.15**	**267**	P	Pn	13 26 02.2	+0.9
TWSI	**Taliwang, Sumb**	**5.03**	**268**	P	Pn	13 26 14.2	+0.8
	0.1nm13nm,0.8s						
KLNI	**Mataram**	**5.81**	**272**	P	Pn	13 26 23.5	-0.7
	0.1nm12nm,1.3s						
APSI	**Ampana**	**7.67**	**358**	P	Pn	13 26 50.4	+0.7
	0.0nm10nm,0.5s						

*TUL **30** 13:33:35.5±0.5, 36°.701N±0°.002×98°.64W±0°.05, h5km±7km, ML2.6, mb_Lg2.5/24(NEIC), Error ellipse: s-maj=5.3km s-min=1.4km az=93.0*

NEIC 30 13:33:35.8±0.5, 36.71N±0°.002×98.64W±0°.05, h10km±6km, Error ellipse: s-maj=5.3km s-min=3.2km az=98.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.35**	**75**		Pg	13 33 42.9	0.0
OK032				Sg	Sg	13 33 47.4	-0.2
U32A	**Winter Ranch,**	**0.44**	**222**		Pg	13 33 44.1	-0.4
CROK	**Carrier**	**0.56**	**111**		Pg	13 33 46.8	0.0
CROK				Sg	Sg	13 33 54.0	-0.2
KAN14	**Manchester OK**	**0.59**	**65**		Pg	13 33 47.4	0.0
KAN10	**Anthony SW Sta**	**0.60**	**46**		Pg	13 33 47.4	0.0
GC02	**Grant County #**	**0.64**	**77**		Pg	13 33 48.0	-0.2
GC02				Sg	Sg	13 33 56.6	0.0
KAN16	**Harper SW Stat**	**0.69**	**41**		Pg	13 33 49.1	0.0
KAN05	**Bluff City Nor**	**0.73**	**57**		Pg	13 33 49.9	0.0
KAN08	**Anthony NE Sta**	**0.74**	**46**		Pg	13 33 50.1	0.0
KAN17	**Caldwell West**	**0.77**	**64**	Pg	Pg	13 33 50.5	-0.2
KAN06	**Argonia West S**	**0.82**	**49**	Pg	Pg	13 33 51.5	-0.2
KAN09	**Caldwell North**	**0.92**	**62**	Pg	Pg	13 33 53.1	-0.4
KAN13	**South Haven SW**	**0.98**	**72**	Pg	Pg	13 33 54.3	-0.3
KS20	**Mayfield South**	**1.01**	**59**	Pg	Pg	13 33 55.1	-0.2
BLOK	**Blackwell**	**1.14**	**87**	Pg	Pb	13 33 57.2	-0.4
OK029	**Liberty Lake**	**1.32**	**133**		Pn	13 33 59.9	-0.4
BCOK	**Bluff Creek, N**	**1.34**	**141**	Pn	Pn	13 33 60.0	-0.6
OK025	**Westminster Rd**	**1.54**	**137**		Pn	13 34 03.3	0.0
OKCSW	**OKLAHOMA CITY**	**1.62**	**143**	Pn	Pn	13 34 04.6	+0.2
OK031	**S. Brethren Rd**	**1.64**	**117**		Pn	13 34 04.8	+0.2
QUOK	**Quay**	**1.65**	**109**		Pn	13 34 05.3	+0.6
OK030	**Cody Creek RV**	**1.69**	**117**		Pn	13 34 05.5	+0.2
R32A	**Long Quarter,**	**1.71**	**358**		Pn	13 34 05.7	0.0
R32A				IAmb_Lg		13 34 31.9	
	comp=Z,31nm,0.8s						
T35A	**Sooner Cattle**	**1.72**	**83**	Pn	Pn	13 34 05.7	0.0
FNO	**Franklin**	**1.76**	**145**		Pn	13 34 06.6	+0.3
WMOK	**Wichita Mounta**	**1.97**	**183**		Pn	13 34 08.9	-0.3
TUL1	**Leonard**	**2.43**	**108**	Pn	Pn	13 34 15.8	+0.2
TUL1				IAmb_Lg		13 34 56.5	
	comp=Z,15nm,0.8s						
AMTX	**Amarillo**	**3.07**	**235**	IAmb_Lg		13 35 20.6	
	comp=Z,19nm,1.0s						
X37A	**Clayton**	**3.40**	**128**	IAmb_Lg		13 35 27.8	
	comp=Z,14nm,1.0s						
KSCO	**Kaye Shedlock'**	**3.91**	**307**	IAmb_Lg		13 35 49.9	
	comp=Z,11nm,0.7s						
W39A	**Magazine**	**4.22**	**110**	IAmb_Lg		13 35 51.1	
	comp=Z,9.6nm,0.8s						
MSTX	**Muleshoe**	**4.35**	**232**	IAmb_Lg		13 36 00.6	
	comp=Z,9.0nm,0.9s						
MIAR	**Mount Ida**	**4.65**	**116**	IAmb_Lg		13 36 11.7	
	comp=Z,6.8nm,0.8s						
U40A	**Yellville**	**4.67**	**93**	IAmb_Lg		13 36 01.3	
	comp=Z,8.9nm,0.8s						
X40A	**Basin Creek Fa**	**5.22**	**113**	IAmb_Lg		13 36 28.8	
	comp=Z,6.0nm,0.8s						
JCT	**Junction City**	**6.29**	**189**	IAmb_Lg		13 37 04.1	
	comp=Z,4.5nm,0.7s						
PBMO	**Poplar Bluff**	**6.59**	**87**	IAmb_Lg		13 37 08.3	
	comp=Z,5.7nm,0.8s						

*AEIC **30** 13:40:34±1.4, 54°.86N±0°.10×158°.4W±0°.1, h30km±6km, Error ellipse: s-maj=15.9km s-min=7.3km az=150.0*

NEIC 30 13:40:32.7±1.2, 54°.86N±0°.08×158°.28W±0°.07, h14km±9km, mb3.9/2, ML3.6/20, ML3.5(AEIC), Error ellipse: s-maj=11.5km s-min=5.1km az=165.0, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**0.76**	**268**		Pg	13 40 47.3	-0.2
CNBA	**Chernabura Isl**	**0.76**	**268**	IAML		13 40 58.9	
	comp=N,3µm,0.5s						
VNSG	**Veniaminof 6**	**1.35**	**340**		Pn	13 40 56.9	-0.4
SDPT	**Sand Point**	**1.36**	**292**		Pn	13 40 56.2	-1.0
SDPT	**Sand Point**	**1.36**	**292**	IAML		13 41 21.6	
	comp=E,888nm,0.7s						
CHGN	**Chignik**	**1.45**	**357**		Pn	13 40 58.0	-0.5
CHGN	**Chignik**	**1.45**	**357**	IAML		13 41 20.4	
	comp=E,1µm,0.5s						
CHGN				IAML		13 41 23.1	
	comp=N,811nm,0.5s						
VNHG	**Veniaminof 1**	**1.46**	**340**		Pn	13 40 58.9	+0.2
VNFG	**Fog Glacier, M**	**1.60**	**334**		Pn	13 41 01.1	+0.3
CHIR	**Chirikof Islan**	**1.80**	**56**	Pn	Pn	13 41 02.8	-0.5
ANPK	**Aniakchak Peak**	**1.99**	**2**		Pn	13 41 06.9	+0.9
ANNE	**Aniakchak Nort**	**2.06**	**3**		Pn	13 41 07.1	+0.1
PS1A	**Pavlof South-1**	**2.07**	**287**		Pn	13 41 07.1	+0.1
PVV	**Pavlof Volcano**	**2.08**	**286**		Pn	13 41 07.4	+0.2
PS4A	**Pavlof South-4**	**2.12**	**285**		Pn	13 41 07.3	-0.4
HAG	**Hague Volcano**	**2.14**	**284**		Pn	13 41 08.4	+0.4
DT1	**Dutton Round H**	**2.32**	**278**		Pn	13 41 09.9	-0.5
SII	**Sitkinak Islan**	**2.88**	**52**	Pn	Pn	13 41 17.7	-0.5
SII				IAML		13 41 51.4	
	comp=E,268nm,0.6s						
ISLZ	**Isanotski Laza**	**3.15**	**270**		Pn	13 41 21.9	+0.1
SSLS	**Shishaldin Sou**	**3.32**	**270**		Pn	13 41 25.0	+0.8
OHAK	**Old Harbor**	**3.67**	**48**		Pn	13 41 28.9	-0.1
OHAK	**Old Harbor**	**3.67**	**48**	IAML		13 43 17.8	
	comp=N,81nm,3.5s						
WECS	**Westdahl Cape**	**3.79**	**268**		Pn	13 41 31.1	+0.4
KDAK	**Kodiak Island**	**4.32**	**45**		Pn	13 41 37.5	-0.4
KDAK	**Kodiak Island**	**4.32**	**45**	IAML		13 43 04.3	
	comp=N,63nm,3.0s						
KDAK				IAML		13 44 15.8	
	comp=N,72nm,3.5s						
AKSA	**Akutan Strait**	**4.39**	**264**		Pn	13 41 39.4	+0.6
AKUT	**Akutan**	**4.43**	**264**	Pn	Pn	13 41 39.7	+0.3
Q19K	**Cape Douglas,**	**4.81**	**30**	Pn	Pn	13 41 44.4	-0.2
UNV	**Unalaska Valle**	**4.92**	**261**		Pn	13 41 45.8	-0.3
MNAT	**Makushin Natee**	**5.03**	**262**		Pn	13 41 47.3	-0.4
MAPS	**Pakushin South**	**5.18**	**262**		Pn	13 41 49.4	-0.3
O18K	**Koktuh Hills**	**5.28**	**17**	Pn	Pn	13 41 51.8	+0.7
O18K				IAML		13 44 54.1	
	comp=N,36nm,3.5s						
O18K				IAML		13 45 09.9	
	comp=E,34nm,3.6s						
N18K	**Kilae Creek**	**5.98**	**11**	Pn	Pn	13 42 00.7	-0.1
CNPM	**China Poot**	**6.04**	**36**	Pn	Pn	13 42 01.4	-0.2
N19K	**Bonanza Creek**	**6.31**	**17**	Pn	Pn	13 42 05.2	-0.1
RSO	**Redoubt South**	**6.35**	**26**	Pn	Pn	13 42 07.1	+1.1
SVW2	**Sparrevohn**	**6.42**	**12**	Pn	Pn	13 42 08.0	+1.2
SEW	**Seward**	**7.09**	**39**	Pn	Pn	13 42 16.7	+0.8
M19K	**Big River Lodg**	**7.36**	**15**	Pn	Pn	13 42 19.9	+0.3
L19K	**White Mountain**	**7.56**	**12**	Pn	Pn	13 42 22.9	+0.5
RC01	**Rabbit Creek A**	**7.72**	**32**	Pn	Pn	13 42 24.0	-0.5
PWL	**Port Wells**	**8.01**	**37**	Pn	Pn	13 42 29.1	+0.4
FID	**Port Fidalgo**	**8.63**	**42**	Pn	Pn	13 42 36.3	-0.7
SML	**Sawmill**	**8.71**	**33**	Pn	Pn	13 42 38.2	+0.1
EYAK	**Cordova Ski Ar**	**8.80**	**45**	Pn	Pn	13 42 39.4	+0.1
SCM	**Sheep Creek Mo**	**9.05**	**35**	Pn	Pn	13 42 43.4	+0.6
CAST	**Castle Rocks**	**9.15**	**18**	Pn	Pn	13 42 44.4	+0.2
KLU	**Klutina**	**9.31**	**39**	Pn	Pn	13 42 46.8	+0.4
J20K	**Nowinta River**	**9.58**	**11**	Pn	Pn	13 42 49.5	-0.5
M24K	**Tolsona, Glenn**	**9.63**	**36**	Pn	Pn	13 42 50.2	-0.6
RND	**Reindeer**	**9.83**	**26**	Pn	Pn	13 42 52.1	-1.5
PAX	**Paxson**	**10.47**	**34**	Pn	Pn	13 43 02.5	+0.2
CCB	**Clear Creek Bu**	**11.13**	**24**	Pn	Pn	13 43 10.9	-0.3
H21K	**Melozitna Rive**	**11.16**	**12**	Pn	Pn	13 43 11.1	-0.7
MDM	**Murphy Dome**	**11.30**	**22**	Pn	Pn	13 43 13.3	-0.2
ADK	**Adak**	**11.39**	**262**	Pn	Pn	13 43 14.0	-0.8
IL31		**11.45**	**25**	Pn	Pn	13 43 14.5	-1.1
KIWB	**Kanaga Island**	**11.67**	**263**	Pn	Pn	13 43 17.7	-1.0
L27K	**Beaver Creek,**	**11.79**	**39**	Pn	Pn	13 43 18.9	-1.3
BCAR	**Beaver Creek A**	**11.80**	**39**	Pn	Pn	13 43 18.7	-1.8
H24K	**Noodor Dome**	**12.13**	**21**	Pn	Pn	13 43 25.3	+0.3
EGAK	**Eagle**	**13.10**	**34**	Pn	Pn	13 43 37.0	-1.2
TOLK	**Toolik Lake Re**	**14.41**	**13**	P	P	13 44 02.6	-0.3
GRNB	**Grenville Isla**	**16.50**	**82**	Pn	Pn	13 44 23.4	-0.1
GRNB				IAmb	IAmb	13 44 35.8	
	comp=Z,16nm,1.1s						
INK	**Inuvik**	**17.71**	**31**	P	Pn	13 44 38.8	+0.3
INK				IAmb	IAmb	13 44 55.2	
	comp=Z,9.7nm,1.2s						

*IDC **30** 13:42:47.9±1.9, 50°.12N×152°.59E, h220km±21km, mb2.9/7, mb1 3.2/10, mb1mx3.1/43, mbtmp3.6/10, Error ellipse: s-maj=32.9km s-min=13.3km az=138.0*

*KRSC **30** 13:42:48.9±2.0, 49°.52N×154°.36E, h255km±14km, ML3.9*

ISC 30 13:42:48.7±0.7, 50°.0N±0°.1×153°.1E±0°.1, h250km, n21, σ3s50/28, mb3.1/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.04**	**69**	*eP*	**Pn**	**13 43 28.9**	**-2.5**
SKR				*eS*	**S**	**13 44 00.6**	**-4.5**
PAU	**Pauzhetka**	**2.77**	**56**	*eP*	**Pn**	**13 43 37.1**	**-1.5**
PAU				*eS*	**S**	**13 44 13.6**	**-4.5**
KDTR	**Khodutka, Kamc**	**3.62**	**58**	*eP*	**Pn**	**13 43 46.2**	**-1.8**
KDTR				*eS*	**S**	**13 44 28.2**	**-6.9**
ASAK	**Asacha**	**3.84**	**50**	*eP*	**Pn**	**13 43 50.8**	**+0.2**
APC	**Apacha**	**3.87**	**39**	*eP*	**Pn**	**13 43 50.8**	**0.0**
MTVR	**Mutnovka**	**4.04**	**50**	*eP*	**Pn**	**13 43 53.4**	**+0.4**
MTVR				*eS*	**S**	**13 44 41.3**	**-2.8**
RUS	**Russkaya**	**4.18**	**52**	*eP*	**Pn**	**13 43 54.2**	**-0.2**
RUS				*eS*	**S**	**13 44 42.3**	**-4.4**
PETK	**Petropavlovsk-**	**4.23**	**41**	*P*	**Pn**	**13 43 54.5**	**-0.6**
	0.2nm,0.3s,baz=197,slow=10,SNR=8.3						
PETK				S	S	13 44 59.6	+12
	0.1nm,0.3s,baz=71,slow=20,SNR=1.6						
DALK	**Dalny**	**4.65**	**47**	*eP*	**Pn**	**13 44 00.9**	**+0.8**
DALK				*eS*	**S**	**13 44 54.4**	**-2.5**
SDLR	**Sedlovina**	**4.87**	**45**	*eP*	**Pn**	**13 44 04.0**	**+1.2**
SPN	**Mys Shipunski**	**5.31**	**51**	*eP*	**Pn**	**13 44 07.3**	**-0.8**
SPN				*eS*	**S**	**13 45 02.7**	**-8.8**
ASAJ	**Asahikawa**	**9.28**	**235**	P	**Pn**	**13 44 53.5**	**-4.6**
	0.1nm,0.3s,baz=18,slow=20,SNR=1.6						
USRK	**Ussuriysk Ar.**	**15.49**	**256**	P	**P**	**13 46 11.4**	**-2.4**
	baz=70,slow=19,SNR=2.2						
MJAR	**Matsushiro Arr**	**17.24**	**224**	P	**P**	**13 46 34.3**	**+1.3**
	0.1nm,0.3s,baz=23,slow=11,SNR=7.0						
ILAR	**Eielson Array**	**34.06**	**42**	P	**P**	**13 49 12.3**	**+3.2**
	0.3nm,0.5s,baz=262,slow=5.3,SNR=7.1						
ZALV	**Zalesovo Beam**	**40.79**	**303**	P	**P**	**13 50 04.0**	**-1.5**
	0.5nm,0.6s,baz=74,slow=7.7,SNR=1.9						
NVAR	**Mina Array Bea**	**60.96**	**64**	P	**P**	**13 52 39.7**	**+4.1**
	0.4nm,0.7s,baz=304,slow=6.4,SNR=1.9						
PDAR	**Pinedale Array**	**62.86**	**55**	P	**P**	**13 52 52.0**	**+3.7**
	0.2nm,0.5s,baz=335,slow=6.6,SNR=2.6						
WRA	**Warramunga Arr**	**71.58**	**199**	P	**P**	**13 53 43.7**	**+1.1**
	0.4nm,0.8s,baz=19,slow=6.9,SNR=2.5						
ASAR	**Alice Springs**	**75.29**	**198**	P	**P**	**13 54 06.8**	**+2.6**
	0.2nm,0.5s,baz=14,slow=5.6,SNR=4.8						
TXAR	**Lajitas Array**	**75.91**	**61**	P	**P**	**13 54 11.4**	**+3.5**
	0.2nm,0.6s,baz=280,slow=5.4,SNR=2.3						

MEX 30 14:19:23.9±1.0, 14°.35N×93°.47W, h12km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.36**	**10**	*eP*	Pn	14 19 45.4	-3.4
PCIG				*eS*	Sn	14 20 01.5	-5.3
TGIG		**2.43**	**8**	*eP*	Pn	14 19 56.3	-7.3
TGIG				*eS*	Sn	14 20 32.8	-0.6
CMIG	**Matias Romero**	**3.04**	**334**	*eP*	Pn	14 20 11.4	-0.5
CMIG				*eS*	Sn	14 20 46.9	-1.5

MEX 30 14:28:31.4±2.2, 13°.91N×93°.21W, h13km, MD4.1, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.79**	**360**	*eP*	Pn	14 28 57.8	-4.2
PCIG				*eS*	Sn	14 29 20.6	-4.0
CCIG	**Comitan**	**2.58**	**24**	*eP*	Pn	14 29 12.0	-1.1
CCIG				*eS*	Sb	14 29 48.0	-1.4
TGIG		**2.86**	**2**	*eP*	Pn	14 29 13.8	-2.9
TGIG				*eS*	Sn	14 29 47.7	-3.4
HUIG	**Huatulco**	**3.36**	**304**	*eP*	Pn	14 29 18.4	-5.2
HUIG				*eS*	Sn	14 29 56.9	-6.5
CMIG	**Matias Romero**	**3.55**	**333**	*eP*	Pn	14 29 21.7	-4.6
CMIG				*eS*	Sn	14 30 03.3	-4.9

*IDC **30** 14:29:00.9±1.3, 31°.71S×72°.92W, h0km, mb3.7/2, mb1 4.0/5, mb1mx3.7/31, mbtmp3.8/5, ML4.0/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/21, Error ellipse: s-maj=49.9km s-min=30.6km az=94.0*

*NEIC **30** 14:29:02.0±2.5, 31°.67S±0°.05×72°.86W±0°.08, h10km±1km, mb4.2/6, Error ellipse: s-maj=12.9km s-min=5.8km az=305.0*

*GUC **30** 14:29:05.5±0.8, 31°.96S×72°.74W, h17km±10km, ML3.4*

ISC 30 14:29:01.4±3.1, 31°.80S±0°.05×72°.79W±0°.07, h7km±19km, n57, σ1s83/54, mb4.1/4, 8C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**1.47**	**121**	*iP*	**Pn**	**14 29 29.7**	**+1.2**
VA06				*i* S	**Sb**	**14 29 48.2**	**+0.1**
VA06				IAML		14 29 50.6	
	comp=E,2µm,0.5s						
CO06	**Fray Jorge**	**1.50**	**42**	*eP*	Pn	14 29 26.5	-2.3
CO06	**Fray Jorge**	**1.50**	**42**		Pn	14 29 26.5	-2.3
VA01	**Torpederas**	**1.55**	**142**	*eP*	**Pn**	**14 29 30.3**	**+0.8**
VA01				*i* S	**Sg**	**14 29 50.4**	**-1.0**
VA01	**Torpederas**	**1.55**	**142**		**Pn**	**14 29 30.6**	**+1.1**
CO02	**Combarbal**	**1.64**	**69**		**Pn**	**14 29 30.2**	**-0.7**
ROCH	**El Roble**	**1.90**	**128**	*iP*	**Pn**	**14 29 36.3**	**+1.7**
ROCH				*i* S	**Sb**	**14 29 59.8**	**-0.9**
ROCH				IAML		14 30 02.4	
	comp=N,348nm,0.3s						
CO03	**El Pedregal**	**2.04**	**62**	IAML		14 30 03.5	
	comp=E,385nm,0.4s						
CO03	**El Pedregal**	**2.04**	**62**		**Pn**	**14 29 35.9**	**-0.4**
VA05	**Santo Domingo**	**2.10**	**152**	*iP*	**Pn**	**14 29 38.7**	**+1.7**
VA05				*i* S	**Sb**	**14 30 03.9**	**-2.2**
VA05				IAML		14 30 06.0	
	comp=E,729nm,0.3s						
VA05	**Santo Domingo**	**2.10**	**152**		**Pn**	**14 29 38.4**	**+1.4**
VA03	**San Esteban**	**2.12**	**117**	*iP*	**Pn**	**14 29 39.5**	**+2.0**
VA03				*i* S	**Sb**	**14 30 05.9**	**-1.0**
VA03				IAML		14 30 08.1	
	comp=E,824nm,0.2s						
VA03	**San Esteban**	**2.12**	**117**		**Pn**	**14 29 39.3**	**+1.8**
PEL	**Peldehue**	**2.22**	**128**	*iP*	**Pn**	**14 29 41.0**	**+2.2**
PEL				*i* S	**Sb**	**14 30 08.4**	**-1.4**
PEL				IAML		14 30 10.2	
	comp=N,278nm,0.4s						
CO05	**La Serena**	**2.30**	**36**	Pn	Pn	14 29 37.5	-2.3
MT05	**Renca**	**2.35**	**133**	*iP*	**Pn**	**14 29 43.0**	**+2.5**
MT05				*i* S	**Sb**	**14 30 11.6**	**-1.8**
MT05				IAML		14 30 14.6	
	comp=N,278nm,0.3s						
MT05	**Renca**	**2.35**	**133**		**Pn**	**14 29 42.5**	**+2.0**
GO04	**Tololo Observa**	**2.36**	**47**	*eP*	Pn	14 29 39.5	-1.3
GO04				*i* S	**Sn**	**14 30 07.5**	**-2.7**
GO04	**Tololo Observa**	**2.36**	**47**		Pn	14 29 39.4	-1.4
MT01	**Popeta**	**2.43**	**148**	*iP*	**Pn**	**14 29 43.2**	**+1.6**
MT01				*i* S	**Sb**	**14 30 12.0**	**-3.7**
MT01				IAML		14 30 14.4	
	comp=N,205nm,0.2s						
MT01	**Popeta**	**2.43**	**148**		**Pn**	**14 29 43.0**	**+1.4**
MT09	**Talagante**	**2.48**	**143**	*iP*	**Pn**	**14 29 44.7**	**+2.2**
MT09				*i* S	**Sb**	**14 30 15.1**	**-2.3**
MT09				IAML		14 30 18.1	
	comp=N,203nm,0.2s						
MT09	**Talagante**	**2.48**	**143**		**Pn**	**14 29 44.5**	**+2.0**
BO03	**Pichilemu**	**2.77**	**166**	*iP*	**Pn**	**14 29 47.6**	**+1.2**
BO03				*i* S	**Sn**	**14 30 18.8**	**-1.3**
BO03				IAML		14 30 21.9	
	comp=N,178nm,0.6s						
BO01	**Tunca**	**2.95**	**151**	*eP*	**Pn**	**14 29 50.6**	**+1.8**
BO01				*i* S	**Sn**	**14 30 23.7**	**-0.8**
BO01				IAML		14 30 28.4	
	comp=N,85nm,0.7s						
BO01	**Tunca**	**2.95**	**151**		**Pn**	**14 29 50.4**	**+1.6**
LMEL	**Las Melosas**	**2.98**	**134**	*iP*	**Pn**	**14 29 52.5**	**+3.1**
LMEL				*i* S	**Sb**	**14 30 28.4**	**-3.3**
LMEL				IAML		14 30 32.9	
	comp=N,196nm,0.2s						
GO05	**Huala**	**3.28**	**168**	*eP*	**Pn**	**14 29 54.6**	**+1.2**
GO05				IAML		14 30 34.3	
	comp=E,78nm,0.5s						
GO05	**Huala**	**3.28**	**168**		**Pn**	**14 29 54.7**	**+1.4**
BO02	**Sierra Bellavi**	**3.42**	**151**	*eP*	**Pn**	**14 29 57.8**	**+2.5**
BO02				*i* S	**Sn**	**14 30 37.1**	**+1.3**
BO02	**Sierra Bellavi**	**3.42**	**151**		**Pn**	**14 29 57.6**	**+2.3**
ZON	**Zonda**	**3.51**	**87**		**Pn**	**14 29 59.9**	**+3.4**
AC04	**Llanos de Chal**	**3.88**	**23**		Pn	14 29 57.6	-4.0
GO03	**Copiap**	**4.75**	**29**	Pn	Pn	14 30 07.5	-6.0
H03N1	**Juan Fernandez**	**5.42**	**251**	T	T	14 35 49.9	
	baz=76,slow=71						
H03N3	**Juan Fernandez**	**5.43**	**251**	T	T	14 35 43.4	
	baz=76,slow=71						
H03N2	**Juan Fernandez**	**5.43**	**251**	T	T	14 35 46.4	
	baz=76,slow=71						
AC02	**Maricunga**	**5.89**	**34**	Pn	Pn	14 30 27.6	-2.1
LC01	**Cunco**	**7.12**	**174**	Pn	**Pn**	**14 30 47.4**	**+1.3**
PB14	**IPOC Station P**	**7.45**	**17**	Pn	Pn	14 30 45.5	-5.5
PLCA	**Paso Flores**	**9.09**	**169**	Pn	**Pn**	**14 31 16.2**	**+3.0**
	comp=E,1.0nm,0.3s,baz=338,slow=12,SNR=10						
PLCA	**Paso Flores**	**9.09**	**169**		**Pn**	**14 31 15.9**	**+2.7**
TRQA	**Tornquist**	**10.84**	**128**	Pn	Pn	**14 31 39.0**	**+1.9**
CPUP	**Villa Florida**	**14.57**	**72**	LR	LR	14 38 42.5	
	comp=E,60nm,19.9s,baz=222,slow=40						
LPAZ	**La Paz**	**16.02**	**16**	Pn	**Pn**	**14 32 48.0**	**+0.1**
	comp=E,0.1nm,0.3s,baz=185,slow=7.0,SNR=5.4						
LPAZ	**La Paz**	**16.02**	**16**	IAmb	IAmb	14 32 50.4	
	comp=Z,2.1nm,0.8s						
SIV	**San Ignacio**	**19.01**	**37**	P	**P**	**14 33 24.7**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=219,slow=9.2,SNR=9.2						
RUSC	**La Rusia**	**37.48**	**360**	P	P	14 36 14.6	-1.9
RUSC				IAmb	IAmb	14 36 42.4	
	comp=Z,4.0nm,0.9s						
TX31	**Lajitas Ar. Si**	**67.51**	**331**	P	**P**	**14 39 57.9**	**-0.6**
TX32	**Lajitas Array**	**67.51**	**331**	P	**P**	**14 39 57.9**	**-0.6**
TX32				IAmb	IAmb	14 40 00.2	
	comp=Z,2.4nm,1.1s						
TXAR	**Lajitas Array**	**67.51**	**331**	P	**P**	**14 39 58.4**	**0.0**
	comp=Z,0.4nm,0.7s,baz=159,slow=7.5,SNR=3.6						
TXAR	**Lajitas Array**	**67.51**	**331**	P	**P**	**14 39 57.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**84.07**	**71**	P	**P**	**14 41 33.9**	**+0.6**
	comp=Z,0.7nm,0.9s,baz=250,slow=4.3,SNR=3.9						
TORD	**Torodi Ar. Bea**	**84.07**	**71**	IAmb	IAmb	14 41 55.5	
	comp=Z,2.1nm,1.4s						
WRA	**Warramunga Arr**	**122.35**	**211**	PKP	**PKPdf**	**14 47 57.9**	**-0.1**
	comp=Z,0.4nm,0.9s,baz=151,slow=1.8,SNR=1.5						
ZALV	**Zalesovo Beam**	**152.67**	**29**	PKPbc	**PKPbc**	**14 48 58.9**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=325,slow=2.3,SNR=4.0						
ZALV	**Zalesovo Beam**	**152.67**	**29**		**PKPbc**	**14 48 58.6**	**+0.1**

IDC 30 14:29:04.3±405.0, 53°.98N×1°.59E, h0km, Error ellipse: s-maj=176.1km s-min=100.3km az=24.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**9.15**	**119**	*i*		15 26 20.0	
	baz=309,slow=332,SNR=1.5						
I37NO	**I37NO**	**17.07**	**21**	*i*		16 17 20.0	
	baz=216,slow=324,SNR=1.8						
I43RU	**DUBNA INFRASON**	**20.30**	**68**	*i*		16 35 32.5	
	baz=278,slow=316,SNR=0.8						

*IDC **30** 14:32:28.4±0.9, 8°.48N×103°.38W, h0km, mb4.1/11, mb1 4.3/12, mb1mx4.1/36, mbtmp4.1/12, ML3.4/1, MS3.8/24, Ms1 3.8/24, ms1mx3.8/27, Error ellipse: s-maj=36.4km s-min=15.2km az=55.0*

*NEIC **30** 14:32:31.2±1.6, 8°.5N±0°.1×103°.4W±0°.1, h10km±1km, mb4.5/74, Error ellipse: s-maj=22.8km s-min=16.1km az=241.0*

*GCMT **30** 14:32:31.2±0.4, 8°.43N±0°.02×103°.67W±0°.02, h12km, MW4.8/84, Moment Tensor Solution. s6,c6; s84,c111; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.04±.07; $M_{\theta\theta}$=0.45±.06

ROSC	El Rosal	29.09	95	LR	LR	14 47 27.9		
	comp=Z,213nm,20.9s,baz=274,slow=31							
SDCO	Great Sand Dun	29.24	357	P	P	14 38 33.0	+0.5	
KNB	Kanab	29.71	345	P	P	14 38 37.2	+0.6	
LCMT	Little Creek M	29.82	344	P	P	14 38 38.5	+1.0	
RUSC	La Rusia	30.17	93	P	P	14 38 39.9	-1.5	
SMCO	Snowmass	30.77	355	P	P	14 38 45.8	-0.4	
SMCO				IAmb	IAmb	14 39 00.2		
	comp=Z,13nm,1.4s							
R40A	Maddies Statio	31.37	17	P	P	14 38 50.5	-0.6	
R40A				IAmb	IAmb	14 38 51.9		
	comp=Z,13nm,1.4s							
PSUT	Pine Spring	31.41	344	P	P	14 38 52.5	+0.8	
O20A	White River Ci	31.86	353	P	P	14 38 56.0	+0.4	
CPCT	Cooper Cave	31.95	30	P	P	14 38 56.3	+0.1	
V51A	Loudon	32.31	30	P	P	14 38 59.9	+0.5	
SDV	Santo Domingo	32.38	87	P	P	14 39 01.5	+1.0	
SDV	Santo Domingo	32.38	87	eP	P	14 39 00.7	+0.2	
BG3	Lake Jocassee	32.41	32	P	P	14 39 00.5	+0.3	
BG3				IAmb	IAmb	14 39 01.6		
	comp=Z,6.7nm,0.8s							
TKL	Tuckaleechee C	32.48	31	P	P	14 39 01.6	+0.7	
TKL				IAmb	IAmb	14 39 02.2		
	comp=Z,7.0nm,0.9s							
P40A	Paris	32.58	16	P	P	14 39 01.6	-0.1	
NVAR	Mina Array Bea	32.74	338	P	P	14 39 03.2	-0.2	
	comp=Z,0.3nm,0.7s,baz=178,slow=9.8,SNR=2.6							
NVAR				LR	LR	14 50 19.8		
	comp=Z,104nm,21.3s,baz=146,slow=33							
TCUT	Toone Canyon	33.31	349	P	P	14 39 08.9	+0.5	
TCUT				IAmb	IAmb	14 39 16.4		
	comp=Z,6.0nm,0.6s							
BGU	Big Grassy Mou	33.47	347	P	P	14 39 10.1	+0.4	
SPUT	South Promonto	33.70	348	P	P	14 39 12.1	+0.4	
SPUT				IAmb	IAmb	14 39 24.9		
	comp=Z,6.6nm,1.0s							
PNTR	Pine Nut	33.81	337	P	P	14 39 13.1	+0.4	
PNTR				IAmb	IAmb	14 39 20.5		
	comp=Z,4.0nm,0.8s							
HVU	Hansel Valley	34.23	347	P	P	14 39 16.9	+0.6	
CZSB	Cruzeiro do Su	34.55	117	eP	P	14 39 19.0	-0.2	
BW06	Boulder Array	34.62	352	P	P	14 39 19.0	-0.7	
BW06				IAmb	IAmb	14 39 32.2		
	comp=Z,8.3nm,1.1s							
PD31	Pinedale Array	34.62	352	P	P	14 39 18.8	-0.9	
PD31				IAmb	IAmb	14 39 32.2		
	comp=Z,6.8nm,1.1s							
PDAR	Pinedale Array	34.62	352	P	P	14 39 20.1	+0.4	
	comp=Z,4.2nm,0.9s,baz=165,slow=8.9,SNR=24							
PDAR				LR	LR	14 53 54.4		
	comp=Z,129nm,18.9s,baz=187,slow=37							
PDAR	Pinedale Array	34.62	352	P	P	14 39 19.1	-0.5	
AHID	Auburn Hatcher	34.85	350	P	P	14 39 20.6	-1.1	
AHID				IAmb	IAmb	14 39 28.5		
	comp=Z,4.8nm,0.8s							
REDW	Red Top Meadow	35.39	351	P	P	14 39 25.5	-0.9	
LOHW	Long Hollow	35.60	351	P	P	14 39 28.5	+0.3	
LOHW				IAmb	IAmb	14 39 35.5		
	comp=Z,3.7nm,0.7s							
FXWY	Fox Creek	35.69	350	P	P	14 39 28.1	-0.8	
FLWY	Flagg Ranch	36.07	351	P	P	14 39 31.8	-0.4	
FLWY				IAmb	IAmb	14 39 39.8		
	comp=Z,8.1nm,0.9s							
HLID	Hailey	36.29	346	P	P	14 39 34.3	+0.3	
YNE	Yellowstone No	36.88	352	P	P	14 39 39.1	0.0	
MCMT	McKenzie Canyo	37.17	349	P	P	14 39 40.4	-1.1	
YBH	Yreka Blue Hor	37.30	336	P	P	14 39 43.8	+1.3	
	comp=Z,1.5nm,0.9s,baz=140,slow=7.9,SNR=3.7							
BOZ	Bozeman (W)	37.73	351	P	P	14 39 46.0	+0.1	
MTP	Monte Pirata	37.98	71	P	P	14 39 48.4	-0.2	
F36A	Milaca	38.24	11	P	P	14 39 49.1	-1.2	
F36A				IAmb	IAmb	14 39 51.8		
	comp=Z,6.0nm,0.8s							
AGMN	Agassiz Nation	40.23	8	P	P	14 40 05.9	-1.0	
AGMN				IAmb	IAmb	14 40 07.9		
	comp=Z,15nm,1.0s							
TAOE	Nuku Hiva Isla	40.45	246	eLQ	LQ	14 49 20.3		
	comp=Z,404nm,27.5s							
TAOE				eLR	LR	14 50 51.0		
	comp=Z,212nm,25.2s							
TAOE	Nuku Hiva Isla	40.45	246	eT	T	15 22 36.6		
	comp=Z,40nm,0.2s							
E07A	Sunnyside	40.52	342	P	P	14 40 09.6	+0.3	
E07A				IAmb	IAmb	14 40 13.7		
	comp=Z,8.0nm,0.9s							
ETMB	Extrema	41.22	115	eP	P	14 40 15.6	0.0	
LON	Longmire	41.30	341	P	P	14 40 15.6	-0.2	
NEW	Newport	41.35	346	P	P	14 40 15.6	-0.6	
WALA	Waterton Lakes	41.44	350	P	P	14 40 16.8	-0.2	
WALA				IAmb	IAmb	14 40 44.2		
	comp=Z,13nm,1.4s							
ULM	Lac du Bonnet	42.14	7	P	P	14 40 20.9	-1.6	
	comp=Z,4.0nm,0.6s,baz=204,slow=9.4,SNR=3.1							
ULM				LR	LR	14 57 47.8		
	comp=Z,181nm,20.7s,baz=133,slow=36							
ULM	Lac du Bonnet	42.14	7	IAmb	IAmb	14 40 33.6		
	comp=Z,18nm,1.4s							
LPAZ	La Paz	42.68	125	P	P	14 40 29.5	+1.3	
	comp=Z,5.6nm,1.0s,baz=303,slow=8.8,SNR=13							
LPAZ				LR	LR	14 56 13.0		
	comp=Z,81nm,21.8s,baz=305,slow=33							
LPAZ	La Paz	42.68	125	P	P	14 40 28.7	+0.6	
LPAZ				IAmb	IAmb	14 40 36.0		
	comp=Z,11nm,1.0s							
LPAZ	La Paz	42.68	125	eP	P	14 40 27.5	-0.7	
BOAV	Boa Vista	43.07	96	eP	P	14 40 30.5	-0.1	
PB11	IPOC Station P	43.46	131	P	P	14 40 34.3	+0.4	
SAML	Samuel	43.62	112	P	P	14 40 34.7	-0.4	
SAML				IAmb	IAmb	14 40 41.0		
	comp=Z,9.9nm,1.0s							
SAML	Samuel	43.62	112	eP	P	14 40 35.2	+0.1	
RKT	Rikitea	44.03	224	eT	T	15 27 09.0		
	comp=Z,9.7nm,0.3s							
PB08	IPOC Station P	44.06	131	P	P	14 40 40.0	+1.0	
PB08				IAmb	IAmb	14 40 46.3		
	comp=Z,13nm,1.1s							
MACA	Manacapuru-AM	44.12	103	eP	P	14 40 39.2	+0.1	
PTGA	Pitinga	44.22	100	P	P	14 40 39.1	-0.9	
	comp=Z,0.6nm,0.3s,baz=291,slow=17,SNR=1.9							
PTGA	Pitinga	44.22	100	IAmb	IAmb	14 40 46.9		
	comp=Z,5.9nm,1.1s							
LVC	Limon Verde	45.75	133	eP	P	14 40 52.0	-0.3	
H03N2	Juan Fernandez	47.70	152	T	T	15 32 17.3		
	baz=329,slow=77,SNR=27							
H03N1	Juan Fernandez	47.71	152	T	T	15 32 18.9		
	baz=329,slow=77,SNR=31							
H03N3	Juan Fernandez	47.72	152	T	T	15 32 18.9		
	baz=329,slow=77,SNR=29							
VILB	Vilhena	47.88	116	eP	P	14 41 08.9	+0.1	
AC02	Maricunga	48.31	138	P	P	14 41 13.6	+1.1	
SIV	San Ignacio	48.42	120	P	P	14 41 12.2	-0.8	
	comp=Z,3.6nm,1.0s,baz=279,slow=6.8,SNR=5.3							
ITTB	Itaituba	49.20	103	eP	P	14 41 17.2	-1.8	
PTLB	Pontes e Lacer	49.85	118	eP	P	14 41 24.3	+0.4	
PMOR	Pomariorio Reie	49.89	242	eT	T	15 34 26.0		
	comp=Z,2.6nm,0.3s							
MALB	Monte Alegre	50.03	100	eP	P	14 41 25.5	+0.1	
CLDB	Colider	51.10	111	eP	P	14 41 32.2	-1.1	
MCPB	Macapa, AP	51.89	97	eP	P	14 41 38.0	-1.4	
PPT	Papeete	52.44	240	LR	LR	14 58 09.6		
	comp=Z,99nm,20.2s,baz=76,slow=29							
PPT2	Papeete2	52.45	240	eLR	LR	14 56 27.6		
	comp=Z,256nm,24.5s							
YKA	Yellowknife Ar	54.57	354	LR	LR	15 05 47.8		
	comp=Z,132nm,19.4s,baz=0.0,slow=37							
PRPB	Parauapebas	55.35	103	eP	P	14 42 04.9	+0.1	
SNDB	Serra Nova Dou	55.62	111	eP	P	14 42 06.7	0.0	
TMAB	Tom-Au,PA,Br	56.16	99	eP	P	14 42 10.7	+0.1	
CPUP	Villa Florida	56.52	129	P	P	14 42 13.2	+0.3	
	comp=Z,8.1nm,1.1s,baz=285,slow=8.8,SNR=4.6							
CPUP	Villa Florida	56.52	129	IAmb	IAmb	14 42 19.2		
	comp=Z,9.1nm,1.0s							
CPUP	Villa Florida	56.52	129	eP	P	14 42 13.1	+0.2	
PLCA	Paso Flores	57.53	151	LR	LR	15 01 21.3		
	comp=Z,90nm,20.1s,baz=321,slow=30							
PLCA	Paso Flores	57.53	151	eP	P	14 42 19.7	-0.2	
SMTB	Santa Maria do	58.19	106	eP	P	14 42 24.5	-0.4	
PEXB	Peixe	58.44	110	eP	P	14 42 26.4	-0.3	
TRCB	Terra Rica	58.58	123	eP	P	14 42 27.5	0.0	
BDFB	Brasilia	59.84	114	P	P	14 42 36.0	-0.4	
	comp=Z,3.0nm,0.5s,baz=230,slow=11,SNR=2.1							
BDFB				LR	LR	15 07 39.3		
	comp=Z,135nm,19.3s,baz=269,slow=35							
BDFB	Brasilia	59.84	114	IAmb	IAmb	14 42 41.9		
	comp=Z,11nm,1.0s							
PTGB	Pitanga	59.89	125	eP	P	14 42 36.6	-0.1	
ROSB	Rosrio	60.16	98	eP	P	14 42 38.7	+0.2	
TRQA	Tornquist	60.25	143	eP	P	14 42 38.8	0.0	
IPMB	Ipameri, GO	60.47	116	eP	P	14 42 40.7	0.0	
BB19B	Bebedouro	61.34	119	eP	P	14 42 46.3	-0.3	
FRTB	Fartura	61.37	122	eP	P	14 42 46.5	-0.1	
CPSB	Cacapava Do Su	61.54	131	eP	P	14 42 47.7	0.0	
SDBA	SAO DESIDERIO	61.70	109	eP	P	14 42 49.1	-0.1	
PLTB	Pedras Altas	62.12	133	eP	P	14 42 51.8	+0.3	
SPB	Sao Paulo	63.25	122	eP	P	14 42 59.5	+0.2	
MC01	Montes Claros	63.88	113	eP	P	14 43 03.2	-0.4	
IL31		63.94	341	P	P	14 43 01.2	-1.9	
IL31				IAmb	IAmb	14 43 03.5		
	comp=Z,5.8nm,1.1s							
ILAR	Eielson Array	63.94	341	P	P	14 43 01.2	-1.9	
	comp=Z,2.2nm,0.7s,baz=154,slow=5.0,SNR=16							
ILAR	Eielson Array	63.94	341	P	P	14 43 01.4	-1.8	
K20K	Telida	65.62	337	P	P	14 43 16.5	+2.4	
NBPN	Ponto Novo - B	65.73	106	eP	P	14 43 15.2	-0.5	
I21K	Tanana	65.89	340	P	P	14 43 18.1	+2.3	
J20K	Nowinta River	66.09	338	P	P	14 43 17.4	+0.3	
H21K	Melozitna Rive	66.45	340	P	P	14 43 21.6	+2.2	
H21K				IAmb	IAmb	14 43 27.8		
	comp=Z,4.8nm,1.1s							
GUA01	Guaratinga, BA	67.62	112	eP	P	14 43 27.9	+0.2	
ALF01	Guarapari-ES	68.01	116	eP	P	14 43 29.7	-0.3	
MSVF	Nonsavu	81.79	251	LR	LR	15 10 29.1		
	comp=Z,26nm,21.3s,baz=25,slow=28							
PETK	Petropavlovsk-	88.63	323	LR	LR	15 18 31.3		
	comp=Z,18nm,20.7s,baz=81,slow=31							
ESDC	Sonseca Array	91.85	50	LR	LR	15 24 25.9		
	comp=Z,34nm,18.1s,baz=350,slow=34							
DZM	Mont Dzumac	93.28	248	eLR	LR	15 15 36.7		
	comp=Z,67nm,28.9s							
NOA	NORSAR Array B	94.19	26	LR	LR	15 27 07.8		
	comp=Z,39nm,21.1s,baz=15,slow=35							
ARCES	ARCESS Array B	94.70	16	LR	LR	15 27 53.8		
	comp=Z,95nm,18.9s,baz=40,slow=35							
HFS	Hagfors	95.69	27	LR	LR	15 33 29.5		
	comp=Z,62nm,18.9s,baz=298,slow=38							
VNDA	Vanda	99.22	193	LR	LR	15 22 11.5		
	comp=Z,40nm,19.9s,baz=82,slow=30							
DAVOX	Davos/Dischmat	99.36	40	LR	LR	15 25 17.8		
	comp=Z,56nm,21.8s,baz=262,slow=32							
FINES	FINESS Array B	100.03	22	LR	LR	15 31 35.0		
	comp=Z,61nm,19.6s,baz=334,slow=36							
WRA	Warramunga Arr	123.12	252	PKP	PKPdf	14 51 27.1	-0.9	
	comp=Z,0.6nm,1.0s,baz=94,slow=3.3,SNR=1.7							
ASAR	Alice Springs	123.25	247	PKP	PKPdf	14 51 26.9	-1.3	
	comp=Z,0.7nm,1.1s,baz=76,slow=2.4,SNR=2.3							
CMAR	Chiang Mai Arr	145.36	321	PKPbc	PKPbc	14 52 09.1	0.0	
	comp=Z,0.9nm,0.7s,baz=18,slow=2.1,SNR=7.0							
CMAR	Chiang Mai Arr	145.36	321		PKPbc	14 52 08.5	-0.6	

IDC 30 14:40:16.8±26.0, 7°.76S×157°.07E, h0^{km}, mb3.7/3, mb1 3.9/3, mb1mx3.5/29, mbtmp3.7/3, MS1 2.9/4, Ms1mx2.6/34, Error ellipse: s-maj=439.1km s-min=103.6km az=45.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	Honiara	3.30	121		LR	LR	14 42 41.9	
	comp=Z,86nm,19.1s,baz=172,slow=44							
PMG	Port Moresby	9.94	260		LR	LR	14 46 04.7	
	comp=Z,58nm,18.5s,baz=141,slow=35							
DZM	Mont Dzumac	16.86	149		LR	LR	14 48 35.4	
	comp=Z,56nm,19.6s,baz=10.0,slow=30							
WRA	Warramunga Arr	25.13	239	P		P	14 45 43.5	-0.3
	1.1nm,1.1s,baz=66,slow=9.3,SNR=4.5							
ASAR	Alice Springs	27.27	232	P		P	14 46 03.3	+0.1
	1.0nm,1.0s,baz=60,slow=11,SNR=6.9							
STKA	Stephens Creek	28.00	209	P		P	14 46 09.7	+0.2
	1.2nm,0.8s,baz=45,slow=8.6,SNR=3.1							
STKA				LR		LR	14 55 17.6	
	comp=Z,32nm,20.5s,baz=26,slow=32							

GUC 30 14:45:47.6±0.5, 24°.11S×67°.55W, h221^{km}±7^{km}, ML3.6, 7C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.95	320	⇑iP		Pn	14 46 27.1	-0.6
LVC				iS		S	14 46 57.4	-1.3
PB15	IPOC Station P	1.98	297	⇑iP		Pn	14 46 27.6	-0.1
PB15				iS		S	14 46 58.1	-0.8
PB06	IPOC Station P	2.32	307	⇑iP		Pn	14 46 31.1	-0.1
PB06				iS		S	14 47 04.2	-0.9
PB06				IAML			14 47 07.1	
	comp=N,240nm,0.2s							
PB05	IPOC Station P	2.74	297	⇑iP		Pn	14 46 35.9	+0.3
PB05				iS		S	14 47 11.9	-1.0
PB05				IAML			14 47 13.9	
	comp=N,83nm,0.2s							
PB09	IPOC Station P	2.78	326	⇑iP		Pn	14 46 36.6	+0.5
PB09				iS		S	14 47 14.0	+0.1
PB09				IAML			14 47 16.2	
	comp=N,57nm,0.4s							
PB10	IPOC Station P	2.81	282	eP		Pn	14 46 36.7	+0.4
PB10				iS		S	14 47 13.2	-1.0
PB10				IAML			14 47 19.5	
	comp=E,64nm,0.4s							
PB04	IPOC Station P	2.97	306	eP		Pn	14 46 37.2	-1.0
PB04				eS		S	14 47 17.0	-0.7
PB04				IAML			14 47 20.0	
	comp=N,113nm,0.2s							
PB07	IPOC Station P	3.20	317	⇑iP		Pn	14 46 41.1	+0.2
PB07				iS		S	14 47 21.5	-1.0
PB02	IPOC Station P	3.52	322	eP		Pn	14 46 44.4	-0.2
PB02				iS		S	14 47 28.4	-0.8
PB01	IPOC Station P	3.54	329	eP		Pn	14 46 44.4	-0.4
PB01				iS		S	14 47 28.6	-0.9
PB08	IPOC Station P	4.22	339	⇑eP		Pn	14 46 53.6	+0.3
PB08				iS		S	14 47 44.0	-0.8
HMBC	Humberstone	4.38	330	eP		Pn	14 46 54.5	-0.6
HMBC				iS		S	14 47 44.8	-3.3
PB11	IPOC Station P	4.75	335	eP		Pn	14 46 58.9	-0.7
PB11				iS		S	14 47 54.1	-2.2
PSGC	Pisagua	5.09	331	eP		Pn	14 47 03.2	-0.5

MEX 30 14:48:48.7±1.7, 17°.11N×95°.22W, h112^{km}±11^{km}, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.33	93	iP		Pn	14 49 03.9	-0.9
CMIG				eS		Sn	14 49 15.4	-1.5
TUIG	Tuzandepetl	1.20	40	eP		Pn	14 49 10.9	-1.2
TUIG				eS		Sn	14 49 27.6	-2.4
VHO	Vista Hermosa	1.44	269	eP		Pn	14 49 13.9	-1.2
VHO				eS		Sn	14 49 34.3	-1.0
HUIG	Huatulco	1.58	213	eP		Pn	14 49 14.1	-2.5
HUIG				eS		Sn	14 49 34.2	-3.6
TOIG	Toxpalan	2.01	300	eP		Pn	14 49 21.5	-0.5
TOIG				eS		Sn	14 49 44.5	-3.1
TGIG		2.04	99	eP		Pn	14 49 21.3	-1.1
TGIG				eS		Sn	14 49 43.9	-4.1
YOIG	Yosondua	2.23	264	eP		Pn	14 49 23.8	-1.3
YOIG				eS		Sn	14 49 49.6	-3.3
PCIG		2.38	126	eP		Pn	14 49 25.9	-0.7
PCIG				eS		Sn	14 49 51.0	-4.7
HLIG	Huajuapan de L	2.56	287	eP		Pn	14 49 28.7	-0.5
HLIG				eS		Sn	14 49 55.6	-4.8
PNIG	Pinotepa	2.87	256	eP		Pn	14 49 30.1	-2.9
PNIG				eS		Sn	14 49 59.8	-7.4
FTIG	Fresnillo de T	2.89	286	eP		Pn	14 49 33.2	-0.2
FTIG				eS		Sn	14 50 03.1	-4.7
CCIG	Comitan	3.07	105	eP		Pn	14 49 34.9	-1.0
CCIG				eS		Sn	14 50 09.2	-3.0
SCIG	Sabancuy	4.26	64	eS		Sn	14 50 34.4	-6.1

*NEIC **30** 14:55:36.6±0.6, 18°.0N±0°.2×68°.24W±0°.06, h137^{km}±10^{km}, Error ellipse: s-maj=30.4km s-min=8.5km az=180.0*
*RSPR **30** 14:55:37.3, 18°.1N×68°.17W, h143^{km}±1^{km}, MD3.8/4*
ISC 30 14:55:35.4±1.6, 18°.0N±0°.2×68°.24W±0°.06, h150^{km}, n32, σ0°68/35, 7D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CRPR	Cabo Rojo, PR	1.08	90	⇓eP		Pn	14 56 00.9	+0.1
CRPR	Cabo Rojo, PR	1.08	90			Pn	14 56 00.9	+0.1
CRPR						Sn	14 56 18.9	-1.3
CRPR	Cabo Rojo, PR	1.08	90	IAML			14 56 26.4	
	comp=N,32nm,0.3s							
LSP	Las Mesas	1.11	81	⇓eP		Pn	14 56 01.2	0.0
LSP	Las Mesas	1.11	81	eS		Sn	14 56 20.1	-0.8
MLPR	Magueyes Islan	1.14	92	Pn		Pn	14 56 00.9	-0.5
AGPR	Aguadilla, PR	1.17	67	⇓eP		Pn	14 56 01.8	+0.2
AGPR	Aguadilla, PR	1.17	67	eS		Sn	14 56 20.7	-1.0
AGPR	Aguadilla, PR	1.17	67			Pn	14 56 01.8	+0.2
AGPR						Sn	14 56 20.7	-1.0
AGPR	Aguadilla, PR	1.17	67	IAML			14 56 23.4	
	comp=E,83nm,0.4s							
AGPR				IAML			14 56 44.8	
	comp=N,105nm,0.5s							
AOPR	Arecibo Observ	1.45	76	⇓eP		Pn	14 56 04.6	+0.1
AOPR	Arecibo Observ	1.45	76	eS		Sn	14 56 26.2	-0.6
AOPR	Arecibo Observ	1.45	76			Pn	14 56 04.6	+0.1
AOPR						Sn	14 56 26.2	-0.6
OBIP	Obispado Ponce	1.56	89	Pn		Pn	14 56 05.7	+0.1
OBIP				IAML			14 56 32.5	
	comp=E,22nm,0.5s							
EMPR	Esperanza - Ma	1.69	74	Pn		Pn	14 56 07.2	+0.2
EMPR				IAML			14 56 41.7	
	comp=E,92nm,0.4s							
EMPR				IAML			14 57 18.6	
	comp=N,90nm,0.7s							
IGPR	InterUniversit	2.03	91	Pn		Pn	14 56 10.1	-0.8
IGPR				IAML			14 56 45.4	
	comp=E,40nm,0.2s							
BANI	BANI	2.05	281	Pn		Pn	14 56 12.5	+1.3
PDPR	Patillas Dam,	2.11	89	Pn		Pn	14 56 11.9	+0.1
PDPR				IAML			14 56 48.7	
	comp=E,51nm,1.2s							
HUMP	Col San Antoni	2.28	86	Pn		Pn	14 56 14.2	+0.4
HUMP				IAML			14 56 45.1	
	comp=N,31nm,0.3s							
HUMP				IAML			14 56 47.3	
	comp=E,47nm,0.2s							
CBYP	Canovanas	2.28	83	⇓eP		Pn	14 56 14.5	+0.5
CBYP	Canovanas	2.28	83	eS		Sn	14 56 43.6	0.0
CBYP	Canovanas	2.28	83			Pn	14 56 14.5	+0.5
CBYP						Sn	14 56 43.6	0.0
MTP	Monte Pirata	2.56	88	⇓eP		Pn	14 56 18.5	+1.2
MTP	Monte Pirata	2.56	88	eS		Sn	14 56 49.8	+0.2
MTP	Monte Pirata	2.56	88			Pn	14 56 18.5	+1.2
MTP						Sn	14 56 49.8	+0.2
MTP	Monte Pirata	2.56	88	IAML			14 56 55.5	
	comp=E,20nm,2.9s							
MTP				IAML			14 57 44.6	
	comp=N,18nm,5.0s							
CUPR	Culebra, Puert	2.83	84	Pn		Pn	14 56 20.8	+0.2
SDDR	Presa de Saban	3.05	289	Pn		Pn	14 56 23.1	-0.3
SDDR				IAML			14 56 57.9	
	comp=N,24nm,3.3s							
VGBI	Virgin Gorda,	3.68	82	⇓eP		Pn	14 56 32.4	+0.9
VGBI	Virgin Gorda,	3.68	82	eS		Sn	14 57 15.1	0.0
VGBI	Virgin Gorda,	3.68	82			Pn	14 56 32.4	+0.9
VGBI						Sn	14 57 15.1	0.0

*JMA **30** 14:55:49.9±0.1, 24°.81N×121°.91E, h28^{km}, M2.4*
*TAP **30** 14:55:49.7, 24°.81N×121°.99E, h1^{km}, ML3.2, C*
ISC 30 14:55:49.6±1.0, 24°.80N±0°.02×122°.00E±0°.02, h7^{km}±8^{km}, n61, σ0°59/115, 5C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NTC	Toucheng	0.16	288	iP		Pg	14 55 52.7	-0.1
	baz=288							
NTC				iS		Sg	14 55 55.0	-0.1
	baz=288							
TWB1	Santiao Chiao	0.20	358	⇑eP		Pg	14 55 53.6	0.0
	baz=1.0							
TWB1				eS		Sg	14 55 56.3	-0.1
	baz=1.0							
TIPB	Shuangxi	0.23	317	⇑iP		Pg	14 55 53.8	-0.3
	baz=317							
TIPB				iS		Sg	14 55 56.7	-0.5
	baz=317							
ILA	Ilan	0.23	260	P		Pg	14 55 54.0	-0.2
	baz=258							
ILA				S		Sg	14 55 57.4	+0.2
	baz=258							
TWE	Neicheng	0.31	255	iP		Pg	14 55 55.2	-0.5
	baz=252							
TWE				iS		Sg	14 55 59.2	-0.6
	baz=252							
NWF	Wu-fen Shan	0.33	324	⇑iP		Pg	14 55 56.0	0.0
	baz=324							
NWF				iS		Sg	14 56 00.8	+0.3
	baz=324							
WFSB	Wu-fen Shan	0.33	324	⇑P		Pg	14 55 56.0	-0.1
	baz=324							
WFSB				S		Sg	14 56 00.7	+0.2
	baz=324							
EWUT	Wuta	0.41	209	P		Pg	14 55 57.5	0.0
	baz=208							
EWUT				S		Sg	14 56 03.3	+0.4
	baz=208							
TWA	Mucha	0.41	295	⇑iP		Pg	14 55 57.3	-0.3
	baz=295

	baz=230								
FUSS				*i*	S		**Sg**	14 56 18.2	**+0.1**
	baz=230								
HWA	**Hwalien**	**0.90**	**204**		P		**Pg**	14 56 07.2	**+0.4**
	baz=202								
HWA					S		**Sb**	14 56 20.2	**+0.5**
	baz=202								
SBCB	**Hsinchu**	**0.92**	**269**		P		**Pb**	14 56 08.3	**+0.5**
	baz=269								
SBCB					S		**Sb**	14 56 21.4	**+1.1**
	baz=269								
NSTT	**Nanjuang**	**0.92**	**259**		P		**Pg**	14 56 07.2	**-0.1**
	baz=258								
NSTT					S		**Sb**	14 56 21.6	**+1.2**
	baz=258								
TWT	**Tachien**	**0.93**	**234**		P		**Pg**	14 56 07.7	**+0.3**
	baz=233								
TWT					S		**Sn**	14 56 22.7	**-0.1**
	baz=233								
HSN	**Hsinchu**	**0.93**	**270**		S		**Sb**	14 56 21.0	**+0.3**
	baz=271								
WHF	**Hehuan Shan**	**0.94**	**226**	*i*	P		**Pg**	14 56 06.8	**-0.8**
	baz=224								
WHF				*i*	S		**Sb**	14 56 21.4	**+0.2**
	baz=224								
TDCB	**Techi**	**0.94**	**234**		P		**Pg**	14 56 07.6	**-0.1**
	baz=234								
TDCB					S		**Sb**	14 56 22.7	**+1.7**
	baz=234								
YOJ	**Yonaguni jima**	**0.98**	**110**		P		**Pg**	14 56 08.5	**0.0**
YOJ					S		**Sb**	14 56 22.4	**+0.3**
YOJ	**Yonaguni jima**	**0.98**	**110**		P		**Pg**	14 56 08.5	**0.0**
	baz=110								
CHGB	**Renai**	**1.05**	**226**		P		**Pg**	14 56 09.1	**-0.8**
	baz=225								
CHGB					S		**Sb**	14 56 24.6	**+0.2**
	baz=225								
WHP	**Taichung City**	**1.09**	**242**	*i*	P		**Pg**	14 56 10.6	**0.0**
	baz=241								
WHP					S		**Sn**	14 56 27.1	**+0.3**
	baz=241								
ESL	**Shilin**	**1.11**	**208**	*i*	P		**Pg**	14 56 10.4	**-0.5**
	baz=206								
ESL				*i*	S		**Sg**	14 56 26.0	**+0.6**
	baz=206								
OWD	**Renai**	**1.13**	**222**		P		**Pg**	14 56 10.6	**-0.7**
	baz=221								
OWD					S		**Sg**	14 56 26.5	**+0.6**
	baz=221								
NSY	**Sanyi**	**1.19**	**251**		P		**Pg**	14 56 11.7	**-0.7**
	baz=250								
NSY					S		**Sg**	14 56 28.1	**+0.3**
	baz=250								
TWQ1	**Liyutan**	**1.20**	**248**	*e*	P		**Pg**	14 56 12.2	**-0.5**
	baz=247								
TWQ1				*e*	S		**Sg**	14 56 28.7	**+0.4**
	baz=247								
WCS	**Beigang Elemen**	**1.24**	**233**	*e*	P		**Pg**	14 56 12.7	**-0.7**
	baz=232								
WCS				*e*	S		**Sb**	14 56 30.5	**+1.1**
	baz=232								
EGFH	**Guangfu**	**1.24**	**205**	*e*	P		**Pg**	14 56 12.7	**-0.8**
	baz=204								
EGFH				*e*	S		**Sb**	14 56 30.3	**+0.7**
	baz=204								
WDJ	**Dajia District**	**1.32**	**250**	*e*	S		**Sg**	14 56 32.0	**+0.1**
	baz=249								
SMLT	**Sun Moon Lake**	**1.36**	**228**	*i*	P		**Pg**	14 56 14.9	**-0.7**
	baz=227								
SMLT					S		**Sg**	14 56 32.3	**-1.0**
	baz=227								
TYC	**Yuchr**	**1.37**	**229**	*e*	P		**Pn**	14 56 14.7	**-0.5**
	baz=228								
TYC					S		**Sg**	14 56 32.5	**-1.2**
	baz=228								
SSLB	**Suanglung**	**1.39**	**223**		P		**Pn**	14 56 15.3	**-0.1**
	baz=223								
SSLB					S		**Sb**	14 56 34.9	**+1.0**
	baz=223								
HGSD	**Ruisui**	**1.41**	**202**		P		**Pn**	14 56 15.4	**-0.2**
	baz=201								
HGSD				*e*	S		**Sg**	14 56 34.7	**-0.2**
	baz=201								
EHY	**Hungye**	**1.43**	**206**		P		**Pn**	14 56 15.1	**-0.8**
	baz=205								
EHY					S		**Sg**	14 56 34.1	**-1.5**
	baz=205								
WNT	**Mingjian**	**1.51**	**233**	*e*	P		**Pn**	14 56 16.6	**-0.4**
	baz=232								
WNT				*e*	S		**Sb**	14 56 36.8	**-0.6**
	baz=232								
WJS	**Zhushan**	**1.52**	**230**	*e*	P		**Pn**	14 56 16.6	**-0.6**
	baz=229								
WJS				*e*	S		**Sn**	14 56 36.3	**-0.8**
	baz=229								
WHYT	**Xinyi Township**	**1.52**	**224**		P		**Pn**	14 56 16.6	**-0.7**
	baz=223								
WHYT					S		**Sn**	14 56 37.1	**-0.1**
	baz=223								
YULB	**Yu-li**	**1.54**	**205**		P		**Pn**	14 56 18.0	**+0.5**
	baz=204								
YULB					S		**Sn**	14 56 38.9	**+1.0**
	baz=204								
EYUL	**Yuli**	**1.58**	**203**	*e*	P		**Pn**	14 56 17.8	**-0.2**
	baz=202								
EYUL				*e*	S		**Sn**	14 56 38.9	**+0.2**
	baz=202								
YUS	**Yu-Shan**	**1.62**	**216**	*e*	P		**Pn**	14 56 19.4	**+0.3**
	baz=215								
YUS				*e*	S		**Sn**	14 56 40.5	**+0.1**
	baz=215								
IRIF	**Iriomote-Funau**	**1.65**	**106**		P		**Pn**	14 56 17.8	**-1.1**
ALS	**Alishan**	**1.69**	**220**		P		**Pn**	14 56 20.3	**+0.5**
	baz=219								
ALS				*e*	S		**Sn**	14 56 40.8	**-1.0**
	baz=219								
CHN5	**Tsauling**	**1.70**	**225**	*e*	P		**Pn**	14 56 20.8	**+1.1**
	baz=224								
HATJ	**Hateruma jima**	**1.81**	**114**		P		**Pn**	14 56 21.3	**+0.2**
JKRS	**Kuro-shima**	**1.92**	**107**		P		**Pn**	14 56 22.7	**+0.1**
JKRS					S		**Sn**	14 56 46.3	**-0.7**
JIJ	**Ishigaki jima**	**2.00**	**102**		P		**Pn**	14 56 23.4	**-0.4**
JIJ				*e*	S		**Sn**	14 56 48.4	**-0.7**
JISG	**Ishigakijimahi**	**2.12**	**95**		P		**Pn**	14 56 25.7	**+0.3**

TRN 30 14:56:45.7, 11°.92N × 61°.81W, h110 km, MD3.2, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRFF	**Grenada Fort F**	**0.15**	**29**	*e*P	Pn	14 57 00.2	**-0.8**
GRFF				*e*S	Sn	14 57 12.6	+0.1
GRGR	**Grenville**	**0.26**	**36**	*e*P	Pn	14 57 00.7	-0.7
GRGR				*e*S	Sn	14 57 13.2	+0.2
GRHS	**Sauteurs**	**0.35**	**29**	*e*P	Pn	14 57 02.1	+0.4
GRSS	**Sisters**	**0.42**	**27**	*e*P	Pn	14 57 02.7	+0.6
GCMP	**Grenada, Carri**	**0.68**	**34**	*e*P	Pn	14 57 03.2	-0.7
GCMP				*e*S	Sn	14 57 17.0	-0.6
BOT	**Bacolet**	**1.31**	**125**	*e*P	Pn	14 57 11.2	+0.9
TRN	**Trinidad (W)**	**1.32**	**162**	*e*P	Pn	14 57 10.6	+0.1
TRN				*e*S	Sn	14 57 29.4	+0.2
TOSP	**Speyside**	**1.39**	**116**	*e*P	Pn	14 57 11.1	-0.2
TOSP				*e*S	Sn	14 57 29.6	-1.0
SVB	**Belmont**	**1.45**	**22**	*e*	Sn	14 57 34.4	+2.5
SSV	**Crater Summit**	**1.52**	**23**	*e*P	Pn	14 57 13.2	+0.2
SSV				*e*S	Sn	14 57 33.3	-0.4
MCLT	**Moule a Chique**	**1.97**	**25**	*e*P	Pn	14 57 18.2	-0.2
MCLT				*e*S	Sn	14 57 43.3	-0.1

*IDC **30** 15:04:33.0±1.3, 18°.07S × 178°.11W, h632 km±15 km, mb3.3/14, mb1 3.5/17, mb1mx3.4/27, mbtmp4.3/17, Error ellipse: s-maj=19.6km s-min=10.1km az=156.0*
*NEIC **30** 15:04:32.2±1.7, 18°.3S±0°.1 × 177°.9W±0°.1, h615 km±8 km, mb4.1/41, Error ellipse: s-maj=15.4km s-min=15.3km az=94.0*

ISC 30 15:04:34.1±0.5, 18°26S±0°.08 × 178°08W±0°.08, h650 km, n73, σ1°41/77, mb4.0/34, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.73**	**277**	P	**P**	**15 05 58.8**	**-2.9**
	8.6nm,0.3s,baz=159,slow=3.9,SNR=54						
MSVF				S	**S**	**15 07 12.3**	**-0.7**
	baz=141,slow=22,SNR=7.0						

MSVF	**Nonsavu**	**3.73**	**277**		P		**P**	**15 05 59.2**	**-2.5**
AFI	**Afiamalu**	**7.44**	**55**		P		P	15 06 23.9	-6.5
	4.7nm,0.3s,baz=28,slow=0.6,SNR=8.2								
AFI	**Afiamalu**	**7.44**	**55**		P		P	15 06 24.1	-6.3
MARNC	**Mare, Loyalty**	**13.46**	**254**		P		**P**	**15 07 26.0**	**-0.2**
PINNC	**Pines Island,**	**14.24**	**250**		P		**P**	**15 07 33.9**	**+0.4**
DZM	**Mont Dzumac**	**15.02**	**253**		P		**P**	**15 07 40.7**	**0.0**
	0.3nm,0.3s,baz=172,slow=22,SNR=1.7								
DZM	**Mont Dzumac**	**15.02**	**253**		P		**P**	**15 07 41.2**	**+0.5**
DZM					IAmb		IAmb	15 08 06.5	
	comp=Z,5.8nm,1.0s								
KNTN	**Kanton**	**16.60**	**23**		P		**P**	**15 07 52.4**	**-2.8**
RAR	**Rarotonga**	**17.48**	**103**		P		**P**	**15 08 02.5**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=60,slow=15,SNR=1.4								
OUZ	**Omahuta**	**18.44**	**202**		P		**P**	**15 08 13.2**	**+1.6**
URZ	**Urewera**	**20.37**	**191**		P		**P**	**15 08 24.6**	**-4.2**
	comp=Z,5.4nm,0.3s,baz=294,slow=5.7,SNR=11								
URZ					S		**S**	**15 11 35.1**	**-2.6**
	comp=Z,2.1nm,0.8s,baz=138,slow=23,SNR=1.2								
URZ	**Urewera**	**20.37**	**191**		P		**P**	**15 08 25.0**	**-3.8**
BKZ	**Black Stump Fm**	**21.36**	**192**		P		**P**	**15 08 34.2**	**-3.6**
BKZ					IAmb		IAmb	15 08 41.3	
	comp=Z,9.2nm,1.2s								
QRZ	**Quartz Range**	**23.90**	**198**		P		**P**	**15 08 59.0**	**-1.2**
KHZ	**Kahutara**	**25.12**	**195**		P		**P**	**15 09 08.0**	**-2.8**
MLZ	**Mavora Lakes**	**29.38**	**200**		P		**P**	**15 09 47.3**	**-0.5**
ARMA	**Armidale**	**30.04**	**241**		P		**P**	**15 09 54.5**	**+0.7**
ARMA					IAmb		IAmb	15 10 18.0	
	comp=Z,5.5nm,1.1s								
CTA	**Charters Tower**	**33.70**	**261**		P		**P**	**15 10 25.2**	**+0.5**
	comp=Z,3.0nm,0.3s,baz=78,slow=12,SNR=17								
CTAO	**Charters Tower**	**33.70**	**261**		P		**P**	**15 10 25.3**	**+0.6**
CTAO					IAmb		IAmb	15 10 26.3	
	comp=Z,4.6nm,0.5s								
CAN	**Canberra**	**33.75**	**233**		P		**P**	**15 10 25.8**	**+0.9**
TOO	**Toolangi**	**37.20**	**231**		P		**P**	**15 10 53.6**	**+0.4**
TOO					IAmb		IAmb	15 11 12.2	
	comp=Z,3.7nm,1.0s								
COEN	**Coen**	**37.43**	**271**		P		**P**	**15 10 56.9**	**+1.6**
COEN					IAmb		IAmb	15 11 15.6	
	comp=Z,12nm,1.1s								
STKA	**Stephens Creek**	**38.74**	**242**		P		**P**	**15 11 06.2**	**+0.5**
	comp=Z,3.8nm,0.7s,baz=81,slow=9.8,SNR=10								
STKA	**Stephens Creek**	**38.74**	**242**		P		**P**	**15 11 06.6**	**+1.0**
JAY	**Jayapura**	**43.31**	**286**		P		**P**	**15 11 40.5**	**-1.3**
	comp=Z,6.4nm,0.6s,baz=53,slow=5.1,SNR=2.5								
BBOO	**Buckleboo**	**43.52**	**241**		P		**P**	**15 11 43.4**	**+0.4**
BBOO					IAmb		IAmb	15 11 44.1	
	comp=Z,5.1nm,0.7s								
WR0	**Warramunga Arr**	**44.69**	**260**		P		**P**	**15 11 52.9**	**+0.6**
WR0					IAmb		IAmb	15 11 59.4	
	comp=Z,4.4nm,1.1s								
WB0	**Warramunga Arr**	**44.85**	**260**		P		**P**	**15 11 54.1**	**+0.6**
WB0					IAmb		IAmb	15 11 54.5	
	comp=Z,4.9nm,0.5s								
WB2	**Warramunga Arr**	**44.87**	**260**		P		**P**	**15 11 53.8**	**+0.2**
WB2					IAmb		IAmb	15 11 54.8	
	comp=Z,3.5nm,0.6s								
WRAB	**Tennant Creek**	**44.87**	**260**		P		**P**	**15 11 54.3**	**+0.7**
WRAB					IAmb		IAmb	15 11 54.9	
	comp=Z,7.2nm,1.1s								
WRA	**Warramunga Arr**	**44.88**	**260**		P		**P**	**15 11 54.1**	**+0.4**
	comp=Z,2.7nm,0.3s,baz=97,slow=6.8,SNR=179								
WRA					PcP		**PcP**	**15 13 22.4**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=99,slow=3.6,SNR=2.8								
WRA					S		**S**	**15 17 46.6**	**0.0**
	comp=Z,1.3nm,1.2s,baz=110,slow=11,SNR=2.9								
WRA	**Warramunga Arr**	**44.88**	**260**		P		**P**	**15 11 52.9**	**-0.8**
AS31	**Alice Springs**	**45.00**	**255**		P		**P**	**15 11 55.5**	**+0.9**
ASAR	**Alice Springs**	**45.00**	**255**		P		**P**	**15 11 54.9**	**+0.3**
	comp=Z,3.8nm,0.5s,baz=92,slow=8.0,SNR=184								
ASAR					PcP		**PcP**	**15 13 22.0**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=101,slow=4.0,SNR=4.5								
ASAR					S		**S**	**15 17 49.7**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=88,slow=15,SNR=4.5								
ASAR	**Alice Springs**	**45.00**	**255**		P		**P**	**15 11 54.6**	**0.0**
MTN	**Manton Dam**	**49.11**	**269**		P		**P**	**15 12 25.6**	**+0.3**
FORT	**Forrest**	**50.15**	**245**		P		**P**	**15 12 32.4**	**-0.2**
KNRA	**Kununurra**	**50.77**	**264**		P		**P**	**15 12 37.4**	**+0.2**
KNRA					IAmb		IAmb	15 12 57.1	
	comp=Z,9.5nm,1.1s								
FITZ	**Fitzroy Crossi**	**53.28**	**261**		P		**P**	**15 12 54.4**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=120,slow=7.1,SNR=15								
FITZ	**Fitzroy Crossi**	**53.28**	**261**		P		**P**	**15 12 55.9**	**+0.7**
JCJ	**Chichijima**	**59.31**	**318**		P		**P**	**15 13 35.6**	**-0.5**
	comp=Z,31nm,0.3s,baz=100,slow=24,SNR=2.3								
SBA	**Scott Base**	**60.09**	**184**		P		**P**	**15 13 42.5**	**+2.2**
VNDA	**Vanda**	**60.12**	**185**		P		**P**	**15 13 41.6**	**+1.1**
	comp=Z,1.5nm,1.2s,baz=350,slow=6.5,SNR=5.6								
VNDA	**Vanda**	**60.12**	**185**		P		**P**	**15 13 41.2**	**+0.6**
MJAR	**Matsushiro Arr**	**68.38**	**323**		P		**P**	**15 14 32.6**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=141,slow=6.2,SNR=3.4								
MJAR	**Matsushiro Arr**	**68.38**	**323**		P		**P**	**15 14 33.9**	**+0.8**
QSPA	**South Pole Qui**	**71.80**	**180**		P		**P**	**15 14 53.7**	**+0.8**
QSPA					IAmb		IAmb	15 14 54.0	
	comp=Z,3.1nm,0.6s								
PETK	**Petropavlovsk-**	**74.10**	**345**		P		**P**	**15 15 04.1**	**-1.7**
	comp=Z,2.6nm,0.6s,baz=128,slow=7.1,SNR=7.7								
PETK	**Petropavlovsk-**	**74.10**	**345**		P		**P**	**15 15 04.4**	**-1.5**
YERR	**Yerington**	**79.16**	**43**		P		**P**	**15 15 35.2**	**+1.2**
YERR					IAmb		IAmb	15 15 35.4	
	comp=Z,4.1nm,0.7s								
NVAR	**Mina Array Bea**	**79.46**	**44**		P		**P**	**15 15 35.1**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=226,slow=9.5,SNR=15								
MOD	**Modoc Plateau**	**80.15**	**40**		P		**P**	**15 15 39.9**	**+0.9**
PINE	**Pine Mountain**	**80.87**	**38**		P		**P**	**15 15 44.1**	**+1.4**
PINE					IAmb		IAmb	15 15 44.8	
	comp=Z,6.8nm,1.0s								
I07A	**Izee**	**81.88**	**38**		P		**P**	**15 15 49.0**	**+1.3**
I07A					IAmb		IAmb	15 15 49.6	
	comp=Z,3.4nm,0.9s								
U15A	**North Rim**	**82.52**	**48**		P		**P**	**15 15 53.1**	**+1.8**
U15A					IAmb		IAmb	15 15 53.5	
	comp=Z,4.4nm,0.8s								
KNK	**Knik Glacier**	**82.86**	**14**		P		**P**	**15 15 55.1**	**+3.0**
GHO	**Glory Hole Cre**	**83.07**	**13**		P		**P**	**15 15 53.8**	**+0.5**
SCM	**Sheep Creek Mo**	**83.49**	**14**		P		**P**	**15 15 55.8**	**+0.5**
SCM					IAmb		IAmb	15 15 56.1	
	comp=Z,6.7nm,0.7s								
K20K	**Telida**	**83.49**	**11**		P		**P**	**15 15 55.8**	**+0.7**
K20K					IAmb		IAmb	15 15 56.3	
	comp=Z,3.6nm,0.8s								
GLB	**Gilahina Butte**	**84.01**	**16**		P		**P**	**15 15 58.3**	**+0.5**
GLB					IAmb		IAmb	15 15 58.8	
	comp=Z,5.7nm,0.8s								
J20K	**Nowinta River**	**84.23**	**10**		P		**P**	**15 15 59.9**	**+1.1**
TXAR	**Lajitas Array**	**85.91**	**57**		P		**P**	**15 16 08.5**	**+0.7**
	comp=Z,2.4nm,0.8s,baz=221,slow=6.5,SNR=26								
TXAR	**Lajitas Array**	**85.91**	**57**		P		**P**	**15 16 09.6**	**+1.8**
ILAR	**Eielson Array**	**86.16**	**13**		P		**P**	**15 16 07.5**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=220,slow=4.8,SNR=16								
MCMT	**McKenzie Canyo**	**86.30**	**40**		P		**P**	**15 16 10.4**	**+1.0**
IMW	**Indian Meadow**	**87.03**	**42**		P		**P**	**15 16 13.6**	**+0.7**
IMW					IAmb		IAmb	15 16 14.9	
	comp=Z,3.4nm,1.0s								
PDAR	**Pinedale Array**	**87.39**	**43**		P		**P**	**15 16 14.6**	**0.0**
	comp=Z,1.0nm,0.8s,baz=230,slow=3.8,SNR=8.6								
CMAR	**Chiang Mai Arr**	**89.30**	**290**		P		**P**	**15 16 24.2**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=114,slow=2.2,SNR=2.9								
MMAI	**Mount Meron Ar**	**146.60**	**303**		PKPbc		**PKPbc**	**15 23 05.7**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=77,slow=6.2,SNR=3.6								
GERES	**GERESS Array B**	**148.03**	**345**		PKPbc		**PKPbc**	**15 23 09.1**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=343,slow=4.2,SNR=5.5								
GERES	**GERESS Array B**	**148.03**	**345**				**PKPbc**	**15 23 08.2**	**-0.1**
DAVOX	**Davos/Dischmat**	**150.81**	**349**		PKPbc		**PKPbc**	**15 23 14.6**	**-0.6**
	comp=Z,1.5nm,0.4s,baz=24,slow=3.6,SNR=5.3								

*NEIC **30** 15:19:25.1±1.1, 56°.3S±0°.1 × 27°.3W±0°.2, h121 km±5 km, mb4.4/23, Error ellipse: s-maj=19.2km s-min=13.8km az=220.0*
*IDC **30** 15:19:27.2±7.6, 56°.32S × 27°.23W, h142 km±68 km, mb4.0/6, mb1 4.2/6, mb1mx3.7/23, mbtmp4.4/6, MS3.0/1, Ms1 3.0/1, ms1mx2.6/18, Error ellipse: s-maj=30.2km s-min=18.2km az=65.0*

ISC 30 15:19:27.7±0.5, 56°.3S±0°.1 × 27°.4W±0°.1, h150 km, n48, σ0°.89/42, mb4.3/16, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.56**	**288**	Pn	**Pn**	**15 20 46.5**	**-1.8**
VNA1	**Neumayer--Stat**	**16.61**	**158**	P	**P**	**15 23 10.7**	**-0.5**
VNA3	**Neumayer Olymp**	**16.80**	**160**	P	**P**	**15 23 12.1**	**-1.2**
VNA2	**Neumayer--Watz**	**17.01**	**157**	P	**P**	**15 23 14.5**	**-1.1**

	baz=311,slow=13								
SNAA	**Sanae**	**18.56**	**156**		P		**P**	**15 23 31.5**	**-1.1**
SNAA	**Sanae**	**18.56**	**156**		P		**P**	**15 23 31.2**	**-1.4**
PMSA	**Palmer Station**	**19.64**	**230**		P		**P**	**15 23 46.2**	**+2.0**
PMSA					IAmb		IAmb	15 23 52.9	
	comp=Z,18nm,0.9s								
TRQA	**Tornquist**	**29.30**	**294**		P		**P**	**15 25 14.8**	**-0.9**
PLTB	**Pedras Altas**	**30.57**	**312**		P		**P**	**15 25 27.3**	**+0.3**
PLTB					IAmb		IAmb	15 25 39.1	
	comp=Z,2.7nm,0.8s								
PLCA	**Paso Flores**	**31.92**	**281**		LR		LR	15 39 45.0	
	comp=Z,25nm,18.7s,baz=168,slow=38								
QSPA	**South Pole Qui**	**33.95**	**180**		P		**P**	**15 25 56.4**	**+0.2**
QSPA					IAmb		IAmb	15 25 58.0	
	comp=Z,6.1nm,0.6s								
MAW	**Mawson**	**40.02**	**143**		P		**P**	**15 26 46.8**	**-0.5**
	comp=Z,1.8nm,0.3s,baz=226,slow=7.4,SNR=11								
MAW	**Mawson**	**40.02**	**143**		P		**P**	**15 26 46.9**	**-0.3**
AC02	**Maricunga**	**41.87**	**297**		P		**P**	**15 27 03.9**	**+0.5**
AC02					IAmb		IAmb	15 27 05.5	
	comp=Z,3.8nm,0.8s								
LVC	**Limon Verde**	**45.32**	**301**		P		**P**	**15 27 31.4**	**+0.6**
LVC					IAmb		IAmb	15 27 33.7	
	comp=Z,6.9nm,0.7s								
PB10	**IPOC Station P**	**45.35**	**298**		P		**P**	**15 27 30.2**	**-0.5**
PB10					IAmb		IAmb	15 27 45.7	
	comp=Z,8.3nm,0.9s								
PB09	**IPOC Station P**	**46.17**	**301**		P		**P**	**15 27 38.7**	**+1.4**
PB09					IAmb		IAmb	15 27 41.5	
	comp=Z,5.7nm,0.5s								
VNDA	**Vanda**	**46.31**	**183**		P		**P**	**15 27 38.0**	**+0.5**
	comp=Z,3.3nm,0.8s,baz=186,slow=6.0,SNR=24								
VNDA	**Vanda**	**46.31**	**183**		P		**P**	**15 27 38.1**	**+0.5**
VNDA					IAmb		IAmb	15 27 40.4	
	comp=Z,3.4nm,0.8s								
PB07	**IPOC Station P**	**46.54**	**300**		P		**P**	**15 27 40.3**	**+0.1**
PB07					IAmb		IAmb	15 27 41.4	
	comp=Z,7.0nm,0.7s								
PB01	**IPOC Station P**	**46.93**	**301**		P		**P**	**15 27 43.5**	**+0.4**
PB08	**IPOC Station P**	**47.54**	**302**		P		**P**	**15 27 49.4**	**+1.1**
PB08					IAmb		IAmb	15 27 49.9	
	comp=Z,4.9nm,0.7s								
H10S2	**ASCENSION HYDR**	**48.28**	**17**		T		T	16 20 47.6	
	baz=188								
H10S3	**ASCENSION HYDR**	**48.28**	**17**		T		T	16 20 53.6	
	baz=32								
PSGCX	**Pisagua**	**48.47**	**301**		P		**P**	**15 27 54.8**	**-0.2**
PSGCX					IAmb		IAmb	15 27 55.7	
	comp=Z,4.1nm,0.6s								
LBTB	**Lobatse**	**49.21**	**73**		P		**P**	**15 28 00.2**	**-0.4**
LBTB					IAmb		IAmb	15 28 28.7	
	comp=Z,3.2nm,1.1s								
H10N1	**ASCENSION HYDR**	**49.40**	**17**		T		T	16 22 02.8	
	baz=190								
H10N3	**ASCENSION HYDR**	**49.40**	**17**		T		T	16 22 16.2	
	baz=190								
H10N2	**ASCENSION HYDR**	**49.41**	**17**		T		T	16 21 50.8	
	baz=190								
LPAZ	**La Paz**	**50.42**	**306**		P		**P**	**15 28 11.2**	**+0.8**
	comp=Z,5.4nm,0.6s,baz=146,slow=5.9,SNR=19								
LPAZ	**La Paz**	**50.42**	**306**		P		**P**	**15 28 11.2**	**+0.8**
CASY	**Casey**	**53.71**	**160**		P		**P**	**15 28 33.9**	**+0.5**
TORD	**Torodi Ar. Bea**	**73.34**	**30**		P		**P**	**15 30 43.0**	**+0.2**
	comp=Z,1.2nm,0.4s,baz=201,slow=6.3,SNR=20								
TORD	**Torodi Ar. Bea**	**73.34**	**30**		P		**P**	**15 30 42.9**	**+0.2**
TAU	**Tasmania Unive**	**81.06**	**176**		P		**P**	**15 31 25.4**	**-0.1**
STKA	**Stephens Creek**	**91.67**	**171**		P		**P**	**15 32 17.7**	**0.0**
	comp=Z,1.6nm,0.7s,baz=158,slow=7.8,SNR=4.7								
STKA	**Stephens Creek**	**91.67**	**171**		P		**P**	**15 32 18.2**	**+0.5**
ASAR	**Alice Springs**	**98.79**	**163**		P		**P**	**15 32 49.8**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=186,slow=4.0,SNR=22								
ASAR	**Alice Springs**	**98.79**	**163**		P		**P**	**15 32 49.7**	**-0.6**
WRA	**Warramunga Arr**	**102.50**	**162**		P		**Pdif**	**15 33 06.0**	**-0.8**
	comp=Z,2.0nm,0.5s,baz=196,slow=4.6,SNR=5.1								
WRA	**Warramunga Arr**	**102.50**	**162**				**Pdif**	**15 33 06.0**	**-0.8**
NOA

YOA				*e*			15 25 07.5	
YOA				pmax	pmax			
	comp=Z,424nm,0.4s							
YOA				smax	smax			
	comp=N,2μm,0.5s							
TRG	**Tyrgan**	**2.50**	**244**	⇓*i*Pn		**Pn**	**15 24 33.2**	**+1.8**
TRG				*e*Pg		**Pb**	**15 24 37.2**	**+1.3**
TRG				*e*Sn		**Sn**	**15 25 04.3**	**+2.7**
TRG				*e*Sg		**Sg**	**15 25 10.1**	**-1.6**
TRG				Pmax				
	comp=N,37nm,0.3s							
TRG				Smax				
	comp=N,360nm,0.3s							
TRG	**Tyrgan**	**2.50**	**244**	⇓*i*Pn		**Pn**	**15 24 33.1**	**+1.7**
TRG				*e*			15 24 37.1	
TRG				*e*S		**Sn**	**15 25 04.3**	**+2.7**
TRG				*e*			15 25 09.9	
TRG				pmax	pmax			
	comp=Z,38nm,0.2s							
TRG				smax	smax			
	comp=N,366nm,0.2s							
UUDB	**Ulan-Yde**	**2.50**	**216**	*e*Pn		**Pn**	**15 24 33.9**	**+2.4**
UUDB				*e*Pg		**Pb**	**15 24 37.5**	**+1.6**
UUDB				*e*Sg		**Sg**	**15 25 11.7**	**0.0**
UUDB				Pmax				
	comp=N,120nm,0.6s							
UUDB				Smax				
	comp=N,658nm,0.3s							
UKT	**Uakit**	**2.62**	**51**	*e*Pn		**Pn**	**15 24 35.2**	**+2.1**
UKT				*e*Pg		**Pb**	**15 24 40.1**	**+2.2**
UKT				*e*Sg		**Sg**	**15 25 13.9**	**-1.5**
UKT				Pmax				
	comp=N,41nm,0.4s							
UKT				Smax				
	comp=N,319nm,0.5s							
UKT	**Uakit**	**2.62**	**51**	*e*PN		**Pn**	**15 24 35.2**	**+2.1**
UKT				*e*			15 24 39.0	
UKT				*e*			15 25 13.3	
UKT				pmax	pmax			
	comp=Z,40nm,0.2s							
UKT				smax	smax			
	comp=N,249nm,0.3s							
FFNB	**Fofonovo**	**2.72**	**228**	*e*Pn		**Pn**	**15 24 36.5**	**+2.0**
FFNB				*e*Pg		**Pg**	**15 24 41.5**	**-2.0**
FFNB				*e*Sg		**Sg**	**15 25 18.2**	**-0.6**
KAB	**Kabansk**	**2.77**	**229**	*e*Pg		**Pg**	**15 24 42.4**	**-2.0**
KAB				*e*Sg		**Sg**	**15 25 19.7**	**-0.6**
KAB				Pmax				
	comp=N,110nm,0.9s							
KAB				Smax				
	comp=N,1μm,0.7s							
STDB	**Stepnoy Dvoret**	**2.82**	**233**	*e*Pn		**Pn**	**15 24 38.2**	**+2.3**
STDB				*e*Pg		**Pg**	**15 24 45.4**	**-0.1**
STDB				*e*Sg		**Sg**	**15 25 22.2**	**+0.2**
CIT	**Chita**	**2.83**	**130**	*e*Pg		**Pb**	**15 24 43.7**	**+2.0**
CIT				*e*Sg		**Sg**	**15 25 20.8**	**-1.7**
CIT				Pmax				
	comp=N,238nm,0.4s							
CIT				Smax				
	comp=N,924nm,0.2s							
CIT	**Chita**	**2.83**	**130**	*e*PN		**Pb**	**15 24 40.0**	**-1.7**
CIT				*e*			15 24 44.9	
CIT				*e*S		**Sn**	**15 25 12.5**	**+2.6**
CIT				*e*			15 25 21.2	
CIT				pmax	pmax			
	comp=Z,241nm,0.3s							
CIT				smax	smax			
	comp=E,937nm,0.2s							
HRMR	**Khuramsha**	**2.95**	**221**	*e*Pn		**Pn**	**15 24 40.2**	**+2.5**
HRMR				*e*Pg		**Pg**	**15 24 45.9**	**-2.1**
HRMR				*e*Sg		**Sg**	**15 25 25.9**	**-0.4**
HRMR				Pmax				
	comp=E,229nm,0.6s							
HRMR				Smax				
	comp=E,2μm,0.6s							
SVKR	**Severomuysk**	**3.00**	**41**	*e*Pg		**Pg**	**15 24 47.6**	**-1.3**
SVKR				*e*Sg		**Sg**	**15 25 26.5**	**-1.3**
SVKR				Pmax				
	comp=E,112nm,0.3s							
SVKR				Smax				
	comp=E,1μm,0.5s							
BGT	**Bolshoye Golou**	**3.37**	**238**	*e*Pn		**Pn**	**15 24 44.9**	**+1.5**
BGT				*e*Pg		**Pg**	**15 24 53.4**	**-2.5**
BGT				*e*Sg		**Sg**	**15 25 39.0**	**-0.5**
BGT				Pmax				
	comp=E,18nm,0.6s							
BGT				Smax				
	comp=E,189nm,0.7s							
LSTR	**Listvyanka**	**3.76**	**239**	⇓*i*Pn		**Pn**	**15 24 50.4**	**+1.6**
LSTR				*e*Sn		**Sn**	**15 25 32.8**	**+0.1**
LSTR				*e*Sg		**Sg**	**15 25 49.9**	**-2.2**
LSTR				max				
	comp=E,31nm,0.7s							
LSTR				Smax				
	comp=E,145nm,0.9s							
IRK	**Irkutsk**	**3.86**	**247**	*e*Sg		**Sg**	**15 25 52.7**	**-2.6**
IRK				Smax				
	comp=E,489nm,0.6s							
IRK	**Irkutsk**	**3.86**	**247**	*e*PN		**Pn**	**15 24 49.9**	**-0.2**
IRK				*e*			15 25 03.0	
IRK				*e*			15 25 51.6	
IRK				pmax	pmax			
	comp=Z,59nm,0.1s							
IRK				smax	smax			
	comp=N,492nm,0.6s							
IVK	**Ivanovka**	**4.01**	**241**	*e*Pn		**Pn**	**15 24 54.0**	**+1.8**
IVK				*e*Sg		**Sg**	**15 25 56.7**	**-3.5**
IVK				max				
	comp=N,14nm,0.6s							
IVK				Smax				
	comp=N,133nm,0.9s							
NLYR	**Nelyaty**	**4.15**	**49**	*e*Pn		**Pn**	**15 24 55.8**	**+1.7**
NLYR				*e*Pg		**Pb**	**15 25 07.2**	**+3.2**
NLYR				*e*Sn		**Sn**	**15 25 41.7**	**-0.6**
NLYR				*e*Sg		**Sg**	**15 26 01.4**	**-3.1**
NLYR				Pmax				
	comp=N,33nm,0.6s							
NLYR				Smax				
	comp=N,468nm,1.1s							
NLYR	**Nelyaty**	**4.15**	**49**	*e*PN		**Pb**	**15 25 06.6**	**+2.6**
NLYR				*e*			15 25 59.8	
NLYR				pmax	pmax			
	comp=Z,47nm,0.5s							
NLYR				smax	smax			
	comp=N,470nm,1.1s							
KPC	**Khapcheranga**	**4.45**	**160**	*e*Pn		**Pn**	**15 24 59.6**	**+1.4**
KPC				*e*Pg		**Pg**	**15 25 14.1**	**-2.4**
KPC				*e*			15 25 16.4	
KPC				*e*Sn		**Sn**	**15 25 49.1**	**-0.6**
KPC				*e*Sg		**Sg**	**15 26 11.8**	**-2.3**
KPC				max				
	comp=N,46nm,0.4s							
KPC				Smax				
	comp=N,268nm,1.3s							
KPC	**Khapcheranga**	**4.45**	**160**	*e*PN		**Pn**	**15 24 59.4**	**+1.2**
KPC				*e*			15 25 11.7	
KPC				*e*S		**Sn**	**15 25 49.2**	**-0.5**
KPC				*e*			15 26 10.8	
KPC				pmax	pmax			
	comp=Z,47nm,0.2s							
KPC				smax	smax			
	comp=E,269nm,1.5s							
TLY	**Talaya**	**4.48**	**243**	*e*Pn		**Pn**	**15 25 00.1**	**+1.5**
TLY				*e*Pg		**Pg**	**15 25 14.5**	**-2.7**
TLY				*e*Sg		**Sg**	**15 26 12.8**	**-2.3**
TLY				Pmax				
	comp=E,10.0nm,0.4s							
TLY				Smax				
	comp=E,108nm,1.0s							
TLY	**Talaya**	**4.48**	**243**	*e*PN		**Pn**	**15 25 00.1**	**+1.5**
TLY				*e*			15 25 15.1	
TLY				*e*			15 26 09.9	
TLY				pmax	pmax			
	comp=Z,15nm,0.4s							
TLY				smax	smax			
	comp=E,109nm,0.9s							
BOD	**Bodaibo**	**4.51**	**28**	*e*Pn		**Pn**	**15 25 00.4**	**+1.4**
BOD				*e*Sn		**Sn**	**15 25 51.5**	**+0.4**
BOD				*e*Sg		**Sb**	**15 26 10.7**	**+6.4**
BOD				max				
	comp=E,8.0nm,0.3s							
BOD				Smax				
	comp=E,149nm,0.7s							
BOD	**Bodaibo**	**4.51**	**28**	*e*PN		**Pn**	**15 25 00.4**	**+1.4**
BOD				*e*			15 25 11.1	
BOD				*e*			15 26 09.1	
BOD				pmax	pmax			
	comp=Z,14nm,0.6s							
BOD				smax	smax			
	comp=E,150nm,0.7s							
ZAK	**Zakamensk**	**5.46**	**232**	*e*Pn		**Pn**	**15 25 15.0**	**+2.8**
ZAK				*e*Pg		**Pg**	**15 25 31.7**	**-4.2**
ZAK				*e*Sg		**Sg**	**15 26 42.9**	**-3.6**
ZAK				Pmax				
	comp=E,5.0nm,0.7s							
ZAK				Smax				
	comp=E,117nm,1.3s							
ZAK	**Zakamensk**	**5.46**	**232**	*e*PG		**Pg**	**15 25 38.8**	**+2.9**
CRS	**Chara**	**5.56**	**54**	*e*Pn		**Pn**	**15 25 16.1**	**+2.6**
CRS				*e*Pg		**Pg**	**15 25 33.8**	**-4.0**
CRS				*e*Sg		**Sg**	**15 26 45.7**	**-4.1**
CRS				Pmax				
	comp=E,22nm,1.5s							
CRS				Smax				
	comp=E,178nm,1.3s							
VTMR	**Vitim**	**5.72**	**13**	*e*Pn		**Pn**	**15 25 17.5**	**+1.9**
VTMR				*e*Pg		**Pb**	**15 25 34.4**	**+3.7**
VTMR				*e*Sg		**Sg**	**15 26 48.6**	**-6.2**
TUP	**Tupik**	**5.84**	**81**	*e*Pn		**Pn**	**15 25 19.8**	**+2.4**
TUP				*e*Pg		Pb	15 25 38.5	+5.6
TUP				*e*Sg		**Sg**	**15 26 53.3**	**-5.5**
TUP				Pmax				
	comp=E,16nm,0.8s							
TUP				Smax				
	comp=E,369nm,1.3s							
TUP	**Tupik**	**5.84**	**81**	*e*PN		**Pn**	**15 25 18.8**	**+1.4**
TUP				*e*			15 25 36.5	
TUP				*e*			15 26 53.1	
TUP				pmax	pmax			
	comp=Z,17nm,0.6s							
TUP				smax	smax			
	comp=N,369nm,0.9s							
MOY	**Mondy**	**5.93**	**251**	*e*Pn		**Pn**	**15 25 21.2**	**+2.5**
MOY				*e*Pg		Pg	15 25 40.2	-4.8
MOY				*e*Sn		**Sn**	**15 26 26.7**	**+0.3**
MOY				*e*Sg		**Sg**	**15 26 57.5**	**-4.2**
MOY				Pmax				
	comp=N,18nm,1.0s							
MOY				Smax				
	comp=N,175nm,1.3s							
MOY	**Mondy**	**5.93**	**251**	*e*PN		**Pn**	**15 25 21.4**	**+2.7**
MOY				*e*			15 25 39.5	
MOY				*e*			15 26 54.2	
MOY				pmax	pmax			
	comp=Z,26nm,1.0s							
MOY				smax	smax			
	comp=E,175nm,1.2s							
ORL	**Orlik**	**6.30**	**262**	⇓*i*Pn		**Pn**	**15 25 26.0**	**+2.2**
ORL				*e*Sg		**Sg**	**15 27 08.5**	**-5.0**
ORL				max				
	comp=E,27nm,0.3s							
ORL				Smax				
	comp=E,140nm,1.2s							
ORL	**Orlik**	**6.30**	**262**	*e*PN		**Pn**	**15 25 25.9**	**+2.2**
ORL				*e*			15 25 46.3	
ORL				*e*			15 27 09.2	
ORL				pmax	pmax			
	comp=Z,32nm,0.6s							
ORL				smax	smax			
	comp=N,135nm,1.4s							
ULN	**Ulaanbaatar**	**6.33**	**199**	*e*Pg		Pg	15 25 48.0	-4.7
ULN				*e*Sg		**Sg**	**15 27 11.1**	**-3.5**
ULN	**Ulaanbaatar**	**6.33**	**199**	⇓*e*PN		**Pn**	**15 25 27.5**	**+3.2**
SONM	**Songino Array**	**6.50**	**202**	Pn		**Pn**	**15 25 29.6**	**+3.1**
	comp=N,0.8nm,0.3s,baz=12,slow=14,SNR=21							
SONM				Lg		Lg	15 27 19.4	
	comp=N,8.0nm,0.3s,baz=13,slow=27,SNR=10							
YKLR	**Yuktali**	**7.16**	**63**	*e*Sg		**Sg**	**15 27 35.4**	**-5.5**
HIA	**Hailar**	**7.61**	**124**	*de*PN		**Pn**	**15 25 44.6**	**+2.9**
ZALV	**Zalesovo Beam**	**14.84**	**280**	Pn		**Pn**	**15 27 17.9**	**-2.5**
	comp=N,0.1nm,0.3s,baz=81,slow=22,SNR=1.8							
ZALV				Lg		Lg	15 31 29.2	
	baz=83,slow=31,SNR=1.1							
ZALV	**Zalesovo Beam**	**14.84**	**280**	P		**Pn**	**15 27 18.0**	**-2.5**
USA0B	**Ussuriysk Arra**	**17.28**	**115**	⇑*e*P		**P**	**15 27 55.1**	**+1.8**
MKAR	**Makanchi Array**	**19.00**	**259**	P		**P**	**15 28 11.0**	**-1.2**
	comp=N,0.0nm,0.3s,baz=53,slow=13,SNR=1.6							
KURK	**Kurchatov**	**19.39**	**273**	P		**Pn**	**15 28 17.7**	**+0.1**
KURBB	**Kurchatov Arra**	**19.48**	**273**	P		**P**	**15 28 17.7**	**+0.3**
	comp=N,0.0nm,0.3s,baz=69,slow=12,SNR=3.1							
BVAR	**Borovoye Array**	**23.42**	**284**	P		**P**	**15 28 58.2**	**-1.3**
	comp=N,0.4nm,0.5s,baz=87,slow=8.9,SNR=1.9							
BRVK	**Borovoye**	**23.47**	**284**	*de*P		**P**	**15 29 03.2**	**+3.2**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ILAR	**Eielson Array**	**47.85**	**34**	P		**P**	**15 32 29.5**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=292,slow=6.1,SNR=3.0							

*JMA **30** 15:31:49.3±0.3,21.°37N×121.°54E,h64km,M3.5*
*TAP **30** 15:31:54.9,21.°84N×121.°73E,h24km,ML3.5,D*
ISC 30 15:31:55.2±1.2,21.°87N±0.°04×121.°76E±0.°03,h24km±9km,
n83,σ1.2s26/104,**2D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.26**	**311**	⇓*i*P			**Pb**	**15 32 01.5**	**-0.1**
	baz=321								
LAY				*i*	S		**Sb**	**15 32 06.5**	**+0.5**
	baz=321								
TSEB	**Hengchuen, Pin**	**0.80**	**273**	*i*	P		**Pn**	**15 32 10.7**	**-0.3**
	baz=274								
TSEB					S		**Sn**	**15 32 22.4**	**+0.2**
	baz=274								
LDUT	**Ludao**	**0.85**	**341**	*e*	P		**Pb**	**15 32 10.7**	**-0.6**
	baz=343								
LDUT				*e*	S		**Sb**	**15 32 22.2**	**0.0**
	baz=343								
TWKBT	**Hengchun**	**0.89**	**275**	P			**Pb**	**15 32 11.2**	**-0.7**
	baz=276								
TWKBT				*e*	S		**Sn**	**15 32 23.1**	**-1.2**
	baz=276								
TWK1	**Hengchun**	**0.89**	**275**	P			**Pb**	**15 32 11.2**	**-0.8**
	baz=276								
TWK1				*i*	S		**Sn**	**15 32 23.3**	**-1.1**
	baz=276								
TAW	**Tawu**	**0.94**	**301**	*e*	P		**Pn**	**15 32 12.9**	**0.0**
	baz=304								
TAW				*e*	S		**Sn**	**15 32 25.2**	**-0.4**
	baz=304								
SLIU	**Shizi**	**0.96**	**291**	*i*	P		**Pn**	**15 32 12.6**	**-0.6**
	baz=293								
HEN	**Hengchun**	**0.96**	**278**	*e*	P		**Pn**	**15 32 12.7**	**-0.5**
	baz=280								
HEN				*e*	S		**Sn**	**15 32 25.4**	**-0.7**
	baz=280								
EAST	**Anshuo**	**0.99**	**301**	*i*	P		**Pn**	**15 32 13.2**	**-0.5**
	baz=303								
ECL	**Taimali**	**1.04**	**314**	*e*	P		**Pb**	**15 32 14.4**	**-0.2**
	baz=316								
TTN	**Taitung**	**1.05**	**327**	*e*	P		**Pb**	**15 32 14.6**	**-0.2**
	baz=329								
TTN				*e*	S		**Sn**	**15 32 29.1**	**+0.8**
	baz=329								
TWGBT	**Beinan**	**1.14**	**326**	*e*	P		**Pb**	**15 32 16.3**	**+0.1**
	baz=328								
TWG	**Pinlang**	**1.14**	**326**	*e*	P		**Pb**	**15 32 16.4**	**0.0**
	baz=328								
SCZT	**Fangliau**	**1.17**	**296**	*e*	P		**Pb**	**15 32 17.6**	**+0.8**
	baz=297								
EDH	**Donghe**	**1.18**	**339**	*e*	P		**Pn**	**15 32 16.0**	**-0.2**
	baz=340								
EDH				*i*	S		**Sb**	**15 32 32.2**	**+0.4**
	baz=340								
LONT	**Longtian**	**1.19**	**331**	*e*	P		**Pb**	**15 32 17.2**	**+0.1**
	baz=332								
CHKT	**Chengkung**	**1.28**	**343**	*e*	P		**Pn**	**15 32 17.5**	**-0.1**
	baz=345								
CHKT				*e*	S		**Sn**	**15 32 33.9**	**-0.2**
	baz=345								
MASBT	**Mashibuluo**	**1.28**	**306**	*e*	P		**Pb**	**15 32 18.1**	**-0.6**
	baz=307								
ECS	**Chishang**	**1.32**	**338**	*e*	P		**Pb**	**15 32 19.7**	**+0.3**
	baz=339								
TSMG	**Majia**	**1.33**	**309**	*e*	P		**Pb**	**15 32 20.6**	**+1.1**
	baz=310								
SSD	**Sandimen**	**1.36**	**310**	*e*	P		**Pb**	**15 32 21.1**	**+1.0**
	baz=311								
FULB	**Fuli**	**1.40**	**342**	*e*	P		**Pn**	**15 32 19.3**	**+0.1**
	baz=343								
FULB				*e*	S		**Sb**	**15 32 38.1**	**0.0**
	baz=343								
ECBN	**Changbin**	**1.47**	**349**	*e*	P		**Pn**	**15 32 20.8**	**+0.6**
	baz=350								
ELDTW	**Lidau**	**1.48**	**333**	*e*	P		**Pb**	**15 32 21.3**	**-0.9**
	baz=334								
SLGT	**Liugui**	**1.52**	**318**	*e*	P		**Pb**	**15 32 23.4**	**+0.6**
	baz=319								
EYUL	**Yuli**	**1.53**	**345**	*e*	P		**Pn**	**15 32 21.7**	**+0.6**
	baz=345								
TWF1	**Yuli**	**1.54**	**344**	*e*	P		**Pn**	**15 32 21.7**	**+0.5**
	baz=345								
TWF1				*e*	S		**Sn**	**15 32 41.0**	**+0.6**
	baz=345								
YULB	**Yu-li**	**1.58**	**344**	*e*	P		**Pn**	**15 32 22.1**	**+0.4**
	baz=345								
YULB				*e*	S		**Sn**	**15 32 42.2**	**+0.8**
	baz=345								
STYH	**Taoyuan**	**1.59**	**325**	*e*	P		**Pb**	**15 32 24.4**	**+0.5**
	baz=326								
STYT	**Tauyuan**	**1.59**	**324**	*e*	P		**Pb**	**15 32 23.7**	**-0.3**
	baz=325								
SGST	**Jiashian**	**1.63**	**318**	*e*	P		**Pb**	**15 32 23.3**	**-1.3**
	baz=319								
HGSD	**Ruisui**	**1.65**	**349**	*e*	P		**Pn**	**15 32 23.8**	**+1.1**
	baz=350								
EHY	**Hungye**	**1.68**	**346**	*e*	P		**Pn**	**15 32 24.2**	**+1.0**
	baz=347								
WTP	**Ta-pu**	**1.73**	**323**	*e*	P		**Pb**	**15 32 26.8**	**+0.3**
	baz=323								
TPUB	**Ta-pu**	**1.77**	**324**	*e*	P		**Pb**	**15 32 26.9**	**-0.1**
	baz=325								
YUS	**Yu-Shan**	**1.78**	**335**	*e*	P		**Pb**	**15 32 26.4**	**-1.1**
	baz=336								
SNST	**Tainan City**	**1.78**	**319**	*e*	P		**Pb**	**15 32 26.9**	**-0.4**
	baz=320								
EGFH	**Guangfu**	**1.82**	**350**	*e*	P		**Pn**	**15 32 25.9**	**+0.8**
	baz=351								
ALS	**Alishan**	**1.86**	**332**	*e*	P		**Pb**	**15 32 28.2**	**-0.5**
	baz=333								
ESL	**Shilin**	**1.96**	**351**	*e*	P		**Pn**	**15 32 27.4**	**+0.4**
	baz=352								
ESL				*e*	S		**Sn**	**15 32 51.7**	**+0.8**
	baz=352								
CHN5	**Tsauling**	**1.99**	**330**	*e*	P		**Pb**	**15 32 30.9**	**+0.1**
	baz=331								
WHYT	**Xinyi Township**	**2.00**	**335**	*e*	P		**Pb**	**15 32 30.5**	**-0.6**
	baz=336								
CHY	**Chiayi**	**2.04**	**323**	*e*	P		**Pb**	**15 32 30.4**	**-1.3**
	baz=324								
SSLB	**Suanglung**	**2.05**	**339**	*e*	P		**Pb**	**15 32 31.4**	**-0.4**
	baz=339								
OWD	**Renai**	**2.15**	**346**	*e*	P		**Pb**	**15 32 31.6**	**-1.9**
	baz=346								
WJS	**Zhushan**	**2.17**	**334**	*e*	P		**Pn**	**15 32 30.2**	**+0.4**
	baz=334								
TYC	**Yuchr**	**2.19**	**338**	*e*	P		**Pb**	**15 32 33.7**	**-0.5**
	baz=338								
WTK	**Tuku**	**2.21**	**325**	*e*	P		**Pb**	**15 32 32.4**	**-2.2**
	baz=326								
WNT	**Mingjian**	**2.23**	**334**	*e*	P		**Pb**	**15 32 33.3**	**-1.7**
	baz=334								
CHGB	**Renai**	**2.25**	**346**	*e*	P		**Pb**	**15 32 33.6**	**-1.7**
	baz=347								
DPDB	**Guoxing**	**2.29**	**341**	*e*	P		**Pb**	**15 32 34.6**	**-1.3**
	baz=341								
NACB	**Ninganchiao**	**2.30**	**356**	*e*	P		**Pn**	**15 32 32.7**	**+1.1**
	baz=357								
WHF	**Hehuan Shan**	**2.31**	**349**	*e*	P		**Pb**	**15 32 34.8**	**-1.8**
	baz=349								
WCS	**Beigang Elemen**	**2.32**	**340**	*e*	P		**Pb**	**15 32 34.9**	**-1.5**
	baz=341								
ETLH	**Xiulin Townshi**	**2.34**	**354**	*e*	P		**Pb**	**15 32 35.5**	**-1.4**
	baz=354								
FUSS	**Fushou**	**2.42**	**349**	*e*	P		**Pn**	**15 32 35.5**	**+2.0**
	baz=349								
TDCB	**Techi**	**2.44**	**347**	*e*	P		**Pn**	**15 32 35.3**	**+1.6**
	baz=347								
WHP	**Taichung City**	**2.52**	**343**	*e*	P		**Pb**	**15 32 38.2**	**-1.6**
	baz=343								
VCHM	**Qimei**	**2.54**	**302**	*e*	P		**Pn**	**15 32 35.5**	**+0.6**
	baz=302								
TWQ1	**Liyutan**	**2.63**	**340**	*e*	P		**Pb**	**15 32 39.6**	**-2.1**
	baz=340								
YHNB	**Yeheng**	**2.81**	**353**	*e*	P		**Pn**	**15 32 41.1**	**+2.3**
	baz=353								
NSK	**Sanguang**	**2.82**	**353**	*e*	P		**Pb**	**15 32 42.6**	**-2.4**
	baz=353								
YOJ	**Yonaguni jima**	**2.83**	**24**	P			**Pn**	**15 32 40.6**	**+1.7**
YOJ				*e*	S		**Sb**	**15 33 19.4**	**+0.2**
YOJ	**Yonaguni jima**	**2.83**	**24**	*e*	P		**Pn**	**15 32 40.4**	**+1.5**
	baz=24								
TWE	**Neicheng**	**2.84**	**358**	*e*	P		**Pn**	**15 32 42.3**	**+3.2**
	baz=359								
HATJ	**Hateruma jima**	**2.88**	**40**	P			**Pn**	**15 32 41.2**	**+1.6**
HATJ				*e*	S		**Sb**	**15 33 19.5**	**-1.2**
IRIF	**Iriomote-Funau**	**3.05**	**36**	P			**Pn**	**15 32 43.6**	**+1.6**
TIPB	**Shuangxi**	**3.09**	**1**	*e*	P		**Pn**	**15 32 45.3**	**+2.7**
	baz=1.0								
JKRS	**Kuro-shima**	**3.14**	**41**	P			**Pn**	**15 32 45.1**	**+1.9**
JKRS				*e*	S		**Sb**	**15 33 25.4**	**-2.8**
NWF	**Wu-fen Shan**	**3.19**	**0**	*e*	P		**Pn**	**15 32 46.3**	**+2.4**
WFSB	**Wu-fen Shan**	**3.19**	**0**	*e*	P		**Pn**	**15 32 45.6**	**+1.7**
JIJ	**Ishigaki jima**	**3.31**	**41**	P			**Pn**	**15 32 46.8**	**+1.2**
JIJ				*e*	S		**Sb**	**15 33 29.7**	**-3.5**
JISG	**Ishigakijimahi**	**3.58**	**40**	P			**Pn**	**15 32 50.8**	**+1.5**
JISG				S			**Sn**	**15 33 31.4**	**+0.6**
JTJ	**Tarama**	**3.86**	**44**	P			**Pn**	**15 32 54.9**	**+1.8**
JTJ				S			**Sn**	**15 33 37.5**	**-0.3**
PTMZ	**Houxiangcun**	**3.98**	**323**	*e*	P		**Pn**	**15 32 56.5**	**+1.7**
	baz=323								
APYP	**Conner**	**4.01**	**187**	⇓*e*	P		**Pn**	**15 32 57.1**	**+1.9**
APYP				*i*	S		**Sn**	**15 33 41.8**	**+0.3**
KNMB	**Chin-men Tao**	**4.04**	**310**	*e*	P		**Pn**	**15 32 56.7**	**+1.2**
	baz=310								
ZPLA	**Ao Xicun**	**4.23**	**300**	*e*	P		**Pn**	**15 32 59.9**	**+1.7**
	baz=299								
JIRB	**Irabujima**	**4.30**	**46**	*e*	S		**Sn**	**15 33 48.8**	**+0.2**
JMJ2	**Miyako jima3**	**4.35**	**48**	*e*	S		**Sn**	**15 33 50.3**	**+0.5**
JMJ	**Miyako jima 2**	**4.38**	**47**	*e*	P		**Pn**	**15 33 00.9**	**+0.7**
	baz=47								
MATB	**Ma-tsu**	**4.58**	**339**	*e*	P		**Pn**	**15 33 04.4**	**+1.5**
	baz=338								
AXDP	**Jialang**	**4.61**	**312**	*e*	P		**Pn**	**15 33 05.3**	**+1.9**
	baz=311								

*TUL **30** 15:43:20.2±0.9,36.°280N±0.°005×97.°51W±0.°01,h5km±2km,*
ML2.9,mb_Lg2.9/58(NEIC),Error ellipse: s-maj=3.0km
s-min=2.0km az=279.0
NEIC 30 15:43:20.3±0.8,36.°28N±0.°01×97.°52W±0.°01,h6km±7km,
Error ellipse: s-maj=1.8km s-min=1.6km az=224.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.44**

KAN06	Argonia West S	1.00	344			Pg		15 43 39.4	-0.2
KAN08	Anthony NE Sta	1.01	339			Pg		15 43 39.3	-0.4
FNO	Franklin	1.02	175			Pg		15 43 39.6	-0.4
T35A	Sooner Cattle	1.03	52		Pg	Pg		15 43 39.9	-0.1
KAN16	Harper SW Stat	1.04	335			Pg		15 43 39.8	-0.5
KAN12	Harper NE Stat	1.09	339		Pg	Pg		15 43 40.8	-0.4
U32A	Winter Ranch,	1.20	275			Pg		15 43 42.8	-0.6
TUL1	Leonard	1.44	104		Pn	Pn		15 43 46.3	-0.6
X34A	Smith Ranch, M	1.70	189		IAmb_Lg			15 44 18.2	
	comp=Z,44nm,0.7s								
X37A	Clayton	2.43	133		IAmb_Lg			15 44 43.3	
	comp=Z,38nm,0.7s								
W39A	Magazine	3.22	109		IAmb_Lg			15 45 08.9	
	comp=Z,34nm,0.7s								
S39A	Bolivar	3.64	66		Pn	Pn		15 44 18.5	+1.3
MIAR	Mount Ida	3.65	117		Pn	Pn		15 44 18.0	+0.7
AMTX	Amarillo	3.67	249		IAmb_Lg			15 45 21.3	
	comp=Z,18nm,0.7s								
U40A	Yellville	3.77	87		IAmb_Lg			15 45 20.2	
	comp=Z,24nm,0.8s								
ABTX	Abilene, Hawle	4.05	206		IAmb_Lg			15 45 30.8	
	comp=Z,26nm,1.1s								
X40A	Basin Creek Fa	4.22	114		Pn	Pn		15 44 27.0	+1.9
X40A					IAmb_Lg			15 45 36.1	
	comp=Z,22nm,0.8s								
MGMO	Mountain Grove	4.30	77		IAmb_Lg			15 45 37.9	
	comp=Z,22nm,1.0s								
WHAR	Wooly Hollow	4.36	102		Pn	Pn		15 44 29.5	+2.5
WHAR					IAmb_Lg			15 45 43.1	
	comp=Z,21nm,0.8s								
WLAR	White Oak Lake	4.45	124		IAmb_Lg			15 45 47.5	
	comp=Z,22nm,1.0s								
P38A	Dawn	4.59	42		IAmb_Lg			15 45 49.3	
	comp=Z,20nm,0.7s								
KSCO	Kaye Shedlock'	4.89	305		IAmb_Lg			15 46 09.1	
	comp=Z,20nm,0.7s								
LCAR	Lake Charles	5.15	90		IAmb_Lg			15 46 02.6	
	comp=Z,12nm,1.1s								
T42A	Van Buren	5.22	80		IAmb_Lg			15 46 11.7	
	comp=Z,22nm,1.2s								
CCM	Cathedral Cave	5.31	69		IAmb_Lg			15 46 08.1	
	comp=Z,26nm,1.0s								
P40A	Paris	5.41	51		IAmb_Lg			15 46 13.3	
	comp=Z,24nm,0.7s								
435B	Jarrell	5.48	181		IAmb_Lg			15 46 27.8	
	comp=Z,11nm,0.8s								
T25A	Trinidad	5.61	281		IAmb_Lg			15 46 24.2	
	comp=Z,10nm,0.8s								
N38A	Joes South For	5.62	35		IAmb_Lg			15 46 22.7	
	comp=Z,28nm,0.7s								
PBMO	Poplar Bluff	5.73	83		IAmb_Lg			15 46 26.0	
	comp=Z,19nm,0.7s								
OGNE	Ogallala	5.85	324		IAmb_Lg			15 46 32.0	
	comp=Z,22nm,0.8s								
FVM	French Village	5.91	71		IAmb_Lg			15 46 32.1	
	comp=Z,11nm,0.7s								
S44A	Carbondale	6.76	76		IAmb_Lg			15 47 01.6	
	comp=Z,14nm,0.8s								
SIUC	Southern Illin	6.79	75		IAmb_Lg			15 47 00.3	
	comp=Z,21nm,1.0s								
P43A	Skaggs, Pawnee	7.15	60		IAmb_Lg			15 47 12.8	
	comp=Z,21nm,0.8s								
L40A	Anamosa	7.56	38		IAmb_Lg			15 47 37.2	
	comp=Z,19nm,1.1s								
PHWY	Pilot Hill	7.97	311		IAmb_Lg			15 47 43.6	
	comp=Z,11nm,0.9s								
JFWS	Jewell Farm	8.68	38		IAmb_Lg			15 47 55.7	
	comp=Z,12nm,0.7s								
K22A	Casper	9.43	315		IAmb_Lg			15 48 42.6	
	comp=Z,14nm,1.2s								

*INET **30** 15:44:15.3, 12°.51N×89°.91W, h15km, MW3.2*
SNET 30 15:44:32.2±1.0, 13°.19N×89°.26W, h53km±8km, ML3.5, 1C-1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
LALI	Alcalda de L	0.31	349	eP	Pn	15 44 41.8			+0.1
LALI				eS	Sn	15 44 48.6			+0.2
LFRS	El Faro	0.48	24	iP	Pn	15 44 43.5			-0.1
SJTE	Alcalda de S	0.49	30	iP	Pn	15 44 43.4			-0.2
SJTE				eS	Sn	15 44 52.4			+0.6
SNET	Serv Nac Est T	0.50	3	eP	Pn	15 44 43.8			+0.1
SNET				eS	Sn	15 44 53.1			+1.1
SNET				IAML		15 44 54.1			
	comp=Z,2μm,0.2s								
OPAM	Oficina de Pla	0.53	6	eP	Pn	15 44 44.6			+0.6
OPAM				eS	Sn	15 44 54.4			+1.8
OPAM				IAML		15 44 56.3			
	comp=Z,1μm,0.2s								
UEES	Universidad Ev	0.53	2	eP	Pn	15 44 44.3			+0.2
UEES				eS	Sn	15 44 53.8			+1.2
UEES				IAML		15 44 55.8			
	comp=Z,3μm,0.1s								
BOQS	Boqueron	0.55	358	eP	Pn	15 44 44.7			+0.3
COEG	Centro de Oper	0.57	40	eP	Pn	15 44 44.3			-0.2
COEG				eS	Sn	15 44 54.0			+0.6
COEG				IAML		15 44 60.0			
	comp=Z,2μm,0.3s								
LFU	La Fuente	0.58	14	iP	Pn	15 44 45.1			+0.4
LBRS	Las Brisas	0.59	21	eP	Pn	15 44 45.3			+0.5
SNVI	San Vicente	0.59	44	eP	Pn	15 44 44.8			-0.1
ALJI	Alcalda de J	0.69	78	eP	Pn	15 44 46.1			+0.2
ALJI				eS	Sn	15 44 57.0			+1.2
CEVE	Cerro Verde	0.73	331	eP	Pn	15 44 47.0			+0.3
CEVE				eS	Sn	15 44 58.6			+1.4
CEVE				IAML		15 45 02.8			
	comp=Z,4μm,0.5s								
SBLS	San Blas	0.74	331	eP	Pn	15 44 47.1			+0.3
SNJE	San Jose	0.76	334	eP	Pn	15 44 47.4			+0.4
COEB	Comit de Eme	0.77	66	eP	Pn	15 44 47.1			0.0
COEB				eS	Sn	15 44 58.6			+0.6
COEB				IAML		15 45 02.3			
	comp=Z,932nm,0.4s								
TECA	Tecapa	0.80	67	eP	Pn	15 44 47.6			+0.1
RTR	El Retiro	0.80	332	eP	Pn	15 44 48.1			+0.5
LCY	Lacayo	0.97	76	eP	Pn	15 44 50.1			+0.4
JUCU	Jucuarɲn	0.99	86	eP	Pn	15 44 50.3			+0.4
JUCU				eS	Sn	15 45 03.2			+0.3
VSM	San Miguel	0.99	76	eP	Pn	15 44 50.5			+0.4
LCND	La Caada	1.34	85	eP	Pn	15 44 54.7			+0.2
LCND				eS	Sn	15 45 12.6			+1.3

*TUL **30** 15:46:35.9±1.4, 35°.97N±0°.01×97°.22W±0°.01, h7km±6km, ML2.8, mb_Lg2.3/15(NEIC), Error ellipse: s-maj=1.5km s-min=1.5km az=55.0*
NEIC 30 15:46:35.9±0.7, 35°.987N±0°.005×97°.23W±0°.02, h12km±3km, Error ellipse: s-maj=2.1km s-min=0.8km az=82.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
OK029	Liberty Lake	0.26	224		Pg	15 46 41.3			-0.1
OK029				Sg	Sg	15 46 45.0			0.0
OK031	S. Brethren Rd	0.32	96	Pg	Pg	15 46 42.3			-0.1
OK031				Sg	Sg	15 46 46.7			0.0
OK030	Cody Creek RV	0.37	99		Pg	15 46 43.1			-0.1
OK030				Sg	Sg	15 46 48.1			0.0
OK025	Westminster Rd	0.41	192		Pg	15 46 43.9			-0.2
OK025				Sg	Sg	15 46 49.8			+0.2
BCOK	Bluff Creek, N	0.45	223	Pg	Pg	15 46 44.6			-0.1
BCOK				Sg	Sg	15 46 51.0			+0.2
QUOK	Quay	0.46	66		Pg	15 46 45.0			0.0
QUOK				Sg	Sg	15 46 51.2			+0.1
OKCFA	Oklahoma City	0.60	198	Pg	Pg	15 46 47.2			-0.4
OKCFA				Sg	Sg	15 46 55.4			0.0
FNO	Franklin	0.74	191	Pg	Pg	15 46 49.6			-0.6
FNO				Sg	Sg	15 46 59.9			-0.1
CROK	Carrier	0.80	311	Pg	Pg	15 46 51.3			-0.1
GC02	Grant County #	1.00	330	Pg	Pb	15 46 54.8			-0.4
GC02				Sg	Sb	15 47 08.7			+0.4
KAN13	South Haven SW	1.04	349	Pg	Pb	15 46 55.7			-0.2
KAN13				Sg	Sg	15 47 10.0			+0.4
T35A	Sooner Cattle	1.09	32	Pg	Pb	15 46 56.3			-0.5
T35A				Sg	Sg	15 47 11.1			-0.1
KAN14	Manchester OK	1.13	329		Pb	15 46 57.2			-0.2
KAN14				Sg	Sg	15 47 12.5			+0.1
OK032	Salt Plains WL	1.14	316		Pb	15 46 57.2			-0.2
OK032				Sg	Sn	15 47 13.2			+0.1
KAN17	Caldwell West	1.14	338	Pg	Pb	15 46 57.4			-0.1
KAN17				Sg	Sg	15 47 12.8			+0.1
TUL1	Leonard	1.17	93	Pg	Pb	15 46 57.3			-0.8
TUL1				Sg	Sb	15 47 12.8			-0.3
KAN09	Caldwell North	1.19	345		Pb	15 46 58.4			0.0
KAN09				Sg	Sg	15 47 14.3			+0.1
KAN05	Bluff City Nor	1.23	335	Pn	Pn	15 46 59.0			+0.1
KS20	Mayfield South	1.27	348	Pn	Pb	15 46 59.9			+0.1
KAN10	Anthony SW Sta	1.33	329	Pn	Pb	15 47 00.7			-0.1
KAN16	Harper SW Stat	1.41	332	Pn	Pb	15 47 01.9			-0.2
X34A	Smith Ranch, M	1.47	200	Pn	Pn	15 47 02.6			+0.4
WMOK	Wichita Mounta	1.78	226	Pn	Pb	15 47 07.5			-1.0
LOOK	Love County	1.99	179	Pn	Pn	15 47 09.9			+0.5
LOOK				IAmb_Lg		15 47 43.4			
	comp=Z,15nm,0.7s								
X37A	Clayton	2.06	132	Pn	Pn	15 47 11.3			+0.9
X37A				IAmb_Lg		15 47 41.5			
	comp=Z,11nm,0.9s								
KSU1	Kansas State U	3.15	9	IAmb_Lg		15 48 22.5			
	comp=Z,10nm,0.8s								
S39A	Bolivar	3.57	60	IAmb_Lg		15 48 32.3			
	comp=Z,5.5nm,0.9s								
AMTX	Amarillo	3.80	254	IAmb_Lg		15 48 39.4			
	comp=Z,7.1nm,0.8s								
X40A	Basin Creek Fa	3.90	111	Pn	Pn	15 47 36.3			+0.7
X40A				IAmb_Lg		15 48 44.7			
	comp=Z,8.3nm,0.7s								
MGMO	Mountain Grove	4.16	72	IAmb_Lg		15 48 48.3			
	comp=Z,6.2nm,0.8s								
R40A	Maddies Statio	4.58	58	IAmb_Lg		15 48 58.1			
	comp=Z,5.9nm,0.7s								
T42A	Van Buren	5.05	76	IAmb_Lg		15 49 19.0			
	comp=Z,6.6nm,0.8s								

*IDC **30** 15:54:20.2±1.5, 17°.80S×178°.65W, h541km±17km, mb3.8/19, mb1 4.0/22, mb1mx3.9/37, mbtmp4.7/22, Error ellipse: s-maj=13.6km s-min=10.1km az=149.0*
*NOU **30** 15:54:21.1, 17°.86S×178°.42W, h573km, mb4.8/53, Fiji Islands Region*
*NEIC **30** 15:54:21.5±1.9, 17°.86S±0°.09×178°.7W±0°.1, h546km±5km, mb4.5/189, Error ellipse: s-maj=16.1km s-min=12.5km az=115.0*
ISC 30 15:54:21.2±0.3, 17°.82S±0°.06×178°.69W±0°.06, h550km, n465, σ1$03/411, mb4.5/113, 68C-65D, Fault plane solution: NP1:**ϕ_s344.74576°, δ77.77463°, λ-58.93350°. **NP2:**ϕ_s94.11228°, δ33.16027°, λ-157.22350°. **Principal axes: T Plg26.2453°, Azm50.7399°; N Plg30.2869°, Azm157.4757°; P Plg47.8752°, Azm287.7025°; **Fault plane solution: NP1:**ϕ_s199.31017°, δ25.86843°, λ-19.88962°. **NP2:**ϕ_s307.34219°, δ81.46374°, λ-114.51152°. **Principal axes:** T Plg32.0929°, Azm57.6020°; N Plg24.2224°, Azm311.2142°; P Plg47.8349°, Azm191.4280°; **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
MSVF	Nonsavu	3.10	271	P	P	15 55 40.4			+3.4
KAN09									
	comp=Z,20nm,0.9s								
WC3	Warramunga Arr	44.35	259	P	P	16 01 42.4			-0.8
WB2	baz=44	44.37	259	P	P	16 01 42.2			-1.2
WB2				IAmb	IAmb	16 01 43.8			
	comp=Z,18nm,0.7s								
WRAB	Tennant Creek	44.37	259	P	P	16 01 42.8			-0.6
WRAB				IAmb	IAmb	16 01 43.7			
	comp=Z,14nm,0.7s								
WRA	Warramunga Arr	44.38	259	P	P	16 01 42.7			-0.8
	comp=Z,12nm,0.7s,baz=93,slow=7.0,SNR=151								
WRA				S	S	16 07 30.5			-8.0
	comp=Z,0.4nm,0.8s,baz=96,slow=10,SNR=1.5								
ASAR	Alice Springs	44.55	254	P	P	16 01 44.9			0.0
	comp=Z,131nm,0.6s,baz=88,slow=8.3,SNR=2140								
ASAR				ScP	ScP	16 06 16.9			+0.9
	comp=Z,1.4nm,0.9s,baz=103,slow=3.8,SNR=4.2								
ASAR				S	S	16 07 38.4			-2.5
	comp=Z,3.2nm,0.9s,baz=88,slow=16,SNR=15								
ASAR	Alice Springs	44.55	254	P	P	16 01 45.1			+0.3
ASPA	Alice Springs	44.56	254	P	P	16 01 44.8			0.0
	baz=45								
KDU	Kakadu	47.29	269	P	P	16 02 05.6			-0.1
	baz=47,SNR=7.8								
MTN	Manton Dam	48.53	268	P	P	16 02 14.7			-0.2
	baz=49,SNR=4.4								
MTN	Manton Dam	48.53	268	P	P	16 02 14.1			-0.8
MTN				IAmb	IAmb	16 02 15.2			
	comp=Z,9.8nm,0.8s								
WRKA	Warakurna	49.62	252	P	P	16 02 22.9			0.0
	baz=50,SNR=93								
FORT	Forrest	49.80	245	P	P	16 02 23.6			-0.5
	baz=50,SNR=31								
FORT	Forrest	49.80	245	P	P	16 02 23.6			-0.5
KNRA	Kununurra	50.23	264	P	P	16 02 27.4			0.0
	baz=50,SNR=6.2								
KNRA	Kununurra	50.23	264	P	P	16 02 27.1			-0.2
KNRA				IAmb	IAmb	16 02 28.1			
	comp=Z,17nm,0.7s								
SIJI	Sorong	51.95	283	P	P	16 02 39.9			-0.1
	comp=Z,18nm,0.7s,baz=141,slow=22,SNR=4.9								
FITZ	Fitzroy Crossi	52.78	261	P	P	16 02 46.2			+0.4
	baz=53,SNR=7.5								
FITZ	Fitzroy Crossi	52.78	261	P	P	16 02 46.0			+0.2
	comp=Z,3.3nm,0.7s,baz=102,slow=6.1,SNR=11								
FITZ	Fitzroy Crossi	52.78	261	P	P	16 02 45.8			0.0
SOEI	Soe	55.80	270	P	P	16 03 07.9			+0.7
	comp=Z,45nm,0.8s								
PSA00	Pilbara Seismi	57.67	255	IAmb	IAmb	16 03 20.3			
	comp=Z,16nm,0.8s								
PSA00	Pilbara Seismi	57.67	255	IAmb	IAmb	16 03 20.3			
	comp=Z,10.0nm,0.9s								
MEEK	Meekatharra	58.21	249	P	P	16 03 22.7			-0.7
	baz=58,SNR=7.0								
NWAO	Narrogin (SRO)	59.02	242	P	P	16 03 28.2			-0.6
BLDU	Ballidu	59.58	245	P	P	16 03 32.1			-0.4
	baz=60,SNR=6.3								
MORW	Morawa	60.27	246	P	P	16 03 36.7			-0.4
	baz=60,SNR=5.1								
MORW	Morawa	60.27	246	P	P	16 03 36.5			-0.6
SBA	Scott Base	60.49	184	P	P	16 03 40.0			+2.3
VNDA	Vanda	60.51	185	P	P	16 03 37.3			-0.6
	comp=Z,1.6nm,0.8s,baz=357,slow=7.3,SNR=18								
VNDA	Vanda	60.51	185	P	P	16 03 38.7			+0.9
GIRL	Giralia	62.66	253	P	P	16 03 53.7			+0.9
CASY	Casey	66.11	205	P	P	16 04 13.8			0.0
CASY				IAmb	IAmb	16 04 15.1			
	comp=Z,7.6nm,0.8s								
JYT	Yasato	66.34	325	P	P	16 04 16.3			+0.6
MJAR	Matsushiro Arr	67.67	323	P	P	16 04 22.9			-1.1
	comp=Z,7.6nm,0.7s,baz=154,slow=6.6,SNR=21								
MJAR	Matsushiro Arr	67.67	323	P	P	16 04 22.9			-1.1
MAJO	Matsushiro	67.67	323	P	P	16 04 24.1			+0.2
MAJO				IAmb	IAmb	16 04 24.7			
	comp=Z,10nm,0.8s								
MAT	Matsushiro	67.67	323	P	P	16 04 23.8			-0.2
PWJI	Pagerwojo	68.13	268	P	P	16 04 28.4			+1.2
JWT	Wachi	68.44	321	P	P	16 04 29.3			+0.7
JWT				IAmb	IAmb	16 04 29.6			
	comp=Z,8.5nm,0.8s								
UGM	Wanagama	69.38	268	P	P	16 04 34.4			-0.4
ADK	Adak	69.42	1	P	P	16 04 33.9			-0.2
JHS	Saijyo	69.65	319	P	P	16 04 37.0			+1.1
JHS				IAmb	IAmb	16 04 37.7			
	comp=Z,12nm,0.7s								
NIKH	Nikolski High	71.01	6	P	P	16 04 41.9			-1.6
	baz=190								
UNV	Unalaska Valle	72.13	8	P	P	16 04 48.8			-1.2
UNV	Unalaska Valle	72.13	8	P	P	16 04 48.6			-1.4
	baz=192								
QSPA	South Pole Qui	72.24	180	P	P	16 04 51.0			+0.3
QSPA				IAmb	IAmb	16 04 51.8			
	comp=Z,11nm,0.8s								
PEA0B	Petropavlovsk-	73.52	345	P	P	16 04 58.4			+0.3
PETK	Petropavlovsk-	73.52	345	P	P	16 04 57.2			-0.9
	comp=Z,12nm,0.7s,baz=147,slow=8.8,SNR=17								
PETK	Petropavlovsk-	73.52	345	P	P	16 04 58.6			+0.6
KSRS	Korea Array	74.45	318	P	P	16 05 04.7			+1.1
	comp=Z,1.2nm,0.7s,baz=138,slow=6.6,SNR=6.3								
SPIA	Saint Paul Isl	75.04	5	P	P	16 05 05.3			-1.2
	baz=188								
CHIR	Chirikof Islan	75.90	13	P	P	16 05 09.9			-1.4
	baz=203								
USRK	Ussuriysk Ar.	76.39	326	P	P	16 05 14.6			+0.4
	comp=Z,2.1nm,0.6s,baz=115,slow=4.8,SNR=10								
USRK	Ussuriysk Ar.	76.39	326	P	P	16 05 16.3			+2.1
SCI2	San Clemente I	76.48	49	P	P	16 05 15.4			+0.4
	baz=238								
SAO	San Andreas Ge	76.55	44	P	P	16 05 16.9			+1.6
SAO				IAmb	IAmb	16 05 17.0			
	comp=Z,16nm,0.8s								
PKM	Mcpherson Peak	76.61	46	P	P	16 05 15.8			-0.2
	baz=237								
SMMC	Simmler	76.72	46	P	P	16 05 17.0			+0.7
	baz=237								
HOPS	Hopland Field	76.78	41	P	P	16 05 17.3			+0.7
CIS	Catalina Islan	76.79	48	P	P	16 05 17.7			+0.9
	baz=238								
KCPM	Cahto Peak	76.88	41	P	P	16 05 18.1			+0.9
SII	Sitkinak Islan	76.90	14	P	P	16 05 17.9			+1.1
	baz=204								
KMRM	Mail Ridge	77.12	40	P	P	16 05 19.8			+1.4
MWC	Mount Wilson	77.48	48	P	P	16 05 20.9			+0.3
MWC				IAmb	IAmb	16 05 21.4			
	comp=Z,11nm,0.6s								
CBX	Cerro Bola	77.49	50	P	P	16 05 21.8			+1.1
VES	Vestal, Richgr	77.62	46	P	P	16 05 21.6			+0.4
	baz=237								
O02D	Mt. Diablo Mer	77.66	41	P	P	16 05 21.9			+0.5
	baz=234,SNR=10.0								
VOG	Valley Oaks Go	77.68	45	P	P	16 05 21.6			+0.1
	baz=237								
OHAK	Old Harbor	77.71	14	P	P	16 05 20.8			-0.3
OHAK				IAmb	IAmb	16 05 21.8			
	comp=Z,18nm,0.7s								
OHAK	Old Harbor	77.71	14	P	P	16 05 21.5			+0.4
	baz=205								
MURC	Murrieta	77.77	49	P	P	16 05 22.3			+0.2
	baz=239								
BFSC	Mount Baldy Ra	77.77	48	P	P	16 05 22.4			+0.2
	baz=238								
KRMB	Red Mountain	77.78	39	P	P	16 05 22.9			+0.9
EDW2	Edwards Air Fo	77.87	47	P	P	16 05 22.6			0.0
	baz=238								
ISA	Isabella, Lake	77.95	46	P	P	16 05 23.7			+0.7
	baz=238								
MONP2	Monument Peak	77.96	50	P	P	16 05 24.0			+0.7
	baz=239								
IKP	In-Ko-Pah, Jac	78.07	50	P	P	16 05 24.5			+0.7
	baz=240								
N02D	Trinity Center	78.18	40	P	P	16 05 25.0			+0.8
	baz=234,SNR=5.7								
PFO	Pinyon Flats O	78.30	49	P	P	16 05 25.5			+0.4
	baz=239								
TPFO	Pinon Flats	78.30	49	P	P	16 05 25.4			+0.3
	baz=239								
M02C	Callahan	78.34	39	P	P	16 05 25.7			+0.7
	baz=233,SNR=8.9								
O03E	Paynes Creek	78.34	41	P	P	16 05 25.1			+0.1
	baz=234,SNR=6.8								
L02E	Cave Junction	78.35	39	P	P	16 05 25.3			+0.4
	baz=233								
KDAK	Kodiak Island	78.38	14	P	P	16 05 24.3			-0.3
KDAK				IAmb	IAmb	16 05 32.4			
	comp=Z,16nm,1.0s								

KDAK	Kodiak Island baz=205	78.38	14	P	P	16 05 25.4	+0.8
LRMC	Laurel Mtn Rad baz=238	78.40	47	P	P	16 05 25.9	+0.3
SWSC	Sam W. Stewart baz=240	78.44	50	P	P	16 05 25.6	0.0
MDPB	Devils Postpil comp=Z,16nm,0.9s	78.60	44	IAmb	IAmb	16 05 28.2	
CWC	Cottonwood Cre baz=238	78.63	46	P	P	16 05 27.0	+0.2
K02D	Willamette Mer baz=233	78.63	38	P	P	16 05 27.3	+0.7
J01E	Myrtle Point baz=232	78.76	38	P	P	16 05 27.6	+0.6
BELC	Belle Mtn. Jos baz=240	78.83	49	P	P	16 05 28.3	+0.5
MPMC	Manual Prospec baz=238	78.84	46	P	P	16 05 28.3	+0.4
TIN	Tinemaha, Big baz=238	78.86	45	P	P	16 05 28.7	+0.7
GSC	Goldstone, Bar baz=239	78.92	47	P	P	16 05 28.6	+0.4
HUMO	Hull Mountain comp=Z,13nm,1.1s	79.00	38	IAmb	IAmb	16 05 30.3	
HEC	Hector,Ludlow baz=239	79.01	48	P	P	16 05 28.7	0.0
BC3	Big Chuckawall baz=240	79.05	49	P	P	16 05 29.2	+0.2
PNTR	Pine Nut comp=Z,24nm,0.8s	79.06	43	IAmb	IAmb	16 05 30.7	
L04D	Klamath Falls baz=234,SNR=8.3	79.16	39	P	P	16 05 29.7	+0.3
M04C	Macdoel baz=234,SNR=5.8	79.18	40	P	P	16 05 29.8	+0.2
GLA	Glamis baz=240	79.20	50	P	P	16 05 30.6	+0.8
YERR	Yerington comp=Z,16nm,0.7s	79.23	43	IAmb	IAmb	16 05 31.3	
LHV	Little Huntoon comp=Z,17nm,1.0s	79.32	44	IAmb	IAmb	16 05 32.1	
GRAC	Grapevine Rang baz=238	79.41	46	P	P	16 05 30.7	-0.1
I03D	Drain, OR baz=233	79.42	37	P	P	16 05 30.7	+0.1
GWY	Greenwater Val	79.47	47	P	P	16 05 30.7	-0.6
FURC	Furnace Creek, baz=238	79.48	46	P	P	16 05 32.2	+1.2
IRM	Iron Mountain baz=240	79.52	49	P	P	16 05 31.9	+0.5
NVAR	Mina Array Bea comp=Z,8.0nm,0.7s,baz=224,slow=9.0,SNR=61	79.55	44	P	P	16 05 32.1	+0.4
SHOC	Shoshone, Teco baz=239	79.60	47	P	P	16 05 32.4	+0.7
TUQ	Turquoise Moun baz=239	79.61	48	P	P	16 05 32.5	+0.5
O18K	Koktuh Hills baz=203	79.72	12	P	P	16 05 31.3	-0.6
CN2	Changchun CN2 comp=Z,10.0nm,1.2s	79.78	322	*e*P pmax	P pmax	16 05 33.5	+1.0
J04D	Umpqua Nationa baz=234,SNR=15	79.88	38	P	P	16 05 33.5	+0.3
P19K	Oil Pt baz=204	79.94	13	P	P	16 05 32.5	-0.4
I04A	Tendick Farm, baz=233	80.03	38	P	P	16 05 33.7	-0.1
TPNV	Topopah Spring baz=239	80.15	46	P	P	16 05 35.3	+0.5
214A	Organ Pipe Nat baz=242	80.17	52	P	P	16 05 35.2	+0.3
MOD	Modoc Plateau comp=Z,14nm,0.7s	80.19	40	IAmb	IAmb	16 05 36.2	
O19K	Port Alsworth baz=203	80.21	12	P	P	16 05 33.6	-0.7
H04D	Lebanon baz=233	80.27	37	P	P	16 05 35.4	+0.4
K05A	Summer Lake comp=Z,32nm,1.1s	80.30	39	IAmb	IAmb	16 05 37.3	
PDMCI	Parker Dam,Lak baz=241	80.31	49	P	P	16 05 36.2	+0.7
N18K	Kilae Creek baz=202	80.36	11	P	P	16 05 34.7	-0.5
J05D	Fort Rock, OR baz=234,SNR=30	80.42	39	P	P	16 05 35.9	-0.1
BRSE	Bradley Lake S baz=207	80.56	14	P	P	16 05 34.9	-1.3
H04A	Detroit Lake H04A comp=Z,11nm,0.7s	80.68	37	P IAmb	P IAmb	16 05 37.1 16 05 37.7	-0.1
N19K	Bonanza Creek baz=203	80.75	12	P	P	16 05 36.4	-0.8
PINE	Pine Mountain comp=Z,20nm,0.8s	80.89	38	IAmb	IAmb	16 05 40.3	
I05D	Terrebonne, OR baz=234	80.97	38	P	P	16 05 39.1	+0.3
SEW	Seward baz=208	81.19	14	P	P	16 05 39.2	-0.2
PRN	Pahroc Range comp=Z,15nm,0.9s	81.21	46	IAmb	IAmb	16 05 42.1	
R11A	Troy Canyon, C baz=239	81.32	45	P	P	16 05 40.9	+0.1
BMN	Battle Mountai comp=Z,16nm,1.0s	81.32	43	IAmb	IAmb	16 05 42.3	
O22K	Cooper Landing baz=208	81.46	14	P	P	16 05 41.3	+0.5
G05D	Wamic, OR baz=234	81.51	37	P	P	16 05 41.4	-0.1
WVOR	Wild Horse Val comp=Z,18nm,1.0s	81.51	40	IAmb	IAmb	16 05 43.3	
E04D	Cinebar baz=233	81.59	35	P	P	16 05 42.3	+0.6
M19K	Big River Lodg M19K comp=Z,8.5nm,0.8s	81.77	11	P IAmb	P IAmb	16 05 41.9 16 05 42.3	-0.4
M19K	Big River Lodg baz=203	81.77	11	P	P	16 05 41.5	-0.9
F05D	White Salmon baz=234	81.81	36	P	P	16 05 43.1	+0.1
D04E	Lakebay baz=233	81.85	35	P	P	16 05 42.6	-0.4
TUC	Tucson baz=243	81.86	52	P	P	16 05 43.3	-0.3
I07A	Izee comp=Z,14nm,0.8s	81.90	39	IAmb	IAmb	16 05 45.2	
L19K	White Mountain L19K comp=Z,12nm,0.9s	81.94	11	P IAmb	P IAmb	16 05 43.1 16 05 44.4	-0.2
L19K	White Mountain baz=203	81.94	11	P	P	16 05 42.8	-0.4
PWL	Port Wells PWL comp=Z,16nm,0.7s	82.12	14	P IAmb	P IAmb	16 05 43.2 16 05 43.9	-0.9
J08A	Circle Bar Ran comp=Z,18nm,1.0s	82.12	40	IAmb	IAmb	16 05 46.2	
LCMT	Little Creek M comp=Z,9.7nm,0.9s	82.27	47	IAmb	IAmb	16 05 47.3	
KAIM	Kayak Island baz=213	82.31	17	P	P	16 05 44.1	-1.0
X16A	Lo Mia Camp, P comp=Z,12nm,0.9s	82.33	50	IAmb	IAmb	16 05 48.2	
BBB	Bella Bella	82.37	29	P	P	16 05 45.5	0.0
PGC	Sidney comp=Z,9.6nm,0.8s	82.38	33	IAmb	IAmb	16 05 46.8	
L20K	Farewell, AK baz=204	82.39	11	P	P	16 05 44.6	-1.0
SKT	Skwentna baz=206	82.40	13	P	P	16 05 43.8	-1.8
GLI	Glacier Island	82.44	15	P	P	16 05 44.7	-1.0
GLI	Glacier Island baz=210	82.44	15	P	P	16 05 44.9	-0.9
EYAK	Cordova Ski Ar baz=211	82.49	16	P	P	16 05 45.3	-0.7
KNB	Kanab comp=Z,9.2nm,0.9s	82.56	47	IAmb	IAmb	16 05 49.0	
KNK	Knik Glacier baz=209	82.57	14	P	P	16 05 45.3	-1.2
PMR	Palmer baz=208	82.58	14	P	P	16 05 45.5	-0.9
PSUT	Pine Spring comp=Z,8.3nm,0.8s	82.59	46	IAmb	IAmb	16 05 48.6	
319A	Douglas comp=Z,11nm,0.9s	82.59	54	IAmb	IAmb	16 05 49.7	
U15A	North Rim comp=Z,18nm,0.8s	82.66	48	IAmb	IAmb	16 05 49.8	
A04D	Lummi Island baz=233,SNR=5.7	82.82	34	P	P	16 05 48.0	+0.1
B05A	Bryant baz=233,SNR=5.1	82.87	34	P	P	16 05 47.4	-0.8
WUAZ	Wupatki comp=Z,13nm,1.0s	82.89	49	IAmb	IAmb	16 05 50.7	
WUAZ	Wupatki baz=242	82.89	49	P	P	16 05 49.4	+0.5
G08A	Pilot Rock comp=Z,9.1nm,0.8s	82.90	38	IAmb	IAmb	16 05 49.5	
SML	Sawmill SML comp=Z,18nm,1.2s	82.95	14	P IAmb	P IAmb	16 05 47.4 16 06 08.0	-0.9
CUT	Chulitna baz=207	83.05	13	P	P	16 05 47.3	-1.4
BMRM	Bremner River baz=212	83.14	16	P	P	16 05 48.8	-0.6
K20K	Telida K20K comp=Z,19nm,0.8s	83.17	11	P IAmb	P IAmb	16 05 48.8 16 05 50.0	-0.5
K20K	Telida baz=204,SNR=8.6	83.17	11	P	P	16 05 48.9	-0.5
HAWA	Hanford comp=Z,19nm,1.0s	83.19	37	IAmb	IAmb	16 05 51.3	
KLU	Klutina baz=211	83.25	15	P	P	16 05 49.1	-0.8
CRQE	Cirque baz=214	83.37	17	P	P	16 05 49.4	-1.1
CAST	Castle Rocks baz=205	83.59	12	P	P	16 05 50.0	-1.5
TABL	Table Mountain	83.66	18	P	P	16 05 52.0	-0.1
N25K	Chitina, Valde baz=212,SNR=7.9	83.69	16	P	P	16 05 51.7	-0.4
MVU	Marysvale comp=Z,22nm,1.0s	83.70	46	IAmb	IAmb	16 05 55.6	
M24K	Tolsona, Glenn baz=211	83.72	15	P	P	16 05 52.1	-0.1
WAT6	Susitna Watana baz=210,SNR=6.8	83.76	14	P	P	16 05 51.7	-0.8
MFID	Camas Ranch comp=Z,8.9nm,0.9s	83.78	41	IAmb	IAmb	16 05 54.4	
MAW	Mawson comp=Z,2.4nm,0.5s,baz=139,slow=7.3,SNR=8.6	83.85	200	P	P	16 05 52.0	-0.8
MAW	Mawson	83.85	200	P	P	16 05 52.1	-0.8
W18A	Petrified Fore baz=243	83.90	50	P	P	16 05 53.1	-0.8
J20K	Nowinta River comp=Z,11nm,0.8s	83.91	11	IAmb	IAmb	16 05 53.7	
J20K	Nowinta River baz=203,SNR=8.0	83.91	11	P	P	16 05 52.4	-0.6
MCARA	McCarthy VSAT baz=214	83.91	16	P	P	16 05 52.9	-0.2
D08A	Wollman Farm, comp=Z,14nm,0.9s	83.92	36	IAmb	IAmb	16 05 54.8	
CHUM	Lake Minchumin baz=205	83.97	11	P	P	16 05 52.1	-1.2
TRF	Thorofare Moun baz=207,SNR=11	83.98	12	P	P	16 05 52.2	-1.4
CTG	Chitna Glacier baz=215	84.03	17	P	P	16 05 53.6	-0.3
CTGM	Chitina Glacie CTGM comp=Z,14nm,0.8s	84.03	17	P IAmb	P IAmb	16 05 53.2 16 05 54.1	-0.7
DUG	Dugway, Tooele baz=241	84.11	45	P	P	16 05 54.6	-0.2
HARP	HAARP baz=212	84.22	15	P	P	16 05 54.4	-0.3
121A	Cookes Peak, D baz=245	84.23	53	P	P	16 05 55.7	+0.1
DHY	Denali Highway baz=210	84.28	14	P	P	16 05 54.1	-0.9
B08A	Colville Reser comp=Z,8.9nm,0.8s	84.42	35	IAmb	IAmb	16 05 56.5	
MCK	McKinley comp=Z,19nm,1.0s	84.51	13	IAmb	IAmb	16 05 56.1	
MCK	McKinley baz=208,SNR=5.1	84.51	13	P	P	16 05 55.0	-1.0
PAX	Paxson comp=Z,7.1nm,0.8s	84.63	15	IAmb	IAmb	16 05 56.6	
PAX	Paxson baz=212	84.63	15	P	P	16 05 55.5	-1.2
HLID	Hailey comp=Z,8.1nm,0.8s	84.74	41	IAmb	IAmb	16 05 59.5	
HLID	Hailey baz=239	84.74	41	P	P	16 05 57.1	-0.7
M26K	Nabesna, AK M26K comp=Z,16nm,0.9s	84.77	16	P IAmb	P IAmb	16 05 56.7 16 05 58.6	-0.7
M26K	Nabesna, AK baz=214,SNR=8.0	84.77	16	P	P	16 05 57.1	-0.3
YUK3	Moose Creek baz=216	84.94	17	P	P	16 05 57.8	-0.6
M27K	Edge Creek, AK comp=Z,19nm,1.1s	85.03	16	IAmb	IAmb	16 05 59.8	
M27K	Edge Creek, AK baz=215,SNR=5.5	85.03	16	P	P	16 05 58.6	-0.1
HYT	Haines Junctio baz=219	85.06	19	P	P	16 05 58.9	0.0
SRU	San Rafael Swe comp=Z,7.6nm,0.7s	85.15	46	IAmb	IAmb	16 06 01.1	
L26K	Log Cabin Wild baz=214	85.20	15	P	P	16 05 58.9	-0.5
I21K	Tanana I21K comp=Z,5.7nm,0.7s	85.21	11	P IAmb	P IAmb	16 05 58.7 16 05 59.8	-0.6
I21K	Tanana baz=205	85.21	11	P	P	16 05 58.9	-0.5
MLY	Manley baz=207	85.31	12	P	P	16 05 58.8	-1.1
WRH	Wood River Hil comp=Z,17nm,0.9s	85.34	13	IAmb	IAmb	16 06 00.7	
BVCY	Beaver Creek baz=216	85.35	17	P	P	16 05 59.5	-0.7
TCUT	Toone Canyon comp=Z,7.4nm,0.8s	85.48	44	IAmb	IAmb	16 06 02.9	
H21K	Melozitna Rive baz=205	85.50	10	P	P	16 06 00.5	-0.3
HDA	Harding Lake comp=Z,9.6nm,0.9s	85.53	13	IAmb	IAmb	16 06 02.7	
HDA	Harding Lake baz=210	85.53	13	P	P	16 05 59.9	-1.1
CCB	Clear Creek Bu comp=Z,8.7nm,0.8s	85.56	13	IAmb	IAmb	16 06 02.4	
NEW	Newport comp=Z,6.3nm,0.8s	85.60	36	IAmb	IAmb	16 06 02.3	
NEW	Newport baz=237	85.60	36	P	P	16 06 01.2	-0.5
L27K	Beaver Creek, baz=215	85.62	16	P	P	16 06 01.1	-0.3
I23K	Minto, Yukon-K baz=208	85.68	12	P	P	16 06 01.7	+0.1
MDM	Murphy Dome comp=Z,14nm,1.2s	85.74	12	IAmb	IAmb	16 06 01.7	
TCOL	CIGO, UAF Yank comp=Z,12nm,0.8s	85.74	13	IAmb	IAmb	16 06 02.4	
TCOL	CIGO, UAF Yank baz=209	85.74	13	P	P	16 06 00.9	-1.0
COLA	College COLA comp=Z,14nm,0.9s	85.74	13	P IAmb	P IAmb	16 06 01.1 16 06 02.4	-0.8
COLA	College baz=209	85.74	13	P	P	16 06 00.7	-1.2
MNTX	Cornudas Mount	85.75	55	P	P	16 06 03.0	+0.3
MNTX	Cornudas Mount baz=246	85.75	55	P	P	16 06 01.9	-0.8
SCRK	Sand Creek baz=213	85.84	15	P	P	16 06 02.0	-0.6
IL31	comp=Z,6.3nm,0.7s	85.86	13	IAmb	IAmb	16 06 02.3	
ILAR	Eielson Array comp=Z,3.1nm,0.4s,baz=224,slow=4.9,SNR=47	85.86	13	P	P	16 06 01.2	-1.3
XAN	Xi'an XAN comp=Z,9.0nm,1.1s	85.99	307	P pmax	P pmax	16 06 05.3	+1.4
TX31	Lajitas Ar. Si	86.17	58	P	P	16 06 06.0	+1.1
TX32	Lajitas Array TX32 comp=Z,10.0nm,0.9s	86.17	58	P IAmb	P IAmb	16 06 06.4 16 06 07.3	+1.4
TXAR	Lajitas Array comp=Z,7.0nm,0.8s,baz=219,slow=6.2,SNR=74	86.17	58	P	P	16 06 05.7	+0.7
ANMO	Albuquerque	86.25	52		P	16 06 04.9	-0.4
ANMO	Albuquerque baz=245	86.25	52	P	P	16 06 04.2	-1.2
J26L	Joseph Creek baz=213,SNR=7.7	86.38	14	P	P	16 06 04.5	-0.6
MSO	Missoula baz=240	86.68	38	P	P	16 06 06.1	-0.8
DLMT	Dillon comp=Z,7.2nm,0.8s	86.76	40	IAmb	IAmb	16 06 08.8	
PRP	Porcupine Dome baz=211	86.80	13	P	P	16 06 06.8	-0.3
TPAW	Teton Pass	86.90	42	IAmb	IAmb	16 06 09.8	
REDW	Red Top Meadow comp=Z,15nm,1.1s	86.91	43	IAmb	IAmb	16 06 09.8	
FXWY	Fox Creek FXWY comp=Z,5.6nm,0.9s	86.92	42	P IAmb	P IAmb	16 06 08.5 16 06 10.8	+0.2
DAWY	Dawson comp=Z,7.1nm,1.1s	87.08	16	IAmb	IAmb	16 06 08.5	
DAWY	Dawson baz=217	87.08	16	P	P	16 06 07.8	-0.5
IMW	Indian Meadow comp=Z,12nm,0.8s	87.10	42	IAmb	IAmb	16 06 10.8	
S22A	4UR Ranch, Cre baz=245	87.15	49	P	P	16 06 09.3	-0.3
LOHW	Long Hollow comp=Z,5.4nm,0.8s	87.18	42	IAmb	IAmb	16 06 10.4	
EGAK	Eagle baz=215	87.20	15	P	P	16 06 08.6	-0.2
FLWY	Flagg Ranch FLWY comp=Z,14nm,0.9s	87.34	42	P IAmb	P IAmb	16 06 10.2 16 06 12.1	0.0
YHB	Horse Butte comp=Z,12nm,1.0s	87.34	41	IAmb	IAmb	16 06 12.3	
COLD	Coldfoot comp=Z,6.2nm,0.7s	87.37	11	IAmb	IAmb	16 06 10.1	
COLD	Coldfoot baz=207	87.37	11	P	P	16 06 09.3	-0.2
YHL	Hebgen Lake comp=Z,12nm,0.9s	87.39	41	IAmb	IAmb	16 06 12.7	
FARO	Faro, Yukon baz=223	87.43	19	P	P	16 06 10.6	+0.6
BOZ	Bozeman (W) comp=Z,6.7nm,1.1s	87.47	40	IAmb	IAmb	16 06 12.2	
BOZ	Bozeman (W) baz=241	87.47	40	P	P	16 06 10.4	-0.4
BW06	Boulder Array comp=Z,6.6nm,0.7s	87.47	44	IAmb	IAmb	16 06 11.7	
BW06	Boulder Array baz=243	87.47	44	P	P	16 06 10.8	-0.2
PD31	Pinedale Array comp=Z,5.7nm,0.7s	87.47	44	IAmb	IAmb	16 06 11.7	
PDAR	Pinedale Array comp=Z,4.7nm,0.6s,baz=218,slow=3.2,SNR=61	87.47	44	P	P	16 06 10.8	-0.2
H17A	Grant Village comp=Z,8.8nm,0.7s	87.56	42	IAmb	IAmb	16 06 14.0	
H17A	Grant Village baz=242	87.56	42	P	P	16 06 11.7	+0.4
YHH	Holmes Hill YHH comp=Z,6.7nm,1.2s	87.57	41	P IAmb	P IAmb	16 06 12.2 16 06 14.4	+0.7
WALA	Waterton Lakes comp=Z,6.4nm,0.8s	87.83	37	IAmb	IAmb	16 06 12.8	
SDCO	Great Sand Dun baz=246	88.11	49	P	P	16 06 14.3	+0.2
YNE	Yellowstone No comp=Z,8.6nm,1.0s	88.21	41	IAmb	IAmb	16 06 16.1	
MMPY	Sheldon Lake, baz=224	88.38	20	P	P	16 06 14.8	+0.3
CMAR	Chiang Mai Arr comp=Z,0.7nm,0.8s,baz=69,slow=2.7,SNR=6.0	88.60	290	P	P	16 06 16.9	+0.5
TGTN	Hyland Airport baz=227	88.63	22	P	P	16 06 16.2	+0.6
MSTX	Muleshoe comp=Z,7.0nm,0.8s	88.66	54	IAmb	IAmb	16 06 17.3	
MSTX	Muleshoe baz=247	88.66	54	P	P	16 06 15.9	-0.6
T25A	Trinidad baz=246	88.66	50	P	P	16 06 16.6	0.0
RLMT	Red Lodge comp=Z,6.9nm,1.0s	88.73	42	IAmb	IAmb	16 06 18.3	
RLMT	Red Lodge baz=243	88.73	42	P	P	16 06 16.5	-0.2
TOLK	Toolik Lake Re baz=208	88.75	10	P	P	16 06 16.3	+0.3
Q24A	Divide baz=246	88.86	48	P	P	16 06 17.6	0.0
N23A	Red Feather La baz=245	89.09	46	P	P	16 06 18.8	+0.2
833A	Chaparral WMA, baz=249	89.29	60	P	P	16 06 18.9	-0.5
K22A	Casper baz=245	89.43	45	P	P	16 06 20.1	+0.1
JCT	Junction City baz=249	89.72	58	P	P	16 06 20.9	-0.5
AMTX	Amarillo baz=248	89.83	53	P	P	16 06 21.4	-0.6
ABTX	Abilene, Hawle baz=249	90.60	56	P	P	16 06 25.5	+0.1
SNAA	Sanae	90.69	179	P	P	16 06 24.0	-1.2
SNAA	Sanae comp=Z,1.9nm,0.6s,baz=208,slow=6.5,SNR=12	90.69	179	P	P	16 06 24.1	-1.2
SNAA	Sanae comp=Z,2.8nm,0.8s	90.69	179	IAmb	IAmb	16 06 24.5	
VNA3	Neumayer Olymp	90.85	176	P	P	16 06 25.1	-0.8
VNA2	Neumayer--Watz	91.28	177	P	P	16 06 27.3	-0.5
LAO	LASA Array baz=245	91.32	41	P	P	16 06 29.0	+0.6
VNA1	Neumayer--Stat	91.51	177	P	P	16 06 28.7	-0.1
RSSD	Black Hills RSSD comp=Z,6.2nm,0.9s	91.69	44	P IAmb	P IAmb	16 06 29.8 16 06 31.0	-0.6
RSSD	Black Hills baz=247	91.69	44	P	P	16 06 29.9	-0.6
INK	Inuvik baz=222	91.87	15	P	P	16 06 29.1	-1.3
DGMT	Dagmar baz=247	93.30	40	P	P	16 06 37.1	-0.3
SONM	Songino Array comp=Z,0.5nm,0.7s,baz=128,slow=4.7,SNR=3.1	93.31	319	P	P	16 06 36.9	-0.8
SONM	Songino Array	93.31	319	P	P	16 06 37.6	0.0
BGNE	Belgrade baz=250	94.74	48	P	P	16 06 43.9	-0.3
KSU1	Kansas State U baz=251	95.10	51	P	P	16 06 45.4	-0.4
MIAR	Mount Ida baz=252	96.01	56	P	P	16 06 50.3	+0.3
ECSD	EROS Data Cent baz=252	96.56	46	P	P	16 06 52.1	-0.2
ZALV	Zalesovo Beam comp=Z,0.8nm,0.6s,baz=142,slow=1.1,SNR=3.9	108.00	322	PKiKP	PKiKP	16 11 44.9	-1.5
MKAR	Makanchi Array comp=Z,0.5nm,0.5s,baz=161,slow=0.2,SNR=6.6	108.88	314	PKiKP	PKiKP	16 11 46.9	-1.4
ARCES	ARCESS Array B comp=Z,4.9nm,0.8s,baz=352,slow=4.9,SNR=4.3	126.18	350	PKP	PKPdf	16 12 20.3	-0.5
ARCES	ARCESS Array B	126.18	350		PKPdf	16 12 19.5	-1.2
FINES	FINESS Array B comp=Z,1.9nm,0.8s,baz=64,slow=3.2,SNR=2.2	133.03	344	PKP	PKPdf	16 12 32.8	-1.1
BNN	Bunyan	143.39	312	PKPdf	PKPab	16 12 51.7	-0.4
LODK	Lodwar	143.70	251	PKPdf	PKPbc	16 12 53.8	-0.1
TLCR		144.34	326	⇑P	PKPdf	16 12 54.9	-0.1
BURAR	Bucovina Array	144.41	332	⇑P	PKPab	16 12 56.0	+0.4
OJC	Ojcow	144.43	339	*e*PKPab	PKPbc	16 12 54.8	-0.2
BIZ	Bicaz	144.50	330	⇑P	PKPab	16 12 56.0	+0.2
BR131	Keskin Array S	144.53	315	PKPdf	PKPdf	16 12 54.7	-1.0
BRTR	Keskin Array B comp=Z,5.1nm,0.8s,baz=162,slow=1.2,SNR=11	144.53	315	PKP	PKPdf	16 12 55.5	-0.3
BRTR	Keskin Array B	144.53	315		PKPdf	16 12 54.9	-0.8
KOLS	Kolonicke sedl	144.61	336	*e*PKP	PKPab	16 12 55.9	-0.3
CFR	Carcaliu	144.71	326	⇑P	PKPdf	16 12 55.6	0.0
TPGR	Topolog	144.77	326	⇑P	PKPab	16 12 56.6	-0.3
NIE	Niedzica	144.94	338	*e*PKPab	PKPab	16 12 57.7	+0.2
KSP	Ksiaz	144.95	343	*e*PKPab	PKPab	16 12 56.8	-0.6
CRVS	Cervenica-Dubn	144.95	337	*e*PKP	PKPab	16 12 57.0	-0.5
OSTC	Ostas	145.23	343⇑	*e*PKP	PKPbc	16 12 57.8	+0.4
CHVC	Chvalec	145.24	343⇑	*e*PKP	PKPbc	16 12 57.7	+0.2
CLL	Collm comp=Z,26nm,0.9s	145.31	347	*i* PKPbc	PKPbc	16 12 57.2	-0.4
CLL				*e*PKiKP	PKiKP	16 13 03.0	+2.3
CLL				*e*pPKiKP	pPKiKP	16 15 12.0	+2.9
CLL				*e*SKPdf	SKPdf	16 15 36.0	-2.8
UPC	Upice	145.33	343⇑	*e*PKP	PKPab	16 12 58.2	-0.7
DPC	Dobruska-Polom	145.38	343⇑	*e*PKP	PKPab	16 12 58.6	-0.6
LANS	Liptovska Anna	145.46	339	*e*PKP	PKPab	16 12 58.9	-0.6
KRLC	Kraliky	145.50	342⇑	*e*PKP	PKPbc	16 12 58.3	0.0
BRG	Berggiesshubel BRG comp=Z,24nm,1.2s	145.51	346	*e*PKP Amp	PKPbc	16 12 58.5 16 12 59.9	+0.3
MORC	Moravsky Berou	145.54	341	⇑P	PKPbc	16 12 57.9	-0.5
MORC	Moravsky Berou	145.54	341	*e*PKP	PKPbc	16 12 58.4	0.0
ISR	Istrita	145.58	328	⇑P	PKPbc	16 12 58.7	0.0
MLR	Muntele Rosu	145.61	329		PKPbc	16 12 58.4	-0.5
PVCC	Panska Ves	145.68	345⇑	*e*PKP	PKPbc	16 12 59.3	+0.6
SECR		145.88	328	⇑P	PKPbc	16 12 59.7	+0.2
VOIR		146.09	329	⇑P	PKiKP	16 13 02.8	+0.2
DRGR		146.14	333	⇑P	PKPbc	16 13 00.2	0.0
PRU	Pruhonice	146.19	345⇑	*e*PKP	PKPbc	16 13 00.3	+0.2

PRU				*e*PKPAB	**PKiKP**	**16 13 02.8**	**+0.3**
VYHS	**Vyhne**	**146.24**	**339**	*e*PKP	**PKPbc**	**16 13 01.1**	**+0.7**
VRAC	**Vranov**	**146.24**	**342**	*e*PKP	**PKPbc**	**16 13 00.2**	**-0.1**
JAVC	**Velka Javorina**	**146.31**	**340**	*e*PKP	**PKPab**	**16 13 01.7**	**-1.2**
ARR	**Arges**	**146.34**	**330**	⇑P	**PKPbc**	**16 13 01.4**	**+0.6**
PSZ	**Piszkesteto**	**146.35**	**337**	⇑P	**PKPbc**	**16 13 00.1**	**-0.7**
KRUC	**Moravsky**	**146.52**	**342**	*e*PKP	**PKPbc**	**16 13 00.8**	**-0.3**
PBCC	**Pribram**	**146.60**	**345**	⇑*e*PKP	**PKPbc**	**16 13 01.5**	**+0.2**
PBCC				*e*PKPAB	**PKPab**	**16 13 04.4**	**+0.4**
SMOL	**Smolenice**	**146.69**	**340**	*e*PKP	**PKiKP**	**16 13 02.7**	**-0.9**
MODS	**Modra-Piesok**	**146.86**	**340**	*e*PKP	**PKPbc**	**16 13 01.8**	**-0.3**
SIRR	**Siria**	**147.00**	**334**	⇑P	**PKPbc**	**16 13 02.7**	**+0.2**
MEM	**Membach**	**147.07**	**354**	*d*PKP	**PKPbc**	**16 13 02.3**	**-0.2**
BTNL	**Ternell**	**147.08**	**354**	*d*PKP	**PKPbc**	**16 13 02.3**	**-0.3**
BSTI	**Sart Tilman**	**147.13**	**355**	*d*PKP	**PKPbc**	**16 13 02.7**	**+0.1**
GZR	**Gura Zlata**	**147.19**	**332**	⇑P	**PKPbc**	**16 13 02.7**	**-0.4**
KHC	**Kasperske Hory**	**147.22**	**345**	⇑*e*PKP	**PKPbc**	**16 13 03.1**	**+0.1**
KHC				*e*PKPAB	**PKPab**	**16 13 07.3**	**+0.8**
BCLA	**Clavier**	**147.32**	**355**	*d*PKiKP	**PKiKP**	**16 13 04.5**	**-0.3**
CKRC	**Cesky Krumlov**	**147.32**	**344**	⇑*e*PKP	**PKPbc**	**16 13 03.5**	**+0.2**
BGES	**Gesves**	**147.37**	**356**	*d*PKP	**PKPbc**	**16 13 02.3**	**-1.0**
GERES	**GERESS Array B**	**147.45**	**345**	PKPbc	**PKPbc**	**16 13 03.5**	**-0.2**
	comp=Z,6.9nm,0.6s,baz=28,slow=3.1,SNR=38						
BMRD	**Maredsous**	**147.47**	**356**	*d*PKP	**PKPbc**	**16 13 03.2**	**-0.4**
BZS	**Buzias**	**147.53**	**333**	⇑P	**PKPbc**	**16 13 03.5**	**-0.4**
DOU	**Dourbes**	**147.69**	**356**	*d*PKiKP	**PKPbc**	**16 13 04.3**	**+0.2**
CONA	**Conrad Observa**	**147.69**	**342**	*e*P	**PKPbc**	**16 13 04.4**	**+0.1**
	comp=Z,9.0nm,0.7s						
HERR	**Herculane**	**147.75**	**331**	⇑P	**PKPbc**	**16 13 04.0**	**-0.4**
WLF	**Walferdange**	**147.99**	**354**	*d*PKiKP	**PKPbc**	**16 13 05.3**	**+0.4**
MOA	**Molln**	**148.22**	**343**	*e*P	**PKPbc**	**16 13 05.3**	**-0.3**
	comp=Z,5.6nm,0.9s						
MORH	**Mrgy, Hungar**	**148.24**	**337**	⇑P	**PKPbc**	**16 13 05.2**	**-0.4**
ARSA	**Arzberg**	**148.40**	**341**	*e*P	**PKPbc**	**16 13 06.5**	**+0.4**
	comp=Z,2.0nm,0.6s						
FRGS	**Fruska Gora**	**148.66**	**334**	⇑P	**PKPbc**	**16 13 06.8**	**0.0**
BFO	**Black Forest**	**149.03**	**351**		**PKPbc**	**16 13 06.8**	**-0.7**
VTS	**Vitosha**	**149.03**	**328**	⇑P	**PKPbc**	**16 13 07.9**	**-0.1**
VTS	**Vitosha**	**149.03**	**328**		**PKPbc**	**16 13 06.6**	**-1.3**
SOKA	**Soboth**	**149.06**	**341**	*e*P	**PKPbc**	**16 13 07.1**	**-0.7**
	comp=Z,7.9nm,1.1s						
KBA	**Koelnbreinsper**	**149.18**	**344**	*e*P	**PKPbc**	**16 13 08.0**	**-0.1**
	comp=Z,4.2nm,0.5s						
WATA	**Walderalm**	**149.37**	**346**	*e*P	**PKPbc**	**16 13 08.0**	**-0.6**
	comp=Z,5.1nm,0.6s						
RETA	**Reutte**	**149.41**	**347**	*e*P	**PKPbc**	**16 13 08.5**	**0.0**
	comp=Z,11nm,1.5s						
WTTA	**Wattenberg**	**149.43**	**346**	*i* P	**PKPbc**	**16 13 08.4**	**-0.4**
	comp=Z,18nm,0.7s,SNR=8.5						
MOTA	**Moosalm**	**149.47**	**347**	*i* P	**PKPbc**	**16 13 08.3**	**-0.5**
	comp=Z,10nm,0.8s,SNR=5.0						
MYKA	**Terra Mystica**	**149.51**	**343**	*e*P	**PKPbc**	**16 13 07.7**	**-1.2**
	comp=Z,6.9nm,0.5s						
SQTA	**Sankt Quirin**	**149.56**	**347**	*i* P	**PKPbc**	**16 13 08.7**	**-0.3**
	comp=Z,10nm,0.6s,SNR=6.0						
ABTA	**Abfaltersbach**	**149.70**	**345**	*e*P	**PKPbc**	**16 13 08.3**	**-1.0**
	comp=Z,11nm,0.6s						
DAVA	**Damuels**	**149.78**	**348**	*e*P	**PKiKP**	**16 13 10.1**	**-0.2**
	comp=Z,11nm,0.9s						
FETA	**Feichten**	**149.86**	**347**	*i* P	**PKPbc**	**16 13 09.7**	**-0.1**
	comp=Z,13nm,1.0s,SNR=5.6						
STAL	**STALIGIAL**	**150.10**	**344**		**PKPbc**	**16 13 09.1**	**-1.1**
PDG	**Podgorica**	**151.09**	**332**	⇑P	**PKPbc**	**16 13 11.9**	**-0.6**
FNA	**Florina**	**151.32**	**327**		**PKPbc**	**16 13 12.0**	**-1.2**
ESDC	**Sonseca Array**	**157.75**	**11**	PKPab	**PKPab**	**16 13 50.6**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=334,slow=4.1,SNR=6.5						

NEIC ***30*** *15:57:59.9±2.1, 6.39S±0.07°×154.26E±0.08, h10km±1km, mb4.4/12 Error ellipse: s-maj=13.4km s-min=11.4km az=85.0*

IDC ***30*** *15:58:06.0±3.0, 6.39S×154.37E, h71km±27km, mb3.8/13, mb1 4.0/16, mb1mx3.8/36, mbtmp4.1/16, MS3.2/4, Ms1 3.2/4, ms1mx2.9/28, Error ellipse: s-maj=20.7km s-min=18.7km az=153.0*

ISC 30 15:58:04.0±0.5, 6°38S±0.07°×154°34E±0.07, h48km, n52, σ1°14/53, mb4.5/26, MS3.0/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.07**	**315**	Pn			**Pn**	**15 58 50.9**	**+0.8**
HNR	**Honiara**	**6.32**	**119**	P			**Pn**	**15 59 36.8**	**+2.1**
	3.0nm,0.3s,baz=292,slow=4.4,SNR=3.6								
HNR				S			Sn	16 00 56.4	+11
	2.0nm,0.3s,baz=106,slow=6.1,SNR=0.8								
HNR	**Honiara**	**6.32**	**119**	Pn			**Pn**	**15 59 37.2**	**+2.4**
PMG	**Port Moresby**	**7.72**	**247**	P			**Pn**	**15 59 56.9**	**+2.9**
	3.2nm,0.3s,baz=56,slow=8.5,SNR=12								
PMG				S			**Sn**	**16 01 19.2**	**-0.9**
	1.1nm,0.3s,baz=334,slow=20,SNR=1.1								
PMG				LR			LR	16 03 17.0	
	comp=Z,186nm,18.6s,baz=68,slow=40								
PMG	**Port Moresby**	**7.72**	**247**	Pn			**Pn**	**15 59 52.5**	**-1.4**
PATS	**Pohnpei**	**13.72**	**17**	Pn			**Pn**	**16 01 15.1**	**-1.0**
JAY	**Jayapura**	**14.13**	**285**	P			**P**	**16 01 29.8**	**+1.8**
	16nm,0.9s								
CTAO	**Charters Tower**	**15.72**	**209**	P			**P**	**16 01 46.4**	**+0.7**
CTAO						IAmb	IAmb	16 01 58.5	
	comp=Z,15nm,1.1s								
EIDS	**Eidsvold**	**19.13**	**189**	P			**P**	**16 02 22.9**	**-0.5**
DZM	**Mont Dzumac**	**19.49**	**144**	P			**Pn**	**16 02 28.1**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=58,slow=16,SNR=2.7								
DZM	**Mont Dzumac**	**19.49**	**144**	P			**Pn**	**16 02 29.3**	**+0.4**
DZM						IAmb	IAmb	16 02 40.7	
	comp=Z,14nm,1.1s								
GUMO	**Guam**	**21.96**	**335**	LR			LR	16 12 20.2	
	comp=Z,53nm,18.1s,baz=160,slow=39								
WR0	**Warramunga Arr**	**23.49**	**233**	P			**P**	**16 03 09.3**	**-0.5**
WB0	**Warramunga Arr**	**23.51**	**234**	P			**P**	**16 03 10.4**	**+0.4**
WB0						IAmb	IAmb	16 03 23.0	
	comp=Z,18nm,1.1s								
WRAB	**Tennant Creek**	**23.63**	**233**	P			**P**	**16 03 10.1**	**-1.0**
WRAB						IAmb	IAmb	16 03 24.1	
	comp=Z,19nm,1.0s								
WB2	**Warramunga Arr**	**23.63**	**233**	P			**P**	**16 03 10.0**	**-1.1**
WB2						IAmb	IAmb	16 03 24.1	
	comp=Z,16nm,1.0s								
WRA	**Warramunga Arr**	**23.64**	**233**	P			**P**	**16 03 10.6**	**-0.6**
	comp=Z,9.8nm,0.7s,baz=55,slow=9.6,SNR=18								
WRA				PcP			**PcP**	**16 06 55.3**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=71,slow=2.2,SNR=1.5								
WRA	**Warramunga Arr**	**23.64**	**233**	P			**P**	**16 03 10.2**	**-1.0**
SIJI	**Sorong**	**23.66**	**282**	LR			LR	16 13 58.7	
	comp=Z,58nm,20.6s,baz=142,slow=40								
ASAR	**Alice Springs**	**26.10**	**227**	P			**P**	**16 03 33.7**	**0.0**
	comp=Z,1.4nm,0.8s,baz=58,slow=9.5,SNR=1.8								
ASAR				PcP			**PcP**	**16 07 00.2**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=53,slow=3.6,SNR=1.9								
ASAR				LR			LR	16 13 01.0	
	comp=Z,77nm,20.6s,baz=48,slow=34								
ASAR	**Alice Springs**	**26.10**	**227**	P			**P**	**16 03 34.8**	**+1.2**
KNRA	**Kununurra**	**26.72**	**248**	P			**P**	**16 03 37.9**	**-1.3**
STKA	**Stephens Creek**	**28.02**	**204**	P			**P**	**16 03 50.1**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=24,slow=10.0,SNR=1.8								
STKA	**Stephens Creek**	**28.02**	**204**	P			**P**	**16 03 49.4**	**-1.3**
FITZ	**Fitzroy Crossi**	**30.31**	**245**	P			**P**	**16 04 10.1**	**-1.2**
	comp=Z,3.1nm,0.7s,baz=57,slow=7.2,SNR=5.7								
FITZ	**Fitzroy Crossi**	**30.31**	**245**	P			**P**	**16 04 10.7**	**-0.5**
KSRS	**Korea Array**	**50.10**	**333**	P			**P**	**16 06 53.9**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=144,slow=6.8,SNR=3.0								
CMAR	**Chiang Mai Arr**	**59.94**	**295**	P			**P**	**16 08 05.9**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=126,slow=5.7,SNR=7.4								
GTA	**Gaotai**	**67.85**	**317**	*e*P			**P**	**16 08 59.0**	**+1.3**
GTA				pP			pP	16 09 02.8	-6.6
GTA				sP			sP	16 09 05.5	-8.6
GTA				pmax			pmax		
	comp=Z,3.0nm,1.4s								
SONM	**Songino Array**	**68.47**	**327**	P			**P**	**16 09 01.5**	**0.0**
	comp=Z,0.6nm,0.6s,baz=131,slow=5.6,SNR=3.0								
ODAN	**Odare**	**72.67**	**301**	*e*P			**P**	**16 09 29.0**	**+1.5**
	comp=Z,14nm,0.8s								
GUN	**Gumba**	**74.25**	**301**	*e*P			**P**	**16 09 37.9**	**+0.9**
	comp=Z,15nm,0.7s								
PKI	**Pulchoki**	**74.56**	**301**	*e*P			**P**	**16 09 39.5**	**+0.8**
KKN	**Kakani**	**74.73**	**301**	*e*P			**P**	**16 09 40.6**	**+1.0**
	comp=Z,11nm,0.7s								
DMN	**Daman**	**74.83**	**301**	*e*P			**P**	**16 09 41.5**	**+1.3**
	comp=Z,21nm,0.8s								
GKN	**Gorkha**	**75.33**	**301**	*e*P			**P**	**16 09 43.8**	**+0.8**
	comp=Z,22nm,0.9s								
KOLN	**Koldanda**	**76.16**	**301**	*e*P			**P**	**16 09 48.2**	**+0.4**
	comp=Z,22nm,0.8s								
DANN	**Dangsing**	**76.17**	**301**	*e*P			**P**	**16 09 47.7**	**-0.2**
	comp=Z,14nm,0.7s								
PYUN	**Piuthan**	**76.76**	**301**	*e*P			**P**	**16 09 51.4**	**+0.2**
	comp=Z,31nm,0.9s								
J20K	**Nowinta River**	**80.12**	**20**	P			**P**	**16 10 08.9**	**+0.2**
J20K						IAmb	IAmb	16 10 09.2	
	comp=Z,7.0nm,1.1s								
IMAR	**Indian Mountai**	**81.36**	**19**	P			**P**	**16 10 14.7**	**-0.6**
MKAR	**Makanchi Array**	**82.52**	**319**	P			**P**	**16 10 21.6**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=106,slow=7.7,SNR=2.4								
ILAR	**Eielson Array**	**83.05**	**22**	P			**P**	**16 10 21.8**	**-2.3**
	comp=Z,0.7nm,0.8s,baz=252,slow=5.4,SNR=5.2								
ILAR	**Eielson Array**	**83.05**	**22**	P			**P**	**16 10 25.2**	**+1.1**
QSPA	**South Pole Qui**	**83.59**	**180**	P			**P**	**16 10 26.1**	**-1.0**
	comp=Z,4.5nm,1.1s,baz=343,slow=4.5,SNR=2.4								
QSPA	**South Pole Qui**	**83.59**	**180**	P			**P**	**16 10 26.8**	**-0.3**
MAW	**Mawson**	**84.71**	**203**	P			**P**	**16 10 31.6**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=129,slow=21,SNR=1.7								
NVAR	**Mina Array Bea**	**91.85**	**52**	P			**P**	**16 11 06.9**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=253,slow=6.0,SNR=9.7								
NVAR	**Mina Array Bea**	**91.85**	**52**	P			**P**	**16 11 08.1**	**+0.4**
PDAR	**Pinedale Array**	**98.77**	**48**	P			**P**	**16 11 36.9**	**-2.3**
	comp=Z,0.3nm,0.6s,baz=210,slow=1.2,SNR=3.9								
PDAR	**Pinedale Array**	**98.77**	**48**	P			**P**	**16 11 37.7**	**-1.5**
TORD	**Torodi Ar. Bea**	**152.24**	**286**	PKPbc			**PKiKP**	**16 17 55.4**	**-0.5**
	comp=Z,3.5nm,0.8s,baz=61,slow=2.3,SNR=19								

NEIC ***30*** *16:06:52.3±1.7, 56.20S±0.08×27.7W±0.1, h101km±1km, mb5.7/160, Mwb5.6/23, Mww5.7, Mwc5.7(GCMT), Error ellipse: s-maj=14.5km s-min=13.6km az=22.0*

NEIC ***30*** *16:06:52.8, 56.24S×27.72W, h104km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr 2.45; Mθθ 0.17; Mϕϕ -2.61; Mrθ -1.36; Mθϕ 0.23; Mϕr 2.33; Fault plane solution: Mo 3.71000×10^17 NP1: ϕs 192.23000°, δ 25.09000°, λ 122.33000°. NP2: ϕs 337.29000°, δ 69.00000°, λ 75.94000°. Principal axes: T 3.7563, Plg 63.0000°, Azm 225.0000°; N -0.0917, Plg 13.0000°, Azm 342.0000°; P -3.6646, Plg 23.0000°, Azm 78.0000°;*

MOS ***30*** *16:06:52.8±1.0, 56.22S×27.84W, h116km, mb5.8/9 Error ellipse: s-maj=17.0km s-min=9.9km az=110.2*

IDC ***30*** *16:06:53.6±0.4, 56.20S×27.68W, h116km±2km, mb5.0/20, mb1 5.1/22, mb1mx5.0/26, mbtmp5.4/22, MS4.6/21, Ms1 4.6/21, ms1mx4.6/24, Error ellipse: s-maj=10.3km s-min=8.2km az=33.0*

BJI ***30*** *16:06:53.5±0.0, 56.30S×27.90W, h124km, mB5.5/22*

NEIC ***30*** *16:06:55, 56.04S×27.72W, h110km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr 2.30; Mθθ 0.68; Mϕϕ -2.97; Mrθ -2.24; Mθϕ 0.23; Mϕr 2.79; Fault plane solution: Mo 4.49000×10^17 NP1: ϕs 202.00000°, δ 26.00000°, λ 140.00000°. NP2: ϕs 329.00000°, δ 74.00000°, λ 69.00000°. Principal axes: T 4.5360, Plg 57.0000°, Azm 212.0000°; N -0.0951, Plg 20.0000°, Azm 335.0000°; P -4.4408, Plg 26.0000°, Azm 75.0000°;*

GCMT ***30*** *16:06:56.3±0.1, 56.22S±0.01×27.47W±0.01, h113km, MW5.7/156, Moment Tensor Solution. s156,c307; s154,c315; Duration: 1ŧ7 Moment tensor: Scale 10^17 Nm; Mrr 2.35±.04; Mθθ 1.02±.04; Mϕϕ -3.38±.04; Mrθ -1.99±.03; Mθϕ -0.07±.04; Mϕr 2.48±.03; Best double couple: Mo 4.37100×10^17 NP1: ϕs 210.00000°, δ 32.00000°, λ 143.00000°. NP2: ϕs 332.00000°, δ 71.00000°, λ 64.00000°. Principal axes: T 4.3570, Plg 56.0000°, Azm 208.0000°; N 0.0180, Plg 25.0000°, Azm 341.0000°; P -4.3850, Plg 22.0000°, Azm 82.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***30*** *16:06:56, 56.26S×27.47W, h110km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr 2.38; Mθθ 1.08; Mϕϕ -3.46; Mrθ -2.11; Mθϕ -0.18; Mϕr 2.45; Fault plane solution: Mo 4.46000×10^17 NP1: ϕs 211.00000°, δ 33.00000°, λ 145.00000°. NP2: ϕs 332.00000°, δ 72.00000°, λ 62.00000°. Principal axes: T 4.5040, Plg 55.0000°, Azm 207.0000°; N -0.0902, Plg 27.0000°, Azm 342.0000°; P -4.4138, Plg 22.0000°, Azm 83.0000°;*

ISC 30 16:06:53.4±0.3, 56°21S±0.05°×27°81W±0.05, h116km±2km, h116km: pP-P, n803, σ1°44/807, mb5.6/95, 120C-31D, Fault plane solution: NP1: ϕs 339.52911°, δ 70.11883°, λ 50.96855°. NP2: ϕs 226.77199°, δ 43.07142°, λ 150.13400°. Principal axes: T Plg 49.2013°, Azm 206.5677°; N Plg 36.3143°, Azm 354.9423°; P Plg 16.0262°, Azm 97.1297°; Fault plane solution: NP1: ϕs 323.82358°, δ 65.77294°, λ 89.84011°. NP2: ϕs 144.21321°, δ 24.22755°, λ 90.35531°. Principal axes: T Plg 69.2267°, Azm 233.5048°; N Plg 0.1458°, Azm 323.8892°; P Plg 20.7728°, Azm 53.9445°; South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.33**	**288**	P			**Pn**	**16 08 11.5**	**+0.9**
HOPE	**Hope Point**	**5.33**	**288**				**Pn**	**16 08 11.5**	**+0.9**
VNA1	**Neumayer--Stat**	**16.78**	**157**	P			**P**	**16 10 41.6**	**+0.3**
VNA1	**Neumayer--Stat**	**16.78**	**157**	ScP			**ScP**	**16 18 46.1**	**+0.7**
VNA3	**Neumayer Olymp**	**16.96**	**160**	P			**P**	**16 10 43.9**	**+0.7**
VNA3	**Neumayer Olymp**	**16.96**	**160**	ScP			**ScP**	**16 18 46.4**	**+0.5**
VNA2	**Neumayer--Watz**	**17.18**	**157**	P			**Pn**	**16 10 45.8**	**0.0**
	baz=313,slow=14								
VNA2	**Neumayer--Watz**	**17.18**	**157**	ScP			**ScP**	**16 18 48.0**	**+1.8**
EFI	**East Falkland**	**18.29**	**272**	P			**Pn**	**16 10 59.7**	**+0.3**
EFI				pmax			pmax		
	comp=Z,224nm,1.0s								
EFI	**East Falkland**	**18.29**	**272**	P			**Pn**	**16 10 59.7**	**+0.3**
EFI						IAmb	IAmb	16 11 06.1	
	comp=Z,224nm,0.9s								
SNAA	**Sanae**	**18.74**	**155**	P			**P**	**16 11 03.4**	**+0.6**
SNAA	**Sanae**	**18.74**	**155**	ScP			**ScP**	**16 18 49.6**	**-0.1**
SNAA	**Sanae**	**18.74**	**155**	P			**P**	**16 11 03.1**	**+0.3**
	comp=Z,34nm,0.3s,baz=304,slow=8.8,SNR=408								
SNAA				S			**S**	**16 14 25.1**	**-4.7**
	comp=Z,0.3nm,0.3s,baz=323,slow=20,SNR=1.1								
SNAA				PcP			**PcP**	**16 15 25.6**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=238,slow=3.8,SNR=3.3								
SNAA				ScP			**ScP**	**16 18 48.2**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=207,slow=2.7,SNR=12								
SNAA	**Sanae**	**18.74**	**155**	P			**P**	**16 11 02.7**	**-0.2**
SNAA						IAmb	IAmb	16 11 05.4	
	comp=Z,275nm,0.6s								
SNAA				PcP			**PcP**	**16 15 25.9**	**+0.8**
SNAA							**ScP**	**16 18 49.2**	**-0.5**
PMSA	**Palmer Station**	**19.54**	**229**	P			**Pn**	**16 11 14.1**	**+0.3**
	comp=Z,22nm,0.3s,baz=76,slow=8.7,SNR=93								
PMSA				LR			LR	16 18 23.1	
	comp=Z,2μm,18.2s,baz=76,slow=35								
PMSA				ScP			**ScP**	**16 18 49.8**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=15,slow=1.9,SNR=6.1								
PMSA	**Palmer Station**	**19.54**	**229**				**Pn**	**16 11 14.2**	**+0.3**
PMSA				PcP			**PcP**	**16 15 27.3**	**+0.8**
PMSA							**ScP**	**16 18 51.3**	**-0.1**
BELA	**Belgrano 2**	**21.89**	**184**	P			**P**	**16 11 36.1**	**-0.5**
MG01	**Puerto William**	**22.34**	**257**	P			**P**	**16 11 42.1**	**+0.8**
MG02	**Cerro Sombrero**	**24.03**	**261**	P			**P**	**16 11 57.8**	**+0.5**
GO10	**Punta Arenas**	**24.88**	**259**	P			**P**	**16 12 05.3**	**+0.2**
GO10						IAmb	IAmb	16 12 31.8	
	comp=Z,241nm,0.9s								
TRQA	**Tornquist**	**29.07**	**294**	P			**P**	**16 12 42.8**	**+0.1**
TRQA							**PcP**	**16 15 48.5**	**+0.8**
COYC	**Coyhaique**	**29.39**	**272**	P			**P**	**16 12 45.5**	**+0.1**
COYC						IAmb	IAmb	16 12 47.6	
	comp=Z,153nm,1.0s								
LPA	**La Plata**	**29.58**	**303**	*e*P			P	16 12 41.8	-5.4
LPA				pP			pP	16 13 09.9	-1.6
LPA				sP			sP	16 13 27.0	+2.5
LPA				PP			**PnPn**	**16 13 41.4**	**-6.0**
LPA				pPP				16 14 07.8	
LPA				S			**S**	**16 17 28.3**	**-5.3**
LPA				sS			sS	16 18 09.9	-7.1
LPA				SS			**SnSn**	**16 19 15.1**	**+0.1**
LPA				SS			**SS**	**16 19 44.7**	**+0.9**
LPA				SCS			**ScS**	**16 23 12.4**	**-2.5**
LPA				PKIKS				16 26 50.3	
LPA				SKIKP				16 30 35.1	
PLTB	**Pedras Altas**	**30.35**	**313**	P			**P**	**16 12 54.6**	**+0.6**
PLTB	**Pedras Altas**	**30.35**	**313**	*e*P			**P**	**16 12 55.1**	**+1.1**
LL02	**Futaleuf**	**30.76**	**276**	P			**P**	**16 12 56.4**	**-1.1**
LL02				PcP			**PcP**	**16 15 51.9**	**-0.1**
CNLB	**Canela**	**31.46**	**319**	*e*P			**P**	**16 13 05.5**	**+1.7**
CPSB	**Cacapava Do Su**	**31.48**	**314**	*e*P			**P**	**16 13 05.3**	**+1.5**

TER01	**Tubaro-SC**	**31.56**	**322**	*e*P		**P**	**16 13 06.8**	**+2.2**
SYO	**Syowa Base**	**31.68**	**141**	⇑*e*P		**P**	**16 13 02.4**	**-2.9**
SYO	**Syowa Base**	**31.68**	**141**	⇓epP		pP	16 13 25.0	-5.3
SYO	**Syowa Base**	**31.68**	**141**	⇓*e*ScP		**ScP**	**16 19 25.2**	**-1.1**
PLCA	**Paso Flores**	**31.69**	**281**	P		**P**	**16 13 04.9**	**-0.9**
	comp=Z,22nm,1.0s,baz=143,slow=7.9,SNR=19							
PLCA				pP		**pP**	**16 13 32.1**	**+1.9**
	comp=Z,8.3nm,0.9s,baz=123,slow=9.6,SNR=3.2							
PLCA				PcP		**PcP**	**16 15 55.3**	**+0.6**
	comp=Z,7.5nm,0.7s,baz=93,slow=1.5,SNR=8.0							
PLCA				ScP		**ScP**	**16 19 25.4**	**-1.5**
	comp=Z,11nm,1.0s,baz=175,slow=2.7,SNR=7.7							
PLCA				LR		LR	16 25 27.0	
	comp=Z,2μm,20.3s,baz=128,slow=35							
PLCA	**Paso Flores**	**31.69**	**281**	P		**P**	**16 13 04.5**	**-1.3**
PLCA				PcP		**PcP**	**16 15 55.3**	**+0.6**
PLCA	**Paso Flores**	**31.69**	**281**	*e*P		**P**	**16 13 05.5**	**-0.3**
LL04	**Puerto Octay**	**32.59**	**279**	P		**P**	**16 13 11.6**	**-2.0**
LL04				PcP		**PcP**	**16 15 57.4**	**+0.4**
ITQB	**Itaqui**	**33.43**	**310**	*e*P		**P**	**16 13 20.4**	**-0.5**
LC01	**Cunco**	**33.70**	**282**	P		**P**	**16 13 22.9**	**-0.4**
LC01				PcP		**PcP**	**16 15 59.6**	**-0.6**
QSPA	**South Pole Qui**	**34.04**	**180**	P		**P**	**16 13 27.4**	**+1.2**
	comp=Z,227nm,1.0s,baz=42,slow=1.7,SNR=676							
QSPA				PcP		**PcP**	**16 16 01.2**	**+0.3**
	comp=Z,24nm,0.7s,baz=24,slow=1.5,SNR=2.2							
QSPA				LR		LR	16 26 37.2	
	comp=Z,669nm,21.6s,baz=198,slow=35							
QSPA	**South Pole Qui**	**34.04**	**180**	P		**P**	**16 13 27.3**	**+1.2**
QSPA				PcP		**PcP**	**16 16 02.2**	**+1.3**
PET01	**Itanhaem-SP**	**34.92**	**328**	*e*P		**P**	**16 13 35.7**	**+1.8**
RFA	**San Rafael**	**34.94**	**291**	*e*P		**P**	**16 13 32.7**	**-1.4**
ESAR	**Angra dos Reis**	**35.34**	**333**	*e*P		**P**	**16 13 39.6**	**+2.2**
PARB	**Paraibuna**	**35.35**	**331**	*e*P		**P**	**16 13 39.8**	**+2.2**
MAN01	**Angra dos Reis**	**35.37**	**334**	*e*P		**P**	**16 13 39.7**	**+1.9**
MRA	**San Martin**	**35.38**	**296**	*e*P		**P**	**16 13 36.5**	**-1.3**
SPB	**Sao Paulo**	**35.62**	**328**	P		**P**	**16 13 41.0**	**+1.1**
SPB						IAmb	IAmb	16 13 44.2	
	comp=Z,113nm,1.2s								
SPB	**Sao Paulo**	**35.62**	**328**	*e*P		**P**	**16 13 42.1**	**+2.2**
DUB01	**Friburgo-RJ**	**35.75**	**336**	*e*P		**P**	**16 13 43.4**	**+2.3**
VAS01	**Vassouras-RJ**	**35.80**	**335**	*e*P		**P**	**16 13 43.8**	**+2.3**
CAM01	**Campos-RJ**	**35.84**	**338**	*e*P		**P**	**16 13 42.6**	**+0.9**
VAO	**Valinhos**	**36.04**	**329**	*e*P		**P**	**16 13 44.3**	**+0.8**
PTGB	**Pitanga**	**36.09**	**321**	*e*P		**P**	**16 13 44.8**	**+0.9**
BO02	**Sierra Bellavi**	**36.15**	**288**	P		**P**	**16 13 42.6**	**-1.8**
BO02				PcP		**PcP**	**16 16 08.3**	**+0.9**
FRTB	**Fartura**	**36.51**	**325**	*e*P		**P**	**16 13 48.5**	**+1.0**
**

GDU01 **Guandu, BA** 43.36 343 *e*P P 16 14 44.9 +0.8
PP1B **Ponte de Pedra** 43.63 321 *e*P P 16 14 46.7 +0.4
PB14 **IPOC Station P** 44.11 298 IAmb IAmb 16 14 51.3
comp=Z,56nm,0.6s
PB15 **IPOC Station P** 44.85 300 IAmb IAmb 16 15 00.2
comp=Z,69nm,0.8s
PB15 **IPOC Station P** 44.85 300⇑ *i*P P 16 14 56.8 +0.6
LVC **Limon Verde** 45.08 301 LR LR 16 33 00.5
comp=Z,386nm,21.3s,baz=168,slow=35
LVC **Limon Verde** 45.08 301 *e*P P 16 14 59.7 +1.5
LVC **Limon Verde** 45.08 301 P P 16 14 59.4 +1.2
LVC **Limon Verde** 45.08 301 *e*P P 16 14 59.6 +1.4
LVC **Limon Verde** 45.08 301⇑ *i*P P 16 14 59.3 +1.1
PB10 **IPOC Station P** 45.12 298 IAmb IAmb 16 14 59.9
comp=Z,206nm,1.2s
PB06 **IPOC Station P** 45.32 300 IAmb IAmb 16 15 01.9
comp=Z,276nm,1.4s
SALV **Santo Antonio** 45.49 321 *e*P P 16 15 01.5 +0.5
PB05 **IPOC Station P** 45.50 299⇑ *i*P P 16 15 01.3 0.0
SDBA **SAO DESIDERIO** 45.67 336 *e*P P 16 15 03.0 +0.5
NBLA **Lagarto - SE** 45.78 346 *e*P P 16 15 03.9 +0.6
SBA **Scott Base** 45.90 184 P P 16 15 05.3 +1.8
SBA 16 16 41.1
SBA pmax pmax
comp=Z,265nm,1.1s
SBA **Scott Base** 45.90 184 P P 16 15 05.3 +1.8
SBA PcP PcP 16 16 41.1 +2.6
PB04 **IPOC Station P** 45.92 300⇑ *i*P P 16 15 05.0 +0.5
PB09 **IPOC Station P** 45.94 301⇑ *i*P P 16 15 06.0 +1.3
NBPN **Ponto Novo - B** 46.28 343 *e*P P 16 15 07.2 0.0
PB07 **IPOC Station P** 46.30 300⇑ *i*P P 16 15 08.2 +0.6
BOSA **Boshof** 46.34 76 P P 16 15 07.3 -0.5
comp=Z,38nm,1.0s,baz=199,slow=6.2,SNR=19
BOSA pP pP 16 15 34.3 +0.5
comp=Z,26nm,0.8s,baz=207,slow=7.9,SNR=6.8
BOSA ScP ScP 16 20 21.4 -1.9
comp=Z,7.9nm,0.9s,baz=154,slow=3.1,SNR=4.0
BOSA LR LR 16 31 33.3
comp=Z,4µm,18.8s,baz=213,slow=32
BOSA **Boshof** 46.34 76 P P 16 15 06.9 -0.9
VNDA **Vanda** 46.40 183 P P 16 15 09.1 +1.7
comp=Z,126nm,0.8s,baz=186,slow=6.7,SNR=514
VNDA ScP ScP 16 20 21.3 -1.3
comp=Z,6.7nm,0.9s,baz=148,slow=2.1,SNR=3.5
VNDA **Vanda** 46.40 183 P P 16 15 08.6 +1.1
PB02 **IPOC Station P** 46.66 301⇑ *i*P P 16 15 11.0 +0.8
PB01 **IPOC Station P** 46.70 301 *i* P P 16 15 11.6 +1.1
PEXB **Peixe** 46.79 332 *e*P P 16 15 12.3 +1.1
NBAN **Anadia - AL** 46.90 349 *e*P P 16 15 12.3 +0.2
PTLB **Pontes e Lacer** 47.17 317 *e*P P 16 15 14.7 +0.6
PB08 **IPOC Station P** 47.31 302 P P 16 15 17.5 +1.8
PB08 PcP PcP 16 16 46.9 +2.1
PB08 **IPOC Station P** 47.31 302⇑ *i*P P 16 15 17.1 +1.5
TA01 **Diego Aracena** 47.44 301 IAmb IAmb 16 15 18.3
comp=Z,213nm,1.2s
SNDB **Serra Nova Dou** 47.75 328 *e*P P 16 15 19.9 +1.3
NBRF **Rio Formoso -** 47.76 350 *e*P P 16 15 19.1 +0.4
PSGCX **Pisagua** 48.24 302 IAmb IAmb 16 15 24.4
comp=Z,229nm,1.3s
NBLV **Livramento - P** 49.25 348 *e*P P 16 15 31.1 +0.9
H10N1 **ASCENSION HYDR** 49.37 18 T T 17 09 36.3
baz=188,slow=74
H10N3 **ASCENSION HYDR** 49.37 17 T T 17 09 38.8
baz=188,slow=74
LBTB **Lobatse** 49.38 74 P P 16 15 31.1 -0.2
comp=Z,51nm,0.7s,baz=212,slow=8.3,SNR=74
LBTB pP pP 16 15 58.2 +0.7
comp=Z,58nm,0.8s,baz=212,slow=8.2,SNR=9.1
LBTB ScP ScP 16 20 34.2 -1.9
comp=Z,6.9nm,0.8s,baz=211,slow=4.6,SNR=4.8
LBTB **Lobatse** 49.38 74 IAmb IAmb 16 15 58.8
comp=Z,81nm,0.9s
H10N2 **ASCENSION HYDR** 49.39 17 T T 17 09 39.9
baz=188,slow=74
NBMA **Muriti-CE** 49.48 346 *e*P P 16 15 33.1 +1.2
SMTB **Santa Maria do** 49.72 334 *e*P P 16 15 35.0 +1.2
VILB **Vilhena** 49.86 317 *e*P P 16 15 35.0 +0.2
NBPV **Pedro Velho** 50.01 350 *e*P P 16 15 37.0 +1.1
TSUM **Tsumeb** 50.06 61 P P 16 15 36.0 -0.4
TSUM IAmb IAmb 16 15 37.1
comp=Z,44nm,0.9s
LPAZ **La Paz** 50.19 306 P P 16 15 39.2 +1.3
comp=Z,82nm,0.4s,baz=139,slow=5.3,SNR=249
LPAZ LR LR 16 37 34.6
comp=Z,437nm,20.4s,baz=154,slow=37
LPAZ **La Paz** 50.19 306 P P 16 15 39.7 +1.8
LPAZ PcP PcP 16 16 56.8 +1.2
LPAZ **La Paz** 50.19 306⇑ *e*P P 16 15 39.4 +1.5
LPAZ **La Paz** 50.19 306 *e*P P 16 15 39.0 +1.1
CLDB **Colider** 50.20 323 *e*P P 16 15 37.2 -0.1
RCBR **Riachuelo** 50.65 350 *e*P P 16 15 41.9 +1.2
NBPB **Pedra_Branca-C** 51.39 345 *e*P P 16 15 47.1 +0.9
NBCL **Cascavel-CE** 52.51 347 *e*P P 16 15 55.9 +1.0
NBPS **Pedro II - PI** 52.80 343 *e*P P 16 15 57.9 +1.1
PRPB **Parauapebas** 52.87 332 *e*P P 16 15 58.5 +1.3
NPGB **Novo Progresso** 53.65 325 *e*P P 16 16 03.2 +0.3
NBMO **Morrinhos-CE** 53.65 345 *e*P P 16 16 03.6 +0.8
SAML **Samuel** 54.67 315 P P 16 16 10.3 0.0
SAML pmax pmax
comp=Z,158nm,1.3s
SAML **Samuel** 54.67 315 P P 16 16 10.3 0.0
SAML IAmb IAmb 16 16 12.0
comp=Z,158nm,1.2s
SAML **Samuel** 54.67 315⇑ *e*P P 16 16 10.7 +0.4
SAML **Samuel** 54.67 315 *e*P P 16 16 10.5 +0.2
ROSB **Rosrio** 54.74 340 *e*P P 16 16 10.9 +0.1
ETMB **Extrema** 55.11 323 *e*P P 16 16 13.6 +0.1
TMAB **Tom-Au,PA,Br** 56.10 335 *e*P P 16 16 22.2 +1.7
ITTB **Itaituba** 56.29 326 *e*P P 16 16 22.2 +0.3
NNA **Nana** 58.02 299 *e*P P 16 16 34.9 +0.7
NNA **Nana** 58.02 299 P P 16 16 34.4 +0.2
MALB **Monte Alegre** 58.22 328 *e*P P 16 16 36.7 +1.2
LSZ **Lusaka** 58.75 69 P P 16 16 39.1 -0.2
LSZ pmax pmax
comp=Z,104nm,1.1s
LSZ **Lusaka** 58.75 69 P P 16 16 39.1 -0.2
LSZ IAmb IAmb 16 16 40.4
comp=Z,104nm,1.1s
MCPB **Macapa, AP** 59.03 331 *e*P P 16 16 42.5 +1.5
CZSB **Cruzeiro do Su** 59.80 306 *e*P P 16 16 45.3 -1.0
PTGA **Pitinga** 61.09 323 P P 16 16 54.4 -0.7
PTGA **Pitinga** 61.09 323⇑ *e*P P 16 16 54.6 -0.4
TBTG **Tabatinga, AM** 61.73 311 *e*P P 16 16 58.5 -1.0
RPN **Rapa Nui** 63.29 261 LR LR 16 41 05.5
comp=Z,314nm,20.8s,baz=144,slow=32
VOI **Vohitsoka** 63.55 90 P P 16 17 11.4 -0.2
BOAV **Boa Vista** 64.20 323 *e*P P 16 17 15.4 -0.3
LIC **Lamto** 64.98 25 *e*P pP 16 17 45.7 -2.7
comp=Z,122nm,1.1s
LIC **Lamto** 64.98 25 *e*P P 16 17 20.4 -0.4
comp=Z,145nm,1.4s
KIC **Kosan Boka** 65.18 25 *e*P pP 16 17 46.9 -2.8
comp=Z,64nm,1.2s
KIC **Kosan Boka** 65.18 25 *e*P P 16 17 22.0 -0.1
comp=Z,42nm,0.9s
TIC **Toumodi** 65.39 25 *e*P pP 16 17 48.2 -2.9
TIC **Toumodi** 65.39 25 *e*P P 16 17 23.4 0.0
DBIC **Dimbokro** 65.45 25 P P 16 17 24.1 +0.3
comp=Z,17nm,0.8s,baz=195,slow=5.9,SNR=16
DBIC LR LR 16 40 09.8
comp=Z,650nm,19.7s,baz=215,slow=30
DBIC **Dimbokro** 65.45 25 P P 16 17 23.5 -0.3
OPO **Ambohidratompo** 66.44 88 P P 16 17 30.7 +0.3
comp=Z,9.6nm,0.9s,baz=252,slow=7.8,SNR=8.5
OPO pP pP 16 17 58.0 -0.2
comp=Z,15nm,0.9s,baz=215,slow=6.9,SNR=6.7
PTLC **Puerto Leguiza** 67.75 308⇑ *e*P P 16 17 35.9 -2.5
MACC **Macarena, Meta** 69.10 310⇑ *e*P P 16 17 46.8 -0.1
FLOC **Florencia** 69.38 308 IAmb IAmb 16 17 51.0
comp=Z,223nm,1.4s
FLOC **Florencia** 69.38 308⇑ *e*P P 16 17 48.6 0.0
OTAV **Otavalo** 69.46 304 P P 16 17 50.0 +0.4
OTAV pmax pmax
comp=Z,218nm,1.1s
OTAV **Otavalo** 69.46 304 P P 16 17 50.0 +0.4
OTAV **Otavalo** 69.46 304⇑ *e*P P 16 17 51.1 +1.5
OTAV **Otavalo** 69.46 304 *e*P P 16 17 51.2 +1.5
CUSE **Cuicocha Este** 69.49 304 *e*P P 16 17 50.4 +0.5
TULM **Tulcn-Chalpat** 69.58 305 *e*P P 16 17 52.3 +1.9
PAC1 **Pacto, Paraso** 69.64 304 *e*P P 16 17 51.6 +1.2
GCUF **Volcan Galeras** 69.83 306⇑ *e*P P 16 17 53.8 +1.9
GARC **Garzon, Huila** 69.85 308 *e*P P 16 17 52.2 +0.4
PTGC **Puerto Gaitan,** 70.22 312⇑ *e*P P 16 17 52.6 -1.2

BETC **Betania** 70.27 308 *e*P P 16 17 55.0 +0.9
SOTA **Rioblanco** 70.30 307⇑ *e*P P 16 17 56.4 +1.6
PCON **Cinco Dias** 70.38 307⇑ *e*P P 16 17 57.1 +1.8
BBAC **Balboa, Cauca** 70.49 306 *e*P P 16 17 56.2 +0.5
MARP **Paez Belalcaza** 70.64 308⇑ *e*P P 16 17 57.1 +0.5
POPC **Popayan, Colom** 70.69 307⇑ *e*P P 16 17 57.5 +0.7
VILC **Villavicencio,** 70.80 311 *e*P P 16 17 58.3 +0.9
CHIC **Chingaza** 71.28 311⇑ *e*P P 16 18 00.5 -0.2
ORTC **Ortega, Tolima** 71.28 309⇑ *e*P P 16 18 00.7 +0.4
ROSC **El Rosal** 71.72 310 P P 16 18 04.2 +0.9
comp=Z,19nm,0.4s,baz=88,slow=1.3,SNR=23
ROSC LR LR 16 53 24.0
comp=Z,320nm,18.4s,baz=181,slow=39
ROSC **El Rosal** 71.72 310 IAmb IAmb 16 18 04.7
comp=Z,83nm,1.2s
ROSC **El Rosal** 71.72 310⇑ *e*P P 16 18 04.0 +0.7
YOTC **Yotoco, Valle** 71.83 308 *e*P P 16 18 02.8 -0.8
ANIL **Santa Ana** 71.87 309⇑ *e*P P 16 18 01.9 -2.2
TAMC **Tame, Arauca** 72.11 314 *e*P P 16 18 05.7 +0.6
RUSC **La Rusia** 72.15 312 IAmb IAmb 16 18 33.7
comp=Z,150nm,1.4s
RUSC **La Rusia** 72.15 312⇑ *e*P P 16 18 05.5 -0.4
MALC **Bahia Malaga** 72.29 307 *e*P P 16 18 08.1 +1.9
SPBC **San Pablo de B** 72.34 311 *e*P P 16 18 05.0 -1.6
GUY2C **Guyana, Caldas** 72.51 310⇑ *e*P P 16 18 07.4 -0.7
MBAR **Mbarara** 72.53 63 P P 16 18 09.8 +1.9
MBAR pmax pmax
comp=Z,18nm,1.0s
MBAR **Mbarara** 72.53 63 P P 16 18 09.8 +1.9
NORC **Norcasia** 72.60 310⇑ *e*P P 16 18 06.5 -1.6
BARC **Barichara** 72.82 312 *e*P P 16 18 07.4 -2.2
PIZC **Pizarro, Choco** 73.15 308 *e*P P 16 18 12.4 +1.2
KOWA **Kowa** 73.21 24 P P 16 18 11.8 +0.3
KOWA **Kowa** 73.21 24 P P 16 18 12.7 +1.2
KOWA **Kowa** 73.21 24 P P 16 18 12.3 +0.8
PTBC **PUERTO BERRIO,** 73.31 311⇑ *e*P P 16 18 09.9 -2.3
TORD **Torodi Ar. Bea** 73.36 30 P P 16 18 13.0 +0.6
comp=Z,20nm,0.5s,baz=200,slow=6.4,SNR=132
TORD LR LR 16 46 08.3
comp=Z,353nm,19.5s,baz=190,slow=32
CBOC **Ciudad Bolivar** 73.36 309 *e*P P 16 18 11.8 -0.9
HELC **Santa Helena** 73.45 310⇑ *e*P P 16 18 12.0 -1.4
BRRC **Barranca, Sant** 73.51 312 *e*P P 16 18 11.3 -2.0
SDV **Santo Domingo** 73.88 316 P P 16 18 15.7 0.0
SDV IAmb IAmb 16 18 19.7
comp=Z,87nm,0.9s
SDV **Santo Domingo** 73.88 316⇑ *e*P P 16 18 16.3 +0.6
SDV **Santo Domingo** 73.88 316 *e*P P 16 18 16.3 +0.6
ZARC **Zaragoza, Cauc** 74.33 311 *e*P P 16 18 16.9 -1.2
DBBC **Dabeiba** 74.48 310⇑ *e*P P 16 18 19.1 0.0
UREC **San Jos de Ur** 74.85 311⇑ *e*P P 16 18 20.1 -1.1
SMLC **San Martn de** 75.18 312 *e*P P 16 18 21.9 -1.2
PTAC **Puntta Ardita,** 75.29 306⇑ *e*P P 16 18 24.6 +0.9
KMBO **Kilima Mbogo** 75.42 70 P P 16 18 26.0 +1.3
comp=Z,1.6nm,0.8s,baz=212,slow=3.4,SNR=6.2
KMBO pP pP 16 18 53.6 +0.4
comp=Z,8.5nm,1.1s,baz=217,slow=7.1,SNR=5.1
KMBO LR LR 16 49 44.0
comp=Z,1000nm,18.2s,baz=152,slow=34
FDF **Fort de France** 75.99 327 IAmb IAmb 16 18 30.4
comp=Z,164nm,1.4s
ARGC **Ariguani, Magd** 76.21 313 *e*P P 16 18 29.2 +0.3
CAPC **Capurgana** 76.42 309 *e*P P 16 18 30.2 +0.1
SJCC **San Jacinto, C** 76.63 312 IAmb IAmb 16 18 33.3
comp=Z,199nm,1.3s
SJCC **San Jacinto, C** 76.63 312⇑ *e*P P 16 18 31.9 +0.6
UPD2 **Meteti** 76.63 309 *e*P P 16 18 31.6 +0.3
CRJC **Cerrejon, Guaj** 76.71 314⇑ *e*P P 16 18 30.0 -1.7
AZU **Azuero** 76.96 306 *e*P P 16 18 33.9 +0.8
URIC **Uribia, Colomb** 76.98 316 *e*P P 16 18 31.7 -1.5
GMAL **Guarumal, Vera** 77.37 305⇑ *e*P P 16 18 36.5 +1.1
WHZ **Wether Hill Ro** 77.41 191 IAmb IAmb 16 18 37.3
comp=Z,164nm,1.2s
UPA **Univ. de Panam** 77.69 307 *e*P P 16 18 38.1 +1.0
MLZ **Mavora Lakes** 77.91 191 IAmb IAmb 16 18 40.1
comp=Z,168nm,1.3s
ODZ **Otahua Downs** 77.93 193 IAmb IAmb 16 18 40.4
comp=Z,99nm,1.3s
BCIP **Isla Barro Col** 77.98 307 IAmb IAmb 16 18 46.8
comp=Z,81nm,1.1s
BCIP **Isla Barro Col** 77.98 307⇑ *e*P P 16 18 39.6 +0.9
WKZ **Wanaka** 78.34 192 P P 16 18 41.1 +0.6
WKZ IAmb IAmb 16 18 42.4
comp=Z,120nm,1.1s
LBZ **Lake Benmore** 78.64 193 IAmb IAmb 16 18 44.2
comp=Z,193nm,1.4s
BRU2 **Volcan** 78.95 305 *e*P P 16 18 45.4 +1.1
MQZ **McQueen's Vall** 78.97 195 IAmb IAmb 16 18 45.8
comp=Z,85nm,1.1s
RPZ **Rata Peaks** 79.18 194 P P 16 18 45.2 0.0
RPZ IAmb IAmb 16 18 47.2
comp=Z,156nm,1.2s
OXZ **Oxford** 79.43 195 IAmb IAmb 16 18 48.3
comp=Z,156nm,1.3s
SRBA **San Rafael, Bu** 79.64 304 IAmb IAmb 16 18 50.6
comp=Z,273nm,1.5s
SMRT **St. Marten** 79.71 326 IAmb IAmb 16 18 48.8
comp=Z,54nm,0.8s
PEZE **Perez Zeledon,** 79.92 304 IAmb IAmb 16 18 52.3
comp=Z,260nm,1.4s
LTZ **Lake Taylor** 79.93 195 P P 16 18 49.5 +0.3
LTZ IAmb IAmb 16 18 51.7
comp=Z,192nm,1.1s
KHZ **Kahutara** 80.10 196 P P 16 18 49.1 -0.9
KHZ IAmb IAmb 16 18 51.5
comp=Z,118nm,1.2s
CDM **Cerro de Muert** 80.11 304⇑ *i*P P 16 18 52.2 +1.3
RIMA **Rio Macho** 80.34 304⇑ *i*P P 16 18 53.5 +1.6
RIMA **Rio Macho** 80.34 304 IAmb IAmb 16 18 54.6
comp=Z,158nm,1.3s
LCR2 **La Lucha 2** 80.39 304⇑ *i*P P 16 18 53.8 +1.6
OCM **Ochomogo** 80.50 304⇑ *i*P P 16 18 54.3 +1.5
CVTR **Volcan Turrial** 80.52 304⇑ *i*P P 16 18 54.5 +1.5
JACO **JACO, Garabito** 80.62 303⇑ *i*P P 16 18 54.6 +1.5
JACO **JACO, Garabito** 80.62 303 IAmb IAmb 16 18 55.1
comp=Z,66nm,0.8s
HDC **Heredia** 80.67 304⇑ *i*P P 16 18 55.2 +1.6
SJG **San Juan** 80.76 323 P P 16 18 52.7 -1.0
SJG pmax pmax
comp=Z,71nm,1.5s
SJG **San Juan** 80.76 323 P P 16 18 52.7 -1.0
THZ **Tophouse** 80.83 196 P P 16 18 53.5 -0.6
THZ IAmb IAmb 16 18 55.9
comp=Z,196nm,1.3s
RIFO **Rio Frio, Sara** 80.85 304⇑ *i*P P 16 18 55.8 +1.4
CAO2 **Cobano, Puntar** 80.85 303 IAmb IAmb 16 18 57.1
comp=Z,256nm,1.4s
MLPR **Magueyes Islan** 80.93 322 IAmb IAmb 16 18 56.3
comp=Z,129nm,1.4s
CRPR **Cabo Rojo, PR** 80.99 322 IAmb IAmb 16 18 56.5
comp=Z,162nm,1.4s
SNZO **South Karori** 81.00 197 P P 16 18 54.9 0.0
TAU **Tasmania Unive** 81.17 176 P P 16 18 55.5 -0.2
TAU pmax pmax
comp=Z,195nm,0.9s
TAU **Tasmania Unive** 81.17 176 P P 16 18 55.5 -0.2
INDI **Punta indio, G** 81.20 303⇑ *i*P P 16 18 57.2 +1.0
JTS **Las Juntas de** 81.31 303 P P 16 18 57.8 +1.0
comp=Z,144nm,1.2s,baz=180,slow=2.4,SNR=49
JTS pP pP 16 19 26.2 +0.4
comp=Z,41nm,1.0s,baz=187,slow=7.6,SNR=2.7
JTS **Las Juntas de** 81.31 303⇑ *i*P P 16 18 58.0 +1.2
JTS **Las Juntas de** 81.31 303 P P 16 18 57.7 +1.0
JTS IAmb IAmb 16 18 59.5
comp=Z,251nm,1.2s
JTS **Las Juntas de** 81.31 303⇑ *e*P P 16 18 58.1 +1.3
BFZ **Birch Farm** 81.35 198 IAmb IAmb 16 18 58.8
comp=Z,203nm,1.3s
ARE1 **Arenal 1** 81.35 304⇑ *i*P P 16 18 58.3 +1.3
COVE **Coope Vega, Sa** 81.43 304⇑ *i*P P 16 18 58.0 +0.6
SAJU **San Juanillo,** 81.47 302⇑ *i*P P 16 18 58.9 +1.2
ORTG **Ortega, Santa** 81.61 303 P P 16 18 58.6 +0.2
ORTG IAmb IAmb 16 19 01.0
comp=Z,265nm,1.5s
CUI **Cuipilapa** 81.73 303 *i* P P 16 19 00.1 +1.1
QRZ **Quartz Range** 81.81 195 IAmb IAmb 16 19 01.0
comp=Z,86nm,1.2s
PRVC **Isla de Provid** 82.39 308 *e*P P 16 19 03.1 +0.7
BKZ **Black Stump Fm** 82.78 199 P P 16 19 04.3 -0.1
BKZ IAmb IAmb 16 19 06.7
comp=Z,103nm,1.2s
JAKH **Jacmel** 83.14 318 IAmb IAmb 16 19 08.6
comp=Z,174nm,1.1s
URZ **Urewera** 83.54 199 LR LR 16 53 58.1
comp=Z,274nm,18.4s,baz=211,slow=34
URZ **Urewera** 83.54 199 IAmb IAmb 16 19 10.0
comp=Z,144nm,1.3s
MATN **Matagalpa** 84.07 304 IAmb IAmb 16 19 12.9
comp=Z,129nm,1.2s
CRIN **San Cristobal** 84.39 303 IAmb IAmb 16 19 15.5
comp=Z,60nm,0.9s
MTDJ **Mount Denham** 85.10 313 *e*P P 16 19 17.5 +1.3
TGUH **Tegucigalpa,Un** 85.68 303⇑ *e*P P 16 19 19.7 +0.4
NWAO **Narrogin (SRO)** 86.36 151 P P 16 19 21.3 -1.0
comp=Z,17nm,0.9s,baz=181,slow=2.9,SNR=6.5
NWAO **Narrogin (SRO)** 86.36 151 P P 16 19 22.0 -0.4
NWAO pmax pmax
comp=Z,62nm,1.5s
NWAO **Narrogin (SRO)** 86.36 151 P P 16 19 22.0 -0.4
NWAO IAmb IAmb 16 19 24.7
comp=Z,62nm,1.5s
TOO **Toolangi** 86.41 175 IAmb IAmb 16 19 24.4
comp=Z,38nm,0.8s
MTO3 **Montecristo** 86.96 301 IAmb IAmb 16 19 26.6
comp=Z,90nm,0.9s
ESQI **Esquipulas** 87.09 302 P P 16 19 26.9 +0.8
CBCY **The Bluff, Cay** 87.36 312 IAmb IAmb 16 19 29.1
comp=Z,91nm,1.1s
FSCY **Frank Sound, G** 87.58 311 IAmb IAmb 16 19 30.8
comp=Z,159nm,1.3s
RTAL **Retalhuleu** 88.20 300 IAmb IAmb 16 19 35.4
comp=Z,75nm,1.1s
TZRR **Tazzarine** 88.70 19 P P 16 19 37.0 +3.6
TZRR **Tazzarine** 88.70 19 P P 16 19 37.0 +3.6
OUK **Oukaimeden** 88.71 17 P P 16 19 37.0 +3.3
OUK **Oukaimeden** 88.71 17 P P 16 19 37.0 +3.3
CAN **Canberra** 88.79 177 IAmb IAmb 16 19 36.3
comp=Z,84nm,1.1s
MORW **Morawa** 89.66 149 P P 16 19 37.9 -0.2
MORW IAmb IAmb 16 19 39.0
comp=Z,41nm,1.2s
MDT **Midelt** 90.85 19 P P 16 19 46.8 +3.5
MDT **Midelt** 90.85 19 P P 16 19 46.8 +3.5
FIGM **Figuig** 90.85 22 P P 16 19 47.1 +3.7
FIGM **Figuig** 90.85 22 P P 16 19 47.1 +3.7
FORT **Forrest** 90.95 159 P P 16 19 44.7 +0.6
FORT IAmb IAmb 16 19 45.5
comp=Z,63nm,0.9s
CZD **Col de Zad** 90.98 19 P P 16 19 48.0 +3.8
CZD **Col de Zad** 90.98 19 P P 16 19 48.0 +3.8
ZHG **ZHG** 91.10 18 P P 16 19 47.0 +2.5
ZHG **ZHG** 91.10 18 P P 16 19 47.0 +2.5
SOR **Soroa** 91.44 311 IAmb IAmb 16 19 48.2
comp=Z,56nm,1.3s
TDRA **Tendrara** 91.57 21 P P 16 19 51.0 +4.2
TDRA **Tendrara** 91.57 21 P P 16 19 51.0 +4.2
LCRM **LCR** 91.65 19 P P 16 19 51.0 +3.9
LCRM **LCR** 91.65 19 P P 16 19 51.0 +3.9
STKA **Stephens Creek** 91.80 171 P P 16 19 48.3 +0.3
comp=Z,11nm,0.8s,baz=160,slow=6.2,SNR=33
STKA pP pP 16 20 16.9 -0.5
comp=Z,5.2nm,0.7s,baz=132,slow=5.2,SNR=2.9
STKA PKKPbc PKKPbc 16 37 03.5 +0.7
comp=Z,0.6nm,0.6s,baz=140,slow=4.4,SNR=3.8
STKA LR LR 17 00 20.4
comp=Z,345nm,19.0s,baz=192,slow=35
STKA **Stephens Creek** 91.80 171*c* *i*P P 16 19 47.9 -0.1
STKA *i* *i*PP pP 16 20 13.7 -3.7
PPT2 **Papeete2** 91.81 234 *e*SKSac SKSac 16 30 05.8 -4.7
comp=Z,252nm,28.0s
PPT2 **Papeete2** 91.81 234 *e*PS PS 16 32 00.8 -2.7
comp=Z,712nm,33.0s
PPT2 **Papeete2** 91.81 234 *e*LQ LQ 16 45 30.0
comp=Z,565nm,28.2s
PPT2 *e*LR LR 16 49 22.7
comp=Z,3µm,31.0s,baz=160
PPT **Papeete** 91.83 234 LR LR 16 51 52.8
comp=Z,338nm,21.1s,baz=153,slow=29
CMIG **Matias Romero** 91.95 298 P P 16 19 49.1 +0.4
comp=Z,18nm,0.8s,baz=122,slow=3.0,SNR=25
RAR **Rarotonga** 92.89 224 LR LR 16 56 53.1
comp=Z,216nm,18.4s,baz=192,slow=32
CHEFC **Chefchaouen** 92.95 18 P P 16 19 57.0 +4.0
CHEFC **Chefchaouen** 92.95 18 P P 16 19 57.0 +4.0
TLIG **Tlapa** 94.19 295 IAmb IAmb 16 20 01.1
comp=Z,23nm,0.9s
MORF **Marmelete** 94.57 15 *e*P P 16 20 00.9 +0.5
MORF IAmb IAmb 16 20 03.4
comp=Z,23nm,1.4s
MORF **Marmelete** 94.57 15 *e*P P 16 20 00.8 +0.5
PBDV **Barranco-do-Ve** 94.61 16 *e*P P 16 20 04.1 +3.6
PBDV *e*pP pP 16 20 29.1 -1.1
TAOE **Nuku Hiva Isla** 94.77 247 *e*PS PS 16 32 36.4 +0.1
comp=Z,412nm,27.3s
TAOE **Nuku Hiva Isla** 94.77 247 *e*LR LR 16 50 44.9
comp=Z,916nm,31.6s
PTEO **Sao Teotonio** 94.79 15 *e*pP pP 16 20 31.3 +0.3
PVAQ **Vaqueiros** 94.80 16 *e*P P 16 20 04.3 +3.0
PVAQ *e*pP pP 16 20 30.4 -0.6
PCVE **Castro Verde** 94.98 16 *e*pP pP 16 20 31.2 -0.6
MESJ **Messejana** 95.15 15 *e*SKSac SKSac 16 30 29.8 +2.6
MESJ **Messejana** 95.15 15 *e*pP pP 16 20 32.0 -0.6
PNCL **Nicolau / Gran** 95.38 15 *e*pP pP 16 20 33.4 -0.2
PBEJ **Beja** 95.39 16 *e*pP pP 16 20 33.4 -0.3
PBAR **Barrancos** 95.66 16 *e*P P 16 20 08.2 +3.0
PBAR *e*pP pP 16 20 34.8 -0.1
KEST **Kesra** 96.88 30 LR LR 17 00 16.5
comp=Z,324nm,20.5s,baz=182,slow=33
ESDC **Sonseca Array** 97.64 18 P Pdif 16 20 15.0 +0.7
comp=Z,0.9nm,0.8s,baz=192,slow=4.0,SNR=5.3
ESDC pP pP 16 20 42.5 -1.5
comp=Z,3.4nm,1.0s,baz=185,slow=3.8,SNR=6.7
ESDC PKKP PKKPdf 16 36 51.0 -1.1
comp=Z,0.6nm,0.7s,baz=355,slow=1.9,SNR=4.2
ESDC LR LR 16 58 36.7
comp=Z,293nm,21.9s,baz=225,slow=32
MTE **Manteigas** 97.76 15 *e*pP pP 16 20 44.1 -0.4
EIDS **Eidsvold** 98.75 179 IAmb IAmb 16 20 20.8
comp=Z,20nm,1.1s
ASAR **Alice Springs** 98.94 163 P P 16 20 20.4 -0.2
comp=Z,16nm,0.9s,baz=183,slow=3.8,SNR=91
ASAR pP pP 16 20 50.0 -0.1
comp=Z,6.1nm,1.0s,baz=193,slow=5.1,SNR=2.2
ASAR PP PP 16 24 21.2 -1.6
comp=Z,5.1nm,1.0s,baz=184,slow=6.7,SNR=6.0
ASAR PKiKP PKiKP 16 24 49.5 -1.3
comp=Z,1.6nm,0.8s,baz=171,slow=1.3,SNR=6.5
ASAR PKKP PKKPdf 16 36 46.0 -0.1
comp=Z,2.0nm,0.8s,baz=14,slow=2.4,SNR=15
ASAR PKPPKP P'P'df 16 44 59.1 -5.1
comp=Z,0.5nm,0.9s,baz=284,slow=0.7,SNR=4.7
ASAR LR LR 17 03 39.1
comp=Z,330nm,18.8s,baz=192,slow=34
ASAR **Alice Springs** 98.94 163 P P 16 20 19.8 -0.9
DZM **Mont Dzumac** 101.10 193 *e*PS PS 16 33 43.2 -0.7
comp=Z,212nm,25.6s
DZM **Mont Dzumac** 101.10 193 *e*LR LR 16 53 47.6
comp=Z,631nm,22.6s
WRA **Warramunga Arr** 102.66 163 P Pdif 16 20 36.2 -1.0
comp=Z,2.4nm,0.9s,baz=195,slow=4.0,SNR=14
WRA PP PP 16 24 50.1 -0.8
comp=Z,4.6nm,0.9s,baz=190,slow=5.9,SNR=6.5
WRA PKKP PKKPbc 16 36 35.7 +2.4
comp=Z,1.6nm,0.4s,baz=354,slow=2.9,SNR=11
WRA **Warramunga Arr** 102.66 163 Pdif Pdif 16 20 37.2 -0.1
TXAR **Lajitas Array** 106.56 298 Pdiff Pdif 16 20 54.7 +0.4
comp=Z,0.5nm,0.8s,baz=111,slow=6.9,SNR=5.9
TXAR PKiKP PKiKP 16 25 04.1 -0.3
comp=Z,0.8nm,0.8s,baz=155,slow=3.2,SNR=6.4
TXAR PP PP 16 25 21.8 +0.7
comp=Z,0.5nm,0.8s,baz=181,slow=4.5,SNR=5.2
GERES **GERESS Array B** 110.25 28 PKiKP PKiKP 16 25 09.9 -0.7
comp=Z,0.4nm,0.6s,baz=241,slow=2.0,SNR=2.4
GERES PKKPbc PKKPbc 16 36 11.3 0.0
comp=Z,0.3nm,0.4s,baz=29,slow=2.2,SNR=3.5
CKRC **Cesky Krumlov** 110.39 28 AMS AMS 17 07 50.0
comp=Z,500nm,16.2s
KHC **Kasperske Hory** 110.48 28 *e*PKKP 16 36 21.5
KHC **Kasperske Hory** 110.48 28 AMS AMS 17 04 40.0
comp=Z,600nm,19.9s
TREC **Trest** 111.14 29 AMS AMS 17 00 20.0
KRUC **Moravsky** 111.17 29 *e*PKKP 16 36 18.7
NKC **Novy Kostel** 111.21 26 AMS AMS 17 08 20.0
comp=Z,600nm,21.3s
JAVC **Velka Javorina** 111.34 30 *e*PKKP 16 36 19.0
VRAC **Vranov** 111.45 29 *e*PKKP 16 36 18.0
PRU **Pruhonice** 111.52 28 AMS AMS 17 08 20.0
comp=Z,800nm,20.5s
PRA **Prague** 111.57 28 AMS AMS 17 08 20.0
comp=Z,600nm,9.6s

PVCC	Panska Ves	112.02	28	AMS	AMS	17 08 50.0			
	comp=Z,500nm,15.6s								
MORC	Moravsky Berou	112.14	30	*e*PKKP		16 36 14.7			
BRG	Berggiesshubel	112.18	27	*e*PKP	PKiKP	16 25 01.7	-12		
BRG				Amp		16 25 02.8			
	comp=Z,9.2nm,1.5s								
BRG	Berggiesshubel	112.18	27	Amp		16 36 16.8			
	comp=Z,5.1nm,1.2s								
BRG				*e*P		**PKKPab**	**16 36 14.5**	**+3.7**	
KRLC	Kraliky	112.20	29	AMS	AMS	17 08 40.0			
DPC	Dobruska-Polom	112.32	29	AMS	AMS	17 01 00.0			
UPC	Upice	112.38	29	AMS	AMS	17 01 00.0			
	comp=Z,600nm,29.8s								
OSTC	Ostas	112.48	29	AMS	AMS	17 00 40.0			
ANMO	Albuquerque	112.49	299	PKiKP	**PKiKP**	**16 25 14.2**	**-1.2**		
	comp=Z,0.6nm,0.3s,baz=186,slow=5.0,SNR=3.4								
ANMO				PKKPab	**PKKPbc**	**16 36 06.8**	**+3.3**		
	comp=Z,2.0nm,0.7s,baz=2.3,slow=2.6,SNR=4.6								
ANMO	Albuquerque	112.49	299	*i* PKiKP	**PKiKP**	**16 25 14.7**	**-0.8**		
ANMO	Albuquerque	112.49	299		**PKiKP**	**16 25 14.7**	**-0.8**		
TUC	Tucson	112.54	295	P	**PKiKP**	**16 25 16.0**	**+0.5**		
	baz=143								
T25A	Trinidad	113.27	302	P	**PKiKP**	**16 25 17.2**	**+0.2**		
	baz=144								
SDCO	Great Sand Dun	114.28	302	P	**PKiKP**	**16 25 19.1**	**+0.2**		
	baz=143								
IPM	Ipoh	114.43	121	P	**PKiKP**	**16 25 20.0**	**+0.4**		
SOC	Sochi	114.49	48	*i* PKiKP	PKPdf	16 25 17.1	-1.6		
SOC				*e*PS	**PS**	**16 35 50.9**	**-5.5**		
SOC				*e*SS	SS	16 42 01.7	+0.1		
SOC				MLR	MLR				
	comp=Z,90nm,13.0s								
JRMM	Jerantut	114.60	123	P	PKPdf	16 25 19.0	-0.9		
S22A	4UR Ranch, Cre	114.91	301	P	**PKiKP**	**16 25 20.2**	**0.0**		
	baz=143								
KULM	Kulim	114.96	121	P	PKPdf	16 25 20.0	-0.6		
Q24A	Divide	115.08	303	P	**PKiKP**	**16 25 20.5**	**+0.1**		
	baz=143								
ECSD	EROS Data Cent	115.14	312	P	**PKPdf**	**16 25 19.9**	**-0.1**		
	baz=145								
SCHQ	Schefferville	115.17	336	PKP	**PKPdf**	**16 25 19.1**	**-0.5**		
	comp=Z,7.2nm,0.6s,baz=313,slow=2.6,SNR=4.2								
GLA	Glamis	115.20	292	P	**PKiKP**	**16 25 20.9**	**+0.4**		
	baz=142								
MVCO	Mesa Verde	115.29	299	P	**PKiKP**	**16 25 21.3**	**+0.5**		
	baz=142								
WUAZ	Wupatki	115.38	296	P	**PKiKP**	**16 25 21.3**	**+0.3**		
	baz=142								
MTKI	Muara Teweh, K	115.52	138	PKP	PKPdf	16 25 13.8	-7.9		
IKP	In-Ko-Pah, Jac	115.55	291	P	**PKiKP**	**16 25 21.8**	**+0.5**		
	baz=142								
CBX	Cerro Bola	115.58	290		**PKiKP**	**16 25 21.8**	**+0.5**		
PDMCI	Parker Dam,Lak	115.83	293	P	**PKiKP**	**16 25 22.3**	**+0.7**		
	baz=142								
MONP2	Monument Peak	115.91	291	P	**PKiKP**	**16 25 22.7**	**+0.6**		
	baz=142								
KBZ	Khabaz	115.94	50	PKP	**PKPdf**	**16 25 20.7**	**-0.8**		
	comp=Z,2.2nm,0.7s,baz=6.3,slow=13,SNR=2.2								
KBZ	Khabaz	115.94	50	||*i* PKiKP	**PKiKP**	**16 25 23.3**	**+1.8**		
ISCO	Idaho Springs	115.97	303	P	**PKiKP**	**16 25 22.3**	**+0.2**		
	baz=143								
BC3	Big Chuckawall	116.00	292	P	**PKiKP**	**16 25 22.5**	**+0.4**		
	baz=142								
KIV	Kislovodsk	116.03	49	*i* PKiKP	**PKPdf**	**16 25 21.7**	**-0.1**		
KIV				*e*PS	**PS**	**16 36 09.9**	**-0.8**		
KIV				*e*SS	SS	16 42 23.2	+1.1		
KIV				pmax	pmax				
	comp=Z,7.0nm,1.1s								
IRM	Iron Mountain	116.23	293	P	**PKiKP**	**16 25 22.9**	**+0.5**		
	baz=142,SNR=6.3								
AKT	Akhty	116.25	54	*i* PKiKP	**PKiKP**	**16 25 24.1**	**+1.7**		
AKT				*e*		16 26 28.9			
AKT				pmax	pmax				
	comp=Z,12nm,0.8s								
W13A	Hualapai Mount	116.32	294	PKPdf	**PKPdf**	**16 25 22.7**	**-0.1**		
TPFO	Pinon Flats O	116.48	291	P	**PKiKP**	**16 25 23.6**	**+0.5**		
	baz=142								
PFO	Pinyon Flats O	116.49	291	||*i* PKiKP	**PKiKP**	**16 25 24.0**	**+0.9**		
PFO	Pinyon Flats O	116.49	291	P	**PKiKP**	**16 25 23.6**	**+0.5**		
	baz=142								
AKASG	Malin Array Be	116.53	37	PKP	**PKPdf**	**16 25 21.1**	**-1.3**		
	comp=Z,1.2nm,0.5s,baz=238,slow=1.5,SNR=7.4								
AKASG				pPKP	pPKPdf	16 25 50.3	-3.0		
	comp=Z,0.6nm,0.3s,baz=224,slow=3.7,SNR=3.4								
AKBB	Malin Array Si	116.53	37	||*i* PKiKP	**PKPdf**	**16 25 22.0**	**-0.4**		
BELC	Belle Mtn. Jos	116.55	292	P	**PKiKP**	**16 25 23.8**	**+0.6**		
	baz=142,SNR=9.1								
U15A	North Rim	116.55	296	PKPdf	**PKPdf**	**16 25 23.3**	**0.0**		
EYMN	Ely	116.58	318	P	**PKPdf**	**16 25 22.1**	**-0.5**		
	baz=146								
N23A	Red Feather La	116.99	304	P	**PKiKP**	**16 25 24.2**	**+0.1**		
	baz=142								
MAK	Makhachkala	117.33	53	*i* PKiKP	**PKPdf**	**16 25 23.6**	**-0.6**		
MAK				*e*		16 25 51.9			
MAK				*e*		16 26 37.9			
MAK				*e*PPP	PPP	16 29 05.9			
MAK				*e*		16 32 02.9			
MAK				*e*PS	**PKKPdf**	**16 36 19.8**	**+5.3**		
MAK				pmax	pmax				
	comp=Z,305nm,1.1s								
CIS	Catalina Islan	117.35	290	P	**PKiKP**	**16 25 25.2**	**+0.6**		
	baz=141								
HEC	Hector,Ludlow	117.37	292	P	**PKiKP**	**16 25 25.3**	**+0.6**		
	baz=141								
LCMT	Little Creek M	117.49	296	PKPdf	**PKPdf**	**16 25 24.6**	**-0.4**		
KRAI	Karang Ratu	117.56	153	PKP	**PKPdf**	**16 25 25.5**	**-0.2**		
SBUM	Sibu	117.58	134	P	**PKiKP**	**16 25 26.0**	**+0.3**		
TUQ	Turquoise Moun	117.63	293	P	**PKiKP**	**16 25 25.7**	**+0.4**		
	baz=141,SNR=6.6								
SRU	San Rafael Swe	117.77	299	PKiKP	**PKPdf**	**16 25 24.4**	**-1.1**		
SRU	San Rafael Swe	117.77	299	PKPdf	**PKPdf**	**16 25 24.4**	**-1.1**		
CCUT	Cedar City	117.96	296	PKPdf	**PKiKP**	**16 25 26.4**	**+0.5**		
GSC	Goldstone, Bar	117.98	292	P	**PKiKP**	**16 25 26.4**	**+0.5**		
	baz=141,SNR=5.2								
MSU	Marysvale	118.12	298	PKiKP	**PKiKP**	**16 25 26.7**	**+0.5**		
MSU	Marysvale	118.12	298	PKPdf	**PKiKP**	**16 25 26.7**	**+0.5**		
RWWY	Rawlins	118.20	303	PKPdf	**PKPdf**	**16 25 25.8**	**-0.5**		
EDW2	Edwards Air Fo	118.27	291	P	**PKiKP**	**16 25 26.9**	**+0.5**		
	baz=141,SNR=14								
MPSI	Mapaga	118.50	143	PKP	**PKiKP**	**16 25 28.3**	**+0.8**		
AGMN	Agassiz Nation	118.55	315	P	**PKPdf**	**16 25 25.6**	**-0.8**		
	baz=144								
LRMC	Laurel Mtn Rad	118.57	292	P	**PKiKP**	**16 25 27.7**	**+0.6**		
	baz=141,SNR=7.2								
K22A	Casper	118.63	304	P	**PKPdf**	**16 25 26.2**	**-0.8**		
	baz=141								
RSSD	Black Hills	118.66	307	PKiKP	**PKPdf**	**16 25 26.3**	**-0.8**		
RSSD	Black Hills	118.66	307	PKPdf	**PKPdf**	**16 25 26.2**	**-0.8**		
RSSD	Black Hills	118.66	307	P	**PKPdf**	**16 25 26.1**	**-0.9**		
	baz=142								
PRN	Pahroc Range	118.70	295	PKPdf	**PKiKP**	**16 25 27.9**	**+0.6**		
FURC	Furnace Creek,	118.91	293	P	**PKiKP**	**16 25 28.4**	**+1.0**		
	baz=140								
MPMC	Manual Prospec	118.92	292	P	**PKiKP**	**16 25 28.6**	**+0.7**		
	baz=140,SNR=13								
ISA	Isabella, Lake	119.12	291	P	**PKiKP**	**16 25 29.1**	**+1.0**		
	baz=140,SNR=11								
BER	Bergen	119.17	18	*e*PKSdf	PKSdf	16 29 04.9	+1.5		
NLU	North Lily Min	119.18	299	PKPdf	**PKiKP**	**16 25 28.6**	**+0.4**		
PKM	Mcpherson Peak	119.23	290	P	**PKiKP**	**16 25 29.5**	**+1.0**		
	baz=140								
MNK	Minsk	119.34	34	*i* PKiKP	**PKPdf**	**16 25 27.3**	**-0.4**		
MNK				*i*		16 25 54.8			
MNK				*i*		16 32 19.8			
MNK				*i* PS	PKKPdf	16 36 31.1	+20		
MNK				*i* SS	SS	16 43 05.7	+1.3		
MNK				*i* SSS	SSS	16 47 36.6			
MNK				pmax	pmax				
	comp=N,14nm,0.9s								
MNK				pmax	pmax				
	comp=Z,7.0nm,0.9s								
MNK				pmax	pmax				
	comp=E,3.0nm,0.9s								
MNK				MLR	MLR				
	comp=Z,226nm,19.0s								
MNK				MLR	MLR				
	comp=E,47nm,19.0s								
MNK				MLR	MLR				
	comp=N,203nm,19.0s								
MNK	Minsk	119.34	34	*i* PKP	**PKPdf**	**16 25 27.4**	**-0.3**		
	comp=E,3.0nm,0.9s								
MNK				*i* PKP	**PKPdf**	**16 25 27.4**	**-0.3**		
	comp=N,14nm,0.9s								
MNK				*i* PKP	**PKPdf**	**16 25 27.4**	**-0.3**		
	comp=Z,7.0nm,0.9s,baz=212								
MNK				*i* pPKP	**pPKPdf**	**16 25 54.8**	**-3.6**		
MNK				*i* sPKP		16 26 05.5			
MNK				*i* PP	**PP**	**16 26 44.7**	**-6.7**		
MNK				*i* SKP		16 27 51.0			
MNK				*i* PPP	PPP	16 29 40.5			
MNK				*i* SKS	**SKSdf**	**16 32 19.8**	**-8.5**		
MNK				*i* SKKS	SKKSac	16 33 26.1	-12		
MNK				*i* SP	SP	16 35 52.8	-34		
MNK				*i* PS	**PS**	**16 36 31.2**	**-8.8**		
MNK				*i* SS	**SS**	**16 43 05.8**	**+1.4**		
MNK				*i* SSS	SSS	16 47 36.7			
MNK				*i* LQ	LQ	17 04 25.0			
MNK				*i* LR	LR	17 09 46.4			
MNK				*i* LRM	MLR	17 15 05.6			
	comp=Z,226nm,19.2s								
MNK				*i* LRM	MLR	17 15 09.6			
	comp=E,47nm,19.2s								
MNK				*i* LRM	MLR	17 15 14.3			
	comp=N,203nm,19.2s								
CWC	Cottonwood Cre	119.51	292	P	**PKiKP**	**16 25 29.5**	**+0.5**		
	baz=140								
TOLI2	Tolitoli	119.52	143	PKPdf	**PKPdf**	**16 25 28.2**	**-1.2**		
SMMC	Simmler	119.65	290	P	**PKiKP**	**16 25 30.3**	**+1.2**		
	baz=140								
R11A	Troy Canyon, C	119.70	295	P	**PKiKP**	**16 25 29.9**	**+0.6**		
	baz=140								
DUG	Dugway, Tooele	119.73	299	PKiKP	**PKiKP**	**16 25 29.4**	**+0.2**		
DUG	Dugway, Tooele	119.73	299	PKPdf	**PKiKP**	**16 25 29.4**	**+0.2**		
ULM	Lac du Bonnet	120.12	316	PKP	**PKPdf**	**16 25 28.4**	**-0.9**		
	comp=N,8.5nm,0.5s,baz=95,slow=0.5,SNR=12								
ULM	Lac du Bonnet	120.12	316	||*i* PKiKP	**PKPdf**	**16 25 28.8**	**-0.5**		
PDAR	Pinedale Array	120.14	303	PKP	**PKPdf**	**16 25 28.8**	**-1.2**		
	comp=N,1.7nm,0.5s,baz=124,slow=4.7,SNR=16								
BW06	Boulder Array	120.14	303	P	**PKPdf**	**16 25 29.3**	**-0.7**		
	baz=140								
HFS	Hagfors	120.56	23	PKP	**PKPdf**	**16 25 28.9**	**-1.0**		
	comp=N,3.0nm,0.6s,baz=132,slow=4.4,SNR=9.5								
SIJI	Sorong	120.62	155	PKP	**PKiKP**	**16 25 32.1**	**+0.4**		
NB2	NORSAR Subarra	120.88	21	PKPdf	**PKPdf**	**16 25 30.4**	**-0.1**		
	comp=Z,1.4nm,0.7s,baz=202,slow=1.9								
NOA	NORSAR Array B	120.88	21	PKP	**PKPdf**	**16 25 30.4**	**-0.1**		
	comp=Z,1.7nm,0.6s,baz=205,slow=1.9,SNR=8.9								
NOA				PKKPbc	**PKKPbc**	**16 35 34.5**	**+0.1**		
	comp=Z,1.8nm,0.8s,baz=27,slow=3.3,SNR=5.1								
HVU	Hansel Valley	120.92	300	PKiKP	**PKPdf**	**16 25 31.0**	**-0.4**		
HVU	Hansel Valley	120.92	300	PKPdf	**PKPdf**	**16 25 31.0**	**-0.4**		
AKN	Aaknes	121.14	18	*e*PKPdf	**PKiKP**	**16 25 32.2**	**+1.2**		
NVAR	Mina Array Bea	121.14	293	PKP	**PKiKP**	**16 25 32.6**	**+0.5**		
	comp=Z,4.8nm,0.7s,baz=139,slow=3.4,SNR=56								
NVAR				pPKP	**pPKPdf**	**16 26 02.2**	**-0.3**		
	comp=Z,1.4nm,0.6s,baz=72,slow=4.8,SNR=2.4								
NVAR	Mina Array Bea	121.14	293	PKPdf	**PKPdf**	**16 25 32.0**	**0.0**		
SPMM	Sapulut	121.31	137	P	**PKPdf**	**16 25 32.0**	**-0.9**		
MOOW	Moose Ponds	121.45	303	PKPdf	**PKPdf**	**16 25 32.2**	**-0.3**		
MOL	Molde	121.60	18	*e*PKPdf	**PKiKP**	**16 25 33.5**	**+1.7**		
IMW	Indian Meadow	121.65	303		**PKPdf**	**16 25 32.8**	**-0.1**		
H17A	Giant Village	121.86	303	P	**PKiKP**	**16 25 35.4**	**+2.0**		
	baz=139								
DGMT	Dagmar	122.11	310		**PKPdf**	**16 25 33.3**	**0.0**		
DGMT	Dagmar	122.11	310	P	**PKiKP**	**16 25 33.4**	**-0.1**		
	baz=140								
PNTR	Pine Nut	122.30	293	PKPdf	**PKiKP**	**16 25 35.0**	**+0.6**		
VSU	Vasula	122.35	30	*c* *i* PKiKP	**PKiKP**	**16 25 33.8**	**+0.3**		
OBN	Obninsk	122.68	38	||*i* PKiKP	**PKiKP**	**16 25 34.6**	**+0.4**		
OBN				pmax	pmax				
	comp=Z,51nm,2.5s								
BCYI	Bear Canyon	123.13	301		**PKiKP**	**16 25 36.1**	**+0.2**		
NIL	Nilore	123.15	78	PKiKP	**PKiKP**	**16 25 35.9**	**-0.1**		
NIL	Nilore	123.15	78	PKPdf	**PKiKP**	**16 25 35.9**	**-0.1**		
DY2G	Dye2	123.15	351	*i* P	**PKiKP**	**16 25 35.3**	**+0.1**		
DY2G				lAmb	lAmb	16 25 36.3			
	comp=Z,13nm,0.8s								
SRAK	Srakaew	123.16	117	PKP	**PKiKP**	**16 25 37.3**	**+0.8**		
BOZ	Bozeman (W)	123.25	303	P	**PKiKP**	**16 25 36.2**	**+0.3**		
	baz=138								
BEKR	Beckworth	123.28	293	PKPdf	**PKiKP**	**16 25 36.8**	**+0.5**		
FRB	Frobisher Bay	123.68	340	PKP	**PKiKP**	**16 25 35.9**	**-0.1**		
	comp=Z,38nm,1.0s,baz=152,slow=4.4,SNR=9.6								
GDXM	Geysers	123.75	291	PKPdf	**PKiKP**	**16 25 38.4**	**+1.3**		
SFJD	Kangerlussuaq	124.07	349	PKP	**PKPdf**	**16 25 36.2**	**-0.2**		
	comp=Z,20nm,0.9s,baz=189,slow=3.7,SNR=6.6								
SFJD	Kangerlussuaq	124.07	349	*i* P	**PKPdf**	**16 25 36.4**	**0.0**		
SFJD				lAmb	lAmb	16 25 39.3			
	comp=Z,16nm,0.9s								
SFJD	Kangerlussuaq	124.07	349	*i* PKiKP	**PKPdf**	**16 25 36.4**	**0.0**		
SFJD				pmax	pmax				
	comp=Z,16nm,0.9s								
SFJD	Kangerlussuaq	124.07	349		**PKPdf**	**16 25 35.9**	**-0.5**		
HRY	Holter Researc	124.18	304	PKPdf	**PKiKP**	**16 25 37.8**	**+0.1**		
NSS	Namsos	124.20	20	*e*PKPdf	**PKiKP**	**16 25 39.1**	**+2.1**		
FINES	FINESS Array B	124.68	28	PKP	**PKPdf**	**16 25 37.6**	**-0.1**		
	comp=Z,12nm,0.6s,baz=163,slow=1.4,SNR=54								
FINES	FINESS Array B	124.68	28		**PKPdf**	**16 25 37.0**	**-0.7**		
SUKH	Sukhothai	124.88	113	PKP	**PKiKP**	**16 25 40.2**	**+0.4**		
WDC	Whiskeytown Da	124.93	292	PKiKP	**PKPdf**	**16 25 39.0**	**+0.1**		
WDC	Whiskeytown Da	124.93	292	PKPdf	**PKPdf**	**16 25 39.0**	**+0.1**		
PHIT	Phitsanulok	125.03	113	PKP	**PKiKP**	**16 25 41.9**	**+1.8**		
MSO	Missoula	125.25	303	PKPdf	**PKPdf**	**16 25 39.2**	**-0.3**		
MSO	Missoula	125.25	303	P	**PKiKP**	**16 25 39.9**	**+0.1**		
	baz=137								
CM13	Chiang Mai Arr	125.28	111	PKP	**PKiKP**	**16 25 40.5**	**-0.1**		
CM05	Chiang Mai Arr	125.29	111	PKP	**PKiKP**	**16 25 40.8**	**+0.1**		
ICESG	Greenland Ices	125.29	355	*i* P	**PKiKP**	**16 25 38.8**	**-0.4**		
ICESG				lAmb	lAmb	16 25 39.7			
	comp=Z,19nm,0.8s								
N02D	Trinity Center	125.30	292	P	**PKiKP**	**16 25 40.5**	**+0.4**		
	baz=137,SNR=37								
CM04	Chiang Mai Arr	125.30	111	PKP	**PKiKP**	**16 25 40.7**	**0.0**		
CM01	Chiang Mai Arr	125.31	111	PKP	**PKiKP**	**16 25 40.9**	**+0.2**		
CM02	Chiang Mai Arr	125.31	111	PKP	**PKiKP**	**16 25 40.9**	**+0.2**		
CM15	Chiang Mai Arr	125.32	111	PKP	**PKiKP**	**16 25 40.9**	**+0.2**		
CMAR	Chiang Mai Arr	125.33	111	PKP	**PKPdf**	**16 25 40.3**	**-0.1**		
	comp=Z,6.4nm,0.8s,baz=232,slow=3.9,SNR=46								
CMAR				PKKPbc	**PKKPab**	**16 35 18.9**	**+0.5**		
	comp=Z,0.2nm,0.5s,baz=353,slow=6.0,SNR=4.8								
CMAR	Chiang Mai Arr	125.33	111	PKPdf	**PKPdf**	**16 25 40.0**	**-0.3**		
CM09	Chiang Mai Arr	125.34	111	PKP	**PKiKP**	**16 25 41.1**	**+0.3**		
M04C	Macdoel	125.44	294	P	**PKiKP**	**16 25 40.8**	**+0.4**		
	baz=137,SNR=24								
GAR	Garm	125.54	71	PKPdf	**PKiKP**	**16 25 40.7**	**0.0**		
UTTA	Uttaradit	125.57	113	PKP	**PKiKP**	**16 25 41.5**	**+0.3**		
CHTO	Chiang Mai	125.63	111	PKiKP	**PKPdf**	**16 25 40.7**	**-0.2**		
CHTO	Chiang Mai	125.63	111	PKP	**PKPdf**	**16 25 41.1**	**+0.2**		
CHTO	Chiang Mai	125.63	111	PKPdf	**PKPdf**	**16 25 40.7**	**-0.2**		
CHTO	Chiang Mai	125.63	111	PKP	**PKPdf**	**16 25 41.1**	**+0.2**		
CMMT	Chiang Mai	125.63	111	PKP	**PKPdf**	**16 25 40.9**	**0.0**		
CMMT	Chiang Mai	125.63	111	PKP	**PKPdf**	**16 25 40.9**	**0.0**		
M02C	Callahan	125.68	293	P	**PKiKP**	**16 25 41.3**	**+0.4**		
	baz=137,SNR=28								
YBH	Yreka Blue Hor	125.86	293	PKP	**PKPdf**	**16 25 40.5**	**-0.2**		
	comp=Z,6.7nm,0.7s,baz=121,slow=2.6,SNR=25								
UBPT	Khong Chiam	125.93	120	PKP	**PKiKP**	**16 25 42.5**	**+0.5**		
UBPT	Khong Chiam	125.93	120	PKPdf	**PKPdf**	**16 25 41.5**	**-0.1**		
UBPT	Khong Chiam	125.93	120	PKP	**PKiKP**	**16 25 42.5**	**+0.5**		
FFC	Flin Flon	125.95	316	PKiKP	**PKiKP**	**16 25 40.8**	**0.0**		
FFC	Flin Flon	125.95	316	PKPdf	**PKiKP**	**16 25 40.8**	**0.0**		
L04D	Klamath Falls	126.00	294	P	**PKiKP**	**16 25 41.4**	**-0.2**		
	baz=137,SNR=14								
K04D	Chiloquin, OR	126.01	294	P	**PKiKP**	**16 25 41.9**	**+0.4**		
	baz=136								
MOR8	Moi Rana	126.14	20	*e*PKPdf	**PKiKP**	**16 25 41.4**	**+0.5**		
KONS	Konsvik	126.19	19	*e*PKPdf	**PKiKP**	**16 25 41.7**	**+0.8**		
J05D	Fort Rock, OR	126.23	295	P	**PKiKP**	**16 25 42.4**	**+0.4**		
	baz=136,SNR=28								
G08A	Pilot Rock	126.54	299	PKPdf	**PKiKP**	**16 25 42.6**	**+0.1**		
L02E	Cave Junction	126.62	293	P	**PKiKP**	**16 25 43.1**	**+0.5**		
	baz=136,SNR=11								
WALA	Waterton Lakes	126.85	305	PKPdf	**PKPdf**	**16 25 42.5**	**0.0**		
I05D	Terrebonne, OR	127.04	296	P	**PKiKP**	**16 25 43.5**	**+0.1**		
	baz=136,SNR=12								
K02D	Willamette Mer	127.04	293	P	**PKiKP**	**16 25 43.9**	**+0.4**		
	baz=136,SNR=15								
I04A	Tendick Farm,	127.19	295	P	**PKPdf**	**16 25 43.3**	**+0.1**		
	baz=136,SNR=11								
FAUS	Fauske	127.37	19	*e*PKPdf	**PKiKP**	**16 25 43.5**	**+0.2**		
J01E	Myrtle Point	127.51	293	P	**PKiKP**	**16 25 44.1**	**-0.1**		
	baz=136								
I03D	Drain, OR	127.59	294	P	**PKiKP**	**16 25 44.6**	**+0.2**		
	baz=136								
IUG	luzhnay	127.67	69	*e*PKP	**PKPdf**	**16 25 43.4**	**-0.8**		
	baz=68								
IUG	luzhnay	127.67	69	*e*PKIKP	**PKPdf**	**16 25 43.4**	**-0.8**		
G05D	Wamic, OR	127.67	297	P	**PKiKP**	**16 25 44.5**	**-0.1**		
	baz=135								
H04A	Detroit Lake	127.71	296	PKPdf	**PKPdf**	**16 25 43.9**	**-0.3**		
LOF	Lofoten	127.72	18	*e*PKPdf	**PKiKP**	**16 25 45.7**	**+1.8**		
ABKAR	Akbulak array	127.74	56	PKPdf	**PKPdf**	**16 25 44.0**	**0.0**		
NEW	Newport	127.78	302	P	**PKPdf**	**16 25 43.4**	**-0.7**		
	baz=135								
H04D	Lebanon	127.87	295	P	**PKiKP**	**16 25 45.1**	**+0.1**		
	baz=135								
I02D	Swisshome	128.14	294	P	**PKiKP**	**16 25 45.4**	**-0.1**		
	baz=135								
KLMR	Klimovskoe	128.15	35	*e*PKIKP	**PKPdf**	**16 25 42.2**	**-2.2**		
KLMR				pmax	pmax				
	comp=Z,69nm,1.7s								
KLMR	Klimovskoe	128.15	35	*e*PKPdf	**PKPdf**	**16 25 42.2**	**-2.2**		
KLMR				AMP		16 25 45.6			
	comp=Z,69nm,1.7s								
F05D	White Salmon	128.20	298	P	**PKiKP**	**16 25 45.7**	**+0.1**		
	baz=135								
G03D	McMinnville, O	128.62	296	P	**PKiKP**	**16 25 46.7**	**+0.3**		
	baz=135								
SUMG	Summit	128.71	356	*i* P	**PKiKP**	**16 25 46.2**	**-0.1**		
SUMG				lAmb	lAmb	16 25 47.3			
	comp=Z,14nm,0.8s								
SUMG	Summit	128.71	356	*i* PKiKP	**PKiKP**	**16 25 46.2**	**-0.1**		
SUMG				pmax	pmax				
	comp=Z,14nm,0.8s								
DZA	Taraz	128.87	69	*e*PKP	**PKPdf**	**16 25 45.7**	**-0.8**		
	baz=69								
DZA	Taraz	128.87	69	*e*PKIKP	**PKPdf**	**16 25 45.6**	**-0.8**		
KSH	Kashi	128.94	75	PKP	**PKPdf**	**16 25 47.0**	**+0.2**		
KSH				SS	SS	16 44 58.8	-7.3		
KSH				AMB	AMB				
	comp=Z,540nm,5.1s								
KSH				LR	LR				
	comp=Z,400nm,19.9s								
F04D	Rainier, OR	129.11	297	P	**PKiKP**	**16 25 47.6**	**+0.2**		
	baz=134								
E04D	Cinebar	129.22	297	P	**PKiKP**	**16 25 47.4**	**-0.2**		
	baz=134								
C06D	Leavenworth	129.34	300	P	**PKPdf**	**16 25 47.1**	**-0.1**		
	baz=134								
AML	Almayashu	129.58	71	P	**PKiKP**	**16 25 49.1**	**+0.1**		
	SNR=10								
AML	Almayashu	129.58	71	P	SKPbc	16 28 59.8	+0.3		
	SNR=12								
PNT	Penticton	129.69	302	PKHKP	PKPpre	16 25 35.1			
D04E	Lakebay	129.75	298	P	**PKPdf**	**16 25 47.9**	**+0.1**		
	baz=134								
KIRV	Kirov	129.92	42	*c* *i* PKIKP	**PKPdf**	**16 25 47.8**	**0.0**		
EKS2	Erkin-Say	129.99	71	P	**PKiKP**	**16 25 49.5**	**0.0**		
	SNR=12								
EKS2	Erkin-Say	129.99	71	P	SKPbc	16 29 00.8	+0.

comp=Z,7.7nm,1.0s,baz=114,slow=2.9,SNR=6.1
MKAR Makanchi Array 137.26 72 PKhKP PKPpre 16 25 51.6
comp=Z,1.8nm,0.8s,baz=217,slow=4.7,SNR=7.2
MKAR PKP **PKPdf 16 25 59.8 -2.3**
comp=Z,3.5nm,0.6s,baz=284,slow=1.0,SNR=9.9
MKAR pPKP pPKPdf 16 26 31.7 -1.3
comp=Z,1.8nm,0.6s,baz=29,slow=2.8,SNR=2.1
MKAR SKPbc **SKPbc 16 29 22.4 -2.0**
comp=Z,3.8nm,0.7s,baz=259,slow=2.0,SNR=7.6
MKAR Makanchi Array 137.26 72 PKPpre 16 25 51.0
NOR Nord 137.71 2 *i* P **PKPdf 16 26 02.6 +0.7**
NOR IAmb IAmb 16 26 06.4
comp=Z,8.6nm,0.9s
NOR Nord 137.71 2 *i* PKIKP **PKPdf 16 26 02.6 +0.7**
NOR pmax pmax
comp=Z,9.0nm,0.9s
WMQ Urumqi 138.27 79 *e*PKP **PKPdf 16 26 04.0 -0.1**
WMQ LR LR
comp=Z,570nm,29.1s
WMQ LR LR
comp=Z,600nm,29.2s
WMQ LR LR
comp=Z,250nm,24.9s
SEM Semipalatinsk 138.43 66 *e*PKP **PKPdf 16 26 00.9 -3.4**
baz=66
SEM Semipalatinsk 138.43 66 *e*PKIKP **PKPdf 16 26 00.9 -3.4**
CRAG Craig 139.98 301 P **PKPdf 16 26 07.7 +1.0**
baz=123
TGTN Hyland Airport 140.94 312 P **PKPdf 16 26 08.8 +0.5**
baz=119
LZH Lanzhou 141.92 101 *e*PKP **PKiKP 16 26 18.0 +4.0**
LZH pPKP pPKPdf 16 26 27.0 -15
LZH sPKP 16 26 32.5
LZH PP PP 16 29 34.5 +17
LZH SKS **SKSdf 16 33 20.3 +10**
LZH SKKS **SKKSac 16 36 08.8 +10**
GTA Gaotai 142.06 94 *e*P **PKPdf 16 26 05.5 -5.7**
GTA pP PKiKP 16 26 11.8 -2.3
GTA pmax pmax
comp=Z,2.0nm,1.4s
GTA Gaotai 142.06 94 ⇓PKP **PKPdf 16 26 11.8 +0.6**
GTA pPKP pPKPdf 16 26 40.0 -2.2
GTA sPKP 16 26 56.3
GTA LR LR
comp=Z,160nm,20.7s
GTA LR LR
comp=Z,210nm,21.4s
GTA LR LR
comp=Z,330nm,19.6s
ZAA0 Zalesovo Array 142.75 64 PKPpre PKPpre 16 26 06.5
ZALV Zalesovo Beam 142.75 64 PKhKP PKPpre 16 26 07.5
comp=Z,4.6nm,0.4s,baz=231,slow=4.0,SNR=20
ZALV PKP **PKPdf 16 26 12.6 +0.9**
comp=Z,5.3nm,0.5s,baz=248,slow=4.4,SNR=10.0
ZALV pPKP pPKPdf 16 26 41.5 -1.2
comp=Z,3.1nm,0.7s,baz=203,slow=2.0,SNR=2.0
ZALV SKPbc **SKPbc 16 29 37.0 -1.7**
comp=Z,2.2nm,0.7s,baz=212,slow=5.3,SNR=3.6
ZALV Zalesovo Beam 142.75 64 PKPpre 16 26 07.3
XAN Xi'an 143.12 108 PKP **PKPdf 16 26 12.8 -0.3**
XAN pPKP pPKPdf 16 26 42.5 -1.6
XAN SKS **SKSdf 16 33 06.5 -5.4**
XAN AMB AMB
comp=Z,270nm,4.7s
XAN LR LR
comp=Z,220nm,12.9s
XAN LR LR
comp=Z,280nm,16.7s
XAN LR LR
comp=Z,210nm,15.2s
WHN Wuhan 143.13 118 PKP **PKPdf 16 26 12.0 -1.1**
A36M Sachs Harbour 144.16 328 P PKPbc 16 26 12.5 +0.4
baz=109,SNR=14
MIDW Midway 144.61 231 PKPbc 16 26 14.9 +0.1
HYT Haines Junctio 144.61 307 P **PKPdf 16 26 14.9 0.0**
baz=115
YUK6 Outpost Mounta 145.04 307 P **PKPdf 16 26 16.5 +0.7**
baz=114
YUK4 Talbot Arm 145.33 308 P **PKPab 16 26 17.3 +0.6**
baz=113
INK Inuvik 145.71 321 PKPbc **PKPbc 16 26 17.1 0.0**
comp=Z,103nm,0.6s,baz=76,slow=3.3,SNR=107
INK SKPbc **SKPbc 16 29 44.0 -1.2**
comp=Z,12nm,0.7s,baz=89,slow=4.1,SNR=3.7
INK Inuvik 145.71 321 PKPdf **PKPbc 16 26 16.8 -0.2**
INK Inuvik 145.71 321 P **PKPab 16 26 17.6 0.0**
baz=107
YUK3 Moose Creek 146.30 308 P **PKPbc 16 26 19.6 +0.2**
baz=112,SNR=16
MESA MESA 146.36 305 P **PKPab 16 26 20.3 -0.4**
baz=113
CTG Chitna Glacier 146.39 306 P **PKPbc 16 26 20.0 +0.5**
baz=112,SNR=15
NJ2 Nanjing 146.55 122 ⇑PKPbc **PKPbc 16 26 20.5 -0.2**
DAWY Dawson 146.64 312 P **PKPbc 16 26 20.1 0.0**
baz=109,SNR=68
SNH Sunshine Point 146.77 304 **PKPbc 16 26 20.8 +0.3**
BGLC Bering Glacier 146.95 304 P **PKPbc 16 26 21.2 +0.3**
baz=112
CRQE Cirque 147.10 305 P **PKPbc 16 26 21.6 0.0**
baz=112,SNR=7.0
M27K Edge Creek, AK 147.13 308 P **PKPbc 16 26 21.8 +0.2**
baz=110,SNR=28
MCARA McCarthy VSAT 147.30 306 P **PKPbc 16 26 22.3 +0.4**
baz=111
L27K Beaver Creek, 147.34 310 P **PKPbc 16 26 22.5 +0.5**
baz=109,SNR=46
KAIM Kayak Island 147.41 303 P **PKPbc 16 26 23.2 +1.0**
baz=112
EGAK Eagle 147.59 313 **PKPbc 16 26 21.9 -0.7**
M26K Nabesna, AK 147.64 308 P **PKPbc 16 26 22.5 -0.3**
baz=109,SNR=10
TIY Taiyuan 147.76 108 *e*PKPbc **PKPbc 16 26 24.3 +0.3**
BMRM Bremner River 147.87 305 P **PKPbc 16 26 24.0 +0.5**
baz=110,SNR=14
L26K Log Cabin Wild 147.99 309 P **PKPbc 16 26 24.3 +0.6**
baz=108,SNR=35
N25K Chitina, Valde 148.09 306 P **PKiKP 16 26 25.0 -0.8**
baz=109,SNR=10
EYAK Cordova Ski Ar 148.25 304 P **PKiKP 16 26 25.2 -0.8**
baz=110,SNR=14
J26L Joseph Creek 148.51 312 P **PKPbc 16 26 25.8 +0.7**
baz=106,SNR=43
BTO Baotou 148.53 102 PKPbc **PKPdf 16 26 21.5 -0.7**
BTO LR LR
comp=Z,620nm,6.7s
BTO LR LR
comp=Z,480nm,4.7s
SCRK Sand Creek 148.54 311 P **PKiKP 16 26 26.0 -0.7**
baz=106,SNR=57
HARP HAARP 148.59 307 P **PKiKP 16 26 26.0 -0.7**
baz=108,SNR=9.7
KLU Klutina 148.65 306 P **PKiKP 16 26 26.5 -0.4**
baz=109,SNR=21
PAX Paxson 148.90 308 P **PKPbc 16 26 26.5 +0.3**
baz=107,SNR=35
M24K Tolsona, Glenn 148.95 307 P **PKiKP 16 26 27.7 +0.2**
baz=108,SNR=20
GLI Glacier Island 148.99 304 **PKiKP 16 26 27.2 -0.3**
GLI Glacier Island 148.99 304 P **PKPbc 16 26 26.7 +0.4**
baz=109,SNR=11
TIA Tai'an 149.05 115 *e*PKPbc **PKPbc 16 26 27.3 0.0**
NRIK Noril'sk 149.35 39 PKPbc **PKiKP 16 26 27.5 -0.5**
comp=Z,15nm,0.8s,baz=300,slow=0.7,SNR=18
NRIK Noril'sk 149.35 39*c* *i*PKP2 **PKiKP 16 26 27.8 -0.2**
HHC Hu-ho-hao-te 149.55 103 *e*PKPbc **PKPdf 16 26 24.0 +0.2**
HHC PP **PP 16 30 06.8 +4.0**
HHC SKS **SKSdf 16 33 21.8 +0.9**
HHC SS **SS 16 49 12.0 +4.3**
HHC AMB AMB
comp=Z,150nm,8.1s
PRP Porcupine Dome 149.56 313 P **PKPbc 16 26 28.3 +0.5**
baz=102,SNR=28
DHY Denali Highway 149.76 308 P **PKiKP 16 26 29.1 -0.1**
baz=105,SNR=25
KNK Knik Glacier 149.78 305 P **PKiKP 16 26 29.0 -0.2**
baz=107,SNR=16
WAT6 Susitna Watana 149.79 307 P **PKiKP 16 26 29.1 -0.2**
baz=106,SNR=11
SML Sawmill 149.84 305 P **PKiKP 16 26 28.9 -0.4**
baz=107,SNR=21
HDA Harding Lake 149.91 311 P **PKPbc 16 26 28.5 +0.1**
baz=103,SNR=6.7
ILAR Eielson Array 149.96 312 PKP **PKPdf 16 26 21.2 -2.3**
comp=Z,5.2nm,0.8s,baz=308,slow=1.0,SNR=44
ILAR PKPbc **PKPbc 16 26 28.9 +0.3**
comp=Z,123nm,0.9s,baz=128,slow=2.2,SNR=224
ILAR pPKPbc **pPKPbc 16 26 58.3 -0.6**
comp=Z,21nm,0.6s,baz=134,slow=2.2,SNR=2.6
JCJ Chichijima 150.03 162 PKPbc **PKPbc 16 26 29.1 -0.8**
comp=Z,113nm,0.6s,baz=257,slow=19,SNR=6.3
O22K Cooper Landing 150.09 303 P **PKiKP 16 26 29.7 -0.1**
baz=108
MOY Mondy 150.10 77 *e*PKIKP **PKPdf 16 26 24.4 +0.1**
MOY pmax pmax
comp=Z,136nm,2.5s
PMR Palmer 150.14 305 P **PKiKP 16 26 29.6 -0.2**
baz=106,SNR=9.3
RC01 Rabbit Creek A 150.28 304 P **PKiKP 16 26 30.3 +0.1**
baz=107,SNR=16
COLA College 150.39 312 PKIKP **PKPbc 16 26 29.6 +0.1**
COLA College 150.39 312 **PKPbc 16 26 29.6 +0.1**
COLA College 150.39 312 P **PKPbc 16 26 29.7 +0.1**
baz=102
TCOL CIGG, UAF Yank 150.39 312 P **PKPbc 16 26 29.6 0.0**
baz=102,SNR=16
KDAK Kodiak Island 150.58 296 PKPbc **PKiKP 16 26 31.0 +0.1**
comp=Z,169nm,0.6s,baz=141,slow=0.3,SNR=105
KDAK Kodiak Island 150.58 296*d* *i*PKIKP **PKiKP 16 26 31.5 +0.6**
KDAK Kodiak Island 150.58 296 **PKPbc 16 26 30.3 +0.1**
KDAK Kodiak Island 150.58 296 P **PKiKP 16 26 31.0 +0.1**
baz=111
H24K Noodor Dome 150.58 314 P **PKiKP 16 26 30.4 -0.3**
baz=100,SNR=6.1
MCK McKinley 150.60 309 P **PKiKP 16 26 30.7 -0.1**
baz=103,SNR=34
ZAK Zakamensk 150.71 81 *e*PKIKP **PKPdf 16 26 24.7 -0.6**
ZAK *e* 16 26 58.9
ZAK pmax pmax
comp=Z,74nm,1.5s
ZAK pmax pmax
comp=Z,57nm,1.5s
OHAK Old Harbor 150.73 295 P **PKiKP 16 26 31.0 -0.1**
baz=111,SNR=17
NEA2 Nenana 150.84 311 P **PKPbc 16 26 30.8 +0.1**
baz=101,SNR=27
CAPN Captain Cook N 150.85 303 P **PKiKP 16 26 32.0 +0.7**
baz=107
SUA Susitna One 150.85 304 P **PKiKP 16 26 31.5 0.0**
baz=106
CUT Chulitna 150.88 306 P **PKiKP 16 26 31.4 +0.1**
baz=104,SNR=28
SII Sitkinak Islan 150.94 293 **PKiKP 16 26 31.9 +0.2**
SII Sitkinak Islan 150.94 293 P **PKiKP 16 26 31.9 +0.2**
baz=112,SNR=7.8
I23K Minto, Yukon-K 151.07 312 P **PKPbc 16 26 31.1 -0.1**
baz=100,SNR=18
SONM Songino Array 151.08 87 PKP **PKPdf 16 26 25.8 -0.2**
comp=Z,2.1nm,0.9s,baz=213,slow=2.1,SNR=17
SONM PKPbc **PKPbc 16 26 31.6 -0.3**
comp=Z,41nm,0.7s,baz=224,slow=3.2,SNR=136
SONM pPKPbc **pPKPbc 16 27 02.3 -0.6**
comp=Z,16nm,0.7s,baz=222,slow=3.7,SNR=4.0
TRF Thorofare Moun 151.13 308 P **PKiKP 16 26 32.0 -0.1**
baz=102,SNR=13
O20K Slope Mountain 151.35 301 P **PKiKP 16 26 32.4 -0.1**
baz=107
SKT Skwentna 151.35 305 P **PKiKP 16 26 32.3 -0.1**
baz=104,SNR=7.9
CHIR Chirikof Islan 151.40 291 P **PKiKP 16 26 32.4 -0.2**
baz=113
BJT Baijiatuan 151.43 109 PKIKP **PKPdf 16 26 26.0 -0.6**
BJT Baijiatuan 151.43 109 **PKPdf 16 26 26.0 -0.6**
BJI Beijing 151.45 109 PKPbc **PKPdf 16 26 26.0 -0.6**
SPCR Spurr Chakacha 151.46 303 P **PKPbc 16 26 32.4 +0.1**
baz=105
ULN Ulaanbaatar 151.47 88 PKIKP **PKPdf 16 26 25.6 -1.0**
ULN Ulaanbaatar 151.47 88 PKPdf **PKPdf 16 26 25.6 -1.0**
ULN PKPbc **PKPbc 16 26 32.9 0.0**
ULN Ulaanbaatar 151.47 88 PKP **PKPdf 16 26 27.6 +1.0**
ULN PKP **PKPbc 16 26 32.6 -0.3**
Q19K Cape Douglas, 151.49 298 P **PKPbc 16 26 32.6 +0.2**
baz=108,SNR=5.1
P19K Oil Pt 151.51 300 P **PKPbc 16 26 32.3 -0.1**
baz=107,SNR=6.0
BPAW Bear Paw Mtn. 151.57 309 P **PKiKP 16 26 32.7 -0.1**
baz=101,SNR=35
TOLK Toolik Lake Re 151.57 319 P **PKiKP 16 26 33.0 +0.3**
baz=94,SNR=7.2
COLD Coldfoot 151.70 316 P **PKiKP 16 26 33.7 +0.7**
baz=96,SNR=7.4
I21K Tanana 152.17 312 P **PKiKP 16 26 33.9 0.0**
baz=98,SNR=8.1
O19K Port Alsworth 152.19 301 P **PKPbc 16 26 33.5 -0.4**
baz=106,SNR=15
N19K Bonanza Creek 152.43 302 P **PKPbc 16 26 34.3 -0.2**
baz=104,SNR=14
O18K Koktuh Hills 152.53 300 P **PKPbc 16 26 34.6 0.0**
baz=106,SNR=19
L20K Farewell, AK 152.53 306 P **PKPbc 16 26 34.4 -0.2**
baz=102,SNR=7.2
H21K Melozitna Rive 152.57 313 P **PKiKP 16 26 35.2 +0.4**
baz=96,SNR=6.4
JNU Nakatsue 152.60 138 PKPbc **PKPbc 16 26 35.1 -0.6**
comp=Z,25nm,0.8s,baz=233,slow=0.5,SNR=14
M19K Big River Lodg 152.64 304 P **PKiKP 16 26 35.0 -0.1**
baz=102,SNR=7.6
K20K Telida 152.78 307 P **PKPbc 16 26 35.1 0.0**
baz=100,SNR=14
L19K White Mountain 152.92 305 **PKPbc 16 26 35.5 +0.1**
L19K PKPab **PKPab 16 26 47.9 +0.6**
L19K White Mountain 152.92 305 P **PKiKP 16 26 35.7 +0.1**
baz=102
J20K Nowinta River 152.95 309 P **PKiKP 16 26 35.5 0.0**
baz=98,SNR=6.8
CNBA Chernabura Isl 153.10 287 **PKPbc 16 26 36.0 0.0**
SDPT Sand Point 153.77 288 P **PKPbc 16 26 37.2 -0.2**
baz=112
A21K Barrow 153.89 325 P **PKPab 16 26 52.2 +1.1**
baz=82
JMN Monobe 154.22 143 **PKiKP 16 26 39.2 0.0**
JMN **PKPab 16 26 54.2 +0.7**
KSAR Wonju Array Be 155.14 129 PKIKP **PKPdf 16 26 31.5 -0.5**
KSAR Wonju Array Be 155.14 129 PKPdf **PKPdf 16 26 31.5 -0.5**
KSRS Korea Array 155.17 129 PKP **PKPdf 16 26 31.9 -0.1**
comp=Z,1.3nm,0.7s,baz=129,slow=0.8,SNR=6.1
KSRS PKPab **PKPab 16 26 56.2 -1.2**
comp=Z,3.1nm,0.8s,baz=215,slow=2.6,SNR=3.5
UNV Unalaska Valle 156.46 282 P **PKPab 16 27 03.4 +0.8**
baz=113
ANM Nome 157.84 309 P **PKPab 16 27 08.7 +0.4**
baz=88
MAJO Matsushiro 158.17 148 PKIKP **PKPdf 16 26 34.6 -1.4**
MAJO 16 27 09.8
MAJO Matsushiro 158.17 148 PKPdf **PKPdf 16 26 34.5 -1.4**
MAJ **PKPab 16 27 09.8 -0.6**
MAT Matsushiro 158.17 148 *e*PKP **PKPdf 16 26 35.2 -0.8**
MJAR Matsushiro Arr 158.17 148 PKP **PKPdf 16 26 34.7 -1.3**
comp=Z,3.1nm,0.9s,baz=150,slow=1.8,SNR=10.0
MJAR PKPab **PKPab 16 27 10.2 -0.2**
comp=Z,10.0nm,0.9s,baz=180,slow=4.8,SNR=11
CN2 Changchun 158.96 115 *e*PKP **PKPdf 16 26 35.0 -1.6**
CN2 PP **PP 16 30 57.0 +1.7**
CN2 SS SS 16 50 48.0 -1.4
CN2 AMB AMB
comp=Z,100nm,8.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,300nm,20.0s
BOD Bodaibo 159.32 70 *e*PKIKP **PKPdf 16 26 34.2 -2.4**
BOD pmax pmax
comp=Z,21nm,2.3s
MDJ Mudanjiang 161.60 120 PKP **PKPdf 16 26 39.3 -0.2**
TIXI Tiksi 161.65 23 PKPab **PKPab 16 27 25.3 +0.6**
comp=Z,5.1nm,0.6s,baz=52,slow=2.7,SNR=4.0
USRK Usuriysk Ar. 162.43 125 PKPab **PKPab 16 27 27.9 -0.9**
comp=Z,3.3nm,0.9s,baz=198,slow=5.4,SNR=5.2
KLR Kul'dur 165.81 111 PKP **PKPdf 16 26 42.2 -1.1**
comp=Z,3.3nm,0.9s,baz=253,slow=0.8,SNR=9.3
KLR PKPab **PKPab 16 27 42.6 -1.0**
comp=Z,3.4nm,0.7s,baz=262,slow=3.2,SNR=6.7
ASAJ Asahikawa 166.44 149 PKP **PKPdf 16 26 42.8 -1.2**
comp=Z,9.3nm,0.8s,baz=338,slow=5.4,SNR=2.2
ASAJ PKPab **PKPab 16 27 46.1 -0.3**
comp=Z,8.5nm,1.0s,baz=281,slow=33,SNR=1.3
BILL Bilibino 166.48 337 *e*PKIKP **PKPdf 16 26 40.3 -2.9**
BILL pmax pmax
comp=Z,14nm,1.5s
YAK Yakutsk 167.09 54 PKP **PKPdf 16 26 41.5 -2.3**
comp=Z,0.8nm,0.3s,baz=250,slow=5.1,SNR=6.8
YAK PKPab **PKPab 16 27 49.0 +0.1**
comp=Z,1.6nm,0.4s,baz=108,slow=2.0,SNR=2.1
YSS Yuzh-Sakhalins 169.04 144 *i* PKIKP **PKPdf 16 26 44.6 -1.0**
YSS *e* 16 27 55.8
YSS *e* 16 31 46.7
YSS *e*SS SS 16 52 28.8 -3.3
SEY Seymchan 173.25 359 PKP **PKPdf 16 26 44.3 -3.0**
comp=Z,7.0nm,0.9s,baz=149,slow=0.4,SNR=6.9
SEY PKPab **PKPab 16 28 16.6 +0.5**
comp=Z,3.5nm,0.9s,baz=163,slow=19,SNR=2.4
PET Petropavlovsk 175.07 232 *i* PKIKP **PKPdf 16 26 45.7 -2.5**
PET *e* 16 32 18.2
PET *e*PPP PPP 16 36 29.8
PET *e*PPS PPS 16 46 23.1
PET *e*SS SS 16 53 29.3 -2.2
PET pmax pmax
comp=Z,300nm,18.1s
PEA0B Petropavlovsk- 175.54 228 PKP2 **PKPab 16 28 27.0 +0.4**
PEA0B Petropavlovsk- 175.54 228 **PKPab 16 28 27.0 +0.4**
PETK Petropavlovsk- 175.54 228 PKP **PKPdf 16 26 46.5 -1.9**
comp=Z,12nm,1.0s,baz=149,slow=3.0,SNR=8.3
PETK PKPab **PKPab 16 28 26.8 +0.1**
comp=Z,14nm,0.9s,baz=119,slow=7.0,SNR=16
PETK Petropavlovsk- 175.54 228 PKPdf **PKPdf 16 26 46.4 -1.9**
PETK **PKPab 16 28 26.2 -0.5**

*SKHL **30** 16:08:38.7±0.3, 43.40N×148.00E, h31km±4km, mb4.0/3*
JMA 30 16:08:40.8±0.3, 44.49N×146.33E, h176km, M2.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**0.57**	**217**	*i* P	Pn	16 09 05.3	-0.1
YUK				AMB	AMB	16 09 06.9	
	150nm,0.6s						
YUK				*e*S	Sn	16 09 25.3	+1.0
YUK				A	A	16 09 26.0	
	280nm,0.6s						
YUK				A	A	16 09 26.0	
	330nm,0.6s						
GRPR	**Tuman**	**0.64**	**219**	*i* P	Pn	16 09 05.9	+0.1
GRPR				AMB	AMB	16 09 06.0	
	80nm,0.4s						
GRPR				*e*S	Sn	16 09 26.5	+1.6
GRPR				A	A	16 09 30.0	
	164nm,0.4s						
GRPR				A	A	16 09 30.0	
	184nm,0.4s						
GLVR	**Golovnino**	**0.95**	**218**	*e*P	Pn	16 09 07.6	-0.1
GLVR				*e*S	Sn	16 09 29.0	+0.6
GLVR				A	A	16 09 31.9	
	381nm,0.4s						
GLVR				A	A	16 09 31.9	
	356nm,0.4s						
JRA	**Rausu**	**1.03**	**238**	P	Pn	16 09 08.3	0.0
JNSB	**Nemuroshibetsu**	**1.19**	**234**	P	Pn	16 09 10.0	+0.4
NEM2	**Nemuro 2**	**1.20**	**201**	P	Pn	16 09 09.3	-0.4
NEM2				*e*S	Sn	16 09 31.3	-0.7
KUR	**Kuril'sk**	**1.32**	**55**	*e*P	Pn	16 09 08.8	-1.9
KUR				AMB	AMB	16 09 11.8	
	54nm,0.5s						
JNK	**Nakash**	**1.47**	**233**	P	Pn	16 09 12.4	+0.3
JKHN	**Kushirohamanak**	**1.64**	**211**	P	Pn	16 09 13.8	0.0
JKHN				*e*S	Sn	16 09 39.3	0.0
JTKR	**Abashiri--Toko**	**1.82**	**254**	P	Pn	16 09 15.5	-0.1
AKK	**Akkeshi**	**1.82**	**217**	*e*P	Pn	16 09 15.2	-0.5
AKK				*e*S	Sn	16 09 42.6	-0.1
JAK	**Akkeshi**	**1.91**	**219**	P	Pn	16 09 16.6	+0.1
JAK				*e*S	Sn	16 09 44.3	+0.1
JMP	**Maruseppu**	**2.19**	**258**	P	Pn	16 09 19.6	-0.1
JAR	**Ashorobuto**	**2.20**	**238**	P	Pn	16 09 20.8	+1.0
JOB	**Onbets**	**2.41**	**230**	P	Pn	16 09 22.7	+0.6
JOB				*e*S	Sn	16 09 54.8	+0.6
JKK2	**Kamakawa 2**	**2.65**	**258**	P	Pn	16 09 25.5	+0.5
JSE	**Soyaes**	**2.71**	**281**	P	Pn	16 09 25.0	-0.7
JCH	**Churui**	**2.86**	**230**	P	Pn	16 09 27.5	0.0
JCH				*e*S	Sn	16 10 02.9	-0.9
JFR	**Furan**	**3.01**	**245**	P	Pn	16 09 30.2	+0.8
JNBK	**Urakawa-nobuka**	**3.42**	**231**	P	Pn	16 09 33.6	-0.8
JNBK				*e*S	Sn	16 10 13.3	-2.9

MEX 30 16:25:12.8±1.2, 16.03N×97.59W, h16km±10km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEIG	**Puerto Escondi**	**0.43**	**94**	*e*P	Pg	16 25 19.8	-1.6
PEIG				*e*S	Sg	16 25 26.0	-1.3
PNIG	**Pinotepa**	**0.63**	**305**	*e*P	Pg	16 25 23.0	-2.2
PNIG				*e*S	Sg	16 25 31.0	-2.6
YOIG	**Yosondua**	**0.82**	**3**	*i* P	Pg	16 25 25.6	-3.4
YOIG				*e*S	Sg	16 25 35.8	-4.0
TXIG	**Tlaxiaco**	**1.23**	**352**	*i* P	Pn	16 25 32.2	-3.5
TXIG				*e*S	Sb	16 25 47.2	-4.4
VHO	**Vista Hermosa**	**1.32**	**38**	*e*P	Pn	16 25 33.7	-3.1
VHO				*e*S	Sb	16 25 49.9	-4.4
HUIG	**Huatulco**	**1.45**	**100**	*e*P	Pn	16 25 34.8	-3.6
HUIG				*e*S	Sn	16 25 51.4	-5.7
MGIG	**Malinaltepec**	**1.56**	**320**	*e*P	Pn	16 25 38.2	-1.9
MGIG				*e*S	Sn	16 25 56.4	-3.7
TLIG	**Tlapa**	**1.79**	**329**	*e*P	Pn	16 25 41.4	-1.8
TLIG				*e*S	Sn	16 26 05.2	-0.5
HLIG	**Huajuapan de L**	**1.80**	**353**	*e*P	Pn	16 25 40.3	-3.1
HLIG				*e*S	Sn	16 26 03.4	-2.8
FTIG	**Fresnillo de T**	**1.94**	**345**	*e*P	Pn	16 25 43.1	-2.1
FTIG				*e*S	Sn	16 26 05.7	-3.7
DAIG	**Los Arroyos**	**2.21**	**297**	*e*P	Pn	16 25 46.6	-2.2
DAIG				*e*S	Sn	16 26 16.9	+1.0

*IDC **30** 16:27:18.8±1.3, 31.78S×179.35W, h95km±13km, mb3.8/4, mb1 3.9/6, mb1mx3.6/29, mbtmp4.2/6, Error ellipse: s-maj=24.8km s-min=11.0km az=115.0*
*NEIC **30** 16:27:19.1±1.0, 31.77S±0.09×179.2W±0.2, h92km±7km, mb4.4/13, Error ellipse: s-maj=26.7km s-min=7.9km az=112.0*
*NOU **30** 16:27:34.0, 33.26S×179.26W, h195km, mb3.9/9, South of Kermadec Islands*
ISC 30 16:27:19.0±0.6, 31.80S±0.08×179.2W±0.2, h100km, n41, σ1.529/36, mb4.3/10, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.76**	**24**	P	**Pn**	**16 28 01.2**	**-0.5**
	46nm,0.3s,baz=114,slow=23,SNR=2.1						
RAO				S	**Sn**	**16 28 35.7**	**+1.3**
	165nm,0.3s,baz=48,slow=23,SNR=9.1						
RAO	**Raoul Island**	**2.76**	**24**	Pn	**Pn**	**16 28 01.0**	**-0.7**
RAO	**Raoul Island**	**2.76**	**24**	P	**Sn**	**16 28 37.8**	**+3.4**
MXZ	**Matakaoa Point**	**6.11**	**199**	Pn	**Pn**	**16 28 47.6**	**+0.8**
URZ	**Urewera**	**7.12**	**204**	P	**Pn**	**16 28 58.7**	**-1.8**
	2.1nm,0.3s,baz=262,slow=5.6,SNR=40						
URZ				S	**Sn**	**16 30 17.9**	**-2.0**
	6.7nm,0.3s,baz=173,slow=22,SNR=12						
HIZ	**Hauiti**	**8.29**	**214**	Pn	**Pn**	**16 29 20.1**	**+3.8**
TUWZ	**Tuamarina**	**11.08**	**208**	Pn	Pn	16 29 49.0	-5.3
MQZ	**McQueen's Vall**	**13.52**	**206**	Pn	Pn	16 30 19.4	-7.1
STKA	**Stephens Creek**	**33.19**	**259**	P	**P**	**16 33 45.5**	**-0.8**
	0.8nm,0.8s,baz=128,slow=19,SNR=1.7						
STKA	**Stephens Creek**	**33.19**	**259**	P	**P**	**16 33 45.9**	**-0.4**
BBOO	**Buckleboo**	**37.63**	**256**	P	**P**	**16 34 25.5**	**+1.2**
AS31	**Alice Springs**	**42.04**	**269**	P	**P**	**16 35 00.2**	**-0.8**
ASAR	**Alice Springs**	**42.04**	**269**	P	**P**	**16 35 00.7**	**-0.3**
	2.5nm,0.7s,baz=105,slow=7.0,SNR=37						
WR0	**Warramunga Arr**	**42.98**	**274**	P	**P**	**16 35 08.2**	**-0.3**
WR0				IAmb	IAmb	16 35 19.5	
	comp=Z,6.9nm,1.4s						
WB2	**Warramunga Arr**	**43.15**	**274**	P	**P**	**16 35 09.6**	**-0.3**
WB2				IAmb	IAmb	16 35 15.0	
	comp=Z,8.2nm,1.4s						
WRAB	**Tennant Creek**	**43.15**	**274**	P	**P**	**16 35 09.9**	**0.0**
WRAB				IAmb	IAmb	16 35 12.9	
	comp=Z,1.1nm,1.4s						
WRA	**Warramunga Arr**	**43.16**	**274**	P	**P**	**16 35 09.4**	**-0.6**
	comp=Z,1.9nm,0.4s,baz=112,slow=7.9,SNR=63						
WRA	**Warramunga Arr**	**43.16**	**274**	P	**P**	**16 35 09.4**	**-0.6**
WB0	**Warramunga Arr**	**43.19**	**275**	P	**P**	**16 35 10.1**	**-0.2**
WB0				IAmb	IAmb	16 35 30.0	
	comp=Z,5.3nm,1.2s						
MTN	**Manton Dam**	**49.22**	**281**	P	**P**	**16 35 57.0**	**-0.5**
KNRA	**Kununurra**	**49.82**	**276**	P	**P**	**16 36 01.9**	**-0.2**

FITZ	Fitzroy Crossi	51.36	272	P	P	16 36 13.6	0.0
FITZ				IAmb	IAmb	16 36 28.0	
	comp=Z,7.5nm,1.4s						
QSPA	South Pole Qui	58.31	180	P	P	16 37 05.0	+1.7
	comp=Z,2.2nm,0.5s,baz=198,slow=0.1,SNR=18						
QSPA	South Pole Qui	58.31	180	P	P	16 37 05.0	+1.7
QSPA				IAmb	IAmb	16 37 07.1	
	comp=Z,5.7nm,1.1s						
SNAA	Sanae	76.79	179	P	P	16 38 59.6	+0.3
SNAA				IAmb	IAmb	16 39 06.7	
	comp=Z,6.0nm,1.5s						
H03S2	Juan Fernandez	80.54	124	T	T	18 08 07.2	
	baz=236,slow=74						
H03S1	Juan Fernandez	80.55	124	T	T	18 08 08.2	
	baz=236,slow=74						
H03S3	Juan Fernandez	80.56	124	T	T	18 08 16.5	
	baz=236,slow=74						
H03N3	Juan Fernandez	80.74	124	T	T	18 08 18.9	
	baz=240,slow=72						
H03N2	Juan Fernandez	80.74	124	T	T	18 08 20.5	
	baz=240,slow=72						
H03N1	Juan Fernandez	80.76	124	T	T	18 08 19.6	
	baz=240,slow=72						
MKAR	Makanchi Array	117.89	310	PKP	PKPdf	16 45 52.7	-0.8
	comp=Z,0.9nm,0.8s,baz=20,slow=1.4,SNR=4.8						
KBZ	Khabaz	145.02	302	PKP	PKPdf	16 46 44.6	+0.3
	comp=Z,2.0nm,0.8s,baz=116,slow=3.2,SNR=4.4						
FINES	FINESS Array B	146.09	338	PKPbc	PKPdf	16 46 44.9	-0.7
	comp=Z,5.5nm,0.5s,baz=26,slow=3.3,SNR=42						
NOA	NORSAR Array B	149.96	350	PKPbc	PKiKP	16 46 57.2	-0.7
	comp=Z,0.3nm,0.3s,baz=18,slow=4.2,SNR=3.4						
AKASG	Malin Array Be	151.76	320	PKPbc	PKiKP	16 47 01.4	-0.4
	comp=Z,1.3nm,0.5s,baz=56,slow=2.4,SNR=9.2						
AKASG	Malin Array Be	151.76	320		PKiKP	16 47 01.9	+0.1
BRTR	Keskin Array B	152.33	296	PKPbc	PKPbc	16 47 02.1	-1.2
	comp=Z,1.8nm,0.5s,baz=130,slow=4.5,SNR=4.3						
BRTR	Keskin Array B	152.33	296		PKPbc	16 47 02.3	-1.1
TORD	Torodi Ar. Bea	161.42	183	PKPab	PKPab	16 47 52.5	-0.5
	comp=Z,1.3nm,0.8s,baz=177,slow=4.5,SNR=5.1						
TORD	Torodi Ar. Bea	161.42	183	PKPdf	PKPdf	16 47 06.7	-1.9
TORD					PKPab	16 47 52.6	-0.5

MAN 30 16:31:06.0, 16.14N×120.33E, h4km, mb4.3, ML3.1, MS2.8, Luzon

*SOME **30** 16:34:12.9, 43.25N×78.63E, h15km*
*KRNET **30** 16:34:12.9±0.1, 43.27N×78.64E, h15km, mb2.5*
*NNC **30** 16:34:12.3±0.3, 43.25N×78.62E, h0km, mb2.3, mpv2.8, Error ellipse: s-maj=3.3km s-min=1.8km az=169.0*
ISC 30 16:34:12.8±1.0, 43.28N±0.02×78.58E±0.02, h4km±9km, n37, σ0.97/71, 12C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KPKS	Kokpek	0.20	22	*e*P	Pg	16 34 17.3	+0.5
KPKS	baz=9.0			*e*S	Sg	16 34 20.3	+0.9
KPKS	Kokpek	0.20	22	*e*P	Pg	16 34 17.3	+0.5
KPKS	3.6nm,0.1s			*e*S	Sg	16 34 20.3	+0.9
SATY	39nm,0.2s Saty	0.26	210	*e*P	Pg	16 34 18.3	+0.5
SATY	baz=20			*e*S	Sg	16 34 22.3	+1.1
SATY	baz=20 Saty	0.26	210	*e*P	Pg	16 34 18.3	+0.5
SATY	25nm,0.1s			*e*S	Sg	16 34 22.3	+1.1
SATY	80nm,0.1s Saty	0.26	210	P	Pg	16 34 18.3	+0.5
SATY	32nm,0.1s			S	Sg	16 34 22.2	+1.1
UZB	80nm,0.1s Uzymbulak	0.35	113	⇓*e*P	Pg	16 34 18.9	-0.7
UZB	baz=13			⇓*e*S	Sg	16 34 23.1	-1.1
UZB	baz=13 Uzynbulak	0.35	113	⇓*e*P	Pg	16 34 18.9	-0.7
UZB	13nm,0.0s			*e*S	Sg	16 34 23.1	-1.1
UZB	66nm,0.1s Uzynbulak	0.35	113	P	Pg	16 34 18.9	-0.7
UZB	13nm,0.0s			S	Sg	16 34 23.1	-1.1
SHLS	39nm,0.1s Shalkode	0.65	101	*e*P	Pn	16 34 30.3	+1.3
SHLS	baz=96			*e*S	Sn	16 34 42.5	+2.7
SHLS	baz=96 Shalkode	0.65	101	*e*P	Pn	16 34 30.2	+1.3
SHLS	2.4nm,0.1s			*e*S	Sn	16 34 42.5	+2.7
SHLS	11nm,0.3s Shalkode	0.65	101	P	Pn	16 34 30.2	+1.3
SHLS	2.4nm,0.1s			S	Sn	16 34 42.5	+2.7
PDGK	11nm,0.3s Podgornoye	0.66	86	P	Pg	16 34 24.5	-1.1
PDGK	1.9nm,0.1s			S	Sg	16 34 32.8	-1.4
ANVS	8.4nm,0.2s Anan'yevo	0.84	234	⇑*i*P	Pg	16 34 29.1	+0.2
ANVS	baz=36			⇑*i*S	Sg	16 34 40.4	+0.7
KOTS	baz=36 Kotyrbulak	1.08	268	*e*P	Pn	16 34 34.1	-0.7
KOTS	baz=69			*e*S	Sn	16 34 49.2	-1.1
KOTS	baz=69 Kotyrbulak	1.08	268	*e*P	Pn	16 34 34.1	-0.7
KOTS	1.9nm,0.1s			*e*S	Sn	16 34 49.1	-1.1
MDOK	11nm,0.2s Medeo	1.13	265	⇑P	Pn	16 34 34.4	-1.1
MDOK	0.6nm,0.5s			⇓S	Sn	16 34 50.1	-1.4
KNDC	1.7nm,0.5s Almaty	1.18	267	⇑P	Pn	16 34 35.4	-0.8
KNDC	6.4nm,0.4s			⇓S	Sg	16 34 52.1	+1.2
TNSS	8.0nm,0.4s Tian-Shan	1.22	259	*e*P	Pn	16 34 36.1	-0.9
TNSS	baz=60			*e*S	Sb	16 34 52.7	-0.3
TNSS	baz=60 Tian-Shan	1.22	259	*e*P	Pn	16 34 36.1	-0.9
TNSS	0.7nm,0.1s			*e*S	Sb	16 34 52.7	-0.3
TNSS	1.8nm,0.2s Tian-Shan	1.22	259	P	Pn	16 34 36.1	-0.9
TNSS	0.7nm,0.1s			S	Sb	16 34 52.7	-0.3
CHKK	1.8nm,0.2s Chushkaly	1.29	297	*e*P	Pb	16 34 37.5	-0.2
CHKK	baz=97			*e*S	Sb	16 34 55.1	+0.5
CHKK	baz=97 Chushkaly	1.29	297	*e*P	Pb	16 34 37.5	-0.2
CHKK	1.3nm,0.1s			*e*S	Sb	16 34 55.1	+0.5
CHKK	4.0nm,0.2s Chushkaly	1.29	297	P	Pb	16 34 37.5	-0.2
CHKK	1.3nm,0.1s			S	Sb	16 34 55.1	+0.5
DJR	4.0nm,0.2s Jarkent	1.37	39	*e*P	Pb	16 34 38.1	-0.9
DJR	1.6nm,0.1s			*e*S	Sb	16 34 56.1	-0.7
DJR	3.1nm,0.1s Jarkent	1.37	39	P	Pb	16 34 38.1	-0.9
DJR	1.6nm,0.1s			S	Sb	16 34 56.1	-0.7
KTBS	3.1nm,0.1s Karatobe	1.45	288	*e*P	Pb	16 34 40.3	-0.1
KTBS	baz=88			*e*S	Sb	16 34 59.8	+0.6
KTBS	baz=88 Karatobe	1.45	288	*e*P	Pb	16 34 40.2	-0.1
KTBS	1.3nm,0.1s			*e*S	Sb	16 34 59.7	+0.6
KTBS	4.6nm,0.3s Karatobe	1.45	288	P	Pb	16 34 40.2	-0.1
KTBS	1.3nm,0.1s			S	Sb	16 34 59.7	+0.6
	4.6nm,0.3s						
TARG	Taragay, Kyrgy	1.65	201	⇑*i*P	Pb	16 34 42.9	-1.2
TARG	baz=2.0			⇑*i*S	Sg	16 35 06.1	+0.1
ULHL	baz=2.0 Ulahol	2.01	240	⇑*i*P	Pb	16 34 49.9	-0.2
ULHL	baz=41			⇑*i*S	Sg	16 35 16.5	-0.9
KAPS	baz=41 Kapalarasan	2.08	15	*e*P	Pb	16 34 51.0	-0.2
KAPS	0.6nm,0.1s			*e*S	Sg	16 35 18.5	-1.1
KAPS	2.2nm,0.1s Kapalarasan	2.08	15	Pg	Pb	16 34 50.9	-0.2
KAPS	0.6nm,0.1s			Lg	Lg	16 35 18.5	
BOOM	2.2nm,0.1s Boomskoye usch	2.10	249	⇑*e*P	Pb	16 34 51.2	-0.3
BOOM	baz=50			⇑*i*S	Sb	16 35 18.3	+0.3
KRBS	baz=50 Karabastau	2.16	282	*e*P	Pb	16 34 52.9	+0.5
KRBS	0.7nm,0.2s			*e*S	Sg	16 35 21.6	-0.5
KRBS	1.4nm,0.2s Karabastau	2.16	282	Pg	Pb	16 34 52.9	+0.5
KRBS	0.7nm,0.2s			Lg	Lg	16 35 21.6	
TKM2	1.4nm,0.2s Tokmak 2	2.22	262	⇑*i*P	Pb	16 34 52.5	-1.1
TKM2	baz=62			⇑*i*S	Sb	16 35 21.3	-0.1
TKM2	baz=62 Tokmak 2	2.22	262	⇓Pg	Pn	16 34 50.6	0.0
TKM2	2.8nm,1.3s			⇓Lg	Lg	16 35 23.4	
	0.8nm,0.3s						

*TUL **30** 16:37:11.1±1.8, 35.97N±0.01×97.21W±0.01, h7km±6km, ML2.6, mb_Lg2.4/7(NEIC), Error ellipse: s-maj=2.0km s-min=1.5km az=146.0*
NEIC 30 16:37:10.9±0.7, 35.98N±0.01×97.23W±0.02, h14km±2km, Error ellipse: s-maj=2.4km s-min=1.6km az=132.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK029	Liberty Lake	0.26	225		Pg	16 37 16.5	0.0
OK029				Sg	Sg	16 37 20.3	+0.1
OK031	S. Brethren Rd	0.32	95	Pg	Pg	16 37 17.5	0.0
OK031				Sg	Sg	16 37 21.9	-0.1
OK030	Cody Creek RV	0.37	98	Pg	Pg	16 37 18.3	0.0
OK030				Sg	Sg	16 37 23.5	+0.1
OK025	Westminster Rd	0.41	192	Pg	Pg	16 37 19.1	0.0
OK025				Sg	Sg	16 37 24.9	+0.3
BCOK	Bluff Creek, N	0.45	224	Pg	Pg	16 37 19.7	-0.1
BCOK				Sg	Sg	16 37 26.2	+0.3
QUOK	Quay	0.46	66	Pg	Pg	16 37 20.1	-0.1
QUOK				Sg	Sg	16 37 26.6	+0.1
OKCFA	Oklahoma City	0.59	198	Pg	Pg	16 37 22.3	-0.2
OKCFA				Sg	Sg	16 37 30.8	+0.4
FNO	Franklin	0.73	191	Pg	Pg	16 37 24.7	-0.5
FNO				Sg	Sg	16 37 35.1	+0.2
CROK	Carrier	0.80	311	Pg	Pg	16 37 26.4	-0.1
GC02	Grant County #	1.01	330	Pg	Pb	16 37 30.1	-0.2
KAN13	South Haven SW	1.05	349	Pg	Pb	16 37 30.8	-0.2
T35A	Sooner Cattle	1.10	32	Pg	Pb	16 37 31.4	-0.4
KAN14	Manchester OK	1.14	329	Pg	Pb	16 37 32.5	0.0
KAN14				Sg	Sg	16 37 47.8	0.0
OK032	Salt Plains WL	1.14	316	Pg	Pb	16 37 32.3	-0.2
KAN17	Caldwell West	1.15	338	Pg	Pb	16 37 32.3	-0.3
KAN17				Sg	Sg	16 37 48.0	0.0
TUL1	Leonard	1.17	93	Pg	Pn	16 37 31.9	-1.0
TUL1				Sg	Sb	16 37 47.7	-0.3
KAN09	Caldwell North	1.20	345	Pn	Pb	16 37 33.6	+0.1
KAN05	Bluff City Nor	1.24	336	Pn	Pb	16 37 34.4	+0.2
KS20	Mayfield South	1.27	348	Pn	Pb	16 37 34.7	0.0
KAN10	Anthony SW Sta	1.34	329	Pn	Pb	16 37 36.0	+0.1
KAN06	Argonia West S	1.36	338	Pn	Pb	16 37 36.2	0.0
X34A	Smith Ranch, M	1.46	200	Pn	Pb	16 37 37.7	-0.2
U32A	Winter Ranch, comp=Z,24nm,0.8s	1.49	286	IAmb_Lg		16 38 00.8	
WMOK	Wichita Mounta	1.77	226	Pn	Pb	16 37 42.7	-0.6
X37A	Clayton	2.06	132	Pn	Pn	16 37 46.3	+1.2
AMTX	Amarillo comp=Z,5.5nm,0.8s	3.79	255	IAmb_Lg		16 39 11.2	
X40A	Basin Creek Fa comp=Z,6.9nm,0.9s	3.89	111	IAmb_Lg		16 39 17.9	
435B	Jarrell comp=Z,15nm,0.9s	5.19	183	IAmb_Lg		16 39 55.7	
JCT	Junction City comp=Z,6.4nm,0.9s	5.89	202	IAmb_Lg		16 40 19.1	

IDC 30 16:44:57.5±3.8, 20.97S×175.99W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/20, mbtmpg3.5/2, Error ellipse: s-maj=300.6km s-min=69.4km az=162.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	46.24	257	P	P	16 53 25.6	+0.6
	0.6nm,0.6s,baz=94,slow=7.4,SNR=20						
ASAR				PcP	PcP	16 54 59.4	-1.3
	0.2nm,0.6s,baz=103,slow=4.2,SNR=4.4						
WRA	Warramunga Arr	46.40	262	P	P	16 53 25.5	-0.7
	0.2nm,0.3s,baz=98,slow=7.3,SNR=12						
AKASG	Malin Array Be	144.32	332	PKP	PKPdf	17 04 36.1	+0.7
	0.6nm,0.4s,baz=38,slow=3.6,SNR=4.9						

MEX 30 16:49:44.0±1.0, 16.03N×97.59W, h19km±74km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEIG	Puerto Escondi	0.42	94	*e*P	Pg	16 49 51.1	-1.6
PEIG				*i* S	Sg	16 49 57.3	-1.4
PNIG	Pinotepa	0.63	305	*e*P	Pb	16 49 54.3	-2.1
PNIG				*e*S	Sb	16 50 02.5	-2.4
YOIG	Yosondua	0.82	3	*e*P	Pb	16 49 56.9	-3.0
YOIG				*e*S	Sb	16 50 07.0	-3.7
TXIG	Tlaxiaco	1.23	352	*e*P	Pn	16 50 03.6	-2.9
TXIG				*e*S	Sb	16 50 18.4	-4.0
MGIG	Malinaltepec	1.56	320	*i* P	Pn	16 50 09.9	-1.0
MGIG				*e*S	Sn	16 50 30.8	+0.1
HLIG	Huajuapan de L	1.80	353	*e*P	Pn	16 50 11.3	-3.0
HLIG				*e*S	Sn	16 50 33.5	-3.2

MEX 30 16:50:31.9±0.3, 14.04N×93.28W, h97km±143km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		1.66	2	*e*P	Pn	16 50 58.8	-1.3

MEX 30 16:53:56.9±1.4, 16.04N×97.59W, h20km±80km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEIG	Puerto Escondi	0.42	96	*e*P	Pb	16 54 03.8	-1.9
PEIG				*i* S	Sb	16 54 09.9	-1.7
PNIG	Pinotepa	0.63	304	*e*P	Pb	16 54 07.1	-2.1
PNIG				*e*S	Sb	16 54 15.2	-2.4
YOIG	Yosondua	0.81	3	*e*P	Pb	16 54 09.7	-2.9
YOIG				*e*S	Sb	16 54 19.7	-3.4
TXIG	Tlaxiaco	1.22	352	*e*P	Pn	16 54 16.3	-2.8
TXIG				*e*S	Sb	16 54 29.9	-4.9
VHO	Vista Hermosa	1.31	38	*i* P	Pn	16 54 17.7	-2.6
VHO				*e*S	Sn	16 54 33.8	-3.5
HUIG	Huatulco	1.45	101	*e*P	Pn	16 54 22.1	+0.1
HUIG				*e*S	Sn	16 54 33.2	-7.2
MGIG	Malinaltepec	1.55	320	*e*P	Pn	16 54 20.5	-3.1
MGIG				*e*S	Sn	16 54 43.5	+0.2
TLIG	Tlapa	1.78	328	*e*P	Pn	16 54 20.7	-6.0
TLIG				*e*S	Sn	16 54 46.9	-1.9
HLIG	Huajuapan de L	1.79	353	*e*P	Pn	16 54 15.8	-11
HLIG				*e*S	Sb	16 54 51.0	-0.3
FTIG	Fresnillo de T	1.93	344	*e*P	Pn	16 54 28.2	-0.5
FTIG				*e*S	Sn	16 54 51.6	-0.9
FTIG				*e*S	Sb	16 54 54.6	-0.6
DAIG	Los Arroyos	2.21	296	*e*P	Pn	16 54 30.8	-1.7
DAIG				*e*S	Sn	16 54 56.0	-3.2

MEX 30 17:17:25.5±1.3, 14.31N×93.76W, h20km±54km, MD4.3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		1.48	21	*e*P	Pn	17 17 47.9	-3.2
PCIG				*e*S	Sn	17 18 04.9	-4.9
CCIG	Comitan	2.51	38	*e*P	Pn	17 18 02.8	-2.6
CCIG				*e*S	Sn	17 18 32.6	-2.8
TGIG		2.53	14	*e*P	Pn	17 18 04.0	-1.5
TGIG				*e*S	Sn	17 18 35.4	-0.4
HUIG	Huatulco	2.69	303	*e*P	Pn	17 18 04.7	-2.9
HUIG				*e*S	Sn	17 18 36.4	-3.2
CMIG	Matias Romero	2.97	339	*e*P	Pn	17 18 08.9	-2.5
CMIG				*e*S	Sn	17 18 43.1	-3.4

*MOS **30** 17:25:53.7±1.0, 18.10N×101.22W, h54km, mb5.7/16, MS4.8/38, Error ellipse: s-maj=6.4km s-min=3.6km az=94.6*
*MEX **30** 17:25:54.8±1.0, 17.84N×101.52W, h50km±7km, MD5.5*
*NEIC **30** 17:25:54.2±2.4, 18.04N±0.07×101.34W±0.08, h42km±1km, mb5.5/714, Ms_20 4.9/226, Mwb5.5/29, Mww5.4, Mwc5.4(GCMT), Error ellipse: s-maj=14.0km s-min=9.4km az=228.0*
*NEIC **30** 17:25:56.7, 18.09N×101.28W, h45km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-1.54; $M_{\theta\theta}$0.79; $M_{\phi\phi}$0.75; $M_{r\theta}$-0.86; $M_{\theta\phi}$-0.61; $M_{\phi r}$1.08; Fault plane solution: $M_0$2.01000×10^{17} NP1:ϕ_s310.48000°, δ23.48000°, λ-97.98000°. NP2:ϕ_s139.16000°, δ66.76000°, λ-86.55000°. Principal axes: T 1.9216, Plg22.0000°, Azm227.0000°; N 0.1696, Plg3.0000°, Azm318.0000°; P -2.0912, Plg68.0000°, Azm56.0000°;*
*IDC **30** 17:25:56.5±0.6, 18.03N×101.27W, h68km±4km, mb4.8/46, mb1 4.8/51, mb1mx4.7/59, mbtmp5.0/51, MS4.8/24, Ms1 4.8/24, ms1mx4.8/29 Error ellipse: s-maj=14.3km s-min=6.9km az=51.0*
*GCMT **30** 17:25:57.2±0.1, 17.99N±0.01×101.33W±0.01, h51km, MW5.4/138, Moment Tensor Solution. s133,c223; s138,c243; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.01±.03; $M_{\theta\theta}$0.97±.02; $M_{\phi\phi}$0.03±.02; $M_{r\theta}$-1.04±.02; $M_{\theta\phi}$-0.23±.02; $M_{\phi r}$1.02±.02; Best double couple: $M_0$1.77100×10^{17} NP1:ϕ_s266.00000°, δ22.00000°, λ-129.00000°. NP2:ϕ_s127.00000°, δ74.00000°, λ-76.00000°. Principal axes: T 1.6810, Plg27.0000°, Azm206.0000°; N 0.1750, Plg13.0000°, Azm303.0000°; P -1.8600, Plg59.0000°, Azm57.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **30** 17:25:58, 17.95N×101.27W, h65km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.91; $M_{\theta\theta}$1.03; $M_{\phi\phi}$-0.12; $M_{r\theta}$-1.01; $M_{\theta\phi}$-0.25; $M_{\phi r}$0.91; Fault plane solution: $M_0$1.69000×10^{17} NP1:ϕ_s259.00000°, δ24.00000°, λ-134.00000°. NP2:ϕ_s126.00000°, δ73.00000°, λ-73.00000°. Principal axes: T 1.6738, Plg26.0000°, Azm202.0000°; N 0.0353, Plg16.0000°, Azm301.0000°; P -1.7091, Plg58.0000°, Azm59.0000°;*
*NEIC **30** 17:26:05, 18.09N×101.28W, h60km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-1.11; $M_{\theta\theta}$0.78; $M_{\phi\phi}$0.33; $M_{r\theta}$-0.85; $M_{\theta\phi}$-0.27; $M_{\phi r}$0.77; Fault plane solution: $M_0$1.54000×10^{17} NP1:ϕ_s290.00000°, δ21.00000°, λ-106.00000°. NP2:ϕ_s127.00000°, δ69.00000°, λ-83.00000°. Principal axes: T 1.4046, Plg24.0000°, Azm212.0000°; N 0.2342, Plg6.0000°, Azm305.0000°; P -1.6388, Plg65.0000°, Azm48.0000°;*
ISC 30 17:25:53.6±0.3, 17.89N±0.03×101.49W±0.03, h49km±1km, h49km:pP-P, n1712, σ1958/1780, mb5.4/432, MS4.9/184, 92C-247D, Fault plane solution: NP1:ϕ_s359.30072°, δ15.29633°, λ-24.31200°. NP2:ϕ_s112.84662°, δ83.76466°, λ-103.99554°. Principal axes: T Plg37.2473°, Azm215.2522°; N Plg13.9111°, Azm114.3973°; P Plg49.3636°, Azm7.6230°; Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UON	La Union	0.32	284	⇓*e*P	Pn	17 26 02.0	-0.8
UON				*e*S	Sn	17 26 08.9	-0.5
ARIG	Puente Sto Nin	1.15	70	⇑*e*P	Pn	17 26 13.1	-0.4
ARIG				*e*S	Sn	17 26 28.0	-0.1
URUA	Uruapan	1.62	340	⇓*e*P	Pn	17 26 21.1	+1.1
URUA				⇓*e*P	Pn	17 26 21.1	+1.1
MEIG	Mezcala	1.78	89	⇓*e*P	Pn	17 26 21.9	-0.1
MEIG				*e*S	Sn	17 26 43.8	+0.3
MOIG	Morelia	1.80	9	⇓*e*P	Pn	17 26 23.1	+0.6
MOIG				*i* S	Sn	17 26 45.8	+1.6
MOIG	Morelia	1.80	9		Pn	17 26 22.7	+0.2
MMIG	Aquila	1.81	283	⇑*e*P	Pn	17 26 21.6	-0.8
MMIG				*e*S	Sn	17 26 42.1	-2.0
PLIG	Platanillo	1.95	75	⇓*e*P	Pn	17 26 24.7	+0.3
PLIG				*e*S	Sn	17 26 47.2	-0.2
DAIG	Los Arroyos	1.96	116	⇓*e*P	Pn	17 26 23.8	-0.6
DAIG				*i* S	Sn	17 26 46.8	-0.9
MAVM	Malinalco, Edo	2.17	60	⇓*e*P	Pn	17 26 27.8	+0.3
TOVM	TOLUCA	2.21	51	⇓*e*P	Pn	17 26 29.1	+1.0
COIG	Colima	2.45	302	⇑*e*P	Pn	17 26 32.2	+1.0
EZ5V		2.55	309	⇑*e*P	Pn	17 26 34.4	+1.6
ACIG	Acambay	2.58	36	⇓*e*P	Pn	17 26 33.5	+0.5
UNM	Universidad Na	2.62	56	P	Pn	17 26 33.9	+0.3
UNM	Universidad Na	2.62	56	⇓*e*P	Pn	17 26 34.5	+0.9
UNM	Universidad Na	2.62	56	Pn	Pn	17 26 33.9	+0.3
R15V		2.69	299	⇑*e*P	Pn	17 26 35.0	+0.6
PBVM	Pinon	2.75	56	⇑*e*P	Pn	17 26 26.9	-8.4
MGIG	Malinaltepec	2.80	103	⇓*e*P	Pn	17 26 36.5	+0.5
MGIG				*e*S	Sn	17 27 04.9	-3.9
TLIG	Tlapa	2.80	96	⇓*e*P	Pn	17 26 36.7	+0.6
TLIG				*i* S	Sn	17 27 07.0	-1.8
TLIG	Tlapa	2.80	96		Pn	17 26 36.8	+0.7
AMVM	AMECAMECA	2.85	64	⇓*e*P	Pn	17 26 37.3	+0.5
IGIG	Irapuato, Guan	2.85	3	⇓*e*P	Pn	17 26 37.1	+0.2
IGIG				*e*S	Sn	17 27 13.3	+3.2
PPM	Popocatepetl	2.96	66	⇓*e*P	Pn	17 26 39.2	+0.6
JRQG	Juriquilla Cam	2.97	19	⇓*e*P	Pn	17 26 38.6	+0.1
VTVM	Tizayuca	3.18	54	⇓*e*P	Pn	17 26 41.7	+0.3
FTIG	Fresnillo de T	3.19	89	⇓*e*P	Pn	17 26 42.2	+0.7
DEIG	Demacu	3.34	44	⇑*e*P	Pn	17 26 43.4	-0.1
DEIG				*e*S	Sn	17 27 26.4	+4.4
HLIG	Huajuapan de L	3.51	90	⇓*i*P	Pn	17 26 46.9	+1.0
HLIG				*e*S	Sn	17 27 21.9	-4.4
PNIG	Pinotepa	3.54	114	⇓*e*P	Pn	17 26 46.1	0.0
PNIG				*e*S	Sn	17 27 32.3	+5.5
TXIG	Tlaxiaco	3.60	100	⇓*e*P	Pn	17 26 48.3	+1.1
TXIG				*i* S	Sn	17 27 31.7	+3.0
CJM	Chamela	3.73	296	⇑*e*P	Pn	17 26 48.8	+0.1
CJM				*e*S	Sn	17 27 30.0	-1.4
OXBJ	Oaxaca	4.62	99	⇑*e*P	Pn	17 27 03.0	+1.9
ZAIG	Zacatecas	4.96	348	⇓*e*P	Pn	17 27 05.8	0.0
ZAIG				*e*S	Sn	17 28 02.8	+0.8
ZAIG	Zacatecas	4.96	348	Pn	Pn	17 27 05.6	-0.2
LVIG	Laguna Verde	5.14	68	⇓*e*P	Pn	17 27 07.3	-0.7
LVIG				*e*S	Sn	17 28 07.7	+1.7
HUIG	Huatulco	5.57	111	⇓*e*P	Pn	17 27 14.9	+1.0
HUIG				*e*S	Sn	17 28 13.6	-3.1
CMIG	Matias Romero	6.35	96	P	Pn	17 27 25.2	+0.5
	22nm,0.3s,baz=265,slow=11,SNR=219						
CMIG				S	Sn	17 28 47.3	+11
	47nm,0.3s,baz=304,slow=21,SNR=3.8						
CMIG				LR	LR	17 30 01.7	
	comp=Z,19μm,19.3s,baz=281,slow=40						
CMIG	Matias Romero	6.35	96	⇓*e*P	Pn	17 27 25.4	+0.7
CMIG				*e*S

SSIG	Sanalona	8.68	324	⇑	eP		Pn	17 27 55.2	-1.3	
H06E1	SOCORRO T-PHAS	9.01	277		T		T	17 37 22.4		
	SNR=35									
CCIG	Comitan	9.08	99	⇓	eP		Pn	17 28 04.2	+1.9	
CCIG					eS		Sn	17 29 54.0	+11	
THIG		9.33	107	⇑	eP		Pn	17 28 08.1	+2.5	
THIG					eS		Sn	17 30 01.5	+12	
SLBS	Sierra La Lagu	9.79	308	⇑	eP		Pn	17 28 15.4	+3.6	
SLBS	Sierra La Lagu	9.79	308		Pn		Pn	17 28 14.9	+3.1	
HPIG		9.79	338	⇓	iP		Pn	17 28 14.6	+2.6	
HPIG					eS		Sn	17 30 30.1	+29	
HUEH	Huehuetenango	9.91	103				Pn	17 28 07.7	-6.0	
RTAL	Retalhuleu	9.98	108				Pn	17 28 15.5	+1.0	
LPIG	La Paz	10.30	308		P		Pn	17 28 23.0	+4.3	
	7.7nm,0.3s,baz=149,slow=5.5,SNR=1.6									
LPIG					LR		LR	17 31 48.9		
	comp=Z,6µm,20.7s,baz=133,slow=34									
833A	Chaparral WMA,	10.56	10		P		Pn	17 28 23.9	+1.5	
	baz=190,SNR=10									
735A	Kenedy	11.42	17				Pn	17 28 32.9	-1.2	
TX31	Lajitas Ar. Si	11.56	350				Pn	17 28 35.6	-0.5	
TX32	Lajitas Array	11.56	350		Pn		Pn	17 28 34.6	-1.6	
TXAR	Lajitas Array	11.56	350		P		Pn	17 28 38.3	+2.1	
	0.3nm,0.3s,baz=165,slow=10,SNR=55									
TXAR					LR		LR	17 33 28.4		
	comp=Z,11µm,19.7s,baz=0.0,slow=39									
TXAR	Lajitas Array	11.56	350		Pn		Pn	17 28 35.3	-0.8	
ESQI	Esquipulas	12.13	104				Pn	17 28 43.7	-0.2	
MTO3	Montecristo	12.16	105		Pn		Pn	17 28 44.1	-0.3	
JCT	Junction City	12.63	7		P		Pn	17 28 47.8	-2.8	
JCT	Junction City	12.63	7		Pn		Pn	17 28 47.8	-2.8	
JCT	Junction City	12.63	7		P		Pn	17 28 51.1	+0.5	
	baz=186									
HKT	Hockley	13.07	22		eP		Pn	17 28 56.3	-0.2	
HKT	Hockley	13.07	22		Pn		Pn	17 28 55.6	-0.9	
435B	Jarrell	13.32	15				Pn	17 28 58.6	-1.4	
435B	Jarrell	13.32	15		P		Pn	17 28 59.8	-0.2	
	baz=196									
TGUH	Tegucigalpa,Un	14.19	104		Pn		Pn	17 29 11.8	-0.2	
MNTX	Cornudas Mount	14.19	346		Pn		Pn	17 29 12.2	+0.3	
MNTX	Cornudas Mount	14.19	346		P		Pn	17 29 13.2	+1.3	
	baz=164									
WHTX	Lake Whitney,	14.51	14				Pn	17 29 14.9	-1.1	
WHTX	Lake Whitney,	14.51	14		P		Pn	17 29 15.2	-0.8	
	baz=195,SNR=11									
ABTX	Abilene, Hawle	14.77	6				Pn	17 29 18.4	-1.1	
ABTX	Abilene, Hawle	14.77	6		P		Pn	17 29 18.8	-0.6	
	baz=186,SNR=36									
CRIN	San Cristobal	14.85	108				Pn	17 29 18.5	-2.2	
441A	DeRidder	14.86	29				Pn	17 29 19.1	-1.5	
237A	Washetta, Mont	14.96	19				Pn	17 29 20.3	-1.7	
NATX	Nacogdoches	15.13	23		Pn		Pn	17 29 22.5	-1.7	
NATX	Nacogdoches	15.13	23		P		Pn	17 29 22.3	-1.9	
	baz=205									
319A	Douglas	15.17	334				Pn	17 29 25.9	+1.0	
319A						IAmb	IAmb	17 29 49.3		
	comp=Z,199nm,1.3s									
CNGN	Cerro Negro	15.24	109				Pn	17 29 25.2	-0.6	
121A	Cookes Peak, D	15.65	340		P		Pn	17 29 30.9	-0.1	
121A	Cookes Peak, D	15.65	340		P		P	17 29 32.8	-1.6	
	baz=156									
342A	Flagon Creek P	15.79	30		P		Pn	17 29 31.0	-1.6	
342A						IAmb	IAmb	17 29 55.9		
	comp=Z,688nm,1.4s									
MATN	Matagalpa	15.79	106		P		Pn	17 29 33.4	+0.5	
Z35A	Perchaven, San	15.84	13				Pn	17 29 31.1	-2.2	
MSTX	Muleshoe	16.05	356				Pn	17 29 35.5	-0.7	
MSTX						IAmb	IAmb	17 29 56.0		
	comp=Z,639nm,1.4s									
MSTX	Muleshoe	16.05	356		P		Pn	17 29 35.4	-0.7	
	baz=175									
Z38A	Mt. Pleasant	16.38	20		P		Pn	17 29 38.4	-1.8	
Z38A						IAmb	IAmb	17 30 00.4		
	comp=Z,760nm,1.3s									
LOOK	Love County	16.49	13		P		Pn	17 29 39.8	-1.8	
LOOK						IAmb	IAmb	17 30 00.7		
	comp=Z,319nm,1.4s									
TUC	Tucson	16.63	331		P		P	17 29 44.9	-0.3	
TUC						pmax	pmax			
	comp=Z,64nm,1.5s									
TUC	Tucson	16.63	331		P		P	17 29 44.9	-0.3	
TUC	Tucson	16.63	331		P		P	17 29 44.6	-0.6	
	baz=147									
344A	Westbrook Farm	16.65	34		P		Pn	17 29 42.5	-1.1	
344A						IAmb	IAmb	17 29 49.5		
	comp=Z,666nm,1.2s									
ACON	Acoyapa	16.82	108		P		P	17 29 46.9	-0.5	
BNM	Barren Site	16.83	345		P		P	17 29 47.5	-0.1	
Y22D	IRIS PASSCAL I	16.84	344		P		P	17 29 47.4	-0.1	
	baz=161									
AMTX	Amarillo	16.93	359		P		Pn	17 29 45.4	-1.7	
AMTX						IAmb	IAmb	17 30 06.7		
	comp=Z,620nm,1.2s									
AMTX	Amarillo	16.93	359		P		Pn	17 29 46.9	-0.2	
	baz=179									
LENM	Lemitar	16.93	344		P		Pn	17 29 47.6	+0.4	
WMOK	Wichita Mounta	16.95	8		P		Pn	17 29 45.2	-2.1	
WMOK						pmax	pmax			
	comp=Z,139nm,1.2s									
WMOK	Wichita Mounta	16.95	8		P		Pn	17 29 45.2	-2.1	
WMOK	Wichita Mounta	16.95	8		P		Pn	17 29 45.6	-1.7	
	baz=188									
X34A	Smith Ranch, M	16.96	10		P		Pn	17 29 45.7	-1.7	
X34A						IAmb	IAmb	17 30 06.3		
	comp=Z,416nm,1.1s									
HZTE	Horizontes, Gu	16.96	113		P		Pn	17 29 47.3	-0.3	
SAJU	San Juanillo,	17.16	115		eP		P	17 29 52.5	+1.4	
Z41A	Richland Creek	17.18	25		P		Pn	17 29 48.3	-1.8	
	baz=209,SNR=11									
ORTG	Ortega, Santa	17.24	114		P		P	17 29 52.2	+0.1	
346A	Big Creek Wild	17.30	37		P		Pn	17 29 49.3	-2.3	
346A						IAmb	IAmb	17 30 06.3		
	comp=Z,294nm,0.9s									
143A	Socs Landing,	17.32	30				Pn	17 29 51.3	-0.6	
DUNO	Dulce Nombre,	17.34	114		P		P	17 29 53.8	+0.7	
214A	Organ Pipe Nat	17.35	326		P		P	17 29 54.0	+0.9	
214A	Organ Pipe Nat	17.35	326		P		P	17 29 54.2	+1.1	
	baz=140,SNR=24									
VBMS	Vicksburg	17.37	33		P		Pn	17 29 50.6	-1.8	
VBMS						IAmb	IAmb	17 30 12.9		
	comp=Z,466nm,1.2s									
VBMS	Vicksburg	17.37	33		P		Pn	17 29 51.0	-1.5	
	baz=217									
CUI	Cuipilapa	17.37	112		eP		P	17 29 56.0	+2.5	
WLAR	White Oak Lake	17.43	24		P		Pn	17 29 51.4	-1.9	
INDI	Punta indio, G	17.44	115		eP		P	17 29 56.0	+1.8	
X37A	Clayton	17.50	17		P		Pn	17 29 52.3	-1.9	
X37A						IAmb	IAmb	17 30 20.1		
	comp=Z,418nm,1.3s									
ANMO	Albuquerque	17.55	346		P		P	17 29 57.1	+1.6	
	comp=Z,1.1nm,0.3s,baz=160,slow=12,SNR=36									
ANMO					LR		LR	17 38 00.1		
	comp=Z,2µm,19.1s,baz=165,slow=41									
ANMO	Albuquerque	17.55	346		P		P	17 29 55.7	+0.1	
ANMO	Albuquerque	17.55	346		P		P	17 29 57.1	+1.6	
	baz=163									
JTS	Las Juntas de	17.72	113		P		P	17 29 58.7	+1.4	
	comp=Z,1.8nm,0.3s,baz=9.9,slow=9.7,SNR=20									
JTS	Las Juntas de	17.72	113	d	iP		P	17 29 59.1	+1.8	
JTS						pmax	pmax			
	comp=Z,58nm,1.5s									
JTS	Las Juntas de	17.72	113		eP		P	17 29 59.3	+2.0	
JTS	Las Juntas de	17.72	113		P		P	17 29 58.2	+0.9	
JTS	Las Juntas de	17.72	113	⇓	eP		P	17 29 59.4	+2.1	
OKCFA	Oklahoma City	17.82	11		P		Pn	17 29 56.0	-2.0	
OKCFA						IAmb	IAmb	17 30 16.9		
	comp=Z,305nm,1.2s									
SFX	San Felipe	17.84	320		P		P	17 30 01.0	+2.4	
ARE1	Arenal 1	17.85	112		eP		P	17 30 01.2	+2.5	
CAO2	Cobano, Puntar	17.86	115		P		Pn	17 29 57.9	-0.9	
LAFE	Finca La Fe, P	17.98	114		eP		Pn	17 30 00.5	+0.3	
SOR	Soroa	18.00	71		P		P	17 29 59.8	-0.5	
SOR						pmax	pmax			
	comp=Z,188nm,1.4s									
SOR	Soroa	18.00	71		P		P	17 29 59.8	-0.5	
OK025	Westminster Rd	18.00	11		P		P	17 29 59.4	-0.9	
OK025						IAmb	IAmb	17 30 21.0		
	comp=Z,322nm,1.4s									
COVE	Coope Vega, Sa	18.02	111		eP		Pn	17 30 01.6	+1.1	
COVE	Coope Vega, Sa	18.02	111		P		Pn	17 30 02.0	+1.5	
COVE						IAmb	IAmb	17 30 24.3		
	comp=Z,312nm,1.5s									
BCOK	Bluff Creek, N	18.03	10		P		P	17 29 59.6	-1.0	
BCOK						IAmb	IAmb	17 30 23.8		
	comp=Z,318nm,1.2s									
MIAR	Mount Ida	18.03	22		P		P	17 29 59.9	-0.6	
MIAR						pmax	pmax			
	comp=Z,411nm,1.3s									
MIAR	Mount Ida	18.03	22		P		P	17 29 59.9	-0.6	
MIAR						IAmb	IAmb	17 30 25.5		
	comp=Z,411nm,1.2s									
MIAR	Mount Ida	18.03	22		P		P	17 29 59.2	-1.3	
	baz=205									
CCAR	Cane Creek	18.18	27		P		P	17 30 00.8	-1.4	
CCAR						IAmb	IAmb	17 30 19.6		
	comp=Z,798nm,1.5s									
OK029	Liberty Lake	18.19	11		P		P	17 30 01.6	-0.7	
X18A	Snowflake	18.21	337		P		Pn	17 30 04.6	+1.6	
X40A	Basin Creek Fa	18.25	23				P	17 30 01.7	-1.2	
X40A	Basin Creek Fa	18.25	23		P		P	17 30 01.0	-2.0	
	baz=207,SNR=11									
JACO	JACO, Garabito	18.27	114		eP		Pn	17 30 04.4	+0.9	
JACO	JACO, Garabito	18.27	114		P		Pn	17 30 04.5	+0.9	
OK030	Cody Creek RV	18.44	12		P		P	17 30 03.9	-1.3	
OK030						IAmb	IAmb	17 30 22.2		
	comp=Z,309nm,1.3s									
OK031	S. Brethren Rd	18.46	12		P		P	17 30 04.4	-0.9	
OK031						IAmb	IAmb	17 30 29.4		
	comp=Z,360nm,1.2s									
146A	Union	18.47	35		P		P	17 30 04.1	-1.2	
146A						IAmb	IAmb	17 30 06.8		
	comp=Z,295nm,1.2s									
113A	Mohawk Valley,	18.49	326		P		Pn	17 30 07.5	+1.4	
U32A	Winter Ranch,	18.55	6		P		P	17 30 06.0	-0.3	
W39A	Magazine	18.55	20		P		P	17 30 05.5	-0.7	
W39A	Magazine	18.55	20		P		P	17 30 05.7	-0.5	
	baz=203,SNR=135									
HDC	Heredia	18.59	113		eP		Pn	17 30 11.3	+3.7	
BRAL	Brewton	18.61	42		P		P	17 30 04.6	-2.3	
BRAL	Brewton	18.61	42		P		P	17 30 05.8	-1.2	
	baz=228									
RIFO	Rio Frio, Sara	18.61	112		eP		Pn	17 30 08.9	+1.1	
TUL1	Leonard	18.65	15		P		P	17 30 05.9	-1.4	
TUL1						IAmb	IAmb	17 30 24.5		
	comp=Z,476nm,1.4s									
TUL1	Leonard	18.65	15		P		P	17 30 05.8	-1.5	
	baz=197,SNR=33									
W18A	Petrified Fore	18.66	338		P		Pn	17 30 08.8	+0.4	
W18A	Petrified Fore	18.66	338		P		Pn	17 30 09.7	+1.3	
	baz=154,SNR=18									
QUOK	Quay	18.70	12		P		P	17 30 06.4	-1.5	
QUOK						IAmb	IAmb	17 30 25.2		
	comp=Z,399nm,1.2s									
X16A	Lo Mia Camp, P	18.71	334		P		Pn	17 30 10.2	+1.2	
OCM	Ochomogo	18.77	113		eP		Pn	17 30 11.2	+1.3	
LCR2	La Lucha 2	18.80	113		eP		P	17 30 09.7	+0.3	
CROK	Carrier	18.80	9		P		P	17 30 08.2	-0.8	
CVTR	Volcan Turrial	18.89	112		P		Pn	17 30 11.5	-0.1	
RIMA	Rio Macho	18.91	113		eP		Pn	17 30 12.3	+0.7	
RIMA	Rio Macho	18.91	113		P		Pn	17 30 12.3	+0.7	
RIMA						IAmb	IAmb	17 30 17.1		
	comp=Z,288nm,1.5s									
Y14A	Wickenburg	19.02	329		P		Pn	17 30 13.3	+0.7	
OK032	Salt Plains WL	19.06	8		P		P	17 30 10.6	-1.3	
OK032						IAmb	IAmb	17 30 31.0		
	comp=Z,516nm,1.3s									
W41B	Gary Mavity, V	19.08	24		P		P	17 30 10.8	-1.2	
	baz=208,SNR=72									
CDM	Cerro de Muert	19.09	113		eP		Pn	17 30 14.2	+0.1	
451A	Vernon	19.11	46		P		P	17 30 11.6	-0.9	
451A						IAmb	IAmb	17 30 15.2		
	comp=Z,279nm,1.2s									
GC02	Grant County #	19.16	9		P		P	17 30 12.2	-0.7	
WHAR	Wooly Hollow	19.16	23		P		P	17 30 11.7	-1.3	
WHAR						IAmb	IAmb	17 30 14.5		
	comp=Z,362nm,1.1s									
Y45A	Yeager Farm, C	19.17	32		P		P	17 30 12.2	-0.9	
BLOK	Blackwell	19.17	10		P		P	17 30 11.8	-1.3	
BLOK						IAmb	IAmb	17 30 13.8		
	comp=Z,367nm,1.5s									
KAN14	Manchester OK	19.25	9		P		P	17 30 12.9	-1.0	
KAN14						IAmb	IAmb	17 30 33.8		
	comp=Z,293nm,1.2s									
PEZE	Perez Zeledon,	19.25	114		P		P	17 30 14.8	+0.6	
GLA	Glamis	19.28	324		P		Pn	17 30 16.1	+0.4	
GLA						pmax	pmax			
	comp=Z,299nm,1.5s									
GLA	Glamis	19.28	324		P		Pn	17 30 16.1	+0.4	
GLA						IAmb	IAmb	17 30 23.5		
	comp=Z,299nm,1.5s									
GLA	Glamis	19.28	324		P		Pn	17 30 16.6	+0.9	
	baz=138,SNR=30									
FSCY	Frank Sound, G	19.30	83		P		P	17 30 14.7	+0.1	
T25A	Trinidad	19.35	353		P		Pn	17 30 16.2	-0.5	
T25A	Trinidad	19.35	353		P		Pn	17 30 16.2	-0.5	
	baz=171,SNR=80									
KAN17	Caldwell West	19.36	9		P		P	17 30 13.5	-1.7	
KAN17						IAmb	IAmb	17 30 35.0		
	comp=Z,535nm,1.5s									
KAN13	South Haven SW	19.38	10		P		P	17 30 13.5	-1.8	
KAN13						IAmb	IAmb	17 30 34.0		
	comp=Z,420nm,1.2s									
KAN10	Anthony SW Sta	19.39	8		P		P	17 30 14.5	-1.0	
KAN05	Bluff City Nor	19.41	9		P		P	17 30 14.4	-1.3	
KAN05						IAmb	IAmb	17 30 16.5		
	comp=Z,601nm,1.4s									
Z47A	Carrollton	19.44	36		P		P	17 30 14.3	-1.7	
T35A	Sooner Cattle	19.45	12		P		P	17 30 14.1	-2.1	
T35A						IAmb	IAmb	17 30 35.3		
	comp=Z,539nm,1.4s									
KAN09	Caldwell North	19.47	9		P		P	17 30 15.4	-1.0	
KAN09						IAmb	IAmb	17 30 33.9		
	comp=Z,374nm,1.2s									
KAN16	Harper SW Stat	19.50	8		P		P	17 30 15.7	-0.9	
KAN16						IAmb	IAmb	17 30 17.5		
	comp=Z,319nm,1.3s									
HHAR	Hobbs	19.50	19		P		P	17 30 15.1	-1.6	
HHAR						IAmb	IAmb	17 30 40.1		
	comp=Z,322nm,1.2s									
KAN08	Anthony NE Sta	19.51	8		P		P	17 30 16.0	-0.8	
KAN08						IAmb	IAmb	17 30 17.6		
	comp=Z,432nm,1.4s									
U38A	Gravette	19.52	17		P		P	17 30 15.3	-1.6	
U38A						IAmb	IAmb	17 30 17.7		
	comp=Z,460nm,1.4s									
CCX	Cicese	19.54	318		P		Pn	17 30 19.6	+0.8	
KAN06	Argonia West S	19.55	9		P		P	17 30 16.2	-1.0	
KS20	Mayfield South	19.57	9		P		P	17 30 16.2	-1.3	
KS20						IAmb	IAmb	17 30 18.1		
	comp=Z,296nm,1.1s									
KAN12	Harper NE Stat	19.58	8		P		P	17 30 16.8	-0.7	
KAN12						IAmb	IAmb	17 30 18.4		
	comp=Z,484nm,1.2s									
SRBA	San Rafael, Bu	19.60	114				P	17 30 18.5	+0.5	
WUAZ	Wupatki	19.63	335				Pn	17 30 20.3	+0.4	
WUAZ						IAmb	IAmb	17 30 42.7		
	comp=Z,160nm,1.0s									
WUAZ	Wupatki	19.63	335		P		Pn	17 30 20.8	+0.8	
	baz=150									
250A	Grady	19.64	42		P		P	17 30 16.2	-2.1	
250A						IAmb	IAmb	17 30 42.0		
	comp=Z,367nm,1.4s									
RMX	La Rumorosa	19.68	321		P		Pn	17 30 19.8	-0.8	
IKP	In-Ko-Pah, Jac	19.73	321		P		Pn	17 30 21.4	+0.3	
	baz=134,SNR=13									
OXF	Oxford	19.76	31		P		P	17 30 17.7	-1.7	
OXF						pmax	pmax			
	comp=Z,948nm,1.4s									
OXF	Oxford	19.76	31		P		P	17 30 17.7	-1.7	
OXF	Oxford	19.76	31		P		P	17 30 18.1	-1.3	
	baz=216									
FCAR	Ozark Folk Cen	19.76	23		P		P	17 30 18.2	-1.3	
SWSC	Sam W. Stewart	19.76	322		P		Pn	17 30 21.8	+0.4	
	baz=135,SNR=13									
CBX	Cerro Bola	19.84	319		P		Pn	17 30 22.2	-0.3	
PDMCI	Parker Dam,Lak	19.88	328		P		Pn	17 30 22.4	-0.3	
	baz=142,SNR=37									
PRVC	Isla de Provid	19.89	100		P		P	17 30 21.2	+0.1	
PRVC	Isla de Provid	19.89	100		eP		P	17 30 21.5	+0.5	
U40A	Yellville	19.92	21		P		P	17 30 19.7	-1.5	
U40A						IAmb	IAmb	17 30 38.4		
	comp=Z,434nm,1.4s									
U40A	Yellville	19.92	21		P		P	17 30 20.0	-1.3	
	baz=204,SNR=75									
LRAL	Lakeview Retre	19.93	38		P		P	17 30 19.7	-1.6	
LRAL						IAmb	IAmb	17 30 40.0		
	comp=Z,222nm,1.4s									
LRAL	Lakeview Retre	19.93	38		P		P	17 30 19.7	-1.6	
	baz=224									
TKX	Tecate	19.98	320		P		Pn	17 30 23.6	-0.5	
MET	Memphis--Engin	20.01	29		P		P	17 30 21.1	-1.1	
HBAR	Harrisburg	20.05	27		P		P	17 30 21.5	-1.2	
BC3	Big Chuckawall	20.08	324		P		Pn	17 30 25.0	-0.3	
	baz=137,SNR=42									
MONP2	Monument Peak	20.09	321		P		Pn	17 30 25.5	0.0	
	baz=134,SNR=21									
SDCO	Great Sand Dun	20.09	351		P		P	17 30 23.4	0.0	
SDCO						IAmb	IAmb	17 30 43.0		
	comp=Z,418nm,1.5s									
SDCO	Great Sand Dun	20.09	351		P		Pn	17 30 24.8	-0.8	
	baz=168									
BAR	Barrett	20.10	320		P		Pn	17 30 25.6	+0.2	
352A	Blakely	20.20	45		P		P	17 30 22.8	-1.5	
352A						IAmb	IAmb	17 30 27.9		
	comp=Z,358nm,1.2s									
MVCO	Mesa Verde	20.21	344		P		P	17 30 24.9	+0.3	
MVCO						IAmb	IAmb	17 30 31.3		
	comp=Z,313nm,1.4s									
MVCO						IAMs_20	IAMs_20	17 38 42.5		
	comp=Z,4µm,20.0s									
MVCO	Mesa Verde	20.21	344		P		Pn	17 30 26.0	-0.9	
	baz=160									
LPAR	Lepanto	20.25	27		P		P	17 30 23.6	-1.1	
IRM	Iron Mountain	20.29	326		P		Pn	17 30 27.5	-0.1	
	baz=139,SNR=84									
LCAR	Lake Charles	20.29	25		P		P	17 30 23.8	-1.4	
LCAR						IAmb	IAmb	17 30 42.9		
	comp=Z,434nm,1.4s									
S22A	4UR Ranch, Cre	20.33	348		P		Pn	17 30 27.8	-0.5	
	baz=165,SNR=93									
CDITO	Canoas	20.33	115		P		P	17 30 26.6	+0.7	
CDITO						IAmb	IAmb	17 30 50.2		
	comp=Z,146nm,1.1s									
LCCY	Blossom Villag	20.34	82		P		P	17 30 26.4	+0.4	
W13A	Hualapai Mount	20.38	330		P		Pn	17 30 28.8	-0.2	
BRU2	Volcan	20.39	114		eP		Pn	17 30 28.1	-1.0	
BRU2	Volcan	20.39	114		P		Pn	17 30 28.6	-0.4	
BRU2	Volcan	20.39	114		eP		Pn	17 30 28.9	-0.1	
W45A	Hickory Valley	20.39	30		P		P	17 30 25.4	-0.9	
NEE2	Needles Airpor	20.48	328		P		Pn	17 30 29.6	-0.3	
	baz=141,SNR=6.1									
109C	Camp Elliot, M	20.51	320		P		Pn	17 30 29.9	-0.3	
109C	Camp Elliot, M	20.51	320		P		Pn	17 30 29.3	-0.9	
	baz=132									
R32A	Long Quarter,	20.60	6		P		P	17 30 27.6	-1.1	
R32A						IAmb	IAmb	17 30 30.2		
	comp=Z,320nm,1.4s									
TPFO	Pinon Flats	20.61	322		P		Pn	17 30 31.3	-0.4	
	baz=135,SNR=30									
PFO	Pinyon Flats O	20.62	322		P		Pn	17 30 31.3	-0.4	
	comp=Z,29nm,0.8s,baz=123,slow=7.8,SNR=39									
PFO	Pinyon Flats O	20.62	322		P		Pn	17 30 30.4	-1.3	
PFO	Pinyon Flats O	20.62	322		IAMs_20		IAMs_20	17 38 30.0		
	comp=Z,3µm,18.0s									
PFO	Pinyon Flats O	20.62	322		P		Pn	17 30 31.3	-0.4	
	baz=135,SNR=34									
BELC	Belle Mtn. Jos	20.64	324		P		Pn	17 30 31.2	-0.7	
	baz=137,SNR=45									
CBCY	The Bluff, Cay	20.65	81		P		P	17 30 29.8	+0.5	
GNAR	Gosnell	20.67	27		P		P	17 30 28.4	-1.0	
656A	Willston	20.75	53		P		P	17 30 29.0	-1.3	
656A						IAmb	IAmb	17 30 52.0		
	comp=Z,386nm,1.2s									
U15A	North Rim	20.79	335		P		P	17 30 31.9	+1.0	
PLAL	Pickwick Lake	20.80	32		P		P	17 30 28.5	-2.2	
MGMO	Mountain Grove	20.84	21		P		P	17 30 29.6	-1.6	
Y49A	Blount Mountai	20.86	37		P		P	17 30 28.7	-2.7	
Y49A						IAmb	IAmb	17 30 35.1		
	comp=Z,158nm,0.9s									
PEBM	Pemiscott Bayo	20.87	27		P		P	17 30 29.2	-2.3	
CBKS	Cedar Bluff	20.90	4		P		P	17 30 30.4	-1.5	
CBKS						pmax	pmax			
	comp=Z,436nm,1.4s									
CBKS						MLR

baz=217
RRX Edison Barstow 21.84 324 P P 17 30 43.6 +1.7
baz=136
R40A Maddies Statio 21.87 20 P P 17 30 39.9 -2.3
MWC Mount Wilson 22.00 321 P P 17 30 45.2 +1.4
MWC pmax pmax
comp=Z,87nm,1.2s
MWC Mount Wilson 22.00 321 P P 17 30 45.2 +1.4
CCM Cathedral Cave 22.00 22 P P 17 30 41.3 -2.3
CCM pmax pmax
comp=Z,152nm,1.1s
CCM MLR MLR
comp=Z,3µm,19.0s
CCM Cathedral Cave 22.00 22 P P 17 30 41.3 -2.3
CCM IAmb IAmb 17 30 59.6
comp=Z,152nm,1.1s
CCM Cathedral Cave 22.00 22 IAMs_20 IAMs_20 17 40 31.1
comp=Z,3µm,19.0s
CCM Cathedral Cave 22.00 22 P P 17 30 41.8 -1.9
baz=206
V48A Smith Brothers 22.03 33 P P 17 30 41.3 -2.7
V48A IAmb IAmb 17 31 05.7
comp=Z,189nm,1.4s
PASC Pasadena Art C 22.04 321 P P 17 30 45.4 +1.3
GSC Goldstone, Bar 22.05 325 P P 17 30 45.8 +1.5
GSC pmax pmax
comp=Z,176nm,1.4s
GSC Goldstone, Bar 22.05 325 P P 17 30 45.8 +1.5
GSC IAmb IAmb 17 30 49.8
comp=Z,176nm,1.4s
GSC Goldstone, Bar 22.05 325 P P 17 30 45.9 +1.5
baz=137,SNR=61
154A Montrose 22.11 45 P P 17 30 41.7 -3.2
154A IAmb IAmb 17 30 46.0
comp=Z,136nm,0.9s
SWET Sewanee 22.12 36 P P 17 30 42.3 -2.6
SWET IAmb IAmb 17 30 44.6
comp=Z,80nm,0.6s
ISCO Idaho Springs 22.12 352 P P 17 30 45.2 -0.1
ISCO pmax pmax
comp=Z,96nm,1.0s
ISCO MLR MLR
comp=Z,9µm,19.0s
ISCO Idaho Springs 22.12 352 P P 17 30 45.2 -0.1
ISCO Idaho Springs 22.12 352 P P 17 30 45.6 +0.3
baz=169
255A Hazlehurst 22.15 47 P P 17 30 42.8 -2.4
255A IAmb IAmb 17 31 04.4
comp=Z,209nm,0.9s
MTPU Mount Pierson 22.16 337 P P 17 30 46.4 +0.7
MTPU IAmb IAmb 17 31 06.6
comp=Z,135nm,1.0s
DECC Green Verdugo 22.18 321 P P 17 30 47.3 +1.6
baz=132
CCUT Cedar City 22.19 334 P P 17 30 47.0 +1.0
SHOC Shoshone, Teco 22.21 327 P P 17 30 47.4 +1.4
baz=139,SNR=15
FVM French Village 22.24 24 P P 17 30 43.5 -2.7
FVM pmax pmax
comp=Z,191nm,1.2s
FVM French Village 22.24 24 P P 17 30 43.5 -2.7
FVM IAmb IAmb 17 31 03.0
comp=Z,191nm,1.2s
X51A Calhoun 22.27 39 P P 17 30 43.7 -2.8
X51A IAmb IAmb 17 31 10.8
comp=Z,141nm,1.2s
SNCC San Nicolas Is 22.27 317 P P 17 30 47.9 +1.3
baz=128
Y52A Lilburn 22.28 41 P P 17 30 43.7 -3.0
Y52A IAmb IAmb 17 31 04.3
comp=Z,252nm,1.4s
GOGA Godfrey 22.37 43 P P 17 30 44.3 -3.3
GOGA pmax pmax
comp=Z,281nm,1.5s
GOGA MLR MLR
comp=Z,300nm,18.0s
GOGA Godfrey 22.37 43 P P 17 30 44.3 -3.3
GOGA IAmb IAmb 17 31 05.1
comp=Z,281nm,1.5s
GOGA Godfrey 22.37 43 P P 17 30 44.4 -3.3
baz=231
EDW2 Edwards Air Fo 22.42 322 P P 17 30 49.2 +1.0
baz=134,SNR=33
W50A Signal Mountai 22.45 37 P P 17 30 45.7 -2.9
W50A IAmb IAmb 17 31 06.0
comp=Z,198nm,1.4s
S44A Carbondale 22.46 26 P P 17 30 46.3 -2.2
S44A IAmb IAmb 17 31 11.4
comp=Z,297nm,1.1s
SIUC Southern Illin 22.49 26 P P 17 30 46.3 -2.6
CLTN Cedars of Leba 22.55 34 P P 17 30 46.9 -2.7
CLTN IAmb IAmb 17 31 07.0
comp=Z,193nm,1.3s
SRU San Rafael Swe 22.56 341 P P 17 30 50.0 +0.2
SRU pmax pmax
comp=Z,120nm,1.4s
SRU San Rafael Swe 22.56 341 P P 17 30 50.0 +0.2
MSU Marysvale 22.57 338 P P 17 30 51.2 +1.2
MSU Marysvale 22.57 338 P P 17 30 51.2 +1.2
MVU Marysvale 22.57 338 P P 17 30 50.9 +0.8
MVU IAmb IAmb 17 31 10.4
comp=Z,138nm,1.1s
QSM Queen of Sheba 22.58 326 P P 17 30 51.2 +1.3
QSM IAmb IAmb 17 30 54.5
comp=Z,367nm,1.5s
Q16A Castle Valley 22.59 340 P P 17 30 50.8 +0.6
PNME Penonome 22.60 112 *eP* **P 17 30 51.6 +1.4**
GWY Greenwater Val 22.64 327 P P 17 30 51.2 +0.6
MCJ Malvern 22.65 86 *i P* **P 17 30 51.8 +1.0**
LRMC Laurel Mtn Rad 22.66 324 P P 17 30 52.2 +1.3
baz=136,SNR=26
OSI Osito Audit: C 22.66 321 P P 17 30 52.9 +2.0
OSI Osito Audit: C 22.66 321 P P 17 30 52.4 +1.5
baz=132
CACAO El Cacao, Vera 22.67 115 *eP* **P 17 30 52.1 +1.2**
P38A Dawn 22.73 16 P P 17 30 48.8 -2.6
BCIP Isla Barro Col 22.75 110 P P 17 30 52.3 +0.5
BCIP pmax pmax
comp=Z,179nm,1.5s
BCIP MLR MLR
comp=Z,2µm,22.0s
BCIP Isla Barro Col 22.75 110 P P 17 30 52.3 +0.5
BCIP IAmb IAmb 17 30 55.2
comp=Z,178nm,1.5s
BCIP Isla Barro Col 22.75 110 *eP* **P 17 30 53.8 +2.0**
TCRU Three Creeks R 22.75 337 P P 17 30 52.4 +0.4
MTDJ Mount Denham 22.77 85 P P 17 30 52.8 +0.6
MTDJ IAMs_20 IAMs_20 17 39 29.8
comp=Z,3µm,20.0s
MTDJ Mount Denham 22.77 85 *eP* **P 17 30 52.7 +0.5**
PRN Pahroc Range 22.80 331 P P 17 30 53.6 +1.2
PRN IAmb IAmb 17 30 56.9
comp=Z,193nm,1.4s
SCZ2 Santa Cruz Isl 22.82 318 P P 17 30 54.0 +1.6
baz=130
T47A Sharon Grove 22.86 31 P P 17 30 50.0 -2.8
SLM Saint Louis 22.88 23 P P 17 30 51.1 -1.9
SLM pmax pmax
comp=Z,226nm,1.2s
SLM Saint Louis 22.88 23 P P 17 30 51.1 -1.9
SLM IAmb IAmb 17 31 10.3
comp=Z,226nm,1.2s
O20A White River Ci 22.92 347 P P 17 30 54.1 +0.5
O20A IAmb IAmb 17 30 57.9
comp=Z,144nm,1.4s
O20A White River Ci 22.92 347 P P 17 30 54.2 +0.5
baz=163,SNR=14
TMUT Trail Mountain 22.94 340 P P 17 30 54.0 0.0
TMUT IAmb IAmb 17 30 57.5
comp=Z,79nm,0.6s
FURC Furnace Creek, 22.95 327 P P 17 30 54.9 +1.2
baz=139,SNR=42
P17A Butcher Ranch, 22.96 341 P P 17 30 53.9 -0.1
AZU Azuero 22.96 113 *eP* **P 17 30 55.2 +1.1**
MPMC Manual Prospec 22.98 325 P P 17 30 55.3 +1.0
baz=137,SNR=100
OGNE Ogallala 22.98 359 P P 17 30 53.3 -0.8
OGNE Ogallala 22.98 359 P P 17 30 53.7 -0.4
baz=178,SNR=25
TPNV Topopah Spring 23.01 329 P P 17 30 56.1 +1.6
TPNV pmax pmax
comp=Z,226nm,1.3s
TPNV MLR MLR
comp=Z,2µm,18.0s
TPNV Topopah Spring 23.01 329 P P 17 30 56.1 +1.6
TPNV IAmb IAmb 17 30 59.3
comp=Z,226nm,1.2s
TPNV Topopah Spring 23.01 329 P P 17 30 56.1 +1.6
baz=141
P40A Paris 23.07 19 P P 17 30 52.2 -2.7
ARVC Arvin 23.08 321 P P 17 30 56.2 +1.1
baz=133,SNR=8.4
CPCT Cooper Cave 23.08 37 P P 17 30 51.9 -3.2
UPA Univ. de Panam 23.09 110 *eP* **P 17 30 55.1 -0.3**
SBC Santa Barbara 23.16 319 P P 17 30 57.2 +1.4
baz=130
U49A Red Boiling Sp 23.16 34 P P 17 30 52.6 -3.2
W52A Murphy 23.19 39 P P 17 30 53.3 -2.8
W52A IAmb IAmb 17 30 56.4
comp=Z,131nm,0.8s
257A Skidaway Islan 23.20 49 P P 17 30 54.7 -1.5
PSUT Pine Spring 23.23 335 P P 17 30 57.4 +0.7
PSUT **PcP 17 34 44.4 +1.0**
N23A Red Feather La 23.25 351 P P 17 30 56.8 -0.2
baz=169,SNR=78
ISA Isabella, Lake 23.25 323 P P 17 30 57.6 +0.8
ISA pmax pmax
comp=Z,215nm,1.5s
ISA Isabella, Lake 23.25 323 P P 17 30 57.6 +0.8
ISA IAmb IAmb 17 31 02.1
comp=Z,215nm,1.4s
ISA Isabella, Lake 23.25 323 P P 17 30 58.4 +1.7
baz=135,SNR=62
USIN University of 23.38 28 P P 17 30 56.7 -1.2
V51A Loudon 23.43 37 P P 17 30 55.3 -3.2
V51A IAmb IAmb 17 30 57.5
comp=Z,136nm,0.7s
N35A Tabor 23.44 11 P P 17 30 56.3 -2.2
N35A IAmb IAmb 17 31 15.2
comp=Z,223nm,1.3s
STH Stony Hill 23.47 86 *i P* **P 17 30 59.6 +0.5**
PKM Mcpherson Peak 23.51 320 P P 17 31 00.8 +1.4
baz=131
PHWY Pilot Hill 23.58 353 P P 17 30 59.8 -0.4
PHWY IAmb IAmb 17 31 18.8
comp=Z,273nm,1.4s
PHWY IAMs_20 IAMs_20 17 40 47.1
comp=Z,4µm,19.0s
CWC Cottonwood Cre 23.58 325 P P 17 31 01.8 +1.8
baz=137
Q44A Meyer Farm, Va 23.59 25 P P 17 30 58.0 -1.9
BGNE Belgrade 23.61 6 P P 17 30 59.0 -1.1
BGNE Belgrade 23.61 6 P P 17 30 59.0 -1.1
baz=188,SNR=18
GRAC Grapevine Rang 23.62 327 P P 17 31 02.3 +2.0
baz=139,SNR=61
RDMU Red Mountain 23.65 345 P P 17 31 00.7 0.0
RDMU IAmb IAmb 17 31 03.6
comp=Z,254nm,1.5s
HODGE Hodges 23.66 43 P P 17 30 57.9 -2.7
HODGE IAmb IAmb 17 31 00.7
comp=Z,104nm,0.9s
TKL Tuckaleechee C 23.66 38 P P 17 30 58.0 -2.6
comp=Z,108nm,0.6s,baz=206,slow=10,SNR=120
TKL Tuckaleechee C 23.66 38 P P 17 30 57.8 -2.9
TKL IAmb IAmb 17 30 59.1
comp=Z,101nm,0.5s
VES Vestal, Richgr 23.72 322 P P 17 31 02.8 +1.6
baz=134,SNR=10
BG3 Lake Jocassee 23.73 40 P P 17 30 59.1 -2.1
BG3 IAmb IAmb 17 31 18.4
comp=Z,300nm,1.2s
MPU Maple Canyon 23.73 340 P P 17 31 01.6 +0.1
R11A Troy Canyon, C 23.82 332 P P 17 31 03.5 +1.3
R11A Troy Canyon, C 23.82 332 P P 17 31 03.9 +1.6
baz=144,SNR=81
SPR3 Spring Creek 3 23.82 335 P P 17 31 02.4 0.0
NLU North Lily Min 23.82 340 P P 17 31 02.9 +0.6
OLIL Olney 23.82 27 P P 17 31 00.8 -1.3
V52A Sevierville 23.90 38 P P 17 31 00.2 -2.6
N38A Joes South For 23.91 16 P P 17 31 00.9 -1.9
SMMC Simmler 23.91 320 P P 17 31 05.0 +2.0
baz=131,SNR=15
LCH Last Change Ra 23.94 327 P P 17 31 04.7 +1.4
P43A Skaggs, Pawnee 24.03 23 P P 17 31 02.4 -1.6
T50A Nancy 24.04 34 P P 17 31 01.0 -3.1
T50A IAmb IAmb 17 31 04.4
comp=Z,131nm,0.7s
TIN Tinemaha, Big 24.12 326 P P 17 31 06.6 +1.7
baz=137,SNR=8.9
JLU Jordanelle 24.21 341 P P 17 31 06.2 +0.3
RWWY Rawlins 24.22 350 P P 17 31 06.0 0.0
VOG Valley Oaks Go 24.23 323 P P 17 31 07.5 +1.6
baz=134
WCI Wyandotte Cave 24.23 30 P P 17 31 03.6 -2.2
WCI pmax pmax
comp=Z,808nm,1.5s
WCI MLR MLR
comp=Z,2µm,22.0s
WCI Wyandotte Cave 24.23 30 P P 17 31 03.6 -2.2
WCI Wyandotte Cave 24.23 30 P P 17 31 03.8 -2.0
baz=217
V53A Saluda 24.25 39 P P 17 31 03.9 -2.1
V53A IAmb IAmb 17 31 06.5
comp=Z,135nm,0.8s
DUG Dugway, Tooele 24.29 339 P P 17 31 07.0 +0.5
DUG pmax pmax
comp=Z,40nm,1.1s
DUG MLR MLR
comp=Z,6µm,18.0s
DUG Dugway, Tooele 24.29 339 P P 17 31 07.0 +0.5
DUG Dugway, Tooele 24.29 339 P P 17 31 07.6 +1.1
baz=152
RGRS Roger Stewart 24.29 48 P P 17 31 05.2 -1.2
PAULI Pauline 24.32 42 P P 17 31 04.7 -1.9
PAULI IAmb IAmb 17 31 07.7
comp=Z,138nm,0.7s
PAGB Antelope Grade 24.34 321 P P 17 31 08.6 +1.7
JSC Jenkinsville 24.35 44 P P 17 31 04.7 -2.2
JSC pmax pmax
comp=Z,192nm,1.4s
JSC Jenkinsville 24.35 44 P P 17 31 04.7 -2.2
JSC IAmb IAmb 17 31 23.3
comp=Z,192nm,1.4s
TPH Tonopah 24.37 329 P P 17 31 08.7 +1.3
TPH pmax pmax
comp=Z,340nm,1.2s
TPH Tonopah 24.37 329 P P 17 31 08.7 +1.3
CTU Camp Tracy 24.39 341 P P 17 31 08.0 +0.6
L34A Svendsen Farm, 24.39 9 P P 17 31 06.3 -0.9
L34A IAmb IAmb 17 31 26.9
comp=Z,118nm,0.7s
TZTN Tazewell 24.41 37 P P 17 31 05.6 -1.9
TZTN Tazewell 24.41 37 P P 17 31 05.3 -2.2
baz=225
NHSC New Hope 24.41 48 P P 17 31 06.3 -1.2
NHSC New Hope 24.41 48 P P 17 31 06.4 -1.2
baz=237
CSU Charleston Sou 24.42 48 P P 17 31 06.1 -1.6
N41A Harden Midland 24.52 20 P P 17 31 06.0 -2.3
UPD2 Meteti 24.64 109 *eP* **P 17 31 11.2 +1.4**
TCUT Toone Canyon 24.67 342 P P 17 31 10.7 +0.6
K31A O'Neill 24.76 5 P P 17 31 09.5 -1.1
Y57A Sumter 24.77 46 P P 17 31 09.0 -1.8
Y57A **pP 17 31 24.7 +0.6**
Y57A IAmb IAmb 17 31 27.9
comp=Z,280nm,1.3s
KMSC Kings Mountain 24.83 42 P P 17 31 09.2 -2.1
KMSC IAmb IAmb 17 31 30.0
comp=Z,149nm,1.3s
KMSC Kings Mountain 24.83 42 P P 17 31 09.2 -2.1
baz=231
R49A Shelbyville 24.83 32 P P 17 31 08.4 -2.9
R49A IAmb IAmb 17 31 29.4
comp=Z,212nm,1.2s
MLAC Mammoth, Mammc 24.87 326 P P 17 31 13.6 +1.6
baz=137,SNR=7.7
O44A Mansfield 24.88 24 P P 17 31 09.8 -1.9
BLO Bloomington 24.88 28 P P 17 31 09.8 -1.9
BLO pmax pmax
comp=Z,112nm,0.9s
BLO Bloomington 24.88 28 P P 17 31 09.8 -1.9
BLO IAmb IAmb 17 31 32.1
comp=Z,112nm,0.8s
HDIL Hopedale 24.92 22 P P 17 31 10.0 -2.1
HDIL IAMs_20 IAMs_20 17 42 12.3
comp=Z,3µm,19.0s
HDIL Hopedale 24.92 22 P P 17 31 09.9 -2.1
baz=208,SNR=11
P46A Rosedale 24.94 27 P P 17 31 10.7 -1.6
P46A IAmb IAmb 17 31 31.2
comp=Z,304nm,1.4s
SCIA State Center 24.96 15 P P 17 31 10.8 -1.6
SCIA IAMs_20 IAMs_20 17 41 35.6
comp=Z,3µm,22.0s
SCIA State Center 24.96 15 P P 17 31 10.6 -1.9
baz=199
PMPB Monarch Peak 25.00 321 P P 17 31 14.7 +1.8
PMPB IAmb IAmb 17 31 37.0
comp=Z,183nm,1.4s
MDPB Devils Postpil 25.00 325 P P 17 31 14.8 +1.6
MDPB IAmb IAmb 17 31 18.5
comp=Z,172nm,1.2s
BGU Big Grassy Mou 25.01 339 P P 17 31 13.4 +0.3
GTBY Guantanamo Bay 25.03 81 P P 17 31 12.4 -0.9
GTBY IAmb IAmb 17 31 19.9
comp=Z,182nm,0.8s
GTBY IAMs_20 IAMs_20 17 41 10.2
comp=Z,3µm,22.0s
GTBY Guantanamo Bay 25.03 81 *eP* **P 17 31 14.7 +1.4**
K22A Casper 25.05 351 P P 17 31 13.3 -0.2
K22A Casper 25.05 351 P P 17 31 13.2 -0.3
baz=168,SNR=130
BIRD Birdtown, Kers 25.09 44 P P 17 31 11.6 -2.1
BIRD IAmb IAmb 17 31 33.6
comp=Z,152nm,1.5s
NV11 Mina Array Sit 25.11 328 P P 17 31 15.2 +1.2
NV11 IAmb IAmb 17 31 19.0
comp=Z,178nm,1.2s
LHV Little Huntoon 25.16 327 P P 17 31 16.4 +2.2
LHV IAmb IAmb 17 31 19.7
comp=Z,88nm,1.1s
SPUT South Promonto 25.16 340 P P 17 31 14.7 +0.2
NVAR Mina Array Bea 25.19 328 P P 17 31 16.9 +2.1
comp=Z,63nm,0.6s,baz=151,slow=9.3,SNR=296
NVAR PcP **PcP 17 34 48.9 +1.3**
comp=Z,2.1nm,0.8s,baz=117,slow=2.8,SNR=4.2
NVAR LR LR 17 41 32.9
comp=Z,2µm,19.6s,baz=146,slow=37
NVAR Mina Array Bea 25.19 328 P P 17 31 16.2 +1.4
CAPC Capurgana 25.20 108 *eP* **P 17 31 13.3 -1.5**
Y58A Scranton 25.21 47 P P 17 31 13.4 -1.4
R50A Paris 25.25 33 P P 17 31 12.7 -2.4
R50A IAmb IAmb 17 31 31.9
comp=Z,200nm,1.4s
V55A Taylorsville 25.35 41 P P 17 31 14.1 -1.9
V55A IAmb IAmb 17 31 18.0
comp=Z,120nm,0.8s
U54A Nelsons Funny 25.41 39 P P 17 31 14.5 -2.2
RYN Ryan 25.45 328 P P 17 31 18.3 +1.2
RYN IAmb IAmb 17 31 23.0
comp=Z,211nm,1.5s
KVN Kaiserville 25.56 329 P P 17 31 19.9 +1.7
KVN pmax pmax
comp=Z,206nm,1.4s
KVN Kaiserville 25.56 329 P P 17 31 19.9 +1.7
KVN IAmb IAmb 17 31 21.4
comp=Z,206nm,1.4s
P48A Milroy 25.62 30 P P 17 31 15.2 -3.2
SFIN Lafayette 25.62 26 P P 17 31 16.7 -1.8
SFIN Lafayette 25.62 26 P P 17 31 16.4 -2.1
baz=213,SNR=6.7
L40A Anamosa 25.64 18 P P 17 31 15.6 -3.0
L40A IAmb IAmb 17 31 36.6
comp=Z,226nm,1.4s
ELK Elko 25.67 335 P P 17 31 20.1 +0.9
comp=Z,3.8nm,0.8s,baz=158,slow=6.2,SNR=21
ELK PcP **PcP 17 34 50.1 +1.4**
comp=Z,2.9nm,0.8s,baz=146,slow=3.5,SNR=3.4
ELK LR LR 17 41 20.6
comp=Z,1µm,21.8s,baz=160,slow=36
ELK Elko 25.67 335 P P 17 31 19.8 +0.6
ELK **PcP 17 34 49.7 +1.0**
HVU Hansel Valley 25.70 340 P P 17 31 19.7 +0.4
HVU pmax pmax
comp=Z,46nm,1.2s
HVU Hansel Valley 25.70 340 P P 17 31 19.7 +0.4
W57A Gilead 25.70 44 P P 17 31 16.4 -2.8
W57A IAmb IAmb 17 31 20.2
comp=Z,188nm,1.4s
BW06 Boulder Array 25.73 346 P P 17 31 19.4 -0.3
BW06 IAmb IAmb 17 31 39.9
comp=Z,202nm,1.3s
BW06 IAMs_20 IAMs_20 17 42 15.4
comp=Z,4µm,18.0s
BW06 Boulder Array 25.73 346 P P 17 31 19.8 +0.1
baz=162
PD31 Pinedale Array 25.73 346 P P 17 31 19.3 -0.4
PD31 IAmb IAmb 17 31 39.9
comp=Z,167nm,1.2s
PDAR Pinedale Array 25.73 346 P P 17 31 19.6 -0.1
comp=Z,16nm,0.6s,baz=147,slow=8.8,SNR=80
PDAR PcP **PcP 17 34 49.2 +0.4**
comp=Z,3.1nm,0.6s,baz=138,slow=5.3,SNR=6.4
PDAR LR LR 17 42 25.9
comp=Z,3µm,19.2s,baz=177,slow=39
PDAR Pinedale Array 25.73 346 P P 17 31 19.3 -0.4
SAO San Andreas Ge 25.75 321 P P 17 31 20.5 +0.8
SAO pmax pmax
comp=Z,68nm,1.4s
SAO MLR MLR
comp=Z,2µm,21.0s
SAO San Andreas Ge 25.75 321 P P 17 31 20.5 +0.8
K38A Parkersburg 25.77 15 P P 17 31 16.4 -3.4
K38A IAmb IAmb 17 31 38.0
comp=Z,92nm,0.9s
X58A Rowland 25.80 46 P P 17 31 17.4 -2.6
X58A IAmb IAmb 17 31 37.8
comp=Z,236nm,1.1s
Y59A Loris 25.81 47 P P 17 31 18.9 -1.3
Y59A IAmb IAmb 17 31 21.7
comp=Z,119nm,0.7s
CMB Columbia Colle 26.01 324 P P 17 31 23.1 +1.1
CMB pmax pmax
comp=Z,25nm,1.2s
CMB MLR MLR
comp=Z,1µm,19.0s
CMB Columbia Colle 26.01 324 P P 17 31 23.1 +1.1
P49A Miami Univ. Ec 26.02 31 P P 17 31 19.3 -2.7
P49A IAMs_20 IAMs_20 17 43 27.3
comp=Z,2µm,22.0s
P49A Miami Univ. Ec 26.02 31 P P 17 31 19.5 -2.6
baz=218,SNR=17
L42A Oliver, Polo 26.07 20 P P 17 31 19.9 -2.6
L42A IAmb IAmb 17 31 41.3
comp=Z,308nm,1.4s
YERR Yerington 26.09 327 P P 17 31 24.7 +1.8
ECSD EROS Data Cent 26.09 8 P P 17 31 21.0 -1.7
ECSD IAmb IAmb 17 31 25.4
comp=Z,157nm,1.2s
ECSD EROS Data Cent 26.09 8 P P 17 31 20.7 -1.9
baz=190
M44A Midewin, Midew 26.11 23 P P 17 31 20.3 -2.5
AHID Auburn Hatcher 26.11 344 P P 17 31 22.8 -0.2
AHID IAmb IAmb 17 31 41.6
comp=Z,133nm,1.5s
AHID IAMs_20 IAMs_20 17 42 25.6
comp=Z,4µm,20.0s
U56A King 26.18 41 P P 17 31 21.7 -1.9
RSSD Black Hills 26.24 356 P P 17 31 23.6 -0.6
RSSD pmax pmax
comp=Z,37nm,0.8s
RSSD MLR MLR
comp=Z,6µm,18.0s
RSSD Black Hills 26.24 356 P P 17 31 23.6 -0.6
RSSD Black Hills 26.24 356 P P 17 31 23.9 -0.3
baz=174
BMN Battle Mountai 26.25 332 P P 17 31 25.3 +1.0
BMN pmax pmax
comp=Z,80nm,1.3s
BMN Battle Mountai 26.25 332 P P 17 31 25.3 +1.0
Y60A Bolivia 26.28 48 P P 17 31 23.0 -1.4
Y60A IAmb IAmb 17 31 24.6
comp=Z,62nm,0.8s
Q51A Peebles 26.32 33 P P 17 31 22.2 -2.6
Q51A IAmb IAmb 17 31 41.1
comp=Z,296nm,1.4s
PNTR Pine Nut 26.35 327 P P 17 31 27.0 +1.7
PNTR IAmb IAmb 17 31 29.8
comp=Z,86nm,1.1s
ECR Eagle Creek 26.45 344 P P 17 31 25.9 -0.3
EMB Emerald Bay 26.53 326 P P 17 31 28.9 +2.0
VCNR Virginia City 26.53 327 P P 17 31 28.2 +1.3
HQIL Hanson Quary C 26.53 23 P P 17 31 24.3 -2.4
HQIL IAMs_20 IAMs_20 17 43 13.0

comp=Z,3µm,20.0s
SUSD Miller 26.56 4 P **P** **17 31 25.9 -1.0**
SUSD IAmb IAmb 17 31 46.7

comp=Z,202nm,1.1s
SUSD Miller 26.56 4 P **P** **17 31 25.5 -1.4**
baz=185,SNR=7.8
S54A Dingess, Beckl 26.57 38 P **P** **17 31 24.7 -2.4**
S54A IAmb IAmb 17 31 43.8

comp=Z,118nm,1.2s
R53A Hurricane 26.57 36 P **P** **17 31 24.9 -2.2**
REDW Red Top Meadow 26.60 345 P **P** **17 31 27.2 -0.4**
REDW IAmb IAmb 17 31 46.5

comp=Z,172nm,1.2s
REDW IAMs_20 IAMs_20 17 42 59.6

comp=Z,3µm,18.0s
RUBR Rubicon Trail 26.61 326 P **P** **17 31 29.9 +2.2**
N47A Urbana 26.64 27 P **P** **17 31 25.2 -2.4**
V58A Windy Hill, Pi 26.66 44 P **P** **17 31 25.7 -2.2**
V58A IAmb IAmb 17 31 44.8

comp=Z,205nm,1.4s
SNOW Snow King Moun 26.67 345 P **P** **17 31 28.4 +0.2**
SNOW IAmb IAmb 17 31 47.3

comp=Z,192nm,1.1s
SNOW IAMs_20 IAMs_20 17 43 17.4

comp=Z,3µm,20.0s
PAHR Pah Rah Range 26.70 328 P **P** **17 31 29.6 +1.1**
JFWS Jewell Farm 26.71 19 P **P** **17 31 25.8 -2.5**
JFWS pmax pmax

comp=Z,58nm,1.0s
JFWS MLR MLR

comp=Z,2µm,20.0s
JFWS Jewell Farm 26.71 19 P **P** **17 31 25.8 -2.5**
JFWS Jewell Farm 26.71 19 IAMs_20 IAMs_20 17 42 51.8

comp=Z,2µm,20.0s
JFWS Jewell Farm 26.71 19 P **P** **17 31 25.2 -3.0**
baz=204,SNR=6.8
O49A Covington 26.71 30 P **P** **17 31 26.1 -2.2**
BLA Blacksburg 26.71 40 P **P** **17 31 26.5 -1.9**
BLA pmax pmax

comp=Z,120nm,0.7s
BLA MLR MLR

comp=Z,500nm,21.0s
BLA Blacksburg 26.71 40 P **P** **17 31 26.5 -1.9**
BLA IAmb IAmb 17 31 28.4

comp=Z,120nm,0.7s
BLA Blacksburg 26.71 40 P **P** **17 31 26.2 -2.1**
baz=229
SJCC San Jacinto, C 26.72 104 P **P** **17 31 28.7 0.0**
SJCC San Jacinto, C 26.72 104 *e*P **P** **17 31 29.8 +1.1**
TPAW Teton Pass 26.75 345 P **P** **17 31 28.9 0.0**
TPAW IAmb IAmb 17 31 37.0

comp=Z,128nm,1.1s
TPAW IAMs_20 IAMs_20 17 42 56.4

comp=Z,3µm,18.0s
LOHW Long Hollow 26.77 345 P **P** **17 31 29.2 +0.1**
LOHW IAmb IAmb 17 31 48.1

comp=Z,201nm,1.4s
P51A Williamsport 26.81 33 P **P** **17 31 26.5 -2.6**
P51A IAmb IAmb 17 31 45.5

comp=Z,88nm,0.8s
L44A Lake County Fo 26.84 23 IAMs_20 IAMs_20 17 43 22.1

comp=Z,3µm,19.0s
L44A Lake County Fo 26.84 23 P **P** **17 31 27.2 -2.2**
baz=209
Q52A Bidwell 26.85 35 P **P** **17 31 27.0 -2.5**
DBBC Dabeiba 26.91 111 *e*P **P** **17 31 32.7 +2.3**
FXWY Fox Creek 26.91 345 P **P** **17 31 30.2 0.0**
FXWY IAmb IAmb 17 31 49.2

comp=Z,79nm,1.1s
I37A Lemond, Waseca 26.92 13 P **P** **17 31 28.1 -2.1**
I37A IAmb IAmb 17 31 46.8

comp=Z,146nm,1.1s
MOOW Moose Ponds 26.94 345 P **P** **17 31 30.4 -0.1**
IMW Indian Meadow 27.12 345 P **P** **17 31 32.3 0.0**
IMW IAmb IAmb 17 31 51.1

comp=Z,93nm,1.1s
IMW **PcP** **17 34 53.6 +1.5**
CNNC Cliffs of the 27.17 46 P **P** **17 31 30.7 -1.7**
CNNC **pP** **17 31 45.9 +0.2**
CNNC IAmb IAmb 17 31 50.0

comp=Z,141nm,1.1s
CNNC Cliffs of the 27.17 46 P **P** **17 31 30.5 -1.9**
baz=236
SMRC Santa Marta, M 27.20 100 *e*P **P** **17 31 32.3 -0.7**
FLWY Flagg Ranch 27.24 345 P **P** **17 31 33.5 +0.2**
FLWY IAmb IAmb 17 31 52.4

comp=Z,128nm,1.4s
FLWY **PcP** **17 34 52.5 +0.3**
FLWY IAMs_20 IAMs_20 17 43 23.5

comp=Z,3µm,19.0s
T57A Hurt 27.30 41 P **P** **17 31 31.8 -1.9**
T57A IAmb IAmb 17 31 50.6

comp=Z,201nm,1.3s
BEKR Beckworth 27.32 327 P **P** **17 31 35.6 +1.6**
N49A Columbus Grove 27.36 29 P **P** **17 31 31.5 -2.6**
P52A Corning 27.40 34 P **P** **17 31 31.9 -2.6**
P52A IAmb IAmb 17 31 50.6

comp=Z,215nm,1.2s
P52A Corning 27.40 34 P **P** **17 31 31.7 -2.9**
baz=223,SNR=16
ACSO Alum Creek Sta 27.41 32 P **P** **17 31 32.7 -1.8**
ACSO IAmb IAmb 17 31 55.2

comp=Z,108nm,1.3s
ACSO Alum Creek Sta 27.41 32 P **P** **17 31 31.4 -3.2**
baz=221
LGNH Logne 27.43 84 P **P** **17 31 34.2 -0.8**
LGNH IAmb IAmb 17 31 55.8

comp=Z,236nm,1.4s
I40A Norwalk 27.50 17 P **P** **17 31 33.1 -2.2**
I40A IAmb IAmb 17 31 53.9

comp=Z,90nm,1.4s
H17A Grant Village 27.51 346 P **P** **17 31 37.4 +1.7**
H17A Grant Village 27.51 346 P **P** **17 31 36.5 +0.8**
baz=160
R55A Marlinton 27.59 38 P **P** **17 31 33.7 -2.6**
R55A IAmb IAmb 17 31 53.4

comp=Z,178nm,1.2s
CBOC Ciudad Bolivar 27.60 113 *e*P **P** **17 31 38.0 +1.3**
LKWY Lake 27.63 346 P **P** **17 31 38.3 +1.5**
LKWY pmax pmax

comp=Z,45nm,1.3s
LKWY MLR MLR

comp=Z,5µm,20.0s
LKWY Lake 27.63 346 P **P** **17 31 38.3 +1.5**
LKWY IAMs_20 IAMs_20 17 43 05.6

comp=Z,5µm,20.0s
Q54A Coxs Mills 27.65 36 P **P** **17 31 34.1 -2.7**
P53A Whipple 27.70 35 P **P** **17 31 34.2 -2.9**
P53A IAmb IAmb 17 31 53.6

comp=Z,122nm,1.4s
ORV Oroville 27.70 325 P **P** **17 31 38.4 +1.2**
ORV pmax pmax

comp=Z,105nm,1.5s
ORV MLR MLR

comp=Z,800nm,19.0s
ORV Oroville 27.70 325 P **P** **17 31 38.4 +1.2**
ORV IAmb IAmb 17 31 41.7

comp=Z,105nm,1.5s
YMP Mirror Lake Pl 27.74 347 P **P** **17 31 38.3 +0.5**
YUF Upper Falls 27.79 346 P **P** **17 31 38.4 +0.2**
HLID Hailey 27.83 340 P **P** **17 31 38.4 -0.1**
HLID IAMs_20 IAMs_20 17 43 34.4

comp=Z,4µm,20.0s
HLID Hailey 27.83 340 P **P** **17 31 39.2 +0.7**
baz=152
YNR Norris Junctio 27.83 346 P **P** **17 31 38.8 +0.2**
U59A Littleton 27.86 44 P **P** **17 31 35.6 -3.0**
U59A IAmb IAmb 17 31 55.3

comp=Z,113nm,1.4s
YMR Madison River 27.86 345 P **P** **17 31 39.0 +0.2**
HELC Santa Helena 27.88 111 *e*P **P** **17 31 41.0 +1.6**
GDXM Geysers 27.91 323 P **P** **17 31 40.6 +1.4**
O52A Adamsville 27.91 33 P **P** **17 31 35.9 -3.2**
O52A IAmb IAmb 17 31 55.6

comp=Z,184nm,1.2s
ZARC Zaragoza, Cauc 27.92 108 *e*P **P** **17 31 40.3 +0.9**
RLMT Red Lodge 27.92 348 P **P** **17 31 38.9 -0.5**
RLMT Red Lodge 27.92 348 P **P** **17 31 39.1 -0.3**
baz=164
YHH Holmes Hill 27.94 346 P **P** **17 31 39.9 +0.3**
S57A Dark Hollow, R 27.96 40 P **P** **17 31 36.8 -2.7**
S57A IAmb IAmb 17 31 56.3

comp=Z,222nm,1.4s
YNE Yellowstone No 27.96 347 P **P** **17 31 39.3 -0.4**
YHB Horse Butte 27.99 345 P **P** **17 31 39.8 -0.2**

I42A Draeger Farm, 28.01 20 P **P** **17 31 36.0 -3.8**
L48A N Adams 28.06 28 P **P** **17 31 37.5 -2.8**
YHL Hebgen Lake 28.08 345 P **P** **17 31 40.6 -0.3**
QLMT Earthquake Lak 28.12 345 P **P** **17 31 42.1 +1.0**
SMLC San Martn de 28.13 105 *e*P **P** **17 31 41.3 +0.1**
BCYI Bear Canyon 28.18 342 P **P** **17 31 42.5 +0.8**
HOPS Hopland Field 28.19 323 P **P** **17 31 43.6 +2.1**
MFID Camas Ranch 28.19 338 P **P** **17 31 42.0 +0.3**
MFID IAMs_20 IAMs_20 17 43 45.2

comp=Z,3µm,22.0s
F33A 5 Mile Ranch, 28.20 8 P **P** **17 31 38.5 -3.0**
SPMN Marine on St. 28.20 13 P **P** **17 31 39.2 -2.4**
SPMN IAmb IAmb 17 31 42.3

comp=Z,76nm,0.5s
SPMN Marine on St. 28.20 13 P **P** **17 31 39.3 -2.3**
baz=197,SNR=11
N51A Ashland 28.23 32 P **P** **17 31 39.4 -2.5**
N51A IAmb IAmb 17 31 58.3

comp=Z,65nm,0.9s
YOTC Yotoco, Valle 28.23 116 *e*P **P** **17 31 43.2 +0.9**
M50A Fremont 28.27 30 P **P** **17 31 38.2 -4.1**
M50A IAmb IAmb 17 31 59.5

comp=Z,132nm,1.4s
O53A New Philadelph 28.34 34 P **P** **17 31 40.1 -2.8**
O53A New Philadelph 28.34 34 P **P** **17 31 40.0 -2.8**
baz=224,SNR=8.7
V61A Roper 28.36 46 P **P** **17 31 41.7 -1.4**
T59A Double "B" Far 28.37 43 P **P** **17 31 40.9 -2.3**
T59A pP **pP** **17 31 56.8 +0.3**
T59A IAmb IAmb 17 32 00.1

comp=Z,113nm,1.4s
O03E Paynes Creek 28.39 326 P **P** **17 31 44.4 +1.0**
baz=136,SNR=12
GUY2C Guyana, Caldas 28.47 113 *e*P **P** **17 31 47.1 +2.3**
WVOR Wild Horse Val 28.49 333 P **P** **17 31 44.7 +0.3**
WVOR pmax pmax

comp=Z,41nm,1.2s
WVOR MLR MLR

comp=Z,1µm,19.0s
WVOR Wild Horse Val 28.49 333 P **P** **17 31 44.6 +0.3**
MCMT McKenzie Canyo 28.50 343 P **P** **17 31 45.4 +0.9**
BBAC Balboa, Cauca 28.54 121 *e*P **P** **17 31 45.4 +0.3**
JSRW J. Sargeant Re 28.59 42 P **P** **17 31 42.9 -2.2**
E28A Huff 28.61 1 P **P** **17 31 44.2 -1.0**
E28A IAmb IAmb 17 32 09.3

comp=Z,152nm,1.1s
Q56A Snyder Ridge, 28.64 38 P **P** **17 31 43.7 -1.9**
Q56A IAmb IAmb 17 32 02.8

comp=Z,91nm,1.1s
GCMT Greycliff 28.64 348 P **P** **17 31 44.9 -0.8**
OTAV Otavalo 28.65 125 P **P** **17 31 47.7 +1.3**
OTAV pmax pmax

comp=Z,15nm,1.1s
OTAV MLR MLR

comp=Z,1µm,20.0s
OTAV Otavalo 28.65 125 P **P** **17 31 47.7 +1.3**
OTAV Otavalo 28.65 125 *e*P **P** **17 31 47.9 +1.5**
SDDR Presa de Saban 28.66 83 P **P** **17 31 45.2 -0.8**
SDDR IAmb IAmb 17 32 09.8

comp=Z,184nm,1.4s
SDDR Presa de Saban 28.66 83 *e*P **P** **17 31 47.6 +1.6**
F36A Milaca 28.67 12 P **P** **17 31 43.4 -2.4**
MCWV Mont Chateau 28.67 36 P **P** **17 31 42.9 -2.9**
MCWV **pP** **17 31 59.2 +0.1**
MCWV IAmb IAmb 17 32 03.2

comp=Z,80nm,1.2s
MCWV Mont Chateau 28.67 36 P **P** **17 31 43.5 -2.4**
baz=227
PTBC PUERTO BERRIO, 28.68 110 *e*P **P** **17 31 47.1 +0.9**
AAM Ann Arbor 28.69 28 P **P** **17 31 44.0 -2.0**
AAM pmax pmax

comp=Z,259nm,1.3s
AAM MLR MLR

comp=Z,2µm,20.0s
AAM Ann Arbor 28.69 28 P **P** **17 31 44.0 -2.0**
AAM Ann Arbor 28.69 28 P **P** **17 31 43.9 -2.0**
baz=217
POPC Popayan, Colom 28.72 119 *e*P **P** **17 31 48.2 +1.4**
O54A Avella 28.74 35 P **P** **17 31 43.8 -2.6**
O54A IAmb IAmb 17 32 01.9

comp=Z,130nm,1.4s
NORC Norcasia 28.75 112 *e*P **P** **17 31 47.1 +0.3**
R58B Mineral 28.75 41 P **P** **17 31 44.2 -2.4**
MOD Modoc Plateau 28.83 330 P **P** **17 31 48.1 +0.7**
MOD IAmb IAmb 17 31 50.1

comp=Z,128nm,1.4s
O02D Mt. Diablo Mer 28.84 325 P **P** **17 31 48.1 +0.7**
baz=134
G40A Rib Lake 28.88 17 P **P** **17 31 45.1 -2.5**
BOZ Bozeman (W) 28.89 345 P **P** **17 31 48.2 +0.3**
BOZ pmax pmax

comp=Z,74nm,1.3s
BOZ MLR MLR

comp=Z,2µm,19.0s
BOZ Bozeman (W) 28.89 345 P **P** **17 31 48.2 +0.3**
BOZ IAMs_20 IAMs_20 17 44 22.1

comp=Z,2µm,19.0s
BOZ Bozeman (W) 28.89 345 P **P** **17 31 48.8 +0.9**
baz=159
H43A Windswept, Lux 28.90 21 P **P** **17 31 46.1 -1.6**
DLMT Dillon 28.92 344 P **P** **17 31 48.5 +0.4**
DLMT IAmb IAmb 17 32 08.3

comp=Z,158nm,1.1s
DLMT IAMs_20 IAMs_20 17 44 28.0

comp=Z,4µm,18.0s
GCUF Volcan Galeras 28.93 122 *e*P **P** **17 31 51.4 +2.5**
N53A Lisbon 28.94 34 P **P** **17 31 45.4 -2.7**
N53A IAmb IAmb 17 32 04.2

comp=Z,140nm,1.4s
KCPM Cahto Peak 28.95 323 P **P** **17 31 50.4 +1.9**
LAO LASA Array 28.98 353 P **P** **17 31 47.1 -1.4**
LAO IAmb IAmb 17 32 06.0

comp=Z,130nm,1.5s
LAO LASA Array 28.98 353 P **P** **17 31 47.9 -0.7**
baz=170
WDC Whiskeytown Da 28.99 326 P **P** **17 31 47.1 -1.5**
WDC pmax pmax

comp=Z,17nm,1.5s
WDC MLR MLR

comp=Z,900nm,18.0s
WDC Whiskeytown Da 28.99 326 P **P** **17 31 47.1 -1.5**
T60A Surry 29.00 44 P **P** **17 31 47.3 -1.4**
T60A IAmb IAmb 17 32 05.8

comp=Z,138nm,1.2s
SOTA Rioblanco 29.00 120 *e*P **P** **17 31 49.2 -0.4**
OCAC Ocana 29.03 106 *e*P **P** **17 31 47.9 -1.5**
PCON Cinco Dias 29.07 119 *e*P **P** **17 31 52.5 +2.2**
BRRC Barranca, Sant 29.11 108 *e*P **P** **17 31 50.4 +0.4**
MARP Paez Belalcaza 29.16 118 *e*P **P** **17 31 53.5 +2.8**
SC01 Santiago de lo 29.17 82 P **P** **17 31 50.6 +0.2**
J08A Circle Bar Ran 29.18 334 P **P** **17 31 51.1 +0.7**
M52A Chesterland 29.20 32 P **P** **17 31 47.7 -2.9**
M52A IAmb IAmb 17 32 06.5

comp=Z,198nm,1.4s
ORTC Ortega, Tolima 29.21 115 *e*P **P** **17 31 51.2 +0.3**
CBN Corbin Frederi 29.22 41 P **P** **17 31 47.9 -2.8**
CBN IAmb IAmb 17 32 13.9

comp=Z,120nm,1.4s
CBN Corbin Frederi 29.22 41 P **P** **17 31 48.4 -2.3**
baz=233
LRM Limekiln Ridge 29.31 344 P **P** **17 31 51.5 -0.1**
N02D Trinity Center 29.36 326 P **P** **17 31 51.0 -1.0**
baz=135
KMRM Mail Ridge 29.38 324 P **P** **17 31 54.3 +2.1**
D32A Dogwood Acres, 29.40 6 P **P** **17 31 50.4 -1.7**
D32A pP **pP** **17 32 06.9 +1.6**
D32A IAmb IAmb 17 32 08.8

comp=Z,173nm,1.1s
SPBC San Pablo de B 29.41 111 *e*P **P** **17 31 53.7 +0.9**
M53A WI Miller and 29.48 33 P **P** **17 31 50.1 -2.9**
M53A **pP** **17 32 06.6 +0.3**
M53A WI Miller and 29.48 33 P **P** **17 31 49.6 -3.4**
baz=223
M04C Macdoel 29.49 328 P **P** **17 31 54.3 +1.0**
baz=137,SNR=19
N54A Moraine State 29.50 34 P **P** **17 31 50.5 -2.6**
N54A IAMs_20 IAMs_20 17 44 57.4

comp=Z,2µm,21.0s
N54A Moraine State 29.50 34 P **P** **17 31 50.2 -3.0**
baz=225,SNR=7.0
K50A Casco 29.53 29 P **P** **17 31 50.4 -3.0**
K50A IAmb IAmb 17 32 10.9

comp=Z,148nm,1.1s
ROSC El Rosal 29.57 113 P **P** **17 31 54.3 -0.2**

comp=Z,6.2nm,0.3s,baz=111,slow=3.6,SNR=8.5
ROSC LR LR 17 43 30.0

comp=Z,585nm,18.4s,baz=276,slow=36
ROSC El Rosal 29.57 113 P **P** **17 31 53.4 -1.0**
ROSC El Rosal 29.57 113 *e*P **P** **17 31 56.4 +2.0**
BANI BANI 29.57 84 P **P** **17 31 54.2 0.0**
P57A Homestead Farm 29.62 39 P **P** **17 31 52.7 -1.5**
P57A IAmb IAmb 17 32 11.7

comp=Z,139nm,1.4s
PLID Pearl Lake 29.71 339 P **P** **17 31 54.5 -0.7**
M02C Callahan 29.73 326 P **P** **17 31 55.4 +0.1**
baz=135
K05A Summer Lake 29.75 330 P **P** **17 31 56.6 +1.0**
E38A The Farm, Brul 29.79 14 P **P** **17 31 53.5 -2.1**
BARC Barichara 29.80 109 *e*P **P** **17 31 57.9 +1.5**
O56A Blue Knob Stat 29.81 37 P **P** **17 31 53.3 -2.7**
O56A IAmb IAmb 17 32 13.4

comp=Z,105nm,1.4s
O56A Blue Knob Stat 29.81 37 P **P** **17 31 53.5 -2.5**
baz=228,SNR=9.4
KHMM Horse Mountain 29.84 325 P **P** **17 31 57.9 +1.5**
KHMM IAmb IAmb 17 31 59.4

comp=Z,73nm,1.2s
KHMM **PcP** **17 35 00.4 +1.7**
YBH Yreka Blue Hor 29.90 327 P **P** **17 31 56.4 -0.4**
comp=Z,6.1nm,0.9s,baz=140,slow=6.8,SNR=19
YBH LR LR 17 44 30.0

comp=Z,524nm,19.1s,baz=161,slow=37
YBH Yreka Blue Hor 29.90 327 P **P** **17 31 56.2 -0.6**
ALLY Alegheny Colle 29.90 33 P **P** **17 31 54.0 -2.7**
ALLY IAmb IAmb 17 32 12.7

comp=Z,168nm,1.4s
MDND Maddock 29.92 3 P **P** **17 31 55.3 -1.5**
MDND Maddock 29.92 3 P **P** **17 31 55.5 -1.3**
baz=183
COWI Conover 29.94 17 P **P** **17 31 55.0 -2.0**
COWI IAMs_20 IAMs_20 17 44 53.3

comp=Z,2µm,21.0s
PAMC Pamplona, Colo 29.94 107 *e*P **P** **17 31 59.7 +1.8**
JCC Jacoby Creek, 29.97 324 P **P** **17 31 58.9 +1.6**
BMO Blue Mountains 29.97 337 P **P** **17 31 57.0 -0.4**
BMO **PcP** **17 34 56.7 -2.2**
BMO pmax pmax

comp=Z,21nm,1.2s
BMO MLR MLR

comp=Z,2µm,22.0s
BMO Blue Mountains 29.97 337 P **P** **17 31 57.0 -0.4**
BMO **PcP** **17 34 56.7 -2.2**
HRY Holter Researc 29.98 346 P **P** **17 31 57.3 -0.2**
L04D Klamath Falls 30.05 328 P **P** **17 31 58.7 +0.5**
baz=137
M54A Oil Creek Stat 30.06 34 P **P** **17 31 55.6 -2.5**
M54A IAmb IAmb 17 32 17.0

comp=Z,78nm,1.2s
M54A Oil Creek Stat 30.06 34 P **P** **17 31 55.1 -3.0**
baz=225,SNR=7.5
K04D Chiloquin, OR 30.08 329 P **P** **17 31 59.4 +1.0**
baz=138
FLOC Florencia 30.10 120 P **P** **17 31 59.6 +0.8**
G45A Suttons Bay 30.14 23 P **P** **17 31 56.9 -1.8**
G45A IAmb IAmb 17 31 58.8

comp=Z,55nm,0.6s
CHIC Chingaza 30.18 113 *e*P **P** **17 32 01.9 +2.0**
RUSC La Rusia 30.19 110 P **P** **17 32 00.9 +0.8**
RUSC IAmb IAmb 17 32 03.1

comp=Z,116nm,1.4s
RUSC La Rusia 30.19 110 *e*P **P** **17 32 00.2 +0.2**
I07A Izee 30.20 334 P **P** **17 31 59.6 +0.1**
SDMD Soldier's Deli 30.28 40 P **P** **17 31 58.2 -1.8**
SDMD **pP** **17 32 14.0 +0.6**
ERPA Erie 30.32 33 P **P** **17 31 58.1 -2.3**
ERPA IAmb IAmb 17 31 58.9

comp=Z,49nm,0.6s
ERPA Erie 30.32 33 P **P** **17 31 57.7 -2.7**
baz=224
J05D Fort Rock, OR 30.34 331 P **P** **17 32 01.0 +0.3**
baz=140,SNR=19
GLMI Grayling 30.34 24 IAMs_20 IAMs_20 17 45 29.9

comp=Z,3µm,21.0s
GLMI Grayling 30.34 24 P **P** **17 31 58.2 -2.4**
baz=213
KRMB Red Mountain 30.39 326 P **P** **17 32 02.4 +1.2**
KRMB IAmb IAmb 17 32 05.0

comp=Z,103nm,1.4s
SSPA Standing Stone 30.44 37 P **P** **17 31 58.3 -3.2**
SSPA IAmb IAmb 17 32 18.4

comp=Z,178nm,1.4s
SSPA Standing Stone 30.44 37 P **P** **17 31 59.2 -2.3**
baz=229
DR12 Loma Pena Alta 30.47 83 P **P** **17 32 00.3 -1.8**
M55A Ridgway 30.51 35 P **P** **17 31 59.8 -2.4**
M55A IAmb IAmb 17 32 02.5

comp=Z,47nm,0.7s
DGMT Dagmar 30.58 356 P **P** **17 32 01.7 -1.0**
DGMT IAmb IAmb 17 32 22.7

comp=Z,107nm,1.1s
DGMT Dagmar 30.58 356 P **P** **17 32 02.2 -0.4**
baz=174,SNR=10
PINE Pine Mountain 30.59 332 P **P** **17 32 01.5 -1.5**
MSO Missoula 30.64 343 P **P** **17 32 03.5 +0.2**
MSO **PcP** **17 34 59.8 -0.8**
MSO IAMs_20 IAMs_20 17 45 23.4

comp=Z,5µm,21.0s
MSO Missoula 30.64 343 P **P** **17 32 03.5 +0.2**
baz=156
HUMO Hull Mountain 30.66 328 P **P** **17 32 03.2 -0.3**
L02E Cave Junction 30.67 327 P **P** **17 32 04.3 +0.8**
baz=135
AGMN Agassiz Nation 30.67 7 P **P** **17 32 01.7 -1.8**
AGMN Agassiz Nation 30.67 7 P **P** **17 32 01.8 -1.7**
baz=190,SNR=21
J04D Umpqua Nationa 30.71 330 P **P** **17 32 04.8 +0.6**
baz=138,SNR=32
EGMT Eagleton 30.81 349 P **P** **17 32 05.1 +0.4**
EGMT IAmb IAmb 17 32 24.6

comp=Z,113nm,1.3s
EGMT IAMs_20 IAMs_20 17 45 24.5

comp=Z,4µm,22.0s
EGMT Eagleton 30.81 349 P **P** **17 32 04.8 +0.1**
baz=164,SNR=9.3
E43A Lone Tree Farm 30.84 20 P **P** **17 32 02.8 -2.2**
PAGS Pennsylvania G 30.86 39 P **P** **17 32 02.8 -2.4**
F10A Beach Ranch, E 30.91 338 P **P** **17 32 04.6 -1.0**
F10A IAmb IAmb 17 32 07.2

comp=Z,106nm,1.4s
MVL Millersville 30.94 39 P **P** **17 32 02.7 -3.2**
G08A Pilot Rock 30.97 336 P **P** **17 32 06.1 -0.1**
G08A IAmb IAmb 17 32 07.9

comp=Z,91nm,1.5s
G08A PcP **PcP** **17 35 02.8 +1.3**
D41A Chassel 30.98 17 P **P** **17 32 03.4 -2.8**
D41A IAmb IAmb 17 32 24.4

comp=Z,194nm,1.4s
B35A Bob, Littlefor 31.04 10 P **P** **17 32 03.7 -3.0**
B35A IAmb IAmb 17 32 22.6

comp=Z,98nm,1.4s
EYMN Ely 31.07 13 P **P** **17 32 04.6 -2.4**
EYMN IAmb IAmb 17 32 23.6

comp=Z,115nm,1.4s
EYMN Ely 31.07 13 IAMs_20 IAMs_20 17 45 18.4

comp=Z,4µm,20.0s
EYMN Ely 31.07 13 P **P** **17 32 04.6 -2.4**
baz=198
K02D Willamette Mer 31.09 327 P **P** **17 32 08.2 +0.9**
baz=136,SNR=15
TAMC Tame, Arauca 31.13 108 *e*P **P** **17 32 08.5 +0.6**
DBO Dodson Butte 31.18 328 P **P** **17 32 07.8 -0.2**
I05D Terrebonne, OR 31.20 332 P **P** **17 32 08.8 +0.6**
baz=141,SNR=10
WVNY West Valley, N 31.25 34 P **P** **17 32 06.0 -2.6**
WVNY **pP** **17 32 21.9 0.0**
WVNY IAmb IAmb 17 32 25.4

comp=Z,150nm,1.4s
N58A Sunbury 31.25 38 P **P** **17 32 06.4 -2.2**
N58A IAmb IAmb 17 32 25.1

comp=Z,115nm,1.4s
P60A Greenville 31.26 40 P **P** **17 32 06.2 -2.5**
P60A **pP** **17 32 22.8 +0.7**
P60A IAmb IAmb 17 32 25.6

comp=Z,96nm,1.4s
P60A Greenville 31.26 40 P **P** **17 32 06.0 -2.8**
baz=233
I04A Tendick Farm, 31.28 330 P **P** **17 32 09.6 +0.7**
baz=139,SNR=16
SDV Santo Domingo 31.28 103 P **P** **17 32 09.4 0.0**

comp=Z,4.2nm,0.4s,baz=309,slow=9.9,SNR=16
SDV Santo Domingo 31.28 103 P **P** **17 32 09.4 0.0**
SDV Santo Domingo 31.28 103 IAMs_20 IAMs_20 17 45 01.6
comp=Z,2µm,21.0s
SDV Santo Domingo 31.28 103 *eP* **P** **17 32 08.4 -1.0**
MACC Macarena, Meta 31.31 117 *eP* **P** **17 32 10.9 +1.4**
M57A Sunshine Farm, 31.34 37 P **P** **17 32 06.9 -2.5**
M57A IAmb IAmb 17 32 25.3
comp=Z,92nm,1.2s
WUPA West Chester U 31.35 40 P **P** **17 32 07.7 -1.8**
WUPA **pP** **17 32 22.4 -0.5**
J01E Myrtle Point 31.56 328 P **P** **17 32 13.3 +2.0**
baz=136,SNR=32
KEBM Edson Butte 31.56 327 P **P** **17 32 13.4 +2.1**
JTMT Jette 31.57 343 P **P** **17 32 11.0 -0.5**
PTLC Puerto Leguiza 31.61 121 *eP* **P** **17 32 14.2 +2.2**
L56A Greenwood 31.63 35 P **P** **17 32 09.1 -2.9**
I03D Drain, OR 31.66 329 P **P** **17 32 13.1 +0.9**
baz=137,SNR=9.4
E09A Wood Farm, Sta 31.70 338 P **P** **17 32 12.0 -0.5**
P61A Hammonton 31.71 41 P **P** **17 32 10.8 -1.8**
E46A Sault Ste Mari 31.76 23 P **P** **17 32 11.2 -1.8**
PTGC Puerto Gaitan, 31.79 112 *eP* **P** **17 32 14.2 +0.6**
MMNY Mt. Morris Dam 31.85 34 P **P** **17 32 10.8 -3.0**
MMNY IAmb IAmb 17 32 32.4
comp=Z,123nm,1.4s
F07A Phinny Hill Vi 31.85 335 P **P** **17 32 13.8 -0.1**
H04A Detroit Lake 31.85 331 P **P** **17 32 14.4 +0.5**
H04A IAmb IAmb 17 32 15.9
comp=Z,88nm,1.2s
BUCK Buck Mountain 31.85 330 P **P** **17 32 14.5 +0.5**
BUCK IAmb IAmb 17 32 32.9
comp=Z,104nm,1.2s
N59A State Game Lan 31.86 39 P **P** **17 32 11.5 -2.5**
N59A **pP** **17 32 27.6 +0.3**
N59A IAmb IAmb 17 32 31.0
comp=Z,140nm,1.5s
N59A State Game Lan 31.86 39 P **P** **17 32 13.3 -0.7**
baz=231
MEDO Medina 31.86 33 P **P** **17 32 10.2 -3.8**
MEDO IAmb IAmb 17 32 30.6
comp=Z,60nm,1.1s
LUPA Lehigh Univers 31.90 39 P **P** **17 32 12.4 -2.0**
LUPA IAmb IAmb 17 32 15.3
comp=Z,49nm,0.7s
G05D Wamic, OR 31.90 333 P **P** **17 32 14.5 +0.2**
baz=142,SNR=6.3
H04D Lebanon 31.98 331 P **P** **17 32 15.4 +0.3**
baz=139,SNR=6.5
HAWA Hanford 32.11 336 P **P** **17 32 14.5 -1.6**
HAWA IAMs_20 IAMs_20 17 46 09.9
comp=Z,2µm,19.0s
HOOD Mount Hood Mea 32.11 333 P **P** **17 32 17.1 +0.8**
I02D Swisshome 32.20 329 P **P** **17 32 17.8 +0.9**
baz=137,SNR=13
J55A Hilton 32.27 33 P **P** **17 32 14.1 -3.4**
COR Corvallis 32.30 330 P **P** **17 32 19.2 +1.5**
COR pmax pmax
comp=Z,31nm,0.8s
COR MLR MLR
comp=Z,2µm,18.0s
COR Corvallis 32.30 330 P **P** **17 32 19.2 +1.5**
COR IAmb IAmb 17 32 39.3
comp=Z,31nm,0.8s
COR Corvallis 32.30 330 IAMs_20 IAMs_20 17 46 51.4
comp=Z,2µm,18.0s
E07A Sunnyside 32.37 336 P **P** **17 32 17.0 -1.4**
D08A Wollman Farm, 32.44 338 P **P** **17 32 18.6 -0.3**
BRNJ Basking Ridge 32.44 40 P **P** **17 32 16.7 -2.3**
BRNJ IAmb IAmb 17 32 20.4
comp=Z,79nm,1.1s
F05D White Salmon 32.47 334 P **P** **17 32 20.7 +1.4**
baz=142,SNR=10
BINY Binghamton 32.55 36 P **P** **17 32 17.6 -2.4**
BINY IAMs_20 IAMs_20 17 47 57.1
comp=Z,2µm,20.0s
BINY Binghamton 32.55 36 P **P** **17 32 18.0 -2.0**
baz=230
ULM Lac du Bonnet 32.59 7 P **P** **17 32 18.1 -2.1**
comp=Z,64nm,0.9s,baz=191,slow=8.8,SNR=37
ULM PcP **PcP** **17 35 05.6 0.0**
comp=Z,10nm,0.5s,baz=122,slow=2.4,SNR=4.1
ULM LR LR 17 46 47.4
comp=Z,3µm,19.4s,baz=178,slow=39
ULM Lac du Bonnet 32.59 7 P **P** **17 32 17.8 -2.5**
K57A Scipio Center 32.60 35 P **P** **17 32 17.7 -2.7**
K57A IAmb IAmb 17 32 42.1
comp=Z,63nm,1.1s
ODNJ Ogdensburg 32.66 39 P **P** **17 32 19.3 -1.7**
ODNJ **pP** **17 32 34.2 -0.1**
ODNJ IAmb IAmb 17 32 37.6
comp=Z,82nm,1.2s
WALA Waterton Lakes 32.68 345 P **P** **17 32 20.7 -0.6**
WALA IAmb IAmb 17 32 23.3
comp=Z,46nm,0.9s
SADO Sadowa 32.69 30 P **P** **17 32 18.5 -2.6**
comp=Z,17nm,0.5s,baz=247,slow=11
SADO Sadowa 32.69 30 P **P** **17 32 18.0 -3.2**
MLPR Magueyes Islan 32.74 84 P **P** **17 32 21.7 -0.2**
MLPR IAmb IAmb 17 32 45.0
comp=Z,27nm,0.7s
G03D McMinnville, O 32.75 331 P **P** **17 32 22.5 +0.8**
baz=139
C09A Chrisman Ranch 32.84 339 P **P** **17 32 22.8 +0.3**
NEW Newport 32.87 341 P **P** **17 32 22.2 -0.6**
comp=Z,9.8nm,0.7s,baz=142,slow=8.6,SNR=16
NEW PcP **PcP** **17 35 06.9 +0.3**
comp=Z,6.2nm,0.9s,baz=192,slow=1.8,SNR=3.8
NEW LR LR 17 47 02.7
comp=Z,2µm,18.1s,baz=161,slow=39
NEW Newport 32.87 341 P **P** **17 32 22.4 -0.4**
NEW Newport 32.87 341 IAMs_20 IAMs_20 17 46 43.7
comp=Z,2µm,20.0s
NEW Newport 32.87 341 P **P** **17 32 22.5 -0.4**
baz=151
CPNY Central Park 32.88 40 P **P** **17 32 20.9 -1.9**
F04A Amboy 32.92 333 P **P** **17 32 23.7 +0.5**
F04A IAmb IAmb 17 32 25.2
comp=Z,95nm,1.5s
TRNY Table Rock, Ra 32.92 40 P **P** **17 32 21.5 -1.8**
TRNY **pP** **17 32 38.2 +1.5**
HEBO Mount Hebo 32.98 331 P **P** **17 32 24.0 +0.2**
AOPR Arecibo Observ 32.99 84 P **P** **17 32 21.1 -3.1**
AOPR IAmb IAmb 17 32 45.6
comp=Z,45nm,0.7s
ELOV Elorza 33.01 105 *eP* **P** **17 32 26.0 +1.6**
PAL Palisades 33.03 40 P **P** **17 32 22.0 -2.2**
PAL pmax pmax
comp=Z,144nm,1.4s
PAL MLR MLR
comp=Z,2µm,22.0s
PAL Palisades 33.03 40 P **P** **17 32 22.0 -2.2**
PAL IAmb IAmb 17 32 40.4
comp=Z,144nm,1.4s
PAL IAMs_20 IAMs_20 17 47 40.0
comp=Z,2µm,22.0s
PAL Palisades 33.03 40 P **P** **17 32 21.6 -2.7**
baz=234
L59A Walton 33.08 37 P **P** **17 32 22.3 -2.4**
OBIP Obispado Ponce 33.15 84 P **P** **17 32 24.1 -1.5**
DELO Deloro Mine 33.25 32 P **P** **17 32 23.0 -3.1**
DELO IAmb IAmb 17 32 42.0
comp=Z,67nm,1.3s
LTY Liberty 33.26 336 P **P** **17 32 26.8 +0.5**
LTY IAmb IAmb 17 32 28.6
comp=Z,82nm,1.4s
F04D Rainier, OR 33.30 332 P **P** **17 32 27.6 +1.1**
baz=140
LON Longmire 33.31 334 P **P** **17 32 27.1 +0.4**
LON pmax pmax
comp=Z,43nm,1.3s
LON Longmire 33.31 334 P **P** **17 32 27.1 +0.4**
J57A Williamstown 33.33 35 P **P** **17 32 24.0 -2.8**
J57A IAmb IAmb 17 32 43.6
comp=Z,60nm,1.0s
E04D Cinebar 33.48 333 P **P** **17 32 29.1 +1.1**
baz=141,SNR=11
WSPT Westport, CT 33.48 40 P **P** **17 32 25.4 -2.7**
SJG San Juan 33.58 84 P **P** **17 32 28.3 -0.9**
comp=Z,78nm,0.7s,baz=258,slow=7.2,SNR=15
SJG San Juan 33.58 84 P **P** **17 32 27.4 -1.9**
SJG San Juan 33.58 84 *eP* **P** **17 32 27.0 -2.3**
GCPR Guaynabo City 33.62 84 P **P** **17 32 29.5 -0.1**
GCPR IAmb IAmb 17 32 35.2
comp=Z,49nm,0.8s

B08A Colville Reser 33.69 338 P **P** **17 32 29.8 -0.1**
B08A IAmb IAmb 17 32 48.1
comp=Z,72nm,1.4s
J58A Remsen 33.69 35 P **P** **17 32 26.9 -3.1**
PDPR Patillas Dam, 33.71 84 P **P** **17 32 29.4 -0.9**
KSCT Kent School, K 33.72 39 P **P** **17 32 28.0 -2.2**
KSCT IAmb IAmb 17 32 47.8
comp=Z,127nm,1.3s
D05A Enumclaw 33.73 335 P **P** **17 32 30.1 -0.1**
D05A IAmb IAmb 17 32 32.9
comp=Z,89nm,1.4s
CBYP Canovanas 33.84 84 P **P** **17 32 30.6 -1.0**
CBYP IAmb IAmb 17 32 52.8
comp=Z,81nm,0.9s
HUMP Col San Antoni 33.86 84 P **P** **17 32 31.1 -0.7**
C06D Leavenworth 33.90 336 P **P** **17 32 32.6 +0.8**
baz=145
E03A Lebam 33.90 332 P **P** **17 32 33.4 +1.7**
RADR Rader Ridge 33.91 332 P **P** **17 32 33.7 +1.9**
RADR IAmb IAmb 17 32 58.5
comp=Z,129nm,1.4s
D04E Lakebay 34.05 334 P **P** **17 32 34.0 +1.0**
baz=142
MTP Monte Pirata 34.15 84 P **P** **17 32 33.2 -0.9**
J59A Piesco 34.19 36 P **P** **17 32 31.5 -2.8**
J59A IAmb IAmb 17 32 51.5
comp=Z,97nm,1.4s
TRY Troy 34.21 38 P **P** **17 32 29.9 -4.6**
TRY IAmb IAmb 17 32 51.3
comp=Z,88nm,1.3s
WISH Wishkah 34.43 333 P **P** **17 32 37.6 +1.4**
WISH IAmb IAmb 17 32 57.5
comp=Z,80nm,1.2s
UCCT U. Connecticut 34.52 40 P **P** **17 32 33.9 -3.3**
UCCT **pP** **17 32 52.6 +1.9**
B06A Marblemount 34.61 336 P **P** **17 32 37.9 +0.1**
B06A IAmb IAmb 17 32 39.3
comp=Z,35nm,1.0s
ACCN Adirondack Com 34.62 37 P **P** **17 32 35.7 -2.3**
ACCN **pP** **17 32 51.3 -0.1**
ACCN IAmb IAmb 17 32 55.1
comp=Z,73nm,1.1s
L61B Northampton 34.63 39 P **P** **17 32 36.2 -1.9**
baz=234
B05A Bryant 34.64 336 P **P** **17 32 37.6 -0.5**
baz=144,SNR=12
NCB Newcomb 34.67 36 P **P** **17 32 36.0 -2.6**
NLWA Neilton Lookou 34.69 333 P **P** **17 32 40.0 +1.4**
NLWA IAmb IAmb 17 33 00.7
comp=Z,80nm,1.4s
NLWA IAMs_20 IAMs_20 17 48 52.4
comp=Z,2µm,19.0s
STVI Saint Thomas 34.69 83 P **P** **17 32 37.7 -1.2**
QUA2 Belchertown 34.72 39 P **P** **17 32 36.1 -2.8**
QUA2 IAmb IAmb 17 32 55.7
comp=Z,97nm,1.3s
LONY Lake Ozonia 34.90 34 P **P** **17 32 37.4 -3.1**
LONY **pP** **17 32 54.0 +0.1**
LONY IAmb IAmb 17 32 57.3
comp=Z,49nm,1.1s
LONY IAMs_20 IAMs_20 17 48 42.4
comp=Z,1µm,21.0s
LONY Lake Ozonia 34.90 34 P **P** **17 32 37.9 -2.5**
baz=229
CDVI St. Croix 34.92 84 P **P** **17 32 39.6 -1.3**
BRYW Bryant College 35.01 40 P **P** **17 32 38.9 -2.6**
BRYW IAmb IAmb 17 32 58.9
comp=Z,45nm,1.0s
B04A Port Angeles 35.05 334 P **P** **17 32 42.6 +1.0**
B04A IAmb IAmb 17 32 44.3
comp=Z,118nm,1.4s
J61A Chester 35.23 38 P **P** **17 32 41.6 -1.7**
J61A **pP** **17 32 56.8 0.0**
J61A IAmb IAmb 17 33 00.7
comp=Z,113nm,1.4s
ABVI Anegada Island 35.24 83 P **P** **17 32 43.9 +0.3**
A04D Lummi Island 35.25 335 P **P** **17 32 44.1 +0.7**
baz=143,SNR=7.0
HRV Adam Dziewonsk 35.33 40 P **P** **17 32 42.1 -2.1**
HRV pmax pmax
comp=Z,74nm,1.2s
HRV MLR MLR
comp=Z,1µm,22.0s
HRV Adam Dziewonsk 35.33 40 P **P** **17 32 42.1 -2.1**
HRV IAmb IAmb 17 33 01.8
comp=Z,74nm,1.2s
M65A Busby, Falmout 35.38 42 P **P** **17 32 42.8 -1.7**
baz=237
PGC Sidney 35.49 335 P **P** **17 32 45.5 +0.1**
PGC IAmb IAmb 17 32 47.6
comp=Z,101nm,1.5s
FRNY Flat Rock 35.58 35 P **P** **17 32 42.8 -3.4**
FRNY IAmb IAmb 17 33 03.5
comp=Z,46nm,1.4s
HNH Hanover 35.61 37 P **P** **17 32 44.9 -1.6**
HNH IAmb IAmb 17 33 03.8
comp=Z,81nm,1.3s
HNH IAMs_20 IAMs_20 17 50 01.1
comp=Z,2µm,20.0s
VT1 Waterbury 35.72 36 P **P** **17 32 45.0 -2.5**
VT1 IAmb IAmb 17 33 04.1
comp=Z,55nm,1.5s
VT1 IAMs_20 IAMs_20 17 49 41.0
comp=Z,2µm,21.0s
MNTQ Montreal, Queb 35.99 34 P **P** **17 32 47.3 -2.5**
MNTQ IAmb IAmb 17 33 05.7
comp=Z,82nm,1.4s
LBNH Lisbon 36.14 37 P **P** **17 32 48.1 -2.9**
LBNH **pP** **17 33 06.7 +2.2**
LBNH IAmb IAmb 17 33 07.8
comp=Z,113nm,1.4s
LBNH IAMs_20 IAMs_20 17 50 05.1
comp=Z,2µm,21.0s
LBNH Lisbon 36.14 37 P **P** **17 32 50.7 -0.4**
baz=233
I62A Tamworth 36.26 38 P **P** **17 32 50.5 -1.6**
I62A **pP** **17 33 07.7 +2.1**
EDM Edmonton 36.45 348 P **P** **17 32 53.2 -0.5**
EDM pmax pmax
comp=Z,412nm,1.3s
EDM Edmonton 36.45 348 P **P** **17 32 53.2 -0.5**
LLLB Lillooet 36.48 338 P **P** **17 32 54.0 0.0**
SMRT St. Maarten 36.50 84 P **P** **17 32 52.6 -1.8**
SMRT IAmb IAmb 17 33 14.9
comp=Z,102nm,1.2s
SMRT IAMs_20 IAMs_20 17 49 54.2
comp=Z,1µm,20.0s
PCRV Puerto La Cruz 36.51 97 P **P** **17 32 54.2 -0.4**
comp=Z,9.3nm,0.9s,baz=317,slow=7.0,SNR=3.9
OZB Mount Ozzard 36.59 333 P **P** **17 32 56.1 +1.3**
OZB IAmb IAmb 17 32 57.4
comp=Z,75nm,0.8s
MOQ Mont Orford 36.61 35 P **P** **17 32 52.3 -2.9**
SEUS St. Eustatius 36.64 85 P **P** **17 32 53.9 -1.7**
SEUS IAMs_20 IAMs_20 17 50 27.2
comp=Z,1µm,20.0s
FFC Flin Flon 36.77 360 *eP* **P** **17 32 54.1 -2.1**
FFC Flin Flon 36.77 360 P **P** **17 32 54.4 -1.9**
FFC pP **pP** **17 33 11.0 +1.5**
H62A Milan 36.78 37 P **P** **17 32 54.0 -2.5**
H62A IAmb IAmb 17 33 13.3
comp=Z,99nm,1.4s
I63A Otisfield 36.80 38 P **P** **17 32 53.5 -3.2**
I63A IAmb IAmb 17 33 14.8
comp=Z,105nm,1.4s
CBB Campbell River 37.35 335 P **P** **17 33 01.2 -0.1**
CBB IAmb IAmb 17 33 21.9
comp=Z,69nm,1.4s
G62A West of Eustis 37.52 37 P **P** **17 33 00.4 -2.4**
WVL Waterville 37.64 38 P **P** **17 33 02.0 -1.8**
WVL IAmb IAmb 17 33 21.3
comp=Z,88nm,1.2s
WVL IAMs_20 IAMs_20 17 51 22.9
comp=Z,2µm,20.0s
ANWB Willy Bob 37.76 84 P **P** **17 33 02.4 -2.7**
ANWB IAMs_20 IAMs_20 17 48 59.7
comp=Z,1µm,21.0s
PKME Peaks-Kenny Pk 38.26 37 P **P** **17 33 07.5 -1.5**
PKME IAmb IAmb 17 33 27.3
comp=Z,99nm,1.4s
PKME IAMs_20 IAMs_20 17 51 31.2
comp=Z,2µm,21.0s
PKME Peaks-Kenny Pk 38.26 37 P **P** **17 33 08.5 -0.5**
baz=235
TLCB Telegraph Cove 38.36 334 P **P** **17 33 11.1 +1.3**

TLCB IAmb IAmb 17 33 12.2
comp=Z,51nm,0.9s
NNA Nana 38.38 139 LR LR 17 45 48.4
comp=Z,635nm,19.1s,baz=322,slow=31
NNA Nana 38.38 139 *ceP* **P** **17 33 12.8 +2.4**
NNA pmax pmax
comp=Z,85nm,2.5s
NNA Nana 38.38 139 P **P** **17 33 10.7 +0.3**
F63A Nahmakanta, Br 38.62 37 P **P** **17 33 10.0 -2.1**
F63A IAmb IAmb 17 33 29.1
comp=Z,95nm,1.4s
GRGR Grenville 38.84 93 P **P** **17 33 13.9 -0.4**
BIM Bigot 38.91 89 P **P** **17 33 14.5 -0.4**
BIM IAmb IAmb 17 33 19.6
comp=Z,119nm,1.1s
E62A Clayton Lake 38.92 36 P **P** **17 33 12.5 -2.0**
SVB Belmont 38.98 91 P **P** **17 33 14.4 -1.0**
HOLB Holberg 38.98 333 P **P** **17 33 15.7 +0.6**
EMMW East Machias 39.03 39 P **P** **17 33 13.2 -2.3**
EMMW IAmb IAmb 17 33 32.7
comp=Z,97nm,1.2s
EMMW IAMs_20 IAMs_20 17 52 07.8
comp=Z,2µm,18.0s
LMQ La Malbaie 39.05 34 P **P** **17 33 12.7 -3.0**
LMQ IAmb IAmb 17 33 32.5
comp=Z,56nm,1.1s
MPOM Morne Pois Mar 39.12 89 P **P** **17 33 15.7 -0.9**
MPOM **pP** **17 33 31.2 +1.2**
F64A Sherman 39.14 37 P **P** **17 33 14.8 -1.6**
F64A IAmb IAmb 17 33 32.9
comp=Z,59nm,1.2s
G65A Princeton 39.23 39 P **P** **17 33 15.5 -1.6**
G65A **pP** **17 33 32.5 +1.8**
G65A IAmb IAmb 17 33 35.1
comp=Z,118nm,1.2s
D62A Allapoint, All 39.45 35 P **P** **17 33 17.5 -1.4**
D62A IAmb IAmb 17 33 36.2
comp=Z,166nm,1.5s
PQI Presque Isle 39.79 36 P **P** **17 33 19.5 -2.3**
PQI IAmb IAmb 17 33 39.0
comp=Z,78nm,1.2s
PQI IAMs_20 IAMs_20 17 51 53.8
comp=Z,2µm,21.0s
BBB Bella Bella 40.12 335 P **P** **17 33 25.6 +1.2**
comp=Z,11nm,0.8s,baz=111,slow=6.6,SNR=17
BBB Bella Bella 40.12 335 P **P** **17 33 25.7 +1.4**
BBB IAmb IAmb 17 33 28.0
comp=Z,75nm,1.5s
BBGH Gun Hill 40.61 91 IAMs_20 IAMs_20 17 49 55.9
comp=Z,1µm,19.0s
FCC Fort Churchill 41.17 6 P **P** **17 33 31.6 -1.4**
FCC pmax pmax
comp=Z,82nm,1.5s
FCC Fort Churchill 41.17 6 P **P** **17 33 31.6 -1.4**
FCC IAmb IAmb 17 33 49.8
comp=Z,82nm,1.4s
LMN Caledonia Moun 41.23 39 P **P** **17 33 32.0 -1.6**
LMN IAmb IAmb 17 33 50.8
comp=Z,127nm,1.3s
BATG Bathurst New B 41.24 37 P **P** **17 33 31.8 -2.0**
BATG IAmb IAmb 17 33 50.9
comp=Z,142nm,1.5s
HAL Halifax 41.39 42 P **P** **17 33 33.1 -1.9**
HAL pmax pmax
comp=Z,62nm,1.3s
HAL Halifax 41.39 42 P **P** **17 33 33.1 -1.9**
HG4B Hotspring 41.50 333 P **P** **17 33 36.4 +0.6**
MOBC Moresby Island 42.43 333 P **P** **17 33 44.4 +0.9**
MOBC IAmb IAmb 17 33 47.2
comp=Z,142nm,1.3s
BOAV Boa Vista 43.02 106 *eP* **P** **17 33 48.6 -0.1**
GBN Guysborough 43.05 42 P **P** **17 33 47.1 -1.4**
GBN IAmb IAmb 17 34 05.2
comp=Z,114nm,1.4s
ETMB Extrema 44.40 126 *eP* **P** **17 33 59.2 -0.5**
CRAG Craig 44.55 335 P **P** **17 34 02.2 +1.8**
baz=134
PTGA Pitinga 44.84 110 P **P** **17 34 03.5 +0.2**
comp=Z,5.6nm,0.5s,baz=302,slow=10,SNR=16
PTGA PcP **PcP** **17 35 45.1 +0.5**
comp=Z,7.7nm,0.7s,baz=315,slow=4.0,SNR=5.7
PTGA Pitinga 44.84 110 P **P** **17 34 03.0 -0.3**
PTGA Pitinga 44.84 110 *eP* **P** **17 34 01.8 -1.6**
WRAK Wrangell Islan 44.92 336 P **P** **17 34 04.1 +0.8**
baz=136
MACA Manacapuru-AM 45.33 113 *eP* **P** **17 34 06.9 -0.3**
SCHQ Schefferville 45.39 28 P **P** **17 34 05.3 -1.8**
comp=Z,12nm,0.5s,baz=231,slow=7.2,SNR=15
SCHQ LR LR 17 55 50.2
comp=Z,701nm,18.7s,baz=239,slow=40
SCHQ Schefferville 45.39 28 P **P** **17 34 05.3 -1.8**
SCHQ IAmb IAmb 17 34 23.6
comp=Z,68nm,1.4s
YKA Yellowknife Ar 45.49 352 P **P** **17 34 06.9 -0.9**
comp=Z,4.4nm,0.6s,baz=125,slow=5.5,SNR=14
YKA PcP **PcP** **17 35 46.5 +0.5**
comp=Z,6.3nm,0.8s,baz=148,slow=4.4,SNR=6.0
YKA LR LR 17 54 46.3
comp=Z,3µm,18.7s,baz=0.0,slow=38
YKA Yellowknife Ar 45.49 352 P **P** **17 34 07.1 -0.7**
YKA *SP **pP** **17 34 24.0 +2.8**
YKA Yellowknife Ar 45.49 352 P **P** **17 34 07.1 -0.7**
YKA **pP** **17 34 24.0 +2.8**
DLBC Dease Lake 45.60 339 P **P** **17 34 09.7 +0.9**
comp=Z,24nm,0.7s,baz=155,slow=7.5,SNR=32
DLBC Dease Lake 45.60 339 P **P** **17 34 10.0 +1.2**
DLBC IAmb IAmb 17 34 13.1
comp=Z,67nm,1.2s
SAML Samuel 46.28 122 P **P** **17 34 12.4 -2.2**
SAML pmax pmax
comp=Z,59nm,1.3s
SAML MLR MLR
comp=Z,700nm,20.0s
SAML Samuel 46.28 122 P **P** **17 34 12.4 -2.2**
SAML IAmb IAmb 17 34 14.7
comp=Z,59nm,1.2s
SAML Samuel 46.28 122 *eP* **P** **17 34 09.9 -4.7**
SAML Samuel 46.28 122 *eP* **P** **17 34 13.4 -1.3**
TAOE Nuku Hiva Isla 46.52 238 *eLR* LR 17 47 16.9
comp=Z,4µm,26.6s
TAOE Nuku Hiva Isla 46.52 238 *eT* T 18 23 45.5
comp=Z,347nm,0.2s
WTLY Watson Lake, Y 46.53 342 P **P** **17 34 17.5 +1.4**
baz=143
SIT Sitka 46.54 335 P **P** **17 34 16.7 +0.6**
baz=133
LPAZ La Paz 47.25 134 P **P** **17 34 23.1 +0.2**
comp=Z,7.7nm,0.8s,baz=328,slow=6.6,SNR=25
LPAZ La Paz 47.25 134 P **P** **17 34 22.5 -0.5**
LPAZ La Paz 47.25 134 *eP* **P** **17 34 23.1 +0.2**
BESE Bessie Mountai 47.41 337 P **P** **17 34 23.4 +0.4**
BESE IAmb IAmb 17 34 25.0
comp=Z,62nm,1.3s
TGTN Hyland Airport 47.52 343 P **P** **17 34 25.2 +1.5**
baz=144
PSGCX Pisagua 48.34 139 P **P** **17 34 30.5 -0.1**
PB11 IPOC Station P 48.75 139 P **P** **17 34 33.1 -0.8**
PB11 IAmb IAmb 17 34 35.7
comp=Z,48nm,1.0s
TA02 Huaiquique 48.83 140 P **P** **17 34 34.8 +0.4**
TA02 IAmb IAmb 17 34 56.6
comp=Z,49nm,1.3s
TA01 Diego Aracena 49.02 140 P **P** **17 34 36.9 +1.1**
TA01 IAmb IAmb 17 34 37.9
comp=Z,34nm,1.0s
MMPY Sheldon Lake, 49.24 342 P **P** **17 34 38.6 +1.6**
baz=141
PB08 IPOC Station P 49.35 139 P **P** **17 34 38.9 +0.2**
PB08 IAmb IAmb 17 34 41.0
comp=Z,26nm,1.0s
MDP Montagnes des 49.37 99 P **P** **17 34 38.5 -0.1**
comp=Z,18nm,1.2s,baz=305,slow=7.7,SNR=11
FARO Faro, Yukon 49.56 341 P **P** **17 34 40.9 +1.4**
baz=138,SNR=10
PB01 IPOC Station P 49.81 140 P **P** **17 34 41.9 0.0**
PB01 IAmb IAmb 17 34 43.9
comp=Z,18nm,0.6s
HYT Haines Junctio 49.94 338 P **P** **17 34 44.6 +2.1**
HYT IAmb IAmb 17 34 46.9
comp=Z,96nm,1.3s
HYT Haines Junctio 49.94 338 P **P** **17 34 44.6 +2.1**
baz=133
PB07 IPOC Station P 50.08 141 P **P** **17 34 44.7 +0.6**
PB07 IAmb IAmb 17 34 46.3
comp=Z,32nm,0.7s

ITTB	Itaituba	50.25 112	eP	P	17 34 44.8	-0.5	
YUK6	Outpost Mounta	50.33 338	P	P	17 34 47.5	+2.0	
	baz=132,SNR=12						
PB04	IPOC Station P	50.38 141	P	P	17 34 46.3	0.0	
PB04			IAmb	IAmb	17 35 03.7		
	comp=Z,36nm,0.5s						
MALB	Monte Alegre	50.46 108	eP	P	17 34 46.8	-0.1	
PB09	IPOC Station P	50.52 140	P	P	17 34 48.4	+1.0	
PB09			IAmb	IAmb	17 34 50.1		
	comp=Z,31nm,0.7s						
YUK4	Talbot Arm	50.70 338	P	P	17 34 50.3	+2.0	
	baz=132,SNR=6.5						
VILB	Vilhena	50.98 124	eP	P	17 34 50.8	0.0	
PB06	IPOC Station P	51.01 141	P	P	17 34 50.9	-0.1	
PB06			IAmb	IAmb	17 35 19.8		
	comp=Z,81nm,1.2s						
TABL	Table Mountain	51.05 336	P	P	17 34 49.8	-1.1	
TABL			IAmb	IAmb	17 34 56.4		
	comp=Z,100nm,1.4s						
PB10	IPOC Station P	51.05 143	P	P	17 34 50.9	-0.3	
PB10			IAmb	IAmb	17 35 15.3		
	comp=Z,39nm,0.5s						
MESA	MESA	51.20 335	P	P	17 34 54.4	+2.3	
	baz=127						
LOGN	Logan Glacier	51.24 336	P	P	17 34 53.0	+0.7	
LOGN			IAmb	IAmb	17 35 00.8		
	comp=Z,78nm,1.4s						
LVC	Limon Verde	51.34 140	P	P	17 34 55.4	+1.7	
	comp=Z,13nm,0.3s,baz=207,slow=12,SNR=22						
LVC	Limon Verde	51.34 140	eP	P	17 34 55.6	+1.9	
LVC	Limon Verde	51.34 140	P	P	17 34 55.0	+1.2	
LVC			IAmb	IAmb	17 35 15.3		
	comp=Z,21nm,0.5s						
LVC	Limon Verde	51.34 140	eP	P	17 34 55.7	+1.9	
MAYO	Mayo, Yukon	51.36 341	P	P	17 34 55.0	+2.0	
	baz=136						
CTGM	Chitina Glacie	51.45 336	P	P	17 34 53.1	-0.7	
CTGM			IAmb	IAmb	17 34 56.7		
	comp=Z,94nm,1.5s						
CTG	Chitna Glacier	51.45 336	P	P	17 34 55.0	+1.1	
	baz=128,SNR=5.1						
GRNC	Granite Creek	51.47 336	IAMs_20	IAMs_20	17 58 49.9		
	comp=Z,2µm,22.0s						
ISLE	Juniper Island	51.61 336	P	P	17 34 55.6	+0.5	
ISLE			IAmb	IAmb	17 34 59.0		
	comp=Z,44nm,0.8s						
ISLE			IAMs_20	IAMs_20	17 58 57.9		
	comp=Z,2µm,19.0s						
BARN	Barnard Glacie	51.63 336	P	P	17 34 57.5	+2.2	
BARN			IAmb	IAmb	17 34 59.5		
	comp=Z,69nm,1.3s						
YUK3	Moose Creek	51.64 338	P	P	17 34 56.8	+1.4	
	baz=130,SNR=11						
BGLC	Bering Glacier	51.70 335	P	P	17 34 57.7	+2.2	
	baz=126						
WAX	Waxell Ridge	51.72 335	P	P	17 34 57.5	+1.7	
NPGB	Novo Progresso	51.84 114	eP	P	17 34 56.1	-1.2	
MCPB	Macapa, AP	51.88 105	eP	P	17 34 57.2	-0.3	
TGL	Tana Glacier	51.90 336	P	P	17 34 58.9	+1.8	
TGL			IAMs_20	IAMs_20	17 59 16.4		
	comp=Z,1µm,19.0s						
PB14	IPOC Station P	52.00 143	P	P	17 34 58.5	-0.1	
PB14			IAmb	IAmb	17 35 27.2		
	comp=Z,29nm,0.4s						
CRQE	Cirque	52.00 336	P	P	17 35 00.1	+2.2	
	baz=126,SNR=7.2						
CRQM	Cirque	52.02 336	P	P	17 34 59.7	+1.5	
CRQM			IAMs_20	IAMs_20	17 59 10.1		
	comp=Z,2µm,19.0s						
BERG	Berg Lake	52.03 335	P	P	17 34 59.5	+1.5	
AF01	San Pedro de A	52.04 140	P	P	17 35 00.7	+1.8	
AF01			IAmb	IAmb	17 35 02.3		
	comp=Z,67nm,0.8s						
KAIM	Kayak Island	52.05 334	P	P	17 35 00.3	+2.1	
	baz=124						
SIV	San Ignacio	52.14 128	P	P	17 34 58.9	-0.6	
	comp=Z,37nm,1.1s,baz=310,slow=7.9,SNR=52						
SIV			PcP	PcP	17 36 11.6	+0.8	
	comp=Z,11nm,0.9s,baz=250,slow=1.5,SNR=4.6						
BVCY	Beaver Creek	52.20 338	P	P	17 35 00.8	+1.5	
	baz=130,SNR=6.5						
RKT	Rikitea	52.27 220	eT	T	18 30 59.0		
	comp=Z,40nm,0.3s						
MCARA	McCarthy VSAT	52.35 336	P	P	17 35 01.8	+1.4	
MCARA	McCarthy VSAT	52.35 336	P	P	17 35 02.0	+1.6	
	baz=127,SNR=6.0						
VRDI	Verde Repeater	52.43 336	P	P	17 35 03.0	+1.8	
VRDI			IAmb	IAmb	17 35 03.6		
	comp=Z,47nm,1.0s						
VRDI			IAMs_20	IAMs_20	17 59 12.3		
	comp=Z,2µm,20.0s						
M27K	Edge Creek, AK	52.53 338	P	P	17 35 04.0	+2.1	
M27K			IAmb	IAmb	17 35 05.0		
	comp=Z,87nm,1.5s						
M27K			IAMs_20	IAMs_20	17 59 02.8		
	comp=Z,2µm,20.0s						
M27K	Edge Creek, AK	52.53 338	P	P	17 35 03.6	+1.7	
	baz=129						
Q23K	Middleton Isla	52.60 333	P	P	17 35 02.9	+0.8	
	baz=122						
GLB	Gilahina Butte	52.69 336	P	P	17 35 04.7	+1.7	
GLB			IAmb	IAmb	17 35 05.6		
	comp=Z,58nm,0.9s						
BMRM	Bremner River	52.73 335	P	P	17 35 05.0	+1.7	
BMRM			IAmb	IAmb	17 35 08.9		
	comp=Z,75nm,1.0s						
BMRM	Bremner River	52.73 335	P	P	17 35 05.1	+1.9	
	baz=125,SNR=9.5						
DAWY	Dawson	52.80 340	P	P	17 35 03.6	0.0	
DAWY	Dawson	52.80 340	P	P	17 35 04.7	+1.0	
	baz=132						
BCAR	Beaver Creek A	52.95 338	P	P	17 35 05.4	+0.6	
EYAK	Cordova Ski Ar	52.95 334	P	P	17 35 06.5	+1.7	
EYAK			IAmb	IAmb	17 35 07.5		
	comp=Z,54nm,1.0s						
EYAK	Cordova Ski Ar	52.95 334	P	P	17 35 07.0	+2.3	
	baz=123						
L27K	Beaver Creek,	52.96 338	P	P	17 35 05.5	+0.6	
L27K			IAmb	IAmb	17 35 08.8		
	comp=Z,83nm,1.5s						
L27K	Beaver Creek,	52.96 338	P	P	17 35 06.3	+1.4	
	baz=129						
M26K	Nabesna, AK	52.97 337	P	P	17 35 06.5	+1.5	
M26K			IAmb	IAmb	17 35 07.3		
	comp=Z,39nm,0.9s						
M26K	Nabesna, AK	52.97 337	P	P	17 35 06.5	+1.5	
	baz=128						
N25K	Chitina, Valde	53.09 336	P	P	17 35 07.4	+1.4	
N25K			IAmb	IAmb	17 35 08.8		
	comp=Z,36nm,0.8s						
N25K	Chitina, Valde	53.09 336	P	P	17 35 08.3	+2.3	
	baz=125						
HIN	Hinchinbrook I	53.18 334	P	P	17 35 08.2	+1.7	
DIV	Divide	53.29 335	P	P	17 35 08.7	+1.3	
DIV			IAmb	IAmb	17 35 12.0		
	comp=Z,54nm,1.0s						
PTLB	Pontes e Lacer	53.29 126	eP	P	17 35 07.2	-0.6	
FID	Port Fidalgo	53.37 334	P	P	17 35 07.8	-0.1	
CLDB	Colider	53.41 119	eP	P	17 35 07.7	-1.1	
L26K	Log Cabin Wild	53.48 338	P	P	17 35 09.6	+0.9	
L26K			IAmb	IAmb	17 35 10.9		
	comp=Z,33nm,0.9s						
L26K	Log Cabin Wild	53.48 338	P	P	17 35 10.4	+1.7	
	baz=128						
KLU	Klutina	53.55 335	P	P	17 35 10.9	+1.6	
KLU			IAmb	IAmb	17 35 12.5		
	comp=Z,58nm,0.8s						
KLU			IAMs_20	IAMs_20	18 00 23.1		
	comp=Z,1µm,19.0s						
KLU	Klutina	53.55 335	P	P	17 35 10.6	+1.3	
	baz=124,SNR=14						
MENT	Mentasta	53.56 338	P	P	17 35 09.3	+0.1	
MENT			IAmb	IAmb	17 35 11.4		
	comp=Z,26nm,0.8s						
GLI	Glacier Island	53.69 334	P	P	17 35 11.8	+1.6	
GLI			IAmb	IAmb	17 35 12.2		
	comp=Z,70nm,1.0s						
GLI	Glacier Island	53.69 334	P	P	17 35 11.4	+1.2	
	baz=122						
HARP	HAARP	53.77 337	P	P	17 35 12.6	+1.8	
	baz=125						
EGAK	Eagle	53.85 340	P	P	17 35 11.5	+0.2	
EGAK	Eagle	53.85 340	P	P	17 35 12.0	+0.7	
	baz=131						
M24K	Tolsona, Glenn	54.00 336	P	P	17 35 13.8	+1.3	
M24K	Tolsona, Glenn	54.00 336	P	P	17 35 14.4	+1.8	
	baz=124						
DOT	Dot Lake	54.11 338	P	P	17 35 14.2	+0.9	
PWL	Port Wells	54.20 334	P	P	17 35 15.2	+1.3	
PAX	Paxson	54.22 337	P	P	17 35 14.8	+0.6	
PAX			pmax	pmax			
	comp=Z,46nm,0.9s						
PAX	Paxson	54.22 337	P	P	17 35 14.8	+0.6	
PAX			IAmb	IAmb	17 35 16.0		
	comp=Z,46nm,0.9s						
PAX	Paxson	54.22 337	P	P	17 35 14.9	+0.7	
	baz=125						
SCRK	Sand Creek	54.29 338	P	P	17 35 15.6	+0.9	
SCRK			IAmb	IAmb	17 35 16.9		
	comp=Z,50nm,1.1s						
SCRK			IAMs_20	IAMs_20	17 59 07.3		
	comp=Z,1µm,22.0s						
SCRK	Sand Creek	54.29 338	P	P	17 35 16.2	+1.5	
	baz=127						
SEW	Seward	54.29 333	P	P	17 35 16.0	+1.4	
SEW			IAmb	IAmb	17 35 16.9		
	comp=Z,71nm,1.1s						
SEW	Seward	54.29 333	P	P	17 35 16.7	+2.1	
	baz=119						
INK	Inuvik	54.30 346	P	P	17 35 14.7	+0.2	
	comp=Z,38nm,1.0s,baz=134,slow=8.0,SNR=22						
INK	Inuvik	54.30 346	P	P	17 35 14.4	-0.1	
INK	Inuvik	54.30 346	P	P	17 35 14.8	+0.3	
	baz=141						
SCM	Sheep Creek Mo	54.30 335	P	P	17 35 15.5	+0.8	
SCM			pmax	pmax			
	comp=Z,87nm,1.4s						
SCM			MLR	MLR			
	comp=Z,1µm,20.0s						
SCM	Sheep Creek Mo	54.30 335	P	P	17 35 15.5	+0.8	
SCM			IAmb	IAmb	17 35 34.5		
	comp=Z,87nm,1.4s						
SCM			IAMs_20	IAMs_20	18 00 45.9		
	comp=Z,1µm,20.0s						
AC02	Maricunga	54.44 144	P	P	17 35 18.1	+1.4	
J26L	Joseph Creek	54.47 339	P	P	17 35 17.9	+1.9	
	baz=128						
KNK	Knik Glacier	54.53 334	P	P	17 35 17.5	+1.1	
KNK			IAMs_20	IAMs_20	17 59 55.1		
	comp=Z,893nm,20.0s						
KNK	Knik Glacier	54.53 334	P	P	17 35 17.7	+1.3	
	baz=121						
O22K	Cooper Landing	54.59 333	P	P	17 35 17.8	+1.0	
	baz=119						
KDAK	Kodiak Island	54.68 329	P	P	17 35 17.7	+0.3	
	comp=Z,22nm,0.9s,baz=180,slow=2.5,SNR=6.5						
KDAK	Kodiak Island	54.68 329	eP	P	17 35 18.3	+0.9	
KDAK			pmax	pmax			
	comp=Z,69nm,1.4s						
KDAK	Kodiak Island	54.68 329	P	P	17 35 18.6	+1.2	
	baz=114						
BRSE	Bradley Lake S	54.69 332	P	P	17 35 18.8	+1.3	
	baz=118						
SML	Sawmill	54.69 335	P	P	17 35 17.9	+0.4	
SML			IAMs_20	IAMs_20	18 00 30.2		
	comp=Z,1µm,20.0s						
SML	Sawmill	54.69 335	P	P	17 35 18.6	+1.1	
	baz=121						
BRLK	Bradley Lake	54.76 332	P	P	17 35 18.5	+0.4	
OHAK	Old Harbor	54.79 328	P	P	17 35 19.9	+1.7	
OHAK	Old Harbor	54.79 328	P	P	17 35 19.6	+1.3	
	baz=113						
WAT6	Susitna Watana	54.87 336	P	P	17 35 19.9	+0.9	
	baz=122						
RC01	Rabbit Creek A	54.90 334	P	P	17 35 19.7	+0.7	
RC01	Rabbit Creek A	54.90 334	P	P	17 35 20.1	+1.0	
	baz=120						
PMR	Palmer	54.90 334	P	P	17 35 19.9	+0.9	
PMR			pmax	pmax			
	comp=Z,59nm,0.6s						
PMR	Palmer	54.90 334	P	P	17 35 19.9	+0.9	
PMR	Palmer	54.90 334	P	P	17 35 20.1	+1.1	
	baz=120						
SII	Sitkinak Islan	54.99 327	P	P	17 35 20.7	+1.0	
	baz=112						
DHY	Denali Highway	55.00 336	P	P	17 35 20.8	+0.9	
DHY			IAmb	IAmb	17 35 24.9		
	comp=Z,92nm,1.4s						
DHY			IAMs_20	IAMs_20	17 58 57.2		
	comp=Z,893nm,21.0s						
DHY	Denali Highway	55.00 336	P	P	17 35 20.5	+0.6	
	baz=123						
LCO	Las Campanas	55.30 147	eP	P	17 35 24.3	+1.6	
LCO	Las Campanas	55.30 147	IAMs_20	IAMs_20	17 53 16.3		
	comp=Z,1µm,21.0s						
CAPN	Captain Cook N	55.35 333	P	P	17 35 21.9	-0.4	
	baz=118						
H03N2	Juan Fernandez	55.40 157	T	T	18 34 52.5		
	baz=334,slow=77,SNR=18						
H03N1	Juan Fernandez	55.41 157	T	T	18 34 57.7		
	baz=334,slow=77,SNR=21						
H03N3	Juan Fernandez	55.42 157	T	T	18 34 54.0		
	baz=334,slow=77,SNR=27						
CHIR	Chirikof Islan	55.46 326	P	P	17 35 24.1	+0.9	
	baz=110						
SUA	Susitna One	55.51 334	P	P	17 35 24.7	+1.2	
SUA	Susitna One	55.51 334	P	P	17 35 24.6	+1.0	
	baz=119						
HDA	Harding Lake	55.59 338	P	P	17 35 24.3	+0.4	
HDA			IAmb	IAmb	17 35 25.9		
	comp=Z,62nm,0.8s						
HDA			IAMs_20	IAMs_20	17 59 47.7		
	comp=Z,1µm,20.0s						
HDA	Harding Lake	55.59 338	P	P	17 35 24.5	+0.6	
	baz=124						
Q19K	Cape Douglas,	55.66 330	P	P	17 35 25.1	+0.5	
	baz=114						
O20K	Slope Mountain	55.69 332	P	P	17 35 25.6	+0.9	
	baz=116						
RND	Reindeer	55.74 336	P	P	17 35 25.6	+0.5	
RND			pmax	pmax			
	comp=Z,206nm,1.4s						
RND			MLR	MLR			
	comp=Z,1µm,18.0s						
RND	Reindeer	55.74 336	P	P	17 35 25.6	+0.5	
RND			IAMs_20	IAMs_20	18 01 25.9		
	comp=Z,1µm,18.0s						
PRP	Porcupine Dome	55.75 339	P	P	17 35 25.7	+0.5	
PRP			IAMs_20	IAMs_20	18 02 34.8		
	comp=Z,812nm,19.0s						
PRP	Porcupine Dome	55.75 339	P	P	17 35 26.3	+1.0	
	baz=126						
IL31		55.78 338	P	P	17 35 25.4	+0.2	
ILAR	Eielson Array	55.78 338	P	P	17 35 25.9	+0.6	
	comp=Z,36nm,0.9s,baz=146,slow=6.0,SNR=228						
ILAR			PcP	PcP	17 36 24.9	+1.1	
	comp=Z,4.7nm,0.7s,baz=152,slow=1.8,SNR=4.2						
ILAR			LR	LR	18 00 14.1		
	comp=Z,911nm,21.6s,baz=130,slow=37						
ILAR	Eielson Array	55.78 338	P	P	17 35 25.1	-0.2	
P19K	Oil Pt	55.78 331	P	P	17 35 25.6	+0.3	
P19K	Oil Pt	55.78 331	P	P	17 35 26.7	+1.3	
	baz=115						
CUT	Chulitna	55.78 335	P	P	17 35 26.6	+1.3	
CUT	Chulitna	55.78 335	P	P	17 35 26.2	+0.9	
	baz=120						
A36M	Sachs Harbour	55.85 351	P	P	17 35 26.6	+1.0	
	baz=152						
RSO	Redoubt South	55.91 332	P	P	17 35 27.3	+0.7	
SPU	Mount Spurr	55.93 333	P	P	17 35 27.0	+0.5	
MCK	McKinley	55.95 337	P	P	17 35 27.3	+0.8	
MCK			pmax	pmax			
	comp=Z,86nm,1.0s						
MCK			MLR	MLR			
	comp=Z,900nm,20.0s						
MCK	McKinley	55.95 337	P	P	17 35 27.3	+0.8	
MCK			IAMs_20	IAMs_20	18 01 27.3		
	comp=Z,868nm,20.0s						
MCK	McKinley	55.95 337	P	P	17 35 27.2	+0.8	
	baz=122						
SPCR	Spurr Chakacha	56.01 333	P	P	17 35 28.0	+0.9	
	baz=117						
CCB	Clear Creek Bu	56.03 338	P	P	17 35 26.8	-0.3	
CCB			IAmb	IAmb	17 35 29.0		
	comp=Z,30nm,0.9s						
CCB			IAMs_20	IAMs_20	18 00 12.4		
	comp=Z,1µm,20.0s						
WRH	Wood River Hil	56.03 338	P	P	17 35 27.4	+0.3	
WRH			IAmb	IAmb	17 35 30.4		
	comp=Z,38nm,0.9s						
WRH			IAMs_20	IAMs_20	18 00 13.5		
	comp=Z,2µm,21.0s						
SKT	Skwentna	56.09 334	P	P	17 35 27.9	+0.3	
SKT			IAMs_20	IAMs_20	18 01 30.2		
	comp=Z,1µm,22.0s						
SKT	Skwentna	56.09 334	P	P	17 35 28.6	+1.0	
	baz=118						
VAH	Vaihoa	56.14 237	eT	T	18 35 47.0		
	comp=Z,13nm,0.3s						
COLA	College	56.17 338	eP	P	17 35 28.5	+0.4	
COLA	College	56.17 338	P	P	17 35 27.9	-0.2	
COLA			IAmb	IAmb	17 35 29.9		
	comp=Z,67nm,1.2s						
COLA	College	56.17 338	IAMs_20	IAMs_20	18 00 27.2		
	comp=Z,863nm,21.0s						
COLA	College	56.17 338	P	P	17 35 27.5	-0.6	
	baz=124						
TCOL	CIGO, UAF Yank	56.18 338	P	P	17 35 28.1	0.0	
TCOL			IAmb	IAmb	17 35 29.9		
	comp=Z,70nm,1.2s						
TCOL			IAMs_20	IAMs_20	18 00 27.2		
	comp=Z,897nm,21.0s						
TCOL	CIGO, UAF Yank	56.18 338	P	P	17 35 27.1	-1.0	
	baz=124						
PMOR	Pomariorio Ree	56.22 237	eT	T	18 35 49.8		
	comp=Z,25nm,0.3s						
SALV	Santo Antonio	56.24 124	eP	P	17 35 28.9	-0.4	
FYU	Fort Yukon	56.29 341	P	P	17 35 29.4	+0.5	
TMAB	Tom-Au,PA,Br	56.30 105	eP	P	17 35 30.8	+1.0	
TRF	Thorofare Moun	56.31 336	P	P	17 35 30.0	+0.7	
TRF	Thorofare Moun	56.31 336	P	P	17 35 30.0	+0.7	
	baz=120						
PRPB	Parauapebas	56.32 110	eP	P	17 35 29.9	0.0	
MDM	Murphy Dome	56.36 338	P	P	17 35 29.0	-0.5	
MDM			IAmb	IAmb	17 35 31.0		
	comp=Z,55nm,1.4s						
MDM			IAMs_20	IAMs_20	18 00 33.0		
	comp=Z,965nm,22.0s						
BWN	Browne	56.38 337	P	P	17 35 30.7	+1.1	
NEA2	Nenana	56.46 338	P	P	17 35 30.1	0.0	
NEA2			IAMs_20	IAMs_20	18 01 58.7		
	comp=Z,1µm,18.0s						
NEA2	Nenana	56.46 338	P	P	17 35 30.7	+0.6	
	baz=122						
O19K	Port Alsworth	56.50 331	P	P	17 35 30.3	-0.2	
O19K			IAmb	IAmb	17 35 50.0		
	comp=Z,63nm,1.0s						
O19K	Port Alsworth	56.50 331	P	P	17 35 30.9	+0.4	
	baz=114						
KTH	Kantishna Hill	56.61 336	P	P	17 35 32.0	+0.6	
KTH			IAmb	IAmb	17 35 34.2		
	comp=Z,87nm,1.2s						
BMAR	Burnt Mountain	56.63 342	P	P	17 35 32.0	+0.7	
BMAR				sP	17 35 49.5	-1.4	
H24K	Noodor Dome	56.73 339	P	P	17 35 32.4	+0.3	
H24K			IAMs_20	IAMs_20	18 02 56.7		
	comp=Z,1µm,18.0s						
H24K	Noodor Dome	56.73 339	P	P	17 35 33.2	+1.1	
	baz=124						
O18K	Koktuh Hills	56.77 331	P	P	17 35 32.3	-0.1	
O18K	Koktuh Hills	56.77 331	P	P	17 35 33.0	+0.6	
	baz=113						
CO03	El Pedregal	56.78 148	P	P	17 35 34.1	+1.1	
CO03			IAmb	IAmb	17 35 34.9		
	comp=Z,23nm,0.8s						
N19K	Bonanza Creek	56.83 332	P	P	17 35 33.1	+0.2	
N19K	Bonanza Creek	56.83 332	P	P	17 35 33.8	+0.8	
	baz=114						
I23K	Minto, Yukon-K	56.86 338	P	P	17 35 33.7	+0.7	
I23K			IAMs_20	IAMs_20	18 00 37.3		
	comp=Z,1µm,20.0s						
I23K	Minto, Yukon-K	56.86 338	P	P	17 35 34.0	+1.0	
	baz=122						
BPAW	Bear Paw Mtn.	56.91 337	P	P	17 35 33.8	+0.4	
BPAW			IAmb	IAmb	17 35 36.7		
	comp=Z,102nm,1.4s						
BPAW			IAMs_20	IAMs_20	18 02 18.8		
	comp=Z,938nm,20.0s						
BPAW	Bear Paw Mtn.	56.91 337	P	P	17 35 33.6	+0.2	
	baz=120						
NUUK	Nuuk	57.05 23	i P	P	17 35 34.2	-0.1	
NUUK			IAmb	IAmb	17 35 36.6		
	comp=Z,22nm,0.9s						
CHGN	Chignik	57.10 326	P	P	17 35 36.8	+2.0	
	baz=108						
M19K	Big River Lodg	57.26 333	P	P	17 35 36.0	+0.1	
M19K			IAMs_20	IAMs_20	18 02 34.3		
	comp=Z,2µm,20.0s						
M19K	Big River Lodg	57.26 333	P	P	17 35 36.9	+1.1	
	baz=115						
L20K	Farewell, AK	57.29 334	P	P	17 35 36.6	+0.5	
	baz=116						
SVW2	Sparrevohn	57.44 332	P	P	17 35 36.9	-0.3	
SVW2			IAmb	IAmb	17 35 38.6		
	comp=Z,52nm,0.9s						
L19K	White Mountain	57.57 334	P	P	17 35 38.3	+0.2	
L19K			IAMs_20	IAMs_20	18 03 01.6		
	comp=Z,1µm,19.0s						
L19K	White Mountain	57.57 334	P	P	17 35 38.8	+0.7	
	baz=115						
SNDB	Serra Nova Dou	57.75 117	eP	P	17 35 40.3	+0.3	
K20K	Telida	57.76 335	P	P	17 35 39.3	-0.1	
K20K			IAmb	IAmb	17 35 40.6		
	comp=Z,63nm,0.9s						
K20K	Telida	57.76 335	P	P	17 35 39.9	+0.4	
	baz=116						
I21K	Tanana	57.83 337	P	P	17 35 39.8	0.0	
I21K			IAMs_20	IAMs_20	18 02 25.9		
	comp=Z,2µm,22.0s						
I21K	Tanana	57.83 337	P	P	17 35 40.2	+0.4	
	baz=120						
PP1B	Ponte de Pedra	57.85 125	eP	P	17 35 40.5	-0.2	
SDPT	Sand Point	57.94 325	P	P	17 35 40.8	+0.1	
	baz=105						
MEH	Mehetia	57.98 235	eT	T	18 38 05.1		
	comp=Z,14nm,0.2s						
J20K	Nowinta River	58.17 336	P	P	17 35 41.7	-0.5	
J20K			IAMs_20	IAMs_20	18 02 27.0		
	comp=Z,928nm,21.0s						
J20K	Nowinta River	58.17 336	P	P	17 35 42.7	+0.6	
	baz=117						
COLD	Coldfoot	58.27 340	P	P	17 35 43.8	+0.9	
COLD			IAmb	IAmb	17 35 45.0		
	comp=Z,44nm,0.9s						
COLD	Coldfoot	58.27 340	P	P	17 35 44.3	+1.4	
	baz=122						
NRS	Narsarsuaq	58.35 28	P	P	17 35 42.1	-1.4	
NRS			pmax	pmax			
	comp=Z,53nm,1.0s						
NRS	Narsarsuaq	58.35 28	P	P	17 35 42.0	-1.4	
NRS			IAmb	IAmb	17 36 01.4		
	comp=Z,53nm,1.0s						
H21K	Melozitna Rive	58.36 338	P	P	17 35 43.4	-0.1	
H21K	Melozitna Rive	58.36 338	P	P	17 35 43.9	+0.4	
	baz=119						
ZON	Zonda	58.38 147	P	P	17 35 44.9	+0.8	
ZON			pmax	pmax			
	comp=Z,15nm,1.0s						
ZON	Zonda	58.38 147	P	P	17 35 44.9	+0.8	
VA03	San Esteban	58.42 149	P	P	17 35 44.4	-0.1	
VA03			IAmb	IAmb	17 35 46.5		
	comp=Z,36nm,1.1s						
TOLK	Toolik Lake Re	58.86 341	P	P	17 35 47.7	+0.7	
TOLK			IAmb	IAmb	17 35 48.5		
	comp=Z,51nm,0.9s						
TOLK				sP	17 36 04.2	-2.5	
TOLK	Toolik Lake Re	58.86 341	P	P	17 35 47.9	+0.9	
	baz=124						
IMAR	Indian Mountai	58.86 338	P	P	17 35 46.2	-0.8	
SFJD	Kangerlussuaq	58.87 21	P	P	17 35 46.6	-0.4	
	comp=Z,6.1nm,0.4s,baz=261,slow=2.0						
SFJD	Kangerlussuaq	58.87 21	i P	P	17 35 46.2	-0.8	
SFJD	Kangerlussuaq	58.87 21	P	P	17 35 45.9	-1.1	
SFJD				pP	17 36 03.1	+1.7	
PPT	Papeete	58.99 236	LR	LR	17 54 09.3		
	comp=Z,757nm,19.1s,baz=55,slow=29						
PPT2	Papeete2	59.00 236	eS

GO05 IAmb IAmb 17 35 54.4
comp=Z,21nm,0.8s
ILULI Ilulissat 59.87 19 P **P** **17 35 52.7 -1.1**
ILULI pmax pmax
comp=Z,63nm,1.3s
ILULI Ilulissat 59.87 19 P **P** **17 35 52.7 -1.1**
ILULI IAmb IAmb 17 36 12.0
comp=Z,63nm,1.3s
BO02 Sierra Bellavi 59.97 151 P **P** **17 35 56.0 +0.8**
DY2G Dye2 60.15 22 *i* P **P** **17 35 55.2 -0.9**
DY2G *i* P **P** **17 35 55.6 -0.6**
DY2G IAmb IAmb 17 35 57.1
comp=Z,56nm,0.6s
DY2G IAmb IAmb 17 35 57.1
comp=Z,56nm,0.6s
ROSB Rosrio 60.16 104 *eP* **P** **17 35 57.2 +0.4**
PEXB Peixe 60.37 116 *eP* **P** **17 35 58.7 +0.5**
ML02 Panimavida 60.49 152 P **P** **17 35 58.9 +0.3**
ML02 IAmb IAmb 17 36 00.4
comp=Z,54nm,1.2s
NUUG Nuugaatsiaq 60.58 16 *i* P **P** **17 35 57.9 -0.8**
NUUG IAmb IAmb 17 35 58.8
comp=Z,30nm,0.9s
UNV Unalaska Valle 61.03 322 P **P** **17 36 02.1 0.0**
UNV Unalaska Valle 61.03 322 P **P** **17 36 02.0 0.0**
baz=99
CPUP Villa Florida 61.42 135 P **P** **17 36 04.7 -0.3**
comp=Z,19nm,0.9s,baz=331,slow=6.5,SNR=29
CPUP pP **pP** **17 36 22.1 +3.1**
comp=Z,15nm,0.7s,baz=325,slow=7.9,SNR=9.7
CPUP Villa Florida 61.42 135 P **P** **17 36 04.2 -0.8**
CPUP IAmb IAmb 17 36 05.9
comp=Z,27nm,0.9s
CPUP Villa Florida 61.42 135 *eP* **P** **17 36 04.7 -0.3**
NIKH Nikolski High 62.30 321 P **P** **17 36 10.7 +0.1**
baz=97
BDFB Brasilia 62.34 119 P **P** **17 36 11.9 +0.3**
comp=Z,11nm,0.5s,baz=296,slow=4.8,SNR=15
BDFB Brasilia 62.34 119 P **P** **17 36 11.5 -0.1**
BDFB IAmb IAmb 17 36 14.4
comp=Z,24nm,0.9s
ITRB Iturama 62.57 124 *eP* **P** **17 36 13.4 +0.4**
TRCB Terra Rica 62.58 128 P **P** **17 36 11.9 -1.1**
TRCB IAmb IAmb 17 36 12.6
comp=Z,49nm,1.5s
TRCB Terra Rica 62.58 128 *eP* **P** **17 36 13.0 +0.1**
ANM Nome 62.84 334 P **P** **17 36 15.2 +1.1**
ANM pmax pmax
comp=Z,97nm,1.3s
ANM MLR MLR
comp=Z,1µm,20.0s
ANM Nome 62.84 334 P **P** **17 36 15.2 +1.1**
ANM IAMs_20 IAMs_20 18 06 04.9
comp=Z,974nm,20.0s
ANM Nome 62.84 334 P **P** **17 36 15.0 +0.9**
baz=106
PCMB Pacaembu 62.93 127 *eP* **P** **17 36 15.2 -0.1**
LC01 Cunco 62.93 154 P **P** **17 36 15.1 +0.1**
LC01 IAmb IAmb 17 36 17.2
comp=Z,34nm,0.9s
NBPS Pedro II - PI 63.20 105 *eP* **P** **17 36 18.0 +0.6**
IPMB Ipameri, GO 63.37 121 *eP* **P** **17 36 18.1 -0.2**
SDBA SÃO DESIDERIO 63.44 114 *eP* **P** **17 36 18.8 0.0**
ICESG Greenland Ices 63.49 21 *i* P **P** **17 36 17.9 -0.8**
ICESG ⇓*i* P **P** **17 36 18.0 -0.8**
ICESG IAmb IAmb 17 36 18.4
comp=Z,69nm,0.9s
ICESG IAmb IAmb 17 36 18.8
comp=Z,68nm,0.8s
ICESG *i* 17 36 34.8
ITQB Itaqui 64.09 137 P **P** **17 36 21.9 -0.9**
ITQB IAmb IAmb 17 36 45.3
comp=Z,70nm,1.1s
ITQB Itaqui 64.09 137 *eP* **P** **17 36 23.2 +0.5**
PTGB Pitanga 64.13 130 *eP* **P** **17 36 23.2 0.0**
TNA Tin City 64.15 335 P **P** **17 36 23.7 +1.0**
baz=104
LL04 Puerto Octay 64.43 156 P **P** **17 36 25.8 +1.0**
NEEM North Greenlan 64.49 11 ⇓*i* P **P** **17 36 24.6 -0.5**
NEEM ⇓*i* P **P** **17 36 24.6 -0.5**
NEEM IAmb IAmb 17 36 25.6
comp=Z,60nm,0.6s
NEEM IAmb IAmb 17 36 25.6
comp=Z,60nm,0.6s
NEEM *i* 17 36 41.6
NEEM *i* 17 36 41.8
BB19B Bebedouro 64.75 124 *eP* **P** **17 36 27.7 +0.4**
PLCA Paso Flores 65.03 154 P **P** **17 36 29.4 +0.7**
comp=Z,19nm,1.1s,baz=331,slow=7.7,SNR=16
PLCA Paso Flores 65.03 154 P **P** **17 36 29.6 +0.8**
PLCA pmax pmax
comp=Z,39nm,1.2s
PLCA Paso Flores 65.03 154 P **P** **17 36 29.6 +0.8**
PLCA IAmb IAmb 17 36 31.1
comp=Z,39nm,1.2s
PLCA Paso Flores 65.03 154 *eP* **P** **17 36 30.2 +1.5**
SUMG Summit 65.09 17 *i* P **P** **17 36 28.8 -0.3**
SUMG IAmb IAmb 17 36 29.8
comp=Z,32nm,0.9s
SUMG Summit 65.09 17 *i* P **P** **17 36 28.8 -0.3**
SUMG pmax pmax
comp=Z,33nm,0.9s
SUMG Summit 65.09 17 P **P** **17 36 27.8 -1.4**
JANB Januaria 65.18 117 *eP* **P** **17 36 30.2 0.0**
GAMB Gambell 65.37 333 IAMs_20 IAMs_20 18 07 05.8
comp=Z,864nm,21.0s
ITAB Concordia 65.59 132 P **P** **17 36 32.7 +0.1**
ITAB IAmb IAmb 17 36 33.9
comp=Z,61nm,1.0s
ITAB Concordia 65.59 132 *eP* **P** **17 36 33.1 +0.5**
NBCL Cascavel-CE 66.05 103 *eP* **P** **17 36 36.8 +0.9**
RCLB Rio Claro- Sao 66.25 125 *eP* **P** **17 36 38.1 +1.0**
MC01 Montes Claros 66.27 118 *eP* **P** **17 36 37.8 +0.6**
CPSB Cacapava Do Su 66.66 136 *eP* **P** **17 36 39.2 -0.2**
TIJ01 Guaruva-PR 66.74 129 *eP* **P** **17 36 42.6 +2.5**
NBMA Muriti-CE 66.80 106 *eP* **P** **17 36 41.4 +0.7**
TRQA Tornquist 66.89 147 P **P** **17 36 40.2 -0.5**
TRQA pmax pmax
comp=Z,21nm,0.9s
TRQA MLR MLR
comp=Z,700nm,20.0s
TRQA Tornquist 66.89 147 P **P** **17 36 40.2 -0.5**
TRQA Tornquist 66.89 147 IAMs_20 IAMs_20 18 01 19.0
comp=Z,727nm,20.0s
TRQA Tornquist 66.89 147 *eP* **P** **17 36 40.9 +0.2**
NBPN Ponto Novo - B 66.90 110 *eP* **P** **17 36 41.6 +0.3**
SPB Sao Paulo 66.97 126 P **P** **17 36 40.2 -1.2**
SPB IAmb IAmb 17 36 42.8
comp=Z,32nm,1.1s
SPB Sao Paulo 66.97 126 *eP* **P** **17 36 42.1 +0.6**
VAO Valinhos 67.01 125 *eP* **P** **17 36 42.4 +0.6**
ADK Adak 67.02 319 P **P** **17 36 40.9 -0.5**
ADK pmax pmax
comp=Z,76nm,0.9s
ADK Adak 67.02 319 P **P** **17 36 40.9 -0.5**
DIAM Diamantina, MG 67.26 119 *eP* **P** **17 36 44.2 +0.6**
PLTB Pedras Altas 67.42 137 P **P** **17 36 44.3 +0.1**
PLTB IAmb IAmb 17 36 44.9
comp=Z,70nm,1.5s
PLTB Pedras Altas 67.42 137 *eP* **P** **17 36 44.5 +0.3**
PET01 Itanhaem-SP 67.47 127 *eP* **P** **17 36 45.2 +0.5**
CNLB Canela 67.74 133 *eP* **P** **17 36 47.4 +1.0**
PARB Paraibuna 68.23 125 *eP* **P** **17 36 50.2 +0.6**
NBLV Livramento - P 68.48 106 *eP* **P** **17 36 52.4 +1.1**
TER01 Tubaro-SC 68.49 132 *eP* **P** **17 36 51.9 +0.8**
COYC Coyhaique 68.57 158 P **P** **17 36 52.1 +1.0**
COYC IAmb IAmb 17 37 06.7
comp=Z,56nm,1.2s
GDU01 Guandu, BA 68.67 113 *eP* **P** **17 36 52.7 +0.3**
RCBR Riachuelo 68.85 104 P **P** **17 36 51.5 -2.1**
RCBR pmax pmax
comp=Z,50nm,1.3s
RCBR MLR MLR
comp=Z,700nm,18.0s
RCBR Riachuelo 68.85 104 P **P** **17 36 51.5 -2.1**
RCBR IAmb IAmb 17 36 56.0
comp=Z,50nm,1.2s
RCBR Riachuelo 68.85 104 IAMs_20 IAMs_20 18 09 28.5
comp=Z,661nm,18.0s
RCBR Riachuelo 68.85 104 *eP* **P** **17 36 55.0 +1.4**
ESAR Angra dos Reis 68.99 124 *eP* **P** **17 36 55.8 +1.6**
RAR Rarotonga 69.07 238 LR LR 17 58 45.8
comp=Z,678nm,19.9s,baz=16,slow=28
NBLA Lagarto - SE 69.12 110 *eP* **P** **17 36 55.8 +0.6**

MAN01 Angra dos Reis 69.29 124 *eP* **P** **17 36 57.5 +1.3**
NBIT Itapeh - BA 69.32 114 *eP* **P** **17 36 57.6 +1.2**
VAS01 Vassouras-RJ 69.41 123 *eP* **P** **17 36 58.4 +1.5**
CMC01 Camacan, BA 69.43 115 *eP* **P** **17 36 57.7 +0.6**
SJMB Sao Joao De Ma 69.52 118 *eP* **P** **17 36 58.2 +0.6**
NBPV Pedro Velho 69.63 104 *eP* **P** **17 36 59.7 +1.3**
GUA01 Guaratinga, BA 69.72 116 *eP* **P** **17 36 59.4 +0.5**
SCO Scoresbysund 69.78 21 *i* P **P** **17 36 59.8 +1.5**
SCO *i* 17 36 59.9
SCO Scoresbysund 69.78 21 *i* P **P** **17 36 59.8 +1.5**
BSFB Barra de Sao F 69.87 118 *eP* **P** **17 37 00.4 +0.7**
NBAN Anadia - AL 69.96 108 *eP* **P** **17 37 00.6 +0.2**
DUB01 Friburgo-RJ 70.17 122 *eP* **P** **17 37 02.4 +0.9**
RIB01 Linhares ES 70.47 119 *eP* **P** **17 37 03.2 -0.2**
CAM01 Campos-RJ 70.62 122 *eP* **P** **17 37 05.2 +1.0**
NBRF Rio Formoso - 70.63 106 *eP* **P** **17 37 05.4 +1.0**
ALF01 Guarapari-ES 70.80 120 *eP* **P** **17 37 06.2 +0.8**
NOR Nord 71.66 9 ⇓*i* P **P** **17 37 09.7 +0.1**
NOR *i* 17 37 27.0
NOR Nord 71.66 9 ⇓*i* P **P** **17 37 09.7 +0.1**
NOR *i* 17 37 27.0
BILL Bilibino 74.40 337 *c i* P **P** **17 37 26.5 +0.5**
BILL *i* 17 37 43.5
BILL *e* 17 40 08.1
BILL *eS* **SKiKP** **17 46 50.6 +2.2**
BILL pmax pmax
comp=Z,59nm,1.7s
BILL MLR MLR
comp=Z,1µm,19.0s
BILL Bilibino 74.40 337 P **P** **17 37 26.7 +0.7**
BILL IAmb IAmb 17 37 46.0
comp=Z,52nm,1.2s
PMOZ Porto Moniz, M 75.85 60 *eLR* LR 18 01 38.2
comp=Z,417nm,20.0s
PMAR Madeira 76.10 60 *eP* sP 17 37 57.6 +0.8
comp=Z,193nm,1.4s
PMPS Porto Santo 76.51 59 *eP* sP 17 38 00.8 +2.0
comp=Z,100nm,1.3s
MACI Morro de la Ar 77.45 64 P **P** **17 37 45.3 +0.9**
SPA0 Spitsbergen Ar 78.05 11 *eP* **P** **17 37 45.8 -0.8**
SPITS Spitsbergen Ar 78.05 11 P **P** **17 37 47.0 +0.4**
comp=Z,16nm,0.8s,baz=90,slow=0.1,SNR=15
SPITS pP **sP** **17 38 04.8 -1.9**
comp=Z,25nm,0.7s,baz=56,slow=3.1,SNR=4.5
SPITS Spitsbergen Ar 78.05 11 P **P** **17 37 47.0 +0.4**
KPL Plockton 78.23 33 *eP* **P** **17 37 48.4 +0.6**
KPL IAmb IAmb 17 37 49.3
comp=Z,458nm,1.8s
LINV Loch Inver, As 78.26 33 *eP* **P** **17 37 48.7 +0.7**
KAC Achnashellach 78.37 33 *eP* **P** **17 37 48.7 0.0**
GMM Mts of Mourne 78.86 37 *eP* **P** **17 37 51.4 0.0**
DSB Dublin 78.87 38 P **P** **17 37 50.2 -1.3**
DSB IAmb IAmb 17 38 11.5
comp=Z,79nm,1.3s
MDO Dochfour 78.87 33 *eP* **P** **17 37 52.1 +0.6**
EAB Aberfoyle 79.23 34 *eP* **P** **17 37 53.1 -0.3**
PGBU Glenifferbraes 79.25 35 *eP* **P** **17 37 54.0 +0.5**
PGBU IAmb IAmb 17 37 55.0
comp=Z,287nm,1.5s
INVG Invergeldie, C 79.32 34 *eP* **P** **17 37 54.5 +0.6**
MCD Coleburn Disti 79.41 33 *eP* **P** **17 37 54.5 +0.1**
NEWG New Galloway 79.58 35 *eP* **P** **17 37 54.9 -0.5**
NEWG IAmb IAmb 17 37 57.0
comp=Z,63nm,1.2s
WIM Isle of Man 79.61 36 *eP* **P** **17 37 56.0 +0.4**
IOMK Kirk Michael 79.63 36 *eP* **P** **17 37 56.4 +0.8**
EDU Dundee 79.83 34 *eP* **P** **17 37 57.3 +0.6**
YRC Rhoscolyn 79.91 37 *eP* **P** **17 37 57.7 +0.6**
WPS Cemaes, Angles 79.91 37 *eP* **P** **17 37 57.5 +0.4**
WPS IAmb IAmb 17 37 58.0
comp=Z,54nm,1.0s
EDI Edinburgh 79.92 34 *eP* **P** **17 37 57.4 +0.3**
DRUM Mains of Drumt 80.00 33 *eP* **P** **17 37 58.3 +0.6**
WME Myndd Eilian 80.03 37 IAmb IAmb 17 37 58.6
comp=Z,42nm,0.9s
WME *eP* **P** **17 37 58.7 +0.9**
EBL Broad Law 80.04 35 *eP* **P** **17 37 58.3 +0.4**
ESK Eskdalemuir 80.09 35 *eP* **P** **17 37 58.5 +0.3**
ESK Eskdalemuir 80.09 35 P **P** **17 37 58.1 0.0**
ESK pmax pmax
comp=Z,129nm,1.4s
ESK MLR MLR
comp=Z,1µm,21.0s
ESK Eskdalemuir 80.09 35 P **P** **17 37 58.1 0.0**
YLL Llanberis 80.17 37 *eP* **P** **17 37 59.1 +0.5**
ESY Stoneypath 80.23 34 *eP* **P** **17 37 59.4 +0.5**
KESW Keswick, Cumbr 80.36 36 *eP* **P** **17 38 00.2 +0.6**
KESW IAmb IAmb 17 38 00.6
comp=Z,45nm,1.0s
PGAV Gavieira, Arco 80.59 49 *eP* **P** **17 38 02.2 +1.0**
comp=Z,66nm,1.8s
PGAV *epP* **sP** **17 38 20.7 -0.7**
PGAV Gavieira, Arco 80.59 49 *eLR* LR 18 03 59.6
comp=Z,493nm,18.0s
PMST Lisbon--Monsan 80.77 52 *epP* pP 17 38 21.6 +4.9
PCAB Cabril 80.83 49 *eP* **P** **17 38 03.3 +0.9**
comp=Z,78nm,1.6s
PCAB *epP* **pP** **17 38 17.3 +0.3**
PCAB *i* LQ LQ 17 38 23.1
PSBE So Bento 80.86 52 *i* LQ LQ 17 38 23.7
EDMD Edmundbyers 80.92 35 *eP* **P** **17 38 02.0 -0.6**
EDMD IAmb IAmb 17 38 04.5
comp=Z,139nm,0.8s
PCAS Casmilo, Conde 80.93 51 *eP* **P** **17 38 03.8 +0.8**
comp=Z,115nm,1.4s
PCAS *epP* **pP** **17 38 17.9 +0.4**
PCAS *i* LQ LQ 17 38 24.1
COI Coimbra 80.95 51 P **P** **17 38 01.1 -2.0**
COI pmax pmax
comp=Z,107nm,1.1s
COI MLR MLR
comp=Z,800nm,22.0s
COI Coimbra 80.95 51 P **P** **17 38 01.1 -2.0**
COI IAMs_20 IAMs_20 18 12 05.3
comp=Z,767nm,22.0s
POLO Lamas de Olo 81.09 49 *eP* **P** **17 38 04.1 +0.2**
comp=Z,34nm,1.7s
POLO *epP* **pP** **17 38 18.8 +0.3**
POLO *i* LQ LQ 17 38 24.3
HLM1 Long Mynd 81.11 38 *eP* **P** **17 38 03.9 +0.2**
HLM1 IAmb IAmb 17 38 05.2
comp=Z,511nm,2.0s
PVRL Vila Real 81.17 50 *eP* **P** **17 38 05.2 +0.9**
comp=Z,48nm,1.7s
PVRL *epP* **pP** **17 38 18.3 -0.5**
PVRL *i* LQ LQ 17 38 24.9
PVIS Viseu 81.20 50 *eP* **P** **17 38 04.3 -0.1**
comp=Z,47nm,1.6s
PVIS *epP* **pP** **17 38 18.8 -0.2**
PVIS *i* LQ LQ 17 38 24.7
STNC Stoke 81.32 37 *eP* **P** **17 38 04.8 +0.1**
SEY Seymchan 81.34 334 P **P** **17 38 06.2 +1.5**
comp=Z,25nm,1.0s,baz=95,slow=4.2,SNR=26
HPK Haverah Park 81.38 36 *eP* **P** **17 38 05.0 -0.1**
PMTG Montargil 81.40 52 *eP* **P** **17 38 05.7 +0.2**
comp=Z,82nm,1.8s
PMTG *epP* **pP** **17 38 20.4 +0.4**
PMTG *i* LQ LQ 17 38 24.8
PNCL Nicolau / Gran 81.44 53 *eP* **P** **17 38 05.8 +0.1**
comp=Z,27nm,1.3s
PNCL *epP* **pP** **17 38 20.8 +0.6**
PNCL *i* LQ LQ 17 38 25.0
PTEO Sao Teotonio 81.44 53 *eP* **P** **17 38 06.7 +1.0**
comp=Z,128nm,1.7s
PTEO *epP* **pP** **17 38 21.3 +1.0**
PTEO *i* LQ LQ 17 38 26.5
PFVI Vila Bisbo 81.48 54 *eP* **P** **17 38 06.4 +0.5**
comp=Z,122nm,1.3s
PFVI *epP* **pP** **17 38 21.6 +1.1**
PFVI *i* LQ LQ 17 38 27.5
PFVI Vila Bisbo 81.48 54 P **P** **17 38 05.3 -0.6**
PFVI pP **pP** **17 38 20.5 0.0**
PFVI Vila Bisbo 81.48 54 P **P** **17 38 06.5 +0.5**
LBWR Ladybower, Pea 81.50 37 *eP* **P** **17 38 06.8 +1.1**
LBWR IAmb IAmb 17 38 07.7
comp=Z,133nm,1.2s
MTE Manteigas 81.54 50 *eP* **P** **17 38 06.5 +0.2**
comp=Z,74nm,1.5s
MTE *epP* **pP** **17 38 23.9 +3.1**
MTE *i* LQ LQ 17 38 27.1
MTE *eS* SKiKP 17 47 26.1 +26
MTE Manteigas 81.54 50 *eLR* LR 18 04 30.0
comp=Z,497nm,20.0s

MTE Manteigas 81.54 50 P **P** **17 38 05.3 -1.0**
MORF Marmelete 81.56 54 *eP* **P** **17 38 05.9 -0.6**
MORF IAmb IAmb 17 38 07.5
comp=Z,17nm,0.7s
MORF Marmelete 81.56 54 *eP* **P** **17 38 05.8 -0.6**
MORF Marmelete 81.56 54 *eP* **P** **17 38 06.8 +0.3**
comp=Z,56nm,2.1s
MORF *epP* **sP** **17 38 25.0 -1.6**
MVO Moncorvo 81.70 50 *eP* **P** **17 38 07.4 +0.3**
comp=Z,90nm,1.7s
MVO *epP* **pP** **17 38 22.4 +0.7**
MVO *i* LQ LQ 17 38 28.3
MVO Moncorvo 81.70 50 *eS* S 17 48 46.7 +30
MVO Moncorvo 81.70 50 *eLR* LR 18 04 33.5
comp=Z,268nm,20.0s
EVO Evora 81.71 52 *eP* **P** **17 38 07.5 +0.4**
comp=Z,83nm,1.8s
EVO *epP* **pP** **17 38 22.3 +0.6**
EVO *i* LQ LQ 17 38 27.4
PBRG Braganca 81.73 49 *eP* **P** **17 38 06.8 -0.4**
comp=Z,63nm,1.7s
PBRG *epP* **pP** **17 38 22.1 +0.3**
PBRG *i* LQ LQ 17 38 27.6
PCBR Castelo Branco 81.75 51 *eP* **P** **17 38 07.7 +0.4**
comp=Z,78nm,1.7s
PCBR *epP* **pP** **17 38 22.0 +0.2**
PCBR *i* LQ LQ 17 38 28.1
MESJ Messejana 81.75 53 *eP* **P** **17 38 06.9 -0.5**
MESJ IAmb IAmb 17 38 08.7
comp=Z,70nm,1.4s
MESJ *ePP* **PP** **17 41 13.4 -1.1**
MESJ *eS* **S** **17 48 13.9 -2.9**
MESJ Messejana 81.75 53 *eP* **P** **17 38 06.8 -0.5**
MESJ *e* 17 41 13.4
MESJ *eS* **S** **17 48 13.8 -2.9**
MESJ Messejana 81.75 53 *eP* **P** **17 38 08.0 +0.7**
comp=Z,67nm,1.4s
MESJ *epP* **pP** **17 38 22.4 +0.5**
MESJ *i* LQ LQ 17 38 28.3
STRD Stroud 81.76 38 *eP* **P** **17 38 07.8 +0.7**
STRD IAmb IAmb 17 38 08.8
comp=Z,365nm,1.5s
PMRV Marv??o 81.93 51 *eP* **P** **17 38 08.5 +0.2**
comp=Z,88nm,1.6s
PMRV *epP* **pP** **17 38 23.0 +0.2**
PMRV *i* LQ LQ 17 38 29.3
PMRV Marv??o 81.93 51 *eLR* LR 18 04 16.6
comp=Z,360nm,22.0s
PESTR Estremoz 81.94 52 *eP* **P** **17 38 09.2 +0.9**
comp=Z,50nm,1.7s
PESTR *epP* **pP** **17 38 23.1 +0.2**
PESTR *i* LQ LQ 17 38 28.7
PESTR Estremoz 81.94 52 P **P** **17 38 06.0 -2.3**
PESTR pP **pP** **17 38 21.5 -1.4**
PESTR IAmb IAmb 17 38 30.2
comp=Z,40nm,1.2s
PESTR Estremoz 81.94 52 P **P** **17 38 08.6 +0.3**
PCVE Castro Verde 81.94 53 *eP* **P** **17 38 09.2 +0.8**
comp=Z,72nm,1.7s
PCVE *epP* **pP** **17 38 23.8 +0.9**
PCVE *i* LQ LQ 17 38 28.5
PBEJ Beja 81.96 53 *eP* **P** **17 38 09.0 +0.5**
comp=Z,67nm,1.7s
PBEJ *epP* **pP** **17 38 23.7 +0.7**
PBEJ *i* LQ LQ 17 38 28.7
FOO Floro 82.03 28 *eP* **P** **17 38 09.0 +0.7**
SUE Sulen 82.12 28 *eP* **P** **17 38 09.7 +0.9**
PBDV Barranco-do-Ve 82.13 54 *eP* **P** **17 38 10.3 +0.9**
comp=Z,107nm,1.6s
PBDV *epP* **pP** **17 38 25.4 +1.4**
PBDV *i* LQ LQ 17 38 30.0
PEA0B Petropavlovsk- 82.19 323 ⇑*eP* **P** **17 38 11.0 +1.7**
PEA0B Petropavlovsk- 82.19 323 P **P** **17 38 10.4 +1.1**
PETK Petropavlovsk- 82.19 323 P **P** **17 38 10.2 +0.9**
comp=Z,7.7nm,0.8s,baz=80,slow=7.9,SNR=21
PETK Petropavlovsk- 82.19 323 P **P** **17 38 09.8 +0.4**
PETK *PP **pP** **17 38 23.6 -0.3**
PETK Petropavlovsk- 82.19 323 P **P** **17 38 09.8 +0.4**
PETK pP **pP** **17 38 23.6 -0.3**
N2RO R_st 82.23 21 *eP* **P** **17 38 08.9 -0.3**
PVAQ Vaqueiros 82.25 53 *eP* **P** **17 38 10.9 +0.9**
comp=Z,90nm,1.8s
PVAQ *epP* **pP** **17 38 25.4 +0.8**
PVAQ *i* LQ LQ 17 38 30.5
PVAQ *eS* **S** **17 48 29.5 +7.5**
PVAQ Vaqueiros 82.25 53 *eLR* LR 18 04 50.2
comp=Z,340nm,20.0s
PVAQ Vaqueiros 82.25 53 P **P** **17 38 10.1 +0.1**
PVAQ Vaqueiros 82.25 53 P **P** **17 38 10.9 +0.9**
N2VA Vr_y 82.35 21 *eP* **P** **17 38 11.0 +1.2**
EAH EAH 82.39 59 P **P** **17 38 13.0 +2.2**
LOF Lofoten 82.41 20 *eP* **P** **17 38 11.2 +1.1**
PBAR Barrancos 82.55 52 *eP* **P** **17 38 11.9 +0.4**
comp=Z,57nm,1.6s
PBAR *epP* **pP** **17 38 26.5 +0.4**
PBAR *i* LQ LQ 17 38 32.2
BER Bergen 82.64 29 *eP* **P** **17 38 12.9 +1.4**
HYA Hoyanger 82.71 28 *eP* **P** **17 38 13.0 +1.1**
MOL Molde 82.72 26 *eP* **P** **17 38 11.9 +0.1**
NBB40 Tonnes 83.02 22 *eP* **P** **17 38 14.3 +1.0**
NBB30 Finnes 83.05 21 *eP* **P** **17 38 14.9 +1.5**
STEI Steigen 83.06 20 *eP* **P** **17 38 14.3 +0.8**
WACR West Acre 83.06 37 *eP* **P** **17 38 14.3 +0.4**
WACR IAmb IAmb 17 38 15.7
comp=Z,290nm,1.0s
KMY Karmoy 83.06 30 *eP* **P** **17 38 14.5 +0.8**
KONS Konsvik 83.07 22 *eP* **P** **17 38 14.0 +0.4**
NBB13 Alf Garage 83.08 21 *eP* **P** **17 38 15.1 +1.5**
STOK Stokkvaagen 83.11 22 *eP* **P** **17 38 13.5 -0.4**
NBB08 Skaug oppvekst 83.14 20 *eP* **P** **17 38 15.2 +1.3**
N2NF Nordfold 83.14 20 *eP* **P** **17 38 13.5 -0.4**
NBB28 Valnes 83.18 21 *eP* **P** **17 38 15.2 +1.1**
NBB17 Glomfjord B¥r 83.20 21 *eP* **P** **17 38 15.5 +1.2**
N2TV TYrnvik 83.21 20 *eP* **P** **17 38 14.8 +0.5**
N2IH Innhavet 83.27 20 *eP* **P** **17 38 14.9 +0.3**
TRO Tromso 83.27 18 *eP* **P** **17 38 14.7 +0.1**
FAUS Fauske 83.36 20 *eP* **P** **17 38 14.7 -0.4**
MA2 Magadan 83.39 331 P **P** **17 38 16.5 +1.1**
comp=Z,18nm,0.9s,baz=62,slow=3.3,SNR=4.1
MA2 Magadan 83.39 331 *d i* P **P** **17 38 16.6 +1.1**
MA2 pmax pmax
comp=Z,25nm,1.7s
MA2 Magadan 83.39 331 IAMs_20 IAMs_20 18 21 14.3
comp=Z,530nm,19.0s
ODD1 Odda 83.42 29 *eP* **P** **17 38 16.6 +0.9**
TBLU Trondheim 83.53 25 *eP* **P** **17 38 16.5 +0.4**
BLSS Blasjo 83.54 29 *eP* **P** **17 38 17.9 +1.6**
DOMB Dombas 83.58 26 *eP* **P** **17 38 17.5 +1.1**
NSS Namsos 83.60 24 *eP* **P** **17 38 16.2 -0.1**
TTIG Tnine Tigouga, 83.64 60 P **P** **17 38 17.0 -0.4**
AVE Averroes 83.67 57 P **P** **17 38 18.9 +1.5**
SFS San Fernando 83.68 54 IAMs_20 IAMs_20 18 09 21.8
comp=Z,526nm,20.0s
MOR8 Moi Rana 83.69 22 *eP* **P** **17 38 17.0 +0.1**
JETT Jettan, Norway 83.74 17 *eP* **P** **17 38 18.4 +1.3**
SKAR Skarslia 83.85 28 *eP* **P** **17 38 19.1 +1.3**
OUK Oukaimeden 83.92 59 P **P** **17 38 20.0 +0.8**
HAMF Hammerfest 83.98 16 *eP* **P** **17 38 18.1 -0.1**
PAB San Pablo 84.14 50 P **P** **17 38 18.8 -1.0**
PAB pmax pmax
comp=Z,109nm,1.2s
PAB San Pablo 84.14 50 P **P** **17 38 18.8 -1.0**
ZHG ZHG 84.25 57 P **P** **17 38 21.0 +0.5**
SNART Snartemo 84.35 30 *i* P **P** **17 38 21.2 +0.8**
SNART Snartemo 84.35 30 *eP* **P** **17 38 20.1 -0.3**
ESDC Sonseca Array 84.38 50 P **P** **17 38 21.3 +0.3**
comp=Z,5.5nm,1.0s,baz=295,slow=3.5,SNR=24
ESDC pP **sP** **17 38 39.8 -1.5**
comp=Z,14nm,0.9s,baz=300,slow=5.9,SNR=13
ESDC LR LR 18 16 12.3
comp=Z,230nm,19.0s,baz=285,slow=36
ESDC Sonseca Array 84.38 50 P **P** **17 38 20.8 -0.2**
ESDC IAmb IAmb 17 38 42.6
comp=Z,71nm,1.5s
ESBB Sonseca Array 84.38 50 P **P** **17 38 21.0 0.0**
ESBB IAmb IAmb 17 38 42.5
comp=Z,74nm,1.4s
TIXI Tiksi 84.42 346 *d i* P **P** **17 38 20.2 -0.2**
TIXI *i* *PP **sP** **17 38 38.1 -2.5**
TIXI Tiksi 84.42 346 P **P** **17 38 19.6 -0.8**
TIXI IAMs_20 IAMs_20 18 17 25.2
comp=Z,707nm,19.0s
RSA Sarsar 84.46 55 P **P** **17 38 23.0 +1.5**

SMIR Smir Dam 84.56 54 P **P** **17 38 23.1 +1.2**
NC204 NORSAR Array S 84.66 27 P **P** **17 38 22.0 0.0**
NC204 pP **pP** **17 38 37.1 +0.5**
CHEFC Chefchaouen 84.77 55 P **P** **17 38 25.0 +1.9**
NBO00 NORSAR Array S 84.78 27 P **P** **17 38 22.1 -0.3**
NBO00 **sP** **17 38 40.8 -1.9**
KTK1 Kautokeino 84.87 17 *e*P **P** **17 38 23.3 +0.5**
KONO Kongsberg 84.89 28 P **P** **17 38 22.4 -0.6**
KONO pmax pmax
comp=Z,394nm,1.4s
KONO MLR MLR
comp=Z,1µm,22.0s
KONO Kongsberg 84.89 28 P **P** **17 38 22.4 -0.6**
NC303 NORSAR Array S 84.94 27 P **P** **17 38 23.6 +0.4**
NC303 IAmb IAmb 17 38 43.7
comp=Z,69nm,1.4s
NB2 NORSAR Subarra 84.96 27 P **P** **17 38 23.8 +0.4**
comp=Z,160nm,1.7s,baz=298,slow=4.8
NB2 NORSAR Subarra 84.96 27 P **P** **17 38 23.8 +0.4**
baz=298,slow=4.8
NOA NORSAR Array B 84.96 27 P **P** **17 38 23.9 +0.5**
comp=Z,18nm,0.9s,baz=300,slow=4.8,SNR=38
NOA pP **sP** **17 38 42.2 -1.4**
comp=Z,12nm,0.9s,baz=300,slow=4.9,SNR=8.4
NOA LR LR 18 18 14.1
comp=Z,379nm,20.0s,baz=305,slow=37
NB201 NORSAR Array S 84.99 27 P **P** **17 38 23.2 -0.4**
NC405 NORSAR Array S 85.14 27 P **P** **17 38 24.0 -0.3**
ARA0 ARCESS Array S 85.16 16 *e*P **P** **17 38 24.5 +0.2**
ARCES ARCESS Array B 85.16 16 P **P** **17 38 24.9 +0.6**
comp=Z,19nm,0.7s,baz=311,slow=4.6,SNR=39
ARCES pP **sP** **17 38 43.5 -1.0**
comp=Z,34nm,0.7s,baz=324,slow=6.0,SNR=9.9
ARCES LR LR 18 17 16.5
comp=Z,665nm,21.0s,baz=310,slow=36
NC602 NORSAR Array S 85.25 27 *e*P **P** **17 38 25.0 +0.2**
NC602 NORSAR Array S 85.25 27 P **P** **17 38 25.5 +0.7**
NC602 IAmb IAmb 17 38 26.3
comp=Z,69nm,1.2s
OSL Oslo 85.26 28 *e*P **P** **17 38 25.1 +0.2**
LCRM LCR 85.59 56 P **P** **17 38 28.3 +1.0**
CZD Col de Zad 85.65 57 P **P** **17 38 29.0 +1.3**
CLF Chambon-Foret 85.73 41 P **P** **17 38 27.4 -0.1**
PALE Palemas 85.82 54 P **P** **17 38 30.0 +1.7**
TZRR Tazzarine 85.93 59 P **P** **17 38 30.0 +1.0**
UCC Uccle 85.93 38 *dx* sP 17 38 48.2 -0.9
SNF Seneffe 86.00 38 *dp*P **pP** **17 38 42.1 -1.6**
SNF *dx* sP 17 38 48.1 -1.3
MDT Midelt 86.07 57 P **P** **17 38 30.7 +1.1**
H11S1 WAKE ISLAND Hy 86.11 288 T T 19 14 51.7
baz=77,slow=75,SNR=4.2
H11S2 WAKE ISLAND Hy 86.11 288 T T 19 14 50.1
baz=77,slow=75,SNR=4.8
H11S3 WAKE ISLAND Hy 86.13 288 T T 19 14 51.1
baz=77,slow=75,SNR=3.6
DOU Dourbes 86.35 38 *d*PcP **P** **17 38 31.0 +0.5**
DOU *dp*P **pP** **17 38 44.8 -0.7**
DOU *dx* x 17 38 49.8
BMRD Maredsous 86.37 38 *d*PcP **P** **17 38 31.0 +0.5**
BMRD *dp*P **pP** **17 38 44.4 -1.1**
BMRD *dx* x 17 38 50.6
BGES Gesves 86.52 38 *d*P **P** **17 38 29.9 -1.4**
BGES *d*PcP **PcP** **17 38 31.8 -2.0**
BGES *dx* x 17 38 49.9
BCLA Clavier 86.63 38 *d*PcP **P** **17 38 32.4 +0.5**
BCLA *dp*P **pP** **17 38 47.3 +0.4**
MSVF Nonsavu 86.68 250 P **P** **17 38 33.3 +0.6**
comp=Z,9.6nm,0.8s,baz=311,slow=2.9,SNR=10
MSVF LR LR 18 09 45.0
comp=Z,771nm,18.6s,baz=58,slow=30
MSVF Nonsavu 86.68 250 *e*P **P** **17 38 36.1 +3.4**
MSVF pmax pmax
comp=Z,24nm,1.1s
BEBN Eben Emael 86.70 37 *dp*P **pP** **17 38 50.0 +2.9**
BEBN *dx* x 17 38 51.9
RCHB Rochefort 86.70 38 *dp*P **pP** **17 38 47.5 +0.3**
RCHB *dx* x 17 38 52.2
BSTI Sart Tilman 86.72 38 *d*PcP **PcP** **17 38 33.3 -1.2**
BSTI *dx* x 17 38 50.5
MEM Membach 86.97 37 *d*PcP **P** **17 38 33.8 +0.3**
MEM *dp*P **pP** **17 38 49.3 +0.8**
ONAU Onsala 87.02 30 *i* P **P** **17 38 34.1 +0.5**
BTNL Ternell 87.05 37 *d*PcP **P** **17 38 34.7 +0.7**
BTNL *dp*P **pP** **17 38 49.9 +1.0**
BTNL *dx* x 17 38 55.3
BHOU Houvegnez 87.07 38 *d*P **P** **17 38 33.0 -1.1**
BHOU *dp*P **pP** **17 38 50.3 +1.5**
JBK JBK 87.18 55 P **P** **17 38 36.0 +0.8**
PMSA Palmer Station 87.24 165 *e*P **P** **17 38 36.1 +1.8**
CART Cartagena 87.26 51 IAMs_20 IAMs_20 18 14 23.3
comp=Z,491nm,20.0s
BORU Boraas 87.31 29 *i* P **P** **17 38 35.1 +0.1**
BORU *i* 17 38 53.6
WLF Walferdange 87.44 38 *d*PcP **P** **17 38 36.3 +0.4**
WLF Walferdange 87.44 38 P **P** **17 38 35.0 -0.8**
WLF pmax pmax
comp=Z,55nm,1.2s
WLF Walferdange 87.44 38 P **P** **17 38 35.0 -0.8**
WLF IAmb IAmb 17 39 00.2
comp=Z,55nm,1.2s
FABU Falkenberg 87.60 30 *i* P **P** **17 38 36.6 +0.2**
FABU *i* 17 38 55.8
TDRA Tendrara 88.04 56 P **P** **17 38 41.0 +1.7**
BJUU Bjuv 88.21 31 *i* P **P** **17 38 39.6 +0.3**
SSB Saint Sauveur 88.25 43 IAMs_20 IAMs_20 18 16 23.9
comp=Z,614nm,21.0s
DEL Delary 88.41 30 *i* P **P** **17 38 40.0 -0.3**
ECH Echery 88.66 39 P **P** **17 38 41.4 -0.3**
ECH pmax pmax
comp=Z,49nm,1.5s
ECH MLR MLR
comp=Z,600nm,19.0s
ECH Echery 88.66 39 P **P** **17 38 41.4 -0.3**
ECH IAmb IAmb 17 39 03.4
comp=Z,49nm,1.5s
ECH IAMs_20 IAMs_20 18 20 07.6
comp=Z,639nm,19.0s
FIGM Figuig 88.96 57 P **P** **17 38 46.0 +2.4**
BLEU Blekinge 89.42 30 *i* P **P** **17 38 44.1 -0.9**
SENIN Lac Senin/Sane 89.55 41 P **P** **17 38 45.2 -0.9**
SENIN IAmb IAmb 17 39 08.8
comp=Z,21nm,1.1s
BNI Bardonecchia 89.72 42 P **P** **17 38 46.6 -0.3**
BNI pmax pmax
comp=Z,30nm,1.2s
BNI MLR MLR
comp=Z,1µm,22.0s
BNI Bardonecchia 89.72 42 P **P** **17 38 46.6 -0.3**
BNI IAmb IAmb 17 39 08.9
comp=Z,30nm,1.2s
GRFO Grafenberg 90.38 37 P **P** **17 38 49.7 0.0**
GRFO pmax pmax
comp=Z,40nm,1.2s
GRFO Grafenberg 90.38 37 P **P** **17 38 49.7 0.0**
GRFO IAmb IAmb 17 39 11.8
comp=Z,40nm,1.2s
CLL Collm 90.58 35 *e*P **P** **17 38 49.0 -1.5**
comp=Z,59nm,2.0s
CLL *ep*P **pP** **17 39 02.0 -3.3**
CLL *i* sP **sP** **17 39 08.5 -2.3**
comp=Z,45nm,1.7s
CLL *e*PP **PP** **17 42 24.0 -1.4**
CLL *es*PP 17 42 44.0
CLL *e*PPP PPP 17 44 18.0
CLL *e*SKSac **SKSac** **17 49 12.0 -6.0**
CLL *eS* **S** **17 49 42.0 -0.3**
CLL *e* 17 50 21.0
CLL *e*PS **PS** **17 50 54.0 -1.3**
CLL *e*PPS PPS 17 51 23.0
CLL *es*SS 17 56 10.0
CLL *e*SSSS 18 02 30.0
CLL Collm 90.58 35 *e*P **P** **17 38 49.0 -1.5**
CLL *e**PP **pP** **17 39 02.0 -3.3**
CLL *i **SP **sP** **17 39 08.5 -2.3**
CLL pmax pmax
comp=Z,59nm,2.0s
CLL Collm 90.58 35 P **P** **17 38 49.7 -0.9**
CLL IAmb IAmb 17 39 12.0
comp=Z,28nm,1.4s
CLL IAMs_20 IAMs_20 18 17 19.9
comp=Z,707nm,20.0s
FIA1 FINESS Array S 90.64 22 P **P** **17 38 49.9 -0.7**
FINES FINESS Array B 90.64 22 P **P** **17 38 49.9 -0.8**
comp=Z,11nm,1.0s,baz=338,slow=4.0,SNR=12
FINES LR LR 18 20 12.4
comp=Z,831nm,20.7s,baz=320,slow=36
FINES FINESS Array B 90.64 22 P **P** **17 38 49.8 -0.8**
FINES **pP** **17 39 08.0 +2.7**
YAK Yakutsk 90.70 338 P **P** **17 38 52.0 +1.1**
comp=Z,18nm,0.8s,baz=72,slow=1.1,SNR=32
YAK Yakutsk 90.70 338 *d*P **P** **17 38 51.1 +0.2**
YAK *e* 17 39 04.2
YAK pmax pmax
comp=Z,38nm,0.8s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,16nm,1.3s
YAK Yakutsk 90.70 338 P **P** **17 38 50.8 0.0**
YAK IAMs_20 IAMs_20 18 25 39.6
comp=Z,557nm,18.0s
DAVA Damuels 90.72 39 *i* P **P** **17 38 51.7 +0.2**
comp=Z,19nm,1.2s,SNR=5.5
NKC Novy Kostel 90.81 36 AMS AMS 18 15 00.0
comp=Z,1µm,31.6s
RETA Reutte 91.16 39 *e*P **P** **17 38 53.8 +0.4**
comp=Z,11nm,1.2s
BRG Berggiesshubel 91.31 35 *e*P **P** **17 38 54.4 +0.5**
BRG Amp 17 38 56.3
comp=Z,18nm,1.1s
FETA Feichten 91.36 39 *e*P **P** **17 38 55.1 +0.6**
comp=Z,13nm,1.5s
FETA *e*P **sP** **17 39 15.6 +0.8**
comp=Z,30nm,1.6s
MOTA Moosalm 91.43 39 *i* P **P** **17 38 54.9 +0.1**
comp=Z,13nm,0.9s,SNR=5.7
MOTA *e*P **sP** **17 39 15.5 +0.4**
comp=Z,50nm,1.9s
SQTA Sankt Quirin 91.55 39 *e*P **P** **17 38 55.6 +0.3**
comp=Z,25nm,1.9s
SQTA *e*P **sP** **17 39 16.9 +1.3**
comp=Z,28nm,1.5s
WATA Walderalm 91.71 39 *e*P **P** **17 38 56.6 +0.5**
comp=Z,18nm,1.4s
WATA *e*P **sP** **17 39 16.5 +0.1**
comp=Z,24nm,1.3s
WTTA Wattenberg 91.78 39 *e*P **P** **17 38 57.1 +0.6**
comp=Z,13nm,1.3s
WTTA *e*P **sP** **17 39 17.4 +0.6**
comp=Z,29nm,1.7s
PVCC Panska Ves 91.83 35 AMS AMS 18 11 20.0
comp=Z,1µm,21.1s
PRA Prague 91.99 35 AMS AMS 18 15 10.0
comp=Z,1µm,32.7s
KHC Kasperske Hory 91.99 37 *e*P **P** **17 38 57.1 -0.1**
KHC *e**PP **sP** **17 39 15.9 -1.6**
KHC MLR MLR
comp=Z,1µm,30.1s
KHC Kasperske Hory 91.99 37 *e*P **P** **17 38 57.1 -0.1**
KHC *es*P **sP** **17 39 15.9 -1.6**
KHC AMS AMS 18 13 20.0
comp=Z,1µm,30.1s
PRU Pruhonice 92.09 35 *e*P **P** **17 38 57.0 -0.6**
PRU MLR MLR
comp=Z,1µm,29.6s
PRU Pruhonice 92.09 35 *e*P **P** **17 38 57.0 -0.6**
PRU AMS AMS 18 14 10.0
comp=Z,1µm,29.6s
GEC2 GERESS Array S 92.21 37 P **P** **17 38 57.9 -0.4**
GEC2 IAmb IAmb 17 39 00.6
comp=Z,15nm,1.2s
GERES GERESS Array B 92.21 37 P **P** **17 38 58.5 +0.2**
comp=Z,3.1nm,0.8s,baz=319,slow=3.7,SNR=11
GERES LR LR 18 23 29.8
comp=Z,299nm,18.5s,baz=303,slow=38
GERES GERESS Array B 92.21 37 P **P** **17 38 56.9 -1.4**
KLNR Kaliningrad 92.45 30 ⇓*e*P **P** **17 38 57.8 -1.3**
KLNR pmax pmax
comp=Z,186nm,2.2s
VLC Villacollemand 92.49 42 IAMs_20 IAMs_20 18 22 48.0
comp=Z,428nm,20.0s
KOWA Kowa 92.52 74 P **P** **17 38 59.8 -0.4**
KOWA IAMs_20 IAMs_20 18 16 12.9
comp=Z,646nm,21.0s
ABTA Abfaltersbach 92.56 39 *e*P **P** **17 39 00.4 +0.5**
comp=Z,15nm,0.9s
CKRC Cesky Krumlov 92.56 37 *e*P **P** **17 39 01.8 +1.9**
CKRC AMS AMS 18 14 00.0
comp=Z,800nm,21.3s
CHVC Chvalec 92.60 34 *e*P **P** **17 39 00.3 +0.3**
CHVC AMS AMS 18 12 30.0
comp=Z,2µm,41.8s
UPC Upice 92.62 35 AMS AMS 18 12 20.0
comp=Z,2µm,35.0s
OSTC Ostas 92.71 34 *e*P **P** **17 39 00.8 +0.3**
OSTC AMS AMS 18 12 30.0
comp=Z,2µm,36.3s
NRIK Noril'sk 92.77 357 P **P** **17 39 01.3 +1.0**
comp=Z,7.8nm,0.7s,baz=339,slow=4.3,SNR=9.1
NRIK LR LR 18 24 02.7
comp=Z,805nm,18.1s,baz=32,slow=38
NRIK Noril'sk 92.77 357 *de*P **P** **17 39 01.0 +0.7**
NRIK *i **PP **sP** **17 39 18.6 -2.1**
NRIK pmax pmax
comp=Z,49nm,1.7s
NRIK Noril'sk 92.77 357 P **P** **17 39 00.8 +0.5**
ZCCA Zocca 92.77 42 P **P** **17 39 00.8 -0.2**
VSU Vasula 92.86 24 ⇑*i*P **P** **17 39 00.1 -0.8**
VSU pmax pmax
comp=Z,32nm,1.0s
DPC Dobruska-Polom 92.88 35 *e*P **P** **17 39 01.8 +0.5**
DPC *e**PP **sP** **17 39 22.3 +0.7**
DPC MLR MLR
comp=Z,1µm,22.5s
DPC Dobruska-Polom 92.88 35 *e*P **P** **17 39 01.8 +0.5**
DPC *es*P **sP** **17 39 22.3 +0.7**
DPC AMS AMS 18 16 30.0
comp=Z,1µm,22.5s
KBA Koelnbreinsper 92.89 38 *e*P **P** **17 39 02.1 +0.5**
comp=Z,18nm,1.8s
KBA *e*P **sP** **17 39 20.7 -1.2**
comp=Z,15nm,1.3s
TREC Trest 92.98 36 AMS AMS 18 14 40.0
comp=Z,900nm,24.7s
MOA Molln 93.04 37 *e*P **P** **17 39 02.6 +0.5**
comp=Z,19nm,1.6s
KRLC Kraliky 93.27 35 *e*P **P** **17 39 03.8 +0.7**
KRLC *e**PP **sP** **17 39 21.8 -1.6**
KRLC MLR MLR
comp=Z,900nm,21.6s
KRLC Kraliky 93.27 35 *e*P **P** **17 39 03.8 +0.7**
KRLC *es*P **sP** **17 39 21.8 -1.6**
KRLC AMS AMS 18 17 50.0
comp=Z,900nm,21.6s
MYKA Terra Mystica 93.29 39 *e*P **P** **17 39 04.0 +0.6**
comp=Z,15nm,1.5s
YSS Yuzh-Sakhalins 93.50 322 ⇓*e*P **P** **17 39 05.7 +1.6**
YSS pmax pmax
comp=Z,11nm,0.8s
VRAC Vranov 93.58 35 P **P** **17 39 04.7 +0.2**
VRAC Vranov 93.58 35 *e*P **P** **17 39 04.5 0.0**
VRAC *ep*P **sP** **17 39 23.4 -1.4**
KRUC Moravsky 93.61 36 *e*P **P** **17 39 04.3 -0.3**
KRUC *ep*P **sP** **17 39 23.3 -1.6**
MORC Moravsky Berou 93.85 35 ⇑P **P** **17 39 06.1 +0.4**
MORC Moravsky Berou 93.85 35 P **P** **17 39 05.6 -0.2**
MORC pmax pmax
comp=Z,19nm,1.1s
MORC Moravsky Berou 93.85 35 P **P** **17 39 05.6 -0.2**
MORC IAmb IAmb 17 39 07.3
comp=Z,19nm,1.1s
MORC Moravsky Berou 93.85 35 *e*P **P** **17 39 05.6 -0.2**
MORC *ep*P **sP** **17 39 24.5 -1.6**
CONA Conrad Observa 93.91 37 *i* P **P** **17 39 06.8 +0.6**
comp=Z,12nm,1.1s,SNR=6.2
CONA *e*P **pP** **17 39 21.9 +1.0**
comp=Z,14nm,1.6s
ARSA Arzberg 94.08 37 *e*P **P** **17 39 06.8 -0.1**
comp=Z,4.3nm,1.2s
SOKA Soboth 94.09 38 *e*P **P** **17 39 06.7 -0.3**
comp=Z,16nm,1.3s
SOKA *e*P **sP** **17 39 27.8 +0.5**
comp=Z,19nm,1.0s
OKC Ostrava-Krasne 94.14 34 AMS AMS 18 16 30.0
comp=Z,1µm,6.2s
DBIC Dimbokro 94.24 82 P **P** **17 39 08.0 -0.2**
comp=Z,4.0nm,1.0s,baz=333,slow=4.5,SNR=2.3
DBIC Dimbokro 94.24 82 P **P** **17 39 08.0 -0.2**
JAVC Velka Javorina 94.42 35 *e*P **P** **17 39 09.5 +1.0**
JAVC *ep*P **sP** **17 39 28.0 -0.8**
ZST Bratislava 94.47 36 *e*P **P** **17 39 09.3 +0.7**
ZST pmax pmax
comp=Z,199nm,1.8s
ZST Bratislava 94.47 36 *e*P **P** **17 39 09.3 +0.7**
MODS Modra-Piesok 94.47 36 *e*P **P** **17 39 08.5 -0.1**
MODS pmax pmax
comp=Z,54nm,1.6s
MODS Modra-Piesok 94.47 36 *e*P **P** **17 39 08.5 -0.1**
SMOL Smolenice 94.48 36 *e*P **P** **17 39 09.9 +1.3**
SMOL pmax pmax
comp=Z,16nm,1.4s
SMOL Smolenice 94.48 36 *e*P **P** **17 39 09.9 +1.3**
OJC Ojcow 94.80 33 P **P** **17 39 09.2 -0.9**
OJC pmax pmax
comp=Z,29nm,1.4s
OJC Ojcow 94.80 33 P **P** **17 39 09.2 -0.9**
OJC IAmb IAmb 17 39 11.2
comp=Z,29nm,1.4s
LANS Liptovska Anna 95.24 34 *e*P **P** **17 39 13.5 +1.3**
LANS pmax pmax
comp=Z,10.0nm,1.2s
LANS Liptovska Anna 95.24 34 *e*P **P** **17 39 13.5 +1.3**
NACGM Naroch 95.24 27 *i* P **P** **17 39 10.9 -1.1**
VYHS Vyhne 95.27 35 *e*P **P** **17 39 13.0 +0.7**
AQU L'Aquila 95.29 42 IAMs_20 IAMs_20 18 20 48.2
comp=Z,675nm,22.0s
KLMR Klimovskoe 95.51 18 *e*P **P** **17 39 09.1 -4.0**
KLMR pmax pmax
comp=Z,57nm,1.3s
KLMR Klimovskoe 95.51 18 *e*P **P** **17 39 09.2 -3.9**
KLMR AMP 17 39 12.7
comp=Z,57nm,1.3s
KEST Kesra 95.63 50 P **P** **17 39 14.0 -0.3**
comp=Z,7.4nm,0.8s,baz=298,slow=4.5,SNR=6.1
MNK Minsk 95.99 27 *i* P **P** **17 39 14.5 -0.9**
MNK *i **PP **sP** **17 39 36.3 +0.7**
MNK *i* S **SKSac** **17 49 43.0 -4.7**
MNK *i **SS **S** **17 50 22.2 -7.9**
MNK *i* SP **SP** **17 51 53.6 +5.5**
MNK pmax pmax
comp=Z,15nm,1.0s
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK pmax pmax
comp=N,13nm,1.0s
MNK MLR MLR
comp=Z,737nm,19.0s
MNK MLR MLR
comp=N,168nm,19.0s
MNK MLR MLR
comp=E,84nm,19.0s
MNK Minsk 95.99 27 *i* P **P** **17 39 14.6 -0.8**
comp=E,3.0nm,1.1s
MNK *i* P **P** **17 39 14.6 -0.8**
comp=N,13nm,1.0s
MNK *i* P **P** **17 39 14.6 -0.8**
comp=Z,15nm,1.1s,baz=312
MNK *i* pP **sP** **17 39 36.3 +0.7**
MNK *i* sP pP 17 39 45.2 +15
MNK *i* PP PP 17 42 58.7 -8.8
MNK *i* PPP PPP 17 45 04.3
MNK *i* SKS 17 49 15.9
MNK *i* S **SKSac** **17 49 43.0 -4.6**
MNK *i* sS **S** **17 50 22.3 -7.8**
MNK *i* SP **SP** **17 51 53.6 +5.5**
MNK *i* PS **PS** **17 52 05.1 +10**
MNK *i* SS SS 17 56 42.7 -18
MNK *i* SSS SSS 18 00 32.6
MNK *i* LQ LQ 18 10 08.6
MNK *i* LR LR 18 16 26.7
MNK *i* LRM MLR 18 23 03.1
comp=Z,737nm,19.1s
MNK *i* LRM MLR 18 23 08.5
comp=E,84nm,19.1s
MNK *i* LRM MLR 18 23 08.8
comp=N,168nm,19.1s
KECS Kecovo 96.17 35 *e*P **P** **17 39 17.0 +0.6**
KECS pmax pmax
comp=Z,10.0nm,1.0s
KECS Kecovo 96.17 35 *e*P **P** **17 39 17.0 +0.6**
PSZ Piszkesteto 96.18 35 ⇑P **P** **17 39 17.7 +1.2**
PSZ Piszkesteto 96.18 35 P **P** **17 39 16.8 +0.3**
PSZ pmax pmax
comp=Z,30nm,1.2s
PSZ Piszkesteto 96.18 35 P **P** **17 39 16.8 +0.3**
PSZ IAmb IAmb 17 39 20.5
comp=Z,30nm,1.2s
PSZ IAMs_20 IAMs_20 18 12 50.1
comp=Z,527nm,21.0s
MORH Mrgy, Hungar 96.44 37 P **P** **17 39 17.5 -0.1**
CRVS Cervenica-Dubn 96.45 34 *e*P **P** **17 39 18.3 +0.7**
CRVS pmax pmax
comp=Z,107nm,1.9s
CRVS Cervenica-Dubn 96.45 34 *e*P **P** **17 39 18.3 +0.7**
PRGR Permogore 96.52 15 *e*P **P** **17 39 16.2 -1.4**
PRGR *e**PP **pP** **17 39 35.1 +2.7**
PRGR pmax pmax
comp=Z,104nm,1.0s
KWP Kalwaria Pacla 96.66 33 P **P** **17 39 18.4 -0.2**
KWP pmax pmax
comp=Z,201nm,1.1s
KWP Kalwaria Pacla 96.66 33 P **P** **17 39 18.4 -0.2**
KOLS Kolonicke sedl 96.86 34 *e*P **P** **17 39 20.2 +0.7**
KOLS Kolonicke sedl 96.86 34 *e*P **P** **17 39 20.2 +0.7**
UZH Uzhgorod 97.05 34 ⇓*i*P Pdif 17 39 20.5 +0.1
UZH *e**PP pP 17 39 33.2 -1.9
UZH *e* 17 49 55.1
UZH *e*S **S** **17 50 32.0 -7.5**
UZH pmax pmax
comp=Z,5.0nm,0.9s
LVV L'vov 97.22 32 *e*P **P** **17 39 20.8 -0.3**
CLTB Caltabellotta 97.51 47 IAMs_20 IAMs_20 18 24 41.3
comp=Z,546nm,20.0s
SIRR Siria 98.12 36 ⇑P Pdif 17 39 25.6 +0.3
TORD Torodi Ar. Bea 98.19 73 P **P** **17 39 24.9 -1.2**
comp=Z,1.5nm,0.9s,baz=300,slow=4.4,SNR=8.0
TORD PP **PP** **17 43 30.2 +4.2**
comp=Z,1.7nm,1.2s,baz=307,slow=9.0,SNR=3.5
TORD PKKPbc **PKKPdf** **17 55 59.9 -0.6**
comp=Z,0.5nm,0.8s,baz=152,slow=1.7,SNR=3.9
TORD Torodi Ar. Bea 98.19 73 P **P** **17 39 24.7 -1.5**
TORD pP **pP** **17 39 40.6 -0.4**
KLR Kul'dur 98.22 328 ⇑*e*P Pdif 17 39 25.9 +0.3
KLR pmax pmax
comp=Z,2.0nm,1.0s
DRGR 98.39 35 ⇓P **P** **17 39 26.3 -0.2**
DZM Mont Dzumac 98.39 250 *e*PS PS 17 51 59.2 -24
comp=Z,243nm,30.1s
DZM Mont Dzumac 98.39 250 *e*LR LR 18 11 04.9
comp=Z,3µm,28.1s,baz=78
DIVS Divibare 98.43 38 IAMs_20 IAMs_20 18 28 08.8
comp=Z,422nm,20.0s
BZS Buzias 98.48 36 ⇑P Pdif 17 39 27.3 +0.4
PDG Podgorica 98.92 40 P Pdif 17 39 29.2 +0.3
PDG Podgorica 98.92 40 IAMs_20 IAMs_20 18 24 11.3
comp=Z,537nm,22.0s
MOS Moscow 98.94 22 *e*P **P** **17 39 27.0 -1.6**
MOS *e* 17 39 45.1
MOS MLR MLR
comp=Z,800nm,21.0s
MDVR Moldovita 99.03 37 P **Pdif** **17 39 29.5 +0.1**
OBN Obninsk 99.03 23 ⇑*i*P **Pdif** **17 39 28.7 -0.3**
OBN *i* 17 39 47.0
OBN *e* 17 43 27.3
OBN *e*S **SKSac** **17 50 01.8 -1.4**
OBN pmax pmax
comp=Z,57nm,1.5s
OBN MLR MLR
comp=Z,563nm,20.0s
TIP Timpagrande 99.10 44 P **Pdif** **17 39 28.7 -1.1**
TIP IAmb IAmb 17 39 49.4
comp=Z,17nm,1.1s
TIP IAMs_20 IAMs_20 18 24 08.2
comp=Z,469nm,22.0s
AKASG Malin Array Be 99.17 29 P **Pdif** **17 39 28.4 -1.3**
comp=Z,1.3nm,0.5s,baz=294,slow=3.9,SNR=8.8
AKBB Malin Array Si 99.17 29 P **Pdif** **17 39 28.3 -1.5**
AKBB pmax pmax
comp=Z,6.0nm,1.0s
AKBB Malin Array Si 99.17 29 P **Pdif** **17 39 28.3 -1.5**
BUR01 Bucovina Ar. S 99.22 33 P **Pdif** **17 39 30.5 +0.2**
BURAR Bucovina Array 99.22 33 P **Pdif** **17 39 30.4 +0.1**
GZR Gura Zlata 99.27 36 ⇑P **Pdif** **17 39 30.5 0.0**

KIRV	Kirov	100.12	15	P	Pdif	17 39 32.9	-0.9		
	comp=Z,14nm,0.8s,baz=326,slow=5.1,SNR=5.9								
SORM	Soroca	100.48	32	P	Pdif	17 39 34.9	-0.8		
LPSR	Galich'ya Gora	101.87	23	eP	Pdif	17 39 40.9	-0.8		
LPSR				pmax	pmax				
	comp=Z,30nm,1.0s								
VSR	Storozhevoye	103.05	24	eP	Pdif	17 39 44.9	-2.1		
VSR				pmax	pmax				
	comp=Z,10.0nm,1.0s								
VORD	Divnogorie	103.29	24	eP	Pdif	17 39 45.7	-2.4		
VORD				pmax	pmax				
	comp=Z,8.0nm,1.0s								
VRH	Novokhopyorsk	104.03	23	eP	Pdif	17 39 48.4	-3.0		
VRH				pmax	pmax				
	comp=Z,8.0nm,1.0s								
SANT	Santorini	106.36	42	IAMs_20	IAMs_20	18 30 07.2			
	comp=Z,448nm,21.0s								
ZALV	Zalesovo Beam	108.25	356	PP	PP	17 44 48.3	+9.0		
	comp=Z,0.5nm,0.4s,baz=347,slow=6.1,SNR=3.7								
ANTO	Ankara	108.47	36	IAMs_20	IAMs_20	18 30 33.3			
	comp=Z,378nm,21.0s								
ISP	Isparta	108.56	38	IAMs_20	IAMs_20	18 35 29.4			
	comp=Z,369nm,21.0s								
BRTR	Keskin Array B	109.03	35	PP	PP	17 44 51.0	+5.2		
	comp=Z,1.6nm,0.8s,baz=292,slow=6.5,SNR=3.5								
BRTR				PKKPbc	PKKPab	17 55 37.9	-2.3		
	comp=Z,1.7nm,0.9s,baz=145,slow=4.5,SNR=4.4								
ULN	Ulaanbaatar	109.73	340	IAMs_20	IAMs_20	18 36 43.6			
	comp=Z,398nm,20.0s								
SONM	Songino Array	109.97	340	PP	PP	17 44 58.0	+5.9		
	comp=Z,1.7nm,1.0s,baz=11,slow=4.5,SNR=5.2								
SONM				PKKPbc	PKKPbc	17 55 21.2	-2.5		
	comp=Z,0.5nm,0.6s,baz=179,slow=4.8,SNR=4.2								
KIV	Kislovodsk	110.27	27	IAMs_20	IAMs_20	18 27 08.3			
	comp=Z,283nm,21.0s								
SEM	Semipalatinsk	111.99	359	ePKiKP	PKiKP	17 44 23.6	-0.1		
	baz=359								
SEM	Semipalatinsk	111.99	359	*i* PKiKP	PKiKP	17 44 23.6	-0.1		
CSS	Mathiatis	112.15	39	IAMs_20	IAMs_20	18 32 24.3			
	comp=Z,214nm,22.0s								
BRZS	Berezniki	112.23	4	ePKiKP	PKiKP	17 44 25.5	+1.5		
	baz=4.2								
BRZS	Berezniki	112.23	4	*i* PKiKP	PKiKP	17 44 25.4	+1.5		
DGZ	Jazzator, Alta	112.25	354	⇑*i* PKiKP	PKiKP	17 44 24.1	0.0		
MAK	Makhachkala	113.07	24	eP	Pdif	17 40 24.5	-7.3		
MAK				*i*		17 44 23.9			
MAK				*e*		17 44 41.2			
MAK				*e*		17 45 11.9			
MAK				*e*		17 51 01.2			
MAK				*e*SSS	SSS	18 04 59.2			
MAK				pmax	pmax				
	comp=Z,262nm,1.1s								
HHC	Hu-ho-hao-te	113.99	333	ePKP	PKiKP	17 44 22.8	-4.9		
HHC				PP	PP	17 45 21.0	0.0		
HHC				LR	LR				
	comp=Z,410nm,21.8s								
HHC				LR	LR				
	comp=Z,420nm,19.8s								
HHC				LR	LR				
	comp=Z,840nm,21.3s								
GNI	Garni	114.25	28	IAMs_20	IAMs_20	18 35 35.6			
	comp=Z,381nm,20.0s								
AKT	Akhty	114.41	25	ePKiKP	PKPdf	17 44 32.8	+4.3		
AKT				*e*		17 45 27.3			
AKT				pmax	pmax				
	comp=Z,20nm,1.5s								
MKAR	Makanchi Array	115.53	357	PKP	PKiKP	17 44 29.9	-0.5		
	comp=Z,1.8nm,0.9s,baz=264,slow=2.4,SNR=6.3								
NJ2	Nanjing	117.07	322	ePKP	PKiKP	17 44 33.8	+0.1		
TDK	Taldyqorghan	117.41	0	ePKiKP	PKPdf	17 44 32.8	-1.3		
	baz=0.3								
TDK	Taldyqorghan	117.41	0	*i* PKiKP	PKPdf	17 44 32.7	-1.3		
WMQ	Urumqi	118.02	352	ePKP	PKPdf	17 44 33.3	-2.0		
WMQ				LR	LR				
	comp=Z,900nm,23.1s								
WMQ				LR	LR				
	comp=Z,450nm,23.1s								
WMQ				LR	LR				
	comp=Z,930nm,26.3s								
KUU	Kurty	118.49	2	ePKiKP	PKPdf	17 44 34.5	-1.7		
	baz=2.0								
KUU	Kurty	118.49	2	*i* PKiKP	PKPdf	17 44 34.4	-1.7		
SGDS	Sogindy	118.86	3	ePKiKP	PKPdf	17 44 35.6	-1.3		
	baz=3.4								
MDOK	Medeo	119.24	1	ePKiKP	PKPdf	17 44 36.3	-1.5		
	baz=1.4								
MDOK	Medeo	119.24	1	*i* PKiKP	PKPdf	17 44 36.2	-1.5		
SHLS	Shalkode	119.25	359	ePKP	PKPdf	17 44 36.5	-1.3		
	baz=359								
SHLS	Shalkode	119.25	359	ePKiKP	PKPdf	17 44 36.4	-1.3		
MTBS	Maitube	119.25	2	ePKiKP	PKPdf	17 44 36.7	-1.0		
	baz=2.0								
UZB	Uzynbulak	119.27	360	ePKP	PKPdf	17 44 36.4	-1.5		
	baz=360								
UZB	Uzynbulak	119.27	360	ePKiKP	PKPdf	17 44 36.3	-1.5		
TNSS	Tian-Shan	119.36	1	ePKP	PKPdf	17 44 36.9	-1.4		
	baz=1.5								
GTA	Gaotai	119.62	341	ePKP	PKiKP	17 44 40.3	+1.7		
GTA				sPKP		17 45 00.5			
AAK	Ala-Archa	119.66	3	⇑*i* PKiKP	PKiKP	17 44 38.9	+0.2		
AAK				pmax	pmax				
	comp=Z,16nm,1.7s								
IUG	luzhnay	119.75	7	ePKP	PKPdf	17 44 37.5	-1.3		
	baz=7.4								
IUG	luzhnay	119.75	7	ePKiKP	PKPdf	17 44 37.4	-1.3		
XAN	Xi'an	120.79	331	PKP	PKPdf	17 44 40.8	-0.1		
XAN				PP	PP	17 46 08.0	-0.4		
XAN				SS	SS	18 02 37.8	+2.6		
XAN				AMB	AMB				
	comp=Z,140nm,7.3s								
XAN				LR	LR				
	comp=Z,610nm,19.2s								
XAN				LR	LR				
	comp=Z,190nm,24.0s								
XAN				LR	LR				
	comp=Z,650nm,19.1s								
LZH	Lanzhou	121.20	336	ePKP	PKiKP	17 44 42.5	+0.6		
LZH				SKS	SKSdf	17 51 45.3	-4.8		
LZH				SKKS	SKKSac	17 52 55.0	-13		
LZH				LR	LR				
	comp=Z,410nm,16.8s								
LZH				LR	LR				
	comp=Z,510nm,14.6s								
LZH				LR	LR				
	comp=Z,330nm,17.1s								
GEYT	Alibeck	121.26	19	PKP	PKPdf	17 44 41.4	-0.2		
	comp=Z,63nm,0.7s,baz=60,slow=8.8,SNR=5.9								
STKA	Stephens Creek	121.82	243	PKP	PKiKP	17 44 42.9	0.0		
	comp=Z,7.6nm,0.9s,baz=36,slow=2.1,SNR=19								
STKA	Stephens Creek	121.82	243	*c i* PKiKP	PKiKP	17 44 43.1	+0.2		
STKA	Stephens Creek	121.82	243	PKPdf	PKPdf	17 44 42.6	-0.1		
KSH	Kashi	122.84	2	PKP	PKPdf	17 44 40.0	-4.8		
KSH				PP	PP	17 46 23.5	+1.6		
KSH				AMB	AMB				
	comp=Z,310nm,5.9s								
KSH				LR	LR				
	comp=Z,610nm,20.4s								
KSH				LR	LR				
	comp=Z,620nm,21.1s								
KSH				LR	LR				
	comp=Z,770nm,21.1s								
CHGR	Chuyangaron	123.07	9		PKPdf	17 44 45.0	-0.1		
ENH	Enshi	123.58	328		PKPdf	17 44 45.5	-0.8		
CD2	Chengdu	125.75	333	PKP	PKiKP	17 44 50.8	-0.1		
CD2				LR	LR				
	comp=Z,580nm,20.0s								
CD2				LR	LR				
	comp=Z,590nm,14.9s								
CD2				LR	LR				
	comp=Z,780nm,18.8s								
WR0	Warramunga Arr	127.17	258	PKPdf	PKPdf	17 44 53.2	-0.1		
WB2	Warramunga Arr	127.34	258	PKPdf	PKPdf	17 44 53.8	+0.2		
WRAB	Tennant Creek	127.34	258	PKiKP	PKPdf	17 44 53.8	+0.2		
WRAB	Tennant Creek	127.34	258		PKPdf	17 44 53.8	+0.2		
WRA	Warramunga Arr	127.35	258	PKP	PKPdf	17 44 53.6	-0.1		
	comp=Z,9.6nm,0.8s,baz=80,slow=1.8,SNR=22								
WRA	Warramunga Arr	127.35	258	PKiKP	PKPdf	17 44 53.6	-0.1		
WRA						17 45 06.9			
WRA	Warramunga Arr	127.35	258		PKPdf	17 44 53.6	-0.1		
WRA				pPKPdf	pPKPdf	17 45 06.9	-2.0		
GYA	Guiyang	128.12	327	⇑PKP	PKiKP	17 44 55.5	-0.3		
AS31	Alice Springs	128.15	254	PKPdf	PKPdf	17 44 55.3	+0.1		
ASAR	Alice Springs	128.15	254	PKP	PKPdf	17 44 54.9	-0.2		
	comp=Z,7.5nm,0.9s,baz=85,slow=2.3,SNR=14								
ASAR				PP	PP	17 47 15.6	+16		
	comp=Z,1.0nm,1.1s,baz=96,slow=6.1,SNR=4.0								
ASAR	Alice Springs	128.15	254	PKIKP	PKPdf	17 44 54.8	-0.4		
ASAR						17 45 08.3			
ASAR	Alice Springs	128.15	254	PKPdf	PKPdf	17 44 54.8	-0.4		
ASAR					pPKPdf	17 45 08.3	-2.1		
NIL	Nilore	128.50	6	IAMs_20	IAMs_20	18 43 45.4			
	comp=Z,456nm,22.0s								
MAW	Mawson	129.30	172	PKP	PKiKP	17 44 56.8	+0.2		
	comp=Z,11nm,0.9s,baz=229,slow=3.2,SNR=19								
DHRM	DHARAMSHALA	130.10	2	*i x*	PKPdf	17 44 59.0	0.0		
BOSA	Boshof	130.27	113	PKP	PKiKP	17 45 00.5	+0.5		
	comp=Z,4,7nm,0.9s,baz=299,slow=2.2,SNR=6.9								
KMI	Kunming	131.17	330	⇓PKP	PKPdf	17 45 01.0	-0.2		
KMI				sPKP		17 45 27.5			
KMI				LR	LR				
	comp=Z,200nm,21.6s								
KMI				LR	LR				
	comp=Z,320nm,20.1s								
KMI				LR	LR				
	comp=Z,540nm,21.6s								
QIZ	Qiongzhong	132.11	318	PKP	PKPdf	17 45 02.8	0.0		
QIZ				PP	PP	17 47 25.3	+1.4		
QIZ				SS	SS	18 04 59.5	+2.1		
QIZ				AMB	AMB				
	comp=Z,80nm,12.0s								
QIZ				LR	LR				
	comp=Z,250nm,17.2s								
QIZ				LR	LR				
	comp=Z,240nm,16.2s								
QIZ				LR	LR				
	comp=Z,310nm,20.1s								
QIZ	Qiongzhong	132.11	318	IAMs_20	IAMs_20	18 53 19.2			
	comp=Z,366nm,20.0s								
UOSS	Minazif	132.20	28	IAMs_20	IAMs_20	18 43 35.9			
	comp=Z,266nm,21.0s								
LODK	Lodwar	132.49	68		PKPdf	17 45 04.2	+0.5		
SLVN	Son La	133.75	326		PKPdf	17 45 06.0	+0.1		
SLVN				IAMs_20	IAMs_20	18 52 46.1			
	comp=Z,390nm,20.0s								
ATD	Arta Tunnel	134.23	53	IAMs_20	IAMs_20	18 40 25.6			
	comp=Z,410nm,22.0s								
SHL	Shillong	134.89	343	PKIKP	PKPdf	17 45 07.2	-0.9		
SHL	Shillong	134.89	343	PKPdf	PKPdf	17 45 07.2	-0.9		
SHL	Shillong	134.89	343	*i x*	PKPdf	17 45 09.0	+0.9		
FITZ	Fitzroy Crossi	135.28	262	PKP	PKPdf	17 45 08.9	+0.2		
	comp=Z,6.6nm,0.8s,baz=45,slow=3.5,SNR=5.7								
FITZ	Fitzroy Crossi	135.28	262	PKPdf	PKPdf	17 45 08.5	-0.1		
CHTO	Chiang Mai	138.36	330	PKIKP	PKPdf	17 45 14.6	+0.1		
CHTO				MLR	MLR				
	comp=Z,500nm,22.0s								
CHTO	Chiang Mai	138.36	330	PKPdf	PKPdf	17 45 14.6	+0.1		
CMAR	Chiang Mai Arr	138.67	330	PKP	PKPdf	17 45 15.5	+0.5		
	comp=Z,7.7nm,0.8s,baz=330,slow=2.0,SNR=34								
CMAR	Chiang Mai Arr	138.67	330	PKPdf	PKPdf	17 45 14.6	-0.5		
NWAO	Narrogin (SRO)	142.19	239	PKIKP	PKPdf	17 45 21.4	+0.4		
NWAO	Narrogin (SRO)	142.19	239		PKPdf	17 45 21.4	+0.4		
POO	Poona	143.52	7	*i* x	PKPab	17 45 19.7	-0.4		
POO	Poona	143.52	7	*e* x	PKPab	17 45 18.0	-2.1		
VIS	Vishakhapatnam	144.30	352	*i* x	PKPab	17 45 22.9	-0.1		
HYB	Hyderabad	144.91	360	*i* x	PKPab	17 45 24.3	-1.1		
HYB	Hyderabad	144.91	360	*i* PKP	PKPab	17 45 25.0	-0.3		
HYB				*e*pPKP	pPKPdf	17 45 38.0	-3.5		
HYB				*e*sPKP		17 45 44.0			
SURA	Surathani	145.97	321	PKP	PKPab	17 45 30.0	+0.7		
DGPR	DIGLIPUR	146.01	334	*i* x	PKPab	17 45 30.1	+0.7		
GOA	Goa	146.51	8	*i* x	PKPbc	17 45 29.9	-0.4		
UGM	Wanagama	147.31	284		PKPdf	17 45 31.4	+1.1		
PBA	Port Blair	147.45	333	*i* x	PKPbc	17 45 33.5	+0.5		
MDRS	Chennai	149.19	357	*i* x	PKPbc	17 45 34.2	-3.4		
VOI	Vohitsoka	149.94	103		PKPbc	17 45 39.4	0.0		
RPSI	Rantau Prapat	151.31	313	IAMs_20	IAMs_20	19 01 05.2			
	comp=Z,332nm,21.0s								

*INET **30** 17:31:28.5, 13°.32N×87°.84W, h12km, MW4.1*
*NEIC **30** 17:31:32.8±1.9, 13°.42N±0°.07×87°.72W±0°.05, h10km±1km, mb4.4/3, Md4.5(SNET), Error ellipse: s-maj=14.0km s-min=5.8km az=208.0*
*UCR **30** 17:31:32.7±1.1, 13°.26N×87°.88W, h4km±4km, ML4.6, mb4.4(NEIC)*
*SNET **30** 17:31:32.5±1.1, 13°.25N×87°.88W, h4km±4km, ML4.5*
*IDC **30** 17:31:33.3±1.5, 13°.38N×87°.44W, h0km, mb4.1/9, mb1 4.4/11, mb1mx4.0/49, mbtmp4.2/11, ML3.5/2, Error ellipse: s-maj=41.9km s-min=26.3km az=49.0*
*GCG **30** 17:31:34.3±1.2, 14°.43N×87°.86W, h257km±103km, MD4.3*
ISC 30 17:31:33.2±0.7, 13°.31N±0°.04×87°.82W±0°.02, h9km±4km, n100, σ1°§44/112, mb4.1/9, 16C-13D, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	Conchagua	0.03	208	eP	Pg	17 31 34.3	-0.6
CNCH				eS	Sg	17 31 35.8	-0.4
CNCH	Conchagua	0.03	208	eP	Pg	17 31 34.3	-0.6
CNCH				eS	Sg	17 31 35.8	-0.4
LUNI	Base Naval La	0.03	332	⇑eP	Pg	17 31 35.0	+0.2
LUNI				eS	Sg	17 31 37.0	+1.0
LUNI				IAML		17 31 38.2	
	comp=Z,265µm,0.2s						
LCND	La Caada	0.07	274	eP	Pg	17 31 34.3	-0.9
LCND				eS	Sg	17 31 35.8	-0.9
LCND				IAML		17 31 38.2	
	comp=Z,551µm,0.3s						
LCND	La Caada	0.07	274	eP	Pg	17 31 34.3	-0.9
LCND				⇓eP	Pg	17 31 34.4	-0.9
LCND				eS	Sg	17 31 35.8	-0.9
LCND				IAML		17 31 38.0	
	comp=Z,609µm,0.4s						
LCND				IAML		17 31 38.2	
	comp=Z,551µm,0.3s						
CNRM	Centro Naciona	0.38	296	eP	Pg	17 31 39.9	-0.8
CNRM	Centro Naciona	0.38	296	eP	Pg	17 31 39.9	-0.8
JUCU	Jucuarįn	0.42	263	⇑eP	Pg	17 31 40.1	-1.3
JUCU				IAML		17 31 49.0	
	comp=Z,31µm,0.3s						
JUCU	Jucuarįn	0.42	263	⇑eP	Pg	17 31 40.1	-1.3
JUCU				IAML		17 31 49.0	
	comp=Z,31µm,0.3s						
VSM	San Miguel	0.46	285	eP	Pg	17 31 41.3	-0.9
VSM				⇓*i*P	Pb	17 31 41.4	-2.2
VSM	San Miguel	0.46	285	eP	Pg	17 31 41.3	-0.9
VSM				⇓*i*P	Pb	17 31 41.4	-2.2
LCY	Lacayo	0.48	284	⇓eP	Pg	17 31 41.6	-0.9
LCY	Lacayo	0.48	284	⇓eP	Pg	17 31 41.6	-0.9
PACA	Pacayal	0.52	288	eP	Pg	17 31 42.4	-0.9
PACA	Pacayal	0.52	288	eP	Pg	17 31 42.4	-0.9
TECA	Tecapa	0.69	286	⇓eP	Pg	17 31 45.3	-1.2
TECA	Tecapa	0.69	286	⇓eP	Pg	17 31 45.3	-1.2
COEB	Comit de Eme	0.72	286	eP	Pg	17 31 45.9	-1.1
COEB	Comit de Eme	0.72	286	eP	Pg	17 31 45.9	-1.1
ALJI	Alcalda de J	0.73	272	⇑eP	Pg	17 31 46.0	-1.3
ALJI				eS	Sg	17 31 56.5	-0.3
ALJI				IAML		17 32 01.3	
	comp=Z,10µm,0.4s						
ALJI	Alcalda de J	0.73	272	⇑eP	Pg	17 31 46.0	-1.3
ALJI				eS	Sg	17 31 56.5	-0.3
ALJI				IAML		17 32 01.3	
	comp=Z,10µm,0.4s						
TGUH	Tegucigalpa,Un	0.92	35		Pg	17 31 48.1	-2.7
TGUH	Tegucigalpa,Un	0.92	35	eP	Pb	17 31 50.5	-0.9
CRIN	San Cristobal	0.96	129		Pg	17 31 51.4	-0.2
COEG	Centro de Oper	1.08	287	eS	Sg	17 32 07.3	-0.7
COEG	Centro de Oper	1.08	287	eS	Sg	17 32 07.3	-0.7
SJTE	Alcalda de S	1.20	285	eP	Pb	17 31 54.1	-2.0
SJTE	Alcalda de S	1.20	285	eP	Pb	17 31 54.1	-2.0
LFRS	El Faro	1.25	285	⇑eP	Pn	17 31 55.0	-2.0
LFRS	El Faro	1.25	285	⇑eP	Pn	17 31 55.0	-2.0
LBRS	Las Brisas	1.27	290	eP	Pn	17 31 55.5	-1.7
LBRS	Las Brisas	1.27	290	eP	Pn	17 31 55.5	-1.7
CNGN	Cerro Negro	1.35	126	Pn	Pn	17 31 57.6	-0.8
CNGN				Sn	Sg	17 32 16.9	+0.1
LLGN	La Laguna	1.39	308	⇑eP	Pn	17 31 57.1	-1.7
LLGN	La Laguna	1.39	308	⇑eP	Pn	17 31 57.1	-1.7
OPAM	Oficina de Pla	1.40	287	⇑eP	Pn	17 31 58.5	-0.5
OPAM	Oficina de Pla	1.40	287	⇑eP	Pn	17 31 58.5	-0.5
SNET	Serv Nac Est T	1.43	286	⇑eP	Pn	17 31 58.4	-1.0
SNET	Serv Nac Est T	1.43	286	⇑eP	Pn	17 31 58.4	-1.0
SNET	Serv Nac Est T	1.43	286	Pn	Pn	17 31 57.9	-1.5
UEES	Universidad Ev	1.44	287	⇓eP	Pn	17 31 59.1	-0.5
UEES	Universidad Ev	1.44	287	⇓eP	Pn	17 31 59.1	-0.5
LALI	Alcalda de L	1.47	277	⇑eP	Pn	17 31 58.7	-1.3
LALI	Alcalda de L	1.47	277	⇑eP	Pn	17 31 58.7	-1.3
BOQS	Boqueron	1.48	287	⇑eP	Pn	17 31 59.4	-0.9
BOQS	Boqueron	1.48	287	⇑eP	Pn	17 31 59.4	-0.9
SNJE	San Jose	1.83	288	eP	Pn	17 32 04.1	-0.9
SNJE	San Jose	1.83	288	eP	Pn	17 32 04.1	-0.9
CEVE	Cerro Verde	1.83	287	eP	Pn	17 32 04.6	-0.5
CEVE	Cerro Verde	1.83	287	eP	Pn	17 32 04.6	-0.5
SBLS	San Blas	1.83	287	eP	Pn	17 32 04.5	-0.7
SBLS	San Blas	1.83	287	eP	Pn	17 32 04.5	-0.7
MTO3	Montecristo	1.85	306	⇓eP	Pn	17 32 05.0	-0.4
MTO3	Montecristo	1.85	306	⇓eP	Pn	17 32 05.0	-0.4
MTO3	Montecristo	1.85	306	Pn	Pn	17 32 04.2	-1.1
RTR	El Retiro	1.87	289	eP	Pn	17 32 05.0	-0.6
RTR	El Retiro	1.87	289	eP	Pn	17 32 05.0	-0.6
MATN	Matagalpa	1.88	101	Pn	Pn	17 32 03.8	-1.8
MATN				Sn	Sn	17 32 27.4	-2.2
ESQI	Esquipulas	1.94	310	⇑eP	Pn	17 32 06.1	-0.3
ESQI	Esquipulas	1.94	310	Pn	Pn	17 32 05.4	-1.0
MRL	Marmol	2.53	315	eP	Pb	17 32 17.7	-1.2
MRL				eS	Sg	17 32 51.9	-2.6
NBG	Las Nubes	2.77	298	eP	Pb	17 32 22.7	-0.3
NBG				eS	Sg	17 33 01.7	-0.4
ACON	Acoyapa	2.90	117	Pn	Pn	17 32 17.7	-1.9
PCG	Pacaya	2.92	292	eP	Pg	17 32 27.6	-1.6
PCG				eS	Sg	17 33 04.3	-2.7
FUG	Fuego 3	3.15	292	eP	Pb	17 32 28.9	-0.5
FUG				eS	Sb	17 33 09.4	+1.3
HZTE	Horizontes, Gu	3.37	140	Pn	Pn	17 32 25.8	-0.3
ORTG	Ortega, Santa	3.73	141	Pn	Pn	17 32 31.0	0.0
DUNO	Dulce Nombre,	3.93	144	Pn	Pn	17 32 33.6	-0.2
RTAL	Retalhuleu	3.96	288	Pn	Pn	17 32 35.7	+1.6
HUEH	Huehuetenango	4.09	300	Pn	Pn	17 32 35.7	-0.5
JTS	Las Juntas de	4.10	137	Pn	Pn	17 32 35.7	-0.5
	comp=Z,2.9nm,0.3s,baz=343,slow=15,SNR=5.4						
COVE	Coope Vega, Sa	4.21	127	Pn	Pn	17 32 35.3	-2.4
CAO2	Cobano, Puntar	4.47	143	Pn	Pn	17 32 39.2	-2.0
JACO	JACO, Garabito	4.76	139	Pn	Pn	17 32 45.8	+0.6
CVTR	Volcan Turrial	5.14	129	Pn	Pn	17 32 49.5	-1.4
RIMA	Rio Macho	5.23	132		Pn	17 32 49.9	-2.0
PEZE	Perez Zeledon,	5.63	133	Pn	Pn	17 32 54.6	-2.6
SRBA	San Rafael, Bu	5.96	132		Pn	17 33 01.0	-0.7
DRK0	Durika	6.02	131	Pn	Pn	17 33 02.9	+0.2
PRVC	Isla de Provid	6.28	89	Pn	Pn	17 33 01.2	-4.9
CDITO	Canoas	6.76	134	Pn	Pn	17 33 12.4	-0.3
CMIG	Matias Romero	7.79	300	Pn	Pn	17 33 30.7	+3.9
	comp=Z,0.9nm,0.3s,baz=129,slow=10.0,SNR=2.0						
ROSC	El Rosal	15.75	121	Pn	Pn	17 35 14.7	-1.2
ROSC				IAmb	IAmb	17 35 24.6	
	comp=Z,25nm,1.1s						
TXAR	Lajitas Array	21.69	320	P	P	17 36 28.5	+3.8
	comp=Z,3.3nm,0.7s,baz=142,slow=9.0,SNR=4.8						
TXAR	Lajitas Array	21.69	320	P	P	17 36 25.1	+0.5
TKL	Tuckaleechee C	22.55	9	P	P	17 36 35.5	+1.7
	comp=Z,6.7nm,0.7s,baz=140,slow=17,SNR=1.6						
TKL	Tuckaleechee C	22.55	9	IAmb	IAmb	17 36 41.4	
	comp=Z,9.2nm,0.8s						
SADO	Sadowa	32.22	12	P	P	17 38 01.3	-0.5
	comp=Z,15nm,0.8s,baz=170,slow=6.1,SNR=6.0						
PDAR	Pinedale Array	34.85	331	P	P	17 38 26.9	+1.9
	comp=Z,0.7nm,0.8s,baz=115,slow=6.1,SNR=3.0						
ELK	Elko	36.37	324	P	P	17 38 41.4	+3.3
	comp=Z,1.1nm,0.8s,baz=82,slow=2.1,SNR=4.3						
NVAR	Mina Array Bea	36.83	318	P	P	17 38 46.5	+4.4
	comp=Z,2.4nm,1.1s,baz=121,slow=9.6,SNR=4.8						
YKA	Yellowknife Ar	52.70	345	P	P	17 40 49.2	+1.3
	comp=Z,3.2nm,0.7s,baz=141,slow=7.7,SNR=5.8						
DLBC	Dease Lake	54.99	334	P	P	17 41 08.1	+3.3
	comp=Z,6.4nm,0.9s,baz=137,slow=3.2,SNR=7.1						
ILAR	Eielson Array	65.10	336	P	P	17 42 14.7	-0.6
	comp=Z,1.4nm,1.0s,baz=164,slow=5.3,SNR=18						
ILAR	Eielson Array	65.10	336	P	P	17 42 13.4	-0.6
WRA	Warramunga Arr	139.15	255	PKP	PKPdf	17 51 02.2	+0.7
	comp=Z,0.9nm,0.8s,baz=90,slow=2.1,SNR=8.2						
WRA	Warramunga Arr	139.15	255		PKPdf	17 50 59.5	-2.0
ASAR	Alice Springs	139.24	249	PKhKP	PKPpre	17 50 58.4	
	comp=Z,

*SNET **30** 17:36:54.1±0.5, 13°.23N×87°.87W, h3^{km}±4^{km}, ML3.7*
*UCR **30** 17:36:54.3±0.4, 13°.24N×87°.88W, h4^{km}±2^{km}, ML3.8*
ISC 30 17:36:54.3±2.3, 13°.3N±0°.1×87°.84W±0°.07, h10^{km}±7^{km}, n9, σ0^{s}.35/16, 5C-2D, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.03**	**21**	⇑*i*P	**Pg**	**17 36 56.2**	**0.0**
CNCH				*e*S	**Sg**	**17 36 57.6**	**0.0**
CNCH	**Conchagua**	**0.03**	**21**	⇑*i*P	**Pg**	**17 36 56.2**	**0.0**
CNCH				*e*S	**Sg**	**17 36 57.6**	**0.0**
LCND	**La Caada**	**0.07**	**321**	⇓*i*P	**Pg**	**17 36 56.4**	**-0.2**
LCND				*e*S	**Sg**	**17 36 57.8**	**-0.4**
LCND				IAML		17 37 00.6	
	comp=Z,73μm,0.3s						
LCND	**La Caada**	**0.07**	**321**	⇓*i*P	**Pg**	**17 36 56.4**	**-0.2**
LCND				*e*S	**Sg**	**17 36 57.8**	**-0.4**
LCND				IAML		17 37 00.4	
	comp=Z,74μm,0.4s						
LCND				IAML		17 37 00.6	
	comp=Z,73μm,0.3s						
LUNI	**Base Naval La**	**0.08**	**6**	⇑*i*P	**Pg**	**17 36 57.1**	**+0.4**
LUNI				*e*S	**Sg**	**17 36 59.1**	**+0.8**
LUNI				IAML		17 37 00.2	
	comp=Z,28μm,0.2s						
JUCU	**Jucuarįn**	**0.40**	**270**	*e*P	**Pg**	**17 37 02.1**	**-0.1**
JUCU				*e*S	**Sg**	**17 37 07.7**	**+0.3**
JUCU				IAML		17 37 09.3	
	comp=Z,3μm,0.5s						
JUCU	**Jucuarįn**	**0.40**	**270**	*e*P	**Pg**	**17 37 02.1**	**-0.1**
JUCU				*e*S	**Sg**	**17 37 07.7**	**+0.3**
JUCU				IAML		17 37 09.3	
	comp=Z,3μm,0.5s						
TGUH	**Tegucigalpa,Un**	**0.97**	**35**	⇑*i*P	**Pg**	**17 37 12.8**	**-0.2**
TGUH	**Tegucigalpa,Un**	**0.97**	**35**	⇑*i*P	**Pg**	**17 37 12.8**	**-0.2**

GUC 30 17:40:44.9±0.4, 30°.74S×71°.79W, h30^{km}±1^{km}, ML3.3, 6C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.15**	**64**	⇑*i*P	Pb	17 40 50.0	-0.7
CO06				*i* S	Sb	17 40 53.8	-0.8
CO06				IAML		17 40 54.2	
	comp=N,9μm,0.2s						
CO06	**Fray Jorge**	**0.15**	**64**	⇑*i*P	Pb	17 40 50.0	-0.7
CO06				*i* S	Sb	17 40 53.7	-0.9
CO06				IAML		17 40 54.2	
	comp=N,9μm,0.2s						
CO02	**Combarbal**	**0.82**	**124**	⇓*i*P	Pn	17 41 00.2	-0.3
CO02				*i* S	Sb	17 41 11.0	-0.6
CO02				IAML		17 41 15.8	
	comp=E,3μm,0.2s						
CO02	**Combarbal**	**0.82**	**124**	⇓*i*P	Pn	17 41 00.2	-0.3
CO02				*i* S	Sb	17 41 11.6	0.0
CO02				IAML		17 41 15.6	
	comp=E,3μm,0.1s						
CO05	**La Serena**	**0.95**	**31**	⇑*e*P	Pn	17 41 01.7	-0.5
CO05				*i* S	Sn	17 41 13.9	-0.8
CO05				IAML		17 41 17.2	
	comp=E,942nm,0.2s						
CO05	**La Serena**	**0.95**	**31**	*e*P	Pn	17 41 01.9	-0.3
CO05				*i* S	Sn	17 41 14.8	+0.1
CO05				IAML		17 41 17.1	
	comp=E,958nm,0.3s						
CO03	**El Pedregal**	**0.96**	**96**	*e*P	Pn	17 41 00.3	-2.0
CO03				*i* S	Sn	17 41 12.7	-2.4
CO03	**El Pedregal**	**0.96**	**96**	*e*P	Pn	17 41 02.1	-0.3
CO03				*i* S	Sn	17 41 15.0	0.0
CO03				IAML		17 41 16.6	
	comp=E,1μm,0.3s						
GO04	**Tololo Observa**	**1.03**	**57**	⇑*e*P	Pn	17 41 02.6	-0.9
GO04				*i* S	Sb	17 41 18.0	+0.4
GO04	**Tololo Observa**	**1.03**	**57**	⇑*i*P	Pn	17 41 03.5	0.0
GO04				*i* S	Sb	17 41 17.5	-0.1
VA06	**Catapilco**	**1.86**	**167**	*e*P	Pb	17 41 16.7	-1.6
VA06				IAML		17 41 45.7	
	comp=N,486nm,0.3s						
VA03	**San Esteban**	**2.28**	**153**	*e*P	Pb	17 41 23.3	-2.1
VA03				*i* S	Sb	17 41 52.4	-0.8
VA03				IAML		17 41 58.0	
	comp=N,346nm,0.6s						
VA03	**San Esteban**	**2.28**	**153**	*e*P	Pn	17 41 22.4	+1.8
VA03				*i* S	Sb	17 41 53.3	+0.1
ROCH	**El Roble**	**2.32**	**164**	*e*P	Pb	17 41 24.3	-2.0
ROCH				*e*S	Sb	17 41 55.9	+1.3
ROCH				IAML		17 42 00.6	
	comp=N,233nm,0.5s						
PEL	**Peldehue**	**2.58**	**159**	⇑*e*P	Pn	17 41 26.9	+2.3
PEL				*e*S	Sb	17 41 59.7	-2.0
PEL				IAML		17 42 06.9	
	comp=E,180nm,0.6s						
PEL	**Peldehue**	**2.58**	**159**	*e*P	Pn	17 41 27.4	+2.8
PEL				IAML		17 42 03.4	
AC04	**Llanos de Chal**	**2.60**	**14**	*e*P	Pn	17 41 24.0	-0.9
AC04				IAML		17 42 13.6	
AC04	**Llanos de Chal**	**2.60**	**14**	*e*P	Pn	17 41 24.1	-0.9
AC04				IAML		17 42 13.7	
	comp=N,81nm,0.1s						
MT05	**Renca**	**2.79**	**162**	*e*P	Pb	17 41 31.0	-3.2
MT05				*i* S	Sb	17 42 08.0	+0.1
MT05	**Renca**	**2.79**	**162**	*e*P	Pb	17 41 31.0	-3.1
MT09	**Talagante**	**3.10**	**168**	*e*P	Pn	17 41 35.2	+3.2
MT09				*i* S	Sb	17 42 15.3	-1.7
MT09				IAML		17 42 28.0	
	comp=N,119nm,0.4s						
MT09	**Talagante**	**3.10**	**168**	*e*P	Pn	17 41 35.6	+3.7
MT09				IAML		17 42 27.9	
	comp=N,122nm,0.4s						
MT01	**Popeta**	**3.15**	**172**	*e*P	Pb	17 41 37.5	-2.6
MT01				*i* S	Sb	17 42 18.9	+0.7
MT01				IAML		17 42 27.8	
	comp=N,67nm,0.1s						
MT01	**Popeta**	**3.15**	**172**	*e*P	Pn	17 41 35.5	+3.0
MT01				IAML		17 42 24.8	
	comp=E,65nm,0.3s						
LMEL	**Las Melosas**	**3.38**	**157**	*e*P	Pn	17 41 38.7	+2.9
LMEL				IAML		17 42 29.0	
	comp=N,80nm,0.1s						
BO01	**Tunca**	**3.69**	**171**	*e*P	Pn	17 41 43.9	+4.0

*ISK **30** 17:42:01.4, 39°.34N×26°.08E, h8^{km}, ML2.6/18*
*ATH **30** 17:42:02.5, 39°.32N×26°.06E, h12^{km}±2^{km}, ML2.6/2, Error ellipse: s-maj=2.9km s-min=1.1km az=194.0*
*THE **30** 17:42:02.3, 39°.35N×26°.06E, h2^{km}±2^{km}, ML2.1/9, Error ellipse: s-maj=2.7km s-min=0.4km az=174.0*
ISC 30 17:42:02.2±0.9, 39°.34N±0°.02×26°.08E±0°.03, h11^{km}±7^{km}, n38, σ0^{s}.41/53, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GPNR	**Gulpinar-Canak**	**0.12**	**21**	PG	**Pg**	**17 42 04.9**	**-0.3**
PRK	**Paraskevi**	**0.18**	**122**	P	**Pg**	**17 42 06.4**	**+0.3**
PRK				S	**Sg**	**17 42 09.0**	**+0.2**
	5μm,0.3s						
PRK	**Paraskevi**	**0.18**	**122**	P	**Pg**	**17 42 06.4**	**+0.3**
PRK				S	**Sg**	**17 42 09.0**	**+0.2**
PRK				AML	AML	17 42 09.6	
	comp=N,10068μm,0.3s						
PRK				AML	AML	17 42 10.1	
	comp=E,8532μm,0.3s						
SIGR	**SIGRI**	**0.21**	**233**	P	**Pg**	**17 42 06.4**	**-0.3**
SIGR				S	**Sg**	**17 42 09.5**	**-0.3**
	comp=E,2μm,0.3s						
SIGR	**SIGRI**	**0.21**	**233**	P	**Pg**	**17 42 06.4**	**-0.3**
SIGR				S	**Sg**	**17 42 09.5**	**-0.3**
SIGR				AML	AML	17 42 09.9	
	comp=N,3929μm,0.3s						
SIGR				AML	AML	17 42 09.9	
	comp=E,2739μm,0.3s						
SIGR	**SIGRI**	**0.21**	**233**	PG	**Pg**	**17 42 06.4**	**-0.3**
SIGR				SG	**Sg**	**17 42 09.7**	**-0.1**
BOZC	**Bozcaada**	**0.50**	**358**	PG	**Pg**	**17 42 11.7**	**-0.3**
BOZC				SG	**Sg**	**17 42 19.2**	**+0.6**
EZN	**Ezine**	**0.52**	**22**	P	**Pg**	**17 42 11.9**	**-0.4**
EZN				S	**Sg**	**17 42 19.7**	**+0.4**
	comp=E,162nm,0.2s						
EZN	**Ezine**	**0.52**	**22**	PG	**Pg**	**17 42 11.9**	**-0.4**
EZN				SG	**Sg**	**17 42 18.8**	**-0.5**
DKL	**Dikili**	**0.70**	**112**	PG	**Pg**	**17 42 15.3**	**-0.4**
FOCM	**Foa**	**0.81**	**141**	PG	**Pg**	**17 42 17.2**	**-0.6**
GADA	**Gvkgeada**	**0.86**	**351**	P	**Pg**	**17 42 18.1**	**-0.7**
GADA				S	**Sb**	**17 42 31.1**	**+0.5**
	comp=E,102nm,0.5s						
GADA	**Gvkgeada**	**0.86**	**351**	PG	**Pg**	**17 42 18.3**	**-0.5**
LIA	**Limnos Island**	**0.89**	**309**	P	**Pg**	**17 42 19.5**	**+0.2**
LIA				S	**Sb**	**17 42 31.6**	**+0.2**
	comp=E,148nm,0.5s						
LIA	**Limnos Island**	**0.89**	**309**	P	**Pg**	**17 42 19.5**	**+0.2**
LIA				S	**Sb**	**17 42 31.6**	**+0.2**
URLA	**Izmir**	**1.06**	**157**	PG	**Pg**	**17 42 21.7**	**-0.8**
GELI	**Tayfur-Gelibol**	**1.10**	**16**	PN	**Pg**	**17 42 23.0**	**-0.3**
LPK	**Lapseki**	**1.16**	**27**	PN	**Pg**	**17 42 23.6**	**-0.8**
SMTH	**Samothraki Isl**	**1.20**	**340**	P	**Pb**	**17 42 24.6**	**-0.4**
SMTH				S	**Sg**	**17 42 41.0**	**0.0**
	comp=E,60nm,0.5s						
SMTH	**Samothraki Isl**	**1.20**	**340**	P	**Pb**	**17 42 24.6**	**-0.4**
ERIK	**Erikli-Kesan**	**1.37**	**14**	PN	**Pn**	**17 42 27.1**	**-0.1**
ENEZ	**Enez**	**1.40**	**2**	P	**Pn**	**17 42 27.5**	**0.0**
ENEZ				S	**Sg**	**17 42 47.7**	**+0.6**
	comp=E,92nm,0.8s						
ENEZ	**Enez**	**1.40**	**2**	PN	**Pn**	**17 42 27.5**	**0.0**
KRBG	**Karabiga-Canak**	**1.41**	**41**	PN	**Pn**	**17 42 27.7**	**0.0**
BALB	**Balikesir**	**1.43**	**77**	PN	**Pn**	**17 42 27.9**	**-0.4**
GONE	**Gonen-Balikesi**	**1.43**	**60**	PN	**Pn**	**17 42 27.9**	**-0.1**
ALN	**Alexandroupoli**	**1.56**	**359**	P	**Pn**	**17 42 29.6**	**-0.1**
ALN				S	**Sn**	**17 42 50.6**	**+0.7**
	comp=E,30nm,0.5s						
ALN	**Alexandroupoli**	**1.56**	**359**	PN	**Pn**	**17 42 29.7**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.59**	**32**	PN	**Pn**	**17 42 30.4**	**+0.1**
MAR6	**Marsite Statio**	**1.64**	**33**	PN	**Pn**	**17 42 31.3**	**+0.4**
MAR3	**Marsite Statio**	**1.68**	**33**	PN	**Pn**	**17 42 31.6**	**+0.1**
GZKV	**Gazikoy-Tekird**	**1.70**	**34**	PN	**Pn**	**17 42 31.9**	**+0.2**
EDC	**Edincik**	**1.70**	**53**	PN	**Pn**	**17 42 31.8**	**0.0**
MRMT	**Marmara Adasi**	**1.72**	**42**	PN	**Pn**	**17 42 32.2**	**+0.1**
MAR4	**Marsite Statio**	**1.72**	**33**	PN	**Pn**	**17 42 32.4**	**+0.3**
SMG	**Samos**	**1.73**	**160**	P	**Pn**	**17 42 31.8**	**-0.4**
SMG				S	**Sb**	**17 42 56.1**	**+0.3**
	comp=E,85nm,0.6s						
SMG	**Samos**	**1.73**	**160**	P	**Pn**	**17 42 33.4**	**+1.2**
RDO	**Rodhopi**	**1.85**	**347**	PN	**Pn**	**17 42 33.7**	**-0.1**

MEX 30 17:46:06.7±0.3, 18°.03N×102°.06W, h29^{km}±10^{km}, MD3.9, 1D, Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UON	**La Union**	**0.24**	**104**	*i* P	Pb	17 46 11.4	-1.9
UON				*i* S	Sb	17 46 15.6	-2.2
ARIG	**Puente Sto Nin** baz=262,slow=8.6	**1.65**	**81**	⇓*i*P	Pn	17 46 31.7	-2.1
ARIG				*i* S	Sn	17 46 51.1	-2.9

MEX 30 17:57:31.7±0.4, 18°.09N×101°.59W, h16^{km}±999^{km}, MD3.6, 1D, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**1.20**	**81**	*e*P	Pn	17 57 50.1	-3.8
ARIG				*e*S	Sb	17 58 04.6	-4.8
MEIG	**Mezcala**	**1.88**	**95**	*e*P	Pn	17 58 00.1	-3.3
MEIG				*e*S	Sn	17 58 21.8	-5.1
PLIG	**Platanillo**	**2.01**	**81**	*e*P	Pn	17 58 02.6	-2.5
PLIG				⇓*e*S	Sn	17 58 25.4	-4.6
DAIG	**Los Arroyos**	**2.13**	**119**	*e*P	Pn	17 58 03.5	-3.2
DAIG				*e*S	Sn	17 58 18.1	-15

*BGR **30** 18:05:37.3±0.4, 53°.25N×6°.69E, h3^{km}, ML3.1/14, Error ellipse: s-maj=4.4km s-min=3.3km az=122.0*
*BUG **30** 18:05:38.9±0.0, 53°.25N×6°.67E, h29^{km}±17^{km}, MD3.7/12, ML3.6/12*
*LDG **30** 18:05:38.3±0.1, 53°.25N×6°.77E, h3^{km}, Md3.1/2, Ml3.2/30, Error ellipse: s-maj=1.7km s-min=1.2km az=131.0*
*BNS **30** 18:05:42.4±0.4, 52°.89N×6°.86E, h3^{km}, ML2.9*
ISC 30 18:05:35.2±1.3, 53°.24N±0°.05×6°.70E±0°.03, h0^{km}, n76, σ2^{s}.07/137, The Netherlands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBBS	**Ibbenbueren So**	**1.15**	**146**	Pg	**Pn**	**18 05 59.3**	**+0.8**
IBBS				Sg	**Sb**	**18 06 15.1**	**+1.7**
IBBE	**Ibbenbueren Ea**	**1.15**	**144**	Pg	**Pn**	**18 05 59.1**	**+0.5**
IBBE				Sg	**Sb**	**18 06 15.1**	**+1.6**
HLG	**Helgoland**	**1.18**	**36**	*e*Pg	**Pn**	**18 05 59.2**	**+0.3**
HLG				*e*Sg	**Sn**	**18 06 16.4**	**+0.6**
WTSB	**Winterswijk**	**1.28**	**177**	*e*Pn	**Pn**	**18 06 00.7**	**+0.5**
WTSB				*e*Sg	**Sb**	**18 06 18.0**	**+1.0**
BAVN	**Auguste-Victor**	**1.52**	**170**	Pn	**Pb**	**18 06 05.0**	**+0.7**
BAVN				Sn	**Sb**	**18 06 25.2**	**+1.0**
HMES	**Hamm, Michael-**	**1.70**	**158**	Pn	Pg	18 06 13.9	+6.0
BULI	**Ruhr-Universit**	**1.82**	**169**	Pn	**Pn**	**18 06 08.5**	**+0.7**
BTEZ	**Ruhr-Universit**	**1.83**	**169**	Pn	**Pn**	**18 06 08.4**	**+0.5**
BUG	**Bochum--Univer**	**1.83**	**169**	*e*Pn	**Pn**	**18 06 08.5**	**+0.5**
BUG				*e*Sg	**Sg**	**18 06 36.5**	**+2.4**
BKLB	**Ruhr-Universit**	**1.83**	**169**	Pn	**Pn**	**18 06 08.6**	**+0.6**
LAUG	**Laupendahl**	**1.90**	**175**	*e*Pn	**Pn**	**18 06 09.2**	**+0.4**
LAUG				*e*Sn	**Sn**	**18 06 29.3**	**-4.1**
	82nm,0.2s						
NRDL	**Niedersach Rie**	**2.20**	**108**	*e*Pn	**Pn**	**18 06 13.1**	**+0.3**
BMOL	**Mol**	**2.26**	**207**	Sn	**Sn**	**18 06 39.0**	**-3.3**
BMOL				Sg	**Sg**	**18 06 52.1**	**+4.4**
BSEG	**Bad Segeberg**	**2.27**	**71**	Pn	**Pn**	**18 06 14.5**	**+0.6**
HOBG	**Hohbusch**	**2.29**	**170**	*e*Pn	**Pn**	**18 06 14.7**	**+0.4**
HOBG				*e*Sn	**Sn**	**18 06 39.5**	**-3.7**
	124nm,0.4s						
KASTN	**Kahler Asten**	**2.30**	**152**	*e*Pn	**Pn**	**18 06 16.1**	**+1.7**
KASTN				*e*Sg	**Sg**	**18 06 50.4**	**+1.4**
BNS	**Bensberg**	**2.30**	**172**	*e*Pn	**Pn**	**18 06 15.1**	**+0.8**
HGN	**Heimansgroeve**	**2.52**	**191**	Pn	**Pn**	**18 06 17.8**	**+0.4**
DREG	**Dreilaegerbach**	**2.60**	**187**	*e*Pn	**Pn**	**18 06 18.9**	**+0.4**
KLL	**Kalltalsperre**	**2.61**	**185**	*e*Pn	**Pn**	**18 06 19.1**	**+0.5**
GTTG	**Gottingen**	**2.62**	**129**	*e*Pn	**Pn**	**18 06 19.0**	**+0.2**
CLZ	**Clausthal**	**2.64**	**120**	*e*Pn	**Pn**	**18 06 19.2**	**0.0**
STB	**Steinbach**	**2.65**	**178**	*e*Pn	**Pn**	**18 06 20.4**	**+1.2**
MEM	**Membach**	**2.67**	**190**	Pn	**Pg**	**18 06 27.9**	**+1.6**
MEM				Sn	**Sb**	**18 06 57.9**	**+0.8**
MEM				Sg	**Sg**	**18 07 08.0**	**+7.1**
	comp=E,61nm,0.5s						
MEM	**Membach**	**2.67**	**190**	*e*Pn	**Pn**	**18 06 20.0**	**+0.6**
BTNL	**Ternell**	**2.68**	**188**	Pn	**Pg**	**18 06 25.9**	**-0.7**
BTNL				Pg	Pb	18 06 37.3	+13
BTNL				Sn	**Sn**	**18 06 54.5**	**+1.7**
BTNL				Sg	Sg	18 07 10.7	+9.4
BLCH	**La Chartreuse**	**2.69**	**195**	Pn	**Pg**	**18 06 27.2**	**+0.4**
BLCH				Pg	Pb	18 06 36.7	+12
BLCH				Sn	**Sb**	**18 06 56.6**	**-1.1**
BLCH				Sg	**Sg**	**18 07 07.9**	**+6.3**
AHRW	**Bad Neuenahr-A**	**2.71**	**175**	*e*Pn	**Pn**	**18 06 20.8**	**+0.8**
KOE	**Koeppel**	**2.89**	**167**	*e*Pn	**Pn**	**18 06 24.1**	**+1.6**
BCLA	**Clavier**	**2.95**	**198**	Pn	**Pb**	**18 06 29.9**	**+1.2**
BCLA				Pg	**Pg**	**18 06 36.1**	**+4.3**
BCLA				Sn	**Sb**	**18 07 03.6**	**-1.7**
BCLA				Sg	**Sg**	**18 07 17.3**	**+7.2**
	comp=E,10nm,0.4s						
CHRS	**Christianenhau**	**3.00**	**121**	*e*Pn	**Pn**	**18 06 24.0**	**-0.1**
CHRS				*e*Sn	**Sn**	**18 06 58.2**	**-2.6**
BGES	**Gesves**	**3.03**	**200**	Pn	**Pg**	**18 06 32.1**	**-1.1**
BGG	**Burgeitz**	**3.06**	**172**	*e*Pn	**Pn**	**18 06 25.4**	**+0.6**
LKLB	**Kalborn**	**3.17**	**187**	Pn	**Pb**	**18 06 33.1**	**+0.8**
LKLB				Pg	Pg	18 06 46.5	+11
LKLB				Sn	**Sn**	**18 07 04.3**	**-0.4**
LKLB				Sg	**Sg**	**18 07 20.2**	**+3.4**
	comp=N,24nm,0.5s						
BMRD	**Maredsous**	**3.18**	**203**	P	**Pg**	**18 06 35.4**	**-0.7**
BMRD				Sn	**Sn**	**18 07 07.6**	**+2.6**
TNS	**Taunus Mts**	**3.21**	**160**	*e*Pn	**Pn**	**18 06 28.5**	**+1.5**
TNS				*e*Sn	**Sn**	**18 07 04.7**	**-1.2**
RCHB	**Rochefort**	**3.22**	**197**	Pn	**Pn**	**18 06 26.1**	**-0.9**
RCHB				Sn	**Sn**	**18 07 08.8**	**+2.8**
GIVF	**Givet**	**3.35**	**201**	*e*Pn	**Pn**	**18 06 29.9**	**+1.1**
GIVF	**Givet**	**3.35**	**201**	*e*Pg	**Pg**	**18 06 41.3**	**+1.9**
GIVF				*e*Sn	**Sn**	**18 07 08.0**	**-1.3**
GIVF				*e*Sg	**Sg**	**18 07 24.3**	**+1.5**
	comp=N,27nm,0.3s						
DOU	**Dourbes**	**3.41**	**203**	Pn	**Pb**	**18 06 36.1**	**-0.4**
DOU				Sn	**Sb**	**18 07 17.7**	**-0.7**
DOU				Sg	**Sg**	**18 07 27.3**	**+2.6**
	comp=E,19nm,0.5s						
WIMM	**Wimmelburg**	**3.41**	**118**	*e*Sn	**Sn**	**18 07 07.8**	**-2.9**
HROE	**Hohe Rhon--Fla**	**3.45**	**140**	*e*Pn	**Pn**	**18 06 30.9**	**+0.7**
HROE				*e*Sn	**Sn**	**18 07 09.8**	**-2.0**
BAIF	**Baives**	**3.54**	**207**	*e*Pn	**Pn**	**18 06 32.6**	**+1.2**
BAIF				*e*Sn	**Sn**	**18 07 13.2**	**-0.8**
BAIF				*e*Sg	**Sg**	**18 07 30.2**	**+1.2**
	comp=E,11nm,0.4s						
MILB	**Miltenberg**	**3.78**	**154**	*e*Pn	**Pn**	**18 06 35.8**	**+1.1**
MILB				*e*Sn	**Sn**	**18 07 20.5**	**+0.6**
CLL	**Collm**	**4.33**	**114**	*e*Pn	**Pn**	**18 06 43.0**	**+0.8**
CLL				*e*(Pg)	Pg	18 07 05.0	+6.9
CLL				*e*Sn	Sn	18 07 21.0	-12
CLL				*e*		18 07 29.0	
CLL				*e*Sb	**Sb**	**18 07 40.0**	**-4.8**
CLL				*e*Sg	**Sg**	**18 07 56.0**	**+1.9**
CLL				*e*Sgmax		18 08 04.0	
	comp=Z,12nm,1.0s						
PAGF	**Fort de Pagny**	**4.73**	**188**	*e*Pn	**Pn**	**18 06 48.1**	**+0.3**
PAGF				*e*Sg	**Sg**	**18 08 07.1**	**0.0**
	comp=Z,28nm,0.6s,baz=13						
SAVF	**Savonnieres en** baz=10	**4.74**	**193**	*e*Pg	**Pg**	**18 07 05.6**	**-0.3**
SAVF				*e*Sn	**Sn**	**18 07 40.8**	**-2.6**
	comp=Z,7.3nm,0.4s						
SAVF				*e*Sg	**Sg**	**18 08 07.4**	**+0.1**
	comp=Z,23nm,0.7s,baz=14						
CDF	**Champ du Feu**	**4.85**	**175**	*e*Pn	**Pn**	**18 06 49.8**	**+0.3**
CDF	**Champ du Feu**	**4.85**	**175**	*e*Pg	**Pg**	**18 07 07.9**	**-0.2**
CDF				*e*Sg	**Sg**	**18 08 10.2**	**-0.6**
	comp=Z,16nm,0.6s						
MEZF	**Maizieres J'vi** baz=14	**4.86**	**193**	*e*Pn	**Pn**	**18 06 49.7**	**+0.2**
MEZF				*e*Sn	**Sn**	**18 07 43.8**	**-2.6**
	comp=Z,8.0nm,0.3s,baz=15						
MEZF				*e*Sg	**Sg**	**18 08 10.9**	**-0.2**
	comp=Z,16nm,0.5s						
BRG	**Berggiesshubel**	**5.06**	**115**	*i* Pn	**Pn**	**18 06 53.1**	**+0.8**
BRG				Amp		18 06 53.7	
	comp=Z,4.0nm,0.6s						
BRG				r		18 07 02.0	
BRG				Amp		18 07 03.6	
	comp=Z,3.7nm,0.5s						
BRG				r		18 07 57.1	
BRG				Amp		18 08 49.7	
	comp=Z,5.0nm,0.9s						
BRG				Amp		18 14 55.0	
	comp=Z,1.1nm,24.2s						
BRG				Amp		18 15 02.0	
	comp=E,0.5nm,19.7s						
BRG				Amp		18 15 02.0	
	comp=N,0.7nm,22.9s						
SFTF	**Sexfontaines**	**5.15**	**192**	*e*Pn	**Pn**	**18 06 53.6**	**+0.1**
SFTF				*e*Sn	**Sn**	**18 07 51.2**	**-2.4**
	comp=N,11nm,0.4s						
SFTF				*e*Sg	**Sg**	**18 08 20.3**	**-0.2**
	comp=N,15nm,0.5s						
HAU	**Haudompre**	**5.24**	**183**	*e*Pn	**Pn**	**18 06 55.8**	**+0.9**
HAU	**Haudompre**	**5.24**	**183**	*e*Pg	**Pg**	**18 07 15.4**	**-0.3**
HAU				*e*Sn	**Sn**	**18 07 53.1**	**-2.9**
HAU				*e*Sg	**Sg**	**18 08 22.6**	**-1.0**
	comp=N,9.9nm,0.4s						
HINF	**Hinteralfeld**	**5.43**	**179**	*e*Pn	**Pn**	**18 06 57.5**	**+0.1**
HINF	**Hinteralfeld**	**5.43**	**179**	*e*Pg	**Pg**	**18 07 18.7**	**-0.5**
HINF				*e*Sn	**Sn**	**18 07 57.2**	**-3.4**
HINF				*e*Sg	**Sg**	**18 08 28.6**	**-1.0**
	comp=N,3.0nm,0.3s						
LOR	**Lormes** baz=17	**6.25**	**198**	*e*Pn	**Pn**	**18 07 09.2**	**+0.6**
LOR				*e*Sn	**Sn**	**18 08 18.1**	**-2.6**
	comp=N,7.1nm,0.4s						
LOR				*e*Sg	**Sg**	**18 08 55.0**	**-0.8**
	comp=N,9.6nm,0.6s,baz=16						
DAVA	**Damuels**	**6.30**	**160**	*e*Pn	**Pn**	**18 07 10.8**	**+1.4**
	comp=N,2.2nm,0.5s						
LDF	**La Druitiere**	**6.34**	**226**	*e*Pn	**Pn**	**18 07 11.2**	**+1.3**
LDF				*e*Sn	**Sn**	**18 08 20.5**	**-2.5**
	comp=N,2.2nm,0.4s						
FLN	**La Foliniere** baz=50	**6.37**	**228**	*e*Pn	**Pn**	**18 07 11.2**	**+0.9**
FLN				*e*Sn	**Sn**	**18 08 21.2**	**-2.5**
	comp=N,3.3nm,0.3s,baz=45						
SSF	**Saint Saulge**	**6.51**	**200**	*e*Pn	**Pn**	**18 07 12.2**	**-0.1**
SSF				*e*Sn	**Sn**	**18 08 23.2**	**-4.1**
	comp=N,3.4nm,0.3s						
SSF				*e*Sg	**Sg**	**18 09 03.8**	**-0.6**
CABF	**La Chapelle**	**6.65**	**184**	*e*Pn	**Pn**	**18 07 14.6**	**+0.4**
CABF	**La Chapelle**	**6.65**	**184**	*e*P	Pn	18 07 19.7	+5.5
CABF				*e*Sg	**Sg**	**18 09 06.6**	**-2.0**
	comp=N,2.0nm,0.4s						
FETA	**Feichten**	**6.74**	**156**	*e*Pn	**Pn**	**18 07 16.6**	**+1.1**
AVF	**Avril sur Loir**	**6.80**	**200**	*e*Pn	**Pn**	**18 07 15.7**	**-0.6**
AVF		

CO06 *i* S **Sb** **18 21 26.2 -0.1**
CO06 IAML 18 21 26.9
comp=N,197µm,0.3s
CO06 Fray Jorge 0.15 118 Pb 18 21 22.5 +0.1
CO05 La Serena 0.83 35 ⇓ *i* P Pb 18 21 31.9 -0.5
CO05 *i* S **Sn** **18 21 44.2 +0.9**
CO05 La Serena 0.83 35 Pb 18 21 31.9 -0.5
CO02 Combarbal 0.90 132 ⇓ *i* P Pn 18 21 32.8 -0.5
CO02 *i* S **Sn** **18 21 44.1 -1.2**
CO02 IAML 18 21 45.0
comp=N,51µm,0.2s
CO02 Combarbal 0.90 132 Pn Pn 18 21 32.7 -0.5
CO02 Combarbal 0.90 132 *i* P **Pn 18 21 33.0 -0.2**
GO04 Tololo Observa 0.96 64 ⇓ *i* P Pn 18 21 33.7 -0.3
GO04 *i* S **Sb** **18 21 46.9 -0.3**
GO04 IAML 18 21 54.1
comp=N,62µm,0.5s
GO04 Tololo Observa 0.96 64 Pn Pn 18 21 33.7 -0.3
GO04 Tololo Observa 0.96 64 *i* P **Pn 18 21 34.0 -0.1**
CO03 El Pedregal 0.98 104 ⇓ *i* P Pn 18 21 33.7 -0.5
CO03 *i* S **Sn** **18 21 46.0 -1.1**
CO03 IAML 18 21 46.9
comp=N,24µm,0.5s
CO03 El Pedregal 0.98 104 Pn Pn 18 21 33.6 -0.5
CO03 El Pedregal 0.98 104 *i* P **Pn 18 21 33.0 -1.2**
LCO Las Campanas 1.85 31 Pn Pn 18 21 47.1 +0.8
VA06 Catapilco 2.00 168 *eP* **Pn 18 21 49.2 +1.1**
VA06 *i* S **Sn** **18 22 14.4 +2.3**
VA06 IAML 18 22 20.2
comp=N,9µm,0.5s
VA03 San Esteban 2.40 154 *eP* **Pn 18 21 55.3 +1.6**
VA03 IAML 18 22 35.7
comp=E,6µm,0.6s
VA03 San Esteban 2.40 154 Pn Pn 18 21 54.0 +0.2
VA03 San Esteban 2.40 154 *i* P **Pn 18 21 56.0 +2.2**
VA01 Torpederas 2.42 177 Pn 18 21 53.6 -0.3
ROCH El Roble 2.45 165 *eP* **Pn 18 21 56.4 +1.8**
ROCH *i* S **Sn** **18 22 26.2 +2.5**
ROCH IAML 18 22 39.0
comp=N,4µm,0.5s
AC04 Llanos de Chal 2.47 15 ⇑ *i* P Pn 18 21 55.0 +0.3
AC04 IAML 18 22 39.2
comp=N,2µm,0.6s
AC04 Llanos de Chal 2.47 15 Pn Pn 18 21 54.6 -0.1
AUSP Uspallata 2.61 129 *i* P **Pn** **18 22 00.0 +3.1**
ZON Zonda 2.83 110 Pn Pn 18 22 02.1 +2.4
ZON Zonda 2.83 110 *i* P **Pn** **18 22 03.0 +3.4**
MT05 Renca 2.92 162 *eP* **Pn** **18 22 02.6 +1.7**
MT05 *eS* **Sn** **18 22 37.0 +2.0**
MT05 Renca 2.92 162 Pn 18 22 01.8 +0.9
MT05 Renca 2.92 162 *i* P **Pb** **18 22 05.0 -2.9**
VA05 Santo Domingo 3.05 177 *eP* **Pn** **18 22 03.4 +0.8**
VA05 IAML 18 23 00.7
comp=E,3µm,0.5s
VA05 Santo Domingo 3.05 177 Pn 18 22 02.1 -0.5
RTCV Cerro Valdivia 3.05 115 *i* P **Pb** **18 22 07.0 -3.2**
AGUA GUANDACOL 3.07 70 *i* P **Pb** **18 22 08.0 -2.5**
ASAL Salagasta 3.21 129 *i* P **Pn** **18 22 09.0 +4.1**
MT09 Talagante 3.24 168 *eP* **Pn** **18 22 06.9 +1.6**
MT09 *eS* **Sn** **18 22 44.6 +1.7**
MT09 IAML 18 23 02.2
comp=E,2µm,1.0s
MT09 Talagante 3.24 168 Pn 18 22 05.8 +0.4
MT01 Popeta 3.28 172 *eP* **Pn** **18 22 07.3 +1.4**
MT01 *i* S **Sn** **18 22 45.7 +1.8**
MT01 IAML 18 23 01.6
comp=E,950nm,0.5s
MT01 Popeta 3.28 172 Pn 18 22 06.0 +0.2
MT01 Popeta 3.28 172 *i* P **Pn** **18 22 08.0 +2.2**
GO03 Copiap 3.29 25 *eP* **Pn** **18 22 06.7 +0.7**
GO03 IAML 18 23 02.2
comp=N,2µm,0.6s
GO03 Copiap 3.29 25 Pn 18 22 06.0 0.0
GO03 Copiap 3.29 25 *i* P **Pn** **18 22 07.0 +1.0**
ARCO CERRO ARCO 3.30 133 *i* P **Pb** **18 22 12.0 -2.5**
LMEL Las Melosas 3.50 158 *eS* **Sn** **18 22 51.1 +1.6**
LMEL IAML 18 23 04.5
comp=N,1µm,0.2s
AAGR Agrelo 3.53 135 *i* P **Pn** **18 22 14.0 +4.6**
VCA Vinchina 3.63 60 *i* P **Pn** **18 22 15.0 +4.2**
AVFE Valle Fertil 3.73 92 *i* P **Pn** **18 22 15.0 +2.9**
BO01 Tunca 3.83 171 *eP* **Pn** **18 22 14.9 +1.6**
BO01 Tunca 3.83 171 Pn 18 22 13.3 0.0
BO01 Tunca 3.83 171 *i* P **Pn** **18 22 15.0 +1.7**
BO02 Sierra Bellavi 4.26 169 *eP* **Pn** **18 22 21.4 +2.0**
BO02 Sierra Bellavi 4.26 169 Pn 18 22 19.0 -0.4
BO02 Sierra Bellavi 4.26 169 *i* P **Pn** **18 22 21.0 +1.6**
ACLC CERRO LA CRUZ 4.36 76 *i* P **Pn** **18 22 24.0 +3.2**
GO05 Huala 4.40 182 Pn 18 22 20.6 -0.6
AC02 Maricunga 4.42 33 *eP* **Pn** **18 22 23.2 +1.2**
AC02 Maricunga 4.42 33 Pn 18 22 22.2 +0.3
AC02 Maricunga 4.42 33 *i* P **Pn** **18 22 23.0 +1.1**
ACHE Chepes 4.44 99 *i* P **Pn** **18 22 25.0 +3.1**
APLL PUNTA DE LOS L 4.54 89 *i* P **Pn** **18 22 26.0 +2.8**
RFA San Rafael 5.01 147 *i* P **Pn** **18 22 32.0 +2.3**
MRA San Martin 5.49 111 *i* P **Pn** **18 22 38.0 +1.7**
CYA Choya 5.64 69 *i* P **Pn** **18 22 40.0 +1.7**
PB14 IPOC Station P 6.08 12 Pn **Pn** **18 22 41.7 -2.9**
H03N1 Juan Fernandez 6.68 243 T T 18 29 46.5
baz=72,slow=72,SNR=2631
H03N2 Juan Fernandez 6.69 243 T T 18 29 47.0
baz=72,slow=72,SNR=2651
H03N3 Juan Fernandez 6.69 243 T T 18 29 45.7
baz=72,slow=72,SNR=2116
VA04 Juan Fernndez 6.70 241 *eP* **Pn** **18 22 52.1 -0.7**
VA04 Juan Fernndez 6.70 241 Pn Pn 18 22 51.8 -0.9
FSA Cafayete 6.80 50 *i* P **Pn** **18 22 57.0 +2.7**
AHML Horco Molle 6.83 58 *i* P **Pn** **18 22 56.0 +1.4**
H03S3 Juan Fernandez 6.84 240 T T 18 29 53.0
baz=84,slow=76,SNR=8.6
H03S1 Juan Fernandez 6.84 240 T T 18 29 56.8
baz=84,slow=76,SNR=10
H03S2 Juan Fernandez 6.85 240 T T 18 30 03.2
baz=84,slow=76,SNR=9.4
PB10 IPOC Station P 7.15 9 Pn Pn 18 22 56.0 -2.9
PB15 IPOC Station P 7.65 16 Pn 18 23 04.2 -1.9
PB06 IPOC Station P 8.11 15 Pn Pn 18 23 09.9 -2.4
PB06 IPOC Station P 8.11 15 *i* P **Pn** **18 23 14.0 +1.7**
LC01 Cunco 8.28 180 Pn Pn 18 23 12.7 -1.8
PB04 IPOC Station P 8.37 10 Pn Pn 18 23 14.2 -1.7
LVC Limon Verde 8.37 19 Pn Pn 18 23 17.0 +1.0
comp=N,1.4nm,0.3s,baz=224,slow=9.6,SNR=6.1
LVC Sn Sb 18 25 04.5 -16
comp=N,2.4nm,0.3s,baz=56,slow=17,SNR=5.9
LVC LR LR 18 26 44.1
comp=N,265nm,21.3s,baz=206,slow=39
LVC Limon Verde 8.37 19 *eP* **Pn** **18 23 16.2 +0.2**
PB07 IPOC Station P 9.00 11 Pn Pn 18 23 23.3 -1.3
PB09 IPOC Station P 9.06 15 Pn Pn 18 23 23.8 -1.6
PB01 IPOC Station P 9.74 13 Pn Pn 18 23 31.5 -3.1
TA01 Diego Aracena 10.10 9 Pn Pn 18 23 39.0 -0.5
PLCA Paso Flores 10.16 175 Pn Pn 18 23 42.0 +1.8
comp=N,0.5nm,0.3s,baz=332,slow=12,SNR=5.3
PLCA LR LR 18 27 29.8
comp=N,240nm,19.6s,baz=350,slow=37
PB08 IPOC Station P 10.69 13 Pn Pn 18 23 47.3 -0.6
PSGCX Pisagua 11.06 8 Pn Pn 18 23 49.0 -3.8
ITQB Itaqui 13.16 90 Pn Pn 18 24 20.9 -0.4
CPUP Villa Florida 13.41 75 Pn Pn 18 24 23.2 -1.5
comp=N,0.4nm,0.3s,baz=251,slow=11,SNR=8.8
CPUP LR LR 18 29 54.7
comp=N,241nm,19.7s,baz=238,slow=39
CPUP Villa Florida 13.41 75 Pn Pn 18 24 21.0 -3.7
LPAZ La Paz 14.64 14 Pn Pn 18 24 43.3 +1.3
comp=N,0.6nm,0.3s,baz=184,slow=8.7,SNR=25
LPAZ La Paz 14.64 14 Pn Pn 18 24 42.1 +0.1
LPAZ La Paz 14.64 14 *eP* **Pn** **18 24 43.6 +1.5**
PLTB Pedras Altas 15.61 99 Pn Pn 18 24 50.1 -4.2
PLTB Pedras Altas 15.61 99 *eP* **Pn** **18 24 52.7 -1.6**
CPSB Cacapava Do Su 15.82 94 *eP* **Pn** **18 24 56.3 -0.7**
ITAB Concordia 17.53 84 *eP* **Pn** **18 25 18.0 -0.7**
SIV San Ignacio 17.54 36 P **Pn** **18 25 18.3 -0.5**
comp=N,0.6nm,0.3s,baz=226,slow=10,SNR=32
CNLB Canela 18.19 91 *eP* **Pn** **18 25 26.1 -0.7**
PTGB Pitanga 18.42 76 *eP* **Pn** **18 25 31.0 +1.3**
TRCB Terra Rica 18.78 70 *eP* **P** **18 25 32.9 -0.5**
PTLB Pontes e Lacer 19.03 40 *eP* **P** **18 25 35.9 -0.2**
TER01 Tubarao-SC 19.82 90 *eP* **P** **18 25 43.7 -0.9**
PCMB Pacaembu 20.47 69 *eP* **P** **18 25 51.2 -0.5**
VILB Vilhena 20.57 34 *eP* **P** **18 25 52.8 -0.2**
SALV Santo Antonio 20.77 49 *eP* **P** **18 25 54.9 -0.1**
TIJ01 Guaruva-PR 20.79 81 *eP* **P** **18 25 54.5 -0.8**

ETMB Extrema 21.32 15 *eP* **P** **18 26 01.1 +0.1**
ITRB Iturama 22.19 66 *eP* **P** **18 26 09.7 -0.6**
PET01 Itanhaem-SP 22.62 80 *eP* **P** **18 26 14.3 -0.6**
SPB Sao Paulo 22.75 78 P **P** **18 26 14.8 -1.5**
SPB IAmb IAmb 18 26 30.4
comp=Z,25nm,1.1s
SPB Sao Paulo 22.75 78 *eP* **P** **18 26 15.9 -0.4**
CZSB Cruzeiro do Su 22.77 358 *eP* **P** **18 26 16.8 +0.3**
BB19B Bebedouro 22.95 71 *eP* **P** **18 26 17.7 -0.7**
SAML Samuel 23.00 22 P **P** **18 26 17.6 -1.1**
SAML Samuel 23.00 22 *eP* **P** **18 26 18.9 +0.1**
VAO Valinhos 23.38 77 *eP* **P** **18 26 22.2 -0.6**
PARB Paraibuna 24.38 79 *eP* **P** **18 26 31.5 -0.7**
CLDB Colider 24.62 41 *eP* **P** **18 26 33.9 -0.4**
IPMB Ipameri, GO 24.83 65 *eP* **P** **18 26 35.6 -0.6**
ESAR Angra dos Reis 25.51 79 *eP* **P** **18 26 41.5 -0.7**
MAN01 Angra dos Reis 25.97 79 *eP* **P** **18 26 46.2 -0.4**
BSCB Bom Sucesso 26.08 75 *eP* **P** **18 26 46.9 -0.7**
TBTG Tabatinga, AM 26.34 4 *eP* **P** **18 26 50.0 +0.2**
BDFB Brasilia 26.37 61 P **P** **18 26 49.4 -0.9**
comp=Z,11nm,0.8s,baz=230,slow=9.0,SNR=12
BDFB Brasilia 26.37 61 P **P** **18 26 49.1 -1.2**
BDFB IAmb IAmb 18 27 02.1
comp=Z,13nm,0.7s
SNDB Serra Nova Duo 26.53 50 *eP* **P** **18 26 51.3 -0.3**
VAS01 Vassouras-RJ 26.64 79 *eP* **P** **18 26 51.9 -0.7**
DUB01 Friburgo-RJ 27.63 79 *eP* **P** **18 27 01.0 -0.5**
NPGB Novo Progresso 28.05 37 *eP* **P** **18 27 05.0 -0.2**
DIAM Diamantina, MG 28.29 71 *eP* **P** **18 27 06.9 -0.6**
CAM01 Campos-RJ 28.34 79 *eP* **P** **18 27 07.2 -0.5**
PEXB Peixe 28.48 55 *eP* **P** **18 27 09.0 -0.1**
MC01 Montes Claros 28.92 68 *eP* **P** **18 27 12.5 -0.6**
MACA Manacapuru-AM 29.24 23 *eP* **P** **18 27 15.8 -0.1**
JANB Januaria 29.57 65 *eP* **P** **18 27 18.2 -0.6**
ALF01 Guarapari-ES 29.64 78 *eP* **P** **18 27 19.4 +0.1**
SJMB Sao Joao De Ma 30.13 74 *eP* **P** **18 27 23.1 -0.6**
ITTB Itaituba 30.17 33 *eP* **P** **18 27 23.8 -0.3**
BSFB Barra de Sao F 30.35 75 *eP* **P** **18 27 25.2 -0.4**
SDBA SAO DESIDERIO 30.75 60 *eP* **P** **18 27 28.8 -0.4**
SMTB Santa Maria do 31.27 51 *eP* **P** **18 27 33.2 -0.7**
OTAV Otavalo 31.32 347 *eP* **P** **18 27 35.0 +0.3**
NAN01 Guarapari, ES 31.43 74 *eP* **P** **18 27 34.5 -0.7**
PTGA Pitinga 31.76 23 P **P** **18 27 36.8 -1.3**
PTGA IAmb IAmb 18 27 38.9
comp=Z,4.5nm,0.8s
PRPB Parauapebas 31.89 45 *eP* **P** **18 27 38.7 -0.5**
GUA01 Guaratinga, BA 32.33 72 *eP* **P** **18 27 42.4 -0.7**
BOAV Boa Vista 34.53 20 *eP* **P** **18 28 02.3 +0.1**
NBPN Ponto Novo - B 35.29 63 *eP* **P** **18 28 08.3 -0.6**
MCPB Macapa, AP 35.44 36 *eP* **P** **18 28 09.8 -0.3**
RUSC La Rusia 36.31 358 P **P** **18 28 18.4 +0.4**
ROSB Rosrio 37.99 49 *eP* **P** **18 28 31.3 -0.5**
NBMA Muriti-CE 38.60 60 *eP* **P** **18 28 37.0 -0.1**
NBPS Pedro II - PI 38.69 54 *eP* **P** **18 28 37.3 -0.6**
NBAN Anadia - AL 39.06 65 *eP* **P** **18 28 40.6 -0.3**
NBPB Pedra_Branca-C 39.21 57 *eP* **P** **18 28 42.0 -0.1**
SDV Santo Domingo 39.28 2 P **P** **18 28 42.9 +0.1**
SDV IAmb IAmb 18 28 48.1
comp=Z,6.5nm,0.9s
SDV Santo Domingo 39.28 2 *eP* **P** **18 28 43.4 +0.6**
MLPR Magueyes Islan 48.51 6 P **P** **18 29 56.0 -0.6**
CRPR Cabo Rojo, PR 48.54 6 P **P** **18 29 56.5 -0.3**
OBIP Obispado Ponce 48.62 7 P **P** **18 29 56.5 -1.0**
PDPR Patillas Dam, 48.66 7 P **P** **18 29 57.0 -0.7**
BANI BANI 48.73 2 P **P** **18 29 57.4 -1.0**
SJG San Juan 48.74 7 P **P** **18 29 57.8 -0.6**
CBYP Canovanas 48.93 7 P **P** **18 29 59.2 -0.7**
VNA3 Neumayer Olymp 52.43 159 P **P** **18 30 23.3 -2.5**
VNA1 Neumayer--Stat 52.72 158 P **P** **18 30 26.0 -1.9**
VNA2 Neumayer--Watz 53.07 158 P **P** **18 30 31.2 +0.8**
baz=289,slow=8.7
VNA2 Neumayer--Watz 53.07 158 pP pP 18 30 39.1 -0.7
SNAA Sanae 54.65 159 P **P** **18 30 42.6 +0.5**
SNAA Sanae 54.65 159 pP pP 18 30 50.7 -0.8
SNAA Sanae 54.65 159 P **P** **18 30 42.5 +0.4**
SNAA IAmb IAmb 18 30 51.6
comp=Z,6.1nm,0.7s
QSPA South Pole Qui 59.62 180 P **P** **18 31 18.1 +0.7**
QSPA IAmb IAmb 18 31 28.9
comp=Z,4.2nm,0.8s
JCT Junction City 66.33 334 P **P** **18 32 02.7 +0.6**
TXAR Lajitas Array 66.89 330 P **P** **18 32 06.8 +0.9**
comp=Z,0.7nm,0.9s,baz=147,slow=7.8,SNR=6.8
TXAR Lajitas Array 66.89 330 P **P** **18 32 06.6 +0.7**
W39A Magazine 68.65 341 P **P** **18 32 18.4 +1.7**
W39A IAmb IAmb 18 32 20.0
comp=Z,7.7nm,1.1s
MNTX Cornudas Mount 69.68 330 P **P** **18 32 23.3 +0.1**
HHAR Hobbs 69.71 341 P **P** **18 32 24.8 +1.5**
HHAR IAmb IAmb 18 32 27.1
comp=Z,12nm,1.3s
CCM Cathedral Cave 70.68 344 P **P** **18 32 30.7 +1.5**
CCM IAmb IAmb 18 32 32.1
comp=Z,5.6nm,0.9s
S39A Bolivar 70.86 342 P **P** **18 32 30.6 +0.3**
S39A IAmb IAmb 18 32 33.3
comp=Z,4.3nm,0.9s
R40A Maddies Statio 71.16 343 P **P** **18 32 32.5 +0.4**
R40A IAmb IAmb 18 32 34.5
comp=Z,6.5nm,0.8s
P40A Paris 72.28 344 P **P** **18 32 39.1 +0.4**
P40A IAmb IAmb 18 32 41.3
comp=Z,8.2nm,0.8s
LIC Lamto 73.52 72 *eP* **P** **18 32 46.4 -0.3**
comp=Z,96nm,1.9s
TIC Toumodi 73.76 72 *eP* **P** **18 32 48.7 +0.5**
KIC Kosan Boka 73.83 72 *eP* **P** **18 32 49.1 +0.5**
comp=Z,29nm,0.9s
DBIC Dimbokro 73.91 72 P **P** **18 32 49.5 +0.5**
comp=Z,8.3nm,0.8s,baz=226,slow=5.3,SNR=10
DBIC Dimbokro 73.91 72 P **P** **18 32 49.1 +0.1**
MAW Mawson 76.37 164 P **P** **18 33 03.2 +0.9**
comp=Z,4.4nm,0.5s,baz=232,slow=7.9,SNR=18
MAW pP **pP** **18 33 11.5 0.0**
comp=Z,3.2nm,0.6s,baz=250,slow=4.7,SNR=5.2
MAW Mawson 76.37 164 P **P** **18 33 02.4 +0.1**
SMCO Snowmass 76.76 333 P **P** **18 33 05.8 +0.5**
SMCO IAmb IAmb 18 33 09.4
comp=Z,5.9nm,1.0s
ECSD EROS Data Cent 77.39 342 P **P** **18 33 09.1 +0.8**
KNB Kanab 77.47 327 P **P** **18 33 10.3 +1.3**
KNB IAmb IAmb 18 33 14.7
comp=Z,4.5nm,1.1s
CCUT Cedar City 78.16 327 P **P** **18 33 10.8 -2.1**
SRU San Rafael Swe 78.17 330 P **P** **18 33 11.7 -1.3**
SRU IAmb IAmb 18 33 15.2
comp=Z,6.3nm,1.4s
MSU Marysvale 78.40 329 P **P** **18 33 14.8 +0.5**
P17A Butcher Ranch, 78.56 330 P **P** **18 33 16.2 +1.1**
P17A IAmb IAmb 18 33 18.0
comp=Z,4.8nm,1.0s
F36A Milaca 78.62 345 P **P** **18 33 15.9 +0.9**
F36A IAmb IAmb 18 33 16.8
comp=Z,5.3nm,0.9s
RDMU Red Mountain 78.99 332 P **P** **18 33 19.0 +1.5**
RDMU IAmb IAmb 18 33 20.6
comp=Z,4.5nm,0.8s
PDAR Pinedale Array 80.84 333 P **P** **18 33 28.8 +1.3**
comp=Z,0.4nm,0.7s,baz=142,slow=7.5,SNR=5.1
NVAR Mina Array Bea 81.23 325 P **P** **18 33 31.5 +1.9**
comp=Z,1.2nm,0.8s,baz=157,slow=4.9,SNR=7.4
HVU Hansel Valley 81.34 330 P **P** **18 33 31.4 +1.4**
HVU IAmb IAmb 18 33 32.3
comp=Z,3.4nm,0.8s
BOSA Boshof 81.47 118 P **P** **18 33 31.5 +0.3**
comp=Z,3.8nm,0.9s,baz=265,slow=7.6,SNR=4.0
BOSA Boshof 81.47 118 IAmb IAmb 18 33 60.0
comp=Z,4.2nm,1.1s
ELK Elko 81.59 328 P **P** **18 33 33.4 +2.0**
comp=Z,2.7nm,0.9s,baz=114,slow=1.3,SNR=9.3
ELK Elko 81.59 328 P **P** **18 33 32.7 +1.3**
KVN Kaiserville 81.61 325 P **P** **18 33 33.1 +1.5**
TORD Torodi Ar. Bea 82.86 70 P **P** **18 33 38.4 0.0**
comp=Z,2.6nm,0.7s,baz=266,slow=4.7,SNR=12
TORD pP **pP** **18 33 48.5 +0.4**
comp=Z,7.8nm,0.9s,baz=275,slow=5.5,SNR=16
TORD Torodi Ar. Bea 82.86 70 P **P** **18 33 38.2 -0.2**
YHH Holmes Hill 83.05 333 P **P** **18 33 38.7 -0.4**
ULM Lac du Bonnet 83.28 345 P **P** **18 33 40.9 +1.1**
comp=Z,3.7nm,0.8s,baz=301,slow=15,SNR=3.9
BEKR Beckworth 83.36 324 P **P** **18 33 40.7 +0.1**
HLID Hailey 83.49 330 P **P** **18 33 42.3 +1.0**
J08A Circle Bar Ran 85.13 328 P **P** **18 33 51.2 +1.7**

J08A IAmb IAmb 18 33 52.5
comp=Z,5.9nm,1.1s
PINE Pine Mountain 86.61 327 P **P** **18 33 58.6 +1.6**
PINE IAmb IAmb 18 34 10.8
comp=Z,3.3nm,1.1s
ASAR Alice Springs 120.68 208 PKP **PKPdf** **18 40 05.3 -0.6**
comp=Z,0.3nm,0.6s,baz=122,slow=1.7,SNR=6.7
WRA Warramunga Arr 123.81 210 PKP **PKPdf** **18 40 11.7 -0.4**
comp=Z,1.0nm,0.6s,baz=155,slow=1.6,SNR=22
WRA pPKP **pPKPdf** **18 40 20.6 -1.4**
comp=Z,0.6nm,0.5s,baz=168,slow=1.5,SNR=3.3
H11S2 WAKE ISLAND Hyl 25.97 271 T T 20 59 01.0
baz=115,slow=75,SNR=47
H11S1 WAKE ISLAND Hyl 25.98 271 T T 20 59 03.7
baz=115,slow=75,SNR=70
H11S3 WAKE ISLAND Hyl 25.98 271 T T 20 59 02.3
baz=115,slow=75,SNR=49
H11N3 WAKE ISLAND Hyl 26.29 273 T T 20 59 21.9
baz=116,slow=75,SNR=15
H11N1 WAKE ISLAND Hyl 26.31 273 T T 20 59 28.0
baz=116,slow=75,SNR=6.5
H11N2 WAKE ISLAND Hyl 26.31 273 T T 20 59 28.1
baz=116,slow=75,SNR=30
SEY Seymchan 137.17 332 PKP **PKiKP** **18 40 37.7 0.0**
comp=Z,3.0nm,0.9s,baz=114,slow=5.6,SNR=4.1
ZALV Zalesovo Beam 151.21 29 PKPbc **PKiKP** **18 41 07.0 +0.3**
comp=Z,14nm,0.7s,baz=342,slow=3.9,SNR=4.3
ZALV pPKPbc **pPKPbc** **18 41 16.4 +0.4**
comp=Z,14nm,0.7s,baz=300,slow=3.3,SNR=16
KSH Kashi 152.27 62 PKPbc **PKPdf** **18 41 03.8 +1.2**
KSH PP **PP** **18 44 50.0 -2.0**
MKAR Makanchi Array 154.27 44 PKPbc **PKiKP** **18 41 13.6 +0.2**
comp=Z,2.4nm,0.9s,baz=339,slow=3.1,SNR=7.2
MKAR PKPab **PKPab** **18 41 27.2 -0.2**
comp=Z,1.4nm,0.8s,baz=262,slow=3.7,SNR=4.0
SONM Songino Array 162.74 4 PKPab **PKPab** **18 42 05.4 +1.3**
comp=Z,1.7nm,1.0s,baz=328,slow=4.8,SNR=5.5
CMAR Chiang Mai Arr 165.27 143 PKPab **PKPab** **18 42 16.0 +0.2**
comp=Z,0.8nm,0.9s,baz=228,slow=5.1,SNR=6.4

IDC 30 18:22:27.3±4.3, 14°37S×167°49E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.7/42, mbtmp4.0/4, ML5.2/1, Error ellipse: s-maj=129.3km s-min=35.7km az=5.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**10.69**	**110**	Pn	Pn	18 25 01.9	+0.1
	0.6nm,0.3s,baz=246,slow=19,SNR=2.0						
STKA	**Stephens Creek**	**29.39**	**229**	P	P	18 28 31.9	-0.5
	1.6nm,0.5s,baz=57,slow=8.8,SNR=8.1						
WRA	**Warramunga Arr**	**32.12**	**255**	P	P	18 28 57.0	+0.3
	0.3nm,0.5s,baz=83,slow=7.4,SNR=14						
ASAR	**Alice Springs**	**33.00**	**249**	P	P	18 29 04.5	+0.1
	1.9nm,0.6s,baz=73,slow=9.7,SNR=67						

NEIC 30 18:42:21.6±1.4, 36°25N±0°01×97°24W±0°01, h7km±7km, mb_Lg2.5/26, Error ellipse: s-maj=1.6km s-min=1.3km az=153.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.43**	**101**	Pg	Pg	18 42 30.6	+0.6
QUOK				Sg	Sg	18 42 36.7	+1.0
OK031	**S. Brethren Rd**	**0.44**	**133**	Pg	Pg	18 42 30.6	+0.6
OK031				Sg	Sg	18 42 36.8	+1.0
OK029	**Liberty Lake**	**0.49**	**201**	Pg	Pg	18 42 30.8	-0.2
OK029				Sg	Sg	18 42 38.0	+0.7
OK030	**Cody Creek RV**	**0.49**	**131**	Pg	Pg	18 42 30.9	-0.1
OK030				Sg	Sg	18 42 38.4	+1.0
BLOK	**Blackwell**	**0.51**	**2**	Pg	Pg	18 42 31.8	+0.5
CROK	**Carrier**	**0.65**	**293**	Pg	Pg	18 42 34.1	0.0
CROK				Sg	Sg	18 42 43.4	+0.8
BCOK	**Bluff Creek, N**	**0.67**	**207**	Pg	Pg	18 42 33.4	-1.0
BCOK				Sg	Sg	18 42 43.9	+0.8
OK025	**Westminster Rd**	**0.68**	**187**	Pg	Pg	18 42 33.8	-0.7
OK025				Sg	Sb	18 42 44.3	-0.9
GC02	**Grant County #**	**0.78**	**320**		Pg	18 42 36.8	+0.3
GC02				Sg	Sb	18 42 48.4	0.0
KAN13	**South Haven SW**	**0.78**	**346**		Pg	18 42 36.3	-0.4
KAN13				Sg	Sg	18 42 47.4	+0.6
T35A	**Sooner Cattle**	**0.88**	**41**		Pg	18 42 38.4	-0.1
T35A				Sg	Sg	18 42 50.1	+0.2
KAN17	**Caldwell West**	**0.90**	**332**		Pg	18 42 38.8	0.0
KAN14	**Manchester OK**	**0.91**	**320**	Pg	Pg	18 42 39.1	0.0
KAN14				Sg	Sg	18 42 51.2	+0.2
KAN09	**Caldwell North**	**0.93**	**341**	Pg	Pg	18 42 39.2	-0.3
KAN09				Sg	Sg	18 42 52.1	+0.5
OK032	**Salt Plains WL**	**0.96**	**305**	Pg	Pg	18 42 39.4	-0.5
KAN05	**Bluff City Nor**	**0.99**	**329**	Pg	Pg	18 42 40.6	0.0
FNO	**Franklin**	**1.00**	**188**	Pg	Pg	18 42 40.2	-0.6
FNO				Sg	Sg	18 42 54.2	+0.4
KS20	**Mayfield South**	**1.01**	**345**	Pg	Pg	18 42 40.8	-0.1
KS20				Sg	Sg	18 42 54.3	+0.3
KAN10	**Anthony SW Sta**	**1.11**	**322**	Pg	Pg	18 42 42.2	-0.6
KAN06	**Argonia West S**	**1.11**	**333**		Pg	18 42 42.4	-0.5
KAN08	**Anthony NE Sta**	**1.14**	**329**	Pg	Pg	18 42 42.9	-0.5
KAN16	**Harper SW Stat**	**1.18**	**326**	Pg	Pg	18 42 43.9	-0.2
KAN12	**Harper NE Stat**	**1.21**	**330**	Pg	Pg	18 42 44.5	-0.3
TUL1	**Leonard**	**1.22**	**106**	Pg	Pg	18 42 44.5	-0.4
U32A	**Winter Ranch,**	**1.43**	**276**	Pn	Pn	18 42 47.6	-0.4
X34A	**Smith Ranch, M**	**1.72**	**197**	Pn	Pn	18 42 51.3	-0.7
WMOK	**Wichita Mounta**	**1.97**	**220**		Pn	18 42 56.3	+0.9
X37A	**Clayton**	**2.25**	**137**	Pn	Pn	18 43 00.1	+0.8
X37A				IAmb_Lg		18 43 39.1	
	comp=Z,11nm,0.7s						
U38A	**Gravette**	**2.31**	**85**	Pn	Pn	18 43 00.9	+0.8
HHAR	**Hobbs**	**2.66**	**88**	Pn	Pn	18 43 05.4	+0.4
KSU1	**Kansas State U**	**2.89**	**10**	IAmb_Lg		18 44 00.2	
	comp=Z,14nm,0.9s						
W39A	**Magazine**	**3.00**	**110**	IAmb_Lg		18 44 03.7	
	comp=Z,16nm,0.9s						
MIAR	**Mount Ida**	**3.44**	**119**	Pn	Pn	18 43 15.4	-0.2
MIAR				IAmb_Lg		18 44 13.6	
	comp=Z,8.5nm,0.7s						
S39A	**Bolivar**	**3.45**	**64**	Pn	Pn	18 43 15.9	+0.2
X40A	**Basin Creek Fa**	**4.00**	**115**	IAmb_Lg		18 44 34.9	
	comp=Z,11nm,0.8s						
MGMO	**Mountain Grove**	**4.09**	**76**	IAmb_Lg		18 44 29.8	
	comp=Z,11nm,1.0s						
ABTX	**Abilene, Hawle**	**4.13**	**209**	IAmb_Lg		18 44 32.3	
	comp=Z,6.0nm,0.8s						
WHAR	**Wooly Hollow**	**4.14**	**102**	IAmb_Lg		18 44 40.1	
	comp=Z,12nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.16**	**93**	IAmb_Lg		18 44 36.0	
	comp=Z,13nm,0.8s						
R40A	**Maddies Statio**	**4.45**	**61**	Pn	Pn	18 43 30.0	+0.5
P38A	**Dawn**	**4.46**	**40**	IAmb_Lg		18 44 46.5	
	comp=Z,9.4nm,0.8s						
LCAR	**Lake Charles**	**4.92**	**90**	IAmb_Lg		18 44 56.2	
	comp=Z,8.4nm,0.8s						
T42A	**Van Buren**	**5.00**	**79**	IAmb_Lg		18 45 00.6	
	comp=Z,8.0nm,0.9s						
P40A	**Paris**	**5.25**	**50**	IAmb_Lg		18 45 06.3	
	comp=Z,8.9nm,0.8s						
SDCO	**Great Sand Dun**	**6.78**	**285**	IAmb_Lg		18 45 58.5	
	comp=Z,5.8nm,1.1s						

*IDC **30** 18:50:46.3±1.7, 28°18S×176°82W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/23, mbtmp3.8/4, Error ellipse: s-maj=59.

*INET **30** 19:11:02.4, 13°.33N×87°.83W, h22km, MW3.6*
*UCR **30** 19:11:05.5±0.5, 13°.25N×87°.88W, h4km±3km, ML3.8*
*SNET **30** 19:11:05.2±0.6, 13°.24N×87°.87W, h3km±3km, ML3.7*
ISC 30 19:11:05.2±1.3, 13°.25N±0°.09×87°.87W±0°.06, h9km±8km, n32, σ0s64/39, 1C-4D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.04**	**53**	*eP*	**Pg**	**19 11 07.3**	**0.0**
CNCH				*eS*	**Sg**	**19 11 08.6**	**-0.1**
CNCH	**Conchagua**	**0.04**	**53**	*eP*	**Pg**	**19 11 07.3**	**0.0**
CNCH				*eS*	**Sg**	**19 11 08.6**	**-0.1**
LCND	**La Caada**	**0.06**	**340**	⇓*iP*	**Pg**	**19 11 07.3**	**0.0**
LCND				*eS*	**Sg**	**19 11 08.8**	**0.0**
LCND				IAML		19 11 13.1	
	comp=Z,93µm,0.3s						
LCND	**La Caada**	**0.06**	**340**	⇓*iP*	**Pg**	**19 11 07.3**	**0.0**
LCND				*eS*	**Sg**	**19 11 08.8**	**0.0**
LCND				IAML		19 11 11.7	
	comp=Z,89µm,0.4s						
LCND				IAML		19 11 13.1	
	comp=Z,93µm,0.3s						
LUNI	**Base Naval La**	**0.09**	**22**	⇑*eP*	**Pg**	**19 11 07.8**	**+0.2**
LUNI				*eS*	**Sg**	**19 11 09.9**	**+0.5**
LUNI				IAML		19 11 11.2	
	comp=Z,44µm,0.4s						
CNRM	**Centro Naciona**	**0.37**	**307**	*eP*	**Pg**	**19 11 12.9**	**+0.4**
CNRM	**Centro Naciona**	**0.37**	**307**	*eP*	**Pg**	**19 11 12.9**	**+0.4**
JUCU	**Jucuarn**	**0.37**	**270**	*eP*	**Pg**	**19 11 13.3**	**+0.7**
JUCU				*eS*	**Sb**	**19 11 18.8**	**-1.1**
JUCU				IAML		19 11 20.1	
	comp=Z,10µm,0.5s						
JUCU	**Jucuarn**	**0.37**	**270**	*eP*	**Pg**	**19 11 13.3**	**+0.7**
JUCU				*eS*	**Sb**	**19 11 18.8**	**-1.1**
JUCU				IAML		19 11 20.1	
	comp=Z,10µm,0.5s						
VSM	**San Miguel**	**0.43**	**294**	⇓*iP*	**Pg**	**19 11 14.6**	**+0.8**
VSM	**San Miguel**	**0.43**	**294**	⇓*iP*	**Pg**	**19 11 14.6**	**+0.8**
LCY	**Lacayo**	**0.45**	**292**	*eP*	**Pg**	**19 11 14.8**	**+0.7**
LCY	**Lacayo**	**0.45**	**292**	*eP*	**Pg**	**19 11 14.8**	**+0.7**
TECA	**Tecapa**	**0.66**	**291**	*eP*	**Pg**	**19 11 18.5**	**+0.4**
TECA	**Tecapa**	**0.66**	**291**	*eP*	**Pg**	**19 11 18.5**	**+0.4**
ALJI	**Alcalda de J**	**0.69**	**276**	*eP*	**Pb**	**19 11 19.4**	**0.0**
ALJI				IAML		19 11 33.5	
	comp=Z,2µm,0.6s						
ALJI	**Alcalda de J**	**0.69**	**276**	*eP*	**Pb**	**19 11 19.4**	**0.0**
ALJI				IAML		19 11 33.5	
	comp=Z,2µm,0.6s						
COEB	**Comit de Eme**	**0.69**	**291**	*eP*	**Pg**	**19 11 18.9**	**+0.3**
COEB				IAML		19 11 31.3	
	comp=Z,2µm,0.6s						
COEB	**Comit de Eme**	**0.69**	**291**	*eP*	**Pg**	**19 11 18.9**	**+0.3**
COEB				IAML		19 11 31.3	
	comp=Z,2µm,0.6s						
SJTE	**Alcalda de S**	**1.17**	**288**	*eP*	**Pg**	**19 11 27.1**	**-0.6**
SJTE	**Alcalda de S**	**1.17**	**288**	*eP*	**Pg**	**19 11 27.1**	**-0.6**
LFRS	**El Faro**	**1.22**	**288**	*eP*	**Pg**	**19 11 28.1**	**-0.6**
LFRS	**El Faro**	**1.22**	**288**	*eP*	**Pg**	**19 11 28.1**	**-0.6**
LBRS	**Las Brisas**	**1.24**	**293**	*eP*	**Pg**	**19 11 28.4**	**-0.7**
LBRS	**Las Brisas**	**1.24**	**293**	*eP*	**Pg**	**19 11 28.4**	**-0.7**
LLGN	**La Laguna**	**1.38**	**311**	*eP*	**Pn**	**19 11 30.3**	**-0.5**
LLGN	**La Laguna**	**1.38**	**311**	*eP*	**Pn**	**19 11 30.3**	**-0.5**
BOQS	**Boqueron**	**1.46**	**289**	*eP*	**Pn**	**19 11 32.5**	**+0.6**
BOQS	**Boqueron**	**1.46**	**289**	*eP*	**Pn**	**19 11 32.5**	**+0.6**
MTO3	**Montecristo**	**1.84**	**308**	*eP*	**Pn**	**19 11 38.0**	**+0.7**
MTO3	**Montecristo**	**1.84**	**308**	*eP*	**Pn**	**19 11 38.0**	**+0.7**
ESQI	**Esquipulas**	**1.93**	**312**	*eP*	**Pn**	**19 11 40.1**	**+1.7**

*NOU **30** 19:18:26.1, 14°.22S×166°.82E, h97km, MLv5.2/14, Vanuatu Islands*
*IDC **30** 19:18:35.9±13.0, 15°.26S×165°.83E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/35, mbtmp3.7/4, ML4.2/1, Error ellipse: s-maj=231.9km s-min=36.7km az=56.0*
ISC 30 19:18:33.8±1.9, 14°.9S±0°.1×166°.6E±0°.1, h35km, n14, σ1s24/15, mb3.3/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.79**	**136**	P	**Pn**	**19 18 49.9**	**+1.5**
DVP	**Devils Point**	**3.20**	**153**	P	**Pn**	**19 19 20.9**	**-0.7**
RTV	**Rentapao**	**3.37**	**150**	P	**Pn**	**19 19 25.2**	**+1.3**
KOUNC	**Koumac, New Ca**	**6.08**	**201**	P	**Pn**	**19 20 02.6**	**+1.5**
MARNC	**Mare, Loyalty**	**6.70**	**169**	P	**Pn**	**19 20 08.7**	**-1.1**
YATNC	**Mamie plateau,**	**7.15**	**178**	P	**Pn**	**19 20 15.1**	**-0.8**
DZM	**Mont Dzumac**	**7.16**	**181**	Pn	**Pn**	**19 20 17.3**	**+1.1**
	4.6nm,0.3s,baz=323,slow=8.7,SNR=84						
DZM				Sn	**Sn**	**19 21 35.6**	**-0.8**
	2.1nm,0.3s,baz=339,slow=22,SNR=3.7						
NOUC	**Port Laguerre**	**7.20**	**183**	P	**Pn**	**19 20 18.0**	**+1.5**
ONTNC	**Ouen Toro**	**7.40**	**181**	P	**Pn**	**19 20 20.9**	**+1.6**
OUENC	**Ouen Island, N**	**7.51**	**179**	P	**Pn**	**19 20 22.0**	**+1.2**
PINNC	**Pines Island,**	**7.74**	**174**	P	**Pn**	**19 20 25.0**	**+1.1**
STKA	**Stephens Creek**	**28.44**	**229**	P	**P**	**19 24 25.2**	**-0.2**
	0.6nm,0.5s,baz=60,slow=7.6,SNR=3.4						
WRA	**Warramunga Arr**	**31.20**	**256**	P	**P**	**19 24 49.1**	**-0.9**
	0.4nm,0.8s,baz=87,slow=8.9,SNR=4.5						
ASAR	**Alice Springs**	**32.05**	**249**	P	**P**	**19 24 57.2**	**-0.3**
	0.3nm,0.7s,baz=81,slow=8.6,SNR=8.5						

*TUL **30** 19:31:23.6±1.0, 36°.37N±0°.02×98°.72W±0°.02, h5km±2km, ML2.9, mb_Lg2.6/29(NEIC), Error ellipse: s-maj=3.9km s-min=3.1km az=346.0*
NEIC 30 19:31:23.7±1.2, 36°.38N±0°.03×98°.72W±0°.02, h11km±5km, Error ellipse: s-maj=4.4km s-min=2.2km az=169.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.23**	**269**	Pg	Pg	19 31 27.4	-1.1
U32A				Sg	Sg	19 31 32.0	+0.3
OK032	**Salt Plains WL**	**0.59**	**44**		Pg	19 31 33.3	-1.9
OK032					Sg	19 31 43.3	+0.3
CROK	**Carrier**	**0.61**	**78**		Pg	19 31 35.5	-0.1
CROK				Sg	Sb	19 31 44.3	-0.6
GC02	**Grant County #**	**0.84**	**56**		Pg	19 31 39.7	-0.2
GC02				Sg	Sb	19 31 51.4	-0.1
KAN14	**Manchester OK**	**0.84**	**47**		Pg	19 31 39.8	-0.2
KAN14				Sg	Sb	19 31 51.3	-0.3
KAN10	**Anthony SW Sta**	**0.90**	**34**		Pg	19 31 40.9	-0.1
KAN10				Sg	Sb	19 31 53.0	-0.2
KAN16	**Harper SW Stat**	**0.99**	**32**		Pg	19 31 42.5	-0.3
KAN05	**Bluff City Nor**	**1.00**	**43**		Pg	19 31 42.6	-0.3
KAN17	**Caldwell West**	**1.01**	**49**		Pg	19 31 42.9	-0.4
KAN08	**Anthony NE Sta**	**1.04**	**35**	Pg	Pb	19 31 43.2	-0.4
KAN12	**Harper NE Stat**	**1.08**	**32**		Pb	19 31 44.3	-0.1
KAN06	**Argonia West S**	**1.11**	**38**		Pb	19 31 44.6	-0.3
BCOK	**Bluff Creek, N**	**1.16**	**128**	Pg	Pb	19 31 45.0	-0.7
KAN09	**Caldwell North**	**1.16**	**49**		Pb	19 31 45.6	-0.3
OK029	**Liberty Lake**	**1.18**	**119**	Pg	Pb	19 31 45.4	-0.7
KS20	**Mayfield South**	**1.26**	**48**		Pn	19 31 47.4	+0.1
BLOK	**Blackwell**	**1.27**	**72**		Pn	19 31 47.3	-0.1
OK025	**Westminster Rd**	**1.38**	**125**		Pn	19 31 48.8	-0.1
OKCFA	**Oklahoma City**	**1.41**	**133**	Pn	Pn	19 31 49.3	0.0
FNO	**Franklin**	**1.55**	**136**	Pn	Pn	19 31 51.8	+0.5
OK031	**S. Brethren Rd**	**1.58**	**105**	Pn	Pn	19 31 51.8	+0.1
OK030	**Cody Creek RV**	**1.63**	**106**		Pn	19 31 52.7	+0.3
WMOK	**Wichita Mounta**	**1.64**	**182**		Pn	19 31 52.2	-0.2
QUOK	**Quay**	**1.64**	**97**		Pn	19 31 53.2	+0.7
T35A	**Sooner Cattle**	**1.86**	**73**		Pn	19 31 56.1	+0.6
T35A				IAmb_Lg		19 32 23.8	
	comp=Z,31nm,0.8s						
X34A	**Smith Ranch, M**	**1.92**	**158**		Pb	19 31 57.7	-1.0
X34A				IAmb_Lg		19 32 24.9	
	comp=Z,23nm,0.7s						
R32A	**Long Quarter,**	**2.04**	**0**	Pn	Pb	19 31 60.0	-0.8
TUL1	**Leonard**	**2.42**	**100**	Pn	Pn	19 32 03.0	-0.2
LOOK	**Love County**	**2.70**	**152**		Pn	19 32 07.3	+0.3
AMTX	**Amarillo**	**2.84**	**239**		Pn	19 32 09.5	+0.5
X37A	**Clayton**	**3.27**	**122**		Pn	19 32 14.8	0.0
X37A				IAmb_Lg		19 33 13.5	
	comp=Z,29nm,0.8s						
U38A	**Gravette**	**3.50**	**88**		Pn	19 32 18.6	+0.6
ABTX	**Abilene, Hawle**	**3.83**	**192**		Pn	19 32 23.2	+0.7
HHAR	**Hobbs**	**3.86**	**90**		Pn	19 32 22.3	-0.8
KSCO	**Kaye Shedlock'**	**4.06**	**311**		Pn	19 32 26.5	+0.7
MSTX	**Muleshoe**	**4.10**	**235**		Pn	19 32 26.1	-0.2
W39A	**Magazine**	**4.19**	**105**	IAmb_Lg		19 33 42.4	
	comp=Z,13nm,0.8s						
S39A	**Bolivar**	**4.51**	**72**		Pn	19 32 31.8	-0.2
S39A				IAmb_Lg		19 33 49.5	
	comp=Z,14nm,0.7s						
MIAR	**Mount Ida**	**4.58**	**112**	IAmb_Lg		19 33 58.1	
	comp=Z,13nm,0.9s						
T25A	**Trinidad**	**4.63**	**281**	IAmb_Lg		19 34 02.4	
	comp=Z,17nm,0.8s						
U40A	**Yellville**	**4.74**	**89**	IAmb_Lg		19 33 53.8	
	comp=Z,21nm,0.7s						
MGMO	**Mountain Grove**	**5.24**	**80**	IAmb_Lg		19 34 17.5	
	comp=Z,10nm,0.7s						
WHAR	**Wooly Hollow**	**5.34**	**100**	IAmb_Lg		19 34 16.8	
	comp=Z,19nm,1.0s						
FCAR	**Ozark Folk Cen**	**5.36**	**93**	IAmb_Lg		19 34 22.3	
	comp=Z,9.9nm,0.8s						
SDCO	**Great Sand Dun**	**5.59**	**286**		Pn	19 32 46.4	-0.6
SDCO				IAmb_Lg		19 34 29.5	
	comp=Z,6.7nm,1.1s						
P40A	**Paris**	**6.14**	**57**	IAmb_Lg		19 34 38.4	
	comp=Z,7.6nm,0.9s						
T42A	**Van Buren**	**6.16**	**82**	IAmb_Lg		19 34 46.6	
	comp=Z,9.2nm,0.7s						
PHWY	**Pilot Hill**	**7.19**	**315**	IAmb_Lg		19 35 27.5	
	comp=Z,6.0nm,1.1s						

NNC 30 19:38:43.2±8.5, 37°.65N×71°.82E, h0km, mb4.0, mpv3.5, 2C-3D, Error ellipse: s-maj=67.7km s-min=57.3km az=9.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.70**	**17**	P	Pn	19 39 56.8	+1.0
	SNR=113						
UCH	**Uchtor**	**5.02**	**24**	P	Pn	19 40 00.3	+0.1
	SNR=8.9						
EKS2	**Erkin-Say**	**5.23**	**16**	P	Pn	19 40 03.9	+1.2
	SNR=6.5						
AAK	**Ala-Archa**	**5.39**	**22**	P	Pn	19 40 05.3	+0.3
	SNR=8.2						
AAK	**Ala-Archa**	**5.39**	**22**	⇑Pn	Pn	19 40 05.1	+0.1
	2.6nm,0.4s						
AAK				⇓Sn	Sn	19 41 08.5	+0.7
	7.5nm,0.8s						
KK31	**Karatay Array**	**5.54**	**350**	⇓Pn	Pn	19 40 08.3	+1.4
	4.3nm,0.5s,baz=165,slow=14,SNR=54						
KK31				⇓Sn	Sn	19 41 12.5	+1.2
	3.0nm,0.3s,baz=174,slow=24,SNR=14						
TKM2	**Tokmak 2**	**6.00**	**28**	P	Pn	19 40 12.5	-1.0
	SNR=6.1						
TKM2	**Tokmak 2**	**6.00**	**28**	⇑Pn	Pn	19 40 12.3	-1.2
	2.1nm,0.5s						

MEX 30 19:49:01.9±0.5, 14°.68N×92°.74W, h62km±99km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.12**	**336**	*eP*	Pn	19 49 20.5	-1.1
PCIG				*eS*	Sn	19 49 34.3	-2.0

MEX 30 20:07:00.5±0.4, 18°.23N×100°.53W, h54km±3km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.18**	**72**	*i* P	Pn	20 07 07.7	-1.6
ARIG				*i* S	Sn	20 07 13.8	-1.7
MEIG	**Mezcala**	**0.92**	**109**	*i* P	Pn	20 07 16.0	-1.3
MEIG				*eS*	Sn	20 07 27.4	-2.3
PLIG	**Platanillo**	**0.99**	**80**	*i* P	Pn	20 07 16.9	-1.4
PLIG				*eS*	Sn	20 07 29.4	-2.1
DAIG	**Los Arroyos**	**1.46**	**145**	*eP*	Pn	20 07 23.1	-1.5
DAIG				*eS*	Sn	20 07 40.6	-2.1

*IDC **30** 20:12:43.2±0.8, 31°.79S×71°.79W, h0km, mb4.1/7, mb1 4.1/10, mb1mx3.9/27, mbtmp4.0/10, ML3.8/3, MS3.2/4, Ms1 3.2/4, ms1mx2.9/25, Error ellipse: s-maj=32.0km s-min=20.5km az=89.0*
*NEIC **30** 20:12:44.6±2.0, 31°.77S±0°.04×72°.10W±0°.09, h14km±3km, mb4.4/8, ML4.2(GUC), Error ellipse: s-maj=11.8km s-min=4.3km az=106.0*
*GUC **30** 20:12:45.6±0.8, 31°.77S×72°.03W, h34km±3km, ML4.0*
ISC 30 20:12:43.6±1.7, 31°.77S±0°.03×72°.07W±0°.07, h7km±10km, n82, σ1s01/86, mb4.4/9, 4C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**1.03**	**141**	⇓*iP*	**Pg**	**20 13 03.7**	**+0.3**
VA06				*i* S	**Sg**	**20 13 16.9**	**+0.3**
VA06				IAML		20 13 18.9	
	comp=E,17µm,0.5s						
CO02	**Combarbal**	**1.07**	**59**	⇓*iP*	**Pg**	**20 13 04.8**	**+0.6**
CO02				*i* S	**Sg**	**20 13 18.3**	**+0.2**
CO02	**Combarbal**	**1.07**	**59**		**Pg**	**20 13 04.7**	**+0.6**
CO02				Sn	**Sg**	**20 13 18.0**	**0.0**
CO06	**Fray Jorge**	**1.15**	**19**	⇓*iP*	**Pb**	**20 13 04.6**	**-1.3**
CO06				*i* S	**Sb**	**20 13 20.8**	**-0.2**
CO06				IAML		20 13 27.6	
	comp=E,5µm,0.3s						
CO06	**Fray Jorge**	**1.15**	**19**		**Pb**	**20 13 06.3**	**+0.5**
VA01	**Torpederas**	**1.30**	**164**	*eP*	**Pn**	**20 13 08.2**	**0.0**
VA01	**Torpederas**	**1.30**	**164**		**Pn**	**20 13 08.1**	**-0.2**
VA01				Sn	**Sb**	**20 13 23.5**	**-1.9**
ROCH	**El Roble**	**1.50**	**144**	⇑*iP*	**Pn**	**20 13 11.3**	**+0.1**
ROCH				*i* S	**Sn**	**20 13 30.6**	**-0.5**
ROCH				IAML		20 13 34.3	
	comp=E,4µm,0.5s						
CO03	**El Pedregal**	**1.50**	**52**	*eP*	**Pn**	**20 13 11.6**	**+0.6**
CO03				*i* S	**Sn**	**20 13 30.4**	**-0.6**
CO03				IAML		20 13 31.0	
	comp=N,5µm,0.3s						
CO03	**El Pedregal**	**1.50**	**52**		**Pn**	**20 13 11.8**	**+0.7**
CO03				Sn	**Sn**	**20 13 30.4**	**-0.6**
VA03	**San Esteban**	**1.62**	**128**	⇓*iP*	**Pn**	**20 13 12.9**	**+0.1**
VA03				*i* S	**Sn**	**20 13 34.0**	**-0.1**
VA03				IAML		20 13 35.5	
	comp=E,4µm,0.4s						
VA03	**San Esteban**	**1.62**	**128**		**Pn**	**20 13 12.9**	**+0.1**
VA05	**Santo Domingo**	**1.92**	**169**	*eP*	**Pn**	**20 13 19.4**	**+2.6**
VA05				IAML		20 13 57.0	
	comp=E,3µm,0.5s						
VA05	**Santo Domingo**	**1.92**	**169**		**Pn**	**20 13 16.8**	**0.0**
GO04	**Tololo Observa**	**1.93**	**35**	*eP*	**Pn**	**20 13 17.8**	**+0.8**
GO04				*eS*	**Sn**	**20 13 41.6**	**-0.1**
GO04	**Tololo Observa**	**1.93**	**35**		**Pn**	**20 13 17.6**	**+0.5**
MT05	**Renca**	**1.97**	**146**	*eP*	**Pn**	**20 13 18.2**	**+0.6**
MT05				*i* S	**Sn**	**20 13 42.1**	**-0.5**
MT05				IAML		20 13 50.2	
	comp=E,3µm,0.4s						
MT05	**Renca**	**1.97**	**146**		**Pn**	**20 13 17.8**	**+0.3**
CO05	**La Serena**	**1.98**	**21**	*eP*	**Pn**	**20 13 18.8**	**+1.3**
CO05				*eS*	**Sn**	**20 13 43.1**	**+0.5**
CO05				IAML		20 13 56.8	
	comp=E,2µm,0.5s						
CO05	**La Serena**	**1.98**	**21**		**Pn**	**20 13 18.5**	**+1.0**
MT09	**Talagante**	**2.20**	**156**	⇑*iP*	**Pn**	**20 13 21.6**	**+0.8**
MT09				*i* S	**Sn**	**20 13 48.5**	**+0.2**
MT09				IAML		20 13 55.5	
	comp=N,1µm,0.5s						
MT09	**Talagante**	**2.20**	**156**		**Pn**	**20 13 21.7**	**+1.0**
MT01	**Popeta**	**2.20**	**162**	⇑*iP*	**Pn**	**20 13 21.0**	**+0.4**
MT01				IAML		20 14 01.3	
	comp=E,743nm,0.4s						
MT01	**Popeta**	**2.20**	**162**		**Pn**	**20 13 21.1**	**+0.4**
LMEL	**Las Melosas**	**2.60**	**143**	⇑*iP*	**Pn**	**20 13 27.5**	**+1.2**
LMEL				*eS*	**Sn**	**20 13 59.4**	**+1.1**
LMEL				IAML		20 14 08.3	
	comp=N,804nm,0.4s						
LMEL				IAML		20 14 10.4	
	comp=N,905nm,0.7s						
BO03	**Pichilemu**	**2.72**	**178**	*eP*	**Pn**	**20 13 27.7**	**-0.1**
BO03				IAML		20 14 20.8	
	comp=E,531nm,0.7s						
BO01	**Tunca**	**2.75**	**163**	*eP*	**Pn**	**20 13 28.6**	**+0.5**
BO01				IAML		20 14 13.9	
	comp=E,357nm,0.5s						
BO01	**Tunca**	**2.75**	**163**		**Pn**	**20 13 28.7**	**+0.5**
BO02	**Sierra Bellavi**	**3.21**	**161**	*eP*	**Pn**	**20 13 35.4**	**+0.9**
BO02	**Sierra Bellavi**	**3.21**	**161**		**Pn**	**20 13 35.2**	**+0.7**
GO05	**Huala**	**3.24**	**178**	*eP*	**Pn**	**20 13 34.6**	**-0.3**
GO05				IAML		20 14 41.9	
	comp=E,187nm,0.4s						
GO05	**Huala**	**3.24**	**178**		**Pn**	**20 13 34.8**	**-0.1**
AC04	**Llanos de Chal**	**3.65**	**14**	*eP*	**Pn**	**20 13 41.6**	**+1.0**
AC04	**Llanos de Chal**	**3.65**	**14**		**Pn**	**20 13 40.8**	**+0.2**
ML02	**Panimavida**	**4.02**	**172**	Pn	**Pn**	**20 13 45.7**	**+0.1**
GO03	**Copiap**	**4.45**	**21**		**Pn**	**20 13 51.9**	**+0.2**
AC02	**Maricunga**	**5.54**	**28**		**Pn**	**20 14 07.0**	**0.0**
H03N1	**Juan Fernandez**	**6.01**	**252**	T	T	20 21 01.9	
	baz=80,slow=72,SNR=1081						
H03N3	**Juan Fernandez**	**6.03**	**252**	T	T	20 21 02.2	
	baz=80,slow=72,SNR=686						
H03N2	**Juan Fernandez**	**6.03**	**252**	T	T	20 20 58.8	
	baz=80,slow=72,SNR=738						
PB14	**IPOC Station P**	**7.26**	**12**	Pn	**Pn**	**20 14 28.1**	**-2.4**
PB10	**IPOC Station P**	**8.33**	**10**	Pn	**Pn**	**20 14 43.7**	**-1.2**
PB15	**IPOC Station P**	**8.83**	**16**	Pn	**Pn**	**20 14 49.6**	**-2.3**
PLCA	**Paso Flores**	**9.03**	**173**	Pn	**Pn**	**20 14 54.1**	**-0.4**
	comp=E,0.6nm,0.3s,baz=340,slow=13,SNR=6.8						
PLCA				LR	LR	20 18 25.8	
	comp=E,116nm,18.4s,baz=314,slow=38						
PLCA	**Paso Flores**	**9.03**	**173**	Pn	**Pn**	**20 14 54.6**	**+0.1**
PB06	**IPOC Station P**	**9.29**	**14**	Pn	**Pn**	**20 14 56.4**	**-1.9**
LVC	**Limon Verde**	**9.54**	**18**	Pn	**Pn**	**20 15 00.7**	**-1.1**
	comp=E,0.3nm,0.3s,baz=241,slow=16,SNR=1.6						
LVC				Sn	Sn	20 17 05.6	+16
	comp=E,0.9nm,0.3s,baz=46,slow=19,SNR=3.5						
LVC				LR	LR	20 18 57.4	
	comp=E,90nm,20.2s,baz=210,slow=39						
LVC	**Limon Verde**	**9.54**	**18**	Pn	**Pn**	**20 15 00.4**	**-1.5**
PB07	**IPOC Station P**	**10.19**	**12**	Pn	**Pn**	**20 15 09.4**	**-1.1**
PB09	**IPOC Station P**	**10.24**	**15**	Pn	**Pn**	**20 15 09.1**	**-2.2**
TRQA	**Tornquist**	**10.39**	**130**		**Pn**	**20 15 13.5**	**+0.4**
PB01	**IPOC Station P**	**10.93**	**13**	Pn	**Pn**	**20 15 18.8**	**-1.7**
PB08	**IPOC Station P**	**11.87**	**13**	Pn	**Pn**	**20 15 30.3**	**-3.4**
PB11	**IPOC Station P**	**12.15**	**11**		**Pn**	**20 15 36.4**	**-1.0**
PSGCX	**Pisagua**	**12.24**	**9**		**Pn**	**20 15 36.1**	**-2.5**
CPUP	**Villa Florida**	**13.98**	**71**	LR	LR	20 21 39.2	
	comp=E,105nm,20.0s,baz=219,slow=39						
LPAZ	**La Paz**	**15.82**	**14**	Pn	**Pn**	**20 16 28.9**	**+1.4**
	comp=E,0.1nm,0.3s,baz=184,slow=7.2,SNR=3.7						
BDFB	**Brasilia**	**27.16**	**59**	P	**P**	**20 18 27.1**	**-0.8**
	comp=E,7.0nm,1.0s,baz=223,slow=8.3,SNR=5.4						
SNAA	**Sanae**	**53.66**	**158**	P	**P**	**20 22 06.2**	**+0.6**
SNAA	**Sanae**	**53.66**	**158**	P	**P**	**20 22 05.6**	**0.0**
	comp=E,3.1nm,0.8s,baz=267,slow=5.4,SNR=14						
SNAA	**Sanae**	**53.66**	**158**	P	**P**	**20 22 05.0**	**-0.6**
SNAA				IAmb	IAmb	20 22 07.2	
	comp=Z,3.7nm,0.8s						
QSPA	**South Pole Qui**	**58.46**	**180**	P	**P**	**20 22 40.5**	**+0.4**
TX31	**Lajitas Ar. Si**	**67.78**	**330**	P	**P**	**20 23 43.3**	**+1.0**
TX31				IAmb	IAmb	20 23 58.4	
	comp=Z,3.3nm,1.1s						
TX32	**Lajitas Array**	**67.78**	**330**		**P**	**20 23 43.6**	**+1.3**
TXAR	**Lajitas Array**	**67.78**	**330**	P	**P**	**20 23 43.8**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=155,slow=8.5,SNR=4.9						
TXAR	**Lajitas Array**	**67.78**	**330**	P	**P**	**20 23 42.5**	**+0.2**
DBIC	**Dimbokro**	**74.50**	**72**	P	**P**	**20 24 22.6**	**-0.6**
	comp=Z,4.2nm,0.7s,baz=199,slow=7.7,SNR=5.7						
MAW	**Mawson**	**75.32**	**164**	P	**P**	**20 24 28.3**	**+1.2**
	comp=Z,0.8nm,0.5s,baz=237,slow=15,SNR=2.5						
MAW				LR	LR	20 58 21.6	
	comp=Z,25nm,18.6s,baz=236,slow=36						
KOWA	**Kowa**	**79.74**	**66**	P	**P**	**20 24 52.1**	**-0.6**
NVAR	**Mina Array Bea**	**82.04**	**325**	P	**P**	**20 25 07.2**	**+2.5**
	comp=Z,0.2nm,0.5s,baz=146,slow=8.3,SNR=2.3						
NVAR	**Mina Array Bea**	**82.04**	**325**	P	**P**	**20 25 05.4**	**+0.6**
MOOW	**Moose Ponds**	**83.06**	**333**	P	**P**	**20 25 08.8**	**-1.2**
MOOW				IAmb	IAmb	20 25 10.3	
	comp=Z,1.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**83.48**	**70**	P	**P**	**20 25 11.7**	**-0.7**
	comp=Z,2.5nm,0.8s,baz=260,slow=5.1,SNR=12						
TORD	**Torodi Ar. Bea**	**83.48**	**70**	P	**P**	**20 25 12.5**	**0.0**
TORD				IAmb	IAmb	20 25 13.2	
	comp=Z,2.2nm,0.8s						
WRA	**Warramunga Arr**	**122.69**	**210**	PKP	**PKPdf**	**20 31 40.2**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=160,slow=1.6,SNR=12						
H11S2	**WAKE ISLAND Hyl**	**25.75**	**271**	T	T	22 50 47.4	
	baz=116,slow=74,SNR=10						
H11S1	**WAKE ISLAND Hyl**	**25.76**	**271**	T	T	22 50 45.3	
	baz=116,

ISRB	**Sarab**	**6.16**	**256**	*e*Pn	**Pn**	**20 55 40.8**	**+0.9**
IHRS	**Heris**	**6.50**	**262**	*e*Pn	**Pn**	**20 55 44.5**	**-0.1**
IHRS				*e*		20 56 58.6	
	comp=Z,70nm,0.2s						
AB31	**Akbulak array**	**10.29**	**18**	⇑P	**Pn**	**20 56 35.1**	**-1.2**
	comp=Z,0.1nm,0.2s,baz=198,slow=14						
AB31				⇑S	Sn	20 58 21.8	-8.9
	comp=Z,0.4nm,0.4s,baz=190,slow=25,SNR=6.5						
AKTO	**Aktyubinsk**	**11.09**	**9**	⇑P	**Pn**	**20 56 48.3**	**+1.1**
	comp=Z,2.4nm,1.1s						
AKTO				⇑S	Sn	20 58 43.2	-6.9
	comp=Z,2.4nm,0.8s						

MEX 30 21:11:22.6±0.5, 16°31N×98°28W, h10km±2km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.17**	**62**		*i*	P	Pg	21 11 25.8	-0.5
PNIG					*i*	S	Sg	21 11 28.7	-0.2
YOIG	**Yosondua**	**0.89**	**52**		*e*	P	Pg	21 11 37.4	-2.4
YOIG					*e*	S	Sg	21 11 48.9	-2.6
MGIG	**Malinaltepec**	**0.98**	**340**		*e*	P	Pg	21 11 38.6	-2.8
MGIG					*i*	S	Sg	21 11 51.1	-3.1
TXIG	**Tlaxiaco**	**1.06**	**28**		*e*	P	Pg	21 11 40.1	-3.0
TXIG					*e*	S	Sg	21 11 53.5	-3.4
PEIG	**Puerto Escondi**	**1.14**	**106**		*e*	P	Pb	21 11 41.3	-3.0
PEIG					*e*	S	Sb	21 11 54.6	-4.5
HLIG	**Huajuapan de L**	**1.58**	**17**		*e*	P	Pn	21 11 48.2	-2.6
HLIG					*e*	S	Sn	21 12 07.4	-4.1
FTIG	**Fresnillo de T**	**1.59**	**5**		*e*	P	Pn	21 11 47.9	-3.2
FTIG					*e*	S	Sn	21 12 06.8	-4.9

*IDC **30** 21:13:48.9±1.1, 19°31N×145°03E, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.7/48, mbtmp4.1/5, Error ellipse: s-maj=69.4km s-min=24.8km az=108.0*
*NEIC **30** 21:14:14.8±1.0, 18°72N±0°10×145°6E±0°2, h204km±9km, mb3.9/8, Error ellipse: s-maj=27.4km s-min=13.9km az=87.0*

ISC 30 21:14:14.7±0.8, 18°79N±0°09×145°4E±0°2, h214km, n17, σ1§04/17, mb3.9/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.20**	**186**		Sn		**S**	**21 16 32.2**	**-0.8**
	2.8nm,0.3s,baz=21,slow=22,SNR=1.5								
JOW	**Kunigami**	**17.73**	**300**		P		**Pn**	**21 18 09.5**	**+0.6**
WB0	**Warramunga Arr**	**39.82**	**196**		P		**P**	**21 21 27.8**	**+0.4**
WB0					IAmb		IAmb	21 21 28.8	
	comp=Z,11nm,1.1s								
WRA	**Warramunga Arr**	**40.00**	**196**		P		**P**	**21 21 29.7**	**+0.8**
	comp=Z,6.9nm,0.7s,baz=22,slow=9.0,SNR=80								
WRA	**Warramunga Arr**	**40.00**	**196**		P		**P**	**21 21 28.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**41.50**	**209**		P		**P**	**21 21 41.7**	**+0.5**
FITZ					IAmb		IAmb	21 21 47.2	
	comp=Z,3.9nm,1.0s								
AS31	**Alice Springs**	**43.67**	**195**		P		**P**	**21 21 58.6**	**0.0**
AS31					IAmb		IAmb	21 22 00.3	
	comp=Z,0.8nm,0.5s								
ASAR	**Alice Springs**	**43.67**	**195**		P		**P**	**21 21 59.0**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=14,slow=7.8,SNR=17								
ASAR	**Alice Springs**	**43.67**	**195**		P		**P**	**21 21 59.1**	**+0.5**
STKA	**Stephens Creek**	**50.51**	**184**		P		**P**	**21 22 50.5**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=348,slow=5.6,SNR=3.3								
BBOO	**Buckleboo**	**52.09**	**190**		P		**P**	**21 23 02.7**	**-0.1**
MORW	**Morawa**	**55.40**	**211**		P		**P**	**21 23 28.0**	**+1.0**
MORW					IAmb		IAmb	21 23 52.7	
	comp=Z,4.9nm,1.1s								
MKAR	**Makanchi Array**	**58.23**	**314**		P		**P**	**21 23 47.1**	**+0.3**
BMAR	**Burnt Mountain**	**65.13**	**24**		P		**P**	**21 24 33.4**	**+1.0**
NVAR	**Mina Array Bea**	**83.27**	**52**		P		**P**	**21 26 18.2**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=272,slow=5.5,SNR=7.5								
FINES	**FINESS Array B**	**86.70**	**335**		P		**P**	**21 26 31.1**	**-3.1**
	comp=Z,3.3nm,1.0s,baz=64,slow=6.3,SNR=4.3								
LPAZ	**La Paz**	**147.92**	**91**		PKPbc		**PKiKP**	**21 33 38.5**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=67,slow=2.8,SNR=3.8								

MEX 30 21:20:49.6±0.8, 15°94N×98°29W, h6km, MD3.7, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.47**	**19**		*i*	P	Pg	21 20 58.0	-0.8
PNIG					*i*	S	Sg	21 21 04.9	0.0
PEIG	**Puerto Escondi**	**1.10**	**87**		*e*	P	Pg	21 21 06.6	-4.1
PEIG					*e*	S	Sg	21 21 21.4	-3.5
YOIG	**Yosondua**	**1.15**	**38**		*e*	P	Pg	21 21 08.3	-3.5
YOIG					*e*	S	Sg	21 21 24.3	-2.5
MGIG	**Malinaltepec**	**1.33**	**345**		*e*	P	Pn	21 21 11.6	-3.3
MGIG					*e*	S	Sg	21 21 29.0	-3.3
TXIG	**Tlaxiaco**	**1.40**	**21**		*e*	P	Pn	21 21 12.6	-3.4
TXIG					*e*	S	Sb	21 21 30.7	-3.9
TLIG	**Tlapa**	**1.63**	**351**		*e*	P	Pn	21 21 15.6	-3.5
TLIG					*i*	S	Sn	21 21 36.1	-4.4
DAIG	**Los Arroyos**	**1.69**	**310**		*i*	P	Pn	21 21 16.0	-3.8
DAIG					*i*	S	Sn	21 21 36.2	-5.6
HLIG	**Huajuapan de L**	**1.93**	**14**		*e*	P	Pn	21 21 20.0	-3.3
HLIG					*e*	S	Sn	21 21 44.6	-3.5
FTIG	**Fresnillo de T**	**1.96**	**4**		*e*	P	Pn	21 21 20.9	-2.7
FTIG					*e*	S	Sn	21 21 43.9	-4.7

*NNC **30** 21:32:09.6±1.0, 41°63N×73°23E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=8.3km s-min=4.3km az=173.0*
*SOME **30** 21:32:10.1, 41°62N×73°30E, h10km*
*KRNET **30** 21:32:10.8±0.1, 41°61N×73°30E, h19km, mb2.9*
*KNET **30** 21:32:11.8±0.5, 41°63N×73°43E, h12km±2km, ml2.4, Error ellipse: s-maj=3.4km s-min=2.6km az=138.0*

ISC 30 21:32:10.5±1.2, 41°63N±0°03×73°31E±0°02, h4km±10km, n62, σ1§15/104, 24C-36D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.58**	**30**	⇑	*i*	P	**Pg**	**21 32 22.4**	**+0.7**
	baz=29								
AML				⇑	*i*	S	**Sb**	**21 32 31.3**	**-0.9**
	baz=29								
AML	**Almayashu**	**0.58**	**30**	⇑		P	**Pg**	**21 32 22.6**	**+0.9**
	40nm,0.2s,SNR=38								
AML				⇑		S	**Sb**	**21 32 31.3**	**-0.9**
	315nm,0.3s								
ARLS	**Aral**	**0.80**	**73**	⇑	*i*	P	**Pg**	**21 32 26.0**	**+0.2**
	baz=72								
ARLS				⇑	*i*	S	**Sg**	**21 32 36.8**	**+0.7**
	baz=72								
MNAS	**Manas**	**1.04**	**325**	⇓	*i*	P	**Pg**	**21 32 30.4**	**-0.1**
	baz=27								
MNAS				⇓	*i*	S	**Sb**	**21 32 44.9**	**-0.4**
	baz=27								
UCH	**Uchtor**	**1.08**	**56**	⇓	*i*	P	**Pg**	**21 32 31.1**	**-0.2**
	baz=55								
UCH				⇓	*i*	S	**Sb**	**21 32 46.2**	**-0.5**
	baz=55								
UCH	**Uchtor**	**1.08**	**56**	⇓		P	**Pg**	**21 32 31.3**	**0.0**
	8.8nm,0.1s,SNR=30								
UCH				⇑		S	**Sb**	**21 32 46.7**	**0.0**
	41nm,0.2s								
EKS2	**Erkin-Say**	**1.09**	**19**	⇓	*i*	P	**Pb**	**21 32 31.4**	**-0.6**
	baz=19								
EKS2				⇓	*i*	S	**Sn**	**21 32 46.9**	**-1.4**
	baz=19								
EKS2	**Erkin-Say**	**1.09**	**19**	⇓		P	**Pb**	**21 32 31.5**	**-0.6**
	7.3nm,0.1s,SNR=37								
MRKS	**Merke**	**1.11**	**357**		*e*	P	**Pb**	**21 32 31.9**	**-0.6**
	20nm,0.2s								
MRKS					*e*	S	**Sn**	**21 32 47.3**	**-1.6**
	95nm,0.3s								
MRKS	**Merke**	**1.11**	**357**			P	**Pb**	**21 32 31.9**	**-0.6**
	20nm,0.2s								
MRKS						S	**Sn**	**21 32 47.3**	**-1.6**
	95nm,0.3s								
OHH	**Osh**	**1.18**	**200**	⇑	*i*	P	**Pb**	**21 32 32.3**	**-1.1**
	baz=0.0								
OHH				⇑	*i*	S	**Sb**	**21 32 48.0**	**-1.0**
	baz=0.0								
AAK	**Ala-Archa**	**1.34**	**41**	⇓	*i*	P	**Pb**	**21 32 36.1**	**-0.2**
	baz=40								
AAK				⇓	*i*	S	**Sg**	**21 32 54.4**	**+0.8**
	baz=40								
AAK	**Ala-Archa**	**1.34**	**41**	⇓		P	**Pb**	**21 32 36.1**	**-0.2**
	24nm,0.2s,SNR=26								
AAK					⇓	S	**Sg**	**21 32 54.3**	**+0.8**
	31nm,0.2s								
AAK	**Ala-Archa**	**1.34**	**41**	⇓		P	**Pb**	**21 32 36.2**	**-0.2**
	6.0nm,0.2s								
AAK					⇓	S	**Sg**	**21 32 54.0**	**+0.4**
	19nm,0.6s								
KZA	**Kyzart**	**1.52**	**72**	⇑	*i*	P	**Pb**	**21 32 38.9**	**-0.6**
	baz=71								
KZA				⇑	*i*	S	**Sg**	**21 32 59.3**	**-0.1**
	baz=71								
KZA	**Kyzart**	**1.52**	**72**	⇓		P	**Pb**	**21 32 39.2**	**-0.4**
	12nm,0.2s,SNR=20								
KZA					⇓	S	**Sg**	**21 32 59.6**	**+0.2**
	40nm,0.3s								
FRU1	**Bishkek**	**1.54**	**39**	⇓	*i*	P	**Pb**	**21 32 39.3**	**-0.3**
	baz=38								
FRU1				⇓	*i*	S	**Sg**	**21 33 00.1**	**+0.2**
	baz=38								
KBK	**Karagaybulak**	**1.59**	**49**	⇓	*i*	P	**Pb**	**21 32 40.5**	**-0.2**
	baz=49								
KBK				⇓	*i*	S	**Sg**	**21 33 01.7**	**-0.1**
	baz=49								
KBK	**Karagaybulak**	**1.59**	**49**	⇑		P	**Pg**	**21 32 41.1**	**-0.1**
	10nm,0.1s,SNR=26								
KBK				⇓		S	**Sg**	**21 33 02.7**	**+1.0**
	49nm,0.2s								
SFK	**Sufi-Kurgan**	**1.62**	**175**	⇓	*i*	P	**Pn**	**21 32 40.1**	**-0.1**
	baz=74								
SFK				⇓	*i*	S	**Sb**	**21 33 01.2**	**-0.9**
	baz=74								
CHMS	**Chumysh**	**1.74**	**38**	⇑	*i*	P	**Pb**	**21 32 42.9**	**-0.1**
	baz=37								
CHMS				⇑	*i*	S	**Sg**	**21 33 06.5**	**+0.2**
	baz=37								
CHMS	**Chumysh**	**1.74**	**38**	⇑		P	**Pb**	**21 32 43.3**	**+0.3**
	24nm,0.3s,SNR=17								
USP	**Ospenovka**	**1.86**	**28**	⇓	*i*	P	**Pb**	**21 32 45.0**	**-0.1**
	baz=28								
USP				⇓	*i*	S	**Sg**	**21 33 09.9**	**-0.3**
	baz=28								
USP	**Ospenovka**	**1.86**	**28**	⇑		P	**Pb**	**21 32 45.2**	**+0.2**
	24nm,0.2s,SNR=25								
USP				⇓		S	**Sg**	**21 33 11.0**	**+0.7**
	56nm,0.2s								
DZA	**Taraz**	**1.93**	**311**		*e*	P	**Pb**	**21 32 46.3**	**-0.1**
	31nm,0.2s								
DZA					*e*	S	**Sg**	**21 33 12.5**	**-0.1**
	199nm,0.3s								
DZA	**Taraz**	**1.93**	**311**			Pg	**Pb**	**21 32 46.3**	**-0.1**
	31nm,0.2s								
DZA						Lg	Lg	21 33 12.5	
	199nm,0.3s								
SGDS	**Sogindy**	**2.07**	**28**			Pg	**Pb**	**21 32 48.3**	**-0.4**
	14nm,0.3s								
SGDS						Lg	Lg	21 33 16.1	
	21nm,0.3s								
TKM2	**Tokmak 2**	**2.13**	**52**	⇑	*i*	P	**Pb**	**21 32 48.8**	**-1.1**
	baz=52								
TKM2				⇑	*i*	S	**Sb**	**21 33 16.3**	**-0.5**
	baz=52								
TKM2	**Tokmak 2**	**2.13**	**52**			P	**Pb**	**21 32 49.4**	**-0.5**
	7.2nm,0.1s,SNR=31								
TKM2	**Tokmak 2**	**2.13**	**52**	⇑		Pg	**Pb**	**21 32 49.3**	**-0.5**
	9.9nm,0.5s								
TKM2				⇑		Lg	Lg	21 33 19.3	
	38nm,0.6s								
BOOM	**Boomskoye usch**	**2.14**	**66**	⇓	*i*	P	**Pb**	**21 32 48.7**	**-1.3**
	baz=65								
BOOM				⇓	*i*	S	**Sb**	**21 33 16.5**	**-0.5**
	baz=65								
ULHL	**Ulahol**	**2.27**	**73**	⇓	*i*	P	**Pb**	**21 32 50.6**	**-1.7**
	baz=73								
ULHL				⇓	*i*	S	**Sb**	**21 33 19.5**	**-1.4**
	baz=73								
KST	**Kastek**	**2.42**	**54**		*e*	P	**Pb**	**21 32 54.7**	**-0.1**
	8.2nm,0.3s								
KST					*e*	S	**Sg**	**21 33 26.9**	**-1.4**
	22nm,0.6s								
KST	**Kastek**	**2.42**	**54**			Pg	**Pb**	**21 32 54.7**	**-0.1**
	8.2nm,0.3s								
KST						Lg	Lg	21 33 26.9	
	22nm,0.6s								
DGS	**Degeres**	**2.43**	**48**		*e*	P	**Pb**	**21 32 55.1**	**+0.1**
	6.8nm,0.4s								
DGS					*e*	S	**Sg**	**21 33 27.6**	**-1.1**
	38nm,0.6s								
DGS	**Degeres**	**2.43**	**48**			Pg	**Pb**	**21 32 55.1**	**+0.1**
	6.8nm,0.4s								
DGS						Lg	Lg	21 33 27.6	
	38nm,0.6s								
DRK	**Karamyk**	**2.44**	**209**	⇑	*i*	P	**Pn**	**21 32 52.5**	**+1.1**
	baz=9.0								
DRK				⇑	*i*	S	**Sn**	**21 33 22.3**	**+0.5**
	baz=9.0								
BTK	**Batken**	**2.46**	**231**	⇓	*i*	P	**Pn**	**21 32 52.4**	**+0.9**
	baz=31								
BTK				⇓	*i*	S	**Sn**	**21 33 22.5**	**+0.5**
	baz=31								
IUG	**Iuzhnay**	**2.50**	**283**		*e*	P	**Pb**	**21 32 56.9**	**+0.9**
	190nm,0.2s								
IUG					*e*	S	**Sg**	**21 33 30.4**	**-0.4**
	115nm,0.6s								
KK31	**Karatay Array**	**2.54**	**306**	⇑		Pg	**Pb**	**21 32 56.3**	**-0.4**
	2.1nm,0.3s,baz=134,slow=14,SNR=41								
KK31				⇓		Lg	Lg	21 33 29.7	
	10nm,0.3s,baz=126,slow=29,SNR=21								
KRBS	**Karabastau**	**2.70**	**39**		*e*	P	**Pb**	**21 32 59.9**	**+0.4**
	5.1nm,0.4s								
KRBS					*e*	S	**Sg**	**21 33 35.6**	**-1.8**
	12nm,0.5s								
KRBS	**Karabastau**	**2.70**	**39**			Pg	**Pb**	**21 32 59.9**	**+0.4**
	5.1nm,0.4s								
KRBS						Lg	Lg	21 33 35.6	
	12nm,0.5s								
MTBS	**Maitube**	**2.76**	**56**		*e*	P	**Pb**	**21 33 00.7**	**+0.3**
	4.6nm,0.3s								
MTBS					*e*	S	**Sg**	**21 33 37.3**	**-1.8**
	15nm,0.3s								
MTBS	**Maitube**	**2.76**	**56**			Pg	**Pb**	**21 33 00.7**	**+0.3**
	4.6nm,0.3s								
MTBS						Lg	Lg	21 33 37.3	
	15nm,0.3s								
CHM	**Chimkent**	**2.84**	**285**		*e*	P	**Pb**	**21 33 03.2**	**+1.3**
	3.3nm,0.2s								
CHM					*e*	S	**Sg**	**21 33 41.0**	**-0.9**
	117nm,0.4s								
TNSS	**Tian-Shan**	**3.04**	**61**		*e*	P	**Pb**	**21 33 06.4**	**+0.9**
	2.4nm,0.4s								
TNSS					*e*	S	**Sg**	**21 33 47.2**	**-1.2**
	8.4nm,0.5s								
TNSS	**Tian-Shan**	**3.04**	**61**			Pg	**Pb**	**21 33 06.4**	**+0.9**
	2.4nm,0.4s								
TNSS						Lg	Lg	21 33 47.2	
	8.4nm,0.5s								
MDOK	**Medeo**	**3.17**	**60**		*e*	P	**Pb**	**21 33 08.6**	**+1.2**
	3.5nm,0.3s								
MDOK					*e*	S	**Sg**	**21 33 50.8**	**-1.5**
	8.5nm,0.6s								
MDOK	**Medeo**	**3.17**	**60**			Pg	**Pg**	**21 33 10.4**	**-0.9**
	10nm,0.9s								
MDOK						Lg	Lg	21 33 52.0	
	6.5nm,0.6s								
MDOK	**Medeo**	**3.17**	**60**			Pg	**Pb**	**21 33 08.6**	**+1.2**
	3.5nm,0.3s								
MDOK						Lg	Lg	21 33 50.8	
	8.5nm,0.6s								
KUU	**Kurty**	**3.18**	**44**		*e*	P	**Pb**	**21 33 08.2**	**+0.7**
	3.1nm,0.6s								
KUU					*e*	S	**Sg**	**21 33 50.1**	**-2.4**
	28nm,0.5s								
KUU	**Kurty**	**3.18**	**44**			Pg	**Pb**	**21 33 08.2**	**+0.7**
	3.1nm,0.6s								
KUU						Lg	Lg	21 33 50.2	
	28nm,0.5s								
KTBS	**Karatobe**	**3.24**	**49**		*e*	P	**Pb**	**21 33 09.8**	**+1.1**
	2.5nm,0.3s								
KTBS					*e*	S	**Sg**	**21 33 52.6**	**-2.1**
	22nm,0.6s								
KTBS	**Karatobe**	**3.24**	**49**			Pg	**Pb**	**21 33 09.8**	**+1.1**
	2.5nm,0.3s								
KTBS						Lg	Lg	21 33 52.6	
	22nm,0.6s								
ANVS	**Anan'yevo**	**3.44**	**69**	⇓	*i*	P	**Pn**	**21 33 07.3**	**+2.2**
	baz=69								
ANVS				⇓	*i*	S	**Sn**	**21 33 48.0**	**+1.6**
	baz=69								
CHKK	**Chushkaly**	**3.51**	**49**		*e*	P	**Pb**	**21 33 14.3**	**+1.1**
	0.6nm,0.1s								
CHKK					*e*	S	**Sg**	**21 34 00.8**	**-2.3**
	15nm,0.5s								
CHKK	**Chushkaly**	**3.51**	**49**			Pg	**Pb**	**21 33 14.3**	**+1.1**
	0.6nm,0.1s								
CHKK						Lg	Lg	21 34 00.8	
	15nm,0.5s								
SATY	**Saty**	**4.04**	**68**		*e*	P	**Pb**	**21 33 24.8**	**+2.4**
	0.9nm,0.2s								
SATY					*e*	S	**Sg**	**21 34 18.4**	**-1.9**
	4.6nm,0.3s								
SATY	**Saty**	**4.04**	**68**			Pg	**Pb**	**21 33 24.8**	**+2.4**
	0.9nm,0.2s								
SATY						Lg	Lg	21 34 18.4	
	4.6nm,0.3s								
UZB	**Uzynbulak**	**4.50**	**68**		*e*	P	**Pb**	**21 33 32.1**	**+1.9**
	1.2nm,0.2s								
UZB					*e*	S	**Sg**	**21 34 31.1**	**-3.9**
	3.1nm,0.5s								
UZB	**Uzynbulak**	**4.50**	**68**			Pg	**Pb**	**21 33 32.1**	**+1.9**
	1.2nm,0.2s								
UZB						Lg	Lg	21 34 31.1	
	3.1nm,0.5s								
PDGK	**Podgornoye**	**4.88**	**68**	⇑		Pg	**Pb**	**21 33 40.2**	**+3.5**
	1.3nm,0.7s								
PDGK				⇓		Lg	Lg	21 34 46.6	
	2.3nm,0.5s								

*SOME **30** 21:38:04.6, 37°80N×72°22E, h0km*
*NNC **30** 21:38:05.6±4.9, 37°02N×70°70E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=40.0km s-min=27.7km az=166.0*

ISC 30 21:38:02.2±1.4, 36°47N±0°09×70°9E±0°1, h100km, n17, σ1§49/21, 4C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**5.70**	**354**		*e*	P	Pn	21 39 29.6	+5.1
	173nm,0.2s								
IUG					*e*	S	**Sn**	**21 40 29.1**	**+0.5**
	52nm,0.3s								
DZA	**Taraz**	**6.42**	**3**		*e*	P	Pn	21 39 39.6	+5.3
	11nm,0.5s								
DZA					*e*	S	**Sn**	**21 40 46.3**	**+0.3**
	84nm,0.5s								
MRKS	**Merke**	**6.53**	**16**		*e*	P	Pn	21 39 40.0	+4.3
	4.2nm,0.2s								
MRKS					*e*	S	**Sn**	**21 40 47.3**	**-1.5**
	23nm,0.5s								
KK31	**Karatay Array**	**6.63**	**358**	⇓		P	**Pn**	**21 39 39.2**	**+2.2**
	2.1nm,0.4s,baz=180,slow=13,SNR=36								
KK31				⇑		S	**Sn**	**21 40 49.6**	**-1.5**
	4.1nm,0.4s,baz=180,slow=23,SNR=14								
AAK	**Ala-Archa**	**6.77**	**23**	⇓		P	**Pn**	**21 39 40.8**	**+1.8**
	2.6nm,0.9s								
AAK				⇓		S	**Sn**	**21 40 53.6**	**-1.2**
	6.9nm,0.8s								
TKM2	**Tokmak 2**	**7.41**	**28**	⇓		P	**Pn**	**21 39 49.0**	**+1.3**
	2.8nm,0.7s								
TKM2				⇑		S	**Sn**	**21 41 09.2**	**-1.1**
	2.9nm,0.9s								
KST	**Kastek**	**7.65**	**29**		*e*	P	Pn	21 39 57.6	+6.5
	1.0nm,0.4s								
KST					*e*	S	**Sn**	**21 41 17.2**	**+1.0**
	3.2nm,0.6s								
PYUN	**Piuthan**	**13.22**	**126**		*e*	P	**Pn**	**21 41 05.7**	**-0.6**
	4.4nm,0.3s								
KOLN	**Koldanda**	**13.85**	**125**		*e*	P	**Pn**	**21 41 13.8**	**-0.5**
	4.1nm,0.3s								
GKN	**Gorkha**	**14.39**	**122**		*e*	P	**Pn**	**21 41 21.3**	**0.0**
	20nm,0.5s								
DMN	**Daman**	**14.96**	**122**		*e*	P	**Pn**	**21 41 28.1**	**-0.6**
KKN	**Kakani**	**14.97**	**121**		*e*	P	**Pn**	**21 41 27.5**	**-1.2**
AB31	**Akbulak array**	**15.05**	**331**	⇓		P	**Pn**	**21 41 28.8**	**-0.6**
	1.0nm,0.6s,baz=160,slow=9.5,SNR=19								
AB31				⇑		S	**Sn**	**21 44 11.8**	**-3.6**
	0.6nm,0.6s,baz=162,slow=21,SNR=4.0								
PKIN	**Phulchoki**	**15.18**	**122**		*e*	P	**Pn**	**21 41 30.4**	**-1.1**
PKI	**Pulchoki**	**15.19**	**122**		*e*	P	**Pn**	**21 41 30.6**	**-1.1**
	14nm,0.5s								
JIRN	**Jiri**	**15.68**	**120**		*e*	P	**Pn**	**21 41 36.6**	**-1.2**
	8.7nm,0.5s								
AKTO	**Aktyubinsk**	**16.75**	**330**	⇑		P	**P**	**21 41 52.6**	**+1.5**
	2.8nm,0.7s								

IDC 30 21:51:03.5±1.9, 7°08S×155°22E, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.7/30, mbtmp3.8/5, MS2.9/3, Ms1 2.9/3, ms1mx2.6/36, Error ellipse: s-maj=64.9km s-min=29.0km az=120.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.23**	**117**		LR		LR	21 54 35.3	
	comp=Z,104nm,20.3s,baz=205,slow=40								
WRA	**Warramunga Arr**	**23.95**	**236**		P		P	21 56 18.0	-1.6
	1.9nm,0.8s,baz=61,slow=10,SNR=9.9								
ASAR	**Alice Springs**	**26.28**	**229**		P		P	21 56 40.4	-0.5
	0.6nm,0.9s,baz=62,slow=9.0,SNR=5.5								
STKA	**Stephens Creek**	**27.75**	**205**		P		P	21 56 55.8	+1.8
	1.4nm,0.8s,baz=20,slow=12,SNR=3.5								
STKA					LR		LR	22 08 36.2	
	comp=Z,38nm,18.1s,baz=23,slow=38								
FITZ	**Fitzroy Crossi**	**30.82**	**246**		LR		LR	22 08 25.6	
	comp=Z,18nm,19.8s,baz=180,slow=34								
CMAR	**Chiang Mai Arr**	**61.02**	**296**		P		P	22 01 20.8	+1.4
	1.1nm,0.4s,baz=123,slow=8.0,SNR=1.7								
ILAR	**Eielson Array**	**83.37**	**21**		P		P	22 03 31.4	-0.8
	0.5nm,0.5s,baz=233,slow=5.6,SNR=4.3								

*AEIC **30** 21:54:50

SONM Songino Array 49.26 299 P **P** **22 03 36.8 +0.3**
comp=Z,0.5nm,0.5s,baz=41,slow=7.2,SNR=5.1
MK31 Makanchi Array 62.29 311 P **P** **22 05 09.2 -0.7**
MKAR Makanchi Array 62.29 311 P **P** **22 05 09.8 0.0**
comp=Z,0.3nm,0.4s,baz=38,slow=6.1,SNR=7.9
MKAR Makanchi Array 62.29 311 P **P** **22 05 09.6 -0.3**
ABKAR Akbulak array 69.65 326 P **P** **22 05 57.2 +0.2**
ABKAR Akbulak array 69.65 326 P **P** **22 05 57.5 +0.5**
ABKAR IAmb IAmb 22 06 04.0
comp=Z,1.8nm,1.2s
KKAR Karatay Array 70.50 315 P **P** **22 06 02.7 +0.3**
AKASG Malin Array Be 76.36 345 P **P** **22 06 36.2 -0.5**
comp=Z,0.6nm,0.4s,baz=19,slow=5.8,SNR=2.0

MEX 30 21:55:12.5±0.5, 14°88N×92°61W, h96km±8km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.34**	**85**	*eP*	Pn	21 55 25.6	-1.2
THIG				*eS*	Sn	21 55 35.5	-1.8
PCIG		**1.01**	**325**	*eP*	Pn	21 55 31.6	-1.1
PCIG				*eS*	Sn	21 55 46.2	-1.7
CMIG	**Matias Romero**	**3.10**	**316**	*eP*	Pn	21 55 59.4	-0.1
CMIG				*eS*	Sn	21 56 33.8	-2.0

IDC ***30*** *22:20:32.2±0.8, 38°72S×46°51E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.7/49, mbtmp3.9/8, MS3.4/3, Ms1 3.4/3, ms1mx3.0/25, Error ellipse: s-maj=33.2km s-min=19.5km az=33.0*
NEIC ***30*** *22:20:34.0±2.6, 38°92S±0°05×46°6E±0°2, h10km±1km, mb4.2/9, Error ellipse: s-maj=31.2km s-min=7.5km az=264.0*
ISC 30 22:20:34.8±0.7, 38°8S±0°1×46°5E±0°1, h18km, n25, σ1§03/21, mb4.1/7, MS3.1/3, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOI	**Vohitsoka**	**16.85**	**1**	Pn	**Pn**	**22 24 30.1**	**+0.2**
OPO	**Ambohidratompo**	**20.18**	**2**	P	**P**	**22 25 07.8**	**-0.7**
	1.5nm,0.8s,baz=286,slow=22,SNR=1.2						
BOSA	**Boshof**	**20.34**	**294**	P	**P**	**22 25 10.1**	**-0.2**
	2.9nm,0.8s,baz=111,slow=12,SNR=4.0						
BOSA				LR	LR	22 31 16.3	
	comp=Z,56nm,21.1s,baz=147,slow=32						
BOSA	**Boshof**	**20.34**	**294**	P	**P**	**22 25 09.7**	**-0.7**
BOSA				IAmb	IAmb	22 25 32.7	
	comp=Z,12nm,1.3s						
LBTB	**Lobatse**	**22.38**	**302**	P	**P**	**22 25 32.2**	**-0.1**
	comp=Z,3.7nm,0.8s,baz=136,slow=13,SNR=3.4						
LBTB				LR	LR	22 33 21.4	
	comp=Z,65nm,19.8s,baz=132,slow=34						
LBTB	**Lobatse**	**22.38**	**302**	P	**P**	**22 25 31.3**	**-1.0**
LBTB				IAmb	IAmb	22 25 36.4	
	comp=Z,8.5nm,1.0s						
SNAA	**Sanae**	**41.13**	**201**	P	**P**	**22 28 18.0**	**+0.5**
	comp=Z,1.0nm,0.9s,baz=68,slow=7.2,SNR=4.3						
SNAA	**Sanae**	**41.13**	**201**	P	**P**	**22 28 17.2**	**-0.2**
SNAA				IAmb	IAmb	22 28 32.9	
	comp=Z,6.2nm,1.5s						
QSPA	**South Pole Qui**	**51.39**	**180**	P	**P**	**22 29 37.9**	**-0.4**
QSPA				IAmb	IAmb	22 29 48.8	
	comp=Z,8.6nm,1.5s						
H01W2	**Cape Leeuwin H**	**53.14**	**108**	T	T	23 27 27.1	
	baz=244,slow=75,SNR=22						
H01W3	**Cape Leeuwin H**	**53.15**	**108**	T	T	23 27 20.4	
	baz=244,slow=75,SNR=22						
H01W1	**Cape Leeuwin H**	**53.16**	**108**	T	T	23 27 28.1	
	baz=244,slow=75,SNR=21						
TORD	**Torodi Ar. Bea**	**66.49**	**312**	P	**P**	**22 31 23.6**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=129,slow=6.0,SNR=6.9						
TORD	**Torodi Ar. Bea**	**66.49**	**312**	P	**P**	**22 31 23.9**	**+0.4**
TORD				IAmb	IAmb	22 31 25.1	
	comp=Z,3.3nm,1.1s						
ASAR	**Alice Springs**	**73.65**	**107**	P	**P**	**22 32 08.5**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=228,slow=6.1,SNR=14						
ASAR	**Alice Springs**	**73.65**	**107**	P	**P**	**22 32 07.7**	**+0.1**
STKA	**Stephens Creek**	**74.40**	**118**	P	**P**	**22 32 12.6**	**+0.9**
	comp=Z,2.2nm,0.7s,baz=206,slow=3.6,SNR=5.5						
STKA	**Stephens Creek**	**74.40**	**118**	P	**P**	**22 32 12.1**	**+0.3**
WRA	**Warramunga Arr**	**76.15**	**104**	P	**P**	**22 32 22.4**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=229,slow=5.1,SNR=6.7						
WR0	**Warramunga Arr**	**76.30**	**105**	P	**P**	**22 32 20.2**	**-2.6**
ELL	**Elmali**	**76.73**	**346**	P	**P**	**22 32 26.6**	**+1.7**
LVC	**Limon Verde**	**94.08**	**237**	LR	LR	23 09 36.4	
	comp=Z,62nm,18.9s,baz=210,slow=31						
PETK	**Petropavlovsk-**	**131.94**	**49**	PKP	**PKPdf**	**22 39 45.5**	**-0.8**
	comp=Z,3.8nm,0.9s,baz=289,slow=4.5,SNR=4.4						
ILAR	**Eielson Array**	**152.84**	**13**	PKPbc	**PKPbc**	**22 40 27.9**	**-1.7**
	comp=Z,1.0nm,0.9s,baz=338,slow=3.7,SNR=4.2						
TXAR	**Lajitas Array**	**153.64**	**258**	PKPbc	**PKiKP**	**22 40 33.7**	**+0.9**
	comp=Z,0.2nm,0.7s,baz=129,slow=5.0,SNR=3.6						

TEH ***30*** *22:26:36.5, 28°10N×53°73E, h9km, ML3.8*
NEIC ***30*** *22:26:37.2±1.9, 28°04N±0°05×53°70E±0°06, h10km±1km, Error ellipse: s-maj=9.0km s-min=8.0km az=44.0*
DSN ***30*** *22:26:39.7±1.5, 27°94N×53°69E, h10km, ML3.5/11, Error ellipse: s-maj=19.0km s-min=6.0km az=3.0*
IDC ***30*** *22:26:41.9±3.4, 28°04N×53°72E, h51km±33km, mb3.7/19, mb1 3.9/21, mb1mx3.7/55, mbtmp4.0/21, ML3.4/2, MS2.8/2, Ms1 2.8/2, ms1mx2.5/36, Error ellipse: s-maj=17.2km s-min=14.3km az=6.0*
OMAN ***30*** *22:26:42.2±0.6, 27°92N×53°79E, h156km±7km, mb4.9/5, ml3.7/12, Error ellipse: s-maj=17.3km s-min=10.1km az=354.0*
ISC 30 22:26:36.7±0.4, 28°05N±0°04×53°68E±0°04, h10km, n183, σ1§47/186, mb4.3/37, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHRM	**Jahrom**	**0.46**	**349**	Pg	**Pg**	**22 26 44.2**	**-1.6**
JHRM	**Jahrom**	**0.46**	**349**	*e*Pg	**Pg**	**22 26 44.2**	**-1.6**
JHRM				*e*		22 26 56.0	
	comp=Z,52μm,0.3s						
QIR1	**Qir**	**0.70**	**307**	*e*Pg	**Pg**	**22 26 50.0**	**-0.3**
QIR1				*e*		22 27 13.8	
	comp=Z,12μm,0.4s						
LAR1	**LAR**	**0.73**	**121**	Pg	**Pg**	**22 26 50.1**	**-0.7**
LAR1	**LAR**	**0.73**	**121**	*e*Pg	**Pg**	**22 26 50.2**	**-0.6**
LAR1				*e*		22 27 16.1	
	comp=Z,10μm,0.4s						
LMD1	**Lamerd**	**0.84**	**213**		**Pn**	**22 26 56.0**	**+1.3**
LMD1	**Lamerd**	**0.84**	**213**	*e*Pg	**Pn**	**22 26 56.0**	**+1.3**
LMD1				*e*		22 27 23.8	
	comp=Z,40μm,0.4s						
SHI	**Shiraz**	**1.89**	**328**	Pn	**Pn**	**22 27 10.5**	**+1.3**
SHI	**Shiraz**	**1.89**	**328**	*e*Pn	**Pn**	**22 27 10.5**	**+1.3**
SHI				*e*		22 27 22.8	
	comp=Z,5μm,0.5s						
AHBU	**AHRAM**	**2.25**	**292**	*e*Pn	**Pn**	**22 27 16.1**	**+2.1**
BNDS	**Bandar-Abbas**	**2.31**	**106**	Pn	**Pn**	**22 27 16.4**	**+1.5**
BNDS	**Bandar-Abbas**	**2.31**	**106**	*e*Pn	**Pn**	**22 27 16.5**	**+1.5**
GENO	**Geno**	**2.31**	**106**	*e*		22 25 00.3	
	comp=Z,4μm,1.0s						
GENO				*e*Pn	**Pn**	**22 27 16.6**	**+1.6**
KAZ1	**Kazerun**	**2.38**	**312**	Pn	**Pn**	**22 27 17.5**	**+1.6**
KAZ1	**Kazerun**	**2.38**	**312**	*e*Pn	**Pn**	**22 27 17.5**	**+1.6**
KAZ1				*e*		22 28 05.4	
	comp=Z,9μm,0.7s						
IBND	**Bandar-abas**	**2.61**	**103**	*e*Pn	**Pn**	**22 27 21.4**	**+2.5**
IBND				*e*		22 28 19.2	
	comp=Z,6μm,0.4s						
SHME	**Shamm**	**2.97**	**132**	P	**Pn**	**22 27 26.0**	**+2.1**
SHME	**Shamm**	**2.97**	**132**	*e*Pn	**Pn**	**22 27 24.1**	**+0.2**
NGRK	**Negar Kerman**	**3.11**	**59**	*e*Pn	**Pn**	**22 27 26.7**	**+0.4**
NGRK				*e*		22 28 17.4	
	comp=Z,1μm,0.4s						
BANOM	**Banah**	**3.16**	**132**	*i* P	**Pn**	**22 27 27.8**	**+1.3**
	SNR=16						
BANOM				S	**Sn**	**22 28 05.8**	**+1.5**
BANOM	**Banah**	**3.16**	**132**	*e*Pn	**Pn**	**22 27 27.3**	**+0.8**
BANOM	**Banah**	**3.16**	**132**	P	**Pn**	**22 27 28.4**	**+1.9**
	SNR=16						
KRBR	**Kerman**	**3.32**	**54**	*e*Pn	**Pn**	**22 27 30.5**	**+1.5**
TVBK	**TV Kerman**	**3.32**	**54**	*e*Pn	**Pn**	**22 27 30.4**	**+1.3**
TVBK				*e*		22 27 40.1	
	comp=Z,4μm,0.6s						
KHGB	**Koh Gabri**	**3.37**	**46**	*e*Pn	**Pn**	**22 27 30.9**	**+1.2**
KHGB				*e*		22 28 32.1	
	comp=Z,1μm,0.8s						

IMEH	**Mehriz**	**3.43**	**14**	*e*Pn	**Pn**	**22 27 32.6**	**+2.2**
KLNJ	**Kolanjah**	**3.46**	**329**	*e*Pn	**Pn**	**22 27 32.2**	**+1.2**
MASF	**Masafi**	**3.47**	**140**	P	**Pn**	**22 27 33.2**	**+2.3**
MSFE	**Esma-Masafi**	**3.48**	**140**	P	**Pn**	**22 27 32.5**	**+1.5**
MSFE	**Esma-Masafi**	**3.48**	**140**	*e*Pn	**Pn**	**22 27 32.1**	**+1.1**
NAZ	**Nazwa, Dubai**	**3.53**	**149**	P	**Pn**	**22 27 33.9**	**+2.3**
NAZ	**Nazwa, Dubai**	**3.53**	**149**	*e*Pn	**Pn**	**22 27 33.6**	**+1.9**
KHNJ	**Kahnooj**	**3.56**	**91**	*e*Pn	**Pn**	**22 27 33.4**	**+1.3**
MDH	**Madha**	**3.61**	**139**	*e*Pn	**Pn**	**22 27 33.3**	**+0.6**
FAQ	**Al Faqa, Dubai**	**3.71**	**152**	*i* P	**Pn**	**22 27 36.6**	**+2.5**
	SNR=11						
FAQ	**Al Faqa, Dubai**	**3.71**	**152**	*e*Pn	**Pn**	**22 27 36.8**	**+2.6**
FAQ	**Al Faqa, Dubai**	**3.71**	**152**	S	**Sn**	**22 28 20.5**	**+2.5**
ASUD	**Al Ashush, Dub**	**3.72**	**156**	*i* P	**Pn**	**22 27 37.2**	**+3.0**
	SNR=24						
ASUD	**Al Ashush, Dub**	**3.72**	**156**	*e*Pn	**Pn**	**22 27 37.1**	**+2.9**
UOSS	**Minazif**	**3.83**	**143**	P	**Pn**	**22 27 37.2**	**+1.4**
UOSS	**Minazif**	**3.83**	**143**	Pn	**Pn**	**22 27 36.9**	**+1.1**
UOSS	**Minazif**	**3.83**	**143**	*e*Pn	**Pn**	**22 27 37.4**	**+1.6**
UOSS	**Minazif**	**3.83**	**143**	P	**Pn**	**22 27 38.0**	**+2.2**
CHMN	**Cheshme madani**	**3.84**	**61**	*e*Pn	**Pn**	**22 27 38.1**	**+1.9**
ISAD	**Sadrabad**	**3.85**	**0**	*e*Pn	**Pn**	**22 27 38.1**	**+1.8**
HATD	**Hatta, Dubai**	**3.89**	**145**	P	**Pn**	**22 27 38.2**	**+1.6**
HATD	**Hatta, Dubai**	**3.89**	**145**	*e*Pn	**Pn**	**22 27 38.3**	**+1.6**
IRAM	**Ramesheh**	**3.91**	**344**	*e*Pn	**Pn**	**22 27 38.6**	**+1.5**
ASHO	**Ashiyiah**	**3.98**	**147**	*i* P	**Pn**	**22 27 39.6**	**+1.8**
	SNR=9.9						
ASHO	**Ashiyiah**	**3.98**	**147**	*e*Pn	**Pn**	**22 27 39.7**	**+1.8**
ICHK	**Chekchek**	**4.23**	**8**	*e*Pn	**Pn**	**22 27 43.3**	**+1.9**
MZWR	**Madinat Zayed**	**4.28**	**177**	*e*Pn	**Pn**	**22 27 44.1**	**+2.2**
MZWR	**Madinat Zayed**	**4.28**	**177**	P	**Pn**	**22 27 44.5**	**+2.6**
MZWR				S	**Sn**	**22 28 33.4**	**+1.6**
KBAM	**BAM**	**4.34**	**74**	*e*Pn	**Pn**	**22 27 44.2**	**+1.4**
KBAM				*e*		22 27 59.2	
	comp=Z,589nm,0.6s						
SLWR	**Sila**	**4.35**	**205**	*e*Pn	**Pn**	**22 27 45.8**	**+2.9**
ALNE	**Al Ain**	**4.39**	**154**	*i* P	**Pn**	**22 27 45.7**	**+2.1**
	SNR=5.7						
ALNE	**Al Ain**	**4.39**	**154**	*e*Pn	**Pn**	**22 27 45.8**	**+2.3**
YZKH	**Yazd**	**4.40**	**10**	*e*Pn	**Pn**	**22 27 45.7**	**+2.1**
IGAR	**Gharneh**	**4.56**	**342**	*e*Pn	**Pn**	**22 27 47.6**	**+1.6**
SOHO	**SOHO**	**4.67**	**146**	*e*Pn	**Pn**	**22 27 47.8**	**+0.5**
NASN	**Na'in**	**4.79**	**351**	*e*Pn	**Pn**	**22 27 50.8**	**+1.5**
SHK1	**Shahrekord**	**4.90**	**331**	*e*Pn	**Pn**	**22 27 51.0**	**+0.3**
IZEF	**Zefreh**	**4.97**	**347**	*e*Pn	**Pn**	**22 27 52.5**	**+0.9**
QRN	**Al-Qurain**	**5.12**	**279**	*e*P	**Pn**	**22 27 54.9**	**+1.5**
ANAR	**Anarak**	**5.12**	**0**	*e*Pn	**Pn**	**22 27 54.9**	**+1.3**
IPIR	**Pirpir**	**5.21**	**333**	*e*Pn	**Pn**	**22 27 56.2**	**+1.2**
AMIS	**Naft Sefid**	**5.24**	**314**	*e*Pn	**Pn**	**22 27 54.6**	**-0.6**
UMZA	**Um Al Zommool**	**5.48**	**165**	*e*Pn	**Pn**	**22 28 00.5**	**+2.1**
UMZA	**Um Al Zommool**	**5.48**	**165**	P	**Pn**	**22 28 00.6**	**+2.1**
IKLH	**Kolahrood**	**5.55**	**342**	*e*Pn	**Pn**	**22 28 01.1**	**+1.4**
TPRV	**Parvadeh(Tabas**	**5.60**	**27**	*e*Pn	**Pn**	**22 28 01.2**	**+1.0**
MIB	**Mutribah**	**5.82**	**289**	*e*P	**Pn**	**22 28 04.2**	**+1.1**
QAMS	**Qamsar**	**6.00**	**341**	*e*Pn	**Pn**	**22 28 07.2**	**+1.4**
RST	**Umm Al-Ruwaisa**	**6.04**	**285**	*e*P	**Pn**	**22 28 07.9**	**+1.8**
KRSH	**Karshahi**	**6.05**	**348**	*e*Pn	**Pn**	**22 28 07.4**	**+1.0**
BSRN	**Basiran**	**6.13**	**49**	*e*Pn	**Pn**	**22 28 08.5**	**+1.0**
TKDS	**Koohdasht(Taba**	**6.29**	**27**	*e*Pn	**Pn**	**22 28 10.4**	**+0.8**
TABS	**Tabas**	**6.32**	**27**	*e*Pn	**Pn**	**22 28 11.1**	**+1.1**
ISFB	**Sefidab**	**6.40**	**349**	*e*Pn	**Pn**	**22 28 11.8**	**+0.6**
TNSJ	**Nastanj**	**6.41**	**22**	*e*Pn	**Pn**	**22 28 12.0**	**+0.7**
KHMZ	**Khomeyn**	**6.51**	**332**	*e*Pn	**Pn**	**22 28 14.0**	**+1.2**
WSAR	**Wadi Sarin**	**6.55**	**136**	P	**Pn**	**22 28 14.2**	**+1.0**
	comp=Z,1.4nm,0.3s,baz=323,slow=4.2,SNR=25						
WSAR				S	**Sn**	**22 29 25.7**	**-2.3**
	comp=Z,1.3nm,0.3s,baz=333,slow=23,SNR=8.8						
WSAR				LR	LR	22 30 38.1	
	comp=Z,54nm,20.8s,baz=346,slow=36						
GHVR	**GHOM**	**6.72**	**343**	*e*Pn	**Pn**	**22 28 17.4**	**+1.8**
BMDN	**Meydan**	**6.98**	**325**	*e*Pn	**Pn**	**22 28 19.4**	**+0.1**
AFRZ	**Afriz**	**7.06**	**39**	*e*Pn	**Pn**	**22 28 22.3**	**+2.1**
IVRN	**Varamin**	**7.12**	**347**	*e*Pn	**Pn**	**22 28 22.1**	**+1.1**
IQOM	**Qom**	**7.13**	**342**	*e*Pn	**Pn**	**22 28 22.3**	**+1.0**
ASAO	**Ashtian**	**7.19**	**335**	*e*Pn	**Pn**	**22 28 24.2**	**+2.0**
NGCH	**Negor - Chabah**	**7.19**	**110**	*e*Pn	**Pn**	**22 28 22.1**	**+0.2**
IKFM	**Kafar-mosalman**	**7.41**	**319**	*e*Pn	**Pn**	**22 28 27.3**	**+2.4**
IDOB	**Doab**	**7.42**	**322**	*e*Pn	**Pn**	**22 28 26.2**	**+1.0**
HSAM	**Samen**	**7.52**	**326**	*e*Pn	**Pn**	**22 28 27.3**	**+0.5**
IHSB	**Hasanabad**	**7.64**	**345**	*e*Pn	**Pn**	**22 28 29.2**	**+1.0**
SRVN	**Saravan**	**7.76**	**93**	*e*Pn	**Pn**	**22 28 31.1**	**+1.2**
HAGD	**Aghdareh**	**7.78**	**331**	*e*Pn	**Pn**	**22 28 30.0**	**-0.3**
IRAZ	**Razeghan**	**8.00**	**337**	*e*Pn	**Pn**	**22 28 33.5**	**+0.3**
IBZA	**Bozab**	**8.11**	**324**	*e*Pn	**Pn**	**22 28 34.1**	**-0.6**
CHTH	**Charan**	**8.13**	**345**	*e*Pn	**Pn**	**22 28 36.0**	**+1.0**
IALM	**Almaboluq**	**8.26**	**327**	*e*Pn	**Pn**	**22 28 36.9**	**+0.1**
QABG	**Abgarm-Qazvin**	**8.39**	**337**	*e*Pn	**Pn**	**22 28 40.4**	**+1.8**
IGLO	**Ghaloghah**	**8.43**	**1**	*e*Pn	**Pn**	**22 28 39.4**	**+0.3**
QALM	**Alamut, Qazvin**	**8.74**	**344**	*e*Pn	**Pn**	**22 28 45.0**	**+1.6**
IDHR	**Dehrash**	**9.09**	**319**	*e*Pn	**Pn**	**22 28 47.9**	**-0.3**
QSDN	**Sirdan**	**9.25**	**337**	*e*Pn	**Pn**	**22 28 52.4**	**+2.0**
GNI	**Garni**	**14.14**	**331**	P	**P**	**22 30 03.0**	**-1.9**
	comp=Z,0.6nm,0.3s,baz=221,slow=4.2,SNR=10						
GNI	**Garni**	**14.14**	**331**		**P**	**22 30 05.7**	**+0.7**
ASF	**Jabal al Asfar**	**15.09**	**290**	P	**Pn**	**22 30 09.4**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=332,slow=14,SNR=1.8						
SOCY	**Socotra**	**15.79**	**179**	Pn	**Pn**	**22 30 14.7**	**-4.6**
SOCY				IAmb	IAmb	22 30 25.4	
	comp=Z,36nm,1.4s						
GAZ	**Gaziantep**	**16.57**	**307**	P	**Pn**	**22 30 31.1**	**+1.9**
GAZ				IAmb	IAmb	22 30 36.6	
	comp=Z,8.0nm,0.8s						
CHGR	**Chuyangaron**	**16.68**	**47**		**P**	**22 30 32.9**	**-0.2**
ONI	**Oni**	**16.71**	**333**		**P**	**22 30 34.5**	**+1.2**
GAR	**Garm**	**17.63**	**47**	P	**Pn**	**22 30 42.6**	**0.0**
NIL	**Nilore**	**17.70**	**67**	P	**Pn**	**22 30 43.4**	**-0.1**
NIL				IAmb	IAmb	22 30 50.9	
	comp=Z,7.3nm,0.8s						
KBZ	**Khabaz**	**17.89**	**334**	P	**P**	**22 30 48.1**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=147,slow=7.3,SNR=3.8						
CSS	**Mathiatis**	**18.65**	**297**	P	**P**	**22 30 55.3**	**+0.6**
CSS				IAmb	IAmb	22 31 05.3	
	comp=Z,7.1nm,0.9s						
BR131	**Keskin Array S**	**20.25**	**310**	P	**P**	**22 31 13.1**	**+0.6**
BR131				IAmb	IAmb	22 31 19.1	
	comp=Z,6.2nm,0.7s						
BRTR	**Keskin Array B**	**20.25**	**310**	P	**P**	**22 31 13.7**	**+1.2**
	comp=Z,3.5nm,0.6s,baz=131,slow=14,SNR=13						
BRTR	**Keskin Array B**	**20.25**	**310**	P	**P**	**22 31 13.0**	**+0.6**
KKAR	**Karatay Array**	**20.27**	**38**	P	**P**	**22 31 12.8**	**+0.5**
KKAR	**Karatay Array**	**20.27**	**38**	P	**P**	**22 31 12.1**	**-0.3**
KKAR				IAmb	IAmb	22 31 20.5	
	comp=Z,5.0nm,1.1s						
ABKAR	**Akbulak array**	**21.72**	**11**	P	**P**	**22 31 27.4**	**-0.5**
ABKAR				IAmb	IAmb	22 31 35.2	
	comp=Z,5.5nm,1.1s						
ABKAR	**Akbulak array**	**21.72**	**11**	P	**P**	**22 31 28.5**	**+0.6**
KSH	**Kashi**	**21.72**	**52**	P	**P**	**22 31 22.0**	**-6.2**
KSH				pP	pP	22 31 27.3	-4.0
ELL	**Elmali**	**21.82**	**299**	P	**P**	**22 31 29.8**	**+0.5**
AAK	**Ala-Archa**	**22.28**	**44**	P	**P**	**22 31 35.8**	**+1.6**
	comp=Z,1.0nm,0.5s,baz=228,slow=3.6,SNR=4.6						
AAK	**Ala-Archa**	**22.28**	**44**	P	**P**	**22 31 34.7**	**+0.4**
AKTO	**Aktyubinsk**	**22.60**	**7**	P	**P**	**22 31 37.8**	**+0.5**
	comp=Z,1.8nm,0.5s,baz=185,slow=12,SNR=6.4						
BOOM	**Boomskoye usch**	**23.10**	**46**	P	**P**	**22 31 42.1**	**-0.8**
BELG	**Belogornoye**	**24.73**	**351**	P	**P**	**22 31 58.0**	**-0.1**
	comp=Z,8.2nm,0.8s,baz=135,slow=14,SNR=2.3						
BVAR	**Borovoye Array**	**27.85**	**22**	P	**P**	**22 32 26.7**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=235,slow=43,SNR=3.3						
MLR	**Muntele Rosu**	**28.02**	**316**	P	**P**	**22 32 29.6**	**+1.6**
	comp=Z,2.2nm,0.5s,baz=144,slow=19,SNR=2.6						
MLR	**Muntele Rosu**	**28.02**	**316**	P	**P**	**22 32 29.8**	**+1.7**
MLR				IAmb	IAmb	22 32 33.0	
	comp=Z,10nm,1.2s						
AGG	**Agios Georgios**	**28.20**	**301**	P	**P**	**22 32 31.7**	**+2.1**
MAKZ	**Makanchi**	**29.01**	**42**	P	**P**	**22 32 36.9**	**+0.1**
MAKZ				IAmb	IAmb	22 32 47.0	
	comp=Z,9.4nm,1.2s						
MK31	**Makanchi Array**	**29.19**	**42**	P	**P**	**22 32 37.9**	**-0.5**
MK31				IAmb	IAmb	22 33 00.3	
	comp=Z,3.7nm,1.2s						
MKAR	**Makanchi Array**	**29.19**	**42**	P	**P**	**22 32 38.6**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=240,slow=8.6,SNR=12						
MKAR	**Makanchi Array**	**29.19**	**42**	P	**P**	**22 32 38.0**	**-0.3**
AKASG	**Malin Array Be**	**29.23**	**327**	P	**P**	**22 32 39.5**	**+0.9**
	comp=Z,0.2nm,0.2s,baz=130,slow=8.6,SNR=1.9						
KURBB	**Kurchatov Arra**	**29.37**	**33**	P	**P**	**22 32 39.7**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=234,slow=8.9,SNR=5.6						
KURK	**Kurchatov**	**29.48**	**33**	P	**P**	**22 32 39.7**	**-1.1**
BURAR	**Bucovina Array**	**29.52**	**319**	P	**P**	**22 32 41.6**	**+0.2**
BUR08	**Bucovina Ar. S**	**29.54**	**319**	P	**P**	**22 32 41.8**	**+0.3**
BUR08				IAmb	IAmb	22 33 04.5	
	comp=Z,7.1nm,1.4s						
WMQ	**Urumqi**	**31.46**	**51**	*e*P	**P**	**22 33 01.3**	**+2.8**
WMQ				LR	LR		
	comp=N,290nm,29.2s						
WMQ				LR	LR		
	comp=E,640nm,29.0s						
WMQ				LR	LR		
	comp=Z,100nm,29.2s						
KOLS	**Kolonicke sedl**	**31.88**	**319**	*e*P	**P**	**22 33 03.4**	**+1.3**
CRVS	**Cervenica-Dubn**	**32.34**	**319**	*e*P	**P**	**22 33 09.2**	**+3.1**
TIP	**Timpagrande**	**32.48**	**300**	P	**P**	**22 33 08.4**	**+0.9**
PSZ	**Piszkesteto**	**32.83**	**316**	P	**P**	**22 33 10.9**	**+0.4**
PSZ				IAmb	IAmb	22 33 14.3	
	comp=Z,7.0nm,1.3s						
LANS	**Liptovska Anna**	**33.62**	**318**	*e*P	**P**	**22 33 18.6**	**+1.3**
ZAA0	**Zalesovo Array**	**34.47**	**33**	P	**P**	**22 33 24.1**	**-0.4**
ZAA0				IAmb	IAmb	22 33 27.0	
	comp=Z,5.0nm,1.1s						
ZALV	**Zalesovo Beam**	**34.47**	**33**	P	**P**	**22 33 24.4**	**-0.1**
	comp=Z,2.8nm,0.4s,baz=242,slow=9.1,SNR=14						
ZALV				LR	LR	22 48 10.3	
	comp=Z,30nm,21.5s,baz=354,slow=37						
ZALV	**Zalesovo Beam**	**34.47**	**33**	P	**P**	**22 33 24.2**	**-0.3**
NRCA	**Norcia**	**35.82**	**305**	P	**P**	**22 33 37.2**	**+0.7**
GERES	**GERESS Array B**	**37.00**	**315**	P	**P**	**22 33 46.3**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=101,slow=7.1,SNR=6.4						
GERES	**GERESS Array B**	**37.00**	**315**	P	**P**	**22 33 45.8**	**-0.7**
KHC	**Kasperske Hory**	**37.17**	**316**	*e*P	**P**	**22 33 47.5**	**-0.4**
WTTA	**Wattenberg**	**37.85**	**312**	*e*P	**P**	**22 33 53.6**	**-0.2**
	comp=Z,3.4nm,0.5s						
WATA	**Walderalm**	**37.91**	**312**	*e*P	**P**	**22 33 54.1**	**-0.2**
	comp=Z,3.5nm,0.4s						
SQTA	**Sankt Quirin**	**38.12**	**312**	*e*P	**P**	**22 33 56.0**	**-0.1**
	comp=Z,4.9nm,0.3s						
FIA1	**FINESS Array S**	**38.13**	**339**	P	**P**	**22 33 55.2**	**-0.5**
FIA1				IAmb	IAmb	22 33 58.2	
	comp=Z,12nm,1.1s						
FINES	**FINESS Array B**	**38.13**	**339**	P	**P**	**22 33 55.6**	**-0.1**
	comp=Z,2.4nm,0.3s,baz=148,slow=9.1,SNR=17						
FINES	**FINESS Array B**	**38.13**	**339**	P	**P**	**22 33 55.5**	**-0.2**
MOTA	**Moosalm**	**38.22**	**312**	*e*P	**P**	**22 33 56.2**	**-0.7**
	comp=Z,2.3nm,0.4s						
FETA	**Feichten**	**38.39**	**311**	*e*P	**P**	**22 33 58.4**	**+0.1**
	comp=Z,2.1nm,0.4s						
RETA	**Reutte**	**38.48**	**312**	*e*P	**P**	**22 33 58.6**	**-0.4**
	comp=Z,2.4nm,0.5s						
DAVA	**Damuels**	**39.02**	**312**	*e*P	**P**	**22 34 03.3

VA01	Torpederas	2.29	183	*i*	P		Pn	23 00 21.0	+0.1
AUSP	Uspallata	2.35	130	*i*	P		Pn	23 00 24.0	+2.0
PEL	Peldehue	2.51	164	*eP*			Pn	23 00 25.0	+1.0
PEL				*i*	S		Sn	23 00 54.8	+1.5
PEL					IAML			23 01 07.3	
	comp=E,4µm,0.3s								
AC04	Llanos de Chal	2.55	9⇑	*eP*			Pn	23 00 25.5	+1.0
AC04					IAML			23 01 06.2	
	comp=N,1µm,0.6s								
AC04	Llanos de Chal	2.55	9	Pn			Pn	23 00 25.4	+0.9
AC04	Llanos de Chal	2.55	9	*i*	P		Pn	23 00 25.0	+0.5
ZON	Zonda	2.56	109	Pn			Pn	23 00 27.1	+2.4
ZON	Zonda	2.56	109	*i*	P		Pn	23 00 27.0	+2.2
MT05	Renca	2.73	166		IAML			23 01 13.2	
	comp=E,5µm,0.5s								
MT05	Renca	2.73	166	Pn			Pn	23 00 28.0	+0.8
MT05	Renca	2.73	166	*i*	P		Pn	23 00 28.0	+0.8
RTCV	Cerro Valdivia	2.78	115	*i*	P		Pn	23 00 30.0	+2.2
AGUA	GUANDACOL	2.90	65	*i*	P		Pn	23 00 33.0	+3.6
VA05	Santo Domingo	2.92	182		IAML			23 01 16.3	
	comp=E,3µm,0.4s								
VA05	Santo Domingo	2.92	182				Pn	23 00 29.2	-0.4
ASAL	Salagasta	2.94	130	*i*	P		Pn	23 00 33.0	+3.0
ARCO	CERRO ARCO	3.04	134	*i*	P		Pn	23 00 35.0	+3.5
MT09	Talagante	3.07	172		IAML			23 01 24.0	
	comp=N,2µm,0.4s								
MT09	Talagante	3.07	172				Pn	23 00 32.6	+0.8
MT01	Popeta	3.13	176	*eP*			Pn	23 00 32.7	+0.1
MT01					IAML			23 01 22.4	
	comp=E,1µm,0.2s								
MT01	Popeta	3.13	176				Pn	23 00 32.6	+0.1
MT01	Popeta	3.13	176	*i*	P		Pn	23 00 33.0	+0.4
AAGR	Agrelo	3.27	137	*i*	P		Pn	23 00 38.0	+3.4
LMEL	Las Melosas	3.30	161⇑	*i*	P		Pn	23 00 36.7	+1.7
LMEL					IAML			23 01 22.8	
	comp=N,1µm,0.3s								
GO03	Copiap	3.32	20⇓	*eP*			Pn	23 00 36.0	+0.8
GO03					IAML			23 01 28.9	
	comp=N,1µm,0.3s								
GO03	Copiap	3.32	20	Pn			Pn	23 00 36.5	+1.3
GO03	Copiap	3.32	20	*i*	P		Pn	23 00 37.0	+1.8
VCA	Vinchina	3.50	56	*i*	P		Pn	23 00 42.0	+4.3
BO01	Tunca	3.67	174				Pn	23 00 39.9	-0.1
BO01	Tunca	3.67	174	*i*	P		Pn	23 00 40.0	+0.1
BO02	Sierra Bellavi	4.10	172				Pn	23 00 46.2	+0.3
BO02	Sierra Bellavi	4.10	172	*i*	P		Pn	23 00 46.0	+0.1
ACLC	CERRO LA CRUZ	4.16	73	*i*	P		Pn	23 00 49.0	+2.1
GO05	Huala	4.28	185	*eP*			Pn	23 00 47.1	-1.3
GO05	Huala	4.28	185	Pn			Pn	23 00 47.3	-1.1
GO05	Huala	4.28	185	*i*	P		Pn	23 00 47.0	-1.3
APLL	PUNTA DE LOS L	4.31	87	*i*	P		Pn	23 00 50.0	+1.2
AC02	Maricunga	4.41	29	Pn			Pn	23 00 52.3	+1.8
AC02	Maricunga	4.41	29	*i*	P		Pn	23 00 52.0	+1.4
COIS	El Sosneado	4.65	160	*i*	P		Pn	23 00 56.0	+2.5
RFA	San Rafael	4.78	148	*i*	P		Pn	23 00 56.0	+0.8
ML02	Panimavida	5.02	179⇑	*eP*			Pn	23 00 57.6	-0.9
ML02	Panimavida	5.02	179	Pn			Pn	23 00 57.9	-0.6
MRA	San Martin	5.22	110	*i*	P		Pn	23 01 01.0	-0.4
PB14	IPOC Station P	6.16	9	Pn			Pn	23 01 12.9	-1.6
PB14	IPOC Station P	6.16	9	*i*	P		Pn	23 01 13.0	-1.5
AHML	Horco Molle	6.70	56	*i*	P		Pn	23 01 22.0	+0.4
FSA	Cafayete	6.70	48	*i*	P		Pn	23 01 24.0	+2.2
H03N1	Juan Fernandez	6.84	245		T		T	23 08 14.0	
	baz=72,slow=72,SNR=1273								
VA04	Juan Fernndez	6.85	243	*eP*			Pn	23 01 22.5	-1.0
VA04	Juan Fernndez	6.85	243	Pn			Pn	23 01 22.6	-1.0
H03N3	Juan Fernandez	6.85	245		T		T	23 08 15.0	
	baz=72,slow=72,SNR=1296								
H03N2	Juan Fernandez	6.85	245		T		T	23 08 16.2	
	baz=72,slow=72,SNR=1406								
H03S3	Juan Fernandez	6.98	242		T		T	23 08 32.8	
	baz=83,slow=75,SNR=3.1								
H03S1	Juan Fernandez	6.99	242		T		T	23 08 31.4	
	baz=83,slow=75,SNR=4.3								
H03S2	Juan Fernandez	7.00	242		T		T	23 08 25.3	
	baz=83,slow=75,SNR=4.4								
PB10	IPOC Station P	7.24	7	*i*	P		Pn	23 01 27.0	-2.0
PB15	IPOC Station P	7.71	14	Pn			Pn	23 01 34.7	-0.9
PB15	IPOC Station P	7.71	14	*i*	P		Pn	23 01 35.0	-0.6
LC01	Cunco	8.15	182	Pn			Pn	23 01 40.0	-1.5
LC01	Cunco	8.15	182	*i*	P		Pn	23 01 40.0	-1.5
LVC	Limon Verde	8.42	17	Pn			Pn	23 01 43.3	-2.2
	comp=N,1.0nm,0.3s,baz=155,slow=8.6,SNR=11								
LVC					Sn		Sn	23 03 30.7	+11
	comp=N,3.0nm,0.3s,baz=74,slow=11,SNR=5.1								
LVC	Limon Verde	8.42	17	Pn			Pn	23 01 43.1	-2.3
PB07	IPOC Station P	9.09	10	Pn			Pn	23 01 53.0	-1.5
PB09	IPOC Station P	9.13	13	*i*	P		Pn	23 01 54.0	-1.0
PLCA	Paso Flores	10.01	176	Pn			Pn	23 02 06.0	-1.0
	comp=N,0.3nm,0.3s,baz=310,slow=9.1,SNR=3.2								
PLCA	Paso Flores	10.01	176				Pn	23 02 06.1	-0.9
PLCA	Paso Flores	10.01	176	*eP*			Pn	23 02 16.2	+9.3
LL04	Puerto Octay	10.18	184	Pn			Pn	23 02 07.1	-2.1
TRQA	Tornquist	10.74	135				Pn	23 02 16.0	-0.8
CPUP	Villa Florida	13.21	74	Pn			Pn	23 02 49.1	-1.7
	comp=N,0.2nm,0.3s,baz=76,slow=19,SNR=3.0								
CPUP	Villa Florida	13.21	74				Pn	23 02 48.1	-2.6
CPUP	Villa Florida	13.21	74	*eP*			Pn	23 02 48.8	-1.9
LPAZ	La Paz	14.71	13	Pn			Pn	23 03 11.9	+0.3
	comp=N,0.2nm,0.3s,baz=190,slow=8.3,SNR=11								
LPAZ	La Paz	14.71	13	Pn			Pn	23 03 11.7	+0.1
LPAZ	La Paz	14.71	13	*eP*			Pn	23 03 11.7	+0.1
PLTB	Pedras Altas	15.36	98	Pn			Pn	23 03 16.7	-2.8
PLTB	Pedras Altas	15.36	98	*eP*			Pn	23 03 16.9	-2.6
CPSB	Cacapava Do Su	15.57	93	*eP*			Pn	23 03 19.8	-2.5
SIV	San Ignacio	17.51	35	P			P	23 03 46.8	-0.6
	comp=N,0.4nm,0.3s,baz=217,slow=10,SNR=14								
CNLB	Canela	17.95	91	*eP*			P	23 03 51.5	-0.9
PTGB	Pitanga	18.22	76	*eP*			P	23 03 54.0	-1.4
TRCB	Terra Rica	18.60	69	*eP*			Pn	23 03 58.6	-1.5
PTLB	Pontes e Lacer	18.97	39	*eP*			Pn	23 04 03.5	-1.0
TER01	Tubaro-SC	19.58	89	*eP*			Pn	23 04 09.9	-1.9
PP1B	Ponte de Pedra	20.00	53	*eP*			Pn	23 04 14.7	-2.0
PCMB	Pacaembu	20.30	68	*eP*			P	23 04 17.6	-0.4
VILB	Vilhena	20.55	33	*eP*			P	23 04 20.9	+0.1
TIJ01	Guaruva-PR	20.57	80	*eP*			P	23 04 19.9	-1.2
SALV	Santo Antonio	20.67	48	*eP*			P	23 04 22.3	+0.2
FRTB	Fartura	20.87	75	*eP*			P	23 04 23.9	-0.3
ETMB	Extrema	21.39	14	*eP*			P	23 04 31.6	+1.8
ITRB	Iturama	22.02	65	*eP*			P	23 04 36.3	-0.4
PET01	Itanhaem-SP	22.41	79	*eP*			P	23 04 40.7	0.0
CZSB	Cruzeiro do Su	22.91	357	*eP*			P	23 04 50.0	+4.0
SAML	Samuel	23.02	21	*eP*			P	23 04 49.8	+2.6
VAO	Valinhos	23.18	77	*eP*			P	23 04 49.6	+0.8
CLDB	Colider	24.56	40	*eP*			P	23 05 03.5	+1.8
IPMB	Ipameri, GO	24.67	64	*eP*			P	23 05 03.0	+0.2
BSCB	Bom Sucesso	25.88	74	*eP*			P	23 05 14.7	+1.0
BDFB	Brasilia	26.23	60	P			P	23 05 16.3	-0.7
	comp=N,3.2nm,0.5s,baz=236,slow=7.8,SNR=5.9								
BDFB	Brasilia	26.23	60	P			P	23 05 15.8	-1.2
BDFB					IAmb		IAmb	23 05 16.8	
	comp=Z,6.8nm,0.9s								
SNDB	Serra Nova Dou	26.43	49	*eP*			P	23 05 19.4	+0.8
DUB01	Friburgo-RJ	27.42	79	*eP*			P	23 05 29.4	+1.8
NPGB	Novo Progresso	28.01	36	*eP*			P	23 05 35.3	+2.5
CAM01	Campos-RJ	28.13	79	*eP*			P	23 05 35.3	+1.5
ALF01	Guarapari-ES	29.43	77	*eP*			P	23 05 47.9	+2.5
ITTB	Itaituba	30.15	33	*eP*			P	23 05 54.5	+2.7
SDBA	SAO DESIDERIO	30.61	59	*eP*			P	23 05 57.9	+2.0
SMTB	Santa Maria do	31.17	51	*eP*			P	23 06 03.1	+2.3
OTAV	Otavalo	31.50	347	*eP*			P	23 06 09.1	+4.9
PRPB	Paraupebas	31.81	44	*eP*			P	23 06 07.7	+1.2
NBPN	Ponto Novo - B	35.14	63	*eP*			P	23 06 35.5	0.0
ROSB	Rosrio	37.90	48	*eP*			P	23 06 59.9	+0.9
SDV	Santo Domingo	39.40	1	*eP*			P	23 07 16.6	+5.0
NBLV	Livramento - P	39.84	62	*eP*			P	23 07 17.6	+2.2
VNA2	Neumayer--Watz	52.86	158	P			P	23 08 55.7	-1.0
SNAA	Sanae	54.45	159	P			P	23 09 08.0	-0.4
SNAA	Sanae	54.45	159	P			P	23 09 07.6	-0.9
SNAA					IAmb		IAmb	23 09 09.0	
	comp=Z,8.6nm,1.3s								
QSPA	South Pole Qui	59.50	180	P			P	23 09 44.5	+0.2
QSPA					IAmb		IAmb	23 09 45.6	
	comp=Z,6.8nm,1.2s								
TXAR	Lajitas Array	67.12	330	P			P	23 10 36.4	+1.3
	comp=Z,0.8nm,0.6s,baz=151,slow=8.4,SNR=12								
TX32	Lajitas Array	67.13	330	P			P	23 10 36.2	+1.1
WVT	Waverly	68.25	346	P			P	23 10 41.8	-0.1
WVT					IAmb		IAmb	23 10 43.1	
	comp=Z,6.6nm,1.1s								
HHAR	Hobbs	69.91	341	P			P	23 10 52.6	+0.4
HHAR					IAmb		IAmb	23 10 54.1	
	comp=Z,5.8nm,0.9s								
MNTX	Cornudas Mount	69.91	330	P			P	23 10 52.8	+0.4
CCM	Cathedral Cave	70.87	344	P			P	23 10 58.4	+0.4
CCM					IAmb		IAmb	23 11 00.1	
	comp=Z,9.4nm,1.2s								
R40A	Maddies Statio	71.35	343	P			P	23 11 01.5	+0.6
P40A	Paris	72.47	343	P			P	23 11 07.6	0.0
DBIC	Dimbokro	73.72	72	P			P	23 11 15.4	-0.2
	comp=Z,3.9nm,0.6s,baz=228,slow=5.7,SNR=11								
DBIC	Dimbokro	73.72	72	P			P	23 11 15.2	-0.5
MAW	Mawson	76.18	164	P			P	23 11 29.2	+0.2
	comp=Z,2.1nm,0.6s,baz=201,slow=5.0,SNR=13								
MAW	Mawson	76.18	164	P			P	23 11 28.9	0.0
SMCO	Snowmass	76.98	332	P			P	23 11 35.8	+1.5
SMCO					IAmb		IAmb	23 11 37.3	
	comp=Z,7.5nm,1.2s								
ECSD	EROS Data Cent	77.59	342	P			P	23 11 37.6	+0.6
KOWA	Kowa	78.89	66	P			P	23 11 44.8	-0.1
KOWA					IAmb		IAmb	23 12 03.5	
	comp=Z,2.1nm,0.7s								
PDAR	Pinedale Array	81.06	333	P			P	23 11 56.9	+0.6
	comp=Z,0.3nm,0.6s,baz=121,slow=11,SNR=3.6								
BOSA	Boshof	81.20	118	P			P	23 11 56.7	-0.8
NVAR	Mina Array Bea	81.47	325	P			P	23 11 59.7	+1.1
	comp=Z,0.5nm,0.8s,baz=148,slow=6.1,SNR=4.2								
TORD	Torodi Ar. Bea	82.68	70	P			P	23 12 05.2	0.0
	comp=Z,1.0nm,0.4s,baz=279,slow=6.5,SNR=42								
TORD	Torodi Ar. Bea	82.68	70	P			P	23 12 04.7	-0.5
TORD					IAmb		IAmb	23 12 23.0	
	comp=Z,6.8nm,1.5s								
LBTB	Lobatse	83.27	115	P			P	23 12 07.7	-0.7
PLID	Pearl Lake	85.63	330	P			P	23 12 20.1	+0.4
PLID					IAmb		IAmb	23 12 21.1	
	comp=Z,2.0nm,0.8s								
H11S2	WAKE ISLAND Hyl	26.21	271		T		T	01 37 39.6	
	baz=115,slow=74,SNR=205								
H11S1	WAKE ISLAND Hyl	26.22	271		T		T	01 37 31.4	
	baz=115,slow=74,SNR=174								
H11S3	WAKE ISLAND Hyl	26.22	271		T		T	01 37 31.9	
	baz=115,slow=74,SNR=140								
H11N3	WAKE ISLAND Hyl	26.54	273		T		T	01 37 55.0	
	baz=116,slow=75,SNR=23								
H11N1	WAKE ISLAND Hyl	26.55	273		T		T	01 37 56.5	
	baz=116,slow=75,SNR=8.3								
H11N2	WAKE ISLAND Hyl	26.55	273		T		T	01 37 57.0	
	baz=116,slow=75,SNR=36								
BRVK	Borovoye	144.47	40	PKPdf			PKPdf	23 19 16.1	-0.8
KKAR	Karatay Array	147.49	57				PKPbc	23 19 22.9	-2.1
ZAA0	Zalesovo Array	151.20	30	PKPbc			PKiKP	23 19 33.8	-0.6
ZALV	Zalesovo Beam	151.20	30	PKPbc			PKiKP	23 19 33.8	-0.6
	comp=Z,6.6nm,0.7s,baz=288,slow=2.8,SNR=21								
ZALV	Zalesovo Beam	151.20	30				PKiKP	23 19 33.9	-0.5

MEX 30 22:59:48.2±0.3, 24°.89N×109°.20W, h10km±9km, MD3.8, Gulf of California

*IDC **30** 23:04:44.8±1.2, 30°.50S×71°.77W, h0km, mb4.1/5, mb1 4.1/8, mb1mx3.9/23, mbtmp4.0/8, ML3.7/3, MS3.5/1, Ms1 3.5/1, ms1mx2.8/19, Error ellipse: s-maj=39.0km s-min=28.0km az=102.0*
*NEIC **30** 23:04:46.4±1.7, 30°.44S±0°.03×72°.04W±0°.06, h15km±1km, mb4.2/10, ML4.3(GUC), Error ellipse: s-maj=7.7km s-min=3.9km az=64.0*
*GUC **30** 23:04:46.8±0.6, 30°.43S×72°.01W, h29km±6km, ML4.2*
ISC 30 23:04:46.8±1.1, 30°.42S±0°.03×72°.00W±0°.06, h19km±3km, n72, σ0°.99/72, mb4.2/7, 3C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.41	128	↓*iP*		Pg	23 04 55.3	+0.1
CO06				*i* S		Sb	23 05 01.3	0.0
CO06				IAML			23 05 02.3	
	comp=N,23µm,0.2s							
CO06	Fray Jorge	0.41	128			Pg	23 04 55.2	+0.1
CO06				Sg		Sg	23 05 00.2	-0.6
CO05	La Serena	0.83	53	Pg		Pg	23 05 02.7	-0.3
CO05				Sg		Sb	23 05 13.5	+0.1
GO04	Tololo Observa	1.07	77	↓*iP*		Pb	23 05 06.5	-0.4
GO04				*i* S		Sb	23 05 20.5	-0.1
GO04	Tololo Observa	1.07	77	Pn		Pb	23 05 06.5	-0.4
CO03	El Pedregal	1.21	110	↓*iP*		Pn	23 05 08.1	-0.7
CO03				*i* S		Sb	23 05 24.3	-0.1
CO03				IAML			23 05 26.4	
	comp=N,9µm,0.5s							
CO03	El Pedregal	1.21	110	Pn		Pn	23 05 08.1	-0.7
LCO	Las Campanas	1.81	39	⇑*iP*		Pn	23 05 17.6	+0.5
LCO				*i* S		Sb	23 05 41.4	-0.4
LCO	Las Campanas	1.81	39	Pn		Pn	23 05 17.6	+0.5
VA06	Catapilco	2.22	164⇑	*eP*		Pn	23 05 22.3	-0.2
VA06				*i* S		Sb	23 05 52.8	-0.6
VA06				IAML			23 06 06.3	
	comp=N,4µm,0.4s							
AC04	Llanos de Chal	2.35	20⇑	*iP*		Pn	23 05 24.2	-0.2
AC04	Llanos de Chal	2.35	20	Pn		Pn	23 05 24.2	-0.2
VA01	Torpederas	2.61	173	*eP*		Pn	23 05 29.2	+1.3
VA01				*i* S		Sb	23 06 06.2	+1.5
VA01				IAML			23 06 13.9	
	comp=E,622nm,0.5s							
VA01	Torpederas	2.61	173	Pn		Pn	23 05 27.1	-0.8
VA03	San Esteban	2.64	152	*eP*		Pn	23 05 29.4	+0.9
VA03				*i* S		Sb	23 06 04.4	-1.3
VA03	San Esteban	2.64	152			Pn	23 05 29.0	+0.5
PEL	Peldehue	2.94	158	*eP*		Pn	23 05 33.1	+0.6
PEL				IAML			23 06 20.1	
	comp=N,1µm,0.5s							
ZON	Zonda	3.07	112	Pn		Pn	23 05 37.1	+2.7
MT05	Renca	3.15	160	Pn		Pn	23 05 35.8	+0.4
GO03	Copiap	3.21	29	Pn		Pn	23 05 36.7	+0.4
VA05	Santo Domingo	3.24	174	*eP*		Pn	23 05 36.6	-0.1
VA05	Santo Domingo	3.24	174			Pn	23 05 36.1	-0.6
MT09	Talagante	3.45	166	*eP*		Pn	23 05 40.2	+0.5
MT09				IAML			23 06 40.1	
MT09	Talagante	3.45	166			Pn	23 05 40.3	+0.5
MT01	Popeta	3.49	170			Pn	23 05 39.6	-0.5
LMEL	Las Melosas	3.74	156	*eP*		Pn	23 05 44.9	+1.2
BO01	Tunca	4.03	169			Pn	23 05 48.0	+0.4
AC02	Maricunga	4.38	36	Pn		Pn	23 05 54.0	+1.2
BO02	Sierra Bellavi	4.48	167			Pn	23 05 53.9	+0.1
GO05	Huala	4.58	179			Pn	23 05 53.5	-1.5
ML02	Panimavida	5.35	175	Pn		Pn	23 06 04.8	-0.8
PB14	IPOC Station P	5.95	14	Pn		Pn	23 06 12.7	-1.5
H03N1	Juan Fernandez	6.60	241		T	T	23 13 21.3	
	baz=70,slow=72,SNR=1305							
H03N2	Juan Fernandez	6.61	241		T	T	23 13 23.0	
	baz=70,slow=72,SNR=1078							
H03N3	Juan Fernandez	6.61	241		T	T	23 13 23.2	
	baz=70,slow=72,SNR=981							
VA04	Juan Fernndez	6.63	239	Pn		Pn	23 06 21.4	-1.8
PB10	IPOC Station P	7.00	11	Pn		Pn	23 06 27.4	-1.0
PB10	IPOC Station P	7.53	18			Pn	23 06 34.2	-1.6
LVC	Limon Verde	8.26	20	Pn		Pn	23 06 44.3	-1.7
	comp=N,0.3nm,0.3s,baz=225,slow=13,SNR=1.1							
LVC	Limon Verde	8.26	20	Pn		Pn	23 06 45.7	-0.3
LC01	Cunco	8.46	179	Pn		Pn	23 06 46.9	-1.4
PLCA	Paso Flores	10.36	174	Pn		Pn	23 07 13.8	-0.6
PSGCX	Pisagua	10.91	9	Pn		Pn	23 07 23.4	+1.3
TRQA	Tornquist	11.25	135	Pn		Pn	23 07 27.3	+0.6
CPUP	Villa Florida	13.54	76	LR		LR	23 13 30.8	
	comp=N,192nm,18.3s,baz=240,slow=39							
LPAZ	La Paz	14.51	15	Pn		Pn	23 08 14.4	+2.6
	comp=N,0.2nm,0.3s,baz=201,slow=7.1,SNR=5.3							
LPAZ	La Paz	14.51	15	Pn		Pn	23 08 13.1	+1.3
SIV	San Ignacio	17.51	37	P		P	23 08 51.1	0.0
	comp=N,0.5nm,0.3s,baz=221,slow=10,SNR=5.2							
SAML	Samuel	22.90	23	P		P	23 09 50.8	+1.2
SAML					IAmb	IAmb	23 10 02.8	
	comp=Z,6.6nm,1.2s							
BDFB	Brasilia	26.45	62	P		P	23 10 22.2	-0.7
	comp=Z,5.0nm,0.8s,baz=228,slow=12,SNR=6.3							
BDFB	Brasilia	26.45	62	P		P	23 10 22.3	-0.5
BDFB					IAmb	IAmb	23 10 22.9	
	comp=Z,4.9nm,0.7s							
VNA3	Neumayer Olymp	52.66	159	P		P	23 14 00.3	+0.8
VNA2	Neumayer--Watz	53.30	158	P		P	23 14 04.8	+0.7
SNAA	Sanae	54.89	159	P		P	23 14 16.4	+0.6
SNAA	Sanae	54.89	159	P		P	23 14 16.2	+0.4
SNAA					IAmb	IAmb	23 14 16.8	
	comp=Z,2.8nm,0.7s							
TXAR	Lajitas Array	66.65	330	P		P	23 15 38.5	+2.1
	comp=Z,0.3nm,0.9s,baz=156,slow=9.8,SNR=1.9							
TXAR	Lajitas Array	66.65	330	P		P	23 15 34.9	-1.4
DBIC	Dimbokro	74.03	72	P		P	23 16 22.1	+0.3
	comp=Z,1.4nm,0.5s,baz=241,slow=3.7,SNR=5.1							
DBIC	Dimbokro	74.03	72	P		P	23 16 21.1	-0.7
MAW	Mawson	76.59	164	P		P	23 16 36.1	+0.4
	comp=Z,1.9nm,0.8s,baz=247,slow=5.9,SNR=5.6							
MAW	Mawson	76.59	164	P		P	23 16 35.9	+0.3
TORD	Torodi Ar. Bea	82.97	70	P		P	23 17 11.5	+0.4
	comp=Z,1.4nm,0.8s,baz=281,slow=5.1,SNR=9.5							
TORD	Torodi Ar. Bea	82.97	70	P		P	23 17 11.0	-0.1
TORD					IAmb	IAmb	23 17 12.9	
	comp=Z,1.9nm,0.9s							
H11S2	WAKE ISLAND Hyl	25.78	272	T		T	01 42 34.0	
	baz=115,slow=74,SNR=99							
H11S1	WAKE ISLAND Hyl	25.79	272	T		T	01 42 31.3	
	baz=115,slow=74,SNR=107							
H11S3	WAKE ISLAND Hyl	25.79	272	T		T	01 42 31.9	
	baz=115,slow=74,SNR=63							
H11N3	WAKE ISLAND Hyl	26.10	273	T		T	01 42 55.7	
	baz=153,slow=74,SNR=6.8							
H11N2	WAKE ISLAND Hyl	26.11	273	T		T	01 42 56.9	
	baz=121,slow=74,SNR=12							
ZALV	Zalesovo Beam	151.14	29	PKPbc		PKiKP	23 24 39.4	+0.6
	comp=Z,8.3nm,0.7s,baz=297,slow=3.2,SNR=30							
KSH	Kashi	152.35	62	PKPbc		PKPdf	23 24 33.0	-1.9
MKAR	Makanchi Array	154.27	43	PKPbc		PKiKP	23 24 46.3	+0.7
	comp=Z,1.0nm,0.8s,baz=32,slow=3.0,SNR=4.4							
MKAR	Makanchi Array	154.27	43			PKiKP	23 24 46.4	+0.9

MEX 30 23:07:19.2±0.5, 16°.15N×97°.55W, h30km±11km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PEIG	Puerto Escondi	0.42	111	*eP*		Pb	23 07 26.6	-1.8
PEIG				*eS*		Sb	23 07 32.8	-1.7
PNIG	Pinotepa	0.60	294	*eP*		Pb	23 07 29.2	-2.1
PNIG				*eS*		Sb	23 07 37.3	-2.3
YOIG	Yosondua	0.70	0	*eP*		Pb	23 07 30.9	-2.3
YOIG				*eS*		Sb	23 07 39.9	-2.7
TXIG	Tlaxiaco	1.12	349	*eP*		Pn	23 07 37.2	-1.9
HLIG	Huajuapan de L	1.69	352	*eP*		Pn	23 07 44.7	-2.3
HLIG				*eS*		Sn	23 08 08.8	+1.1
FTIG	Fresnillo de T	1.83	342	*eP*		Pn	23 07 47.2	-1.6
FTIG				*eS*		Sn	23 08 08.8	-2.4

RSNC 30 23:10:23.3±1.2, 6.79N×73.13W, h144km±5km, ML3.1, Mw3.7, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.20	196⇑	*eP*		Pn	23 10 43.0	-0.2
BARC				*eS*		Sn	23 10 57.9	-0.3
BARC				*i*			23 11 00.0	
	comp=Z,397nm,0.2s							
BRRC	Barranca, Sant	0.66	299	*eP*		Pn	23 10 44.7	-0.2
BRRC

*SNET **30** 23:45:45.1±0.5, 13.24N×87.87W, h3km±2km, ML3.9*
*UCR **30** 23:45:45.3±0.5, 13.25N×87.87W, h4km±1km, ML4.0, mb4.0(NEIC)*

ISC 30 23:45:45.5±0.8, **13.30N**±0.04×**87.86W**±0.02, **h8**km±4km, **n38**, σ0.59/54, **7C-2D, Honduras**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.03**	**283**	⇓*i*P		**Pg**	**23 45 47.0**	**+0.1**
LCND				*e*S		**Sg**	**23 45 48.4**	**+0.5**
LCND				IAML			23 45 50.4	
	comp=Z,192μm,0.3s							
LCND	**La Caada**	**0.03**	**283**	⇓*i*P		**Pg**	**23 45 47.0**	**+0.1**
LCND				*e*S		**Sg**	**23 45 48.4**	**+0.5**
LCND				IAML			23 45 50.4	
	comp=Z,192μm,0.3s							
CNCH	**Conchagua**	**0.04**	**133**	⇑*i*P		**Pg**	**23 45 47.0**	**-0.2**
CNCH				*e*S		**Sg**	**23 45 48.2**	**-0.1**
CNCH	**Conchagua**	**0.04**	**133**	⇑*i*P		**Pg**	**23 45 47.0**	**-0.2**
CNCH				*e*S		**Sg**	**23 45 48.2**	**-0.1**
LUNI	**Base Naval La**	**0.04**	**40**	⇑*i*P		**Pg**	**23 45 47.6**	**+0.6**
LUNI				*e*S		**Sg**	**23 45 49.5**	**+1.3**
LUNI				IAML			23 45 50.7	
	comp=Z,97μm,0.4s							
JUCU	**Jucuarįn**	**0.38**	**263**	⇑*i*P		**Pg**	**23 45 53.0**	**+0.1**
JUCU				*e*S		**Sg**	**23 45 58.9**	**+1.0**
JUCU				IAML			23 46 01.0	
	comp=Z,13μm,0.3s							
JUCU	**Jucuarįn**	**0.38**	**263**	⇑*i*P		**Pg**	**23 45 53.0**	**+0.1**
JUCU				*e*S		**Sg**	**23 45 58.9**	**+1.0**
JUCU				IAML			23 46 01.0	
	comp=Z,13μm,0.3s							
LCY	**Lacayo**	**0.44**	**286**	*e*P		**Pg**	**23 45 54.8**	**+0.8**
LCY	**Lacayo**	**0.44**	**286**	*e*P		**Pg**	**23 45 54.8**	**+0.8**
TECA	**Tecapa**	**0.65**	**287**	*e*P		**Pg**	**23 45 58.6**	**+0.5**
TECA	**Tecapa**	**0.65**	**287**	*e*P		**Pg**	**23 45 58.6**	**+0.5**
COEB	**Comit de Eme**	**0.68**	**287**	*e*P		**Pg**	**23 45 59.0**	**+0.4**
COEB				*e*S		**Sb**	**23 46 08.9**	**-0.4**
COEB				IAML			23 46 11.2	
	comp=Z,3μm,0.4s							
COEB	**Comit de Eme**	**0.68**	**287**	*e*P		**Pg**	**23 45 59.0**	**+0.4**
COEB				*e*S		**Sb**	**23 46 08.9**	**-0.4**
COEB				IAML			23 46 11.2	
	comp=Z,3μm,0.4s							
ALJI	**Alcalda de J**	**0.69**	**272**	*e*P		**Pg**	**23 45 58.9**	**+0.1**
ALJI				*e*S		**Sb**	**23 46 09.4**	**-0.1**
ALJI				IAML			23 46 10.7	
	comp=Z,3μm,0.5s							
ALJI	**Alcalda de J**	**0.69**	**272**	*e*P		**Pg**	**23 45 58.9**	**+0.1**
ALJI				*e*S		**Sb**	**23 46 09.4**	**-0.1**
ALJI				IAML			23 46 10.7	
	comp=Z,3μm,0.5s							
TGUH	**Tegucigalpa,Un**	**0.94**	**37**	⇑*i*P		**Pb**	**23 46 03.7**	**-0.6**
TGUH	**Tegucigalpa,Un**	**0.94**	**37**	⇑*i*P		**Pb**	**23 46 03.7**	**-0.6**
TGUH	**Tegucigalpa,Un**	**0.94**	**37**	Pg		**Pb**	**23 46 03.7**	**-0.6**
TGUH				Sg		**Sb**	**23 46 17.0**	**0.0**
CRIN	**San Cristobal**	**0.99**	**127**	Pg		**Pb**	**23 46 04.6**	**-0.4**
CRIN						**Sn**	**23 46 19.7**	**-0.5**
COEG	**Centro de Oper**	**1.04**	**288**	*e*P		**Pg**	**23 46 05.2**	**-0.2**
COEG				*e*S		**Sb**	**23 46 20.0**	**+0.4**
COEG				IAML			23 46 28.2	
	comp=Z,2μm,0.4s							
COEG	**Centro de Oper**	**1.04**	**288**	*e*P		**Pg**	**23 46 05.2**	**-0.2**
COEG				*e*S		**Sb**	**23 46 20.0**	**+0.4**
COEG				IAML			23 46 28.2	
	comp=Z,2μm,0.4s							
LFRS	**El Faro**	**1.21**	**285**	*e*P		**Pn**	**23 46 08.2**	**-0.6**
LFRS	**El Faro**	**1.21**	**285**	*e*P		**Pn**	**23 46 08.2**	**-0.6**
SNET	**Serv Nac Est T**	**1.39**	**286**	Pn		**Pb**	**23 46 11.4**	**-0.3**
CNGN	**Cerro Negro**	**1.39**	**125**			**Pb**	**23 46 11.1**	**-0.7**
CNGN				Sn		**Sg**	**23 46 30.8**	**+0.7**
BOQS	**Boqueron**	**1.44**	**287**	*e*P		**Pb**	**23 46 12.5**	**-0.3**
BOQS	**Boqueron**	**1.44**	**287**	*e*P		**Pb**	**23 46 12.5**	**-0.3**
MTO3	**Montecristo**	**1.82**	**307**	*e*P		**Pb**	**23 46 18.2**	**-1.0**
MTO3	**Montecristo**	**1.82**	**307**	*e*P		**Pb**	**23 46 18.2**	**-1.0**
MTO3	**Montecristo**	**1.82**	**307**	Pn		**Pn**	**23 46 17.4**	**0.0**
ESQI	**Esquipulas**	**1.90**	**311**	*e*P		**Pb**	**23 46 19.8**	**-0.8**
ESQI	**Esquipulas**	**1.90**	**311**			**Pb**	**23 46 19.9**	**-0.7**
MATN	**Matagalpa**	**1.92**	**101**	Pn		**Pn**	**23 46 17.9**	**-0.8**
ACON	**Acoyapa**	**2.94**	**117**			**Pn**	**23 46 33.7**	**+1.1**
HZTE	**Horizontes, Gu**	**3.40**	**139**	Pn		**Pn**	**23 46 39.7**	**+0.8**
ORTG	**Ortega, Santa**	**3.75**	**141**			**Pn**	**23 46 43.9**	**0.0**
DUNO	**Dulce Nombre,**	**3.96**	**144**	Pn		**Pn**	**23 46 47.5**	**+0.9**
RIMA	**Rio Macho**	**5.26**	**131**	Pn		**Pn**	**23 47 05.1**	**+0.4**

ISC Computed Locations for September 2015

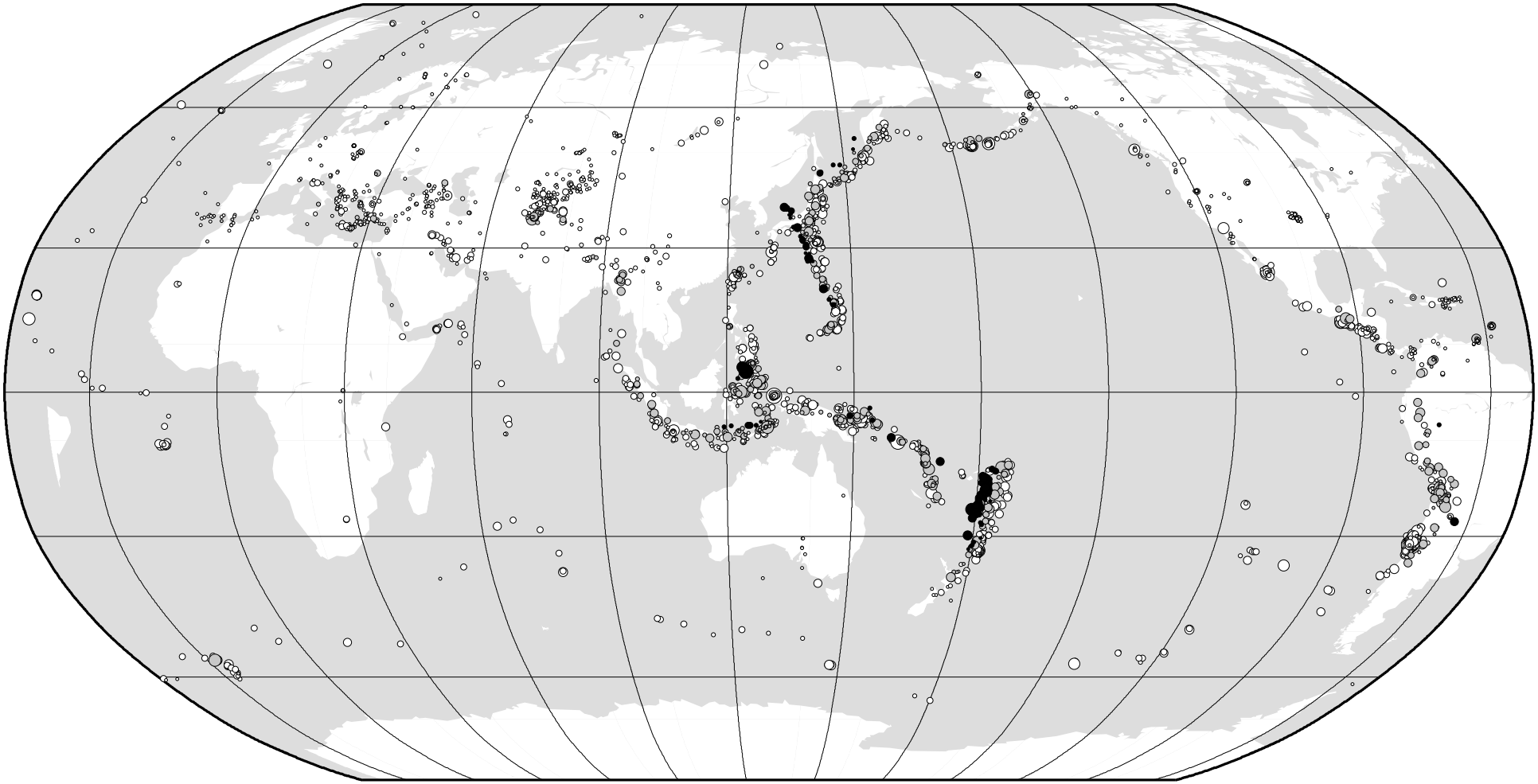

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

3688 Events